Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*NEIC **01** 00:09:05.7, 39.53N×123.98W, h10km*
*NEIC **01** 00:09:05.7, 39.53N×123.98W, h8km, Moment Tensor Solution. Moment tensor: Scale 1014Nm; Mrr1.14; Mθθ-0.02; Mφφ-1.12; Mrθ0.64; Mrφ1.60; Mθφ0.08; Fault plane solution: M0 2.06000×1014 NP1:φ1 110.54000°, δ63.58000°, λ39.83000°. NP2:φ2 0.18000°, δ55.00000°, λ147.09000°. Principal axes: T 1.7073, Plg46.0000°, Azm329.0000°; N 0.5775, Plg43.0000°, Azm139.0000°; P -2.2849, Plg5.0000°, Azm234.0000°;*
*NEIC **01** 00:09:05.2±2.4, 39.53N±0.01×123.98W±0.03, h10km±2km Error ellipse: s-maj=3.6km s-min=3.0km az=64.0*

NCEDC 01 00:09:05.4±2.2, 39.54N±0.01×124.00W±0.03, h10km±8km, Mwr3.5/5, ML3.0/117(NEIC), Error ellipse: s-maj=3.5km s-min=1.7km az=69.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGLE	**Inglenook, Smi**	**0.23**	**92**		Pg	00 09 09.8	-0.4
INGLE					Sg	00 09 13.1	-0.3
MNDO	**Woodland Fire**	**0.30**	**139**		Pg	00 09 11.7	+0.3
MNDO					Sg	00 09 16.3	+1.0
KCPM	**Cahto Peak**	**0.35**	**65**		Pg	00 09 12.3	-0.2
KCPM				Sg	Sg	00 09 17.4	+0.2
GTC	**Three Chop Rid**	**0.37**	**112**		Pg	00 09 12.7	0.0
KFPM	**Farley Peak**	**0.46**	**77**		Pg	00 09 14.4	+0.1
KIPM	**Iron Peak**	**0.48**	**56**		Pg	00 09 15.1	+0.3
KBSM	**Bell Springs**	**0.49**	**39**		Pg	00 09 15.3	+0.4
DCMP	**DeCamp, Califo**	**0.52**	**98**		Pg	00 09 15.5	+0.1
DCMP				Sg	Sb	00 09 23.3	-0.7
BRIC	**Briceland Vine**	**0.58**	**8**		Pb	00 09 17.3	-0.3
GHOM	**Hamilton Openi**	**0.61**	**144**		Pb	00 09 17.8	-0.3
GHOM					Sb	00 09 27.3	+0.6
KRKM	**Rackout Spring**	**0.63**	**88**		Pg	00 09 18.1	+0.4
GWRM	**Wonder Ranch**	**0.63**	**121**		Pg	00 09 18.0	+0.3
KBNM	**Bluenose Ridge**	**0.71**	**60**		Pb	00 09 20.0	+0.1
KMRM	**Mail Ridge**	**0.72**	**18**		Pb	00 09 19.8	-0.2
BONV	**Boonville, CA**	**0.75**	**137**		Pg	00 09 19.9	+0.1
PETL	**Petrolia**	**0.79**	**341**		Pg	00 09 20.4	-0.3
GSNM	**Snow Mountain**	**0.86**	**133**		Pg	00 09 21.7	-0.4
KMPM	**Mount Pierce**	**0.88**	**354**		Pg	00 09 22.0	-0.4
KMPM				Sg	Sb	00 09 35.5	+0.8
GALB	**Galbreath Wild**	**0.89**	**139**		Pg	00 09 21.8	-0.7
HOPS	**Hopland Field**	**0.90**	**127**	Pg	Pg	00 09 21.9	-0.8
HOPS				IAML		00 09 45.1	
	comp=N,525nm,1.1s						
HOPS				IAML		00 09 47.3	
	comp=E,612nm,1.0s						
KCTM	**Capetown**	**0.97**	**345**		Pg	00 09 23.8	-0.3
GHGM	**Hogback Ridge**	**1.00**	**114**		Pg	00 09 23.7	-0.9
GVV	**Valley View**	**1.05**	**77**		Pg	00 09 24.8	-0.8
GROM	**Round Mountain**	**1.09**	**69**		Pg	00 09 25.3	-1.0
GHCM	**House Creek**	**1.12**	**146**		Pb	00 09 25.2	-1.7
O02D	**Mt. Diablo Mer**	**1.13**	**55**		Pb	00 09 26.1	-0.9
O02D				IAML		00 09 46.0	
	comp=N,608nm,1.1s						
O02D				IAML		00 09 48.2	
	comp=E,367nm,0.8s						
LBPM	**Beegum Peak**	**1.16**	**47**		Pb	00 09 26.6	-1.0
GDXM	**Geysers**	**1.19**	**128**		Pb	00 09 27.2	-0.7
DMOR	**Dinsmores, CA**	**1.19**	**11**		Pb	00 09 27.3	-0.8
GRTM	**Round Top Moun**	**1.19**	**120**		Pb	00 09 28.0	-0.1
GSGM	**Seigler Mounta**	**1.21**	**123**		Pg	00 09 29.2	+0.7
FTR	**Fort Ross**	**1.21**	**147**		Pn	00 09 26.4	-1.9
GCK	**Clark Valley**	**1.21**	**89**		Pn	00 09 28.1	-0.1
KHBM	**Hayfork Bally**	**1.27**	**28**		Pn	00 09 28.2	-1.2
KHBM	**Hayfork Bally**	**1.27**	**28**	IAML		00 09 52.1	
	comp=E,533nm,0.8s						
GAXM	**Alexander Vall**	**1.27**	**130**		Pg	00 09 29.9	+0.1
JCC	**Jacoby Creek,**	**1.28**	**359**		Pn	00 09 27.7	-1.5
JCC	**Jacoby Creek,**	**1.28**	**359**	IAML		00 10 03.2	
	comp=N,253nm,1.2s						
JCC				IAML		00 10 03.5	
	comp=E,479nm,1.1s						
GFC	**Funks Creek**	**1.34**	**99**		Pn	00 09 29.7	-0.4
KHMM	**Horse Mountain**	**1.35**	**9**		Pn	00 09 29.2	-1.1
MNRC	**McLaughlin Min**	**1.38**	**118**		Pb	00 09 31.0	-0.2
MNRC				IAML		00 10 02.4	
	comp=E,185nm,2.0s						
MNRC				IAML		00 10 02.4	
	comp=N,177nm,1.0s						
WEAV	**Weaverville**	**1.43**	**32**		Pn	00 09 30.2	-1.3
KRPM	**Rodgers**	**1.62**	**359**		Pn	00 09 32.6	-1.4
KRPM	**Rodgers**	**1.62**	**359**	IAML		00 10 11.4	
	comp=N,267nm,1.2s						
KRPM				IAML		00 10 14.5	
	comp=E,205nm,0.9s						
MCCM	**Marconi Confer**	**1.64**	**148**		Pn	00 09 32.9	-1.3
MCCM				IAML		00 10 12.7	
	comp=N,163nm,1.7s						
MCCM				IAML		00 10 18.6	
	comp=E,221nm,1.5s						
CVS	**Carmenet Viney**	**1.69**	**134**		Pn	00 09 33.9	-1.1
NPRM	**Point Reyes**	**1.72**	**153**		Pn	00 09 33.6	-1.7
N02D	**Trinity Center**	**1.74**	**34**		Pn	00 09 35.3	-0.4
N02D				IAML		00 10 10.2	
	comp=N,327nm,0.6s						
SUTB	**Sutter Butte**	**1.74**	**100**		Pn	00 09 33.5	-2.2
SUTB				IAML		00 09 55.7	
	comp=N,120nm,0.6s						
SUTB				IAML		00 10 14.6	
	comp=E,114nm,0.8s						
KOMM	**Orleans Mounta**	**1.79**	**13**		Pn	00 09 35.2	-1.2
OGOM	**Van Goodin Ran**	**1.85**	**86**		Pn	00 09 35.2	-1.9
LBKM	**Bonanza King**	**1.85**	**33**		Pn	00 09 36.5	-0.7
O03E	**Paynes Creek**	**1.85**	**65**		Pn	00 09 35.7	-1.5
O03E				IAML		00 10 14.0	
	comp=N,96nm,0.9s						
O03E				IAML		00 10 20.7	
	comp=E,148nm,0.8s						
OSTM	**Stimpson Lane**	**1.87**	**94**		Pn	00 09 35.6	-1.7
LDBM	**Digger Butte**	**1.92**	**62**		Pn	00 09 36.9	-1.3
ORV	**Oroville**	**1.93**	**89**		Pn	00 09 36.5	-1.7
LSHM	**Sage Hen Hill**	**1.96**	**50**		Pn	00 09 37.6	-1.0
OHCM	**Honcut**	**1.96**	**95**		Pn	00 09 36.6	-2.0
KRMB	**Red Mountain**	**1.98**	**2**		Pn	00 09 37.8	-1.2
FARB	**Farallon Islan**	**2.00**	**157**		Pn	00 09 37.6	-1.5
FARB				IAML		00 10 04.4	
	comp=E,114nm,0.5s						
LCMM	**Colby Mountain**	**2.00**	**72**		Pn	00 09 38.3	-1.1
CPMM	**Point Molate**	**2.02**	**141**		Pn	00 09 37.4	-1.9
M02C	**Callahan**	**2.05**	**25**		Pn	00 09 39.1	-0.8
M02C	**Callahan**	**2.05**	**25**	IAML		00 10 24.1	
	comp=E,101nm,1.4s						
SFRE	**Sierra Foothil**	**2.09**	**97**		Pn	00 09 38.7	-1.7
BL67	**Building 67, L**	**2.15**	**140**		Pn	00 09 38.6	-2.7
LRDM	**Redding Peak**	**2.16**	**64**		Pn	00 09 41.1	-0.3
BKS	**Berkeley--Byer**	**2.16**	**140**		Pn	00 09 39.3	-2.1
JMGM	**Milagra Ridge**	**2.24**	**147**		Pn	00 09 40.5	-2.0
M03C	**McCloud**	**2.25**	**39**		Pn	00 09 42.6	-0.1
KSXB	**Camp Six Broad**	**2.29**	**2**		Pn	00 09 42.1	-1.2
KSXB	**Camp Six Broad**	**2.29**	**2**	IAML		00 10 40.0	
	comp=E,64nm,1.6s						
SAC	**San Andreas**	**2.31**	**147**		Pn	00 09 41.5	-2.0
HATC	**Hat Creek Radi**	**2.33**	**56**		Pn	00 09 43.9	+0.2
HATC				IAML		00 10 40.9	
	comp=E,142nm,2.3s						
SIGP	**Signal Peak, C**	**2.33**	**359**		Pn	00 09 42.7	-1.1
CLCB	**Lake Chabot**	**2.35**	**139**		Pn	00 09 42.6	-1.4
LMPM	**Military Pass**	**2.40**	**35**		Pn	00 09 45.3	+0.5
YBH	**Yreka Blue Hor**	**2.40**	**24**		Pn	00 09 44.7	-0.1
LBCM	**Butte Creek Ri**	**2.41**	**57**		Pn	00 09 44.5	-0.4
LBFM	**Black Fox Moun**	**2.42**	**41**		Pn	00 09 45.1	-0.1
LHEM	**Herd Peak**	**2.49**	**32**		Pn	00 09 46.5	+0.3
LTIM	**Timbered Crate**	**2.52**	**49**		Pn	00 09 45.9	-0.6
JRSC	**Jasper Ridge**	**2.54**	**147**	Pn	Pn	00 09 45.0	-1.6
JRSC				IAML		00 10 19.2	
	comp=E,58nm,2.0s						
JRSC				IAML		00 10 44.2	
	comp=N,58nm,1.4s						
B040	**Montague**	**2.58**	**27**		Pn	00 09 47.3	+0.1
JFP	**Foothills Park**	**2.60**	**146**		Pn	00 09 45.8	-1.6
LGMM	**Garner Mountai**	**2.64**	**38**		Pn	00 09 48.0	-0.1
JBMM	**Black Mountain**	**2.65**	**146**		Pn	00 09 46.2	-1.9
JPSM		**2.67**	**150**		Pn	00 09 46.5	-1.9
KBO	**Bosley Butte**	**2.68**	**356**	Pn	Pn	00 09 47.5	-1.0
KBO				IAML		00 11 01.1	
	comp=E,92nm,2.6s						
KBO				IAML		00 11 02.1	
	comp=N,70nm,1.8s						
WELL	**Weller Preserv**	**2.78**	**112**		Pn	00 09 49.6	-0.3
BEKR	**Beckworth**	**2.83**	**82**		Pn	00 09 51.1	+0.4
BEKR				IAML		00 10 29.0	
	comp=E,40nm,1.0s						
MHC	**Mount Hamilton**	**2.87**	**139**		Pn	00 09 50.6	-0.7
MHC				IAML		00 10 59.6	
	comp=E,36nm,2.2s						
L04D	**Klamath Falls**	**2.97**	**25**		Pn	00 09 53.2	+0.6
L04D				IAML		00 11 04.4	
	comp=N,48nm,1.2s						
L04D				IAML		00 11 04.5	
	comp=E,64nm,2.0s						
CMB	**Columbia Colle**	**3.20**	**117**		Pn	00 09 56.4	+0.7
KEBM	**Edson Butte**	**3.34**	**356**	Pn	Pn	00 09 59.7	+2.0
SAO	**San Andreas Ge**	**3.42**	**143**	Pn	Pn	00 09 56.9	-1.9
BBOR	**Butler Butte**	**3.49**	**16**	IAML		00 11 14.4	
	comp=N,22nm,2.4s						
K04D	**Chiloquin, OR**	**3.52**	**28**		Pn	00 09 59.9	-0.2
PAHR	**Pah Rah Range**	**3.57**	**86**		Pn	00 10 00.5	-0.4
WAKR	**Walker**	**3.70**	**105**		Pn	00 10 02.8	+0.1
LEGD	**La Grand CA**	**3.81**	**126**	Pn	Pn	00 10 04.4	+0.3
LEGD				IAML		00 12 00.6	
	comp=E,18nm,1.0s						
LEGD				IAML		00 12 18.8	
	comp=N,18nm,1.0s						
K05A	**Summer Lake**	**3.95**	**35**		Pn	00 10 06.0	-0.2
K05A				IAML		00 11 24.2	
	comp=E,25nm,2.4s						
K05A				IAML		00 11 28.5	
	comp=N,36nm,2.9s						
J04A	**Umpqua Nationa**	**3.96**	**20**		Pn	00 10 05.7	-0.7
HULI	**Fort Hunter Li**	**4.14**	**147**	Pn	Pn	00 10 06.5	-2.0
PMPB	**Monarch Peak**	**4.17**	**142**	Pn	Pn	00 10 07.7	-1.4
PMPB				IAML		00 11 48.9	
	comp=N,34nm,3.6s						
PMPB				IAML		00 12 28.3	
	comp=E,31nm,4.6s						
I03D	**Drain, OR**	**4.18**	**6**	Pn	Pn	00 10 09.0	-0.1
I03D				IAML		00 10 56.6	
	comp=E,22nm,3.7s						
I03D				IAML		00 11 44.0	
	comp=N,17nm,4.3s						
J05D	**Fort Rock, OR**	**4.28**	**28**		Pn	00 10 11.1	+0.4
J05D				IAML		00 11 44.0	
	comp=E,18nm,1.7s						
J05D				IAML		00 11 46.4	
	comp=N,20nm,2.0s						
MDPB	**Devils Postpil**	**4.30**	**115**		Pn	00 10 12.6	+1.6
MDPB				IAML		00 13 02.3	
	comp=N,13nm,0.1s						
RYN	**Ryan**	**4.36**	**100**	Pn	Pn	00 10 11.2	-0.5
LHV	**Little Huntoon**	**4.47**	**105**		Pn	00 10 12.8	-0.3
LHV				IAML		00 11 47.1	
	comp=E,16nm,2.9s						
LHV				IAML		00 12 07.4	
	comp=N,15nm,1.4s						
PKD	**Bear Valley Ra**	**4.51**	**142**	Pn	Pn	00 10 12.3	-1.5
PKD				IAML		00 11 21.0	
	comp=N,17nm,4.2s						
PKD				IAML		00 12 01.3	
	comp=E,19nm,4.5s						
I02E	**Swisshome, OR**	**4.57**	**1**	Pn	Pn	00 10 14.6	+0.2
NVAR	**Mina Array Bea**	**4.57**	**102**	Pn	Pn	00 10 16.1	+1.3
BUCK	**Buck Mountain**	**4.72**	**9**	Pn	Pn	00 10 17.2	+0.6
BUCK				IAML		00 12 09.8	
	comp=E,25nm,4.3s						
WIFE	**Three Sisters-**	**4.80**	**19**		Pn	00 10 17.6	-0.2
WIFE				IAML		00 10 54.2	
	comp=E,18nm,3.4s						
WIFE				IAML		00 12 02.4	
	comp=N,16nm,3.6s						
PINE	**Pine Mountain**	**4.83**	**27**		Pn	00 10 19.0	+0.8
PINE				IAML		00 12 01.7	
	comp=N,13nm,4.1s						
PINE				IAML		00 12 07.8	
	comp=E,17nm,3.7s						
H04D	**Lebanon**	**5.07**	**10**	Pn	Pn	00 10 20.1	-1.2
DSP	**Deep Springs**	**5.20**	**113**	Pn	Pn	00 10 21.4	-1.8
H04A	**Detroit Lake**	**5.32**	**14**	Pn	Pn	00 10 23.3	-1.4
VES	**Vestal, Richgr**	**5.37**	**132**	Pn	Pn	00 10 26.2	+0.7
CWC	**Cottonwood Cre**	**5.61**	**122**		Pn	00 10 29.3	+0.4
YPT	**Yellepit**	**7.48**	**28**		Pn	00 10 53.0	-1.5

*UCR **01** 00:12:30.9±1.0, 8.77N×83.16W, h49km±3km, MW4.1*
*CATAC **01** 00:12:31.2±0.2, 9.7N±3.8°×83.9W±°, h16km±2km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=6.1km s-min=3.5km az=24.5, confirmed*
*RSNC **01** 00:12:32.3±1.6, 9.7N±6.8°×83.9W±°, h27km±14km, M2.8, Mjma3.8, ML3.8, ML2.8, MLh3.3, MLv3.6, Ms(BB)3.4*

ISC 01 00:12:31.3±1.3, 8.82N±0.02×83.16W±0.02, h17km±11km, n71, σ1.44/87, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDAD	**Golfito**	**0.17**	**184**	*eP*	**Pb**	**00 12 37.9**	**+1.8**
EDAD				*eS*	**Sb**	**00 12 43.7**	**+4.4**
EDP2	**Potrero Grande**	**0.19**	**354**	*eP*	**Pb**	**00 12 39.1**	**+2.6**
EDP2				*eS*	**Sb**	**00 12 45.9**	**+6.0**
FITO	**Golfito**	**0.20**	**180**	*eP*	**Pb**	**00 12 37.9**	**+1.3**
FITO				*eS*	**Sb**	**00 12 43.7**	**+3.7**
NELY	**Ciudad Neily**	**0.27**	**130**	*eP*	**Pb**	**00 12 38.8**	**+1.1**
NELY			⇑	*eS*	**Sn**	**00 12 45.8**	**-0.4**
RSRNO	**Rio Sereno**	**0.29**	**91**	*eP*	**Pb**	**00 12 40.0**	**+1.8**
JIME	**Puerto Jimenez**	**0.33**	**211**	*eP*	**Pb**	**00 12 39.3**	**+0.6**
JIME				*eS*	**Sn**	**00 12 47.0**	**-0.8**
PANP	**Palmar Norte**	**0.33**	**294**	*eP*	**Pb**	**00 12 39.6**	**+0.9**
ALCO	**Alturas Coton,**	**0.34**	**68**	*eP*	**Pb**	**00 12 40.2**	**+1.1**
ALCO				*eS*	**Sn**	**00 12 47.6**	**-0.8**
SCLRA	**Santa Clara, W**	**0.37**	**88**	*eP*	**Pb**	**00 12 40.8**	**+1.2**
CDITO	**Canoas**	**0.37**	**132**	P	**Pb**	**00 12 40.1**	**+0.6**
CDITO	**Canoas**	**0.37**	**132**	S	**Sb**	**00 12 47.0**	**+2.0**
DMCAL	**E. de Neily**	**0.39**	**113**	*eP*	**Pb**	**00 12 40.3**	**+0.5**
BURE	**Buenos Aires**	**0.39**	**333**	*eP*	**Pb**	**00 12 40.7**	**+0.9**
BURE				*eS*	**Sn**	**00 12 48.5**	**-0.9**
LPPC	**Paso Canoas**	**0.42**	**133**	*eP*	**Pb**	**00 12 40.5**	**+0.1**
LPPC				*eS*	**Sb**	**00 12 48.0**	**+1.5**
DRK0	**Durika**	**0.45**	**349**	P	**Pb**	**00 12 41.6**	**+0.6**
DRK0	**Durika**	**0.45**	**349**	*eP*	**Pb**	**00 12 41.5**	**+0.6**
DRK0				*eS*	**Sn**	**00 12 49.6**	**-1.4**
PIRO	**Carate, Puerto**	**0.45**	**203**	S	**Sb**	**00 12 48.3**	**+1.0**
PIRO	**Carate, Puerto**	**0.45**	**203**	P	**Pb**	**00 12 40.8**	**-0.1**
PIRO	**Carate, Puerto**	**0.45**	**203**	*eP*	**Pb**	**00 12 40.5**	**-0.4**
BRU2	**Volcan**	**0.46**	**94**	P	**Pb**	**00 12 41.5**	**+0.4**
BRU2	**Volcan**	**0.46**	**94**	S	**Sb**	**00 12 49.8**	**+2.0**
BRU2	**Volcan**	**0.46**	**94**	*eP*	**Pb**	**00 12 41.5**	**+0.4**
BRU2				*eS*	**Sb**	**00 12 50.1**	**+2.4**
TBS2		**0.49**	**93**	*eP*	**Pb**	**00 12 42.5**	**+0.8**
EDPE	**Pejibaye, P**	**0.53**	**309**	*eP*	**Pb**	**00 12 42.1**	**-0.1**
EDPE				*eS*	**Sn**	**00 12 51.3**	**-1.5**
OCHAL	**Ojochal**	**0.56**	**299**	S	**Sb**	**00 12 50.7**	**+0.4**
OCHAL	**Ojochal**	**0.56**	**299**	P	**Pb**	**00 12 42.2**	**-0.4**
BANCO	**falda S V. Bar**	**0.63**	**99**	*eP*	**Pg**	**00 12 43.7**	**-0.1**
JEFFS	**S de V. Baru**	**0.63**	**104**	*eP*	**Pg**	**00 12 43.7**	**-0.1**
BQTLY	**Boquete Panama**	**0.69**	**95**	*eP*	**Pg**	**00 12 44.3**	**-0.6**
WILLF	**Boquete**	**0.71**	**96**	*eP*	**Pg**	**00 12 44.6**	**-0.8**
DAP26	**falda E V. Bar**	**0.72**	**93**	*eP*	**Pg**	**00 12 44.4**	**-1.1**
ZEDO	**Perez Zeledon**	**0.74**	**315**	*eS*	**Sb**	**00 12 56.3**	**+0.5**
LMNES	**Limones**	**0.78**	**158**	*eP*	**Pb**	**00 12 45.7**	**-0.7**
BRIBI	**Bribri**	**0.86**	**23**	*eP*	**Pg**	**00 12 48.5**	**+0.4**
RGM0	**Gandoca**	**0.94**	**35**	P	**Pn**	**00 12 50.0**	**+0.3**
LAES	**El Progreso Va**	**0.94**	**6**	*eP*	**Pb**	**00 12 49.0**	**-0.2**
PBNVO	**Pueblo Nuevo,**	**0.95**	**86**	*eP*	**Pb**	**00 12 47.7**	**-1.7**
RBALA	**Bur**	**0.99**	**87**	*eP*	**Pb**	**00 12 48.4**	**-1.7**
VERH	**Veragua Rainfo**	**1.10**	**358**	*eP*	**Pb**	**00 12 50.8**	**-1.1**
LLNJ	**Naranjito**	**1.14**	**305**	*eP*	**Pb**	**00 12 51.0**	**-1.5**
RAZU	**San Marcos de**	**1.19**	**314**	*eP*	**Pb**	**00 12 53.3**	**-0.3**
VERB	**Verbena**	**1.24**	**335**	*eP*	**Pn**	**00 12 52.8**	**-1.2**
LCR2	**La Lucha 2**	**1.24**	**317**	P	**Pn**	**00 12 53.7**	**-0.4**
RESJ	**San Isidro (Tu**	**1.29**	**338**	*eP*	**Pn**	**00 12 54.1**	**-0.6**
ABRB	**Las Abras (San**	**1.30**	**335**	*eP*	**Pn**	**00 12 53.8**	**-1.2**
PICV	**PH. Pirrs**	**1.30**	**308**	*eP*	**Pn**	**00 12 53.4**	**-1.5**
CVTV	**Tajo**	**1.31**	**334**	*eP*	**Pn**	**00 12 54.2**	**-1.0**
CVTQ	**Turrialba Volc**	**1.32**	**333**	*eP*	**Pn**	**00 12 54.4**	**-1.0**
PAR1A	**Puntarenas Pro**	**1.33**	**305**	*eP*	**Pn**	**00 12 54.6**	**-0.6**
VTR0	**Volcan Turrial**	**1.33**	**333**	*eP*	**Pn**	**00 12 54.6**	**-1.0**
CVTR	**Volcan Turrial**	**1.33**	**333**	*eP*	**Pn**	**00 12 54.2**	**-1.4**
KKNTU	**Kakinº**	**1.33**	**89**	*eP*	**Pn**	**00 12 53.2**	**-2.0**
ACOS	**Acosta**	**1.39**	**314**	*eP*	**Pn**	**00 12 54.8**	**-1.3**
BELE	**Belen**	**1.53**	**318**	*eP*	**Pn**	**00 12 58.3**	**+0.3**
TRT2	**Tortugero**	**1.82**	**342**	P	**Pn**	**00 13 02.0**	**+0.2**
CBL1	**Cabuya**	**2.06**	**292**	*eP*	**Pn**	**00 13 02.8**	**-2.3**
SOCE	**Pocosol**	**2.12**	**317**	P	**Pn**	**00 13 06.5**	**+0.4**
SOCE	**Pocosol**	**2.12**	**317**	S	**Sn**	**00 13 33.2**	**+1.1**
SOCE	**Pocosol**	**2.12**	**317**	*eP*	**Pn**	**00 13 06.6**	**+0.6**
FORC	**Fortuna**	**2.21**	**318**	*eP*	**Pn**	**00 13 08.5**	**+1.1**
VACR	**Volcan Arenal**	**2.22**	**318**	*eP*	**Pn**	**00 13 08.0**	**+0.5**
CEDE	**Laguna Cedeo**	**2.25**	**317**	*eP*	**Pn**	**00 13 08.0**	**+0.1**
JTS	**Las Juntas de**	**2.30**	**310**	P	**Pn**	**00 13 08.0**	**-0.4**
JTS				S	**Sn**	**00 13 35.5**	**-0.9**
JTS	**Las Juntas de**	**2.30**	**310**	P	**Pn**	**00 13 08.3**	**-0.2**
JTS				S	**Sn**	**00 13 36.0**	**-0.4**
CHIK	**Chiripa**	**2.36**	**313**	*eP*	**Pn**	**00 13 10.1**	**+0.6**
INVE	**Universidad In**	**2.50**	**311**	*eP*	**Pn**	**00 13 13.0**	**+1.8**
CUI	**Cuipilapa**	**2.69**	**313**	*eP*	**Pn**	**00 13 13.2**	**-0.8**
BCIP	**Isla Barro Col**	**3.29**	**84**	P	**Pn**	**00 13 21.4**	**-0.8**
BCIP				S	**Sn**	**00 14 00.1**	**-1.0**
ESPN	**Las Esperanzas**	**3.54**	**342**	P	**Pn**	**00 13 25.1**	**-0.4**
SAIC	**Isla e San And**	**3.95**	**21**	P	**Pn**	**00 13 29.9**	**-1.4**
SAIC				S	**Sn**	**00 14 15.6**	**-1.7**
PRVC	**Isla de Provid**	**4.86**	**21**	P	**Pn**	**00 13 42.6**	**-1.1**
PRVC				S	**Sn**	**00 14 37.4**	**-2.1**

AUST 01 00:17:37.2±1.1, 20.7S±7.7×11.4E±°, h10km, mb5.0/5, ML3.5/3, Error ellipse: s-maj=17.2km s-min=7.6km az=146.2, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**3.05**	**178**	P	Pn	00 18 25.6	+0.2
GIRL				S	Sn	00 19 02.6	+0.6
CVQOZ	**Cooralya Stati**	**4.84**	**181**	P	Pn	00 18 49.5	-0.6
CVQOZ				S	Sn	00 19 43.6	-2.7
MBWA	**Marble Bar**	**5.48**	**108**	P	Pn	00 18 59.8	+0.9
	comp=Z,100nm,0.7s,comp=Z,0.2nm						
MBWA				S	Sn	00 20 02.8	+0.7
PSA00	**Pilbara Seismi**	**5.70**	**111**	P	Pn	00 19 03.0	+0.9
	comp=Z,116nm,0.9s,comp=Z,0.2nm						
PSA00				S	Sn	00 20 08.2	+0.6
PSAB3	**Pilbara Seismi**	**5.72**	**111**	P	Pn	00 19 03.1	+0.8
PSAB3				S	Sn	00 20 09.3	+1.4
PSAC2	**Pilbara Seismi**	**5.75**	**111**	P	Pn	00 19 03.5	+0.9
PSAC2				S	Sn	00 20 08.9	+0.2
CAAN	**Eighty Mile Be**	**6.97**	**89**	P	Pn	00 19 18.0	-1.4
	comp=Z,142nm,1.2s,comp=Z,0.2nm						
CAAN				S	Sn	00 20 37.3	-1.4
MEEK	**Meekatharra**	**8.14**	**150**	P	Pn	00 19 37.1	+1.6
	comp=Z,17nm,0.7s,comp=Z,0.3nm						
MEEK	**Meekatharra**	**8.14**	**150**	S	Sn	00 21 07.2	-0.5
MORW	**Morawa**	**9.60**	**170**	P	Pn	00 19 54.7	-0.9
	comp=Z,10nm,0.6s,comp=Z,0.1nm						
BLDU	**Ballidu**	**11.23**	**169**	P	Pn	00 20 16.8	-1.0
MUN	**Mundaring**	**12.48**	**172**	P	Pn	00 20 34.2	-0.8
KMBL	**Kambalda**	**13.65**	**151**	P	Pn	00 20 49.4	-1.5

*NEIC **01** 00:26:23.7±2.6, 35.14N±0.02×95.39W±0.02, h5km±1km, mb_Lg2.3/20, ML2.7/12, ML2.4/6, Error ellipse: s-maj=3.8km s-min=2.9km az=147.0*

NEIC 01 00:26:23.6±3.0, 35.13N±0.02×95.35W±0.02, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.6km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	00 26 39.8	-0.3
RLO	**Rose Lookout**	**1.07**	**14**		Pg	00 26 43.8	-0.4
RLO				Sg	Sg	00 26 57.4	-0.6
DEOK	**Depew**	**1.18**	**308**		Pg	00 26 45.7	-0.5
DEOK					Sg	00 27 00.5	-1.0
DEOK				IAML		00 27 06.0	
	comp=N,108nm,0.2s						
DEOK				IAML		00 27 06.0	
	comp=E,128nm,0.2s						
OK052	**Battle Ridge R**	**1.46**	**307**		Pn	00 26 50.4	-0.3
QUOK	**Quay**	**1.52**	**314**		Pn	00 26 51.2	-0.3
QUOK					Sn	00 27 11.3	-0.3
U38A	**Gravette**	**1.53**	**31**		Pn	00

PARRA				*e*S		**Sb**	**00 32 17.1**	**+0.6**
PARRA				*i* IAML			00 32 19.8	
PARRA				*i* IAML			00 32 20.0	
PARRA				*i* IAML			00 32 20.1	
PFVI	**Vila Bisbo**	**5.58**	**91**	*e*P		**Pn**	**00 31 00.8**	**+4.0**
PFVI				*e*S		**Sn**	**00 32 00.7**	**-0.3**
PFVI				*i* IAML			00 32 03.4	
PFVI				*i* IAML			00 32 06.2	
PFVI				*i* IAML			00 32 12.1	
PTEO	**Sao Teotonio**	**5.64**	**87**	*e*P		**Pn**	**00 31 01.3**	**+3.7**
PTEO				*e*S		**Sn**	**00 32 00.2**	**-2.2**
PTEO				*i* IAML			00 32 05.7	
PTEO				*i* IAML			00 32 05.7	
PTEO				*i* IAML			00 32 08.6	
MORF	**Marmelete**	**5.71**	**89**	*e*P		**Pn**	**00 31 02.1**	**+3.5**
MORF				*e*S		**Sn**	**00 32 04.0**	**-0.2**
MORF				IAML			00 32 07.0	
	comp=N,9.3nm,0.2s							
MORF	**Marmelete**	**5.71**	**89**	*e*P		**Pn**	**00 31 02.2**	**+3.7**
MORF				*e*S		**Sn**	**00 32 03.9**	**-0.2**
MORF				*i* IAML			00 32 08.5	
MORF				*i* IAML			00 32 09.4	
MORF				*i* IAML			00 32 11.5	
PSBE	**So Bento**	**5.89**	**67**	*e*P		**Pn**	**00 31 05.0**	**+3.9**
PSBE				*e*S		**Sn**	**00 32 09.7**	**+1.0**
PSBE				*i* IAML			00 32 13.1	
PSBE				*i* IAML			00 32 14.4	
PSBE				*i* IAML			00 32 21.6	
MESJ	**Messejana**	**6.04**	**84**	*e*P		**Pn**	**00 31 06.3**	**+3.2**
MESJ				*e*S		**Sn**	**00 32 11.7**	**-0.7**
MESJ				IAML			00 32 14.5	
	comp=N,9.9nm,0.3s							
MESJ	**Messejana**	**6.04**	**84**	*e*P		**Pn**	**00 31 07.0**	**+3.9**
MESJ				*e*S		**Sn**	**00 32 12.0**	**-0.4**
MESJ				*i* IAML			00 32 14.5	
MESJ				*i* IAML			00 32 16.4	
MESJ				*i* IAML			00 32 19.4	
PCVE	**Castro Verde**	**6.19**	**86**	*e*P		**Pn**	**00 31 09.7**	**+4.6**
PCVE				*e*S		**Sn**	**00 32 15.1**	**-0.7**
PCVE				*i* IAML			00 32 18.4	
PCVE				*i* IAML			00 32 21.0	
PCVE				*i* IAML			00 32 21.3	
PMTG	**Montargil**	**6.20**	**72**	*e*P		**Pn**	**00 31 09.0**	**+3.8**
PMTG				*e*S		**Sn**	**00 32 14.9**	**-1.3**
PMTG				*i* IAML			00 32 18.5	
PMTG				*i* IAML			00 32 20.9	
PMTG				*i* IAML			00 32 21.3	
EVO	**Evora**	**6.26**	**77**	*e*P		**Pn**	**00 31 09.7**	**+3.5**
EVO				*e*S		**Sn**	**00 32 16.7**	**-1.1**
EVO				*i* IAML			00 32 18.3	
EVO				*i* IAML			00 32 18.5	
EVO				*i* IAML			00 32 21.0	
PBDV	**Barranco-do-Ve**	**6.29**	**89**	*e*S		**Sn**	**00 32 17.9**	**-0.5**
PBDV				*i* IAML			00 32 24.3	
PBDV				*i* IAML			00 32 24.4	
PBDV				*i* IAML			00 32 26.3	
PCAS	**Casmilo, Conde**	**6.29**	**63**	*e*P		**Pn**	**00 31 10.2**	**+3.6**
PCAS				*e*S		**Sn**	**00 32 16.1**	**-2.5**
PCAS				*i* IAML			00 32 21.7	
PCAS				*i* IAML			00 32 21.9	
PCAS				*i* IAML			00 32 22.6	
PBEJ	**Beja**	**6.33**	**82**	*e*S		**Sn**	**00 32 18.8**	**-0.7**
PBEJ				*i* IAML			00 32 21.2	
PBEJ				*i* IAML			00 32 22.0	
PBEJ				*i* IAML			00 32 26.0	
PSARD	**Sardoal**	**6.38**	**68**	*e*P		**Pn**	**00 31 12.1**	**+4.3**
PSARD				*e*S		**Sn**	**00 32 20.0**	**-0.8**
PSARD				*i* IAML			00 32 23.5	
PSARD				*i* IAML			00 32 23.6	
PSARD				*i* IAML			00 32 27.2	
PVAQ	**Vaqueiros**	**6.45**	**88**	*e*P		**Pn**	**00 31 12.4**	**+3.8**
PVAQ				*e*S		**Sn**	**00 32 22.3**	**0.0**
PVAQ				*i* IAML			00 32 24.1	
PVAQ				*i* IAML			00 32 25.8	
PVAQ				*i* IAML			00 32 28.6	
EGRO	**El Granado**	**6.63**	**87**	S		**Sn**	**00 32 26.0**	**-0.8**
EGRO				P		**Pn**	**00 31 14.0**	**+2.9**
EGRO	**El Granado**	**6.63**	**87**	P		**Pn**	**00 31 13.7**	**+2.5**
EGRO				⇑*i*VmB_VC			00 31 19.7	
	comp=N,106nm,SNR=2.1							
EGRO				S		**Sn**	**00 32 26.0**	**-0.8**
PESTR	**Estremoz**	**6.64**	**75**	*e*P		**Pn**	**00 31 14.9**	**+3.6**
PESTR				*e*S		**Sn**	**00 32 26.1**	**-1.0**
PESTR				*i* IAML			00 32 26.5	
PESTR				*i* IAML			00 32 28.7	
PESTR				*i* IAML			00 32 45.8	
PTO	**Porto**	**6.71**	**54**	*e*S		**Sn**	**00 32 25.9**	**-2.9**
PTO				*i* IAML			00 32 26.8	
PTO				*i* IAML			00 32 28.7	
PTO				*i* IAML			00 32 30.5	
PMRV	**Marv??o**	**6.91**	**71**	*e*P		**Pn**	**00 31 18.7**	**+3.6**
PMRV				*e*S		**Sn**	**00 32 31.4**	**-2.3**
PMRV				*i* IAML			00 32 34.0	
PMRV				*i* IAML			00 32 34.4	
PMRV				*i* IAML			00 32 36.7	
PCBR	**Castelo Branco**	**6.96**	**67**	*e*P		**Pn**	**00 31 19.4**	**+3.7**
PCBR				*e*S		**Sn**	**00 32 33.5**	**-1.4**
PCBR				*i* IAML			00 32 36.8	
PCBR				*i* IAML			00 32 36.9	
PCBR				*i* IAML			00 32 36.9	
PVIS	**Viseu**	**6.99**	**59**	*e*P		**Pn**	**00 31 19.9**	**+3.8**
PVIS				*e*S		**Sn**	**00 32 32.4**	**-3.2**
PBAR	**Barrancos**	**6.99**	**81**	*e*P		**Pn**	**00 31 20.7**	**+4.5**
PBAR				*e*S		**Sn**	**00 32 34.5**	**-1.2**
PBAR				*i* IAML			00 32 36.7	
PBAR				*i* IAML			00 32 40.3	
PBAR				*i* IAML			00 32 47.2	
EBAD	**Badajoz**	**7.07**	**76**	P		**Pn**	**00 31 21.0**	**+3.8**
EBAD				S		**Sn**	**00 32 35.2**	**-2.4**
EBAD	**Badajoz**	**7.07**	**76**	P		**Pn**	**00 31 20.4**	**+3.2**
EBAD				⇑*i*VmB_VC			00 31 23.1	
	comp=N,104nm,SNR=2.3							
EBAD				S		**Sn**	**00 32 34.9**	**-2.7**
MTE	**Manteigas**	**7.10**	**63**	*e*S		**Sn**	**00 32 35.7**	**-2.8**
MTE				*i* IAML			00 32 41.8	
MTE				*i* IAML			00 32 42.9	
MTE				*i* IAML			00 32 43.1	
EMIN	**Mina Concepcio**	**7.27**	**85**	P		**Pn**	**00 31 22.3**	**+2.4**
EMIN				S		**Sn**	**00 32 40.4**	**-2.2**
EMIN	**Mina Concepcio**	**7.27**	**85**	⇑*i*VmB_VC			00 31 28.7	
	comp=N,74nm,SNR=1.9							
EMIN				S		**Sn**	**00 32 41.6**	**-0.9**
POLO	**Lamas de Olo**	**7.36**	**55**	*e*P		**Pn**	**00 31 24.8**	**+3.5**
POLO				*e*S		**Sn**	**00 32 40.5**	**-4.3**
POLO				*i* IAML			00 32 47.6	
POLO				*i* IAML			00 32 48.8	
POLO				*i* IAML			00 33 02.2	
PVRL	**Vila Real**	**7.36**	**56**	*e*S		**Sn**	**00 32 41.7**	**-3.1**
PVRL				*i* IAML			00 32 44.8	
PVRL				*i* IAML			00 32 54.3	
PVRL				*i* IAML			00 32 54.4	
PGAV	**Gavieira, Arco**	**7.38**	**50**	*e*P		**Pn**	**00 31 24.1**	**+2.6**
PGAV				*e*S		**Sn**	**00 32 40.9**	**-4.4**
PGAV				*i* IAML			00 32 46.3	
PGAV				*i* IAML			00 32 46.3	
PGAV				*i* IAML			00 32 47.4	
PCAB	**Cabril**	**7.38**	**52**	*e*P		**Pn**	**00 31 24.2**	**+2.6**
PCAB				*e*S		**Sn**	**00 32 39.5**	**-5.9**
PCAB				*i* IAML			00 32 46.7	
PCAB				*i* IAML			00 32 50.1	
PCAB				*i* IAML			00 32 50.3	
ELOB	**Lobios**	**7.45**	**51**	P		**Pn**	**00 31 24.5**	**+2.0**
ELOB				⇑*i*VmB_VC			00 31 28.1	
	comp=N,148nm,SNR=1.4							
ELOB				S		**Sn**	**00 32 42.1**	**-5.0**
EMAZ	**Mazaricos**	**7.61**	**41**	P		**Pn**	**00 31 27.1**	**+2.5**
EMAZ				⇑*i*VmB_VC			00 31 29.1	
	comp=N,206nm,SNR=1.1							
EMAZ				S		**Sn**	**00 32 46.1**	**-4.7**
MVO	**Moncorvo**	**7.77**	**59**	*e*P		**Pn**	**00 31 29.9**	**+3.0**
MVO				*e*S		**Sn**	**00 32 50.5**	**-4.4**
MVO				*i* IAML			00 32 54.2	
MVO				*i* IAML			00 32 56.1	
MVO				*i* IAML			00 32 56.2	
ESPR	**Espera**	**7.97**	**91**	P		**Pn**	**00 31 31.6**	**+1.9**
ESPR				S		**Sn**	**00 33 00.9**	**+1.0**
ESPR	**Espera**	**7.97**	**91**	P		Pn	00 31 34.5	+4.9
ESPR				⇑*i*VmB_VC			00 31 37.7	
	comp=N,68nm,SNR=1.5							
ESPR				S		**Sn**	**00 32 59.9**	**0.0**
EAGO	**Agolada(Pontev**	**7.99**	**45**	P		**Pn**	**00 31 31.6**	**+1.7**
EAGO				⇑*i*VmB_VC			00 31 36.5	
	comp=N,278nm,SNR=1.8							
EAGO				S		**Sn**	**00 32 53.7**	**-6.7**
AVE	**Averroes**	**8.00**	**118**	S		**Sn**	**00 33 01.3**	**+0.6**
EPLA	**Plasencia**	**8.05**	**68**	P		**Pn**	**00 31 33.3**	**+2.6**
EPLA				⇑*i*VmB_VC			00 31 36.5	
	comp=N,70nm,SNR=1.3							
EPLA				S		**Sn**	**00 32 59.0**	**-2.9**
SRHM	**Skhour des Reh**	**8.16**	**125**	P		Pn	00 31 38.3	+6.0
SRHM	**Skhour des Reh**	**8.16**	**125**	Sn		**Sn**	**00 32 58.7**	**-6.0**
PBRG	**Braganca**	**8.26**	**55**	*e*P		**Pn**	**00 31 37.0**	**+3.5**
PBRG				*e*S		**Sn**	**00 33 03.3**	**-3.6**
PBRG				*i* IAML			00 33 05.6	
PBRG				*i* IAML			00 33 07.5	
PBRG				*i* IAML			00 33 08.1	
ECAB	**El Cabril**	**8.26**	**82**	P		**Pn**	**00 31 37.6**	**+4.0**
ECAB	**El Cabril**	**8.26**	**82**	P		**Pn**	**00 31 36.0**	**+2.4**
ECAB				⇑*i*VmB_VC			00 31 42.0	
	comp=N,42nm,SNR=1.0							
ECAB				S		**Sn**	**00 33 05.3**	**-1.8**
ECAL	**Calabor**	**8.33**	**54**	P		**Pn**	**00 31 36.8**	**+2.3**
ECAL				S		**Sn**	**00 33 04.9**	**-3.7**
ECAL	**Calabor**	**8.33**	**54**	P		**Pn**	**00 31 37.9**	**+3.3**
ECAL				⇑*i*VmB_VC			00 31 43.2	
	comp=N,149nm,SNR=1.1							
ECAL				S		**Sn**	**00 33 02.2**	**-6.5**
EJIF	**Jimena Fronter**	**8.34**	**94**	S		**Sn**	**00 33 08.3**	**-0.7**
E1302	**La Puebla de C**	**8.44**	**89**	P		Pn	00 31 41.3	+5.4
E1302				⇑*i*VmB_VC			00 31 43.4	
	comp=N,200nm,SNR=3.6							
E1302				S		**Sn**	**00 33 09.2**	**-2.0**
EJUZ	**Juzbado, Salam**	**8.53**	**62**	S		**Sn**	**00 33 08.8**	**-4.7**
EPON	**Pontenova**	**8.86**	**46**	P		**Pn**	**00 31 41.9**	**+0.1**
EPON				⇑*i*VmB_VC			00 31 42.3	
	comp=N,164nm,SNR=0.9							
EPON				S		**Sn**	**00 33 14.7**	**-6.9**
EADA	**Adamuz**	**8.93**	**82**	P		**Pn**	**00 31 45.8**	**+3.0**
EADA				S		**Sn**	**00 33 21.8**	**-1.6**
EADA	**Adamuz**	**8.93**	**82**	P		**Pn**	**00 31 45.4**	**+2.6**
EADA				⇑*i*VmB_VC			00 31 50.1	
	comp=N,74nm,SNR=1.4							
EADA				S		**Sn**	**00 33 19.5**	**-3.9**
OUK	**Oukaimeden**	**9.04**	**131**	P		**Pn**	**00 31 48.4**	**+3.9**
OUK	**Oukaimeden**	**9.04**	**131**	Sn		**Sn**	**00 33 22.5**	**-4.0**
PAB	**San Pablo**	**9.24**	**73**	P		**Pn**	**00 31 49.8**	**+2.8**
PAB				⇑*i*VmB_VC			00 31 53.0	
	comp=N,46nm,SNR=1.3							
PAB				S		**Sn**	**00 33 27.3**	**-3.8**
ESDC	**Sonseca Array**	**9.55**	**73**	⇑*i*VmB_VC			00 31 56.0	
	comp=N,71nm,SNR=1.4							
ESDC				S		**Sn**	**00 33 34.3**	**-4.6**
ESBB	**Sonseca Array**	**9.56**	**73**	P		**Pn**	**00 31 53.4**	**+2.0**
ESBB				⇑*i*VmB_VC			00 31 56.0	
	comp=N,63nm,SNR=1.2							
ESBB				S		**Sn**	**00 33 33.4**	**-5.5**
TISM	**Timmit**	**9.60**	**124**	P		**Pn**	**00 31 56.0**	**+4.2**
TISM	**Timmit**	**9.60**	**124**	Sn		**Sn**	**00 33 32.0**	**-7.7**
PSIM	**Granatula de C**	**9.61**	**78**	P		**Pn**	**00 31 55.2**	**+3.1**
PSIM				S		**Sn**	**00 33 37.4**	**-2.7**
GUD	**Guadarrama**	**9.63**	**67**	P		**Pn**	**00 31 53.9**	**+1.4**
GUD				⇑*i*VmB_VC			00 31 57.2	
	comp=N,34nm,SNR=1.2							
GUD				S		**Sn**	**00 33 36.0**	**-4.6**
OUZM	**OUZ**	**9.92**	**128**	P		**Pn**	**00 32 00.4**	**+3.9**
OUZM	**OUZ**	**9.92**	**128**	Sn		**Sn**	**00 33 44.7**	**-3.3**
MD31	**MD31**	**10.13**	**113**	P		**Pn**	**00 32 02.9**	**+3.6**
MD31	**MD31**	**10.13**	**113**	Sn		**Sn**	**00 33 45.6**	**-7.3**
UCM	**Universidad Co**	**10.22**	**70**	P		**Pn**	**00 32 01.9**	**+1.5**
UCM				S		**Sn**	**00 33 53.8**	**-1.3**
MDT	**Midelt**	**10.27**	**113**	P		**Pn**	**00 32 05.1**	**+3.9**
MDT	**Midelt**	**10.27**	**113**	Sn		**Sn**	**00 33 49.5**	**-6.9**

*NEIC **01** 00:30:06.5±0.9, 18°.0N±0°.3×68°.85W±0°.08, h135km±18km, ML2.3/17, Md2.7/7(RSPR), Error ellipse: s-maj=40.4km s-min=7.3km az=191.0*
*RSPR **01** 00:30:09.0, 18°.13N×68°.82W, h125km±5km, MD2.7/7*
ISC 01 00:30:06.4±2.1, 18°.2N±0°.1×68°.83W±0°.06, h145km±17km, n40, σ0s86/47, 5C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.80**	**319**	Pn	**Pn**	**00 30 28.7**	**-0.5**
DR12				Sn	**Sn**	**00 30 46.6**	**+0.1**
MIDR	**Miches**	**0.83**	**345**	⇑*e*P	**Pn**	**00 30 29.1**	**-0.2**
MIDR	**Miches**	**0.83**	**345**	*e*S	**Sn**	**00 30 46.5**	**-0.3**
SDD	**Santo Domingo**	**1.07**	**285**	Pn	**Pn**	**00 30 30.3**	**-0.9**
SDD				IAML		00 30 52.4	
	comp=N,42nm,0.4s						
SDD				IAML		00 30 52.4	
	comp=E,37nm,2.3s						
SMDR	**Samana, DR**	**1.16**	**343**	⇑*e*P	**Pn**	**00 30 32.1**	**0.0**
SMDR	**Samana, DR**	**1.16**	**343**	*e*S	**Sn**	**00 30 51.6**	**-0.3**
IDE	**Isla Desecheo**	**1.30**	**81**		**Pn**	**00 30 35.2**	**+1.6**
IDE					**Sn**	**00 30 54.1**	**-0.1**
IDE	**Isla Desecheo**	**1.30**	**81**	⇑*i*P	**Pn**	**00 30 35.2**	**+1.6**
IDE	**Isla Desecheo**	**1.30**	**81**	*e*S	**Sn**	**00 30 54.1**	**-0.1**
PRSN	**Puerto Rico Se**	**1.60**	**88**	Pn	**Pn**	**00 30 36.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.64**	**96**		**Pn**	**00 30 36.5**	**-0.7**
CRPR				Sn	**Sn**	**00 30 59.4**	**-1.2**
CRPR				IAML		00 31 10.1	
	comp=N,20nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.64**	**96**	⇑*e*P	**Pn**	**00 30 37.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.64**	**96**	*e*S	**Sn**	**00 30 59.8**	**-0.8**
AGPR	**Aguadilla, PR**	**1.66**	**80**		**Pn**	**00 30 37.4**	**+0.1**
AGPR					**Sn**	**00 31 01.1**	**+0.2**
AGPR	**Aguadilla, PR**	**1.66**	**80**	⇑*e*P	**Pn**	**00 30 37.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.66**	**80**	*e*S	**Sn**	**00 31 01.1**	**+0.2**
LSP	**Las Mesas**	**1.66**	**90**		**Pn**	**00 30 38.9**	**+1.5**
LSP					**Sn**	**00 31 01.3**	**+0.3**
LSP	**Las Mesas**	**1.66**	**90**	⇑*e*P	**Pn**	**00 30 38.9**	**+1.5**
LSP	**Las Mesas**	**1.66**	**90**	*e*S	**Sn**	**00 31 01.3**	**+0.3**
MLPR	**Magueyes Islan**	**1.71**	**97**	⇓*e*P	**Pn**	**00 30 38.7**	**+0.9**
MLPR	**Magueyes Islan**	**1.71**	**97**	*e*S	**Sn**	**00 31 01.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.98**	**85**		**Pn**	**00 30 40.5**	**-0.5**
AOPR	**Arecibo Observ**	**1.98**	**85**	Sn	**Sn**	**00 31 07.2**	**-0.4**
AOPR	**Arecibo Observ**	**1.98**	**85**	⇓*e*P	**Pn**	**00 30 40.5**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.00**	**87**	Pn	**Pn**	**00 30 41.0**	**-0.3**
UUPR				Sn	**Sn**	**00 31 08.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.00**	**87**	⇓*e*P	**Pn**	**00 30 42.0**	**+0.7**
UUPR	**Utuado, UPR, P**	**2.00**	**87**	*e*S	**Sn**	**00 31 08.4**	**+0.3**
CELP	**Cerrillos**	**2.14**	**92**		**Pn**	**00 30 42.8**	**-0.1**
CELP					**Sn**	**00 31 10.2**	**-0.8**
CELP				IAML		00 31 33.7	
	comp=N,13nm,4.0s						
CELP	**Cerrillos**	**2.14**	**92**	⇓*e*P	**Pn**	**00 30 43.1**	**+0.2**
CELP	**Cerrillos**	**2.14**	**92**	*e*S	**Sn**	**00 31 13.8**	**+2.9**
SC01	**Santiago de lo**	**2.19**	**305**	Pn	**Pn**	**00 30 44.5**	**+1.0**
EMPR	**Esperanza - Ma**	**2.20**	**82**	Pn	**Pn**	**00 30 42.4**	**-1.2**
ECPR	**Experimental S**	**2.35**	**86**	⇓*e*P	**Pn**	**00 30 44.4**	**-1.0**
ECPR	**Experimental S**	**2.35**	**86**	*e*S	**Sn**	**00 31 14.4**	**-1.0**
SDDR	**Presa de Saban**	**2.47**	**289**	Pn	**Pn**	**00 30 47.5**	**+0.6**
SDDR				IAML		00 31 47.6	
	comp=N,9.6nm,1.3s						
SDDR				IAML		00 32 12.6	
	comp=N,10nm,0.9s						
SJG	**San Juan**	**2.55**	**91**	Pn	**Pn**	**00 30 46.9**	**-0.9**
SJG				IAML		00 32 40.7	
	comp=N,11nm,3.4s						
GCPR	**Guaynabo City**	**2.61**	**87**	Pn	**Pn**	**00 30 48.5**	**-0.1**
GCPR				IAML		00 31 25.6	
	comp=N,9.0nm,2.6s						
GCPR				IAML		00 31 57.0	
	comp=E,10nm,3.2s						
PDPR	**Patillas Dam,**	**2.67**	**93**	Pn	**Pn**	**00 30 49.4**	**0.0**
PDPR	**Patillas Dam,**	**2.67**	**93**	*e*S	**Sn**	**00 31 22.2**	**-0.4**
HUMP	**Col San Antoni**	**2.83**	**90**	Pn	**Pn**	**00 30 51.3**	**-0.1**

*IDC **01** 00:34:15.5±6.9, 19°.89S×178°.71W, h563km±76km, mb3.0/5, mbtmp3.9/5, Error ellipse: s-maj=108.4km s-min=30.0km az=155.0*
ISC 01 00:34:18.6±1.9, 19°.8S±0°.7×178°.9W±0°.4, h600km, n8, σ0s46/8, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.90**	**256**	P	**P**	**00 41 34.0**	**+0.1**
	1.1nm,0.5s,baz=93,slow=7.8,SNR=14						
ASAR				PcP	**PcP**	**00 43 05.8**	**-0.6**
	0.3nm,0.5s,baz=105,slow=4.0,SNR=4.1						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**43.91**	**261**	P	**P**	**00 41 33.9**	**0.0**
	0.8nm,0.3s,baz=98,slow=8.3,SNR=17						
	0.8nm,0.3s						
TXAR	**Lajitas Array**	**87.35**	**58**	P	**P**	**00 46 03.4**	**+0.1**
	0.4nm,0.8s,baz=246,slow=5.3,SNR=4.9						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**00 46 04.3**	**-0.2**
	0.4nm,0.4s,baz=229,slow=6.0,SNR=4.6						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**89.00**	**44**	P	**P**	**00 46 10.9**	**0.0**
	0.3nm,0.6s,baz=228,slow=4.0,SNR=3.6						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**142.01**	**331**	PKhKP	PKPpre	00 52 39.1	
	0.8nm,0.4s,baz=44,slow=4.3,SNR=6.2						
BRTR	**Keskin Array B**	**145.77**	**313**	PKPbc	**PKPbc**	**00 52 52.1**	**+0.1**
	0.5nm,0.6s,baz=79,slow=2.9,SNR=3.9						
MMAI	**Mount Meron Ar**	**146.77**	**300**	PKPbc	**PKPbc**	**00 52 55.7**	**+0.8**
	0.8nm,0.4s,baz=72,slow=5.5,SNR=8.2						

AUST 01 01:08:20.6±0.9, 19°S±6°×12°0E±°, h10km, mb4.2/1, ML2.2/2, Error ellipse: s-maj=15.2km s-min=11.0km az=125.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.41**	**116**	P	Pn	01 08 45.2	-1.1
CAAN				S	Sg	01 09 05.7	-0.1
MBWA	**Marble Bar**	**2.53**	**189**	P	Pn	01 09 03.7	+1.9
MBWA				S	Sn	01 09 33.3	+0.6
PSAD1	**Pilbara Seismi**	**2.81**	**187**	P	Pg	01 09 15.0	+0.6
PSAD1				S	Sn	01 09 40.8	+1.3
PSAC1	**Pilbara Seismi**	**2.89**	**187**	P	Pn	01 09 06.5	-0.2
PSAC1				S	Sn	01 09 42.0	+0.6
PSAB2	**Pilbara Seismi**	**2.90**	**186**	P	Pg	01 09 15.0	-1.2
PSAB2				S	Sn	01 09 43.7	+1.8
PSAC2	**Pilbara Seismi**	**2.91**	**185**	P	Pg	01 09 14.9	-1.4
PSAC2				S	Sn	01 09 44.1	+2.1
PSAA2	**Pilbara Seismi**	**2.91**	**186**	P	Pg	01 09 15.2	-1.3
PSAA2				S	Sn	01 09 43.8	+1.7
PSAB1	**Pilbara Seismi**	**2.92**	**186**	P	Pg	01 09 15.2	-1.4
PSAB1				S	Sn	01 09 43.2	+0.9
PSA00	**Pilbara Seismi**	**2.92**	**186**	P	Pn	01 09 07.4	+0.2
PSA00				S	Sn	01 09 42.7	+0.4
PSAA1	**Pilbara Seismi**	**2.93**	**186**	P	Pg	01 09 15.0	-1.7
PSAA1				S	Sn	01 09 43.7	+1.2
PSAA3	**Pilbara Seismi**	**2.93**	**186**	P	Pg	01 09 15.0	-1.7
PSAA3				S	Sn	01 09 43.6	+1.1
PSAB3	**Pilbara Seismi**	**2.94**	**186**	P	Pg	01 09 16.1	-0.9
PSAB3				S	Sn	01 09 44.7	+1.8
PSAD2	**Pilbara Seismi**	**2.96**	**184**	P	Pb	01 09 14.8	+1.4
PSAD2				S	Sn	01 09 44.8	+1.6
PSAD3	**Pilbara Seismi**	**3.00**	**187**	P	Pb	01 09 14.8	+0.7
PSAD3				S	Sn	01 09 45.1	+0.8
GIRL	**Giralia**	**6.83**	**233**	P	Pn	01 09 59.9	-1.1
	comp=Z,0.1nmcomp=Z,33nm,1.9s						
MEEK	**Meekatharra**	**8.08**	**190**	P	Pn	01 10 18.5	+0.5

*BUT **01** 01:27:56.6±1.1, 44°.68N±0°.02×111°.90W±0°.02, h7km±5km, Error ellipse: s-maj=2.5km s-min=1.6km az=209.0*
NEIC 01 01:27:57.5±1.1, 44°.67N±0°.02×111°.90W±0°.02, h5km±1km, ML2.4/50, ML2.7/20(BUT), Error ellipse: s-maj=3.0km s-min=2.9km az=13.0, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPMT	**Tepee Creek**	**0.18**	**70**		Pg	01 28 02.0	+0.8
TPMT					Sg	01 28 05.2	+1.7
CMI	**Centennial Mou**	**0.24**	**126**		Pg	01 28 02.9	+0.6
MOMT	**Monida**	**0.36**	**258**		Pg	01 28 05.6	+1.0
QLMT	**Earthquake Lak**	**0.37**	**64**		Pg	01 28 05.0	+0.2
YPDC	**Denny Creek**	**0.47**	**85**		Pg	01 28 07.1	+0.4
YHB	**Horse Butte**	**0.51**	**80**		Pg	01 28 07.7	+0.4
YHB	**Horse Butte**	**0.51**	**80**	Sg	Sg	01 28 14.0	+0.1
YHB				IAML		01 28 15.0	
	comp=N,467nm,0.4s						
YHB				IAML		01 28 15.3	
	comp=E,661nm,0.5s						
YHL	**Hebgen Lake**	**0.54**	**70**		Pg	01 28 08.2	+0.2
YHL	**Hebgen Lake**	**0.54**	**70**	Sg	Sg	01 28 15.4	+0.3
YHL				IAML		01 28 16.2	
	comp=E,1μm,0.5s						
YHL				IAML		01 28 16.6	
	comp=N,1μm,0.4s						
**

	comp=E,46nm,0.3s					
YPK	**Parker Peak, Y**	**1.41**	**87**	Pn	01 28 24.1	-0.1
BUT	**Butte**	**1.42**	**341**	Pg	01 28 25.0	+0.2
MSMT	**Mission Creek**	**1.46**	**48**	Pn	01 28 24.6	-0.1
SNOW	**Snow King Moun**	**1.46**	**145**	Pb	01 28 25.3	-0.1
SNOW	**Snow King Moun**	**1.46**	**145**	IAML	01 28 50.1	
	comp=E,56nm,0.8s					
SNOW				IAML	01 28 50.8	
	comp=E,35nm,0.6s					
CRMT	**Chrome Mountai**	**1.47**	**57**	Pn	01 28 25.2	+0.1
SXM	**Sixmile**	**1.56**	**18**	Pb	01 28 26.6	-0.4
RLMT	**Red Lodge**	**1.92**	**75**	Pb	01 28 33.2	0.0
HRY	**Holter Researc**	**2.04**	**1**	Pn	01 28 33.2	+0.5
BPMT	**Black Pine Rid**	**2.08**	**329**	Pb	01 28 35.2	-0.7
BEMT	**Mount Belmont**	**2.10**	**352**	Pn	01 28 34.4	+0.8
HLID	**Hailey**	**2.12**	**239**	Pn	01 28 34.9	+1.1
HLID	**Hailey**	**2.12**	**239**	IAML	01 29 08.1	
	comp=E,41nm,0.3s					
HLID				IAML	01 29 10.0	
	comp=E,30nm,0.3s					
LYMT	**Lyon Mountain**	**2.32**	**353**	Pn	01 28 37.7	+1.1
VCMT	**Victor**	**2.39**	**319**	Pn	01 28 38.9	+1.4
CHMT	**Chamberlain Mo**	**2.44**	**338**	Pn	01 28 39.1	+0.9
OVMT	**Ovando**	**2.52**	**343**	Pn	01 28 40.0	+0.8
BW06	**Boulder Array**	**2.55**	**137**	Pn	01 28 39.9	+0.2
PD31	**Pinedale Array**	**2.55**	**137**	Pn	01 28 40.0	+0.3
PDAR	**Pinedale Array**	**2.55**	**137**	Pb	01 28 42.4	-1.5
MSO	**Missoula**	**2.59**	**327**	Pn	01 28 41.2	+1.0
PLID	**Pearl Lake**	**2.95**	**280**	Pn	01 28 46.7	+1.5
PLID	**Pearl Lake**	**2.95**	**280**	IAML	01 29 33.2	
	comp=E,17nm,0.5s					
PLID				IAML	01 29 34.5	
	comp=E,15nm,0.3s					
HWUT	**Hardware Ranch**	**3.07**	**175**	Pn	01 28 46.8	-0.1
HWUT				IAML	01 30 39.0	
	comp=E,6.5nm,3.8s					
MFID	**Camas Ranch**	**3.10**	**248**	Pn	01 28 48.9	+1.7
BMO	**Blue Mountains**	**3.86**	**275**	Pn	01 28 58.3	+0.7
BMO				IAML	01 30 09.5	
	comp=E,5.3nm,1.1s					
BMO				IAML	01 30 20.4	
	comp=E,6.3nm,3.8s					
BSUT	**Blindstream Ca**	**4.21**	**168**	Pn	01 29 02.6	-0.1
ELK	**Elko**	**4.63**	**213**	Pn	01 29 09.6	+1.3
ELK				IAML	01 31 56.6	
	comp=E,1.9nm,4.6s					
LNOR	**Lincton Mounta**	**4.67**	**287**	Pn	01 29 10.2	+1.6
E09A	**Wood Farm, Sta**	**4.76**	**295**	Pn	01 29 09.2	-0.6
J08A	**Circle Bar Ran**	**4.92**	**257**	Pn	01 29 13.9	+1.6

*SOME **01** 01:34:32.0, 40.°02N×76.°47E, h5km*
*NNC **01** 01:34:34.6±2.0, 40.°08N×76.°69E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=13.9km s-min=9.7km az=170.0*
*KRNET **01** 01:34:38.0±0.1, 40.°18N×76.°69E, mb3.4*
ISC 01 01:34:34.2±1.8, **39.°93N**±0.°08×**76.°62E**±0.°04, **h10**km, **n45,** σ1°**79**/69, **24C-14D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.35**	**327**	⇑*eP*	**Pg**	**01 35 00.2**	**+0.1**
JNKS				⇑*eS*	**Sb**	**01 35 16.6**	**-0.6**
TARG	**Taragay, Kyrgy**	**2.01**	**26**	⇓*eP*	**Pb**	**01 35 10.7**	**-0.4**
TARG				⇓*eS*	**Sb**	**01 35 34.4**	**-2.0**
KDJ	**Kajisay**	**2.24**	**11**	⇓*eP*	**Pb**	**01 35 14.3**	**-0.6**
KDJ				⇓*eS*	**Sb**	**01 35 40.7**	**-2.0**
ULHL	**Ulahol**	**2.33**	**353**	P	**Pg**	**01 35 17.6**	**-1.4**
	SNR=18						
ULHL	**Ulahol**	**2.33**	**353**	⇑*eP*	**Pb**	**01 35 15.8**	**-0.7**
ULHL				⇑*eS*	**Sb**	**01 35 43.4**	**-2.1**
SALK	**Salom-Alik**	**2.34**	**295**	⇓*eP*	**Pg**	**01 35 18.7**	**-0.4**
SALK				⇓*eS*	**Sg**	**01 35 48.4**	**-1.1**
SFK	**Sufi-Kurgan**	**2.40**	**273**	⇓*eP*	**Pg**	**01 35 20.9**	**+0.7**
SFK				⇓*eS*	**Sg**	**01 35 52.1**	**+0.8**
BOOM	**Boomskoye usch**	**2.61**	**349**	⇑*eP*	**Pb**	**01 35 19.7**	**-1.5**
BOOM				⇑*eS*	**Sn**	**01 35 50.3**	**+1.8**
UCH	**Uchtor**	**2.79**	**326**	P	**Pb**	**01 35 25.1**	**+0.5**
	SNR=13						
UCH	**Uchtor**	**2.79**	**326**	⇑*eP*	**Pb**	**01 35 23.3**	**-1.2**
UCH				⇑*eS*	**Sb**	**01 35 56.4**	**-2.6**
PRZ	**Przheval'sk**	**2.88**	**27**	⇑*eP*	**Pb**	**01 35 23.5**	**-2.4**
PRZ				⇑*eS*	**Sn**	**01 35 56.9**	**+1.6**
KBK	**Karagaybulak**	**3.00**	**336**	⇑*eP*	**Pb**	**01 35 25.6**	**-2.3**
KBK				⇑*eS*	**Sn**	**01 36 00.5**	**+2.3**
TKM2	**Tokmak 2**	**3.09**	**346**	P	**Pb**	**01 35 29.0**	**-0.4**
	SNR=18						
TKM2	**Tokmak 2**	**3.09**	**346**	⇑*eP*	**Pb**	**01 35 26.4**	**-3.0**
TKM2				⇑*eS*	**Sn**	**01 36 01.9**	**+1.6**
ARSB	**Arslanbob**	**3.10**	**298**	⇓*eP*	**Pb**	**01 35 29.0**	**-0.6**
ARSB				⇓*eS*	**Sb**	**01 36 06.1**	**-1.4**
TNSS	**Tian-Shan**	**3.12**	**4**	Pg	**Pb**	**01 35 28.3**	**-1.6**
	6.4nm,1.3s						
TNSS				Lg	Lg	01 36 09.3	
	13nm,0.8s						
TNSS	**Tian-Shan**	**3.12**	**4**	*eP*	**Pb**	**01 35 28.3**	**-1.6**
	4.0nm,0.5s						
TNSS				*eS*	**Sb**	**01 36 09.3**	**+1.1**
	14nm,0.7s						
AAK	**Ala-Archa**	**3.15**	**330**	P	**Pg**	**01 35 33.9**	**-0.6**
	SNR=8.1						
AAK	**Ala-Archa**	**3.15**	**330**	⇓Pg	**Pg**	**01 35 33.6**	**-0.9**
	5.9nm,0.6s						
AAK				⇓Lg	Lg	01 36 13.1	
	28nm,0.9s						
AAK	**Ala-Archa**	**3.15**	**330**	⇑*eP*	**Pb**	**01 35 27.9**	**-2.4**
AAK				⇑*eS*	**Sn**	**01 36 04.3**	**+2.6**
KST	**Kastek**	**3.15**	**351**	Pg	**Pb**	**01 35 29.4**	**-1.0**
	9.3nm,1.0s						
KST				Lg	Lg	01 36 10.9	
	13nm,0.8s						
KST	**Kastek**	**3.15**	**351**	*eP*	**Pb**	**01 35 29.4**	**-1.0**
	9.2nm,0.6s						
KST				*eS*	**Sb**	**01 36 11.2**	**+2.3**
	21nm,0.4s						
MTBS	**Maitube**	**3.20**	**357**	Pg	**Pb**	**01 35 30.0**	**-1.2**
	11nm,0.4s						
MTBS				Lg	Lg	01 36 12.3	
	8.8nm,0.5s						
MTBS	**Maitube**	**3.20**	**357**	*eP*	**Pb**	**01 35 30.0**	**-1.2**
	11nm,0.2s						
MTBS				*eS*	**Sb**	**01 36 12.2**	**+1.8**
	7.0nm,0.2s						
FRU1	**Bishkek**	**3.25**	**333**	⇓*eP*	**Pb**	**01 35 29.4**	**-2.6**
FRU1				⇓*eS*	**Sn**	**01 36 06.9**	**+2.9**
MDOK	**Medeo**	**3.25**	**6**	Pg	**Pb**	**01 35 30.1**	**-2.0**
	12nm,1.4s						
MDOK				Lg	Lg	01 36 12.2	
	14nm,1.2s						
KOTS	**Kotyrbulak**	**3.32**	**6**	Pg	**Pb**	**01 35 32.7**	**-0.7**
	14nm,1.0s						
KOTS				Lg	Lg	01 36 16.6	
	61nm,0.9s						
KOTS	**Kotyrbulak**	**3.32**	**6**	*eP*	**Pb**	**01 35 32.7**	**-0.7**
	6.8nm,0.3s						
KOTS				*eS*	**Sb**	**01 36 16.6**	**+2.7**
	61nm,0.9s						
CHMS	**Chumysh**	**3.37**	**336**	P	**Pb**	**01 35 33.4**	**-0.7**
	SNR=9.6						
CHMS	**Chumysh**	**3.37**	**336**	⇑*eP*	**Pb**	**01 35 30.6**	**-3.5**
CHMS				⇑*eS*	**Sn**	**01 36 09.0**	**+1.9**
SATY	**Saty**	**3.40**	**23**	Pg	**Pb**	**01 35 33.9**	**-0.8**
	7.5nm,0.9s						
SATY				Lg	Lg	01 36 18.9	
	38nm,1.1s						
EKS2	**Erkin-Say**	**3.47**	**323**	P	**Pb**	**01 35 35.6**	**-0.2**
	SNR=6.6						
EKS2	**Erkin-Say**	**3.47**	**323**	⇑*eP*	**Pb**	**01 35 32.7**	**-3.1**
EKS2				⇑*eS*	**Sn**	**01 36 12.6**	**+3.0**
UZB	**Uzynbulak**	**3.69**	**28**	Pg	**Pb**	**01 35 38.4**	**-1.1**
	5.6nm,0.8s						
UZB				Lg	Lg	01 36 26.6	
	28nm,1.4s						
UZB	**Uzynbulak**	**3.69**	**28**	*eP*	**Pb**	**01 35 38.4**	**-1.1**
	5.6nm,0.8s						
UZB				*eS*	**Sb**	**01 36 26.6**	**+2.3**
	28nm,1.4s						
KURS	**Kuram**	**3.74**	**18**	Pg	**Pb**	**01 35 39.2**	**-1.2**
	7.8nm,1.0s						
KURS				Lg	Lg	01 36 27.9	
	14nm,0.6s						
KTBS	**Karatobe**	**3.78**	**1**	Pg	**Pb**	**01 35 40.2**	**-0.9**
	4.3nm,0.8s						
KTBS				Lg	Lg	01 36 29.7	
	5.1nm,0.7s						
MRKS	**Merke**	**3.80**	**319**	Pg	**Pb**	**01 35 39.6**	**-1.9**
	7.3nm,0.7s						
MRKS				Lg	Lg	01 36 28.6	
	5.1nm,0.9s						
MRKS	**Merke**	**3.80**	**319**	*eP*	**Pb**	**01 35 39.6**	**-1.9**
	7.3nm,0.7s						
MRKS				*eS*	**Sb**	**01 36 28.6**	**+1.0**
	5.1nm,0.9s						
SHLS	**Shalkode**	**3.87**	**33**	Pg	**Pg**	**01 35 45.9**	**-2.4**
	11nm,1.1s						
SHLS				Lg	Lg	01 36 39.1	
	21nm,0.5s						
SHLS	**Shalkode**	**3.87**	**33**	*eP*	**Pg**	**01 35 45.9**	**-2.4**
	2.8nm,0.2s						
SHLS				*eS*	**Sg**	**01 36 39.4**	**+1.0**
	27nm,0.4s						
CHKK	**Chushkaly**	**3.93**	**4**	Pg	**Pb**	**01 35 43.2**	**-0.4**
	35nm,0.7s						
CHKK				Lg	Lg	01 36 34.7	
	9.9nm,0.8s						
CHKK	**Chushkaly**	**3.93**	**4**	*eP*	**Pb**	**01 35 43.2**	**-0.4**
	2.1nm,0.1s						
CHKK				*eS*	**Sb**	**01 36 34.7**	**+3.5**
	11nm,0.3s						
PDGK	**Podgornoye**	**4.02**	**31**	⇑Pg	**Pb**	**01 35 46.7**	**+1.5**
	8.9nm,0.6s						
PDGK				⇑Lg	Lg	01 36 36.5	
	30nm,0.8s						
KK31	**Karatay Array**	**5.58**	**307**	⇑Pg	**Pg**	**01 36 19.5**	**-1.5**
	0.4nm,0.3s,baz=103,slow=16,SNR=5.1						
KK31				⇑Lg	Lg	01 37 32.0	
	2.5nm,0.8s,baz=123,slow=25,SNR=4.2						

*IGIL **01** 01:44:18.7, 33.°67N×4.°18W, h1km*
*MDD **01** 01:44:20.9±0.7, 33.°63N×4.°51W, h0km, Mb3.7/9, M_mb2.9/9, Error ellipse: s-maj=7.6km s-min=4.4km az=116.0*
*INMG **01** 01:44:21.3±1.4, 33.°67N×4.°19W, h24km±12km, ML2.1, Error ellipse: s-maj=8.2km s-min=6.3km az=96.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Fez (Marr)*
ISC 01 01:44:23.2±3.9, **33.°8N**±0.°2×**4.°58W**±0.°08, **h10**km, **n25,** σ0°**77**/41, **7C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**3.14**	**14**	Pn	**Pn**	**01 45 13.1**	**+0.4**
ELGU				⇑*i*IVmb_VC		01 45 15.0	
	46nm,SNR=1.5						
ELGU				Sn	**Sn**	**01 45 50.4**	**0.0**
E0803	**Jimena (Jaen)**	**4.11**	**12**	Pn	**Pn**	**01 45 24.9**	**-1.1**
E0803				Sn	**Sn**	**01 46 15.9**	**+1.8**
EQES	**Quesada**	**4.16**	**17**	Pn	**Pn**	**01 45 25.6**	**-1.2**
EQES				⇑*i*IVmb_VC		01 45 30.7	
	39nm,SNR=1.0						
EQES				Sn	**Sn**	**01 46 16.6**	**+1.1**
EMIN	**Mina Concepcio**	**4.29**	**337**	⇑*i*IVmb_VC		01 45 30.2	
	75nm,SNR=1.9						
EMIN				Sn	**Sn**	**01 46 19.4**	**+0.8**
ECAB	**El Cabril**	**4.30**	**351**	Pn	**Pn**	**01 45 28.7**	**+0.1**
ECAB				⇑*i*IVmb_VC		01 45 31.9	
	54nm,SNR=1.6						
ECAB				Sn	**Sn**	**01 46 19.3**	**+0.3**
EADA	**Adamuz**	**4.34**	**0**	Pn	**Pn**	**01 45 28.4**	**-0.8**
EADA				⇑*i*IVmb_VC		01 45 32.0	
	67nm,SNR=1.5						
EADA				Sn	**Sn**	**01 46 20.1**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.37**	**322**	*eP*	**Pn**	**01 45 30.4**	**+0.7**
PBDV				*eS*	**Sn**	**01 46 21.7**	**+1.0**
PBDV				*i* IAML		01 46 27.6	
PBDV				*i* IAML		01 46 30.8	
PBDV				*i* IAML		01 46 31.5	
PVAQ	**Vaqueiros**	**4.39**	**325**	*eP*	**Pn**	**01 45 29.2**	**-0.8**
PVAQ				*eS*	**Sn**	**01 46 21.2**	**0.0**
PVAQ				*i* IAML		01 46 24.7	
PVAQ				*i* IAML		01 46 25.4	
PVAQ				*i* IAML		01 46 25.6	
EGRO	**El Granado**	**4.40**	**328**	Pn	**Pn**	**01 45 28.5**	**-1.4**
EGRO				⇑*i*IVmb_VC		01 45 31.3	
	194nm,SNR=3.4						
EGRO				Sn	**Sn**	**01 46 21.2**	**0.0**
PCVE	**Castro Verde**	**4.73**	**324**	*eP*	**Pn**	**01 45 35.0**	**+0.4**
PCVE				*eS*	**Sn**	**01 46 30.3**	**+0.8**
PCVE				*i* IAML		01 46 34.6	
PCVE				*i* IAML		01 46 39.6	
PBAR	**Barrancos**	**4.78**	**336**	*eP*	**Pn**	**01 45 35.2**	**-0.1**
PBAR				*eS*	**Sn**	**01 46 29.9**	**-0.8**
PBAR				*i* IAML		01 46 33.5	
PBAR				*i* IAML		01 46 37.9	
PBAR				*i* IAML		01 46 39.5	
MORF	**Marmelete**	**4.81**	**317**	*eP*	**Pn**	**01 45 36.5**	**+0.8**
PBEJ	**Beja**	**4.97**	**329**	*eP*	**Pn**	**01 45 38.6**	**+0.7**
MESJ	**Messejana**	**4.98**	**325**	*eP*	**Pn**	**01 45 36.8**	**-1.3**
MESJ	**Messejana**	**4.98**	**325**	*eP*	**Pn**	**01 45 38.0**	**0.0**
MESJ				*eS*	**Sn**	**01 46 36.4**	**+0.8**
MESJ				*i* IAML		01 46 39.3	
MESJ				*i* IAML		01 46 40.0	
PTEO	**Sao Teotonio**	**5.02**	**319**	*eP*	**Pn**	**01 45 37.8**	**-0.7**
PTEO				*eS*	**Sn**	**01 46 37.4**	**+0.8**
PTEO				*i* IAML		01 46 43.5	
PSIM	**Granatula de C**	**5.04**	**7**	Sn	**Sn**	**01 46 38.1**	**+1.1**
EBAD	**Badajoz**	**5.30**	**339**	Pn	**Pn**	**01 45 42.1**	**-0.4**
EBAD				⇑*i*IVmb_VC		01 45 43.7	
	140nm,SNR=2.9						
EBAD				Sn	**Sn**	**01 46 43.5**	**-0.1**
EVO	**Evora**	**5.46**	**330**	*eP*	**Pn**	**01 45 44.3**	**-0.2**
EVO				*eS*	**Sn**	**01 46 46.5**	**-1.0**
EVO				*i* IAML		01 46 50.3	
EVO				*i* IAML		01 46 50.6	
EVO				*i* IAML		01 46 51.2	
PESTR	**Estremoz**	**5.59**	**335**	*eP*	**Pn**	**01 45 46.6**	**+0.2**
PESTR				*eS*	**Sn**	**01 46 49.9**	**-0.8**
PMTG	**Montargil**	**6.01**	**332**	*eP*	**Pn**	**01 45 51.9**	**-0.2**
PMTG				*eS*	**Sn**	**01 47 00.4**	**-0.4**
PMRV	**Marv??o**	**6.04**	**339**	*eP*	**Pn**	**01 45 52.1**	**-0.4**
PMRV				*eS*	**Sn**	**01 47 01.0**	**-0.7**
PARRA	**Arraiolos**	**6.15**	**325**	*eP*	Pn	01 45 48.0	-6.1
PARRA				*eS*	Sn	01 46 54.3	-10
PARRA				*i* IAML		01 46 55.0	
PARRA				*i* IAML		01 46 55.7	
PARRA				*i* IAML		01 47 01.3	
PCBR	**Castelo Branco**	**6.44**	**340**	*eP*	**Pn**	**01 45 58.4**	**+0.3**
PSARD	**Sardoal**	**6.45**	**335**	*eP*	**Pn**	**01 45 58.0**	**-0.2**

*TAP **01** 02:17:48.9, 22.°58N×121.°03E, h7km, ML4.4, B*
*JMA **01** 02:17:49.8±0.2, 22.°6N±0.°6×121.°2E±0.°9, h6km, MV4.0/10, TAIWAN REGION*
*BJI **01** 02:17:50.5, 22.°57N×120.°93E, h11km, mB4.7/5, mb4.3/20, ML4.3/3, Ms4.2/6, Ms7 4.1/6*
*NEIC **01** 02:17:51.3±1.9, 22.°72N±0.°04×121.°17E±0.°04, h17km±2km, mb4.4/13, Error ellipse: s-maj=6.8km s-min=3.9km az=133.0*
*IDC **01** 02:17:55.5±6.6, 22.°42N×121.°25E, h69km±68km, mb3.6/10, mbtmp3.9/11, ML3.8/1, MS3.3/12, Error ellipse: s-maj=27.2km s-min=17.2km az=62.0*
ISC 01 02:17:48.8±0.9, **22.°56N**±0.°02×**121.°13E**±0.°02, **h7**km±6km, **n192,** σ1°**38**/238, **mb4.3**/17, **MS3.4**/10, **1C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.17**	**285**	⇓*iP*	**Pg**	**02 17 51.0**	**-1.3**
ECL				*i* S	**Sg**	**02 17 52.2**	**-2.3**
TTN	**Taitung**	**0.20**	**5**	*i* P	**Pg**	**02 17 54.6**	**+1.8**
TTN				S	**Sg**	**02 17 59.4**	**+3.8**
TWGBT	**Beinan**	**0.27**	**350**	P	**Pg**	**02 17 54.3**	**+0.2**
TWGBT	**Beinan**	**0.27**	**350**	S	**Sb**	**02 17 58.7**	**-2.0**
TWGBT	**Beinan**	**0.27**	**350**	*i* P	**Pg**	**02 17 54.2**	**+0.2**
TWGBT				S	**Sg**	**02 17 58.3**	**+0.6**
TWG	**Pinlang**	**0.27**	**349**		**Pg**	**02 17 53.8**	**-0.3**
TWG				Sg	**Sg**	**02 17 57.8**	**0.0**
TAWH	**Dawu Township**	**0.31**	**226**	*i* P	**Pg**	**02 17 54.9**	**0.0**
EAST	**Anshuo**	**0.31**	**237**	*i* P	**Pg**	**02 17 54.6**	**-0.3**
EAST				S	**Sg**	**02 17 58.7**	**-0.4**
LDUT	**Ludao**	**0.34**	**69**	P	**Pn**	**02 17 58.5**	**-1.6**
LDUT				S	**Sb**	**02 18 06.1**	**+3.3**
LONT	**Longtian**	**0.35**	**0**	*i* P	**Pb**	**02 17 56.4**	**-1.0**
LONT				*eS*	**Sb**	**02 18 02.1**	**-1.1**
EDH	**Donghe**	**0.45**	**21**	*i* P	**Pb**	**02 17 58.7**	**-0.3**
EDH				*eS*	**Sb**	**02 18 06.7**	**+0.8**
SLIU	**Shizi**	**0.45**	**222**	*eP*	**Pg**	**02 17 57.6**	**0.0**
SLIU				S	**Sg**	**02 18 04.2**	**+0.6**
MASBT	**Mashibuluo**	**0.46**	**277**	⇑*iP*	**Pg**	**02 17 56.7**	**-1.1**
MASBT				*i* S	**Sg**	**02 18 01.5**	**-2.3**
SCZT	**Fangliau**	**0.50**	**249**	*i* P	**Pg**	**02 17 57.9**	**-0.6**
SCZT				S	**Sg**	**02 18 03.8**	**-1.3**
ECS	**Chishang**	**0.55**	**9**	*i* P	**Pb**	**02 17 59.9**	**-0.8**
ECS				S	**Sb**	**02 18 09.4**	**+0.7**
EHD	**Haiduan**	**0.60**	**7**	*i* P	**Pg**	**02 17 59.5**	**-0.8**
EHD				S	**Sb**	**02 18 08.7**	**-1.6**
SMST	**Manzhou Townsh**	**0.60**	**207**	P	**Pb**	**02 18 00.8**	**-0.7**
SMST				S	**Sb**	**02 18 11.0**	**+0.8**
ELDTW	**Lidau**	**0.64**	**351**	P	**Pg**	**02 18 00.8**	**-0.4**
ELDTW				S	**Sg**	**02 18 08.5**	**-1.1**
LAY	**Lan-yu**	**0.65**	**143**	P	**Pb**	**02 18 02.5**	**0.0**
LAY				*eS*	**Sn**	**02 18 12.9**	**-2.0**
FULB	**Fuli**	**0.66**	**13**	*eP*	**Pb**	**02 18 01.8**	**-0.9**
FULB				*eS*	**Sn**	**02 18 14.0**	**-1.3**
SCST	**Cishan**	**0.67**	**299**	*i* P	**Pg**	**02 18 01.5**	**-0.3**
SCST				S	**Sg**	**02 18 09.8**	**-0.7**
TWKBT	**Hengchun**	**0.68**	**206**	P	**Pb**	**02 18 02.4**	**-0.5**
TWKBT				*eS*	**Sn**	**02 18 14.2**	**-1.4**
TWK1	**Hengchun**	**0.68**	**206**	*eP*	**Pb**	**02 18 02.6**	**-0.4**
CHKH	**Chenggong**	**0.68**	**21**	P	**Pb**	**02 18 02.2**	**-0.8**
CHKH				*eS*	**Sn**	**02 18 13.3**	**-2.4**
STYH	**Taoyuan**	**0.69**	**332**	*i* P	**Pg**	**02 18 01.9**	**-0.3**
STYH				*eS*	**Sg**	**02 18 10.2**	**-1.0**
LYUB	**Lan-yu**	**0.69**	**142**	*eP*	**Pg**	**02 18 01.7**	**-0.4**
LYUB				*eS*	**Sb**	**02 18 12.0**	**-1.0**
TWM1	**Shoushan**	**0.70**	**292**	*eP*	**Pb**	**02 18 02.6**	**-0.8**
WLCH	**Liuqiu**	**0.72**	**254**	*eP*	**Pn**	**02 18 04.9**	**-0.5**
KAU	**Kaohsiung**	**0.76**	**271**	P	**Pg**	**02 18 03.8**	**+0.2**
WSSB	**Gushan**	**0.81**	**276**	P	**Pn**	**02 18 06.7**	**+0.1**
EYUL	**Yuli**	**0.81**	**13**	P	**Pb**	**02 18 05.0**	**-0.2**
EYUL				*eS*	**Sn**	**02 18 17.1**	**-1.8**
TWF1	**Yuli**	**0.81**	**11**	*eP*	**Pb**	**02 18 04.7**	**-0.6**
TWF1				S	**Sb**	**02 18 15.7**	**-0.6**
ECBN	**Changbin**	**0.81**	**21**	*eP*	**Pb**	**02 18 04.6**	**-0.7**
ECBN				*eS*	**Sb**	**02 18 14.9**	**-1.6**
YULB	**Yu-li**	**0.85**	**11**	Pg	**Pg**	**02 18 03.6**	**-1.6**
YULB				Sg	**Sg**	**02 18 14.2**	**-2.0**
YULB	**Yu-li**	**0.85**	**11**	P	**Pg**	**02 18 03.8**	**-1.4**
YULB	**Yu-li**	**0.85**	**11**	P	**Pb**	**02 18 05.2**	**-0.7**
YULB				S	**Sb**	**02 18 17.1**	**-0.4**
SHHT	**Tainan City**	**0.86**	**303**	*eP*	**Pn**	**02 18 07.1**	**-0.2**
TPUB	**Ta-pu**	**0.87**	**328**		**Pb**	**02 18 05.6**	**-0.7**
TPUB				Sg	**Sg**	**02 18 16.0**	**-1.0**
TPUB	**Ta-pu**	**0.87**	**328**	P	**Pb**	**02 18 05.8**	**-0.5**
TPUB	**Ta-pu**	**0.87**	**328**	*eP*	**Pb**	**02 18 05.8**	**-0.5**
TPUB				*eS*	**Sb**	**02 18 18.0**	**-0.2**
TWK	**Hsinying**	**0.92**	**320**	*i* P	**Pb**	**02 18 06.8**	**-0.4**
TWK				*eS*	**Sb**	**02 18 18.8**	**-0.8**
EHYH	**Wanrong**	**0.96**	**12**	*eP*	**Pb**	**02 18 06.6**	**-1.1**
EHYH				*eS*	**Sn**	**02 18 20.6**	**-1.9**
EHY	**Hungye**	**0.96**	**11**	P	**Pb**	**02 18 06.9**	**-0.9**
EHY				*eS*	**Sg**	**02 18 19.1**	**-0.8**
HGSD	**Ruisui**	**0.97**	**16**	*eP*	**Pg**	**02 18 06.4**	**-1.1**
HGSD				*eS*	**Sn**	**02 18 24.2**	**+1.3**
WCKO	**Fanlu**	**1.00**	**331**	*eP*	**Pn**	**02 18 08.6**	**-0.7**
WCKO				S	**Sn**	**02 18 22.3**	**-1.4**
CHN5	**Tsauling**	**1.12**	**338**	P	**Pn**	**02 18 10.2**	**-0.7**
CHN5				S	**Sn**	**02 18 26.2**	**-0.4**
TSCK	**Chigu Township**	**1.13**	**302**	*eP*	**Pn**	**02 18 10.6**	**-0.4**
TSCK				S	**Sn**	**02 18 26.5**	**-0.2**
CHY	**Chiayi**	**1.14**	**326**	*eP*	**Pn**	**02 18 11.0**	**-0.2**
CHY				*eS*	**Sn**	**02 18 27.3**	**+0.3**
EGFH	**Guangfu**	**1.14**	**14**	P	**Pn**	**02 18 10.6**	**-0.6**
CHN8	**Yiju**	**1.16**	**313**	P	**Pn**	**02 18 11.1**	**-0.3**
CHN8				S	**Sn**	**02 18 27.8**	**+0.4**
WHYT	**Xinyi Township**	**1.16**	**348**	*i* P	**Pn**	**02 18 11.0**	**-0.6**
WHYT				*eS*	**Sb**	**02 18 26.3**	**-0.3**
WARBT	**Fenglin Townsh**	**1.18**	**12**	*eP*	**Pg**	**02 18 10.4**	**-1.1**
WARBT				*eS*	**Sb**	**02 18 26.5**	**-0.6**
TEGC	**Jichi Village**	**1.21**	**18**	*eP*	**Pb**	**02 18 10.1**	**-1.9**
SSLB	**Suanglung**	**1.24**	**353**		**Pb**	**02 18 11.6**	**-1.0**
SSLB	**Suanglung**	**1.24**	**353**	P	**Pb**	**02 18 11.7**	**-0.8**
SSLB	**Suanglung**	**1.24**	**353**	*i* P	**Pb**	**02 18 11.8**	**-0.7**
SSLB				*eS*	**Sn**	**02 18 29.1**	**-0.4**
WDLH	**Douliu**	**1.25**	**334**	*i* P	**Pg**	**02 18 13.2**	**+0.3**
WDLH				S	**Sn**	**02 18 30.9**	**+1.1**
WSL	**Shuilin Townsh**	**1.27**	**319**	P	**Pb**	**02 18 12.7**	**-0.4**
WSL				S	**Sn**	**02 18 30.0**	**-0.3**
SHUL	**Shoufeng**	**1.29**	**18**	*eP*	**Pn**	**02 18 12.1**	**-1.1**
WJS	**Zhushan**	**1.

ANP	Anpu	2.64	8	eP		Pb	02 18 35.9 -0.7
IRIF	Iriomote-Funau	2.98	53	eP		Pn	02 18 37.4 +1.0
PTMZ	Houxiangcun	3.08	324	eP		Pn	02 18 36.8 -1.1
PTMZ				eS		Sn	02 19 14.4 -0.6
JKRS	Kuro-shima	3.13	57	eP		Pn	02 18 39.1 +0.5
JKRS				eS		Sn	02 19 15.3 -0.9
KNMB	Chin-men Tao	3.15	308			Pn	02 18 37.8 -1.1
KNMB	Chin-men Tao	3.15	308	eP		Pn	02 18 38.9 0.0
JIJ	Ishigaki jima	3.30	56	eP		Pn	02 18 40.6 -0.3
JIJ				eS		Sn	02 19 18.5 -2.0
ZPLA	Ao Xicun	3.40	294	eP		Pn	02 18 41.5 -0.7
ZPLA				i S		Sn	02 19 21.0 -1.7
JISG	Ishigakijimahi	3.55	55	P		Pn	02 18 43.9 -0.4
DSXP	Dongshan	3.60	289	eP		Pn	02 18 44.6 -0.3
AXDP	Jialang	3.72	310	eP		Pn	02 18 46.1 -0.6
MATB	Ma-tsu	3.74	343	eP		Pn	02 18 46.9 -0.1
XPSS	Dashiqiu	4.44	349	eP		Pn	02 18 56.0 -0.6
SXFK	Yanhouchang	4.97	321	eP		Pn	02 19 03.2 -0.7
HKPS	Hong Kong Po S	6.47	269	Pn		Pn	02 19 24.4 -0.1
QIZ	Qiongzhong	11.12	254	P		Pn	02 20 29.6 +1.3
QIZ				S		Sn	02 22 36.8 +3.8
QIZ				LR	LR		
	comp=N,580nm,9.5s						
QIZ				LR	LR		
	comp=E,200nm,6.3s						
QIZ				LR	LR		
	comp=Z,520nm,12.2s						
JNU	Nakatsue	13.60	37	LR	LR	02 26 45.8	
	comp=Z,48nm,21.9s,baz=155,slow=39						
HNS	HongShan	15.80	341	⇓P		P	02 21 34.3 -1.3
HNS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KSRS	Korea Array	15.96	20	P		P	02 21 35.9 -1.6
	0.4nm,0.3s,baz=191,slow=13,SNR=4.8						
	1.0nm,0.6s						
DAV	Davao City (W)	15.98	164	LR	LR	02 27 56.7	
	comp=Z,127nm,21.0s,baz=18,slow=38						
BJT	Baijiatuan	17.91	348			P	02 21 58.1 -0.9
JHJ	Hachijo jima 2	19.54	53	LR	LR	02 28 57.5	
	comp=Z,28nm,18.5s,baz=269,slow=34						
HHC	Hu-ho-hao-te	19.95	338	eP		Pn	02 22 23.6 +0.4
HHC				pP	sP	02 22 27.1 +2.9	
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,4.8s						
HHC				LR	LR		
	comp=N,410nm,12.7s						
HHC				LR	LR		
	comp=E,220nm,12.8s						
HHC				LR	LR		
	comp=Z,370nm,13.3s						
LZH	Lanzhou	20.18	316	eP		Pn	02 22 27.7 +1.7
LZH				sP	sP	02 22 35.1 +8.3	
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZDM	Lanzhou Array	20.20	315	P		Pn	02 22 26.5 +0.1
	1.5nm,0.3s,baz=110,slow=16,SNR=2.3						
	1.5nm,0.3s						
BTO	Baotou	20.30	335	eP		Pn	02 22 29.6 +2.3
BTO				PP		PnPn	02 22 51.6 +9.5
BTO				pmax	pmax		
	comp=Z,13nm,0.7s						
BTO				pmax	pmax		
	comp=Z,750nm,6.3s						
BTO				LR	LR		
	comp=N,800nm,11.6s						
BTO				LR	LR		
	comp=E,660nm,6.5s						
BTO				LR	LR		
	comp=Z,1μm,12.4s						
MJAR	Matsushiro Arr	20.33	43	P		Pn	02 22 26.9 -0.7
	0.7nm,0.3s,baz=230,slow=9.0,SNR=7.9						
	0.7nm,0.3s						
CMAR	Chiang Mai Arr	21.17	263	P		P	02 22 36.7 +1.9
	1.0nm,0.3s,baz=76,slow=8.9,SNR=8.0						
	1.0nm,0.3s						
CN2	Changchun	21.49	9	P		P	02 22 43.8 +5.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SBUM	Sibu	21.78	205	P		P	02 22 40.8 -0.5
SBUM				IAmb	IAmb	02 22 45.4	
	comp=Z,28nm,1.5s						
GTA	Gaotai	24.73	318	eP		P	02 23 12.9 +2.0
GTA				pP	sP	02 23 18.6 +4.9	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MYKOM	Kota Tinggi	26.61	222	P		P	02 23 27.5 -0.5
MYKOM				IAmb	IAmb	02 24 06.1	
	comp=Z,12nm,1.3s						
SHL	Shillong	26.85	282	P		P	02 23 31.4 +1.1
SHL				IAmb	IAmb	02 23 36.2	
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	27.66	339	P		P	02 23 34.6 -2.7
ULN				IAmb	IAmb	02 23 42.7	
	comp=Z,11nm,1.5s						
LSA	Lhasa	27.79	291	P		P	02 23 39.0 -0.1
LSA				IAmb	IAmb	02 23 55.4	
	comp=Z,6.5nm,0.9s						
LSA	Lhasa	27.79	291	P		P	02 23 38.0 -1.1
ASAJ	Asahikawa	27.85	34	LR	LR	02 35 13.4	
	comp=Z,63nm,19.7s,baz=72,slow=37						
SONM	Songino Array	27.85	338	P		P	02 23 38.0 -1.1
SONM	Songino Array	27.85	338	P		P	02 23 40.7 +1.7
	comp=Z,3.1nm,0.9s,baz=156,slow=7.6,SNR=4.0						
	comp=Z,3.1nm,0.9s						
PSI	Prapat	29.15	231	LR	LR	02 34 47.0	
	comp=Z,58nm,18.8s,baz=50,slow=35						
SOEI	Soe	32.26	174	P		P	02 24 19.0 +0.7
WMQ	Urumqi	34.76	316	eP		P	02 24 41.7 +1.8
MKAR	Makanchi Array	39.48	317			P	02 25 19.2 -0.7
MKAR	Makanchi Array	39.48	317	P		P	02 25 20.6 +0.7
	comp=Z,1.7nm,0.7s,baz=112,slow=9.7,SNR=10						
	comp=Z,1.7nm,0.7s						
PEA0B	Petropavlovsk-	41.25	33	P		P	02 25 34.3 -0.1
PETK	Petropavlovsk-	41.25	33	LR	LR	02 43 51.9	
	comp=Z,46nm,18.4s,baz=239,slow=38						
ZAA0	Zalesovo Array	41.59	328			P	02 25 36.5 -0.6
ZAA0				IAmb	IAmb	02 25 41.3	
	comp=Z,6.8nm,1.0s						
ZALV	Zalesovo Beam	41.59	328			P	02 25 36.8 -0.3
ZALV	Zalesovo Beam	41.59	328	P		P	02 25 37.2 +0.1
	comp=Z,4.4nm,0.8s,baz=108,slow=7.8,SNR=16						
ZALV				LR	LR	02 44 18.6	
	comp=Z,34nm,18.1s,baz=82,slow=38						
	comp=Z,4.4nm,0.8s						
MA2	Magadan	42.51	22	LR	LR	02 45 08.0	
	comp=Z,68nm,18.1s,baz=209,slow=38						
H11N1	WAKE ISLAND Hy 42.66	85		T	T	03 11 25.5	
	baz=282,slow=74,SNR=66						
H11N2	WAKE ISLAND Hy 42.66	85		T	T	03 11 24.1	
	baz=282,slow=74,SNR=99						
H11N3	WAKE ISLAND Hy 42.67	85		T	T	03 11 24.5	
	baz=282,slow=74,SNR=82						
H11S3	WAKE ISLAND Hy 42.74	87		T	T	03 11 30.5	
	baz=284,slow=74,SNR=201						
H11S1	WAKE ISLAND Hy 42.74	87		T	T	03 11 31.1	
	baz=284,slow=74,SNR=152						
H11S2	WAKE ISLAND Hy 42.75	87		T	T	03 11 31.8	
	baz=284,slow=74,SNR=107						
KURK	Kurchatov	43.31	321			P	02 25 51.9 +0.7
KURBB	Kurchatov Arra	43.33	321	P		P	02 25 51.9 +0.5
	comp=Z,2.9nm,0.9s,baz=120,slow=7.3,SNR=19						
	comp=Z,2.9nm,0.9s						
AAK	Ala-Archa	43.47	309	LR	LR	02 46 31.9	
	comp=Z,54nm,18.4s,baz=96,slow=39						
WRA	Warramunga Arr	44.16	162	P		P	02 25 56.0 -2.4
	comp=Z,0.8nm,0.8s,baz=342,slow=8.2,SNR=4.1						
	comp=Z,0.8nm,0.8s						
GAR	Garm	46.04	303	P		P	02 26 13.3 0.0
KK31	Karatay Array	46.43	309	P		P	02 26 16.6 +0.3
KKAR	Karatay Array	46.43	309	P		P	02 26 17.2 +1.0
KBL	Kabul	46.83	297	P		P	02 26 21.7 +2.0
KBL				IAmb	IAmb	02 26 58.5	
	comp=Z,3.1nm,0.6s						
ASAR	Alice Springs	47.59	164	P		P	02 26 26.8 +1.4
ASAR	Alice Springs	47.59	164	P		P	02 26 23.4 -2.1
	comp=Z,0.2nm,0.3s,baz=337,slow=8.6,SNR=5.4						
	comp=Z,0.2nm,0.3s						
BVAR	Borovoye Array	48.91	322	P		P	02 26 35.8 +0.5
	comp=Z,1.3nm,0.6s,baz=111,slow=8.1,SNR=5.8						
	comp=Z,1.3nm,0.6s						
ABKAR	Akbulak array	54.55	315	P		P	02 27 19.0 +1.5
SPITS	Spitsbergen Arr	71.06	348	LR	LR	03 03 23.9	
	comp=Z,21nm,18.1s,baz=18,slow=38						
ASF	Jabal al Asfar	73.69	298	LR	LR	03 05 06.1	
	comp=Z,21nm,20.0s,baz=294,slow=38						
KOLS	Kolonicke sedl	78.88	318	eP		P	02 29 49.2 -3.6
NOA	NORSAR Array B	79.64	332	LR	LR	03 06 51.7	
	comp=Z,31nm,19.2s,baz=55,slow=37						
SNAA	Sanae	121.68	198	PKPdf	PKiKP	02 36 43.5 +0.6	
BBGH	Gun Hill	144.52	1	PKPdf	PKPdf	02 37 26.4 -0.5	
BAUV	El Baul	147.43	17		PKPdf	02 37 31.7 -0.2	
FLOC	Florencia	150.96	36	PKPdf	PKPdf	02 37 35.9 -1.8	

NEIC ***01*** *02:26:33.8±1.9, 7°.3S±0°.1×150°.7E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=28.1km s-min=4.2km az=132.0*

IDC ***01*** *02:26:40.0±2.0, 7°.61S×149°.93E, h0km, mb3.8/2, mbtmp4.0/4, ML4.2/1, MS3.2/2, Error ellipse: s-maj=89.7km s-min=25.2km az=133.0*

ISC 01 02:26:36.4±0.9, 7°.3S±0°.2×150°.5E±0°.2, h35km, n21, σ2.9 07/19, mb4.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.46	28	Pn	Pn	02 27 28.1	+0.3
PMG	Port Moresby	3.95	237		Pn	02 27 38.1	+3.6
PMG	Port Moresby	3.95	237	Pn	Pn	02 27 33.9	-0.6
	39nm,0.8s,baz=51,slow=9.8,SNR=11						
PMG				Sn	Sn	02 28 14.4	-5.2
	3.3nm,0.3s,baz=224,slow=9.2,SNR=3.1						
PMG				LR	LR	02 29 05.4	
	comp=Z,90nm,21.7s,baz=74,slow=44						
WB0	Warramunga Arr	19.98	230	P	Pn	02 31 07.5	-0.3
WB0				IAmb	IAmb	02 31 08.1	
	comp=Z,12nm,0.6s						
WR8	Warramunga Arr	20.01	229	P	Pn	02 31 07.3	-0.9
WR8				IAmb	IAmb	02 31 08.3	
	comp=Z,4.7nm,0.9s						
WRAB	Tennant Creek	20.11	230	P	P	02 31 06.9	-0.5
WRAB				IAmb	IAmb	02 31 09.4	
	comp=Z,6.8nm,0.6s						
WRA	Warramunga Arr	20.13	230	P	P	02 31 07.5	0.0
WRA	Warramunga Arr	20.13	230	P	P	02 31 08.2	+0.7
	comp=Z,0.7nm,0.3s,baz=55,slow=11,SNR=19						
	comp=Z,8.0nm,0.7s						
AS31	Alice Springs	22.81	223	P	P	02 31 37.4	+1.0
ASAR	Alice Springs	22.81	223	P	P	02 31 38.4	+2.0
ASAR	Alice Springs	22.81	223	P	P	02 31 37.0	+0.6
	comp=Z,2.6nm,0.8s,baz=53,slow=9.1,SNR=23						
	comp=Z,2.6nm,0.8s						
KNRA	Kununurra	22.88	247	P	P	02 31 38.4	+1.3
KNRA				IAmb	IAmb	02 31 41.0	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	26.51	244	P	P	02 32 11.4	+0.5
JNU	Nakatsue	44.28	336	LR	LR	02 50 27.9	
	comp=Z,112nm,19.6s,baz=170,slow=32						
TJN	Taejon	48.54	335	P	P	02 35 16.9	+0.8
CASY	Casey	65.02	197	P	P	02 37 13.2	+0.5
CASY				IAmb	IAmb	02 37 55.5	
	comp=Z,17nm,1.4s						
R16K	Pilot Point	77.05	26	P	P	02 38 26.4	+0.8
SPU	Mount Spurr	81.43	24	P	P	02 38 51.0	+1.4
SPU				IAmb	IAmb	02 38 54.1	
	comp=Z,9.1nm,0.6s						
ILAR	Eielson Array	85.28	22	P		02 39 21.3	+12
	comp=Z,0.6nm,0.7s,baz=256,slow=5.3,SNR=5.4						
	comp=Z,0.6nm,0.7s						
E03A	Lebam	92.41	44	P	P	02 39 40.6	-2.9
SZCU	Shurtz Canyon	99.44	53	P	Pdif	02 40 13.3	-2.8
SZCU				IAmb	IAmb	02 40 27.0	
	comp=Z,5.9nm,0.6s						

WEL 01 02:33:53.2±0.5, 42°.S±2°.×17°.3E±°, h6km±4km, M2.4/7, ML2.4/7, MLv2.4/7, Error ellipse: s-maj=4.1km s-min=3.0km az=111.1, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.09	156	P	Pg	02 33 55.7	+0.4
KHZ				S	Sg	02 33 57.6	+0.9
KIKS	Kaikoura	0.17	123	P	Pg	02 33 57.2	+0.6
KIKS				S	Sg	02 34 00.8	+1.8
MOLW	Molesworth Sta	0.30	325	P	Pg	02 33 59.2	+0.2
MOLW				S	Sg	02 34 03.8	+0.8
WTMC	Te Mara Farm W	0.43	228	P	Pg	02 34 02.3	+0.8
WTMC				S	Sb	02 34 09.2	-0.7
KEKS	Kekerengu Vall	0.53	44	P	Pg	02 34 03.7	+0.4
BSWZ	Blackbirch Sta	0.68	25	P	Pg	02 34 06.5	+0.2
BSWZ				S	Sb	02 34 16.4	-0.7
GVZ	Greta Valley S	0.72	208	P	Pb	02 34 07.9	-0.2
THZ	Tophouse	0.72	322	P	Pg	02 34 07.3	+0.3
TUWZ	Tuamarina	0.96	21	P	Pb	02 34 12.3	+0.1
TUWZ				S	Sb	02 34 26.0	+0.8
LTZ	Lake Taylor	1.01	243	P	Pg	02 34 12.4	0.0
LTZ				S	Sb	02 34 26.4	-0.1
AMCZ	Amberley	1.04	216	P	Pg	02 34 13.4	+0.1
AMCZ	Amberley	1.04	216	P	Pb	02 34 13.5	-0.2
TCW	Tory Channel	1.27	28	P	Pn	02 34 16.0	-1.4
OKCZ	Okains Bay	1.43	193	P	Pn	02 34 17.6	-1.9

IDC ***01*** *02:45:32.4±7.6, 14°.23N×91°.07W, h42km±57km, mb3.6/3, mbtmp4.0/5, ML4.3/2, MS3.4/31, Error ellipse: s-maj=54.2km s-min=45.4km az=5.0*

CATAC ***01*** *02:45:33.3±0.4, 14°.N±2°.×9°.1W±°, h30km±3km, M4.6/7, mb5.3/3, mB5.5/2, MLv4.3/7, Mw(mB)5.0/2, Error ellipse: s-maj=5.7km s-min=2.1km az=35.2, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$-0.19; M_{rq}2.79; $M_{\theta\phi}$0.98; $M_{\theta r}$-0.91; Fault plane solution: $M_0$3.24476×10^{15} NP1:ϕ_s108.49239°, δ78.71193°, λ79.82030°. NP2:ϕ_s331.02390°, δ15.15585°, λ131.52285°. Principal axes: T 3.0601, Plg55.1773°, Azm5.8510°; N 0.3422, Plg9.9807°, Azm110.5054°; P -3.4023, Plg32.9633°, Azm207.0584°; confirmed*

NEIC ***01*** *02:45:35.5±0.9, 14°.05N±0°.07×91°.36W±0°.07, h50km±2km, mb4.3/99 Error ellipse: s-maj=12.7km s-min=6.8km az=222.0*

ISC 01 02:45:33.8±0.9, 13°.97N±0°.05×91°.42W±0°.04, h50km±8km, n219, σ1.939/202, mb4.3/39, MS3.5/32, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.62	334		Pn	02 45 46.6	0.0
RTAL				Sn	Sn	02 45 56.0	+0.2
RTAL	Retalhuleu	0.62	334	⇓P	Pn	02 45 46.4	-0.2
RTAL	Retalhuleu	0.62	334	S	Sn	02 45 56.3	+0.5
ESSG	Sabana Grande	0.70	54	eP	Pn	02 45 47.6	-0.1
ESSG				eS	Sn	02 45 57.8	0.0
ESSG				IAML		02 45 59.3	
	comp=E,24μm,0.4s						
SOKI	Kika Raxquin	0.85	1	i P	Pn	02 45 50.0	0.0
SOKI				eS	Sn	02 46 01.6	0.0
SOKI				IAML		02 46 07.8	
	comp=N,30μm,0.7s						
FG8	Yepocapa, Chim	0.88	70	i P	Pn	02 45 47.5	-2.5
FG8				eS	Sn	02 45 58.2	-3.7
FG16	Alotenango, Sa	0.93	71	i P	Pn	02 45 48.5	-2.3
FG16				i S	Sn	02 45 59.9	-3.3
FG16				IAML		02 46 00.5	
	comp=N,270μm,0.2s						
ESSJ	San Jos, E	0.97	114	i P	Pn	02 45 46.9	-4.3
ESSJ				eS	Sn	02 45 58.4	-5.6
GCG4	OSOP	1.05	54	eP	Pn	02 45 53.3	+0.8
GCG4				IAML		02 46 12.7	
	comp=N,14μm,0.8s						
SMCA	Catarina	1.09	324	eP	Pn	02 45 52.2	-0.7
SMCA				eS	Sn	02 46 05.2	-1.7
SMCA				IAML		02 46 16.7	
	comp=N,7μm,0.4s						
THIG		1.25	319	i P	Pn	02 45 54.7	-0.2
THIG				eS	Sn	02 46 09.2	-1.4
THIG				IAML		02 46 11.7	
	comp=N,19μm,0.5s						
HUEH	Huehuetenango	1.35	356		Pn	02 45 57.6	+1.2
HUEH				Sn	Sn	02 46 13.9	+0.5
HUEH	Huehuetenango	1.35	356	i P	Pn	02 45 57.7	+1.2
HUEH				i S	Sn	02 46 16.1	+2.7
HUEH				IAML		02 46 24.6	
	comp=N,21μm,0.7s						
HUEH	Huehuetenango	1.35	356	P	Pn	02 45 57.7	+1.2
QUIS	Sacapulas	1.35	13	i P	Pn	02 45 58.1	+1.6
QUIS				eS	Sn	02 46 16.4	+2.9
QUIS				IAML		02 46 21.3	
	comp=E,7μm,0.4s						
FAME	Alcaldia de Sa	1.36	95	P	Pn	02 45 56.2	-0.3
FAME	Alcaldia de Sa	1.36	95	S	Sn	02 46 12.8	-0.7
LOAL	Lomas de Alarc	1.59	89	⇑P	Pn	02 46 00.4	+0.9
NUBE	Las Nubes	1.59	92	i P	Pn	02 45 59.9	+0.2
NUBE				eS	Sn	02 46 19.1	-0.1
NUBE	Las Nubes	1.59	92	P	Pn	02 45 59.9	+0.2
CEVE	Cerro Verde	1.74	94	P	Pn	02 46 02.5	+0.6
CEVE	Cerro Verde	1.74	94	S	Sn	02 46 24.8	+1.6
UNIC	Universidad Ca	1.81	89	P	Pn	02 46 03.6	+1.0
UNIC	Universidad Ca	1.81	89	S	Sn	02 46 26.7	+2.2
JAYA	Jayaquе - finc	1.94	99	eP	Pn	02 46 04.9	+0.5
JAYA				eS	Sn	02 46 27.9	-0.7
JAYA	Jayaquе - finc	1.94	99	P	Pn	02 46 04.9	+0.5
JAYA	Jayaquе - finc	1.94	99	S	Sn	02 46 28.1	+0.4
MTO3	Montecristo	2.04	78		Pn	02 46 06.5	+0.6
MTO3	Montecristo	2.04	78	i P	Pn	02 46 06.5	+0.6
MTO3	Montecristo	2.04	78	S	Sn	02 46 32.3	+2.0
PMON	Piamonte	2.06	97	⇑P	Pn	02 46 07.0	+1.0
PMON	Piamonte	2.06	97	S	Sn	02 46 31.9	+1.4
LALI	Alcalda de L	2.09	103	eP	Pn	02 46 06.9	+0.5
LALI				IAML		02 46 41.6	
	comp=E,839nm,0.4s						
LALI	Alcalda de L	2.09	103	P	Pn	02 46 06.9	+0.5
LALI	Alcalda de L	2.09	103	S	Sn	02 46 32.4	+1.2
ESQI	Esquipulas	2.10	73		Pn	02 46 07.3	+0.8
ESQI	Esquipulas	2.10	73	P	Pn	02 46 07.5	+0.9
ITCA	Escuela Especi	2.10	98	S	Sn	02 46 32.7	+1.1
UEES	Universidad Ev	2.13	96	P	Pn	02 46 08.2	+1.2
UEES	Universidad Ev	2.13	96	S	Sn	02 46 33.5	+1.1
UTEC	Universidad Te	2.17	97	S	Sn	02 46 35.1	+1.9
IGN	Direccin Gen	2.19	96	S	Sn	02 46 36.5	+2.6
PANCS	Alcalda de	2.20	99	S	Sn	02 46 34.4	+0.4
LOMA	Loma Larga	2.20	98	P	Pn	02 46 08.6	+0.5
UDBS	Universidad Do	2.21	96	S	Sn	02 46 35.5	+1.2
LLGN	La Laguna	2.41	85	P	Pn	02 46 11.4	+0.6
CCIG	Comitan	2.41	343		Pn	02 46 12.5	+1.5
CCIG	Comitan	2.41	343	eP	Pn	02 46 11.3	+0.4
CCIG				IAML		02 46 55.1	
	comp=E,2μm,0.5s						
CCIG	Comitan	2.41	343	P	Pn	02 46 11.5	+0.6
CCIG	Comitan	2.41	343	S	Sn	02 46 41.6	+2.3
UESV	Universidad de	2.57	97	S	Sn	02 46 45.8	+2.6
TECO	Alcaldia de Te	2.59	99	P	Pn	02 46 14.4	+1.0
TECO	Alcaldia de Te	2.59	99	S	Sn	02 46 45.9	+2.2
SCLA	Alcaldia de Sa	2.62	95	P	Pn	02 46 14.8	+1.0
SCLA	Alcaldia de Sa	2.62	95	S	Sn	02 46 48.9	+4.4
SARH	Santa Rosa de	2.69	72	eP	Pn	02 46 15.9	+1.1
SARH	Santa Rosa de	2.69	72	P	Pn	02 46 15.7	+0.9
PACA	Pacayal	3.04	99	P	Pn	02 46 21.9	+2.2
PACA	Pacayal	3.04	99	S	Sn	02 46 57.6	+2.6
MARCA	Marcala la Paz	3.29	86	eP	Pn	02 46 23.4	+0.4
MARCA	Marcala la Paz	3.29	86	P	Pn	02 46 23.3	+0.4
PETF	Flores	3.29	27		Pn	02 46 22.9	0.0
PETF	Flores	3.29	27	eP	Pn	02 46 24.2	+1.2
PETF	Flores	3.29	27	P	Pn	02 46 24.1	+1.2
LCND	La Caada	3.49	100	P	Pn	02 46 26.4	+0.8
CNCH	Conchagua	3.55	101	P	Pn	02 46 27.6	+1.1
CNCH	Conchagua	3.55	101	S	Sn	02 47 09.5	+2.2
POTN	Potosi Cosigui	3.92	104	S	Sn	02 47 16.6	+0.3
TGUH	Tegucigalpa,Un	4.02	88		Pn	02 46 33.5	+0.5
TGUH	Tegucigalpa,Un	4.02	88	P	Pn	02 46 33.8	+0.7
TGUH				S	Sn	02 47 20.8	+1.8
CRIN	San Cristobal	4.43	106	Pn	Pn	02 46 39.5	+0.9
CRIN	San Cristobal	4.43	106	S	Sn	02 47 29.2	+0.2
CMIG	Matias Romero	4.56	313	P	Pn	02 46 40.9	+0.5
	comp=E,8.8nm,0.3s,baz=122,slow=8.2,SNR=48						
CMIG				S	Sn	02 47 32.0	-0.1
	comp=E,186nm,0.4s,baz=102,slow=20,SNR=7.3						
CMIG				LR	LR	02 47 53.3	
	comp=E,65nm,20.6s,baz=124,slow=30						
	comp=E,68nm,0.5s						
CNGN	Cerro Negro	4.82	107		Pn	02 46 45.8	+1.9
LIMN	Finca el Limon	4.99	100	P	Pn	02 46 47.6	+1.3
LIMN				S	Sn	02 47 44.1	+1.2
MGAN	Managua	5.35	109	Pn	Pn	02 46 54.3	+3.1
MATN	Matagalpa	5.44	100	P	Pn	02 46 52.3	-0.2
MATN	Matagalpa	5.44	100	S	Sn	02 47 55.6	+1.8
ACON	Acoyapa	6.40	107	Pn	Pn	02 47 06.3	+0.7
SIUN	Universidad Ur	6.46	91	Pn	Pn	02 47 06.7	+0.3
TEIG	Tepich	6.91	25	Pn	Pn	02 47 12.3	-0.3
TEIG	Tepich	6.91	25	P	Pn	02 47 13.5	+1.0
	baz=133,slow=24,SNR=37						
TEIG				S	Sn	02 48 23.6	-6.3
	comp=E,0.1nm,0.7s,baz=130,slow=24,SNR=10						
TEIG	Tepich	6.91	25	P	Pn	02 47 13.6	+1.0
TEIG				S	Sn	02 48 30.8	+0.9
ESPN	Las Esperanzas	7.15	103	Pn	Pn	02 47 16.5	+0.7
JTS	Las Juntas de	7.30	119		Pn	02 47 17.5	-0.4
JTS	Las Juntas de	7.30	119	P	Pn	02 47 20.9	+3.0
	comp=E,6.8nm,0.3s,baz=305,slow=20,SNR=15						
JTS				S	Sn	02 48 38.1	-1.4
	comp=E,5.5nm,0.5s,baz=222,slow=24,SNR=0.9						
TLIG	Tlapa	7.76	298		Pn	02 47 26.1	+1.7
JRQG	Juriquilla Cam	10.92	309		Pn	02 48 09.0	+1.3
MOIG	Morelia	10.95	303	Pn	Pn	02 48 09.8	+1.8
346A	Big Creek Wild	17.43	6		Pn	02 49 34.0	+0.5
DRIO	Del Rio	17.59	332		Pn	02 49 35.5	+0.1
352A	Blakely	18.42	18	P	P	02 49 45.4	+0.3
BRDY	Brady	18.59	339		P	02 49 47.8	+0.8
146A	Union	18.71	6	P	P	02 49 48.1	-0.1
TX31	Lajitas Ar. Si	19.04	325		P

MNTX	**Cornudas Mount**	**21.80 326**			**P**	**02 50 21.8**	**0.0**
MNTX				IAmb	IAmb	02 50 25.4	
comp=Z,8.4nm,0.8s							
FCAR	**Ozark Folk Cen**	**21.84 358**		P	**P**	**02 50 20.8**	**-1.3**
FCAR				IAmb	IAmb	02 50 23.9	
comp=Z,7.0nm,0.7s							
W50A	**Signal Mountai**	**21.85 14**			**P**	**02 50 22.3**	**+0.1**
W50A				IAmb	IAmb	02 50 38.5	
comp=Z,13nm,0.8s							
LCAR	**Lake Charles**	**22.01 1**			**P**	**02 50 22.0**	**-1.9**
CPCT	**Cooper Cave**	**22.27 15**		P	**P**	**02 50 26.6**	**-0.2**
CPCT				IAmb	IAmb	02 50 43.3	
comp=Z,10nm,0.9s							
TKL	**Tuckaleechee C**	**22.67 16**		LR	LR	02 59 53.7	
comp=Z,149nm,21.6s,baz=196,slow=39							
AMTX	**Amarillo**	**22.80 338**			**P**	**02 50 32.8**	**+0.3**
AMTX				IAmb	IAmb	02 50 33.3	
comp=Z,14nm,1.0s							
V53A	**Saluda**	**22.96 18**			**P**	**02 50 34.4**	**+0.3**
MGMO	**Mountain Grove**	**23.11 358**		IAmb	IAmb	02 50 35.7	
comp=Z,7.2nm,0.7s							
T47A	**Sharon Grove**	**23.25 9**			pP	02 50 46.0	-2.9
TZTN	**Tazewell**	**23.56 16**		P	**P**	**02 50 38.5**	**-1.4**
T50A	**Nancy**	**23.70 13**		IAmb	IAmb	02 50 41.3	
comp=Z,5.2nm,0.8s							
319A	**Douglas**	**23.86 320**			**P**	**02 50 43.0**	**+0.3**
319A				IAmb	IAmb	02 51 00.8	
comp=Z,14nm,1.1s							
CCM	**Cathedral Cave**	**23.99 0**		P	**P**	**02 50 41.8**	**-2.0**
R40A	**Maddies Statio**	**24.24 358**			**P**	**02 50 44.5**	**-1.5**
R40A				IAmb	IAmb	02 50 47.1	
comp=Z,9.4nm,0.9s							
CRNM	**Carthage**	**24.27 328**		P	**P**	**02 50 47.0**	**+0.4**
BNM	**Barren Site**	**24.37 328**			**P**	**02 50 48.4**	**+0.8**
Y22A	**Socorro**	**24.38 327**		IAmb	IAmb	02 50 50.8	
comp=Z,6.7nm,0.8s							
V58A	**Windy Hill, Pi**	**24.39 25**		P	**P**	**02 50 46.2**	**-1.2**
V58A				IAmb	IAmb	02 50 46.8	
comp=Z,8.4nm,0.7s							
LENM	**Lemitar**	**24.56 328**		P	**P**	**02 50 49.3**	**0.0**
RTBA	**Rita Blanca**	**24.57 338**			**P**	**02 50 49.7**	**+0.4**
RTBA				IAmb	IAmb	02 51 09.7	
comp=Z,16nm,1.3s							
SJG	**San Juan**	**24.62 77**		LR	LR	02 59 18.6	
comp=Z,102nm,20.7s,baz=248,slow=34							
ANMO	**Albuquerque**	**24.91 330**			**P**	**02 50 53.1**	**+0.6**
ANMO	**Albuquerque**	**24.91 330**		LR	LR	03 02 35.6	
comp=Z,82nm,18.5s,baz=230,slow=41							
TUC	**Tucson**	**25.43 319**			**P**	**02 50 58.0**	**+0.9**
P40A	**Paris**	**25.47 359**			**P**	**02 50 55.8**	**-1.4**
P40A				IAmb	IAmb	02 50 56.7	
comp=Z,7.0nm,0.6s							
214A	**Organ Pipe Nat**	**26.53 316**		P	**P**	**02 51 08.0**	**+1.0**
214A				IAmb	IAmb	02 51 13.1	
comp=Z,3.9nm,0.7s							
X16A	**Lo Mia Camp, P**	**27.25 322**			**P**	**02 51 14.5**	**+0.9**
PV18	**Skein Mesa, Pa**	**28.73 331**		P	**P**	**02 51 27.0**	**+0.2**
PV18				IAmb	IAmb	02 52 10.4	
comp=Z,9.1nm,1.2s							
PV12	**Saucer Basin,**	**28.74 331**		P	**P**	**02 51 28.1**	**+1.2**
PV04	**Paradox Valley**	**28.85 331**		P	**P**	**02 51 28.4**	**+0.7**
PV22	**Blue Mesa, Par**	**28.90 331**		P	**P**	**02 51 29.1**	**+0.7**
KNB	**Kanab**	**29.87 324**			**P**	**02 51 37.2**	**+0.4**
KNB				IAmb	IAmb	02 51 39.8	
comp=Z,4.2nm,0.8s							
PFO	**Pinyon Flats O**	**29.99 315**		LR	LR	03 03 03.0	
comp=Z,111nm,19.1s,baz=94,slow=35							
LCMT	**Little Creek M**	**30.10 324**		P	**P**	**02 51 39.7**	**+0.8**
V12A	**Nelson**	**30.21 320**			**P**	**02 51 41.0**	**+1.1**
V12A				IAmb	IAmb	02 51 42.0	
comp=Z,6.7nm,0.9s							
SZCU	**Shurtz Canyon**	**30.42 325**		P	**P**	**02 51 42.7**	**+0.9**
SZCU				IAmb	IAmb	02 51 45.5	
comp=Z,7.2nm,1.3s							
CCUT	**Cedar City**	**30.55 324**			**P**	**02 51 44.0**	**+1.0**
CCUT				IAmb	IAmb	02 51 46.9	
comp=Z,5.7nm,1.0s							
TPNV	**Topopah Spring**	**31.86 320**		P	**P**	**02 51 55.3**	**+0.9**
TPNV				IAmb	IAmb	02 51 58.8	
comp=Z,5.1nm,1.2s							
SPR3	**Spring Creek 3**	**32.10 325**			**P**	**02 51 57.1**	**+0.4**
SPR3				IAmb	IAmb	02 51 58.4	
comp=Z,4.6nm,1.1s							
HWUT	**Hardware Ranch**	**32.63 331**			**P**	**02 52 02.2**	**+1.0**
PDAR	**Pinedale Array**	**32.69 335**		P	**P**	**02 52 00.1**	**-1.6**
comp=Z,0.4nm,0.7s,baz=138,slow=11,SNR=3.9							
PDAR				LR	LR	03 07 50.0	
comp=Z,33nm,18.9s,baz=131,slow=41							
comp=Z,0.4nm,0.7s							
SNOW	**Snow King Moun**	**33.76 334**		P	**P**	**02 52 11.7**	**+0.7**
ELK	**Elko**	**33.83 327**			**P**	**02 52 12.4**	**+0.8**
ELK				IAmb	IAmb	02 52 13.5	
comp=Z,2.3nm,0.7s							
ELK	**Elko**	**33.83 327**		LR	LR	03 08 53.3	
comp=Z,53nm,20.6s,baz=148,slow=41							
NV11	**Mina Array Sit**	**33.97 321**		P	**P**	**02 52 13.7**	**+0.9**
NV11				IAmb	IAmb	02 52 17.0	
comp=Z,4.0nm,0.8s							
NVAR	**Mina Array Bea**	**34.06 321**		P	**P**	**02 52 14.6**	**+1.0**
NVAR				PcP	**PcP**	**02 54 50.9**	**+0.4**
NVAR	**Mina Array Bea**	**34.06 321**		P	**P**	**02 52 14.3**	**+0.7**
comp=Z,4.3nm,0.9s,baz=138,slow=8.4,SNR=13							
NVAR				LR	LR	03 08 14.8	
comp=Z,100nm,18.6s,baz=100,slow=40							
comp=Z,4.3nm,0.9s							
HLID	**Hailey**	**35.48 331**			**P**	**02 52 26.6**	**+0.8**
HLID				IAmb	IAmb	02 52 28.8	
comp=Z,2.2nm,0.8s							
MCMT	**McKenzie Canyo**	**35.75 334**			**P**	**02 52 29.6**	**+1.4**
MFID	**Camas Ranch**	**36.06 329**		IAmb	IAmb	02 52 34.5	
comp=Z,2.4nm,0.8s							
BEKR	**Beckworth**	**36.20 321**		P	**P**	**02 52 33.5**	**+1.5**
BEKR				IAmb	IAmb	02 52 35.6	
comp=Z,2.3nm,0.9s							
ULM	**Lac du Bonnet**	**36.37 355**		LR	LR	03 09 40.3	
comp=Z,81nm,18.7s,baz=160,slow=40							
WVOR	**Wild Horse Val**	**36.84 326**		IAmb	IAmb	02 52 40.2	
comp=Z,4.1nm,0.9s							
J08A	**Circle Bar Ran**	**37.38 327**			**P**	**02 52 42.7**	**+0.7**
PLID	**Pearl Lake**	**37.38 331**			**P**	**02 52 42.0**	**-0.1**
LPAZ	**La Paz**	**37.85 142**		P	**P**	**02 52 47.6**	**+0.8**
LPAZ	**La Paz**	**37.85 142**		LR	LR	03 08 27.2	
comp=Z,59nm,19.0s,baz=3.5,slow=36							
YBH	**Yreka Blue Hor**	**38.74 322**		LR	LR	03 09 11.4	
comp=Z,4.3nm,18.4s,baz=126,slow=37							
PINE	**Pine Mountain**	**39.00 325**			**P**	**02 52 55.8**	**+0.1**
PINE				IAmb	IAmb	02 52 56.9	
comp=Z,3.6nm,0.9s							
MDP	**Montagnes des**	**39.19 99**		LR	LR	03 10 15.4	
comp=Z,46nm,18.8s,baz=70,slow=38							
H04A	**Detroit Lake**	**40.26 326**			**P**	**02 53 06.1**	**+0.1**
HOOD	**Mount Hood Mea**	**40.39 327**		P	**P**	**02 53 08.0**	**+0.9**
C09A	**Chrisman Ranch**	**40.45 332**			**P**	**02 53 07.8**	**+0.4**
VILB	**Vilhena**	**40.89 129**		P	**P**	**02 53 11.9**	**+0.5**
LTY	**Liberty**	**41.19 330**		P	**P**	**02 53 13.7**	**+0.1**
LON	**Longmire**	**41.42 328**		P	**P**	**02 53 15.5**	**+0.1**
LON				IAmb	IAmb	02 53 16.3	
comp=Z,5.2nm,0.8s							
B04A	**Port Angeles**	**43.15 329**			**P**	**02 53 30.0**	**+0.6**
B04A				IAmb	IAmb	02 53 33.4	
comp=Z,7.7nm,1.1s							
PGC	**Sidney**	**43.51 329**		P	**P**	**02 53 32.7**	**+0.4**
PGC				IAmb	IAmb	02 53 34.8	
comp=Z,4.3nm,0.8s							
RPN	**Rapa Nui**	**44.40 203**		LR	LR	03 08 41.3	
comp=Z,57nm,20.0s,baz=16,slow=31							
SCHQ	**Schefferville**	**45.06 20**		P	**P**	**02 53 40.7**	**-3.9**
comp=Z,42nm,0.7s,baz=246,slow=9.9,SNR=4.4							
SCHQ				LR	LR	03 12 58.3	
comp=Z,967nm,19.4s,baz=236,slow=37							
BBB	**Bella Bella**	**48.07 330**		LR	LR	03 16 59.7	
comp=Z,47nm,20.4s,baz=210,slow=39							
YKA	**Yellowknife Ar**	**51.19 346**		LR	LR	03 18 36.3	
comp=Z,54nm,18.8s,baz=103,slow=39							
CPUP	**Villa Florida**	**51.99 140**		LR	LR	03 16 28.0	
comp=Z,13nm,19.5s,baz=199,slow=36							
FRB	**Frobisher Bay**	**52.22 13**		LR	LR	03 17 26.0	
comp=Z,63nm,18.4s,baz=205,slow=37							
PLCA	**Paso Flores**	**57.76 161**		LR	LR	03 14 30.5	
comp=Z,47nm,20.9s,baz=345,slow=30							
M29M	**Somme Creek**	**58.67 337**		P	**P**	**02 55 25.9**	**-0.2**
SFJD	**Kangerlussuaq**	**59.38 17**		LR	LR	03 21 40.9	
comp=Z,61nm,21.5s,baz=214,slow=37							
RES	**Resolute Bay**	**60.74 359**		LR	LR	03 24 09.5	
comp=Z,61nm,18.4s,baz=358,slow=38							
KDAK	**Kodiak Island**	**63.05 328**		LR	LR	03 23 06.9	
comp=Z,30nm,19.0s,baz=137,slow=36							
ILAR	**Eielson Array**	**63.09 337**		P	**P**	**02 55 53.8**	**-2.2**
comp=Z,0.7nm,0.7s,baz=109,slow=6.7,SNR=8.5							
ILAR				LR	LR	03 26 12.2	
comp=Z,28nm,20.1s,baz=12,slow=39							
comp=Z,0.7nm,0.7s							
RAR	**Rarotonga**	**75.65 244**		LR	LR	03 25 00.3	
comp=Z,39nm,18.7s,baz=156,slow=31							
SPITS	**Spitsbergen Ar**	**80.01 12**		LR	LR	03 34 35.7	
comp=Z,41nm,19.6s,baz=272,slow=37							
NOA	**NORSAR Array B**	**83.91 29**		LR	LR	03 33 23.9	
comp=Z,14nm,21.3s,baz=335,slow=34							
HFS	**Hagfors**	**85.36 29**		LR	LR	03 36 28.8	
comp=Z,24nm,18.7s,baz=288,slow=36							
ARCES	**ARCESS Array B**	**85.99 18**		LR	LR	03 35 18.9	
comp=Z,31nm,21.7s,baz=0.5,slow=35							
FINES	**FINESS Array B**	**90.29 25**		LR	LR	03 38 58.5	
comp=Z,27nm,18.9s,baz=247,slow=36							
MA2	**Magadan**	**91.38 333**		LR	LR	03 45 17.5	
comp=Z,13nm,18.1s,baz=79,slow=39							
VAE	**Valguarnera**	**93.75 50**		LR	LR	03 40 36.3	
comp=Z,33nm,19.0s,baz=310,slow=35							
AKASG	**Malin Array Be**	**97.44 33**		LR	LR	03 44 47.1	
comp=Z,12nm,18.4s,baz=310,slow=37							
PLWZ	**Palliser**	**101.59 230**		Pdif	**Pdif**	**02 59 22.3**	**+1.4**
KURBB	**Kurchatov Arra**	**115.09 7**		PKP	**PKiKP**	**03 04 07.7**	**-1.8**
comp=Z,0.9nm,0.2s,baz=158,slow=0.5,SNR=5.3							
MKAR	**Makanchi Array**	**119.26 5**		PKP	**PKPdf**	**03 04 15.4**	**-2.3**
comp=Z,0.7nm,0.7s,baz=22,slow=4.7,SNR=2.6							
WRA	**Warramunga Arr**	**135.94 256**		PKP	**PKPdf**	**03 04 49.8**	**-0.4**
comp=Z,0.5nm,0.8s,baz=93,slow=1.9,SNR=5.0							
ASAR	**Alice Springs**	**136.19 250**		PKP	**PKPdf**	**03 04 49.6**	**-0.9**
comp=Z,0.4nm,0.7s,baz=108,slow=1.9,SNR=2.8							
CMAR	**Chiang Mai Arr**	**146.20 342**		PKPbc	**PKPdf**	**03 05 08.4**	**-0.1**
comp=Z,6.4nm,0.6s,baz=336,slow=3.7,SNR=26							

*AEIC **01** 02:50:51.3±2.5, 52.°1N±0.°2×179.°7E±0.°1, h202km±7km,*
Error ellipse: s-maj=23.4km s-min=9.6km az=176.0
*NEIC **01** 02:50:52.3±1.4, 52.°3N±0.°2×179.°7E±0.°1, h168km±13km,*
mb4.2/60, ML3.2(AEIC), Error ellipse: s-maj=25.8km
s-min=9.5km az=180.0
*IDC **01** 02:50:53.3±2.5, 52.°77N×179.°33E, h213km±30km, mb2.9/6,*
mbtmp3.6/8, Error ellipse: s-maj=67.0km s-min=13.7km
az=150.0
ISC 01 02:50:52.0±0.7, 52.°1N±0.°1×179.°66E±0.°05, h200km, n88,
σ1°74/90, mb4.2/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.76**	**197**		**Pn**	**02 51 18.9**	**-1.4**
AMKA				Sn	**Sn**	**02 51 38.4**	**-3.6**
KIWB	**Kanaga Island**	**1.99**	**96**	Pn	**Pn**	**02 51 29.1**	**-1.2**
KIWB				Sn	**Sn**	**02 51 56.8**	**-3.3**
ADK	**Adak**	**2.27**	**94**	Pn	**Pn**	**02 51 31.2**	**-2.1**
GSTR	**Great Sitkin T**	**2.64**	**89**	Pn	**Pn**	**02 51 35.7**	**-1.7**
SHEM	**Shemya Is, Ala**	**3.46**	**283**	Pn	**Pn**	**02 51 45.3**	**-1.7**
SHEM	**Shemya Is, Ala**	**3.46**	**283**	P	**Pn**	**02 51 45.4**	**-1.6**
22nm,0.2s,baz=192,slow=4.2,SNR=16							
SHEM				S	**Sn**	**02 52 27.0**	**-3.1**
39nm,0.3s,baz=233,slow=19,SNR=22							
SMY	**Shemya**	**3.46**	**283**	Pn	**Pn**	**02 51 45.6**	**-1.4**
ATKA	**Atka Island**	**3.79**	**86**	Pn	**Pn**	**02 51 49.8**	**-1.2**
CLES	**Cleveland East**	**6.43**	**79**	Pn	**Pn**	**02 52 24.5**	**-0.1**
NIKH	**Nikolski High**	**7.06**	**78**	Pn	**Pn**	**02 52 33.7**	**+0.8**
UNV	**Unalaska Valle**	**8.53**	**73**	Pn	**Pn**	**02 52 52.0**	**+0.1**
O14K	**Tigyukauivet M**	**12.89**	**49**	Pn	**Pn**	**02 53 47.5**	**-0.3**
K13K	**Kusilvak Mount**	**13.00**	**35**	Pn	**P**	**02 53 49.5**	**-2.8**
N14K	**Kuskokwak Cree**	**13.01**	**46**	Pn	**P**	**02 53 49.5**	**-2.9**
M14K	**Bethel**	**13.31**	**42**	Pn	**P**	**02 53 53.6**	**-2.2**
K15K	**Wolf Creek Mou**	**14.36**	**37**		**P**	**02 54 07.0**	**-0.5**
M16K	**Timber Creek**	**14.72**	**44**	Pn	**P**	**02 54 10.4**	**-1.0**
L16K	**Owhat River**	**14.84**	**41**	Pn	**P**	**02 54 11.9**	**-0.9**
N17K	**Nushagak Hills**	**15.29**	**48**		**P**	**02 54 18.2**	**+0.5**
N17K				IAmb	IAmb	02 54 32.9	
comp=Z,17nm,1.4s							
J16K	**Anvik River**	**15.30**	**35**		**P**	**02 54 18.0**	**+0.1**
J16K				IAmb	IAmb	02 54 53.2	
comp=Z,11nm,1.4s							
ACHA	**Angle Creek He**	**15.49**	**57**		**P**	**02 54 21.0**	**+1.0**
M17K	**Holitna River**	**15.55**	**44**	P	**P**	**02 54 20.4**	**-0.2**
M17K				IAmb	IAmb	02 54 21.8	
comp=Z,9.4nm,0.8s							
K17K	**Iditarod**	**15.84**	**39**		**Pn**	**02 54 24.4**	**+0.4**
K17K				IAmb	IAmb	02 54 25.5	
comp=Z,8.4nm,1.1s							
O19K	**Port Alsworth**	**16.51**	**50**	P	**Pn**	**02 54 31.7**	**-0.4**
H17K	**Granite Mounta**	**16.59**	**31**	P	**Pn**	**02 54 32.8**	**-0.2**
N19K	**Bonanza Creek**	**16.64**	**48**	P	**Pn**	**02 54 33.2**	**-0.5**
N19K				IAmb	IAmb	02 54 37.5	
comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**16.85**	**59**	P	**P**	**02 54 32.9**	**-2.1**
comp=Z,3.5nm,0.5s,baz=220,slow=2.0,SNR=12							
P19K	**Oil Pt**	**16.89**	**53**	P	**Pn**	**02 54 36.5**	**-0.1**
ILSW	**Iliamna Southw**	**17.02**	**52**	P	**Pn**	**02 54 37.5**	**-0.7**
ILSW				IAmb	IAmb	02 54 41.6	
comp=Z,12nm,0.9s							
H18K	**Honhosa River**	**17.24**	**32**	P	**Pn**	**02 54 40.0**	**-0.7**
G18K	**Tagagawik**	**17.62**	**30**	P	**Pn**	**02 54 43.9**	**-1.3**
G18K				IAmb	IAmb	02 54 52.5	
comp=Z,9.7nm,1.3s							
M20K	**Styx River**	**17.62**	**46**	P	**Pn**	**02 54 45.7**	**+0.4**
M20K				IAmb	IAmb	02 54 50.7	
comp=Z,7.1nm,0.7s							
K20K	**Telida**	**17.84**	**41**	P	**Pn**	**02 54 47.6**	**-0.1**
K20K				IAmb	IAmb	02 54 49.2	
comp=Z,7.4nm,1.0s							
SPU	**Mount Spurr**	**17.88**	**48**	P	**Pn**	**02 54 47.7**	**-0.6**
SPU				IAmb	IAmb	02 54 49.4	
comp=Z,5.3nm,0.8s							
BRLK	**Bradley Lake**	**18.07**	**53**	P	**Pn**	**02 54 47.8**	**-2.6**
STLK	**Strandline Lak**	**18.08**	**48**	P	**Pn**	**02 54 49.8**	**-0.8**
H19K	**Roundabout Mou**	**18.10**	**33**	P	**Pn**	**02 54 50.0**	**-0.8**
J20K	**Nowinta River**	**18.19**	**38**		**Pn**	**02 54 50.4**	**-1.4**
J20K				IAmb	IAmb	02 54 53.4	
comp=Z,7.1nm,0.8s							
SKT	**Skwentna**	**18.37**	**46**		**Pn**	**02 54 52.4**	**-1.5**
SKT				IAmb	IAmb	02 54 58.3	
comp=Z,24nm,1.4s							
F19K	**Shaleruckik Mo**	**18.52**	**29**	P	**Pn**	**02 54 52.9**	**-2.7**
F19K				IAmb	IAmb	02 54 53.7	
comp=Z,9.9nm,0.8s							
SLKM	**Skilak Lake**	**18.56**	**51**		**Pn**	**02 54 53.8**	**-2.4**
O22K	**Cooper Landing**	**18.79**	**52**	P	**Pn**	**02 54 56.1**	**-2.8**
E19K	**Redstone River**	**19.09**	**28**	P	**Pn**	**02 54 59.6**	**-2.7**
E19K				IAmb	IAmb	02 55 09.1	
comp=Z,13nm,1.2s							
IMAR	**Indian Mountai**	**19.28**	**34**	P	**Pn**	**02 55 01.4**	**-3.2**
GHO	**Glory Hole Cre**	**19.48**	**48**	P	**Pn**	**02 55 04.1**	**-3.1**
GHO				IAmb	IAmb	02 55 25.0	
comp=Z,11nm,1.0s							
D19K	**Kuna River**	**19.58**	**25**	P	**Pn**	**02 55 04.5**	**-3.7**
G21K	**Allakaket**	**19.66**	**33**	P	**P**	**02 55 05.1**	**-0.2**
G21K				IAmb	IAmb	02 55 08.6	
comp=Z,9.5nm,1.2s							
C19K	**Lookout Ridge**	**19.67**	**22**	P	**Pn**	**02 55 07.4**	**-1.9**
SML	**Sawmill**	**19.77**	**48**	P	**Pn**	**02 55 07.7**	**-2.8**
SML				IAmb	IAmb	02 55 29.4	
comp=Z,8.7nm,1.1s							
F21K	**Alatna River**	**20.07**	**31**	P	**P**	**02 55 09.9**	**+0.2**
WRH	**Wood River Hil**	**20.70**	**41**	P	**P**	**02 55 16.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**20.74**	**52**	P	**P**	**02 55 16.9**	**+0.1**
ILAR	**Eielson Array**	**21.30**	**41**	P	**P**	**02 55 19.3**	**-3.3**
comp=Z,0.4nm,0.6s,baz=257,slow=9.8,SNR=11							
comp=Z,0.4nm,0.6s							
D23K	**Nanushuk River**	**21.95**	**29**	P	**P**	**02 55 28.8**	**-0.3**
F24K	**Squaw Lake**	**22.07**	**33**	P	**P**	**02 55 30.4**	**0.0**
F24K				IAmb	IAmb	02 56 09.6	
comp=Z,9.4nm,1.4s							
TOLK	**Toolik Lake Re**	**22.10**	**30**	P	**P**	**02 55 30.4**	**-0.3**
TOLK				IAmb	IAmb	02 55 47.2	
comp=Z,11nm,1.4s							
J26L	**Joseph Creek**	**22.57**	**42**	P	**P**	**02 55 34.1**	**-1.1**
D24K	**Happy Valley**	**22.60**	**29**	P	**P**	**02 55 35.2**	**0.0**
D24K				IAmb	IAmb	02 55 40.5	
comp=Z,9.6nm,0.9s							
GRNC	**Granite Creek**	**22.71**	**53**	P	**P**	**02 55 37.1**	**+0.5**
BARN	**Barnard Glacie**	**22.79**	**52**	P	**P**	**02 55 37.6**	**+0.4**
BARN				IAmb	IAmb	02 55 44.9	
comp=Z,13nm,1.2s							
F25K	**Christian Rive**	**22.87**	**34**	P	**P**	**02 55 38.0**	**+0.2**
CTGM	**Chitina Glacie**	**22.94**	**52**	P	**P**	**02 55 39.9**	**+1.4**
CTGM				IAmb	IAmb	02 56 06.3	
comp=Z,5.3nm,0.9s							
I26K	**Coal Creek Min**	**22.97**	**41**	P	**P**	**02 55 37.6**	**-0.9**
E25K	**Arctic Village**	**23.13**	**33**	P	**P**	**02 55 41.1**	**+1.2**
E25K				IAmb	IAmb	02 55 52.7	
comp=Z,14nm,1.4s							
F26K	**Sheenjek River**	**23.43**	**35**	P	**P**	**02 55 43.3**	**+0.5**
D25K	**Kavik River**	**23.44**	**30**	P	**P**	**02 55 42.9**	**+0.1**
D25K				IAmb	IAmb	02 56 17.5	
comp=Z,13nm,1.1s							
O28M	**Mount Upton**	**23.48**	**53**	P	**P**	**02 55 45.0**	**+1.4**
EGAK	**Eagle**	**23.64**	**42**	P	**P**	**02 55 44.3**	**-0.4**
EGAK				IAmb	IAmb	02 55 45.4	
comp=Z,5.3nm,0.8s							
H27K	**Steamboat Moun**	**23.89**	**39**	P	**P**	**02 55 46.7**	**-0.2**
G27K	**Doyon Strip**	**24.02**	**37**	P	**P**	**02 55 48.1**	**0.0**
DAWY	**Dawson**	**24.25**	**45**	P	**P**	**02 55 51.1**	**+0.8**
DAWY				IAmb	IAmb	02 55 53.2	
comp=Z,3.7nm,0.8s							
I28M	**Miner Creek**	**24.30**	**41**	P	**P**	**02 55 50.0**	**-0.8**
C27K	**Jago River**	**24.41**	**30**	P	**P**	**02 55 51.9**	**+0.3**
M29M	**Somme Creek**	**24.44**	**49**	P	**P**	**02 55 56.3**	**+4.2**
M29M				IAmb	IAmb	02 55 57.0	
comp=Z,3.0nm,0.6s							
HYT	**Haines Junctio**	**24.80**	**53**		**P**	**02 55 57.8**	**+2.4**
HYT				IAmb	IAmb	02 55 59.5	
comp=Z,6.8nm,0.8s							
N30M	**Aishikik Lake**	**25.02**	**51**	P	**P**	**02 56 00.5**	**+3.2**
N30M				IAmb	IAmb	02 56 01.1	
comp=Z,6.3nm,0.6s							
K29M	**Barlow Dome**	**25.03**	**45**	P	**P**	**02 55 59.8**	**+2.4**
M30M	**Minto, Yukon**	**25.22**	**48**	P	**P**	**02 56 01.7**	**+2.6**
M30M				IAmb	IAmb	02 56 11.5	
comp=Z,14nm,1.5s							
Q32M	**Nakina River**	**27.53**	**57**	P	**P**	**02 56 21.5**	**+1.6**
NVAR	**Mina Array Bea**	**44.41**	**82**	P	**P**	**02 58 44.7**	**+1.8**
comp=Z,0.3nm,0.5s,baz=300,slow=6.7,SNR=3.9							
comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**47.00**	**72**	P	**P**	**02 59 02.4**	**-0.7**
comp=Z,0.5nm,0.6s,baz=290,slow=3.4,SNR=6.9							
comp=Z,0.5nm,0.6s							
KAN01	**Argonia South**	**57.52**	**70**	P	P	03 00 24.5	+4.3
E46A	**Sault Ste Mari**	**58.47**	**54**	P	**P**	**03 00 29.6**	**+2.9**
MKAR	**Makanchi Array**	**58.83**	**307**	P	**P**	**03 00 31.5**	**+2.3**
TXAR	**Lajitas Array**	**59.48**	**80**	P	**P**	**03 00 34.5**	**+0.5**
comp=Z,0.1nm,0.5s,baz=323,slow=7.7,SNR=4.5							
comp=Z,0.1nm,0.5s							
WRA	**Warramunga Arr**	**81.89**	**223**	P	**P**	**03 02 49.8**	**+1.0**
comp=Z,0.7nm,0.8s,baz=37,slow=6.5,SNR=4.7							
comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**85.39**	**221**	P	**P**	**03 03 08.4**	**+1.8**
comp=Z,0.4nm,0.6s,baz=26,slow=5.2,SNR=5.3							
comp=Z,0.4nm,0.6s							
MAW	**Mawson**	**146.47**	**218**	PKPbc	**PKPab**	**03 10 08.6**	**-0.7**
comp=Z,0.8nm,0.5s,baz=109,slow=4.9,SNR=4.4							

*GCG **01** 02:56:42.2±3.7, 16.°69N×95.°51W, h38km±999km, MD4.2,*
ML3.7
*MEX **01** 02:56:43.9±0.6, 16.°46N×95.°27W, h47km±13km, MD4.2*
ISC 01 02:56:39.3±1.1, 16.°55N±0.°03×95.°33W±0.°02, h12km±9km,
n39, σ1°90/69, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.68**	**89**	*i* P	**Pg**	**02 56 52.1**	**-0.4**
NILT				*i* S	**Sg**	**02 57 00.9**	**-0.6**
CMIG	**Matias Romero**	**0.68**	**38**	*e*P	**Pg**	**02 56 53.3**	**+0.7**
CMIG				*e*S	**Sb**	**02 57 03.0**	**+0.5**
HUIG	**Huatulco**	**1.08**	**224**	*e*P	**Pg**	**02 57 00.6**	**+0.4**
HUIG				*e*S	**Sn**	**02 57 15.2**	**+0.1**
HUIG	**Huatulco**	**1.08**	**224**	*i* P	**Pg**	**02 57 00.6**	**+0.4**
HUIG			

AGPR IAML 02 58 13.2
comp=Z,57nm,0.2s
IDE Isla Desecheo 0.83 194 Pn 02 58 04.8 +0.9
IDE Sn 02 58 16.4 +0.2
IDE Isla Desecheo 0.83 194⇓ *i*P Pn 02 58 04.8 +0.9
IDE Isla Desecheo 0.83 194 *e*S Sn 02 58 16.4 +0.2
AOPR Arecibo Observ 0.97 150 Pb 02 58 05.4 +0.1
AOPR Sg Sg 02 58 17.2 -0.7
AOPR Arecibo Observ 0.97 150⇓ *i*P Pb 02 58 05.7 +0.4
PRSN Puerto Rico Se 0.98 173 Pn 02 58 06.6 +0.6
PRSN Sn Sn 02 58 19.4 -0.5
PRSN Puerto Rico Se 0.98 173 Pg Pb 02 58 05.8 +0.4
PRSN Puerto Rico Se 0.98 173 Sn Sn 02 58 19.9 +0.1
PRSN Puerto Rico Se 0.98 173⇓ *e*P Pn 02 58 06.6 +0.6
PRSN Puerto Rico Se 0.98 173 *e*S Sn 02 58 19.4 -0.5
PRSN Puerto Rico Se 0.98 173⇑ *e*Pg Pb 02 58 05.7 +0.3
PRSN *e*Sg Sb 02 58 18.1 -0.1
EMPR Esperanza - Ma 1.00 136 Pn 02 58 07.9 +1.7
EMPR Sn 02 58 21.6 +1.3
EMPR Esperanza - Ma 1.00 136 Pg Pn 02 58 06.2 0.0
EMPR Esperanza - Ma 1.00 136⇑ *e*P Pn 02 58 07.9 +1.7
EMPR Esperanza - Ma 1.00 136 *e*S Sn 02 58 21.6 +1.3
LSP Las Mesas 1.03 170 Pn 02 58 07.0 +0.2
LSP Sb 02 58 19.9 +0.2
LSP Las Mesas 1.03 170⇑ *i*P Pn 02 58 07.0 +0.2
LSP Las Mesas 1.03 170 *e*S Sb 02 58 19.9 +0.2
UUPR Utuado, UPR, P 1.07 151 Pn 02 58 07.9 +0.6
UUPR Utuado, UPR, P 1.07 151 Pg Pb 02 58 06.7 -0.2
UUPR Utuado, UPR, P 1.07 151⇓ *i*P Pn 02 58 07.9 +0.6
CRPR Cabo Rojo, PR 1.19 173 Pg 02 58 09.7 +0.3
CRPR Sg 02 58 24.7 -0.2
CRPR Cabo Rojo, PR 1.19 173 IAML 02 58 29.1
comp=N,31nm,0.4s
CRPR Cabo Rojo, PR 1.19 173⇑ *e*P Pg 02 58 09.7 +0.3
CRPR Cabo Rojo, PR 1.19 173⇑ *e*Pg Pb 02 58 08.9 -0.1
CRPR ⇑ *e*Sg Sb 02 58 23.3 -1.1
CRPR IAML 02 58 25.5
comp=E,24nm,0.3s
CRPR Cabo Rojo, PR 1.19 173 *i*P Pg 02 58 09.6 +0.2
CRPR *e*S Sb 02 58 24.2 -0.1
CRPR IAML 02 58 28.7
comp=Z,36nm,0.5s
ECPR Experimental S 1.22 135⇑ *e*P Pn 02 58 09.6 +0.3
ECPR Experimental S 1.22 135 *e*S Sn 02 58 26.2 +0.4
MLPR Magueyes Islan 1.24 170⇓ *i*P Pb 02 58 10.0 +0.2
MLPR Magueyes Islan 1.24 170 *e*S Sb 02 58 25.8 +0.1
MLPR Magueyes Islan 1.24 170⇑ *e*Pg Pb 02 58 10.0 +0.2
MLPR ⇓ *e*Sg Sb 02 58 24.4 -1.3
MLPR IAML 02 58 30.1
comp=E,6.4nm,0.3s
GBPR Guanica, Bosqu 1.27 163 Pg 02 58 11.2 +0.3
GBPR Guanica, Bosqu 1.27 163⇑ *e*P Pg 02 58 11.2 +0.3
CELP Cerrillos 1.29 150 Pn 02 58 10.5 +0.2
CELP Sn 02 58 27.2 -0.4
CELP Cerrillos 1.29 150 IAML 02 58 31.1
comp=E,28nm,0.3s
CELP Cerrillos 1.29 150⇓ *i*P Pn 02 58 10.5 +0.2
CELP Cerrillos 1.29 150 *e*S Sn 02 58 27.2 -0.4
CELP Cerrillos 1.29 150 *e*Pg Pg 02 58 12.2 +0.9
CELP ⇑ *e*Sg Sb 02 58 26.6 -0.6
CELP IAML 02 58 29.7
comp=E,19nm,0.3s
OBIP Obispado Ponce 1.31 151 Pn 02 58 10.8 +0.3
OBIP Sb 02 58 26.6 -1.1
OBIP Obispado Ponce 1.31 151 IAML 02 58 31.6
comp=N,27nm,0.2s
OBIP Obispado Ponce 1.31 151⇓ *e*P Pn 02 58 10.8 +0.3
OBIP Obispado Ponce 1.31 151 *e*S Sb 02 58 26.6 -1.1
GCPR Guaynabo City 1.43 128 Pb 02 58 12.7 -0.2
GCPR Sg 02 58 31.6 -0.8
GCPR Guaynabo City 1.43 128⇑ *e*P Pb 02 58 12.7 -0.2
GCPR Guaynabo City 1.43 128 *e*S Sg 02 58 31.6 -0.8
HIDR Higuey Centro 1.50 247⇑ *e*Pg Pn 02 58 14.0 +0.8
HIDR ⇑ *e*Sg Sn 02 58 27.5 -5.2
SJG San Juan 1.51 135 Pg 02 58 15.2 -0.2
SJG San Juan 1.51 135 IAML 02 58 41.6
comp=N,24nm,0.3s
SJG IAML 02 58 42.5
comp=N,26nm,0.4s
SJG San Juan 1.51 135⇑ *e*P Pg 02 58 15.2 -0.2
SJG San Juan 1.51 135 *i*P Pn 02 58 12.2 -1.1
SJG *e*S Sn 02 58 32.8 -0.2
SJG IAML 02 58 34.7
comp=Z,12nm,0.5s
IGPR InterUniversit 1.65 138 Pb 02 58 16.7 0.0
IGPR Sn 02 58 36.4 +0.2
IGPR InterUniversit 1.65 138⇓ *e*P Pb 02 58 16.7 0.0
IGPR InterUniversit 1.65 138 *e*S Sn 02 58 36.4 +0.2
PDPR Patillas Dam, 1.66 135 Pn Pn 02 58 16.2 +0.8
PDPR IAML 02 58 42.1
comp=N,19nm,0.2s
PDPR IAML 02 58 44.3
comp=E,17nm,0.1s
PDPR Patillas Dam, 1.66 135⇓ *e*P Pb 02 58 16.7 -0.3
PDPR Patillas Dam, 1.66 135 *e*S Sn 02 58 36.4 -0.2
MIDR Miches 1.70 263⇓ *e*P Pb 02 58 19.0 +1.4
MIDR Miches 1.70 263⇓ *e*Pg Pb 02 58 18.4 +0.7
MIDR ⇑ *e*Sg Sn 02 58 37.9 +0.2
DR12 Loma Pena Alta 2.04 259 Pb 02 58 23.8 +0.3
HATOM Hato Mayor del 2.04 259⇑ *e*Pg Pb 02 58 23.4 -0.1

WEL 01 03:00:27.6±0.9, 31°S±16°×17°9E±4°, h213km±37km, M4.0/6, mB4.4/6, ML4.5/2, MLv4.4/6, Mw(mB)3.5/6, Error ellipse: s-maj=57.5km s-min=4.4km az=110.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
GLKZ	**Green Lake**	**3.19**	**49**	P	Pn	03 01 17.2	-2.9
GLKZ				S	S	03 02 02.2	+1.2
RIZ	**Raoul Island**	**3.20**	**48**	P	Pn	03 01 20.1	-0.1
RIZ				S	S	03 02 03.4	+2.3
RAO	**Raoul Island**	**3.20**	**49**	P	Pn	03 01 19.4	-0.9
MXZ	**Matakaoa Point**	**6.20**	**188**	P	Pn	03 02 00.1	+2.6
MXZ				S	S	03 03 10.0	+1.1
WMGZ	**Waiomatatini S**	**6.44**	**187**	P	Pn	03 02 02.2	+1.6
WMGZ				S	S	03 03 17.5	+3.0
HAZ	**Te Kaha**	**6.46**	**191**	P	Pn	03 02 01.3	+0.4
HAZ				S	S	03 03 16.1	+1.1
RUGZ	**Raukumara Rang**	**6.69**	**191**	P	Pn	03 02 03.2	-0.7
RUGZ				S	S	03 03 18.8	-1.6
OPRZ	**Ohinepanea**	**6.82**	**199**	P	Pn	03 02 07.7	+2.2
TWGZ	**Tauwhareparae**	**6.85**	**189**	S	S	03 03 25.7	+1.7
MWZ	**Matawai**	**7.07**	**192**	P	Pn	03 02 10.0	+1.2
MWZ				S	S	03 03 29.3	0.0
URZ	**Urewera**	**7.08**	**194**	P	Pn	03 02 09.4	+0.6
URZ				S	S	03 03 29.7	+0.3
RAGZ	**Rawiri**	**7.25**	**192**	S	S	03 03 33.3	-0.3
SNGZ	**Shannon Statio**	**7.54**	**192**	P	Pn	03 02 14.8	0.0
MTHZ	**Maungataniwha**	**7.71**	**195**	P	Pn	03 02 16.9	-0.1
MTHZ				S	S	03 03 44.8	+0.5
KNZ	**Kokohu**	**7.72**	**190**	P	Pn	03 02 16.2	-0.9
MRHZ	**Matea Rd**	**7.79**	**197**	P	Pn	03 02 17.5	-0.5
MHGZ	**Mahia Peninsul**	**7.82**	**188**	P	Pn	03 02 18.0	-0.3
MHGZ				S	S	03 03 44.8	-2.0
NMHZ	**Naumai**	**7.95**	**194**	P	Pn	03 02 19.8	-0.3
NMHZ				S	S	03 03 46.8	-3.3
BKZ	**Black Stump Fm**	**8.08**	**196**	P	Pn	03 02 20.5	-1.4
BKZ				S	S	03 03 48.4	-4.9
NGZ	**Ngauruhoe**	**8.33**	**200**	P	Pn	03 02 26.1	+0.9
KRHZ	**Kereru**	**8.57**	**196**	P	Pn	03 02 25.5	-2.6
KRHZ				S	S	03 03 57.8	-6.9
KAHZ	**Kahuranaki**	**8.61**	**193**	P	Pn	03 02 25.8	-2.8
KAHZ				S	S	03 04 05.8	+0.2
PXZ	**Pawanui**	**8.84**	**192**	P	Pn	03 02 29.3	-2.2
PNHZ	**Pukenui**	**8.86**	**196**	P	Pn	03 02 28.5	-3.4
PNHZ				S	S	03 04 05.1	-6.6
BFZ	**Birch Farm**	**9.59**	**194**	P	Pn	03 02 36.7	-4.5
BFZ				S	S	03 04 20.7	-8.0
MRZ	**Mangatainoka R**	**9.72**	**197**	P	Pn	03 02 37.9	-5.0
KHZ	**Kahutara**	**11.92**	**201**	P	Pn	03 03 04.4	-6.6

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*CATAC **01** 03:06:27.8±0.4, 13°N±2°×8°9W±°, h30km±2km, M4.2/10, MLv4.2/10, Error ellipse: s-maj=5.4km s-min=2.7km az=30.5, confirmed*
*SNET **01** 03:06:28.8±1.2, 13°.06N×89°.40W, h42km, ML4.4*
*IDC **01** 03:06:28.4±1.8, 13°.20N×89°.15W, h71km±16km, mb3.7/9, mbtmp3.9/11, MS2.9/7, Error ellipse: s-maj=24.6km s-min=11.0km az=46.0*
*GCG **01** 03:06:29.5±1.4, 13°.12N×89°.45W, h51km±11km, MD4.6, ML4.2*
*NEIC **01** 03:06:29.5±1.8, 13°.11N±0°.07×89°.33W±0°.06, h68km±13km, mb4.3/47, Error ellipse: s-maj=11.3km s-min=7.2km az=217.0*
*UCR **01** 03:06:34.6±1.2, 13°.14N×88°.90W, h68km, MW3.8*
ISC 01 03:06:27.8±0.8, 13°.06N±0°.05×89°.41W±0°.04, h61km±6km, n192, σ1$25/217, mb4.3/28, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
LALI	**Alcalda de L**	**0.43**	**11**	*e*P	**Pn**	**03 06 39.4**	**+0.2**
LALI				*e*S	**Sn**	**03 06 47.6**	**+0.1**
LALI	**Alcalda de L**	**0.43**	**11**	*i* P	**Pn**	**03 06 39.5**	**+0.2**
LALI				*e*S	**Sn**	**03 06 46.9**	**-0.6**
LALI				IAML		03 06 48.5	
	comp=N,7μm,0.5s						
LALI	**Alcalda de L**	**0.43**	**11**	P	**Pn**	**03 06 39.5**	**+0.2**
JAYA	**Jayaque - finc**	**0.59**	**356**	*e*P	**Pn**	**03 06 41.1**	**0.0**
JAYA	**Jayaque - finc**	**0.59**	**356**	*i* P	**Pn**	**03 06 41.1**	**0.0**
JAYA				*i* S	**Sn**	**03 06 50.7**	**-0.1**
JAYA	**Jayaque - finc**	**0.59**	**356**	P	**Pn**	**03 06 41.1**	**0.0**
PANCS	**Alcalda de**	**0.59**	**22**	*e*P	**Pn**	**03 06 41.1**	**+0.1**
PANCS				*e*S	**Sn**	**03 06 50.5**	**-0.1**
PANCS	**Alcalda de**	**0.59**	**22**	P	**Pn**	**03 06 41.2**	**+0.1**
ITCA	**Escuela Especi**	**0.62**	**12**	*e*P	**Pn**	**03 06 41.7**	**+0.3**
ITCA				*e*S	**Sn**	**03 06 51.0**	**-0.2**
ITCA	**Escuela Especi**	**0.62**	**12**	P	**Pn**	**03 06 41.6**	**+0.3**
LOMA	**Loma Larga**	**0.62**	**22**	*e*P	**Pn**	**03 06 41.9**	**+0.5**
LOMA				*e*S	**Sn**	**03 06 51.9**	**+0.5**
LOMA	**Loma Larga**	**0.62**	**22**	P	**Pn**	**03 06 41.8**	**+0.3**
MAGS	**Ministerio de**	**0.63**	**11**	*e*P	**Pn**	**03 06 41.7**	**+0.2**
MAGS				*e*S	**Sn**	**03 06 51.6**	**+0.1**
LFRS	**El Faro**	**0.65**	**31**	*e*P	**Pn**	**03 06 42.2**	**+0.5**
PMON	**Piamonte**	**0.66**	**8**	*e*P	**Pn**	**03 06 41.9**	**+0.2**
PMON	**Piamonte**	**0.66**	**8**	P	**Pn**	**03 06 42.1**	**+0.3**
PMON	**Piamonte**	**0.66**	**8**	S	**Sn**	**03 06 52.6**	**+0.6**
UTEC	**Universidad Te**	**0.67**	**18**	*e*P	**Pn**	**03 06 42.3**	**+0.4**
UTEC	**Universidad Te**	**0.67**	**18**	P	**Pn**	**03 06 42.3**	**+0.4**
UTEC	**Universidad Te**	**0.67**	**18**	S	**Sn**	**03 06 52.7**	**+0.6**
UEES	**Universidad Ev**	**0.67**	**14**	*e*P	**Pn**	**03 06 42.2**	**+0.2**
UEES				*e*S	**Sn**	**03 06 52.6**	**+0.3**
UEES	**Universidad Ev**	**0.67**	**14**	P	**Pn**	**03 06 42.4**	**+0.4**
BOQS	**Boqueron**	**0.68**	**11**	*e*P	**Pn**	**03 06 42.6**	**+0.4**
BOQS				*e*S	**Sn**	**03 06 52.9**	**+0.2**
UESS	**Universidad de**	**0.69**	**17**	*e*P	**Pn**	**03 06 42.5**	**+0.4**
UESS				*e*S	**Sn**	**03 06 53.6**	**+1.1**
UDBS	**Universidad Do**	**0.70**	**21**	*e*P	**Pn**	**03 06 42.7**	**+0.5**
UDBS	**Universidad Do**	**0.70**	**21**	P	**Pn**	**03 06 42.7**	**+0.5**
UDBS	**Universidad Do**	**0.70**	**21**	S	**Sn**	**03 06 53.5**	**+0.8**
CEDA	**San Andres**	**0.74**	**1**	*e*P	**Pn**	**03 06 43.1**	**+0.5**
CEDA				*e*S	**Sn**	**03 06 54.1**	**+0.5**
CEDA	**San Andres**	**0.74**	**1**	P	**Pn**	**03 06 43.1**	**+0.5**
LFU	**La Fuente**	**0.74**	**23**	*e*P	**Pn**	**03 06 43.5**	**+0.8**
LBRS	**Las Brisas**	**0.76**	**28**	*e*P	**Pn**	**03 06 44.0**	**+1.0**
TECO	**Alcaldia de Te**	**0.77**	**52**	*e*P	**Pn**	**03 06 43.2**	**+0.1**
TECO	**Alcaldia de Te**	**0.77**	**52**	P	**Pn**	**03 06 43.2**	**+0.1**
TECO	**Alcaldia de Te**	**0.77**	**52**	S	**Sn**	**03 06 54.6**	**+0.3**
SNVI	**San Vicente**	**0.78**	**45**	*e*P	**Pn**	**03 06 43.7**	**+0.4**
CEVE	**Cerro Verde**	**0.79**	**345**	*e*P	**Pn**	**03 06 44.0**	**+0.4**
CEVE				*e*S	**Sn**	**03 06 56.1**	**+1.1**
CEVE	**Cerro Verde**	**0.79**	**345**	P	**Pn**	**03 06 44.0**	**+0.4**
CEVE	**Cerro Verde**	**0.79**	**345**	S	**Sn**	**03 06 56.0**	**+1.0**
PAVA	**Las Pavas**	**0.80**	**35**	*e*P	**Pn**	**03 06 44.2**	**+0.8**
PAVA				*e*S	**Sn**	**03 06 55.8**	**+0.9**
PAVA	**Las Pavas**	**0.80**	**35**	P	**Pn**	**03 06 44.2**	**+0.8**
SBLS	**San Blas**	**0.80**	**345**	*e*P	**Pn**	**03 06 44.0**	**+0.4**
SBLS				*e*P		03 06 44.1	
SNJE	**San Jose**	**0.83**	**347**	*e*P	**Pn**	**03 06 44.2**	**+0.3**
SNJE				*e*P		03 06 44.3	
SNJE				*e*S	**Sn**	**03 06 56.5**	**+0.8**
UESV	**Universidad de**	**0.83**	**47**	*e*P	**Pn**	**03 06 44.4**	**+0.6**
UESV				*e*S	**Sn**	**03 06 56.0**	**+0.4**
UESV	**Universidad de**	**0.83**	**47**	P	**Pn**	**03 06 44.2**	**+0.4**
RTR	**El Retiro**	**0.86**	**345**	*e*P	**Pn**	**03 06 45.1**	**+0.7**
NUBE	**Las Nubes**	**0.91**	**337**	*e*P	**Pn**	**03 06 45.1**	**+0.2**
NUBE				*e*S	**Sn**	**03 06 57.4**	**-0.2**
NUBE	**Las Nubes**	**0.91**	**337**	*i* P	**Pn**	**03 06 45.2**	**+0.2**
NUBE				*i* S	**Sn**	**03 06 57.6**	**0.0**
NUBE	**Las Nubes**	**0.91**	**337**	P	**Pn**	**03 06 45.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.92**	**46**	P	**Pn**	**03 06 45.7**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.92**	**46**	S	**Sn**	**03 06 58.6**	**+1.0**
UNIC	**Universidad Ca**	**0.93**	**352**	*e*P	**Pn**	**03 06 45.6**	**+0.6**
UNIC				*e*S	**Sn**	**03 06 59.1**	**+1.4**
UNIC	**Universidad Ca**	**0.93**	**352**	P	**Pn**	**03 06 45.7**	**+0.6**
FAME	**Alcaldia de Sa**	**0.98**	**323**	P	**Pn**	**03 06 45.7**	**0.0**
FAME	**Alcaldia de Sa**	**0.98**	**323**	S	**Sn**	**03 06 58.7**	**-0.1**
TECA	**Tecapa**	**0.98**	**64**	*e*P	**Pn**	**03 06 46.2**	**+0.3**
PQSS	**Presa 15 de Se**	**1.00**	**56**	*e*P	**Pn**	**03 06 47.0**	**+1.0**
PQSS	**Presa 15 de Se**	**1.00**	**56**	S	**Sn**	**03 06 59.9**	**+0.6**
LOAL	**Lomas de Alarc**	**1.00**	**339**	*e*P	**Pn**	**03 06 46.9**	**+0.9**
LOAL				*e*S	**Sn**	**03 07 00.4**	**+1.0**
LOAL	**Lomas de Alarc**	**1.00**	**339**	P	**Pn**	**03 06 46.9**	**+0.9**
LOAL	**Lomas de Alarc**	**1.00**	**339**	S	**Sn**	**03 07 01.6**	**+2.1**
RBDL	**Robledal**	**1.08**	**346**	*e*P	**Pn**	**03 06 47.9**	**+0.7**
PACA	**Pacayal**	**1.13**	**69**	*e*P	**Pn**	**03 06 49.2**	**+1.4**
PACA				*e*S	**Sn**	**03 07 04.0**	**+1.4**
PACA	**Pacayal**	**1.13**	**69**	P	**Pn**	**03 06 48.8**	**+1.1**
LCY	**Lacayo**	**1.14**	**71**	*e*P	**Pn**	**03 06 48.8**	**+0.9**
RANC	**El Ranchito**	**1.15**	**71**	*e*P	**Pn**	**03 06 49.0**	**+1.0**
VSM	**San Miguel**	**1.16**	**72**	*e*P	**Pn**	**03 06 49.5**	**+1.1**
LLGN	**La Laguna**	**1.19**	**22**	P	**Pn**	**03 06 49.1**	**+0.6**
LLGN	**La Laguna**	**1.19**	**22**	S	**Sn**	**03 07 05.5**	**+1.6**
BLLM	**Bellamira**	**1.20**	**71**	*e*P	**Pn**	**03 06 49.8**	**+1.2**
CNRM	**Centro Naciona**	**1.27**	**71**	*e*P	**Pn**	**03 06 50.4**	**+0.8**
CNRM	**Centro Naciona**	**1.27**	**71**	S	**Sn**	**03 07 08.1**	**+2.3**
MTO3	**Montecristo**	**1.33**	**2**		**Pn**	**03 06 51.3**	**+0.8**
MTO3				Sn	**Sn**	**03 07 07.8**	**+0.3**
MTO3	**Montecristo**	**1.33**	**2**	*e*P	**Pn**	**03 06 51.2**	**+0.7**
MTO3	**Montecristo**	**1.33**	**2**	*i* P	**Pn**	**03 06 51.3**	**+0.8**
MTO3	**Montecristo**	**1.33**	**2**	P	**Pn**	**03 06 51.3**	**+0.8**
MTO3	**Montecristo**	**1.33**	**2**	S	**Sn**	**03 07 08.4**	**+0.9**
CAHU	**Cacacuatique**	**1.36**	**59**	*e*P	**Pn**	**03 06 51.7**	**+0.8**
ESQI	**Esquipulas**	**1.49**	**3**		**Pn**	**03 06 53.7**	**+1.2**
ESQI				Sn	**Sn**	**03 07 11.8**	**+0.6**
ESQI	**Esquipulas**	**1.49**	**3**	*e*P	**Pn**	**03 06 53.6**	**+1.0**
ESQI	**Esquipulas**	**1.49**	**3**	P	**Pn**	**03 06 53.7**	**+1.2**
ESQI	**Esquipulas**	**1.49**	**3**	S	**Sn**	**03 07 12.5**	**+1.3**
LCND	**La Caada**	**1.50**	**80**	*e*P	**Pn**	**03 06 53.7**	**+1.1**
LCND				*e*P		03 06 53.8	
LCND	**La Caada**	**1.50**	**80**	P	**Pn**	**03 06 53.5**	**+1.0**
CNCH	**Conchagua**	**1.55**	**82**	*e*P	**Pn**	**03 06 51.9**	**-1.4**
CNCH				*e*P		03 06 54.3	
CNCH				*e*S	**Sn**	**03 07 14.4**	**+1.9**
CNCH	**Conchagua**	**1.55**	**82**	P	**Pn**	**03 06 54.1**	**+0.7**
CNCH	**Conchagua**	**1.55**	**82**	S	**Sn**	**03 07 13.8**	**+1.3**
FG16	**Alotenango, Sa**	**1.61**	**319**	*e*P	**Pn**	**03 07 00.3**	**+6.0**
FG16				IAML		03 07 30.3	
	comp=N,6μm,0.2s						
FG8	**Yepocapa, Chim**	**1.64**	**317**	*e*P	**Pn**	**03 07 00.5**	**+6.0**
MARCA	**Marcala la Paz**	**1.73**	**51**	*i* P	**Pn**	**03 06 56.6**	**+0.9**
MARCA	**Marcala la Paz**	**1.73**	**51**	P	**Pn**	**03 06 56.6**	**+0.9**
SARH	**Santa Rosa de**	**1.82**	**20**	*i* P	**Pn**	**03 06 58.4**	**+1.4**
SARH	**Santa Rosa de**	**1.82**	**20**	P	**Pn**	**03 06 58.3**	**+1.4**
SARH	**Santa Rosa de**	**1.82**	**20**	S	**Sn**	**03 07 21.9**	**+2.9**
POTN	**Potosi Cosigui**	**1.86**	**92**	P	**Pn**	**03 06 58.0**	**+0.7**
POTN				S	**Sn**	**03 07 20.9**	**+1.2**
ESSG	**Sabana Grande**	**1.91**	**314**	*e*P	**Pn**	**03 06 59.0**	**+0.9**
ESSG				*e*S	**Sn**	**03 07 20.2**	**-1.0**
ESSG				IAML		03 07 29.3	
	comp=E,1μm,0.2s						
TGUH	**Tegucigalpa,Un**	**2.30**	**64**		**Pn**	**03 07 04.0**	**+0.4**
TGUH				Sn	**Sn**	**03 07 29.6**	**-1.3**
CRIN	**San Cristobal**	**2.33**	**99**		**Pn**	**03 07 04.5**	**+0.6**
PKGN	**Cerro Pekin**	**2.40**	**99**	P	**Pn**	**03 07 05.2**	**+0.4**
PKGN				S	**Sn**	**03 07 32.6**	**-0.5**
SOKI	**Kika Raxquin**	**2.61**	**312**	*e*P	**Pn**	**03 07 10.3**	**+2.3**
RTAL	**Retalhuleu**	**2.66**	**304**		**Pn**	**03 07 10.1**	**+1.8**
CNGA	**Al SSO del Vol**	**2.70**	**102**	S	**Sn**	**03 07 40.2**	**-0.3**
CNGN	**Cerro Negro**	**2.70**	**102**		**Pn**	**03 07 10.1**	**+1.2**
LIMN	**Finca el Limon**	**2.97**	**90**	P	**Pn**	**03 07 13.2**	**+0.6**
LIMN				S	**Sn**	**03 07 46.7**	**-0.4**
PETF	**Flores**	**3.86**	**353**		**Pn**	**03 07 27.0**	**+2.3**
CCIG	**Comitan**	**4.15**	**321**		**Pn**	**03 07 31.3**	**+2.5**
CCIG	**Comitan**	**4.15**	**321**	*e*P	**Pn**	**03 07 31.7**	**+2.9**
ACON	**Acoyapa**	**4.28**	**104**		**Pn**	**03 07 32.5**	**+2.1**
LAPC	**Finca la Perla**	**4.51**	**120**	*e*P	**Pn**	**03 07 35.2**	**+1.5**
LAPC				*e*S	**Sn**	**03 08 24.2**	**-0.6**
SIUN	**Universidad Ur**	**4.56**	**81**		**Pn**	**03 07 34.8**	**+0.5**
JUD3	**Juan Diaz 3**	**4.76**	**127**	*e*P	**Pn**	**03 07 39.1**	**+2.0**
VMAR	**Armenia, Volca**	**4.76**	**118**	*e*P	**Pn**	**03 07 36.8**	**-0.3**
CUI	**Cuipilapa**	**4.79**	**119**	*e*P	**Pn**	**03 07 39.4**	**+1.8**
TENO	**El Achiote**	**4.93**	**118**	*e*P	**Pn**	**03 07 40.3**	**+0.9**
TIMP	**Tierras Morena**	**4.95**	**119**	*e*P	**Pn**	**03 07 41.2**	**+1.4**
ESPN	**Las Esperanzas**	**5.06**	**99**		**Pn**	**03 07 42.7**	**+1.6**
JTS	**Las Juntas de**	**5.16**	**122**		**Pn**	**03 07 44.7**	**+2.1**
JTS	**Las Juntas de**	**5.16**	**122**	P	**Pn**	**03 07 40.9**	**-1.7**
	comp=E,2.1nm,0.4s,baz=300,slow=19,SNR=15						
JTS				S	**Sn**	**03 08 38.6**	**-2.2**
	comp=E,7.3nm,0.3s,baz=309,slow=19,SNR=1.3						
JTS				LR	LR	03 09 27.1	
	comp=E,24nm,21.9s,baz=304,slow=36						
JTS	**Las Juntas de**	**5.16**	**122**	*e*P	**Pn**	**03 07 45.0**	**+2.5**
VARE2	**V. Arenal**	**5.27**	**119**	*e*P	**Pn**	**03 07 46.1**	**+1.9**
ARE1	**Arenal 1**	**5.27**	**119**	*e*P	**Pn**	**03 07 45.4**	**+1.4**
SOCE	**Pocosol**	**5.39**	**119**	*e*P	**Pn**	**03 07 50.3**	**+4.5**
PAR1A	**Puntarenas Pro**	**6.12**	**124**	*e*P	**Pn**	**03 07 59.2**	**+3.6**
CVTQ	**Turrialba Volc**	**6.31**	**118**	*e*P	**Pn**	**03 08 02.2**	**+3.6**
PIEC	**Cerro El Cedra**	**6.34**	**122**	*e*P	**Pn**	**03 08 02.4**	**+3.4**
ABRB	**Las Abras (San**	**6.35**	**118**	*e*P	Pn	03 08 05.1	+6.0
CMIG	**Matias Romero**	**6.63**	**308**	P	**Pn**	**03 08 04.4**	**+1.6**
	comp=E,5.4nm,0.4s,baz=94,slow=9.8,SNR=18						
CMIG				S	**Sn**	**03 09 18.5**	**+1.5**
	comp=E,6.2nm,0.4s,baz=253,slow=21,SNR=5.5						
CMIG				LR	LR	03 10 45.6	
	comp=E,71nm,21.9s,baz=140,slow=38						
EDPE	**Pejibaye, P**	**6.92**	**123**	*e*P	**Pn**	**03 08 10.4**	**+3.7**
DRK0	**Durika**	**7.13**	**121**	*e*P	**Pn**	**03 08 12.8**	**+3.1**
TEIG	**Tepich**	**7.21**	**9**		**Pn**	**03 08 12.2**	**+1.6**
TEIG	**Tepich**	**7.21**	**9**	P	**Pn**	**03 08 09.8**	**-0.7**
	comp=E,0.1nm,0.8s,baz=313,slow=24,SNR=31						
TEIG				S	**Sn**	**03 09 29.3**	**-1.8**
	comp=E,0.1nm,1.0s,baz=312,slow=24,SNR=1.4						
ALCO	**Alturas Coton,**	**7.64**	**122**	*e*P	**Pn**	**03 08 19.8**	**+3.1**
HNDO	**Hondo**	**18.77**	**332**	P	**P**	**03 10 43.5**	**+1.4**
SDV	**Santo Domingo**	**18.89**	**101**	LR	LR	03 17 42.2	
	comp=E,34nm,20.5s,baz=252,slow=36						
BRDY	**Brady**	**20.18**	**336**		**P**	**03 10 56.4**	**-0.9**
BRDY				IAmb	IAmb	03 10 58.8	
	comp=Z,14nm,0.7s						
OZNA	**Ozona**	**20.80**	**331**	P	**P**	**03 11 04.2**	**-0.1**
WLAR	**White Oak Lake**	**20.81**	**351**	P	Pn	03 11 07.8	+0.6
WLAR				IAmb	IAmb	03 11 08.9	
	comp=Z,13nm,0.5s						
Y49A	**Blount Mountai**	**20.88**	**7**	P	**P**	**03 11 05.8**	**+0.8**
Y49A				IAmb	IAmb	03 11 06.7	
	comp=Z,8.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**20.91**	**323**		**P**	**03 11 07.3**	**+1.8**
TXAR	**Lajitas Array**	**20.91**	**323**	P	**P**	**03 11 07.1**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=134,slow=10,SNR=51						
	comp=Z,1.2nm,0.4s						
PLPT	**Palo Pinto**	**21.28**	**339**		**P**	**03 11 09.1**	**-0.2**
PLPT				IAmb	IAmb	03 11 09.9	
	comp=Z,10nm,0.6s						
OXF	**Oxford**	**21.36**	**0**	P	**P**	**03 11 10.8**	**+0.8**
BAUV	**El Baul**	**21.37**	**99**		**P**	**03 11 10.4**	**+0.1**
BAUV				IAmb	IAmb	03 11 13.2	
	comp=Z,9.3nm,0.7s						
MIAR	**Mount Ida**	**21.72**	**351**		**P**	**03 11 14.5**	**+0.6**
MIAR				IAmb	IAmb	03 11 17.3	
	comp=Z,10nm,0.7s						
MNHN	**Monahans**	**21.96**	**328**		**P**	**03 11 17.1**	**+0.6**
MNHN				IAmb

FINES	FINESS Array B	90.26	26	P	P	03 19 18.1	-3.6
	comp=Z,7.8nm,1.2s,baz=50,slow=3.0,SNR=6.4						
	comp=Z,7.8nm,1.2s						
WRA	Warramunga Arr	137.59	255	PKP	PKPdf	03 25 46.9	+1.1
	comp=Z,0.7nm,0.6s,baz=87,slow=2.0,SNR=12						
CMAR	Chiang Mai Arr	147.62	345	PKPbc	PKPdf	03 26 02.6	-0.9
	comp=Z,1.3nm,0.3s,baz=15,slow=3.2,SNR=4.2						

*IDC **01** 03:09:24.0±3.2, 13°.50N×144°.19E, h93km±25km, mb3.4/4, mbtmp3.7/4, Error ellipse: s-maj=91.1km s-min=20.9km az=116.0*
*NEIC **01** 03:09:25.1±0.8, 13°.34N±0°.10×144°.2E±0°.2, h89km±8km, mb4.6/12, Error ellipse: s-maj=25.4km s-min=4.6km az=122.0*
ISC 01 03:09:25.5±0.6, 13°.4N±0°.1×144°.3E±0°.2, h100km, n25, σ0°.88/20, mb4.3/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.58	66	P	Pn	03 09 41.0	-0.8
	1μm,0.3s,baz=195,slow=0.7,SNR=32						
GUMO				S	Sn	03 09 54.2	+0.1
	936nm,0.3s,baz=22,slow=22,SNR=44						
H11S3	WAKE ISLAND Hy 22.10		74	T	T	03 36 47.7	
	baz=260,slow=75,SNR=7.3						
H11S1	WAKE ISLAND Hy 22.11		74	T	T	03 36 47.6	
	baz=260,slow=75,SNR=5.5						
H11S2	WAKE ISLAND Hy 22.11		74	T	T	03 36 53.8	
	baz=260,slow=75,SNR=5.5						
H11N1	WAKE ISLAND Hy 22.53		71	T	T	03 37 20.6	
	baz=256,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy 22.54		71	T	T	03 37 37.8	
	baz=256,slow=75,SNR=8.1						
H11N3	WAKE ISLAND Hy 22.55		71	T	T	03 37 21.8	
	baz=256,slow=75,SNR=12						
WB0	Warramunga Arr	34.33	197	P	P	03 16 02.3	-0.3
WR8	Warramunga Arr	34.48	196	P	P	03 16 03.5	-0.5
WB2	Warramunga Arr	34.51	197	P	P	03 16 03.9	-0.3
WB2				IAmb	IAmb	03 16 09.8	
	comp=Z,5.9nm,1.4s						
WRA	Warramunga Arr	34.51	197	P	P	03 16 03.8	-0.5
	comp=Z,1.6nm,0.6s,baz=20,slow=9.7,SNR=14						
	comp=Z,1.6nm,0.6s						
ASAR	Alice Springs	38.17	196	P	P	03 16 36.0	+0.6
	comp=Z,0.3nm,0.4s,baz=22,slow=13,SNR=11						
	comp=Z,0.3nm,0.4s						
BBOO	Buckleboo	46.57	190	P	P	03 17 42.3	-1.1
BBOO				IAmb	IAmb	03 18 11.7	
	comp=Z,22nm,1.4s						
CAN	Canberra	48.60	175	P	P	03 17 59.6	+0.5
CAN				IAmb	IAmb	03 18 09.8	
	comp=Z,10nm,1.2s						
MORW	Morawa	50.25	213	P	P	03 18 11.3	-0.4
MORW				IAmb	IAmb	03 18 39.9	
	comp=Z,15nm,1.3s						
MKAR	Makanchi Array	61.30	316	P	P	03 19 29.6	-0.8
BPAW	Bear Paw Mtn.	67.12	26	P	P	03 20 08.4	+0.2
SCM	Sheep Creek Mo	68.14	28	P	P	03 20 14.9	+0.2
ILAR	Eielson Array	69.01	25	P	P	03 20 18.4	-1.6
	comp=Z,0.4nm,1.0s,baz=246,slow=5.5,SNR=4.9						
	comp=Z,0.4nm,1.0s						
H27K	Steamboat Moun	71.49	24	P	P	03 20 36.2	+1.1
H27K				IAmb	IAmb	03 20 40.9	
	comp=Z,7.6nm,1.5s						
NVAR	Mina Array Bea	87.48	51	P	P	03 22 02.7	+0.1
	comp=Z,0.4nm,0.7s,baz=298,slow=3.9,SNR=2.1						
	comp=Z,0.4nm,0.7s						
VNDA	Vanda	91.26	176	P	P	03 22 20.4	+1.4
VNDA				IAmb	IAmb	03 22 29.4	
	comp=Z,3.2nm,1.1s						
AKBB	Malin Array Si	94.91	325	P	P	03 22 37.8	+1.3
KIEV	Kiev	94.92	325	P	P	03 22 37.7	+1.2
BRTR	Keskin Array B	96.84	313	P	P	03 22 45.4	-0.4

*CATAC **01** 03:14:13.3±0.4, 13°N±3°×8°9W±°, h31km±2km, M3.7/22, MLv3.7/22, Error ellipse: s-maj=6.0km s-min=3.1km az=30.5, confirmed*
*GCG **01** 03:14:14.4±0.9, 13°.12N×89°.46W, h49km±9km, MD4.2, ML3.4*
*SNET **01** 03:14:14.0±1.1, 13°.12N×89°.43W, h54km, ML3.5*
ISC 01 03:14:13.2±1.7, 13°.00N±0°.08×89°.44W±0°.05, h46km±16km, n89, σ0°.45/112, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.50	13	eP	Pn	03 14 24.4	+0.2
LALI				eS	Sn	03 14 32.6	+0.5
LALI	Alcalda de L	0.50	13	i P	Pn	03 14 24.4	+0.2
LALI				eS	Sn	03 14 31.3	-0.8
LALI	Alcalda de L	0.50	13	P	Pn	03 14 24.4	+0.2
JAYA	Jayaque - finc	0.65	359	eP	Pn	03 14 26.1	-0.3
JAYA	Jayaque - finc	0.65	359	i P	Pn	03 14 26.1	-0.3
JAYA				i S	Sn	03 14 35.9	+0.1
JAYA	Jayaque - finc	0.65	359	P	Pn	03 14 26.1	-0.3
PANCS	Alcalda de	0.66	22	eP	Pn	03 14 26.1	-0.3
PANCS				eS	Sn	03 14 35.4	-0.4
PANCS	Alcalda de	0.66	22	P	Pn	03 14 26.1	-0.3
ITCA	Escuela Especi	0.69	13	eP	Pn	03 14 26.5	-0.3
ITCA				eS	Sn	03 14 36.5	-0.1
ITCA	Escuela Especi	0.69	13	P	Pn	03 14 26.7	-0.1
LOMA	Loma Larga	0.69	22	eP	Pn	03 14 26.8	-0.1
LOMA				eS	Sn	03 14 36.8	+0.1
LOMA	Loma Larga	0.69	22	P	Pn	03 14 26.8	-0.1
MAGS	Ministerio de	0.70	12	eP	Pn	03 14 26.5	-0.4
MAGS				eS	Sn	03 14 36.9	+0.1
PMON	Piamonte	0.72	9	eP	Pn	03 14 27.0	-0.2
PMON				eS	Sn	03 14 37.7	+0.4
PMON	Piamonte	0.72	9	P	Pn	03 14 27.0	-0.2
LFRS	El Faro	0.72	30	eP	Pn	03 14 27.2	0.0
LFRS				eS	Sn	03 14 36.8	-0.5
UTEC	Universidad Te	0.73	18	eP	Pn	03 14 27.1	-0.3
UTEC	Universidad Te	0.73	18	P	Pn	03 14 27.3	-0.1
UTEC	Universidad Te	0.73	18	S	Sn	03 14 37.5	0.0
UEES	Universidad Ev	0.74	15	eP	Pn	03 14 27.3	-0.1
UEES				eS	Sn	03 14 37.9	+0.2
UEES	Universidad Ev	0.74	15	P	Pn	03 14 27.3	-0.1
UEES	Universidad Ev	0.74	15	S	Sn	03 14 38.1	+0.3
BOQS	Boqueron	0.75	12	eP	Pn	03 14 27.6	0.0
BOQS				eS	Sn	03 14 38.4	+0.2
UESS	Universidad de	0.75	18	eP	Pn	03 14 27.3	-0.3
UESS				eS	Sn	03 14 38.6	+0.6
PIC2	El Picacho	0.76	13	eP	Pn	03 14 27.9	0.0
UDBS	Universidad Do	0.76	21	eP	Pn	03 14 27.5	-0.2
UDBS				eS	Sn	03 14 38.8	+0.5
CEDA	San Andres	0.80	3	eP	Pn	03 14 28.1	-0.1
CEDA				eS	Sn	03 14 39.4	+0.2
CEDA	San Andres	0.80	3	P	Pn	03 14 28.1	-0.1
LFU	La Fuente	0.81	23	eP	Pn	03 14 28.5	+0.1
LFU				eS	Sn	03 14 39.1	-0.3
LBRS	Las Brisas	0.83	27	eP	Pn	03 14 28.7	+0.1
TECO	Alcaldia de Te	0.83	50	eP	Pn	03 14 28.0	-0.6
TECO	Alcaldia de Te	0.83	50	P	Pn	03 14 28.1	-0.6
TECO	Alcaldia de Te	0.83	50	S	Sn	03 14 39.5	-0.3
CEVE	Cerro Verde	0.84	347	eP	Pn	03 14 29.1	+0.1
CEVE				eS	Sn	03 14 41.0	+0.5
CEVE	Cerro Verde	0.84	347	P	Pn	03 14 28.9	-0.1
CEVE	Cerro Verde	0.84	347	S	Sn	03 14 41.1	+0.6
SBLS	San Blas	0.85	348	eP	Pn	03 14 29.0	-0.1
PAVA	Las Pavas	0.86	34	eP	Pn	03 14 29.1	0.0
SNJE	San Jose	0.88	349	eP	Pn	03 14 29.4	-0.1
UESV	Universidad de	0.90	45	eP	Pn	03 14 29.1	-0.4
UESV	Universidad de	0.90	45	P	Pn	03 14 29.1	-0.4
UESV	Universidad de	0.90	45	S	Sn	03 14 40.8	-0.5
RTR	El Retiro	0.92	347	eP	Pn	03 14 30.0	+0.1
NUBE	Las Nubes	0.96	340	eP	Pn	03 14 30.1	-0.3
NUBE				eS	Sn	03 14 42.4	-0.7
NUBE	Las Nubes	0.96	340	i P	Pn	03 14 30.1	-0.3
NUBE				eS	Sn	03 14 42.5	-0.7
NUBE	Las Nubes	0.96	340	P	Pn	03 14 30.1	-0.3
SCLA	Alcaldia de Sa	0.98	44	eP	Pn	03 14 30.7	0.0
SCLA	Alcaldia de Sa	0.98	44	P	Pn	03 14 30.7	0.0
SCLA	Alcaldia de Sa	0.98	44	S	Sn	03 14 43.5	+0.1
UNIC	Universidad Ca	0.98	354	eP	Pn	03 14 30.9	+0.2
UNIC				eS	Sn	03 14 43.9	+0.4
UNIC	Universidad Ca	0.98	354	P	Pn	03 14 30.9	+0.2
UNIC	Universidad Ca	0.98	354	S	Sn	03 14 44.2	+0.6
FAME	Alcaldia de Sa	1.01	326	P	Pn	03 14 30.7	-0.4
TECA	Tecapa	1.03	61	eP	Pn	03 14 31.5	0.0
LOAL	Lomas de Alarc	1.05	341	eP	Pn	03 14 31.8	+0.2
LOAL				eS	Sn	03 14 45.4	+0.2
LOAL	Lomas de Alarc	1.05	341	P	Pn	03 14 31.6	0.0
LOAL	Lomas de Alarc	1.05	341	S	Sn	03 14 46.5	+1.4
RBDL	Robledal	1.13	348	eP	Pn	03 14 32.9	0.0
PACA	Pacayal	1.18	67	eP	Pn	03 14 34.0	+0.5
PACA				eS	Sn	03 14 49.1	+0.7
PACA	Pacayal	1.18	67	P	Pn	03 14 33.9	+0.5
LCY	Lacayo	1.19	69	eP	Pn	03 14 33.9	+0.4
BLLM	Bellamira	1.25	69	eP	Pn	03 14 33.8	-0.5
BLLM				eS	Sn	03 14 50.6	+0.7
LLGN	La Laguna	1.25	22	eP	Pn	03 14 34.1	-0.3
LLGN	La Laguna	1.25	22	P	Pn	03 14 34.1	-0.3
LLGN	La Laguna	1.25	22	S	Sn	03 14 50.6	+0.4
MTO3	Montecristo	1.39	3	eP	Pn	03 14 36.2	-0.2
MTO3	Montecristo	1.39	3	i P	Pn	03 14 36.3	-0.2
MTO3	Montecristo	1.39	3	P	Pn	03 14 36.3	-0.2
MTO3	Montecristo	1.39	3	S	Sn	03 14 53.5	-0.3
LCND	La Caada	1.54	78	eP	Pn	03 14 38.7	+0.6
LCND	La Caada	1.54	78	P	Pn	03 14 38.8	+0.6
ESQI	Esquipulas	1.56	3	eP	Pn	03 14 38.7	+0.2
ESQI	Esquipulas	1.56	3	P	Pn	03 14 38.7	+0.2
ESQI	Esquipulas	1.56	3	S	Sn	03 14 57.5	-0.1
CNCH	Conchagua	1.58	80	eP	Pn	03 14 39.1	+0.2
CNCH				eS	Sn	03 14 59.6	+1.2
CNCH	Conchagua	1.58	80	P	Pn	03 14 39.2	+0.3
CNCH	Conchagua	1.58	80	S	Sn	03 14 58.7	+0.4
FG16	Alotenango, Sa	1.64	321	eP	Pn	03 14 45.3	+5.4
MARCA	Marcala la Paz	1.79	50	eP	Pn	03 14 42.5	+0.8
MARCA	Marcala la Paz	1.79	50	P	Pn	03 14 41.8	+0.1
POTN	Potosi Cosigui	1.88	90	P	Pn	03 14 43.1	+0.2
SARH	Santa Rosa de	1.88	20	eP	Pn	03 14 43.3	+0.3
SARH	Santa Rosa de	1.88	20	P	Pn	03 14 43.3	+0.3
SARH	Santa Rosa de	1.88	20	S	Sn	03 15 04.0	-1.6
ESSG	Sabana Grande	1.93	316	eP	Pn	03 14 43.8	+0.1
TGUH	Tegucigalpa,Un	2.35	63	P	Pn	03 14 49.9	+0.4
PKGN	Cerro Pekin	2.42	98	S	Sn	03 15 17.6	-1.1
YUSH	Yuscaran	2.69	69	P	Pn	03 14 54.1	-0.1
LIMN	Finca el Limon	2.99	88	P	Pn	03 14 58.3	0.0
LIMN				S	Sn	03 15 31.4	-1.6

*SJA **01** 03:16:37.9±0.7, 24°.24S×67°.10W, h196km±5km, ML3.5, MW3.5*
*GUC **01** 03:16:39.9±0.5, 24°.23S×67°.43W, h218km±4km, ML3.9*
ISC 01 03:16:36.9±1.8, 24°.24S±0°.04×67°.13W±0°.05, h208km±14km, n34, σ1°.66/57, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.72	89	eP	Pn	03 17 06.7	+0.2
SALTA				eP		03 17 06.8	
SLA	San Lorenzo	1.55	108	eP	Pn	03 17 13.3	+1.3
SLA	San Lorenzo	1.55	108	eP	Pn	03 17 11.6	-0.4
SLA				eS	Sn	03 17 36.9	-2.3
AF01	San Pedro de A	1.61	323	i S	Sn	03 17 41.0	+0.7
AF01	San Pedro de A	1.61	323	eP	Pn	03 17 24.9	+12
AF01				eS	Sn	03 17 39.0	-1.3
AF01				IAML		03 18 01.2	
	comp=Z,104nm,0.6s						
AZAP	Zapla	1.88	90	eP	Pn	03 17 16.0	+0.9
FSA	Cafayete	2.13	151	eP	Pn	03 17 18.2	+0.7
FSA				eS		03 17 34.2	
GO02	Mina Guanaco	2.42	247	eP	Pn	03 17 22.0	+1.2
GO02				i S	Sn	03 17 54.3	-0.7
GO02				IAML		03 17 56.4	
	comp=N,409nm,0.5s						
GO02	Mina Guanaco	2.42	247	eP	Pn	03 17 21.4	+0.7
GO02				eS	Sn	03 17 54.6	-0.3
GO02				IAML		03 17 54.9	
	comp=Z,259nm,0.3s						
PB06	IPOC Station P	2.72	304	eP	Pn	03 17 25.1	+1.2
PB06				i S	Sn	03 17 59.1	-1.5
PB06				IAML		03 18 01.5	
	comp=N,564nm,0.1s						
PB06	IPOC Station P	2.72	304	eP	Pn	03 17 25.5	+1.6
PB06				eS	Sn	03 17 59.8	-0.8
PB06				IAML		03 18 02.2	
	comp=Z,264nm,0.1s						
PB09	IPOC Station P	3.12	321	eP	Pn	03 17 30.5	+1.9
PB09				i S	Sn	03 18 08.6	-0.4
PB09				IAML		03 18 16.7	
	comp=N,76nm,0.4s						
PB09	IPOC Station P	3.12	321	eP	Pn	03 17 30.8	+2.2
PB09				eS	Sn	03 18 09.1	+0.1
PB09				IAML		03 18 12.8	
	comp=Z,70nm,0.2s						
PB05	IPOC Station P	3.14	295	eP	Pn	03 17 29.9	+1.1
PB05				i S	Sn	03 18 06.9	-2.5
PB05				IAML		03 18 10.4	
	comp=E,140nm,0.2s						
PB05	IPOC Station P	3.14	295	eP	Pn	03 17 30.0	+1.2
PB05				eS	Sn	03 18 08.6	-0.8
PB05				IAML		03 18 10.0	
	comp=Z,77nm,0.2s						
AC02	Maricunga	3.15	215	eP	Pn	03 17 31.1	+1.8
AC02	Maricunga	3.15	215	eP	Pn	03 17 32.3	+3.1
AC02				eS	Sn	03 18 15.2	+4.9
PB10	IPOC Station P	3.22	282	eP	Pn	03 17 30.3	+0.7
PB10				i S	Sn	03 18 08.3	-2.5
PB10				IAML		03 18 14.4	
	comp=N,116nm,0.5s						
PB10	IPOC Station P	3.22	282	eP	Pn	03 17 31.3	+1.7
PB10				eS	Sn	03 18 09.5	-1.3
PB10				IAML		03 18 13.6	
	comp=Z,93nm,0.7s						
PB03	IPOC Station P	3.26	312	eP	Pn	03 17 31.5	+1.3
PB03				i S	Sn	03 18 09.7	-2.2
PB03	IPOC Station P	3.26	312	eP	Pn	03 17 31.2	+1.0
PB03				eS	Sn	03 18 10.0	-1.9
PB03				IAML		03 18 15.9	
	comp=Z,118nm,0.3s						
AC01	Pan de Azucar	3.67	238	eP	Pn	03 17 35.4	+0.4
AC01				i S	Sn	03 18 18.3	-2.4
AC01	Pan de Azucar	3.67	238	eP	Pn	03 17 35.4	+0.4
AC01				eS	Sn	03 18 18.5	-2.1
AC01				IAML		03 18 19.2	
	comp=Z,60nm,0.2s						
PB01	IPOC Station P	3.86	325	eP	Pn	03 17 38.8	+1.5
PB01				i S	Sn	03 18 22.9	-2.0
PB01	IPOC Station P	3.86	325	eP	Pn	03 17 38.9	+1.5
PB01				eS	Sn	03 18 23.8	-1.1
PB01				IAML		03 18 26.5	
	comp=Z,40nm,0.2s						
PB02	IPOC Station P	3.87	318	eP	Pn	03 17 38.6	+1.1
PB02	IPOC Station P	3.87	318	eP	Pn	03 17 38.7	+1.1
PB02				eS	Sn	03 18 23.5	-1.7
PB02				IAML		03 18 30.8	
	comp=Z,142nm,0.3s						
GO03	Copiapo	4.36	219	eP	Pn	03 17 43.8	+0.4
GO03	Copiapo	4.36	219	eP	Pn	03 17 44.1	+0.7
GO03				eS	Sn	03 18 34.6	-1.3
GO03				IAML		03 18 36.0	
	comp=Z,27nm,0.1s						
PB08	IPOC Station P	4.49	335	eP	Pn	03 17 48.1	+2.6
PB08				eS	Sn	03 18 40.1	+0.6
HMBC	Humberstone	4.70	326	eP	Pn	03 17 45.5	-2.4
HMBC	Humberstone	4.70	326	eP	Pn	03 17 49.2	+1.3
HMBC				eS	Sn	03 18 43.3	-0.6
AC04	Llanos de Chal	5.31	221	eP	Pn	03 17 55.2	-0.1
AC04	Llanos de Chal	5.31	221	eP	Pn	03 17 55.4	+0.1
AC04				eS	Sn	03 18 55.3	-2.2
AC04				IAML		03 18 56.9	
	comp=Z,22nm,1.1s						

*CATAC **01** 03:23:21.8±0.6, 14°N±3°×9°1W±°, h12km±3km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=8.5km s-min=3.6km az=32.6, confirmed*
*GCG **01** 03:23:23.4±1.6, 13°.71N×90°.96W, h34km±8km, MD4.0, ML3.6*
*SNET **01** 03:23:25.0±0.9, 13°.76N×90°.85W, h24km, ML3.4*
ISC 01 03:23:22.0±2.1, 13°.65N±0°.08×90°.99W±0°.06, h22km±15km, n49, σ0°.54/69, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	Yepocapa, Chim	0.74	35	i P	Pn	03 23 37.7	+0.5
FG8				eS	Sn	03 23 47.5	-0.2
ESSG	Sabana Grande	0.74	12	i P	Pb	03 23 36.7	+0.3
ESSG				eS	Sn	03 23 46.9	-1.1
FG16	Alotenango, Sa	0.78	37	i P	Pn	03 23 38.0	+0.2
FG16				i S	Sn	03 23 49.6	+0.7
FG16				IAML		03 23 49.8	
	comp=E,10μm,0.2s						
FAME	Alcaldia de Sa	0.97	79	S	Sb	03 23 52.4	-0.2
FAME	Alcaldia de Sa	0.97	79	P	Pb	03 23 39.7	-0.4
RTAL	Retalhuleu	1.10	322	P	Pn	03 23 42.1	0.0
NUBE	Las Nubes	1.21	78	eP	Pn	03 23 43.2	-0.4
NUBE				eS	Sn	03 23 58.1	-1.3
NUBE	Las Nubes	1.21	78	eP	Pn	03 23 43.4	-0.3
NUBE				eS	Sn	03 23 58.5	-0.9
NUBE	Las Nubes	1.21	78	P	Pn	03 23 43.4	-0.3
LOAL	Lomas de Alarc	1.23	74	eP	Pn	03 23 44.3	+0.4
LOAL				eS	Sn	03 23 59.3	-0.5
LOAL	Lomas de Alarc	1.23	74	P	Pn	03 23 44.0	+0.1
SOKI	Kika Raxquin	1.23	341	eP	Pn	03 23 44.4	+0.2
SOKI				eS	Sn	03 23 59.6	-0.7
SOKI				IAML		03 24 01.9	
	comp=E,405nm,0.2s						
RTR	El Retiro	1.33	79	eP	Pn	03 23 45.8	+0.3
RTR				eS	Sn	03 24 02.2	-0.3
CEVE	Cerro Verde	1.34	82	eP	Pn	03 23 45.7	+0.1
CEVE				eS	Sb	03 24 03.0	-0.5
CEVE	Cerro Verde	1.34	82	P	Pn	03 23 45.9	+0.3
CEVE	Cerro Verde	1.34	82	S	Sn	03 24 02.7	-0.3
SBLS	San Blas	1.34	82	eP	Pn	03 23 45.5	-0.1
RBDL	Robledal	1.35	70	eP	Pn	03 23 46.0	+0.4
SNJE	San Jose	1.37	81	eP	Pn	03 23 46.0	+0.1
SNJE				eS	Sn	03 24 03.5	+0.1
UNIC	Universidad Ca	1.44	77	eP	Pn	03 23 47.1	+0.2
UNIC				eS	Sn	03 24 05.2	0.0
UNIC	Universidad Ca	1.44	77	P	Pn	03 23 47.2	+0.4
JAYA	Jayaque - finc	1.50	90	eP	Pn	03 23 47.7	-0.1
JAYA				eS	Sn	03 24 05.8	-0.9
JAYA	Jayaque - finc	1.50	90	eP	Pn	03 23 47.7	-0.1
JAYA				eS	Sn	03 24 06.0	-0.7
JAYA	Jayaque - finc	1.50	90	P	Pn	03 23 47.5	-0.2
QUIS	Sacapulas	1.63	357	eS	Sb	03 24 12.1	+0.4
QUIS				IAML		03 24 14.6	
	comp=E,414nm,0.4s						
PMON	Piamonte	1.63	88	eP	Pn	03 23 49.8	+0.3
PMON				eS	Sn	03 24 09.8	-0.1
PMON	Piamonte	1.63	88	P	Pn	03 23 49.8	+0.3
PMON	Piamonte	1.63	88	S	Sn	03 24 10.3	+0.4
LALI	Alcalda de L	1.64	96	eP	Pn	03 23 49.4	-0.1
LALI	Alcalda de L	1.64	96	S	Sn	03 24 08.9	-0.9
LALI	Alcalda de L	1.64	96	P	Pn	03 23 49.5	+0.1
BOQS	Boqueron	1.67	87	eP	Pn	03 23 50.4	+0.3
BOQS				eS	Sn	03 24 10.7	-0.2
UEES	Universidad Ev	1.71	88	S	Sn	03 24 11.9	+0.2
MTO3	Montecristo	1.75	65	eP	Pn	03 23 51.1	-0.1
MTO3	Montecristo	1.75	65	eP	Pn	03 23 51.3	+0.1
MTO3	Montecristo	1.75	65	P	Pn	03 23 51.1	-0.1
MTO3	Montecristo	1.75	65	S	Sb	03 24 15.2	0.0
LOMA	Loma Larga	1.77	90	eP	Pn	03 23 51.9	+0.5
LOMA				eS	Sn	03 24 13.5	+0.1
LOMA	Loma Larga	1.77	90	P	Pn	03 23 52.0	+0.6
LFRS	El Faro	1.88	91	eP	Pn	03 23 53.7	+0.8
LFRS				eS	Sn	03 24 16.0	0.0
PAVA	Las Pavas	2.00	88	eP	Pn	03 23 55.1	+0.5
PAVA				eS	Sn	03 24 19.1	+0.1
TECO	Alcaldia de Te	2.15	93	eP	Pn	03 23 56.8	+0.2
TECO				eS	Sn	03 24 22.5	-0.2
TECO	Alcaldia de Te	2.15	93	P	Pn	03 23 57.1	+0.5
SCLA	Alcaldia de Sa	2.20	88	eP	Pn	03 23 58.0	+0.7
SCLA	Alcaldia de Sa	2.20	88	P	Pn	03 23 58.2	+0.9
SCLA	Alcaldia de Sa	2.20	88	S	Sn	03 24 25.9	+2.0
SARH	Santa Rosa de	2.44	62	eP	Pn	03 24 00.9	+0.3
SARH	Santa Rosa de	2.44	62	P	Pn	03 24 00.9	+0.3
LCND	La Caada	3.04	96	eP	Pn	03 24 09.9	+1.2
LCND				eS	Sn	03 24 43.8	-0.7

*NEIC **01** 03:55:36.7±1.4, 19°.27N±0°.04×67°.04W±0°.02, h10km±2km, ML2.4/13, Md2.9/18(RSPR), Error ellipse: s-maj=6.4km s-min=3.0km az=350.0*
*SDD **01** 03:55:36.5±1.5, 19°.36N×66°.92W, h31km±50km, MD2.9, ML2.3, MW2.9*
*OSPL **01** 03:55:38.3±0.3, 19°.27N×67°.17W, h18km±2km, ML2.4*
*RSPR **01** 03:55:40.4, 19°.23N×67°.07W, h11km±2km, MD2.9/18*
ISC 01 03:55:37.7±1.7, 19°.25N±0°.06×67°.03W±0°.03, h18km±4km, n67, σ0°.50/80, 21C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.78	186		Pn	03 55 53.6	-0.2
AGPR					Sb	03 56 03.0	0.0
AGPR	Aguadilla, PR	0.78	186	⇑i P	Pn	03 55 53.6	-0.2
AGPR	Aguadilla, PR	0.78	186	⇑e Pg	Pb	03 55 52.5	-0.3
AGPR				⇑e Sg	Sn	03 56 04.7	-0.3
AGPR				⇑e		03 56 04.8	
AGPR				IAML		03 56 08.3	
	comp=N,165nm,0.6s						
AGPR	Aguadilla, PR	0.78	186	i P	Pb	03 55 52.4	-0.3
AGPR				eS	Sb	03 56 02.9	0.0
AGPR				IAML		03 56 08.2	
	comp=Z,129nm,0.2s						
EMPR	Esperanza - Ma	0.90	148		Pn	03 55 56.3	+0.9
EMPR	Esperanza - Ma	0.90	148		Sn	03 56 08.6	+0.6
EMPR	Esperanza - Ma	0.90	148	Pg	Pb	03 55 54.5	-0.3
EMPR	Esperanza - Ma	0.90	148	Sg	Sg	03 56 07.2	0.0
EMPR	Esper

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLPR	**Magueyes Islan**	**1.27**	**181**	⇓*iP*	**Pb**	**03 56 01.1**	**0.0**
MLPR	**Magueyes Islan**	**1.27**	**181**	*e*S	**Sg**	**03 56 18.3**	**-0.6**
MLPR	**Magueyes Islan**	**1.27**	**181**	⇑*e*Pg	**Pn**	**03 56 00.2**	**-0.3**
MLPR				⇑*e*Sg	**Sg**	**03 56 18.4**	**-0.6**
MLPR				IAML		03 56 24.7	
	comp=E,12nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.27**	**174**		**Pg**	**03 56 02.1**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.27**	**174**	⇓*e*P	**Pg**	**03 56 02.1**	**-0.3**
GCPR	**Guaynabo City**	**1.29**	**136**		**Pb**	**03 56 01.7**	**+0.2**
GCPR					**Sn**	**03 56 17.5**	**-0.2**
GCPR	**Guaynabo City**	**1.29**	**136**	⇑*e*P	**Pb**	**03 56 01.7**	**+0.2**
GCPR	**Guaynabo City**	**1.29**	**136**	*e*S	**Sn**	**03 56 17.5**	**-0.2**
SJG	**San Juan**	**1.41**	**143**		**Pb**	**03 56 03.3**	**0.0**
SJG	**San Juan**	**1.41**	**143**	IAML		03 56 26.0	
	comp=E,40nm,0.4s						
SJG				IAML		03 56 26.3	
	comp=E,61nm,0.3s						
SJG	**San Juan**	**1.41**	**143**	⇑*e*P	**Pb**	**03 56 03.3**	**0.0**
SJG	**San Juan**	**1.41**	**143**	*e*S	**Sn**	**03 56 20.6**	**+0.2**
SJG	**San Juan**	**1.41**	**143**	*i* P	**Pn**	**03 56 02.8**	**+0.5**
SJG				IAML		03 56 27.1	
	comp=Z,16nm,0.1s						
IGPR	**InterUniversit**	**1.55**	**145**		**Pn**	**03 56 04.5**	**+0.2**
IGPR					**Sn**	**03 56 23.4**	**-0.5**
IGPR	**InterUniversit**	**1.55**	**145**	⇑*e*P	**Pn**	**03 56 04.5**	**+0.2**
IGPR	**InterUniversit**	**1.55**	**145**	*e*S	**Sn**	**03 56 23.4**	**-0.5**
PDPR	**Patillas Dam,**	**1.55**	**142**	Pn	**Pn**	**03 56 04.0**	**-0.4**
PDPR				IAML		03 56 29.4	
	comp=N,49nm,0.2s						
PDPR	**Patillas Dam,**	**1.55**	**142**	⇑*e*P	**Pb**	**03 56 06.0**	**+0.2**
PDPR	**Patillas Dam,**	**1.55**	**142**	*e*S	**Sn**	**03 56 23.4**	**-0.6**
HUMP	**Col San Antoni**	**1.57**	**134**	Pn	**Pn**	**03 56 04.0**	**-0.6**
MIDR	**Miches**	**1.93**	**262**	⇑*e*P	**Pn**	**03 56 09.5**	**0.0**
MIDR	**Miches**	**1.93**	**262**	*e*S	**Sn**	**03 56 32.7**	**-0.6**
DR12	**Loma Pena Alta**	**2.27**	**259**	**Pn**	**Pn**	**03 56 14.3**	**0.0**
HATOM	**Hato Mayor del**	**2.27**	**259**	⇑*e*Pg	**Pn**	**03 56 15.2**	**+0.8**
HATOM				⇑*e*Sg	**Sb**	**03 56 45.5**	**-0.4**
HATOM				IAML		03 56 55.3	
	comp=E,7.4nm,0.7s						

GUC ***01*** *03:55:52.0, 55˚.89S×125˚.40W, h10km, MW5.4*
IDC ***01*** *03:56:04.5±0.4, 56˚.00S×122˚.56W, h0km, mb4.8/17, mbtmp4.7/17, MS5.6/49, Error ellipse: s-maj=21.2km s-min=14.1km az=149.0*
MOS ***01*** *03:56:05.7±1.9, 56˚.10S×122˚.47W, h10km, mb5.6/16, MS5.7/6, Error ellipse: s-maj=20.0km s-min=12.5km az=72.2*
ISC-PP ***01*** *03:56:07, 55˚.93S×122˚.56W, h6km, Mwppsm6.4, Moment Tensor Solution. s33 Moment tensor: Scale 10^18^Nm; Mrr0.35±.09; Mθθ0.53±.17; Mφφ-0.39±.12; Mrθ-0.12±.15; Mrφ-0.09±.13; Mθφ0.45±.09; Fault plane solution: M0 5.69000×10^18^ NP1:φs201.20000°, δ78.50000°, λ164.30000°. NP2:φs294.50000°, δ74.60000°, λ12.00000°.*
IPGP ***01*** *03:56:07.0, 56˚.01S×122˚.47W, h12km, Mw6.0, Fault plane solution: NP1:φs14.00000°, δ89.00000°, λ-164.00000°. NP2:φs284.00000°, δ74.00000°, λ-1.00000°.*
NEIC ***01*** *03:56:07.1±1.6, 55˚.9S±0˚.1×122˚.6W±0˚.2, h10km±1km, mb5.3/187, Ms_20 5.8/782, Mwb5.8/70, Mww6.0/24, Error ellipse: s-maj=21.8km s-min=14.2km az=345.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.53; Mθθ4.50; Mφφ-3.97; Mrθ-1.14; Mrφ4.23; Mθφ-1.59; Fault plane solution: M0 6.32000×10^17^ NP1: φs292.95000°, δ72.58000°, λ1.39000°. NP2:φs202.54000°, δ88.67000°, λ162.57000°. Principal axes: T 6.6444, Plg13.0000°, Azm156.0000°; N -0.7177, Plg73.0000°, Azm18.0000°; P -5.9267, Plg11.0000°, Azm249.0000°;*
NEIC ***01*** *03:56:08.1, 55˚.93S×122˚.60W, h26km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^18^Nm; Mrr0.02; Mθθ0.55; Mφφ-0.58; Mrθ0.16; Mrφ0.31; Mθφ0.95; Fault plane solution: M0 1.16000×10^18^ NP1: φs106.01000°, δ72.74000°, λ3.57000°. NP2:φs14.95000°, δ86.59000°, λ162.71000°. Principal axes: T 1.1676, Plg15.0000°, Azm329.0000°; N -0.0219, Plg72.0000°, Azm184.0000°; P -1.1457, Plg10.0000°, Azm62.0000°;*
NEIC ***01*** *03:56:08.1, 56˚.03S×122˚.42W, h26km*
NEIC ***01*** *03:56:08.1, 56˚.01S×122˚.43W, h10km*
GCMT ***01*** *03:56:11.1±0.1, 56˚.13S×122˚.67W, h12km, MW5.9/156, Moment Tensor Solution. s156,c343; s156,c547; Duration: 2s3 Moment tensor: Scale 10^18^Nm; Mrr-0.06±.01; Mθθ0.53±.01; Mφφ-0.47±.01; Mrθ-0.06±.01; Mθφ0.82±.00; Mφr-0.24±.01; Best double couple: M0 0.99100×10^18^ NP1:φs286.00000°, δ75.00000°, λ-2.00000°. NP2:φs16.00000°, δ88.00000°, λ-165.00000°. Principal axes: T 1.0160, Plg9.0000°, Azm150.0000°; N -0.0500, Plg75.0000°, Azm23.0000°; P -0.9660, Plg12.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 03:56:05.8±0.2, 55˚.90S±0˚.05×122˚.67W±0˚.04, h6km, n965, σ1s60/549, mb5.3/131, MS5.8/446, 14C-15D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAI	**San Martin Ant**	**27.70**	**138**		**P**	**04 01 54.1**	**-0.1**
SMAI				IAmb	IAmb	04 01 55.7	
	comp=Z,72nm,1.4s						
PMSA	**Palmer Station**	**29.28**	**132**	P	**P**	**04 02 07.8**	**-0.5**
PMSA				IAmb	IAmb	04 02 09.6	
	comp=Z,58nm,1.2s						
PMSA	**Palmer Station**	**29.28**	**132**	IAMs_20	IAMs_20	04 10 13.9	
	comp=Z,17μm,20.0s						
PMSA	**Palmer Station**	**29.28**	**132**	LR	LR	04 10 36.5	
	comp=Z,17μm,19.3s,baz=266,slow=30						
PMSA	**Palmer Station**	**29.28**	**132**	*e*P	**P**	**04 02 08.9**	**+0.6**
MG04	**Isla Riesco**	**29.36**	**106**	IAMs_20	IAMs_20	04 10 40.5	
	comp=Z,14μm,18.0s						
MG05	**Puerto Natales**	**29.40**	**103**	P	**P**	**04 02 08.1**	**-1.5**
MG05				IAMs_20	IAMs_20	04 10 44.6	
	comp=Z,19μm,18.0s						
MG03	**Isla Dawson**	**29.52**	**108**	P	**P**	**04 02 10.8**	**+0.2**
MG03				IAMs_20	IAMs_20	04 11 15.7	
	comp=Z,23μm,18.0s						
GO09	**Cerro Castillo**	**29.68**	**102**	*e*S	S	04 06 54.2	-14
USHA	**Ushuaia**	**30.18**	**111**	LR	LR	04 11 15.2	
	comp=Z,21μm,18.7s,baz=238,slow=30						
RPN	**Rapa Nui**	**30.32**	**24**	LR	LR	04 11 42.7	
	comp=Z,3μm,18.3s,baz=198,slow=31						
MG01	**Puerto William**	**30.57**	**112**	P	**P**	**04 02 20.2**	**+0.4**
MG01				IAMs_20	IAMs_20	04 10 56.2	
	comp=Z,17μm,20.0s						
MG02	**Cerro Sombrero**	**30.67**	**107**	IAMs_20	IAMs_20	04 11 51.0	
	comp=Z,15μm,20.0s						
GO08	**Villa O'Higgin**	**31.01**	**98**	⇑*e*P	**P**	**04 02 20.5**	**-3.3**
AY03	**Cochrane**	**31.66**	**96**	P	**P**	**04 02 30.4**	**+0.8**
AY03				IAmb	IAmb	04 02 37.7	
	comp=Z,40nm,1.2s						
AY03				IAMs_20	IAMs_20	04 11 45.9	
	comp=Z,18μm,19.0s						
SBA	**Scott Base**	**32.09**	**202**		**P**	**04 02 33.7**	**+0.7**
SBA				IAmb	IAmb	04 02 58.6	
	comp=Z,100nm,1.8s						
SBA	**Scott Base**	**32.09**	**202**	P	**P**	**04 02 33.7**	**+0.7**
SBA				pmax	pmax		
	comp=Z,100nm,1.8s						
SBA				MLR	MLR		
	comp=Z,5μm,18.0s						
HUDS	**Hudson**	**32.25**	**93**	⇑*e*P	**P**	**04 02 35.4**	**+0.6**
ESPZ	**Base Esperanza**	**32.62**	**130**	P	**P**	**04 02 37.3**	**-0.5**
USPA	**Uspallante**	**32.73**	**92**	⇑*e*P	P	04 02 33.7	-5.3
COYC	**Coyhaique**	**32.93**	**93**		**P**	**04 02 40.9**	**+0.1**
MGDN	**Magdalena**	**33.03**	**91**	*e*P	**P**	**04 02 40.4**	**-1.1**
VNDA	**Vanda**	**33.15**	**203**		**P**	**04 02 44.2**	**+1.9**
VNDA	**Vanda**	**33.15**	**203**	P	**P**	**04 02 43.0**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=93,slow=7.8,SNR=25						
VNDA				LR	LR	04 13 32.0	
	comp=Z,4μm,18.4s,baz=92,slow=32						
	comp=Z,4.4nm,0.8s						
GO07	**Milladeo Hill,**	**33.56**	**89**	P	**P**	**04 02 46.4**	**+0.2**
GO07				IAMs_20	IAMs_20	04 12 16.6	
	comp=Z,25μm,19.0s						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**04 02 54.0**	**+1.5**
	comp=Z,44nm,1.0s,baz=106,slow=1.9,SNR=106						
QSPA				LR	LR	04 14 56.8	
	comp=Z,8μm,19.8s,baz=90,slow=33						
LL02	**Futaleuf**	**34.54**	**90**		**P**	**04 02 54.9**	**+0.1**
LL02				IAMs_20	IAMs_20	04 12 52.5	
	comp=Z,13μm,21.0s						
LL01	**San Ignacio de**	**34.74**	**89**	P	**P**	**04 02 56.7**	**+0.2**
LL01				IAmb	IAmb	04 03 01.1	
	comp=Z,71nm,1.7s						
LL01				IAMs_20	IAMs_20	04 12 58.0	
	comp=Z,15μm,20.0s						
LL05	**Los Muermos**	**34.78**	**86**	P	**P**	**04 02 58.2**	**+1.3**
LL05				IAMs_20	IAMs_20	04 12 39.2	
	comp=Z,12μm,22.0s						
LL03	**Petrohue**	**35.56**	**87**	P	**P**	**04 03 04.4**	**+0.9**
BELA	**Belgrano 2**	**35.74**	**159**	P	**P**	**04 03 04.9**	**+0.1**
BELA				IAmb	IAmb	04 03 06.6	
	comp=Z,82nm,1.4s						
BELA				PP	**PP**	**04 04 26.0**	**+0.5**
CTZ	**Chatham Island**	**35.95**	**267**	IAMs_20	IAMs_20	04 13 19.9	
	comp=Z,16μm,22.0s						
CTZ	**Chatham Island**	**35.95**	**267**	P	**P**	**04 03 08.7**	**+1.9**
LR05	**Currie**	**36.40**	**86**		**P**	**04 03 11.4**	**+0.6**
LR03	**Panguipulli**	**36.62**	**85**		**P**	**04 03 13.5**	**+0.9**
LR03				IAmb	IAmb	04 03 16.3	
	comp=Z,106nm,1.4s						
PLCA	**Paso Flores**	**36.88**	**88**		**P**	**04 03 15.1**	**+0.1**
PLCA				IAmb	IAmb	04 03 18.6	
	comp=Z,132nm,1.7s						
PLCA	**Paso Flores**	**36.88**	**88**	P	**P**	**04 03 14.5**	**-0.4**
	comp=Z,18nm,1.1s,baz=219,slow=9.8,SNR=17						
PLCA				LR	LR	04 14 34.9	
	comp=Z,7μm,20.3s,baz=228,slow=30						
	comp=Z,18nm,1.1s						
PLCA	**Paso Flores**	**36.88**	**88**	*e*P	**P**	**04 03 15.6**	**+0.7**
PLCA	**Paso Flores**	**36.88**	**88**	P	**P**	**04 03 15.6**	**+0.7**
EFI	**East Falkland**	**37.16**	**111**	IAMs_20	IAMs_20	04 14 48.0	
	comp=Z,21μm,22.0s						
H03S2	**Juan Fernandez**	**37.19**	**72**	T	T	04 42 51.9	
	baz=218,slow=74,SNR=466						
H03S1	**Juan Fernandez**	**37.19**	**72**	T	T	04 42 49.7	
	baz=218,slow=74,SNR=754						
H03S3	**Juan Fernandez**	**37.20**	**72**	T	T	04 42 52.4	
	baz=218,slow=74,SNR=400						
VA04	**Juan Fernndez**	**37.39**	**72**	IAMs_20	IAMs_20	04 13 23.8	
	comp=Z,11μm,20.0s						
H03N3	**Juan Fernandez**	**37.48**	**72**	T	T	04 43 09.0	
	baz=221,slow=72,SNR=3747						
H03N2	**Juan Fernandez**	**37.49**	**72**	T	T	04 42 53.8	
	baz=221,slow=72,SNR=4438						
H03N1	**Juan Fernandez**	**37.50**	**72**	T	T	04 43 11.3	
	baz=221,slow=72,SNR=3121						
TBI	**Tubuai**	**38.03**	**318**	*e*P	P	04 03 19.5	-5.2
	comp=Z,1μm,25.2s						
TBI				*e*S	**S**	**04 09 16.5**	**-0.8**
	comp=Z,10μm,40.5s						
TBI				*e*SS	**SS**	**04 12 08.8**	**+4.7**
	comp=Z,7μm,19.2s						
TBI				*e*LR	LR	04 13 38.4	
	comp=Z,21μm,25.2s						
TBI				*e*LR	LR	04 13 50.4	
	comp=Z,104μm,26.8s						
BI05	**Punta Hualpn**	**38.17**	**81**	IAMs_20	IAMs_20	04 14 28.0	
	comp=Z,10μm,21.0s						
BI02	**San Fabin de**	**39.30**	**83**		**P**	**04 03 34.9**	**-0.5**
BI02				IAmb	IAmb	04 03 47.0	
	comp=Z,132nm,1.9s						
BO02	**Sierra Bellavi**	**40.94**	**81**	P	**P**	**04 03 48.5**	**-0.4**
BO02				IAmb	IAmb	04 04 16.8	
	comp=Z,95nm,1.4s						
BO01	**Tunca**	**41.06**	**81**		**P**	**04 03 49.6**	**-0.3**
BO01				IAmb	IAmb	04 04 16.9	
	comp=Z,100nm,1.8s						
MT01	**Popeta**	**41.36**	**80**	P	**P**	**04 03 51.7**	**-0.7**
MT09	**Talagante**	**41.57**	**80**	P	**P**	**04 03 53.9**	**-0.4**
VA01	**Torpederas**	**41.77**	**79**	IAMs_20	IAMs_20	04 16 09.6	
	comp=Z,10μm,20.0s						
MT02	**Curacav**	**41.88**	**79**	P	**P**	**04 03 56.0**	**-0.6**
MT02				IAmb	IAmb	04 03 59.6	
	comp=Z,109nm,1.7s						
LMEL	**Las Melosas**	**41.95**	**81**	P	**P**	**04 03 56.6**	**-0.8**
LMEL				IAmb	IAmb	04 04 28.1	
	comp=Z,107nm,1.8s						
BFZ	**Birch Farm**	**41.96**	**265**	IAMs_20	IAMs_20	04 16 36.8	
	comp=Z,9μm,21.0s						
BFZ	**Birch Farm**	**41.96**	**265**	P	**P**	**04 03 59.8**	**+2.6**
MQZ	**McQueen's Vall**	**41.96**	**259**	IAMs_20	IAMs_20	04 16 53.5	
	comp=Z,12μm,20.0s						
MT13	**San Alfonso**	**41.99**	**81**	P	**P**	**04 03 57.3**	**-0.3**
MT13				IAmb	IAmb	04 04 07.8	
	comp=Z,80nm,1.4s						
MT05	**Renca**	**42.00**	**80**		**P**	**04 03 57.0**	**-0.7**
MT05				IAmb	IAmb	04 04 12.0	
	comp=Z,115nm,1.3s						
MT03	**Universidad Ad**	**42.05**	**80**	P	**P**	**04 03 56.9**	**-1.3**
MT16	**CCHEN**	**42.09**	**80**	P	**P**	**04 03 58.8**	**+0.3**
MT16				IAmb	IAmb	04 04 29.9	
	comp=Z,131nm,1.6s						
ODZ	**Otahua Downs**	**42.20**	**256**	IAMs_20	IAMs_20	04 16 43.2	
	comp=Z,16μm,22.0s						
ODZ	**Otahua Downs**	**42.20**	**256**	P	**P**	**04 04 00.7**	**+1.5**
PEL	**Peldehue**	**42.21**	**80**		**P**	**04 03 58.5**	**-0.9**
PEL				IAmb	IAmb	04 04 02.4	
	comp=Z,79nm,1.4s						
PEL	**Peldehue**	**42.21**	**80**	P	**P**	**04 03 58.5**	**-0.9**
PEL				pmax	pmax		
	comp=Z,79nm,1.4s						
KHZ	**Kahutara**	**42.31**	**261**	IAMs_20	IAMs_20	04 17 46.9	
	comp=Z,8μm,18.0s						
VA06	**Catapilco**	**42.31**	**79**	P	**P**	**04 03 59.3**	**-0.8**
VA06				IAmb	IAmb	04 04 02.8	
	comp=Z,72nm,1.4s						
MRZ	**Mangatainoka R**	**42.34**	**264**		**P**	**04 04 01.5**	**+1.2**
MRZ				IAmb	IAmb	04 04 03.2	
	comp=Z,65nm,1.2s						
MRZ	**Mangatainoka R**	**42.34**	**264**	P	**P**	**04 04 01.7**	**+1.4**
MT08	**Bocatoma Ro**	**42.36**	**81**	P	**P**	**04 04 00.1**	**-0.8**
MT08				IAmb	IAmb	04 04 25.0	
	comp=Z,152nm,1.9s						
SNZO	**South Karori**	**42.40**	**263**	IAMs_20	IAMs_20	04 16 57.3	
	comp=Z,9μm,22.0s						
TMZ	**Timaru**	**42.43**	**257**	P	**P**	**04 04 02.4**	**+1.4**
OXZ	**Oxford**	**42.54**	**259**	IAMs_20	IAMs_20	04 17 39.0	
	comp=Z,12μm,20.0s						
VA03	**San Esteban**	**42.57**	**79**	P	**P**	**04 04 01.6**	**-0.8**
VA03				IAMs_20	IAMs_20	04 17 02.6	
	comp=Z,8μm,18.0s						
RPZ	**Rata Peaks**	**42.83**	**258**	IAMs_20	IAMs_20	04 17 40.6	
	comp=Z,16μm,19.0s						
RPZ	**Rata Peaks**	**42.83**	**258**	LR	LR	04 18 11.5	
	comp=Z,15μm,18.2s,baz=131,slow=31						
BKZ	**Black Stump Fm**	**42.85**	**267**	P	**P**	**04 04 06.4**	**+1.8**
BKZ				IAmb	IAmb	04 04 26.9	
	comp=Z,78nm,1.5s						
BKZ				IAMs_20	IAMs_20	04 17 06.5	
	comp=Z,16μm,22.0s						
LBZ	**Lake Benmore**	**42.88**	**256**	IAMs_20	IAMs_20	04 17 43.1	
	comp=Z,18μm,20.0s						
LBZ	**Lake Benmore**	**42.88**	**256**	P	**P**	**04 04 06.6**	**+2.0**
MXZ	**Matakaoa Point**	**42.95**	**270**	IAMs_20	IAMs_20	04 17 03.2	
	comp=Z,10μm,21.0s						
RTZ	**Ruatahuna**	**42.96**	**267**	P	**P**	**04 04 07.3**	**+1.9**
RTZ				IAmb	IAmb	04 04 17.6	
	comp=Z,80nm,1.3s						
RTZ				IAMs_20	IAMs_20	04 17 09.4	
	comp=Z,13μm,22.0s						
THZ	**Tophouse**	**43.10**	**261**	P	**P**	**04 04 07.8**	**+1.3**
THZ				IAmb	IAmb	04 04 09.8	
	comp=Z,67nm,1.1s						
THZ				IAMs_20	IAMs_20	04 18 20.8	
	comp=Z,9μm,18.0s						
THZ	**Tophouse**	**43.10**	**261**	P	**P**	**04 04 08.0**	**+1.5**
WHZ	**Wether Hill Ro**	**43.12**	**253**	IAMs_20	IAMs_20	04 16 59.4	
	comp=Z,12μm,22.0s						
URZ	**Urewera**	**43.13**	**268**	LR	LR	04 17 34.8	
	comp=Z,10μm,21.1s,baz=128,slow=30						
NNZ	**Nelson**	**43.20**	**262**	P	**P**	**04 04 09.3**	**+2.0**
WKZ	**Wanaka**	**43.23**	**255**	P	**P**	**04 04 09.0**	**+1.5**
WKZ				IAmb	IAmb	04 04 23.0	
	comp=Z,109nm,1.4s						
WKZ				IAMs_20	IAMs_20	04 17 26.3	
	comp=Z,15μm,22.0s						
INZ	**Inchbonnie**	**43.27**	**259**	P	**P**	**04 04 09.0**	**+1.2**
INZ				IAMs_20	IAMs_20	04 17 35.2	
	comp=Z,13μm,21.0s						
PPTF	**Pamatai, Papee**	**43.34**	**321**	IAMs_20	IAMs_20	04 17 21.6	
	comp=Z,10μm,19.0s						
PPT2	**Papeete2**	**43.34**	**321**	*e*PKP1	P	04 03 59.4	-9.3
	comp=Z,429nm,24.2s						
PPT2	**Papeete2**	**43.34**	**321**	*e*PP	**PP**	**04 05 45.8**	**-3.5**
	comp=Z,286nm,26.2s						
PPT2				*e*S	**S**	**04 10 41.7**	**+5.0**
	comp=Z,3μm,25.5s						
PPT2				*e*SS	**SS**	**04 13 56.5**	**+6.4**
	comp=Z,12μm,27.8s						
PPT2				*e*LR	LR	04 16 11.4	
	comp=Z,23μm,28.8s						
PPT2				*e*LR	LR	04 16 18.5	
	comp=Z,18μm,23.0s						
PPT	**Papeete**	**43.36**	**321**	LR	LR	04 18 10.1	
	comp=Z,9μm,18.8s,baz=151,slow=30						
MLZ	**Mavora Lakes**	**43.37**	**254**	IAMs_20	IAMs_20	04 17 17.9	
	comp=Z,10μm,22.0s						
MRNZ	**Matariki Terra**	**43.42**	**261**	P	**P**	**04 04 10.7**	**+1.6**
CO02	**Combarbal**	**43.51**	**78**		**P**	**04 04 09.3**	**-0.7**
CO02				IAmb	IAmb	04 04 28.5	
	comp=Z,73nm,1.2s						
TRQA	**Tornquist**	**43.54**	**92**		**P**	**04 04 09.1**	**-1.0**
TRQA				IAmb	IAmb	04 04 13.3	
	comp=Z,119nm,1.6s						
TRQA				IAMs_20	IAMs_20	04 18 43.5	
	comp=Z,10μm,18.0s						
TRQA	**Tornquist**	**43.54**	**92**	P	**P**	**04 04 09.1**	**-1.0**
TRQA				pmax	pmax		
	comp=Z,119nm,1.6s						
TRQA	**Tornquist**	**43.54**	**92**	P	**P**	**04 04 10.1**	**0.0**
JCZ	**Jackson Bay**	**43.84**	**256**	P	**P**	**04 04 13.3**	**+0.8**
CO03	**El Pedregal**	**43.96**	**77**		**P**	**04 04 13.2**	**-0.4**
HIZ	**Hauiti**	**44.22**	**266**	IAMs_20	IAMs_20	04 18 12.8	
	comp=Z,9μm,20.0s						
RAR	**Rarotonga**	**44.24**	**306**	LR	LR	04 17 26.2	
	comp=Z,3μm,21.8s,baz=150,slow=29						
GO04	**Tololo Observa**	**44.41**	**77**	P	**P**	**04 04 16.7**	**-0.7**
GO04				IAmb	IAmb	04 04 27.4	
	comp=Z,72nm,1.1s						
TOZ	**Tahuroa Road**	**44.41**	**267**	IAMs_20	IAMs_20	04 18 04.8	
	comp=Z,10μm,22.0s						
ZON	**Zonda**	**44.53**	**80**		**P**	**04 04 18.2**	**+0.1**
ZON	**Zonda**	**44.53**	**80**	P	**P**	**04 04 18.2**	**+0.1**
ZON				pmax	pmax		
	comp=Z,46nm,1.3s						
VNA3	**Neumayer Olymp**	**44.71**	**155**	⇑P	**P**	**04 04 18.2**	**-0.8**
	comp=Z,29nm,0.8s						
VNA3				PP	**PP**	**04 06 04.8**	**+1.7**
VNA3				⇑S	**S**	**04 11 00.0**	**+4.4**
CFA	**Coronel Fontan**	**44.73**	**80**	LR	LR	04 18 32.3	
	comp=Z,3μm,21.6s,baz=240,slow=30						
VNA1	**Neumayer--Stat**	**45.46**	**155**	⇑P	**P**	**04 04 24.8**	**-0.1**
VNA1				⇓S	**S**	**04 11 12.3**	**+6.0**
VNA2	**Neumayer--Watz**	**45.47**	**155**	⇑P	**P**	**04 04 24.8**	**-0.3**
	comp=Z,60nm,0.8s,baz=218,slow=9.4						
VNA2				PP	**PP**	**04 06 11.7**	**+0.7**
VNA2				⇑S	**S**	**04 11 01.6**	**-4.9**
	baz=339,slow=11						
SNAA	**Sanae**	**45.96**	**158**	⇑P	**P**	**04 04 28.0**	**-1.0**
	comp=Z,223nm,0.7s						
SNAA				PP	**PP**	**04 06 15.6**	**-0.6**
SNAA				⇓S	**S**	**04 11 15.0**	**+1.3**
SNAA	**Sanae**	**45.96**	**158**		**P**	**04 04 28.8**	**-0.2**
SNAA				IAmb	IAmb	04 04 33.1	
	comp=Z,65nm,1.3s						
SNAA	**Sanae**	**45.96**	**158**	P	**P**	**04 04 27.8**	**-1.2**
	comp=Z,9.8nm,0.7s,baz=226,slow=7.2,SNR=38						
SNAA				LR	LR	04 23 54.5	
	comp=Z,10μm,18.1s,baz=242,slow=36						
	comp=Z,9.8nm,0.7s						
SNAA	**Sanae**	**45.96**	**158**	P	**P**	**04 04 28.8**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,65nm,1.3s						
SNAA				MLR	MLR		
	comp=Z,18μm,18.0s						
HOPE	**Hope Point**	**46.27**	**126**	IAMs_20	IAMs_20	04 19 58.4	
	comp=Z,11μm,19.0s						
TROLL	**Troll, Antarti**	**46.80**	**160**	⇑P	**P**	**04 04 35.5**	**-0.2**
	comp=Z,717nm,1.0s						
TROLL				PP	**PP**	**04 06 23.2**	**-2.2**
TROLL				⇓S	**S**	**04 11 27.9**	**+1.9**
RAO	**Raoul Island**	**46.98**	**281**	LR	LR	04 21 48.1	
	comp=Z,1μm,18.1s,baz=150,slow=33						
OUZ	**Omahuta**	**47.27**	**268**	P	**P**	**04 04 41.8**	**+2.1**
AC01	**Pan de Azucar**	**47.67**	**74**	IAMs_20	IAMs_20	04 18 51.1	
	comp=Z,6μm,18.0s						
AC02	**Maricunga**	**47.93**	**76**	P	**P**	**04 04 44.9**	**-0.5**
TAOE	**Nuku Hiva Isla**	**48.91**	**337**	*e*PKP1	**P**	**04 04 48.7**	**-3.9**
	comp=Z,352nm,24.7s						
TAOE	**Nuku Hiva Isla**	**48.91**	**337**	*e*PP	**PP**	**04 06 41.8**	**-4.1**
	comp=Z,101nm,20.5s						
TAOE				*e*S	**S**	**04 11 56.1**	**-0.6**
	comp=Z,4μm,24.6s						
TAOE				*e*SS	**SS**	**04 15 28.9**	**+1.5**
	comp=Z,1μm,24.9s						
TAOE				*e*LR	LR	04 18 48.8	
	comp=Z,22μm,24.9s						
PB14	**IPOC Station P**	**49.00**	**73**	IAMs_20	IAMs_20	04 19 47.2	
	comp=Z,7μm,21.0s						
GO02	**Mina Guanaco**	**49.00**	**74**		**P**	**04 04 53.7**	**+0.2**
GO02				IAmb	IAmb	04 05 03.1	
	comp=Z,36nm,1.3s						
GO02				IAMs_20	IAMs_20	04 19 32.4	
	comp=Z,8μm,22.0s						
NVL	**N'lazarevskaya**	**49.55**	**162**	*e*P	**P**	**04 04

PB16 IAmb IAmb 04 05 43.0
comp=Z,47nm,1.2s
PB16 IAMs_20 IAMs_20 04 22 28.3
comp=Z,7µm,20.0s
SYO Syowa Base 54.73 172⇑ *i*P **P 04 05 34.8 -0.4**
CPUP Villa Florida 54.87 86 P 04 05 35.3 -1.6
CPUP Villa Florida 54.87 86 P **P 04 05 35.2 -1.6**
comp=Z,1.1nm,0.4s,baz=88,slow=6.9,SNR=8.4
CPUP LR LR 04 26 11.0
comp=Z,2µm,18.3s,baz=85,slow=33
comp=Z,1.1nm,0.4s
CPUP Villa Florida 54.87 86 *e*P **P 04 05 35.9 -1.0**
CPUP Villa Florida 54.87 86 P **P 04 05 36.3 -0.6**
CPUP S **S 04 13 19.6 +1.2**
PB18 Visviri 55.24 68 P 04 05 40.2 -0.1
PB18 IAMs_20 IAMs_20 04 22 49.1
comp=Z,7µm,19.0s
TAU Tasmania Unive 55.91 243 IAMs_20 IAMs_20 04 24 40.4
comp=Z,5µm,19.0s
CNLB Canela 56.22 93 *e*P **P 04 05 47.3 +0.6**
CNLB Canela 56.22 93 S **S 04 13 39.3 +2.8**
NNA Nana 56.32 57 IAMs_20 IAMs_20 04 23 41.6
comp=Z,6µm,19.0s
NNA Nana 56.32 57 LR LR 04 23 34.2
comp=Z,7µm,21.1s,baz=202,slow=29
NNA Nana 56.32 57 *e*P **P 04 05 46.2 -1.3**
NNA pmax pmax
comp=Z,76nm,1.8s
SJPY San Joaquin 56.60 86 *e*P **P 04 05 48.6 -0.8**
MAW Mawson 56.74 183 P **P 04 05 49.9 +0.2**
comp=Z,6.0nm,1.1s
MAW Mawson 56.74 183 P **P 04 05 49.1 -0.6**
comp=Z,20nm,0.9s,baz=180,slow=9.6,SNR=24
MAW LR LR 04 28 55.3
comp=Z,12µm,19.9s,baz=165,slow=35
comp=Z,20nm,0.9s
LPAZ La Paz 57.03 69 P 04 05 52.9 -0.3
LPAZ IAmb IAmb 04 06 04.2
comp=Z,41nm,1.0s
LPAZ La Paz 57.03 69 P **P 04 05 52.8 -0.4**
comp=Z,26nm,1.0s,baz=200,slow=5.2,SNR=30
LPAZ LR LR 04 24 36.4
comp=Z,5µm,19.8s,baz=211,slow=30
comp=Z,26nm,1.0s
LPAZ La Paz 57.03 69 P **P 04 05 52.9 -0.3**
LPAZ pmax pmax
comp=Z,41nm,1.0s
LPAZ La Paz 57.03 69 *e*P **P 04 05 53.3 +0.1**
LPAZ La Paz 57.03 69 P **P 04 05 53.4 +0.2**
ITAB Concordia 57.10 91 IAMs_20 IAMs_20 04 28 00.4
comp=Z,5µm,19.0s
ITAB Concordia 57.10 91 *e*P **P 04 05 52.9 0.0**
LHI Lord Howe Isla 58.15 260 P **P 04 06 01.1 +0.9**
MSVF Nonsavu 58.37 286 *i*P **P 04 06 03.1 +1.1**
MSVF pmax pmax
comp=Z,49nm,1.6s
MURT Porto Murtinho 58.39 82 *e*P **P 04 06 01.2 -0.8**
AMBA Amambai (Brazi 58.85 85 *e*P **P 04 06 04.6 -0.6**
PTGB Pitanga 59.09 89 *e*P **P 04 06 06.3 -0.7**
PTGB Pitanga 59.09 89 P **P 04 06 06.3 -0.7**
BDQN Bodoquena, MS 59.84 82 *e*P **P 04 06 10.8 -1.2**
ATAH Atahualpa 59.86 53 LR LR 04 25 56.0
comp=Z,13µm,20.4s,baz=223,slow=30
TIJ01 Guaruva-PR 60.34 92 P **P 04 06 15.1 -0.4**
AQDB Aquidauana 60.40 83 P 04 06 14.7 -1.2
AQDB IAmb IAmb 04 06 21.7
comp=Z,31nm,1.4s
AQDB Aquidauana 60.40 83 *e*P **P 04 06 15.0 -0.8**
AQDB Aquidauana 60.40 83 P **P 04 06 14.7 -1.2**
AQDB S **S 04 14 32.9 +1.8**
CNB Canberra Magne 60.54 250 P **P 04 06 16.8 0.0**
comp=Z,27nm,1.6s
LDASE Londrina, Braz 60.66 89 *e*P **P 04 06 16.9 -0.8**
CAN Canberra 60.73 250 IAMs_20 IAMs_20 04 26 05.0
comp=Z,9µm,21.0s
TOO Toolangi 60.83 245 P **P 04 06 18.8 +0.1**
comp=Z,11nm,1.3s
TOO Toolangi 60.83 245 P 04 06 19.1 +0.5
TOO Toolangi 60.83 245 P **P 04 06 19.2 +0.5**
TOO pmax pmax
comp=Z,19nm,1.4s
TOO Toolangi 60.83 245 P **P 04 06 19.0 +0.3**
PAYG Puerto Ayora 60.97 38 IAMs_20 IAMs_20 04 25 52.8
comp=Z,5µm,20.0s
SIV San Ignacio 61.06 75 LR LR 04 28 32.7
comp=Z,2µm,21.5s,baz=232,slow=32
ONTNC Ouen Toro 61.14 272 IAMs_20 IAMs_20 04 26 45.6
comp=Z,5µm,20.0s
DZM Mont Dzumac 61.33 273 *e*P P 04 06 16.1 -6.2
comp=Z,74nm,1.6s
DZM Mont Dzumac 61.33 273 *e*PP **PP 04 08 33.6 -3.5**
comp=Z,250nm,27.9s
DZM *e*S **S 04 14 37.9 -5.3**
comp=Z,2µm,23.7s
DZM *e*SS **SS 04 18 37.5 -5.7**
comp=Z,2µm,30.8s
DZM *e*LQ LQ 04 21 56.1
comp=Z,17µm,30.1s
DZM *e*LR LR 04 24 31.4
comp=Z,14µm,25.4s
DZM Mont Dzumac 61.33 273 LR LR 04 27 34.8
comp=Z,8µm,20.5s,baz=144,slow=31
PTLB Pontes e Lacer 62.56 77 P 04 06 29.9 -0.6
PTLB IAmb IAmb 04 06 35.4
comp=Z,17nm,0.9s
PTLB Pontes e Lacer 62.56 77 *e*P **P 04 06 29.4 -1.1**
PTLB Pontes e Lacer 62.56 77 P **P 04 06 29.6 -0.9**
SPB Sao Paulo 62.58 92 IAMs_20 IAMs_20 04 30 52.6
comp=Z,7µm,18.0s
ARMA Armidale 63.08 255 P **P 04 06 34.3 +0.3**
comp=Z,0.0nmcomp=Z,18nm,1.3s
PP1B Ponte de Pedra 63.17 82 *e*P **P 04 06 34.1 -0.5**
ARPS Mount Arapiles 63.31 243 P **P 04 06 35.3 +0.1**
comp=Z,8.5nm,1.2s
VAO Valinhos 63.31 92 *e*P **P 04 06 35.5 0.0**
BB19B Bebedouro 63.96 89 *e*P **P 04 06 43.3 +3.5**
BB19B Bebedouro 63.96 89 P **P 04 06 39.5 -0.4**
ITRB Iturama 64.01 87 *e*P **P 04 06 39.8 -0.4**
ITRB Iturama 64.01 87 P **P 04 06 40.1 -0.1**
ITRB S **S 04 15 18.3 +1.5**
VILB Vilhena 64.03 74 P 04 06 39.7 -0.7
VILB Vilhena 64.03 74 *e*P **P 04 06 39.8 -0.6**
VILB Vilhena 64.03 74 P **P 04 06 39.5 -0.8**
SALV Santo Antonio 64.09 80 *e*P **P 04 06 40.3 -0.4**
SALV Santo Antonio 64.09 80 P **P 04 06 40.2 -0.4**
LABB Lıbrea 64.17 67 P **P 04 06 40.5 -0.6**
CMSA Cobar Meteorol 65.40 250 P **P 04 06 48.3 -0.7**
comp=Z,23nm,1.2s
VAS01 Vassouras-RJ 65.86 94 *e*P **P 04 06 53.7 +1.5**
ITU3 Corumbazu 66.04 87 P **P 04 06 52.5 -0.8**
ARAG Araguaiana, MT 66.41 83 *e*P **P 04 06 54.5 -1.2**
IPMB Ipameri, GO 66.60 88 *e*P **P 04 06 56.5 -0.4**
IPMB Ipameri, GO 66.60 88 P 04 06 55.6 -1.4
SFA1 Serra Facao 66.89 88 P 04 06 59.9 +1.0
PDRB Porto dos Gac 67.03 76 *e*P **P 04 06 58.8 -0.9**
PDRB Porto dos Gac 67.03 76 P 04 06 58.8 -0.9
PMNB Patos De Minas 67.15 89 *e*P **P 04 06 59.9 -0.6**
STKA Stephens Creek 67.27 247 P 04 07 01.1 0.0
comp=Z,85nm,1.0s
STKA Stephens Creek 67.27 247 P 04 07 00.9 -0.1
STKA Stephens Creek 67.27 247 P **P 04 06 59.8 -1.3**
comp=Z,12nm,0.9s,baz=126,slow=5.6,SNR=2.9
STKA LR LR 04 30 50.5
comp=Z,8µm,20.0s,baz=123,slow=31
comp=Z,12nm,0.9s
HTT Hallett 67.40 244 P **P 04 07 01.4 -0.5**
comp=Z,8.8nm,1.1s
BAT3 Ipameri 67.44 88 P 04 07 01.5 -0.9
CLDB Colider 68.15 77 *e*P **P 04 07 05.1 -1.7**
CLDB Colider 68.15 77 P **P 04 07 05.2 -1.6**
BDFB Brasilia 68.59 86 P 04 07 08.6 -1.1
BDFB Brasilia 68.59 86 P **P 04 07 08.1 -1.6**
comp=Z,7.0nm,1.0s,baz=232,slow=3.5,SNR=7.6
BDFB LR LR 04 34 18.0
comp=Z,8µm,20.5s,baz=215,slow=34
comp=Z,7.0nm,1.0s
BDFB Brasilia 68.59 86 P **P 04 07 08.6 -1.1**
BDFB pmax pmax
comp=Z,68nm,1.7s
BDFB Brasilia 68.59 86 P 04 07 09.1 -0.5
FLOC Florencia 68.83 52 P 04 07 12.1 +1.2
FLOC IAmb IAmb 04 07 29.5
comp=Z,37nm,1.4s
DIAM Diamantina, MG 68.90 92 *e*P **P 04 07 11.4 -0.2**
DIAM Diamantina, MG 68.90 92 P **P 04 07 10.9 -0.7**

BBOO Buckleboo 69.33 242 P **P 04 07 13.5 -0.5**
comp=Z,36nm,1.1s
BBOO Buckleboo 69.33 242 P 04 07 13.9 -0.1
JQT1 Jequitai-MG 69.36 90 P 04 07 13.8 -0.5
TEFE Tefe 69.64 65 *e*P **P 04 07 15.1 -0.9**
TEFE Tefe 69.64 65 P 04 07 14.9 -1.1
SNDB Serra Nova Dou 69.74 81 *e*P **P 04 07 16.1 -0.5**
SNDB Serra Nova Dou 69.74 81 P 04 07 16.1 -0.5
SJMB Sao Joao De Ma 69.98 94 *e*P **P 04 07 16.6 -1.5**
SJMB Sao Joao De Ma 69.98 94 P 04 07 16.9 -1.1
MC01 Montes Claros 70.03 90 P 04 07 18.0 -0.5
QLP Quilpie 70.09 252 P 04 07 17.8 -0.9
comp=Z,54nm,1.1s
CAN3 Cana Brava 70.50 85 P 04 07 21.4 +0.1
INKA Innaminka 71.01 249 P 04 07 24.7 +0.4
INKA IAmb IAmb 04 07 28.2
comp=Z,21nm,1.0s
JANB Januaria 71.15 89 *e*P **P 04 07 24.0 -1.3**
JANB Januaria 71.15 89 P 04 07 24.3 -1.0
SGC2 Sao Gabriel da 71.36 61 P 04 07 24.5 -2.0
NPGB Novo Progresso 71.56 75 *e*P **P 04 07 26.3 -1.5**
NPGB Novo Progresso 71.56 75 P 04 07 26.3 -1.5
MACA Manacapuru-AM 71.98 68 P 04 07 29.3 -0.9
MACA Manacapuru-AM 71.98 68 *e*P **P 04 07 29.3 -0.9**
MACA Manacapuru-AM 71.98 68 P 04 07 29.4 -0.8
ROSC El Rosal 72.32 51 P 04 07 33.3 +0.6
ROSC El Rosal 72.32 51 P 04 07 31.5 -1.2
comp=Z,3.5nm,0.4s,baz=202,slow=8.1,SNR=5.2
ROSC LR LR 04 34 04.2
comp=Z,5µm,19.6s,baz=214,slow=32
comp=Z,3.5nm,0.4s
ROSC El Rosal 72.32 51 P **P 04 07 33.3 +0.6**
ROSC pmax pmax
comp=Z,90nm,1.4s
GUA01 Guaratinga, BA 72.45 94 *e*P **P 04 07 32.5 -0.6**
GUA01 Guaratinga, BA 72.45 94 P **P 04 07 32.1 -1.0**
BRU2 Volcan 72.48 42 IAMs_20 IAMs_20 04 31 16.5
comp=Z,8µm,22.0s
SDBA SAO DESIDERIO 72.96 87 *e*P **P 04 07 35.5 -0.7**
SDBA SAO DESIDERIO 72.96 87 P P 04 07 35.2 -1.0
LAJE UHE Lajeado 73.03 83 P P 04 07 35.8 -0.8
JTS Las Juntas de 73.03 39 IAMs_20 IAMs_20 04 32 10.5
comp=Z,6µm,19.0s
JTS Las Juntas de 73.03 39 LR LR 04 32 05.2
comp=Z,6µm,21.7s,baz=194,slow=30
JTS Las Juntas de 73.03 39 *i*P **P 04 07 35.9 -0.5**
JTS pmax pmax
comp=Z,59nm,2.0s
HDC Heredia 73.07 40 IAMs_20 IAMs_20 04 31 54.3
comp=Z,6µm,20.0s
ANA01 Lindo Horizont 73.58 92 P P 04 07 39.5 -0.3
ITTB Itaituba 73.59 73 *e*P **P 04 07 38.9 -1.0**
ITTB Itaituba 73.59 73 P P 04 07 39.4 -0.4
CMC01 Camacan, BA 73.60 93 *e*P **P 04 07 39.4 -0.5**
CMC01 Camacan, BA 73.60 93 P P 04 07 40.3 +0.5
RUSC La Rusia 73.80 52 IAmb IAmb 04 08 03.7
comp=Z,46nm,1.1s
RUSC IAMs_20 IAMs_20 04 35 48.5
comp=Z,6µm,19.0s
BCIP Isla Barro Col 73.92 44 IAMs_20 IAMs_20 04 32 48.3
comp=Z,4µm,19.0s
CTA Charters Tower 74.20 258 LR LR 04 35 57.6
comp=Z,105nm,19.3s,baz=130,slow=32
CTAO Charters Tower 74.20 258 P 04 07 43.2 -0.2
CTAO IAmb IAmb 04 07 47.3
comp=Z,26nm,0.9s
CTAO Charters Tower 74.20 258 IAMs_20 IAMs_20 04 35 35.9
comp=Z,4µm,20.0s
CTAO Charters Tower 74.20 258 P **P 04 07 43.2 -0.2**
CTAO pmax pmax
comp=Z,26nm,1.0s
SMTB Santa Maria do 74.35 83 *e*P **P 04 07 43.6 -0.7**
SMTB Santa Maria do 74.35 83 P P 04 07 43.8 -0.5
ACON Acoyapa 74.51 38 IAMs_20 IAMs_20 04 33 11.7
comp=Z,4µm,19.0s
HNR Honiara 75.17 275 LR LR 04 34 13.6
comp=Z,1µm,22.0s,baz=156,slow=30
PRPB Parauapebas 75.33 79 *e*P **P 04 07 49.4 -0.6**
PRPB Parauapebas 75.33 79 P P 04 07 48.8 -1.2
TGUH Tegucigalpa,Un 75.75 35 IAMs_20 IAMs_20 04 33 21.7
comp=Z,4µm,20.0s
TLIG Tlapa 75.96 24 IAmb IAmb 04 08 19.1
comp=Z,46nm,1.5s
PAL01 Palmeiras do T 76.19 81 P P 04 07 54.5 -0.4
PAL2 UHE Estreito - 76.23 82 P 04 07 54.7 -0.4
SIUN Universidad Ur 76.28 38 IAMs_20 IAMs_20 04 33 37.5
comp=Z,3µm,22.0s
CMIG Matias Romero 76.40 27 LR LR 04 35 44.6
comp=Z,2µm,18.2s,baz=192,slow=31
BMO2 UHE Belo Monte 76.47 76 P P 04 07 55.6 -0.8
RKGY Rocky Gully 76.56 227 P P 04 07 58.1 +1.3
comp=Z,71nm,1.3s
BOAV Boa Vista 76.78 65 IAMs_20 IAMs_20 04 36 01.3
comp=Z,5µm,20.0s
BOAV Boa Vista 76.78 65 *e*P **P 04 07 58.1 -0.1**
BOAV Boa Vista 76.78 65 P P 04 07 57.2 -1.0
MTSU Mount Surprise 76.85 257 P P 04 07 58.6 -0.1
comp=Z,15nm,1.0s
BILN Bilwi Airport 77.07 39 IAMs_20 IAMs_20 04 34 28.5
comp=Z,3µm,21.0s
PRVC Isla de Provid 77.18 41 IAMs_20 IAMs_20 04 34 19.2
comp=Z,3µm,20.0s
KMBL Kambalda 77.23 232 P P 04 08 00.9 +0.3
comp=Z,12nm,1.3s
QIS Mount Isa 77.44 252 P P 04 08 01.2 -0.7
comp=Z,40nm,0.9s
H01W1 Cape Leeuwin H 77.46 225 T T 05 34 21.0
baz=150,slow=76,SNR=2329
H01W2 Cape Leeuwin H 77.46 225 T T 05 34 02.5
baz=150,slow=76,SNR=2640
H01W3 Cape Leeuwin H 77.47 225 T T 05 34 04.1
baz=150,slow=76,SNR=3537
SDV Santo Domingo 77.55 53 IAMs_20 IAMs_20 04 37 03.8
comp=Z,4µm,21.0s
SDV Santo Domingo 77.55 53 LR LR 04 37 14.5
comp=Z,4µm,21.5s,baz=196,slow=32
SDV Santo Domingo 77.55 53 *e*P **P 04 08 02.6 0.0**
SDV Santo Domingo 77.55 53 P P 04 08 02.7 0.0
ASAR Alice Springs 77.88 246 P P 04 08 02.9 -1.5
ASAR Alice Springs 77.88 246 P P 04 08 03.5 -0.8
comp=Z,5.3nm,0.8s,baz=146,slow=5.1,SNR=10
ASAR LR LR 04 38 04.0
comp=Z,8µm,18.7s,baz=139,slow=32
comp=Z,5.3nm,0.8s
NWAO Narrogin (SRO) 77.91 228 P P 04 08 03.2 -1.1
comp=Z,69nm,1.1s
NWAO Narrogin (SRO) 77.91 228 IAMs_20 IAMs_20 04 33 46.9
comp=Z,4µm,21.0s
CRZF Crozet Islands 77.94 176 IAMs_20 IAMs_20 04 41 20.6
comp=Z,6µm,20.0s
NBLA Lagarto - SE 78.12 92 P P 04 08 04.0 -1.7
MUN Mundaring 79.16 228 P P 04 08 11.4 +0.1
comp=Z,40nm,1.8s
TMAB Tom-Au,PA,Br 79.42 78 *e*P **P 04 08 12.9 0.0**
TMAB Tom-Au,PA,Br 79.42 78 P P 04 08 13.3 +0.5
WRKA Warakurna 79.56 241 P P 04 08 12.9 -0.7
comp=Z,11nm,0.9s
SLBS Sierra La Lagu 80.00 12 IAMs_20 IAMs_20 04 35 16.0
comp=Z,4µm,20.0s
NBAN Anadia - AL 80.05 92 *e*P **P 04 08 17.6 +1.3**
NBAN Anadia - AL 80.05 92 P P 04 08 15.1 -1.3
BLDU Ballidu 80.13 229 P P 04 08 15.8 -0.8
comp=Z,25nm,2.0s
ZAIG Zacatecas 80.20 19 IAmb IAmb 04 08 39.4
comp=Z,57nm,1.9s
POHA Pohakuloa 80.33 329 IAMs_20 IAMs_20 04 36 47.9
comp=Z,6µm,20.0s
LPIG La Paz 80.37 11 LR LR 04 35 17.5
comp=Z,4µm,20.9s,baz=185,slow=29
NBMA Muriti-CE 80.53 89 P P 04 08 16.9 -2.0
WRA Warramunga Arr 80.73 248 P P 04 08 18.4 -1.5
comp=Z,12nm,0.9s,baz=146,slow=4.9,SNR=14
WRA LR LR 04 39 00.7
comp=Z,5µm,20.5s,baz=152,slow=32
comp=Z,12nm,0.9s
WRAB Tennant Creek 80.73 248 IAMs_20 IAMs_20 04 38 38.6
comp=Z,5µm,20.0s
WRAB Tennant Creek 80.73 248 *i*P **P 04 08 17.6 -2.4**
WRAB pmax pmax
comp=Z,23nm,0.9s
TEIG Tepich 81.23 32 IAMs_20 IAMs_20 04 36 35.0
comp=Z,3µm,20.0s
NBPS Pedro II - PI 81.46 85 P P 04 08 23.1 -0.8
PCRV Puerto La Cruz 81.46 58 LR LR 04 40 49.4
comp=Z,5µm,19.2s,slow=33

MORW Morawa 81.76 229 P **P 04 08 23.1 -2.2**
comp=Z,22nm,1.2s
MORW Morawa 81.76 229 P 04 08 25.1 -0.2
JOHN Johnston Islan 82.38 315 IAMs_20 IAMs_20 04 44 37.2
comp=Z,4µm,18.0s
PMG Port Moresby 82.39 265 IAMs_20 IAMs_20 04 40 21.3
comp=Z,5µm,19.0s
PMG Port Moresby 82.39 265 P **P 04 08 28.7 0.0**
comp=Z,33nm,1.0s,baz=164,slow=7.4,SNR=3.1
PMG LR LR 04 40 51.8
comp=Z,5µm,18.7s,baz=148,slow=33
comp=Z,33nm,1.0s
PMG Port Moresby 82.39 265 *i*P **P 04 08 27.6 -1.1**
PMG pmax pmax
comp=Z,45nm,1.2s
KIP Kipapa 82.64 327 *i*P **P 04 08 30.1 +0.4**
KIP pmax pmax
comp=Z,123nm,1.4s
MTDJ Mount Denham 83.06 43 IAMs_20 IAMs_20 04 39 05.9
comp=Z,4µm,18.0s
MDP Montagnes des 83.19 71 LR LR 04 40 20.1
comp=Z,3µm,21.3s,baz=190,slow=32
RCBR Riachuelo 83.40 91 IAMs_20 IAMs_20 04 41 47.3
comp=Z,5µm,20.0s
RCBR Riachuelo 83.40 91 LR LR 04 42 19.6
comp=Z,2µm,21.0s,baz=216,slow=33
RCBR Riachuelo 83.40 91 P **P 04 08 32.7 -1.3**
CHIV Chivirico 85.08 43 IAMs_20 IAMs_20 04 40 50.4
comp=Z,3µm,21.0s
KVTX Kingsville 85.76 22 IAMs_20 IAMs_20 04 42 22.1
comp=Z,3µm,18.0s
CAMR Camarioca 86.11 38 IAMs_20 IAMs_20 04 39 35.0
comp=Z,8µm,20.0s
NMDO Nuevo Mundo 86.17 44 IAMs_20 IAMs_20 04 39 28.0
comp=Z,2µm,20.0s
TXAR Lajitas Array 86.43 17 P **P 04 08 49.9 +1.1**
comp=Z,4.6nm,1.0s,baz=188,slow=8.5,SNR=23
TXAR LR LR 04 41 20.1
comp=Z,1µm,21.1s,baz=180,slow=31
comp=Z,4.6nm,1.0s
BBGH Gun Hill 86.48 61 IAMs_20 IAMs_20 04 48 40.7
comp=Z,3µm,19.0s
PSAB3 Pilbara Seismi 86.53 236 P **P 04 08 48.4 -1.3**
comp=Z,20nm,0.9s
PSAC2 Pilbara Seismi 86.54 236 P **P 04 08 48.3 -1.5**
comp=Z,33nm,1.3s
PSA00 Pilbara Seismi 86.55 236 P **P 04 08 48.3 -1.5**
comp=Z,28nm,1.2s
PSA00 Pilbara Seismi 86.55 236 P 04 08 48.2 -1.5
PSA00 Pilbara Seismi 86.55 236 P **P 04 08 48.5 -1.3**
PSA00 IAmb IAmb 04 08 52.2
comp=Z,23nm,1.0s
PSAC1 Pilbara Seismi 86.61 236 P **P 04 08 48.4 -1.7**
comp=Z,24nm,1.3s
SUR Sutherland 86.71 150 IAMs_20 IAMs_20 04 44 38.8
comp=Z,5µm,20.0s
FITZ Fitzroy Crossi 86.72 242 P **P 04 08 50.0 -0.7**
FITZ Fitzroy Crossi 86.72 242 P **P 04 08 49.5 -1.1**
comp=Z,9.3nm,1.0s,baz=175,slow=5.1,SNR=4.9
FITZ LR LR 04 42 05.8
comp=Z,4µm,21.9s,baz=140,slow=32
comp=Z,9.3nm,1.0s
MBWA Marble Bar 86.96 236 P 04 08 50.7 -1.1
MBWA Marble Bar 86.96 236 P **P 04 08 50.7 -1.1**
MPOM Morne Pois Mar 86.97 59 IAMs_20 IAMs_20 04 44 38.8
comp=Z,3µm,20.0s
FDF Fort de France 87.08 58 IAMs_20 IAMs_20 04 44 10.8
comp=Z,3µm,20.0s
SVN Savane Anatole 87.16 58 IAMs_20 IAMs_20 04 44 12.0
comp=Z,3µm,20.0s
ILAM Ilet Lapin Mar 87.24 59 IAMs_20 IAMs_20 04 44 36.1
comp=Z,2µm,19.0s
HNDO Hondo 87.40 20 IAmb IAmb 04 09 09.6
comp=Z,18nm,1.0s
ALPN Alpine 87.45 16 IAmb IAmb 04 09 30.0
comp=Z,53nm,2.0s
PIX Pinacate 87.46 8 IAmb IAmb 04 08 59.1
comp=Z,21nm,1.1s
PDPR Patillas Dam, 87.67 53 IAMs_20 IAMs_20 04 45 11.0
comp=Z,2µm,18.0s
SJG San Juan 87.70 53 IAMs_20 IAMs_20 04 44 56.7
comp=Z,3µm,18.0s
SJG San Juan 87.70 53 LR LR 04 45 08.0
comp=Z,2µm,18.1s,baz=206,slow=34
GCPR Guaynabo City 87.90 53 IAMs_20 IAMs_20 04 45 10.1
comp=Z,2µm,18.0s
CBE Ff, Capester 88.01 57 IAMs_20 IAMs_20 04 43 17.5
comp=Z,4µm,22.0s
MAGL Barre de l'ile 88.06 58 IAMs_20 IAMs_20 04 43 19.9
comp=Z,4µm,21.0s
GDHS Morne Mazeau, 88.11 57 IAMs_20 IAMs_20 04 43 08.7
comp=Z,3µm,22.0s
BAR Barrett 88.37 5 IAMs_20 IAMs_20 04 38 56.0
comp=Z,4µm,21.0s
PECS Pecos 88.39 16 IAmb IAmb 04 09 13.9
comp=Z,25nm,1.2s
EPT El Paso 88.41 14 IAMs_20 IAMs_20 04 40 37.5
comp=Z,4µm,20.0s
OZNA Ozona 88.41 18 IAmb IAmb 04 09 14.1
comp=Z,27nm,1.2s
TUC Tucson 88.44 10 P 04 08 60.0 +1.5
TUC Tucson 88.44 10 IAMs_20 IAMs_20 04 41 15.6
comp=Z,4µm,18.0s
TUC Tucson 88.44 10 P **P 04 09 00.0 +1.5**
TUC pmax pmax
comp=Z,40nm,1.5s
GDSD La Dsirade Is 88.48 58 IAMs_20 IAMs_20 04 43 30.0
comp=Z,3µm,21.0s
MNTX Cornudas Mount 88.49 15 IAmb IAmb 04 09 14.2
comp=Z,21nm,1.4s
MNTX IAMs_20 IAMs_20 04 41 04.7
comp=Z,3µm,19.0s
HKT Hockley 88.53 23 *i*P **P 04 09 00.3 +1.6**
HKT pmax pmax
comp=Z,28nm,1.6s
MNHN Monahans 88.54 17 IAmb IAmb 04 09 06.7
comp=Z,29nm,1.4s
CPE Camp Elliot 88.56 5 IAMs_20 IAMs_20 04 39 55.0
comp=Z,4µm,19.0s
SABA Saba 88.59 55 IAMs_20 IAMs_20 04 44 09.1
comp=Z,5µm,20.0s
SEUS St. Eustatius 88.60 55 IAMs_20 IAMs_20 04 43 40.4
comp=Z,4µm,21.0s
113A Mohawk Valley, 88.64 7 IAmb IAmb 04 09 15.6
comp=Z,32nm,1.3s
GLA Glamis 88.85 7 IAMs_20 IAMs_20 04 39 19.5
comp=Z,4µm,21.0s
061Z Ochoppi 88.86 37 IAMs_20 IAMs_20 04 41 38.8
comp=Z,3µm,20.0s
121A Cookes Peak, D 88.99 13 IAmb IAmb 04 09 10.1
comp=Z,24nm,1.2s
SMRT St. Maarten 89.04 55 IAMs_20 IAMs_20 04 44 04.1
comp=Z,4µm,20.0s
ANWB Willy Bob 89.31 56 IAMs_20 IAMs_20 04 43 42.1
comp=Z,3µm,22.0s
PFO Pinyon Flats O 89.31 5 P **P 04 09 03.9 +1.3**
PFO IAmb IAmb 04 09 09.1
comp=Z,25nm,1.5s
PFO IAMs_20 IAMs_20 04 40 19.8
comp=Z,4µm,19.0s
PFO Pinyon Flats O 89.31 5 LR LR 04 40 23.3
comp=Z,4µm,18.6s,baz=192,slow=30
PFO Pinyon Flats O 89.31 5 *i*P **P 04 09 02.9 +0.3**
PFO pmax pmax
comp=Z,29nm,1.3s
PMD Palm Desert 89.35 5 IAmb IAmb 04 09 22.7
comp=Z,35nm,1.6s
BC3 Big Chuckawall 89.41 6 IAmb IAmb 04 09 19.4
comp=Z,20nm,1.3s
BC3 IAMs_20 IAMs_20 04 40 03.4
comp=Z,5µm,19.0s
BELC Belle Mtn. Jos 89.72 6 IAmb IAmb 04 09 21.2
comp=Z,25nm,1.2s
BELC IAMs_20 IAMs_20 04 39 40.7
comp=Z,4µm,21.0s
PASC Pasadena Art C 89.80 4 IAMs_20 IAMs_20 04 40 01.6
comp=Z,5µm,20.0s
MWC Mount Wilson 89.85 4 IAMs_20 IAMs_20 04 40 04.1
comp=Z,4µm,19.0s
BFSC Mount Baldy Ra 89.88 4 IAmb IAmb 04 09 13.1
comp=Z,20nm,1.1s
BFSC IAMs_20 IAMs_20 04 39 38.0
comp=Z,4µm,21.0s
545A Edgard 89.90 28 IAMs_20 IAMs_20 04 50 12.6
comp=Z,5µm,20.0s
IRM Iron Mountain 89.93 6 IAMs_20 IAMs_20 04 40 20.1
comp=Z,4µm,20.0s
060A Indiantown 90.12 37 IAMs_20 IAMs_20 04 42 27.3

comp=Z,4µm,20.0s
OSI Osito Audit: C 90.22 3 IAMs_20 IAMs_20 04 39 43.9
comp=Z,4µm,20.0s
DANC Danby, Needles 90.39 6 IAmb IAmb 04 09 14.1
comp=Z,26nm,1.2s
DANC IAMs_20 IAMs_20 04 40 43.4
comp=Z,4µm,19.0s
Y22A Socorro 90.48 13 IAmb IAmb 04 09 20.5
comp=Z,20nm,1.2s
NEE2 Needles Airpor 90.57 7 IAMs_20 IAMs_20 04 40 22.1
comp=Z,4µm,20.0s
DWPF Disney Wildern 90.75 36 IAMs_20 IAMs_20 04 44 13.1
comp=Z,3µm,18.0s
APMT Aspermont 90.93 19 IAmb IAmb 04 09 25.7
comp=Z,25nm,1.3s
W13A Hualapai Mount 90.95 7 IAmb IAmb 04 09 27.1
comp=Z,13nm,1.0s
MSTX Muleshoe 91.11 16 IAmb IAmb 04 09 28.3
comp=Z,14nm,1.1s
LRMC Laurel Mtn Rad 91.12 4 IAMs_20 IAMs_20 04 41 39.7
comp=Z,4µm,18.0s
WSHM Spangler Hills 91.25 4 IAMs_20 IAMs_20 04 41 44.0
comp=Z,3µm,18.0s
ISA Isabella, Lake 91.27 3 IAmb IAmb 04 09 27.9
comp=Z,19nm,1.3s
ISA IAMs_20 IAMs_20 04 41 16.7
comp=Z,5µm,20.0s
VES Vestal, Richgr 91.43 3 IAMs_20 IAMs_20 04 41 19.0
comp=Z,2µm,20.0s
BOSA Boshof 91.49 152 LR LR 04 47 21.4
comp=Z,6µm,18.7s,baz=195,slow=34
PKD Bear Valley Ra 91.50 2 IAMs_20 IAMs_20 04 40 15.9
comp=Z,5µm,22.0s
V12A Nelson 91.51 6 IAmb IAmb 04 09 34.0
comp=Z,17nm,1.1s
ANMO Albuquerque 91.54 13 P 04 09 13.6 +0.5
ANMO IAmb IAmb 04 09 24.9
comp=Z,13nm,1.0s
ANMO Albuquerque 91.54 13 P P 04 09 13.4 +0.4
comp=Z,8.6nm,1.1s,baz=302,slow=7.3,SNR=12
ANMO LR LR 04 42 36.1
comp=Z,2µm,19.9s,baz=286,slow=30
comp=Z,8.6nm,1.1s
ANMO Albuquerque 91.54 13 *i* P P 04 09 12.7 -0.3
ANMO pmax pmax
comp=Z,15nm,1.0s
HULI Fort Hunter Li 91.57 1 IAMs_20 IAMs_20 04 40 03.6
comp=Z,5µm,21.0s
SHOC Shoshone, Teco 91.60 5 IAMs_20 IAMs_20 04 40 48.4
comp=Z,3µm,20.0s
JAY Jayapura 91.66 263 LR LR 04 47 51.1
comp=Z,3µm,19.0s,baz=176,slow=34
MPMC Manual Prospec 91.70 4 IAMs_20 IAMs_20 04 43 00.1
comp=Z,3µm,18.0s
GWY Greenwater Val 91.87 5 IAmb IAmb 04 09 22.3
comp=Z,20nm,1.4s
FURC Furnace Creek, 92.14 5 IAMs_20 IAMs_20 04 41 47.6
comp=Z,4µm,19.0s
AMTX Amarillo 92.18 17 IAmb IAmb 04 09 27.6
comp=Z,10nm,0.8s
FORD Fort Ord Natur 92.23 1 IAMs_20 IAMs_20 04 41 00.1
comp=Z,4µm,20.0s
SAO San Andreas Ge 92.31 1 IAMs_20 IAMs_20 04 41 04.2
comp=Z,5µm,20.0s
WCT Wildcat Mounta 92.47 5 IAmb IAmb 04 09 33.8
comp=Z,20nm,1.4s
GRAC Grapevine Rang 92.64 4 IAmb IAmb 04 09 47.5
comp=Z,17nm,1.2s
TPNV Topopah Spring 92.65 5 IAmb IAmb 04 09 34.8
comp=Z,13nm,1.1s
TPNV IAMs_20 IAMs_20 04 41 39.1
comp=Z,3µm,20.0s
TIN Tinemaha, Big 92.67 4 IAMs_20 IAMs_20 04 41 43.7
comp=Z,5µm,20.0s
MHC Mount Hamilton 92.88 1 IAMs_20 IAMs_20 04 41 21.4
comp=Z,3µm,20.0s
LCMT Little Creek M 92.90 8 IAmb IAmb 04 10 04.1
comp=Z,18nm,1.5s
KNB Kanab 92.93 8 IAmb IAmb 04 09 35.4
comp=Z,23nm,1.4s
JRSC Jasper Ridge 92.94 0 IAMs_20 IAMs_20 04 41 20.0
comp=Z,3µm,20.0s
DSP Deep Springs 92.99 4 IAmb IAmb 04 09 35.9
comp=Z,19nm,1.3s
FARB Farallon Islan 93.23 360 IAMs_20 IAMs_20 04 41 24.8
comp=Z,3µm,20.0s
CCUT Cedar City 93.42 7 IAmb IAmb 04 09 38.2
comp=Z,13nm,1.1s
SZCU Shurtz Canyon 93.49 8 IAmb IAmb 04 09 38.4
comp=Z,18nm,1.2s
MVCO Mesa Verde 93.53 11 IAmb IAmb 04 09 42.8
comp=Z,22nm,1.3s
MVCO IAMs_20 IAMs_20 04 43 39.0
comp=Z,3µm,19.0s
RTBA Rita Blanca 93.53 16 IAmb IAmb 04 09 30.8
comp=Z,16nm,1.2s
ASCN Ascension 93.55 110 IAMs_20 IAMs_20 04 42 49.9
comp=Z,2µm,21.0s
CMB Columbia Colle 93.59 2 IAMs_20 IAMs_20 04 41 51.1
comp=Z,3µm,20.0s
MCCM Marconi Confer 93.68 360 IAMs_20 IAMs_20 04 41 36.6
comp=Z,3µm,19.0s
TPH Tonopah 93.72 4 IAmb IAmb 04 09 39.3
comp=Z,14nm,1.2s
CVS Carmenet Viney 93.88 0 IAMs_20 IAMs_20 04 41 45.9
comp=Z,3µm,19.0s
T25A Trinidad 93.97 15 IAMs_20 IAMs_20 04 43 50.9
comp=Z,3µm,20.0s
WELL Weller Preserv 93.99 2 IAMs_20 IAMs_20 04 41 40.7
comp=Z,3µm,20.0s
NVAR Mina Array Bea 94.04 3 P P 04 09 25.5 +1.0
NVAR Mina Array Bea 94.04 3 P P 04 09 25.2 +0.7
comp=Z,1.7nm,0.8s,baz=191,slow=6.0,SNR=10
NVAR LR LR 04 43 37.2
comp=Z,4µm,18.3s,baz=180,slow=30
comp=Z,1.7nm,0.8s
WAKR Walker 94.08 3 IAmb IAmb 04 09 40.2
comp=Z,22nm,1.4s
OK038 West end E0370 94.25 19 IAMs_20 IAMs_20 04 46 07.1
comp=Z,2µm,18.0s
MNRC McLaughlin Min 94.41 0 IAMs_20 IAMs_20 04 42 58.0
comp=Z,3µm,18.0s
BATI Baumata 94.42 245 LR LR 04 48 26.8
comp=Z,7µm,19.3s,baz=160,slow=33
257A Skidaway Islan 94.46 35 IAMs_20 IAMs_20 04 46 31.3
comp=Z,2µm,18.0s
HOPS Hopland Field 94.53 360 IAMs_20 IAMs_20 04 42 03.0
comp=Z,4µm,21.0s
PV20 West Nyswonger 94.60 11 IAmb IAmb 04 09 31.3
comp=Z,14nm,1.2s
WIN Windhoek 94.72 143 IAMs_20 IAMs_20 04 45 51.8
comp=Z,3µm,20.0s
SUTB Sutter Butte 94.76 1 IAMs_20 IAMs_20 04 42 17.3
comp=Z,3µm,21.0s
H11S2 WAKE ISLAND Hy 94.77 296 T T 05 55 11.4
baz=148,slow=76,SNR=128
H11S3 WAKE ISLAND Hy 94.78 296 T T 05 54 46.9
baz=148,slow=76,SNR=151
H11S1 WAKE ISLAND Hy 94.79 296 T T 05 54 50.2
baz=148,slow=76,SNR=113
LBTB Lobatse 95.00 151 LR LR 04 46 23.4
comp=Z,4µm,20.3s,baz=196,slow=32
ORV Oroville 95.09 1 IAMs_20 IAMs_20 04 42 56.9
comp=Z,3µm,20.0s
KCPM Cahto Peak 95.22 359 IAMs_20 IAMs_20 04 42 40.4
comp=Z,3µm,20.0s
PAHR Pah Rah Range 95.28 3 IAmb IAmb 04 09 45.4
comp=Z,21nm,1.7s
H11N3 WAKE ISLAND Hy 95.70 297 T T 05 56 08.8
baz=147,slow=76,SNR=51
H11N1 WAKE ISLAND Hy 95.70 297 T T 05 56 05.4
baz=147,slow=76,SNR=66
H11N2 WAKE ISLAND Hy 95.72 297 T T 05 56 09.4
baz=147,slow=76,SNR=46
KMRM Mail Ridge 95.76 359 IAMs_20 IAMs_20 04 43 06.1
comp=Z,4µm,19.0s
NHSC New Hope 95.77 35 IAMs_20 IAMs_20 04 48 59.1
comp=Z,2µm,18.0s
O03E Paynes Creek 95.83 1 IAmb IAmb 04 10 01.0
comp=Z,16nm,1.4s
KMPM Mount Pierce 95.95 359 IAMs_20 IAMs_20 04 42 58.9
comp=Z,3µm,20.0s
FAKI Fak Fak 96.00 256 IAMs_20 IAMs_20 04 47 59.2
comp=Z,3µm,21.0s
KSCO Kaye Shedlock' 96.07 16 IAMs_20 IAMs_20 04 46 23.4
comp=Z,3µm,18.0s
KHBM Hayfork Bally 96.19 360 IAMs_20 IAMs_20 04 42 26.1
comp=Z,3µm,21.0s
HATC Hat Creek Radi 96.35 1 IAmb IAmb 04 10 04.2
comp=Z,14nm,0.9s
HATC IAMs_20 IAMs_20 04 43 08.3
comp=Z,3µm,20.0s
JCC Jacoby Creek, 96.35 359 IAMs_20 IAMs_20 04 42 02.4
comp=Z,3µm,20.0s
KHMM Horse Mountain 96.41 359 IAMs_20 IAMs_20 04 43 26.9
comp=Z,4µm,19.0s
ISCO Idaho Springs 96.43 13 IAMs_20 IAMs_20 04 46 08.0
comp=Z,4µm,19.0s
ELK Elko 96.48 6 IAMs_20 IAMs_20 04 45 52.6
comp=Z,3µm,18.0s
ELK Elko 96.48 6 LR LR 04 45 55.1
comp=Z,3µm,18.0s,baz=192,slow=31
MMRI Maumere 96.48 244 IAMs_20 IAMs_20 04 47 48.6
comp=Z,4µm,22.0s
Y57A Sumter 96.55 34 IAMs_20 IAMs_20 04 48 19.6
comp=Z,2µm,18.0s
Y58A Scranton 96.67 35 IAMs_20 IAMs_20 04 48 02.9
comp=Z,2µm,19.0s
KRPM Rodgers 96.69 359 IAMs_20 IAMs_20 04 42 23.4
comp=Z,3µm,22.0s
M02C Callahan 96.92 360 IAMs_20 IAMs_20 04 43 52.4
comp=Z,5µm,21.0s
TKL Tuckaleechee C 97.04 31 LR LR 04 46 26.6
comp=Z,1µm,21.7s,baz=196,slow=31
KRMB Red Mountain 97.06 359 IAMs_20 IAMs_20 04 43 46.1
comp=Z,3µm,20.0s
KSU1 Kansas State U 97.20 20 IAMs_20 IAMs_20 04 48 49.1
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 97.26 360 LR LR 04 44 24.5
comp=Z,314nm,19.8s,baz=168,slow=30
KSXB Camp Six Broad 97.36 359 IAMs_20 IAMs_20 04 43 56.2
comp=Z,4µm,20.0s
X58A Rowland 97.38 35 IAMs_20 IAMs_20 04 48 32.5
comp=Z,2µm,18.0s
HWUT Hardware Ranch 97.59 8 IAMs_20 IAMs_20 04 45 54.9
comp=Z,3µm,19.0s
W57A Gilead 97.72 34 IAMs_20 IAMs_20 04 49 30.6
comp=Z,2µm,18.0s
KBO Bosley Butte 97.75 359 IAMs_20 IAMs_20 04 43 17.4
comp=Z,3µm,20.0s
TSUM Tsumeb 98.00 142 IAMs_20 IAMs_20 04 47 02.9
comp=Z,4µm,22.0s
TSUM Tsumeb 98.00 142 LR LR 04 47 14.9
comp=Z,3µm,21.1s,baz=156,slow=31
WVOR Wild Horse Val 98.02 3 IAMs_20 IAMs_20 04 44 58.5
comp=Z,3µm,20.0s
OGNE Ogallala 98.06 16 IAMs_20 IAMs_20 04 46 51.9
comp=Z,3µm,21.0s
KEBM Edson Butte 98.41 359 IAMs_20 IAMs_20 04 43 01.9
comp=Z,4µm,22.0s
U56A King 98.70 33 IAMs_20 IAMs_20 04 48 30.5
comp=Z,2µm,19.0s
AHID Auburn Hatcher 98.78 9 IAMs_20 IAMs_20 04 46 43.4
comp=Z,3µm,19.0s
BW06 Boulder Array 98.92 10 IAMs_20 IAMs_20 04 46 19.0
comp=Z,3µm,20.0s
PDAR Pinedale Array 98.92 10 P Pdif 04 09 48.0 +1.5
comp=Z,0.2nm,0.6s,baz=329,slow=2.8,SNR=3.8
PDAR LR LR 04 46 20.1
comp=Z,2µm,20.2s,baz=184,slow=30
comp=Z,0.2nm,0.6s
MFID Camas Ranch 99.11 5 IAMs_20 IAMs_20 04 45 49.2
comp=Z,3µm,20.0s
V61A Roper 99.41 36 IAMs_20 IAMs_20 04 48 22.4
comp=Z,3µm,20.0s
SNOW Snow King Moun 99.50 9 IAMs_20 IAMs_20 04 47 17.4
comp=Z,4µm,19.0s
TPAW Teton Pass 99.51 9 IAMs_20 IAMs_20 04 47 16.7
comp=Z,3µm,19.0s
T57A Hurt 99.65 34 IAMs_20 IAMs_20 04 49 38.7
comp=Z,2µm,19.0s
LOHW Long Hollow 99.67 9 IAMs_20 IAMs_20 04 47 21.7
comp=Z,4µm,19.0s
COR Corvallis 100.11 360 IAMs_20 IAMs_20 04 45 52.9
comp=Z,3µm,20.0s
K30B Basset 100.13 17 IAMs_20 IAMs_20 04 47 55.7
comp=Z,3µm,22.0s
T59A Double "B" Far 100.17 35 IAMs_20 IAMs_20 04 49 04.7
comp=Z,2µm,20.0s
S57A Dark Hollow, R 100.44 34 IAMs_20 IAMs_20 04 50 20.7
comp=Z,2µm,18.0s
BMO Blue Mountains 100.48 4 IAMs_20 IAMs_20 04 46 51.5
comp=Z,3µm,20.0s
PLID Pearl Lake 100.77 5 IAMs_20 IAMs_20 04 46 49.2
comp=Z,4µm,20.0s
KAPI Kappang 100.84 244 IAMs_20 IAMs_20 04 52 03.9
comp=Z,4µm,20.0s
RSSD Black Hills 100.89 14 IAMs_20 IAMs_20 04 48 29.9
comp=Z,2µm,20.0s
DLMT Dillon 101.25 7 IAMs_20 IAMs_20 04 48 15.7
comp=Z,3µm,19.0s
RLMT Red Lodge 101.28 10 IAMs_20 IAMs_20 04 47 33.5
comp=Z,4µm,20.0s
CBN Corbin Frederi 101.35 35 IAMs_20 IAMs_20 04 49 41.7
comp=Z,2µm,19.0s
S61A Accomac 101.43 36 IAMs_20 IAMs_20 04 50 01.8
comp=Z,3µm,19.0s
Q56A Snyder Ridge, 101.54 33 IAMs_20 IAMs_20 04 51 08.9
comp=Z,2µm,18.0s
BOZ Bozeman (W) 101.55 8 IAMs_20 IAMs_20 04 48 39.7
comp=Z,3µm,19.0s
MCWV Mont Chateau 101.91 32 IAMs_20 IAMs_20 04 50 33.6
comp=Z,2µm,18.0s
HAWA Hanford 101.95 2 IAMs_20 IAMs_20 04 46 06.5
comp=Z,2µm,21.0s
SUSD Miller 101.96 17 IAMs_20 IAMs_20 04 49 48.2
comp=Z,2µm,18.0s
R61A Willards 102.13 36 IAMs_20 IAMs_20 04 49 36.3
comp=Z,4µm,21.0s
O54A Avella 102.23 32 IAMs_20 IAMs_20 04 52 44.1
comp=Z,2µm,18.0s
L46A Eue Claire 102.30 27 IAMs_20 IAMs_20 04 49 59.8
comp=Z,2µm,22.0s
P57A Homestead Farm 102.31 34 IAMs_20 IAMs_20 04 49 41.2
comp=Z,2µm,21.0s
I37A Lemond, Wasseca 102.57 21 IAMs_20 IAMs_20 04 54 15.2
comp=Z,2µm,18.0s
MSO Missoula 102.62 6 IAMs_20 IAMs_20 04 48 05.0
comp=Z,4µm,20.0s
LUWI Luwuk 102.66 249 IAMs_20 IAMs_20 04 54 37.8
comp=Z,3µm,19.0s
UGM Wanagama 102.78 234 IAMs_20 IAMs_20 04 53 26.9
comp=Z,2µm,19.0s
NLWA Neilton Lookou 102.92 359 IAMs_20 IAMs_20 04 46 26.3
comp=Z,2µm,21.0s
P61A Hammonton 103.52 36 IAMs_20 IAMs_20 04 49 36.2
comp=Z,3µm,22.0s
SMRI Semarang 103.58 235 IAMs_20 IAMs_20 04 54 07.1
comp=Z,2µm,19.0s
E28A Huff 103.76 15 IAMs_20 IAMs_20 04 49 45.9
comp=Z,4µm,21.0s
NEW Newport 103.90 4 IAMs_20 IAMs_20 04 47 44.9
comp=Z,2µm,22.0s
I45A Fountain 104.21 26 IAMs_20 IAMs_20 04 53 06.5
comp=Z,2µm,19.0s
M57A Sunshine Farm, 104.28 34 IAMs_20 IAMs_20 04 51 09.3
comp=Z,2µm,20.0s
G40A Rib Lake 104.45 23 IAMs_20 IAMs_20 04 55 35.8
comp=Z,2µm,18.0s
ROCAM Rodrigues Isla 104.47 186 IAMs_20 IAMs_20 04 56 01.2
comp=Z,4µm,19.0s
L56A Greenwood 104.87 33 IAMs_20 IAMs_20 04 51 02.0
comp=Z,2µm,21.0s
PAL Palisades 105.02 36 IAMs_20 IAMs_20 04 50 30.7
comp=Z,3µm,22.0s
N62A Caumsett State 105.10 36 IAMs_20 IAMs_20 04 52 34.8
comp=Z,4µm,19.0s
DGMT Dagmar 105.14 13 IAMs_20 IAMs_20 04 51 52.5
comp=Z,2µm,19.0s
MDND Maddock 105.17 16 IAMs_20 IAMs_20 04 50 50.2
comp=Z,3µm,21.0s
WSPT Westport, CT 105.36 36 IAMs_20 IAMs_20 04 52 32.8
comp=Z,4µm,19.0s
BINY Binghamton 105.42 34 IAMs_20 IAMs_20 04 53 13.4
comp=Z,2µm,18.0s
BKB Balikpapan 105.50 243 IAMs_20 IAMs_20 04 56 19.7
comp=Z,3µm,19.0s
TOLI2 Tolitoli 105.52 248 IAMs_20 IAMs_20 04 55 45.6
comp=Z,2µm,20.0s
L59A Walton 105.71 35 IAMs_20 IAMs_20 04 52 12.2
comp=Z,2µm,20.0s
J55A Hilton 105.82 32 IAMs_20 IAMs_20 04 51 47.1
comp=Z,2µm,21.0s
M63A Gales Ferry 106.00 37 IAMs_20 IAMs_20 04 51 29.7
comp=Z,3µm,20.0s
AGMN Agassiz Nation 106.22 18 IAMs_20 IAMs_20 04 52 50.0
comp=Z,2µm,20.0s
UCCT U. Connecticut 106.28 37 IAMs_20 IAMs_20 04 52 19.3
comp=Z,4µm,20.0s
J57A Williamstown 106.51 34 IAMs_20 IAMs_20 04 53 32.3
comp=Z,2µm,19.0s
TRY Troy 106.64 35 IAMs_20 IAMs_20 04 51 32.8
comp=Z,3µm,22.0s
L61B Northampton 106.72 36 IAMs_20 IAMs_20 04 53 31.7
comp=Z,3µm,19.0s
EYMN Ely 106.72 21 IAMs_20 IAMs_20 04 53 48.0
comp=Z,2µm,18.0s
L64A Middleborough 106.89 38 IAMs_20 IAMs_20 04 54 22.1
comp=Z,2µm,19.0s
J59A Piesco 107.03 35 IAMs_20 IAMs_20 04 53 03.1
comp=Z,2µm,20.0s
K62A Royalston 107.06 36 IAMs_20 IAMs_20 04 52 53.8
comp=Z,4µm,20.0s
WES Weston 107.12 37 IAMs_20 IAMs_20 04 51 39.3
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 107.14 37 IAMs_20 IAMs_20 04 52 03.1
comp=Z,3µm,21.0s
J61A Chester 107.56 36 IAMs_20 IAMs_20 04 54 08.0
comp=Z,3µm,19.0s
HNH Hanover 107.97 36 IAMs_20 IAMs_20 04 53 33.8
comp=Z,3µm,20.0s
LONY Lake Ozonia 108.04 34 IAMs_20 IAMs_20 04 54 23.9
comp=Z,2µm,20.0s
VT1 Waterbury 108.37 35 IAMs_20 IAMs_20 04 54 18.3
comp=Z,3µm,20.0s
I62A Tamworth 108.43 37 IAMs_20 IAMs_20 04 53 44.1
comp=Z,3µm,21.0s
LBNH Lisbon 108.56 36 IAMs_20 IAMs_20 04 53 31.6
comp=Z,3µm,20.0s
I63A Otisfield 108.84 37 IAMs_20 IAMs_20 04 53 03.0
comp=Z,3µm,21.0s
H02S2 DAWSON INLET T 109.04 354 T T 06 12 45.1
SNR=6.9
H62A Milan 109.11 36 IAMs_20 IAMs_20 04 54 15.1
comp=Z,3µm,20.0s
WVL Waterville 109.61 37 IAMs_20 IAMs_20 04 54 59.2
comp=Z,2µm,20.0s
G62A West of Eustis 109.89 36 IAMs_20 IAMs_20 04 53 37.7
comp=Z,3µm,22.0s
MYLDM Lahad Datu 110.16 248 IAMs_20 IAMs_20 04 58 21.5
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 110.35 37 IAMs_20 IAMs_20 04 55 31.8
comp=Z,2µm,20.0s
MBO M'Bour 110.60 95 IAMs_20 IAMs_20 04 58 16.8
comp=Z,2µm,19.0s
G65A Princeton 110.89 38 IAMs_20 IAMs_20 04 54 19.0
comp=Z,2µm,21.0s
SBUM Sibu 111.02 241 IAMs_20 IAMs_20 05 00 56.3
comp=Z,2µm,20.0s
V35K Ketchikan 111.11 355 IAMs_20 IAMs_20 04 50 07.9
comp=Z,3µm,22.0s
F64A Sherman 111.19 38 IAMs_20 IAMs_20 04 56 05.2
comp=Z,2µm,20.0s
E62A Clayton Lake 111.46 36 IAMs_20 IAMs_20 04 54 45.2
comp=Z,2µm,21.0s
FFC Flin Flon 111.56 13 IAMs_20 IAMs_20 04 53 25.2
comp=Z,2µm,21.0s
U33K Whale Pass 111.98 354 IAMs_20 IAMs_20 04 50 44.0
comp=Z,4µm,20.0s
D62A Allapoint, All 112.02 36 IAMs_20 IAMs_20 04 54 41.0
comp=Z,2µm,20.0s
WRAK Wrangell Islan 112.24 354 IAMs_20 IAMs_20 04 50 36.8
comp=Z,3µm,21.0s
S34M Telegraph Cree 113.66 355 IAMs_20 IAMs_20 04 51 48.5
comp=Z,3µm,20.0s
MYKOM Kota Tinggi 114.39 233 IAMs_20 IAMs_20 04 57 01.5
comp=Z,2µm,20.0s
BESE Bessie Mountai 114.55 353 IAMs_20 IAMs_20 04 52 26.9
comp=Z,4µm,21.0s
Q32M Nakina River 114.77 355 IAMs_20 IAMs_20 04 53 12.7
comp=Z,2µm,19.0s
R33M Jennings River 115.14 355 IAMs_20 IAMs_20 04 52 55.4
comp=Z,4µm,20.0s
FALS False Pass 115.31 335 IAMs_20 IAMs_20 04 56 11.5
comp=Z,4µm,20.0s
P32M Atlin 115.48 354 IAMs_20 IAMs_20 04 52 50.5
comp=Z,3µm,20.0s
DGAR Diego Garcia 115.68 197 IAMs_20 IAMs_20 04 59 48.8
comp=Z,3µm,20.0s
S12K Black Hills 115.77 336 IAMs_20 IAMs_20 04 54 04.8
comp=Z,4µm,21.0s
P29M Windy Craggy 115.81 352 IAMs_20 IAMs_20 04 53 29.3
comp=Z,4µm,20.0s
EDA Edea 115.86 126 IAMs_20 IAMs_20 04 53 12.1
comp=Z,2µm,21.0s
P33M Teslin, Yukon 116.05 354 IAMs_20 IAMs_20 04 53 31.5
comp=Z,3µm,20.0s
ADK Adak 116.31 326 IAMs_20 IAMs_20 04 53 47.5
comp=Z,3µm,20.0s
GSI Gunungsitoli 116.65 226 IAMs_20 IAMs_20 05 05 42.1
comp=Z,3µm,18.0s
O30N Mendenhall 116.81 353 IAMs_20 IAMs_20 04 54 04.7
comp=Z,3µm,20.0s
N32M Quiet Lake 117.00 354 IAMs_20 IAMs_20 04 54 19.6
comp=Z,3µm,20.0s
N30M Aishikik Lake 117.57 352 IAMs_20 IAMs_20 04 55 14.8
comp=Z,3µm,19.0s
GLB Gilahina Butte 118.18 349 IAMs_20 IAMs_20 04 54 55.0
comp=Z,4µm,20.0s
P08K Saint George I 118.39 333 IAMs_20 IAMs_20 04 53 47.3
comp=Z,2µm,22.0s
O15K Ungalikthiuk R 118.50 339 IAMs_20 IAMs_20 04 56 02.9
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 118.58 345 IAMs_20 IAMs_20 04 55 13.9
comp=Z,3µm,20.0s
FIS Fire Island 118.71 345 IAMs_20 IAMs_20 04 53 38.1
comp=Z,3µm,20.0s
KNK Knik Glacier 118.72 346 IAMs_20 IAMs_20 04 56 04.5
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 118.98 347 IAMs_20 IAMs_20 04 53 14.2
comp=Z,3µm,22.0s
SML Sawmill 119.08 346 IAMs_20 IAMs_20 04 57 01.0
comp=Z,3µm,19.0s
SPIA Saint Paul Isl 119.08 333 IAMs_20 IAMs_20 04 55 45.5
comp=Z,2µm,20.0s
GHO Glory Hole Cre 119.13 346 IAMs_20 IAMs_20 04 53 40.2
comp=Z,4µm,22.0s
M22K Willow 119.28 345 IAMs_20 IAMs_20 04 54 48.2
comp=Z,3µm,20.0s
MSEY Mahe Island 119.62 178 IAMs_20 IAMs_20 05 00 31.6
comp=Z,3µm,21.0s
MBAR Mbarara 119.67 149 *i* PKIKP PKPdf 04 14 56.3 -0.7
TORD Torodi Ar. Bea 119.77 112 PKP PKPdf 04 14 55.2 -1.6
comp=Z,1.4nm,0.9s,baz=310,slow=0.8,SNR=7.3
KIBK Kibwezi 119.85 158 IAMs_20 IAMs_20 05 04 19.0
comp=Z,3µm,19.0s
CUT Chulitna 119.92 346 IAMs_20 IAMs_20 04 54 16.2
comp=Z,3µm,21.0s
DHY Denali Highway 120.18 347 IAMs_20 IAMs_20 04 54 47.1
comp=Z,3µm,21.0s
M13K Dall Lake 120.36 338 IAMs_20 IAMs_20 04 55 49.1
comp=Z,3µm,21.0s
M14K Bethel 120.38 339 IAMs_20 IAMs_20 04 55 48.6
comp=Z,2µm,21.0s
LHMI Lhok Sumawe 120.46 227 IAMs_20 IAMs_20 05 06 26.3
comp=Z,2µm,20.0s
J30M Hart River 120.60 353 IAMs_20 IAMs_20 04 56 08.0
comp=Z,3µm,20.0s
RND Reindeer 120.69 347 IAMs_20 IAMs_20 04 54 40.5
comp=Z,3µm,21.0s
MCK McKinley 121.01 347 IAMs_20 IAMs_20 04 58 40.1
comp=Z,3µm,18.0s
L14K Kuka Creek 121.06 339 IAMs_20 IAMs_20 04 55 36.7
comp=Z,2µm,22.0s
KTH Kantishna Hill 121.11 346 IAMs_20 IAMs_20 04 54 53.6
comp=Z,3µm,22.0s
I30M Mount Dempster 121.25 353 IAMs_20 IAMs_20 04 55 29.0
comp=Z,3µm,21.0s
J25K Salcha River, 121.44 349 IAMs_20 IAMs_20 04 56 22.2
comp=Z,3µm,20.0s
BPAW Bear Paw Mtn. 121.64 346 IAMs_20 IAMs_20 04 54 45.7
comp=Z,3µm,22.0s
H31M Peel River 121.70 354 IAMs_20 IAMs_20 04 57 15.0
comp=Z,3µm,20.0s
ILAR Eielson Array 121.76 348 PKP PKPdf 04 14 58.4 -0.7
comp=Z,4.3nm,0.9s,baz=159,slow=1.2,SNR=20
MACI Morro de la Ar 121.83 86 IAMs_20 IAMs_20 05 04 49.9
comp=Z,1µm,18.0s
NEA2 Nenana 121.86 347 IAMs_20 IAMs_20 04 55 59.4
comp=Z,3µm,19.0s
COLA College 121.98 348 *i* PKIKP PKiKP 04 14 59.9 +0.3
K13K Kusilvak Mount 122.01 338 IAMs_20 IAMs_20 04 57 31.6
comp=Z,3µm,21.0s
I23K Minto, Yukon-K 122.43 347 IAMs_20 IAMs_20 04 58 43.4
comp=Z,3µm,19.0s

MLY	Manley	122.49	346	IAMs_20	IAMs_20	04 59 54.2	
	comp=Z,3μm,19.0s						
I21K	Tanana	122.81	346	IAMs_20	IAMs_20	04 57 28.5	
	comp=Z,3μm,20.0s						
G31M	Satah River	122.81	355	IAMs_20	IAMs_20	04 57 50.3	
	comp=Z,3μm,20.0s						
G30M	tAoh Zraii Nji	122.98	354	IAMs_20	IAMs_20	04 58 02.9	
	comp=Z,3μm,20.0s						
G29M	Pine Creek	123.03	353	IAMs_20	IAMs_20	04 57 04.2	
	comp=Z,3μm,20.0s						
F31M	Tsiigehtchic	123.30	355	IAMs_20	IAMs_20	04 58 36.2	
	comp=Z,3μm,20.0s						
H21K	Melozitna Rive	123.37	346	IAMs_20	IAMs_20	04 58 06.4	
	comp=Z,2μm,20.0s						
F30M	Barrier River	123.58	354	IAMs_20	IAMs_20	04 58 21.7	
	comp=Z,3μm,20.0s						
MJAR	Matsushiro Arr	124.18	286	PKP	PKPdf	04 15 04.5	-0.1
	comp=Z,0.9nm,0.5s,baz=187,slow=1.0,SNR=5.0						
G21K	Allakaket	124.28	346	IAMs_20	IAMs_20	05 01 36.4	
	comp=Z,3μm,19.0s						
E29M	Blow River	124.48	353		PKiKP	04 15 07.1	+2.6
LODK	Lodwar	124.78	153	IAMs_20	IAMs_20	05 04 24.4	
	comp=Z,3μm,20.0s						
F21K	Alatna River	124.94	346		PKiKP	04 15 05.9	+0.5
F21K				IAMs_20	IAMs_20	04 56 31.9	
	comp=Z,2μm,22.0s						
ERM	Erimo	125.56	294	IAMs_20	IAMs_20	05 04 55.6	
	comp=Z,1μm,20.0s						
PET	Petropavlovsk	126.28	313	IAMs_20	IAMs_20	05 05 54.4	
	comp=Z,2μm,19.0s						
QIZ	Qiongzhong	126.30	249	PKP	PKPdf	04 15 09.3	+0.1
QIZ				PP	PP	04 17 04.0	-0.1
QIZ				SS	SS	04 34 11.9	+4.0
QIZ				AMB	AMB		
	comp=Z,670nm,6.7s						
QIZ				LR	LR		
	comp=Z,520nm,15.3s						
QIZ				LR	LR		
	comp=Z,760nm,21.0s						
QIZ				LR	LR		
	comp=Z,960nm,31.4s						
PEA0B	Petropavlovsk-	126.73	312	*i* PKIKP	PKPdf	04 15 08.4	-0.6
D19K	Kuna River	126.79	345		PKiKP	04 15 09.7	+0.6
B21K	Ikpikpuk River	127.34	347	IAMs_20	IAMs_20	05 01 24.3	
	comp=Z,2μm,20.0s						
PALK	Pallekele	128.09	210	IAMs_20	IAMs_20	05 00 35.1	
	comp=Z,2μm,20.0s						
YSS	Yuzhno-Sakhali	129.25	298	IAMs_20	IAMs_20	05 16 50.3	
	comp=Z,1μm,18.0s						
TAM	Tamanrasset	129.77	109		PKiKP	04 15 17.1	+0.4
TAM				IAMs_20	IAMs_20	05 04 53.7	
	comp=Z,2μm,20.0s						
TAM	Tamanrasset	129.77	109	PKIKP	PKiKP	04 15 17.1	+0.4
KSRS	Korea Array	130.49	279	PKP	PKiKP	04 15 18.2	+0.8
	comp=Z,0.5nm,0.4s,baz=119,slow=1.5,SNR=5.0						
IVI	Ivigtut	130.55	38	IAMs_20	IAMs_20	05 06 47.1	
	comp=Z,2μm,22.0s						
AVE	Averroes	130.75	89	IAMs_20	IAMs_20	05 04 29.0	
	comp=Z,2μm,22.0s						
CMAR	Chiang Mai Arr	131.28	237	PKP	PKPdf	04 15 19.4	+0.7
	comp=Z,2.6nm,0.3s,baz=155,slow=1.9,SNR=6.6						
SLVN	Son La	131.29	244	IAMs_20	IAMs_20	05 24 35.7	
	comp=Z,1μm,19.0s						
CHTO	Chiang Mai	131.59	237	IAMs_20	IAMs_20	05 08 21.6	
	comp=Z,2μm,20.0s						
NJ2	Nanjing	131.64	267	*e*PKP	PKiKP	04 15 21.7	+1.7
MORF	Marmelete	132.96	84	*e*PP	PP	04 17 48.6	+1.0
MORF				IAMs_20	IAMs_20	05 08 58.8	
	comp=Z,1μm,24.6s						
MESJ	Messejana	133.58	84	*e*PP	PP	04 17 52.6	+1.0
MESJ				*e*SS	SS	04 35 39.1	+1.4
MESJ				IAMs_20	IAMs_20	05 05 32.1	
	comp=Z,1μm,18.0s						
LIS	Lisbon	133.67	83	*e*PP	PP	04 17 53.2	+1.0
LIS				IAMs_20	IAMs_20	05 11 00.7	
	comp=Z,2μm,23.8s						
SFJD	Kangerlussuaq	133.75	31	IAMs_20	IAMs_20	05 08 13.9	
	comp=Z,2μm,21.0s						
MA2	Magadan	133.95	315	IAMs_20	IAMs_20	05 02 16.3	
	comp=Z,2μm,22.0s						
GYA	Guiyang	134.04	251	‖PKP	PKiKP	04 15 27.4	+2.2
GYA				PP	PP	04 18 00.6	+6.1
GYA				AMB	AMB		
	comp=Z,1μm,4.6s						
GYA				LR	LR		
	comp=Z,500nm,5.4s						
GYA				LR	LR		
	comp=Z,990nm,5.1s						
GYA				LR	LR		
	comp=Z,820nm,10.0s						
ILULI	Ilulissat	135.09	29	IAMs_20	IAMs_20	05 11 58.0	
	comp=Z,2μm,18.0s						
COI	Coimbra	135.12	82	IAMs_20	IAMs_20	05 11 05.0	
	comp=Z,2μm,19.0s						
SEY	Seymchan	135.40	320	*i* PKIKP	PKiKP	04 15 27.0	+0.4
SEY				pmax	pmax		
	comp=Z,14nm,1.3s						
MTE	Manteigas	135.73	82	IAMs_20	IAMs_20	05 08 44.3	
	comp=Z,2μm,20.0s						
CN2	Changchun	136.21	284	PKP	PKPdf	04 15 23.2	-4.0
CN2				PP	PP	04 18 08.8	+0.6
CN2				LR	LR		
	comp=Z,900nm,18.0s						
CN2				LR	LR		
	comp=Z,900nm,18.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
PZH	PanZhiHua	136.66	246	PKP	PKPdf	04 15 22.9	-5.8
PZH				AMB	AMB		
	comp=Z,320nm,6.9s						
PZH				LR	LR		
	comp=Z,750nm,17.3s						
PZH				LR	LR		
	comp=Z,680nm,17.8s						
PZH				LR	LR		
	comp=Z,990nm,22.3s						
PAB	San Pablo	136.94	85	IAMs_20	IAMs_20	05 09 23.9	
	comp=Z,2μm,21.0s						
ANGG	Ammassalik, Gr	137.01	37	IAMs_20	IAMs_20	05 14 10.9	
	comp=Z,1μm,19.0s						
ESDC	Sonseca Array	137.24	86		PKPdf	04 15 30.3	+1.0
ESDC				IAMs_20	IAMs_20	05 09 45.1	
	comp=Z,2μm,21.0s						
ESDC	Sonseca Array	137.24	86	PKhKP	PKPpre	04 15 27.7	
	comp=Z,1.5nm,0.9s,baz=270,slow=1.2,SNR=12						
ESBB	Sonseca Array	137.24	86	IAMs_20	IAMs_20	05 09 22.0	
	comp=Z,2μm,21.0s						
HYB	Hyderabad	138.34	211	*e*PKiKP	PKiKP	04 15 34.7	+0.7
HYB				*e*PP	PP	04 18 22.7	+1.8
SUMG	Summit	140.43	28	IAMs_20	IAMs_20	05 14 46.8	
	comp=Z,2μm,19.0s						
ZEA	Zeya	141.22	297	*e*PKIKP	PKPdf	04 15 35.0	-1.0
ZEA				pmax	pmax		
	comp=Z,300nm,6.6s						
KEST	Kesra	141.92	101	PKhKP	PKPpre	04 15 37.3	
	comp=Z,2.9nm,0.9s,baz=344,slow=1.7,SNR=4.3						
HHC	Hu-ho-hao-te	142.01	270	*e*PKP	PKPdf	04 15 34.3	-3.7
HHC				SS	SS	04 37 23.4	+5.6
HHC				LR	LR		
	comp=Z,530nm,19.3s						
HHC				LR	LR		
	comp=Z,510nm,21.0s						
HHC				LR	LR		
	comp=Z,570nm,20.6s						
MAHO	Mahon	142.03	92	IAMs_20	IAMs_20	05 17 09.3	
	comp=Z,1μm,18.0s						
CEST	Esterri de Car	142.12	86	IAMs_20	IAMs_20	05 13 26.2	
	comp=Z,1μm,21.0s						
HIA	Hailar	142.67	287	IAMs_20	IAMs_20	05 22 18.5	
	comp=Z,1μm,19.0s						
BTO	Baotou	142.71	268	*e*PKP	PKPdf	04 15 26.6	-13
BTO				PP	PP	04 18 33.0	-15
LZDM	Lanzhou Array	142.97	257	PKP	PKPdf	04 15 41.5	+1.3
	comp=Z,2.3nm,0.4s,baz=101,slow=4.8,SNR=5.5						
LZH	Lanzhou	142.99	257	PKP	PKiKP	04 15 42.6	-0.6
LZH				PP	PP	04 18 50.8	+0.7
LZH				SS	SS	04 37 32.8	+3.6
LZH				AMB	AMB		
	comp=Z,930nm,9.3s						
LZH				LR	LR		
	comp=Z,760nm,21.0s						
LZH				LR	LR		
	comp=Z,770nm,22.0s						
LZH				LR	LR		
	comp=Z,810nm,21.8s						
YAK	Yakutsk	144.02	310	IAMs_20	IAMs_20	05 11 12.6	
	comp=Z,1μm,22.0s						
YAK	Yakutsk	144.02	310	*e*PKIKP	PKPdf	04 15 42.2	+1.5
YAK				*e*		04 18 57.1	
YAK				*e*SS	SS	04 37 42.9	+2.7
YAK				*e*SSS	SSS	04 43 03.2	
YAK				pmax	pmax		
	comp=Z,16nm,1.3s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,9.0nm,2.1s						
YAK				pmax	pmax		
	comp=Z,114nm,3.7s						
YAK				pmax	pmax		
	comp=N,183nm,4.8s						
YAK				pmax	pmax		
	comp=E,134nm,6.1s						
SCO	Scoresbysund	144.43	35	IAMs_20	IAMs_20	05 15 35.1	
	comp=Z,2μm,20.0s						
LSA	Lhasa	144.53	237	IAMs_20	IAMs_20	05 25 20.8	
	comp=Z,1μm,21.0s						
LSA	Lhasa	144.53	237	PKP	PKPab	04 15 40.1	-1.6
LSA				LR	LR		
	comp=Z,600nm,16.6s						
LSA				LR	LR		
	comp=Z,340nm,20.8s						
LSA	Lhasa	144.53	237	PKPab	PKPab	04 15 42.1	+0.3
VSL	Villasalto	144.62	97	IAMs_20	IAMs_20	05 33 26.5	
	comp=Z,1μm,19.0s						
WDD	Wied Dalam	144.83	107	IAMs_20	IAMs_20	05 15 54.6	
	comp=Z,2μm,20.0s						
SSB	Saint Sauveur	145.66	85	IAMs_20	IAMs_20	05 19 01.6	
	comp=Z,1μm,19.0s						
DBG	Daneborg	145.91	28	*i* P	PKiKP	04 15 46.7	-1.1
DBG				IAmb	IAmb	04 15 54.7	
	comp=Z,15nm,1.0s						
JLN	Jalan Bani Buh	146.26	183	P	PKPdf	04 15 45.0	-0.9
RAYN	Ar Rayn	146.50	160	PKPdf	PKPdf	04 15 46.8	+0.5
RAYN	Ar Rayn	146.50	160	P	PKPdf	04 15 46.9	+0.6
RAYN	Ar Rayn	146.50	160	*i* PKPdf	PKPdf	04 15 46.1	-0.3
	SNR=14						
RAYN	Ar Rayn	146.50	160	PKP2	PKPdf	04 15 46.8	+0.5
RAYN				MLR	MLR		
	comp=Z,4μm,19.0s						
JMDO	Jabal Madar	146.51	181	P	PKPdf	04 15 47.1	+0.8
DAG	Danmarks Havn	146.67	24	*i* P	PKPab	04 15 48.7	+0.9
DAG				IAmb	IAmb	04 15 52.6	
	comp=Z,78nm,2.0s						
BNI	Bardonecchia	146.72	87	IAMs_20	IAMs_20	05 16 13.6	
	comp=Z,2μm,20.0s						
EKA	Eskdalemuir Ar	146.79	65	PKPbc	PKPdf	04 15 46.5	+0.8
	comp=Z,6.0nm,0.7s,baz=250,slow=3.0,SNR=9.7						
UMZA	Um Al Zommool	146.82	176	P	PKPdf	04 15 47.7	+1.0
BSY	Bisya	146.89	180	P	PKPbc	04 15 48.9	+0.1
MZR	Muzera	147.02	173	P	PKPbc	04 15 48.5	-0.6
	SNR=13						
MZR	Muzera	147.02	173	*i* PKPdf	PKPdf	04 15 46.4	-0.7
	SNR=6.8						
NOR	Nord	147.15	15	*i* P	PKPbc	04 15 48.7	+0.8
NOR				IAmb	IAmb	04 15 59.7	
	comp=Z,48nm,1.3s						
TIXI	Tiksi	147.17	326		PKPbc	04 15 47.8	-0.3
TIXI	Tiksi	147.17	326	IAMs_20	IAMs_20	05 25 55.0	
	comp=Z,2μm,18.0s						
TIXI	Tiksi	147.17	326	PKP2	PKPbc	04 15 47.8	-0.3
SMDO	Samad	147.20	181	P	PKPdf	04 15 48.4	+0.9
CEL	Celeste	147.35	105	IAMs_20	IAMs_20	05 14 06.4	
	comp=Z,2μm,22.0s						
WSAR	Wadi Sarin	147.37	182	P	PKPbc	04 15 49.7	-0.4
ARQ	Araqi	147.47	179	P	PKPdf	04 15 48.3	+0.4
	SNR=10						
CIT	Chita	147.47	287	*e*PKP2	PKPab	04 15 51.8	+0.1
CIT				pmax	pmax		
	comp=Z,154nm,2.1s						
GTA	Gaotai	147.59	258	PKPbc	PKPbc	04 15 50.2	-0.3
GTA				PKPab	sPKPab	04 15 57.9	+4.1
GTA				PP	PP	04 19 20.8	+3.4
GTA				SKKS		04 26 08.2	
GTA				AMB	AMB		
	comp=Z,630nm,6.2s						
GTA				LR	LR		
	comp=Z,800nm,20.7s						
GTA				LR	LR		
	comp=Z,710nm,20.7s						
GTA				LR	LR		
	comp=Z,780nm,21.5s						
BIDO	Bidbid	147.66	181	P	PKPdf	04 15 49.5	+1.3
	SNR=13						
HOQ	Hoqain	147.72	180	P	PKPdf	04 15 49.6	+1.2
	SNR=7.1						
MZWR	Madinat Zayed	147.80	174	P	PKPbc	04 15 50.5	-0.7
SENIN	Lac Senin/Sane	147.85	86		PKPbc	04 15 52.0	+0.9
SENIN				IAMs_20	IAMs_20	05 17 09.7	
	comp=Z,2μm,21.0s						
GOMU	GeErMu	147.93	248	PKPbc	PKPbc	04 15 50.6	-1.2
GOMU				SS	SS	04 38 30.9	+5.2
GOMU				LR	LR		
	comp=Z,940nm,21.2s						
GOMU				LR	LR		
	comp=Z,540nm,17.8s						
GOMU				LR	LR		
	comp=Z,990nm,21.4s						
SLWR	Sila	147.94	170	P	PKPbc	04 15 50.7	-0.9
ALNE	Al Ain	148.17	177	P	PKPbc	04 15 52.8	+0.5
	SNR=11						
ALNE	Al Ain	148.17	177	*i* PKPbc	PKPbc	04 15 51.0	-1.3
	SNR=8.9						
SOHO	SOHO	148.27	179	P	PKPbc	04 15 51.6	-0.9
SOHO	SOHO	148.27	179	*i* PKPbc	PKPbc	04 15 51.6	-0.9
	SNR=7.5						
DOU	Dourbes	148.40	78	*d*PKPdf	PKPbc	04 15 51.4	-0.6
SMRA	Abu-Samra	148.52	169	P	PKPbc	04 15 52.8	-0.3
	SNR=6.5						
CUC	Castrocucco	148.54	103	IAMs_20	IAMs_20	05 28 06.0	
	comp=Z,1μm,21.0s						
TRNA	Turayna	148.55	169	P	PKPdf	04 15 51.6	+2.1
BMRD	Maredsous	148.60	78	*d*PKP	PKPbc	04 15 53.6	+1.0
UCC	Uccle	148.63	77	*d*PKPdf	PKPbc	04 15 52.0	-0.6
AJN	Ajban	148.65	176	P	PKPbc	04 15 52.8	-0.7
AJN	Ajban	148.65	176	*i* PKPbc	PKPbc	04 15 53.0	-0.5
	SNR=9.5						
ASUD	Al Ashush, Dub	148.73	176	P	PKPbc	04 15 52.7	-1.0
ASUD	Al Ashush, Dub	148.73	176	*i* PKPbc	PKPbc	04 15 52.8	-0.9
	SNR=6.4						
RCHB	Rochefort	148.78	78	*d*PKPdf	PKPbc	04 15 51.5	-1.6
ASHO	Ashiyiah	148.80	178	P	PKPbc	04 15 52.5	-1.4
	SNR=8.8						
ASHO	Ashiyiah	148.80	178	*i* PKPbc	PKPdf	04 15 52.0	+1.9
	SNR=11						
ECH	Echery	148.82	83	IAMs_20	IAMs_20	05 19 28.7	
	comp=Z,1μm,20.0s						
FAQ	Al Faqa, Dubai	148.85	177	P	PKPbc	04 15 53.1	-0.9
FAQ	Al Faqa, Dubai	148.85	177	*i* PKPbc	PKPbc	04 15 52.8	-1.2
	SNR=9.3						
ULN	Ulaanbaatar	148.88	276		PKPbc	04 15 53.0	-0.6
ULN	Ulaanbaatar	148.88	276	IAMs_20	IAMs_20	05 35 38.0	
	comp=Z,1μm,21.0s						
ULN	Ulaanbaatar	148.88	276	PKP2	PKPbc	04 15 53.0	-0.6
HATD	Hatta, Dubai	148.95	178	P	PKPdf	04 15 52.0	+1.8
	SNR=8.4						
HATD	Hatta, Dubai	148.95	178	*i* PKPbc	PKPdf	04 15 52.1	+1.8
	SNR=6.4						
WLF	Walferdange	149.04	80	IAMs_20	IAMs_20	05 19 35.6	
	comp=Z,1μm,20.0s						
WLF	Walferdange	149.04	80	*d*PKP	PKPab	04 15 58.5	+0.5
WLF				*dp*PKP	sPKPab	04 16 02.5	+3.5
TUE	Stuetta	149.06	87		PKPbc	04 15 53.6	-0.6
TUE				IAMs_20	IAMs_20	05 34 50.8	
	comp=Z,1μm,21.0s						
UOSS	Minazif	149.07	178		PKPdf	04 15 51.1	+0.7
UOSS	Minazif	149.07	178	P	PKPbc	04 15 53.5	-1.1
UOSS	Minazif	149.07	178	PKPdf	PKPdf	04 15 49.2	-1.2
NAZ	Nazwa, Dubai	149.10	177	P	PKPbc	04 15 53.1	-1.5
NAZ	Nazwa, Dubai	149.10	177	*i* PKPbc	PKPbc	04 15 53.7	-0.9
	SNR=9.6						
BSTI	Sart Tilman	149.19	78	*d*PKP	PKPab	04 15 58.0	-0.6
SONM	Songino Array	149.23	276	PKPdf	PKPdf	04 15 51.5	+1.3
SONM	Songino Array	149.23	276	PKPbc	PKPbc	04 15 52.8	-1.6
	comp=Z,2.1nm,0.6s,baz=124,slow=2.1,SNR=6.5						
SONM	Songino Array	149.23	276	PKIKP	PKPdf	04 15 51.5	+1.3
BHOU	Houvegnez	149.31	79	*d*PKP	PKPbc	04 15 55.0	+0.6
NGCH	Negor - Chabah	149.36	187	P	PKPdf	04 15 51.3	+0.4
MDH	Madha	149.42	178	P	PKPbc	04 15 53.6	-1.8
MDH	Madha	149.42	178	PKPdf	PKPdf	04 15 50.7	-0.3
MEM	Membach	149.44	78	*d*PKPdf	PKPbc	04 15 53.9	-0.7
ANKY	Antikythira Is	149.44	117	P	PKPdf	04 15 51.7	+1.0
MSFE	Esma-Masafi	149.48	178	PKPbc	PKPbc	04 15 54.8	-0.8
MASF	Masafi	149.49	178	P	PKPbc	04 15 54.2	-1.5
BTNL	Ternell	149.50	78	*d*PKP	PKiKP	04 15 56.2	+0.2
BFO	Black Forest	149.54	83	PKPdf	PKPdf	04 15 51.8	+1.3
BFO				IAMs_20	IAMs_20	05 36 08.6	
	comp=Z,1μm,20.0s						
BFO	Black Forest	149.54	83	PKHKP	PKPpre	04 15 51.8	
KTHA	Kythira Island	149.63	116	P	PKPdf	04 15 53.3	+2.3
FUORN	Ofenpass-Fuorn	149.67	88	IAMs_20	IAMs_20	05 18 51.7	
	comp=Z,2μm,21.0s						
SAKB	Bahrain	149.70	168	P	PKPbc	04 15 55.0	-1.1
BOD	Bodaibo	149.72	298	*e*PKHKP	PKPpre	04 15 52.8	
BOD				pmax	pmax		
	comp=Z,43nm,1.2s						
PSDA	Pessada-Kefalo	149.76	110	P	PKiKP	04 15 56.6	-0.2
IDI	Anoyia	149.78	119	P	PKPbc	04 15 54.2	-1.9
VLS	Valsamata	149.81	110	P	PKPbc	04 15 54.0	-2.0
DAVA	Damuels	149.83	86	*i* pPKP	PKPbc	04 15 55.8	-0.1
	comp=Z,31nm,1.6s,SNR=5.8						
VLI	Veliai	149.92	115	P	PKPbc	04 15 54.2	-2.1
FSK	Fiskardo	150.00	110	P	PKPbc	04 15 54.3	-2.1
BANOM	Banah	150.04	178	PKPbc	PKPbc	04 15 54.8	-2.1
NPS	Neapolis	150.11	120	P	PKPdf	04 15 54.5	+2.7
CTI	Castel Tesino	150.11	90	PKPdf	PKPdf	04 15 52.6	+1.0
CTI	Castel Tesino	150.11	90	PKiKP	PKPdf	04 15 52.6	+1.0
VLX	Vlachokerasia	150.13	114	P	PKPdf	04 15 54.5	+2.6
FETA	Feichten	150.16	87	*i* pPKP	PKPbc	04 15 56.3	-0.4
	comp=Z,36nm,1.4s,SNR=16						
SHME	Shamm	150.17	178	P	PKPdf	04 15 54.3	+2.1
SHME	Shamm	150.17	178	PKPbc	PKPdf	04 15 54.9	+2.7
EVGI	Lefkada island	150.17	110	P	PKPdf	04 15 54.6	+2.8
DRO	Drossia	150.23	112	P	PKPdf	04 15 54.7	+2.8
AXS	Araxos	150.23	111	P	PKPdf	04 15 54.7	+2.8
NYDR	Nydri-Lefkada	150.26	110	P	PKPbc	04 15 55.8	-1.3
STU	Stuttgart	150.26	83	IAMs_20	IAMs_20	05 34 39.7	
	comp=Z,2μm,20.0s						
LKD2	Lefkada island	150.29	110	P	PKPdf	04 15 54.8	+2.8
TSLK	Tsoukalades, L	150.32	110	P	PKPbc	04 15 56.1	-1.1
RETA	Reutte	150.44	87	*i* pPKP	PKPbc	04 15 57.2	-0.1
	comp=Z,29nm,1.4s						
KEK	Kerkira	150.50	107	P	PKiKP	04 15 58.5	+0.2
KLV	Kalavryta, Ach	150.53	112	P	PKPbc	04 15 55.4	-2.4
SQTA	Sankt Quirin	150.54	87	*i* pPKP	PKPbc	04 15 57.5	-0.1
	comp=Z,47nm,1.5s,SNR=9.3						
GUR	Goura	150.54	113	P	PKPdf	04 15 55.5	+3.0
MOTA	Moosalm	150.55	87	*i* pPKP	PKPbc	04 15 57.2	-0.5
	comp=Z,43nm,1.7s,SNR=11						
PVO	Paravola	150.62	111	P	PKPbc	04 15 56.9	-1.0
MHLO	Agia Marina, M	150.64	117	P	PKiKP	04 15 59.0	+0.3
IGT	Igoumenitsa	150.66	108	P	PKPbc	04 15 56.0	-2.0
EFP	Efpalio	150.68	112	P	PKPbc	04 15 56.6	-1.4
AMPL	Ampelaki	150.69	110	P	PKPbc	04 15 56.6	-1.4
SERG	Sergoula	150.75	112	P	PKPbc	04 15 56.7	-1.6
KALE	Kalithea	150.78	112	P	PKPbc	04 15 58.8	+0.4
WTTA	Wattenberg	150.81	88	*i* pPKP	PKPbc	04 15 58.4	0.0
	comp=Z,55nm,1.4s,SNR=8.8						
WATA	Walderalm	150.81	88	*i* pPKP	PKPbc	04 15 58.0	-0.3
	comp=Z,20nm,1.0s						
ANX	Ano Chora	150.81	111	P	PKPbc	04 15 57.3	-1.2
SAP3	Santorini-Thir	150.91	119	P	PKPbc	04 15 57.6	-1.1
SNT5	Nea Kammeni, S	150.91	119	P	PKPbc	04 15 56.9	-1.8
THERA	Ancient Thera,	150.92	119	P	PKPdf	04 15 56.0	+3.0
LTK	Loutraki	150.93	113	P	PKPdf	04 15 54.9	+1.9
EVR	Evrytania	151.00	111	P	PKPbc	04 15 57.7	-1.2
ABTA	Abfaltersbach	151.00	89	*i* pPKP	PKPbc	04 15 58.2	-0.5
	comp=Z,32nm,1.6s,SNR=8.6						
JAN	Janina	151.03	109	P	PKPbc	04 15 57.6	-1.3
TETR	Tetrakomo, Epi	151.03	110	P	PKPbc	04 15 57.7	-1.3
PRMD	Pramanda	151.07	109	P	PKPbc	04 15 56.5	-2.6
KARP	Karpathos	151.09	122	PKPdf	PKPdf	04 15 54.3	+1.0
KARP	Karpathos	151.09	122	P	PKPdf	04 15 56.5	+3.1
VILL	Villia	151.22	114	P	PKPdf	04 15 56.7	+3.2
VLY	Voula,Athens	151.23	115	P	PKPbc	04 15 56.7	-2.7
MAKR	Makrakomi, Fth	151.24	111	P	PKPbc	04 15 57.5	-1.9
ATHU	Athens Univers	151.31	115	P	PKPbc	04 15 57.5	-2.1
AXAR	Agios Charalam	151.33	112	P	PKPbc	04 15 57.5	-2.1
AGG	Agios Georgios	151.35	111	P	PKPdf	04 15 56.3	+2.7
STFN	Stefani	151.35	114	P	PKPbc	04 15 58.6	-1.1
CADS	Cadrg	151.39	91	*e*PKPdf	PKPbc	04 15 58.5	-1.1
PTL	Penteli	151.41	115	P	PKPbc	04 15 57.6	-2.2
LKR	Lokris	151.42	113	P	PKPbc	04 15 57.4	-2.4
ATAL	Atalanti	151.46	113	P	PKPbc	04 15 57.5	-2.4
DION	Dionisos Attik	151.47	115	P	PKPbc	04 15 57.5	-2.5
LESA	Schwarzleotal	151.48	88	*i* pPKP	PKPbc	04 15 59.3	-0.4
	comp=Z,16nm,0.8s,SNR=15						
CEY	Cerknica	151.49	93	*e*PKPdf	PKPbc	04 15 59.0	-0.8
MYKA	Terra Mystica	151.57	90	*i* pPKP	PKPbc	04 15 59.8	-0.2
	comp=Z,19nm,0.9s,SNR=7.9						
THL	Klokotos Trika	151.58	110	P	PKPbc	04 15 57.7	-2.4
KBA	Koelnbreinsper	151.66	89	*i* pPKP	PKPbc	04 15 59.4	-0.9
	comp=Z,13nm,1.2s						
KBN	Korca	151.68	107	P	PKPbc	04 15 57.8	-2.6
TYRN	Tyrnavos	151.80	110	P	PKPbc	04 15 59.4	-1.3
GRFO	Grafen

comp=Z,20nm,1.4s
CLL MLR MLR
comp=Z,1μm,21.3s
RONA Rosalia, Austr 153.67 91 *e*pPKP **PKPbc 04 16 03.1 -1.5**
comp=Z,6.0nm,1.1s
PRA Prague 153.87 85 AMS AMS 05 17 40.0
comp=Z,1μm,23.0s
PRU Pruhonice 153.88 85 *e*PP **PP 04 19 52.4 -1.1**
PRU AMS AMS 05 24 00.0
comp=Z,1μm,19.6s
RICC Richard 153.91 84 AMS AMS 05 17 30.0
comp=Z,1μm,27.2s
BRG Berggiesshubel 153.98 83 *e*PKP **PKiKP 04 16 09.0 +3.9**
BRG Amp 04 16 21.0
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 153.98 83 PP PP 04 19 56.0 +2.0
GADA Gvkgeada 154.07 114 P **PKPdf 04 15 53.0 -4.5**
SMTH Samothraki Isl 154.08 113 P **PKPdf 04 15 56.4 -1.2**
PVCC Panska Ves 154.16 84 *e*PP **PP 04 19 55.4 +0.4**
PVCC AMS AMS 05 17 30.0
comp=Z,1μm,23.8s
VTS Vitosha 154.39 107 P **PKPdf 04 15 56.8 -1.3**
KRUC Moravsky 154.46 88 *e*PKP **PKPdf 04 15 58.9 +1.1**
KRUC *e* 04 16 07.5
ISP Isparta 154.51 124 IAMs_20 IAMs_20 05 25 35.4
comp=Z,2μm,20.0s
RDO Rodhopi 154.58 112 P **PKPdf 04 15 57.1 -1.1**
ALN Alexandroupoli 154.66 113 P **PKPdf 04 15 57.2 -1.1**
VRAC Vranov 154.70 88 *e*PKP **PKiKP 04 16 09.1 +2.4**
KDZ Kurdzhali 154.82 111 P **PKPdf 04 15 57.4 -1.1**
UPC Upice 154.96 85 AMS AMS 05 24 50.0
comp=Z,1μm,17.5s
DPC Dobruska-Polom 155.06 86 *e*PP **PP 04 19 58.7 -1.4**
DPC AMS AMS 05 20 00.0
comp=Z,1μm,22.2s
OSTC Ostas 155.10 85 AMS AMS 05 25 10.0
comp=Z,1μm,18.5s
NIL Nilore 155.17 213 **PKPab 04 16 24.9 +0.8**
NIL Nilore 155.17 213 IAMs_20 IAMs_20 05 23 21.8
comp=Z,2μm,20.0s
NIL Nilore 155.17 213 PKP2 **PKPab 04 16 24.9 +0.8**
KRLC Kraliky 155.19 86 AMS AMS 05 31 10.0
comp=Z,1μm,22.6s
MORC Moravsky Berou 155.47 88 IAMs_20 IAMs_20 05 39 00.1
comp=Z,2μm,20.0s
MORC Moravsky Berou 155.47 88 *e*PKP **PKPdf 04 15 59.7 +0.5**
OKC Ostrava-Krasne 155.84 88 AMS AMS 05 30 40.0
comp=Z,700nm,17.0s
JMB Yambol 156.06 111 P **PKPdf 04 16 02.6 +2.5**
SZH Strazhitsa 156.30 109 P **PKPdf 04 16 02.0 +1.5**
WMQ Urumqi 157.20 251 *e*PKP **PKPdf 04 16 04.0 +2.3**
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,1μm,16.3s
ANTO Ankara 157.21 124 IAMs_20 IAMs_20 05 38 43.5
comp=Z,2μm,21.0s
BRTR Keskin Array B 157.48 126 **PKPdf 04 16 01.0 -1.3**
BRTR Keskin Array B 157.48 126 PKP **PKPdf 04 16 02.8 +0.4**
comp=Z,3.9nm,1.0s,baz=169,slow=2.5,SNR=11
MLR Muntele Rosu 157.75 105 IAMs_20 IAMs_20 05 39 46.7
comp=Z,2μm,21.0s
TIRR Tirgusor 158.40 110 IAMs_20 IAMs_20 05 37 13.8
comp=Z,2μm,21.0s
KSH Kashi 159.47 225 PKP **PKPdf 04 16 07.6 +2.9**
KSH SS SS 04 40 34.1 +3.4
KSH LR LR
comp=Z,970nm,19.9s
KSH LR LR
comp=Z,1μm,19.9s
KSH LR LR
comp=Z,2μm,22.7s
MILM Milestii Mici 160.20 105 *e*PKP **PKPdf 04 16 01.0 -4.0**
MILM Milestii Mici 160.20 105 *e*PP PP 04 20 26.0 -2.2
MILM *e*L L 05 14 23.0
MILM LRM MLR 05 40 00.0
comp=Z,1μm,19.0s
MILM Milestii Mici 160.20 105 *e*PKIKP **PKPdf 04 16 01.0 -4.0**
MILM *e* 04 20 26.0
GAR Garm 161.00 213 **PKPab 04 16 50.5 +1.1**
SIM Simferopol' 161.69 117 *e*PKIKP **PKPdf 04 16 08.8 +2.1**
SIM *e* 04 20 36.0
SIM *e*SS SS 04 40 55.0 +0.8
SIM *e*SSS SSS 04 47 11.0
SIM pmax pmax
comp=Z,110nm,9.2s
MKAR Makanchi Array 162.03 250 PKPab **PKPab 04 16 52.4 -1.1**
comp=Z,1.9nm,0.8s,baz=164,slow=4.9,SNR=7.6
MKAR PP **PP 04 20 36.7 -1.4**
comp=Z,3.7nm,1.2s,baz=115,slow=4.6,SNR=6.3
GNI Garni 162.18 147 PKPdf **PKPdf 04 16 10.0 +2.4**
ARSB Arslanbob 162.18 222 **PKPab 04 16 55.9 +1.4**
ARSB Arslanbob 162.18 222 PKP2 **PKPab 04 16 55.9 +1.4**
KIEV Kiev 162.47 95 PKPdf **PKPdf 04 16 09.1 +1.8**
AKASG Malin Array Be 162.49 95 PKP **PKPdf 04 16 08.4 +1.1**
comp=Z,0.3nm,0.3s,baz=267,slow=1.6,SNR=6.3
AKASG PP **PP 04 20 39.5 -1.0**
comp=Z,0.1nm,0.3s,baz=260,slow=2.7,SNR=4.8
SOC Sochi 163.29 130 *e*PKIKP **PKPdf 04 16 06.3 -2.1**
SOC *e* 04 20 41.0
SOC *e*SS SS 04 41 08.3 -2.1
SOC *e*SSS SSS 04 47 25.4
APA Apatity 163.86 34 ⇓*i*PKIKP **PKPdf 04 16 09.4 +1.3**
APA pmax pmax
comp=Z,10.0nm,1.1s
ZALV Zalesovo Beam 164.12 274 **PKPab 04 17 01.5 -1.0**
ZALV Zalesovo Beam 164.12 274 PKP2 **PKPab 04 17 01.5 -1.0**
AKT Akhty 164.26 152 *e*PKIKP **PKPdf 04 16 10.3 +0.8**
AKT *e* 04 20 47.3
AKT *e* 04 23 11.8
AKT pmax pmax
comp=Z,23nm,1.4s
KBZ Khabaz 164.71 137 PKP **PKPdf 04 16 10.8 +1.2**
comp=Z,1.5nm,0.8s,baz=35,slow=2.3,SNR=3.7
KIV Kislovodsk 164.82 136 PKPdf **PKPdf 04 16 10.5 +0.7**
KIV Kislovodsk 164.82 136 *e*PKIKP **PKPdf 04 16 08.0 -1.9**
KIV *e* 04 20 49.8
KIV *e*SS SS 04 41 23.2 -3.0
KIV *e*SSS SSS 04 47 48.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
MAK Makhachkala 165.58 150 *e*PKIKP **PKPdf 04 16 06.1 -4.3**
MAK *e* 04 23 05.5
MAK *e* 04 34 29.9
MAK *e*SSS SSS 04 47 59.4
MAK pmax pmax
comp=Z,168nm,1.2s
GOF Gofitskoye 165.87 134 *c*ePKP2 **PKPab 04 17 08.9 -1.5**
KURK Kurchatov 166.28 257 PKIKP **PKPdf 04 16 11.6 +0.9**
KURBB Kurchatov Arra 166.28 256 PKP **PKPdf 04 16 11.6 +0.9**
comp=Z,1.1nm,0.2s,baz=347,slow=1.2,SNR=4.8
KURBB PP **PP 04 20 59.1 -1.3**
comp=Z,0.8nm,0.2s,baz=146,slow=5.6,SNR=4.5
OBN Obninsk 168.21 85 *e*PKIKP **PKPdf 04 16 13.0 +1.1**
OBN *e* 04 21 11.8
OBN *e*PPP PPP 04 25 07.2
OBN pmax pmax
comp=Z,7.0nm,1.2s
MOS Moscow 168.91 83 *e*PKP2 PKPab 04 17 14.9 -8.7
KLMR Klimovskoe 169.43 55 *e*PKP2 **PKPab 04 17 25.2 -0.5**
KLMR *e* 04 21 16.2
KLMR pmax pmax
comp=Z,29nm,1.6s
ABKAR Akbulak array 173.16 195 **PKPab 04 17 41.4 -1.1**

*DJA **01** 03:59:54.6±0.5, 8°S±7°×12°7E±°, h241km±12km, M4.5/9, mB5.0/5, mb4.5/9, MLv4.7/9, Mw(mB)4.3/5*
*NEIC **01** 03:59:55.2±2.0, 7°64S±0°09×126°88E±0°07, h192km±11km, mb4.3/8, Error ellipse: s-maj=13.6km s-min=10.2km az=188.0*
*IDC **01** 03:59:55.6±2.3, 7°58S×126°59E, h199km±32km, mb3.5/3, mbtmp4.4/6, Error ellipse: s-maj=30.0km s-min=22.7km az=24.0*
ISC 01 03:59:54.8±0.6, 7°80S±0°06×126°83E±0°06, h200km, n34, σ2°24/41, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.19**	**232**			**Pn**	**04 00 48.3**	**+1.3**
SOEI	**Soe**	**3.19**	**232**	P		**Pn**	**04 00 48.2**	**+1.3**
SOEI				S		**Sn**	**04 01 29.1**	**+1.4**
BATI	**Baumata**	**3.94**	**232**	P		**Pn**	**04 00 57.6**	**+1.7**
	2μm,0.3s,baz=76,slow=3.6,SNR=209							
BATI				S		**Sn**	**04 01 43.3**	**-0.6**
	285nm,0.3s,baz=102,slow=23,SNR=8.2							
BATI	**Baumata**	**3.94**	**232**	P		**Pn**	**04 00 57.5**	**+1.6**
BATI				S		**Sn**	**04 01 44.6**	**+0.7**
SAUI	**Saumlaki**	**4.43**	**93**	Pn		**Pn**	**04 00 58.0**	**-4.0**
MMRI	**Maumere**	**4.62**	**259**	Pn		**Pn**	**04 01 05.7**	**+1.2**
MMRI	**Maumere**	**4.62**	**259**	P		**Pn**	**04 01 03.8**	**-0.6**
MMRI				S		**Sn**	**04 01 59.1**	**-0.1**
EDFI	**Ende, Flores**	**5.17**	**259**	P		**Pn**	**04 01 10.8**	**-0.8**
	0.3nm50nm,0.8s							
BSSI	**Bau Bau, Buton**	**6.50**	**284**	P		**Pn**	**04 01 27.0**	**-1.6**
	0.3nm40nm,1.0s							
BASI	**Baing, Sumba**	**6.63**	**248**	P		**Pn**	**04 01 28.5**	**-1.7**
	3μm144nm,0.7s							
WSI	**Waingapu**	**6.72**	**253**	P		**Pn**	**04 01 28.3**	**-3.1**
	227nm,0.6s							
FAKI	**Fak Fak**	**7.25**	**48**	Pn		**Pn**	**04 01 37.7**	**-0.6**
FAKI	**Fak Fak**	**7.25**	**48**	P		**Pn**	**04 01 38.1**	**-0.2**
	0.2nm15nm,1.0s							
WBSI	**Waikabubak, Su**	**7.58**	**255**	P		**Pn**	**04 01 39.8**	**-2.9**
	0.3nm2μm45nm,0.5s							
KNRA	**Kununurra**	**8.06**	**167**			**Pn**	**04 01 51.8**	**+3.0**
FITZ	**Fitzroy Crossi**	**10.31**	**186**			**Pn**	**04 02 19.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**10.31**	**186**	P		**Pn**	**04 02 19.8**	**+1.8**
	5.2nm,0.3s,baz=17,slow=12,SNR=42							
FITZ				S		**Sn**	**04 04 09.2**	**-4.0**
	12nm,0.4s,baz=40,slow=22,SNR=4.4							
WB0	**Warramunga Arr**	**13.98**	**149**			**P**	**04 03 06.8**	**+0.4**
WRA	**Warramunga Arr**	**14.10**	**150**	P		**P**	**04 03 07.9**	**+0.1**
WRA	**Warramunga Arr**	**14.10**	**150**	P		**Pn**	**04 03 07.3**	**+1.3**
	2.2nm,0.4s,baz=324,slow=12,SNR=28							
WRA				S		**S**	**04 05 37.0**	**-6.0**
	1.8nm,0.3s,baz=331,slow=21,SNR=6.2							
WR8	**Warramunga Arr**	**14.19**	**149**			**P**	**04 03 09.7**	**+0.9**
JAY	**Jayapura**	**14.78**	**70**	P		**P**	**04 03 18.4**	**+3.1**
	19nm,0.8s,baz=241,slow=10,SNR=9.6							
PSA00	**Pilbara Seismi**	**15.27**	**205**			**P**	**04 03 22.4**	**+1.7**
PSA00				IAmb		IAmb	04 03 52.3	
	comp=Z,9.6nm,1.0s							
COEN	**Coen**	**17.17**	**112**	P		**P**	**04 03 43.2**	**+1.5**
COEN				IAmb		IAmb	04 04 24.0	
	comp=Z,26nm,1.5s							
AS31	**Alice Springs**	**17.18**	**158**			**Pn**	**04 03 45.1**	**+1.8**
ASAR	**Alice Springs**	**17.18**	**158**			**Pn**	**04 03 46.1**	**+2.8**
ASAR	**Alice Springs**	**17.18**	**158**	P		**Pn**	**04 03 46.9**	**+3.6**
	comp=Z,15nm,0.6s,baz=332,slow=11,SNR=114							
ASAR				S		**S**	**04 06 46.1**	**-4.3**
	comp=Z,1.2nm,0.7s,baz=322,slow=18,SNR=4.7							
SBUM	**Sibu**	**17.78**	**304**			**P**	**04 03 48.5**	**+0.1**
SBUM				IAmb		IAmb	04 03 49.3	
	comp=Z,8.0nm,0.8s							
FORT	**Forrest**	**22.89**	**177**	P		**P**	**04 04 43.1**	**+1.9**
FORT				IAmb		IAmb	04 04 51.2	
	comp=Z,10nm,1.1s							
CMAR	**Chiang Mai Arr**	**37.92**	**314**	P		**P**	**04 06 52.1**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=148,slow=7.1,SNR=4.1							
	comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**45.38**	**13**	P		**P**	**04 07 51.8**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=186,slow=8.8,SNR=6.1							
	comp=Z,2.1nm,0.7s							
MK31	**Makanchi Array**	**67.21**	**328**	P		**P**	**04 10 26.3**	**-1.1**
MKAR	**Makanchi Array**	**67.21**	**328**	P		**P**	**04 10 26.5**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=122,slow=7.5,SNR=6.7							
	comp=Z,0.4nm,0.6s							
KBL	**Kabul**	**68.90**	**312**	P		**P**	**04 10 39.0**	**+0.5**

*IDC **01** 04:16:54.9±0.7, 55°60S×123°33W, h0km, mb4.1/11, mbtmp4.1/11, MS4.5/4, Error ellipse: s-maj=27.7km s-min=18.6km az=137.0*
*NEIC **01** 04:16:57.9±0.9, 56°1S±0°2×122°9W±0°1, h10km±1km, mb4.8/17, Error ellipse: s-maj=27.4km s-min=12.4km az=6.0*
ISC 01 04:16:57.3±0.6, 55°9S±0°1×123°0W±0°1, h12km, n52, σ1°30/34, mb4.4/22, MS4.5/4, 5C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMAI	**San Martin Ant**	**27.84**	**138**	P		**P**	**04 22 44.8**	**-1.3**
PMSA	**Palmer Station**	**29.44**	**132**	P		**P**	**04 22 59.2**	**-1.2**
PMSA				IAmb		IAmb	04 23 01.5	
	comp=Z,12nm,1.1s							
VNDA	**Vanda**	**33.08**	**203**	P		**P**	**04 23 33.7**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=91,slow=5.8,SNR=7.4							
	comp=Z,1.2nm,0.8s							
GO07	**Milladeo Hill,**	**33.77**	**89**	P		**P**	**04 23 39.2**	**+0.5**
QSPA	**South Pole Qui**	**34.29**	**180**	P		**P**	**04 23 42.7**	**-0.5**
QSPA				IAmb		IAmb	04 23 56.5	
	comp=Z,27nm,1.8s							
QSPA	**South Pole Qui**	**34.29**	**180**	P		**P**	**04 23 45.8**	**+2.6**
	comp=Z,5.5nm,1.1s,baz=109,slow=2.6,SNR=8.2							
QSPA				LR		LR	04 37 17.9	
	comp=Z,811nm,18.7s,baz=178,slow=35							
	comp=Z,5.5nm,1.1s							
PLCA	**Paso Flores**	**37.09**	**88**	LR		LR	04 35 27.8	
	comp=Z,546nm,18.9s,baz=172,slow=30							
H03S2	**Juan Fernandez**	**37.38**	**73**	T		T	05 03 54.6	
	baz=218,slow=74,SNR=33							
H03S1	**Juan Fernandez**	**37.39**	**73**	T		T	05 03 42.5	
	baz=218,slow=74,SNR=38							
H03S3	**Juan Fernandez**	**37.40**	**73**	T		T	05 03 50.9	
	baz=218,slow=74,SNR=40							
H03N3	**Juan Fernandez**	**37.68**	**72**	T		T	05 04 09.6	
	baz=221,slow=72,SNR=162							
H03N2	**Juan Fernandez**	**37.69**	**72**	T		T	05 04 08.1	
	baz=221,slow=72,SNR=283							
H03N1	**Juan Fernandez**	**37.70**	**72**	T		T	05 04 08.3	
	baz=221,slow=72,SNR=149							
BI02	**San Fabin de**	**39.51**	**83**	P		**P**	**04 24 28.5**	**+0.9**
BI02				IAmb		IAmb	04 24 32.8	
	comp=Z,38nm,1.8s							
VA03	**San Esteban**	**42.78**	**80**	P		**P**	**04 24 54.6**	**0.0**
URZ	**Urewera**	**42.92**	**268**	LR		LR	04 38 11.6	
	comp=Z,711nm,19.6s,baz=160,slow=30							
VNA3	**Neumayer Olymp**	**44.81**	**155**	⇑P		**P**	**04 25 08.7**	**-1.7**
	comp=Z,2.2nm,0.8s							
VNA1	**Neumayer--Stat**	**45.55**	**155**	⇑P		**P**	**04 25 16.2**	**0.0**
	comp=Z,7.1nm,0.9s							
VNA2	**Neumayer--Watz**	**45.57**	**155**	⇑P		**P**	**04 25 15.3**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=229,slow=8.8							
SNAA	**Sanae**	**46.05**	**158**	⇑P		P	04 25 14.4	-5.8
	comp=Z,45nm,0.9s							
SNAA	**Sanae**	**46.05**	**158**	P		**P**	**04 25 22.5**	**+2.2**
	comp=Z,2.3nm,1.0s,baz=246,slow=6.1,SNR=5.8							
SNAA				LR		LR	04 44 17.1	
	comp=Z,508nm,18.7s,baz=244,slow=35							
	comp=Z,2.3nm,1.0s							
TROLL	**Troll, Antarti**	**46.89**	**160**	⇑P		**P**	**04 25 27.2**	**+0.3**
	comp=Z,121nm,1.2s							
LPAZ	**La Paz**	**57.23**	**69**	P		**P**	**04 26 45.2**	**+0.1**
LPAZ	**La Paz**	**57.23**	**69**	P		**P**	**04 26 44.9**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=202,slow=6.6,SNR=5.6							
	comp=Z,2.4nm,1.0s							
SIV	**San Ignacio**	**61.26**	**76**	P		**P**	**04 27 11.3**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=202,slow=6.9,SNR=10							
	comp=Z,2.2nm,0.9s							
STKA	**Stephens Creek**	**67.08**	**247**	P		**P**	**04 27 51.2**	**+0.9**
STKA	**Stephens Creek**	**67.08**	**247**	P		**P**	**04 27 48.8**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=117,slow=4.5,SNR=3.4							
	comp=Z,1.5nm,0.7s							
H01W1	**Cape Leeuwin H**	**77.31**	**225**	T		T	05 54 41.4	
	baz=150,slow=75,SNR=146							
H01W2	**Cape Leeuwin H**	**77.32**	**225**	T		T	05 54 41.7	
	baz=150,slow=75,SNR=207							
H01W3	**Cape Leeuwin H**	**77.33**	**225**	T		T	05 54 42.6	
	baz=150,slow=75,SNR=177							
ASAR	**Alice Springs**	**77.69**	**246**	P		**P**	**04 28 52.9**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=142,slow=4.9,SNR=10							
	comp=Z,1.6nm,0.8s							
WR8	**Warramunga Arr**	**80.44**	**249**	P		**P**	**04 29 09.5**	**+0.6**
WRA	**Warramunga Arr**	**80.54**	**249**	P		**P**	**04 29 08.2**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=146,slow=4.8,SNR=13							
	comp=Z,2.8nm,0.8s							
WB0	**Warramunga Arr**	**80.66**	**249**	P		**P**	**04 29 10.2**	**+0.2**
WB0				IAmb		IAmb	04 29 13.0	
	comp=Z,13nm,1.5s							
PSA00	**Pilbara Seismi**	**86.39**	**236**	P		**P**	**04 29 38.0**	**-1.4**
PSA00				IAmb		IAmb	04 29 52.7	
	comp=Z,5.4nm,1.4s							
TX31	**Lajitas Ar. Si**	**86.48**	**17**	P		**P**	**04 29 41.8**	**+2.2**
TX31				IAmb		IAmb	04 30 00.0	
	comp=Z,5.0nm,1.3s							
TXAR	**Lajitas Array**	**86.48**	**17**	P		**P**	**04 29 40.5**	**+1.0**
TXAR	**Lajitas Array**	**86.48**	**17**	P		**P**	**04 29 39.1**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=192,slow=4.9,SNR=13							
	comp=Z,1.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**86.54**	**243**	P		**P**	**04 29 40.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=135,slow=4.3,SNR=2.0							
	comp=Z,1.4nm,0.8s							
VHRN	**Van Horn**	**87.70**	**15**	P		**P**	**04 29 48.0**	**+2.5**
VHRN				IAmb		IAmb	04 30 06.8	
	comp=Z,11nm,1.4s							
OZNA	**Ozona**	**88.47**	**19**	P		**P**	**04 29 51.0**	**+2.0**
OZNA				IAmb		IAmb	04 30 00.6	
	comp=Z,15nm,1.5s							
ANMO	**Albuquerque**	**91.58**	**14**	P		**P**	**04 30 04.1**	**+0.5**
ANMO				IAmb		IAmb	04 30 08.4	
	comp=Z,4.8nm,1.2s							
BOSA	**Boshof**	**91.59**	**152**	P		**P**	**04 30 03.9**	**-0.3**
NVAR	**Mina Array Bea**	**94.04**	**4**	P		**P**	**04 30 14.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=186,slow=6.3,SNR=1.9							
	comp=Z,0.4nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**94.58**	**296**	T		T	06 15 22.5	
	baz=148,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**94.59**	**296**	T		T	06 15 20.5	
	baz=148,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**94.59**	**296**	T		T	06 15 26.9	
	baz=148,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**95.51**	**297**	T		T	06 16 27.6	
	baz=148,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**95.51**	**297**	T		T	06 16 40.7	
	baz=148,slow=76,SNR=5.1							
H11N2	**WAKE ISLAND Hy**	**95.53**	**297**	T		T	06 16 34.8	
	baz=148,slow=76,SNR=3.8							
ILAR	**Eielson Array**	**121.71**	**348**	PKP		**PKPdf**	**04 35 47.5**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=216,slow=1.8,SNR=7.9							
GERES	**GERESS Array B**	**153.04**	**87**	PKPbc		**PKPbc**	**04 36 53.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=232,slow=1.1,SNR=3.8							

*IDC **01** 04:26:15.7±1.5, 23°19S×66°46W, h204km±15km, mb3.3/4, mbtmp4.1/9, Error ellipse: s-maj=19.7km s-min=14.5km az=83.0*
*SJA **01** 04:26:17.8±0.5, 23°08S×66°56W, h245km±3km, ML4.0, MW3.9*
*NEIC **01** 04:26:18.2±1.7, 23°16S±0°07×66°45W±0°05, h211km±12km, mb4.4/10, Error ellipse: s-maj=10.5km s-min=5.7km az=159.0*
*VAO **01** 04:26:20.1±1.0, 22°94S×66°47W, h241km±6km, mb4.1*
ISC 01 04:26:17.8±0.6, 23°13S±0°04×66°61W±0°04, h231km±6km, n105, σ1°56/127, mb4.0/5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALTA		**1.11**	**167**	*e*P		**Pn**	**04 26 48.7**	**-3.5**
SALTA				*e*P			04 26 54.1	
YJA	**Yavi**	**1.39**	**47**	*e*P		**Pn**	**04 26 55.5**	**+1.4**
YJA				*e*S		**S**	**04 27 23.9**	**+1.6**
AF01	**San Pedro de A**	**1.46**	**277**			**Pn**	**04 26 54.6**	**+0.2**
AF01				Sn		**S**	**04 27 20.2**	**-2.6**
AF01	**San Pedro de A**	**1.46**	**277**	*e*P		Pn	04 27 07.1	+13
AF01				*e*S		**S**	**04 27 24.5**	**+1.7**
AZAP	**Zapla**	**1.79**	**128**	*e*P		**Pn**	**04 26 57.9**	**+0.8**
SLA	**San Lorenzo**	**1.88**	**148**	*e*P		**Pn**	**04 26 59.7**	**+1.9**
PB06	**IPOC Station P**	**2.76**	**278**			**Pn**	**04 27 07.9**	**+1.2**
PB06				Sn		**S**	**04 27 42.6**	**-2.5**
PB06	**IPOC Station P**	**2.76**	**278**	*e*P		**Pn**	**04 27 08.6**	**+1.8**
PB06				*e*S		**S**	**04 27 46.1**	**+1.0**
PB06				IAML			04 27 48.5	
	comp=Z,294nm,0.6s							
PB09	**IPOC Station P**	**2.77**	**298**			**Pn**	**04 27 08.3**	**+1.4**
PB09				Sn		**S**	**04 27 46.1**	**+0.9**
PB09	**IPOC Station P**	**2.77**	**298**	*e*P		**Pn**	**04 27 09.1**	**+2.2**
PB09				*e*S		**S**	**04 27 46.8**	**+1.5**
PB09				IAML			04 27 47.7	
	comp=Z,287nm,0.8s							
FSA	**Cafayete**	**3.02**	**169**	*e*P		**Pn**	**04 27 11.4**	**+1.8**
FSA				*e*S		**S**	**04 27 51.3**	**+1.0**
PB03	**IPOC Station P**	**3.10**	**290**			**Pn**	**04 27 11.8**	**+1.3**
PB03				Sn		**S**	**04 27 51.2**	**-0.6**
PB03	**IPOC Station P**	**3.10**	**290**	*e*P		**Pn**	**04 27 12.0**	**+1.5**
PB03				*e*S		**S**	**04 27 51.6**	**-0.2**
PB03				IAML			04 27 54.0	
	comp=Z,488nm,0.4s							
PB05	**IPOC Station P**	**3.32**	**274**			**Pn**	**04 27 14.5**	**+1.5**
PB05				Sn		**S**	**04 27 56.4**	**+0.2**
PB05	**IPOC Station P**	**3.32**	**274**	*e*P		**Pn**	**04 27 14.5**	**+1.5**
PB05				*e*S		**S**	**04 27 53.2**	**-3.1**
PB05				IAML			04 28 01.1	
	comp=Z,187nm,0.5s							
PB01	**IPOC Station P**	**3.38**	**307**	Pn		**Pn**	**04 27 15.0**	**+1.4**
PB01	**IPOC Station P**	**3.38**	**307**	*e*P		**Pn**	**04 27 15.1**	**+1.4**
PB01				*e*S		**S**	**04 27 57.7**	**+0.2**
PB01				IAML			04 27 59.6	
	comp=Z,193nm,0.3s							
GO02	**Mina Guanaco**	**3.39**	**233**			**Pn**	**04 27 15.7**	**+1.8**
GO02	**Mina Guanaco**	**3.39**	**233**	*e*P		**Pn**	**04 27 15.9**	**+2.0**
GO02				*e*S		**S**	**04 27 59.9**	**+1.9**
GO02				IAML			04 28 02.6	
	comp=Z,174nm,0.1s							
PB02	**IPOC Station P**	**3.54**	**300**			**Pn**	**04 27 16.5**	**+1.0**
PB02	**IPOC Station P**	**3.54**	**300**	*e*P		**Pn**	**04 27 16.8**	**+1.3**
PB02				IAML			04 28 05.1	
	comp=Z,503nm,0.3s							
PB10	**IPOC Station P**	**3.64**	**263**			**Pn**	**04 27 18.2**	**+1.6**
PB10	**IPOC Station P**	**3.64**	**263**	*e*P		**Pn**	**04 27 18.3**	**+1.7**
PB10				*e*S		**S**	**04 28 02.9**	**+0.1**
PB10				IAML			04 28 05.5	
	comp=Z,127nm,0.6s							
PB14	**IPOC Station P**	**3.78**	**246**	Pn		**Pn**	**04 27 19.1**	**+0.7**
PB08	**IPOC Station P**	**3.80**	**321**			**Pn**	**04 27 20.6**	**+1.7**
PB08	**IPOC Station P**	**3.80**	**321**	*e*P		**Pn**	**04 27 20.9**	**+2.0**
PB08				*e*S		**S**	**04 28 07.7**	**+0.7**
PB08				IAML			04 28 09.6	
	comp=Z,157nm,0.7s							
PATCX	**Punta Patache**	**4.01**	**304**			**Pn**	**04 27 21.8**	**+0.7**
PATCX	**Punta Patache**	**4.01**	**304**	*e*P		**Pn**	**04 27 22.0**	**+0.9**
PATCX				IAML			04 28 13.4	
	comp=Z,182nm,0.3s							
TA01	**Diego Aracena**	**4.18**	**307**			**Pn**	**04 27 23.7**	**+0.6**
TA01	**Diego Aracena**	**4.18**	**307**	*e*P		**Pn**	**04 27 24.3**	**+1.2**
TA01				*e*S		**S**	**04 28 12.6**	**-2.0**
TA01				IAML			04 28 16.9	
	comp=Z,105nm,0.7s							
GO01	**Chusmiza**	**4.20**	**325**			**Pn**	**04 27 25.4**	**+1.5**
GO01	**Chusmiza**	**4.20**	**325**	*e*P		**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	8.81	37	P	Pn	04 28 20.1	-1.6
	comp=Z,14nm,0.5s,baz=218,slow=10,SNR=50						
CO02	**Combarbal**	8.94	205	Pn	Pn	04 28 23.1	0.0
BDQN	**Bodoquena, MS**	9.54	76	*eP*	Pn	04 28 30.0	-0.9
VA03	**San Esteban**	10.21	199	Pn	Pn	04 28 40.3	+1.0
PTLB	**Pontes e Lacer**	10.40	44		Pn	04 28 40.9	-0.9
PTLB	**Pontes e Lacer**	10.40	44	*eP*	Pn	04 28 40.6	-1.2
AQDB	**Aquidauana**	10.48	77	Pn	Pn	04 28 41.6	-1.1
AQDB	**Aquidauana**	10.48	77	*eP*	Pn	04 28 42.5	-0.3
VILB	**Vilhena**	11.81	32	P	Pn	04 29 00.1	+0.4
VILB	**Vilhena**	11.81	32	*eP*	Pn	04 29 00.5	+0.8
BO02	**Sierra Bellavi**	12.18	196	Pn	Pn	04 29 05.8	+1.7
PP1B	**Ponte de Pedra**	12.30	66	*eP*	Pn	04 29 04.5	-1.2
SALV	**Santo Antonio**	12.55	57	*eP*	Pn	04 29 08.0	-0.8
PTGB	**Pitanga**	13.40	100	*eP*	P	04 29 23.0	+1.9
CPSB	**Cacapava Do Su**	13.81	124	*eP*	P	04 29 24.7	-0.9
NNA	**Nana**	14.76	317	P	P	04 29 38.0	+1.8
	comp=Z,6.5nm,0.5s,baz=180,slow=9.1,SNR=4.4						
PDRB	**Porto dos Gac**	14.83	41	*eP*	Pn	04 29 36.4	-0.4
TRQA	**Tornquist**	15.40	166		Pn	04 29 44.1	+0.6
ITRB	**Iturama**	15.51	80	*eP*	Pn	04 29 45.3	+0.2
ARAG	**Araguaiana, MT**	15.79	65	*eP*	Pn	04 29 48.2	-0.1
CLDB	**Colider**	15.97	42	*eP*	P	04 29 49.1	-0.6
BB19B	**Bebedouro**	16.89	86	*eP*	Pn	04 30 00.7	-0.7
RCLB	**Rio Claro- Sao**	17.61	91	*eP*	Pn	04 30 08.2	-1.7
PLCA	**Paso Flores**	17.86	190	P	Pn	04 30 12.9	+0.3
IPMB	**Ipameri, GO**	17.97	77	*eP*	P	04 30 11.7	+0.2
VAO	**Valinhos**	18.08	93	P	P	04 30 12.6	0.0
VAO				IAmb	IAmb	04 30 13.9	
	comp=Z,20nm,0.7s						
VAO	**Valinhos**	18.08	93	*eP*	P	04 30 12.6	0.0
SNDB	**Serra Nova Dou**	18.32	55	*eP*	P	04 30 14.9	-0.4
BDFB	**Brasilia**	19.05	70	P	P	04 30 23.4	+0.3
BDFB				IAmb	IAmb	04 30 24.8	
	comp=Z,12nm,0.8s						
BDFB	**Brasilia**	19.05	70	P	P	04 30 22.0	-1.1
	comp=Z,8.4nm,0.7s,baz=246,slow=11,SNR=16						
NPGB	**Novo Progresso**	19.31	36	*eP*	P	04 30 24.2	-1.7
PMNB	**Patos De Minas**	19.40	80	*eP*	P	04 30 26.8	-0.1
ITTB	**Itaituba**	21.41	31	*eP*	P	04 30 46.1	-1.9
DIAM	**Diamantina, MG**	21.98	82	*eP*	P	04 30 54.3	+0.8
JANB	**Januaria**	22.53	73	*eP*	P	04 30 57.8	-0.7
SMTB	**Santa Maria do**	23.10	55	*eP*	P	04 31 03.7	0.0
SDBA	**SAO DESIDERIO**	23.23	66	*eP*	P	04 31 03.9	-1.0
PRPB	**Parauapebas**	23.37	46	*eP*	P	04 31 04.1	-2.0
MAL2	**Monte Alegre,**	24.20	32	P	P	04 31 11.9	-1.7
MAL2				IAmb	IAmb	04 31 16.1	
	comp=Z,14nm,0.9s						
GUA01	**Guaratinga, BA**	26.01	80	*eP*	P	04 31 29.3	-0.6
NBAN	**Anadia - AL**	31.95	70	*eP*	P	04 32 21.3	-1.1
RCBR	**Riachuelo**	34.23	65	P	P	04 32 39.8	-2.3
RCBR				IAmb	IAmb	04 32 49.9	
	comp=Z,13nm,1.1s						
CELP	**Cerrillos**	40.95	0	P	P	04 33 37.4	-0.8
TXAR	**Lajitas Array**	63.19	324	P	P	04 36 23.3	+1.6
	comp=Z,0.3nm,0.7s,baz=150,slow=7.3,SNR=6.1						
	comp=Z,0.3nm,0.7s						
X34A	**Smith Ranch, M**	64.62	332	P	P	04 36 33.8	+3.0
QSPA	**South Pole Qui**	67.07	180	P	P	04 36 54.0	+7.8
DBIC	**Dimbokro**	67.19	72	P	P	04 36 55.5	+8.0
DBIC				IAmb	IAmb	04 37 09.2	
	comp=Z,4.6nm,1.0s						
DBIC	**Dimbokro**	67.19	72	P	P	04 36 48.3	+0.7
	comp=Z,1.7nm,0.6s,baz=263,slow=9.5,SNR=1.4						
	comp=Z,1.7nm,0.6s						
PV12	**Saucer Basin,**	72.82	326	P	P	04 37 27.9	+6.3
TORD	**Torodi Ar. Bea**	75.92	69	P	P	04 37 38.2	-1.4
	comp=Z,0.5nm,0.4s,baz=259,slow=5.3,SNR=8.1						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	76.59	329	P	P	04 37 44.1	+1.1
	comp=Z,0.3nm,0.5s,baz=140,slow=8.3,SNR=3.0						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	145.63	39	PKPbc	PKPab	04 45 30.3	+0.4
	comp=Z,0.5nm,0.4s,baz=344,slow=4.8,SNR=6.2						

*SDD **01** 04:56:44.1±1.4, 19°.15N×67°.37W, h22km±60km, MD2.3, ML1.5, MW2.3*
*OSPL **01** 04:56:44.1±0.5, 19°.14N×67°.34W, h18km±3km, ML1.7*
*RSPR **01** 04:56:45.3, 19°.15N×67°.37W, h24km±30km, MD2.9/12*
ISC 01 04:56:42.7±1.7, 19°.17N±0°.08×67°.33W±0°.05, h21km±5km, n29, σ0°.65/35, 14C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	0.73	163	⇑*eP*	Pn	04 56 58.6	+0.7
AGPR	**Aguadilla, PR**	0.73	163	*eS*	Sb	04 57 06.3	0.0
AGPR	**Aguadilla, PR**	0.73	163	⇑*ePg*	Pn	04 56 58.2	+0.3
AGPR				⇑*eSg*	Sb	04 57 06.3	0.0
AGPR				IAML		04 57 14.3	
	comp=N,34nm,0.9s						
AGPR	**Aguadilla, PR**	0.73	163	*i P*	Pb	04 56 56.4	-0.4
AGPR				*eS*	Sb	04 57 06.0	-0.3
AGPR				IAML		04 57 08.3	
	comp=Z,38nm,0.9s						
IDE	**Isla Desecheo**	0.79	190	⇑*iP*	Pb	04 56 58.0	+0.2
IDE	**Isla Desecheo**	0.79	190	*eS*	Sn	04 57 09.4	-0.5
AOPR	**Arecibo Observ**	0.99	146	⇓*eP*	Pb	04 57 01.2	+0.1
UUPR	**Utuado, UPR, P**	1.08	148	⇓*eP*	Pn	04 57 02.5	-0.2
UUPR	**Utuado, UPR, P**	1.08	148	*eS*	Sb	04 57 16.4	-0.1
CRPR	**Cabo Rojo, PR**	1.18	170	⇓*eP*	Pb	04 57 05.2	+0.9
CRPR	**Cabo Rojo, PR**	1.18	170	*eS*	Sn	04 57 19.4	+0.6
CRPR	**Cabo Rojo, PR**	1.18	170	⇑*ePg*	Pb	04 57 04.8	+0.5
CRPR				⇑*eSg*	Sn	04 57 19.7	+0.3
CRPR				IAML		04 57 23.2	
	comp=N,19nm,1.1s						
CRPR	**Cabo Rojo, PR**	1.18	170	*i P*	Pn	04 57 03.8	-0.2
CRPR				⇓*eS*	Sb	04 57 17.9	-1.3
CRPR				IAML		04 57 21.0	
	comp=Z,15nm,1.0s						
MLPR	**Magueyes Islan**	1.23	167	⇑*eP*	Pb	04 57 05.1	-0.1
MLPR	**Magueyes Islan**	1.23	167	*eS*	Sn	04 57 20.2	-0.4
MLPR	**Magueyes Islan**	1.23	167	⇑*ePg*	Pn	04 57 04.6	-0.1
MLPR				⇑*eSg*	Sb	04 57 21.1	+0.6
MLPR				IAML		04 57 24.2	
	comp=E,5.3nm,0.4s						
ECPR	**Experimental S**	1.25	133	⇓*iP*	Pn	04 57 05.0	0.0
ECPR	**Experimental S**	1.25	133	*eS*	Sn	04 57 19.8	-1.4
CELP	**Cerrillos**	1.30	147	⇑*eP*	Pn	04 57 06.0	+0.3
CELP	**Cerrillos**	1.30	147	*eS*	Sn	04 57 21.2	-1.3
OBIP	**Obispado Ponce**	1.32	148	⇑*eP*	Pn	04 57 06.4	+0.5
OBIP	**Obispado Ponce**	1.32	148	*eS*	Sn	04 57 22.1	-0.8
SJG	**San Juan**	1.54	133	⇑*eP*	Pn	04 57 09.7	+0.7
SJG	**San Juan**	1.54	133	*eS*	Sb	04 57 29.6	+0.1
SJG	**San Juan**	1.54	133	*i P*	Pn	04 57 08.8	-0.1
SJG				IAML		04 57 31.1	
	comp=Z,8.3nm,1.1s						
MIDR	**Miches**	1.64	264	⇓*eP*	Pb	04 57 13.0	+0.8
PDPR	**Patillas Dam,**	1.69	133	⇑*eP*	Pn	04 57 11.8	+0.8
PDPR	**Patillas Dam,**	1.69	133	*eS*	Sn	04 57 32.4	+0.3
HATOM	**Hato Mayor del**	1.98	259	⇑*ePg*	Pb	04 57 16.8	-1.2
HATOM				⇑*eSg*	Sb	04 57 42.5	+0.2
HATOM				IAML		04 57 49.8	
	comp=E,2.1nm,0.2s						

*JMA **01** 04:57:09.5±0.3, 33°.7N±0°.6×14°.1E±°, h64km±4km, MV3.7/29, E OFF HACHIJOJIMA ISLAND*
*IDC **01** 04:57:12.3±0.9, 32°.76N×138°.76E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=20.0km s-min=16.8km az=147.0*
ISC 01 04:57:10.0±2.0, 33°.61N±0°.06×141°.3E±0°.1, h44km±19km, n26, σ0°.69/27, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	1.06	347	P	Pn	04 57 27.7	-0.3
BSO1				*eS*	Sn	04 57 41.6	+0.2
JHJ2	**Mitsune**	1.31	248	*eP*	Pn	04 57 32.2	+0.4
JHJ2				*eS*	Sn	04 57 48.6	+0.5
JHJ	**Hachijo jima 2**	1.33	249	Pn	Pn	04 57 32.5	+0.4
	268nm,0.3s,baz=129,slow=2.5,SNR=57						
JHJ				Sn	Sn	04 57 48.1	-0.6
	247nm,0.3s,baz=250,slow=21,SNR=8.3						
JHCJ	**Hachijojimakas**	1.34	247	*eP*	Pn	04 57 32.7	+0.5
JHCJ				*eS*	Sn	04 57 48.9	0.0
BSO3	**Boso 3**	1.34	332	P	Pn	04 57 31.8	-0.3
JMKN	**Mikurajimanish**	1.42	282	*eP*	Pn	04 57 33.4	+0.1
JMKN				*eS*	Sn	04 57 50.6	-0.3
JMYK	**Miyake Tsubota**	1.50	288	*eP*	Pn	04 57 34.4	0.0
JMYK				*eS*	Sn	04 57 52.3	-0.4
BSO4	**Boso 4**	1.57	331	*eP*	Pn	04 57 35.2	-0.2
JAOM	**Aogashimamukai**	1.70	228	*eP*	Pn	04 57 36.7	-0.6
JIM2	**Oshima 3**	1.88	306	*eP*	Pn	04 57 39.0	-0.7
JIZS	**Izushimoda**	2.26	300	*eP*	Pn	04 57 45.1	+0.2
JOD2	**Odawara 2**	2.44	313	*eP*	Pn	04 57 46.9	-0.4
JOD2				*eS*	Sn	04 58 15.1	-0.8
SHZ3	**Shizuoka 3**	2.91	301	*eP*	Pn	04 57 54.5	+0.6
JYN	**Shimob**	2.93	311	*eP*	Pn	04 57 54.5	+0.3
MJAR	**Matsushiro Arr**	3.85	320	Pn	Pn	04 58 08.5	+1.8
	1.4nm,0.3s,baz=150,slow=13,SNR=30						
MJAR				Sn	Sn	04 58 51.8	+1.1
	0.6nm,0.3s,baz=110,slow=18,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	26.66	115	T	T	05 31 47.0	
	baz=306,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	26.67	115	T	T	05 31 47.5	
	baz=306,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	26.68	115	T	T	05 31 50.7	
	baz=306,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	27.26	117	T	T	05 32 38.2	
	baz=312						
H11S1	**WAKE ISLAND Hy**	27.26	117	T	T	05 32 37.8	
	baz=312						
H11S2	**WAKE ISLAND Hy**	27.27	117	T	T	05 32 48.0	
	baz=312						
MKAR	**Makanchi Array**	45.90	305	P	P	05 05 26.8	-1.5
	0.6nm,0.8s,baz=95,slow=9.9,SNR=6.9						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	48.06	310	P	P	05 05 45.0	0.0
	0.7nm,0.6s,baz=85,slow=7.2,SNR=7.4						
	0.7nm,0.6s						
ILAR	**Eielson Array**	52.47	31	P	P	05 06 40.2	+22
	0.5nm,0.9s,baz=265,slow=6.8,SNR=3.7						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	53.66	188	P	P	05 06 27.7	+0.4
	2.1nm,0.3s,baz=2.1,slow=7.6,SNR=26						
	2.1nm,0.3s						
ASAR	**Alice Springs**	57.39	188	P	P	05 06 54.7	+0.6
	0.9nm,0.4s,baz=4.2,slow=7.5,SNR=13						
	0.9nm,0.4s						

IDC 01 05:09:09.2±3.1, 25°.83N×142°.56E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=132.0km s-min=29.0km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	46.20	191	P	P	05 17 35.9	-0.1
	0.7nm,0.3s,baz=8.5,slow=8.6,SNR=11						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	51.54	310	P	P	05 18 17.5	+0.6
	0.2nm,0.5s,baz=93,slow=8.5,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	54.16	315	P	P	05 18 36.2	+0.1
	0.5nm,0.5s,baz=91,slow=8.2,SNR=8.0						
	0.5nm,0.5s						
FINES	**FINESS Array B**	79.22	334	P	P	05 21 15.3	-0.6
	4.5nm,1.1s,baz=90,slow=5.7,SNR=4.7						
	4.5nm,1.1s						

*NEIC **01** 05:12:07.3±0.6, 19°.242N±0°.007×155°.524W±0°.007, h8km±2km, Error ellipse: s-maj=1.2km s-min=0.9km az=165.0*
HVO 01 05:12:07.1±0.7, 19°.239N±0°.010×155°.522W±0°.009, h7km±3km, ML2.7/40, ML2.6/42(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=147.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	0.09	274		Pg	05 12 09.9	+0.5
KHU					Sg	05 12 12.0	+0.9
HTC	**Hot Caves**	0.12	91		Pg	05 12 10.2	+0.5
AIN	**Ainahou**	0.14	24		Pg	05 12 10.8	+0.6
AIN					Sg	05 12 13.5	+1.1
AIN	**Ainahou**	0.14	24	IAML		05 12 13.7	
	comp=E,3μm,0.3s						
AIN				IAML		05 12 14.2	
	comp=N,4μm,0.3s						
HPO	**Honuapo**	0.15	192		Pg	05 12 10.7	+0.3
HPO					Sg	05 12 13.3	+0.8
HLP	**Hilina Pali**	0.21	74		Pg	05 12 11.7	+0.4
HLP					Sg	05 12 15.5	+1.3
HLP	**Hilina Pali**	0.21	74	IAML		05 12 18.7	
	comp=N,2μm,0.2s						
HLP				IAML		05 12 19.2	
	comp=E,1μm,0.2s						
MWH	**Mokuaweoweo**	0.26	344		Pg	05 12 12.2	-0.1
MWH					Sg	05 12 16.6	+0.7
MWH	**Mokuaweoweo**	0.26	344	IAML		05 12 18.0	
	comp=N,953nm,0.5s						
MWH				IAML		05 12 18.0	
	comp=E,799nm,0.6s						
SDHHI	**Sand Hill**	0.26	55		Pg	05 12 12.5	+0.1
SDHHI					Sg	05 12 16.7	+0.8
WRMHI	**West Rim**	0.27	51		Pg	05 12 12.5	0.0
WRMHI					Sg	05 12 16.8	+0.7
RIM	**Rim**	0.28	56		Pg	05 12 12.8	0.0
RIM					Sg	05 12 17.0	+0.5
UWE	**Uwekahuna**	0.28	50		Pg	05 12 12.8	+0.1
UWE					Sg	05 12 17.1	+0.6
UWE	**Uwekahuna**	0.28	50	IAML		05 12 20.2	
	comp=E,1μm,0.4s						
UWE				IAML		05 12 21.2	
	comp=N,2μm,0.4s						
MLH	**Mauna Loa**	0.28	27		Pg	05 12 12.8	-0.1
MLH	**Mauna Loa**	0.28	27	IAML		05 12 22.8	
	comp=N,1μm,0.2s						
OBL	**Observatory Le**	0.29	52		Pg	05 12 12.6	-0.2
OBL					Sg	05 12 17.0	+0.3
KKO	**Keanakako'i**	0.29	57		Pg	05 12 12.9	0.0
KKO					Sg	05 12 17.0	+0.3
UWB	**Uwekahuna Bluf**	0.29	51		Pg	05 12 12.8	-0.2
UWB					Sg	05 12 17.6	+0.7
BYL	**Byron's Ledge**	0.30	55		Pg	05 12 13.3	+0.2
BYL					Sg	05 12 17.8	+0.7
BYL	**Byron's Ledge**	0.30	55	IAML		05 12 19.6	
	comp=N,647nm,0.6s						
BYL				IAML		05 12 23.3	
	comp=E,773nm,0.5s						
SBLHI	**Steaming Bluff**	0.30	52		Pg	05 12 13.1	-0.1
SBLHI					Sg	05 12 17.9	+0.6
HATHI	**Halema'uma'u T**	0.31	53		Pg	05 12 13.2	-0.1
HATHI					Sg	05 12 17.8	+0.4
HATHI	**Halema'uma'u T**	0.31	53	IAML		05 12 19.1	
	comp=E,2μm,0.5s						
HATHI				IAML		05 12 19.9	
	comp=N,1μm,0.4s						
PUH	**Pauahi**	0.32	65		Pg	05 12 13.2	-0.3
PUH					Sg	05 12 18.4	+0.7
PUH	**Pauahi**	0.32	65	IAML		05 12 19.1	
	comp=N,1μm,0.3s						
PUH				IAML		05 12 22.4	
	comp=E,761nm,0.3s						
RSD	**Rainshed**	0.32	46		Pg	05 12 13.3	-0.2
RSD					Sg	05 12 18.4	+0.6
RSD	**Rainshed**	0.32	46	IAML		05 12 19.1	
	comp=E,754nm,0.2s						
RSD				IAML		05 12 19.4	
	comp=N,1μm,0.4s						
ALEP	**Alea Permanent**	0.32	339		Pg	05 12 13.2	-0.4
ALEP					Sg	05 12 17.9	0.0
KNHH	**Kane Nui o Ham**	0.36	67		Pg	05 12 14.2	0.0
HMH	**Humu'ula Sheep**	0.36	6		Pg	05 12 14.2	-0.2
HMH					Sg	05 12 19.5	+0.3
HMH	**Humu'ula Sheep**	0.36	6	IAML		05 12 21.0	
	comp=N,923nm,0.3s						
HMH				IAML		05 12 21.1	
	comp=E,1μm,0.3s						
STCH	**Steam Cracks**	0.40	69		Pg	05 12 14.8	-0.2
STCH					Sg	05 12 20.4	+0.1
STCH	**Steam Cracks**	0.40	69	IAML		05 12 21.1	
	comp=N,428nm,0.7s						
STCH				IAML		05 12 21.8	
	comp=E,611nm,0.5s						
NPOC	**North of Pu'u**	0.42	68		Pg	05 12 15.0	-0.3
NPOC					Sg	05 12 21.1	+0.3
JCUZ	**Jacuzzi**	0.42	70		Pg	05 12 15.3	-0.1
JCUZ					Sg	05 12 21.3	+0.4
CPH	**Captain Cook**	0.45	304		Pg	05 12 15.6	-0.2
POHA	**Pohakuloa**	0.52	359		Pg	05 12 16.7	-0.4
POHA					Sg	05 12 24.1	+0.1
POHA	**Pohakuloa**	0.52	359	IAML		05 12 25.8	
	comp=E,565nm,0.4s						
POHA				IAML		05 12 26.4	
	comp=E,405nm,0.4s						
JOKA	**Jonika Flow**	0.53	68		Pg	05 12 16.4	-0.9
JOKA					Sg	05 12 24.1	-0.1
HUH	**Hualalai**	0.53	326		Pg	05 12 17.5	0.0
KKH	**Kailua Kona**	0.63	312		Pg	05 12 18.3	-0.9
KKH					Sg	05 12 26.4	-1.0
HPAH	**Hawaii Prepara**	0.80	348		Pg	05 12 21.0	-1.6
MHA	**Mahukona**	1.01	339	Pg	Pg	05 12 24.2	-2.3

*IDC **01** 05:12:35.4±3.6, 14°.03N×91°.00W, h0km, mb3.4/2, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=187.8km s-min=29.9km az=38.0*
*CATAC **01** 05:12:36.1±0.7, 13°N±4°×9°1W±°, h7km±5km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=11.7km s-min=5.0km az=49.8, confirmed*
*GCG **01** 05:12:37.1±1.3, 13°.37N×91°.38W, h14km±24km, MD4.4*
*SNET **01** 05:12:51.1±1.3, 13°.59N×90°.41W, h25km, ML3.1*
ISC 01 05:12:35.6±1.2, 13°.29N±0°.08×91°.43W±0°.06, h28km, n53, σ2°.12/59, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	1.23	28	*i P*	Pn	05 12 57.7	+0.7
FG8	**Yepocapa, Chim**	1.28	41	*eP*	Pn	05 12 57.9	+0.1
FG16	**Alotenango, Sa**	1.33	42	*eP*	Pn	05 12 58.9	+0.5
FAME	**Alcaldia de Sa**	1.48	68	P	Pn	05 13 01.1	+0.7
FAME	**Alcaldia de Sa**	1.48	68	S	Sb	05 13 21.5	+0.4
SOKI	**Kika Raxquin**	1.52	1	*eP*	Pn	05 13 01.8	+0.5
NUBE	**Las Nubes**	1.72	69	*eP*	Pb	05 13 05.1	-1.5
NUBE	**Las Nubes**	1.72	69	*eP*	Pn	05 13 04.6	+0.8
NUBE	**Las Nubes**	1.72	69	P	Pb	05 13 05.1	-1.5
NUBE	**Las Nubes**	1.72	69	S	Sb	05 13 26.2	-1.7
LOAL	**Lomas de Alarc**	1.75	66	P	Pb	05 13 05.7	-1.4
CEVE	**Cerro Verde**	1.84	73	*eP*	Pn	05 13 06.8	+1.2
RTR	**El Retiro**	1.84	71	*eP*	Pn	05 13 06.9	+1.4
SBLS	**San Blas**	1.84	73	*eP*	Pn	05 13 06.7	+1.1
SNJE	**San Jose**	1.87	72	*eP*	Pn	05 13 07.1	+1.2
RBDL	**Robledal**	1.89	64	*eP*	Pb	05 13 07.8	-1.6
UNIC	**Universidad Ca**	1.96	69	*eP*	Pn	05 13 08.7	+1.7
UNIC	**Universidad Ca**	1.96	69	P	Pb	05 13 08.9	-1.8
JAYA	**Jayaque - finc**	1.96	79	*eP*	Pn	05 13 08.4	+1.2
JAYA	**Jayaque - finc**	1.96	79	*eP*	Pn	05 13 08.3	+1.2
JAYA				*eS*	Sb	05 13 34.2	-0.7
QUIS	**Sacapulas**	2.02	9	*i P*	Pb	05 13 11.1	-0.5
PMON	**Piamonte**	2.10	78	*eP*	Pn	05 13 10.7	+1.6
PMON	**Piamonte**	2.10	78	P	Pn	05 13 10.8	+1.8
PMON	**Piamonte**	2.10	78	S	Sb	05 13 39.1	+0.2
MTO3	**Montecristo**	2.29	61	*eP*	Pn	05 13 13.7	+1.9
MTO3	**Montecristo**	2.29	61	*eP*	Pn	05 13 13.7	+1.9
LFRS	**El Faro**	2.33	82	*eP*	Pn	05 13 14.1	+1.9
ESQI	**Esquipulas**	2.39	58	*eP*	Pn	05 13 15.1	+2.1
ESQI	**Esquipulas**	2.39	58	P	Pb	05 13 15.5	-2.5
TECO	**Alcaldia de Te**	2.59	84	*eP*	Pn	05 13 17.6	+1.8
TECO	**Alcaldia de Te**	2.59	84	S	Sb	05 13 49.6	-3.3
SCLA	**Alcaldia de Sa**	2.66	81	*eP*	Pn	05 13 18.8	+2.1
SCLA	**Alcaldia de Sa**	2.66	81	S	Sb	05 13 50.5	-4.4
SCLA	**Alcaldia de Sa**	2.66	81	P	Pn	05 13 19.0	+2.4
TECA	**Tecapa**	2.86	86	*eP*	Pn	05 13 20.7	+1.2
SARH	**Santa Rosa de**	2.98	60	*eP*	Pn	05 13 23.1	+1.9
SARH	**Santa Rosa de**	2.98	60	P	Pn	05 13 23.6	+2.5
PACA	**Pacayal**	3.03	86	P	Pn	05 13 25.0	+3.1
PACA	**Pacayal**	3.03	86	S	Sb	05 14 00.4	-5.2
CCIG	**Comitan**	3.05	347	*i P*	Pn	05 13 25.2	+3.1
CCIG				*eS*	Sn	05 14 03.1	+5.3
RANC	**El Ranchito**	3.06	87	*eP*	Pn	05 13 24.2	+1.9
LCND	**La Caada**	3.45	89	*eP*	Pn	05 13 28.7	+1.3
LCND	**La Caada**	3.45	89	P	Pn	05 13 29.0	+1.6
CNCH	**Conchagua**	3.50	90	P	Pn	05 13 30.0	+1.6
CNCH	**Conchagua**	3.50	90	S	Sn	05 14 11.5	+2.5
POTN	**Potosi Cosigui**	3.84	94	P	Pn	05 13 34.9	+2.1
POTN				S	Sn	05 14 18.7	+1.7
YUSH	**Yuscaran**	4.51	81	P	Pn	05 13 44.2	+2.0
LIMN	**Finca el Limon**	4.94	92	P	Pn	05 13 49.0	+0.9
LIMN				S	Sn	05 14 45.5	+1.1
CMIG	**Matias Romero**	5.04	319	Pn	Pn	05 13 48.3	-1.0
	0.9nm,0.3s,baz=121,slow=8.2,SNR=8.2						
CMIG				Sn	Sn	05 14 41.7	-4.9
	0.4nm,0.3s,baz=140,slow=10,SNR=3.6						
	1.3nm,0.3s						
JTS	**Las Juntas de**	7.01	114	Pn	Pn	05 14 18.4	+1.9
	0.6nm,0

SNGZ	Shannon Statio	0.54 323	P	Pb	05 16 52.0	+0.6
SNGZ			S	Sn	05 17 00.3	-1.0
GKBS	Kaiti Beach	0.58 22	P	Pn	05 16 52.4	-0.8
GKBS			S	Sn	05 17 02.6	+0.6
GISS	Gisborne 2ZG	0.59 21	P	Pb	05 16 52.4	+0.3
GISS			S	Sn	05 17 02.8	+0.6
ARHZ	Aropaoanui	0.59 265	P	Pn	05 16 54.5	+1.0
ARHZ			S	Sn	05 17 05.1	+2.7
RAHZ	Arahi	0.60 300	P	Pn	05 16 53.6	-0.1
RAHZ			S	Sn	05 17 03.4	+0.7
GWTS	Gisborne Waipa	0.60 12	P	Pn	05 16 52.9	-0.7
GWTS			S	Sn	05 17 03.6	+1.0
GHHS	Gisborne Hospi	0.61 20	P	Pn	05 16 52.9	-0.8
CKHZ	Cape Kidnapper	0.69 230	P	Pn	05 16 56.1	+1.3
NGHS	Napier Girls H	0.71 247	P	Pn	05 16 56.6	+1.6
NMHZ	Naumai	0.75 279	P	Pn	05 16 56.5	+0.8
RAGZ	Rawiri	0.77 340	P	Pb	05 16 55.1	-0.1
RAGZ			S	Sn	05 17 06.2	-0.6
TKGZ	Te Karaka	0.78 5	P	Pb	05 16 55.0	-0.4
TKGZ			S	Sn	05 17 06.0	-1.0
MTHZ	Maungataniwha	0.80 297	P	Pn	05 16 56.5	+0.1
CNGZ	Carnagh Statio	0.81 26	P	Pb	05 16 55.6	-0.3
MCHZ	McNeill Hill	0.85 254	P	Pn	05 16 58.5	+1.4
RTZ	Ruatahuna	0.85 315		Pb	05 16 57.0	+0.3
RTZ	Ruatahuna	0.85 315	P	Pb	05 16 56.9	+0.3
KAHZ	Kahuranaki	0.89 230	P	Pn	05 16 58.8	+1.1
MWZ	Matawai	0.90 348	P	Pb	05 16 56.8	-0.6
TBAS	Tolaga Bay Are	0.94 27	P	Pb	05 16 57.8	-0.4
TBAS			S	Sn	05 17 13.0	+2.0
BKZ	Black Stump Fm	0.98 273		Pn	05 16 59.7	+0.7
BKZ	Black Stump Fm	0.98 273	P	Pn	05 17 00.0	+1.1
BKZ	Black Stump Fm	0.98 273	S	Sn	05 17 14.1	+1.9
BKZ	Black Stump Fm	0.98 273	P	Pn	05 16 59.7	+0.7
TWGZ	Tauwhareparae	1.05 10	P	Pn	05 16 59.0	-0.9
KWHZ	Kaweka Forest	1.06 258	P	Pb	05 17 00.9	+0.8
PXZ	Pawanui	1.07 220	P	Pb	05 17 00.5	+0.3
MUGZ	Murupara	1.07 314	P	Pn	05 17 00.0	0.0
URZ	Urewera	1.08 332	Pn	Pn	05 16 58.3	-1.9
	3μm,0.3s,baz=203,slow=4.1,SNR=5451					
URZ			Sn	Sb	05 17 11.1	-3.1
	6μm,0.3s,baz=182,slow=5.8,SNR=36					
URZ	Urewera	1.08 332	P	Pn	05 16 59.6	-0.6
MRHZ	Matea Rd	1.11 290	P	Pb	05 17 01.4	+0.3
KRHZ	Kereru	1.16 248	P	Pb	05 17 02.0	+0.2
PUZ	Puketiti	1.21 19	P	Pn	05 17 00.4	-1.6
RUGZ	Raukumara Rang	1.25 357	P	Pn	05 17 01.2	-1.4
ALRZ	Allen Road	1.28 300	P	Pn	05 17 03.4	+0.4
PRRZ	Plateau Road	1.28 304	P	Pn	05 17 03.3	+0.3
RRRZ	Republican Roa	1.31 312	P	Pn	05 17 03.4	0.0
WPHZ	Waipukurau	1.32 230	P	Pn	05 17 04.3	+0.7
HATZ	Hinemaiaia	1.34 284	P	Pb	05 17 05.5	+0.6
PRHZ	Porangahau	1.36 219	P	Pn	05 17 04.3	+0.3
EDRZ	Edgecumbe	1.37 324	P	Pn	05 17 03.8	-0.4
PKGZ	Pakihiroa	1.37 11	P	Pn	05 17 02.9	-1.3
TARZ	Mount Tarawera	1.39 315	P	Pn	05 17 04.6	+0.2
PNHZ	Pukenui	1.39 240	P	Pn	05 17 05.0	+0.5
HRRZ	Handcock Road	1.42 305	P	Pn	05 17 04.9	+0.1
WPRZ	Whakapapatarin	1.43 299	P	Pn	05 17 05.5	+0.6
HAZ	Te Kaha	1.46 1	P	Pn	05 17 04.2	-1.1
HLRZ	Highlands Stat	1.46 311	P	Pn	05 17 05.7	+0.2
MKRZ	Makatiti	1.48 316	P	Pb	05 17 07.2	-0.1
HSRZ	Hossack Road	1.49 307	P	Pn	05 17 06.0	+0.2
WMGZ	Waiomatatini S	1.49 20	P	Pn	05 17 04.3	-1.5
WHRZ	Whale Island	1.49 335	P	Pn	05 17 05.5	-0.4
MARZ	Manawahe	1.50 325	P	Pn	05 17 06.4	+0.4
RITZ	Rihia Road	1.50 279	P	Pb	05 17 07.3	-0.3
WHTZ	Whakaora	1.51 291	P	Pb	05 17 07.8	-0.1
GRRZ	Galatos Road	1.55 303	P	Pn	05 17 07.2	+0.5
OMRZ	Omania	1.55 315	P	Pn	05 17 06.4	-0.3
MOVZ	Moawhango	1.57 262	P	Pb	05 17 08.3	-0.5
ANWZ	Angora Road	1.58 218	P	Pn	05 17 07.3	+0.1
RATZ	Rangitukua	1.58 282	P	Pn	05 17 08.2	+1.0
ETVZ	East Tongariro	1.59 272	P	Pn	05 17 08.5	+1.1
TMVZ	Te Maari	1.60 273	P	Pn	05 17 08.6	+1.1
UTU	Utuhina	1.60 310	P	Pn	05 17 08.0	+0.5
LIRZ	Lichensteins R	1.62 318	P	Pn	05 17 07.4	-0.2
TSZ	Takapari Road	1.62 238	P	Pn	05 17 08.1	+0.4
KATZ	Kakaramea	1.62 278	P	Pb	05 17 09.0	-0.8
NTVZ	North Tongarir	1.62 274	P	Pn	05 17 08.8	+1.0
OTVZ	Oturere	1.63 271	P	Pn	05 17 09.0	+1.1
DVHZ	Dannevirke	1.63 228	P	Pn	05 17 08.1	+0.3
TUVZ	Tukino	1.63 268	P	Pb	05 17 08.4	-0.6
SNVZ	South Ngauruho	1.65 270	P	Pn	05 17 09.3	+1.2
KRVZ	Karewarewa	1.65 274	P	Pn	05 17 09.2	+1.1
WATZ	Wairara	1.66 287	P	Pn	05 17 08.8	+0.7
NGRZ	Ngongotaha	1.66 312	P	Pn	05 17 08.6	+0.4
OPRZ	Ohinepanea	1.66 325	P	Pn	05 17 07.4	-0.9
NNVZ	North Ngauruho	1.67 272	P	Pn	05 17 09.5	+1.1
KUTZ	Kaahu Road	1.68 295	P	Pn	05 17 08.9	+0.5
NGZ	Ngauruhoe	1.68 271	P	Pn	05 17 09.6	+1.1
WNVZ	Wahianoa	1.68 266	P	Pn	05 17 09.8	+1.2
KARZ	Kaharoa	1.68 315	P	Pn	05 17 08.2	-0.3
WHVZ	Whangaehu Hut	1.69 267	P	Pn	05 17 09.9	+1.2
WTVZ	West Tongariro	1.69 273	P	Pn	05 17 09.9	+1.3
MAVZ	Matarangi	1.71 268	P	Pn	05 17 10.2	+1.1
MXZ	Matakaoa Point	1.71 15		Pn	05 17 07.6	-1.3
MXZ	Matakaoa Point	1.71 15	P	Pn	05 17 07.5	-1.3
MXZ	Matakaoa Point	1.71 15	S	Sn	05 17 28.5	-1.4
MXZ	Matakaoa Point	1.71 15	P	Pn	05 17 07.5	-1.3
FWVZ	Far West T-bar	1.71 268	P	Pn	05 17 10.1	+1.0
TRVZ	Turoa	1.72 267	P	Pn	05 17 10.3	+1.1
COVZ	Chateau Observ	1.72 270	P	Pn	05 17 10.2	+1.1
WIZ	White Island	1.75 345	P	Pn	05 17 10.2	+0.9
MTVZ	Mangateitei	1.78 264	P	Pn	05 17 11.2	+1.3
TWVZ	Taurewa	1.81 274	P	Pn	05 17 11.0	+0.7
BFZ	Birch Farm	1.87 218		Pn	05 17 10.8	-0.2
BFZ	Birch Farm	1.87 218	P	Pn	05 17 10.8	-0.2
BFZ	Birch Farm	1.87 218	S	Sn	05 17 34.3	+0.4
BFZ	Birch Farm	1.87 218	P	Pn	05 17 10.7	-0.4
PKVZ	Pokaka	1.87 267	P	Pn	05 17 12.5	+1.3
TGRZ	Tauranga	1.89 321	P	Pn	05 17 10.8	-0.6
PRWZ	Pori Road	1.92 225	P	Pn	05 17 12.0	+0.3
POWZ	Post Office Ro	1.93 232	P	Pn	05 17 12.3	+0.4
TLZ	Tolley Road	1.95 296	P	Pn	05 17 12.5	+0.3
KMRZ	Kaimai	1.98 313	P	Pb	05 17 14.4	-1.4
CPWZ	Castlepoint	2.07 215	P	Pn	05 17 13.7	-0.1
TIWZ	Tintock	2.12 222	P	Pn	05 17 14.5	0.0
OHWZ	Ohakea	2.13 242	P	Pn	05 17 16.3	+1.7
MRZ	Mangatainoka R	2.21 229		Pn	05 17 15.6	-0.1
MRZ	Mangatainoka R	2.21 229	P	Pn	05 17 15.6	-0.1
WAZ	Wanganui	2.21 255	P	Pn	05 17 17.8	+2.0
MYRZ	Mayor Island	2.27 328	P	Pn	05 17 17.8	+1.2
TOZ	Tahuroa Road	2.31 309		Pn	05 17 16.8	-0.3
TOZ	Tahuroa Road	2.31 309	P	Pn	05 17 17.8	+0.7
VRZ	Vera Road	2.33 271	P	Pn	05 17 18.8	+1.4
TMWZ	Te Maipa	2.37 217	P	Pn	05 17 17.0	-0.9
HIZ	Hauiti	2.37 286		Pn	05 17 18.7	+0.8
HIZ	Hauiti	2.37 286	P	Pn	05 17 19.2	+1.3
HIZ	Hauiti	2.37 286	P	Pn	05 17 19.2	+1.3
HOWZ	Holdsworth Sta	2.40 225	P	Pn	05 17 17.8	-0.6
OGWZ	Otaki Gorge	2.55 230	P	Pn	05 17 20.1	-0.3
MTW	Mount Morrison	2.60 221	P	Pn	05 17 19.9	-1.2
LREZ	Lake Rotokare	2.61 264	P	Pn	05 17 23.2	+2.0
MHEZ	Mangahewa	2.67 272	P	Pb	05 17 26.0	-1.6
TRVZ	Traveller	2.69 215	P	Pn	05 17 26.4	-1.6
KIW	Kapiti Island	2.73 232	P	Pn	05 17 22.7	-0.2
DREZ	Durham Road	2.76 269	P	Pn	05 17 25.7	+2.4
CAW	Cannon Point	2.79 227	P	Pn	05 17 23.0	-0.8
PREZ	Palmer Road	2.79 266	P	Pn	05 17 26.1	+2.3
PAWZ	Paruwai Farm	2.80 219	P	Pn	05 17 22.4	-1.5
NEZ	North Egmont	2.84 268	P	Pn	05 17 26.9	+2.4
KHEZ	Kahui Hut	2.91 267	P	Pn	05 17 27.1	+1.7
KHEZ	Kahui Hut	2.91 267	P	Pn	05 17 28.1	+2.7
MSWZ	Moikau Station	2.92 220		Pn	05 17 23.8	-1.6
MSWZ	Moikau Station	2.92 220	P	Pn	05 17 23.9	-1.6
PKE	Pukeiti	2.93 269	P	Pn	05 17 28.0	+2.4
MKAZ	Moumakai	2.94 315	P	Pn	05 17 25.8	+0.1
KUZ	Kuaotunu	2.95 326	P	Pn	05 17 25.0	-0.8
KUZ	Kuaotunu	2.95 326	P	Pn	05 17 24.8	-1.0
NMEZ	Namu Road	3.02 265	P	Pn	05 17 29.4	+2.6
NBEZ	Newall Road No	3.02 268	P	Pn	05 17 29.2	+2.3
PLWZ	Palliser	3.03 218		Pn	05 17 25.1	-1.9
PLWZ	Palliser	3.03 218	P	Pn	05 17 25.2	-1.9
WEL	Wellington	3.08 227	P	Pn	05 17 26.9	-0.8
BHW	Baring Head	3.11 224		Pn	05 17 27.0	-1.1
BHW	Baring Head	3.11 224	P	Pn	05 17 26.8	-1.3
SNZO	South Karori	3.13 227		Pn	05 17 27.5	-0.9
SNZO	South Karori	3.13 227	P	Pn	05 17 27.5	-0.9
SNZO	South Karori	3.13 227	S	Sn	05 18 04.8	-0.3
ETAZ	East Tamaki Re	3.18 314	P	Pn	05 17 30.1	+1.1
AWAZ	Awhitu Peninsu	3.26 310	P	Pn	05 17 30.9	+0.7
TCW	Tory Channel	3.33 232		Pn	05 17 30.1	-1.0
TCW	Tory Channel	3.33 232	P	Pn	05 17 29.9	-1.1
MBAZ	Motutapu North	3.33 316	P	Pn	05 17 31.8	+0.7
DUWZ	D'Urville Isla	3.34 241	P	Pn	05 17 30.6	-0.7
HBAZ	Herne Bay Bore	3.36 314	P	Pn	05 17 35.0	+3.5
WTAZ	Waiatarua	3.39 311	P	Pn	05 17 33.1	+1.1
GRZ	Great Barrier	3.48 328	P	Pn	05 17 32.3	-0.8
ABAZ	Army Bay	3.49 318	P	Pn	05 17 34.3	+0.9
RVAZ	Riverhead Bore	3.50 313	P	Pn	05 17 35.1	+1.6
TUWZ	Tuamarina	3.66 232		Pn	05 17 34.4	-1.2
TUWZ	Tuamarina	3.66 232	P	Pn	05 17 34.6	-1.0
CMWZ	Cape Campbell	3.70 226		Pn	05 17 35.5	-0.7
CMWZ	Cape Campbell	3.70 226	P	Pn	05 17 36.4	+0.2
BSWZ	Blackbirch Sta	3.87 229		Pn	05 17 36.9	-1.6
BSWZ	Blackbirch Sta	3.87 229	P	Pn	05 17 37.0	-1.6
NNZ	Nelson	3.90 238		Pn	05 17 38.3	-0.7
NNZ	Nelson	3.90 238	P	Pn	05 17 38.1	-0.9
TKNZ	Takaka Hill	4.10 242		Pn	05 17 40.6	-1.1
TKNZ	Takaka Hill	4.10 242	P	Pn	05 17 40.9	-0.9
WCZ	Waipu Caves	4.25 319	P	Pn	05 17 43.9	+0.1
QRZ	Quartz Range	4.32 247		Pn	05 17 43.8	-1.0
QRZ	Quartz Range	4.32 247	P	Pn	05 17 43.5	-1.3
QRZ	Quartz Range	4.32 247	S	Sn	05 18 32.8	-1.7
QRZ	Quartz Range	4.32 247	P	Pn	05 17 43.4	-1.3
MRNZ	Matariki Terra	4.40 239	P	Pn	05 17 44.9	-1.0
THZ	Tophouse	4.49 234		Pn	05 17 45.9	-1.2
THZ	Tophouse	4.49 234	P	Pn	05 17 45.5	-1.6
KHZ	Kahutara	4.52 224		Pn	05 17 45.9	-1.6
KHZ	Kahutara	4.52 224	P	Pn	05 17 45.2	-2.3
KHZ	Kahutara	4.52 224	S	Sn	05 18 36.2	-3.1
GVZ	Greta Valley S	5.17 222	P	Pn	05 17 56.0	-0.5
OUZ	Omahuta	5.19 319	P	Pn	05 17 57.5	+0.8
DSZ	Denniston Nort	5.19 239	P	Pn	05 17 55.2	-1.6
LTZ	Lake Taylor	5.47 228		Pn	05 17 58.0	-2.5
MQZ	McQueen's Vall	5.90 219		Pn	05 18 03.9	-2.5
OXZ	Oxford	5.95 225		Pn	05 18 05.0	-2.1
CTZ	Chatham Island	6.18 139		Pn	05 18 10.3	+0.1
CTZ	Chatham Island	6.18 139	P	Pn	05 18 08.8	-1.5
CTZ	Chatham Island	6.18 139	S	Sn	05 19 15.6	-4.6
CTZ	Chatham Island	6.18 139	P	Pn	05 18 10.6	+0.3
I36NZ	CHATHAM INFRAS	6.38 139	I	I	05 52 12.7	
	baz=312,slow=313,SNR=0.5					
RPZ	Rata Peaks	6.75 226	Pn	Pn	05 18 16.4	-1.7
	23nm,0.3s,baz=56,slow=1.0,SNR=56					
RPZ			Sn	Sn	05 19 28.2	-5.9
	296nm,0.3s,baz=328,slow=23,SNR=32					
	58nm,0.3s					
RPZ	Rata Peaks	6.75 226	P	Pn	05 18 15.8	-2.3
LBZ	Lake Benmore	7.66 225		Pn	05 18 28.2	-2.3
ODZ	Otahua Downs	7.86 220	P	Pn	05 18 31.2	-2.1
	135nm,0.8s					
JCZ	Jackson Bay	8.28 231	P	Pn	05 18 37.0	-2.2
	484nm,0.8s					
HHSZ	Highcliff Hill	8.50 216	P	Pn	05 18 41.0	-1.1
TUZ	Tuapeka	9.01 219	P	Pn	05 18 47.4	-1.6
MLZ	Mavora Lakes	9.42 226		Pn	05 18 52.3	-2.4
SYZ	Scrubby Hill	9.67 218	P	Pn	05 18 57.0	-1.0
	125nm,0.5s					
SYZ	Scrubby Hill	9.67 218	P	Pn	05 18 57.2	-0.8
WHZ	Wether Hill Ro	9.84 224	Pn	Pn	05 18 57.5	-3.0
DCZ	Deep Cove	10.02 228		Pn	05 19 00.3	-2.6
DCZ	Deep Cove	10.02 228	P	Pn	05 19 02.0	-1.0
RAO	Raoul Island	10.56 21	Sn	Sn	05 20 57.6	-10
	54nm,0.3s,baz=66,slow=19,SNR=4.6					
OUENC	Ouen Island, N	19.16 328	P	Pn	05 21 03.3	0.0
	42nm,1.3s					
ONTNC	Ouen Toro	19.43 327		P	05 21 05.1	-0.1
ONTNC			IAmb	IAmb	05 21 09.2	
	comp=Z,203nm,1.6s					
ONTNC	Ouen Toro	19.43 327	P	Pn	05 21 06.0	-0.4
	comp=Z,69nm,0.9s					
YATNC	Mamie plateau,	19.46 328	P	Pn	05 21 06.8	-0.1
	comp=Z,55nm,1.5s					
DZM	Mont Dzumac	19.64 327	*e*Pn	P	05 21 07.7	+0.1
	comp=Z,135nm,1.3s					
DZM			*e*S	S	05 24 40.6	-7.4
	comp=Z,437nm,27.0s					
DZM			*e*LR	LR	05 25 40.5	
	comp=Z,1μm,20.3s					
DZM	Mont Dzumac	19.64 327		P	05 21 07.6	0.0
DZM	Mont Dzumac	19.64 327	P	P	05 21 05.4	-2.2
	comp=Z,1.9nm,0.3s,baz=127,slow=13,SNR=9.6					
	comp=Z,18nm,0.6s					
DZM	Mont Dzumac	19.64 327	P	P	05 21 08.3	+0.7
	comp=Z,61nm,1.1s					
MSVF	Nonsavu	21.41 1		P	05 21 25.9	-0.9
MSVF	Nonsavu	21.41 1	P	P	05 21 27.0	+0.2
	comp=Z,34nm,1.1s					
MSVF	Nonsavu	21.41 1	P	P	05 21 25.9	-0.9
MSVF			pmax	pmax		
	comp=Z,66nm,1.5s					
MGCD	Mangrove Creek	22.28 277	P	P	05 21 36.3	+0.3
	comp=Z,61nm,1.0s					
MGCD	Mangrove Creek	22.28 277	P	P	05 21 36.7	+0.7
SYDH	Sydney Hard Ro	22.35 276	P	P	05 21 37.2	+0.5
CNB	Canberra Magne	22.89 271	P	P	05 21 40.0	-2.5
	comp=Z,36nm,1.4s					
ARMA	Armidale	23.12 284	P	P	05 21 46.5	+1.6
	comp=Z,36nm,1.7s					
ARMA	Armidale	23.12 284		P	05 21 45.1	+0.2
ARMA	Armidale	23.12 284	P	P	05 21 45.8	+0.9
	comp=Z,35nm,1.1s					
MOO	Moorlands	23.29 252	P	P	05 21 48.1	+1.6
	comp=Z,93nm,1.1s					
MOO	Moorlands	23.29 252	P	P	05 21 47.1	+0.6
	comp=Z,94nm,1.1s					
CORO	Coronation Par	23.39 255	P	P	05 21 47.7	+0.3
YNG	Young	23.98 273	P	P	05 21 54.1	+0.9
	comp=Z,12nm,1.2s					
TOO	Toolangi	25.27 263	P	P	05 22 05.9	+0.9
	comp=Z,12nm,0.8s					
TOO	Toolangi	25.27 263		P	05 22 06.4	+1.4
TOO	Toolangi	25.27 263	P	P	05 22 06.4	+1.4
TOO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
RAR	Rarotonga	26.32 54	LR	LR	05 31 50.3	
	comp=Z,910nm,18.7s,baz=235,slow=34					
EIDS	Eidsvold	26.32 294	P	P	05 22 15.0	+0.4
	comp=Z,43nm,1.2s					
EIDS	Eidsvold	26.32 294		P	05 22 15.2	+0.6
EIDS	Eidsvold	26.32 294	P	P	05 22 15.5	+0.9
	comp=Z,43nm,1.2s					
BRAT	Ballarat	26.48 263	P	P	05 22 16.7	+0.8
	comp=Z,21nm,0.9s					
CMSA	Cobar Meteorol	27.14 276	P	P	05 22 22.4	+0.5
	comp=Z,19nm,0.8s					
CMSA	Cobar Meteorol	27.14 276	P	P	05 22 23.1	+1.2
	comp=Z,19nm,0.8s					
ARPS	Mount Arapiles	28.30 264	P	P	05 22 32.6	+0.3
	comp=Z,7.7nm,1.6s					
STKA	Stephens Creek	30.17 273	P	P	05 22 49.6	+0.7
	comp=Z,59nm,1.0s					
STKA	Stephens Creek	30.17 273		P	05 22 49.2	+0.3
STKA			IAmb	IAmb	05 23 00.6	
	comp=Z,47nm,0.9s					
STKA	Stephens Creek	30.17 273	P	P	05 22 47.9	-1.0
	comp=Z,10nm,0.9s,baz=98,slow=9.7,SNR=13					
STKA			LR	LR	05 35 22.9	
	comp=Z,765nm,18.1s,baz=99,slow=38					
	comp=Z,10nm,0.9s					
STKA	Stephens Creek	30.17 273	P	P	05 22 49.8	+0.9
	comp=Z,2.9nm,1.0s					
STKA	Stephens Creek	30.17 273	P	P	05 22 49.2	+0.3
STKA			pmax	pmax		
	comp=Z,47nm,0.9s					
QLP	Quilpie	30.66 284	P	P	05 22 53.7	+0.5
	comp=Z,108nm,0.8s					
QLP	Quilpie	30.66 284	P	P	05 22 54.1	+0.9
	comp=Z,108nm,0.8s					
HTT	Hallett	31.64 268	P	P	05 23 02.5	+0.6
	comp=Z,4.7nm,0.9s					
HTT	Hallett	31.64 268	P	P	05 23 03.5	+1.6
	comp=Z,14nm,0.8s					
TBI	Tubuai	31.96 70	*e*SS	SS	05 30 23.4	-8.7
	comp=Z,3μm,30.0s					
TBI			*e*LR	LR	05 31 18.4	
	comp=Z,3μm,34.8s					
WHYH	Whyalla	32.84 268	P	P	05 23 12.6	+0.3
CTA	Charters Tower	33.12 296	LR	LR	05 37 13.4	
	comp=Z,24nm,18.1s,baz=104,slow=38					
CTAO	Charters Tower	33.12 296		P	05 23 15.3	+0.4
CTAO			IAmb	IAmb	05 23 25.3	
	comp=Z,44nm,1.0s					
CTAO	Charters Tower	33.12 296	P	P	05 23 15.9	+1.0
	comp=Z,17nm,1.0s					
CTAO	Charters Tower	33.12 296	P	P	05 23 15.3	+0.4
CTAO			pmax	pmax		
	comp=Z,44nm,1.0s					
TV1H	Townsville Har	33.30 298	P	P	05 23 17.3	+0.9
	comp=Z,35nm,0.9s					
HNR	Honiara	33.67 327	LR	LR	05 35 44.2	
	comp=Z,389nm,19.3s,baz=136,slow=34					
BBOO	Buckleboo	34.10 268	P	P	05 23 23.3	-0.1
	comp=Z,20nm,0.7s					
BBOO	Buckleboo	34.10 268		P	05 23 23.2	-0.2
BBOO	Buckleboo	34.10 268	P	P	05 23 22.7	-0.7
	comp=Z,20nm,0.7s					
PPT2	Papeete2	35.62 62	*e*SS	SS	05 31 48.1	+1.1
	comp=Z,586nm,26.2s					
PPT2			*e*LR	LR	05 32 40.6	
	comp=Z,523nm,37.0s					
PPT2			*e*LR	LR	05 32 55.6	
	comp=Z,495nm,21.2s					
PPT	Papeete	35.63 62	LR	LR	05 37 13.9	
	comp=Z,551nm,18.0s,baz=256,slow=34					
MTSU	Mount Surprise	35.78 296	P	P	05 23 38.2	+0.2
	comp=Z,20nm,0.6s					
MTSU	Mount Surprise	35.78 296	P	P	05 23 38.7	+0.7
	comp=Z,20nm,0.6s					
QIS	Mount Isa	37.60 288	P	P	05 23 53.0	-0.5
	comp=Z,18nm,0.9s					
QIS	Mount Isa	37.60 288	P	P	05 23 53.6	+0.1
	comp=Z,18nm,0.9s					
VNDA	Vanda	39.00 185		P	05 24 05.4	+0.9
VNDA	Vanda	39.00 185	P	P	05 24 06.6	+2.0
	comp=Z,3.3nm,0.9s,baz=1.1,slow=8.6,SNR=13					
	comp=Z,3.3nm,0.9s					
VNDA	Vanda	39.00 185	P	P	05 24 05.4	+0.9
VNDA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
SBA	Scott Base	39.02 184		P	05 24 06.2	+1.5
SBA	Scott Base	39.02 184	P	P	05 24 06.2	+1.5
SBA			pmax	pmax		
	comp=Z,13nm,1.1s					
COEN	Coen	39.48 300	P	P	05 24 08.5	-0.8
	comp=Z,58nm,0.9s					
COEN	Coen	39.48 300	IAmb	IAmb	05 24 18.2	
	comp=Z,36nm,0.8s					
COEN	Coen	39.48 300	P	P	05 24 09.2	0.0
	comp=Z,58nm,0.9s					
AS31	Alice Springs	40.09 280	P	P	05 24 14.6	+0.2
AS31			IAmb	IAmb	05 24 15.2	
	comp=Z,39nm,0.8s					
ASAR	Alice Springs	40.09 279		P	05 24 13.6	-0.8
ASAR	Alice Springs	40.09 279	P	P	05 24 13.4	-1.0
	comp=Z,96nm,0.8s,baz=119,slow=7.4,SNR=609					
ASAR			S	S	05 30 15.8	-3.6
	comp=Z,1.9nm,0.8s,baz=122,slow=14,SNR=7.8					
ASAR			LR	LR	05 41 51.7	
	comp=Z,1μm,18.6s,baz=128,slow=38					
	comp=Z,96nm,0.8s					
PMG	Port Moresby	40.36 309		P	05 24 16.6	+0.1
PMG			IAmb	IAmb	05 24 17.5	
	comp=Z,52nm,0.8s					
PMG	Port Moresby	40.36 309	LR	LR	05 39 20.3	
	comp=Z,871nm,20.5s,baz=152,slow=34					
PMG	Port Moresby	40.36 309	P	P	05 24 17.1	+0.6
	comp=Z,81nm,0.8s					
PMG	Port Moresby	40.36 309	P	P	05 24 16.6	+0.1
PMG			pmax	pmax		
	comp=Z,53nm,0.8s					
FORT	Forrest	41.14 266	P	P	05 24 23.0	+0.1
	comp=Z,29nm,0.8s					
FORT	Forrest	41.14 266	P	P	05 24 23.3	+0.4
WR8	Warramunga Arr	41.77 285	IAmb	IAmb	05 24 38.9	
	comp=Z,37nm,0.8s					
RABL	Rabaul	41.89 320	P	P	05 24 28.5	-0.6
WC2	Warramunga Arr	41.89 285	P	P	05 24 27.9	-1.3
WRAB	Tennant Creek	41.90 284		P	05 24 28.4	-0.8
WRAB			IAmb	IAmb	05 24 40.1	
	comp=Z,37nm,0.7s					
WRAB	Tennant Creek	41.90 284	P	P	05 24 28.4	-0.8
WRAB	Tennant Creek	41.90 284	*c iP*	P	05 24 27.8	-1.4
WRAB			pmax	pmax		
	comp=Z,45nm,0.9s					
WRA	Warramunga Arr	41.90 284	P	P	05 24 27.8	-1.4
WRA	Warramunga Arr	41.90 284	P	P	05 24 28.4	-0.9
	comp=Z,33nm,0.8s,baz=128,slow=7.3,SNR=104					
WRA			S	S	05 30 41.3	-4.9
	comp=Z,1.6nm,0.9s,baz=132,slow=14,SNR=5.4					
WRA			LR	LR	05 42 41.0	
	comp=Z,1μm,18.9s,baz=140,slow=38					
	comp=Z,33nm,0.8s					
WRA	War

comp=Z,35nm,1.2s
PSA00 Pilbara Seismi 52.10 272 P **P 05 25 47.2 -1.7**
PSA00 Pilbara Seismi 52.10 272 IAmb IAmb 05 25 47.9
comp=Z,21nm,1.0s
PSA00 Pilbara Seismi 52.10 272 P **P 05 25 47.7 -1.2**
comp=Z,34nm,1.2s
MBWA Marble Bar 52.41 272 P **P 05 25 49.6 -1.6**
MBWA Marble Bar 52.41 272 **P 05 25 49.6 -1.6**
MBWA IAmb IAmb 05 25 59.9
comp=Z,32nm,0.8s
MBWA Marble Bar 52.41 272 P **P 05 25 50.1 -1.1**
BAKI Biak 53.61 304 P **P 05 25 59.5 -0.5**
GIRL Giralia 55.88 267 P **P 05 26 15.6 -0.8**
comp=Z,32nm,1.5s
BATI Baumata 55.99 286 LR LR 05 52 28.1
comp=Z,999nm,18.2s,baz=158,slow=39
MSAI Masohi 56.84 296 P **P 05 26 22.8 -0.5**
SWI Sorong 57.04 300 P **P 05 26 24.2 -0.5**
EDFI Ende, Flores 58.41 286 P **P 05 26 33.8 -0.8**
comp=Z,24nm,1.0s
SANI Sanana 59.81 295 P **P 05 26 45.0 +0.8**
comp=Z,77nm,1.0s
SANI Sanana 59.81 295 P **P 05 26 43.1 -1.1**
BELA Belgrano 2 61.52 173 P **P 05 26 56.0 +1.0**
BELA IAmb IAmb 05 27 06.2
comp=Z,17nm,0.8s
TWSI Taliwang, Sumb 62.04 282 P **P 05 26 58.9 -0.4**
comp=Z,1µmcomp=Z,55nm,1.1s
KAPI Kappang 62.31 287 P **P 05 27 00.0 -1.1**
KAPI Kappang 62.31 287 ⇑*iP* **P 05 27 00.0 -1.1**
KAPI pmax pmax
comp=Z,31nm,1.2s
MAW Mawson 62.85 203 P **P 05 27 05.7 +1.8**
comp=Z,5.0nm,1.4s
MAW Mawson 62.85 203 P **P 05 27 05.9 +2.0**
comp=Z,21nm,1.1s,baz=122,slow=8.5,SNR=21
MAW LR LR 05 54 25.9
comp=Z,908nm,18.4s,baz=116,slow=36
comp=Z,21nm,1.1s
SPSI Sidrap Palu 62.99 288 P **P 05 27 05.3 -0.4**
comp=Z,2µmcomp=Z,31nm,0.9s
PMSA Palmer Station 65.69 156 P **P 05 27 23.9 +1.4**
PMSA IAmb IAmb 05 27 25.4
comp=Z,24nm,1.1s
TOLI2 Tolitoli 65.72 293 **P 05 27 22.3 -1.2**
TOLI2 IAmb IAmb 05 27 23.9
comp=Z,30nm,1.1s
TOLI2 Tolitoli 65.72 293 P **P 05 27 22.4 -1.1**
BBKI Banjar Baru 66.99 285 P **P 05 27 31.3 -0.4**
WOJI Wonogiri, Jawa 67.16 279 P **P 05 27 32.5 -0.3**
SYO Syowa Base 67.74 195 ⇓*iP* **P 05 27 36.6 +1.0**
SYO Syowa Base 67.74 195 ⇓*iS*P **P 05 27 39.4 +3.8**
KPJI Karang Pucung 69.01 278 P **P 05 27 44.1 -0.3**
comp=Z,55nm,1.0s
TROLL Troll, Antarti 69.03 182 ⇓P **P 05 27 45.3 +1.6**
comp=Z,860nm,1.0s
SNAA Sanae 69.42 180 ⇑P **P 05 27 46.2 0.0**
comp=Z,236nm,0.9s
SNAA Sanae 69.42 180 P **P 05 27 47.4 +1.3**
SNAA IAmb IAmb 05 27 49.0
comp=Z,33nm,1.2s
SNAA Sanae 69.42 180 P **P 05 27 47.4 +1.3**
comp=Z,14nm,1.0s,baz=188,slow=6.4,SNR=36
SNAA LR LR 05 56 36.3
comp=Z,278nm,18.0s,baz=130,slow=34
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 69.72 177 ⇑P **P 05 27 49.1 +1.2**
comp=Z,23nm,0.8s
NVL N'lazarevskaya 69.85 185 *eP* **P 05 27 49.0 +0.3**
NVL *e* 05 30 23.7
NVL *e*PPP PPP 05 32 06.9
NVL *e*S **S 05 36 57.8 +1.3**
NVL *e* 05 37 49.7
NVL *e*SS **SS 05 41 29.0 +4.7**
NVL pmax pmax
comp=Z,10.0nm,0.8s
NVL smax smax
comp=N,173nm,10.1s
NVL MLR MLR
comp=Z,136nm,23.0s
BBJI Bungbulang 69.92 277 P **P 05 27 49.3 -0.8**
comp=Z,42nm,1.1s
VNA2 Neumayer-Watz 70.10 178 ⇑P **P 05 27 51.8 +1.5**
comp=Z,22nm,0.8s,baz=176,slow=6.3
MYLDM Lahad Datu 70.18 295 P **P 05 27 52.3 +0.7**
comp=Z,93nm,1.1s
LEM Lembang 70.34 277 LR LR 06 01 16.8
comp=Z,412nm,19.0s,baz=252,slow=38
VNA1 Neumayer-Stat 70.35 178 ⇓P **P 05 27 53.6 +1.8**
comp=Z,26nm,0.9s
DBJI Dramaga 71.18 277 P **P 05 27 57.4 -0.3**
STKI Sintang 71.83 286 P **P 05 28 01.3 -0.3**
KKM Kota Kinabalu 72.41 293 P **P 05 28 04.6 -0.5**
comp=Z,107nm,1.0s
SBUM Sibu 72.86 288 P **P 05 28 06.7 -1.0**
SBUM IAmb IAmb 05 28 08.1
comp=Z,36nm,1.0s
SBUM Sibu 72.86 288 P **P 05 28 07.4 -0.4**
KSM Kuching 73.64 286 P **P 05 28 11.1 -1.2**
comp=Z,54nm,0.9s
LHSI Lahat 75.38 277 P **P 05 28 21.8 -0.7**
comp=Z,3µmcomp=Z,52nm,1.2s
LL02 Futaleuf 76.62 135 P **P 05 28 31.0 +1.9**
LL02 IAmb IAmb 05 28 32.7
comp=Z,30nm,1.0s
MASI Maura Aman, Be 76.81 277 P **P 05 28 29.7 -1.0**
KRJI Kerinci 78.07 277 P **P 05 28 37.4 -0.4**
H03S2 Juan Fernandez 78.46 124 T T 06 54 40.0
baz=229,slow=74,SNR=115
H03S1 Juan Fernandez 78.47 124 T T 06 54 52.4
baz=229,slow=74,SNR=111
H03S3 Juan Fernandez 78.47 124 T T 06 54 51.4
baz=229,slow=74,SNR=100
BTDF Bukit Timah Da 78.50 281 P **P 05 28 39.8 -0.2**
comp=Z,33nm,1.1s
H03N3 Juan Fernandez 78.70 124 T T 06 54 50.9
baz=233,slow=72,SNR=156
H03N2 Juan Fernandez 78.71 124 T T 06 55 06.0
baz=233,slow=72,SNR=220
MYKOM Kota Tinggi 78.72 282 IAmb IAmb 05 28 41.4
comp=Z,37nm,1.2s
MYKOM Kota Tinggi 78.72 282 P **P 05 28 40.5 -0.7**
comp=Z,30nm,1.3s
H03N1 Juan Fernandez 78.72 124 T T 06 54 49.9
baz=233,slow=72,SNR=210
PLCA Paso Flores 78.98 134 **P 05 28 44.5 +2.0**
PLCA IAmb IAmb 05 28 46.3
comp=Z,22nm,1.1s
PLCA Paso Flores 78.98 134 P **P 05 28 44.9 +2.5**
comp=Z,11nm,0.9s,baz=218,slow=5.6,SNR=19
PLCA LR LR 05 56 37.4
comp=Z,221nm,19.1s,baz=220,slow=30
comp=Z,11nm,0.9s
PLCA Paso Flores 78.98 134 P **P 05 28 44.5 +2.0**
PLCA pmax pmax
comp=Z,22nm,1.2s
PDSI Padang 79.58 277 P **P 05 28 43.7 -2.3**
comp=Z,3µmcomp=Z,41nm,0.9s
BI02 San Fabin de 81.32 131 IAmb IAmb 05 28 58.9
comp=Z,25nm,0.9s
MNSI Mandailing Nat 81.35 278 P **P 05 28 55.2 -0.3**
DLV Lat 81.97 292 P **P 05 28 58.4 -0.5**
comp=Z,45nm,1.0s
IPM Ipoh 82.59 282 IAmb IAmb 05 29 01.6
comp=Z,26nm,0.8s
IPM Ipoh 82.59 282 P **P 05 29 00.9 -1.1**
comp=Z,35nm,0.8s
RPSI Rantau Prapat 83.06 279 P **P 05 29 02.6 -1.8**
PSI Prapat 83.12 279 P **P 05 29 02.6 -2.4**
comp=Z,23nm,0.8s,baz=167,slow=4.8,SNR=30
comp=Z,23nm,0.8s
JMN Monobe 83.19 324 P **P 05 29 05.1 +0.5**
comp=Z,27nm,1.1s
INU Inuyama 83.20 328 P **P 05 29 04.2 -0.4**
comp=Z,42nm,1.0s
GSI Gunungsitoli 83.21 277 **P 05 29 04.4 -0.8**
GSI Gunungsitoli 83.21 277 P **P 05 29 05.6 +0.4**
comp=Z,105nm,1.1s
GSI Gunungsitoli 83.21 277 P **P 05 29 05.2 0.0**
JGF Kuroka 83.27 328 P **P 05 29 04.0 -1.0**
comp=Z,16nm,1.3s
KULM Kulim 83.40 282 IAmb IAmb 05 29 05.9
comp=Z,32nm,1.1s
KULM Kulim 83.40 282 P **P 05 29 05.1 -1.1**
comp=Z,34nm,1.2s
MJAR Matsushiro Arr 83.74 329 **P 05 29 06.2 -1.1**
MJAR IAmb IAmb 05 29 15.1
comp=Z,10nm,0.9s
MJAR Matsushiro Arr 83.74 329 P **P 05 29 05.1 -2.2**
comp=Z,11nm,0.9s,baz=164,slow=5.8,SNR=18
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 83.74 329 P **P 05 29 06.2 -1.1**
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 83.74 329 P **P 05 29 06.4 -0.9**
MAJO IAmb IAmb 05 29 15.3
comp=Z,21nm,0.9s
MAJO Matsushiro 83.74 329 P **P 05 29 06.0 -1.4**
comp=Z,26nm,1.0s
MAJO Matsushiro 83.74 329 P **P 05 29 06.4 -0.9**
MAJO pmax pmax
comp=Z,21nm,0.9s
MJB9 Matsu-Tunnel 83.74 329 IAmb IAmb 05 29 16.3
comp=Z,20nm,0.9s
LMEL Las Melosas 83.89 129 IAmb IAmb 05 29 14.9
comp=Z,19nm,1.3s
JNU Nakatsue 84.08 322 P **P 05 29 07.7 -1.5**
comp=Z,30nm,1.2s,baz=9.8,slow=6.3,SNR=6.8
comp=Z,30nm,1.2s
JNU Nakatsue 84.08 322 P **P 05 29 08.2 -1.0**
comp=Z,34nm,1.2s
KCSI Kotacane, Aceh 84.47 279 P **P 05 29 09.8 -1.9**
comp=Z,1µmcomp=Z,14nm,0.9s
QIZ Qiongzhong 85.86 298 P **P 05 29 18.1 -0.3**
QIZ S **S 05 39 55.0 +4.5**
QIZ SS **SS 05 45 34.1 +5.6**
QIZ pmax pmax
comp=Z,9.0nm,1.7s
QIZ pmax pmax
comp=Z,650nm,11.4s
QIZ LR LR
comp=Z,410nm,16.9s
QIZ LR LR
comp=Z,530nm,25.1s
MLSI Meulaboh, Aceh 85.99 279 P **P 05 29 18.8 -0.5**
SURA Surathani 86.67 285 P **P 05 29 22.3 -0.2**
comp=Z,27nm,1.3s
TJN Taejon 88.41 322 P **P 05 29 30.5 +0.2**
comp=Z,188nm,1.0s
TJN Taejon 88.41 322 ⇓*iP* **P 05 29 30.0 -0.3**
TJN pmax pmax
comp=Z,2.0nm,1.5s
ASAJ Asahikawa 88.82 335 P **P 05 29 31.6 -0.5**
comp=Z,13nm,1.0s,baz=252,slow=11,SNR=4.8
comp=Z,13nm,1.0s
KSRS Korea Array 89.00 323 P **P 05 29 33.7 +0.6**
comp=Z,14nm,0.9s,baz=143,slow=5.7,SNR=48
comp=Z,14nm,0.9s
KSAR Wonju Array Be 89.01 323 **P 05 29 33.7 +0.5**
KSAR Wonju Array Be 89.01 323 P **P 05 29 33.7 +0.5**
NJ2 Nanjing 89.53 313 *eP* **P 05 29 37.1 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
YSS Yuzhno-Sakhali 91.31 337 ⇑*iP* **P 05 29 44.1 +0.5**
YSS pmax pmax
comp=Z,15nm,1.0s
PB05 IPOC Station P 91.47 121 IAmb IAmb 05 29 49.4
comp=Z,19nm,1.0s
MSHR Mys Shultsa 91.74 328 ⇑*iP* **P 05 29 46.9 +1.2**
MSHR pmax pmax
comp=Z,6.0nm,1.1s
USRK Ussuriysk Ar. 92.74 329 P **P 05 29 49.7 -0.6**
comp=Z,2.7nm,0.7s,baz=215,slow=2.3,SNR=5.4
comp=Z,2.7nm,0.7s
CMAR Chiang Mai Arr 93.16 291 **P 05 29 52.5 -0.4**
CMAR Chiang Mai Arr 93.16 291 P **P 05 29 53.2 +0.3**
comp=Z,10.0nm,0.7s,baz=148,slow=3.2,SNR=43
CMAR LR LR 06 17 04.0
comp=Z,104nm,18.4s,baz=340,slow=39
comp=Z,10.0nm,0.7s
CMAR Chiang Mai Arr 93.16 291 P **P 05 29 52.5 -0.4**
CHTO Chiang Mai 93.39 291 **P 05 29 53.5 -0.5**
CHTO IAmb IAmb 05 30 03.1
comp=Z,12nm,0.9s
CHTO Chiang Mai 93.39 291 P **P 05 29 53.5 -0.5**
CHTO pmax pmax
comp=Z,12nm,1.0s
PETK Petropavlovsk- 93.58 348 P **P 05 29 52.9 -1.1**
comp=Z,4.2nm,0.9s,baz=145,slow=8.1,SNR=4.1
comp=Z,4.2nm,0.9s
BFSC Mount Baldy Ra 94.39 49 IAmb IAmb 05 30 10.3
comp=Z,23nm,1.4s
CN2 Changchun 95.19 325 P **P 05 30 00.0 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CLC China Lake 95.54 48 IAmb IAmb 05 30 16.9
comp=Z,8.2nm,1.1s
113A Mohawk Valley, 95.69 52 IAmb IAmb 05 30 16.6
comp=Z,17nm,1.8s
IRM Iron Mountain 95.81 50 IAmb IAmb 05 30 17.5
comp=Z,12nm,1.1s
O02D Mt. Diablo Mer 95.86 42 IAmb IAmb 05 30 16.9
comp=Z,16nm,1.2s
PZH PanZhiHua 96.39 299 P **P 05 30 09.1 +1.4**
O03E Paynes Creek 96.46 42 P **P 05 30 09.8 +2.1**
O03E IAmb IAmb 05 30 18.6
comp=Z,11nm,1.2s
GMN Gold Mountain 96.78 47 P **P 05 30 10.2 +0.8**
NVAR Mina Array Bea 96.99 45 P **P 05 30 12.3 +2.0**
comp=Z,1.4nm,1.0s,baz=227,slow=8.5,SNR=7.2
comp=Z,1.4nm,1.0s
PRN Pahroc Range 98.11 48 IAmb IAmb 05 30 27.9
comp=Z,5.1nm,1.2s
KNB Kanab 99.14 49 IAmb IAmb 05 30 34.7
comp=Z,7.0nm,1.2s
HHC Hu-ho-hao-te 99.93 315 *eP* **Pdif 05 30 24.1 +0.9**
TXAR Lajitas Array 99.94 60 P **Pdif 05 30 25.9 +2.4**
comp=Z,0.3nm,0.8s,baz=213,slow=10,SNR=3.7
TXAR PKKPbc **PKKPbc 05 46 44.5 +2.2**
comp=Z,0.7nm,0.9s,baz=80,slow=3.1,SNR=5.3
BTO Baotou 100.61 314 *eP* **Pdif 05 30 30.4 +4.1**
LZH Lanzhou 101.24 307 *eP* **Pdif 05 30 29.9 +0.6**
LZH pP pPdif 05 30 36.2 -0.7
LZH pmax pmax
comp=Z,22nm,1.4s
PDAR Pinedale Array 104.82 47 PKKPbc PKKPbc 05 46 28.9 +0.4
comp=Z,0.5nm,0.6s,baz=38,slow=3.6,SNR=5.5
ILAR Eielson Array 107.30 15 PKiKP **PKiKP 05 35 03.4 -0.4**
comp=Z,1.1nm,0.9s,baz=264,slow=2.6,SNR=7.3
ILAR PKKPab **PKKPdf 05 46 34.9 -0.1**
comp=Z,1.3nm,0.9s,baz=20,slow=5.4,SNR=10.0
WMQ Urumqi 115.79 306 *e*PKP **PKiKP 05 35 22.0 +1.3**
ZSN Zaisan 119.28 309 *e*PKP **PKPdf 05 35 26.6 -0.6**
ZSN Zaisan 119.28 309 *e*PKIKP **PKPdf 05 35 26.6 -0.6**
MK31 Makanchi Array 120.56 307 *d i*PKIKP **PKPdf 05 35 28.0 -1.7**
MKAR Makanchi Array 120.56 307 PKP **PKPdf 05 35 28.1 -1.6**
comp=Z,7.0nm,1.1s,baz=119,slow=1.5,SNR=16
MKAR Makanchi Array 120.56 307 PKIKP **PKPdf 05 35 28.3 -1.4**
SHLS Shalkode 120.74 303 *e*PKP **PKPdf 05 35 28.9 -1.5**
SHLS Shalkode 120.74 303 *e*PKIKP **PKPdf 05 35 28.8 -1.5**
UZB Uzynbulak 121.03 302 *e*PKP **PKPdf 05 35 30.0 -0.9**
UZB Uzynbulak 121.03 302 *e*PKIKP **PKPdf 05 35 30.0 -0.9**
SATY Saty 121.39 302 *e*PKP **PKPdf 05 35 30.7 -0.9**
SATY Saty 121.39 302 *e*PKIKP **PKPdf 05 35 30.6 -0.9**
KSH Kashi 121.45 297 PKP **PKiKP 05 35 32.0 +0.1**
ZALV Zalesovo Beam 122.11 316 PKP **PKPdf 05 35 30.6 -1.8**
comp=Z,1.5nm,0.5s,baz=161,slow=2.7,SNR=9.3
MDOK Medeo 122.33 302 *e*PKP **PKPdf 05 35 32.5 -1.0**
MDOK Medeo 122.33 302 *e*PKIKP **PKPdf 05 35 32.4 -1.0**
AAK Ala-Archa 123.81 300 **PKPdf 05 35 35.9 -0.4**
AAK Ala-Archa 123.81 300 ⇓*i*PKIKP **PKPdf 05 35 35.4 -0.9**
SGDS Sogindy 124.06 301 *e*PKP **PKPdf 05 35 35.8 -0.8**
KBL Kabul 124.14 289 **PKPdf 05 35 36.8 -0.4**
KBL Kabul 124.14 289 PKIKP **PKPdf 05 35 36.8 -0.4**
KURK Kurchatov 124.37 311 **PKPdf 05 35 35.5 -1.3**
KURK Kurchatov 124.37 311 PKIKP **PKPdf 05 35 35.5 -1.3**
KURBB Kurchatov Arra 124.39 310 PKP **PKPdf 05 35 35.8 -1.1**
comp=Z,7.3nm,0.9s,baz=110,slow=2.0,SNR=43
SADO Sadowa 124.57 57 **PKPdf 05 35 37.5 +0.1**
BTLS Baital 125.08 303 *e*PKP **PKPdf 05 35 37.6 -0.8**
BTLS Baital 125.08 303 *e*PKIKP **PKPdf 05 35 37.6 -0.8**
J57A Williamstown 126.13 60 **PKiKP 05 35 41.0 +0.2**
IUG luzhnay 126.65 298 *e*PKP **PKPdf 05 35 40.6 -1.0**
IUG *e*PP **PP 05 37 37.3 -1.7**
IUG luzhnay 126.65 298 *e*PKIKP **PKPdf 05 35 40.6 -1.0**
IUG *e* 05 37 37.2
KKAR Karatay Array 126.69 299 **PKPdf 05 35 40.8 -0.8**
KKAR Karatay Array 126.69 299 PKIKP **PKPdf 05 35 40.8 -0.8**
VLDQ Val d'Or 126.89 54 **PKPdf 05 35 41.2 -0.5**
BRLS Borolday 127.12 299 *e*PKP **PKPdf 05 35 41.6 -0.9**
BRLS Borolday 127.12 299 *e*PKIKP **PKPdf 05 35 41.5 -0.9**
BRZS Berezniki 127.69 308 *e*PKP **PKPdf 05 35 42.6 -0.6**
BRZS Berezniki 127.69 308 *e*PKIKP **PKPdf 05 35 42.6 -0.6**
BVAR Borovoye Array 129.94 311 PKP **PKPdf 05 35 46.3 -1.1**
comp=Z,2.0nm,0.6s,baz=79,slow=3.2,SNR=11
BORK Borovoye 129.98 311 *d i*PKIKP **PKPdf 05 35 46.2 -1.3**
ABKAR Abkulak array 135.50 304 **PKPdf 05 35 57.7 -0.3**
RAYN Ar Rayn 136.83 263 **PKPdf 05 36 00.5 -0.9**
RAYN Ar Rayn 136.83 263 PKIKP **PKPdf 05 36 00.5 -0.9**
ARTI Arti 137.33 314 **PKPdf 05 36 00.8 -0.4**
ARTI Arti 137.33 314 *i* PKIKP **PKPdf 05 36 00.2 -1.0**
ARTI 05 38 43.6
SPITS Spitsbergen Ar 140.17 354 PKhKP PKPpre 05 35 58.0
comp=Z,12nm,1.0s,baz=85,slow=9.3,SNR=5.1
SPITS PKP **PKPdf 05 36 05.3 -0.6**
comp=Z,14nm,0.7s,baz=93,slow=6.0,SNR=10
DAG Danmarks Havn 141.66 6 *i* P PKPpre 05 36 02.2
DAG IAmb IAmb 05 36 10.1
comp=Z,4.7nm,0.8s
KIRV Kirov 142.08 318 ⇑*i*PKIKP **PKPdf 05 36 09.3 -0.4**
SUMG Summit 142.12 17 *i* P PKPpre 05 36 03.9
SUMG IAmb IAmb 05 36 06.7
comp=Z,12nm,1.2s
DY2G Dye2 143.22 28 *i* P PKPab 05 36 08.0 +0.4
DY2G IAmb IAmb 05 36 11.3
comp=Z,17nm,0.8s
DBG Daneborg 143.81 8 *i* P PKPab 05 36 06.9 -2.5
IVI Ivigtut 144.35 37 PKPbc 05 36 12.4 +0.4
IVI Ivigtut 144.35 37 *i* P **PKPab 05 36 10.5 -1.3**
APA Apatity 145.46 337 ⇓*i*PKP2 **PKPdf 05 36 12.4 -3.0**
APA pmax pmax
comp=Z,37nm,0.9s
APA MLR MLR
comp=Z,1µm,6.1s
NRS Narsarsuaq 145.63 36 *i* P **PKPdf 05 36 14.8 -1.1**
KBZ Khabaz 146.20 293 PKPbc **PKPdf 05 36 17.6 +0.2**
comp=Z,8.5nm,0.9s,baz=154,slow=1.7,SNR=14
KBZ Khabaz 146.20 293 *d i*PKP2 **PKPdf 05 36 16.9 -0.5**
ARA0 ARCESS Array S 146.23 343 *eP* **PKPbc 05 36 17.5 -0.4**
ARCES ARCESS Array B 146.23 343 **PKPdf 05 36 17.1 +0.4**
ARCES ARCESS Array B 146.23 343 PKPbc **PKPdf 05 36 17.0 +0.3**
comp=Z,16nm,0.6s,baz=43,slow=3.0,SNR=41
ARCES ARCESS Array B 146.23 343 PKP2 **PKPdf 05 36 17.1 +0.4**
GOF Gofitskoye 146.26 295 *ce*PKIKP **PKPdf 05 36 15.9 -1.6**
ISOG Isortoq, Green 146.28 27 *i* P **PKPdf 05 36 17.1 +0.3**
KIV Kislovodsk 146.38 293 *e*PKIKP **PKPdf 05 36 17.4 -0.5**
KIV pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 146.38 324 *e*PKIKP **PKPdf 05 36 16.3 -0.9**
KLMR pmax pmax
comp=Z,115nm,1.1s
MARD Mardin 146.40 281 PKPdf **PKPdf 05 36 18.6 +0.5**
ANGG Ammassalik, Gr 146.70 26 *i* P **PKPbc 05 36 18.4 -0.8**
SOEG Soedalen 146.88 19 *i* P **PKPbc 05 36 18.9 -0.8**
SCO Scoresbysund 147.02 12 **PKPbc 05 36 20.5 +0.4**
SCO Scoresbysund 147.02 12 PKP2 **PKPbc 05 36 20.5 +0.4**
SCO Scoresbysund 147.02 12 *i* P **PKPbc 05 36 20.4 +0.4**
KTK1 Kautokeino 147.15 343 *eP* **PKPbc 05 36 19.6 -0.9**
VRH Novokhopyorsk 147.27 306 *e*PKIKP **PKPdf 05 36 18.9 0.0**
VRH pmax pmax
comp=Z,50nm,1.0s
TRO Tromso 147.51 346 *eP* **PKPbc 05 36 20.5 -0.9**
DBIC Dimbokro 147.51 175 PKPbc **PKPdf 05 36 21.8 +1.2**
comp=Z,20nm,1.0s,baz=262,slow=1.3,SNR=12
SOC Sochi 148.47 292 *e*PKHKP PKPpre 05 36 18.5
SOC *e* 05 39 52.0
SOC *e*PPP PPP 05 43 13.4
SOC *e*SS SS 05 59 05.0 +2.7
VORR Voronezh 148.79 307 *e*PKIKP **PKPdf 05 36 22.4 +1.0**
VORR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 148.82 306 *e*PKIKP **PKPdf 05 36 22.4 +0.9**
VORD pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 148.84 309 *e*PKIKP **PKPdf 05 36 23.1 +1.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 148.87 306 *e*PKIKP **PKPdf 05 36 22.3 +0.7**
VSR pmax pmax
comp=Z,20nm,1.0s
MOS Moscow 148.93 315 *e*PKIKP **PKPdf 05 36 20.6 -0.9**
MOS *e* 05 39 58.7
MOS pmax pmax
comp=Z,71nm,1.2s
GAZ Gaziantep 149.09 279 **PKPbc 05 36 26.8 +0.1**
MMAI Mount Meron Ar 149.12 270 PKPbc **PKPbc 05 36 27.5 +0.6**
comp=Z,5.3nm,0.6s,baz=82,slow=6.0,SNR=18
STEI Steigen 149.66 347 *eP* **PKPbc 05 36 26.6 -0.4**
OBN Obninsk 149.68 315 *e*PKHKP PKPpre 05 36 22.3
OBN *e* 05 40 01.5
OBN *e*PPP PPP 05 43 22.8
OBN pmax pmax
comp=Z,12nm,1.0s
FAUS Fauske 150.14 346 *eP* **PKPbc 05 36 27.4 -0.7**
VAGH Vaagaholmen 151.08 347 *eP* **PKPbc 05 36 29.8 -0.6**
RAUS Rausandaksla 151.21 346 *eP* **PKPbc 05 36 29.9 -0.9**
MOR8 Moi Rana 151.37 346 *eP* **PKPbc 05 36 29.7 -1.4**
CSS Mathiatis 151.42 273 **PKPbc 05 36 31.8 -0.5**
STOK Stokkvaagen 151.48 347 *eP* **PKPbc 05 36 30.8 -0.5**
LEIR Leirfjorden 151.66 347 *eP* **PKPbc 05 36 31.1 -0.7**
FIA1 FINESS Array S 151.74 331 **PKPbc 05 36 31.3 -0.8**
FINES FINESS Array B 151.75 331 PKPbc **PKPbc 05 36 31.2 -0.9**
comp=Z,26nm,1.0s,baz=75,slow=8.1,SNR=20
BORG Borgarnes 152.10 17 **PKiKP 05 36 33.9 +0.8**
BORG Borgarnes 152.10 17 PKIKP **PKiKP 05 36 33.9 +0.8**
BRTR Keskin Array B 152.41 283 PKPbc **PKPbc 05 36 33.7 -0.9**
comp=Z,16nm,1.0s,baz=142,slow=4.2,SNR=43
MNK Minsk 154.61 317 *i* PKIKP **PKPbc 05 36 38.2 -0.4**
MNK *i* 05 40 28.5
MNK *i* 05 43 36.4
MNK *i* PPP PPP 05 43 59.2
MNK *i* SS SS 06 00 12.2 +3.2
MNK *i* SSS SSS 06 06 05.9
AKASG Malin Array Be 155.14 308 **PKPdf 05 36 30.0 -1.0**
AKASG Malin Array Be 155.14 308 PKP **PKPdf 05 36 29.0 -2.0**
comp=Z,0.4nm,0.3s,baz=65,slow=1.0,SNR=6.4
NB2 NORSAR Subarra156.61 343 PKP PKPdf 05 36 43.4 +11
comp=Z,12nm,1.2s,baz=28,slow=4.4
NB2 NORSAR Subarra156.61 343 PKP PKPdf 05 36 43.4 +11
baz=28,slow=4.4
HFS Hagfors 156.78 340 PKPab **PKPab 05 37 00.1 -2.4**
comp=Z,4.0nm,0.8s,baz=62,slow=4.1,SNR=4.1
MORC Moravsky Berou 162.43 313 *e*PKP **PKPab 05 37 26.3 -1.3**
VRAC Vranov 163.20 313 *e*PKP **PKPab 05 37 29.7 -1.2**
MODS Modra-Piesok 163.24 309 *e*PKIKP **PKPdf 05 36 40.7 +0.2**
MODS Modra-Piesok 163.24 309 *e*PKP **PKPdf 05 36 40.7 +0.2**
ZST Bratislava 163.42 309 *e*PKIKP **PKPdf 05 36 42.7 +2.0**
ZST Bratislava 163.42 309 *e*PKP **PKPdf 05 36 42.7 +2.0**
KRUC Moravsky 163.43 313 *e*PKP **PKPab 05 37 30.7 -1.2**
BRG Berggiesshubel 163.71 321 *e*PKP PKPdf 05 36 51.3 +10
BRG Amp 05 36 52.7
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 163.71 321 P **PKPab 05 37 32.4 -0.6**
BRG Amp 05 37 32.8
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 163.71 321 P **PKPab 05 37 40.8 +7.7**
BRG Amp 05 37 42.4
comp=Z,5.7nm,0.9s
EKA Eskdalemuir Ar 163.87 2 PKPab **PKPab 05 37 31.8 -1.7**
comp=Z,0.3nm,0.3s,baz=24,slow=4.8,SNR=3.9
CLL Collm 163.88 324 *i* PKP2 **PKPab 05 37 31.9 -1.8**
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 163.88 324 *i* PKPab **PKPab 05 37 31.9 -1.8**
comp=Z,11nm,1.1s
CLL *i* x x 05 37 40.6
comp=Z,16nm,1.2s
GERES GERESS Array B 165.06 315 PKPab **PKPab 05 37 38.2 -0.9**
comp=Z,1.5nm,0.8s,baz=51,slow=5.3,SNR=7.5
MEM Membach 167.21 336 *d*PKPdf **PKPdf 05 36 44.0 +0.2**
MEM *d*PKP **PKPab 05 37 47.7 -0.7**
BCLA Clavier 167.59 337 *d*PKP **PKPab 05 37 50.9 +0.8**
BMRD Maredsous 167.86 338 *d*PKPdf **PKPdf 05 36 41.7 -2.5**
FUORN Ofenpass-Fuorn 168.23 313 **PKPab 05 37 53.1 -0.4**
KEST Kesra 170.15 253 PKPab **PKPab 05 38 02.3 +0.1**
comp=Z,6.9nm,1.0s,baz=136,slow=2.5,SNR=5.0
PARRA Arraiolos 174.69 92 *e*PKP **PKPdf 05 36 50.1 +2.0**
PBDV Barranco-do-Ve 175.11 112 *e*PKP **PKPdf 05 36 52.5 +4.2**
PSARD Sardoal 175.40 83 *e*PKP **PKPdf 05 36 49.8 +1.5**
EVO Evora 175.44 97 *e*PKP **PKPdf 05 36 50.4 +2.1**
PBRG Braganca 175.71 52 *e*PKP **PKPdf 05 36 47.0 -1.3**
PCBR Castelo Branco 175.91 80 *e*PKP **PKPdf 05 36 49.6 +1.3**
PMRV Marv??o 176.00 85 *e*PKP **PKPdf 05 36 46.8 -1.7**
PBAR Barrancos 176.11 104 *e*PKP **PKPdf 05 36 50.3 +1.8**

ESDC	Sonseca Array	178.59	71	PKP	PKPdf	05 36 50.1	+1.2
	comp=Z,1.6nm,0.9s,baz=350,slow=1.6,SNR=9.6						
ESDC				PKPab	pPKPab	05 38 39.6	-7.6
	comp=Z,1.9nm,0.9s,baz=303,slow=5.1,SNR=8.8						

*NOU **01** 05:41:09.8, 39°.21S×177°.92E, h24km, MLv3.3/8, Off E. Coast of N. Island, N.Z.*
*WEL **01** 05:41:11.4±0.4, 39°.S±4°×17°.8E±°, h25km±3km, M3.3/12, ML3.7/12, MLv3.3/12, Error ellipse: s-maj=4.7km s-min=3.7km az=178.4, confirmed*

ISC 01 05:41:11.4±1.0, 39°.14S±0°.03×177°.82E±0°.04, h32km±6km, n53, σ0s75/62, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.07**	**99**	P	**Pb**	**05 41 16.9**	**0.0**
MHGZ				S	**Sb**	**05 41 22.0**	**+1.3**
KNZ	**Kokohu**	**0.17**	**316**	P	**Pb**	**05 41 16.4**	**-1.1**
KNZ				S	**Sb**	**05 41 20.7**	**-0.9**
PRGZ	**Paritu Road**	**0.22**	**12**	P	**Pb**	**05 41 17.3**	**-0.9**
PRGZ				S	**Sb**	**05 41 23.0**	**+0.3**
WFSS	**Wairoa Fire St**	**0.33**	**289**	P	**Pb**	**05 41 19.1**	**-0.3**
WFSS				S	**Sn**	**05 41 25.8**	**+0.2**
RIGZ	**Rimuhau**	**0.44**	**354**	P	**Pn**	**05 41 20.9**	**-0.6**
RIGZ				S	**Sn**	**05 41 28.7**	**+0.4**
WHHZ	**Waihua**	**0.46**	**278**	P	**Pn**	**05 41 21.4**	**-0.4**
WHHZ				S	**Sn**	**05 41 29.6**	**+0.7**
GKBS	**Kaiti Beach**	**0.49**	**20**	P	**Pn**	**05 41 22.8**	**+0.7**
GWTS	**Gisborne Waipa**	**0.52**	**9**	P	**Pn**	**05 41 23.2**	**+0.6**
SNGZ	**Shannon Statio**	**0.52**	**314**	P	**Pb**	**05 41 22.1**	**-0.2**
SNGZ				S	**Sn**	**05 41 30.4**	**0.0**
RAHZ	**Arahi**	**0.62**	**291**	P	**Pb**	**05 41 23.8**	**-0.2**
RAHZ				S	**Sn**	**05 41 33.4**	**+0.7**
ARHZ	**Aropaoanui**	**0.65**	**259**	P	**Pn**	**05 41 24.8**	**+0.4**
ARHZ				S	**Sn**	**05 41 35.4**	**+1.8**
TKGZ	**Te Karaka**	**0.70**	**2**	P	**Pn**	**05 41 25.3**	**+0.2**
RAGZ	**Rawiri**	**0.72**	**334**	P	**Pb**	**05 41 25.1**	**-0.4**
CNGZ	**Carnagh Statio**	**0.72**	**25**	P	**Pn**	**05 41 25.7**	**+0.4**
CKHZ	**Cape Kidnapper**	**0.77**	**228**	P	**Pn**	**05 41 26.4**	**+0.4**
NMHZ	**Naumai**	**0.79**	**273**	P	**Pn**	**05 41 26.7**	**+0.3**
MTHZ	**Maungataniwha**	**0.82**	**290**	P	**Pb**	**05 41 26.6**	**-0.6**
MWZ	**Matawai**	**0.84**	**344**	P	**Pb**	**05 41 26.9**	**-0.7**
RTZ	**Ruatahuna**	**0.84**	**308**	P	**Pb**	**05 41 27.1**	**-0.5**
MCHZ	**McNeill Hill**	**0.93**	**251**	P	**Pn**	**05 41 28.7**	**+0.6**
TWGZ	**Tauwhareparae**	**0.97**	**7**	P	**Pb**	**05 41 29.1**	**-0.6**
KAHZ	**Kahuranaki**	**0.98**	**228**	P	**Pn**	**05 41 29.3**	**-0.6**
BKZ	**Black Stump Fm**	**1.03**	**268**	P	**Pn**	**05 41 29.9**	**+0.2**
BKZ	**Black Stump Fm**	**1.03**	**268**	S	**Sn**	**05 41 45.5**	**+2.4**
BKZ	**Black Stump Fm**	**1.03**	**268**	P	**Pn**	**05 41 29.8**	**+0.2**
URZ	**Urewera**	**1.04**	**327**	P	**Pn**	**05 41 30.0**	**+0.3**
URZ	**Urewera**	**1.04**	**327**	S	**Sn**	**05 41 44.5**	**+1.3**
URZ	**Urewera**	**1.04**	**327**	P	**Pn**	**05 41 29.8**	**0.0**
MUGZ	**Murupara**	**1.06**	**309**	P	**Pn**	**05 41 30.2**	**+0.2**
KWHZ	**Kaweka Forest**	**1.12**	**255**	P	**Pn**	**05 41 31.2**	**+0.3**
MRHZ	**Matea Rd**	**1.14**	**285**	P	**Pn**	**05 41 31.6**	**+0.5**
PXZ	**Pawanui**	**1.16**	**220**	P	**Pn**	**05 41 31.3**	**-0.1**
RUGZ	**Raukumara Rang**	**1.18**	**354**	P	**Pn**	**05 41 31.4**	**-0.4**
KRHZ	**Kereru**	**1.23**	**246**	P	**Pn**	**05 41 32.5**	**+0.1**
PRRZ	**Plateau Road**	**1.29**	**299**	P	**Pb**	**05 41 35.5**	**+0.4**
PKGZ	**Pakihiroa**	**1.29**	**9**	P	**Pn**	**05 41 33.0**	**-0.2**
ALRZ	**Allen Road**	**1.29**	**296**	P	**Pb**	**05 41 34.6**	**-0.5**
TARZ	**Mount Tarawera**	**1.37**	**311**	P	**Pb**	**05 41 35.5**	**-1.0**
HAZ	**Te Kaha**	**1.38**	**359**	P	**Pn**	**05 41 34.4**	**0.0**
WMGZ	**Waiomatatini S**	**1.40**	**20**	P	**Pn**	**05 41 34.6**	**-0.1**
WPHZ	**Waipukurau**	**1.41**	**229**	P	**Pn**	**05 41 34.7**	**-0.2**
HRRZ	**Handcock Road**	**1.42**	**301**	P	**Pb**	**05 41 37.4**	**+0.1**
PRHZ	**Porangahau**	**1.45**	**219**	P	**Pn**	**05 41 34.7**	**-0.7**
PNHZ	**Pukenui**	**1.47**	**238**	P	**Pn**	**05 41 35.3**	**-0.4**
MXZ	**Matakaoa Point**	**1.62**	**14**	P	**Pn**	**05 41 37.8**	**+0.1**
MXZ	**Matakaoa Point**	**1.62**	**14**	S	**Sb**	**05 41 59.3**	**-1.5**
ETVZ	**East Tongariro**	**1.64**	**270**	P	**Pb**	**05 41 39.6**	**-1.5**
TMVZ	**Te Maari**	**1.65**	**270**	P	**Pn**	**05 41 39.1**	**+0.9**
NTVZ	**North Tongarir**	**1.67**	**271**	P	**Pn**	**05 41 39.0**	**+0.5**
DVHZ	**Dannevirke**	**1.72**	**227**	P	**Pn**	**05 41 38.4**	**-0.7**
BFZ	**Birch Farm**	**1.96**	**218**	P	**Pn**	**05 41 40.9**	**-1.5**
BFZ	**Birch Farm**	**1.96**	**218**	S	**Sn**	**05 42 05.5**	**-0.3**
CTZ	**Chatham Island**	**6.21**	**139**	P	**Pn**	**05 42 41.3**	**+0.7**

*NOU **01** 05:47:19.8, 39°.29S×178°.01E, h14km, MLv3.8/11, Off E. Coast of N. Island, N.Z.*
*WEL **01** 05:47:23.7±0.5, 39°.S±3°×17°.8E±°, h21km±4km, M3.4/52, ML4.1/13, MLv3.4/52, Error ellipse: s-maj=3.8km s-min=3.3km az=132.2, confirmed*

ISC 01 05:47:22.9±1.1, 39°.20S±0°.03×177°.88E±0°.04, h30km±6km, n88, σ0s88/103, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.05**	**23**	P	**Pb**	**05 47 28.6**	**+0.6**
MHGZ				S	**Sb**	**05 47 33.5**	**+1.9**
KNZ	**Kokohu**	**0.24**	**318**	P	**Pb**	**05 47 28.2**	**-1.4**
KNZ				S	**Sb**	**05 47 32.1**	**-2.0**
RIGZ	**Rimuhau**	**0.50**	**349**	P	**Pb**	**05 47 33.0**	**-0.4**
RIGZ				S	**Sb**	**05 47 40.9**	**+0.3**
WHHZ	**Waihua**	**0.52**	**284**	P	**Pb**	**05 47 33.2**	**-0.4**
WHHZ				S	**Sb**	**05 47 41.5**	**+0.5**
GKBS	**Kaiti Beach**	**0.53**	**13**	P	**Pn**	**05 47 34.7**	**+0.4**
GISS	**Gisborne 2ZG**	**0.55**	**12**	P	**Pn**	**05 47 34.9**	**+0.4**
SNGZ	**Shannon Statio**	**0.59**	**315**	P	**Pb**	**05 47 34.0**	**-0.9**
SNGZ				S	**Sb**	**05 47 42.3**	**-0.7**
RAHZ	**Arahi**	**0.68**	**294**	P	**Pb**	**05 47 35.6**	**-0.7**
RAHZ				S	**Sb**	**05 47 45.2**	**-0.3**
ARHZ	**Aropaoanui**	**0.69**	**265**	P	**Pn**	**05 47 36.5**	**-0.1**
ARHZ				S	**Sn**	**05 47 46.9**	**+0.6**
CNGZ	**Carnagh Statio**	**0.76**	**20**	P	**Pn**	**05 47 37.9**	**+0.4**
TKGZ	**Te Karaka**	**0.76**	**358**	P	**Pn**	**05 47 37.3**	**-0.3**
TKGZ				S	**Sn**	**05 47 48.8**	**+0.8**
CKHZ	**Cape Kidnapper**	**0.77**	**233**	P	**Pb**	**05 47 38.2**	**+0.4**
CKHZ				S	**Sn**	**05 47 50.2**	**+1.9**
RAGZ	**Rawiri**	**0.79**	**333**	P	**Pn**	**05 47 37.3**	**-0.7**
RAGZ				S	**Sb**	**05 47 48.4**	**-0.3**
NMHZ	**Naumai**	**0.84**	**277**	P	**Pn**	**05 47 38.6**	**-0.2**
NMHZ				S	**Sb**	**05 47 50.7**	**+0.6**
MTHZ	**Maungataniwha**	**0.88**	**293**	P	**Pn**	**05 47 38.6**	**-0.6**
MTHZ				S	**Sn**	**05 47 50.4**	**-0.6**
MWZ	**Matawai**	**0.91**	**342**	P	**Pn**	**05 47 39.0**	**-0.6**
MWZ				S	**Sn**	**05 47 50.7**	**-1.0**
RTZ	**Ruatahuna**	**0.91**	**309**	P	**Pn**	**05 47 39.0**	**-0.7**
RTZ				S	**Sn**	**05 47 50.9**	**-1.0**
MCHZ	**McNeill Hill**	**0.95**	**255**	P	**Pb**	**05 47 40.8**	**0.0**
MCHZ				S	**Sb**	**05 47 54.0**	**+0.9**
KAHZ	**Kahuranaki**	**0.98**	**232**	P	**Pb**	**05 47 41.3**	**0.0**
TWGZ	**Tauwhareparae**	**1.02**	**4**	P	**Pn**	**05 47 41.3**	**+0.1**
BKZ	**Black Stump Fm**	**1.08**	**271**	P	**Pn**	**05 47 42.2**	**+0.2**
BKZ	**Black Stump Fm**	**1.08**	**271**	S	**Sb**	**05 47 57.3**	**+0.5**
BKZ	**Black Stump Fm**	**1.08**	**271**	P	**Pn**	**05 47 41.8**	**-0.2**
URZ	**Urewera**	**1.12**	**327**	P	**Pn**	**05 47 41.9**	**-0.5**
URZ	**Urewera**	**1.12**	**327**	P	**Pn**	**05 47 41.9**	**-0.5**
MUGZ	**Murupara**	**1.13**	**309**	P	**Pn**	**05 47 42.3**	**-0.3**
PXZ	**Pawanui**	**1.14**	**223**	P	**Pn**	**05 47 42.8**	**+0.1**
KWHZ	**Kaweka Forest**	**1.15**	**258**	P	**Pn**	**05 47 43.2**	**+0.2**
PUZ	**Puketiti**	**1.17**	**15**	P	**Pn**	**05 47 42.7**	**-0.4**
MRHZ	**Matea Rd**	**1.20**	**287**	P	**Pn**	**05 47 43.5**	**-0.1**
RUGZ	**Raukumara Rang**	**1.24**	**353**	P	**Pn**	**05 47 43.5**	**-0.8**
KRHZ	**Kereru**	**1.25**	**249**	P	**Pn**	**05 47 44.5**	**+0.2**
PRRZ	**Plateau Road**	**1.36**	**301**	P	**Pn**	**05 47 46.8**	**+1.0**
ALRZ	**Allen Road**	**1.36**	**297**	P	**Pn**	**05 47 46.6**	**+0.9**
RRRZ	**Republican Roa**	**1.37**	**308**	P	**Pb**	**05 47 48.1**	**+0.1**
WPHZ	**Waipukurau**	**1.41**	**232**	P	**Pn**	**05 47 46.6**	**+0.1**
PRHZ	**Porangahau**	**1.43**	**222**	P	**Pn**	**05 47 46.5**	**-0.3**
WMGZ	**Waiomatatini S**	**1.44**	**17**	P	**Pn**	**05 47 46.5**	**-0.3**
HAZ	**Te Kaha**	**1.44**	**357**	P	**Pn**	**05 47 46.6**	**-0.4**
TARZ	**Mount Tarawera**	**1.44**	**311**	P	**Pn**	**05 47 48.2**	**+1.2**
PNHZ	**Pukenui**	**1.48**	**241**	P	**Pn**	**05 47 47.2**	**-0.3**
HRRZ	**Handcock Road**	**1.49**	**302**	P	**Pb**	**05 47 49.6**	**-0.3**
WPRZ	**Whakapapatarin**	**1.50**	**296**	P	**Pb**	**05 47 49.8**	**-0.4**
HLRZ	**Highlands Stat**	**1.52**	**308**	P	**Pb**	**05 47 51.8**	**+1.2**
HSRZ	**Hossack Road**	**1.56**	**304**	P	**Pn**	**05 47 49.7**	**+1.2**
RITZ	**Rihia Road**	**1.59**	**277**	P	**Pb**	**05 47 51.7**	**0.0**
WHTZ	**Whakaora**	**1.59**	**289**	P	**Pb**	**05 47 54.7**	**+3.0**
OMRZ	**Omania**	**1.61**	**312**	P	**Pn**	**05 47 52.7**	**+0.7**
ANWZ	**Angora Road**	**1.66**	**220**	P	**Pn**	**05 47 48.8**	**-1.1**
MOVZ	**Moawhango**	**1.66**	**262**	P	**Pn**	**05 47 50.9**	**+0.8**
MXZ	**Matakaoa Point**	**1.67**	**12**	P	**Pn**	**05 47 49.8**	**-0.2**
MXZ	**Matakaoa Point**	**1.67**	**12**	S	**Sn**	**05 48 11.8**	**+1.4**
MXZ	**Matakaoa Point**	**1.67**	**12**	P	**Pn**	**05 47 49.9**	**-0.2**
RATZ	**Rangitukua**	**1.68**	**281**	P	**Pb**	**05 47 52.5**	**-0.6**
ETVZ	**East Tongariro**	**1.69**	**272**	P	**Pb**	**05 47 52.2**	**-1.2**
TMVZ	**Te Maari**	**1.69**	**272**	P	**Pn**	**05 47 51.0**	**+0.5**
TSZ	**Takapari Road**	**1.71**	**239**	P	**Pn**	**05 47 50.4**	**-0.3**
KATZ	**Kakaramea**	**1.72**	**277**	P	**Pn**	**05 47 52.0**	**+1.2**
DVHZ	**Dannevirke**	**1.72**	**230**	P	**Pn**	**05 47 50.3**	**-0.4**
NTVZ	**North Tongarir**	**1.72**	**273**	P	**Pn**	**05 47 51.0**	**+0.2**
OTVZ	**Oturere**	**1.72**	**271**	P	**Pn**	**05 47 51.4**	**+0.5**
TUVZ	**Tukino**	**1.73**	**267**	P	**Pn**	**05 47 52.3**	**+1.2**
SNVZ	**South Ngauruho**	**1.74**	**270**	P	**Pn**	**05 47 51.5**	**+0.3**
KRVZ	**Karewarewa**	**1.75**	**273**	P	**Pn**	**05 47 51.6**	**+0.4**
KUTZ	**Kaahu Road**	**1.76**	**293**	P	**Pb**	**05 47 54.5**	**0.0**
NNVZ	**North Ngauruho**	**1.76**	**272**	P	**Pn**	**05 47 52.2**	**+0.7**
NGZ	**Ngauruhoe**	**1.77**	**270**	P	**Pn**	**05 47 53.2**	**+1.6**
WNVZ	**Wahianoa**	**1.78**	**265**	P	**Pn**	**05 47 52.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.78**	**267**	P	**Pb**	**05 47 53.9**	**-1.2**
WTVZ	**West Tongariro**	**1.78**	**272**	P	**Pn**	**05 47 53.3**	**+1.6**
MAVZ	**Matarangi**	**1.80**	**267**	P	**Pb**	**05 47 54.8**	**-0.6**
FWVZ	**Far West T-bar**	**1.81**	**268**	P	**Pn**	**05 47 52.5**	**+0.4**
TRVZ	**Turoa**	**1.81**	**266**	P	**Pn**	**05 47 53.7**	**+1.4**
COVZ	**Chateau Observ**	**1.82**	**269**	P	**Pb**	**05 47 54.9**	**-0.6**
MTVZ	**Mangateitei**	**1.88**	**264**	P	**Pn**	**05 47 53.8**	**+0.8**
TWVZ	**Taurewa**	**1.91**	**273**	P	**Pn**	**05 47 54.5**	**+1.2**
BFZ	**Birch Farm**	**1.94**	**220**	P	**Pn**	**05 47 52.8**	**-0.9**
BFZ	**Birch Farm**	**1.94**	**220**	S	**Sn**	**05 48 17.5**	**+0.4**
BFZ	**Birch Farm**	**1.94**	**220**	P	**Pn**	**05 47 52.9**	**-0.9**
PRWZ	**Pori Road**	**2.00**	**227**	P	**Pn**	**05 47 54.4**	**-0.2**
POWZ	**Post Office Ro**	**2.02**	**233**	P	**Pn**	**05 47 54.7**	**-0.1**
CPWZ	**Castlepoint**	**2.14**	**217**	P	**Pn**	**05 47 55.8**	**-0.7**
TIWZ	**Tintock**	**2.20**	**224**	P	**Pn**	**05 47 56.7**	**-0.6**
MRZ	**Mangatainoka R**	**2.29**	**230**	P	**Pn**	**05 47 57.9**	**-0.7**
HIZ	**Hauiti**	**2.46**	**285**	P	**Pn**	**05 48 01.9**	**+1.0**
KHEZ	**Kahui Hut**	**3.00**	**267**	P	**Pn**	**05 48 09.6**	**+1.1**
QRZ	**Quartz Range**	**4.42**	**247**	P	**Pn**	**05 48 25.6**	**-2.2**
KHZ	**Kahutara**	**4.60**	**224**	P	**Pn**	**05 48 28.6**	**-1.7**

*TRN **01** 05:57:05.3, 10°.78N×62°.45W, h52km, MD4.3, Paria peninsula.*
*FUNV **01** 05:57:05.7, 10°.69N×62°.34W, h32km, MW3.7*

ISC 01 05:57:04.7±1.5, 10°.77N±0°.06×62°.44W±0°.06, h69km±29km, n35, σ1s26/62, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.88**	**95**	*e*P	**Pn**	**05 57 21.9**	**+0.3**
DMDM				*e*S	**Sn**	**05 57 33.9**	**-0.3**
PSMG	**Mucurapo Girls**	**0.90**	**96**	*e*P	**Pn**	**05 57 22.4**	**+0.5**
PSMG				*e*S	**Sn**	**05 57 33.9**	**-0.8**
PSKH	**Kent House, Po**	**0.91**	**96**	*e*S	**Sn**	**05 57 34.9**	**+0.1**
PSQC	**Port of Spain**	**0.91**	**97**	*e*P	**Pn**	**05 57 22.5**	**+0.5**
PSQC				*e*S	**Sn**	**05 57 34.0**	**-0.9**
PSGH	**Port of Spain**	**0.93**	**97**	*e*P	**Pn**	**05 57 22.6**	**+0.4**
PSGH				*e*S	**Sn**	**05 57 34.1**	**-1.1**
TRN	**Trinidad (W)**	**1.03**	**97**	*e*P	**Pn**	**05 57 23.7**	**+0.2**
TRN				*e*S	**Sn**	**05 57 36.4**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.08**	**115**	*e*P	**Pn**	**05 57 24.3**	**+0.3**
TPP				*e*S	**Sn**	**05 57 39.0**	**+0.4**
GRFF	**Grenada Fort F**	**1.44**	**29**	*e*P	**Pn**	**05 57 29.0**	**+0.1**
GRFF				*e*S	**Sn**	**05 57 47.0**	**-0.1**
GRGR	**Grenville**	**1.56**	**30**	*e*P	**Pn**	**05 57 30.8**	**+0.4**
GRGR				*e*S	**Sn**	**05 57 50.5**	**+0.7**
GRW	**Mount Saint Ca**	**1.58**	**29**	*e*P	**Pn**	**05 57 31.8**	**+1.1**
GRW				*e*S	**Sn**	**05 57 49.6**	**-0.8**
GRHS	**Sauteurs**	**1.64**	**29**	*e*P	**Pn**	**05 57 31.6**	**+0.1**
GRHS				*e*S	**Sn**	**05 57 51.7**	**-0.1**
GRSS	**Sisters**	**1.72**	**28**	*e*P	**Pn**	**05 57 33.3**	**+0.8**
GRSS				*e*S	**Sn**	**05 57 54.0**	**+0.3**
GCMP	**Grenada, Carri**	**1.97**	**30**	*e*P	**Pn**	**05 57 36.4**	**+0.5**
GCMP				*e*S	**Sn**	**05 58 00.1**	**+0.4**
PCRV	**Puerto La Cruz**	**2.24**	**255**	*e*P	**Pn**	**05 57 40.8**	**+1.3**
PCRV				*e*S	**Sn**	**05 58 06.2**	**0.0**
PCRV	**Puerto La Cruz**	**2.24**	**255**	*e*P	**Pn**	**05 57 40.9**	**+1.3**
PCRV				*e*S	**Sn**	**05 58 06.2**	**0.0**
SVB	**Belmont**	**2.74**	**25**	*e*P	**Pn**	**05 57 46.6**	**+0.2**
SVB				*e*S	**Sn**	**05 58 16.5**	**-2.0**
SLBI	**Saint Lucia, B**	**3.53**	**24**	*e*P	**Pn**	**05 57 57.6**	**+0.4**
SLBI				*e*S	**Sn**	**05 58 36.5**	**-1.3**
BBGH	**Gun Hill**	**3.68**	**50**	*e*P	**Pn**	**05 58 01.2**	**+2.1**
BBGH				*e*S	**Sn**	**05 58 41.0**	**-0.3**
BIM	**Bigot**	**3.95**	**20**	*e*P	**Pn**	**05 58 03.4**	**+0.5**
BIM				*e*S	**Sn**	**05 58 46.4**	**-1.7**
SVN	**Savane Anatole**	**4.23**	**17**	*e*P	**Pn**	**05 58 08.2**	**+1.5**
FUNV	**FUNVISIS**	**4.30**	**266**	*e*P	**Pn**	**05 58 09.3**	**+1.5**
FUNV				*e*S	**Sn**	**05 58 55.6**	**-1.2**
TACV	**Tcata**	**4.55**	**262**	*e*P	**Pn**	**05 58 12.0**	**+0.9**
TACV				*e*S	**Sn**	**05 59 00.8**	**-2.0**
MDN	**Morne-Daniel**	**4.63**	**13**	*e*P	**Pn**	**05 58 13.5**	**+1.3**
MDN				*e*S	**Sn**	**05 59 04.6**	**-0.1**
DSLB	**Salisbury**	**4.74**	**12**	*e*P	**Pn**	**05 58 14.9**	**+1.2**
DSLB				*e*S	**Sn**	**05 59 06.4**	**-1.0**
DWS	**Wesley**	**4.89**	**13**	*e*P	**Pn**	**05 58 18.1**	**+2.3**
TBG	**Guadaloupe-3**	**5.11**	**9**	*e*P	**Pn**	**05 58 20.0**	**+1.3**
BENV	**Beln**	**5.14**	**261**	*e*P	**Pn**	**05 58 20.3**	**+1.1**
BENV				*e*S	**Sn**	**05 59 15.0**	**-2.2**
CACV	**CAICARA DEL OR**	**5.15**	**232**	*e*P	Pn	05 58 13.6	-5.6
CACV				*e*S	Sn	05 59 04.8	-13
MMLZ	**Guadeloupe Bro**	**5.29**	**8**	*e*P	**Pn**	**05 58 22.8**	**+1.6**
MMLZ				*e*S	**Sn**	**05 59 19.8**	**-1.1**
ATGZ	**Broadband at L**	**5.34**	**7**	*e*P	**Pn**	**05 58 23.2**	**+1.4**
ATGZ				*e*S	**Sn**	**05 59 12.8**	**-2.2**
DHSZ	**Broadband at M**	**5.51**	**7**	*e*P	**Pn**	**05 58 24.7**	**+0.6**
BAUV	**El Baul**	**5.81**	**252**	*e*P	**Pn**	**05 58 27.8**	**-0.4**
BAUV				*e*S	**Sn**	**05 59 30.2**	**-3.4**
BAUV	**El Baul**	**5.81**	**252**	*e*P	**Pn**	**05 58 28.9**	**+0.7**
BAUV				*e*S	**Sn**	**05 59 30.9**	**-2.6**
SKI	**Saint Kitts**	**6.53**	**358**	*e*P	**Pn**	**05 58 40.0**	**+1.9**
ANWB	**Willy Bob**	**6.88**	**5**	*e*P	**Pn**	**05 58 44.4**	**+1.4**
ANWB				*e*S	**Sn**	**05 59 58.4**	**-1.5**

*ASRS **01** 06:00:25.0±1.4, 54°.22N×86°.38E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:00:27.1±2.7, 54°.18N×86°.36E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=21.2km s-min=12.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**256**	I	I	06 06 50.0	
	baz=75,slow=334,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.94**	**256**	Pg	Pg	06 00 44.3	-0.6
	0.9nm,0.3s,baz=73,slow=17,SNR=11						
ZALV				Lg	Lg	06 00 58.5	
	2.9nm,0.3s,baz=78,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 01 56.6	0.0
	baz=55,slow=14,SNR=1.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	06 02 23.8	+1.5
	0.1nm,0.3s,baz=19,slow=12,SNR=6.8						
MKAR				Lg	Lg	06 04 35.9	
	baz=25,slow=35,SNR=2.6						
	0.2nm,0.3s						

*ASRS **01** 06:04:01.0±1.6, 54°.27N×86°.83E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:04:01.9±2.8, 54°.31N×86°.88E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=22.9km s-min=15.6km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**254**	I	I	06 12 20.0	
	baz=74,slow=326,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.27**	**254**	Pg	Pg	06 04 24.8	-1.4
	1.9nm,0.3s,baz=72,slow=17,SNR=17						
ZALV				Lg	Lg	06 04 41.9	
	2.0nm,0.3s,baz=71,slow=28,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.30**	**238**	Pn	Pn	06 05 37.3	+1.3
	0.1nm,0.3s,baz=52,slow=14,SNR=4.6						
KURBB				Sn	Sn	06 06 48.1	-0.4
	baz=53,slow=48,SNR=1.5						
KURBB				Lg	Lg	06 07 23.3	
	baz=55,slow=32,SNR=2.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**8.07**	**203**	Pn	Pn	06 06 01.4	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=11						
MKAR				Sn	Sn	06 07 31.9	-0.3
	0.1nm,0.3s,baz=24,slow=30,SNR=2.2						
MKAR				Lg	Lg	06 08 18.5	
	baz=26,slow=30,SNR=2.2						
	0.2nm,0.2s						

*IDC **01** 06:10:14.4±1.4, 12°.80N×87°.08W, h0km, mb3.3/3, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=189.8km s-min=14.5km az=51.0*
*CATAC **01** 06:10:19.5±0.2, 12°N±2°×8°8W±°, h34km±2km, M4.3/40, MLv4.3/40, Error ellipse: s-maj=3.8km s-min=1.6km az=33.3, confirmed*
*SNET **01** 06:10:21.1±1.4, 12°.46N×87°.52W, h26km, ML4.0*

ISC 01 06:10:18.0±1.2, 12°.22N±0°.04×87°.55W±0°.03, h29km±10km, n90, σ1s11/111, mb3.4/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**0.71**	**70**	P	**Pb**	**06 10 32.4**	**+0.6**
ALEN	**Leon**	**0.71**	**70**	S	**Sb**	**06 10 42.2**	**+0.9**
PKGN	**Cerro Pekin**	**0.72**	**52**	P	**Pn**	**06 10 33.3**	**+1.1**
PKGN				S	**Sn**	**06 10 43.8**	**+1.6**
POTN	**Potosi Cosigui**	**0.78**	**3**	P	**Pn**	**06 10 34.1**	**+1.1**
POTN				S	**Sn**	**06 10 45.0**	**+1.3**
PLRN	**Geotermica Pol**	**0.85**	**65**	P	**Pb**	**06 10 34.6**	**+0.4**
PLRN				S	**Sn**	**06 10 46.1**	**+0.6**
CNGA	**AI SSO del Vol**	**0.88**	**72**	P	**Pb**	**06 10 35.1**	**+0.5**
CNGN	**Cerro Negro**	**0.88**	**71**	P	**Pb**	**06 10 35.1**	**+0.3**
CNGN	**Cerro Negro**	**0.88**	**71**	S	**Sn**	**06 10 47.9**	**+1.6**
COPN	**Copaltepe**	**0.94**	**92**	P	**Pb**	**06 10 35.6**	**-0.2**
CNCH	**Conchagua**	**1.08**	**345**	*e*P	**Pb**	**06 10 38.4**	**+0.2**
CNCH				*e*S	**Sb**	**06 10 50.5**	**-1.6**
CNCH	**Conchagua**	**1.08**	**345**	P	**Pb**	**06 10 38.4**	**+0.2**
CNCH	**Conchagua**	**1.08**	**345**	S	**Sn**	**06 10 52.7**	**+1.2**
AMTN	**Mateare**	**1.10**	**89**	P	**Pn**	**06 10 38.4**	**+1.0**
AMTN	**Mateare**	**1.10**	**89**	S	**Sb**	**06 10 52.6**	**+0.3**
LCND	**La Caada**	**1.13**	**343**	*e*P	**Pb**	**06 10 38.9**	**0.0**
LCND				*e*P	**Pn**	**06 10 39.0**	**+1.2**
LCND				*e*S	**Sb**	**06 10 51.5**	**-1.8**
LCND	**La Caada**	**1.13**	**343**	S	**Sn**	**06 10 53.4**	**+1.0**
LCND	**La Caada**	**1.13**	**343**	P	**Pb**	**06 10 39.0**	**0.0**
AESN	**El Sauce Leon**	**1.19**	**56**	P	**Pn**	**06 10 39.2**	**+0.5**
AESN	**El Sauce Leon**	**1.19**	**56**	S	**Sn**	**06 10 53.9**	**0.0**
APQ2	**Apoyeque**	**1.20**	**91**	S	**Sn**	**06 10 55.0**	**+0.8**
ABCN	**Banco Central**	**1.22**	**94**	S	**Sn**	**06 10 55.

ESSJ	**San Jos, E**	**0.67**	**117**	*i* P	**Pn**	**06 24 03.9**	**-2.0**
ESSJ				*i* S	**Sn**	**06 24 14.8**	**-0.6**
FG16	**Alotenango, Sa**	**0.71**	**55**	*i* P	**Pn**	**06 24 05.9**	**-0.8**
FG16				*e*S	**Sn**	**06 24 16.7**	**0.0**
FG16				IAML		06 24 19.5	
	comp=N,69μm,0.3s						
RTAL	**Retalhuleu**	**0.86**	**319**	*e*P	**Pn**	**06 24 08.6**	**0.0**
RTAL				*e*S	**Sn**	**06 24 21.3**	**+1.2**
RTAL	**Retalhuleu**	**0.86**	**319**	P	**Pn**	**06 24 08.6**	**0.0**
GCG4	**OSOP**	**0.91**	**38**	*i* P	**Pn**	**06 24 09.3**	**-0.1**
GCG4				*i* S	**Sn**	**06 24 23.3**	**+1.8**
SOKI	**Kika Raxquin**	**0.99**	**343**	*i* P	**Pn**	**06 24 10.4**	**-0.3**
SOKI				*e*S	**Sn**	**06 24 24.7**	**+1.0**
SOKI				IAML		06 24 28.9	
	comp=N,7μm,0.5s						
FAME	**Alcaldia de Sa**	**1.07**	**91**	P	**Pn**	**06 24 11.5**	**+0.2**
FAME	**Alcaldia de Sa**	**1.07**	**91**	S	**Sn**	**06 24 25.8**	**+0.8**
NUBE	**Las Nubes**	**1.29**	**88**	*e*P	**Pn**	**06 24 14.4**	**-0.1**
NUBE				*e*S	**Sn**	**06 24 30.2**	**-0.6**
NUBE	**Las Nubes**	**1.29**	**88**	*i* P	**Pn**	**06 24 14.4**	**-0.1**
NUBE				*e*S	**Sn**	**06 24 31.1**	**+0.3**
NUBE	**Las Nubes**	**1.29**	**88**	P	**Pn**	**06 24 14.6**	**0.0**
LOAL	**Lomas de Alarc**	**1.30**	**84**	*e*P	**Pn**	**06 24 14.4**	**-0.1**
LOAL				*e*S	**Sn**	**06 24 31.1**	**+0.3**
LOAL	**Lomas de Alarc**	**1.30**	**84**	S	**Sn**	**06 24 33.0**	**+2.2**
LOAL	**Lomas de Alarc**	**1.30**	**84**	P	**Pn**	**06 24 14.5**	**-0.1**
SMCA	**Catarina**	**1.35**	**317**	*i* P	**Pn**	**06 24 14.8**	**-0.4**
SMCA				*e*S	**Sn**	**06 24 31.3**	**-0.7**
SMCA				IAML		06 24 34.1	
	comp=N,1μm,0.2s						
RBDL	**Robledal**	**1.41**	**80**	*e*P	**Pn**	**06 24 15.6**	**-0.5**
QUIS	**Sacapulas**	**1.42**	**1**	*i* P	**Pn**	**06 24 15.8**	**-0.4**
QUIS				*e*S	**Sn**	**06 24 34.0**	**+0.3**
QUIS				IAML		06 24 37.1	
	comp=E,2μm,0.5s						
RTR	**El Retiro**	**1.43**	**89**	*e*P	**Pn**	**06 24 16.4**	**0.0**
CEVE	**Cerro Verde**	**1.45**	**91**	*e*P	**Pn**	**06 24 16.8**	**0.0**
CEVE				*e*S	**Sn**	**06 24 35.3**	**+0.7**
CEVE	**Cerro Verde**	**1.45**	**91**	P	**Pn**	**06 24 16.9**	**+0.2**
SBLS	**San Blas**	**1.45**	**91**	*e*P	**Pn**	**06 24 16.6**	**-0.2**
SNJE	**San Jose**	**1.46**	**90**	*e*P	**Pn**	**06 24 16.7**	**-0.2**
HUEH	**Huehuetenango**	**1.49**	**345**	*e*P	**Pn**	**06 24 17.0**	**-0.3**
HUEH				*e*S	**Sn**	**06 24 35.4**	**-0.3**
HUEH	**Huehuetenango**	**1.49**	**345**	*i* P	**Pn**	**06 24 17.1**	**-0.3**
HUEH				*e*S	**Sn**	**06 24 35.1**	**-0.7**
HUEH				IAML		06 24 41.6	
	comp=E,2μm,0.6s						
HUEH	**Huehuetenango**	**1.49**	**345**	P	**Pn**	**06 24 17.1**	**-0.3**
THIG		**1.52**	**313**	*i* P	**Pn**	**06 24 17.6**	**+0.1**
THIG				*e*S	**Sn**	**06 24 35.8**	**-0.3**
THIG				IAML		06 24 39.4	
	comp=N,3μm,0.4s						
UNIC	**Universidad Ca**	**1.52**	**86**	*e*P	**Pn**	**06 24 17.0**	**-0.6**
UNIC	**Universidad Ca**	**1.52**	**86**	P	**Pn**	**06 24 16.9**	**-0.6**
UNIC	**Universidad Ca**	**1.52**	**86**	S	**Sn**	**06 24 38.7**	**+2.4**
JAYA	**Jayaque - finc**	**1.63**	**97**	*e*P	**Pn**	**06 24 18.9**	**-0.3**
JAYA	**Jayaque - finc**	**1.63**	**97**	*i* P	**Pn**	**06 24 18.9**	**-0.3**
JAYA				*e*S	**Sn**	**06 24 40.2**	**+1.1**
JAYA	**Jayaque - finc**	**1.63**	**97**	P	**Pn**	**06 24 18.8**	**-0.3**
CEDA	**San Andres**	**1.67**	**92**	*e*P	**Pn**	**06 24 19.2**	**-0.3**
PMON	**Piamonte**	**1.75**	**95**	*e*P	**Pn**	**06 24 20.4**	**-0.4**
PMON	**Piamonte**	**1.75**	**95**	S	**Sn**	**06 24 43.6**	**+1.5**
PMON	**Piamonte**	**1.75**	**95**	P	**Pn**	**06 24 20.6**	**-0.2**
MTO3	**Montecristo**	**1.78**	**73**	*e*P	**Pn**	**06 24 19.9**	**-1.4**
MTO3	**Montecristo**	**1.78**	**73**	*i* P	**Pn**	**06 24 19.9**	**-1.4**
MTO3	**Montecristo**	**1.78**	**73**	P	**Pn**	**06 24 19.8**	**-1.5**
MTO3	**Montecristo**	**1.78**	**73**	S	**Sn**	**06 24 42.0**	**-0.8**
LALI	**Alcalda de L**	**1.78**	**102**	*e*P	**Pn**	**06 24 21.3**	**+0.2**
LALI	**Alcalda de L**	**1.78**	**102**	*e*S	**Sn**	**06 24 43.2**	**+0.7**
LALI				IAML		06 24 45.5	
	comp=N,258nm,0.3s						
BOQS	**Boqueron**	**1.79**	**94**	*e*P	**Pn**	**06 24 21.2**	**-0.2**
BOQS				*e*S	**Sn**	**06 24 44.4**	**+1.4**
PIC2	**El Picacho**	**1.81**	**94**	*e*P	**Pn**	**06 24 21.1**	**-0.6**
UEES	**Universidad Ev**	**1.83**	**95**	*e*P	**Pn**	**06 24 21.5**	**-0.3**
UEES	**Universidad Ev**	**1.83**	**95**	P	**Pn**	**06 24 21.7**	**-0.1**
UEES	**Universidad Ev**	**1.83**	**95**	S	**Sn**	**06 24 45.3**	**+1.5**
ESQI	**Esquipulas**	**1.85**	**68**	*e*P	**Pn**	**06 24 21.0**	**-1.1**
ESQI	**Esquipulas**	**1.85**	**68**	P	**Pn**	**06 24 21.0**	**-1.1**
UESS	**Universidad de**	**1.86**	**94**	*e*P	**Pn**	**06 24 22.2**	**0.0**
LOMA	**Loma Larga**	**1.90**	**96**	*e*P	**Pn**	**06 24 22.4**	**-0.4**
LOMA	**Loma Larga**	**1.90**	**96**	P	**Pn**	**06 24 22.9**	**+0.1**
LFU	**La Fuente**	**1.94**	**93**	*e*P	**Pn**	**06 24 22.6**	**-0.8**
LFRS	**El Faro**	**2.01**	**97**	*e*P	**Pn**	**06 24 24.6**	**+0.3**
LFRS				*e*S	**Sn**	**06 24 48.6**	**+0.3**
LBRS	**Las Brisas**	**2.01**	**93**	*e*P	**Pn**	**06 24 24.1**	**-0.3**
PAVA	**Las Pavas**	**2.12**	**94**	*e*P	**Pn**	**06 24 25.4**	**-0.4**
PAVA	**Las Pavas**	**2.12**	**94**	P	**Pn**	**06 24 25.1**	**-0.7**
LLGN	**La Laguna**	**2.12**	**82**	P	**Pn**	**06 24 24.7**	**-1.2**
UESV	**Universidad de**	**2.27**	**96**	S	**Sn**	**06 24 53.7**	**-0.9**
UESV	**Universidad de**	**2.27**	**96**	P	**Pn**	**06 24 27.0**	**-0.9**
TECO	**Alcaldia de Te**	**2.29**	**98**	*e*P	**Pn**	**06 24 27.6**	**-0.5**
TECO	**Alcaldia de Te**	**2.29**	**98**	P	**Pn**	**06 24 28.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.32**	**94**	*e*P	**Pn**	**06 24 28.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**2.32**	**94**	P	**Pn**	**06 24 28.5**	**0.0**
SARH	**Santa Rosa de**	**2.45**	**68**	*i* P	**Pn**	**06 24 29.4**	**-1.0**
TECA	**Tecapa**	**2.56**	**98**	*e*P	**Pn**	**06 24 31.5**	**-0.6**
CCIG	**Comitan**	**2.60**	**338**	*i* P	**Pn**	**06 24 32.7**	**+0.3**
PACA	**Pacayal**	**2.74**	**98**	*e*P	**Pn**	**06 24 35.0**	**+0.6**
PACA				*e*S	**Sn**	**06 25 06.9**	**+0.6**
RANC	**El Ranchito**	**2.78**	**99**	*e*P	**Pn**	**06 24 35.0**	**+0.1**
LCND	**La Caada**	**3.18**	**100**	*e*P	**Pn**	**06 24 40.2**	**-0.1**
CNCH	**Conchagua**	**3.24**	**100**	*e*P	**Pn**	**06 24 40.8**	**-0.4**
PETF	**Flores**	**3.26**	**21**	*e*P	**Pn**	**06 24 40.3**	**-1.1**
PETF	**Flores**	**3.26**	**21**	*i* P	**Pn**	**06 24 40.4**	**-1.0**

*SKHL **01** 06:28:52.1±0.3, 42.°10N×143.°10E, h71km±2km, mb5.0/4*
*MOS **01** 06:28:52.2±1.0, 42.°20N×142.°99E, h70km, mb4.5/3, Error ellipse: s-maj=13.1km s-min=7.6km az=67.5*
*IDC **01** 06:28:54.3±2.0, 42.°32N×142.°86E, h66km±15km, mb3.6/13, mbtmp3.9/16, Error ellipse: s-maj=20.6km s-min=13.9km az=108.0*
*NEIC **01** 06:28:54.9±1.4, 42.°25N±0.°07×142.°9E±0.°2, h72km±9km, mb4.5/10, Error ellipse: s-maj=20.1km s-min=8.2km az=105.0*
*NIED **01** 06:28:54.1, 42.°33N×143.°07E, h51km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.79; Mθθ-0.37; Mφφ-0.42; Mrθ0.26; Mθφ-0.52; Mφr0.68; Fault plane solution: M0 1.13000×10^15^ NP1: φs240.00000°, δ28.00000°, λ119.00000°. NP2: φs29.00000°, δ66.00000°, λ76.00000°.*
*JMA **01** 06:28:54.1±0.1, 42.°3N±0.°5×143.°1E±0.°5, h51km±1km, MV3.9/39, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .

ISC 01 06:28:53.3±0.7, 42.°25N±0.°04×143.°07E±0.°03, h59km±5km, n83, σ1§19/95, mb4.2/22, 11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.17**	**75**	*i* P	**Pn**	**06 29 02.4**	**-0.1**
JTHR				*e*S	**Sn**	**06 29 08.3**	**-0.8**
JEM	**Erimo**	**0.24**	**165**	P	**Pn**	**06 29 03.5**	**+0.7**
JEM				*e*S	**Sn**	**06 29 11.2**	**+1.4**
JNBK	**Urakawa-nobuka**	**0.24**	**278**	⇓P	**Pn**	**06 29 02.6**	**-0.2**
JNBK				⇓*e*S	**Sn**	**06 29 09.8**	**0.0**
JCH	**Churui**	**0.42**	**30**	P	**Pn**	**06 29 03.9**	**-0.5**
JCH				*e*S	**Sn**	**06 29 11.4**	**-1.0**
JSHD	**Hidakashinhida**	**0.48**	**290**	⇓*e*P	**Pn**	**06 29 05.0**	**+0.1**
JSHD				⇓*e*S	**Sn**	**06 29 13.5**	**+0.2**
JBT2	**Biratori 2**	**0.75**	**316**	⇓P	**Pn**	**06 29 07.9**	**-0.1**
JBT2				⇓*e*S	**Sn**	**06 29 19.4**	**+0.6**
JOB	**Onbets**	**0.86**	**40**	P	**Pn**	**06 29 10.0**	**+0.5**
JOB				*e*S	**Sn**	**06 29 22.3**	**+0.9**
JIAM	**Iburiatsuma**	**0.93**	**294**	*e*P	**Pn**	**06 29 11.8**	**+1.4**
JFR	**Furan**	**0.98**	**339**	⇓*e*P	**Pn**	**06 29 09.8**	**-1.3**
JFR				⇓*e*S	**Sn**	**06 29 22.0**	**-2.2**
JAR	**Ashorobuto**	**1.17**	**26**	P	**Pn**	**06 29 13.0**	**-0.4**
JAR				*e*S	**Sn**	**06 29 27.2**	**-1.3**
JEW	**Eniwo**	**1.34**	**297**	⇓P	**Pn**	**06 29 16.6**	**+0.8**
JAB	**Ashibetsu**	**1.40**	**334**	P	**Pn**	**06 29 17.1**	**+0.5**
AKK	**Akkeshi**	**1.52**	**59**	*e*P	**Pn**	**06 29 18.0**	**-0.1**
JKA	**Kamikawa-asahi**	**1.90**	**350**		**Pn**	**06 29 24.5**	**+1.2**
ASAJ	**Asahikawa**	**1.90**	**350**	P	**Pn**	**06 29 24.1**	**+0.8**
	175nm,0.3s,baz=202,slow=17,SNR=66						
ASAJ				S	**Sn**	**06 29 45.5**	**-0.7**
	103nm,0.3s,baz=141,slow=24,SNR=6.6						
ASAJ				Lg	Lg	06 29 54.5	
	42nm,0.3s,baz=243,slow=28,SNR=5.5						
JTM	**Tenmabayashi**	**2.10**	**227**		**Pn**	**06 29 27.2**	**+1.2**
NMR	**Nemuro--Hokkai**	**2.25**	**59**	*e*PN	**Pn**	**06 29 26.9**	**-1.2**
NMR				*i* S	**Sn**	**06 29 53.0**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.25**	**59**	*e*P	**Pn**	**06 29 26.9**	**-1.2**
NMR				*i* S	**Sn**	**06 29 53.1**	**-1.7**
GLVR	**Golovnino**	**2.33**	**49**	*e*PN	**Pn**	**06 29 29.8**	**+0.6**
GLVR				*i* S	**Sn**	**06 29 58.3**	**+1.6**
GLVR				pmax	pmax		
	comp=N,85nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,229nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR	**Golovnino**	**2.33**	**49**	*e*P	**Pn**	**06 29 29.8**	**+0.6**
GLVR				AMB	AMB	06 29 30.1	
	comp=E,230nm,0.2s						
GLVR				*i* S	**Sn**	**06 29 58.1**	**+1.4**
GLVR				A	A	06 29 58.9	
	comp=E,250nm,0.2s						
GLVR				A	A	06 29 58.9	
	comp=E,240nm,0.2s						
RUSJ	**Misakicho**	**2.44**	**40**	⇓*i*PN	**Pn**	**06 29 32.0**	**+1.3**
RUSJ				*i* S	**Sn**	**06 30 02.5**	**+3.1**
YUK	**Yuzh-Kuril'sk**	**2.71**	**48**	*d i*PN	**Pn**	**06 29 35.4**	**+1.0**
YUK				*i* S	**Sn**	**06 30 06.0**	**0.0**
YUK				pmax	pmax		
	comp=E,107nm,0.2s						
YUK				pmax	pmax		
	comp=Z,258nm,0.2s						
YUK				smax	smax		
	comp=E,748nm,0.6s						
YUK				smax	smax		
	comp=N,920nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.71**	**48**	*i* P	**Pn**	**06 29 34.9**	**+0.5**
YUK				AMB	AMB	06 29 39.0	
	comp=N,180nm,0.3s						
YUK				*i* S	**Sn**	**06 30 06.7**	**+0.7**
YUK				A	A	06 30 09.8	
	comp=N,920nm,0.5s						
YUK				A	A	06 30 09.8	
	comp=N,750nm,0.5s						
KUR	**Kuril'sk**	**4.58**	**48**	*e*PN	**Pn**	**06 30 02.1**	**+2.2**
KUR				*e*S	**Sn**	**06 30 55.5**	**+3.8**
KUR				pmax	pmax		
	comp=Z,59nm,0.4s						
KUR				smax	smax		
	comp=N,75nm,0.4s						
KUR				smax	smax		
	comp=E,52nm,0.4s						
KUR	**Kuril'sk**	**4.58**	**48**	*e*P	**Pn**	**06 30 01.0**	**+1.1**
KUR				AMB	AMB	06 30 08.3	
	comp=E,60nm,0.3s						
KUR				*e*S	**Sn**	**06 30 53.2**	**+1.5**
KUR				A	A	06 31 05.3	
	comp=E,80nm,0.3s						
KUR				A	A	06 31 05.3	
	comp=E,50nm,0.3s						
YSS	**Yuzhno-Sakhali**	**4.71**	**357**	Pn	**Pn**	**06 30 03.3**	**+1.6**
YSS	**Yuzhno-Sakhali**	**4.71**	**357**	*e*PN	**Pn**	**06 30 05.7**	**+4.0**
YSS				*e*S	**Sn**	**06 30 58.2**	**+3.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				smax	smax		
	comp=N,30nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.9s						
YSS	**Yuzhno-Sakhali**	**4.71**	**357**	*e*P	**Pn**	**06 30 02.9**	**+1.2**
JMM	**Marumori**	**4.71**	**203**		**Pn**	**06 30 01.7**	**-0.1**
JSD	**Sado**	**5.59**	**223**	Pn	**Pn**	**06 30 14.1**	**+0.2**
MJB9	**Matsu-Tunnel**	**6.83**	**215**		**Pn**	**06 30 31.5**	**+0.7**
MAJO	**Matsushiro**	**6.83**	**215**		**Pn**	**06 30 31.6**	**+0.8**
MAJO	**Matsushiro**	**6.83**	**215**	PN	**Pn**	**06 30 31.6**	**+0.8**
MJAR	**Matsushiro Arr**	**6.83**	**215**	P	**Pn**	**06 30 30.8**	**0.0**
	comp=E,2.1nm,0.4s,baz=33,slow=12,SNR=7.5						
JGF	**Kuroka**	**7.99**	**216**	Pn	**Pn**	**06 30 47.5**	**+0.8**
INU	**Inuyama**	**8.35**	**216**		**Pn**	**06 30 52.4**	**+0.8**
KSRS	**Korea Array**	**12.59**	**253**	P	**Pn**	**06 31 47.9**	**-1.5**
	comp=E,1.6nm,0.7s,baz=65,slow=14,SNR=6.7						
PETK	**Petropavlovsk-**	**14.63**	**37**	P	**Pn**	**06 32 18.9**	**+2.1**
	comp=E,2.9nm,0.9s,baz=237,slow=7.9,SNR=2.1						
SONM	**Songino Array**	**26.34**	**295**	P	**P**	**06 34 22.4**	**-1.2**
	comp=E,2.4nm,0.7s,baz=99,slow=8.9,SNR=2.7						
	comp=E,2.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.16**	**131**	T	T	07 06 31.1	
	baz=324,slow=75,SNR=141						
H11N1	**WAKE ISLAND Hy**	**30.17**	**131**	T	T	07 06 32.1	
	baz=324,slow=75,SNR=110						
H11N3	**WAKE ISLAND Hy**	**30.18**	**131**	T	T	07 06 32.6	
	baz=324,slow=75,SNR=96						
H11S1	**WAKE ISLAND Hy**	**31.03**	**132**	T	T	07 07 34.1	
	baz=326,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**31.04**	**133**	T	T	07 07 35.2	
	baz=326,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**31.05**	**132**	T	T	07 07 39.0	
	baz=326,slow=76,SNR=28						
IMAR	**Indian Mountai**	**41.56**	**33**	P	**P**	**06 36 35.3**	**+0.7**
E22K	**Anaktuvuk Pass**	**42.43**	**30**	P	**P**	**06 36 41.9**	**+0.2**
E22K				IAmb	IAmb	06 37 18.4	
	comp=Z,8.8nm,1.4s						
MK31	**Makanchi Array**	**42.63**	**298**	P	**P**	**06 36 43.1**	**-0.5**
MK31	**Makanchi Array**	**42.63**	**298**	P	**P**	**06 36 43.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**42.63**	**298**	P	**P**	**06 36 43.5**	**-0.1**
MKAR	**Makanchi Array**	**42.63**	**298**	P	**P**	**06 36 42.4**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=82,slow=9.8,SNR=17						
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**42.63**	**298**	P	**P**	**06 36 43.5**	**-0.1**
MKAR	**Makanchi Array**	**42.63**	**298**	*e*P	**P**	**06 36 43.5**	**-0.1**
KURK	**Kurchatov**	**43.89**	**304**	P	**P**	**06 36 52.8**	**-0.9**
KURK	**Kurchatov**	**43.89**	**304**	P	**P**	**06 36 52.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**43.89**	**304**	*e*P	**P**	**06 36 52.8**	**-0.9**
KURBB	**Kurchatov Arra**	**43.97**	**304**	P	**P**	**06 36 54.0**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=52,slow=13,SNR=4.0						
KURBB				PcP	**PcP**	**06 38 38.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=88,slow=4.4,SNR=2.4						
	comp=Z,3.4nm,0.6s						
ILAR	**Eielson Array**	**44.45**	**35**	P	**P**	**06 36 58.0**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=258,slow=5.3,SNR=6.6						
	comp=Z,0.8nm,0.9s						
K27K	**Chicken**	**46.62**	**36**	P	**P**	**06 37 15.8**	**+0.7**
K27K				IAmb	IAmb	06 37 29.3	
	comp=Z,9.0nm,1.4s						
BCAR	**Beaver Creek A**	**46.92**	**37**	P	**P**	**06 37 18.7**	**+1.2**
BVAR	**Borovoye Array**	**48.14**	**309**	P	**P**	**06 37 26.3**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=68,slow=10,SNR=7.0						
	comp=Z,1.5nm,0.4s						
H31M	**Peel River**	**49.47**	**33**	P	**P**	**06 37 38.4**	**+1.2**
H31M				IAmb	IAmb	06 38 04.0	
	comp=Z,11nm,1.4s						
ARTI	**Arti**	**53.49**	**316**	P	**P**	**06 38 06.6**	**-0.6**
ARTI	**Arti**	**53.49**	**316**	P	**P**	**06 38 06.6**	**-0.6**
ARTI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHGR	**Chuyangaron**	**54.71**	**293**	P	**P**	**06 38 16.1**	**-0.4**
CHGR	**Chuyangaron**	**54.71**	**293**	P	**P**	**06 38 16.1**	**-0.4**
AB31	**Akbulak array**	**55.65**	**308**	P	**P**	**06 38 22.9**	**0.0**
AB31				IAmb	IAmb	06 38 23.7	
	comp=Z,5.0nm,1.2s						
WB0	**Warramunga Arr**	**62.22**	**189**	P	**P**	**06 39 09.1**	**+0.4**
WB0				IAmb	IAmb	06 39 13.2	
	comp=Z,4.8nm,1.2s						
WR8	**Warramunga Arr**	**62.39**	**189**	P	**P**	**06 39 09.7**	**-0.2**
WR8				IAmb	IAmb	06 39 40.2	
	comp=Z,8.5nm,1.5s						
WRA	**Warramunga Arr**	**62.40**	**189**	P	**P**	**06 39 10.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=7.0,slow=6.7,SNR=1.9						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**06 39 24.6**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=50,slow=6.6,SNR=24						
	comp=Z,1.8nm,0.4s						
HFS	**Hagfors**	**69.87**	**336**	P	**P**	**06 39 56.5**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=46,slow=6.4,SNR=12						
	comp=Z,2.2nm,0.5s						
NOA	**NORSAR Array B**	**69.88**	**337**	P	**P**	**06 39 56.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=32,slow=6.2,SNR=2.5						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**70.97**	**322**	P	**P**	**06 40 03.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.8,SNR=4.6						
	comp=Z,0.4nm,0.3s						
PDAR	**Pinedale Array**	**73.14**	**47**	P	**P**	**06 40 17.8**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=291,slow=5.0,SNR=1.3						
	comp=Z,0.1nm,0.6s						
BRTR	**Keskin Array B**	**76.36**	**312**	P	**P**	**06 40 35.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=52,slow=7.5,SNR=2.6						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**85.96**	**54**	P	**P**	**06 41 28.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=270,slow=3.4,SNR=5.3						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**85.96**	**54**	P	**P**	**06 41 28.0**	**+0.7**
BOSA	**Boshof**	**128.59**	**264**	PKP	**PKiKP**	**06 47 53.5**	**-0.8**
	comp=Z,6.0nm,1.1s,baz=250,slow=11,SNR=2.2						
H03N2	**Juan Fernandez**	**145.97**	**89**	T	T	09 31 39.2	
	baz=301,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**145.98**	**89**	T	T	09 31 41.6	
	baz=301,slow=77,SNR=21						
H03N1	**Juan Fernandez**	**145.99**	**89**	T	T	09 31 41.5	
	baz=301,slow=77,SNR=23						
SNAA	**Sanae**	**146.10**	**199**	PKPbc	**PKPab**	**06 48 25.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=186,slow=5.7,SNR=6.8						

*MOS **01** 06:32:13.7±0.9, 22.°43N×144.°46E, h33km, mb4.9/29, Error ellipse: s-maj=17.3km s-min=6.4km az=116.8*
*BJI **01** 06:32:13.9, 22.°51N×144.°55E, h30km, mB5.1/8, mb4.7/48, Ms4.0/3, Ms7.3 9/3*
*NEIC **01** 06:32:20.0±1.6, 22.°76N±0.°07×144.°2E±0.°1, h43km±7km, mb4.9/243, Error ellipse: s-maj=16.8km s-min=10.4km az=81.0*
*JMA **01** 06:32:20.7±0.2, 23.°3N±0.°7×144.°7E±0.°7, h41km, MV5.5/30, FAR E OFF OGASAWARA*
*IDC **01** 06:32:21.1±2.1, 22.°70N×144.°14E, h62km±17km, mb4.2/28, mbtmp4.5/30, MS3.8/48, Error ellipse: s-maj=16.7km s-min=10.7km az=83.0*

ISC 01 06:32:19.2±0.5, 22.°76N±0.°04×144.°33E±0.°07, h42km±3km, h41km:pP-P, n578, σ1§16/463, mb4.9/178, MS3.9/47, 14C-3D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.33**	**334**	*e*P	**Pn**	**06 33 22.2**	**-0.3**
JHH2				*e*S	**Sn**	**06 34 08.5**	**-3.2**
CBIJ	**Chichi jima**	**4.74**	**336**	*e*P	**Pn**	**06 33 27.3**	**-0.8**
CBIJ				*e*S	**Sn**	**06 34 18.3**	**-3.6**
GUMO	**Guam**	**9.13**	**177**	P	**Pn**	**06 34 29.9**	**+1.3**
	80nm,0.3s,baz=267,slow=3.5,SNR=4.8						
GUMO				LR	LR	06 37 34.4	
	comp=Z,923nm,21.3s,baz=7.5,slow=34						
JHJ	**Hachijo jima 2**	**11.07**	**340**	P	**Pn**	**06 34 53.7**	**-1.3**
	148nm,0.8s,baz=68,slow=22,SNR=2.3						
JHJ				S	Sn	06 36 46.5	-11
	78nm,0.5s,baz=77,slow=20,SNR=5.4						
BSO1	**Boso 1**	**12.21**	**347**	*e*S	Sn	06 37 15.9	-8.6
BSO2	**Boso 2**	**12.35**	**346**	*e*S	**Sn**	**06 37 20.2**	**-8.2**
BSO3	**Boso 3**	**12.46**	**345**	*e*P	**Pn**	**06 35 12.8**	**-0.9**
BSO3				*e*S	**Sn**	**06 37 26.9**	**-4.1**
BSO4	**Boso 4**	**12.68**	**345**	*e*S	**Sn**	**06 37 29.3**	**-7.3**
JRY	**Ryogami san**	**14.03**	**342**	*e*P	**Pn**	**06 35 33.6**	**-1.8**
JRY				*e*S	Sn	06 37 58.9	-11
JGF	**Kuroka**	**14.16**	**336**		**Pn**	**06 35 35.6**	**-1.7**
JHO	**Hitachi**	**14.18**	**348**	*e*S	Sn	06 38 00.8	-13
JAG	**Ashikaga**	**14.26**	**344**	*e*S	Sn	06 38 03.3	-12
JMN	**Monobe**	**14.28**	**322**	Pn	**Pn**	**06 35 39.7**	**+0.9**
MJAR	**Matsushiro Arr**	**14.72**	**340**		**Pn**	**06 35 43.8**	**-1.0**
MJAR	**Matsushiro Arr**	**14.72**	**340**	P	**Pn**	**06 35 44.4**	**-0.4**
	6.0nm,0.6s,baz=147,slow=12,SNR=20						
MJAR				S	Sn	06 38 16.9	-10
	6.0nm,0.8s,baz=296,slow=23,SNR=6.5						
MJAR				LR	L

comp=Z,19nm,1.0s
WHN Wuhan 27.83 293 P P 06 38 05.3 +0.5
TYV Tymovskoe 28.08 358 *eP* **P 06 38 07.5 +0.7**
TYV pmax pmax
comp=Z,7.0nm,1.1s
HNS HongShan 29.35 307 ⇑P **P 06 38 18.1 -0.1**
HNS pmax pmax
comp=Z,22nm,0.8s
SKR Severo-Kuril's 29.35 15 *eP* **P 06 38 16.5 -1.6**
SKR *e* 06 39 10.5
SKR pmax pmax
comp=Z,500nm,5.5s
BJI Beijing 29.39 312 P **P 06 38 20.6 +2.0**
BJI pP **pP 06 38 29.2 +0.3**
BJI sP **pwP 06 38 34.3 +1.2**
BJI pmax pmax
comp=Z,4.0nm,0.8s
HEH HeiHe 30.48 338 *eP* **P 06 38 28.4 +0.4**
HEH pmax pmax
comp=Z,15nm,1.1s
TOLI2 Tolitoli 31.41 230 P **P 06 38 36.4 -0.3**
PETK Petropavlovsk- 31.97 15 P **P 06 38 42.5 +1.3**
comp=Z,2.5nm,0.8s,baz=198,slow=8.8,SNR=1.9
PETK LR LR 06 49 48.3
comp=Z,268nm,21.6s,baz=197,slow=33
comp=Z,2.5nm,0.8s
PMG Port Moresby 32.09 175 LR LR 06 51 15.1
comp=Z,123nm,18.9s,baz=25,slow=35
HHC Hu-ho-hao-te 32.92 311 *eP* **P 06 38 50.6 +0.8**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.0s
ZEA Zeya 33.53 342 *eP* **P 06 38 55.4 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,100nm,14.0s
BTO Baotou 33.91 310 *eP* **P 06 39 00.8 +2.4**
BTO S **S 06 44 26.8 +6.4**
BTO pmax pmax
comp=Z,17nm,0.5s
HNR Honiara 35.46 153 LR LR 06 52 56.3
comp=Z,126nm,20.9s,baz=308,slow=35
SPSI Sidrap Palu 35.79 225 P **P 06 39 15.3 +0.6**
COEN Coen 36.51 182 **P 06 39 20.9 +0.1**
KAPI Kappang 36.60 224 LR LR 06 52 44.6
comp=Z,74nm,21.0s,baz=43,slow=34
CD2 Chengdu 36.94 292 P **P 06 39 23.8 -0.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 37.07 5 LR LR 06 53 04.0
comp=Z,102nm,22.0s,baz=179,slow=34
MA2 Magadan 37.07 5 P **P 06 39 27.2 +2.1**
comp=Z,1µmcomp=Z,20nm,2.2s
LZH Lanzhou 37.42 300 *eP* **P 06 39 29.1 +0.5**
LZH pP pP 06 39 39.2 +0.1
LZH sP sP 06 39 45.7 +2.0
LZH pmax pmax
comp=Z,18nm,1.3s
LZDM Lanzhou Array 37.52 300 P **P 06 39 29.2 -0.4**
comp=Z,2.9nm,0.4s,baz=151,slow=6.4,SNR=4.9
comp=Z,2.9nm,0.4s
SHEM Shemya Is, Ala 37.57 30 LR LR 06 52 31.4
comp=Z,212nm,20.9s,baz=289,slow=32
PZH PanZhiHua 38.77 284 P **P 06 39 41.2 +1.1**
ULN Ulaanbaatar 38.84 319 **P 06 39 40.7 +0.3**
ULN Ulaanbaatar 38.84 319 *ce*P **P 06 39 40.8 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.3s
SONM Songino Array 39.22 319 P **P 06 39 43.2 -0.4**
SONM Songino Array 39.22 319 P **P 06 39 43.3 -0.2**
comp=Z,2.1nm,0.6s,baz=128,slow=6.5,SNR=3.9
SONM LR LR 06 56 35.6
comp=Z,131nm,19.7s,baz=240,slow=37
comp=Z,2.1nm,0.6s
YAK Yakutsk 40.51 349 **P 06 39 54.4 +0.5**
YAK Yakutsk 40.51 349 P **P 06 39 53.7 -0.3**
comp=Z,113nm,0.7s,baz=9.5,slow=1.2,SNR=22
YAK LR LR 06 56 23.3
comp=Z,113nm,21.6s,baz=154,slow=36
YAK Yakutsk 40.51 349 *eP* **P 06 39 53.3 -0.6**
YAK *e**PP **pP 06 40 03.4 -0.6**
YAK *e* 06 41 27.0
YAK *e*PPP PPP 06 41 52.2
YAK *e*S **S 06 46 00.8 +1.0**
YAK *e**SS **sS 06 46 19.3 +1.8**
YAK *e*SS **SS 06 49 00.8 +0.4**
YAK *e* 06 49 47.7
YAK pmax pmax
comp=Z,159nm,1.0s
YAK pmax pmax
comp=N,25nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,161nm,4.2s
YAK pmax pmax
comp=N,126nm,6.8s
YAK pmax pmax
comp=E,57nm,2.8s
YAK smax smax
comp=N,65nm,4.1s
YAK smax smax
comp=E,57nm,3.8s
YAK Yakutsk 40.51 349 P **P 06 39 54.5 +0.5**
SEY Seymchan 40.52 6 P **P 06 39 55.2 +1.2**
comp=E,2.3nm,0.5s,baz=194,slow=13,SNR=4.1
comp=E,2.3nm,0.5s
SEY Seymchan 40.52 6 *ce*P **P 06 39 52.9 -1.1**
SEY pmax pmax
comp=Z,11nm,1.7s
KNRA Kununurra 41.13 203 **P 06 39 58.3 -1.2**
GTA Gaotai 41.14 304 P **P 06 40 00.3 +0.7**
GTA pP pP 06 40 09.3 -0.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 42.17 321 *eP* **P 06 40 07.1 -0.8**
ZAK pmax pmax
comp=Z,15nm,1.3s
CMAR Chiang Mai Arr 42.58 273 P **P 06 40 09.5 -1.9**
comp=Z,1.1nm,0.3s,baz=75,slow=8.2,SNR=1.7
CMAR LR LR 06 59 20.1
comp=Z,60nm,18.4s,baz=85,slow=38
comp=Z,1.1nm,0.3s
CTAO Charters Tower 42.63 177 P **P 06 40 11.4 -0.3**
CTAO Charters Tower 42.63 177 P **P 06 40 11.4 -0.3**
ATKA Atka Island 43.21 37 P **P 06 40 16.7 +0.6**
WB0 Warramunga Arr 43.37 194 P **P 06 40 16.9 -0.9**
WR8 Warramunga Arr 43.53 193 P **P 06 40 18.2 -0.8**
WRAB Tennant Creek 43.54 194 P **P 06 40 18.2 -0.9**
WRA Warramunga Arr 43.55 194 P **P 06 40 17.5 -1.6**
WRA Warramunga Arr 43.55 194 P **P 06 40 18.1 -1.1**
comp=Z,3.7nm,0.5s,baz=18,slow=9.1,SNR=57
WRA PP **PP 06 42 02.3 +1.1**
comp=Z,1.4nm,0.8s,baz=9.1,slow=8.1,SNR=0.9
WRA ScP **ScP 06 45 52.0 -2.7**
comp=Z,5.3nm,1.1s,baz=12,slow=4.1,SNR=11
WRA LR LR 06 57 10.1
comp=Z,152nm,21.5s,baz=38,slow=34
comp=Z,3.7nm,0.5s
FITZ Fitzroy Crossi 44.53 206 P **P 06 40 26.0 -1.1**
FITZ Fitzroy Crossi 44.53 206 LR LR 06 59 04.8
comp=Z,56nm,19.3s,baz=14,slow=36
GOMU GeErMu 44.69 299 P **P 06 40 28.9 +0.2**
GOMU pmax pmax
comp=Z,19nm,1.0s
UGM Wanagama 44.99 231 P **P 06 40 29.7 -1.2**
NIKH Nikolski High 46.50 37 P **P 06 40 42.4 +0.1**
baz=248
ASAR Alice Springs 47.25 193 P **P 06 40 47.6 -0.9**
ASAR Alice Springs 47.25 193 P **P 06 40 47.2 -1.2**
comp=Z,4.4nm,0.7s,baz=14,slow=8.1,SNR=50
ASAR PcP **PcP 06 42 19.5 +0.2**
comp=Z,0.9nm,0.7s,baz=35,slow=4.8,SNR=2.1
ASAR PP **PP 06 42 39.2 -0.8**
comp=Z,1.3nm,0.9s,baz=20,slow=11,SNR=2.5
ASAR ScP **ScP 06 46 06.3 -3.7**
comp=Z,1.5nm,0.9s,baz=8.6,slow=5.0,SNR=6.9
ASAR LR LR 06 59 38.3
comp=Z,145nm,21.8s,baz=15,slow=35
comp=Z,4.4nm,0.7s
BILL Bilibino 47.28 11 *ce*P **P 06 40 47.5 -0.6**
BILL pmax pmax

comp=Z,23nm,1.0s
SPIA Saint Paul Isl 47.51 32 P **P 06 40 50.4 +0.3**
baz=243
P08K Saint George I 47.60 33 P **P 06 40 50.7 -0.1**
baz=244
LSA Lhasa 47.86 290 P P 06 41 02.0 +8.2
LSA pmax pmax
comp=Z,11nm,0.5s
UNV Unalaska Valle 48.13 37 P **P 06 40 55.0 +0.1**
baz=250
PSI Prapat 48.24 252 LR LR 07 02 18.2
comp=Z,58nm,18.9s,baz=50,slow=37
DZM Mont Dzumac 49.49 153 *e*LR LR 06 55 15.8
comp=Z,264nm,26.4s
TIXI Tiksi 49.71 354 LR LR 07 04 34.9
comp=Z,36nm,21.0s,baz=198,slow=39
TIXI Tiksi 49.71 354 *i*P **P 06 41 05.1 -1.7**
TIXI pmax pmax
comp=Z,13nm,0.9s
GAMB Gambell 50.23 24 P **P 06 41 11.2 +0.4**
baz=236
INKA Innaminka 50.32 184 IAmb IAmb 06 41 11.6
comp=Z,7.2nm,0.8s
WMQ Urumqi 50.74 309 *e*P **P 06 41 17.2 +2.1**
M11K Mekoryuk 50.82 29 P **P 06 41 15.3 0.0**
baz=245
S12K Black Hills 51.16 36 P **P 06 41 17.5 -0.5**
baz=252
EVN Everest 51.83 288 P **P 06 41 23.8 -0.4**
EVN IAmb IAmb 06 41 34.8
comp=Z,12nm,0.6s
SDPT Sand Point 51.93 37 P **P 06 41 24.0 +0.3**
baz=254
M13K Dall Lake 52.12 30 P **P 06 41 25.5 +0.4**
baz=248
K13K Kusilvak Mount 52.15 28 IAmb IAmb 06 41 28.1
comp=Z,16nm,0.8s
K13K Kusilvak Mount 52.15 28 P **P 06 41 26.0 +0.8**
baz=245
CHNA Chernabura Isl 52.28 37 P **P 06 41 27.1 +0.7**
baz=256
TNA Tin City 52.55 23 P **P 06 41 28.0 -0.2**
baz=239
S14K Fog Glacier 52.68 36 P **P 06 41 29.0 -0.4**
baz=254
O14K Tigyukauivet M 52.70 32 P **P 06 41 29.5 +0.1**
baz=251
N14K Kuskokwak Cree 52.72 31 P **P 06 41 29.9 +0.4**
baz=250
L14K Kuka Creek 52.78 29 P **P 06 41 30.2 +0.3**
baz=248
M14K Bethel 52.89 30 P **P 06 41 30.7 -0.1**
baz=249,SNR=5.8
J14K Nanvaranak Lak 52.96 27 P **P 06 41 31.7 +0.4**
baz=246
ANM Nome 53.02 25 P **P 06 41 32.0 +0.3**
baz=243
ZSN Zaisan 53.07 313 *e*P **P 06 41 32.3 -0.2**
ZSN Zaisan 53.07 313 *e*P **P 06 41 32.2 -0.2**
F14K Arctic Creek 53.09 23 P **P 06 41 32.8 +0.7**
baz=241
CHGN Chignik 53.30 36 P **P 06 41 34.3 +0.5**
CHGN Chignik 53.30 36 P **P 06 41 33.9 +0.1**
baz=256
O15K Ungalikthiuk R 53.37 32 P **P 06 41 34.5 +0.1**
baz=252
L15K Ungalak Mounta 53.44 29 P **P 06 41 35.4 +0.6**
baz=249
M15K Kasigluk River 53.45 30 P **P 06 41 35.6 +0.7**
baz=250
N15K Kwethluk River 53.56 31 P **P 06 41 36.1 +0.4**
baz=251,SNR=5.2
K15K Wolf Creek Mou 53.65 28 IAmb IAmb 06 41 38.8
comp=Z,17nm,0.9s
K15K Wolf Creek Mou 53.65 28 P **P 06 41 37.0 +0.7**
baz=248
G15K Niukluk 53.72 24 P **P 06 41 38.1 +1.3**
baz=244
F15K North Star Dit 53.81 23 P **P 06 41 38.7 +1.2**
baz=243
ZALV Zalesovo Beam 54.05 321 P **P 06 41 38.7 -0.7**
comp=Z,4.5nm,0.5s,baz=97,slow=7.1,SNR=5.9
ZALV LR LR 07 05 35.0
comp=Z,76nm,19.7s,baz=72,slow=37
comp=Z,4.5nm,0.5s
ZALV Zalesovo Beam 54.05 321 *i*P **P 06 41 38.7 -0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
P16K Nushagak River 54.24 33 P **P 06 41 41.1 +0.4**
baz=254
H16K Elim 54.27 25 P **P 06 41 41.4 +0.6**
baz=246
N16K Nishlik Lake 54.28 31 P **P 06 41 41.7 +0.7**
baz=252,SNR=8.7
O16K Kokwok River B 54.34 32 IAmb IAmb 06 41 43.4
comp=Z,11nm,0.7s
O16K Kokwok River B 54.34 32 P **P 06 41 41.9 +0.4**
baz=254
L16K Owhat River 54.35 29 P **P 06 41 42.1 +0.7**
baz=251
M16K Timber Creek 54.36 30 P **P 06 41 42.2 +0.6**
baz=252
STKA Stephens Creek 54.39 183 P **P 06 41 41.1 -0.9**
STKA Stephens Creek 54.39 183 P **P 06 41 40.9 -1.2**
comp=Z,7.7nm,0.5s,baz=358,slow=7.3,SNR=25
comp=Z,7.7nm,0.5s
STKA Stephens Creek 54.39 183 *i*P P 06 41 37.7 -4.3
J16K Anvik River 54.41 27 P **P 06 41 42.7 +0.8**
baz=248
G16K Koyuk River 54.53 24 P **P 06 41 43.1 +0.4**
baz=245
I17K Unalakleet 54.59 26 P **P 06 41 44.0 +0.9**
baz=248
R17L Mt. Peulik Vol 54.71 35 P **P 06 41 44.7 +0.6**
baz=256
MK31 Makanchi Array 54.77 312 *ce*P **P 06 41 45.1 +0.3**
MKAR Makanchi Array 54.77 312 P **P 06 41 44.5 -0.3**
MKAR Makanchi Array 54.77 312 P **P 06 41 44.3 -0.5**
comp=Z,2.0nm,0.6s,baz=91,slow=8.6,SNR=21
MKAR LR LR 07 06 23.9
comp=Z,71nm,19.2s,baz=1.5,slow=37
comp=Z,2.0nm,0.6s
C16K Lisburne Hills 54.80 21 P **P 06 41 45.3 +0.7**
baz=240
O17K Koliganek Bris 54.88 32 P **P 06 41 46.1 +0.8**
baz=254,SNR=5.9
MAKZ Makanchi 54.99 312 P **P 06 41 46.3 -0.1**
MAKZ pP **pP 06 41 57.5 +0.3**
L17K Donlin 55.01 29 P **P 06 41 47.5 +1.2**
baz=252,SNR=8.0
N17K Nushagak Hills 55.04 31 IAmb IAmb 06 41 48.9
comp=Z,14nm,0.8s
N17K Nushagak Hills 55.04 31 P **P 06 41 47.3 +0.7**
baz=254
P17K Kvichak River 55.05 33 P **P 06 41 47.4 +0.9**
baz=255
J17K VABM Dome 55.09 27 IAmb IAmb 06 41 49.6
comp=Z,10nm,0.9s
J17K VABM Dome 55.09 27 P **P 06 41 47.6 +0.8**
baz=250
Q17K Contact Creek 55.10 34 P **P 06 41 47.4 +0.2**
baz=256
M17K Holitna River 55.18 30 P **P 06 41 48.5 +1.0**
baz=253
K17K Iditarod 55.20 28 P **P 06 41 48.4 +0.8**
baz=251,SNR=12
G17K Kiwalik Mounta 55.23 25 P **P 06 41 48.4 +0.6**
baz=247
D17K Noatak River 55.28 22 P **P 06 41 49.1 +1.0**
baz=243
H17K Granite Mounta 55.30 25 IAmb IAmb 06 41 50.7
comp=Z,12nm,0.8s
H17K Granite Mounta 55.30 25 P **P 06 41 49.1 +0.8**
baz=248,SNR=7.9
F17K Baldwin Pennin 55.38 23 P **P 06 41 49.7 +0.9**
baz=246
E17K Hotham Inlet 55.44 23 P **P 06 41 50.4 +1.1**
baz=245,SNR=5.8
RDOG Red Dog Mine 55.50 21 P **P 06 41 50.7 +1.0**
baz=243
C17K DeLong Mountai 55.60 21 P **P 06 41 51.2 +0.7**
baz=243
Q18K Katmai Hardscr 55.64 34 P **P 06 41 51.5 +0.5**
baz=257,SNR=5.2
R18K Karluk 55.70 35 P **P 06 41 51.8 +0.6**
baz=258
N18K Kilae Creek 55.70 31 P **P 06 41 52.0 +0.7**
baz=255

P18K Big Mountain, 55.70 33 P **P 06 41 52.0 +0.7**
baz=256
L18K Granite Mounta 55.76 29 IAmb IAmb 06 41 54.6
comp=Z,26nm,1.4s
L18K Granite Mounta 55.76 29 P **P 06 41 52.3 +0.6**
baz=253
O18K Koktuh Hills 55.82 32 P **P 06 41 52.8 +0.7**
baz=256
M18K Stony River 55.95 30 P **P 06 41 53.7 +0.7**
baz=254
H18K Honhosa River 55.99 25 IAmb IAmb 06 41 55.3
comp=Z,11nm,0.9s
H18K Honhosa River 55.99 25 P **P 06 41 54.0 +0.7**
baz=250
E18K Tukpahlearik C 56.02 22 IAmb IAmb 06 41 56.1
comp=Z,20nm,0.9s
E18K Tukpahlearik C 56.02 22 P **P 06 41 54.6 +1.2**
baz=246,SNR=6.9
F18K Selawik 56.03 24 P **P 06 41 54.2 +0.8**
baz=247
J18K Innoko River 56.12 28 P **P 06 41 54.7 +0.5**
baz=252
G18K Tagagawik 56.15 25 IAmb IAmb 06 41 56.4
comp=Z,16nm,1.0s
G18K Tagagawik 56.15 25 P **P 06 41 55.0 +0.7**
baz=249,SNR=6.6
OHAK Old Harbor 56.25 35 P **P 06 41 55.8 +0.6**
baz=260
C18K Utukok River 56.33 21 P **P 06 41 56.4 +0.7**
baz=244
O19K Port Alsworth 56.34 32 P **P 06 41 56.5 +0.7**
baz=257
N19K Bonanza Creek 56.40 31 P **P 06 41 57.1 +0.7**
baz=256
GCSA Galena City Sc 56.45 26 P **P 06 41 57.1 +0.6**
baz=251
L19K White Mountain 56.58 29 IAmb IAmb 06 41 59.4
comp=Z,11nm,0.9s
L19K White Mountain 56.58 29 P **P 06 41 58.0 +0.5**
baz=255
SHLS Shalkode 56.70 308 *e*P **P 06 41 56.5 -2.4**
SHLS Shalkode 56.70 308 *e*P **P 06 41 56.4 -2.4**
KDAK Kodiak Island 56.73 35 LR LR 07 03 20.1
comp=Z,163nm,21.7s,baz=240,slow=33
KDAK Kodiak Island 56.73 35 P **P 06 41 59.3 +0.7**
baz=260
KDAK Kodiak Island 56.73 35 P **P 06 41 59.1 +0.5**
J19K Poorman 56.74 27 IAmb IAmb 06 42 00.7
comp=Z,24nm,1.3s
J19K Poorman 56.74 27 P **P 06 41 59.6 +1.0**
baz=253,SNR=6.8
P19K Oil Pt 56.75 33 P **P 06 41 59.2 +0.4**
baz=258
F19K Shaleruckik Mo 56.81 24 P **P 06 41 59.6 +0.5**
baz=249
H19K Roundabout Mou 56.88 25 IAmb IAmb 06 42 01.6
comp=Z,13nm,0.8s
H19K Roundabout Mou 56.88 25 P **P 06 42 00.3 +0.8**
baz=251,SNR=11
Q20K Shuyak Island 56.97 34 P **P 06 42 00.8 +0.5**
baz=260
UZB Uzynbulak 57.02 308 *e*P **P 06 42 00.9 -0.3**
UZB Uzynbulak 57.02 308 *e*P **P 06 42 00.9 -0.3**
A19K Wainwright 57.06 19 P **P 06 42 01.7 +1.0**
baz=244
C19K Lookout Ridge 57.06 21 P **P 06 42 01.5 +0.7**
baz=246
L20K Farewell, AK 57.09 29 P **P 06 42 01.6 +0.5**
baz=256
O20K Slope Mountain 57.14 32 P **P 06 42 02.1 +0.5**
baz=258
K20K Telida 57.23 28 P **P 06 42 02.8 +0.7**
baz=255,SNR=9.4
E19K Redstone River 57.23 23 IAmb IAmb 06 42 04.5
comp=Z,16nm,1.1s
E19K Redstone River 57.23 23 P **P 06 42 02.9 +0.8**
baz=249
M20K Styx River 57.29 30 IAmb IAmb 06 42 07.3
comp=Z,9.7nm,0.8s
M20K Styx River 57.29 30 P **P 06 42 03.3 +0.7**
baz=257
D19K Kuna River 57.31 22 P **P 06 42 03.4 +0.8**
baz=248
J20K Nowinta River 57.41 27 P **P 06 42 04.1 +0.8**
baz=254,SNR=14
KURK Kurchatov 57.43 317 P **P 06 42 02.9 -0.8**
KURK IAmb IAmb 06 42 21.5
comp=Z,6.7nm,0.8s
KURK Kurchatov 57.43 317 *ce*P **P 06 42 03.6 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 57.43 317 P **P 06 42 03.0 -0.7**
KURK pP **pP 06 42 14.8 +0.2**
TDK Taldyqorghan 57.44 310 *eP* **P 06 42 03.9 -0.1**
comp=Z,7.6nm,0.9s
TDK Taldyqorghan 57.44 310 *eP* **P 06 42 03.8 -0.1**
TDK pmax pmax
comp=Z,8.0nm,0.9s
I20K Naaghedeneel 57.45 26 P **P 06 42 04.6 +1.0**
baz=254
SATY Saty 57.48 307 *e*P **P 06 42 04.1 -0.3**
SATY Saty 57.48 307 *e*P **P 06 42 04.0 -0.3**
KURBB Kurchatov Arra 57.48 316 P **P 06 42 03.5 -0.5**
comp=Z,6.0nm,0.6s,baz=93,slow=7.7,SNR=46
KURBB LR LR 07 07 55.8
comp=Z,164nm,18.9s,baz=172,slow=37
comp=Z,6.0nm,0.6s
H20K Anotleneega Mo 57.49 26 P **P 06 42 04.6 +0.7**
baz=253,SNR=16
N20K Mount Spurr 57.57 31 P **P 06 42 05.1 +0.5**
baz=258
F20K Avaraart Lake 57.65 24 IAmb IAmb 06 42 07.2
comp=Z,9.9nm,0.7s
F20K Avaraart Lake 57.65 24 P **P 06 42 05.9 +0.9**
baz=251,SNR=7.5
E20K Nigu River 57.89 22 P **P 06 42 07.5 +0.8**
baz=250
D20K Etivluk River 57.90 22 P **P 06 42 08.0 +1.2**
baz=249
PPLA Purkeypile 57.95 29 P **P 06 42 07.5 +0.2**
baz=257
BRSE Bradley Lake S 58.01 33 P **P 06 42 07.9 +0.3**
baz=260
SKT Skwentna 58.05 30 IAmb IAmb 06 42 09.1
comp=Z,15nm,0.9s
SKT Skwentna 58.05 30 P **P 06 42 08.4 +0.5**
baz=258,SNR=7.2
IMAR Indian Mountai 58.08 25 P **P 06 42 08.6 +0.6**
CHUM Lake Minchumin 58.12 28 P **P 06 42 09.4 +1.1**
baz=256
B20K Meade River 58.20 20 P **P 06 42 10.2 +1.4**
baz=248
SUA Susitna One 58.31 31 P **P 06 42 10.4 +0.5**
baz=259
G21K Allakaket 58.32 25 IAmb IAmb 06 42 12.3
comp=Z,11nm,0.9s
G21K Allakaket 58.32 25 P **P 06 42 10.6 +0.9**
baz=254
H21K Melozitna Rive 58.36 26 IAmb IAmb 06 42 12.7
comp=Z,19nm,1.1s
H21K Melozitna Rive 58.36 26 P **P 06 42 10.7 +0.7**
baz=255,SNR=10
MDOK Medeo 58.46 308 *e*P **P 06 42 11.0 -0.4**
MDOK Medeo 58.46 308 *e*P **P 06 42 10.9 -0.4**
CHKK Chushkaly 58.48 308 *e*P **P 06 42 11.1 -0.1**
CHKK Chushkaly 58.48 308 *e*P **P 06 42 11.1 -0.1**
F21K Alatna River 58.53 24 IAmb IAmb 06 42 13.3
comp=Z,6.2nm,0.8s
F21K Alatna River 58.53 24 P **P 06 42 11.9 +0.7**
baz=253
I21K Tanana 58.57 26 IAmb IAmb 06 42 14.1
comp=Z,14nm,0.8s
I21K Tanana 58.57 26 P **P 06 42 12.4 +1.0**
baz=256
O22K Cooper Landing 58.63 32 P **P 06 42 12.1 +0.1**
baz=261
KTH Kantishna Hill 58.65 28 IAmb IAmb 06 42 14.6
comp=Z,16nm,1.0s
M22K Willow 58.66 30 P **P 06 42 12.6 +0.5**
baz=260
SEW Seward 58.71 32 P **P 06 42 12.9 +0.5**
baz=261
CUT Chulitna 58.71 30 P **P 06 42 13.1 +0.6**
baz=259
RC01 Rabbit Creek A 58.73 31 P **P 06 42 12.9 +0.3**
baz=260
BPAW Bear Paw Mtn. 58.74 28 P **P 06 42 13.6 +0.9**

BPAW	**Bear Paw Mtn.**	58.74	28	P	P	06 42 13.2 +0.6
	baz=258,SNR=15					
A21K	**Barrow**	58.86	19	P	P	06 42 14.1 +0.8
	baz=248					
B21K	**Ikpikpuk River**	58.88	21	P	P	06 42 14.6 +1.1
	baz=251					
TRF	**Thorofare Moun**	58.91	28	P	P	06 42 14.2 +0.1
	baz=258,SNR=12					
H22K	**Ishtalitna Cre**	58.99	26	P	P	06 42 15.4 +1.1
	baz=256,SNR=7.0					
MLY	**Manley**	59.05	27	IAmb	IAmb	06 42 16.6
	comp=Z,8.2nm,0.7s					
MLY	**Manley**	59.05	27	P	P	06 42 15.6 +0.8
	baz=257,SNR=10					
PMR	**Palmer**	59.10	31	P	P	06 42 15.6 +0.5
	baz=261,SNR=5.8					
G22K	**Bettles**	59.20	24	P	P	06 42 16.5 +0.8
	baz=255					
D22K	**Ayikyak River**	59.31	22	P	P	06 42 17.2 +0.6
	baz=253,SNR=5.4					
PWL	**Port Wells**	59.37	32	P	P	06 42 17.4 +0.3
	baz=262					
KNK	**Knik Glacier**	59.39	31	P	P	06 42 17.7 +0.5
	baz=261,SNR=6.0					
E22K	**Anaktuvuk Pass**	59.40	23	IAmb	IAmb	06 42 19.8
	comp=Z,14nm,0.8s					
E22K	**Anaktuvuk Pass**	59.40	23	P	P	06 42 18.3 +1.0
	baz=254,SNR=5.3					
SML	**Sawmill**	59.51	31	P	P	06 42 18.8 +0.7
SML	**Sawmill**	59.51	31	P	P	06 42 18.4 +0.4
	baz=261,SNR=9.9					
KSH	**Kashi**	59.53	303	P	P	06 42 21.6 +2.9
KSH				pP	sP	06 42 32.2 -1.5
KSH				pmax	pmax	
	comp=Z,14nm,0.9s					
MCK	**McKinley**	59.56	28	P	P	06 42 18.6 +0.3
	baz=260,SNR=8.8					
WAT1	**Susitna Watana**	59.57	29	P	P	06 42 18.8 +0.3
	baz=260					
I23K	**Minto, Yukon-K**	59.65	27	IAmb	IAmb	06 42 21.6
	comp=Z,9.9nm,0.6s					
I23K	**Minto, Yukon-K**	59.65	27	P	P	06 42 19.8 +1.0
	baz=258,SNR=8.9					
NEA2	**Nenana**	59.66	27	P	P	06 42 19.9 +0.9
NEA2	**Nenana**	59.66	27	P	P	06 42 19.9 +0.9
	baz=259,SNR=15					
H23K	**Yukon River**	59.71	26	IAmb	IAmb	06 42 21.9
	comp=Z,12nm,0.8s					
H23K	**Yukon River**	59.71	26	P	P	06 42 19.9 +0.6
	baz=258					
G23K	**Bananza Creek**	59.72	25	P	P	06 42 20.3 +0.9
	baz=257,SNR=14					
COLD	**Coldfoot**	59.77	24	IAmb	IAmb	06 42 22.4
	comp=Z,12nm,0.9s					
COLD	**Coldfoot**	59.77	24	P	P	06 42 20.6 +0.8
	baz=256,SNR=5.9					
M23K	**Glacier View**	59.79	31	P	P	06 42 20.0 +0.1
	baz=262,SNR=6.8					
WAT6	**Susitna Watana**	59.90	30	P	P	06 42 21.1 +0.2
	baz=261,SNR=10.0					
GLI	**Glacier Island**	59.97	32	P	P	06 42 21.6 +0.4
	baz=263,SNR=5.7					
SCM	**Sheep Creek Mo**	59.98	31	P	P	06 42 21.7 +0.3
	baz=262,SNR=8.5					
D23K	**Nanushuk River**	60.03	22	P	P	06 42 22.4 +1.0
	baz=255					
WRH	**Wood River Hil**	60.05	28	P	P	06 42 22.1 +0.5
WRH				IAmb	IAmb	06 42 35.4
	comp=Z,27nm,1.8s					
DHY	**Denali Highway**	60.14	29	IAmb	IAmb	06 42 24.1
	comp=Z,7.1nm,0.8s					
DHY	**Denali Highway**	60.14	29	P	P	06 42 23.2 +0.7
	baz=262					
E23K	**Chandalar**	60.18	23	P	P	06 42 24.0 +1.3
	baz=256,SNR=11					
CCB	**Clear Creek Bu**	60.20	27	IAmb	IAmb	06 44 15.5
	comp=Z,29nm,2.0s					
SGDS	**Sogindy**	60.21	308	*e*P	P	06 42 23.1 -0.1
COLA	**College**	60.22	27	*i* P	P	06 42 22.4 -0.4
COLA				pmax	pmax	
	comp=Z,7.0nm,0.8s					
COLA	**College**	60.22	27	P	P	06 42 24.0 +1.2
	baz=260					
COLA	**College**	60.22	27	P	P	06 42 23.9 +1.0
COLA				pP	sP	06 42 35.9 -2.3
COLA				sP	pwP	06 42 40.3 +1.8
TOLK	**Toolik Lake Re**	60.34	23	P	P	06 42 25.4 +1.8
TOLK	**Toolik Lake Re**	60.34	23	P	P	06 42 24.8 +1.1
	baz=256					
AAK	**Ala-Archa**	60.37	307	LR	LR	07 10 45.3
	comp=Z,63nm,18.7s,baz=48,slow=38					
AAK	**Ala-Archa**	60.37	307	*i* P	P	06 42 23.8 -0.7
AAK				pmax	pmax	
	comp=Z,6.0nm,1.4s					
H24K	**Noodor Dome**	60.38	26	IAmb	IAmb	06 42 26.6
	comp=Z,9.1nm,0.8s					
H24K	**Noodor Dome**	60.38	26	P	P	06 42 25.2 +1.2
	baz=259,SNR=8.3					
POKR	**Poker Plat Res**	60.44	27	P	P	06 42 25.6 +1.2
	baz=260					
BTLS	**Baital**	60.52	310	*e*P	P	06 42 25.3 0.0
BTLS	**Baital**	60.52	310	*e*P	P	06 42 25.3 0.0
HDA	**Harding Lake**	60.53	28	IAmb	IAmb	06 42 25.8
	comp=Z,7.8nm,0.8s					
HDA	**Harding Lake**	60.53	28	P	P	06 42 24.7 -0.2
	baz=261,SNR=8.5					
EYAK	**Cordova Ski Ar**	60.59	32	P	P	06 42 26.0 +0.6
	baz=264					
E24K	**Your Creek**	60.60	23	P	P	06 42 26.6 +1.1
	baz=258,SNR=8.8					
KLU	**Klutina**	60.61	31	P	P	06 42 26.6 +1.0
	baz=264,SNR=7.0					
IL31		60.61	27	IAmb	IAmb	06 42 26.0
	comp=Z,12nm,0.8s					
ILAR	**Eielson Array**	60.61	27	P	P	06 42 25.2 -0.3
ILAR	**Eielson Array**	60.61	27	P	P	06 42 25.1 -0.5
	comp=Z,9.0nm,0.7s,baz=256,slow=5.6,SNR=115					
ILAR				LR	LR	07 06 21.7
	comp=Z,112nm,21.0s,baz=256,slow=34					
	comp=Z,9.0nm,0.7s					
F24K	**Squaw Lake**	60.71	24	IAmb	IAmb	06 42 28.9
	comp=Z,8.5nm,0.8s					
F24K	**Squaw Lake**	60.71	24	P	P	06 42 27.0 +0.8
	baz=258					
G24K	**Hadweenzic Riv**	60.71	25	P	P	06 42 27.3 +1.1
	baz=259,SNR=10					
D24K	**Happy Valley**	60.72	22	P	P	06 42 27.2 +1.0
	baz=257					
C24K	**Franklin Bluff**	60.89	22	P	P	06 42 28.5 +1.1
	baz=256					
K24K	**Donnelly Dome**	60.95	28	P	P	06 42 28.5 +0.6
	baz=263					
PAX	**Paxson**	60.99	29	IAmb	IAmb	06 42 29.4
	comp=Z,5.6nm,0.8s					
PAX	**Paxson**	60.99	29	P	P	06 42 29.0 +0.8
	baz=263					
HARP	**HAARP**	61.07	30	P	P	06 42 29.6 +1.0
	baz=264					
BMRM	**Bremner River**	61.19	32	P	P	06 42 30.1 +0.5
	baz=265					
KAIM	**Kayak Island**	61.20	33	P	P	06 42 30.2 +0.6
	baz=266					
J25K	**Salcha River,**	61.24	28	IAmb	IAmb	06 42 30.8
	comp=Z,6.1nm,0.7s					
J25K	**Salcha River,**	61.24	28	P	P	06 42 30.2 +0.4
	baz=262,SNR=7.1					
N25K	**Chitina, Valde**	61.25	31	P	P	06 42 30.2 +0.2
	baz=265					
G25K	**Bearman Lake**	61.25	25	P	P	06 42 30.2 +0.4
	baz=261					
H25L	**Birch Creek**	61.29	26	P	P	06 42 30.5 +0.5
	baz=261					
PRP	**Porcupine Dome**	61.30	27	P	P	06 42 30.4 +0.1
	baz=262					
RIDG	**Independent Ri**	61.36	29	P	P	06 42 30.8 +0.1
	baz=263,SNR=7.1					
F25K	**Christian Rive**	61.57	24	IAmb	IAmb	06 42 35.0
	comp=Z,9.5nm,0.9s					
F25K	**Christian Rive**	61.57	24	P	P	06 42 32.3 +0.3
	baz=261,SNR=6.6					
D25K	**Kavik River**	61.61	22	P	P	06 42 32.8 +0.6
	baz=259,SNR=7.9					
E25K	**Arctic Village**	61.68	24	IAmb	IAmb	06 42 35.8
	comp=Z,11nm,0.8s					
E25K	**Arctic Village**	61.68	24	P	P	06 42 33.2 +0.4
	baz=260					
DOT	**Dot Lake**	61.69	29	P	P	06 42 33.6 +0.7
DOT				IAmb	IAmb	06 42 34.4
	comp=Z,10nm,1.1s					
SCRK	**Sand Creek**	61.76	28	P	P	06 42 33.2 -0.3
	baz=264,SNR=20					
CRQE	**Cirque**	61.91	32	P	P	06 42 35.6 +1.0
	baz=267					
MCARA	**McCarthy VSAT**	61.99	31	P	P	06 42 35.9 +1.1
	baz=266					
J26L	**Joseph Creek**	62.00	28	P	P	06 42 35.4 +0.4
	baz=264,SNR=23					
M26K	**Nabesna, AK**	62.07	30	P	P	06 42 36.6 +1.1
	baz=266					
F26K	**Sheenjek River**	62.15	24	IAmb	IAmb	06 42 38.8
	comp=Z,13nm,0.7s					
F26K	**Sheenjek River**	62.15	24	P	P	06 42 37.0 +1.1
	baz=262,SNR=11					
G26K	**Porcupine Rive**	62.19	25	IAmb	IAmb	06 42 40.5
	comp=Z,8.6nm,0.7s					
G26K	**Porcupine Rive**	62.19	25	P	P	06 42 37.4 +1.3
	baz=263,SNR=6.7					
C26K	**Camden Bay**	62.22	22	P	P	06 42 37.4 +1.1
	baz=260					
I26K	**Coal Creek Min**	62.25	27	P	P	06 42 37.0 +0.4
	baz=264					
NIL	**Nilore**	62.49	297		P	06 42 38.5 -0.4
BVA0	**Borovoye Array**	62.56	319	P	P	06 42 37.9 -1.0
BVAR	**Borovoye Array**	62.56	319	P	P	06 42 38.4 -0.5
	comp=Z,8.3nm,0.5s,baz=78,slow=8.0,SNR=30					
	comp=Z,8.3nm,0.5s					
M27K	**Edge Creek, AK**	62.59	30	IAmb	IAmb	06 42 40.9
	comp=Z,8.1nm,1.0s					
M27K	**Edge Creek, AK**	62.59	30	P	P	06 42 39.4 +0.3
	baz=267					
C27K	**Jago River**	62.59	22	P	P	06 42 39.7 +0.9
	baz=261					
K27K	**Chicken**	62.60	28	P	P	06 42 39.8 +0.9
	baz=266					
BORK	**Borovoye**	62.60	319	*e*P	P	06 42 39.0 -0.1
BORK				pmax	pmax	
	comp=Z,14nm,1.0s					
BORK	**Borovoye**	62.60	319	P	P	06 42 39.1 0.0
L27K	**Beaver Creek,**	62.65	30	IAmb	IAmb	06 42 47.7
	comp=Z,28nm,1.8s					
L27K	**Beaver Creek,**	62.65	30	P	P	06 42 40.2 +0.9
	baz=267					
CTG	**Chitna Glacier**	62.78	32	P	P	06 42 41.0 +0.6
	baz=268					
I27K	**Kandik River**	62.92	27	P	P	06 42 41.9 +0.8
	baz=266					
G27K	**Doyon Strip**	63.01	25	P	P	06 42 42.5 +0.9
	baz=265					
H27K	**Steamboat Moun**	63.01	26	IAmb	IAmb	06 42 44.1
	comp=Z,16nm,1.0s					
H27K	**Steamboat Moun**	63.01	26	P	P	06 42 42.6 +0.9
	baz=265,SNR=10					
EGAK	**Eagle**	63.05	28	P	P	06 42 42.7 +0.8
	baz=266					
E27K	**Coleen River**	63.16	24	P	P	06 42 43.3 +0.6
	baz=264					
KK31	**Karatay Array**	63.24	308	IAmb	IAmb	06 42 57.4
	comp=Z,7.8nm,0.7s					
KK31	**Karatay Array**	63.24	308	*i* P	P	06 42 42.4 -1.2
KKAR	**Karatay Array**	63.24	308	P	P	06 42 43.5 -0.1
O28M	**Mount Upton**	63.34	32	P	P	06 42 45.2 +0.9
	baz=269					
D27M	**Malcolm River**	63.50	23	IAmb	IAmb	06 42 47.6
	comp=Z,11nm,0.8s					
D27M	**Malcolm River**	63.50	23	P	P	06 42 45.8 +0.8
	baz=264,SNR=6.2					
YUK8	**Steele Glacier**	63.55	32	P	P	06 42 46.3 +0.7
	baz=269					
I28M	**Miner Creek**	63.61	27	P	P	06 42 46.5 +0.7
	baz=267					
IUG	**Iuzhnay**	63.71	307	*e*P	P	06 42 46.6 -0.3
	comp=Z,13nm,1.3s					
IUG	**Iuzhnay**	63.71	307	*e*P	P	06 42 46.5 -0.3
IUG				pmax	pmax	
	comp=Z,13nm,1.3s					
BRLS	**Borolday**	63.74	308	*e*P	P	06 42 47.6 +0.7
BRLS	**Borolday**	63.74	308	*e*P	P	06 42 47.6 +0.7
F28M	**Old Crow**	63.77	24	IAmb	IAmb	06 42 49.0
	comp=Z,7.4nm,0.9s					
F28M	**Old Crow**	63.77	24	P	P	06 42 47.6 +1.0
	baz=266					
DAWY	**Dawson**	63.78	28	P	P	06 42 47.9 +1.0
	baz=268,SNR=5.3					
GAR	**Garm**	63.95	304	P	P	06 42 48.5 0.0
E28M	**Babbage River**	63.96	23	IAmb	IAmb	06 42 50.7
	comp=Z,24nm,1.4s					
E28M	**Babbage River**	63.96	23	P	P	06 42 49.0 +1.1
	baz=266,SNR=5.2					
YUK4	**Talbot Arm**	64.09	31	P	P	06 42 49.3 +0.2
	baz=270,SNR=6.9					
O29M	**Mount Kennedy**	64.14	33	P	P	06 42 50.5 +1.2
	baz=271					
M29M	**Somme Creek**	64.18	30	IAmb	IAmb	06 42 52.0
	comp=Z,12nm,0.8s					
M29M	**Somme Creek**	64.18	30	P	P	06 42 50.2 +0.7
	baz=270,SNR=9.4					
YUK6	**Outpost Mounta**	64.23	32	P	P	06 42 51.1 +1.1
	baz=271					
H29M	**Whitestone**	64.28	26	P	P	06 42 51.1 +1.1
	baz=268					
I29M	**Ogilvie Camp,**	64.29	27	P	P	06 42 51.1 +1.1
	baz=269					
D28M	**Stokes Point**	64.30	23	P	P	06 42 51.0 +1.0
	baz=266					
L29M	**L29M**	64.33	30	IAmb	IAmb	06 42 53.1
	comp=Z,17nm,0.9s					
L29M	**L29M**	64.33	30	P	P	06 42 51.2 +0.8
	baz=270,SNR=7.8					
G29M	**Pine Creek**	64.45	25	P	P	06 42 52.0 +0.8
	baz=268					
E29M	**Blow River**	64.55	24	P	P	06 42 52.7 +1.0
	baz=268					
P29M	**Windy Craggy**	64.57	33	P	P	06 42 52.9 +0.8
	baz=272					
K29M	**Barlow Dome**	64.61	29	IAmb	IAmb	06 42 54.6
	comp=Z,10nm,0.9s					
K29M	**Barlow Dome**	64.61	29	P	P	06 42 53.2 +0.9
	baz=270,SNR=6.4					
HYT	**Haines Junctio**	64.66	32	IAmb	IAmb	06 42 55.4
	comp=Z,14nm,1.1s					
HYT	**Haines Junctio**	64.66	32	P	P	06 42 53.8 +1.1
	baz=272					
N30M	**Aishikik Lake**	64.84	31	P	P	06 42 54.8 +0.9
	baz=272					
P30M	**Million Dollar**	64.95	33	P	P	06 42 55.0 +0.5
	baz=272					
M30M	**Minto, Yukon**	64.95	30	P	P	06 42 54.9 +0.4
	baz=271,SNR=5.3					
EPYK	**Eagle Plains**	64.95	26	IAmb	IAmb	06 42 56.5
	comp=Z,20nm,1.1s					
EPYK	**Eagle Plains**	64.95	26	P	P	06 42 55.1 +0.7
	baz=270					
SIMJ	**Simiganj**	65.01	303	P	P	06 42 55.4 0.0
SIMJ				pP	pP	06 43 06.8 +0.5
I30M	**Mount Dempster**	65.10	27	P	P	06 42 56.4 +0.9
	baz=270					
J30M	**Hart River**	65.12	28	P	P	06 42 56.6 +0.9
	baz=271					
G30M	**tAoh Zraii Nji**	65.16	25	IAmb	IAmb	06 42 57.7
	comp=Z,14nm,1.1s					
G30M	**tAoh Zraii Nji**	65.16	25	P	P	06 42 56.7 +0.9
	baz=270					
F30M	**Barrier River**	65.33	25	IAmb	IAmb	06 42 58.7
	comp=Z,11nm,0.8s					
F30M	**Barrier River**	65.33	25	P	P	06 42 58.1 +1.3
	baz=270					
MAYO	**Mayo, Yukon**	65.34	29	P	P	06 42 57.7 +0.8
	baz=272					
O30N	**Mendenhall**	65.35	32	P	P	06 42 57.7 +0.6
	baz=273					
S31K	**Pelican**	65.44	35	P	P	06 42 58.7 +1.0
	baz=274					
N31M	**Braeburn, Yuko**	65.47	31	P	P	06 42 58.7 +0.9
	baz=273					
R31K	**City Hall, Gus**	65.67	35	P	P	06 42 59.6 +0.5
	baz=274					
SKAG	**Skagway**	65.81	33	P	P	06 43 00.7 +0.7
	baz=274					
G31M	**Satah River**	65.93	25	P	P	06 43 01.3 +0.7
	baz=272,SNR=8.1					
H31M	**Peel River**	65.93	27	IAmb	IAmb	06 43 02.6
	comp=Z,12nm,0.9s					
H31M	**Peel River**	65.93	27	P	P	06 43 01.4 +0.7
	baz=272,SNR=6.8					
WHY	**Whitehorse**	65.95	32	P	P	06 43 01.3 +0.3
	baz=274					
SIT	**Sitka**	66.00	36	P	P	06 43 01.7 +0.4
	baz=275					
M31M	**Drury Creek, Y**	66.09	30	IAmb	IAmb	06 43 19.7
	comp=Z,31nm,1.9s					
M31M	**Drury Creek, Y**	66.09	30	P	P	06 43 02.7 +0.9
	baz=274					
F31M	**Tsiigehtchic**	66.12	25	P	P	06 43 02.5 +0.7
	baz=272					
INK	**Inuvik**	66.17	24	IAmb	IAmb	06 43 03.7
	comp=Z,13nm,1.1s					
INK	**Inuvik**	66.17	24	P	P	06 43 02.6 +0.5
	baz=272					
R32K	**Eaglecrest**	66.32	35	P	P	06 43 04.3 +1.0
	baz=275					
P32M	**Atlin**	66.62	33	P	P	06 43 05.8 +0.6
	baz=275					
N32M	**Quiet Lake**	66.79	32	P	P	06 43 07.0 +0.7
	baz=275					
P33M	**Teslin, Yukon**	67.01	33	P	P	06 43 08.4 +0.6
	baz=276					
U33K	**Whale Pass**	67.31	37	P	P	06 43 09.9 +0.3
	baz=277					
CRAG	**Craig**	67.39	38	P	P	06 43 11.0 +0.8
	baz=278					
Q32M	**Nakina River**	67.42	34	P	P	06 43 11.3 +0.7
	baz=277					
MMPY	**Sheldon Lake,**	67.50	30	P	P	06 43 11.7 +0.8
	baz=276					
R33M	**Jennings River**	68.03	33	P	P	06 43 14.9 +0.6
	baz=278					
URZ	**Urewera**	68.05	153	LR	LR	07 11 15.9
	comp=Z,99nm,19.8s,baz=302,slow=34					
S34M	**Telegraph Cree**	68.15	35	P	P	06 43 15.6 +0.7
	baz=278					
V35K	**Ketchikan**	68.27	38	P	P	06 43 16.4 +0.7
	baz=279					
DLBC	**Dease Lake**	68.65	34	P	P	06 43 18.9 +0.7
	baz=279					
A36M	**Sachs Harbour**	68.69	20	P	P	06 43 19.0 +1.0
	baz=278					
T35M	**Bob Quinn**	68.76	36	P	P	06 43 19.6 +0.8
	baz=279					
WTLY	**Watson Lake, Y**	69.01	32	P	P	06 43 21.1 +0.8
	baz=279					
TGTN	**Hyland Airport**	69.04	31	P	P	06 43 21.5 +1.0
	baz=279,SNR=5.6					
ARTI	**Arti**	69.15	324		P	06 43 19.5 -1.7
ARTI				IAmb	IAmb	06 43 21.1
	comp=Z,10nm,0.8s					
ARTI	**Arti**	69.15	324	LR	LR	07 13 53.8
	comp=Z,61nm,18.9s,baz=90,slow=36					
ARTI	**Arti**	69.15	324	*c i* P	P	06 43 20.9 -0.3
ARTI						06 43 42.2
ARTI						06 45 50.2
ARTI				S	S	06 52 25.9 +2.2
ARTI				SS	SS	06 56 51.9 +2.0
ARTI				pmax	pmax	
	comp=Z,12nm,1.0s					
C36M	**Paulatuk**	69.48	22	P	P	06 43 24.2 +1.2
	baz=280					
AB31	**Akbulak array**	69.53	316	*i* P	P	06 43 22.7 -1.0
ABKAR	**Akbulak array**	69.53	316		P	06 43 22.9 -0.8
LIRD	**Liard River Hi**	70.48	33	P	P	06 43 30.7 +1.4
	baz=282					
AKTO	**Aktyubinsk**	70.51	317	LR	LR	07 14 15.1
	comp=Z,72nm,19.3s,baz=302,slow=36					
BBB	**Bella Bella**	70.89	41	LR	LR	07 08 16.5
	comp=Z,50nm,20.0s,baz=239,slow=30					
WRGLY	**Wrigley**	70.92	29	IAmb	IAmb	06 43 34.1
	comp=Z,11nm,0.8s					
WRGLY	**Wrigley**	70.92	29	P	P	06 43 33.2 +1.3
	baz=283					
TOAD	**Toad River Com**	71.04	33	P	P	06 43 34.0 +1.2
	baz=283					
KIRV	**Kirov**	73.37	327	LR	LR	07 19 23.0
	comp=Z,97nm,18.5s,baz=58,slow=38					
KIRV	**Kirov**	73.37	327	*c e*P	P	06 43 47.1 +0.5
SPITS	**Spitsbergen Ar**	74.97	350	P	P	06 43 55.4 -0.3
	comp=Z,9.6nm,0.9s,baz=89,slow=7.1,SNR=6.9					
SPITS				LR	LR	07 20 25.2
	comp=Z,32nm,21.2s,baz=23,slow=38					
	comp=Z,9.6nm,0.9s					
YKA	**Yellowknife Ar**	75.02	28	P	P	06 43 56.5 +0.3
	comp=Z,2.6nm,0.7s,baz=297,slow=6.8,SNR=5.5					
YKA				LR	LR	07 15 13.7
	comp=Z,98nm,21.1s,baz=290,slow=34					
	comp=Z,2.6nm,0.7s					
YKA	**Yellowknife Ar**	75.02	28	*i* P	P	06 43 56.2 0.0
YKA				pmax	pmax	
	comp=Z,3.0nm,0.7s					
KBS	**Kingsbay**	75.10	352	*i* P	P	06 43 57.1 +0.7
RES	**Resolute Bay**	75.80	14	LR	LR	07 21 18.7
	comp=Z,49nm,19.4s,baz=317,slow=39					
PPT2	**Papeete2**	76.04	116	*e*LR	LR	07 07 23.8
	comp=Z,130nm,24.5s					
PPT2				*e*LR	LR	07 07 31.6
	comp=Z,158nm,32.0s					
BELG	**Belogornoye**	76.24	321	*i* P	P	06 44 02.2 -1.1
BELG				pmax	pmax	
	comp=Z,3.0nm,0.7s					
H04A	**Detroit Lake**	76.73	47	IAmb	IAmb	06 44 26.1
	comp=Z,9.8nm,1.0s					
HOOD	**Mount Hood Mea**	76.88	46	IAmb	IAmb	06 44 10.4
	comp=Z,11nm,0.9s					
LTY	**Liberty**	76.89	44	IAmb	IAmb	06 44 28.1
	comp=Z,14nm,1.7s					
WIFE	**Three Sisters-**	77.18	48	IAmb	IAmb	06 44 11.9
	comp=Z,21nm,1.5s					
J04A	**Umpqua Nationa**	77.25	48	IAmb	IAmb	06 44 30.0
	comp=Z,14nm,1.1s					
KLMR	**Klimovskoe**	77.30	331	*e*P	P	06 44 05.9 -3.2
KLMR				*e*		06 44 16.4
KLMR				pmax	pmax	
	comp=Z,8.0nm,1.1s					
YBH	**Yreka Blue Hor**	77.33	50	IAmb	IAmb	06 44 12.4
	comp=Z,18nm,1.6s					
YBH	**Yreka Blue Hor**	77.33	50	LR	LR	07 09 55.7
	comp=Z,7.5nm,21.8s,baz=286,slow=29					
B08A	**Colville Reser**	77.37	43	IAmb	IAmb	06 44 12.0
	comp=Z,14nm,1.6s					
WAH2	**Wahluke Slope**	77.77	44	IAmb	IAmb	06 44 14.4
	comp=Z,28nm,1.9s					
J05D	**Fort Rock, OR**	77.84	48	IAmb	IAmb	06 44 15.3
	comp=Z,32nm,1.7s					
M03C	**McCloud**	77.89	50	IAmb	IAmb	06 44 15.2
	comp=Z,7.7nm,0.8s					
ARCES	**ARCESS Array B**	78.25	342	P	P	06 44 14.4 +0.1
	comp=Z,11nm,1.1s,baz=75,slow=6.6,SNR=9.0					
ARCES				LR	LR	07 24 11.2
	comp=Z,66nm,19.1s,baz=22,slow=40					
	comp=Z,11nm,1.1s					
K05A	**Summer Lake**	78.27	49	IAmb	IAmb	06 44 18.0
	comp=Z,27nm,1.6s					
O03E	**Paynes Creek**	78.45	51	IAmb	IAmb	06 44 27.4
	comp=Z,22nm,1.4s					
NEW	**Newport**	78.78	42	LR	LR	07 13 21.6
	comp=Z,103nm,20.9s,baz=282,slow=31					
TBI	**Tubuai**	79.01	121	*e*LR	LR	07 09 02.4
	comp=Z,1μm,36.8s					
NEEM	**North Greenlan**	79.59	3	*i* P	P	06 44 22.5 +0.5
NEEM				IAmb	IAmb	06 44 23.2
	comp=Z,12nm,0.7s					
BEKR	**Beckworth**	79.64	51	IAmb	IAmb	06 44 24.6
	comp=Z,8.2nm,0.7s					
AKT	**Akhty**	79.97	311	*e*P	P	06 44 21.6 -2.8
AKT				pmax	pmax	
	comp=Z,8.0nm,0.6s					
CMB	**Columbia Colle**	80.28	53	IAmb	IAmb	06 44 28.0
	comp=Z,6.9nm,0.7s					
OBN	**Obninsk**	81.20	326	*e*P	P	06 44 29.9 -0.6
OBN				*e**PP	PcP	06 44 38.1 +1.4
OBN				*e*		06 47 36.4
OBN				*e*PPP	PPP	06 49 26.6
OBN				pmax	pmax	
	comp=Z,8.

DSP	Deep Springs	82.30	53	IAmb	IAmb	06 44 39.4
	comp=Z,16nm,1.6s					
KBZ	Khabaz	82.40	314	P	P	06 44 36.3 -0.8
	comp=Z,4.8nm,0.8s,baz=97,slow=5.8,SNR=9.5					
	comp=Z,4.8nm,0.8s					
KBZ	Khabaz	82.40	314	*ce*P	P	06 44 36.3 -0.8
KBZ				pmax	pmax	
	comp=Z,4.0nm,0.8s					
KIV	Kislovodsk	82.44	314	*e*P	P	06 44 35.8 -1.7
KIV				pmax	pmax	
	comp=Z,8.0nm,1.0s					
DBG	Daneborg	82.65	356	*i* P	P	06 44 37.8 0.0
DBG				IAmb	IAmb	06 44 38.1
	comp=Z,3.0nm,0.7s					
FINES	FINESS Array B	82.68	335	P	P	06 44 37.0 -1.2
	comp=Z,2.7nm,0.5s,baz=55,slow=4.2,SNR=20					
	comp=Z,2.7nm,0.5s					
FINES	FINESS Array B	82.68	335	*i* P	P	06 44 37.0 -1.2
FINES				pmax	pmax	
	comp=Z,3.0nm,0.5s					
CLC	China Lake	83.18	54	IAmb	IAmb	06 44 43.2
	comp=Z,6.1nm,0.7s					
LRMC	Laurel Mtn Rad	83.25	54	IAmb	IAmb	06 44 43.7
	comp=Z,8.6nm,0.7s					
WSHM	Spangler Hills	83.34	54	IAmb	IAmb	06 44 44.1
	comp=Z,6.8nm,0.8s					
CCCA	Chr Cany lake	83.47	54	IAmb	IAmb	06 44 45.0
	comp=Z,13nm,0.7s					
R11B	Troy Canyon, C	83.65	51	IAmb	IAmb	06 44 46.4
	comp=Z,15nm,1.8s					
QSM	Queen of Sheba	83.67	54	IAmb	IAmb	06 44 45.8
	comp=Z,7.7nm,0.8s					
GWY	Greenwater Val	83.73	53	IAmb	IAmb	06 44 46.1
	comp=Z,9.6nm,0.7s					
GSC	Goldstone, Bar	83.98	54	IAmb	IAmb	06 44 47.4
	comp=Z,8.2nm,0.9s					
YMR	Madison River	84.13	44	IAmb	IAmb	06 45 07.5
	comp=Z,5.3nm,0.7s					
FFC	Flin Flon	84.37	32	P	P	06 44 47.9 +0.9
FFC				IAmb	IAmb	06 44 48.7
	comp=Z,13nm,0.9s					
FFC	Flin Flon	84.37	32	P	P	06 44 47.9 +0.9
FFC				pP	pP	06 44 59.1 +1.0
FFC				sP	pwP	06 45 05.7 +1.7
YMP	Mirror Lake Pl	84.61	44	IAmb	IAmb	06 46 09.6
	comp=Z,25nm,1.7s					
SUMG	Summit	84.89	1	*i* P	P	06 44 50.4 +0.6
SUMG				IAmb	IAmb	06 44 51.9
	comp=Z,6.5nm,0.9s					
PFO	Pinyon Flats O	84.92	56	LR	LR	07 19 54.3
	comp=Z,52nm,18.6s,baz=260,slow=34					
RLMT	Red Lodge	85.00	43	IAmb	IAmb	06 45 11.2
	comp=Z,5.9nm,0.8s					
HWUT	Hardware Ranch	85.08	47	IAmb	IAmb	06 44 53.0
	comp=Z,5.5nm,0.9s					
JLU	Jordanelle	85.60	48	IAmb	IAmb	06 44 55.7
	comp=Z,6.0nm,0.8s					
MNK	Minsk	85.83	328	*i* P	P	06 44 52.4 -1.9
MNK				*i*		06 48 13.4
MNK				*i* PPP	PPP	06 50 09.5
MNK				*i* S	SKSac	06 55 15.2 -1.5
MNK				*i* SS	SS	07 01 06.1 +5.1
MNK				*i* SSS	SSS	07 04 38.1
MNK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
MNK				pmax	pmax	
	comp=N,23nm,0.9s					
MNK				pmax	pmax	
	comp=E,25nm,0.9s					
MNK				MLR	MLR	
	comp=Z,182nm,21.0s					
MNK				MLR	MLR	
	comp=N,1μm,25.0s					
MNK				MLR	MLR	
	comp=E,962nm,22.0s					
PDAR	Pinedale Array	85.89	45	P	P	06 44 55.6 +0.4
	comp=E,0.6nm,0.6s,baz=209,slow=2.4,SNR=8.0					
PDAR				LR	LR	07 19 19.4
	comp=E,56nm,18.8s,baz=331,slow=33					
	comp=E,0.6nm,0.6s					
LCMT	Little Creek M	85.90	52	IAmb	IAmb	06 44 56.9
	comp=Z,4.4nm,0.8s					
LAO	LASA Array	86.13	41	IAmb	IAmb	06 44 58.1
	comp=Z,11nm,1.0s					
GLA	Glamis	86.39	56	IAmb	IAmb	06 45 14.8
	comp=Z,7.7nm,0.8s					
Q16A	Castle Valley	86.54	49	IAmb	IAmb	06 45 00.0
	comp=Z,6.5nm,0.9s					
SRU	San Rafael Swe	86.90	49	IAmb	IAmb	06 45 01.6
	comp=Z,4.8nm,0.7s					
AKASG	Malin Array Be	87.26	325	P	P	06 44 59.6 -1.8
	comp=Z,1.3nm,0.5s,baz=51,slow=5.1,SNR=8.7					
AKASG				LR	LR	07 25 54.4
	comp=Z,71nm,18.1s,baz=58,slow=37					
	comp=Z,1.3nm,0.5s					
AKASG	Malin Array Be	87.26	325	*i* P	P	06 44 59.7 -1.7
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
113A	Mohawk Valley,	87.32	56	IAmb	IAmb	06 45 03.9
	comp=Z,4.5nm,0.9s					
Y14A	Wickenburg	87.39	54	IAmb	IAmb	06 45 04.5
	comp=Z,8.2nm,0.8s					
HFS	Hagfors	88.16	338	P	P	06 45 03.7 -1.8
	comp=Z,2.7nm,0.5s,baz=90,slow=4.6,SNR=15					
	comp=Z,2.7nm,0.5s					
NB2	NORSAR Subarra	88.34	339	P	P	06 45 04.8 -1.7
	comp=Z,0.6nm,0.5s,baz=54,slow=5.1					
NOA	NORSAR Array B	88.34	339	P	P	06 45 04.8 -1.7
	comp=Z,2.0nm,0.9s,baz=46,slow=4.5,SNR=4.4					
NOA				LR	LR	07 28 05.0
	comp=Z,52nm,21.9s,baz=50,slow=38					
	comp=Z,2.0nm,0.9s					
PV18	Skein Mesa, Pa	88.42	49	IAmb	IAmb	06 45 09.1
	comp=Z,9.4nm,0.9s					
PV11	David Mesa, Pa	88.42	49	IAmb	IAmb	06 45 09.9
	comp=Z,6.4nm,0.8s					
PV03	Paradox Valley	88.46	49	IAmb	IAmb	06 45 18.9
	comp=Z,8.6nm,1.3s					
RAYN	Ar Rayn	88.70	295		P	06 45 08.7 -0.2
RAYN				IAmb	IAmb	06 45 26.6
	comp=Z,6.5nm,0.9s					
TUC	Tucson	89.78	55		P	06 45 15.1 +1.2
TUC				IAmb	IAmb	06 45 16.3
	comp=Z,20nm,2.0s					
ULM	Lac du Bonnet	89.97	34	LR	LR	07 25 21.4
	comp=Z,87nm,19.9s,baz=343,slow=35					
BRTR	Keskin Array B	90.38	314	P	P	06 45 14.8 -1.8
	comp=Z,1.0nm,0.7s,baz=40,slow=4.0,SNR=4.2					
	comp=Z,1.0nm,0.7s					
BRTR	Keskin Array B	90.38	314	*i* P	P	06 45 16.1 -0.5
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ANMO	Albuquerque	91.73	51		P	06 45 23.6 +0.6
ANMO	Albuquerque	91.73	51	LR	LR	07 18 55.3
	comp=Z,75nm,21.4s,baz=68,slow=30					
LPIG	La Paz	93.86	62	LR	LR	07 20 02.5
	comp=Z,35nm,20.0s,baz=242,slow=30					
MNTX	Cornudas Mount	94.11	53	IAmb	IAmb	06 45 35.8
	comp=Z,3.9nm,0.9s					
VRAC	Vranov	94.53	329	LR	LR	07 31 42.3
	comp=Z,67nm,18.1s,baz=30,slow=38					
TXAR	Lajitas Array	96.58	55	P	P	06 45 46.0 +0.8
	comp=Z,0.4nm,0.7s,baz=272,slow=3.3,SNR=5.6					
	comp=Z,0.4nm,0.7s					
NVL	N'lazarevskaya	124.72	197	*e*PKIKP	PKiKP	06 51 14.7 +0.8
NVL				*e*		06 53 04.9
NVL				*e*PPP	PPP	06 55 41.8
NVL				*e*SS	SS	07 09 51.7 -0.4
NVL				pmax	pmax	
	comp=Z,7.0nm,0.7s					
NVL				pmax	pmax	
	comp=E,165nm,12.5s					
TROLL	Troll, Antarti	126.23	194	⇓PKPdf	PKPdf	06 51 16.5 -0.1
	comp=Z,99nm,0.9s					
SNAA	Sanae	127.61	193	⇓PKPdf	PKPdf	06 51 18.4 -0.7
	comp=Z,17nm,0.7s					
SNAA	Sanae	127.61	193	PKP	PKPdf	06 51 18.5 -0.7
	comp=Z,0.7nm,0.7s,baz=253,slow=3.1,SNR=6.7					
TORD	Torodi Ar. Bea	128.88	311	PKP	PKPdf	06 51 21.9 -1.3
	comp=Z,0.5nm,0.7s,baz=4.5,slow=3.4,SNR=3.3					
VNA2	Neumayer--Watz	129.09	192	⇑PKPdf	PKPdf	06 51 21.9 -0.1
	comp=Z,1.8nm,0.6s,baz=52,slow=1.2					
VNA3	Neumayer Olymp	129.22	191	⇓PKPdf	PKPdf	06 51 21.9 -0.3
	comp=Z,1.3nm,0.9s					
ROSC	El Rosal	133.32	59	PKP	PKPdf	06 51 32.0 -0.2
	comp=Z,3.6nm,0.4s,baz=104,slow=20,SNR=2.3					
PLCA	Paso Flores	145.63	130	PKPbc	PKPdf	06 51 52.0 -1.3
	comp=Z,3.7nm,0.7s,baz=255,slow=3.2,SNR=15					
LPAZ	La Paz	148.78	84	PKPbc	PKPbc	06 52 04.6 +0.8
	comp=Z,12nm,0.6s,baz=5.1,slow=2.7,SNR=5.4					

*ASRS **01** 06:35:14.0±1.3, 54°.29N×86°.89E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:35:14.1±3.4, 54°.33N×86°.94E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=31.2km s-min=18.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.30	254	I	I	06 43 20.0	
	baz=74,slow=329,SNR=6.5						
ZALV	Zalesovo Beam	1.30	254	Pg	Pg	06 35 37.5	-1.5
	2.6nm,0.3s,baz=72,slow=16,SNR=15						
ZALV				Lg	Lg	06 35 56.3	
	1.4nm,0.3s,baz=74,slow=26,SNR=5.3						
KURBB	Kurchatov Arra	6.33	238	Pn	Pn	06 36 49.4	+0.7
	baz=51,slow=14,SNR=1.4						
	1.7nm,0.5s						
MKAR	Makanchi Array	8.10	203	Pn	Pn	06 37 14.4	+1.5
	0.1nm,0.3s,baz=26,slow=13,SNR=4.7						
	0.3nm,0.3s						

*ASRS **01** 06:37:50.0±1.4, 54°.16N×87°.14E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:37:52.1±3.1, 54°.21N×87°.25E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=25.0km s-min=19.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	261	I	I	06 47 00.0	
	baz=81,slow=330,SNR=4.1						
ZALV	Zalesovo Beam	1.46	261	Pg	Pn	06 38 18.0	-1.7
	2.0nm,0.3s,baz=80,slow=12,SNR=10						
ZALV				Lg	Lg	06 38 38.7	
	1.7nm,0.3s,baz=76,slow=29,SNR=6.7						
KURBB	Kurchatov Arra	6.43	240	Pn	Pn	06 39 28.6	+0.6
	0.1nm,0.3s,baz=56,slow=12,SNR=4.1						
KURBB				Sn	Sn	06 40 41.4	-0.7
	baz=171,slow=32,SNR=1.3						
KURBB				Lg	Lg	06 41 16.4	
	0.1nm,0.3s,baz=56,slow=29,SNR=6.5						
	0.4nm,0.4s						
MKAR	Makanchi Array	8.07	205	Pn	Pn	06 39 52.0	+1.5
	0.1nm,0.3s,baz=22,slow=14,SNR=1.6						
	0.1nm,0.3s						

*ISK **01** 07:08:12.9, 36°.06N×31°.07E, h6km, ML2.9/17*
*AFAD **01** 07:08:13.7, 36°.12N×31°.09E, h7km±5km, ML2.7*
*NIC **01** 07:08:14.7, 35°.89N×30°.78E, h18km±3km, Ml2.7/5*

ISC 01 07:08:13.1±1.1, 36°.02N±0°.03×31°.02E±0°.02, h12km±9km, n33, σ1°.32/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.62	299	P	Pg	07 08 26.5	+1.3
AKUM				*i* IAML		07 08 39.0	
	comp=E,372nm,0.7s						
AKUM				*i* IAML		07 08 40.0	
	comp=N,630nm,0.4s						
AKUM				S	Sn	07 08 40.4	+2.8
ANTB	Antalya	0.93	342	Pg	Pg	07 08 30.6	-0.4
ALAN	Alanya-ANTALYA	0.98	57	Pg	Pg	07 08 31.6	-0.5
ALAN				Sg	Sb	07 08 44.9	-0.1
GAZI	Gazipasa	1.07	78	Pg	Pg	07 08 32.9	-0.9
GAZI				Sg	Sb	07 08 47.3	-0.3
GAZI	Gazipasa	1.07	78	P	Pg	07 08 33.1	-0.7
GAZI				S	Sg	07 08 46.2	-1.7
GAZI				*i* IAML		07 08 49.0	
	comp=N,377nm,0.4s						
KORT	Korkueli	1.12	332	Pn	Pg	07 08 34.5	-0.2
KORT				Sn	Sn	07 08 50.6	+0.5
ELL	Elmali	1.15	310	Pn	Pg	07 08 35.4	+0.1
ELL				Sn	Sn	07 08 52.1	+1.2
ELL	Elmali	1.15	310	P	Pg	07 08 35.1	-0.3
ELL				S	Sg	07 08 50.9	+0.5
AKAS	Kas	1.16	281	Pn	Pg	07 08 35.9	+0.4
KSL	Kastellorizon	1.17	277	P	Pb	07 08 34.0	-1.2
KSL				S	Sg	07 08 49.8	-1.0
AKMS	Akamas	1.47	132	P	Pn	07 08 39.4	0.0
AKMS				S	Sg	07 09 03.0	+2.6
AKMS				AML	AML	07 09 09.4	
	0.4nm,0.5s						
AKMS				AML	AML	07 09 10.4	
	0.3nm,0.3s						
BCK	Bucak	1.48	347	Pn	Pn	07 08 40.5	+0.9
HDMB	Hadim	1.52	51	Pn	Pn	07 08 40.7	+0.5
SEYD	Seydisehir-KON	1.53	25	Pn	Pn	07 08 40.6	+0.2
SEYD				Sn	Sb	07 09 00.7	-0.3
SEDI	Konya, Seydise	1.55	22	P	Pn	07 08 40.4	-0.2
SEDI				S	Sn	07 09 00.9	+0.2
SEDI				*i* IAML		07 09 04.0	
	comp=E,122nm,0.5s						
SEDI				*i* IAML		07 09 05.0	
	comp=N,113nm,0.5s						
ALFC	Alefka	1.55	123	P	Pn	07 08 40.3	-0.2
ALFC				S	Sg	07 09 04.8	+1.7
ALFC				AML	AML	07 09 08.5	
	0.2nm,0.3s						
ALFC				AML	AML	07 09 12.8	
	0.3nm,0.4s						
ERMK	Ermenek	1.65	67	P	Pb	07 08 43.7	+0.1
ERMK				S	Sg	07 09 05.8	-0.6
ERMK				*i* IAML		07 09 12.0	
	comp=E,77nm,0.6s						
ERMK				*i* IAML		07 09 14.0	
	comp=N,112nm,0.4s						
TEKE	Tekeli-Mersin	1.70	85	Pn	Pn	07 08 43.4	+0.8
BERE	Bereket-Mersin	1.81	79	Pn	Pn	07 08 44.9	+0.6
ISP	Isparta	1.84	348	Pn	Pn	07 08 45.7	+1.0
TROD	Troodos	1.85	125	P	Pn	07 08 45.7	+0.8
TROD				S	Sb	07 09 11.6	+1.5
TROD				AML	AML	07 09 26.3	
	0.1nm,0.6s						
TROD				AML	AML	07 09 32.2	
	0.1nm,0.5s						
XYLS	Xyliatos	1.94	121	P	Pn	07 08 45.1	-0.8
XYLS				S	Sn	07 09 07.2	-3.0
XYLS				AML	AML	07 09 09.4	
	0.2nm,0.3s						
XYLS				AML	AML	07 09 24.8	
	0.1nm,0.8s						
YORU	Yoruktepe-Mers	1.94	85	Pn	Pn	07 08 46.9	+1.0
KKBE	Karaman, Kazim	1.96	52	P	Pb	07 08 49.4	+0.7
KKBE				S	Sg	07 09 13.9	-2.2
KKBE				*i* IAML		07 09 17.0	
	comp=E,63nm,0.4s						
TEVE	Tevekalti-Mers	2.01	77	Pn	Pn	07 08 47.9	+1.0
GULN	MERSIN_Gulnar	2.05	85	P	Pn	07 08 48.6	+1.2
GULN				S	Sn	07 09 13.1	+0.2
KRMN	Karaman	2.15	57	Pn	Pn	07 08 49.7	+0.9
TISA	Tisan-Mersin	2.16	85	Pn	Pn	07 08 50.2	+1.3
CSS	Mathiatis	2.16	118	Pn	Pn	07 08 50.3	+1.3
ASGA	Asgata	2.20	123	P	Pb	07 08 52.3	-0.5
ASGA				S	Sb	07 09 21.8	+1.8
ASGA				AML	AML	07 09 34.3	
	0.1nm,0.6s						
ASGA				AML	AML	07 09 38.7	
	0.2nm,0.7s						
KEBE	Keben-Mersin	2.22	78	Pn	Pn	07 08 50.7	+0.9
KIZK	Mersin	2.57	79	Pn	Pn	07 08 55.7	+1.2
KARP	Karpathos	3.17	263	P	Pn	07 09 02.0	-0.8
KARP				S	Sn	07 09 36.1	-4.4

TXNET 01 07:13:49.9, 32°.9N±0°.5×100°.9W±0°.6, h7km, ML2.0/9, 3C-4D, Error ellipse: s-maj=1.0km s-min=0.7km az=126.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN02	Snyder 2	0.04	208	⇓P	Pg	07 13 51.1	-0.2
SN02				S	Sg	07 13 52.0	-0.4
SN03	Snyder 3	0.05	299	⇓P	Pg	07 13 51.3	-0.2
SN03				S	Sg	07 13 52.3	-0.3
SN08	Arah	0.19	231	⇓P	Pg	07 13 53.7	+0.1
SN08				S	Sg	07 13 56.5	+0.3
SN07	Snyder 07	0.19	359	⇑P	Pg	07 13 53.8	0.0
SN07				S	Sg	07 13 56.5	+0.1
POST	Post	0.54	288	⇑P	Pg	07 14 00.4	0.0
POST				S	Sg	07 14 07.5	+0.1
DKNS	Dickens	0.77	358	⇑P	Pg	07 14 04.2	-0.4
DKNS				S	Sg	07 14 14.5	-0.1
APMT	Aspermont	0.77	56	⇓P	Pg	07 14 04.3	-0.4
APMT				S	Sg	07 14 14.5	-0.2
TMB05	Klondike	0.86	252	P	Pg	07 14 06.1	-0.3
TMB05				S	Sg	07 14 17.5	-0.1
SGCY	Sterling City	1.00	192	P	Pg	07 14 09.0	-0.2
SGCY				S	Sg	07 14 21.9	-0.3
ABTX	Abilene, Hawle	1.08	104	P	Pg	07 14 10.2	-0.5
ABTX				S	Sg	07 14 23.9	-0.8
TMB04	Seminole	1.38	259	P	Pn	07 14 15.1	-0.5
TMB04				S	Sb	07 14 33.4	-0.5
ODSA	Odessa	1.60	241	S	Sn	07 14 40.0	+0.2
MSTX	Muleshoe	1.90	305	Pg	Pb	07 14 24.5	-0.5
MSTX				Sg	Sb	07 14 49.9	+0.9
OZNA	Ozona	1.98	186	Pg	Pb	07 14 26.5	+0.2
OZNA				Sg	Sb	07 14 52.4	+1.1
AMTX	Amarillo	2.09	342	Pg	Pb	07 14 27.8	-0.3
AMTX				Sg	Sg	07 14 56.7	-0.2
PLPT	Palo Pinto	2.17	92	Pg	Pb	07 14 29.1	-0.3
PLPT				Sg	Sg	07 14 58.1	-1.5
WTFS	Witchita Falls	2.21	66	Pg	Pb	07 14 30.3	+0.1
WTFS				Sg	Sb	07 14 58.5	+0.8
MNHN	Monahans	2.22	226	Pg	Pb	07 14 30.0	-0.4
MNHN				Sg	Sb	07 14 59.4	+1.1
SMWD	Samnorwood	2.26	14	Sg	Sb	07 14 59.5	+0.1
BRDY	Brady	2.27	135	Pg	Pb	07 14 31.5	+0.2
BRDY				Sg	Sb	07 15 00.4	+0.9

*IDC **01** 07:14:41.8±0.9, 32°.89N×100°.62W, h0km, mb3.6/2, mbtmp3.6/8, ML3.6/6, MS3.5/1, Error ellipse: s-maj=14.0km s-min=8.9km az=111.0*
*TXNET **01** 07:14:43.7, 32°.9N±0°.6×100°.9W±0°.7, h4km±1km, ML4.1/12, Error ellipse: s-maj=1.2km s-min=0.7km az=126.0, final*
*NEIC **01** 07:14:44.2, 32°.90N×100°.89W, h5km*
*NEIC **01** 07:14:44.2±1.7, 32°.89N±0°.02×100°.89W±0°.02, h5km±1km, mb4.0/7, mb_Lg3.9/154, ML4.1/6, Mwr3.8/60, Error ellipse: s-maj=3.5km s-min=2.8km az=153.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.96; $M_{\theta\theta}$3.76; $M_{\phi\phi}$-1.80; $M_{r\theta}$-0.64; $M_{\theta\phi}$4.59; $M_{r\phi}$2.48; Fault plane solution: $M_0$6.18000×10^{14} NP1:ϕ_s101.14000°, δ64.23000°, λ-20.53000°. NP2:ϕ_s200.39000°, δ71.59000°, λ-152.73000°. Principal axes: T 6.3979, Plg5.0000°, Azm329.0000°; N -0.4626, Plg57.0000°, Azm232.0000°; P -5.9353, Plg32.0000°, Azm63.0000°;*

ISC 01 07:14:43.5±0.7, 32°.89N±0°.02×100°.88W±0°.02, h5km±4km, n148, σ0°.95/155, 7C-11D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN02	Snyder 2	0.04	221		Pg	07 14 44.7	-0.1
SN02					Sg	07 14 45.6	0.0
SN02	Snyder 2	0.04	221	⇓P	Pg	07 14 44.7	-0.1
SN02				S	Sg	07 14 45.6	0.0
SN03	Snyder 3	0.06	301		Pg	07 14 44.9	-0.2
SN03					Sg	07 14 45.8	-0.3
SN03	Snyder 3	0.06	301	⇓P	Pg	07 14 44.8	-0.2
SN03				S	Sg	07 14 45.8	-0.3
SN08	Arah	0.19	234	⇓P	Pg	07 14 47.3	+0.1
SN08				S	Sg	07 14 50.2	+0.4
SN07	Snyder 07	0.20	357		Pg	07 14 47.3	-0.1
SN07				IAML		07 14 52.6	
	34μm,0.4s						
SN07	Snyder 07	0.20	357	⇑P	Pg	07 14 47.3	-0.1
SN07				S	Sg	07 14 50.1	+0.1
POST	Post	0.55	288		Pg	07 14 53.9	-0.2
POST					Sg	07 15 01.1	-0.1
POST				IAML		07 15 01.6	
	14μm,0.3s						
POST				IAML		07 15 06.1	
	16μm,0.9s						
POST	Post	0.55	288	⇑P	Pg	07 14 54.0	-0.2
POST				S	Sg	07 15 01.1	-0.1
APMT	Aspermont	0.77	56		Pg	07 14 57.9	-0.4
APMT					Sg	07 15 08.2	0.0
APMT	Aspermont	0.77	56	⇓P	Pg	07 14 57.9	-0.4
APMT				S	Sg	07 15 08.2	0.0
DKNS	Dickens	0.77	357		Pg	07 14 57.8	-0.6
DKNS					Sg	07 15 08.0	-0.4
DKNS	Dickens	0.77	357	⇑P	Pg	07 14 57.8	-0.6
DKNS				S	Sg	07 15 08.0	-0.4
TMB05	Klondike	0.87	252	⇓P	Pg	07 14 59.5	-0.7
TMB05				S	Sg	07 15 10.9	-0.6
SGCY	Sterling City	1.00	192		Pg	07 15 02.3	-0.4
SGCY					Sg	07 15 15.3	-0.3
SGCY	Sterling City	1.00	192	⇑P	Pg	07 15 02.3	-0.4
SGCY				S	Sg	07 15 15.3	-0.3
ABTX	Abilene, Hawle	1.08	104		Pg	07 15 03.7	-0.4
ABTX					Sg	07 15 17.6	-0.6
ABTX	Abilene, Hawle	1.08	104	⇓P	Pg	07 15 03.7	-0.4
ABTX				S	Sg	07 15 17.6	-0.6
TMB06	Greenwood	1.20	221	P	Pg	07 15 06.0	-0.6
TMB06				S	Sg	07 15 22.2	+0.2
TMB04	Seminole	1.38	259	⇓P	Pn	07 15 08.4	-1.1
TMB04				S	Sg	07 15 26.8	-1.1
TMB01	Midkiff	1.59	220	P	Pb	07 15 13.3	-0.2
TMB01				S	Sb	07 15 34.0	+0.2
ODSA	Odessa	1.61	242		Pn	07 15 12.6	0.0
ODSA					Sb	07 15 34.2	-0.1
ODSA	Odessa	1.61	242	⇓P	Pn	07 15 12.7	0.0
ODSA				S	Sb	07 15 34.2	-0.1
MSTX	Muleshoe	1.91	305		Pn	07 15 17.6	+0.8
MSTX					Sb	07 15 43.4	+0.3
MSTX	Muleshoe	1.91	305	⇑P	Pn	07 15 17.6	+0.8
MSTX				S	Sb	07 15 43.4	+0.3
OZNA	Ozona	1.98	186		Pn	07 15 18.6	+0.9
OZNA					Sb	07 15 45.4	+0.5
OZNA				IAmb_Lg		07 15 47.9	
	comp=Z,606nm,1.0s						
OZNA	Ozona	1.98	186	⇑P	Pn	07 15 18.6	+0.9
OZNA				S	Sb	07 15 45.4	+0.5
AMTX	Amarillo	2.09	342		Pn	07 15 20.5	+1.2
AMTX					Sb	07 15 48.8	+0.5
AMTX	Amarillo	2.09	342	⇑P	Pn	07 15 20.5	+1.2
AMTX				S	Sb	07 15 48.8	+0.5
PLPT	Palo Pinto	2.16	91		Pn	07 15 20.9	+0.8
PLPT					Sb	07 15 51.0	+0.8
PLPT				IAmb_Lg		07 15 55.1	
	comp=Z,498nm,0.7s						
PLPT	Palo Pinto	2.16	91	⇓P	Pn	07 15 20.9	+0.8
PLPT				S	Sb	07 15 51.0	+0.8
NM01	Eunice	2.19	256	P	Pb	07 15 22.5	-1.2
NM01				S	Sb	07 15 51.2	0.0
WTFS	Witchita Falls	2.20	66		Pn	07 15 21.3	+0.6
WTFS					Sb	07 15 51.3

FW03 Pg **Pb** **07 15 27.1 +0.5**
TPB19 West of Imperi 2.46 230 Pg **Pb** **07 15 27.5 -0.8**
TPB19 Sg **Sb** **07 16 00.2 +1.2**
CPRX Cap Rock 2.51 274 **Pb** **07 15 27.5 -1.7**
CPRX Cap Rock 2.51 274 Pg **Pb** **07 15 27.5 -1.7**
CLN7 Carlsbad 7 2.52 260 Pg **Pb** **07 15 27.9 -1.3**
CLN7 Carlsbad 7 2.52 260 Pg **Pb** **07 15 27.9 -1.3**
PH03 Pantex 2.52 347 P **Pn** **07 15 26.7 +1.5**
PH03 Pg **Pb** **07 15 29.4 +0.1**
WMOK Wichita Mounta 2.54 43 **Pn** **07 15 25.9 +0.6**
WMOK **Sn** **07 15 57.9 +1.3**
WMOK Wichita Mounta 2.54 43 ⇓P **Pn** **07 15 25.9 +0.6**
WMOK S **Sn** **07 15 57.9 +1.3**
JCT Junction City 2.58 159 **Pn** **07 15 27.0 +1.1**
JCT **Sn** **07 15 59.4 +1.8**
JCT Junction City 2.58 159 P **Pn** **07 15 27.2 +1.3**
JCT S **Sn** **07 15 59.4 +1.8**
CLNB Carlsbad 2.61 257 **Pn** **07 15 27.5 +1.1**
CLNB Carlsbad 2.61 257 Pg **Pb** **07 15 30.0 -0.8**
FW07 Weatherford 2.61 93 **Pn** **07 15 27.2 +0.8**
FW07 Weatherford 2.61 93 P **Pn** **07 15 27.2 +0.8**
CBET Carlsbad E Tow 2.67 261 **Pb** **07 15 30.0 -1.8**
CBET Carlsbad E Tow 2.67 261 P **Pb** **07 15 30.0 -1.8**
FW06 Azle 2.80 87 **Pn** **07 15 29.5 +0.6**
FW06 IAmb_Lg 07 16 15.9
comp=Z,535nm,1.1s
PECS Pecos 2.95 240 **Pn** **07 15 32.2 +1.0**
PECS IAmb_Lg 07 16 19.2
comp=Z,398nm,0.8s
FW13 Cleburne 2.96 100 **Pn** **07 15 30.6 -0.5**
WHTX Lake Whitney, 3.03 106 **Pn** **07 15 32.0 -0.1**
X34A Smith Ranch, M 3.06 55 IAmb_Lg 07 16 22.2
comp=Z,486nm,0.9s
Z35A Perchaven, San 3.08 81 IAmb_Lg 07 16 25.3
comp=Z,321nm,0.9s
SAND Sanderson 3.12 200 **Pn** **07 15 33.7 +0.4**
SAND IAmb_Lg 07 16 24.1
comp=Z,466nm,0.9s
LOOK Love County 3.28 69 IAmb_Lg 07 16 34.4
comp=Z,448nm,0.8s
CSTR Hydro, Custer 3.29 33 **Pn** **07 15 36.2 +0.5**
ALPN Alpine 3.44 224 **Pn** **07 15 38.5 +0.6**
ALPN IAmb_Lg 07 16 42.6
comp=Z,302nm,0.8s
DRIO Del Rio 3.47 176 **Pn** **07 15 38.2 +0.1**
DRIO IAmb_Lg 07 16 34.8
comp=Z,404nm,1.0s
HNDO Hondo 3.62 157 **Pn** **07 15 41.6 +1.3**
OKCSW OKLAHOMA CITY 3.80 48 **Pn** **07 15 41.5 -1.2**
RTBA Rita Blanca 3.85 337 **Pn** **07 15 43.6 0.0**
RTBA IAmb_Lg 07 16 54.5
comp=Z,293nm,0.8s
MNTX Cornudas Mount 3.99 254 IAmb_Lg 07 16 55.9
comp=Z,367nm,0.8s
ADOK Arcadia Dam 4.00 46 **Pn** **07 15 46.2 +0.8**
OK029 Liberty Lake 4.05 43 **Pn** **07 15 46.1 -0.1**
NOKA Waynoka 4.06 23 **Pn** **07 15 46.9 +0.5**
NOKA IAmb_Lg 07 17 04.2
comp=Z,333nm,0.8s
VHRN Van Horn 4.08 240 IAmb_Lg 07 16 57.7
comp=Z,349nm,0.9s
TXAR Lajitas Array 4.28 215 Pn **Pn** **07 15 50.1 +0.7**
comp=Z,2.6nm,0.3s,baz=38,slow=11,SNR=65
TXAR Pg **Pb** **07 15 59.6 +0.3**
comp=Z,25nm,0.3s,baz=28,slow=16,SNR=114
TXAR Sn **Sn** **07 16 41.5 +1.8**
comp=Z,12nm,0.3s,baz=32,slow=18,SNR=3.5
TXAR Lg Lg 07 16 57.5
comp=Z,44nm,0.3s,baz=28,slow=24,SNR=11
comp=Z,3.3nm,0.4s
CROK Carrier 4.32 33 IAmb_Lg 07 17 01.7
comp=Z,246nm,0.8s
OK052 Battle Ridge R 4.57 46 IAmb_Lg 07 17 16.2
comp=Z,162nm,0.9s
KAN14 Manchester OK 4.71 30 IAmb_Lg 07 17 16.1
comp=Z,146nm,0.8s
OK048 Pawnee Station 4.78 42 IAmb_Lg 07 17 15.5
comp=Z,177nm,0.9s
EPT El Paso 4.89 258 IAmb_Lg 07 17 27.6
comp=Z,217nm,1.0s
OK051 E0350 and S346 4.91 42 IAmb_Lg 07 17 16.6
comp=Z,189nm,1.0s
ANMO Albuquerque 5.07 295 IAmb_Lg 07 17 27.8
comp=Z,282nm,0.8s
ANMO Albuquerque 5.07 295 Pn **Pn** **07 16 01.0 +0.7**
comp=Z,1.1nm,0.3s,baz=126,slow=18,SNR=17
ANMO Pg **Pb** **07 16 13.1 +0.3**
comp=Z,2.5nm,0.3s,baz=209,slow=19,SNR=28
ANMO Lg Lg 07 17 18.2
comp=Z,45nm,0.3s,baz=294,slow=17,SNR=21
comp=Z,3.8nm,0.4s
HNVL Huntsville, TX 5.08 113 IAmb_Lg 07 17 32.2
comp=Z,202nm,0.7s
TUL3 Leonard 5.17 53 IAmb_Lg 07 17 40.2
comp=Z,147nm,0.7s
HKT Hockley 5.22 123 IAmb_Lg 07 17 38.4
comp=Z,162nm,0.9s
NATX Nacogdoches 5.38 100 IAmb_Lg 07 17 42.0
comp=Z,243nm,0.8s
R32A Long Quarter, 5.79 17 IAmb_Lg 07 17 53.7
comp=Z,225nm,0.8s
121A Cookes Peak, D 5.83 268 IAmb_Lg 07 17 47.0
comp=Z,188nm,0.8s
RLO Rose Lookout 5.83 54 IAmb_Lg 07 17 53.9
comp=Z,158nm,0.7s
CBKS Cedar Bluff 5.98 9 IAmb_Lg 07 18 03.8
comp=Z,149nm,0.8s
HBVL Hebbronville 6.12 161 IAmb_Lg 07 18 14.2
comp=Z,111nm,0.8s
KSCO Kaye Shedlock' 6.27 347 IAmb_Lg 07 18 18.5
comp=Z,117nm,0.8s
MIAR Mount Ida 6.30 73 IAmb_Lg 07 18 12.5
comp=Z,143nm,0.9s
U38A Gravette 6.41 55 IAmb_Lg 07 18 17.7
comp=Z,122nm,0.8s
WLAR White Oak Lake 6.55 81 IAmb_Lg 07 18 19.7
comp=Z,127nm,0.7s
HHAR Hobbs 6.65 58 IAmb_Lg 07 18 22.2
comp=Z,108nm,0.8s
Z41A Richland Creek 6.79 85 IAmb_Lg 07 18 34.8
comp=Z,100nm,0.7s
319A Douglas 7.28 260 IAmb_Lg 07 18 42.5
comp=Z,91nm,0.8s
WHAR Wooly Hollow 7.52 69 IAmb_Lg 07 18 47.7
comp=Z,124nm,1.3s
MVCO Mesa Verde 7.59 307 IAmb_Lg 07 19 05.9
comp=Z,118nm,1.2s
W18A Petrified Fore 7.68 289 IAmb_Lg 07 18 52.9
comp=Z,110nm,1.2s
CCAR Cane Creek 7.69 80 IAmb_Lg 07 18 58.9
comp=Z,101nm,0.8s
FCAR Ozark Folk Cen 7.83 65 IAmb_Lg 07 19 05.4
comp=Z,80nm,0.8s
ISCO Idaho Springs 7.88 332 IAmb_Lg 07 18 59.3
comp=Z,73nm,1.0s
143A Socs Landing, 7.98 89 IAmb_Lg 07 19 19.9
comp=Z,75nm,0.8s
MGMO Mountain Grove 8.24 57 IAmb_Lg 07 19 27.1
comp=Z,82nm,0.8s
PV12 Saucer Basin, 8.42 312 IAmb_Lg 07 19 34.0
comp=Z,120nm,1.2s
PV18 Skein Mesa, Pa 8.44 311 IAmb_Lg 07 19 17.4
comp=Z,139nm,1.2s
PV16 Nyswonger Mesa 8.48 312 IAmb_Lg 07 19 25.9
comp=Z,82nm,1.3s
PV19 Morning Glory 8.53 312 IAmb_Lg 07 19 25.4
comp=Z,64nm,0.8s
PV20 West Nyswonger 8.54 312 IAmb_Lg 07 19 30.4
comp=Z,97nm,1.1s
PV10 Paradox Valley 8.60 312 IAmb_Lg 07 19 24.2
comp=Z,62nm,0.8s
PV23 Carpenter Ridg 8.63 312 IAmb_Lg 07 19 24.3
comp=Z,78nm,0.9s
LCAR Lake Charles 8.63 66 **Pn** **07 16 47.2 -1.8**
BGNE Belgrade 8.77 14 **Pn** **07 16 49.2 -1.8**
R40A Maddies Statio 8.84 50 IAmb_Lg 07 19 30.9
comp=Z,83nm,0.8s
X16A Lo Mia Camp, P 8.93 283 **Pn** **07 16 53.1 -0.3**
P38A Dawn 8.96 39 **Pn** **07 16 54.0 +0.5**
P38A IAmb_Lg 07 19 40.0
comp=Z,112nm,1.0s
O20A White River Ci 9.34 323 **Pn** **07 16 59.8 +0.8**
CCM Cathedral Cave 9.39 54 IAmb_Lg 07 19 45.8
comp=Z,76nm,0.8s
HMU Henry Mountain 9.49 305 IAmb_Lg 07 20 07.6
comp=Z,85nm,0.9s

P40A Paris 9.73 45 IAmb_Lg 07 20 01.3
comp=Z,110nm,0.8s
BW06 Boulder Array 12.00 328 **Pn** **07 17 34.4 -1.0**
PD31 Pinedale Array 12.00 328 **Pn** **07 17 34.5 -0.8**
PDAR Pinedale Array 12.00 328 **Pn** **07 17 34.4 -1.0**
PDAR Pinedale Array 12.00 328 Pn **Pn** **07 17 36.5 +1.1**
comp=Z,0.1nm,0.3s,baz=136,slow=14,SNR=9.2
PDAR Pg 07 18 23.0
comp=Z,0.4nm,0.3s,baz=133,slow=16,SNR=8.2
PDAR Lg Lg 07 20 59.1
comp=Z,0.2nm,0.3s,baz=130,slow=24,SNR=2.6
comp=Z,0.8nm,0.7s
SHPR Sheep Range 12.29 291 **Pn** **07 17 38.0 -1.3**
PFO Pinyon Flats O 13.06 277 Lg Lg 07 21 38.9
comp=Z,0.1nm,0.3s,baz=343,slow=7.7,SNR=1.4
ELK Elko 13.90 308 Pn **Pn** **07 18 05.0 +3.6**
comp=Z,0.1nm,0.3s,baz=42,slow=3.1,SNR=3.2
ELK Lg Lg 07 22 00.8
comp=Z,0.1nm,0.3s,baz=11,slow=15,SNR=1.8
comp=Z,1.0nm,0.8s
TKL Tuckaleechee C 14.41 74 Pn Pn 07 18 01.5 -6.6
comp=Z,0.6nm,0.3s,baz=213,slow=11,SNR=10
TKL Lg Lg 07 22 04.2
comp=Z,0.5nm,0.3s,baz=160,slow=21,SNR=1.7
comp=Z,5.0nm,0.9s
S51A Beattyville 14.89 67 **Pn** **07 18 12.9 -1.8**
BOZ Bozeman (W) 15.15 330 Pn **Pn** **07 18 18.9 +0.6**
BOZ IAmb IAmb 07 18 26.4
comp=Z,3.1nm,0.8s
NVAR Mina Array Bea 15.20 296 Pn **P** **07 18 25.6 +1.5**
comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=7.8
comp=Z,1.8nm,1.0s
DLMT Dillon 15.39 327 P **P** **07 18 26.8 +0.6**
DLMT IAmb IAmb 07 18 36.0
comp=Z,6.6nm,1.3s
MDPB Devils Postpil 15.60 293 P **P** **07 18 29.6 +0.9**
JSC Jenkinsville 16.41 80 P **P** **07 18 37.9 +0.5**
JSC IAmb IAmb 07 18 38.3
comp=Z,21nm,0.8s
P53A Whipple 17.04 62 IAmb IAmb 07 18 40.2
comp=Z,17nm,0.8s
MCCM Marconi Confer 18.64 293 P **P** **07 19 01.5 -0.5**
NEW Newport 19.63 326 LR LR 07 27 17.6
comp=Z,137nm,18.8s,baz=88,slow=38
ILAR Eielson Array 42.37 333 P **P** **07 22 39.1 +0.8**
comp=Z,0.5nm,1.0s,baz=118,slow=8.6,SNR=4.1
comp=Z,0.5nm,1.0s
SIV San Ignacio 61.73 136 P **P** **07 25 00.2 -2.9**
comp=Z,1.0nm,0.8s,baz=296,slow=6.0,SNR=5.7
comp=Z,1.0nm,0.8s

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*ASRS **01** 07:15:17.0±0.5, 54°.32N×86°.89E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 07:15:20.3±3.0, 54°.26N×86°.83E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=24.2km s-min=17.4km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**256**	I	I	07 23 30.0	
baz=74,slow=328,SNR=2.4							
ZALV	**Zalesovo Beam**	**1.22**	**256**	Pg	Pg	07 15 42.5	-1.2
1.4nm,0.3s,baz=73,slow=17,SNR=13							
ZALV				Lg	Lg	07 15 59.9	
1.6nm,0.3s,baz=76,slow=24,SNR=7.8							
KURBB	**Kurchatov Arra**	**6.25**	**238**	Pn	Pn	07 16 54.9	+1.4
0.1nm,0.3s,baz=56,slow=14,SNR=6.3							
KURBB				Sn	Sn	07 18 05.4	-0.2
0.1nm,0.3s,baz=104,slow=29,SNR=1.7							
KURBB				Lg	Lg	07 18 39.1	
baz=48,slow=32,SNR=2.0							
0.9nm,0.2s							
MKAR	**Makanchi Array**	**8.01**	**203**	Pn	Pn	07 17 18.8	+0.9
0.1nm,0.3s,baz=25,slow=14,SNR=5.1							
MKAR				Lg	Lg	07 19 31.4	
0.1nm,0.3s,baz=18,slow=19,SNR=2.1							
0.1nm,0.3s							

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*IDC **01** 07:40:10.3±3.2, 53°.77N×88°.22E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.5km s-min=19.1km az=50.0*

ASRS 01 07:40:07.0±1.1, 53°.79N×88°.19E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**276**	I	I	07 53 00.0	
baz=92,slow=337,SNR=8.4							
ZALV	**Zalesovo Beam**	**2.00**	**276**	Pg	Pg	07 40 47.4	+2.1
1.2nm,0.3s,baz=96,slow=12,SNR=18							
ZALV				Lg	Lg	07 41 14.2	
1.5nm,0.3s,baz=93,slow=25,SNR=9.9							
KURBB	**Kurchatov Arra**	**6.73**	**246**	Pn	Pn	07 41 50.8	+3.8
0.1nm,0.3s,baz=64,slow=15,SNR=9.1							
KURBB				Sn	Sn	07 43 07.6	+3.3
baz=57,slow=36,SNR=1.7							
KURBB				Lg	Lg	07 43 42.6	
baz=62,slow=28,SNR=6.1							
0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.96**	**211**	Pn	Pn	07 42 08.1	+4.2
0.1nm,0.3s,baz=28,slow=11,SNR=1.6							
MKAR				Lg	Lg	07 44 22.8	
0.1nm,0.3s,baz=28,slow=34,SNR=2.8							
0.2nm,0.6s							

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*IDC **01** 07:41:50.8±0.4, 32°.45S×79°.87E, h0km, mb4.7/27, mbtmp4.7/27, MS4.4/54, Error ellipse: s-maj=16.1km s-min=12.8km az=88.0*

*MOS **01** 07:41:51.0±0.9, 32°.50S×80°.00E, h10km, mb5.2/42, Error ellipse: s-maj=12.7km s-min=6.9km az=99.7*

*BJI **01** 07:41:52.0, 32°.50S×80°.00E, h10km, mB5.4/17, mb4.9/40, Ms5.0/14, Ms7 4.8/16*

*NEIC **01** 07:41:53.7, 32°.50S×79°.98E, h26km*

*NEIC **01** 07:41:53.7, 32°.00S×80°.33E, h26km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}=8.83; $M_{\theta\theta}$2.42; $M_{\phi\phi}$6.41; $M_{r\theta}$2.47; $M_{r\phi}$4.81; $M_{\theta\phi}$2.84; Fault plane solution: $M_0$9.99000×10^{16} NP1:ϕ_s30.52000°, δ34.06000°, λ-95.14000°. NP2:ϕ_s216.71000°, δ56.10000°, λ-86.53000°. Principal axes: T 10.3498, Plg11.0000°, Azm304.0000°; N -0.7699, Plg3.0000°, Azm35.0000°; P -9.5799, Plg79.0000°, Azm139.0000°;*

*NEIC **01** 07:41:53.7±1.9, 32°.50S±0°.10×80°.0E±0°.1, h10km±1km, mb5.2/71, Mww5.3/11 Error ellipse: s-maj=16.4km s-min=16.2km az=155.0*

*GCMT **01** 07:41:56.7±0.1, 32°.55S±0°.01×79°.95E±0°.01, h21km, MW5.3/116, Moment Tensor Solution. s104, c151; s116, c202; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.87±.02; $M_{\theta\theta}$0.26±.01; $M_{\phi\phi}$0.61±.02; $M_{r\theta}$-0.01±.03; $M_{\phi\phi}$0.58±.01; $M_{\theta r}$-0.18±.03; Best double couple: $M_0$0.97200×10^{17} NP1:ϕ_s224.00000°, δ41.00000°, λ-78.00000°. NP2:ϕ_s29.00000°, δ50.00000°, λ-100.00000°. Principal axes: T 1.0490, Plg5.0000°, Azm126.0000°; N -0.1550, Plg8.0000°, Azm35.0000°; P -0.8950, Plg81.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 07:41:52.9±0.3, 32°.57S±0°.06×79°.93E±0°.07, h10km, h10km:pP-P, n314, σ1s25/272, mb5.0/114, MS4.5/63, 27C-35D, Broken Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**25.48**	**230**	T	T	08 13 56.5	
baz=67,slow=74,SNR=7959							
H04N1	**CROZET ISLANDS**	**25.49**	**230**	T	T	08 13 56.8	
baz=67,slow=74,SNR=8072							
H04N3	**CROZET ISLANDS**	**25.49**	**230**	T	T	08 13 55.5	
baz=67,slow=74,SNR=8333							
H04S1	**CROZET ISLANDS**	**25.67**	**228**	T	T	08 14 07.6	
baz=67,slow=75,SNR=365							
H04S3	**CROZET ISLANDS**	**25.68**	**228**	T	T	08 14 06.9	
baz=67,slow=75,SNR=357							
H04S2	**CROZET ISLANDS**	**25.69**	**228**	T	T	08 14 09.0	
baz=67,slow=75,SNR=126							
H08S2	**Diego Garcia H**	**25.75**	**343**	T	T	08 14 02.0	
baz=166,slow=75,SNR=1132							
H08S1	**Diego Carcia H**	**25.75**	**343**	T	T	08 14 05.9	
baz=166,slow=75,SNR=145							
H08S3	**Diego Garcia H**	**25.77**	**343**	T	T	08 14 03.5	
baz=166,slow=75,SNR=5298							
H01W2	**Cape Leeuwin H**	**28.46**	**104**	T	T	08 17 21.8	
baz=265,slow=74,SNR=36							
H01W3	**Cape Leeuwin H**	**28.46**	**104**	T	T	08 17 40.9	
baz=265,slow=74,SNR=257							
H01W1	**Cape Leeuwin H**	**28.48**	**104**	T	T	08 17 25.5	
baz=265,slow=74,SNR=50							
MORW	**Morawa**	**31.11**	**93**	P	**P**	**07 48 11.8 +0.1**	
MORW				IAmb	IAmb	07 48 12.3	
comp=Z,26nm,1.3s							
NWAO	**Narrogin (SRO)**	**31.27**	**101**	LR	LR	07 57 36.4	
comp=Z,1μm,21.8s,baz=282,slow=30							
LEM	**Lembang**	**36.32**	**51**	LR	LR	08 01 39.2	
comp=Z,638nm,18.8s,baz=164,slow=33							
MAW	**Mawson**	**36.47**	**191**	P	**P**	**07 48 57.0 -0.7**	
comp=Z,5.2nm,0.7s,baz=24,slow=5.6,SNR=12							
MAW				LR	LR	08 01 05.5	
comp=Z,668nm,18.3s,baz=19,slow=32							
comp=Z,5.2nm,0.7s							
MAW	**Mawson**	**36.47**	**191**	P	**P**	**07 48 57.0 -0.7**	
PSA00	**Pilbara Seismi**	**37.00**	**83**	P	**P**	**07 49 02.8 -0.1**	
CASY	**Casey**	**38.37**	**161**		**P**	**07 49 14.1 +0.2**	
PSI	**Prapat**	**39.52**	**31**	LR	LR	08 03 25.4	
comp=Z,1μm,18.2s,baz=216,slow=33							
PALK	**Pallekele**	**39.63**	**1**	P	**P**	**07 49 24.3 -0.7**	
PALK	**Pallekele**	**39.63**	**1**	LR	LR	08 02 51.8	
comp=Z,764nm,18.2s,baz=176,slow=32							
PALK	**Pallekele**	**39.63**	**1**	*d* *i*P	**P**	**07 49 24.8 -0.2**	
PALK				pmax	pmax		
comp=Z,20nm,1.1s							
KCSI	**Kotacane, Aceh**	**39.69**	**29**	P	**P**	**07 49 27.4 +2.0**	
comp=Z,556nmcomp=Z,18nm,0.8s							
KULM	**Kulim**	**42.49**	**31**		**P**	**07 49 47.8 -0.8**	
KULM				IAmb	IAmb	07 49 50.7	
comp=Z,39nm,1.4s							
SYO	**Syowa Base**	**42.97**	**200**	‖ *e*P	**P**	**07 49 52.6 +0.8**	
SYO	**Syowa Base**	**42.97**	**200**	‖ *ep*P	pP	07 49 56.4 +2.5	
FITZ	**Fitzroy Crossi**	**43.43**	**82**	LR	LR	08 06 11.9	
comp=Z,1μm,19.4s,baz=258,slow=34							
EDFI	**Ende, Flores**	**45.29**	**68**	P	**P**	**07 50 13.1 +1.9**	
comp=Z,16nm,0.8s							
KAPI	**Kappang**	**46.17**	**62**	LR	LR	08 08 00.4	
comp=Z,352nm,19.5s,baz=230,slow=34							
SBUM	**Sibu**	**46.34**	**48**	P	**P**	**07 50 20.2 +0.9**	
BOSA	**Boshof**	**46.80**	**260**	P	**P**	**07 50 21.9 -1.1**	
comp=Z,4.0nm,0.5s,baz=131,slow=6.3,SNR=16							
BOSA				LR	LR	08 06 35.7	
comp=Z,677nm,18.1s,baz=110,slow=32							
comp=Z,4.0nm,0.5s							
MATP	**Matopo**	**47.19**	**272**	LR	LR	08 07 15.3	
comp=Z,1μm,18.9s,baz=110,slow=32							
KNRA	**Kununurra**	**47.22**	**81**		**P**	**07 50 26.4 +0.2**	
KNRA				IAmb	IAmb	07 50 30.3	
comp=Z,25nm,1.3s							
LBTB	**Lobatse**	**47.78**	**264**		**P**	**07 50 30.2 -0.5**	
LBTB				IAmb	IAmb	07 50 31.6	
comp=Z,16nm,0.7s							
LBTB	**Lobatse**	**47.78**	**264**	LR	LR	08 07 07.4	
comp=Z,427nm,18.6s,baz=110,slow=32							
LBTB	**Lobatse**	**47.78**	**264**	P	**P**	**07 50 30.2 -0.5**	
LBTB				pmax	pmax		
comp=Z,16nm,0.7s							
ASAR	**Alice Springs**	**48.00**	**94**		**P**	**07 50 31.6 -0.7**	
ASAR	**Alice Springs**	**48.00**	**94**	P	**P**	**07 50 31.9 -0.5**	
comp=Z,11nm,0.8s,baz=246,slow=6.7,SNR=84							
ASAR				LR	LR	08 09 07.2	
comp=Z,280nm,19.2s,baz=263,slow=34							
comp=Z,11nm,0.8s							
AS31	**Alice Springs**	**48.00**	**94**		**P**	**07 50 31.3 -1.0**	
MAKGR	**Makgori**	**48.15**	**263**	P	**P**	**07 50 33.4 -0.2**	
MAKGR				IAmb	IAmb	07 50 34.6	
comp=Z,19nm,0.7s							
LPHEP	**Lephephe**	**48.20**	**267**		**P**	**07 50 34.2 +0.3**	
LPHEP				IAmb	IAmb	07 50 36.5	
comp=Z,30nm,1.2s							
KHWEE	**KHWEE**	**49.12**	**268**	P	**P**	**07 50 41.3 +0.3**	
KHWEE				IAmb	IAmb	07 50 41.8	
comp=Z,53nm,1.5s							
SUR	**Sutherland**	**49.29**	**253**		**P**	**07 50 43.7 +1.4**	
KIBK	**Kibwezi**	**49.47**	**299**	P	**P**	**07 50 44.2 +0.4**	
KIBK				IAmb	IAmb	07 50 45.0	
comp=Z,20nm,1.4s							
HYB	**Hyderabad**	**49.72**	**358**	*e*P	**P**	**07 50 45.5 +0.1**	
HYB				*e*PP	**PP**	**07 52 43.6 +3.4**	
HYB				*e*S	**S**	**07 57 54.7 +0.1**	
LSZ	**Lusaka**	**49.84**	**277**		**P**	**07 50 47.2 +0.5**	
LSZ	**Lusaka**	**49.84**	**277**	LR	LR	08 09 29.5	
comp=Z,479nm,18.1s,baz=120,slow=33							
LSZ	**Lusaka**	**49.84**	**277**	P	**P**	**07 50 47.2 +0.5**	
LSZ				pmax	pmax		
comp=Z,13nm,0.9s							
PHPEN	**Phepeng**	**49.90**	**263**	P	**P**	**07 50 47.5 +0.5**	
PHPEN				IAmb	IAmb	07 50 49.0	
comp=Z,23nm,0.5s							
WRA	**Warramunga Arr**	**49.91**	**89**	P	**P**	**07 50 46.8 -0.2**	
WRA	**Warramunga Arr**	**49.91**	**89**	P	**P**	**07 50 46.8 -0.2**	
comp=Z,15nm,0.8s,baz=246,slow=7.5,SNR=52							
WRA				LR	LR	08 11 10.6	
comp=Z,760nm,18.1s,baz=244,slow=35							
comp=Z,15nm,0.8s							
WRAB	**Tennant Creek**	**49.93**	**89**		**P**	**07 50 46.7 -0.4**	
WRAB				IAmb	IAmb	07 50 47.8	
comp=Z,15nm,1.0s							
WRAB	**Tennant Creek**	**49.93**	**89**	*d* *i*P	**P**	**07 50 46.9 -0.2**	
WRAB				pmax	pmax		
comp=Z,18nm,1.0s							
WB0	**Warramunga Arr**	**50.04**	**89**		**P**	**07 50 47.5 -0.5**	
WB0				IAmb	IAmb	07 50 48.5	
comp=Z,22nm,0.9s							
WR8	**Warramunga Arr**	**50.04**	**90**		**P**	**07 50 47.7 -0.4**	
WR8				IAmb	IAmb	07 50 48.6	
comp=Z,24nm,0.8s							
KMBO	**Kilima Mbogo**	**50.87**	**299**	*i* P	**P**	**07 50 53.4 -1.1**	
KMBO				pmax	pmax		
comp=Z,39nm,0.4s							
KSANE	**Kasane**	**51.18**	**273**	IAmb	IAmb	07 50 58.2	
comp=Z,30nm,0.9s							
STKA	**Stephens Creek**	**51.50**	**107**		**P**	**07 50 58.3 -0.6**	
STKA	**Stephens Creek**	**51.50**	**107**	P	**P**	**07 50 58.9 0.0**	
comp=Z,4.8nm,0.8s,baz=195,slow=7.6,SNR=8.8							
STKA				LR	LR	08 10 48.9	
comp=Z,836nm,18.3s,baz=235,slow=34							
comp=Z,4.8nm,0.8s							
STKA	**Stephens Creek**	**51.50**	**107**	*d* *i*P	**P**	**07 50 58.7 -0.2**	
LKGWB	**Lokgwabe**	**51.80**	**264**		**P**	**07 50 58.2 -3.1**	
MYLDM	**Lahad Datu**	**52.45**	**52**		**P**	**07 51 06.1 0.0**	
MYLDM				IAmb	IAmb	07 51 09.4	
comp=Z,72nm,1.5s							
KOOLE	**Kule**	**53.11**	**264**	IAmb	IAmb	07 51 13.7	
comp=Z,41nm,1.1s							
CMAR	**Chiang Mai Arr**	**53.91**	**23**		**P**	**07 51 15.9 -0.7**	
CMAR	**Chiang Mai Arr**	**53.91**	**23**	P	**P**	**07 51 16.3 -0.4**	
comp=Z,2.5nm,0.4s,baz=208,slow=7.1,SNR=19							
CMAR				LR	LR	08 10 34.0	
comp=Z,139nm,21.9s,baz=210,slow=32							
comp=Z,2.5nm,0.4s							
LODK	**Lodwar**	**55.34**	**302**		**P**	**07 51 27.1 -0.2**	
TROLL	**Troll, Antarti**	**55.49**	**202**	⇓P	**P**	**07 51 28.5 +0.7**	
comp=Z,1μm,0.9s							
MBAR	**Mbarara**	**56.12**	**294**	⇓ *e*P	**P**	**07 51 36.1 +3.0**	
MBAR				pmax	pmax		
comp=Z,26nm,3.5s							
ATD	**Arta Tunnel**	**56.37**	**315**	LR	LR	08 12 40.5	
comp=Z,13nm,18.2s,baz=171,slow=33							
VNDA	**Vanda**	**56.72**	**165**		**P**	**07 51 37.1 +0.9**	
VNDA				IAmb	IAmb	07 51 38.0	
comp=Z,31nm,1.3s							
VNDA	**Vanda**	**56.72**	**165**	P	**P**	**07 51 36.1 -0.1**	
comp=Z,11nm,1.1s,baz=268,slow=8.2,SNR=22							
VNDA				LR	LR	08 12 44.2	
comp=Z,306nm,20.9s,baz=271,slow=33							
comp=Z,11nm,1.1s							
VNDA	**Vanda**	**56.72**	**165**	P	**P**	**07 51 37.1 +0.9**	
VNDA				pmax	pmax		
comp=Z,31nm,1.3s							
TSUM	**Tsumeb**	**56.94**	**267**		**P**	**07 51 39.6 +0.8**	
TSUM				IAmb	IAmb	07 51 40.3	
comp=Z,12nm,0.8s							
TSUM	**Tsumeb**	**56.94**	**267**	LR	LR	08 12 27.2	
comp=Z,1μm,19.3s,baz=152,slow=32							
FURI	**Furi**	**56.98**	**309**	LR	LR	08 13 50.3	
comp=Z,490nm,18.1s,baz=168,slow=34							
SNAA	**Sanae**	**57.19**

SNAA Sanae 57.19 202 P P 07 51 40.9 +1.1
SNAA IAmb IAmb 07 51 42.7
comp=Z,41nm,1.2s
SNAA Sanae 57.19 202 P **P 07 51 40.7 +0.9**
comp=Z,10nm,0.7s,baz=124,slow=9.3,SNR=96
SNAA LR LR 08 12 13.7
comp=Z,182nm,20.1s,baz=88,slow=32
comp=Z,10nm,0.7s
SNAA Sanae 57.19 202*d iP* **P 07 51 41.0 +1.3**
SNAA pmax pmax
comp=Z,53nm,1.7s
QSPA South Pole Qui 57.57 180 P **P 07 51 44.6 +1.9**
QSPA South Pole Qui 57.57 180 P **P 07 51 44.2 +1.6**
comp=Z,43nm,1.1s,baz=281,slow=1.8,SNR=97
QSPA LR LR 08 14 14.1
comp=Z,1μm,18.9s,baz=296,slow=34
comp=Z,43nm,1.1s
SBA Scott Base 57.76 166 P 07 51 44.9 +1.3
SBA IAmb IAmb 07 51 49.2
comp=Z,58nm,1.9s
SBA Scott Base 57.76 166 P **P 07 51 44.9 +1.3**
SBA pmax pmax
comp=Z,58nm,2.0s
SLVN Son La 58.30 26 P 07 51 47.5 -0.6
DAV Davao City (W) 58.65 56 LR LR 08 14 19.3
comp=Z,170nm,21.4s,baz=208,slow=33
VNA2 Neumayer--Watz 58.74 203 ⇓P **P 07 51 51.5 +1.0**
comp=Z,18nm,0.8s,baz=92,slow=7.0
QIZ Qiongzhong 58.76 33 P **P 07 51 52.2 +1.0**
QIZ S **S 07 59 58.2 +1.8**
QIZ LR LR
comp=Z,460nm,13.5s
QIZ LR LR
comp=Z,290nm,11.8s
QIZ LR LR
comp=Z,350nm,14.7s
VNA1 Neumayer--Stat 59.07 203 ⇑P **P 07 51 54.3 +1.6**
comp=Z,39nm,1.0s
VNA3 Neumayer Olymp 59.41 202 ⇓P **P 07 51 56.0 +0.8**
comp=Z,20nm,0.8s
CTA Charters Tower 59.89 96 LR LR 08 17 18.7
comp=Z,15nm,18.1s,baz=222,slow=36
CTAO Charters Tower 59.89 96 P **P 07 51 59.1 -0.2**
CTAO Charters Tower 59.89 96 P **P 07 51 59.1 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.9s
ARMA Armidale 60.07 109 P 07 52 01.2 +0.7
ARMA IAmb IAmb 07 52 02.5
comp=Z,28nm,1.2s
PZH PanZhiHua 62.31 22 P **P 07 52 19.4 +3.8**
LSA Lhasa 62.84 11 P **P 07 52 19.2 -0.2**
LSA Lhasa 62.84 11 P **P 07 52 16.9 -2.5**
LSA Lhasa 62.84 11 P **P 07 52 19.2 -0.2**
LSA pmax pmax
comp=Z,70nm,1.7s
JAY Jayapura 64.20 76 LR LR 08 19 40.9
comp=Z,193nm,20.1s,baz=209,slow=35
RAYN Ar Rayn 64.75 325 P 07 52 32.0 +0.4
RAYN Ar Rayn 64.75 325 P **P 07 52 32.0 +0.4**
RAYN pmax pmax
comp=Z,39nm,0.9s
PMG Port Moresby 65.83 86 LR LR 08 20 16.3
comp=Z,616nm,18.3s,baz=244,slow=35
KBL Kabul 67.54 350 P 07 52 49.1 -0.5
KBL IAmb IAmb 07 52 50.5
comp=Z,25nm,0.9s
KBL Kabul 67.54 350 P **P 07 52 49.1 -0.5**
KBL pmax pmax
comp=Z,25nm,1.0s
HRA Herat 68.65 344 P **P 07 52 55.7 -0.8**
HRA IAmb IAmb 07 52 56.8
comp=Z,24nm,1.6s
RPZ Rata Peaks 69.09 129 LR LR 08 15 36.8
comp=Z,433nm,21.8s,baz=200,slow=29
GOMU GeErMu 69.82 13 P **P 07 53 02.5 -1.4**
GOMU S **S 08 02 18.0 +4.4**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,260nm,5.0s
GOMU LR LR
comp=Z,220nm,18.9s
GOMU LR LR
comp=Z,140nm,17.4s
GOMU LR LR
comp=Z,260nm,17.4s
WHN Wuhan 70.73 31 P P 07 53 14.5 +5.3
XAN Xi'an 71.66 25 ⇑P **P 07 53 14.6 -0.2**
XAN pP sP 07 53 19.1 +1.4
XAN pmax pmax
comp=Z,12nm,0.8s
LZDM Lanzhou Array 71.72 20 P **P 07 53 14.9 -0.5**
comp=Z,4.7nm,0.5s,baz=189,slow=8.6,SNR=5.9
LZDM LR LR 08 23 51.1
comp=Z,140nm,19.4s,baz=5.0,slow=35
comp=Z,4.7nm,0.5s
GAR Garm 71.77 352 IAmb IAmb 07 53 14.9
comp=Z,21nm,0.8s
KSH Kashi 71.82 357 P **P 07 53 12.4 -3.3**
KSH pmax pmax
comp=Z,19nm,0.9s
KSH LR LR
comp=Z,970nm,17.2s
KSH LR LR
comp=Z,670nm,17.9s
KSH LR LR
comp=Z,500nm,17.2s
LZH Lanzhou 71.88 20 *eP* **P 07 53 16.2 0.0**
LZH sP pwP 07 53 26.0 +3.0
LZH pmax pmax
comp=Z,20nm,1.5s
LYN LuoYang 73.44 28 P **P 07 53 26.1 +0.8**
LYN pmax pmax
comp=Z,28nm,2.0s
GTA Gaotai 73.96 16 P **P 07 53 28.3 -0.1**
GTA pP sP 07 53 33.3 +2.0
GTA sP pwP 07 53 36.9 +1.6
GTA pmax pmax
comp=Z,16nm,1.9s
NJ2 Nanjing 74.05 34 *eP* **P 07 53 30.5 +1.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
BKZ Black Stump Fm 74.81 127 P **P 07 53 33.2 -0.4**
BKZ IAmb IAmb 07 53 34.0
comp=Z,40nm,1.2s
IUG Iuzhnay 74.91 352 *eP* **P 07 53 32.8 -1.1**
comp=Z,29nm,1.4s
IUG Iuzhnay 74.91 352 *eP* **P 07 53 32.7 -1.1**
IUG pmax pmax
comp=Z,29nm,1.4s
AAK Ala-Archa 75.01 356 P 07 53 34.6 +0.1
AAK Ala-Archa 75.01 356 P **P 07 53 33.5 -1.0**
comp=Z,6.7nm,1.0s,baz=195,slow=4.7,SNR=12
AAK LR LR 08 23 40.5
comp=Z,672nm,19.8s,baz=180,slow=34
comp=Z,6.7nm,1.0s
AAK Ala-Archa 75.01 356*d iP* **P 07 53 33.8 -0.7**
AAK pmax pmax
comp=Z,14nm,1.1s
CHM Chimkent 75.13 352 *eP* **P 07 53 34.1 -1.0**
CHM Chimkent 75.13 352 *eP* **P 07 53 34.0 -1.0**
EDA Edea 75.16 284 P 07 53 35.4 -0.5
EDA IAmb IAmb 07 53 36.8
comp=Z,38nm,1.3s
EIL Elat 75.17 320 LR LR 08 22 45.5
comp=Z,667nm,18.1s,baz=177,slow=33
SATY Saty 75.28 359 *eP* **P 07 53 34.8 -1.2**
comp=Z,25nm,1.6s
SATY Saty 75.28 359 *eP* **P 07 53 34.8 -1.2**
SATY pmax pmax
comp=Z,25nm,1.6s
TNSS Tian-Shan 75.29 358 *eP* **P 07 53 35.0 -1.5**
TNSS Tian-Shan 75.29 358 *eP* **P 07 53 34.9 -1.5**
UZB Uzynbulak 75.36 359 *eP* **P 07 53 35.3 -1.2**
comp=Z,12nm,1.2s
UZB Uzynbulak 75.36 359 *eP* **P 07 53 35.2 -1.2**
UZB pmax pmax
comp=Z,12nm,1.2s
SHLS Shalkode 75.36 360⇓*iP* **P 07 53 35.5 -1.1**
comp=Z,22nm,1.3s
SHLS Shalkode 75.36 360*d iP* **P 07 53 35.4 -1.1**
SHLS pmax pmax
comp=Z,22nm,1.3s
MDOK Medeo 75.42 358 *eP* **P 07 53 35.8 -1.1**
MDOK Medeo 75.42 358 *eP* **P 07 53 35.7 -1.1**
AAA Alma-Ata 75.47 358 *eP* **P 07 53 36.0 -1.0**
AAA Alma-Ata 75.47 358 *eP* **P 07 53 36.0 -1.0**
DZA Taraz 75.51 353 *eP* **P 07 53 36.2 -1.0**
comp=Z,9.6nm,0.9s
DZA Taraz 75.51 353 *eP* **P 07 53 36.2 -1.0**
DZA pmax pmax
comp=Z,10.0nm,0.9s
DZM Mont Dzumac 75.65 107 *eLR* LR 08 16 56.2
comp=Z,522nm,24.2s
URZ Urewera 75.68 126 LR LR 08 20 18.4
comp=Z,270nm,19.1s,baz=284,slow=30
BRLS Borolday 75.80 352⇓*iP* **P 07 53 36.7 -2.3**
comp=Z,13nm,1.5s
BRLS Borolday 75.80 352*d iP* **P 07 53 36.6 -2.3**
BRLS pmax pmax
comp=Z,13nm,1.5s
KK31 Karatay Array 75.80 353 IAmb IAmb 07 53 40.0
comp=Z,28nm,0.8s
KKAR Karatay Array 75.80 353 P 07 53 38.7 -0.2
KKAR Karatay Array 75.80 353 P **P 07 53 38.7 -0.2**
ASF Jabal al Asfar 76.14 323 LR LR 08 24 08.6
comp=Z,222nm,18.3s,baz=193,slow=33
WMQ Urumqi 76.36 6 *eP* **P 07 53 44.8 +2.7**
WMQ LR LR
comp=Z,270nm,17.7s
WMQ LR LR
comp=Z,250nm,17.1s
HNR Honiara 76.61 93 LR LR 08 26 19.9
comp=Z,416nm,18.1s,baz=220,slow=35
SMAI San Martin Ant 76.62 192 P 07 53 44.5 +1.2
HNS HongShan 76.81 28 ⇓P **P 07 53 44.0 -0.6**
HNS pmax pmax
comp=Z,13nm,1.3s
GUMO Guam 77.14 65 LR LR 08 22 08.4
comp=Z,72nm,21.7s,baz=242,slow=31
TDK Taldyqorghan 77.22 359 *eP* **P 07 53 45.5 -1.3**
comp=Z,20nm,1.2s
TDK Taldyqorghan 77.22 359 *eP* **P 07 53 45.5 -1.3**
TDK pmax pmax
comp=Z,20nm,1.2s
BTLS Baital 77.43 356⇓*iP* **P 07 53 46.8 -1.3**
comp=Z,16nm,1.5s
BTLS Baital 77.43 356*d iP* **P 07 53 46.7 -1.3**
BTLS pmax pmax
comp=Z,16nm,1.5s
MMAI Mount Meron Ar 77.57 323 P **P 07 53 48.2 -1.0**
comp=Z,2.3nm,0.7s,baz=90,slow=9.2,SNR=6.7
MMAI LR LR 08 23 41.6
comp=Z,216nm,19.8s,baz=145,slow=32
comp=Z,2.3nm,0.7s
BTO Baotou 77.95 23 *eP* **P 07 53 51.3 +0.2**
BTO S **S 08 03 45.4 +0.9**
BTO pmax pmax
comp=Z,33nm,1.2s
BTO pmax pmax
comp=Z,510nm,5.0s
BTO LR LR
comp=Z,520nm,9.4s
BTO LR LR
comp=Z,660nm,5.5s
BTO LR LR
comp=Z,750nm,11.6s
ESPZ Base Esperanza 78.42 198 P **P 07 53 53.5 +0.1**
ESPZ IAmb IAmb 07 53 55.1
comp=Z,36nm,1.3s
HHC Hu-ho-hao-te 78.68 24⇓*iP* **P 07 53 55.0 -0.2**
HHC pmax pmax
comp=Z,16nm,1.8s
HHC pmax pmax
comp=Z,140nm,4.7s
PMSA Palmer Station 78.96 195 P **P 07 53 57.3 +0.9**
PMSA IAmb IAmb 07 53 58.3
comp=Z,27nm,1.6s
PMSA Palmer Station 78.96 195 LR LR 08 27 14.4
comp=Z,129nm,19.6s,baz=126,slow=34
MK31 Makanchi Array 79.03 2*d iP* **P 07 53 54.8 -2.1**
MKAR Makanchi Array 79.03 2 **P 07 53 54.9 -2.0**
MKAR Makanchi Array 79.03 2 P **P 07 53 55.4 -1.5**
comp=Z,4.7nm,0.9s,baz=183,slow=7.3,SNR=19
MKAR LR LR 08 27 51.1
comp=Z,236nm,18.6s,baz=176,slow=35
comp=Z,4.7nm,0.9s
GNI Garni 79.35 333 **P 07 53 59.6 +0.6**
GNI IAmb IAmb 07 54 08.7
comp=Z,16nm,0.9s
GNI Garni 79.35 333 LR LR 08 26 53.0
comp=Z,286nm,18.0s,baz=154,slow=34
GNI Garni 79.35 333*d iP* **P 07 53 58.9 -0.1**
GNI pmax pmax
comp=Z,30nm,1.5s
GNI Garni 79.35 333 P **P 07 53 59.7 +0.7**
comp=Z,545nmcomp=Z,20nm,1.1s
AKT Akhty 79.44 336 *eP* **P 07 53 59.8 +0.5**
AKT *e* 07 54 07.0
AKT *e*PPP PPP 07 58 47.8
AKT *e*S **S 08 04 01.2 +0.8**
AKT pmax pmax
comp=Z,64nm,0.9s
ZSN Zaisan 79.78 3 *eP* **P 07 53 59.9 -1.0**
comp=Z,16nm,1.5s
ZSN Zaisan 79.78 3 *eP* **P 07 53 59.9 -1.0**
ZSN pmax pmax
comp=Z,16nm,1.5s
CSS Mathiatis 80.16 323 P **P 07 54 03.6 +0.3**
comp=Z,334nmcomp=Z,14nm,1.0s
KOPT Kop Dagi 80.93 330 IAmb IAmb 07 54 14.2
comp=Z,12nm,0.8s
JNU Nakatsue 81.08 41 LR LR 08 30 50.9
comp=Z,40nm,18.1s,baz=210,slow=36
BRZS Berezniki 82.44 355 *eP* **P 07 54 14.2 -0.8**
BRZS Berezniki 82.44 355 *eP* **P 07 54 14.2 -0.8**
NCK Nalchik 82.67 334⇑*eP* **P 07 54 17.7 +1.3**
NCK pmax pmax
comp=Z,63nm,0.6s
NEUR Neytrino 82.81 334 *iP* **P 07 54 18.1 +0.8**
NEUR pmax pmax
comp=Z,17nm,1.6s
KSRS Korea Array 82.81 37 P **P 07 54 16.8 -0.4**
comp=Z,1.3nm,0.7s,baz=212,slow=4.7,SNR=6.1
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 82.84 359 P **P 07 54 15.8 -1.2**
comp=Z,2.7nm,1.0s,baz=190,slow=5.3,SNR=22
KURBB LR LR 08 28 06.1
comp=Z,214nm,21.7s,baz=172,slow=34
comp=Z,2.7nm,1.0s
KURK Kurchatov 82.93 359 **P 07 54 17.0 -0.5**
KURK Kurchatov 82.93 359⇑*iP* **P 07 54 17.0 -0.5**
KURK pmax pmax
comp=Z,7.0nm,1.3s
XLT XiLinHaoTe 82.96 25 *eP* **P 07 54 17.5 -0.5**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,170nm,5.9s
KBZ Khabaz 83.13 334 P **P 07 54 18.0 -0.7**
comp=Z,5.4nm,0.8s,baz=89,slow=6.3,SNR=9.7
KBZ LR LR 08 29 27.5
comp=Z,117nm,18.0s,baz=162,slow=34
comp=Z,5.4nm,0.8s
KBZ Khabaz 83.13 334*d iP* **P 07 54 18.9 +0.2**
KBZ pmax pmax
comp=Z,13nm,1.1s
KIRS Kirsehir-Merke 83.15 326⇑P **P 07 54 19.3 +0.2**
SHA1 Shidzhatmaz 83.23 334*d iP* **P 07 54 19.6 0.0**
ABKAR Akbulak array 83.39 347 **P 07 54 18.8 -1.1**
KIV Kislovodsk 83.41 334 *eP* **P 07 54 20.0 -0.3**
KIV *e*S **S 08 04 40.9 -0.5**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 83.41 334 P **P 07 54 20.3 0.0**
comp=Z,425nmcomp=Z,21nm,1.0s
SONM Songino Array 83.49 18 **P 07 54 20.1 -0.6**
SONM Songino Array 83.49 18 P **P 07 54 19.3 -1.4**
comp=Z,2.5nm,0.8s,baz=197,slow=3.9,SNR=6.9
SONM LR LR 08 31 36.4
comp=Z,163nm,18.4s,baz=208,slow=36
comp=Z,2.5nm,0.8s
SONM Songino Array 83.49 18 P **P 07 54 20.1 -0.6**
SONM pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 83.69 18*deP* **P 07 54 20.5 -1.2**
ULN pmax pmax
comp=Z,26nm,2.1s
BR104 Keskin Array S 83.73 326 P **P 07 54 21.5 -0.6**
comp=Z,69nmcomp=Z,8.0nm,0.9s
BR104 pP **sP 07 54 25.7 +0.6**
comp=Z,69nmcomp=Z,8.0nm,0.9s
BR131 Keskin Array S 83.75 326*c iP* **P 07 54 22.0 -0.2**
BRTR Keskin Array B 83.75 326 **P 07 54 21.4 -0.8**
BRTR Keskin Array B 83.75 326 P **P 07 54 21.7 -0.5**
comp=Z,3.4nm,0.8s,baz=147,slow=7.1,SNR=17
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 83.75 326 *iP* **P 07 54 22.1 -0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BR105 Keskin Array S 83.75 326 P **P 07 54 21.8 -0.4**
comp=Z,71nmcomp=Z,7.4nm,0.9s
BR106 Keskin Array S 83.77 326 P **P 07 54 21.8 -0.5**
comp=Z,64nmcomp=Z,7.5nm,0.9s
KARP Karpathos 83.89 319 P **P 07 54 23.0 +0.1**
RAO Raoul Island 83.97 121 LR LR 08 26 25.2
comp=Z,380nm,18.3s,baz=266,slow=32
VSLR Vesyoloye 84.01 332*deP* **P 07 54 22.8 -0.5**
VSLR pmax pmax
comp=Z,42nm,1.1s
GOF Gofitskoye 84.22 335*ceP* **P 07 54 24.4 +0.1**
SOC Sochi 84.23 332 *eP* **P 07 54 22.4 -2.0**
SOC *e* 07 57 37.1
SOC *e*PPP PPP 07 59 28.6
SOC *e*S **SKSac 08 04 44.7 -3.0**
SOC *e*SS **SS 08 10 16.3 -3.5**
SOC *e*SSS SSS 08 13 47.2
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,172nm,20.0s
ANTO Ankara 84.26 325 P **P 07 54 24.7 -0.1**
comp=Z,7.7nm,1.9s
KNGR Kungurtug, Tuv 84.26 11⇑*iP* **P 07 54 24.5 0.0**
KNGR pmax pmax
comp=Z,11nm,1.3s
ILGA Ilgaz 84.76 327 IAmb IAmb 07 54 33.1
comp=Z,24nm,1.2s
AKTO Aktyubinsk 84.89 346 P **P 07 54 26.8 -0.8**
comp=Z,10.0nm,0.8s,baz=197,slow=2.6,SNR=31
AKTO LR LR 08 31 60.0
comp=Z,56nm,18.8s,baz=350,slow=36
comp=Z,10.0nm,0.8s
IDI Anoyia 84.97 318 P **P 07 54 29.0 +0.6**
ZAK Zakamensk 85.14 15 *eP* **P 07 54 27.4 -1.6**
ZAK pmax pmax
comp=Z,15nm,2.0s
BVAR Borovoye Array 85.64 354 P **P 07 54 30.3 -1.0**
comp=Z,4.5nm,0.6s,baz=134,slow=4.3,SNR=20
BVAR LR LR 08 30 08.3
comp=Z,153nm,21.6s,baz=173,slow=34
comp=Z,4.5nm,0.6s
BORK Borovoye 85.67 354*d iP* **P 07 54 30.3 -1.1**
BORK pmax pmax
comp=Z,10.0nm,0.8s
ANN Anapa 86.16 331 *eP* **P 07 54 32.8 -1.2**
ANN *e**PP **pP 07 54 36.6 +0.4**
ANN *e*S **SKSac 08 04 58.2 -1.6**
ANN pmax pmax
comp=Z,102nm,1.4s
ZALV Zalesovo Beam 86.27 3 **P 07 54 32.9 -1.4**
ZALV Zalesovo Beam 86.27 3 P **P 07 54 32.5 -1.7**
comp=Z,8.0nm,0.8s,baz=204,slow=3.3,SNR=28
ZALV LR LR 08 31 07.0
comp=Z,177nm,21.1s,baz=193,slow=34
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 86.27 3 *iP* **P 07 54 33.4 -0.9**
ZALV pmax pmax
comp=Z,17nm,0.9s
JHJ Hachijo jima 2 86.30 47 LR LR 08 29 45.9
comp=Z,54nm,18.9s,baz=258,slow=33
TORD Torodi Ar. Bea 87.33 287 P **P 07 54 39.1 -1.3**
TORD IAmb IAmb 07 54 41.5
comp=Z,6.8nm,0.8s
TORD Torodi Ar. Bea 87.33 287 P **P 07 54 38.6 -1.9**
comp=Z,10nm,1.0s,baz=109,slow=3.4,SNR=34
TORD LR LR 08 31 09.7
comp=Z,646nm,19.9s,baz=124,slow=34
comp=Z,10nm,1.0s
MAJO Matsushiro 87.71 43*d iP* **P 07 54 40.5 -1.3**
MAJO pmax pmax
comp=Z,27nm,2.1s
MJAR Matsushiro Arr 87.72 43 **P 07 54 41.3 -0.5**
MJAR Matsushiro Arr 87.72 43 P **P 07 54 41.3 -0.5**
comp=Z,1.8nm,0.7s,baz=5.7,slow=28,SNR=4.5
MJAR LR LR 08 30 11.2
comp=Z,70nm,22.0s,baz=212,slow=33
comp=Z,1.8nm,0.7s
MSHR Mys Shultsa 88.32 35⇓*eP* **P 07 54 45.2 +0.7**
MSHR pmax pmax
comp=Z,5.0nm,0.8s
BNX BinXian 89.01 31 ⇑P **P 07 54 45.8 -1.9**
BNX pmax pmax
comp=Z,7.0nm,2.3s
VLA Vladivostok 89.08 35⇓*eP* **P 07 54 48.4 +0.3**
VLA pmax pmax
comp=Z,27nm,0.7s
DBIC Dimbokro 89.17 278 P **P 07 54 48.7 -0.6**
comp=Z,3.9nm,0.8s,baz=114,slow=6.5,SNR=3.6
DBIC LR LR 08 31 25.4
comp=Z,533nm,19.6s,baz=154,slow=33
comp=Z,3.9nm,0.8s
USRK Ussuriysk Ar. 89.94 35 P **P 07 54 50.6 -1.4**
comp=Z,2.0nm,0.5s,baz=218,slow=3.7,SNR=2.4
comp=Z,2.0nm,0.5s
ARTI Arti 90.49 348 LR LR 08 35 19.6
comp=Z,225nm,18.1s,baz=175,slow=36
CFR Carcaliu 90.54 326⇑P **P 07 54 54.7 -0.1**
CFR Carcaliu 90.54 326⇑P **P 07 54 54.7 -0.1**
ISR Istrita 91.25 325⇓P **P 07 54 58.4 +0.2**
ISR Istrita 91.25 325⇓P **P 07 54 58.4 +0.2**
VRI Vrincioaia 91.71 326⇑P **P 07 55 00.7 +0.4**
VRI Vrincioaia 91.71 326⇑P **P 07 55 00.7 +0.4**
VRI Vrincioaia 91.71 326 P **P 07 55 00.8 +0.4**
comp=Z,24nm,1.1s
PLOR5 Plostina Array 91.73 326 P **P 07 55 00.8 +0.4**
comp=Z,29nm,1.0s
PLOR Plostina 91.74 326⇑P **P 07 55 00.5 0.0**
PLOR Plostina 91.74 326⇑P **P 07 55 00.5 0.0**
MLR Muntele Rosu 91.81 325 LR LR 08 33 51.1
comp=Z,175nm,19.6s,baz=150,slow=34
MLR Muntele Rosu 91.81 325⇑P **P 07 55 01.5 +0.6**
MLR Muntele Rosu 91.81 325⇑P **P 07 55 01.5 +0.6**
MLR Muntele Rosu 91.81 325 P **P 07 55 01.2 +0.2**
comp=Z,26nm,1.2s
VOIR 92.20 325⇑P **P 07 55 00.9 -1.8**
VOIR 92.20 325⇑P **P 07 55 00.9 -1.8**
ARR Arges 92.36 325⇑P **P 07 55 01.4 -2.0**
DOPR Dopca 92.42 325⇑P **P 07 55 03.6 -0.1**
VAE Valguarnera 92.65 314 LR LR 08 34 13.6
comp=Z,101nm,19.1s,baz=134,slow=34
GZR Gura Zlata 93.30 324⇓P **P 07 55 07.7 0.0**
GZR Gura Zlata 93.30 324⇓P **P 07 55 07.7 0.0**
MDVR Moldovita 93.41 323⇑P **P 07 55 07.9 -0.3**
KMPD K-Podol'skiy 93.82 328 P **P 07 55 09.2 -0.7**
KMPD P **P 07 55 09.4 -0.5**
AK09 Malin Array Si 94.12 330 P **P 07 55 11.0 -0.3**
AK09 pP **sP 07 55 15.1 +0.9**
AK08 Malin Array Si 94.15 330 P **P 07 55 11.4 0.0**
AKASG Malin Array Be 94.21 330 P **P 07 55 11.4 -0.3**
AKASG Malin Array Be 94.21 330 P **P 07 55 10.1 -1.6**
comp=Z,4.7nm,0.8s,baz=133,slow=3.8,SNR=17
AKASG LR LR 08 37 06.2
comp=Z,111nm,18.5s,baz=72,slow=35
comp=Z,4.7nm,0.8s
AKASG Malin Array Be 94.21 330 *iP* **P 07 55 11.5 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 94.21 330 **P 07 55 11.2 -0.5**
AKBB IAmb IAmb 07 55 17.1
comp=Z,10nm,0.8s
AKBB Malin Array Si 94.21 330 P **P 07 55 11.2 -0.5**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 94.21 330 P **P 07 55 11.2 -0.5**
AKBB pP **sP 07 55 15.4 +0.8**
AK13 Malin Array Si 94.21 330 P **P 07 55 11.2 -0.5**
KIEV Kiev 94.21 330 **P 07 55 11.2 -0.5**
KIEV IAmb IAmb 07 55 17.0
comp=Z,9.3nm,0.8s
KIEV Kiev 94.21 330⇑P **P 07 55 11.5 -0.2**
KIEV Kiev 94.21 330 P **P 07 55 11.2 -0.5**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 94.21 330 P **P 07 55 11.5 -0.2**
AK11 Malin Array Si 94.22 330 P **P 07 55 11.2 -0.5**
LUBAR Lubar, Ukraine 94.25 329 P **P 07 55 11.4 -0.5**

AK17	Malin Array Si	94.27 330	P	P	07 55 11.6	-0.4
KIRV	Kirov	94.33 345	LR	LR	08 38 52.4	
	comp=Z,111nm,18.0s,baz=147,slow=36					
KIRV	Kirov	94.33 345	⇑eP	P	07 55 14.9	+2.9
KEST	Kesra	94.77 310	P	P	07 55 13.1	-1.7
	comp=Z,2.9nm,0.8s,baz=197,slow=3.8,SNR=5.4					
	comp=Z,2.9nm,0.8s					
OBN	Obninsk	94.92 337	⇑eP	P	07 55 15.8	+1.0
OBN			eP	sP	07 55 20.0	+2.2
OBN			e		07 59 07.3	
OBN			ePPP	PPP	08 01 08.0	
OBN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
OBN			MLR	MLR		
	comp=Z,84nm,14.0s					
ASAJ	Asahikawa	95.31 40	LR	LR	08 35 44.8	
	comp=Z,71nm,21.6s,baz=209,slow=34					
KLMR	Klimovskoe	98.77 341	eP	P	07 55 28.4	-3.7
KLMR			pmax	pmax		
	comp=Z,17nm,1.6s					
VRAC	Vranov	99.04 324	LR	LR	08 36 30.4	
	comp=Z,47nm,21.6s,baz=140,slow=33					
VSU	Vasula	100.95 335	⇓eP	Pdif	07 55 42.0	+0.1
TBI	Tubuai	107.09 133	eS		08 08 06.1	
	comp=Z,660nm,30.2s					
TBI			eSS	SS	08 15 35.4	-7.7
	comp=Z,646nm,27.0s					
TBI	Tubuai	107.09 133	eLQ	LQ	08 26 44.9	
	comp=Z,1μm,40.5s					
TBI			eLR	LR	08 31 30.0	
	comp=Z,2μm,30.0s					
TBI			eLR	LR	08 31 31.6	
	comp=Z,954nm,30.2s					
SEY	Seymchan	111.10 28	⇓iPKIKP	PKiKP	08 00 27.1	+1.2
PPT2	Papeete2	111.23 129	eLQ	LQ	08 28 42.3	
	comp=Z,234nm,22.2s					
PPT2			eLR	LR	08 33 22.7	
	comp=Z,314nm,22.8s					
PPT2			eLR	LR	08 33 27.7	
	comp=Z,274nm,28.5s					
KBS	Kingsbay	117.68 348	⇑iPKIKP	PKiKP	08 00 41.6	+3.5
TAOE	Nuku Hiva Isla	123.82 130	eSS	SS	08 19 23.2	+0.2
	comp=Z,148nm,32.8s					
TAOE	Nuku Hiva Isla	123.82 130	eLR	LR	08 39 19.6	
	comp=Z,184nm,25.0s					
ILAR	Eielson Array	137.03 27	PKP	PKPdf	08 01 13.8	-1.5
	comp=Z,0.9nm,0.8s,baz=290,slow=2.9,SNR=6.9					
ROSC	El Rosal	143.39 227	PKP	PKPab	08 01 26.2	+1.4
	comp=Z,6.0nm,0.7s,baz=96,slow=15,SNR=4.4					
RUSC	La Rusia	143.43 229		PKPab	08 01 25.8	+0.7
P33M	Teslin, Yukon	144.97 28		PKPab	08 01 28.8	-0.3
HUMP	Col San Antoni	146.07 253		PKPdf	08 01 33.9	+1.1
WTLY	Watson Lake, Y	146.57 26		PKPdf	08 01 33.4	+1.0
KUQ	Kuujjuuaa	146.68 330		PKPdf	08 01 33.4	+0.9
SCHQ	Schefferville	147.74 324		PKPbc	08 01 37.5	+0.2
SCHQ	Schefferville	147.74 324	PKPbc	PKPbc	08 01 37.1	-0.3
	comp=Z,71nm,0.5s,baz=45,slow=3.6,SNR=17					
SMRC	Santa Marta, M	148.08 234		PKPbc	08 01 40.3	+0.8
BLKN	Baker Lake	148.13 357		PKPbc	08 01 37.5	-0.5
YKA	Yellowknife Ar	148.65 13	PKPbc	PKPdf	08 01 38.2	+2.5
	comp=Z,1.4nm,0.6s,baz=292,slow=9.3,SNR=6.5					
BATG	Bathurst New B	150.34 310		PKPbc	08 01 44.0	-0.2
PLID	Pearl Lake	162.43 40		PKPdf	08 01 53.9	-1.1
NVAR	Mina Array Bea	164.05 63		PKPdf	08 01 56.1	-0.6
NVAR	Mina Array Bea	164.05 63	PKPab	PKPab	08 02 48.2	-1.9
	comp=Z,0.9nm,0.9s,baz=255,slow=3.7,SNR=5.4					
T50A	Nancy	166.72 294		PKPab	08 03 01.7	+0.1
PDAR	Pinedale Array	167.36 34		PKPdf	08 01 58.3	-1.0
PDAR	Pinedale Array	167.36 34	PKP	PKPdf	08 01 58.6	-0.8
	comp=Z,0.4nm,0.7s,baz=132,slow=2.2,SNR=3.7					
PDAR			PKPab	PKPab	08 03 03.1	-1.3
	comp=Z,0.6nm,0.8s,baz=127,slow=0.7,SNR=3.9					
WCI	Wyandotte Cave	167.43 301		PKPab	08 03 04.0	-0.7
WCI	Wyandotte Cave	167.43 301	PKP2	PKPab	08 03 04.0	-0.7
RSSD	Black Hills	168.06 14		PKPab	08 03 06.8	-0.6
RSSD	Black Hills	168.06 14	PKP2	PKPab	08 03 06.8	-0.6
ANMO	Albuquerque	174.18 64		PKPab	08 03 34.3	-0.7
ANMO	Albuquerque	174.18 64	PKP2	PKPab	08 03 34.3	-0.7
MNTX	Cornudas Mount	175.41 100		PKPdf	08 02 03.1	-0.3
TXAR	Lajitas Array	175.53 135	PKP	PKPdf	08 02 02.9	-0.7
	comp=Z,0.7nm,1.0s,baz=336,slow=2.7,SNR=5.6					
TXAR			PKPab	PKPab	08 03 40.1	-0.8
	comp=Z,0.6nm,1.0s,baz=244,slow=4.2,SNR=3.1					
ALPN	Alpine	176.25 125		PKPab	08 03 43.8	-0.4

STR 01 07:44:30.0±0.3, 46°N±2°×±°, h0km, MLv2.1/13, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	Saint Sauveur	0.34	153	Pg	Pg	07 44 35.6	-0.8
SSB				Sg	Sg	07 44 40.6	-0.3
PLDF	La Plantade	0.63	308	Pg	Pg	07 44 42.4	+0.4
PLDF				Sg	Sb	07 44 51.8	-1.4
LBL	Lubilhac	0.84	246	Pg	Pg	07 44 45.2	-0.8
LBL				Sg	Sg	07 44 57.6	+0.8
OGSM	Saint Maurice	0.96	88	Pg	Pg	07 44 47.5	-1.0
OGSM				Sg	Sg	07 45 01.6	+0.6
OG35	Corcelles	0.99	62	Pg	Pg	07 44 47.2	-1.6
OG35				Sg	Sg	07 45 02.3	+0.7
GRN	Grenoble	1.06	108	Pg	Pg	07 44 49.9	-0.3
GRN				Sg	Sg	07 45 04.5	+0.6
OGMY	Moye	1.14	74	Pg	Pg	07 44 50.3	-1.4
OGMY				Sg	Sg	07 45 06.2	-0.3
FRNF	Fournols	1.25	262	Pg	Pg	07 44 53.3	-0.7
VERF	Verneugheol	1.30	278	Pg	Pg	07 44 54.1	-0.8
VERF				Sg	Sg	07 45 11.8	+0.1

AUST 01 07:50:39.5±1.0, 18°S±8°×12°0E±°, h10km, mb4.0/1, ML2.5/3, Error ellipse: s-maj=17.8km s-min=11.4km az=167.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	Eighty Mile Be	1.67	134	P	Pn	07 51 09.7	+0.8
CAAN				S	Sn	07 51 30.5	0.0
PSAD1	Pilbara Seismi	3.37	187	P	Pn	07 51 31.9	-0.3
PSAD1				S	Sn	07 52 09.3	-3.0
PSAC2	Pilbara Seismi	3.47	185	P	Pn	07 51 34.3	+0.6
FITZ	Fitzroy Crossi	5.13	91	P	Pn	07 51 56.1	-0.4
FITZ	Fitzroy Crossi	5.13	91	S	Sn	07 52 52.3	-3.5
MEEK	Meekatharra	8.64	190	P	Pn	07 52 43.9	-0.8
	comp=Z,0.1nmcomp=Z,16nm,1.9s						
MEEK	Meekatharra	8.64	190	S	Sn	07 54 13.5	-8.7

*SOME **01** 08:00:17.2, 42°.10N×80°.53E, h15km*
*KRNET **01** 08:00:17.7±0.1, 42°.19N×80°.59E, h19km, mb3.5*
*NNC **01** 08:00:21.3±1.1, 42°.29N×80°.32E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=7.0km s-min=6.2km az=130.0
ISC 01 08:00:19.8±2.8, 42°.36N±0°.07×80°.54E±0°.07, h2km±15km, n41, σ1968/70, 21C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.12	315	P	Pb	08 00 38.5	-3.6
	24nm,0.1s						
SHLS				S	Sb	08 00 51.9	-5.3
	233nm,0.3s						
SHLS	Shalkode	1.12	315	eP	Pb	08 00 38.5	-3.6
SHLS				eS	Sb	08 00 53.7	-3.5
SHLS	Shalkode	1.12	315	eP	Pb	08 00 38.5	-3.6
	13nm,0.1s						
SHLS				eS	Sb	08 00 53.7	-3.5
	233nm,0.3s						
PDGK	Podgornoye	1.24	322	⇑P	Pn	08 00 43.1	-1.2
	8.1nm,0.5s						
PDGK				⇑S	Sg	08 01 00.7	+1.1
	11nm,0.2s						
UZB	Uzynbulak	1.36	306	P	Pn	08 00 45.0	-1.1
	10nm,0.2s						
UZB				S	Sb	08 01 02.8	-1.4
	23nm,0.2s						
UZB	Uzynbulak	1.36	306	eP	Pn	08 00 45.0	-1.1
	6.4nm,0.2s						
UZB				eS	Sg	08 01 04.9	+1.2
	23nm,0.2s						
PRZ	Przheval'sk	1.59	275	⇑eP	Pn	08 00 48.3	-0.8
PRZ				⇑eS	Sn	08 01 10.6	+0.2
SATY	Saty	1.72	295	P	Pn	08 00 51.6	+0.7
	25nm,0.3s						
SATY				S	Sb	08 01 14.1	-0.2
	132nm,0.2s						
SATY	Saty	1.72	295	eP	Pn	08 00 51.6	+0.7
SATY				eS	Sg	08 01 16.3	+1.3
KPKS	Kokpek	1.75	310	P	Pn	08 00 52.5	+1.2
	18nm,0.2s						
KPKS				S	Sb	08 01 15.6	+0.3
	69nm,0.2s						
KPKS	Kokpek	1.75	310	eP	Pn	08 00 52.5	+1.2
KPKS				eS	Sg	08 01 17.9	+1.8
KURS	Kuram	2.07	304	Pg	Pb	08 00 57.8	-0.3
	33nm,0.3s						
KURS				Lg	Lg	08 01 24.7	
	26nm,0.6s						
TARG	Taragay, Kyrgy	2.13	254	⇑iP	Pn	08 00 56.2	-0.6
TARG				⇑iS	Sn	08 01 23.9	-0.2
KNOS	Konyrlen	2.23	334	Pg	Pb	08 01 01.8	+0.9
	16nm,0.3s						
KNOS				Lg	Lg	08 01 32.0	
	62nm,0.2s						
KDJ	Kajisay	2.50	266	⇑iP	Pn	08 01 01.8	+0.1
KDJ				⇑iS	Sn	08 01 33.5	+0.6
KOTS	Kotyrbulak	2.67	290	Pg	Pb	08 01 07.5	-0.9
	17nm,0.2s						
KOTS				Lg	Lg	08 01 41.7	
	55nm,0.3s						
KOTS	Kotyrbulak	2.67	290	eP	Pb	08 01 07.5	-0.9
	10nm,0.3s						
KOTS				eS	Sb	08 01 43.6	+1.9
	55nm,0.3s						
MDOK	Medeo	2.69	288	Pg	Pb	08 01 07.5	-1.3
	19nm,0.3s						
MDOK				Lg	Lg	08 01 41.4	
	27nm,0.6s						
ARXS	Arharly	2.71	314	Pg	Pb	08 01 09.0	-0.1
	4.9nm,0.3s						
ARXS				Lg	Lg	08 01 44.0	
	58nm,0.5s						
ARXS	Arharly	2.71	314	eP	Pb	08 01 08.9	-0.1
ARXS				eS	Sg	08 01 46.0	-0.8
TNSS	Tian-Shan	2.73	286	Pg	Pb	08 01 08.5	-1.1
	5.2nm,0.2s						
TNSS				Lg	Lg	08 01 43.6	
	6.1nm,0.4s						
TNSS	Tian-Shan	2.73	286	eP	Pb	08 01 08.5	-1.1
	5.2nm,0.2s						
TNSS				eS	Sb	08 01 45.0	+1.3
	6.1nm,0.4s						
CHKK	Chushkaly	3.00	301	Pg	Pb	08 01 14.4	+0.5
	3.6nm,0.2s						
CHKK				Lg	Lg	08 01 53.4	
	26nm,0.2s						
CHKK	Chushkaly	3.00	301	eP	Pb	08 01 14.1	+0.2
	1.0nm,0.1s						
CHKK				eS	Sg	08 01 54.6	-1.5
	27nm,0.2s						
MTBS	Maitube	3.12	286	Pg	Pb	08 01 15.7	-0.3
	4.8nm,0.2s						
MTBS				Lg	Lg	08 01 55.6	
	33nm,0.3s						
MTBS	Maitube	3.12	286	eP	Pb	08 01 14.7	-1.3
	2.1nm,0.1s						
MTBS				eS	Sb	08 01 55.7	+1.0
	33nm,0.3s						
KTBS	Karatobe	3.13	297	Pg	Pb	08 01 15.9	-0.4
	4.2nm,0.3s						
KTBS				Lg	Lg	08 01 55.6	
	44nm,0.5s						
ULHL	Ulahol	3.19	269	⇑iP	Pn	08 01 11.7	+0.5
ULHL				⇑iS	Sn	08 01 50.7	+0.8
BOOM	Boomskoye usch	3.41	274	⇑iP	Pn	08 01 14.8	+0.7
BOOM				⇑iS	Sn	08 01 56.1	+0.9
KUU	Kurty	3.43	298	Pg	Pb	08 01 22.1	+0.7
	23nm,0.2s						
KUU				Lg	Lg	08 02 06.5	
	11nm,0.1s						
KUU	Kurty	3.43	298	eP	Pb	08 01 21.4	0.0
	3.1nm,0.1s						
KUU				eS	Sb	08 02 07.1	+3.5
	14nm,0.1s						
KST	Kastek	3.44	283	Pg	Pb	08 01 20.0	-1.5
	8.7nm,0.3s						
KST				Lg	Lg	08 02 02.7	
	19nm,0.5s						
KST	Kastek	3.44	283	eP	Pb	08 01 20.0	-1.5
	3.9nm,0.2s						
KST				eS	Sb	08 02 05.1	+1.3
	19nm,0.5s						
TKM2	Tokmak 2	3.69	280	⇑iP	Pn	08 01 19.1	+1.1
TKM2				⇑iS	Sn	08 02 03.6	+1.4
KRBS	Karabastau	3.81	292	Pg	Pb	08 01 28.2	+0.5
	1.2nm,0.2s						
KRBS				Lg	Lg	08 02 17.0	
	9.0nm,0.3s						
JNKS	Jany-Kuch	3.88	252	⇑iP	Pn	08 01 20.0	-0.7
JNKS				⇑iS	Sn	08 02 05.4	-1.6
UCH	Uchtor	4.47	270	⇑eP	Pn	08 01 29.7	+0.7
UCH				⇑iS	Sn	08 02 21.7	-0.1
AAK	Ala-Archa	4.48	276	⇓iP	Pn	08 01 29.6	+0.8
AAK				⇓iS	Sn	08 02 22.1	+0.5
USP	Ospenovka	4.53	284	⇓iP	Pn	08 01 30.8	+1.3
USP				⇓iS	Sn	08 02 24.0	+1.2
MK31	Makanchi Array	4.61	15	⇑Pn	Pn	08 01 34.6	+4.1
	0.5nm,0.3s,baz=195,slow=12,SNR=26						
MK31				Sn	Sb	08 02 34.1	-3.1
	1.2nm,0.4s,baz=155,slow=41,SNR=3.5						
EKS2	Erkin-Say	5.01	276	⇑iP	Pn	08 01 37.0	+0.9
EKS2				⇑iS	Sn	08 02 34.6	0.0

*NOU **01** 08:08:26.3, 39°.25S×177°.91E, h28km, MLv4.3/16, Off E. Coast of N. Island, N.Z.*
*WEL **01** 08:08:28.4±0.6, 39°S±4°×17°8E±°, h21km±4km, M4.0/20, ML4.4/13, MLv4.0/20, Error ellipse: s-maj=5.1km s-min=4.0km az=172.8, confirmed*
ISC 01 08:08:27.5±1.0, 39°.19S±0°.03×177°.84E±0°.04, h32km±6km, n61, σ0973/67, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	0.07	52	P	Pb	08 08 33.2	+0.3
MHGZ				S	Sb	08 08 38.1	+1.4
KNZ	Kokohu	0.21	323	P	Pb	08 08 33.1	-1.0
KNZ				S	Sb	08 08 37.2	-1.4
PRGZ	Paritu Road	0.27	7	P	Pb	08 08 34.6	-0.2
PRGZ				S	Sn	08 08 40.4	+0.1
WFSS	Wairoa Fire St	0.36	296	P	Pb	08 08 35.9	0.0
WHHZ	Waihua	0.48	284	P	Pn	08 08 38.1	-0.1
WHHZ				S	Sn	08 08 46.4	+0.9
RIGZ	Rimuhau	0.49	353	P	Pb	08 08 37.9	-0.1
RIGZ				S	Sn	08 08 45.2	-0.6
GKBS	Kaiti Beach	0.53	16	P	Pn	08 08 39.5	+0.6
GISS	Gisborne 2ZG	0.55	15	P	Pn	08 08 39.6	+0.6
SNGZ	Shannon Statio	0.57	316	P	Pb	08 08 38.9	-0.2
SNGZ				S	Sn	08 08 47.7	0.0
GHHS	Gisborne Hospi	0.57	14	P	Pn	08 08 40.0	+0.7
GWTS	Gisborne Waipa	0.57	6	P	Pn	08 08 40.0	+0.7
RAHZ	Arahi	0.65	295	P	Pb	08 08 40.5	0.0
ARHZ	Aropaoanui	0.66	264	P	Pn	08 08 41.3	+0.7
CKHZ	Cape Kidnapper	0.75	232	P	Pn	08 08 43.0	+1.1
TKGZ	Te Karaka	0.75	1	P	Pn	08 08 42.2	+0.3
CNGZ	Carnagh Statio	0.77	22	P	Pn	08 08 42.7	+0.6
RAGZ	Rawiri	0.77	334	P	Pb	08 08 42.2	-0.4
NMHZ	Naumai	0.81	277	P	Pn	08 08 43.5	+0.7
MTHZ	Maungataniwha	0.85	293	P	Pb	08 08 43.5	-0.3
RTZ	Ruatahuna	0.89	311	P	Pb	08 08 43.9	-0.6
MWZ	Matawai	0.89	344	P	Pb	08 08 43.9	-0.7
MCHZ	McNeill Hill	0.92	254	P	Pn	08 08 45.4	+1.2
KAHZ	Kahuranaki	0.96	231	P	Pb	08 08 45.8	+0.2
TWGZ	Tauwhareparae	1.02	6	P	Pn	08 08 46.1	+0.4
BKZ	Black Stump Fm	1.05	271	P	Pn	08 08 46.5	+0.6
BKZ	Black Stump Fm	1.05	271	S	Sn	08 09 01.3	+1.8
BKZ	Black Stump Fm	1.05	271	P	Pn	08 08 46.6	+0.6
URZ	Urewera	1.09	328	P	Pn	08 08 46.9	+0.3
URZ	Urewera	1.09	328	S	Sn	08 09 01.7	+1.1
URZ	Urewera	1.09	328	P	Pn	08 08 46.7	+0.1
MUGZ	Murupara	1.10	310	P	Pn	08 08 47.2	+0.5
KWHZ	Kaweka Forest	1.12	258	P	Pn	08 08 47.8	+0.7
PXZ	Pawanui	1.13	222	P	Pn	08 08 47.5	+0.5
MRHZ	Matea Rd	1.17	288	P	Pn	08 08 48.4	+0.8
PUZ	Puketiti	1.17	16	P	Pn	08 08 47.4	-0.2
KRHZ	Kereru	1.22	248	P	Pn	08 08 49.1	+0.7
RUGZ	Raukumara Rang	1.23	354	P	Pn	08 08 48.4	-0.2
PRRZ	Plateau Road	1.33	301	P	Pb	08 08 51.4	-0.4
ALRZ	Allen Road	1.33	298	P	Pb	08 08 51.6	-0.2
PKGZ	Pakihiroa	1.34	8	P	Pn	08 08 49.9	-0.1
RRRZ	Republican Roa	1.34	309	P	Pn	08 08 51.1	+1.1
WPHZ	Waipukurau	1.39	231	P	Pn	08 08 51.2	+0.6
TARZ	Mount Tarawera	1.42	312	P	Pn	08 08 52.0	+1.0
PRHZ	Porangahau	1.42	221	P	Pn	08 08 51.4	+0.4
HAZ	Te Kaha	1.44	358	P	Pn	08 08 51.4	+0.2
WMGZ	Waiomatatini S	1.45	18	P	Pn	08 08 51.3	-0.1
HRRZ	Handcock Road	1.46	303	P	Pb	08 08 53.5	-0.5
PNHZ	Pukenui	1.46	240	P	Pn	08 08 51.9	+0.3
WPRZ	Whakapapatarin	1.47	297	P	Pb	08 08 54.3	0.0
MXZ	Matakaoa Point	1.67	13	P	Pn	08 08 54.5	0.0
MXZ	Matakaoa Point	1.67	13	S	Sn	08 09 15.9	+1.1
BFZ	Birch Farm	1.93	219	P	Pn	08 08 58.0	0.0
BFZ	Birch Farm	1.93	219	S	Sn	08 09 21.8	+0.7
HIZ	Hauiti	2.43	285	P	Pn	08 09 05.3	+0.4
KHEZ	Kahui Hut	2.97	267	P	Pn	08 09 12.3	-0.2
SNZO	South Karori	3.20	228	P	Pn	08 09 14.7	-0.8
SNZO	South Karori	3.20	228	S	Sn	08 09 52.0	-0.4
QRZ	Quartz Range	4.39	247	P	Pn	08 09 30.3	-1.6
KHZ	Kahutara	4.58	224	P	Pn	08 09 33.9	-0.6
RPZ	Rata Peaks	6.81	226	P	Pn	08 10 03.9	-1.2
ODZ	Otahua Downs	7.92	220	P	Pn	08 10 18.7	-1.6

*TXNET **01** 08:21:50.4, 32°.5N±0°.4×97°.2W±0°.4, h6km, ML3.2/14, Error ellipse: s-maj=0.6km s-min=0.5km az=123.3, final*
NEIC 01 08:21:50.7±0.7, 32°.491N±0°.004×97°.17W±0°.01, h5km±1km, mb_Lg3.2/132, ML3.0/10, 8C-2D, Error ellipse: s-maj=2.4km s-min=1.9km az=317.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FW12	Venus	0.02	68		Pg	08 21 51.4	-0.3
FW12					Sg	08 21 52.4	-0.1
FW12	Venus	0.02	68	⇓P	Pg	08 21 51.4	-0.3
FW12				S	Sg	08 21 52.4	-0.1
FW14	Alvarado	0.09	191		Pg	08 21 52.7	0.0
FW14					Sg	08 21 54.6	+0.5
FW14	Alvarado	0.09	191	⇓P	Pg	08 21 52.7	0.0
FW14				S	Sg	08 21 54.6	+0.5
FW16	Waxahatchie	0.23	92		Pg	08 21 54.7	-0.5
FW16	Waxahatchie	0.23	92	⇑P	Pg	08 21 54.7	-0.5
FW11	UT at Arlingto	0.23	9		Pg	08 21 55.0	-0.4
FW11					Sg	08 21 58.4	0.0
FW11	UT at Arlingto	0.23	9	⇑P	Pg	08 21 54.9	-0.4
FW11				S	Sg	08 21 58.4	0.0
FW13	Cleburne	0.26	238		Pg	08 21 55.8	0.0
FW13				IAML		08 22 02.9	
	2μm,1.0s						
FW13	Cleburne	0.26	238	⇑P	Pg	08 21 55.8	0.0
FW13				S	Sg	08 21 59.8	+0.6
FW15	Texas Christia	0.27	322		Pg	08 21 55.8	-0.2
FW15					Sg	08 21 60.0	+0.4
FW15	Texas Christia	0.27	322	⇑P	Pg	08 21 55.8	-0.2
FW15				S	Sg	08 21 60.0	+0.4
FW01	Dallas Executi	0.31	52		Pg	08 21 56.6	-0.2
FW01					Sg	08 22 00.6	-0.4
FW01	Dallas Executi	0.31	52	P	Pg	08 21 56.6	-0.2
FW01				S	Sg	08 22 00.6	-0.4
FW02	City of Haslet	0.48	343		Pg	08 21 59.5	-0.5
FW02					Sg	08 22 06.2	0.0
FW02	City of Haslet	0.48	343	P	Pg	08 21 59.5	-0.5
FW02				S	Sg	08 22 06.2	0.0
FW09	Farmers Branch	0.48	27		Pg	08 21 59.8	-0.2
FW09					Sg	08 22 05.5	-0.8
FW09	Farmers Branch	0.48	27	P	Pg	08 21 59.8	-0.2
FW09				S	Sg	08 22 05.5	-0.8
WHTX	Lake Whitney,	0.55	206	Pg	Pg	08 22 01.0	-0.3
WHTX				IAML		08 22 13.7	
	659nm,0.6s						
WHTX	Lake Whitney,	0.55	206	P	Pg	08 22 01.0	-0.3
FW07	Weatherford	0.56	292		Pg	08 22 01.1	-0.4
FW07					Sg	08 22 09.1	+0.3
FW07	Weatherford	0.56	292	⇑P	Pg	08 22 01.1	-0.4
FW07				S	Sg	08 22 09.1	+0.3
FW06	Azle	0.58	326	Pg	Pg	08 22 01.2	-0.7
FW06					Sg	08 22 09.2	-0.2
FW06				IAML		08 22 17.9	
	991nm,0.2s						
FW06				IAML		08 22 18.3	
	968nm,0.2s						
FW06	Azle	0.58	326	⇑P	Pg	08 22 01.3	-0.6
FW06				S	Sg	08 22 09.3	-0.1
FW05	UT at Dallas	0.61	36		Pg	08 22 02.5	-0.1
FW05					Sg	08 22 10.3	-0.2
FW05	UT at Dallas	0.61	36	P	Pg	08 22 02.4	-0.1
FW05				S	Sg	08 22 10.3	-0.2
Z35A	Perchaven, San	0.84	355		Pg	08 22 05.9	-1.0
Z35A					Sg	08 22 15.9	-1.9
Z35A				IAML		08 22 23.3	
	469nm,0.5s						
Z35A				IAML		08 22 28.4	
	656nm,1.4s						
Z35A	Perchaven, San	0.84	355	P	Pg	08 22 05.7	-1.2
Z35A				S	Sg	08 22 17.9	+0.1
FW03	Perrin-Whitt E	0.93	306		Pg	08 22 07.5	-1.1
FW03					Sg	08 22 20.5	-0.2
FW03	Perrin-Whitt E	0.93	306	P	Pg	08 22 07.5	-1.1
FW03				S	Sg	08 22 20.5	-0.2
TREL	Terrell	0.94	75		Pg	08 22 07.9	-0.9
TREL					Sg	08 22 20.7	-0.4
TREL				IAmb_Lg		08 22 22.3	
	comp=Z,278nm,1.2s						
TREL	Terrell	0.94	75	P	Pg	08 22 07.9	-0.9
TREL				S	Sb	08 22 21.8	-0.6
PLPT	Palo Pinto	1.02	289	Pg	Pg	08 22 09.3	-0.9
PLPT					Sg	08 22 23.2	-0.2
PLPT	Palo Pinto	1.02	289	⇑P	Pg	08 22 09.4	-0.9
PLPT				S	Sg	08 22 23.3	-0.1
237A	Washetta, Mont	1.25	113	Pg	Pg	08 22 13.3	-1.4
237A				IAmb_Lg		08 22 29.9	
	comp=Z,149nm,0.7s						
237A					Sg	08 22 30.9	-0.2
LOOK	Love County	1.50	360	

APMT	**Aspermont**	**2.62**	**289**	P	Pn	08 22 34.2 +0.5
APMT				Pg	Pb	08 22 38.8 +0.6
MLDN	**Muldoon**	**2.70**	**178**		Pn	08 22 34.0 -0.8
SNAG	**San Augustine**	**2.72**	**110**		Pn	08 22 34.6 -0.5
HKT	**Hockley**	**2.78**	**155**	IAmb_Lg		08 23 21.4
	comp=Z,62nm,1.0s					
JCT	**Junction City**	**3.01**	**229**		Pn	08 22 38.8 -0.3
OK029	**Liberty Lake**	**3.31**	**356**		Pn	08 22 43.6 +0.5
EF04	**Eagle Ford 04**	**3.31**	**189**	Pn	Pn	08 22 43.9 +0.6
DKNS	**Dickens**	**3.36**	**291**		Pn	08 22 44.1 +0.1
CSTR	**Hydro, Custer**	**3.39**	**339**		Pn	08 22 42.6 -1.7
HNDO	**Hondo**	**3.46**	**212**		Pn	08 22 45.3 0.0
OK052	**Battle Ridge R**	**3.51**	**5**	Pn	Pn	08 22 45.6 -0.3
TUL3	**Leonard**	**3.60**	**18**	Pn	Pn	08 22 46.2 -1.0
TUL3				IAmb_Lg		08 23 54.4
	comp=Z,88nm,1.1s					
WLAR	**White Oak Lake**	**3.61**	**70**		Pn	08 22 46.8 -0.5
WLAR				IAmb_Lg		08 23 55.0
	comp=Z,63nm,0.8s					
MIAR	**Mount Ida**	**3.63**	**55**		Pn	08 22 46.5 -1.2
SMWD	**Samnorwood**	**3.65**	**316**		Pn	08 22 47.3 -0.7
735A	**Kenedy**	**3.67**	**189**		Pn	08 22 49.4 +1.3
POST	**Post**	**3.69**	**280**		Pn	08 22 47.6 -0.9
POST				IAmb_Lg		08 23 55.9
	comp=Z,81nm,0.7s					
OZNA	**Ozona**	**3.72**	**246**		Pn	08 22 48.9 0.0
Z41A	**Richland Creek**	**3.75**	**77**	IAmb_Lg		08 24 00.2
	comp=Z,56nm,0.8s					
OK051	**E0350 and S346**	**4.01**	**4**	IAmb_Lg		08 24 00.6
	comp=Z,38nm,0.7s					
CROK	**Carrier**	**4.06**	**351**		Pn	08 22 52.7 -0.9
CROK				IAmb_Lg		08 24 03.8
	comp=Z,39nm,0.9s					
RLO	**Rose Lookout**	**4.07**	**25**	IAmb_Lg		08 24 03.4
	comp=Z,33nm,1.0s					
OK038	**West end E0370**	**4.18**	**342**		Pn	08 22 54.1 -1.1
OK038				IAmb_Lg		08 24 10.7
	comp=Z,46nm,0.7s					
DRIO	**Del Rio**	**4.26**	**225**		Pn	08 22 56.7 +0.4
BLOK	**Blackwell**	**4.26**	**360**	IAmb_Lg		08 24 11.1
	comp=Z,79nm,0.7s					
NOKA	**Waynoka**	**4.38**	**341**	IAmb_Lg		08 24 12.5
	comp=Z,73nm,1.0s					
T35A	**Sooner Cattle**	**4.45**	**7**	IAmb_Lg		08 24 14.1
	comp=Z,78nm,1.3s					
AMTX	**Amarillo**	**4.45**	**304**		Pn	08 22 58.9 -0.1
ODSA	**Odessa**	**4.57**	**267**	IAmb_Lg		08 24 19.5
	comp=Z,53nm,0.9s					
833A	**Chaparral WMA,**	**4.58**	**205**		Pn	08 23 00.5 -0.2
833A				IAmb_Lg		08 24 18.1
	comp=Z,54nm,0.8s					
HHAR	**Hobbs**	**4.63**	**34**		Pn	08 22 59.8 -1.5
CCAR	**Cane Creek**	**4.75**	**71**	IAmb_Lg		08 24 24.2
	comp=Z,47nm,0.8s					
143A	**Socs Landing,**	**4.87**	**86**	IAmb_Lg		08 24 35.7
	comp=Z,52nm,0.9s					
MNHN	**Monahans**	**4.89**	**258**		Pn	08 23 05.0 0.0
MNHN				IAmb_Lg		08 24 30.0
	comp=Z,50nm,0.7s					
MSTX	**Muleshoe**	**4.92**	**289**		Pn	08 23 05.6 +0.1
MSTX				IAmb_Lg		08 24 31.5
	comp=Z,42nm,0.9s					
SAND	**Sanderson**	**4.94**	**240**		Pn	08 23 05.8 +0.1
ALPN	**Alpine**	**5.92**	**251**		Pn	08 23 18.6 -0.5
ALPN				IAmb_Lg		08 25 07.1
	comp=Z,58nm,0.8s					
R32A	**Long Quarter,**	**6.05**	**348**	IAmb_Lg		08 25 18.2
	comp=Z,42nm,1.1s					
RTBA	**Rita Blanca**	**6.05**	**312**		Pn	08 23 20.7 -0.3
RTBA				IAmb_Lg		08 25 13.9
	comp=Z,32nm,0.9s					
MGMO	**Mountain Grove**	**6.16**	**40**	IAmb_Lg		08 25 15.3
	comp=Z,24nm,1.0s					
TX31	**Lajitas Ar. Si**	**6.41**	**242**		Pn	08 23 25.6 -0.3
Y45A	**Yeager Farm, C**	**6.54**	**76**	IAmb_Lg		08 25 20.6
	comp=Z,30nm,0.8s					
KSU1	**Kansas State U**	**6.61**	**4**	IAmb_Lg		08 25 25.5
	comp=Z,33nm,1.1s					
CBKS	**Cedar Bluff**	**6.64**	**342**	IAmb_Lg		08 25 34.6
	comp=Z,25nm,0.7s					
OXF	**Oxford**	**6.79**	**71**	IAmb_Lg		08 25 40.5
	comp=Z,18nm,0.8s					
146A	**Union**	**6.85**	**87**	IAmb_Lg		08 25 41.4
	comp=Z,21nm,0.9s					
VHRN	**Van Horn**	**6.88**	**258**		Pn	08 23 32.0 -0.3
MNTX	**Cornudas Mount**	**7.01**	**266**		Pn	08 23 34.0 -0.1
MNTX				IAmb_Lg		08 25 39.3
	comp=Z,25nm,0.8s					
R40A	**Maddies Statio**	**7.04**	**33**		Pn	08 23 34.6 +0.2
PARMO	**Parma**	**7.40**	**54**	IAmb_Lg		08 25 46.7
	comp=Z,24nm,0.8s					
P38A	**Dawn**	**7.70**	**21**	IAmb_Lg		08 26 01.8
	comp=Z,16nm,0.7s					
KSCO	**Kaye Shedlock'**	**7.87**	**327**	IAmb_Lg		08 26 16.8
	comp=Z,22nm,0.9s					
ANMO	**Albuquerque**	**8.11**	**290**	IAmb_Lg		08 26 16.4
	comp=Z,15nm,0.8s					
P40A	**Paris**	**8.16**	**29**	IAmb_Lg		08 26 22.6
	comp=Z,20nm,0.9s					
Y22A	**Socorro**	**8.33**	**283**	IAmb_Lg		08 26 36.8
	comp=Z,19nm,0.8s					
SDCO	**Great Sand Dun**	**8.60**	**310**	IAmb_Lg		08 26 34.9
	comp=Z,15nm,1.0s					
N38A	**Joes South For**	**8.87**	**20**	IAmb_Lg		08 26 48.2
	comp=Z,25nm,0.9s					
BGNE	**Belgrade**	**8.94**	**355**	IAmb_Lg		08 27 00.2
	comp=Z,28nm,0.8s					
Q44A	**Meyer Farm, Va**	**9.21**	**44**	IAmb_Lg		08 26 55.0
	comp=Z,24nm,1.2s					
HPIG		**9.23**	**235**	IAmb_Lg		08 26 59.8
	comp=Z,15nm,1.3s					
OGNE	**Ogallala**	**9.29**	**337**	IAmb_Lg		08 27 03.2
	comp=Z,27nm,1.1s					
P43A	**Skaggs, Pawnee**	**9.44**	**39**	IAmb_Lg		08 27 14.3
	comp=Z,14nm,0.8s					
N41A	**Harden Midland**	**9.64**	**30**	IAmb_Lg		08 27 13.3
	comp=Z,26nm,1.1s					
ISCO	**Idaho Springs**	**9.98**	**319**	IAmb_Lg		08 27 19.9
	comp=Z,13nm,1.1s					

*RSNC **01** 08:28:53.2±0.4, 9°N±3°×7°9W±°, h55km±26km, M2.7, mB4.6, mb3.8, ML2.6, Mw(mB)3.8*
*UPA **01** 08:28:56.4±1.2, 8°97N×78°89W, h12km±4km, MW3.5*
ISC 01 08:28:52.8±2.1, 9°47N±0°06×78°77W±0°03, h36km±2km, n23, σ2s12/40, 2C, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.28**	**205**	*i* P	**Pn**	**08 29 02.7**	**+1.8**
CNTA3				*e*S	**Sn**	**08 29 06.3**	**-1.6**
TOTI	**Torti**	**0.71**	**140**	⇑*i*P	**Pn**	**08 29 07.6**	**+1.3**
TOTI				*e*S	**Sn**	**08 29 16.9**	**+1.0**
UPA	**Univ. de Panam**	**0.90**	**237**	*e*P	**Pn**	**08 29 09.3**	**+0.4**
UPA				*e*S	**Sn**	**08 29 18.8**	**-1.9**
FLAM	**Flamenco Islan**	**0.94**	**234**	*e*P	**Pn**	**08 29 09.2**	**-0.2**
FLAM				*e*S	**Sn**	**08 29 18.2**	**-3.5**
GAMB1	**Gamboa**	**0.99**	**249**	*e*P	**Pn**	**08 29 11.3**	**+1.1**
GAMB1				*e*S	**Sn**	**08 29 24.1**	**+1.2**
ARRA3	**Arraijan, Pana**	**1.01**	**240**	*e*P	**Pn**	**08 29 11.2**	**+0.7**
ARRA3				*e*S	**Sn**	**08 29 23.1**	**-0.3**
TABO3	**Taboga, Panama**	**1.03**	**229**	*e*P	**Pn**	**08 29 10.6**	**-0.1**
TABO3				*e*S	**Sn**	**08 29 20.1**	**-3.7**
BCIP	**Isla Barro Col**	**1.10**	**254**	⇑*i*P	**Pn**	**08 29 13.0**	**+1.4**
BCIP				*e*S	**Sn**	**08 29 27.2**	**+1.7**
BCIP	**Isla Barro Col**	**1.10**	**254**	P	**Pn**	**08 29 12.9**	**+1.3**
BCIP				S	**Sn**	**08 29 26.5**	**+1.0**
CHOR3	**La Chorrera**	**1.14**	**240**	*e*P	**Pn**	**08 29 12.8**	**+0.6**
CHOR3				*e*S	**Sn**	**08 29 25.8**	**-0.7**
ZANG	**Zanguenga, Cho**	**1.20**	**245**	*e*P	**Pn**	**08 29 14.1**	**+1.1**
CHIT3	**Chitre**	**2.22**	**227**	*e*P	**Pn**	**08 29 26.9**	**-0.2**
APAC	**Apartado, Choc**	**2.67**	**126**	P	**Pn**	**08 29 34.9**	**+1.6**
APAC				S	**Sn**	**08 30 10.0**	**+5.6**
GMAL	**Guarumal, Vera**	**2.97**	**235**	*e*P	**Pn**	**08 29 37.8**	**+0.4**
SJCC	**San Jacinto, C**	**3.56**	**83**	*e*P	**Pn**	**08 29 48.3**	**+2.6**
SJCC	**San Jacinto, C**	**3.56**	**83**	P	**Pn**	**08 29 48.2**	**+2.6**
SJCC				S	**Sn**	**08 30 24.9**	**-1.7**
UREC	**San Jos de Ur**	**3.63**	**118**	P	**Pn**	**08 29 46.6**	**+0.1**
UREC				S	**Sn**	**08 30 23.5**	**-4.6**
SAIC	**Isla e San And**	**4.20**	**317**	P	**Pn**	**08 29 56.0**	**+1.7**
SAIC				S	**Sn**	**08 30 41.7**	**-0.3**
ARGC	**Ariguani, Magd**	**4.48**	**85**	P	**Pn**	**08 29 58.3**	**+0.2**
CBOC	**Ciudad Bolivar**	**4.51**	**142**	P	**Pn**	**08 29 58.9**	**+0.2**
OCAC	**Ocana**	**5.53**	**102**	P	**Pn**	**08 30 13.8**	**+1.1**
	7.6nm,0.5s					
OCAC				S	**Sn**	**08 31 14.3**	**-0.8**
	7.6nm,0.5s					
CRJC	**Cerrejon, Guaj**	**6.00**	**75**	P	**Pn**	**08 30 19.7**	**+0.6**
	514nm9.5nm,0.8s					
CRJC				S	**Sn**	**08 31 22.0**	**-4.6**
	514nm9.5nm,0.8s					
URIC	**Uribia, Colomb**	**7.02**	**71**	P	**Pn**	**08 30 35.1**	**+2.0**
URIC				S	**Sn**	**08 31 48.9**	**-2.8**

*HEL **01** 08:29:00.7±0.3, 67°17N×20°60E, h0km, ML1.4, Suspected explosion*
*UPP **01** 08:29:00.5±0.1, 67°19N×20°70E, h0km, ML2.6, Confirmed Induced event*
ISC 01 08:29:00.4±0.8, 67°21N±0°02×20°73E±0°03, h0km, n22, σ0s56/36, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.10**	**216**	P	**Pg**	**08 29 02.4**	**-0.1**
DUNU				S	**Sg**	**08 29 03.6**	**-0.2**
RATU	**Laukkuluspa**	**0.76**	**325**	P	**Pg**	**08 29 14.9**	**-0.1**
RATU				S	**Sg**	**08 29 25.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.87**	**138**	P	**Pg**	**08 29 16.6**	**-0.5**
ERTU	**Ertsjaerv**	**0.87**	**138**	PG	**Pg**	**08 29 16.6**	**-0.5**
ERTU				SB	**Sg**	**08 29 28.9**	**+0.5**
SALU	**Saltoluokta**	**0.88**	**282**	P	**Pg**	**08 29 16.7**	**-0.5**
SALU				S	**Sg**	**08 29 28.4**	**-0.3**
NIKU	**Nikkaluokta**	**0.93**	**316**	P	**Pg**	**08 29 18.1**	**-0.1**
NIKU				S	**Sg**	**08 29 30.4**	**+0.1**
PAJU	**Pajala**	**0.95**	**100**	P	**Pg**	**08 29 18.6**	**-0.1**
PAJU				S	**Sg**	**08 29 31.6**	**+0.7**
PAJU	**Pajala**	**0.95**	**100**	PG	**Pg**	**08 29 18.7**	**+0.1**
PAJU				SG	**Sb**	**08 29 31.8**	**-1.1**
LANU	**Lannavaara**	**0.97**	**29**	PB	**Pb**	**08 29 19.6**	**-0.6**
LANU				SB	**Sb**	**08 29 34.0**	**+0.4**
HEF	**Hetta**	**1.64**	**41**	PG	**Pb**	**08 29 31.2**	**-0.4**
HEF				MSG		08 29 51.5	
	comp=Z,2.0nm,0.2s						
HEF				SG	**Sg**	**08 29 52.8**	**-0.4**
KALU	**Kalix**	**1.71**	**141**	P	**Pn**	**08 29 31.6**	**+0.1**
KALU	**Kalix**	**1.71**	**141**	PG	**Pn**	**08 29 31.8**	**+0.3**
KALU				SN	**Sg**	**08 29 56.6**	**+1.2**
SJUU	**Sjulsmark**	**1.74**	**168**	P	**Pn**	**08 29 31.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.81**	**1**	PG	**Pg**	**08 29 34.7**	**-0.3**
KIF				MSG		08 29 56.7	
	comp=Z,3.3nm,0.2s						
KIF				SG	**Sg**	**08 29 58.0**	**-0.4**
TOF	**Tornio**	**1.83**	**127**	PG	**Pb**	**08 29 33.9**	**-0.7**
TOF				MSG		08 29 55.6	
	comp=Z,1.1nm,0.2s						
TOF				SG	**Sg**	**08 29 58.4**	**-0.6**
KTK1	**Kautokeino**	**2.04**	**26**	PG	**Pb**	**08 29 38.3**	**-0.1**
KTK1				SG	**Sg**	**08 30 05.6**	**-0.4**
RNF	**Rovaniemi**	**2.17**	**104**	PG	**Pb**	**08 29 39.5**	**-1.0**
RNF				SG	**Sg**	**08 30 09.6**	**-0.4**
RANF	**Ranua**	**2.70**	**114**	SG	**Sb**	**08 30 23.9**	**+0.8**
ARA0	**ARCESS Array S**	**2.93**	**35**	SB	**Sb**	**08 30 29.9**	**+0.1**
RAJF	**Raja-Jooseppi**	**3.14**	**63**	SB	**Sb**	**08 30 36.3**	**+0.4**
KEV	**Kevo**	**3.45**	**39**	SN	**Sn**	**08 30 37.8**	**+1.0**
HEMU	**Hemsoen**	**4.69**	**195**	PN	**Pn**	**08 30 13.3**	**+1.0**

STR 01 08:30:21.9±0.5, 46°N±2°×°±°, h0km, MLv1.7/8, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.21**	**135**	Pg	Pg	08 30 25.6	-0.4
OGSM				Sg	Sg	08 30 29.8	+1.0
OG35	**Corcelles**	**0.29**	**12**	Pg	Pg	08 30 27.0	-0.4
OG35				Sg	Sg	08 30 31.9	+0.8
OGMY	**Moye**	**0.31**	**67**	Pg	Pg	08 30 27.9	+0.1
OGMY				Sg	Sg	08 30 33.4	+1.6
RSL	**Roselend**	**0.81**	**95**	Pg	Pg	08 30 37.3	0.0
RSL				Pn	Pn	08 30 40.0	-0.6
RSL				Sg	Sb	08 30 49.1	-1.2
SSB	**Saint Sauveur**	**0.82**	**234**	Pg	Pg	08 30 36.7	-0.8
SSB				Sg	Sb	08 30 49.4	-1.2
ORIF	**Oris-en-Rattie**	**0.89**	**161**	Pn	Pb	08 30 40.6	+0.4
ORIF				Sg	Sg	08 30 51.3	+0.9
REMY	**Saint-Rhmy-en**	**1.17**	**86**	Pn	Pn	08 30 46.3	+0.4
AIGLE	**Aigle**	**1.18**	**60**	Pn	Pn	08 30 45.8	+0.1

STR 01 08:31:27.4±0.6, 46°N±3°×°±°, h0km, MLv1.5/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.22**	**135**	Pg	Pg	08 31 32.7	+1.1
OGSM				Sg	Sg	08 31 35.4	+1.0
OG35	**Corcelles**	**0.29**	**14**	Pg	Pg	08 31 32.8	-0.2
OG35				Sg	Sg	08 31 37.5	+0.9
OGMY	**Moye**	**0.31**	**68**	Sg	Sg	08 31 39.1	+1.6
RSL	**Roselend**	**0.81**	**95**	Pg	Pn	08 31 45.5	-0.7
RSL				Sg	Sn	08 31 58.8	-0.2
SSB	**Saint Sauveur**	**0.81**	**234**	Pg	Pg	08 31 42.4	-0.6
SSB				Sg	Sg	08 31 54.7	+1.2

*ASRS **01** 08:39:40.0±1.0, 54°40N×86°81E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 08:39:40.2±3.4, 54°46N×86°89E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=31.2km s-min=19.4km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**248**	I	I	08 48 10.0	
	baz=68,slow=326,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.32**	**248**	Pg	Pg	08 40 04.0	-1.4
	0.7nm,0.3s,baz=65,slow=18,SNR=13						
ZALV				Lg	Lg	08 40 22.4	
	0.9nm,0.3s,baz=64,slow=26,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.38**	**236**	Pn	Pn	08 41 16.2	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=11						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**8.21**	**203**	Pn	Pn	08 41 41.4	+1.0
	0.1nm,0.3s,baz=21,slow=13,SNR=4.1						
	0.2nm,0.3s						

*IDC **01** 08:40:40.7±3.4, 53°37N×90°52E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=27.5km s-min=22.5km az=65.0*
*NNC **01** 08:40:42.3±5.0, 52°99N×90°90E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=37.6km s-min=30.9km az=71.0, Suspected Mining explosion.*
ASRS 01 08:40:31.0±0.9, 53°77N×91°08E, h0km, M3.0, 4C-5D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.71**	**275**	I	I	09 01 30.0	
	baz=101,slow=333,SNR=1.9						
ZAA0	**Zalesovo Array**	**3.71**	**275**	⇓Pn	Pg	08 41 41.1	-1.0
	0.7nm,0.6s						
ZAA0				⇑Sn	Sg	08 42 29.0	-1.1
	7.9nm,1.1s						
ZALV	**Zalesovo Beam**	**3.71**	**275**	Pn	Pb	08 41 36.8	-0.6
	1.2nm,0.3s,baz=98,slow=15,SNR=8.0						
ZALV				Lg	Lg	08 42 27.8	
	0.7nm,0.3s,baz=95,slow=28,SNR=3.7						
	2.2nm,0.3s						
KURK	**Kurchatov**	**8.24**	**253**	⇑Pn	Pn	08 42 38.2	+6.6
	0.5nm,0.9s						
KURK				⇓Sn	Sn	08 44 08.4	+3.1
	2.8nm,1.1s						
KURK				⇑Lg	Lg	08 44 55.8	
	8.4nm,1.2s						
KURBB	**Kurchatov Arra**	**8.33**	**253**	Pn	Pn	08 42 37.0	+4.1
	0.1nm,0.3s,baz=66,slow=15,SNR=5.2						
KURBB				Sn	Sn	08 44 05.3	-2.3
	0.1nm,0.3s,baz=66,slow=28,SNR=9.1						
KURBB				Lg	Lg	08 44 50.1	
	baz=61,slow=32,SNR=1.9						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**8.33**	**253**	⇓Pn	Pn	08 42 39.1	+6.2
	2.0nm,0.6s						
KURBB				⇑Sn	Sn	08 44 09.7	+2.1
	15nm,0.8s						
KURBB				⇓Lg	Lg	08 44 58.7	
	24nm,1.1s						
MK31	**Makanchi Array**	**8.96**	**222**	Pn	Pn	08 42 47.7	+6.1
	0.5nm,0.5s,baz=32,slow=13,SNR=4.7						
MK31				⇓Sn	Sn	08 44 25.6	+2.3
	0.5nm,0.6s,baz=181,slow=60,SNR=4.2						
MK31				Lg	Lg	08 45 15.1	
	12nm,1.0s,baz=38,slow=25,SNR=3.7						
MKAR	**Makanchi Array**	**8.96**	**222**	Pn	Pn	08 42 44.0	+2.3
	0.1nm,0.3s,baz=30,slow=12,SNR=4.5						
MKAR				Sn	Sn	08 44 20.3	-2.9
	0.2nm,0.3s,baz=34,slow=26,SNR=6.5						
MKAR				Lg	Lg	08 45 10.6	
	baz=40,slow=32,SNR=5.5						
	0.3nm,0.5s						

*CATAC **01** 08:48:55.8±0.7, 11°N±5°×8°8W±°, h24km±9km, M3.6/16, MLv3.6/16, Error ellipse: s-maj=12.7km s-min=3.5km az=34.2, confirmed*
*SNET **01** 08:48:58.0±1.9, 11°36N×88°35W, h35km, ML3.7*
ISC 01 08:48:54.8±5.3, 11°2N±0°1×88°36W±0°07, h18km±27km, n38, σ0s66/49, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**1.95**	**25**	S	**Sn**	**08 49 51.5**	**+0.4**
PKGN	**Cerro Pekin**	**1.97**	**43**	P	**Pn**	**08 49 26.9**	**-0.4**
PKGN				S	**Sn**	**08 49 51.5**	**-0.1**
CNGN	**Cerro Negro**	**2.06**	**52**	P	**Pn**	**08 49 29.8**	**+1.2**
CNCH	**Conchagua**	**2.10**	**14**	*e*P	**Pn**	**08 49 29.5**	**+0.2**
CNCH				*e*S	**Sn**	**08 49 55.8**	**+0.8**
CNCH	**Conchagua**	**2.10**	**14**	P	**Pn**	**08 49 29.3**	**+0.1**
CNCH	**Conchagua**	**2.10**	**14**	S	**Sn**	**08 49 54.1**	**-0.9**
LCND	**La Caada**	**2.12**	**13**	*e*P	**Pn**	**08 49 29.1**	**-0.2**
LCND	**La Caada**	**2.12**	**13**	P	**Pn**	**08 49 29.2**	**-0.2**
PACA	**Pacayal**	**2.23**	**1**	P	**Pn**	**08 49 31.3**	**+0.3**
PACA	**Pacayal**	**2.23**	**1**	S	**Sn**	**08 49 57.3**	**-0.8**
UNAN	**Cigeo UNAN**	**2.23**	**67**	P	**Pn**	**08 49 30.6**	**-0.3**
UNAN				S	**Sn**	**08 49 58.2**	**+0.2**
TECA	**Tecapa**	**2.26**	**357**	*e*P	**Pn**	**08 49 31.4**	**0.0**
MGAN	**Managua**	**2.26**	**66**	S	**Sn**	**08 49 58.6**	**-0.2**
MGAN	**Managua**	**2.26**	**66**	P	**Pn**	**08 49 30.6**	**-0.8**
MAS3	**Al N del Volca**	**2.28**	**70**	P	**Pn**	**08 49 30.8**	**-0.8**
MAS3				S	**Sn**	**08 49 59.3**	**0.0**
NANN	**Nandasmo**	**2.31**	**72**	P	**Pn**	**08 49 32.3**	**+0.4**
NANN	**Nandasmo**	**2.31**	**72**	S	**Sn**	**08 50 01.3**	**+1.4**
WILN	**Americas 2**	**2.32**	**66**	P	**Pn**	**08 49 31.6**	**-0.5**
WILN				S	**Sn**	**08 49 60.0**	**-0.3**
TECO	**Alcaldia de Te**	**2.33**	**350**	*e*P	**Pn**	**08 49 31.8**	**-0.5**
TECO				*e*S	**Sn**	**08 49 59.9**	**-0.6**
UESV	**Universidad de**	**2.43**	**350**	S	**Sn**	**08 50 02.2**	**-0.7**
UESV	**Universidad de**	**2.43**	**350**	P	**Pn**	**08 49 34.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.48**	**352**	*e*P	**Pn**	**08 49 35.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.48**	**352**	P	**Pn**	**08 49 35.3**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.48**	**352**	S	**Sn**	**08 50 04.6**	**+0.3**
LOMA	**Loma Larga**	**2.53**	**342**	*e*P	**Pn**	**08 49 34.6**	**-0.5**
LOMA				*e*S	**Sn**	**08 50 05.8**	**+0.3**
PAVA	**Las Pavas**	**2.53**	**347**	*e*P	**Pn**	**08 49 35.4**	**+0.2**
JAYA	**Jayaque - finc**	**2.63**	**336**	*e*P	**Pn**	**08 49 35.2**	**-1.4**
JAYA				*e*S	**Sn**	**08 50 07.0**	**-1.2**
BOQS	**Boqueron**	**2.65**	**340**	*e*P	**Pn**	**08 49 37.0**	**+0.2**
LIMN	**Finca el Limon**	**2.67**	**47**	P	**Pn**	**08 49 35.9**	**-1.2**
LIMN				S	**Sn**	**08 50 09.0**	**-0.1**
CARN	**Rivas**	**2.79**	**91**	P	**Pn**	**08 49 38.5**	**-0.1**
CARN				S	**Sn**	**08 50 12.3**	**+0.5**
SBLS	**San Blas**	**2.87**	**335**	*e*P	**Pn**	**08 49 40.1**	**+0.2**
MATN	**Matagalpa**	**2.92**	**54**	S	**Sn**	**08 50 14.5**	**-0.7**
UNIC	**Universidad Ca**	**2.97**	**337**	S	**Sn**	**08 50 17.0**	**+0.6**
UNIC	**Universidad Ca**	**2.97**	**337**	P	**Pn**	**08 49 42.1**	**+1.0**
NUBE	**Las Nubes**	**3.00**	**333**	P	**Pn**	**08 49 42.3**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.00**	**21**	P	**Pn**	**08 49 42.4**	**+0.7**
TGUH				S	**Sn**	**08 50 18.3**	**+0.9**
YUSH	**Yuscaran**	**3.09**	**29**	S	**Sn**	**08 50 19.4**	**+0.1**
YUSH	**Yuscaran**	**3.09**	**29**	P	**Pn**	**08 49 42.8**	**0.0**

*IDC **01** 09:02:22.2±0.7, 53°66S×6°95E, h0km, mb4.2/10, mbtmp4.2/11, ML4.0/1, MS4.0/28, Error ellipse: s-maj=26.3km s-min=18.8km az=53.0*
*NEIC **01** 09:02:26.1±1.3, 54°1S±0°1×6°9E±0°3, h10km±1km, mb4.6/15, Error ellipse: s-maj=27.5km s-min=22.1km az=52.0*
*GCMT **01** 09:02:29.1±0.3, 54°03S±0°02×7°61E±0°06, h20km±1km, MW5.0/79, Moment Tensor Solution. s22,c23; s79,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.56±.21; $M_{\theta\theta}$=1.85±.14; $M_{\phi\phi}$=0.70±.15; $M_{r\theta}$=-0.56±.23; $M_{r\phi}$=-0.54±.07; $M_{\theta\phi}$=-3.58±.37; Best double couple: M_0=3.98700×10^{16} NP1:ϕ_s140.00000°, δ16.00000°, λ-127.00000°. NP2: ϕ_s359.00000°, δ77.00000°, λ-80.00000°. Principal axes: T 3.0270, Plg32.0000°, Azm81.0000°; N 1.9130, Plg10.0000°, Azm177.0000°; P -4.9470, Plg57.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
**ISC 01 09:02:24.5±0.6, 53°85S±0°

CASY Casey 47.14 148 P P 09 10 55.8 -0.5
CASY IAmb IAmb 09 10 59.2
comp=Z,11nm,1.1s
VNDA Vanda 47.97 173 P P 09 11 02.7 +0.1
VNDA IAmb IAmb 09 11 07.0
comp=Z,4.8nm,1.0s
VNDA Vanda 47.97 173 P P 09 11 02.9 +0.3
comp=Z,2.2nm,0.8s,baz=213,slow=6.1,SNR=8.3
VNDA LR LR 09 30 45.1
comp=Z,230nm,18.8s,baz=188,slow=35
comp=Z,2.2nm,0.8s
H10S2 ASCENSION HYDR 48.01 331 T T 10 02 54.1
baz=59,slow=74,SNR=20
H10S3 ASCENSION HYDR 48.02 331 T T 10 02 52.2
baz=161,slow=74,SNR=18
TRQA Tornquist 48.46 260 P P 09 11 07.2 +0.1
TRQA IAmb IAmb 09 11 08.9
comp=Z,9.2nm,1.1s
PLCA Paso Flores 51.57 251 LR LR 09 30 27.1
comp=Z,48nm,21.6s,baz=108,slow=33
CPUP Villa Florida 54.08 274 P P 09 11 46.7 -2.5
comp=Z,0.8nm,0.8s,baz=267,slow=9.9,SNR=3.8
CPUP LR LR 09 33 08.7
comp=Z,13nm,19.0s,baz=24,slow=34
comp=Z,0.8nm,0.8s
MBAR Mbarara 56.62 29 LR LR 09 35 22.1
comp=Z,284nm,18.4s,baz=266,slow=35
BDFB Brasilia 57.05 290 P P 09 12 10.6 -0.2
comp=Z,2.2nm,0.6s,baz=81,slow=6.1,SNR=3.0
comp=Z,2.2nm,0.6s
DBIC Dimbokro 61.11 347 LR LR 09 33 33.7
comp=Z,67nm,20.0s,baz=190,slow=31
PTLB Pontes e Lacer 63.56 280 P P 09 12 55.7 +0.5
PTLB IAmb IAmb 09 12 57.0
comp=Z,3.2nm,1.1s
TORD Torodi Ar. Bea 66.88 354 P P 09 13 19.2 +2.6
TORD IAmb IAmb 09 13 26.3
comp=Z,2.8nm,1.4s
TORD Torodi Ar. Bea 66.88 354 LR LR 09 37 26.2
comp=Z,92nm,21.4s,baz=157,slow=32
PB18 Visviri 67.97 270 P P 09 13 24.2 -0.1
FURI Furi 68.05 34 LR LR 09 42 18.0
comp=Z,322nm,18.6s,baz=192,slow=35
LPAZ La Paz 68.19 272 P P 09 13 26.1 +0.3
LPAZ IAmb IAmb 09 13 36.5
comp=Z,9.0nm,1.2s
LPAZ La Paz 68.19 272 P P 09 13 25.7 -0.1
comp=Z,3.0nm,0.9s,baz=116,slow=2.7,SNR=12
LPAZ LR LR 09 40 46.2
comp=Z,49nm,21.1s,baz=96,slow=34
comp=Z,3.0nm,0.9s
H01W2 Cape Leeuwin H 71.67 124 T T 10 33 34.9
baz=217,slow=75,SNR=685
H01W3 Cape Leeuwin H 71.68 124 T T 10 33 31.7
baz=217,slow=75,SNR=573
H01W1 Cape Leeuwin H 71.68 124 T T 10 33 30.5
baz=217,slow=75,SNR=705
MDP Montagnes des 76.82 298 LR LR 09 44 56.2
comp=Z,56nm,18.1s,baz=278,slow=33
STKA Stephens Creek 86.05 143 P P 09 15 05.6 +0.4
STKA Stephens Creek 86.05 143 P P 09 15 05.3 +0.1
comp=Z,4.8nm,1.0s,baz=157,slow=6.3,SNR=5.3
comp=Z,4.8nm,1.0s
PALK Pallekele 86.41 73 LR LR 09 45 25.9
comp=Z,78nm,19.9s,baz=218,slow=30
EIL Elat 86.66 24 LR LR 09 53 41.2
comp=Z,202nm,18.2s,baz=179,slow=36
MDT Midelt 86.88 350 LR LR 09 48 32.9
comp=Z,54nm,21.1s,baz=204,slow=32
RTZ Ruatahuna 87.50 172 P P 09 15 12.7 +0.4
PCRV Puerto La Cruz 87.52 291 LR LR 09 50 52.7
comp=Z,63nm,18.3s,slow=33
KEST Kesra 89.25 2 LR LR 09 53 39.4
comp=Z,47nm,18.8s,baz=250,slow=35
ASF Jabal al Asfar 89.53 25 LR LR 09 54 16.6
comp=Z,81nm,19.7s,baz=261,slow=35
MMAI Mount Meron Ar 89.97 24 LR LR 09 55 18.3
comp=Z,98nm,18.1s,baz=200,slow=35
ASAR Alice Springs 90.31 133 P P 09 15 26.4 +0.6
ASAR Alice Springs 90.31 133 P P 09 15 25.9 +0.2
comp=Z,1.9nm,0.8s,baz=199,slow=4.3,SNR=12
comp=Z,1.9nm,0.8s
AS31 Alice Springs 90.31 133 P P 09 15 26.0 +0.3
ESDC Sonseca Array 93.62 352 LR LR 09 51 15.4
comp=Z,64nm,22.0s,baz=302,slow=31
WRA Warramunga Arr 93.77 132 P P 09 15 43.0 +1.2
WRA Warramunga Arr 93.77 132 P P 09 15 41.1 -0.6
comp=Z,0.4nm,0.9s,baz=204,slow=4.9,SNR=1.7
comp=Z,0.4nm,0.9s
GNI Garni 99.14 28 LR LR 10 01 33.9
comp=Z,125nm,18.1s,baz=228,slow=36
MKAR Makanchi Array 118.86 49 PKP PKPdf 09 21 10.6 -1.5
comp=Z,0.6nm,0.9s,baz=248,slow=1.6,SNR=4.1
C09A Chrisman Ranch 145.59 283 PKPdf PKPbc 09 22 02.8 +0.6
WIFE Three Sisters- 145.63 275 PKPdf PKPab 09 22 04.0 +0.9
WAH2 Wahluke Slope 145.80 280 PKPdf PKPab 09 22 04.1 +0.7
MXC Moxie City 146.13 280 PKPbc PKPab 09 22 05.5 +0.9
B08A Colville Reser 146.49 283 PKPdf PKPbc 09 22 05.7 +0.7
YKA Yellowknife Ar 149.01 310 PKPbc PKPdf 09 22 09.1 +1.9
comp=Z,2.7nm,0.8s,baz=87,slow=2.1,SNR=6.0
ILAR Eielson Array 162.88 320 PKPab PKPab 09 23 14.5 -0.3
comp=Z,0.8nm,0.9s,baz=58,slow=6.4,SNR=5.5

*JMA **01** 09:07:04.9±0.1, 36°.2N±0°.3×140°.0E±0°.4, h51km, MD3.3/39, MV3.6/39, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
*IDC **01** 09:07:07.2±4.7, 36°.05N×139°.59E, h70km±30km, mb3.3/3, mbtmp3.7/3, Error ellipse: s-maj=72.2km s-min=29.0km az=62.0*
ISC 01 09:07:04.6±1.0, 36°.20N±0°.05×139°.98E±0°.05, h55km±8km, n23, σ1§13/23, mb3.4/3, 8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.17**	**82**	*i* P	**Pn**	**09 07 13.2**	**-0.1**
JYT				S	**Sn**	**09 07 19.0**	**-0.5**
JYT	**Yasato**	**0.17**	**82**	A	A	09 07 13.2	
	comp=N,9.0nm,0.4s,comp=E,11nm,0.3s						
JAG	**Ashikaga**	**0.48**	**297**	‖*i* P	**Pn**	**09 07 16.5**	**+0.5**
JAG				‖S	**Sn**	**09 07 24.3**	**+0.1**
JAG	**Ashikaga**	**0.48**	**297**	A	A	09 07 16.5	
	comp=N,5.0nm,0.3s,comp=E,5.0nm,0.3s						
JHO	**Hitachi**	**0.62**	**49**	A	A	09 07 17.7	
	comp=N,2.0nm,0.2s,comp=E,3.0nm,0.2s						
JKT	**Katashina**	**0.82**	**314**	‖P	**Pn**	**09 07 20.5**	**+0.4**
JKT				‖S	**Sn**	**09 07 32.3**	**+0.8**
JRY	**Ryogami san**	**0.90**	**258**	‖*i* P	**Pn**	**09 07 21.6**	**+0.5**
JRY				‖S	**Sn**	**09 07 33.6**	**+0.4**
JOD2	**Odawara 2**	**1.19**	**218**	P	**Pn**	**09 07 25.9**	**+0.9**
JOD2				S	**Sn**	**09 07 40.6**	**+0.5**
JFY	**Yanaizu**	**1.22**	**350**	‖*i* P	**Pn**	**09 07 26.1**	**+0.7**
JFY				‖S	**Sn**	**09 07 42.4**	**+1.5**
JUON	**Uonuma**	**1.25**	**324**	*i* P	**Pn**	**09 07 26.5**	**+0.7**
JFK	**Kawauchi**	**1.36**	**31**	*i* P	**Pn**	**09 07 27.3**	**0.0**
JFK				S	**Sn**	**09 07 44.2**	**-0.2**
JYN	**Shimob**	**1.36**	**239**	P	**Pn**	**09 07 29.2**	**+1.8**
JOTO	**OTAMA OYAMA**	**1.38**	**12**	*i* P	**Pn**	**09 07 28.3**	**+0.7**
JOTO				S	**Sn**	**09 07 45.6**	**+0.8**
MJAR	**Matsushiro Arr**	**1.47**	**284**	P	**Pn**	**09 07 28.3**	**-0.4**
	comp=E,14nm,0.2s,baz=94,slow=8.7,SNR=166						
MJAR				S	**Sn**	**09 07 43.4**	**-3.5**
	comp=E,15nm,0.3s,baz=302,slow=16,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**28.75**	**118**	T	T	09 43 05.5	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**28.76**	**118**	T	T	09 43 01.5	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	09 43 07.3	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.41**	**120**	T	T	09 43 52.3	
	baz=314,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**29.41**	**120**	T	T	09 43 53.4	
	baz=314,slow=76,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**29.43**	**120**	T	T	09 43 54.5	
	baz=314,slow=76,SNR=4.0						
MKAR	**Makanchi Array**	**43.59**	**303**	P	**P**	**09 15 02.6**	**-0.6**
	comp=E,0.2nm,0.5s,baz=81,slow=8.9,SNR=1.8						
	comp=E,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.61**	**308**	P	**P**	**09 15 19.7**	**+0.6**
	comp=E,1.6nm,0.2s,baz=90,slow=7.5,SNR=2.4						
	comp=E,1.6nm,0.2s						
WRA	**Warramunga Arr**	**56.09**	**186**	P	**P**	**09 16 37.4**	**-0.8**
	comp=E,0.2nm,0.5s,baz=1.1,slow=7.6,SNR=6.3						
	comp=E,0.2nm,0.5s						

*AEIC **01** 09:15:46.7±3.7, 54°.01N±0°.08×164°.71W±0°.07, h63km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=73.0*
*IDC **01** 09:15:47.0±0.9, 54°.28N×164°.95W, h69km±8km, mb3.6/14, mbtmp3.8/16, Error ellipse: s-maj=23.0km s-min=14.4km az=175.0*
*NEIC **01** 09:15:46.7±2.5, 54°.17N±0°.07×164°.81W±0°.06, h73km±2km, mb4.2/40, ML4.1/22, ML3.9(AEIC), Error ellipse: s-maj=11.0km s-min=4.7km az=166.0*
ISC 01 09:15:47.1±0.6, 54°.14N±0°.07×164°.77W±0°.04, h77km±5km, n182, σ1§42/187, mb4.1/21, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.45**	**1**		**Pn**	**09 16 00.3**	**+0.2**
WEBT					**Sn**	**09 16 10.9**	**+1.1**
AKSA	**Akutan Strait**	**0.55**	**270**		**Pn**	**09 16 00.4**	**-0.5**
AKSA					**Sn**	**09 16 11.1**	**-0.1**
AKUT	**Akutan**	**0.59**	**270**		**Pn**	**09 16 01.0**	**-0.4**
AKUT				Sn	**Sn**	**09 16 11.3**	**-0.5**
AHB	**Akutan Harbor**	**0.62**	**268**		**Pn**	**09 16 01.3**	**-0.4**
AHB					**Sn**	**09 16 12.5**	**+0.1**
AKBBA	**Akutan Broad B**	**0.69**	**267**		**Pn**	**09 16 01.9**	**-0.5**
AKBBA					**Sn**	**09 16 13.8**	**+0.2**
AKLV	**Akutan Long Va**	**0.70**	**272**		**Pn**	**09 16 02.1**	**-0.4**
AKV	**Akutan Volcano**	**0.70**	**269**		**Pn**	**09 16 02.2**	**-0.4**
AKGG	**Akutan Green G**	**0.72**	**275**		**Pn**	**09 16 02.7**	**-0.1**
AKGG					**Sn**	**09 16 15.0**	**+0.6**
AKMO	**Akutan Morgan**	**0.73**	**267**		**Pn**	**09 16 02.5**	**-0.4**
AKMO					**Sn**	**09 16 14.4**	**-0.2**
SSBA	**Shishaldin**	**0.73**	**30**		**Pn**	**09 16 03.0**	**0.0**
LVA	**Lava Point**	**0.74**	**272**		**Pn**	**09 16 02.9**	**-0.1**
LVA					**Sn**	**09 16 14.7**	**-0.1**
LVA				IAML		09 16 18.5	
	comp=N,8μm,0.6s						
LVA				IAML		09 16 21.5	
	comp=E,6μm,0.7s						
AKRB	**Akutan Reef Bi**	**0.77**	**270**		**Pn**	**09 16 02.9**	**-0.3**
ISNN	**Isanotski Nort**	**0.90**	**39**		**Pn**	**09 16 05.6**	**+0.8**
FALS	**False Pass**	**1.06**	**47**		**Pn**	**09 16 07.0**	**+0.3**
FALS				Sn	**Sn**	**09 16 23.2**	**+1.8**
MNAT	**Makushin Natee**	**1.16**	**258**		**Pn**	**09 16 07.3**	**-0.7**
MSW	**Makushin Switc**	**1.21**	**260**		**Pn**	**09 16 08.0**	**-0.6**
MREP	**Makushin Rep't**	**1.22**	**255**		**Pn**	**09 16 08.2**	**-0.5**
MGOD	**Makushin Gods**	**1.29**	**255**		**Pn**	**09 16 09.2**	**-0.4**
MAPS	**Pakushin South**	**1.33**	**256**		**Pn**	**09 16 09.6**	**-0.5**
DT1	**Dutton Round H**	**1.74**	**55**		**Pn**	**09 16 15.7**	**+0.2**
OKFG	**Magazine Ridge**	**2.00**	**250**		**Pn**	**09 16 19.3**	**+0.3**
PN7A	**Pavlof North-7**	**2.06**	**50**		**Pn**	**09 16 20.9**	**+1.2**
PS4A	**Pavlof South-4**	**2.07**	**53**		**Pn**	**09 16 21.5**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**2.09**	**250**		**Pn**	**09 16 20.2**	**+0.1**
PS1A	**Pavlof South-1**	**2.17**	**53**		**Pn**	**09 16 23.5**	**+2.3**
S12K	**Black Hills**	**2.21**	**44**		**Pn**	**09 16 22.6**	**+0.9**
S12K				IAML		09 16 55.4	
	comp=E,981nm,0.6s						
S12K				IAML		09 16 58.3	
	comp=N,984nm,0.3s						
OKSP	**Okmok Steeple**	**2.28**	**248**		**Pn**	**09 16 24.1**	**+1.5**
NIKH	**Nikolski High**	**2.71**	**246**		**Pn**	**09 16 28.4**	**0.0**
NIKH				IAML		09 17 17.9	
	comp=N,463nm,0.7s						
SDPT	**Sand Point**	**2.77**	**62**		**Pn**	**09 16 29.6**	**+0.5**
SDPT				Sn	**Sn**	**09 17 00.5**	**-1.0**
SDPT				IAML		09 17 10.7	
	comp=E,695nm,0.5s						
CNBA	**Chernabura Isl**	**3.10**	**75**	Pn	**Pn**	**09 16 33.1**	**-0.5**
CLES	**Cleveland East**	**3.34**	**249**	Pn	**Pn**	**09 16 39.7**	**+2.7**
CLES				IAML		09 17 27.5	
	comp=E,370nm,1.0s						
CLES				IAML		09 17 40.8	
	comp=N,444nm,0.8s						
P08K	**Saint George I**	**3.68**	**314**	Pn	**Pn**	**09 16 42.6**	**+1.1**
CHGN	**Chignik**	**4.23**	**57**	Pn	**Pn**	**09 16 50.5**	**+1.4**
CHGN				IAML		09 17 51.9	
	comp=N,268nm,0.7s						
CHGN				IAML		09 17 57.5	
	comp=E,305nm,0.5s						
SPIA	**Saint Paul Isl**	**4.34**	**317**	Pn	**Pn**	**09 16 52.9**	**+2.3**
SPIA				IAML		09 18 09.4	
	comp=E,234nm,2.2s						
SPIA				IAML		09 18 48.1	
	comp=N,235nm,1.7s						
PLK4	**Peulik 4**	**5.88**	**50**	Pn	**Pn**	**09 17 12.0**	**+0.3**
ATKA	**Atka Island**	**5.99**	**255**	Pn	**Pn**	**09 17 13.8**	**+0.7**
P16K	**Nushagak River**	**6.17**	**35**	Pn	**Pn**	**09 17 17.4**	**+2.0**
M13K	**Dall Lake**	**6.33**	**6**	Pn	**Pn**	**09 17 17.1**	**-0.7**
ACHA	**Angle Creek He**	**6.66**	**48**	Pn	**Pn**	**09 17 24.4**	**+2.1**
M14K	**Bethel**	**6.80**	**12**		**Pn**	**09 17 26.8**	**+2.8**
P17K	**Kvichak River**	**6.83**	**39**		**Pn**	**09 17 28.1**	**+3.6**
O17K	**Koliganek Bris**	**7.03**	**34**		**Pn**	**09 17 30.2**	**+3.0**
OHAK	**Old Harbor**	**7.19**	**60**	Pn	**Pn**	**09 17 28.9**	**-0.5**
KDAK	**Kodiak Island**	**7.75**	**57**	Pn	**Pn**	**09 17 36.5**	**-0.5**
KDAK	**Kodiak Island**	**7.75**	**57**	P	**Pn**	**09 17 36.3**	**-0.7**
	comp=N,4.5nm,0.3s,baz=131,slow=2.2,SNR=13						
KDAK				S	**Sn**	**09 18 56.1**	**-7.0**
	comp=N,9.7nm,0.7s,baz=88,slow=12,SNR=1.7						
Q19K	**Cape Douglas,**	**7.79**	**48**	Pn	**Pn**	**09 17 39.5**	**+1.8**
KIWB	**Kanaga Island**	**7.82**	**258**	Pn	**Pn**	**09 17 39.2**	**+1.1**
L16K	**Owhat River**	**8.09**	**18**		**Pn**	**09 17 42.9**	**+1.2**
SYI	**Shuyak Island**	**8.20**	**52**	Pn	**Pn**	**09 17 44.1**	**+1.0**
P19K	**Oil Pt**	**8.38**	**44**	Pn	**Pn**	**09 17 44.0**	**-1.7**
ILS	**Iliamna Low So**	**8.63**	**43**		**Pn**	**09 17 52.9**	**+3.8**
RED	**Redoubt Volcan**	**9.03**	**41**	Pn	**Pn**	**09 17 53.4**	**-1.2**
BRLK	**Bradley Lake**	**9.44**	**48**	Pn	**Pn**	**09 17 58.3**	**-1.8**
I17K	**Unalakleet**	**9.99**	**10**	Pn	**Pn**	**09 18 04.6**	**-3.0**
AMKA	**Amchitka**	**10.04**	**260**	Pn	**Pn**	**09 18 07.5**	**-0.9**
SLKM	**Skilak Lake**	**10.11**	**45**	Pn	**Pn**	**09 18 07.6**	**-1.7**
SEW	**Seward**	**10.23**	**48**	Pn	**Pn**	**09 18 10.5**	**-0.4**
O22K	**Cooper Landing**	**10.31**	**46**		**Pn**	**09 18 09.1**	**-2.8**
SUA	**Susitna One**	**10.46**	**40**	Pn	**Pn**	**09 18 10.8**	**-3.3**
ANM	**Nome**	**10.46**	**359**	Pn	**Pn**	**09 18 14.1**	**+0.1**
RC01	**Rabbit Creek A**	**10.63**	**43**	Pn	**Pn**	**09 18 16.1**	**-0.3**
PPLA	**Purkeypile**	**10.94**	**32**	Pn	**Pn**	**09 18 19.0**	**-1.7**
PWL	**Port Wells**	**11.09**	**46**	Pn	**Pn**	**09 18 20.8**	**-1.8**
P23K	**Montague Islan**	**11.10**	**51**	Pn	**Pn**	**09 18 20.9**	**-1.8**
PMR	**Palmer**	**11.16**	**42**	Pn	**Pn**	**09 18 23.4**	**-0.1**
KNK	**Knik Glacier**	**11.33**	**43**	Pn	**Pn**	**09 18 25.3**	**-0.5**
SML	**Sawmill**	**11.59**	**42**	Pn	**Pn**	**09 18 27.8**	**-1.7**
GLI	**Glacier Island**	**11.63**	**47**	Pn	**Pn**	**09 18 27.9**	**-2.0**
HIN	**Hinchinbrook I**	**11.68**	**50**		**Pn**	**09 18 29.4**	**-1.3**
FID	**Port Fidalgo**	**11.84**	**49**	Pn	**Pn**	**09 18 30.4**	**-2.4**
TRF	**Thorofare Moun**	**11.94**	**33**	Pn	**Pn**	**09 18 33.5**	**-0.8**
SCM	**Sheep Creek Mo**	**12.01**	**43**	Pn	**Pn**	**09 18 32.8**	**-2.4**
EYAK	**Cordova Ski Ar**	**12.08**	**50**	Pn	**Pn**	**09 18 35.0**	**-1.1**
BPAW	**Bear Paw Mtn.**	**12.20**	**30**	Pn	**Pn**	**09 18 34.3**	**-3.4**
DIV	**Divide**	**12.32**	**48**		**Pn**	**09 18 38.0**	**-1.3**
KLU	**Klutina**	**12.42**	**46**		**Pn**	**09 18 39.3**	**-1.4**
M24K	**Tolsona, Glenn**	**12.62**	**43**		**Pn**	**09 18 41.6**	**-1.8**
HMT	**Hamilton**	**12.69**	**53**	Pn	**Pn**	**09 18 42.5**	**-1.8**
DHY	**Denali Highway**	**12.70**	**38**		**Pn**	**09 18 42.4**	**-2.2**
BMRM	**Bremner River**	**12.77**	**50**		**Pn**	**09 18 44.0**	**-1.4**
BERG	**Berg Lake**	**12.97**	**53**	Pn	**Pn**	**09 18 46.8**	**-1.3**
MLY	**Manley**	**12.98**	**27**	Pn	**Pn**	**09 18 49.1**	**+0.8**
N25K	**Chitina, Valde**	**13.04**	**47**		**Pn**	**09 18 47.6**	**-1.4**
NEA2	**Nenana**	**13.13**	**31**	Pn	**Pn**	**09 18 48.6**	**-1.6**
GLB	**Gilahina Butte**	**13.31**	**48**		**Pn**	**09 18 51.7**	**-0.9**
PAX	**Paxson**	**13.35**	**41**		**Pn**	**09 18 52.9**	**-0.3**
WRH	**Wood River Hil**	**13.35**	**33**	Pn	**Pn**	**09 18 52.6**	**-0.5**
VRDI	**Verde Repeater**	**13.38**	**49**		**Pn**	**09 18 52.8**	**-1.0**
WAX	**Waxell Ridge**	**13.38**	**53**	Pn	**Pn**	**09 18 52.7**	**-1.0**
I23K	**Minto, Yukon-K**	**13.46**	**29**		**Pn**	**09 18 54.1**	**-0.3**
CCB	**Clear Creek Bu**	**13.56**	**32**	Pn	**Pn**	**09 18 54.5**	**-1.4**
MCARA	**McCarthy VSAT**	**13.63**	**49**	Pn	**Pn**	**09 18 57.3**	**+0.4**
HDA	**Harding Lake**	**13.68**	**34**		**Pn**	**09 18 55.8**	**-1.6**
K24K	**Donnelly Dome**	**13.71**	**38**	Pn	**Pn**	**09 18 56.4**	**-1.4**
IL31		**13.94**	**33**		**Pn**	**09 18 59.5**	**-1.3**
ILAR	**Eielson Array**	**13.94**	**33**	Pn	**Pn**	**09 18 58.6**	**-2.3**
ILAR	**Eielson Array**	**13.94**	**33**	P	**Pn**	**09 18 59.3**	**-1.5**
	comp=N,0.4nm,0.4s,baz=206,slow=13,SNR=11						
GRNC	**Granite Creek**	**13.99**	**53**		**Pn**	**09 19 01.2**	**-0.5**
RDOG	**Red Dog Mine**	**13.99**	**3**	Pn	**Pn**	**09 19 00.4**	**-1.0**
RIDG	**Independent Ri**	**14.01**	**39**		**Pn**	**09 19 00.8**	**-1.0**
MENT	**Mentasta**	**14.02**	**43**	Pn	**Pn**	**09 19 01.1**	**-0.9**
BARN	**Barnard Glacie**	**14.14**	**51**	Pn	**Pn**	**09 19 01.9**	**-1.7**
C16K	**Lisburne Hills**	**14.19**	**359**	P	**P**	**09 19 09.0**	**-0.1**
DOT	**Dot Lake**	**14.25**	**40**	Pn	**Pn**	**09 19 04.0**	**-1.0**
CTGM	**Chitina Glacie**	**14.26**	**52**	Pn	**Pn**	**09 19 04.5**	**-0.6**
LOGN	**Logan Glacier**	**14.37**	**53**	Pn	**Pn**	**09 19 05.2**	**-1.4**
SCRK	**Sand Creek**	**14.46**	**39**		**Pn**	**09 19 07.2**	**-0.5**
PCA	**Pinnacle**	**14.53**	**56**	Pn	**Pn**	**09 19 07.4**	**-1.3**
BCPM	**Bancas Point**	**14.80**	**57**	Pn	**Pn**	**09 19 11.0**	**-1.1**
BCAR	**Beaver Creek A**	**14.86**	**44**	Pn	**Pn**	**09 19 10.2**	**-2.7**
PRP	**Porcupine Dome**	**14.87**	**32**	Pn	**Pn**	**09 19 11.5**	**-1.4**
COLD	**Coldfoot**	**14.87**	**22**	Pn	**Pn**	**09 19 11.3**	**-1.6**
K27K	**Chicken**	**15.20**	**40**	Pn	**Pn**	**09 19 17.1**	**0.0**
E22K	**Anaktuvuk Pass**	**15.31**	**19**	Pn	**Pn**	**09 19 17.8**	**-0.8**
FYU	**Fort Yukon**	**15.66**	**30**	Pn	**Pn**	**09 19 21.8**	**-1.1**
EGAK	**Eagle**	**15.93**	**39**	Pn	**Pn**	**09 19 24.8**	**-1.5**
HYT	**Haines Junctio**	**16.02**	**54**	Pn	**Pn**	**09 19 26.4**	**-1.3**
DAWY	**Dawson**	**16.26**	**42**	Pn	**Pn**	**09 19 29.2**	**-1.4**
DAWY				IAmb	IAmb	09 19 38.1	
	comp=Z,9.2nm,0.6s						
BMAR	**Burnt Mountain**	**16.44**	**28**	Pn	**Pn**	**09 19 32.5**	**-0.3**
E25K	**Arctic Village**	**16.68**	**25**	Pn	**Pn**	**09 19 34.7**	**-1.0**
O30N	**Mendenhall**	**16.69**	**55**	Pn	**Pn**	**09 19 35.0**	**-0.9**
O30N				IAmb	IAmb	09 20 02.9	
	comp=Z,25nm,1.5s						
M30M	**Minto, Yukon**	**16.80**	**49**		**Pn**	**09 19 37.7**	**+0.4**
N31M	**Braeburn, Yuko**	**16.98**	**53**		**Pn**	**09 19 39.9**	**+0.3**
N31M				IAmb	IAmb	09 20 20.1	
	comp=Z,17nm,1.2s						
WHY	**Whitehorse**	**17.26**	**56**	Pn	**Pn**	**09 19 41.3**	**-1.6**
WHY				IAmb	IAmb	09 19 48.0	
	comp=Z,11nm,0.7s						
I29M	**Ogilvie Camp,**	**17.27**	**39**		**P**	**09 19 43.3**	**0.0**
MAYO	**Mayo, Yukon**	**17.52**	**46**		**Pn**	**09 19 44.0**	**-2.0**
MAYO				IAmb	IAmb	09 19 55.2	
	comp=Z,14nm,0.6s						
M31M	**Drury Creek, Y**	**17.79**	**51**	P	**P**	**09 19 48.7**	**-0.4**
N32M	**Quiet Lake**	**18.20**	**55**	P	**P**	**09 19 53.4**	**-0.3**
N32M				IAmb	IAmb	09 20 01.6	
	comp=Z,11nm,0.8s						
P33M	**Teslin, Yukon**	**18.22**	**58**	P	**Pn**	**09 19 55.4**	**+0.8**
P33M				IAmb	IAmb	09 20 01.1	
	comp=Z,8.6nm,0.8s						
EPYK	**Eagle Plains**	**18.32**	**37**	P	**Pn**	**09 19 55.6**	**-0.1**
EPYK				IAmb	IAmb	09 20 00.7	
	comp=Z,13nm,1.2s						
MMPY	**Sheldon Lake,**	**19.30**	**51**	P	**Pn**	**09 20 07.4**	**0.0**
MMPY				IAmb	IAmb	09 20 11.4	
	comp=Z,20nm,1.2s						
G31M	**Satah River**	**19.44**	**37**	P	**P**	**09 20 05.7**	**-1.3**
G31M				IAmb	IAmb	09 20 15.6	
	comp=Z,7.0nm,0.7s						
T35M	**Bob Quinn**	**19.60**	**68**	P	**P**	**09 20 07.1**	**-1.8**
T35M				IAmb	IAmb	09 20 40.2	
	comp=Z,14nm,1.4s						
DLBC	**Dease Lake**	**19.61**	**63**	P	**Pn**	**09 20 13.0**	**+1.9**
	comp=Z,23nm,0.8s,baz=195,slow=7.2,SNR=4.5						
INK	**Inuvik**	**20.34**	**34**	P	**P**	**09 20 15.8**	**-1.0**
INK				IAmb	IAmb	09 20 19.7	
	comp=Z,4.5nm,0.6s						
INK	**Inuvik**	**20.34**	**34**	P	**P**	**09 20 15.2**	**-1.5**
	comp=Z,4.4nm,0.5s,baz=240,slow=11,SNR=36						
	comp=Z,4.4nm,0.5s						
PETK	**Petropavlovsk-**	**22.12**	**283**	P	**P**	**09 20 35.0**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=85,slow=14,SNR=6.8						
	comp=Z,1.5nm,0.6s						
YKA	**Yellowknife Ar**	**26.98**	**52**	P	**P**	**09 21 21.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=272,slow=9.5,SNR=8.5						
	comp=Z,0.8nm,0.7s						
O03E	**Paynes Creek**	**31.77**	**98**	P	**P**	**09 22 03.8**	**-0.1**
O03E				IAmb	IAmb	09 22 44.0	
	comp=Z,3.5nm,0.9s						
HOPS	**Hopland Field**	**31.89**	**101**	P	**P**	**09 22 04.4**	**-0.5**
LYMT	**Lyon Mountain**	**33.42**	**80**	P	**P**	**09 22 19.2**	**+0.7**
JRSC	**Jasper Ridge**	**33.45**	**102**	P	**P**	**09 22 20.5**	**+2.0**
PAHR	**Pah Rah Range**	**33.56**	**97**	P	**P**	**09 22 21.8**	**+2.1**
PAHR				IAmb	IAmb	09 22 39.6	
	comp=Z,2.3nm,0.6s						
MCMT	**McKenzie Canyo**	**34.27**	**84**	P	**P**	**09 22 26.1**	**+0.2**
WAKR	**Walker**	**34.32**	**98**	P	**P**	**09 22 28.1**	**+1.7**
WAKR				IAmb	IAmb	09 22 47.1	
	comp=Z,1.7nm,0.8s						
NVAR	**Mina Array Bea**	**35.03**	**97**	P	**P**	**09 22 34.6**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=317,slow=11,SNR=2.8						
NVAR				pP	**pP**	**09 22 51.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=298,slow=8.6,SNR=8.5						
	comp=Z,0.3nm,0.5s						
HATHI	**Halema'uma'u T**	**35.42**	**164**	P	**P**	**09 22 36.6**	**+0.8**
BYL

VIE 01 09:18:54.5±0.5, 47°81N×14°23E, h0km, mb0.6/2, ml1.5/4, Error ellipse: s-maj=5.2km s-min=3.2km az=142.0 6 km E of Klaus Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.04**	**32**	*i* Pg	Pg	09 18 54.6	-0.7
	2.8nm,0.1s						
MOA				*i* Sg	Sg	09 18 56.1	+0.2
	67nm,0.3s						
BIOA	**Bad Ischl, Aus**	**0.42**	**253**	*e*Pg	Pg	09 19 03.0	+0.5
	3.3nm,0.2s						
BIOA				*e*Sg	Sb	09 19 10.4	-1.3
	16nm,0.4s						
KBA	**Koelnbreinsper**	**0.95**	**220**	*i* Pg	Pg	09 19 11.9	-0.9
	1.3nm,0.3s						
KBA				*e*Sg	Sg	09 19 24.5	-0.5
	2.6nm,0.4s						
CONA	**Conrad Observa**	**1.10**	**83**	*e*Pg	Pb	09 19 16.6	+0.1
	1.0nm,0.1s						
CONA				*e*Sg	Sb	09 19 31.6	+0.2
	7.0nm,0.3s						

*IDC **01** 09:19:51.9±2.9, 53°53N×87°58E, h0km, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=14.1km az=62.0*

ASRS 01 09:19:49.0±1.0, 53°57N×87°66E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**284**	I	I	09 31 30.0	
	baz=101,slow=333,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.73**	**284**	Pg	Pg	09 20 22.7	+0.6
	0.8nm,0.3s,baz=105,slow=17,SNR=11						
ZALV				Lg	Lg	09 20 44.8	
	2.3nm,0.3s,baz=101,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**6.35**	**246**	Pn	Pn	09 21 26.9	+3.1
	0.1nm,0.3s,baz=63,slow=14,SNR=1.6						
KURBB				Lg	Lg	09 23 12.2	
	0.2nm,0.3s,baz=66,slow=30,SNR=4.3						
	1.5nm,0.2s						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	Pn	09 21 44.7	+3.7
	0.2nm,0.3s,baz=27,slow=13,SNR=9.3						
MKAR				Sn	Sn	09 23 08.1	+0.1
	baz=31,slow=28,SNR=3.2						
MKAR				Lg	Lg	09 23 51.5	
	0.1nm,0.3s,baz=31,slow=29,SNR=5.4						
	0.4nm,0.4s						

*RSNC **01** 09:23:21.9±0.6, 9°N±4°×8°4W±°, h0km, M2.8, mb4.1, ML2.8*
*CATAC **01** 09:23:26.8±0.4, 9°N±2°×8°4W±°, h22km±2km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=6.0km s-min=3.3km az=41.9, confirmed*
*UPA **01** 09:23:26.8±1.6, 9°06N×83°77W, h15km±6km, MW4.1, Fault plane solution: NP1:φs0.00000°, δ43.00000°, λ172.00000°.*
*UCR **01** 09:23:27.2±0.9, 9°01N×83°79W, h37km±5km, MW3.8*

ISC 01 09:23:27.3±1.0, 9°01N±0°03×83°80W±0°03, h32km±4km, n139, σ0°78/164, 33C-25D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.18**	**61**	P	**Pn**	**09 23 33.9**	**+0.1**
OCHAL	**Ojochal**	**0.18**	**61**	S	**Sb**	**09 23 38.9**	**+1.0**
EDPE	**Pejibaye, P**	**0.27**	**57**	*e*P	**Pn**	**09 23 34.5**	**-0.7**
EDPE				*e*S	**Sb**	**09 23 40.3**	**+0.6**
PANP	**Palmar Norte**	**0.34**	**98**	⇑*e*P	**Pb**	**09 23 35.6**	**0.0**
ZEDO	**Perez Zeledon**	**0.36**	**19**	⇓*e*P	**Pb**	**09 23 35.8**	**-0.1**
ZEDO				*e*S	**Sb**	**09 23 42.3**	**+0.5**
SAJE	**San Jernim**	**0.44**	**41**	⇓*e*P	**Pb**	**09 23 36.4**	**-0.7**
SAJE				*e*S	**Sb**	**09 23 43.5**	**-0.3**
BURE	**Buenos Aires**	**0.49**	**71**	⇓*e*P	**Pb**	**09 23 37.3**	**-0.4**
BURE				*e*S	**Sb**	**09 23 45.0**	**+0.1**
LLNJ	**Naranjito**	**0.55**	**328**	⇑*e*P	**Pb**	**09 23 38.0**	**-0.6**
LLNJ				*e*S	**Sb**	**09 23 46.6**	**+0.2**
QUEP	**Quepos**	**0.55**	**320**	P	**Pb**	**09 23 38.0**	**-0.7**
QUEP	**Quepos**	**0.55**	**320**	⇑*e*P	**Pb**	**09 23 37.9**	**-0.7**
SVQ2	**Quepos**	**0.55**	**319**	*e*P	**Pb**	**09 23 37.9**	**-0.7**
DRK0	**Durika**	**0.61**	**65**	⇓*i*P	**Pb**	**09 23 38.7**	**-1.0**
DRK0				*e*S	**Sb**	**09 23 47.5**	**-0.7**
DRK0	**Durika**	**0.61**	**65**	P	**Pb**	**09 23 38.6**	**-1.0**
DRK0	**Durika**	**0.61**	**65**	⇓*e*P	**Pb**	**09 23 38.7**	**-1.0**
DRK0				*e*S	**Sb**	**09 23 46.9**	**-1.3**
EDP2	**Potrero Grande**	**0.62**	**89**	*e*P	**Pn**	**09 23 39.3**	**-0.5**
PIEC	**Cerro El Cedra**	**0.63**	**346**	⇑*e*P	**Pn**	**09 23 39.2**	**-1.0**
JIME	**Puerto Jimenez**	**0.67**	**135**	⇑*e*P	**Pn**	**09 23 40.4**	**-0.1**
RAZU	**San Marcos de**	**0.68**	**341**	*e*P	**Pn**	**09 23 40.2**	**-0.6**
PITB	**Pirrs, San**	**0.68**	**341**	*e*P	**Pn**	**09 23 40.0**	**-0.9**
EDAD	**Golfito**	**0.72**	**119**	⇑*e*P	**Pn**	**09 23 40.4**	**-1.0**
PICV	**PH. Pirrs**	**0.72**	**328**	*e*P	**Pn**	**09 23 40.7**	**-0.7**
PAR1A	**Puntarenas Pro**	**0.73**	**323**	⇑*e*P	**Pn**	**09 23 41.1**	**-0.3**
FITO	**Golfito**	**0.75**	**121**	*e*P	**Pn**	**09 23 40.6**	**-1.0**
PIRO	**Carate, Puerto**	**0.76**	**142**	*e*P	**Pn**	**09 23 41.8**	**0.0**
PIRO				*e*S	**Sb**	**09 23 53.3**	**+1.1**
PIRO	**Carate, Puerto**	**0.76**	**142**	P	**Pn**	**09 23 41.8**	**0.0**
PIRO	**Carate, Puerto**	**0.76**	**142**	*e*P	**Pn**	**09 23 41.7**	**-0.1**
REPA	**Paraso**	**0.81**	**355**	⇑*e*P	**Pn**	**09 23 42.2**	**-0.6**
VITO	**San Vito**	**0.84**	**103**	*i* P	**Pn**	**09 23 42.8**	**-0.2**
ACOS	**Acosta**	**0.86**	**336**	⇑*e*P	**Pn**	**09 23 42.5**	**-0.8**
TAGO	**Cartago**	**0.86**	**352**	*e*P	**Pn**	**09 23 42.7**	**-0.6**
VINA	**Juan Vinas**	**0.88**	**4**	⇓*i*P	**Pn**	**09 23 43.1**	**-0.5**
TURIB	**Turrialba**	**0.90**	**7**	⇓*e*P	**Pn**	**09 23 43.2**	**-0.6**
PCAYA	**Pacayas**	**0.90**	**360**	⇓*e*P	**Pn**	**09 23 43.6**	**-0.3**
TRIO	**Tres Rios**	**0.91**	**348**	*e*P	**Pn**	**09 23 43.3**	**-0.7**
NELY	**Ciudad Neily**	**0.92**	**113**	*e*P	**Pn**	**09 23 43.5**	**-0.5**
VERB	**Verbena**	**0.94**	**7**	⇓*e*P	**Pn**	**09 23 44.0**	**-0.4**
LUJA	**Lujan**	**0.95**	**344**	*e*P	**Pn**	**09 23 44.0**	**-0.6**
RSRNO	**Rio Sereno**	**0.95**	**102**	⇑*e*P	**Pn**	**09 23 44.6**	**0.0**
RSRNO	**Rio Sereno**	**0.95**	**102**	*e*P	**Pn**	**09 23 44.3**	**-0.3**
ECI	**Escuela Centro**	**0.95**	**345**	*e*P	**Pn**	**09 23 44.2**	**-0.4**
SJS	**Escuela Geolog**	**0.96**	**345**	*e*P	**Pn**	**09 23 44.3**	**-0.3**
ALCO	**Alturas Coton,**	**0.96**	**94**	*e*P	**Pn**	**09 23 43.6**	**-1.1**
VICA	**Volcano Irazu**	**0.97**	**358**	⇓*e*P	**Pn**	**09 23 44.6**	**-0.4**
PURI	**Puriscal**	**0.97**	**329**	⇑*e*P	**Pn**	**09 23 44.6**	**-0.2**
CORON	**Coronado**	**0.98**	**348**	*e*P	**Pn**	**09 23 44.9**	**0.0**
CVTQ	**Turrialba Volc**	**0.99**	**2**	⇓*e*P	**Pn**	**09 23 45.0**	**-0.3**
CVTV	**Tajo**	**0.99**	**3**	⇓*e*P	**Pn**	**09 23 45.1**	**-0.2**
ABRB	**Las Abras (San**	**0.99**	**5**	⇓*e*P	**Pn**	**09 23 45.1**	**-0.1**
VTR0	**Volcan Turrial**	**1.00**	**2**	*e*P	**Pn**	**09 23 45.3**	**-0.3**
CVTR	**Volcan Turrial**	**1.00**	**2**	⇓*e*P	**Pn**	**09 23 45.1**	**-0.4**
DOMI	**Santo Domingo**	**1.01**	**344**	⇑*e*P	**Pn**	**09 23 45.2**	**-0.1**
CDITO	**Canoas**	**1.02**	**115**	P	**Pn**	**09 23 44.8**	**-0.6**
CDITO	**Canoas**	**1.02**	**115**	S	**Sn**	**09 23 58.8**	**+0.3**
CVIMO	**Finca Echandi**	**1.02**	**352**	⇑*e*P	**Pn**	**09 23 45.4**	**-0.1**
SCLRA	**Santa Clara, W**	**1.02**	**100**	*e*P	**Pn**	**09 23 45.6**	**0.0**
RESJ	**San Isidro (Tu**	**1.02**	**9**	⇓*e*P	**Pn**	**09 23 45.6**	**0.0**
BELE	**Belen**	**1.03**	**338**	⇑*e*P	**Pn**	**09 23 45.3**	**-0.4**
HEME	**Heredia, Merce**	**1.03**	**341**	⇑*e*P	**Pn**	**09 23 46.6**	**+1.0**
DMCAL	**E. de Neily**	**1.05**	**109**	⇑*e*P	**Pn**	**09 23 45.5**	**-0.4**
LAES	**El Progreso Va**	**1.05**	**45**	⇓*e*P	**Pn**	**09 23 45.6**	**-0.3**
UELA	**Alajuela**	**1.08**	**338**	*e*P	Pn	09 23 43.7	-2.6
VERH	**Veragua Rainfo**	**1.09**	**34**	⇓*e*P	**Pn**	**09 23 46.2**	**-0.2**
RVLA	**Villa Bonita**	**1.11**	**11**	⇓*e*P	**Pn**	**09 23 46.7**	**+0.1**
ATEO	**Atenas**	**1.12**	**329**	⇑*e*P	**Pn**	**09 23 46.6**	**-0.2**
IRES	**Siquirres**	**1.12**	**15**	⇓*e*P	**Pn**	**09 23 46.8**	**+0.1**
BRU2	**Volcan**	**1.12**	**101**	*e*P	**Pn**	**09 23 46.3**	**-0.6**
BRU2				*e*S	**Sn**	**09 24 01.5**	**+0.3**
BRU2				*e*S		09 24 01.9	
BRU2	**Volcan**	**1.12**	**101**	⇑*e*P	**Pn**	**09 23 46.2**	**-0.6**
BRIBI	**Bribri**	**1.15**	**58**	⇓*e*P	**Pn**	**09 23 47.8**	**+0.7**
TAAN	**Batan**	**1.16**	**23**	⇓*e*P	**Pn**	**09 23 47.5**	**+0.2**
LESP3	**La Esperanza,**	**1.17**	**121**	*e*P	**Pn**	**09 23 47.5**	**+0.1**
LESP3				*e*S	**Sn**	**09 24 02.3**	**0.0**
GREC	**Grecia**	**1.17**	**335**	*e*P	**Pn**	**09 23 48.7**	**+1.2**
BC3P	**Paso Ancho**	**1.20**	**99**	*e*P	**Pn**	**09 23 47.7**	**-0.2**
BC3P				*e*S	**Sn**	**09 24 03.1**	**-0.1**
PILE	**Guapiles**	**1.20**	**1**	*e*P	**Pn**	**09 23 48.2**	**+0.3**
PALD	**Palmares**	**1.21**	**329**	⇑*e*P	**Pn**	**09 23 47.8**	**-0.3**
VPS8	**V Poas**	**1.24**	**340**	⇑*e*P	**Pn**	**09 23 49.2**	**+0.5**
RAMO	**San Ramon**	**1.25**	**329**	⇑*e*P	**Pn**	**09 23 48.7**	**-0.1**
BANCO	**falda S V. Bar**	**1.29**	**103**	⇑*e*P	**Pn**	**09 23 48.7**	**-0.6**
LMNES	**Limones**	**1.30**	**134**	*e*P	**Pn**	**09 23 49.8**	**+0.6**
JEFFS	**S de V. Baru**	**1.30**	**105**	⇑*e*P	**Pn**	**09 23 48.9**	**-0.4**
ZARE	**Zarcero**	**1.30**	**334**	⇑*e*P	**Pn**	**09 23 49.8**	**+0.4**
RGM0	**Gandoca**	**1.31**	**64**	*e*P	**Pn**	**09 23 50.5**	**+1.1**
RGM0				*e*S	**Sn**	**09 24 06.1**	**+0.3**
RGM0	**Gandoca**	**1.31**	**64**	P	**Pn**	**09 23 50.6**	**+1.2**
RGM0	**Gandoca**	**1.31**	**64**	S	**Sb**	**09 24 09.4**	**+1.5**
RGM0	**Gandoca**	**1.31**	**64**	*e*P	**Pn**	**09 23 50.4**	**+1.1**
PTAR3	**Potrerillos Ar**	**1.33**	**104**	*e*P	**Pn**	**09 23 49.4**	**-0.3**
PTAR3				*e*S	**Sb**	**09 24 08.1**	**-0.5**
ROBF	**Roble, Puntare**	**1.33**	**316**	*e*P	**Pn**	**09 23 49.1**	**-0.6**
CARI	**Cariari**	**1.35**	**3**	*e*P	**Pn**	**09 23 50.5**	**+0.6**
BQTLY	**Boquete Panama**	**1.35**	**101**	⇑*e*P	**Pn**	**09 23 49.6**	**-0.5**
BQTLY	**Boquete Panama**	**1.35**	**101**	*e*P	**Pn**	**09 23 49.4**	**-0.6**
VPL1	**V. Platanar**	**1.36**	**336**	⇑*e*P	**Pn**	**09 23 50.3**	**0.0**
LNBQ3	**Los Naranjos,**	**1.36**	**99**	*e*P	**Pn**	**09 23 51.0**	**+0.8**
BAGA3	**Bagala, Chiriq**	**1.37**	**113**	*e*P	**Pn**	**09 23 50.3**	**+0.1**
BAGA3				*e*S	**Sn**	**09 24 08.4**	**+1.1**
WILLF	**Boquete**	**1.38**	**101**	*e*P	**Pn**	**09 23 49.6**	**-0.8**
CNI2	**El Empalme, Bo**	**1.38**	**73**	*e*P	**Pn**	**09 23 49.4**	**-0.9**
BQSF3	**Alto Boquete,**	**1.38**	**101**	*e*P	**Pn**	**09 23 49.9**	**-0.5**
BQSF3				*e*S	**Sn**	**09 24 06.8**	**-0.9**
DAP26	**falda E V. Bar**	**1.38**	**99**	*e*P	**Pn**	**09 23 49.6**	**-0.9**
ARTO	**Ro Cuarto**	**1.39**	**343**	⇑*e*P	**Pn**	**09 23 50.9**	**+0.5**
CBL1	**Cabuya**	**1.40**	**294**	*e*P	**Pn**	**09 23 49.4**	**-1.2**
QUEU	**Ciudad Quesada**	**1.45**	**335**	⇑*e*P	**Pn**	**09 23 52.2**	**+0.9**
SARA	**Sarapiqu**	**1.45**	**352**	⇓*e*P	**Pn**	**09 23 51.9**	**+0.6**
DVD	**David**	**1.45**	**113**	*e*P	**Pn**	**09 23 51.7**	**+0.4**
LOCO3	**Loma Colorada,**	**1.49**	**113**	*e*P	**Pn**	**09 23 52.4**	**+0.5**
LOCO3				*e*S	**Sn**	**09 24 11.6**	**+1.3**
PSOM3	**Paja de Sombre**	**1.50**	**102**	*e*P	**Pn**	**09 23 51.5**	**-0.5**
PSOM3				*e*S	**Sn**	**09 24 11.3**	**+0.9**
PEDE3	**Pedregal, Chir**	**1.50**	**114**	*e*P	**Pn**	**09 23 53.0**	**+1.0**
PEDE3				*e*S	**Sn**	**09 24 11.7**	**+1.3**
ITAL	**Pital**	**1.50**	**342**	⇑*e*P	**Pn**	**09 23 52.9**	**+0.8**
LOMA3	**Las Lomas, Chi**	**1.51**	**112**	*e*P	**Pn**	**09 23 52.2**	**+0.1**
LOMA3				*e*S	**Sn**	**09 24 12.2**	**+1.4**
TRT2	**Tortugero**	**1.54**	**2**	P	**Pn**	**09 23 53.1**	**+0.6**
TRT2	**Tortugero**	**1.54**	**2**	S	**Sn**	**09 24 13.2**	**+1.8**
TRT2	**Tortugero**	**1.54**	**2**	*e*P	**Pn**	**09 23 52.8**	**+0.3**
SOCE	**Pocosol**	**1.58**	**330**	P	**Pn**	**09 23 53.7**	**+0.5**
SOCE	**Pocosol**	**1.58**	**330**	S	**Sn**	**09 24 15.0**	**+2.4**
SOCE	**Pocosol**	**1.58**	**330**	*e*P	**Pn**	**09 23 53.6**	**+0.5**
PBNVO	**Pueblo Nuevo,**	**1.60**	**94**	⇑*e*P	**Pn**	**09 23 52.8**	**-0.5**
RBALA	**Bur**	**1.64**	**94**	⇓*e*P	**Pn**	**09 23 53.6**	**-0.2**
RBALA				*e*S	**Sn**	**09 24 13.5**	**-0.3**
RBALA	**Bur**	**1.64**	**94**	⇓*e*P	**Pn**	**09 23 53.6**	**-0.2**
MTEVE	**Monteverde**	**1.65**	**322**	⇑*e*P	**Pn**	**09 23 54.2**	**+0.1**
FORC	**Fortuna**	**1.68**	**330**	⇓*e*P	**Pn**	**09 23 55.6**	**+1.1**
VACR	**Volcan Arenal**	**1.69**	**329**	*e*P	**Pn**	**09 23 55.5**	**+0.9**
ARE1	**Arenal 1**	**1.70**	**328**	*e*P	**Pn**	**09 23 55.7**	**+0.9**
VARE2	**V. Arenal**	**1.70**	**328**	⇑*e*P	**Pn**	**09 23 55.6**	**+0.8**
JUNT	**Juntas**	**1.70**	**318**	*e*P	**Pn**	**09 23 54.4**	**-0.4**
JTS	**Las Juntas de**	**1.70**	**318**	*e*P	**Pn**	**09 23 54.5**	**-0.3**
JTS	**Las Juntas de**	**1.70**	**318**	P	**Pn**	**09 23 54.6**	**-0.3**
JTS				S	**Sn**	**09 24 15.3**	**-0.2**
JTS	**Las Juntas de**	**1.70**	**318**	⇑*e*P	**Pn**	**09 23 54.3**	**-0.5**
JTS	**Las Juntas de**	**1.70**	**318**	P	**Pn**	**09 23 54.4**	**-0.3**
JTS				S	**Sn**	**09 24 16.0**	**+0.5**
CEDE	**Laguna Cedeo**	**1.71**	**329**	*e*P	**Pn**	**09 23 55.9**	**+0.9**
COVE	**Coope Vega, Sa**	**1.80**	**341**	P	**Pn**	**09 23 56.5**	**+0.4**
COVE	**Coope Vega, Sa**	**1.80**	**341**	S	**Sb**	**09 24 21.0**	**-0.8**
CUI	**Cuipilapa**	**2.12**	**321**	*e*P	**Pn**	**09 24 00.6**	**+0.1**
UPAL	**Upala**	**2.22**	**328**	P	**Pn**	**09 24 03.7**	**+1.8**
CARN	**Rivas**	**2.75**	**322**	P	**Pn**	**09 24 11.7**	**+2.5**
ESPN	**Las Esperanzas**	**3.20**	**351**	P	**Pn**	**09 24 16.1**	**+0.7**
ESPN				S	**Sb**	**09 24 59.4**	**-2.7**
ACON	**Acoyapa**	**3.23**	**335**	*e*P	**Pn**	**09 24 15.0**	**-0.8**
ACON	**Acoyapa**	**3.23**	**335**	P	**Pn**	**09 24 14.7**	**-1.2**
ACON				S	**Sn**	**09 24 55.6**	**+2.3**
BCIP	**Isla Barro Col**	**3.92**	**87**	P	**Pn**	**09 24 25.9**	**+0.7**
BCIP				S	**Sn**	**09 25 10.8**	**+0.6**
BCIP	**Isla Barro Col**	**3.92**	**87**	P	**Pn**	**09 24 25.7**	**+0.4**
BCIP				S	**Sn**	**09 25 09.3**	**-0.9**
SAIC	**Isla e San And**	**4.06**	**30**	P	**Pn**	**09 24 27.9**	**+0.7**
SAIC				S	**Sn**	**09 25 14.1**	**+0.4**
PRVC	**Isla de Provid**	**4.96**	**29**	P	**Pn**	**09 24 40.7**	**+1.2**
	39nm,1.3s						
BBAC	**Balboa, Cauca**	**9.53**	**136**	P	Pn	09 25 37.8	-4.7

IDC 01 09:24:20.9±3.0, 2°60N×127°74E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=252.1km s-min=28.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**164**	P	P	09 29 30.9	+0.1
	0.2nm,0.4s,baz=342,slow=10.0,SNR=9.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**26.79**	**167**	P	P	09 30 02.6	-0.3
	0.1nm,0.3s,baz=357,slow=8.0,SNR=4.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.05**	**325**	P	P	09 34 23.0	+0.1
	0.2nm,0.5s,baz=117,slow=6.3,SNR=1.8						
	0.2nm,0.5s						

*NEIC **01** 09:31:29.1±1.6, 23°85S±0°1×174°68W±0°07, h10km±1km, mb4.6/9, Error ellipse: s-maj=21.8km s-min=7.9km az=160.0*
*IDC **01** 09:31:31.5±0.7, 23°19S×175°48W, h0km, mb4.0/13, mbtmp4.0/14, ML3.9/1, MS3.8/25, Error ellipse: s-maj=27.7km s-min=21.0km az=123.0*

ISC 01 09:31:29.0±0.5, 23°84S±0°09×174°63W±0°06, h10km, n59, σ2°15/34, mb4.4/21, MS4.0/24, 4C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.46**	**44**	Pn	**Pn**	**09 33 02.1**	**-2.0**
MSVF	**Nonsavu**	**9.15**	**310**		**Pn**	**09 33 08.7**	**-2.5**
RAR	**Rarotonga**	**13.98**	**82**	Pn	**Pn**	**09 34 48.3**	**+1.1**
RAR	**Rarotonga**	**13.98**	**82**	Pn	**Pn**	**09 34 49.4**	**+2.2**
	2.8nm,0.3s,baz=234,slow=4.8,SNR=8.1						
RAR				Sn	**Sn**	**09 37 17.0**	**-5.6**
	1.2nm,0.3s,baz=245,slow=14,SNR=1.8						
RAR				LR	LR	09 39 49.5	
	comp=Z,392nm,19.9s,baz=276,slow=34						
URZ	**Urewera**	**16.00**	**204**	Pn	**P**	**09 35 21.8**	**+4.1**
	0.5nm,0.3s,baz=142,slow=18,SNR=1.8						
URZ				Sn	**Sn**	**09 38 06.7**	**-5.0**
	0.4nm,0.3s,baz=69,slow=8.7,SNR=1.5						
	4.9nm,0.5s						
DZM	**Mont Dzumac**	**17.52**	**272**	*e*LR	LR	09 40 01.4	
	246nm,22.4s						
TBI	**Tubuai**	**23.07**	**94**	*e*S	**S**	**09 40 45.6**	**-0.3**
	902nm,25.5s						
TBI				*e*LR	LR	09 41 59.7	
	1μm,23.0s						
PPT2	**Papeete2**	**24.23**	**80**	*e*S	**S**	**09 41 03.2**	**-1.7**
	319nm,22.8s						
PPT2				*e*LR	LR	09 42 27.8	
	356nm,21.8s						
PPT2				*e*LR	LR	09 42 34.4	
	284nm,22.2s						
PPT	**Papeete**	**24.24**	**80**	LR	LR	09 44 21.8	
	comp=Z,284nm,20.5s,baz=282,slow=31						
HNR	**Honiara**	**28.18**	**296**	LR	LR	09 47 42.2	
	comp=Z,96nm,19.8s,baz=19,slow=36						
TAOE	**Nuku Hiva Isla**	**36.16**	**71**	*e*LR	LR	09 47 54.1	
	202nm,22.4s						
CTAO	**Charters Tower**	**36.39**	**268**	P	**P**	**09 38 32.9**	**-0.9**
CTAO				IAmb	IAmb	09 38 33.4	
	comp=Z,13nm,1.4s						
PMG	**Port Moresby**	**39.17**	**285**	LR	LR	09 52 11.8	
	comp=Z,97nm,19.2s,baz=142,slow=32						
STKA	**Stephens Creek**	**39.30**	**248**	P	**P**	**09 38 57.0**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=90,slow=9.1,SNR=3.1						
STKA				LR	LR	09 53 46.3	
	comp=Z,167nm,20.1s,baz=38,slow=34						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**46.88**	**259**	P	**P**	**09 39 58.9**	**-0.8**
ASAR	**Alice Springs**	**46.88**	**259**	P	**P**	**09 39 58.4**	**-1.4**
ASAR	**Alice Springs**	**46.88**	**259**	P	**P**	**09 39 58.8**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=89,slow=8.3,SNR=13						
ASAR				PcP	**PcP**	**09 41 34.5**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=98,slow=4.2,SNR=0.9						
ASAR				LR	LR	09 59 37.2	
	comp=Z,164nm,18.1s,baz=112,slow=36						
	comp=Z,1.6nm,0.9s						
WR8	**Warramunga Arr**	**47.16**	**264**	P	**P**	**09 40 00.5**	**-1.5**
WR8				IAmb	IAmb	09 40 15.3	
	comp=Z,8.7nm,1.4s						
WB0	**Warramunga Arr**	**47.30**	**265**	P	**P**	**09 40 01.3**	**-1.7**
WB0				IAmb	IAmb	09 40 02.8	
	comp=Z,8.2nm,1.2s						
WRA	**Warramunga Arr**	**47.31**	**264**	P	**P**	**09 40 01.4**	**-1.7**
WRA	**Warramunga Arr**	**47.31**	**264**	P	**P**	**09 40 00.9**	**-2.1**
	comp=Z,2.5nm,0.8s,baz=96,slow=8.2,SNR=40						
WRA				LR	LR	09 59 54.9	
	comp=Z,127nm,18.8s,baz=149,slow=37						
	comp=Z,2.5nm,0.8s						
JAY	**Jayapura**	**48.07**	**289**	LR	LR	09 58 44.7	
	comp=Z,75nm,20.9s,baz=172,slow=35						
FORT	**Forrest**	**50.92**	**249**	P	**P**	**09 40 29.5**	**-1.2**
FORT				IAmb	IAmb	09 40 50.7	
	comp=Z,6.7nm,1.0s						
KNRA	**Kununurra**	**53.60**	**268**	P	**P**	**09 40 50.1**	**-0.6**
KNRA				IAmb	IAmb	09 41 03.8	
	comp=Z,11nm,1.1s						
GUMO	**Guam**	**54.32**	**309**	LR	LR	10 02 24.7	
	comp=Z,30nm,18.4s,baz=147,slow=35						
BATI	**Baumata**	**60.13**	**272**	LR	LR	10 06 15.4	
	comp=Z,201nm,21.3s,baz=138,slow=35						
MORW	**Morawa**	**61.49**	**249**	P	**P**	**09 41 46.1**	**-0.1**
KAPI	**Kappang**	**65.70**	**275**	LR	LR	10 09 28.5	
	comp=Z,37nm,21.9s,baz=98,slow=35						
QSPA	**South Pole Qui**	**66.25**	**180**	P	**P**	**09 42 17.4**	**+0.3**
QSPA	**South Pole Qui**	**66.25**	**180**	P	P	09 42 27.1	+10
	comp=Z,2.3nm,1.1s,baz=347,slow=2.5,SNR=3.6						
	comp=Z,2.3nm,1.1s						
JNU	**Nakatsue**	**76.83**	**315**	LR	LR	10 10 58.3	
	comp=Z,69nm,19.4s,baz=160,slow=31						
ASAJ	**Asahikawa**	**78.15**	**330**	LR	LR	10 12 24.4	
	comp=Z,76nm,20.8s,baz=158,slow=32						
LPIG	**La Paz**	**78.50**	**57**	LR	LR	10 12 14.1	
	comp=Z,83nm,18.8s,baz=208,slow=31						
MAW	**Mawson**	**79.47**	**199**	P	P	09 43 42.5	+7.3
	comp=Z,0.5nm,0.4s,baz=160,slow=16,SNR=1.1						
	comp=Z,0.5nm,0.4s						
PFO	**Pinyon Flats O**	**79.54**	**46**	LR	LR	10 10 37.0	
	comp=Z,94nm,20.6s,baz=220,slow=29						
PETK	**Petropavlovsk-**	**80.31**	**344**	P	**P**	**09 43 40.4**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=153,slow=9.7,SNR=5.0						
	comp=Z,5.3nm,0.9s						
NVAR	**Mina Array Bea**	**81.38**	**41**	P	**P**	**09 43 50.2**	**+4.0**
	comp=Z,0.5nm,0.8s,baz=255,slow=7.2,SNR=2.9						
NVAR				LR	LR	10 12 11.1	
	comp=Z,81nm,20.7s,baz=252,slow=30						
	comp=Z,0.5nm,0.8s						
KSRS	**Korea Array**	**81.45**	**317**	P	**P**	**09 43 46.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=132,slow=5.4,SNR=4.4						
	comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**83.47**	**324**	P	**P**	**09 43 56.9**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=121,slow=5.4,SNR=5.8						
	comp=Z,2.8nm,0.7s						
**TROL

```
MRA                                IAML                    09 47 53.9
    comp=Z,764nm,0.5s
MT08  Bocatoma Ro    2.12 228                Pn            09 47 17.5 +1.3
MT08                               Sn        Sn            09 47 44.4 +2.7
MT08  Bocatoma Ro    2.12 228  eP            Pn            09 47 17.7 +1.5
MT08                               eS        Sn            09 47 44.7 +3.0
MT08                               IAML                    09 47 46.1
    comp=Z,787nm,0.2s
APLL  PUNTA DE LOS L 2.14  41  eP            Pb            09 47 20.9 +0.3
VA03  San Esteban    2.17 250                Pn            09 47 18.6 +1.9
VA03                               Sn        Sn            09 47 46.9 +4.2
VA03  San Esteban    2.17 250  eP            Pn            09 47 18.0 +1.2
VA03                               IAML                    09 47 49.9
    comp=Z,635nm,0.8s
MT04  Ro Olivares    2.17 230  eP            Pn            09 47 18.7 +1.8
MT04                               eS        Sn            09 47 47.2 +4.2
MT04                               IAML                    09 47 47.5
    comp=Z,472nm,0.2s
AROD  Rodeo          2.18 328  eP            Pb            09 47 21.5  0.0
PEL   Peldehue       2.42 242                Pn            09 47 22.0 +1.8
PEL   Peldehue       2.42 242  eP            Pn            09 47 22.4 +2.2
PEL                                eS        Sb            09 47 56.3 +1.5
PEL                                IAML                    09 47 58.5
    comp=Z,248nm,0.7s
MT16  CCHEN          2.44 235                Pn            09 47 23.1 +2.6
MT03  Universidad Ad 2.47 233                Pn            09 47 22.6 +1.6
MT03  Universidad Ad 2.47 233  eP            Pn            09 47 23.3 +2.3
MT03                               IAML                    09 47 57.7
    comp=Z,331nm,0.4s
CO03  El Pedregal    2.48 298                Pb            09 47 24.4 -2.0
CO03  El Pedregal    2.48 298  eP            Pb            09 47 24.4 -2.0
CO03                               eS        Sb            09 47 57.0 +0.4
CO03                               IAML                    09 47 58.9
    comp=Z,934nm,0.6s
MT13  San Alfonso    2.49 226                Pn            09 47 22.4 +1.3
MT13  San Alfonso    2.49 226  eP            Pn            09 47 23.0 +1.8
MT13                               IAML                    09 48 02.7
    comp=Z,217nm,0.8s
LMEL  Las Melosas    2.51 223                Pn            09 47 22.8 +1.3
LMEL  Las Melosas    2.51 223  eP            Pn            09 47 24.3 +2.8
LMEL                               eS        Sb            09 47 57.7 +0.3
LMEL                               IAML                    09 47 58.2
    comp=Z,230nm,0.2s
AGUA  GUANDACOL      2.55 353  eP            Pb            09 47 26.7  -1.0
AGUA                               IAML                    09 48 13.3
    comp=Z,378nm,0.5s
CO02  Combarbal      2.58 288                Pn            09 47 25.1 +2.7
CO02  Combarbal      2.58 288  eP            Pn            09 47 25.1 +2.7
CO02                               eS        Sn            09 47 54.7 +1.9
CO02                               IAML                    09 48 01.9
    comp=Z,1µm,0.8s
MT05  Renca          2.58 238                Pn            09 47 23.9 +1.5
MT05  Renca          2.58 238  eP            Pn            09 47 23.9 +1.5
MT05                               IAML                    09 48 11.9
    comp=Z,213nm,0.8s
ROC1  El Roble       2.61 248  eP            Pn            09 47 19.2  -3.7
VA06  Catapilco      2.73 258                Pn            09 47 25.7 +1.4
RFA   San Rafael     2.75 186  eS            Sn            09 47 55.7  -1.3
RFA                                IAML                    09 48 20.9
    comp=Z,466nm,0.7s
ACLC  CERRO LA CRUZ  2.79  22  eP            Pb            09 47 29.6  -2.2
ACLC                               IAML                    09 48 12.9
    comp=Z,319nm,0.4s
MT02  Curacav        2.81 243                Pn            09 47 26.8 +1.3
MT02  Curacav        2.81 243  eP            Pn            09 47 26.0 +0.5
BO04  La Punta       2.85 226                Pn            09 47 27.2 +1.1
GO04  Tololo Observa 2.94 308                Pn            09 47 30.2 +2.7
MT09  Talagante      2.96 233                Pn            09 47 28.6 +0.9
VA01  Torpederas     3.12 251          Pn    Pn            09 47 31.8 +2.0
MT01  Popeta         3.19 234                Pn            09 47 31.3 +0.6
MT01  Popeta         3.19 234  eP            Pn            09 47 31.4 +0.6
MT01                               IAML                    09 48 20.2
    comp=Z,110nm,0.3s
CO06  Fray Jorge     3.28 293                Pn            09 47 32.9 +0.9
VCA   Vinchina       3.28 359  eS            Sb            09 48 20.9 +1.1
CO05  La Serena      3.39 308                Pn            09 47 35.0 +1.5
BO01  Tunca          3.41 226                Pn            09 47 33.7  -0.1
BO02  Sierra Bellavi 3.53 218          Pn    Pn            09 47 37.7 +2.2
LCO   Las Campanas   3.73 323                Pn            09 47 41.2 +2.7
LCO   Las Campanas   3.73 323  eP            Pn            09 47 40.8 +2.3
LCO                                IAML                    09 48 44.4
    comp=Z,251nm,0.4s
CYA   Choya          4.11  30  IAML                        09 49 03.1
    comp=Z,198nm,0.4s
GO05  Hualane        4.34 226  IAML                        09 49 01.6
    comp=Z,44nm,0.9s
AC04  Llanos de Chal 4.58 326                Pn            09 47 51.5 +1.6
GO03  Copiapo        4.78 337          Pn    Pn            09 47 53.6 +0.9
AC02  Maricunga      5.25 350          Pn    Pn            09 47 58.9  -0.6
BI02  San Fabin de   5.30 208          Pn    Pn            09 48 00.9 +1.2
AC01  Pan de Azucar  6.24 339          Pn    Pn            09 48 14.9 +2.2
GO02  Mina Guanaco   6.96 349          Pn    Pn            09 48 24.6 +1.7
TRQA  Tornquist      7.85 142          Pn    Pn            09 48 36.3 +1.5
PLCA  Paso Flores    8.90 192          Pn    Pn            09 48 49.4 +0.2
PLCA  Paso Flores    8.90 192          Pn    Pn            09 48 43.1  -6.1
    baz=243,slow=16,SNR=1.9
PLCA                               Lg        Lg            09 51 10.4
    comp=Z,0.3nm,0.3s,baz=280,slow=23,SNR=3.0
    comp=Z,1.5nm,1.1s
PB06  IPOC Station P 9.38 352          Pn    Pn            09 48 55.5  -0.3
PB03  IPOC Station P 10.05 351         Pn    Pn            09 49 04.1  -0.9
PB09  IPOC Station P 10.24 354         Pn    Pn            09 49 07.1  -0.6
PB01  IPOC Station P 11.01 353         Pn    Pn            09 49 16.9  -1.3
CPUP  Villa Florida  11.02  62         Pn    Pn            09 49 21.1 +2.9
    comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=1.8
CPUP                               Lg        Lg            09 52 42.2
    comp=Z,0.2nm,0.3s,baz=358,slow=11,SNR=3.8
    comp=Z,0.3nm,0.4s
PLTB  Pedras Altas   12.36  93         Pn    Pn            09 49 34.6  -1.9
PB16  IPOC Station P 13.69 355         Pn    Pn            09 49 54.6  -0.7
LPAZ  La Paz         15.67   0         Pn    Pn            09 50 20.4  -1.5
    comp=Z,0.2nm,0.3s,baz=170,slow=5.3,SNR=6.5
    comp=Z,0.7nm,0.8s
SIV   San Ignacio    17.21  24  P             P            09 50 41.4  -0.9
    baz=191,slow=5.5,SNR=5.3
    comp=Z,0.7nm,0.5s
VILB  Vilhena        20.34  23  P             P            09 51 16.8 +0.2
VILB                               IAmb      IAmb          09 51 18.6
    comp=Z,8.0nm,0.7s
PMSA  Palmer Station 32.87 177  P             P            09 53 15.3 +1.8
PMSA                               IAmb      IAmb          09 53 21.4
    comp=Z,8.3nm,0.8s
RUSC  La Rusia       38.01 352  P             P            09 53 60.0 +1.3
RUSC                               IAmb      IAmb          09 54 00.3
    comp=Z,12nm,0.6s
SNAA  Sanae          52.19 159  P             P            09 55 49.6  -0.7
SNAA  Sanae          52.19 159  P             P            09 55 48.3  -1.9
    comp=Z,0.3nm,0.3s,baz=219,slow=5.4,SNR=9.5
    comp=Z,0.3nm,0.3s
TEIG  Tepich         55.43 337  P             P            09 56 14.8 +0.5
QSPA  South Pole Qui 58.20 180  P             P            09 56 31.6  -2.2
    comp=Z,0.6nm,0.7s,baz=182,slow=1.5,SNR=5.2
    comp=Z,0.6nm,0.7s
TX31  Lajitas Ar. Si 69.74 327  P             P            09 57 51.6 +1.6
TXAR  Lajitas Array  69.74 327  P             P            09 57 51.0 +1.1
TXAR  Lajitas Array  69.74 327  P             P            09 57 47.6  -2.3
    comp=Z,0.3nm,0.6s,baz=155,slow=7.7,SNR=4.7
    comp=Z,0.3nm,0.6s
WVT   Waverly        70.27 343  P             P            09 57 52.5  -0.4
WVT                               IAmb      IAmb          09 57 53.4
    comp=Z,2.7nm,0.6s
SRIG  Santa Rosalia  72.44 320  P             P            09 58 09.1 +2.8
TORD  Torodi Ar. Bea 80.45  68  P             P            09 58 51.8  -0.1
    comp=Z,0.5nm,0.7s,baz=214,slow=4.9,SNR=4.2
    comp=Z,0.5nm,0.7s
PDAR  Pinedale Array 83.57 331  P             P            09 59 06.5  -1.5
    comp=Z,0.4nm,0.7s,baz=122,slow=4.2,SNR=4.0
    comp=Z,0.4nm,0.7s
ASAR  Alice Springs  120.74 204 PKP           PKPdf        10 05 29.6  -2.7
    comp=Z,0.1nm,0.5s,baz=160,slow=3.0,SNR=1.3
WRA   Warramunga Arr 124.01 206 PKP           PKPdf        10 05 36.9  -1.7
    comp=Z,0.4nm,0.3s,baz=160,slow=1.7,SNR=13
KURBB Kurchatov Arra 149.19  43 PKPbc         PKPbc        10 06 26.3  -1.5
    comp=Z,0.8nm,0.5s,baz=294,slow=3.4,SNR=8.8
ZALV  Zalesovo Beam  150.80  33 PKPbc         PKPbc        10 06 31.5  -0.1
    comp=Z,1.7nm,0.5s,baz=290,slow=3.7,SNR=9.4
ZALV                               PKPab     PKPab         10 06 39.0 +0.2
    comp=Z,1.0nm,0.6s,baz=311,slow=4.8,SNR=3.8
MKAR  Makanchi Array 153.01  48 PKPbc         PKPbc        10 06 36.8  -0.1
    comp=Z,0.2nm,0.5s,baz=298,slow=3.1,SNR=1.7
```

IDC 01 09:50:15.7±2.6, 53°.72N×86°.90E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=24.5km s-min=13.8km az=74.0, Southwestern Siberia

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA  1.25 281       I     I           09 58 30.0
    baz=100,slow=332,SNR=3.9
ZALV  Zalesovo Beam   1.25 281       Pg    Pg          09 50 38.6  -1.1
    1.9nm,0.3s,baz=99,slow=18,SNR=23
ZALV                                 Lg    Lg          09 50 56.5
    2.1nm,0.3s,baz=102,slow=31,SNR=12
KURBB Kurchatov Arra  6.01 242       Pn    Pn          09 51 46.6 +0.9
    0.1nm,0.3s,baz=61,slow=13,SNR=5.2
    1.5nm,0.6s
MKAR  Makanchi Array  7.53 205       Pn    Pn          09 52 08.1 +1.3
    0.2nm,0.3s,baz=26,slow=14,SNR=5.4
MKAR                                 Lg    Lg          09 54 15.6
    0.1nm,0.3s,baz=22,slow=27,SNR=6.5
    0.4nm,0.4s
```

*IDC **01** 09:50:33.0±2.9, 53°.48N×87°.56E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=26.5km s-min=15.2km az=59.0*

ASRS 01 09:50:30.0±0.5, 53°.53N×87°.85E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA  1.85 284       I     I           10 02 15.0
    baz=101,slow=334,SNR=9.2
ZALV  Zalesovo Beam   1.85 284       Pg    Pb          09 51 03.9  -0.7
    1.3nm,0.3s,baz=104,slow=15,SNR=5.5
ZALV                                 Lg    Lg          09 51 26.6
    5.1nm,0.3s,baz=108,slow=26,SNR=8.0
KURBB Kurchatov Arra  6.44 247       Pn    Pn          09 52 07.3 +1.3
    0.1nm,0.3s,baz=65,slow=13,SNR=3.0
KURBB                                Lg    Lg          09 53 50.4
    0.1nm,0.3s,baz=60,slow=30,SNR=4.8
    1.0nm,0.5s
MKAR  Makanchi Array  7.63 210       Pn    Pn          09 52 24.9 +2.6
    0.4nm,0.3s,baz=31,slow=13,SNR=10
MKAR                                 Lg    Lg          09 54 29.1
    0.2nm,0.3s,baz=30,slow=32,SNR=5.1
    0.6nm,0.4s
```

*NOU **01** 09:52:14.5, 39°.25S×177°.96E, h16km, MLv4.1/15, Off E. Coast of N. Island, N.Z.*
*WEL **01** 09:52:17.9±0.6, 39°.5±4°.×17°.8E±°, h24km±5km, M4.2/13, ML4.6/13, MLv4.2/13, Error ellipse: s-maj=5.1km s-min=4.8km az=3.6, confirmed*

ISC 01 09:52:17.3±1.1, 39°.17S±0°.03×177°.84E±0°.05, h33km±5km, n55, σ0s90/62, Off east coast of North Island

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
MHGZ  Mahia Peninsul  0.05  75       P     Pb          09 52 23.2 +0.4
MHGZ                                 S     Sb          09 52 28.4 +1.8
KNZ   Kokohu          0.20 318       P     Pb          09 52 22.5  -1.3
KNZ                                  S     Sb          09 52 26.6  -1.6
PRGZ  Paritu Road     0.25   8       P     Pb          09 52 24.1  -0.3
PRGZ                                 S     Sb          09 52 30.1 +0.8
RIGZ  Rimuhau         0.46 352       P     Pn          09 52 27.3  -0.4
RIGZ                                 S     Sn          09 52 35.2 +0.4
WHHZ  Waihua          0.48 281       P     Pb          09 52 27.6   0.0
WHHZ                                 S     Sn          09 52 36.0 +0.8
SNGZ  Shannon Statio  0.55 314       P     Pn          09 52 28.3  -0.5
SNGZ                                 S     Sn          09 52 36.6  -0.3
RAHZ  Arahi           0.64 293       P     Pn          09 52 30.0  -0.1
RAHZ                                 S     Sn          09 52 39.8 +0.7
ARHZ  Aropaoanui      0.66 261       P     Pn          09 52 31.0 +0.6
TKGZ  Te Karaka       0.73   0       P     Pn          09 52 31.5 +0.2
CNGZ  Carnagh Statio  0.74  23       P     Pn          09 52 32.3 +0.8
RAGZ  Rawiri          0.75 333       P     Pn          09 52 31.5  -0.2
CKHZ  Cape Kidnapper  0.77 230       P     Pb          09 52 32.9 +0.6
NMHZ  Naumai          0.81 275       P     Pn          09 52 33.0 +0.5
MTHZ  Maungataniwha   0.84 292       P     Pn          09 52 33.0 +0.1
MWZ   Matawai         0.87 343       P     Pn          09 52 33.4 +0.1
RTZ   Ruatahuna       0.87 309       P     Pn          09 52 33.3   0.0
MCHZ  McNeill Hill    0.93 252       P     Pn          09 52 35.1 +1.0
KAHZ  Kahuranaki      0.97 230       P     Pn          09 52 35.7 +1.0
TWGZ  Tauwhareparae   0.99   6       P     Pn          09 52 35.6 +0.5
BKZ   Black Stump Fm  1.05 270       P     Pn          09 52 36.0 +0.2
BKZ   Black Stump Fm  1.05 270       S     Sn          09 52 51.6 +2.3
BKZ   Black Stump Fm  1.05 270       P     Pn          09 52 36.2 +0.4
URZ   Urewera         1.07 328       P     Pn          09 52 36.2 +0.2
URZ   Urewera         1.07 328       S     Sn          09 52 51.1 +1.3
URZ   Urewera         1.07 328       P     Pn          09 52 36.2 +0.2
MUGZ  Murupara        1.08 309       P     Pb          09 52 36.6  -0.9
KWHZ  Kawekа Forest   1.13 256       P     Pn          09 52 37.6 +0.6
PUZ   Puketiti        1.14  17       P     Pn          09 52 37.0   0.0
PXZ   Pawanui         1.15 221       P     Pn          09 52 37.5 +0.4
MRHZ  Matea Rd        1.16 286       P     Pn          09 52 37.9 +0.6
RUGZ  Raukumara Rang  1.21 354       P     Pn          09 52 37.7  -0.3
KRHZ  Kereru          1.23 247       P     Pn          09 52 37.3  -1.1
PKGZ  Pakihiroa       1.31   8       P     Pn          09 52 39.4 +0.1
PRRZ  Plateau Road    1.31 300       P     Pb          09 52 40.6  -0.8
ALRZ  Allen Road      1.32 297       P     Pb          09 52 40.5  -1.0
RRRZ  Republican Roa  1.33 308       P     Pn          09 52 40.0 +0.4
EDRZ  Edgecumbe       1.37 320       P     Pn          09 52 40.7 +0.5
TARZ  Mount Tarawera  1.40 311       P     Pn          09 52 41.2 +0.5
HAZ   Te Kaha         1.41 358       P     Pn          09 52 40.8 +0.1
WMGZ  Waiomatatini S  1.42  19       P     Pn          09 52 40.9 +0.1
PRHZ  Porangahau      1.44 220       P     Pn          09 52 41.2 +0.1
HRRZ  Handcock Road   1.44 302       P     Pn          09 52 41.7 +0.5
PNHZ  Pukenui         1.47 239       P     Pn          09 52 41.7 +0.1
HLRZ  Highlands Stat  1.48 308       P     Pn          09 52 42.5 +0.8
MXZ   Matakaoa Point  1.64  13       P     Pn          09 52 44.2 +0.3
BFZ   Birch Farm      1.95 219       P     Pn          09 52 47.7  -0.4
BFZ   Birch Farm      1.95 219       S     Sn          09 53 12.0 +0.6
HIZ   Hauiti          2.42 285       P     Pn          09 52 56.3 +1.7
KUZ   Kuaotunu        2.94 325       P     Pn          09 53 02.7 +1.0
SNZO  South Karori    3.22 227       P     Pn          09 53 04.3  -1.2
QRZ   Quartz Range    4.40 246       P     Pn          09 53 20.3  -1.5
KHZ   Kahutara        4.60 224       P     Pn          09 53 22.8  -1.8
RPZ   Rata Peaks      6.83 226       P     Pn          09 53 53.5  -1.7
ODZ   Otahua Downs    7.94 220       P     Pn          09 54 08.5  -1.9
JCZ   Jackson Bay     8.37 231       P     Pn          09 54 15.2  -1.1
```

*ASRS **01** 09:53:56.0±1.3, 53°.64N×87°.96E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 09:54:00.3±3.1, 53°.54N×87°.83E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.6km s-min=15.1km az=65.0, Southwestern Siberia

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA  1.83 284       I     I           10 06 00.0
    baz=99,slow=334,SNR=6.4
ZALV  Zalesovo Beam   1.83 284       Pg    Pn          09 54 33.0   0.0
    2.0nm,0.3s,baz=100,slow=15,SNR=11
ZALV                                 Lg    Lg          09 54 59.0
    6.2nm,0.3s,baz=105,slow=24,SNR=23
KURBB Kurchatov Arra  6.44 247       Pn    Pn          09 55 36.6 +0.4
    0.1nm,0.3s,baz=62,slow=14,SNR=4.1
KURBB                                Sn    Sn          09 56 49.2  -1.1
    baz=97,slow=15,SNR=1.6
KURBB                                Lg    Lg          09 57 23.9
    0.1nm,0.3s,baz=62,slow=30,SNR=5.4
    1.7nm,0.5s
MKAR  Makanchi Array  7.63 210       Pn    Pn          09 55 54.5 +1.7
    0.1nm,0.3s,baz=24,slow=14,SNR=2.3
MKAR                                 Sn    Sn          09 57 19.7  -0.2
    0.1nm,0.3s,baz=30,slow=30,SNR=3.7
MKAR                                 Lg    Lg          09 58 03.0
    0.1nm,0.3s,baz=30,slow=31,SNR=4.1
    0.3nm,0.4s
```

ISK 01 10:20:17.6, 38°.33N×27°.91E, h17km, ML0.9/6, Turkey

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
ODEM  Odemis-Izmir    0.14 113       Pg    Pb          10 20 22.3 +0.4
ODEM                                 Sg    Sb          10 20 24.8 +0.1
AYDB  Zeytinkoy-Aydi  0.38 182       Pg    Pg          10 20 25.4  -0.2
AYDB                                 Sg    Sb          10 20 31.9 +0.2
NAZL  Nazilli-Aydin   0.47 140       Pg    Pb          10 20 27.6 +0.1
NAZL                                 Sg    Sb          10 20 34.9 +0.6
GORD  Gordes-Manisa   0.61  20       Pg    Pb          10 20 30.1 +0.1
KULA  Kula-Manisa     0.62  73       Pg    Pg          10 20 29.7  -0.1
URLA  Izmir           1.03 272       Pg    Pg          10 20 38.1 +0.5
```

AFAD 01 10:21:04.0, 37°.10N×29°.23E, h4km±8km, ML1.1, Turkey

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
CAEL  Denizli, Camel  0.08  72       P     Pg          10 21 06.7 +1.0
CAEL                                 S     Sg          10 21 08.2 +1.4
CAEL                                 i IAML            10 21 11.0
    comp=N,279nm,0.8s
CAEL                                 i IAML            10 21 13.0
    comp=E,215nm,0.4s
DNZT  Denizli-Tavas-  0.24 318       P     Pg          10 21 09.6 +0.9
DNZT                                 S     Sg          10 21 14.1 +2.2
GOLH  Golhisar        0.30  63       P     Pb          10 21 11.0  -1.0
GOLH                                 S     Sb          10 21 16.1  -1.3
GOLH                                 i IAML            10 21 18.0
    comp=E,25nm,0.5s
KNIK  Mula-Seydike    0.38 132       P     Pb          10 21 12.4  -1.0
KNIK                                 i IAML            10 21 18.0
    comp=E,16nm,1.0s
KNIK                                 S     Sb          10 21 18.8  -0.8
TAVA  DENIZLI_Tavas   0.44 326       P     Pb          10 21 14.0  -0.5
TAVA                                 S     Sb          10 21 20.4  -1.2
TAVA                                 i IAML            10 21 22.0
    comp=N,12nm,0.5s
TAVA                                 i IAML            10 21 22.0
    comp=E,13nm,0.4s
DNIZ  Denizli-Tavas-  0.55 344       P     Pb          10 21 17.1 +0.8
DNIZ                                 S     Sb          10 21 23.4  -1.2
DNIZ                                 i IAML            10 21 26.0
    comp=E,34nm,0.3s
DNIZ                                 i IAML            10 21 28.0
    comp=N,18nm,0.3s
```

*IDC **01** 10:27:06.3±0.9, 14°.02S×178°.20W, h0km, mb3.9/8, mbtmp3.9/8, MS3.5/19, Error ellipse: s-maj=51.5km s-min=19.9km az=145.0*
*NEIC **01** 10:27:06.9±1.0, 14°.01S±0°.03×178°.2W±0°.1, h10km±1km, mb4.4/7, Error ellipse: s-maj=18.0km s-min=3.6km az=76.0*

ISC 01 10:27:07.2±0.6, 14°.04S±0°.07×178°.25W±0°.10, h10km, n46, σ0s94/22, mb4.1/12, MS3.5/19, Fiji Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
FUTU  Fugatoga        0.29 155       Pg    Pg          10 27 12.9  -0.1
FUTU                                 Sg    Sg          10 27 18.0 +1.1
MSVF  Nonsavu         5.12 224       Pn    Pn          10 28 24.6 +0.7
FUNA  Funafuti        6.03 335       Pn    Pn          10 28 36.9 +0.4
NIUE  Niue            9.41 123       Pn    Pn          10 29 21.8  -1.2
DZM   Mont Dzumac     16.59 239      LR    LR          10 36 43.1
    comp=Z,89nm,21.4s,baz=34,slow=35
HNR   Honiara         21.83 280      LR    LR          10 39 17.1
    comp=Z,187nm,19.2s,baz=95,slow=33
URZ   Urewera         24.47 189      LR    LR          10 40 22.0
    comp=Z,148nm,18.4s,baz=303,slow=32
PMG   Port Moresby    34.16 274      LR    LR          10 46 23.1
    comp=Z,55nm,20.9s,baz=124,slow=34
H11S2 WAKE ISLAND Hy 35.57 335       T     T           11 12 14.7
    baz=154,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 35.58 335       T     T           11 12 16.2
    baz=154,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 35.59 335       T     T           11 12 14.3
    baz=154,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 36.59 336       T     T           11 13 30.6
    baz=154,slow=76,SNR=5.3
H11N1 WAKE ISLAND Hy 36.59 336       T     T           11 13 30.6
    baz=154,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 36.61 336       T     T           11 13 32.6
    baz=154,slow=76,SNR=11
STKA  Stephens Creek  40.73 237      P     P           10 34 48.4   0.0
    1.9nm,0.7s,baz=65,slow=7.9,SNR=4.6
STKA                                 LR    LR          10 49 41.9
    comp=Z,112nm,20.6s,baz=28,slow=33
    1.9nm,0.7s
JAY   Jayapura        42.12 282      LR    LR          10 51 31.0
    comp=Z,39nm,20.4s,baz=7.5,slow=35
WB0   Warramunga Arr  45.56 256      P     P           10 35 26.5  -1.1
WB0                                  IAmb  IAmb        10 35 39.5
    comp=Z,4.3nm,0.9s
WRA   Warramunga Arr  45.61 256      P     P           10 35 28.9 +0.9
    comp=Z,1.4nm,0.9s,baz=89,slow=8.2,SNR=8.2
    comp=Z,1.4nm,0.9s
GUMO  Guam            45.69 305      LR    LR          10 52 07.8
    comp=Z,28nm,20.3s,baz=116,slow=33
AS31  Alice Springs   46.10 251      P     P           10 35 31.9   0.0
ASAR  Alice Springs   46.10 251      P     P           10 35 31.5  -0.4
ASAR  Alice Springs   46.10 251      P     P           10 35 33.4 +1.5
    comp=Z,1.6nm,0.7s,baz=83,slow=8.2,SNR=20
ASAR                                 LR    LR          10 52 31.8
    comp=Z,50nm,20.7s,baz=86,slow=33
    comp=Z,1.6nm,0.7s
SAUI  Saumlaki        49.81 271      P     P           10 35 59.0  -1.7
JHJ   Hachijo jima 2  61.68 320      LR    LR          10 59 39.3
    comp=Z,44nm,20.1s,baz=164,slow=32
SBA   Scott Base      64.26 183      P     P           10 37 41.4  -0.7
SBA                                  IAmb  IAmb        10 38 16.3
    comp=Z,7.7nm,1.4s
MJAR  Matsushiro Arr  64.94 322      LR    LR          11 00 19.2
    comp=Z,21nm,21.6s,baz=147,slow=31
JNU   Nakatsue        67.49 315      LR    LR          11 03 08.7
    comp=Z,34nm,19.1s,baz=166,slow=32
ASAJ  Asahikawa       67.99 331      LR    LR          11 02 05.2
    comp=Z,62nm,20.1s,baz=162,slow=31
PETK  Petropavlovsk-  70.01 345      LR    LR          11 05 36.6
    comp=Z,26nm,18.9s,baz=170,slow=33
H06E1 SOCORRO T-PHAS73.90  65        T     T           11 59 09.3
    SNR=10
PFO   Pinyon Flats O  75.52  49      LR    LR          11 05 12.0
    comp=Z,39nm,20.0s,baz=250,slow=30
QSPA  South Pole Qui  75.99 180      P     P           10 38 54.2  -0.2
QSPA                                 IAmb  IAmb        10 38 57.7
    comp=Z,4.8nm,1.2s
QSPA  South Pole Qui  75.99 180      P     P           10 38 55.6 +1.2
    comp=Z,2.3nm,1.1s,baz=14,slow=1.3,SNR=3.7
    comp=Z,2.3nm,1.1s
LPIG  La Paz          76.40  61      LR    LR          11 05 00.3
    comp=Z,44nm,18.0s,baz=352,slow=30
NVAR  Mina Array Bea  76.55  44      P     P           10 38 59.1 +1.0
    comp=Z,0.4nm,0.7s,baz=233,slow=11,SNR=4.3
NVAR                                 LR    LR          11 04 14.2
    comp=Z,28nm,21.0s,baz=266,slow=29
    comp=Z,0.4nm,0.7s
MA2   Magadan         77.53 344      LR    LR          11 10 10.3
    comp=Z,23nm,19.1s,baz=142,slow=33
H02S2 DAWSON INLET T 77.61  26       T     T           12 04 24.4
    SNR=49
ILAR  Eielson Array   82.11  13      P     P           10 39 28.3 +0.7
    comp=Z,0.5nm,0.9s,baz=213,slow=6.5,SNR=4.2
    comp=Z,0.5nm,0.9s
DLBC  Dease Lake      82.24  23      LR    LR          11 13 15.6
    comp=Z,447nm,18.4s,baz=172,slow=34
TXAR  Lajitas Array   83.81  58      P     P           10 39 38.1 +0.7
    comp=Z,0.9nm,0.8s,baz=224,slow=5.2,SNR=9.4
    comp=Z,0.9nm,0.8s
PDAR  Pinedale Array  84.46  44      P     P           10 39 40.1  -0.5
    comp=Z,1.0nm,0.9s,baz=186,slow=1.5,SNR=5.8
    comp=Z,1.0nm,0.9s
BELA  Belgrano 2      85.96 173      P     P           10 39 46.8  -0.4
BELA                                 IAmb  IAmb        10 39 55.8
    comp=Z,2.1nm,0.9s
F28M  Old Crow        86.06  14      P     P           10 39 46.9  -0.8
F28M                                 IAmb  IAmb        10 40 30.9
    comp=Z,3.3nm,1.2s
TIXI  Tiksi           92.48 345      LR    LR          11 16 49.3
    comp=Z,26nm,20.6s,baz=196,slow=32
PLCA  Paso Flores     93.87 133      LR    LR          11 16 32.4
    comp=Z,14nm,18.2s,baz=236,slow=32
MMAI  Mount Meron Ar  144.05 308     PKP   PKPdf       10 46 44.8 +1.1
    comp=Z,2.7nm,0.9s,baz=87,slow=3.2,SNR=1.7
```

IDC 01 10:48:05.7±5.4, 16°.20S×176°.01W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=152.3km s-min=105.2km az=151.0, Fiji Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
STKA  Stephens Creek  41.46 240      P     P           10 55 54.8 +0.3
    0.9nm,0.4s,baz=86,slow=8.4,SNR=7.4
    0.9nm,0.4s
WRA   Warramunga Arr  47.22 258      P     P           10 56 41.0 +0.1
    0.4nm,0.4s,baz=94,slow=7.8,SNR=19
    0.4nm,0.4s
```

ASAR Alice Springs 47.48 253 P P 10 56 42.5 -0.3
4.6nm,0.6s,baz=92,slow=7.8,SNR=119
ASAR PcP PcP 10 58 12.8 -0.4
0.3nm,0.8s,baz=87,slow=3.4,SNR=2.1
4.6nm,0.6s
FITZ Fitzroy Crossi 55.59 259 P P 10 57 42.9 -0.7
1.9nm,0.9s,baz=90,slow=6.1,SNR=2.0
1.9nm,0.9s

AUST 01 10:58:32.5±1.0, 18°S±6'×12°0E±°, h10km, mb3.9/1, ML2.3/2, Error ellipse: s-maj=15.6km s-min=7.8km az=145.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.57**	**124**	P	Pn	10 59 01.0	+0.5
CAAN				S	Sb	10 59 22.1	+0.4
MBWA	**Marble Bar**	**2.79**	**188**	P	Pn	10 59 18.5	+1.3
MBWA				S	Sn	10 59 52.7	+1.8
PSAB2	**Pilbara Seismi**	**3.17**	**185**	P	Pn	10 59 23.9	+1.5
FITZ	**Fitzroy Crossi**	**5.24**	**88**	P	Pn	10 59 48.2	-2.7
MEEK	**Meekatharra**	**8.34**	**189**	P	Pn	11 00 34.8	+1.4
	comp=Z,0.1nmcomp=Z,15nm,2.2s						
MEEK				S	Sn	11 02 04.5	-3.2

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*TXNET **01** 11:20:08.2, 32°.9N±0°.6×100°.9W±0°.7, h7km, ML2.9/11, Error ellipse: s-maj=1.2km s-min=0.7km az=132.6, final*
NEIC 01 11:20:08.8±0.9, 32°.908N±0°.009×100°.88W±0°.01, h5km±2km, mb_Lg2.5/47, 3C-5D, Error ellipse: s-maj=3.1km s-min=2.2km az=4.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN02	**Snyder 2**	**0.05**	**211**	⇓P	Pg	11 20 09.5	-0.7
SN02				S	Sg	11 20 10.4	-0.7
SN03	**Snyder 3**	**0.05**	**287**	⇓P	Pg	11 20 09.6	-0.6
SN03				S	Sg	11 20 10.7	-0.5
SN07	**Snyder 07**	**0.18**	**357**		Pg	11 20 12.1	-0.3
SN07				Sg	Sg	11 20 14.9	+0.1
SN07	**Snyder 07**	**0.18**	**357**	⇑P	Pg	11 20 12.1	-0.3
SN07				S	Sg	11 20 14.9	0.0
SN08	**Arah**	**0.20**	**231**	⇓P	Pg	11 20 12.0	-0.7
SN08				S	Sg	11 20 14.8	-0.5
POST	**Post**	**0.55**	**287**		Pg	11 20 18.6	-0.6
POST				Sg	Sg	11 20 25.8	-0.6
POST	**Post**	**0.55**	**287**	⇑P	Pg	11 20 18.6	-0.7
POST				S	Sg	11 20 25.6	-0.8
DKNS	**Dickens**	**0.76**	**357**		Pg	11 20 22.5	-0.9
DKNS				Sg	Sg	11 20 32.8	-0.4
DKNS	**Dickens**	**0.76**	**357**	⇑P	Pg	11 20 22.5	-0.9
DKNS				S	Sg	11 20 32.7	-0.4
APMT	**Aspermont**	**0.76**	**57**		Pg	11 20 22.7	-0.7
APMT				Sg	Sg	11 20 33.2	0.0
APMT	**Aspermont**	**0.76**	**57**	⇓P	Pg	11 20 22.7	-0.7
APMT				S	Sg	11 20 33.2	0.0
TMB05	**Klondike**	**0.87**	**251**	P	Pg	11 20 24.1	-1.4
TMB05				S	Sg	11 20 35.6	-1.2
SGCY	**Sterling City**	**1.01**	**192**		Pg	11 20 26.8	-1.4
SGCY				Sg	Sg	11 20 40.1	-1.3
SGCY	**Sterling City**	**1.01**	**192**	P	Pg	11 20 26.9	-1.3
SGCY				S	Sg	11 20 40.0	-1.4
ABTX	**Abilene, Hawle**	**1.08**	**105**	Pg	Pg	11 20 28.4	-1.0
ABTX				Sg	Sg	11 20 42.4	-1.1
ABTX	**Abilene, Hawle**	**1.08**	**105**	P	Pg	11 20 28.6	-0.9
ABTX				S	Sg	11 20 42.3	-1.2
TMB06	**Greenwood**	**1.21**	**220**	P	Pg	11 20 30.9	-1.0
TMB06				S	Sg	11 20 46.3	-1.3
TMB04	**Seminole**	**1.38**	**259**	⇓P	Pn	11 20 33.1	-1.7
TMB04				S	Sb	11 20 51.4	-1.8
TMB01	**Midkiff**	**1.60**	**220**	P	Pn	11 20 37.6	-0.2
TMB01				S	Sn	11 20 58.0	-1.0
ODSA	**Odessa**	**1.61**	**241**		Pn	11 20 37.7	-0.3
ODSA	**Odessa**	**1.61**	**241**	P	Pn	11 20 37.6	-0.4
ODSA				S	Sn	11 20 58.5	-0.8
MSTX	**Muleshoe**	**1.90**	**304**		Pn	11 20 42.3	+0.3
MSTX	**Muleshoe**	**1.90**	**304**	P	Pn	11 20 42.2	+0.2
MSTX				S	Sb	11 21 08.0	-0.2
OZNA	**Ozona**	**1.99**	**186**		Pn	11 20 43.3	+0.1
OZNA	**Ozona**	**1.99**	**186**	P	Pn	11 20 43.5	+0.3
OZNA				S	Sb	11 21 10.3	-0.3
AMTX	**Amarillo**	**2.08**	**342**		Pn	11 20 45.1	+0.7
AMTX	**Amarillo**	**2.08**	**342**	P	Pn	11 20 45.4	+1.0
AMTX				S	Sb	11 21 13.4	+0.1
PLPT	**Palo Pinto**	**2.16**	**92**		Pn	11 20 44.9	-0.5
PLPT				IAmb_Lg		11 21 17.7	
	comp=Z,18nm,0.7s						
PLPT	**Palo Pinto**	**2.16**	**92**	P	Pb	11 20 47.2	-1.1
PLPT				S	Sb	11 21 15.8	+0.4
NM01	**Eunice**	**2.20**	**256**	P	Pn	11 20 47.1	+1.1
NM01				S	Sb	11 21 16.1	-0.5
WTFS	**Witchita Falls**	**2.20**	**66**		Pn	11 20 44.6	-1.3
WTFS	**Witchita Falls**	**2.20**	**66**	P	Pn	11 20 47.2	+1.3
WTFS				Pg	Pb	11 20 48.1	-0.9
MNHN	**Monahans**	**2.23**	**226**		Pn	11 20 46.6	+0.1
MNHN	**Monahans**	**2.23**	**226**	P	Pn	11 20 47.0	+0.5
MNHN				Pg	Pb	11 20 47.9	-1.8
MNHN				S	Sb	11 21 16.3	-1.3
SMWD	**Samnorwood**	**2.25**	**13**		Pn	11 20 46.7	-0.1
SMWD	**Samnorwood**	**2.25**	**13**	Pg	Pb	11 20 49.1	-0.9
SMWD				Sg	Sb	11 21 17.6	-0.6
BRDY	**Brady**	**2.27**	**135**		Pn	11 20 47.2	+0.2
BRDY				IAmb_Lg		11 21 21.7	
	comp=Z,20nm,0.8s						
BRDY	**Brady**	**2.27**	**135**	P	Pn	11 20 47.1	+0.1
BRDY				Pg	Pb	11 20 49.1	-1.2
BRDY				Sg	Sb	11 21 18.9	+0.2
HTMS	**Hat Mesa**	**2.36**	**260**	Pn	Pn	11 20 48.1	-0.2
FW03	**Perrin-Whitt E**	**2.37**	**86**	Pg	Pb	11 20 51.9	0.0
FW03				Sg	Sb	11 21 22.3	+0.8
TPB19	**West of Imperi**	**2.47**	**230**	Pg	Pb	11 20 52.0	-1.7
TPB19				Sg	Sb	11 21 25.1	+0.6
CPRX	**Cap Rock**	**2.51**	**274**	Pg	Pb	11 20 52.7	-1.7
CLN7	**Carlsbad 7**	**2.52**	**259**		Pn	11 20 52.0	+1.5
CLN7	**Carlsbad 7**	**2.52**	**259**	Pg	Pb	11 20 52.8	-1.7
WMOK	**Wichita Mounta**	**2.53**	**43**		Pn	11 20 49.2	-1.3
WMOK	**Wichita Mounta**	**2.53**	**43**	P	Pn	11 20 50.6	+0.2
WMOK				Pg	Pb	11 20 54.6	0.0
JCT	**Junction City**	**2.59**	**159**		Pn	11 20 50.9	-0.5
JCT				IAmb_Lg		11 21 36.6	
	comp=Z,28nm,0.7s						
JCT	**Junction City**	**2.59**	**159**	P	Pn	11 20 52.1	+0.8
FW06	**Azle**	**2.79**	**88**	IAmb_Lg		11 21 40.9	
	comp=Z,20nm,0.8s						
PECS	**Pecos**	**2.96**	**240**		Pn	11 20 56.2	-0.3
PECS				IAmb_Lg		11 21 40.9	
	comp=Z,12nm,1.0s						
WHTX	**Lake Whitney,**	**3.04**	**107**	Pn	Pn	11 20 55.3	-2.2
WHTX				IAmb_Lg		11 21 45.4	
	comp=Z,16nm,0.9s						
X34A	**Smith Ranch, M**	**3.05**	**56**	Pn	Pn	11 20 55.3	-2.4
X34A				IAmb_Lg		11 21 50.7	
	comp=Z,11nm,0.8s						
Z35A	**Perchaven, San**	**3.07**	**81**	Pn	Pn	11 20 59.3	+1.3
Z35A				IAmb_Lg		11 21 47.1	
	comp=Z,14nm,0.9s						
SAND	**Sanderson**	**3.13**	**200**		Pn	11 20 58.6	-0.2
SAND				IAmb_Lg		11 21 48.6	
	comp=Z,20nm,0.8s						
LOOK	**Love County**	**3.28**	**70**	Pn	Pn	11 20 59.8	-1.0
LOOK				IAmb_Lg		11 21 56.5	
	comp=Z,14nm,0.8s						
ALPN	**Alpine**	**3.45**	**224**		Pn	11 21 05.0	+1.7
DRIO	**Del Rio**	**3.48**	**176**		Pn	11 21 03.7	+0.1
HNDO	**Hondo**	**3.64**	**157**		Pn	11 21 05.5	-0.3
HNDO				IAmb_Lg		11 22 05.3	
	comp=Z,10.0nm,0.8s						
RTBA	**Rita Blanca**	**3.84**	**337**	IAmb_Lg		11 22 16.8	
	comp=Z,12nm,0.8s						
MNTX	**Cornudas Mount**	**4.00**	**254**	IAmb_Lg		11 22 22.0	
	comp=Z,14nm,1.0s						
OK029	**Liberty Lake**	**4.04**	**44**	IAmb_Lg		11 22 20.4	
	comp=Z,10nm,0.8s						
NOKA	**Waynoka**	**4.05**	**23**	IAmb_Lg		11 22 28.2	
	comp=Z,12nm,0.7s						
VHRN	**Van Horn**	**4.08**	**240**		Pn	11 21 13.6	+1.6
VHRN				IAmb_Lg		11 22 21.7	
	comp=Z,11nm,0.9s						
TX31	**Lajitas Ar. Si**	**4.29**	**215**		Pn	11 21 15.1	+0.3
TXAR	**Lajitas Array**	**4.29**	**215**	Pn	Pn	11 21 15.2	+0.4
833A	**Chaparral WMA,**	**4.75**	**164**	Pn	Pn	11 21 19.6	-1.4
ANMO	**Albuquerque**	**5.06**	**295**	IAmb_Lg		11 22 48.8	
	comp=Z,9.7nm,0.8s						
T25A	**Trinidad**	**5.12**	**327**	Pn	Pn	11 21 24.6	-1.7
T25A				IAmb_Lg		11 22 58.1	
	comp=Z,6.5nm,0.8s						

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*IDC **01** 11:23:30.2±0.7, 59°.37S×148°.66W, h0km, mb4.0/10, mbtmp4.0/10, MS3.5/12, Error ellipse: s-maj=27.0km s-min=19.0km az=12.0*
*NEIC **01** 11:23:30.5±0.8, 59°.4S±0°.1×148°.1W±0°.3, h10km±2km, mb4.6/9, Error ellipse: s-maj=37.6km s-min=6.2km az=50.0*
ISC 01 11:23:31.4±0.8, 59°.4S±0°.2×148°.4W±0°.1, h10km, n48, σ1$03/29, mb4.2/15, MS3.5/12, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**24.41**	**204**	P	**P**	**11 28 50.5**	**+1.0**
	0.8nm,0.8s,baz=64,slow=7.8,SNR=4.7						
VNDA				LR	LR	11 35 48.8	
	comp=Z,97nm,20.3s,baz=43,slow=30						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**30.73**	**180**	P	**P**	**11 29 47.4**	**+1.0**
	1.4nm,1.1s,baz=109,slow=2.0,SNR=2.1						
QSPA				LR	LR	11 40 12.0	
	comp=Z,59nm,19.6s,baz=88,slow=33						
	1.4nm,1.1s						
PMSA	**Palmer Station**	**37.05**	**135**	P	**P**	**11 30 39.6**	**-1.3**
PMSA				IAmb	IAmb	11 31 22.9	
	comp=Z,8.6nm,1.1s						
PMSA	**Palmer Station**	**37.05**	**135**	LR	LR	11 41 40.9	
	comp=Z,43nm,20.1s,baz=199,slow=29						
BELA	**Belgrano 2**	**37.22**	**161**	P	**P**	**11 30 41.0**	**-1.3**
PPT	**Papeete**	**41.79**	**358**	LR	LR	11 43 39.2	
	comp=Z,83nm,21.6s,baz=162,slow=29						
RPN	**Rapa Nui**	**41.95**	**57**	LR	LR	11 44 11.4	
	comp=Z,72nm,21.6s,baz=324,slow=30						
VNA3	**Neumayer Olymp**	**46.46**	**163**	⇑P	**P**	**11 31 58.7**	**+0.8**
	comp=Z,1.1nm,0.6s						
SNAA	**Sanae**	**47.02**	**166**	⇑P	**P**	**11 32 03.1**	**+0.8**
	comp=Z,30nm,0.7s						
SNAA	**Sanae**	**47.02**	**166**	P	**P**	**11 32 01.8**	**-0.5**
SNAA				IAmb	IAmb	11 32 05.4	
	comp=Z,9.0nm,1.5s						
SNAA	**Sanae**	**47.02**	**166**	P	**P**	**11 32 02.7**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=219,slow=4.3,SNR=6.3						
SNAA				LR	LR	11 49 38.1	
	comp=Z,36nm,20.0s,baz=249,slow=33						
	comp=Z,2.9nm,1.0s						
VNA2	**Neumayer--Watz**	**47.08**	**164**	⇑P	**P**	**11 32 01.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=206,slow=7.3						
VNA1	**Neumayer--Stat**	**47.20**	**163**	P	**P**	**11 32 03.8**	**+0.2**
TROLL	**Troll, Antarti**	**47.32**	**168**	⇑P	**P**	**11 32 06.2**	**+1.5**
	comp=Z,177nm,1.1s						
PLCA	**Paso Flores**	**50.17**	**105**	P	**P**	**11 32 27.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=247,slow=7.7,SNR=1.9						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**51.23**	**195**	P	**P**	**11 32 33.6**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=158,slow=6.7,SNR=3.7						
MAW				LR	LR	11 53 22.6	
	comp=Z,35nm,18.4s,baz=196,slow=35						
	comp=Z,2.2nm,0.7s						
H03S2	**Juan Fernandez**	**51.27**	**92**	T	T	12 28 10.5	
	baz=216,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**51.27**	**92**	T	T	12 28 12.4	
	baz=216,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**51.29**	**92**	T	T	12 28 14.5	
	baz=216,slow=74,SNR=20						
H03N3	**Juan Fernandez**	**51.57**	**92**	T	T	12 28 36.3	
	baz=219,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**51.58**	**92**	T	T	12 28 29.6	
	baz=219,slow=72,SNR=47						
H03N1	**Juan Fernandez**	**51.59**	**92**	T	T	12 28 31.0	
	baz=219,slow=72,SNR=35						
STKA	**Stephens Creek**	**53.11**	**269**	P	**P**	**11 32 49.6**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=152,slow=21,SNR=3.5						
STKA				LR	LR	11 53 06.0	
	comp=Z,37nm,18.2s,baz=207,slow=34						
	comp=Z,2.6nm,0.9s						
AS31	**Alice Springs**	**63.72**	**268**	P	**P**	**11 34 02.6**	**-0.5**
ASAR	**Alice Springs**	**63.72**	**268**	P	**P**	**11 34 02.4**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=143,slow=6.9,SNR=21						
	comp=Z,2.8nm,0.8s						
H01W1	**Cape Leeuwin H**	**64.23**	**245**	T	T	12 44 23.4	
	baz=146,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**64.23**	**245**	T	T	12 44 23.4	
	baz=146,slow=76,SNR=3.8						
H01W3	**Cape Leeuwin H**	**64.25**	**245**	T	T	12 44 26.4	
	baz=146,slow=76,SNR=4.1						
WR8	**Warramunga Arr**	**66.50**	**270**	P	**P**	**11 34 21.1**	**-0.1**
WR8				IAmb	IAmb	11 34 22.7	
	comp=Z,5.3nm,1.1s						
WB2	**Warramunga Arr**	**66.58**	**270**	P	**P**	**11 34 21.5**	**-0.2**
WRA	**Warramunga Arr**	**66.59**	**270**	P	**P**	**11 34 20.8**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=150,slow=5.5,SNR=14						
	comp=Z,2.1nm,0.9s						
WRAB	**Tennant Creek**	**66.59**	**270**	P	**P**	**11 34 20.9**	**-0.8**
WB0	**Warramunga Arr**	**66.71**	**270**	P	**P**	**11 34 22.1**	**-0.4**
WB0				IAmb	IAmb	11 34 23.7	
	comp=Z,4.5nm,1.1s						
CPUP	**Villa Florida**	**68.24**	**105**	P	**P**	**11 34 33.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=59,slow=7.1,SNR=3.1						
	comp=Z,0.3nm,0.3s						
LPAZ	**La Paz**	**71.17**	**90**	P	**P**	**11 34 49.0**	**-2.1**
LPAZ				IAmb	IAmb	11 34 54.9	
	comp=Z,4.8nm,1.1s						
LPAZ	**La Paz**	**71.17**	**90**	P	**P**	**11 34 53.3**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=193,slow=3.7,SNR=4.4						
	comp=Z,0.9nm,0.3s						
LPIG	**La Paz**	**88.92**	**34**	LR	LR	12 07 12.9	
	comp=Z,49nm,18.3s,baz=224,slow=30						
BOSA	**Boshof**	**92.15**	**174**	LR	LR	12 14 20.3	
	comp=Z,25nm,20.0s,baz=195,slow=33						
LBTB	**Lobatse**	**95.74**	**175**	LR	LR	12 15 56.5	
	comp=Z,28nm,20.6s,baz=172,slow=33						
PFO	**Pinyon Flats O**	**96.39**	**26**	LR	LR	12 12 45.8	
	comp=Z,53nm,18.2s,baz=208,slow=31						
H10N3	**ASCENSION HYDR**	**103.58**	**133**	T	T	13 33 50.7	
	baz=203,slow=75,SNR=9.4						
H10N1	**ASCENSION HYDR**	**103.58**	**133**	T	T	13 33 54.5	
	baz=203,slow=75,SNR=5.5						
H10N2	**ASCENSION HYDR**	**103.59**	**133**	T	T	13 33 51.2	
	baz=203,slow=75,SNR=6.0						
ILAR	**Eielson Array**	**123.87**	**1**	PKP	**PKiKP**	**11 42 28.1**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=222,slow=1.9,SNR=14						
MKAR	**Makanchi Array**	**147.89**	**270**	PKPbc	**PKPbc**	**11 43 15.7**	**0.0**
	comp=Z,11nm,0.9s,baz=104,slow=5.1,SNR=62						
ESDC	**Sonseca Array**	**150.16**	**116**	PKPbc	**PKiKP**	**11 43 22.8**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=232,slow=1.9,SNR=18						
ZALV	**Zalesovo Beam**	**150.95**	**283**	PKPbc	**PKPbc**	**11 43 22.2**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=153,slow=1.3,SNR=14						
KURBB	**Kurchatov Arra**	**152.25**	**273**	PKPbc	**PKPbc**	**11 43 25.0**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=130,slow=1.8,SNR=14						

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*NOU **01** 11:24:47.6, 39°.23S×177°.83E, h62km, MLv4.0/14, Off E. Coast of N. Island, N.Z.*
*WEL **01** 11:24:48.8±0.8, 39°S±4°×17°8E±°, h21km±5km, M3.6/8, ML4.0/7, MLv3.6/8, Error ellipse: s-maj=5.3km s-min=4.1km az=151.3, confirmed*
ISC 01 11:24:45.7±1.3, 39°.26S±0°.04×177°.97E±0°.07, h30km±7km, n24, σ1$43/34, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.12**	**334**	P	**Pb**	**11 24 49.5**	**-1.7**
MHGZ				S	**Sb**	**11 24 58.8**	**+3.9**
KNZ	**Kokohu**	**0.33**	**315**	P	**Pb**	**11 24 52.9**	**-0.7**
KNZ				S	**Sb**	**11 24 56.7**	**-2.2**
PRGZ	**Paritu Road**	**0.34**	**348**	P	**Pn**	**11 24 54.6**	**-0.1**
PRGZ				S	**Sn**	**11 25 00.4**	**-0.1**
RIGZ	**Rimuhau**	**0.57**	**343**	P	**Pn**	**11 24 57.7**	**-0.1**
RIGZ				S	**Sb**	**11 25 05.7**	**+0.4**
WHHZ	**Waihua**	**0.60**	**287**	P	**Pb**	**11 24 57.9**	**+0.1**
WHHZ				S	**Sb**	**11 25 06.1**	**+0.1**
SNGZ	**Shannon Statio**	**0.68**	**314**	P	**Pb**	**11 24 58.7**	**-0.5**
SNGZ				S	**Sb**	**11 25 07.3**	**-1.1**
ARHZ	**Aropaoanui**	**0.76**	**269**	P	**Pb**	**11 25 01.4**	**+1.0**
ARHZ				S	**Sn**	**11 25 12.0**	**+1.2**
RAHZ	**Arahi**	**0.77**	**296**	P	**Pn**	**11 25 00.4**	**-0.2**
RAHZ				S	**Sb**	**11 25 10.3**	**-0.5**
TKGZ	**Te Karaka**	**0.82**	**353**	P	**Pb**	**11 25 01.9**	**+0.5**
TKGZ				S	**Sn**	**11 25 13.6**	**+1.2**
MWZ	**Matawai**	**0.98**	**339**	P	**Pn**	**11 25 03.8**	**+0.3**
MWZ				S	**Sn**	**11 25 15.4**	**-1.0**
BKZ	**Black Stump Fm**	**1.15**	**274**	P	**Pn**	**11 25 06.4**	**+0.6**
BKZ	**Black Stump Fm**	**1.15**	**274**	P	**Sn**	**11 25 20.9**	**+0.3**
URZ	**Urewera**	**1.20**	**326**	P	**Pn**	**11 25 06.6**	**+0.2**
URZ	**Urewera**	**1.20**	**326**	S	**Sn**	**11 25 21.3**	**-0.4**
BFZ	**Birch Farm**	**1.95**	**222**	P	**Pn**	**11 25 17.9**	**+1.2**
BFZ	**Birch Farm**	**1.95**	**222**	S	**Sb**	**11 25 42.3**	**-2.1**
KHEZ	**Kahui Hut**	**3.07**	**268**	P	**Pn**	**11 25 34.8**	**+2.5**
KHEZ	**Kahui Hut**	**3.07**	**268**	S	**Sn**	**11 26 09.4**	**+1.4**
SNZO	**South Karori**	**3.23**	**230**	P	**Pn**	**11 25 34.9**	**+0.5**
SNZO	**South Karori**	**3.23**	**230**	S	**Sn**	**11 26 12.0**	**+0.2**
QRZ	**Quartz Range**	**4.46**	**248**	P	**Pn**	**11 25 51.1**	**-0.2**
QRZ	**Quartz Range**	**4.46**	**248**	S	**Sn**	**11 26 39.2**	**-3.0**
KHZ	**Kahutara**	**4.61**	**225**	P	**Pn**	**11 25 54.7**	**+1.4**
KHZ	**Kahutara**	**4.61**	**225**	S	**Sn**	**11 26 43.5**	**-2.3**

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*MEX **01** 11:26:56.7±0.4, 15°.97N×98°.41W, h23km±21km, MD4.5*
*NEIC **01** 11:26:57.6±1.7, 16°.16N±0°.06×98°.13W±0°.05, h10km±1km, mb4.2/125, Md4.5/121(MEX), Error ellipse: s-maj=11.5km s-min=6.8km az=153.0*
*IDC **01** 11:26:57.5±1.9, 16°.54N×98°.26W, h0km, mb3.8/3, mbtmp3.8/7, ML3.4/4, MS3.1/7, Error ellipse: s-maj=39.8km s-min=15.0km az=10.0*
ISC 01 11:26:55.2±1.2, 16°.20N±0°.03×98°.29W±0°.02, h12km±7km, n250, σ2$29/334, mb4.2/44, MS3.1/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**0.97**	**47**		**Pn**	**11 27 15.6**	**+0.7**
YOIG					**Sn**	**11 27 29.8**	**+1.1**
YOIG	**Yosondua**	**0.97**	**47**	*e*P	**Pn**	**11 27 15.6**	**+0.7**
YOIG				*e*S	**Sn**	**11 27 29.8**	**+1.1**
CRIG	**Cruz Grande**	**0.97**	**304**		**Sb**	**11 27 25.2**	**-1.6**
CRIG	**Cruz Grande**	**0.97**	**304**	*e*P	**Pb**	**11 27 12.2**	**-1.8**
CRIG				*e*S	**Sb**	**11 27 25.2**	**-1.6**
PEIG	**Puerto Escondi**	**1.11**	**100**		**Pb**	**11 27 15.3**	**-1.1**
PEIG					**Sb**	**11 27 29.9**	**-1.0**
PEIG	**Puerto Escondi**	**1.11**	**100**	*e*P	**Pb**	**11 27 15.3**	**-1.1**
PEIG				*e*S	**Sb**	**11 27 29.9**	**-1.0**
TXIG	**Tlaxiaco**	**1.16**	**25**		**Pg**	**11 27 18.9**	**+1.3**
TXIG					**Sg**	**11 27 35.6**	**+2.8**
TXIG	**Tlaxiaco**	**1.16**	**25**	*i* P	**Pg**	**11 27 18.9**	**+1.3**
TXIG				*e*S	**Sg**	**11 27 35.6**	**+2.8**
TLIG	**Tlapa**	**1.38**	**349**	Pn	**Pb**	**11 27 21.3**	**+0.2**
TLIG	**Tlapa**	**1.38**	**349**		**Sg**	**11 27 39.5**	**-0.3**
TLIG	**Tlapa**	**1.38**	**349**	*e*P	**Pb**	**11 27 21.2**	**+0.2**
TLIG				*e*S	**Sg**	**11 27 39.5**	**-0.3**
DAIG	**Los Arroyos**	**1.54**	**302**	*e*P	**Pn**	**11 27 20.6**	**-2.0**
DAIG				*e*S	**Sn**	**11 27 39.4**	**-3.2**
HLIG	**Huajuapan de L**	**1.69**	**16**		**Pb**	**11 27 26.2**	**-0.2**
HLIG					**Sg**	**11 27 48.3**	**-1.3**
HLIG	**Huajuapan de L**	**1.69**	**16**	*e*P	**Pb**	**11 27 26.2**	**-0.2**
HLIG				*e*S	**Sg**	**11 27 48.3**	**-1.3**
FTIG	**Fresnillo de T**	**1.71**	**5**		**Pb**	**11 27 26.3**	**-0.3**
FTIG					**Sg**	**11 27 48.8**	**-1.3**
FTIG	**Fresnillo de T**	**1.71**	**5**	*e*P	**Pb**	**11 27 26.3**	**-0.3**
FTIG				*e*S	**Sg**	**11 27 48.8**	**-1.3**
OXIG	**Oaxaca**	**1.73**	**60**		**Pb**	**11 27 25.9**	**-1.1**
OXIG					**Sg**	**11 27 48.6**	**-2.1**
VHO	**Vista Hermosa**	**1.73**	**60**	*e*P	**Pb**	**11 27 25.9**	**-1.1**
VHO				*e*S	**Sg**	**11 27 48.6**	**-2.1**
OXBJ	**Oaxaca**	**1.73**	**60**		**Pg**	**11 27 28.2**	**-0.2**
OXBJ					**Sg**	**11 27 54.0**	**+3.1**
OXBJ	**Oaxaca**	**1.73**	**60**	*i* P	**Pg**	**11 27 28.2**	**-0.2**
OXBJ				*i* S	**Sg**	**11 27 54.0**	**+3.1**
OXLC	**Oaxaca**	**1.75**	**60**		**Pn**	**11 27 24.3**	**-1.3**
OXLC					**Sb**	**11 27 48.7**	**-0.6**
OXLC	**Oaxaca**	**1.75**	**60**	*e*P	**Pn**	**11 27 24.3**	**-1.3**
OXLC				*e*S	**Sb**	**11 27 48.7**	**-0.6**
CAIG	**El Cayaco**	**2.08**	**294**	*e*P	**Pn**	**11 27 28.1**	**-1.8**
CAIG				*i* S	**Sn**	**11 27 49.5**	**-6.3**
HUIG	**Huatulco**	**2.14**	**101**		**Pn**	**11 27 29.7**	**-1.1**
HUIG					**Sn**	**11 27 54.4**	**-2.9**
HUIG	**Huatulco**	**2.14**	**101**	*e*P	**Pn**	**11 27 29.7**	**-1.1**
HUIG				*e*S	**Sn**	**11 27 54.4**	**-2.9**
MEIG	**Mezcala**	**2.14**	**324**		**Pn**	**11 27 31.4**	**+0.5**
MEIG					**Sn**	**11 27 56.6**	**-0.8**
MEIG	**Mezcala**	**2.14**	**324**	*e*P	**Pn**	**11 27 31.4**	**+0.5**
MEIG				*e*S	**Sn**	**11 27 56.6**	**-0.8**
**TOI

CJVM eS Sn 11 28 27.3 +1.3
MHVM Bosque de Chap 3.31 345 Pb 11 27 54.8 +0.7
MHVM Sn 11 28 28.6 +2.0
MHVM Bosque de Chap 3.31 345 eP **Pb 11 27 54.8 +0.7**
MHVM eS Sn 11 28 28.6 +2.0
PBVM Pinon 3.31 347 Pb 11 27 51.5 -2.5
PBVM Sn 11 28 25.2 -1.1
PBVM Pinon 3.31 347 eP **Pb 11 27 51.5 -2.5**
PBVM eS Sn 11 28 25.2 -1.1
TOVM TOLUCA 3.34 337 Pb 11 27 54.0 -0.7
TOVM Sn 11 28 28.4 +0.9
TOVM TOLUCA 3.34 337 eP **Pb 11 27 54.0 -0.7**
TOVM eS Sn 11 28 28.4 +0.9
CMIG Matias Romero 3.38 74 Pn 11 27 47.7 -0.1
CMIG Matias Romero 3.38 74 Sn 11 28 28.1 +0.2
CMIG Matias Romero 3.38 74 Pn **Pn 11 27 48.6 +0.7**
3.1nm,0.3s,baz=261,slow=15,SNR=46
CMIG Pg **Pg 11 27 58.7 -1.3**
11nm,0.3s,baz=264,slow=17,SNR=20
CMIG Sn **Sn 11 28 29.1 +1.1**
11nm,0.3s,baz=255,slow=15,SNR=4.3
CMIG Lg Lg 11 28 43.8
49nm,0.3s,baz=327,slow=5.6,SNR=27
20nm,0.6s
CMIG Matias Romero 3.38 74 eP **Pn 11 27 47.7 -0.1**
CMIG eS Sn 11 28 28.1 +0.2
APVM Azcapotzalco 3.39 345 Sn 11 28 28.7 +0.2
APVM Azcapotzalco 3.39 345 eS **Sn 11 28 28.7 +0.2**
JAUV Jalcomulco 3.45 24 Pn 11 27 50.3 +1.4
JAUV Sb 11 28 33.3 -5.1
JAUV Jalcomulco 3.45 24 eP **Pn 11 27 50.3 +1.4**
JAUV eS Sb 11 28 33.3 -5.1
PTVM Pico Tres Padr 3.47 347 Pb 11 27 56.7 -0.1
PTVM Sn 11 28 30.5 0.0
PTVM Pico Tres Padr 3.47 347 eP **Pb 11 27 56.7 -0.1**
PTVM eS Sn 11 28 30.5 0.0
NILT Santiago Nilte 3.54 84 Pn 11 27 51.5 +1.5
NILT Sn 11 28 33.0 +1.1
NILT Santiago Nilte 3.54 84 i P **Pn 11 27 51.5 +1.5**
NILT eS Sn 11 28 33.0 +1.1
VTVM Tizayuca 3.58 353 Pb 11 27 57.9 -0.9
VTVM Sb 11 28 37.5 -4.9
VTVM Tizayuca 3.58 353 eP **Pb 11 27 57.9 -0.9**
VTVM eS Sb 11 28 37.5 -4.9
ZUVM ZUMPANGO 3.69 348 Pb 11 27 59.3 -1.2
ZUVM Sb 11 28 41.0 -4.3
ZUVM ZUMPANGO 3.69 348 eP **Pb 11 27 59.3 -1.2**
ZUVM eS Sb 11 28 41.0 -4.3
PMUV Sontecomapan 3.82 52 Pn 11 27 54.5 +0.5
PMUV Sb 11 28 45.0 -3.9
PMUV Sontecomapan 3.82 52 i P **Pn 11 27 54.5 +0.5**
PMUV eS Sb 11 28 45.0 -3.9
LVIG Laguna Verde 3.93 27 Pn 11 27 55.8 +0.3
LVIG Sb 11 28 47.7 -4.3
LVIG Laguna Verde 3.93 27 eP **Pn 11 27 55.8 +0.3**
LVIG eS Sb 11 28 47.7 -4.3
CXUV Coxquihui 4.01 9 Pb 11 28 05.7 -0.2
CXUV Sb 11 28 50.6 -3.7
CXUV Coxquihui 4.01 9 eP **Pb 11 28 05.7 -0.2**
CXUV eS Sb 11 28 50.6 -3.7
ACIG Acambay 4.05 338 Pn 11 28 00.4 +3.1
ACIG Sn 11 28 48.3 +3.4
ACIG Acambay 4.05 338 eP **Pn 11 28 00.4 +3.1**
ACIG eS Sn 11 28 48.3 +3.4
TUIG Tuzandepetl 4.12 63 Pn 11 27 58.0 0.0
TUIG Tuzandepetl 4.12 63 eP **Pn 11 27 58.0 0.0**
UXUV UXUV 4.12 74 Pn 11 27 57.7 -0.3
UXUV Sn 11 28 45.3 -0.9
UXUV UXUV 4.12 74 eP **Pn 11 27 57.7 -0.3**
UXUV eS Sn 11 28 45.3 -0.9
MOIG Morelia 4.43 322 Pn 11 28 06.8 +4.3
MOIG Morelia 4.43 322 Sn 11 28 53.6 -0.6
MOIG Morelia 4.43 322 eP Pn 11 28 07.9 +5.4
MOIG eS **Sn 11 28 53.6 -0.6**
JRQG Juriquilla Cam 4.93 336 Pn **Pn 11 28 12.7 +3.3**
CTUV Llano Grande 5.25 359 Pb 11 28 22.5 -4.4
CTUV **Sn 11 29 09.0 -5.0**
CTUV Llano Grande 5.25 359 eP Pb 11 28 22.5 -4.4
CTUV eS **Sn 11 29 09.0 -5.0**
RPIG Rio Verde 5.88 344 Pn 11 28 19.6 -2.7
RPIG **Sn 11 29 35.6 +5.9**
RPIG Rio Verde 5.88 344 eP **Pn 11 28 19.6 -2.7**
RPIG eS **Sn 11 29 35.6 +5.9**
CCIG Comitan 5.91 88 Pn 11 28 22.6 -0.1
MNGA Volcan de Coli 6.03 303 eP **Pn 11 28 28.4 +3.9**
MNGA eS **Sn 11 29 37.2 +3.5**
INCO Volcan de Coli 6.05 304 eP **Pn 11 28 28.9 +4.0**
INCO eS **Sn 11 29 38.5 +4.2**
SOMAC Volcano de Col 6.07 304 eP **Pn 11 28 28.7 +3.6**
SOMAC eS **Sn 11 29 31.0 -3.8**
CDAR Ciudad de Arme 6.10 297 eP **Pn 11 28 30.0 +4.7**
CEGR Campo Tres 6.18 302 eP **Pn 11 28 31.4 +4.8**
CEGR eS **Sn 11 29 37.2 -0.2**
ZAIG Zacatecas 7.68 329 Pn **Pn 11 28 50.1 +2.8**
PETF Flores 8.11 84 Pn **Pn 11 28 52.3 -0.6**
MTO3 Montecristo 8.80 101 Pn **Pn 11 29 02.3 -0.2**
TEIG Tepich 10.32 66 Pn **Pn 11 29 21.5 -1.7**
TEIG Tepich 10.32 66 Pn **Pn 11 29 23.3 +0.2**
baz=311,slow=24,SNR=6.7
TEIG Sn **Sn 11 31 14.5 -4.4**
baz=311,slow=24,SNR=2.1
LPIG La Paz 13.75 307 LR LR 11 34 35.2
comp=Z,99nm,19.7s,baz=37,slow=34
TXAR Lajitas Array 13.98 340 Pn **Pn 11 30 14.6 +1.3**
baz=163,slow=14,SNR=4.5
TXAR LR LR 11 36 21.1
comp=Z,122nm,19.2s,baz=144,slow=41
0.6nm,1.0s
SAND Sanderson 14.14 346 P 11 30 19.2 -3.8
JTS Las Juntas de 14.24 113 Pn **Pn 11 30 17.3 +0.4**
JTS Las Juntas de 14.24 113 Pn **P 11 30 20.5 -3.8**
0.6nm,0.3s,baz=315,slow=13,SNR=4.4
5.3nm,0.6s
JCT Junction City 14.28 355 Pn **Pn 11 30 18.9 +1.4**
SOCE Pocosol 14.50 112 Pn **Pn 11 30 20.7 +0.2**
OZNA Ozona 14.88 350 Pn **Pn 11 30 28.1 +2.4**
ALPN Alpine 14.94 342 Pn **P 11 30 29.2 -2.9**
ALPN IAmb IAmb 11 31 06.6
comp=Z,5.4nm,0.4s
BRDY Brady 15.03 358 Pn **Pn 11 30 28.6 +1.0**
MNHN Monahans 15.62 346 P 11 30 41.2 +1.7
WHTX Lake Whitney, 15.74 3 Pn **Pn 11 30 38.4 +1.5**
WHTX IAmb IAmb 11 30 44.1
comp=Z,12nm,0.8s
VHRN Van Horn 15.76 338 Pn 11 30 39.0 +1.8
SGCY Sterling City 15.86 351 Pn **P 11 30 41.8 -0.4**
SGCY IAmb IAmb 11 30 46.3
comp=Z,18nm,0.8s
237A Washetta, Mont 15.89 8 Pn **Pn 11 30 38.8 0.0**
237A IAmb IAmb 11 30 49.8
comp=Z,18nm,0.9s
PECS Pecos 15.94 342 P 11 30 42.0 -1.1
ABTX Abilene, Hawle 16.40 356 Pn **P 11 30 47.9 -0.3**
ABTX IAmb IAmb 11 30 52.3
comp=Z,25nm,1.0s
PLPT Palo Pinto 16.54 360 Pn **P 11 30 49.6 -0.1**
PLPT IAmb IAmb 11 30 57.9
comp=Z,26nm,1.0s
MNTX Cornudas Mount 16.73 339 P 11 30 55.3 +3.5
SN07 Snyder 07 16.98 352 P 11 30 57.6 +3.0
POST Post 17.05 351 P 11 30 58.5 +3.1
APMT Aspermont 17.13 355 P 11 30 59.4 +3.1
EPT El Paso 17.21 336 P 11 31 01.3 +4.0
DKNS Dickens 17.56 353 P **P 11 31 04.5 +3.5**
DKNS IAmb IAmb 11 31 09.4
comp=Z,11nm,0.8s
319A Douglas 18.13 328 P **P 11 31 11.5 +4.1**
121A Cookes Peak, D 18.40 334 Pn 11 31 14.5 +4.0
121A IAmb IAmb 11 31 44.9
comp=Z,20nm,1.4s
MIAR Mount Ida 18.75 12 P **Pn 11 31 15.6 +1.1**
AMTX Amarillo 18.86 351 P **Pn 11 31 18.1 +2.2**
SMWD Samnorwood 18.91 355 P **Pn 11 31 18.2 +1.7**
BNM Barren Site 19.39 339 Pn 11 31 25.6 +3.2
LRAL Lakeview Retre 19.63 29 P **Pn 11 31 25.9 +0.8**
DEOK Depew 19.63 4 P **Pn 11 31 26.5 +1.4**
DEOK IAmb IAmb 11 31 30.8
comp=Z,26nm,1.2s
OK052 Battle Ridge R 19.76 4 P **Pn 11 31 26.1 -0.5**
OK052 IAmb IAmb 11 31 34.5
comp=Z,22nm,1.3s
ANMO Albuquerque 20.05 340 Pn 11 31 32.2 +1.9

ANMO Albuquerque 20.05 340 P **P 11 31 28.6 +0.1**
comp=Z,0.2nm,0.3s,baz=236,slow=12,SNR=18
ANMO LR LR 11 39 15.2
comp=Z,89nm,18.6s,baz=244,slow=37
comp=Z,5.8nm,0.8s
FCAR Ozark Folk Cen 20.37 15 P Pn 11 31 34.8 +1.0
HHAR Hobbs 20.37 10 P Pn 11 31 34.0 +0.1
U38A Gravette 20.46 9 P Pn 11 31 34.1 -0.8
U38A IAmb IAmb 11 31 39.2
comp=Z,8.3nm,0.8s
RTBA Rita Blanca 20.54 350 Pn 11 31 37.3 +1.2
RTBA IAmb IAmb 11 31 37.4
comp=Z,12nm,0.9s
LCAR Lake Charles 20.79 16 P Pn 11 31 37.7 -1.0
LCAR IAmb IAmb 11 31 42.5
comp=Z,8.8nm,0.9s
X48A Hartselle 20.79 27 Pn 11 31 38.3 -0.5
PLAL Pickwick Lake 20.82 24 P 11 31 37.2 +0.5
PLAL IAmb IAmb 11 31 43.5
comp=Z,9.4nm,0.8s
X18A Snowflake 21.05 332 P **P 11 31 41.7 +2.4**
X18A IAmb IAmb 11 31 44.5
comp=Z,15nm,1.3s
MGMO Mountain Grove 21.54 13 P 11 31 45.2 +0.8
MGMO IAmb IAmb 11 31 58.2
comp=Z,7.0nm,0.9s
T25A Trinidad 21.55 347 P **P 11 31 47.3 +2.5**
T25A IAmb IAmb 11 31 51.9
comp=Z,24nm,1.2s
PBMO Poplar Bluff 21.65 17 P **P 11 31 46.5 +0.9**
X16A Lo Mia Camp, P 21.65 329 P 11 31 50.4 +4.5
GOGA Godfrey 21.74 35 P 11 31 47.9 +1.3
GOGA IAmb IAmb 11 31 48.3
comp=Z,11nm,0.9s
Y52A Lilburn 21.76 33 P **P 11 31 48.2 +1.3**
WVT Waverly 21.93 23 P **P 11 31 49.5 +1.0**
WVT IAmb IAmb 11 31 52.8
comp=Z,14nm,0.8s
SWET Sewanee 21.93 28 P **P 11 31 49.8 +1.2**
V48A Smith Brothers 21.99 26 P 11 31 50.3 +1.1
V48A IAmb IAmb 11 31 52.0
comp=Z,13nm,1.0s
W50A Signal Mountai 22.20 29 P 11 31 52.8 +1.2
CGM3 Cape Girardeau 22.36 18 P **P 11 31 54.8 +1.6**
CGM3 IAmb IAmb 11 31 57.0
comp=Z,12nm,1.0s
SDCO Great Sand Dun 22.39 345 P **P 11 31 57.0 +3.2**
CLTN Cedars of Leba 22.49 26 P 11 31 56.2 +1.5
CLTN IAmb IAmb 11 31 59.3
comp=Z,8.5nm,1.3s
R40A Maddies Statio 22.64 12 P 11 31 58.9 +2.8
CCM Cathedral Cave 22.64 15 P 11 31 58.7 +2.5
CCM IAmb IAmb 11 32 03.1
comp=Z,6.8nm,0.8s
CPCT Cooper Cave 22.78 30 P 11 31 59.1 +1.4
CPCT IAmb IAmb 11 31 59.3
comp=Z,9.2nm,1.0s
FVM French Village 22.78 16 P **P 11 32 00.1 +2.4**
FVM IAmb IAmb 11 32 00.9
comp=Z,13nm,1.0s
W52A Murphy 22.79 32 P **P 11 31 59.2 +1.4**
MVCO Mesa Verde 22.80 339 P 11 32 00.6 +2.4
MVCO IAmb IAmb 11 32 02.4
comp=Z,9.6nm,1.0s
S44A Carbondale 22.85 19 P **P 11 32 00.4 +2.0**
KSU1 Kansas State U 22.86 3 P **P 11 32 01.7 +3.1**
KSU1 IAmb IAmb 11 32 06.3
comp=Z,10nm,1.0s
SIUC Southern Illin 22.88 19 P 11 32 00.6 +1.9
T47A Sharon Grove 22.96 23 P 11 32 01.3 +1.8
HODGE Hodges 23.02 36 P **P 11 32 01.4 +1.2**
KSCO Kaye Shedlock' 23.04 351 P **P 11 32 02.7 +2.2**
KSCO IAmb IAmb 11 32 03.6
comp=Z,14nm,0.9s
U49A Red Boiling Sp 23.09 26 P **P 11 32 01.8 +0.9**
BG3 Lake Jocassee 23.23 33 P **P 11 32 03.9 +1.6**
BG3 IAmb IAmb 11 32 04.3
comp=Z,12nm,1.0s
USIN University of 23.62 21 P **P 11 32 08.4 +2.2**
PV01 Paradox Valley 23.66 339 P **P 11 32 10.1 +3.3**
PV01 IAmb IAmb 11 32 16.5
comp=Z,7.4nm,1.0s
PAULI Pauline 23.70 35 P **P 11 32 08.6 +1.5**
PAULI IAmb IAmb 11 32 14.4
comp=Z,12nm,0.9s
P38A Dawn 23.71 9 P **P 11 32 08.8 +1.7**
P38A IAmb IAmb 11 32 09.3
comp=Z,9.5nm,0.8s
PV13 Radium Mtn., P 23.76 339 P **P 11 32 10.6 +2.7**
PV13 IAmb IAmb 11 32 11.5
comp=Z,6.8nm,0.9s
PV02 Paradox Valley 23.78 339 P **P 11 32 10.4 +2.4**
PV15 Paradox Valley 23.81 340 P **P 11 32 12.1 +3.7**
PV15 IAmb IAmb 11 32 16.4
comp=Z,8.1nm,1.1s
PV03 Paradox Valley 23.86 339 P **P 11 32 11.7 +2.9**
PV03 IAmb IAmb 11 32 11.8
comp=Z,4.9nm,1.0s
PV18 Skein Mesa, Pa 23.87 339 P **P 11 32 11.3 +2.4**
PV18 IAmb IAmb 11 32 12.4
comp=Z,7.9nm,0.9s
P40A Paris 23.88 12 P 11 32 10.4 +1.8
P40A IAmb IAmb 11 32 15.5
comp=Z,11nm,1.0s
T50A Nancy 23.92 27 P 11 32 10.3 +1.2
T50A IAmb IAmb 11 32 10.4
comp=Z,8.4nm,1.1s
PV07 Paradox Valley 23.95 340 P **P 11 32 12.5 +2.8**
PV07 IAmb IAmb 11 32 18.1
comp=Z,9.7nm,1.1s
PV04 Paradox Valley 24.00 339 P **P 11 32 12.7 +2.6**
PV04 IAmb IAmb 11 32 13.4
comp=Z,11nm,1.1s
PV22 Blue Mesa, Par 24.09 340 P **P 11 32 14.9 +4.0**
PV22 IAmb IAmb 11 32 18.6
comp=Z,5.3nm,1.1s
TZTN Tazewell 24.13 30 P **P 11 32 13.2 +2.1**
HMU Henry Mountain 24.28 336 P **P 11 32 16.2 +3.4**
WCI Wyandotte Cave 24.35 23 P 11 32 14.9 +1.8
ISCO Idaho Springs 24.37 346 P 11 32 16.7 +3.1
ISCO IAmb IAmb 11 32 21.9
comp=Z,11nm,1.0s
KNB Kanab 24.41 331 P 11 32 18.4 +4.5
KNB IAmb IAmb 11 32 29.2
comp=Z,12nm,1.5s
LCMT Little Creek M 24.61 330 P **P 11 32 19.2 +3.6**
V55A Taylorsville 24.80 35 P **P 11 32 19.7 +2.5**
OGNE Ogallala 24.87 353 P **P 11 32 21.1 +3.2**
N38A Joes South For 24.90 9 P **P 11 32 19.8 +1.8**
U54A Nelsons Funny 24.97 33 P **P 11 32 20.2 +1.4**
W57A Gilead 24.98 38 P **P 11 32 20.9 +2.0**
S51A Beattyville 24.99 28 P **P 11 32 20.6 +1.7**
R50A Paris 25.20 26 P **P 11 32 21.9 +1.1**
R50A IAmb IAmb 11 32 23.8
comp=Z,9.9nm,1.0s
SRU San Rafael Swe 25.22 337 P **P 11 32 24.2 +3.0**
Q16A Castle Valley 25.30 336 P **P 11 32 25.5 +3.6**
Q16A IAmb IAmb 11 32 25.9
comp=Z,4.2nm,0.8s
O20A White River Ci 25.38 342 P 11 32 26.2 +3.6
O20A IAmb IAmb 11 32 28.3
comp=Z,9.3nm,1.0s
HAYD Hayden 25.46 344 P **P 11 32 27.3 +4.0**
HAYD IAmb IAmb 11 32 45.9
comp=Z,4.3nm,1.0s
TMUT Trail Mountain 25.64 336 P 11 32 28.5 +3.4
TMUT IAmb IAmb 11 32 36.1
comp=Z,11nm,1.5s
GWY Greenwater Val 25.77 324 P **P 11 32 28.9 +2.7**
PRN Pahroc Range 25.81 328 P **P 11 32 30.3 +3.8**
PRN IAmb IAmb 11 32 37.2
comp=Z,5.2nm,1.2s
V58A Windy Hill, Pi 25.94 38 P 11 32 29.7 +2.1
SCIA State Center 25.99 9 P **P 11 32 29.8 +1.9**
TPNV Topopah Spring 26.09 326 P **P 11 32 31.6 +2.5**
TPNV IAmb IAmb 11 32 35.8
comp=Z,4.4nm,1.1s
Q51A Peebles 26.24 27 P **P 11 32 31.6 +1.4**
O48B Farmland 26.55 23 P **P 11 32 32.1 -0.9**
BSUT Blindstream Ca 26.56 338 P **P 11 32 37.1 +3.6**
BSUT IAmb IAmb 11 32 37.6
comp=Z,5.6nm,1.1s
M44A Midewin, Midew 26.62 17 P **P 11 32 35.5 +2.0**
Q52A Bidwell 26.67 29 P **P 11 32 33.9 -0.2**

T57A Hurt 26.71 36 P **P 11 32 36.0 +1.5**
N47A Urbana 26.91 21 P 11 32 36.9 +0.7
Q54A Coxs Mills 27.37 31 P 11 32 41.9 +1.5
PDAR Pinedale Array 28.18 342 P **P 11 32 50.2 +2.3**
comp=Z,1.6nm,1.1s,baz=177,slow=7.2,SNR=7.3
PDAR LR LR 11 43 17.0
comp=Z,33nm,20.6s,baz=154,slow=35
comp=Z,1.6nm,1.1s
NVAR Mina Array Bea 28.28 325 P **P 11 32 50.6 +1.8**
comp=Z,0.9nm,0.9s,baz=140,slow=6.1,SNR=5.8
comp=Z,0.9nm,0.9s
LOHW Long Hollow 29.27 342 P **P 11 33 00.8 +3.2**
LOHW IAmb IAmb 11 33 05.3
comp=Z,4.3nm,1.2s
RLMT Red Lodge 30.28 344 P **P 11 33 10.1 +3.6**
RLMT IAmb IAmb 11 33 38.5
comp=Z,4.6nm,1.2s
WVOR Wild Horse Val 31.43 330 P **P 11 33 20.3 +3.7**
WVOR IAmb IAmb 11 33 27.6
comp=Z,4.8nm,1.2s
J08A Circle Bar Ran 32.07 332 P **P 11 33 25.6 +3.4**
J08A IAmb IAmb 11 33 26.2
comp=Z,3.3nm,0.9s
YBH Yreka Blue Hor 33.00 325 LR LR 11 46 18.1
comp=Z,5.0nm,19.1s,baz=210,slow=35
H03N2 Juan Fernandez 52.70 160 T T 12 32 57.6
baz=337,slow=77,SNR=178
H03N1 Juan Fernandez 52.71 160 T T 12 32 55.0
baz=337,slow=77,SNR=210
H03N3 Juan Fernandez 52.72 160 T T 12 32 55.3
baz=337,slow=77,SNR=262
ILAR Eielson Array 58.48 338 P **P 11 36 52.3 +1.3**
comp=Z,0.8nm,0.8s,baz=118,slow=7.4,SNR=7.9
comp=Z,0.8nm,0.8s
NOA NORSAR Array B 85.06 27 LR LR 12 19 33.2
comp=Z,8.8nm,18.7s,baz=285,slow=37
VAE Valguarnera 97.30 48 LR LR 12 27 13.0
comp=Z,38nm,18.3s,baz=348,slow=37
WRA Warramunga Arr 129.99 257 PKP **PKiKP 11 46 11.1 +4.5**
comp=Z,0.5nm,0.9s,baz=71,slow=1.4,SNR=4.7

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*IDC **01** 11:42:52.8±5.3,4°.77S×130°.75E,h80km±50km,mb3.8/9,*
mbtmp4.2/11,ML4.8/2,Error ellipse: s-maj=36.5km
s-min=17.3km az=64.0
*NEIC **01** 11:42:54.1±1.5,4°.83S±0°.06×130°.5E±0°.1,h86km±8km,*
mb4.5/27,Error ellipse: s-maj=14.5km s-min=8.6km
az=90.0
*DJA **01** 11:42:54.8±0.2,5°S±3°×13°1E±°,h114km±8km,M4.4/13,*
mB5.2/3,mb4.3/10,MLv4.5/13,Mw(mB)4.6/3
ISC 01 11:42:53.1±0.4,4°.86S±0°.05×130°.63E±0°.05,h81km,n70,
σ1 99/71,mb4.3/25,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.26**	**312**	P	**Pn**	**11 43 30.0**	**+1.4**
FAKI	**Fak Fak**	**2.52**	**40**		**Pn**	**11 43 33.9**	**+1.8**
FAKI				Sn	**Sn**	**11 44 03.0**	**+1.1**
FAKI	**Fak Fak**	**2.52**	**40**	P	**Pn**	**11 43 33.7**	**+1.6**
AAI	**Ambon**	**2.69**	**296**	P	**Pn**	**11 43 35.6**	**+1.3**
SAUI	**Saumlaki**	**3.17**	**168**		**Pn**	**11 43 43.5**	**+2.6**
SAUI				Sn	**Sn**	**11 44 19.1**	**+1.4**
SAUI	**Saumlaki**	**3.17**	**168**	P	**Pn**	**11 43 43.4**	**+2.5**
KMPI	**Kaimana, Papua**	**3.29**	**69**	P	**Pn**	**11 43 44.8**	**+2.3**
NLAI	**Namlea**	**3.87**	**294**	P	**Pn**	**11 43 54.6**	**+4.3**
SWI	**Sorong**	**4.02**	**9**	P	**Pn**	**11 43 53.2**	**+0.8**
RKPI	**Ransiki, Papua**	**4.86**	**47**	P	**Pn**	**11 44 05.1**	**+1.2**
LBMI	**Labuha**	**5.23**	**323**	P	**Pn**	**11 44 09.4**	**+0.5**
SANI	**Sanana**	**5.41**	**301**	P	**Pn**	**11 44 12.1**	**+0.8**
0.2nm747nm48nm,0.7s							
TNTI	**Ternate**	**6.47**	**330**	Pn	**Pn**	**11 44 24.6**	**-1.3**
TNTI	**Ternate**	**6.47**	**330**	P	**Pn**	**11 44 25.5**	**-0.4**
0.1nm30nm,0.9s							
BATI	**Baumata**	**8.71**	**232**	P	**Pn**	**11 44 59.6**	**+3.3**
4.8nm,0.3s,baz=96,slow=9.2,SNR=2.5							
BATI				S	**Sn**	**11 46 35.7**	**+2.7**
16nm,0.4s,baz=19,slow=18,SNR=1.4							
22nm,0.5s							
BATI	**Baumata**	**8.71**	**232**	P	**Pn**	**11 44 59.7**	**+3.3**
30nm,0.8s							
EDFI	**Ende, Flores**	**9.68**	**246**	P	**Pn**	**11 45 14.0**	**+4.3**
12nm,1.1s							
KNRA	**Kununurra**	**10.90**	**190**		**Pn**	**11 45 23.4**	**-2.9**
PLAI	**Plampang**	**13.35**	**252**	P	**Pn**	**11 46 01.4**	**+2.0**
27nm,1.4s							
FITZ	**Fitzroy Crossi**	**14.03**	**200**	P	Pn	11 46 03.8	-4.5
5.8nm,0.4s,baz=36,slow=11,SNR=47							
FITZ				S	Sn	11 48 29.2	-13
4.3nm,0.3s,baz=261,slow=18,SNR=6.7							
TWSI	**Taliwang, Sumb**	**14.18**	**253**	P	**Pn**	**11 46 12.1**	**+1.9**
25nm,1.6s							
WB0	**Warramunga Arr**	**15.27**	**166**		**Pn**	**11 46 19.4**	**-4.9**
COEN	**Coen**	**15.32**	**127**	Pn	**Pn**	**11 46 23.9**	**-1.0**
COEN				IAmb	IAmb	11 46 29.8	
comp=Z,16nm,0.7s							
WRAB	**Tennant Creek**	**15.41**	**167**	Pn	**Pn**	**11 46 21.5**	**-4.7**
WRAB				IAmb	IAmb	11 46 29.7	
comp=Z,31nm,0.9s							
WRA	**Warramunga Arr**	**15.42**	**167**		**Pn**	**11 46 20.9**	**-5.3**
WRA	**Warramunga Arr**	**15.42**	**167**	P	**Pn**	**11 46 21.2**	**-5.0**
comp=Z,4.4nm,0.4s,baz=346,slow=13,SNR=61							
WRA				S	Sn	11 49 02.5	-14
comp=Z,4.1nm,0.5s,baz=356,slow=23,SNR=5.7							
WR8	**Warramunga Arr**	**15.47**	**166**		**Pn**	**11 46 23.7**	**-3.2**
AS31	**Alice Springs**	**18.96**	**171**		**P**	**11 47 08.4**	**+0.3**
AS31				IAmb	IAmb	11 47 10.1	
comp=Z,15nm,0.7s							
ASAR	**Alice Springs**	**18.96**	**171**	P	**P**	**11 47 08.4**	**+0.3**
comp=Z,6.1nm,0.3s,baz=352,slow=10,SNR=404							
ASAR				S	S	11 50 28.1	-11
comp=Z,2.6nm,0.7s,baz=346,slow=15,SNR=8.4							
comp=Z,33nm,0.7s							
PSA00	**Pilbara Seismi**	**19.63**	**211**	P	**P**	**11 47 13.2**	**-2.1**
SBUM	**Sibu**	**19.77**	**291**	P	**P**	**11 47 16.9**	**-0.1**
CTAO	**Charters Tower**	**21.46**	**136**	P	**P**	**11 47 36.8**	**+1.7**
CTAO				IAmb	IAmb	11 48 20.9	
comp=Z,21nm,1.4s							
INKA	**Innaminka**	**24.71**	**158**		**P**	**11 48 05.9**	**-1.0**
FORT	**Forrest**	**25.89**	**185**	P	**P**	**11 48 16.8**	**-0.8**
FORT				IAmb	IAmb	11 48 32.2	
comp=Z,6.1nm,0.8s							
BBOO	**Buckleboo**	**28.27**	**170**	P	**P**	**11 48 37.3**	**-1.5**
BBOO				IAmb	IAmb	11 48 54.4	
comp=Z,28nm,1.4s							
STKA	**Stephens Creek**	**28.78**	**160**	P	**P**	**11 48 43.1**	**-0.3**
STKA				IAmb	IAmb	11 48 55.0	
comp=Z,35nm,1.2s							
STKA	**Stephens Creek**	**28.78**	**160**	P	**P**	**11 48 43.0**	**-0.3**
comp=Z,1.1nm,0.3s,baz=339,slow=8.1,SNR=11							
comp=Z,1.1nm,0.3s							
CAN	**Canberra**	**34.74**	**153**	P	**P**	**11 49 36.8**	**+1.1**
NJ2	**Nanjing**	**38.38**	**344**	eP	**P**	**11 50 07.7**	**+1.1**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s							
CM31	**Chiang Mai Arr**	**38.89**	**307**	P	**P**	**11 50 08.9**	**-2.1**
CM31				IAmb	IAmb	11 50 14.5	
comp=Z,5.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**38.89**	**307**	P	**P**	**11 50 10.9**	**-0.2**
comp=Z,2.1nm,0.6s,baz=135,slow=7.4,SNR=14							
comp=Z,2.1nm,0.6s							
CHTO	**Chiang Mai**	**39.08**	**308**	P	**P**	**11 50 11.4**	**-1.3**
CHTO				IAmb	IAmb	11 50 13.1	
comp=Z,4.6nm,0.8s							
KMI	**Kunming**	**40.28**	**319**	P	**P**	**11 50 23.8**	**+0.9**
KMI				pmax	pmax		
comp=Z,8.0nm,1.0s							
MJAR	**Matsushiro Arr**	**41.79**	**9**	P	**P**	**11 50 33.3**	**-1.5**
comp=Z,1.9nm,0.9s,baz=182,slow=8.9,SNR=4.9							
comp=Z,1.9nm,0.9s							
MAJO	**Matsushiro**	**41.79**	**9**	P	**P**	**11 50 34.0**	**-0.8**
MAJO				IAmb	IAmb	11 50 35.5	
comp=Z,3.3nm,0.8s							
MJB9	**Matsu-Tunnel**	**41.80**	**9**	P	**P**	**11 50 34.9**	**+0.1**
MJB9				IAmb	IAmb	11 50 36.5	
comp=Z,3.2nm,0.7s							
PZH	**PanZhiHua**	**41.88**	**320**	P	**P**	**11 50 37.3**	**+1.4**
LZH	**Lanzhou**	**47.84**	**331**	eP	**P**	**11 51 23.4**	**+0.3**
LZH				pP	pwP	11 51 48.4	+1.8
LZH				pmax	pmax		
comp=Z,16nm,1.4s							
HHC	**Hu-ho-hao-te**	**48.73**	**341**	eP	P	11 51 35.0	+5.3
HHC				pmax	pmax		
comp=Z,6.0nm,0.7s							
HHC				pmax	pmax		
comp=Z,79nm,4.1s							

TUWZ	Tuamarina	53.08	140	P	P	11 52 02.4 +0.1
KHZ	Kahutara	53.35	141	P	P	11 52 04.3 0.0
EVN	Everest	53.35	310	P	P	11 52 04.3 -1.0
EVN				IAmb	IAmb	11 52 05.2
	comp=Z,5.8nm,0.6s					
BKZ	Black Stump Fm	53.68	136	P	P	11 52 06.7 -0.1
BKZ				IAmb	IAmb	11 52 47.2
	comp=Z,16nm,1.2s					
SONM	Songino Array	56.63	341	P	P	11 52 28.1 +0.2
	comp=Z,1.1nm,0.5s,baz=153,slow=9.7,SNR=2.2					
	comp=Z,1.1nm,0.5s					
MKAR	Makanchi Array	66.80	326	P	P	11 53 36.0 -0.2
MKAR	Makanchi Array	66.80	326	P	P	11 53 36.2 0.0
	comp=Z,2.1nm,0.5s,baz=115,slow=8.0,SNR=41					
	comp=Z,2.1nm,0.5s					
KSH	Kashi	66.88	317	P	P	11 53 37.5 +0.5
KSH				pmax	pmax	
	comp=Z,4.0nm,0.6s					
ZAA0	Zalesovo Array	69.96	333	P	P	11 53 55.8 +0.1
ZAA0				IAmb	IAmb	11 54 02.0
	comp=Z,3.8nm,1.3s					
ZALV	Zalesovo Beam	69.96	333	P	P	11 53 55.8 +0.1
ZALV	Zalesovo Beam	69.96	333	P	P	11 53 54.9 -0.9
	comp=Z,1.4nm,0.5s,baz=117,slow=3.9,SNR=7.3					
	comp=Z,1.4nm,0.5s					
KURBB	Kurchatov Arra	71.03	328	P	P	11 54 02.1 -0.2
	comp=Z,1.5nm,0.6s,baz=130,slow=5.4,SNR=16					
	comp=Z,1.5nm,0.6s					
KURK	Kurchatov	71.03	328	P	P	11 54 02.0 -0.3
KURK				IAmb	IAmb	11 54 03.4
	comp=Z,8.5nm,1.3s					
KK31	Karatay Array	72.16	318	P	P	11 54 08.6 -0.7
KKAR	Karatay Array	72.16	318	P	P	11 54 08.6 -0.7
BVAR	Borovoye Array	76.60	327	P	P	11 54 33.8 -1.1
	comp=Z,0.7nm,0.6s,baz=161,slow=14,SNR=3.8					
	comp=Z,0.7nm,0.6s					
AB31	Akbulak array	81.23	321	P	P	11 54 57.8 -2.5
ABKAR	Akbulak array	81.23	321	P	P	11 54 59.8 -0.4
QSPA	South Pole Qui	85.10	180	P	P	11 55 21.6 +1.5
	comp=Z,0.7nm,1.0s,baz=243,slow=4.5,SNR=1.7					
	comp=Z,0.7nm,1.0s					
CNPM	China Poot	88.17	30	P	P	11 55 36.7 +1.8
PPLA	Purkeypile	88.49	27	P	P	11 55 37.1 +0.6

*SNET **01** 11:53:05.9±0.5, 13°.64N×89°.04W, h4km, ML2.6*
*CATAC **01** 11:53:06.4±0.2, 14°.N±2°.×8°.9W±°., h5km±1km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=3.8km s-min=2.0km az=13.0, confirmed*
*GCG **01** 11:53:07.1±0.6, 13°.67N×89°.09W, h21km±14km, MD3.6, ML2.7*

ISC 01 11:53:06.4±0.8, **13°.67N**±0°.03×**89°.04W**±0°.02, **h10**km±5km, **n44**, σ0°**78**/51, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.05	209	*i* P	Pg	11 53 07.7	-0.9
LBRS	Las Brisas	0.07	355	*i* P	Pg	11 53 08.6	-0.3
LFU	La Fuente	0.11	318	*e*P	Pg	11 53 09.3	0.0
UDBS	Universidad Do	0.12	293	S	Sg	11 53 12.1	+0.5
UDBS	Universidad Do	0.12	293	P	Pg	11 53 09.6	+0.1
LOMA	Loma Larga	0.13	261	*e*P	Pg	11 53 09.6	0.0
IGN	Direccin Gen	0.14	290	*e*P	Pg	11 53 09.8	+0.1
IGN				*e*S	Sg	11 53 12.7	+0.8
IGN	Direccin Gen	0.14	290	P	Pg	11 53 09.8	+0.1
PANCS	Alcalda de	0.15	249	S	Sg	11 53 11.9	-0.3
UEES	Universidad Ev	0.20	284	P	Pg	11 53 11.1	+0.3
UEES	Universidad Ev	0.20	284	S	Sg	11 53 14.6	+0.9
UESV	Universidad de	0.24	97	P	Pg	11 53 11.8	+0.3
UESV	Universidad de	0.24	97	S	Sg	11 53 15.6	+0.8
BOQS	Boqueron	0.25	286	*e*P	Pg	11 53 12.1	+0.6
BOQS				*e*S	Sg	11 53 16.8	+1.7
PMON	Piamonte	0.27	280	S	Sg	11 53 17.0	+1.3
PMON	Piamonte	0.27	280	P	Pg	11 53 12.4	+0.4
TECO	Alcaldia de Te	0.28	117	P	Pg	11 53 12.1	0.0
TECO	Alcaldia de Te	0.28	117	S	Sg	11 53 16.1	+0.2
SCLA	Alcaldia de Sa	0.30	83	P	Pg	11 53 12.9	+0.4
SCLA	Alcaldia de Sa	0.30	83	S	Sg	11 53 18.0	+1.4
LALI	Alcalda de L	0.33	237	*e*P	Pg	11 53 13.5	+0.5
LALI				*e*S	Sb	11 53 18.6	-0.9
LALI				IAML		11 53 19.2	
	comp=E,901nm,0.3s					
LALI	Alcalda de L	0.33	237	P	Pg	11 53 13.3	+0.3
JAYA	Jayaque - finc	0.40	268	*e*P	Pg	11 53 14.6	+0.2
JAYA				*e*S	Sg	11 53 20.8	+1.1
JAYA	Jayaque - finc	0.40	268	*i* P	Pg	11 53 14.6	+0.2
JAYA				*i* S	Sg	11 53 20.5	+0.8
LLGN	La Laguna	0.50	10	S	Sg	11 53 23.8	+0.9
UNIC	Universidad Ca	0.59	302	S	Sg	11 53 26.3	+0.6
UNIC	Universidad Ca	0.59	302	P	Pg	11 53 18.1	+0.2
CEVE	Cerro Verde	0.59	286	*e*P	Pb	11 53 18.7	-0.3
PACA	Pacayal	0.72	106	P	Pg	11 53 20.2	-0.2
NUBE	Las Nubes	0.76	288	*e*P	Pg	11 53 21.0	-0.1
NUBE				*e*S	Sg	11 53 31.5	+0.5
NUBE	Las Nubes	0.76	288	S	Sb	11 53 32.2	0.0
NUBE	Las Nubes	0.76	288	P	Pg	11 53 21.2	+0.1
MTO3	Montecristo	0.79	337	*e*P	Pg	11 53 21.5	-0.2
FAME	Alcaldia de Sa	0.97	281	P	Pg	11 53 24.4	-0.7
FAME	Alcaldia de Sa	0.97	281	S	Sg	11 53 38.0	+0.4
SARH	Santa Rosa de	1.14	14	*i* P	Pg	11 53 27.9	-0.4
SARH	Santa Rosa de	1.14	14	S	Sg	11 53 43.6	+0.6
SARH	Santa Rosa de	1.14	14	P	Pg	11 53 27.8	-0.4
LCND	La Caada	1.17	107	P	Pg	11 53 28.6	-0.3
CNCH	Conchagua	1.23	108	S	Sn	11 53 47.3	+0.8
CNCH	Conchagua	1.23	108	P	Pg	11 53 30.0	-0.1
POTN	Potosi Cosigui	1.63	114	P	Pn	11 53 35.6	+0.5
POTN				S	Sn	11 53 56.2	+0.1
YUSH	Yuscaran	2.15	82	S	Sb	11 54 14.2	+2.0
YUSH	Yuscaran	2.15	82	P	Pn	11 53 39.7	-2.7

*SDD **01** 12:11:42.6±0.4, 17°.93N×64°.28W, h329km±27km, MD3.1, ML2.7, MW2.9*
*NEIC **01** 12:11:57.2±1.6, 18°.1N±0°.2×64°.40W±0°.04, h35km±2km, ML2.5/15, Md3.3/6(RSPR), Error ellipse: s-maj=33.6km s-min=3.1km az=190.0*
*RSPR **01** 12:12:00.0, 17°.95N×64°.51W, h54km±19km, MD3.3/6*

ISC 01 12:11:57.5±1.4, **18°.1N**±0°.2×**64°.42W**±0°.05, **h35**km, **n31**, σ0°**92**/39, **7C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	Saba	1.20	110	Pn	Pn	12 12 18.0	+0.2
SABA				Sn	Sn	12 12 33.7	+0.8
SMRT	St. Maarten	1.28	90	Pn	Pn	12 12 18.1	-0.8
SMRT				IAML		12 12 47.6	
	comp=N,115nm,0.3s					
SMRT				IAML		12 12 50.8	
	comp=E,101nm,0.2s					
HUMP	Col San Antoni	1.36	274	Pn	Pn	12 12 18.5	-1.5
PDPR	Patillas Dam,	1.52	269	Pn	Pn	12 12 20.7	-1.5
PDPR				Sn	Sn	12 12 40.0	-0.8
PDPR				IAML		12 12 42.1	
	comp=N,33nm,0.3s					
PDPR				IAML		12 12 43.6	
	comp=E,44nm,0.3s					
PDPR	Patillas Dam,	1.52	269	⇓*e*P	Pn	12 12 22.0	-0.2
PDPR	Patillas Dam,	1.52	269	*e*S	Sn	12 12 40.0	-0.8
GCPR	Guaynabo City	1.60	280		Pn	12 12 22.6	-0.7
GCPR					Sn	12 12 42.4	-0.4
GCPR				IAML		12 12 46.2	
	comp=E,30nm,0.4s					
GCPR	Guaynabo City	1.60	280	⇓*e*P	Pn	12 12 24.1	+0.7
GCPR	Guaynabo City	1.60	280	*e*S	Sn	12 12 42.3	-0.4
IGPR	InterUniversit	1.60	267		Pn	12 12 24.0	+0.7
IGPR					Sn	12 12 41.8	-1.1
IGPR	InterUniversit	1.60	267	⇑*e*P	Pn	12 12 24.0	+0.7
IGPR	InterUniversit	1.60	267	*e*S	Sn	12 12 41.8	-1.1
SJG	San Juan	1.65	273	Pn	Pn	12 12 24.4	+0.5
SJG				IAML		12 12 45.9	
	comp=E,58nm,0.2s					
SJG				IAML		12 12 47.1	
	comp=E,62nm,0.2s					
EMPR	Esperanza - Ma	2.05	282		Pn	12 12 30.5	+1.1
EMPR					Sn	12 12 53.9	+0.1
EMPR	Esperanza - Ma	2.05	282	⇑*e*P	Pn	12 12 30.5	+1.1
EMPR	Esperanza - Ma	2.05	282	*e*S	Sn	12 12 53.9	+0.1
CELP	Cerrillos	2.05	271		Pn	12 12 29.5	-0.1
CELP					Sn	12 12 53.3	-0.6
CELP	Cerrillos	2.05	271	⇑*e*P	Pn	12 12 30.7	+1.2
CELP	Cerrillos	2.05	271	*e*S	Sn	12 12 53.4	-0.6
CELP	Cerrillos	2.05	271	*e*Pg	Pn	12 12 32.2	+2.7
CELP				IAML		12 13 00.5	
	comp=N,14nm,0.3s					
AOPR	Arecibo Observ	2.24	278		Pn	12 12 31.6	-0.5
AOPR					Sn	12 12 58.5	0.0
AOPR	Arecibo Observ	2.24	278	⇓*e*P	Pn	12 12 32.9	+0.8
AOPR	Arecibo Observ	2.24	278	*e*S	Sn	12 12 59.0	+0.5
AOPR	Arecibo Observ	2.24	278	*e*Pg	Pn	12 12 34.2	+2.1
AOPR				IAML		12 13 05.6	
	comp=N,43nm,0.3s					
MLPR	Magueyes Islan	2.50	269	⇑*e*P	Pn	12 12 35.9	+0.2
MLPR	Magueyes Islan	2.50	269	*e*S	Sn	12 13 05.2	+0.3
MLPR	Magueyes Islan	2.50	269	⇑*e*Pg	Pn	12 12 36.2	+0.6
MLPR				IAML		12 13 16.9	
	comp=N,1.8nm,0.3s					
CRPR	Cabo Rojo, PR	2.56	270		Pn	12 12 36.4	-0.1
CRPR				Sn	Sn	12 13 06.4	0.0
CRPR				IAML		12 13 42.8	
	comp=E,25nm,3.0s					
CRPR				IAML		12 14 13.6	
	comp=N,26nm,2.2s					
CRPR	Cabo Rojo, PR	2.56	270	⇑*e*P	Pn	12 12 37.4	+1.0
CRPR	Cabo Rojo, PR	2.56	270	*e*Pg	Pn	12 12 36.4	-0.1
AGPR	Aguadilla, PR	2.59	280	*e*Pg	Pn	12 12 37.0	+0.1
AGPR				IAML		12 13 16.5	
	comp=N,14nm,0.8s					
AGPR				⇑*e*Sg	Sn	12 13 17.4	+10

*IDC **01** 12:19:38.3±1.6, 8°.71S×155°.56E, h0km, mb3.5/6, mbtmp3.6/7, ML2.1/1, Error ellipse: s-maj=56.6km s-min=24.0km az=124.0*

ISC 01 12:19:44.1±1.2, **8°.3S**±0°.2×**155°.2E**±0°.1, **h35**km, **n10**, σ2°**56**/11, **mb3.7**/8, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.98	262	Pn	Pn	12 21 40.5	+2.8
	1.3nm,0.3s,baz=208,slow=14,SNR=1.8						
PMG				Sn	Sn	12 23 04.1	-2.8
	1.0nm,0.3s,baz=94,slow=18,SNR=2.1						
	10nm,0.9s						
WRA	Warramunga Arr	23.22	238	P	P	12 24 46.9	-1.5
	0.1nm,0.4s,baz=58,slow=9.1,SNR=10						
	0.1nm,0.4s						
ASAR	Alice Springs	25.43	231	P	P	12 25 09.6	+0.8
	0.3nm,0.8s,baz=59,slow=9.1,SNR=20						
	0.3nm,0.9s						
STKA	Stephens Creek	26.60	206	P	P	12 25 16.9	-2.4
	0.5nm,0.3s,baz=21,slow=18,SNR=2.0						
	0.5nm,0.3s						
KSRS	Korea Array	52.21	333	P	P	12 28 50.0	-1.6
	1.3nm,0.7s,baz=151,slow=8.5,SNR=5.6						
PETK	Petropavlovsk-	61.25	2	P	P	12 29 53.0	-2.6
	2.0nm,0.8s,baz=183,slow=6.6,SNR=2.4						
MKAR	Makanchi Array	84.52	319	P	P	12 32 16.3	+2.7
	0.2nm,0.5s,baz=115,slow=4.6,SNR=9.3						
	0.2nm,0.5s						
ILAR	Eielson Array	84.56	21	P	P	12 32 13.2	-0.2
	0.5nm,0.8s,baz=245,slow=4.3,SNR=5.7						
	0.5nm,0.8s						
ZALV	Zalesovo Beam	85.39	326	P	P	12 32 20.1	+2.4
	0.4nm,0.3s,baz=110,slow=5.7,SNR=4.4						
	0.4nm,0.3s						
TORD	Torodi Ar. Bea	153.51	283	PKPbc	PKiKP	12 39 42.6	+2.5
	0.5nm,0.6s,baz=64,slow=3.8,SNR=2.8						

*TIR **01** 12:22:26.0, 41°.34N×19°.73E, h25km±2km, Md2.4/1, Ml3.1/3*
*PDG **01** 12:22:26.4±0.4, 41°.32N×19°.46E, h15km±2km, ML3.0/12, Error ellipse: s-maj=1.2km s-min=2.1km az=0.0*
*BEO **01** 12:22:26.4±0.4, 41°.31N×19°.55E, h9km±2km, ML2.7/16*
*ATH **01** 12:22:37.4, 40°.39N×19°.20E, h32km±3km, ML2.6/7, Manual Solution by I.Dede First location: 2019/10/01 12:23:49, This location: 2019/10/01 12:53:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 10 km*

ISC 01 12:22:25.7±1.0, **41°.28N**±0°.02×**19°.55E**±0°.02, **h11**km±8km, **n82**, σ1°**15**/121, **11C-10D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	74	P	Pg	12 22 30.3	-0.5
TIR				S	Sg	12 22 33.4	-0.8
TIR				AML	AML	12 22 35.2	
	4.4nm,0.3s						
ULC	Ulcinj	0.72	341	⇓*i*Pg	Pg	12 22 38.5	-1.2
ULC				*i* Sg	Sb	12 22 50.5	+0.3
VLO	Vlora	0.81	183	P	Pn	12 22 43.3	+0.2
VLO				S	Sn	12 22 54.0	-1.1
VLO				AML	AML	12 23 07.3	
	2.6nm,0.3s						
VLO				AMd		12 23 19.1	
DRME	Dracevica, Mon	0.95	343	⇓*i*Pg	Pb	12 22 42.7	-1.4
DRME				*i* Sg	Sn	12 22 57.8	-0.6
OHR	Ohrid	0.95	100	*i* Pn	Pb	12 22 44.0	-0.3
OHR				*i* Sn	Sn	12 22 59.8	+1.1
BUM	Brajici-Budva	1.13	334	⇓*i*Pg	Pb	12 22 47.0	-0.3
BUM				*i* Sg	Sn	12 23 03.5	+0.4
PDG	Podgorica	1.17	349	⇑P	Pn	12 22 47.5	-0.5
PDG	Podgorica	1.17	349	*e*Pg	Pn	12 22 47.7	-0.3
PDG				*e*Sg	Sg	12 23 04.4	+1.0
PDG	Podgorica	1.17	349	⇑*i*Pg	Pn	12 22 46.9	-1.1
PDG				*i* Sg	Sg	12 23 05.1	+1.7
PVY	Plav	1.35	13	⇓*i*Pg	Pn	12 22 50.5	-0.1
PVY				*i* Sg	Sg	12 23 11.1	+2.0
CEME	Cevo	1.35	340	⇑*i*Pg	Pn	12 22 50.0	-0.5
CEME				*i* Sg	Sg	12 23 09.7	+0.5
HCY	Herceg Novi	1.41	326	⇓*i*Pg	Pn	12 22 51.3	0.0
HCY				*i* Sg	Sg	12 23 11.7	+0.6
NKME	Niksic	1.55	343	⇓*i*Pg	Pn	12 22 53.8	+0.5
NKME				*i* Sg	Sg	12 23 15.6	0.0
KOME	Kolasin	1.57	359	⇓*i*Pg	Pn	12 22 54.0	+0.4
KOME				*i* Sg	Sg	12 23 16.9	+0.7
SKO	Skopje	1.57	63	*i* Pn	Pn	12 22 53.7	+0.2
SKO				*i* Sn	Sb	12 23 15.1	+0.4
KEK	Kerkira	1.58	173	P	Pg	12 22 58.2	+2.2
KEK	Kerkira	1.58	173	P	Pn	12 22 53.1	-0.5
KEK				S	Sn	12 23 03.6	-10
IVA	Berane	1.61	9	⇑*i*Pn	Pn	12 22 54.1	0.0
IVA				*i* Sn	Sg	12 23 17.9	+0.4
TREB	Trebinje	1.69	328	*e*Pn	Pn	12 22 54.9	-0.3
TREB	Trebinje	1.69	328	*e*Pg	Pn	12 22 56.0	+0.8
TREB				*e*Sg	Sb	12 23 18.0	-0.1
BRY	Bratogost	1.79	335	⇓*i*Pn	Pb	12 22 57.8	-0.7
BRY				*i* Sn	Sb	12 23 21.0	0.0
IGT	Igoumenitsa	1.85	161	P	Pn	12 22 58.0	+0.8
IGT	Igoumenitsa	1.85	161	P	Pb	12 22 59.5	0.0
IGT				S	Sn	12 23 19.3	-1.3
IGT	Igoumenitsa	1.85	161	*e*Pn	Pn	12 22 57.8	+0.5
IGT				*e*Sg	Sg	12 23 27.0	+2.0
IGT	Igoumenitsa	1.85	161	P	Pn	12 22 57.8	+0.5
IGT				S	Sn	12 23 13.1	-7.5
JAN	Janina	1.90	148	P	Pg	12 23 01.8	-0.4
JAN				S	Sn	12 23 20.1	-1.9
NOCI	Noci	1.95	256	P	Pb	12 23 02.4	+1.3
NOCI				S	Sb	12 23 25.7	+0.3
NOCI				AML	AML	12 23 30.7	
	0.4nm,0.3s						
UPM	Unac-Piva	1.98	346	⇓*i*Pn	Pb	12 23 01.0	-0.9
UPM				*i* Sn	Sb	12 23 25.7	-0.9
SJES	Sjenica	2.00	9	*e*Pn	Pn	12 23 00.9	+1.3
SJES				*e*Sg	Sg	12 23 28.9	-1.2
KLINJ	Klinje	2.02	339	*e*Pn	Pn	12 23 00.4	+0.6
STON	Ston	2.10	320	*e*Pn	Pn	12 23 00.3	-0.5
STON	Ston	2.10	320	*e*Pn	Pn	12 23 00.7	-0.1
STON				Sn	Sn	12 23 26.1	-0.9
STON	Ston	2.10	320	*e*Pn	Pn	12 23 00.6	-0.2
STON				*e*Sn	Sn	12 23 26.4	-0.5
MATE	Matera	2.25	255	⇑P	Pb	12 23 07.8	+1.5
SELS	Selova	2.26	30	*e*Pn	Pn	12 23 03.2	+0.2
SELS				*e*Sn	Sn	12 23 31.7	+0.9
BARS	Barje	2.28	47	*e*Pn	Pn	12 23 03.4	+0.2
BARS				*e*Sn	Sn	12 23 32.5	+1.2
IVAS	Ivanjica	2.34	11	*e*Pn	Pn	12 23 03.9	-0.2
IVAS				*e*Sg	Sb	12 23 37.6	+0.9
RUDO	Rudo	2.34	357	*e*Pn	Pb	12 23 06.4	-1.5
TETR	Tetrakomo, Epi	2.34	145	P	Pb	12 23 06.9	-1.0
TETR	Tetrakomo, Epi	2.34	145	P	Pb	12 23 06.2	-1.8
LSTV	Lastovo	2.48	308	*e*Pn	Pn	12 23 05.5	-0.5
LSTV				Sn	Sn	12 23 34.6	-1.6
GOCS	Kraljevo Serbi	2.48	23	*e*Pn	Pn	12 23 07.3	+1.2
GOCS				*e*Sn	Sn	12 23 36.4	0.0
BOSS	Bosilegrad	2.50	60	*e*Pn	Pn	12 23 06.2	-0.1
BBLS	Lazi&#263i	2.58	358	*e*Pn	Pn	12 23 08.9	+1.4
BBLS				*e*Sn	Sn	12 23 39.1	+0.1
TSLK	Tsoukalades, L	2.59	161	P	Pn	12 23 08.0	+0.4
TSLK	Tsoukalades, L	2.59	161	P	Pn	12 23 08.0	+0.4
LKD2	Lefkada island	2.63	161	P	Pn	12 23 08.5	+0.4
LKD2	Lefkada island	2.63	161	P	Pn	12 23 08.0	-0.1
DRAG	Dragano-Lefkad	2.71	163	P	Pn	12 23 09.1	-0.1
NYDR	Nydri-Lefkada	2.71	161	P	Pn	12 23 09.4	+0.2
NYDR	Nydri-Lefkada	2.71	161	P	Pn	12 23 09.4	+0.2
GRUS	Gruza	2.74	18	*e*Pn	Pn	12 23 10.1	+0.5
MAKA	Makarska	2.75	318	*e*Pn	Pn	12 23 09.5	-0.1
MAKA				S	Sn	12 23 42.0	-0.8
DIVS	Divibare	2.83	6	*e*Pn	Pn	12 23 11.8	+0.8
DIVS				*e*Sn	Sn	12 23 46.7	+1.6
BOVS	Bovan	2.84	33	⇑P	Pn	12 23 11.7	+0.8
BOVS	Bovan	2.84	33	*e*Pn	Pn	12 23 11.8	+0.8
BOVS				*e*Sn	Sn	12 23 44.4	-0.7
RICI	Ricice	2.85	322	*e*Pn	Pn	12 23 10.9	-0.1
FSK	Fiskardo	2.92	164	P	Pn	12 23 11.7	-0.4
FSK	Fiskardo	2.92	164	P	Pn	12 23 11.4	-0.7
TIP	Timpagrande	3.00	226	⇑P	Pn	12 23 13.2	0.0
TRUS	Trudelj	3.01	12	*e*Pn	Pn	12 23 14.7	+1.4
TRUS				*e*Sn	Sn	12 23 50.0	+0.8
ZAPS	Zavoj	3.03	48	*e*Pn	Pn	12 23 12.4	-1.2
ZAPS				*e*Sn	Sn	12 23 50.8	+0.9
VTS	Vitosha	3.05	63	*e*Pn	Pn	12 23 14.4	+0.4
VLS	Valsamata	3.20	165	P	Pn	12 23 15.4	-0.5
VLS	Valsamata	3.20	165	P	Pn	12 23 15.5	-0.5
ZAGS	Zajecar	3.21	37	*e*Pn	Pn	12 23 15.6	-0.5
ZAGS				*e*Sn	Sn	12 23 54.2	-0.1
ANX	Ano Chora	3.24	145	P	Pn	12 23 19.3	+2.8
ANX	Ano Chora	3.24	145	P	Pn	12 23 19.1	+2.5
PSDA	Pessada-Kefalo	3.26	166	P	Pn	12 23 16.5	-0.2
KUBS	Kucevo	3.50	26	*e*Pn	Pn	12 23 18.5	-1.5
KIJV	Kijevo	3.58	321	*e*Pn	Pn	12 23 20.2	-0.9
KIJV	Kijevo	3.58	321	*e*Pn	Pn	12 23 21.3	+0.2
KIJV				Sn	Sn	12 24 02.1	-1.2
ZIRJ	Zirje	3.74	311	*e*Pn	Pn	12 23 23.4	+0.1
MDVR	Moldovita	3.84	24	⇑P	Pn	12 23 24.8	0.0
MORI	Morici	3.84	314	*e*Pn	Pn	12 23 25.3	+0.6
HERR	Herculane	4.16	29	⇑P	Pn	12 23 29.8	+0.6
DUGI	Dugi Otok	4.28	311	*e*Pn	Pn	12 23 31.1	+0.3
VIRC	Vir	4.47	314	*e*Pn	Pn	12 23 34.0	+0.6
BZS	Buzias	4.59	18	⇑P	Pn	12 23 35.9	+0.9
GZR	Gura Zlata	4.73	29	⇓P	Pn	12 23 37.6	+0.5
NVLJ	Novalja	4.75	315	*e*Pn	Pn	12 23 38.2	+1.0
VOIR		5.77	42	⇑P	Pn	12 23 52.2	+0.9

*IDC **01** 12:31:27.4±1.1, 20°.97N×145°.86E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=35.5km s-min=18.9km az=83.0*

ISC 01 12:31:32.6±1.1, **20°.9N**±0°.1×**145°.8E**±0°.2, **h34**km, **n16**, σ0°**75**/10, **mb3.7**/10, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	19.81	93	T	T	12 56 03.3	
	baz=281,slow=75,SNR=8.5						
H11N1	WAKE ISLAND Hy	19.81	90	T	T	12 56 04.5	
	baz=277,slow=74,SNR=10						
H11N2	WAKE ISLAND Hy	19.82	90	T	T	12 56 04.9	
	baz=277,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	19.82	93	T	T	12 56 04.7	
	baz=281,slow=75,SNR=5.3						
H11S2	WAKE ISLAND Hy	19.83	93	T	T	12 56 04.7	
	baz=281,slow=75,SNR=5.6						
H11N3	WAKE ISLAND Hy	19.83	90	T	T	12 56 05.9	
	baz=277,slow=74,SNR=10.0						
KSRS	Korea Array	22.62	321	P	P	12 36 31.4	+0.9
	1.1nm,0.6s,baz=149,slow=9.8,SNR=7.1						
	1.1nm,0.6s						
WRA	Warramunga Arr	42.15	196	P	P	12 39 22.5	+0.5
	0.3nm,0.6s,baz=19,slow=8.4,SNR=6.1						
	0.3nm,0.6s						
FITZ	Fitzroy Crossi	43.54	208	P	P	12 39 33.8	+0.6
	2.1nm,0.9s,baz=24,slow=12,SNR=6.3						
	2.1nm,0.9s						
CMAR	Chiang Mai Arr	44.07	275	P	P	12 39 37.4	-0.3
	0.3nm,0.5s,baz=93,slow=8.1,SNR=1.6						
	0.3nm,0.5s						
ASAR	Alice Springs	45.83	195	P	P	12 39 51.2	-0.3
	0.1nm,0.4s,baz=15,slow=7.1,SNR=6.8						
	0.1nm,0.4s						
MKAR	Makanchi Array	57.01	313	P	P	12 41 14.3	-0.8
	0.3nm,0.4s,baz=82,slow=8.0,SNR=6.5						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	59.74	317	P	P	12 41 33.2	-0.8
	0.5nm,0.3s,baz=92,slow=7.5,S

WRA	**Warramunga Arr**	**44.79**	**262**	P	**P**	**12 51 14.5**	**-0.7**
	3.1nm,0.6s,baz=98,slow=7.8,SNR=74						
WRA				PcP	**PcP**	**12 52 45.2**	**+0.3**
	0.3nm,0.3s,baz=96,slow=3.0,SNR=8.2						
	3.1nm,0.6s						
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**12 54 06.2**	**+0.4**
	2.3nm,0.7s,baz=18,slow=1.0,SNR=22						
	2.3nm,0.7s						
TXAR	**Lajitas Array**	**86.72**	**57**	P	**P**	**12 55 36.2**	**+0.6**
	0.2nm,0.6s,baz=212,slow=5.8,SNR=3.7						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**87.87**	**13**	P	**P**	**12 55 39.7**	**-0.3**
	0.2nm,0.4s,baz=214,slow=5.2,SNR=4.1						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**142.71**	**331**	PKhKP	PKPpre	13 02 17.2	
	1.2nm,0.5s,baz=44,slow=3.5,SNR=4.6						

*NEIC **01** 13:11:08.1±0.9, 35°.740N±0°.004×117°.58W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.4km az=107.0*

PAS 01 13:11:08.6±0.6, 35°.744N±0°.010×117°.59W±0°.01, h6km±1km, Mwr3.6/6, ML3.6/196(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**357**		Pg	13 11 10.5	0.0
SRTC	**Snort**	**0.14**	**248**		Pg	13 11 11.9	+0.4
SRTC					Sg	13 11 14.9	+1.6
TOW	**Tower One**	**0.15**	**295**		Pg	13 11 12.2	+0.5
TOW					Sg	13 11 15.5	+1.6
WSHM	**Spangler Hills**	**0.17**	**150**		Pg	13 11 12.0	+0.1
WNMM	**Nine Mile Cany**	**0.27**	**291**		Sg	13 11 18.2	+0.6
LRMC	**Laurel Mtn Rad**	**0.27**	**195**		Pg	13 11 14.0	0.0
LRMC				IAML		13 11 18.8	
	comp=N,15μm,0.3s						
LRMC				IAML		13 11 19.5	
	comp=E,8μm,0.3s						
WVPM	**Volcano Peak E**	**0.28**	**319**		Pg	13 11 14.0	-0.1
WVPM					Sg	13 11 18.4	+0.6
CCCA	**Chr Cany lake**	**0.29**	**139**		Pg	13 11 14.6	+0.4
WCSM	**Coso Springs S**	**0.32**	**333**		Pg	13 11 14.7	-0.1
WCSM					Sg	13 11 19.4	+0.3
MPMC	**Manual Prospec**	**0.33**	**15**		Pg	13 11 14.8	-0.2
MPMC				IAML		13 11 20.1	
	comp=N,7μm,0.6s						
MPMC				IAML		13 11 20.4	
	comp=E,6μm,0.6s						
WRVM	**Rose V. Centra**	**0.36**	**318**		Pg	13 11 15.4	-0.2
WRVM					Sg	13 11 20.6	+0.2
MFS	**McCloud Flat S**	**0.43**	**330**		Pg	13 11 16.9	-0.1
MFS					Sg	13 11 23.1	+0.5
WBSM	**Bird Springs**	**0.49**	**245**		Sg	13 11 24.9	+0.4
DTP	**Desert Tortois**	**0.52**	**203**		Pg	13 11 18.3	-0.3
DTP					Sg	13 11 25.3	0.0
WORM	**Onyx Ranch**	**0.53**	**265**		Pg	13 11 18.5	-0.4
WORM					Sg	13 11 25.6	-0.2
WHFM	**Hanning Flat**	**0.62**	**266**		Pg	13 11 20.1	-0.4
WHFM					Sg	13 11 28.3	-0.3
QSM	**Queen of Sheba**	**0.63**	**69**		Pg	13 11 20.4	-0.3
QSM				IAML		13 11 33.5	
	comp=E,2μm,0.2s						
QSM				IAML		13 11 35.5	
	comp=N,3μm,0.5s						
QSM	**Queen of Sheba**	**0.63**	**69**		Sg	13 11 28.8	-0.1
CCAC	**Calif City Air**	**0.68**	**211**		Pg	13 11 21.5	-0.2
CCAC					Sg	13 11 31.0	+0.4
ISA	**Isabella, Lake**	**0.72**	**264**		Pg	13 11 22.1	-0.4
ISA				IAML		13 11 32.4	
	comp=E,2μm,0.6s						
ISA				IAML		13 11 32.6	
	comp=N,2μm,0.5s						
ISA	**Isabella, Lake**	**0.72**	**264**		Sg	13 11 31.7	-0.2
GSC	**Goldstone, Bar**	**0.78**	**124**		Pg	13 11 23.2	-0.4
GSC				IAML		13 11 34.2	
	comp=N,4μm,0.4s						
GSC				IAML		13 11 37.4	
	comp=E,4μm,0.4s						
GSC	**Goldstone, Bar**	**0.78**	**124**		Sg	13 11 33.8	+0.1
WASM	**Alta Sierra Ca**	**0.78**	**270**		Pg	13 11 23.3	-0.4
WASM					Sg	13 11 33.7	-0.2
CWC	**Cottonwood Cre**	**0.80**	**331**		Pg	13 11 23.6	-0.4
CWC				IAML		13 11 38.4	
	comp=E,1μm,0.3s						
CWC	**Cottonwood Cre**	**0.80**	**331**		Sg	13 11 34.5	+0.1
CGO	**Cerro Gordo**	**0.82**	**348**		Pg	13 11 23.7	-0.8
CGO					Sg	13 11 35.4	+0.2
GWY	**Greenwater Val**	**0.87**	**59**		Sg	13 11 37.1	+0.4
GWY	**Greenwater Val**	**0.87**	**59**		Pg	13 11 24.9	-0.4
GWY				IAML		13 11 40.2	
	comp=N,2μm,0.4s						
GWY				IAML		13 11 43.2	
	comp=E,3μm,0.4s						
HYS	**Haystack Butte**	**0.88**	**179**		Pg	13 11 24.8	-0.7
EDW2	**Edwards Air Fo**	**0.92**	**201**		Pg	13 11 25.4	-0.9
EDW2					Sg	13 11 37.9	-0.4
FURC	**Furnace Creek,**	**0.93**	**39**		Pg	13 11 26.3	-0.2
FURC	**Furnace Creek,**	**0.93**	**39**	IAML		13 11 41.7	
	comp=E,2μm,0.6s						
FURC				IAML		13 11 45.1	
	comp=N,2μm,0.7s						
RRX	**Edison Barstow**	**0.99**	**150**		Sb	13 11 41.2	-0.4
TPO	**Tropico Hills**	**1.01**	**211**		Sg	13 11 40.2	-0.8
TPO	**Tropico Hills**	**1.01**	**211**		Pg	13 11 27.4	-0.5
TPO				IAML		13 11 47.1	
	comp=E,3μm,0.6s						
TPO				IAML		13 11 48.0	
	comp=N,2μm,0.7s						
TEJ	**El Tejon**	**1.03**	**241**		Pg	13 11 27.0	-1.4
SPG2	**Springville 2**	**1.05**	**296**		Pg	13 11 27.9	-1.0
SPG2					Sg	13 11 41.3	-1.3
SBB	**Saddle Back Bu**	**1.07**	**190**		Pg	13 11 28.2	-0.9
SBB					Sg	13 11 42.3	-0.7
SHOC	**Shoshone, Teco**	**1.08**	**81**		Sg	13 11 43.7	+0.3
SHOC	**Shoshone, Teco**	**1.08**	**81**		Pg	13 11 28.9	-0.5
VES	**Vestal, Richgr**	**1.22**	**275**		Pg	13 11 31.1	-0.9
GRAC	**Grapevine Rang**	**1.26**	**8**		Pg	13 11 32.1	-0.7
GRAC				IAML		13 11 51.6	
	comp=N,2μm,0.6s						
GRAC				IAML		13 11 52.9	
	comp=E,2μm,0.7s						
WCT	**Wildcat Mounta**	**1.31**	**36**		Pn	13 11 32.2	-1.3
DSCC	**Desert Studies**	**1.36**	**116**		Pn	13 11 32.1	-2.0
TIN	**Tinemaha, Big**	**1.41**	**339**		Pn	13 11 34.3	-0.6
TIN				IAML		13 11 57.5	
	comp=E,1μm,0.7s						
TIN				IAML		13 11 58.1	
	comp=N,1μm,0.7s						
OSI	**Osito Audit: C**	**1.46**	**220**		Pn	13 11 34.8	-0.7
OSI				IAML		13 11 57.8	
	comp=E,669nm,0.7s						
OSI				IAML		13 11 58.6	
	comp=N,494nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.50**	**182**		Pn	13 11 35.0	-1.2
BFSC				IAML		13 12 00.1	
	comp=N,1μm,0.7s						
BFSC				IAML		13 12 01.7	
	comp=E,734nm,0.6s						
MWC	**Mount Wilson**	**1.56**	**194**		Pn	13 11 36.1	-1.0
MWC				IAML		13 12 01.4	
	comp=E,1μm,0.7s						
MWC				IAML		13 12 03.5	
	comp=N,1μm,0.6s						
GMN	**Gold Mountain**	**1.58**	**10**		Pn	13 11 36.6	-0.7
TPNV	**Topopah Spring**	**1.62**	**42**		Pn	13 11 36.9	-1.0
TPNV				IAML		13 12 04.4	
	comp=N,454nm,0.6s						
PASC	**Pasadena Art C**	**1.64**	**197**		Pn	13 11 37.4	-0.7
PASC				IAML		13 12 05.0	
	comp=E,608nm,0.7s						
PASC				IAML		13 12 05.2	
	comp=N,523nm,0.9s						
DSP	**Deep Springs**	**1.65**	**350**		Pn	13 11 37.4	-0.7
DSP				IAML		13 12 02.5	
	comp=E,552nm,0.6s						
ELS	**Elsinore Mount**	**2.10**	**176**		Pn	13 11 43.4	-1.0
ELS				IAML		13 12 21.0	
	comp=E,349nm,0.9s						
ELS				IAML		13 12 26.4	
	comp=N,245nm,0.6s						
BELC	**Belle Mtn. Jos**	**2.18**	**143**	IAML		13 12 20.4	
	comp=N,394nm,0.7s						
BELC				IAML		13 12 21.0	
	comp=E,418nm,0.5s						
V12A	**Nelson**	**2.23**	**90**	IAML		13 12 25.9	
	comp=E,238nm,0.5s						
V12A				IAML		13 12 26.6	
	comp=N,283nm,0.8s						
MDPB	**Devils Postpil**	**2.23**	**328**	IAML		13 12 22.7	
	comp=E,234nm,0.8s						
TPH	**Tonopah**	**2.35**	**7**	IAML		13 12 26.3	
	comp=N,223nm,0.5s						
TPH				IAML		13 12 27.8	
	comp=E,311nm,1.0s						
PKD	**Bear Valley Ra**	**2.40**	**276**	IAML		13 12 28.4	
	comp=N,225nm,1.0s						
PKD				IAML		13 12 37.2	
	comp=E,253nm,1.4s						
S11A	**Rachel**	**2.41**	**37**	IAML		13 12 28.8	
	comp=E,436nm,1.0s						
S11A				IAML		13 12 40.6	
	comp=N,415nm,0.9s						
IRM	**Iron Mountain**	**2.56**	**127**	IAML		13 12 30.3	
	comp=N,212nm,0.6s						
IRM				IAML		13 12 30.3	
	comp=E,300nm,0.4s						
LHV	**Little Huntoon**	**2.61**	**344**	IAML		13 12 40.3	
	comp=E,164nm,1.4s						
LHV				IAML		13 12 44.2	
	comp=N,167nm,0.8s						
NEE2	**Needles Airpor**	**2.62**	**111**	IAML		13 12 42.1	
	comp=E,434nm,0.7s						
PRN	**Pahroc Range**	**2.63**	**50**	IAML		13 12 39.7	
	comp=N,227nm,0.8s						
PRN				IAML		13 12 50.8	
	comp=E,195nm,0.7s						
BORC	**Borrego Spring**	**2.65**	**158**	IAML		13 12 36.6	
	comp=E,164nm,0.9s						
BORC				IAML		13 12 42.4	
	comp=N,150nm,0.9s						
BC3	**Big Chuckawall**	**2.73**	**139**	IAML		13 12 39.1	
	comp=N,315nm,0.5s						
BC3				IAML		13 12 43.7	
	comp=E,189nm,1.2s						
DPP	**Dos Picos Cty**	**2.79**	**169**	IAML		13 12 38.7	
	comp=E,152nm,0.6s						
CPE	**Camp Elliot**	**2.88**	**172**	IAML		13 12 40.1	
	comp=N,184nm,0.4s						
CPE				IAML		13 12 41.5	
	comp=E,235nm,0.7s						
HULI	**Fort Hunter Li**	**2.97**	**276**	IAML		13 12 45.0	
	comp=N,172nm,1.0s						
HULI				IAML		13 12 49.5	
	comp=E,243nm,1.1s						
W13A	**Hualapai Mount**	**3.10**	**101**	IAML		13 12 50.1	
	comp=N,130nm,1.2s						
BAR	**Barrett**	**3.15**	**166**	IAML		13 12 47.4	
	comp=E,156nm,0.4s						
BAR				IAML		13 12 49.7	
	comp=N,157nm,0.6s						
CMB	**Columbia Colle**	**3.20**	**316**	IAML		13 12 54.2	
	comp=E,135nm,0.6s						
CMB				IAML		13 12 56.3	
	comp=N,116nm,0.6s						
BLYC	**Blythe**	**3.22**	**127**	IAML		13 12 55.8	
	comp=N,139nm,1.0s						
BLYC				IAML		13 12 56.6	
	comp=E,125nm,0.9s						
MHC	**Mount Hamilton**	**3.63**	**297**	IAML		13 13 09.4	
	comp=E,95nm,1.0s						
WELL	**Weller Preserv**	**3.67**	**318**	IAML		13 13 09.2	
	comp=E,111nm,0.7s						
WELL				IAML		13 13 17.5	
	comp=N,92nm,1.1s						
ESJX	**Sierra Juarez**	**3.97**	**159**	IAML		13 13 23.2	
	comp=E,52nm,1.4s						
SPR3	**Spring Creek 3**	**4.16**	**38**	IAML		13 13 20.6	
	comp=N,41nm,0.8s						
Y14A	**Wickenburg**	**4.18**	**114**	IAML		13 13 25.0	
	comp=E,112nm,0.7s						
Y14A				IAML		13 13 26.2	
	comp=N,115nm,0.7s						
VTX	**Valle De La Tr**	**4.60**	**160**	IAML		13 13 42.0	
	comp=N,34nm,1.0s						
VTX				IAML		13 13 42.4	
	comp=E,59nm,1.1s						
BEKR	**Beckworth**	**4.66**	**333**	IAML		13 13 44.3	
	comp=N,34nm,0.7s						
BEKR				IAML		13 13 44.8	
	comp=E,89nm,0.7s						
ORV	**Oroville**	**4.91**	**322**	IAML		13 13 52.6	
	comp=E,35nm,1.1s						
ORV				IAML		13 13 59.9	
	comp=N,26nm,1.2s						
WUAZ	**Wupatki**	**5.07**	**91**	IAML		13 13 49.3	
	comp=N,53nm,1.1s						
WUAZ				IAML		13 13 49.3	
	comp=N,50nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.21**	**103**	IAML		13 14 08.0	
	comp=E,22nm,1.4s						
ELK	**Elko**	**5.33**	**20**	IAML		13 13 59.5	
	comp=E,19nm,0.8s						

RSNC 01 13:35:40.3±0.0, 2°N±1°×7°6W±°, h4km±2km, M3.5, mB5.6, mb4.8, ML3.2, Mw(mB)5.2, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.26**	**20**	P	Pb	13 35 46.9	-0.6
BETC				S	Sb	13 35 52.8	+0.4
FLOC	**Florencia**	**0.86**	**188**	P	Pg	13 35 55.4	-1.4
FLOC				S	Sg	13 36 07.1	-0.9
POPC	**Popayan, Colom**	**1.15**	**275**	P	Pg	13 36 00.0	-2.4
POPC				S	Sg	13 36 16.1	-1.2
URMC	**La Uribe, Meta**	**1.40**	**55**	P	Pn	13 36 04.4	-2.3
URMC				S	Sb	13 36 23.0	-2.4
PRAC	**Prado**	**1.42**	**27**	P	Pn	13 36 04.2	-2.8
PRAC				S	Sb	13 36 23.8	-2.1
ORTC	**Ortega, Tolima**	**1.49**	**11**	P	Pn	13 36 05.8	-2.1
ORTC				S	Sn	13 36 26.5	-1.3
CRUC	**La Cruz**	**1.66**	**239**	P	Pn	13 36 05.1	-5.5
CRUC				S	Sn	13 36 30.9	-1.7
MACC	**Macarena, Meta**	**1.71**	**100**	P	Pn	13 36 09.5	-1.4
MACC				S	Sn	13 36 32.1	-1.1
YOTC	**Yotoco, Valle**	**1.74**	**332**	P	Pn	13 36 09.0	-2.4
YOTC				S	Sn	13 36 31.7	-2.4
BBAC	**Balboa, Cauca**	**1.77**	**256**	P	Pn	13 36 10.5	-1.4
BBAC				S	Sn	13 36 34.1	-0.8
GCUF	**Volcan Galeras**	**2.18**	**236**	P	Pn	13 36 18.5	+0.7
GCUF				S	Sn	13 36 46.0	+0.5
PTLC	**Puerto Leguiza**	**2.37**	**162**	P	Pb	13 36 22.8	-0.8
PTLC				S	Sg	13 36 57.0	+0.5
CVER	**Cruz Verde, Cu**	**2.53**	**35**	P	Pn	13 36 22.4	-0.2
CVER				S	Sb	13 36 58.5	+0.3
ROSC	**El Rosal**	**2.67**	**27**	P	Pn	13 36 25.6	+1.1
ROSC				S	Sb	13 37 00.4	-1.9
GUY2C	**Guyana, Caldas**	**2.77**	**3**	P	Pn	13 36 25.5	-0.4
GUY2C				S	Sn	13 37 01.8	+1.7
BONI	**La Bonita**	**2.81**	**225**	P	Pn	13 36 28.5	+2.2
BONI				S	Sb	13 37 05.2	-0.9
TULM	**Tulcn-Chalpat**	**2.83**	**233**	P	Pb	13 36 29.5	-2.3
TULM				S	Sb	13 37 07.3	+0.3
GUVC	**San Jose del G**	**2.90**	**88**	P	Pn	13 36 25.7	-1.6
GUVC				S	Sb	13 37 08.1	-0.5
NORC	**Norcasia**	**3.17**	**12**	P	Pn	13 36 29.2	-1.9
NORC				S	Sn	13 37 12.7	+3.3
SPBC	**San Pablo de B**	**3.51**	**24**	P	Pn	13 36 38.5	+2.8
SPBC				S	Sn	13 37 21.2	+3.5
HELC	**Santa Helena**	**3.73**	**0**	P	Pb	13 36 47.4	+0.5
PTGC	**Puerto Gaitan,**	**3.81**	**63**	P	Pb	13 36 46.7	-1.5
PTGC				S	Sb	13 37 35.9	+1.1
RUSC	**La Rusia**	**4.21**	**35**	P	Pn	13 36 45.2	-0.5
PTBC	**PUERTO BERRIO,**	**4.21**	**15**	P	Pn	13 36 42.6	-2.8
PTBC				S	Sn	13 37 38.4	+3.4
DBBC	**Dabeiba**	**4.60**	**352**	P	Pn	13 36 52.9	+2.2
BARC	**Barichara**	**4.74**	**29**	P	Pn	13 36 50.2	-2.7
BARC				S	Sn	13 37 51.2	+2.7
BRJC	**Barrancabermej**	**4.84**	**21**	P	Pb	13 37 00.1	-5.7
ZARC	**Zaragoza, Cauc**	**5.06**	**8**	P	Pn	13 37 01.4	+4.3
ZARC				S	Sn	13 37 56.1	0.0
PAMC	**Pamplona, Colo**	**5.62**	**30**	P	Pn	13 37 05.4	+0.2
OCAC	**Ocana**	**6.17**	**21**	P	Pn	13 37 10.5	-1.9

*LVSN **01** 13:40:36.9±9.6, 58°.14N×26°.72E, h0km±295km, ML1.9*

HEL 01 13:40:32.0±0.3, 60°.56N×29°.16E, h0km, ML1.6, Suspected explosion, Baltic

States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.79**	**269**	PB	Pg	13 40 47.0	-0.2
VJF				MSG		13 40 56.6	
	comp=Z,9.9nm,0.2s						
VJF				SB	Sg	13 40 57.6	+0.2
PVF	**Pernaja**	**1.63**	**271**	PG	Pn	13 41 01.3	-0.6
	baz=93						
PVF				MSG		13 41 20.7	
	comp=Z,3.7nm,0.2s						
PVF				SN	Sn	13 41 23.1	-0.4
FIA0	**FINESS Array S**	**1.75**	**302**	PG	Pn	13 41 03.4	-0.1
	baz=120						
FIA0				MSG		13 41 24.1	
	comp=Z,3.2nm,0.2s						
ARBE	**Arbavere**	**1.95**	**236**	*e*P	Pn	13 41 04.8	-1.5
ARBE				AML	AML	13 41 09.2	
	comp=Z,75nm,0.1s						
ARBE				AML	AML	13 41 12.9	
	comp=E,191nm,0.1s						
ARBE				AML	AML	13 41 42.8	
	comp=N,211nm,0.1s						
KAF	**Kangasniemi**	**2.08**	**320**	PG	Pb	13 41 09.5	-1.1
	baz=141						
KAF				MSG		13 41 33.7	
	comp=Z,3.0nm,0.2s						
KAF				SG	Sb	13 41 36.5	-0.5
HEL1	**Helsinki**	**2.16**	**262**	MSG		13 41 36.0	
	comp=Z,4.5nm,0.2s						
HEL1				SG	Sg	13 41 40.7	-0.6
NUR	**Nurmijarvi**	**2.23**	**271**	MSG		13 41 38.1	
	comp=Z,2.2nm,0.2s						
NUR				SG	Sb	13 41 42.0	+0.8
HEL5	**Espoo, Suvisaa**	**2.24**	**261**	MSG		13 41 38.3	
	comp=Z,2.5nm,0.2s						
HEL5				SG	Sg	13 41 43.5	-0.4
MEF	**Metsahovi**	**2.39**	**264**	*e*P	Pn	13 41 13.5	+1.2
MEF				*e*S	Sn	13 41 43.7	+1.5
MEF				AML	AML	13 42 02.3	
	comp=Z,9.8nm,0.8s						
MEF				AML	AML	13 42 03.2	
	comp=E,8.5nm,0.9s						
MEF				AML	AML	13 42 05.2	
	comp=N,7.2nm,0.8s						
MEF	**Metsahovi**	**2.39**	**264**	PG	Pb	13 41 15.3	-0.5
MEF				MSG		13 41 42.5	
	comp=Z,2.0nm,0.2s						
MEF				SG	Sb	13 41 46.5	+0.7
JOF	**Joensuu**	**2.58**	**22**	PG	Pb	13 41 18.2	-0.9
JOF				SG	Sb	13 41 49.8	-1.5
SUF	**Sumiainen**	**2.60**	**328**	PG	Pb	13 41 18.3	-1.2
SUF				MSG		13 41 48.7	
	comp=Z,0.8nm,0.2s						
SUF				SG	Sb	13 41 51.7	-0.2
KEF	**Keuruu**	**2.62**	**310**	MSG		13 41 49.2	
	comp=Z,1.0nm,0.2s						
KEF				SG	Sb	13 41 52.7	+0.2
NIF	**Nilsia**	**2.92**	**348**	MSG		13 41 57.8	
	comp=Z,2.2nm,0.2s						
NIF				SG	Sb	13 41 59.9	-1.0

NNC 01 13:44:59.8±7.9, 36°.82N×70°.59E, h0km, mb3.7, mpv3.5, 3C-2D, Error ellipse: s-maj=82.4km s-min=52.8km az=140.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.28**	**359**	⇑P	Pn	13 46 33.7	+0.1
	1.5nm,0.2s,baz=175,slow=12,SNR=29						
KK31				⇑S	Sn	13 47 45.1	-0.9
	1.4nm,0.3s,baz=186,slow=25,SNR=5.5						
AAK	**Ala-Archa**	**6.54**	**26**	⇑P	Pn	13 46 36.2	-1.2
	1.0nm,0.4s						
AAK				⇓S	Sn	13 47 55.0	+2.2
	1.8nm,0.6s						
AB31	**Akbulak array**	**14.64**	**331**	⇓P	P	13 48 32.0	-2.7
	0.4nm,0.6s,baz=168,slow=12,SNR=4.9						

*IDC **01** 13:53:01.1±2.2, 5°.18N×79°.79W, h0km, mb3.6/4, mbtmp3.8/7, ML3.0/3, Error ellipse: s-maj=69.8km s-min=25.4km az=19.0*

*NEIC **01** 13:53:05.4±1.2, 5°.7N±0°.1×79°.73W±0°.09, h10km±2km, mb4.4/4, Error ellipse: s-maj=19.1km s-min=13.3km az=213.0*

*RSNC **01** 13:53:07.2±0.0, 6°N±3°×8°0W±°, h20km±6km, M3.3, mb4.8, mB5.0, ML2.8, Mw(mB)4.3*

ISC 01 13:53:05.5±0.8, 5°.71N±0°.05×79°.53W±0°.07, h10km, n43, σ1§61/49, mb3.8/4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**2.17**	**76**	P	Pn	13 53 39.5	-2.2
SOLC				S	**Sn**	**13 54 04.8**	**-3.8**
PTAC	**Punta Ardita,**	**2.22**	**50**	P	**Pn**	**13 53 41.9**	**-0.6**
PTAC				S	**Sn**	**13 54 08.4**	**-1.6**
GR1C	**Gorgona, Isla**	**3.01**	**153**	P	Pn	13 53 49.7	-3.7
BCIP	**Isla Barro Col**	**3.44**	**355**	P	**Pn**	**13 53 59.0**	**-0.3**
BCIP				S	**Sn**	**13 54 39.1**	**-1.1**
CBOC	**Ciudad Bolivar**	**3.50**	**87**	P	**Pn**	**13 53 58.7**	**-1.5**
DBBC	**Dabeiba**	**3.54**	**68**	P	**Pn**	**13 54 01.3**	**+0.6**
DBBC				S	**Sn**	**13 54 41.6**	**-1.1**
YOTC	**Yotoco, Valle**	**3.60**	**118**	P	**Pn**	**13 54 00.3**	**-1.3**
YOTC				S	**Sn**	**13 54 40.6**	**-3.7**
APAC	**Apartado, Choc**	**3.64**	**53**	P	**Pn**	**13 54 04.6**	**+2.6**
HELC	**Santa Helena**	**4.00**	**83**	P	**Pn**	**13 54 05.9**	**-1.4**
HELC				S	**Sn**	**13 54 53.7**	**-0.8**
GUY2C	**Guyana, Caldas**	**4.17**	**97**	P	**Pn**	**13 54 11.7**	**+2.0**
POPC	**Popayan, Colom**	**4.24**	**138**	P	Pn	13 54 08.3	-2.2
BBAC	**Balboa, Cauca**	**4.32**	**148**	P	Pn	13 54 09.1	-2.4
BBAC				S	**Sn**	**13 55 01.0**	**-1.0**
BRU2	**Volcan**	**4.38**	**314**	Pn	Pn	13 54 09.8	-2.5
UREC	**San Jos de Ur**	**4.45**	**63**	P	**Pn**	**13 54 15.2**	**+2.0**
UREC				S	**Sn**	**13 55 06.7**	**+1.6**
ORTC	**Ortega, Tolima**	**4.62**	**113**	P	**Pn**	**13 54 17.2**	**+1.6**
ORTC				S	**Sn**	**13 55 10.1**	**+0.7**
PIRO	**Carate, Puerto**	**4.63**	**305**	Pn	Pn	13 54 12.9	-2.7
CRUC	**La Cruz**	**4.85**	**148**	P	**Pn**	**13 54 19.0**	**0.0**
GCUF	**Volcan Galeras**	**4.96**	**154**	P	**Pn**	**13 54 21.0**	**+0.4**
ZARC	**Zaragoza, Cauc**	**4.96**	**69**	P	**Pn**	**13 54 20.7**	**+0.5**
ZARC				S	**Sn**	**13 55 15.8**	**-1.9**
PRAC	**Prado**	**5.03**	**113**	P	**Pn**	**13 54 22.5**	**+1.3**
	2μm128nm,0.7s						
PRAC				S	**Sn**	**13 55 20.0**	**+0.6**
	2μm128nm,0.7s						
ROSC	**El Rosal**	**5.25**	**99**	Pn	**Pn**	**13 54 24.2**	**-0.3**
	2.4nm,0.3s,baz=267,slow=19,SNR=5.0						
	7.1nm,0.4s						
PAC1	**Pacto, Paraso**	**5.46**	**172**	P	**Pn**	**13 54 26.6**	**-0.6**
	13nm,0.4s						
FLOC	**Florencia**	**5.64**	**137**	Pn	**Pn**	**13 54 30.4**	**+0.9**
FLOC	**Florencia**	**5.64**	**137**	P	**Pn**	**13 54 30.4**	**+0.9**
URMC	**La Uribe, Meta**	**5.69**	**115**	P	**Pn**	**13 54 31.5**	**+1.3**
	1μm103nm,0.8s						
URMC				S	**

comp=Z,1.2nm,0.6s,baz=258,slow=5.7,SNR=2.3
comp=Z,1.2nm,0.6s
ILAR Eielson Array 75.31 336 P P 14 04 48.6 -0.2
comp=Z,0.5nm,0.8s,baz=90,slow=2.7,SNR=4.7
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 80.19 78 P P 14 05 16.1 -0.9
comp=Z,0.3nm,0.7s,baz=301,slow=4.4,SNR=1.7
comp=Z,0.3nm,0.7s
ASAR Alice Springs 143.22 238 PKP PKPab 14 12 35.5 -1.1
comp=Z,0.3nm,0.8s,baz=111,slow=3.5,SNR=5.7
WRA Warramunga Arr 144.18 244 PKP **PKPab 14 12 39.1 -1.3**
comp=Z,1.9nm,0.8s,baz=104,slow=2.8,SNR=12

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*NEIC **01** 14:34:38.5±0.3,35°.799N±0°.009×96°.67W±0°.01,h5km±1km, mb_Lg2.4/8,ML2.4/21,ML2.5/54,Error ellipse: s-maj=2.2km s-min=1.9km az=83.0*
NEIC 01 14:34:38.6±1.8,36°N±90°×9°W±4°6,h7km±10km,Error ellipse: s-maj=8577.0km s-min=24.3km az=163.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.14**	**71**		**Pg**	14 34 41.9	+0.4
DEOK					Sg	14 34 44.2	+0.7
DEOK				IAML		14 34 44.3	
	comp=E,988nm,0.2s						
OK052	**Battle Ridge R**	**0.23**	**329**		**Pg**	14 34 43.6	+0.4
OK052					Sg	14 34 47.0	+0.8
OK052				IAML		14 34 47.2	
	comp=E,1μm,0.2s						
QUOK	**Quay**	**0.37**	**354**		**Pg**	14 34 46.2	+0.3
QUOK					Sg	14 34 51.6	+0.7
QUOK				IAML		14 34 51.8	
	comp=E,540nm,0.3s						
OK029	**Liberty Lake**	**0.65**	**270**		**Pg**	14 34 51.0	-0.1
OK029					Sg	14 35 00.3	+0.7
OK048	**Pawnee Station**	**0.66**	**339**		**Pg**	14 34 51.4	+0.1
OK048				IAML		14 35 00.7	
	comp=E,187nm,0.1s						
TUL3	**Leonard**	**0.71**	**81**		Sg	14 35 02.2	+0.7
OK051	**E0350 and S346**	**0.72**	**348**		Pg	14 34 52.5	0.0
BLOK	**Blackwell**	**1.06**	**335**	IAmb_Lg		14 35 12.6	
	comp=Z,14nm,1.0s						
T35A	**Sooner Cattle**	**1.12**	**6**		Pg	14 34 59.7	-0.4
T35A				IAML		14 35 15.4	
	comp=Z,112nm,0.2s						
T35A				IAML		14 35 18.0	
	comp=Z,111nm,0.2s						
CROK	**Carrier**	**1.28**	**304**		Pn	14 35 02.5	-0.4
RLO	**Rose Lookout**	**1.38**	**74**		Pn	14 35 04.4	+0.2
RLO					Sg	14 35 22.8	0.0
U38A	**Gravette**	**1.95**	**70**		Sb	14 35 39.6	+0.7
MGMO	**Mountain Grove**	**3.79**	**68**	IAmb_Lg		14 36 41.3	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**4.89**	**61**	IAmb_Lg		14 37 20.3	
	comp=Z,5.6nm,0.9s						
S44A	**Carbondale**	**6.24**	**70**	IAmb_Lg		14 38 05.4	
	comp=Z,8.2nm,0.7s						

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*IDC **01** 14:35:43.4±1.8,3°.23S×129°.18E,h0km,mb3.5/2, mbtmp3.6/4,ML3.4/2,Error ellipse: s-maj=108.2km s-min=26.8km az=72.0*
*DJA **01** 14:35:46.8±0.2,3°S±2°×12°8E±°,h10km,M4.1/12,mb4.4/5, MLv4.0/12*
ISC 01 14:35:46.4±1.6,3°57S±0°.08×128°36E±0°.06,h15km±12km, n12,σ1°48/15,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**234**	P	**Pb**	**14 35 53.1**	**+1.2**
AAI				S	**Sb**	**14 35 58.1**	**+2.5**
MSAI	**Masohi**	**0.60**	**69**	P	**Pg**	**14 35 57.8**	**-0.5**
NLAI	**Namlea**	**1.30**	**284**	P	**Pn**	**14 36 08.8**	**-1.2**
SANI	**Sanana**	**2.81**	**302**	P	**Pn**	**14 36 30.6**	**-0.2**
SANI				S	**Sn**	**14 37 03.7**	**-0.7**
FAKI	**Fak Fak**	**3.93**	**81**	P	**Pn**	**14 36 48.5**	**+2.2**
SWI	**Sorong**	**3.95**	**47**	P	**Pn**	**14 36 47.8**	**+1.3**
SWI				S	**Sn**	**14 37 33.2**	**+0.7**
RKPI	**Ransiki, Papua**	**6.16**	**71**	P	**Pn**	**14 37 17.8**	**+0.9**
	26nm,0.7s						
APSI	**Ampana**	**7.21**	**291**	P	**Pn**	**14 37 31.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.69**	**190**	Pn	**P**	**14 39 17.9**	**-2.0**
	0.1nm,0.3s,baz=30,slow=13,SNR=1.3						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**17.29**	**161**	P	**Pn**	**14 39 46.4**	**-1.1**
	0.2nm,0.3s,baz=347,slow=13,SNR=12						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**20.69**	**165**	P	Pn	14 40 27.6	-0.9
	2.1nm,0.6s,baz=347,slow=11,SNR=31						
ASAR				PcP	**PcP**	**14 44 35.6**	**-0.5**
	0.2nm,0.5s,baz=5.9,slow=1.3,SNR=5.0						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**64.48**	**327**	P	**P**	**14 46 23.0**	**+0.5**
	0.2nm,0.4s,baz=118,slow=7.5,SNR=5.1						
	0.2nm,0.4s						

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*NOU **01** 14:55:33.1,39°.18S×177°.85E,h29km,MLv3.2/8,Off E. Coast of N. Island, N.Z.*
*WEL **01** 14:55:34.3±0.8,39°S±4°×17°8E±°,h21km±5km,M3.1/8, ML3.5/8,MLv3.1/8,Error ellipse: s-maj=5.2km s-min=4.1km az=4.2,confirmed*
ISC 01 14:55:33.9±1.1,39°.16S±0°.04×177°.83E±0°.04,h33km±2km, n18,σ0°77/27,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.06**	**87**	P	**Pb**	**14 55 39.2**	**-0.3**
MHGZ				S	**Sb**	**14 55 44.4**	**+1.1**
KNZ	**Kokohu**	**0.18**	**318**	P	**Pn**	**14 55 38.3**	**-1.1**
KNZ				S	**Sn**	**14 55 42.2**	**+1.0**
PRGZ	**Paritu Road**	**0.24**	**10**	P	**Pn**	**14 55 40.1**	**-0.6**
PRGZ				S	**Sb**	**14 55 46.3**	**+0.6**
RIGZ	**Rimuhau**	**0.45**	**353**	P	**Pb**	**14 55 43.2**	**-0.6**
RIGZ				S	**Sn**	**14 55 50.9**	**-0.2**
WHHZ	**Waihua**	**0.47**	**279**	P	**Pb**	**14 55 43.5**	**-0.5**
WHHZ				S	**Sn**	**14 55 51.9**	**+0.5**
SNGZ	**Shannon Statio**	**0.54**	**314**	P	**Pn**	**14 55 44.3**	**-0.9**
SNGZ				S	**Sn**	**14 55 52.8**	**-0.3**
RAHZ	**Arahi**	**0.63**	**292**	P	**Pn**	**14 55 45.9**	**-0.5**
RAHZ				S	**Sb**	**14 55 55.8**	**+0.6**
ARHZ	**Aropaoanui**	**0.66**	**260**	P	**Pb**	**14 55 47.0**	**0.0**
ARHZ				S	**Sb**	**14 55 57.4**	**+1.5**
CNGZ	**Carnagh Statio**	**0.73**	**24**	P	**Pb**	**14 55 48.4**	**+0.1**
NMHZ	**Naumai**	**0.80**	**274**	P	**Pb**	**14 55 49.1**	**-0.3**
NMHZ				S	**Sb**	**14 56 01.6**	**+1.6**
BKZ	**Black Stump Fm**	**1.04**	**269**	P	**Pn**	**14 55 52.0**	**-0.2**
BKZ	**Black Stump Fm**	**1.04**	**269**	S	**Sb**	**14 56 06.2**	**-0.6**
URZ	**Urewera**	**1.06**	**328**	P	**Pn**	**14 55 52.3**	**0.0**
URZ	**Urewera**	**1.06**	**328**	S	**Sb**	**14 56 06.7**	**-0.5**
MXZ	**Matakaoa Point**	**1.63**	**13**	P	**Pn**	**14 56 00.2**	**-0.1**
MXZ	**Matakaoa Point**	**1.63**	**13**	S	**Sn**	**14 56 21.2**	**+1.0**
BFZ	**Birch Farm**	**1.95**	**218**	P	**Pn**	**14 56 04.0**	**-0.7**
BFZ	**Birch Farm**	**1.95**	**218**	S	**Sn**	**14 56 28.0**	**0.0**

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*IDC **01** 15:00:53.3±2.3,17°.89S×178°.25W,h557km±25km, mb3.1/11,mbtmp4.0/12,Error ellipse: s-maj=19.0km s-min=13.9km az=145.0*
*NEIC **01** 15:00:53.4±1.0,17°.9S±0°.1×178°.2W±0°.2,h554km±11km, mb4.4/26,Error ellipse: s-maj=20.8km s-min=20.0km az=84.0*
ISC 01 15:00:52.1±0.5,18°.0S±0°.1×178°.11W±0°.08,h550km,n53, σ1°02/57,mb4.2/30,1C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.62**	**360**	P	**P**	**15 02 11.8**	**+0.5**
MSVF	**Nonsavu**	**3.67**	**273**	P	**P**	**15 02 13.9**	**+2.2**
NIUE	**Niue**	**7.84**	**99**	P	**P**	**15 02 47.6**	**-0.7**
DZM	**Mont Dzumac**	**15.08**	**252**	P	**P**	**15 04 03.8**	**+1.2**
DZM	**Mont Dzumac**	**15.08**	**252**	P	**P**	**15 04 03.5**	**+0.9**
	5.2nm,0.7s,baz=79,slow=16,SNR=5.1						
URZ	**Urewera**	**20.66**	**191**	P	**P**	**15 04 51.5**	**-2.5**
	3.2nm,0.3s,baz=339,slow=10,SNR=1.6						
CMWZ	**Cape Campbell**	**24.61**	**194**	P	**P**	**15 05 31.9**	**+2.7**
EIDS	**Eidsvold**	**29.52**	**250**	P	**P**	**15 06 12.4**	**-0.1**
EIDS				IAmb	IAmb	15 06 45.8	
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**30.16**	**240**	P	**P**	**15 06 18.4**	**+0.2**
CTAO	**Charters Tower**	**33.72**	**261**	P	**P**	**15 06 48.2**	**-0.2**
CTAO				IAmb	IAmb	15 07 30.9	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**37.36**	**231**	P	**P**	**15 07 18.9**	**+0.5**
TOO				IAmb	IAmb	15 07 20.5	
	comp=Z,8.6nm,1.4s						
COEN	**Coen**	**37.39**	**270**	P	**P**	**15 07 19.3**	**+0.4**
COEN				IAmb	IAmb	15 07 39.4	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**15 07 31.0**	**+0.4**
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**15 07 30.8**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=91,slow=12,SNR=6.7						
	comp=Z,3.3nm,0.7s						
INKA	**Innaminka**	**38.99**	**248**	P	**P**	**15 07 32.3**	**+0.6**
INKA				IAmb	IAmb	15 07 32.8	
	comp=Z,3.4nm,0.5s						
BBOO	**Buckleboo**	**43.63**	**241**	P	**P**	**15 08 08.1**	**-0.3**
BBOO				IAmb	IAmb	15 08 36.9	
	comp=Z,28nm,1.5s						
WR8	**Warramunga Arr**	**44.75**	**260**	P	**P**	**15 08 16.1**	**-1.2**
WB0	**Warramunga Arr**	**44.87**	**260**	P	**P**	**15 08 17.1**	**-1.0**
WB0				IAmb	IAmb	15 08 18.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**15 08 17.4**	**-0.9**
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**15 08 17.6**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=97,slow=6.9,SNR=84						
WRA				PcP	**PcP**	**15 09 47.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=96,slow=3.7,SNR=2.0						
	comp=Z,2.4nm,0.5s						
AS31	**Alice Springs**	**45.05**	**254**		**P**	**15 08 19.1**	**-0.4**
AS31				IAmb	IAmb	15 08 20.1	
	comp=Z,8.1nm,0.4s						
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**15 08 19.1**	**-0.4**
	comp=Z,20nm,0.5s,baz=92,slow=7.9,SNR=818						
ASAR				PcP	**PcP**	**15 09 48.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=99,slow=4.3,SNR=3.9						
ASAR				ScP	**ScP**	**15 12 49.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=96,slow=3.6,SNR=4.9						
ASAR				S	**S**	**15 14 16.6**	**-2.2**
	comp=Z,1.5nm,1.3s,baz=97,slow=15,SNR=4.5						
FORT	**Forrest**	**50.25**	**245**	P	**P**	**15 08 57.3**	**-0.9**
KNRA	**Kununurra**	**50.77**	**264**	P	**P**	**15 09 01.6**	**-0.6**
KNRA				IAmb	IAmb	15 09 07.9	
	comp=Z,10nm,1.1s						
FAKI	**Fak Fak**	**50.87**	**281**	P	**P**	**15 09 02.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.30**	**261**	P	**P**	**15 09 20.2**	**-0.2**
SOEI	**Soe**	**56.36**	**270**	P	**P**	**15 09 41.7**	**-0.2**
SOEI				IAmb	IAmb	15 09 43.9	
	comp=Z,9.6nm,0.7s						
PSA00	**Pilbara Seismi**	**58.17**	**255**	P	**P**	**15 09 53.3**	**-0.8**
PSA00				IAmb	IAmb	15 10 10.5	
	comp=Z,23nm,1.4s						
MJAR	**Matsushiro Arr**	**68.11**	**323**	P	**P**	**15 10 57.3**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=169,slow=6.5,SNR=6.1						
	comp=Z,1.4nm,0.6s						
MAJO	**Matsushiro**	**68.12**	**323**	P	**P**	**15 10 57.6**	**+0.1**
MAJO				IAmb	IAmb	15 10 57.9	
	comp=Z,3.7nm,0.6s						
MJB9	**Matsu-Tunnel**	**68.12**	**323**	P	**P**	**15 10 58.5**	**+1.0**
UGM	**Wanagama**	**69.93**	**268**	P	**P**	**15 11 08.6**	**-0.3**
QSPA	**South Pole Qui**	**72.10**	**180**	P	**P**	**15 11 22.8**	**+1.9**
QSPA	**South Pole Qui**	**72.10**	**180**	P	**P**	**15 11 22.6**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=90,slow=2.9,SNR=18						
	comp=Z,1.8nm,0.6s						
SSLB	**Suanglung**	**72.50**	**303**	P	**P**	**15 11 23.1**	**-0.6**
SSLB				IAmb	IAmb	15 11 51.6	
	comp=Z,10nm,0.9s						
TPUB	**Ta-pu**	**72.53**	**302**	P	**P**	**15 11 23.4**	**-0.5**
TPUB				IAmb	IAmb	15 11 24.0	
	comp=Z,16nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**15 11 31.0**	**+0.6**
PETK	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**15 11 31.1**	**+0.6**
PETK	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**15 11 30.9**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=183,slow=7.5,SNR=1.4						
	comp=Z,1.3nm,0.7s						
KSRS	**Korea Array**	**74.92**	**318**	P	**P**	**15 11 37.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.7,SNR=2.6						
NVAR	**Mina Array Bea**	**79.26**	**44**	P	**P**	**15 12 01.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=254,slow=3.4,SNR=2.2						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.78**	**58**	P	**P**	**15 12 34.8**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=212,slow=4.0,SNR=6.3						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**85.87**	**13**	P	**P**	**15 12 32.7**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=211,slow=4.5,SNR=4.8						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**87.19**	**43**	P	**P**	**15 12 40.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=256,slow=4.1,SNR=2.3						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**15 12 49.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=106,slow=3.0,SNR=5.6						
	comp=Z,0.4nm,0.3s						
TROLL	**Troll, Antarti**	**90.26**	**180**	⇓P	**P**	**15 12 52.3**	**-1.9**
	comp=Z,48nm,0.4s						
SNAA	**Sanae**	**90.55**	**179**	⇓P	**P**	**15 12 53.5**	**-1.9**
	comp=Z,11nm,0.5s						
SNAA	**Sanae**	**90.55**	**179**	P	**P**	**15 12 54.2**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=184,slow=16,SNR=7.7						
	comp=Z,0.5nm,0.6s						
VNA3	**Neumayer Olymp**	**90.68**	**176**	⇓P	**P**	**15 12 55.0**	**-0.9**
	comp=Z,3.0nm,0.6s						
VNA2	**Neumayer--Watz**	**91.12**	**177**	⇑P	**P**	**15 12 57.7**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=176,slow=4.6						
VNA1	**Neumayer--Stat**	**91.34**	**177**	⇓P	**P**	**15 12 58.7**	**-0.2**
	comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**145.02**	**315**	PKP	**PKPdf**	**15 19 27.2**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=131,slow=3.6,SNR=5.6						
MMAI	**Mount Meron Ar**	**146.41**	**303**	PKPbc	**PKPbc**	**15 19 32.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=70,slow=7.2,SNR=4.7						

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*IPEC **01** 15:19:14.4±0.1,50°.13N×19°.13E,h1km,ML2.5/4,Error ellipse: s-maj=1.8km s-min=0.8km az=2.0*
*PRU **01** 15:19:15.3,50°.15N×19°.08E,h0km*
ISC 01 15:19:14.5±0.9,50°.07N±0°.04×19°.11E±0°.03,h0km,n22, σ0°98/37,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**72**	*e*Pg	**Pg**	**15 19 23.2**	**-0.2**
OJC				*e*Sg	**Sg**	**15 19 29.6**	**+0.1**
OKC	**Ostrava-Krasne**	**0.67**	**250**	*e*PG	**Pb**	**15 19 28.2**	**-0.8**
OKC				*e*SG	**Sb**	**15 19 37.4**	**-1.4**
	comp=Z,50nm,0.6s						
STEB	**Steborice**	**0.88**	**261**	*e*PG	**Pb**	**15 19 32.3**	**-0.3**
STEB				*e*SG	**Sb**	**15 19 44.3**	**-0.5**
	comp=Z,50nm,0.5s						
LANS	**Liptovska Anna**	**0.95**	**166**	*e*PG	**Pb**	**15 19 33.8**	**-0.1**
LANS				*e*SG	**Sb**	**15 19 47.3**	**+0.2**
LANS				*e*LG	Lg	15 19 49.4	
NIE	**Niedzica**	**1.01**	**130**	*e*Pg	**Pg**	**15 19 34.3**	**+0.4**
NIE				*e*Sg	**Sb**	**15 19 49.7**	**+0.9**
MORC	**Moravsky Berou**	**1.06**	**254**	*e*Pg	**Pb**	**15 19 35.6**	**-0.1**
	baz=70						
MORC				*e*Sg	**Sg**	**15 19 48.7**	**+0.3**
	65nm,0.5s,baz=70						
MAUC	**Maruska**	**1.09**	**230**	*e*PG	**Pn**	**15 19 36.8**	**-0.3**
ANAC	**Anensky vrch**	**1.12**	**271**	*e*Pg	**Pb**	**15 19 36.3**	**-0.4**
	baz=87						
LOSC	**Losov**	**1.21**	**249**	*e*Pg	**Pb**	**15 19 38.1**	**-0.3**
	baz=65						
KRLC	**Kraliky**	**1.50**	**271**	*e*PG	**Pn**	**15 19 40.3**	**-2.5**
KRLC				*e*SG	**Sg**	**15 20 02.3**	**-0.4**
	comp=Z,21nm,0.5s						
JAVC	**Velka Javorina**	**1.54**	**218**	*e*PN	**Pn**	**15 19 43.1**	**-0.2**
JAVC	**Velka Javorina**	**1.54**	**218**	*e*Pn	**Pn**	**15 19 43.0**	**-0.2**
	baz=36						
VRAC	**Vranov**	**1.81**	**246**	*e*PN	**Pn**	**15 19 47.3**	**+0.3**
VRAC				*e*SG	**Sg**	**15 20 12.2**	**-0.3**
VRAC	**Vranov**	**1.81**	**246**	*e*Pn	**Pn**	**15 19 47.2**	**+0.3**
	baz=63						
VRAC				*e*Sg	**Sg**	**15 20 12.1**	**-0.4**
	36nm,1.0s,baz=63						
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*PG	**Pn**	**15 19 47.0**	**0.0**
DPC				*e*SG	**Sn**	**15 20 11.0**	**+0.2**
	comp=Z,28nm,0.6s						
KECS	**Kecovo**	**1.83**	**150**	*e*PG	**Pb**	**15 19 49.0**	**+0.2**
KECS				*e*SG	**Sg**	**15 20 13.0**	**-0.3**
OSTC	**Ostas**	**1.92**	**286**	*e*PG	**Pb**	**15 19 50.3**	**-0.1**
OSTC				*e*SG	**Sb**	**15 20 14.3**	**-0.6**
KRUC	**Moravsky**	**2.04**	**241**	*e*PN	**Pn**	**15 19 50.3**	**+0.2**
KRUC				*e*SG	**Sg**	**15 20 19.6**	**-0.4**
KRUC	**Moravsky**	**2.04**	**241**	*e*Pn	**Pn**	**15 19 50.2**	**+0.2**
	baz=58						
KRUC				*e*Sg	**Sg**	**15 20 19.5**	**-0.4**
	20nm,0.5s,baz=58						
CKRC	**Cesky Krumlov**	**3.38**	**250**	*e*SG	**Sg**	**15 21 00.3**	**-2.6**
BRG	**Berggiesshubel**	**3.40**	**286**	Pg	**Pg**	**15 20 23.1**	**+3.5**
BRG				Sg	**Sg**	**15 21 03.2**	**-0.4**
BRG				Amp		15 21 09.8	
	comp=Z,6.3nm,0.5s						
KHC	**Kasperske Hory**	**3.72**	**257**	*e*SG	**Sg**	**15 21 12.9**	**-1.1**
	comp=Z,8.5nm,0.6s						

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*VAO **01** 15:28:35.9±0.3,14°.14S×48°.86W,h0km,mbR2.4*
*OSUNB **01** 15:28:36.2±0.4,14°.09S×48°.89W,h0km,mR2.5/4,Error ellipse: s-maj=1.6km s-min=3.0km az=0.0*
ISC 01 15:28:37.1±0.9,14°.10S±0°.04×48°.88W±0°.04,h10km,n13, σ0°92/22,Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAN3	**Cana Brava**	**1.15**	**30**	P	**Pb**	**15 28 58.7**	**-0.4**
CAN3				S	**Sb**	**15 29 12.7**	**-1.3**
BDFB	**Brasilia**	**1.75**	**151**	P	**Pg**	**15 29 10.8**	**+0.1**
BDFB				S	**Sg**	**15 29 33.3**	**-0.1**
SNDB	**Serra Nova Dou**	**3.16**	**312**	S	**Sn**	**15 30 04.6**	**-0.1**
ARAG	**Araguaiana, MT**	**3.25**	**240**	*e*P	**Pn**	**15 29 28.1**	**-0.1**
ARAG				*e*S	**Sn**	**15 30 08.0**	**+1.0**
BAT2	**UHE Batalha**	**3.52**	**157**	P	**Pn**	**15 29 31.9**	**0.0**
BAT2				S	**Sn**	**15 30 14.7**	**+1.1**
IPMB	**Ipameri, GO**	**3.92**	**171**	*e*P	**Pn**	**15 29 37.0**	**-0.4**
IPMB				*e*S	**Sn**	**15 30 23.0**	**-0.5**
SFA1	**Serra Facao**	**4.01**	**164**	S	**Sn**	**15 30 27.1**	**+1.1**
SDBA	**SAO DESIDERIO**	**4.22**	**67**	*e*P	**Pn**	**15 29 41.2**	**-0.4**
SDBA				*e*S	**Sn**	**15 30 32.2**	**+1.1**
SDBA	**SAO DESIDERIO**	**4.22**	**67**	P	**Pn**	**15 29 41.8**	**+0.2**
SDBA				S	**Sn**	**15 30 32.1**	**+1.1**
JANB	**Januaria**	**4.53**	**103**	*e*P	**Pn**	**15 29 45.2**	**-0.6**
JANB				*e*S	**Sn**	**15 30 38.7**	**+0.1**
JANB	**Januaria**	**4.53**	**103**	S	**Sn**	**15 30 40.3**	**+1.8**
SMTB	**Santa Maria do**	**5.36**	**14**	*e*P	**Pn**	**15 29 57.5**	**+0.4**
SMTB				*e*S	**Sn**	**15 31 00.9**	**+2.0**
JQT1	**Jequitai-MG**	**5.36**	**126**	S	**Sn**	**15 30 58.6**	**-0.6**

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*FCIAR **01** 16:18:36.0,78°.12N×7°.91E,h10km,station ZFI2 has station magnitude of 3.50*
*KOLA **01** 16:18:36.4,78°.21N×8°.86E,h0km,ML2.1,Error ellipse: s-maj=14.7km s-min=7.2km az=90.0,Greenland sea*
*BER **01** 16:18:37.5±3.2,78°.25N×8°.02E,h12km±20km,Mw3.5, ML2.5(NAO),Confirmed Earthquake*
*NAO **01** 16:18:38.8±1.8,78°.25N×8°.49E,h21km±11km,ML2.5*
ISC 01 16:18:34.6±1.4,78°.27N±0°.06×7°.63E±0°.04,h31km±13km, n20,σ1°70/35,1C,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.08**	**50**	Pb	**Pb**	**16 18 55.8**	**+1.0**
KBS				Sb	**Sn**	**16 19 07.1**	**-0.4**
KBS	**Kingsbay**	**1.08**	**50**	P	**Pb**	**16 18 55.4**	**+0.6**
KBS				S	**Sn**	**16 19 07.2**	**-0.3**
KBS	**Kingsbay**	**1.08**	**50**	⇑*i*P	**Pb**	**16 18 55.7**	**+1.0**
KBS				*e*S	**Sn**	**16 19 07.1**	**-0.4**
KBS				IAML		16 19 09.3	
	comp=Z,98nm,0.4s						
BRBA	**Barentsburg A**	**1.37**	**95**	Pb	**Pb**	**16 18 59.8**	**+0.2**
BRBA				Sb	**Sb**	**16 19 15.3**	**-1.5**
BRBA	**Barentsburg A**	**1.37**	**95**	Pb	**Pb**	**16 18 59.8**	**+0.2**
BRBA				*e*S	**Sn**	**16 19 15.0**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.79**	**89**	Pn	**Pb**	**16 19 07.0**	**+0.2**
	baz=268,slow=16						
SPA0				Sn	**Sb**	**16 19 27.4**	**-1.5**
	baz=266,slow=28						
SPA0	**Spitsbergen Ar**	**1.79**	**89**	*e*P	**Pb**	**16 19 06.2**	**-0.6**
SPA0				*e*S	**Sb**	**16 19 27.6**	**-1.3**
SPA0	**Spitsbergen Ar**	**1.79**	**89**	Pn	**Pb**	**16 19 07.0**	**+0.2**
	baz=268,slow=16						
SPA0				Sn	**Sb**	**16 19 27.4**	**-1.5**
	baz=266,slow=28						
SPITS	**Spitsbergen Ar**	**1.79**	**89**	P	**Pn**	**16 19 05.1**	**+1.7**
SPITS				S	**Sb**	**16 19 26.5**	**-2.4**
HSPB	**Hornsund (broa**	**2.12**	**123**	Pn	**Pn**	**16 19 10.5**	**+2.6**
HSPB				Sn	**Sn**	**16 19 32.4**	**-0.7**
HSPB	**Hornsund (broa**	**2.12**	**123**	P	**Pn**	**16 19 10.4**	**+2.6**
HSPB				S	**Sn**	**16 19 33.3**	**+0.3**
HSPB	**Hornsund (broa**	**2.12**	**123**	*e*P	**Pn**	**16 19 09.5**	**+1.7**
HSPB				*e*S	**Sn**	**16 19 34.2**	**+1.2**
HSPB	**Hornsund (broa**	**2.12**	**123**	*e*P	**Pn**	**16 19 10.4**	**+2.6**
HSPB				*e*S	**Sn**	**16 19 32.7**	**-0.4**
HSPB				IAML		16 19 37.4	
	comp=Z,10nm,0.3s						
HOPEN	**Hopen**	**4.19**	**106**	*e*S	**Sn**	**16 20 23.3**	**-0.6**
HOPEN				IAML		16 20 25.6	
	comp=Z,23nm,0.4s						
NOR	**Nord**	**5.37**	**320**	*e*S	**Sn**	**16 20 53.8**	**+0.9**
DAG	**Danmarks Havn**	**5.86**	**268**	*e*P	**Pn**	**16 20 03.0**

QSPA	South Pole Qui	36.90	180	P		P	16 39 03.8	+0.9
	comp=Z,3.9nm,0.8s,baz=243,slow=2.8,SNR=18							
QSPA				LR		LR	16 53 25.6	
	comp=Z,54nm,20.8s,baz=215,slow=35							
	comp=Z,3.9nm,0.8s							
LSZ	Lusaka	38.07	6	LR		LR	16 52 55.2	
	comp=Z,79nm,20.9s,baz=161,slow=33							
PMSA	Palmer Station	43.19	219	LR		LR	16 55 26.5	
	comp=Z,58nm,19.4s,baz=112,slow=33							
VNDA	Vanda	46.76	168	P		P	16 40 22.9	-0.2
	comp=Z,0.7nm,0.8s,baz=238,slow=3.5,SNR=4.3							
VNDA				LR		LR	16 59 16.5	
	comp=Z,53nm,21.3s,baz=198,slow=35							
	comp=Z,0.7nm,0.8s							
MBAR	Mbarara	52.79	8	LR		LR	17 01 41.3	
	comp=Z,32nm,21.7s,baz=170,slow=34							
H01W2	Cape Leeuwin H	62.65	112	T		T	17 50 45.6	
	baz=229							
H01W3	Cape Leeuwin H	62.66	112	T		T	17 50 53.3	
	baz=229							
H01W1	Cape Leeuwin H	62.66	112	T		T	17 50 59.5	
	baz=229							
FURI	Furi	63.13	16	LR		LR	17 07 36.6	
	comp=Z,27nm,21.4s,baz=175,slow=34							
TORD	Torodi Ar. Bea	69.05	336	P		P	16 43 01.1	+0.9
	comp=Z,1.2nm,0.7s,baz=170,slow=5.8,SNR=7.2							
	comp=Z,1.2nm,0.7s							
LPAZ	La Paz	78.71	258	P		P	16 43 58.4	+0.7
	comp=Z,1.2nm,0.4s,baz=299,slow=1.4,SNR=3.9							
	comp=Z,1.2nm,0.4s							
CMWZ	Cape Campbell	81.75	158	P		P	16 44 11.5	-1.5
ASAR	Alice Springs	82.11	119	P		P	16 44 15.0	-0.3
ASAR	Alice Springs	82.11	119	P		P	16 44 14.8	-0.4
	comp=Z,1.2nm,0.7s,baz=204,slow=5.2,SNR=25							
	comp=Z,1.2nm,0.7s							
AS31	Alice Springs	82.11	119	P		P	16 44 14.8	-0.4
WRA	Warramunga Arr	85.39	117	P		P	16 44 31.4	-0.7
	comp=Z,1.2nm,0.8s,baz=209,slow=3.9,SNR=6.4							
	comp=Z,1.2nm,0.8s							
MLR	Muntele Rosu	98.45	1	LR		LR	17 32 23.6	
	comp=Z,36nm,18.2s,baz=310,slow=37							
MDND	Maddock	144.92	284			PKPab	16 51 30.3	+0.3
PDAR	Pinedale Array	148.09	270	PKPbc		PKPbc	16 51 39.6	-0.2
	comp=Z,0.5nm,0.8s,baz=158,slow=1.0,SNR=4.7							
NVAR	Mina Array Bea	150.56	255	PKPbc		PKiKP	16 51 46.6	-0.3
	comp=Z,0.2nm,0.4s,baz=100,slow=1.8,SNR=3.0							

*SNET **01** 16:38:00.6±1.2, 15°.83N×88°.59W, h5km, ML3.1*
*GCG **01** 16:38:01.5±1.2, 15°.72N×88°.59W, h9km±6km, MD4.0, ML3.4*
ISC 01 16:38:00.9±1.6, 15°.75N±0°.06×88°.6W±0°.1, h11km±7km, n10, σ0°.879/15, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	Izabal, Puerto	0.03	201	*i P*	Pg	16 38 02.7	-0.2
IZABA				*eS*	Sg	16 38 04.7	+0.4
SARH	Santa Rosa de	0.99	190	*eP*	Pb	16 38 19.3	-0.8
SARH				*eS*	Sb	16 38 32.0	-1.2
ESQI	Esquipulas	1.40	212	*eP*	Pb	16 38 26.7	-0.4
MTO3	Montecristo	1.55	210	*eP*	Pn	16 38 28.9	+0.3
MTO3	Montecristo	1.55	210	*i P*	Pb	16 38 29.2	-0.5
PETF	Flores	1.70	313	*eP*	Pb	16 38 31.6	-0.6
PETF				*eS*	Sb	16 38 53.4	0.0
PETF				IAML		16 38 55.1	
	comp=N,1μm,0.5s						
PAVA	Las Pavas	2.06	190	*eS*	Sb	16 39 05.4	+1.3
NUBE	Las Nubes	2.18	212	*eP*	Pn	16 38 38.5	+1.2
NUBE				*eS*	Sb	16 39 07.2	-0.3
JAYA	Jayaque - finc	2.25	202	*eP*	Pn	16 38 38.8	+0.5
JAYA				*eS*	Sb	16 39 09.4	-0.3
JAYA				IAML		16 39 13.5	
	comp=Z,101nm,0.3s						
CNCH	Conchagua	2.56	164	*eS*	Sb	16 39 18.7	0.0

GII 01 16:39:05.1±0.0, 32°.862N±0°.002×35°.578E±0°.001, h5km, Mws1.4, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHM	Kefar Nahum	0.02	3	P	Pg	16 39 05.9	-0.1
KNHM	Kefar Nahum	0.02	3	S	Sg	16 39 07.2	+0.4
SPIR	Sapir Facility	0.03	275	P	Pg	16 39 06.3	+0.1
SPIR	Sapir Facility	0.03	275	S	Sg	16 39 07.6	+0.7
MGDL	Migdal	0.06	250	P	Pg	16 39 06.6	+0.1
MGDL	Migdal	0.06	250	S	Sg	16 39 08.4	+0.8
RMOT	Ramot	0.07	98	P	Pg	16 39 06.8	+0.1
RMOT	Ramot	0.07	98	S	Sg	16 39 08.9	+1.1
HDNS	Had-Ness	0.09	39	P	Pg	16 39 07.1	+0.2
HDNS	Had-Ness	0.09	39	S	Sg	16 39 09.1	+0.9
MMA0B	Mount Meron ar	0.21	316	P	Pg	16 39 09.6	+0.3
MMA0B	Mount Meron ar	0.21	316	S	Sg	16 39 13.6	+1.5
MMC7	Mount Meron ar	0.22	316	P	Pg	16 39 10.1	+0.6
KSHT	Keshet	0.23	58	P	Pg	16 39 10.1	+0.5
KSHT	Keshet	0.23	58	S	Sg	16 39 14.2	+1.6
GEM	Giv'at Ha'Em	0.35	12	P	Pg	16 39 12.6	+0.6
GEM	Giv'at Ha'Em	0.35	12	S	Sb	16 39 18.9	-0.9
HNTI	Hanita	0.41	303	P	Pg	16 39 13.5	+0.6
HNTI	Hanita	0.41	303	S	Sb	16 39 20.3	-1.0
NATI	Neve Ativ	0.42	18	P	Pg	16 39 13.9	+0.7
NATI	Neve Ativ	0.42	18	S	Sb	16 39 20.3	-1.4
MMLI	Mount Malkishu	0.44	197	P	Pg	16 39 13.8	+0.2
MMLI	Mount Malkishu	0.44	197	S	Sb	16 39 21.9	-0.5
HMDT	Nahal Hemdat	0.61	184	P	Pb	16 39 17.6	-0.6
HMDT	Nahal Hemdat	0.61	184	S	Sb	16 39 26.5	-0.5

*IDC **01** 17:15:30.4±0.7, 34°.89N×138°.03E, h0km, mb3.9/15, mbtmp3.9/18, ML3.5/3, MS3.2/14, Error ellipse: s-maj=18.5km s-min=13.3km az=75.0*
*NEIC **01** 17:15:35.0±1.2, 34°.92N±0°.04×138°.08E±0°.03, h28km±5km, mb4.4/19, Error ellipse: s-maj=5.6km s-min=2.9km az=199.0*
*NIED **01** 17:15:35.1, 34°.98N×138°.18E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.43; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-0.18; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.21; $M_{\phi r}$0.58; Fault plane solution: $M_0$1.16000×10^{15} NP1: ϕ_s225.00000°, δ11.00000°, λ78.00000°. NP2: ϕ_s57.00000°, δ79.00000°, λ92.00000°.*
*JMA **01** 17:15:35.1±0.1, 35°.0N±0°.2×138°.2E±0°.2, h27km, MD4.0/19, MV4.1/19, CENTRAL SHIZUOKA PREF*
JMA Felt II J1 at CENTRAL SHIZUOKA PREF .
ISC 01 17:15:34.9±0.8, 34°.95N±0°.02×138°.18E±0°.03, h31km±5km, n118, σ1°.25/109, mb4.2/22, MS3.2/12, 12D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	Shizuoka 3	0.12	13	*i P*	Pb	17 15 39.9	-0.6
SHZ3				*eS*	Sn	17 15 43.5	-0.6
SHZ3	Shizuoka 3	0.12	13	A	A	17 15 39.9	
	comp=N,217nm,0.4s,comp=E,117nm,0.4s						
JKKG	Kakegawa	0.24	226	*i P*	Pb	17 15 41.5	+0.1
JKKG				S	Sb	17 15 46.2	+0.2
JKKS	Kakegawashinom	0.26	218	A	A	17 15 41.8	
	comp=N,50nm,0.6s,comp=E,53nm,0.7s						
JSG	Sagara	0.28	179		Pn	17 15 42.6	-0.3
JSG					Sn	17 15 48.7	+0.8
JSG	Sagara	0.28	179	P	Pn	17 15 42.7	-0.1
JSG	Sagara	0.28	179	S	Sn	17 15 49.2	+1.2
JSG	Sagara	0.28	179	A	A	17 15 42.1	
	comp=N,139nm,0.6s,comp=E,57nm,0.6s						
HMMJ	Hamamatsu 2	0.39	256	A	A	17 15 43.5	
	comp=N,15nm,1.1s,comp=E,6.0nm,0.9s						
JFNN	Fujinakano	0.48	60	*i P*	Pb	17 15 44.5	-0.5
JFNN				S	Sb	17 15 52.0	+0.1
JNY	Yasuok	0.48	327	⇓*i P*	Pb	17 15 44.6	-0.5
JNY				⇓S	Sb	17 15 51.8	-0.3
JNY	Yasuok	0.48	327	A	A	17 15 44.6	
	comp=N,19nm,1.0s,comp=E,19nm,0.5s						
JSSY	Shinshiroyabe	0.55	266	A	A	17 15 46.0	
	comp=N,20nm,0.2s,comp=E,11nm,0.2s						
JIZS	Izushimoda	0.62	112	⇓*i P*	Pb	17 15 46.4	-0.9
JIZS				⇓S	Sb	17 15 54.8	-0.9
JIZS	Izushimoda	0.62	112	A	A	17 15 46.4	
	comp=N,17nm,0.8s,comp=E,26nm,0.8s						
JYN	Shimob	0.62	29	*i P*	Pb	17 15 46.6	-0.7
JYN				S	Sb	17 15 55.3	-0.6
JHTM	Izuhatsuma	0.68	89	A	A	17 15 48.1	
	comp=N,24nm,0.6s,comp=E,33nm,0.6s						
TTO5	TONANKAI O.B.S	0.80	209	A	A	17 15 50.3	
	comp=N,24nm,3.3s,comp=E,28nm,0.4s						
JOD2	Odawara 2	0.81	67	⇓*i P*	Pn	17 15 49.3	-0.9
JOD2				⇓*eS*	Sb	17 15 59.8	-1.3
JAO	Obara	0.82	293	A	A	17 15 50.2	
	comp=N,13nm,0.3s,comp=E,11nm,0.4s						
JAA	Atsumi	0.91	250	A	A	17 15 51.9	
	comp=N,6.0nm,1.2s,comp=E,5.0nm,1.3s						
JNT	Takato	0.92	358	⇓*i P*	Pn	17 15 51.5	-0.3
JNT				⇓S	Sn	17 16 03.3	-0.8
JNT	Takato	0.92	358	A	A	17 15 51.5	
	comp=N,3.0nm,5.3s,comp=E,5.0nm,0.3s						
JGF	Kuroka	0.93	314		Pn	17 15 51.5	-0.4
JGF					Sb	17 16 03.9	-0.8
JGF	Kuroka	0.93	314	P	Pb	17 15 51.9	-0.7
JGF	Kuroka	0.93	314	S	Sb	17 16 04.3	-0.3
JGF	Kuroka	0.93	314	A	A	17 15 51.9	
	comp=N,5.0nm,0.5s,comp=E,5.0nm,1.2s						
INU	Inuyama	1.03	293		Pn	17 15 52.9	-0.3
INU				Sn	Sn	17 16 06.3	-0.3
INU	Inuyama	1.03	293	P	Pb	17 15 53.7	-0.5
INU	Inuyama	1.03	293	S	Sb	17 16 08.1	+0.8
JIM2	Oshima 3	1.06	102	⇓*i P*	Pn	17 15 53.4	-0.2
JIM2				⇓S	Sb	17 16 08.4	+0.4
JIM2	Oshima 3	1.06	102	A	A	17 15 53.4	
	comp=N,12nm,3.6s,comp=E,11nm,1.5s						
TK02	Tokai 2	1.06	199	⇓*i P*	Pn	17 15 52.9	-0.5
TK02				⇓S	Sb	17 16 07.8	-0.2
JSGW	Sagamiharawaka	1.06	52	A	A	17 15 54.0	
	comp=N,7.0nm,0.9s,comp=E,7.0nm,1.0s						
JICN	Ichinomiyachia	1.15	288	A	A	17 15 55.4	
	comp=N,17nm,0.9s,comp=E,19nm,0.6s						
JRY	Ryogami san	1.22	29	*i P*	Pb	17 15 56.4	-0.9
JRY				S	Sb	17 16 12.1	-0.6
JNG	Nsakai	1.45	357	A	A	17 15 59.9	
	comp=N,4.0nm,2.4s,comp=E,3.0nm,0.7s						
JEG	Eigenji	1.48	278	A	A	17 16 00.5	
	comp=N,4.0nm,0.5s,comp=E,4.0nm,1.5s						
MJAR	Matsushiro Arr	1.59	1		Pn	17 16 01.7	+0.8
MJAR	Matsushiro Arr	1.59	1	Pn	Pb	17 16 01.8	-1.8
	comp=E,25nm,0.3s,baz=201,slow=17,SNR=442						
MJAR				Sn	Sb	17 16 23.3	0.0
	comp=E,27nm,0.3s,baz=198,slow=28,SNR=4.1						
MJAR				LR	LR	17 16 31.4	
	comp=E,170nm,19.1s,baz=196,slow=37						
MAJO	Matsushiro	1.59	1		Pb	17 16 02.1	-1.5
MAJO				Sn	Sb	17 16 21.9	-1.4
MAJO	Matsushiro	1.59	1	P	Pb	17 16 02.4	-1.2
MJB9	Matsu-Tunnel	1.59	1		Pb	17 16 03.1	-0.5
MJB9				Sn	Sb	17 16 22.7	-0.7
JGK	Kuni	1.65	13	A	A	17 16 02.9	
	comp=N,4.0nm,0.6s,comp=E,5.0nm,0.5s						
JTT	Ttatey	1.79	338	A	A	17 16 04.8	
	comp=N,4.0nm,4.6s,comp=E,4.0nm,7.1s						
JFM	Mihama	1.89	288	A	A	17 16 06.5	
	comp=N,5.0nm,0.7s,comp=E,5.0nm,0.7s						
JHJ	Hachijo jima 2	2.26	143	Pn	Pn	17 16 10.8	+0.6
	comp=E,25nm,0.3s,baz=323,slow=20,SNR=10						
JHJ				Sn	Sb	17 16 39.9	-2.7
	comp=E,46nm,0.3s,baz=8.6,slow=18,SNR=4.2						
JHJ				LR	LR	17 17 17.0	
	comp=E,358nm,21.1s,baz=320,slow=46						
	comp=E,60nm,0.3s						
JHJ2	Mitsune	2.28	143	Pn	Pn	17 16 10.5	0.0
JSD	Sado	3.08	1	Pn	Pn	17 16 21.2	-0.2
JSD	Sado	3.08	1	P	Pn	17 16 24.6	+3.2
JMM	Marumori	3.59	35		Pn	17 16 29.4	+1.0
JMM				Sn	Sn	17 17 12.7	+2.9
JMM	Marumori	3.59	35	P	Pn	17 16 31.3	+2.9
JMN	Monobe	3.76	252		Pn	17 16 30.0	-0.8
JMN				Sn	Sn	17 17 12.7	-1.4
JMN	Monobe	3.76	252	P	Pn	17 16 32.3	+1.5
JTM	Tenmabayashi	6.26	21	Pn	Pn	17 17 03.2	-1.8
JTM	Tenmabayashi	6.26	21	P	Pn	17 17 09.1	+4.1
JNU	Nakatsue	6.33	255	Pn	Pn	17 17 04.8	-1.3
JNU	Nakatsue	6.33	255	Pn	Pn	17 17 07.2	+1.1
	comp=E,1.1nm,0.3s,baz=25,slow=8.7,SNR=6.6						
JNU				Sn	Sn	17 18 18.0	+0.6
	baz=43,slow=19						
JNU	Nakatsue	6.33	255	P	Pn	17 17 09.2	+3.1
ERM	Erimo	8.06	27	Pn	Pn	17 17 29.7	0.0
ERM	Erimo	8.06	27	P	Pn	17 17 32.7	+3.0
JEM	Erimo	8.06	27	P	Pn	17 17 32.7	+3.0
KSRS	Korea Array	8.66	290	Pn	Pn	17 17 36.9	-1.1
	comp=E,0.1nm,0.3s,baz=108,slow=15,SNR=4.2						
KSRS				Sn	Sn	17 19 15.6	+1.1
	comp=E,0.2nm,0.3s,baz=100,slow=24,SNR=4.1						
	comp=E,0.4nm,0.4s						
ASAJ	Asahikawa	9.77	19	Pn	Pn	17 17 53.8	+0.6
	comp=E,1.0nm,0.3s,baz=224,slow=12,SNR=21						
ASAJ				LR	LR	17 21 58.0	
	comp=E,105nm,20.4s,baz=208,slow=39						
	comp=E,2.3nm,0.3s						
JKA	Kamikawa-asahi	9.77	19	Pn	Pn	17 17 54.0	+0.8
YSS	Yuzhno-Sakhali	12.48	15		Pn	17 18 29.5	-0.7
GUMO	Guam	22.11	162	LR	LR	17 28 29.1	
	comp=E,45nm,18.9s,baz=14,slow=35						
PETK	Petropavlovsk-	22.81	31	P	P	17 20 34.6	-0.4
PETK	Petropavlovsk-	22.81	31	P	P	17 20 36.2	+1.2
	comp=E,3.3nm,0.9s,baz=215,slow=8.6,SNR=4.4						
	comp=E,3.3nm,0.9s						
MA2	Magadan	25.98	15	LR	LR	17 31 24.8	
	comp=E,46nm,19.4s,baz=203,slow=37						
SONM	Songino Array	26.89	308	P	P	17 21 12.5	-0.6
	comp=E,0.5nm,0.5s,baz=86,slow=7.4,SNR=1.9						
	comp=E,0.5nm,0.5s						
YAK	Yakutsk	27.63	351	LR	LR	17 32 29.6	
	comp=E,76nm,19.1s,baz=234,slow=37						
SEY	Seymchan	29.38	13	LR	LR	17 32 48.4	
	comp=E,42nm,21.8s,baz=186,slow=35						
H11N2	WAKE ISLAND Hy	29.54	113	T	T	17 52 03.0	
	baz=308,slow=75,SNR=4.7						
H11N1	WAKE ISLAND Hy	29.55	113	T	T	17 51 43.9	
	baz=308,slow=75,SNR=4.9						
H11N3	WAKE ISLAND Hy	29.56	113	T	T	17 52 04.0	
	baz=308,slow=75,SNR=4.3						
CMAR	Chiang Mai Arr	38.43	255	P	P	17 22 54.3	+0.4
	comp=E,0.3nm,0.6s,baz=43,slow=5.1,SNR=4.1						
CMAR				LR	LR	17 41 25.0	
	comp=E,25nm,18.1s,baz=210,slow=41						
	comp=E,0.3nm,0.6s						
ZAA0	Zalesovo Array	41.43	314	P	P	17 23 17.3	-1.0
ZALV	Zalesovo Beam	41.43	314	P	P	17 23 17.1	-1.3
ZALV	Zalesovo Beam	41.43	314	P	P	17 23 17.4	-1.0
	comp=E,0.4nm,0.4s,baz=102,slow=5.0,SNR=3.5						
ZALV				LR	LR	17 41 07.7	
	comp=E,41nm,18.8s,baz=36,slow=37						
	comp=E,0.4nm,0.4s						
MKAR	Makanchi Array	43.04	304	P	P	17 23 31.9	+0.3
MKAR	Makanchi Array	43.04	304	P	P	17 23 31.4	-0.3
	comp=E,0.5nm,0.6s,baz=85,slow=9.4,SNR=5.7						
MKAR				LR	LR	17 40 35.7	
	comp=E,27nm,18.7s,baz=356,slow=35						
	comp=E,0.5nm,0.6s						
KURK	Kurchatov	45.19	309	P	P	17 23 48.1	-0.6
KURK				IAmb	IAmb	17 23 49.3	
	comp=Z,3.4nm,0.7s						
KURBB	Kurchatov Arra	45.25	309	P	P	17 23 48.7	-0.5
	comp=Z,2.4nm,0.8s,baz=87,slow=8.1,SNR=27						
	comp=Z,2.4nm,0.8s						
E18K	Tukpahlearik C	47.25	27	P	P	17 24 06.3	+1.6
C18K	Utukok River	47.29	26	P	P	17 24 06.3	+1.2
G18K	Tagagawik	47.76	30	P	P	17 24 09.4	+0.6
G18K				IAmb	IAmb	17 24 09.5	
	comp=Z,5.4nm,1.2s						
E19K	Redstone River	48.54	28	P	P	17 24 16.3	+1.6
G21K	Allakaket	49.90	29	P	P	17 24 27.1	+1.9
G21K				IAmb	IAmb	17 24 40.5	
	comp=Z,4.8nm,1.2s						
BVAR	Borovoye Array	50.05	313	P	P	17 24 26.0	-0.5
	comp=Z,1.0nm,0.5s,baz=97,slow=12,SNR=8.1						
	comp=Z,1.0nm,0.5s						
MLY	Manley	50.99	31	P	P	17 24 35.0	+1.5
KNRA	Kununurra	51.14	192	P	P	17 24 34.1	-0.9
KK31	Karatay Array	51.91	301	P	P	17 24 40.3	-0.3
KKAR	Karatay Array	51.91	301	P	P	17 24 40.2	-0.4
ILAR	Eielson Array	52.64	31	P	P	17 24 46.6	+0.9
	comp=Z,0.5nm,0.7s,baz=278,slow=8.2,SNR=6.9						
	comp=Z,0.5nm,0.7s						
SCM	Sheep Creek Mo	52.68	35	P	P	17 24 48.7	+2.6
C27K	Jago River	53.60	25	P	P	17 24 54.5	+1.9
FITZ	Fitzroy Crossi	54.09	195	P	P	17 24 56.0	-0.8
WB0	Warramunga Arr	54.53	184	P	P	17 24 59.2	-0.8
WB0				IAmb	IAmb	17 25 14.1	
	comp=Z,3.9nm,1.2s						
WRA	Warramunga Arr	54.71	184	P	P	17 25 00.4	-0.9
	comp=Z,1.8nm,0.7s,baz=0.0,slow=7.5,SNR=20						
	comp=Z,1.8nm,0.7s						
WR8	Warramunga Arr	54.72	184	P	P	17 25 00.6	-0.7
WR8				IAmb	IAmb	17 25 42.5	
	comp=Z,6.6nm,1.3s						
E28M	Babbage River	55.18	26	P	P	17 25 06.3	+2.1
E28M				IAmb	IAmb	17 25 36.4	
	comp=Z,6.7nm,1.4s						
I30M	Mount Dempster	57.00	30	P	P	17 25 19.6	+2.2
AB31	Akbulak array	57.28	310	P	P	17 25 18.9	-0.5
AB31				IAmb	IAmb	17 25 19.5	
	comp=Z,2.1nm,0.6s						
ABKAR	Akbulak array	57.28	310	P	P	17 25 19.0	-0.5
ASAR	Alice Springs	58.44	185	P	P	17 25 27.1	-0.7
ASAR	Alice Springs	58.44	185	P	P	17 25 27.3	-0.4
	comp=Z,0.7nm,0.8s,baz=20,slow=12,SNR=9.5						
ASAR				LR	LR	17 50 34.3	
	comp=Z,12nm,18.4s,baz=86,slow=36						
	comp=Z,0.7nm,0.8s						
ARCES	ARCESS Array B	65.01	339	LR	LR	17 58 01.7	
	comp=Z,36nm,20.8s,baz=40,slow=39						
FINES	FINESS Array B	69.41	332	P	P	17 26 39.6	+0.1
FINES	FINESS Array B	69.41	332	P	P	17 26 39.4	-0.1
	comp=Z,1.8nm,0.7s,baz=71,slow=6.4,SNR=4.5						
	comp=Z,1.8nm,0.7s						
KBZ	Khabaz	70.24	310	P	P	17 26 45.4	+0.4
	comp=Z,3.8nm,0.9s,baz=119,slow=2.8,SNR=9.3						
	comp=Z,3.8nm,0.9s						
GNI	Garni	70.82	306	LR	LR	18 00 53.4	
	comp=Z,23nm,19.3s,baz=66,slow=38						
AKASG	Malin Array Be	74.31	321	P	P	17 27 08.8	-0.3
	comp=Z,0.4nm,0.5s,baz=49,slow=7.7,SNR=4.5						
	comp=Z,0.4nm,0.5s						
NOA	NORSAR Array B	75.06	336	P	P	17 27 13.2	-0.2
	comp=Z,2.1nm,0.9s,baz=43,slow=5.8,SNR=3.6						
NOA				LR	LR	18 03 32.6	
	comp=Z,10nm,18.2s,baz=265,slow=38						
	comp=Z,2.1nm,0.9s						
BR131	Keskin Array S	78.23	310	P	P	17 27 31.2	-0.6
BR131				IAmb	IAmb	17 27 33.9	
	comp=Z,3.9nm,0.9s						
BRTR	Keskin Array B	78.23	310	P	P	17 27 31.6	-0.2
BRTR	Keskin Array B	78.23	310	P	P	17 27 31.8	0.0
	comp=Z,1.9nm,0.9s,baz=66,slow=4.2,SNR=8.9						
	comp=Z,1.9nm,0.9s						
ESDC	Sonseca Array	97.93	331	LR	LR	18 20 26.7	
	comp=Z,31nm,18.7s,baz=324,slow=40						

*AEIC **01** 17:43:42.6±1.4, 56°.40N±0°.09×148°.9W±0°.1, h6km±8km, Error ellipse: s-maj=13.6km s-min=10.0km az=165.0*
NEIC 01 17:43:36.2±1.4, 56°.30N±0°.08×148°.9W±0°.1, h10km±1km, ML3.5/64, ML3.0(AEIC), Error ellipse: s-maj=12.8km s-min=10.0km az=4.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.52	308		Pn	17 44 16.9	-0.3
KDAK	Kodiak Island	2.52	308		Sn	17 44 46.5	-1.4
OHAK	Old Harbor	2.61	293		Pn	17 44 18.6	+0.3
OHAK	Old Harbor	2.61	293		Sn	17 44 47.9	-2.2
SYI	Shuyak Island	3.00	322		Pn	17 44 24.4	+0.6
CNPM	China Poot	3.48	340		Pn	17 44 30.9	+0.6
BRSE	Bradley Lake S	3.59	345		Pn	17 44 32.5	+0.6
BRLK	Bradley Lake	3.64	344		Pn	17 44 32.7	+0.2
BRLK				IAML		17 45 15.8	
	comp=N,61nm,0.1s						
BRLK				IAML		17 45 20.5	
	comp=E,73nm,0.3s						
HOM	Homer	3.68	337	Pn	Pn	17 44 31.8	-1.3
Q19K	Cape Douglas,	3.69	318	Pn	Pn	17 44 33.5	+0.3
Q19K				IAML		17 45 38.1	
	comp=N,129nm,1.1s						
P23K	Montague Islan	3.79	11	Pn	Pn	17 44 34.8	+0.3
P23K				IAML		17 45 22.1	
	comp=N,62nm,0.3s						
P23K				IAML		17 45 22.7	
	comp=E,78nm,1.1s						
SEW	Seward	3.83	356	Pn	Pn	17 44 34.8	-0.3
KAWH	Katmai	3.84	305		Pn	17 44 37.2	+1.9
KAKN	Katmai Knife C	3.92	303		Pn	17 44 38.6	+2.2
ACHA	Angle Creek He	4.00	301	Pn	Pn	17 44 37.9	+0.4
P19K	Oil Pt	4.09	327	Pn	Pn	17 44 39.7	+1.0
P19K				IAML		17 45 30.7	
	comp=E,84nm,1.1s						
P19K				IAML		17 45 38.5	
	comp=N,69nm,0.9s						
O22K	Cooper Landing	4.22	354		Pn	17 44 40.9	+0.4
SLKM	Skilak Lake	4.28	351		Sn	17 45 29.3	-2.1
SLKM	Skilak Lake	4.28	351	Pn	Pn	17 44 41.9	+0.5
SLKM				IAML		17 45 31.4	
	comp=N,66nm,0.4s						
SLKM				IAML		17 45 42.1

GHO	Glory Hole Cre	5.49	360	Pn	Pn	17 44 56.8	-1.2
SML	Sawmill	5.53	3	Pn	Pn	17 44 58.2	-0.4
YAH	Yahtse	5.54	40	Pn	Pn	17 44 59.2	+0.4
SCM	Sheep Creek Mo	5.61	7	Pn	Pn	17 45 01.2	+1.6
P16K	Nushagak River	5.62	303	Pn	Pn	17 45 01.6	+2.0
N25K	Chitina, Valde	5.76	21		Pn	17 45 01.4	-0.3
GLB	Gilahina Butte	5.78	25		Pn	17 45 01.9	-0.1
GRNC	Granite Creek	5.80	37	Pn	Pn	17 45 02.6	+0.3
SKT	Skwentna	5.86	348		Pn	17 45 02.6	-0.4
M24K	Tolsona, Glenn	5.99	12	Pn	Pn	17 45 04.6	-0.2
PNL	Peninsula	6.06	52		Pn	17 45 06.8	+1.0
BARN	Barnard Glacie	6.07	35		Pn	17 45 06.6	+0.5
BCPM	Bancas Point	6.11	49	Pn	Pn	17 45 07.2	+0.9
CTGM	Chitina Glacie	6.11	37	Pn	Pn	17 45 06.1	-0.5
LOGN	Logan Glacier	6.12	39	Pn	Pn	17 45 06.9	+0.2
CNBA	Chernabura Isl	6.27	261	Pn	Pn	17 45 08.7	+0.2
PPLA	Purkeypile	6.83	347	Pn	Pn	17 45 17.5	+1.1
DHY	Denali Highway	6.84	6	Pn	Pn	17 45 18.3	+1.8
PAX	Paxson	6.91	13	Pn	Pn	17 45 19.4	+1.9
TRF	Thorofare Moun	7.21	355	Pn	Pn	17 45 22.7	+1.0
MCK	McKinley	7.46	360	Pn	Pn	17 45 24.7	-0.2
HYT	Haines Junctio	7.47	48	Pn	Pn	17 45 24.7	-0.5
L16K	Owhat River	7.71	319	Pn	Pn	17 45 27.5	-0.8
RIDG	Independent Ri	7.73	13	Pn	Pn	17 45 28.0	-0.7
BPAW	Bear Paw Mtn.	7.90	353	Pn	Pn	17 45 31.3	+0.4
HDA	Harding Lake	8.19	6	Pn	Pn	17 45 36.1	+1.1
WRH	Wood River Hil	8.21	2	Pn	Pn	17 45 34.8	-0.4
CCB	Clear Creek Bu	8.39	3	Pn	Pn	17 45 37.1	-0.6
J19K	Poorman	8.42	339	Pn	Pn	17 45 37.5	-0.6
WHY	Whitehorse	8.52	53	Pn	Pn	17 45 39.4	-0.2
N31M	Braeburn, Yuko	8.53	47	Pn	Pn	17 45 39.2	-0.4
IL31		8.56	6	Pn	Pn	17 45 39.4	-0.5
J26L	Joseph Creek	8.63	15	Pn	Pn	17 45 40.6	-0.5
P32M	Atlin	8.70	61	Pn	Pn	17 45 41.0	-1.0
L29M	L29M	8.71	34	Pn	Pn	17 45 42.0	-0.1
L14K	Kuka Creek	8.77	311	Pn	Pn	17 45 42.1	-0.7
J17K	VABM Dome	8.77	328	Pn	Pn	17 45 42.8	-0.1
U33K	Whale Pass	8.78	85	Pn	Pn	17 45 41.9	-1.0
J16K	Anvik River	9.16	325	Pn	Pn	17 45 48.6	+0.5
P33M	Teslin, Yukon	9.31	58		Pn	17 45 50.5	+0.1
IMAR	Indian Mountai	10.00	348	Pn	Pn	17 45 59.6	-0.1
H17K	Granite Mounta	10.21	333	Pn	Pn	17 46 02.0	-0.5

*JMA **01** 17:54:54.5±0.3,29°N±1°×14°0E±°, h495km±4km, MV3.9/40, W OFF OGASAWARA*
*IDC **01** 17:54:55.4±1.1,28°87N×139°40E, h466km±13km, mb3.1/11, mbtmp4.0/17, Error ellipse: s-maj=19.4km s-min=13.2km az=89.0*
*NEIC **01** 17:54:56.3±2.0,28°9N±0°1×139°4E±0°1, h471km±9km, mb4.1/31, Error ellipse: s-maj=18.7km s-min=14.2km az=114.0*

ISC 01 17:54:54.9±0.5,28°92N±0°06×139°32E±0°07, h450km, n91, σ1992/103, mb4.0/26, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.12	125	P	P	17 56 04.0	+1.2
CBIJ				eS	S	17 56 58.6	+0.7
JHH2	Haha-jima-NKT2	3.40	131	eP	P	17 56 06.6	+1.5
JHH2				eS	S	17 57 03.2	+1.2
JHJ2	Mitsune	4.20	6	P	P	17 56 14.8	+3.2
JHJ2				S	S	17 57 15.5	+1.3
JHJ2	Mitsune	4.20	6	P	P	17 56 15.0	+3.4
JHJ	Hachijo jima 2	4.20	5	P	P	17 56 14.7	+3.0
	121nm,0.8s,baz=124,slow=15,SNR=7.4						
JHJ				S	S	17 57 15.9	+1.6
	146nm,0.7s,baz=249,slow=19,SNR=3.0						
BSO1	Boso 1	5.88	13	eP	P	17 56 29.9	+2.7
BSO1				eS	S	17 57 44.2	+1.2
JIE	Ise	5.89	338	eP	P	17 56 32.1	+4.2
JKN2	Miekihoku	5.90	335	eP	P	17 56 32.6	+4.6
BSO3	Boso 3	5.95	9	eS	S	17 57 44.8	+0.2
BSO4	Boso 4	6.11	8	eS	S	17 57 49.6	+1.7
JMN	Monobe	6.68	317	P	P	17 56 39.3	+3.1
JMN	Monobe	6.68	317	P	P	17 56 40.3	+4.1
INU	Inuyama	6.70	344	P	P	17 56 38.5	+2.2
INU	Inuyama	6.70	344	P	P	17 56 40.8	+4.5
JGF	Kuroka	6.86	346	P	P	17 56 40.0	+1.9
JGF	Kuroka	6.86	346	P	P	17 56 41.4	+3.3
JRY	Ryogami san	7.08	357	eP	P	17 56 42.2	+1.8
JAG	Ashikaga	7.48	1	eP	P	17 56 45.0	+0.4
MJAR	Matsushiro Arr	7.66	353		P	17 56 47.4	+0.9
MJAR					S	17 58 16.1	-1.9
MJAR	Matsushiro Arr	7.66	353	P	P	17 56 47.7	+1.2
	2.8nm,0.4s,baz=169,slow=12,SNR=16						
MJAR				S	S	17 58 16.1	-1.9
	1.4nm,0.5s,baz=159,slow=12,SNR=4.5						
MAJO	Matsushiro	7.66	353	P	P	17 56 47.1	+0.6
MAJO					S	17 58 15.9	-2.1
MJB9	Matsu-Tunnel	7.66	353	P	P	17 56 47.4	+0.9
MJB9					S	17 58 16.7	-1.5
JHO	Hitachi	7.74	7	eP	P	17 56 48.8	+1.5
JHS	Saijyo	8.03	321	eP	P	17 56 53.8	+3.3
JNU	Nakatsue	8.37	302	P	P	17 56 56.8	+2.6
JNU	Nakatsue	8.37	302	P	P	17 56 57.8	+3.5
	15nm,0.9s,baz=129,slow=1.2,SNR=9.3						
JNU	Nakatsue	8.37	302	P	P	17 56 58.3	+4.1
JFK	Kawauchi	8.52	8	eP	P	17 56 57.5	+1.7
JFK				eS	S	17 58 33.1	-2.1
JMM	Marumori	9.00	7		P	17 57 01.8	+0.8
JMM					S	17 58 41.4	-3.3
JMM	Marumori	9.00	7	P	P	17 57 03.8	+2.8
JSD	Sado	9.13	355	P	P	17 57 01.3	-1.1
JOW	Kunigami	10.00	261	P	P	17 57 14.1	+2.1
JOW	Kunigami	10.00	261	P	P	17 57 14.6	+2.5
	13nm,0.3s,baz=95,slow=9.5,SNR=8.4						
JOW	Kunigami	10.00	261	P	P	17 57 15.1	+3.1
JMK	Ichinoseki	10.13	8	eP	P	17 57 15.8	+2.6
JMK				eS	S	17 59 07.1	0.0
JTM	Tenmabayashi	11.92	6	P	P	17 57 34.9	+2.2
KSRS	Korea Array	12.78	315	P	P	17 57 43.5	+1.5
	4.1nm,0.7s,baz=128,slow=11,SNR=18						
KSAR	Wonju Array Be	12.80	315	P	P	17 57 42.3	+0.1
KS19	Wonju Array Si	12.84	315	P	P	17 57 43.3	+0.5
JOSM	Okushiri--Mats	13.13	0	eP	P	17 57 47.9	+2.1
ERM	Erimo	13.43	12	P	P	17 57 50.2	+1.3
ERM	Erimo	13.43	12	P	P	17 57 52.0	+3.0
JKA	Kamikawa-asahi	15.39	9	P	P	17 58 11.4	+1.5
JKA				IAmb	IAmb	17 58 29.8	
	comp=Z,16nm,1.3s						
USRK	Ussuriysk Ar.	16.33	341	P	P	17 58 21.5	+1.6
	comp=Z,4.0nm,0.6s,baz=165,slow=7.9,SNR=9.1						
SSLB	Suanglung	17.23	257	P	P	17 58 32.7	+2.9
BJT	Baijiatuau	22.00	306	P	P	17 59 14.4	+0.1
BJT				IAmb	IAmb	17 59 15.8	
	comp=Z,2.5nm,0.6s						
ENH	Enshi	25.95	280	P	P	17 59 49.5	-0.2
ENH				IAmb	IAmb	17 59 49.9	
	comp=Z,6.0nm,0.5s						
SONM	Songino Array	31.65	316	P	P	18 00 39.8	+0.3
	comp=Z,0.5nm,0.4s,baz=120,slow=7.1,SNR=2.8						
	comp=Z,0.5nm,0.4s						
CHTO	Chiang Mai	38.11	264	P	P	18 01 33.8	-0.3
CMAR	Chiang Mai Arr	38.26	263	P	P	18 01 35.2	0.0
	comp=Z,0.4nm,0.6s,baz=78,slow=4.5,SNR=4.6						
	comp=Z,0.4nm,0.6s						
KULM	Kulim	43.48	245	P	P	18 02 16.6	-0.5
KULM				IAmb	IAmb	18 02 40.5	
	comp=Z,12nm,1.3s						
IPM	Ipoh	43.68	243	P	P	18 02 19.3	+0.6
IPM				IAmb	IAmb	18 02 39.9	
	comp=Z,9.0nm,1.2s						
NIKH	Nikolski High	44.69	43	P	P	18 02 26.1	+0.1
SPIA	Saint Paul Isl	44.95	36	P	P	18 02 26.3	-1.7
EVN	Everest	45.86	282	P	P	18 02 36.6	+0.3
ZALV	Zalesovo Beam	46.45	318	PcP	PcP	18 04 02.8	-2.5
	comp=Z,0.2nm,0.3s,baz=120,slow=8.5,SNR=2.1						
LVA	Lava Point	46.57	41	P	P	18 02 42.2	+1.7
MKAR	Makanchi Array	47.36	308	P	P	18 02 45.7	-0.9
MKAR	Makanchi Array	47.36	308	P	P	18 02 46.3	-0.4
	comp=Z,0.4nm,0.5s,baz=84,slow=9.7,SNR=7.4						
MKAR				PcP	PcP	18 04 06.8	-2.1
	comp=Z,0.5nm,0.8s,baz=80,slow=10.0,SNR=2.3						
	comp=Z,0.4nm,0.5s						
MAKZ	Makanchi	47.58	308	P	P	18 02 47.5	-0.8
FITZ	Fitzroy Crossi	48.58	197	P	P	18 02 55.4	-0.6
FITZ	Fitzroy Crossi	48.58	197	P	P	18 02 55.3	-0.7
	comp=Z,2.0nm,0.6s,baz=22,slow=14,SNR=2.2						
	comp=Z,2.0nm,0.6s						
WB0	Warramunga Arr	48.64	186	P	P	18 02 55.3	-1.2
WB0				IAmb	IAmb	18 02 55.5	
	comp=Z,3.6nm,0.7s						
WR8	Warramunga Arr	48.81	186	P	P	18 02 56.1	-1.7
WR8				IAmb	IAmb	18 02 57.1	
	comp=Z,10nm,1.4s						
WR0	Warramunga Arr	48.82	186	P	P	18 02 56.5	-1.3
WR0				IAmb	IAmb	18 03 28.9	
	comp=Z,9.2nm,1.5s						
WRA	Warramunga Arr	48.82	186	P	P	18 02 56.5	-1.3
	comp=Z,1.8nm,0.4s,baz=3.4,slow=7.8,SNR=14						
	comp=Z,1.8nm,0.4s						
KURBB	Kurchatov Arra	49.96	313	P	P	18 03 05.4	-0.5
	comp=Z,1.5nm,0.3s,baz=93,slow=8.3,SNR=4.6						
	comp=Z,1.5nm,0.3s						
F15K	North Star Dit	50.16	27	P	P	18 03 07.7	+0.6
F15K				IAmb	IAmb	18 03 13.4	
	comp=Z,17nm,1.2s						
ASAR	Alice Springs	52.55	186	P	P	18 03 23.2	-2.0
	comp=Z,0.4nm,0.6s,baz=4.1,slow=6.9,SNR=1.0						
	comp=Z,0.4nm,0.6s						
C19K	Lookout Ridge	53.05	23	P	P	18 03 29.2	+1.0
MBWA	Marble Bar	53.26	203	P	P	18 03 29.5	-0.7
MBWA				IAmb	IAmb	18 03 48.3	
	comp=Z,11nm,1.1s						
E19K	Redstone River	53.48	25	P	P	18 03 31.9	+0.6
E19K				IAmb	IAmb	18 04 12.9	
	comp=Z,13nm,1.4s						
PSA00	Pilbara Seismi	53.60	203	P	P	18 03 32.2	-0.5
D20K	Etivluk River	53.99	24	P	P	18 03 35.5	+0.6
D20K				IAmb	IAmb	18 03 49.0	
	comp=Z,9.2nm,1.4s						
BVAR	Borovoye Array	54.99	317	P	P	18 03 41.8	-0.4
	comp=Z,0.9nm,0.6s,baz=74,slow=7.0,SNR=4.2						
	comp=Z,0.9nm,0.6s						
SUA	Susitna One	55.49	33	P	P	18 03 40.3	-5.4
KKAR	Karatay Array	55.97	305	P	P	18 03 48.1	-1.1
ILAR	Eielson Array	57.34	29	P	P	18 03 58.0	-0.3
	comp=Z,0.2nm,0.5s,baz=273,slow=6.0,SNR=2.0						
	comp=Z,0.2nm,0.5s						
CHGR	Chuyangaron	57.85	300	P	P	18 04 01.6	-0.8
CHGR				IAmb	IAmb	18 04 02.7	
	comp=Z,4.3nm,0.6s						
BMAR	Burnt Mountain	58.32	26	P	P	18 04 03.4	-1.6
DOT	Dot Lake	58.59	31	P	P	18 04 04.6	-2.4
D27M	Malcolm River	59.65	24	P	P	18 04 14.7	+0.7
D27M				IAmb	IAmb	18 04 57.6	
	comp=Z,13nm,1.5s						
E28M	Babbage River	60.19	25	P	P	18 04 18.5	+0.9
E28M				IAmb	IAmb	18 04 58.2	
	comp=Z,11nm,1.5s						
FORT	Forrest	60.33	191	P	P	18 04 17.8	-1.2
FORT				IAmb	IAmb	18 04 57.1	
	comp=Z,9.3nm,1.1s						
STKA	Stephens Creek	60.50	178	P	P	18 04 19.9	-0.2
AB31	Akbulak array	62.01	313	P	P	18 04 29.1	-0.7
ABKAR	Akbulak array	62.01	313	P	P	18 04 29.1	-0.8
NWAO	Narrogin (SRO)	64.98	200	P	P	18 04 48.2	-0.9
FINES	FINESS Array B	75.19	333	P	P	18 05 48.7	-1.1
FINES	FINESS Array B	75.19	333	P	P	18 05 48.9	-0.8
	comp=Z,9.3nm,1.2s,baz=74,slow=4.8,SNR=9.6						
	comp=Z,9.3nm,1.2s						
NVAR	Mina Array Bea	81.36	51	P	P	18 06 24.1	+0.3
	comp=Z,0.5nm,0.5s,baz=298,slow=6.2,SNR=3.7						
	comp=Z,0.5nm,0.5s						

*IDC **01** 17:58:04.9±1.1,5°69S×134°05E, h0km, mb3.9/3, mbtmp3.9/9, ML3.7/3, MS3.4/1, Error ellipse: s-maj=26.6km s-min=24.3km az=114.0*

ISC 01 17:58:09.2±0.8,5°98S±0°08×134°07E±0°07, h35km, n10, σ2964/14, mb3.8/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	7.46	63	Pn	Pn	17 59 53.8	-1.9
	4.1nm,0.9s,baz=249,slow=14,SNR=1.9						
JAY				Sn	Sn	18 01 18.6	-0.6
	0.2nm,0.3s,baz=218,slow=16,SNR=2.2						
BATI	Baumata	11.12	247	Pn	Pn	18 00 46.5	+0.7
	6.4nm,0.3s,baz=104,slow=8.3,SNR=1.3						
BATI				Sn	Sn	18 02 46.8	-2.3
	1.4nm,0.3s,baz=90,slow=20,SNR=1.8						
PMG	Port Moresby	13.41	106	Pn	Pn	18 01 17.8	+0.6
	5.5nm,0.7s,baz=297,slow=16,SNR=0.7						
WRA	Warramunga Arr	13.88	179	Pn	Pn	18 01 26.4	+2.8
	0.2nm,0.3s,baz=359,slow=13,SNR=9.6						
WRA				Sn	Sn	18 03 51.4	-5.3
	0.1nm,0.3s,baz=1.5,slow=23,SNR=1.4						
	0.2nm,0.3s						
FITZ	Fitzroy Crossi	14.59	214	Pn	Pn	18 01 35.5	+2.3
	0.5nm,0.3s,baz=37,slow=14,SNR=12						
FITZ				Sn	Sn	18 04 10.3	-3.5
	0.2nm,0.3s,baz=349,slow=18,SNR=2.6						
	1.6nm,0.4s						
ASAR	Alice Springs	17.59	180	P	P	18 02 16.1	+3.6
	0.4nm,0.3s,baz=5.6,slow=10,SNR=18						
ASAR				S	Sn	18 05 27.3	+0.6
	0.2nm,0.7s,baz=359,slow=29,SNR=1.3						
	1.3nm,0.8s						
JOW	Kunigami	33.09	350	LR	LR	18 18 17.8	
	comp=Z,70nm,20.5s,baz=244,slow=37						
MKAR	Makanchi Array	69.65	325	P	P	18 09 15.3	+0.1
	0.7nm,0.5s,baz=123,slow=7.1,SNR=10						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	73.81	327	P	P	18 09 39.8	-0.3
	0.5nm,0.5s,baz=126,slow=4.4,SNR=7.1						
	0.5nm,0.5s						
BVAR	Borovoye Array	79.40	327	P	P	18 10 11.2	-0.4
	0.7nm,0.6s,baz=132,slow=9.9,SNR=4.8						
	0.7nm,0.6s						

*JMA **01** 18:15:08.5±0.1,24°0N±0°6×122°4E±0°2, h22km±2km, MV2.2/10, TAIWAN REGION*
*TAP **01** 18:15:09.4,24°14N×122°36E, h30km, ML3.0, C*

ISC 01 18:15:09.1±1.0,24°09N±0°02×122°36E±0°02, h33km±4km, n100, σ0989/178, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.05	309	iP	Pb	18 15 14.4	+0.2
EOS4				iS	Sb	18 15 17.9	+0.2
EOS3	EOS3	0.20	348	iP	Pn	18 15 15.6	+0.1
EOS3				iS	Sb	18 15 20.5	+0.5
EOS2	EOS2	0.35	340	P	Pn	18 15 17.6	-0.3
EOS2				S	Sn	18 15 24.1	+0.5
EAHA	Aohua	0.62	293	eP	Pn	18 15 21.9	+0.4
EAHA				eS	Sn	18 15 30.8	+0.4
JYNG	Yonagunijimaku	0.64	55	eP	Pb	18 15 21.4	-0.6
JYNG				eS	Sb	18 15 30.4	-0.4
ENA	Nanau	0.66	301	P	Pb	18 15 22.0	-0.4
ENA				S	Sb	18 15 31.2	-0.2
ESAO	Su ao	0.68	316	eP	Pb	18 15 22.2	-0.4
ESAO				eS	Sb	18 15 31.1	-0.8
ETL	Fush Village	0.68	276	eP	Pn	18 15 22.9	+0.5
ETL				eS	Sn	18 15 32.8	+0.8
YOJ	Yonaguni jima	0.70	58	eP	Pb	18 15 22.4	-0.6
YOJ				eS	Sb	18 15 31.9	-0.4
YOJ	Yonaguni jima	0.70	58	eP	Pb	18 15 22.6	-0.3
YOJ				iS	Sb	18 15 32.4	0.0
TWC	Suao	0.70	318	P	Pb	18 15 22.0	-1.0
TWC				S	Sb	18 15 31.3	-1.1
TWD	Chiawan	0.70	270	eP	Pb	18 15 22.5	-0.5
TWD				eS	Sn	18 15 32.5	+0.1
NACB	Ninganchiao	0.71	277	eP	Pb	18 15 22.5	-0.6
NACB				eS	Sn	18 15 32.6	0.0
TEYL	Yanliau Villag	0.73	253	eP	Pb	18 15 23.2	-0.3
TEYL				eS	Sn	18 15 33.8	+0.6
SHUL	Shoufeng	0.79	248	eP	Pb	18 15 24.2	-0.3
SHUL				eS	Sn	18 15 35.4	+0.8
NDS	Dongshan	0.80	313	eP	Pb	18 15 24.4	-0.3
NDS				eS	Sn	18 15 35.2	+0.2
ETM	Tongmen	0.81	262	eP	Pb	18 15 23.6	-1.1
ETM				eS	Sb	18 15 35.2	-0.2
ETLH	Xiulin Townshi	0.81	279	eP	Pb	18 15 24.4	-0.5
ETLH				eS	Sn	18 15 35.9	+0.5
TEGC	Jichi Village	0.84	244	eP	Pn	18 15 25.6	+0.9
TEGC				eS	Sn	18 15 38.1	+2.2
EGS		0.85	333	eP	Pb	18 15 25.0	-0.5
EGS				eS	Sn	18 15 37.0	+0.8
LXIB	Xiulin Townshi	0.87	266	eP	Pb	18 15 25.2	-0.7
LXIB				eS	Sn	18 15 37.7	+0.8
LATG	Datong	0.89	301	eP	Pn	18 15 26.1	+0.7
LATG				eS	Sn	18 15 38.1	+0.9
ESL	Shilin	0.89	253	eP	Pb	18 15 25.2	-1.0
TWE	Neicheng	0.90	315	P	Pb	18 15 25.6	-0.6
TWE				S	Sb	18 15 37.3	-0.6
ENTT	Nioudou	0.91	307	P	Pb	18 15 26.2	-0.3
ENTT				S	Sn	18 15 38.2	+0.5
EGFH	Guangfu	0.95	244	eS	Sb	18 15 39.0	-0.5
NNSB	Datong	0.96	291	P	Pn	18 15 26.8	+0.4
NNSB				S	Sn	18 15 39.6	+0.6
WARBT	Fenglin Townsh	0.97	248	eP	Pn	18 15 26.0	-0.4
WARBT				S	Sb	18 15 38.9	-1.1
NNS	Nan Shan	0.97	291	eP	Pb	18 15 27.0	+0.4
NNS				eS	Sn	18 15 39.8	+0.5
TWB1	Santiao Chiao	0.98	340	eP	Pn	18 15 27.1	+0.5
WHF	Hehuan Shan	1.01	274	eP	Pn	18 15 26.9	-0.4
WHF				eS	Sn	18 15 41.2	+0.6
TIPB	Shuangxi	1.01	331	P	Pb	18 15 27.9	-0.3
TIPB				eS	Sb	18 15 40.2	-0.9
FUSS	Fushou	1.04	279	eP	Pn	18 15 28.0	+0.4
FUSS				eS	Sn	18 15 42.0	+0.9
NWLT	Wulai	1.04	311	eS	Sn	18 15 41.7	+0.7
HGSD	Ruisui	1.04	236	eP	Pn	18 15 27.7	+0.2
YHNB	Yeheng	1.07	303	eP	Pn	18 15 28.6	+0.6
YHNB				eS	Sb	18 15 42.5	-0.5
NSK	Sanguang	1.09	303	eP	Pn	18 15 28.8	+0.6
NSK				eS	Sn	18 15 42.6	+0.4
OWD	Renai	1.09	263	eP	Pn	18 15 28.4	+0.1
OWD				eS	Sn	18 15 42.8	+0.4
SXI1	Grass Mountain	1.10	336	eP	Pn	18 15 28.2	-0.1
SXI1				eS	Sn	18 15 42.7	+0.3
TWT	Tachien	1.10	279	eP	Pb	18 15 29.3	-0.4
TWT				eS	Sb	18 15 43.9	+0.1
EHYH	Wanrong	1.10	238	eP	Pn	18 15 28.7	+0.4
EHYH				eS	Sb	18 15 43.6	-0.2
TDCB	Techi	1.11	279	eP	Pn	18 15 29.1	+0.6
TDCB				eS	Sn	18 15 43.6	+0.7
NWF	Wu-fen Shan	1.11	332	eP	Pn	18 15 28.8	+0.3
NWF				S	Sb	18 15 44.5	+0.3
WFSB	Wu-fen Shan	1.11	332	eP	Pn	18 15 28.9	+0.4
WFSB				eS	Sb	18 15 43.6	-0.5
EHY	Hungye	1.12	239	eP	Pn	18 15 28.3	-0.2
ECBN	Changbin	1.14	228	eP	Pb	18 15 29.6	-0.6
ECBN				eS	Sn	18 15 43.3	+0.2
WUSB	Renai	1.14	266	iP	Pn	18 15 29.4	+0.5
WUSB				S	Sb	18 15 44.4	-0.6
NHDH	Xindian Distri	1.16	319	eS	Sb	18 15 45.4	0.0
TNOU	National Taiwa	1.19	333	eS	Sn	18 15 44.9	+0.4
YULB	Yu-li	1.20	235	eP	Pn	18 15 29.2	-0.3
YULB				eS	Sn	18 15 44.9	+0.1
TWF1	Yuli	1.22	233	eS	Sb	18 15 47.2	+0.1
CHKH	Chenggong	1.26	225	eS	Sb	18 15 45.1	-1.0
NFF	Wufeng Townshi	1.26	296	eP	Pb	18 15 31.7	-0.7
NFF				eS	Sb	18 15 48.0	-0.3
IRIF	Iriomote-Funau	1.27	79	eS	Sb	18 15 48.8	+0.2
YM01	YM01	1.28	326	eP	Pb	18 15 32.3	-0.4
YM01				eS	Sn	18 15 47.3	+0.5
KSHI	Guanxi Townshi	1.28	303	eP	Pb	18 15 32.5	-0.2
KSHI				eS	Sb	18 15 49.5	+0.6
ZUZH	Zhuzihu	1.30	325	eP	Pn	18 15 31.8	+0.7
ZUZH				eS	Sb	18 15 48.9	-0.7
WHP	Taichung City	1.31	279	eP	Pb	18 15 33.2	-0.1
WHP				eS	Sb	18 15 49.5	-0.2
FULB	Fuli	1.32	228	eP	Pn	18 15 32.1	+0.8
FULB				eS	Sn	18 15 49.0	+1.2
SSLB	Suanglung	1.32	257	P	Pn	18 15 32.0	+0.6
SSLB				S	Sn	18 15 48.5	+0.6
LIOB	Emei	1.35	295	eP	Pb	18 15 33.5	-0.4
LIOB				eS	Sb	18 15 50.7	-0.1
SMLT	Sun Moon Lake	1.35	262	P	Pn	18 15 33.0	+1.1
SMLT				eS	Sb	18 15 50.8	-0.2
NSTT	Nanjuang	1.36	294	eS	Sb	18 15 50.1	-0.9
TWY	Chenhua	1.37	330	eP	Pn	18 15 33.1	+1.1
TWY				eS	Sn	18 15 50.1	+1.1
NCUH	Zhongli	1.39	310	eS	Sb	18 15 52.2	+0.3
TYC	Yuchr	1.39	263	eP	Pn	18 15 33.3	+1.0
TYC				eS	Sb	18 15 51.1	-0.8
EHD	Haiduan	1.41	229	eP	Pn	18 15 33.0	+0.4
EHD				eS	Sn	18 15 50.8	+0.8
YUS	Yu-Shan	1.42	246	eP	Pn	18 15 33.6	+0.5
YUS				eS	Sn	18 15 51.5	+0.6
WHYT	Xinyi Township	1.44	255	eP	Pb	18 15 34.2	-1.1
WHYT				eS	Sb	18 15 52.6	-0.8
ECS	Chishang	1.44	227	eP	Pn	18 15 34.1	+1.1
ECS				eS	Sb	18 15 52.5	-0.9
HSN	Hsinchu	1.46	300	eS	Sb	18 15 53.3	-0.6
EDH	Donghe	1.48	221	eS	Sn	18 15 50.9	-0.7
NSY	Sanyi	1.50	283	eS	Sb	18 15 55.5	+0.4
NMLH	Miaoli	1.50

SNAA	Sanae	21.90	203	P		P	18 24 02.8	-0.3
SNAA	Sanae	21.90	203	P		P	18 24 03.6	+0.6
	comp=Z,42nm,0.9s,baz=48,slow=9.8,SNR=130							
SNAA				LR	LR		18 30 27.8	
	comp=Z,353nm,20.9s,baz=38,slow=31							
	comp=Z,42nm,0.9s							
VNA2	Neumayer--Watz	22.60	207	⇑P		P	18 24 10.2	-0.2
	comp=Z,7.6nm,0.7s,baz=45,slow=12							
VNA1	Neumayer--Stat	22.69	208	⇑P		P	18 24 12.3	+0.9
	comp=Z,20nm,1.0s							
MAW	Mawson	23.02	143	P		P	18 24 14.4	-0.3
	comp=Z,2.6nm,0.9s,baz=279,slow=11,SNR=3.9							
MAW				LR	LR		18 31 27.5	
	comp=Z,168nm,21.0s,baz=296,slow=32							
	comp=Z,2.6nm,0.9s							
VNA3	Neumayer Olymp	23.39	207	⇑P		P	18 24 18.1	-0.5
	comp=Z,2.8nm,0.8s							
BOSA	Boshof	24.79	1	P		P	18 24 32.3	0.0
BOSA	Boshof	24.79	1	P		P	18 24 32.9	+0.7
	comp=Z,5.8nm,0.9s,baz=192,slow=7.7,SNR=6.6							
BOSA				LR	LR		18 32 24.2	
	comp=Z,323nm,20.5s,baz=186,slow=32							
	comp=Z,5.8nm,0.9s							
MAKGR	Makgori	27.58	0	P		P	18 24 57.3	-0.1
MAKGR				IAmb	IAmb		18 24 59.0	
	comp=Z,12nm,0.9s							
PHPEN	Phepeng	27.95	356	P		P	18 25 00.2	-0.5
PHPEN				IAmb	IAmb		18 25 01.7	
	comp=Z,8.5nm,0.9s							
LBTB	Lobatse	28.38	2	P		P	18 25 04.9	+0.4
LBTB				IAmb	IAmb		18 25 06.2	
	comp=Z,7.9nm,0.8s							
LBTB	Lobatse	28.38	2	LR	LR		18 34 33.2	
	comp=Z,299nm,21.1s,baz=180,slow=33							
KHWEE	KHWEE	31.43	1	P		P	18 25 31.3	-0.3
BELA	Belgrano 2	32.06	200	P		P	18 25 35.9	-0.7
BELA				IAmb	IAmb		18 25 37.7	
	comp=Z,5.2nm,0.9s							
GRTLG	Ghanzi	32.12	354	P		P	18 25 37.2	-0.5
GRTLG				IAmb	IAmb		18 25 39.0	
	comp=Z,3.4nm,0.7s							
MATP	Matopo	33.07	6	LR	LR		18 37 20.5	
	comp=Z,346nm,20.9s,baz=200,slow=33							
PHDHD	Phuduhudu	33.17	360	P		P	18 25 46.4	-0.5
PHDHD				IAmb	IAmb		18 26 01.7	
	comp=Z,15nm,1.2s							
TSUM	Tsumeb	34.61	348	P		P	18 26 00.1	+0.7
TSUM				IAmb	IAmb		18 26 01.4	
	comp=Z,6.2nm,0.9s							
TSUM	Tsumeb	34.61	348	LR	LR		18 39 25.2	
	comp=Z,128nm,18.0s,baz=171,slow=35							
QSPA	South Pole Qui	36.80	180	P		P	18 26 19.1	+1.3
QSPA				IAmb	IAmb		18 26 25.1	
	comp=Z,8.9nm,0.9s							
QSPA	South Pole Qui	36.80	180	P		P	18 26 19.4	+1.6
	comp=Z,7.8nm,0.9s,baz=245,slow=2.6,SNR=17							
QSPA				LR	LR		18 40 21.1	
	comp=Z,288nm,21.4s,baz=234,slow=35							
	comp=Z,7.8nm,0.9s							
LSZ	Lusaka	38.16	5	P		P	18 26 29.9	+0.2
LSZ	Lusaka	38.16	5	LR	LR		18 40 21.5	
	comp=Z,377nm,20.7s,baz=170,slow=33							
PMSA	Palmer Station	43.17	219	LR	LR		18 41 00.3	
	comp=Z,155nm,20.9s,baz=130,slow=30							
VNDA	Vanda	46.64	168	P		P	18 27 38.7	+0.8
VNDA	Vanda	46.64	168	P		P	18 27 38.3	+0.4
	comp=Z,0.9nm,1.0s,baz=236,slow=8.2,SNR=5.4							
VNDA				LR	LR		18 46 43.1	
	comp=Z,273nm,20.6s,baz=200,slow=36							
	comp=Z,0.9nm,1.0s							
SBA	Scott Base	46.92	170	P		P	18 27 40.7	+0.6
MBAR	Mbarara	52.88	8	LR	LR		18 48 57.0	
	comp=Z,150nm,21.9s,baz=165,slow=34							
PLCA	Paso Flores	61.39	240	P		P	18 29 26.1	-0.2
	comp=Z,2.9nm,0.9s,baz=175,slow=11,SNR=4.8							
PLCA				LR	LR		18 51 12.9	
	comp=Z,30nm,21.2s,baz=100,slow=31							
	comp=Z,2.9nm,0.9s							
H01W2	Cape Leeuwin H	62.51	112	T		T	19 38 12.8	
	baz=221,slow=75,SNR=15							
H01W3	Cape Leeuwin H	62.53	112	T		T	19 38 13.8	
	baz=221,slow=75,SNR=12							
H01W1	Cape Leeuwin H	62.53	112	T		T	19 38 11.8	
	baz=221,slow=75,SNR=12							
FURI	Furi	63.20	15	LR	LR		18 54 51.7	
	comp=Z,124nm,21.1s,baz=184,slow=34							
CPUP	Villa Florida	64.69	259	P		P	18 29 48.0	-0.2
	comp=Z,1.5nm,1.0s,baz=48,slow=1.8,SNR=4.5							
CPUP				LR	LR		18 52 46.2	
	comp=Z,10nm,21.9s,baz=25,slow=31							
	comp=Z,1.5nm,1.0s							
DBIC	Dimbokro	64.89	327	LR	LR		18 51 17.1	
	comp=Z,86nm,21.7s,baz=176,slow=30							
TORD	Torodi Ar. Bea	69.19	336	P		P	18 30 14.9	-1.8
TORD				IAmb	IAmb		18 30 17.7	
	comp=Z,2.6nm,0.8s							
TORD	Torodi Ar. Bea	69.19	336	P		P	18 30 16.9	+0.1
	comp=Z,3.5nm,0.8s,baz=165,slow=4.5,SNR=20							
	comp=Z,3.5nm,0.8s							
PALK	Pallekele	76.61	58	LR	LR		18 56 31.3	
	comp=Z,67nm,21.7s,baz=214,slow=29							
PB11	IPOC Station P	76.94	255	P		P	18 31 02.0	-1.0
TAM	Tamanrasset	77.71	342	P		P	18 31 07.7	+0.7
LPAZ	La Paz	78.78	258	P		P	18 31 14.3	+0.5
	comp=Z,1.5nm,0.8s,baz=120,slow=4.2,SNR=5.3							
LPAZ				LR	LR		19 01 36.2	
	comp=Z,24nm,21.7s,baz=100,slow=32							
	comp=Z,1.5nm,0.8s							
STKA	Stephens Creek	78.98	129	P		P	18 31 13.4	-0.7
	comp=Z,0.6nm,0.3s,baz=186,slow=4.9,SNR=1.6							
	comp=Z,0.6nm,0.3s							
FITZ	Fitzroy Crossi	81.97	109	P		P	18 31 29.9	-0.2
ASAR	Alice Springs	81.97	119	P		P	18 31 30.5	+0.3
ASAR	Alice Springs	81.97	119	P		P	18 31 29.9	-0.3
	comp=Z,1.9nm,0.7s,baz=206,slow=5.5,SNR=25							
ASAR				LR	LR		18 59 41.4	
	comp=Z,36nm,20.1s,baz=164,slow=30							
	comp=Z,1.9nm,0.7s							
AS31	Alice Springs	81.97	119	P		P	18 31 29.8	-0.5
EIL	Elat	83.22	9	LR	LR		19 08 51.8	
	comp=Z,66nm,19.4s,baz=180,slow=36							
WRA	Warramunga Arr	85.25	117	P		P	18 31 46.7	-0.4
	comp=Z,1.9nm,0.9s,baz=208,slow=3.7,SNR=11							
	comp=Z,1.9nm,0.9s							
WR8	Warramunga Arr	85.32	117	P		P	18 31 47.2	-0.3
WB0	Warramunga Arr	85.42	117	P		P	18 31 47.4	-0.5
WB0				IAmb	IAmb		18 31 55.3	
	comp=Z,3.3nm,0.8s							
URZ	Urewera	85.60	159	LR	LR		19 08 50.6	
	comp=Z,104nm,19.6s,baz=126,slow=35							
ASF	Jabal al Asfar	85.89	10	LR	LR		19 08 43.7	
	comp=Z,84nm,20.3s,baz=239,slow=35							
MMAI	Mount Meron Ar	86.58	9	LR	LR		19 10 56.0	
	comp=Z,48nm,18.9s,baz=186,slow=36							
MDT	Midelt	89.59	336	LR	LR		19 07 35.4	
	comp=Z,42nm,19.2s,baz=68,slow=32							
KEST	Kesra	89.79	348	LR	LR		19 12 53.2	
	comp=Z,56nm,20.0s,baz=258,slow=36							
RPN	Rapa Nui	90.44	220	LR	LR		19 02 46.2	
	comp=Z,43nm,20.8s,baz=352,slow=29							
GNI	Garni	94.79	15	LR	LR		19 14 45.1	
	comp=Z,35nm,20.8s,baz=194,slow=35							
BRDH	Bariadhala	95.18	59	LR	LR		19 09 47.3	
	comp=Z,60nm,19.9s,baz=216,slow=32							
CMAR	Chiang Mai Arr	95.59	67	LR	LR		19 10 44.9	
	comp=Z,20nm,18.4s,baz=100,slow=32							
ESDC	Sonseca Array	95.99	338	P		P	18 32 37.3	+0.4
	comp=Z,0.7nm,0.8s,baz=193,slow=5.2,SNR=4.2							
	comp=Z,0.7nm,0.8s							
KBZ	Khabaz	98.03	13	LR	LR		19 19 00.6	
	comp=Z,22nm,18.1s,baz=156,slow=37							
KVAR	Kislovodsk Arr	98.22	13	LR	LR		19 19 17.6	
	comp=Z,25nm,18.0s,baz=68,slow=37							
MLR	Muntele Rosu	98.55	1	LR	LR		19 19 29.3	
	comp=Z,88nm,19.8s,baz=184,slow=37							
PV22	Blue Mesa, Par	145.12	264			PKPbc	18 38 45.8	-1.2
RSSD	Black Hills	145.67	275	PKPbc		PKPbc	18 38 48.5	-0.1
IRM	Iron Mountain	145.82	252			PKPbc	18 38 49.2	+0.1
PDAR	Pinedale Array	148.19	269	PKPbc		PKPbc	18 38 54.5	-1.3
	comp=Z,1.7nm,0.9s,baz=133,slow=3.2,SNR=11							
NVAR	Mina Array Bea	150.64	254	PKPbc		PKPbc	18 39 01.4	-0.6
	comp=Z,1.6nm,0.8s,baz=130,slow=3.5,SNR=6.9							

NEIC ***01*** *18:36:34.8±1.0, 22°.19S±0°.07×10°.7W±0°.1, h10km±2km, mb4.7/11, Error ellipse: s-maj=22.9km s-min=10.0km az=75.0*

IDC ***01*** *18:36:35.2±1.1, 22°.45S×10°.63W, h0km, mb4.1/8, mbtmp4.1/8, MS3.4/8, Error ellipse: s-maj=38.6km s-min=24.6km az=100.0*

ISC 01 18:36:35.5±0.7,**22°.4S**±0°.1×**10°.7W**±0°.1,**h9**km,**n27**, σ1°**72**/22,**mb4.5**/11,**MS3.6**/8,**1D**,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	Tsumeb	26.65	88	P	P	18 42 12.7	-2.2
TSUM				IAmb	IAmb	18 42 17.4	
	comp=Z,7.4nm,0.8s						
TSUM	Tsumeb	26.65	88	P	P	18 42 15.1	+0.2
	comp=Z,6.9nm,0.7s,baz=248,slow=8.0,SNR=10						
	comp=Z,6.9nm,0.7s						
GRTLG	Ghanzi	29.64	94	P	P	18 42 40.6	-1.1
XAUDM	Khaudum	30.26	89	P	P	18 42 45.0	-2.2
XAUDM				IAmb	IAmb	18 43 08.9	
	comp=Z,11nm,1.4s						
PHPEN	Phepeng	30.81	102	P	P	18 42 50.4	-1.5
BOSA	Boshof	32.98	108	LR	LR	18 53 49.0	
	comp=Z,22nm,21.1s,baz=290,slow=32						
LBTB	Lobatse	33.30	102	P	P	18 43 11.8	-2.0
LBTB				IAmb	IAmb	18 43 50.6	
	comp=Z,19nm,1.5s						
LBTB	Lobatse	33.30	102	LR	LR	18 54 49.2	
	comp=Z,17nm,18.4s,baz=242,slow=33						
TORD	Torodi Ar. Bea	37.38	20	P	P	18 43 45.5	-3.2
TORD	Torodi Ar. Bea	37.38	20	P	P	18 43 49.5	+0.7
	comp=Z,0.8nm,0.7s,baz=202,slow=7.2,SNR=6.1						
	comp=Z,0.8nm,0.7s						
LSZ	Lusaka	37.43	86	P	P	18 43 49.5	0.0
	comp=Z,1.7nm,0.7s,baz=236,slow=7.3,SNR=4.0						
LSZ				LR	LR	18 56 45.3	
	comp=Z,28nm,21.1s,baz=294,slow=32						
	comp=Z,1.7nm,0.7s						
ITAB	Concordia	37.76	254	P	P	18 43 51.0	-1.0
ITAB				IAmb	IAmb	18 44 10.4	
	comp=Z,24nm,1.3s						
SNAA	Sanae	49.49	177	P	P	18 45 25.6	-0.4
SNAA				IAmb	IAmb	18 45 35.0	
	comp=Z,8.2nm,1.5s						
GO02	Mina Guanaco	53.56	255	P	P	18 45 55.9	-1.5
CO02	Combarbal	53.94	247	P	P	18 45 59.7	-0.1
SYO	Syowa Base	55.50	160	‖ *e*pP	P	18 46 11.0	+0.6
SDV	Santo Domingo	66.39	291	LR	LR	19 14 02.6	
	comp=Z,32nm,20.9s,baz=282,slow=34						
QSPA	South Pole Qui	67.79	180	P	P	18 47 35.7	+2.1
QSPA				IAmb	IAmb	18 47 37.3	
	comp=Z,8.7nm,1.2s						
QSPA	South Pole Qui	67.79	180	P	P	18 47 35.9	+2.2
	comp=Z,2.9nm,0.9s,baz=185,slow=4.3,SNR=8.1						
	comp=Z,2.9nm,0.9s						
GERES	GERESS Array B	74.22	16	P	P	18 48 13.7	+1.1
	comp=Z,0.2nm,0.3s,baz=223,slow=5.3,SNR=3.7						
GERES				LR	LR	19 19 10.9	
	comp=Z,57nm,21.6s,baz=138,slow=34						
	comp=Z,0.2nm,0.3s						
BRTR	Keskin Array B	74.40	34	P	P	18 48 16.2	+2.2
	comp=Z,0.8nm,0.8s,baz=224,slow=6.0,SNR=4.6						
	comp=Z,0.8nm,0.8s						
MLR	Muntele Rosu	75.36	26	P	P	18 48 21.4	+2.0
	comp=Z,1.7nm,0.7s,baz=159,slow=2.4,SNR=3.4						
	comp=Z,1.7nm,0.7s						
VRAC	Vranov	75.43	18	LR	LR	19 19 37.0	
	comp=Z,51nm,21.9s,baz=182,slow=34						
FINES	FINESS Array B	88.65	17	P	P	18 49 29.9	+1.3
	comp=Z,5.6nm,1.0s,baz=193,slow=5.4,SNR=5.3						
FINES				LR	LR	19 29 14.9	
	comp=Z,55nm,18.8s,baz=187,slow=36						
	comp=Z,5.6nm,1.0s						
PALK	Pallekele	94.05	84	LR	LR	19 26 42.0	
	comp=Z,28nm,19.0s,baz=84,slow=32						
ASAR	Alice Springs	122.73	141	PKP	PKPdf	18 55 31.9	-0.6
	comp=Z,0.3nm,0.5s,baz=213,slow=1.6,SNR=9.0						
WRA	Warramunga Arr	125.82	138	PKP	PKPdf	18 55 36.9	-1.6
	comp=Z,0.3nm,0.6s,baz=238,slow=2.2,SNR=2.3						

STR ***01*** *19:09:20.0±0.3, 43°.N±4°.×°.±°., h2km, MLv2.4/12, LOCSAT earthModelID haslach_taup-2.11 preliminary*
LDG ***01*** *19:09:20.7±0.1, 43°.17N×4°.01E, h5km, Ml2.7/34, Error ellipse: s-maj=1.9km s-min=1.3km az=164.0*
MDD ***01*** *19:09:22.3±0.6, 43°.09N×4°.09E, h23km±5km, mb_Lg2.4/22, Error ellipse: s-maj=4.0km s-min=1.5km az=153.0*

ISC 01 19:09:19.3±1.1,**43°.18N**±0°.02×**3°.98E**±0°.02,**h17**km±9km, **n122**, σ1°**61**/176,**Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLAF	Gruissan	0.65	267	Pg	Pn	19 09 34.4	+0.7
LASF	Ste Croix	0.90	354	*e*Pg	Pn	19 09 37.8	+0.6
LASF				*e*Sg	Sg	19 09 48.6	-0.1
	24nm,0.2s						
TRBF	Trabuc cave	0.93	359	Pg	Pn	19 09 38.4	+0.9
TRBF				Sg	Sb	19 09 49.8	+0.9
LAJAS	L'Hospitalet-d	0.96	325	Pg	Pn	19 09 39.5	+1.4
LAJAS				Sg	Sb	19 09 51.9	+1.9
ARBF	Arbois	1.04	72	Pg	Pn	19 09 39.6	+0.6
ARBF				Sg	Sb	19 09 52.4	+0.4
SJAF	Saint Jean de	1.06	230	Pg	Pb	19 09 39.7	+0.5
EJON	La Jonquera	1.08	228	Pn	Pb	19 09 40.0	+0.5
EJON				Sn	Sb	19 09 54.3	+0.9
EJON				*i* IVmb_Lg		19 10 02.3	
FILF	Fillols	1.21	240	Pn	Pn	19 09 42.9	+1.4
MTLF	Montolieu	1.30	278	*e*Pg	Pg	19 09 44.0	-0.3
MTLF				*e*Sg	Sg	19 09 59.1	-2.1
	16nm,0.2s						
MTLF	Montolieu	1.30	278	Pn	Pg	19 09 44.0	-0.3
MTLF				Sg	Sg	19 09 58.9	-2.3
LEPF	PUYLOUBIER	1.30	74	Pg	Pn	19 09 43.3	+0.6
RUSF	Rustrel	1.33	55	Pn	Pn	19 09 43.7	+0.6
ARTF	Artigues	1.39	72	Pn	Pn	19 09 44.5	+0.5
FNEB	Nbias	1.40	259	Pn	Pb	19 09 45.5	+0.6
BSTF	la Bastide-des	1.40	59	Pn	Pn	19 09 44.1	0.0
SMRF	Simiane la Rot	1.41	55	*e*Pn	Pn	19 09 45.1	+0.9
SMRF	Simiane la Rot	1.41	55	*e*Pg	Pg	19 09 48.6	+2.2
SMRF				*e*Sg	Sn	19 10 04.4	+2.0
	15nm,0.3s						
CARF	Carcanieres	1.45	252	Pn	Pn	19 09 45.8	+1.0
MLYF	Mely	1.53	57	Pn	Pn	19 09 46.6	+0.7
DUNF	Dun	1.59	265	Pn	Pb	19 09 48.7	+0.4
VALC	Valcebollere	1.63	242	Pn	Pn	19 09 48.3	+1.0
SLVF	La Salvetat-Pe	1.66	308	Pn	Pn	19 09 49.1	+1.5
FLAF	Flassans-sur-I	1.68	82	Pn	Pn	19 09 48.5	+0.7
BLAF	les Blancs	1.69	62	Pn	Pn	19 09 48.5	+0.5
VIVF	Saint-Julien-l	1.75	16	*e*Pg	Pg	19 09 54.4	+1.5
VIVF				*e*Sg	Sg	19 10 15.6	-0.1
	14nm,0.2s						
GENF	Genat	1.80	259	Pn	Pn	19 09 51.2	+1.6
LMR	La Mourre	1.86	84	*e*Pn	Pn	19 09 50.4	+0.1
LMR				*e*Sn	Sn	19 10 12.7	-0.6
LMR				*e*Sg	Sb	19 10 16.0	+0.4
	11nm,0.2s						
TRIGF	Trigance	1.86	71	Pn	Pn	19 09 51.3	+0.9
LEUC	Leucamp	1.89	327	Pn	Pn	19 09 52.1	+1.4
PAND	Andorre	1.90	251	Pn	Pn	19 09 52.9	+1.8
OGDI	Digne	1.93	60	Pn	Pn	19 09 51.7	+0.4
SALSA	La sagne	2.09	69	Pn	Pn	19 09 54.6	+0.9
LBL	Lubilhac	2.12	346	Pn	Pn	19 09 55.5	+1.5
MLS	Moulis	2.12	265	Pn	Pn	19 09 55.9	+1.9
SSB	Saint Sauveur	2.14	11	Pn	Pn	19 09 55.5	+1.2
SSB				Sn	Sn	19 10 18.7	-1.7
ORIF	Oris-en-Rattie	2.22	38	*e*Pn	Pn	19 09 57.1	+1.8
ORIF				*e*Sn	Sn	19 10 20.5	-1.9
	4.7nm,0.2s						
CALF	Calern	2.22	74	Pn	Pn	19 09 56.0	+0.6
CAF	Calviac	2.23	322	*e*Pn	Pn	19 09 57.3	+1.9
CAF	Calviac	2.23	322	*e*Pg	Pg	19 10 01.6	-0.4
CAF				*e*Sn	Sn	19 10 22.5	0.0
CAF				*e*Sg	Sg	19 10 31.0	+0.1
	8.8nm,0.3s						
ENAUX	Enaux	2.23	64	Pn	Pn	19 09 56.8	+1.2
MONQ	Montcuq	2.34	302	Pn	Pn	19 09 58.9	+1.9
MONQ				Sn	Sn	19 10 24.5	-0.8
COLF	Collangettes	2.35	355	Pn	Pn	19 09 58.2	+1.1
COLF				Sn	Sn	19 10 24.3	-1.3
JAUF	Jausiers	2.37	57	Pn	Pn	19 09 59.0	+1.5
MVIF	Mont Vial	2.42	72	Pn	Pn	19 09 58.9	+0.8
SURF	Saint Ours	2.43	57	Pn	Pn	19 09 59.7	+1.4
FRNF	Fournols	2.43	336	Pn	Pn	19 10 00.3	+2.0
ISO	Isola	2.44	65	Pn	Pn	19 09 59.7	+1.3
SPIF	crte de Spivo	2.52	69	Pn	Pn	19 10 00.6	+1.0
MBDF	Montbardon	2.54	52	*e*Pn	Pn	19 10 01.8	+1.9
MBDF				*e*Sn	Sn	19 10 30.4	-0.1
	1.8nm,0.3s						
ESCA	l'Escarene	2.56	74	Pn	Pn	19 10 01.0	+1.1
SBF	Sospel	2.61	74	*e*Pn	Pn	19 10 01.2	+0.5
SBF				*e*Sn	Sn	19 10 31.6	-0.3
	4.6nm,0.2s						
TURF	col de Turini	2.61	71	Pn	Pn	19 10 01.6	+0.8
PZZ	Stroppo	2.63	59	Pn	Pn	19 10 02.8	+1.7
STV	Sant Anna di V	2.65	65	Pn	Pn	19 10 02.8	+1.5
EPF	Esparros	2.67	268	*e*Pn	Pn	19 10 02.4	+0.9
EPF				*e*Sn	Sn	19 10 31.2	-2.2
	3.6nm,0.2s						
EPF				*e*Sg	Sg	19 10 43.6	-1.4
	6.8nm,0.2s						
RRL	Rocca Remolon	2.67	48	Pn	Pn	19 10 03.6	+1.9
ENR	Entracque	2.71	66	Pn	Pn	19 10 03.4	+1.4
SAOF	Saorge	2.72	71	Pn	Pn	19 10 03.1	+0.9
SAOF				Sn	Sn	19 10 34.1	-0.7
RJF	Les Rejaudoux	2.77	321	*e*Pn	Pn	19 10 04.7	+1.9
RJF	Les Rejaudoux	2.77	321	*e*Pg	Pg	19 10 11.9	-0.4
RJF				*e*Sn	Sn	19 10 35.0	-0.8
RJF				*e*Sg	Sg	19 10 47.1	-1.0
	7.3nm,0.2s						
VERF	Verneugheol	2.79	338	Pn	Pn	19 10 04.9	+1.8
VERF				Sn	Sn	19 10 36.8	+0.5
PLDF	La Plantade	2.80	355	Pn	Pn	19 10 04.6	+1.2
PLDF				Sn	Sn	19 10 35.6	-1.2
EPOB	Poblet	2.82	231	Pn	Pn	19 10 05.6	+2.0
EPOB				Sn	Sn	19 10 38.4	+1.2
EPOB				*i* IVmb_Lg		19 10 55.4	
BHB	Bricherasio	2.90	54	Pn	Pn	19 10 07.1	+2.5
LFF	La Frestale	2.92	308	*e*Pn	Pn	19 10 07.1	+2.2
LFF	La Frestale	2.92	308	*e*Pg	Pg	19 10 14.5	-0.8
LFF				*e*Sn	Sn	19 10 38.2	-1.5
LFF				*e*Sg	Sg	19 10 52.1	-1.1
	12nm,0.3s						
AGO	Saint Agoulin	2.94	348	Pn	Pn	19 10 06.4	+1.2
GBOS	Grotte di Boss	3.00	68	Pn	Pn	19 10 07.7	+1.6
OGMY	Moye	3.03	26	Pn	Pn	19 10 08.0	+1.6
OGMY				Sn	Sn	19 10 40.6	-1.7
LPG	La Plagne	3.06	40	*e*P	Pn	19 10 09.9	+2.9
LPG				*e*Sn	Sn	19 10 43.4	0.0
	1.8nm,0.2s						
LPL	La Plagne	3.06	39	*e*P	Pn	19 10 09.6	+2.5
LPL				*e*Sn	Sn	19 10 42.5	-0.9
	1.6nm,0.3s						
RSP	Reno Superiore	3.08	49	Pn	Pn	19 10 09.7	+2.6
OG35	Corcelles	3.08	21	Pn	Pn	19 10 08.5	+1.2
REYF	Montagne du Re	3.20	270	Pn	Pn	19 10 10.3	+1.5
LSD	Lago del Serru	3.21	44	Pn	Pn	19 10 12.2	+3.0
CANO	Canova, Maglio	3.26	70	Pn	Pn	19 10 11.3	+1.7
CANF	Canfranc	3.33	264	Pn	Pn	19 10 13.2	+2.6
ABJF	Abjat-sur-Band	3.33	317	Pn	Pn	19 10 12.5	+2.0
ETSF	Etsaut	3.34	267	*e*Pn	Pn	19 10 13.4	+2.7
ETSF	Etsaut	3.34	267	*e*P	Pb	19 10 15.4	-2.6
ETSF	Etsaut	3.34	267	*e*Pg	Pg	19 10 22.1	-1.1
ETSF				*e*Sn	Sn	19 10 49.3	-0.7
	9.3nm,0.3s						
TCF	Toulx Ste Croi	3.36	339	*e*Pn	Pn	19 10 12.5	+1.6
TCF				*e*Sn	Sn	19 10 50.1	-0.3
	1.5nm,0.2s						
TCF				*e*Sg	Sg	19 11 06.8	-0.2
	1.4nm,0.2s						
ATE	Arette	3.43	270	Pn	Pn	19 10 12.8	+1.0
SMF	Signal de Mont	3.47	358	*e*Pn	Pn	19 10 13.6	+1.1
SMF				*e*Sn	Sn	19 10 50.9	-2.2
	3.3nm,0.2s						
BGF	Bois d'Agland	3.48	347	*e*Pn	Pn	19 10 13.9	+1.4
BGF				*e*Sn	Sn	19 10 53.2	-0.1
	7.6nm,0.3s						
BGF				*e*Sg	Sg	19 11 10.0	-0.8
	9.7nm,0.3s						
ERTA	Horta de San J	3.50	232	Pn	Pn	19 10 15.2	+2.2
ERTA				Sn	Sn	19 10 55.1	+1.0
ERTA				*i* IVmb_Lg		19 11 18.9	
ETOS	Mallorca	3.52	195	Sn	Sn	19 10 51.1	-3.3
ETOS				*i* IVmb_Lg		19 11 13.6	
LRVF	chteau la Riv	3.56	301	Pn	Pn	19 10 14.8	+1.1
PCP	Piancastagn	3.57	66	Pn	Pn	19 10 15.9	+2.0
PCP				Sn	Sn	19 10 55.3	-0.5
ORDF	Ordiarp	3.59	272	Pn	Pn	19 10 14.8	+0.7
ESAC	San Caprasio	3.60	248	Pn	Pn	19 10 16.6	+2.4
ESAC				Sn	Sn	19 10 57.8	+1.4

AF01 Sn S 19 24 47.2 +2.2
AF01 San Pedro de A 1.33 302⇑ eP Pn 19 24 21.0 +1.6
AF01 eS S 19 24 47.6 +2.6
AF01 IAML 19 24 50.4
comp=E,2μm,0.5s
AF01 San Pedro de A 1.33 302 eP Pn 19 24 20.0 +0.6
AF01 eS S 19 24 45.7 +0.7
AF01 IAML 19 25 03.8
comp=Z,640nm,1.4s
HJA Humahuaca 1.49 72 eP Pn 19 24 20.8 0.0
HJA eS S 19 24 46.9 -0.5
SLA San Lorenzo 1.69 129⇓ eP Pn 19 24 23.1 +0.8
SLA San Lorenzo 1.69 129 eP Pn 19 24 23.1 +0.8
SLA eS S 19 24 50.1 -0.1
AZAP Zapla 1.81 108 eP Pn 19 24 23.3 -0.2
AZAP eS S 19 24 52.4 +0.1
AZAP IAML 19 24 54.2
comp=Z,556nm,1.3s
YJA Yavi 1.99 42⇑ eP Pn 19 24 25.6 0.0
YJA Yavi 1.99 42 eP Pn 19 24 25.7 +0.2
YJA eS S 19 24 55.9 +0.1
FSA Cafayete 2.59 160 eP Pn 19 24 31.8 +0.2
FSA eS S 19 25 07.2 +0.3
PB06 IPOC Station P 2.59 291 Pn 19 24 32.8 +1.1
PB06 Sn S 19 25 06.6 -0.1
PB06 IPOC Station P 2.59 291 eP Pn 19 24 32.7 +1.1
PB06 IAML 19 25 08.4
comp=N,2μm,0.2s
PB06 IPOC Station P 2.59 291 eP Pn 19 24 32.6 +0.9
PB06 eS S 19 25 07.3 +0.6
PB06 IAML 19 25 08.6
comp=Z,839nm,0.1s
ALOL LOMAS DE OLMED 2.72 94 eP Pn 19 24 17.3 -16
PB09 IPOC Station P 2.82 311 Pn 19 24 35.3 +1.0
PB09 Sn S 19 25 10.3 -1.0
PB09 IPOC Station P 2.82 311⇑ eP Pn 19 24 35.5 +1.3
PB09 eS S 19 25 11.5 +0.2
PB09 IAML 19 25 15.4
comp=E,505nm,0.4s
PB09 IPOC Station P 2.82 311 eP Pn 19 24 35.1 +0.9
PB09 eS S 19 25 12.9 +1.6
PB09 IAML 19 25 15.4
comp=Z,519nm,0.7s
GO02 Mina Guanaco 2.83 238 Pn 19 24 35.4 +1.0
GO02 Mina Guanaco 2.83 238 eP Pn 19 24 35.5 +1.0
GO02 Mina Guanaco 2.83 238 eP Pn 19 24 35.6 +1.1
GO02 eS S 19 25 13.1 +1.3
GO02 IAML 19 25 14.0
comp=Z,2μm,0.6s
PB03 IPOC Station P 3.04 301 Pn 19 24 37.6 +0.8
PB03 Sn S 19 25 14.7 -1.3
PB03 IPOC Station P 3.04 301 eP Pn 19 24 37.4 +0.6
PB03 eS S 19 25 15.1 -0.9
PB03 IAML 19 25 18.0
comp=N,1μm,0.2s
PB03 IPOC Station P 3.04 301 eP Pn 19 24 37.5 +0.6
PB03 eS S 19 25 16.0 0.0
PB03 IAML 19 25 19.6
comp=Z,970nm,0.1s
PB05 IPOC Station P 3.10 284 Pn 19 24 37.9 +0.5
PB05 IPOC Station P 3.10 284⇑ eP Pn 19 24 37.9 +0.5
PB05 i S S 19 25 15.7 -1.3
PB05 IAML 19 25 20.3
comp=N,791nm,0.5s
PB05 IPOC Station P 3.10 284 eP Pn 19 24 38.0 +0.5
PB05 eS S 19 25 16.4 -0.6
PB05 IAML 19 25 19.2
comp=Z,477nm,0.4s
PB14 IPOC Station P 3.30 252 Pn 19 24 40.3 +0.4
PB14 IPOC Station P 3.30 252⇑ eP Pn 19 24 40.5 +0.6
PB14 eS S 19 25 21.4 -0.1
PB14 IPOC Station P 3.30 252 eP Pn 19 24 40.5 +0.6
PB14 eS S 19 25 21.8 +0.2
PB14 IAML 19 25 22.5
comp=Z,865nm,0.4s
PB10 IPOC Station P 3.31 272 Pn 19 24 40.5 +0.8
PB10 Sn S 19 25 19.1 -2.2
PB10 IPOC Station P 3.31 272⇓ eP Pn 19 24 40.5 +0.8
PB10 i S S 19 25 19.8 -1.5
PB10 IPOC Station P 3.31 272 eP Pn 19 24 35.1 -4.6
PB10 eP 19 24 40.0
PB10 eS S 19 25 21.5 +0.2
PB10 IAML 19 25 25.7
comp=Z,412nm,0.4s
PB01 IPOC Station P 3.51 318 Pn 19 24 42.4 +0.1
PB01 Sn S 19 25 24.6 -1.3
PB01 IPOC Station P 3.51 318⇑ eP Pn 19 24 42.7 +0.4
PB01 i S S 19 25 25.2 -0.7
PB01 IPOC Station P 3.51 318 eP Pn 19 24 42.7 +0.4
PB01 eS S 19 25 25.9 0.0
PB01 IAML 19 25 27.7
comp=Z,341nm,0.1s
PB02 IPOC Station P 3.59 310 Pn 19 24 43.3 +0.1
PB02 IPOC Station P 3.59 310⇑ eP Pn 19 24 43.3 +0.1
PB02 eS S 19 25 26.0 -1.5
PB02 IPOC Station P 3.59 310 eP Pn 19 24 43.4 +0.1
PB02 eS S 19 25 27.0 -0.5
PB02 IAML 19 25 28.8
comp=Z,689nm,0.6s
AC02 Maricunga 3.72 212 Pn 19 24 45.8 +0.7
AC02 Sn S 19 25 31.5 +0.4
AC02 Maricunga 3.72 212 eP Pn 19 24 45.4 +0.2
AC02 eS S 19 25 28.3 -2.9
AC02 IAML 19 26 24.1
comp=Z,348nm,4.3s
PB08 IPOC Station P 4.06 329 Pn 19 24 49.9 +0.6
PATCX Punta Patache 4.10 313 Pn 19 24 48.8 -0.7
PATCX Sn S 19 25 35.9 -3.1
PATCX Punta Patache 4.10 313 eP Pn 19 24 48.9 -0.6
PATCX i S S 19 25 37.5 -1.5
PATCX Punta Patache 4.10 313 eP Pn 19 24 49.4 -0.1
PATCX eS S 19 25 37.4 -1.5
PATCX IAML 19 25 46.6
comp=Z,174nm,0.4s
AC01 Pan de Azucar 4.13 233 Pn 19 24 49.2 -0.5
AC01 Sn S 19 25 36.7 -2.8
AC01 Pan de Azucar 4.13 233 eP Pn 19 24 49.2 -0.5
AC01 i S S 19 25 37.6 -1.9
AC01 Pan de Azucar 4.13 233 eP Pn 19 24 49.4 -0.5
AC01 eS S 19 25 39.0 -0.5
AC01 IAML 19 25 39.9
comp=Z,326nm,0.5s
TA01 Diego Aracena 4.30 315 Pn 19 24 50.8 -1.0
TA01 Diego Aracena 4.30 315 eP Pn 19 24 51.9 +0.1
TA01 i S S 19 25 41.5 -1.8
TA01 Diego Aracena 4.30 315 eP Pn 19 24 51.5 -0.4
TA01 eS S 19 25 42.1 -1.1
TA01 IAML 19 25 46.0
comp=Z,159nm,0.7s
HMBC Humberstone 4.33 320 Pn 19 24 51.5 -1.0
HMBC Humberstone 4.33 320 eP Pn 19 24 52.2 -0.3
HMBC i S S 19 25 41.4 -2.9
HMBC Humberstone 4.33 320 eP Pn 19 24 52.0 -0.5
HMBC eS S 19 25 42.7 -1.6
HMBC IAML 19 25 49.0
comp=Z,239nm,0.5s
GO01 Chusmiza 4.49 332 Pn 19 24 55.4 +0.6
GO01 Chusmiza 4.49 332 eP Pn 19 24 55.8 +1.1
GO01 eS S 19 25 48.9 +0.5
GO01 IAML 19 25 55.7
comp=Z,104nm,0.7s
PB11 IPOC Station P 4.63 327 Pn 19 24 55.2 -0.9
PB11 IPOC Station P 4.63 327 eP Pn 19 24 55.5 -0.7
PB11 i S S 19 25 48.5 -2.5
PB11 IPOC Station P 4.63 327 eP Pn 19 24 55.7 -0.5
PB11 eS S 19 25 49.1 -1.9
PB11 IAML 19 25 54.3
comp=Z,215nm,0.7s
CYA Choya 4.87 168 eP Pn 19 24 59.8 +0.8
GO03 Copiapo 4.91 216 Pn 19 24 58.2 -1.4
GO03 Copiapo 4.91 216 eP Pn 19 24 58.4 -1.1
GO03 Copiapo 4.91 216 eP Pn 19 24 58.7 -0.8
GO03 eS S 19 25 49.5 -7.7
GO03 IAML 19 25 59.7
comp=Z,436nm,0.3s
VCA Vinchina 5.17 192 eP Pn 19 25 04.8 +1.8
PB16 IPOC Station P 5.82 335 Pn 19 25 11.4 -0.3
AC04 Llanos de Chal 5.85 219 Pn 19 25 10.0 -1.5
LCO Las Campanas 6.30 211 Pn 19 25 15.4 -2.1
PB18 Visviri 6.49 338 Pn 19 25 16.1 -4.3
GO04 Tololo Observa 7.33 207 Pn 19 25 29.0 -1.9
LPAZ La Paz 7.42 351 P Pn 19 25 32.7 +0.2
comp=Z,5.0nm,0.3s,baz=123,slow=4.8,SNR=37
LPAZ S S 19 26 55.5 -1.5
comp=Z,4.6nm,0.6s,baz=234,slow=19,SNR=7.6
CFA Coronel Fontan 7.99 188 P Pn 19 25 38.9 -0.3
comp=Z,3.9nm,0.3s,baz=319,slow=9.9,SNR=37
ZON Zonda 8.00 191 Pn Pn 19 25 37.4 -1.9
CO02 Combarbal 8.33 205 Pn Pn 19 25 41.2 -2.4
CPUP Villa Florida 9.12 109 P Pn 19 25 51.4 -2.5
comp=Z,2.1nm,0.8s,baz=336,slow=14,SNR=10
SIV San Ignacio 9.43 37 P Pn 19 25 55.1 -2.8
comp=Z,12nm,0.5s,baz=233,slow=12,SNR=48
SIV S S 19 27 27.2 -17
comp=Z,3.3nm,0.9s,baz=235,slow=18,SNR=3.3
BDQN Bodoquena, MS 9.99 73 eP Pn 19 26 02.5 -2.5
AQDB Aquidauana 10.90 75 Pn 19 26 13.5 -3.4
AQDB Aquidauana 10.90 75 eP Pn 19 26 15.2 -1.7
PTLB Pontes e Lacer 11.00 43 Pn 19 26 15.4 -2.7
PTLB Pontes e Lacer 11.00 43 eP Pn 19 26 15.8 -2.3
AMBA Amambai (Brazi 11.02 89 eP Pn 19 26 15.8 -2.5
BO02 Sierra Bellavi 11.58 196 Pn 19 26 23.5 -1.9
VILB Vilhena 12.43 32 eP Pn 19 26 35.4 -0.9
PP1B Ponte de Pedra 12.81 64 eP Pn 19 26 39.1 -1.8
SALV Santo Antonio 13.11 56 eP Pn 19 26 43.0 -1.7
PTGB Pitanga 13.63 97 eP P 19 26 54.0 +0.6
CPSB Cacapava Do Su 13.78 122 eP Pn 19 26 51.6 -1.4
ITAB Concordia 13.85 108 eP Pn 19 26 53.1 -0.8
LDASE Londrina, Braz 14.53 92 eP Pn 19 27 00.7 -1.6
TRQA Tornquist 14.96 165 Pn Pn 19 27 03.5 -3.9
TRQA Tornquist 14.96 165 eP Pn 19 27 03.8 -3.6
PDRB Porto dos Gac 15.43 41 eP Pn 19 27 12.4 -0.9
CNLB Canela 15.47 115 eP Pn 19 27 12.0 -1.7
ITRB Iturama 15.91 79 eP P 19 27 18.6 0.0
FRTB Fartura 15.95 92 eP P 19 27 18.3 -0.8
ARAG Araguaiana, MT 16.30 64 eP P 19 27 23.1 +0.3
CLDB Colider 16.58 42 eP P 19 27 24.8 -1.2
CZSB Cruzeiro do Su 16.78 340 eP P 19 27 28.6 +0.4
BB19B Bebedouro 17.23 85 eP P 19 27 32.4 -0.8
PLCA Paso Flores 17.29 189 P P 19 27 34.4 +0.8
comp=Z,2.5nm,1.0s,baz=2.9,slow=11,SNR=6.7
SPB Sao Paulo 17.89 94 eP P 19 27 39.8 -0.4
RCLB Rio Claro- Sao 17.92 90 eP P 19 27 40.0 -0.6
PET01 Itanhaem-SP 17.99 96 eP P 19 27 40.3 -1.1
VAO Valinhos 18.37 92 P 19 27 43.1 -2.4
VAO Valinhos 18.37 92 eP P 19 27 44.6 -0.9
IPMB Ipameri, GO 18.40 76 eP P 19 27 45.2 -0.7
SNDB Serra Nova Dou 18.88 55 eP P 19 27 49.7 -1.4
BDFB Brasilia 19.52 69 P P 19 27 57.4 -0.7
comp=Z,42nm,0.7s,baz=246,slow=11,SNR=44
PARB Paraibuna 19.56 93 eP P 19 27 57.0 -1.4
PMNB Patos De Minas 19.80 79 eP P 19 27 59.7 -1.3
LL02 Futaleuf 19.89 191 P P 19 28 02.3 +0.6
LL02 IAmb IAmb 19 28 05.0
comp=Z,11nm,0.6s
NPGB Novo Progresso 19.93 36 eP P 19 28 00.1 -2.2
TEFE Tefe 20.16 7 eP P 19 28 05.0 +0.2
BSCB Bom Sucesso 20.68 87 eP P 19 28 08.9 -1.5
MACA Manacapuru-AM 21.27 17 eP P 19 28 15.0 -1.4
VAS01 Vassouras-RJ 21.68 91 eP P 19 28 19.8 -0.9
ITTB Itaituba 22.03 31 eP P 19 28 22.0 -2.0
DIAM Diamantina, MG 22.37 81 eP P 19 28 26.3 -1.1
DUB01 Friburgo-RJ 22.69 91 eP P 19 28 29.0 -1.2
JANB Januaria 22.99 72 eP P 19 28 31.3 -1.5
CAM01 Campos-RJ 23.39 91 eP P 19 28 33.8 -2.6
SMTB Santa Maria do 23.66 55 eP P 19 28 38.4 -0.6
SDBA SAO DESIDERIO 23.73 66 eP P 19 28 38.1 -1.5
PRPB Parauapebas 23.96 46 eP P 19 28 40.9 -0.8
COHC Cochancay 24.21 329 P 19 28 45.5 +1.7
SJMB Sao Joao De Ma 24.51 83 eP P 19 28 45.2 -1.4
RIB01 Linhares ES 25.07 85 eP P 19 28 50.5 -1.2
GUA01 Guaratinga, BA 26.41 80 eP P 19 29 02.7 -1.0
BOAV Boa Vista 26.65 14 P P 19 29 05.2 -0.6
BOAV Boa Vista 26.65 14 eP P 19 29 05.9 0.0
CMC01 Camacan, BA 27.11 77 eP P 19 29 08.6 -1.4
NBAN Anadia - AL 32.42 70 eP P 19 29 55.9 -0.9
RCBR Riachuelo 34.74 64 P P 19 30 16.2 -0.6
RCBR IAmb IAmb 19 30 49.4
comp=Z,25nm,1.3s
RCBR Riachuelo 34.74 64 eP P 19 30 16.8 0.0
ESPZ Base Esperanza 40.27 173 P P 19 31 01.7 -0.8
ESPZ IAmb IAmb 19 31 13.2
comp=Z,23nm,1.5s
MTO3 Montecristo 43.72 328 P P 19 31 32.1 +0.8
MTO3 IAmb IAmb 19 31 33.8
comp=Z,8.2nm,0.7s
TEIG Tepich 48.33 333 P P 19 32 07.9 +1.1
CAMR Camarioca 48.51 342 P P 19 32 09.6 +1.4
CAMR IAmb IAmb 19 32 18.5
comp=Z,358nm,1.3s
SOR Soroa 48.75 340 P P 19 32 10.9 +0.9
BELA Belgrano 2 56.36 172 P P 19 33 04.4 -0.7
BELA IAmb IAmb 19 33 18.8
comp=Z,7.7nm,0.7s
SNAA Sanae 59.65 161 P P 19 33 29.1 +1.0
SNAA PcP PcP 19 34 13.3 +0.5
SNAA Sanae 59.65 161 P P 19 33 29.1 +1.0
comp=Z,1.7nm,0.6s,baz=281,slow=9.1,SNR=15
comp=Z,1.7nm,0.6s
833A Chaparral WMA, 60.41 327 P 19 33 34.3 +0.6
X48A Hartselle 60.87 341 P P 19 33 36.9 +0.2
X48A IAmb IAmb 19 33 37.9
comp=Z,8.7nm,0.6s
TXAR Lajitas Array 63.43 324 P P 19 33 55.3 +1.3
comp=Z,1.2nm,0.8s,baz=150,slow=9.0,SNR=10.0
comp=Z,1.2nm,0.8s
PBMO Poplar Bluff 64.07 339 P P 19 33 57.9 +0.1
PBMO IAmb IAmb 19 33 59.1
comp=Z,7.4nm,0.7s
MGMO Mountain Grove 65.03 338 P P 19 34 03.3 -0.7
MGMO IAmb IAmb 19 34 05.5
comp=Z,6.4nm,0.8s
CCM Cathedral Cave 65.50 339 P 19 34 06.8 -0.2
R40A Maddies Statio 66.05 338 P P 19 34 10.9 +0.3
R40A IAmb IAmb 19 34 11.8
comp=Z,5.1nm,0.7s
QSPA South Pole Qui 66.54 180 P 19 34 16.7 +3.2
QSPA IAmb IAmb 19 34 17.9
comp=Z,5.3nm,0.6s
QSPA South Pole Qui 66.54 180 P P 19 34 17.5 +4.0
comp=Z,4.7nm,0.5s,baz=192,slow=0.4,SNR=60
comp=Z,4.7nm,0.5s
MSTX Muleshoe 66.68 328 P 19 34 15.2 +0.4
MSTX IAmb IAmb 19 34 17.3
comp=Z,9.1nm,0.8s
121A Cookes Peak, D 68.14 323 IAmb IAmb 19 34 27.8
comp=Z,5.4nm,0.8s
ANMO Albuquerque 69.30 326 P 19 34 32.5 +1.3
BGNE Belgrade 70.92 336 P P 19 34 41.6 +1.0
ECSD EROS Data Cent 72.39 338 IAmb IAmb 19 34 51.0
comp=Z,11nm,1.2s
KNB Kanab 74.23 323 P 19 35 02.4 +1.9
KNB IAmb IAmb 19 35 04.7
comp=Z,6.3nm,1.0s
P18A Preston Nutter 74.82 327 IAmb IAmb 19 35 07.4
comp=Z,3.8nm,0.7s
CCUT Cedar City 74.92 323 P 19 35 05.7 +1.2
CCUT IAmb IAmb 19 35 08.7
comp=Z,4.0nm,0.8s
BSUT Blindstream Ca 75.77 327 IAmb IAmb 19 35 12.8
comp=Z,3.8nm,0.7s
WCT Wildcat Mounta 76.22 321 P P 19 35 14.2 +2.5
TORD Torodi Ar. Bea 76.41 69 P P 19 35 12.8 -0.3
comp=Z,1.5nm,0.4s,baz=255,slow=4.4,SNR=37
comp=Z,1.5nm,0.4s
R11B Troy Canyon, C 76.72 323 P P 19 35 16.0 +1.4
PDAR Pinedale Array 76.89 329 P P 19 35 17.1 +1.7
comp=Z,0.5nm,0.5s,baz=138,slow=7.5,SNR=7.8
comp=Z,0.5nm,0.5s
MDND Maddock 77.00 338 P 19 35 16.1 +0.4
ULM Lac du Bonnet 77.93 341 P P 19 35 21.4 +0.6
comp=Z,3.5nm,0.5s,baz=117,slow=4.2,SNR=3.0
comp=Z,3.5nm,0.5s
NVAR Mina Array Bea 78.31 321 P P 19 35 25.0 +1.6
comp=Z,0.6nm,0.6s,baz=156,slow=8.0,SNR=4.2
comp=Z,0.6nm,0.6s
LAO LASA Array 78.51 334 IAmb IAmb 19 35 26.8
comp=Z,7.1nm,1.0s
YNE Yellowstone No 78.82 330 IAmb IAmb 19 35 29.2
comp=Z,4.1nm,0.8s
BOSA Boshof 80.84 117 P P 19 35 37.7 +0.3
comp=Z,1.2nm,0.6s,baz=296,slow=3.1,SNR=5.9
comp=Z,1.2nm,0.6s
PLID Pearl Lake 81.72 327 IAmb IAmb 19 35 44.5
comp=Z,4.0nm,0.8s
MAW Mawson 81.74 163 P P 19 35 43.1 +2.0
comp=Z,2.4nm,0.8s,baz=268,slow=5.7,SNR=4.4
comp=Z,2.4nm,0.8s
YKA Yellowknife Ar 93.83 340 P P 19 36 40.4 +1.3
comp=Z,0.8nm,0.6s,baz=55,slow=3.0,SNR=7.4
comp=Z,0.8nm,0.6s
ASAR Alice Springs 128.78 205 PKP PKiKP 19 42 30.5 +0.4
comp=Z,1.1nm,0.8s,baz=138,slow=2.3,SNR=13
WRA Warramunga Arr 131.94 207 PKP PKiKP 19 42 36.5 0.0
comp=Z,0.7nm,0.6s,baz=156,slow=1.9,SNR=13
PETK Petropavlovsk- 135.37 323 PKP PKiKP 19 42 42.9 +0.5
comp=Z,1.2nm,0.7s,baz=100,slow=3.5,SNR=1.5
BVAR Borovoye Array 136.50 36 PKP PKiKP 19 42 44.2 -0.5
comp=Z,0.6nm,0.6s,baz=0.0,slow=3.7,SNR=3.6
KURBB Kurchatov Arra 142.08 36 PKP PKPdf 19 42 51.5 -1.7
comp=Z,0.7nm,0.8s,baz=309,slow=2.7,SNR=4.3
ZALV Zalesovo Beam 143.08 28 PKP PKPbc 19 42 53.0 +0.7
comp=Z,1.3nm,0.6s,baz=309,slow=4.7,SNR=6.5
MKAR Makanchi Array 146.24 39 PKPbc PKPbc 19 43 01.9 -0.2
comp=Z,3.2nm,0.5s,baz=326,slow=2.4,SNR=47
SONM Songino Array 155.30 11 PKP PKPdf 19 43 14.4 -0.2
comp=Z,0.3nm,0.4s,baz=343,slow=1.3,SNR=2.3
SONM PKPab PKPab 19 43 41.8 +1.0
comp=Z,0.7nm,0.6s,baz=324,slow=4.9,SNR=2.7

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*AUST **01** 19:46:13.4±0.3, 31°S±2°×11°7E±°, h10km, mb3.9/1, ML2.3/7, Error ellipse: s-maj=5.8km s-min=5.0km az=116.9*
*CUPWA **01** 19:46:14.8±1.1, 30.57S×117.13E, h1km±11km, Region: WESTERN AUSTRALIA*
ISC 01 19:46:13.4±1.0, 30.56S±0.04×117.18E±0.04, h8km, n19, σ0.53/24, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADX	**Cadoux**	**0.21**	**190**	P	**Pg**	**19 46 18.3**	**+0.7**
CADX				S	**Sg**	**19 46 20.9**	**+0.3**
KOO6	**Koorda**	**0.37**	**135**	P	**Pg**	**19 46 21.3**	**+0.6**
KOO6				S	**Sg**	**19 46 25.5**	**-0.1**
BLDU	**Ballidu**	**0.41**	**262**	P	**Pg**	**19 46 21.3**	**0.0**
BLDU				S	**Sg**	**19 46 26.3**	**-0.4**
BLDU	**Ballidu**	**0.41**	**262**	P	**Pg**	**19 46 21.3**	**0.0**
BLDU				S	**Sg**	**19 46 26.3**	**-0.4**
MECK	**Meckering**	**1.08**	**188**	P	**Pg**	**19 46 34.0**	**0.0**
MECK	**Meckering**	**1.08**	**188**	S	**Sg**	**19 46 48.1**	**0.0**
MUN	**Mundaring**	**1.64**	**210**	P	**Pn**	**19 46 43.1**	**+0.6**
MUN	**Mundaring**	**1.64**	**210**	P	**Pn**	**19 46 43.1**	**+0.6**
MUN				S	**Sn**	**19 47 03.8**	**0.0**
AUMAZ	**Mazenod Senior**	**1.74**	**214**	P	**Pn**	**19 46 44.3**	**+0.4**
MORW	**Morawa**	**1.79**	**326**	P	**Pn**	**19 46 45.1**	**+0.6**
MORW	**Morawa**	**1.79**	**326**	S	**Sn**	**19 47 07.6**	**+0.2**
MORW	**Morawa**	**1.79**	**326**	P	**Pn**	**19 46 45.1**	**+0.6**
MORW	**Morawa**	**1.79**	**326**	S	**Sn**	**19 47 07.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**2.36**	**179**	P	**Pn**	**19 46 52.2**	**-0.2**
MEEK	**Meekatharra**	**4.11**	**18**	P	**Pn**	**19 47 17.0**	**+0.5**
MEEK	**Meekatharra**	**4.11**	**18**	P	**Pn**	**19 47 17.0**	**+0.5**
KMBL	**Kambalda**	**4.12**	**102**	P	**Pn**	**19 47 16.0**	**-0.6**
KMBL	**Kambalda**	**4.12**	**102**	P	**Pn**	**19 47 16.0**	**-0.6**
FORT	**Forrest**	**9.38**	**94**	P	**Pn**	**19 48 27.5**	**-1.3**

comp=Z,0.0nmcomp=Z,15nm,2.4s

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*IDC **01** 19:57:08.5±0.4, 55.22S×158.63E, h0km, mb4.9/17, mbtmp4.9/18, ML4.9/1, MS4.6/39, Error ellipse: s-maj=21.3km s-min=13.0km az=83.0*
*MOS **01** 19:57:09.9±1.6, 55.32S×158.01E, h10km, mb5.4/18, MS4.6/5, Error ellipse: s-maj=26.6km s-min=8.1km az=101.7*
*NEIC **01** 19:57:10.0±1.4, 55.26S±0.08×158.6E±0.2, h10km±1km, mb5.4/86, Ms_20 4.9/70, Mwb5.5/12, Mww5.5/28, Error ellipse: s-maj=17.6km s-min=14.1km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.16; Mθθ0.67; Mϕϕ-0.82; Mrθ0.22; Mθϕ2.51; Mϕr0.27; Fault plane solution: M0 2.64000×10^17 NP1:ϕs98.52000°, δ83.14000°, λ4.39000°. NP2:ϕs7.99000°, δ85.65000°, λ173.12000°. Principal axes: T 2.5862, Plg8.0000°, Azm323.0000°; N 0.1113, Plg82.0000°, Azm156.0000°; P -2.6976, Plg2.0000°, Azm53.0000°;*
*NEIC **01** 19:57:10.2, 55.35S×158.46E, h22km, Moment Tensor Solution. Duration: 26s Moment tensor: Scale 10^17Nm; Mrr0.03; Mθθ0.76; Mϕϕ-0.79; Mrθ-0.24; Mθϕ1.81; Mϕr0.15; Fault plane solution: M0 1.99000×10^17 NP1: ϕs191.76000°, δ82.45000°, λ-177.42000°. NP2: ϕs101.42000°, δ87.45000°, λ-7.56000°. Principal axes: T 1.9611, Plg4.0000°, Azm147.0000°; N 0.0502, Plg82.0000°, Azm263.0000°; P -2.0114, Plg7.0000°, Azm56.0000°;*
*NEIC **01** 19:57:10.2, 55.25S×158.45E, h10km*
*NEIC **01** 19:57:10.2, 55.25S×158.46E, h22km*
*BJI **01** 19:57:11.2, 55.28S×158.57E, h13km, mb5.2/15, Ms5.0/5, Ms7 4.8/8*
*GCMT **01** 19:57:13.0±0.1, 55.25S×158.26E, h21km, MW5.5/145, Moment Tensor Solution. s127, c238; s145, c290; Duration: 19s4 Moment tensor: Scale 10^17Nm; Mrr0.01±.02; Mθθ0.91±.02; Mϕϕ-0.91±.02; Mrθ-0.33±.04; Mθϕ1.92±.02; Mϕr0.04±.04; Best double couple: M0 2.15100×10^17 NP1:ϕs193.00000°, δ81.00000°, λ179.00000°. NP2:ϕs283.00000°, δ89.00000°, λ9.00000°. Principal axes: T 2.1510, Plg7.0000°, Azm148.0000°; N 0.0010, Plg81.0000°, Azm290.0000°; P -2.1520, Plg5.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 19:57:10.3±0.2, 55.23S±0.04×158.75E±0.05, h10km, n503, σ19.82/439, mb5.3/113, MS4.8/72, 43C-18D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**10.21**	**38**	P	**Pn**	**19 59 36.5**	**-0.4**
APZ				S	**Sn**	**20 01 26.7**	**-4.6**
PYZ	**Puysegur Point**	**10.37**	**32**		**Pn**	**19 59 39.7**	**+0.9**
PYZ	**Puysegur Point**	**10.37**	**32**	P	**Pn**	**19 59 39.8**	**+0.9**
PYZ	**Puysegur Point**	**10.37**	**32**	P	**Pn**	**19 59 40.1**	**+1.2**
SYZ	**Scrubby Hill**	**10.89**	**41**	P	**Pn**	**19 59 46.5**	**+0.5**
SYZ	**Scrubby Hill**	**10.89**	**41**	P	**Pn**	**19 59 46.2**	**+0.2**
SYZ				S	**Sn**	**20 01 42.9**	**-4.8**
WHZ	**Wether Hill Ro**	**11.01**	**36**		**Pn**	**19 59 48.0**	**+0.3**
WHZ	**Wether Hill Ro**	**11.01**	**36**	P	**Pn**	**19 59 48.0**	**+0.3**
WHZ				S	**Sn**	**20 01 47.5**	**-3.4**
DCZ	**Deep Cove**	**11.14**	**32**		**Pn**	**19 59 49.9**	**+0.4**
DCZ	**Deep Cove**	**11.14**	**32**	P	**Pn**	**19 59 52.0**	**+2.6**
MLZ	**Mavora Lakes**	**11.53**	**35**		**Pn**	**19 59 55.5**	**+0.6**
MLZ	**Mavora Lakes**	**11.53**	**35**	P	**Pn**	**19 59 55.5**	**+0.6**
MLZ				S	**Sn**	**20 02 00.9**	**-2.8**
TUZ	**Tuapeka**	**11.56**	**41**	P	**Pn**	**19 59 56.1**	**+0.9**
HHSZ	**Highcliff Hill**	**11.99**	**44**	P	**Pn**	**20 00 03.0**	**+1.9**
EAZ	**Earnscleugh**	**12.06**	**38**	P	**Pn**	**20 00 02.7**	**+0.6**
EAZ				S	**Sn**	**20 02 13.5**	**-3.0**
MSZ	**Milford Sound**	**12.09**	**33**	P	**Pn**	**20 00 05.7**	**+3.3**
WKZ	**Wanaka**	**12.31**	**37**		**Pn**	**20 00 06.1**	**+0.6**
WKZ	**Wanaka**	**12.31**	**37**	P	**Pn**	**20 00 06.8**	**+1.3**
ODZ	**Otahua Downs**	**12.71**	**42**		**Pn**	**20 00 11.6**	**+0.6**
ODZ	**Otahua Downs**	**12.71**	**42**	P	**Pn**	**20 00 11.7**	**+0.8**
ODZ	**Otahua Downs**	**12.71**	**42**	P	**Pn**	**20 00 11.5**	**+0.6**
JCZ	**Jackson Bay**	**12.90**	**34**	P	**Pn**	**20 00 15.7**	**+2.1**
JCZ	**Jackson Bay**	**12.90**	**34**	P	**Pn**	**20 00 16.4**	**+2.8**
LBZ	**Lake Benmore**	**13.10**	**39**		**Pn**	**20 00 16.0**	**-0.3**
LBZ	**Lake Benmore**	**13.10**	**39**	P	**Pn**	**20 00 15.6**	**-0.8**
TMZ	**Timaru**	**13.41**	**41**	P	**Pn**	**20 00 21.5**	**+1.1**
FOZ	**Fox Glacier**	**13.72**	**36**		**Pn**	**20 00 25.2**	**+0.5**
FOZ	**Fox Glacier**	**13.72**	**36**	P	**Pn**	**20 00 27.1**	**+2.4**
ARCZ	**Arundel**	**13.85**	**41**	P	**Pn**	**20 00 26.9**	**+0.4**
RPZ	**Rata Peaks**	**14.00**	**40**		**Pn**	**20 00 28.5**	**0.0**
RPZ	**Rata Peaks**	**14.00**	**40**	Pn	**Pn**	**20 00 28.2**	**-0.4**
RPZ				Sn	**Sn**	**20 02 59.8**	**-4.1**
RPZ				LR	LR	20 05 07.4	
RPZ	**Rata Peaks**	**14.00**	**40**	P	**Pn**	**20 00 29.9**	**+1.4**
RPZ	**Rata Peaks**	**14.00**	**40**	P	**Pn**	**20 00 28.6**	**0.0**
WACZ	**Wakanui South**	**14.10**	**42**	P	**Pn**	**20 00 31.2**	**+1.3**
MHCZ	**Mount Hutt**	**14.35**	**41**	P	**Pn**	**20 00 34.7**	**+1.3**
TAU	**Tasmania Unive**	**14.39**	**324**		**Pn**	**20 00 31.4**	**-2.5**
TAU	**Tasmania Unive**	**14.39**	**324**	P	**Pn**	**20 00 32.1**	**-1.8**

5.2nm,0.3s,baz=182,slow=3.7,SNR=10
3.3nm,0.3s,baz=285,slow=20,SNR=1.7
comp=Z,3μm,18.5s,baz=354,slow=34
19nm,0.5s

TAU	Tasmania Unive	14.39	324	P	Pn	20 00 31.4	-2.5
RACZ	Rakaia	14.40	42	P	Pn	20 00 35.5	+1.5
WVZ	Waitaha Valley	14.44	38	P	Pn	20 00 37.0	+2.5
AKCZ	Akaroa Harbour	14.58	45	P	Pn	20 00 37.9	+1.4
MQZ	McQueen's Vall	14.62	44		Pn	20 00 38.0	+1.1
MQZ	McQueen's Vall	14.62	44	P	Pn	20 00 38.3	+1.4
OXZ	Oxford	14.70	41		Pn	20 00 39.0	+0.8
OXZ	Oxford	14.70	41	P	Pn	20 00 38.9	+0.8
OKCZ	Okains Bay	14.76	45	P	Pn	20 00 40.3	+1.3
MOO	Moorlands	14.86	325	P	Pn	20 00 37.4	-2.8
	comp=Z,794nm,1.0s						
MOO	Moorlands	14.86	325	P	Pn	20 00 38.5	-1.7
MOO	Moorlands	14.86	325	P	Pn	20 00 38.2	-2.0
AMCZ	Amberley	15.06	43		Pn	20 00 44.4	+1.5
AMCZ	Amberley	15.06	43	P	Pn	20 00 45.2	+2.2
LTZ	Lake Taylor	15.25	41		Pn	20 00 47.1	+1.6
LTZ	Lake Taylor	15.25	41	P	Pn	20 00 46.4	+0.8
GVZ	Greta Valley S	15.39	43		Pn	20 00 47.7	+0.4
GVZ	Greta Valley S	15.39	43	P	Pn	20 00 49.2	+1.9
GLAD	Gladstone	15.92	329	P	Pn	20 00 52.8	-1.4
DSZ	Denniston Nort	15.99	38	P	P	20 00 57.6	-1.0
DSZ				IAmb	IAmb	20 00 59.4	
	comp=Z,554nm,1.1s						
DSZ	Denniston Nort	15.99	38	P	P	20 00 58.0	-0.6
KHZ	Kahutara	16.05	43		P	20 00 57.7	-1.5
KHZ	Kahutara	16.05	43	P	P	20 00 58.4	-0.9
KHZ	Kahutara	16.05	43	P	P	20 00 57.8	-1.5
THZ	Tophouse	16.37	40		P	20 01 03.5	+0.5
THZ				IAmb	IAmb	20 01 08.6	
	comp=Z,310nm,1.0s						
THZ	Tophouse	16.37	40	P	P	20 01 03.0	0.0
MRNZ	Matariki Terra	16.63	40	P	P	20 01 07.1	+1.4
MRNZ	Matariki Terra	16.63	40	P	P	20 01 08.2	+2.4
BSWZ	Blackbirch Sta	16.78	43	P	P	20 01 08.3	+0.9
BSWZ	Blackbirch Sta	16.78	43	P	P	20 01 09.4	+2.0
NNZ	Nelson	17.02	41	P	P	20 01 11.0	+0.9
NNZ	Nelson	17.02	41	P	P	20 01 14.4	+4.3
QRZ	Quartz Range	17.06	38	IAmb	IAmb	20 01 15.0	
	comp=Z,860nm,1.7s						
QRZ	Quartz Range	17.06	38	P	P	20 01 10.5	+0.1
QRZ	Quartz Range	17.06	38	P	P	20 01 13.2	+2.8
SNZO	South Karori	17.45	44	P	P	20 01 15.1	+0.3
SNZO				IAmb	IAmb	20 01 20.4	
	comp=Z,259nm,1.2s						
DUWZ	D'Urville Isla	17.59	41	P	P	20 01 19.3	+3.0
PAWZ	Paruwai Farm	17.68	45	P	P	20 01 20.2	+2.8
MTW	Mount Morrison	17.90	45	P	P	20 01 24.0	+4.3
MRZ	Mangatainoka R	18.35	44		P	20 01 26.0	+1.3
MRZ				IAmb	IAmb	20 01 30.4	
	comp=Z,300nm,1.2s						
MRZ	Mangatainoka R	18.35	44	P	P	20 01 29.5	+4.8
BFZ	Birch Farm	18.60	46	IAmb	IAmb	20 01 38.8	
	comp=Z,248nm,1.4s						
MILA	Mila	19.32	336	P	Pn	20 01 36.2	-0.3
CTZ	Chatham Island	19.59	64		Pn	20 01 39.2	-0.4
CTZ	Chatham Island	19.59	64	P	Pn	20 01 45.2	+5.6
CTZ	Chatham Island	19.59	64	P	Pn	20 01 44.9	+5.3
TOO	Toolangi	19.82	328	P	P	20 01 41.1	+0.2
	comp=Z,0.0nmcomp=Z,89nm,1.1s						
TOO	Toolangi	19.82	328	P	P	20 01 40.3	-0.6
TOO	Toolangi	19.82	328	P	P	20 01 40.3	-0.6
TOO				pmax	pmax		
	comp=Z,79nm,1.0s						
HIZ	Hauiti	19.94	40	IAms_20	IAms_20	20 08 41.3	
	comp=Z,4μm,18.0s						
HIZ	Hauiti	19.94	40	P	Pn	20 01 45.9	+2.1
BKZ	Black Stump Fm	19.99	44	IAms_20	IAms_20	20 09 11.1	
	comp=Z,6μm,19.0s						
BKZ	Black Stump Fm	19.99	44	P	Pn	20 01 47.0	+2.5
RTZ	Ruatahuna	20.66	44	IAms_20	IAms_20	20 09 32.6	
	comp=Z,6μm,19.0s						
CNB	Canberra Magne	20.94	338	P	P	20 01 54.1	+1.0
	comp=Z,0.0nmcomp=Z,219nm,1.4s						
CNB	Canberra Magne	20.94	338	P	Pn	20 01 54.6	-1.0
CAN	Canberra	21.01	337	P	P	20 01 54.3	+0.4
	comp=Z,0.0nmcomp=Z,198nm,1.3s						
CAN	Canberra	21.01	337	P	P	20 01 53.8	0.0
CAN				IAmb	IAmb	20 01 56.5	
	comp=Z,233nm,1.1s						
CAN	Canberra	21.01	337	P	P	20 01 55.3	+1.4
CAN	Canberra	21.01	337	P	P	20 01 53.8	0.0
CAN				pmax	pmax		
	comp=Z,233nm,1.1s						
CAN				MLR	MLR		
	comp=Z,2μm,21.0s						
URZ	Urewera	21.02	44	P	P	20 01 54.2	+0.4
	comp=Z,54nm,0.9s,baz=203,slow=5.9,SNR=18						
URZ				LR	LR	20 10 04.5	
	comp=Z,6μm,18.4s,baz=207,slow=37						
	comp=Z,54nm,0.9s						
URZ	Urewera	21.02	44	P	P	20 01 57.7	+3.9
MWZ	Matawai	21.12	45	P	P	20 02 00.5	+5.6
MGBR	Mount Gambier	21.40	317	P	P	20 01 58.2	+0.2
MGBR				IAmb	IAmb	20 02 03.7	
	comp=Z,280nm,1.2s						
PUZ	Puketiti	21.64	46	P	P	20 02 04.8	+4.3
HAZ	Te Kaha	21.72	44	P	P	20 02 05.5	+4.2
ARPS	Mount Arapiles	21.77	321	P	P	20 02 01.9	0.0
	comp=Z,108nm,1.2s						
RIV	Riverview	22.04	343	P	P	20 02 06.1	+1.3
	comp=Z,331nm,1.2s						
WCZ	Waipu Caves	22.07	36	P	P	20 02 09.1	+4.0
MXZ	Matakaoa Point	22.10	45	IAms_20	IAms_20	20 10 21.4	
	comp=Z,3μm,20.0s						
YNG	Young	22.13	337	P	P	20 02 05.9	0.0
	comp=Z,103nm,1.6s						
VNDA	Vanda	22.42	178	P	P	20 02 08.0	-0.6
VNDA				IAmb	IAmb	20 02 18.6	
	comp=Z,135nm,1.3s						
VNDA	Vanda	22.42	178	P	P	20 02 08.7	+0.1
	comp=Z,28nm,1.0s,baz=347,slow=9.9,SNR=92						
	comp=Z,28nm,1.0s						
VNDA	Vanda	22.42	178	P	P	20 02 08.0	-0.6
VNDA				pmax	pmax		
	comp=Z,135nm,1.3s						
OUZ	Omahuta	22.48	33	P	P	20 02 12.8	+3.2
OUZ	Omahuta	22.48	33	P	P	20 02 10.7	+1.1
MGCD	Mangrove Creek	22.65	343	P	P	20 02 13.1	+1.7
	comp=Z,227nm,1.1s						
SBA	Scott Base	22.90	176	P	P	20 02 14.1	+0.5
SBA				IAmb	IAmb	20 02 29.0	
	comp=Z,174nm,1.3s						
SBA	Scott Base	22.90	176	IAms_20	IAms_20	20 09 15.3	
	comp=Z,3μm,18.0s						
SBA	Scott Base	22.90	176	P	P	20 02 14.1	+0.5
SBA				pmax	pmax		
	comp=Z,174nm,1.3s						
SBA				MLR	MLR		
	comp=Z,3μm,18.0s						
LHI	Lord Howe Isla	23.70	1	P	P	20 02 18.3	-3.7
LHI	Lord Howe Isla	23.70	1	P	P	20 02 21.9	-0.1
ARMA	Armidale	25.31	346	P	P	20 02 38.1	+1.1
	comp=Z,0.0nmcomp=Z,137nm,1.2s						
ARMA	Armidale	25.31	346	P	P	20 02 37.3	+0.3
ARMA				IAms_20	IAms_20	20 09 23.9	
	comp=Z,3μm,21.0s						
CASY	Casey	25.31	225	P	P	20 02 35.5	-1.0
CASY				IAmb	IAmb	20 02 42.2	
	comp=Z,98nm,1.1s						
CMSA	Cobar Meteorol	25.42	333	P	P	20 02 37.5	-0.3
	comp=Z,217nm,1.2s						
CMSA	Cobar Meteorol	25.42	333	P	P	20 02 38.8	+0.9
HTT	Hallett	25.82	319	P	P	20 02 41.5	0.0
	comp=Z,16nm,1.1s						
HTT	Hallett	25.82	319	P	P	20 02 44.3	+2.7
STKA	Stephens Creek	26.30	326	P	P	20 02 46.0	+0.1
	comp=Z,0.0nmcomp=Z,304nm,1.3s						
STKA	Stephens Creek	26.30	326	P	P	20 02 45.0	-0.8
STKA	Stephens Creek	26.30	326	P	P	20 02 45.5	-0.3
	comp=Z,53nm,1.1s,baz=152,slow=9.8,SNR=25						
STKA				LR	LR	20 11 15.7	
	comp=Z,1μm,20.9s,baz=158,slow=32						
	comp=Z,53nm,1.1s						
STKA	Stephens Creek	26.30	326	P	P	20 02 46.7	+0.9
STKA	Stephens Creek	26.30	326	P	P	20 02 45.0	-0.8
STKA				pmax	pmax		
	comp=Z,414nm,1.2s						
BBOO	Buckleboo	27.48	315	P	P	20 02 55.0	-1.4
	comp=Z,0.0nmcomp=Z,55nm,1.2s						
BBOO	Buckleboo	27.48	315	P	P	20 02 55.7	-0.8
BBOO				IAmb	IAmb	20 03 34.6	
	comp=Z,145nm,1.1s						
BBOO	Buckleboo	27.48	315	P	P	20 02 56.7	+0.2
EIDS	Eidsvold	30.35	346	P	P	20 03 22.9	+0.9
	comp=Z,56nm,1.5s						
EIDS	Eidsvold	30.35	346	P	P	20 03 21.8	-0.2
EIDS				IAmb	IAmb	20 03 28.1	
	comp=Z,58nm,1.1s						
EIDS				IAms_20	IAms_20	20 13 26.6	
	comp=Z,3μm,20.0s						
INKA	Innaminka	30.41	327	P	P	20 03 21.4	-1.0
QLP	Quilpie	30.52	334	P	P	20 03 23.8	+0.4
	comp=Z,315nm,1.2s						
FORT	Forrest	32.71	306	P	P	20 03 41.5	-1.2
	comp=Z,38nm,0.9s						
FORT	Forrest	32.71	306	P	P	20 03 42.0	-0.8
PINNC	Pines Island,	33.21	15	P	P	20 03 48.3	+1.2
ONTNC	Ouen Toro	33.38	13	P	P	20 03 50.1	+1.6
DZM	Mont Dzumac	33.61	13	*e*P	P	20 03 51.9	+1.2
	comp=Z,328nm,1.1s						
DZM				*e*S	S	20 09 13.5	+0.3
	comp=Z,249nm,27.6s						
DZM				*e*LQ	LQ	20 11 20.3	
	comp=Z,5μm,24.5s						
DZM				*e*LR	LR	20 12 43.2	
	comp=Z,2μm,23.4s						
DZM	Mont Dzumac	33.61	13	P	P	20 03 52.0	+1.2
DZM	Mont Dzumac	33.61	13	P	P	20 03 53.8	+3.1
QSPA	South Pole Qui	34.88	180	P	P	20 04 03.7	+2.2
QSPA				IAmb	IAmb	20 04 10.4	
	comp=Z,71nm,1.2s						
QSPA	South Pole Qui	34.88	180	IAms_20	IAms_20	20 16 20.6	
	comp=Z,2μm,18.0s						
QSPA	South Pole Qui	34.88	180	P	P	20 04 02.9	+1.4
	comp=Z,26nm,1.1s,baz=2.8,slow=3.6,SNR=34						
QSPA				LR	LR	20 16 30.6	
	comp=Z,2μm,19.6s,baz=20,slow=33						
	comp=Z,26nm,1.1s						
KMBL	Kambalda	35.25	297	P	P	20 04 03.2	-1.7
	comp=Z,12nm,1.4s						
CTA	Charters Tower	36.33	340	LR	LR	20 16 02.4	
	comp=Z,51nm,22.0s,baz=154,slow=31						
CTAO	Charters Tower	36.33	340	P	P	20 04 14.3	+0.1
CTAO				IAmb	IAmb	20 04 21.0	
	comp=Z,166nm,1.6s						
CTAO	Charters Tower	36.33	340	IAms_20	IAms_20	20 15 50.9	
	comp=Z,3μm,19.0s						
CTAO	Charters Tower	36.33	340	P	P	20 04 14.3	+0.1
CTAO				pmax	pmax		
	comp=Z,166nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s						
NWAO	Narrogin (SRO)	36.47	290	P	P	20 04 13.1	-2.1
NWAO	Narrogin (SRO)	36.47	290	LR	LR	20 16 58.9	
	comp=Z,745nm,18.8s,baz=140,slow=33						
NWAO	Narrogin (SRO)	36.47	290	P	P	20 04 19.3	+4.1
NWAO	Narrogin (SRO)	36.47	290	P	P	20 04 13.1	-2.1
NWAO				pmax	pmax		
	comp=Z,32nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,900nm,19.0s						
ASAR	Alice Springs	36.50	320	P	P	20 04 15.1	-0.5
	comp=Z,56nm,1.0s,baz=159,slow=8.1,SNR=88						
ASAR				PcP	PcP	20 06 39.2	0.0
	comp=Z,3.5nm,0.8s,baz=153,slow=4.2,SNR=1.8						
ASAR				LR	LR	20 18 00.1	
	comp=Z,1μm,18.7s,baz=158,slow=34						
	comp=Z,56nm,1.0s						
AS31	Alice Springs	36.50	320	P	P	20 04 14.6	-1.0
H01W1	Cape Leeuwin H	36.67	285	T	T	20 42 55.2	
	baz=136,slow=75						
H01W2	Cape Leeuwin H	36.67	285	T	T	20 42 55.8	
	baz=136,slow=75						
H01W3	Cape Leeuwin H	36.69	285	T	T	20 42 56.5	
	baz=136,slow=75						
QIS	Mount Isa	37.50	330	P	P	20 04 23.7	-0.4
	comp=Z,48nm,1.4s						
WRKA	Warakurna	37.53	311	P	P	20 04 23.4	-1.0
	comp=Z,33nm,1.2s						
MUN	Mundaring	37.75	290	P	P	20 04 25.2	-0.9
	comp=Z,44nm,1.2s						
MTSU	Mount Surprise	38.63	338	P	P	20 04 33.7	+0.1
	comp=Z,45nm,1.1s						
WR8	Warramunga Arr	39.69	323	P	P	20 04 40.9	-1.6
WR8				IAmb	IAmb	20 04 42.5	
	comp=Z,107nm,1.1s						
WRA	Warramunga Arr	39.76	323	P	P	20 04 41.8	-1.3
	comp=Z,49nm,1.0s,baz=156,slow=7.3,SNR=68						
WRA				PP	PP	20 06 13.5	-0.8
	comp=Z,20nm,1.0s,baz=163,slow=12,SNR=5.8						
WRA				PcP	PcP	20 06 50.2	+0.8
	comp=Z,5.6nm,0.9s,baz=149,slow=3.3,SNR=1.7						
WRA				LR	LR	20 20 08.4	
	comp=Z,1μm,18.4s,baz=166,slow=35						
	comp=Z,49nm,1.0s						
WRAB	Tennant Creek	39.77	323	P	P	20 04 41.9	-1.2
WRAB				IAmb	IAmb	20 04 43.1	
	comp=Z,76nm,1.1s						
WRAB	Tennant Creek	39.77	323	*ce*P	P	20 04 41.6	-1.5
WRAB				pmax	pmax		
	comp=Z,92nm,1.2s						
MORW	Morawa	40.12	293	P	P	20 04 45.4	-0.6
	comp=Z,26nm,0.9s						
MORW	Morawa	40.12	293	P	P	20 04 46.0	0.0
MSVF	Nonsavu	40.23	29	‖*e*P	P	20 04 52.2	+5.2
MSVF				pmax	pmax		
	comp=Z,22nm,1.2s						
SANVU	Saraoutou	40.23	13	P	P	20 04 47.7	+0.8
SANVU				IAmb	IAmb	20 04 53.9	
	comp=Z,110nm,1.0s						
MEEK	Meekatharra	40.75	298	P	P	20 04 49.5	-1.8
	comp=Z,27nm,1.9s						
MAW	Mawson	42.73	214	P	P	20 05 06.9	0.0
	comp=Z,7.0nm,1.4s						
MAW	Mawson	42.73	214	P	P	20 05 06.2	-0.7
	comp=Z,11nm,1.0s,baz=115,slow=10,SNR=13						
MAW				PcP	PcP	20 06 58.1	-0.1
	comp=Z,18nm,1.2s,baz=119,slow=5.9,SNR=4.2						
MAW				LR	LR	20 21 53.9	
	comp=Z,617nm,19.0s,baz=118,slow=35						
	comp=Z,11nm,1.0s						
COEN	Coen	42.92	338	P	P	20 05 09.1	0.0
	comp=Z,103nm,1.3s						
COEN	Coen	42.92	338	P	P	20 05 08.3	-0.7
COEN				IAmb	IAmb	20 05 10.5	
	comp=Z,120nm,1.1s						
PSAB3	Pilbara Seismi	44.37	303	P	P	20 05 18.4	-2.3
PSAC2	Pilbara Seismi	44.37	303	P	P	20 05 19.1	-1.6
	comp=Z,32nm,1.4s						
PSA00	Pilbara Seismi	44.39	303	P	P	20 05 18.6	-2.2
	comp=Z,36nm,1.4s						
PSA00	Pilbara Seismi	44.39	303	P	P	20 05 19.2	-1.6
PSAC1	Pilbara Seismi	44.44	303	P	P	20 05 19.7	-1.5
	comp=Z,26nm,1.3s						
MBWA	Marble Bar	44.80	303	P	P	20 05 22.8	-1.3
	comp=Z,34nm,1.4s						
MBWA	Marble Bar	44.80	303	P	P	20 05 22.7	-1.4
MBWA	Marble Bar	44.80	303	IAms_20	IAms_20	20 22 17.7	
	comp=Z,947nm,19.0s						
FITZ	Fitzroy Crossi	44.80	313	P	P	20 05 22.8	-1.3
	comp=Z,12nm,1.0s						
FITZ	Fitzroy Crossi	44.80	313	P	P	20 05 23.1	-1.0
FITZ	Fitzroy Crossi	44.80	313	LR	LR	20 21 41.0	
	comp=Z,737nm,20.8s,baz=162,slow=33						
HNR	Honiara	45.69	2	IAms_20	IAms_20	20 19 55.4	
	comp=Z,2μm,21.0s						
HNR	Honiara	45.69	2	LR	LR	20 20 16.4	
	comp=Z,2μm,21.1s,baz=186,slow=30						
KNRA	Kununurra	45.72	318	P	P	20 05 30.4	-1.0
	comp=Z,106nm,1.1s						
KNRA	Kununurra	45.72	318	P	P	20 05 30.1	-1.3
RAR	Rarotonga	45.95	59	P	P	20 05 32.9	-0.3
	comp=Z,14nm,0.8s,baz=203,slow=5.4,SNR=1.7						
RAR				LR	LR	20 19 50.8	
	comp=Z,618nm,21.3s,baz=214,slow=30						
PMG	Port Moresby	46.62	344	P	P	20 05 38.0	-0.5
PMG	Port Moresby	46.62	344	IAms_20	IAms_20	20 22 52.8	
	comp=Z,2μm,18.0s						
PMG	Port Moresby	46.62	344	LR	LR	20 23 05.3	
	comp=Z,2μm,19.1s,baz=173,slow=33						
PMG	Port Moresby	46.62	344	*c i*P	P	20 05 39.2	+0.7
PMG				pmax	pmax		
	comp=Z,129nm,1.1s						
BELA	Belgrano 2	46.90	176	P	P	20 05 39.6	-0.4
SYO	Syowa Base	48.40	205	‖*e*P	P	20 05 51.2	-0.5
SYO	Syowa Base	48.40	205	‖*e*pP	pP	20 05 53.6	-0.7
SYO	Syowa Base	48.40	205	‖*e*sP	sP	20 05 55.4	+0.1
TBI	Tubuai	49.56	72	*e*S	S	20 13 09.4	+0.4
	comp=Z,5μm,29.5s						
TBI				*e*SS	SS	20 16 43.7	+2.9
	comp=Z,1μm,28.2s						
TBI				*e*LR	LR	20 20 00.5	
	comp=Z,9μm,32.8s						
TBI				*e*LR	LR	20 20 07.4	
	comp=Z,2μm,30.8s						
RABL	Rabaul	51.16	352	P	P	20 06 12.5	-0.9
RABL				IAmb	IAmb	20 06 21.0	
	comp=Z,52nm,0.9s						
TROLL	Troll, Antarti	51.97	189	⇑P	P	20 06 17.8	-1.1
	comp=Z,808nm,0.8s						
NVL	N'lazarevskaya	52.10	193	*e*P	P	20 06 17.0	-2.8
NVL				*e*		20 07 28.9	
NVL				*e*		20 08 15.2	
NVL				*e*PPP	PPP	20 09 16.6	
NVL				*e*S	S	20 13 40.9	-2.3
NVL				*e*		20 16 04.3	
NVL				*e*SS	SS	20 17 16.5	-3.0
NVL				*e*SSS	SSS	20 18 59.3	
NVL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NVL				smax	smax		
	comp=N,546nm,23.7s						
NVL				MLR	MLR		
	comp=Z,141nm,19.0s						
SMAI	San Martin Ant	52.38	160		P	20 06 22.2	+0.4
SMAI				IAmb	IAmb	20 06 29.6	
	comp=Z,45nm,1.1s						
BATI	Baumata	52.71	315	LR	LR	20 28 07.1	
	comp=Z,484nm,18.1s,baz=190,slow=35						
BATI	Baumata	52.71	315	P	P	20 06 25.0	0.0
	comp=Z,53nm,1.0s						
SNAA	Sanae	52.73	187	⇑P	P	20 06 23.5	-1.0
	comp=Z,260nm,0.7s						
SNAA	Sanae	52.73	187	P	P	20 06 23.6	-1.0
SNAA				IAmb	IAmb	20 06 36.6	
	comp=Z,95nm,1.5s						
SNAA	Sanae	52.73	187	P	P	20 06 23.6	-1.0
	comp=Z,18nm,0.9s,baz=171,slow=8.0,SNR=47						
SNAA				LR	LR	20 28 26.1	
	comp=Z,2μm,18.4s,baz=171,slow=36						
	comp=Z,18nm,0.9s						
SNAA	Sanae	52.73	187	*c i*P	P	20 06 23.1	-1.5
SNAA				pmax	pmax		
	comp=Z,74nm,1.5s						
SOEI	Soe	52.88	316	P	P	20 06 25.9	-0.4
SOEI	Soe	52.88	316	P	P	20 06 26.5	+0.2
	comp=Z,1μmcomp=Z,71nm,1.4s						
VNA3	Neumayer Olymp	53.56	185	⇓P	P	20 06 29.3	-1.3
	comp=Z,20nm,0.8s						
VNA2	Neumayer--Watz	53.76	186	⇑P	P	20 06 29.4	-2.6
	comp=Z,16nm,0.8s,baz=168,slow=6.8						
MANU	Manus Island	53.82	346	P	P	20 06 33.3	+0.3
MANU				IAmb	IAmb	20 06 41.6	
	comp=Z,78nm,1.2s						
VNA1	Neumayer--Stat	54.08	185	⇑P	P	20 06 33.5	-0.9
	comp=Z,50nm,1.0s						
PPT2	Papeete2	54.19	67	*e*S	S	20 14 14.8	+1.8
	comp=Z,1μm,27.8s						
PPT2				*e*SS	SS	20 17 53.3	-1.3
	comp=Z,469nm,24.5s						
PPT2				*e*LQ	LQ	20 19 59.0	
	comp=Z,1μm,26.5s						
PPT2				*e*LR	LR	20 22 16.1	
	comp=Z,4μm,32.2s						
PPT2				*e*LR	LR	20 22 16.3	
	comp=Z,2μm,31.5s						
PPT	Papeete	54.21	67	LR	LR	20 24 45.7	
	comp=Z,807nm,21.2s,baz=210,slow=30						
JAY	Jayapura	54.55	338	LR	LR	20 27 39.1	
	comp=Z,1μm,20.3s,baz=198,slow=34						
JAY	Jayapura	54.55	338	P	P	20 06 37.5	-1.0
	comp=Z,791nmcomp=Z,26nm,1.1s						
GENI	Genyem	54.59	337	P	P	20 06 39.8	+1.1
	comp=Z,62nm,1.2s						
MMRI	Maumere	54.72	314	P	P	20 06 38.6	-1.0
MMRI				IAmb	IAmb	20 07 00.1	
	comp=Z,58nm,1.0s						
MMRI	Maumere	54.72	314	P	P	20 06 39.3	-0.3
	comp=Z,59nm,1.1s						
EDFI	Ende, Flores	54.84	313	P	P	20 06 39.3	-1.4
	comp=Z,497nmcomp=Z,34nm,1.2s						
SMPI	Sarmi	55.51	335	P	P	20 06 45.1	-0.3
	comp=Z,1μmcomp=Z,43nm,1.1s						
PMSA	Palmer Station	55.92	159	P	P	20 06 48.7	+1.1
PMSA				IAmb	IAmb	20 07 24.1	
	comp=Z,29nm,0.7s						
PMSA	Palmer Station	55.92	159	LR	LR	20 28 29.8	
	comp=Z,339nm,18.8s,baz=200,slow=34						
FAKI	Fak Fak	56.39	328	P	P	20 06 51.0	-0.7
FAKI				IAms_20	IAms_20	20 31 30.3	
	comp=Z,981nm,18.0s						
FAKI	Fak Fak	56.39	328	P	P	20 06 51.1	-0.5
	comp=Z,64nm,1.2s						
BAKI	Biak	56.93	333	P	P	20 06 56.2	+0.7
	comp=Z,1μmcomp=Z,93nm,1.2s						
RKPI	Ransiki, Papua	57.16	330	P	P	20 06 56.1	-1.0
	comp=Z,916nmcomp=Z,81nm,1.2s						
BBSI	Bau Bau	57.44	316	P	P	20 06 59.5	+0.4
	comp=Z,1μmcomp=Z,70nm,1.1s						
NLAI	Namlea	57.79	322	P	P	20 07 01.0	-0.6
RKT	Rikitea	57.85	85	*e*LR	LR	20 23 50.8	
	comp=Z,4μm,35.0s						
ESPZ	Base Esperanza	58.50	162	P	P	20 07 07.4	+1.5
ESPZ				IAmb	IAmb	20 07 15.8	
	comp=Z,38nm,1.2s						
SWI	Sorong	58.64	327	P	P	20 07 07.9	+0.4
	comp=Z,75nm,1.2s						
KAPI	Kappang	59.02	313	LR	LR	20 32 17.6	
	comp=Z,334nm,20.4s,baz=148,slow=36						
SANI	Sanana	59.29	321	P	P	20 07 10.8	-1.2
	comp=Z,970nmcomp=Z,84nm,1.2s						
BNSI	Bone	59.42	314	P	P	20 07 13.2	+0.2
SPSI	Sidrap Palu	59.96	314	P	P	20 07 16.3	-0.3
	comp=Z,564nmcomp=Z,42nm,1.4s						
H04S2	CROZET ISLANDS	61.18	229	T	T	21 14 50.2	
	baz=140,slow=75,SNR=696						
H04S1	CROZET ISLANDS	61.18	229	T	T	21 14 51.5	
	baz=140,slow=75,SNR=774						
H04S

GUMO Guam 69.54 346 LR LR 20 35 15.3
comp=Z,262nm,22.0s,baz=174,slow=33
GUMO Guam 69.54 346 P **P** **20 08 18.5 -0.5**
GUMO pmax pmax
comp=Z,155nm,1.1s
KRJI Kerinci 70.17 297 P **P** **20 08 22.5 -0.7**
comp=Z,89nm,1.1s
KKM Kota Kinabalu 70.48 314 IAmb IAmb 20 08 31.6
comp=Z,36nm,1.1s
TPRI Tanjung Pinang 71.22 301 P **P** **20 08 30.0 +0.6**
comp=Z,17nm,0.8s
PDSI Padang 71.69 296 P **P** **20 08 32.1 -0.2**
comp=Z,39nm,1.0s
PPI Padang Panjang 72.11 297 P P 20 08 40.4 +5.6
MYKOM Kota Tinggi 72.31 301 P **P** **20 08 34.4 -1.6**
LL02 Futaleuf 72.97 144 P **P** **20 08 38.9 -0.6**
LL02 IAmb IAmb 20 08 46.5
comp=Z,67nm,2.0s
MNSI Mandailing Nat 73.60 296 P P 20 08 50.6 +7.0
GSI Gunungsitoli 75.07 295 P **P** **20 08 50.7 -1.4**
GSI IAmb IAmb 20 09 09.5
comp=Z,53nm,1.1s
LR05 Currie 75.54 142 P **P** **20 08 53.2 -1.4**
RPSI Rantau Prapat 75.56 297 P **P** **20 08 53.2 -1.8**
PLCA Paso Flores 75.59 144 P **P** **20 08 54.5 -0.5**
PLCA Paso Flores 75.59 144 P **P** **20 08 55.0 -0.1**
comp=Z,6.4nm,0.9s,baz=211,slow=4.5,SNR=12
PLCA LR LR 20 33 54.2
comp=Z,353nm,21.9s,baz=216,slow=29
comp=Z,6.4nm,0.9s
PLCA Paso Flores 75.59 144 P **P** **20 08 54.5 -0.5**
PLCA pmax pmax
comp=Z,14nm,1.2s
PSI Prapat 75.65 297 P **P** **20 08 53.2 -2.4**
PSI pmax pmax
comp=Z,16nm,1.2s
IPM Ipoh 76.03 300 P **P** **20 08 55.8 -1.9**
TGY Tagaytay City 76.07 322 LR LR 20 42 40.8
comp=Z,158nm,21.6s,baz=175,slow=36
KCSI Kotacane, Aceh 76.85 296 P **P** **20 09 02.1 -0.3**
KULM Kulim 76.91 300 **P** **20 09 00.3 -2.4**
KULM IAmb IAmb 20 09 19.2
comp=Z,40nm,1.1s
H03S2 Juan Fernandez 78.51 134 T T 21 36 25.6
baz=207,slow=74,SNR=3610
H03S1 Juan Fernandez 78.51 134 T T 21 36 21.0
baz=207,slow=74,SNR=4216
H03S3 Juan Fernandez 78.52 134 T T 21 36 26.5
baz=207,slow=74,SNR=3760
LHMI Lhok Sumawe 78.73 296 P P 20 09 20.9 +8.1
H03N3 Juan Fernandez 78.84 134 T T 21 36 43.7
baz=218,slow=77,SNR=2291
H03N2 Juan Fernandez 78.85 134 T T 21 36 43.3
baz=218,slow=77,SNR=2879
H03N1 Juan Fernandez 78.86 134 T T 21 36 44.5
baz=218,slow=77,SNR=2025
BI02 San Fabin de 78.97 141 P **P** **20 09 13.0 -1.1**
DLV Lat 79.05 310 **P** **20 09 12.3 -2.4**
TRQA Tornquist 80.77 149 P **P** **20 09 23.1 -0.6**
TRQA IAmb IAmb 20 09 33.3
comp=Z,37nm,1.3s
TRQA Tornquist 80.77 149 P **P** **20 09 23.1 -0.6**
TRQA pmax pmax
comp=Z,37nm,1.3s
BO02 Sierra Bellavi 80.82 141 IAmb IAmb 20 09 30.4
comp=Z,33nm,0.9s
BO04 La Punta 81.61 140 P **P** **20 09 27.8 -0.5**
BO04 IAmb IAmb 20 09 42.2
comp=Z,35nm,1.1s
H08S2 Diego Garcia H 81.64 269 T T 21 39 21.0
baz=144,slow=76,SNR=7088
H08S1 Diego Carcia H 81.65 269 T T 21 39 21.8
baz=144,slow=76,SNR=1042
H08S3 Diego Garcia H 81.66 269 T T 21 39 22.6
baz=144,slow=76
LMEL Las Melosas 81.88 141 P **P** **20 09 28.8 -1.1**
MT13 San Alfonso 81.94 141 P **P** **20 09 29.0 -1.1**
MT13 IAmb IAmb 20 09 51.5
comp=Z,44nm,1.1s
QIZ Qiongzhong 84.80 314 P **P** **20 09 48.3 +3.7**
QIZ PP **PP** **20 13 02.7 +1.5**
QIZ S **S** **20 20 14.3 +1.8**
QIZ SS **SS** **20 25 49.6 +4.4**
QIZ pmax pmax
comp=Z,22nm,1.1s
QIZ LR LR
comp=Z,240nm,20.4s
QIZ LR LR
comp=Z,270nm,17.3s
QIZ LR LR
comp=Z,490nm,33.9s
SUR Sutherland 85.59 215 P **P** **20 09 48.6 -0.3**
JOW Kunigami 85.80 333 LR LR 20 45 24.6
comp=Z,237nm,22.0s,baz=126,slow=34
OPO Ambohidratompo 86.57 242 P **P** **20 09 52.8 -1.1**
comp=Z,3.5nm,1.0s,baz=170,slow=4.9,SNR=6.3
OPO LR LR 20 42 02.1
comp=Z,91nm,18.1s,baz=351,slow=31
comp=Z,3.5nm,1.0s
BOSA Boshof 87.49 220 P **P** **20 09 57.1 -1.1**
comp=Z,11nm,0.7s,baz=144,slow=4.4,SNR=29
BOSA LR LR 20 45 03.5
comp=Z,212nm,18.6s,baz=164,slow=33
comp=Z,11nm,0.7s
PLTB Pedras Altas 89.02 153 P **P** **20 10 05.1 -0.1**
PLTB IAmb IAmb 20 10 13.2
comp=Z,52nm,1.4s
CMAR Chiang Mai Arr 89.11 305 P **P** **20 10 05.0 -0.6**
comp=Z,1.9nm,0.9s,baz=177,slow=4.0,SNR=18
CMAR PP **PP** **20 13 34.5 -1.5**
comp=Z,1.0nm,0.4s,baz=143,slow=8.6,SNR=3.7
CMAR LR LR 20 48 50.5
comp=Z,152nm,20.2s,baz=145,slow=35
comp=Z,1.9nm,0.9s
CMAR Chiang Mai Arr 89.11 305 *i* P **P** **20 10 05.9 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
PALK Pallekele 89.16 284 LR LR 20 44 26.3
comp=Z,188nm,18.8s,baz=140,slow=32
PALK Pallekele 89.16 284⇑*eP* **P** **20 10 07.4 +1.4**
PALK pmax pmax
comp=Z,25nm,1.2s
CHTO Chiang Mai 89.41 305 P **P** **20 10 06.4 -0.6**
CHTO IAmb IAmb 20 10 13.9
comp=Z,19nm,1.1s
CHTO Chiang Mai 89.41 305 P **P** **20 10 06.4 -0.6**
CHTO pmax pmax
comp=Z,19nm,1.1s
JHJ Hachijo jima 2 89.48 344 LR LR 20 49 10.0
comp=Z,246nm,18.6s,baz=166,slow=35
LBTB Lobatse 90.62 221 LR LR 20 43 50.3
comp=Z,237nm,21.7s,baz=158,slow=31
JNU Nakatsue 91.19 337 LR LR 20 48 55.7
comp=Z,149nm,20.5s,baz=159,slow=34
JGF Kuroka 92.31 343 IAmb IAmb 20 10 27.0
comp=Z,19nm,1.2s
KDWAN Kaudwane 92.46 221 *i* P **P** **20 10 20.7 -0.8**
GYA Guiyang 92.73 315 ⇓P **P** **20 10 26.7 +4.3**
GYA S **S** **20 21 26.1 -1.2**
GYA pmax pmax
comp=Z,13nm,1.6s
GYA LR LR
comp=Z,150nm,5.3s
MJAR Matsushiro Arr 93.08 344 P **P** **20 10 23.6 0.0**
comp=Z,6.4nm,1.0s,baz=181,slow=5.7,SNR=16
MJAR PP **PP** **20 14 07.1 -0.3**
comp=Z,1.4nm,1.1s,baz=120,slow=4.9,SNR=3.4
MJAR LR LR 20 51 34.9
comp=Z,110nm,18.6s,baz=164,slow=35
comp=Z,6.4nm,1.0s
MAJO Matsushiro 93.09 344 P **P** **20 10 24.0 +0.3**
MAJO IAmb IAmb 20 10 30.5
comp=Z,24nm,1.1s
MAJO Matsushiro 93.09 344*d i*P **P** **20 10 24.3 +0.6**
MAJO pmax pmax
comp=Z,24nm,1.0s
CPUP Villa Florida 93.09 148 P **P** **20 10 23.9 -0.4**
comp=Z,2.1nm,0.8s,baz=192,slow=3.9,SNR=11
comp=Z,2.1nm,0.8s
NJ2 Nanjing 93.42 327 *eP* **P** **20 10 27.4 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
BROLN Tlhalogang 93.47 225 *i* P **P** **20 10 24.8 -1.4**
MATP Matopo 93.60 226 P **P** **20 10 27.6 +0.8**
comp=Z,11nm,1.1s,baz=178,slow=6.2,SNR=8.6
MATP LR LR 20 46 55.6
comp=Z,112nm,19.6s,baz=156,slow=32
comp=Z,11nm,1.1s
KGCAE Kacgae 93.85 219 *i* P **P** **20 10 26.0 -1.9**
KOOLE Kule 94.44 218 P **P** **20 10 29.1 -1.5**
KOOLE IAmb IAmb 20 10 38.6
comp=Z,22nm,1.1s
KOOLE Kule 94.44 218 *i* P **P** **20 10 29.6 -1.0**
PZH PanZhiHua 94.83 311 P **P** **20 10 33.8 +1.7**
TNCH TengChong 94.98 308 P P 20 10 38.1 +5.2
TNCH pmax pmax
comp=Z,10.0nm,1.6s
GRTLG Ghanzi 95.57 219 P **P** **20 10 34.1 -1.7**
GRTLG IAmb IAmb 20 10 41.4
comp=Z,17nm,1.1s
GRTLG Ghanzi 95.57 219 *i* P **P** **20 10 34.7 -1.2**
KSRS Korea Array 96.01 336 P **P** **20 10 38.4 +1.4**
comp=Z,1.9nm,1.1s,baz=149,slow=5.1,SNR=4.8
KSRS PP **PP** **20 14 28.9 -1.3**
comp=Z,2.6nm,0.9s,baz=183,slow=9.5,SNR=4.5
comp=Z,1.9nm,1.1s
BRDH Bariadhala 96.22 301 LR LR 20 56 47.2
comp=Z,154nm,18.6s,baz=154,slow=37
CD2 Chengdu 97.84 315 P Pdif 20 10 50.8 +5.2
LSZ Lusaka 98.33 228 P **P** **20 10 47.7 -0.7**
comp=Z,0.8nm,0.4s,baz=145,slow=7.1,SNR=3.8
LSZ LR LR 20 50 42.5
comp=Z,314nm,18.1s,baz=154,slow=33
comp=Z,0.8nm,0.4s
LPAZ La Paz 98.49 135 LR LR 20 44 58.1
comp=Z,140nm,21.9s,baz=177,slow=29
NNA Nana 98.49 125 LR LR 20 46 25.6
comp=Z,307nm,19.3s,baz=213,slow=30
XAN Xi'an 98.61 320 ⇑P Pdif 20 10 53.9 +4.9
XAN pmax pmax
comp=Z,11nm,1.1s
TSUM Tsumeb 98.85 217 LR LR 20 50 19.9
comp=Z,249nm,21.4s,baz=158,slow=32
HNS HongShan 99.65 326 ⇑P **Pdif** **20 10 59.9 +6.5**
HNS pmax pmax
comp=Z,10.0nm,2.4s
ASAJ Asahikawa 99.92 348 LR LR 20 50 44.6
comp=Z,220nm,21.8s,baz=173,slow=32
LZH Lanzhou 102.34 317 *eP* **Pdif** **20 11 07.1 +1.4**
LZH pP sPdif 20 11 12.3 +2.6
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=Z,190nm,20.4s
LZH LR LR
comp=Z,510nm,21.4s
YSS Yuzhno-Sakhali 102.70 349 IAMs_20 IAMs_20 20 54 09.9
comp=Z,359nm,22.0s
KIBK Kibwezi 105.01 243 IAMs_20 IAMs_20 20 57 39.6
comp=Z,239nm,18.0s
SKR Severo-Kuril's 105.56 358 *eP* **Pdif** **20 11 15.4 -3.9**
SKR *eS* **SKSdf** **20 22 43.7 +0.2**
SKR pmax pmax
comp=Z,200nm,3.6s
GTA Gaotai 106.81 316 *e*PKP **PKiKP** **20 15 36.8 +1.5**
MBAR Mbarara 110.13 237 IAMs_20 IAMs_20 20 59 02.9
comp=Z,216nm,18.0s
SONM Songino Array 111.71 325 PP **PP** **20 16 26.6 -0.7**
comp=Z,1.3nm,1.0s,baz=160,slow=4.7,SNR=4.4
CVS Carmenet Viney 114.76 58 IAMs_20 IAMs_20 20 55 58.4
comp=Z,433nm,20.0s
WMQ Urumqi 115.52 311 *e*PKP **PKiKP** **20 15 52.2 +0.6**
WMQ LR LR
comp=Z,260nm,23.3s
CMB Columbia Colle 115.54 60 IAMs_20 IAMs_20 20 55 48.2
comp=Z,318nm,19.0s
TIN Tinemaha, Big 115.85 62 IAMs_20 IAMs_20 21 02 38.1
comp=Z,459nm,19.0s
FURC Furnace Creek, 116.10 63 IAMs_20 IAMs_20 20 59 09.9
comp=Z,427nm,22.0s
KHBM Hayfork Bally 116.21 56 IAMs_20 IAMs_20 20 54 38.3
comp=Z,242nm,20.0s
NVAR Mina Array Bea 116.88 61 PKP **PKPdf** **20 15 54.1 -0.5**
comp=Z,2.3nm,0.9s,baz=193,slow=4.1,SNR=9.4
NVAR PKKPab **PKKPab** **20 26 21.4 -1.0**
comp=Z,0.9nm,0.7s,baz=63,slow=5.0,SNR=4.4
M02C Callahan 116.95 56 IAMs_20 IAMs_20 20 58 31.6
comp=Z,438nm,19.0s
TXAR Lajitas Array 117.74 78 PKP **PKiKP** **20 15 56.6 +0.2**
comp=Z,0.7nm,0.7s,baz=167,slow=2.5,SNR=5.1
TXAR PKKPab **PKKPab** **20 26 18.0 -1.5**
comp=Z,0.4nm,0.6s,baz=26,slow=7.3,SNR=1.5
EPT El Paso 118.03 74 IAMs_20 IAMs_20 20 57 40.1
comp=Z,340nm,19.0s
MK31 Makanchi Array 120.22 309*d i*PKIKP **PKiKP** **20 16 01.0 +0.4**
MKAR Makanchi Array 120.22 309 PKP **PKPdf** **20 15 59.4 -1.1**
comp=Z,1.5nm,0.9s,baz=141,slow=1.2,SNR=5.9
AAK Ala-Archa 120.72 301⇑*i*PKIKP **PKiKP** **20 16 02.1 +0.2**
BMO Blue Mountains 122.22 57 IAMs_20 IAMs_20 20 58 01.7
comp=Z,443nm,20.0s
HWUT Hardware Ranch 122.67 63 IAMs_20 IAMs_20 21 09 29.0
comp=Z,323nm,18.0s
BILL Bilibino 123.08 3⇑*e*PKIKP **PKiKP** **20 16 08.4 +2.9**
PDAR Pinedale Array 124.54 63 PKP **PKPdf** **20 16 08.6 -0.6**
comp=Z,2.0nm,0.9s,baz=143,slow=2.9,SNR=9.4
ZALV Zalesovo Beam 124.56 316 PKP **PKPdf** **20 16 08.2 -0.4**
comp=Z,1.0nm,0.7s,baz=194,slow=3.0,SNR=6.2
ZALV PP **PP** **20 17 55.5 -0.7**
comp=Z,1.0nm,0.7s,baz=122,slow=7.2,SNR=3.6
KURBB Kurchatov Arra 124.74 310 PKP **PKPdf** **20 16 07.1 -1.8**
comp=Z,1.5nm,0.9s,baz=137,slow=1.4,SNR=8.1
KURBB PP **PP** **20 17 56.6 -0.8**
comp=Z,0.8nm,0.9s,baz=139,slow=6.3,SNR=4.3
KURK Kurchatov 124.77 310 PKIKP **PKPdf** **20 16 07.1 -1.9**
NEW Newport 124.80 54 IAMs_20 IAMs_20 21 01 00.1
comp=Z,385nm,21.0s
LKWY Lake 125.40 61 IAMs_20 IAMs_20 21 02 04.0
comp=Z,435nm,20.0s
COLA College 126.53 25⇓*i*PKIKP **PKiKP** **20 16 16.4 +4.0**
ILAR Eielson Array 126.69 26 PKP **PKPdf** **20 16 11.5 -0.8**
comp=Z,4.5nm,1.0s,baz=268,slow=3.3,SNR=18
TIXI Tiksi 128.32 348⇑*e*PKIKP **PKiKP** **20 16 18.1 +2.3**
OXF Oxford 129.66 85 IAMs_20 IAMs_20 20 59 23.2
comp=Z,205nm,18.0s
DBIC Dimbokro 129.83 201 PKP **PKPdf** **20 16 19.3 -0.6**
comp=Z,6.1nm,0.8s,baz=242,slow=2.6,SNR=5.2
BVAR Borovoye Array 130.03 308 PKP **PKPdf** **20 16 18.4 -0.6**
comp=Z,1.2nm,0.6s,baz=79,slow=3.2,SNR=4.8
BORK Borovoye 130.08 308⇑*e*PKIKP **PKiKP** **20 16 19.6 -0.3**
SMRT St. Maarten 131.20 123 IAMs_20 IAMs_20 21 14 41.1
comp=Z,178nm,19.0s
T45A Paducah 131.89 83 IAMs_20 IAMs_20 21 10 08.9
comp=Z,286nm,21.0s
V48A Smith Brothers 132.02 86 IAMs_20 IAMs_20 21 11 05.6
comp=Z,344nm,18.0s
AKTO Aktyubinsk 134.29 299 PKP **PKPdf** **20 16 26.4 -0.7**
comp=Z,1.6nm,0.9s,baz=214,slow=3.6,SNR=2.7
TORD Torodi Ar. Bea 134.36 212 PKhKP PKPpre 20 16 17.1
comp=Z,0.7nm,0.8s,baz=213,slow=1.3,SNR=4.3
TORD PKP **PKPdf** **20 16 26.0 -2.4**
comp=Z,2.4nm,0.8s,baz=135,slow=1.3,SNR=4.2
TZTN Tazewell 134.46 87 IAMs_20 IAMs_20 21 09 41.1
comp=Z,337nm,21.0s
YKA Yellowknife Ar 135.26 41 PKP **PKPdf** **20 16 27.9 -0.6**
comp=Z,1.7nm,0.9s,baz=253,slow=2.1,SNR=6.3
YKA Yellowknife Ar 135.26 41 PKIKP **PKPdf** **20 16 28.0 -0.6**
SVE Sverdlovsk 136.81 307 *e*PKIKP **PKiKP** **20 16 38.2 +4.8**
SVE pmax pmax
comp=Z,12nm,1.3s
ARTI Arti 137.60 306 *i* PKIKP **PKPdf** **20 16 32.3 -0.8**
KBZ Khabaz 138.21 282 PKP **PKPdf** **20 16 33.7 -0.9**
comp=Z,3.0nm,0.9s,baz=158,slow=3.0,SNR=6.2
KBZ Khabaz 138.21 282⇓*e*PKIKP **PKPdf** **20 16 33.9 -0.7**
SHA1 Shidzhatmaz 138.35 282⇓*i*PKIKP **PKiKP** **20 16 36.7 -0.6**
KIV Kislovodsk 138.48 282 *i* PKIKP **PKiKP** **20 16 36.9 -0.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,63nm,24.0s
SOC Sochi 139.91 279 *e*PKIKP **PKPdf** **20 16 37.3 -0.4**
SOC *e* 20 19 33.0
SOC *e*PPP PPP 20 22 35.5
SOC *e*SS SS 20 37 53.9 -2.6
SOC *e*SSS SSS 20 42 58.7
BELG Belogornoye 140.73 295*de*PKIKP **PKPdf** **20 16 39.1 +0.2**
BR104 Keskin Array S 140.87 270 PKP **PKPdf** **20 16 39.0 -0.8**
BR131 Keskin Array S 140.88 270⇑*i*PKIKP **PKPdf** **20 16 40.3 +0.5**
BRTR Keskin Array B 140.88 270 PKP **PKPdf** **20 16 38.6 -1.2**
comp=Z,1.6nm,0.9s,baz=129,slow=4.7,SNR=7.0
BRTR PP **PP** **20 19 40.3 -0.8**
comp=Z,1.1nm,1.0s,baz=152,slow=5.6,SNR=4.3
IDI Anoyia 142.76 257 PKP **PKPdf** **20 16 42.4 -0.9**
comp=Z,5.6nm,1.0s,baz=117,slow=2.3,SNR=2.0
KIRV Kirov 142.89 305⇑*e*PKIKP **PKPdf** **20 16 43.9 +1.3**
VRH Novokhopyorsk 143.21 291 *e*PKIKP PKPbc 20 16 40.8 +0.3
VRH pmax pmax
comp=Z,7.0nm,1.0s
VORD Divnogorie 144.40 289 *e*PKIKP **PKPdf** **20 16 45.9 +0.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 144.59 289 *e*PKIKP **PKPdf** **20 16 45.9 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 144.80 290 *e*PKIKP **PKPdf** **20 16 46.5 +0.3**
VORR pmax pmax
comp=Z,20nm,0.9s
EZN Ezine 145.13 264 ⇑P **PKiKP** **20 16 51.8 +0.8**
EZN Ezine 145.13 264 ⇑PKIKP **PKiKP** **20 16 51.8 +0.8**
LPSR Galich'ya Gora 145.41 291 *e*PKIKP **PKPbc** **20 16 46.5 -0.7**
LPSR pmax pmax
comp=Z,80nm,1.1s
TRQ Mont Tremblant 145.85 83 **PKPdf** **20 16 45.6 -2.7**
ALN Alexandroupoli 146.00 265 **PKPdf** **20 16 46.9 -1.7**
ALN Alexandroupoli 146.00 265 PKP2 **PKPdf** **20 16 46.9 -1.7**
HARR Harsova 147.30 272 ⇑P **PKPbc** **20 16 52.9 -0.2**
HARR Harsova 147.30 272 ⇑PKP2 **PKPbc** **20 16 52.9 -0.2**
CFR Carcaliu 147.48 273 ⇑P **PKPbc** **20 16 52.3 -1.2**
CFR Carcaliu 147.48 273 ⇑PKP2 **PKPbc** **20 16 52.3 -1.2**
MOS Moscow 147.50 296 *i* PKP2 **PKPab** **20 16 55.7 +0.3**
MOS pmax pmax
comp=Z,55nm,1.0s
G62A West of Eustis 147.56 87 **PKPdf** **20 16 48.7 -2.4**
OBN Obninsk 147.79 294⇓*e*PKP2 **PKPbc** **20 16 52.5 -1.5**
OBN *e* 20 20 24.8
OBN *e*PPP PPP 20 23 45.4
OBN pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 148.39 305 *e*PKIKP **PKPdf** **20 16 53.4 +1.5**
KLMR pmax pmax
comp=Z,127nm,1.3s
NEHR Nehoiu 148.68 272 ⇓P **PKPbc** **20 16 56.4 -0.3**
VRI Vrincioaia 148.68 273 ⇑P **PKiKP** **20 16 57.4 -0.7**
VRI Vrincioaia 148.68 273 ⇑PKP2 **PKiKP** **20 16 57.4 -0.7**
PLOR Plostina 148.72 273 ⇑P **PKPdf** **20 16 54.0 +1.0**
PLOR Plostina 148.72 273 ⇑PKIKP **PKPdf** **20 16 54.0 +1.0**
MLR Muntele Rosu 148.91 272 PKPbc **PKPbc** **20 16 56.5 -1.0**
comp=Z,5.4nm,0.6s,baz=209,slow=3.2,SNR=5.9
MLR Muntele Rosu 148.91 272 ⇓P **PKPbc** **20 16 57.1 -0.4**
MLR Muntele Rosu 148.91 272 ⇓PKP2 **PKPbc** **20 16 57.1 -0.4**
SORM Soroca 149.01 278 ⇓P **PKPbc** **20 16 56.4 -1.0**
SORM Soroca 149.01 278 ⇓PKP2 **PKPbc** **20 16 56.4 -1.0**
TESR Tescani 149.09 274 ⇑P **PKPbc** **20 16 57.7 -0.1**
DOPR Dopca 149.51 272 ⇑P **PKPbc** **20 16 58.0 -0.8**
ARR Arges 149.59 270 ⇑P **PKPab** **20 17 02.6 -1.7**
AKASG Malin Array Be 149.81 283 PKPbc **PKPbc** **20 16 58.7 -0.6**
comp=Z,3.6nm,0.7s,baz=99,slow=2.3,SNR=9.3
AKBB Malin Array Si 149.81 283⇓*i*PKP2 **PKPbc** **20 16 59.6 +0.3**
KIEV Kiev 149.82 283 ⇑P **PKiKP** **20 16 59.7 -0.6**
KIEV Kiev 149.82 283 ⇑PKP2 **PKiKP** **20 16 59.7 -0.6**
VAE Valguarnera 150.10 249 PKPbc **PKPbc** **20 17 00.8 +0.3**
comp=Z,8.3nm,0.9s,baz=92,slow=3.9,SNR=3.1
LOT Lotru 150.13 270 ⇑P **PKPbc** **20 17 00.6 +0.2**
LUBAR Lubar, Ukraine 150.26 280 PKP **PKPdf** **20 16 54.9 -0.4**
BURAR Bucovina Array 150.52 275 ⇑P **PKiKP** **20 17 02.0 +0.1**
BURAR Bucovina Array 150.52 275 ⇑PKIKP **PKiKP** **20 17 02.1 +0.1**
ARCR ARCALIA 150.72 273 ⇑P **PKiKP** **20 17 02.5 +0.2**
MDVR Moldovita 150.92 267 ⇑P **PKPbc** **20 17 01.0 -1.3**
SURR Surduc 151.25 269 ⇑P **PKPbc** **20 17 02.8 -0.1**
KEST Kesra 151.37 240 PKPbc **PKiKP** **20 17 04.1 -0.1**
comp=Z,10nm,0.9s,baz=252,slow=3.2,SNR=11
BZS Buzias 151.47 268 ⇑P **PKPbc** **20 17 03.2 -0.2**
BZS Buzias 151.47 268 ⇑PKIKP **PKPbc** **20 17 03.2 -0.2**
DRGR 151.50 271 ⇑P **PKPbc** **20 17 02.8 -0.8**
DRGR 151.50 271 ⇑PKIKP **PKPbc** **20 17 02.8 -0.8**
KOLS Kolonicke sedl 152.88 275 *e*PKIKP **PKPdf** **20 17 01.4 +2.1**
KOLS *e* 20 17 07.3
KOLS Kolonicke sedl 152.88 275 *e*PKP **PKPdf** **20 17 01.4 +2.1**
KOLS *e* 20 17 07.3
KOLS *e* 20 17 23.3
SPITS Spitsbergen Ar 153.58 344 PKPbc **PKPbc** **20 17 06.0 -1.2**
comp=Z,39nm,0.9s,baz=70,slow=2.1,SNR=1.3
SCHQ Schefferville 154.22 72 PKPbc **PKiKP** **20 17 09.9 +0.6**
comp=Z,38nm,0.9s,baz=238,slow=9.5,SNR=2.4
SRO Srobarova 154.57 270 *e*PKIKP **PKPbc** **20 17 09.4 -0.8**
SRO Srobarova 154.57 270 *e*PKP **PKPbc** **20 17 09.4 -0.8**
LANS Liptovska Anna 154.59 273 *e*PKIKP **PKPbc** **20 17 09.8 -0.5**
LANS Liptovska Anna 154.59 273 *e*PKP **PKPbc** **20 17 09.8 -0.5**
MDT Midelt 154.73 214 PKPbc **PKPbc** **20 17 11.1 -0.1**
comp=Z,3.3nm,0.7s,baz=85,slow=4.4,SNR=4.8
ARCES ARCESS Array B 154.86 323 PKPbc **PKiKP** **20 17 11.4 +1.2**
comp=Z,5.5nm,1.0s,baz=114,slow=2.9,SNR=3.6
FINES FINESS Array B 154.87 304 PKPbc **PKiKP** **20 17 10.3 -0.1**
comp=Z,2.8nm,0.7s,baz=180,slow=4.8,SNR=5.6
MODS Modra-Piesok 155.46 270 *e*PKIKP **PKPdf** **20 17 05.6 +2.6**
MODS *e* 20 17 23.3
MODS Modra-Piesok 155.46 270 *e*PKP **PKPdf** **20 17 05.6 +2.6**
MODS *e* 20 17 23.3
RONA Rosalia, Austr 155.67 268 *e*pPKP **PKPab** **20 17 33.9 +4.1**
comp=Z,5.3nm,0.9s
SOKA Soboth 155.83 264 pPKP **PKPab** **20 17 34.6 +4.1**
comp=Z,8.3nm,1.1s
ARSA Arzberg 155.87 266 *e*pPKP **PKPab** **20 17 35.2 +4.7**
comp=Z,8.1nm,1.2s
BIOA Bad Ischl, Aus 157.18 265 *i* pPKP **PKPab** **20 17 40.9 +4.7**
comp=Z,3.6nm,0.7s
ABTA Abfaltersbach 157.31 262 *e*pPKP **PKPab** **20 17 41.3 +4.4**
comp=Z,6.7nm,0.9s
LESA Schwarzleotal 157.59 264 pPKP **PKPab** **20 17 41.6 +3.5**
comp=Z,4.2nm,0.9s
CART Cartagena 157.64 226 IAMs_20 IAMs_20 21 21 22.1
comp=Z,208nm,20.0s
GERES GERESS Array B 157.75 268 PKP **PKPdf** **20 17 05.5 -0.5**
comp=Z,0.3nm,0.6s,baz=33,slow=5.3,SNR=3.7
WTTA Wattenberg 158.09 262 *e*pPKP **PKPab** **20 17 44.4 +4.0**
comp=Z,11nm,0.9s
WATA Walderalm 158.17 263 *e*pPKP **PKPab** **20 17 44.5 +3.9**
comp=Z,14nm,1.5s
SQTA Sankt Quirin 158.31 262 *e*pPKP **PKPab** **20 17 45.0 +3.7**
comp=Z,5.4nm,0.7s
MOTA Moosalm 158.44 262 *e*pPKP **PKPab** **20 17 45.9 +4.0**
comp=Z,7.5nm,0.9s
FETA Feichten 158.47 261 *e*pPKP **PKPab** **20 17 46.1 +4.1**
comp=Z,6.4nm,1.0s
BRG Berggiesshubel 158.55 273 *e*PKP **PKPab** **20 17 47.0 +5.0**
BRG Amp 20 17 49.9
comp=Z,6.4nm,1.0s
RETA Reutte 158.71 262 *e*pPKP **PKPab** **20 17 45.6 +2.7**
comp=Z,6.0nm,0.9s
DAVA Damuels 159.10 261 *e*pPKP **PKPab** **20 17 47.5 +2.8**
comp=Z,16nm,1.2s
PVAQ Vaqueiros 159.94 213 *e*LR LR 21 25 39.9
PVAQ *i* IAMs_20 IAMs_20 21 27 09.8
comp=Z,227nm,20.0s
PBAR Barrancos 160.42 215 *e*PKPdf PKPdf 20 17 27.1 +18
PBAR *e*PKPab **PKPab** **20 17 48.9 -1.5**
ESDC Sonseca Array 160.62 224 PKPab **PKPab** **20 17 50.4 -1.0**
comp=Z,2.4nm,0.8s,baz=155,slow=4.4,SNR=11
PMTG Montargil 161.62 214 *e*PKPab **PKPab** **20 18 01.4 +5.7**
PARRA Arraiolos 161.64 212 *e*PKPdf PKPab 20 17 38.3 -17
PARRA *e*PKPab pPKPab 20 17 56.5 -2.2
PMRV Marv??o 161.67 216 *e*PKPab **PKPab** **20 17 55.1 -0.7**
NOA NORSAR Array B 162.03 302 PKPab **PKPab** **20 17 55.4 -1.6**
comp=Z,2.4nm,0.9s,baz=79,slow=4.6,SNR=4.1
PCBR Castelo Branco 162.07 217 *e*PKPdf **PKPdf** **20 17 15.7 +4.7**
PCBR *e*PKPab **PKPab** **20 17 56.9 -0.7**
PSARD Sardoal 162.08 215 *e*PKPab **PKPab** **20 17 56.7 -1.0**
MTE Manteigas 162.59 217 *e*LR LR 21 29 07.8
MTE *i* IAMs_20 IAMs_20 21 39 51.3
comp=Z,244nm,20.0s
PCAS Casmilo, Conde 162.60 215 *e*PKPdf PKPdf 20 17 30.4 +19
PVIS Viseu 163.00 217 *e*PKPab **PKPab** **20 18 09.0 +7.3**
MVO Moncorvo 163.08 220 *e*LR LR 21 28 14.5
MVO *i* IAMs_20 IAMs_20 21 32 45.5
comp=Z,174nm,16.0s
POLO Lamas de Olo 163.54 218 *e*PKPab **PKPab** **20 18 03.5 -0.7**
PGAV Gavieira, Arco 164.23 218 *e*LR LR 21 26 58.2
PGAV *i* IAMs_20 IAMs_20 21 28 53.8
comp=Z,289nm,20.0s

DJA 01 20:03:41.2±0.6, 10°S±3°×11°8E±°, h12km±3km, M4.0/15, mb4.2/4, MLv3.9/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**347**	P	Pb	ISC	20 03 58.2	0.0
PLAI				S	Sb		20 04 10.5	+0.7

WBSI	**Waikabubak, Su**	**1.40**	**89**	P		Pn	20 04 06.1 -0.5
WBSI				S		Sn	20 04 25.0 -0.1
TWSI	**Taliwang, Sumb**	**1.43**	**311**	P		Pn	20 04 05.9 -1.0
TWSI				S		Sb	20 04 25.9 +0.1
WSI	**Waingapu**	**2.29**	**90**	P		Pn	20 04 17.9 -1.0
WSI				S		Sn	20 04 48.4 +1.3
BASI	**Baing, Sumba**	**2.62**	**102**	P		Pn	20 04 23.5 +0.1
DNP	**Denpasar**	**2.90**	**290**	P		Pn	20 04 27.5 +0.3
DNP				S		Sn	20 05 03.2 +1.1
SRBI	**Singaraja**	**3.15**	**300**	P		Pn	20 04 31.1 +0.4
SRBI				S		Sn	20 05 09.5 +1.2
EDFI	**Ende, Flores**	**3.79**	**76**	P		Pn	20 04 40.3 +0.8
EDFI				S		Sn	20 05 25.2 +1.1
JAGI	**Jajag, Banyuwa**	**3.96**	**287**	P		Pn	20 04 41.8 0.0
BSSI	**Bau Bau, Buton**	**4.31**	**36**	P		Pn	20 04 46.9 +0.3
BSSI				S		Sn	20 05 37.0 +0.1
MMRI	**Maumere**	**4.34**	**77**	P		Pn	20 04 46.8 -0.2
BKSI	**Bulukumba**	**4.83**	**26**	P		Pn	20 04 53.4 -0.3
BATI	**Baumata**	**5.63**	**96**	P		Pn	20 05 04.7 -0.2
	0.2nm12nm,0.4s						
BATI				S		Sn	20 06 10.4 +0.8
	0.2nm12nm,0.4s						
SOEI	**Soe**	**6.21**	**91**	P		Pn	20 05 13.0 +0.1
	0.3nm17nm,1.0s						
SOEI				S		Sn	20 06 24.7 +0.8
	0.3nm17nm,1.0s						
PCJI	**Pacitan**	**6.87**	**282**	P		Pn	20 05 21.1 -0.8
MLSI	**Meulaboh, Aceh**	**25.57**	**302**	P		P	20 09 09.8 -0.5
	104nm,1.1s						

WEL 01 20:07:35.4±0.6,40°S±2°×17°E±°,h16km±4km,M3.6/67, ML4.1/11,MLv3.6/67,Error ellipse: s-maj=4.0km s-min=2.5km az=108.0,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWZ	**Pawanui**	**0.13**	**154**	P		Pb	20 07 39.5 +0.1
PWZ				S		Sb	20 07 43.8 +1.7
PXZ	**Pawanui**	**0.13**	**154**	P		Pb	20 07 39.6 +0.2
PXZ				S		Sb	20 07 43.7 +1.6
KAHZ	**Kahuranaki**	**0.14**	**29**	P		Pb	20 07 39.9 +0.2
KAHZ				S		Sb	20 07 44.0 +1.5
WPWS	**Waipawa Distri**	**0.16**	**260**	P		Pb	20 07 40.1 +0.2
WPWS				S		Sb	20 07 44.3 +1.2
HCDS	**Hastings Civil**	**0.27**	**9**	P		Pb	20 07 41.9 +0.1
HCDS				S		Sb	20 07 48.0 +1.7
WPHZ	**Waipukurau**	**0.31**	**241**	P		Pb	20 07 42.9 +0.4
WPHZ				S		Sb	20 07 49.3 +2.0
CKHZ	**Cape Kidnapper**	**0.34**	**41**	P		Pb	20 07 43.3 +0.3
CKHZ				S		Sb	20 07 50.0 +1.8
PRHZ	**Porangahau**	**0.37**	**199**	P		Pb	20 07 44.1 +0.5
PRHZ				S		Sn	20 07 51.5 -1.5
PGFS	**Porangahau Fir**	**0.41**	**199**	P		Pb	20 07 44.7 +0.5
NCHS	**Napier Colenso**	**0.42**	**11**	P		Pb	20 07 44.8 +0.5
NCHS				S		Sn	20 07 53.1 -1.0
KRHZ	**Kereru**	**0.42**	**310**	P		Pb	20 07 44.6 +0.1
KRHZ				S		Sb	20 07 52.0 +1.4
WAKS	**Wakarara Rangi**	**0.44**	**289**	P		Pb	20 07 44.9 +0.2
PNHZ	**Pukenui**	**0.45**	**270**	P		Pb	20 07 45.2 +0.2
MCHZ	**McNeill Hill**	**0.48**	**351**	P		Pb	20 07 45.8 +0.4
KFHS	**Kaweka Forest**	**0.54**	**333**	P		Pb	20 07 46.8 +0.2
KWHZ	**Kaweka Forest**	**0.57**	**330**	P		Pb	20 07 47.2 +0.2
ANWZ	**Angora Road**	**0.59**	**204**	P		Pb	20 07 47.8 +0.4
DVHS	**Dannevirke Hig**	**0.60**	**241**	P		Pb	20 07 48.1 +0.6
WBFS	**Weber Fire Sta**	**0.61**	**217**	P		Pb	20 07 48.0 +0.4
DVHZ	**Dannevirke**	**0.61**	**231**	P		Pb	20 07 48.3 +0.6
TSZ	**Takapari Road**	**0.65**	**257**	P		Pb	20 07 48.7 +0.3
ARHZ	**Aropaoanui**	**0.67**	**14**	P		Pn	20 07 49.5 -0.7
MNGS	**Mangaweka Scho**	**0.78**	**278**	P		Pg	20 07 51.0 +0.5
BKZ	**Black Stump Fm**	**0.78**	**343**	P		Pg	20 07 51.1 +0.4
NMHZ	**Naumai**	**0.82**	**1**	P		Pn	20 07 51.9 -0.4
BFZ	**Birch Farm**	**0.87**	**208**	P		Pb	20 07 51.3 -0.8
PRWZ	**Pori Road**	**0.89**	**224**	P		Pb	20 07 52.5 0.0
WHHZ	**Waihua**	**0.91**	**22**	P		Pn	20 07 54.2 +0.7
POWZ	**Post Office Ro**	**0.92**	**238**	P		Pb	20 07 53.0 +0.1
MOVZ	**Moawhango**	**0.95**	**302**	P		Pg	20 07 53.8 0.0
RAHZ	**Arahi**	**1.02**	**13**	P		Pb	20 07 54.0 -0.7
MTHZ	**Maungataniwha**	**1.06**	**2**	P		Pb	20 07 54.6 -0.8
CPWZ	**Castlepoint**	**1.09**	**204**	P		Pb	20 07 54.7 -1.1
TUVZ	**Tukino**	**1.09**	**306**	P		Pg	20 07 57.0 +0.5
WNVZ	**Wahianoa**	**1.09**	**302**	P		Pg	20 07 56.8 +0.2
TIWZ	**Tintock**	**1.10**	**219**	P		Pb	20 07 54.8 -1.2
MRHZ	**Matea Rd**	**1.12**	**345**	P		Pn	20 07 56.4 0.0
WHVZ	**Whangaehu Hut**	**1.12**	**304**	P		Pg	20 07 57.2 0.0
KNZ	**Kokohu**	**1.13**	**38**	P		Pb	20 07 54.6 -1.8
TRVZ	**Turoa**	**1.14**	**302**	P		Pg	20 07 57.3 +0.1
ETVZ	**East Tongariro**	**1.14**	**313**	P		Pg	20 07 57.7 +0.3
MAVZ	**Matarangi**	**1.15**	**304**	P		Pg	20 07 57.6 0.0
MTVZ	**Mangateitei**	**1.15**	**297**	P		Pg	20 07 57.5 0.0
OTVZ	**Oturere**	**1.15**	**311**	P		Pg	20 07 57.9 +0.3
SNVZ	**South Ngauruho**	**1.15**	**309**	P		Pg	20 07 57.7 +0.1
MHGZ	**Mahia Peninsul**	**1.15**	**49**	P		Pn	20 07 54.8 -2.0
HATZ	**Hinemaiaia**	**1.16**	**332**	P		Pg	20 07 57.6 -0.1
TMVZ	**Te Maari**	**1.16**	**313**	P		Pg	20 07 57.9 +0.1
FWVZ	**Far West T-bar**	**1.16**	**304**	P		Pg	20 07 57.6 -0.2
OHWZ	**Ohakea**	**1.17**	**255**	P		Pg	20 07 57.6 -0.4
NGZ	**Ngauruhoe**	**1.18**	**308**	P		Pg	20 07 58.1 0.0
RITZ	**Rihia Road**	**1.18**	**322**	P		Pg	20 07 58.3 +0.1
NTVZ	**North Tongarir**	**1.19**	**313**	P		Pg	20 07 58.1 -0.2
MRZ	**Mangatainoka R**	**1.19**	**231**	P		Pn	20 07 56.2 -1.1
NNVZ	**North Ngauruho**	**1.20**	**310**	P		Pg	20 07 58.4 -0.1
COVZ	**Chateau Observ**	**1.20**	**306**	P		Pg	20 07 58.5 -0.1
KRVZ	**Karewarewa**	**1.21**	**312**	P		Pg	20 07 58.6 -0.2
SNGZ	**Shannon Statio**	**1.21**	**21**	P		Pn	20 07 56.7 -1.0
WTVZ	**West Tongariro**	**1.23**	**310**	P		Pg	20 07 58.9 -0.1
PKVZ	**Pokaka**	**1.28**	**299**	P		Pb	20 07 59.5 +0.4
PRGZ	**Paritu Road**	**1.30**	**41**	P		Pn	20 07 56.9 -2.0
RTZ	**Ruatahuna**	**1.31**	**7**	P		Pn	20 07 58.3 -0.8
RATZ	**Rangitukua**	**1.31**	**323**	P		Pg	20 08 00.8 +0.2
TWVZ	**Taurewa**	**1.34**	**308**	P		Pg	20 08 00.8 -0.5
TMWZ	**Te Maipa**	**1.37**	**210**	P		Pn	20 07 58.0 -1.9
HOWZ	**Holdsworth Sta**	**1.38**	**224**	P		Pn	20 07 57.9 -2.1
ALRZ	**Allen Road**	**1.40**	**345**	P		Pb	20 08 00.7 -0.3
WAZ	**Wanganui**	**1.40**	**276**	P		Pb	20 08 01.3 +0.2
WHTZ	**Whakaora**	**1.41**	**332**	P		Pg	20 08 02.8 +0.4
RIGZ	**Rimuhau**	**1.43**	**32**	P		Pg	20 08 05.7 +2.9
MUGZ	**Murupara**	**1.44**	**359**	P		Pn	20 07 60.0 -0.8
PRRZ	**Plateau Road**	**1.45**	**348**	P		Pn	20 08 00.8 -0.2
WATZ	**Wairara**	**1.46**	**325**	P		Pg	20 08 03.5 +0.1
WPRZ	**Whakapapatarin**	**1.48**	**341**	P		Pb	20 08 03.0 +0.5
RAWZ	**Rawiri**	**1.50**	**19**	P		Pn	20 08 00.6 -1.1
OGWZ	**Otaki Gorge**	**1.53**	**233**	P		Pn	20 08 00.6 -1.4
MTW	**Mount Morrison**	**1.58**	**218**	P		Pn	20 08 00.3 -2.5
RRRZ	**Republican Roa**	**1.59**	**352**	P		Pn	20 08 02.6 -0.2
GRRZ	**Galatos Road**	**1.65**	**341**	P		Pg	20 08 08.0 +0.9
URZ	**Urewera**	**1.67**	**9**	P		Pn	20 08 02.6 -1.4
MWZ	**Matawai**	**1.68**	**20**	P		Pn	20 08 02.9 -1.3
TARZ	**Mount Tarawera**	**1.69**	**352**	P		Pn	20 08 04.5 +0.1
HLRZ	**Highlands Stat**	**1.70**	**348**	P		Pg	20 08 11.2 +3.2
TRWZ	**Traveller**	**1.70**	**209**	P		Pn	20 08 01.5 -2.9
KIW	**Kapiti Island**	**1.72**	**236**	P		Pn	20 08 03.3 -1.4
VRZ	**Vera Road**	**1.76**	**296**	P		Pb	20 08 07.6 +0.4
CAW	**Cannon Point**	**1.77**	**227**	P		Pn	20 08 03.2 -2.1
PAWZ	**Paruwai Farm**	**1.79**	**215**	P		Pn	20 08 02.9 -2.8
TLZ	**Tolley Road**	**1.86**	**328**	P		Pb	20 08 09.4 +0.4
LREZ	**Lake Rotokare**	**1.90**	**283**	P		Pb	20 08 09.9 +0.3
MSWZ	**Moikau Station**	**1.90**	**218**	P		Pn	20 08 04.2 -3.0
PLWZ	**Palliser**	**2.02**	**215**	P		Pn	20 08 05.5 -3.4
HIZ	**Hauiti**	**2.06**	**312**	P		Pn	20 08 10.4 +1.1
WHRZ	**Whale Island**	**2.06**	**4**	P		Pn	20 08 08.2 -1.2
RUGZ	**Raukumara Rang**	**2.07**	**20**	P		Pn	20 08 07.9 -1.7
BHW	**Baring Head**	**2.09**	**224**	P		Pn	20 08 06.8 -2.9
NEZ	**North Egmont**	**2.18**	**286**	P		Pb	20 08 15.4 +1.0
KHEZ	**Kahui Hut**	**2.23**	**285**	P		Pb	20 08 14.6 -0.8
PKE	**Pukeiti**	**2.28**	**288**	P		Pg	20 08 18.1 -1.1
HAZ	**Te Kaha**	**2.29**	**20**	P		Pn	20 08 11.7 -0.8
TCW	**Tory Channel**	**2.31**	**235**	P		Pn	20 08 10.4 -2.3
NBEZ	**Newall Road No**	**2.35**	**285**	P		Pb	20 08 18.8 +1.5
DUWZ	**D'Urville Isla**	**2.36**	**247**	P		Pn	20 08 12.1 -1.4
TOZ	**Tahuroa Road**	**2.40**	**335**	P		Pn	20 08 13.3 -0.7
BSWZ	**Blackbirch Sta**	**2.85**	**230**	P		Pn	20 08 17.4 -2.8
NNZ	**Nelson**	**2.90**	**242**	P		Pn	20 08 17.7 -3.2
MKAZ	**Moumakai**	**3.08**	**335**	P		Pn	20 08 23.8 +0.4
TKNZ	**Takaka Hill**	**3.13**	**248**	P		Pn	20 08 22.8 -1.2
QRZ	**Quartz Range**	**3.38**	**253**	P		Pn	20 08 25.6 -1.9
THZ	**Tophouse**	**3.48**	**237**	P		Pn	20 08 25.9 -2.9
KHZ	**Kahutara**	**3.50**	**223**	P		Pn	20 08 24.8 -4.3
LTZ	**Lake Taylor**	**4.45**	**228**	P		Pn	20 08 28.6 -3.6
MQZ	**McQueen's Vall**	**4.89**	**218**	P		Pn	20 08 44.6 -3.5
TMZ	**Timaru**	**6.20**	**222**	P		Pn	20 09 02.7 -3.5
CTZ	**Chatham Island**	**6.23**	**130**	P		Pn	20 09 04.2 -2.4

*IDC **01** 20:12:08.4±1.0,37°40N×20°87E,h0km,mb3.7/7, mbtmp3.5/15,ML3.3/5,MS3.5/2,Error ellipse: s-maj=20.1km s-min=15.9km az=179.0*
*THE **01** 20:12:11.4,37°N±2°×2°1E±°,h8km±2km,M3.7/21, MLh3.7/21*
*MCSM **01** 20:12:11.5±0.4,37°N±5°×2°1E±°,h10km,mb3.8,mB4.9, MLv3.9,Mw(mB)4.2*
*ATH **01** 20:12:13.9,37°71N×21°70E,h15km±2km,ML3.0*
ISC 01 20:12:10.1±1.1,37°30N±0°03×20°80E±0°03,h12km±7km, n129,σ1°56/145,mb3.7/6,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**3**	P		**Pb**	**20 12 18.1 -0.4**
KRI1				S		**Sg**	**20 12 22.8 +0.4**
LTHK	**Lithakia**	**0.41**	**4**	P		**Pb**	**20 12 18.8 -0.6**
LTHK				S		**Sg**	**20 12 24.2 +0.3**
LTHK	**Lithakia**	**0.41**	**4**	P		**Pb**	**20 12 18.7 -0.6**
LTHK				S		**Sg**	**20 12 22.5 -1.4**
KYPS	**Kipseli, Zakin**	**0.52**	**2**	P		**Pb**	**20 12 21.1 -0.1**
KYPS				S		**Sg**	**20 12 26.8 -0.5**
ORTH	**Orthonies,Zaky**	**0.56**	**352**	P		**Pg**	**20 12 20.9 -0.2**
ORTH				S		**Sg**	**20 12 28.3 -0.2**
RTZL	**Ratzakli, Kefa**	**0.78**	**359**	P		**Pg**	**20 12 25.0 -0.2**
RTZL				S		**Sb**	**20 12 35.4 -0.7**
PSDA	**Pessada-Kefalo**	**0.83**	**348**	P		**Pg**	**20 12 25.9 -0.4**
PSDA				S		**Sg**	**20 12 36.9 -0.2**
PSDA	**Pessada-Kefalo**	**0.83**	**348**	P		**Pg**	**20 12 25.9 -0.4**
PSDA				S		**Sg**	**20 12 36.8 -0.4**
VLS	**Valsamata**	**0.89**	**349**	P		**Pg**	**20 12 26.8 -0.6**
VLS				S		**Sb**	**20 12 39.0 -0.4**
VLS	**Valsamata**	**0.89**	**349**	P		**Pg**	**20 12 26.9 -0.6**
VLS				S		**Sg**	**20 12 38.3 -0.8**
ITM	**Ithomi**	**0.91**	**97**	P		**Pn**	**20 12 29.5 +0.8**
ITM				S		**Sn**	**20 12 43.8 +2.1**
ITM	**Ithomi**	**0.91**	**97**	P		**Pn**	**20 12 29.6 +0.8**
ARG2	**Argostoli**	**0.91**	**345**	P		**Pb**	**20 12 27.4 -0.5**
ARG2				S		**Sb**	**20 12 39.6 -0.4**
RLS	**Riolos of Patr**	**0.93**	**35**	P		**Pg**	**20 12 28.3 +0.3**
RLS	**Riolos of Patr**	**0.93**	**35**	P		**Pg**	**20 12 28.3 +0.3**
LXR1	**Lixouri, Cepha**	**0.94**	**343**	P		**Pb**	**20 12 28.1 -0.3**
DRO	**Drossia**	**0.98**	**48**	P		**Pn**	**20 12 29.7 +0.1**
AXS	**Araxos**	**1.01**	**27**	P		**Pb**	**20 12 29.4 -0.1**
FSK	**Fiskardo**	**1.17**	**351**	P		**Pb**	**20 12 31.3 -1.1**
FSK	**Fiskardo**	**1.17**	**351**	P		**Pb**	**20 12 31.8 -0.6**
FSK				S		**Sb**	**20 12 47.3 -0.2**
KLV	**Kalavryta, Ach**	**1.31**	**55**	P		**Pg**	**20 12 35.2 -0.1**
KLV	**Kalavryta, Ach**	**1.31**	**55**	P		**Pg**	**20 12 35.1 -0.1**
EVGI	**Lefkada island**	**1.32**	**355**	P		**Pn**	**20 12 34.0 -0.5**
GUR	**Goura**	**1.38**	**62**	P		**Pb**	**20 12 36.3 +0.3**
GUR	**Goura**	**1.38**	**62**	P		**Pg**	**20 12 36.5 -0.2**
NYDR	**Nydri-Lefkada**	**1.42**	**357**	P		**Pn**	**20 12 35.6 -0.1**
EFP	**Efpalio**	**1.43**	**38**	P		**Pb**	**20 12 36.6 0.0**
EFP	**Efpalio**	**1.43**	**38**	P		**Pb**	**20 12 36.7 0.0**
PVO	**Paravola**	**1.44**	**23**	P		**Pb**	**20 12 37.1 +0.2**
PVO	**Paravola**	**1.44**	**23**	P		**Pg**	**20 12 37.3 -0.5**
LKD2	**Lefkada island**	**1.49**	**356**	P		**Pn**	**20 12 37.1 -0.5**
LKD2	**Lefkada island**	**1.49**	**356**	P		**Pb**	**20 12 37.3 -0.5**
SERG	**Sergoula**	**1.50**	**41**	P		**Pb**	**20 12 37.9 +0.1**
KALE	**Kalithea**	**1.52**	**44**	P		**Pg**	**20 12 38.9 -0.5**
KALE	**Kalithea**	**1.52**	**44**	P		**Pb**	**20 12 38.7 +0.3**
TSLK	**Tsoukalades, L**	**1.53**	**356**	P		**Pb**	**20 12 38.1 -0.3**
ANX	**Ano Chora**	**1.57**	**34**	P		**Pb**	**20 12 39.1 -0.1**
ANX	**Ano Chora**	**1.57**	**34**	P		**Pb**	**20 12 39.0 -0.1**
EVR	**Evrytania**	**1.80**	**26**	P		**Pb**	**20 12 42.7 -0.5**
VLI	**Veliai**	**1.81**	**108**	P		**Pg**	**20 12 45.1 +0.3**
VLI	**Veliai**	**1.81**	**108**	P		**Pg**	**20 12 45.0 +0.1**
LOUT	**Loutraki**	**1.86**	**68**	P		**Pb**	**20 12 44.3 +0.3**
LTK	**Loutraki**	**1.87**	**67**	P		**Pb**	**20 12 44.7 +0.5**
MAKR	**Makrakomi, Fth**	**2.01**	**31**	P		**Pb**	**20 12 47.2 +0.5**
MET2	**Kameni Chora,**	**2.04**	**80**	P		**Pb**	**20 12 46.8 -0.3**
MET6	**Megalochori,Me**	**2.06**	**81**	P		**Pb**	**20 12 46.8 -0.6**
MET5	**Makryloggos,Me**	**2.06**	**80**	P		**Pb**	**20 12 46.9 -0.6**
AXAR	**Agios Charalam**	**2.08**	**45**	P		**Pb**	**20 12 47.7 0.0**
TETR	**Tetrakomo, Epi**	**2.08**	**15**	P		**Pb**	**20 12 47.0 -0.8**
KTHA	**Kythira Island**	**2.10**	**119**	*e*P		**Pb**	**20 12 48.9 +0.9**
MET4	**Agioi Theodoro**	**2.10**	**80**	P		**Pb**	**20 12 47.0 -1.1**
AGG	**Agios Georgios**	**2.10**	**35**	P		**Pb**	**20 12 48.9 +0.7**
AGG				S		**Sg**	**20 13 19.2 +1.4**
VLY	**Voula,Athens**	**2.44**	**76**	P		**Pn**	**20 12 51.6 +1.8**
KEK	**Kerkira**	**2.54**	**342**	*e*P		**Pb**	**20 12 56.9 +1.3**
DION	**Dionisos Attik**	**2.61**	**72**	P		**Pn**	**20 12 54.3 +2.2**
RODP	**Rodopos**	**2.95**	**125**	*e*P		**Pn**	**20 12 59.5 +2.7**
KNDR	**Palaiochora Ch**	**3.08**	**131**	*e*P		**Pb**	**20 13 02.3 -2.5**
LIT	**Litokhoron**	**3.10**	**25**	P		**Pn**	**20 13 00.9 +2.0**
LIT				S		**Sn**	**20 13 36.9 +1.1**
GVD	**Gavdhos**	**3.62**	**132**	*e*P		**Pb**	**20 13 11.3 -2.8**
OHR	**Ohrid**	**3.81**	**0**	*i* Pn		**Pn**	**20 13 11.8 +3.2**
IDI	**Anoyia**	**3.87**	**120**	*e*P		**Pn**	**20 13 12.9 +3.5**
IDI	**Anoyia**	**3.87**	**120**	Pn		**Pn**	**20 13 09.8 +0.4**
	3.3nm,0.5s,baz=249,slow=8.1,SNR=12						
IDI				Sn		**Sn**	**20 13 54.1 -0.8**
	2.9nm,0.3s,baz=81,slow=23,SNR=5.2						
OUR	**Ouranopolis**	**3.92**	**38**	*e*P		**Pn**	**20 13 12.0 +1.9**
CEL	**Celeste**	**4.00**	**285**	Pn		**Pn**	**20 13 12.7 +1.4**
CEL				Sn		**Sn**	**20 13 58.3 +0.2**
VAY	**Valandovo**	**4.25**	**18**	*i* Pn		**Pn**	**20 13 16.3 +1.7**
CHOS	**Chios island**	**4.30**	**74**	*e*P		**Pn**	**20 13 17.5 +2.1**
SIGR	**SIGRI**	**4.42**	**63**	*e*P		**Pn**	**20 13 19.4 +2.5**
KARB	**zmir-Karabur**	**4.64**	**71**	P		Pn	20 13 25.2 +5.1
URLA	**Izmir**	**4.71**	**75**	*e*P		**Pn**	**20 13 23.0 +2.0**
URLA	**Izmir**	**4.71**	**75**	P		**Pn**	**20 13 24.0 +3.0**
KOCA	**Canakkale, Ayv**	**4.74**	**61**	P		**Pn**	**20 13 24.6 +3.3**
KOCA				S		**Sn**	**20 14 15.6 -0.5**
BOZC	**Bozcaada**	**4.84**	**57**	*e*P		**Pn**	**20 13 24.4 +1.7**
BOZC	**Bozcaada**	**4.84**	**57**	P		**Pn**	**20 13 25.4 +2.7**
ZKR	**Zakros**	**4.89**	**115**	*e*P		**Pn**	**20 13 26.7 +3.2**
GOAD	**anakkale-G¶**	**4.92**	**53**	P		**Pn**	**20 13 26.2 +2.4**
GOAD				*i* IAML			20 13 43.0
	comp=E,21nm,1.1s						
GOAD				*i* IAML			20 13 51.0
	comp=N,25nm,1.0s						
GOAD				S		**Sn**	**20 14 16.2 -4.3**
VAE	**Valguarnera**	**5.09**	**274**	Pn		**Pn**	**20 13 28.8 +2.6**
	3.9nm,0.3s,baz=357,slow=22,SNR=4.7						
VAE				Sn		**Sn**	**20 14 27.7 +2.8**
	2.0nm,0.3s,baz=174,slow=19,SNR=3.7						
BAYC	**CANAKKALE_Bayr**	**5.13**	**60**	P		**Pn**	**20 13 29.4 +2.7**
BDRM	**Kayabasi**	**5.31**	**91**	P		**Pn**	**20 13 32.3 +3.1**
RDO	**Rodhopi**	**5.32**	**42**	*e*P		**Pn**	**20 13 30.3 +1.0**
YAZI	**Mula-Dat§a-**	**5.36**	**95**	P		**Pn**	**20 13 32.8 +2.8**
GELI	**Tayfur-Gelibol**	**5.41**	**53**	*e*P		**Pn**	**20 13 32.4 +1.9**
KARP	**Karpathos**	**5.42**	**107**	*e*P		**Pn**	**20 13 33.3 +2.5**
KARP	**Karpathos**	**5.42**	**107**	Pn		**Pn**	**20 13 33.2 +2.5**
	0.1nm28nm,1.0s						
ALN	**Alexandroupoli**	**5.44**	**47**	*e*P		**Pn**	**20 13 33.5 +2.6**
ALN	**Alexandroupoli**	**5.44**	**47**	P		**Pn**	**20 13 33.6 +2.6**
ALN				S		**Sn**	**20 14 29.6 -3.9**
YAYO	**Edremit-Balk**	**5.44**	**63**	*e*P		**Pn**	**20 13 32.2 +1.2**
DAT	**Datca**	**5.46**	**94**	*e*P		**Pn**	**20 13 33.9 +2.6**
KDZ	**Kurdzhali**	**5.57**	**38**	*e*P		**Pn**	**20 13 34.4 +1.6**
AYDB	**Zeytinkoy-Aydi**	**5.67**	**81**	*e*P		**Pn**	**20 13 35.5 +1.2**
TREB	**Trebinje**	**5.73**	**342**	*e*Pn		**Pn**	**20 13 34.1 -0.9**
ARG	**Arkhangelos**	**5.98**	**98**	*e*P		**Pn**	**20 13 40.6 +2.1**
STON	**Ston**	**6.05**	**338**	*e*Pn		**Pn**	**20 13 35.9 -3.5**
KIRA	**zmir-Kiraz**	**6.09**	**79**	P		Pn	20 13 46.2 +6.2
KLINJ	**Klinje**	**6.10**	**345**	*e*Pn		**Pn**	**20 13 39.9 -0.3**
RUDO	**Rudo**	**6.41**	**351**	*e*Pn		**Pn**	**20 13 44.5 +0.2**
DURS	**Dursunbey**	**6.45**	**67**	P		**Pn**	**20 13 48.1 +3.2**
EDRB	**Edirne**	**6.46**	**43**	*e*P		**Pn**	**20 13 46.5 +1.5**
TAVA	**DENIZLI_Tavas**	**6.47**	**86**	P		Pn	20 13 53.1 +7.9
SABU	**Mula-Dalaman**	**6.55**	**92**	P		Pn	20 13 53.3 +7.0
KIJV	**Kijevo**	**7.48**	**335**	*e*Pn		**Pn**	**20 13 59.9 +0.8**
AQU	**L'Àquila**	**7.61**	**314**	Pn		**Pn**	**20 14 01.8 +1.0**
	0.0nm5.8nm,0.9s						
BLY	**Banja Luka**	**7.93**	**341**	*e*Pn		Pn	20 13 58.0 -7.1
VOIR		**8.74**	**20**	Pn		**Pn**	**20 14 18.4 +2.1**
MOSL	**Moslavina**	**8.84**	**341**	*e*Pn		**Pn**	**20 14 16.5 -1.2**
MLR	**Muntele Rosu**	**9.05**	**24**	Pn		**Pn**	**20 14 21.4 +0.8**
	0.2nm,0.3s,baz=192,slow=16,SNR=5.0						
MLR				LR		LR	20 18 26.6
	comp=Z,58nm,18.2s,baz=46,slow=42						
	1.6nm,0.9s						
MLR	**Muntele Rosu**	**9.05**	**24**	Pn		**Pn**	**20 14 21.0 +0.3**
	8.2nm,1.0s						
OZLJ	**Ozalj**	**9.22**	**336**	*e*Pn		**Pn**	**20 14 23.7 +0.9**
KEST	**Kesra**	**9.35**	**264**	Pn		**Pn**	**20 14 25.9 +1.1**
	0.2nm,0.3s,baz=126,slow=7.8,SNR=2.2						
	1.3nm,0.7s						
PLOR5	**Plostina Array**	**9.60**	**25**	Pn		**Pn**	**20 14 30.1 +2.0**
	546nm6.9nm,1.0s						
VRI	**Vrincioaia**	**9.64**	**26**	Pn		**Pn**	**20 14 31.5 +2.9**
	7.7nm,1.0s						
BR105	**Keskin Array S**	**10.34**	**73**	Pn		**Pn**	**20 14 40.0 +1.7**
	2.1nm,0.7s						
NSLU	**Nyzhne Selyshc**	**11.22**	**13**	Pn		**Pn**	**20 14 49.2 -1.0**
GERES	**GERESS Array B**	**12.64**	**338**	Pn		**Pn**	**20 15 09.1 -0.7**
	baz=140,slow=13,SNR=1.8						
	0.1nm,0.3s						
MMAI	**Mount Meron Ar**	**12.69**	**105**	Pn		**Pn**	**20 15 08.9 -1.5**
	0.7nm,0.3s,baz=300,slow=12,SNR=4.1						
	0.4nm,0.3s						
EIL	**Elat**	**14.04**	**119**	Pn		**Pn**	**20 15 27.3 -1.5**
	0.2nm,0.3s,baz=253,slow=17,SNR=6.5						
	1.3nm,0.6s						
AK14	**Malin Array Si**	**14.60**	**21**	Pn		**Pn**	**20 15 38.2 +1.9**
AKASG	**Malin Array Be**	**14.69**	**22**	Pn		**Pn**	**20 15 38.1 +0.5**
	0.3nm,0.3s,baz=208,slow=9.8,SNR=1.3						
GNI	**Garni**	**18.89**	**74**	P		**Pn**	**20 16 32.1 +1.0**
	5.8nm,0.9s						
ESDC	**Sonseca Array**	**19.51**	**285**	P		**Pn**	**20 16 38.5 0.0**
	0.3nm,0.7s,baz=93,slow=8.6,SNR=2.3						
EKA	**Eskdalemuir Ar**	**24.27**	**326**	P		**P**	**20 17 26.9 -0.1**
	2.2nm,0.8s,baz=110,slow=9.3,SNR=4.4						
	2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.27**	**326**	PKIKP		**P**	**20 17 26.9 -0.1**

*IDC **01** 20:34:08.9±5.8, 18°.47N×121°.12E, h35km±48km, mb3.2/5, mbtmp3.5/5, ML4.6/1, MS4.0/2, Error ellipse: s-maj=46.7km s-min=21.7km az=58.0*

ISC 01 20:34:09.4±1.0, 18°.5N±0°.1×121°.1E±0°.2, h41km, n11, σ1§24/8, mb3.5/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.33**	**182**	Pn	**Pn**	**20 35 13.8**	**+1.1**
	34nm,0.3s,baz=269,slow=10,SNR=1.4						
TGY				Pg		20 35 28.9	
	59nm,0.3s,baz=297,slow=7.0,SNR=4.8						
TGY				Lg	Lg	20 36 28.2	
	59nm,0.3s,baz=272,slow=15,SNR=3.9						
CMAR	**Chiang Mai Arr**	**20.98**	**274**	P	**P**	**20 38 48.1**	**-1.2**
	0.2nm,0.6s,baz=89,slow=9.2,SNR=2.0						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**40.32**	**160**	P	**P**	**20 41 41.6**	**-1.5**
	0.2nm,0.3s,baz=342,slow=8.5,SNR=3.1						
WRA				PcP	**PcP**	**20 43 47.0**	**+1.0**
	0.9nm,0.7s,baz=346,slow=2.9,SNR=5.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.52**	**320**	P	**P**	**20 42 01.9**	**+1.0**
	0.6nm,0.7s,baz=110,slow=9.7,SNR=5.4						
MKAR				PcP	**PcP**	**20 43 52.3**	**-0.7**
	0.4nm,0.7s,baz=88,slow=4.0,SNR=2.3						
	0.6nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**43.23**	**81**	T	T	21 27 52.8	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**43.23**	**81**	T	T	21 27 44.4	
	baz=278						
H11N3	**WAKE ISLAND Hy**	**43.25**	**81**	T	T	21 28 08.3	
	baz=278						
YAK	**Yakutsk**	**43.95**	**6**	LR	LR	21 03 14.3	
	comp=Z,126nm,21.0s,baz=162,slow=40						
KURBB	**Kurchatov Arra**	**46.52**	**324**	P	**P**	**20 42 33.3**	**+0.7**
	1.6nm,0.7s,baz=121,slow=8.0,SNR=13						
	1.6nm,0.7s						
TIXI	**Tiksi**	**53.39**	**3**	LR	LR	21 08 08.6	
	comp=Z,190nm,20.4s,baz=194,slow=38						
ILAR	**Eielson Array**	**74.35**	**26**	P	**P**	**20 45 42.4**	**-0.1**
	0.3nm,0.5s,baz=263,slow=5.1,SNR=5.3						
	0.3nm,0.5s						

*IDC **01** 20:47:11.2±1.5, 55°.33N×165°.55E, h0km, mb3.7/8, mbtmp3.7/9, ML3.2/1, MS4.1/2, Error ellipse: s-maj=54.5km s-min=18.7km az=175.0*

*KRSC **01** 20:47:12.3±1.1, 54°.81N×165°.45E, h25km±15km, Ml3.9, Felt [II] at Nikolskoe.*

*NEIC **01** 20:47:12.9±0.7, 55°.06N±0°.05×165°.6E±0°.1, h10km±2km, mb4.0/14, Error ellipse: s-maj=14.1km s-min=9.6km az=86.0*

ISC 01 20:47:13.0±0.7, 54°.89N±0°.07×165°.68E±0°.05, h20km, n65, σ1§37/66, mb4.0/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**29**	*i* P	**Pn**	**20 47 22.6**	**-0.4**
BKI				*e*S	**Sn**	**20 47 28.3**	**-1.2**
KBTR	**Krutoberegovo**	**2.09**	**310**	*e*P	**Pn**	**20 47 45.9**	**-1.0**
MKZ	**Mys Kozlova**	**2.31**	**263**	*e*P	**Pn**	**20 47 50.1**	**+0.2**
MKZ				*e*S	**Sn**	**20 48 14.8**	**-2.9**
ZLN	**Zelenaya**	**3.00**	**294**	*e*P	**Pn**	**20 48 00.4**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**3.03**	**292**	*e*P	**Pn**	**20 48 00.6**	**+0.8**
TUMD	**Tumrok D**	**3.05**	**278**	*e*P	**Pn**	**20 48 00.9**	**+0.8**
TUMD				*e*S	**Sn**	**20 48 35.6**	**-0.4**
CIRR	**Tsirk**	**3.06**	**296**	*e*P	**Pn**	**20 48 02.3**	**+2.0**
BZMR	**Bezymyannaya**	**3.13**	**292**	*e*P	**Pn**	**20 48 01.9**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.14**	**292**	*e*P	**Pn**	**20 48 02.4**	**+1.0**
KMNR	**Kamenistaya**	**3.23**	**288**	*e*P	**Pn**	**20 48 03.9**	**+1.4**
KMNR				*e*S	**Sn**	**20 48 40.7**	**+0.3**
KPT	**Kopyto**	**3.29**	**291**	*e*P	**Pn**	**20 48 04.8**	**+1.4**
KPT				*e*S	**Sn**	**20 48 42.3**	**+0.4**
KOZ	**Kozyrevsk**	**3.50**	**292**	*e*P	**Pn**	**20 48 07.4**	**+1.1**
KII	**Karymskiy**	**3.73**	**259**	*e*P	**Pn**	**20 48 10.7**	**+1.2**
SPN	**Mys Shipunski**	**3.79**	**244**	*e*P	**Pn**	**20 48 10.5**	**+0.3**
SPN				*e*S	**Sn**	**20 48 50.9**	**-3.2**
NLC	**Nalytchevo**	**4.11**	**248**	*e*P	**Pn**	**20 48 15.2**	**+0.6**
NLC				*e*S	**Sn**	**20 48 59.8**	**-2.3**
SDLR	**Sedlovina**	**4.31**	**251**	*e*P	**Pn**	**20 48 18.6**	**+1.1**
SMAR	**Somma**	**4.37**	**251**	*e*P	**Pn**	**20 48 19.8**	**+1.5**
UGLR	**Uglovaya**	**4.38**	**250**	*e*P	**Pn**	**20 48 19.8**	**+1.4**
KRER	**Koryakskii**	**4.38**	**252**	*e*P	**Pn**	**20 48 20.1**	**+1.6**
AVH	**Avacha**	**4.40**	**251**	*e*P	**Pn**	**20 48 20.3**	**+1.7**
KRX	**Arik**	**4.41**	**252**	*e*P	**Pn**	**20 48 20.3**	**+1.4**
KOK	**Koryaka**	**4.44**	**252**	*e*P	**Pn**	**20 48 20.1**	**+0.8**
DALK	**Dalny**	**4.49**	**248**	*e*P	**Pn**	**20 48 20.8**	**+1.0**
PET	**Petropavlovsk**	**4.55**	**249**	Pn	**Pn**	**20 48 22.5**	**+1.8**
PET				Sn	**Sn**	**20 49 10.9**	**-2.0**
PET	**Petropavlovsk**	**4.55**	**249**	*e*P	**Pn**	**20 48 22.3**	**+1.7**
GNL	**Ganaly**	**4.69**	**258**	*e*P	**Pn**	**20 48 24.7**	**+2.1**
KRMR	**Karymshinskiy**	**4.92**	**248**	*e*P	**Pn**	**20 48 27.1**	**+1.4**
KRMR				*e*S	**Sn**	**20 49 21.0**	**-1.0**
RUS	**Russkaya**	**4.92**	**243**	*e*P	**Pn**	**20 48 26.9**	**+1.2**
PEA0B	**Petropavlovsk-**	**5.03**	**252**	Pn	**Pn**	**20 48 28.8**	**+1.5**
PEA0B				Sn	**Sn**	**20 49 24.5**	**-0.3**
PETK	**Petropavlovsk-**	**5.03**	**252**	Pn	**Pn**	**20 48 28.4**	**+1.1**
	4.0nm,0.3s,baz=69,slow=18,SNR=42						
PETK				Sn	**Sn**	**20 49 25.6**	**+0.8**
	1.6nm,0.3s,baz=64,slow=6.8,SNR=5.7						
	6.6nm,0.5s						
MTVR	**Mutnovka**	**5.07**	**245**	*e*P	**Pn**	**20 48 29.3**	**+1.5**
GRL	**Gorelyy**	**5.09**	**246**	*e*P	**Pn**	**20 48 29.9**	**+1.8**
SHEM	**Shemya Is, Ala**	**5.44**	**110**	Pn	**Pn**	**20 48 35.0**	**+2.1**
SMY	**Shemya**	**5.44**	**110**	Pn	**Pn**	**20 48 35.0**	**+2.1**
E18K	**Tukpahlearik C**	**20.20**	**38**		Pn	20 51 50.3	+2.3
E18K				IAmb	IAmb	20 52 11.2	
	comp=Z,6.2nm,1.1s						
F19K	**Shaleruckik Mo**	**21.05**	**41**	P		20 51 58.4	
E19K	**Redstone River**	**21.44**	**40**	P	**P**	**20 52 02.7**	**+3.3**
D20K	**Etivluk River**	**22.06**	**36**	P	**P**	**20 52 07.0**	**+0.8**
D22K	**Ayikyak River**	**23.48**	**37**	P	**P**	**20 52 21.0**	**+0.1**
E22K	**Anaktuvuk Pass**	**23.60**	**39**	P	**P**	**20 52 22.2**	**0.0**
E22K				IAmb	IAmb	20 52 23.9	
	comp=Z,4.6nm,0.8s						
D23K	**Nanushuk River**	**24.20**	**37**	P	**P**	**20 52 27.6**	**-0.1**
CCB	**Clear Creek Bu**	**24.79**	**48**	P	**P**	**20 52 33.0**	**-0.1**
CCB				IAmb	IAmb	20 52 45.1	
	comp=Z,4.7nm,1.0s						
E24K	**Your Creek**	**24.82**	**40**	P	**P**	**20 52 33.7**	**+0.3**
E24K				IAmb	IAmb	20 52 35.8	
	comp=Z,2.8nm,0.7s						
SCM	**Sheep Creek Mo**	**25.11**	**55**	P	**P**	**20 52 36.2**	**0.0**
ILAR	**Eielson Array**	**25.18**	**48**	P	**P**	**20 52 36.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=256,slow=9.0,SNR=9.0						
	comp=Z,0.8nm,0.7s						
G26K	**Porcupine Rive**	**26.51**	**43**	P	**P**	**20 52 48.9**	**+0.3**
G26K				IAmb	IAmb	20 53 00.8	
	comp=Z,4.2nm,1.2s						
K27K	**Chicken**	**27.30**	**49**	P	**P**	**20 52 55.7**	**-0.1**
K27K				IAmb	IAmb	20 53 03.6	
	comp=Z,7.4nm,1.5s						
G29M	**Pine Creek**	**28.78**	**43**	P	**P**	**20 53 09.8**	**+0.8**
M29M	**Somme Creek**	**29.14**	**52**	P	**P**	**20 53 13.6**	**+1.2**
M29M				IAmb	IAmb	20 53 23.4	
	comp=Z,4.7nm,1.3s						
INK	**Inuvik**	**30.40**	**40**	P	**P**	**20 53 23.4**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**35.12**	**178**	T	T	21 31 48.4	
	baz=359,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**35.13**	**178**	T	T	21 31 49.9	
	baz=359,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**35.13**	**178**	T	T	21 31 46.7	
	baz=359,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**36.33**	**178**	T	T	21 33 13.2	
	baz=359,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**36.34**	**178**	T	T	21 33 14.1	
	baz=359,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**36.34**	**178**	T	T	21 33 14.5	
	baz=359,slow=76,SNR=9.4						
SONM	**Songino Array**	**36.68**	**284**	P	**P**	**20 54 19.3**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=44,slow=8.5,SNR=2.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**49.64**	**303**	P	**P**	**20 56 01.8**	**-0.9**
	comp=Z,0.7nm,0.2s,baz=57,slow=7.6,SNR=6.5						
	comp=Z,0.7nm,0.2s						
MKAR	**Makanchi Array**	**50.30**	**297**	P	**P**	**20 56 06.3**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=52,slow=7.7,SNR=1.9						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**52.06**	**75**	P	**P**	**20 56 22.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=315,slow=8.0,SNR=2.4						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**53.77**	**65**	P	**P**	**20 56 34.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=36,slow=2.8,SNR=4.0						
	comp=Z,0.3nm,0.7s						
SFJD	**Kangerlussuaq**	**55.42**	**16**	LR	LR	21 23 17.7	
	comp=Z,132nm,18.8s,baz=256,slow=39						
KIRV	**Kirov**	**55.84**	**325**	LR	LR	21 23 20.2	
	comp=Z,179nm,18.9s,baz=92,slow=39						
FINES	**FINESS Array B**	**59.70**	**339**	P	**P**	**20 57 13.2**	**-2.3**
	comp=Z,6.3nm,1.1s,baz=9.7,slow=7.3,SNR=2.0						
	comp=Z,6.3nm,1.1s						
TXAR	**Lajitas Array**	**66.92**	**72**	P	**P**	**20 58 04.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=336,slow=12,SNR=4.0						
	comp=Z,0.4nm,0.5s						

*IDC **01** 20:58:51.0±6.1, 30°.39S×177°.62W, h31km±43km, mb3.6/5, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=39.4km s-min=18.3km az=99.0*

ISC 01 20:58:51.0±1.4, 30°.42S±0°.08×177°.6W±0°.2, h33km, n15, σ1§31/11, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**348**	Pn	**Pn**	**20 59 11.5**	**+0.3**
	135nm,0.3s,baz=273,slow=22,SNR=2.9						
RAO				Sn	**Sn**	**20 59 24.6**	**-1.5**
	431nm,0.3s,baz=197,slow=23,SNR=8.3						
URZ	**Urewera**	**8.95**	**208**	Pn	**Pn**	**21 00 56.3**	**-1.5**
	0.3nm,0.3s,baz=244,slow=22,SNR=0.9						
URZ				Sn	**Sn**	**21 02 36.8**	**-0.6**
	0.7nm,0.3s,baz=218,slow=23,SNR=7.6						
	3.4nm,0.7s						
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**21 05 40.6**	**+2.2**
	1.5nm,0.7s,baz=90,slow=14,SNR=4.1						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**43.42**	**267**	P	**P**	**21 06 50.7**	**-0.1**
	0.3nm,0.5s,baz=102,slow=7.0,SNR=6.5						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**21 06 58.6**	**-0.2**
	1.1nm,0.6s,baz=111,slow=8.0,SNR=15						
	1.1nm,0.6s						
VNDA	**Vanda**	**48.11**	**186**	P	**P**	**21 07 27.9**	**+0.8**
	0.7nm,0.9s,baz=37,slow=5.1,SNR=3.7						
	0.7nm,0.9s						
H03S2	**Juan Fernandez**	**80.20**	**123**	T	T	22 40 06.3	
	baz=238,slow=74,SNR=8.5						
H03S1	**Juan Fernandez**	**80.21**	**123**	T	T	22 40 10.9	
	baz=238,slow=74,SNR=7.9						
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T	22 40 09.3	
	baz=238,slow=74,SNR=11						
PETK	**Petropavlovsk-**	**85.91**	**345**	P	**P**	**21 11 27.9**	**+0.9**
	1.1nm,0.6s,baz=160,slow=5.4,SNR=1.4						
	1.1nm,0.6s						
H10N3	**ASCENSION HydR**	**138.66**	**154**	T	T	23 54 02.4	
	baz=207						
H10N1	**ASCENSION HydR**	**138.66**	**154**	T	T	23 54 10.5	
	baz=207,slow=74,SNR=3.0						
H10N2	**ASCENSION HydR**	**138.68**	**154**	T	T	23 54 05.6	
	baz=207,slow=74,SNR=2.8						
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	**PKPbc**	**21 18 23.7**	**-0.5**
	8.9nm,1.1s,baz=72,slow=4.4,SNR=7.3						
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc	**PKPbc**	**21 18 39.7**	**-1.5**
	0.5nm,0.4s,baz=57,slow=1.1,SNR=2.2						

KRSC 01 21:17:01.3±2.1, 50°.20N×157°.65E, h40km±35km, Ml3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**297**	*e*P	Pn	21 17 21.9	+1.8
SKR				*e*S	Sn	21 17 35.7	+1.6
PAU	**Pauzhetka**	**1.38**	**338**	*e*P	Pn	21 17 26.8	+2.7
PAU				*e*S	Sn	21 17 44.2	+3.2
MIPR	**Malaya Ipel'ka**	**2.16**	**345**	*e*P	Pn	21 17 38.5	+3.7
RUS	**Russkaya**	**2.30**	**13**	*e*S	Sn	21 18 05.1	+1.2
GRL	**Gorelyy**	**2.37**	**6**	*e*P	Pn	21 17 40.8	+3.0
KRMR	**Karymshinskiy**	**2.65**	**6**	*e*S	Sn	21 18 15.1	+2.6
UGLR	**Uglovaya**	**3.10**	**13**	*e*P	Pn	21 17 51.3	+3.5
AVH	**Avacha**	**3.15**	**12**	*e*P	Pn	21 17 50.9	+2.5
KOK	**Koryaka**	**3.16**	**11**	*e*P	Pn	21 17 53.3	+4.7
KRER	**Koryakskii**	**3.19**	**12**	*e*P	Pn	21 17 54.0	+4.9
KRX	**Arik**	**3.23**	**11**	*e*P	Pn	21 17 54.7	+5.1
SPN	**Mys Shipunski**	**3.26**	**26**	*e*S	Sn	21 18 31.5	+4.1
MKZ	**Mys Kozlova**	**5.03**	**28**	*e*P	Pn	21 18 16.9	+2.7

*SNET **01** 21:32:47.0±2.2, 13°.62N×91°.15W, h18km, ML3.7*

*CATAC **01** 21:32:48.3±0.8, 14°N±4°×.9°1W±°, h26km±5km, M3.7/11, MLv3.7/11, Error ellipse: s-maj=9.3km s-min=3.2km az=24.2, confirmed*

*GCG **01** 21:32:49.0±1.6, 13°.84N×91°.09W, h60km±16km, MD4.1, ML3.8*

ISC 01 21:32:47.1±1.7, 13°.67N±0°.07×91°.16W±0°.05, h25km±13km, n32, σ1§03/41, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.65**	**99**	*i* P	**Pb**	**21 32 59.4**	**-0.4**
ESSJ				*i* S	**Sb**	**21 33 09.2**	**+0.7**
ESSG	**Sabana Grande**	**0.78**	**24**	*e*P	**Pb**	**21 33 02.2**	**+0.1**
FG8	**Yepocapa, Chim**	**0.82**	**44**	*e*P	**Pb**	**21 33 02.4**	**-0.5**
FG16	**Alotenango, Sa**	**0.87**	**46**	*e*P	**Pb**	**21 33 03.4**	**-0.3**
FG16				*e*S	**Sb**	**21 33 14.5**	**-0.5**
FG16				IAML		21 33 18.8	
	comp=N,10μm,0.1s						
RTAL	**Retalhuleu**	**1.00**	**328**	P	**Pn**	**21 33 05.9**	**+0.4**
RTAL	**Retalhuleu**	**1.00**	**328**	S	**Sb**	**21 33 18.6**	**+0.1**
FAME	**Alcaldia de Sa**	**1.12**	**81**	P	**Pn**	**21 33 07.1**	**-0.2**
SOKI	**Kika Raxquin**	**1.17**	**348**	*e*P	**Pn**	**21 33 08.8**	**+0.5**
SOKI				*e*S	**Sn**	**21 33 22.5**	**-1.1**
NUBE	**Las Nubes**	**1.36**	**80**	*e*P	**Pn**	**21 33 10.7**	**+0.1**
NUBE				*e*S	**Sn**	**21 33 26.4**	**-1.5**
NUBE	**Las Nubes**	**1.36**	**80**	P	**Pn**	**21 33 10.7**	**+0.1**
NUBE	**Las Nubes**	**1.36**	**80**	S	**Sn**	**21 33 27.1**	**-0.8**
LOAL	**Lomas de Alarc**	**1.38**	**76**	*e*P	**Pn**	**21 33 11.6**	**+0.8**
LOAL				*e*S	**Sn**	**21 33 28.6**	**+0.4**
LOAL	**Lomas de Alarc**	**1.38**	**76**	P	**Pn**	**21 33 11.7**	**+0.9**
SMCA	**Catarina**	**1.48**	**323**	*e*P	**Pn**	**21 33 12.5**	**+0.4**
SMCA				*e*S	**Sn**	**21 33 30.3**	**-0.4**
SMCA				IAML		21 33 34.3	
	comp=N,875nm,0.2s						
CEVE	**Cerro Verde**	**1.50**	**84**	*e*P	**Pn**	**21 33 13.3**	**+0.7**
UNIC	**Universidad Ca**	**1.59**	**79**	S	**Sn**	**21 33 34.1**	**+0.5**
UNIC	**Universidad Ca**	**1.59**	**79**	P	**Pn**	**21 33 14.7**	**+0.9**
QUIS	**Sacapulas**	**1.61**	**2**	*e*S	**Sb**	**21 33 36.1**	**-0.3**
QUIS				IAML		21 33 39.6	
	comp=E,930nm,0.4s						
THIG		**1.63**	**319**	*e*P	**Pn**	**21 33 14.9**	**+0.6**
THIG				*e*S	**Sn**	**21 33 34.6**	**+0.1**
THIG				IAML		21 33 40.0	
	comp=E,1μm,0.5s						
JAYA	**Jayaque - finc**	**1.66**	**90**	*e*P	**Pn**	**21 33 15.2**	**+0.4**
JAYA	**Jayaque - finc**	**1.66**	**90**	*e*P	**Pn**	**21 33 15.1**	**+0.4**
JAYA				*e*S	**Sn**	**21 33 30.7**	**-4.7**
PMON	**Piamonte**	**1.79**	**88**	S	**Sn**	**21 33 39.2**	**+0.6**
BOQS	**Boqueron**	**1.82**	**88**	*e*P	**Pn**	**21 33 17.7**	**+0.6**
ITCA	**Escuela Especi**	**1.82**	**90**	S	**Sn**	**21 33 40.0**	**+0.6**
MTO3	**Montecristo**	**1.89**	**67**	*e*P	**Pn**	**21 33 18.1**	**+0.1**
PANCS	**Alcalda de**	**1.92**	**91**	S	**Sn**	**21 33 41.9**	**+0.1**
PANCS	**Alcalda de**	**1.92**	**91**	P	**Pn**	**21 33 19.2**	**+0.9**
LOMA	**Loma Larga**	**1.93**	**91**	*e*P	**Pn**	**21 33 19.7**	**+1.2**
LOMA				*e*S	**Sb**	**21 33 45.1**	**-0.3**
ESQI	**Esquipulas**	**1.97**	**63**	*e*P	**Pn**	**21 33 20.6**	**+1.6**
ESQI				*e*S	**Sb**	**21 33 46.9**	**+0.3**
ESQI	**Esquipulas**	**1.97**	**63**	S	**Sn**	**21 33 43.6**	**+0.6**
ESQI	**Esquipulas**	**1.97**	**63**	P	**Pn**	**21 33 19.6**	**+0.6**
LLGN	**La Laguna**	**2.20**	**77**	P	Pn	21 33 16.2	-6.0

*IDC **01** 21:48:10.7±0.8, 8°.05S×117°.91E, h0km, mb4.0/10, mbtmp4.0/14, ML3.9/4, MS3.3/10, Error ellipse: s-maj=23.9km s-min=14.8km az=71.0*

*DJA **01** 21:48:12.9±0.1, 8°S±1°×11°8E±°, h10km, M4.5/24, mB5.4/2, mb4.7/7, MLv4.5/24, Mw(mB)4.8/2*

*NEIC **01** 21:48:12.4±1.6, 8°.08S±0°.05×117°.95E±0°.06, h10km±1km, mb4.4/14, Error ellipse: s-maj=12.0km s-min=4.0km az=228.0*

ISC 01 21:48:12.8±1.5, 8°.11S±0°.04×117°.96E±0°.03, h14km±9km, n66, σ1§37/75, mb4.3/17, MS3.4/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.74**	**194**	P	**Pg**	**21 48 26.5**	**-0.6**
PLAI				S	**Sg**	**21 48 37.5**	**+0.7**
TWSI	**Taliwang, Sumb**	**1.23**	**239**	P	**Pn**	**21 48 34.3**	**-1.3**
TWSI				S	**Sb**	**21 48 51.9**	**+0.3**
WBSI	**Waikabubak, Su**	**2.08**	**137**	P	**Pn**	**21 48 47.8**	**+0.5**
WBSI				S	**Sn**	**21 49 14.4**	**+1.3**
SRBI	**Singaraja**	**2.71**	**270**	P	**Pn**	**21 48 55.9**	**-0.1**
SRBI				S	**Sn**	**21 49 30.4**	**+1.7**
DNP	**Denpasar**	**2.77**	**258**	P	**Pn**	**21 48 59.1**	**+2.3**
WSI	**Waingapu**	**2.79**	**124**	P	**Pn**	**21 48 56.1**	**-0.9**
WSI				S	**Sn**	**21 49 31.9**	**+1.5**
BSSI	**Bau Bau, Buton**	**3.19**	**52**	P	**Pn**	**21 49 02.3**	**-0.2**
BSSI				S	**Sn**	**21 49 42.4**	**+2.1**
BASI	**Baing, Sumba**	**3.33**	**129**	P	**Pn**	**21 49 05.8**	**+1.3**
BASI				S	**Sn**	**21 49 45.4**	**+1.5**
BKSI	**Bulukumba**	**3.51**	**38**	P	**Pn**	**21 49 06.4**	**-0.5**
KAPI	**Kappang**	**3.56**	**30**		**Pn**	**21 49 07.1**	**-0.5**
KAPI	**Kappang**	**3.56**	**30**	Pn	**Pn**	**21 49 07.2**	**-0.3**
	24nm,0.3s,baz=186,slow=7.7,SNR=41						
KAPI				Sn	**Sn**	**21 49 47.9**	**-1.5**
	21nm,0.3s,baz=60,slow=23,SNR=9.3						
KAPI				Lg	Lg	21 50 03.0	
	28nm,0.3s,baz=6.8,slow=23,SNR=7.1						
KAPI				LR	LR	21 50 43.7	
	comp=Z,458nm,18.5s,baz=230,slow=43						
	36nm,0.3s						
ABJI	**Asem Bagus**	**3.70**	**275**	P	**Pn**	**21 49 11.1**	**+1.6**
EDFI	**Ende, Flores**	**3.75**	**100**	P	**Pn**	**21 49 09.9**	**-0.5**
EDFI				S	**Sn**	**21 49 55.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**3.78**	**264**		**Pn**	**21 49 10.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.78**	**264**	P	**Pn**	**21 49 10.6**	**-0.1**
KMMI	**Kalianget**	**4.09**	**285**	P	**Pn**	**21 49 16.4**	**+1.5**
BNSI	**Bone**	**4.26**	**30**	P	**Pn**	**21 49 17.6**	**+0.3**
BNSI				S	**Sn**	**21 50 09.7**	**+2.9**
MMRI	**Maumere**	**4.27**	**97**		**Pn**	**21 49 16.9**	**-0.5**
MMRI	**Maumere**	**4.27**	**97**	P	**Pn**	**21 49 16.9**	**-0.5**
BLJI	**Banyuglugur**	**4.33**	**274**	P	**Pn**	**21 49 18.3**	**0.0**
BLJI				S	**Sn**	**21 50 10.4**	**+1.8**
SPSI	**Sidrap Palu**	**4.50**	**24**	P	**Pn**	**21 49 22.2**	**+1.7**
BBSI	**Bau Bau**	**5.27**	**61**	P	**Pn**	**21 49 32.6**	**+1.4**
	0.2nm41nm,1.0s						
BBKI	**Banjar Baru**	**5.56**	**326**	P	**Pn**	**21 49 35.8**	**+0.7**
	8μm103nm,0.9s						
BATI	**Baumata**	**6.01**	**111**	Pn	**Pn**	**21 49 43.4**	**+2.1**
	8.9nm,0.3s,baz=283,slow=0.8,SNR=5.5						
	10nm,0.3s						
BATI	**Baumata**	**6.01**	**111**	P	**Pn**	**21 49 42.2**	**+0.8**
SOEI	**Soe**	**6.45**	**105**	Pn	**Pn**	**21 49 48.8**	**+1.3**
SOEI	**Soe**	**6.45**	**105**	P	**Pn**	**21 49 51.9**	**+4.4**
UGM	**Wanagama**	**7.36**	**271**	Pn	**Pn**	**21 50 00.8**	**+0.8**
LEM	**Lembang**	**10.33**	**276**	LR	LR	21 56 10.4	
	comp=Z,247nm,19.2s,baz=158,slow=47						
FITZ	**Fitzroy Crossi**	**12.43**	**144**		**Pn**	**21 51 08.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**12.43**	**144**	Pn	**Pn**	**21 51 09.6**	**+0.2**
	0.2nm,0.3s,baz=346,slow=5.0,SNR=8.2						
FITZ				Sn	**Sn**	**21 53 26.8**	**-1.0**
	0.3nm,0.3s,baz=224,slow=17,SNR=2.1						
FITZ				LR	LR	21 56 08.9	
	comp=Z,138nm,18.6s,baz=347,slow=38						
	4.2nm,0.7s						
KNRA	**Kununurra**	**12.97**	**126**	Pn	**Pn**	**21 51 15.3**	**-1.5**
MBWA	**Marble Bar**	**13.09**	**173**	Pn	**Pn**	**21 51 19.2**	**+0.8**
PSA00	**Pilbara Seismi**	**13.51**	**172**	Pn	**Pn**	**21 51 25.0**	**+0.9**
PSA00	**Pilbara Seismi**	**13.51**	**172**	Pn	**Pn**	**21 51 24.7**	**+0.5**
FAKI	**Fak Fak**	**15.13**	**71**		**P**	**21 51 49.0**	**-2.4**
FAKI				IAmb	IAmb	21 52 16.7	
	comp=Z,15nm,0.9s						
DAV	**Davao City (W)**	**16.89**	**27**	LR	LR	21 59 26.3	
	comp=Z,69nm,20.6s,baz=186,slow=40						
WB0	**Warramunga Arr**	**19.70**	**128**	P	**P**	**21 52 41.7**	**-0.1**
WRA	**Warramunga Arr**	**19.75**	**128**	P	**P**	**21

*AEIC **01** 22:04:47.6±1.0, 55°.63N±0°.04×159°.18W±0°.08, h61km±5km, ML3.8, mb4.2/10(NEIC), ML4.0/58(NEIC), Error ellipse: s-maj=7.7km s-min=3.7km az=128.0*
*IDC **01** 22:04:47.8±3.8, 55°.91N×159°.33W, h54km±32km, mb3.7/14, mbtmp3.9/17, ML3.9/3, MS3.3/1, Error ellipse: s-maj=25.7km s-min=17.3km az=23.0*
*NEIC **01** 22:04:48.0±1.1, 55°.64N±0°.04×159°.23W±0°.08, h66km±6km, Error ellipse: s-maj=7.7km s-min=4.5km az=122.0*
ISC 01 22:04:47.8±0.8, 55°.68N±0°.05×159°.22W±0°.04, h64km±7km, n122, σ0§93/125, mb4.0/18, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNKR	**Veniaminof 5**	**0.36**	**347**		**Pn**	**22 04 59.2**	**+0.3**
VNSG	**Veniaminof 6**	**0.45**	**10**		**Pn**	**22 04 60.0**	**+0.3**
VNFG	**Fog Glacier, M**	**0.64**	**343**		**Pn**	**22 05 02.7**	**+1.0**
VNFG	**Fog Glacier, M**	**0.64**	**343**		**Pn**	**22 05 02.5**	**+0.8**
VNFG					**Sn**	**22 05 13.3**	**+1.5**
VNFG				IAML		22 05 18.3	
	comp=E,14μm,0.6s						
VNFG				IAML		22 05 22.9	
	comp=N,16μm,0.7s						
CHGN	**Chignik**	**0.77**	**36**		**Pn**	**22 05 03.4**	**+0.3**
CHGN				Sn	**Sn**	**22 05 15.0**	**+0.6**
SDPT	**Sand Point**	**0.79**	**246**		**Pn**	**22 05 03.1**	**-0.2**
SDPT				Sn	**Sn**	**22 05 14.2**	**-0.4**
SDPT				IAML		22 05 15.8	
	comp=N,5μm,0.7s						
SDPT				IAML		22 05 16.5	
	comp=E,6μm,0.4s						
CNBA	**Chernabura Isl**	**0.89**	**194**		**Pn**	**22 05 04.0**	**-0.6**
CNBA				Sn	**Sn**	**22 05 16.3**	**-0.6**
CNBA				IAML		22 05 17.1	
	comp=E,5μm,0.5s						
CNBA				IAML		22 05 20.4	
	comp=N,4μm,0.4s						
ANPK	**Aniakchak Peak**	**1.32**	**27**		**Pn**	**22 05 11.1**	**+0.9**
ANPK					**Sn**	**22 05 28.2**	**+1.2**
PS1A	**Pavlof South-1**	**1.45**	**261**		**Pn**	**22 05 12.6**	**+0.7**
PS1A					**Sn**	**22 05 30.5**	**+0.3**
PS4A	**Pavlof South-4**	**1.53**	**258**		**Sn**	**22 05 32.3**	**+0.2**
S12K	**Black Hills**	**1.61**	**272**		**Pn**	**22 05 14.1**	**+0.1**
S12K				Sn	**Sn**	**22 05 33.4**	**-0.4**
CHIR	**Chirikof Islan**	**2.04**	**85**		**Pn**	**22 05 19.4**	**-0.4**
CHIR				IAML		22 05 54.6	
	comp=E,1μm,0.9s						
CHIR				IAML		22 06 00.5	
	comp=N,767nm,0.7s						
R16K	**Pilot Point**	**2.10**	**25**	Pn	**Pn**	**22 05 21.5**	**+0.9**
R16K				IAML		22 05 48.2	
	comp=N,1μm,0.6s						
R16K				IAML		22 05 52.3	
	comp=E,896nm,0.9s						
PLK4	**Peulik 4**	**2.52**	**38**		**Pn**	**22 05 27.1**	**+0.7**
PLK4				IAML		22 05 59.2	
	comp=N,507nm,1.1s						
PLK4				IAML		22 06 08.1	
	comp=E,575nm,0.5s						
FALS	**False Pass**	**2.54**	**253**		**Pn**	**22 05 27.2**	**+0.6**
SII	**Sitkinak Islan**	**2.96**	**71**	Pn	**Pn**	**22 05 32.1**	**-0.2**
SII				IAML		22 06 32.5	
	comp=N,716nm,0.9s						
SII				IAML		22 06 33.6	
	comp=E,580nm,0.5s						
ACHA	**Angle Creek He**	**3.32**	**38**		**Pn**	**22 05 38.0**	**+0.8**
P16K	**Nushagak River**	**3.43**	**11**	Pn	**Pn**	**22 05 39.3**	**+0.6**
P16K				IAML		22 06 47.0	
	comp=E,448nm,1.0s						
O15K	**Ungalikthiuk R**	**3.52**	**355**		**Pn**	**22 05 40.5**	**+0.5**
O15K				IAML		22 06 20.8	
	comp=E,297nm,0.6s						
OHAK	**Old Harbor**	**3.64**	**62**	Pn	**Pn**	**22 05 41.3**	**-0.3**
O14K	**Tigyukauivet M**	**3.75**	**344**		**Pn**	**22 05 43.6**	**+0.5**
O16K	**Kokwok River B**	**3.97**	**8**		**Pn**	**22 05 46.3**	**+0.2**
AKUT	**Akutan**	**4.08**	**250**	Pn	**Pn**	**22 05 48.4**	**+0.8**
AKUT				IAML		22 06 54.9	
	comp=E,140nm,1.2s						
AKUT				IAML		22 07 02.0	
	comp=N,139nm,0.9s						
LVA	**Lava Point**	**4.21**	**252**	Pn	**Pn**	**22 05 48.7**	**-0.8**
LVA				IAML		22 06 56.9	
	comp=E,159nm,1.2s						
LVA				IAML		22 07 06.6	
	comp=N,252nm,1.0s						
KDAK	**Kodiak Island**	**4.22**	**57**		**Pn**	**22 05 49.5**	**0.0**
KDAK				IAML		22 06 54.8	
	comp=N,149nm,2.5s						
KDAK				IAML		22 06 56.7	
	comp=N,198nm,2.5s						
KDAK	**Kodiak Island**	**4.22**	**57**	P	**Pn**	**22 05 49.6**	**0.0**
	comp=N,5.8nm,0.3s,baz=73,slow=1.8,SNR=94						
KDAK				S	**Sn**	**22 06 35.8**	**-1.7**
	comp=N,31nm,0.4s,baz=66,slow=5.6,SNR=8.2						
	comp=N,11nm,0.3s						
P18K	**Big Mountain,**	**4.30**	**28**	Pn	**Pn**	**22 05 51.3**	**+0.6**
Q19K	**Cape Douglas,**	**4.45**	**41**		**Pn**	**22 05 54.2**	**+1.5**
N14K	**Kuskokwak Cree**	**4.46**	**344**		**Pn**	**22 05 53.5**	**+0.8**
N14K				IAML		22 07 17.8	
	comp=N,192nm,1.6s						
N14K				IAML		22 07 23.6	
	comp=E,177nm,1.5s						
N15K	**Kwethluk River**	**4.53**	**354**		**Pn**	**22 05 54.7**	**+1.0**
N15K				IAML		22 07 16.0	
	comp=N,130nm,0.6s						
N15K				IAML		22 07 26.4	
	comp=E,134nm,1.2s						
UNV	**Unalaska Valle**	**4.60**	**249**		**Pn**	**22 05 55.0**	**+0.2**
N17K	**Nushagak Hills**	**4.98**	**12**		**Pn**	**22 06 00.5**	**+0.5**
N17K				IAML		22 06 56.1	
	comp=N,81nm,0.6s						
P19K	**Oil Pt**	**5.12**	**36**	Pn	**Pn**	**22 06 02.8**	**+0.9**
P19K				IAML		22 07 45.6	
	comp=E,133nm,2.5s						
P19K				IAML		22 08 42.8	
	comp=N,127nm,3.2s						
O19K	**Port Alsworth**	**5.23**	**28**		**Pn**	**22 06 04.3**	**+1.1**
M13K	**Dall Lake**	**5.23**	**337**		**Pn**	**22 06 04.4**	**+1.1**
M13K				IAML		22 07 51.3	
	comp=E,117nm,1.5s						
M14K	**Bethel**	**5.29**	**345**		**Pn**	**22 06 04.8**	**+0.7**
M14K				IAML		22 07 04.4	
	comp=E,99nm,1.3s						
M14K				IAML		22 07 58.3	
	comp=N,91nm,1.6s						
N18K	**Kilae Creek**	**5.32**	**18**		**Pn**	**22 06 05.0**	**+0.5**
M16K	**Timber Creek**	**5.36**	**1**		**Pn**	**22 06 06.1**	**+1.0**
ILSW	**Iliamna Southw**	**5.40**	**34**		**Pn**	**22 06 07.0**	**+1.2**
N19K	**Bonanza Creek**	**5.72**	**24**		**Pn**	**22 06 12.0**	**+1.8**
M17K	**Holitna River**	**5.81**	**9**		**Pn**	**22 06 12.4**	**+1.1**
L14K	**Kuka Creek**	**5.96**	**344**		**Pn**	**22 06 13.8**	**+0.5**
L16K	**Owhat River**	**6.05**	**359**		**Pn**	**22 06 15.0**	**+0.4**
NIKH	**Nikolski High**	**6.25**	**248**	Pn	**Pn**	**22 06 17.2**	**-0.2**
SPIA	**Saint Paul Isl**	**6.30**	**288**	Pn	**Pn**	**22 06 18.4**	**+0.5**
L18K	**Granite Mounta**	**6.69**	**10**		**Pn**	**22 06 23.6**	**+0.3**
K15K	**Wolf Creek Mou**	**6.74**	**351**		**Pn**	**22 06 24.9**	**+0.9**
K13K	**Kusilvak Mount**	**6.88**	**338**		**Pn**	**22 06 26.6**	**+0.8**
L19K	**White Mountain**	**6.90**	**17**		**Pn**	**22 06 26.7**	**+0.5**
M20K	**Styx River**	**6.98**	**24**		**Pn**	**22 06 29.7**	**+2.4**
K17K	**Iditarod**	**7.08**	**3**		**Pn**	**22 06 29.0**	**+0.5**
J14K	**Nanvaranak Lak**	**7.43**	**344**		**Pn**	**22 06 33.9**	**+0.6**
J16K	**Anvik River**	**7.66**	**355**		**Pn**	**22 06 37.2**	**+0.6**
J17K	**VABM Dome**	**7.74**	**0**		**Pn**	**22 06 37.5**	**-0.2**
J18K	**Innoko River**	**7.91**	**8**		**Pn**	**22 06 40.9**	**+0.9**
GHO	**Glory Hole Cre**	**8.12**	**37**		**Pn**	**22 06 43.7**	**+0.8**
I17K	**Unalakleet**	**8.27**	**355**		**Pn**	**22 06 45.6**	**+0.8**
J19K	**Poorman**	**8.54**	**11**		**Pn**	**22 06 49.2**	**+0.7**
SCM	**Sheep Creek Mo**	**8.72**	**40**		**Pn**	**22 06 50.4**	**-0.8**
J20K	**Nowinta River**	**8.89**	**15**		**Pn**	**22 06 53.3**	**-0.1**
KLU	**Klutina**	**9.05**	**45**		**Pn**	**22 06 55.8**	**+0.1**
H17K	**Granite Mounta**	**9.29**	**358**		**Pn**	**22 06 59.5**	**+0.7**
M24K	**Tolsona, Glenn**	**9.32**	**41**		**Pn**	**22 07 00.2**	**+0.9**
ANM	**Nome**	**9.42**	**344**	Pn	**Pn**	**22 07 00.6**	**+0.1**
H18K	**Honhosa River**	**9.52**	**2**		**Pn**	**22 07 02.3**	**+0.4**
DHY	**Denali Highway**	**9.55**	**34**		**Pn**	**22 07 02.0**	**-0.5**
N25K	**Chitina, Valde**	**9.65**	**46**		**Pn**	**22 07 04.1**	**+0.3**
GLB	**Gilahina Butte**	**9.89**	**48**		**Pn**	**22 07 06.7**	**-0.4**
H19K	**Roundabout Mou**	**9.97**	**7**		**Pn**	**22 07 08.7**	**+0.6**
ISLE	**Juniper Island**	**10.19**	**54**	Pn	**Pn**	**22 07 11.1**	**-0.1**
G18K	**Tagagawik**	**10.26**	**1**		**Pn**	**22 07 12.5**	**+0.5**
F15K	**North Star Dit**	**10.40**	**347**	Pn	**Pn**	**22 07 14.8**	**+0.9**
M26K	**Nabesna, AK**	**10.71**	**44**		**Pn**	**22 07 18.9**	**+0.6**
RIDG	**Independent Ri**	**10.84**	**36**		**Pn**	**22 07 20.7**	**+0.7**
F17K	**Baldwin Pennin**	**10.84**	**356**	Pn	**Pn**	**22 07 21.1**	**+1.2**
ILAR	**Eielson Array**	**10.96**	**29**	P	**Pn**	**22 07 20.7**	**-0.9**
	comp=N,0.6nm,0.3s,baz=218,slow=13,SNR=18						
ILAR				S	**Sn**	**22 09 17.4**	**-5.1**
	comp=N,1.7nm,0.9s,baz=219,slow=22,SNR=7.6						
	comp=N,1.2nm,0.3s						
F19K	**Shaleruckik Mo**	**11.21**	**3**		**Pn**	**22 07 26.1**	**+1.1**
KIWB	**Kanaga Island**	**11.27**	**258**	Pn	**Pn**	**22 07 25.4**	**-0.6**
SCRK	**Sand Creek**	**11.28**	**36**		**Pn**	**22 07 25.6**	**-0.5**
L27K	**Beaver Creek,**	**11.52**	**43**		**Pn**	**22 07 29.5**	**+0.3**
J26L	**Joseph Creek**	**11.77**	**35**		**Pn**	**22 07 32.6**	**-0.1**
E19K	**Redstone River**	**11.86**	**4**		**Pn**	**22 07 35.6**	**+1.8**
M29M	**Somme Creek**	**12.61**	**49**		**Pn**	**22 07 44.4**	**+0.2**
I28M	**Miner Creek**	**13.56**	**36**		**Pn**	**22 07 56.2**	**-0.8**
K29M	**Barlow Dome**	**13.59**	**44**		**Pn**	**22 07 57.7**	**+0.3**
I29M	**Ogilvie Camp,**	**14.07**	**38**		**Pn**	**22 08 03.2**	**-0.5**
J30M	**Hart River**	**14.39**	**43**		**Pn**	**22 08 09.5**	**+1.5**
H29M	**Whitestone**	**14.54**	**35**		**Pn**	**22 08 10.1**	**+0.2**
I30M	**Mount Dempster**	**14.68**	**40**		**Pn**	**22 08 11.8**	**-0.1**
G29M	**Pine Creek**	**15.07**	**33**		**Pn**	**22 08 17.4**	**+0.6**
G29M				IAmb	IAmb	22 08 24.0	
	comp=Z,8.2nm,0.8s						
H31M	**Peel River**	**15.71**	**40**		**Pn**	**22 08 25.6**	**+0.7**
H31M				IAmb	IAmb	22 08 30.6	
	comp=Z,13nm,1.2s						
F30M	**Barrier River**	**16.19**	**33**	Pn	**Pn**	**22 08 31.4**	**+0.5**
INK	**Inuvik**	**17.29**	**33**	Pn	**Pn**	**22 08 43.7**	**-0.8**
INK	**Inuvik**	**17.29**	**33**	P	**Pn**	**22 08 44.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=232,slow=13,SNR=6.7						
	comp=Z,3.7nm,0.8s						
C36M	**Paulatuk**	**20.80**	**35**	P	**P**	**22 09 22.9**	**-0.5**
PETK	**Petropavlovsk-**	**24.91**	**282**	P	**P**	**22 10 04.1**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=68,slow=9.0,SNR=2.7						
	comp=Z,2.5nm,0.8s						
MCMT	**McKenzie Canyo**	**31.01**	**91**	P	**P**	**22 10 59.5**	**+0.2**
NVAR	**Mina Array Bea**	**32.19**	**105**	P	**P**	**22 11 11.8**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=322,slow=9.4,SNR=4.2						
NVAR				LR	LR	22 21 05.5	
	comp=Z,48nm,18.7s,baz=278,slow=30						
	comp=Z,0.7nm,0.7s						
R11B	**Troy Canyon, C**	**33.74**	**102**	P	**P**	**22 11 23.9**	**+0.7**
R11B				IAmb	IAmb	22 11 25.9	
	comp=Z,4.1nm,1.3s						
PRN	**Pahroc Range**	**34.71**	**103**	P	**P**	**22 11 31.5**	**-0.1**
ULM	**Lac du Bonnet**	**37.35**	**71**	P	**P**	**22 11 54.3**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=312,slow=6.1,SNR=2.6						
	comp=Z,2.3nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**43.98**	**229**	T	T	22 59 15.6	
	baz=28,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**43.99**	**229**	T	T	22 59 14.9	
	baz=28,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**44.00**	**229**	T	T	22 59 09.9	
	baz=28,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**45.15**	**229**	T	T	23 00 36.9	
	baz=28,slow=75,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**45.17**	**229**	T	T	23 00 40.8	
	baz=28,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**45.17**	**229**	T	T	23 00 37.5	
	baz=28,slow=75,SNR=3.6						
TXAR	**Lajitas Array**	**47.05**	**100**	P	**P**	**22 13 13.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.4,SNR=5.8						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**55.04**	**358**	P	**P**	**22 14 10.7**	**-1.6**
	comp=Z,4.3nm,1.1s,baz=7.1,slow=9.5,SNR=1.1						
	comp=Z,4.3nm,1.1s						
FINES	**FINESS Array B**	**63.14**	**357**	P	**P**	**22 15 07.2**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=355,slow=8.4,SNR=5.1						
	comp=Z,4.1nm,0.9s						
KURK	**Kurchatov**	**63.61**	**323**	P	**P**	**22 15 12.5**	**+1.0**
KURK				IAmb	IAmb	22 15 13.2	
	comp=Z,4.2nm,1.4s						
KURBB	**Kurchatov Arra**	**63.72**	**323**	P	**P**	**22 15 12.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=28,slow=7.2,SNR=2.3						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**64.21**	**329**	P	**P**	**22 15 14.9**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=39,slow=9.6,SNR=4.6						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**65.59**	**318**	P	**P**	**22 15 23.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=45,slow=5.5,SNR=15						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**65.70**	**319**	P	**P**	**22 15 24.5**	**-0.7**
MAKZ				IAmb	IAmb	22 15 58.6	
	comp=Z,4.2nm,1.1s						
EKA	**Eskdalemuir Ar**	**67.63**	**15**	P	**P**	**22 15 37.7**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=325,slow=4.4,SNR=4.6						
	comp=Z,2.4nm,0.8s						
AB31	**Akbulak array**	**70.44**	**334**	P	**P**	**22 15 54.4**	**-0.4**
AB31				IAmb	IAmb	22 15 55.8	
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**73.75**	**354**	P	**P**	**22 16 13.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=10,slow=6.1,SNR=4.1						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**81.42**	**290**	P	**P**	**22 16 58.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=12,slow=5.1,SNR=8.3						
	comp=Z,0.7nm,0.3s						
ESDC	**Sonseca Array**	**82.70**	**19**	P	**P**	**22 17 05.9**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=355,slow=5.7,SNR=4.2						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**84.33**	**350**	P	**P**	**22 17 13.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=350,slow=5.1,SNR=2.3						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**145.46**	**180**	PKPbc	**PKPab**	**22 24 18.6**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=2.8,slow=0.5,SNR=17						

IDC 01 22:14:55.0±8.4, 16°.18S×173°.24W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=210.7km s-min=40.6km az=30.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.71**	**329**	T	T	23 03 29.9	
	baz=146,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**39.72**	**329**	T	T	23 03 33.0	
	baz=146,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**39.73**	**329**	T	T	23 03 31.3	
	baz=146,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**40.66**	**331**	T	T	23 05 23.5	
	baz=148,slow=75,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	23 05 20.4	
	baz=148,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**40.68**	**331**	T	T	23 05 18.9	
	baz=148,slow=75,SNR=3.5						
STKA	**Stephens Creek**	**43.79**	**241**	P	P	22 23 02.4	-0.3
	3.9nm,0.8s,baz=88,slow=13,SNR=5.7						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	22 23 49.8	-0.4
	0.9nm,0.9s,baz=92,slow=6.8,SNR=11						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**50.02**	**253**	P	P	22 23 52.0	+0.3
	1.2nm,0.5s,baz=85,slow=8.1,SNR=20						
	1.2nm,0.5s						
VNDA	**Vanda**	**62.62**	**186**	P	P	22 25 19.4	-1.2
	0.8nm,1.2s,baz=47,slow=1.4,SNR=2.2						
	0.8nm,1.2s						
QSPA	**South Pole Qui**	**73.87**	**180**	P	P	22 26 32.7	+1.1
	0.7nm,0.9s,baz=66,slow=4.8,SNR=2.1						
	0.7nm,0.9s						
H03S2	**Juan Fernandez**	**84.64**	**124**	T	T	00 01 25.3	
	baz=250						
H03S1	**Juan Fernandez**	**84.66**	**124**	T	T	00 01 20.0	
	baz=250						
H03S3	**Juan Fernandez**	**84.66**	**124**	T	T	00 01 23.6	
	baz=250						

*RHSSO **01** 22:24:17.4±0.5, 45°.65N×14°.38E, h6km±3km, ML3.5/10*
*LJU **01** 22:24:18.1, 45°.57N×14°.38E, h21km, ML3.4*
*ROM **01** 22:24:18.0±0.1, 45°.544N±0°.005×14°.379E±0°.009, h10km, ML3.7/216, Error ellipse: s-maj=0.7km s-min=0.6km az=251.0*
*PDG **01** 22:24:18.3±0.8, 45°.54N×14°.35E, h17km±1km, ML3.6/10, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
*VIE **01** 22:24:18.7±0.3, 45°.55N×14°.37E, h20km, mb3.1/22, ml3.8/22, Error ellipse: s-maj=3.7km s-min=1.7km az=166.0 23 km N of Rijeka*
*PRU **01** 22:24:18.4, 45°.62N×14°.49E, h1km*
*BGR **01** 22:24:20.5±0.6, 45°.65N×14°.40E, h4km±2km, ML3.6/27, Error ellipse: s-maj=3.3km s-min=2.2km az=165.0*
*LDG **01** 22:24:20.0±0.4, 45°.48N×14°.33E, h2km, Ml3.6/29, Error ellipse: s-maj=7.3km s-min=5.7km az=79.0*
ISC 01 22:24:17.9±0.8, 45°.57N±0°.01×14°.33E±0°.01, h19km±1km, n313, σ1§57/442, 20C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.06**	**143**	⇓*i*Pg	**Pg**	**22 24 19.9**	**-1.5**
KNDS	**Knezji Dol**	**0.06**	**143**	⇓*i*Pg	**Pg**	**22 24 22.0**	**+0.6**
KNDS				*i* Sg	**Sg**	**22 24 24.5**	**+0.6**
KNDS				IAML		22 24 24.7	
	comp=Z,5μm,0.1s						
CEY	**Cerknica**	**0.18**	**22**	⇓*i*Pg	**Pb**	**22 24 21.0**	**-0.7**
CEY				*i* Sg	**Sb**	**22 24 24.4**	**+0.3**
CEY	**Cerknica**	**0.18**	**22**	⇓*i*Pg	**Pg**	**22 24 23.1**	**+0.5**
CEY				*i* Sg	**Sg**	**22 24 26.5**	**+0.6**
CEY				IAML		22 24 26.7	
	comp=Z,6μm,0.1s						
SKDS	**Skadanscina**	**0.23**	**263**	⇑*i*Pg	**Pb**	**22 24 22.2**	**-0.9**
SKDS	**Skadanscina**	**0.23**	**263**	⇑*i*Pg	**Pg**	**22 24 24.3**	**+1.0**
SKDS				*i* Sg	**Sg**	**22 24 28.7**	**+1.7**
SKDS				IAML		22 24 28.9	
	comp=Z,5μm,0.1s						
RIY	**Rijeka**	**0.27**	**157**	*i* Pg	**Pg**	**22 24 24.4**	**+0.4**
RIY				Sg	**Sg**	**22 24 28.9**	**+0.7**
GBRS	**Gornja Briga**	**0.34**	**97**	⇑*i*Pg	**Pg**	**22 24 23.2**	**-2.0**
GBRS				*i* Sg	**Sg**	**22 24 28.3**	**-1.8**
GBRS	**Gornja Briga**	**0.34**	**97**	⇑*i*Pg	**Pg**	**22 24 25.3**	**+0.2**
GBRS				*i* Sg	**Sg**	**22 24 30.4**	**+0.2**
GBRS				IAML		22 24 30.9	
	comp=Z,596nm,0.1s						
GBAS	**Gorenja Brezov**	**0.37**	**12**	*i* Pg	**Pg**	**22 24 24.0**	**-1.7**
GBAS				*i* Sg	**Sg**	**22 24 29.8**	**-1.2**
GBAS	**Gorenja Brezov**	**0.37**	**12**	*i* Pg	**Pb**	**22 24 26.1**	**+0.1**
GBAS				*i* Sg	**Sb**	**22 24 31.7**	**+0.2**
GBAS				IAML		22 24 32.6	
	comp=Z,713nm,0.1s						
JAVS	**Javornik**	**0.37**	**330**	⇓*i*Pg	**Pg**	**22 24 24.3**	**-1.5**
JAVS				*i* Sg	**Sg**	**22 24 30.6**	**-0.5**
JAVS	**Javornik**	**0.37**	**330**	⇓*i*Pg	**Pb**	**22 24 26.4**	**+0.3**
JAVS				*i* Sg	**Sb**	**22 24 32.6**	**+1.0**
JAVS				IAML		22 24 33.8	
	comp=Z,3μm,0.2s						
TRI	**Trieste**	**0.42**	**289**	⇑*e*Pg	**Pb**	**22 24 27.3**	**+0.5**
TRI				*e*Sg	**Sb**	**22 24 34.5**	**+1.6**
TRI	**Trieste**	**0.42**	**289**	⇑P	**Pb**	**22 24 27.3**	**+0.5**
TRI				S	**Sn**	**22 24 34.7**	**-1.5**
TRI				AML	AML		
	comp=E,7865μm,0.4s						
TRI				AML	AML		
	comp=N,4615μm,0.6s						
VISS	**Visnje**	**0.42**	**57**	⇑*i*Pg	**Pg**	**22 24 24.7**	**-2.0**
VISS				*i* Sg	**Sg**	**22 24 30.0**	**-2.5**
VISS	**Visnje**	**0.42**	**57**	*i* Pg	**Pg**	**22 24 26.8**	**+0.2**
VISS				*i* Sg	**Sg**	**22 24 32.7**	**+0.1**
VISS				IAML		22 24 32.9	
	comp=Z,1μm,0.2s						
LJU	**Ljubljana**	**0.49**	**16**	*i* Pg	**Pg**	**22 24 26.4**	**-1.5**
LJU	**Ljubljana**	**0.49**	**16**	*i* Pg	**Pb**	**22 24 28.4**	**+0.4**
LJU				*i* Sg	**Sb**	**22 24 35.2**	**+0.5**
LJU				IAML		22 24 39.6	
	comp=Z,807nm,0.1s						
LJU	**Ljubljana**	**0.49**	**16**	⇓P	**Pb**	**22 24 28.4**	**+0.4**
LJU				S	**Sb**	**22 24 35.5**	**+0.7**
LJU				AML	AML		
	comp=N,48800μm,0.6s						
LJU				AML	AML		
	comp=N,48800μm,1.4s						
LJU				AML	AML		
	comp=E,25400μm,0.4s						
CRNS	**Crni Vrh**	**0.51**	**354**	*i* Pg	**Pb**	**22 24 26.6**	**-1.6**
CRNS	**Crni Vrh**	**0.51**	**354**	*i* Pg	**Pg**	**22 24 28.5**	**+0.3**
CRNS				*e*Sg	**Sb**	**22 24 36.6**	**+1.3**
CRNS				IAML		22 24 38.5	
	comp=Z,2μm,0.3s						
VOJS	**Vojsko**	**0.56**	**326**	*i* Pg	**Pb**	**22 24 27.7**	**-1.3**
VOJS	**Vojsko**	**0.56**	**326**	*i* Pg	**Pg**	**22 24 29.6**	**+0.5**
VOJS				*i* Sg	**Sn**	**22 24 38.7**	**-1.0**
VOJS				IAML		22 24 40.8	
	comp=Z,847nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.59**	**26**	*i* Pg	**Pb**	**22 24 28.0**	**-1.5**
VNDS	**Vrh nad Dolski**	**0.59**	**26**	*i* Pg	**Pg**	**22 24 30.1**	**+0.4**
VNDS				*i* Sg	**Sg**	**22 24 37.9**	**+0.3**
VNDS				IAML		22 24 41.6	
	comp=Z,651nm,0.2s						
BOJS	**Bojanci**	**0.65**	**96**	*i* Pg	**Pb**	**22 24 28.6**	**-2.0**
BOJS	**Bojanci**	**0.65**	**96**	*e*Pg	**Pb**	**22 24 30.5**	**-0.1**
BOJS				*i* Sg	**Sg**	**22 24 39.5**	**+0.1**
BOJS				IAML		22 24 43.8	
	comp=Z,233nm,0.1s						
BOJS	**B

GCIS				*i* Sg	**Sn**	**22 24 51.1**	**+1.7**
GCIS				IAML		22 24 52.8	
	comp=Z,642nm,0.2s						
DOBS	**Dobrina**	**0.98**	**54**	*i* Pg	**Pb**	**22 24 34.9**	**-1.4**
DOBS	**Dobrina**	**0.98**	**54**	*i* Pg	**Pn**	**22 24 36.8**	**+0.1**
DOBS				*i* Sg	**Sg**	**22 24 49.7**	**-0.2**
DOBS				IAML		22 24 51.3	
	comp=Z,458nm,0.2s						
ZAVS	**Zavodnje**	**0.99**	**29**	*i* Pg	**Pb**	**22 24 35.2**	**-1.3**
ZAVS	**Zavodnje**	**0.99**	**29**	*i* Pg	**Pg**	**22 24 37.3**	**+0.2**
ZAVS				*i* Sg	**Sg**	**22 24 49.9**	**-0.2**
ZAVS				IAML		22 24 53.6	
	comp=Z,806nm,0.1s						
GOLS	**Golise**	**1.00**	**64**	*i* Pg	**Pb**	**22 24 35.4**	**-1.3**
GOLS				*i* Sg	**Sb**	**22 24 49.5**	**0.0**
GOLS	**Golise**	**1.00**	**64**	*e*Pg	**Pn**	**22 24 37.2**	**+0.2**
GOLS				*e*Sg	**Sg**	**22 24 51.7**	**+1.0**
GOLS				IAML		22 24 53.3	
	comp=Z,2μm,0.5s						
BAD	**Bernadia**	**1.01**	**312**	P	**Pn**	**22 24 37.1**	**0.0**
PTCC	**Patocco-Chiusa**	**1.08**	**321**	P	**Pg**	**22 24 39.1**	**+0.3**
PTCC				AML	AML		
	comp=E,3435μm,0.8s						
PTCC				AML	AML		
	comp=N,2560μm,0.2s						
NVLJ	**Novalja**	**1.08**	**159**	*e*Pg	**Pg**	**22 24 39.1**	**+0.3**
GEPF	**Gemona**	**1.09**	**311**	P	**Pn**	**22 24 38.2**	**0.0**
GEPF				S	**Sg**	**22 24 55.7**	**+2.4**
GEPF				AML	AML		
	comp=N,5135μm,0.4s						
GEPF				AML	AML		
	comp=E,5530μm,0.5s						
GEPF				AML	AML		
	comp=N,5135μm,1.6s						
ACOM	**Acomizza, Ital**	**1.13**	**330**	P	**Pg**	**22 24 39.9**	**+0.1**
ACOM				AML	AML		
	comp=E,10205μm,0.2s						
ACOM				AML	AML		
	comp=N,7985μm,0.4s						
ACOM				AML	AML		
	comp=N,8625μm,0.4s						
ACOM				AML	AML		
	comp=E,10330μm,0.2s						
PLIT	**Plitvice**	**1.15**	**127**	*i* Pg	**Pg**	**22 24 40.0**	**-0.1**
PLIT				Sg	**Sg**	**22 24 55.2**	**0.0**
MPRI	**Monte Prat**	**1.15**	**306**	P	**Pb**	**22 24 39.5**	**+0.3**
MPRI				AML	AML		
	comp=E,3255μm,1.5s						
MPRI				AML	AML		
	comp=E,2505μm,0.2s						
MPRI				AML	AML		
	comp=N,3420μm,0.4s						
MPRI				AML	AML		
	comp=N,4450μm,0.4s						
MPRI				AML	AML		
	comp=E,3255μm,0.5s						
MYKA	**Terra Mystica**	**1.16**	**336**	*e*P	**Pg**	**22 24 41.0**	**+0.6**
	comp=E,108nm,0.2s,SNR=78						
MYKA				*e*S	**Sg**	**22 24 57.5**	**+1.8**
	comp=E,778nm,0.5s						
ZAG	**Zagreb**	**1.19**	**77**	*e*Pg	**Pg**	**22 24 41.1**	**+0.2**
ZAG	**Zagreb**	**1.19**	**77**	P	**Pn**	**22 24 38.9**	**-0.6**
ZAG				AML	AML		
	comp=N,4015μm,1.6s						
ZAG				AML	AML		
	comp=N,4015μm,0.4s						
ZAG				AML	AML		
	comp=E,3430μm,0.5s						
DST2	**Trieste**	**1.19**	**305**	P	**Pg**	**22 24 41.4**	**+0.5**
DST2				AML	AML		
	comp=N,6605μm,0.5s						
DST2				AML	AML		
	comp=E,5895μm,0.4s						
PTJ	**Puntijarka**	**1.19**	**73**	*e*Pg	**Pg**	**22 24 41.0**	**0.0**
PERS	**Pernice**	**1.20**	**27**	*i* Pg	**Pn**	**22 24 38.9**	**-0.8**
PERS				*e*Sg	**Sb**	**22 24 55.4**	**+0.3**
PERS	**Pernice**	**1.20**	**27**	*i* Pg	**Pg**	**22 24 41.0**	**-0.1**
PERS				IAML		22 24 56.7	
	comp=Z,764nm,0.2s						
GROS	**Grobnik**	**1.21**	**42**	*i* Pg	**Pn**	**22 24 39.2**	**-0.7**
GROS				*i* Sg	**Sg**	**22 24 56.6**	**-0.5**
GROS	**Grobnik**	**1.21**	**42**	*i* Pg	**Pg**	**22 24 41.0**	**-0.2**
GROS				IAML		22 24 58.0	
	comp=Z,593nm,0.3s						
SOKA	**Soboth**	**1.21**	**24**	*e*P	**Pg**	**22 24 41.2**	**-0.1**
	comp=Z,1.9nm,0.2s,SNR=139						
SOKA				S	**Sn**	**22 24 56.2**	**+0.4**
	comp=Z,132nm,0.3s						
FUSE	**Fusea**	**1.25**	**313**	P	**Pb**	**22 24 41.4**	**+0.5**
PLRO	**Paularo**	**1.28**	**320**	P	**Pg**	**22 24 42.5**	**-0.1**
STAL	**STALIGIAL**	**1.32**	**302**	P	**Pb**	**22 24 42.3**	**+0.2**
STAL				AML	AML		
	comp=N,10550μm,0.2s						
STAL				AML	AML		
	comp=E,6890μm,0.3s						
STAL				AML	AML		
	comp=E,8615μm,0.2s						
STAL				AML	AML		
	comp=N,5750μm,1.2s						
STAL				AML	AML		
	comp=E,8615μm,0.2s						
CLUD	**Cludinico**	**1.34**	**312**	P	**Pb**	**22 24 43.2**	**+0.8**
CLUD				AML	AML		
	comp=E,2605μm,0.5s						
CLUD				AML	AML		
	comp=N,2515μm,0.6s						
CLUD				AML	AML		
	comp=E,2655μm,0.5s						
CLUD				AML	AML		
	comp=N,2500μm,0.6s						
CLUD				AML	AML		
	comp=E,2600μm,0.5s						
LOBO	**Lobor**	**1.35**	**64**	*e*Pg	**Pg**	**22 24 43.4**	**-0.5**
LOBO				Sg	**Sb**	**22 25 00.2**	**+0.9**
ZOU	**Zoufplan**	**1.36**	**317**	P	**Pg**	**22 24 44.0**	**-0.3**
ZOU				AML	AML		
	comp=E,2740μm,0.4s						
ZOU				AML	AML		
	comp=E,2740μm,0.2s						
ZOU				AML	AML		
	comp=N,3085μm,0.5s						
ZOU				AML	AML		
	comp=N,3070μm,0.5s						
ZOU				AML	AML		
	comp=N,3085μm,1.5s						
ZOU				AML	AML		
	comp=N,3070μm,1.5s						
ZOU				AML	AML		
	comp=E,2740μm,1.8s						
VIRC	**Vir**	**1.38**	**158**	*e*Pn	**Pg**	**22 24 44.4**	**-0.1**
VIRC				Sg	**Sg**	**22 25 03.4**	**+0.9**
UDBI	**Udbina**	**1.46**	**135**	*e*Pn	**Pg**	**22 24 45.5**	**-0.5**
CIMO	**Cimolais**	**1.51**	**300**	P	**Pn**	**22 24 44.4**	**+0.4**
CIMO				AML	AML		
	comp=N,1485μm,0.4s						
CIMO				AML	AML		
	comp=E,914μm,1.3s						
CIMO				AML	AML		
	comp=N,1474μm,0.4s						
CIMO				AML	AML		
	comp=N,1485μm,1.6s						
CIMO				AML	AML		
	comp=N,1474μm,1.6s						
CIMO				AML	AML		
	comp=E,906μm,1.3s						
KALN	**Kalnik**	**1.59**	**69**	*e*Pn	**Pn**	**22 24 45.8**	**+0.8**
KOGS	**Kog**	**1.60**	**56**	*i* Pn	**Pn**	**22 24 45.8**	**+0.6**
KOGS				*e*Sn	**Sn**	**22 25 05.6**	**+0.3**
KOGS	**Kog**	**1.60**	**56**	*i* Pn	**Pg**	**22 24 48.2**	**-0.5**
KOGS				*i* Pg	**Pb**	**22 24 48.9**	**+2.1**
KOGS				*i* Sg	**Sg**	**22 25 09.6**	**+0.1**
KOGS				IAML		22 25 12.2	
	comp=Z,308nm,0.3s						
VARN	**Col Varnada, M**	**1.61**	**286**	P	**Pn**	**22 24 46.1**	**+0.6**
VARN				AML	AML		
	comp=E,4255μm,0.6s						
VARN				AML	AML		
	comp=N,3370μm,0.3s						
VARN				AML	AML		
	comp=E,4335μm,0.6s						
VARN				AML	AML		
	comp=N,3420μm,0.3s						
VARN				AML	AML		
	comp=N,3365μm,0.3s						
VARN				AML	AML		
	comp=E,4255μm,1.4s						
VARN				AML	AML		
	comp=E,4335μm,1.4s						
KBA	**Koelnbreinsper**	**1.65**	**336**	*e*Pn	**Pb**	**22 24 47.9**	**0.0**
	comp=E,85nm,0.3s,SNR=61						
KBA				*e*Sn	**Sg**	**22 25 10.5**	**-0.8**
	comp=E,122nm,0.2s						
KBA	**Koelnbreinsper**	**1.65**	**336**	*e*Pn	**Pb**	**22 24 48.6**	**+0.7**
KBA				*e*Sg	**Sg**	**22 25 12.1**	**+0.8**
DUGI	**Dugi Otok**	**1.66**	**162**	*e*Pn	**Pb**	**22 24 48.1**	**+0.2**
MOSL	**Moslavina**	**1.70**	**88⇑**	*i*Pn	**Pn**	**22 24 46.6**	**0.0**
MOSL				*e*Sn	**Sn**	**22 25 08.2**	**+0.4**
MOSL	**Moslavina**	**1.70**	**88**	*e*Pn	**Pb**	**22 24 47.8**	**-0.8**
ABTA	**Abfaltersbach**	**1.73**	**314**	*e*Pn	**Pb**	**22 24 48.7**	**-0.3**
	comp=E,42nm,0.3s,SNR=101						
ABTA				Sn	**Sb**	**22 25 09.8**	**-0.6**
	comp=E,161nm,0.2s						
CGRP	**Cima Grappa**	**1.80**	**281**	P	**Pb**	**22 24 50.0**	**-0.4**
CGRP				AML	AML		
	comp=E,1710μm,0.4s						
CGRP				AML	AML		
	comp=N,1490μm,0.4s						
CGRP				AML	AML		
	comp=E,1690μm,0.4s						
CGRP				AML	AML		
	comp=N,1470μm,0.9s						
ARSA	**Arzberg**	**1.87**	**26**	*e*Pn	**Pn**	**22 24 50.2**	**+1.3**
	comp=N,8.4nm,0.3s,SNR=49						
ARSA				*e*Sn	**Sn**	**22 25 12.4**	**+0.4**
	comp=N,40nm,0.3s						
ARSA	**Arzberg**	**1.87**	**26**	*e*Pn	**Pb**	**22 24 50.3**	**-1.1**
ARSA				*e*Pg	**Pg**	**22 24 53.2**	**-0.6**
ARSA				*e*Sn	**Sn**	**22 25 12.4**	**+0.4**
ARSA				*e*Sg	**Sg**	**22 25 16.5**	**-1.6**
ARSA	**Arzberg**	**1.87**	**26**	P	**Pn**	**22 24 50.2**	**+1.3**
ARSA				AML	AML		
	comp=N,188μm,0.6s						
ARSA				AML	AML		
	comp=E,237μm,0.6s						
ARSA				AML	AML		
	comp=N,188μm,1.4s						
TEOL	**Teolo**	**1.89**	**264**	P	**Pb**	**22 24 50.5**	**-1.2**
TEOL				AML	AML		
	comp=N,2895μm,0.4s						
TEOL				AML	AML		
	comp=N,2895μm,1.6s						
TEOL				AML	AML		
	comp=E,3025μm,0.6s						
BEHE	**Becsehely**	**1.93**	**61**	*e*Pn	**Pn**	**22 24 49.9**	**+0.3**
BEHE				*e*Sn	**Sn**	**22 25 13.8**	**+0.5**
CTI	**Castel Tesino**	**1.94**	**285**	P	**Pb**	**22 24 51.8**	**-0.8**
CTI				AML	AML		
	comp=E,1985μm,0.6s						
CTI				AML	AML		
	comp=N,2140μm,0.3s						
CTI				AML	AML		
	comp=N,2140μm,1.7s						
PESA	**Pesaro**	**1.95**	**214**	P	**Pb**	**22 24 52.2**	**-0.6**
PESA				AML	AML		
	comp=E,1685μm,0.3s						
PESA				AML	AML		
	comp=N,1260μm,0.6s						
MORI	**Morici**	**1.97**	**150**	*e*Pn	**Pb**	**22 24 52.6**	**-0.5**
SENI	**Senigallia**	**2.02**	**203**	P	**Pb**	**22 24 53.3**	**-0.8**
SENI				AML	AML		
	comp=E,2960μm,0.3s						
SENI				AML	AML		
	comp=N,2700μm,0.5s						
SENI				AML	AML		
	comp=E,730μm,1.6s						
SENI				AML	AML		
	comp=N,630μm,0.9s						
SENI				AML	AML		
	comp=E,730μm,0.4s						
SENI				AML	AML		
	comp=E,2960μm,0.3s						
ZIAN	**Ziano**	**2.06**	**291**	P	**Pb**	**22 24 53.9**	**-0.8**
ZIAN				AML	AML		
	comp=N,1425μm,0.4s						
ZIAN				AML	AML		
	comp=E,1475μm,0.4s						
ZIAN				AML	AML		
	comp=N,971μm,0.5s						
ZIAN				AML	AML		
	comp=E,918μm,0.5s						
BRES	**Bressanone**	**2.13**	**303**	P	**Pb**	**22 24 55.4**	**-0.6**
BRES				AML	AML		
	comp=E,1395μm,0.6s						
BRES				AML	AML		
	comp=N,1525μm,0.3s						
ZIRJ	**Zirje**	**2.13**	**154**	*e*Pn	**Pb**	**22 24 55.0**	**-0.9**
ZIRJ				Sn	**Sb**	**22 25 22.6**	**+0.6**
PANI	**Panarotta**	**2.15**	**284**	P	**Pb**	**22 24 54.8**	**-1.5**
PANI				AML	AML		
	comp=E,636μm,1.0s						
PANI				AML	AML		
	comp=N,1140μm,0.3s						
KIJV	**Kijevo**	**2.15**	**136**	*e*Pn	**Pb**	**22 24 55.0**	**-1.3**
KIJV				*e*Sn	**Sb**	**22 25 21.8**	**-0.8**
KIJV	**Kijevo**	**2.15**	**136**	*e*Pn	**Pb**	**22 24 55.7**	**-0.6**
BIOA	**Bad Ischl, Aus**	**2.17**	**348**	*e*Pn	**Pn**	**22 24 53.7**	**+0.6**
	comp=N,1.4nm,0.3s,SNR=47						
LESA	**Schwarzleotal**	**2.18**	**329**	*e*Pn	**Pn**	**22 24 54.7**	**+1.5**
	comp=N,5.1nm,0.2s,SNR=43						
LESA				Sn	**Sb**	**22 25 23.8**	**+0.4**
	comp=N,286nm,0.5s						
BLY	**Banja Luka**	**2.18**	**111⇑**	*i*Pn	**Pn**	**22 24 54.1**	**+1.0**
BLY				*e*Sn	**Sn**	**22 25 21.1**	**+1.5**
BLY	**Banja Luka**	**2.18**	**111**	P	**Pn**	**22 24 54.8**	**+1.6**
BLY				AML	AML		
	comp=E,696μm,0.5s						
BLY				AML	AML		
	comp=N,464μm,0.6s						
BLY				AML	AML		
	comp=N,454μm,0.5s						
BLY				AML	AML		
	comp=N,464μm,1.4s						
BLY				AML	AML		
	comp=N,454μm,1.5s						
BLY				AML	AML		
	comp=E,706μm,0.5s						
SERM	**Sermide**	**2.22**	**256**	AML	AML		
	comp=N,786μm,1.0s						
SERM				AML	AML		
	comp=E,849μm,0.4s						
SERM				AML	AML		
	comp=E,849μm,1.6s						
DOSS	**Dosso del Somm**	**2.22**	**279**	P	**Pb**	**22 24 55.8**	**-1.8**
DOSS				AML	AML		
	comp=E,1695μm,0.3s						
DOSS				AML	AML		
	comp=E,1460μm,0.4s						
DOSS				AML	AML		
	comp=N,1475μm,0.5s						
DOSS				AML	AML		
	comp=N,1590μm,0.3s						
MPAG	**Monte Paganucc**	**2.24**	**211**	P	**Pn**	**22 24 55.8**	**+1.7**
MPAG				AML	AML		
	comp=E,648μm,0.6s						
MPAG				AML	AML		
	comp=E,648μm,1.4s						
MPAG				AML	AML		
	comp=N,687μm,0.3s						
MOA	**Molln**	**2.28**	**359**	*e*Pn	**Pn**	**22 24 55.6**	**+1.1**
	comp=N,0.3nm,0.1s,SNR=23						
MOA				Sn	**Sb**	**22 25 25.4**	**-0.8**
	comp=N,21nm,0.2s						
MOA	**Molln**	**2.28**	**359**	*e*Pn	**Pb**	**22 24 56.9**	**-1.5**
MOA				*e*Sn	**Sn**	**22 25 22.3**	**+0.2**
PE3	**Peglio**	**2.29**	**216**	P	**Pb**	**22 24 56.8**	**-1.8**
PE3				AML	AML		
	comp=E,2200μm,0.5s						
PE3				AML	AML		
	comp=N,2810μm,0.4s						
PE3				AML	AML		
	comp=N,2815μm,0.4s						
PE3				AML	AML		
	comp=E,2200μm,1.5s						
ROVR	**Rover Verones**	**2.29**	**273**	P	**Pn**	**22 24 56.5**	**+1.7**
ROVR				AML	AML		
	comp=E,1042μm,1.0s						
ROVR				AML	AML		
	comp=N,2005μm,0.6s						
ROVR				AML	AML		
	comp=E,418μm,0.5s						
ROVR				AML	AML		
	comp=N,842μm,0.6s						
ROVR				AML	AML		
	comp=N,2005μm,1.4s						
ROVR				AML	AML		
	comp=N,842μm,1.4s						
BOSI	**Bolzano**	**2.29**	**295**	P	**Pb**	**22 24 57.6**	**-1.0**
APPI	**Appiano**	**2.34**	**294**	P	**Pb**	**22 24 57.8**	**-1.8**
APPI				AML	AML		
	comp=N,872μm,0.5s						
APPI				AML	AML		
	comp=E,765μm,0.3s						
FRON	**Frontone**	**2.35**	**210**	P	**Pn**	**22 24 57.3**	**+1.8**
FRON				AML	AML		
	comp=N,649μm,0.9s						
FRON				AML	AML		
	comp=E,547μm,0.5s						
LMD	**Lutirano**	**2.39**	**232**	P	**Pn**	**22 24 57.0**	**+1.0**
LMD				AML	AML		
	comp=N,462μm,0.6s						
LMD				AML	AML		
	comp=E,438μm,0.4s						
LUSI	**Trento, Gardas**	**2.40**	**280**	P	**Pn**	**22 24 58.0**	**+1.8**
LUSI				AML	AML		
	comp=E,708μm,0.5s						
LUSI				AML	AML		
	comp=N,1590μm,0.2s						
PIEI	**Pieia**	**2.41**	**213**	P	**Pn**	**22 24 57.9**	**+1.6**
PIEI				AML	AML		
	comp=E,859μm,1.0s						
PIEI				AML	AML		
	comp=N,426μm,0.3s						
EL6	**Elcito**	**2.41**	**202**	P	**Pn**	**22 24 58.0**	**+1.6**
EL6				AML	AML		
	comp=E,642μm,0.5s						
EL6				AML	AML		
	comp=N,648μm,0.4s						
EL6				AML	AML		
	comp=N,649μm,0.4s						
RJOB	**Jochberg**	**2.41**	**335**	*e*Pn	**Pb**	**22 24 59.5**	**-1.2**
GAGG	**Gaggia**	**2.41**	**283**	P	**Pn**	**22 24 58.5**	**+2.0**
GAGG				AML	AML		
	comp=E,830μm,0.4s						
GAGG				AML	AML		
	comp=N,887μm,1.0s						
GAGG				AML	AML		
	comp=N,854μm,0.4s						
GAGG				AML	AML		
	comp=E,916μm,1.0s						
VARA	**Varagna**	**2.42**	**277**	P	**Pn**	**22 24 58.7**	**+2.0**
VARA				AML	AML		
	comp=N,1635μm,0.7s						
VARA				AML	AML		
	comp=N,1545μm,0.8s						
VARA				AML	AML		
	comp=E,1600μm,0.3s						
VARA				AML	AML		
	comp=E,1485μm,0.7s						
SFI	**Santa Sofia**	**2.43**	**228**	P	**Pn**	**22 24 58.0**	**+1.3**
SFI				AML	AML		
	comp=E,448μm,0.9s						
SFI				AML	AML		
	comp=E,436μm,0.9s						
SFI				AML	AML		
	comp=N,524μm,0.7s						
SFI				AML	AML		
	comp=N,531μm,0.7s						
SFI				AML	AML		
	comp=E,448μm,0.9s						
OZOL	**Ozolo**	**2.43**	**291**	P	**Pb**	**22 24 59.0**	**-2.1**
OZOL				AML	AML		
	comp=E,2080μm,0.5s						
OZOL				AML	AML		
	comp=E,2345μm,0.6s						
OZOL				AML	AML		
	comp=N,2555μm,0.4s						
OZOL				AML	AML		
	comp=E,2080μm,1.5s						
OZOL				AML	AML		
	comp=E,2345μm,1.4s						
OZOL				AML	AML		
	comp=N,2705μm,0.4s						
APEC	**Apecchio**	**2.43**	**215**	P	**Pn**	**22 24 58.3**	**+1.7**
APEC				AML	AML		
	comp=E,960μm,0.5s						
APEC				AML	AML		
	comp=N,782μm,0.4s						
APEC				AML	AML		
	comp=E,960μm,1.5s						
PARC	**Parchiule**	**2.44**	**219**	AML	AML		
	comp=E,430μm,0.7s						
PARC				AML	AML		
	comp=N,336μm,0.4s						
ROSI	**Rosskopf**	**2.44**	**305**	P	**Pb**	**22 25 00.0**	**-1.2**
ROSI				AML	AML		
	comp=E,1453μm,1.2s						
ROSI				AML	AML		
	comp=E,1453μm,0.8s						
ROSI				AML	AML		
	comp=N,2545μm,0.4s						
MBAL	**Monte Baldo -**	**2.44**	**274**	P	**Pn**	**22 24 58.6**	**+1.8**
MBAL				AML	AML		
	comp=E,844μm,0.5s						
MBAL				AML	AML		
	comp=E,882μm,0.2s						
MBAL				AML	AML		
	comp=N,722μm,0.5s						
MBAL				AML	AML		
	comp=N,842μm,0.3s						
MBAL				AML	AML		
	comp=E,843μm,0.5s						
CAVE	**Cavezzo**	**2.46**	**254**	AML	AML		
	comp=N,806μm,0.3s						
CAVE				AML	AML		
	comp=E,774μm,0.9s						
BRIS	**BRISIGHELLA**	**2.46**	**236**	P	**Pn**	**22 24 55.9**	**-1.0**
BRIS				AML	AML		
	comp=N,646μm,0.5s						
BRIS				AML	AML		
	comp=E,679μm,0.5s						
BRIS				AML	AML		
	comp=E,660μm,0.5s						
BRIS				AML	AML		
	comp=N,676μm,0.7s						
BRIS				AML	AML		
	comp=N,646μm,1.5s						
WTTA	**Wattenberg**	**2.52**	**313**	*e*Pn	**Pn**	**22 24 59.5**	**+1.5**
	comp=N,12nm,0.3s,SNR=18						
WTTA				Sn	**Sb**	**22 25 34.6**	**+1.4**
	comp=N,98nm,0.4s						
WTTA	**Wattenberg**	**2.52**	**313**	*e*Pn	**Pb**	**22 25 01.3**	**-1.3**
WTTA	**Wattenberg**	**2.52**	**313**	P	**Pb**	**22 25 01.1**	**-1.4**
WTTA				AML	AML		
	comp=N,1097μm,0.6s						
WTTA				AML	AML		
	comp=E,876μm,0.7s						
WTTA				AML	AML		
	comp=N,1097μm,1.4s						
NDIM	**Novi di Modena**	**2.52**	**255**	AML	AML		
	comp=E,1244μm,0.6s						
NDIM				AML	AML		
	comp=E,1320μm,1.4s						
NDIM				AML	AML		
	comp=N,1184μm,0.5s						
NDIM				AML	AML		
	comp=E,1244μm,1.4s						
NDIM				AML	AML		
	comp=N,1213μm,1.5s						
NDIM				AML	AML		
	comp=E,1320μm,0.6s						
NDIM				AML	AML		
	comp=N,1213μm,0.5s						
RONA	**Rosalia, Austr**	**2.52**	**32**	*e*Pn	**Pn**	**22 24 59.4**	**+1.5**
	comp=N,2.4nm,0.2s,SNR=18						
RONA				*e*Sn	**Sn**	**22 25 28.9**	**+0.7**
	comp=N,17nm,0.2s						
ATPI	**Pietralunga -**	**2.53**	**214**	P	**Pn**	**22 24 59.6**	**+1.6**
ATPI				AML	AML		
	comp=E,494μm,1.6s						
ATPI				AML	AML		
	comp=N,482μm,0.5s						
ATPI				AML	AML		
	comp=E,494μm,0.4s						
ATPI				AML	AML		
	comp=E,449μm,0.6s						
ATPI				AML	AML		
	comp=N,451μm,0.6s						
ATPI				AML	AML		
	comp=E,494μm,0.4s						

ASQU	**Asqua**	**2.54 227**	P	**Pn**	**22 24 59.8 +1.7**
ASQU			AML	AML	
	comp=N,366μm,0.6s				
ASQU			AML	AML	
	comp=E,370μm,0.4s				
FOSV	**Fossato di Vic**	**2.54 207**	AML	AML	
	comp=N,322μm,0.5s				
FOSV			AML	AML	
	comp=E,412μm,0.5s				
FOSV			AML	AML	
	comp=N,322μm,1.5s				
BADI	**Badiali**	**2.55 217**	P	**Pn**	**22 25 00.3 +2.1**
BADI			AML	AML	
	comp=N,546μm,0.6s				
BADI			AML	AML	
	comp=N,546μm,1.4s				
BADI			AML	AML	
	comp=E,511μm,0.5s				
MNTT	**Montottone**	**2.56 192**	P	**Pn**	**22 25 00.6 +2.1**
MNTT			AML	AML	
	comp=N,1545μm,0.5s				
MNTT			AML	AML	
	comp=E,1115μm,0.5s				
CONA	**Conrad Observa**	**2.58 24**	*e*Pn	**Pn**	**22 25 00.4 +1.6**
	comp=E,4.8nm,0.2s,SNR=17				
CONA			Sn	**Sn**	**22 25 29.9 +0.3**
	comp=E,22nm,0.4s				
WATA	**Walderalm**	**2.60 314**	*e*Pn	**Pb**	**22 25 02.5 -1.4**
	comp=E,4.5nm,0.2s,SNR=16				
WATA			Sn	**Sb**	**22 25 36.3 +0.8**
	comp=E,52nm,0.2s				
MAGA	**Magasa**	**2.60 276**	P	**Pn**	**22 25 00.9 +1.8**
MAGA			AML	AML	
	comp=E,2215μm,0.5s				
MAGA			AML	AML	
	comp=N,1275μm,1.5s				
MAGA			AML	AML	
	comp=E,2215μm,1.5s				
CSP1	**Cessapalombo**	**2.61 198**	P	**Pn**	**22 25 00.3 +1.1**
CSP1			AML	AML	
	comp=E,435μm,1.5s				
CSP1			AML	AML	
	comp=N,623μm,0.5s				
CSP1			AML	AML	
	comp=E,435μm,0.5s				
SOP	**Sopron**	**2.61 35**	*e*Pn	**Pn**	**22 25 00.5 +1.5**
SOP			*e*Sn	**Sn**	**22 25 29.9 -0.4**
SOP			*e*Sg	**Sg**	**22 25 41.2 -0.5**
RONC	**Roncone**	**2.63 280**	P	**Pn**	**22 25 01.8 +2.3**
RONC			AML	AML	
	comp=E,1555μm,1.6s				
RONC			AML	AML	
	comp=N,906μm,0.6s				
RONC			AML	AML	
	comp=E,1215μm,0.7s				
RONC			AML	AML	
	comp=N,1395μm,0.9s				
RONC			AML	AML	
	comp=N,1395μm,1.1s				
RONC			AML	AML	
	comp=N,906μm,1.4s				
RONC			AML	AML	
	comp=E,1555μm,0.4s				
RONC			AML	AML	
	comp=E,1215μm,1.3s				
RUFI	**Rufina**	**2.66 230**	P	**Pn**	**22 25 01.4 +1.7**
RUFI			AML	AML	
	comp=N,201μm,0.5s				
RUFI			AML	AML	
	comp=E,195μm,0.5s				
MF5	**Montefalcone A**	**2.66 194**	P	**Pn**	**22 25 01.2 +1.4**
CARE	**Lago del Cares**	**2.67 290**	P	**Pn**	**22 25 02.8 +2.6**
CARE			AML	AML	
	comp=E,442μm,0.6s				
CARE			AML	AML	
	comp=N,522μm,0.5s				
CARE			AML	AML	
	comp=E,458μm,0.7s				
CARE			AML	AML	
	comp=N,572μm,0.4s				
CARE			AML	AML	
	comp=N,522μm,1.5s				
ZCCA	**Zocca**	**2.68 244**	P	**Pn**	**22 25 02.3 +2.3**
ZCCA			AML	AML	
	comp=N,160μm,1.4s				
ZCCA			AML	AML	
	comp=E,157μm,0.5s				
ZCCA			AML	AML	
	comp=N,160μm,0.6s				
ATCC	**AVT- Casa Cast**	**2.68 208**	P	**Pn**	**22 25 01.8 +1.8**
ATCC			AML	AML	
	comp=E,920μm,0.4s				
ATCC			AML	AML	
	comp=N,857μm,0.4s				
ATCC			AML	AML	
	comp=E,920μm,1.6s				
ATMI	**Monte Miggiano**	**2.68 214**	P	**Pb**	**22 25 03.3 -2.0**
ATMI			AML	AML	
	comp=E,495μm,0.7s				
ATMI			AML	AML	
	comp=N,624μm,0.4s				
ATMI			AML	AML	
	comp=E,495μm,1.3s				
FDMO	**Fiordimonte**	**2.69 200**	AML	AML	
	comp=E,258μm,0.6s				
FDMO			AML	AML	
	comp=N,204μm,0.6s				
MABI	**Malga Bissina**	**2.71 282**	P	**Pn**	**22 25 03.2 +2.6**
MABI			AML	AML	
	comp=N,321μm,0.6s				
MABI			AML	AML	
	comp=E,258μm,0.6s				
SQTA	**Sankt Quirin**	**2.72 308**	*e*Pn	**Pb**	**22 25 04.8 -1.1**
	comp=E,2.0nm,0.1s,SNR=29				
SQTA			Sn	**Sb**	**22 25 38.2 -0.8**
	comp=E,29nm,0.1s				
MOTA	**Moosalm**	**2.85 310**	*e*Pn	**Pb**	**22 25 06.3 -2.0**
	comp=E,3.4nm,0.2s,SNR=16				
MOTA			*e*Sn	**Sb**	**22 25 41.5 -1.3**
	comp=E,50nm,0.3s				
NRCA	**Norcia**	**2.88 198**	P	**Pn**	**22 25 04.0 +1.2**
NRCA			AML	AML	
	comp=E,236μm,0.6s				
NRCA			AML	AML	
	comp=N,220μm,0.6s				
NRCA			AML	AML	
	comp=N,220μm,1.4s				
RICI	**Ricice**	**2.89 135**	*e*Pn	**Pb**	**22 25 06.0 -2.8**
FETA	**Feichten**	**2.89 301**	*e*Pn	**Pb**	**22 25 06.4 -2.5**
	comp=N,1.0nm,0.1s,SNR=21				
FETA			Sn	**Sb**	**22 25 42.2 -1.6**
	comp=N,15nm,0.3s				
BRMO	**Bormio**	**2.90 290**	P	**Pb**	**22 25 06.8 -2.4**
GSCL	**Gusciola**	**2.92 247**	AML	AML	
	comp=N,143μm,1.4s				
GSCL			AML	AML	
	comp=N,143μm,0.6s				
GSCL			AML	AML	
	comp=E,140μm,0.6s				
ZONE	**Zone**	**2.96 275**	P	**Pn**	**22 25 05.8 +1.9**
ZONE			AML	AML	
	comp=E,426μm,0.4s				
ZONE			AML	AML	
	comp=N,520μm,0.3s				
MAKA	**Makarska**	**2.99 139**	*e*Pn	**Pn**	**22 25 06.8 +2.6**
OSSC	**Osservatorio P**	**3.01 228**	P	**Pn**	**22 25 05.9 +1.3**
OSSC			AML	AML	
	comp=E,204μm,0.8s				
OSSC			AML	AML	
	comp=E,204μm,1.2s				
OSSC			AML	AML	
	comp=N,206μm,0.6s				
SMA1	**SAN MARTINO**	**3.03 194**	P	**Pn**	**22 25 06.3 +1.4**
SMA1			AML	AML	
	comp=E,344μm,1.2s				
SMA1			AML	AML	
	comp=N,285μm,0.6s				
SMA1			AML	AML	
	comp=E,344μm,0.8s				
BDI	**Bagni Di Lucca**	**3.06 242**	P	**Pn**	**22 25 07.0 +1.8**
BDI			AML	AML	
	comp=N,171μm,1.2s				
BDI			AML	AML	
	comp=N,171μm,0.8s				
BDI			AML	AML	
	comp=E,143μm,1.0s				
BERNI	**Berninapass**	**3.12 287**	P	**Pb**	**22 25 10.1 -2.8**
RETA	**Reutte**	**3.12 309**	*i* Pn	**Pn**	**22 25 09.4 +3.3**
	comp=E,0.9nm,0.1s				
RETA			*e*Sn	**Sb**	**22 25 48.0 -2.4**
	comp=E,52nm,0.3s				
CARD	**Cardoso**	**3.15 242**	P	**Pn**	**22 25 08.0 +1.5**
CARD			AML	AML	
	comp=E,173μm,0.5s				
CARD			AML	AML	
	comp=N,148μm,0.6s				
ARRO	**Arrone**	**3.20 201**	AML	AML	
	comp=E,120μm,0.7s				
ARRO			AML	AML	
	comp=N,140μm,1.0s				
ARRO			AML	AML	
	comp=N,140μm,1.0s				
GRAM	**Graiana**	**3.21 252**	AML	AML	
	comp=E,334μm,0.5s				
GRAM			AML	AML	
	comp=N,287μm,1.2s				
ZST	**Bratislava**	**3.24 35**	*e*SG	**Sg**	**22 26 02.4 +0.5**
ZST	**Bratislava**	**3.24 35**	*e*PN	**Pn**	**22 25 09.2 +1.5**
ZST	**Bratislava**	**3.24 35**	*e*PG	**Pg**	**22 25 19.4 -0.5**
ZST	**Bratislava**	**3.24 35**	*e*SN	**Sn**	**22 25 44.5 -1.2**
MDI	**Monti di Nese**	**3.25 275**	P	**Pn**	**22 25 09.6 +1.7**
MDI			AML	AML	
	comp=E,703μm,1.6s				
MDI			AML	AML	
	comp=N,282μm,1.0s				
MDI			AML	AML	
	comp=E,262μm,0.6s				
MDI			AML	AML	
	comp=E,262μm,1.4s				
MDI			AML	AML	
	comp=E,703μm,0.4s				
MDI			AML	AML	
	comp=N,282μm,1.0s				
MDI			AML	AML	
	comp=N,228μm,0.4s				
CKRC	**Cesky Krumlov**	**3.25 360**	*e*PN	**Pn**	**22 25 09.4 +1.5**
AQU	**L'Aquila**	**3.29 192**	*e*Pn	**Pn**	**22 25 10.6 +2.2**
AQU			*e*Sn	**Sn**	**22 25 49.6 +2.6**
PII	**Pisa**	**3.29 237**	P	**Pn**	**22 25 09.0 +0.7**
PII			AML	AML	
	comp=E,188μm,0.6s				
PII			AML	AML	
	comp=N,234μm,0.4s				
PII			AML	AML	
	comp=N,234μm,1.6s				
GEC2	**GERESS Array S**	**3.30 353**	*e*Pn	**Pn**	**22 25 10.5 +1.9**
GEC2			*e*Sn	**Sn**	**22 25 47.0 -0.4**
GEC2			*e*Sg	**Sg**	**22 26 03.0 -0.9**
FUR	**Furstenfeldbru**	**3.33 322**	*e*Pn	**Pn**	**22 25 12.7 +3.6**
FUR			*e*Pg	**Pg**	**22 25 22.1 +0.4**
FUR			*e*Sg	**Sg**	**22 26 05.4 +0.4**
LSTV	**Lastovo**	**3.35 146**	*e*Pn	**Pn**	**22 25 11.1 +1.8**
LSTV			Sn	**Sn**	**22 25 51.5 +3.0**
MODS	**Modra-Piesok**	**3.45 35**	*e*SG	**Sg**	**22 26 09.9 +1.2**
MODS	**Modra-Piesok**	**3.45 35**	*e*PN	**Pn**	**22 25 11.6 +1.0**
MODS	**Modra-Piesok**	**3.45 35**	*e*PG	**Pg**	**22 25 24.0 0.0**
MODS	**Modra-Piesok**	**3.45 35**	*e*SN	**Sn**	**22 25 49.6 -1.4**
DAVA	**Damuels**	**3.52 301**	*i* Pn	**Pn**	**22 25 15.0 +3.2**
	comp=N,0.9nm,0.1s				
DAVA			*e*Sn	**Sn**	**22 25 57.0 +4.0**
	comp=N,75nm,0.4s				
DAVA	**Damuels**	**3.52 301**	*e*Pn	**Pn**	**22 25 15.2 +3.4**
DAVA			*e*Sn	**Sn**	**22 25 53.7 +0.7**
SRO	**Srobarova**	**3.54 49**	*e*PN	**Pn**	**22 25 13.7 +1.9**
SRO			*e*PG	**Pg**	**22 25 27.4 +1.7**
SRO			*e*SN	**Sn**	**22 25 54.7 +1.6**
SRO			*e*SG	**Sg**	**22 26 16.0 +4.5**
TUE	**Stuetta**	**3.59 286**	P	**Pn**	**22 25 16.5 +3.8**
UBR	**Ueberruh**	**3.59 307**	*e*Pn	**Pn**	**22 25 15.5 +2.9**
UBR			*e*Sn	**Sn**	**22 25 54.8 +0.2**
KHC	**Kasperske Hory**	**3.60 352**	*e*PN	**Pn**	**22 25 15.0 +2.3**
KHC			*e*PG	**Pb**	**22 25 23.0 +2.1**
KHC			*e*SN	**Sn**	**22 25 57.1 +2.5**
KHC			*e*SG	**Sg**	**22 26 12.5 -0.8**
STON	**Ston**	**3.63 137**	*e*Pn	**Pn**	**22 25 14.7 +1.7**
STON			*e*Sn	**Sn**	**22 25 57.1 +1.8**
STON	**Ston**	**3.63 137**	AML	AML	
	comp=N,169μm,0.4s				
STON			AML	AML	
	comp=E,230μm,1.1s				
MSSA	**Maissana**	**3.64 252**	P	**Pn**	**22 25 14.9 +1.6**
MSSA			AML	AML	
	comp=N,108μm,0.6s				
MSSA			AML	AML	
	comp=E,120μm,0.4s				
GORR	**Gorreto**	**3.70 257**	AML	AML	
	comp=E,151μm,0.5s				
GORR			AML	AML	
	comp=N,118μm,1.6s				
GORR			AML	AML	
	comp=N,118μm,0.4s				
WET	**Wettzell**	**3.71 345**	*e*Pn	**Pn**	**22 25 15.9 +1.8**
WET			*e*Sn	**Sn**	**22 25 56.8 -0.6**
MUGIO	**Muggio**	**3.72 277**	P	**Pn**	**22 25 16.0 +1.6**
CASP	**Castiglione de**	**3.73 223**	P	**Pn**	**22 25 14.1 -0.5**
CASP			AML	AML	
	comp=E,44μm,0.3s				
CASP			AML	AML	
	comp=N,64μm,0.8s				
CASP			AML	AML	
	comp=N,64μm,1.2s				
CASP			AML	AML	
	comp=E,44μm,1.7s				
PLONS	**Plons/SG**	**3.73 295**	*e*Pn	**Pn**	**22 25 18.1 +3.5**
PLONS			*e*Sn	**Sn**	**22 25 58.9 +0.8**
KRUC	**Moravsky**	**3.76 21**	*e*SN	**Sn**	**22 25 58.9 +0.3**
KRUC	**Moravsky**	**3.76 21**	*e*PN	**Pn**	**22 25 16.1 +1.2**
KRUC	**Moravsky**	**3.76 21**	*e*PG	**Pb**	**22 25 26.8 +3.1**
TREC	**Trest**	**3.81 11**	*e*PN	**Pn**	**22 25 16.9 +1.4**
ZVC	**Zvikov**	**3.87 359**	*e*PN	**Pn**	**22 25 19.1 +2.7**
ZVC			*e*SN	**Sn**	**22 26 01.7 +0.4**
KLINJ	**Klinje**	**3.88 127**	*e*Pn	**Pn**	**22 25 18.3 +1.7**
KLINJ			*e*Sn	**Sn**	**22 26 03.1 +1.3**
VARE	**Varese**	**3.91 276**	P	**Pn**	**22 25 18.9 +2.0**
VARE			AML	AML	
	comp=E,160μm,1.2s				
VARE			AML	AML	
	comp=N,261μm,0.2s				
VARE			AML	AML	
	comp=E,160μm,0.8s				
RNCA	**Ronca, Sant'OI**	**3.97 256**	P	**Pn**	**22 25 19.9 +2.1**
DBRK	**Dubrovnik**	**4.00 135**	*e*Pn	**Pn**	**22 25 20.3 +2.2**
JAVC	**Velka Javorina**	**4.00 33**	*e*PN	**Pn**	**22 25 20.0 +1.8**
BRY	**Bratogost**	**4.03 130**	⇓*i*Pn	**Pn**	**22 25 19.9 +1.1**
BRY			*i* Sn	**Sn**	**22 26 06.8 +1.3**
VRAC	**Vranov**	**4.04 22**	*e*SN	**Sn**	**22 26 05.4 -0.1**
VRAC	**Vranov**	**4.04 22**	*e*PN	**Pn**	**22 25 19.9 +1.2**
FUSIO	**Fusio**	**4.05 285**	AML	AML	
	comp=N,87μm,0.5s				
FUSIO			AML	AML	
	comp=E,99μm,0.5s				
TREB	**Trebinje**	**4.06 133**	*e*Pn	**Pn**	**22 25 20.5 +1.5**
TREB			*e*Sn	**Sn**	**22 26 07.8 +1.7**
RUDO	**Rudo**	**4.09 117**	*e*Pn	**Pn**	**22 25 20.3 +0.8**
RUDO			*e*Sn	**Sn**	**22 26 07.6 +0.7**
WILA	**Wila**	**4.17 298**	*e*Pn	**Pn**	**22 25 24.0 +3.4**
WILA			*e*Sn	**Sn**	**22 26 09.8 +0.8**
PCP	**Piancastagn**	**4.23 258**	P	**Pn**	**22 25 23.4 +2.0**
PCP			AML	AML	
	comp=N,62μm,0.3s				
PCP			AML	AML	
	comp=E,56μm,0.5s				
ROTM	**Rocchetta Tana**	**4.29 262**	AML	AML	
	comp=N,326μm,0.5s				
ROTM			AML	AML	
	comp=E,222μm,1.6s				
ROTM			AML	AML	
	comp=N,326μm,1.5s				
HCY	**Herceg Novi**	**4.33 135**	*e*Pn	**Pn**	**22 25 24.6 +1.9**
HCY			*i* Sn	**Sn**	**22 26 14.5 +1.8**
NKME	**Niksic**	**4.35 129**	⇑*i*Pn	**Pn**	**22 25 25.1 +2.1**
NKME			*e*Sn	**Sn**	**22 26 14.8 +1.6**
PRU	**Pruhonice**	**4.42 2**	*e*PN	**Pn**	**22 25 25.0 +1.1**
ROTZ	**Rotzenmuhle**	**4.43 342**	*e*Pn	**Pn**	**22 25 25.6 +1.5**
ROTZ			*e*Sn	**Sn**	**22 26 12.9 -2.3**
MAUC	**Maruska**	**4.47 31**	*e*SN	**Sn**	**22 26 15.5 -0.7**
CEME	**Cevo**	**4.48 131**	⇓*i*Pn	**Pn**	**22 25 26.8 +2.0**
CEME			*e*Sn	**Sn**	**22 26 18.2 +1.8**
PSZ	**Piszkesteto**	**4.49 56**	*e*Pn	**Pn**	**22 25 27.3 +2.4**
PSZ			*e*Sn	**Sn**	**22 26 15.1 -1.4**
CANO	**Canova, Maglio**	**4.54 255**	P	**Pn**	**22 25 26.4 +0.8**
PAOL	**Paolisi**	**4.54 178**	AML	AML	
	comp=E,36μm,0.3s				
PAOL			AML	AML	
	comp=N,45μm,0.8s				
MONC	**Moncucco Torin**	**4.54 266**	P	**Pn**	**22 25 27.8 +2.1**
MONC			AML	AML	
	comp=N,143μm,1.5s				
MONC			AML	AML	
	comp=N,143μm,0.5s				
MONC			AML	AML	
	comp=E,126μm,1.2s				
SLE	**Schleitheim**	**4.58 301**	*e*Pn	**Pn**	**22 25 28.1 +2.0**
SLE			*e*Sn	**Sn**	**22 26 17.7 -1.1**
KOME	**Kolasin**	**4.61 124**	⇑*i*Pn	**Pn**	**22 25 28.0 +1.3**
KOME			*e*Sn	**Sn**	**22 26 21.4 +1.6**
GRF	**Grafenberg Arr**	**4.63 334**	*e*Pn	**Pn**	**22 25 28.8 +2.1**
BUM	**Brajici-Budva**	**4.64 133**	⇓*i*Pn	**Pn**	**22 25 28.9 +1.9**
BUM			*i* Sn	**Sn**	**22 26 21.7 +1.3**
MANZ	**Manzenberg**	**4.66 342**	*e*Pn	**Pn**	**22 25 28.6 +1.3**
MANZ			*e*Sn	**Sn**	**22 26 19.5 -1.4**
SULZ	**Cheisacher**	**4.71 297**	*e*Sn	**Sn**	**22 26 21.6 -0.6**
MORC	**Moravsky Berou**	**4.73 26**	*e*PN	**Pn**	**22 25 29.8 +1.5**
PDG	**Podgorica**	**4.74 130**	⇓*i*Pn	**Pn**	**22 25 30.2 +1.9**
PDG			*i* Sn	**Sn**	**22 26 24.3 +1.6**
KRLC	**Kraliky**	**4.80 19**	*e*PN	**Pn**	**22 25 31.3 +2.1**
KRLC			*e*SN	**Sn**	**22 26 24.6 +0.4**
IVA	**Berane**	**4.82 122**	⇑*i*Pn	**Pn**	**22 25 31.3 +1.7**
IVA			*i* Sn	**Sn**	**22 26 26.3 +1.4**
DRME	**Dracevica, Mon**	**4.87 132**	⇓*i*Pn	**Pn**	**22 25 32.6 +2.4**
DRME			*e*Sn	**Sn**	**22 26 27.8 +1.7**
PGF	**Pioggiola**	**4.89 234**	*e*Pn	**Pn**	**22 25 34.9 +4.4**
PGF			*e*Sn	**Sn**	**22 26 26.3 -0.3**
	comp=E,12nm,0.5s				
BALST	**Balsthal**	**4.91 293**	*e*Pn	**Pn**	**22 25 33.0 +2.2**
BFO	**Black Forest**	**4.95 306**	*e*Pn	**Pn**	**22 25 33.1 +1.8**
PVCC	**Panska Ves**	**4.96 2**	*e*PN	**Pn**	**22 25 32.0 +0.7**
DPC	**Dobruska-Polom**	**4.96 15**	*e*PN	**Pn**	**22 25 33.1 +1.7**
RICC	**Richard**	**4.98 358**	*e*PN	**Pn**	**22 25 32.4 +0.8**
LANS	**Liptovska Anna**	**5.00 42**	*e*SN	**Sn**	**22 26 30.5 +1.3**
LANS	**Liptovska Anna**	**5.00 42**	*e*PN	**Pn**	**22 25 33.3 +1.4**
LANS	**Liptovska Anna**	**5.00 42**	*e*PG	Pg	22 26 01.7 +8.2
TANN	**Tannenbergstha**	**5.00 346**	*e*Pn	**Pn**	**22 25 33.3 +1.3**
UPC	**Upice**	**5.07 12**	*e*PN	**Pn**	**22 25 34.3 +1.5**
ULC	**Ulcinj**	**5.07 134**	⇑*i*Pn	**Pn**	**22 25 34.5 +1.7**
ULC			*i* Sn	**Sn**	**22 26 32.0 +1.2**
PLN	**Plauen**	**5.13 344**	*e*Pn	**Pn**	**22 25 35.7 +2.1**
OSTC	**Ostas**	**5.14 14**	*e*PN	**Pn**	**22 25 35.0 +1.1**
CHVC	**Chvalec**	**5.15 12**	*e*PN	**Pn**	**22 25 35.3 +1.3**
SBF	**Sospel**	**5.20 253**	*e*Pn	**Pn**	**22 25 35.7 +0.9**
SBF			*e*Sn	**Sn**	**22 26 32.1 -2.2**
	comp=E,39nm,0.5s				
BRG	**Berggiesshubel**	**5.31 357**	*e*Pn	**Pn**	**22 25 36.8 +0.8**
BRG	**Berggiesshubel**	**5.31 357**	Amp		22 27 20.6
	comp=Z,13nm,0.6s				
BRG	**Berggiesshubel**	**5.31 357**	Pn	**Pn**	**22 25 36.9 +0.8**
BRG	**Berggiesshubel**	**5.31 357**	Pg	**Pg**	**22 25 59.2 -0.3**
BRG	**Berggiesshubel**	**5.31 357**	Sn	**Sn**	**22 26 39.6 +2.8**
BRG	**Berggiesshubel**	**5.31 357**	Sg	**Sg**	**22 27 07.8 -0.4**
LPG	**La Plagne**	**5.33 272**	*e*Pn	**Pn**	**22 25 40.0 +3.4**
LPG			*e*Sn	**Sn**	**22 26 37.5 -0.1**
	comp=Z,15nm,0.4s				
LPL	**La Plagne**	**5.34 272**	*e*Pn	**Pn**	**22 25 38.8 +2.0**
LPL			*e*Sn	**Sn**	**22 26 37.8 0.0**
	comp=Z,17nm,0.5s				
MOX	**Moxa**	**5.39 341**	*e*Pn	**Pn**	**22 25 38.4 +1.2**
MBDF	**Montbardon**	**5.41 264**	*e*Pn	**Pn**	**22 25 38.0 +0.3**
MBDF			*e*Sn	**Sn**	**22 26 38.0 -1.6**
	comp=Z,11nm,0.3s				
CDF	**Champ du Feu**	**5.60 303**	*e*Pn	**Pn**	**22 25 41.8 +1.6**
CDF			*e*Sn	**Sn**	**22 26 42.7 -1.4**
	comp=Z,15nm,0.3s				
CDF			*e*Sg	**Sg**	**22 27 16.8 -0.7**
	comp=Z,9.2nm,0.4s				
HINF	**Hinteralfeld**	**5.61 296**	*e*Pn	**Pn**	**22 25 42.2 +1.9**
HINF			*e*Sn	**Sn**	**22 26 42.9 -1.4**
	comp=Z,42nm,0.4s				
CLL	**Collm**	**5.81 352**	*e*Pn	**Pn**	**22 25 44.4 +1.5**
CLL	**Collm**	**5.81 352**	*e*Pn	**Pn**	**22 25 44.0 +1.1**
CLL			*e*Pg	**Pg**	**22 26 09.0 0.0**
CLL			*e*Sn	Sn	22 26 38.0 -11
CLL			*e*Sg	**Sg**	**22 27 22.0 -2.1**
	comp=Z,32nm,0.8s				
CABF	**La Chapelle**	**5.83 283**	*e*Pn	**Pn**	**22 25 46.2 +2.9**
CABF	**La Chapelle**	**5.83 283**	*e*Pg	**Pg**	**22 26 08.4 -1.0**
CABF			*e*Sn	**Sn**	**22 26 49.5 -0.2**
	comp=Z,3.1nm,0.3s				
CABF			*e*Sg	**Sg**	**22 27 21.3 -3.5**
HAU	**Haudompre**	**6.00 297**	*e*Pn	**Pn**	**22 25 47.7 +2.1**
HAU			*e*Sn	**Sn**	**22 26 50.7 -3.1**
	comp=Z,25nm,0.4s				
HAU			*e*Sg	**Sg**	**22 27 28.7 -1.5**
	comp=Z,6.7nm,0.3s				
ORIF	**Oris-en-Rattie**	**6.00 267**	*e*Pn	**Pn**	**22 25 48.2 +2.4**
ORIF			*e*Sn	**Sn**	**22 26 52.3 -1.7**
	comp=Z,24nm,0.5s				
LMR	**La Mourre**	**6.03 251**	*e*Pn	**Pn**	**22 25 46.1 +0.1**
LMR			*e*Sn	**Sn**	**22 26 50.6 -3.9**
	comp=Z,6.0nm,0.2s				
TNS	**Taunus Mts**	**6.11 322**	*e*Pn	**Pn**	**22 25 49.1 +2.0**
KOLS	**Kolonicke sedl**	**6.37 55**	*e*SN	Sn	22 26 39.9 -23
KOLS	**Kolonicke sedl**	**6.37 55**	*e*PN	Pn	22 25 44.1 -6.5
SMRF	**Simiane la Rot**	**6.43 259**	*e*Pn	**Pn**	**22 25 53.0 +1.4**
SMRF			*e*Sn	**Sn**	**22 27 07.8 +3.2**
	comp=Z,3.8nm,0.3s				
PAGF	**Fort de Pagny**	**6.59 300**	*e*Pn	Pn	22 26 02.2 +8.5
PAGF			*e*Sn	**Sn**	**22 27 07.5 -0.8**
	comp=Z,12nm,0.4s				
VIVF	**Saint-Julien-l**	**6.86 267**	*e*Pn	**Pn**	**22 25 58.1 +0.6**
VIVF			*e*Sn	**Sn**	**22 27 13.5 -1.5**
	comp=Z,2.6nm,0.3s				
SFTF	**Sexfontaines**	**6.89 296**	*e*Pn	Pn	22 26 06.3 +8.4
MEZF	**Maizieres J'vi**	**6.99 298**	*e*Pn	**Pn**	**22 26 00.8 +1.7**
MEZF			*e*Sn	**Sn**	**22 27 16.6 -1.4**
	comp=Z,4.2nm,0.3s				
SMF	**Signal de Mont**	**7.37 282**	*e*Pn	**Pn**	**22 26 06.4 +1.9**
SMF			*e*Sn	**Sn**	**22 27 25.2 -2.3**
	comp=Z,14nm,0.4s				
LOR	**Lormes**	**7.43 287**	*e*Pn	**Pn**	**22 26 07.7 +2.4**
LOR			*e*Sn	**Sn**	**22 27 26.3 -2.8**
	comp=Z,6.8nm,0.3s				
LASF	**Ste Croix**	**7.60 262**	*e*Pn	**Pn**	**22 26 07.9 +0.3**
LASF			*e*Sn	**Sn**	**22 27 30.0 -3.1**
	comp=Z,5.1nm,0.5s				
SSF	**Saint Saulge**	**7.64 285**	*e*Pn	**Pn**	**22 26 10.1 +1.9**
SSF			*e*Sn	**Sn**	**22 27 27.6 -6.6**
	comp=Z,3.6nm,0.4s				
RCHB	**Rochefort**	**7.65 310**	*d*P	**Pn**	**22 26 11.2 +3.0**
AVF	**Avril sur Loir**	**7.72 283**	*e*Pn	**Pn**	**22 26 11.3 +2.1**
GIVF	**Givet**	**7.84 309**	*e*Sn	**Sn**	**22 27 37.2 -1.8**
	comp=Z,7.1nm,0.3s				
BGF	**Bois d'Agland**	**8.05 281**	*e*Pn	**Pn**	**22 26 15.8 +2.0**
BGF			*e*Sn	**Sn**	**22 27 40.9 -3.3**
	comp=Z,5.9nm,0.3s				
BAIF	**Baives**	**8.16 307**	*e*Pn	**Pn**	**22 26 18.5 +3.3**
BAIF			*e*Sn	**Sn**	**22 27 42.9 -3.9**
	comp=Z,1.8nm,0.3s				
HYF	**Humbligny**	**8.26 286**	*e*Pn	**Pn**	**22 26 19.8 +3.2**
HYF			*e*Sn	**Sn**	**22 27 49.2 -0.1**
	comp=Z,33nm,0.3s				
TCF	**Toulx Ste Croi**	**8.48 279**	*e*Pn	**Pn**	**22 26 21.6 +1.9**
TCF			*e*Sn	**Sn**	**22 27 52.7 -2.2**
	comp=Z,4.1nm,0.4s				
CAF	**Calviac**	**8.68 270**	*e*Pn	**Pn**	**22 26 23.9 +1.5**
RJF	**Les Rejaudoux**	**9.02 273**	*e*Pn	**Pn**	**22 26 28.9 +1.9**
LFF	**La Frestale**	**9.61 271**	*e*Pn	**Pn**	**22 26 35.5 +0.4**
MFF	**Saint Martin d**	**10.11 281**	*e*Pn	**Pn**	**22 26 44.1 +2.1**
MFF			*e*Sn	**Sn**	**22 28 31.4 -3.5**
	comp=Z,0.7nm,0.3s				

*IDC **01** 22:25:06.8±0.4, 22°.57S×10°.69W, h0km, mb4.9/30, mbtmp4.9/30, MS4.6/55, Error ellipse: s-maj=14.1km s-min=10.0km az=130.0*

*MOS **01** 22:25:06.2±0.9, 22°.57S×10°.73W, h10km, mb5.5/66, MS4.8/11, Error ellipse: s-maj=9.9km s-min=5.3km az=61.6*

*NEIC **01** 22:25:08.3, 22°.59S×10°.53W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.72; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$-0.19

δ69.33000°, λ91.72000°. Principal axes: T 1.0816, Plg66.0000°, Azm156.0000°; N -0.0344, Plg2.0000°, Azm63.0000°; P -1.0472, Plg24.0000°, Azm332.0000°;
NEIC **01** 22:25:08.3, 22.59S×10.64W, h12km
NEIC **01** 22:25:08.3±1.2, 22.59S±0.09×10.64W±0.09, h10km±1km, mb5.4/189, Mww5.3/15, Error ellipse: s-maj=15.3km s-min=13.4km az=138.0
GCMT **01** 22:25:12.3±0.1, 22.72S±0.01×10.82W±0.01, h12km, MW5.3/154, Moment Tensor Solution. s84, c123; s154, c262; Duration: 1ꝑ1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.93±.01; $M_{\theta\theta}$=0.67±.01; $M_{\phi\phi}$=-0.26±.01; $M_{r\theta}$=0.42±.04; $M_{\theta\phi}$=-0.39±.01; $M_{\phi r}$=-0.28±.04; Best double couple: M_0=1.04500×10^{17} NP1:ϕ_s=60.00000°, δ31.00000°, λ92.00000°. NP2:ϕ_s=237.00000°, δ59.00000°, λ89.00000°. Principal axes: T 1.0570, Plg76.0000°, Azm144.0000°; N -0.0250, Plg1.0000°, Azm238.0000°; P -1.0330, Plg14.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 01 22:25:08.3±0.5, 22.55S±0.04×10.72W±0.05, h12km±2km, h12km:pP-P, n739, σ1ꝑ32/738, mb5.3/224, MS4.7/76, 34C-32D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**8.06**	**36**		**Pn**	**22 27 03.9**	**-1.5**
SHEL	**Horse Pasture**	**8.06**	**36**	P	**Pn**	**22 27 03.9**	**-1.5**
H10S2	**ASCENSION HYDR**	**14.03**	**344**	T	T	22 42 55.1	
	baz=56,slow=74,SNR=193						
H10S3	**ASCENSION HYDR**	**14.04**	**344**	T	T	22 42 43.5	
	baz=164,slow=74,SNR=195						
ASCN	**Ascension**	**14.95**	**346**	Pn	**Pn**	**22 28 37.6**	**-2.1**
ASCN				IAmb	IAmb	22 28 45.6	
	comp=Z,206nm,1.2s						
H10N1	**ASCENSION HYDR**	**15.06**	**346**	T	T	22 44 08.8	
	baz=24,slow=72,SNR=3.9						
H10N3	**ASCENSION HYDR**	**15.07**	**345**	T	T	22 44 02.7	
	baz=24,slow=72,SNR=8.3						
H10N2	**ASCENSION HYDR**	**15.08**	**345**	T	T	22 44 08.5	
	baz=24,slow=72,SNR=4.6						
WIN	**Windhoek**	**25.67**	**95**		**P**	**22 30 36.8**	**-1.8**
WIN				IAmb	IAmb	22 30 39.0	
	comp=Z,55nm,0.9s						
WIN	**Windhoek**	**25.67**	**95**	P	**P**	**22 30 36.8**	**-1.8**
WIN				pmax	pmax		
	comp=Z,55nm,0.9s						
TSUM	**Tsumeb**	**26.63**	**88**		**P**	**22 30 45.8**	**-1.4**
TSUM	**Tsumeb**	**26.63**	**88**	LR	LR	22 39 25.7	
	comp=Z,1μm,20.2s,baz=264,slow=32						
TSUM	**Tsumeb**	**26.63**	**88**	*i* P	**P**	**22 30 46.6**	**-0.6**
NBAN	**Anadia - AL**	**27.64**	**293**	*e*P	**P**	**22 30 55.2**	**-1.0**
RIB01	**Linhares ES**	**27.89**	**271**	*e*P	**P**	**22 30 58.7**	**+0.3**
GUA01	**Guaratinga, BA**	**28.02**	**277**	*e*P	**P**	**22 30 59.4**	**-0.1**
CMC01	**Camacan, BA**	**28.13**	**280**	*e*P	**P**	**22 31 01.4**	**+0.8**
KOOLE	**Kule**	**28.48**	**97**	P	**P**	**22 31 02.0**	**-1.7**
KOOLE	**Kule**	**28.48**	**97**	*i* P	**P**	**22 31 03.2**	**-0.6**
CAM01	**Campos-RJ**	**28.64**	**265**	*e*P	**P**	**22 31 05.5**	**+0.5**
SJMB	**Sao Joao De Ma**	**28.75**	**272**	*e*P	**P**	**22 31 06.5**	**+0.5**
DUB01	**Friburgo-RJ**	**29.27**	**265**	*e*P	**P**	**22 31 11.1**	**+0.5**
RCBR	**Riachuelo**	**29.45**	**301**	P	**P**	**22 31 13.1**	**+0.7**
RCBR	**Riachuelo**	**29.45**	**301**	LR	LR	22 39 49.9	
	comp=Z,998nm,21.7s,baz=122,slow=30						
RCBR	**Riachuelo**	**29.45**	**301**	P	**P**	**22 31 13.1**	**+0.7**
RCBR				pmax	pmax		
	comp=Z,28nm,1.2s						
RCBR	**Riachuelo**	**29.45**	**301**	*e*P	**P**	**22 31 14.6**	**+2.2**
SUR	**Sutherland**	**29.54**	**116**	P	**P**	**22 31 13.0**	**-0.2**
SUR				IAmb	IAmb	22 31 55.2	
	comp=Z,92nm,1.6s						
SUR	**Sutherland**	**29.54**	**116**	P	**P**	**22 31 13.7**	**+0.5**
DBIC	**Dimbokro**	**29.60**	**12**	P	**P**	**22 31 13.3**	**-0.2**
DBIC	**Dimbokro**	**29.60**	**12**	P	**P**	**22 31 13.5**	**-0.1**
	comp=Z,20nm,0.7s,baz=208,slow=9.1,SNR=16						
DBIC				LR	LR	22 40 02.3	
	comp=Z,1μm,20.4s,baz=207,slow=30						
	comp=Z,20nm,0.7s						
DBIC	**Dimbokro**	**29.60**	**12**	P	**P**	**22 31 13.4**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,25nm,0.8s						
GRTLG	**Ghanzi**	**29.61**	**94**		**P**	**22 31 12.5**	**-1.3**
GRTLG	**Ghanzi**	**29.61**	**94**	*i* P	**P**	**22 31 13.0**	**-0.9**
VAS01	**Vassouras-RJ**	**30.23**	**264**	*e*P	**P**	**22 31 19.5**	**+0.3**
XAUDM	**Khaudum**	**30.25**	**88**	P	**P**	**22 31 17.5**	**-1.9**
XAUDM				IAmb	IAmb	22 31 20.5	
	comp=Z,135nm,1.9s						
KGCAE	**Kacgae**	**30.34**	**97**		**P**	**22 31 18.9**	**-1.4**
KGCAE	**Kacgae**	**30.34**	**97**	*i* P	**P**	**22 31 19.3**	**-1.0**
PHPEN	**Phepeng**	**30.76**	**102**	P	**P**	**22 31 22.3**	**-1.6**
PHPEN	**Phepeng**	**30.76**	**102**	*i* P	**P**	**22 31 23.4**	**-0.5**
GMARE	**Gumare**	**30.83**	**90**	P	**P**	**22 31 23.4**	**-1.2**
GMARE				IAmb	IAmb	22 31 25.5	
	comp=Z,72nm,1.4s						
DIAM	**Diamantina, MG**	**31.14**	**272**	*e*P	**P**	**22 31 29.0**	**+1.7**
BSCB	**Bom Sucesso**	**31.63**	**266**	*e*P	**P**	**22 31 31.0**	**-0.6**
SKOMA	**Sekoma**	**31.78**	**100**	*i* P	**P**	**22 31 32.0**	**-0.9**
PARB	**Paraibuna**	**32.11**	**262**	*e*P	**P**	**22 31 35.2**	**-0.6**
MAKGR	**Makgori**	**32.50**	**103**	P	**P**	**22 31 37.8**	**-1.5**
MAKGR				IAmb	IAmb	22 31 39.6	
	comp=Z,58nm,1.0s						
KDWAN	**Kaudwane**	**32.53**	**98**	*i* P	**P**	**22 31 39.0**	**-0.6**
JANB	**Januaria**	**32.61**	**277**	*e*P	**P**	**22 31 40.2**	**0.0**
PHDHD	**Phuduhudu**	**32.87**	**93**	P	**P**	**22 31 41.0**	**-1.5**
PHDHD	**Phuduhudu**	**32.87**	**93**	*i* P	**P**	**22 31 41.1**	**-1.5**
BOSA	**Boshof**	**32.91**	**108**		**P**	**22 31 41.2**	**-1.7**
BOSA				IAmb	IAmb	22 31 43.1	
	comp=Z,42nm,1.0s						
BOSA	**Boshof**	**32.91**	**108**	P	**P**	**22 31 41.9**	**-1.0**
	comp=Z,22nm,0.8s,baz=268,slow=7.7,SNR=26						
BOSA				LR	LR	22 43 31.1	
	comp=Z,899nm,18.4s,baz=272,slow=34						
	comp=Z,22nm,0.8s						
BOSA	**Boshof**	**32.91**	**108**	P	**P**	**22 31 41.2**	**-1.7**
BOSA				pmax	pmax		
	comp=Z,42nm,1.0s						
BOSA	**Boshof**	**32.91**	**108**	*i* P	**P**	**22 31 41.9**	**-1.0**
EDA	**Edea**	**33.18**	**41**	P	**P**	**22 31 44.4**	**-0.7**
LBTB	**Lobatse**	**33.26**	**102**		**P**	**22 31 44.3**	**-1.6**
LBTB				IAmb	IAmb	22 31 47.4	
	comp=Z,44nm,0.9s						
LBTB	**Lobatse**	**33.26**	**102**	LR	LR	22 43 03.5	
	comp=Z,1μm,21.4s,baz=260,slow=32						
LBTB	**Lobatse**	**33.26**	**102**	P	**P**	**22 31 44.3**	**-1.6**
LBTB				pmax	pmax		
	comp=Z,44nm,1.0s						
LBTB	**Lobatse**	**33.26**	**102**	*i* P	**P**	**22 31 45.2**	**-0.7**
VAO	**Valinhos**	**33.38**	**262**	P	**P**	**22 31 45.9**	**-1.0**
VAO				IAmb	IAmb	22 31 50.2	
	comp=Z,112nm,2.0s						
VAO	**Valinhos**	**33.38**	**262**	*e*P	**P**	**22 31 46.7**	**-0.2**
KHWEE	**KHWEE**	**33.42**	**96**	P	**P**	**22 31 45.9**	**-1.5**
LPHEP	**Lephephe**	**33.63**	**99**		**P**	**22 31 46.8**	**-2.4**
LPHEP				IAmb	IAmb	22 31 49.8	
	comp=Z,93nm,1.4s						
LPHEP	**Lephephe**	**33.63**	**99**	*i* P	**P**	**22 31 48.9**	**-0.3**
PMNB	**Patos De Minas**	**33.64**	**270**	*e*P	**P**	**22 31 49.2**	**-0.1**
KSANE	**Kasane**	**33.95**	**89**		**P**	**22 31 51.0**	**-1.0**
SDBA	**SAO DESIDERIO**	**34.06**	**281**	*e*P	**P**	**22 31 53.0**	**+0.2**
GRHM	**Grahamstown, E**	**34.31**	**116**		**P**	**22 31 53.8**	**-1.1**
GRHM				IAmb	IAmb	22 31 55.2	
	comp=Z,42nm,0.9s						
SOOWA	**Sowa**	**34.35**	**94**	*i* P	**P**	**22 31 55.0**	**-0.4**
BB19B	**Bebedouro**	**35.08**	**265**	*e*P	**P**	**22 32 01.8**	**+0.1**
MREMI	**Moremi**	**35.18**	**98**	P	**P**	**22 32 01.3**	**-1.3**
MREMI				IAmb	IAmb	22 32 04.4	
	comp=Z,51nm,1.2s						
MREMI	**Moremi**	**35.18**	**98**	*i* P	**P**	**22 32 02.1**	**-0.5**
BROLN	**Tlhalogang**	**35.29**	**95**	*i* P	**P**	**22 32 02.5**	**-1.0**
IPMB	**Ipameri, GO**	**35.41**	**270**	*e*P	**P**	**22 32 04.1**	**-0.5**
FRTB	**Fartura**	**35.71**	**261**	*e*P	**P**	**22 32 07.6**	**+0.5**
BDFB	**Brasilia**	**35.84**	**274**		**P**	**22 32 08.5**	**+0.2**
BDFB				IAmb	IAmb	22 32 10.9	
	comp=Z,56nm,0.9s						
BDFB	**Brasilia**	**35.84**	**274**	P	**P**	**22 32 08.8**	**+0.5**
	comp=Z,37nm,0.7s,baz=104,slow=8.3,SNR=48						
BDFB				PcP	**PcP**	**22 34 36.3**	**+0.4**
	comp=Z,3.5nm,0.4s,baz=148,slow=3.9,SNR=3.2						
BDFB				LR	LR	22 44 05.1	
	comp=Z,686nm,20.3s,baz=114,slow=32						
	comp=Z,37nm,0.7s						
BDFB	**Brasilia**	**35.84**	**274**	P	**P**	**22 32 08.5**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,56nm,0.9s						
MATP	**Matopo**	**36.48**	**94**	LR	LR	22 45 03.5	
	comp=Z,930nm,20.9s,baz=254,slow=33						
CNLB	**Canela**	**36.59**	**251**	*e*P	**P**	**22 32 16.1**	**+1.6**
BLWY	**Bulawayo**	**36.64**	**94**	*i* P	**P**	**22 32 13.3**	**-1.9**
ITRB	**Iturama**	**37.02**	**267**	*e*P	**P**	**22 32 18.8**	**+0.5**
LDASE	**Londrina, Braz**	**37.12**	**261**	*e*P	**P**	**22 32 20.2**	**+1.0**
LSZ	**Lusaka**	**37.42**	**86**		**P**	**22 32 21.3**	**-0.6**
LSZ	**Lusaka**	**37.42**	**86**	LR	LR	22 46 25.5	
	comp=Z,1μm,19.6s,baz=256,slow=34						
LSZ	**Lusaka**	**37.42**	**86**	P	**P**	**22 32 21.3**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,29nm,1.0s						
LSZ	**Lusaka**	**37.42**	**86**	*i* P	**P**	**22 32 21.4**	**-0.5**
TOA0	**Torodi Ar. Sit**	**37.51**	**20**	P	**P**	**22 32 22.7**	**+0.4**
TOA0				S	**S**	**22 38 11.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**37.51**	**20**	P	**P**	**22 32 20.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**37.51**	**20**	P	**P**	**22 32 20.6**	**-1.7**
	comp=Z,6.5nm,0.6s,baz=201,slow=6.5,SNR=45						
TORD				LR	LR	22 44 52.2	
	comp=Z,2μm,20.3s,baz=183,slow=32						
	comp=Z,6.5nm,0.6s						
ITAB	**Concordia**	**37.73**	**254**		**P**	**22 32 24.2**	**-0.1**
ITAB	**Concordia**	**37.73**	**254**	*e*P	**P**	**22 32 25.6**	**+1.3**
PTGB	**Pitanga**	**37.84**	**258**	*e*P	**P**	**22 32 26.2**	**+0.9**
SMTB	**Santa Maria do**	**37.89**	**285**	*e*P	**P**	**22 32 26.2**	**+0.5**
CPSB	**Cacapava Do Su**	**38.85**	**249**	*e*P	**P**	**22 32 34.9**	**+1.3**
PLTB	**Pedras Altas**	**39.04**	**247**		**P**	**22 32 36.1**	**+0.9**
PLTB	**Pedras Altas**	**39.04**	**247**	*e*P	**P**	**22 32 36.6**	**+1.3**
ARAG	**Araguaiana, MT**	**39.33**	**273**	*e*P	**P**	**22 32 38.5**	**+0.8**
SNDB	**Serra Nova Dou**	**40.04**	**278**	*e*P	**P**	**22 32 43.8**	**+0.1**
AMBA	**Amambai (Brazi**	**40.72**	**261**	*e*P	**P**	**22 32 50.5**	**+1.2**
PRPB	**Parauapebas**	**41.06**	**287**	*e*P	**P**	**22 32 52.6**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**41.44**	**294**	*e*P	**P**	**22 32 56.5**	**+1.3**
SJPY	**San Joaquin**	**41.47**	**257**	*e*P	**P**	**22 32 56.2**	**+0.8**
PP1B	**Ponte de Pedra**	**41.66**	**269**	*e*P	**P**	**22 32 57.9**	**+0.8**
AQDB	**Aquidauana**	**41.78**	**264**	P	**P**	**22 32 58.1**	**+0.1**
AQDB	**Aquidauana**	**41.78**	**264**	*e*P	**P**	**22 32 59.1**	**+1.1**
CPUP	**Villa Florida**	**42.43**	**255**		**P**	**22 33 03.6**	**+0.3**
CPUP	**Villa Florida**	**42.43**	**255**	P	**P**	**22 33 03.5**	**+0.2**
	comp=Z,6.4nm,1.1s,baz=319,slow=8.1,SNR=17						
CPUP				LR	LR	22 48 10.5	
	comp=Z,126nm,18.9s,baz=315,slow=33						
	comp=Z,6.4nm,1.1s						
CPUP	**Villa Florida**	**42.43**	**255**	P	**P**	**22 33 03.6**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,19nm,1.4s						
CPUP	**Villa Florida**	**42.43**	**255**	*e*P	**P**	**22 33 04.2**	**+0.9**
PSAL	**Palomas, Salto**	**42.45**	**248**	*e*P	**P**	**22 33 04.6**	**+1.2**
BDQN	**Bodoquena, MS**	**42.76**	**264**	*e*P	**P**	**22 33 07.0**	**+1.1**
SALV	**Santo Antonio**	**42.86**	**271**	*e*P	**P**	**22 33 08.3**	**+1.5**
MURT	**Porto Murtinho**	**43.32**	**262**	*e*P	**P**	**22 33 11.3**	**+0.8**
CLDB	**Colider**	**44.55**	**277**	*e*P	**P**	**22 33 21.0**	**+0.5**
PDRB	**Porto dos Gac**	**45.15**	**276**	*e*P	**P**	**22 33 25.7**	**+0.4**
NPGB	**Novo Progresso**	**45.63**	**283**	*e*P	**P**	**22 33 29.7**	**+0.6**
MBAR	**Mbarara**	**45.83**	**67**	P	**P**	**22 33 30.7**	**-0.1**
MBAR				IAmb	IAmb	22 33 33.8	
	comp=Z,42nm,1.4s						
MBAR	**Mbarara**	**45.83**	**67**	LR	LR	22 50 35.0	
	comp=Z,304nm,21.3s,baz=234,slow=33						
MBAR	**Mbarara**	**45.83**	**67**	P	**P**	**22 33 32.8**	**+2.0**
MBAR				S	**S**	**22 40 15.8**	**+0.7**
MBAR	**Mbarara**	**45.83**	**67**	*c i* P	**P**	**22 33 32.5**	**+1.7**
MBAR				pmax	pmax		
	comp=Z,38nm,1.4s						
PTLB	**Pontes e Lacer**	**46.17**	**270**		**P**	**22 33 34.1**	**+0.8**
PTLB				IAmb	IAmb	22 33 37.2	
	comp=Z,35nm,0.9s						
PTLB	**Pontes e Lacer**	**46.17**	**270**	*e*P	**P**	**22 33 34.6**	**+1.3**
TRQA	**Tornquist**	**46.31**	**238**		**P**	**22 33 33.9**	**-0.3**
TRQA				IAmb	IAmb	22 34 12.3	
	comp=Z,36nm,1.1s						
TRQA	**Tornquist**	**46.31**	**238**	P	**P**	**22 33 33.9**	**-0.3**
TRQA				pmax	pmax		
	comp=Z,36nm,1.1s						
EFI	**East Falkland**	**46.50**	**219**	P	**P**	**22 33 34.9**	**-0.5**
EFI	**East Falkland**	**46.50**	**219**	P	**P**	**22 33 34.9**	**-0.5**
EFI				pmax	pmax		
	comp=Z,178nm,1.5s						
MAL2	**Monte Alegre,**	**46.85**	**290**	P	**P**	**22 33 38.2**	**-0.5**
ITTB	**Itaituba**	**47.12**	**286**	*e*P	**P**	**22 33 41.8**	**+1.0**
TAM	**Tamanrasset**	**47.76**	**20**	P	**P**	**22 33 46.2**	**+0.5**
TAM	**Tamanrasset**	**47.76**	**20**	P	**P**	**22 33 46.2**	**+0.5**
TAM				pmax	pmax		
	comp=Z,14nm,1.0s						
SIV	**San Ignacio**	**47.80**	**269**	P	**P**	**22 33 47.5**	**+1.3**
	comp=Z,18nm,0.7s,baz=103,slow=8.1,SNR=80						
SIV				PcP	**PcP**	**22 35 14.6**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=127,slow=5.3,SNR=3.1						
SIV				LR	LR	22 51 56.8	
	comp=Z,809nm,19.2s,baz=116,slow=34						
	comp=Z,18nm,0.7s						
VILB	**Vilhena**	**47.90**	**273**		**P**	**22 33 47.8**	**+0.9**
VILB	**Vilhena**	**47.90**	**273**	*e*P	**P**	**22 33 49.2**	**+2.3**
VNA1	**Neumayer--Stat**	**48.14**	**179**	⇑P	**P**	**22 33 48.5**	**+0.7**
	comp=Z,61nm,0.9s						
VNA2	**Neumayer--Watz**	**48.43**	**179**	⇑P	**P**	**22 33 50.1**	**0.0**
	comp=Z,56nm,0.6s,baz=351,slow=8.0						
VNA3	**Neumayer Olymp**	**48.71**	**180**	⇑P	**P**	**22 33 52.0**	**-0.4**
	comp=Z,49nm,0.8s						
SNAA	**Sanae**	**49.35**	**177**	⇑P	**P**	**22 33 57.1**	**-0.2**
	comp=Z,799nm,1.0s						
SNAA				⇓S	**S**	**22 41 07.0**	**+3.5**
SNAA	**Sanae**	**49.35**	**177**	P	**P**	**22 33 56.5**	**-0.8**
SNAA				IAmb	IAmb	22 33 58.7	
	comp=Z,66nm,1.1s						
SNAA	**Sanae**	**49.35**	**177**	P	**P**	**22 33 57.4**	**+0.1**
	comp=Z,32nm,0.9s,baz=342,slow=8.0,SNR=107						
SNAA				LR	LR	22 49 22.3	
	comp=Z,939nm,20.5s,baz=30,slow=30						
	comp=Z,32nm,0.9s						
SNAA	**Sanae**	**49.35**	**177**	*c i* P	**P**	**22 33 57.0**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,73nm,1.2s						
MDP	**Montagnes des**	**49.35**	**299**	LR	LR	22 51 52.6	
	comp=Z,498nm,21.9s,baz=125,slow=32						
AZAP	**Zapla**	**49.65**	**257**	*e*P	**P**	**22 34 00.1**	**-0.4**
CYA	**Choya**	**49.71**	**251**	*e*P	**P**	**22 33 59.5**	**-1.2**
SLA	**San Lorenzo**	**49.96**	**256**	*e*P	**P**	**22 34 03.3**	**+0.5**
NVL	**N'lazarevskaya**	**50.01**	**170**	*e*P	P	22 33 55.3	-6.9
NVL				*e*		22 35 15.6	
NVL				*e*S	**S**	**22 41 05.7**	**-6.8**
NVL				*e*		22 43 48.8	
NVL				*e*SS	**SS**	**22 44 40.0**	**-5.2**
NVL				*e*SSS	SSS	22 46 03.1	
NVL				pmax	pmax		
	comp=Z,12nm,0.8s						
NVL				smax	smax		
	comp=N,330nm,11.1s						
NVL				MLR	MLR		
	comp=Z,70nm,17.0s						
TROLL	**Troll, Antarti**	**50.05**	**175**	⇑P	**P**	**22 34 03.1**	**+0.4**
	comp=Z,1μm,0.7s						
TROLL				⇑S	**S**	**22 41 16.6**	**+3.1**
APLL	**PUNTA DE LOS L**	**50.15**	**249**	*e*P	**P**	**22 34 02.2**	**-1.8**
FSA	**Cafayete**	**50.17**	**254**	*e*P	**P**	**22 34 03.2**	**-1.2**
ACLC	**CERRO LA CRUZ**	**50.61**	**250**	*e*P	**P**	**22 34 06.1**	**-1.6**
AANI	**Anillaco**	**50.66**	**251**	*e*P	**P**	**22 34 06.8**	**-1.3**
AVFE	**Valle Fertil**	**50.92**	**248**	*e*P	**P**	**22 34 08.3**	**-1.6**
ESPZ	**Base Esperanza**	**51.09**	**205**	P	**P**	**22 34 08.9**	**-1.5**
KMBO	**Kilima Mbogo**	**51.22**	**72**	⇑*e*P	**P**	**22 34 14.4**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KIBK	**Kibwezi**	**51.37**	**74**	P	**P**	**22 34 11.5**	**-1.9**
KIBK	**Kibwezi**	**51.37**	**74**	P	**P**	**22 34 15.2**	**+1.9**
CFA	**Coronel Fontan**	**51.51**	**247**	P	**P**	**22 34 13.6**	**-0.7**
	comp=Z,6.3nm,0.7s,baz=78,slow=7.8,SNR=24						
	comp=Z,6.3nm,0.7s						
VCA	**Vinchina**	**51.78**	**251**	*e*P	**P**	**22 34 15.3**	**-1.2**
LODK	**Lodwar**	**51.86**	**66**	P	**P**	**22 34 16.9**	**-0.2**
LODK				IAmb	IAmb	22 34 20.1	
	comp=Z,51nm,1.4s						
LODK	**Lodwar**	**51.86**	**66**	P	**P**	**22 34 19.1**	**+2.0**
	SNR=18						
ZON	**Zonda**	**51.89**	**247**	P	**P**	**22 34 17.0**	**-0.1**
ZON	**Zonda**	**51.89**	**247**	P	**P**	**22 34 17.0**	**-0.1**
ZON				pmax	pmax		
	comp=Z,39nm,0.3s						
AGUA	**GUANDACOL**	**51.94**	**250**	*e*P	**P**	**22 34 17.4**	**-0.1**
MACA	**Manacapuru-AM**	**52.08**	**284**	P	**P**	**22 34 18.2**	**-0.5**
MACA				IAmb	IAmb	22 34 21.4	
	comp=Z,49nm,0.9s						
MACA	**Manacapuru-AM**	**52.08**	**284**	*e*P	**P**	**22 34 19.7**	**+1.0**
FOMA	**Nahampoana Res**	**52.52**	**105**	P	**P**	**22 34 18.2**	**-3.6**
AC02	**Maricunga**	**52.85**	**253**	P	**P**	**22 34 24.8**	**-0.1**
AC02				IAmb	IAmb	22 34 27.7	
	comp=Z,128nm,1.7s						
MT08	**Bocatoma Ro**	**52.86**	**244**	P	**P**	**22 34 24.8**	**+0.3**
MT08				IAmb	IAmb	22 34 27.2	
	comp=Z,29nm,0.8s						
VOI	**Vohitsoka**	**52.94**	**101**	P	**P**	**22 34 24.6**	**-0.5**
VOI				IAmb	IAmb	22 34 27.6	
	comp=Z,57nm,1.1s						
VOI	**Vohitsoka**	**52.94**	**101**	P	**P**	**22 34 26.7**	**+1.6**
	SNR=5.8						
LMEL	**Las Melosas**	**52.98**	**244**	P	**P**	**22 34 24.9**	**-0.4**
LMEL				IAmb	IAmb	22 34 49.8	
	comp=Z,95nm,1.9s						
MT13	**San Alfonso**	**53.06**	**244**	P	**P**	**22 34 25.3**	**-0.5**
PLCA	**Paso Flores**	**53.07**	**235**	P	**P**	**22 34 25.0**	**-0.7**
PLCA	**Paso Flores**	**53.07**	**235**	P	**P**	**22 34 25.1**	**-0.7**
	comp=Z,5.9nm,1.0s,baz=72,slow=7.5,SNR=7.3						
PLCA				LR	LR	22 53 54.3	
	comp=Z,229nm,21.2s,baz=88,slow=32						
	comp=Z,5.9nm,1.0s						
PLCA	**Paso Flores**	**53.07**	**235**	P	**P**	**22 34 25.0**	**-0.7**
PLCA				pmax	pmax		
	comp=Z,14nm,1.2s						
PLCA	**Paso Flores**	**53.07**	**235**	*e*P	**P**	**22 34 25.1**	**-0.6**
MT03	**Universidad Ad**	**53.27**	**244**	P	**P**	**22 34 26.8**	**-0.5**
MT03				IAmb	IAmb	22 34 28.5	
	comp=Z,68nm,1.1s						
BO04	**La Punta**	**53.31**	**244**	P	**P**	**22 34 26.9**	**-0.7**
BO04				IAmb	IAmb	22 34 28.3	
	comp=Z,132nm,2.0s						
VA03	**San Esteban**	**53.36**	**245**	P	**P**	**22 34 27.4**	**-0.6**
BO02	**Sierra Bellavi**	**53.40**	**243**	P	**P**	**22 34 27.9**	**-0.4**
BO02				IAmb	IAmb	22 34 29.0	
	comp=Z,26nm,0.8s						
MG02	**Cerro Sombrero**	**53.40**	**220**	P	**P**	**22 34 28.1**	**+0.3**
MT05	**Renca**	**53.47**	**244**	P	**P**	**22 34 27.4**	**-1.3**
GO02	**Mina Guanaco**	**53.54**	**255**	P	**P**	**22 34 29.6**	**-0.1**
CO03	**El Pedregal**	**53.67**	**248**		**P**	**22 34 29.5**	**-0.8**
CO03				IAmb	IAmb	22 36 04.2	
	comp=Z,19nm,0.7s						
GO03	**Copiapo**	**53.71**	**252**	P	**P**	**22 34 30.0**	**-0.7**
MT02	**Curacav**	**53.81**	**245**	P	**P**	**22 34 30.4**	**-0.8**
MT02				IAmb	IAmb	22 35 45.9	
	comp=Z,91nm,1.7s						
PB09	**IPOC Station P**	**53.89**	**259**	P	**P**	**22 34 31.7**	**-0.4**
PB09				IAmb	IAmb	22 34 35.4	
	comp=Z,70nm,1.2s						
LCO	**Las Campanas**	**53.91**	**250**	P	**P**	**22 34 31.6**	**-0.8**
LCO				IAmb	IAmb	22 34 34.3	
	comp=Z,54nm,1.2s						
LCO	**Las Campanas**	**53.91**	**250**	P	**P**	**22 34 31.6**	**-0.8**
LCO				pmax	pmax		
	comp=Z,53nm,1.2s						
PB06	**IPOC Station P**	**54.00**	**258**	P	**P**	**22 34 31.9**	**-1.0**
ABPO	**Ambohimpanom**	**54.00**	**98**		**P**	**22 34 32.8**	**-0.2**
ABPO				IAmb	IAmb	22 34 35.4	
	comp=Z,28nm,1.0s						
ABPO	**Ambohimpanom**	**54.00**	**98**	P	**P**	**22 34 32.8**	**-0.2**
ABPO				pmax	pmax		
	comp=Z,28nm,1.0s						
LL02	**Futaleuf**	**54.09**	**232**		**P**	**22 34 32.1**	**-1.0**
PB08	**IPOC Station P**	**54.19**	**261**	P	**P**	**22 34 34.0**	**-0.6**
LPAZ	**La Paz**	**54.24**	**266**		**P**	**22 34 34.2**	**-1.1**
LPAZ				IAmb	IAmb	22 34 36.6	
	comp=Z,31nm,0.9s						
LPAZ	**La Paz**	**54.24**	**266**	P	**P**	**22 34 34.6**	**-0.6**
	comp=Z,21nm,0.8s,baz=91,slow=4.8,SNR=51						
LPAZ				LR	LR	22 56 26.5	
	comp=Z,213nm,18.6s,baz=92,slow=35						
	comp=Z,21nm,0.8s						
LPAZ	**La Paz**	**54.24**	**266**	P	**P**	**22 34 34.2**	**-1.1**
LPAZ

KEST Kesra 61.00 19 P 22 35 22.8 +1.1
KEST Kesra 61.00 19 P **P 22 35 23.1 +1.3**
comp=Z,13nm,0.8s,baz=223,slow=4.9,SNR=16
KEST LR LR 23 00 12.1
comp=Z,1µm,19.2s,baz=207,slow=34
comp=Z,13nm,0.8s
KEST Kesra 61.00 19 P **P 22 35 23.8 +2.0**
SNR=8.9
PARRA Arraiolos 61.06 1 *e*P **P 22 35 23.6 +1.5**
PARRA *i* IAmb IAmb 22 35 30.8
comp=Z,25nm,1.8s
PESTR Estremoz 61.16 3 P 22 35 23.8 +1.0
PESTR IAmb IAmb 22 35 30.6
comp=Z,20nm,0.9s
PESTR Estremoz 61.16 3 *e*P **P 22 35 24.3 +1.5**
PESTR *i* IAmb IAmb 22 35 27.8
comp=Z,52nm,1.5s
PMTG Montargil 61.34 2 *e*P **P 22 35 26.4 +2.5**
PMTG *i* IAmb IAmb 22 35 45.8
comp=Z,36nm,1.4s
PMRV Marv??o 61.73 3 *e*P **P 22 35 25.6 -0.9**
PMRV *i* IAmb IAmb 22 35 40.9
comp=Z,39nm,1.6s
PMRV *e*LR LR 22 56 03.9
PMRV *i* IAMs_20 IAMs_20 23 00 04.0
comp=Z,617nm,18.0s
PSARD Sardoal 61.87 2 *e*P **P 22 35 28.7 +1.2**
PSARD *i* IAmb IAmb 22 35 32.0
comp=Z,34nm,1.5s
PCRV Puerto La Cruz 62.03 296 LR LR 22 59 34.5
comp=Z,771nm,21.7s,slow=33
PAB San Pablo 62.06 6 P **P 22 35 28.5 -0.4**
PAB San Pablo 62.06 6 P **P 22 35 28.5 -0.4**
PAB pmax pmax
comp=Z,22nm,1.6s
PCBR Castelo Branco 62.14 3 *e*P **P 22 35 29.6 +0.3**
PCBR *i* IAmb IAmb 22 35 43.8
comp=Z,23nm,1.6s
ESDC Sonseca Array 62.22 6 P **P 22 35 30.2 +0.3**
ESDC Sonseca Array 62.22 6 P **P 22 35 30.4 +0.5**
comp=Z,3.4nm,0.7s,baz=188,slow=7.0,SNR=20
ESDC LR LR 23 01 35.2
comp=Z,595nm,18.1s,baz=196,slow=35
comp=Z,3.4nm,0.7s
PCAS Casmilo, Conde 62.31 2 *e*P **P 22 35 31.5 +1.1**
PCAS *i* IAmb IAmb 22 35 52.7
comp=Z,53nm,1.4s
ATD Arta Tunnel 62.46 63 LR LR 23 00 13.3
comp=Z,15nm,21.4s,baz=198,slow=34
MTE Manteigas 62.70 3 *e*P **P 22 35 34.8 +1.8**
MTE *i* IAmb IAmb 22 35 41.0
comp=Z,24nm,1.2s
MTE *e*LR LR 22 56 27.6
PVIS Viseu 63.00 2 *e*P **P 22 35 35.7 +0.6**
MAW Mawson 63.11 156 P **P 22 35 36.2 +0.8**
comp=Z,6.6nm,2.0s
MAW Mawson 63.11 156 P **P 22 35 35.8 +0.3**
comp=Z,21nm,0.9s,baz=271,slow=8.3,SNR=24
MAW LR LR 22 57 31.9
comp=Z,1µm,19.7s,baz=286,slow=31
comp=Z,21nm,0.9s
GDHS Morne Mazeau, 63.13 303 P **P 22 35 36.3 -0.1**
MVO Moncorvo 63.48 3 *e*P **P 22 35 39.5 +1.2**
MVO *i* IAmb IAmb 22 35 42.4
comp=Z,53nm,1.2s
MVO *e*LR LR 22 57 09.8
MVO *i* IAMs_20 IAMs_20 23 01 34.1
comp=Z,652nm,18.0s
PVRL Vila Real 63.56 3 *e*P **P 22 35 40.7 +1.9**
PVRL *i* IAmb IAmb 22 35 59.4
comp=Z,46nm,1.5s
NNA Nana 63.59 267 P 22 35 39.2 -0.5
NNA Nana 63.59 267 P **P 22 35 39.4 -0.2**
comp=Z,26nm,0.7s,baz=154,slow=4.1,SNR=8.3
NNA LR LR 23 01 37.3
comp=Z,157nm,21.8s,baz=92,slow=34
comp=Z,26nm,0.7s
NNA Nana 63.59 267*c i*P **P 22 35 39.3 -0.3**
NNA pmax pmax
comp=Z,155nm,1.5s
POLO Lamas de Olo 63.66 2 *e*P **P 22 35 38.6 -0.9**
POLO *i* IAmb IAmb 22 35 43.1
comp=Z,19nm,1.8s
PCAB Cabril 63.98 2 *e*P **P 22 35 42.5 +1.0**
PCAB *i* IAmb IAmb 22 35 50.0
comp=Z,58nm,1.7s
PBRG Braganca 64.14 3 *e*P **P 22 35 44.3 +1.7**
PBRG *i* IAmb IAmb 22 35 45.8
comp=Z,35nm,1.8s
VAE Valguarnera 64.23 22 LR LR 23 00 13.5
comp=Z,447nm,21.5s,baz=160,slow=33
PGAV Gavieira, Arco 64.23 2 *e*P **P 22 35 44.1 +0.9**
PGAV *i* IAmb IAmb 22 35 47.5
comp=Z,55nm,1.5s
PGAV *e*LR LR 22 57 17.6
PGAV *i* IAMs_20 IAMs_20 23 00 34.6
comp=Z,804nm,20.0s
BAUV El Baul 64.27 293 P 22 35 44.0 +0.1
VSL Villasalto 64.52 17 P **P 22 35 44.9 -0.2**
SMRT St. Maarten 65.19 304 P 22 35 49.4 -0.5
CEL Celeste 65.45 23 P 22 35 51.3 +0.1
CEL IAmb IAmb 22 35 59.4
comp=Z,27nm,0.9s
CEL Celeste 65.45 23 P **P 22 35 52.5 +1.3**
comp=Z,401nmcomp=Z,33nm,1.4s
CEST Esterri de Car 65.76 10 P 22 35 53.4 +0.2
CEST IAmb IAmb 22 35 55.9
comp=Z,22nm,0.8s
MSEY Mahe Island 66.25 85 P **P 22 35 55.6 -1.3**
MSEY IAmb IAmb 22 35 58.9
comp=Z,42nm,1.0s
MSEY Mahe Island 66.25 85 P **P 22 35 58.8 +1.8**
MSEY S **S 22 44 51.0 +4.5**
MSEY Mahe Island 66.25 85 P **P 22 35 55.6 -1.3**
MSEY pmax pmax
comp=Z,42nm,1.0s
SDV Santo Domingo 66.46 291 P 22 35 58.6 +0.1
SDV IAmb IAmb 22 36 01.3
comp=Z,29nm,0.9s
SDV Santo Domingo 66.46 291 LR LR 23 02 40.1
comp=Z,1µm,20.6s,baz=100,slow=34
SDV Santo Domingo 66.46 291 *e*P **P 22 35 59.4 +1.0**
TIP Timpagrande 66.57 23 P **P 22 35 58.5 +0.1**
TIP IAmb IAmb 22 36 01.0
comp=Z,22nm,0.7s
TIP Timpagrande 66.57 23 P **P 22 35 59.2 +0.7**
comp=Z,30nm,1.2s
IDI Anoyia 66.70 31 P 22 35 59.1 -0.2
IDI IAmb IAmb 22 36 30.5
comp=Z,22nm,1.1s
IDI Anoyia 66.70 31 P **P 22 36 00.4 +1.1**
comp=Z,10nm,0.7s,baz=205,slow=11,SNR=11
IDI LR LR 23 05 12.5
comp=Z,116nm,19.4s,baz=148,slow=36
comp=Z,10nm,0.7s
ATAH Atahualpa 66.71 272 P **P 22 36 02.6 +2.3**
comp=Z,21nm,1.0s,baz=113,slow=7.1,SNR=20
ATAH LR LR 23 03 31.8
comp=Z,2µm,20.4s,baz=107,slow=34
comp=Z,21nm,1.0s
ITM Ithomi 66.90 28 P 22 35 58.9 -1.6
ITM IAmb IAmb 22 36 19.1
comp=Z,29nm,1.1s
RUSC La Rusia 67.19 287 P 22 36 03.1 -0.4
RUSC La Rusia 67.19 287 P **P 22 36 04.3 +0.8**
comp=Z,35nm,1.6s
HUMP Col San Antoni 67.39 302 P 22 36 04.2 +0.2
CVER Cruz Verde, Cu 67.46 285 P **P 22 36 05.5 +0.4**
comp=Z,2µmcomp=Z,53nm,1.7s
PAMC Pamplona, Colo 67.52 289 P **P 22 36 06.3 +0.7**
FLOC Florencia 67.61 282 P 22 36 05.8 +0.2
FLOC IAmb IAmb 22 36 08.0
comp=Z,21nm,1.0s
FLOC Florencia 67.61 282 P **P 22 36 06.3 +0.7**
comp=Z,433nmcomp=Z,23nm,1.6s
QSPA South Pole Qui 67.65 180 P **P 22 36 07.6 +2.4**
QSPA South Pole Qui 67.65 180 P **P 22 36 07.3 +2.2**
comp=Z,73nm,0.9s,baz=216,slow=3.2,SNR=120
QSPA LR LR 23 01 27.7
comp=Z,862nm,19.9s,baz=213,slow=32
comp=Z,73nm,0.9s
ROSC El Rosal 67.82 285 P 22 36 06.7 -0.6
ROSC IAmb IAmb 22 36 24.4
comp=Z,33nm,1.1s
ROSC El Rosal 67.82 285 P **P 22 36 07.9 +0.6**
comp=Z,16nm,0.7s,baz=92,slow=5.3,SNR=8.7
ROSC LR LR 23 05 01.8
comp=Z,1µm,19.0s,baz=104,slow=35
comp=Z,16nm,0.7s
ROSC El Rosal 67.82 285 P **P 22 36 06.7 -0.6**
ROSC pmax pmax
comp=Z,33nm,1.1s
ROSC El Rosal 67.82 285 P **P 22 36 08.9 +1.6**
comp=Z,34nm,1.6s
PRAC Prado 67.83 284 P **P 22 36 07.5 +0.5**
comp=Z,26nm,1.4s
EIL Elat 68.01 42 LR LR 23 03 37.6
comp=Z,244nm,20.7s,baz=180,slow=34
KARP Karpathos 68.02 33 P 22 36 07.7 0.0
KARP IAmb IAmb 22 36 36.0
comp=Z,33nm,0.9s
KARP Karpathos 68.02 33 P **P 22 36 08.2 +0.5**
comp=Z,39nm,0.8s
INTR Introdacqua 68.16 20 P 22 36 08.3 -0.2
ORTC Ortega, Tolima 68.24 284 P **P 22 36 11.1 +1.6**
comp=Z,25nm,1.6s
CESX Cesi 68.31 18 P **P 22 36 09.2 -0.1**
AQU L'Aquila 68.32 19 *e*P **P 22 36 09.6 +0.2**
AQU L'Aquila 68.32 19 P **P 22 36 11.6 +2.2**
comp=Z,15nm,1.5s
PTBC PUERTO BERRIO, 68.70 287 P **P 22 36 10.8 -1.6**
comp=Z,207nmcomp=Z,13nm,1.0s
MURB Monte Urbino 68.89 18 P **P 22 36 12.3 -0.7**
MURB IAmb IAmb 22 36 16.3
comp=Z,31nm,1.2s
GUY2C Guayana, Caldas 68.92 285 P **P 22 36 14.8 +0.5**
comp=Z,498nmcomp=Z,20nm,0.8s
SSB Saint Sauveur 68.92 11 P 22 36 13.4 +0.3
SSB Saint Sauveur 68.92 11 P **P 22 36 13.4 +0.3**
SSB pmax pmax
comp=Z,12nm,0.9s
PIAT Ana Tenorio 68.92 278 P **P 22 36 15.5 +1.2**
comp=Z,35nm,1.0s
POPC Popayan, Colom 68.94 282 P **P 22 36 14.6 +0.4**
comp=Z,21nm,1.5s
GCUF Volcan Galeras 68.99 281 P **P 22 36 15.8 +1.0**
comp=Z,1µmcomp=Z,34nm,1.2s
ARG Arkhangelos 69.02 33 P **P 22 36 13.7 -0.2**
ARG IAmb IAmb 22 36 26.7
comp=Z,56nm,1.3s
ARG Arkhangelos 69.02 33 P **P 22 36 13.7 -0.2**
ARG pmax pmax
comp=Z,56nm,1.3s
MCRA Macar, Loja 69.17 274 P **P 22 36 15.9 +0.5**
comp=Z,22nm,1.2s
SLOR San Lorenzo - 69.25 278 P **P 22 36 15.4 -1.0**
COHC Cochancay 69.26 276 P 22 36 16.3 +0.4
COHC IAmb IAmb 22 36 19.9
comp=Z,25nm,0.8s
COHC Cochancay 69.26 276 P **P 22 36 17.2 +1.3**
comp=Z,1µmcomp=Z,157nm,1.0s
ZCCA Zocca 69.48 16 P 22 36 16.8 +0.2
HELC Santa Helena 69.50 286 P **P 22 36 17.0 -0.8**
comp=Z,454nmcomp=Z,24nm,1.3s
LIT Litokhoron 69.59 27 P **P 22 36 17.5 +0.1**
LIT IAmb IAmb 22 36 19.5
comp=Z,49nm,1.5s
LIT Litokhoron 69.59 27 P **P 22 36 17.5 +0.1**
LIT pmax pmax
comp=Z,49nm,1.5s
OHR Ohrid 69.77 25 *i* P **P 22 36 20.0 +1.5**
STON Ston 70.17 22 *e*P **P 22 36 20.7 -0.1**
PDG Podgorica 70.33 23 P 22 36 21.9 +0.1
PDG IAmb IAmb 22 36 25.6
comp=Z,27nm,1.3s
ELL Elmali 70.34 34 P **P 22 36 22.4 +0.2**
ELL IAmb IAmb 22 36 47.5
comp=Z,28nm,1.3s
ELL Elmali 70.34 34 P **P 22 36 22.4 +0.2**
ELL pmax pmax
comp=Z,28nm,1.3s
DR12 Loma Pena Alta 70.53 301 P 22 36 23.2 -0.4
TEOL Teolo 70.60 17 P **P 22 36 22.8 -0.5**
TEOL IAmb IAmb 22 36 24.7
comp=Z,23nm,0.7s
MMAI Mount Meron Ar 70.63 40 P 22 36 25.6 +1.6
comp=Z,6.1nm,0.6s,baz=199,slow=4.4,SNR=18
MMAI LR LR 23 04 46.0
comp=Z,154nm,21.9s,baz=206,slow=34
comp=Z,6.1nm,0.6s
VAY Valandovo 70.66 26 *i* P **P 22 36 24.8 +1.0**
KIJV Kijevo 70.75 20 *e*P **P 22 36 21.7 -2.6**
BRJN Brijuni 70.75 18 *e*P **P 22 36 23.7 -0.6**
SKO Skopje 70.76 25 *i* P **P 22 36 25.2 +0.8**
CSS Mathiatis 70.84 37 P **P 22 36 24.6 -0.5**
CSS Mathiatis 70.84 37 P **P 22 36 26.2 +1.1**
comp=Z,19nm,1.0s
ASF Jabal al Asfar 70.95 42 P **P 22 36 27.4 +1.5**
comp=Z,2.8nm,0.8s,baz=247,slow=4.9,SNR=7.5
ASF LR LR 23 05 29.6
comp=Z,159nm,19.9s,baz=246,slow=34
comp=Z,2.8nm,0.8s
MANT Manisa 71.02 32 P 22 36 26.3 -0.1
MANT IAmb IAmb 22 36 28.8
comp=Z,34nm,1.4s
TUE Stuetta 71.06 15 P 22 36 25.9 -0.6
TUE Stuetta 71.06 15 P **P 22 36 26.1 -0.3**
comp=Z,106nm,1.0s
APAC Apartado, Choc 71.19 287 P **P 22 36 31.6 +3.9**
comp=Z,59nm,1.6s
CTI Castel Tesino 71.23 16 P 22 36 26.9 -0.5
CTI Castel Tesino 71.23 16 P **P 22 36 26.9 -0.5**
CTI pmax pmax
comp=Z,17nm,0.9s
RAYN Ar Rayn 71.31 54 P 22 36 28.4 +0.2
RAYN Ar Rayn 71.31 54 P 22 36 30.2 +2.0
RAYN Ar Rayn 71.31 54 P **P 22 36 28.4 +0.2**
RAYN pmax pmax
comp=Z,8.0nm,1.1s
KKB Krupnik 71.32 26 *i* P **P 22 36 29.6 +1.7**
MMB Musomishta 71.33 27 *i* P **P 22 36 29.0 +1.0**
FUORN Ofenpass-Fuorn 71.42 15 P **P 22 36 28.6 -0.1**
TRI Trieste 71.49 18 P 22 36 28.9 +0.1
TRI IAmb IAmb 22 36 32.0
comp=Z,28nm,1.1s
TRI Trieste 71.49 18 P **P 22 36 28.9 +0.1**
TRI pmax pmax
comp=Z,28nm,1.1s
BLY Banja Luka 71.66 21 *e*P **P 22 36 29.4 -0.4**
BLY Banja Luka 71.66 21 ⇑P **P 22 36 30.1 +0.3**
CEY Cerknica 71.71 18 *i* P **P 22 36 30.8 +0.6**
BOJS Bojanci 71.74 19 *i* P **P 22 36 31.1 +0.8**
RDO Rodhopi 71.76 28 P **P 22 36 30.5 0.0**
RDO IAmb IAmb 22 36 32.9
comp=Z,32nm,1.4s
RZN Rozhen 71.86 27 *i* P **P 22 36 32.6 +1.2**
OZLJ Ozalj 71.90 19 *e*P **P 22 36 30.8 -0.4**
FETA Feichten 71.91 15 *e*P **P 22 36 31.1 -0.4**
comp=Z,18nm,1.2s,SNR=8.1
DAVA Damuels 71.95 15 *i* P **P 22 36 31.4 -0.4**
comp=Z,19nm,1.1s,SNR=6.5
PLNA Plana 71.97 26 P P 22 36 32.7 +0.8
LJU Ljubljana 72.01 18 *i* P **P 22 36 32.7 +0.8**
VTS Vitosha 72.01 26 *i* P **P 22 36 31.8 -0.4**
KDZ Kurdzhali 72.07 28 *i* P **P 22 36 33.1 +0.7**
ABTA Abfaltersbach 72.10 17 *e*P **P 22 36 33.1 +0.5**
comp=Z,12nm,0.7s,SNR=13
SQTA Sankt Quirin 72.21 16 *e*P **P 22 36 32.9 -0.3**
comp=Z,3.9nm,0.4s,SNR=7.3
ECH Echery 72.25 12 P 22 36 32.9 -0.4
ECH Echery 72.25 12 P **P 22 36 32.9 -0.4**
ECH pmax pmax
comp=Z,31nm,1.5s
BOVS Bovan 72.28 24 ⇑P **P 22 36 34.1 +0.5**
MOSL Moslavina 72.30 20 *e*P **P 22 36 34.2 +0.5**
MOTA Moosalm 72.30 15 *e*P **P 22 36 33.1 -0.7**
comp=Z,2.6nm,0.5s
MYKA Terra Mystica 72.30 17 *i* P **P 22 36 34.4 +0.7**
comp=Z,28nm,1.4s,SNR=9.6
RETA Reutte 72.35 15 *e*P **P 22 36 33.4 -0.6**
comp=Z,3.4nm,0.5s
WTTA Wattenberg 72.36 16 *e*P **P 22 36 34.0 -0.2**
comp=Z,19nm,0.9s,SNR=11
WATA Walderalm 72.41 16 *e*P **P 22 36 34.0 -0.5**
comp=Z,6.3nm,0.5s,SNR=8.9
OBKA Obir 72.44 18 *e*P **P 22 36 35.1 +0.4**
comp=Z,11nm,1.1s,SNR=8.9
DIM Dimitrovgrad 72.51 28 P P 22 36 35.7 +0.7
BFO Black Forest 72.59 13 P 22 36 35.0 -0.4
BFO Black Forest 72.59 13 P P 22 36 35.0 -0.4
BFO pmax pmax
comp=Z,23nm,1.1s
KBA Koelnbreinsper 72.63 17 *i* P **P 22 36 36.0 +0.2**
comp=Z,4.6nm,0.5s,SNR=10
SOKA Soboth 72.74 18 *e*P **P 22 36 37.1 +0.8**
comp=Z,12nm,1.0s,SNR=22
LESA Schwarzleotal 72.77 16 *i* P **P 22 36 36.2 -0.3**
comp=Z,12nm,0.5s,SNR=17
MPEP Malo Peshtene 72.83 26 P P 22 36 36.5 -0.4
BORA Eskisehir 73.02 32 P P 22 36 38.8 +0.6
BEHE Becsehely 73.07 19 P P 22 36 38.7 +0.5
BEHE IAmb IAmb 22 36 42.5
comp=Z,43nm,1.4s
BEHE Becsehely 73.07 19 *e*P **P 22 36 38.9 +0.7**
STU Stuttgart 73.20 14 P P 22 36 38.2 -0.7
STU Stuttgart 73.20 14 P P 22 36 38.2 -0.7
STU pmax pmax
comp=Z,16nm,1.0s
MDVR Moldovita 73.26 24 ⇓P **P 22 36 40.1 +0.6**
BIOA Bad Ischl, Aus 73.27 17 *i* P **P 22 36 38.6 -0.9**
comp=Z,3.4nm,0.5s,SNR=11
ELND Elena 73.36 27 ⇓P **P 22 36 40.3 +0.3**
ARSA Arzberg 73.40 18 P 22 36 39.3 -0.8
ARSA IAmb IAmb 22 36 47.5
comp=Z,21nm,0.8s
ARSA Arzberg 73.40 18 *e*P **P 22 36 41.0 +0.8**
comp=Z,6.7nm,0.5s,SNR=14
WLF Walferdange 73.44 11 P 22 36 40.1 -0.2
WLF Walferdange 73.44 11 *d*P **P 22 36 40.8 +0.4**
comp=Z,20nm,1.0s
WLF Walferdange 73.44 11 P P 22 36 40.1 -0.2
WLF pmax pmax
comp=Z,160nm,1.9s
MOA Molln 73.59 17 *e*P **P 22 36 41.0 -0.3**
comp=Z,3.4nm,0.5s,SNR=11
RCHB Rochefort 73.75 11 *d*P **P 22 36 41.7 -0.4**
comp=Z,7.2nm,1.4s
BMRD Maredsous 73.82 10 *d*P **P 22 36 43.9 +1.3**
BZS Buzias 73.94 23 ⇑P **P 22 36 43.9 +0.5**
BZS Buzias 73.94 23 P P 22 36 43.8 +0.5
BGES Gesves 73.95 10 *d*P **P 22 36 43.7 +0.4**
BCLA Clavier 74.02 11 *d*P **P 22 36 44.5 +0.8**
RONA Rosalia, Austr 74.03 19 *e*P **P 22 36 44.9 +1.0**
comp=Z,2.4nm,0.5s,SNR=14
BHOU Houvegnez 74.08 11 *d*P **P 22 36 45.5 +1.4**
ABTO Aybut 74.11 63 P P 22 36 46.0 +1.0
CONA Conrad Observa 74.11 18 *e*P **P 22 36 45.2 +0.8**
comp=Z,3.1nm,0.6s,SNR=19
GZR Gura Zlata 74.18 24 ⇓P **P 22 36 45.3 +0.4**
GZR Gura Zlata 74.18 24 P P 22 36 45.2 +0.4
ANTO Ankara 74.18 33 P P 22 36 45.2 +0.2
ANTO IAmb IAmb 22 36 50.2
comp=Z,87nm,1.7s
ANTO Ankara 74.18 33 S **S 22 46 24.5 +6.1**
ANTO Ankara 74.18 33 P **P 22 36 45.2 +0.2**
ANTO pmax pmax
comp=Z,87nm,1.7s
ANTO Ankara 74.18 33 P P 22 36 46.9 +1.9
comp=Z,294nmcomp=Z,13nm,1.8s
BSTI Sart Tilman 74.22 11 *d*P **P 22 36 46.4 +1.5**
comp=Z,3.6nm,1.3s
UCC Uccle 74.23 10 P 22 36 45.1 +0.2
UCC IAmb IAmb 22 36 49.0
comp=Z,84nm,1.6s
UCC Uccle 74.23 10 *d*P **P 22 36 45.4 +0.5**
UCC Uccle 74.23 10 P **P 22 36 45.1 +0.2**
UCC pmax pmax
comp=Z,84nm,1.6s
SURR Surduc 74.24 23 ⇑P **P 22 36 45.4 +0.2**
HUMR Humele 74.31 26 ⇓P **P 22 36 45.4 -0.1**
BTNL Ternell 74.32 11 *d*P **P 22 36 46.1 +0.6**
comp=Z,9.8nm,1.5s
MEM Membach 74.32 11 *d*P **P 22 36 46.5 +1.1**
GEC2 GERESS Array S 74.35 16 P 22 36 45.4 -0.4
GEC2 IAmb IAmb 22 36 47.7
comp=Z,72nm,2.0s
GERES GERESS Array B 74.35 16 P **P 22 36 45.7 -0.1**
comp=Z,2.8nm,0.5s,baz=184,slow=4.0,SNR=17
GERES LR LR 23 08 54.4
comp=Z,300nm,19.3s,baz=249,slow=35
comp=Z,2.8nm,0.5s
CKRC Cesky Krumlov 74.49 17 *e*P **P 22 36 46.9 +0.4**
CKRC *e**PP **pwP 22 36 52.8 -1.4**
CKRC MLR MLR
comp=Z,500nm,21.2s
CKRC Cesky Krumlov 74.49 17 *e*P **P 22 36 46.9 +0.4**
CKRC *e*pP **pwP 22 36 52.8 -1.4**
CKRC AMS AMS 23 06 00.0
comp=Z,500nm,21.2s
BR105 Keskin Array S 74.50 34 P P 22 36 48.3 +1.4
comp=Z,167nmcomp=Z,19nm,0.9s
BR104 Keskin Array S 74.50 34 P P 22 36 48.0 +1.1
comp=Z,133nmcomp=Z,18nm,1.0s
BR106 Keskin Array S 74.51 34 P P 22 36 48.2 +1.2
comp=Z,129nmcomp=Z,15nm,0.9s
BR131 Keskin Array S 74.51 34 P P 22 36 47.7 +0.6
BR131 Keskin Array S 74.51 34 P P 22 36 48.8 +1.7
SNR=9.8
BR131 Keskin Array S 74.51 34*c i*P **P 22 36 47.8 +0.8**
BRTR Keskin Array B 74.51 34 P 22 36 47.6 +0.6
BRTR Keskin Array B 74.51 34 P P 22 36 48.2 +1.2
comp=Z,14nm,1.1s,baz=190,slow=5.9,SNR=40
comp=Z,14nm,1.1s
BRTR Keskin Array B 74.51 34 P P 22 36 47.6 +0.6
SIRR Siria 74.52 23 ⇑P **P 22 36 47.2 +0.5**
GRFO Grafenberg 74.52 15 P P 22 36 47.1 +0.5
GRFO IAmb IAmb 22 36 48.8
comp=Z,61nm,1.5s
GRFO Grafenberg 74.52 15 P P 22 36 47.1 +0.5
GRFO pmax pmax
comp=Z,61nm,1.5s
GRA1 Grafenberg Arr 74.52 15 P P 22 36 47.0 +0.3
GRA1 IAmb IAmb 22 36 48.8
comp=Z,56nm,1.4s
GRF Grafenberg Arr 74.52 15 P P 22 36 47.0 +0.3
GRF pmax pmax
comp=Z,56nm,1.4s
KHC Kasperske Hory 74.58 16 ⇓*i* P **P 22 36 47.2 +0.1**
KHC pmax pmax
comp=Z,18nm,1.4s
KHC Kasperske Hory 74.58 16 *e*P **P 22 36 47.0 0.0**
KHC *e*pP **pwP 22 36 53.1 -1.6**
KHC AMS AMS 23 09 00.0
comp=Z,400nm,15.9s
KHC Kasperske Hory 74.58 16 P P 22 36 47.1 0.0
comp=Z,9.6nm,1.2s
LOT Lotru 74.60 24 ⇑P **P 22 36 48.0 +0.7**
GAZ Gaziantep 74.61 38 P P 22 36 48.1 +0.5
GAZ IAmb IAmb 22 36 50.4
comp=Z,93nm,1.8s
DEV Deva 74.64 24 ⇓P **P 22 36 48.1 +0.7**
DEV Deva 74.64 24 P P 22 36 48.1 +0.7
WHFO Wadi Hawf 74.78 63 P P 22 36 51.1 +2.1
ARR Arges 74.87 25 ⇓P **P 22 36 49.1 +0.2**
MODS Modra-Piesok 74.92 19 *e*P **P 22 36 50.2 +1.1**
MODS pmax pmax
comp=Z,162nm,1.6s
MODS Modra-Piesok 74.92 19 *e*P **P 22 36 50.2 +1.1**
ZVC Zvikov 75.02 17 *e*P **P 22 36 49.0 -0.6**
ZVC AMS AMS 23 08 00.0
comp=Z,500nm,16.5s
BNN Bunyan 75.04 36 P P 22 36 50.6 +0.5
BNN IAmb IAmb 22 36 54.4
comp=Z,51nm,1.8s
VOIR 75.09 25 ⇓P **P 22 36 50.2 +0.1**
VOIR 75.09 25 P P 22 36 50.2 +0.1
VOIR 75.09 25 P P 22 36 50.2 +0.1
comp=Z,7.6nm,0.8s
TREC Trest 75.24 17 AMS AMS 23 08 10.0
comp=Z,500nm,18.5s
KRUC Moravsky 75.28 18 *e*P **P 22 36 51.1 0.0**
DRGR 75.34 23 ⇑P **P 22 36 52.7 +1.1**
DRGR 75.34 23 P P 22 36 52.7 +1.1
PSZ Piszkesteto 75.34 21 P 22 36 51.4 -0.1
PSZ IAmb IAmb 22 36 53.9
comp=Z,59nm,1.3s
PSZ Piszkesteto 75.34 21 ⇓P **P 22 36 51.9 +0.4**
PSZ Piszkesteto 75.34 21 P P 22 36 51.4 -0.1
PSZ pmax pmax
comp=Z,59nm,1.3s
MARR Marisel-Cluj 75.39 23 ⇑P **P 22 36 52.8 +0.9**
DOK Doka 75.42 62 P P 22 36 53.8 +1.2
ISR Istrita 75.42 26 P P 22 36 52.5 +0.4
comp=Z,27nm,1.6s
JAVC Velka Javorina 75.48 19 *e*P **P 22 36 53.2 +0.9**
MLR Muntele Rosu 75.49 26 P 22 36 52.3 -0.2

MLR Muntele Rosu 75.49 26 LR LR 23 11 01.4
comp=Z,221nm,20.0s,baz=232,slow=36
MLR Muntele Rosu 75.49 26 ⇓P **P 22 36 52.9 +0.4**
MLR Muntele Rosu 75.49 26 P **P 22 36 52.3 -0.2**
MLR pmax pmax
comp=Z,126nm,1.6s
MLR Muntele Rosu 75.49 26 P **P 22 36 52.7 +0.2**
comp=Z,36nm,1.4s
ILGA Ilgaz 75.53 33 P **P 22 36 53.6 +0.6**
ILGA IAmb IAmb 22 36 58.1
comp=Z,63nm,1.3s
VRAC Vranov 75.56 18 LR LR 23 10 03.7
comp=Z,686nm,18.7s,baz=225,slow=36
VRAC Vranov 75.56 18 ⇑P **P 22 36 52.9 +0.1**
VRAC Vranov 75.56 18 *e*P **P 22 36 52.5 -0.2**
VRAC Vranov 75.56 18 P **P 22 36 52.8 +0.1**
CJR Cluj-Napoca 75.60 24 ⇑P **P 22 36 54.6 +1.5**
CJR Cluj-Napoca 75.60 24 P **P 22 36 54.5 +1.5**
PRU Pruhonice 75.62 17 AMS AMS 23 08 00.0
comp=Z,500nm,16.8s
DMTO DMTO 75.65 64 P **P 22 36 55.3 +1.4**
DOPR Dopca 75.66 25 ⇓P **P 22 36 52.9 -0.4**
PRA Prague 75.66 16 AMS AMS 23 08 20.0
comp=Z,500nm,18.6s
TIRR Tirgusor 75.68 28 P **P 22 36 53.2 -0.2**
TIRR IAmb IAmb 22 36 54.8
comp=Z,62nm,1.5s
TIRR Tirgusor 75.68 28 P **P 22 36 53.2 -0.2**
TIRR pmax pmax
comp=Z,62nm,1.5s
SMRA Abu-Samra 76.00 55 P **P 22 36 57.4 +1.7**
SMRA S **S 22 46 42.3 +3.3**
PLOR5 Plostina Array 76.07 26 P **P 22 36 55.6 -0.1**
comp=Z,9.1nm,0.7s
VRI Vrincioaia 76.11 26 ⇑P **P 22 36 56.1 +0.2**
VRI Vrincioaia 76.11 26 P **P 22 36 56.1 +0.2**
VRI Vrincioaia 76.11 26 P **P 22 36 55.7 -0.2**
comp=Z,27nm,1.6s
KBD Kabd 76.20 50 S **S 22 46 46.4 +5.4**
MORC Moravsky Berou 76.26 18 P **P 22 36 56.4 -0.3**
MORC IAmb IAmb 22 36 59.1
comp=Z,43nm,1.5s
MORC Moravsky Berou 76.26 18 ⇑P **P 22 36 57.2 +0.5**
MORC Moravsky Berou 76.26 18 *e*P **P 22 36 56.9 +0.2**
MORC Moravsky Berou 76.26 18 P **P 22 36 56.4 -0.3**
MORC pmax pmax
comp=Z,43nm,1.5s
BRG Berggiesshubel 76.27 16 *e*P **P 22 36 57.0 +0.4**
BRG Amp 22 36 58.8
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 76.27 16 P P 22 37 03.2 +6.5
BRG Amp 22 37 04.2
comp=Z,10nm,1.1s
LANS Liptovska Anna 76.29 20 *e*P **P 22 36 58.8 +1.9**
LANS pmax pmax
comp=Z,12nm,1.3s
LANS Liptovska Anna 76.29 20 *e*P **P 22 36 58.8 +1.9**
KRLC Kraliky 76.31 18 *e*P **P 22 36 57.4 +0.4**
KRLC MLR MLR
comp=Z,400nm,20.6s
KRLC Kraliky 76.31 18 *e*P **P 22 36 57.4 +0.4**
KRLC AMS AMS 23 08 10.0
comp=Z,400nm,20.6s
SHAO Shalim 76.36 64 P **P 22 36 59.9 +2.0**
DPC Dobruska-Polom 76.43 17 *e*P **P 22 36 57.9 +0.3**
DPC MLR MLR
comp=Z,600nm,20.3s
DPC Dobruska-Polom 76.43 17 *e*P **P 22 36 57.9 +0.3**
DPC AMS AMS 23 08 40.0
comp=Z,600nm,20.3s
DPC Dobruska-Polom 76.43 17 P **P 22 36 58.1 +0.5**
comp=Z,11nm,1.0s
CLL Collm 76.44 15 P **P 22 36 57.5 -0.1**
CLL Collm 76.44 15 *i* P **P 22 36 57.9 +0.3**
CLL *e*S **S 22 46 41.0 -1.8**
CLL pmax pmax
comp=Z,52nm,2.0s
CLL Collm 76.44 15 *i* P **P 22 36 57.9 +0.3**
comp=Z,52nm,2.0s
CLL *e*x x 22 46 13.0
CLL *e*S **S 22 46 41.0 -1.8**
CLL *e*PS **PnS 22 47 24.0 +3.1**
CLL *e*PPS PPS 22 47 48.0
SAKB Bahrain 76.46 54 P **P 22 37 00.9 +2.6**
STEB Steborice 76.47 18 *e*P **P 22 36 57.8 0.0**
STEB *e*pP **sP 22 37 02.7 +1.4**
UPC Upice 76.48 17 *e*P **P 22 36 58.1 +0.2**
UPC MLR MLR
comp=Z,700nm,18.9s
UPC Upice 76.48 17 *e*P **P 22 36 58.1 +0.2**
UPC AMS AMS 23 08 20.0
comp=Z,700nm,18.9s
TRSU Trosnyk 76.54 22 P **P 22 36 58.9 +0.7**
BERU Beregovo 76.55 22 P **P 22 36 58.7 +0.4**
CHVC Chvalec 76.57 17 *e*P **P 22 36 58.7 +0.3**
CHVC MLR MLR
comp=Z,600nm,17.8s
CHVC Chvalec 76.57 17 *e*P **P 22 36 58.7 +0.3**
CHVC AMS AMS 23 08 50.0
comp=Z,600nm,17.8s
OSTC Ostas 76.58 17 *e*P **P 22 36 59.2 +0.7**
OSTC MLR MLR
comp=Z,800nm,20.2s
OSTC Ostas 76.58 17 *e*P **P 22 36 59.2 +0.7**
OSTC AMS AMS 23 08 40.0
comp=Z,800nm,20.2s
TESR Tescani 76.61 26 P **P 22 36 58.6 -0.1**
comp=Z,11nm,1.3s
KORU Korolevo 76.65 23 P **P 22 37 00.4 +1.5**
HOLU Holmets 76.71 22 P **P 22 36 59.5 +0.3**
MUKU Mukachevo 76.75 22 P **P 22 37 01.0 +1.6**
BRIU Brid 76.77 22 P **P 22 37 00.6 +1.1**
MARD Mardin 76.78 40 P **P 22 36 59.7 -0.4**
NIE Niedzica 76.78 20 P **P 22 37 00.3 +0.6**
comp=Z,4.7nm,1.4s
KSP Ksiaz 76.86 17 P **P 22 37 00.6 +0.6**
comp=Z,20nm,1.5s
BURAR Bucovina Array 76.96 24 P **P 22 37 00.9 +0.1**
BUR08 Bucovina Ar. S 76.98 24 P **P 22 37 00.7 -0.2**
BUR08 IAmb IAmb 22 37 52.0
comp=Z,38nm,1.6s
MEZ Mezhgor'ye 77.09 23 P **P 22 37 02.6 +1.2**
MZR Muzera 77.14 58 P **P 22 37 03.5 +1.3**
OJC Ojcow 77.33 20 *e*P **P 22 37 02.7 0.0**
OJC Ojcow 77.33 20 P **P 22 37 02.3 -0.4**
OJC Ojcow 77.33 20 P **P 22 37 02.3 -0.4**
OJC Ojcow 77.33 20 P **P 22 37 02.8 +0.1**
comp=Z,25nm,1.1s
STNU Starunia 77.61 23 P **P 22 37 05.1 +0.8**
SHIU Shidnytsya 77.64 22 P **P 22 37 05.5 +1.0**
KWP Kalwaria Pacla 77.76 21 P **P 22 37 05.8 +0.7**
comp=Z,49nm,1.6s
ESK Eskdalemuir 77.82 4 P **P 22 37 04.9 -0.4**
ESK Eskdalemuir 77.82 4 P **P 22 37 04.9 -0.4**
ESK pmax pmax
comp=Z,166nm,1.7s
EKA Eskdalemuir Ar 77.84 4 P **P 22 37 06.2 +0.8**
comp=Z,14nm,0.9s,baz=175,slow=5.0,SNR=15
comp=Z,14nm,0.9s
MZWR Madinat Zayed 77.84 58 P **P 22 37 08.2 +2.1**
MZWR S **S 22 47 03.8 +4.6**
UMZA Um Al Zommool 78.32 59 P **P 22 37 10.8 +2.0**
UMZA S **S 22 47 10.5 +6.1**
GURO Guroymak-BITLI 78.34 40 P **P 22 37 08.5 -0.3**
NE56 Odesa 78.50 28 P **P 22 37 09.4 +0.2**
SORM Soroca 78.60 26 ⇑P **P 22 37 09.5 -0.3**
SORM Soroca 78.60 26 P **P 22 37 09.4 -0.3**
DQM DQM 78.87 63 P **P 22 37 13.5 +1.6**
AJN Ajban 79.12 58 S **S 22 47 17.6 +4.8**
GKP Gorka Klasztor 79.30 17 *e*P **P 22 37 13.9 +0.4**
ASUD Al Ashush, Dub 79.42 58 S **S 22 47 18.2 +2.2**
ALNE Al Ain 79.46 58 P **P 22 37 16.7 +1.6**
R9F13 Warsaw-Wawer 79.49 19 *e*P **P 22 37 15.6 +1.1**
JTS Las Juntas de 79.66 286 LR LR 23 12 08.8
comp=Z,445nm,19.6s,baz=116,slow=35
ARQ Araqi 79.71 59 P **P 22 37 18.6 +2.1**
ARQ P **sP 22 37 21.0 +1.0**
SNR=5.7
SBA Scott Base 79.80 179 **P 22 37 16.9 +0.8**
SBA Scott Base 79.80 179 P **P 22 37 16.9 +0.8**
SBA pmax pmax
comp=Z,126nm,1.7s
LUBAR Lubar, Ukraine 79.81 24 P **P 22 37 15.7 -0.7**
ESPN Las Esperanzas 79.90 288 P **P 22 37 16.8 -0.8**
ESPN Las Esperanzas 79.90 288 P **P 22 37 18.8 +1.2**
ASHO Ashiyiah 80.02 58 P **P 22 37 20.1 +2.0**
ASHO S **S 22 47 26.7 +4.2**
VNDA Vanda 80.05 178 P **P 22 37 17.5 +0.1**
VNDA IAmb IAmb 22 37 19.6
comp=Z,52nm,1.5s
VNDA Vanda 80.05 178 P **P 22 37 18.2 +0.7**
comp=Z,13nm,1.2s,baz=217,slow=5.4,SNR=32
VNDA PP **PP 22 40 19.5 +0.7**
comp=Z,3.6nm,1.1s,baz=218,slow=9.6,SNR=3.8
VNDA LR LR 23 09 08.9
comp=Z,699nm,18.4s,baz=184,slow=33
comp=Z,13nm,1.2s
VNDA Vanda 80.05 178 P **P 22 37 17.5 +0.1**
VNDA pmax pmax
comp=Z,52nm,1.5s
SOHO SOHO 80.12 59 P **P 22 37 20.3 +1.7**
ANN Anapa 80.13 33 *e*P **P 22 37 16.5 -1.7**
ANN *e**PP **pP 22 37 19.9 -0.8**
ANN *e* 22 40 15.2
ANN *e*S **S 22 47 21.5 -1.2**
ANN *e*SS **SS 22 52 30.9 -3.0**
ANN pmax pmax
comp=Z,66nm,1.5s
HATD Hatta, Dubai 80.15 58 P **P 22 37 20.9 +2.1**
UOSS Minazif 80.27 58 P **P 22 37 17.8 -1.6**
UOSS Minazif 80.27 58 P **P 22 37 21.1 +1.7**
MASF Masafi 80.45 58 P **P 22 37 22.4 +2.0**
MASF S **S 22 47 32.0 +5.0**
SOC Sochi 80.45 35 *e*P **P 22 37 18.9 -1.0**
SOC *e* 22 40 22.6
SOC *e*PPP PPP 22 42 15.4
SOC *e*S **S 22 47 26.3 +0.2**
SOC *e*SS **SS 22 52 41.9 +3.2**
SOC *e*SSS SSS 22 56 08.7
SOC pmax pmax
comp=Z,36nm,1.3s
SOC MLR MLR
comp=Z,233nm,19.0s
HOQ Hoqain 80.46 60 P **P 22 37 22.9 +2.3**
HOQ P **sP 22 37 24.0 0.0**
SNR=5.6
VSLR Vesyoloye 80.53 35 *d i* P **P 22 37 21.5 +1.1**
VSLR pmax pmax
comp=Z,78nm,1.4s
ACON Acoyapa 80.57 287 P **P 22 37 19.9 -1.3**
MI28 Mi28,Pidlybu 80.60 23 P **P 22 37 20.9 +0.3**
SHME Shamm 80.78 57 P **P 22 37 22.8 +0.7**
SMDO Samad 80.80 60 P **P 22 37 24.5 +2.1**
NAX Nakhchivan 80.81 41 P **P 22 37 23.2 +1.1**
BANOM Banah 80.83 57 P **P 22 37 23.9 +1.4**
AK13 Malin Array Si 80.87 24 P **P 22 37 21.6 -0.4**
AK07 Malin Array Si 80.87 24 P **P 22 37 21.6 -0.4**
AK05 Malin Array Si 80.93 24 P **P 22 37 22.2 -0.1**
AK12 Malin Array Si 80.93 24 P **P 22 37 22.2 -0.1**
SIUN Universidad Ur 80.97 289 P **P 22 37 23.1 -0.3**
SIUN IAmb IAmb 22 39 32.2
comp=Z,11nm,0.3s
GNI Garni 80.97 40 **P 22 37 22.8 -0.3**
GNI Garni 80.97 40 LR LR 23 10 40.0
comp=Z,86nm,21.8s,baz=254,slow=34
GNI Garni 80.97 40 P **P 22 37 24.4 +1.3**
GNI Garni 80.97 40 *c i* P **P 22 37 24.1 +1.0**
GNI pmax pmax
comp=Z,78nm,1.6s
GNI Garni 80.97 40 P **P 22 37 24.0 +1.0**
comp=Z,780nmcomp=Z,40nm,1.8s
KIEV Kiev 80.99 24 ⇓P **P 22 37 22.8 +0.1**
KIEV Kiev 80.99 24 P **P 22 37 22.7 +0.1**
KIEV Kiev 80.99 24 P **P 22 37 22.7 +0.1**
comp=Z,120nm,1.4s
AKASG Malin Array Be 81.00 24 P **P 22 37 22.1 -0.6**
AKASG IAmb IAmb 22 37 24.2
comp=Z,65nm,1.6s
AKASG Malin Array Be 81.00 24 P **P 22 37 22.0 -0.7**
comp=Z,10nm,0.9s,baz=222,slow=5.4,SNR=47
AKASG LR LR 23 13 45.8
comp=Z,126nm,19.6s,baz=217,slow=36
comp=Z,10nm,0.9s
AKASG Malin Array Be 81.00 24 *i* P **P 22 37 22.8 +0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 81.00 24 **P 22 37 21.5 -1.2**
AKBB IAmb IAmb 22 37 23.7
comp=Z,42nm,1.1s
AKBB Malin Array Si 81.00 24 *c i* P **P 22 37 22.3 -0.4**
AKBB pmax pmax
comp=Z,48nm,1.3s
AKBB Malin Array Si 81.00 24 P **P 22 37 22.6 -0.1**
AK23 Malin Array Si 81.01 24 P **P 22 37 22.6 -0.2**
BIDO Bidbid 81.09 60 P **P 22 37 26.3 +2.4**
SNR=5.5
CASY Casey 81.10 160 **P 22 37 23.1 -0.1**
CASY IAmb IAmb 22 37 25.1
comp=Z,39nm,1.0s
SUW Suwalki 81.66 19 *e*P **P 22 37 26.2 +0.1**
SUW Suwalki 81.66 19 P **P 22 37 25.9 -0.2**
SUW Suwalki 81.66 19 P **P 22 37 25.9 -0.2**
LABN Labinsk 81.70 34 *e*P **P 22 37 26.2 -0.4**
LABN *e**PP **pP 22 37 28.6 -0.6**
LABN *e*S **S 22 47 39.9 +0.8**
LABN pmax pmax
comp=Z,132nm,1.7s
SHA1 Shidzhatmaz 82.12 36 *c i* P **P 22 37 30.0 +0.8**
GANJ Ganja 82.22 40 P **P 22 37 30.7 +1.2**
KBZ Khabaz 82.25 36 P **P 22 37 30.6 +1.1**
comp=Z,15nm,1.1s,baz=243,slow=4.1,SNR=29
KBZ LR LR 23 14 39.7
comp=Z,52nm,20.6s,baz=256,slow=36
comp=Z,15nm,1.1s
KBZ Khabaz 82.25 36 *c i* P **P 22 37 30.1 +0.6**
KBZ pmax pmax
comp=Z,51nm,1.5s
KIV Kislovodsk 82.28 36 **P 22 37 29.9 0.0**
KIV Kislovodsk 82.28 36 P **P 22 37 31.0 +1.1**
KIV Kislovodsk 82.28 36 ⇑P **P 22 37 30.7 +0.9**
KIV Kislovodsk 82.28 36 *e*P **P 22 37 30.2 +0.4**
KIV *e*S **S 22 47 47.2 +1.9**
KIV pmax pmax
comp=Z,43nm,1.0s
KIV pmax pmax
comp=Z,32nm,3.3s
KIV Kislovodsk 82.28 36 P **P 22 37 30.8 +0.9**
comp=Z,715nmcomp=Z,49nm,1.5s
ERBR Yeremizino-Bor 82.31 33 *e*P **P 22 37 28.7 -1.1**
ERBR *e**PP **pP 22 37 32.2 -0.1**
ERBR *e*S **S 22 47 45.9 +0.5**
ERBR pmax pmax
comp=Z,118nm,1.7s
NCK Nalchik 82.48 37 ⇓ *i* P **P 22 37 32.3 +1.5**
NCK pmax pmax
comp=Z,82nm,1.3s
LKRN Lenkeran, Azer 82.55 43 P **P 22 37 32.2 +1.0**
MNGR Mingechevir, A 82.76 40 P **P 22 37 33.4 +1.2**
SEKA Sheki 83.09 40 P **P 22 37 35.5 +1.4**
PABE Paberze 83.17 19 **P 22 37 33.9 -0.1**
GOF Gofitskoye 83.20 35 *c e*P **P 22 37 35.2 +0.7**
AKT Akhty 83.58 40 *e*P **P 22 37 36.7 +0.1**
AKT *e* 22 40 49.6
AKT pmax pmax
comp=Z,21nm,1.2s
MNK Minsk 83.59 21 *i* P **P 22 37 34.1 -2.1**
MNK *i* 22 40 44.4
MNK *i* PPP PPP 22 42 37.9
MNK *i* S **S 22 47 55.5 -2.4**
MNK *i* SS **SS 22 53 24.6 -0.4**
MNK *i* SSS SSS 22 56 52.3
MNK pmax pmax
comp=N,13nm,1.0s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK MLR MLR
comp=N,290nm,19.0s
MNK MLR MLR
comp=Z,238nm,20.0s
MNK MLR MLR
comp=E,250nm,18.0s
MAK Makhachkala 84.35 39 *e*P P 22 37 35.1 -5.2
MAK *e*S **SKSac 22 47 54.2 -10**
MAK *e*SS **SS 22 53 30.9 -5.8**
MAK *e*SSS SSS 22 56 59.7
MAK pmax pmax
comp=Z,248nm,1.7s
NB2 NORSAR Subarra 85.17 11 P **P 22 37 44.9 +0.8**
comp=Z,25nm,1.0s,baz=201,slow=5.9
NB2 NORSAR Subarra 85.17 11 P **P 22 37 44.4 +0.3**
NB2 NORSAR Subarra 85.17 11 P **P 22 37 44.9 +0.8**
baz=201,slow=5.9
NOA NORSAR Array B 85.17 11 P **P 22 37 45.0 +0.9**
comp=Z,5.8nm,0.8s,baz=199,slow=5.4,SNR=19
NOA LR LR 23 16 15.1
comp=Z,292nm,18.6s,baz=205,slow=36
comp=Z,5.8nm,0.8s
NC204 NORSAR Array S 85.31 10 **P 22 37 45.8 +1.0**
NC204 IAmb IAmb 22 37 53.4
comp=Z,23nm,1.0s
VORD Divnogorie 85.40 29 *e*P **P 22 37 43.9 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.9s
BATG Bathurst New B 85.49 326 **P 22 37 46.3 +0.3**
BATG IAmb IAmb 22 37 48.4
comp=Z,22nm,1.1s
VSR Storozhevoye 85.52 29 *e*P **P 22 37 43.3 -2.7**
VSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 85.86 29 *e*P **P 22 37 45.0 -2.7**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 86.39 28 *e*P **P 22 37 48.2 -2.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
VSU Vasula 86.48 19 ⇓ *e*P **P 22 37 51.4 +0.8**
VSU pmax pmax
comp=Z,32nm,1.0s
VRH Novokhopyorsk 86.67 30 *e*P **P 22 37 50.4 -1.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
WUPA West Chester U 86.69 316 P **P 22 37 52.3 +0.2**
D62A Allapoint, All 86.95 324 **P 22 37 53.3 +0.1**
D62A IAmb IAmb 22 37 57.1
comp=Z,18nm,0.9s
RPN Rapa Nui 87.17 242 LR LR 23 09 50.7
comp=Z,66nm,21.9s,baz=6.0,slow=31
OBN Obninsk 87.24 25 P **P 22 37 55.2 +0.9**
comp=Z,13nm,0.5s,baz=161,slow=5.6,SNR=7.3
OBN LR LR 23 18 52.6
comp=Z,93nm,18.2s,baz=190,slow=37
comp=Z,13nm,0.5s
OBN Obninsk 87.24 25 *d e*P **P 22 37 52.8 -1.6**
OBN *e* 22 41 18.9
OBN *e*PPP PPP 22 43 12.9
OBN *e*S **SKSac 22 48 20.7 -0.7**
OBN *e*SS **SS 22 54 17.3 -1.3**
OBN *e*SSS SSS 22 57 49.6
OBN pmax pmax
comp=Z,68nm,1.7s
OBN MLR MLR
comp=Z,326nm,16.0s
BORG Borgarnes 87.40 355 LR LR 23 10 12.7
comp=Z,370nm,19.1s,baz=177,slow=31
MOS Moscow 88.11 25 *e*P **P 22 37 57.3 -1.2**
MOS pmax pmax
comp=Z,125nm,1.6s
MOS MLR MLR
comp=E,400nm,17.0s
MOS MLR MLR
comp=Z,400nm,17.0s
PAULI Pauline 88.30 309 P **P 22 37 59.8 -0.2**
SSPA Standing Stone 88.54 315 P **P 22 38 00.8 -0.2**
SSPA IAmb IAmb 22 38 03.8
comp=Z,13nm,0.9s
FINES FINESS Array B 88.78 17 P **P 22 38 02.4 +0.8**
FINES FINESS Array B 88.78 17 P **P 22 38 02.6 +1.0**
comp=Z,5.2nm,0.6s,baz=188,slow=4.1,SNR=32
FINES LR LR 23 17 29.9
comp=Z,308nm,21.3s,baz=232,slow=35
comp=Z,5.2nm,0.6s
FINES FINESS Array B 88.78 17 P **P 22 38 02.4 +0.8**
FIA1 FINESS Array S 88.78 17 P **P 22 38 02.4 +0.8**
HRA Herat 89.45 52 **P 22 38 05.5 -0.2**
HRA IAmb IAmb 22 38 08.1
comp=Z,53nm,1.8s
TRQ Mont Tremblant 89.51 321 **P 22 38 04.8 -0.7**
TRQ IAmb IAmb 22 38 09.9
comp=Z,44nm,1.3s
TKL Tuckaleechee C 90.11 309 LR LR 23 12 31.5
comp=Z,315nm,19.0s,baz=124,slow=32
BELG Belogornoye 90.23 31 ⇑ *e*P **P 22 38 09.1 +0.5**
BELG pmax pmax
comp=Z,7.0nm,1.3s
SCHQ Schefferville 90.74 331 P **P 22 38 10.3 -0.6**
comp=Z,53nm,0.9s,baz=146,slow=1.3,SNR=4.7
SCHQ LR LR 23 12 18.2
comp=Z,6μm,19.9s,baz=136,slow=31
CMIG Matias Romero 91.24 288 LR LR 23 17 23.0
comp=Z,370nm,22.0s,baz=119,slow=34
SADO Sadowa 91.46 318 LR LR 23 10 31.4
comp=Z,2μm,21.9s,baz=124,slow=30
ACSO Alum Creek Sta 91.71 313 **P 22 38 16.4 +0.6**
ACSO IAmb IAmb 22 38 18.3
comp=Z,17nm,0.9s
KLMR Klimovskoe 92.47 22 *e*P **P 22 38 16.6 -2.2**
KLMR pmax pmax
comp=Z,35nm,1.6s
KLMR MLR MLR
comp=Z,334nm,18.0s
WCI Wyandotte Cave 93.08 310 P **P 22 38 21.3 -0.9**
WCI IAmb IAmb 22 38 24.0
comp=Z,14nm,1.0s
WCI Wyandotte Cave 93.08 310 P **P 22 38 21.3 -0.9**
WCI pmax pmax
comp=Z,14nm,1.0s
JMIC Jan Mayen 93.30 1 LR LR 23 20 17.0
comp=Z,196nm,18.6s,baz=200,slow=36
PALK Pallekele 94.05 84 LR LR 23 15 13.9
comp=Z,256nm,21.1s,baz=250,slow=32
SFJD Kangerlussuaq 94.12 345 LR LR 23 12 04.8
comp=Z,492nm,21.1s,baz=162,slow=30
KIRV Kirov 94.80 27 *c e*P **P 22 38 29.6 +0.1**
AB31 Akbulak array 95.02 38 **P 22 38 30.5 -0.3**
AB31 IAmb IAmb 22 38 32.1
comp=Z,34nm,1.9s
ABKAR Akbulak array 95.02 38 **P 22 38 30.4 -0.5**
ARCES ARCESS Array B 95.43 12 LR LR 23 21 09.4
comp=Z,278nm,20.2s,baz=221,slow=35
CCM Cathedral Cave 96.55 308 **P 22 38 37.8 -0.3**
CCM IAmb IAmb 22 38 40.2
comp=Z,15nm,1.1s
CCM Cathedral Cave 96.55 308 P **P 22 38 37.8 -0.3**
CCM pmax pmax
comp=Z,15nm,1.2s
FRB Frobisher Bay 97.05 338 LR LR 23 13 29.6
comp=Z,324nm,21.5s,baz=115,slow=30
GAR Garm 97.28 51 **P 22 38 41.1 -0.5**
NIL Nilore 97.43 57 P **P 22 38 41.8 -0.5**
NIL IAmb IAmb 22 38 44.1
comp=Z,25nm,1.6s
NIL Nilore 97.43 57 P **P 22 38 41.8 -0.5**
NIL pmax pmax
comp=Z,25nm,1.7s
ARTI Arti 97.67 32 LR LR 23 24 31.8
comp=Z,103nm,19.7s,baz=250,slow=36
ARTI Arti 97.67 32 *d i* P Pdif 22 38 42.8 0.0
ARTI 22 42 40.5
ARTI S **SKSac 22 49 20.2 +0.4**
ARTI SS **SS 22 56 48.0 -0.5**
ARTI pmax pmax
comp=Z,13nm,1.8s
KSH Kashi 101.56 52 P **Pdif 22 39 00.2 -0.5**
KSH pmax pmax
comp=Z,3.0nm,1.3s
TXAR Lajitas Array 103.15 296 PP **PP 22 43 19.2 -4.1**
comp=Z,0.8nm,1.0s,baz=142,slow=6.3,SNR=4.8
TXAR PKKPbc **PKKPdf 22 55 17.1 +4.5**
comp=Z,0.2nm,0.2s,baz=251,slow=2.3,SNR=3.4
KURBB Kurchatov Arra 106.63 42 PKKPbc PKKPbc 22 55 05.6 +12
comp=Z,0.6nm,0.2s,baz=77,slow=2.5,SNR=4.5
MKAR Makanchi Array 108.08 46 PKKPbc PKKPbc 22 55 02.7 +13
comp=Z,0.5nm,0.7s,baz=59,slow=4.7,SNR=4.0
RKT Rikitea 109.28 234 *e*LR LR 23 15 31.2
comp=Z,4μm,41.5s
ZALV Zalesovo Beam 111.12 39 PP **PP 22 44 25.4 +4.4**
comp=Z,1.6nm,0.8s,baz=290,slow=4.3,SNR=4.8
WMQ Urumqi 111.16 50 *e*PKP **PKiKP 22 43 41.8 -0.3**
WMQ LR LR
comp=Z,98nm,23.9s
PDAR Pinedale Array 111.26 309 PP **PP 22 44 26.5 +3.9**
comp=Z,0.7nm,1.0s,baz=123,slow=5.5,SNR=3.7

CMAR	**Chiang Mai Arr**	**114.53**	**79**	PKP	PKPdf	22 43 48.4	-0.8
	comp=Z,0.6nm,0.3s,baz=232,slow=3.0,SNR=4.1						
CMAR				PKKPbc	**PKKPab**	**22 54 35.4**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=71,slow=3.0,SNR=5.1						
WRKA	**Warakurna**	**118.20**	**138**	P	**PKPdf**	**22 43 55.9**	**-0.4**
PZH	**PanZhiHua**	**119.06**	**71**	PKP	**PKPdf**	**22 43 57.4**	**-0.4**
TBI	**Tubuai**	**119.24**	**224**	*e*LR	LR	23 20 17.2	
	comp=Z,1μm,29.0s						
GTA	**Gaotai**	**119.49**	**56**	*e*PKP	**PKPdf**	**22 43 57.8**	**-0.5**
STKA	**Stephens Creek**	**119.74**	**153**	PKP	**PKPdf**	**22 43 58.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=101,slow=5.2,SNR=4.3						
STKA				PKKPbc	**PKKPab**	**22 54 13.5**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=310,slow=5.1,SNR=2.9						
FITZ	**Fitzroy Crossi**	**121.23**	**130**	P	**PKPdf**	**22 44 00.9**	**-1.2**
FITZ				P	**PKiKP**	**22 44 01.8**	**-0.5**
LZH	**Lanzhou**	**122.33**	**61**	*e*PKP	**PKPdf**	**22 44 01.6**	**-2.3**
ASAR	**Alice Springs**	**122.61**	**141**	PKP	**PKPdf**	**22 44 03.5**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=196,slow=2.1,SNR=40						
ASAR				PKKPbc	**PKKPbc**	**22 53 59.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=41,slow=4.5,SNR=10						
PPT2	**Papeete2**	**123.34**	**229**	*e*LR	LR	23 22 15.9	
	comp=Z,84nm,23.8s						
PPT2				*e*LR	LR	23 22 20.9	
	comp=Z,98nm,28.5s						
SONM	**Songino Array**	**124.44**	**47**	PKP	**PKPdf**	**22 44 07.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=229,slow=3.3,SNR=7.8						
QIZ	**Qiongzhong**	**124.62**	**82**	PKP	**PKPdf**	**22 44 06.4**	**-2.2**
QIZ				PP	**PP**	**22 45 53.9**	**-1.8**
QIZ				LR	LR		
	comp=Z,220nm,18.6s						
QIZ				LR	LR		
	comp=Z,300nm,23.1s						
ULN	**Ulaanbaatar**	**124.88**	**47**		**PKPdf**	**22 44 07.6**	**-0.9**
ULN	**Ulaanbaatar**	**124.88**	**47**	⇓*i*PKIKP	**PKPdf**	**22 44 08.0**	**-0.4**
QLP	**Quilpie**	**125.47**	**152**	P	**PKPdf**	**22 44 09.4**	**-0.7**
QLP				P	**PKiKP**	**22 44 10.2**	**-0.2**
WRA	**Warramunga Arr**	**125.70**	**138**		**PKPdf**	**22 44 09.3**	**-1.4**
WRA	**Warramunga Arr**	**125.70**	**138**	PKP	**PKPdf**	**22 44 09.5**	**-1.3**
	comp=Z,3.9nm,0.7s,baz=243,slow=2.2,SNR=31						
WRA	**Warramunga Arr**	**125.70**	**138**	PKIKP	**PKPdf**	**22 44 09.3**	**-1.4**
WR8	**Warramunga Arr**	**125.79**	**139**		**PKPdf**	**22 44 09.1**	**-1.8**
I28M	**Miner Creek**	**126.20**	**336**		**PKPdf**	**22 44 09.9**	**-0.4**
XAN	**Xi'an**	**126.30**	**64**	⇓PKP	**PKPdf**	**22 44 11.0**	**-0.4**
BTO	**Baotou**	**127.37**	**55**	*e*PKP	**PKPdf**	**22 44 13.0**	**-0.3**
TOLK	**Toolik Lake Re**	**127.58**	**342**	PKPdf	**PKPdf**	**22 44 13.1**	**+0.3**
BCAR	**Beaver Creek A**	**128.03**	**334**	PKPdf	**PKPdf**	**22 44 13.6**	**-0.2**
QIS	**Mount Isa**	**128.28**	**144**	P	**PKPdf**	**22 44 14.8**	**-0.8**
QIS				P	**PKiKP**	**22 44 15.6**	**-0.6**
HHC	**Hu-ho-hao-te**	**128.53**	**55**	*e*PKP	**PKiKP**	**22 44 16.1**	**-0.1**
HHC				LR	LR		
	comp=Z,160nm,16.0s						
HHC				LR	LR		
	comp=Z,230nm,19.3s						
ILAR	**Eielson Array**	**129.08**	**338**	PKPdf	**PKPdf**	**22 44 14.6**	**-1.1**
ILAR	**Eielson Array**	**129.08**	**338**	PKP	**PKPdf**	**22 44 15.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=348,slow=2.2,SNR=8.5						
ILAR	**Eielson Array**	**129.08**	**338**	PKIKP	**PKPdf**	**22 44 14.6**	**-1.1**
XLT	**XiLinHaoTe**	**131.59**	**51**	*e*PKP	**PKPdf**	**22 44 21.6**	**+0.4**
BJI	**Beijing**	**132.09**	**56**	PKP	**PKiKP**	**22 44 23.4**	**+0.2**
NJ2	**Nanjing**	**134.54**	**67**	*e*PKP	**PKPdf**	**22 44 26.5**	**-0.5**
DZM	**Mont Dzumac**	**135.56**	**176**	*e*LR	LR	23 27 50.3	
	comp=Z,705nm,22.9s						
SEY	**Seymchan**	**138.05**	**11**	*i* PKIKP	**PKPdf**	**22 44 32.3**	**-0.3**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MSVF	**Nonsavu**	**139.06**	**193**	PKPdf	**PKPdf**	**22 44 35.2**	**-0.8**
MSVF	**Nonsavu**	**139.06**	**193**	PKIKP	**PKPdf**	**22 44 35.2**	**-0.8**
KSRS	**Korea Array**	**141.54**	**58**	PKhKP	PKPpre	22 44 33.2	
	comp=Z,2.0nm,0.7s,baz=271,slow=3.4,SNR=6.3						
USRK	**Ussuriysk Ar.**	**142.55**	**46**	PKhKP	PKPpre	22 44 36.5	
	comp=Z,3.8nm,0.9s,baz=270,slow=3.8,SNR=4.4						
TEY	**Ternei**	**145.14**	**42**	⇓*e*PKIKP	**PKPab**	**22 44 45.4**	**0.0**
TEY				pmax	pmax		
	comp=N,10.0nm,1.8s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.8s						
TEY				pmax	pmax		
	comp=Z,50nm,0.9s						
NIKH	**Nikolski High**	**145.34**	**337**		**PKPbc**	**22 44 44.8**	**-0.9**
YSS	**Yuzhno-Sakhali**	**147.61**	**35**	*i* PKIKP	**PKPdf**	**22 44 49.4**	**-0.5**
YSS				pmax	pmax		
	comp=Z,200nm,5.6s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
PETK	**Petropavlovsk-**	**148.23**	**13**	PKPbc	**PKPdf**	**22 44 52.4**	**+1.6**
	comp=Z,6.2nm,0.8s,baz=53,slow=0.7,SNR=5.1						
PET	**Petropavlovsk**	**148.51**	**12c**	*i* PKP2	**PKiKP**	**22 44 57.1**	**+0.7**
PET				pmax	pmax		
	comp=Z,32nm,1.7s						
ASAJ	**Asahikawa**	**149.25**	**39**	PKP2	**PKPbc**	**22 44 55.8**	**-1.2**
JKA	**Kamikawa-asahi**	**149.25**	**39**		**PKPbc**	**22 44 55.8**	**-1.2**
JGF	**Kuroka**	**149.36**	**58**		**PKPbc**	**22 44 55.9**	**-1.8**
MJAR	**Matsushiro Arr**	**149.73**	**56**		**PKPdf**	**22 44 52.7**	**-1.1**
MJAR	**Matsushiro Arr**	**149.73**	**56**	PKPbc	**PKPbc**	**22 44 57.6**	**-0.9**
	comp=Z,7.3nm,1.0s,baz=287,slow=2.3,SNR=26						
JTM	**Tenmabayashi**	**150.07**	**46**		**PKPbc**	**22 44 58.3**	**-0.8**
JMM	**Marumori**	**151.18**	**52**		**PKPbc**	**22 45 00.8**	**-1.1**

LJU 01 22:31:37.2, 45°.60N×14°.40E, h19km, ML0.8, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.07**	**189**	⇓*i* Pg	Pg	22 31 40.0	-0.9
KNDS				*i* Sg	Sg	22 31 42.5	-0.8
KNDS				IAML		22 31 42.6	
	comp=Z,5.9nm,0.1s						
KNDS	**Knezji Dol**	**0.07**	**189**	*i* Pg	Pg	22 31 41.0	+0.2
KNDS				*i* Sg	Sg	22 31 43.6	+0.2
KNDS				IAML		22 31 43.6	
	comp=Z,12nm,0.1s						
CEY	**Cerknica**	**0.14**	**9**	*i* Pg	Pg	22 31 41.1	-0.4
CEY				*i* Sg	Sg	22 31 44.6	0.0
CEY				IAML		22 31 44.7	
	comp=Z,2.0nm,0.1s						
CEY	**Cerknica**	**0.14**	**9**	*i* Sg	Sg	22 31 45.6	+1.1
CEY				IAML		22 31 46.4	
	comp=Z,3.3nm,0.1s						
SKDS	**Skadanscina**	**0.27**	**260**	*i* Pg	Pg	22 31 42.3	-1.1
SKDS				*i* Sg	Sb	22 31 46.6	-0.9
SKDS				IAML		22 31 47.1	
	comp=Z,4.1nm,0.1s						
SKDS	**Skadanscina**	**0.27**	**260**	*i* Sg	Sg	22 31 47.8	+0.1
SKDS				IAML		22 31 47.8	
	comp=Z,4.2nm,0.1s						
VISS	**Visnje**	**0.37**	**56**	*i* Sg	Sg	22 31 50.6	+0.2
JAVS	**Javornik**	**0.38**	**322**	*i* Sg	Sg	22 31 50.8	+0.2

*GEN **01** 22:31:40.4, 44°.41N×6°.75E, h11km±1km, Ml1.3*
*LDG **01** 22:31:41.3±0.1, 44°.41N×6°.75E, h2km, Md2.4/3, Ml2.3/13, Error ellipse: s-maj=1.2km s-min=0.9km az=57.0*
*ROM **01** 22:31:41.2±0.2, 44°.411N±0°.008×6°.79E±0°.02, h10km, ML1.5/19, Error ellipse: s-maj=1.6km s-min=0.7km az=243.0*

STR 01 22:31:40.9±0.2, 44°N×2°×°±°, h10km, MLv2.0/32, 5C-2D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAUF	**Jausiers**	**0.03**	**8**	Pg	Pg	22 31 42.4	-0.6
JAUF				Sg	Sg	22 31 43.7	-0.8
SURF	**Saint Ours**	**0.10**	**30**	P	Pg	22 31 43.6	0.0
SURF				S	Sg	22 31 45.3	-0.3
SURF	**Saint Ours**	**0.10**	**30**	Pg	Pg	22 31 43.6	-0.1
SURF				Sg	Sg	22 31 45.8	+0.1
OGAG	**Argentiere**	**0.16**	**292**	P	Pg	22 31 48.9	+4.5
OGAG				S	Sg	22 31 54.9	+8.0
OGAG	**Argentiere**	**0.16**	**292**	Pg	Pg	22 31 48.9	+4.5
OGAG				Sg	Sg	22 31 55.0	+8.1
ENAUX	**Enaux**	**0.29**	**175**	Pg	Pg	22 31 46.5	-0.2
ENAUX				Sg	Sg	22 31 51.2	+0.6
PZZ	**Stroppo**	**0.29**	**67**	P	Pg	22 31 47.1	+0.3
PZZ				S	Sg	22 31 51.3	+0.6
PZZ	**Stroppo**	**0.29**	**67**	⇑P	Pg	22 31 47.1	+0.3
PZZ				S	Sg	22 31 51.4	+0.7
PZZ				AML	AML		
	comp=N,266μm,0.5s						
PZZ				AML	AML		
	comp=E,302μm,0.2s						
PZZ				AML	AML		
	comp=E,303μm,0.2s						
PZZ				AML	AML		
	comp=N,208μm,0.2s						
PZZ				AML	AML		
	comp=N,208μm,1.8s						
PZZ	**Stroppo**	**0.29**	**67**	Pg	Pg	22 31 47.0	+0.2
ISO	**Isola**	**0.31**	**134**	P	Pg	22 31 47.3	+0.3
ISO				S	Sg	22 31 51.3	+0.2
ISO	**Isola**	**0.31**	**134**	Pg	Pg	22 31 46.8	-0.3
ISO				Sg	Sg	22 31 50.8	-0.3
MBDF	**Montbardon**	**0.33**	**3**	*e*Pg	Pg	22 31 47.5	-0.1
MBDF				*e*Sg	Sg	22 31 52.5	+0.5
	comp=N,28nm,0.3s						
OGDI	**Digne**	**0.43**	**228**	P	Pb	22 31 50.6	0.0
OGDI	**Digne**	**0.43**	**228**	Pg	Pb	22 31 50.2	-0.4
STV	**Sant Anna di V**	**0.44**	**110**	P	Pg	22 31 49.7	+0.1
STV				S	Sg	22 31 55.5	0.0
STV	**Sant Anna di V**	**0.44**	**110**	⇑P	Pg	22 31 49.7	0.0
STV				S	Sg	22 31 56.0	+0.5
STV				AML	AML		
	comp=E,63μm,0.7s						
STV				AML	AML		
	comp=N,83μm,1.1s						
STV				AML	AML		
	comp=E,47μm,0.2s						
STV				AML	AML		
	comp=N,79μm,0.2s						
STV	**Sant Anna di V**	**0.44**	**110**	Pg	Pg	22 31 49.7	+0.1
SPIF	**crte de Spivo**	**0.49**	**134**	Pg	Pg	22 31 50.4	-0.1
ENR	**Entracque**	**0.51**	**109**	P	Pg	22 31 50.9	0.0
ENR				S	Sg	22 31 57.4	-0.4
ENR	**Entracque**	**0.51**	**109**	⇑P	Pg	22 31 50.9	0.0
ENR				S	Sg	22 31 58.1	+0.4
ENR				AML	AML		
	comp=E,74μm,0.2s						
ENR				AML	AML		
	comp=N,96μm,0.3s						
ENR				AML	AML		
	comp=E,71μm,0.2s						
ENR				AML	AML		
	comp=N,77μm,0.1s						
ENR	**Entracque**	**0.51**	**109**	Pg	Pg	22 31 50.8	-0.1
SALSA	**La sagne**	**0.52**	**184**	Pg	Pg	22 31 51.2	+0.2
RRL	**Rocca Remolon**	**0.53**	**4**	P	Pg	22 31 51.2	0.0
RRL				S	Sg	22 31 58.8	+0.6
RRL	**Rocca Remolon**	**0.53**	**4**	P	Pg	22 31 51.2	0.0
RRL				S	Sg	22 31 58.8	+0.6
RRL				AML	AML		
	comp=E,78μm,1.2s						
RRL				AML	AML		
	comp=N,59μm,1.3s						
RRL				AML	AML		
	comp=E,56μm,0.2s						
RRL				AML	AML		
	comp=N,43μm,0.4s						
RRL	**Rocca Remolon**	**0.53**	**4**	Pg	Pg	22 31 51.2	0.0
BHB	**Bricherasio**	**0.58**	**40**	P	Pg	22 31 52.4	+0.2
BHB				S	Sg	22 31 59.5	-0.3
BHB	**Bricherasio**	**0.58**	**40**	P	Pg	22 31 52.2	+0.1
BHB	**Bricherasio**	**0.58**	**40**	Pg	Pg	22 31 52.2	+0.1
BHB				Sg	Sg	22 31 59.9	0.0
MVIF	**Mont Vial**	**0.58**	**149**	S	Sb	22 32 01.3	-0.3
TURF	**col de Turini**	**0.63**	**132**	P	Pg	22 31 53.5	+0.4
TURF				S	Sg	22 32 01.7	+0.3
TURF	**col de Turini**	**0.63**	**132**	Pg	Pg	22 31 52.9	-0.2
TURF				Sg	Sg	22 32 01.4	0.0
CALF	**Calern**	**0.66**	**169**	Pg	Pg	22 31 53.6	0.0
TRIGF	**Trigance**	**0.69**	**201**	Pg	Pg	22 31 54.2	-0.1
SAOF	**Saorge**	**0.71**	**125**	P	Pb	22 31 55.1	-0.3
SAOF				S	Sg	22 32 04.6	+0.6
SAOF	**Saorge**	**0.71**	**125**	⇑P	Pg	22 31 54.6	-0.1
SAOF				S	Sg	22 32 04.0	0.0
SAOF				AML	AML		
	comp=N,59μm,0.4s						
SAOF				AML	AML		
	comp=E,57μm,0.3s						
SAOF				AML	AML		
	comp=N,47μm,0.1s						
SAOF				AML	AML		
	comp=E,48μm,0.2s						
SAOF	**Saorge**	**0.71**	**125**	Pg	Pg	22 31 54.5	-0.1
ESCA	**l'Escarene**	**0.72**	**141**	P	Pb	22 31 55.4	-0.2
ESCA				S	Sb	22 32 05.2	-0.5
ESCA	**l'Escarene**	**0.72**	**141**	Pg	Pg	22 31 54.8	-0.1
SBF	**Sospel**	**0.73**	**137**	*e*Pg	Pg	22 31 55.0	0.0
SBF				*e*Sg	Sg	22 32 05.1	+0.6
	comp=E,16nm,0.2s						
GBOS	**Grotte di Boss**	**0.80**	**101**	P	Pg	22 31 56.2	-0.1
GBOS	**Grotte di Boss**	**0.80**	**101**	P	Pg	22 31 56.3	-0.1
GBOS				AML	AML		
	comp=E,31μm,0.3s						
GBOS	**Grotte di Boss**	**0.80**	**101**	Pg	Pg	22 31 56.2	-0.1
ORIF	**Oris-en-Rattie**	**0.81**	**311**	*e*Pg	Pg	22 31 55.9	-0.6
ORIF				*e*Sg	Sg	22 32 06.1	-1.0
	comp=E,12nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.81**	**311**	Pg	Pg	22 31 55.9	-0.6
MLYF	**Mely**	**0.81**	**240**	Pg	Pg	22 31 56.6	0.0
OGMO	**Fort Saint-Gob**	**0.81**	**357**	P	Pg	22 31 56.6	0.0
OGMO				S	Sg	22 32 07.4	+0.1
OGMO	**Fort Saint-Gob**	**0.81**	**357**	Pg	Pg	22 31 56.6	0.0
OGMO				Sg	Sg	22 32 07.6	+0.4
RSP	**Reno Superiore**	**0.84**	**26**	P	Pg	22 31 57.4	+0.3
RSP				S	Sg	22 32 07.9	-0.2
RSP	**Reno Superiore**	**0.84**	**26**	P	Pg	22 31 56.5	-0.6
RSP				AML	AML		
	comp=E,3μm,0.0s						
RSP				AML	AML		
	comp=E,30μm,0.2s						
RSP				AML	AML		
	comp=N,32μm,0.3s						
RSP				AML	AML		
	comp=N,29μm,0.1s						
RSP	**Reno Superiore**	**0.84**	**26**	Pg	Pg	22 31 57.2	+0.1
MGRO	**Montegrosso**	**0.84**	**114**	Pg	Pg	22 31 57.1	-0.1
BURY	**Giardini Botan**	**0.85**	**136**	P	Pg	22 31 57.2	0.0
BURY	**Giardini Botan**	**0.85**	**136**	Pg	Pg	22 31 57.2	-0.1
SMRF	**Simiane la Rot**	**0.94**	**244**	*e*Pg	Pb	22 31 59.5	+0.2
SMRF				*e*Sg	Sg	22 32 11.3	+0.1
	comp=N,8.3nm,0.3s						
BSTF	**la Bastide-des**	**0.94**	**237**	Pg	Pn	22 32 00.9	+0.6
IMI	**Imperia**	**0.96**	**120**	P	Pg	22 31 59.1	-0.3
IMI				S	Sg	22 32 11.7	-0.2
IMI	**Imperia**	**0.96**	**120**	⇓P	Pg	22 31 59.1	-0.3
IMI				AML	AML		
	comp=E,57μm,0.2s						
IMI				AML	AML		
	comp=N,96μm,0.5s						
IMI				AML	AML		
	comp=N,124μm,0.6s						
RORO	**Rocca Rossa**	**0.99**	**106**	⇑P	Pg	22 31 59.6	-0.3
RORO				AML	AML		
	comp=E,160μm,1.4s						
RORO				AML	AML		
	comp=N,33μm,0.2s						
RORO	**Rocca Rossa**	**0.99**	**106**	Pg	Pg	22 31 59.6	-0.4
ARTF	**Artigues**	**1.05**	**220**	Pg	Pb	22 32 01.3	0.0
FLAF	**Flassans-sur-I**	**1.07**	**199**	Pg	Pb	22 32 01.5	0.0
LMR	**La Mourre**	**1.07**	**189**	*e*Pg	Pg	22 32 01.3	-0.2
LMR				*e*Sg	Sb	22 32 15.9	+0.2
	comp=N,16nm,0.2s						
CANO	**Canova, Maglio**	**1.09**	**99**	⇓P	Pg	22 32 01.5	-0.4
CANO				AML	AML		
	comp=E,115μm,1.3s						
CANO				AML	AML		
	comp=N,53μm,0.3s						
CANO	**Canova, Maglio**	**1.09**	**99**	Pg	Pg	22 32 01.4	-0.5
LSD	**Lago del Serru**	**1.10**	**14**	Pg	Pg	22 32 01.6	-0.5
LSD				Sg	Sg	22 32 16.5	+0.1
LPG	**La Plagne**	**1.10**	**0**	*e*Pg	Pg	22 32 02.0	-0.1
LPG				*e*Sg	Sg	22 32 12.1	-4.4
	comp=N,8.6nm,0.3s						
GRN	**Grenoble**	**1.10**	**320**	Pg	Pg	22 32 02.1	0.0
GRN				Sg	Sb	22 32 17.1	+0.4
LPL	**La Plagne**	**1.12**	**360**	*e*Pg	Pg	22 32 02.5	0.0
LPL				*e*Sg	Sg	22 32 12.6	-4.5
	comp=N,4.5nm,0.3s						
LEPF	**PUYLOUBIER**	**1.15**	**221**	Pg	Pn	22 32 03.5	+0.4
PCP	**Piancastagn**	**1.30**	**83**	Pn	Pn	22 32 04.9	-0.2
CIRO	**Champorcher**	**1.34**	**26**	Pn	Pg	22 32 06.5	-0.2
VIVF	**Saint-Julien-I**	**1.55**	**288**	*e*Pg	Pn	22 32 08.8	+0.2
VIVF				*e*Sg	Sn	22 32 27.9	-0.9
	comp=N,5.3nm,0.3s						
OGMY	**Moye**	**1.60**	**338**	Pg	Pg	22 32 11.7	0.0
DIX	**Grande Dixence**	**1.75**	**15**	Pg	Pg	22 32 14.2	-0.3
SSB	**Saint Sauveur**	**1.80**	**300**	Pn	Pn	22 32 12.1	0.0
SSB				Sn	Sn	22 32 34.1	-0.8
OG35	**Corcelles**	**1.84**	**334**	Pg	Pg	22 32 16.7	+0.4
LASF	**Ste Croix**	**2.10**	**262**	*e*Pn	Pn	22 32 15.9	-0.3
LASF	**Ste Croix**	**2.10**	**262**	*e*Pg	Pb	22 32 19.8	+0.7
LASF				*e*Sn	Sn	22 32 40.4	-2.0
	comp=N,1.1nm,0.3s						
CABF	**La Chapelle**	**2.26**	**348**	*e*Pg	Pg	22 32 24.1	-0.2
CABF				*e*Sg	Sg	22 32 52.5	-1.1
	comp=N,0.9nm,0.3s						
PGF	**Pioggiola**	**2.47**	**138**	*e*Pn	Pn	22 32 21.1	-0.3
PGF				*e*Sn	Sn	22 32 50.6	-1.0
	comp=N,3.6nm,0.2s						
PGF	**Pioggiola**	**2.47**	**138**	Pn	Pn	22 32 20.8	-0.5
PGF				Sn	Sn	22 32 50.4	-1.2
SMF	**Signal de Mont**	**3.04**	**319**	*e*P	Pn	22 32 29.5	+0.5
SMF	**Signal de Mont**	**3.04**	**319**	*e*Pg	Pg	22 32 38.0	-1.1
SSF	**Saint Saulge**	**3.50**	**321**	*e*P	Pn	22 32 37.0	+1.6
SSF				*e*Sg	Sg	22 33 31.5	-1.8
	comp=N,0.3nm,0.3s						
LOR	**Lormes**	**3.51**	**326**	*e*P	Pn	22 32 36.6	+1.0
LOR				*e*Sg	Sg	22 33 30.8	-2.8
	comp=N,0.2nm,0.2s						

*ISK **01** 22:47:51.6, 39°.49N×25°.83E, h8km, ML2.9/30*
*ATH **01** 22:47:52.6, 39°.46N×25°.82E, h18km±1km, ML2.4/12, Manual Solution by G.Panopoulou First location: 2019/10/01 22:49:16, This location: 2019/10/02 07:04:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*AFAD **01** 22:47:53.3, 39°.51N×25°.93E, h7km±2km, ML2.8*

ISC 01 22:47:52.1±0.8, 39°.48N±0°.02×25°.83E±0°.02, h15km±6km, n83, σ0°55/109, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.23**	**95**	Pg	**Pg**	**22 47 57.1**	**-0.2**
GPNR				Sg	**Sg**	**22 48 01.1**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.24**	**83**	P	**Pg**	**22 47 57.4**	**-0.1**
KOCA				S	**Sg**	**22 47 59.9**	**-1.1**
KOCA				*i* IAML		22 48 01.0	
	comp=E,2μm,0.3s						
SIGR	**SIGRI**	**0.26**	**176**	Pg	**Pg**	**22 47 57.9**	**+0.1**
SIGR				Sg	**Sg**	**22 48 02.2**	**+0.5**
SIGR	**SIGRI**	**0.26**	**176**	P	**Pg**	**22 47 58.0**	**+0.1**
SIGR				S	**Sg**	**22 48 02.2**	**+0.5**
BOZC	**Bozcaada**	**0.40**	**25**	Pg	**Pg**	**22 47 59.9**	**-0.4**
BOZC				Sg	**Sg**	**22 48 05.9**	**0.0**
BOZC	**Bozcaada**	**0.40**	**25**	P	**Pg**	**22 48 00.2**	**-0.1**
BOZC				S	**Sg**	**22 48 05.3**	**-0.6**
EZNE	**Ezine-Canakkal**	**0.50**	**56**	Pg	**Pg**	**22 48 01.9**	**-0.1**
EZN	**Ezine**	**0.52**	**47**	Pg	**Pg**	**22 48 02.1**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.61**	**64**	P	**Pg**	**22 48 03.9**	**-0.3**
BAYC				S	**Sg**	**22 48 11.1**	**-1.3**
BAYC				*i* IAML		22 48 14.0	
	comp=N,509nm,0.2s						
BAYC				*i* IAML		22 48 14.0	
	comp=E,616nm,0.2s						
ECEA	**Canakkale, Ece**	**0.63**	**25**	P	**Pg**	**22 48 04.3**	**-0.1**
ECEA				S	**Sg**	**22 48 13.2**	**+0.4**
ECEA				*i* IAML		22 48 14.0	
	comp=N,536nm,0.5s						
ECEA				*i* IAML		22 48 17.0	
	comp=E,452nm,0.6s						
EFSA	**Agios Efstrati**	**0.66**	**276**	P	**Pb**	**22 48 05.6**	**+0.4**
EFSA				S	**Sb**	**22 48 13.9**	**-0.2**
LIA	**Limnos Island**	**0.66**	**310**	P	**Pb**	**22 48 05.4**	**+0.1**
LIA				S	**Sb**	**22 48 14.4**	**+0.3**
AYVA	**Ayvalik**	**0.69**	**104**	P	**Pg**	**22 48 05.3**	**-0.2**
AYVA				S	**Sg**	**22 48 14.3**	**-0.3**
GADA	**Gvkgeada**	**0.72**	**4**	Pg	**Pg**	**22 48 05.7**	**-0.4**
LMN1	**MIRINA LIMNOU**	**0.72**	**304**	P	**Pb**	**22 48 06.5**	**+0.2**
CNKL	**anakkale-Mer**	**0.73**	**36**	P	**Pg**	**22 48 06.0**	**-0.3**
CNKL				S	**Sg**	**22 48 15.2**	**-0.8**
COMU	**Canakkale**	**0.80**	**38**	Pg	**Pg**	**22 48 07.4**	**-0.2**
DKL	**Dikili**	**0.93**	**115**	Pg	**Pb**	**22 48 09.9**	**+0.1**
DKL	**Dikili**	**0.93**	**115**	P	**Pb**	**22 48 10.2**	**+0.3**
DKL				S	**Sb**	**22 48 22.2**	**+0.2**
KARB	**zmir-Karabur**	**0.93**	**151**	P	**Pn**	**22 48 11.0**	**+0.4**
EAG2	**Marmaro, Chios**	**0.95**	**167**	P	**Pn**	**22 48 11.2**	**+0.2**
EAG2				S	**Sb**	**22 48 22.0**	**-0.8**
BUHA	**Balikesir, Bur**	**0.96**	**88**	P	**Pb**	**22 48 10.6**	**0.0**
YAYO	**Edremit-Balk**	**0.97**	**82**	Pg	**Pb**	**22 48 10.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.02**	**347**	P	**Pb**	**22 48 11.6**	**+0.1**
SMTH				S	**Sn**	**22 48 25.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.05**	**28**	Pg	**Pb**	**22 48 11.6**	**-0.3**
CANM	**Can-anakkale**	**1.08**	**60**	Pg	**Pb**	**22 48 12.4**	**-0.1**
ZEDA	**zmir-Bergama**	**1.09**	**117**	P	**Pg**	**22 48 13.4**	**+0.2**
CHOS	**Chios island**	**1.10**	**171**	Pn	**Pb**	**22 48 13.0**	**+0.1**
CHOS	**Chios island**	**1.10**	**171**

mbtmp3.7/9, Error ellipse: s-maj=56.3km s-min=42.9km az=138.0

ISC 01 22:50:54.2±1.7, 36°.4N±0°.2×70°.9E±0°.2, h150km, n17, σ0°38/19, mb4.0/3, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.46**	**25**	P	**Pn**	**22 52 30.1**	**+2.7**
	SNR=32						
EKS2	**Erkin-Say**	**6.64**	**19**	P	**Pn**	**22 52 32.4**	**+3.0**
	SNR=7.5						
KK31	**Karatay Array**	**6.69**	**358**	⇓Pn	**Pn**	**22 52 32.4**	**+2.4**
	1.9nm,0.4s,baz=180,slow=12,SNR=68						
KK31				⇑Sn	**Sn**	**22 53 41.5**	**-3.7**
	6.8nm,0.5s,baz=172,slow=26,SNR=4.8						
AAK	**Ala-Archa**	**6.82**	**23**	P	**Pn**	**22 52 34.1**	**+2.2**
	4.3nm,0.4s,baz=239,slow=4.5,SNR=11						
AAK				S	**Sn**	**22 53 48.3**	**-0.2**
	2.9nm,0.6s,baz=352,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.82**	**23**	P	**Pn**	**22 52 34.7**	**+2.7**
	SNR=6.6						
KBK	**Karagaybulak**	**6.99**	**26**	P	**Pn**	**22 52 37.9**	**+3.7**
	SNR=7.3						
USP	**Ospenovka**	**7.40**	**21**	P	**Pn**	**22 52 41.3**	**+1.8**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.46**	**28**	P	**Pn**	**22 52 42.8**	**+2.4**
	SNR=23						
MKAR	**Makanchi Array**	**13.43**	**36**	P	**Pn**	**22 53 55.6**	**-3.1**
	0.6nm,0.7s,baz=204,slow=12,SNR=7.1						
KURBB	**Kurchatov Arra**	**15.24**	**19**	P	**Pn**	**22 54 18.9**	**-2.5**
	0.2nm,0.3s,baz=207,slow=9.3,SNR=2.1						
AKTO	**Aktyubinsk**	**16.81**	**331**	P	**P**	**22 54 41.3**	**+1.1**
	1.0nm,0.4s,baz=151,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**20.04**	**25**	P	**P**	**22 55 13.9**	**-1.4**
	1.0nm,0.5s,baz=208,slow=9.2,SNR=5.3						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**22 57 53.5**	**+0.4**
	2.6nm,0.9s,baz=138,slow=12,SNR=5.8						
	2.6nm,0.9s						
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**22 58 23.8**	**+0.3**
	3.8nm,0.9s,baz=122,slow=8.4,SNR=3.5						
	3.8nm,0.9s						
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**22 58 49.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**22 58 49.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=98,slow=8.5,SNR=3.4						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**23 01 21.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=52,slow=8.2,SNR=2.2						
	comp=Z,0.2nm,0.4s						

*IDC **01** 22:51:04.1±0.6, 24°.94S×91°.88E, h0km, mb4.1/14, mbtmp4.1/14, MS3.8/4, Error ellipse: s-maj=24.2km s-min=16.4km az=68.0*

*NEIC **01** 22:51:05.5±1.1, 24°.93S±0°.08×91°.8E±0°.2, h10km±1km, mb4.4/15, Error ellipse: s-maj=25.0km s-min=13.4km az=282.0*

ISC 01 22:51:05.2±0.5, 24°.9S±0°.1×91°.8E±0°.1, h10km, n50, σ0°76/39, mb4.3/22, MS4.0/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**21.72**	**122**	T	T	23 18 03.5	
	baz=292,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**21.73**	**122**	T	T	23 18 07.8	
	baz=292,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**21.74**	**122**	T	T	23 18 06.2	
	baz=292,slow=75,SNR=11						
MORW	**Morawa**	**21.98**	**106**	P	**P**	**22 55 59.9**	**+0.4**
MORW				IAmb	IAmb	22 56 33.1	
	comp=Z,18nm,1.4s						
LEM	**Lembang**	**23.52**	**43**	LR	LR	23 04 09.3	
	comp=Z,30nm,18.7s,baz=279,slow=33						
NWAO	**Narrogin (SRO)**	**23.61**	**116**	P	**P**	**22 56 16.7**	**+0.3**
H08S2	**Diego Garcia H**	**25.20**	**310**	T	T	23 22 48.5	
	baz=135,slow=74,SNR=60						
H08S1	**Diego Carcia H**	**25.22**	**310**	T	T	23 22 56.3	
	baz=135,slow=74,SNR=90						
H08S3	**Diego Garcia H**	**25.22**	**310**	T	T	23 22 39.1	
	baz=135,slow=74,SNR=90						
FITZ	**Fitzroy Crossi**	**32.15**	**85**	P	**P**	**22 57 33.2**	**0.0**
ASAR	**Alice Springs**	**38.29**	**97**	P	**P**	**22 58 25.3**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=263,slow=7.9,SNR=16						
	comp=Z,1.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**38.30**	**226**	T	T	23 39 19.0	
	baz=71,slow=75,SNR=9.5						
H04N1	**CROZET ISLANDS**	**38.32**	**226**	T	T	23 39 18.8	
	baz=71,slow=75,SNR=9.3						
H04N3	**CROZET ISLANDS**	**38.32**	**226**	T	T	23 39 17.6	
	baz=71,slow=75,SNR=9.3						
WRA	**Warramunga Arr**	**39.52**	**92**	P	**P**	**22 58 36.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=261,slow=8.3,SNR=5.6						
	comp=Z,0.6nm,0.7s						
WB0	**Warramunga Arr**	**39.62**	**91**	P	**P**	**22 58 35.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**43.67**	**10**	P	**P**	**22 59 10.3**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=198,slow=8.5,SNR=11						
	comp=Z,2.5nm,0.3s						
STKA	**Stephens Creek**	**44.04**	**111**	P	**P**	**22 59 13.4**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=271,slow=11,SNR=4.1						
	comp=Z,2.1nm,0.7s						
EVN	**Everest**	**52.79**	**354**	P	**P**	**23 00 20.5**	**-0.9**
EVN				IAmb	IAmb	23 00 26.1	
	comp=Z,3.7nm,0.8s						
VNDA	**Vanda**	**61.55**	**167**	P	**P**	**23 01 22.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=297,slow=8.4,SNR=4.0						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**65.18**	**180**	P	**P**	**23 01 46.6**	**+0.1**
QSPA	**South Pole Qui**	**65.18**	**180**	P	**P**	**23 01 47.8**	**+1.3**
	comp=Z,3.8nm,1.0s,baz=272,slow=2.7,SNR=5.7						
QSPA				LR	LR	23 25 58.1	
	comp=Z,56nm,18.8s,baz=304,slow=32						
	comp=Z,3.8nm,1.0s						
RAYN	**Ar Rayn**	**65.82**	**313**	P	**P**	**23 01 50.1**	**-1.0**
RAYN				IAmb	IAmb	23 01 53.4	
	comp=Z,2.7nm,1.0s						
SNAA	**Sanae**	**68.02**	**200**	P	**P**	**23 02 04.4**	**0.0**
SNAA				IAmb	IAmb	23 02 07.2	
	comp=Z,3.4nm,1.1s						
SNAA	**Sanae**	**68.02**	**200**	P	**P**	**23 02 03.7**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=110,slow=6.2,SNR=7.5						
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**70.47**	**344**	P	**P**	**23 02 20.4**	**+0.6**
KK31				IAmb	IAmb	23 02 21.6	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**70.47**	**344**	P	**P**	**23 02 20.3**	**+0.6**
URZ	**Urewera**	**71.53**	**124**	LR	LR	23 30 33.7	
	comp=Z,127nm,18.9s,baz=134,slow=33						
MKAR	**Makanchi Array**	**71.89**	**353**	P	**P**	**23 02 28.5**	**+0.2**
MKAR	**Makanchi Array**	**71.89**	**353**	P	**P**	**23 02 29.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=190,slow=6.8,SNR=1.6						
	comp=Z,0.2nm,0.5s						
MAKZ	**Makanchi**	**71.94**	**353**	P	**P**	**23 02 29.0**	**+0.4**
MAKZ				IAmb	IAmb	23 02 30.1	
	comp=Z,3.2nm,0.8s						
BELA	**Belgrano 2**	**72.81**	**190**	P	**P**	**23 02 32.7**	**-0.8**
BELA				IAmb	IAmb	23 02 38.7	
	comp=Z,3.9nm,1.4s						
SONM	**Songino Array**	**73.60**	**10**	P	**P**	**23 02 38.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=201,slow=7.7,SNR=2.7						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**76.12**	**351**	P	**P**	**23 02 54.0**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=182,slow=5.3,SNR=12						
	comp=Z,1.3nm,0.3s						
KURK	**Kurchatov**	**76.20**	**351**	P	**P**	**23 02 53.9**	**+0.5**
KURK				IAmb	IAmb	23 02 54.9	
	comp=Z,3.3nm,0.8s						
ZAA0	**Zalesovo Array**	**78.77**	**356**	P	**P**	**23 03 07.7**	**+0.1**
ZAA0				IAmb	IAmb	23 03 08.9	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**78.77**	**356**	P	**P**	**23 03 07.7**	**0.0**
ZALV	**Zalesovo Beam**	**78.77**	**356**	P	**P**	**23 03 08.2**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=177,slow=4.1,SNR=12						
	comp=Z,2.1nm,0.6s						
AB31	**Akbulak array**	**79.12**	**339**	P	**P**	**23 03 09.6**	**-0.1**
ABKAR	**Akbulak array**	**79.12**	**339**	P	**P**	**23 03 09.5**	**-0.2**
AKTO	**Aktyubinsk**	**80.77**	**339**	P	**P**	**23 03 19.1**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=128,slow=2.5,SNR=4.5						
	comp=Z,0.6nm,0.3s						
KBZ	**Khabaz**	**81.72**	**326**	P	**P**	**23 03 25.5**	**+1.7**
	comp=Z,3.9nm,0.8s,baz=138,slow=4.7,SNR=12						
	comp=Z,3.9nm,0.8s						
BRTR	**Keskin Array B**	**84.11**	**319**	P	**P**	**23 03 35.3**	**-1.2**
BRTR	**Keskin Array B**	**84.11**	**319**	P	**P**	**23 03 37.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=160,slow=5.1,SNR=4.7						
	comp=Z,0.7nm,0.7s						
RAR	**Rarotonga**	**96.73**	**117**	LR	LR	23 42 20.9	
	comp=Z,108nm,18.9s,baz=96,slow=32						
SCHQ	**Schefferville**	**146.20**	**338**		**PKPdf**	**23 10 43.3**	**-1.1**
SCHQ	**Schefferville**	**146.20**	**338**	PKPbc	**PKPbc**	**23 10 45.8**	**+0.3**
	comp=Z,34nm,0.6s,baz=19,slow=3.3,SNR=6.1						
PINE	**Pine Mountain**	**147.36**	**47**	PKPbc	**PKPbc**	**23 10 50.2**	**+0.8**
NVAR	**Mina Array Bea**	**151.20**	**55**	PKPbc	**PKPbc**	**23 10 58.9**	**-0.4**
NVAR	**Mina Array Bea**	**151.20**	**55**	PKPbc	**PKiKP**	**23 11 00.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=244,slow=2.1,SNR=7.5						
NVAR				PKPab	**PKPab**	**23 11 08.1**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=286,slow=3.7,SNR=5.5						

*IDC **01** 23:26:36.2±1.3, 3°.02N×124°.42E, h0km, mb3.9/6, mbtmp4.0/6, Error ellipse: s-maj=121.8km s-min=17.5km az=67.0*

*DJA **01** 23:26:39.0±0.6, 3°N±2°×12°4E±°, h14km±5km, M4.2/14, mB4.5/1, mb4.1/5, MLv4.2/14, Mw(mB)3.7/1*

ISC 01 23:26:38.1±0.9, 3°.05N±0°.07×124°.44E±0°.07, h10km, n14, σ0°95/18, mb4.0/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.26**	**60**	P	**Pn**	**23 27 01.1**	**-0.6**
SGSI				S	**Sg**	**23 27 20.9**	**+2.2**
KMSI	**Cibinong**	**2.50**	**191**	P	**Pn**	**23 27 17.8**	**-1.0**
KMSI				S	**Sn**	**23 27 49.2**	**-0.2**
MRSI	**Marisa**	**3.57**	**224**	P	**Pn**	**23 27 33.1**	**-0.5**
LUWI	**Luwuk**	**4.39**	**202**	P	**Pn**	**23 27 46.1**	**+1.3**
LUWI				S	**Sn**	**23 28 36.9**	**+0.8**
APSI	**Ampana**	**4.82**	**215**	P	**Pn**	**23 27 52.4**	**+1.6**
SANI	**Sanana**	**5.29**	**163**	P	**Pn**	**23 27 56.9**	**-0.4**
	0.1nm17nm,0.5s						
PCI	**Palu**	**6.05**	**230**	P	**Pn**	**23 28 07.9**	**+0.2**
PCI				S	**Sn**	**23 29 16.4**	**-0.6**
KDI	**Kendari**	**7.19**	**195**	P	**Pn**	**23 28 23.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.05**	**177**	P	**P**	**23 31 21.9**	**-0.4**
	5.3nm,0.8s,baz=18,slow=12,SNR=9.5						
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**24.83**	**157**	P	**P**	**23 32 00.0**	**-0.8**
	4.3nm,0.9s,baz=334,slow=10,SNR=19						
	4.3nm,0.9s						
ASAR	**Alice Springs**	**28.11**	**161**	P	**P**	**23 32 29.9**	**-0.5**
	0.5nm,0.6s,baz=344,slow=7.7,SNR=8.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**56.83**	**327**	P	**P**	**23 36 22.9**	**0.0**
	0.8nm,0.4s,baz=120,slow=7.6,SNR=23						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**61.10**	**328**	P	**P**	**23 36 51.9**	**-0.4**
	2.3nm,0.8s,baz=127,slow=6.1,SNR=14						
	2.3nm,0.8s						
BVAR	**Borovoye Array**	**66.66**	**328**	P	**P**	**23 37 28.6**	**-0.3**
	0.5nm,0.6s,baz=150,slow=6.7,SNR=3.0						
	0.5nm,0.6s						

*IDC **01** 23:33:06.5±0.8, 15°.10S×173°.31W, h0km, mb3.8/9, mbtmp3.8/9, MS3.6/2, Error ellipse: s-maj=35.4km s-min=21.7km az=133.0*

ISC 01 23:33:11.3±0.8, 15°.1S±0°.2×173°.4W±0°.2, h30km, n19, σ0°92/11, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.49**	**202**	LR	LR	23 51 32.5	
	comp=Z,140nm,20.0s,baz=130,slow=35						
H11S2	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	00 21 36.9	
	baz=146,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	00 21 25.4	
	baz=146,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	00 21 21.9	
	baz=146,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	00 23 25.9	
	baz=149,slow=76,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	00 23 29.2	
	baz=149,slow=76,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	00 23 27.1	
	baz=149,slow=76,SNR=6.3						
STKA	**Stephens Creek**	**44.24**	**240**	LR	LR	23 57 45.1	
	comp=Z,50nm,18.6s,baz=23,slow=33						
WRA	**Warramunga Arr**	**49.96**	**256**	P	**P**	**23 42 01.6**	**-1.4**
	0.1nm,0.4s,baz=93,slow=8.2,SNR=5.6						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**23 42 04.8**	**-0.4**
	0.4nm,0.5s,baz=86,slow=8.5,SNR=6.5						
	0.4nm,0.5s						
VNDA	**Vanda**	**63.70**	**186**	P	**P**	**23 43 40.2**	**+0.7**
	0.5nm,0.8s,baz=63,slow=9.0,SNR=1.3						
	0.5nm,0.8s						
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**23 44 35.6**	**+1.5**
	2.9nm,0.8s,baz=129,slow=12,SNR=3.7						
	2.9nm,0.8s						
NVAR	**Mina Array Bea**	**74.06**	**42**	P	**P**	**23 44 45.2**	**+0.4**
	1.0nm,0.8s,baz=237,slow=9.9,SNR=4.6						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**23 44 49.8**	**+0.3**
	1.2nm,0.9s,baz=5.4,slow=4.1,SNR=1.8						
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**80.39**	**56**	P	**P**	**23 45 19.3**	**-1.1**
	1.2nm,1.0s,baz=220,slow=7.5,SNR=8.9						
	1.2nm,1.0s						
PDAR	**Pinedale Array**	**82.00**	**42**	P	**P**	**23 45 28.2**	**-0.6**
	1.0nm,1.0s,baz=205,slow=2.8,SNR=7.0						
	1.0nm,1.0s						
ILAR	**Eielson Array**	**82.12**	**11**	P	**P**	**23 45 28.4**	**-0.2**
	0.4nm,0.7s,baz=216,slow=7.5,SNR=3.0						
	0.4nm,0.7s						
GERES	**GERESS Array B**	**145.84**	**352**	PKPbc	**PKPdf**	**23 52 47.5**	**+0.2**
	0.9nm,0.9s,baz=285,slow=1.5,SNR=3.9						
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	**PKPbc**	**23 52 48.6**	**+0.2**
	1.6nm,0.9s,baz=103,slow=2.8,SNR=9.6						

*NEIC **01** 23:35:53.3±1.4, 40°.40N±0°.05×115°.27W±0°.04, h5km±1km, Error ellipse: s-maj=8.1km s-min=4.6km az=190.0*

REN 01 23:35:54.8±2.1, 40°.43N±0°.03×115°.16W±0°.07, h8km±5km, ML3.1/5, ML2.6/86(NEIC), Error ellipse: s-maj=8.0km s-min=3.8km az=87.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.33**	**349**		Pg	23 36 01.4	+0.1
ELK					Sg	23 36 06.0	+0.4
FSU	**Fish Springs**	**1.52**	**117**		Pg	23 36 24.3	+0.3
SPR3	**Spring Creek 3**	**1.56**	**156**		Pn	23 36 22.0	-1.1
SPR3				IAML		23 36 51.1	
	comp=N,84nm,0.7s						
SPR3				IAML		23 36 53.0	
	comp=E,63nm,0.6s						
BGU	**Big Grassy Mou**	**1.69**	**72**		Pb	23 36 26.6	+0.3
R11B	**Troy Canyon, C**	**2.10**	**189**	Pn	Pn	23 36 29.7	-0.8
PSUT	**Pine Spring**	**2.14**	**152**		Pb	23 36 34.1	+0.1
Q09A	**Carvers**	**2.23**	**225**	Pn	Pn	23 36 30.9	-1.3
HVU	**Hansel Valley**	**2.25**	**52**		Pb	23 36 35.8	0.0
MPU	**Maple Canyon**	**2.73**	**97**	Pn	Pn	23 36 40.2	+1.1
JLU	**Jordanelle**	**2.83**	**85**	Pn	Pn	23 36 42.1	+1.6
JLU				IAML		23 37 27.7	
	comp=E,22nm,0.5s						
TPH	**Tonopah**	**2.84**	**215**	Pn	Pn	23 36 38.9	-1.8
TPH				IAML		23 37 33.9	
	comp=N,31nm,0.8s						
TPH				IAML		23 37 34.1	
	comp=E,30nm,0.6s						
TCUT	**Toone Canyon**	**2.93**	**75**	Pn	Pn	23 36 41.8	-0.1
HWUT	**Hardware Ranch**	**2.96**	**65**	Pn	Pn	23 36 41.6	-0.7
HWUT				IAML		23 37 35.5	
	comp=E,24nm,0.7s						
HWUT				IAML		23 37 41.5	
	comp=E,21nm,0.7s						
PRN	**Pahroc Range**	**3.02**	**178**	Pn	Pn	23 36 42.5	-0.5
MFID	**Camas Ranch**	**3.03**	**351**	Pn	Pn	23 36 43.5	+0.3
NV11	**Mina Array Sit**	**3.06**	**230**	Pn	Pn	23 36 43.2	-0.4
NVAR	**Mina Array Bea**	**3.15**	**232**	Pn	Pn	23 36 44.2	-0.7
RYN	**Ryan**	**3.16**	**237**	Pn	Pn	23 36 44.4	-0.6
NV09	**Mina Array Sit**	**3.16**	**232**		Pn	23 36 45.6	+0.5
NV08	**Mina Array Sit**	**3.17**	**232**		Pn	23 36 45.2	-0.1
HLID	**Hailey**	**3.18**	**10**	Pn	Pn	23 36 45.9	+0.5
HLID				IAML		23 37 38.8	
	comp=E,16nm,0.3s						
HLID				IAML		23 37 39.9	
	comp=E,15nm,0.6s						
CCUT	**Cedar City**	**3.19**	**153**	Pn	Pn	23 36 45.6	+0.1
CCUT				IAML		23 37 46.9	
	comp=E,13nm,0.6s						
TMUT	**Trail Mountain**	**3.24**	**109**	Pn	Pn	23 36 45.6	-0.7
WVOR	**Wild Horse Val**	**3.30**	**309**	Pn	Pn	23 36 46.6	-0.3
WVOR				IAML		23 37 37.5	
	comp=E,25nm,0.9s						
WVOR				IAML		23 37 37.5	
	comp=E,23nm,0.8s						
PAHR	**Pah Rah Range**	**3.32**	**259**	Pn	Pn	23 36 47.1	-0.2
PAHR				IAML		23 37 44.5	
	comp=E,12nm,1.0s						
PAHR				IAML		23 37 45.2	
	comp=N,12nm,1.2s						
BSUT	**Blindstream Ca**	**3.35**	**87**	Pn	Pn	23 36 49.6	+1.7
BSUT				IAML		23 37 50.5	
	comp=N,11nm,0.9s						
LHV	**Little Huntoon**	**3.38**	**231**	Pn	Pn	23 36 47.2	-0.7
Q16A	**Castle Valley**	**3.42**	**115**	Pn	Pn	23 36 49.0	+0.4
Q16A				IAML		23 37 45.7	
	comp=E,15nm,0.8s						
Q16A				IAML		23 37 45.7	
	comp=N,14nm,1.3s						
P17A	**Butcher Ranch,**	**3.52**	**104**	Pn	Pn	23 36 49.7	-0.3
TPNV	**Topopah Spring**	**3.58**	**194**	Pn	Pn	23 36 51.8	+1.1
TPNV				IAML		23 37 53.8	
	comp=N,15nm,0.8s						
TPNV				IAML		23 37 57.6	
	comp=N,14nm,2.4s						
LCMT	**Little Creek M**	**3.72**	**156**	Pn	Pn	23 36 52.7	0.0
LCMT				IAML		23 37 53.5	
	comp=E,8.3nm,0.6s						
LCH	**Last Change Ra**	**3.73**	**212**		Pn	23 36 55.0	+2.1
DSP	**Deep Springs**	**3.76**	**217**	Pn	Pn	23 36 53.8	+0.7
DSP				IAML		23 37 56.7	
	comp=E,8.8nm,0.9s						
NSP	**Numbskull Pass**	**3.78**	**193**		Pn	23 36 55.7	+2.1
SRU	**San Rafael Swe**	**3.80**	**109**	Pn	Pn	23 36 53.6	-0.3
SRU				IAML		23 37 59.7	
	comp=N,12nm,0.7s						
SRU				IAML		23 38 00.0	
	comp=E,10.0nm,0.5s						
WAKR	**Walker**	**3.83**	**241**	Pn	Pn	23 36 53.5	-0.8
WAKR				IAML		23 38 04.1	
	comp=N,13nm,0.6s						
GRAC	**Grapevine Rang**	**3.84**	**208**	Pn	Pn	23 36 54.8	+0.6
GRAC				IAML		23 38 03.2	
	comp=E,18nm,1.1s						
J08A	**Circle Bar Ran**	**3.84**	**321**	Pn	Pn	23 36 54.4	+0.1
KNB	**Kanab**	**3.86**	**151**	Pn	Pn	23 36 54.7	0.0
KNB				IAML		23 38 02.2	
	comp=N,13nm,0.7s						
KNB				IAML		23 38 04.4	
	comp=E,10nm,0.8s						
BEKR	**Beckworth**	**4.03**	**264**	Pn	Pn	23 36 56.4	-0.5
BEKR				IAML		23 38 11.0	
	comp=N,7.2nm,0.6s						
MDPB	**Devils Postpil**	**4.14**	**229**	Pn	Pn	23 36 59.4	+0.9
MDPB				IAML		23 38 07.7	
	comp=E,11nm,0.1s						
FXWY	**Fox Creek**	**4.45**	**42**	Pn	Pn	23 37 04.3	+1.6
FXWY				IAML		23 39 31.1	
	comp=E,4.8nm,4.1s						
BMO	**Blue Mountains**	**4.70**	**341**	Pn	Pn	23 37 06.9	+0.8
BMO				IAML		23 38 25.6	
	comp=E,5.9nm,1.2s						
BMO				IAML		23 38 30.9	
	comp=E,5.8nm,0.9s						
PLID	**Pearl Lake**	**4.70**	**353**	Pn	Pn	23 37 07.9	+1.6
PLID				IAML		23 37 56.1	
	comp=E,4.8nm,4.9s						
PLID				IAML		23 38 55.8	
	comp=E,4.2nm,4.2s						
CMB	**Columbia Colle**	**4.71**	**241**	Pn	Pn	23 37 09.1	+2.8
CMB				IAML		23 38 30.7	
	comp=N,5.3nm,1.0s						
CMB				IAML		23 39 19.9	
	comp=E,4.1nm,4.8s						
MCMT	**McKenzie Canyo**	**4.72**	**20**	Pn	Pn	23 37 07.0	+0.6
MPMC	**Manual Prospec**	**4.73**	**204**	Pn	Pn	23 37 07.6	+0.9
MPMC				IAML		23 38 16.5	
	comp=E,4.4nm,4.5s						
MPMC				IAML		23 39 08.1	
	comp=N,5.1nm,4.4s						
PDAR	**Pinedale Array**	**4.80**	**59**	Pn	Pn	23 37 05.3	-2.4

*SDD **01** 23:59:56.8±2.0, 19°.50N×64°.98W, h42km±71km, MD3.9, ML3.3, MW3.8*

*NEIC **01** 23:59:57.8±2.4, 19°.37N±0°.05×65°.37W±0°.04, h10km±2km, ML3.4/21, Md3.2/18(RSPR), Error ellipse: s-maj=11.2km s-min=4.0km az=322.0*

*OSPL **01** 23:59:59.3±0.8, 19°.51N×65°.27W, h31km±999km, ML3.2*

*RSPR **02** 00:00:00.4, 19°.52N×65°.35W, h12km±3km, MD3.2/18*

ISC 01 23:59:58.4±2.0, 19°.35N±0°.07×65°.41W±0°.03, h12km±11km, n68, σ0°92/84, 15C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.22**	**212**		**Pn**	**00 00 20.2**	**-1.0**
GCPR					**Sg**	**00 00 38.0**	**+0.4**
GCPR	**Guaynabo City**	**1.22**	**212**	‖*eP*	**Pg**	**00 00 22.2**	**+0.4**
GCPR	**Guaynabo City**	**1.22**	**212**	*eS*	**Sg**	**00 00 39.5**	**+1.9**
HUMP	**Col San Antoni**	**1.27**	**199**	Pn	**Pn**	**00 00 21.4**	**-0.6**
ECPR	**Experimental S**	**1.37**	**222**	‖*eP*	**Pb**	**00 00 23.9**	**0.0**
ECPR	**Experimental S**	**1.37**	**222**	*eS*	**Sg**	**00 00 43.0**	**+0.5**
**EM

GBPR	Guanica, Bosqu	1.95	226⇓	eP	Pb	00 00 32.6	-1.3
LSP	Las Mesas	1.97	234		Pb	00 00 33.3	-1.0
LSP					Sb	00 00 58.0	-0.9
LSP	Las Mesas	1.97	234⇓	eP	Pb	00 00 33.3	-1.0
LSP	Las Mesas	1.97	234	eS	Sb	00 00 58.0	-0.9
PRSN	Puerto Rico Se	2.00	236	Pn	Pn	00 00 31.2	-0.7
MLPR	Magueyes Islan	2.07	229⇓	eP	Pb	00 00 34.9	-1.1
MLPR	Magueyes Islan	2.07	229	eS	Sb	00 01 00.6	-1.1
MLPR	Magueyes Islan	2.07	229	IAML		00 01 17.5	
	comp=N,50nm,0.8s						
MLPR			⇑	iP	Pb	00 00 35.0	-0.9
MLPR				i S	Sb	00 01 01.6	-0.1
CRPR	Cabo Rojo, PR	2.10	231	Pn	Pn	00 00 33.4	+0.1
CRPR				IAML		00 01 14.3	
	comp=N,166nm,0.9s						
CRPR				IAML		00 01 16.5	
	comp=E,164nm,1.3s						
CRPR	Cabo Rojo, PR	2.10	231⇓	eP	Pb	00 00 35.5	-0.9
CRPR	Cabo Rojo, PR	2.10	231	IAML		00 01 18.7	
	comp=N,161nm,1.2s						
CRPR			⇑	iP	Pn	00 00 34.4	+1.1
CRPR			⇑	iS	Sb	00 01 01.2	-1.1
CRPR	Cabo Rojo, PR	2.10	231	i P	Pn	00 00 34.3	+1.1
CRPR				IAML		00 01 19.5	
	comp=Z,144nm,0.9s						
IDE	Isla Desecheo	2.18	244		Pn	00 00 35.7	+1.2
IDE					Sb	00 01 03.1	-1.7
IDE	Isla Desecheo	2.18	244⇓	eP	Pn	00 00 35.7	+1.2
IDE	Isla Desecheo	2.18	244	eS	Sb	00 01 03.1	-1.7
SMRT	St. Maarten	2.56	120	Pn	Pn	00 00 37.9	-1.8
SMRT				IAML		00 01 24.5	
	comp=N,212nm,0.7s						
SMRT				IAML		00 01 26.4	
	comp=E,303nm,0.6s						
SMRT	St. Maarten	2.56	120⇓	eP	Pn	00 00 39.7	0.0
SMRT	St. Maarten	2.56	120	eS	Sn	00 01 09.3	-1.6
SABA	Saba	2.68	130	Pn	Pn	00 00 42.3	+1.0
SABA				IAML		00 01 40.1	
	comp=N,281nm,0.8s						
MIDR	Miches	3.46	265	eS	Sn	00 01 34.3	+1.2
MIDR	Miches	3.46	265	IAML		00 02 14.7	
	comp=N,29nm,2.0s						
MIDR			⇑	iP	Pn	00 00 52.4	+0.2
MIDR			⇑	iS	Sn	00 01 35.7	+2.6
DR12	Loma Pena Alta	3.80	262	Pn	Pn	00 00 56.8	0.0
HATOM	Hato Mayor del	3.80	262	IAML		00 02 26.2	
	comp=N,21nm,3.1s						
HATOM			⇑	iP	Pn	00 00 56.7	-0.1
HATOM			⇑	iS	Sn	00 01 41.1	-0.4
GDHS	Morne Mazeau,	4.63	131	Pn	Pn	00 01 09.1	+0.9
CBE	Ff, Capester	4.87	131	Pn	Pn	00 01 11.5	-0.1
CBE	Ff, Capester	4.87	131⇓	eP	Pn	00 01 13.5	+1.9
CBE	Ff, Capester	4.87	131	eS	Sn	00 02 09.8	+1.8
SDDR	Presa de Saban	5.57	267	Pn	Pn	00 01 22.2	+1.0
BIM	Bigot	6.35	139		Pn	00 01 33.4	+1.5

DJA 02 00:00:01.9±0.5,3°N±5°×12°4E±°, h10km, M4.2/10, mB6.0/1, mb4.4/2, MLv4.0/10, Mw(mB)5.6/1, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.26	64	P	Pn	00 00 25.6	0.0
SGSI				S	Sb	00 00 40.9	-1.2
MRSI	Marisa	3.60	223	P	Pn	00 00 57.6	-0.3
LUWI	Luwuk	4.46	201	P	Pn	00 01 10.5	+0.9
APSI	Ampana	4.87	214	P	Pn	00 01 16.6	+1.4
AAI	Ambon	7.78	151	P	Pn	00 01 55.2	0.0

IDC 02 00:00:55.9±1.1, 15°.54N×47°.24W, h0km, mb3.7/7, mbtmp3.8/8, ML4.3/1, MS2.7/4, Error ellipse: s-maj=31.0km s-min=23.2km az=90.0

NEIC 02 00:00:58.1±0.8, 15°.44N±0°.04×47°.3W±0°.1, h10km±1km, mb4.4/17, Error ellipse: s-maj=21.3km s-min=3.8km az=73.0

ISC 02 00:00:57.6±0.8, 15°.5N±0°.1×47°.3W±0°.1, h10km, n32, σ0.71/28, mb4.2/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	11.57	208	Pn	Pn	00 03 42.1	-0.8
	1.9nm,0.3s,baz=13,slow=17,SNR=41						
MDP				Sn	Sn	00 05 41.4	-11
	0.4nm,0.3s,baz=64,slow=14,SNR=1.5						
MDP				LR	LR	00 08 08.1	
	comp=Z,15nm,19.0s,baz=40,slow=37						
	4.0nm,0.3s						
BIM	Bigot	13.34	268	Pn	Pn	00 04 07.5	+0.3
CBE	Ff, Capester	13.79	274	Pn	Pn	00 04 12.8	-0.6
SJG	San Juan	18.24	281	LR	LR	00 11 09.6	
	comp=Z,38nm,19.2s,baz=120,slow=34						
BOAV	Boa Vista	18.41	226	P	P	00 05 12.5	-0.6
BAUV	El Baul	21.28	255	P	P	00 05 44.2	-0.3
BAUV				IAmb	IAmb	00 05 46.2	
	comp=Z,20nm,1.1s						
LPAZ	La Paz	37.67	214	P	P	00 08 15.2	+1.3
	comp=Z,1.2nm,0.6s,baz=12,slow=9.3,SNR=4.7						
LPAZ				LR	LR	00 24 42.3	
	comp=Z,20nm,18.4s,baz=17,slow=38						
	comp=Z,1.2nm,0.6s						
H10N3	ASCENSION HYDR	39.90	123	T	T	00 50 46.7	
	baz=305,slow=75,SNR=35						
H10N2	ASCENSION HYDR	39.91	123	T	T	00 50 47.2	
	baz=305,slow=75,SNR=36						
H10N1	ASCENSION HYDR	39.92	123	T	T	00 50 48.7	
	baz=305,slow=75,SNR=39						
CPUP	Villa Florida	42.68	193	P	P	00 08 54.9	+0.2
	comp=Z,0.4nm,0.6s,baz=25,slow=1.3,SNR=3.4						
CPUP				LR	LR	00 28 13.7	
	comp=Z,5.8nm,18.3s,baz=218,slow=38						
	comp=Z,0.4nm,0.6s						
TORD	Torodi Ar. Bea	47.45	86	P	P	00 09 32.4	-0.6
TORD	Torodi Ar. Bea	47.45	86	P	P	00 09 32.2	-0.7
	comp=Z,0.8nm,0.8s,baz=296,slow=6.2,SNR=4.7						
	comp=Z,0.8nm,0.8s						
BRDY	Brady	49.57	298	P	P	00 09 48.8	-0.3
BRDY				IAmb	IAmb	00 09 49.9	
	comp=Z,2.8nm,0.8s						
APMT	Aspermont	50.75	301	P	P	00 09 58.0	0.0
APMT				IAmb	IAmb	00 10 00.8	
	comp=Z,3.6nm,0.8s						
TXAR	Lajitas Array	53.45	295	P	P	00 10 17.8	-0.6
TXAR	Lajitas Array	53.45	295	P	P	00 10 18.1	-0.3
	comp=Z,0.2nm,0.4s,baz=84,slow=13,SNR=2.3						
	comp=Z,0.2nm,0.4s						
PDAR	Pinedale Array	59.35	311	P	P	00 11 00.4	0.0
	comp=Z,0.8nm,0.8s,baz=103,slow=6.4,SNR=5.6						
	comp=Z,0.8nm,0.8s						
FXWY	Fox Creek	60.52	312	P	P	00 11 09.3	+0.9
FXWY				IAmb	IAmb	00 11 09.8	
	comp=Z,1.6nm,0.8s						
ELK	Elko	63.42	308	P	P	00 11 28.5	+0.5
ELK				IAmb	IAmb	00 11 29.9	
	comp=Z,3.1nm,1.0s						
R11B	Troy Canyon, C	63.62	305	P	P	00 11 30.7	+1.4
PLID	Pearl Lake	64.20	313	P	P	00 11 32.1	-1.0
PLID				IAmb	IAmb	00 11 33.7	
	comp=Z,1.5nm,0.8s						
YKA	Yellowknife Ar	65.95	332	P	P	00 11 43.3	-0.4
	comp=Z,0.4nm,0.6s,baz=102,slow=5.5,SNR=3.9						
	comp=Z,0.4nm,0.6s						
LTY	Liberty	67.54	315	P	P	00 11 54.3	-0.1
LTY				IAmb	IAmb	00 11 54.7	
	comp=Z,2.1nm,0.8s						
BBOR	Butler Butte	68.99	310	P	P	00 12 03.3	-0.3
U35K	Hyder	73.28	324	P	P	00 12 29.1	+0.1
P33M	Teslin, Yukon	74.50	329	P	P	00 12 36.9	+0.6
P33M				IAmb	IAmb	00 12 38.1	
	comp=Z,4.6nm,1.1s						
H29M	Whitestone	76.41	335	P	P	00 12 46.4	-0.7
H29M				IAmb	IAmb	00 12 53.8	
	comp=Z,4.3nm,1.3s						
F26K	Sheenjek River	78.40	337	P	P	00 12 59.8	+1.6
D25K	Kavik River	78.83	339	P	P	00 13 01.0	+0.4
ILAR	Eielson Array	80.17	335	P	P	00 13 07.5	-0.4
	comp=Z,2.7nm,1.0s,baz=77,slow=4.7,SNR=11						
	comp=Z,2.7nm,1.0s						
SNAA	Sanae	91.93	167	P	P	00 14 06.5	+0.6

CATAC 02 00:01:48.9±0.4, 12°N±3°×8°6W±°, h154km±2km, M3.0/27, MLv3.0/27, Error ellipse: s-maj=8.1km s-min=4.0km az=43.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANN	Nandasmo	0.15	35	P	Pn	00 02 11.0	+1.5
NANN	Nandasmo	0.15	35	S	Sn	00 02 27.9	+2.5
NADN	Granada	0.18	111	P	Pn	00 02 10.0	+0.5
NADN				S	Sn	00 02 27.1	+1.8
MAS3	Al N del Volca	0.21	9	S	Sn	00 02 29.6	+4.0
UNAN	Cigeo UNAN	0.30	348	P	Pn	00 02 10.1	+0.2
UNAN				S	Sn	00 02 27.4	+1.4
TISN	Laguna Tiscapa	0.33	350	P	Pn	00 02 10.3	+0.3
MGAN	Managua	0.33	353	P	Pn	00 02 10.7	+0.7
WILN	Americas 2	0.34	3	P	Pn	00 02 10.6	+0.6
APQ2	Apoyeque	0.40	343	P	Pn	00 02 10.5	+0.3
AMTN	Mateare	0.47	333	P	Pn	00 02 11.5	+0.9
AMTN	Mateare	0.47	333	S	Sn	00 02 29.7	+2.6
COPN	Copaltepe	0.52	314	P	Pn	00 02 10.7	-0.1
MORN	Al O del Volca	0.61	116	P	Pn	00 02 12.0	+0.7
MORN				S	Sn	00 02 30.4	+2.1
CONN	Concepcion	0.62	113	P	Pn	00 02 12.1	+0.8
CONN				S	Sn	00 02 30.3	+1.8
OMEN	Al SSO del Vol	0.65	118	P	Pn	00 02 11.9	+0.4
OMEN				S	Sn	00 02 30.2	+1.6
CNGA	Al SSO del Vol	0.83	325	P	Pn	00 02 12.7	0.0
CNGN	Cerro Negro	0.83	325	P	Pn	00 02 12.6	-0.2
ILCN	San Idelfonso	0.90	328	P	Pn	00 02 13.1	-0.1
CARN	Rivas	0.92	133	P	Pn	00 02 14.2	+0.8
CARN				S	Sn	00 02 33.1	+1.1
PLRN	Geotermica Pol	0.94	324	P	Pn	00 02 13.2	-0.4
PLRN				S	Sn	00 02 32.9	+0.5
POLN	Al Sur del Vol	1.02	325	P	Pn	00 02 13.7	-0.5
POLN				S	Sn	00 02 34.4	+0.7
ACON	Acoyapa	1.02	81	P	Pn	00 02 13.8	-0.4
ACON	Acoyapa	1.02	81	S	Sn	00 02 33.6	+0.1
PKGN	Cerro Pekin	1.13	319	P	Pn	00 02 15.2	0.0
PKGN				S	Sn	00 02 36.6	+1.3
MATN	Matagalpa	1.14	14	P	Pn	00 02 14.5	-0.9
MATN	Matagalpa	1.14	14	S	Sn	00 02 34.7	-1.0
LIMN	Finca el Limon	1.25	353	P	Pn	00 02 16.4	0.0
ELI1	Hacienda Flor	1.33	151	P	Pn	00 02 18.5	+1.5
YUSH	Yuscaran	2.21	344	P	Pn	00 02 27.3	+0.4
YUSH	Yuscaran	2.21	344	S	Sn	00 02 57.1	+0.9
SIUN	Universidad Ur	2.35	36	P	Pn	00 02 28.6	+0.2
TGUH	Tegucigalpa,Un	2.46	335	P	Pn	00 02 30.2	+0.3
PACA	Pacayal	2.64	309	S	Sn	00 03 06.4	+1.0
NUBE	Las Nubes	4.05	301	P	Pn	00 02 50.6	+0.5

IDC 02 00:18:21.7±2.4, 6°.83S×129°.41E, h0km, mb3.3/1, mbtmp3.7/4, ML3.8/3, MS3.5/1, Error ellipse: s-maj=88.4km s-min=30.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.79	198	Pn	Pn	00 21 11.4	+0.2
	0.8nm,0.3s,baz=18,slow=9.6,SNR=36						
FITZ				Sn	Sn	00 23 11.2	-12
	0.7nm,0.3s,baz=244,slow=8.3,SNR=5.2						
	2.1nm,0.4s						
WRA	Warramunga Arr	13.88	160	Pn	Pn	00 21 39.5	-0.4
	0.5nm,0.3s,baz=342,slow=13,SNR=6.8						
WRA				Sn	Sn	00 24 04.9	-10
	0.9nm,0.3s,baz=330,slow=22,SNR=13						
	0.8nm,0.4s						
ASAR	Alice Springs	17.29	166	P	Pn	00 22 25.0	+0.2
	0.3nm,0.3s,baz=348,slow=14,SNR=12						
ASAR				S	Sn	00 25 25.2	-13
	0.4nm,0.4s,baz=318,slow=16,SNR=4.4						
	0.4nm,0.3s						
PSI	Prapat	31.90	286	LR	LR	00 37 46.3	
	comp=Z,88nm,19.7s,baz=96,slow=36						
MKAR	Makanchi Array	67.77	327	P	P	00 29 21.4	0.0
	0.1nm,0.4s,baz=120,slow=5.2,SNR=1.7						
	0.1nm,0.4s						

IDC 02 00:23:19.6±1.6, 5°.94S×130°.47E, h0km, mb4.0/3, mbtmp4.2/7, ML4.4/4, Error ellipse: s-maj=55.3km s-min=23.6km az=85.0

ISC 02 00:23:30.5±1.4, 6°.5S±0°.1×130°.3E±0°.1, h100km, n7, σ2.30/10, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.54	240	Pn	Pn	00 25 18.2	+0.5
	4.5nm,0.3s,baz=205,slow=6.7,SNR=1.5						
BATI				Sn	Sn	00 26 41.3	-0.4
	7.1nm,0.3s,baz=20,slow=23,SNR=5.7						
	14nm,0.3s						
FITZ	Fitzroy Crossi	12.38	201	Pn	Pn	00 26 23.6	+0.3
	1.9nm,0.3s,baz=26,slow=12,SNR=26						
FITZ				Sn	Sn	00 28 31.6	-7.8
	2.4nm,0.3s,baz=163,slow=14,SNR=7.1						
	7.0nm,0.4s						
WRA	Warramunga Arr	13.90	164	Pn	Pn	00 26 44.7	+1.5
	1.7nm,0.3s,baz=346,slow=14,SNR=16						
WRA				Sn	Sn	00 29 14.8	-1.6
	2.8nm,0.3s,baz=355,slow=22,SNR=13						
	3.4nm,0.4s						
ASAR	Alice Springs	17.39	169	P	Pn	00 27 31.2	+4.2
	0.7nm,0.3s,baz=352,slow=11,SNR=12						
ASAR				S	Sn	00 30 37.2	-3.4
	1.6nm,0.6s,baz=353,slow=25,SNR=6.9						
	1.3nm,0.3s						
MKAR	Makanchi Array	68.00	327	P	P	00 34 18.6	-0.5
	2.1nm,0.5s,baz=116,slow=8.2,SNR=34						
	2.1nm,0.5s						
ZALV	Zalesovo Beam	71.30	334	P	P	00 34 37.8	-1.3
	0.3nm,0.3s,baz=112,slow=4.5,SNR=2.5						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	72.27	328	P	P	00 34 44.1	-0.9
	0.5nm,0.5s,baz=127,slow=5.0,SNR=9.8						
	0.5nm,0.5s						

SJA 02 00:46:49.6±0.7, 35°.42S×73°.50W, h24km±5km, ML3.4, MW3.8

GUC 02 00:46:54.8±0.7, 35°.56S×72°.78W, h22km±3km, ML3.4

ISC 02 00:46:53.2±1.4, 35°.51S±0°.03×73°.06W±0°.05, h10km±11km, n44, σ1.60/72, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Hualane	1.05	62	⇓iP	Pb	00 47 12.3	-1.2
GO05				i S	Sb	00 47 24.9	-2.4
GO05				IAML		00 47 27.8	
	comp=E,2μm,0.5s						
GO05	Hualane	1.05	62	eP	Pb	00 46 56.6	-17
GO05				eS	Sb	00 47 26.1	-1.2
GO05				IAML		00 47 27.1	
	comp=Z,1μm,0.6s						
BI05	Punta Hualpn	1.24	185	eP	Pg	00 47 17.3	+0.2
BI05				eS	Sn	00 47 31.6	-1.7
BI05				IAML		00 47 37.9	
	comp=E,1μm,0.4s						
BI05	Punta Hualpn	1.24	185	eP	Pb	00 47 15.6	-1.1
BI05				eS	Sg	00 47 33.4	+0.2
BI05				IAML		00 47 38.9	
	comp=Z,485nm,0.7s						
BO03	Pichilemu	1.35	42	eP	Pn	00 47 16.8	-1.4
BO03				eS	Sn	00 47 33.3	-2.8
BI02	San Fabin de	1.85	129	eP	Pn	00 47 24.7	-0.4
BI02				eS	Sn	00 47 47.4	-1.0
BI02				IAML		00 47 49.3	
	comp=N,456nm,0.4s						
BI02	San Fabin de	1.85	129	eP	Pn	00 47 24.8	-0.2
BI02				eS	Sb	00 47 49.3	-1.0
BI02				IAML		00 47 56.7	
	comp=Z,346nm,0.7s						
BO01	Tunca	1.97	56	eP	Pn	00 47 26.6	0.0
BO01				eS	Sn	00 47 50.9	-0.4
BO01	Tunca	1.97	56	eP	Pb	00 47 27.9	-1.2
BO01				eS	Sb	00 47 52.8	-0.9
BO01				IAML		00 47 58.2	
	comp=Z,140nm,0.8s						
BO02	Sierra Bellavi	2.00	70	eP	Pn	00 47 27.2	+0.1
BO02				i S	Sn	00 47 51.6	-0.5
BO02	Sierra Bellavi	2.00	70	eP	Pn	00 47 27.7	+0.6
BO02				eS	Sg	00 47 57.9	+0.5
BO02				IAML		00 47 58.9	
	comp=Z,617nm,0.5s						
MT01	Popeta	2.22	43	i P	Pb	00 47 31.8	-1.6
MT01				i S	Sn	00 47 59.0	+1.6
MT01				IAML		00 48 09.2	
	comp=N,198nm,0.4s						
MT01	Popeta	2.22	43	eP	Pn	00 47 29.9	-0.1
MT01				eS	Sb	00 48 00.5	-0.3
MT01				IAML		00 48 11.9	
	comp=Z,112nm,1.1s						
MT09	Talagante	2.43	45	eS	Sb	00 48 05.2	-1.9
MT09				IAML		00 48 12.0	
	comp=N,271nm,0.5s						
BO04	La Punta	2.52	54	eP	Pn	00 47 35.6	+1.3
BO04				IAML		00 48 15.2	
	comp=N,218nm,0.4s						
MT12	Pirque	2.72	50	eP	Pn	00 47 38.6	+1.5
MT12				eS	Sn	00 48 11.8	+1.8
VA01	Torpederas	2.74	26	eP	Pb	00 47 44.2	+1.9
VA01				IAML		00 48 27.8	
	comp=Z,47nm,1.1s						
MT02	Curacav	2.75	36	eS	Sn	00 48 13.1	+2.4
MT02	Curacav	2.75	36	eP	Pn	00 47 36.8	-0.6
MT02				eS	Sn	00 48 10.7	+0.1
MT02				IAML		00 48 21.4	
	comp=Z,57nm,0.8s						
MT15	Las Vizcachas	2.84	49	eS	Sn	00 48 15.1	+2.1
MT15				IAML		00 48 23.6	
	comp=E,269nm,0.5s						
MT05	Renca	2.85	43	eS	Sn	00 48 15.4	+2.1
MT05				IAML		00 48 30.3	
	comp=E,243nm,0.5s						
MT05	Renca	2.85	43	eP	Pn	00 47 39.0	+0.2
MT05				eS	Sg	00 48 27.5	+2.6
MT05				IAML		00 48 33.4	
	comp=Z,115nm,0.7s						
LMEL	Las Melosas	2.88	56	i S	Sn	00 48 16.0	+2.0
LMEL				IAML		00 48 28.3	
	comp=N,176nm,0.6s						
LMEL	Las Melosas	2.88	56	eP	Pb	00 47 43.7	-1.1
LMEL				eS	Sb	00 48 17.2	-2.9
LMEL				IAML		00 48 24.5	
	comp=Z,152nm,0.9s						
MT13	San Alfonso	2.88	53⇑	eP	Pb	00 47 43.5	-1.4
MT13				eS	Sn	00 48 15.8	+1.6
MT13				IAML		00 48 24.5	
	comp=E,140nm,0.4s						
MT13	San Alfonso	2.88	53	eP	Pn	00 47 38.8	-0.5
MT13				eS	Sb	00 48 18.0	-2.2
MT13				IAML		00 48 25.8	
	comp=Z,101nm,0.8s						
MT03	Universidad Ad	2.91	47	eP	Pn	00 47 41.1	+1.4
MT03				IAML		00 48 25.4	
	comp=E,218nm,0.4s						
MT03	Universidad Ad	2.91	47	eP	Pn	00 47 41.2	+1.6
MT03				eS	Sb	00 48 18.4	-2.5
MT03				IAML		00 48 29.0	
	comp=Z,111nm,0.6s						
MT16	CCHEN	2.95	46	eS	Sn	00 48 17.9	+2.3
MT16				IAML		00 48 29.4	
	comp=N,90nm,0.4s						
MT14	Cerro Calı¡n	2.96	45	eS	Sn	00 48 18.0	+2.0
MT14				IAML		00 48 34.8	
	comp=N,283nm,0.5s						
EDS3	Malargue	2.99	96	eP	Pn	00 47 43.3	+2.5
EDS3				eS	Sb	00 48 23.8	+0.5
ROC1	El Roble	3.04	34	eP	Pn	00 47 41.7	+0.1
ROC1				eS	Sb	00 48 24.8	0.0
ROCH	El Roble	3.05	34	eS	Sn	00 48 21.4	+3.1
ROCH				IAML		00 48 35.5	
	comp=N,199nm,0.5s						
MT10	Hacienda Santa	3.05	44	eP	Pn	00 47 43.3	+1.7
MT10				IAML		00 48 36.4	
	comp=N,265nm,0.4s						
PEL	Peldehue	3.07	40	eP	Pn	00 47 42.4	+0.5
PEL				eS	Sg	00 48 32.9	+1.0
PEL				IAML		00 48 37.6	
	comp=Z,127nm,0.8s						
MT04	Ro Olivares	3.20	50	eP	Pn	00 47 45.0	+1.2
MT04				eS	Sn	00 48 25.5	+3.4
MT04				IAML		00 48 38.1	
	comp=Z,64nm,1.0s						
MT08	Bocatoma Ro	3.25	52	eP	Pn	00 47 45.5	+1.1
MT08				eS	Sb	00 48 28.5	-2.3
MT08				IAML		00 48 37.5	
	comp=Z,54nm,0.5s						
VA03	San Esteban	3.44	38	eP	Pn	00 47 47.1	+0.2
VA03				eS	Sn	00 48 27.5	-0.2
VA03				IAML		00 48 49.2	
	comp=Z,86nm,0.8s						
LC01	Cunco	3.51	165	eP	Pn	00 47 48.0	+0.2
RFA	San Rafael	3.83	80	eP	Pn	00 47 55.5	+3.2
RFA				eS	Sg	00 48 54.5	-1.8
RFA				IAML		00 48 57.1	
	comp=Z,52nm,0.9s						
GO06	Curarrehue	4.26	163	eP	Pn	00 47 59.6	+1.4
GO06				eS	Sb	00 49 02.0	+2.3
CO02	Combarbal	4.63	22	eP	Pn	00 48 02.6	-0.7
CO02	Combarbal	4.63	22	eP	Pn	00 48 02.8	-0.5
CO02				IAML		00 49 21.9	
	comp=Z,24nm,2.8s						
CO03	El Pedregal	5.06	24	eP	Pn	00 48 09.2	-0.1
CO03				eS	Sn	00 49 07.3	-0.5
CO03				IAML		00 49 43.3	
	comp=Z,19nm,1.9s						

NEIC 02 00:48:46.2±1.0, 36°.484N±0°.008×98°.738W±0°.009, h5km±1km, mb_Lg2.4/27, ML2.7/22, ML2.8/32, Error ellipse: s-maj=2.0km s-min=1.6km az=342.0

NEIC 02 00:48:46.4±0.8, 36°.480N±0°.008×98°.738W±0°.009, h7km±1km, Error ellipse: s-maj=1.4km s-min=0.6km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.00	244	Pg	Pg	00 48 48.1	+0.4
OK038				Sg	Sg	00 48 49.5	+0.8
NOKA	Waynoka	0.22	315	Pg	Pg	00 48 51.2	+0.3
NOKA				Sg	Sg	00 48 54.6	+0.8
NOKA				IAML		00 48 54.9	
	comp=E,3μm,0.3s						
CROK	Carrier	0.61	87	Pg	Pg	00 48 58.1	-0.1
CROK				Sg	Sg	00 49 06.5	+0.3
CROK				IAML		00 49 11.5	
	comp=E,611nm,0.2s						
ELIS	Ellis County	0.69	233	Pg	Pg	00 48 59.5	-0.2
ELIS				Sg	Sg	00 49 09.5	+0.9
ELIS				IAML		00 49 10.2	
	comp=N,423nm,0.2s						
ELIS				IAML		00 49 10.4	
	comp=E,314nm,0.2s						
KAN14	Manchester OK	0.78	52	Pg	Pg	00 49 01.0	-0.5
KAN14				Sg	Sg	00 49 10.8	-0.9
KAN14				IAML		00 49 13.7	
	comp=E,321nm,0.1s						
KAN14				IAML		00 49 19.1	
	comp=N,324nm,0.1s						
GC02	Grant County #	0.80	62	Pg	Pg	00 49 01.4	-0.4
GC02				Sg	Sg	00 49 12.6	+0.4
CSTR	Hydro, Custer	0.83	177	Pg	Pg	00 49 02.

WTFS	Witchita Falls	2.72 175	Pn	Pn	00 49 31.4	+1.0
LOOK	Love County	2.79 152	Pn	Pn	00 49 32.4	+0.9
AMTX	Amarillo	2.88 237	Pn	Pn	00 49 33.3	+0.6
AMTX			IAmb_Lg		00 50 17.2	
	comp=Z,11nm,0.8s					
RLO	Rose Lookout	3.02 95	Pn	Pn	00 49 35.0	+0.5
RTBA	Rita Blanca	3.22 270	Pn	Pn	00 49 38.7	+1.2
DKNS	Dickens	3.33 213	Pn	Pn	00 49 39.8	+0.9
PLPT	Palo Pinto	3.67 174	Pn	Pn	00 49 44.1	+0.5
SN07	Snyder 07	3.82 208	Pn	Pn	00 49 45.2	-0.4
SN07			IAmb_Lg		00 50 50.0	
	comp=Z,10nm,0.9s					
POST	Post	4.09 215	IAmb_Lg		00 51 02.7	
	comp=Z,8.4nm,0.9s					
MIAR	Mount Ida	4.63 113	Pn	Pn	00 49 57.1	+0.3
MIAR			IAmb_Lg		00 51 23.8	
	comp=Z,8.3nm,0.8s					
SGCY	Sterling City	4.96 204	IAmb_Lg		00 51 34.3	
	comp=Z,11nm,0.9s					
BRDY	Brady	5.18 182	Pn	Pn	00 50 05.0	+0.6
MGMO	Mountain Grove	5.23 81	IAmb_Lg		00 51 32.7	
	comp=Z,7.2nm,0.8s					
WHAR	Wooly Hollow	5.37 101	IAmb_Lg		00 51 41.5	
	comp=Z,8.9nm,0.8s					
R40A	Maddies Statio	5.46 69	Pn	Pn	00 50 08.2	+0.1
JCT	Junction City	6.05 189	IAmb_Lg		00 52 12.0	
	comp=Z,9.0nm,0.8s					
CCM	Cathedral Cave	6.18 73	IAmb_Lg		00 52 04.4	
	comp=Z,6.4nm,0.9s					
ISCO	Idaho Springs	6.35 304	IAmb_Lg		00 52 09.0	
	comp=Z,3.3nm,0.7s					
HAYD	Hayden	7.80 304	IAmb_Lg		00 53 06.4	
	comp=Z,5.1nm,1.1s					

*SDD **02** 00:50:15.0±2.1, 19°.28N×67°.14W, h22km±93km, MD3.2, ML2.7, MW3.1*
*OSPL **02** 00:50:15.8±0.3, 19°.23N×67°.30W, h16km±2km, ML2.6*
*RSPR **02** 00:50:17.2, 19°.20N×67°.25W, h10km±31km, MD2.8/17*
NEIC 02 00:50:14.7±1.2, 19°.16N±0°.04×67°.18W±0°.03, h10km±1km, ML2.7/13, Md2.8/17(RSPR), 37C, Error ellipse: s-maj=6.1km s-min=4.9km az=4.0, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.70 175			Pn	00 50 30.1	-0.5
AGPR					Sn	00 50 40.1	-1.3
AGPR	Aguadilla, PR	0.70 175		eP	Pn	00 50 30.1	-0.5
AGPR	Aguadilla, PR	0.70 175		eS	Sn	00 50 40.1	-1.3
AGPR	Aguadilla, PR	0.70 175		ePg	Pb	00 50 29.7	+0.8
AGPR				⇑eSg	Sb	00 50 40.0	+1.4
AGPR				IAML		00 50 40.9	
	comp=N,400nm,0.2s						
AGPR	Aguadilla, PR	0.70 175		i P	Pb	00 50 29.7	+0.8
AGPR				eS	Sb	00 50 39.8	+1.2
AGPR				IAML		00 50 40.1	
	comp=Z,240nm,0.2s						
IDE	Isla Desecheo	0.82 200			Pn	00 50 31.9	-0.4
IDE					Sn	00 50 43.4	-1.1
IDE	Isla Desecheo	0.82 200		eP	Pn	00 50 31.9	-0.4
IDE	Isla Desecheo	0.82 200		eS	Sn	00 50 43.4	-1.1
AOPR	Arecibo Observ	0.91 153			Pb	00 50 32.8	+0.2
AOPR					Sg	00 50 44.3	+0.3
AOPR	Arecibo Observ	0.91 153		eP	Pb	00 50 33.0	+0.5
AOPR	Arecibo Observ	0.91 153		eS	Sn	00 50 46.1	-0.6
AOPR	Arecibo Observ	0.91 153		ePg	Pb	00 50 33.0	+0.5
AOPR				⇑eSg	Sn	00 50 45.9	-0.8
AOPR				IAML		00 50 47.9	
	comp=N,327nm,0.1s						
EMPR	Esperanza - Ma	0.92 138			Pn	00 50 34.2	+0.5
EMPR					Sn	00 50 47.7	+0.7
EMPR	Esperanza - Ma	0.92 138	Pg		Pn	00 50 33.4	-0.3
EMPR	Esperanza - Ma	0.92 138		eP	Pn	00 50 34.2	+0.5
EMPR	Esperanza - Ma	0.92 138		eS	Sn	00 50 47.7	+0.7
PRSN	Puerto Rico Se	0.94 178			Sn	00 50 46.9	-0.6
PRSN	Puerto Rico Se	0.94 178	Pg		Pg	00 50 31.2	-1.7
PRSN	Puerto Rico Se	0.94 178		eP	Pn	00 50 33.9	-0.1
PRSN	Puerto Rico Se	0.94 178		eS	Sn	00 50 46.9	-0.6
PRSN	Puerto Rico Se	0.94 178		ePg	Pg	00 50 31.9	-1.0
PRSN				⇑eSg	Sn	00 50 47.5	+0.1
PRSN				IAML		00 50 51.0	
	comp=N,523nm,0.3s						
LSP	Las Mesas	0.99 175			Pn	00 50 34.5	-0.2
LSP					Sn	00 50 48.4	-0.2
LSP	Las Mesas	0.99 175		eP	Pn	00 50 34.5	-0.2
LSP	Las Mesas	0.99 175		eS	Sn	00 50 48.4	-0.2
UUPR	Utuado, UPR, P	1.01 154			Pn	00 50 34.6	-0.3
UUPR					Sn	00 50 48.5	-0.5
UUPR	Utuado, UPR, P	1.01 154	Pg		Pg	00 50 33.9	-0.1
UUPR	Utuado, UPR, P	1.01 154		eP	Pn	00 50 34.6	-0.3
UUPR	Utuado, UPR, P	1.01 154		eS	Sn	00 50 48.5	-0.5
ECPR	Experimental S	1.14 137		eP	Pn	00 50 37.1	+0.4
ECPR	Experimental S	1.14 137		eS	Sn	00 50 52.8	+0.3
CRPR	Cabo Rojo, PR	1.15 177			Pb	00 50 36.6	-0.1
CRPR					Sg	00 50 52.1	+0.3
CRPR				IAML		00 50 54.1	
	comp=N,144nm,0.2s						
CRPR	Cabo Rojo, PR	1.15 177		⇑eP	Pb	00 50 36.7	0.0
CRPR	Cabo Rojo, PR	1.15 177		⇑ePg	Pb	00 50 36.7	0.0
CRPR				⇑eSg	Sn	00 50 52.6	-0.1
CRPR				IAML		00 50 54.0	
	comp=N,170nm,0.2s						
CRPR	Cabo Rojo, PR	1.15 177		i P	Pb	00 50 36.7	0.0
CRPR				eS	Sg	00 50 52.2	+0.3
CRPR				IAML		00 50 54.0	
	comp=Z,133nm,0.2s						
MLPR	Magueyes Islan	1.20 174		eP	Pb	00 50 37.3	-0.1
MLPR	Magueyes Islan	1.20 174		eS	Sn	00 50 53.8	+0.1
MLPR	Magueyes Islan	1.20 174		⇑ePg	Pb	00 50 37.3	-0.1
MLPR				⇑eSg	Sn	00 50 53.9	+0.2
MLPR				IAML		00 50 59.8	
	comp=N,28nm,0.2s						
GBPR	Guanica, Bosqu	1.22 166			Pg	00 50 38.3	+0.2
GBPR	Guanica, Bosqu	1.22 166		⇑eP	Pg	00 50 38.3	+0.2
CELP	Cerrillos	1.22 152			Pn	00 50 37.8	-0.1
CELP					Sb	00 50 53.7	-0.1
CELP				IAML		00 50 58.1	
	comp=N,162nm,0.2s						
CELP				IAML		00 50 58.4	
	comp=E,129nm,0.2s						
CELP	Cerrillos	1.22 152		eP	Pb	00 50 37.9	0.0
CELP	Cerrillos	1.22 152		eS	Sg	00 50 54.1	0.0
CELP	Cerrillos	1.22 152		⇑ePg	Pn	00 50 37.9	0.0
CELP				⇑eSg	Sg	00 50 54.1	0.0
CELP				IAML		00 50 58.0	
	comp=N,166nm,0.2s						
OBIP	Obispado Ponce	1.24 154		Pn	Pn	00 50 38.0	-0.1
OBIP				Sn	Sb	00 50 54.3	0.0
OBIP				IAML		00 50 55.5	
	comp=E,145nm,0.3s						
OBIP				IAML		00 50 56.3	
	comp=N,163nm,0.2s						
OBIP	Obispado Ponce	1.24 154		⇑eP	Pg	00 50 38.5	-0.1
OBIP	Obispado Ponce	1.24 154		eS	Sg	00 50 54.7	0.0
PCDR	Punta Cana, DR	1.31 241		⇑eSg	Sg	00 50 59.2	+2.4
PCDR				IAML		00 50 59.7	
	comp=N,151nm,0.6s						
GCPR	Guaynabo City	1.34 129		Pn	Pn	00 50 39.6	+0.1
GCPR				Sn	Sg	00 50 57.7	-0.2
GCPR	Guaynabo City	1.34 129		⇑eP	Pb	00 50 40.1	+0.2
GCPR	Guaynabo City	1.34 129		eS	Sn	00 50 57.5	+0.1
SJG	San Juan	1.43 137		Pn	Pn	00 50 40.9	+0.2
SJG				IAML		00 51 05.2	
	comp=N,99nm,0.3s						
SJG	San Juan	1.43 137		⇑eP	Pg	00 50 42.3	+0.1
SJG	San Juan	1.43 137		eS	Sn	00 50 58.9	-0.7
SJG	San Juan	1.43 137		⇑ePg	Pg	00 50 42.4	+0.2
SJG				⇑eSg	Sg	00 51 00.3	-0.4
SJG	San Juan	1.43 137		i P	Pb	00 50 41.2	-0.3
SJG				eS	Sb	00 51 00.2	+0.4
SJG				IAML		00 51 06.8	
	comp=Z,49nm,0.3s						
HIDR	Higuey Centro	1.56 249		⇑ePg	Pb	00 50 44.0	+0.3
HIDR				⇑eSg	Sg	00 51 04.5	-0.5
HIDR				IAML		00 51 13.1	
	comp=N,115nm,0.2s						
IGPR	InterUniversit	1.57 139			Pb	00 50 43.6	-0.2
IGPR					Sb	00 51 03.7	0.0
IGPR	InterUniversit	1.57 139		⇑eP	Pb	00 50 43.6	-0.2
IGPR	InterUniversit	1.57 139		eS	Sb	00 51 03.7	0.0
PDPR	Patillas Dam,	1.58 136		Pn	Pn	00 50 42.8	0.0
PDPR				IAML		00 51 08.4	
	comp=E,90nm,0.1s						
PDPR	Patillas Dam,	1.58 136		⇑eP	Pb	00 50 43.5	-0.6
PDPR	Patillas Dam,	1.58 136		eS	Sb	00 51 04.6	+0.5
HUMP	Col San Antoni	1.62 129		Pn	Pn	00 50 42.8	-0.5
MIDR	Miches	1.78 265		⇑eP	Pn	00 50 46.2	+0.8
MIDR	Miches	1.78 265		eS	Sg	00 51 11.1	-0.7
MIDR	Miches	1.78 265		⇑ePg	Pn	00 50 46.3	+0.8
MIDR				IAML		00 51 14.2	
	comp=N,27nm,0.5s						
MIDR				IAML		00 51 20.5	
	comp=N,42nm,0.7s						
DR12	Loma Pena Alta	2.12 260		Pn	Pn	00 50 51.0	+0.8
HATOM	Hato Mayor del	2.12 260		⇑ePg	Pn	00 50 51.6	+1.5
HATOM				eSg	Sb	00 51 19.3	-0.3
HATOM				IAML		00 51 31.8	
	comp=N,24nm,0.2s						

*SDD **02** 01:03:34.6±2.4, 19°.26N×67°.22W, h22km±99km, MD3.1, ML2.7, MW3.2*
*OSPL **02** 01:03:34.7±0.8, 19°.18N×67°.44W, h10km±12km, ML2.6*
*RSPR **02** 01:03:35.1, 19°.28N×67°.41W, h47km±10km, MD2.9/17*
NEIC 02 01:03:33.3±1.6, 19°.21N±0°.04×67°.25W±0°.04, h10km±2km, ML2.8/13, Md2.9/17(RSPR), 36C-1D, Error ellipse: s-maj=6.4km s-min=5.6km az=43.0, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.75 170			Pb	01 03 48.7	+0.3
AGPR					Sb	01 03 59.2	+0.4
AGPR	Aguadilla, PR	0.75 170		⇑eP	Pb	01 03 48.7	+0.3
AGPR	Aguadilla, PR	0.75 170		eS	Sb	01 03 59.2	+0.4
AGPR	Aguadilla, PR	0.75 170		⇑ePg	Pb	01 03 48.5	+0.1
AGPR				⇑eSg	Sb	01 03 58.8	+0.1
AGPR				IAML		01 04 04.1	
	comp=N,417nm,0.3s						
AGPR	Aguadilla, PR	0.75 170		i P	Pb	01 03 48.5	+0.1
AGPR				IAML		01 04 00.4	
	comp=Z,237nm,0.2s						
IDE	Isla Desecheo	0.84 194			Pb	01 03 50.2	+0.1
IDE					Sb	01 04 02.3	+0.8
IDE	Isla Desecheo	0.84 194		⇓eP	Pb	01 03 50.2	+0.1
IDE	Isla Desecheo	0.84 194		eS	Sb	01 04 02.3	+0.8
AOPR	Arecibo Observ	0.98 151			Pg	01 03 51.7	-0.4
AOPR				Sn	Sn	01 04 06.3	-0.8
AOPR				IAML		01 04 11.1	
	comp=N,363nm,0.3s						
AOPR	Arecibo Observ	0.98 151		⇑eP	Pn	01 03 53.2	0.0
AOPR	Arecibo Observ	0.98 151		eS	Sn	01 04 07.4	+0.3
AOPR	Arecibo Observ	0.98 151		⇑ePg	Pb	01 03 52.3	-0.1
AOPR				⇑eSg	Sn	01 04 06.9	-0.2
AOPR				IAML		01 04 11.1	
	comp=N,341nm,0.2s						
PRSN	Puerto Rico Se	0.99 174			Pn	01 03 53.4	+0.1
PRSN	Puerto Rico Se	0.99 174			Pg	01 03 51.9	-0.5
PRSN	Puerto Rico Se	0.99 174		⇑eP	Pn	01 03 53.4	+0.1
EMPR	Esperanza - Ma	1.00 137			Pn	01 03 53.9	+0.5
EMPR					Sn	01 04 09.2	+1.6
EMPR	Esperanza - Ma	1.00 137			Pn	01 03 53.5	+0.1
EMPR	Esperanza - Ma	1.00 137		⇑eP	Pn	01 03 53.9	+0.5
EMPR	Esperanza - Ma	1.00 137		eS	Sn	01 04 09.2	+1.6
LSP	Las Mesas	1.04 171			Pg	01 03 53.2	-0.1
LSP					Sn	01 04 08.7	+0.1
LSP	Las Mesas	1.04 171		⇑eP	Pg	01 03 53.2	-0.1
LSP	Las Mesas	1.04 171		eS	Sn	01 04 08.7	+0.1
UUPR	Utuado, UPR, P	1.08 152			Pb	01 03 54.1	0.0
UUPR					Sn	01 04 10.2	+0.7
UUPR	Utuado, UPR, P	1.08 152			Pg	01 03 53.9	-0.2
UUPR	Utuado, UPR, P	1.08 152		⇑eP	Pb	01 03 54.1	0.0
UUPR	Utuado, UPR, P	1.08 152		eS	Sn	01 04 10.2	+0.7
CRPR	Cabo Rojo, PR	1.20 173	Pn		Pn	01 03 55.3	-0.9
CRPR				Sn	Sg	01 04 12.1	0.0
CRPR				IAML		01 04 16.1	
	comp=N,200nm,0.3s						
CRPR	Cabo Rojo, PR	1.20 173		⇑eP	Pn	01 03 56.2	0.0
CRPR	Cabo Rojo, PR	1.20 173		eS	Sn	01 04 12.8	+0.2
CRPR	Cabo Rojo, PR	1.20 173		⇑ePg	Pn	01 03 55.5	-0.8
CRPR				⇑eSg	Sn	01 04 13.1	+0.6
CRPR				IAML		01 04 16.1	
	comp=N,235nm,0.2s						
CRPR	Cabo Rojo, PR	1.20 173		i P	Pn	01 03 55.4	-0.8
CRPR				eS	Sb	01 04 11.7	-0.1
CRPR				IAML		01 04 15.8	
	comp=Z,262nm,0.3s						
ECPR	Experimental S	1.22 136		⇑eP	Pg	01 03 57.3	+0.5
ECPR	Experimental S	1.22 136		eS	Sn	01 04 13.9	+0.8
MLPR	Magueyes Islan	1.25 171		⇑eP	Pn	01 03 56.1	-0.7
MLPR	Magueyes Islan	1.25 171		eS	Sb	01 04 13.1	-0.1
MLPR	Magueyes Islan	1.25 171		⇑ePg	Pn	01 03 56.1	-0.7
MLPR				⇑eSg	Sb	01 04 12.6	-0.5
MLPR				IAML		01 04 18.6	
	comp=N,33nm,0.3s						
PCDR	Punta Cana, DR	1.27 237		⇑eSg	Sg	01 04 15.0	+0.7
PCDR				IAML		01 04 22.2	
	comp=N,122nm,0.5s						
GBPR	Guanica, Bosqu	1.28 164			Pg	01 03 58.2	+0.3
GBPR	Guanica, Bosqu	1.28 164		⇑eP	Pg	01 03 58.2	+0.3
CELP	Cerrillos	1.30 150	Pn		Pn	01 03 56.8	-0.7
CELP				Sn	Sb	01 04 14.3	-0.2
CELP				IAML		01 04 18.0	
	comp=E,172nm,0.2s						
CELP	Cerrillos	1.30 150		⇑eP	Pn	01 03 57.4	-0.1
CELP	Cerrillos	1.30 150		eS	Sg	01 04 15.2	+0.1
CELP	Cerrillos	1.30 150		⇑ePg	Pn	01 03 57.3	-0.2
CELP				⇑eSg	Sg	01 04 15.2	+0.1
CELP				IAML		01 04 15.4	
	comp=N,227nm,0.3s						
OBIP	Obispado Ponce	1.31 152	Pn	Pn	01 03 57.4	-0.3
OBIP				Sn	Sb	01 04 13.5	-1.5
OBIP				IAML		01 04 18.0	
	comp=N,176nm,0.3s						
OBIP	Obispado Ponce	1.31 152		⇑eP	Pn	01 03 57.8	+0.1
OBIP	Obispado Ponce	1.31 152		eS	Sg	01 04 16.0	+0.4
GCPR	Guaynabo City	1.43 129	Pn		Pn	01 03 59.4	+0.1
GCPR				Sn	Sn	01 04 17.5	-0.5
GCPR	Guaynabo City	1.43 129		⇑eP	Pb	01 04 00.1	+0.2
GCPR	Guaynabo City	1.43 129		eS	Sg	01 04 19.0	-0.2
SJG	San Juan	1.51 136	Pn		Pn	01 04 00.2	-0.3
SJG				IAML		01 04 23.1	
	comp=N,78nm,0.3s						
SJG				IAML		01 04 26.3	
	comp=N,93nm,0.4s						
SJG	San Juan	1.51 136		⇑eP	Pb	01 04 01.5	+0.1
SJG	San Juan	1.51 136		⇑ePg	Pg	01 04 02.0	-0.3
SJG				⇑eSg	Sg	01 04 21.7	-0.2
SJG	San Juan	1.51 136		i P	Pg	01 04 01.9	-0.4
SJG				eS	Sb	01 04 21.2	+0.5
SJG				IAML		01 04 28.6	
	comp=Z,49nm,0.2s						
HIDR	Higuey Centro	1.52 246		⇑eP	Pg	01 04 02.7	+0.3
HIDR	Higuey Centro	1.52 246		⇑ePg	Pn	01 03 59.9	-0.6
HIDR				⇑eSg	Sg	01 04 21.7	-0.4
HIDR				IAML		01 04 32.1	
	comp=N,152nm,0.2s						
IGPR	InterUniversit	1.65 139			Pn	01 04 02.9	+0.6
IGPR	InterUniversit	1.65 139		⇑eP	Pn	01 04 02.9	+0.6
PDPR	Patillas Dam,	1.66 135	Pn		Pn	01 04 02.7	+0.2
PDPR				IAML		01 04 30.9	
	comp=N,81nm,0.2s						
PDPR	Patillas Dam,	1.66 135		⇑eP	Pb	01 04 03.5	-0.5
PDPR	Patillas Dam,	1.66 135		eS	Sn	01 04 24.3	+0.4
HUMP	Col San Antoni	1.70 128	Pn		Pn	01 04 03.1	0.0
MIDR	Miches	1.71 263		⇑eP	Pb	01 04 04.6	-0.3
MIDR	Miches	1.71 263		eS	Sg	01 04 28.1	-0.3
MIDR	Miches	1.71 263		⇑ePg	Pg	01 04 05.6	-0.6
MIDR				⇑eSg	Sg	01 04 28.4	-0.1
MIDR				IAML		01 04 28.5	
	comp=N,54nm,0.5s						
MIDR				IAML		01 04 29.0	
	comp=N,39nm,0.9s						
DR12	Loma Pena Alta	2.06 259	Pn	Pb	01 04 09.4	-1.4
HATOM	Hato Mayor del	2.06 259	ePg	Pb	01 04 09.7	-1.0
HATOM				⇑eSg	Sg	01 04 38.3	-1.2
HATOM				IAML		01 04 48.4	
	comp=N,21nm,0.5s						

*KOLA **02** 01:13:07.7, 80°.26N×21°.63E, h0km, ML1.9, Error ellipse: s-maj=30.2km s-min=28.6km az=150.0, Spitsbergen, Arctic Ocean*
BER 02 01:13:16.7±1.9, 79°.81N×22°.61E, h10km, ML1.8, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	2.03 219		e	Pn	01 13 46.3	-4.6
SPA0				eP	Pb	01 13 50.7	-3.0
SPA0	Spitsbergen Ar	2.03 219		e	Pn	01 13 50.7	-0.3
SPITS	Spitsbergen Ar	2.03 219		P	Pn	01 13 46.2	-4.7
SPITS				S	Sn	01 14 17.1	+0.8
KBS	Kingsbay	2.17 251		P	Pn	01 13 46.1	-6.6
KBS				S	Sn	01 14 13.9	-5.7
KBS	Kingsbay	2.17 251		e	Pn	01 13 46.3	-6.5
KBS				eP	Pb	01 13 50.9	-5.0
KBS				eS	Sn	01 14 16.5	-3.1
KBS				IAML		01 14 18.1	
	comp=Z,13nm,0.1s						
BRBA	Barentsburg A	2.39 227		e	Pn	01 13 51.0	-4.8
HSPB	Hornsund (broa	3.17 210		P	Pn	01 14 04.2	-2.2
HSPB	Hornsund (broa	3.17 210		eP	Pn	01 14 03.6	-2.9

BER 02 01:13:59.7±5.1, 80°.30N×20°.48E, h10km, ML2.2, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.07 233		eP	Pn	01 14 32.6	-1.8
KBS				eS	Sn	01 14 57.8	-2.5
KBS				IAML		01 15 00.5	
	comp=Z,48nm,0.3s						
SPA0	Spitsbergen Ar	2.27 202		eS	Sn	01 14 57.7	-7.5
SPA0				IAML		01 15 04.5	
	comp=Z,22nm,0.3s						
BRBA	Barentsburg A	2.54 211		eS	Sn	01 15 08.3	-3.5
HSPB	Hornsund (broa	3.46 199		eS	Sn	01 15 34.1	-0.3

*MOS **02** 01:43:12.8±0.9, 39°.11N×144°.52E, h10km, mb4.9/31, Error ellipse: s-maj=8.3km s-min=5.0km az=97.7*
*IDC **02** 01:43:12.2±0.6, 38°.96N×144°.66E, h0km, mb4.3/24, mbtmp4.4/32, ML4.2/8, MS3.3/28, Error ellipse: s-maj=15.8km s-min=12.7km az=143.0*
*NEIC **02** 01:43:14.8±1.3, 39°.07N±0°.07×144°.5E±0°.1, h10km±1km, mb4.8/163, Error ellipse: s-maj=14.4km s-min=10.1km az=119.0*
*NIED **02** 01:43:16.6, 39°.18N×144°.42E, h54km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.80; $M_{\theta\theta}$0.89; $M_{\phi\phi}$1.91; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.46; $M_{\phi r}$2.62; Fault plane solution: $M_0$3.59000×10^{15} NP1: ϕ_s336.00000°, δ22.00000°, λ-102.00000°. NP2: ϕ_s169.00000°, δ69.00000°, λ-85.00000°.*
*JMA **02** 01:43:16.6±0.3, 39°.N±.1°×.14°.4E±.°, h54km, MV4.8/36, MW4.4/36, FAR E OFF NORTH HONSHU*
ISC 02 01:43:13.6±2.1, 39°.11N±0°.05×144°.58E±0°.05, h5km±12km, n514, σ1±50/462, mb4.8/144, MS3.5/30, 15C-20D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	2.19 283		P	Pn	01 43 49.8	-0.8
MIYJ				eS	Sn	01 44 14.0	-4.2
JTH	Tanohata	2.26 292		P	Pn	01 43 50.6	-1.0
JTH				eS	Sn	01 44 15.5	-4.3
OFUJ	Ofunato	2.27 270		P	Pn	01 43 50.7	-1.0
OFUJ				eS	Sn	01 44 15.3	-4.7
JOM	Ohasama	2.58 279		P	Pn	01 43 55.5	-0.5
JOM				eS	Sn	01 44 24.0	-3.7
JMK	Ichinoseki	2.62 268		P	Pn	01 43 55.9	-0.7
JMK				eS	Sn	01 44 24.3	-4.5
JANG	Nango	2.68 299		eP	Pn	01 43 56.1	-1.3
ERM	Erimo	3.10 340	Pn		Pn	01 44 02.0	-1.1
ERM	Erimo	3.10 340	P		Pn	01 44 04.4	+1.3
ERM	Erimo	3.10 340	P		Pn	01 44 02.0	-1.1
JEM	Erimo	3.10 340	P		Pn	01 44 04.5	+1.4
JTM	Tenmabayashi	3.18 303	Pn		Pn	01 44 03.8	-0.4
JTM	Tenmabayashi	3.18 303	P		Pn	01 44 04.5	+0.3
JTM	Tenmabayashi	3.18 303	S		Sn	01 44 39.9	-2.6
JMM	Marumori	3.22 249	Pn		Pn	01 44 03.0	-1.8
JYK	Kaneyama	3.30 268	P		Pn	01 44 05.5	-0.3
JYK				eS	Sn	01 44 43.4	-2.0
JNBK	Urakawa-nobuka	3.46 337	P		Pn	01 44 08.2	+0.2
JNBK				eS	Sn	01 44 48.3	-1.1
JOT	Ohata	3.53 311	eP		Pn	01 44 08.8	-0.3
JCH	Churui	3.62 346	eP		Pn	01 44 09.7	-0.6
JCH				eS	Sn	01 44 48.9	-4.5
JOTO	OTAMA OYAMA	3.68 246	eP		Pn	01 44 10.2	-1.0
JOTO				eS	Sn	01 44 51.0	-3.9
JAK	Akkeshi	3.88 1	P		Pn	01 44 12.7	-1.2
NEM2	Nemuro 2	4.34 11	eP		Pn	01 44 18.0	-2.2
NMR	Nemuro--Hokkai	4.34 11	⇑iP		Pn	01 44 18.0	-2.2
NMR			i S		Sn	01 45 04.2	-7.0
GLVR	Golovnino	4.68 8	⇑iP		Pn	01 44 23.7	-1.1
GLVR			i S		Sn	01 45 13.6	-5.8
GLVR				pmax	pmax		
	comp=E,93nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,236nm,0.2s						
GLVR				pmax	pmax		
	comp=N,37nm,0.1s						
GLVR				smax	smax		
	comp=N,660nm,0.2s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
JTKR	Abashiri--Toko	4.88 354	eP		Pn	01 44 27.1	-0.6
YUK	Yuzh-Kuril'sk	5.01 11	d iP		Pn	01 44 28.1	-1.3
YUK			i S		Sn	01 45 21.2	-6.5
YUK				pmax	pmax		
	comp=Z,401nm,0.3s						
YUK				pmax	pmax		
	comp=E,146nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
RUSJ	Misakicho	5.01 5	⇓iP		Pn	01 44 28.7	-0.7
RUSJ			i S		Sn	01 45 21.5	-6.3
JSD	Sado	5.07 260

comp=N,50nm,0.6s
YSS smax smax
comp=E,40nm,0.5s
TEY Ternei 8.38 318⇑ *e*P Pn 01 45 16.8 +1.2
TEY pmax pmax
comp=N,10.0nm,0.6s
TEY pmax pmax
comp=E,10.0nm,0.6s
TEY pmax pmax
comp=Z,20nm,0.5s
JMN Monobe 10.16 241 Pn Pn 01 45 38.4 -1.7
USRK Ussuriysk Ar. 10.70 302 Pn Pn 01 45 49.2 +1.7
comp=Z,17nm,0.3s,baz=98,slow=14,SNR=11
comp=Z,9.2nm,0.6s
PSTR Posyet 11.02 293⇓ *e*P Pn 01 45 53.4 +1.7
TYV Tymovskoe 11.83 354 *e*P Pn 01 45 58.9 -4.0
TYV pmax pmax
comp=Z,100nm,4.5s
TYV pmax pmax
comp=Z,8.0nm,1.5s
MDJ Mudanjiang 12.45 301 P Pn 01 46 13.4 +2.0
MDJ pmax pmax
comp=Z,12nm,1.1s
JNU Nakatsue 12.58 246 Pn Pn 01 46 10.9 -2.4
JNU Nakatsue 12.58 246 Pn Pn 01 46 11.9 -1.4
comp=Z,0.9nm,0.3s,baz=74,slow=8.0,SNR=10
JNU LR LR 01 52 01.9
comp=Z,280nm,19.1s,baz=55,slow=42
comp=Z,20nm,0.8s
KSRS Korea Array 13.20 268 Pn Pn 01 46 22.0 +0.4
comp=Z,0.9nm,0.3s,baz=78,slow=14,SNR=11
comp=Z,5.3nm,0.6s
KSRS Korea Array 13.20 268 P Pn 01 46 22.0 +0.4
BNX BinXian 14.30 303 ⇓P P 01 46 42.9 -1.1
BNX pmax pmax
comp=Z,6.0nm,0.6s
PEA0B Petropavlovsk- 16.65 29 Pn Pn 01 47 08.1 +0.5
PEA0B IAmb IAmb 01 47 16.2
comp=Z,121nm,1.9s
PEA0B Petropavlovsk- 16.65 29 P Pn 01 47 08.1 +0.5
PEA0B pmax pmax
comp=Z,121nm,1.9s
PETK Petropavlovsk- 16.65 29 Pn P 01 47 09.1 -0.9
PETK Petropavlovsk- 16.65 29 Pn Pn 01 47 08.6 +1.0
comp=Z,0.5nm,0.3s,baz=201,slow=7.9,SNR=11
PETK LR LR 01 55 31.7
comp=Z,46nm,18.2s,baz=213,slow=44
comp=Z,13nm,0.9s
PETK Petropavlovsk- 16.65 29 P P 01 47 09.1 -0.9
PET Petropavlovsk 16.95 30⇑ *e*P P 01 47 13.7 +0.4
PET pmax pmax
comp=Z,20nm,1.0s
JOW Kunigami 18.33 233 P Pn 01 47 27.3 -1.3
comp=Z,2.4nm,0.3s,baz=324,slow=26,SNR=4.6
comp=Z,26nm,0.6s
ZEA Zeya 18.81 327 *e*P Pn 01 47 34.7 +0.4
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 20.42 308⇓ *e*P Pn 01 47 52.9 -0.6
HIA pmax pmax
comp=Z,5.0nm,0.6s
BJI Beijing 21.88 281 P P 01 48 05.8 -1.5
BJI pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 22.04 259 *e*P P 01 48 07.6 -1.4
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
HNS HongShan 23.48 275 ⇑P P 01 48 25.2 +1.2
HNS pmax pmax
comp=Z,8.0nm,0.9s
HNS LR LR
comp=E,320nm,15.7s
HNS LR LR
comp=Z,440nm,12.6s
SEY Seymchan 24.32 9 LR LR 01 59 39.2
comp=Z,22nm,18.9s,baz=199,slow=40
SEY Seymchan 24.32 9⇑ *i*P P 01 48 33.5 +1.7
SEY pmax pmax
comp=Z,30nm,1.4s
SHEM Shemya Is, Ala 24.43 46 LR LR 01 55 31.8
comp=Z,50nm,21.6s,baz=118,slow=30
YAK Yakutsk 24.70 343 LR LR 01 59 17.0
comp=Z,49nm,21.4s,baz=262,slow=39
HHC Hu-ho-hao-te 25.28 285 *e*P P 01 48 40.6 -0.3
HHC S **S 01 52 59.5 -7.8**
HHC sS sS 01 53 14.0 +7.4
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.6s
HHC LR LR
comp=N,74nm,12.2s
HHC LR LR
comp=E,130nm,12.2s
HHC LR LR
comp=Z,180nm,13.8s
LYN LuoYang 26.03 270 P P 01 48 48.2 +0.6
LYN sP pwP 01 48 59.2 +3.7
LYN pmax pmax
comp=Z,19nm,0.6s
WHN Wuhan 26.16 260 P P 01 48 52.8 +4.0
BTO Baotou 26.48 284 *e*P P 01 48 52.7 +1.0
BTO PP **PnPn 01 49 33.7 +2.3**
BTO S **S 01 53 28.2 +2.0**
BTO pmax pmax
comp=Z,8.0nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.7s
BTO LR LR
comp=N,210nm,4.9s
BTO LR LR
comp=E,430nm,5.9s
BTO LR LR
comp=Z,330nm,11.2s
H11N2 WAKE ISLAND Hy 27.27 129 T T 02 17 31.5
baz=320,slow=74,SNR=3.9
H11N1 WAKE ISLAND Hy 27.28 129 T T 02 17 30.7
baz=320,slow=74,SNR=3.4
H11N3 WAKE ISLAND Hy 27.29 129 T T 02 17 29.0
baz=320,slow=74,SNR=4.1
ULN Ulaanbaatar 28.37 300⇑ *e*P P 01 49 09.5 +0.8
ULN pmax pmax
comp=Z,7.0nm,1.6s
SONM Songino Array 28.81 300 P P 01 49 12.9 +0.3
SONM Songino Array 28.81 300 P P 01 49 12.8 +0.3
comp=Z,0.7nm,0.6s,baz=105,slow=7.9,SNR=4.1
SONM LR LR 02 00 26.4
comp=Z,76nm,21.0s,baz=78,slow=36
comp=Z,0.7nm,0.6s
SONM Songino Array 28.81 300 P P 01 49 12.9 +0.3
SONM pmax pmax
comp=Z,6.0nm,1.6s
LZDM Lanzhou Array 32.38 277 P P 01 49 45.3 +0.7
comp=Z,1.0nm,0.3s,baz=57,slow=5.5,SNR=4.1
comp=Z,1.0nm,0.3s
TIXI Tiksi 33.58 351 LR LR 02 06 55.6
comp=Z,30nm,18.3s,baz=192,slow=42
GYA Guiyang 34.04 260 ⇓P P 01 50 00.3 +1.5
GYA pmax pmax
comp=Z,18nm,1.0s
GTA Gaotai 34.39 285 *e*P P 01 50 03.8 +2.0
GTA sP pwP 01 50 13.2 +3.5
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=N,170nm,17.1s
GTA LR LR
comp=E,130nm,17.4s
GTA LR LR
comp=Z,180nm,15.6s
P08K Saint George I 34.61 44 P P 01 50 04.8 +1.6
baz=260
DAV Davao City (W) 36.21 213 LR LR 02 06 54.6
comp=Z,31nm,18.3s,baz=98,slow=39
M11K Mekoryuk 37.09 39 P P 01 50 25.3 +0.9
baz=258
PZH PanZhiHua 37.81 264 P P 01 50 31.2 +0.1
TNA Tin City 37.81 30 P P 01 50 31.3 +0.7
baz=249
FALS False Pass 37.86 48 P P 01 50 31.2 +0.2
baz=267
K13K Kusilvak Mount 38.16 36 P P 01 50 34.0 +0.5
K13K IAmb IAmb 01 50 36.3
comp=Z,19nm,1.2s
K13K Kusilvak Mount 38.16 36 P P 01 50 34.2 +0.7
baz=257
F14K Arctic Creek 38.41 31 P P 01 50 37.0 +1.4
baz=251
M13K Dall Lake 38.48 39 P P 01 50 37.1 +0.9
baz=260
J14K Nanvaranak Lak 38.84 35 P P 01 50 40.2 +1.0
baz=257
L14K Kuka Creek 38.97 38 P P 01 50 41.1 +0.9
baz=260
GOMU GeErMu 39.12 282 P P 01 50 44.1 +1.8
GOMU pmax pmax
comp=Z,8.0nm,0.8s
F15K North Star Dit 39.15 31 P P 01 50 43.2 +1.4
baz=253
G15K Niukluk 39.19 32 P P 01 50 43.4 +1.3
baz=254
M14K Bethel 39.22 39 P P 01 50 43.7 +1.3
M14K Bethel 39.22 39 P P 01 50 43.2 +0.9
baz=261
SDPT Sand Point 39.56 47 P P 01 50 46.7 +1.4
baz=269
K15K Wolf Creek Mou 39.67 36 P P 01 50 47.9 +1.7
K15K Wolf Creek Mou 39.67 36 P P 01 50 47.7 +1.5
baz=260
C16K Lisburne Hills 39.74 27 P P 01 50 47.8 +1.2
C16K Lisburne Hills 39.74 27 P P 01 50 47.4 +0.8
baz=249
M15K Kasigluk River 39.83 39 P P 01 50 48.4 +0.9
baz=263
H16K Elim 39.84 33 P P 01 50 48.5 +1.0
baz=256
J16K Anvik River 40.27 35 P P 01 50 52.2 +1.0
baz=260
I17K Unalakleet 40.34 34 P P 01 50 52.9 +1.2
baz=259
D17K Noatak River 40.35 28 P P 01 50 53.1 +1.4
baz=252
L16K Owhat River 40.54 37 P P 01 50 54.0 +0.6
baz=263
C17K DeLong Mountai 40.56 27 P P 01 50 54.4 +0.9
baz=251
E17K Hotham Inlet 40.63 29 P P 01 50 55.5 +1.4
baz=254
F17K Baldwin Pennin 40.68 30 P P 01 50 55.9 +1.4
F17K IAmb IAmb 01 51 29.2
comp=Z,56nm,1.9s
F17K Baldwin Pennin 40.68 30 P P 01 50 55.8 +1.4
baz=255
G17K Kiwalik Mounta 40.70 31 P P 01 50 56.0 +1.4
baz=257
M16K Timber Creek 40.71 38 P P 01 50 55.9 +1.1
baz=264
N16K Nishlik Lake 40.74 39 P P 01 50 56.2 +1.1
baz=265
H17K Granite Mounta 40.88 32 P P 01 50 57.4 +1.2
baz=258
J17K VABM Dome 40.96 35 P P 01 50 58.3 +1.4
J17K VABM Dome 40.96 35 P P 01 50 58.3 +1.4
baz=261
O16K Kokwok River B 41.01 41 P P 01 50 58.3 +1.0
baz=266
P16K Nushagak River 41.03 42 P P 01 50 58.5 +1.0
baz=267
L17K Donlin 41.15 37 P P 01 50 59.6 +1.2
baz=263
E18K Tukpahlearik C 41.18 29 P P 01 50 59.9 +1.3
baz=255
K17K Iditarod 41.22 36 P P 01 51 00.6 +1.7
K17K IAmb IAmb 01 51 01.5
comp=Z,12nm,0.8s
K17K Iditarod 41.22 36 P P 01 51 00.1 +1.1
baz=263
C18K Utukok River 41.31 27 P P 01 51 01.0 +1.3
baz=253
F18K Selawik 41.34 30 P P 01 51 01.3 +1.4
baz=257
M17K Holitna River 41.48 38 P P 01 51 02.4 +1.3
baz=265
O17K Koliganek Bris 41.53 40 P P 01 51 03.0 +1.4
baz=267
H18K Honhosa River 41.56 32 P P 01 51 02.8 +1.0
H18K IAmb IAmb 01 51 03.9
comp=Z,14nm,0.8s
H18K Honhosa River 41.56 32 P P 01 51 02.8 +1.0
baz=260
JAY Jayapura 41.57 186 LR LR 02 07 16.9
comp=Z,15nm,20.0s,baz=343,slow=35
G18K Tagagawik 41.59 31 P P 01 51 03.1 +1.1
baz=259,SNR=5.6
P17K Kvichak River 41.84 41 P P 01 51 05.3 +1.2
baz=268
R17L Mt. Peulik Vol 41.86 44 P P 01 51 05.4 +1.1
baz=270
L18K Granite Mounta 41.91 37 P P 01 51 05.2 +0.6
baz=265
C19K Lookout Ridge 41.99 26 P P 01 51 05.5 +0.2
C19K Lookout Ridge 41.99 26 P P 01 51 06.3 +0.9
baz=254
J18K Innoko River 42.02 35 P P 01 51 06.3 +0.7
baz=263
Q17K Contact Creek 42.11 43 P P 01 51 06.6 +0.1
baz=270
F19K Shaleruckik Mo 42.12 30 P P 01 51 06.7 +0.4
baz=258
GCSA Galena City Sc 42.12 33 P P 01 51 06.9 +0.6
baz=262
WMQ Urumqi 42.17 295 *e*P P 01 51 09.1 +1.9
N18K Kilae Creek 42.18 39 P P 01 51 07.7 +0.8
baz=267
M18K Stony River 42.26 38 P P 01 51 08.4 +0.9
baz=266
CHIR Chirikof Islan 42.31 46 P P 01 51 09.0 +1.0
baz=273
D19K Kuna River 42.36 27 P P 01 51 09.6 +1.3
baz=256
ZALV Zalesovo Beam 42.41 311 P P 01 51 08.9 +0.1
ZALV Zalesovo Beam 42.41 311 P P 01 51 09.1 +0.2
comp=Z,3.0nm,0.5s,baz=94,slow=8.2,SNR=8.1
ZALV PcP **PcP 01 53 01.3 -0.6**
comp=Z,2.0nm,0.7s,baz=85,slow=3.8,SNR=3.9
ZALV LR LR 02 11 00.5
comp=Z,32nm,18.1s,baz=48,slow=39
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 42.41 311 *i*P P 01 51 09.3 +0.5
ZALV pmax pmax
comp=Z,3.0nm,0.5s
H19K Roundabout Mou 42.42 32 P P 01 51 09.6 +0.8
H19K IAmb IAmb 01 51 11.1
comp=Z,26nm,0.9s
H19K Roundabout Mou 42.42 32 P P 01 51 10.5 +1.8
baz=261,SNR=15
E19K Redstone River 42.45 29 IAmb IAmb 01 51 11.2
comp=Z,20nm,1.2s
E19K Redstone River 42.45 29 P P 01 51 10.5 +1.5
baz=258,SNR=7.6
P18K Big Mountain, 42.47 41 P P 01 51 10.1 +0.9
baz=269
J19K Poorman 42.57 34 P P 01 51 10.9 +0.9
J19K IAmb IAmb 01 51 11.8
comp=Z,14nm,0.8s
J19K Poorman 42.57 34 P P 01 51 11.3 +1.3
baz=264,SNR=6.5
Q18K Katmai Hardscr 42.57 42 P P 01 51 11.5 +1.2
baz=270
L19K White Mountain 42.76 37 P P 01 51 13.0 +1.3
baz=266
O19K Port Alsworth 42.94 40 P P 01 51 14.7 +1.7
baz=269
D20K Etivluk River 42.94 27 P P 01 51 14.4 +1.4
baz=258
F20K Avaraart Lake 42.95 30 P P 01 51 14.4 +1.3
baz=260
M19K Big River Lodg 42.96 37 P P 01 51 14.2 +1.0
baz=267
E20K Nigu River 43.00 28 P P 01 51 15.0 +1.4
baz=259
B20K Meade River 43.05 25 P P 01 51 15.2 +1.4
baz=256
H20K Anotleneega Mo 43.06 32 P P 01 51 15.3 +1.3
baz=263,SNR=8.3
K20K Telida 43.20 35 P P 01 51 16.4 +1.2
baz=266
L20K Farewell, AK 43.23 37 P P 01 51 16.4 +1.0
baz=267
J20K Nowinta River 43.23 34 P P 01 51 16.9 +1.5
baz=265
Q19K Cape Douglas, 43.28 42 P P 01 51 17.7 +1.9
baz=271
M20K Styx River 43.56 37 P P 01 51 18.7 +0.5
baz=268
IMAR Indian Mountai 43.59 32 P P 01 51 19.1 +0.9
C21K Knifeblade Rid 43.68 27 P P 01 51 20.0 +1.0
baz=259
G21K Allakaket 43.75 31 IAmb IAmb 01 51 21.6
comp=Z,12nm,0.8s
G21K Allakaket 43.75 31 P P 01 51 20.8 +1.3
baz=263,SNR=7.0
O20K Slope Mountain 43.79 40 P P 01 51 20.8 +0.8
baz=271
B21K Ikpikpuk River 43.83 26 P P 01 51 21.4 +1.3
baz=259
E21K Killik River 43.84 28 P P 01 51 21.5 +1.2
baz=261
F21K Alatna River 43.85 30 P P 01 51 21.4 +1.1
baz=262
KDAK Kodiak Island 43.88 43⇓ *e*P P 01 51 20.5 -0.2
KDAK pmax pmax
comp=Z,92nm,2.0s
H21K Melozitna Rive 43.94 32 IAmb IAmb 01 51 23.2
comp=Z,9.4nm,0.8s
H21K Melozitna Rive 43.94 32 P P 01 51 22.3 +1.2
baz=265
A22K Sinclair Lake 44.00 24 P P 01 51 22.2 +0.8
baz=257
CHUM Lake Minchumin 44.02 35 P P 01 51 22.8 +1.1
baz=267
PPLA Purkeypile 44.03 36 P P 01 51 22.7 +0.7
baz=268
SKT Skwentna 44.31 37 P P 01 51 24.1 -0.1
baz=270
D22K Ayikyak River 44.38 27 P P 01 51 25.4 +0.8
D22K IAmb IAmb 01 51 26.8
comp=Z,32nm,1.4s
D22K Ayikyak River 44.38 27 P P 01 51 25.7 +1.1
baz=262
F22K John River 44.38 29 P P 01 51 26.0 +1.3
baz=263
CMAR Chiang Mai Arr 44.44 256 P P 01 51 26.1 +0.5
comp=Z,1.1nm,0.3s,baz=48,slow=7.5,SNR=4.4
CMAR LR LR 02 12 12.7
comp=Z,31nm,18.1s,baz=50,slow=39
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 44.44 256 *ce*P P 01 51 28.2 +2.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
H22K Ishtalitna Cre 44.55 32 P P 01 51 27.0 +1.1
baz=266
G22K Bettles 44.58 30 P P 01 51 27.1 +0.9
baz=265
E22K Anaktuvuk Pass 44.60 29 IAmb IAmb 01 51 28.6
comp=Z,20nm,1.1s
E22K Anaktuvuk Pass 44.60 29 P P 01 51 27.6 +1.3
baz=263
BPAW Bear Paw Mtn. 44.61 34 P P 01 51 27.8 +1.3
baz=268
MLY Manley 44.76 33 IAmb IAmb 01 51 29.9
comp=Z,12nm,1.0s
MLY Manley 44.76 33 P P 01 51 28.7 +1.0
baz=267,SNR=9.5
TRF Thorofare Moun 44.90 35 P P 01 51 30.0 +1.0
baz=269
CUT Chulitna 44.91 37 P P 01 51 29.9 +1.1
baz=270
D23K Nanushuk River 45.11 27 P P 01 51 31.5 +1.1
D23K Nanushuk River 45.11 27 P P 01 51 31.5 +1.1
baz=263
COLD Coldfoot 45.12 30 P P 01 51 31.5 +1.1
baz=266
G23K Bananza Creek 45.15 31 P P 01 51 32.1 +1.4
baz=266
MK31 Makanchi Array 45.17 301 *de*P P 01 51 31.3 +0.1
MKAR Makanchi Array 45.17 301 P P 01 51 30.6 -0.5
MKAR Makanchi Array 45.17 301 P P 01 51 31.2 +0.1
comp=Z,1.9nm,0.7s,baz=83,slow=9.5,SNR=15
MKAR LR LR 02 10 46.4
comp=Z,34nm,20.6s,baz=2.0,slow=36
comp=Z,1.9nm,0.7s
RC01 Rabbit Creek A 45.19 39 P P 01 51 31.8 +0.7
baz=272
C23K Itkillik River 45.24 26 P P 01 51 32.9 +1.5
baz=262
H23K Yukon River 45.29 32 P P 01 51 33.5 +1.6
baz=268
I23K Minto, Yukon-K 45.35 33 IAmb IAmb 01 51 36.0
comp=Z,22nm,1.4s
I23K Minto, Yukon-K 45.35 33 P P 01 51 33.7 +1.5
baz=268
E23K Chandalar 45.41 29 IAmb IAmb 01 51 35.2
comp=Z,11nm,0.9s
E23K Chandalar 45.41 29 P P 01 51 34.4 +1.5
baz=265,SNR=6.1
NEA2 Nenana 45.46 34 P P 01 51 34.1 +0.9
baz=269
PMR Palmer 45.46 38 P P 01 51 33.7 +0.5
baz=272
TOLK Toolik Lake Re 45.48 28 P P 01 51 34.3 +1.0
TOLK Toolik Lake Re 45.48 28 P P 01 51 34.1 +0.8
baz=265
MCK McKinley 45.51 35 P P 01 51 34.1 +0.4
baz=270
WAT1 Susitna Watana 45.70 36 P P 01 51 35.3 +0.2
baz=271
KNK Knik Glacier 45.79 38 P P 01 51 36.7 +0.8
baz=273
D24K Happy Valley 45.79 27 P P 01 51 36.8 +1.0
baz=265
E24K Your Creek 45.83 29 P P 01 51 37.3 +1.1
baz=266
SML Sawmill 45.83 38 P P 01 51 37.0 +0.7
baz=273
WRH Wood River Hil 45.88 34 IAmb IAmb 01 51 38.2
comp=Z,6.2nm,0.6s
C24K Franklin Bluff 45.89 26 P P 01 51 37.5 +1.0
baz=264
H24K Noodor Dome 45.98 32 IAmb IAmb 01 51 39.8
comp=Z,11nm,1.1s
H24K Noodor Dome 45.98 32 P P 01 51 38.9 +1.5
baz=269,SNR=5.8
COLA College 45.98 33⇓ *i*P P 01 51 38.0 +0.7
COLA pmax pmax
comp=Z,37nm,3.9s
COLA College 45.98 33 P P 01 51 38.3 +1.1
baz=270
CCB Clear Creek Bu 46.00 34 IAmb IAmb 01 52 12.0
comp=Z,21nm,1.8s
F24K Squaw Lake 46.03 30 P P 01 51 38.6 +0.9
baz=267
WAT6 Susitna Watana 46.08 36 P P 01 51 38.7 +0.4
baz=272
M23K Glacier View 46.12 38 P P 01 51 39.3 +0.8
baz=273
POKR Poker Plat Res 46.16 33 P P 01 51 39.5 +0.8
baz=270,SNR=6.3
G24K Hadweenzic Riv 46.16 31 IAmb IAmb 01 51 41.4
comp=Z,18nm,1.1s
G24K Hadweenzic Riv 46.16 31 P P 01 51 40.2 +1.5
baz=269,SNR=7.9
SCM Sheep Creek Mo 46.31 38 P P 01 51 40.9 +0.9
baz=273
HDA Harding Lake 46.38 34 P P 01 51 41.2 +0.8
baz=271,SNR=8.6
IL31 46.40 33 IAmb IAmb 01 51 41.6
comp=Z,9.9nm,0.7s
ILAR Eielson Array 46.40 33 P P 01 51 41.0 +0.4
ILAR Eielson Array 46.40 33 P P 01 51 40.6 +0.1
comp=Z,7.1nm,0.7s,baz=260,slow=6.5,SNR=72
ILAR PcP **PcP 01 53 13.6 -1.8**
comp=Z,0.6nm,0.7s,baz=272,slow=5.6,SNR=1.3
comp=Z,7.1nm,0.7s
KURK Kurchatov 46.65 307 P P 01 51 42.5 -0.2
KURK IAmb IAmb 01 51 54.9
comp=Z,12nm,0.8s
KURK Kurchatov 46.65 307 *d i*P P 01 51 42.6 -0.2
KURK pmax pmax
comp=Z,7.0nm,0.9s
D25K Kavik River 46.67 27 P P 01 51 43.7 +0.9
baz=267
G25K Bearman Lake 46.71 31 P P 01 51 44.6 +1.6
baz=270
KURBB Kurchatov Arra 46.73 307 P P 01 51 43.5 +0.1
comp=Z,6.3nm,0.7s,baz=81,slow=8.1,SNR=56
comp=Z,6.3nm,0.7s
H25L Birch Creek 46.82 31 P P 01 51 45.7 +1.9
baz=270

M24K **Tolsona, Glenn** 46.83 37 P P 01 51 45.5 +1.4
baz=274
F25K **Christian Rive** 46.89 30 IAmb IAmb 01 52 16.1
comp=Z,12nm,1.4s
F25K **Christian Rive** 46.89 30 P P 01 51 46.0 +1.5
baz=269
K24K **Donnelly Dome** 46.91 35 P P 01 51 45.6 +1.0
baz=273
E25K **Arctic Village** 46.93 29 P P 01 51 45.9 +1.1
baz=269
PRP **Porcupine Dome** 46.96 32 P P 01 51 46.0 +0.8
baz=272
KLU **Klutina** 47.00 38 P P 01 51 46.4 +0.9
baz=275
J25K **Salcha River,** 47.05 34 IAmb IAmb 01 52 59.1
comp=Z,8.9nm,1.4s
J25K **Salcha River,** 47.05 34 P P 01 51 46.4 +0.6
baz=272
PAX **Paxson** 47.10 36 P P 01 51 46.9 +0.7
baz=274
EYAK **Cordova Ski Ar** 47.17 39 P P 01 51 47.7 +1.0
baz=276
BMAR **Burnt Mountain** 47.30 30 P P 01 51 49.1 +1.4
RIDG **Independent Ri** 47.33 35 P P 01 51 48.4 +0.5
baz=274
F26K **Sheenjek River** 47.47 29 IAmb IAmb 01 51 52.0
comp=Z,14nm,0.9s
F26K **Sheenjek River** 47.47 29 P P 01 51 50.3 +1.3
baz=271,SNR=11
G26K **Porcupine Rive** 47.62 30 IAmb IAmb 01 51 52.5
comp=Z,7.7nm,0.9s
G26K **Porcupine Rive** 47.62 30 P P 01 51 51.4 +1.3
baz=272,SNR=5.0
N25K **Chitina, Valde** 47.62 38 P P 01 51 50.8 +0.5
baz=276
C27K **Jago River** 47.62 27 P P 01 51 51.1 +1.0
baz=269
BRDH **Bariadhala** 47.63 266 LR LR 02 16 08.6
comp=Z,80nm,18.1s,baz=34,slow=42
BMRM **Bremner River** 47.69 39 P P 01 51 51.5 +0.7
baz=276
SCRK **Sand Creek** 47.69 34 IAmb IAmb 01 51 52.0
comp=Z,12nm,1.0s
SCRK **Sand Creek** 47.69 34 P P 01 51 51.1 +0.2
baz=274,SNR=6.3
J26L **Joseph Creek** 47.84 34 IAmb IAmb 01 52 59.8
comp=Z,14nm,1.7s
J26L **Joseph Creek** 47.84 34 P P 01 51 52.5 +0.5
baz=274
I26K **Coal Creek Min** 47.96 33 P P 01 51 53.1 +0.3
baz=274
M26K **Nabesna, AK** 48.29 36 P P 01 51 56.3 +0.9
baz=277
E27K **Coleen River** 48.41 29 P P 01 51 57.6 +1.3
E27K IAmb IAmb 01 51 58.9
comp=Z,7.4nm,0.9s
E27K **Coleen River** 48.41 29 P P 01 51 57.4 +1.1
baz=273
G27K **Doyon Strip** 48.47 31 P P 01 51 57.8 +1.0
baz=274
K27K **Chicken** 48.53 34 P P 01 51 58.1 +1.0
baz=276
H27K **Steamboat Moun** 48.56 31 IAmb IAmb 01 51 59.8
comp=Z,8.7nm,0.8s
H27K **Steamboat Moun** 48.56 31 P P 01 51 58.7 +1.2
baz=274,SNR=5.6
I27K **Kandik River** 48.58 32 P P 01 51 58.1 +0.6
baz=275
EVN **Everest** 48.70 275 P P 01 51 59.0 -0.7
EVN IAmb IAmb 01 52 11.3
comp=Z,7.1nm,0.7s
L27K **Beaver Creek,** 48.74 36 IAmb IAmb 01 52 02.9
comp=Z,11nm,1.1s
L27K **Beaver Creek,** 48.74 36 P P 01 51 59.8 +0.9
baz=277
BCAR **Beaver Creek A** 48.76 36 P P 01 52 00.5 +1.5
EGAK **Eagle** 48.84 33 P P 01 51 60.0 +0.4
baz=276
MESA **MESA** 49.09 39 P P 01 52 02.5 +0.7
baz=279
F28M **Old Crow** 49.10 29 IAmb IAmb 01 52 04.3
comp=Z,15nm,1.4s
F28M **Old Crow** 49.10 29 P P 01 52 02.8 +1.3
baz=275
E28M **Babbage River** 49.15 28 P P 01 52 03.4 +1.5
baz=274
CTG **Chitna Glacier** 49.27 38 P P 01 52 04.0 +1.0
baz=279
I28M **Miner Creek** 49.29 32 IAmb IAmb 01 52 05.1
comp=Z,7.9nm,1.0s
I28M **Miner Creek** 49.29 32 P P 01 52 04.3 +1.2
baz=276
DAWY **Dawson** 49.69 34 P P 01 52 07.0 +0.9
baz=278
E29M **Blow River** 49.77 28 P P 01 52 08.1 +1.5
E29M IAmb IAmb 01 52 09.5
comp=Z,11nm,0.9s
E29M **Blow River** 49.77 28 P P 01 52 08.4 +1.8
baz=276,SNR=5.5
H29M **Whitestone** 49.84 31 P P 01 52 08.8 +1.6
baz=277
G29M **Pine Creek** 49.89 30 P P 01 52 09.6 +2.0
baz=277,SNR=6.1
I29M **Ogilvie Camp,** 49.97 32 P P 01 52 09.5 +1.2
baz=278
L29M **L29M** 50.40 35 P P 01 52 13.3 +1.7
L29M IAmb IAmb 01 52 33.8
comp=Z,10nm,0.9s
L29M **L29M** 50.40 35 P P 01 52 13.4 +1.9
baz=280
EPYK **Eagle Plains** 50.48 31 P P 01 52 13.6 +1.5
baz=278,SNR=6.3
K29M **Barlow Dome** 50.55 34 IAmb IAmb 01 52 15.2
comp=Z,15nm,1.1s
K29M **Barlow Dome** 50.55 34 P P 01 52 14.4 +1.7
baz=280,SNR=6.9
G30M **tAoh Zraii Nji** 50.58 30 P P 01 52 14.1 +1.2
baz=278
F30M **Barrier River** 50.66 29 IAmb IAmb 01 52 16.3
comp=Z,18nm,1.1s
F30M **Barrier River** 50.66 29 P P 01 52 15.1 +1.7
baz=278
O29M **Mount Kennedy** 50.73 39 P P 01 52 15.7 +1.5
baz=282
I30M **Mount Dempster** 50.80 32 IAmb IAmb 01 52 16.8
comp=Z,18nm,0.9s
I30M **Mount Dempster** 50.80 32 P P 01 52 16.0 +1.4
baz=280,SNR=14
J30M **Hart River** 50.93 33 P P 01 52 16.6 +1.0
baz=280
BVAR **Borovoye Array** 51.05 312 P P 01 52 17.2 +0.7
comp=Z,3.0nm,0.7s,baz=77,slow=9.4,SNR=16
BVAR LR LR 02 16 04.1
comp=Z,47nm,18.4s,baz=76,slow=38
comp=Z,3.0nm,0.7s
BORK **Borovoye** 51.08 312*c iP* P 01 52 17.4 +0.6
BORK pmax pmax
comp=Z,4.0nm,0.9s
M30M **Minto, Yukon** 51.10 36 P P 01 52 18.7 +1.8
baz=282
HYT **Haines Junctio** 51.13 38 P P 01 52 19.6 +2.4
baz=282,SNR=7.9
P29M **Windy Craggy** 51.28 40 P P 01 52 20.2 +1.9
baz=283
G31M **Satah River** 51.35 30 P P 01 52 19.5 +0.9
baz=280
INK **Inuvik** 51.39 28 P P 01 52 19.6 +0.8
INK IAmb IAmb 01 52 20.6
comp=Z,8.5nm,0.8s
INK **Inuvik** 51.39 28 P P 01 52 19.6 +0.8
INK pmax pmax
comp=Z,9.0nm,0.8s
INK **Inuvik** 51.39 28 P P 01 52 19.9 +1.1
baz=280,SNR=5.3
F31M **Tsiigehtchic** 51.46 29 IAmb IAmb 01 52 48.6
comp=Z,17nm,1.2s
F31M **Tsiigehtchic** 51.46 29 P P 01 52 20.2 +0.8
baz=280
H31M **Peel River** 51.53 31 P P 01 52 21.2 +1.3
baz=281,SNR=7.1
P30M **Million Dollar** 51.55 39 P P 01 52 21.8 +1.6
baz=283
AAK **Ala-Archa** 51.72 298 LR LR 02 15 10.8
comp=Z,38nm,19.1s,baz=80,slow=37
N31M **Braeburn, Yuko** 51.80 37 P P 01 52 23.8 +1.7
baz=283
M31M **Drury Creek, Y** 52.28 36 P P 01 52 26.6 +1.0
baz=284

WHY **Whitehorse** 52.43 38 P P 01 52 28.0 +1.1
baz=284
P32M **Atlin** 53.27 39 P P 01 52 34.2 +1.2
baz=286
A36M **Sachs Harbour** 53.39 23 P P 01 52 34.8 +1.2
baz=284
P33M **Teslin, Yukon** 53.53 38 P P 01 52 36.3 +1.4
baz=286
KKAR **Karatay Array** 54.26 300 P P 01 52 40.0 -0.4
KKAR **Karatay Array** 54.26 300 P P 01 52 40.1 -0.4
C36M **Paulatuk** 54.49 26 P P 01 52 42.2 +0.5
baz=287
U33K **Whale Pass** 54.63 43 P P 01 52 44.7 +1.8
baz=289
R33M **Jennings River** 54.67 39 P P 01 52 45.2 +1.9
baz=288
CRAG **Craig** 54.84 44 P P 01 52 46.5 +2.1
baz=290
PSI **Prapat** 55.00 241 LR LR 02 19 53.5
comp=Z,53nm,18.4s,baz=41,slow=40
TGTN **Hyland Airport** 55.25 36 P P 01 52 48.9 +1.5
baz=289
SVE **Sverdlovsk** 55.26 318 *eP* P 01 52 48.1 +0.7
DLBC **Dease Lake** 55.44 40 P P 01 52 50.3 +1.4
baz=290
WTLY **Watson Lake, Y** 55.48 37 P P 01 52 50.4 +1.4
baz=290
T35M **Bob Quinn** 55.83 41 P P 01 52 53.9 +2.3
T35M **Bob Quinn** 55.83 41 P P 01 52 53.4 +1.7
baz=290
GAR **Garm** 56.07 295 P P 01 52 52.6 -1.1
GAR IAmb IAmb 01 53 15.3
comp=Z,8.4nm,1.1s
KNRA **Kununurra** 56.47 198 P P 01 52 56.7 +0.2
ARTI **Arti** 56.58 318 P P 01 52 57.3 +0.3
ARTI **Arti** 56.58 318 LR LR 02 20 31.8
comp=Z,47nm,18.1s,baz=160,slow=40
ARTI **Arti** 56.58 318 *d iP* P 01 52 57.2 +0.3
ARTI 01 53 52.5
ARTI 01 55 00.1
ARTI S S 02 00 48.4 -0.6
ARTI pmax pmax
comp=Z,14nm,0.9s
LIRD **Liard River Hi** 57.00 38 P P 01 53 01.8 +1.8
baz=292
CHGR **Chuyangaron** 57.03 295 P P 01 52 59.7 -0.9
CHGR **Chuyangaron** 57.03 295 P P 01 52 59.7 -0.9
CHGR pmax pmax
comp=Z,14nm,0.7s
TOAD **Toad River Com** 57.63 38 P P 01 53 05.5 +1.1
baz=293
AB31 **Akbulak array** 58.52 310 IAmb IAmb 01 53 11.8
comp=Z,7.5nm,0.7s
ABKAR **Akbulak array** 58.52 310 P P 01 53 10.7 +0.1
BBB **Bella Bella** 58.83 46 LR LR 02 14 06.7
comp=Z,28nm,20.7s,baz=269,slow=32
SPITS **Spitsbergen Ar** 58.97 349 P P 01 53 13.5 0.0
comp=Z,2.0nm,0.6s,baz=42,slow=14,SNR=4.4
comp=Z,2.0nm,0.6s
WB0 **Warramunga Arr** 59.34 191 P P 01 53 14.7 -2.0
WB0 IAmb IAmb 01 53 26.3
comp=Z,6.3nm,0.9s
WR8 **Warramunga Arr** 59.51 191 P P 01 53 15.9 -1.8
WR8 IAmb IAmb 01 53 27.6
comp=Z,5.7nm,1.0s
WRA **Warramunga Arr** 59.52 191 P P 01 53 16.3 -1.6
WRA **Warramunga Arr** 59.52 191 P P 01 53 15.4 -2.5
comp=Z,2.2nm,0.8s,baz=6.8,slow=6.9,SNR=10
comp=Z,2.2nm,0.8s
WRA **Warramunga Arr** 59.52 191 P P 01 53 16.3 -1.6
RES **Resolute Bay** 59.95 15 LR LR 02 21 04.1
comp=Z,12nm,19.8s,baz=30,slow=38
KIRV **Kirov** 60.10 323⇑ *eP* P 01 53 21.0 -0.4
YKA **Yellowknife Ar** 60.75 32 P P 01 53 26.1 +0.2
comp=Z,2.3nm,0.8s,baz=301,slow=7.5,SNR=9.9
comp=Z,2.3nm,0.8s
YKA **Yellowknife Ar** 60.75 32 *ceP* P 01 53 26.2 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
ARCES **ARCESS Array B** 62.93 340 P P 01 53 40.5 0.0
comp=Z,2.9nm,0.8s,baz=37,slow=6.2,SNR=5.5
comp=Z,2.9nm,0.8s
ASAR **Alice Springs** 63.24 191 P P 01 53 41.7 -1.3
comp=Z,1.0nm,0.7s,baz=9.2,slow=5.7,SNR=9.6
comp=Z,1.0nm,0.7s
KLMR **Klimovskoe** 63.33 328 *eP* P 01 53 38.5 -4.7
KLMR pmax pmax
comp=Z,15nm,1.4s
BELG **Belogornoye** 63.98 317 *deP* P 01 53 47.6 0.0
BELG pmax pmax
comp=Z,3.0nm,1.1s
PALK **Pallekele** 65.24 259 LR LR 02 26 01.1
comp=Z,28nm,18.2s,baz=86,slow=39
LTY **Liberty** 65.41 48 P P 01 53 57.6 +0.4
LTY IAmb IAmb 01 53 58.8
comp=Z,15nm,1.8s
H04A **Detroit Lake** 65.86 51 IAmb IAmb 01 54 01.8
comp=Z,4.1nm,0.8s
WIFE **Three Sisters-** 66.41 52 IAmb IAmb 01 54 05.4
comp=Z,4.4nm,0.9s
BLKN **Baker Lake** 66.49 24 P P 01 54 03.4 -0.3
PINE **Pine Mountain** 67.09 52 P P 01 54 09.3 +1.1
PINE IAmb IAmb 01 54 10.4
comp=Z,8.5nm,0.9s
E09A **Wood Farm, Sta** 67.27 48 IAmb IAmb 01 54 10.8
comp=Z,6.6nm,1.2s
K05A **Summer Lake** 67.70 53 IAmb IAmb 01 54 14.4
comp=Z,8.3nm,1.1s
OBN **Obninsk** 67.92 324⇓ *eP* P 01 54 13.8 +0.9
OBN *e* 01 54 38.3
OBN *e* 01 56 43.1
OBN *eS* S 02 03 17.5 +5.7
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,49nm,17.0s
FIA1 **FINESS Array S** 68.12 333 P P 01 54 14.5 +0.4
FINES **FINESS Array B** 68.13 333 P P 01 54 14.8 +0.6
FINES **FINESS Array B** 68.13 333 P P 01 54 14.2 +0.1
comp=Z,7.4nm,0.6s,baz=51,slow=7.2,SNR=47
FINES LR LR 02 26 56.5
comp=Z,36nm,18.7s,baz=28,slow=38
comp=Z,7.4nm,0.6s
FINES **FINESS Array B** 68.13 333 *i* P P 01 54 14.1 0.0
FINES pmax pmax
comp=Z,7.0nm,0.6s
SUMG **Summit** 68.59 1 P P 01 54 18.3 +0.9
SUMG IAmb IAmb 01 54 19.3
comp=Z,9.8nm,1.0s
SUMG **Summit** 68.59 1 P P 01 54 18.3 +0.9
SUMG pmax pmax
comp=Z,10.0nm,1.0s
J08A **Circle Bar Ran** 68.83 51 IAmb IAmb 01 54 21.0
comp=Z,5.8nm,1.0s
PLID **Pearl Lake** 69.31 48 P P 01 54 22.0 -0.1
LYMT **Lyon Mountain** 70.32 45 P P 01 54 29.3 +1.0
FFC **Flin Flon** 70.60 34 P P 01 54 29.8 +0.2
FFC IAmb IAmb 01 54 30.6
comp=Z,12nm,0.9s
FFC **Flin Flon** 70.60 34 P P 01 54 29.8 +0.2
FFC pmax pmax
comp=Z,12nm,0.9s
LRM **Limekiln Ridge** 70.91 46 P P 01 54 29.9 -2.0
EGMT **Eagleton** 71.06 43 IAmb IAmb 01 54 33.4
comp=Z,6.9nm,0.8s
DLMT **Dillon** 71.10 47 IAmb IAmb 01 54 33.8
comp=Z,20nm,1.8s
HLID **Hailey** 71.13 49 P P 01 54 33.4 +0.1
NCK **Nalchik** 71.16 311⇑ *eP* P 01 54 34.2 +1.0
NCK pmax pmax
comp=Z,5.0nm,0.5s
KIV **Kislovodsk** 71.41 312 P P 01 54 36.2 +1.4
KIV **Kislovodsk** 71.41 312 *eP* P 01 54 36.3 +1.4
KIV pmax pmax
comp=Z,19nm,1.0s
KBZ **Khabaz** 71.43 312 P P 01 54 35.5 +0.8
comp=Z,8.2nm,0.8s,baz=53,slow=5.1,SNR=22
comp=Z,8.2nm,0.8s
KBZ **Khabaz** 71.43 312 *d iP* P 01 54 35.6 +0.8
KBZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ **Bozeman (W)** 71.51 46 IAmb IAmb 01 54 36.9
comp=Z,5.0nm,0.9s
SHA1 **Shidzhatmaz** 71.56 312 *deP* P 01 54 36.5 +0.6
NVAR **Mina Array Bea** 71.75 55 P P 01 54 38.0 +0.9
NVAR **Mina Array Bea** 71.75 55 P P 01 54 37.6 +0.5

comp=Z,2.0nm,0.8s,baz=297,slow=6.7,SNR=12
comp=Z,2.0nm,0.8s
NEUR **Neytrino** 71.82 311 *eP* P 01 54 38.9 +1.5
NEUR pmax pmax
comp=Z,3.0nm,1.2s
GNI **Garni** 72.45 308⇓ *eP* P 01 54 42.6 +1.4
GNI pmax pmax
comp=Z,11nm,1.4s
H17A **Grant Village** 72.83 46 IAmb IAmb 01 54 46.9
comp=Z,11nm,1.1s
FXWY **Fox Creek** 73.04 47 P P 01 54 45.2 +0.5
TPAW **Teton Pass** 73.18 47 P P 01 54 46.4 +0.7
TPAW IAmb IAmb 01 54 47.9
comp=Z,7.3nm,1.2s
NB2 **NORSAR Subarra** 73.21 338 P P 01 54 44.8 -0.4
comp=Z,4.5nm,0.8s,baz=38,slow=6.2
NOA **NORSAR Array B** 73.21 338 P P 01 54 45.4 +0.2
comp=Z,3.1nm,0.8s,baz=37,slow=6.0,SNR=9.8
NOA LR LR 02 31 50.5
comp=Z,19nm,18.9s,baz=310,slow=40
comp=Z,3.1nm,0.8s
LAO **LASA Array** 73.76 43 IAmb IAmb 01 54 50.4
comp=Z,7.1nm,0.9s
AKASG **Malin Array Be** 74.16 323 P P 01 54 50.8 -0.1
comp=Z,2.5nm,0.5s,baz=46,slow=5.6,SNR=24
comp=Z,2.5nm,0.5s
AKASG **Malin Array Be** 74.16 323 *ceP* P 01 54 51.0 +0.1
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB **Malin Array Si** 74.16 323 *eP* P 01 54 50.9 0.0
comp=Z,8.0nm,0.8s
AKBB **Malin Array Si** 74.16 323⇑ *iP* P 01 54 50.9 0.0
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV **Kiev** 74.17 323 P P 01 54 51.1 +0.1
KIEV IAmb IAmb 01 54 51.7
comp=Z,7.2nm,0.8s
KIEV **Kiev** 74.17 323 P P 01 54 51.1 +0.1
KIEV pmax pmax
comp=Z,7.0nm,0.9s
BW06 **Boulder Array** 74.43 47 P P 01 54 52.8 -0.2
PD31 **Pinedale Array** 74.43 47 P P 01 54 53.1 +0.2
PDAR **Pinedale Array** 74.43 47 P P 01 54 52.7 -0.2
comp=Z,1.8nm,0.6s,baz=291,slow=1.3,SNR=22
comp=Z,1.8nm,0.6s
GURO **Guroymak-BITLI** 75.09 308 IAmb IAmb 01 55 09.3
comp=Z,5.1nm,0.7s
RDMU **Red Mountain** 75.81 49 P P 01 55 01.6 +0.6
RDMU IAmb IAmb 01 55 02.5
comp=Z,12nm,0.9s
PFO **Pinyon Flats O** 75.81 58 LR LR 02 20 11.4
comp=Z,35nm,20.8s,baz=318,slow=29
SRU **San Rafael Swe** 76.16 51 P P 01 55 03.6 +0.7
SRU IAmb IAmb 01 55 04.2
comp=Z,11nm,0.9s
SRU **San Rafael Swe** 76.16 51 P P 01 55 03.6 +0.7
SRU pmax pmax
comp=Z,11nm,0.9s
MARD **Mardin** 76.63 307 IAmb IAmb 01 55 07.4
comp=Z,7.7nm,0.8s
HMU **Henry Mountain** 76.77 52 P P 01 55 06.8 +0.3
HMU IAmb IAmb 01 55 07.8
comp=Z,9.5nm,0.8s
PV23 **Carpenter Ridg** 77.49 50 P P 01 55 11.1 +0.5
PV22 **Blue Mesa, Par** 77.58 50 IAmb IAmb 01 55 12.3
comp=Z,6.3nm,0.9s
PV16 **Nyswonger Mesa** 77.64 51 IAmb IAmb 01 55 12.8
comp=Z,8.0nm,0.8s
PV05 **Paradox Valley** 77.68 51 IAmb IAmb 01 55 13.2
comp=Z,12nm,0.9s
PV03 **Paradox Valley** 77.72 51 IAmb IAmb 01 55 13.2
comp=Z,6.5nm,0.7s
EPLO **Experimental L** 77.76 34 P P 01 55 10.8 -0.7
EPLO IAmb IAmb 01 55 11.8
comp=Z,12nm,1.0s
PV13 **Radium Mtn., P** 77.80 51 IAmb IAmb 01 55 13.7
comp=Z,11nm,0.9s
PV02 **Paradox Valley** 77.82 51 IAmb IAmb 01 55 14.5
comp=Z,10nm,0.9s
PV01 **Paradox Valley** 77.96 51 IAmb IAmb 01 55 14.6
comp=Z,8.3nm,1.2s
BUR08 **Bucovina Ar. S** 78.19 323 P P 01 55 13.8 -0.3
BURAR **Bucovina Array** 78.20 323 P P 01 55 14.4 +0.3
BR131 **Keskin Array S** 79.31 313 P P 01 55 20.6 +0.2
BR131 **Keskin Array S** 79.31 313 *deP* P 01 55 20.6 +0.2
BRTR **Keskin Array B** 79.31 313 P P 01 55 20.1 -0.3
BRTR **Keskin Array B** 79.31 313 P P 01 55 20.7 +0.3
comp=Z,0.9nm,0.6s,baz=101,slow=2.8,SNR=7.7
comp=Z,0.9nm,0.6s
MORC **Moravsky Berou** 79.95 328 *eP* P 01 55 24.1 +0.5
SDCO **Great Sand Dun** 80.04 49 P P 01 55 25.1 +0.4
CLL **Collm** 80.50 332 *i P* P 01 55 26.3 -0.1
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL **Collm** 80.50 332 *i P* P 01 55 26.3 -0.1
comp=Z,9.0nm,1.2s
CLL *ePP* PP 01 58 31.0 +2.1
VRAC **Vranov** 80.70 328 *eP* P 01 55 28.2 +0.6
ECSD **EROS Data Cent** 80.73 40 IAmb IAmb 01 55 28.4
comp=Z,9.0nm,1.1s
KRUC **Moravsky** 80.98 328 *eP* P 01 55 29.5 +0.5
T25A **Trinidad** 81.09 49 P P 01 55 30.6 +0.4
ANMO **Albuquerque** 81.34 52 P P 01 55 31.3 -0.2
ANMO **Albuquerque** 81.34 52 *deP* P 01 55 31.7 +0.2
ANMO pmax pmax
comp=Z,3.0nm,0.9s
319A **Douglas** 81.92 56 IAmb IAmb 01 55 35.9
comp=Z,6.4nm,0.8s
EKA **Eskdalemuir Ar** 81.97 342 P P 01 55 34.5 +0.3
comp=Z,0.7nm,0.4s,baz=27,slow=4.7,SNR=13
comp=Z,0.7nm,0.4s
KHC **Kasperske Hory** 82.04 330⇓ *eP* P 01 55 35.1 +0.4
KHC pmax pmax
comp=Z,9.0nm,2.0s
CONA **Conrad Observa** 82.09 328 *epP* P 01 55 36.2 +1.1
comp=Z,6.4nm,1.4s
RONA **Rosalia, Austr** 82.09 328 *epP* P 01 55 35.6 +0.6
comp=Z,2.4nm,0.6s
GERES **GERESS Array B** 82.22 330 P P 01 55 35.9 +0.2
comp=Z,0.6nm,0.4s,baz=42,slow=6.2,SNR=4.4
comp=Z,0.6nm,0.4s
SCHQ **Schefferville** 82.63 18 LR LR 02 36 27.7
comp=Z,393nm,18.5s,baz=134,slow=39
MMAI **Mount Meron Ar** 82.77 307 P P 01 55 39.7 +0.9
comp=Z,2.0nm,0.6s,baz=25,slow=3.8,SNR=5.7
MMAI LR LR 02 36 55.2
comp=Z,18nm,18.2s,baz=252,slow=39
comp=Z,2.0nm,0.6s
MOA **Molln** 82.80 329 *eP* P 01 55 38.9 +0.2
comp=Z,4.9nm,1.2s
BIOA **Bad Ischl, Aus** 83.18 329 *epP* P 01 55 41.2 +0.6
comp=Z,1.0nm,0.5s
PPT2 **Papeete2** 83.40 119 *eLR* LR 02 21 40.9
comp=Z,36nm,23.8s
SOKA **Soboth** 83.42 328 *eP* P 01 55 41.8 -0.2
comp=Z,2.8nm,0.6s
BSTI **Sart Tilman** 83.71 335 *dP* P 01 55 43.0 -0.2
OBKA **Obir** 83.76 328 *eP* P 01 55 43.0 -0.8
comp=Z,2.1nm,0.7s
LESA **Schwarzleotal** 83.78 329 *eP* P 01 55 43.6 -0.3
comp=Z,3.1nm,0.9s
MNTX **Cornudas Mount** 84.19 54 P P 01 55 46.3 +0.2
TAOE **Nuku Hiva Isla** 84.29 106 *eLR* LR 02 22 15.2
comp=Z,52nm,25.0s
WTTA **Wattenberg** 84.32 330 *eP* P 01 55 47.0 +0.2
comp=Z,5.3nm,0.8s
MOTA **Moosalm** 84.46 330 *eP* P 01 55 47.6 +0.2
comp=Z,4.8nm,0.8s
RETA **Reutte** 84.47 331 *eP* P 01 55 47.5 +0.1
comp=Z,7.2nm,0.7s
SQTA **Sankt Quirin** 84.52 330 *eP* P 01 55 47.9 +0.3
comp=Z,4.4nm,0.7s
STAL **STALIGIAL** 84.71 329 P P 01 55 47.3 -1.3
FETA **Feichten** 84.87 330 *eP* P 01 55 49.7 +0.2
comp=Z,4.9nm,0.7s
PDG **Podgorica** 84.88 323 P P 01 55 48.8 -0.5
PDG IAmb IAmb 01 55 50.0
comp=Z,4.6nm,0.8s
DAVA **Damuels** 84.97 331 *eP* P 01 55 50.1 +0.1
comp=Z,7.8nm,0.9s
VHRN **Van Horn** 85.05 54 P P 01 55 50.7 0.0
ECH **Echery** 85.19 333 P P 01 55 51.1 +0.2
ECH **Echery** 85.19 333 P P 01 55 51.1 +0.2
ECH pmax pmax
comp=Z,52nm,2.0s
EIL **Elat** 85.30 305 LR LR 02 37 44.7
comp=Z,14nm,18.8s,baz=358,slow=38

PECS	**Pecos**	**85.35**	**53**	IAmb	IAmb	01 55 52.9
	comp=Z,4.1nm,0.7s					
FUORN	**Ofenpass-Fuorn**	**85.38**	**330**	P	**P**	**01 55 52.3 +0.1**
WMOK	**Wichita Mounta**	**86.04**	**48**	P	**P**	**01 55 55.1 -0.2**
WMOK	**Wichita Mounta**	**86.04**	**48**	P	**P**	**01 55 55.2 -0.2**
WMOK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
P40A	**Paris**	**86.14**	**40**	P	**P**	**01 55 55.3 -0.4**
P40A				IAmb	IAmb	01 55 56.3
	comp=Z,6.0nm,0.8s					
TX31	**Lajitas Ar. Si**	**86.88**	**54**	P	**P**	**01 55 59.6 -0.1**
TXAR	**Lajitas Array**	**86.88**	**54**	P	**P**	**01 55 58.9 -0.8**
TXAR	**Lajitas Array**	**86.88**	**54**	P	**P**	**01 55 59.4 -0.3**
	comp=Z,1.5nm,0.6s,baz=304,slow=2.9,SNR=23					
	comp=Z,1.5nm,0.6s					
R40A	**Maddies Statio**	**86.97**	**41**	P	**P**	**01 55 59.3 -0.5**
R40A				IAmb	IAmb	01 55 60.0
	comp=Z,5.4nm,0.7s					
IDI	**Anoyia**	**87.36**	**315**	P	**P**	**01 56 00.9 -1.0**
CCM	**Cathedral Cave**	**87.67**	**41**	P	**P**	**01 56 02.9 -0.3**
CCM	**Cathedral Cave**	**87.67**	**41**	P	**P**	**01 56 02.9 -0.3**
CCM				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BRDY	**Brady**	**88.38**	**50**	P	**P**	**01 56 06.4 -0.4**
PBMO	**Poplar Bluff**	**89.06**	**41**	IAmb	IAmb	01 56 10.6
	comp=Z,11nm,1.1s					
MIAR	**Mount Ida**	**89.09**	**45**	P	**P**	**01 56 09.7 -0.3**
MIAR				IAmb	IAmb	01 56 10.2
	comp=Z,3.6nm,0.8s					
MIAR	**Mount Ida**	**89.09**	**45**	P	**P**	**01 56 09.7 -0.3**
MIAR				pmax	pmax	
	comp=Z,4.0nm,0.8s					
ESDC	**Sonseca Array**	**96.47**	**336**	LR	LR	02 49 30.1
	comp=Z,15nm,18.6s,baz=332,slow=41					
NVL	**N'lazarevskaya**	**140.15**	**202**	*e*PKIKP	**PKiKP**	**02 02 43.5 -1.1**
NVL				*e*		02 05 41.1
NVL				*e*PPP	PPP	02 08 44.8
NVL				*e*SS	SS	02 24 05.6 +2.7
NVL				*e*SSS	SSS	02 29 18.0
NVL				pmax	pmax	
	comp=Z,5.0nm,0.6s					
NVL				pmax	pmax	
	comp=N,276nm,19.3s					
SNAA	**Sanae**	**143.46**	**197**	PKPpre	PKPpre	02 02 43.3
SNAA	**Sanae**	**143.46**	**197**	PKHKP	PKHKP	02 02 43.3
VILB	**Vilhena**	**145.95**	**47**	PKPdf	**PKPdf**	**02 02 54.2 +0.1**
SMAI	**San Martin Ant**	**146.15**	**159**		**PKPdf**	**02 02 52.8 +0.1**
PTLB	**Pontes e Lacer**	**148.56**	**48**		**PKPbc**	**02 03 01.3 -0.6**
MT01	**Popeta**	**150.84**	**91**	PKPbc	**PKPbc**	**02 03 06.4 -0.7**
BI02	**San Fabin de**	**151.71**	**96**	PKPbc	**PKPbc**	**02 03 08.3 -0.9**

WBNET 02 01:46:19.7, 50.°25N×12.°44E, *h*8km, Ml0.3, 3C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**172**	⇑P	Pg	01 46 21.3	+0.1
NKC				S	Sg	01 46 22.4	+0.1
LBCW	**Luby**	**0.02**	**304**	⇓P	Pg	01 46 21.4	+0.1
LBCW				S	Sg	01 46 22.6	+0.2
VAC	**Vackov**	**0.05**	**248**	⇓P	Pg	01 46 21.5	+0.1
VAC				S	Sg	01 46 22.7	0.0
STCW	**Studenec**	**0.05**	**82**	⇑P	Pg	01 46 21.5	0.0
STCW				S	Sg	01 46 22.6	-0.1
KVC	**Kvetna**	**0.07**	**135**	⇓P	Pg	01 46 21.7	+0.1
KVC				S	Sg	01 46 23.0	0.0
POCW	**Potky**	**0.07**	**351**	⇑P	Pg	01 46 21.8	+0.1
POCW				S	Sg	01 46 23.2	+0.1
SKC	**Skalna**	**0.10**	**213**	S	Sg	01 46 23.9	+0.2
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	01 46 22.7	+0.1
KOCW				S	Sg	01 46 24.7	0.0
TRCW	**Trojmez**	**0.20**	**285**	⇓P	Pg	01 46 23.8	0.0
TRCW				S	Sg	01 46 26.5	0.0
ZHC	**Zelena Hora**	**0.20**	**206**	⇓P	Pg	01 46 23.9	+0.1
ZHC				S	Sg	01 46 26.7	+0.2
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	01 46 24.6	+0.2
LACW				S	Sg	01 46 27.9	+0.4

*BGR **02** 01:46:35.0±0.2, 50.°25N×12.°45E, h10km±1km, ML2.1/7, Error ellipse: s-maj=2.2km s-min=1.1km az=83.0*
*VIE **02** 01:46:34.7±0.3, 50.°21N×12.°39E, h7km±2km, mb2.4/3, ml2.5/7, Error ellipse: s-maj=2.8km s-min=1.9km az=58.0 6 km WSW of Klingenthal*
*PRU **02** 01:46:34.7, 50.°25N×12.°42E, h10km, West Bohemia-felt In Olovi*
*WBNET **02** 01:46:35.3, 50.°25N×12.°44E, h8km, Ml2.4*
*CLL **02** 01:46:35.6±0.3, 50.°25N×12.°44E, h7km, ML2.2/11*
ISC 02 01:46:35.0±0.8, 50.°25N±0.°01×12.°44E±0.°02, h10km±3km, n76, σ0°47/142, 4C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**171**	⇑P	**Pg**	**01 46 36.9**	**0.0**
NKC				S	**Sg**	**01 46 38.0**	**-0.2**
LBCW	**Luby**	**0.02**	**305**	⇓P	**Pg**	**01 46 37.0**	**0.0**
LBCW				S	**Sg**	**01 46 38.2**	**-0.1**
VAC	**Vackov**	**0.05**	**248**	*e*PG	**Pg**	**01 46 37.1**	**0.0**
VAC				*e*SG	**Sg**	**01 46 38.2**	**-0.3**
VAC	**Vackov**	**0.05**	**248**	*i* Pg	**Pg**	**01 46 37.1**	**0.0**
VAC				*i* Sg	**Sg**	**01 46 38.3**	**-0.3**
VAC	**Vackov**	**0.05**	**248**	⇓P	**Pg**	**01 46 37.1**	**0.0**
VAC				S	**Sg**	**01 46 38.3**	**-0.3**
STCW	**Studenec**	**0.05**	**81**	*i* Pg	**Pg**	**01 46 37.1**	**0.0**
STCW				*i* Sg	**Sg**	**01 46 38.3**	**-0.4**
STCW	**Studenec**	**0.05**	**81**	*i* Pg	**Pg**	**01 46 37.1**	**0.0**
STCW				*i* Sg	**Sg**	**01 46 38.3**	**-0.4**
STCW	**Studenec**	**0.05**	**81**	⇑P	**Pg**	**01 46 37.1**	**0.0**
STCW				S	**Sg**	**01 46 38.3**	**-0.4**
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg	**Pg**	**01 46 37.3**	**+0.1**
WERN				*i* Sg	**Sg**	**01 46 38.6**	**-0.2**
	2μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg	**Pg**	**01 46 37.3**	**+0.1**
WERN				*i* Sg	**Sg**	**01 46 38.6**	**-0.2**
WERN				IAML		01 46 38.7	
	comp=E,2μm,0.2s						
KVC	**Kvetna**	**0.07**	**135**	*i* Pg	**Pg**	**01 46 37.3**	**0.0**
KVC				*i* Sg	**Sg**	**01 46 38.5**	**-0.3**
KVC	**Kvetna**	**0.07**	**135**	⇓P	**Pg**	**01 46 37.3**	**0.0**
KVC				S	**Sg**	**01 46 38.6**	**-0.3**
POCW	**Potky**	**0.07**	**351**	⇓P	**Pg**	**01 46 37.4**	**+0.1**
POCW				S	**Sg**	**01 46 38.9**	**-0.2**
ROHR	**Rohrbach**	**0.08**	**258**	*i* Pg	**Pg**	**01 46 37.5**	**0.0**
ROHR				*e*Sg	**Sg**	**01 46 38.9**	**-0.3**
	1μm,0.1s						
ROHR	**Rohrbach**	**0.08**	**258**	*i* Pg	**Pg**	**01 46 37.5**	**0.0**
ROHR				*e*Sg	**Sg**	**01 46 38.9**	**-0.3**
ROHR				IAML		01 46 39.1	
	comp=E,1μm,0.1s						
SKC	**Skalna**	**0.10**	**213**	⇑P	**Pg**	**01 46 37.7**	**+0.1**
SKC				S	**Sg**	**01 46 39.4**	**-0.1**
GUNZ	**Gunzen**	**0.13**	**327**	*i* Pg	**Pg**	**01 46 38.3**	**+0.2**
GUNZ				*i* Sg	**Sg**	**01 46 40.3**	**-0.1**
	466nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**327**	*i* Pg	**Pg**	**01 46 38.3**	**+0.2**
GUNZ				*i* Sg	**Sg**	**01 46 40.3**	**-0.1**
GUNZ				IAML		01 46 40.6	
	comp=N,466nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	**Pg**	**01 46 38.3**	**+0.1**
KOCW				S	**Sg**	**01 46 40.3**	**-0.1**
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	**Pg**	**01 46 38.7**	**+0.1**
MULD				*i* Sg	**Sg**	**01 46 40.9**	**-0.2**
	531nm,0.2s						
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	**Pg**	**01 46 38.7**	**+0.1**
MULD				*i* Sg	**Sg**	**01 46 40.9**	**-0.2**
MULD				IAML		01 46 41.1	
	comp=E,531nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	**Pg**	**01 46 38.7**	**0.0**
TANN				*i* Sg	**Sg**	**01 46 40.9**	**-0.3**
	564nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	**Pg**	**01 46 38.7**	**0.0**
TANN				*i* Sg	**Sg**	**01 46 40.9**	**-0.3**
TANN				IAML		01 46 41.5	
	comp=N,564nm,0.2s						
LAEN	**Laengenau (nea**	**0.18**	**247**	*i* Pg	**Pg**	**01 46 39.0**	**+0.1**
LAEN				*i* Sg	**Sg**	**01 46 41.5**	**-0.1**
LAEN				IAML		01 46 41.8	
	comp=N,2μm,0.2s						
TRCW	**Trojmez**	**0.20**	**285**	⇓P	**Pg**	**01 46 39.4**	**+0.2**
TRCW				S	**Sg**	**01 46 42.1**	**0.0**
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P	**Pg**	**01 46 39.5**	**+0.2**
ZHC				S	**Sg**	**01 46 42.3**	**+0.1**
WERD	**Werda**	**0.21**	**336**	*i* Pg	**Pg**	**01 46 39.6**	**+0.1**
WERD				*e*Sg	**Sg**	**01 46 42.4**	**-0.2**
	168nm,0.2s						
WERD	**Werda**	**0.21**	**336**	*i* Pg	**Pg**	**01 46 39.6**	**+0.1**
WERD				*e*Sg	**Sg**	**01 46 42.4**	**-0.2**
WERD				IAML		01 46 42.5	
	comp=E,168nm,0.2s						
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	**Pg**	**01 46 39.7**	**+0.1**
TRIB				*i* Sg	**Sg**	**01 46 42.7**	**0.0**
	128nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	**Pg**	**01 46 39.7**	**+0.1**
TRIB				*i* Sg	**Sg**	**01 46 42.7**	**0.0**
TRIB				IAML		01 46 42.9	
	comp=E,128nm,0.1s						
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	**Pg**	**01 46 39.8**	**+0.1**
VIEL				*i* Sg	**Sg**	**01 46 42.9**	**-0.1**
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	**Pg**	**01 46 39.8**	**+0.1**
VIEL				*i* Sg	**Sg**	**01 46 42.9**	**-0.1**
LACW	**Lazy**	**0.23**	**150**	*i* Pg	**Pg**	**01 46 40.1**	**+0.3**
LACW				*i* Sg	**Sg**	**01 46 43.4**	**+0.3**
LACW	**Lazy**	**0.23**	**150**	*i* Pg	**Pg**	**01 46 40.1**	**+0.3**
LACW				*i* Sg	**Sg**	**01 46 43.4**	**+0.3**
LACW	**Lazy**	**0.23**	**150**	⇓P	**Pg**	**01 46 40.1**	**+0.3**
LACW				S	**Sg**	**01 46 43.3**	**+0.3**
PLN	**Plauen**	**0.30**	**322**	*i* Pg	**Pg**	**01 46 41.1**	**+0.1**
PLN				*i* Sg	**Sg**	**01 46 45.0**	**0.0**
	140nm,0.2s						
PLN	**Plauen**	**0.30**	**322**	*i* Pg	**Pg**	**01 46 41.1**	**+0.1**
PLN				*i* Sg	**Sg**	**01 46 45.0**	**0.0**
PLN				IAML		01 46 45.2	
	comp=E,140nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**357**	*i* Pg	**Pg**	**01 46 43.5**	**+0.1**
SCHF				*i* Sg	**Sg**	**01 46 49.2**	**+0.1**
	325nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**357**	*i* Pg	**Pg**	**01 46 43.5**	**+0.1**
SCHF				*i* Sg	**Sg**	**01 46 49.2**	**+0.1**
SCHF				IAML		01 46 49.4	
	comp=E,325nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	**Pg**	**01 46 44.1**	**0.0**
GRZ1				*i* Sg	**Sg**	**01 46 50.0**	**-0.3**
	85nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	**Pg**	**01 46 44.1**	**0.0**
GRZ1				*i* Sg	**Sg**	**01 46 50.0**	**-0.3**
GRZ1				IAML		01 46 51.2	
	comp=E,85nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg	**Pg**	**01 46 45.0**	**+0.1**
ROTZ				*e*Sg	**Sg**	**01 46 51.5**	**-0.1**
ZEU	**Talsperre Zeul**	**0.52**	**325**	*i* Pg	**Pg**	**01 46 45.1**	**+0.1**
ZEU				*e*Sg	**Sg**	**01 46 51.5**	**-0.3**
ZEU	**Talsperre Zeul**	**0.52**	**325**	*i* Pg	**Pg**	**01 46 45.1**	**+0.1**
ZEU				*e*Sg	**Sg**	**01 46 51.5**	**-0.3**
HKWD	**Heukewalde**	**0.59**	**349**	*e*Pg	**Pg**	**01 46 46.6**	**+0.1**
HKWD				*e*Sg	**Sg**	**01 46 53.6**	**-0.6**
MOX	**Moxa**	**0.66**	**307**	*e*Pg	**Pg**	**01 46 47.8**	**0.0**
MOX				*e*Sg	**Sg**	**01 46 56.3**	**-0.2**
HWTS	**Hohenwarte Tal**	**0.71**	**299**	*e*Pg	**Pg**	**01 46 48.6**	**-0.2**
ABG1	**Leinawald**	**0.72**	**7**	*e*Pg	**Pg**	**01 46 48.9**	**0.0**
ABG1				*e*Sg	**Sg**	**01 46 58.0**	**-0.3**
TAUT	**Tautenburg**	**0.87**	**328**	*e*Pg	**Pg**	**01 46 51.7**	**0.0**
TAUT				*e*Sg	**Sg**	**01 47 02.9**	**-0.1**
FBE	**Freiberg**	**0.89**	**41**	*e*Pg	**Pg**	**01 46 52.2**	**+0.1**
FBE				*e*Sg	**Sg**	**01 47 03.1**	**-0.5**
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	**Pg**	**01 46 53.6**	**-0.1**
GRF				*e*Sg	**Sg**	**01 47 05.7**	**-0.5**
NEUB	**Neuenburg**	**1.05**	**336**	*e*Pg	**Pg**	**01 46 55.2**	**0.0**
NEUB				*e*Sg	**Sb**	**01 47 09.0**	**+0.1**
CLL	**Collm**	**1.11**	**18**	*e*Pg	**Pg**	**01 46 56.1**	**-0.3**
CLL				*e*Sg	**Sg**	**01 47 10.3**	**-0.7**
CLL	**Collm**	**1.11**	**18**	*i* Pg	**Pg**	**01 46 56.0**	**-0.4**
CLL				*i* x	x	01 46 58.0	
CLL				*i* x	x	01 46 59.4	
CLL				*i* Sg	**Sg**	**01 47 10.4**	**-0.5**
	comp=Z,24nm,0.6s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	**Pg**	**01 46 56.7**	**-0.2**
BRG				*e*Sg	**Sg**	**01 47 11.5**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	**Pg**	**01 46 56.7**	**-0.2**
BRG				Sg	**Sg**	**01 47 11.5**	**-0.3**
BRG				Amp		01 47 12.0	
	comp=Z,21nm,0.2s						
WET	**Wettzell**	**1.14**	**166**	*e*Pg	**Pg**	**01 46 56.5**	**-0.4**
WET				*e*Sg	**Sg**	**01 47 10.8**	**-1.0**
KHC	**Kasperske Hory**	**1.34**	**146**	*e*Pg	**Pn**	**01 46 59.5**	**-0.3**
KHC				*e*SG	**Sb**	**01 47 17.7**	**+0.2**
	comp=Z,14nm,0.2s						
KHC	**Kasperske Hory**	**1.34**	**146**	*e*Pg	**Pn**	**01 46 59.5**	**-0.3**
PRU	**Pruhonice**	**1.38**	**100**	*e*PG	**Pn**	**01 47 00.4**	**+0.2**
PRU				*e*SG	**Sn**	**01 47 18.9**	**+0.5**
	comp=Z,18nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*Pg	**Pn**	**01 47 00.5**	**+0.2**
PRU				*e*Sg	**Sn**	**01 47 19.0**	**+0.6**
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	**Sg**	**01 47 20.2**	**+0.5**
	comp=Z,32nm,0.2s						
MUHB	**Muldenstein**	**1.41**	**357**	*e*Pg	**Pg**	**01 47 02.1**	**+0.1**
MUHB				*e*Sg	**Sn**	**01 47 19.9**	**+0.6**
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Pg	**Pb**	**01 47 05.2**	**0.0**
GEC2				*e*Sg	**Sb**	**01 47 26.1**	**+0.3**
CHRS	**Christianenhau**	**1.70**	**324**	*e*Pn	**Pn**	**01 47 04.0**	**-0.8**
CHRS				*e*Pg	**Pg**	**01 47 07.5**	**-0.2**
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG	**Sb**	**01 47 32.8**	**-0.1**
	comp=Z,5.5nm,0.2s						
MOA	**Molln**	**2.69**	**153**	*e*Pg	**Pg**	**01 47 26.3**	**-0.1**
	comp=Z,0.3nm,0.2s						
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	**Pn**	**01 47 20.1**	**-0.1**
KRUC				*e*SG	**Sb**	**01 48 02.1**	**+1.9**
LESA	**Schwarzleotal**	**2.83**	**177**	Pg	**Pg**	**01 47 29.0**	**-0.3**
	comp=Z,1.0nm,0.3s						
VRAC	**Vranov**	**2.85**	**108**	*e*PN	**Pn**	**01 47 20.7**	**+0.2**
VRAC				*e*SG	**Sb**	**01 48 02.8**	**+2.0**
WATA	**Walderalm**	**2.97**	**191**	Pn	**Pn**	**01 47 21.2**	**-1.2**
	comp=Z,0.2nm,0.1s						
WATA				Sn	**Sn**	**01 47 57.3**	**-0.8**
	comp=Z,3.3nm,0.3s						
WTTA	**Wattenberg**	**3.04**	**190**	Pn	**Pn**	**01 47 22.5**	**-0.7**
	comp=Z,0.2nm,0.2s						
WTTA				Sn	**Sn**	**01 48 00.3**	**+0.6**
	comp=Z,0.9nm,0.2s						
SQTA	**Sankt Quirin**	**3.14**	**196**	*e*Pn	**Pn**	**01 47 24.1**	**-0.5**
	comp=Z,0.4nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pn	**Pn**	**01 47 26.1**	**+0.2**
	comp=Z,0.2nm,0.2s						
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	**Sg**	**01 48 18.3**	**-3.4**
FETA	**Feichten**	**3.43**	**200**	Pg	**Pg**	**01 47 41.0**	**+0.3**
	comp=Z,0.9nm,0.4s						

*CATAC **02** 02:04:37.7±0.6, 13.°N±4.°×9.°0W±.°, h29km±4km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=8.4km s-min=4.6km az=27.7, confirmed*
*SNET **02** 02:04:37.5±1.2, 13.°19N×89.°96W, h29km, ML3.8*
*GCG **02** 02:04:37.9±1.7, 13.°31N×90.°04W, h17km±10km, MD4.0, ML3.6*
ISC 02 02:04:39.2±1.5, 13.°22N±0.°06×89.°89W±0.°04, h30km±11km, n48, σ1°13/65, 2C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.60**	**45**	*i* P	**Pn**	**02 04 51.1**	**-0.7**
JAYA				*e*S	**Sn**	**02 05 01.0**	**+0.3**
JAYA	**Jayaque - finc**	**0.60**	**45**	*i* P	**Pn**	**02 04 51.2**	**-0.7**
JAYA				*e*S	**Sb**	**02 04 59.5**	**-0.4**
LALI	**Alcalda de L**	**0.61**	**64**	*e*P	**Pb**	**02 04 50.9**	**-0.5**
LALI				*e*S	**Sb**	**02 05 00.1**	**+0.3**
LALI	**Alcalda de L**	**0.61**	**64**	*i* P	**Pb**	**02 04 50.9**	**-0.5**
LALI				*e*S	**Sb**	**02 04 59.6**	**-0.2**
LALI				IAML		02 05 02.4	
	comp=E,1μm,0.6s						
FAME	**Alcaldia de Sa**	**0.63**	**349**	⇓P	**Pn**	**02 04 50.5**	**-1.6**
CEVE	**Cerro Verde**	**0.66**	**23**	*e*P	**Pn**	**02 04 51.9**	**-0.8**
CEVE				*e*S	**Sn**	**02 05 02.7**	**+0.7**
NUBE	**Las Nubes**	**0.69**	**9**	*e*P	**Pn**	**02 04 51.9**	**-1.1**
NUBE				*e*S	**Sn**	**02 05 02.2**	**-0.5**
NUBE	**Las Nubes**	**0.69**	**9**	*i* P	**Pn**	**02 04 51.9**	**-1.1**
NUBE				*e*S	**Sn**	**02 05 01.5**	**-1.2**
NUBE	**Las Nubes**	**0.69**	**9**	⇓P	**Pn**	**02 04 51.9**	**-1.1**
PMON	**Piamonte**	**0.74**	**49**	⇓P	**Pb**	**02 04 53.0**	**-0.7**
ITCA	**Escuela Especi**	**0.74**	**53**	P	**Pb**	**02 04 53.0**	**-0.7**
ITCA	**Escuela Especi**	**0.74**	**53**	S	**Sn**	**02 05 04.3**	**+0.3**
CEDA	**San Andres**	**0.75**	**39**	*e*P	**Pb**	**02 04 53.3**	**-0.5**
CEDA				*e*S	**Sn**	**02 05 05.7**	**+1.5**
BOQS	**Boqueron**	**0.78**	**49**	*e*P	**Pn**	**02 04 53.9**	**-0.5**
BOQS				*e*S	**Sn**	**02 05 06.5**	**+1.4**
LOAL	**Lomas de Alarc**	**0.78**	**8**	S	**Sn**	**02 05 05.7**	**+0.8**
LOAL	**Lomas de Alarc**	**0.78**	**8**	⇓P	**Pn**	**02 04 53.5**	**-0.7**
PANCS	**Alcalda de**	**0.79**	**60**	P	**Pn**	**02 04 53.4**	**-0.9**
PANCS	**Alcalda de**	**0.79**	**60**	S	**Sb**	**02 05 04.7**	**-0.2**
LOMA	**Loma Larga**	**0.81**	**59**	*e*P	**Pn**	**02 04 54.0**	**-0.7**
LOMA				*e*S	**Sn**	**02 05 07.2**	**+1.4**
UNIC	**Universidad Ca**	**0.82**	**23**	P	**Pn**	**02 04 53.6**	**-1.2**
IGN	**Direccin Gen**	**0.85**	**55**	P	**Pn**	**02 04 54.9**	**-0.3**
LFRS	**El Faro**	**0.90**	**63**	*e*P	**Pn**	**02 04 55.1**	**-0.7**
LFU	**La Fuente**	**0.92**	**55**	*e*P	**Pn**	**02 04 55.7**	**-0.3**
LBRS	**Las Brisas**	**0.97**	**58**	*e*P	**Pn**	**02 04 56.5**	**-0.3**
TECO	**Alcaldia de Te**	**1.12**	**74**	*e*P	**Pn**	**02 04 58.1**	**-0.8**
TECO				*e*S	**Sn**	**02 05 13.6**	**+0.3**
TECO	**Alcaldia de Te**	**1.12**	**74**	⇑P	**Pn**	**02 04 58.0**	**-0.8**
UESV	**Universidad de**	**1.15**	**69**	P	**Pn**	**02 04 58.8**	**-0.4**
UESV	**Universidad de**	**1.15**	**69**	S	**Sn**	**02 05 14.4**	**+0.5**
FG16	**Alotenango, Sa**	**1.21**	**330**	*e*P	**Pb**	**02 05 02.8**	**+1.2**
FG16				IAML		02 05 32.8	
	comp=N,3μm,0.2s						
SCLA	**Alcaldia de Sa**	**1.22**	**67**	⇑P	**Pn**	**02 05 00.2**	**-0.1**
FG8	**Yepocapa, Chim**	**1.22**	**328**	*e*P	**Pb**	**02 05 03.0**	**+1.2**
FG8				*i* S	**Sb**	**02 05 22.4**	**+5.1**
MTO3	**Montecristo**	**1.28**	**23**	*e*P	**Pn**	**02 05 00.9**	**-0.2**
MTO3				*e*S	**Sb**	**02 05 18.2**	**-0.7**
MTO3	**Montecristo**	**1.28**	**23**	*e*P	**Pn**	**02 05 00.8**	**-0.4**
LLGN	**La Laguna**	**1.31**	**44**	S	**Sb**	**02 05 19.6**	**-0.1**
LLGN	**La Laguna**	**1.31**	**44**	P	**Pn**	**02 05 01.2**	**-0.3**
TECA	**Tecapa**	**1.37**	**78**	*e*P	**Pn**	**02 05 01.9**	**-0.6**
ESSG	**Sabana Grande**	**1.48**	**322**	*e*P	**Pn**	**02 05 01.3**	**-2.5**
ESSG				*e*S	**Sn**	**02 05 18.8**	**-3.3**
ESSG				IAML		02 05 22.4	
	comp=N,531nm,0.2s						
PACA	**Pacayal**	**1.54**	**81**	*e*P	**Pn**	**02 05 05.1**	**+0.4**
PACA	**Pacayal**	**1.54**	**81**	⇓P	**Pn**	**02 05 04.7**	**0.0**
SARH	**Santa Rosa de**	**1.89**	**35**	*e*P	**Pn**	**02 05 10.0**	**+0.5**
SARH	**Santa Rosa de**	**1.89**	**35**	P	**Pn**	**02 05 10.2**	**+0.7**
CNCH	**Conchagua**	**2.00**	**88**	*e*P	**Pn**	**02 05 10.7**	**-0.3**
CNCH				*e*S	**Sn**	**02 05 36.0**	**+1.0**
CNCH	**Conchagua**	**2.00**	**88**	P	**Pn**	**02 05 10.7**	**-0.3**
CNCH	**Conchagua**	**2.00**	**88**	S	**Sn**	**02 05 35.4**	**+0.3**
POTN	**Potosi Cosigui**	**2.33**	**95**	P	**Pn**	**02 05 15.1**	**-0.4**
POTN				S	**Sn**	**02 05 43.2**	**+0.2**
PKGN	**Cerro Pekin**	**2.89**	**101**	P	**Pn**	**02 05 24.3**	**+1.2**
PKGN				S	**Sn**	**02 05 56.0**	**-0.8**
YUSH	**Yuscaran**	**3.05**	**76**	P	**Pn**	**02 05 25.4**	**0.0**
CNGA	**Al SSO del Vol**	**3.19**	**103**	P	**Pn**	**02 05 26.1**	**-1.2**

*IDC **02** 02:09:59.4±2.1, 7.°53S×119.°57E, h285km±19km, mb3.2/6, mbtmp3.9/9, Error ellipse: s-maj=60.1km s-min=11.3km az=52.0*
*DJA **02** 02:10:00.6±0.4, 8.°S±10.°×11.°9E±.°, h271km±7km, M4.3/12, mB5.0/4, mb4.3/5, MLv4.3/12, Mw(mB)4.3/4*
ISC 02 02:09:58.9±0.9, 7.°7S±0.°1×119.°40E±0.°06, h279km±10km, n24, σ0°83/32, mb3.5/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.96**	**180**	P	**Pn**	**02 10 43.5**	**-0.1**
WBSI				S	**S**	**02 11 17.9**	**-1.2**
PLAI	**Plampang**	**1.98**	**234**	P	**Pn**	**02 10 44.6**	**+0.9**
PLAI	**Plampang**	**1.98**	**234**	P	**Pn**	**02 10 44.4**	**+0.7**
PLAI				S	**S**	**02 11 19.1**	**-0.2**
WSI	**Waingapu**	**2.18**	**156**	P	**Pn**	**02 10 45.7**	**+0.3**
WSI				S	**S**	**02 11 21.2**	**-1.1**
TWSI	**Taliwang, Sumb**	**2.71**	**247**	P	**Pn**	**02 10 50.5**	**+0.1**
TWSI				S	**S**	**02 11 31.1**	**-0.2**
BASI	**Baing, Sumba**	**2.79**	**156**	P	**Pn**	**02 10

TECO	**Alcaldia de Te**	**0.70**	**40**	P	**Pb**	**02 11 34.3 +0.2**
TECO	**Alcaldia de Te**	**0.70**	**40**	S	**Sn**	**02 11 44.1 -0.6**
PMON	**Piamonte**	**0.72**	**354**	*eP*	**Pb**	**02 11 34.7 +0.3**
PMON				*eS*	**Sn**	**02 11 45.7 +0.6**
PMON	**Piamonte**	**0.72**	**354**	P	**Pb**	**02 11 34.5 +0.1**
IGN	**Direccin Gen**	**0.72**	**6**	P	**Pb**	**02 11 34.5 +0.2**
IGN	**Direccin Gen**	**0.72**	**6**	S	**Sn**	**02 11 44.6 -0.5**
BOQS	**Boqueron**	**0.74**	**357**	*eP*	**Pn**	**02 11 35.3 0.0**
BOQS				*eS*	**Sn**	**02 11 46.6 +0.8**
LFU	**La Fuente**	**0.76**	**9**	*eP*	**Pn**	**02 11 35.7 +0.2**
UESV	**Universidad de**	**0.78**	**35**	P	**Pb**	**02 11 35.3 0.0**
UESV	**Universidad de**	**0.78**	**35**	S	**Sn**	**02 11 46.2 -0.3**
PACA	**Pacayal**	**1.01**	**62**	*eP*	**Pn**	**02 11 39.2 +0.2**
PACA				*eS*	**Sn**	**02 11 53.0 +0.6**
PACA	**Pacayal**	**1.01**	**62**	P	**Pb**	**02 11 39.4 +0.1**
PACA	**Pacayal**	**1.01**	**62**	S	**Sn**	**02 11 52.4 0.0**
LCY	**Lacayo**	**1.02**	**65**	*eP*	**Pn**	**02 11 39.1 +0.1**
BLLM	**Bellamira**	**1.07**	**65**	*eP*	**Pb**	**02 11 40.1 -0.2**
CNCH	**Conchagua**	**1.40**	**78**	P	**Pn**	**02 11 43.8 -0.5**
CNCH	**Conchagua**	**1.40**	**78**	S	**Sn**	**02 12 02.1 +0.1**
YUSH	**Yuscaran**	**2.52**	**67**	P	**Pn**	**02 11 60.0 +0.3**

*ATH **02** 02:18:05.8, 41°.28N×23°.54E, h8km±1km, ML2.3/12,*
Manual Solution by A.Andreou First location: 2019/10/02
02:19:35, This location: 2019/10/02 05:09:55 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
*SOF **02** 02:18:05.7, 41°.29N±0°.01×23°.50E±0°.01, h13km±1km,*
MD3.0/8
*BEO **02** 02:18:06.0±0.4, 41°.23N×23°.38E, h6km±3km, ML2.4/4*
*SKO **02** 02:18:06.8, 41°.31N×23°.50E, h0km, ML2.4*
*AFAD **02** 02:18:07.9, 41°.25N×23°.96E, h7km±5km, ML2.2*
*ISK **02** 02:18:08.6, 41°.21N×23°.79E, h13km, ML2.4/15*

ISC 02 02:18:06.6±0.8, 41°.28N±0°.02×23°.52E±0°.02, h13km±6km,
n82, σ0°67/120, 7C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.17**	**161**	↑*i*Pg	**Pg**	**02 18 10.5**	**-0.1**
SRS				*i* Sg	**Sg**	**02 18 13.4**	**+0.1**
SRS	**Serrai**	**0.17**	**161**	*e*Pg	**Pg**	**02 18 10.4**	**-0.1**
SRS				*e*Sg	**Sg**	**02 18 13.4**	**+0.1**
SRS	**Serrai**	**0.17**	**161**	P	**Pg**	**02 18 10.4**	**-0.1**
SRS				S	**Sg**	**02 18 12.7**	**-0.6**
MMB	**Musomishta**	**0.32**	**33**	↑*i*Pg	**Pg**	**02 18 12.8**	**-0.3**
MMB				S	**Sg**	**02 18 17.3**	**-0.2**
MMB	**Musomishta**	**0.32**	**33**	↑*i*Pg	**Pg**	**02 18 12.8**	**-0.3**
MMB				*i* Sg	**Sg**	**02 18 17.5**	**0.0**
SOH	**Sokhos**	**0.47**	**195**	↑*i*Pg	**Pg**	**02 18 15.5**	**-0.4**
SOH				*i* Sg	**Sg**	**02 18 22.2**	**0.0**
SOH	**Sokhos**	**0.47**	**195**	P	**Pg**	**02 18 15.4**	**-0.5**
SOH				S	**Sg**	**02 18 21.1**	**-1.1**
KNT	**Kendrikon**	**0.48**	**256**	*i* Pg	**Pg**	**02 18 15.2**	**-0.8**
KNT				*i* Sg	**Sg**	**02 18 22.1**	**-0.4**
KNT	**Kendrikon**	**0.48**	**256**	P	**Pg**	**02 18 15.4**	**-0.6**
KNT				S	**Sg**	**02 18 22.4**	**-0.1**
KKB	**Krupnik**	**0.63**	**333**	↑*i*Pg	**Pg**	**02 18 18.2**	**-0.7**
KKB				Sg	**Sg**	**02 18 26.2**	**-1.1**
KKB	**Krupnik**	**0.63**	**333**	↑*i*Pg	**Pg**	**02 18 18.2**	**-0.7**
KKB				*i* Sg	**Sg**	**02 18 26.6**	**-0.7**
VAY	**Valandovo**	**0.71**	**274**	*i* Pg	**Pg**	**02 18 20.1**	**-0.3**
VAY				*i* Sg	**Sg**	**02 18 29.3**	**-0.5**
VAY				*e*Lg	Lg	02 18 29.4	
	comp=N,115nm,0.4s						
VAY				*e*Lg	Lg	02 18 29.7	
	comp=E,69nm,0.3s						
HORT	**Hortiatis**	**0.75**	**205**	P	**Pg**	**02 18 20.3**	**-0.8**
HORT				S	**Sg**	**02 18 31.2**	**+0.2**
THE	**Thessaloniki**	**0.77**	**213**	↑*i*Pg	**Pg**	**02 18 20.8**	**-0.6**
THE				*i* Sg	**Sg**	**02 18 31.5**	**0.0**
THE	**Thessaloniki**	**0.77**	**213**	P	**Pg**	**02 18 20.7**	**-0.8**
THE				S	**Sg**	**02 18 30.9**	**-0.6**
KAVA	**Kavala**	**0.80**	**110**	P	**Pg**	**02 18 21.4**	**-0.7**
PLG	**Polygyros**	**0.91**	**183**	P	**Pg**	**02 18 23.0**	**-1.0**
PLG				S	**Sg**	**02 18 35.3**	**-0.6**
RZN	**Rozhen**	**1.01**	**65**	*i* Pg	**Pg**	**02 18 26.0**	**0.0**
RZN				Sg	**Sb**	**02 18 39.3**	**0.0**
OUR	**Ouranopolis**	**1.01**	**159**	Pg	**Pg**	**02 18 26.0**	**0.0**
OUR				Sg	**Sg**	**02 18 39.2**	**+0.1**
OUR	**Ouranopolis**	**1.01**	**159**	P	**Pg**	**02 18 25.2**	**-0.7**
THAS	**Thassos island**	**1.13**	**126**	P	**Pg**	**02 18 27.1**	**-1.2**
PLNA	**Plana**	**1.20**	**357**	*i* Pg	**Pg**	**02 18 28.6**	**-1.0**
PLNA				Sg	**Sg**	**02 18 45.2**	**0.0**
PLD	**Plovdiv**	**1.27**	**46**	P	**Pn**	**02 18 30.3**	**+0.3**
PLD				Sg	**Sn**	**02 18 47.4**	**+0.5**
PLD	**Plovdiv**	**1.27**	**46**	Pn	**Pb**	**02 18 30.7**	**+0.4**
PLD				Sn	**Sg**	**02 18 47.0**	**-0.3**
PLD	**Plovdiv**	**1.27**	**46**	*i* Pg	**Pn**	**02 18 29.5**	**-0.5**
PLD	**Plovdiv**	**1.27**	**46**	*e*Pg	**Pn**	**02 18 30.2**	**+0.3**
PLD				*e*Sg	**Sn**	**02 18 47.7**	**+0.8**
PGB	**Panagyurishte**	**1.33**	**21**	P	**Pn**	**02 18 31.0**	**+0.1**
PGB				Sg	**Sb**	**02 18 49.0**	**+0.7**
VTS	**Vitosha**	**1.35**	**351**	P	**Pn**	**02 18 31.3**	**-0.1**
VTS				S	**Sb**	**02 18 48.9**	**-0.3**
VTS	**Vitosha**	**1.35**	**351**	*e*Pg	**Pn**	**02 18 31.3**	**-0.1**
VTS				*e*Sg	**Sb**	**02 18 48.9**	**-0.3**
LIT	**Litokhoron**	**1.41**	**214**	*i* Pn	**Pn**	**02 18 32.4**	**+0.4**
LIT	**Litokhoron**	**1.41**	**214**	P	**Pn**	**02 18 32.5**	**+0.4**
KDZ	**Kurdzhali**	**1.41**	**75**	P	**Pn**	**02 18 32.4**	**+0.4**
KDZ				S	**Sg**	**02 18 51.6**	**-0.5**
KDZ	**Kurdzhali**	**1.41**	**75**	Pn	**Pn**	**02 18 32.2**	**+0.2**
KDZ				Sn	**Sb**	**02 18 49.6**	**-1.2**
BOSS	**Bosilegrad**	**1.44**	**328**	*e*Pg	**Pn**	**02 18 32.5**	**+0.1**
BOSS				*e*Sg	**Sn**	**02 18 51.3**	**+0.1**
RDO	**Rodhopi**	**1.53**	**94**	Pn	**Pn**	**02 18 32.9**	**-0.7**
RDO				Sn	**Sn**	**02 18 51.5**	**-1.9**
RDO	**Rodhopi**	**1.53**	**94**	P	**Pn**	**02 18 33.0**	**-0.7**
RDO				S	**Sn**	**02 18 53.2**	**-0.1**
KZN	**Kozani**	**1.64**	**234**	P	**Pn**	**02 18 35.8**	**+0.5**
DIM	**Dimitrovgrad**	**1.72**	**63**	P	**Pb**	**02 18 38.4**	**+0.3**
DIM				Sg	**Sg**	**02 18 02.7**	**+0.7**
SMTH	**Samothraki Isl**	**1.73**	**117**	P	**Pn**	**02 18 35.3**	**-1.0**
LIA	**Limnos Island**	**1.88**	**137**	P	**Pn**	**02 18 37.7**	**-0.6**
ALN	**Alexandroupoli**	**1.95**	**100**	Pn	**Pn**	**02 18 39.3**	**-0.1**
ALN	**Alexandroupoli**	**1.95**	**100**	P	**Pn**	**02 18 38.9**	**-0.4**
NEO	**Neokhori**	**1.98**	**187**	P	**Pn**	**02 18 39.7**	**-0.2**
BARS	**Barje**	**1.99**	**321**	*i* Pn	**Pb**	**02 18 43.0**	**+0.4**
BARS	**Barje**	**1.99**	**321**	*e*Pn	**Pn**	**02 18 39.4**	**-0.6**
BARS				*e*Sn	**Sn**	**02 19 05.3**	**+0.5**
BARS				*e*Sg	**Sb**	**02 19 08.5**	**+1.1**
MPEP	**Malo Peshtene**	**2.08**	**4**	P	**Pb**	**02 18 43.5**	**-0.7**
MPEP				Sg	**Sg**	**02 19 13.4**	**-0.1**
ZAPS	**Zavoj**	**2.10**	**342**	*e*Pn	**Pn**	**02 18 41.7**	**+0.2**
ZAPS				*e*Sn	**Sn**	**02 19 08.7**	**+1.2**
GADA	**Gvkgeada**	**2.11**	**120**	Pn	**Pn**	**02 18 41.6**	**0.0**
GOAD	**anakkale-G¶**	**2.13**	**121**	P	**Pg**	**02 18 46.5**	**-0.9**
ERIK	**Erikli-Kesan**	**2.35**	**104**	Pn	**Pn**	**02 18 44.9**	**0.0**
UKOP	**Uzunkopru-Edir**	**2.36**	**93**	Pn	**Pn**	**02 18 45.1**	**+0.2**
BOZC	**Bozcaada**	**2.41**	**126**	Pn	**Pn**	**02 18 45.9**	**+0.2**
BOZC	**Bozcaada**	**2.41**	**126**	P	**Pn**	**02 18 47.3**	**+1.6**
VALD	**Valchedram**	**2.41**	**359**	P	**Pb**	**02 18 51.2**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.41**	**110**	Pn	**Pn**	**02 18 45.9**	**+0.2**
BLKB	**Belogradchik**	**2.42**	**345**	*e*Pn	**Pn**	**02 18 46.0**	**+0.1**
KESN	**Edirne-Kesan**	**2.44**	**100**	P	**Pg**	**02 18 53.4**	**+0.1**
KESN				S	**Sg**	**02 19 23.3**	**-1.5**
EDRB	**Edirne**	**2.49**	**76**	Pn	**Pn**	**02 18 47.6**	**+0.8**
CNKL	**anakkale-Mer**	**2.50**	**118**	P	**Pn**	**02 18 48.7**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.50**	**206**	P	**Pn**	**02 18 47.5**	**+0.5**
SKY	**Skiros Island**	**2.53**	**161**	P	**Pn**	**02 18 47.1**	**-0.3**
COMU	**Canakkale**	**2.54**	**117**	Pn	**Pn**	**02 18 47.6**	**+0.1**
EZN	**Ezine**	**2.59**	**123**	Pn	**Pn**	**02 18 48.3**	**+0.2**
SELS	**Selova**	**2.63**	**318**	*e*Pn	**Pn**	**02 18 48.1**	**-0.7**
KOCA	**Canakkale, Ayv**	**2.68**	**131**	P	**Pn**	**02 18 51.2**	**+1.8**
KYMI	**Kymi, Euboea I**	**2.68**	**170**	P	**Pn**	**02 18 49.2**	**-0.2**
EVR	**Evrytania**	**2.70**	**210**	P	**Pn**	**02 18 50.0**	**+0.2**
ZAGS	**Zajecar**	**2.70**	**340**	*e*Pn	**Pn**	**02 18 49.8**	**+0.1**
BOVS	**Bovan**	**2.71**	**331**	*e*Pn	**Pn**	**02 18 49.3**	**-0.5**
KIRK	**Kirklareli**	**2.73**	**78**	P	**Pn**	**02 18 49.8**	**-0.4**
KIRK				S	**Sn**	**02 19 23.6**	**+0.5**
SIGR	**SIGRI**	**2.73**	**138**	Pn	**Pn**	**02 18 51.1**	**+1.0**
SIGR	**SIGRI**	**2.73**	**138**	P	**Pn**	**02 18 50.0**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.77**	**123**	P	**Pn**	**02 18 51.3**	**+0.5**
ANX	**Ano Chora**	**2.95**	**205**	P	**Pn**	**02 18 54.2**	**+1.0**
CANM	**Can-anakkale**	**2.97**	**114**	Pn	**Pn**	**02 18 53.9**	**+0.4**
ARMN	**Kirklareli, Me**	**2.99**	**77**	P	**Pn**	**02 18 53.4**	**-0.3**
ARMN				S	**Sb**	**02 19 37.3**	**+1.0**
ARMN				*i* IAML		02 19 46.0	
	comp=E,10nm,0.7s						
ARMN				*i* IAML		02 19 47.0	
	comp=E,11nm,0.5s						
VIL2	**Platees**	**3.07**	**184**	P	**Pn**	**02 18 55.7**	**+0.9**
KALE	**Kalithea**	**3.07**	**201**	P	**Pn**	**02 18 55.4**	**+0.5**
YAYO	**Edremit-Balk**	**3.18**	**120**	Pn	**Pn**	**02 18 56.9**	**+0.6**
DION	**Dionisos Attik**	**3.21**	**174**	P	**Pn**	**02 18 57.7**	**+0.9**
BUHA	**Balikesir, Bur**	**3.25**	**122**	P	**Pn**	**02 18 57.0**	**-0.3**
BKES	**Balkesir-Mer**	**3.70**	**113**	P	**Pn**	**02 19 04.1**	**+0.6**

CATAC 02 02:28:22.9±0.5, 13°.N±3°.×87°.W±°., h139km±3km, M2.8/21,
MLv2.8/21, Error ellipse: s-maj=9.3km s-min=4.2km
az=48.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	**Cerro Pekin**	**0.23**	**88**	P	Pn	02 28 43.4	+1.5
POLN	**Al Sur del Vol**	**0.39**	**92**	P	Pn	02 28 43.0	+0.5
POTN	**Potosi Cosigui**	**0.44**	**320**	P	Pn	02 28 43.9	+1.2
POTN				S	Sn	02 29 00.1	+2.4
PLRN	**Geotermica Pol**	**0.44**	**100**	P	Pn	02 28 43.1	+0.3
PLRN				S	Sn	02 29 01.1	+3.4
ILCN	**San Idelfonso**	**0.51**	**99**	P	Pn	02 28 43.6	+0.5
ILCN				S	Sn	02 29 00.9	+2.6
CNGA	**Al SSO del Vol**	**0.53**	**108**	P	Pn	02 28 44.2	+1.0
CNGA				S	Sn	02 29 01.8	+3.3
CNGN	**Cerro Negro**	**0.53**	**107**	P	Pn	02 28 44.2	+1.0
CNGN	**Cerro Negro**	**0.53**	**107**	S	Sn	02 29 01.2	+2.6
COPN	**Copaltepe**	**0.78**	**128**	P	Pn	02 28 45.3	+0.5
CNCH	**Conchagua**	**0.86**	**316**	P	Pn	02 28 46.4	+0.8
CNCH	**Conchagua**	**0.86**	**316**	S	Sn	02 29 02.8	0.0
LIMN	**Finca el Limon**	**0.92**	**64**	P	Pn	02 28 46.7	+0.6
LIMN				S	Sn	02 29 04.3	+0.7
TISN	**Laguna Tiscapa**	**1.06**	**119**	P	Pn	02 28 47.7	+0.5
UNAN	**Cigeo UNAN**	**1.07**	**120**	P	Pn	02 28 47.4	+0.1
CRUN	**El Crucero**	**1.12**	**127**	P	Pn	02 28 48.0	+0.1
WILN	**Americas 2**	**1.12**	**116**	P	Pn	02 28 48.0	+0.3
WILN				S	Sn	02 29 06.7	+0.1
MAS3	**Al N del Volca**	**1.20**	**122**	P	Pn	02 28 48.9	+0.3
MAS3				S	Sn	02 29 07.7	-0.4
OCON	**Estacion meteo**	**1.20**	**37**	P	Pn	02 28 48.5	-0.1
SABN	**Sabanita**	**1.25**	**124**	P	Pn	02 28 49.7	+0.7
MATN	**Matagalpa**	**1.29**	**78**	P	Pn	02 28 49.0	-0.5
NANN	**Nandasmo**	**1.29**	**124**	S	Sn	02 29 09.0	-0.6
NANN	**Nandasmo**	**1.29**	**124**	P	Pn	02 28 50.2	+0.7
YUSH	**Yuscaran**	**1.34**	**16**	P	Pn	02 28 50.1	0.0
YUSH	**Yuscaran**	**1.34**	**16**	S	Sn	02 29 11.6	+0.8
PACA	**Pacayal**	**1.34**	**307**	S	Sn	02 29 11.1	+0.2
RCVN	**Varillal2**	**1.35**	**47**	P	Pn	02 28 50.1	-0.2
TGUH	**Tegucigalpa,Un**	**1.39**	**358**	P	Pn	02 28 50.2	-0.4
TGUH				S	Sn	02 29 12.5	+0.7
RCPN	**Sur Rio San Ju**	**1.39**	**52**	P	Pn	02 28 50.5	-0.2

IDC 02 02:42:42.6±9.9, 18°.87S×175°.51W, h0km, mb3.7/3,
mbtmp3.7/3, MS3.4/7, Error ellipse: s-maj=440.7km
s-min=39.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.97**	**102**	LR	LR	02 50 07.7	
	comp=Z,42nm,20.7s,baz=284,slow=30						
DZM	**Mont Dzumac**	**17.20**	**256**	LR	LR	02 51 53.6	
	comp=Z,216nm,18.9s,baz=1.0,slow=32						
PPT	**Papeete**	**24.66**	**91**	LR	LR	02 56 10.3	
	comp=Z,66nm,18.5s,baz=300,slow=33						
PMG	**Port Moresby**	**37.33**	**279**	LR	LR	03 02 27.6	
	comp=Z,62nm,18.2s,baz=212,slow=32						
WRA	**Warramunga Arr**	**47.17**	**260**	P	P	02 51 16.8	-0.5
	0.1nm,0.3s,baz=99,slow=7.2,SNR=1.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**47.19**	**255**	P	P	02 51 17.5	+0.1
	1.8nm,0.7s,baz=89,slow=8.1,SNR=22						
	1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.59**	**261**	LR	LR	03 15 09.4	
	comp=Z,52nm,19.8s,baz=112,slow=35						
RPN	**Rapa Nui**	**60.88**	**111**	LR	LR	03 14 28.2	
	comp=Z,20nm,18.2s,baz=264,slow=31						
QSPA	**South Pole Qui**	**71.19**	**180**	LR	LR	03 20 41.8	
	comp=Z,30nm,22.0s,baz=24,slow=32						
ILAR	**Eielson Array**	**86.23**	**12**	P	P	02 55 25.6	0.0
	0.5nm,0.9s,baz=205,slow=5.0,SNR=4.9						
	0.5nm,0.9s						

*PGC **02** 02:47:24.5±0.1, 44°.27N×129°.28W, h10km, MLSn3.0/4,*
Mw3.6/4, mb3.9(NEIC), 496km west of Eugene, Oregon,
Usa Off Coast Of Oregon
*NEIC **02** 02:47:27.8±1.6, 44°.41N±0°.09×129°.0W±0°.1, h10km±2km,*
mb3.9/16, ML3.1/56, Error ellipse: s-maj=19.0km
s-min=13.6km az=240.0
*IDC **02** 02:47:27.1±1.5, 44°.59N×128°.83W, h0km, mb3.6/4,*
mbtmp3.4/9, ML3.4/4, MS3.3/12, Error ellipse:
s-maj=32.8km s-min=16.6km az=46.0

ISC 02 02:47:27.5±1.0, 44°.41N±0°.06×129°.03W±0°.09, h10km,
n156, σ0°90/157, mb3.9/5, MS3.3/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**3.73**	**93**	Pn	**Pn**	**02 48 24.0**	**-1.1**
I02E				IAML		02 48 52.5	
	comp=N,25nm,1.9s						
KEBM	**Edson Butte**	**3.74**	**113**	Pn	**Pn**	**02 48 23.4**	**-1.9**
KEBM				IAML		02 49 19.5	
	comp=N,39nm,2.0s						
KEBM				IAML		02 50 16.9	
	comp=E,41nm,2.2s						
COR	**Corvallis**	**4.10**	**86**	Pn	**Pn**	**02 48 29.5**	**-0.6**
COR				IAML		02 49 21.9	
	comp=E,19nm,1.3s						
F03A	**Seaside**	**4.16**	**67**	Pn	**Pn**	**02 48 30.7**	**-0.2**
I03D	**Drain, OR**	**4.16**	**98**	Pn	**Pn**	**02 48 29.0**	**-1.9**
G03D	**McMinnville, O**	**4.18**	**77**	Pn	Pn	02 48 25.6	-5.7
G03D				IAML		02 49 31.2	
	comp=N,19nm,0.7s						
G03D				IAML		02 49 50.4	
	comp=E,18nm,1.8s						
RADR	**Rader Ridge**	**4.19**	**60**	Pn	**Pn**	**02 48 30.5**	**-1.0**
RADR				IAML		02 49 26.8	
	comp=E,24nm,0.6s						
RADR				IAML		02 51 19.0	
	comp=N,22nm,1.6s						
BUCK	**Buck Mountain**	**4.34**	**91**	Pn	**Pn**	**02 48 33.2**	**-0.4**
BUCK				IAML		02 50 09.1	
	comp=E,18nm,2.1s						
E03A	**Lebam**	**4.40**	**59**	Pn	**Pn**	**02 48 33.0**	**-1.1**
E03A				IAML		02 49 29.8	
	comp=N,25nm,0.5s						
E03A				IAML		02 49 30.4	
	comp=E,25nm,0.7s						
E03A	**Lebam**	**4.40**	**59**	Pn	**Pn**	**02 48 33.5**	**-0.7**
E03A				Sn	**Sn**	**02 49 26.7**	**+1.3**
H04D	**Lebanon**	**4.50**	**86**	Pn	**Pn**	**02 48 35.5**	**-0.2**
H04D				IAML		02 49 32.8	
	comp=N,16nm,1.3s						
H04D				IAML		02 50 59.7	
	comp=E,15nm,2.1s						
F04D	**Rainier, OR**	**4.57**	**66**	Pn	**Pn**	**02 48 36.6**	**0.0**
WISH	**Wishkah**	**4.57**	**52**	Pn	**Pn**	**02 48 36.5**	**-0.1**
WISH				IAML		02 49 35.9	
	comp=E,22nm,0.7s						
WISH	**Wishkah**	**4.57**	**52**	Pn	**Pn**	**02 48 36.5**	**-0.1**
WISH				Sn	**Sn**	**02 49 30.5**	**+0.9**
NLWA	**Neilton Lookou**	**4.67**	**49**	Pn	**Pn**	**02 48 37.2**	**-0.9**
NLWA				IAML		02 49 37.0	
	comp=E,21nm,0.6s						
G04A	**Mulino**	**4.73**	**78**	Pn	**Pn**	**02 48 38.8**	**0.0**
G04A				IAML		02 49 44.2	
	comp=E,23nm,1.4s						
BBOR	**Butler Butte**	**4.85**	**106**	Pn	**Pn**	**02 48 39.4**	**-1.2**
CPW	**Capitol Peak**	**4.86**	**56**	Pn	**Pn**	**02 48 40.3**	**-0.3**
H04A	**Detroit Lake**	**4.90**	**84**	Pn	**Pn**	**02 48 40.3**	**-0.8**
OSD	**Olympics--Snow**	**5.03**	**45**	Pn	**Pn**	**02 48 43.0**	**-0.2**
B012	**Ucluelet**	**5.11**	**27**	Pn	**Pn**	**02 48 44.0**	**0.0**
B012				Sn	**Sn**	**02 49 43.5**	**+0.5**
J04A	**Umpqua Nationa**	**5.14**	**101**	Pn	**Pn**	**02 48 44.5**	**-0.2**
OZB	**Mount Ozzard**	**5.16**	**27**	Pn	**Pn**	**02 48 44.0**	**-0.7**
OZB				IAML		02 49 32.5	
	comp=N,12nm,3.1s						
OZB				IAML		02 51 52.5	
	comp=E,10nm,2.0s						
OZB	**Mount Ozzard**	**5.16**	**27**	Pn	**Pn**	**02 48 44.3**	**-0.5**
OZB				Sn	**Sn**	**02 49 44.1**	**-0.2**
BFSB	**Bamfield**	**5.17**	**30**	Pn	**Pn**	**02 48 44.3**	**-0.5**
B928	**Bamfield**	**5.17**	**30**	Pn	**Pn**	**02 48 44.3**	**-0.5**
B928				Sn	**Sn**	**02 49 44.2**	**-0.3**
WIFE	**Three Sisters-**	**5.19**	**91**	Pn	**Pn**	**02 48 45.1**	**-0.2**
WIFE				IAML		02 50 43.0	
	comp=N,11nm,4.6s						
WIFE				IAML		02 51 02.0	
	comp=E,10nm,2.5s						
PTRF	**Port Renfrew**	**5.22**	**36**	Pn	**Pn**	**02 48 45.0**	**-0.5**
PTRF				Sn	**Sn**	**02 49 45.7**	**+0.1**
STW	**Striped Peak**	**5.27**	**43**	Pn	**Pn**	**02 48 46.1**	**-0.1**
HDW	**Hoodsport**	**5.27**	**50**	Pn	**Pn**	**02 48 46.1**	**-0.2**
B04A	**Port Angeles**	**5.29**	**44**	Pn	**Pn**	**02 48 46.1**	**-0.3**
SHPB	**Sharp Point**	**5.29**	**20**	Pn	**Pn**	**02 48 46.3**	**-0.1**
HOOD	**Mount Hood Mea**	**5.32**	**78**	Pn	**Pn**	**02 48 47.2**	**+0.1**
HOOD				IAML		02 50 03.6	
	comp=E,14nm,1.2s						
YBH	**Yreka Blue Hor**	**5.35**	**118**	Pn	**Pn**	**02 48 47.0**	**-0.4**
YBH	**Yreka Blue Hor**	**5.35**	**118**	Pn	**Pn**	**02 48 48.9**	**+1.5**
	baz=276,slow=4.3,SNR=6.1						
GNW	**Green Mountain**	**5.35**	**52**	Pn	**Pn**	**02 48 46.5**	**-0.8**
GNW				IAML		02 49 54.6	
	comp=N,14nm,0.7s						
GNW	**Green Mountain**	**5.35**	**52**	Pn	**Pn**	**02 48 47.1**	**-0.1**
GNW				Sn	**Sn**	**02 49 49.1**	**+0.2**
L04D	**Klamath Falls**	**5.37**	**112**	Pn	**Pn**	**02 48 46.8**	**-1.0**
L04D				IAML		02 50 54.3	
	comp=N,8.9nm,3.2s						
L04D				IAML		02 51 52.9	
	comp=E,12nm,4.7s						
NTKA	**Nootka**	**5.44**	**17**	Pn	**Pn**	**02 48 48.1**	**-0.3**
MGRB	**Mount Grey**	**5.47**	**31**	Pn	**Pn**	**02 48 48.7**	**-0.4**
MGRB				Sn	**Sn**	**02 49 51.9**	**-0.2**
SYMB	**Survey Mountai**	**5.50**	**39**	Pn	**Pn**	**02 48 49.0**	**-0.4**
I05D	**Terrebonne, OR**	**5.51**	**88**	Pn	**Pn**	**02 48 49.0**	**-0.6**
G05A	**Wamic**	**5.55**	**79**	Pn	**Pn**	**02 48 49.3**	**-0.8**
B926	**Mesachie Lake**	**5.55**	**36**	Pn	**Pn**	**02 48 49.8**	**-0.2**
B926				Sn	**Sn**	**02 49 53.5**	**-0.3**
CLRS	**Cowichan Lake**	**5.55**	**36**	Pn	**Pn**	**02 48 49.6**	**-0.5**
CLRS	**Cowichan Lake**	**5.55**	**36**	Pn	**Pn**	**02 48 49.9**	**-0.2**
CLRS				Sn	**Sn**	**02 49 53.8**	**0.0**
LON	**Longmire**	**5.58**	**63**	Pn	**Pn**	**02 48 49.7**	**-0.9**
LON	**Longmire**	**5.58**	**63**	Pn	**Pn**	**02 48 50.3**	**-0.2**
B927	**Port Alberni**	**5.61**	**30**	Pn	**Pn**	**02 48 50.7**	**-0.1**
PABB	**Port Alberni**	**5.61**	**30**	Pn	**Pn**	**02 48 50.7**	**-0.1**
VGZ	**Gonzales**	**5.62**	**43**	Pn	**Pn**	**02 48 50.7**	**-0.3**
VGZ				Sn	**Sn**	**02 49 55.5**	**0.0**
D05A	**Enumclaw**	**5.65**	**58**	Pn	**Pn**	**02 48 51.9**	**+0.5**
D05A	**Enumclaw**	**5.65**	**58**	Pn	**Pn**	**02 48 51.9**	**+0.5**
MYRA	**Myra Falls**	**5.66**	**23**	Pn	**Pn**	**02 48 51.6**	**0.0**
B009	**North Saanich**	**5.72**	**40**	Pn	**Pn**	**02 48 52.1**	**-0.2**
B010	**North Saanich**	**5.72**	**40**	Pn	**Pn**	**02 48 52.2**	**-0.2**
PGC	**Sidney**	**5.72**	**40**	Pn	**Pn**	**02 48 51.8**	**-0.6**
PGC	**Sidney**	**5.72**	**40**	Pn	**Pn**	**02 48 52.0**	**-0.4**
PGC				Sn	**Sn**	**02 49 58.2**	**+0.1**
B011	**North Saanich**	**5.72**	**40**	Pn	**Pn**	**02 48 52.0**	**-0.4**
B011				Sn	**Sn**	**02 49 58.9**	**+0.7**
FMW	**Mount Fremont**	**5.74**	**61**	Pn	**Pn**	**02 48 52.9**	**

T25A	**Trinidad**	**19.96 103**	P	**P**	**02 51 60.0**	**0.0**
T25A			IAmb	IAmb	02 52 10.7	
comp=Z,8.3nm,1.0s						
FFC	**Flin Flon**	**20.23 50**	P	**P**	**02 52 01.9**	**-0.6**
FFC			IAmb	IAmb	02 52 14.1	
comp=Z,8.7nm,1.2s						
121A	**Cookes Peak, D**	**20.36 118**	P	**P**	**02 52 03.8**	**-0.4**
121A			IAmb	IAmb	02 52 13.5	
comp=Z,7.6nm,1.1s						
SKT	**Skwentna**	**21.96 331**	P	**P**	**02 52 17.7**	**-3.4**
H29M	**Whitestone**	**22.44 350**	P	**P**	**02 52 26.2**	**0.0**
H29M			IAmb	IAmb	02 52 40.0	
comp=Z,4.7nm,1.1s						
ILAR	**Eielson Array**	**22.71 340**	P	**P**	**02 52 27.5**	**-1.6**
comp=Z,1.4nm,1.1s,baz=149,slow=8.6,SNR=9.6						
ILAR			LR	LR	03 00 08.1	
comp=Z,24nm,18.3s,baz=193,slow=34						
comp=Z,1.4nm,1.1s						
F33A	**5 Mile Ranch,**	**23.06 75**	P	**P**	**02 52 31.5**	**-1.4**
ULM	**Lac du Bonnet**	**23.09 64**	LR	LR	03 01 45.4	
comp=Z,86nm,19.9s,baz=280,slow=38						
WMOK	**Wichita Mounta**	**25.11 102**	P	**P**	**02 52 52.5**	**+0.1**
TXAR	**Lajitas Array**	**25.12 118**	P	**P**	**02 52 53.3**	**+0.7**
TXAR	**Lajitas Array**	**25.12 118**	P	**P**	**02 52 52.8**	**+0.2**
comp=Z,0.2nm,0.6s,baz=294,slow=9.4,SNR=5.2						
comp=Z,0.2nm,0.6s						
TKL	**Tuckaleechee C**	**35.35 88**	LR	LR	03 09 26.3	
comp=Z,186nm,18.3s,baz=318,slow=38						
SFJD	**Kangerlussuaq**	**45.74 33**	LR	LR	03 15 33.4	
comp=Z,44nm,18.4s,baz=166,slow=37						
JTS	**Las Juntas de**	**50.91 118**	LR	LR	03 21 05.2	
comp=Z,32nm,18.1s,baz=328,slow=40						
TIXI	**Tiksi**	**52.13 337**	LR	LR	03 19 14.9	
comp=Z,25nm,18.9s,baz=175,slow=37						
H11N2	**WAKE ISLAND Hy**	**58.05 267**	T	T	03 59 37.4	
baz=49,slow=75,SNR=450						
H11N3	**WAKE ISLAND Hy**	**58.05 267**	T	T	03 59 36.6	
baz=49,slow=75,SNR=672						
H11N1	**WAKE ISLAND Hy**	**58.06 267**	T	T	03 59 38.4	
baz=49,slow=75,SNR=296						
H11S1	**WAKE ISLAND Hy**	**58.98 266**	T	T	04 00 40.3	
baz=48,slow=75,SNR=94						
H11S2	**WAKE ISLAND Hy**	**58.99 266**	T	T	04 00 41.2	
baz=48,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**59.00 266**	T	T	04 00 43.3	
baz=48,slow=75,SNR=65						
LPAZ	**La Paz**	**81.93 122**	P	**P**	**02 59 49.6**	**+1.5**
comp=Z,1.2nm,0.7s,baz=320,slow=7.9,SNR=4.8						
comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**82.36 343**	P	**P**	**02 59 50.7**	**+1.5**
comp=Z,0.7nm,0.7s,baz=13,slow=4.7,SNR=6.2						
comp=Z,0.7nm,0.7s						

IDC 02 02:49:58.2±2.7, 18°.21S×177°.30W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=98.5km s-min=37.5km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.61 260**		P	P	02 58 20.4	-0.3
0.3nm,0.3s,baz=95,slow=7.2,SNR=7.3							
0.3nm,0.3s							
ASAR	**Alice Springs**	**45.72 254**		P	P	02 58 22.6	+1.0
5.6nm,0.5s,baz=88,slow=8.1,SNR=84							
ASAR				PcP	PcP	02 59 57.6	-2.0
0.2nm,0.4s,baz=96,slow=3.9,SNR=4.1							
5.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**54.02 261**		P	P	02 59 24.3	-0.4
2.4nm,0.5s,baz=103,slow=9.0,SNR=13							
2.4nm,0.5s							
MJAR	**Matsushiro Arr**	**68.78 323**		P	P	03 01 03.8	-0.5
0.9nm,0.5s,baz=152,slow=6.7,SNR=2.7							
0.9nm,0.5s							
BRTR	**Keskin Array B**	**145.74 315**		PKPbc	PKPdf	03 09 38.4	-0.9
1.0nm,0.7s,baz=41,slow=2.5,SNR=6.7							
MMAI	**Mount Meron Ar**	**147.19 303**		PKPbc	PKPdf	03 09 42.6	+0.8
1.2nm,0.5s,baz=69,slow=4.6,SNR=4.7							
GERES	**GERESS Array B**	**148.17 346**		PKPbc	PKiKP	03 09 47.8	-0.2
0.6nm,0.5s,baz=35,slow=3.6,SNR=3.6							

*IDC **02** 02:55:41.2±2.1, 2°.15N×127°.49E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=191.4km s-min=22.2km az=67.0*
*DJA **02** 02:55:47.0±0.5, 2°.N±4°.×12°.8E±°., h27km±3km, M4.0/8, mb4.3/1, MLv3.9/8*
ISC 02 02:55:46.0±1.1, 2°.47N±0°.09×128°.30E±0°.10, h35km, n8, σ0°99/9, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.92 209**		P	**Pn**	**02 56 16.7**	**+0.4**
TNTI				S	**Sn**	**02 56 39.7**	**+0.5**
SGSI	**Sangihe**	**3.02 294**		P	**Pn**	**02 56 32.1**	**+0.8**
SWI	**Sorong**	**4.44 138**		P	**Pn**	**02 56 51.8**	**+0.9**
FAKI	**Fak Fak**	**6.65 144**		P	**Pn**	**02 57 22.2**	**+0.9**
WRA	**Warramunga Arr**	**23.05 165**		P	**P**	**03 00 47.5**	**-0.9**
1.7nm,0.6s,baz=342,slow=10,SNR=12							
1.7nm,0.6s							
ASAR	**Alice Springs**	**26.54 168**		P	**P**	**03 01 19.4**	**-1.3**
0.4nm,0.6s,baz=352,slow=8.1,SNR=8.0							
0.4nm,0.6s							
MKAR	**Makanchi Array**	**59.48 325**		P	**P**	**03 05 45.3**	**-0.3**
0.2nm,0.4s,baz=115,slow=8.9,SNR=2.7							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**63.64 327**		P	**P**	**03 06 12.8**	**-0.8**
0.2nm,0.4s,baz=133,slow=5.9,SNR=5.0							
0.2nm,0.4s							

*RSPR **02** 03:00:53.8, 19°.15N×67°.27W, h10km±31km, MD2.7/13*
*SDD **02** 03:00:54.1±1.8, 19°.12N×67°.27W, h26km±94km, MD2.4, ML1.6, MW2.3*
ISC 02 03:00:51.3±1.6, 19°.12N±0°.07×67°.29W±0°.04, h16km±10km, n32, σ0°54/38, 15C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.67 165**		⇓*e*P	**Pn**	**03 01 05.8**	**-0.3**
AGPR	**Aguadilla, PR**	**0.67 165**		*e*S	**Sn**	**03 01 16.2**	**0.0**
AGPR	**Aguadilla, PR**	**0.67 165**		⇑*e*Pg	**Pb**	**03 01 05.4**	**+0.8**
AGPR				⇑*e*Sg	**Sn**	**03 01 15.4**	**-0.8**
AGPR				IAML		03 01 24.3	
comp=N,24nm,0.6s							
IDE	**Isla Desecheo**	**0.75 193**		⇑*e*P	**Pn**	**03 01 07.4**	**+0.2**
IDE	**Isla Desecheo**	**0.75 193**		*e*S	**Sn**	**03 01 18.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.92 146**		⇓*e*P	**Pb**	**03 01 09.3**	**+0.4**
AOPR	**Arecibo Observ**	**0.92 146**		*e*S	**Sn**	**03 01 21.9**	**-0.6**
LSP	**Las Mesas**	**0.95 168**		⇑*e*P	**Pn**	**03 01 10.5**	**+0.4**
LSP	**Las Mesas**	**0.95 168**		*e*S	**Sn**	**03 01 22.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.12 171**		⇓*e*P	**Pg**	**03 01 12.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.12 171**		*e*S	**Sg**	**03 01 27.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.12 171**		⇑*e*Pg	**Pg**	**03 01 12.9**	**0.0**
CRPR				⇓*e*Sg	**Sg**	**03 01 27.7**	**+0.2**
CRPR				IAML		03 01 34.1	
comp=N,49nm,1.5s							
MLPR	**Magueyes Islan**	**1.16 168**		⇓*e*P	**Pg**	**03 01 13.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.16 168**		*e*S	**Sg**	**03 01 29.0**	**0.0**
MLPR	**Magueyes Islan**	**1.16 168**		⇑*e*Pg	**Pg**	**03 01 13.6**	**-0.2**
MLPR				⇑*e*Sg	**Sg**	**03 01 28.7**	**-0.3**
MLPR				IAML		03 01 32.9	
comp=N,2.2nm,0.8s							
ECPR	**Experimental S**	**1.18 132**		⇑*e*P	**Pn**	**03 01 13.3**	**+0.1**
ECPR	**Experimental S**	**1.18 132**		*e*S	**Sb**	**03 01 28.5**	**0.0**
CELP	**Cerrillos**	**1.24 147**		⇑*e*P	**Pn**	**03 01 14.3**	**+0.4**
CELP	**Cerrillos**	**1.24 147**		*e*S	**Sg**	**03 01 31.1**	**-0.2**
CELP	**Cerrillos**	**1.24 147**		⇑*e*Pg	**Pb**	**03 01 14.5**	**+0.2**
CELP				⇑*e*Sg	**Sb**	**03 01 29.7**	**-0.3**
CELP				IAML		03 01 35.2	
comp=N,12nm,0.2s							
OBIP	**Obispado Ponce**	**1.25 149**		⇓*e*P	**Pn**	**03 01 14.6**	**+0.5**
OBIP	**Obispado Ponce**	**1.25 149**		*e*S	**Sn**	**03 01 30.9**	**+0.3**
GCPR	**Guaynabo City**	**1.40 125**		⇓*e*P	**Pn**	**03 01 16.1**	**0.0**
GCPR	**Guaynabo City**	**1.40 125**		*e*S	**Sn**	**03 01 33.4**	**-0.9**
IGPR	**InterUniversit**	**1.60 135**		⇑*e*P	**Pn**	**03 01 19.3**	**+0.3**
IGPR	**InterUniversit**	**1.60 135**		*e*S	**Sn**	**03 01 39.7**	**+0.4**
PDPR	**Patillas Dam,**	**1.62 132**		⇑*e*P	**Pn**	**03 01 20.0**	**+0.7**
PDPR	**Patillas Dam,**	**1.62 132**		*e*S	**Sn**	**03 01 39.0**	**-0.9**
MIDR	**Miches**	**1.67 266**		⇓*e*P	**Pg**	**03 01 23.3**	**-0.1**
MIDR	**Miches**	**1.67 266**		*e*S	**Sg**	**03 01 44.3**	**-0.8**
MIDR	**Miches**	**1.67 266**		⇑*e*Pg	**Pg**	**03 01 23.4**	**-0.1**
MIDR				⇑*e*Sg	**Sb**	**03 01 43.0**	**+0.5**
MIDR				IAML		03 01 50.5	
comp=N,3.3nm,1.0s							
MIDR				IAML		03 01 51.3	
comp=N,18nm,2.4s							
HATOM	**Hato Mayor del**	**2.00 261**		⇓*e*Pg	**Pb**	**03 01 28.3**	**+0.9**
HATOM				⇑*e*Sg	**Sb**	**03 01 50.7**	**-1.5**
HATOM				IAML		03 02 00.7	
comp=N,4.3nm,0.7s							

*NEIC **02** 03:23:49.9±1.1, 36°.53N±0°.04×70°.04E±0°.07, h226km±7km, mb4.4/13, Error ellipse: s-maj=9.1km s-min=4.4km az=71.0*
*IDC **02** 03:23:50.7±2.6, 36°.50N×70°.29E, h229km±26km, mb3.5/9, mbtmp4.2/14, Error ellipse: s-maj=23.4km s-min=16.6km az=144.0*
ISC 02 03:23:47.8±0.5, 36°.47N±0°.05×70°.30E±0°.05, h200km, n65, σ2°36/75, mb4.3/13, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.19 208**			**Pn**	**03 24 31.8**	**+3.2**
KBL				Sn	**Sn**	**03 25 02.9**	**+2.8**
CHGR	**Chuyangaron**	**2.36 338**			**Pn**	**03 24 32.6**	**+2.4**
GAR	**Garm**	**2.52 0**			**Pn**	**03 24 35.2**	**+3.2**
DRK	**Karamyk**	**3.23 21**			**Pn**	**03 24 44.4**	**+4.0**
NIL	**Nilore**	**3.71 139**			Pn	03 24 51.4	+5.3
ARSB	**Arslanbob**	**5.27 23**			**Pn**	**03 25 08.1**	**+2.3**
JMU	**Jammu**	**5.33 133**		*e*S	**Sn**	**03 26 07.7**	**-0.7**
JMU				IAML		03 26 14.0	
comp=E,490nm,1.3s							
KSH	**Kashi**	**5.41 54**		Pn	**Pn**	**03 25 06.6**	**-0.9**
KSH				Sn	**Sn**	**03 26 05.2**	**-5.3**
KSH				smax	smax		
comp=N,220nm,0.6s							
KSH				smax	smax		
comp=E,280nm,0.6s							
TSSA	**Tissa**	**6.03 125**		*e*P	**Pn**	**03 25 19.1**	**+3.5**
TSSA				*e*S	**Sn**	**03 26 24.7**	**-0.4**
TSSA				IAML		03 26 28.0	
comp=N,371nm,0.1s							
TSSA				IAML		03 26 28.5	
comp=E,345nm,0.2s							
UCH	**Uchtor**	**6.61 28**		P	**Pn**	**03 25 26.1**	**+2.9**
SNR=52							
KK31	**Karatay Array**	**6.62 1**			**Pn**	**03 25 24.2**	**+1.1**
KK31	**Karatay Array**	**6.62 1**		⇓P	**Pn**	**03 25 24.1**	**+1.1**
comp=E,5.6nm,0.4s,baz=188,slow=14,SNR=104							
KK31				⇑S	**Sn**	**03 26 36.3**	**-2.4**
comp=E,20nm,0.6s,baz=199,slow=24,SNR=6.7							
KKAR	**Karatay Array**	**6.62 1**			**Pn**	**03 25 24.2**	**+1.2**
EKS2	**Erkin-Say**	**6.74 22**		P	**Pn**	**03 25 27.4**	**+2.8**
SNR=31							
HRA	**Herat**	**6.90 255**			**Pn**	**03 25 26.2**	**-0.7**
AAK	**Ala-Archa**	**6.95 26**			**Pn**	**03 25 30.3**	**+2.8**
AAK	**Ala-Archa**	**6.95 26**		P	**Pn**	**03 25 30.6**	**+3.2**
comp=E,15nm,0.3s,baz=179,slow=4.3,SNR=32							
AAK				S	**Sn**	**03 26 47.7**	**+1.1**
comp=E,21nm,0.5s,baz=334,slow=23,SNR=19							
AAK	**Ala-Archa**	**6.95 26**		P	**Pn**	**03 25 30.7**	**+3.2**
SNR=15							
AAK	**Ala-Archa**	**6.95 26**		⇑P	**Pn**	**03 25 30.3**	**+2.8**
comp=E,5.4nm,0.5s							
AAK				⇓S	**Sn**	**03 26 47.9**	**+1.3**
comp=E,39nm,0.8s							
BHK	**Bhakra**	**7.16 133**		IAML		03 26 54.0	
comp=E,297nm,0.7s							
BHK				*e*S	**Sn**	**03 26 55.5**	**+4.1**
ULHL	**Ulahol**	**7.37 37**		P	**Pn**	**03 25 36.0**	**+3.0**
SNR=17							
BOOM	**Boomskoye usch**	**7.42 34**			**Pn**	**03 25 36.5**	**+3.0**
USP	**Ospenovka**	**7.51 24**		P	**Pn**	**03 25 37.6**	**+3.0**
SNR=5.8							
TKM2	**Tokmak 2**	**7.62 31**		P	**Pn**	**03 25 38.9**	**+2.7**
SNR=38							
KDJ	**Kajisay**	**7.76 41**			**Pn**	**03 25 41.1**	**+3.0**
TARG	**Taragay, Kyrgy**	**7.84 46**			**Pn**	**03 25 42.1**	**+2.8**
PRZ	**Przheval'sk**	**8.67 44**			**Pn**	**03 25 53.4**	**+3.6**
UTK	**UTTARKASHI**	**8.88 128**		*e*P	**Pn**	**03 25 55.6**	**+3.0**
UTK				*e*S	**Sn**	**03 27 28.7**	**-3.6**
UTK				IAML		03 27 34.4	
comp=N,91nm,0.4s							
UTK				IAML		03 27 35.2	
comp=E,82nm,0.6s							
DDI	**Dehra Dun**	**8.92 131**		*e*P	**Pn**	**03 25 56.3**	**+3.2**
DDI				*e*S	**Sn**	**03 27 29.4**	**-3.8**
DDI				IAML		03 27 39.3	
comp=N,170nm,0.3s							
DDI				IAML		03 27 40.7	
comp=E,224nm,0.3s							
JOSI	**Joshimath**	**9.72 125**		*e*P	**Pn**	**03 26 07.0**	**+3.4**
JOSI				*e*S	**Sn**	**03 27 49.3**	**-3.1**
JOSI				IAML		03 27 53.2	
comp=E,100nm,0.7s							
AJM	**Ajmer**	**10.63 158**		*e*P	**P**	**03 26 20.2**	**-2.0**
AJM				*e*S	**Sn**	**03 28 08.8**	**-5.2**
AJM				IAML		03 28 55.7	
comp=N,116nm,1.0s							
AJM				IAML		03 28 56.1	
comp=E,97nm,1.0s							
MKAR	**Makanchi Array**	**13.65 37**		P	**P**	**03 26 55.8**	**+0.2**
MKAR	**Makanchi Array**	**13.65 37**		P	**P**	**03 26 55.4**	**-0.1**
comp=E,3.6nm,0.7s,baz=220,slow=11,SNR=20							
MKAR				S	**Sn**	**03 29 27.4**	**+1.9**
comp=E,0.9nm,1.0s,baz=223,slow=23,SNR=1.2							
AB31	**Akbulak array**	**14.84 333**			**Pn**	**03 27 06.9**	**-1.0**
ABKAR	**Akbulak array**	**14.84 333**			**Pn**	**03 27 06.9**	**-1.0**
WMQ	**Urumqi**	**15.17 56**		*e*P	**P**	**03 27 15.9**	**+3.4**
KURBB	**Kurchatov Arra**	**15.33 20**		P	**Pn**	**03 27 14.6**	**+0.7**
comp=E,3.4nm,0.7s,baz=211,slow=11,SNR=18							
KURK	**Kurchatov**	**15.44 20**		P	**P**	**03 27 16.1**	**+0.8**
EVN	**Everest**	**16.34 117**		P	**Pn**	**03 27 28.5**	**+1.7**
AKTO	**Aktyubinsk**	**16.53 331**		P	**P**	**03 27 28.3**	**+1.0**
comp=E,4.8nm,0.3s,baz=144,slow=7.5,SNR=32							
BVAR	**Borovoye Array**	**16.55 0**		P	**Pn**	**03 27 29.2**	**+0.8**
comp=E,5.8nm,0.4s,baz=184,slow=16,SNR=20							
WSAR	**Wadi Sarin**	**16.61 221**		P	**Pn**	**03 27 30.7**	**+1.2**
baz=52,slow=19,SNR=7.3							
ZAA0	**Zalesovo Array**	**20.18 25**			**P**	**03 28 07.7**	**+0.9**
ZAA0				IAmb	IAmb	03 28 11.3	
comp=Z,4.8nm,0.6s							
ZALV	**Zalesovo Beam**	**20.18 25**			**P**	**03 28 07.4**	**+0.6**
ZALV	**Zalesovo Beam**	**20.18 25**		P	**P**	**03 28 07.9**	**+1.1**
comp=Z,5.0nm,0.4s,baz=217,slow=12,SNR=24							
comp=Z,5.0nm,0.4s							
GNI	**Garni**	**20.37 288**		P	**P**	**03 28 09.2**	**0.0**
GNI				IAmb	IAmb	03 28 17.9	
comp=Z,21nm,1.1s							
GNI	**Garni**	**20.37 288**		P	**P**	**03 28 10.5**	**+1.4**
comp=Z,6.4nm,0.5s,baz=83,slow=8.1,SNR=4.6							
comp=Z,6.4nm,0.5s							
ARTI	**Arti**	**21.49 342**		P	**P**	**03 28 20.6**	**+0.1**
ARTI	**Arti**	**21.49 342**		P	**P**	**03 28 21.6**	**+1.1**
comp=Z,3.2nm,0.5s,baz=160,slow=6.1,SNR=4.7							
comp=Z,3.2nm,0.5s							
GEVA	**Gevas**	**21.70 283**		P	**P**	**03 28 21.2**	**-2.0**
GEVA				IAmb	IAmb	03 28 46.3	
comp=Z,12nm,0.9s							
BELG	**Belogornoye**	**22.56 322**		P	**P**	**03 28 31.3**	**+0.4**
comp=Z,5.9nm,0.3s,baz=59,slow=6.9,SNR=6.1							
comp=Z,5.9nm,0.3s							
RAYN	**Ar Rayn**	**24.97 246**		P	**P**	**03 28 52.1**	**-1.1**
RAYN				IAmb	IAmb	03 28 58.1	
comp=Z,3.8nm,0.5s							
LZH	**Lanzhou**	**26.97 81**		*e*P	**P**	**03 29 12.7**	**+1.7**
LZH				sP	sP	03 30 25.4	+8.6
LZH				pmax	pmax		
comp=Z,25nm,0.6s							
HHC	**Hu-ho-hao-te**	**32.30 69**		*e*P	**P**	**03 29 59.2**	**+1.3**
HHC				pmax	pmax		
comp=Z,11nm,0.6s							
HHC				pmax	pmax		
comp=Z,85nm,4.1s							
MANT	**Manisa**	**32.99 286**		P	**P**	**03 30 01.6**	**-2.5**
IDI	**Anoyia**	**36.56 282**		P	**P**	**03 30 32.9**	**-1.5**
IDI				IAmb	IAmb	03 31 06.0	
comp=Z,6.2nm,1.0s							
ARCES	**ARCESS Array B**	**40.96 338**		P	**P**	**03 31 10.8**	**+0.3**
comp=Z,1.8nm,0.8s,baz=114,slow=6.9,SNR=6.6							
comp=Z,1.8nm,0.8s							
NOA	**NORSAR Array B**	**44.06 323**		P	**P**	**03 31 34.9**	**-0.7**
comp=Z,1.1nm,0.9s,baz=98,slow=8.0,SNR=2.2							
comp=Z,1.1nm,0.9s							
SPITS	**Spitsbergen Ar**	**47.39 347**		P	**P**	**03 32 00.6**	**-0.7**
comp=Z,9.2nm,1.0s,baz=81,slow=8.9,SNR=7.9							
comp=Z,9.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**65.16 268**		P	**P**	**03 34 05.6**	**-2.1**
comp=Z,0.5nm,0.7s,baz=46,slow=6.3,SNR=4.5							
comp=Z,0.5nm,0.7s							
J16K	**Anvik River**	**72.65 22**		P	**P**	**03 34 51.8**	**-1.3**
J16K				IAmb	IAmb	03 34 58.1	
comp=Z,16nm,1.4s							
M11K	**Mekoryuk**	**72.98 26**		P	**P**	**03 34 53.8**	**-1.2**
BOSA	**Boshof**	**77.37 220**		P	**P**	**03 35 19.1**	**-1.5**
BOSA				IAmb	IAmb	03 35 44.9	
comp=Z,8.6nm,1.4s							
CHGN	**Chignik**	**78.76 25**		P	**P**	**03 35 27.4**	**-0.3**
ASAR	**Alice Springs**	**84.70 124**		P	**P**	**03 35 59.7**	**+0.3**
comp=Z,0.3nm,0.5s,baz=310,slow=5.0,SNR=1.8							
comp=Z,0.3nm,0.5s							

*NEIC **02** 03:28:21.2±1.3, 19°.52N±0°.09×64°.57W±0°.03, h10km±2km, ML3.3/23, Md3.7/21(RSPR), Error ellipse: s-maj=15.4km s-min=3.0km az=18.0*
*RSPR **02** 03:28:23.8, 19°.72N×64°.68W, h13km±5km, MD3.7/21*
ISC 02 03:28:20.4±2.3, 19°.73N±0°.10×64°.55W±0°.05, h27km±21km, n91, σ1°35/100, 9C-15D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**2.00 218**			**Pn**	**03 28 52.8**	**+0.3**
GCPR	**Guaynabo City**	**2.03 226**			**Pn**	**03 28 52.7**	**-0.1**
GCPR					**Sn**	**03 29 15.8**	**-1.4**
GCPR	**Guaynabo City**	**2.03 226**		⇑*e*P	**Pn**	**03 28 52.7**	**-0.1**
GCPR	**Guaynabo City**	**2.03 226**		*e*S	**Sn**	**03 29 15.8**	**-1.4**
SMRT	**St. Maarten**	**2.18 140**			**Pn**	**03 28 54.8**	**-0.1**
SMRT					**Sn**	**03 29 19.8**	**-1.3**
SMRT	**St. Maarten**	**2.18 140**		IAML		03 29 25.5	
comp=N,530nm,0.2s							
SMRT				IAML		03 29 31.8	
comp=E,462nm,0.2s							
SMRT	**St. Maarten**	**2.18 140**		⇓*e*P	**Pn**	**03 28 54.8**	**-0.1**
SMRT	**St. Maarten**	**2.18 140**		*e*S	**Sn**	**03 29 19.8**	**-1.3**
PDPR	**Patillas Dam,**	**2.20 219**			**Pn**	**03 28 55.4**	**+0.2**
PDPR				IAML		03 29 36.6	
comp=E,140nm,0.5s							
PDPR	**Patillas Dam,**	**2.20 219**		⇓*i*P	**Pn**	**03 28 55.7**	**+0.5**
SJG	**San Juan**	**2.21 223**			**Pn**	**03 28 55.8**	**+0.4**
SJG	**San Juan**	**2.21 223**	IAML			03 29 29.4	
comp=E,142nm,0.4s							
SJG	**San Juan**	**2.21 223**		⇓*e*P	**Pn**	**03 28 55.8**	**+0.4**
SJG	**San Juan**	**2.21 223**		*e*S	**Sn**	**03 29 21.6**	**-0.2**
SJG	**San Juan**	**2.21 223**		*e*P	**Pn**	**03 28 55.7**	**+0.4**
ECPR	**Experimental S**	**2.22 231**		⇓*e*P	**Pn**	**03 28 55.2**	**-0.2**
ECPR	**Experimental S**	**2.22 231**		*e*S	**Sn**	**03 29 21.2**	**-0.7**
EMPR	**Esperanza - Ma**	**2.25 237**			**Sn**	**03 29 21.0**	**-1.7**
EMPR	**Esperanza - Ma**	**2.25 237**	Pn		**Pn**	**03 28 56.8**	**+0.9**
EMPR					**Pn**	**03 28 57.1**	**+1.2**
EMPR	**Esperanza - Ma**	**2.25 237**		⇓*e*P	**Pn**	**03 28 57.0**	**+1.2**
EMPR	**Esperanza - Ma**	**2.25 237**		*e*S	**Sn**	**03 29 21.0**	**-1.7**
IGPR	**InterUniversit**	**2.29 220**			**Pn**	**03 28 56.9**	**+0.5**
IGPR					**Sn**	**03 29 22.8**	**-1.0**
IGPR	**InterUniversit**	**2.29 220**		⇓*i*P	**Pn**	**03 28 56.9**	**+0.5**
IGPR	**InterUniversit**	**2.29 220**		*e*S	**Sn**	**03 29 22.8**	**-1.0**
SABA	**Saba**	**2.44 149**	Pn		**Pn**	**03 28 59.1**	**+0.5**
SABA					**Sn**	**03 29 27.5**	**0.0**
SABA				IAML		03 29 30.6	
comp=N,245nm,0.5s							
SABA	**Saba**	**2.44 149**		⇓*e*P	**Pb**	**03 29 03.4**	**-0.3**
SABA	**Saba**	**2.44 149**		*e*S	**Sn**	**03 29 30.1**	**+2.6**
AOPR	**Arecibo Observ**	**2.50 237**			**Pn**	**03 28 59.6**	**+0.3**
AOPR				IAML		03 29 39.3	
comp=N,363nm,0.3s							
AOPR	**Arecibo Observ**	**2.50 237**		⇑*e*P	**Pn**	**03 29 00.1**	**+0.8**
AOPR	**Arecibo Observ**	**2.50 237**		*e*P	**Pn**	**03 29 00.2**	**+0.8**
UUPR	**Utuado, UPR, P**	**2.53 235**			**Pn**	**03 29 00.1**	**+0.5**
UUPR	**Utuado, UPR, P**	**2.53 235**			**Sn**	**03 29 28.6**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.53 235**			**Pn**	**03 29 00.6**	**+0.9**
UUPR	**Utuado, UPR, P**	**2.53 235**		⇓*e*P	**Pn**	**03 29 00.1**	**+0.5**
UUPR	**Utuado, UPR, P**	**2.53 235**		*e*S	**Sn**	**03 29 28.6**	**-0.9**
CELP	**Cerrillos**	**2.53 230**			**Pn**	**03 29 00.6**	**+0.8**
CELP	**Cerrillos**	**2.53 230**			**Sn**	**03 29 29.1**	**-0.6**
CELP				IAML		03 29 35.1	
comp=E,105nm,0.3s							
CELP	**Cerrillos**	**2.53 230**		⇓*i*P	**Pn**	**03 29 00.6**	**+0.8**
CELP	**Cerrillos**	**2.53 230**		*e*S	**Sn**	**03 29 25.6**	**-

ZAG	**Zagreb**	**0.34**	**356**	*e*Pg	**Pg**	**03 39 39.7**	**+0.5**
OZLJ	**Ozalj**	**0.41**	**289**	*e*Pg	**Pg**	**03 39 40.3**	**-0.1**
OZLJ				*e*Sg	**Sg**	**03 39 45.9**	**0.0**
OZLJ	**Ozalj**	**0.41**	**289**	*i* Pg	**Pg**	**03 39 40.4**	**-0.1**
OZLJ				Sg	**Sg**	**03 39 46.0**	**0.0**
PTJ	**Puntijarka**	**0.42**	**355**	*e*Pg	**Pg**	**03 39 40.7**	**0.0**
GCIS	**Gornji Cirnik**	**0.47**	**324**	⇑*i*Pg	**Pg**	**03 39 41.5**	**-0.2**
GCIS				*i* Sg	**Sg**	**03 39 48.5**	**+0.6**
CRES	**Cresnjevec Ost**	**0.52**	**311**	*i* Pg	**Pg**	**03 39 42.4**	**-0.2**
CRES				*i* Sg	**Sg**	**03 39 49.9**	**+0.4**
CRES				IAML		03 39 53.3	
	comp=Z,112nm,0.1s						
MOSL	**Moslavina**	**0.53**	**76**	⇑*i*Pg	**Pg**	**03 39 42.5**	**-0.2**
MOSL				*e*Sg	**Sg**	**03 39 50.4**	**+0.7**
MOSL	**Moslavina**	**0.53**	**76**	*i* Pg	**Pg**	**03 39 42.5**	**-0.2**
BOJS	**Bojanci**	**0.54**	**272**	⇑*i*Pg	**Pg**	**03 39 42.6**	**-0.4**
BOJS				*i* Sg	**Sg**	**03 39 49.7**	**-0.4**
BOJS				IAML		03 39 51.7	
	comp=Z,32nm,0.1s						
PLIT	**Plitvice**	**0.67**	**205**	*i* Pg	**Pg**	**03 39 44.7**	**-0.7**
PLIT				Sg	**Sg**	**03 39 52.9**	**-1.2**
LOBO	**Lobor**	**0.67**	**3**	*e*Pg	**Pg**	**03 39 45.9**	**+0.5**
LOBO				Sg	**Sb**	**03 39 55.6**	**-0.2**
KALN	**Kalnik**	**0.71**	**25**	*i* Pg	**Pg**	**03 39 46.1**	**-0.1**
KALN				Sg	**Sg**	**03 39 55.9**	**+0.4**
GBRS	**Gornja Briga**	**0.85**	**274**	*i* Pg	**Pg**	**03 39 48.2**	**-0.6**
VISS	**Visnje**	**0.89**	**291**	*i* Pg	**Pg**	**03 39 49.0**	**-0.5**
VISS				*i* Sn	**Sg**	**03 40 01.4**	**+0.3**
UDBI	**Udbina**	**0.97**	**191**	*e*Pg	**Pg**	**03 39 51.1**	**0.0**
UDBI				Sg	**Sg**	**03 40 03.6**	**-0.2**
BLY	**Banja Luka**	**1.10**	**131**	⇑*i*Pg	**Pg**	**03 39 52.3**	**-1.3**
BLY				*e*Sg	**Sg**	**03 40 07.6**	**-0.3**
RABC	**Rab**	**1.15**	**231**	*e*Pg	**Pg**	**03 39 53.5**	**-0.9**
RABC				Sg	**Sg**	**03 40 08.4**	**-0.8**
NVLJ	**Novalja**	**1.23**	**222**	*e*Pg	**Pg**	**03 39 55.3**	**-0.7**
NVLJ				Sg	**Sg**	**03 40 11.4**	**-0.6**
VIRC	**Vir**	**1.38**	**210**	*e*Pg	**Pn**	**03 39 57.7**	**0.0**
VIRC				Sg	**Sb**	**03 40 16.0**	**0.0**
SOKA	**Soboth**	**1.38**	**330**	Pg	**Pn**	**03 39 57.5**	**-0.4**
	comp=Z,1.2nm,0.3s,SNR=19						
SOKA				Sg	**Sg**	**03 40 14.9**	**-1.8**
	comp=Z,8.3nm,0.2s						
OBKA	**Obir**	**1.45**	**315**	*e*Pn	**Pn**	**03 39 59.2**	**+0.3**
	comp=Z,1.3nm,0.3s,SNR=50						
OBKA				Sg	**Sg**	**03 40 19.5**	**+0.4**
	comp=Z,108nm,0.6s						
KIJV	**Kijevo**	**1.50**	**169**	*e*Pg	**Pn**	**03 39 59.4**	**-0.2**
KIJV				*e*Sg	**Sb**	**03 40 20.4**	**+0.7**
KIJV	**Kijevo**	**1.50**	**169**	*i* Pg	**Pb**	**03 40 00.8**	**+0.2**
VOJS	**Vojsko**	**1.59**	**291**	*i* Pg	**Pn**	**03 40 00.7**	**-0.2**
VOJS				*i* Sg	**Sn**	**03 40 20.5**	**-1.2**
TRI	**Trieste**	**1.60**	**279**	*e*Pg	**Pn**	**03 40 01.6**	**+0.7**
TRI				*e*Sg	**Sn**	**03 40 22.0**	**+0.3**
MORI	**Morici**	**1.63**	**188**	*e*Pn	**Pn**	**03 40 02.1**	**+0.8**
DUGI	**Dugi Otok**	**1.64**	**205**	*i* Pn	**Pn**	**03 40 02.3**	**+0.8**
BRJN	**Brijuni**	**1.71**	**251**	*e*Pn	**Pn**	**03 40 02.7**	**+0.4**
BRJN				*e*Sn	**Sn**	**03 40 25.3**	**+1.0**
SABO	**M.te Sabotino**	**1.77**	**287**	*e*Pg	**Pn**	**03 40 03.9**	**+0.6**
SABO				*e*Sg	**Sn**	**03 40 26.2**	**+0.3**
ARSA	**Arzberg**	**1.80**	**349**	*e*Pn	**Pn**	**03 40 03.8**	**+0.1**
	comp=Z,0.4nm,0.1s						
MYKA	**Terra Mystica**	**2.02**	**305**	*e*Pg	**Pb**	**03 40 09.1**	**-0.2**
	comp=Z,4.1nm,0.2s						
RONA	**Rosalia, Austr**	**2.22**	**5**	*e*Pn	**Pn**	**03 40 09.3**	**-0.3**
	comp=Z,5.7nm,0.2s,SNR=25						
CONA	**Conrad Observa**	**2.45**	**357**	*e*Pn	**Pn**	**03 40 12.5**	**-0.1**
	comp=Z,1.5nm,0.1s,SNR=15						
KBA	**Koelnbreinsper**	**2.45**	**312**	Pn	**Pn**	**03 40 13.3**	**+0.5**
	comp=Z,1.0nm,0.3s						
MOA	**Molln**	**2.66**	**334**	*e*Pn	**Pn**	**03 40 16.2**	**+0.8**
	comp=Z,0.7nm,0.3s						
MOA				Sn	**Sn**	**03 40 47.7**	**-0.1**
	comp=Z,3.0nm,0.2s						
ABTA	**Abfaltersbach**	**2.75**	**299**	*e*Pn	**Pn**	**03 40 18.0**	**+1.2**
	comp=Z,0.2nm,0.1s						
STON	**Ston**	**2.88**	**155**	*e*Pn	**Pn**	**03 40 19.1**	**+0.7**
STON				*e*Sn	**Sn**	**03 40 53.8**	**+0.7**
MODS	**Modra-Piesok**	**3.02**	**16**	*e*PN	**Pn**	**03 40 20.2**	**-0.2**
LESA	**Schwarzleotal**	**3.02**	**311**	Pn	**Pn**	**03 40 21.5**	**+1.1**
	comp=Z,0.2nm,0.1s						
LESA				Sn	**Sn**	**03 40 58.3**	**+1.5**
	comp=Z,4.9nm,0.5s						
RUDO	**Rudo**	**3.03**	**127**	*e*Pn	**Pn**	**03 40 21.4**	**+0.8**
RUDO				*e*Sn	**Sn**	**03 40 57.3**	**+0.2**
TREB	**Trebinje**	**3.23**	**148**	*e*Sn	**Sn**	**03 41 02.7**	**+0.7**
KRUC	**Moravsky**	**3.59**	**4**	*e*PN	**Pn**	**03 40 27.8**	**-0.4**
VRAC	**Vranov**	**3.84**	**6**	*e*PN	**Pn**	**03 40 31.3**	**-0.5**
FETA	**Feichten**	**3.98**	**295**	*e*Pn	**Pn**	**03 40 37.1**	**+3.3**
	comp=Z,0.2nm,0.3s						
KHC	**Kasperske Hory**	**4.01**	**336**	*e*PN	**Pn**	**03 40 33.8**	**-0.2**
KHC				*e*SN	**Sn**	**03 41 19.3**	**-1.9**
ZVC	**Zvikov**	**4.15**	**343**	*e*PN	**Pn**	**03 40 36.2**	**+0.3**
ZVC				*e*SN	**Sn**	**03 41 21.4**	**-3.1**

CATAC 02 03:57:27.0±0.4, 12°N±3°×8°8W±°, h25km, M3.7/24, MLv3.7/24, 12C-4D, Error ellipse: s-maj=7.8km s-min=3.4km az=30.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.10**	**58**	⇑P	Pn	03 57 46.7	-0.2
PKGN	**Cerro Pekin**	**1.20**	**28**	⇑P	Pn	03 57 48.1	-0.1
CNGA	**Al SSO del Vol**	**1.21**	**43**	⇑P	Pn	03 57 48.2	-0.2
CNGA				S	Sn	03 58 04.3	+0.2
CNGN	**Cerro Negro**	**1.22**	**43**	⇑P	Pn	03 57 48.2	-0.3
PLRN	**Geotermica Pol**	**1.24**	**38**	⇓P	Pn	03 57 47.7	-1.1
PLRN				S	Sn	03 58 04.4	-0.3
POLN	**Al Sur del Vol**	**1.26**	**35**	⇑P	Pn	03 57 48.2	-1.0
CRUN	**El Crucero**	**1.28**	**73**	P	Pn	03 57 49.9	+0.5
UNAN	**Cigeo UNAN**	**1.35**	**68**	⇑P	Pn	03 57 49.9	-0.4
TISN	**Laguna Tiscapa**	**1.36**	**67**	⇑P	Pn	03 57 50.1	-0.4
MGAN	**Managua**	**1.38**	**67**	P	Pn	03 57 50.6	-0.1
MGAN	**Managua**	**1.38**	**67**	S	Sb	03 58 08.9	-0.6
POTN	**Potosi Cosigui**	**1.39**	**2**	⇑P	Pn	03 57 50.7	-0.1
MAS3	**Al N del Volca**	**1.41**	**73**	⇓P	Pn	03 57 50.6	-0.5
NANN	**Nandasmo**	**1.44**	**76**	⇑P	Pn	03 57 52.0	+0.5
WILN	**Americas 2**	**1.44**	**67**	P	Pn	03 57 51.1	-0.5
WILN				S	Sb	03 58 11.4	+0.3
CNCH	**Conchagua**	**1.69**	**350**	S	Sb	03 58 17.3	-1.0
CNCH	**Conchagua**	**1.69**	**350**	⇑P	Pn	03 57 54.9	-0.1
MORN	**Al O del Volca**	**1.86**	**92**	P	Pb	03 57 59.1	-1.3
CONN	**Concepcion**	**1.88**	**91**	P	Pb	03 57 59.5	-1.3
OMEN	**Al SSO del Vol**	**1.89**	**93**	P	Pn	03 57 57.3	-0.4
PACA	**Pacayal**	**2.00**	**338**	⇓P	Pn	03 57 58.6	-0.8
PACA	**Pacayal**	**2.00**	**338**	S	Sn	03 58 25.1	+1.3
CARN	**Rivas**	**2.03**	**102**	P	Pn	03 58 00.4	+0.8
CARN				S	Sn	03 58 23.6	-0.6
MATN	**Matagalpa**	**2.06**	**50**	⇑P	Pn	03 57 58.8	-1.4
TECO	**Alcaldia de Te**	**2.27**	**328**	P	Pn	03 58 02.9	-0.1
ACON	**Acoyapa**	**2.35**	**81**	P	Pn	03 58 04.1	0.0
RCVN	**Varilla2**	**2.37**	**34**	P	Pn	03 58 04.7	+0.2
RCPN	**Sur Rio San Ju**	**2.38**	**36**	P	Pn	03 58 05.4	+0.8
SCLA	**Alcaldia de Sa**	**2.38**	**331**	⇓P	Pn	03 58 05.2	+0.6
YUSH	**Yuscaran**	**2.43**	**16**	⇑P	Pn	03 58 05.9	+0.6
NUBE	**Las Nubes**	**3.16**	**317**	P	Pn	03 58 15.4	+0.2
NUBE	**Las Nubes**	**3.16**	**317**	S	Sn	03 58 50.5	-1.7

*SFS **02** 03:59:04.6, 37.°00N×4.°04W, h0km, ML3.2/13, ML3.1/13, MLv3.1/13*
*IGIL **02** 03:59:04.1, 36.°99N×4.°05W, h1km*
*MDD **02** 03:59:05.1±0.2, 36.°99N×4.°05W, h0km, mb_Lg3.0/23, Error ellipse: s-maj=2.3km s-min=1.5km az=0.0*
*INMG **02** 03:59:05.3±1.8, 36.°95N×3.°98W, h20km±3km, ML2.7, Error ellipse: s-maj=3.1km s-min=3.1km az=39.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Granada (ESP)*
*CNRM **02** 03:59:06.2, 36.°86N×4.°11W, h53km, ML2.8*

ISC 02 03:59:03.1±0.9, 36.°97N±0.°02×4.°05W±0.°01, h11km±6km, n91, σ1°63/185, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.15**	**343**	Sg	**Sg**	**03 59 08.6**	**-0.5**
EGOR				Pg	**Pg**	**03 59 06.3**	**-0.3**
EGOR	**Sierra Gorda,**	**0.15**	**343**	Pg	**Pg**	**03 59 06.4**	**-0.2**
EGOR				Sg	**Sg**	**03 59 08.5**	**-0.6**
EGOR				*i* IVmb_Lg		03 59 09.6	
ELGU	**Los Guajares,**	**0.36**	**106**	Sg	**Sg**	**03 59 16.0**	**+1.0**
ELGU				Pg	**Pg**	**03 59 10.1**	**-0.1**
ELGU	**Los Guajares,**	**0.36**	**106**	Pg	**Pg**	**03 59 10.4**	**+0.2**
ELGU				Sg	**Sg**	**03 59 16.0**	**+1.0**
ELGU				*i* IVmb_Lg		03 59 17.8	
EMAL	**Malaga-Limoner**	**0.36**	**236**	Pg	**Pg**	**03 59 11.0**	**+0.7**
EMAL				Sg	**Sb**	**03 59 17.6**	**+0.3**
EQTA	**Presa de Quent**	**0.54**	**64**	Pg	**Pg**	**03 59 13.1**	**-0.6**
EQTA				Sg	**Sb**	**03 59 21.8**	**-0.8**
EQUE	**Quentar**	**0.55**	**64**	Pg	**Pg**	**03 59 13.3**	**-0.4**
EQUE				Sg	**Sg**	**03 59 21.6**	**+0.7**
EQUE				*i* IVmb_Lg		03 59 23.7	
E0803	**Jimena (Jaen)**	**0.98**	**28**	Pg	**Pb**	**03 59 22.5**	**+0.3**
E0803				Sg	**Sb**	**03 59 36.0**	**+0.8**
EQES	**Quesada**	**1.14**	**43**	Pg	**Pn**	**03 59 25.6**	**+0.4**
EQES				Sg	**Sn**	**03 59 43.0**	**+2.0**
E0802	**Ubeda,Jaen**	**1.19**	**27**	Pg	**Pg**	**03 59 26.2**	**+0.3**
E0802				Sg	**Sn**	**03 59 43.8**	**+1.9**
EADA	**Adamuz**	**1.27**	**341**	Pg	**Pn**	**03 59 26.8**	**-0.1**
EADA				Sn	**Sg**	**03 59 43.8**	**-0.2**
EADA	**Adamuz**	**1.27**	**341**	Pg	**Pb**	**03 59 27.2**	**+0.1**
EADA				Sg	**Sn**	**03 59 44.5**	**+0.6**
EADA				*i* IVmb_Lg		03 59 46.6	
ESPR	**Espera**	**1.45**	**267**	Pn	**Pg**	**03 59 32.4**	**+1.5**
ESPR	**Espera**	**1.45**	**267**	Pn	**Pg**	**03 59 33.6**	**+2.7**
ESPR				Sn	**Sg**	**03 59 55.8**	**+6.1**
ESPR				*i* IVmb_Lg		04 00 02.7	
ENIJ	**Nijar**	**1.48**	**89**	Pn	**Pb**	**03 59 30.9**	**+0.2**
ENIJ				Sn	**Sg**	**03 59 50.6**	**-0.1**
ENIJ	**Nijar**	**1.48**	**89**	Pn	**Pb**	**03 59 30.6**	**0.0**
ENIJ				Sn	**Sg**	**03 59 52.2**	**+1.6**
ENIJ				*i* IVmb_Lg		03 59 57.3	
ECAB	**El Cabril**	**1.55**	**316**	Pn	**Pn**	**03 59 30.7**	**0.0**
ECAB				Sn	**Sg**	**03 59 53.2**	**+0.9**
ECAB	**El Cabril**	**1.55**	**316**	Pn	**Pn**	**03 59 30.8**	**+0.1**
ECAB				Pg	**Pg**	**03 59 33.7**	**+0.9**
ECAB				Sn	**Sn**	**03 59 51.2**	**+0.3**
ECAB				Sg	**Sg**	**03 59 55.4**	**+2.5**
ECAB				*i* IVmb_Lg		03 59 55.9	
SMIR	**Smir Dam**	**1.67**	**220**	P	**Pn**	**03 59 31.6**	**-0.7**
SMIR	**Smir Dam**	**1.67**	**220**	S	**Sn**	**03 59 52.4**	**-1.4**
PALE	**Palemas**	**1.75**	**177**	P	**Pn**	**03 59 33.0**	**-0.4**
PALE	**Palemas**	**1.75**	**177**	S	**Sn**	**03 59 53.8**	**-1.9**
PSIM	**Granatula de C**	**1.86**	**7**	Pn	**Pn**	**03 59 35.7**	**+0.6**
PSIM				Sn	**Sn**	**03 59 59.4**	**+0.7**
GOG	**Mont Gurugu**	**1.94**	**153**	P	**Pn**	**03 59 36.0**	**-0.2**
GOG	**Mont Gurugu**	**1.94**	**153**	S	**Sn**	**03 59 58.7**	**-1.9**
EMIN	**Mina Concepcio**	**2.23**	**292**	Pn	**Pn**	**03 59 40.5**	**+0.5**
EMIN				Sn	**Sb**	**04 00 11.4**	**+0.2**
EMIN	**Mina Concepcio**	**2.23**	**292**	Pn	**Pn**	**03 59 40.9**	**+0.8**
EMIN				Sn	**Sb**	**04 00 11.7**	**+0.6**
AKLM	**AKL**	**2.46**	**176**	P	**Pn**	**03 59 41.6**	**-1.6**
AKLM	**AKL**	**2.46**	**176**	S	**Sn**	**04 00 08.3**	**-5.0**
CART	**Cartagena**	**2.51**	**75**	Pn	**Pn**	**03 59 45.5**	**+1.7**
CART				Sn	**Sn**	**04 00 14.9**	**+0.4**
CART	**Cartagena**	**2.51**	**75**	P	**Pn**	**03 59 45.2**	**+1.3**
CART	**Cartagena**	**2.51**	**75**	S	**Sn**	**04 00 16.4**	**+1.9**
TAF	**Taforalt**	**2.53**	**148**	P	**Pn**	**03 59 44.1**	**-0.1**
TAF	**Taforalt**	**2.53**	**148**	S	**Sn**	**04 00 13.3**	**-1.7**
PAB	**San Pablo**	**2.58**	**355**	Pn	**Pn**	**03 59 45.6**	**+0.6**
PAB				Sn	**Sn**	**04 00 18.9**	**+2.4**
PAB				*i* IVmb_Lg		04 00 30.2	
ETOB	**Tobarra**	**2.60**	**49**	Pn	**Pn**	**03 59 46.2**	**+1.1**
ETOB				Sn	**Sn**	**04 00 19.2**	**+2.4**
ETOB	**Tobarra**	**2.60**	**49**	Pn	**Pn**	**03 59 46.2**	**+1.1**
ETOB				Pg	**Pg**	**03 59 54.0**	**+1.1**
ETOB				Sn	**Sn**	**04 00 16.5**	**-0.3**
ETOB				Sg	**Sg**	**04 00 28.6**	**+2.1**
ETOB				*i* IVmb_Lg		04 00 31.4	
PBAR	**Barrancos**	**2.66**	**298**	Pn	**Pn**	**03 59 46.5**	**+0.5**
PBAR				Sn	**Sn**	**04 00 19.6**	**+1.4**
PBAR	**Barrancos**	**2.66**	**298**	*e*Pn	**Pn**	**03 59 46.8**	**+0.9**
PBAR				*e*Pg	**Pg**	**03 59 53.6**	**-0.4**
PBAR				*e*Sg	**Sg**	**04 00 29.2**	**+0.6**
PBAR				*i* IAML		04 00 32.7	
PBAR				*i* IAML		04 00 35.5	
PBAR				*i* IAML		04 00 37.7	
EGRO	**El Granado**	**2.79**	**283**	Pn	**Pn**	**03 59 48.6**	**+0.8**
EGRO				Sn	**Sn**	**04 00 23.1**	**+1.7**
EGRO	**El Granado**	**2.79**	**283**	Pn	**Pn**	**03 59 48.5**	**+0.8**
EGRO				Sn	**Sn**	**04 00 23.6**	**+2.1**
EGRO				*i* IVmb_Lg		04 00 38.7	
JBK	**JBK**	**2.89**	**155**	P	**Pn**	**03 59 48.9**	**-0.4**
JBK	**JBK**	**2.89**	**155**	S	**Sn**	**04 00 22.1**	**-2.1**
EBAD	**Badajoz**	**2.94**	**308**	Pn	**Pn**	**03 59 50.0**	**+0.2**
EBAD				Sn	**Sn**	**04 00 25.2**	**0.0**
EBAD	**Badajoz**	**2.94**	**308**	Pn	**Pn**	**03 59 50.1**	**+0.2**
EBAD				Pg	**Pg**	**03 59 58.4**	**-1.1**
EBAD				Sn	**Sn**	**04 00 24.6**	**-0.6**
EBAD				Sg	**Sg**	**04 00 38.8**	**+1.1**
EBAD				*i* IVmb_Lg		04 00 44.4	
PVAQ	**Vaqueiros**	**2.96**	**280**	*e*Pn	**Pn**	**03 59 50.7**	**+0.7**
PVAQ				*e*Sn	**Sn**	**04 00 25.5**	**0.0**
PVAQ				*i* IAML		04 00 33.2	
PVAQ				*i* IAML		04 00 49.7	
PVAQ				*i* IAML		04 00 54.5	
PVAQ	**Vaqueiros**	**2.96**	**280**	P	**Pn**	**03 59 50.1**	**+0.1**
PVAQ	**Vaqueiros**	**2.96**	**280**	S	**Sn**	**04 00 24.4**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.11**	**276**	*e*Pn	**Pn**	**03 59 53.5**	**+1.3**
PBDV				*e*Sn	**Sn**	**04 00 32.0**	**+2.6**
PBDV				*e*Sg	**Sg**	**04 00 45.8**	**+2.7**
PBDV				*i* IAML		04 00 46.3	
PBDV				*i* IAML		04 00 54.6	
PBDV				*i* IAML		04 00 58.5	
PBEJ	**Beja**	**3.21**	**290**	*e*Pn	**Pn**	**03 59 56.5**	**+3.0**
PBEJ				*e*Sn	**Sn**	**04 00 32.6**	**+0.9**
PBEJ				*e*Sg	**Sg**	**04 00 46.3**	**+0.1**
PBEJ				*i* IAML		04 00 48.4	
PBEJ				*i* IAML		04 00 54.4	
PBEJ				*i* IAML		04 00 54.7	
PCVE	**Castro Verde**	**3.25**	**283**	*e*Pn	**Pn**	**03 59 56.1**	**+2.1**
PCVE				*e*Pg	**Pg**	**04 00 05.7**	**+0.5**
PCVE				*e*Sn	**Sb**	**04 00 36.7**	**-3.6**
PCVE				*e*Sg	**Sg**	**04 00 50.9**	**+3.5**
PCVE				*i* IAML		04 00 51.7	
PCVE				*i* IAML		04 00 53.0	
PCVE				*i* IAML		04 01 01.6	
EVIV	**Cofrentes, Val**	**3.26**	**44**	Pn	**Pn**	**03 59 54.6**	**+0.4**
EVIV				Pg	**Pg**	**04 00 04.9**	**-0.6**
EVIV				Sn	**Sn**	**04 00 32.8**	**-0.3**
EVIV				Sg	**Sg**	**04 00 49.2**	**+1.4**
EVIV				*i* IVmb_Lg		04 00 55.1	
LCRM	**LCR**	**3.34**	**192**	P	**Pn**	**03 59 56.4**	**+1.0**
LCRM	**LCR**	**3.34**	**192**	S	**Sn**	**04 00 35.8**	**+0.6**
PESTR	**Estremoz**	**3.38**	**305**	Pn	**Pn**	**03 59 56.1**	**+0.3**
PESTR				Sn	**Sn**	**04 00 36.4**	**+0.5**
PESTR	**Estremoz**	**3.38**	**305**	*e*Pn	**Pn**	**03 59 56.4**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 00 35.7**	**-0.2**
PESTR				*e*Sg	**Sg**	**04 00 50.2**	**-1.4**
MESJ	**Messejana**	**3.43**	**286**	*e*P	**Pn**	**03 59 56.8**	**+0.3**
MESJ	**Messejana**	**3.43**	**286**	*e*Pn	**Pn**	**03 59 58.5**	**+2.0**
MESJ				*e*Sn	**Sn**	**04 00 39.5**	**+2.3**
MESJ				*i* IAML		04 00 59.8	
MESJ				*i* IAML		04 01 00.1	
MESJ				*i* IAML		04 01 02.0	
EPLA	**Plasencia**	**3.48**	**333**	Pn	**Pn**	**03 59 59.0**	**+1.8**
EPLA				Sn	**Sn**	**04 00 38.0**	**-0.3**
EPLA				Sg	**Sg**	**04 00 54.4**	**-0.4**
EPLA				*i* IVmb_Lg		04 00 56.1	
EBEN2	**Beniarda presa**	**3.50**	**60**	Pn	**Pn**	**03 59 58.8**	**+1.3**
EBEN2				Sn	**Sn**	**04 00 38.6**	**-0.4**
EVO	**Evora**	**3.50**	**298**	*e*Pn	**Pn**	**03 59 58.3**	**+0.8**
EVO				*e*Sn	**Sn**	**04 00 40.7**	**+1.7**
EVO				*e*Sg	**Sg**	**04 00 58.3**	**+2.7**
EVO				*i* IAML		04 00 59.1	
EVO				*i* IAML		04 00 59.9	
EVO				*i* IAML		04 01 05.4	
ECHE	**Chera**	**3.57**	**42**	Pn	**Pn**	**03 59 59.7**	**+1.2**
ECHE				Sn	**Sn**	**04 00 40.1**	**-0.6**
ECHE	**Chera**	**3.57**	**42**	Pn	**Pn**	**03 59 59.5**	**+1.0**
ECHE				Sn	**Sn**	**04 00 40.2**	**-0.6**
PMRV	**Marv??o**	**3.60**	**314**	*e*Pn	**Pn**	**04 00 00.4**	**+1.6**
PMRV				*e*Sn	**Sn**	**04 00 38.1**	**-3.2**
PMRV				*e*Sg	**Sg**	**04 00 58.9**	**+0.3**
PMRV				*i* IAML		04 01 01.4	
PMRV				*i* IAML		04 01 02.4	
PMRV				*i* IAML		04 01 02.5	
GUD	**Guadarrama**	**3.67**	**359**	Pn	**Pn**	**04 00 00.6**	**+0.7**
GUD				Pg	**Pg**	**04 00 11.4**	**-2.0**
GUD				Sn	**Sn**	**04 00 43.7**	**+0.3**
GUD				Sg	**Sg**	**04 01 00.1**	**-0.9**
GUD				*i* IVmb_Lg		04 01 02.8	
MORF	**Marmelete**	**3.69**	**277**	*e*Sn	**Sn**	**04 00 40.5**	**-3.1**
PTEO	**Sao Teotonio**	**3.77**	**280**	*e*Pn	**Pn**	**04 00 02.1**	**+0.9**
PTEO				*e*Sn	**Sn**	**04 00 47.1**	**+1.6**
PTEO				*i* IAML		04 01 13.6	
PTEO				*i* IAML		04 01 20.2	
PTEO				*i* IAML		04 01 23.9	
PFVI	**Vila Bisbo**	**3.82**	**274**	P	**Pn**	**04 00 02.2**	**+0.3**
PFVI	**Vila Bisbo**	**3.82**	**274**	S	**Sn**	**04 00 45.7**	**-1.1**
PMTG	**Montargil**	**3.91**	**304**	*e*Pn	**Pn**	**04 00 04.3**	**+1.3**
PMTG				*e*Sn	**Sn**	**04 00 48.4**	**-0.5**
PMTG				*e*Sg	**Sg**	**04 01 07.0**	**-1.5**
PMTG				*i* IAML		04 01 12.5	
PMTG				*i* IAML		04 01 15.4	
PMTG				*i* IAML		04 01 15.8	
PCBR	**Castelo Branco**	**3.93**	**318**	*e*Pn	**Pn**	**04 00 05.1**	**+1.7**
PCBR				*e*Sn	**Sn**	**04 00 49.1**	**-0.4**
PCBR				*e*Sg	**Sg**	**04 01 06.8**	**-2.5**
PCBR				*i* IAML		04 01 14.1	
PCBR				*i* IAML		04 01 14.2	
PCBR				*i* IAML		04 01 15.1	
MD31	**MD31**	**4.13**	**188**	P	**Pn**	**04 00 06.1**	**-0.2**
MD31	**MD31**	**4.13**	**188**	S	**Sn**	**04 00 52.2**	**-2.5**
ETOR	**Torete**	**4.15**	**21**	Pn	**Pn**	**04 00 06.8**	**+0.3**
ETOR				Sn	**Sn**	**04 00 55.7**	**+0.6**
ETOR				*i* IVmb_Lg		04 01 15.2	
PSARD	**Sardoal**	**4.17**	**310**	*e*Pn	**Pn**	**04 00 07.8**	**+1.2**
PSARD				*e*Sn	**Sn**	**04 00 54.5**	**-0.9**
PSARD				*e*Sg	**Sg**	**04 01 15.3**	**-1.5**
PSARD				*i* IAML		04 01 19.1	
PSARD				*i* IAML		04 01 19.4	
PSARD				*i* IAML		04 01 26.5	
PARRA	**Arraiolos**	**4.35**	**297**	*e*Pn	Pn	04 00 01.1	-8.2
PARRA				*e*Sn	Sn	04 00 42.0	-18
PARRA				*e*Sg	**Sn**	**04 00 59.8**	**-0.2**
PARRA				*i* IAML		04 01 05.5	
PARRA				*i* IAML		04 01 06.6	
PARRA				*i* IAML		04 01 08.5	
MTE	**Manteigas**	**4.38**	**323**	*e*Pn	**Pn**	**04 00 11.0**	**+1.3**
MTE				*e*Sn	**Sn**	**04 01 01.4**	**+0.6**
MTE				*e*Sg	**Sg**	**04 01 19.4**	**-4.3**
MTE				*i* IAML		04 01 28.8	
MTE				*i* IAML		04 01 29.9	
MTE				*i* IAML		04 01 36.3	
PSBE	**So Bento**	**4.52**	**306**	*e*Sn	**Sn**	**04 01 03.2**	**-0.8**
PSBE				*e*Sg	**Sg**	**04 01 27.2**	**-0.9**
PSBE				*i* IAML		04 01 35.8	
PSBE				*i* IAML		04 01 36.8	
PSBE				*i* IAML		04 01 41.4	
PMAFR	**Mafra**	**4.58**	**297**	*e*Pn	**Pn**	**04 00 13.6**	**+1.2**
PMAFR				*e*Sn	**Sn**	**04 01 05.7**	**+0.1**
PMAFR				*e*Sg	**Sg**	**04 01 26.1**	**-4.2**
PMAFR				*i* IAML		04 01 35.6	
PMAFR				*i* IAML		04 01 41.8	
PMAFR				*i* IAML		04 01 47.4	
PCAS	**Casmilo, Conde**	**4.65**	**313**	*e*Pn	**Pn**	**04 00 14.6**	**+1.3**
PCAS				*e*Sn	**Sn**	**04

QRZ	Quartz Range	25.60	202	P	P	04 10 24.2	-1.7
TUWZ	Tuamarina	25.66	200	P	P	04 10 26.4	+0.1
STKA	Stephens Creek	41.71	242	P	P	04 12 43.0	-1.0
	3.2nm,0.8s,baz=90,slow=11,SNR=7.5						
	3.2nm,0.8s						
WRA	Warramunga Arr	47.95	259	P	P	04 13 31.1	-2.3
	2.8nm,0.6s,baz=97,slow=6.7,SNR=22						
	2.8nm,0.6s						
ASAR	Alice Springs	48.08	254	P	P	04 13 32.2	-2.0
	7.1nm,0.5s,baz=89,slow=8.2,SNR=120						
	7.1nm,0.5s						
FITZ	Fitzroy Crossi	56.35	260	P	P	04 14 34.6	-0.4
	2.9nm,0.5s,baz=100,slow=7.2,SNR=20						
	2.9nm,0.5s						
VNDA	Vanda	61.11	186	P	P	04 15 06.3	-0.3
	0.7nm,0.7s,baz=33,slow=6.8,SNR=3.7						
	0.7nm,0.7s						
MJAR	Matsushiro Arr	69.64	321	P	P	04 16 01.9	+0.1
	2.8nm,0.8s,baz=158,slow=6.6,SNR=6.4						
	2.8nm,0.8s						
QSPA	South Pole Qui	72.52	180	P	P	04 16 19.9	+1.2
	3.5nm,0.9s,baz=51,slow=0.6,SNR=18						
	3.5nm,0.9s						
PETK	Petropavlovsk-	74.22	343	P	P	04 16 29.0	+0.5
	2.5nm,0.7s,baz=109,slow=9.8,SNR=6.0						
	2.5nm,0.7s						
KSRS	Korea Array	76.67	317	P	P	04 16 43.8	+1.1
	2.8nm,0.9s,baz=138,slow=6.0,SNR=7.0						
	2.8nm,0.9s						
NVAR	Mina Array Bea	76.89	42	P	P	04 16 45.2	+1.0
	0.5nm,0.7s,baz=217,slow=7.8,SNR=4.1						
	0.5nm,0.7s						
TXAR	Lajitas Array	83.02	56	P	P	04 17 18.6	+1.6
	0.5nm,0.8s,baz=214,slow=6.6,SNR=6.1						
	0.5nm,0.8s						
ILAR	Eielson Array	84.82	12	P	P	04 17 25.2	+0.1
	1.4nm,0.6s,baz=224,slow=5.8,SNR=28						
	1.4nm,0.6s						
PDAR	Pinedale Array	84.83	42	P	P	04 17 27.1	+1.0
	0.2nm,0.6s,baz=231,slow=5.1,SNR=2.4						
	0.2nm,0.6s						
H03S2	Juan Fernandez	85.25	124	T	T	05 50 35.2	
	baz=249,slow=75,SNR=5.0						
H03S1	Juan Fernandez	85.26	124	T	T	05 50 36.7	
	baz=249,slow=75,SNR=3.3						
H03S3	Juan Fernandez	85.26	124	T	T	05 50 39.5	
	baz=249,slow=75,SNR=4.9						
H03N2	Juan Fernandez	85.36	123	T	T	05 50 37.9	
	baz=257,slow=71,SNR=4.7						
H03N3	Juan Fernandez	85.36	123	T	T	05 50 41.6	
	baz=257,slow=71,SNR=4.1						
H03N1	Juan Fernandez	85.38	123	T	T	05 50 42.7	
	baz=257,slow=71,SNR=5.7						
BRTR	Keskin Array B	146.81	318	PKPbc	PKPbc	04 24 32.4	+0.1
	1.2nm,0.8s,baz=45,slow=2.2,SNR=6.2						

GCG 02 04:05:54.1±0.9, 13°.76N×90°.46W, h53km±19km, MD3.6, ML3.4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	Yepocapa, Chim	0.50	349	eP	Pn	04 06 10.1	+4.3
FG16	Alotenango, Sa	0.51	354	iP	Pn	04 06 09.9	+4.0
FG16				iS	Sn	04 06 20.8	+6.4
FG16				IAML		04 06 27.4	
	comp=N,3μm,0.2s						
NUBE	Las Nubes	0.68	78	eP	Pn	04 06 08.3	+0.5
NUBE				iS	Sn	04 06 19.6	+1.8
ESSG	Sabana Grande	0.71	330	eP	Pn	04 06 08.5	+0.2
ESSG				eS	Sn	04 06 19.7	+1.2
ESSG				IAML		04 06 20.8	
	comp=N,622nm,0.1s						
JAYA	Jayaque - finc	0.99	96	eP	Pn	04 06 11.7	-0.2
JAYA				eS	Sn	04 06 24.8	-0.2
MTO3	Montecristo	1.24	59	iP	Pn	04 06 15.8	+0.5

*SDD **02** 04:08:16.4±2.1, 18°.95N×66°.93W, h136km±22km, MD2.7, ML2.0, MW2.5*
*RSPR **02** 04:08:19.8, 19°.17N×67°.26W, h10km±31km, MD3.2/9*
ISC 02 04:08:18.5±1.6, 19°.19N±0°.08×67°.11W±0°.05, h29km, n30, σ1§61/36, 20C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.72	180⇑	eP	Pn	04 08 32.2	-0.5
AGPR	Aguadilla, PR	0.72	180	eS	Sb	04 08 42.3	+0.2
AGPR	Aguadilla, PR	0.72	180⇑	ePg	Pn	04 08 34.3	+1.5
AGPR			⇑	eSg	Sn	04 08 50.2	+7.4
AGPR				IAML		04 09 07.1	
	comp=N,127nm,0.1s						
IDE	Isla Desecheo	0.87	204⇓	eP	Pn	04 08 34.1	-0.8
IDE	Isla Desecheo	0.87	204	eS	Sn	04 08 45.4	-1.2
AOPR	Arecibo Observ	0.90	158⇑	eP	Pb	04 08 35.7	0.0
UUPR	Utuado, UPR, P	1.00	159⇑	eP	Pb	04 08 36.6	-0.7
UUPR	Utuado, UPR, P	1.00	159	eS	Sb	04 08 50.6	+0.5
LSP	Las Mesas	1.01	179	eS	Sn	04 08 49.8	-0.2
ECPR	Experimental S	1.12	141⇑	eP	Pb	04 08 39.5	+0.3
ECPR	Experimental S	1.12	141	eS	Sb	04 08 55.2	+1.8
CRPR	Cabo Rojo, PR	1.18	180⇓	eP	Pb	04 08 39.2	-1.0
CRPR	Cabo Rojo, PR	1.18	180	eS	Sn	04 08 54.4	+0.3
CRPR	Cabo Rojo, PR	1.18	180⇑	ePg	Pn	04 08 38.6	-0.4
CRPR			⇑	ePg	Pb	04 08 38.8	-1.5
CRPR				IAML		04 09 01.8	
	comp=N,12nm,0.7s						
MLPR	Magueyes Islan	1.22	177⇓	eP	Pn	04 08 39.8	+0.2
MLPR	Magueyes Islan	1.22	177	eS	Sn	04 08 54.4	-0.7
MLPR	Magueyes Islan	1.22	177⇑	ePg	Pn	04 08 38.5	-1.0
MLPR			⇑	iSg	Sn	04 08 54.6	-0.5
MLPR				IAML		04 09 10.9	
	comp=N,10nm,2.0s						
CELP	Cerrillos	1.22	156⇑	eP	Pb	04 08 40.9	0.0
CELP	Cerrillos	1.22	156	eS	Sb	04 08 55.5	-0.8
CELP	Cerrillos	1.22	156⇑	ePg	Pn	04 08 39.4	-0.2
CELP			⇑	eSg	Sn	04 08 53.3	-1.8
CELP				IAML		04 09 02.4	
	comp=N,18nm,0.2s						
OBIP	Obispado Ponce	1.24	157⇓	eP	Pb	04 08 41.0	-0.3
OBIP	Obispado Ponce	1.24	157	eS	Sb	04 08 57.6	+0.8
GCPR	Guaynabo City	1.31	132⇑	eP	Pb	04 08 41.5	-0.9
GCPR	Guaynabo City	1.31	132	eS	Sb	04 08 57.5	-1.3
IGPR	InterUniversit	1.54	142⇑	eP	Pb	04 08 45.8	-0.7
IGPR	InterUniversit	1.54	142	eS	Sb	04 09 06.0	+0.3
PDPR	Patillas Dam,	1.56	138⇑	eP	Pb	04 08 46.0	-0.7
PDPR	Patillas Dam,	1.56	138	eS	Sb	04 09 05.8	-0.1
MIDR	Miches	1.85	264⇑	ePg	Pn	04 08 49.0	+0.7
MIDR			⇑	eSg	Sb	04 09 12.8	-1.6
MIDR				IAML		04 09 17.0	
	comp=N,3.6nm,0.9s						
MIDR				IAML		04 09 51.1	
	comp=N,12nm,1.7s						
HATOM	Hato Mayor del	2.19	260⇑	ePg	Pn	04 08 53.1	+0.1
HATOM			⇑	eSg	Sn	04 09 21.4	+2.3
HATOM				IAML		04 09 27.6	
	comp=N,3.6nm,0.3s						

*JSN **02** 04:17:16.8±0.3, 18°.15N×76°.69W, h13km±2km, MD2.3*
*SSNC **02** 04:17:16.6±1.2, 18°.21N×76°.68W, h7km±11km, MD3.5, ML2.7*
ISC 02 04:17:15.0±1.1, 18°.28N±0°.09×76°.68W±0°.05, h13km±14km, n12, σ0§97/20, 1C-3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	0.21	194⇓	iP	Pg	04 17 19.8	+0.2
STH	Stony Hill	0.24	213⇓	iP	Pg	04 17 20.2	+0.1
STH	Stony Hill	0.24	213	eP	Pg	04 17 20.1	+0.1
STH				eS	Sg	04 17 22.6	-1.0
STH				IAML		04 17 22.7	
	comp=N,162μm,0.1s						
STH				IAML		04 17 22.7	
	comp=E,127μm,0.1s						
HOJ	Hope	0.28	195⇓	iP	Pg	04 17 20.5	-0.3
MTDJ	Mount Denham	0.82	267⇑	iP	Pg	04 17 31.2	+0.3
MTDJ				iS	Sb	04 17 42.1	0.0
MTDJ				iS	Sg	04 17 42.2	+0.6
MTDJ	Mount Denham	0.82	267	eP	Pg	04 17 31.3	+0.3
MTDJ				eS	Sb	04 17 42.2	0.0
MTDJ				IAML		04 17 44.0	
	comp=E,44nm,0.2s						
MTDJ				IAML		04 17 44.9	
	comp=E,38nm,0.1s						
CHIV	Chivirico	1.71	8	eP	Pn	04 17 45.0	+0.6

LMGC	Las Mercedes	1.81	350	eP	Pn	04 17 46.1	+0.3
LMGC				eS	Sn	04 18 06.1	-2.4
LMGC				IAML		04 18 09.6	
	comp=N,47nm,0.1s						
LMGC				IAML		04 18 09.9	
	comp=E,39nm,0.1s						
MARVS	Santiago de Cu	1.86	23	eP	Pn	04 17 47.6	+0.9
MARVS				eS	Sn	04 18 10.0	0.0
MARVS				eSg	Sb	04 18 11.8	-0.4
MARVS				IAML		04 18 12.3	
	comp=E,7.5nm,0.1s						
MARVS				IAML		04 18 12.4	
	comp=N,10nm,0.1s						
PINC	Pinares de May	2.35	21	eP	Pn	04 17 54.1	+0.8
QMBU	Quimbuelo	2.60	42	eP	Pn	04 17 57.9	+1.2
QMBU				eS	Sn	04 18 26.9	-1.4
MASC	Masc	2.98	50	eP	Pn	04 18 03.4	+1.4

*NEIC **02** 04:18:55.9±1.2, 22°.05S±0°.2×171°.35E±0°.03, h91km±10km, mb4.5/15, Error ellipse: s-maj=25.9km s-min=3.0km az=172.0*
*IDC **02** 04:18:55.4±7.9, 21°.82S×171°.34E, h90km±49km, mb3.9/4, mbtmp4.2/5, MS3.3/4, Error ellipse: s-maj=88.6km s-min=36.7km az=27.0*
ISC 02 04:18:56.2±1.3, 21°.9S±0°.2×171°.32E±0°.10, h105km, n27, σ1§00/29, mb4.3/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	3.66	257		Pn	04 19 50.5	-0.4
PINNC				Sn	Sn	04 20 32.4	-0.9
DZM	Mont Dzumac	4.53	266		Pn	04 20 03.1	+0.4
DZM				Sn	Sn	04 20 53.6	-0.7
DZM	Mont Dzumac	4.53	266	P	Pn	04 20 03.6	+0.9
	23nm,0.3s,baz=350,slow=19						
DZM				S	Sn	04 20 53.2	-1.1
	152nm,0.2s,baz=86,slow=20,SNR=7.8						
ONTNC	Ouen Toro	4.53	263		Pn	04 20 02.0	-0.6
ONTNC				Sn	Sn	04 20 53.4	-0.8
KHZ	Kahutara	20.58	175	P	P	04 23 26.4	-0.3
STKA	Stephens Creek	28.25	243	P	P	04 24 39.7	+0.2
STKA				IAmb	IAmb	04 24 41.8	
	comp=Z,17nm,0.9s						
STKA	Stephens Creek	28.25	243	P	P	04 24 41.0	+1.5
	comp=Z,2.8nm,1.0s,baz=76,slow=4.2,SNR=4.4						
STKA				LR	LR	04 34 33.2	
	comp=Z,43nm,18.5s,baz=37,slow=33						
	comp=Z,2.8nm,1.0s						
MGBR	Mount Gambier	30.84	232	P	P	04 25 01.6	-0.8
BBOO	Buckleboo	33.02	243	P	P	04 25 22.3	+0.8
BBOO				IAmb	IAmb	04 25 24.0	
	comp=Z,15nm,1.2s						
WR8	Warramunga Arr	34.39	266	P	P	04 25 33.8	+0.2
WR8				IAmb	IAmb	04 26 13.0	
	comp=Z,6.3nm,1.3s						
AS31	Alice Springs	34.48	260	P	P	04 25 34.5	+0.1
ASAR	Alice Springs	34.48	260	P	P	04 25 34.8	+0.5
ASAR	Alice Springs	34.48	260	P	P	04 25 35.7	+1.3
	comp=Z,5.3nm,0.8s,baz=85,slow=9.1,SNR=50						
ASAR				LR	LR	04 39 06.3	
	comp=Z,42nm,18.7s,baz=106,slow=35						
	comp=Z,5.3nm,0.8s						
WB0	Warramunga Arr	34.52	267	P	P	04 25 34.2	-0.5
WB0				IAmb	IAmb	04 25 36.5	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	34.55	266	P	P	04 25 35.1	+0.2
WRA	Warramunga Arr	34.55	266	P	P	04 25 35.6	+0.7
	comp=Z,0.7nm,0.4s,baz=96,slow=7.9,SNR=9.1						
	comp=Z,0.7nm,0.4s						
FORT	Forrest	39.58	248	P	P	04 26 17.5	+0.1
FORT				IAmb	IAmb	04 26 19.1	
	comp=Z,6.2nm,0.8s						
FITZ	Fitzroy Crossi	42.97	267	P	P	04 26 46.3	+1.0
MORW	Morawa	50.05	250	P	P	04 27 40.8	+0.4
TOLI2	Tolitoli	54.32	288	P	P	04 28 12.9	+0.6
TOLI2				IAmb	IAmb	04 28 16.2	
	comp=Z,5.5nm,0.9s						
VNDA	Vanda	55.90	182	LR	LR	04 50 07.6	
	comp=Z,23nm,18.4s,baz=27,slow=34						
CASY	Casey	58.53	204	P	P	04 28 42.2	+0.9
CASY				IAmb	IAmb	04 28 45.5	
	comp=Z,7.6nm,1.4s						
QSPA	South Pole Qui	68.21	180	P	P	04 29 46.0	+0.8
QSPA				IAmb	IAmb	04 30 26.4	
	comp=Z,6.1nm,1.4s						
QSPA	South Pole Qui	68.21	180	P	P	04 29 45.7	+0.4
	comp=Z,2.0nm,0.9s,baz=34,slow=3.6,SNR=6.4						
	comp=Z,2.0nm,0.9s						
ASAJ	Asahikawa	70.73	338	LR	LR	04 55 53.2	
	comp=Z,20nm,20.0s,baz=158,slow=31						
SNAA	Sanae	86.63	182	P	P	04 31 26.4	-1.3
SNAA				IAmb	IAmb	04 31 27.1	
	comp=Z,2.8nm,1.0s						
GEVA	Gevas	132.92	302	PKPdf	PKPdf	04 37 56.4	-3.2

*SJA **02** 04:35:09.3±0.7, 35°.36S×73°.44W, h10km±4km, ML4.0, MW4.0*
*IDC **02** 04:35:14.5±1.0, 35°.37S×72°.94W, h0km, mb3.9/4, mbtmp3.8/6, ML3.7/2, MS3.3/5, Error ellipse: s-maj=36.8km s-min=18.2km az=86.0*
*NEIC **02** 04:35:14.4±1.6, 35°.39S±0°.04×73°.16W±0°.09, h10km±1km, mb4.3/14, ML4.2(GUC), Error ellipse: s-maj=13.7km s-min=5.7km az=288.0*
*GUC **02** 04:35:16.1±0.7, 35°.32S×73°.14W, h29km±2km, ML4.2*
ISC 02 04:35:14.5±0.6, 35°.31S±0°.03×73°.11W±0°.05, h10km, n116, σ1§30/140, mb4.2/9, MS3.5/3, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Hualane	1.01	73⇑	iP	Pn	04 35 34.2	-0.6
GO05				iS	Sg	04 35 47.0	-0.1
GO05				IAML		04 35 51.9	
	comp=N,6μm,0.2s						
GO05	Hualane	1.01	73	eP	Pb	04 35 33.5	-0.6
GO05				IAML		04 35 53.1	
	comp=Z,2μm,0.7s						
BO03	Pichilemu	1.25	49⇑	iP	Pg	04 35 37.7	-0.7
BI05	Punta Hualpn	1.43	183		Pb	04 35 39.6	-1.6
BI05				Sn	Sn	04 35 56.8	-2.6
BO01	Tunca	1.90	62	Pn	Pb	04 35 48.1	-1.2
BO01				Sn	Sb	04 36 12.4	-0.7
BO01	Tunca	1.90	62	iP	Pb	04 35 47.7	-1.6
BO01				iS	Sb	04 36 12.0	-1.1
BO01	Tunca	1.90	62	eP	Pb	04 35 47.9	-1.4
BO01				IAML		04 36 25.7	
	comp=Z,786nm,0.7s						
BO02	Sierra Bellavi	1.98	75		Pb	04 35 49.0	-1.7
BO02	Sierra Bellavi	1.98	75	iP	Pb	04 35 48.8	-1.9
BO02				eS	Sb	04 36 13.8	-1.6
BO02				IAML		04 36 21.5	
	comp=N,4μm,0.2s						
BO02	Sierra Bellavi	1.98	75	eP	Pn	04 35 33.3	-15
BO02				IAML		04 36 22.0	
	comp=Z,3μm,0.6s						
BI02	San Fabin de	2.01	133		Pn	04 35 48.1	-0.4
BI02				Sn	Sn	04 36 12.6	-1.1
BI02	San Fabin de	2.01	133	eP	Pn	04 35 48.5	0.0
BI02				eS	Sn	04 36 14.2	+0.5
BI02	San Fabin de	2.01	133	eP	Pn	04 35 48.2	-0.4
BI02				IAML		04 36 29.2	
	comp=Z,492nm,0.9s						
MT01	Popeta	2.11	47		Pn	04 35 49.7	-0.1
MT01	Popeta	2.11	47	iP	Pn	04 35 49.7	-0.1
MT01				iS	Sn	04 36 16.5	+0.4
MT01	Popeta	2.11	47	eP	Pn	04 35 49.8	-0.1
MT01				IAML		04 36 31.3	
	comp=Z,577nm,1.0s						
MT09	Talagante	2.33	49		Pn	04 35 53.3	+0.4
MT09	Talagante	2.33	49	eP	Pn	04 35 53.8	+0.8
MT09				eS	Sn	04 36 22.3	+0.6
MT09				IAML		04 36 39.1	
	comp=N,1μm,0.5s						
BO04	La Punta	2.45	58		Pn	04 35 55.3	+0.7
BO04	La Punta	2.45	58	eP	Pn	04 35 55.2	+0.7
BO04				eS	Sn	04 36 24.6	0.0
BO04				IAML		04 36 37.3	
	comp=N,986nm,0.6s						
VA01	Torpederas	2.59	28		Pn	04 35 56.8	+0.4
VA01	Torpederas	2.59	28	eP	Pn	04 35 57.0	+0.7

VA01	Torpederas	2.59	28	eP	Pn	04 35 54.9	-1.5
VA01				IAML		04 36 46.0	
	comp=Z,307nm,1.4s						
MT02	Curacav	2.62	39		Pn	04 35 56.8	-0.1
MT02	Curacav	2.62	39	iP	Pn	04 35 56.6	-0.3
MT02	Curacav	2.62	39	eP	Pn	04 35 56.8	-0.1
MT02				IAML		04 36 45.5	
	comp=Z,203nm,1.0s						
MT12	Pirque	2.64	54	iP	Pn	04 35 58.2	+1.0
MT12				iS	Sn	04 36 29.5	+0.3
MT05	Renca	2.74	46		Pn	04 35 59.5	+0.9
MT05	Renca	2.74	46	eP	Pn	04 36 00.1	+1.5
MT05				eS	Sn	04 36 32.5	+0.7
MT05				IAML		04 36 54.1	
	comp=N,825nm,0.4s						
MT05	Renca	2.74	46	eP	Pn	04 35 59.8	+1.2
MT05				eS	Sb	04 36 34.1	-3.2
MT05				IAML		04 36 50.3	
	comp=Z,477nm,1.4s						
MT15	Las Vizcachas	2.75	52	eP	Pn	04 35 59.7	+1.0
MT15				eS	Sn	04 36 33.0	+1.1
MT15				IAML		04 36 48.4	
	comp=N,1μm,0.3s						
LMEL	Las Melosas	2.81	59		Pn	04 36 00.3	+0.7
LMEL	Las Melosas	2.81	59⇑	eP	Pn	04 36 00.8	+1.2
LMEL				eS	Sn	04 36 34.5	+0.9
LMEL				IAML		04 36 51.4	
	comp=E,714nm,0.5s						
LMEL	Las Melosas	2.81	59	eP	Pb	04 36 01.7	-3.1
LMEL				eS	Sb	04 36 38.6	-0.8
LMEL				IAML		04 36 48.5	
	comp=Z,953nm,0.8s						
MT13	San Alfonso	2.81	57		Pn	04 36 00.5	+0.9
MT13	San Alfonso	2.81	57	eP	Pn	04 36 01.2	+1.6
MT13				eS	Sn	04 36 33.8	+0.3
MT13				IAML		04 36 47.3	
	comp=E,713nm,0.4s						
MT13	San Alfonso	2.81	57	eP	Pn	04 35 58.6	-1.0
MT13				eS	Sb	04 36 38.6	-0.7
MT13				IAML		04 36 47.7	
	comp=Z,571nm,1.1s						
MT03	Universidad Ad	2.81	51		Pn	04 35 60.0	+0.3
MT03	Universidad Ad	2.81	51	eP	Pn	04 36 00.6	+0.9
MT03				eS	Sn	04 36 34.0	+0.4
MT03				IAML		04 36 52.0	
	comp=E,1μm,0.3s						
MT03	Universidad Ad	2.81	51	eP	Pn	04 36 00.3	+0.7
MT03				eS	Sb	04 36 37.9	-1.6
MT03				IAML		04 36 48.6	
	comp=Z,675nm,1.1s						
MT16	CCHEN	2.85	49		Pn	04 36 01.3	+1.2
MT16	CCHEN	2.85	49	eP	Pb	04 36 02.1	-3.4
MT16				IAML		04 36 52.9	
	comp=N,724nm,0.7s						
MT14	Cerro Calµn	2.86	49	eP	Pn	04 36 01.3	+1.1
MT14				eS	Sn	04 36 35.2	+0.4
ROC1	El Roble	2.91	37	eP	Pn	04 35 57.0	-4.0
ROCH	El Roble	2.91	37	eP	Pn	04 36 01.8	+0.7
ROCH				eS	Sn	04 36 37.1	+0.8
ROCH				IAML		04 36 59.2	
	comp=N,885nm,0.6s						
MT10	Hacienda Santa	2.95	47	eP	Pn	04 36 02.5	+1.0
MT10				eS	Sn	04 36 37.6	+0.6
MT10				IAML		04 36 53.4	
	comp=E,1μm,0.5s						
PEL	Peldehue	2.95	44		Pn	04 36 02.0	+0.5
PEL	Peldehue	2.95	44	eP	Pn	04 36 02.2	+0.8
PEL				iS	Sn	04 36 37.1	+0.1
PEL				IAML		04 36 52.0	
	comp=E,566nm,0.7s						
PEL	Peldehue	2.95	44	eP	Pn	04 35 58.8	-2.7
PEL				eS	Sb	04 36 41.4	-2.0
PEL				IAML		04 37 06.8	
	comp=Z,462nm,0.9s						
CANA	Caviahue	3.05	148	eP	Pn	04 35 47.8	-15
EDS3	Malargue	3.06	100	eP	Pn	04 36 03.9	+0.8
EDS3				eS	Sg	04 36 51.0	-1.8
FCH	Farellones	3.06	50	eP	Pn	04 36 04.1	+0.9
FCH				IAML		04 36 58.1	
	comp=E,263nm,0.5s						
MT04	Ro Olivares	3.11	53	eP	Pn	04 36 04.1	+0.3
MT04				eS	Sb	04 36 46.1	-2.0
MT04				IAML		04 36 57.1	
	comp=Z,311nm,1.8s						
VA06	Catapilco	3.13	29		Pn	04 36 03.5	-0.3
VA06	Catapilco	3.13	29	eP	Pn	04 36 04.3	+0.4
BI04	Isla Mocha	3.15	191	eP	Pn	04 36 04.0	-0.2
MT08	Bocatoma Ro	3.16	55	Pn	Pn	04 36 05.2	+0.7
MT08	Bocatoma Ro	3.16	55	eP	Pb	04 36 07.0	-3.9
MT08				eS	Sn	04 36 43.7	+1.2
MT08				IAML		04 37 00.5	
	comp=E,280nm,0.4s						
MT08	Bocatoma Ro	3.16	55	eP	Pn	04 36 04.8	+0.3
MT08				eS	Sb	04 36 51.4	+1.7
MT08				IAML		04 37 06.2	
	comp=Z,459nm,0.8s						
VA03	San Esteban	3.31	41		Pn	04 36 06.8	+0.3
VA03	San Esteban	3.31	41	eP	Pn	04 36 07.4	+0.9
VA03				iS	Sn	04 36 46.3	+0.3
VA03				IAML		04 37 06.9	
	comp=E,447nm,0.6s						
VA03	San Esteban	3.31	41	eP	Pn	04 36 07.0	+0.5
VA03				IAML		04 37 11.8	
	comp=Z,335nm,0.9s						
LC01	Cunco	3.71	165	eP	Pn	04 36 12.0	+0.2
CO04	Los Peladeros	3.72	29	eP	Pn	04 36 12.7	+0.5
CO04				eS	Sn	04 36 54.8	-1.4
LR03	Panguipulli	4.35	172		Pn	04 36 19.7	-1.0
LR03	Panguipulli	4.35	172	eP	Pn	04 36 20.1	-0.6
LR03				eS	Sn	04 37 11.3	-0.1
LR03				IAML		04 37 34.5	
	comp=Z,146nm,1.1s						
GO06	Curarrehue	4.46	163	eP	Pn	04 36 23.3	+1.1
GO06				eS	Sn	04 37 16.0	+1.8
CO02	Combarbal	4.46	24		Pn	04 36 22.8	+0.4
CO02	Combarbal	4.46	24	eP	Pn	04 36 23.0	+0.6
CO02				IAML		04 37 53.4	
	comp=Z,136nm,1.1s						
RTLS	Leoncito	4.73	43	eP	Pn	04 36 29.2	+3.0
RTLS				IAML		04 37 50.0	
	comp=Z,370nm,1.4s						
CO06	Fray Jorge	4.79	15	Pn	Pn	04 36 26.5	-0.2
CO03	El Pedregal	4.90	25		Pn	04 36 29.6	+1.2
CO03	El Pedregal	4.90	25	eP	Pn	04 36 29.2	+0.8
CO03				eS	Sn	04 37 24.4	-0.8
CO03				IAML		04 38 16.1	
	comp=Z,70nm,2.1s						
LR05	Currie	4.99	170		Pn	04 36 27.8	-

PB16	IPOC Station P	17.21	12		P	04 39 16.9	-0.3
LPAZ	La Paz	19.46	14		Pn	04 39 43.0	-0.3
LPAZ	La Paz	19.46	14	P	Pn	04 39 46.9	+3.7
	comp=Z,2.1nm,0.8s,baz=175,slow=10,SNR=11						
AQDB	Aquidauana	21.29	51	P	P	04 40 00.9	-0.3
PTLB	Pontes e Lacer	23.41	36		P	04 40 23.4	-0.4
PTLB				IAmb	IAmb	04 40 26.2	
	comp=Z,5.8nm,0.9s						
PMSA	Palmer Station	30.00	172	LR	LR	04 53 03.1	
	comp=Z,100nm,18.2s,baz=322,slow=36						
MACA	Manacapuru-AM	34.01	23	P	P	04 41 59.2	+0.6
MACA				IAmb	IAmb	04 42 00.1	
	comp=Z,7.9nm,0.7s						
BOAV	Boa Vista	39.32	20	P	P	04 42 44.2	+0.3
BOAV				IAmb	IAmb	04 43 16.3	
	comp=Z,6.3nm,1.4s						
RUSC	La Rusia	40.99	0	P	P	04 42 57.6	-0.6
RUSC				IAmb	IAmb	04 43 01.6	
	comp=Z,5.3nm,0.9s						
BAUV	El Baul	44.28	7	P	P	04 43 25.1	+0.7
BELA	Belgrano 2	45.75	169	P	P	04 43 35.8	+0.3
BELA				IAmb	IAmb	04 43 38.5	
	comp=Z,4.4nm,1.1s						
SNAA	Sanae	50.71	157	⇑P	P	04 44 15.3	+1.3
	comp=Z,82nm,0.9s						
SNAA	Sanae	50.71	157	P	P	04 44 14.2	+0.3
SNAA				IAmb	IAmb	04 44 16.2	
	comp=Z,5.4nm,1.0s						
SNAA	Sanae	50.71	157	P	P	04 44 15.0	+1.1
	comp=Z,3.4nm,0.9s,baz=275,slow=7.2,SNR=11						
	comp=Z,3.4nm,0.9s						
SJG	San Juan	53.54	8	LR	LR	05 05 46.2	
	comp=Z,24nm,21.5s,baz=198,slow=34						
QSPA	South Pole Qui	54.92	180	P	P	04 44 44.9	-0.3
QSPA				IAmb	IAmb	04 44 49.0	
	comp=Z,6.5nm,1.4s						
QSPA	South Pole Qui	54.92	180	P	P	04 44 47.1	+1.8
	comp=Z,1.5nm,0.9s,baz=149,slow=5.9,SNR=3.5						
	comp=Z,1.5nm,0.9s						
TXAR	Lajitas Array	70.46	332	P	P	04 46 31.4	+2.2
	comp=Z,0.6nm,0.8s,baz=157,slow=6.9,SNR=5.4						
	comp=Z,0.6nm,0.8s						
BOSA	Boshof	80.24	118	LR	LR	05 18 33.0	
	comp=Z,24nm,18.7s,baz=204,slow=32						
TORD	Torodi Ar. Bea	85.48	71	P	P	04 47 53.0	+0.2
TORD				IAmb	IAmb	04 47 54.4	
	comp=Z,1.2nm,1.0s						
TORD	Torodi Ar. Bea	85.48	71	P	P	04 47 53.1	+0.3
	comp=Z,1.1nm,0.9s,baz=242,slow=3.7,SNR=4.6						
	comp=Z,1.1nm,0.9s						
BVAR	Borovoye Array	148.84	44	PKPbc	PKPab	04 55 03.5	-2.2
	comp=Z,1.3nm,0.6s,baz=300,slow=2.9,SNR=5.1						
KURBB	Kurchatov Arra	154.43	45	PKPbc	PKiKP	04 55 15.1	+0.4
	comp=Z,0.4nm,0.8s,baz=305,slow=2.5,SNR=6.7						
ZALV	Zalesovo Beam	155.81	33	PKPab	PKPab	04 55 36.1	+1.3
	comp=Z,0.5nm,0.5s,baz=316,slow=4.0,SNR=4.2						

KRNET ***02*** *04:37:03.9±0.1, 40.°75N×69.°05E, mb2.9*
ISU ***02*** *04:37:12, 40.°96N×69.°47E, h25km*
ISC 02 04:37:08.5±2.9, 40.°75N±0.°04×69.°11E±0.°07, h18km±8km, n13, σ1°31/22, 6C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NZBK	Nazarbek	0.47	1	P		P	Pn	04 37 21.7	+1.3
NZBK				S		S	Sn	04 37 29.4	+1.1
TGS	TashGRES	0.74	25	S		S	Sb	04 37 29.0	-3.7
MINT	Mingtut	1.45	101	S		S	Sb	04 37 53.9	+0.9
TRKS	Terek-Say	1.72	62	*eP*		P	Pn	04 37 36.2	-1.5
TRKS				⇑*eS*		S	Sn	04 37 59.6	+0.3
CHMI	Chimion	1.90	104	P		P	Pb	04 37 44.1	+1.4
CHMI				S		S	Sb	04 38 06.9	+0.8
GAR	Garm	1.98	152	⇑*eP*		P	Pn	04 37 39.9	-1.3
GAR				⇑*eS*		S	Sn	04 38 06.2	+0.6
FRG	Fergana	2.07	100	S		S	Sb	04 38 11.8	+0.8
CHGR	Chuyangaron	2.09	179	⇓*eP*		P	Pn	04 37 41.0	-1.7
CHGR				⇓*eS*		S	Sn	04 38 08.2	-0.1
ARK	Arkit	2.39	63	⇓*eP*		P	Pn	04 37 46.1	-0.8
ARK				⇓*eS*		S	Sn	04 38 16.8	+1.0
DRK	Karamyk	2.42	121	⇓*eP*		P	Pn	04 37 46.4	-1.1
DRK				⇓*eS*		S	Sn	04 38 17.5	+0.7
OHH	Osh	2.81	93	⇓*eP*		P	Pn	04 37 51.7	-0.8
OHH				⇓*eS*		S	Sn	04 38 26.4	+0.4
ARSB	Arslanbob	2.98	78	⇑*eP*		P	Pn	04 37 54.3	-0.8
ARSB				⇑*eS*		S	Sn	04 38 31.2	+0.7
SFK	Sufi-Kurgan	3.44	101	⇓*iP*		P	Pn	04 38 00.6	-0.7
SFK				⇓*eS*		S	Sn	04 38 41.8	+0.1

IDC ***02*** *04:39:01.3±0.9, 37.°77N×141.°87E, h0km, mb3.8/8, mbtmp3.8/12, ML3.4/4, MS2.6/3, Error ellipse: s-maj=22.0km s-min=17.1km az=98.0*
JMA ***02*** *04:39:04.0±0.1, 37.°7N±0.°2×141.°8E±0.°4, h26km±1km, MV4.1/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***02*** *04:39:04.0, 37.°73N×141.°80E, h26km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.97; $M_{\theta\theta}$1.46; $M_{\phi\phi}$-0.49; $M_{r\theta}$1.89; $M_{\theta\phi}$1.37; $M_{\phi r}$2.36; Fault plane solution: $M_0$3.51000×10^{14} NP1: ϕ_s102.00000°, δ24.00000°, λ-27.00000°. NP2: ϕ_s217.00000°, δ79.00000°, λ-112.00000°.*
NEIC ***02*** *04:39:07.4±1.6, 37.°78N±0.°06×141.°66E±0.°04, h35km±2km, mb4.5/9 Error ellipse: s-maj=10.4km s-min=4.6km az=202.0*
ISC 02 04:39:03.0±1.9, 37.°72N±0.°04×141.°82E±0.°06, h11km±11km, n65, σ1°05/68, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.65	334	*iP*		P	Pb	04 39 16.2	-0.3
JIKH				*eS*		S	Sb	04 39 24.7	-0.8
JMST	Minamisoumatoc	0.74	270	*iP*		P	Pg	04 39 17.5	+0.1
JMST				*eS*		S	Sg	04 39 27.1	0.0
JIO	Ouri	0.82	333	P		P	Pb	04 39 19.0	-0.4
JIO				*eS*		S	Sb	04 39 29.4	-1.0
JMM	Marumori	0.83	280				Pb	04 39 19.0	-0.5
JMM							Sb	04 39 29.3	-1.4
JMM	Marumori	0.83	280	P		P	Pb	04 39 19.2	-0.3
JMM	Marumori	0.83	280	S		S	Sb	04 39 29.8	-0.9
JMM	Marumori	0.83	280	P		P	Pb	04 39 18.9	-0.5
JMM				*eS*		S	Sb	04 39 29.3	-1.4
JFK	Kawauchi	0.83	245	P		P	Pb	04 39 19.1	-0.5
JFK				*eS*		S	Sb	04 39 29.9	-1.0
ONAJ	Iwakimizuishiy	1.03	233	P		P	Pb	04 39 21.8	-1.0
ONAJ				*eS*		S	Sb	04 39 34.8	-1.6
JOU	Okura	1.12	305	P		P	Pb	04 39 24.2	-0.2
JOU				*eS*		S	Sb	04 39 38.1	-0.9
JKMT	Kesennumamotoy	1.12	346	P		P	Pb	04 39 23.6	-0.9
JKMT				*eS*		S	Sb	04 39 37.3	-1.7
JOTO	OTAMA OYAMA	1.20	263	P		P	Pn	04 39 25.2	-0.6
JOTO				*eS*		S	Sb	04 39 40.6	-0.6
JMK	Ichinoseki	1.31	339	P		P	Pn	04 39 26.7	-0.7
JMK				*eS*		S	Sb	04 39 43.4	-1.3
JYS	Shiratake	1.48	290	P		P	Pn	04 39 29.6	-0.1
JYK	Kaneyama	1.66	316	P		P	Pn	04 39 31.9	-0.2
JFY	Yanaizu	1.71	260	P		P	Pn	04 39 33.2	+0.3
JSD	Sado	2.84	277	Pn		Pn	Pn	04 39 48.9	+0.6
JSD	Sado	2.84	277	P		Pn	Pn	04 39 49.0	+0.6
JTM	Tenmabayashi	3.12	349			Pn	Pn	04 39 52.7	+0.5
JTM	Tenmabayashi	3.12	349	P		Pn	Pn	04 39 52.8	+0.7
MJAR	Matsushiro Arr	3.12	249			Pn	Pn	04 39 53.6	+1.4
MJAR	Matsushiro Arr	3.12	249	Pn		Pn	Pn	04 39 53.4	+1.1
	0.9nm,0.3s,baz=62,slow=11,SNR=24								
MJAR				Sn		Sn	Sn	04 40 31.3	+1.7
	0.8nm,0.3s,baz=54,slow=13,SNR=5.2								
MJAR				LR		LR	LR	04 40 59.6	
	comp=Z,27nm,18.9s,baz=66,slow=37								
	4.6nm,0.4s								
MAJO	Matsushiro	3.12	249			Pn	Pn	04 39 53.3	+1.0
MAJO	Matsushiro	3.12	249	P		Pn	Pn	04 39 53.9	+1.6
MJB9	Matsu-Tunnel	3.12	249			Pn	Pn	04 39 53.5	+1.3
JGF	Kuroka	4.17	241			Pn	Pn	04 40 07.6	+0.9
JGF	Kuroka	4.17	241	P		Pn	Pn	04 40 08.8	+2.1
ERM	Erimo	4.41	13	Pn		Pn	Pn	04 40 10.7	+0.8
ERM	Erimo	4.41	13	P		Pn	Pn	04 40 11.3	+1.4
JEM	Erimo	4.41	13	P		Pn	Pn	04 40 10.8	+0.9
INU	Inuyama	4.54	240	Pn		Pn	Pn	04 40 12.2	+0.4
JHJ	Hachijo jima 2	4.89	201	Pn		Pn	Pn	04 40 16.8	+0.3
	6.0nm,0.3s,baz=61,slow=18,SNR=1.9								
JHJ				Sn		Sn	Sn	04 41 11.3	-1.8
	12nm,0.3s,baz=259,slow=24,SNR=5.7								
	112nm,0.8s								
ASAJ	Asahikawa	6.41	5	Pn		Pn	Pn	04 40 36.8	-0.6
	1.3nm,0.3s,baz=251,slow=15,SNR=5.1								
ASAJ				Sn		Sn	Sn	04 41 49.2	-1.5
	0.3nm,0.3s,baz=334,slow=29,SNR=1.3								
	3.5nm,0.3s								
JKA	Kamikawa-asahi	6.41	5	Pn		Pn	Pn	04 40 36.6	-0.8
USRK	Ussuriysk Ar.	9.85	314	Pn		Pn	Pn	04 41 28.4	+3.8
	0.4nm,0.3s,baz=125,slow=14,SNR=12								
JNU	Nakatsue	10.04	246	LR		LR	LR	04 45 53.2	
	comp=Z,61nm,19.3s,baz=90,slow=41								
KSRS	Korea Array	11.04	273	Pn		Pn	Pn	04 41 40.0	-0.8
	0.3nm,0.3s,baz=95,slow=9.4,SNR=1.3								
	0.3nm,0.3s								
SONM	Songino Array	27.68	303	P		P	Pn	04 44 51.9	+0.8
	0.5nm,0.5s,baz=101,slow=7.5,SNR=2.4								
	0.5nm,0.5s								
H11N2	WAKE ISLAND Hy	28.23	122	T		T		05 14 30.5	
	baz=315,slow=75,SNR=227								
H11N1	WAKE ISLAND Hy	28.24	122	T		T		05 14 24.0	
	baz=315,slow=75,SNR=174								
H11N3	WAKE ISLAND Hy	28.25	122	T		T		05 14 16.9	
	baz=315,slow=75,SNR=173								
H11S1	WAKE ISLAND Hy	28.97	124	T		T		05 15 23.0	
	baz=317,slow=76,SNR=148								
H11S3	WAKE ISLAND Hy	28.97	125	T		T		05 15 24.5	
	baz=317,slow=76,SNR=134								
H11S2	WAKE ISLAND Hy	28.98	125	T		T		05 15 25.6	
	baz=317,slow=76,SNR=96								
ZALV	Zalesovo Beam	41.70	312	P		P		04 46 51.1	-0.5
	1.7nm,0.5s,baz=91,slow=8.9,SNR=8.0								
	1.7nm,0.5s								
C16K	Lisburne Hills	41.94	26	P		P		04 46 53.3	-0.1
C18K	Utukok River	43.52	26	P		P		04 47 07.2	+0.9
C18K				IAmb		IAmb		04 47 18.5	
	comp=Z,17nm,1.2s								
K17K	Iditarod	43.60	35	P		P		04 47 07.8	+0.8
K17K				IAmb		IAmb		04 47 21.9	
	comp=Z,19nm,1.4s								
MKAR	Makanchi Array	44.03	302	P		P		04 47 10.5	-0.3
MKAR	Makanchi Array	44.03	302	P		P		04 47 10.6	-0.1
	comp=Z,2.2nm,1.0s,baz=85,slow=10,SNR=9.8								
	comp=Z,2.2nm,1.0s								
D19K	Kuna River	44.58	27	P		P		04 47 15.8	+1.0
E19K	Redstone River	44.71	29	P		P		04 47 16.4	+0.6
KURK	Kurchatov	45.77	308	P		P		04 47 24.2	-0.2
KURK				IAmb		IAmb		04 47 25.8	
	comp=Z,3.8nm,0.8s								
KURBB	Kurchatov Arra	45.84	308	P		P		04 47 24.4	-0.6
	comp=Z,2.7nm,0.7s,baz=83,slow=8.5,SNR=17								
	comp=Z,2.7nm,0.7s								
B21K	Ikpikpuk River	46.02	26	P		P		04 47 27.1	+0.9
SKT	Skwentna	46.72	37	P		P		04 47 32.5	+0.7
SKT				IAmb		IAmb		04 47 40.9	
	comp=Z,4.7nm,1.2s								
E22K	Anaktuvuk Pass	46.84	28	P		P		04 47 33.8	+1.1
E22K				IAmb		IAmb		04 47 37.8	
	comp=Z,7.1nm,1.4s								
ILAR	Eielson Array	48.74	33	P		P		04 47 46.6	-0.8
	comp=Z,0.3nm,0.7s,baz=274,slow=6.6,SNR=6.1								
	comp=Z,0.3nm,0.7s								
AAK	Ala-Archa	50.45	298	LR		LR		05 08 35.2	
	comp=Z,15nm,19.4s,baz=38,slow=35								
WRA	Warramunga Arr	57.79	188	P		P		04 48 54.2	-0.2
	comp=Z,1.1nm,0.7s,baz=5.3,slow=7.4,SNR=8.3								
	comp=Z,1.1nm,0.7s								
ASAR	Alice Springs	61.52	188	P		P		04 49 20.3	+0.2
	comp=Z,0.7nm,0.7s,baz=8.3,slow=6.7,SNR=8.6								
	comp=Z,0.7nm,0.7s								
TXAR	Lajitas Array	89.44	53	P		P		04 52 00.9	+0.4
	comp=Z,0.1nm,0.5s,baz=297,slow=3.0,SNR=3.7								
	comp=Z,0.1nm,0.5s								
H03N2	Juan Fernandez	146.76	95	T		T		07 42 45.1	
	baz=291,slow=76,SNR=3.9								
H03N3	Juan Fernandez	146.78	95	T		T		07 42 45.3	
	baz=291,slow=76,SNR=5.4								
H03N1	Juan Fernandez	146.78	95	T		T		07 42 46.5	
	baz=291,slow=76,SNR=3.3								

NNC ***02*** *05:03:36.5±11.0, 45.°82N×90.°59E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=96.3km s-min=65.9km az=86.0*
ASRS ***02*** *05:03:47.1±0.8, 46.°N±4.°×9.°0E±.°, h9km, MLh3.1/3, Error ellipse: s-maj=17.5km s-min=6.8km az=74.3, confirmed*
ISC 02 05:03:43.3±2.8, 46.°00N±0.°10×90.°3E±0.°2, h10km, n12, σ1°44/20, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGZ	Jazzator, Alta	4.16	334	Pn		Pn	Pn	05 04 47.8	+0.8
DGZ				Pg		Pg	Pg	05 05 02.5	-0.5
DGZ				Sg		Sg	Sg	05 05 56.2	-0.7
CUR	Chagan-Uzun	4.30	343	Pn		Pn	Pn	05 04 49.8	+1.0
CUR				Pg		Pg	Pg	05 05 03.2	-2.4
CUR				Sg		Sg	Sg	05 06 01.8	+0.6
AKAR	Aktash	4.67	339	Pn		Pn	Pn	05 04 53.5	-0.4
AKAR				Pg		Pg	Pg	05 05 10.7	-1.9
AKAR				Sg		Sg	Sg	05 06 12.3	-0.8
CHBI	Chibit, Altay	4.69	338	Pn		Pn	Pn	05 04 54.3	+0.1
CHBI				Pg		Pg	Pg	05 05 12.5	-0.6
CHBI				Sg		Sg	Sg	05 06 12.5	-1.3
ULGR	Ulagan, Altay	4.87	343	Pg		Pg	Pg	05 05 14.4	-2.2
ULGR				Sg		Sg	Sg	05 06 19.5	-0.2
TEL	Teeli	5.03	360	Sg		Sg	Sg	05 06 24.6	0.0
MK31	Makanchi Array	5.56	281	⇑Pn		Pn	Pn	05 05 04.2	-2.0
	0.5nm,0.5s,baz=165,slow=28,SNR=5.0								
MK31				⇑Pg			Pb	05 05 23.1	+2.6
	0.4nm,0.4s,baz=92,slow=17,SNR=3.2								
MK31				⇑Lg		Lg		05 06 43.4	
	1.1nm,0.4s,baz=99,slow=27								
ELDR	Elanda	5.91	334	Sg		Sg	Sg	05 06 53.1	+0.4
YALR	Yailyu, Altay	6.03	344	Sg		Sg	Sg	05 06 58.7	+1.9
ARTR	Artybash	6.12	342	Sg		Sg	Sg	05 07 00.6	+0.8
KURK	Kurchatov	9.06	306	⇑Lg		Lg	Lg	05 08 31.7	
	1.0nm,0.7s								
KURBB	Kurchatov Arra	9.07	305	⇑Lg		Lg	Lg	05 08 31.2	
	3.7nm,0.6s								

RSNC 02 05:07:32.1±0.0, 7.°N±1.°×7.°3W±.°, h146km±1km, M3.4, mB4.5, mb3.7, ML3.0, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	183	P		Pn	Pn	05 07 51.7	-0.6
BARC				S		Sn	Sn	05 08 06.9	-0.7
BRJC	Barrancabermej	0.59	285	P		Pn	Pn	05 07 53.4	-0.1
BRJC				S		Sn	Sn	05 08 10.1	+0.4
PAMC	Pamplona, Colo	0.70	42	P		Pn	Pn	05 07 54.5	-0.2
PAMC				S		Sn	Sn	05 08 11.7	-0.2
RUSC	La Rusia	0.93	175	P		Pn	Pn	05 07 55.6	-0.9
RUSC				S		Sn	Sn	05 08 14.3	-0.7
PTBC	PUERTO BERRIO,	1.31	258	P		Pn	Pn	05 07 58.1	-1.3
PTBC				S		Sn	Sn	05 08 19.6	-0.6
OCAC	Ocana	1.42	354	P		Pn	Pn	05 07 59.9	-0.8
OCAC				S		Sn	Sn	05 08 21.7	-0.9
SPBC	San Pablo de B	1.47	218	P		Pn	Pn	05 08 00.4	-0.7
SPBC				S		Sn	Sn	05 08 22.3	-1.0
ZARC	Zaragoza, Cauc	1.80	292	P		Pn	Pn	05 08 03.9	-0.8
ZARC				S		Sn	Sn	05 08 29.2	-0.5
ROSC	El Rosal	2.28	210	P		Pn	Pn	05 08 11.4	+0.7
ROSC				S		Sn	Sn	05 08 42.9	+2.6
HELC	Santa Helena	2.43	255	P		Pn	Pn	05 08 11.3	-1.2
HELC				S		Sn	Sn	05 08 41.2	-2.3
CVER	Cruz Verde, Cu	2.45	202	P		Pn	Pn	05 08 13.0	0.0
CVER				S		Sn	Sn	05 08 45.3	+0.9
UREC	San Jos de Ur	2.52	292	P		Pn	Pn	05 08 12.1	-1.2
UREC				S		Sn	Sn	05 08 42.9	-2.1
GUY2C	Guyana, Caldas	2.70	234	P		Pn	Pn	05 08 15.7	-0.3
GUY2C				S		Sn	Sn	05 08 48.8	-0.9
NIZA	Niza - Manizal	2.88	233	P		Pn	Pn	05 08 21.3	+3.2
NIZA				S		Sn	Sn	05 08 53.9	+0.3
CBOC	Ciudad Bolivar	2.98	252	P		Pn	Pn	05 08 19.3	+0.1
CBOC				S		Sn	Sn	05 08 55.0	-0.6
DBBC	Dabeiba	3.02	274	P		Pn	Pn	05 08 19.0	-0.7
DBBC				S		Sn	Sn	05 08 53.3	-3.2
ARGC	Ariguani, Magd	3.20	341	P		Pn	Pn	05 08 22.1	+0.2
ARGC				S		Sn	Sn	05 08 59.9	-0.6
SDV	Santo Domingo	3.25	51	P		Pn	Pn	05 08 21.2	-1.4
SDV				S		Sn	Sn	05 08 58.3	-3.4
PRAC	Prado	3.53	209	P		Pn	Pn	05 08 24.9	-1.3
PRAC				S		Sn	Sn	05 09 07.5	-0.6
APAC	Apartado, Choc	3.55	288	P		Pn	Pn	05 08 25.5	-0.9
APAC				S		Sn	Sn	05 09 08.4	0.0
ORTC	Ortega, Tolima	3.56	216	P		Pn	Pn	05 08 26.0	-0.5
ORTC				S		Sn	Sn	05 09 09.3	+0.6
SJCC	San Jacinto, C	3.65	327	P		Pn	Pn	05 08 25.4	-2.3
SJCC				S		Sn	Sn	05 09 06.8	-4.1
URMC	La Uribe, Meta	3.75	199	P		Pn	Pn	05 08 28.7	-0.4
URMC				S		Sn	Sn	05 09 12.3	-1.0
CRJC	Cerrejon, Guaj	4.18	4	P		Pn	Pn	05 08 32.0	-2.8
CRJC				S		Sn	Sn	05 09 18.9	-4.6
YOTC	Yotoco, Valle	4.23	228	P		Pn	Pn	05 08 34.4	-1.1
YOTC				S		Sn	Sn	05 09 24.3	-0.4
MACC	Macarena, Meta	4.69	188	P		Pn	Pn	05 08 38.8	-2.7
MACC				S		Sn	Sn	05 09 29.7	-5.8
URIC	Uribia, Colomb	4.99	13	P		Pn	Pn	05 08 42.1	-3.2
URIC				S		Sn	Sn	05 09 38.1	-4.3
POPC	Popayan, Colom	5.50	220	P		Pn	Pn	05 08 51.6	-0.8
	7.7nm,0.7s								
POPC				S		Sn	Sn	05 09 53.1	-2.0
	7.7nm,0.7s								
FLOC	Florencia	5.76	206	P		Pn	Pn	05 08 54.4	-1.3
	532nm16nm,0.8s								
BBAC	Balboa, Cauca	6.26	221	P		Pn	Pn	05 09 03.0	+0.4
	6.2nm,0.7s								
BBAC				S		Sn	Sn	05 10 10.8	-2.5
	6.2nm,0.7s								
GCUF	Volcan Galeras	6.94	217	P		Pn	Pn	05 09 11.5	-0.4
GCUF				S		Sn	Sn	05 10 28.3	-1.7
BCIP	Isla Barro Col	7.00	290	P		Pn	Pn	05 09 09.3	-2.9

IDC ***02*** *05:18:36.7±1.6, 57.°23S×148.°15W, h0km, mb3.8/3, mbtmp3.8/3, MS3.7/17, Error ellipse: s-maj=62.1km s-min=39.3km az=35.0*
ISC 02 05:18:34.4±1.6, 56.°9S±0.°3×146.°9W±0.°3, h10km, n33, σ0°41/7, mb3.9/3, MS3.8/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	27.09	202	LR		LR	LR	05 31 51.9	
	comp=Z,91nm,19.6s,baz=70,slow=30								
QSPA	South Pole Qui	33.30	180	P		P		05 25 11.8	0.0
	1.8nm,1.1s,baz=119,slow=1.5,SNR=3.1								
QSPA				LR		LR	LR	05 35 51.1	
	comp=Z,144nm,21.5s,baz=63,slow=31								
	1.8nm,1.1s								
RAR	Rarotonga	36.85	340	LR		LR		05 37 17.1	
	comp=Z,217nm,18.1s,baz=117,slow=30								
PMSA	Palmer Station	38.33	137	LR		LR		05 37 32.5	
	comp=Z,86nm,19.6s,baz=286,slow=30								
PPT	Papeete	39.27	356	LR		LR		05 39 06.4	
	comp=Z,115nm,19.2s,baz=158,slow=31								
SNAA	Sanae	49.31	166	LR		LR		05 47 09.7	
	comp=Z,49nm,18.1s,baz=206,slow=35								
PLCA	Paso Flores	50.07	106	LR		LR		05 43 57.4	
	comp=Z,36nm,18.2s,baz=226,slow=30								
H03S2	Juan Fernandez	50.59	93	T		T		06 22 49.8	
	baz=218,slow=74,SNR=24								
H03S1	Juan Fernandez	50.60	93	T		T		06 22 51.1	
	baz=218,slow=74,SNR=23								
H03S3	Juan Fernandez	50.61	93	T		T		06 22 47.9	
	baz=218,slow=74,SNR=24								
H03N3	Juan Fernandez	50.88	93	T		T		06 23 04.3	
	baz=221,slow=72,SNR=85								
H03N2	Juan Fernandez	50.88	93	T		T		06 23 03.6	
	baz=221,slow=72,SNR=102								
H03N1	Juan Fernandez	50.90	93	T		T		06 23 05.4	
	baz=221,slow=72,SNR=106								
MAW	Mawson	53.91	194	LR		LR		05 48 32.2	
	comp=Z,80nm,18.6s,baz=48,slow=34								
STKA	Stephens Creek	54.05	265	LR		LR		05 46 23.0	
	comp=Z,72nm,20.2s,baz=180,slow=31								
ASAR	Alice Springs	64.68	265	P		P		05 29 12.8	+0.3
	1.4nm,0.9s,baz=133,slow=7.0,SNR=8.1								
ASAR				LR		LR	LR	05 55 32.1	
	comp=Z,66nm,18.3s,baz=118,slow=35								
	1.4nm,0.9s								
H01W1	Cape Leeuwin H	66.09	243	T		T		06 41 01.8	
	baz=144,slow=76,SNR=34								

MUGZ	Murupara	1.16 310	P	Pn	05 31 15.0	-0.3
KWHZ	Kaweka Forest	1.17 260	P	Pn	05 31 16.1	+0.6
PUZ	Puketiti	1.19 14	P	Pn	05 31 15.3	-0.4
MRHZ	Matea Rd	1.22 288	P	Pn	05 31 16.4	+0.2
KRHZ	Kereru	1.26 250	P	Pn	05 31 17.3	+0.5
RUGZ	Raukumara Rang	1.27 352	P	Pn	05 31 16.1	-0.9
PKGZ	Pakihiroa	1.36 6	P	Pn	05 31 17.7	-0.4
PRRZ	Plateau Road	1.39 301	P	Pn	05 31 19.6	+1.2
ALRZ	Allen Road	1.39 298	P	Pn	05 31 19.0	+0.5
RRRZ	Republican Roa	1.40 309	P	Pn	05 31 18.5	-0.2
WPHZ	Waipukurau	1.41 233	P	Pn	05 31 19.6	+0.8
PRHZ	Porangahau	1.43 223	P	Pn	05 31 19.6	+0.6
EDRZ	Edgecumbe	1.44 320	P	Pn	05 31 20.1	+0.9
HATZ	Hinemaiaia	1.45 283	P	Pb	05 31 21.1	-0.6
WMGZ	Waiomatatini S	1.46 16	P	Pb	05 31 19.2	-0.2
HAZ	Te Kaha	1.47 356	P	Pn	05 31 19.1	-0.5
TARZ	Mount Tarawera	1.47 312	P	Pn	05 31 20.4	+0.6
PNHZ	Pukenui	1.49 242	P	Pn	05 31 20.2	+0.4
HRRZ	Handcock Road	1.52 303	P	Pb	05 31 22.2	-0.6
WPRZ	Whakapapatarin	1.53 297	P	Pb	05 31 22.2	-0.8
WHRZ	Whale Island	1.55 332	P	Pb	05 31 22.4	-0.9
HLRZ	Highlands Stat	1.56 308	P	Pb	05 31 22.7	-0.7
MKRZ	Makatiti	1.56 314	P	Pb	05 31 26.8	+3.2
HSRZ	Hossack Road	1.59 305	P	Pn	05 31 21.6	+0.4
RITZ	Rihia Road	1.61 278	P	Pb	05 31 23.5	-0.9
WHTZ	Whakaora	1.62 290	P	Pb	05 31 26.3	+1.8
OMRZ	Omania	1.64 312	P	Pb	05 31 23.9	-0.9
ANWZ	Angora Road	1.65 221	P	Pn	05 31 22.4	+0.3
GRRZ	Galatos Road	1.65 301	P	Pb	05 31 26.2	+1.1
MOVZ	Moawhango	1.68 263	P	Pn	05 31 23.4	+0.9
MXZ	Matakaoa Point	1.69 11	P	Pn	05 31 22.2	-0.4
MXZ	Matakaoa Point	1.69 11	S	Sn	05 31 44.2	+1.0
MXZ	Matakaoa Point	1.69 11	P	Pn	05 31 22.4	-0.2
RATZ	Rangitukua	1.70 282	P	Pb	05 31 26.4	+0.6
UTU	Utuhina	1.70 308	P	Pb	05 31 28.3	+2.4
ETVZ	East Tongariro	1.71 272	P	Pb	05 31 28.5	+2.5
TMVZ	Te Maari	1.71 273	P	Pb	05 31 23.7	+0.6
TSZ	Takapari Road	1.72 240	P	Pn	05 31 23.2	+0.2
NTVZ	North Tongarir	1.74 273	P	Pb	05 31 26.6	+0.1
OPRZ	Ohinepanea	1.74 322	P	Pn	05 31 22.3	-1.0
OTVZ	Oturere	1.74 271	P	Pb	05 31 24.8	+1.3
TUVZ	Tukino	1.75 268	P	Pn	05 31 25.2	+1.7
SNVZ	South Ngauruho	1.76 271	P	Pn	05 31 25.4	+1.7
KRVZ	Karewarewa	1.76 274	P	Pb	05 31 26.0	-1.0
WATZ	Wairara	1.77 286	P	Pb	05 31 28.5	+1.4
NNVZ	North Ngauruho	1.78 272	P	Pn	05 31 25.8	+1.8
KUTZ	Kaahu Road	1.78 294	P	Pn	05 31 24.6	+0.7
NGZ	Ngauruhoe	1.79 271	P	Pb	05 31 26.2	-1.3
WNVZ	Wahianoa	1.79 266	P	Pn	05 31 24.9	+0.7
WHVZ	Whangaehu Hut	1.80 267	P	Pn	05 31 25.0	+0.6
WTVZ	West Tongariro	1.80 273	P	Pb	05 31 28.0	+0.3
MAVZ	Mataranga	1.82 268	P	Pn	05 31 25.3	+0.6
FWVZ	Far West T-bar	1.83 268	P	Pn	05 31 25.2	+0.5
TRVZ	Turoa	1.83 267	P	Pn	05 31 25.3	+0.6
COVZ	Chateau Observ	1.83 270	P	Pn	05 31 26.2	+1.5
MTVZ	Mangateitei	1.90 264	P	Pn	05 31 26.7	+1.2
TWVZ	Taurewa	1.92 274	P	Pn	05 31 27.9	+2.0
BFZ	Birch Farm	1.93 221	P	Pn	05 31 25.7	-0.3
BFZ	Birch Farm	1.93 221	S	Sn	05 31 50.7	+1.5
BFZ	Birch Farm	1.93 221	P	Pn	05 31 26.0	0.0
TGRZ	Tauranga	1.97 319	P	Pb	05 31 33.1	+2.6
PKVZ	Pokaka	1.99 267	P	Pn	05 31 28.7	+2.0
PRWZ	Pori Road	1.99 228	P	Pn	05 31 27.4	+0.6
POWZ	Post Office Ro	2.02 234	P	Pn	05 31 27.6	+0.5
MRZ	Mangatainoka R	2.29 231	P	Pn	05 31 30.9	0.0
WAZ	Wanganui	2.32 256	P	Pn	05 31 33.8	+2.5
TMWZ	Te Maipa	2.43 219	P	Pn	05 31 32.4	-0.5
VRZ	Vera Road	2.45 271	P	Pn	05 31 34.5	+1.5
HOWZ	Holdsworth Sta	2.48 227	P	Pn	05 31 33.0	-0.5
HIZ	Hauiti	2.48 286	P	Pn	05 31 34.7	+1.2
HIZ	Hauiti	2.48 286	P	Pn	05 31 34.5	+1.0
OGWZ	Otaki Gorge	2.63 232	P	Pn	05 31 35.4	-0.2
MTW	Mount Morrison	2.67 223	P	Pn	05 31 35.5	-0.6
TRWZ	Traveller	2.75 217	P	Pn	05 31 36.1	-1.1
PAWZ	Paruwai Farm	2.87 221	P	Pn	05 31 37.9	-0.9
CAW	Cannon Point	2.87 228	P	Pn	05 31 38.3	-0.6
NEZ	North Egmont	2.96 268	P	Pn	05 31 42.6	+2.4
MSWZ	Moikau Station	2.98 222	P	Pn	05 31 39.4	-1.0
KUZ	Kuaotunu	3.02 324	P	Pn	05 31 40.9	+0.1
KUZ	Kuaotunu	3.02 324	P	Pn	05 31 40.2	-0.7
KHEZ	Kahui Hut	3.02 267	P	Pn	05 31 43.4	+2.4
MKAZ	Moumakai	3.03 314	P	Pn	05 31 43.3	+2.3
PKE	Puketi	3.04 269	P	Pn	05 31 43.3	+2.1
PLWZ	Palliser	3.09 220	P	Pn	05 31 40.8	-1.1
NBEZ	Newall Road No	3.13 268	P	Pn	05 31 44.7	+2.3
SNZO	South Karori	3.21 229	P	Pn	05 31 42.9	-0.6
SNZO	South Karori	3.21 229	S	Sn	05 32 20.3	-0.4
ETAZ	East Tamaki Re	3.27 313	P	Pn	05 31 45.4	+1.1
AWAZ	Awhitu Peninsu	3.36 309	P	Pn	05 31 46.4	+0.8
TCW	Tory Channel	3.41 233	P	Pn	05 31 45.3	-1.0
DUWZ	D'Urville Isla	3.44 241	P	Pn	05 31 46.2	-0.5
TUWZ	Tuamarina	3.74 233	P	Pn	05 31 49.9	-0.9
BSWZ	Blackbirch Sta	3.95 230	P	Pn	05 31 52.4	-1.3
NNZ	Nelson	4.00 239	P	Pn	05 31 53.8	-0.5
TKNZ	Takaka Hill	4.20 243	P	Pn	05 31 56.3	-0.8
QRZ	Quartz Range	4.42 247	P	Pn	05 31 58.6	-1.6
QRZ	Quartz Range	4.42 247	S	Sn	05 32 48.2	-2.5
MRNZ	Matariki Terra	4.49 239	P	Pn	05 32 00.2	-0.9
KHZ	Kahutara	4.60 225	P	Pn	05 32 01.9	-0.6
GVZ	Greta Valley S	5.24 223	P	Pn	05 32 11.5	0.0
OUZ	Omahuta	5.27 318	P	Pn	05 32 12.6	+0.8
CTZ	Chatham Island	6.10 139	P	Pn	05 32 25.9	+2.8
WVZ	Waitaha Valley	6.64 232	P	Pn	05 32 29.4	-1.1
RPZ	Rata Peaks	6.82 227	P	Pn	05 32 31.7	-1.5
ODZ	Otahua Downs	7.93 221	P	Pn	05 32 47.0	-1.3
JCZ	Jackson Bay	8.37 232	P	Pn	05 32 53.5	-0.9

CATAC 02 05:54:22.3±0.1, 12°N±2°, 8°7W±°, h59km±2km, M3.7/50, MLv3.7/50, 8C-13D, Error ellipse: s-maj=4.6km s-min=1.5km az=36.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.37	41	⇑P	Pn	05 54 34.2	+1.3
PKGN	Cerro Pekin	0.40	52	⇑P	Pn	05 54 34.1	+1.0
PKGN				S	Sn	05 54 44.6	+3.6
POLN	Al Sur del Vol	0.53	64	⇑P	Pn	05 54 34.1	-0.4
POLN				S	Sn	05 54 44.9	+1.6
PLRN	Geotermica Pol	0.55	72	P	Pn	05 54 35.5	+0.9
PLRN				S	Sn	05 54 46.3	+2.6
CNGA	Al SSO del Vol	0.59	83	⇑P	Pn	05 54 36.0	+0.8
CNGA				S	Sn	05 54 47.4	+2.8
CNGN	Cerro Negro	0.59	82	⇓P	Pn	05 54 35.9	+0.6
CNGN	Cerro Negro	0.59	82	S	Sn	05 54 47.2	+2.5
POTN	Potosi Cosigui	0.61	341	⇑P	Pn	05 54 35.8	+0.4
POTN				S	Sn	05 54 47.1	+2.2
COPN	Copaltepe	0.73	109	⇓P	Pn	05 54 37.1	+0.2
AMTN	Mateare	0.87	102	⇑P	Pn	05 54 39.0	+0.4
AMTN	Mateare	0.87	102	S	Sn	05 54 52.5	+1.9
AESN	El Sauce Leon	0.88	58	S	Sn	05 54 51.5	+0.7
AESN	El Sauce Leon	0.88	58	P	Pn	05 54 38.6	-0.1
APQ2	Apoyeque	0.98	103	P	Pn	05 54 40.0	0.0
APQ2				S	Sn	05 54 54.5	+1.4
CNCH	Conchagua	1.00	329	P	Pn	05 54 40.5	+0.2
CNCH	Conchagua	1.00	329	S	Sn	05 54 55.6	+1.9
ABCN	Banco Central	1.01	107	P	Pn	05 54 40.8	+0.4
ABCN	Banco Central	1.01	107	S	Sn	05 54 55.7	+1.8
ALLN	Telcor Managua	1.04	105	S	Sn	05 54 56.2	+1.7
ALLN	Telcor Managua	1.04	105	P	Pn	05 54 41.1	+0.3
TISN	Laguna Tiscapa	1.05	105	⇓P	Pn	05 54 41.1	+0.2
UNAN	Cigeo UNAN	1.05	107	⇓P	Pn	05 54 40.7	-0.2
UNAN				S	Sn	05 54 56.1	+1.2
MGAN	Managua	1.07	105	P	Pn	05 54 41.4	+0.2
MGAN	Managua	1.07	105	S	Sn	05 54 56.5	+1.4
LIMN	Finca el Limon	1.11	55	P	Pn	05 54 41.7	-0.2
LIMN				S	Sn	05 54 57.8	+1.4
WILN	Americas 2	1.12	103	P	Pn	05 54 41.8	0.0
WILN				S	Sn	05 54 57.8	+1.5
MAS3	Al N del Volca	1.17	109	⇓P	Pn	05 54 42.1	-0.4
MAS3				S	Sn	05 54 58.4	+0.7
SABN	Sabanita	1.21	112	⇓P	Pn	05 54 42.9	-0.1
NANN	Nandasmo	1.25	112	S	Sn	05 55 01.3	+1.8
NANN	Nandasmo	1.25	112	⇓P	Pn	05 54 44.4	+0.8
CNRM	Centro Naciona	1.35	321	P	Pn	05 54 45.0	+0.1
CNRM	Centro Naciona	1.35	321	S	Sn	05 55 04.2	+2.4
NADN	Granada	1.41	118	P	Pn	05 54 45.6	-0.1
NADN				S	Sn	05 55 04.1	+0.8

MATN	Matagalpa	1.44	69	S	Sn	05 55 03.3	-0.8
MATN	Matagalpa	1.44	69	⇓P	Pn	05 54 45.0	-1.2
PACA	Pacayal	1.44	316	S	Sn	05 55 05.7	+1.4
PACA	Pacayal	1.44	316	P	Pn	05 54 46.0	-0.3
OCON	Estacion meteo	1.45	34	⇑P	Pn	05 54 46.3	0.0
RCVN	Varillal2	1.58	43	P	Pn	05 54 48.3	+0.1
YUSH	Yuscaran	1.59	16	⇑P	Pn	05 54 48.1	-0.1
YUSH	Yuscaran	1.59	16	S	Sn	05 55 08.2	+0.3
BOAB	BOACO BROADBAN	.60	89	⇓P	Pn	05 54 47.8	-0.5
BOAB	BOACO BROADBAN	.60	89	S	Sn	05 55 07.7	-0.2
RCPN	Sur Rio San Ju	1.61	47	P	Pn	05 54 48.7	+0.1
TGUH	Tegucigalpa,Un	1.63	1	P	Pn	05 54 48.5	-0.4
TGUH				S	Sn	05 55 08.9	+0.1
TECO	Alcaldia de Te	1.82	308	⇓P	Pn	05 54 50.5	-0.8
TECO	Alcaldia de Te	1.82	308	S	Sn	05 55 13.2	-0.1
MORN	Al O del Volca	1.84	118	P	Pn	05 54 50.9	-0.6
CONN	Concepcion	1.85	117	P	Pn	05 54 51.1	-0.6
CONN				S	Sn	05 55 14.2	+0.3
MARCA	Marcala la Paz	1.87	338	P	Pn	05 54 51.8	-0.2
MARCA	Marcala la Paz	1.87	338	S	Sn	05 55 15.6	+0.9
OMEN	Al SSO del Vol	1.87	119	⇓P	Pn	05 54 50.8	-1.2
OMEN				S	Sn	05 55 15.1	+0.6
SCLA	Alcaldia de Sa	1.89	313	⇓P	Pn	05 54 51.8	-0.4
SCLA	Alcaldia de Sa	1.89	313	S	Sn	05 55 16.2	+1.3
UESV	Universidad de	1.89	310	P	Pn	05 54 52.3	+0.1
UESV	Universidad de	1.89	310	S	Sn	05 55 15.9	+0.9
INTHN	La Esperanza I	2.04	338	P	Pn	05 54 54.6	+0.1
ACON	Acoyapa	2.13	102	S	Sn	05 55 19.0	-1.8
ACON	Acoyapa	2.13	102	P	Pn	05 54 53.6	-1.8
CARN	Rivas	2.13	125	⇓P	Pn	05 54 54.9	-0.6
CARN				S	Sn	05 55 20.7	-0.1
PMON	Piamonte	2.34	303	P	Pn	05 54 58.4	-0.2
LLGN	La Laguna	2.36	317	P	Pn	05 54 58.2	-0.5
ELI1	Hacienda Flor	2.46	136	P	Pn	05 55 00.8	+0.8
UNIC	Universidad Ca	2.68	306	P	Pn	05 55 03.3	+0.2
UNIC	Universidad Ca	2.68	306	S	Sn	05 55 36.0	+1.5
UPAL	Upala	2.71	124	S	Sn	05 55 34.2	-0.7
UPAL	Upala	2.71	124	P	Pn	05 55 03.5	+0.2
SARH	Santa Rosa de	2.74	329	P	Pn	05 55 04.5	+0.6
SIUN	Universidad Ur	2.78	62	P	Pn	05 55 04.4	0.0
NUBE	Las Nubes	2.83	302	P	Pn	05 55 05.3	+0.2
NUBE	Las Nubes	2.83	302	S	Sn	05 55 39.3	+1.1
ESQI	Esquipulas	2.91	317	P	Pn	05 55 06.4	+0.2
FAME	Alcaldia de Sa	3.00	298	P	Pn	05 55 06.7	-0.7
FAME	Alcaldia de Sa	3.00	298	S	Sn	05 55 41.6	-0.6
JTS	Las Juntas de	3.13	132	P	Pn	05 55 09.0	-0.2
COVE	Coope Vega, Sa	3.31	120	P	Pn	05 55 10.6	-1.0
SOCE	Pocosol	3.32	127	P	Pn	05 55 11.7	-0.1
OCHAL	Ojochal	4.88	132	P	Pn	05 55 34.5	+1.4
OCHAL	Ojochal	4.88	132	S	Sn	05 56 28.1	-0.2
DRK0	Durika	5.07	128	P	Pn	05 55 37.8	+1.8

*NOU **02** 06:09:18.7, 41°.46S×173°.78E, h60km, MLv4.1/21, South Island, New Zealand*
*WEL **02** 06:09:19.3±0.9, 41°S±4°×17°4E±°, h43km±8km, M3.6/7, ML3.9/7, MLv3.6/7, Error ellipse: s-maj=5.8km s-min=4.1km az=28.4, confirmed*
ISC 02 06:09:18.6±1.2, 41°.44S±0°.03×173°.73E±0°.03, h65km±6km, n70, σ0.88/81, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWRS	Waikakaho Road	0.13	89	P	Pn	06 09 28.2	-0.1
BWRS				S	Sn	06 09 34.7	-0.7
TUWZ	Tuamarina	0.16	86	P	Pn	06 09 29.1	+0.6
TUWZ				S	Sn	06 09 35.5	-0.1
MGCS	Blenheim Marlb	0.17	113	P	Pn	06 09 28.8	+0.3
HAVS	Havelock	0.17	13	P	Pn	06 09 27.9	-0.6
QCCS	Picton Queen C	0.27	54	P	Pn	06 09 29.1	+0.1
QCCS				S	Sn	06 09 36.0	-0.6
BSWZ	Blackbirch Sta	0.29	159	P	Pn	06 09 29.6	+0.4
BSWZ				S	Sn	06 09 37.3	+0.3
WVFS	Wairau Valley	0.34	238	P	Pn	06 09 29.2	-0.4
SEDS	Seddon Fire St	0.35	132	P	Pn	06 09 30.3	+0.7
SEDS				S	Sn	06 09 39.2	+1.5
NNZ	Nelson	0.35	310	P	Pn	06 09 29.0	-0.6
NNZ				S	Sn	06 09 36.3	-1.4
SDNS	Seddon	0.38	126	P	Pn	06 09 31.3	+1.5
SDNS				S	Sn	06 09 39.6	+1.6
NELH	Nelson Hospita	0.38	294	P	Pn	06 09 29.6	-0.3
NCBS	Nelson Council	0.38	297	P	Pn	06 09 29.5	-0.4
TCW	Tory Channel	0.47	61	P	Pn	06 09 31.0	+0.3
TCW				S	Sn	06 09 39.1	-0.4
CMWZ	Cape Campbell	0.47	131	P	Pn	06 09 32.0	+1.3
DUWZ	D'Urville Isla	0.65	13	P	Pn	06 09 32.8	-0.2
DUWZ				S	Sn	06 09 42.6	-0.5
THZ	Tophouse	0.70	242	P	Pn	06 09 33.1	-0.1
TKNZ	Takaka Hill	0.71	305	P	Pn	06 09 33.1	-0.3
TKNZ				S	Sn	06 09 43.3	-0.8
MRNZ	Matariki Terra	0.73	273	P	Pn	06 09 33.6	0.0
MRNZ				S	Sn	06 09 44.5	-0.1
SNZO	South Karori	0.74	80	P	Pn	06 09 34.2	+0.6
SNZO	South Karori	0.74	80	S	Sn	06 09 45.6	+0.9
WEL	Wellington	0.79	79	P	Pn	06 09 34.8	+0.5
BHW	Baring Head	0.86	88	P	Pn	06 09 35.2	+0.2
KHZ	Kahutara	0.98	188	P	Pn	06 09 37.6	+0.9
KHZ	Kahutara	0.98	188	S	Sn	06 09 50.4	+0.4
KHZ	Kahutara	0.98	188	P	Pn	06 09 37.5	+0.8
CAW	Cannon Point	1.06	72	P	Pn	06 09 37.8	+0.1
KIW	Kapiti Island	1.06	57	P	Pn	06 09 38.1	+0.5
QRZ	Quartz Range	1.10	304	P	Pn	06 09 38.6	+0.5
QRZ	Quartz Range	1.10	304	P	Sn	06 09 52.4	-0.3
QRZ	Quartz Range	1.10	304	S	Pn	06 09 38.5	+0.1
MSWZ	Moikau Station	1.14	89	P	Pn	06 09 38.6	-0.1
PLWZ	Palliser	1.15	97	P	Pn	06 09 38.6	-0.2
OGWZ	Otaki Gorge	1.25	61	P	Pn	06 09 40.3	+0.2
PAWZ	Paruwai Farm	1.27	88	P	Pn	06 09 40.0	-0.4
MTW	Mount Morrison	1.36	79	P	Pn	06 09 41.1	-0.5
HOWZ	Holdsworth Sta	1.45	69	P	Pn	06 09 42.3	-0.5
TRWZ	Traveller	1.47	89	P	Pn	06 09 42.5	-0.5
DSZ	Denniston Nort	1.48	258	P	Pn	06 09 43.7	+0.5
MRZ	Mangatainoka R	1.60	61	P	Pn	06 09 44.3	-0.4
GVZ	Greta Valley S	1.61	199	P	Pn	06 09 45.1	+0.2
TMWZ	Te Maipa	1.66	79	P	Pn	06 09 44.8	-0.7
OHWZ	Ohakea	1.72	45	P	Pn	06 09 47.2	+0.8
LTZ	Lake Taylor	1.73	219	P	Pn	06 09 46.7	+0.2
TIWZ	Tintock	1.76	68	P	Pn	06 09 46.1	-0.8
POWZ	Post Office Ro	1.86	56	P	Pn	06 09 47.6	-0.7
AMCZ	Amberley	1.91	204	P	Pn	06 09 49.5	+0.6
WAZ	Wanganui	1.94	30	P	Pn	06 09 51.0	+1.7
BFZ	Birch Farm	2.05	69	P	Pn	06 09 49.6	-1.2
BFZ	Birch Farm	2.05	69	P	Pn	06 09 49.5	-1.2
KHEZ	Kahui Hut	2.15	6	P	Pn	06 09 53.8	+1.5
KHEZ	Kahui Hut	2.15	6	S	Sn	06 10 19.3	+1.3
KHEZ	Kahui Hut	2.15	6	P	Pn	06 09 53.8	+1.5
DVHZ	Dannevirke	2.17	59	P	Pn	06 09 51.1	-1.3
NBEZ	Newall Road No	2.17	3	P	Pn	06 09 53.9	+1.4
NEZ	North Egmont	2.19	7	P	Pn	06 09 54.1	+1.4
OXZ	Oxford	2.26	213	P	Pn	06 09 52.8	-1.0
ANWZ	Angora Road	2.30	66	P	Pn	06 09 52.6	-1.5
OKCZ	Okains Bay	2.33	192	P	Pn	06 09 54.4	-0.3
RPZ	Rata Peaks	3.01	220	P	Pn	06 10 03.4	-0.5
HIZ	Hauiti	3.05	17	P	Pn	06 10 05.4	+1.0
HIZ	Hauiti	3.05	17	S	Sn	06 10 40.9	+1.2
BKZ	Black Stump Fm	3.10	44	P	Pn	06 10 03.7	-1.5
URZ	Urewera	4.11	40	P	Pn	06 10 16.8	-2.0
URZ	Urewera	4.11	40	S	Sn	06 11 05.5	-0.1
ODZ	Otahua Downs	4.25	211	P	Pn	06 10 21.8	+1.0
JCZ	Jackson Bay	4.49	233	P	Pn	06 10 25.0	+0.8
JCZ	Jackson Bay	4.49	233	S	Sn	06 11 14.5	-0.7
KUZ	Kuaotunu	4.94	19	P	Pn	06 10 30.8	+0.6
OUZ	Omahuta	6.21	359	P	Pn	06 10 49.6	+1.9
CTZ	Chatham Island	7.48	111	P	Pn	06 11 04.2	-0.8

*AEIC **02** 06:23:06.5±1.5, 54°.68N±0°.04×161°.87W±0°.05, h19km±4km, Error ellipse: s-maj=5.3km s-min=4.4km az=172.0*
NEIC 02 06:23:07.2±1.2, 54°.70N±0°.05×161°.86W±0°.06, h27km±11km, ML3.0/16, ML2.7(AEIC), Error ellipse: s-maj=7.1km s-min=5.1km az=165.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.45	359		Pb	06 23 16.6	0.0
DOL					Sn	06 23 24.2	-1.0
DT1	Dutton Round H	0.48	329		Pb	06 23 16.6	-0.5
DT1					Sb	06 23 24.2	+0.4
PS4A	Pavlof South-4	0.65	360		Pb	06 23 20.0	+0.1
PS4A					Sn	06 23 30.4	+0.3
PS1A	Pavlof South-1	0.72	5		Pb	06 23 21.3	+0.1
PS1A					Sn	06 23 32.2	+0.3
PN7A	Pavlof North-7	0.74	354		Pn	06 23 22.0	0.0
PN7A					Sn	06 23 32.3	-0.1
FALS	False Pass	0.92	280		Pn	06 23 23.1	-1.2
FALS					Sb	06 23 35.7	-0.6
S12K	Black Hills	1.01	353		Pn	06 23 25.8	+0.1
S12K					Sn	06 23 40.3	+1.2
S12K	Black Hills	1.01	353	IAML		06 23 43.7	
	comp=E,397nm,0.4s						
S12K				IAML		06 23 44.3	
	comp=N,440nm,0.3s						
SDPT	Sand Point	1.03	50		Pn	06 23 25.6	-0.2
SDPT	Sand Point	1.03	50		Sb	06 23 40.1	+0.7
ISNN	Isanotski Nort	1.12	278		Pn	06 23 26.9	-0.3
ISNN					Sb	06 23 42.1	0.0
SSLS	Shishaldin Sou	1.24	271		Pn	06 23 28.5	-0.5
SSLS					Sb	06 23 45.3	-0.4
SSBA	Shishaldin	1.32	274		Pn	06 23 29.5	-0.4
SSBA					Sn	06 23 47.2	+0.5
CNBA	Chernabura Isl	1.32	84		Pn	06 23 28.0	-1.9
CNBA	Chernabura Isl	1.32	84		Sn	06 23 46.5	-0.1
CNBA	Chernabura Isl	1.32	84	IAML		06 23 44.1	
	comp=E,66nm,0.9s						
WEBT	Westdahl Beart	1.69	267		Pn	06 23 35.0	0.0
WEBT					Sn	06 23 56.1	+0.4
VNKR	Veniaminof 5	1.95	46		Pn	06 23 39.1	+0.6
VNKR					Sn	06 24 03.9	+1.7
VNSS	Veniaminof 8	2.05	41		Pn	06 23 40.7	+0.6
VNSS					Sb	06 24 07.0	-2.0
VNFG	Fog Glacier, M	2.06	39		Pn	06 23 40.8	+0.7
VNFG	Fog Glacier, M	2.06	39	IAML		06 24 16.9	
	comp=N,223nm,1.3s						
VNFG				IAML		06 24 19.7	
	comp=E,273nm,1.4s						
AKSA	Akutan Strait	2.31	257		Pn	06 23 43.5	0.0
AKSA					Sn	06 24 12.7	+1.6
AKUT	Akutan	2.36	258	Pn	Pn	06 23 44.8	+0.7
AKUT				IAML		06 24 21.0	
	comp=N,40nm,1.4s						
AKUT				IAML		06 24 23.2	
	comp=E,43nm,1.4s						
AHB	Akutan Harbor	2.39	257		Pn	06 23 44.9	+0.3
AHB					Sn	06 24 15.3	+2.3
ZRO	Akutan Zero	2.49	257		Pn	06 23 45.9	0.0
CHGN	Chignik	2.53	49	Pn	Pn	06 23 46.8	+0.3
CHGN				IAML		06 24 51.7	
	comp=N,79nm,0.7s						
CHGN				IAML		06 24 52.4	
	comp=E,80nm,0.3s						
UNV	Unalaska Valle	2.86	254		Pn	06 23 50.7	-0.3
MNAT	Makushin Natee	2.95	256		Pn	06 23 51.7	-0.5
MSW	Makushin Switc	2.99	257		Pn	06 23 52.8	0.0
MREP	Makushin Rep't	3.00	255		Pn	06 23 52.7	-0.4

*NEIC **02** 06:26:48.4±1.7, 35°.97N±0°.01×119°.717W±0°.006, h6km±5km, Error ellipse: s-maj=1.8km s-min=0.5km az=195.0*
NCEDC 02 06:26:49.0±1.2, 35°.95N±0°.02×119°.74W±0°.02, h20km±5km, Md3.0/104, ML2.5/52(NEIC), Error ellipse: s-maj=3.8km s-min=2.0km az=156.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMRM	Maxey Ranch	0.43	248		Pb	06 26 58.1	+0.1
THIS	South End of C	0.45	240		Pb	06 26 58.3	0.0
PBPM	Bitterwater Pu	0.46	216		Pb	06 26 58.4	0.0
PAGB	Antelope

LRMC	**Laurel Mtn Rad**	**1.74**	**105**		Pn	06 27 18.8	+0.5
LRMC				IAML		06 27 42.9	
	comp=E,41nm,0.2s						
LRMC				IAML		06 27 45.5	
	comp=N,40nm,0.3s						
CLC	**China Lake**	**1.75**	**94**		Pn	06 27 18.8	+0.5
CLC				IAML		06 27 43.1	
	comp=E,38nm,0.5s						
BUCR	**Buckhorn Ranch**	**1.75**	**349**		Pn	06 27 18.8	+0.4
MMPM	**Mammoth Pass**	**1.75**	**19**		Pn	06 27 19.6	+1.0
MDPB	**Devils Postpil**	**1.76**	**17**		Pn	06 27 19.5	+0.9
MLIM	**Lincoln Peak**	**1.78**	**19**		Pb	06 27 20.2	-1.0
MINS	**Minaret Summit**	**1.79**	**18**		Pn	06 27 20.0	+0.9
MLCM	**Laurel Creek C**	**1.79**	**22**		Pb	06 27 20.3	-1.0
MCVM	**Convict Lake**	**1.79**	**24**		Pb	06 27 20.5	-0.9
MDYM	**Dry Creek**	**1.80**	**19**		Pb	06 27 20.6	-1.0
MGPM	**Gravel Pit**	**1.81**	**22**		Pb	06 27 20.7	-0.8
MMLB	**Mammoth Lakes**	**1.81**	**20**		Pb	06 27 20.9	-0.9
MFBM	**Five Bridges**	**1.82**	**35**		Pb	06 27 21.4	-0.3
MCBM	**Casa Benchmark**	**1.82**	**22**		Pb	06 27 21.1	-0.8
MLAC	**Mammoth, Mammo**	**1.83**	**23**		Pb	06 27 21.3	-0.7
MCSM	**Casa Diablo Ho**	**1.83**	**21**		Pb	06 27 21.0	-1.0
MEMM	**East Mammoth H**	**1.83**	**20**		Pb	06 27 21.2	-0.9
MDRNC	**Doe Ridge**	**1.84**	**23**		Pb	06 27 21.5	-0.6
MDCM	**Deadman Creek**	**1.84**	**18**		Pn	06 27 21.0	+1.1
WSHM	**Spangler Hills**	**1.86**	**100**	IAML		06 27 47.1	
	comp=E,34nm,0.4s						
MLHM	**Little Hot Cre**	**1.88**	**23**		Pb	06 27 22.2	-0.7
CCCA	**Chr Cany lake**	**1.98**	**102**	IAML		06 27 53.6	
	comp=E,34nm,0.5s						
CCCA				IAML		06 27 57.8	
	comp=N,55nm,0.7s						
CMB	**Columbia Colle**	**2.14**	**346**		Pn	06 27 24.6	+0.9
CMB				IAML		06 27 57.4	
	comp=E,20nm,0.5s						
CMB				IAML		06 27 57.8	
	comp=N,20nm,0.5s						
GSC	**Goldstone, Bar**	**2.48**	**104**		Pn	06 27 29.1	+0.7
GSC				IAML		06 27 59.8	
	comp=E,14nm,0.8s						
WELL	**Weller Preserv**	**2.60**	**343**		Pn	06 27 31.8	+1.7
WELL				IAML		06 28 15.2	
	comp=E,21nm,0.3s						
WELL				IAML		06 28 16.0	
	comp=N,19nm,0.3s						

VAO ***02*** *07:04:29.9±1.5, 13°.67S×75°.94W, h10km, mb4.5*
IDC ***02*** *07:04:31.8±2.1, 14°.01S×75°.74W, h52km±20km, mb3.6/7, mbtmp3.9/11, ML3.6/4, MS3.0/3, Error ellipse: s-maj=36.6km s-min=13.5km az=64.0*
NEIC ***02*** *07:04:32.1±2.1, 14°.12S±0°.09×76°.0W±0°.1, h52km±15km, mb4.3/12, Error ellipse: s-maj=20.3km s-min=9.6km az=61.0*

ISC 02 07:04:31.5±0.6, 14°.11S±0°.06×75°.96W±0°.09, h49km, n66, σ1ˢ56/56, mb3.8/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.28**	**338**		**Pn**	**07 05 06.3**	**-0.5**
NNA	**Nana**	**2.28**	**338**	P	**Pn**	**07 05 05.9**	**-0.9**
	21nm,0.3s,baz=150,slow=14,SNR=44						
NNA				S	**Sn**	**07 05 35.0**	**+1.3**
	603nm,0.3s,baz=90,slow=19,SNR=8.4						
	61nm,0.3s						
PB18	**Visviri**	**7.13**	**120**	Pn	**Pn**	**07 06 14.7**	**+0.9**
ATAH	**Atahualpa**	**7.33**	**341**	P	**Pn**	**07 06 18.4**	**+1.9**
	0.9nm,0.3s,baz=165,slow=6.2,SNR=10						
ATAH				S	**Sn**	**07 07 37.7**	**-0.9**
	18nm,0.6s,baz=150,slow=2.9,SNR=1.5						
	2.9nm,0.4s						
PB16	**IPOC Station P**	**7.49**	**125**		**Pn**	**07 06 21.1**	**+2.5**
LPAZ	**La Paz**	**7.86**	**107**		**Pn**	**07 06 27.6**	**+3.8**
LPAZ	**La Paz**	**7.86**	**107**	P	**Pn**	**07 06 27.9**	**+4.1**
	10nm,0.5s,baz=290,slow=9.3,SNR=58						
LPAZ				S	Sn	07 07 39.5	-12
	10nm,0.3s,baz=220,slow=18,SNR=7.4						
LPAZ				LR	LR	07 10 06.6	
	comp=Z,88nm,20.6s,baz=272,slow=44						
LPAZ	**La Paz**	**7.86**	**107**	*eP*	**Pn**	**07 06 26.6**	**+2.8**
PB11	**IPOC Station P**	**8.24**	**134**		**Pn**	**07 06 28.4**	**-0.3**
TA01	**Diego Aracena**	**8.46**	**140**	Pn	**Pn**	**07 06 32.4**	**+0.9**
GO01	**Chusmiza**	**8.51**	**131**		**Pn**	**07 06 33.8**	**+1.1**
PATCX	**Punta Patache**	**8.67**	**141**	Pn	**Pn**	**07 06 35.4**	**+0.9**
PB08	**IPOC Station P**	**8.85**	**134**		**Pn**	**07 06 38.5**	**+1.3**
PB02	**IPOC Station P**	**9.21**	**142**		**Pn**	**07 06 42.6**	**+0.7**
PB01	**IPOC Station P**	**9.25**	**139**		**Pn**	**07 06 43.5**	**+1.1**
PB03	**IPOC Station P**	**9.85**	**144**	Pn	**Pn**	**07 06 50.3**	**-0.4**
PB09	**IPOC Station P**	**9.96**	**141**	Pn	**Pn**	**07 06 54.5**	**+2.2**
PB05	**IPOC Station P**	**10.27**	**149**	Pn	**Pn**	**07 06 56.9**	**+0.5**
PB06	**IPOC Station P**	**10.48**	**146**	Pn	**Pn**	**07 07 00.0**	**+0.8**
COHC	**Cochancay**	**12.02**	**344**		**Pn**	**07 07 23.4**	**+3.1**
SLOR	**San Lorenzo -**	**13.53**	**349**		**Pn**	**07 07 42.1**	**+0.8**
SIV	**San Ignacio**	**14.50**	**99**	P	**Pn**	**07 07 52.6**	**-1.4**
	baz=278,slow=12,SNR=11						
	2.0nm,0.6s						
TEFE	**Tefe**	**15.36**	**48**	*eP*	**Pn**	**07 08 03.4**	**-1.8**
VILB	**Vilhena**	**15.37**	**88**		**Pn**	**07 08 05.9**	**+0.6**
VILB				IAmb	IAmb	07 08 29.1	
	comp=Z,9.7nm,0.7s						
FLOC	**Florencia**	**15.59**	**1**	Pn	**Pn**	**07 08 08.7**	**+0.5**
PTLB	**Pontes e Lacer**	**16.32**	**97**		**P**	**07 08 19.1**	**-0.6**
PTLB	**Pontes e Lacer**	**16.32**	**97**	*eP*	**P**	**07 08 19.9**	**+0.2**
MACA	**Manacapuru-AM**	**18.59**	**56**		**Pn**	**07 08 45.1**	**-0.4**
MACA	**Manacapuru-AM**	**18.59**	**56**	*eP*	**P**	**07 08 44.5**	**-0.3**
CFA	**Coronel Fontan**	**18.80**	**159**	P	**P**	**07 08 46.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=334,slow=14,SNR=13						
	comp=Z,2.2nm,0.6s						
ROSC	**El Rosal**	**18.90**	**5**	LR	LR	07 18 02.5	
	comp=Z,75nm,18.9s,baz=267,slow=43						
H03N1	**Juan Fernandez**	**19.43**	**187**	T	T	07 28 23.8	
	baz=9.4,slow=74,SNR=136						
H03N2	**Juan Fernandez**	**19.43**	**187**	T	T	07 28 21.4	
	baz=9.4,slow=74,SNR=141						
H03N3	**Juan Fernandez**	**19.45**	**187**	T	T	07 28 22.6	
	baz=9.4,slow=74,SNR=175						
MT02	**Curacav**	**19.56**	**168**	P	**P**	**07 08 54.3**	**-1.0**
MT02				IAmb	IAmb	07 09 38.0	
	comp=Z,28nm,1.3s						
CLDB	**Colider**	**19.95**	**83**	*eP*	**Pn**	**07 09 01.2**	**-0.5**
RUSC	**La Rusia**	**20.08**	**8**		**P**	**07 09 00.6**	**-1.0**
RUSC				IAmb	IAmb	07 09 20.2	
	comp=Z,12nm,0.8s						
MT13	**San Alfonso**	**20.21**	**166**	P	**P**	**07 09 00.8**	**-1.7**
MT13				IAmb	IAmb	07 09 10.0	
	comp=Z,28nm,1.4s						
LMEL	**Las Melosas**	**20.33**	**166**	P	**P**	**07 09 03.1**	**-0.8**
BO04	**La Punta**	**20.38**	**167**	P	**P**	**07 08 60.0**	**-4.3**
NPGB	**Novo Progresso**	**21.42**	**73**	*eP*	**P**	**07 09 17.7**	**+2.1**
ITTB	**Itaituba**	**22.16**	**66**	*eP*	**P**	**07 09 22.2**	**-1.3**
BOAV	**Boa Vista**	**22.43**	**44**		**P**	**07 09 25.0**	**-1.4**
BOAV				IAmb	IAmb	07 09 39.7	
	comp=Z,8.3nm,1.0s						
BOAV	**Boa Vista**	**22.43**	**44**	*eP*	**P**	**07 09 26.2**	**-0.2**
SDV	**Santo Domingo**	**23.45**	**13**	LR	LR	07 19 27.7	
	comp=Z,39nm,21.9s,baz=56,slow=38						
SNDB	**Serra Nova Dou**	**24.12**	**88**	*eP*	**P**	**07 09 44.6**	**+1.6**
BAUV	**El Baul**	**24.21**	**19**		**P**	**07 09 42.8**	**-1.0**
BAUV				IAmb	IAmb	07 09 56.9	
	comp=Z,16nm,0.8s						
PLCA	**Paso Flores**	**26.94**	**171**	P	**P**	**07 10 08.0**	**-0.4**
PLCA	**Paso Flores**	**26.94**	**171**	P	**P**	**07 10 07.7**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=348,slow=12,SNR=7.2						
	comp=Z,1.2nm,0.7s						
SPB	**Sao Paulo**	**28.55**	**114**	*eP*	P	07 10 28.2	+5.4
TXAR	**Lajitas Array**	**50.81**	**328**	P	**P**	**07 13 26.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=146,slow=7.5,SNR=8.3						
	comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**65.59**	**324**	P	**P**	**07 15 10.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=175,slow=8.7,SNR=3.7						
	comp=Z,0.4nm,0.7s						
SNAA	**Sanae**	**71.40**	**161**	P	**P**	**07 15 46.8**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=262,slow=7.9,SNR=9.8						
	comp=Z,1.5nm,0.5s						
QSPA	**South Pole Qui**	**76.03**	**180**	P	**P**	**07 16 15.4**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=139,slow=9.3,SNR=6.5						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.53**	**74**	P	**P**	**07 16 42.7**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=250,slow=4.5,SNR=4.4						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**82.88**	**191**	P	**P**	**07 16 51.4**	**+1.0**
	comp=Z,1.1nm,1.1s,baz=90,slow=1.0,SNR=4.2						
	comp=Z,1.1nm,1.1s						
H11N3	**WAKE ISLAND Hyl**	**19.87**	**285**	T	T	09 34 21.6	
	baz=96,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hyl**	**19.89**	**285**	T	T	09 34 30.8	
	baz=96,slow=74,SNR=22						
H11N1	**WAKE ISLAND Hyl**	**19.89**	**285**	T	T	09 34 21.2	
	baz=96,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hyl**	**19.94**	**283**	T	T	09 34 33.9	
	baz=97						
H11S1	**WAKE ISLAND Hyl**	**19.95**	**283**	T	T	09 34 27.2	
	baz=97,slow=74,SNR=4.5						
H11S3	**WAKE ISLAND Hyl**	**19.96**	**283**	T	T	09 34 19.5	
	baz=97,slow=74,SNR=4.3						
ASAR	**Alice Springs**	**132.44**	**218**	PKP	**PKPdf**	**07 23 41.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=129,slow=2.5,SNR=7.7						
WRA	**Warramunga Arr**	**134.91**	**222**	PKP	**PKPdf**	**07 23 44.9**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=137,slow=1.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**138.12**	**24**	PKP	**PKPdf**	**07 23 51.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=330,slow=2.6,SNR=2.2						
SONM	**Songino Array**	**146.32**	**357**	PKPbc	**PKPdf**	**07 24 06.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=324,slow=1.9,SNR=4.5						

RSNC 02 07:07:16.4±0.0, 6°N±5°×7°9W±°, h40km, M2.8, mB3.6, mb3.5, ML2.4, Mw(mB)2.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**2.14**	**74**	P	Pn	07 07 46.7	-2.9
SOLC				S	Sn	07 08 11.8	-3.2
CBOC	**Ciudad Bolivar**	**3.46**	**86**	P	Pn	07 08 05.7	-2.2
BCIP	**Isla Barro Col**	**3.51**	**354**	P	Pn	07 08 06.3	-2.2
DBBC	**Dabeiba**	**3.52**	**67**	P	Pn	07 08 08.7	0.0
DBBC				S	Sn	07 08 48.2	-1.1
YOTC	**Yotoco, Valle**	**3.54**	**118**	P	Pn	07 08 07.6	-1.4
YOTC				S	Sn	07 08 47.5	-2.1
APAC	**Apartado, Choc**	**3.65**	**52**	P	Pn	07 08 10.7	+0.3
GUY2C	**Guyana, Caldas**	**4.12**	**96**	P	Pn	07 08 18.9	+1.6
POPC	**Popayan, Colom**	**4.17**	**138**	P	Pn	07 08 16.0	-1.7
BBAC	**Balboa, Cauca**	**4.24**	**148**	P	Pn	07 08 15.6	-3.1
UREC	**San Jos de Ur**	**4.44**	**62**	P	Pn	07 08 22.6	+1.3
ORTC	**Ortega, Tolima**	**4.56**	**112**	P	Pn	07 08 24.4	+1.4
ZARC	**Zaragoza, Cauc**	**4.94**	**68**	P	Pn	07 08 29.2	+1.0
PRAC	**Prado**	**4.97**	**113**	P	Pn	07 08 29.8	+1.2
PTBC	**PUERTO BERRIO,**	**5.07**	**80**	P	Pn	07 08 31.6	+1.6
	71nm1.4nm,0.6s						
URMC	**La Uribe, Meta**	**5.62**	**115**	P	Pn	07 08 38.7	+1.1
	14nm,0.7s						
SJCC	**San Jacinto, C**	**6.00**	**45**	P	Pn	07 08 43.8	+1.1

IDC ***02*** *07:11:08.7±0.5, 29°.69S×72°.68W, h0km, mb4.3/12, mbtmp4.2/15, ML4.0/3, MS3.4/15, Error ellipse: s-maj=22.6km s-min=15.9km az=78.0*
SJA ***02*** *07:11:08.6±0.7, 29°.69S×72°.94W, h35km, ML4.1, MW4.1*
NEIC ***02*** *07:11:09.7±2.9, 29°.69S±0°.03×72°.87W±0°.08, h10km±1km, mb4.7/31, Mwr4.2/45, Mwr4.5(GUC), Error ellipse: s-maj=12.2km s-min=4.8km az=277.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.70; Mθθ=0.86; Mφφ=1.84; Mrθ=0.30; Mrφ=-0.77; Mθφ=0.28; Fault plane solution: M0=2.54000×10¹⁵ NP1:ϕs=158.41000°, δ=46.65000°, λ=-80.14000°. NP2:ϕs=324.20000°, δ=44.24000°, λ=-100.28000°. Principal axes: T 2.2679, Plg=1.0000°, Azm=241.0000°; N 0.4821, Plg=7.0000°, Azm=332.0000°; P -2.7501, Plg=83.0000°, Azm=142.0000°;*
NEIC ***02*** *07:11:09.6, 29°.70S×72°.91W, h10km*
GUC ***02*** *07:11:12.0±0.9, 29°.79S×72°.61W, h8km±19km, ML4.5*
VAO ***02*** *07:11:14.4±0.9, 29°.83S×72°.99W, h55km±9km, mb4.1*

ISC 02 11:08.4±1.5, 29°.72S±0°.03×72°.92W±0°.05, h2km±9km, n166, σ1ˢ73/181, mb4.6/23, MS3.8/11, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.46**	**131**		**Pn**	**07 11 34.6**	**-1.2**
CO06	**Fray Jorge**	**1.46**	**131**	*eP*	**Pn**	**07 11 33.9**	**-1.9**
CO06				⇓*iP*	**Pb**	**07 11 34.2**	**-2.2**
CO06				*eS*	**Sn**	**07 11 50.9**	**-4.7**
CO05	**La Serena**	**1.47**	**98**		**Pn**	**07 11 34.8**	**-1.2**
CO05	**La Serena**	**1.47**	**98**	⇑*iP*	**Pn**	**07 11 34.7**	**-1.2**
CO05				*eS*	**Sn**	**07 11 50.5**	**-5.2**
GO04	**Tololo Observa**	**1.89**	**104**	Pn	**Pn**	**07 11 41.8**	**-0.2**
GO04	**Tololo Observa**	**1.89**	**104**	⇑*iP*	**Pn**	**07 11 41.2**	**-0.7**
GO04				*eS*	**Sn**	**07 12 02.7**	**-3.8**
GO04				IAML		07 12 06.8	
	comp=E,14μm,0.3s						
GO04	**Tololo Observa**	**1.89**	**104**	*eP*	**Pn**	**07 11 41.5**	**-0.4**
GO04				*eS*	**Sn**	**07 12 03.7**	**-2.8**
GO04				IAML		07 12 04.7	
	comp=Z,4μm,0.3s						
LCO	**Las Campanas**	**2.06**	**71**		**Pn**	**07 11 43.7**	**-0.5**
LCO	**Las Campanas**	**2.06**	**71**	⇑*iP*	**Pn**	**07 11 43.8**	**-0.5**
LCO				*i* S	**Sn**	**07 12 08.2**	**-2.4**
LCO				IAML		07 12 09.9	
	comp=Z,14μm,0.2s						
LCO	**Las Campanas**	**2.06**	**71**	*eP*	**Pn**	**07 11 43.8**	**-0.5**
LCO				*eS*	**Sn**	**07 12 09.0**	**-1.6**
LCO				IAML		07 12 10.0	
	comp=Z,3μm,0.3s						
AC04	**Llanos de Chal**	**2.21**	**47**		**Pn**	**07 11 44.4**	**-1.6**
AC04	**Llanos de Chal**	**2.21**	**47**	⇑*iP*	**Pn**	**07 11 44.4**	**-1.6**
AC04	**Llanos de Chal**	**2.21**	**47**	*eP*	**Pn**	**07 11 44.2**	**-1.8**
AC04				*eS*	**Sn**	**07 12 10.6**	**-3.3**
AC04				IAML		07 12 12.6	
	comp=Z,565nm,0.4s						
CO02	**Combarbal**	**2.22**	**132**		**Pn**	**07 11 46.0**	**-0.3**
CO02	**Combarbal**	**2.22**	**132**	⇓*iP*	**Pn**	**07 11 45.9**	**-0.4**
CO02				IAML		07 12 12.7	
	comp=N,5μm,0.2s						
CO02	**Combarbal**	**2.22**	**132**	*eP*	**Pn**	**07 11 46.1**	**-0.3**
CO02				*eS*	**Sn**	**07 12 12.9**	**-1.6**
CO02				IAML		07 12 16.2	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**2.23**	**121**		**Pn**	**07 11 46.2**	**-0.2**
CO03	**El Pedregal**	**2.23**	**121**	*eP*	**Pn**	**07 11 45.9**	**-0.5**
CO03				*i* S	**Sn**	**07 12 11.7**	**-2.9**
CO03	**El Pedregal**	**2.23**	**121**	*eP*	**Pn**	**07 11 45.7**	**-0.7**
CO03				*eS*	**Sn**	**07 12 12.2**	**-2.4**
CO03				IAML		07 12 12.9	
	comp=Z,624nm,0.1s						
CO04	**Los Peladeros**	**2.86**	**145**	⇓*eP*	**Pn**	**07 11 54.8**	**-0.5**
CO04				IAML		07 12 29.2	
	comp=N,1μm,0.2s						
AROD	**Rodeo**	**3.02**	**99**	*eP*	**Pn**	**07 11 58.4**	**+0.8**
AROD				*eS*	**Sn**	**07 12 34.6**	**+0.1**
VA06	**Catapilco**	**3.16**	**154**		**Pn**	**07 11 58.2**	**-0.9**
VA06	**Catapilco**	**3.16**	**154**	⇓*eP*	**Pn**	**07 11 58.1**	**-0.9**
VA06				IAML		07 12 35.5	
	comp=E,787nm,0.3s						
GO03	**Copiapo**	**3.17**	**49**		**Pn**	**07 11 58.9**	**-0.4**
GO03	**Copiapo**	**3.17**	**49**	*eP*	**Pn**	**07 11 58.7**	**-0.6**
GO03				IAML		07 12 42.4	
	comp=N,765nm,0.5s						
GO03	**Copiapo**	**3.17**	**49**	*eP*	**Pn**	**07 11 58.9**	**-0.4**
GO03				*eS*	**Sn**	**07 12 35.5**	**-2.1**
GO03				IAML		07 12 39.9	
	comp=Z,592nm,0.7s						
ACCO	**Cerro Coronel**	**3.45**	**106**	*eP*	**Pn**	**07 12 05.8**	**+2.4**
ACCO				*eS*	**Sn**	**07 12 45.2**	**+0.2**
VA01	**Torpederas**	**3.47**	**162**		**Pn**	**07 12 02.2**	**-1.2**
VA03	**San Esteban**	**3.65**	**147**		**Pn**	**07 12 06.2**	**+0.2**
VA03	**San Esteban**	**3.65**	**147**	⇓*eP*	**Pn**	**07 12 06.1**	**+0.1**
VA03				IAML		07 12 48.3	
	comp=N,823nm,0.4s						
VA03	**San Esteban**	**3.65**	**147**	*eP*	**Pn**	**07 12 06.3**	**+0.2**
VA03				*eS*	**Sn**	**07 12 48.6**	**-1.1**
VA03				IAML		07 12 54.9	
	comp=Z,309nm,1.3s						
RTLS	**Leoncito**	**3.74**	**125**	*eP*	**Pn**	**07 12 08.0**	**+0.6**
RTLS				*eS*	**Sn**	**07 12 52.3**	**+0.1**
RTLS				IAML		07 13 02.6	
	comp=Z,668nm,0.6s						
MT02	**Curacav**	**3.85**	**157**		**Pn**	**07 12 08.0**	**-0.6**
MT02	**Curacav**	**3.85**	**157**	*eP*	**Pn**	**07 12 08.2**	**-0.4**
MT02				*eS*	**Sn**	**07 12 53.2**	**-1.2**
AGUA	**GUANDACOL**	**3.86**	**88**	*eP*	**Pn**	**07 12 11.6**	**+2.7**
AGUA				*eS*	**Sn**	**07 12 53.7**	**-1.2**
AGUA				IAML		07 13 08.3	
	comp=Z,475nm,1.5s						
PEL	**Peldehue**	**3.91**	**151**		**Pn**	**07 12 09.3**	**-0.2**
ZON	**Zonda**	**4.08**	**118**		**Pn**	**07 12 14.2**	**+2.3**
ZON	**Zonda**	**4.08**	**118**	*eP*	**Pn**	**07 12 13.0**	**+1.1**
ZON				*eS*	**Sn**	**07 13 01.8**	**+1.5**
ZON				IAML		07 13 09.2	
	comp=Z,197nm,0.5s						
AC01	**Pan de Azucar**	**4.10**	**31**		**Pn**	**07 12 10.3**	**-1.8**
AC01	**Pan de Azucar**	**4.10**	**31**	*eP*	**Pn**	**07 12 10.2**	**-1.9**
AC01				*eS*	**Sn**	**07 12 58.6**	**-2.1**
AC01				IAML		07 13 05.3	
	comp=Z,103nm,0.7s						
MT05	**Renca**	**4.11**	**154**		**Pn**	**07 12 11.9**	**-0.4**
MT05	**Renca**	**4.11**	**154**	*eP*	**Pn**	**07 12 12.1**	**-0.2**
MT05				*eS*	**Sn**	**07 13 02.7**	**+1.7**
MT05				IAML		07 13 22.4	
	comp=Z,149nm,1.7s						
RTLL	**Cerro Villicun**	**4.16**	**114**	*eP*	**Pn**	**07 12 16.0**	**+3.1**
RTLL				*eS*	**Sn**	**07 13 02.2**	**+0.2**
RTLL				IAML		07 13 07.9	
	comp=Z,340nm,0.4s						
MT16	**CCHEN**	**4.23**	**152**		**Pn**	**07 12 13.7**	**-0.2**
VCA	**Vinchina**	**4.23**	**78**	⇑*eP*	**Pn**	**07 12 18.1**	**+4.1**
VCA	**Vinchina**	**4.23**	**78**	*eP*	Pn	07 12 00.6	-13
VCA				*eS*	**Sn**	**07 13 03.1**	**-0.9**
VCA				IAML		07 13 08.6	
	comp=Z,419nm,0.9s						
MT03	**Universidad Ad**	**4.29**	**152**		**Pn**	**07 12 14.8**	**0.0**
MT03	**Universidad Ad**	**4.29**	**152**	*eP*	**Pn**	**07 12 15.2**	**+0.5**
MT03				*eS*	**Sn**	**07 13 01.8**	**-3.7**
MT03				IAML		07 13 13.2	
	comp=Z,203nm,0.2s						
MT09	**Talagante**	**4.37**	**158**		**Pn**	**07 12 16.0**	**0.0**
MT01	**Popeta**	**4.37**	**162**		**Pn**	**07 12 15.0**	**-0.8**
MT04	**Ro Olivares**	**4.38**	**148**	*eP*	**Pn**	**07 12 17.5**	**+1.4**
MT04				*eS*	**Sn**	**07 13 07.0**	**-0.8**
MT04				IAML		07 13 09.7	
	comp=Z,177nm,0.2s						
AC02	**Maricunga**	**4.40**	**50**		**Pn**	**07 12 17.3**	**+0.6**
AC02	**Maricunga**	**4.40**	**50**	⇑*eP*	**Pn**	**07 12 17.4**	**+0.8**
AC02	**Maricunga**	**4.40**	**50**	*eP*	**Pn**	**07 12 17.5**	**+0.8**
AC02				*eS*	**Sn**	**07 13 08.1**	**-0.7**
AC02				IAML		07 13 27.1	
	comp=Z,146nm,0.6s						
CFA	**Coronel Fontan**	**4.45**	**116**	Pn	**Pn**	**07 12 19.4**	**+2.4**
	comp=Z,7.9nm,0.3s,baz=287,slow=14,SNR=18						
CFA				Sn	**Sn**	**07 13 08.1**	**-1.2**
	comp=Z,8.1nm,0.3s,baz=288,slow=20,SNR=4.2						
CFA	**Coronel Fontan**	**4.45**	**116**	*eP*	**Pn**	**07 12 18.4**	**+1.5**
CFA				*eS*	**Sn**	**07 13 09.1**	**-0.2**
MT08	**Bocatoma Ro**	**4.47**	**147**	*eP*	**Pn**	**07 12 19.4**	**+2.1**
MT08				*eS*	**Sn**	**07 13 09.0**	**-1.0**
MT08				IAML		07 13 14.3	
	comp=Z,143nm,0.4s						
MT13	**San Alfonso**	**4.60**	**152**	*eP*	**Pn**	**07 12 19.6**	**+0.6**
MT13				*eS*	**Sn**	**07 13 04.8**	**-8.4**
MT13				IAML		07 13 13.8	
	comp=Z,125nm,0.6s						
LMEL	**Las Melosas**	**4.72**	**151**	*eP*	**Pn**	**07 12 21.5**	**+0.7**
LMEL				*eS*	**Sn**	**07 13 13.6**	**-2.7**
LMEL				IAML		07 13 15.9	
	comp=Z,149nm,0.6s						
BO01	**Tunca**	**4.92**	**162**		**Pn**	**07 12 22.8**	**-0.5**
BO02	**Sierra Bellavi**	**5.38**	**161**		**Pn**	**07 12 29.6**	**-0.1**
GO02	**Mina Guanaco**	**5.41**	**34**		**Pn**	**07 12 29.3**	**-1.1**
H03N1	**Juan Fernandez**	**6.32**	**232**	Pn	**Pn**	**07 12 40.4**	**-2.0**
	baz=114,slow=18						
H03N1				Sn	Sn	07 13 43.3	-12
	baz=227,slow=74						
H03N1				T	T	07 19 09.2	
	baz=58,slow=74,SNR=25						
H03N2	**Juan Fernandez**	**6.33**	**233**	Pn	**Pn**	**07 12 40.4**	**-2.2**
	baz=114,slow=18						
H03N2				Sn	Sn	07 13 43.3	-12
H03N2				T	T	07 19 08.2	
	baz=58						
H03N3	**Juan Fernandez**	**6.34**	**232**	Pn	**Pn**	**07 12 40.1**	**-2.5**
	baz=114,slow=18						
H03N3				Sn	Sn	07 13 42.9	-13
	baz=162,slow=74						
H03N3				T	T	07 19 08.0	
	baz=58,slow=74,SNR=16						
VA04	**Juan Fernndez**	**6.38**	**231**		**Pn**	**07 12 40.9**	**-2.5**
PB10	**IPOC Station P**	**6.53

TEIG	**Tepich**	**51.81 342**	P	**P**	**07 20 18.5**	**+0.7**
SNAA	**Sanae**	**55.83 159**	P	**P**	**07 20 47.1**	**+0.3**
SNAA			IAmb	IAmb	07 20 57.3	
	comp=Z,6.0nm,1.3s					
SNAA	**Sanae**	**55.83 159**	P	**P**	**07 20 47.1**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=267,slow=8.0,SNR=5.4					
	comp=Z,2.2nm,0.8s					
QSPA	**South Pole Qui**	**60.51 180**	P	**P**	**07 21 20.1**	**+0.4**
QSPA			IAmb	IAmb	07 21 23.2	
	comp=Z,6.0nm,0.9s					
QSPA	**South Pole Qui**	**60.51 180**	P	**P**	**07 21 22.3**	**+2.6**
	comp=Z,4.7nm,0.9s,baz=166,slow=3.2,SNR=18					
	comp=Z,4.7nm,0.9s					
HNDO	**Hondo**	**64.06 335**	P	**P**	**07 21 44.3**	**+0.6**
JCT	**Junction City**	**65.11 335**	P	**P**	**07 21 51.3**	**+0.7**
JCT			IAmb	IAmb	07 21 54.8	
	comp=Z,5.6nm,0.7s					
W50A	**Signal Mountai**	**65.62 349**	P	**P**	**07 21 54.7**	**+0.9**
TXAR	**Lajitas Array**	**65.64 331**	P	**P**	**07 21 56.4**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=153,slow=5.7,SNR=17					
	comp=Z,1.5nm,0.8s					
TX31	**Lajitas Ar. Si**	**65.64 331**		**P**	**07 21 54.6**	**+0.4**
TX31			IAmb	IAmb	07 22 04.6	
	comp=Z,7.2nm,1.4s					
SWET	**Sewanee**	**65.74 348**	P	**P**	**07 21 55.3**	**+0.7**
TKL	**Tuckaleechee C**	**65.82 350**	P	**P**	**07 21 55.0**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=194,slow=4.2,SNR=4.0					
	comp=Z,3.1nm,0.9s					
TAOE	**Nuku Hiva Isla**	**65.91 273**	*e*LR	LR	07 41 36.9	
	comp=Z,49nm,28.5s					
TBI	**Tubuai**	**67.64 255**	*e*LR	LR	07 42 28.2	
	comp=Z,596nm,32.5s					
LCAR	**Lake Charles**	**67.65 344**		**P**	**07 22 07.2**	**+0.5**
LCAR			IAmb	IAmb	07 22 10.1	
	comp=Z,4.9nm,0.7s					
APMT	**Aspermont**	**67.78 336**		**P**	**07 22 07.7**	**0.0**
APMT			IAmb	IAmb	07 22 11.9	
	comp=Z,6.1nm,0.7s					
VNDA	**Vanda**	**68.15 191**	P	**P**	**07 22 09.0**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=117,slow=2.3,SNR=4.5					
	comp=Z,1.0nm,1.0s					
MNTX	**Cornudas Mount**	**68.42 331**	IAmb	IAmb	07 22 13.6	
	comp=Z,2.9nm,0.9s					
R40A	**Maddies Statio**	**70.03 344**		**P**	**07 22 21.1**	**-0.4**
R40A			IAmb	IAmb	07 22 25.0	
	comp=Z,6.3nm,0.7s					
PPT2	**Papeete2**	**70.15 261**	*e*LR	LR	07 43 27.3	
	comp=Z,76nm,24.0s					
PPT2			*e*LR	LR	07 43 40.6	
	comp=Z,124nm,28.5s					
P40A	**Paris**	**71.16 344**	IAmb	IAmb	07 22 30.4	
	comp=Z,6.8nm,0.8s					
N35A	**Tabor**	**73.31 342**	P	**P**	**07 22 41.6**	**+0.4**
DBIC	**Dimbokro**	**74.58 73**	P	**P**	**07 22 50.7**	**+1.5**
	comp=Z,9.5nm,1.0s,baz=228,slow=8.7,SNR=5.4					
DBIC			LR	LR	07 52 24.0	
	comp=Z,51nm,21.9s,baz=266,slow=33					
	comp=Z,9.5nm,1.0s					
ECSD	**EROS Data Cent**	**76.25 343**		**P**	**07 22 59.4**	**+1.2**
ECSD			IAmb	IAmb	07 23 00.4	
	comp=Z,5.5nm,0.7s					
RAR	**Rarotonga**	**77.18 253**	LR	LR	07 49 31.9	
	comp=Z,58nm,22.0s,baz=102,slow=30					
HWUT	**Hardware Ranch**	**79.44 332**		**P**	**07 23 17.3**	**+1.0**
HWUT			IAmb	IAmb	07 23 18.8	
	comp=Z,4.7nm,0.7s					
PDAR	**Pinedale Array**	**79.61 333**	P	**P**	**07 23 18.5**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=138,slow=3.6,SNR=7.5					
	comp=Z,0.7nm,0.6s					
NVAR	**Mina Array Bea**	**79.95 325**	P	**P**	**07 23 20.4**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.5,SNR=11					
	comp=Z,1.2nm,0.7s					
ELK	**Elko**	**80.33 329**	P	**P**	**07 23 22.9**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=136,slow=5.6,SNR=6.8					
	comp=Z,1.8nm,0.8s					
ULM	**Lac du Bonnet**	**82.18 345**	P	**P**	**07 23 31.5**	**+1.1**
	comp=Z,2.2nm,0.4s,baz=148,slow=2.2,SNR=3.1					
	comp=Z,2.2nm,0.4s					
TORD	**Torodi Ar. Bea**	**83.49 71**	P	**P**	**07 23 37.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.49 71**	P	**P**	**07 23 37.3**	**-0.8**
	comp=Z,8.0nm,0.6s,baz=208,slow=2.8,SNR=42					
	comp=Z,8.0nm,0.6s					
YBH	**Yreka Blue Hor**	**84.65 325**	P	**P**	**07 23 43.1**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=150,slow=8.1,SNR=3.3					
LBTB	**Lobatse**	**84.81 116**	LR	LR	07 58 05.1	
	comp=Z,22nm,18.2s,baz=192,slow=33					
URZ	**Urewera**	**85.97 228**	LR	LR	07 53 47.1	
	comp=Z,71nm,18.4s,baz=188,slow=30					
MDT	**Midelt**	**89.73 51**	LR	LR	08 04 34.9	
	comp=Z,39nm,18.9s,baz=232,slow=36					
LSZ	**Lusaka**	**91.87 109**	LR	LR	07 59 45.3	
	comp=Z,32nm,20.4s,baz=202,slow=32					
AKASG	**Malin Array Be**	**119.80 46**	PKP	**PKPdf**	**07 29 59.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=257,slow=2.8,SNR=1.9					
BRTR	**Keskin Array B**	**120.34 59**	PKP	**PKPdf**	**07 30 00.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=224,slow=4.0,SNR=1.8					
ASAR	**Alice Springs**	**121.00 209**	PKP	**PKPdf**	**07 30 02.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=121,slow=1.8,SNR=4.0					
WRA	**Warramunga Arr**	**124.08 211**	PKP	**PKiKP**	**07 30 09.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=149,slow=1.8,SNR=8.7					
BVAR	**Borovoye Array**	**144.53 38**	PKP	**PKPdf**	**07 30 46.7**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=291,slow=4.5,SNR=7.7					
KKAR	**Karatay Array**	**147.94 55**		**PKPdf**	**07 30 52.6**	**+0.5**
KURBB	**Kurchatov Arra**	**150.10 38**	PKPbc	**PKPbc**	**07 30 58.2**	**-2.1**
	comp=Z,3.4nm,0.9s,baz=302,slow=3.2,SNR=6.3					
ZALV	**Zalesovo Beam**	**150.89 27**	PKPbc	**PKiKP**	**07 31 02.9**	**+0.2**
	comp=Z,7.4nm,0.7s,baz=311,slow=3.2,SNR=14					
MKAR	**Makanchi Array**	**154.28 42**	PKPbc	**PKiKP**	**07 31 10.3**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=310,slow=2.8,SNR=2.3					
MKAR			PKPab	**pPKPab**	**07 31 25.2**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=318,slow=3.9,SNR=4.4					

PDG ***02*** *07:15:05.9±0.2, 41°.38N×19°.43E, h12km, ML2.7/9, Error ellipse: s-maj=1.0km s-min=1.9km az=0.0*
BEO ***02*** *07:15:06.0±0.4, 41°.35N×19°.82E, h0km, ML2.1/10*
ISC 02 07:15:03.7±1.3,**41°.33N**±0°.03×**19°.62E**±0°.04,**h10**km±10km,
n26,σ**1°09/45,6C-3D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.69**	**336**	⇑*i*Pg	**Pg**	**07 15 17.0**	**-0.2**
ULC				*i* Sg	**Sg**	07 15 26.4	+0.1
DRME	**Dracevica, Mon**	**0.92**	**339**	⇑*i*Pg	**Pb**	**07 15 21.6**	**-0.2**
DRME				*i* Sg	**Sb**	07 15 34.5	+0.5
BUM	**Brajici-Budva**	**1.11**	**331**	⇑*i*Pg	**Pb**	**07 15 24.8**	**-0.4**
BUM				*i* Sg	**Sb**	07 15 40.1	+0.4
PDG	**Podgorica**	**1.13**	**346**	*e*Pg	**Pn**	07 15 26.5	+0.8
PDG				*e*Sg	**Sn**	07 15 43.0	+1.7
PDG	**Podgorica**	**1.13**	**346**	⇑*i*Pg	**Pb**	07 15 25.3	-0.1
PDG				*i* Sg	**Sn**	07 15 41.9	+0.6
CEME	**Cevo**	**1.33**	**337**	⇑*i*Pg	**Pb**	07 15 28.6	-0.2
CEME				*i* Sg	**Sn**	07 15 47.4	+1.2
HCY	**Herceg Novi**	**1.40**	**323**	⇓*i*Pg	**Pn**	07 15 29.2	-0.2
HCY				*i* Sg	**Sg**	07 15 49.5	+0.7
NKME	**Niksic**	**1.52**	**341**	⇑*i*Pg	**Pb**	07 15 32.0	-0.1
NKME				*i* Sg	**Sg**	07 15 53.8	+1.1
KOME	**Kolasin**	**1.52**	**357**	⇓*i*Pg	**Pg**	07 15 33.0	0.0
KOME				*i* Sg	**Sg**	07 15 54.8	+2.1
IVA	**Berane**	**1.56**	**7**	⇓*i*Pg	**Pg**	07 15 33.0	-0.6
IVA				*i* Sg	**Sg**	07 15 56.2	+2.4
DBRK	**Dubrovnik**	**1.73**	**321**	Sg	**Sn**	07 15 55.1	-1.0
IGT	**Igoumenitsa**	**1.87**	**163**	*e*Pn	**Pb**	07 15 38.2	+0.1
IGT				*e*Sn	**Sg**	07 16 04.2	+0.2
SJES	**Sjenica**	**1.95**	**8**	*e*Pn	**Pb**	07 15 39.5	+0.1
SJES				*e*Sn	**Sg**	07 16 05.5	-0.9
STON	**Ston**	**2.10**	**318**	*e*Pn	**Pn**	07 15 38.6	-0.4
SELS	**Selova**	**2.19**	**30**	*e*Pn	**Pb**	07 15 42.0	-1.5
SELS				*e*Sn	**Sn**	07 16 08.1	+0.6
BARS	**Barje**	**2.21**	**47**	*e*Pn	**Pb**	07 15 42.3	-1.5
BARS				*e*Sn	**Sb**	07 16 09.7	-1.5
IVAS	**Ivanjica**	**2.28**	**10**	*e*Pn	**Pn**	07 15 42.4	+0.9
IVAS				*e*Sn	**Sb**	07 16 12.0	-1.3
GOCS	**Kraljevo Serbi**	**2.42**	**22**	*e*Pn	**Pb**	07 15 46.7	-0.7
BOSS	**Bosilegrad**	**2.43**	**60**	*e*Pn	**Pn**	07 15 44.9	+1.4
BOSS				*e*Sn	**Sn**	07 16 13.4	+0.1
LSTV	**Lastovo**	**2.49**	**306**	*e*Pn	**Pn**	07 15 43.5	-0.9
BBLS	**Lazi&#263i**	**2.54**	**356**	*e*Pn	**Pb**	07 15 48.8	-0.7
BBLS				*e*Sn	**Sb**	07 16 20.4	-0.4
GRUS	**Gruza**	**2.68**	**17**	*e*Pn	**Pb**	07 15 49.6	-2.2
GRUS				*e*Sn	**Sb**	07 16 22.4	-2.4
MAKA	**Makarska**	**2.75**	**316**	*e*Pn	**Pn**	07 15 47.3	-0.6
ZAPS	**Zavoj**	**2.96**	**48**	*e*Pn	**Pn**	07 15 52.7	+1.9
ZAPS				*e*Sn	**Sn**	07 16 27.1	+0.7
KIJV	**Kijevo**	**3.58**	**319**	*e*Pn	**Pn**	07 15 59.1	-0.2
MORI	**Morici**	**3.84**	**313**	*e*Pn	**Pn**	**07 16 03.3**	**+0.4**

SDD ***02*** *07:18:19.4±1.5, 19°.29N×67°.18W, h23km±63km, MD3.6, ML3.1, MW3.4*
NEIC ***02*** *07:18:20.7±1.8, 19°.11N±0°.04×67°.24W±0°.03, h10km±2km, ML3.1/15, Md2.9/19(RSPR), Error ellipse: s-maj=6.2km s-min=4.8km az=8.0*
OSPL ***02*** *07:18:21.5±1.2, 19°.15N×67°.20W, h0km±82km, ML2.9*
RSPR ***02*** *07:18:23.0, 19°.18N×67°.25W, h32km±15km, MD2.9/19*
ISC 02 07:18:18.8±1.3,**19°.22N**±0°.05×**67°.21W**±0°.03,**h17**km±9km,
n73,σ**0°67/91,26C-11D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.75**	**173**		**Pn**	**07 18 34.3**	**-0.4**
AGPR					**Sg**	**07 18 44.2**	**+0.6**
AGPR	**Aguadilla, PR**	**0.75**	**173**	⇓*e*P	**Pn**	**07 18 34.3**	**-0.4**
AGPR	**Aguadilla, PR**	**0.75**	**173**	*e*S	**Sg**	**07 18 44.2**	**+0.6**
AGPR	**Aguadilla, PR**	**0.75**	**173**	⇑*e*Pg	**Pn**	**07 18 34.3**	**-0.4**
AGPR				⇓*e*Sg	**Sn**	**07 18 45.2**	**-0.6**
AGPR				IAML		07 18 51.6	
	comp=N,856nm,0.5s						
AGPR	**Aguadilla, PR**	**0.75**	**173**	*i* P	**Pn**	**07 18 34.3**	**-0.4**
AGPR				*e*S	**Sb**	**07 18 42.3**	**-1.2**
AGPR				IAML		07 18 50.4	
	comp=Z,571nm,0.2s						
IDE	**Isla Desecheo**	**0.86**	**197**		**Pn**	**07 18 36.0**	**-0.3**
IDE					**Sg**	**07 18 47.5**	**+0.5**
IDE	**Isla Desecheo**	**0.86**	**197**	⇑*e*P	**Pn**	**07 18 36.0**	**-0.3**
IDE	**Isla Desecheo**	**0.86**	**197**	*e*S	**Sg**	**07 18 47.5**	**+0.5**
AOPR	**Arecibo Observ**	**0.97**	**153**		**Pg**	**07 18 37.9**	**+0.3**
AOPR					**Sn**	**07 18 51.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.97**	**153**	⇓*e*P	**Pg**	**07 18 37.9**	**+0.3**
AOPR	**Arecibo Observ**	**0.97**	**153**	*e*S	**Sn**	**07 18 51.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.97**	**153**	⇑*e*Pg	**Pg**	**07 18 38.0**	**+0.4**
AOPR				IAML		07 19 02.2	
	comp=N,801nm,0.2s						
EMPR	**Esperanza - Ma**	**0.98**	**139**		**Pg**	**07 18 39.0**	**+1.1**
EMPR					**Sn**	**07 18 52.2**	**+0.9**
EMPR	**Esperanza - Ma**	**0.98**	**139**	⇑*e*P	**Pg**	**07 18 39.0**	**+1.1**
EMPR	**Esperanza - Ma**	**0.98**	**139**	*e*S	**Sn**	**07 18 52.2**	**+0.9**
PRSN	**Puerto Rico Se**	**1.00**	**176**		**Pb**	**07 18 37.6**	**-0.1**
PRSN					**Sb**	**07 18 51.1**	**+0.5**
PRSN	**Puerto Rico Se**	**1.00**	**176**	⇑*e*P	**Pb**	**07 18 37.6**	**-0.1**
PRSN	**Puerto Rico Se**	**1.00**	**176**	*e*S	**Sb**	**07 18 51.1**	**+0.5**
LSP	**Las Mesas**	**1.04**	**173**		**Pg**	**07 18 38.9**	**-0.2**
LSP					**Sb**	**07 18 52.1**	**+0.2**
LSP	**Las Mesas**	**1.04**	**173**	⇑*e*P	**Pg**	**07 18 38.9**	**-0.2**
LSP	**Las Mesas**	**1.04**	**173**	*e*S	**Sb**	**07 18 52.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.07**	**154**		**Pg**	**07 18 39.2**	**-0.3**
UUPR					**Sg**	**07 18 54.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.07**	**154**	⇑*e*P	**Pg**	**07 18 39.2**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.07**	**154**	*e*S	**Sg**	**07 18 54.0**	**+0.5**
ECPR	**Experimental S**	**1.20**	**138**	⇑*e*P	**Pg**	**07 18 42.0**	**-0.1**
ECPR	**Experimental S**	**1.20**	**138**	*e*S	**Sg**	**07 18 57.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.21**	**175**		**Pb**	**07 18 41.2**	**-0.1**
CRPR					**Sb**	**07 18 56.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.21**	**175**	IAML		07 19 01.5	
	comp=N,487nm,0.4s						
CRPR				IAML		07 19 04.1	
	comp=E,381nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.21**	**175**	⇓*e*P	**Pb**	**07 18 41.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.21**	**175**	*e*S	**Sb**	**07 18 56.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.21**	**175**	⇑*e*Pg	**Pb**	**07 18 41.2**	**-0.1**
CRPR				⇑*e*Sg	**Sg**	**07 18 58.1**	**+0.1**
CRPR				IAML		07 19 01.3	
	comp=N,550nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.21**	**175**	*i* P	**Pb**	**07 18 41.2**	**-0.1**
CRPR				*e*S	**Sn**	**07 18 57.4**	**+0.4**
CRPR				IAML		07 19 01.1	
	comp=Z,459nm,0.5s						
MLPR	**Magueyes Islan**	**1.25**	**173**	⇓*e*P	**Pb**	**07 18 41.9**	**-0.1**
MLPR	**Magueyes Islan**	**1.25**	**173**	*e*S	**Sb**	**07 18 57.2**	**-0.7**
MLPR	**Magueyes Islan**	**1.25**	**173**	⇑*e*Pg	**Pb**	**07 18 41.9**	**-0.1**
MLPR				⇑*e*Sg	**Sn**	**07 18 58.6**	**+0.5**
MLPR				IAML		07 19 06.5	
	comp=N,104nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.27**	**166**		**Pg**	**07 18 42.9**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.27**	**166**	⇓*e*P	**Pg**	**07 18 42.9**	**-0.6**
CELP	**Cerrillos**	**1.28**	**152**		**Pg**	**07 18 42.9**	**-0.7**
CELP					**Sb**	**07 18 59.4**	**+0.5**
CELP	**Cerrillos**	**1.28**	**152**	IAML		07 19 03.1	
	comp=E,360nm,0.2s						
CELP				IAML		07 19 03.9	
	comp=N,412nm,0.2s						
CELP	**Cerrillos**	**1.28**	**152**	⇓*e*P	**Pg**	**07 18 42.9**	**-0.7**
CELP	**Cerrillos**	**1.28**	**152**	*e*S	**Sb**	**07 18 59.4**	**+0.5**
CELP	**Cerrillos**	**1.28**	**152**	⇑*e*Pg	**Pg**	**07 18 43.0**	**-0.6**
CELP				⇑*e*Sg	**Sg**	**07 18 59.9**	**-0.5**
CELP				IAML		07 19 01.0	
	comp=N,375nm,0.2s						
OBIP	**Obispado Ponce**	**1.30**	**154**		**Pb**	**07 18 43.1**	**+0.2**
OBIP					**Sn**	**07 18 59.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.30**	**154**	IAML		07 19 05.2	
	comp=N,451nm,0.5s						
OBIP	**Obispado Ponce**	**1.30**	**154**	⇓*e*P	**Pb**	**07 18 43.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.30**	**154**	*e*S	**Sn**	**07 18 59.0**	**-0.3**
PCDR	**Punta Cana, DR**	**1.31**	**238**	⇓*e*Pg	**Pb**	**07 18 43.1**	**+0.1**
PCDR				⇑*e*Sg	**Sb**	**07 19 00.3**	**+0.7**
PCDR				IAML		07 19 05.5	
	comp=N,594nm,0.5s						
GCPR	**Guaynabo City**	**1.40**	**130**		**Pg**	**07 18 44.9**	**-1.0**
GCPR					**Sb**	**07 19 02.1**	**0.0**
GCPR	**Guaynabo City**	**1.40**	**130**	⇓*e*P	**Pg**	**07 18 44.9**	**-1.0**
GCPR	**Guaynabo City**	**1.40**	**130**	*e*S	**Sb**	**07 19 02.1**	**0.0**
SJG	**San Juan**	**1.49**	**137**		**Pb**	**07 18 46.1**	**0.0**
SJG	**San Juan**	**1.49**	**137**	IAML		07 19 13.4	
	comp=N,279nm,0.3s						
SJG				IAML		07 19 14.8	
	comp=N,211nm,0.3s						
SJG	**San Juan**	**1.49**	**137**	⇑*e*P	**Pb**	**07 18 46.1**	**0.0**
SJG	**San Juan**	**1.49**	**137**	*e*S	**Sb**	**07 19 04.2**	**-0.6**
SJG	**San Juan**	**1.49**	**137**	*i* P	**Pg**	**07 18 46.8**	**-0.8**
SJG				IAML		07 19 10.6	
	comp=Z,165nm,0.3s						
HIDR	**Higuey Centro**	**1.56**	**247**	⇑*e*P	**Pb**	**07 18 46.4**	**-0.8**
HIDR	**Higuey Centro**	**1.56**	**247**	*e*S	**Sn**	**07 19 05.2**	**-0.4**
HIDR	**Higuey Centro**	**1.56**	**247**	⇓*e*Pg	**Pb**	**07 18 46.5**	**-0.7**
HIDR				⇓*e*Sg	**Sb**	**07 19 07.8**	**+1.2**
HIDR				IAML		07 19 15.0	
	comp=N,360nm,0.2s						
IGPR	**InterUniversit**	**1.63**	**140**		**Pb**	**07 18 48.2**	**-0.2**
IGPR					**Sb**	**07 19 08.1**	**-0.7**
IGPR	**InterUniversit**	**1.63**	**140**	⇑*e*P	**Pb**	**07 18 48.2**	**-0.2**
IGPR	**InterUniversit**	**1.63**	**140**	*e*S	**Sb**	**07 19 08.1**	**-0.7**
PDPR	**Patillas Dam,**	**1.64**	**136**		**Pb**	**07 18 48.6**	**-0.1**
PDPR				IAML		07 19 15.3	
	comp=E,199nm,0.2s						
PDPR				IAML		07 19 16.5	
	comp=N,200nm,0.2s						
PDPR	**Patillas Dam,**	**1.64**	**136**	⇑*e*P	**Pb**	**07 18 48.0**	**-0.7**
PDPR	**Patillas Dam,**	**1.64**	**136**	*e*S	**Sn**	**07 19 07.5**	**-0.2**
HUMP	**Col San Antoni**	**1.68**	**129**		**Pb**	**07 18 48.8**	**-0.5**
MIDR	**Miches**	**1.75**	**263**	⇑*e*P	**Pb**	**07 18 49.5**	**-1.1**
MIDR	**Miches**	**1.75**	**263**	*e*S	**Sn**	**07 19 10.2**	**-0.3**
MIDR	**Miches**	**1.75**	**263**	⇑*e*Pg	**Pb**	**07 18 50.3**	**-0.3**
MIDR				⇑*e*Sg	**Sb**	**07 19 13.1**	**+0.8**
MIDR				IAML		07 19 19.2	
	comp=N,79nm,0.4s						
MIDR				IAML		07 19 19.9	
	comp=N,80nm,0.8s						
SMDR	**Samana, DR**	**1.87**	**273**	⇑*e*P	**Pn**	**07 18 50.4**	**+0.3**
SMDR	**Samana, DR**	**1.87**	**273**	*e*S	**Sb**	**07 19 14.7**	**-1.0**
DR12	**Loma Pena Alta**	**2.10**	**259**		**Pb**	**07 18 55.5**	**-1.0**
HATOM	**Hato Mayor del**	**2.10**	**259**	⇑*e*Pg	**Pb**	**07 18 55.6**	**-0.9**
HATOM				⇑*e*Sg	**Sg**	**07 19 24.9**	**-1.5**
HATOM				IAML		07 19 27.3	
	comp=N,94nm,0.5s						
SDDR	**Presa de Saban**	**3.86**	**267**		**Pn**	**07 19 20.9**	**+3.3**

KRSC 02 07:22:50.0±1.4,**56°.23N**×**164°.48E,h49**km±20km,**Ml4.0,**
Felt [II] at cape Afrika.,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.93**	**269**	*e*P	Pn	07 23 06.6	-0.1
KBG	**Krutoberegovo**	**0.99**	**272**	*e*P	Pn	07 23 07.6	+0.1
KBG				*e*S	Sn	07 23 20.2	-0.2
BKI	**Bering**	**1.33**	**140**	*e*P	Pn	07 23 15.1	+3.0
BKI				*e*S	Sn	07 23 32.1	+3.5
SMKR	**Semkarok**	**1.71**	**283**	*e*P	Pn	07 23 19.8	+2.5
SMKR				*e*S	Sn	07 23 40.7	+2.7
BDR	**Baidarnaya**	**1.85**	**282**	*e*S	Sn	07 23 44.9	+3.4
ZLN	**Zelenaya**	**2.07**	**266**	*e*P	Pn	07 23 25.7	+3.4
ZLN				*e*S	Sn	07 23 51.0	+4.2
CIRR	**Tsirk**	**2.09**	**268**	*e*P	Pn	07 23 26.0	+3.4
KLY	**Klyuchi**	**2.13**	**274**	*e*P	Pn	07 23 24.4	+1.4
KLY				*e*S	Sn	07 23 48.6	+0.3
BZGR	**Bezymyannyi-Gr**	**2.14**	**264**	*e*P	Pn	07 23 26.3	+3.0
BZWR	**Bezymyannyi-We**	**2.25**	**265**	*e*P	Pn	07 23 28.1	+3.4
BZMR	**Bezymyannaya**	**2.25**	**264**	*e*P	Pn	07 23 28.2	+3.3
MKZ	**Mys Kozlova**	**2.29**	**224**	*e*P	Pn	07 23 27.2	+1.9
MKZ				*e*S	Sn	07 23 52.1	-0.1
KIRR	**Kirishev**	**2.33**	**265**	*e*P	Pn	07 23 29.6	+3.7
KIRR				*e*S	Sn	07 23 56.8	+3.4
KPT	**Kopyto**	**2.40**	**265**	*e*P	Pn	07 23 30.6	+3.8
KMNR	**Kamenistaya**	**2.43**	**260**	*e*P	Pn	07 23 30.7	+3.5
TUMD	**Tumrok D**	**2.52**	**248**	*e*P	Pn	07 23 31.4	+2.9
TUMD				*e*S	Sn	07 24 01.2	+3.3
KOZ	**Kozyrevsk**	**2.58**	**268**	*e*P	Pn	07 23 33.5	+4.3
KOZ				*e*S	Sn	07 24 04.6	+5.2
SRDR	**Sredinnyy**	**2.66**	**274**	*e*P	Pn	07 23 34.1	+3.8
SRDR				*e*S	Sn	07 24 05.8	+4.6
OSSR	**Ossora**	**3.12**	**347**	*e*P	Pn	07 23 39.8	+3.3
OSSR				*e*S	Sn	07 24 13.4	+0.8
ESO	**Esso**	**3.25**	**267**	*e*P	Pn	07 23 42.3	+3.9
SPN	**Mys Shipunski**	**4.07**	**221**	*e*P	Pn	07 23 52.3	+2.8
NLC	**Nalytchevo**	**4.27**	**226**	*e*S	Sn	07 24 42.5	+1.7
SDLR	**Sedlovina**	**4.38**	**230**	*e*P	Pn	07 23 57.6	+3.5
KRER	**Koryakskii**	**4.42**	**231**	*e*P	Pn	07 23 58.4	+3.7
KRX	**Arik**	**4.43**	**232**	*e*P	Pn	07 23 58.7	+4.0
SMAR	**Somma**	**4.43**	**230**	*e*P	Pn	07 23 58.3	+3.5
AVH	**Avacha**	**4.46**	**231**	*e*P	Pn	07 23 59.2	+4.2
GNL	**Ganaly**	**4.54**	**239**	*e*P	Pn	07 24 00.3	+4.1
DALK	**Dalny**	**4.62**	**228**	*e*P	Pn	07 24 00.6	+3.5
KRMR	**Karymshinskiy**	**5.03**	**230**	*e*P	Pn	07 24 07.5	+4.9

ASRS ***02*** *07:29:50.0±0.4, 54°.11N×86°.43E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 07:29:52.9±2.8,**54°.08N**×**86°.43E,h0km,mbtmp3.0**/2,
ML2.7/2,**Error ellipse: s-maj=21.1km s-min=13.1km**
az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**263**	I	I	07 36 20.0	
	baz=81,slow=329,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.96**	**263**	Pg	Pg	07 30 10.6	-0.7
	1.6nm,0.3s,baz=81,slow=18,SNR=8.3						
ZALV				Lg	Lg	07 30 25.3	
	2.2nm,0.3s,baz=81,slow=28,S

NUBE	Las Nubes	2.86	100	P	Pn	07 37 57.2	+0.2
UXUV	UXUV	3.20	334	eP	Pn	07 38 02.6	+1.0
UXUV				eS	Sn	07 38 40.8	+2.0
PMON	Piamonte	3.34	102	S	Sn	07 38 42.5	0.0
CMIG	Matias Romero	3.39	322	eP	Pn	07 38 03.6	-0.6
CMIG				eS	Sn	07 38 42.1	-1.5
PETF	Flores	3.67	47	eP	Pn	07 38 08.2	+0.2
PETF				eS	Sn	07 38 50.6	+0.3
PACA	Pacayal	4.33	102	S	Sn	07 39 07.9	+0.9
NEUV	Arroyo Zacate	4.43	318	eP	Pn	07 38 21.1	+2.5
NEUV				eS	Sn	07 39 08.8	-0.5
SCIG	Sabancuy	4.73	17	eP	Pn	07 38 21.2	-1.4
SCIG				eS	Sn	07 39 16.2	-0.4

ASRS 02 08:04:26.0±1.2, 54°.13N×86°.44E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 02 08:04:26.0±2.8, 54°.17N×86°.57E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=21.8km s-min=13.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.05	259	I	I	08 10 10.0	
	baz=80,slow=326,SNR=1.2						
ZALV	Zalesovo Beam	1.05	259	Pg	Pg	08 04 45.5	-0.7
	1.3nm,0.3s,baz=76,slow=16,SNR=12						
ZALV				Lg	Lg	08 05 01.1	
	3.1nm,0.3s,baz=74,slow=29,SNR=16						
KURBB	Kurchatov Arra	6.07	237	Pn	Pn	08 05 57.3	+0.4
	0.1nm,0.3s,baz=55,slow=13,SNR=2.9						
KURBB				Lg	Lg	08 07 38.6	
	0.1nm,0.3s,baz=54,slow=30,SNR=1.4						
	2.0nm,0.5s						
MKAR	Makanchi Array	7.87	202	Pn	Pn	08 06 22.9	+1.2
	0.1nm,0.3s,baz=24,slow=14,SNR=8.7						
MKAR				Lg	Lg	08 08 37.0	
	baz=24,slow=28						
	0.8nm,0.6s						

ASRS 02 08:04:58.0±0.9, 53°.62N×88°.16E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

NOU 02 08:52:13.3, 40°.30S×173°.66E, h197km, MLv3.8/16, Cook Strait, New Zealand
WEL 02 08:52:15.8±1.1, 40°.5S°.5°×17°.4E±°, h180km±9km, M3.3/26, ML3.2/6, MLv3.3/26, Error ellipse: s-maj=10.0km s-min=6.6km az=107.8, confirmed

ISC 02 08:52:14.7±1.2, 40°.25S±0°.05×173°.58E±0°.05, h181km, n109, σ1$30/113, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.61	155	P	Pn	08 52 41.9	+1.8
DUWZ				S	Sn	08 53 02.2	+2.4
KHLK	Kaihoka Lakes	0.80	247	P	Pn	08 52 42.3	+1.2
KHLK				S	Sn	08 53 03.1	+1.7
TKNZ	Takaka Hill	0.92	211	P	Pn	08 52 43.1	+1.2
TKNZ				S	Sn	08 53 04.3	+1.2
MOTS	Motueka DOC wo	0.98	206	P	Pn	08 52 43.4	+1.2
NNZ	Nelson	0.98	189	P	Pn	08 52 43.6	+1.3
QRZ	Quartz Range	0.99	234	P	Pn	08 52 43.2	+0.9
QRZ	Quartz Range	0.99	234	S	Sn	08 53 05.1	+1.3
QRZ	Quartz Range	0.99	234	P	Pn	08 52 43.4	+1.1
NBEZ	Newall Road No	1.00	13	P	Pn	08 52 43.7	+1.2
KHEZ	Kahui Hut	1.01	20	P	Pn	08 52 43.9	+1.2
KHEZ	Kahui Hut	1.01	20	S	Sn	08 53 06.9	+2.7
KHEZ	Kahui Hut	1.01	20	P	Pn	08 52 43.9	+1.2
LREZ	Lake Rotokare	1.01	39	P	Pn	08 52 43.9	+1.4
HAVS	Havelock	1.04	171	P	Pn	08 52 44.1	+1.4
HAVS				S	Sn	08 53 06.6	+2.1
NEZ	North Egmont	1.05	22	P	Pn	08 52 44.1	+1.0
NELH	Nelson Hospita	1.06	192	P	Pn	08 52 44.2	+1.1
QCCS	Picton Queen C	1.08	162	P	Pn	08 52 45.0	+2.0
PKE	Pukeiti	1.10	17	P	Pn	08 52 44.4	+1.1
TCW	Tory Channel	1.10	151	P	Pn	08 52 45.0	+1.8
DREZ	Durham Road	1.16	25	P	Pn	08 52 44.4	+0.6
KIW	Kapiti Island	1.18	122	P	Pn	08 52 45.5	+1.6
WAZ	Wanganui	1.19	66	P	Pn	08 52 45.8	+1.9
TUWZ	Tuamarina	1.21	167	P	Pn	08 52 46.2	+2.2
BWRS	Waikakaho Road	1.22	168	P	Pn	08 52 45.6	+1.5
MRNZ	Matariki Terra	1.31	208	P	Pn	08 52 45.7	+0.8
OHWZ	Ohakea	1.33	89	P	Pn	08 52 46.9	+1.8
OGWZ	Otaki Gorge	1.34	116	P	Pn	08 52 46.7	+1.5
CAW	Cannon Point	1.42	128	P	Pn	08 52 47.1	+1.2
VRZ	Vera Road	1.44	39	P	Pn	08 52 46.5	+0.3
BSWZ	Blackbirch Sta	1.48	171	P	Pn	08 52 47.7	+1.2
MRZ	Mangatainoka R	1.58	106	P	Pn	08 52 48.5	+1.0
THZ	Tophouse	1.60	198	P	Pn	08 52 48.4	+0.7
HOWZ	Holdsworth Sta	1.61	114	P	Pn	08 52 48.8	+1.0
PKVZ	Pokaka	1.66	55	P	Pn	08 52 48.8	+0.4
POWZ	Post Office Ro	1.68	96	P	Pn	08 52 49.2	+0.8
MTVZ	Mangateitei	1.69	60	P	Pn	08 52 49.2	+0.5
MTW	Mount Morrison	1.72	123	P	Pn	08 52 50.0	+1.2
TRVZ	Turoa	1.79	59	P	Pn	08 52 50.4	+0.5
WNVZ	Wahianoa	1.81	60	P	Pn	08 52 50.2	+0.3
MAVZ	Matarangi	1.81	58	P	Pn	08 52 50.5	+0.3
FWVZ	Far West T-bar	1.81	58	P	Pn	08 52 50.3	+0.2
WHVZ	Whangaehu Hut	1.82	59	P	Pn	08 52 50.7	+0.5
TSZ	Takapari Road	1.83	85	P	Pn	08 52 50.6	+0.5
COVZ	Chateau Observ	1.84	56	P	Pn	08 52 50.4	+0.2
PRWZ	Pori Road	1.85	100	P	Pn	08 52 51.3	+1.1
TWVZ	Taurewa	1.85	51	P	Pn	08 52 50.3	-0.1
MOVZ	Moawhango	1.87	64	P	Pn	08 52 50.5	-0.1
TUVZ	Tukino	1.88	59	P	Pn	08 52 51.2	+0.5
NNVZ	North Ngauruho	1.93	55	P	Pn	08 52 51.4	+0.2
OTVZ	Oturere	1.94	57	P	Pn	08 52 51.7	+0.3
DVHZ	Dannevirke	1.98	92	P	Pn	08 52 52.0	+0.4
HIZ	Hauiti	1.99	30	P	Pn	08 52 51.3	-0.4
HIZ	Hauiti	1.99	30	P	Pn	08 52 51.4	-0.4
DSZ	Denniston Nort	2.01	221	P	Pn	08 52 52.0	+0.1
PNHZ	Pukenui	2.04	81	P	Pn	08 52 52.6	+0.3
KATZ	Kakaramea	2.07	53	P	Pn	08 52 52.9	+0.2
BFZ	Birch Farm	2.08	103	P	Pn	08 52 53.1	+0.5
BFZ	Birch Farm	2.08	103	S	Sn	08 53 21.9	-0.2
BFZ	Birch Farm	2.08	103	P	Pn	08 52 53.3	+0.6
KHZ	Kahutara	2.17	181	P	Pn	08 52 53.4	-0.1
KHZ	Kahutara	2.17	181	S	Sn	08 53 23.6	-0.3
KHZ	Kahutara	2.17	181	P	Pn	08 52 53.5	0.0
RATZ	Rangitukua	2.19	52	P	Pn	08 52 54.3	+0.4
WPHZ	Waipukurau	2.20	86	P	Pn	08 52 54.5	+0.5
ANWZ	Angora Road	2.22	96	P	Pn	08 52 54.6	+0.4
KRHZ	Kereru	2.23	75	P	Pn	08 52 54.5	+0.1
KWHZ	Kaweka Forest	2.34	70	P	Pn	08 52 56.3	+0.7
PRHZ	Porangahau	2.34	91	P	Pn	08 52 56.2	+0.7
BKZ	Black Stump Fm	2.49	65	P	Pn	08 52 56.8	-0.6
BKZ	Black Stump Fm	2.49	65	P	Pn	08 53 29.2	-1.4
BKZ	Black Stump Fm	2.49	65	P	Pn	08 52 56.8	-0.6
KAHZ	Kahuranaki	2.57	81	P	Pn	08 52 58.1	-0.2
MRHZ	Matea Rd	2.61	58	P	Pn	08 52 57.7	-1.0
LTZ	Lake Taylor	2.72	201	P	Pn	08 52 59.4	-0.5
NMHZ	Naumai	2.74	66	P	Pn	08 53 00.7	+0.3
GVZ	Greta Valley S	2.75	188	P	Pn	08 52 59.4	-0.8
MTHZ	Maungataniwha	2.88	62	P	Pn	08 53 01.4	-0.5
TOZ	Tahuroa Road	2.92	31	P	Pn	08 53 01.1	-1.3
INZ	Inchbonnie	2.95	212	P	Pn	08 53 01.8	-0.9
AMCZ	Amberley	3.01	193	P	Pn	08 53 02.6	-0.8
RAHZ	Arahi	3.02	65	P	Pn	08 53 03.3	-0.3
MUGZ	Murupara	3.04	55	P	Pn	08 53 02.8	-1.0
WHHZ	Waihua	3.05	69	P	Pn	08 53 03.7	-0.3
OXZ	Oxford	3.29	200	P	Pn	08 53 05.2	-1.6
URZ	Urewera	3.38	55	P	Pn	08 53 06.3	-1.8
URZ	Urewera	3.38	55	P	Pn	08 53 06.0	-2.0
KNZ	Kokohu	3.39	70	P	Pn	08 53 07.3	-0.8
OKCZ	Okains Bay	3.50	186	P	Pn	08 53 07.7	-1.7
MQZ	McQueen's Vall	3.52	191	P	Pn	08 53 08.2	-1.5
WVZ	Waitaha Valley	3.54	216	P	Pn	08 53 08.4	-1.5
PRGZ	Paritu Road	3.58	70	P	Pn	08 53 09.7	-0.8
MHCZ	Mount Hutt	3.61	204	P	Pn	08 53 09.2	-1.7
MWZ	Matawai	3.61	59	P	Pn	08 53 09.2	-1.7
WACZ	Wakanui South	3.91	199	P	Pn	08 53 13.5	-1.1
RUGZ	Raukumara Rang	3.92	56	P	Pn	08 53 12.4	-2.5
RPZ	Rata Peaks	3.94	208	P	Pn	08 53 13.7	-1.3
RPZ	Rata Peaks	3.94	208	P	Pn	08 53 13.3	-1.7
ARCZ	Arundel	4.11	205	P	Pn	08 53 15.1	-2.0
HAZ	Te Kaha	4.11	54	P	Pn	08 53 14.2	-2.9
PKGZ	Pakihiroa	4.23	57	P	Pn	08 53 16.8	-2.0
PUZ	Puketiti	4.24	61	P	Pn	08 53 16.3	-2.5
WMGZ	Waiomatatini S	4.48	59	P	Pn	08 53 19.4	-2.5
TMZ	Timaru	4.55	204	P	Pn	08 53 21.1	-1.7
MXZ	Matakaoa Point	4.56	55	P	Pn	08 53 21.8	-1.1
JCZ	Jackson Bay	5.22	221	P	Pn	08 53 30.3	-1.3
JCZ	Jackson Bay	5.22	221	P	Pn	08 53 29.8	-1.8
ODZ	Otahua Downs	5.26	203	P	Pn	08 53 30.2	-1.7
ODZ	Otahua Downs	5.26	203	P	Pn	08 53 30.3	-1.7
WKZ	Wanaka	5.68	215	P	Pn	08 53 34.4	-3.0

IDC 02 08:52:33.7±1.5, 24°.09S×66°.97W, h158km±14km, mb3.4/8, mbtmp3.9/14, Error ellipse: s-maj=19.0km s-min=11.1km az=91.0
SJA 02 08:52:34.3±0.7, 24°.15S×67°.09W, h210km, ML4.5, MW4.1
NEIC 02 08:52:35.6±1.5, 24°.16S±0°.07×66°.98W±0°.10, h174km±9km, mb4.5/10, Mwr4.3(GUC), Error ellipse: s-maj=13.2km s-min=9.8km az=96.0
VAO 02 08:52:36.2±0.8, 24°.05S×67°.07W, h195km±6km, mb4.0
GUC 02 08:52:36.8±0.7, 24°.12S×67°.38W, h203km±6km, ML4.6

ISC 02 08:52:35.9±0.6, 24°.12S±0°.03×67°.16W±0°.04, h190km±6km, n133, σ1$51/164, mb3.7/8, 9C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.75	98	‖eP	Pn	08 53 03.8	+0.2
SALTA		0.75	98	eP	Pn	08 52 49.9	-14
SALTA				eP	Pn	08 53 03.8	+0.2
SALTA				IAML		08 53 04.2	
	comp=Z,3μm,1.0s						
AF01	San Pedro de A	1.49	321		Pn	08 53 10.3	+1.3
AF01	San Pedro de A	1.49	321	eP	Pn	08 53 10.7	+1.7
AF01				i S	Sn	08 53 36.8	+2.3
AF01				IAML		08 53 41.0	
	comp=N,3μm,0.2s						
AF01	San Pedro de A	1.49	321	eP	Pn	08 53 10.8	+1.9
AF01				eS	Sn	08 53 37.7	+3.2
AF01				IAML		08 53 44.1	
	comp=Z,1μm,0.2s						
SLA	San Lorenzo	1.62	112	‖eP	Pn	08 53 10.2	+0.3
SLA	San Lorenzo	1.62	112	eP	Pn	08 53 10.3	+0.3
SLA				eS	Sn	08 53 36.8	+0.3
HJA	Humahuaca	1.84	61	eP	Pn	08 53 12.8	+0.4
FSA	Cafayete	2.25	152	eP	Pn	08 53 16.5	0.0
FSA				eS	Sn	08 54 00.9	+13
GO02	Mina Guanaco	2.45	244		Pn	08 53 19.8	+0.9
GO02	Mina Guanaco	2.45	244	⇑iP	Pn	08 53 19.7	+0.9
GO02				eS	Sn	08 53 52.8	+0.5
GO02				IAML		08 53 53.5	
	comp=N,3μm,0.3s						
GO02	Mina Guanaco	2.45	244	eP	Pn	08 53 19.8	+0.9
GO02				eS	Sn	08 53 53.2	+0.9
GO02				IAML		08 53 54.5	
	comp=Z,2μm,0.2s						
YJA	Yavi	2.45	38	i P	Pn	08 53 19.4	+0.3
YJA				i S	Sn	08 53 53.0	+0.4
YJA	Yavi	2.45	38	eP	Pn	08 53 19.7	+0.6
YJA				eS	Sn	08 53 53.6	+1.0
PB06	IPOC Station P	2.63	302		Pn	08 53 21.9	+1.1
PB06	IPOC Station P	2.63	302	‖eP	Pn	08 53 21.8	+1.0
PB06				i S	Sn	08 53 55.5	-0.2
PB06	IPOC Station P	2.63	302	eP	Pn	08 53 21.9	+1.1
PB06				eS	Sn	08 53 55.8	+0.1
PB06				IAML		08 53 57.6	
	comp=Z,2μm,0.1s						
PB09	IPOC Station P	3.00	320		Pn	08 53 26.7	+1.4
PB09	IPOC Station P	3.00	320	⇑iP	Pn	08 53 26.5	+1.3
PB09				i S	Sn	08 54 04.4	+0.6
PB09				IAML		08 54 05.8	
	comp=N,1μm,0.4s						
PB09	IPOC Station P	3.00	320	eP	Pn	08 53 26.6	+1.3
PB09				eS	Sn	08 54 04.7	+0.9
PB09				IAML		08 54 09.4	
	comp=Z,1μm,0.5s						
PB14	IPOC Station P	3.00	260		Pn	08 53 25.9	+0.5
PB14	IPOC Station P	3.00	260	eP	Pn	08 53 25.8	+0.5
PB14	IPOC Station P	3.00	260	eP	Pn	08 53 26.4	+1.1
PB14				eS	Sn	08 54 03.4	-0.5
PB14				IAML		08 54 05.9	
	comp=Z,518nm,0.2s						
PB05	IPOC Station P	3.07	294		Pn	08 53 26.9	+0.9
PB05	IPOC Station P	3.07	294	⇑eP	Pn	08 53 26.4	+0.5
PB05				IAML		08 54 05.9	
	comp=N,792nm,0.4s						
PB05	IPOC Station P	3.07	294	eP	Pn	08 53 26.5	+0.6
PB05				eS	Sn	08 54 05.1	+0.2
PB05				IAML		08 54 07.1	
	comp=Z,502nm,0.2s						
PB03	IPOC Station P	3.15	310		Pn	08 53 28.1	+1.0
PB03	IPOC Station P	3.15	310	⇑eP	Pn	08 53 27.7	+0.7
PB03	IPOC Station P	3.15	310	eP	Pn	08 53 27.7	+0.7
PB03				eS	Sn	08 54 06.2	-0.8
PB03				IAML		08 54 10.7	
	comp=Z,2μm,0.4s						
PB10	IPOC Station P	3.17	280		Pn	08 53 28.1	+1.1
PB10	IPOC Station P	3.17	280	⇑iP	Pn	08 53 28.0	+0.9
PB10				eS	Sn	08 54 05.7	-1.3
PB10				IAML		08 54 08.3	
	comp=N,854nm,0.5s						
PB10	IPOC Station P	3.17	280	eP	Pn	08 53 28.1	+1.1
PB10				eS	Sn	08 54 06.9	-0.1
PB10				IAML		08 54 11.2	
	comp=Z,603nm,0.5s						
AC02	Maricunga	3.24	213		Pn	08 53 29.1	+0.7
AC02	Maricunga	3.24	213	⇑iP	Pn	08 53 29.1	+0.7
AC02				eS	Sn	08 54 10.6	+1.2
AC02	Maricunga	3.24	213	eP	Pn	08 53 29.2	+0.8
AC02				eS	Sn	08 54 14.4	+5.0
AC01	Pan de Azucar	3.72	236		Pn	08 53 33.4	-0.3
AC01	Pan de Azucar	3.72	236	⇑iP	Pn	08 53 33.2	-0.6
AC01				i S	Sn	08 54 16.7	-2.4
AC01	Pan de Azucar	3.72	236	eP	Pn	08 53 33.2	-0.6
AC01				eS	Sn	08 54 17.3	-1.9
AC01				IAML		08 54 18.1	
	comp=Z,204nm,0.3s						
PB01	IPOC Station P	3.74	324		Pn	08 53 34.6	+0.4
PB01	IPOC Station P	3.74	324	eP	Pn	08 53 34.4	+0.2
PB01				eS	Sn	08 54 18.5	-1.4
PB01				IAML		08 54 22.2	
	comp=Z,588nm,0.2s						
PB02	IPOC Station P	3.76	317		Pn	08 53 34.8	+0.4
PB02	IPOC Station P	3.76	317	⇑iP	Pn	08 53 34.5	0.0
PB02				i S	Sn	08 54 17.6	-2.7
PB02	IPOC Station P	3.76	317	eP	Pn	08 53 34.6	+0.2
PB02				eS	Sn	08 54 18.9	-1.4
PB02				IAML		08 54 21.9	
	comp=Z,1μm,0.2s						
PATCX	Punta Patache	4.29	319		Pn	08 53 41.6	+0.4
PATCX	Punta Patache	4.29	319	eP	Pn	08 53 41.3	+0.2
PB08	IPOC Station P	4.37	335		Pn	08 53 43.2	+0.8
PB08	IPOC Station P	4.37	335	eP	Pn	08 53 43.1	+0.7
PB08				eS	Sn	08 54 34.1	-0.4
PB08				IAML		08 54 36.1	
	comp=Z,340nm,0.3s						
GO03	Copiapo	4.44	218		Pn	08 53 41.9	-0.9
GO03	Copiapo	4.44	218	eP	Pn	08 53 41.9	-0.9
GO03				eS	Sn	08 54 33.1	-2.4
GO03				IAML		08 54 37.2	
	comp=Z,254nm,0.3s						
CYA	Choya	4.48	165	eP	Pn	08 53 43.5	+0.2
CYA				eS	Sn	08 54 35.4	-1.0
TA01	Diego Aracena	4.51	321		Pn	08 53 43.7	0.0
TA01	Diego Aracena	4.51	321	eP	Pn	08 53 43.1	-0.7
TA01				eS	Sn	08 54 32.4	-4.7
TA01				IAML		08 54 40.8	
	comp=Z,216nm,0.7s						
VCA	Vinchina	4.70	191	eP	Pn	08 53 47.8	+1.6
VCA				eS	Sn	08 54 52.0	+10
GO01	Chusmiza	4.81	336	eP	Pn	08 53 48.4	+0.3
GO01				eS	Sn	08 54 32.5	-12
GO01				IAML		08 54 46.5	
	comp=Z,187nm,0.3s						
PB11	IPOC Station P	4.92	331	eP	Pn	08 53 48.3	-0.8
PB11				eS	Sn	08 54 44.0	-2.8
PB11				IAML		08 54 46.2	
	comp=Z,318nm,0.4s						
AC04	Llanos de Chal	5.38	220		Pn	08 53 53.3	-1.6
AC04	Llanos de Chal	5.38	220	eP	Pn	08 53 53.1	-1.8
AC04				eS	Sn	08 54 54.9	-2.4
AC04				IAML		08 54 57.2	
	comp=Z,94nm,0.5s						
LCO	Las Campanas	5.82	212		Pn	08 53 59.2	-1.6
PB16	IPOC Station P	6.16	339		Pn	08 54 05.8	+0.2
CFA	Coronel Fontan	7.52	187	P	Pn	08 54 21.3	-1.5
	comp=Z,1.6nm,0.3s,baz=8.7,slow=13,SNR=84						
CFA				S	Sn	08 55 41.4	-6.3
	comp=Z,2.5nm,0.4s,baz=338,slow=15,SNR=8.4						
ZON	Zonda	7.52	190	Pn	Pn	08 54 22.2	-0.7
LPAZ	La Paz	7.84	353		Pn	08 54 28.3	+0.6
LPAZ	La Paz	7.84	353	P	Pn	08 54 27.4	-0.3
	comp=Z,3.1nm,0.3s,baz=157,slow=10,SNR=41						
LPAZ				S	Sn	08 55 54.5	-1.8
	comp=Z,5.4nm,0.6s,baz=187,slow=14,SNR=5.7						
LPAZ	La Paz	7.84	353	eP	Pn	08 54 28.4	+0.6
MURT	Porto Murtinho	9.13	76	eP	Pn	08 54 43.0	-1.0
CPUP	Villa Florida	9.17	106	Pn	Pn	08 54 40.7	-3.7
CPUP	Villa Florida	9.17	106	P	Pn	08 54 39.7	-4.6
	comp=Z,1.3nm,0.9s,baz=330,slow=7.7,SNR=5.5						
CPUP	Villa Florida	9.17	106	eP	Pn	08 54 43.9	-0.5
SIV	San Ignacio	9.90	36	P	Pn	08 54 51.6	-2.5
	comp=Z,4.4nm,0.4s,baz=213,slow=14,SNR=28						
SIV				S	Sn	08 56 29.2	-15
	comp=Z,1.5nm,0.5s,baz=219,slow=17,SNR=4.2						
BDQN	Bodoquena, MS	10.30	71	eP	Pn	08 54 56.6	-2.6
PSAL	Palomas, Salto	10.94	131	eP	Pn	08 55 06.3	-1.1
AMBA	Amambai (Brazi	11.22	86	eP	Pn	08 55 11.2	+0.1
PTLB	Pontes e Lacer	11.46	43		Pn	08 55 12.3	-1.8
PTLB	Pontes e Lacer	11.46	43	eP	Pn	08 55 12.1	-2.0
VILB	Vilhena	12.91	32	P	P	08 55 35.2	-1.1
VILB	Vilhena	12.91	32	eP	Pn	08 55 31.6	-1.0
SALV	Santo Antonio	13.52	55	eP	Pn	08 55 38.4	-1.9
CPSB	Cacapava Do Su	13.71	120	eP	Pn	08 55 41.1	-1.4
PTGB	Pitanga	13.76	96	eP	Pn	08 55 43.4	0.0
ITAB	Concordia	13.90	106	Pn	Pn	08 55 43.1	-1.8
ITAB	Concordia	13.90	106	eP	Pn	08 55 44.3	-0.7
PLTB	Pedras Altas	14.19	125	Pn	Pn	08 55 46.1	-2.4
TRQA	Tornquist	14.58	164	Pn	Pn	08 55 52.3	-1.0
LDASE	Londrina, Braz	14.71	90	eP	Pn	08 55 53.6	-1.4
PDRB	Porto dos Gac	15.90	40	eP	P	08 56 08.1	-1.4
FRTB	Fartura	16.13	91	eP	P	08 56 12.0	0.0
ITRB	Iturama	16.19	78	eP	P	08 56 12.0	-0.7
ARAG	Araguaiana, MT	16.67	63	eP	P	08 56 17.0	-0.9
PLCA	Paso Flores	16.81	189		Pn	08 56 20.1	-0.3
PLCA	Paso Flores	16.81	189	P	Pn	08 56 20.3	-0.1
	comp=Z,2.3nm,0.8s,baz=7.5,slow=13,SNR=7.8						
CLDB	Colider	17.04	41	eP	P	08 56 21.2	-0.8
BB19B	Bebedouro	17.47	84	eP	P	08 56 26.9	+0.2
SPB	Sao Paulo	18.05	92	eP	P	08 56 32.5	-0.5
RCLB	Rio Claro- Sao	18.11	89	eP	P	08 56 32.7	-1.1
PET01	Itanhaem-SP	18.14	95	eP	P	08 56 33.5	-0.5
VAO	Valinhos	18.54	91		P	08 56 37.2	-1.2
VAO	Valinhos	18.54	91	eP	P	08 56 37.4	-1.1
IPMB	Ipameri, GO	18.70	75	eP	P	08 56 39.6	-0.5
LL01	San Ignacio de	18.73	192	P	P	08 56 41.1	+1.0
LL01				IAmb	IAmb	08 56 45.9	
	comp=Z,15nm,0.7s						
SNDB	Serra Nova Dou	19.30	54	eP	P	08 56 45.3	-1.2
LL02	Futaleuf	19.41	190		P	08 56 48.2	+0.6
LL02				IAmb	IAmb	08 56 51.7	
	comp=Z,22nm,0.8s						
PARB	Paraibuna	19.73	92	eP	P	08 56 50.7	-0.5
BDFB	Brasilia	19.86	68		P	08 56 51.5	-1.3
BDFB				IAmb	IAmb	08 56 53.2	
	comp=Z,34nm,0.9s						
BDFB	Brasilia	19.86	68	P	P	08 56 51.8	-1.0
	comp=Z,33nm,0.8s,baz=246,slow=9.6,SNR=34						
NPGB	Novo Progresso	20.40	36	eP	P	08 56 56.0	-2.3
TEFE	Tefe	20.63	7	eP	P	08 57 00.1	-0.7
MACA	Manacapuru-AM	21.75	18		P	08 57 11.2	-1.3
MACA				IAmb	IAmb	08 57 26.4	
	comp=Z,7.8nm,0.6s						
MACA	Manacapuru-AM	21.75	18	eP	P	08 57 12.2	-0.3
ITTB	Itaituba	22.51	31	eP	P	08 57 18.3	-1.5
DIAM	Diamantina, MG	22.63	80	eP	P	08 57 20.4	-0.6
DUB01	Friburgo-RJ	22.88	90	eP	P	08 57 22.4	-0.7
JANB	Januaria	23.30	71	eP	P	08 57 25.4	-1.6
SMTB	Santa Maria do	24.07	54	eP	P	08 57 33.4	-0.7
SDBA	SAO DESIDERIO	24.09	65	eP	P	08 57 32.5	-1.7
PRPB	Parauapebas	24.41	46	eP	P	08 57 35.5	-1.6
SJMB	Sao Joao De Ma	24.75	82	eP	P	08 57 38.0	-2.1
SNAA	Sanae	59.29	161	⇑P	P	09 02 17.7	+0.5
	comp=Z,33nm,0.6s						
SNAA	Sanae	59.29	161	P	P	09 02 18.4	+1.2
SNAA				IAmb	IAmb	09 02 36.8	
	comp=Z,4.2nm,1.2s				

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.45**	**130**	⇓*i*P	**Pn**	**09 18 59.7**	**+1.7**
SALTA		**0.45**	**130**	*e*P	**Pn**	**09 18 54.0**	**-4.0**
SALTA				*e*P	**Pn**	**09 18 59.6**	**+1.7**
SLA	**San Lorenzo**	**1.35**	**126**	*e*P	**Pn**	**09 19 04.5**	**+1.6**
SLA				*i*S	**S**	**09 19 29.4**	**+0.9**
SLA	**San Lorenzo**	**1.35**	**126**	*e*P	**Pn**	**09 19 04.8**	**+1.9**
SLA				*e*S	**S**	**09 19 31.4**	**+2.9**
HJA	**Humahuaca**	**1.40**	**59**	*e*P	**Pn**	**09 19 04.8**	**+1.3**
AF01	**San Pedro de A**	**1.67**	**306**		**Pn**	**09 19 07.5**	**+1.7**
AF01	**San Pedro de A**	**1.67**	**306**	⇑*i*P	**Pn**	**09 19 08.2**	**+2.4**
AF01	**San Pedro de A**	**1.67**	**306**	*e*P	**Pn**	**09 19 07.7**	**+1.9**
AF01				*e*S	S	09 19 44.4	+11
YJA	**Yavi**	**2.07**	**32**	*e*P	**Pn**	**09 19 11.3**	**+1.4**
YJA				*i*S	**S**	**09 19 41.7**	**+1.0**
YJA	**Yavi**	**2.07**	**32**	*e*P	**Pn**	**09 19 11.6**	**+1.6**
YJA				*e*S	**S**	**09 19 37.8**	**-2.9**
FSA	**Cafayete**	**2.27**	**163**	*e*P	**Pn**	**09 19 13.2**	**+1.6**
FSA				*e*S	**S**	**09 19 39.4**	**-4.7**
GO02	**Mina Guanaco**	**2.89**	**244**		**Pn**	**09 19 20.3**	**+1.6**
GO02	**Mina Guanaco**	**2.89**	**244**	⇓*i*P	**Pn**	**09 19 20.3**	**+1.6**
GO02				*i*S	**S**	**09 19 58.6**	**+2.0**
GO02				IAML		09 19 59.4	
	comp=N,580nm,0.2s						
GO02	**Mina Guanaco**	**2.89**	**244**	*e*P	**Pn**	**09 19 20.5**	**+1.8**
GO02				*e*S	**S**	**09 19 58.5**	**+2.0**
GO02				IAML		09 20 00.5	
	comp=Z,357nm,0.4s						
PB06	**IPOC Station P**	**2.90**	**294**		**Pn**	**09 19 19.7**	**+1.0**
PB06	**IPOC Station P**	**2.90**	**294**	⇑*i*P	**Pn**	**09 19 20.2**	**+1.5**
PB06				*i*S	**S**	**09 19 56.5**	**+0.1**
PB06				IAML		09 19 58.4	
	comp=N,1μm,0.1s						
PB06	**IPOC Station P**	**2.90**	**294**	*e*P	**Pn**	**09 19 20.1**	**+1.5**
PB06				*e*S	**S**	**09 19 56.6**	**+0.2**
PB06				IAML		09 20 00.9	
	comp=Z,580nm,0.2s						
PB09	**IPOC Station P**	**3.16**	**312**		**Pn**	**09 19 22.9**	**+1.2**
PB09	**IPOC Station P**	**3.16**	**312**	⇑*i*P	**Pn**	**09 19 23.4**	**+1.6**
PB09				*i*S	**S**	**09 20 03.1**	**+1.2**
PB09	**IPOC Station P**	**3.16**	**312**	*e*P	**Pn**	**09 19 23.5**	**+1.7**
PB09				*e*S	**S**	**09 20 03.4**	**+1.5**
PB09				IAML		09 20 06.0	
	comp=Z,272nm,0.2s						
PB03	**IPOC Station P**	**3.37**	**303**		**Pn**	**09 19 25.2**	**+1.0**
PB03	**IPOC Station P**	**3.37**	**303**	*e*P	**Pn**	**09 19 25.3**	**+1.0**
PB03				*i*S	**S**	**09 20 05.5**	**-1.0**
PB03	**IPOC Station P**	**3.37**	**303**	*e*P	**Pn**	**09 19 24.5**	**+0.3**
PB03				*e*S	**S**	**09 20 06.2**	**-0.2**
PB03				IAML		09 20 07.0	
	comp=Z,850nm,0.2s						
PB05	**IPOC Station P**	**3.38**	**288**		**Pn**	**09 19 25.0**	**+0.6**
PB05	**IPOC Station P**	**3.38**	**288**	*e*P	**Pn**	**09 19 25.4**	**+1.0**
PB05				*i*S	**S**	**09 20 05.4**	**-1.2**
PB05	**IPOC Station P**	**3.38**	**288**	*e*P	**Pn**	**09 19 25.1**	**+0.8**
PB05				*e*S	**S**	**09 20 07.5**	**+0.9**
PB05				IAML		09 20 09.1	
	comp=Z,209nm,0.2s						
PB14	**IPOC Station P**	**3.44**	**258**	*e*P	**Pn**	**09 19 27.2**	**+2.0**
PB14				*i*S	**S**	**09 20 07.9**	**-0.2**
PB14	**IPOC Station P**	**3.44**	**258**	*e*P	**Pn**	**09 19 27.7**	**+2.5**
PB14				*e*S	**S**	**09 20 08.4**	**+0.3**
PB14				IAML		09 20 10.0	
	comp=Z,191nm,0.3s						
PB10	**IPOC Station P**	**3.55**	**276**		**Pn**	**09 19 27.1**	**+0.9**
PB10	**IPOC Station P**	**3.55**	**276**	*e*P	**Pn**	**09 19 27.4**	**+1.2**
PB10				*i*S	**S**	**09 20 09.1**	**-0.9**
PB10	**IPOC Station P**	**3.55**	**276**	*e*P	**Pn**	**09 19 27.5**	**+1.3**
PB10				*e*S	**S**	**09 20 10.0**	**0.0**
PB10				IAML		09 20 12.3	
	comp=Z,174nm,0.2s						
AC02	**Maricunga**	**3.62**	**217**		**Pn**	**09 19 28.6**	**+1.0**
AC02	**Maricunga**	**3.62**	**217**	*e*P	**Pn**	**09 19 25.8**	**-1.7**
PB01	**IPOC Station P**	**3.86**	**318**		**Pn**	**09 19 30.3**	**+0.2**
PB01	**IPOC Station P**	**3.86**	**318**	*e*P	**Pn**	**09 19 30.8**	**+0.7**
PB01				*i*S	**S**	**09 20 15.9**	**-1.1**
PB01	**IPOC Station P**	**3.86**	**318**	*e*P	**Pn**	**09 19 30.7**	**+0.6**
PB01				*e*S	**S**	**09 20 16.5**	**-0.5**
PB01				IAML		09 20 17.9	
	comp=Z,250nm,0.2s						
PB02	**IPOC Station P**	**3.93**	**311**		**Pn**	**09 19 30.7**	**-0.2**
PB02	**IPOC Station P**	**3.93**	**311**	⇑*i*P	**Pn**	**09 19 31.2**	**+0.3**
PB02				*i*S	**S**	**09 20 16.3**	**-2.2**
PB02	**IPOC Station P**	**3.93**	**311**	*e*P	**Pn**	**09 19 31.4**	**+0.4**
PB02				*e*S	**S**	**09 20 18.1**	**-0.5**
PB02				IAML		09 20 21.0	
	comp=Z,585nm,0.3s						
AC01	**Pan de Azucar**	**4.16**	**237**	*e*P	**Pn**	**09 19 33.9**	**+0.2**
AC01				*i*S	**S**	**09 20 22.1**	**-1.5**
AC01	**Pan de Azucar**	**4.16**	**237**	*e*P	**Pn**	**09 19 34.0**	**+0.4**
AC01				*e*S	**S**	**09 20 22.7**	**-0.8**
AC01				IAML		09 20 26.0	
	comp=Z,68nm,0.4s						
PB08	**IPOC Station P**	**4.40**	**329**		**Pn**	**09 19 38.2**	**+1.1**
PB08	**IPOC Station P**	**4.40**	**329**	*e*P	**Pn**	**09 19 38.2**	**+1.1**
PB08				*e*S	**S**	**09 20 29.9**	**+0.2**
PB08				IAML		09 20 34.7	
	comp=Z,57nm,0.3s						
PATCX	**Punta Patache**	**4.44**	**314**		**Pn**	**09 19 36.8**	**-0.5**
CYA	**Choya**	**4.56**	**170**	*e*P	**Pn**	**09 19 40.9**	**+2.1**
CYA				*e*S	S	09 20 20.5	-12
TA01	**Diego Aracena**	**4.64**	**316**		**Pn**	**09 19 39.3**	**-0.5**
TA01	**Diego Aracena**	**4.64**	**316**	*e*S	**S**	**09 20 33.0**	**-1.5**
TA01				IAML		09 20 33.8	
	comp=Z,65nm,0.5s						
GO01	**Chusmiza**	**4.83**	**331**		**Pn**	**09 19 42.7**	**+0.1**
GO01	**Chusmiza**	**4.83**	**331**	*e*S	**S**	**09 20 39.8**	**+0.1**
GO01				IAML		09 20 41.7	
	comp=Z,72nm,0.7s						
GO03	**Copiapo**	**4.83**	**220**	*e*S	**S**	**09 20 38.3**	**-0.8**
GO03				IAML		09 20 40.4	
	comp=Z,90nm,0.3s						
VCA	**Vinchina**	**4.97**	**195**	*e*P	**Pn**	**09 19 46.4**	**+2.4**
PB11	**IPOC Station P**	**4.97**	**326**	*e*P	Pn	09 19 31.6	-12
PB11				*e*S	**S**	**09 20 40.4**	**-2.1**
PB11				IAML		09 20 42.8	
	comp=Z,99nm,0.1s						
AC04	**Llanos de Chal**	**5.79**	**222**	Pn	**Pn**	**09 19 54.6**	**+0.3**
PB16	**IPOC Station P**	**6.15**	**334**		**Pn**	**09 19 59.7**	**+0.1**
LCO	**Las Campanas**	**6.19**	**214**	Pn	**Pn**	**09 19 59.4**	**-0.4**
PB18	**Visviri**	**6.82**	**337**		**Pn**	**09 20 09.8**	**+1.6**
LPAZ	**La Paz**	**7.72**	**350**		**Pn**	**09 20 20.1**	**+0.1**
LPAZ	**La Paz**	**7.72**	**350**	P	**Pn**	**09 20 20.4**	**+0.4**
	comp=Z,9.2nm,0.3s,baz=153,slow=12,SNR=140						
LPAZ				S	**S**	**09 21 45.6**	**-2.1**
	comp=Z,2.6nm,0.5s,baz=217,slow=20,SNR=1.8						
CO03	**El Pedregal**	**7.73**	**206**	Pn	**Pn**	**09 20 18.2**	**-1.3**
CFA	**Coronel Fontan**	**7.76**	**190**	P	**Pn**	**09 20 19.0**	**-0.8**
	comp=Z,7.5nm,0.3s,baz=24,slow=14,SNR=119						
CFA				S	**S**	**09 21 41.9**	**-5.7**
	comp=Z,11nm,0.3s,baz=66,slow=18,SNR=22						
ZON	**Zonda**	**7.78**	**193**		**Pn**	**09 20 19.7**	**-0.4**
VA03	**San Esteban**	**9.42**	**200**	Pn	**Pn**	**09 20 42.1**	**+0.6**
SIV	**San Ignacio**	**9.51**	**35**	P	**Pn**	**09 20 40.9**	**-1.8**
	comp=Z,5.0nm,0.6s,baz=219,slow=12,SNR=24						
MT13	**San Alfonso**	**10.26**	**197**		**Pn**	**09 20 51.9**	**-0.4**
MT01	**Popeta**	**10.66**	**201**	Pn	**Pn**	**09 20 55.7**	**-1.6**
BO02	**Sierra Bellavi**	**11.39**	**197**		**Pn**	**09 21 05.3**	**-1.4**
BI02	**San Fabin de**	**13.28**	**196**	Pn	**Pn**	**09 21 28.5**	**-2.0**
TRQA	**Tornquist**	**14.65**	**165**	P	**Pn**	**09 21 46.7**	**-0.5**
PLCA	**Paso Flores**	**17.06**	**190**	P	**P**	**09 22 14.4**	**-0.4**
PLCA				IAmb	IAmb	09 22 51.5	
	comp=Z,6.7nm,1.4s						
PLCA	**Paso Flores**	**17.06**	**190**	P	**Pn**	**09 22 16.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=13,slow=13,SNR=9.9						
LL01	**San Ignacio de**	**19.00**	**193**	P	**P**	**09 22 35.0**	**-0.7**
LL01				IAmb	IAmb	09 22 41.8	
	comp=Z,4.3nm,0.5s						
BDFB	**Brasilia**	**19.42**	**68**	P	**P**	**09 22 39.3**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=245,slow=7.0,SNR=3.8						
GO07	**Milladeo Hill,**	**19.97**	**195**	P	**P**	**09 22 46.3**	**+0.1**
BOAV	**Boa Vista**	**26.86**	**14**	P	**P**	**09 23 50.1**	**-1.3**
BOAV				IAmb	IAmb	09 24 18.3	
	comp=Z,6.7nm,1.5s						
PMSA	**Palmer Station**	**40.87**	**178**	P	**P**	**09 25 49.4**	**-1.7**
PMSA				IAmb	IAmb	09 26 23.9	
	comp=Z,31nm,1.1s						
TXAR	**Lajitas Array**	**63.78**	**324**	P	**P**	**09 28 40.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=142,slow=8.2,SNR=7.7						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**66.27**	**180**	P	**P**	**09 28 58.7**	**+3.1**
QSPA				IAmb	IAmb	09 28 59.6	
	comp=Z,6.5nm,1.4s						
QSPA	**South Pole Qui**	**66.27**	**180**	P	**P**	**09 28 59.0**	**+3.5**
	comp=Z,0.3nm,0.4s,baz=148,slow=19,SNR=9.3						
R40A	**Maddies Statio**	**66.38**	**338**	P	**P**	**09 28 56.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.30**	**69**	P	**P**	**09 29 55.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=262,slow=5.1,SNR=8.6						
	comp=Z,0.6nm,0.4s						
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**	**09 30 01.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=142,slow=1.2,SNR=2.5						
	comp=Z,0.2nm,0.5s						
ESDC	**Sonseca Array**	**86.17**	**43**	P	**P**	**09 30 48.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=237,slow=4.4,SNR=1.9						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**128.62**	**204**	PKP	**PKiKP**	**09 37 14.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=124,slow=1.5,SNR=7.3						
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	**PKiKP**	**09 37 19.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=150,slow=1.8,SNR=7.6						
KURBB	**Kurchatov Arra**	**142.17**	**36**	PKP	**PKiKP**	**09 37 39.3**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=308,slow=1.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**143.21**	**28**	PKP	**PKPdf**	**09 37 38.3**	**-0.5**
	comp=Z,1.1nm,0.2s,baz=305,slow=5.1,SNR=6.5						
MKAR	**Makanchi Array**	**146.31**	**40**	PKPbc	**PKPbc**	**09 37 46.4**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=314,slow=2.9,SNR=13						

*SDD **02** 09:34:50.6±1.2, 18°.94N×66°.65W, h46km±25km, MD2.4, ML1.7, MW2.1*
*RSPR **02** 09:34:51.5, 18°.95N×66°.82W, h14km±1km, MD2.8/7*

ISC 02 09:34:49.3±3.0, 18°.91N±0°.09×66°.79W±0°.06, h18km±14km, n25, σ0°54/31, 8C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.54**	**215**	⇓*e*P	**Pn**	**09 35 01.3**	**-0.8**
AGPR	**Aguadilla, PR**	**0.54**	**215**	*e*S	**Sb**	**09 35 09.3**	**+1.7**
AOPR	**Arecibo Observ**	**0.56**	**177**	⇑*e*P	**Pn**	**09 35 02.5**	**+0.1**
AOPR	**Arecibo Observ**	**0.56**	**177**	*e*S	**Sn**	**09 35 10.9**	**-0.5**
AOPR	**Arecibo Observ**	**0.56**	**177**	*e*Pg	**Pn**	**09 35 02.5**	**+0.1**
AOPR				*e*Sg	**Sn**	**09 35 10.5**	**-1.0**
AOPR				IAML		09 35 11.9	
	comp=N,53nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.66**	**175**	⇑*e*P	**Pn**	**09 35 03.4**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.66**	**175**	*e*S	**Sn**	**09 35 13.2**	**-0.4**
ECPR	**Experimental S**	**0.71**	**146**	⇑*e*P	**Pn**	**09 35 04.8**	**+0.3**
ECPR	**Experimental S**	**0.71**	**146**	*e*S	**Sn**	**09 35 14.8**	**-0.3**
PRSN	**Puerto Rico Se**	**0.77**	**206**	*e*Pg	**Pn**	**09 35 04.8**	**-0.5**
PRSN				*e*Sg	**Sn**	**09 35 17.3**	**+0.9**
PRSN				IAML		09 35 39.3	
	comp=N,63nm,0.3s						
LSP	**Las Mesas**	**0.79**	**201**	⇑*e*P	**Pn**	**09 35 05.3**	**-0.2**
LSP	**Las Mesas**	**0.79**	**201**	*e*S	**Sn**	**09 35 16.6**	**-0.2**
IDE	**Isla Desecheo**	**0.84**	**231**	⇑*e*P	**Pn**	**09 35 05.8**	**-0.4**
IDE	**Isla Desecheo**	**0.84**	**231**	*e*S	**Sg**	**09 35 16.6**	**-0.1**
CELP	**Cerrillos**	**0.85**	**167**	⇑*e*P	**Pn**	**09 35 07.1**	**+0.6**
CELP	**Cerrillos**	**0.85**	**167**	*e*S	**Sn**	**09 35 18.6**	**+0.1**
CELP	**Cerrillos**	**0.85**	**167**	*e*Pg	**Pn**	**09 35 06.0**	**-0.5**
CELP				*e*Sg	**Sb**	**09 35 16.5**	**-0.3**
CELP				IAML		09 35 17.6	
	comp=N,20nm,3.0s						
CRPR	**Cabo Rojo, PR**	**0.95**	**199**	⇑*e*P	**Pn**	**09 35 07.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.95**	**199**	*e*S	**Sg**	**09 35 20.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.95**	**199**	*e*Pg	**Pn**	**09 35 07.8**	**0.0**
CRPR				*e*Sg	**Sb**	**09 35 19.7**	**+0.1**
CRPR				IAML		09 35 21.9	
	comp=N,13nm,0.3s						
MLPR	**Magueyes Islan**	**0.97**	**195**	⇑*e*P	**Pn**	**09 35 08.0**	**0.0**
MLPR	**Magueyes Islan**	**0.97**	**195**	*e*S	**Sb**	**09 35 20.1**	**+0.1**
MLPR	**Magueyes Islan**	**0.97**	**195**	*e*Pg	**Pn**	**09 35 08.0**	**0.0**
MLPR				*e*Sg	**Sb**	**09 35 20.6**	**+0.5**
MLPR				IAML		09 35 32.5	
	comp=N,6.9nm,2.7s						
PDPR	**Patillas Dam,**	**1.15**	**141**	*e*S	**Sn**	**09 35 25.6**	**-0.1**
HATOM	**Hato Mayor del**	**2.46**	**268**	*e*Pg	**Pn**	**09 35 28.7**	**0.0**
HATOM				*e*Sg	**Sn**	**09 35 58.0**	**-0.3**
HATOM				IAML		09 36 08.4	
	comp=N,1.2nm,0.8s						

*CATAC **02** 09:49:39.2±0.8, 14°N±4°×9°3W±°, h18km±4km, M3.0/8, MLv3.0/8, Error ellipse: s-maj=9.8km s-min=4.7km az=22.3, confirmed*
*MEX **02** 09:49:40.9±0.8, 14°.58N×92°.72W, h80km±17km, MD4.0*
*GCG **02** 09:49:41.8±1.1, 14°.50N×92°.67W, h46km±41km, MD4.0, ML3.4*

ISC 02 09:49:39.1±1.9, 14°.56N±0°.07×92.75W±0°.05, h15km±11km, n18, σ1°08/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.58**	**53**	*e*P	**Pn**	**09 49 53.5**	**+0.6**
THIG				*e*S	**Sn**	**09 50 03.6**	**+1.5**
SMCA	**Catarina**	**0.71**	**65**	*e*P	**Pn**	**09 49 55.0**	**+0.3**
SMCA				*e*S	**Sn**	**09 50 05.4**	**0.0**
PATR	**El Naranjo**	**0.74**	**42**	*e*P	**Pn**	**09 49 55.4**	**+0.1**
PATR				*e*S	**Sn**	**09 50 06.0**	**-0.5**
CHUJ	**Union Juarez**	**0.81**	**49**	*e*P	**Pn**	**09 49 56.2**	**-0.1**
CHUJ				*e*S	**Sn**	**09 50 08.3**	**0.0**
PAVE	**Pavencul**	**0.84**	**41**	*e*P	**Pn**	**09 49 56.9**	**+0.3**
PAVE				*e*S	**Sn**	**09 50 09.4**	**+0.5**
RTAL	**Retalhuleu**	**1.02**	**92**	*e*P	**Pn**	**09 49 59.0**	**+0.1**
RTAL				*e*S	**Sg**	**09 50 12.1**	**0.0**
RTAL	**Retalhuleu**	**1.02**	**92**	P	**Pn**	**09 49 59.4**	**+0.5**
RTAL				S	**Sg**	**09 50 12.1**	**0.0**
PCIG		**1.23**	**338**	*e*P	**Pn**	**09 50 01.4**	**-0.3**
PCIG				*e*S	**Sb**	**09 50 17.1**	**-0.7**
QUEO	**Labor Ovalle**	**1.23**	**75**	*e*P	**Pb**	**09 50 02.2**	**0.0**
QUEO				*e*S	**Sg**	**09 50 19.3**	**+0.3**
QUEO				IAML		09 50 19.8	
	comp=N,657nm,0.2s						
CCIG	**Comitan**	**1.81**	**19**	*e*P	**Pg**	**09 50 13.3**	**-0.6**
CCIG				*e*S	**Sg**	**09 50 38.5**	**+1.0**
CCIG	**Comitan**	**1.81**	**19**	*e*P	**Pb**	**09 50 12.5**	**+0.4**
CCIG	**Comitan**	**1.81**	**19**	P	**Pb**	**09 50 13.1**	**+1.0**
CCIG				S	**Sg**	**09 50 37.1**	**-0.4**
TGIG		**2.24**	**351**	*e*P	**Pn**	**09 50 17.3**	**+1.6**
TGIG				*e*S	**Sb**	**09 50 45.5**	**-1.3**
TGIG		**2.24**	**351**	*e*P	**Pn**	**09 50 17.4**	**+1.6**
NILT	**Santiago Nilte**	**2.69**	**318**	*e*S	**Sn**	**09 50 53.5**	**-0.7**
UXUV	**UXUV**	**3.06**	**334**	*e*P	**Pn**	**09 50 28.8**	**+1.8**
UXUV				*e*S	**Sb**	**09 51 08.2**	**-2.2**
CMIG	**Matias Romero**	**3.25**	**321**	*e*P	**Pn**	**09 50 29.7**	**+0.1**
CMIG				*e*S	**Sn**	**09 51 06.1**	**-2.1**
NEUV	**Arroyo Zacate**	**4.30**	**317**	*e*P	**Pn**	**09 50 46.8**	**+2.7**
NEUV				*e*S	**Sn**	**09 51 34.0**	**+0.1**

*IDC **02** 09:55:57.9±1.1, 12°.75S×45°.44E, h0km, mb3.8/5, mbtmp3.9/8, ML4.4/3, MS3.1/2, Error ellipse: s-maj=35.9km s-min=22.2km az=148.0*
*NEIC **02** 09:56:00.5±1.1, 12°.87S±0°.10×45°.5E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=27.7km s-min=16.9km az=270.0*

ISC 02 09:55:59.4±0.6, 12°.98S±0°.06×45°.55E±0°.08, h10km, n34, σ1°98/43, mb4.1/10, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.28**	**97**	P	**Pn**	**09 57 06.3**	**+1.6**
SBV				S	**Sn**	**09 57 51.7**	**-2.9**
OPO	**Ambohidratompo**	**5.78**	**164**	Pn	**Pn**	**09 57 28.2**	**+2.8**
	2.0nm,0.3s,baz=335,slow=15,SNR=158						
OPO				Sn	**Sn**	**09 58 30.0**	**-1.8**
	3.8nm,0.3s,baz=276,slow=19,SNR=15						
	55nm,0.5s						
OPO	**Ambohidratompo**	**5.78**	**164**	P	**Pn**	**09 57 28.4**	**+3.0**
OPO				S	**Sn**	**09 58 29.9**	**-2.0**
FIRM	**Firavahana**	**5.83**	**168**	P	**Pn**	**09 57 29.1**	**+3.0**
FIRM				S	**Sn**	**09 58 31.8**	**-1.4**
ATG	**Ambohiby**	**5.90**	**174**	P	**Pn**	**09 57 29.4**	**+2.4**
ATG				S	**Sn**	**09 58 32.7**	**-2.1**
ABPO	**Ambohimpanom**	**6.22**	**165**		**Pn**	**09 57 34.1**	**+2.7**
ABPO				Sn	**Sn**	**09 58 40.2**	**-2.4**
ABPO	**Ambohimpanom**	**6.22**	**165**	S	**Sn**	**09 58 40.1**	**-2.6**
ABPO				P	**Pn**	**09 57 34.0**	**+2.6**
MDSM	**Mandiavato**	**6.24**	**167**	P	**Pn**	**09 57 34.6**	**+2.9**
MDSM				S	**Sn**	**09 58 41.0**	**-2.2**
AVY	**Angavokely**	**6.28**	**161**	P	**Pn**	**09 57 34.6**	**+2.4**
AVY				S	**Sn**	**09 58 40.4**	**-3.8**
DGRM	**Ambatolahisoa**	**6.30**	**172**	P	**Pn**	**09 57 35.3**	**+2.8**
DGRM				S	**Sn**	**09 58 42.0**	**-2.7**
ABM	**Ambohimiarambe**	**6.98**	**166**	P	**Pn**	**09 57 44.7**	**+2.7**
VOI	**Vohitsoka**	**8.96**	**173**	Pn	**Pn**	**09 58 11.2**	**+2.2**
FOMA	**Nahampoana Res**	**12.01**	**174**	Pn	**Pn**	**09 58 51.9**	**+1.2**
LSZ	**Lusaka**	**17.00**	**260**	P	**P**	**09 59 59.9**	**+0.5**
LSZ	**Lusaka**	**17.00**	**260**	Pn	**Pn**	**09 59 55.2**	**-2.3**
	0.6nm,0.3s,baz=90,slow=12,SNR=11						
LSZ				LR	LR	10 06 06.1	
	comp=Z,64nm,18.1s,baz=184,slow=36						
	2.4nm,0.3s						
MATP	**Matopo**	**17.93**	**243**	P	**P**	**10 00 09.4**	**-0.3**
	0.2nm,0.3s,baz=66,slow=12,SNR=4.3						
	0.4nm,0.3s						
KHWEE	**KHWEE**	**21.13**	**242**	P	**P**	**10 00 45.4**	**+0.7**
KHWEE				IAmb	IAmb	10 00 47.9	
	comp=Z,18nm,0.9s						
LBTB	**Lobatse**	**22.31**	**235**	P	**P**	**10 00 57.4**	**+0.1**
LBTB	**Lobatse**	**22.31**	**235**	P	**P**	**10 00 57.9**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=60,slow=12,SNR=5.0						
	comp=Z,4.7nm,0.8s						
FURI	**Furi**	**22.78**	**342**	LR	LR	10 10 10.2	
	comp=Z,51nm,18.3s,baz=124,slow=38						
BOSA	**Boshof**	**24.47**	**227**	P	**P**	**10 01 20.2**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=59,slow=12,SNR=2.0						
	comp=Z,1.6nm,0.7s						
SUR	**Sutherland**	**29.77**	**225**	P	**P**	**10 02 06.3**	**-0.2**
SUR				IAmb	IAmb	10 02 16.1	
	comp=Z,12nm,1.1s						
BRTR	**Keskin Array B**	**53.59**	**349**	P	**P**	**10 05 20.6**	**-0.2**
BR131	**Keskin Array S**	**53.59**	**349**	P	**P**	**10 05 20.6**	**-0.2**
BR131				IAmb	IAmb	10 05 34.8	
	comp=Z,2.4nm,1.1s						
INTR	**Introdacqua**	**61.99**	**334**	P	**P**	**10 06 19.1**	**-0.7**
AB31	**Akbulak array**	**63.25**	**11**	P	**P**	**10 06 27.8**	**-0.2**
AB31				IAmb	IAmb	10 06 28.1	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**63.25**	**11**	P	**P**	**10 06 27.6**	**-0.3**
MD31	**MD31**	**66.21**	**315**	P	**P**	**10 06 47.5**	**-0.2**
MD31				IAmb	IAmb	10 07 03.4	
	comp=Z,5.1nm,1.1s						
MKAR	**Makanchi Array**	**68.00**	**26**	P	**P**	**10 06 58.9**	**+0.1**
MKAR	**Makanchi Array**	**68.00**	**26**	P	**P**	**10 06 58.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=207,slow=6.0,SNR=5.7						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**83.41**	**113**	P	**P**	**10 08 28.3**	**+0.7**
ASAR	**Alice Springs**	**83.41**	**113**	P	**P**	**10 08 28.6**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=258,slow=4.6,SNR=6.1						
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**84.54**	**109**	P	**P**	**10 08 34.7**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=263,slow=4.0,SNR=4.8						
	comp=Z,1.3nm,1.0s						
ITAB	**Concordia**	**90.83**	**242**	P	**P**	**10 09 04.4**	**+0.8**

*ASRS **02** 09:58:27.0±1.4, 53°.62N×87°.94E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **02** 09:58:30.7±3.9, 53°.45N×87°.85E, h1km±30km, mb3.1, mpv2.7, Error ellipse: s-maj=34.9km s-min=16.4km az=75.0, Suspected Mining explosion.*
*IDC **02** 09:58:31.1±3.1, 53°.54N×87°.82E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=15.1km az=65.0*

ISC 02 09:58:31.6±3.2, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ1°31/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**284**	I	I	10 10 50.0	
	baz=98,sl

ISC 02 10:05:21.2±1.0, 39°22'S±0°.03×177°.98E±0°.04, h32km±6km, n112, σ1°30/124, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.09**	**321**	P	**Pb**	**10 05 27.9**	**+1.2**
MHGZ				S	**Sb**	**10 05 33.2**	**+2.6**
PRGZ	**Paritu Road**	**0.30**	**346**	P	**Pb**	**10 05 28.7**	**-0.3**
PRGZ				S	**Sb**	**10 05 34.1**	**-0.1**
KNZ	**Kokohu**	**0.31**	**310**	P	**Pb**	**10 05 27.3**	**-1.6**
KNZ				S	**Sb**	**10 05 31.6**	**-2.6**
RIGZ	**Rimuhau**	**0.54**	**342**	P	**Pb**	**10 05 31.9**	**-0.5**
RIGZ				S	**Sb**	**10 05 40.4**	**+0.4**
WHHZ	**Waihua**	**0.59**	**284**	P	**Pb**	**10 05 32.4**	**-0.8**
WHHZ				S	**Sb**	**10 05 40.6**	**-0.9**
SNGZ	**Shannon Statio**	**0.66**	**311**	P	**Pb**	**10 05 33.0**	**-1.3**
SNGZ				S	**Sb**	**10 05 41.0**	**-2.3**
CNGZ	**Carnagh Statio**	**0.76**	**14**	P	**Pb**	**10 05 36.8**	**+0.9**
RAHZ	**Arahi**	**0.76**	**293**	P	**Pb**	**10 05 34.7**	**-1.2**
RAHZ				S	**Sb**	**10 05 44.6**	**-1.3**
ARHZ	**Aropaoanui**	**0.76**	**266**	P	**Pb**	**10 05 35.8**	**-0.2**
ARHZ				S	**Sb**	**10 05 46.7**	**+0.6**
TKGZ	**Te Karaka**	**0.78**	**353**	P	**Pb**	**10 05 36.2**	**-0.2**
TKGZ				S	**Sb**	**10 05 46.9**	**+0.2**
CKHZ	**Cape Kidnapper**	**0.82**	**237**	P	**Pb**	**10 05 37.6**	**+0.5**
CKHZ				S	**Sn**	**10 05 50.2**	**+2.6**
RAGZ	**Rawiri**	**0.84**	**329**	P	**Pn**	**10 05 36.3**	**-0.6**
RAGZ				S	**Sb**	**10 05 46.9**	**-1.6**
NMHZ	**Naumai**	**0.92**	**277**	P	**Pn**	**10 05 37.9**	**-0.1**
MWZ	**Matawai**	**0.95**	**338**	P	**Pn**	**10 05 37.9**	**-0.4**
MTHZ	**Maungataniwha**	**0.96**	**292**	P	**Pn**	**10 05 37.8**	**-0.7**
RTZ	**Ruatahuna**	**0.98**	**307**	P	**Pn**	**10 05 38.0**	**-0.8**
MCHZ	**McNeill Hill**	**1.02**	**257**	P	**Pn**	**10 05 40.0**	**+0.8**
KAHZ	**Kahuranaki**	**1.03**	**236**	P	**Pn**	**10 05 40.5**	**+1.1**
TWGZ	**Tauwhareparae**	**1.04**	**0**	P	**Pn**	**10 05 40.3**	**+0.7**
BKZ	**Black Stump Fm**	**1.16**	**272**	P	**Pn**	**10 05 40.9**	**-0.2**
BKZ	**Black Stump Fm**	**1.16**	**272**	S	**Sn**	**10 05 55.5**	**-0.4**
BKZ	**Black Stump Fm**	**1.16**	**272**	P	**Pn**	**10 05 40.9**	**-0.2**
PUZ	**Puketiti**	**1.17**	**11**	P	**Pn**	**10 05 41.6**	**+0.4**
URZ	**Urewera**	**1.17**	**324**	P	**Pn**	**10 05 40.8**	**-0.6**
URZ	**Urewera**	**1.17**	**324**	P	**Pn**	**10 05 40.7**	**-0.6**
PXZ	**Pawanui**	**1.18**	**226**	P	**Pn**	**10 05 42.1**	**+0.7**
MUGZ	**Murupara**	**1.20**	**308**	P	**Pn**	**10 05 41.2**	**-0.5**
KWHZ	**Kaweka Forest**	**1.22**	**260**	P	**Pn**	**10 05 42.3**	**+0.2**
RUGZ	**Raukumara Rang**	**1.27**	**349**	P	**Pn**	**10 05 42.5**	**-0.3**
MRHZ	**Matea Rd**	**1.27**	**287**	P	**Pn**	**10 05 42.7**	**-0.1**
KRHZ	**Kereru**	**1.31**	**251**	P	**Pn**	**10 05 43.6**	**+0.3**
PKGZ	**Pakihiroa**	**1.35**	**3**	P	**Pn**	**10 05 44.0**	**+0.2**
PRRZ	**Plateau Road**	**1.43**	**300**	P	**Pn**	**10 05 45.1**	**+0.2**
ALRZ	**Allen Road**	**1.43**	**297**	P	**Pn**	**10 05 44.7**	**-0.3**
WMGZ	**Waiomatatini S**	**1.44**	**14**	P	**Pn**	**10 05 45.5**	**+0.5**
RRRZ	**Republican Roa**	**1.44**	**307**	P	**Pn**	**10 05 44.7**	**-0.4**
WPHZ	**Waipukurau**	**1.46**	**234**	P	**Pn**	**10 05 45.8**	**+0.6**
HAZ	**Te Kaha**	**1.47**	**354**	P	**Pn**	**10 05 45.5**	**+0.1**
PRHZ	**Porangahau**	**1.47**	**224**	P	**Pn**	**10 05 45.9**	**+0.4**
EDRZ	**Edgecumbe**	**1.47**	**319**	P	**Pn**	**10 05 47.0**	**+1.4**
HATZ	**Hinemaiaia**	**1.50**	**282**	P	**Pn**	**10 05 47.7**	**+1.8**
TARZ	**Mount Tarawera**	**1.51**	**310**	P	**Pn**	**10 05 46.8**	**+0.7**
PNHZ	**Pukenui**	**1.54**	**243**	P	**Pn**	**10 05 46.4**	**0.0**
HRRZ	**Handcock Road**	**1.56**	**301**	P	**Pn**	**10 05 48.2**	**+1.5**
WHRZ	**Whale Island**	**1.57**	**330**	P	**Pb**	**10 05 50.1**	**+0.5**
WPRZ	**Whakapapatarin**	**1.58**	**296**	P	**Pn**	**10 05 47.9**	**+1.0**
HLRZ	**Highlands Stat**	**1.59**	**307**	P	**Pn**	**10 05 48.9**	**+1.7**
MARZ	**Manawahe**	**1.60**	**320**	P	**Pb**	**10 05 53.0**	**+2.9**
MKRZ	**Makatiti**	**1.60**	**312**	P	**Pb**	**10 05 50.5**	**+0.3**
HSRZ	**Hossack Road**	**1.63**	**303**	P	**Pn**	**10 05 49.2**	**+1.6**
RITZ	**Rihia Road**	**1.67**	**278**	P	**Pn**	**10 05 50.7**	**+2.6**
WHTZ	**Whakaora**	**1.67**	**289**	P	**Pb**	**10 05 52.5**	**+1.2**
MXZ	**Matakaoa Point**	**1.67**	**9**	P	**Pn**	**10 05 48.7**	**+0.5**
MXZ	**Matakaoa Point**	**1.67**	**9**	S	**Sn**	**10 06 10.6**	**+2.0**
MXZ	**Matakaoa Point**	**1.67**	**9**	P	**Pn**	**10 05 48.7**	**+0.5**
OMRZ	**Omania**	**1.68**	**311**	P	**Pn**	**10 05 49.9**	**+1.5**
ANWZ	**Angora Road**	**1.69**	**223**	P	**Pn**	**10 05 48.8**	**+0.3**
GRRZ	**Galatos Road**	**1.70**	**300**	P	**Pn**	**10 05 48.5**	**-0.1**
MOVZ	**Moawhango**	**1.73**	**263**	P	**Pn**	**10 05 50.0**	**+0.8**
UTU	**Utuhina**	**1.74**	**306**	P	**Pb**	**10 05 55.2**	**+2.7**
RATZ	**Rangitukua**	**1.75**	**281**	P	**Pn**	**10 05 51.0**	**+1.6**
ETVZ	**East Tongariro**	**1.76**	**272**	P	**Pb**	**10 05 54.7**	**+1.7**
DVHZ	**Dannevirke**	**1.76**	**232**	P	**Pn**	**10 05 49.6**	**+0.1**
OPRZ	**Ohinepanea**	**1.77**	**320**	P	**Pn**	**10 05 48.8**	**-0.7**
TSZ	**Takapari Road**	**1.77**	**241**	P	**Pn**	**10 05 49.6**	**0.0**
TMVZ	**Te Maari**	**1.77**	**273**	P	**Pn**	**10 05 51.9**	**+2.2**
KATZ	**Kakaramea**	**1.79**	**277**	P	**Pn**	**10 05 51.1**	**+1.1**
NTVZ	**North Tongarir**	**1.79**	**273**	P	**Pn**	**10 05 52.9**	**+3.0**
TUVZ	**Tukino**	**1.80**	**268**	P	**Pn**	**10 05 52.7**	**+2.6**
KARZ	**Kaharoa**	**1.81**	**311**	P	**Pb**	**10 05 54.0**	**+0.3**
SNVZ	**South Ngauruho**	**1.82**	**270**	P	**Pb**	**10 05 56.2**	**+2.3**
WATZ	**Wairara**	**1.82**	**286**	P	**Pb**	**10 05 54.8**	**+0.9**
KUTZ	**Kaahu Road**	**1.83**	**293**	P	**Pn**	**10 05 51.7**	**+1.2**
WNVZ	**Wahianoa**	**1.85**	**266**	P	**Pn**	**10 05 51.1**	**+0.3**
WHNVZ	**Whangaehu Hut**	**1.85**	**267**	P	**Pn**	**10 05 51.7**	**+0.8**
WTVZ	**West Tongariro**	**1.86**	**272**	P	**Pb**	**10 05 56.7**	**+2.1**
MAVZ	**Matarangi**	**1.88**	**268**	P	**Pn**	**10 05 52.1**	**+0.8**
FWVZ	**Far West T-bar**	**1.88**	**268**	P	**Pn**	**10 05 52.1**	**+0.8**
TRVZ	**Turoa**	**1.89**	**267**	P	**Pn**	**10 05 52.2**	**+0.8**
COVZ	**Chateau Observ**	**1.89**	**270**	P	**Pn**	**10 05 52.5**	**+1.1**
MTVZ	**Mangateitei**	**1.95**	**264**	P	**Pn**	**10 05 52.7**	**+0.6**
BFZ	**Birch Farm**	**1.98**	**222**	P	**Pn**	**10 05 52.1**	**-0.3**
BFZ	**Birch Farm**	**1.98**	**222**	S	**Sn**	**10 06 16.3**	**+0.2**
BFZ	**Birch Farm**	**1.98**	**222**	P	**Pn**	**10 05 52.1**	**-0.3**
TWVZ	**Taurewa**	**1.98**	**273**	P	**Pn**	**10 05 55.2**	**+2.7**
TGRZ	**Tauranga**	**2.01**	**317**	P	**Pb**	**10 05 57.0**	**0.0**
PRWZ	**Pori Road**	**2.04**	**229**	P	**Pn**	**10 05 53.6**	**+0.3**
PKVZ	**Pokaka**	**2.04**	**267**	P	**Pn**	**10 05 54.9**	**+1.5**
POWZ	**Post Office Ro**	**2.07**	**235**	P	**Pn**	**10 05 53.8**	**+0.2**
TLZ	**Tolley Road**	**2.10**	**294**	P	**Pn**	**10 05 56.8**	**+2.6**
CPWZ	**Castlepoint**	**2.17**	**218**	P	**Pn**	**10 05 55.4**	**+0.4**
TIWZ	**Tintock**	**2.24**	**222**	P	**Pn**	**10 05 55.9**	**-0.1**
MRZ	**Mangatainoka R**	**2.34**	**231**	P	**Pn**	**10 05 57.2**	**-0.2**
WAZ	**Wanganui**	**2.38**	**256**	P	**Pn**	**10 05 59.8**	**+1.9**
TMWZ	**Te Maipa**	**2.47**	**220**	P	**Pn**	**10 05 58.8**	**-0.4**
VRZ	**Vera Road**	**2.50**	**271**	P	**Pn**	**10 06 00.7**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.53**	**228**	P	**Pn**	**10 05 59.2**	**-0.8**
HIZ	**Hauiti**	**2.54**	**285**	P	**Pn**	**10 06 00.8**	**+0.7**
HIZ	**Hauiti**	**2.54**	**285**	P	**Pn**	**10 06 00.8**	**+0.7**
OGWZ	**Otaki Gorge**	**2.68**	**233**	P	**Pn**	**10 06 01.6**	**-0.5**
MTW	**Mount Morrison**	**2.71**	**224**	P	**Pn**	**10 06 01.4**	**-1.1**
TRWZ	**Traveller**	**2.79**	**218**	P	**Pn**	**10 06 02.4**	**-1.3**
PAWZ	**Paruwai Farm**	**2.91**	**221**	P	**Pn**	**10 06 04.1**	**-1.2**
KUZ	**Kuaotunu**	**3.04**	**323**	P	**Pn**	**10 06 07.2**	**+0.1**
SNZO	**South Karori**	**3.26**	**229**	P	**Pn**	**10 06 08.6**	**-1.4**
SNZO	**South Karori**	**3.26**	**229**	S	**Sn**	**10 06 46.1**	**-1.6**
QRZ	**Quartz Range**	**4.48**	**247**	P	**Pn**	**10 06 24.6**	**-2.2**
KHZ	**Kahutara**	**4.64**	**225**	P	**Pn**	**10 06 26.5**	**-2.5**
CTZ	**Chatham Island**	**6.07**	**140**	P	**Pn**	**10 06 51.9**	**+3.3**
CTZ				S	**Sn**	**10 07 55.8**	**-1.3**
RPZ	**Rata Peaks**	**6.87**	**227**	P	**Pn**	**10 06 57.8**	**-1.8**
ODZ	**Otahua Downs**	**7.97**	**221**	P	**Pn**	**10 07 13.2**	**-1.5**
JCZ	**Jackson Bay**	**8.42**	**232**	P	**Pn**	**10 07 19.2**	**-1.7**

*GCG **02** 10:07:10.8±2.1, 15°.71N×95°.11W, h37km±818km, MD5.1, ML4.6*
*MEX **02** 10:07:12.4±0.8, 15°.64N×95°.08W, h19km±19km, MD4.6*
*NEIC **02** 10:07:13.4±2.1, 15°.77N±0°.05×95°.08W±0°.04, h32km±11km, mb4.0/17, Md4.6/110(MEX), Error ellipse: s-maj=8.6km s-min=5.1km az=204.0*
*CATAC **02** 10:07:15.7±0.9, 16°N±7°×9°5W±°, h50km, M4.7/6, mb4.8/2, mB4.5/1, MLv4.6/6, Mw(mB)3.7/1, Error ellipse: s-maj=20.9km s-min=5.2km az=49.3, confirmed*

ISC 02 10:07:08.7±1.2, 15°.65N±0°.03×95°.07W±0°.02, h6km±9km, n150, σ2°67/234, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.01**	**277**		**Pg**	**10 07 28.2**	**0.0**
HUIG					**Sg**	**10 07 40.5**	**-0.7**
HUIG	**Huatulco**	**1.01**	**277**	*eP*	**Pg**	**10 07 28.2**	**0.0**
HUIG				*eS*	**Sg**	**10 07 40.5**	**-0.7**
HUIG	**Huatulco**	**1.01**	**277**	*i P*	**Pg**	**10 07 28.1**	**0.0**
HUIG				*i S*	**Sg**	**10 07 40.3**	**-1.0**
HUIG				IAML		10 07 51.3	
	comp=N,1μm,0.7s						
NILT	**Santiago Nilte**	**1.01**	**25**		**Pg**	**10 07 27.3**	**-0.8**
NILT					**Sg**	**10 07 38.9**	**-2.4**
NILT	**Santiago Nilte**	**1.01**	**25**	*eP*	**Pg**	**10 07 27.3**	**-0.8**
NILT				*eS*	**Sg**	**10 07 38.9**	**-2.4**
CMIG	**Matias Romero**	**1.45**	**7**		**Pn**	**10 07 34.2**	**-1.4**
CMIG					**Sn**	**10 07 51.1**	**-3.9**
CMIG	**Matias Romero**	**1.45**	**7**	*eP*	**Pn**	**10 07 34.2**	**-1.4**
CMIG				*eS*	**Sn**	**10 07 51.1**	**-3.9**
PCIG		**1.78**	**88**		**Pn**	**10 07 39.1**	**-1.0**
PCIG					**Sn**	**10 07 59.7**	**-3.5**
PCIG		**1.78**	**88**	*eP*	**Pn**	**10 07 39.1**	**-1.0**
PCIG				*eS*	**Sn**	**10 07 59.7**	**-3.5**
UXUV	**UXUV**	**1.88**	**28**		**Pn**	**10 07 40.9**	**-0.7**
UXUV					**Sn**	**10 08 02.7**	**-3.0**
UXUV	**UXUV**	**1.88**	**28**	*eP*	**Pn**	**10 07 40.9**	**-0.7**
UXUV				*eS*	**Sn**	**10 08 02.7**	**-3.0**
PEIG	**Puerto Escondi**	**2.03**	**280**		**Pn**	**10 07 42.0**	**-1.6**
PEIG					**Sn**	**10 08 04.6**	**-4.7**
PEIG	**Puerto Escondi**	**2.03**	**280**	*eP*	**Pn**	**10 07 42.0**	**-1.6**
PEIG				*eS*	**Sn**	**10 08 04.6**	**-4.7**
OXLC	**Oaxaca**	**2.11**	**312**		**Pn**	**10 07 44.3**	**-0.5**
OXLC					**Sn**	**10 08 08.2**	**-3.4**
OXLC	**Oaxaca**	**2.11**	**312**	*eP*	**Pn**	**10 07 44.3**	**-0.5**
OXLC				*eS*	**Sn**	**10 08 08.2**	**-3.4**
OXBJ	**Oaxaca**	**2.13**	**312**		**Pb**	**10 07 47.8**	**-0.1**
OXBJ					**Sn**	**10 08 11.9**	**-0.1**
OXBJ	**Oaxaca**	**2.13**	**312**	*eP*	**Pb**	**10 07 47.8**	**-0.1**
OXBJ				*eS*	**Sn**	**10 08 11.9**	**-0.1**
OXIG	**Oaxaca**	**2.14**	**312**		**Pn**	**10 07 45.8**	**+0.6**
OXIG					**Sn**	**10 08 11.3**	**-0.9**
VHO	**Vista Hermosa**	**2.14**	**312**	*eP*	**Pn**	**10 07 45.8**	**+0.6**
VHO				*eS*	**Sn**	**10 08 11.3**	**-0.9**
NEUV	**Arroyo Zacate**	**2.17**	**341**		**Pn**	**10 07 45.1**	**-0.4**
NEUV					**Sn**	**10 08 14.6**	**+1.8**
NEUV	**Arroyo Zacate**	**2.17**	**341**	*eP*	**Pn**	**10 07 45.1**	**-0.4**
NEUV				*eS*	**Sn**	**10 08 14.6**	**+1.8**
TGIG		**2.18**	**59**		**Pn**	**10 07 45.3**	**-0.4**
TGIG					**Sn**	**10 08 11.9**	**-1.2**
TGIG		**2.18**	**59**	*eP*	**Pn**	**10 07 45.3**	**-0.4**
TGIG				*eS*	**Sn**	**10 08 11.9**	**-1.2**
TGIG		**2.18**	**59**	*eP*	**Pn**	**10 07 45.4**	**-0.3**
TGIG				*eS*	**Sn**	**10 08 11.3**	**-1.9**
TGIG				IAML		10 08 15.8	
	comp=N,4μm,0.7s						
TGBT	**Tuxtla Gutierr**	**2.21**	**59**		**Pn**	**10 07 47.2**	**+1.2**
TGBT					**Sn**	**10 08 13.2**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.21**	**59**	*eP*	**Pn**	**10 07 47.2**	**+1.2**
TGBT				*eS*	**Sn**	**10 08 13.2**	**-0.5**
YOIG	**Yosondua**	**2.67**	**297**		**Pn**	**10 07 53.9**	**+1.3**
YOIG					**Sn**	**10 08 23.5**	**-1.9**
YOIG	**Yosondua**	**2.67**	**297**	*eP*	**Pn**	**10 07 53.9**	**+1.3**
YOIG				*eS*	**Sn**	**10 08 23.5**	**-1.9**
PATR	**El Naranjo**	**2.79**	**101**		**Pn**	**10 07 53.4**	**-0.8**
PATR					**Sn**	**10 08 24.1**	**-4.1**
PATR	**El Naranjo**	**2.79**	**101**	*eP*	**Pn**	**10 07 53.4**	**-0.8**
PATR				*eS*	**Sn**	**10 08 24.1**	**-4.1**
THIG		**2.80**	**105**		**Pn**	**10 07 53.3**	**-0.9**
THIG					**Sn**	**10 08 26.0**	**-2.4**
THIG		**2.80**	**105**	*eP*	**Pn**	**10 07 53.3**	**-0.9**
THIG				*eS*	**Sn**	**10 08 26.0**	**-2.4**
THIG		**2.80**	**105**	*eP*	**Pn**	**10 07 53.7**	**-0.5**
THIG				*eS*	**Sn**	**10 08 24.8**	**-3.6**
THIG				IAML		10 08 27.0	
	comp=N,2μm,0.6s						
PAVE	**Pavencul**	**2.83**	**99**		**Pn**	**10 07 54.5**	**-0.2**
PAVE	**Pavencul**	**2.83**	**99**	*eP*	**Pn**	**10 07 54.5**	**-0.2**
PAVE				*eS*	**Sn**	**10 08 26.8**	**-2.5**
PMUV	**Sontecomapan**	**2.88**	**359**		**Pn**	**10 07 51.8**	**-3.6**
PMUV					**Sn**	**10 08 27.1**	**-3.4**
PMUV	**Sontecomapan**	**2.88**	**359**	*eP*	**Pn**	**10 07 51.8**	**-3.6**
PMUV				*eS*	**Sn**	**10 08 27.1**	**-3.4**
CCIG	**Comitan**	**2.89**	**77**		**Pn**	**10 07 55.4**	**-0.2**
CCIG	**Comitan**	**2.89**	**77**		**Sn**	**10 08 32.7**	**+1.9**
CCIG	**Comitan**	**2.89**	**77**	*eP*	**Pn**	**10 07 55.7**	**+0.1**
CCIG				*eS*	**Sn**	**10 08 32.7**	**+1.9**
CCIG	**Comitan**	**2.89**	**77**	*eP*	**Pn**	**10 07 55.6**	**+0.1**
CCIG				*eS*	**Sn**	**10 08 30.5**	**-0.3**
CCIG				IAML		10 08 41.8	
	comp=N,3μm,0.6s						
CHUJ	**Union Juarez**	**2.91**	**101**	*eP*	**Pn**	**10 07 55.3**	**-0.6**
CHUJ				*eS*	**Sn**	**10 08 28.0**	**-3.3**
SMCA	**Catarina**	**3.00**	**105**	*eP*	**Pn**	**10 07 56.5**	**-0.4**
SMCA				*eS*	**Sn**	**10 08 29.2**	**-3.9**
SMCA				IAML		10 08 35.3	
	comp=N,1μm,0.4s						
TXIG	**Tlaxiaco**	**3.04**	**302**		**Pn**	**10 07 59.3**	**+1.5**
TXIG					**Sn**	**10 08 32.8**	**-2.0**
TXIG	**Tlaxiaco**	**3.04**	**302**	*eP*	**Pn**	**10 07 59.3**	**+1.5**
TXIG				*eS*	**Sn**	**10 08 32.8**	**-2.0**
VHSA	**Villahermosa**	**3.09**	**41**		**Sn**	**10 08 34.7**	**-0.7**
VHSA	**Villahermosa**	**3.09**	**41**	*eS*	**Sn**	**10 08 34.7**	**-0.7**
TOIG	**Toxpalan**	**3.10**	**322**		**Pn**	**10 08 01.1**	**+2.8**
TOIG					**Sn**	**10 08 35.7**	**-0.1**
TOIG	**Toxpalan**	**3.10**	**322**	*eP*	**Pn**	**10 08 01.1**	**+2.8**
TOIG				*eS*	**Sn**	**10 08 35.7**	**-0.1**
HLIG	**Huajuapan de L**	**3.40**	**310**		**Pn**	**10 08 03.9**	**+1.3**
HLIG					**Sn**	**10 08 41.3**	**-2.2**
HLIG	**Huajuapan de L**	**3.40**	**310**	*eP*	**Pn**	**10 08 03.9**	**+1.3**
HLIG				*eS*	**Sn**	**10 08 41.3**	**-2.2**
RTAL	**Retalhuleu**	**3.44**	**108**		**Pn**	**10 08 03.5**	**+0.5**
RTAL	**Retalhuleu**	**3.44**	**108**	P	**Pn**	**10 08 04.0**	**+1.0**
RTAL	**Retalhuleu**	**3.44**	**108**	S	**Sn**	**10 08 40.2**	**-4.0**
HUEH	**Huehuetenango**	**3.45**	**95**		**Pn**	**10 08 04.7**	**+1.3**
HUEH	**Huehuetenango**	**3.45**	**95**		**Sn**	**10 08 46.4**	**+1.6**
HUEH	**Huehuetenango**	**3.45**	**95**	*eP*	**Pn**	**10 08 05.1**	**+1.7**
HUEH				*eS*	**Sn**	**10 08 46.4**	**+1.6**
HUEH	**Huehuetenango**	**3.45**	**95**	*eP*	**Pn**	**10 08 05.3**	**+1.9**
HUEH				*eS*	**Sn**	**10 08 46.5**	**+1.7**
QUEO	**Labor Ovalle**	**3.52**	**102**	IAML		10 09 18.1	
	comp=E,3μm,0.6s						
TPIG	**Tehuac#an**	**3.52**	**322**		**Pn**	**10 08 05.9**	**+1.6**
TPIG					**Sb**	**10 08 54.9**	**0.0**
TPIG	**Tehuac#an**	**3.52**	**322**	*eP*	**Pn**	**10 08 05.9**	**+1.6**
TPIG				*eS*	**Sb**	**10 08 54.9**	**0.0**
TLIG	**Tlapa**	**3.86**	**300**		**Pn**	**10 08 10.3**	**+1.5**
TLIG	**Tlapa**	**3.86**	**300**		**Sn**	**10 08 52.2**	**-2.4**
TLIG	**Tlapa**	**3.86**	**300**	*eP*	**Pn**	**10 08 10.4**	**+1.6**
TLIG				*eS*	**Sn**	**10 08 52.2**	**-2.4**
POHV	**Veracruz**	**4.00**	**328**		**Pn**	**10 08 12.6**	**+1.4**
POHV	**Veracruz**	**4.00**	**328**	*eP*	**Pn**	**10 08 12.6**	**+1.4**
CRIG	**Cruz Grande**	**4.05**	**286**		**Pn**	**10 08 11.4**	**0.0**
CRIG					**Sn**	**10 08 52.6**	**-6.6**
CRIG	**Cruz Grande**	**4.05**	**286**	*eP*	**Pn**	**10 08 11.4**	**0.0**
CRIG				*eS*	**Sn**	**10 08 52.6**	**-6.6**
JAUV	**Jalcomulco**	**4.05**	**336**		**Pn**	**10 08 10.3**	**-1.2**
JAUV					**Sn**	**10 08 56.9**	**-2.4**
JAUV	**Jalcomulco**	**4.05**	**336**	*eP*	**Pn**	**10 08 10.3**	**-1.2**
JAUV				*eS*	**Sn**	**10 08 56.9**	**-2.4**
LVIG	**Laguna Verde**	**4.25**	**343**		**Pn**	**10 08 10.6**	**-3.5**
LVIG					**Sn**	**10 09 04.6**	**+0.4**
LVIG	**Laguna Verde**	**4.25**	**343**	*eP*	**Pn**	**10 08 10.6**	**-3.5**
LVIG				*eS*	**Sn**	**10 09 04.6**	**+0.4**
DAIG	**Los Arroyos**	**4.61**	**288**		**Pn**	**10 08 19.5**	**+0.5**
DAIG					**Sn**	**10 09 05.8**	**-7.1**
DAIG	**Los Arroyos**	**4.61**	**288**	*eP*	**Pn**	**10 08 19.5**	**+0.5**
DAIG				*eS*	**Sn**	**10 09 05.8**	**-7.1**
PPCL	**Tochimilco**	**4.69**	**314**	*eP*	**Pn**	**10 08 23.1**	**+2.7**
PPCL				*eS*	**Sn**	**10 09 15.2**	**-0.3**
PPPT	**Popocatepetl**	**4.74**	**315**	*eP*	**Pn**	**10 08 24.0**	**+2.6**
PPPT				*eS*	**Sn**	**10 09 19.3**	**+2.4**
PPSX	**Xalitzintla**	**4.74**	**317**	*eP*	**Pn**	**10 08 24.2**	**+3.1**
PPSX				*eS*	**Sn**	**10 09 18.5**	**+1.8**
MEIG	**Mezcala**	**4.91**	**298**		**Pn**	**10 08 25.3**	**+2.0**
MEIG					**Sn**	**10 09 15.3**	**-5.3**
MEIG	**Mezcala**	**4.91**	**298**	*eP*	**Pn**	**10 08 25.3**	**+2.0**
MEIG				*eS*	**Sn**	**10 09 15.3**	**-5.3**
SCIG	**Sabancuy**	**4.97**	**48**		**Pn**	**10 08 22.9**	**-1.1**
SCIG					**Sn**	**10 09 15.4**	**-6.4**
SCIG	**Sabancuy**	**4.97**	**48**	*eP*	**Pn**	**10 08 22.9**	**-1.1**
SCIG				*eS*	**Sn**	**10 09 15.4**	**-6.4**
SCIG	**Sabancuy**	**4.97**	**48**	*i P*	**Pn**	**10 08 23.5**	**-0.5**
SCIG				*eS*	**Sn**	**10 09 14.4**	**-7.3**
YAIG	**Yautepec**	**4.98**	**311**		**Pn**	**10 08 25.9**	**+1.6**
YAIG					**Sn**	**10 09 17.8**	**-4.6**
YAIG	**Yautepec**	**4.98**	**311**	*eP*	**Pn**	**10 08 25.9**	**+1.6**
YAIG				*eS*	**Sn**	**10 09 17.8**	**-4.6**
CXUV	**Coxquihui**	**5.10**	**332**		**Pn**	**10 08 25.2**	**-0.6**
CXUV					**Sn**	**10 09 25.0**	**-0.1**
CXUV	**Coxquihui**	**5.10**	**332**	*eP*	**Pn**	**10 08 25.2**	**-0.6**
CXUV				*eS*	**Sn**	**10 09 25.0**	**-0.1**
PETF	**Flores**	**5.15**	**75**		**Pn**	**10 08 26.7**	**+0.1**
PETF	**Flores**	**5.15**	**75**		**Sn**	**10 09 23.6**	**-2.8**
PETF	**Flores**	**5.15**	**75**	*eP*	**Pn**	**10 08 26.9**	**+0.4**
PETF				*eS*	**Sn**	**10 09 23.6**	**-2.8**
PETF	**Flores**	**5.15**	**75**	*eP*	**Pn**	**10 08 24.2**	**-2.3**
PETF				IAML		10 09 33.6	
	comp=E,1μm,0.6s						
PETF	**Flores**	**5.15**	**75**	P	**Pn**	**10 08 27.0**	**+0.4**
CAIG	**El Cayaco**	**5.18**	**286**		**Pn**	**10 08 27.5**	**+0.5**
CAIG					**Sn**	**10 09 19.4**	**-7.7**
CAIG	**El Cayaco**	**5.18**	**286**	*eP*	**Pn**	**10 08 27.5**	**+0.5**
CAIG				*eS*	**Sn**	**10 09 19.4**	**-7.7**
FAME	**Alcaldia de Sa**	**5.21**	**109**	P	**Pn**	**10 08 29.6**	**+2.3**
FAME	**Alcaldia de Sa**	**5.21**	**109**	S	**Sn**	**10 09 23.0**	**-4.7**
THVM	**De Xico**	**5.21**	**315**	*eP*	**Pg**	**10 08 48.4**	**-0.2**
XCVM	**Xochimilco**	**5.27**	**313**	*eP*	Pn	10 08 17.3	-11
NUBE	**Las Nubes**	**5.40**	**108**	*eP*	**Pn**	**10 08 31.4**	**+1.3**
NUBE	**Las Nubes**	**5.40**	**108**	P	**Pn**	**10 08 31.6**	**+1.5**
NUBE	**Las Nubes**	**5.40**	**108**	S	**Sn**	**10 09 29.2**	**-3.5**
VTVM	**Tizayuca**	**5.41**	**320**		Pn	10 08 36.4	+6.0
VTVM					**Sn**	**10 09 34.5**	**+1.3**
VTVM	**Tizayuca**	**5.41**	**320**	*eP*	Pn	10 08 36.4	+6.0
VTVM				*eS*	**Sn**	**10 09 34.5**	**+1.3**
AOVM	**Tlapan**	**5.43**	**312**		**Pn**	**10 08 33.1**	**+2.4**
AOVM					**Sn**	**10 09 31.7**	**-2.1**
AOVM	**Tlapan**	**5.43**	**312**	*eP*	**Pn**	**10 08 33.1**	**+2.4**
AOVM				*eS*	**Sn**	**10 09 31.7**	**-2.1**
INVM	**La Marquesa**	**5.49**	**312**		**Sn**	**10 09 29.8**	**-5.3**
INVM	**La Marquesa**	**5.49**	**312**	*eS*	**Sn**	**10 09 29.8**	**-5.3**
ESQI	**Esquipulas**	**5.64**	**100**		**Pn**	**10 08 36.0**	**+2.7**
MTO3	**Montecristo**	**5.65**	**102**		**Pn**	**10 08 35.2**	**+1.5**
ARIG	**Puente Sto Nin**	**5.69**	**298

UREC			S	Sb	10 12 49.3	-2.7
PTAC	**Punta Ardita,**	**1.48 285**	P	Pn	10 12 36.1	-1.7
GUY2C	**Guyana, Caldas**	**1.83 147**	P	Pn	10 12 41.8	-1.3
GUY2C			S	Sb	10 13 07.6	-0.7
PTBC	**PUERTO BERRIO,**	**1.92 97**	P	Pn	10 12 41.9	-2.0
PTBC			S	Sn	10 13 06.7	-1.5
NIZA	**Niza - Manizal**	**1.92 152**	P	Pn	10 12 41.3	-2.9
NIZA			S	Sn	10 13 07.1	-1.6
SPBC	**San Pablo de B**	**2.54 116**	P	Pn	10 12 52.6	+0.1
SPBC			S	Sn	10 13 24.0	+0.3
BRJC	**Barrancabermej**	**2.62 85**	P	Pn	10 12 53.9	+0.4
BRJC			S	Sn	10 13 24.6	-0.9
YOTC	**Yotoco, Valle**	**2.77 179**	P	Pn	10 12 53.0	-2.7
YOTC			S	Sn	10 13 25.4	-4.0
ROSC	**El Rosal**	**2.80 133**	P	Pn	10 12 56.8	+0.4
ROSC			S	Sn	10 13 31.1	+0.6
ORTC	**Ortega, Tolima**	**3.06 158**	P	Pn	10 12 59.8	+0.2
ORTC			S	Sn	10 13 37.7	+1.3
BARC	**Barichara**	**3.17 93**	P	Pn	10 13 01.5	+0.1
BARC			S	Sn	10 13 40.0	+0.5
SJCC	**San Jacinto, C**	**3.32 21**	P	Pn	10 13 03.1	-0.2
SJCC			S	Sn	10 13 38.5	-4.5
OCAC	**Ocana**	**3.36 64**	P	Pn	10 13 03.5	-0.4
OCAC			S	Sn	10 13 41.4	-2.6
PRAC	**Prado**	**3.38 154**	P	Pn	10 13 05.0	+1.0
RUSC	**La Rusia**	**3.38 105**	P	Pn	10 13 05.0	+0.5
RUSC			S	Sn	10 13 44.5	-0.6
PAMC	**Pamplona, Colo**	**3.69 81**	P	Pn	10 13 08.3	-0.4
PAMC			S	Sn	10 13 49.2	-3.4
BCIP	**Isla Barro Col**	**4.18 305**	P	Pn	10 13 12.7	-2.3
BCIP			S	Sn	10 13 59.6	-4.5
POPC	**Popayan, Colom**	**4.21 184**	P	Pn	10 13 14.6	-1.1
POPC			S	Sn	10 14 03.1	-2.2
BBAC	**Balboa, Cauca**	**4.80 191**	P	Pn	10 13 23.5	-0.2
FLOC	**Florencia**	**5.20 172**	P	Pn	10 13 29.1	0.0
	6.2nm,0.8s					
CRJC	**Cerrejon, Guaj**	**5.45 39**	P	Pn	10 13 30.9	-1.7
	7.1nm,0.8s					
URIC	**Uribia, Colomb**	**6.53 41**	P	Pn	10 13 45.3	-2.1

ISK ***02*** *10:12:51.5, 38.˙43N×42.˙04E, h7km, ML2.5/11*
AFAD ***02*** *10:12:51.9, 38.˙46N×41.˙99E, h2km±1km, ML2.4*
ISC 02 10:12:52.0±0.9, 38.˙43N±0.˙03×42.˙03E±0.˙03, h6km±7km, n18, σ0°50/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLIS	**Bitlis-Merkez**	**0.07**	**105**	P	**Pg**	**10 12 54.0**	**+0.1**
BLIS				*i* IAML		10 12 55.0	
	comp=E,1μm,0.3s						
BLIS				S	**Sg**	**10 12 55.2**	**+0.1**
GURO	**Guroymak-BITLI**	**0.12**	**2**	Pg	**Pg**	**10 12 54.6**	**0.0**
GURO				Sg	**Sg**	**10 12 56.6**	**+0.3**
SRTM	**Siirt_Merkez**	**0.45**	**191**	P	**Pb**	**10 13 02.2**	**-0.1**
SRTM				S	**Sb**	**10 13 09.0**	**-0.3**
SRTM				*i* IAML		10 13 11.0	
	comp=E,336nm,0.7s						
MUSM	**Mu-Merkez**	**0.50**	**306**	P	**Pg**	**10 13 01.7**	**+0.1**
MUSM				*i* IAML		10 13 08.0	
	comp=N,265nm,0.4s						
MUSM				S	**Sg**	**10 13 08.1**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.66**	**55**	P	**Pg**	**10 13 05.2**	**+0.5**
ADCV				S	**Sb**	**10 13 15.5**	**0.0**
ADCV				*i* IAML		10 13 16.0	
	comp=E,234nm,0.2s						
ADCV				*i* IAML		10 13 16.0	
	comp=N,224nm,0.2s						
SVAN	**Silvan-Diyarba**	**0.71**	**247**	Pg	**Pg**	**10 13 05.8**	**+0.2**
AKDM	**Akdamar-Van**	**0.76**	**98**	Pg	**Pg**	**10 13 06.1**	**-0.4**
MLAZ	**Malazgirt-MUS**	**0.82**	**30**	Pg	**Pg**	**10 13 07.7**	**0.0**
VRTB	**Varto-Mus**	**0.85**	**329**	Pg	**Pb**	**10 13 08.4**	**-0.9**
VANB	**Van**	**1.08**	**81**	Pg	**Pg**	**10 13 12.6**	**-0.1**
DORK	**Agr/Tutak/Do**	**1.12**	**31**	P	**Pg**	**10 13 13.1**	**-0.4**
DORK				*i* IAML		10 13 26.0	
	comp=E,60nm,0.6s						
DORK				S	**Sg**	**10 13 28.0**	**0.0**
DORK				*i* IAML		10 13 35.0	
	comp=N,72nm,0.5s						
KARO	**Karliova-Bingo**	**1.16**	**319**	Pn	**Pb**	**10 13 14.1**	**-0.5**
BNGB	**Bingl**	**1.19**	**298**	Pn	**Pb**	**10 13 14.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.37**	**33**	Pn	**Pn**	**10 13 17.7**	**-0.1**
EATA	**Eleskirt**	**1.47**	**14**	P	**Pn**	**10 13 19.2**	**-0.2**
EATA				S	**Sn**	**10 13 40.1**	**+1.0**
EATA				*i* IAML		10 13 42.0	
	comp=N,58nm,0.5s						
EATA				*i* IAML		10 13 46.0	
	comp=E,51nm,0.6s						
DYBB	**Diyarbakir**	**1.56**	**253**	Pn	**Pn**	**10 13 20.1**	**-0.2**
KOTA	**Agri, Merkez-K**	**1.65**	**33**	P	**Pg**	**10 13 23.0**	**-0.5**
KOTA				S	**Sg**	**10 13 46.3**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.14**	**269**	Pn	**Pn**	**10 13 28.8**	**+0.4**

IDC ***02*** *10:13:04.5±0.6, 15.˚74N×94.˚94W, h0km, mb4.5/21, mbtmp4.5/23, ML1.4/1, MS4.4/44, Error ellipse: s-maj=22.0km s-min=10.6km az=73.0*
GCG ***02*** *10:13:06.9±1.4, 15.˚79N×95.˚16W, h40km±206km, MD5.7, ML5.6*
MEX ***02*** *10:13:08.0±0.7, 15.˚58N×95.˚07W, h14km±7km, MD5.3*
MOS ***02*** *10:13:08.5±1.4, 15.˚89N×94.˚82W, h29km, mb5.2/13, Error ellipse: s-maj=13.8km s-min=7.6km az=110.2*
CATAC ***02*** *10:13:08.8±0.5, 16.˚N±3.˚×9.˚5W±.˚, h1km, M5.5/17, mb5.5/5, mB5.7/6, MLv5.6/17, Mw(mB)5.2/6, MwMwp5.1/1, Mwp5.3/1, Error ellipse: s-maj=7.9km s-min=4.3km az=53.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48; $M_{\theta\theta}$-7.79; $M_{\phi\phi}$8.27; $M_{r\theta}$-0.46; $M_{\phi\phi}$1.72; $M_{\phi r}$-1.72; Fault plane solution: $M_0$8.41332×10^{16} NP1: ϕ_s140.52210°, δ80.88771°, λ173.86079°. NP2: ϕ_s231.49801°, δ83.93856°, λ9.16396°. Principal axes: T 8.7853, Plg10.7574°, Azm96.2168°; N -0.8014, Plg79.0271°, Azm264.7056°; P -7.9840, Plg2.1386°, Azm5.8103°; confirmed*
NEIC ***02*** *10:13:09.1±2.1, 15.˚73N±0.˚03×95.˚10W±0.˚04, h30km±4km, mb5.1/247, Mww5.3/57, Md5.3/150(MEX) Error ellipse: s-maj=5.6km s-min=4.9km az=84.0*
NEIC ***02*** *10:13:11.6, 15.˚86N×95.˚05W, h36km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.04; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.03; $M_{\phi\phi}$-0.04; $M_{\phi r}$-0.11; Fault plane solution: $M_0$1.13000×10^{17} NP1: ϕ_s133.96000°, δ85.05000°, λ177.51000°. NP2: ϕ_s224.18000°, δ87.52000°, λ4.95000°. Principal axes: T 1.1585, Plg5.0000°, Azm89.0000°; N -0.0511, Plg84.0000°, Azm251.0000°; P -1.1075, Plg2.0000°, Azm359.0000°;*
NEIC ***02*** *10:13:11.6, 15.˚86N×94.˚94W, h36km*
GCMT ***02*** *10:13:12.1±0.1, 15.˚84N±0.˚01×95.˚03W±0.˚01, h29km, MW5.3/134, Moment Tensor Solution. s96,c157; s134,c235; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$-1.01±.01; $M_{\phi\phi}$1.15±.02; $M_{r\theta}$-0.22±.03; $M_{\theta\phi}$-0.05±.01; $M_{\phi r}$-0.17±.03; Best double couple: $M_0$1.12000×10^{17} NP1:ϕ_s134.00000°, δ75.00000°, λ-175.00000°. NP2:ϕ_s43.00000°, δ85.00000°, λ-15.00000°. Principal axes: T 1.1720, Plg7.0000°, Azm89.0000°; N -0.1070, Plg74.0000°, Azm206.0000°; P -1.0670, Plg14.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 10:13:08.1±0.6, 15.˚64N±0.˚03×95.˚11W±0.˚03, h26km±4km, n772, σ2s19/752, mb5.0/168, MS4.5/48, 8C-3D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.97**	**278**		**Pn**	**10 13 23.7**	**-2.3**
HUIG					**Sb**	**10 13 36.7**	**-2.0**
HUIG	**Huatulco**	**0.97**	**278**	⇑*eP*	**Pn**	**10 13 23.7**	**-2.3**
HUIG				*eS*	**Sb**	**10 13 36.7**	**-2.0**
HUIG	**Huatulco**	**0.97**	**278**	*i P*	**Pn**	**10 13 23.7**	**-2.3**
HUIG				*eS*	**Sb**	**10 13 35.0**	**-3.7**
HUIG				IAML		10 13 43.3	
	comp=N,27μm,0.6s						
NILT	**Santiago Nilte**	**1.04**	**27**		**Pn**	**10 13 23.7**	**-3.3**
NILT					**Sb**	**10 13 35.7**	**-4.9**
NILT	**Santiago Nilte**	**1.04**	**27**	*eP*	**Pn**	**10 13 23.7**	**-3.3**
NILT				*eS*	**Sb**	**10 13 35.7**	**-4.9**
CMIG	**Matias Romero**	**1.46**	**9**	Pg	**Pn**	**10 13 29.9**	**-2.9**
	comp=N,1μm,0.3s,baz=186,slow=15,SNR=1037						
CMIG				Lg	Lg	10 13 47.8	
	comp=N,4μm,0.3s,baz=197,slow=16,SNR=17						
CMIG	**Matias Romero**	**1.46**	**9**	⇓*eP*	**Pn**	**10 13 29.7**	**-3.1**
CMIG				*eS*	**Sn**	**10 13 47.9**	**-3.3**
PCIG		**1.82**	**88**		**Pn**	**10 13 34.7**	**-3.1**
PCIG					**Sn**	**10 13 58.2**	**-1.9**
PCIG		**1.82**	**88**	⇑*eP*	**Pn**	**10 13 34.7**	**-3.1**
PCIG				*eS*	**Sn**	**10 13 58.2**	**-1.9**
UXUV	**UXUV**	**1.91**	**29**		**Pn**	**10 13 36.7**	**-2.3**
UXUV					**Sn**	**10 14 00.8**	**-1.5**
UXUV	**UXUV**	**1.91**	**29**	⇓*eP*	**Pn**	**10 13 36.7**	**-2.3**
UXUV				*eS*	**Sn**	**10 14 00.8**	**-1.5**
PEIG	**Puerto Escondi**	**1.99**	**281**		**Pn**	**10 13 38.1**	**-2.1**
PEIG					**Sn**	**10 14 00.8**	**-3.5**
PEIG	**Puerto Escondi**	**1.99**	**281**	⇑*eP*	**Pn**	**10 13 38.1**	**-2.1**
PEIG				*eS*	**Sn**	**10 14 00.8**	**-3.5**
OXIG	**Oaxaca**	**2.11**	**313**		**Pn**	**10 13 41.5**	**-0.5**
OXIG					**Sn**	**10 14 06.5**	**-1.0**
VHO	**Vista Hermosa**	**2.11**	**313**	*eP*	**Pn**	**10 13 41.5**	**-0.5**
VHO				*eS*	**Sn**	**10 14 06.5**	**-1.0**
NEUV	**Arroyo Zacate**	**2.17**	**342**		**Pn**	**10 13 40.8**	**-1.7**
NEUV					**Sn**	**10 14 07.7**	**-0.9**
NEUV	**Arroyo Zacate**	**2.17**	**342**	⇓*eP*	**Pn**	**10 13 40.8**	**-1.7**
NEUV				*eS*	**Sn**	**10 14 07.7**	**-0.9**
TGIG		**2.22**	**59**		**Pn**	**10 13 41.1**	**-2.3**
TGIG		**2.22**	**59**	*eP*	**Pn**	**10 13 41.1**	**-2.3**
TGIG		**2.22**	**59**	*eP*	**Pn**	**10 13 41.1**	**-2.3**
TGIG				*eS*	**Sn**	**10 14 07.5**	**-2.6**
TGIG				IAML		10 14 15.9	
	comp=N,25μm,0.4s						
MIHL	**Minatitlan**	**2.40**	**13**		**Pn**	**10 13 44.5**	**-1.2**
MIHL					**Sb**	**10 14 18.3**	**-1.4**
MIHL	**Minatitlan**	**2.40**	**13**	*eP*	**Pn**	**10 13 44.5**	**-1.2**
MIHL				*eS*	**Sb**	**10 14 18.3**	**-1.4**
YOIG	**Yosondua**	**2.63**	**298**		**Pn**	**10 13 48.8**	**-0.4**
YOIG					**Sn**	**10 14 17.8**	**-2.7**
YOIG	**Yosondua**	**2.63**	**298**	⇑*eP*	**Pn**	**10 13 48.8**	**-0.4**
YOIG				*eS*	**Sn**	**10 14 17.8**	**-2.7**
PATR	**El Naranjo**	**2.82**	**100**		**Pn**	**10 13 49.5**	**-2.3**
PATR					**Sn**	**10 14 22.0**	**-3.2**
PATR	**El Naranjo**	**2.82**	**100**	*eP*	**Pn**	**10 13 49.5**	**-2.3**
PATR				*eS*	**Sn**	**10 14 22.0**	**-3.2**
THIG		**2.84**	**104**		**Pn**	**10 13 50.0**	**-1.9**
THIG					**Sn**	**10 14 22.8**	**-2.4**
THIG		**2.84**	**104**	*eP*	**Pn**	**10 13 50.0**	**-1.9**
THIG				*eS*	**Sn**	**10 14 22.8**	**-2.4**
THIG		**2.84**	**104**	*eP*	**Pn**	**10 13 50.2**	**-1.6**
PAVE	**Pavencul**	**2.87**	**99**		**Pn**	**10 13 50.5**	**-1.9**
PAVE					**Sn**	**10 14 25.1**	**-1.1**
PAVE	**Pavencul**	**2.87**	**99**	*eP*	**Pn**	**10 13 50.5**	**-1.9**
PAVE				*eS*	**Sn**	**10 14 25.1**	**-1.1**
PMUV	**Sontecomapan**	**2.89**	**360**		**Pn**	**10 13 48.7**	**-3.9**
PMUV					**Sn**	**10 14 23.1**	**-3.4**
PMUV	**Sontecomapan**	**2.89**	**360**	*eP*	**Pn**	**10 13 48.7**	**-3.9**
PMUV				*eS*	**Sn**	**10 14 23.1**	**-3.4**
CCIG	**Comitan**	**2.93**	**77**		**Sn**	**10 14 27.4**	**-0.4**
CCIG	**Comitan**	**2.93**	**77**		**Pn**	**10 13 52.0**	**-1.2**
CCIG	**Comitan**	**2.93**	**77**	*eP*	**Pn**	**10 13 52.3**	**-1.0**
CCIG				*eS*	**Sn**	**10 14 27.4**	**-0.4**
CCIG	**Comitan**	**2.93**	**77**	*eP*	**Pn**	**10 13 52.6**	**-0.7**
CCIG				*eS*	**Sn**	**10 14 27.1**	**-0.7**
CCIG				IAML		10 14 54.3	
	comp=N,13μm,0.4s						
CCIG	**Comitan**	**2.93**	**77**	S	**Sn**	**10 14 25.3**	**-2.5**
CCIG	**Comitan**	**2.93**	**77**	P	**Pn**	**10 13 51.4**	**-1.9**
CHUJ	**Union Juarez**	**2.95**	**100**	⇑*eP*	**Pn**	**10 13 51.0**	**-2.5**
CHUJ				*eS*	**Sn**	**10 14 24.2**	**-4.0**
TXIG	**Tlaxiaco**	**3.01**	**303**		**Pn**	**10 13 54.1**	**-0.3**
TXIG					**Sn**	**10 14 28.5**	**-1.4**
TXIG	**Tlaxiaco**	**3.01**	**303**	*eP*	**Pn**	**10 13 54.1**	**-0.3**
TXIG				*eS*	**Sn**	**10 14 28.5**	**-1.4**
SMCA	**Catarina**	**3.03**	**104**	*eP*	**Pn**	**10 13 52.9**	**-1.6**
TOIG	**Toxpalan**	**3.08**	**323**		**Pn**	**10 13 57.2**	**+2.1**
TOIG					**Sn**	**10 14 31.0**	**-0.2**
TOIG	**Toxpalan**	**3.08**	**323**	*eP*	**Pn**	**10 13 57.2**	**+2.1**
TOIG				*eS*	**Sn**	**10 14 31.0**	**-0.2**
HLIG	**Huajuapan de L**	**3.38**	**311**		**Pn**	**10 13 60.0**	**+0.6**
HLIG					**Sn**	**10 14 37.2**	**-1.5**
HLIG	**Huajuapan de L**	**3.38**	**311**	*eP*	**Pn**	**10 13 60.0**	**+0.6**
HLIG				*eS*	**Sn**	**10 14 37.2**	**-1.5**
RTAL	**Retalhuleu**	**3.48**	**108**		**Pn**	**10 14 00.2**	**-0.5**
RTAL	**Retalhuleu**	**3.48**	**108**	P	**Pn**	**10 14 00.1**	**-0.6**
RTAL	**Retalhuleu**	**3.48**	**108**	S	**Sn**	**10 14 44.0**	**+2.9**
HUEH	**Huehuetenango**	**3.50**	**95**		**Pn**	**10 14 01.9**	**+0.9**
HUEH	**Huehuetenango**	**3.50**	**95**	*eP*	**Pn**	**10 14 02.0**	**+0.9**
HUEH				IAML		10 15 11.5	
	comp=N,37μm,1.0s						
HUEH	**Huehuetenango**	**3.50**	**95**	P	**Pn**	**10 14 01.9**	**+0.9**
HUEH	**Huehuetenango**	**3.50**	**95**	S	**Sn**	**10 14 41.3**	**-0.4**
TPIG	**Tehuac#an**	**3.50**	**322**		**Pn**	**10 14 03.3**	**+2.2**
TPIG					**Sn**	**10 14 40.7**	**-1.2**
TPIG	**Tehuac#an**	**3.50**	**322**	*eP*	**Pn**	**10 14 03.3**	**+2.2**
TPIG				*eS*	**Sn**	**10 14 40.7**	**-1.2**
QUEO	**Labor Ovalle**	**3.56**	**102**	*eP*	**Pn**	**10 14 01.8**	**-0.1**
QUEO				IAML		10 15 14.6	
	comp=N,18μm,0.9s						
SOKI	**Kika Raxquin**	**3.67**	**102**	*eP*	**Pn**	**10 14 04.5**	**+0.9**
SOKI				IAML		10 15 11.0	
	comp=N,13μm,0.8s						
TLIG	**Tlapa**	**3.82**	**300**		**Sn**	**10 14 47.2**	**-2.5**
TLIG	**Tlapa**	**3.82**	**300**		**Pn**	**10 14 06.4**	**+0.9**
TLIG	**Tlapa**	**3.82**	**300**	*eP*	**Pn**	**10 14 05.1**	**-0.4**
TLIG				*eS*	**Sn**	**10 14 47.2**	**-2.5**
QUIS	**Sacapulas**	**3.89**	**95**	*eP*	**Pn**	**10 14 07.1**	**+0.7**
HMTT	**Tlapaneco**	**3.94**	**303**		**Pn**	**10 14 06.6**	**-0.5**
HMTT					**Sn**	**10 14 51.4**	**-1.1**
HMTT	**Tlapaneco**	**3.94**	**303**	*eP*	**Pn**	**10 14 06.6**	**-0.5**
HMTT				*eS*	**Sn**	**10 14 51.4**	**-1.1**
POHV	**Veracruz**	**3.99**	**329**		**Pn**	**10 14 08.3**	**+0.2**
POHV	**Veracruz**	**3.99**	**329**	*eP*	**Pn**	**10 14 08.3**	**+0.2**
CRIG	**Cruz Grande**	**4.01**	**286**		**Pn**	**10 14 06.9**	**-1.0**
CRIG					**Sn**	**10 14 47.8**	**-6.4**
CRIG	**Cruz Grande**	**4.01**	**286**	*eP*	**Pn**	**10 14 06.9**	**-1.0**
CRIG				*eS*	**Sn**	**10 14 47.8**	**-6.4**
JAUV	**Jalcomulco**	**4.04**	**337**		**Pn**	**10 14 04.7**	**-3.7**
JAUV					**Sn**	**10 14 56.1**	**+1.2**
JAUV	**Jalcomulco**	**4.04**	**337**	*eP*	**Pn**	**10 14 04.7**	**-3.7**
JAUV				*eS*	**Sn**	**10 14 56.1**	**+1.2**
LVIG	**Laguna Verde**	**4.25**	**343**		**Pn**	**10 14 07.0**	**-4.1**
LVIG					**Sn**	**10 14 58.5**	**-1.4**
LVIG	**Laguna Verde**	**4.25**	**343**	*eP*	**Pn**	**10 14 07.0**	**-4.1**
LVIG				*eS*	**Sn**	**10 14 58.5**	**-1.4**
ESSG	**Sabana Grande**	**4.32**	**106**	*eP*	**Pn**	**10 14 12.1**	**-0.1**
PHPU	**Puebla**	**4.47**	**320**		**Pn**	**10 14 16.3**	**+1.8**
PHPU					**Sn**	**10 15 04.7**	**-1.1**
PHPU	**Puebla**	**4.47**	**320**	*eP*	**Pn**	**10 14 16.3**	**+1.8**
PHPU				*eS*	**Sn**	**10 15 04.7**	**-1.1**
DAIG	**Los Arroyos**	**4.57**	**288**		**Pn**	**10 14 15.0**	**-0.6**
DAIG					**Sn**	**10 15 01.2**	**-6.7**
DAIG	**Los Arroyos**	**4.57**	**288**	*eP*	**Pn**	**10 14 15.0**	**-0.6**
DAIG				*eS*	**Sn**	**10 15 01.2**	**-6.7**
FG8	**Yepocapa, Chim**	**4.61**	**107**	*eP*	Pn	10 14 10.0	-6.2
FG16	**Alotenango, Sa**	**4.65**	**106**	*eP*	Pn	10 14 11.5	-5.4
PPCL	**Tochimilco**	**4.67**	**315**	*eP*	**Pn**	**10 14 19.0**	**+1.8**
PPCL				*eS*	**Sn**	**10 15 12.4**	**+1.6**
VNTA	**La Mica**	**4.70**	**286**		**Pn**	**10 14 17.8**	**+0.5**
VNTA					**Sn**	**10 15 04.8**	**-6.2**
VNTA	**La Mica**	**4.70**	**286**	*eP*	**Pn**	**10 14 17.8**	**+0.5**
VNTA				*eS*	**Sn**	**10 15 04.8**	**-6.2**
PPPT	**Popocatepetl**	**4.71**	**315**	*eP*	**Pn**	**10 14 20.0**	**+1.9**
PPPT				*eS*	**Sn**	**10 15 16.7**	**+4.5**
PPSX	**Xalitzintla**	**4.72**	**317**	*eP*	**Pn**	**10 14 20.7**	**+2.8**
PPSX				*eS*	**Sn**	**10 15 16.6**	**+4.5**
MEIG	**Mezcala**	**4.88**	**298**		**Pn**	**10 14 20.8**	**+0.8**
MEIG					**Sn**	**10 15 11.8**	**-3.9**
MEIG	**Mezcala**	**4.88**	**298**	*eP*	**Pn**	**10 14 20.8**	**+0.8**
MEIG				*eS*	**Sn**	**10 15 11.8**	**-3.9**
YAIG	**Yautepec**	**4.95**	**311**		**Pn**	**10 14 22.5**	**+1.5**
YAIG					**Sn**	**10 15 13.5**	**-4.1**
YAIG	**Yautepec**	**4.95**	**311**	*eP*	**Pn**	**10 14 22.5**	**+1.5**
YAIG				*eS*	**Sn**	**10 15 13.5**	**-4.1**
SCIG	**Sabancuy**	**5.00**	**48**		**Pn**	**10 14 18.4**	**-3.1**
SCIG					**Sn**	**10 15 12.6**	**-6.0**
SCIG	**Sabancuy**	**5.00**	**48**	*eP*	**Pn**	**10 14 18.4**	**-3.1**
SCIG				*eS*	**Sn**	**10 15 12.6**	**-6.0**
SCIG	**Sabancuy**	**5.00**	**48**	*eP*	**Pn**	**10 14 18.9**	**-2.6**
CXUV	**Coxquihui**	**5.09**	**333**		**Pn**	**10 14 21.2**	**-1.5**
CXUV					**Sn**	**10 15 26.5**	**+5.8**
CXUV	**Coxquihui**	**5.09**	**333**	*eP*	**Pn**	**10 14 21.2**	**-1.5**
CXUV				*eS*	**Sn**	**10 15 26.5**	**+5.8**
MPVM	**San Francisco**	**5.14**	**314**		**Pn**	**10 14 26.0**	**+2.3**
MPVM					**Sn**	**10 15 26.1**	**+3.9**
MPVM	**San Francisco**	**5.14**	**314**	*eP*	**Pn**	**10 14 26.0**	**+2.3**
MPVM				*eS*	**Sn**	**10 15 26.1**	**+3.9**
CAIG	**El Cayaco**	**5.14**	**287**		**Pn**	**10 14 22.6**	**-0.9**
CAIG					Sn	10 15 12.2	-10
CAIG	**El Cayaco**	**5.14**	**287**	*eP*	**Pn**	**10 14 22.6**	**-0.9**
CAIG				*eS*	Sn	10 15 12.2	-10
THVM	**De Xico**	**5.19**	**315**		**Pn**	**10 14 26.0**	**+1.6**
THVM					**Sn**	**10 15 25.6**	**+2.1**
THVM	**De Xico**	**5.19**	**315**	*eP*	**Pn**	**10 14 26.0**	**+1.6**
THVM				*eS*	**Sn**	**10 15 25.6**	**+2.1**
PETF	**Flores**	**5.20**	**75**		**Pn**	**10 14 23.1**	**-1.4**
PETF	**Flores**	**5.20**	**75**	*eP*	**Pn**	**10 14 23.1**	**-1.1**
PETF				IAML		10 15 34.2	
	comp=N,7μm,0.6s						
PETF	**Flores**	**5.20**	**75**	S	**Sn**	**10 15 20.0**	**-3.4**
PETF	**Flores**	**5.20**	**75**	P	**Pn**	**10 14 23.0**	**-1.2**
TLVM	**San Miguel Top**	**5.24**	**313**		**Pn**	**10 14 26.6**	**+1.5**
TLVM					**Sn**	**10 15 24.6**	**-0.4**
TLVM	**San Miguel Top**	**5.24**	**313**	*eP*	**Pn**	**10 14 26.6**	**+1.5**
TLVM				*eS*	**Sn**	**10 15 24.6**	**-0.4**
FAME	**Alcaldia de Sa**	**5.25**	**109**	P	**Pn**	**10 14 24.6**	**-0.4**
FAME	**Alcaldia de Sa**	**5.25**	**109**	S	**Sn**	**10 15 27.0**	**+2.4**
XCVM	**Xochimilco**	**5.25**	**314**		**Pn**	**10 14 27.4**	**+2.2**
XCVM					**Sn**	**10 15 30.4**	**+5.4**
XCVM	**Xochimilco**	**5.25**	**314**	*eP*	**Pn**	**10 14 27.4**	**+2.2**
XCVM				*eS*	**Sn**	**10 15 30.4**	**+5.4**
COVM	**Coyoacan**	**5.34**	**314**		**Pn**	**10 14 30.9**	**+4.4**
COVM					**Sn**	**10 15 30.8**	**+3.5**
COVM	**Coyoacan**	**5.34**	**314**	*eP*	**Pn**	**10 14 30.9**	**+4.4**
COVM				*eS*	**Sn**	**10 15 30.8**	**+3.5**
ATYC	**Atoyac**	**5.34**	**288**		**Pn**	**10 14 22.0**	**-4.2**
ATYC					**Sn**	**10 15 20.7**	**-6.2**
ATYC	**Atoyac**	**5.34**	**288**	*eP*	**Pn**	**10 14 22.0**	**-4.2**
ATYC				*eS*	**Sn**	**10 15 20.7**	**-6.2**
UNM	**Universidad Na**	**5.34**	**314**	*eP*	**Pn**	**10 14 28.7**	**+2.3**
UNM				*eS*	**Sn**	**10 15 26.8**	**-0.5**
CUP5	**Mexico City**	**5.34**	**314**		**Pn**	**10 14 29.5**	**+3.0**
CUP5					**Sn**	**10 15 26.9**	**-0.4**
CUP5	**Mexico City**	**5.34**	**314**	*eP*	**Pn**	**10 14 29.5**	**+3.0**
CUP5				*eS*	**Sn**	**10 15 26.9**	**-0.4**
VRVM	**Mexico City**	**5.36**	**315**		Sn	10 15 15.9	-12
VRVM	**Mexico City**	**5.36**	**315**	*eS*	Sn	10 15 15.9	-12
AOVM	**Tlapan**	**5.40**	**313**		**Pn**	**10 14 28.5**	**+1.0**
AOVM					**Sn**	**10 15 33.6**	**+4.5**
AOVM	**Tlapan**	**5.40**	**313**	*eP*	**Pn**	**10 14 28.5**	**+1.0**
AOVM				*eS*	**Sn**	**10 15 33.6**	**+4.5**
LOAL	**Lomas de Alarc**	**5.41**	**107**	P	**Pn**	**10 14 30.9**	**+3.7**
LOAL	**Lomas de Alarc**	**5.41**	**107**	S	**Sn**	**10 15 29.5**	**+0.8**
MHVM	**Bosque de Chap**	**5.41**	**314**		Pn	10 14 32.5	+5.0
MHVM					**Sn**	**10 15 29.1**	**-0.1**
MHVM	**Bosque de Chap**	**5.41**	**314**	*eP*	Pn	10 14 32.5	+5.0
MHVM				*eS*	**Sn**	**10 15 29.1**	**-0.1**
CJVM	**Cuajimalpa**	**5.44**	**314**		Pb	10 14 35.4	-7.1
CJVM					**Sn**	**10 15 34.6**	**+5.0**
CJVM	**Cuajimalpa**	**5.44**	**314**	*eP*	Pb	10 14 35.4	-7.1
CJVM				*eS*	**Sn**	**10 15 34.6**	**+5.0**
NUBE	**Las Nubes**	**5.44**	**108**	*eP*	**Pn**	**10 14 27.8**	**+0.1**
NUBE	**Las Nubes**	**5.44**	**108**	P	**

ESPN Las Esperanzas 11.04 107 P **Pn 10 15 45.4 +0.9**
comp=N,1µmcomp=N,112nm,1.0s
JTS Las Juntas de 11.24 117 Pn 10 15 49.9 +2.8
JTS Las Juntas de 11.24 117 Pn **Pn 10 15 48.9 +1.7**
comp=N,3.3nm,0.3s,baz=314,slow=17,SNR=20
JTS Sn **Sn 10 17 47.1 -5.0**
baz=288,slow=19
JTS Las Juntas de 11.24 117 *i* P **Pn 10 15 49.5 +2.4**
JTS Las Juntas de 11.24 117 P **Pn 10 15 49.6 +2.4**
comp=N,1µmcomp=N,113nm,0.8s
BILN Bilwi Airport 11.46 96 Pn 10 15 49.5 -0.6
SOCE Pocosol 11.48 116 Pn 10 15 52.4 +1.8
HDC Heredia 12.10 116 *e*P **Pn 10 16 01.9 +2.8**
833A Chaparral WMA, 13.23 343 Pn 10 16 14.7 +0.3
SAIC Isla e San And 13.36 102 P **Pn 10 16 13.5 -2.7**
PDIG Papasquiaro 13.43 316 Pn 10 16 17.2 0.0
PDIG Papasquiaro 13.43 316 *e*P **Pn 10 16 17.2 0.0**
SOR Soroa 13.46 56 Pn 10 16 14.3 -3.2
SOR Soroa 13.46 56 P **Pn 10 16 14.3 -3.2**
PRVC Isla de Provid 13.50 98 Pn **Pn 10 16 18.1 0.0**
PRVC Isla de Provid 13.50 98 P **Pn 10 16 16.5 -1.6**
MCIG Muzquiz 13.54 335 Pn 10 16 19.9 +1.4
MCIG Muzquiz 13.54 335 *e*P **Pn 10 16 19.9 +1.4**
EF04 Eagle Ford 04 13.73 350 Pn 10 16 18.8 -2.4
BRU2 Volcan 13.91 118 Pn 10 16 25.1 +1.2
MLDN Muldoon 14.19 353 Pn 10 16 26.1 -1.4
HKT Hockley 14.26 357 Pn 10 16 27.6 -0.7
HKT Hockley 14.26 357 *i* P **Pn 10 16 27.1 -1.2**
SERC Banco Serrana, 14.31 93 P **Pn 10 16 28.5 -0.7**
comp=N,66nm,0.8s
HNDO Hondo 14.35 345 Pn **Pn 10 16 28.7 -0.9**
SSIG Sanalona 14.51 311 Pn 10 16 26.3 -5.6
SSIG Sanalona 14.51 311 *e*P Pn 10 16 26.3 -5.6
DRIO Del Rio 14.63 341 Pn **Pn 10 16 31.5 -2.0**
HPIG 14.92 321 Sn 10 19 27.2 +4.8
HPIG 14.92 321 Pn 10 16 37.7 +0.1
HPIG 14.92 321 *e*P **Pn 10 16 36.5 -1.2**
HPIG *e*S **Sn 10 19 27.2 +4.8**
HNVL Huntsville, TX 15.05 359 Pn **Pn 10 16 37.2 -1.9**
441A DeRidder 15.14 6 Pn **Pn 10 16 38.9 -1.5**
441A IAmb IAmb 10 16 45.6
comp=Z,73nm,0.8s
JCT Junction City 15.38 345 Pn 10 16 42.2 -1.4
JCT Junction City 15.38 345 IAmb IAmb 10 16 49.5
comp=Z,52nm,1.0s
JCT Junction City 15.38 345 P **Pn 10 16 42.2 -1.4**
JCT pmax pmax
comp=Z,53nm,1.0s
JCT Junction City 15.38 345 *e*P **Pn 10 16 42.2 -1.4**
SAND Sanderson 15.64 337 Pn 10 16 45.7 -1.2
TX31 Lajitas Ar. Si 15.74 331 Pn **Pn 10 16 48.4 +0.1**
TXAR Lajitas Array 15.74 331 Pn **Pn 10 16 49.8 +1.5**
comp=Z,8.0nm,0.8s,baz=146,slow=15,SNR=34
TXAR Lg Lg 10 21 30.9
comp=Z,0.1nm,0.3s,baz=172,slow=24,SNR=3.6
TXAR LR LR 10 22 48.1
comp=Z,924nm,18.8s,baz=144,slow=37
NATX Nacogdoches 16.05 1 Pn **Pn 10 16 50.5 -1.7**
NATX IAmb IAmb 10 16 58.7
comp=Z,310nm,1.4s
OZNA Ozona 16.18 341 Pn **Pn 10 16 53.6 -0.2**
BCIP Isla Barro Col 16.24 112 P **Pn 10 16 51.4 -3.3**
237A Washetta, Mont 16.30 358 Pn **Pn 10 16 54.0 -1.3**
237A IAmb IAmb 10 17 02.6
comp=Z,159nm,0.8s
LPIG La Paz 16.58 303 Pn **P 10 17 00.3 -0.9**
comp=Z,10nm,0.4s,baz=117,slow=4.5,SNR=4.4
LPIG LR LR 10 23 17.3
comp=Z,2µm,18.3s,baz=130,slow=37
FW13 Cleburne 16.77 353 Pn **Pn 10 16 59.7 -1.6**
MTDJ Mount Denham 17.01 79 Pn **Pn 10 17 02.4 -2.1**
MTDJ Mount Denham 17.01 79 P **P 10 17 06.8 +0.6**
comp=Z,102nm,0.7s
BRAL Brewton 17.12 24 Pn **Pn 10 17 03.3 -2.4**
BRAL IAmb IAmb 10 17 12.1
comp=Z,279nm,1.7s
143A Socs Landing, 17.32 11 P **Pn 10 17 07.4 -0.7**
Z38A Mt. Pleasant 17.54 0 P **Pn 10 17 09.8 -1.1**
Z35A Perchaven, San 17.72 354 P **Pn 10 17 12.3 -0.8**
Z35A IAmb IAmb 10 17 20.3
comp=Z,133nm,0.8s
ODSA Odessa 17.75 339 P **Pn 10 17 13.2 -0.3**
ODSA IAmb IAmb 10 17 21.8
comp=Z,248nm,1.1s
CLN7 Carlsbad 7 18.48 336 P **P 10 17 21.0 -1.3**
MNTX Cornudas Mount 18.53 331 P **P 10 17 21.5 -1.3**
MNTX Cornudas Mount 18.53 331 *e*P **P 10 17 21.5 -1.3**
DKNS Dickens 18.70 345 P **P 10 17 23.6 -1.1**
DKNS IAmb IAmb 10 17 34.1
comp=Z,130nm,0.9s
CGIG 18.82 323 P **Pn 10 17 26.5 -0.2**
CGIG 18.82 323 *e*P **Pn 10 17 26.5 -0.2**
GTBY Guantanamo Bay 19.51 74 P **P 10 17 30.7 -2.9**
APAC Apartado, Choc 19.69 111 P **Pn 10 17 37.7 +0.5**
comp=Z,44nm,1.0s
SJCC San Jacinto, C 20.25 104 P **P 10 17 42.4 +0.6**
comp=Z,53nm,0.9s
319A Douglas 20.32 323 IAmb IAmb 10 17 56.7
comp=Z,109nm,1.1s
OK052 Battle Ridge R 20.33 356 P **P 10 17 39.9 -2.4**
FCAR Ozark Folk Cen 20.34 7 P **P 10 17 40.3 -2.2**
FCAR IAmb IAmb 10 17 59.3
comp=Z,111nm,0.8s
121A Cookes Peak, D 20.38 328 IAmb IAmb 10 17 57.5
comp=Z,151nm,1.0s
DBBC Dabeiba 20.40 113 P Pn 10 17 46.9 +1.3
RLO Rose Lookout 20.44 0 IAmb IAmb 10 18 00.2
comp=Z,131nm,0.9s
HHAR Hobbs 20.58 3 IAmb IAmb 10 17 52.0
comp=Z,60nm,0.8s
GOGA Godfrey 20.59 29 IAmb IAmb 10 17 57.8
comp=Z,111nm,1.4s
LCAR Lake Charles 20.65 9 IAmb IAmb 10 18 02.3
comp=Z,110nm,1.0s
UREC San Jos de Ur 20.70 110 P **P 10 17 47.6 +1.0**
Y52A Lilburn 20.71 27 IAmb IAmb 10 18 02.0
comp=Z,58nm,1.1s
CBOC Ciudad Bolivar 21.11 115 P **P 10 17 54.0 +2.8**
comp=Z,8µmcomp=Z,89nm,0.8s
SWET Sewanee 21.16 21 P **P 10 17 48.0 -3.5**
GC02 Grant County # 21.27 354 P **P 10 17 50.7 -1.8**
W50A Signal Mountai 21.37 22 IAmb IAmb 10 18 08.1
comp=Z,53nm,0.8s
HELC Santa Helena 21.38 114 P **P 10 17 55.5 +1.2**
comp=Z,583nmcomp=Z,46nm,1.0s
PBMO Poplar Bluff 21.46 10 IAmb IAmb 10 18 07.5
comp=Z,87nm,0.9s
MGMO Mountain Grove 21.58 6 IAmb IAmb 10 18 13.2
comp=Z,138nm,1.2s
KAN08 Anthony NE Sta 21.65 354 IAmb IAmb 10 18 01.1
comp=Z,101nm,0.9s
ANMO Albuquerque 21.76 334 P 10 17 57.0 -1.0
ANMO IAmb IAmb 10 18 10.9
comp=Z,111nm,1.4s
ANMO Albuquerque 21.76 334 P **P 10 17 58.4 +0.4**
comp=Z,14nm,0.9s,baz=245,slow=12,SNR=22
comp=Z,14nm,0.9s
YOTC Yotoco, Valle 21.79 120 P **P 10 18 00.5 +2.0**
comp=Z,668nmcomp=Z,66nm,0.8s
HODGE Hodges 21.84 30 IAmb IAmb 10 18 14.5
comp=Z,46nm,0.9s
TUC Tucson 21.87 322 P **P 10 18 00.1 +0.9**
TUC Tucson 21.87 322 IAmb IAmb 10 18 08.7
comp=Z,70nm,1.0s
TUC Tucson 21.87 322 P **P 10 18 00.1 +0.9**
TUC pmax pmax
comp=Z,70nm,1.0s
TUC Tucson 21.87 322 *e*P **P 10 18 00.1 +0.9**
GUY2C Guyana, Caldas 21.98 116 P **P 10 18 02.2 +1.3**
comp=Z,2µmcomp=Z,264nm,0.8s
CRJC Cerrejon, Guaj 22.11 99 P **P 10 18 00.7 -1.1**
CGM3 Cape Girardeau 22.11 12 IAmb IAmb 10 18 15.0
comp=Z,72nm,1.4s
BG3 Lake Jocassee 22.16 27 IAmb IAmb 10 18 16.6
comp=Z,113nm,1.5s
PTBC PUERTO BERRIO, 22.18 112 P **P 10 18 01.0 -1.5**
BBAC Balboa, Cauca 22.21 126 P **P 10 18 06.0 +2.9**
comp=Z,649nmcomp=Z,57nm,1.2s
POPC Popayan, Colom 22.35 124 P **P 10 18 06.7 +2.1**
comp=Z,707nmcomp=Z,44nm,1.5s
JSC Jenkinsville 22.36 31 IAmb IAmb 10 18 24.7
comp=Z,84nm,1.5s
TKL Tuckaleechee C 22.37 25 IAmb IAmb 10 18 22.5
comp=Z,52nm,0.9s
TKL Tuckaleechee C 22.37 25 LR LR 10 29 19.0
comp=Z,893nm,19.6s,baz=212,slow=44
U49A Red Boiling Sp 22.39 20 IAmb IAmb 10 18 25.0
comp=Z,36nm,0.8s
T47A Sharon Grove 22.42 17 IAmb IAmb 10 18 24.0
comp=Z,65nm,1.0s
CMBC Cumbal 22.46 129 P P 10 18 13.4 +7.4
S44A Carbondale 22.57 12 IAmb IAmb 10 18 26.8
comp=Z,82nm,0.8s
TULM Tulcn-Chalpat 22.63 129 P P 10 18 16.0 +8.1
GCUF Volcan Galeras 22.64 128 P **P 10 18 11.8 +3.9**
comp=Z,922nmcomp=Z,39nm,0.9s
R40A Maddies Statio 22.70 6 IAmb IAmb 10 18 25.3
comp=Z,114nm,1.1s
CRUC La Cruz 22.72 126 P **P 10 18 11.2 +2.5**
ORTC Ortega, Tolima 22.75 119 P **P 10 18 10.4 +1.7**
comp=Z,2µmcomp=Z,170nm,0.9s
V53A Saluda 22.78 27 IAmb IAmb 10 18 28.7
comp=Z,40nm,0.9s
URIC Uribia, Colomb 22.80 97 P **P 10 18 08.4 -0.7**
comp=Z,2µmcomp=Z,31nm,0.9s
214A Organ Pipe Nat 22.88 318 IAmb IAmb 10 18 32.5
comp=Z,50nm,1.1s
SPBC San Pablo de B 22.91 113 P **P 10 18 10.4 0.0**
T25A Trinidad 22.95 341 IAmb IAmb 10 18 33.7
comp=Z,97nm,0.9s
BONI La Bonita 23.00 129 P **P 10 18 15.8 +4.3**
comp=Z,79nm,1.2s
X18A Snowflake 23.06 327 IAmb IAmb 10 18 36.0
comp=Z,77nm,1.1s
ROSC El Rosal 23.08 116 P **P 10 18 13.7 +1.3**
comp=Z,94nm,0.8s,baz=108,slow=20,SNR=25
ROSC El Rosal 23.08 116 P **P 10 18 15.8 +3.4**
comp=Z,2µmcomp=Z,205nm,0.9s
PRAC Prado 23.16 119 P **P 10 18 14.7 +1.8**
comp=Z,2µmcomp=Z,1µmcomp=Z,118nm,1.1s
TZTN Tazewell 23.23 24 IAmb IAmb 10 18 27.2
comp=Z,116nm,1.7s
BARC Barichara 23.30 110 P **P 10 18 16.5 +2.0**
PAMC Pamplona, Colo 23.44 108 P **P 10 18 18.2 +2.0**
CVER Cruz Verde, Cu 23.45 116 P **P 10 18 20.0 +3.8**
GRTK Grand Turk 23.45 72 P P 10 18 07.9 -7.8
PIAT Ana Tenorio 23.46 133 P **P 10 18 19.7 +3.4**
comp=Z,13nm,1.0s
RUSC La Rusia 23.68 112 IAmb IAmb 10 18 25.7
comp=Z,70nm,0.8s
RUSC La Rusia 23.68 112 P **P 10 18 20.1 +1.6**
comp=Z,1µmcomp=Z,91nm,0.9s
W57A Gilead 23.69 32 IAmb IAmb 10 18 41.3
comp=Z,69nm,1.2s
FLOC Florencia 23.73 124 IAmb IAmb 10 18 47.7
comp=Z,84nm,1.2s
FLOC Florencia 23.73 124 P **P 10 18 19.6 +1.1**
comp=Z,874nmcomp=Z,61nm,1.2s
X16A Lo Mia Camp, P 23.78 325 IAmb IAmb 10 18 38.8
comp=Z,46nm,0.8s
WCI Wyandotte Cave 23.81 17 IAmb IAmb 10 18 41.5
comp=Z,70nm,0.8s
URMC La Uribe, Meta 23.84 119 P **P 10 18 21.1 +1.6**
comp=Z,53nm,1.0s
SDCO Great Sand Dun 23.86 339 IAmb IAmb 10 18 41.6
comp=Z,48nm,1.0s
COHC Cochancay 23.87 138 P **P 10 18 20.7 +1.0**
P38A Dawn 23.93 3 IAmb IAmb 10 18 38.0
comp=Z,77nm,1.0s
P40A Paris 23.95 6 IAmb IAmb 10 18 43.3
comp=Z,83nm,1.0s
113A Mohawk Valley, 24.02 319 IAmb IAmb 10 18 47.4
comp=Z,56nm,1.1s
KSCO Kaye Shedlock' 24.20 346 IAmb IAmb 10 18 48.9
comp=Z,75nm,0.9s
R49A Shelbyville 24.21 19 IAmb IAmb 10 18 50.0
comp=Z,64nm,1.2s
Y14A Wickenburg 24.34 322 IAmb IAmb 10 18 42.9
comp=Z,48nm,1.2s
WUAZ Wupatki 24.57 327 IAmb IAmb 10 18 46.9
comp=Z,43nm,0.8s
BLO Bloomington 24.62 16 IAmb IAmb 10 18 50.1
comp=Z,102nm,1.2s
SDV Santo Domingo 24.83 103 LR LR 10 29 08.9
comp=Z,498nm,19.7s,baz=274,slow=39
SDV Santo Domingo 24.83 103 *e*P **P 10 18 27.4 -1.3**
SDV Santo Domingo 24.83 103 P **P 10 18 30.7 +1.9**
comp=Z,36nm,0.8s
MACC Macarena, Meta 24.88 121 P **P 10 18 30.9 +1.9**
MCRA Macar, Loja 24.91 142 P **P 10 18 30.5 +1.2**
P48A Milroy 25.20 18 IAmb IAmb 10 18 56.3
comp=Z,60nm,1.1s
PTLC Puerto Leguiza 25.27 126 P **P 10 18 38.0 +5.4**
HDIL Hopedale 25.34 10 IAmb IAmb 10 19 02.5
comp=Z,56nm,0.8s
BELC Belle Mtn. Jos 26.24 318 IAmb IAmb 10 19 08.6
comp=Z,59nm,1.4s
PFO Pinyon Flats O 26.30 317 IAmb IAmb 10 19 07.1
comp=Z,88nm,1.7s
PFO Pinyon Flats O 26.30 317 LR LR 10 29 50.1
comp=Z,2µm,19.7s,baz=135,slow=38
PFO Pinyon Flats O 26.30 317 *i* P **P 10 18 43.8 +1.9**
PFO pmax pmax
comp=Z,29nm,1.0s
KNB Kanab 26.47 327 IAmb IAmb 10 19 15.1
comp=Z,40nm,0.9s
O20A White River Ci 26.96 337 IAmb IAmb 10 19 02.4
comp=Z,60nm,1.1s
Q16A Castle Valley 27.14 332 IAmb IAmb 10 19 11.8
comp=Z,28nm,1.0s
BAUV El Baul 27.25 101 IAmb IAmb 10 19 31.5
comp=Z,40nm,1.1s
P17A Butcher Ranch, 27.40 333 IAmb IAmb 10 19 09.7
comp=Z,44nm,1.3s
GSC Goldstone, Bar 27.58 319 IAmb IAmb 10 19 16.6
comp=Z,58nm,1.6s
ECSD EROS Data Cent 28.03 358 IAmb IAmb 10 19 44.3
comp=Z,55nm,0.8s
ATAH Atahualpa 28.04 143 LR LR 10 28 17.2
comp=Z,358nm,19.3s,baz=326,slow=33
CCCA Chr Cany lake 28.07 319 IAmb IAmb 10 19 40.0
comp=Z,44nm,1.1s
WSHM Spangler Hills 28.20 319 IAmb IAmb 10 19 25.4
comp=Z,48nm,1.7s
TPO Tropico Hills 28.23 317 IAmb IAmb 10 19 37.9
comp=Z,33nm,1.2s
MPU Maple Canyon 28.24 333 IAmb IAmb 10 19 12.4
comp=Z,46nm,1.4s
BSUT Blindstream Ca 28.30 334 IAmb IAmb 10 19 42.5
comp=Z,42nm,1.2s
FURC Furnace Creek, 28.37 321 IAmb IAmb 10 19 27.1
comp=Z,88nm,1.8s
I40A Norwalk 28.42 7 IAmb IAmb 10 19 28.5
comp=Z,34nm,0.9s
K22A Casper 28.65 342 IAmb IAmb 10 19 31.8
comp=Z,50nm,1.2s
TCUT Toone Canyon 29.05 334 IAmb IAmb 10 19 24.8
comp=Z,60nm,1.0s
PDAR Pinedale Array 29.74 338 P **P 10 19 12.9 +0.3**
comp=Z,1.9nm,0.9s,baz=146,slow=8.8,SNR=12
PDAR LR LR 10 33 54.7
comp=Z,1µm,18.2s,baz=154,slow=42
comp=Z,1.9nm,0.9s
G40A Rib Lake 29.82 7 IAmb IAmb 10 20 14.0
comp=Z,23nm,0.8s
F33A 5 Mile Ranch, 30.12 358 IAmb IAmb 10 20 13.5
comp=Z,39nm,1.0s
PCRV Puerto La Cruz 30.18 97 LR LR 10 33 38.1
comp=Z,457nm,19.1s,slow=41
NV11 Mina Array Sit 30.44 323 IAmb IAmb 10 19 42.5
comp=Z,38nm,1.1s
MDPB Devils Postpil 30.48 321 IAmb IAmb 10 19 43.4
comp=Z,87nm,1.8s
ELK Elko 30.52 329 LR LR 10 33 23.6
comp=Z,2µm,18.2s,baz=156,slow=40
NVAR Mina Array Bea 30.53 322 P **P 10 19 21.2 +1.6**
comp=Z,10nm,0.9s,baz=134,slow=8.6,SNR=32
NVAR LR LR 10 33 02.1
comp=Z,3µm,18.5s,baz=134,slow=39
comp=Z,10nm,0.9s
PMPB Monarch Peak 30.72 317 IAmb IAmb 10 19 48.5
comp=Z,54nm,1.3s
TPAW Teton Pass 30.87 337 IAmb IAmb 10 19 47.9
comp=Z,49nm,1.1s
LEGD La Grand CA 30.88 319 IAmb IAmb 10 19 45.9
comp=Z,34nm,1.3s
YNE Yellowstone No 31.86 340 IAmb IAmb 10 19 55.4
comp=Z,22nm,1.0s
YMR Madison River 31.89 338 IAmb IAmb 10 20 09.0
comp=Z,30nm,0.9s
MHC Mount Hamilton 31.92 318 IAmb IAmb 10 20 03.8
comp=Z,35nm,1.3s
WELL Weller Preserv 31.99 320 IAmb IAmb 10 19 57.3
comp=Z,40nm,1.4s
SADO Sadowa 32.02 22 LR LR 10 34 52.7
comp=Z,6µm,19.1s,baz=231,slow=41
YHL Hebgen Lake 32.13 338 IAmb IAmb 10 19 57.4
comp=Z,19nm,1.0s
LAO LASA Array 32.31 346 IAmb IAmb 10 20 12.4
comp=Z,38nm,1.2s
HLID Hailey 32.33 333 IAmb IAmb 10 19 59.6
comp=Z,21nm,0.9s
MFID Camas Ranch 32.84 332 IAmb IAmb 10 20 08.1
comp=Z,22nm,1.2s
NNA Nana 32.87 146 LR LR 10 30 45.0
comp=Z,370nm,21.7s,baz=336,slow=32
TBO Thunder Bay 33.25 7 IAmb IAmb 10 20 06.4
comp=Z,35nm,1.0s
DGMT Dagmar 33.58 349 IAmb IAmb 10 20 57.0
comp=Z,23nm,0.9s
ULM Lac du Bonnet 34.53 359 P **P 10 19 52.5 -1.7**
comp=Z,4.5nm,0.7s,baz=174,slow=7.4,SNR=4.7
ULM LR LR 10 35 41.8
comp=Z,727nm,21.7s,baz=178,slow=39
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 34.53 359 *i* P **P 10 19 52.1 -2.1**
BMO Blue Mountains 34.63 332 IAmb IAmb 10 20 12.6
comp=Z,54nm,1.8s
MSO Missoula 34.83 337 IAmb IAmb 10 20 18.6
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 35.24 323 LR LR 10 36 08.8
comp=Z,152nm,18.1s,baz=128,slow=39
TEFE Tefe 35.66 120 *e*P **P 10 20 04.7 +0.3**
LNOR Lincton Mounta 35.85 332 IAmb IAmb 10 20 31.3
comp=Z,26nm,1.4s
BBOR Butler Butte 35.96 325 IAmb IAmb 10 20 29.8
comp=Z,29nm,1.4s
I05D Terrebonne, OR 36.22 328 IAmb IAmb 10 20 31.1
comp=Z,27nm,1.2s
G06A Carlson Farm, 36.50 329 IAmb IAmb 10 20 37.5
comp=Z,48nm,1.8s
BOAV Boa Vista 36.53 108 IAmb IAmb 10 20 36.9
comp=Z,36nm,1.9s
BOAV Boa Vista 36.53 108 *e*P **P 10 20 11.6 -0.2**
BOAV Boa Vista 36.53 108 P **P 10 20 09.8 -2.1**
G05A Wamic 36.84 329 IAmb IAmb 10 20 44.7
comp=Z,48nm,1.2s
NEW Newport 37.23 336 LR LR 10 37 17.8
comp=Z,1µm,18.4s,baz=161,slow=39
C09A Chrisman Ranch 37.34 334 IAmb IAmb 10 20 22.1
comp=Z,16nm,0.8s
COR Corvallis 37.42 326 IAmb IAmb 10 20 43.9
comp=Z,59nm,1.2s
LON Longmire 38.15 330 IAmb IAmb 10 20 49.1
comp=Z,22nm,1.0s
D05A Enumclaw 38.55 330 IAmb IAmb 10 20 53.8
comp=Z,26nm,1.0s
MACA Manacapuru-AM 38.85 116 P **P 10 20 31.3 -0.2**
MACA IAmb IAmb 10 20 48.5
comp=Z,29nm,0.7s
MACA Manacapuru-AM 38.85 116 *e*P **P 10 20 31.5 0.0**
E03A Lebam 38.87 328 IAmb IAmb 10 20 39.7
comp=Z,22nm,0.9s
GNW Green Mountain 39.22 330 P **P 10 20 33.9 -0.3**
FFC Flin Flon 39.37 354 IAmb IAmb 10 20 55.2
comp=Z,25nm,1.0s
FFC Flin Flon 39.37 354 P **P 10 20 34.4 -0.9**
FFC sP **sP 10 20 48.1 +2.1**
A04D Lummi Island 39.99 331 IAmb IAmb 10 20 59.4
comp=Z,51nm,0.8s
LPAZ La Paz 41.42 139 P **P 10 20 53.1 -0.3**
LPAZ La Paz 41.42 139 P **P 10 20 53.1 -0.3**
comp=Z,2.0nm,0.5s,baz=330,slow=3.5,SNR=14
LPAZ LR LR 10 37 40.7
comp=Z,325nm,20.5s,baz=324,slow=36
comp=Z,2.0nm,0.5s
LPAZ La Paz 41.42 139 P **P 10 20 53.1 -0.3**
LPAZ pmax pmax
comp=Z,6.0nm,0.7s
LPAZ La Paz 41.42 139 *e*P **P 10 20 53.4 -0.1**
LPAZ La Paz 41.42 139 P **P 10 20 53.2 -0.2**
LPAZ pP **pP 10 21 01.2 +0.2**
LPAZ La Paz 41.42 139 P **P 10 20 52.4 -1.1**
PB16 IPOC Station P 42.14 142 P **P 10 20 60.0 +0.7**
MDP Montagnes des 42.98 99 LR LR 10 42 32.4
comp=Z,309nm,19.1s,baz=288,slow=41
ITTB Itaituba 43.75 114 *e*P **P 10 21 10.6 -1.2**
VILB Vilhena 44.72 128 P **P 10 21 21.2 +1.7**
VILB IAmb IAmb 10 21 32.2
comp=Z,32nm,0.9s
VILB Vilhena 44.72 128 *e*P **P 10 21 20.5 +0.9**
SCHQ Schefferville 44.81 23 P **P 10 21 18.9 -0.9**
comp=Z,29nm,0.7s,baz=194,slow=4.5,SNR=5.3
SCHQ LR LR 10 41 31.6
comp=Z,7µm,20.3s,baz=227,slow=38
comp=Z,29nm,0.7s
BBB Bella Bella 44.88 332 LR LR 10 43 29.2
comp=Z,690nm,18.2s,baz=160,slow=41
NPGB Novo Progresso 45.37 117 *e*P **P 10 21 23.6 -1.2**
SIV San Ignacio 46.01 132 LR LR 10 40 53.0
comp=Z,451nm,20.0s,baz=328,slow=36
PDRB Porto dos Gac 46.66 123 *e*P **P 10 21 37.2 +2.4**
CLDB Colider 47.00 122 *e*P **P 10 21 35.9 -1.7**
PTLB Pontes e Lacer 47.08 129 *e*P **P 10 21 40.4 +2.3**
V35K Ketchikan 48.52 333 P **P 10 21 49.1 +0.4**
baz=130
TOAD Toad River Com 48.54 340 P **P 10 21 49.7 +0.8**
baz=140
YKA Yellowknife Ar 48.78 348 P **P 10 21 49.8 -0.8**
comp=Z,11nm,0.9s,baz=159,slow=6.7,SNR=27
YKA LR LR 10 43 59.1
comp=Z,445nm,19.3s,baz=206,slow=38
comp=Z,11nm,0.9s
T35M Bob Quinn 49.04 335 P **P 10 21 53.0 +0.2**
baz=132
KOTAN Kotaneelee Air 49.16 341 P **P 10 21 53.8 +0.2**
baz=142
WRAK Wrangell Islan 49.53 334 P **P 10 21 56.9 +0.4**
baz=130
PRPB Parauapebas 49.82 112 *e*P **P 10 21 59.0 -0.3**
DLBC Dease Lake 49.95 337 LR LR 10 44 20.9
comp=Z,11µm,18.2s,baz=142,slow=38
DLBC Dease Lake 49.95 337 P **P 10 21 60.0 +0.2**
baz=134
SALV Santo Antonio 49.97 127 *e*P **P 10 22 01.3 +1.0**
S34M Telegraph Cree 50.02 336 P **P 10 22 00.8 +0.6**
baz=132
WTLY Watson Lake, Y 50.70 339 P **P 10 22 05.3 -0.1**
baz=136
TAOE Nuku Hiva Isla 50.81 244 *e*LR LR 10 36 30.1
comp=Z,800nm,23.9s
R33M Jennings River 50.97 337 P **P 10 22 07.6 +0.1**
baz=133
Q32M Nakina River 51.17 336 P **P 10 22 09.0 -0.1**
baz=131
SNDB Serra Nova Dou 51.32 120 *e*P **P 10 22 10.8 +0.2**
FRB Frobisher Bay 51.45 15 LR LR 10 46 59.3
comp=Z,412nm,18.8s,baz=196,slow=40
WRGLY Wrigley 51.48 344 P **P 10 22 11.4 +0.3**
baz=144
TGTN Hyland Airport 51.56 340 P **P 10 22 12.3 +0.5**
baz=138
PP1B Ponte de Pedra 51.61 128 *e*P **P 10 22 14.2 +1.5**
P32M Atlin 52.14 336 P **P 10 22 16.6 +0.4**
baz=130
S31K Pelican 52.15 334 P **P 10 22 16.6 +0.4**
baz=126
P33M Teslin, Yukon 52.21 337 P **P 10 22 16.9 +0.1**
baz=132
ARAG Araguaiana, MT 52.90 124 *e*P **P 10 22 21.6 -0.7**
N32M Quiet Lake 52.94 338 P **P 10 22 21.8 -0.3**
baz=132
SMTB Santa Maria do 52.99 114 *e*P **P 10 22 22.6 -0.5**
WHY Whitehorse 53.28 337 P **P 10 22 25.0 +0.3**
baz=130
P30M Million Dollar 53.75 336 P **P 10 22 28.4 +0.3**
baz=127
P29M Windy Craggy 53.78 335 P **P 10 22 28.2 -0.1**
baz=126
O30N Mendenhall 53.81 336 P **P 10 22 28.4 -0.1**
baz=128
M31M Drury Creek, Y 54.11 339 P **P 10 22 30.8 +0.2**
baz=131
N31M Braeburn, Yuko 54.15 337 P **P 10 22 31.0 +0.1**
N31M IAmb IAmb 10 22 38.2
comp=Z,26nm,1.1s
N31M Braeburn, Yuko 54.15 337 P **P 10 22 31.5 +0.6**
baz=129
MT09 Talagante 54.26 155 P **P 10 22 32.6 +0.5**
HYT Haines Junctio 54.40 336 P **P 10 22 32.9 0.0**

baz=127
O29M Mount Kennedy 54.51 335 P **P 10 22 34.0 +0.3**
baz=125
N30M Aishikik Lake 54.62 337 P **P 10 22 34.4 0.0**
baz=128
YUK6 Outpost Mounta 54.80 336 P **P 10 22 35.7 -0.2**
baz=126
AMBA Amambai (Brazi 54.87 133 *e*P **P 10 22 36.5 -0.2**
PINM Pinnacle 55.08 334 P **P 10 22 37.8 0.0**
baz=123
YUK4 Talbot Arm 55.15 336 P **P 10 22 38.1 -0.3**
baz=126
M30M Minto, Yukon 55.21 338 P **P 10 22 39.0 +0.4**
baz=128
O28M Mount Upton 55.44 335 P **P 10 22 39.8 -0.8**
baz=124
MAYO Mayo, Yukon 55.54 339 P **P 10 22 40.8 -0.1**
baz=130,SNR=8.9
YUK8 Steele Glacier 55.56 336 P **P 10 22 41.5 +0.1**
baz=125
CPUP Villa Florida 55.59 138 P **P 10 22 41.7 -0.1**
comp=Z,0.5nm,0.6s,baz=66,slow=1.2,SNR=3.4
CPUP LR LR 10 44 42.1
comp=Z,40nm,20.0s,baz=188,slow=34
comp=Z,0.5nm,0.6s
M29M Somme Creek 55.74 337 P **P 10 22 42.7 +0.2**
baz=127,SNR=12
MESA MESA 55.84 334 P **P 10 22 43.0 -0.4**
baz=122
BDFB Brasilia 55.94 122 P **P 10 22 46.0 +1.4**
BDFB IAmb IAmb 10 23 03.8
comp=Z,24nm,0.8s
BDFB Brasilia 55.94 122 P **P 10 22 45.2 +0.6**
comp=Z,8.0nm,0.5s,baz=289,slow=8.4,SNR=9.9
BDFB LR LR 10 47 27.1
comp=Z,348nm,20.3s,baz=317,slow=37
comp=Z,8.0nm,0.5s
BDFB Brasilia 55.94 122 P **P 10 22 46.0 +1.4**
BDFB pmax pmax
comp=Z,24nm,0.8s
CTG Chitna Glacier 56.01 335 P **P 10 22 44.8 +0.3**
baz=123
L29M L29M 56.02 338 P **P 10 22 44.3 -0.2**
baz=127,SNR=8.4
K29M Barlow Dome 56.26 339 P **P 10 22 45.8 -0.4**
baz=129
J30M Hart River 56.32 340 P **P 10 22 46.4 -0.3**
baz=130
H31M Peel River 56.52 342 P **P 10 22 47.5 -0.4**
baz=133
I30M Mount Dempster 56.76 341 P **P 10 22 49.1 -0.6**
baz=130
KAIM Kayak Island 56.78 333 P **P 10 22 49.7 -0.1**
baz=119
J29N Klondike Camp 56.88 339 P **P 10 22 50.9 +0.3**
baz=128
MCARA McCarthy VSAT 56.93 335 P **P 10 22 51.6 +0.7**
baz=121
SDBA SAO DESIDERIO 56.96 116 *e*P **P 10 22 52.5 +0.6**
M27K Edge Creek, AK 56.99 336 P **P 10 22 52.0 +0.5**
baz=123
IPMB Ipameri, GO 57.02 124 *e*P **P 10 22 52.2 0.0**
DAWY Dawson 57.05 339 P **P 10 22 52.4 +0.6**
baz=126
G31M Satah River 57.27 343 P **P 10 22 53.0 -0.1**
baz=134,SNR=6.4
L27K Beaver Creek, 57.36 337 P **P 10 22 54.6 +0.6**
baz=123
BMRM Bremner River 57.38 334 P **P 10 22 54.2 +0.1**
baz=119
M26K Nabesna, AK 57.45 336 P **P 10 22 55.3 +0.6**
baz=122
I29M Ogilvie Camp, 57.47 340 P **P 10 22 55.0 +0.3**
baz=128
F31M Tsiigehtchic 57.48 343 P **P 10 22 55.3 +0.7**
baz=134
EPYK Eagle Plains 57.62 342 P **P 10 22 56.0 +0.3**
baz=130
EYAK Cordova Ski Ar 57.66 333 P **P 10 22 56.2 +0.2**
baz=118
N25K Chitina, Valde 57.69 335 P **P 10 22 56.6 +0.3**
baz=120
G30M tAoh Zraii Nji 57.87 342 P **P 10 22 57.6 +0.1**
baz=131
K27K Chicken 57.99 338 P **P 10 22 58.2 -0.1**
baz=124
H29M Whitestone 58.03 341 P **P 10 22 58.8 +0.2**
baz=129
INK Inuvik 58.04 344 LR LR 10 50 01.7
comp=Z,859nm,19.9s,baz=151,slow=38
INK Inuvik 58.04 344 P **P 10 22 58.5 0.0**
baz=135,SNR=5.7
I28M Miner Creek 58.07 340 P **P 10 22 59.6 +0.6**
baz=127
EGAK Eagle 58.09 339 P **P 10 22 59.7 +0.7**
baz=125
P23K Montague Islan 58.15 332 P **P 10 23 00.3 +0.9**
baz=116
F30M Barrier River 58.17 343 P **P 10 22 59.1 -0.4**
baz=132,SNR=6.2
KLU Klutina 58.19 334 P **P 10 23 00.7 +0.8**
baz=118
HARP HAARP 58.31 335 P **P 10 23 01.5 +0.9**
baz=120
G29M Pine Creek 58.37 342 P **P 10 23 01.8 +0.9**
baz=129
GLI Glacier Island 58.40 333 P **P 10 23 01.6 +0.4**
baz=117
M24K Tolsona, Glenn 58.59 335 P **P 10 23 03.0 +0.4**
baz=118
SCRK Sand Creek 58.67 337 P **P 10 23 04.0 +0.8**
baz=122
I27K Kandik River 58.72 339 P **P 10 23 04.3 +0.9**
baz=125
PAX Paxson 58.73 336 P **P 10 23 04.4 +0.8**
baz=120
JANB Januaria 58.73 119 *e*P **P 10 23 04.9 +0.7**
J26L Joseph Creek 58.79 338 P **P 10 23 04.5 +0.4**
baz=122,SNR=8.4
RIDG Independent Ri 58.87 337 P **P 10 23 04.8 +0.3**
baz=121,SNR=6.4
SFJD Kangerlussuaq 58.90 19 LR LR 10 49 26.4
comp=Z,429nm,21.5s,baz=230,slow=37
RES Resolute Bay 59.05 0 LR LR 10 51 05.7
comp=Z,400nm,18.5s,baz=234,slow=39
H27K Steamboat Moun 59.06 340 P **P 10 23 06.3 +0.5**
baz=125
A36M Sachs Harbour 59.08 350 P **P 10 23 06.1 +0.4**
baz=146
M23K Glacier View 59.09 334 P **P 10 23 06.7 +0.7**
baz=117
SEW Seward 59.12 332 P **P 10 23 07.0 +0.8**
baz=114
KNK Knik Glacier 59.23 333 P **P 10 23 07.7 +0.7**
baz=116
K24K Donnelly Dome 59.26 336 P **P 10 23 07.6 +0.4**
baz=120
E29M Blow River 59.28 343 P **P 10 23 07.4 +0.2**
baz=130,SNR=5.4
SML Sawmill 59.35 334 P **P 10 23 08.3 +0.4**
baz=116
F28M Old Crow 59.37 342 P **P 10 23 07.8 -0.1**
baz=128,SNR=9.2
O22K Cooper Landing 59.40 332 P **P 10 23 08.6 +0.5**
baz=114
G27K Doyon Strip 59.44 340 P **P 10 23 08.8 +0.4**
baz=126
WAT6 Susitna Watana 59.46 335 P **P 10 23 09.1 +0.4**
baz=117
J25K Salcha River, 59.52 337 P **P 10 23 10.0 +1.0**
J25K IAmb IAmb 10 23 28.0
comp=Z,11nm,0.8s
J25K Salcha River, 59.52 337 P **P 10 23 09.1 +0.1**
baz=120
DHY Denali Highway 59.54 335 P **P 10 23 09.6 +0.4**
baz=118
BRSE Bradley Lake S 59.57 331 P **P 10 23 09.2 -0.2**
baz=112
PMR Palmer 59.60 333 P **P 10 23 09.6 +0.1**
baz=115
RC01 Rabbit Creek A 59.66 333 P **P 10 23 10.3 +0.4**
baz=114
E28M Babbage River 59.89 343 P **P 10 23 11.3 -0.1**
E28M IAmb IAmb 10 23 29.2
comp=Z,30nm,1.4s
E28M Babbage River 59.89 343 P **P 10 23 11.1 -0.3**
baz=129
WAT1 Susitna Watana 59.90 335 P **P 10 23 11.5 -0.2**
baz=116
Q20K Shuyak Island 59.94 329 P **P 10 23 12.1 +0.2**
baz=110
HOM Homer 59.96 331 P **P 10 23 11.9 -0.2**
baz=112
DY2G Dye2 60.01 20 *i*P **P 10 23 11.2 -1.3**
DY2G IAmb IAmb 10 23 17.5
comp=Z,12nm,0.8s
HDA Harding Lake 60.01 337 P **P 10 23 12.2 -0.1**
baz=119
PRP Porcupine Dome 60.04 338 P **P 10 23 12.1 -0.6**
baz=121
M22K Willow 60.10 333 P **P 10 23 12.9 -0.1**
baz=114
D28M Stokes Point 60.13 344 P **P 10 23 12.8 -0.1**
baz=130
ILULI Ilulissat 60.16 17 *i*P **P 10 23 14.1 +1.0**
ILULI IAmb IAmb 10 23 14.7
comp=Z,17nm,0.9s
CAPN Captain Cook N 60.16 332 P **P 10 23 13.0 -0.4**
baz=113
ILAR Eielson Array 60.16 337 P **P 10 23 13.0 -0.4**
ILAR Eielson Array 60.16 337 P **P 10 23 12.8 -0.5**
comp=Z,5.3nm,1.0s,baz=128,slow=4.5,SNR=25
ILAR LR LR 10 49 05.9
comp=Z,571nm,20.5s,baz=126,slow=36
comp=Z,5.3nm,1.0s
G26K Porcupine Rive 60.21 340 P **P 10 23 13.5 -0.1**
baz=123
E27K Coleen River 60.23 342 P **P 10 23 13.7 -0.1**
baz=126
SUA Susitna One 60.25 333 P **P 10 23 13.6 -0.6**
baz=113
RND Reindeer 60.28 335 P **P 10 23 14.5 +0.2**
RND Reindeer 60.28 335 P **P 10 23 14.5 +0.2**
RND pmax pmax
comp=Z,40nm,1.0s
CUT Chulitna 60.43 334 P **P 10 23 14.9 -0.3**
baz=114
MCK McKinley 60.46 336 P **P 10 23 15.7 +0.3**
baz=116
H25L Birch Creek 60.53 339 P **P 10 23 15.6 -0.2**
baz=121
POKR Poker Plat Res 60.53 337 P **P 10 23 16.1 +0.2**
baz=119
PLCA Paso Flores 60.55 159 P **P 10 23 17.0 +0.7**
PLCA IAmb IAmb 10 23 56.7
comp=Z,14nm,1.1s
PLCA Paso Flores 60.55 159 P **P 10 23 16.9 +0.6**
comp=Z,4.5nm,0.9s,baz=320,slow=7.9,SNR=10
comp=Z,4.5nm,0.9s
PLCA Paso Flores 60.55 159 P **P 10 23 17.0 +0.7**
PLCA pmax pmax
comp=Z,14nm,1.2s
PLCA Paso Flores 60.55 159 *e*P **P 10 23 17.4 +1.1**
PLCA Paso Flores 60.55 159 P **P 10 23 17.2 +0.9**
PLCA pP **pP 10 23 25.7 +1.5**
COLA College 60.57 337 *i*P **P 10 23 17.2 +1.1**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 60.57 337 P **P 10 23 15.9 -0.2**
baz=118
O20K Slope Mountain 60.58 331 P **P 10 23 16.4 0.0**
baz=111
R18K Karluk 60.63 328 P **P 10 23 16.7 +0.1**
baz=108
D27M Malcolm River 60.69 343 P **P 10 23 16.9 -0.1**
baz=127
P19K Oil Pt 60.71 330 P **P 10 23 17.3 +0.1**
baz=110
F26K Sheenjek River 60.74 341 P **P 10 23 17.3 0.0**
baz=123
SKT Skwentna 60.80 333 P **P 10 23 17.2 -0.6**
baz=113
DIAM Diamantina, MG 60.86 122 *e*P **P 10 23 18.9 0.0**
TRF Thorofare Moun 60.88 335 P **P 10 23 18.3 -0.2**
baz=115
G25K Bearman Lake 60.89 339 P **P 10 23 18.0 -0.2**
baz=121
NEA2 Nenana 60.91 336 P **P 10 23 18.7 +0.3**
baz=117
H24K Noodor Dome 61.05 338 P **P 10 23 19.0 -0.5**
baz=118,SNR=5.3
NUUG Nuugaatsiaq 61.16 14 *i*P **P 10 23 18.9 -1.1**
NUUG IAmb IAmb 10 23 26.5
comp=Z,70nm,1.2s
F25K Christian Rive 61.17 340 P **P 10 23 20.4 +0.2**
baz=122
Q18K Katmai Hardscr 61.25 329 P **P 10 23 21.0 0.0**
baz=108
I23K Minto, Yukon-K 61.27 337 P **P 10 23 21.1 +0.2**
baz=117
G24K Hadweenzic Riv 61.33 339 P **P 10 23 21.2 -0.1**
baz=119
O19K Port Alsworth 61.41 331 P **P 10 23 22.5 +0.6**
baz=109
E25K Arctic Village 61.43 341 P **P 10 23 21.8 -0.1**
baz=122
BPAW Bear Paw Mtn. 61.44 336 P **P 10 23 22.2 +0.2**
baz=114
PPLA Purkeypile 61.45 334 P **P 10 23 22.1 -0.2**
baz=113
M20K Styx River 61.47 333 P **P 10 23 22.5 +0.1**
baz=111
Q17K Contact Creek 61.57 328 P **P 10 23 23.3 +0.1**
baz=107
R17L Mt. Peulik Vol 61.63 328 P **P 10 23 23.9 +0.4**
baz=106
H23K Yukon River 61.65 338 P **P 10 23 23.6 +0.1**
baz=117
N19K Bonanza Creek 61.70 331 P **P 10 23 24.4 +0.4**
baz=110
C27K Jago River 61.70 343 P **P 10 23 23.9 +0.1**
baz=125
O18K Koktuh Hills 61.72 330 P **P 10 23 24.4 +0.3**
baz=108
MLY Manley 61.74 337 P **P 10 23 24.8 +0.7**
baz=115
F24K Squaw Lake 61.87 340 P **P 10 23 25.3 +0.3**
baz=119
CHUM Lake Minchumin 61.89 335 P **P 10 23 25.3 +0.2**
baz=113
L20K Farewell, AK 62.01 333 P **P 10 23 25.9 -0.1**
baz=111
Q16K King Salmon 62.08 329 P **P 10 23 26.0 -0.4**
baz=106
P17K Kvichak River 62.12 329 P **P 10 23 26.6 -0.1**
baz=107
ISOG Isortoq, Green 62.16 23 *i*P **P 10 23 25.2 -1.6**
ISOG IAmb IAmb 10 23 34.0
comp=Z,453nm,1.7s
C26K Camden Bay 62.21 343 P **P 10 23 27.2 0.0**
baz=124
G23K Bananza Creek 62.22 338 P **P 10 23 27.5 +0.2**
baz=117
R16K Pilot Point 62.24 327 P **P 10 23 28.3 +0.7**
baz=105
N18K Kilae Creek 62.31 331 P **P 10 23 28.4 +0.4**
baz=108
D25K Kavik River 62.32 342 P **P 10 23 28.1 +0.2**
baz=122
L19K White Mountain 62.33 333 P **P 10 23 28.4 +0.3**
baz=110
E24K Your Creek 62.34 340 P **P 10 23 28.3 +0.2**
baz=119
H22K Ishtalitna Cre 62.35 337 P **P 10 23 28.8 +0.6**
baz=115
RCBR Riachuelo 62.38 105 LR LR 10 51 46.7
comp=Z,237nm,21.3s,baz=300,slow=37
K20K Telida 62.41 334 P **P 10 23 29.5 +0.8**
baz=111
COLD Coldfoot 62.52 339 P **P 10 23 29.8 +0.5**
baz=117
M18K Stony River 62.54 332 P **P 10 23 30.3 +0.9**
baz=108
O17K Koliganek Bris 62.61 330 P **P 10 23 30.6 +0.7**
baz=106
ANGG Ammassalik, Gr 62.69 23 *i*P **P 10 23 30.4 +0.1**
ANGG IAmb IAmb 10 23 32.3
comp=Z,38nm,0.6s
E23K Chandalar 62.71 340 P **P 10 23 30.9 +0.3**
baz=118
J20K Nowinta River 62.74 335 P **P 10 23 30.6 -0.2**
baz=111
H21K Melozitna Rive 62.79 337 P **P 10 23 31.5 +0.4**
baz=114
G22K Bettles 62.84 338 P **P 10 23 31.9 +0.5**
baz=115
N17K Nushagak Hills 62.87 331 P **P 10 23 32.0 +0.3**
baz=107
TOLK Toolik Lake Re 62.97 340 P **P 10 23 32.3 0.0**
baz=118
D24K Happy Valley 62.98 341 P **P 10 23 32.7 +0.4**
baz=119
S14K Fog Glacier 62.99 326 P **P 10 23 33.0 +0.4**
baz=102
PPT Papeete 63.01 241 LR LR 10 42 55.3
comp=Z,301nm,21.5s,baz=63,slow=28
PPT2 Papeete2 63.02 241 *e*P P 10 23 26.4 -7.0
comp=Z,12nm,19.0s
PPT2 *e*S **S 10 32 03.4 +0.6**
comp=Z,88nm,28.8s
PPT2 *e*SS **SS 10 36 10.8 +1.8**
comp=Z,110nm,29.5s
PPT2 *e*LQ LQ 10 39 44.2
comp=Z,2μm,31.8s
PPT2 *e*LR LR 10 42 10.4
comp=Z,354nm,24.0s
PPT2 *e*LR LR 10 42 16.4
comp=Z,543nm,24.8s
O16K Kokwok River B 63.05 329 P **P 10 23 33.2 +0.4**
baz=105
I20K Naaghedeneel 63.11 336 P **P 10 23 33.6 +0.4**
baz=111
SJMB Sao Joao De Ma 63.11 121 *e*P **P 10 23 33.1 -0.8**
L18K Granite Mounta 63.16 332 P **P 10 23 34.1 +0.5**
baz=108
C24K Franklin Bluff 63.23 342 P **P 10 23 34.4 +0.5**
baz=120
M17K Holitna River 63.25 331 P **P 10 23 33.9 -0.3**
baz=107
J19K Poorman 63.28 335 P **P 10 23 33.2 -1.2**
baz=110
G21K Allakaket 63.40 338 P **P 10 23 35.0 -0.1**
baz=113
E22K Anaktuvuk Pass 63.48 340 P **P 10 23 35.9 +0.2**
baz=116
D23K Nanushuk River 63.48 341 P **P 10 23 35.8 +0.2**
baz=117
H20K Anotleneega Mo 63.52 336 P **P 10 23 36.1 +0.1**
baz=111
J18K Innoko River 63.57 334 P **P 10 23 36.6 +0.3**
baz=109
N16K Nishlik Lake 63.61 330 P **P 10 23 36.3 -0.3**
baz=105
F21K Alatna River 63.67 338 P **P 10 23 36.8 -0.1**
baz=114
M16K Timber Creek 63.84 331 P **P 10 23 38.3 +0.2**
baz=105
L17K Donlin 63.85 332 P **P 10 23 38.5 +0.3**
baz=106
C23K Itkillik River 63.86 341 P **P 10 23 38.2 +0.1**
baz=118
K17K Iditarod 64.02 333 P **P 10 23 39.6 +0.3**
baz=107
GCSA Galena City Sc 64.05 335 P **P 10 23 39.6 +0.2**
baz=109
RIB01 Linhares ES 64.06 121 *e*P **P 10 23 40.6 +0.4**
D22K Ayikyak River 64.09 340 P **P 10 23 39.9 +0.3**
baz=115
H19K Roundabout Mou 64.15 336 P **P 10 23 40.3 +0.3**
baz=110
L16K Owhat River 64.27 332 P **P 10 23 40.9 0.0**
baz=105
CAM01 Campos-RJ 64.28 124 *e*P **P 10 23 41.6 +0.1**
E21K Killik River 64.34 339 P **P 10 23 41.6 +0.3**
baz=114
F20K Avaraart Lake 64.41 338 P **P 10 23 41.5 -0.3**
F20K IAmb IAmb 10 24 00.8
comp=Z,16nm,0.9s
F20K Avaraart Lake 64.41 338 P **P 10 23 41.8 +0.1**
baz=111
H18K Honhosa River 64.78 335 P **P 10 23 44.8 +0.6**
baz=108
FALS False Pass 64.88 324 P **P 10 23 45.6 +0.6**
baz=98
N14K Kuskokwak Cree 64.89 329 P **P 10 23 45.8 +0.8**
baz=102
B22K Teshekpuk Lake 64.95 341 P **P 10 23 45.4 +0.3**
baz=115
E20K Nigu River 65.02 339 P **P 10 23 46.2 +0.4**
baz=111
B21K Ikpikpuk River 65.03 341 P **P 10 23 45.7 0.0**
baz=114
F19K Shaleruckik Mo 65.09 337 P **P 10 23 46.8 +0.6**
baz=109
E19K Redstone River 65.11 338 P **P 10 23 46.2 -0.1**
baz=110
G18K Tagagawik 65.13 336 P **P 10 23 46.6 +0.1**
baz=108
J16K Anvik River 65.19 333 P **P 10 23 46.9 0.0**
baz=105
L15K Ungalak Mounta 65.19 331 P **P 10 23 47.3 +0.4**
baz=103
M14K Bethel 65.20 330 P **P 10 23 47.2 +0.2**
baz=102
D20K Etivluk River 65.34 339 P **P 10 23 48.2 +0.4**
baz=111
H17K Granite Mounta 65.35 335 P **P 10 23 48.0 +0.1**
baz=106
K15K Wolf Creek Mou 65.36 332 P **P 10 23 47.9 -0.1**
baz=104
I17K Unalakleet 65.39 334 P **P 10 23 47.7 -0.4**
baz=105
SUMG Summit 65.48 16 *i*P **P 10 23 48.0 -1.1**
SUMG IAmb IAmb 10 23 49.6
comp=Z,4.4nm,0.6s
NEEM North Greenlan 65.61 10 *i*P **P 10 23 49.3 -0.4**
NEEM IAmb IAmb 10 23 54.3
comp=Z,25nm,1.1s
L14K Kuka Creek 65.67 331 P **P 10 23 51.0 +0.9**
baz=102
F18K Selawik 65.73 337 P **P 10 23 50.9 +0.6**
baz=107
TBI Tubuai 65.76 235 *e*P P 10 23 45.5 -5.7
comp=Z,302nm,39.0s
TBI *e*S **S 10 32 40.9 +4.5**
comp=Z,1μm,32.2s
TBI *e*SS **SS 10 36 48.5 -3.0**
comp=Z,997nm,32.0s
TBI *e*LQ LQ 10 40 49.7
comp=Z,3μm,42.2s
TBI *e*LR LR 10 43 32.8
comp=Z,2μm,24.2s
D19K Kuna River 65.78 339 P **P 10 23 50.5 -0.2**
baz=110
G17K Kiwalik Mounta 65.80 335 P **P 10 23 50.8 0.0**
baz=106
M13K Dall Lake 65.80 330 P **P 10 23 51.3 +0.5**
baz=101
B20K Meade River 65.99 341 P **P 10 23 52.4 +0.5**
baz=111
A21K Barrow 66.31 342 P **P 10 23 54.3 +0.3**
baz=112
J14K Nanvaranak Lak 66.37 332 P **P 10 23 54.0 -0.5**
baz=102
UNV Unalaska Valle 66.55 322 P **P 10 23 56.5 +0.7**
baz=95
E17K Hotham Inlet 66.69 337 P **P 10 23 56.7 +0.2**
baz=105
K13K Kusilvak Mount 66.72 331 P **P 10 23 57.2 +0.5**
baz=100
G15K Niukluk 67.06 334 P **P 10 23 58.9 0.0**
baz=102
B18K Kokolik River 67.31 339 P **P 10 24 00.0 -0.4**
baz=106
A19K Wainwright 67.32 340 P **P 10 23 59.6 -0.8**
baz=107
D17K Noatak River 67.32 337 P **P 10 23 59.9 -0.6**
baz=104
NIKH Nikolski High 67.88 321 P **P 10 24 04.3 0.0**
baz=93
ALE Alert 68.16 4 P **P 10 24 05.4 -0.1**
C16K Lisburne Hills 68.29 338 P **P 10 24 05.9 -0.6**
baz=102
BORG Borgarnes 69.06 26 LR LR 10 54 01.0
comp=Z,281nm,21.1s,baz=260,slow=36
DBG Daneborg 70.97 16 *i*P **P 10 24 21.6 -1.3**
DBG IAmb IAmb 10 24 22.9
comp=Z,46nm,1.3s
PMOZ Porto Moniz, M 71.68 60 *e*P **P 10 24 25.8 -2.4**
PMOZ *i*IAmb IAmb 10 24 31.5
comp=Z,102nm,2.2s
DAG Danmarks Havn 71.78 14 *i*P **P 10 24 30.0 +2.2**
DAG IAmb IAmb 10 24 32.5
comp=Z,11nm,0.8s

FUL	**Funchal**	**71.95**	**60**	*e*P	**P**	**10 24 27.2**	**-2.5**
FUL				*i* IAmb	IAmb	10 24 38.9	
comp=Z,136nm,2.0s							
PMPS	**Porto Santo**	**72.37**	**60**	*e*P	**P**	**10 24 31.3**	**-0.8**
PMPS				*i* IAmb	IAmb	10 24 42.0	
comp=Z,78nm,1.7s							
ADK	**Adak**	**72.68**	**320**	P	**P**	**10 24 34.5**	**+0.9**
ADK				PcP	**PcP**	**10 24 49.6**	**-1.4**
RAR	**Rarotonga**	**73.24**	**242**	LR	LR	10 48 09.8	
comp=Z,202nm,18.0s,baz=86,slow=29							
JMIC	**Jan Mayen**	**74.23**	**20**	LR	LR	10 59 46.2	
comp=Z,264nm,18.9s,baz=282,slow=38							
EFI	**East Falkland**	**74.39**	**157**	*i* P	**P**	**10 24 47.9**	**+4.4**
EFI				pmax	pmax		
comp=Z,38nm,1.1s							
PARRA	**Arraiolos**	**77.36**	**53**	*e*P	**P**	**10 25 03.5**	**+2.6**
PARRA				*i* IAmb	IAmb	10 25 16.6	
comp=Z,22nm,1.5s							
PGAV	**Gavieira, Arco**	**77.41**	**50**	*e*P	**P**	**10 25 04.3**	**+3.1**
PGAV				*i* IAmb	IAmb	10 25 48.2	
comp=Z,43nm,1.9s							
PCAS	**Casmilo, Conde**	**77.56**	**52**	*e*P	**P**	**10 25 01.7**	**-0.4**
PCAS				*i* IAmb	IAmb	10 25 33.6	
comp=Z,38nm,2.0s							
PCAB	**Cabril**	**77.63**	**50**	*e*P	**P**	**10 25 02.4**	**0.0**
PCAB				*i* IAmb	IAmb	10 25 20.5	
comp=Z,37nm,2.1s							
PFVI	**Vila Bisbo**	**77.82**	**55**	*e*P	**P**	**10 25 06.1**	**+2.5**
PFVI				*i* IAmb	IAmb	10 25 17.2	
comp=Z,36nm,2.7s							
PTEO	**Sao Teotonio**	**77.83**	**54**	*e*P	**P**	**10 25 02.2**	**-1.4**
PTEO				*i* IAmb	IAmb	10 25 20.2	
comp=Z,44nm,1.5s							
POLO	**Lamas de Olo**	**77.86**	**50**	*e*P	**P**	**10 25 03.7**	**-0.1**
POLO				*i* IAmb	IAmb	10 25 27.4	
comp=Z,18nm,1.6s							
PSARD	**Sardoal**	**77.89**	**52**	*e*P	**P**	**10 25 02.5**	**-1.4**
PSARD				*i* IAmb	IAmb	10 25 43.1	
comp=Z,24nm,1.6s							
PVIS	**Viseu**	**77.90**	**51**	*e*P	**P**	**10 25 03.0**	**-1.0**
PVRL	**Vila Real**	**77.93**	**50**	*e*PP	**PP**	**10 27 58.1**	**-2.0**
PMTG	**Montargil**	**77.94**	**53**	*e*P	**P**	**10 25 03.0**	**-1.2**
PMTG				*i* IAmb	IAmb	10 25 24.1	
comp=Z,24nm,1.4s							
EVO	**Evora**	**78.20**	**53**	*e*P	**P**	**10 25 05.0**	**-0.6**
EVO				*i* IAmb	IAmb	10 25 14.8	
comp=Z,15nm,1.5s							
MTE	**Manteigas**	**78.22**	**51**	*e*P	**P**	**10 25 03.1**	**-2.7**
MTE				*i* IAmb	IAmb	10 25 40.4	
comp=Z,33nm,1.8s							
PCBR	**Castelo Branco**	**78.37**	**52**	*e*P	**P**	**10 25 06.7**	**+0.1**
PCBR				*i* IAmb	IAmb	10 25 11.5	
comp=Z,33nm,1.7s							
EKA	**Eskdalemuir Ar**	**78.40**	**36**	P	**P**	**10 25 06.0**	**-0.4**
comp=Z,3.9nm,0.6s,baz=280,slow=5.5,SNR=8.9							
comp=Z,3.9nm,0.6s							
PBEJ	**Beja**	**78.41**	**54**	*e*P	**P**	**10 25 08.2**	**+1.4**
PBEJ				*i* IAmb	IAmb	10 25 09.4	
comp=Z,18nm,1.3s							
MVO	**Moncorvo**	**78.46**	**50**	*e*P	**P**	**10 25 06.2**	**-0.9**
MVO				*i* IAmb	IAmb	10 25 32.4	
comp=Z,44nm,1.5s							
PBDV	**Barranco-do-Ve**	**78.51**	**54**	*e*P	**P**	**10 25 05.9**	**-1.5**
PBDV				*i* IAmb	IAmb	10 25 28.0	
comp=Z,44nm,1.8s							
PMRV	**Marv??o**	**78.51**	**52**	*e*P	P	10 25 01.1	-6.3
PMRV				*i* IAmb	IAmb	10 25 41.7	
comp=Z,29nm,1.5s							
PBRG	**Braganca**	**78.56**	**50**	*e*P	**P**	**10 25 05.5**	**-2.1**
PBRG				*i* IAmb	IAmb	10 25 45.5	
comp=Z,34nm,1.7s							
PVAQ	**Vaqueiros**	**78.64**	**54**	*e*P	**P**	**10 25 06.6**	**-1.5**
PVAQ				*i* IAmb	IAmb	10 25 12.4	
comp=Z,29nm,1.8s							
BILL	**Bilibino**	**78.82**	**338**	*i* P	**P**	**10 25 09.4**	**+0.9**
BILL				pmax	pmax		
comp=Z,5.0nm,1.0s							
PBAR	**Barrancos**	**79.02**	**53**	*e*P	**P**	**10 25 09.6**	**-0.6**
PBAR				*i* IAmb	IAmb	10 25 30.3	
comp=Z,21nm,1.5s							
SPITS	**Spitsbergen Ar**	**79.08**	**11**	P	**P**	**10 25 08.9**	**-0.9**
comp=Z,6.1nm,0.9s,baz=321,slow=8.0,SNR=2.6							
SPITS				LR	LR	11 04 06.2	
comp=Z,266nm,19.9s,baz=274,slow=39							
comp=Z,6.1nm,0.9s							
ESDC	**Sonseca Array**	**81.06**	**51**	P	**P**	**10 25 20.6**	**-0.6**
comp=Z,4.2nm,1.0s,baz=288,slow=5.0,SNR=9.9							
ESDC				LR	LR	10 59 42.6	
comp=Z,237nm,18.4s,baz=286,slow=35							
comp=Z,4.2nm,1.0s							
MDT	**Midelt**	**82.11**	**58**	LR	LR	10 57 37.4	
comp=Z,189nm,21.1s,baz=252,slow=33							
NB2	**NORSAR Subarra**	**84.13**	**28**	P	**P**	**10 25 37.2**	**+0.4**
comp=Z,26nm,1.4s,baz=291,slow=5.1							
NB2	**NORSAR Subarra**	**84.13**	**28**	P	**P**	**10 25 37.2**	**+0.4**
baz=291,slow=5.1							
NOA	**NORSAR Array B**	**84.13**	**28**	P	**P**	**10 25 37.1**	**+0.3**
comp=Z,2.1nm,0.7s,baz=292,slow=5.0,SNR=7.6							
NOA				LR	LR	11 01 55.5	
comp=Z,265nm,22.0s,baz=300,slow=35							
comp=Z,2.1nm,0.7s							
ARCES	**ARCESS Array B**	**85.51**	**18**	P	**P**	**10 25 44.4**	**+0.8**
comp=Z,1.9nm,0.6s,baz=330,slow=4.6,SNR=6.4							
ARCES				LR	LR	11 03 39.6	
comp=Z,256nm,21.8s,baz=298,slow=36							
comp=Z,1.9nm,0.6s							
PET	**Petropavlovsk**	**87.09**	**324**	*e*P	**P**	**10 25 52.8**	**+1.2**
PET				*e*S	**S**	**10 36 29.0**	**-0.1**
TIXI	**Tiksi**	**88.02**	**347**	LR	LR	11 11 06.2	
comp=Z,275nm,19.4s,baz=28,slow=40							
TIXI	**Tiksi**	**88.02**	**347**	*i* P	**P**	**10 25 57.5**	**+1.8**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.0s							
DBIC	**Dimbokro**	**88.47**	**84**	P	**P**	**10 25 58.0**	**-0.9**
comp=Z,6.8nm,1.0s,baz=267,slow=4.8,SNR=3.5							
DBIC				LR	LR	11 04 16.9	
comp=Z,56nm,20.4s,baz=338,slow=35							
comp=Z,6.8nm,1.0s							
DBIC	**Dimbokro**	**88.47**	**84**	P	**P**	**10 25 59.3**	**+0.3**
CLL	**Collm**	**88.82**	**37**	*e*P	**P**	**10 26 02.0**	**+2.1**
CLL				*e*S	**S**	**10 36 48.0**	**+2.2**
CLL	**Collm**	**88.82**	**37**	*e*P	**P**	**10 26 02.0**	**+2.1**
CLL				*e*S	**S**	**10 36 48.0**	**+2.2**
CLL				*e*PS	PS	10 37 51.0	-1.6
CLL				*e*SS	**SS**	**10 42 38.0**	**+0.7**
CLL				*e*x	x	10 47 42.0	
KHC	**Kasperske Hory**	**90.04**	**38**	*i* P	**P**	**10 26 08.6**	**+2.9**
KHC				pmax	pmax		
comp=Z,2.0nm,1.0s							
GERES	**GERESS Array B**	**90.24**	**39**	P	**P**	**10 26 05.8**	**-1.0**
comp=Z,0.9nm,0.6s,baz=1.5,slow=10.0,SNR=5.0							
GERES				LR	LR	11 03 38.8	
comp=Z,139nm,21.9s,baz=294,slow=34							
comp=Z,0.9nm,0.6s							
FINES	**FINESS Array B**	**90.27**	**24**	P	**P**	**10 26 06.3**	**-0.2**
comp=Z,2.3nm,0.8s,baz=357,slow=2.8,SNR=4.1							
FINES				LR	LR	11 09 06.0	
comp=Z,157nm,19.0s,baz=307,slow=37							
comp=Z,2.3nm,0.8s							
VRAC	**Vranov**	**91.76**	**37**	LR	LR	11 07 37.9	
comp=Z,168nm,20.1s,baz=292,slow=36							
TORD	**Torodi Ar. Bea**	**92.91**	**76**	P	**P**	**10 26 19.4**	**-0.2**
comp=Z,0.5nm,0.8s,baz=295,slow=5.1,SNR=2.3							
comp=Z,0.5nm,0.8s							
YAK	**Yakutsk**	**94.94**	**341**	LR	LR	11 16 37.5	
comp=Z,242nm,18.0s,baz=42,slow=40							
YAK	**Yakutsk**	**94.94**	**341**	*i* P	**P**	**10 26 29.0**	**+1.0**
YAK				pmax	pmax		
comp=Z,5.0nm,0.7s							
MNK	**Minsk**	**95.07**	**29**	*i* P	**P**	**10 26 26.1**	**-2.7**
MNK				*i*		10 30 14.5	
MNK				*i* PPP	PPP	10 32 16.3	
MNK				*i* S	**SKSac**	**10 36 58.5**	**-4.3**
MNK				*i* PS	PS	10 38 58.0	-3.5
MNK				*i* SS	**SS**	**10 44 02.6**	**-4.1**
MNK				*i* SSS	SSS	10 47 45.2	
MNK				pmax	pmax		
comp=E,16nm,0.8s							
MNK				pmax	pmax		
comp=N,13nm,0.8s							
MNK				pmax	pmax		
comp=Z,7.0nm,0.8s							
URZ	**Urewera**	**97.81**	**233**	LR	LR	11 01 09.0	
comp=Z,135nm,21.2s,baz=66,slow=29							
AKASG	**Malin Array Be**	**97.98**	**32**	P	**P**	**10 26 41.1**	**-0.9**
comp=Z,0.2nm,0.3s,baz=297,slow=4.7,SNR=1.5							
comp=Z,0.2nm,0.3s							
AKBB	**Malin Array Si**	**97.98**	**32**	*i* P	Pdif	10 26 43.9	+1.8
AKBB				pmax	pmax		
comp=Z,3.0nm,1.0s							
OBN	**Obninsk**	**98.56**	**26**	*c*eP	Pdif	10 26 45.4	+0.9
OBN				*e*		10 30 47.0	
OBN				pmax	pmax		
comp=Z,4.0nm,0.9s							
OBN				MLR	MLR		
comp=Z,170nm,20.0s							
YSS	**Yuzhno-Sakhali**	**98.97**	**324**	*e*P	Pdif	10 26 50.2	+3.7
YSS				pmax	pmax		
comp=Z,20nm,1.3s							
DZM	**Mont Dzumac**	**103.38**	**251**	*e*LR	LR	11 01 05.7	
comp=Z,357nm,22.9s							
MKAR	**Makanchi Array**	**117.81**	**2**	PKP	**PKPdf**	**10 31 52.3**	**-0.1**
comp=Z,0.3nm,0.7s,baz=48,slow=2.1,SNR=2.5							
HHC	**Hu-ho-hao-te**	**118.59**	**337**	*e*PKP	**PKiKP**	**10 31 54.5**	**+0.2**
BTO	**Baotou**	**119.37**	**338**	*e*PKP	**PKiKP**	**10 31 55.8**	**0.0**
BTO				LR	LR		
comp=Z,320nm,22.0s							
BTO				LR	LR		
comp=Z,380nm,15.9s							
BTO				LR	LR		
comp=Z,380nm,24.3s							
SYO	**Syowa Base**	**119.61**	**163**	⇑*e*Pdiff	**Pdif**	**10 28 16.6**	**-1.1**
SYO	**Syowa Base**	**119.61**	**163**	⇑*e*sPdiff	**Pdif**	**10 28 33.4**	**+16**
WMQ	**Urumqi**	**120.78**	**358**	*e*PKP	**PKPdf**	**10 31 58.1**	**-0.2**
WMQ				LR	LR		
comp=Z,310nm,24.7s							
WMQ				LR	LR		
comp=Z,210nm,24.2s							
NJ2	**Nanjing**	**122.48**	**326**	*e*PKP	**PKiKP**	**10 32 02.1**	**+0.1**
LZH	**Lanzhou**	**125.52**	**341**	PKP	**PKPdf**	**10 32 07.3**	**-0.5**
STKA	**Stephens Creek**	**126.21**	**242**	PKP	**PKPdf**	**10 32 08.7**	**-0.2**
comp=Z,1.1nm,0.8s,baz=8.1,slow=7.1,SNR=1.8							
WRA	**Warramunga Arr**	**132.85**	**257**	PKP	**PKiKP**	**10 32 23.7**	**+0.7**
comp=Z,0.5nm,0.8s,baz=38,slow=0.6,SNR=6.5							
ASAR	**Alice Springs**	**133.34**	**252**	PKP	**PKiKP**	**10 32 24.3**	**+0.4**
comp=Z,0.4nm,0.7s,baz=83,slow=1.5,SNR=6.8							
PZH	**PanZhiHua**	**135.02**	**338**	PKP	**PKPdf**	**10 32 25.1**	**-0.9**
QIZ	**Qiongzhong**	**137.69**	**324**	PKP	**PKPdf**	**10 32 29.2**	**-1.7**
QIZ				SS	SS	10 53 25.5	+1.8
QIZ				LR	LR		
comp=Z,100nm,10.8s							
QIZ				LR	LR		
comp=Z,190nm,16.5s							
QIZ				LR	LR		
comp=Z,150nm,17.8s							
CMAR	**Chiang Mai Arr**	**143.40**	**337**	PKP	PKPbc	10 32 39.7	+1.4
comp=Z,0.6nm,0.3s,baz=340,slow=3.1,SNR=6.1							
HYB	**Hyderabad**	**146.56**	**11**	*e*PKPdf	**PKPdf**	**10 32 45.2**	**-1.6**
HYB				*e*PKiKP	**PKiKP**	**10 32 50.3**	**-0.9**
HYB				*e*PP	**PP**	**10 36 10.8**	**+1.2**
HYB	**Hyderabad**	**146.56**	**11**	*e*PP	PP	10 36 10.3	+0.7
HYB	**Hyderabad**	**146.56**	**11**	*e*PKiKP	**PKiKP**	**10 32 50.2**	**-0.9**

*NNC **02** 10:15:17.4±2.6, 51°.53N×75°.23E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=140.3km s-min=15.4km az=24.0, Suspected Mining explosion.*
*IDC **02** 10:15:18.9±0.8, 51°.57N×75°.38E, h0km, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=21.3km s-min=6.2km az=28.0.*

ISC 02 10:15:18.0±1.0, 51°.6N±0°.1×75°.36E±0°.06, h0km, n9, σ0°.71/14, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.21**	**114**	Pn	**Pn**	**10 15 56.1**	**+0.1**
0.5nm,0.3s,baz=294,slow=18,SNR=30							
KURBB				Pg	**Pb**	**10 15 58.7**	**-0.1**
0.5nm,0.3s,baz=294,slow=18,SNR=9.3							
KURBB				Sn	**Sn**	**10 16 24.1**	**+0.1**
0.2nm,0.3s,baz=301,slow=33,SNR=5.1							
KURBB				Lg	Lg	10 16 28.8	
0.9nm,0.3s,baz=294,slow=32,SNR=7.4							
1.4nm,0.4s							
KURBB	**Kurchatov Arra**	**2.21**	**114**	⇓Pn	**Pb**	**10 15 57.7**	**-1.1**
3.9nm,0.4s							
KURBB				⇑Sn	**Sb**	**10 16 26.7**	**0.0**
43nm,0.9s							
KURK	**Kurchatov**	**2.22**	**111**	⇓Pn	**Pn**	**10 15 56.5**	**+0.4**
0.9nm,0.4s							
KURK				⇑Sn	**Sn**	**10 16 24.6**	**+0.4**
4.4nm,0.7s							
BVA0	**Borovoye Array**	**3.38**	**298**	⇓Pg	**Pb**	**10 16 17.2**	**-1.7**
2.6nm,0.7s,baz=126,slow=20,SNR=12							
BVA0				⇓Lg	Lg	10 17 02.8	
7.2nm,0.6s,baz=131,slow=37,SNR=4.1							
BVAR	**Borovoye Array**	**3.38**	**298**	Pn	**Pn**	**10 16 12.9**	**+0.9**
0.1nm,0.3s,baz=114,slow=15,SNR=4.4							
BVAR				Pg	**Pb**	**10 16 18.6**	**-0.2**
0.1nm,0.3s,baz=114,slow=17,SNR=7.7							
BVAR				Sn	**Sn**	**10 16 53.0**	**+0.1**
0.2nm,0.3s,baz=111,slow=22,SNR=5.5							
BVAR				Lg	Lg	10 17 07.0	
0.3nm,0.3s,baz=110,slow=25,SNR=6.8							
1.1nm,0.3s							
I46RU	**ZALESOVO INFRA**	**6.22**	**64**	I	I	10 53 00.0	
baz=252,slow=319,SNR=0.7							
ZALV	**Zalesovo Beam**	**6.22**	**64**	Pn	**Pn**	**10 16 51.6**	**+0.6**
0.4nm,0.3s,baz=257,slow=12,SNR=1.5							
ZALV				Lg	Lg	10 18 34.5	
0.3nm,0.3s,baz=248,slow=33,SNR=1.6							
1.3nm,0.3s							
MK31	**Makanchi Array**	**6.59**	**134**	⇑Lg	Lg	10 18 50.9	
2.1nm,0.5s,baz=320,slow=28,SNR=7.3							
MKAR	**Makanchi Array**	**6.59**	**134**	Pn	**Pn**	**10 16 56.3**	**+0.2**
0.1nm,0.3s,baz=320,slow=11,SNR=2.5							
MKAR				Sn	**Sn**	**10 18 11.9**	**0.0**
0.3nm,0.3s,baz=316,slow=25,SNR=5.2							
MKAR				Lg	Lg	10 18 46.9	
0.3nm,0.3s,baz=319,slow=26,SNR=5.6							
0.3nm,0.6s							

UCR 02 10:16:04.0±0.9, 9°.72N×83°.68W, h41km±20km, MW3.8, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK0	**Durika**	**0.63**	**136**	*e*P	Pn	10 16 17.2	+0.5
DRK0				*e*S	Sn	10 16 24.7	-0.9
LAES	**El Progreso Va**	**0.63**	**86**	*e*P	Pn	10 16 16.9	+0.4
PANP	**Palmar Norte**	**0.79**	**164**	*e*P	Pn	10 16 18.3	-0.4
EDP2	**Potrero Grande**	**0.86**	**144**	*e*P	Pn	10 16 20.7	+1.0
BITO	**Garabito Jaco**	**0.93**	**264**	*e*P	Pn	10 16 20.5	-0.1
BITO				⇓*e*S	Sn	10 16 32.9	+0.1
TBS2		**1.37**	**132**	*e*P	Pn	10 16 26.8	0.0
BANCO	**falda S V. Bar**	**1.51**	**131**	*e*P	Pn	10 16 29.4	+0.7
BQTLY	**Boquete Panama**	**1.54**	**128**	*e*P	Pn	10 16 28.7	-0.4
JEFFS	**S de V. Baru**	**1.54**	**133**	*e*P	Pn	10 16 28.6	-0.5
WILLF	**Boquete**	**1.56**	**128**	*e*P	Pn	10 16 29.3	-0.1
RBALA	**Bur**	**1.73**	**119**	*e*P	Pn	10 16 31.4	-0.1
GMAL	**Guarumal, Vera**	**3.11**	**129**	*e*P	Pn	10 16 51.3	+0.7

*IDC **02** 10:29:52.5±0.7, 3°.52N×64°.02E, h0km, mb4.0/20, mbtmp4.0/21, ML3.8/1, MS4.0/24, Error ellipse: s-maj=19.5km s-min=14.4km az=34.0*
*NEIC **02** 10:29:55.5±0.8, 3°.52N±0°.07×64°.07E±0°.09, h10km±1km, mb4.8/54, Error ellipse: s-maj=16.4km s-min=10.3km az=121.0*
*GCMT **02** 10:29:55.5±0.3, 3°.40N±0°.03×64°.17E±0°.04, h12km, MW4.8/78, Moment Tensor Solution. s10,c11; s78,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.07; $M_{\theta\theta}$-1.37±.06; $M_{\phi\phi}$-0.25±.07; $M_{r\theta}$0.36±.29; $M_{\theta\phi}$0.64±.06; $M_{\phi r}$0.97±.31; Best double couple: $M_0$1.90200×10^{16} NP1:ϕ_s319.00000°, δ52.00000°, λ124.00000°. Principal axes: T 2.1410, Plg64.0000°, Azm292.0000°; N -0.4720, Plg26.0000°, Azm116.0000°; P -1.6620, Plg2.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 10:29:56.0±0.4, 3°.35N±0°.05×63°.94E±0°.05, h23km, n200, σ1°.12/220, mb4.7/76, MS4.0/31, 13C-9D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSEY	**Mahe Island**	**11.62**	**227**	Pn	**Pn**	**10 32 41.5**	**+0.9**
MSEY	**Mahe Island**	**11.62**	**227**	P	**Pn**	**10 32 40.5**	**-0.1**
MSEY				P	**Pn**	**10 32 40.5**	**-0.1**
MSEY				P	**P**	**10 32 40.9**	**+0.2**
MSEY				P	**P**	**10 32 40.9**	**+0.2**
MSEY				S	**Sn**	**10 34 46.6**	**-3.3**
MSEY				S	**Sn**	**10 34 46.6**	**-3.3**
SHAO	**Shalim**	**16.70**	**331**	P	**Pn**	**10 33 49.2**	**+0.5**
DMTO	**DMTO**	**16.78**	**329**	P	**P**	**10 33 51.3**	**-0.4**
RBK	**Rabkut**	**17.00**	**326**	P	**P**	**10 33 53.9**	**-0.4**
RBK				P	**P**	**10 33 53.9**	**-0.4**
PALK	**Pallekele**	**17.14**	**76**		**Pn**	**10 33 52.8**	**-1.4**
PALK	**Pallekele**	**17.14**	**76**	P	**Pn**	**10 33 53.5**	**-0.7**
0.3nm,0.3s,baz=261,slow=12,SNR=7.6							
PALK				LR	LR	10 38 56.5	
comp=Z,560nm,19.8s,baz=260,slow=32							
3.1nm,0.6s							
PALK	**Pallekele**	**17.14**	**76**	P	**Pn**	**10 33 51.6**	**-2.7**
ABTO	**Aybut**	**17.40**	**324**	P	**P**	**10 33 58.3**	**-0.4**
ABTO				P	**P**	**10 33 58.3**	**-0.4**
WHFO	**Wadi Hawf**	**17.58**	**326**	P	**Pn**	**10 33 59.4**	**-0.3**
WHFO				P	**Pn**	**10 33 59.4**	**-0.3**
DQM	**DQM**	**17.62**	**340**	P	**P**	**10 34 00.7**	**-0.4**
DQM				P	**P**	**10 34 00.7**	**-0.4**
DOK	**Doka**	**17.95**	**328**	P	**P**	**10 34 04.9**	**+0.2**
DOK				P	**P**	**10 34 04.9**	**+0.2**
DOK				S	**S**	**10 37 28.2**	**-1.8**
DOK				S	**S**	**10 37 28.2**	**-1.8**
MHTO	**MHTO**	**18.47**	**342**	P	**P**	**10 34 10.4**	**+0.1**
MHTO				P	**P**	**10 34 10.4**	**+0.1**
JMDO	**Jabal Madar**	**19.73**	**344**	P	**P**	**10 34 24.0**	**-0.3**
JMDO				P	**P**	**10 34 24.0**	**-0.3**
BSY	**Bisya**	**20.35**	**342**	P	**P**	**10 34 31.3**	**+0.2**
SNR=18							
SMDO	**Samad**	**20.40**	**344**	P	**P**	**10 34 31.8**	**+0.1**
SNR=5.5							
SMDO				P	**P**	**10 34 31.8**	**+0.1**
SNR=5.5							
WSAR	**Wadi Sarin**	**20.43**	**346**	P	**P**	**10 34 30.5**	**-1.4**
baz=180,slow=20,SNR=4.2							
BIDO	**Bidbid**	**20.82**	**345**	P	**P**	**10 34 36.3**	**+0.2**
SNR=6.2							
BIDO				P	**P**	**10 34 36.3**	**+0.2**
SNR=6.2							
UMZA	**Um Al Zommool**	**21.04**	**337**	P	**P**	**10 34 38.5**	**0.0**
UMZA				P	**P**	**10 34 38.5**	**0.0**
ARQ	**Araqi**	**21.12**	**341**	P	**P**	**10 34 39.7**	**+0.3**
SNR=11							
ARQ				P	**P**	**10 34 39.7**	**+0.3**
SNR=11							
ARQ				S	**S**	**10 38 35.7**	**+2.2**
ARQ				S	**S**	**10 38 35.7**	**+2.2**
ARQ				S	Sn	10 38 35.8	-4.7
ARQ				S	Sn	10 38 35.8	-4.7
SOHO	**SOHO**	**21.86**	**342**	P	**P**	**10 34 47.6**	**+0.3**
MZR	**Muzera**	**22.00**	**333**	P	**P**	**10 34 48.7**	**-0.1**
SNR=20							
MZR				P	**P**	**10 34 48.7**	**-0.1**
SNR=20							
ALNE	**Al Ain**	**22.05**	**340**	P	**P**	**10 34 49.4**	**0.0**
SNR=7.6							
ATD	**Arta Tunnel**	**22.42**	**292**		**P**	**10 34 54.4**	**+0.9**
ATD				IAmb	IAmb	10 34 59.0	
comp=Z,33nm,1.2s							
ATD	**Arta Tunnel**	**22.42**	**292**	LR	LR	10 41 56.4	
comp=Z,5.7nm,20.8s,baz=139,slow=32							
ASHO	**Ashiyiah**	**22.53**	**341**	P	**P**	**10 34 54.5**	**0.0**
ASHO				P	**P**	**10 34 54.5**	**0.0**
ASUD	**Al Ashush, Dub**	**22.72**	**339**	P	**P**	**10 34 56.3**	**-0.2**
UOSS	**Minazif**	**22.73**	**342**	P	**P**	**10 34 56.4**	**-0.1**
UOSS				P	**P**	**10 34 56.4**	**-0.1**
AJN	**Ajban**	**22.79**	**339**	P	**P**	**10 34 57.1**	**0.0**
AJN				P	**P**	**10 34 57.1**	**0.0**
NAZ	**Nazwa, Dubai**	**22.94**	**340**	P	**P**	**10 34 58.5**	**-0.3**
SNR=8.4							
NAZ				P	**P**	**10 34 58.5**	**-0.3**
SNR=8.4							
ROCAM	**Rodrigues Isla**	**22.97**	**181**	P	**P**	**10 35 00.3**	**+1.3**
GHWR	**Ruwais**	**23.11**	**333**	P	**P**	**10 35 00.6**	**+0.1**
GHWR				P	**P**	**10 35 00.6**	**+0.1**
BHPL	**Bhopal**	**23.69**	**32**	IAmb	IAmb	10 35 07.6	
comp=Z,11nm,1.7s							
BHPL				*e*P	**P**	**10 35 09.1**	**+2.8**
BHPL				*e*S	**S**	**10 39 22.0**	**+1.8**
SLWR	**Sila**	**23.75**	**331**	P	**P**	**10 35 07.2**	**+0.4**
JRN	**Qarnain Island**	**23.98**	**335**	P	**P**	**10 35 09.3**	**+0.4**
SMRA	**Abu-Samra**	**24.74**	**330**	P	**P**	**10 35 16.8**	**+0.8**
AJM	**Ajmer**	**25.18**	**23**	*e*P	**P**	**10 35 19.9**	**0.0**
AJM				IAmb	IAmb	10 35 28.2	
comp=Z,10nm,0.2s							
AJM				*e*S	**S**	**10 39 44.7**	**+0.6**
FURI	**Furi**	**25.70**	**284**	LR	LR	10 44 58.7	
comp=Z,134nm,18.5s,baz=124,slow=35							
KIBK	**Kibwezi**	**26.49**	**258**	P	**P**	**10 35 34.2**	**+2.1**
RAYN	**Ar Rayn**	**26.83**	**320**		**P**	**10 35 35.2**	**+0.2**
OPO	**Ambohidratompo**	**27.33**	**217**	LR	LR	10 44 00.2	
comp=Z,275nm,18.7s,baz=168,slow=31							
LODK	**Lodwar**	**28.53**	**271**		**P**	**10 35 52.5**	**+2.2**
CMBY	**CAMPBELL BAY**	**30.08**	**82**	IAmb	IAmb	10 35 31.6	
comp=Z,11nm,0.4s							
CMBY				*e*P	**P**	**10 36 04.8**	**+0.8**
CMBY				*e*S	**S**	**10 41 03.7**	**+2.2**
DGPR	**DIGLIPUR**	**30.27**	**69**	IAmb

LSZ IAmb IAmb 10 37 33.8
comp=Z,15nm,1.1s
LSZ Lusaka 39.94 241 LR LR 10 52 17.2
comp=Z,270nm,18.0s,baz=109,slow=34
KK31 Karatay Array 40.01 7 P **P 10 37 28.0 -1.2**
KKAR Karatay Array 40.01 7 P **P 10 37 28.7 -0.5**
TARG Taragay, Kyrgy 40.18 16 P **P 10 37 29.7 -1.4**
AAK Ala-Archa 40.23 12 P **P 10 37 30.5 -0.8**
AAK Ala-Archa 40.23 12 LR LR 10 54 49.0
comp=Z,124nm,18.1s,baz=206,slow=37
KDJ Kajisay 40.39 15 P **P 10 37 31.2 -1.3**
BOOM Boomskoye usch 40.42 14 P **P 10 37 31.2 -1.6**
GNI Garni 40.54 337 P **P 10 37 34.3 +0.5**
GNI IAmb IAmb 10 37 43.1
comp=Z,51nm,1.4s
GNI Garni 40.54 337 LR LR 10 54 39.7
comp=Z,101nm,19.3s,baz=130,slow=37
GNI Garni 40.54 337 P **P 10 37 35.1 +1.3**
GNI P **P 10 37 35.1 +1.3**
GAZ Gaziantep 41.66 327 P **P 10 37 43.1 +0.2**
GAZ IAmb IAmb 10 38 16.3
comp=Z,19nm,1.4s
MATP Matopo 42.04 234 LR LR 10 52 16.6
comp=Z,232nm,21.9s,baz=40,slow=32
PZH PanZhiHua 42.89 54 P **P 10 37 54.1 +0.9**
KMI Kunming 43.13 56 P **P 10 37 55.1 -0.2**
KMI S **S 10 44 24.7 +3.9**
KMI pmax pmax
comp=Z,11nm,2.1s
KMI LR LR
comp=N,200nm,15.9s
KMI LR LR
comp=E,180nm,17.9s
KMI LR LR
comp=Z,190nm,18.8s
GOMU GeErMu 43.34 37 P **P 10 37 55.7 -1.3**
GOMU PcP **PcP 10 39 46.6 +1.0**
GOMU S **S 10 44 23.5 -0.4**
GOMU SS **SS 10 47 38.9 +0.9**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU LR LR
comp=N,230nm,15.3s
GOMU LR LR
comp=E,300nm,16.3s
GOMU LR LR
comp=Z,450nm,15.5s
BNN Bunyan 43.62 328 P **P 10 37 59.6 +0.7**
BNN IAmb IAmb 10 38 01.4
comp=Z,21nm,1.4s
KSANE Kasane 43.63 240 P **P 10 38 01.9 +2.6**
KSANE IAmb IAmb 10 38 08.7
comp=Z,17nm,1.1s
KBZ Khabaz 44.32 338 P **P 10 38 04.9 +0.7**
comp=Z,6.1nm,0.9s,baz=148,slow=4.7,SNR=12
KBZ PP **PcP 10 39 50.4 +2.2**
comp=Z,0.5nm,0.3s,baz=152,slow=11,SNR=3.7
comp=Z,6.1nm,0.9s
KIRS Kirsehir-Merke 44.87 327 ⇑P **P 10 38 09.6 +0.7**
BR131 Keskin Array S 45.44 327 P **P 10 38 13.6 +0.2**
BR131 IAmb IAmb 10 38 15.0
comp=Z,13nm,1.1s
BR131 Keskin Array S 45.44 327 P **P 10 38 14.1 +0.6**
SNR=6.0
BRTR Keskin Array B 45.44 327 P **P 10 38 13.6 +0.2**
BRTR Keskin Array B 45.44 327 P **P 10 38 14.1 +0.6**
comp=Z,3.3nm,0.9s,baz=146,slow=11,SNR=17
comp=Z,3.3nm,0.9s
WMQ Urumqi 45.45 24 *eP* **P 10 38 12.5 -0.9**
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ LR LR
comp=N,270nm,23.1s
WMQ LR LR
comp=E,400nm,23.1s
WMQ LR LR
comp=Z,320nm,23.1s
LPHEP Lephephe 45.63 232 P **P 10 38 17.4 +2.3**
AB31 Akbulak array 45.86 356 P **P 10 38 15.2 -1.2**
AB31 IAmb IAmb 10 38 17.2
comp=Z,23nm,1.4s
ABKAR Akbulak array 45.86 356 P **P 10 38 16.0 -0.4**
ANTO Ankara 46.00 326 P **P 10 38 18.9 +1.1**
ANTO IAmb IAmb 10 38 19.8
comp=Z,19nm,1.2s
ANTO Ankara 46.00 326 P **P 10 38 17.6 -0.2**
MKAR Makanchi Array 46.11 17 P **P 10 38 16.3 -2.2**
comp=Z,1.0nm,0.8s,baz=212,slow=7.9,SNR=6.8
MKAR PcP **PcP 10 39 56.9 +2.4**
comp=Z,0.8nm,1.0s,baz=259,slow=2.9,SNR=3.7
comp=Z,1.0nm,0.8s
ILGA Ilgaz 46.34 328 P **P 10 38 20.9 +0.2**
LBTB Lobatse 46.69 231 LR LR 10 55 34.2
comp=Z,212nm,19.5s,baz=78,slow=33
KARP Karpathos 46.71 318 P **P 10 38 23.1 -0.3**
GYA Guiyang 46.91 56 ⇓P **P 10 38 24.1 -1.1**
GYA pmax pmax
comp=Z,15nm,1.4s
QIZ Qiongzhong 47.47 67 P **P 10 38 29.6 +0.1**
QIZ S **S 10 45 22.0 -1.2**
QIZ LR LR
comp=N,170nm,19.6s
QIZ LR LR
comp=E,210nm,15.9s
QIZ LR LR
comp=Z,240nm,15.7s
MANT Manisa 47.57 322 P **P 10 38 30.5 +0.2**
IDI Anoyia 48.11 316 P **P 10 38 35.5 +1.1**
SBUM Sibu 48.22 90 P **P 10 38 35.1 -0.4**
GTA Gaotai 48.44 37 *eP* **P 10 38 36.2 -0.7**
GTA sP pP 10 38 43.9 +0.6
GTA S **S 10 45 38.2 +1.5**
GTA pmax pmax
comp=Z,7.0nm,1.8s
GTA LR LR
comp=N,400nm,19.3s
GTA LR LR
comp=E,440nm,18.5s
GTA LR LR
comp=Z,480nm,21.5s
KURBB Kurchatov Arra 48.69 12 P **P 10 38 36.6 -1.8**
comp=Z,1.0nm,0.8s,baz=206,slow=8.3,SNR=10
comp=Z,1.0nm,0.8s
BOSA Boshof 48.89 227 P **P 10 38 41.7 +1.2**
comp=Z,3.1nm,0.9s,baz=35,slow=12,SNR=3.7
BOSA LR LR 10 56 57.6
comp=Z,120nm,21.0s,baz=45,slow=33
comp=Z,3.1nm,0.9s
LZH Lanzhou 49.13 43 *eP* **P 10 38 44.2 +1.9**
LZH sP sP 10 38 51.7 +0.8
LZH pmax pmax
comp=Z,18nm,1.0s
LKGWB Lokgwabe 49.72 234 P **P 10 38 45.3 -1.6**
EZN Ezine 49.76 322 ⇓P **P 10 38 46.6 -0.2**
BVAR Borovoye Array 49.80 5 P **P 10 38 45.5 -1.4**
comp=Z,0.4nm,0.5s,baz=175,slow=7.2,SNR=1.6
comp=Z,0.4nm,0.5s
ALN Alexandroupoli 50.57 323 P **P 10 38 53.2 +0.2**
ALN IAmb IAmb 10 38 54.9
comp=Z,19nm,1.1s
BELG Belogornoye 50.73 347 P **P 10 38 51.9 -2.0**
comp=Z,26nm,0.9s,baz=257,slow=3.4,SNR=6.3
RDO Rodhopi 51.03 323 P **P 10 38 56.8 +0.4**
RDO IAmb IAmb 10 38 57.6
comp=Z,7.7nm,1.0s
XAN Xi'an 51.77 48 ⇑P **P 10 39 00.3 -1.9**
XAN sP pP 10 39 07.3 -1.1
XAN pmax pmax
comp=Z,23nm,1.2s
LIT Litokhoron 52.32 320 P **P 10 39 06.5 +0.3**
LIT IAmb IAmb 10 39 07.5
comp=Z,13nm,1.2s
MILM Milestii Mici 52.99 330 ⇑ *iP* **P 10 39 09.7 -1.2**
comp=Z,540nm,1.8s
KIS Kishinev 53.04 330 *eP* **P 10 39 11.0 -0.3**
comp=Z,130nm,3.7s
ZALV Zalesovo Beam 53.26 15 P **P 10 39 10.2 -2.5**
comp=Z,0.7nm,0.3s,baz=213,slow=7.1,SNR=7.1
ZALV LR LR 11 01 34.1
comp=Z,121nm,20.5s,baz=317,slow=36
comp=Z,0.7nm,0.3s
VRI Vrincioaia 53.34 328 ⇑P **P 10 39 14.6 +1.1**
PLOR Plostina 53.37 328 ⇑P **P 10 39 15.0 +1.2**
MLR Muntele Rosu 53.51 327 P **P 10 39 15.0 +0.1**
MLR IAmb IAmb 10 39 27.5
comp=Z,16nm,1.1s
MLR Muntele Rosu 53.51 327 ⇑P **P 10 39 15.5 +0.5**
TESR Tescani 53.81 329 ⇓P **P 10 39 17.7 +0.7**
VOIR 53.96 327 ⇑P **P 10 39 18.4 +0.2**
SORM Soroca 54.06 331 ⇑P **P 10 39 18.8 0.0**
DOPR Dopca 54.12 328 ⇓P **P 10 39 19.9 +0.7**
ARR Arges 54.15 327 ⇓P **P 10 39 19.6 +0.1**
BOVS Bovan 54.79 323 ⇑P **P 10 39 23.7 -0.4**
HERR Herculane 55.09 325 ⇓P **P 10 39 26.7 +0.4**
GZR Gura Zlata 55.20 326 ⇑P **P 10 39 27.7 +0.6**
BURAR Bucovina Array 55.27 329 P **P 10 39 28.3 +0.6**
BURAR Bucovina Array 55.27 329 ⇓P **P 10 39 28.9 +1.2**
BUR08 Bucovina Ar. S 55.30 329 P **P 10 39 28.5 +0.6**
BUR08 IAmb IAmb 10 39 59.4
comp=Z,11nm,1.2s
MDVR Moldovita 55.44 324 ⇑P **P 10 39 29.1 +0.2**
AKASG Malin Array Be 55.48 334 P **P 10 39 28.1 -0.9**
comp=Z,0.2nm,0.3s,baz=128,slow=6.1,SNR=18
comp=Z,0.2nm,0.3s
SURR Surduc 55.78 326 ⇑P **P 10 39 32.0 +0.8**
MARR Marisel-Cluj 55.78 327 ⇑P **P 10 39 32.3 +0.9**
HHC Hu-ho-hao-te 56.75 42 *eP* **P 10 39 38.0 -0.4**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,88nm,4.3s
HHC LR LR
comp=N,180nm,13.8s
HHC LR LR
comp=E,150nm,13.8s
HHC LR LR
comp=Z,190nm,15.4s
ACER Acerenza 56.97 318 P **P 10 39 40.3 +0.3**
SONM Songino Array 57.37 33 P **P 10 39 42.1 -0.6**
SONM IAmb IAmb 10 39 54.1
comp=Z,9.5nm,1.5s
SONM Songino Array 57.37 33 P **P 10 39 41.7 -1.0**
comp=Z,1.0nm,0.7s,baz=230,slow=6.7,SNR=11
comp=Z,1.0nm,0.7s
HNS HongShan 57.45 47 ⇓P **P 10 39 42.5 -0.8**
HNS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 57.63 329 *eP* **P 10 39 45.3 +1.0**
STHS Stebnicka Huta 58.46 329 *eP* **P 10 39 50.8 +0.6**
NJ2 Nanjing 58.80 54 *eP* **P 10 39 52.8 -0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MODS Modra-Piesok 59.99 326 *eP* **P 10 40 00.7 -0.1**
RONA Rosalia, Austr 60.19 325 *eP* **P 10 40 01.8 -0.4**
comp=Z,7.0nm,1.1s
ARSA Arzberg 60.40 324 *eP* **P 10 40 03.3 -0.4**
comp=Z,6.1nm,0.9s
SOKA Soboth 60.40 323 *eP* **P 10 40 03.2 -0.5**
comp=Z,3.3nm,0.9s
H01W3 Cape Leeuwin H 60.51 133 T T 11 45 30.9
baz=299,slow=75,SNR=113
H01W2 Cape Leeuwin H 60.51 133 T T 11 45 31.4
baz=299,slow=75,SNR=114
H01W1 Cape Leeuwin H 60.52 133 T T 11 45 32.3
baz=299,slow=75,SNR=102
CONA Conrad Observa 60.56 325 *eP* **P 10 40 03.8 -1.0**
comp=Z,12nm,1.1s
MORC Moravsky Berou 60.62 327 *eP* **P 10 40 04.5 -0.6**
KRUC Moravsky 60.86 326 *eP* **P 10 40 06.2 -0.5**
VRAC Vranov 60.88 327 *eP* **P 10 40 06.4 -0.5**
MYKA Terra Mystica 61.21 323 *eP* **P 10 40 08.7 -0.6**
comp=Z,3.4nm,0.6s
MOA Molln 61.44 324 *eP* **P 10 40 09.8 -0.9**
comp=Z,13nm,1.0s
SOEI Soe 61.48 103 P **P 10 40 11.0 -0.7**
BIOA Bad Ischl, Aus 61.73 324 *eP* **P 10 40 11.5 -1.2**
comp=Z,3.4nm,0.6s
ABTA Abfaltersbach 61.95 322 *eP* **P 10 40 13.7 -0.6**
comp=Z,7.6nm,0.8s
LESA Schwarzleotal 62.17 323 *eP* **P 10 40 14.2 -1.5**
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 62.23 283 P **P 10 40 17.8 +1.3**
TORD IAmb IAmb 10 40 19.1
comp=Z,6.1nm,1.5s
TORD Torodi Ar. Bea 62.23 283 P **P 10 40 17.1 +0.6**
comp=Z,1.1nm,0.9s,baz=89,slow=5.4,SNR=7.9
TORD LR LR 11 05 11.7
comp=Z,323nm,21.7s,baz=302,slow=34
comp=Z,1.1nm,0.9s
GERES GERESS Array B 62.26 325 P **P 10 40 14.9 -1.4**
comp=Z,0.3nm,0.4s,baz=100,slow=10,SNR=1.9
comp=Z,0.3nm,0.4s
WTTA Wattenberg 62.72 323 *eP* **P 10 40 18.0 -1.5**
comp=Z,12nm,1.0s
SQTA Sankt Quirin 62.96 322 *eP* **P 10 40 19.7 -1.4**
comp=Z,8.7nm,0.8s
MOTA Moosalm 63.08 323 *eP* **P 10 40 20.2 -1.7**
comp=Z,12nm,1.1s
BRG Berggiesshubel 63.16 327 *eP* **P 10 40 21.6 -0.5**
BRG Amp 10 40 22.5
comp=Z,6.3nm,1.1s
FETA Feichten 63.17 322 *eP* **P 10 40 21.4 -1.0**
comp=Z,7.9nm,1.0s
FUORN Ofenpass-Fuorn 63.28 322 P **P 10 40 23.8 +0.4**
FUORN IAmb IAmb 10 40 24.1
comp=Z,8.7nm,1.0s
DAVA Damuels 63.80 322 *eP* **P 10 40 25.4 -1.3**
comp=Z,10.0nm,0.8s
CLL Collm 63.89 327 P **P 10 40 26.3 -0.7**
CLL Collm 63.89 327 ⇓ *iP* **P 10 40 26.5 -0.4**
comp=Z,22nm,1.4s
FITZ Fitzroy Crossi 64.39 112 P **P 10 40 30.8 0.0**
FITZ IAmb IAmb 10 40 32.5
comp=Z,5.4nm,1.4s
FINES FINESS Array B 64.56 341 P **P 10 40 29.8 -1.3**
comp=Z,2.2nm,0.8s,baz=150,slow=5.9,SNR=1.5
comp=Z,2.2nm,0.8s
SENIN Lac Senin/Sane 65.03 320 P **P 10 40 34.9 0.0**
BFO Black Forest 65.19 323 P **P 10 40 35.6 0.0**
JOW Kunigami 65.64 62 LR LR 11 11 42.6
comp=Z,88nm,18.2s,baz=90,slow=38
HIA Hailar 65.70 36 P **P 10 40 38.2 -0.6**
HIA IAmb IAmb 10 40 47.2
comp=Z,6.7nm,0.7s
KSRS Korea Array 67.44 51 P **P 10 40 49.8 -0.3**
comp=Z,0.7nm,0.6s,baz=243,slow=8.0,SNR=2.3
comp=Z,0.7nm,0.6s
JNU Nakatsue 68.91 56 LR LR 11 13 55.9
comp=Z,61nm,18.3s,baz=30,slow=38
NOA NORSAR Array B 69.82 336 P **P 10 41 03.3 -1.2**
comp=Z,2.0nm,0.9s,baz=116,slow=7.3,SNR=4.4
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 70.77 347 P **P 10 41 09.7 -0.5**
comp=Z,2.9nm,0.6s,baz=141,slow=5.8,SNR=5.0
comp=Z,2.9nm,0.6s
ESBB Sonseca Array 70.93 311 P **P 10 41 12.2 +0.4**
ESDC Sonseca Array 70.93 311 **P 10 41 12.0 +0.2**
ESDC IAmb IAmb 10 41 12.7
comp=Z,14nm,1.4s
ESDC Sonseca Array 70.93 311 P **P 10 41 11.3 -0.6**
comp=Z,3.6nm,0.9s,baz=91,slow=5.4,SNR=15
comp=Z,3.6nm,0.9s
USRK Ussuriysk Ar. 72.01 45 P **P 10 41 16.5 -1.7**
comp=Z,0.8nm,0.5s,baz=253,slow=5.5,SNR=4.6
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 72.82 112 P **P 10 41 23.4 -0.1**
WRA Warramunga Arr 72.82 112 P **P 10 41 23.7 +0.2**
comp=Z,14nm,1.0s,baz=289,slow=5.3,SNR=43
ASAR Alice Springs 73.12 116 P **P 10 41 25.6 +0.4**
comp=Z,6.3nm,0.9s,baz=283,slow=5.7,SNR=45
comp=Z,6.3nm,0.9s
STKA Stephens Creek 81.31 123 P **P 10 42 11.5 +0.5**
comp=Z,3.4nm,1.1s,baz=261,slow=11,SNR=4.2
STKA LR LR 11 14 15.2
comp=Z,105nm,21.8s,baz=33,slow=33
comp=Z,3.4nm,1.1s
PETK Petropavlovsk- 89.61 37 LR LR 11 24 45.4
comp=Z,138nm,19.4s,baz=335,slow=37
VNDA Vanda 94.97 168 LR LR 11 20 23.8
comp=Z,98nm,20.5s,baz=195,slow=32
SFJD Kangerlussuaq 96.30 339 LR LR 11 26 22.3
comp=Z,54nm,22.0s,baz=126,slow=35
SHEM Shemya Is, Ala 99.39 35 LR LR 11 30 52.8
comp=Z,44nm,18.4s,baz=306,slow=37
PDAR Pinedale Array 133.72 353 PKP **PKPdf 10 49 10.3 -1.3**
comp=Z,0.6nm,0.8s,baz=99,slow=2.0,SNR=6.0
NVAR Mina Array Bea 138.38 3 PKP **PKPdf 10 49 18.3 -2.1**
comp=Z,0.6nm,0.8s,baz=1.9,slow=4.5,SNR=5.2
TXAR Lajitas Array 145.40 341 PKPbc **PKPbc 10 49 32.5 -0.4**
comp=Z,6.5nm,0.9s,baz=53,slow=3.0,SNR=55

NEIC ***02*** *10:37:34.4±1.2,35°.586N±0°.009×97°.90W±0°.01,h5km±1km, ML2.0/5,ML1.9/52,Error ellipse: s-maj=2.9km s-min=1.7km az=84.0*

NEIC 02 10:37:34.5±1.0,35°.588N±0°.009×97°.90W±0°.01,h2km±3km, Error ellipse: s-maj=1.4km s-min=1.3km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.42**	**60**	Pg	Pg	10 37 42.9	+0.4
OK029				Sg	Sg	10 37 49.3	+1.4
CSTR	**Hydro, Custer**	**0.65**	**275**	Pg	Pg	10 37 46.6	-0.3
CSTR				Sg	Sg	10 37 56.6	+1.3
CROK	**Carrier**	**0.92**	**356**	Pg	Pg	10 37 52.0	-0.1
CROK				Sg	Sg	10 38 04.9	+0.9
OK052	**Battle Ridge R**	**0.98**	**65**	Pg	Pg	10 37 53.1	-0.2
OK052				Sg	Sg	10 38 06.5	+0.5
OK052				IAML		10 38 08.0	
	37nm,0.1s						
OK052				IAML		10 38 09.9	
	44nm,0.1s						
X34A	**Smith Ranch, M**	**0.99**	**177**	Pg	Pg	10 37 53.4	0.0
X34A				Sg	Sg	10 38 06.0	-0.2
X34A				IAML		10 38 15.5	
	comp=N,20nm,0.4s						
WMOK	**Wichita Mounta**	**1.11**	**221**	Pg	Pg	10 37 54.7	-1.1
WMOK				Sg	Sg	10 38 09.3	-1.0
OK038	**West end E0370**	**1.12**	**323**	Pg	Pg	10 37 55.5	-0.5
OK038				Sg	Sg	10 38 10.2	-0.3
QUOK	**Quay**	**1.13**	**59**	Pg	Pg	10 37 55.5	-0.7
QUOK				Sg	Sg	10 38 10.8	+0.1
QUOK				IAML		10 38 13.1	
	comp=E,33nm,0.2s						
OK048	**Pawnee Station**	**1.13**	**43**	Pg	Pg	10 37 55.9	-0.3
OK048				Sg	Sg	10 38 11.1	+0.2
OK048				IAML		10 38 13.9	
	comp=E,30nm,0.2s						
OK048				IAML		10 38 18.1	
	comp=E,23nm,0.4s						
DEOK	**Depew**	**1.17**	**77**	Pg	Pg	10 37 56.1	-0.8
DEOK				Sg	Sg	10 38 12.1	+0.1
DEOK				IAML		10 38 21.3	
	comp=N,33nm,0.2s						
OK051	**E0350 and S346**	**1.26**	**43**	Pg	Pg	10 37 58.1	-0.5
BLOK	**Blackwell**	**1.29**	**25**	Pg	Pg	10 37 58.9	-0.4
LOOK	**Love County**	**1.70**	**159**		Pn	10 38 05.1	0.0
T35A	**Sooner Cattle**	**1.74**	**40**	Pn	Pn	10 38 05.2	-0.5
TUL3	**Leonard**	**1.74**	**79**	Pn	Pn	10 38 05.6	-0.2
SMWD	**Samnorwood**	**1.98**	**257**	Pn	Pn	10 38 08.8	-0.2

HEL 02 10:49:24.4±0.2,65°.40N×27°.06E,h0km,ML1.0, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.58**	**238**	PG	Pg	10 49 34.8	-0.7
OUL				SG	Sg	10 49 42.6	-0.5
RANF	**Ranua**	**0.63**	**350**	PG	Pg	10 49 35.3	-1.1
RANF				SG	Sg	10 49 43.1	-1.5
MSF	**Maaselka**	**0.97**	**57**	PG	Pg	10 49 41.3	-1.6
	baz=238						
KU1	**Kurvinen**	**1.05**	**80**	PG	Pg	10 49 43.2	-1.3
RNF	**Rovaniemi**	**1.29**	**341**	PG	Pg	10 49 47.8	-1.3
RNF				SB	Sg	10 50 04.2	-1.5
TOF	**Tornio**	**1.32**	**302**	PB	Pg	10 49 48.7	-1.0
TOF				MSG		10 50 04.1	
	comp=Z,1.3nm,0.2s						
TOF				SN	Sn	10 50 08.2	-0.1
KU6	**Riekki**	**1.33**	**60**	PG	Pg	10 49 48.2	-1.6
KU6				MSG		10 50 04.6	
	comp=Z,0.6nm,0.2s						
KU6				SB	Sg	10 50 05.7	-1.3
OLKF	**Oulanka, Finla**	**1.33**	**45**	PN	Pb	10 49 50.6	+0.3
OLKF				MSG		10 50 04.6	
	comp=Z,0.8nm,0.2s						
OLKF				SN	Sn	10 50 09.8	+1.1
OUF	**Merijarvi**	**1.44**	**225**	PN	Pn	10 49 50.9	-0.7
	baz=42						
OUF				MSG		10 50 07.7	
	comp=Z,1.1nm,0.2s						
OUF				SN	Sn	10 50 11.7	+0.5
KALU	**Kalix**	**1.60**	**288**	SN	Sg	10 50 16.6	+0.7
ERTU	**Ertsjaerv**	**2.31**	**302**	SB	Sn	10 50 33.5	+0.8
VRF	**Varrio**	**2.57**	**22**	MSG		10 50 40.3	
	comp=Z,0.4nm,0.2s						
VRF				SB	Sn	10 50 41.1	+2.0
RAJF	**Raja-Jooseppi**	**3.13**	**8**	SB	Sb	10 50 56.6	-2.9

MOS ***02*** *11:04:15.2±0.9,43°.41N×136°.62E,h325km,mb4.3/23, Error ellipse: s-maj=7.7km s-min=6.1km az=119.1*
IDC ***02*** *11:04:15.9±0.7,43°.40N×136°.51E,h312km±6km,mb3.8/29, mbtmp4.5/34,Error ellipse: s-maj=8.4km s-min=7.7km az=179.0*
JMA ***02*** *11:04:15.2±0.4,43°.N±2°.×13°.7E±°,h337km,MV3.9/29, EASTERN SEA OF JAPAN*
NEIC ***02*** *11:04:16.4±1.1,43°.42N±0°.07×136°.54E±0°.09, h318km±8km,mb4.4/34,Error ellipse: s-maj=12.1km s-min=6.4km az=132.0*
SKHL ***02*** *11:04:16.4±0.3,43°.30N×136°.80E,h313km±2km,mb4.7/11, msh4.5/2,msha4.7/4*

ISC 02 11:04:14.2±0.3,43°.35N±0°.04×136°.63E±0°.04,h300km, n187,σ2°.13/217,mb4.3/64,16C,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.68**	**359**	⇑ *eP*	**Pn**	**11 05 02.2**	**+3.7**
TEY				*e*		11 05 37.0	
TEY				pmax	pmax		
	comp=N,100nm,0.6s						
TEY				pmax	pmax		
	comp=Z,350nm,0.5s						
TEY	**Ternei**	**1.68**	**359**	⇑ *iP*	**Pn**	**11 05 02.1**	**+3.6**
TEY				AMB	AMB	11 05 02.1	
	comp=Z,170nm,0.5s						
TEY				*eS*	**S**	**11 05 37.8**	**+4.1**
TEY				A	A	11 05 38.1	
	comp=Z,490nm,2.0s						
TEY				A	A	11 05 38.1	
	comp=Z,420nm,2.0s						
TEY				A	A	11 05 38.2	
	comp=Z,260nm,0.8s						
JOSM	**Okushiri--Mats**	**2.45**	**120**	P	**Pn**	**11 05 07.9**	**+3.2**
JHST	**Hiyamasetana**	**2.56**	**110**	P	**Pn**	**11 05 09.1**	**+3.4**
JSK	**Shakotan**	**2.80**	**89**	P	**Pn**	**11 05 11.1**	**+3.1**
JSK				*eS*	**S**	**11 05 56.1**	**+5.2**
JOMM	**Oshimamatsumae**	**3.09**	**125**	*i* P	**Pn**	**11 05 14.0**	**+3.1**
GRTR	**Gornotajezhnoj**	**3.27**	**278**	AMB	AMB	11 05 16.4	
	comp=Z,360nm,0.4s						
GRTR				*eP*	**P**	**11 05 16.4**	**+3.7**
GRTR				*eS*	**S**	**11 06 03.5**	**+4.1**
GRTR				A	A	11 06 04.6	
	comp=Z,60nm,0.9s						
GRTR				A	A	11 06 05.0	
	comp=Z,290nm,3.0s						
GRTR				A	A	11 06 05.0	
	comp=Z,120nm,3.0s						
USRK	**Ussuriysk Ar.**	**3.47**	**286**	P	**Pn**	**11 05 17.7**	**+3.0**
	comp=Z,126nm,0.5s,baz=92,slow=11,SNR=351						
USRK				S	**S**	**11 06 04.7**	**+1.7**
	comp=Z,22nm,0.8s,baz=100,slow=17,SNR=4.3						
VLA	**Vladivostok**	**3.48**	**268**	*i* P	**Pn**	**11 05 18.0**	**+3.2**
JEW	**Eniwo**	**3.56**	**97**	P	**Pn**	**11 05 18.9**	**+3.2**
JEW				S	**S**	**11 06 09.4**	**+4.5**
JHR	**Hokuryu**	**3.72**	**82**	P	**Pn**	**11 05 20.6**	**+3.3**
JRBN	**Rebuntou**	**3.79**	**55**	P	**Pn**	**11 05 21.0**	**+3.0**
JOT	**Ohata**	**3.82**	**120**	*i* P	**Pn**	**11 05 20.7**	**+2.2**
JSS	**Shosan**	**3.92**	**73**	P	**Pn**	**11 05 22.9**	**+3.5**
MSHR	**Mys Shultsa**	**4.09**	**261**	*ceP*	**Pn**	**11 05 25.0**	**+3.6**
MSHR				pmax	pmax		
	comp=Z,19nm,0.6s						
JTM	**Tenmabayashi**	**4.18**	**126**		**Pn**	**11 05 24.6**	**+2.2**
JTM	**Tenmabayashi**	**4.18**	**126**	P	**Pn**	**11 05 24.3**	**+1.9**
JWK2	**Keihoku**	**4.26**	**61**	P	**Pn**	**11 05 27.1**	**+4.0**
PSTR	**Posyet**	**4.33**	**263**	*i* P	**Pn**	**11 05 27.5**	**+3.4**
PSTR	**Posyet**	**4.33**	**263**	*eP*	**Pn**	**11 05 27.9**	**+3.8**
PSTR				AMB	AMB	11 05 28.2	
	comp=Z,120nm,0.5s						
ASAJ	**Asahikawa**	**4.39**	**78**	P	**Pn**	**11 05 27.3**	**+2.6**
	comp=Z,61nm,0.4s,baz=265,slow=8.4,SNR=97						
ASAJ				S	**S**	**11 06 23.2**	**+2.1**
	comp=Z,17nm,0.8s,baz=253,slow=19,SNR=1.3						

JKA Kamikawa-asahi 4.39 78 Pn 11 05 27.5 +2.8
JKK2 Kamakawa 2 4.47 81 P **Pn 11 05 28.3 +2.7**
JKK2 S **S 11 06 24.9 +2.0**
JSE Soyaes 4.57 67 P **Pn 11 05 30.2 +3.5**
JNBK Urakawa-nobuka 4.63 101 P **Pn 11 05 28.9 +1.5**
ERM Erimo 4.99 103 Pn 11 05 33.6 +2.0
ERM Erimo 4.99 103 P **Pn 11 05 33.4 +1.8**
ERM Erimo 4.99 103 P **Pn 11 05 33.6 +2.0**
JCH Churui 4.99 96 P **Pn 11 05 32.0 +0.4**
JCH S **S 11 06 30.8 -3.0**
JEM Erimo 4.99 103 P **Pn 11 05 33.4 +1.8**
MDJ Mudanjiang 5.24 286 Pn 11 05 36.1 +1.7
JTKR Abashiri--Toko 5.31 81 P **Pn 11 05 37.3 +2.0**
JTKR *e*S **S 11 06 41.4 +0.9**
JSD Sado 5.45 166 Pn **Pn 11 05 40.3 +3.3**
JSD Sado 5.45 166 P **Pn 11 05 40.2 +3.1**
JMK Ichinoseki 5.59 140 P **Pn 11 05 39.4 +0.7**
YSS Yuzhno-Sakhali 5.63 48 *e*P **Pn 11 05 41.6 +2.6**
YSS *e*S **S 11 06 46.5 -0.7**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS smax smax
comp=N,60nm,1.1s
YSS smax smax
comp=E,40nm,1.0s
AKK Akkeshi 6.01 90 *e*P **Pn 11 05 44.0 +0.4**
AKK AMB AMB 11 05 45.0
comp=E,50nm,0.3s
RUSJ Misakicho 6.29 80 *e*P **Pn 11 05 49.1 +2.2**
RUSJ S **S 11 07 08.8 +7.2**
JMM Marumori 6.33 149 Pn 11 05 48.4 +0.9
JMM Marumori 6.33 149 P **Pn 11 05 48.4 +0.9**
GLVR Golovnino 6.47 84 *e*P **Pn 11 05 50.2 +1.1**
GLVR *e*S **S 11 07 04.0 -1.6**
GLVR pmax pmax
comp=Z,30nm,0.1s
NMR Nemuro--Hokkai 6.63 87⇑*i*P **Pn 11 05 50.5 -0.5**
NMR *i*S **S 11 07 03.4 -5.8**
NMR Nemuro--Hokkai 6.63 87 *e*P **Pn 11 05 51.1 +0.1**
NMR AMB AMB 11 05 53.2
comp=Z,20nm,0.2s
NEM2 Nemuro 2 6.64 87 P **Pn 11 05 50.5 -0.6**
NEM2 S **S 11 07 03.7 -5.7**
YUK Yuzh-Kuril'sk 6.72 81 P **Pn 11 05 54.1 +2.0**
YUK *e*S **S 11 07 13.2 +2.0**
YUK pmax pmax
comp=Z,53nm,0.3s
MJB9 Matsu-Tunnel 6.90 169 Pn 11 05 57.2 +2.7
MAJO Matsushiro 6.91 169 Pn 11 05 58.8 +4.2
MAJO Matsushiro 6.91 169 P **Pn 11 05 58.5 +4.0**
MAJO Matsushiro 6.91 169 P **Pn 11 05 58.8 +4.2**
MJAR Matsushiro Arr 6.91 169 P **Pn 11 05 59.0 +4.4**
MJAR Matsushiro Arr 6.91 169 P **Pn 11 05 59.0 +4.4**
comp=Z,16nm,0.6s,baz=351,slow=11,SNR=45
MJAR Matsushiro Arr 6.91 169 P **Pn 11 05 59.0 +4.4**
MJA0 Matsu Arr-Jizo 6.91 169 *e*P **Pn 11 05 58.9 +4.3**
MJA0 pmax pmax
comp=Z,17nm,0.5s
BNX BinXian 7.01 293⇑P **Pn 11 05 57.8 +2.2**
BNX pmax pmax
comp=Z,35nm,0.7s
JRY Ryogami san 7.53 166 *e*P **Pn 11 06 04.2 +2.1**
JRY *e*S **S 11 07 29.0 -0.6**
JGF Kuroka 7.76 176 Pn 11 06 09.6 +4.6
JGF Kuroka 7.76 176 P **Pn 11 06 09.4 +4.4**
INU Inuyama 8.00 178 Pn 11 06 11.2 +3.4
INU Inuyama 8.00 178 P Pn 11 06 12.3 +4.5
KSRS Korea Array 8.88 231 P **P 11 06 21.1 -2.3**
comp=Z,1.9nm,0.8s,baz=43,slow=11,SNR=4.8
HEH HeiHe 9.36 321 *e*P **Pn 11 06 25.5 +1.3**
HEH pmax pmax
comp=Z,9.0nm,0.9s
JHJ Hachijo jima 2 10.51 165 P **Pn 11 06 39.3 +0.6**
comp=Z,94nm,0.6s,baz=72,slow=21,SNR=5.2
JHJ S **S 11 08 28.6 -8.2**
comp=Z,68nm,0.6s,baz=256,slow=23,SNR=1.7
ZEA Zeya 12.10 332 *e*P **P 11 06 59.7 +0.7**
ZEA pmax pmax
comp=Z,40nm,0.8s
DL2 Dalian 12.15 254 P **P 11 07 01.0 +1.2**
DL2 pmax pmax
comp=Z,40nm,0.8s
HIA Hailar 13.08 303 P **Pn 11 07 09.5 -0.1**
HIA Hailar 13.08 303 P **Pn 11 07 09.5 -0.1**
BJT Baijiatuan 15.64 265 P 11 07 38.7 +0.5
BJT IAmb IAmb 11 07 40.1
comp=Z,25nm,0.9s
BJT Baijiatuan 15.64 265 P **P 11 07 38.7 +0.5**
BJT pmax pmax
comp=Z,25nm,0.9s
PETK Petropavlovsk- 17.03 48 P **Pn 11 07 56.6 +0.5**
comp=Z,1.0nm,0.7s,baz=251,slow=8.3,SNR=1.0
PET Petropavlovsk 17.52 49 *i*P **P 11 07 58.7 +0.3**
YAK Yakutsk 19.16 350 P **P 11 08 15.1 -0.7**
comp=Z,20nm,0.3s,baz=131,slow=3.9,SNR=6.4
YAK Yakutsk 19.16 350 *e*P **P 11 08 16.7 +0.9**
YAK *e*S **S 11 11 34.8 -1.4**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,11nm,2.0s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK smax smax
comp=N,137nm,2.5s
YAK smax smax
comp=E,136nm,3.0s
ULN Ulaanbaatar 21.11 293*ce*P **P 11 08 35.4 -0.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 21.55 293 P 11 08 39.3 -0.9
SONM Songino Array 21.55 293 P **P 11 08 39.2 -0.9**
comp=Z,6.5nm,0.6s,baz=96,slow=8.5,SNR=25
comp=Z,6.5nm,0.6s
SEY Seymchan 21.65 20 P **P 11 08 41.2 +0.5**
comp=Z,13nm,0.6s,baz=216,slow=8.1,SNR=62
comp=Z,13nm,0.6s
SEY Seymchan 21.65 20*ce*P **P 11 08 41.1 +0.5**
SEY pmax pmax
comp=Z,45nm,2.5s
BILL Bilibino 29.27 22 *i*P **P 11 09 50.5 +1.7**
BILL pmax pmax
comp=Z,5.0nm,1.1s
ZAA0 Zalesovo Array 35.09 306 P 11 10 39.0 -0.2
ZAA0 IAmb IAmb 11 10 40.5
comp=Z,8.5nm,0.5s
ZALV Zalesovo Beam 35.09 306 P 11 10 38.2 -1.0
ZALV Zalesovo Beam 35.09 306 P **P 11 10 38.6 -0.6**
comp=Z,10nm,0.5s,baz=91,slow=7.9,SNR=39
ZALV PcP **PcP 11 13 03.3 0.0**
comp=Z,3.5nm,0.5s,baz=80,slow=2.1,SNR=9.4
ZALV ScP **ScP 11 16 17.9 -1.8**
comp=Z,6.0nm,0.5s,baz=89,slow=3.6,SNR=20
comp=Z,10nm,0.5s
MK31 Makanchi Array 37.89 295*ce*P **P 11 11 02.7 -0.2**
MKAR Makanchi Array 37.89 295 P 11 11 02.0 -0.9
MKAR Makanchi Array 37.89 295 P **P 11 11 02.4 -0.6**
comp=Z,5.4nm,0.6s,baz=85,slow=9.6,SNR=53
MKAR PcP **PcP 11 13 11.8 -0.3**
comp=Z,0.5nm,0.3s,baz=93,slow=4.9,SNR=3.5
MKAR ScP **ScP 11 16 28.1 -2.3**
comp=Z,0.9nm,0.8s,baz=83,slow=3.2,SNR=5.6
comp=Z,5.4nm,0.6s
MKAR Makanchi Array 37.89 295 *e*P **P 11 11 02.3 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
C16K Lisburne Hills 38.86 30 P **P 11 11 11.0 +0.4**
KURK Kurchatov 39.32 302 P 11 11 13.3 -1.3
KURK IAmb IAmb 11 11 15.0
comp=Z,6.4nm,0.6s
KURK Kurchatov 39.32 302*ce*P **P 11 11 14.7 +0.1**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 39.39 302 P **P 11 11 14.5 -0.7**
comp=Z,6.9nm,0.5s,baz=80,slow=9.0,SNR=37
KURBB PcP **PcP 11 13 16.1 -0.5**
comp=Z,1.5nm,0.7s,baz=90,slow=3.2,SNR=5.9
comp=Z,6.9nm,0.5s
CMAR Chiang Mai Arr 40.26 244 P **P 11 11 24.1 +1.4**
comp=Z,0.6nm,0.4s,baz=31,slow=7.4,SNR=4.8
CMAR PcP **PcP 11 13 19.8 -0.2**
comp=Z,0.4nm,0.3s,baz=58,slow=7.2,SNR=1.5
comp=Z,0.6nm,0.4s
C19K Lookout Ridge 41.05 29 P **P 11 11 28.9 +0.3**
C19K IAmb IAmb 11 11 42.3
comp=Z,45nm,1.4s
G18K Tagagawik 41.27 34 P **P 11 11 30.1 -0.1**
H19K Roundabout Mou 42.18 35 P 11 11 38.6 +1.0
H19K IAmb IAmb 11 11 40.4
comp=Z,18nm,1.5s
L18K Granite Mounta 42.30 40 P **P 11 11 39.4 +0.8**
EVN Everest 42.66 266 P 11 11 42.0 -0.7
EVN IAmb IAmb 11 11 46.3
comp=Z,8.1nm,0.5s
KDJ Kajisay 42.87 290 P **P 11 11 43.8 +0.1**
KDJ Kajisay 42.87 290 P **P 11 11 43.8 +0.1**
KDJ pmax pmax
comp=Z,5.0nm,0.6s
BOOM Boomskoye usch 43.58 291 P **P 11 11 49.2 0.0**
BOOM IAmb IAmb 11 11 50.5
comp=Z,16nm,1.4s
BOOM Boomskoye usch 43.58 291 P **P 11 11 49.3 0.0**
BOOM pmax pmax
comp=Z,16nm,1.4s
BVAR Borovoye Array 43.73 307 P **P 11 11 50.2 +0.1**
comp=Z,20nm,0.4s,baz=65,slow=8.2,SNR=58
BVAR PcP **PcP 11 13 31.0 0.0**
comp=Z,1.8nm,0.5s,baz=101,slow=3.0,SNR=4.1
BVAR ScP **ScP 11 16 50.3 -3.0**
comp=Z,0.4nm,0.4s,baz=69,slow=4.8,SNR=2.7
comp=Z,20nm,0.4s
BORK Borovoye 43.76 307*ce*P **P 11 11 50.3 -0.1**
BORK pmax pmax
comp=Z,8.0nm,0.5s
AAK Ala-Archa 44.50 291*ce*P **P 11 11 56.7 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.4s
E23K Chandalar 44.72 31 P **P 11 11 59.0 +1.2**
KSH Kashi 44.77 287 P **P 11 12 02.6 +4.0**
KSH pmax pmax
comp=Z,5.0nm,0.9s
C24K Franklin Bluff 44.90 28 P **P 11 11 59.8 +0.8**
C24K IAmb IAmb 11 12 00.6
comp=Z,16nm,0.6s
D24K Happy Valley 44.90 29 P **P 11 11 59.6 +0.5**
D24K IAmb IAmb 11 12 01.0
comp=Z,12nm,0.7s
ILAR Eielson Array 46.28 35 P **P 11 12 10.8 +0.9**
comp=Z,3.1nm,0.6s,baz=267,slow=5.8,SNR=92
ILAR ScP **ScP 11 17 01.2 -2.4**
comp=Z,0.1nm,0.6s,baz=236,slow=6.4,SNR=2.0
comp=Z,3.1nm,0.6s
ILAR Eielson Array 46.28 35 *e*P **P 11 12 10.8 +0.9**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
F26K Sheenjek River 46.82 31 P **P 11 12 15.9 +1.9**
F26K IAmb IAmb 11 12 17.8
comp=Z,18nm,1.5s
KK31 Karatay Array 47.00 294 P 11 12 15.3 -0.5
KK31 IAmb IAmb 11 12 16.2
comp=Z,7.0nm,0.7s
KK31 Karatay Array 47.00 294 P **P 11 12 15.3 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 47.00 294 P 11 12 15.4 -0.4
KKAR Karatay Array 47.00 294 P **P 11 12 15.4 -0.4**
SVE Sverdlovsk 48.05 314 *e*P **P 11 12 24.4 +0.8**
SVE pmax pmax
comp=Z,28nm,0.8s
ARTI Arti 49.37 314 P 11 12 33.5 -0.1
ARTI Arti 49.37 314*c i*P **P 11 12 33.7 +0.1**
ARTI *PP **pP 11 13 38.9 +2.4**
ARTI 11 13 50.2
ARTI 11 14 25.5
ARTI S **S 11 19 15.9 -0.6**
ARTI SS **SS 11 22 45.6 -6.2**
ARTI pmax pmax
comp=Z,18nm,0.4s
CHGR Chuyangaron 49.88 289 P 11 12 37.6 -0.2
CHGR Chuyangaron 49.88 289 P **P 11 12 37.6 -0.2**
CHGR pmax pmax
comp=Z,23nm,0.7s
INK Inuvik 50.52 29 P **P 11 12 43.1 +1.1**
comp=Z,2.2nm,0.3s,baz=312,slow=9.5,SNR=33
comp=Z,2.2nm,0.3s
AB31 Akbulak array 51.19 305 P 11 12 47.2 +0.1
AB31 IAmb IAmb 11 12 48.1
comp=Z,20nm,1.0s
ABKAR Akbulak array 51.19 305 P 11 12 47.2 +0.1
KIRV Kirov 53.04 319*ce*P **P 11 13 00.9 +0.4**
SPITS Spitsbergen Ar 53.59 347 P **P 11 13 04.2 -0.1**
comp=Z,2.0nm,0.5s,baz=45,slow=9.8,SNR=8.5
comp=Z,2.0nm,0.5s
NOR Nord 54.49 355 *i*P **P 11 13 09.5 -1.2**
NOR IAmb IAmb 11 13 11.5
comp=Z,3.4nm,0.8s
DLBC Dease Lake 55.98 39 P **P 11 13 23.9 +2.1**
comp=Z,16nm,0.8s,baz=315,slow=14,SNR=2.4
comp=Z,16nm,0.8s
KLMR Klimovskoe 56.48 324 *e*P **P 11 13 21.4 -3.6**
KLMR pmax pmax
comp=Z,26nm,1.3s
ARCES ARCESS Array B 56.78 337 P **P 11 13 26.9 -0.1**
comp=Z,4.7nm,0.6s,baz=64,slow=8.8,SNR=28
comp=Z,4.7nm,0.6s
TULEG Thule 59.29 7 *i*P **P 11 13 43.6 -0.5**
TULEG IAmb IAmb 11 13 44.6
comp=Z,25nm,1.0s
NEEM North Greenlan 59.38 2 *i*P **P 11 13 45.4 +0.2**
NEEM IAmb IAmb 11 13 46.3
comp=Z,20nm,0.7s
YKA Yellowknife Ar 60.20 30 P **P 11 13 51.3 +0.8**
comp=Z,1.0nm,0.6s,baz=307,slow=7.6,SNR=5.8
comp=Z,1.0nm,0.6s
OBN Obninsk 60.88 320⇑*e*P **P 11 13 54.1 -1.1**
OBN *e* 11 16 14.0
OBN pmax pmax
comp=Z,9.0nm,0.5s
FINES FINESS Array B 61.52 329 P **P 11 13 59.1 -0.3**
comp=Z,16nm,0.7s,baz=41,slow=8.0,SNR=53
FINES PcP **PcP 11 14 37.2 -0.8**
comp=Z,2.1nm,0.4s,baz=64,slow=2.9,SNR=7.5
comp=Z,16nm,0.7s
WRA Warramunga Arr 63.02 182 P **P 11 14 09.7 0.0**
WRA Warramunga Arr 63.02 182 P **P 11 14 09.6 -0.2**
comp=Z,2.7nm,0.7s,baz=3.5,slow=7.4,SNR=38
WRA PcP **PcP 11 14 45.3 +0.7**
comp=Z,0.7nm,0.5s,baz=358,slow=4.6,SNR=6.0
comp=Z,2.7nm,0.7s
KIV Kislovodsk 64.10 307 *e*P **P 11 14 17.0 +0.3**
KIV pmax pmax
comp=Z,35nm,1.0s
KBZ Khabaz 64.11 306 P **P 11 14 17.0 +0.4**
comp=Z,6.4nm,0.6s,baz=34,slow=4.8,SNR=18
comp=Z,6.4nm,0.6s
SHA1 Shidzhatmaz 64.24 307 *i*P **P 11 14 17.4 -0.4**
SUMG Summit 64.32 358 P 11 14 17.8 -0.3
SUMG IAmb IAmb 11 14 19.3
comp=Z,9.6nm,0.7s
SUMG Summit 64.32 358 P **P 11 14 17.8 -0.3**
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 64.32 358 *i*P **P 11 14 18.0 -0.1**
SUMG IAmb IAmb 11 14 19.5
comp=Z,9.4nm,0.6s
NC405 NORSAR Array S 66.72 334 P 11 14 32.5 -0.5
AS31 Alice Springs 66.73 183 P 11 14 34.2 +0.6
ASAR Alice Springs 66.73 183 P 11 14 34.0 +0.5
ASAR Alice Springs 66.73 183 P **P 11 14 34.1 +0.6**
comp=Z,4.6nm,0.7s,baz=354,slow=5.8,SNR=75
comp=Z,4.6nm,0.7s
NC204 NORSAR Array S 66.89 335 P **P 11 14 33.9 -0.2**
NC204 IAmb IAmb 11 14 35.3
comp=Z,13nm,0.9s
NB2 NORSAR Subarra 66.93 334 P **P 11 14 34.0 -0.4**
comp=Z,5.4nm,0.5s,baz=38,slow=6.5
NB2 NORSAR Subarra 66.93 334 P **P 11 14 30.7 -3.7**
NOA NORSAR Array B 66.93 334 P **P 11 14 34.1 -0.3**
comp=Z,6.1nm,0.6s,baz=39,slow=6.2,SNR=22
comp=Z,6.1nm,0.6s
AKASG Malin Array Be 67.10 319 P **P 11 14 35.2 -0.3**
comp=Z,5.8nm,0.4s,baz=47,slow=6.4,SNR=42
comp=Z,5.8nm,0.4s
AKBB Malin Array Si 67.10 319 P 11 14 34.9 -0.7
AKBB Malin Array Si 67.10 319*ce*P **P 11 14 34.1 -1.4**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 67.11 319 P 11 14 35.1 -0.5
KIEV IAmb IAmb 11 14 35.9
comp=Z,10nm,0.8s
KIEV Kiev 67.11 319 P **P 11 14 35.1 -0.5**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
MARD Mardin 69.29 302 P 11 14 49.9 +0.4
INKA Innaminka 70.84 176 P 11 14 59.5 +1.0
BURAR Bucovina Array 71.12 318 P 11 15 00.2 -0.1
BURAR IAmb IAmb 11 15 01.7
comp=Z,7.2nm,0.7s
STHS Stebnicka Huta 71.71 322 *e*P **P 11 15 03.4 -0.3**
STHS pmax pmax
comp=Z,6.0nm,0.5s
STHS Stebnicka Huta 71.71 322 *e*P **P 11 15 03.4 -0.3**
OJC Ojcow 71.78 323 P 11 15 03.9 -0.1
OJC Ojcow 71.78 323 P **P 11 15 03.9 -0.1**
BRTR Keskin Array B 72.00 308 P **P 11 15 05.2 -0.6**
comp=Z,2.5nm,0.7s,baz=113,slow=9.5,SNR=4.3
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 72.00 308 *e*P **P 11 15 03.2 -2.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 72.71 322 *e*P **P 11 15 11.0 +1.4**
LANS Liptovska Anna 72.71 322 *e*P **P 11 15 11.0 +1.4**
STEB Steborice 72.87 324 *e*P **P 11 15 11.6 +1.1**
CLL Collm 73.81 327 *i*P **P 11 15 15.2 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 73.81 327 *i*P **P 11 15 15.2 -0.6**
comp=Z,6.0nm,0.7s
NVAR Mina Array Bea 74.07 52 P **P 11 15 19.2 +1.3**
comp=Z,0.8nm,0.6s,baz=312,slow=5.3,SNR=8.5
comp=Z,0.8nm,0.6s
ZVC Zvikov 74.77 325 *e*P **P 11 15 22.4 +1.0**
STKA Stephens Creek 75.00 176 P **P 11 15 23.9 +1.1**
comp=Z,2.6nm,0.7s,baz=0.3,slow=5.2,SNR=4.1
comp=Z,2.6nm,0.7s
STKA Stephens Creek 75.00 176 *e*P **P 11 15 21.2 -1.6**
STKA pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 75.03 288 P **P 11 15 23.0 -0.4**
RAYN IAmb IAmb 11 15 23.7
comp=Z,4.5nm,0.8s
RAYN Ar Rayn 75.03 288 P **P 11 15 23.0 -0.4**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
CKRC Cesky Krumlov 75.19 325 *e*P **P 11 15 22.3 -1.6**
CKRC Cesky Krumlov 75.19 325 *e*P **P 11 15 22.3 -1.6**
KHC Kasperske Hory 75.26 325*ce*P **P 11 15 23.8 -0.5**
KHC pmax pmax
comp=Z,14nm,2.5s
KHC Kasperske Hory 75.26 325 *e*P **P 11 15 24.9 +0.6**
MMAI Mount Meron Ar 75.43 302 P **P 11 15 25.8 +0.2**
comp=Z,1.3nm,0.2s,baz=46,slow=8.3,SNR=5.3
comp=Z,1.3nm,0.2s
GERES GERESS Array B 75.43 325 P **P 11 15 25.4 0.0**
comp=Z,1.5nm,0.6s,baz=53,slow=9.2,SNR=4.8
comp=Z,1.5nm,0.6s
PDAR Pinedale Array 75.76 44 P **P 11 15 28.2 +0.7**
comp=Z,0.7nm,0.5s,baz=319,slow=0.8,SNR=9.9
comp=Z,0.7nm,0.5s
EKA Eskdalemuir Ar 75.93 338 P **P 11 15 27.9 0.0**
comp=Z,1.7nm,0.5s,baz=34,slow=5.1,SNR=6.2
comp=Z,1.7nm,0.5s
SCHQ Schefferville 80.17 14 P **P 11 15 50.9 -0.1**
comp=Z,28nm,0.7s,baz=353,slow=6.1,SNR=2.1
comp=Z,28nm,0.7s
NRCA Norcia 80.38 322 P **P 11 15 52.1 -0.4**
CEL Celeste 82.63 317 P 11 16 03.8 -0.5
TXAR Lajitas Array 88.98 49 P **P 11 16 36.2 +0.8**
comp=Z,0.3nm,0.7s,baz=345,slow=3.1,SNR=1.3
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 90.00 331 P **P 11 16 39.5 -0.5**
comp=Z,0.4nm,0.6s,baz=20,slow=3.4,SNR=2.2
comp=Z,0.4nm,0.6s
QSPA South Pole Qui 133.09 180 PKP **PKiKP 11 22 54.1 -0.1**
comp=Z,1.0nm,1.0s,baz=345,slow=2.9,SNR=2.1

CATAC ***02*** *11:08:07.7±0.6, 19°N±4°×6°7W±°, h0km, M4.7/6, MLv4.7/6, Error ellipse: s-maj=12.1km s-min=5.2km az=44.6, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-1.56; Mθθ0.00; Mφφ1.56; Mrθ0.21; Mθφ0.93; Mφr0.53; Fault plane solution: M0 1.90869×1015 NP1: φs203.76796°, δ53.90139°, λ-91.69039°. NP2:φs26.63547°, δ36.13279°, λ-87.68338°. Principal axes: T 2.0882, Plg8.8870°, Azm294.9777°; N -0.4338, Plg1.3658°, Azm204.7641°; P -1.6545, Plg81.0070°, Azm106.0995°; confirmed*

IDC ***02*** *11:08:07.5±0.5, 19°.06N×67°.38W, h0km, mb4.0/15, mbtmp4.0/17, ML4.1/2, MS3.5/14 Error ellipse: s-maj=16.5km s-min=13.6km az=57.0*

NEIC ***02*** *11:08:10.0±2.0, 19°.11N±0°.04×67°.28W±0°.02, h10km±1km, mb4.5/57, ML4.5/25, Md4.1/12(RSPR), Error ellipse: s-maj=7.1km s-min=3.0km az=13.0*

SDD ***02*** *11:08:10.2±1.7, 19°.27N×67°.16W, h31km±73km, MD3.8, ML4.3, MW4.1*

OSPL ***02*** *11:08:10.4±0.6, 19°.18N×67°.36W, h11km±6km, ML4.2*

RSPR ***02*** *11:08:11.7, 19°.24N×67°.28W, h26km±29km, MD4.1/12*

ISC 02 11:08:09.9±1.1, 19°.15N±0°.04×67°.32W±0°.03, h16km±6km, n214, σ1§80/215, mb4.4/37, MS3.5/12, 26C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**164**		**Pb**	**11 08 24.1**	**+0.1**
AGPR					**Sg**	**11 08 33.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.71**	**164**⇑*e*P		**Pb**	**11 08 24.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.71**	**164** *e*S		**Sg**	**11 08 33.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.71**	**164**⇑*e*Pg		**Pb**	**11 08 24.0**	**+0.1**
AGPR				⇑*e*Sg	**Sb**	**11 08 34.7**	**+1.2**
AGPR				IAML		11 08 36.5	
comp=N,19μm,0.3s							
AGPR	**Aguadilla, PR**	**0.71**	**164**	P	**Pg**	**11 08 23.9**	**+0.1**
AGPR				S	**Sg**	**11 08 33.5**	**+0.2**
AGPR	**Aguadilla, PR**	**0.71**	**164** *i*P		**Pb**	**11 08 24.0**	**+0.1**
AGPR				*e*S	**Sg**	**11 08 33.4**	**+0.2**
AGPR				IAML		11 08 37.0	
comp=Z,10μm,0.3s							
IDE	**Isla Desecheo**	**0.78**	**191**		**Pg**	**11 08 25.5**	**+0.4**
IDE	**Isla Desecheo**	**0.78**	**191**⇑*e*P		**Pg**	**11 08 25.5**	**+0.4**
PRSN	**Puerto Rico Se**	**0.95**	**170**		**Pg**	**11 08 27.3**	**-0.9**
PRSN	**Puerto Rico Se**	**0.95**	**170**		**Sg**	**11 08 41.1**	**+0.4**
PRSN	**Puerto Rico Se**	**0.95**	**170**⇑*e*P		**Pg**	**11 08 27.6**	**-0.6**
PRSN	**Puerto Rico Se**	**0.95**	**170** *e*S		**Sg**	**11 08 41.1**	**+0.4**
AOPR	**Arecibo Observ**	**0.97**	**146**		**Pg**	**11 08 27.0**	**-1.6**
AOPR				IAML		11 08 50.6	
comp=N,22μm,0.5s							
AOPR	**Arecibo Observ**	**0.97**	**146**		**Sg**	**11 08 39.8**	**-1.5**
AOPR	**Arecibo Observ**	**0.97**	**146**⇑*e*P		**Pg**	**11 08 27.5**	**-1.2**
AOPR	**Arecibo Observ**	**0.97**	**146** *e*S		**Sg**	**11 08 39.8**	**-1.5**
AOPR	**Arecibo Observ**	**0.97**	**146** *e*P		**Pg**	**11 08 27.2**	**-1.5**
LSP	**Las Mesas**	**1.00**	**167**		**Pg**	**11 08 28.7**	**-0.5**
LSP	**Las Mesas**	**1.00**	**167**⇑*e*P		**Pg**	**11 08 28.7**	**-0.5**
EMPR	**Esperanza - Ma**	**1.01**	**132**		**Pg**	**11 08 28.1**	**-1.3**
EMPR	**Esperanza - Ma**	**1.01**	**132**		**Sg**	**11 08 41.4**	**-1.2**
EMPR	**Esperanza - Ma**	**1.01**	**132**⇑*e*P		**Pn**	**11 08 29.1**	**-0.2**
EMPR	**Esperanza - Ma**	**1.01**	**132** *e*S		**Sg**	**11 08 41.4**	**-1.2**
UUPR	**Utuado, UPR, P**	**1.06**	**147**	Pn	**Pb**	**11 08 27.9**	**-2.0**
UUPR	**Utuado, UPR, P**	**1.06**	**147**		**Sb**	**11 08 43.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.06**	**147**⇑*e*P		**Pb**	**11 08 29.2**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.06**	**147** *e*S		**Sb**	**11 08 43.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.16**	**170**	Pn	**Pn**	**11 08 30.2**	**-1.2**
CRPR				IAML		11 08 51.3	
comp=E,9μm,0.5s							
CRPR				IAML		11 08 53.9	
comp=N,8μm,0.8s							
CRPR	**Cabo Rojo, PR**	**1.16**	**170**		**Sb**	**11 08 46.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.16**	**170**⇑*e*P		**Pn**	**11 08 31.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.16**	**170**⇑*e*Pg		**Pn**	**11 08 31.2**	**-0.2**
CRPR				⇑*e*Sg	**Sb**	**11 08 46.9**	**+0.6**
CRPR				IAML		11 08 48.3	
comp=N,8μm,0.7s							
CRPR	**Cabo Rojo, PR**	**1.16**	**170** *i*P		**Pn**	**11 08 30.9**	**-0.4**
CRPR				*e*S	**Sb**	**11 08 46.8**	**+0.4**
CRPR				IAML		11 08 51.2	
comp=Z,10μm,0.5s							
MLPR	**Magueyes Islan**	**1.21**	**167**⇑*e*P		**Pn**	**11 08 31.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.21**	**167** *e*S		**Sb**	**11 08 47.4**	**-0.3**
MLPR	**Magueyes Islan**	**1.21**	**167**⇑*e*Pg		**Pn**	**11 08 31.7**	**-0.5**
MLPR				⇑*e*Sg	**Sb**	**11 08 48.4**	**+0.7**
MLPR				IAML		11 08 55.3	
comp=N,2μm,0.5s							
ECPR	**Experimental S**	**1.23**	**132**⇑*e*P		**Pn**	**11 08 31.8**	**-0.6**
ECPR	**Experimental S**	**1.23**	**132** *e*S		**Sb**	**11 08 44.1**	**-4.4**

CELP Cerrillos 1.28 147 Sb 11 08 49.3 -0.6
CELP Cerrillos 1.28 147 Pn **Pn 11 08 31.7 -1.4**
CELP IAML 11 08 50.8
comp=N,8μm,0.8s
CELP IAML 11 08 52.7
comp=E,8μm,0.9s
CELP Cerrillos 1.28 147⇑ *e*P **Pn 11 08 32.6 -0.6**
CELP Cerrillos 1.28 147 *e*S **Sb 11 08 49.3 -0.6**
CELP Cerrillos 1.28 147⇓ *e*Pg **Pn 11 08 32.6 -0.6**
CELP ⇑ *e*Sg **Sb 11 08 49.9 -0.1**
CELP IAML 11 08 50.4
comp=N,8μm,0.3s
OBIP Obispado Ponce 1.30 148 Sb 11 08 49.7 -0.6
OBIP Obispado Ponce 1.30 148 Pn **Pn 11 08 32.6 -0.7**
OBIP IAML 11 08 51.4
comp=N,9μm,0.8s
OBIP IAML 11 08 52.3
comp=E,7μm,0.5s
OBIP Obispado Ponce 1.30 148⇑ *e*P **Pn 11 08 32.8 -0.6**
OBIP Obispado Ponce 1.30 148 *e*S **Sb 11 08 49.7 -0.6**
HIDR Higuey Centro 1.43 247⇓ *e*P **Pn 11 08 35.9 +0.6**
GCPR Guaynabo City 1.44 125 Sn 11 08 51.6 -2.4
GCPR Guaynabo City 1.44 125 Pn **Pn 11 08 34.6 -0.7**
GCPR Guaynabo City 1.44 125⇑ *e*P **Pn 11 08 34.7 -0.7**
GCPR Guaynabo City 1.44 125 *e*S **Sn 11 08 51.6 -2.4**
SJG San Juan 1.52 133 Pn **Pn 11 08 35.8 -0.6**
SJG IAML 11 09 00.1
comp=E,4μm,0.5s
SJG San Juan 1.52 133 Pn **Pn 11 08 36.1 -0.3**
comp=E,130nm,0.3s,baz=309,slow=15,SNR=19
SJG Sn **Sn 11 08 55.9 0.0**
comp=E,552nm,0.3s,baz=282,slow=20,SNR=8.9
SJG LR LR 11 09 26.0
comp=E,1μm,18.6s,baz=235,slow=52
SJG San Juan 1.52 133⇑ *e*P **Pn 11 08 34.7 -1.7**
SJG San Juan 1.52 133 *e*S **Sn 11 08 52.0 -3.8**
SJG San Juan 1.52 133 *e*P **Pn 11 08 35.3 -1.1**
SJG San Juan 1.52 133 P **Pn 11 08 35.5 -0.9**
SJG S **Sn 11 08 55.1 -0.7**
SJG San Juan 1.52 133 *i* P **Pn 11 08 36.4 0.0**
SJG IAML 11 09 04.2
comp=Z,2μm,0.5s
SJG San Juan 1.52 133 P **Pn 11 08 35.1 -1.3**
MIDR Miches 1.64 264⇓ *e*Pg **Pg 11 08 40.6 -0.9**
MIDR ⇑ *e*Sg **Sg 11 09 03.7 +0.8**
MIDR IAML 11 09 03.9
comp=N,2μm,0.5s
MIDR IAML 11 09 05.0
comp=N,2μm,0.9s
IGPR InterUniversit 1.65 136 Pn 11 08 37.5 -0.7
IGPR **Sn 11 08 57.5 -1.6**
IGPR InterUniversit 1.65 136⇑ *e*P **Pn 11 08 37.5 -0.7**
IGPR InterUniversit 1.65 136 *e*S **Sn 11 08 57.5 -1.6**
IGPR InterUniversit 1.65 136 P **Pn 11 08 37.3 -0.9**
IGPR InterUniversit 1.65 136 S **Sn 11 08 58.6 -0.5**
PDPR Patillas Dam, 1.67 132 Pn **Pn 11 08 37.5 -1.0**
PDPR Patillas Dam, 1.67 132⇑ *e*P **Pn 11 08 37.8 -0.7**
PDPR Patillas Dam, 1.67 132 *e*S **Sn 11 08 58.3 -1.3**
HUMP Col San Antoni 1.72 126 Pn **Pb 11 08 39.5 -1.6**
DR12 Loma Pena Alta 1.98 260 Pn 11 08 42.9 0.0
HATOM Hato Mayor del 1.98 260⇑ *e*Pg **Pb 11 08 44.8 -0.8**
HATOM ⇑ *e*Sg **Sb 11 09 11.3 +1.2**
HATOM IAML 11 09 16.4
comp=N,2μm,0.7s
SDD Santo Domingo 2.55 255 Pn 11 08 51.2 +0.6
SDD IAML 11 09 34.9
comp=E,2μm,0.9s
SDD Santo Domingo 2.55 255 P **Pn 11 08 52.9 +2.3**
BANI BANI 2.97 256 Pn 11 08 58.8 +2.3
SC01 Santiago de lo 3.23 275 Pn **Pn 11 09 00.7 +0.7**
SC01 Santiago de lo 3.23 275 P **Pb 11 09 08.3 +1.4**
SDDR Presa de Saban 3.75 268 Pn 11 09 08.6 +1.4
SDDR Presa de Saban 3.75 268 *e*P **Pn 11 09 09.5 +2.3**
SDDR Presa de Saban 3.75 268 P **Pn 11 09 09.8 +2.6**
SDDR Presa de Saban 3.75 268 *e*P **Pn 11 09 09.7 +2.5**
SDDR *e*S **Sg 11 10 06.6 -3.9**
SDDR Presa de Saban 3.75 268 P **Pn 11 09 10.0 +2.8**
SABA Saba 4.16 111 Pn 11 09 12.2 0.0
SABA IAML 11 10 17.2
comp=N,447nm,0.7s
SABA Saba 4.16 111 P **Pn 11 09 15.7 +2.9**
SMRT St. Maarten 4.17 105 Pn 11 09 12.5 -0.5
SMRT IAML 11 10 20.2
comp=N,490nm,0.9s
SMRT IAML 11 10 24.2
comp=E,498nm,0.8s
GRTK Grand Turk 4.28 304 P **Pn 11 09 13.9 -0.4**
GRTK Grand Turk 4.28 304 *e*P **Pn 11 09 12.4 -1.9**
GRTK *e*S **Sn 11 10 01.2 -2.7**
GRTK Grand Turk 4.28 304 P **Pn 11 09 12.4 -1.9**
SEUS St. Eustatius 4.44 111 Pn 11 09 17.6 +1.0
SEUS IAML 11 11 05.4
comp=E,789nm,0.1s
SKI Saint Kitts 4.72 112 *e*P **Pn 11 09 21.1 +0.6**
PAPH Port-au-Prince 4.75 263 P **Pb 11 09 28.9 -3.9**
PAPH Port-au-Prince 4.75 263 *e*P Pb 11 09 27.6 -5.3
PAPH *i* S **Sb 11 10 30.5 +0.6**
PAPH IAML 11 10 47.2
comp=N,359nm,1.0s
PAPH IAML 11 11 05.8
comp=E,327nm,0.9s
ANWB Willy Bob 5.46 105 *e*P **Pn 11 09 31.3 +0.7**
ANWB Willy Bob 5.46 105 P **Pn 11 09 31.0 +0.4**
comp=E,3μmcomp=E,273nm,0.9s
DHSZ Broadband at M 6.02 118 *e*P **Pn 11 09 38.2 -0.1**
GDHS Morne Mazeau, 6.02 118 Pn 11 09 38.4 0.0
ATGZ Broadband at L 6.14 119 *e*P **Pn 11 09 41.9 +1.9**
MMLZ Guadeloupe Bro 6.21 119 *e*P **Pn 11 09 40.9 -0.1**
CBE Ff, Capester 6.25 118 Pn 11 09 40.9 -0.6
TBG Guadaloupe-3 6.33 120 *e*P **Pn 11 09 42.3 -0.3**
MAGL Barre de l'ile 6.58 118 Pn **Pn 11 09 45.0 -1.1**
DSLB Salisbury 6.74 122 *e*P **Pn 11 09 49.7 +1.5**
QMBU Quimbuelo 7.13 280 *e*P **Pn 11 09 51.1 -2.5**
QMBU *e*S **Sn 11 11 08.5 -5.9**
QMBU IAML 11 11 49.7
comp=N,71nm,0.8s
QMBU IAML 11 12 05.1
comp=E,67nm,0.9s
NMDO Nuevo Mundo 7.34 282 *e*P **Pn 11 09 53.7 -2.8**
NMDO *e*S **Sn 11 11 12.8 -6.8**
NMDO IAML 11 11 47.8
comp=E,42nm,0.6s
NMDO IAML 11 11 52.0
comp=N,38nm,0.7s
GTBY Guantanamo Bay 7.38 277 *e*P **Pn 11 09 55.6 -1.4**
GTBY IAmb IAmb 11 10 20.2
comp=Z,43nm,1.2s
GTBY *e*S **Sn 11 11 15.5 -5.1**
GTBY IAML 11 11 41.0
comp=E,42nm,1.1s
GTBY IAML 11 11 46.1
comp=Z,42nm,0.8s
GTBY Guantanamo Bay 7.38 277 P **Pn 11 09 55.9 -1.2**
comp=Z,43nm,1.2s
BIM Bigot 7.55 127 Pn **Pn 11 09 57.6 -1.9**
MPOM Morne Pois Mar 7.76 126 Pn **Pn 11 10 01.2 -1.1**
RCC Rio Carpintero 7.94 277 *e*P **Pn 11 10 04.0 -0.7**
RCC *e*S **Sn 11 11 28.9 -5.3**
RCC IAML 11 11 48.0
comp=E,31nm,0.8s
RCC IAML 11 11 49.8
comp=N,26nm,0.9s
PINC Pinares de May 8.08 281 *e*P **Pn 11 10 02.7 -3.9**
PINC *e*S **Sn 11 11 29.9 -7.7**
PINC IAML 11 11 54.0
comp=N,23nm,0.9s
PINC IAML 11 11 57.4
comp=E,17nm,0.8s
HLGC Holguin 8.39 283 *e*P **Pn 11 10 09.8 -1.1**
HLGC *e*S **Sn 11 11 41.5 -4.0**
HLGC IAML 11 11 48.8
comp=N,21nm,1.0s
HLGC IAML 11 11 49.0
comp=E,17nm,0.8s
URI Uribia 8.67 212 P **Pn 11 10 14.4 -0.3**
URIC Uribia, Colomb 8.67 212 P **Pn 11 10 12.9 -1.8**
comp=E,20nm,0.5s
PCRV Puerto La Cruz 9.29 163 Pn **Pn 11 10 24.4 +1.0**
comp=E,2.5nm,0.3s,baz=343,slow=5.4,SNR=15
PCRV Sn **Sn 11 12 05.6 -2.1**
comp=E,4.9nm,0.3s,baz=245,slow=7.9,SNR=6.1
PCRV LR LR 11 14 09.8
comp=E,162nm,18.3s,slow=39
comp=E,28nm,0.6s

CRJC Cerrejon, Guaj 9.70 214 P **Pn 11 10 28.5 -0.5**
comp=E,33nm,0.8s
BAUV El Baul 10.17 184 Pn 11 10 37.5 +2.2
SDV Santo Domingo 10.70 198 Pn 11 10 43.1 +0.4
SDV Santo Domingo 10.70 198 Pn **Pn 11 10 45.5 +2.8**
comp=E,4.4nm,0.3s,baz=16,slow=9.3,SNR=12
SDV Sn **Sn 11 12 42.6 +0.2**
comp=E,1.1nm,0.3s,baz=60,slow=9.9,SNR=1.5
SDV LR LR 11 15 40.8
comp=E,92nm,18.8s,baz=42,slow=43
SDV Santo Domingo 10.70 198 P **Pn 11 10 45.7 +3.0**
SJCC San Jacinto, C 11.94 221 P **Pn 11 10 57.0 -2.5**
comp=E,11nm,0.8s
OCAC Ocana 12.31 209 P **Pn 11 11 05.2 +0.4**
comp=E,1μmcomp=E,82nm,0.6s
PAMC Pamplona, Colo 12.85 205 P **Pn 11 11 13.7 +1.2**
BARC Barichara 13.73 205 P **Pn 11 11 25.0 +0.8**
UREC San Jos de Ur 13.86 216 P **Pn 11 11 28.2 +2.4**
RUSC La Rusia 14.33 204 Pn 11 11 33.7 +1.1
RUSC La Rusia 14.33 204 P **Pn 11 11 34.2 +1.6**
RUSC La Rusia 14.33 204 P **Pn 11 11 33.6 +1.0**
comp=E,791nmcomp=E,45nm,1.2s
PTBC PUERTO BERRIO, 14.33 210 P **Pn 11 11 31.9 -0.4**
comp=E,324nmcomp=E,27nm,0.6s
APAC Apartado, Choc 14.35 220 P **Pn 11 11 32.2 -0.3**
comp=E,35nm,0.6s
DBBC Dabeiba 14.84 217 P **Pn 11 11 40.5 +1.2**
SPBC San Pablo de B 14.95 207 P **Pn 11 11 41.3 +0.6**
comp=E,18nm,0.6s
HELC Santa Helena 15.16 213 P **Pn 11 11 45.4 +1.5**
HELC Santa Helena 15.16 213 P **Pn 11 11 44.7 +0.9**
comp=E,20nm,0.7s
BCIP Isla Barro Col 15.67 232 P **Pn 11 11 49.9 -0.2**
comp=E,31nm,2.2s
CBOC Ciudad Bolivar 15.69 214 P **Pn 11 11 50.3 -0.3**
comp=E,36nm,0.8s
ROSC El Rosal 15.78 207 Pn 11 11 49.5 -2.4
ROSC IAmb IAmb 11 12 13.5
comp=Z,31nm,0.8s
ROSC El Rosal 15.78 207 Pn **Pn 11 11 53.5 +1.5**
comp=Z,3.0nm,0.3s,baz=67,slow=8.7,SNR=5.5
ROSC LR LR 11 18 46.1
comp=Z,222nm,19.2s,baz=41,slow=41
ROSC El Rosal 15.78 207 P **Pn 11 11 54.0 +2.1**
comp=Z,44nm,0.8s
GUY2C Guyana, Caldas 15.91 211 P **Pn 11 11 49.3 -4.4**
CVER Cruz Verde, Cu 15.97 205 P **Pn 11 11 56.7 +2.3**
ORTC Ortega, Tolima 17.01 208 P **Pn 11 12 08.7 +1.3**
comp=Z,597nmcomp=Z,64nm,0.9s
PRAC Prado 17.03 207 P **Pn 11 12 08.2 +0.6**
comp=Z,26nm,0.8s
URMC La Uribe, Meta 17.25 204 P **P 11 12 13.4 +1.6**
YOTC Yotoco, Valle 17.46 211 P **P 11 12 15.3 +1.1**
comp=Z,23nm,0.9s
BOAV Boa Vista 17.94 157 Pn 11 12 18.3 -0.5
BOAV Boa Vista 17.94 157 P **Pn 11 12 18.8 0.0**
comp=Z,6.5nm,1.2s
V61A Roper 18.48 336 IAmb IAmb 11 12 28.9
comp=Z,44nm,0.8s
X58A Rowland 18.69 328 P **Pn 11 12 31.7 +3.9**
X58A IAmb IAmb 11 12 36.3
comp=Z,21nm,0.8s
POPC Popayan, Colom 18.88 210 P **Pn 11 12 31.0 +0.5**
comp=Z,18nm,1.3s
JTS Las Juntas de 19.18 245 P **P 11 12 33.7 +0.7**
comp=Z,0.5nm,0.3s,baz=16,slow=5.5,SNR=4.1
comp=Z,7.3nm,0.9s
FLOC Florencia 19.27 206 P 11 12 34.7 +0.6
FLOC IAmb IAmb 11 12 49.9
comp=Z,56nm,1.1s
FLOC Florencia 19.27 206 P **P 11 12 35.1 +1.0**
comp=Z,783nmcomp=Z,62nm,1.4s
BIRD Birdtown, Kers 19.34 326 Pn 11 12 35.9 +0.2
BIRD IAmb IAmb 11 12 54.1
comp=Z,35nm,0.8s
W57A Gilead 19.49 327 Pn 11 12 37.6 +0.1
BBAC Balboa, Cauca 19.60 211 P **P 11 12 38.6 +0.8**
MDP Montagnes des 20.00 132 LR LR 11 21 20.6
comp=Z,58nm,21.9s,baz=296,slow=40
CMBC Cumbal 20.82 211 P Pn 11 12 56.2 +2.4
BG3 Lake Jocassee 20.98 322 P Pn 11 12 55.6 +0.5
BG3 IAmb IAmb 11 13 22.8
comp=Z,12nm,0.6s
S57A Dark Hollow, R 21.14 334 P **P 11 12 57.2 +3.1**
S57A IAmb IAmb 11 13 11.3
comp=Z,16nm,0.8s
TKL Tuckaleechee C 21.94 322 P P 11 13 15.2 +12
comp=Z,8.8nm,0.5s,baz=129,slow=12,SNR=18
TKL S **S 11 16 59.2 -5.3**
comp=Z,13nm,0.8s,baz=108,slow=20,SNR=6.6
TKL LR LR 11 21 56.2
comp=Z,86nm,19.2s,baz=121,slow=38
PIAT Ana Tenorio 22.73 209 P **P 11 13 15.1 +3.4**
MACA Manacapuru-AM 23.12 163 P 11 13 14.0 -1.4
X48A Hartselle 23.22 315 P **P 11 13 17.9 +1.6**
MCRA Macar, Loja 26.48 209 P **P 11 13 51.1 +4.5**
WHAR Wooly Hollow 27.30 311 IAmb IAmb 11 14 08.0
comp=Z,8.6nm,0.9s
SADO Sadowa 27.38 342 LR LR 11 25 08.3
comp=Z,2μm,19.4s,baz=156,slow=37
MGMO Mountain Grove 28.24 315 IAmb IAmb 11 14 16.8
comp=Z,9.9nm,0.9s
ATAH Atahualpa 28.31 204 LR LR 11 26 33.7
comp=Z,105nm,20.0s,baz=30,slow=39
HHAR Hobbs 28.95 312 IAmb IAmb 11 14 12.6
comp=Z,9.2nm,0.8s
T35A Sooner Cattle 31.08 311 P 11 14 28.5 +1.1
WMOK Wichita Mounta 31.89 306 IAmb IAmb 11 14 38.6
comp=Z,4.9nm,0.8s
VILB Vilhena 32.67 167 P 11 14 40.2 -1.2
CBKS Cedar Bluff 34.20 312 P **P 11 14 56.4 +1.6**
TXAR Lajitas Array 34.53 294 P **P 11 14 59.0 +1.2**
comp=Z,1.3nm,0.7s,baz=114,slow=9.7,SNR=16
TXAR PcP **PcP 11 17 33.5 +0.9**
comp=Z,0.6nm,0.8s,baz=119,slow=4.4,SNR=4.0
TXAR ScP **ScP 11 21 18.3 +0.9**
comp=Z,0.6nm,1.0s,baz=120,slow=5.0,SNR=4.2
TXAR LR LR 11 31 53.9
comp=Z,31nm,20.1s,baz=72,slow=41
comp=Z,1.3nm,0.7s
ALPN Alpine 34.68 296 P 11 15 00.2 +1.0
ALPN IAmb IAmb 11 15 11.4
comp=Z,7.1nm,0.8s
LPAZ La Paz 35.23 181 P **P 11 15 02.5 -1.9**
comp=Z,1.5nm,0.8s,baz=318,slow=2.5,SNR=5.7
comp=Z,1.5nm,0.8s
T25A Trinidad 37.00 307 P **P 11 15 19.3 +0.3**
BNM Barren Site 37.92 301 P 11 15 27.4 +0.5
ANMO Albuquerque 37.97 303 LR LR 11 35 19.5
comp=Z,74nm,18.7s,baz=168,slow=43
SDCO Great Sand Dun 38.01 307 P **P 11 15 28.9 +1.2**
SDCO IAmb IAmb 11 15 53.8
comp=Z,6.6nm,0.9s
BDFB Brasilia 39.45 150 LR LR 11 31 22.1
comp=Z,113nm,20.1s,baz=144,slow=35
LPIG La Paz 40.15 285 LR LR 11 33 53.3
comp=Z,58nm,18.3s,baz=38,slow=38
PV18 Skein Mesa, Pa 40.73 307 IAmb IAmb 11 16 10.0
comp=Z,8.3nm,1.0s
PV20 West Nyswonger 40.80 307 IAmb IAmb 11 15 55.3
comp=Z,6.6nm,0.9s
PDAR Pinedale Array 42.60 313 P **P 11 16 05.5 -0.2**
comp=Z,0.8nm,0.6s,baz=103,slow=6.5,SNR=8.0
PDAR PcP **PcP 11 17 58.0 +0.3**
comp=Z,0.3nm,0.6s,baz=104,slow=5.2,SNR=2.0
comp=Z,0.8nm,0.6s
RLMT Red Lodge 43.27 316 IAmb IAmb 11 16 25.1
comp=Z,5.5nm,0.7s
YMP Mirror Lake PI 43.71 315 IAmb IAmb 11 16 45.9
comp=Z,5.0nm,0.7s
IRM Iron Mountain 44.88 299 P 11 16 24.1 +0.3
IRM IAmb IAmb 11 16 38.4
comp=Z,6.6nm,1.0s
DLMT Dillon 45.55 315 IAmb IAmb 11 16 44.1
comp=Z,5.9nm,0.8s
CPUP Villa Florida 46.24 168 P **P 11 16 32.6 -1.8**
comp=Z,1.2nm,0.7s,baz=331,slow=19,SNR=7.2
comp=Z,1.2nm,0.7s
PLID Pearl Lake 47.75 314 IAmb IAmb 11 16 59.9
comp=Z,3.3nm,0.9s
NV11 Mina Array Sit 47.87 305 IAmb IAmb 11 17 14.4
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 47.99 305 P **P 11 16 48.1 -0.2**
comp=Z,1.0nm,0.9s,baz=103,slow=6.3,SNR=5.4
comp=Z,1.0nm,0.9s
NEW Newport 49.43 318 IAmb IAmb 11 17 12.9
comp=Z,7.6nm,0.8s

LNOR Lincton Mounta 49.51 314 IAmb IAmb 11 17 13.9
comp=Z,7.8nm,1.1s
YKA Yellowknife Ar 54.08 335 P **P 11 17 33.4 -0.1**
comp=Z,0.7nm,0.9s,baz=42,slow=11,SNR=2.3
YKA LR LR 11 40 50.7
comp=Z,112nm,20.2s,baz=47,slow=36
comp=Z,0.7nm,0.9s
SUMG Summit 55.92 10 IAmb IAmb 11 17 50.1
comp=Z,8.5nm,1.0s
ESDC Sonseca Array 57.69 55 P **P 11 18 01.1 +1.2**
comp=Z,2.2nm,0.6s,baz=277,slow=6.3,SNR=14
comp=Z,2.2nm,0.6s
DLBC Dease Lake 59.64 327 P **P 11 18 14.8 +1.6**
comp=Z,41nm,0.9s,baz=112,slow=5.0,SNR=6.8
PLCA Paso Flores 59.65 183 P **P 11 18 14.5 +1.1**
comp=Z,1.1nm,0.7s,baz=355,slow=11,SNR=3.7
PLCA PcP **PcP 11 19 00.1 -0.2**
comp=Z,1.2nm,0.8s,baz=350,slow=7.2,SNR=3.5
comp=Z,1.1nm,0.7s
EKA Eskdalemuir Ar 59.80 37 P **P 11 18 15.2 +1.1**
comp=Z,0.8nm,0.6s,baz=312,slow=5.5,SNR=3.4
comp=Z,0.8nm,0.6s
DBIC Dimbokro 61.85 93 LR LR 11 45 01.0
comp=Z,22nm,18.1s,baz=358,slow=36
TORD Torodi Ar. Bea 66.20 84 P **P 11 18 57.6 +0.1**
comp=Z,0.7nm,0.8s,baz=339,slow=7.9,SNR=3.8
comp=Z,0.7nm,0.8s
SCRK Sand Creek 67.11 332 IAmb IAmb 11 19 04.6
comp=Z,5.3nm,0.9s
PRP Porcupine Dome 67.85 334 IAmb IAmb 11 19 08.7
comp=Z,4.5nm,0.8s
NOA NORSAR Array B 67.89 31 P **P 11 19 08.5 +1.1**
comp=Z,1.5nm,0.8s,baz=180,slow=4.4,SNR=1.6
comp=Z,1.5nm,0.8s
IL31 68.40 333 IAmb IAmb 11 19 11.5
comp=Z,3.7nm,1.0s
ILAR Eielson Array 68.40 333 P **P 11 19 10.7 +0.1**
comp=Z,1.6nm,0.9s,baz=104,slow=3.7,SNR=28
ILAR LR LR 11 49 58.1
comp=Z,135nm,19.4s,baz=322,slow=37
comp=Z,1.6nm,0.9s
VRAC Vranov 71.81 43 LR LR 11 46 37.9
comp=Z,22nm,21.5s,baz=322,slow=32
ARCES ARCESS Array B 73.21 22 P **P 11 19 40.3 +0.6**
comp=Z,3.5nm,0.9s,baz=349,slow=2.5,SNR=5.3
comp=Z,3.5nm,0.9s
MLR Muntele Rosu 78.82 46 P **P 11 20 14.2 +1.8**
comp=Z,2.3nm,0.6s,baz=263,slow=16,SNR=2.4
comp=Z,2.3nm,0.6s
IDI Anoyia 80.93 56 P **P 11 20 25.3 +1.4**
comp=Z,2.3nm,0.6s,baz=288,slow=3.2,SNR=2.3
comp=Z,2.3nm,0.6s
STKA Stephens Creek 151.09 238 PKPbc **PKPbc 11 28 01.4 -1.3**
comp=Z,1.7nm,0.8s,baz=142,slow=0.7,SNR=4.6
WRA Warramunga Arr 159.57 264 PKP **PKPdf 11 28 08.2 -0.4**
comp=Z,1.2nm,1.1s,baz=72,slow=0.7,SNR=3.5
WRA PKPab **PKPab 11 28 46.2 -0.8**
comp=Z,0.8nm,0.9s,baz=41,slow=19,SNR=4.7
ASAR Alice Springs 159.74 253 PKP **PKPdf 11 28 07.8 -1.0**
comp=Z,0.3nm,0.7s,baz=86,slow=1.3,SNR=2.9
ASAR PKPab **PKPab 11 28 46.9 -0.8**
comp=Z,1.3nm,0.6s,baz=106,slow=4.8,SNR=17

AZER ***02*** *11:14:12.4, 41.°16N×46.°02E, h10km, ml2.7*
DRS ***02*** *11:14:14.6, 41.°10N×46.°08E, h54km*
ISC 02 11:14:14.4±1.1, 41.°12N±0.°02×46.°02E±0.°03, h24km±17km,
n33, σ1°36/61, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDB	**GEDABAY**	**0.44**	**207**	P	**Pb**	**11 14 23.0**	**-0.8**
GDB				S	**Sb**	**11 14 29.4**	**-0.7**
QZX	**Qazax, Azerbai**	**0.49**	**264**	P	**Pb**	**11 14 24.0**	**-0.6**
QZX				S	**Sb**	**11 14 31.5**	**+0.1**
GANJ	**Ganja**	**0.52**	**154**	P	**Pb**	**11 14 24.4**	**-0.6**
GANJ				S	**Sb**	**11 14 31.9**	**-0.3**
ZKTA	**Zakatala**	**0.69**	**41**	P	**Pb**	**11 14 27.3**	**-0.5**
ZKTA				S	**Sn**	**11 14 37.7**	**-1.0**
MNGR	**Mingechevir, A**	**0.88**	**113**	P	**Pb**	**11 14 31.3**	**+0.4**
MNGR				S	**Sb**	**11 14 45.5**	**+3.3**
SEKA	**Sheki**	**0.90**	**84**	P	**Pb**	**11 14 30.6**	**-0.7**
SEKA				S	**Sb**	**11 14 43.8**	**+1.0**
TLTR	**Tlyarata**	**1.02**	**14**	*e*Pg	**Pb**	**11 14 32.8**	**-0.8**
	1.0nm,0.4s						
TLTR				*e*Sg	**Sb**	**11 14 47.0**	**+0.4**
	78nm,0.2s						
BRDA	**Brd**	**1.23**	**134**	P	**Pb**	**11 14 37.2**	**+0.3**
BRDA				S	**Sb**	**11 14 56.2**	**+4.0**
KMKR	**Kumukh**	**1.30**	**38**	*e*Pg	**Pb**	**11 14 37.7**	**-0.6**
	52nm,0.2s						
KMKR				*e*Sg	**Sb**	**11 14 56.0**	**+1.3**
	176nm,0.2s						
AGDM	**Agdam**	**1.30**	**140**	Pn	**Pb**	**11 14 37.8**	**-0.4**
AGDM				Sn	**Sb**	**11 14 56.4**	**+1.9**
AKT	**Akhty**	**1.34**	**74**	*e*Pg	**Pb**	**11 14 37.8**	**-1.1**
	44nm,0.2s						
AKT				*e*Sg	**Sb**	**11 14 55.7**	**0.0**
	143nm,0.2s						
QBL	**Gabala**	**1.39**	**96**	Pn	**Pb**	**11 14 39.2**	**-0.5**
QBL				Sn	**Sb**	**11 14 59.0**	**+2.1**
XNZR	**Khunzakh**	**1.52**	**20**	*e*Pg	**Pb**	**11 14 41.6**	**-0.4**
	14nm,0.3s						
XNZR				*e*Sg	**Sb**	**11 15 02.4**	**+1.6**
	26nm,0.7s						
ZRD	**Zardab**	**1.52**	**123**	Pn	**Pb**	**11 14 41.8**	**0.0**
ZRD				Sn	**Sb**	**11 15 02.0**	**+1.4**
BTLR	**Botlikh**	**1.56**	**6**	*e*Pg	**Pb**	**11 14 41.8**	**-0.8**
	17nm,0.1s						
URKR	**Urkarakh**	**1.60**	**49**	*e*Pg	**Pb**	**11 14 42.4**	**-1.0**
	21nm,0.3s						
XNQ	**Khinaliq**	**1.60**	**87**	Pn	**Pb**	**11 14 42.2**	**-1.3**
XNQ				Sn	**Sb**	**11 15 04.2**	**+0.8**
HYR	**Heyderabad**	**1.66**	**213**	Pn	**Pb**	**11 14 44.0**	**-0.3**
HYR				Sn	**Sb**	**11 15 07.2**	**+2.5**
ARKR	**Arakani**	**1.66**	**26**	*e*Pg	**Pb**	**11 14 43.9**	**-0.4**
	12nm,0.4s						
ARKR				*e*Sg	**Sb**	**11 15 06.9**	**+2.2**
	40nm,0.3s						
IML	**Ismayilli**	**1.67**	**100**	Pn	**Pb**	**11 14 43.4**	**-1.1**
IML				Sn	**Sb**	**11 15 06.3**	**+1.2**
UNCR	**Uncukul**	**1.70**	**20**	*e*Pg	**Pb**	**11 14 44.6**	**-0.4**
	13nm,0.3s						
QSAR	**Qusar**	**1.74**	**76**	Pn	**Pb**	**11 14 45.4**	**-0.2**
QSAR				Sn	**Sb**	**11 15 08.1**	**+1.1**
SBZ	**Shahbuz**	**1.75**	**192**	Pn	**Pb**	**11 14 45.8**	**-0.1**
SBZ				Sn	**Sb**	**11 15 09.7**	**+2.1**
KDMR	**Kurdemir**	**1.80**	**113**	Pn	**Pb**	**11 14 45.8**	**-0.9**
KDMR				Sn	**Sb**	**11 15 10.0**	**+1.1**
BLQ	**Beylaqan**	**1.82**	**139**	Sn	**Sb**	**11 15 10.7**	**+1.2**
KRNR	**Karanay**	**1.83**	**21**	*e*Pg	**Pb**	**11 14 46.8**	**-0.6**
	6.0nm,0.3s						
KRNR				*e*Sg	**Sb**	**11 15 11.9**	**+2.0**
	14nm,0.7s						
QUBA	**Quba, Azerbaij**	**1.88**	**82**	Pn	**Pb**	**11 14 47.6**	**-0.4**
QUBA				Sn	**Sb**	**11 15 12.5**	**+1.3**
QRD	**Qoradiz**	**1.93**	**149**	Pn	**Pb**	**11 14 48.1**	**-0.8**
QRD				Sn	**Sb**	**11 15 13.0**	**+0.5**
SIZA	**Siyzn**	**2.18**	**90**	Pn	**Pb**	**11 14 51.9**	**-1.3**
SIZA				Sn	**Sb**	**11 15 19.2**	**-0.5**
ORD	**Ordubad**	**2.18**	**181**	Pn	**Pb**	**11 14 53.1**	**-0.2**
ORD				Sn	**Sb**	**11 15 22.1**	**+2.2**
ATGJ	**Altiaghaj**	**2.22**	**96**	Pn	**Pb**	**11 14 54.5**	**+0.5**
ATGJ				Sn	**Sb**	**11 15 20.7**	**-0.4**
GLBA	**Clilabad**	**2.61**	**135**	Sn	**Sb**	**11 15 31.6**	**-0.5**
YRD	**Yardimli**	**2.78**	**141**	Pn	**Pb**	**11 14 59.6**	**-3.9**
YRD				Sn	**Sb**	**11 15 36.3**	**-0.9**

NEIC ***02*** *11:29:17.4±1.7, 19.°08N±0.°04×67.°08W±0.°03, h10km±2km,*
ML3.1/17, Md3.0/19(RSPR), Error ellipse: s-maj=6.2km
s-min=4.4km az=7.0
SDD ***02*** *11:29:17.3±1.7, 19.°19N×67.°02W, h31km±62km, MD3.5,*
ML3.2, MW3.5
OSPL ***02*** *11:29:18.6±0.3, 19.°11N×67.°22W, h20km±2km, ML3.0*
RSPR ***02*** *11:29:20.7, 19.°08N×67.°09W, h20km±6km, MD3.0/19*
ISC 02 11:29:17.0±1.7, 19.°09N±0.°06×67.°07W±0.°03, h10km±10km,
n69, σ0°56/83, 21C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.62**	**183**		**Pb**	**11 29 30.4**	**+0.4**
AGPR					**Sb**	**11 29 38.8**	**+0.1**
AGPR	**Aguadilla, PR**	**0.62**	**183⇑**	*i*P	**Pb**	**11 29 30.4**	**+0.4**
AGPR	**Aguadilla, PR**	**0.62**	**183**	*e*S	**Sb**	**11 29 38.8**	**+0.1**

AGPR	Aguadilla, PR	0.62 183	⇑ePg	Pb	11 29 30.3 +0.4
AGPR			⇑eSg	Sb	11 29 39.8 +1.1
AGPR			IAML		11 29 41.8
	comp=N,1μm,0.2s				
AGPR	Aguadilla, PR	0.62 183	i P	Pb	11 29 30.4 +0.4
AGPR			eS	Sb	11 29 39.0 +0.3
AGPR			IAML		11 29 44.7
	comp=Z,802nm,0.3s				
IDE	Isla Desecheo	0.80 209		Pb	11 29 33.0 0.0
IDE				Sg	11 29 43.5 +0.7
IDE	Isla Desecheo	0.80 209	⇓eP	Pb	11 29 33.0 0.0
IDE	Isla Desecheo	0.80 209	eS	Sg	11 29 43.5 +0.7
EMPR	Esperanza - Ma	0.80 140	Pn	Pn	11 29 34.1 -0.2
EMPR	Esperanza - Ma	0.80 140		Sn	11 29 45.6 -0.6
EMPR	Esperanza - Ma	0.80 140	⇓eP	Pn	11 29 34.0 -0.2
EMPR	Esperanza - Ma	0.80 140	eS	Sn	11 29 45.6 -0.6
AOPR	Arecibo Observ	0.80 158		Pb	11 29 33.2 +0.2
AOPR				Sb	11 29 44.2 +0.3
AOPR			IAML		11 29 57.7
	comp=N,1μm,0.5s				
AOPR	Arecibo Observ	0.80 158	⇑i P	Pb	11 29 33.3 +0.2
AOPR	Arecibo Observ	0.80 158	eS	Sg	11 29 43.8 +1.0
AOPR	Arecibo Observ	0.80 158	⇑ePg	Pb	11 29 33.2 +0.2
AOPR			IAML		11 29 57.5
	comp=N,1μm,0.6s				
PRSN	Puerto Rico Se	0.87 185		Sg	11 29 45.8 +0.7
PRSN	Puerto Rico Se	0.87 185		Pg	11 29 33.8 0.0
PRSN	Puerto Rico Se	0.87 185	⇑eP	Pg	11 29 33.7 -0.1
PRSN	Puerto Rico Se	0.87 185	eS	Sg	11 29 45.8 +0.7
UUPR	Utuado, UPR, P	0.90 158		Pg	11 29 34.1 -0.2
UUPR	Utuado, UPR, P	0.90 158	⇑eP	Pb	11 29 34.6 -0.1
LSP	Las Mesas	0.91 181		Pb	11 29 34.9 0.0
LSP				Sg	11 29 46.3 -0.1
LSP	Las Mesas	0.91 181	⇓i P	Pb	11 29 34.9 0.0
LSP	Las Mesas	0.91 181	eS	Sg	11 29 46.3 -0.1
ECPR	Experimental S	1.02 139	⇓eP	Pb	11 29 36.9 +0.1
ECPR	Experimental S	1.02 139	eS	Sb	11 29 50.9 +0.6
CRPR	Cabo Rojo, PR	1.08 182		Pg	11 29 37.3 -0.4
CRPR				Sg	11 29 51.6 -0.2
CRPR			IAML		11 29 52.4
	comp=E,440nm,0.3s				
CRPR			IAML		11 29 56.9
	comp=N,483nm,0.3s				
CRPR	Cabo Rojo, PR	1.08 182	⇑eP	Pg	11 29 37.4 -0.4
CRPR	Cabo Rojo, PR	1.08 182	i P	Pg	11 29 37.4 -0.4
CRPR			eS	Sg	11 29 51.3 -0.5
CRPR			IAML		11 29 55.6
	comp=Z,410nm,0.4s				
CELP	Cerrillos	1.11 155		Pg	11 29 38.0 -0.4
CELP			IAML		11 29 54.1
	comp=N,436nm,0.6s				
CELP			IAML		11 29 58.4
	comp=E,329nm,0.5s				
CELP	Cerrillos	1.11 155	⇑eP	Pg	11 29 38.2 -0.2
CELP	Cerrillos	1.11 155	eS	Sg	11 29 52.4 -0.5
CELP	Cerrillos	1.11 155	⇑ePg	Pg	11 29 38.2 -0.2
CELP			⇓eSg	Sg	11 29 53.1 +0.2
CELP			IAML		11 29 54.9
	comp=N,391nm,0.3s				
MLPR	Magueyes Islan	1.11 179	⇑eP	Pg	11 29 37.9 -0.5
MLPR	Magueyes Islan	1.11 179	eS	Sg	11 29 52.3 -0.7
MLPR	Magueyes Islan	1.11 179	⇑ePg	Pg	11 29 37.9 -0.5
MLPR			⇓eSg	Sg	11 29 52.4 -0.6
MLPR			IAML		11 30 02.6
	comp=N,102nm,0.3s				
GBPR	Guanica, Bosqu	1.12 171		Pg	11 29 38.3 -0.3
GBPR	Guanica, Bosqu	1.12 171	⇑eP	Pg	11 29 38.3 -0.3
OBIP	Obispado Ponce	1.13 157		Pg	11 29 38.5 -0.3
OBIP			IAML		11 29 54.6
	comp=E,387nm,0.3s				
OBIP			IAML		11 29 54.9
	comp=N,407nm,0.5s				
OBIP	Obispado Ponce	1.13 157	⇑eP	Pg	11 29 38.3 -0.5
OBIP	Obispado Ponce	1.13 157	eS	Sg	11 29 52.9 -0.6
GCPR	Guaynabo City	1.22 129		Pg	11 29 40.0 -0.4
GCPR	Guaynabo City	1.22 129	⇓eP	Pn	11 29 40.1 0.0
GCPR	Guaynabo City	1.22 129	eS	Sn	11 29 57.8 +1.1
SJG	San Juan	1.31 138		Pn	11 29 41.3 0.0
SJG			IAML		11 30 05.0
	comp=N,214nm,0.4s				
SJG			IAML		11 30 07.9
	comp=N,303nm,0.4s				
SJG	San Juan	1.31 138	⇑eP	Pn	11 29 41.0 -0.4
SJG	San Juan	1.31 138	eS	Sb	11 29 58.1 -0.4
SJG	San Juan	1.31 138	i P	Pg	11 29 41.8 -0.4
SJG			IAML		11 30 08.8
	comp=Z,137nm,0.4s				
PCDR	Punta Cana, DR	1.37 245	⇓ePg	Pn	11 29 41.6 -0.5
PCDR			⇓eSg	Sb	11 29 59.8 -0.4
PCDR			IAML		11 30 03.5
	comp=N,612nm,0.4s				
PCDR			IAML		11 30 03.8
	comp=N,606nm,0.4s				
IGPR	InterUniversit	1.45 141		Pn	11 29 43.5 +0.2
IGPR	InterUniversit	1.45 141	⇓eP	Pn	11 29 43.5 +0.2
PDPR	Patillas Dam,	1.46 137		Pn	11 29 43.7 +0.2
PDPR	Patillas Dam,	1.46 137	⇑eP	Pn	11 29 43.3 -0.1
PDPR	Patillas Dam,	1.46 137	eS	Sn	11 30 02.6 0.0
HUMP	Col San Antoni	1.50 129		Pn	11 29 44.0 +0.1
HIDR	Higuey Centro	1.63 253	⇓ePg	Pn	11 29 45.5 -0.4
HIDR	Higuey Centro	1.63 253	eS	Sn	11 30 05.2 -1.8
HIDR	Higuey Centro	1.63 253	⇑ePg	Pn	11 29 45.8 -0.1
HIDR			⇑eSg	Sb	11 30 08.3 +0.4
HIDR			IAML		11 30 15.1
	comp=N,532nm,0.2s				
MIDR	Miches	1.87 267	⇑eP	Pn	11 29 48.2 -0.9
MIDR	Miches	1.87 267	eS	Sn	11 30 12.5 -0.3
MIDR	Miches	1.87 267	⇓ePg	Pn	11 29 48.7 -0.4
MIDR			⇑eSg	Sn	11 30 13.6 +0.8
MIDR			IAML		11 30 20.0
	comp=N,190nm,0.4s				
MIDR			IAML		11 30 20.2
	comp=N,150nm,0.3s				
SMDR	Samana, DR	2.01 276	⇑eP	Pn	11 29 49.7 -1.3
SMDR	Samana, DR	2.01 276	eS	Sn	11 30 15.7 -0.5
DR12	Loma Pena Alta	2.21 263		Pn	11 29 53.6 -0.2
HATOM	Hato Mayor del	2.21 263	⇑ePg	Pn	11 29 53.7 0.0
HATOM			⇑eSg	Sn	11 30 21.4 +0.3
HATOM			IAML		11 30 33.1
	comp=N,172nm,0.3s				
BANI	BANI	3.19 258		Pn	11 30 08.2 +0.8
SC01	Santiago de lo	3.47 276	Pn	Pn	11 30 13.0 +1.9
SDDR	Presa de Saban	3.99 269		Pn	11 30 19.1 +0.7

DJA 02 11:36:01.0±0.3, 3°S±2°×12°8E±°, h10km, M4.0/9, mB6.4/1, mb4.7/2, MLv3.6/9, Mw(mB)6.1/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.49	111	P	Pb	11 36 11.5	-0.2
MSAI				S	Sg	11 36 17.7	+0.6
AAI	Ambon	0.58	208	P	Pb	11 36 13.7	+0.4
AAI				S	Sb	11 36 21.5	-0.2
NLAI	Namlea	1.37	267	P	Pn	11 36 26.0	-0.2
SANI	Sanana	2.72	294	P	Pn	11 36 44.4	-0.4
SWI	Sorong	3.61	51	P	Pn	11 36 57.4	+0.4
FAKI	Fak Fak	3.78	86	P	Pn	11 37 00.7	+1.3
SAUI	Saumlaki	5.55	150	P	Pn	11 37 23.2	-0.5

*ISN **02** 11:36:43.9±0.9, 34°.52N×45°.53E, h23km±7km, ML2.6*
*TEH **02** 11:36:43.4, 34°.51N×45°.51E, h10km±6km*
ISC 02 11:36:43.9±1.3, 34°.51N±0°.04×45°.51E±0°.06, h7km±10km, n11, σ0°.81/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.06	89	Pg	Pg	11 36 45.9	+0.2
GLG1	Gilan-e-Gharb	0.51	140	Pg	Pg	11 36 53.8	0.0
IDHR	Dehrash	0.75	75	Pg	Pg	11 36 58.1	-0.3
IGHG	Ghaleghazi	0.89	101	Pg	Pg	11 37 01.0	-0.1
IKRK	Kirkuk	1.31	313	ePg	Pn	11 37 08.0	-0.7
IKRK				AML	AML	11 37 25.6	
	comp=N,321nm,0.2s						
IKRK				AML	AML	11 37 26.1	
	comp=E,406nm,0.2s						
IKRK				eSn	Sn	11 37 27.0	+0.5
IBDR	Badra	1.44	166	ePn	Pn	11 37 10.0	-0.4
IBDR				eSn	Sg	11 37 30.0	0.0
IBDR				AML	AML	11 37 30.9	
	comp=N,138nm,0.3s						
IBDR				AML	AML	11 37 34.0	
	comp=E,144nm,0.8s						
BHD	Baghdad	1.55	218	ePn	Pn	11 37 12.0	0.0
BHD				eSn	Sb	11 37 33.0	+0.2
SNQR	Sonqor, Kerman	1.78	78	Pg	Pb	11 37 16.3	-0.7
IBZA	Bozab	1.94	90	Pn	Pb	11 37 19.7	-0.1
MAHB	Mahabad	2.26	4	Pn	Pn	11 37 22.8	+0.9
RAFI	Al-Rafai	2.82	170	ePn	Pn	11 37 30.0	+0.6
RAFI				eSn	Sn	11 38 04.0	+0.3
RAFI				AML	AML	11 38 16.0	
	comp=N,7.9nm,0.6s						
RAFI				AML	AML	11 38 25.2	
	comp=E,9.1nm,0.8s						

*DJA **02** 11:54:21.2±1.2, 6°N±8°×12°7E±°, h148km±16km, M4.2/8, mB4.9/2, mb4.3/4, MLv4.2/8, Mw(mB)4.2/2*
*IDC **02** 11:54:27.9±2.1, 5°.55N×126°.45E, h109km±22km, mb3.3/5, mbtmp3.6/5, MS3.0/1, Error ellipse: s-maj=107.4km s-min=20.1km az=66.0*
ISC 02 11:54:27.4±1.1, 5°.43N±0°.10×126°.4E±0°.2, h100km, n12, σ0°.81/11, mb3.4/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.81	334	P	Pn	11 54 57.9	+0.4
	202nm,0.5s,baz=189,slow=19,SNR=4.1						
DAV				S	Sn	11 55 20.3	-0.2
	176nm,0.3s,baz=63,slow=16,SNR=2.1						
SGSI	Sangihe	1.93	206	P	Pn	11 54 59.8	+0.7
TNTI	Ternate	4.73	168	P	Pn	11 55 35.7	-0.8
	0.1nm1μm20nm,0.6s						
MRSI	Marisa	6.63	222	P	Pn	11 56 01.4	-0.8
	0.1nm28nm,0.6s						
SANI	Sanana	7.44	183	P	Pn	11 56 10.6	-2.7
NLAI	Namlea	8.64	175	P	Pn	11 56 28.7	-1.0
FITZ	Fitzroy Crossi	23.39	182	P	P	11 59 28.3	+0.8
	1.5nm,0.8s,baz=12,slow=10,SNR=1.5						
	1.5nm,0.8s						
WRA	Warramunga Arr	26.40	163	P	P	11 59 54.6	-0.1
	0.7nm,0.8s,baz=343,slow=10,SNR=7.8						
	0.7nm,0.8s						
CMAR	Chiang Mai Arr	29.74	298	LR	LR	12 12 47.2	
	comp=Z,29nm,19.3s,baz=15,slow=37						
ASAR	Alice Springs	29.84	166	P	P	12 00 25.8	+0.5
	0.3nm,0.5s,baz=344,slow=6.9,SNR=6.1						
	0.3nm,0.5s						
STKA	Stephens Creek	39.84	160	P	P	12 01 51.8	+0.7
	1.8nm,0.9s,baz=343,slow=10,SNR=4.8						
	1.8nm,0.9s						
MKAR	Makanchi Array	55.97	325	P	P	12 03 54.5	-0.9
	0.5nm,0.7s,baz=118,slow=7.6,SNR=4.5						
	0.5nm,0.7s						

DJA 02 11:58:15.4±0.4, 4°S±4°×12°8E±°, h10km, M3.5/5, MLv3.5/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.19	242	P	Pg	11 58 20.3	+0.9
AAI				S	Sg	11 58 23.3	+1.2
MSAI	Masohi	0.62	66	P	Pb	11 58 28.1	-0.3
MSAI				S	Sg	11 58 36.2	+0.6

*JMA **02** 11:59:21.9±0.1, 42°.3N±0°.4×140°.7E±0°.7, h134km±1km, MV3.1/39, UCHIURA BAY REGION*
*IDC **02** 11:59:26.1±3.7, 42°.20N×140°.77E, h192km±38km, mb3.4/9, mbtmp3.8/10, Error ellipse: s-maj=26.0km s-min=18.9km az=36.0*
ISC 02 11:59:21.1±0.7, 42°.22N±0°.06×140°.72E±0°.05, h141km±5km, n27, σ0°.52/37, mb3.7/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	Yakumo 2	0.28	248	P	Pn	11 59 40.7	+0.3
JYM2				eS	Sn	11 59 54.5	-0.5
JNB	Noboribetsu	0.34	44	P	Pn	11 59 40.5	-0.1
JNB				S	Sn	11 59 54.6	-0.9
JKB	Kayabe	0.41	146	i P	Pn	11 59 41.1	+0.2
JSH	Shimam	0.65	310	i P	Pn	11 59 42.1	0.0
JSH				eS	Sn	11 59 58.2	-0.2
JHST	Hiyamasetana	0.66	288	i P	Pn	11 59 42.2	0.0
JHST				S	Sn	11 59 57.3	-1.0
JSR	Shiriuchi	0.73	198	i P	Pn	11 59 43.3	+0.5
JSR				S	Sn	11 59 59.2	0.0
JEW	Eniwo	0.82	41	i P	Pn	11 59 43.9	+0.5
JEW				eS	Sn	12 00 00.7	+0.3
JOT	Ohata	0.88	164	i P	Pn	11 59 44.4	+0.5
JOMM	Oshimamatsumae	0.88	218	P	Pn	11 59 44.7	+0.8
JOMM				S	Sn	12 00 01.9	+0.6
JOSM	Okushiri--Mats	0.94	262	i P	Pn	11 59 44.6	+0.2
JOSM				S	Sn	12 00 01.4	-0.7
JIAM	Iburiatsuma	0.97	65	i P	Pn	11 59 45.2	+0.6
JISS	Ishikarishitsu	1.17	26	P	Pn	11 59 47.2	+0.7
JBT2	Biratori 2	1.33	65	i P	Pn	11 59 48.2	+0.1
JBT2				S	Sn	12 00 09.3	+0.6
JNBK	Urakawa-nobuka	1.51	87	i P	Pn	11 59 50.0	+0.1
JANG	Nango	1.94	162	i P	Pn	11 59 54.9	-0.1
JCH	Churui	1.99	78	i P	Pn	11 59 55.5	+0.1
JCH				S	Sn	12 00 21.5	-0.4
JKK2	Kamakawa 2	2.22	41	P	Pn	11 59 58.7	+0.5
JKK2				S	Sn	12 00 26.6	-0.2
MJAR	Matsushiro Arr	6.00	200	P	Pn	12 00 53.3	+5.6
	0.7nm,0.5s,baz=18,slow=11,SNR=2.3						
SONM	Songino Array	24.76	295	P	P	12 04 30.8	+1.1
	0.9nm,0.5s,baz=82,slow=8.9,SNR=3.8						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	38.17	308	P	P	12 06 27.2	+0.7
	4.2nm,0.4s,baz=90,slow=9.1,SNR=14						
	4.2nm,0.4s						
MKAR	Makanchi Array	41.09	297	P	P	12 06 51.2	+0.4
	1.3nm,0.5s,baz=83,slow=9.9,SNR=19						
	1.3nm,0.5s						
KURBB	Kurchatov Arra	42.54	304	P	P	12 07 02.5	+0.1
	2.9nm,0.7s,baz=79,slow=8.8,SNR=11						
	2.9nm,0.7s						
ILAR	Eielson Array	45.47	35	P	P	12 07 25.2	-0.4
	0.3nm,1.0s,baz=260,slow=6.7,SNR=2.1						
	0.3nm,1.0s						
BVAR	Borovoye Array	46.80	309	P	P	12 07 36.1	-0.1
	1.1nm,0.4s,baz=84,slow=7.5,SNR=4.3						
	1.1nm,0.4s						
WRA	Warramunga Arr	62.13	187	P	P	12 09 26.6	-0.5
	0.4nm,0.9s,baz=6.2,slow=6.9,SNR=4.7						
	0.4nm,0.9s						
NOA	NORSAR Array B	69.21	336	P	P	12 10 11.7	-0.4
	0.9nm,0.7s,baz=38,slow=6.1,SNR=3.4						
	0.9nm,0.7s						
NVAR	Mina Array Bea	72.34	54	P	P	12 10 31.4	-0.2
	0.5nm,0.7s,baz=305,slow=5.7,SNR=3.5						
	0.5nm,0.7s						

*MOS **02** 12:04:32.5±1.0, 28°.39N×108°.34E, h9km, mb5.1/48, MS4.2/7, Error ellipse: s-maj=5.9km s-min=4.3km az=117.0*
*IDC **02** 12:04:32.9±0.4, 28°.45N×108°.45E, h0km, mb4.7/28, mbtmp4.8/34, ML4.7/6, MS3.9/42, Error ellipse: s-maj=14.3km s-min=9.4km az=49.0*
*NEIC **02** 12:04:34.9±1.3, 28°.39N±0°.06×108°.38E±0°.08, h10km±1km, mb5.0/65, Mww4.7/10, Error ellipse: s-maj=11.9km s-min=9.8km az=92.0*
*BJI **02** 12:04:34.7, 28°.42N×108°.38E, h10km, mB4.9/25, mb5.0/61, ML5.0/27, Ms4.7/55, Ms7 4.4/46*
*NEIC **02** 12:04:35.3, 28°.31N×108°.72E, h12km, Moment Tensor Solution. Duration: 1ŝ1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.78; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-0.46; $M_{r\theta}$0.11; $M_{\theta\phi}$-0.42; $M_{\phi r}$0.88; Fault plane solution: $M_0$1.19000×10^{16} NP1: ϕ_s238.65000°, δ26.03000°, λ128.06000°. NP2: ϕ_s17.58000°, δ69.79000°, λ73.25000°. Principal axes: T 1.2390, Plg62.0000°, Azm262.0000°; N -0.1001, Plg16.0000°, Azm24.0000°; P -1.1389, Plg23.0000°, Azm120.0000°;*
*NEIC **02** 12:04:35.3, 28°.41N×108°.38E, h12km*
ISC 02 12:04:35.1±0.8, 28°.43N±0°.03×108°.40E±0°.03, h14km±5km, n621, σ1ŝ19/643, mb5.0/120, MS4.0/44, 23C-10D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	Enshi	2.06	27	P	Pn	12 05 10.7	+1.4
ENH	Enshi	2.06	27	P	Pn	12 05 10.8	+1.4
GYA	Guiyang	2.50	219	Pn	Pb	12 05 17.9	-2.0
GYA				Sn	Sb	12 05 52.4	+1.8
GYA				smax	smax		
	comp=N,8μm,0.7s						
GYA				smax	smax		
	comp=E,4μm,0.6s						
GULI	GuiLin	3.59	150	Pn	Pn	12 05 29.6	-0.7
GULI				Pg	Pb	12 05 37.5	-0.8
GULI				Sg	Sb	12 06 20.6	-1.2
GULI				smax	smax		
	comp=N,4μm,1.0s						
GULI				smax	smax		
	comp=E,4μm,0.9s						
CNSH	ChangSha	4.00	93	Pn	Pn	12 05 37.8	+1.8
CNSH				Sn	Sn	12 06 24.8	+2.1
CNSH				Sg	Sg	12 06 47.1	+3.5
CNSH				smax	smax		
	comp=N,8μm,0.8s						
CNSH				smax	smax		
	comp=E,7μm,0.6s						
CD2	Chengdu	4.74	303	Pn	Pn	12 05 47.6	+1.5
CD2				Sn	Sn	12 06 41.9	+1.0
CD2				Sg	Sg	12 07 07.6	+0.4
CD2				smax	smax		
	comp=N,6μm,0.7s						
CD2				smax	smax		
	comp=E,6μm,0.7s						
CD2				LR	LR		
	comp=N,6μm,3.8s						
WHN	Wuhan	5.60	66	Pn	Pn	12 05 58.3	+0.4
WHN				Sn	Sn	12 07 02.0	0.0
WHN				LR	LR		
	comp=N,16μm,5.7s						
WHN				LR	LR		
	comp=E,13μm,5.3s						
WHN				LR	LR		
	comp=Z,12μm,4.6s						
XAN	Xi'an	5.61	4	Pn	Pn	12 05 58.1	0.0
XAN				Sn	Sn	12 07 05.0	+2.6
XAN				Sg	Sg	12 07 33.5	-1.6
XAN				smax	smax		
	comp=N,2μm,1.1s						
XAN				smax	smax		
	comp=E,3μm,1.2s						
XAN				LR	LR		
	comp=N,3μm,5.2s						
XAN				LR	LR		
	comp=E,4μm,3.8s						
XAN				LR	LR		
	comp=Z,2μm,6.5s						
KMI	Kunming	6.04	238	⇑Pn	Pn	12 06 07.7	+3.5
KMI				Sn	Sn	12 07 18.7	+5.4
KMI				Sg	Sg	12 07 48.2	-0.8
KMI				smax	smax		
	comp=N,310nm,1.1s						
KMI				smax	smax		
	comp=E,260nm,0.8s						
KMI				LR	LR		
	comp=N,8μm,7.1s						
KMI				LR	LR		
	comp=E,4μm,6.7s						
KMI				LR	LR		
	comp=Z,2μm,8.4s						
PZH	PanZhiHua	6.22	254	Pn	Pn	12 06 11.0	+4.4
PZH				Pg	Pb	12 06 23.1	-0.2
PZH				smax	smax		
	comp=N,370nm,1.1s						
PZH				smax	smax		
	comp=E,340nm,1.3s						
PZH				LR	LR		
	comp=N,6μm,8.4s						
PZH				LR	LR		
	comp=E,2μm,7.6s						
PZH				LR	LR		
	comp=Z,2μm,6.7s						
GZH	Guangzhou	6.94	139	Pn	Pn	12 06 12.6	-3.8
GZH				Sn	Sn	12 07 30.6	-4.6
GZH				smax	smax		
	comp=N,2μm,0.8s						
GZH				smax	smax		
	comp=E,2μm,0.7s						
LYN	LuoYang	7.02	29	Pn	Pn	12 06 17.1	-0.3
LYN				Pg	Pg	12 06 44.1	-5.3
LYN				Sn	Sn	12 07 32.8	-4.2
LYN				Sg	Sg	12 08 16.6	-3.7
LYN				smax	smax		
	comp=N,680nm,0.9s						
LYN				smax	smax		
	comp=E,580nm,0.8s						
LYN				LR	LR		
	comp=N,3μm,4.8s						
LYN				LR	LR		
	comp=E,3μm,5.3s						
LYN				LR	LR		
	comp=Z,2μm,5.5s						
HKPS	Hong Kong Po S	8.03	138	Pn	Pn	12 06 29.9	-1.5
HKPS	Hong Kong Po S	8.03	138	P	Pn	12 06 31.1	-0.3
SLVN	Son La	8.16	211		Pn	12 06 34.0	+0.8
SLVN	Son La	8.16	211	P	Pn	12 06 34.6	+1.4
LZDM	Lanzhou Array	8.49	333	Pn	Pn	12 06 38.4	+0.4
	baz=158,slow=17						
LZDM				Sn	Sn	12 08 13.4	-0.4
	baz=130,slow=23						
LZDM				Lg	Lg	12 09 02.5	
	baz=144,slow=30						
LZDM				LR	LR	12 10 28.0	
	comp=Z,1μm,21.6s,baz=140,slow=42 19nm,0.3s						
LZH	Lanzhou	8.55	334	eP	Pn	12 06 39.7	+1.1
LZH				sP	sPn	12 06 46.5	+2.3
LZH				S	Sn	12 08 11.7	-3.3
LZH				pmax	pmax		
	comp=Z,160nm,1.0s						
LZH				pmax	pmax		
	comp=Z,340nm,4.1s						
LZH				smax	smax		
	comp=N,260nm,1.1s						
LZH				smax	smax		
	comp=E,380nm,0.8s						
LZH				LR	LR		
	comp=N,3μm,7.9s						
LZH				LR	LR		
	comp=E,4μm,6.9s						
LZH				LR	LR		
	comp=Z,3μm,13.4s						
QIZ	Qiongzhong	9.45	172		Pn	12 06 50.3	-0.6
QIZ	Qiongzhong	9.45	172	P	Pn	12 06 50.0	-0.9
QIZ				S	Sn	12 08 37.2	+0.1
QIZ				pmax	pmax		
	comp=Z,21nm,1.1s						
QIZ				smax	smax		
	comp=N,190nm,1.0s						
QIZ				smax	smax		
	comp=E,220nm,1.0s						
QIZ				LR	LR		
	comp=N,710nm,5.3s						
QIZ				LR	LR		
	comp=E,3μm,11.4s						
QIZ				LR	LR		
	comp=Z,2μm,7.3s						
TNCH	TengChong	9.46	251	eP	Pn	12 06 52.8	+1.6
TNCH				S	Sn	12 08 40.2	+2.7
TNCH				pmax	pmax		
	comp=Z,38nm,0.5s						
TNCH				LR	LR		
	comp=N,4μm,8.3s						
TNCH				LR	LR		
	comp=E,2μm,8.5s						
TNCH				LR	LR		
	comp=Z,1μm,11.7s						
NJ2	Nanjing	9.73	66	⇓P	Pn	12 06 56.0	+1.3
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,270nm,4.1s						
NJ2				LR	LR		
	comp=N,2μm,6.9s						
NJ2				LR	LR		
	comp=E,3μm,5.0s						
NJ2				LR	LR		
	comp=Z,1μm,8.3s						
TIY	Taiyuan	9.85	19	eP	Pn	12 06 56.7	+0.3
TIY				pmax	pmax		
	comp=Z,27nm,0.9s						
HNS	HongShan	10.39	29	⇓P	Pn	12 07 03.2	-0.5
HNS				pmax	pmax		

comp=Z,49nm,0.8s
HNS LR LR
comp=N,900nm,6.8s
HNS LR LR
comp=E,900nm,5.0s
TIA Tai'an 10.70 41 P **Pn 12 07 08.6 +0.7**
TIA pmax pmax
comp=Z,87nm,0.7s
TIA LR LR
comp=N,720nm,8.6s
TIA LR LR
comp=E,1μm,10.0s
TIA LR LR
comp=Z,1μm,10.7s
SSE Sheshan 11.42 73 P **Pn 12 07 17.2 -0.6**
SSE S **Sn 12 09 25.9 +0.7**
SSE pmax pmax
comp=Z,50nm,1.3s
SSE pmax pmax
comp=Z,910nm,3.8s
SSE LR LR
comp=N,850nm,4.6s
SSE LR LR
comp=E,1μm,4.1s
TPUB Ta-pu 12.13 112 Pn 12 07 28.4 +0.7
SSLB Suanglung 12.19 109 Pn 12 07 28.8 +0.4
YHNB Yeheng 12.20 105 Pn 12 07 28.9 +0.2
BTO Baotou 12.22 6 *e*P **Pn 12 07 29.8 +1.0**
BTO PP **P 12 07 40.9 -0.4**
BTO S **Sn 12 09 46.8 +2.0**
BTO pmax pmax
comp=Z,32nm,0.5s
BTO pmax pmax
comp=Z,230nm,3.7s
BTO LR LR
comp=N,2μm,4.3s
BTO LR LR
comp=E,2μm,4.0s
BTO LR LR
comp=Z,1μm,10.2s
YULB Yu-li 12.64 110 Pn 12 07 34.8 +0.2
HHC Hu-ho-hao-te 12.66 11 *e*P **Pn 12 07 36.7 +1.9**
HHC S **Sn 12 09 57.9 +2.3**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,110nm,3.7s
HHC LR LR
comp=N,370nm,6.5s
HHC LR LR
comp=E,470nm,6.5s
TWG Pinlang 12.72 113 Pn **Pn 12 07 36.7 +1.0**
CHTO Chiang Mai 12.91 224 Pn 12 07 38.1 -0.1
CHTO Chiang Mai 12.91 224 P **Pn 12 07 38.1 -0.1**
GTA Gaotai 13.06 329 P **Pn 12 07 40.6 +0.3**
GTA sP P 12 07 53.2 +2.6
GTA pmax pmax
comp=Z,16nm,1.1s
GTA LR LR
comp=N,2μm,11.6s
GTA LR LR
comp=E,2μm,12.4s
GTA LR LR
comp=Z,2μm,12.0s
CM31 Chiang Mai Arr 13.18 223 Pn **Pn 12 07 42.0 0.0**
CMAR Chiang Mai Arr 13.18 223 Pn 12 07 41.9 -0.1
CMAR Chiang Mai Arr 13.18 223 Pn **Pn 12 07 42.7 +0.7**
0.3nm,0.3s,baz=35,slow=11,SNR=24
CMAR Lg Lg 12 11 36.9
baz=47,slow=30
3.8nm,0.9s
BJT Baijiatuau 13.21 27 Pn 12 07 43.1 +0.8
BJT Baijiatuau 13.21 27 P **Pn 12 07 44.4 +2.1**
BJT Baijiatuau 13.21 27 P **Pn 12 07 43.1 +0.8**
BJI Beijing 13.24 27 P **Pn 12 07 44.1 +1.5**
BJI pmax pmax
comp=Z,27nm,1.0s
GOMU GeErMu 13.85 307 P **Pn 12 07 53.1 +1.8**
GOMU S **Sn 12 10 24.6 -0.5**
GOMU pmax pmax
comp=Z,17nm,1.1s
GOMU pmax pmax
comp=Z,87nm,5.0s
SHL Shillong 15.00 263 Pn 12 08 05.1 -1.8
SHL IAmb IAmb 12 08 28.0
comp=Z,28nm,0.6s
SHL Shillong 15.00 263 P **Pn 12 08 05.1 -1.8**
SHL pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 15.14 279 Pn 12 08 08.1 -1.0
LSA IAmb IAmb 12 08 19.1
comp=Z,108nm,0.9s
LSA Lhasa 15.14 279 P **Pn 12 08 05.7 -3.4**
LSA S **Sn 12 10 52.0 -4.8**
LSA pmax pmax
comp=Z,11nm,0.5s
LSA LR LR
comp=N,1μm,13.7s
LSA LR LR
comp=E,880nm,11.7s
LSA LR LR
comp=Z,1μm,11.7s
LSA Lhasa 15.14 279 P **Pn 12 08 08.1 -1.0**
LSA pmax pmax
comp=Z,108nm,0.9s
DL2 Dalian 15.16 43 P **Pn 12 08 10.2 +1.4**
DL2 S **Sn 12 11 01.1 +4.6**
DL2 pmax pmax
comp=Z,49nm,1.0s
DL2 pmax pmax
comp=Z,380nm,8.6s
DL2 LR LR
comp=Z,760nm,18.7s
DL2 LR LR
comp=Z,1μm,18.1s
BRDH Bariadhala 16.17 253 LR LR 12 15 39.6
comp=Z,342nm,18.4s,baz=76,slow=41
XLT XiLinHaoTe 16.62 20 *e*P **Pn 12 08 28.4 +0.7**
XLT S **Sn 12 11 32.9 +0.8**
XLT PcP **PcP 12 13 18.7 +1.2**
XLT pmax pmax
comp=Z,30nm,1.0s
XLT pmax pmax
comp=Z,140nm,4.9s
XLT LR LR
comp=Z,560nm,5.7s
XLT LR LR
comp=Z,280nm,4.8s
JOW Kunigami 17.68 90 P **Pn 12 08 41.1 0.0**
comp=Z,1.9nm,0.3s,baz=292,slow=11,SNR=4.7
JOW LR LR 12 16 01.1
comp=Z,475nm,19.7s,baz=290,slow=39
comp=Z,8.1nm,0.5s
JOW Kunigami 17.68 90 P **P 12 08 42.0 +0.1**
INCN Inchon 17.74 55 P **P 12 08 43.0 +0.5**
INCN Inchon 17.74 55 P **P 12 08 43.0 +0.5**
INCN pmax pmax
comp=Z,39nm,0.6s
TJN Taejon 17.84 59 P 12 08 44.3 +0.7
TJN Taejon 17.84 59 P **P 12 08 45.3 +1.7**
TJN Taejon 17.84 59⇓*i*P **P 12 08 45.0 +1.4**
TJN pmax pmax
comp=Z,11nm,2.8s
SNY Shenyang 18.20 39⇑P **Pn 12 08 47.5 +0.2**
SNY pmax pmax
comp=Z,49nm,0.9s
TGY Tagaytay City 18.41 138 LR LR 12 15 51.8
comp=Z,160nm,19.8s,baz=358,slow=37
KSAR Wonju Array Be 18.63 56 P **Pn 12 08 53.1 +0.5**
KSAR Wonju Array Be 18.63 56 P **Pn 12 08 53.1 +0.5**
KS19 Wonju Array Si 18.64 56 P **Pn 12 08 53.2 +0.4**
KS19 IAmb IAmb 12 08 54.1
comp=Z,42nm,0.6s
KSRS Korea Array 18.66 56 P **Pn 12 08 53.2 +0.3**
comp=Z,8.4nm,0.3s,baz=241,slow=11,SNR=214
KSRS LR LR 12 15 13.0
comp=Z,16μm,21.8s,baz=235,slow=34
comp=Z,37nm,0.5s
EVN Everest 19.03 274 P **P 12 08 56.6 -0.9**
EVN IAmb IAmb 12 09 02.4
comp=Z,56nm,0.8s
ULN Ulaanbaatar 19.43 357 P 12 09 01.0 -0.2
ULN Ulaanbaatar 19.43 357*c i*P **Pn 12 09 02.0 -0.3**
ULN pmax pmax
comp=Z,33nm,0.7s
SONM Songino Array 19.43 356 P **P 12 09 01.7 +0.5**
SONM Songino Array 19.43 356 P **Pn 12 09 02.0 -0.3**
comp=Z,2.7nm,0.3s,baz=176,slow=12,SNR=121
SONM LR LR 12 17 26.9
comp=Z,320nm,19.5s,baz=178,slow=40
comp=Z,32nm,0.7s
SONM Songino Array 19.43 356 P **P 12 09 01.7 +0.5**
SONM pmax pmax
comp=Z,32nm,0.7s
JNU Nakatsue 19.86 71 P **Pn 12 09 06.9 -0.6**
JNU Nakatsue 19.86 71 P **Pn 12 09 07.0 -0.4**
comp=Z,2.6nm,0.3s,baz=247,slow=4.9,SNR=29
JNU LR LR 12 17 00.6
comp=Z,334nm,21.6s,baz=264,slow=38
comp=Z,128nm,0.8s
JNU Nakatsue 19.86 71 P **Pn 12 09 07.2 -0.3**
CN2 Changchun 20.55 37 *e*P **P 12 09 14.3 +1.1**
CN2 *e*sP sP 12 09 22.8 +3.6
CN2 *e*S **S 12 12 58.8 -3.9**
CN2 pmax pmax
comp=Z,100nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
ZAK Zakamensk 22.26 351 *e*P **P 12 09 31.7 0.0**
ZAK pmax pmax
comp=Z,67nm,1.0s
JMN Monobe 22.43 70 P **P 12 09 32.2 -1.3**
JMN IAmb IAmb 12 09 34.7
comp=Z,71nm,0.7s
JMN Monobe 22.43 70 P **P 12 09 32.5 -1.0**
HIA Hailar 22.55 20 P **P 12 09 35.0 +0.3**
WMQ Urumqi 22.61 318 *e*P **P 12 09 34.7 -0.8**
WMQ pmax pmax
comp=Z,63nm,0.9s
WMQ LR LR
comp=Z,1μm,15.1s
WMQ LR LR
comp=Z,650nm,12.5s
BNX BinXian 22.89 36⇑P **P 12 09 38.3 +0.1**
BNX pmax pmax
comp=Z,67nm,1.1s
MSHR Mys Shultsa 23.20 46⇑*i*P **P 12 09 41.4 0.0**
MSHR pmax pmax
comp=Z,19nm,1.1s
MDJ Mudanjiang 23.36 41 P **P 12 09 42.4 -0.7**
MDJ pmax pmax
comp=Z,16nm,1.2s
KNGR Kungurtug, Tuv 23.63 343⇓*i*P **P 12 09 47.1 +1.2**
KNGR pmax pmax
comp=Z,34nm,0.9s
MOY Mondy 23.86 349 *e*P **P 12 09 48.6 +0.5**
MOY pmax pmax
comp=Z,50nm,2.4s
CIT Chita 23.88 8 *e*P **P 12 09 49.6 +1.5**
CIT *e* 12 09 57.8
CIT *e* 12 10 17.2
CIT *e* 12 10 30.6
CIT pmax pmax
comp=Z,134nm,2.5s
VLA Vladivostok 23.93 46⇓*i*P **P 12 09 49.7 +1.1**
VLA pmax pmax
comp=Z,49nm,2.0s
IRK Irkutsk 23.98 354 *e*P **P 12 09 46.2 -2.9**
IRK pmax pmax
comp=Z,142nm,2.5s
KULM Kulim 24.16 199 P **P 12 09 50.3 -0.8**
KULM Kulim 24.16 199 P **P 12 09 52.7 +1.7**
USRK Ussuriysk Ar. 24.55 44 P **P 12 09 54.1 -0.2**
comp=Z,31nm,0.8s,baz=232,slow=6.8,SNR=39
comp=Z,31nm,0.8s
MYLDM Lahad Datu 25.04 156 P **P 12 09 58.2 -0.7**
INU Inuyama 25.20 67 P **P 12 09 59.9 -0.4**
INU Inuyama 25.20 67 P **P 12 10 00.5 +0.2**
JGF Kuroka 25.51 66 P **P 12 10 01.7 -1.5**
JGF IAmb IAmb 12 10 06.3
comp=Z,42nm,1.0s
JGF Kuroka 25.51 66 P **P 12 10 02.4 -0.8**
SBUM Sibu 26.09 171 P **P 12 10 07.5 -1.0**
HEH HeiHe 26.14 28 *e*P **P 12 10 08.6 -0.1**
HEH pmax pmax
comp=Z,43nm,0.8s
MJB9 Matsu-Tunnel 26.33 64 P **P 12 10 11.2 +0.6**
MAJO Matsushiro 26.33 64 P **P 12 10 10.8 +0.1**
MAJO IAmb IAmb 12 10 15.7
comp=Z,17nm,0.8s
MAJO Matsushiro 26.33 64⇑*i*P **P 12 10 12.6 +2.0**
MAJO pmax pmax
comp=Z,16nm,0.7s
MJAR Matsushiro Arr 26.33 64 P **P 12 10 11.8 +1.1**
MJAR Matsushiro Arr 26.33 64 P **P 12 10 09.8 -0.9**
comp=Z,12nm,0.9s,baz=270,slow=9.9,SNR=28
MJAR PcP **PcP 12 13 36.3 -0.2**
comp=Z,2.2nm,0.8s,baz=247,slow=1.6,SNR=5.6
MJAR LR LR 12 21 18.0
comp=Z,201nm,19.9s,baz=262,slow=38
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 26.33 64 P **P 12 10 11.8 +1.1**
MJAR pmax pmax
comp=Z,7.0nm,1.1s
ZSN Zaisan 26.38 322 *e*P **P 12 10 11.8 +0.8**
ZSN Zaisan 26.38 322 *e*P **P 12 10 11.7 +0.8**
KSM Kuching 26.87 176 P **P 12 10 16.2 +0.7**
PSI Prapat 27.04 201 LR LR 12 20 46.6
comp=Z,125nm,19.6s,baz=6.0,slow=36
JHJ Hachijo jima 2 27.31 72 LR LR 12 21 07.5
comp=Z,135nm,18.3s,baz=319,slow=36
MK31 Makanchi Array 27.44 319*c i*P **P 12 10 21.1 +0.6**
MKAR Makanchi Array 27.44 319 P **P 12 10 20.6 +0.1**
MKAR Makanchi Array 27.44 319 P **P 12 10 21.1 +0.6**
comp=Z,7.4nm,0.7s,baz=115,slow=10.0,SNR=32
MKAR PcP **PcP 12 13 38.8 -0.1**
comp=Z,4.4nm,0.8s,baz=122,slow=4.1,SNR=5.0
MKAR ScP **ScP 12 17 19.0 -0.1**
comp=Z,0.9nm,0.8s,baz=112,slow=1.6,SNR=3.6
MKAR LR LR 12 22 27.8
comp=Z,866nm,19.1s,baz=90,slow=39
comp=Z,7.4nm,0.7s
SHLS Shalkode 27.52 310 *e*P **P 12 10 19.5 -1.9**
comp=Z,11nm,0.8s
SHLS Shalkode 27.52 310 *e*P **P 12 10 19.5 -1.9**
SHLS pmax pmax
comp=Z,11nm,0.8s
PDGK Podgornoye 27.57 310 P **P 12 10 22.1 +0.2**
UZB Uzynbulak 27.82 310 *e*P **P 12 10 24.7 +0.6**
UZB Uzynbulak 27.82 310 *e*P **P 12 10 24.7 +0.6**
SATY Saty 28.20 309 *e*P **P 12 10 28.2 +0.7**
SATY Saty 28.20 309 *e*P **P 12 10 28.2 +0.7**
JMM Marumori 28.59 62 P **P 12 10 29.9 -0.9**
JMM IAmb IAmb 12 10 32.2
comp=Z,21nm,0.5s
ZEA Zeya 28.82 23 *e*P **P 12 10 33.6 +0.9**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,200nm,13.0s
KSH Kashi 28.93 301 P **P 12 10 38.0 +4.0**
KSH S **S 12 15 30.8 +6.5**
KSH pmax pmax
comp=Z,14nm,1.2s
TDK Taldyqorghan 28.96 313 *e*P **P 12 10 34.9 +0.8**
comp=Z,15nm,0.9s
TDK Taldyqorghan 28.96 313 *e*P **P 12 10 34.9 +0.8**
TDK pmax pmax
comp=Z,15nm,0.9s
MDOK Medeo 29.17 309 *e*P **P 12 10 36.8 +0.7**
MDOK Medeo 29.17 309 *e*P **P 12 10 36.8 +0.7**
TNSS Tian-Shan 29.20 308 *e*P **P 12 10 37.1 +0.5**
TNSS Tian-Shan 29.20 308 *e*P **P 12 10 37.1 +0.5**
CHKK Chushkaly 29.45 310 *e*P **P 12 10 39.0 +0.5**
CHKK Chushkaly 29.45 310 *e*P **P 12 10 38.9 +0.5**
BOD Bodaibo 29.64 6 *e*P **P 12 10 40.0 +0.1**
BOD pmax pmax
comp=Z,26nm,0.9s
ZAA0 Zalesovo Array 30.78 332 P **P 12 10 50.1 +0.1**
ZAA0 IAmb IAmb 12 10 51.2
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 30.78 332 P **P 12 10 50.0 0.0**
ZALV Zalesovo Beam 30.78 332 P **P 12 10 50.3 +0.3**
comp=Z,16nm,0.6s,baz=126,slow=9.2,SNR=71
ZALV ScP **ScP 12 17 30.2 +0.7**
comp=Z,0.6nm,0.4s,baz=104,slow=6.1,SNR=2.2
comp=Z,16nm,0.6s
AAK Ala-Archa 30.79 306 P **P 12 10 50.6 +0.1**
AAK Ala-Archa 30.79 306 LR LR 12 25 04.8
comp=Z,378nm,21.7s,baz=70,slow=40
AAK Ala-Archa 30.79 306⇑*i*P **P 12 10 52.2 +1.7**
AAK pmax pmax
comp=Z,5.0nm,0.6s
ERM Erimo 31.23 55 P **P 12 10 53.7 -0.5**
ERM IAmb IAmb 12 11 02.7
comp=Z,30nm,1.1s
ERM Erimo 31.23 55 P **P 12 10 53.3 -0.8**
ERM Erimo 31.23 55 P **P 12 10 53.7 -0.5**
ERM pmax pmax
comp=Z,30nm,1.1s
JEM Erimo 31.23 55 P **P 12 10 54.0 -0.2**
ASAJ Asahikawa 31.43 51 LR LR 12 23 31.1
comp=Z,77nm,18.0s,baz=196,slow=36
KURBB Kurchatov Arra 31.61 323 P **P 12 10 58.0 +0.6**
comp=Z,23nm,0.9s,baz=129,slow=8.6,SNR=164
KURBB PcP **PcP 12 13 49.2 -0.2**
comp=Z,4.9nm,0.7s,baz=118,slow=2.4,SNR=9.3
comp=Z,23nm,0.9s
KURBB Kurchatov Arra 31.61 323 P **P 12 10 57.9 +0.5**
KURK Kurchatov 31.62 323 P **P 12 10 57.4 -0.1**
KURK IAmb IAmb 12 10 59.6
comp=Z,22nm,0.9s
KURK Kurchatov 31.62 323⇓*i*P **P 12 10 58.3 +0.9**
KURK pmax pmax
comp=Z,19nm,0.6s
LHSI Lahat 32.41 189 P **P 12 11 05.0 +0.3**
MDSI Maura Dua 32.98 188 P **P 12 11 08.8 -0.9**
comp=Z,726nmcomp=Z,18nm,1.3s
DZA Taraz 33.11 306 *e*P **P 12 11 11.6 +0.9**
comp=Z,10nm,0.8s
DZA Taraz 33.11 306 *e*P **P 12 11 11.5 +0.9**
DZA pmax pmax
comp=Z,10.0nm,0.8s
GAR Garm 33.17 299 P **P 12 11 12.0 +0.5**
PALK Pallekele 33.58 236 LR LR 12 26 24.1
comp=Z,70nm,18.4s,baz=50,slow=39
KK31 Karatay Array 33.74 306 P **P 12 11 16.5 +0.3**
KK31 IAmb IAmb 12 11 18.2
comp=Z,18nm,0.8s
KK31 Karatay Array 33.74 306 P **P 12 11 16.5 +0.3**
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 33.74 306 P **P 12 11 16.8 +0.6**
KKAR Karatay Array 33.74 306 P **P 12 11 16.8 +0.6**
IUG Iuzhnay 33.88 304 *e*P **P 12 11 18.2 +0.6**
comp=Z,16nm,0.7s
IUG Iuzhnay 33.88 304 *e*P **P 12 11 18.1 +0.5**
IUG pmax pmax
comp=Z,16nm,0.7s
CHGR Chuyangaron 34.04 298 P **P 12 11 19.1 +0.2**
CHGR Chuyangaron 34.04 298 P **P 12 11 19.1 +0.2**
CHGR pmax pmax
comp=Z,44nm,0.8s
BRLS Borolday 34.21 306 *e*P **P 12 11 21.3 +1.0**
BRLS Borolday 34.21 306 *e*P **P 12 11 21.3 +1.0**
CHM Chimkent 34.23 304 *e*P **P 12 11 20.9 +0.5**
comp=Z,12nm,0.8s
CHM Chimkent 34.23 304 *e*P **P 12 11 20.9 +0.5**
CHM pmax pmax
comp=Z,12nm,0.8s
TNG Tangerang 34.44 183 P **P 12 11 17.8 -4.6**
KAPI Kappang 35.01 160 LR LR 12 26 11.3
comp=Z,83nm,18.6s,baz=12,slow=37
KAPI Kappang 35.01 160⇑*e*P **P 12 11 27.6 +0.3**
KAPI pmax pmax
comp=Z,25nm,0.9s
LEM Lembang 35.06 181 LR LR 12 25 54.5
comp=Z,136nm,20.8s,baz=50,slow=36
BKSI Bulukumba 35.41 160 P **P 12 11 31.0 +0.2**
comp=Z,17nm,0.8s
KPJI Karang Pucung 35.56 179 P **P 12 11 33.8 +1.8**
comp=Z,65nm,1.3s
BBJI Bungbulang 35.69 181 P **P 12 11 34.4 +1.1**
YAK Yakutsk 36.43 17 LR LR 12 27 32.3
comp=Z,110nm,19.3s,baz=238,slow=38
YAK Yakutsk 36.43 17 *e*P **P 12 11 39.1 +0.1**
YAK *e* 12 13 02.2
YAK *e*PPP PPP 12 13 18.0
YAK *e* 12 14 02.2
YAK *e*S **S 12 17 18.9 -1.1**
YAK *e*SS **SnSn 12 19 51.0 +2.9**
YAK *e* 12 21 52.1
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,65nm,2.1s
YAK pmax pmax
comp=N,45nm,2.6s
YAK pmax pmax
comp=E,61nm,2.3s
YAK smax smax
comp=N,81nm,2.5s
YAK smax smax
comp=E,59nm,2.5s
GUMO Guam 36.94 106 P **P 12 11 43.8 -0.1**
GUMO Guam 36.94 106 LR LR 12 27 06.0
comp=E,52nm,20.2s,baz=294,slow=37
GUMO Guam 36.94 106 P **P 12 11 43.8 -0.1**
GUMO pmax pmax
comp=Z,94nm,1.1s
BVAR Borovoye Array 37.19 322 P **P 12 11 46.4 +0.7**
comp=Z,6.4nm,0.7s,baz=114,slow=9.9,SNR=22
BVAR PcP **PcP 12 14 05.7 +0.2**
comp=Z,4.8nm,0.6s,baz=108,slow=1.9,SNR=7.3
comp=Z,6.4nm,0.7s
BORK Borovoye 37.24 322⇑*i*P **P 12 11 46.7 +0.6**
BORK pmax pmax
comp=Z,11nm,0.8s
PLAI Plampang 38.13 165 P **P 12 11 54.8 +0.8**
EDFI Ende, Flores 39.13 159 P **P 12 12 01.0 -1.5**
comp=Z,471nmcomp=Z,42nm,0.9s
MMRI Maumere 39.20 158 P **P 12 12 02.5 -0.4**
MMRI Maumere 39.20 158 P **P 12 12 02.8 -0.1**
WBSI Waikabubak, Su 39.31 163 P **P 12 12 02.6 -1.3**
comp=Z,48nm,0.9s
BATI Baumata 41.15 157 P **P 12 12 17.9 -1.2**
comp=Z,19nm,0.4s,baz=270,slow=4.0,SNR=1.6
comp=Z,19nm,0.4s
AB31 Akbulak array 42.23 313 P **P 12 12 28.1 +0.5**
AB31 Akbulak array 42.23 313 *i* P **P 12 12 27.8 +0.2**
GENI Genyem 43.39 130 P **P 12 12 39.6 +2.2**
comp=Z,4μmcomp=Z,44nm,1.5s
PETK Petropavlovsk- 43.60 42 P **P 12 12 37.5 -1.3**
comp=Z,7.6nm,0.9s,baz=239,slow=2.5,SNR=6.3
comp=Z,7.6nm,0.9s
AKTO Aktyubinsk 43.68 314 LR LR 12 32 38.2
comp=Z,374nm,20.2s,baz=82,slow=39
AKTO Aktyubinsk 43.68 314 P **P 12 12 39.1 -0.3**
JAY Jayapura 43.69 129 LR LR 12 28 29.8
comp=Z,110nm,21.7s,baz=344,slow=33
SVE Sverdlovsk 43.85 324 *e*P **P 12 12 41.9 +1.2**
SVE pmax pmax
comp=Z,38nm,1.0s
PET Petropavlovsk 44.14 42*ce*P **P 12 12 44.0 +1.0**
PET pmax pmax
comp=Z,22nm,1.3s
SEY Seymchan 44.68 27*ce*P **P 12 12 50.0 +2.8**
SEY pmax pmax
comp=Z,14nm,1.7s
TIXI Tiksi 44.71 9 LR LR 12 31 36.9
comp=Z,56nm,18.8s,baz=254,slow=36
TIXI Tiksi 44.71 9⇓*i*P **P 12 12 46.4 -1.0**
TIXI pmax pmax
comp=Z,38nm,1.5s
ARTI Arti 44.90 323 P **P 12 12 48.8 -0.3**
ARTI IAmb IAmb 12 12 50.4
comp=Z,19nm,0.7s
ARTI Arti 44.90 323 LR LR 12 33 05.9
comp=Z,213nm,19.1s,baz=178,slow=38
ARTI Arti 44.90 323*c i*P **P 12 12 49.1 0.0**
ARTI 12 14 31.7
ARTI S **S 12 19 27.6 +1.2**
ARTI SS **SS 12 22 46.9 -0.6**
ARTI pmax pmax
comp=Z,21nm,0.9s
KNRA Kununurra 48.08 153 P **P 12 13 13.7 -0.6**
KNRA IAmb IAmb 12 13 15.3
comp=Z,14nm,0.8s
FITZ Fitzroy Crossi 49.17 158 LR LR 12 35 00.0
comp=Z,51nm,21.9s,baz=356,slow=37
KIRV Kirov 50.12 324 LR LR 12 36 29.1

comp=Z,108nm,19.2s,baz=100,slow=38
KIRV Kirov 50.12 324 *c iP* **P 12 13 29.9 +0.3**
BELG Belogornoye 50.37 316⇑ *eP* **P 12 13 31.8 +0.2**
BELG pmax pmax
comp=Z,5.0nm,1.3s
AKT Akhty 50.45 302 *eP* **P 12 13 31.4 -1.2**
AKT *e* 12 14 49.2
AKT *e* 12 15 25.8
AKT pmax pmax
comp=Z,19nm,1.0s
AKT MLR MLR
comp=Z,25nm,5.0s
MAK Makhachkala 50.50 304 *c iP* **P 12 13 28.3 -4.4**
MAK *eS* **S 12 20 40.0 -6.2**
MAK *eSS* **SS 12 24 17.4 -2.6**
MAK pmax pmax
comp=Z,155nm,1.2s
MAK MLR MLR
comp=Z,117nm,14.0s
MBWA Marble Bar 50.50 166 P **P 12 13 32.6 -0.3**
SEKA Sheki 50.88 302 P **P 12 13 36.0 +0.3**
PSA00 Pilbara Seismi 50.93 166 P **P 12 13 35.4 -0.7**
PSA00 IAmb IAmb 12 13 36.0
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 50.93 166 **P 12 13 34.5 -1.6**
PSA00 IAmb IAmb 12 13 37.5
comp=Z,4.9nm,0.8s
PSA00 Pilbara Seismi 50.93 166 P **P 12 13 36.1 0.0**
GANJ Ganja 51.60 301 P **P 12 13 41.8 +0.7**
BILL Bilibino 52.04 24 P **P 12 13 43.2 -0.8**
BILL IAmb IAmb 12 13 44.0
comp=Z,10.0nm,0.6s
BILL Bilibino 52.04 24⇑ *iP* **P 12 13 43.3 -0.6**
BILL pmax pmax
comp=Z,40nm,2.0s
GNI Garni 52.86 300 LR LR 12 40 01.5
comp=Z,165nm,21.2s,baz=62,slow=40
GNI Garni 52.86 300⇓ *eP* **P 12 13 50.6 -0.1**
GNI pmax pmax
comp=Z,5.0nm,1.0s
PMG Port Moresby 53.08 129 P **P 12 13 52.9 +0.7**
comp=Z,18nm,0.8s,baz=328,slow=7.7,SNR=2.5
comp=Z,18nm,0.8s
PYA1 Pyatigorsk 53.59 306⇓ *iP* **P 12 13 56.2 +0.4**
KBZ Khabaz 53.77 305 P **P 12 13 57.6 +0.6**
comp=Z,5.3nm,0.7s,baz=100,slow=5.9,SNR=15
KBZ LR LR 12 40 25.8
comp=Z,179nm,19.5s,baz=56,slow=40
comp=Z,5.3nm,0.7s
KBZ Khabaz 53.77 305⇑ *iP* **P 12 13 57.5 +0.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 53.90 305 *eP* **P 12 13 59.1 +1.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,156nm,17.0s
SHA1 Shidzhatmaz 53.95 305 *c iP* **P 12 13 59.5 +0.8**
VRH Novokhopyorsk 54.02 314 *eP* **P 12 13 57.1 -1.6**
VRH pmax pmax
comp=Z,30nm,0.8s
WB0 Warramunga Arr 54.10 149 IAmb IAmb 12 14 00.4
comp=Z,12nm,0.9s
WRAB Tennant Creek 54.23 150 **P 12 14 00.2 -0.4**
WRAB IAmb IAmb 12 14 01.5
comp=Z,17nm,0.9s
WRAB Tennant Creek 54.23 150 P **P 12 14 00.5 -0.1**
WRAB Tennant Creek 54.23 150⇑ *iP* **P 12 14 00.5 -0.1**
WRAB pmax pmax
comp=Z,20nm,0.9s
WRA Warramunga Arr 54.23 150 P **P 12 13 60.0 -0.7**
WRA Warramunga Arr 54.23 150 P **P 12 14 00.4 -0.2**
comp=Z,10nm,0.8s,baz=338,slow=8.2,SNR=61
WRA PcP **PcP 12 15 03.8 -1.1**
comp=Z,2.6nm,0.9s,baz=339,slow=7.2,SNR=6.9
WRA LR LR 12 38 21.5
comp=Z,35nm,20.9s,baz=348,slow=37
comp=Z,10nm,0.8s
WRA Warramunga Arr 54.23 150 P **P 12 14 00.0 -0.7**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WR8 Warramunga Arr 54.32 149 **P 12 14 00.9 -0.3**
WR8 IAmb IAmb 12 14 02.1
comp=Z,16nm,0.9s
ERBR Yeremizino-Bor 55.25 308 *eP* **P 12 14 03.8 -4.0**
ERBR pmax pmax
comp=Z,23nm,0.6s
KLMR Klimovskoe 55.37 326 *eP* **P 12 14 05.4 -3.0**
KLMR pmax pmax
comp=Z,69nm,1.1s
VSR Storozhevoye 55.62 315 *eP* **P 12 14 08.6 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
MEEK Meekatharra 55.63 169 P **P 12 14 09.8 -0.8**
LPSR Galich'ya Gora 55.69 316 *eP* **P 12 14 10.0 -0.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
SOC Sochi 56.08 305 *eP* **P 12 14 11.5 -2.3**
SOC *e* 12 16 16.2
SOC *eS* **S 12 22 00.2 -2.0**
SOC *eSS* **SS 12 25 43.9 -4.2**
SOC MLR MLR
comp=Z,169nm,19.0s
RAYN Ar Rayn 56.20 281 **P 12 14 14.4 -0.6**
RAYN IAmb IAmb 12 14 20.5
comp=Z,13nm,1.1s
RAYN Ar Rayn 56.20 281 P **P 12 14 14.5 -0.6**
RAYN pmax pmax
comp=Z,13nm,1.1s
MOS Moscow 56.31 320 *eP* **P 12 14 14.0 -1.2**
MOS pmax pmax
comp=Z,64nm,0.7s
MARD Mardin 56.41 298 P **P 12 14 16.7 +0.2**
MARD IAmb IAmb 12 14 18.1
comp=Z,9.0nm,0.9s
OBN Obninsk 56.95 319 P **P 12 14 19.6 -0.1**
OBN Obninsk 56.95 319 LR LR 12 40 20.6
comp=Z,299nm,19.0s,baz=50,slow=38
OBN Obninsk 56.95 319⇓ *eP* **P 12 14 19.6 -0.1**
OBN *e* 12 15 16.7
OBN *e* 12 16 26.3
OBN pmax pmax
comp=Z,18nm,0.9s
OBN MLR MLR
comp=Z,278nm,18.0s
QIS Mount Isa 57.28 145 P **P 12 14 23.0 +0.5**
AS31 Alice Springs 57.33 152 **P 12 14 22.5 -0.3**
ASAR Alice Springs 57.33 152 **P 12 14 22.6 -0.2**
ASAR Alice Springs 57.33 152 P **P 12 14 23.1 +0.2**
comp=Z,10nm,0.6s,baz=331,slow=6.4,SNR=94
ASAR PcP **PcP 12 15 16.1 -0.8**
comp=Z,2.4nm,0.6s,baz=333,slow=5.0,SNR=5.0
ASAR LR LR 12 39 40.3
comp=Z,28nm,21.5s,baz=300,slow=37
comp=Z,10nm,0.6s
ANN Anapa 57.52 307 *eP* **P 12 14 23.6 -0.3**
ANN *e* 12 16 30.0
ANN *eS* **S 12 22 20.6 -0.4**
ANN pmax pmax
comp=Z,50nm,1.7s
APA Apatity 58.34 334⇓ *eP* **P 12 14 26.9 -2.5**
APA *e* 12 15 15.3
APA pmax pmax
comp=Z,15nm,1.3s
APA MLR MLR
comp=Z,1μm,4.5s
ADK Adak 59.09 44 P **P 12 14 35.2 +0.4**
GAMB Gambell 60.46 30 P **P 12 14 45.3 +1.3**
baz=275
KEV Kevo 60.67 337 P **P 12 14 45.6 +0.2**
KEV Kevo 60.67 337 P **P 12 14 45.6 +0.2**
KEV pmax pmax
comp=Z,26nm,0.7s
ASF Jabal al Asfar 60.80 293 LR LR 12 44 21.8
comp=Z,62nm,18.7s,baz=109,slow=39
ARCES ARCESS Array B 61.20 337 P **P 12 14 49.4 +0.3**
ARCES IAmb IAmb 12 14 51.6
comp=Z,16nm,1.0s
ARCES ARCESS Array B 61.20 337 P **P 12 14 49.3 +0.2**
comp=Z,13nm,0.7s,baz=77,slow=5.8,SNR=42
ARCES LR LR 12 45 37.9
comp=Z,72nm,19.5s,baz=64,slow=40
comp=Z,13nm,0.7s
ARCES ARCESS Array B 61.20 337 P **P 12 14 49.4 +0.3**
ARCES pmax pmax
comp=Z,16nm,1.0s
BR131 Keskin Array S 61.31 302 **P 12 14 50.4 -0.1**
BR131 IAmb IAmb 12 14 51.5
comp=Z,7.4nm,0.8s
BR131 Keskin Array S 61.31 302 P **P 12 14 50.4 -0.1**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 61.31 302 **P 12 14 50.2 -0.3**
BRTR Keskin Array B 61.31 302 P **P 12 14 50.7 +0.2**
comp=Z,5.0nm,0.8s,baz=100,slow=6.4,SNR=23
comp=Z,5.0nm,0.8s
NWAO Narrogin (SRO) 61.60 172 P **P 12 14 52.7 +0.6**
MMAI Mount Meron Ar 61.76 294 P **P 12 14 54.7 +1.2**
comp=Z,0.6nm,0.3s,baz=101,slow=7.7,SNR=4.1
MMAI LR LR 12 47 08.0
comp=Z,80nm,18.5s,baz=68,slow=41
comp=Z,0.6nm,0.3s
FORT Forrest 61.80 161 **P 12 14 53.1 -0.3**
FORT IAmb IAmb 12 14 54.5
comp=Z,16nm,0.9s
FIA1 FINESS Array S 61.84 327 P **P 12 14 53.5 +0.1**
FINES FINESS Array B 61.84 327 P **P 12 14 53.6 +0.2**
FINES FINESS Array B 61.84 327 P **P 12 14 53.1 -0.3**
comp=Z,11nm,0.9s,baz=94,slow=7.6,SNR=13
FINES LR LR 12 43 52.3
comp=Z,133nm,20.1s,baz=74,slow=38
comp=Z,11nm,0.9s
TNA Tin City 61.90 28 P **P 12 14 55.2 +1.5**
baz=277
ANTO Ankara 61.91 302 P **P 12 14 54.9 +0.5**
ANTO IAmb IAmb 12 14 55.8
comp=Z,16nm,0.8s
ANTO Ankara 61.91 302 P **P 12 14 54.9 +0.5**
ANTO pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 61.92 315 P **P 12 14 53.9 -0.3**
AKASG Malin Array Be 61.92 315 P **P 12 14 53.9 -0.3**
comp=Z,2.7nm,0.5s,baz=70,slow=6.7,SNR=14
AKASG LR LR 12 43 28.3
comp=Z,155nm,21.1s,baz=62,slow=38
comp=Z,2.7nm,0.5s
AKBB Malin Array Si 61.92 315 **P 12 14 54.1 -0.1**
AKBB IAmb IAmb 12 14 54.3
comp=Z,7.4nm,0.6s
AKBB Malin Array Si 61.92 315 P **P 12 14 54.1 -0.1**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 61.93 315 **P 12 14 54.2 0.0**
KIEV IAmb IAmb 12 14 54.3
comp=Z,6.6nm,0.6s
KIEV Kiev 61.93 315 P **P 12 14 54.2 0.0**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
VSU Vasula 61.96 324 *ceP* **P 12 14 54.0 -0.3**
VSU pmax pmax
comp=Z,33nm,1.3s
SPIA Saint Paul Isl 62.01 38 P **P 12 14 55.6 +1.0**
baz=280
MNK Minsk 62.01 319 *i* P **P 12 14 53.4 -1.3**
MNK *i* 12 15 33.7
MNK *i* 12 17 09.9
MNK *i* S **S 12 23 18.8 +0.2**
MNK *i* 12 24 45.4
MNK *i* SS **SS 12 27 22.6 +1.9**
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=N,21nm,0.8s
MNK pmax pmax
comp=E,23nm,0.7s
MNK MLR MLR
comp=Z,272nm,20.0s
MNK MLR MLR
comp=N,230nm,20.0s
MNK MLR MLR
comp=E,199nm,19.0s
P08K Saint George I 62.48 38 P **P 12 14 58.7 +0.8**
baz=280
F14K Arctic Creek 62.56 28 P **P 12 14 59.3 +1.1**
baz=279,SNR=6.8
SPITS Spitsbergen Ar 62.80 347 P **P 12 14 59.6 -0.1**
comp=E,3.5nm,0.5s,baz=99,slow=10,SNR=15
SPITS LR LR 12 46 39.8
comp=E,119nm,18.4s,baz=79,slow=40
comp=E,3.5nm,0.5s
ANM Nome 63.11 29 P **P 12 15 02.7 +0.7**
baz=280
EIL Elat 63.15 291 LR LR 12 46 26.5
comp=E,100nm,20.5s,baz=4.0,slow=40
F15K North Star Dit 63.22 28 P **P 12 15 03.5 +0.9**
baz=280
C17K DeLong Mountai 63.31 24 P **P 12 15 03.7 +0.5**
baz=280
D17K Noatak River 63.48 25 P **P 12 15 05.1 +0.8**
baz=280
M11K Mekoryuk 63.50 34 P **P 12 15 04.9 +0.4**
baz=281
G15K Niukluk 63.60 28 P **P 12 15 05.7 +0.5**
baz=281,SNR=7.5
B18K Kokolik River 63.64 23 P **P 12 15 06.2 +0.9**
baz=281
BORA Eskisehir 63.64 303 IAmb IAmb 12 15 07.9
comp=Z,7.9nm,0.7s
A19K Wainwright 63.73 22 P **P 12 15 06.8 +0.8**
baz=281
INKA Innaminka 63.88 148 **P 12 15 07.6 +0.2**
INKA IAmb IAmb 12 15 09.3
comp=Z,6.6nm,0.8s
K13K Kusilvak Mount 63.92 32 P **P 12 15 07.4 +0.1**
K13K IAmb IAmb 12 15 27.8
comp=Z,6.2nm,0.9s
K13K Kusilvak Mount 63.92 32 P **P 12 15 08.2 +0.9**
baz=282
C18K Utukok River 63.99 24 P **P 12 15 08.0 +0.2**
C18K Utukok River 63.99 24 P **P 12 15 08.6 +0.8**
baz=282
E17K Hotham Inlet 64.08 26 P **P 12 15 08.9 +0.6**
baz=282,SNR=7.3
G16K Koyuk River 64.21 28 P **P 12 15 09.9 +0.8**
baz=282,SNR=8.9
J14K Nanvaranak Lak 64.26 31 P **P 12 15 10.7 +1.2**
baz=282
H16K Elim 64.42 29 P **P 12 15 11.1 +0.5**
baz=282
F17K Baldwin Pennin 64.43 26 P **P 12 15 11.4 +0.8**
baz=282
C19K Lookout Ridge 64.47 23 P **P 12 15 11.5 +0.6**
baz=283
E18K Tukpahlearik C 64.47 25 IAmb IAmb 12 15 12.2
comp=Z,17nm,0.8s
E18K Tukpahlearik C 64.47 25 P **P 12 15 11.2 +0.4**
baz=283,SNR=6.4
QLP Quilpie 64.62 145 P **P 12 15 13.2 +0.9**
M13K Dall Lake 64.88 33 P **P 12 15 14.9 +1.3**
baz=284
G17K Kiwalik Mounta 64.89 27 P **P 12 15 14.2 +0.7**
baz=284
A21K Barrow 64.93 21 P **P 12 15 14.0 +0.3**
baz=284
L14K Kuka Creek 64.97 32 P **P 12 15 15.5 +1.3**
baz=284,SNR=12
F18K Selawik 65.02 26 P **P 12 15 15.3 +0.9**
baz=284
B20K Meade River 65.08 22 P **P 12 15 15.1 +0.3**
baz=284,SNR=5.1
D19K Kuna River 65.13 24 P **P 12 15 16.2 +1.0**
baz=284
BUR08 Bucovina Ar. S 65.20 312 **P 12 15 15.9 -0.2**
I17K Unalakleet 65.25 29 P **P 12 15 17.2 +1.2**
baz=284
K15K Wolf Creek Mou 65.28 31 P **P 12 15 17.6 +1.4**
baz=284,SNR=12
MLR Muntele Rosu 65.29 310 LR LR 12 46 43.8
comp=Z,154nm,21.6s,baz=63,slow=39
H17K Granite Mounta 65.32 28 P **P 12 15 17.4 +1.0**
baz=284,SNR=12
J16K Anvik River 65.44 30 P **P 12 15 18.3 +1.1**
baz=284,SNR=5.9
L15K Ungalak Mounta 65.45 32 P **P 12 15 18.0 +0.7**
baz=284
M14K Bethel 65.46 33 P **P 12 15 18.6 +1.3**
baz=284,SNR=11
A22K Sinclair Lake 65.53 21 P **P 12 15 18.3 +0.7**
baz=286
G18K Tagagawik 65.59 27 P **P 12 15 18.2 0.0**
baz=285
D20K Etivluk River 65.61 24 P **P 12 15 18.3 0.0**
baz=286
F19K Shaleruckik Mo 65.69 26 P **P 12 15 18.8 +0.1**
baz=285,SNR=11
E19K Redstone River 65.72 25 P **P 12 15 19.4 +0.4**
baz=286
N14K Kuskokwak Cree 65.80 34 P **P 12 15 20.9 +1.3**
baz=285,SNR=8.7
E20K Nigu River 65.88 24 P **P 12 15 20.4 +0.3**
baz=286
H18K Honhosa River 65.90 28 P **P 12 15 20.6 +0.4**
baz=286
B21K Ikpikpuk River 66.04 22 P **P 12 15 21.4 +0.5**
baz=287,SNR=5.4
J17K VABM Dome 66.08 29 P **P 12 15 22.3 +0.9**
baz=286,SNR=7.6
M15K Kasigluk River 66.08 33 P **P 12 15 22.5 +1.1**
baz=286,SNR=9.5
C21K Knifeblade Rid 66.12 23 P **P 12 15 22.3 +0.8**
baz=287
O14K Tigyukauivet M 66.19 34 P **P 12 15 23.0 +0.9**
baz=286
B22K Teshekpuk Lake 66.22 21 P **P 12 15 22.5 +0.5**
baz=288
BBOO Buckleboo 66.33 155 P **P 12 15 22.7 -0.5**
BBOO Buckleboo 66.33 155 P **P 12 15 22.9 -0.3**
L16K Owhat River 66.36 31 P **P 12 15 24.2 +1.0**
baz=286,SNR=8.1
F20K Avaraart Lake 66.40 25 P **P 12 15 23.5 +0.2**
baz=287,SNR=9.9
N15K Kwethluk River 66.51 33 P **P 12 15 25.5 +1.4**
baz=286,SNR=10
H19K Roundabout Mou 66.57 27 P **P 12 15 25.3 +0.9**
baz=287,SNR=17
K17K Iditarod 66.61 30 P **P 12 15 26.2 +1.4**
baz=287,SNR=22
E21K Killik River 66.61 24 P **P 12 15 24.9 +0.2**
baz=288,SNR=18
GCSA Galena City Sc 66.62 28 P **P 12 15 25.4 +0.7**
baz=287,SNR=12
L17K Donlin 66.78 31 P **P 12 15 27.3 +1.5**
baz=287,SNR=11
NOR Nord 66.79 352⇑ *iP* **P 12 15 25.7 +0.1**
NOR IAmb IAmb 12 15 26.7
comp=Z,20nm,1.0s
M16K Timber Creek 66.80 32 P **P 12 15 27.4 +1.4**
baz=287,SNR=14
O15K Ungalikthiuk R 66.92 34 P **P 12 15 27.9 +1.1**
baz=287,SNR=11
D22K Ayikyak River 66.92 23 P **P 12 15 27.5 +0.8**
baz=289,SNR=11
N16K Nishlik Lake 67.05 32 P **P 12 15 29.1 +1.4**
baz=287,SNR=23
J18K Innoko River 67.08 29 P **P 12 15 28.5 +0.8**
baz=288,SNR=25
F21K Alatna River 67.18 25 P **P 12 15 28.7 +0.4**
baz=289,SNR=9.1
H20K Anotleneega Mo 67.20 27 P **P 12 15 29.2 +0.7**
baz=288,SNR=16
C23K Itkillik River 67.29 22 P **P 12 15 29.4 +0.5**
baz=290,SNR=11
J19K Poorman 67.37 28 P **P 12 15 30.7 +1.1**
baz=288,SNR=17
M17K Holitna River 67.39 31 P **P 12 15 31.7 +1.9**
baz=288,SNR=32
G21K Allakaket 67.40 25 P **P 12 15 30.1 +0.3**
baz=289
L18K Granite Mounta 67.47 30 P **P 12 15 31.6 +1.4**
baz=288,SNR=6.3
E22K Anaktuvuk Pass 67.47 24 P **P 12 15 30.6 +0.3**
baz=290,SNR=9.4
IMAR Indian Mountai 67.48 26 P **P 12 15 30.2 0.0**
F22K John River 67.56 24 P **P 12 15 31.5 +0.8**
baz=290,SNR=7.0
D23K Nanushuk River 67.57 23 P **P 12 15 31.4 +0.7**
baz=291,SNR=6.4
I20K Naaghedeneel 67.59 27 P **P 12 15 31.9 +1.0**
baz=289,SNR=6.0
O16K Kokwok River B 67.64 33 P **P 12 15 32.5 +1.2**
baz=288,SNR=12
SDPT Sand Point 67.73 38 P **P 12 15 31.0 -0.9**
N17K Nushagak Hills 67.78 32 P **P 12 15 33.8 +1.6**
baz=288,SNR=9.8
STKA Stephens Creek 67.78 150 P **P 12 15 32.5 0.0**
STKA Stephens Creek 67.78 150 P **P 12 15 32.4 -0.1**
comp=Z,4.2nm,0.7s,baz=341,slow=5.0,SNR=15
comp=Z,4.2nm,0.7s
STKA Stephens Creek 67.78 150 P **P 12 15 32.5 0.0**
OJC Ojcow 67.86 316 *eP* **P 12 15 33.0 +0.1**
J20K Nowinta River 67.93 28 P **P 12 15 34.3 +1.2**
baz=290,SNR=16
C24K Franklin Bluff 67.95 22 P **P 12 15 33.1 0.0**
baz=292
H21K Melozitna Rive 67.96 26 P **P 12 15 33.8 +0.5**
baz=290,SNR=11
HTT Hallett 67.99 153 P **P 12 15 34.7 +0.8**
O17K Koliganek Bris 68.06 33 P **P 12 15 35.2 +1.2**
baz=289,SNR=7.5
TOLK Toolik Lake Re 68.07 23 P **P 12 15 34.3 +0.4**
baz=292,SNR=13
M18K Stony River 68.09 31 P **P 12 15 35.6 +1.5**
baz=289,SNR=15
D24K Happy Valley 68.13 22 P **P 12 15 34.5 +0.3**
baz=292
K20K Telida 68.24 29 P **P 12 15 36.3 +1.2**
baz=290,SNR=17
E23K Chandalar 68.27 23 P **P 12 15 35.9 +0.6**
baz=292,SNR=18
L19K White Mountain 68.30 30 P **P 12 15 36.9 +1.4**
baz=290,SNR=18
N18K Kilae Creek 68.33 32 P **P 12 15 37.2 +1.5**
baz=290,SNR=6.3
COLD Coldfoot 68.37 24 P **P 12 15 36.1 +0.3**
baz=292,SNR=9.7
CHNA Chernabura Isl 68.38 38 P **P 12 15 35.4 -0.6**
baz=289
H22K Ishtalitna Cre 68.43 26 P **P 12 15 37.3 +1.1**
baz=291
I21K Tanana 68.45 27 P **P 12 15 37.1 +0.8**
baz=291
CHGN Chignik 68.53 37 P **P 12 15 38.4 +1.4**
baz=289
P17K Kvichak River 68.57 33 P **P 12 15 38.5 +1.4**
baz=290,SNR=6.4
M19K Big River Lodg 68.60 30 P **P 12 15 38.8 +1.4**
baz=290
L20K Farewell, AK 68.62 30 P **P 12 15 39.0 +1.5**
baz=290,SNR=8.9
G23K Bananza Creek 68.63 25 P **P 12 15 38.0 +0.5**
baz=292,SNR=9.6
NC405 NORSAR Array S 68.64 329 **P 12 15 37.1 -0.4**
Q16K King Salmon 68.64 34 P **P 12 15 38.3 +0.8**
baz=290,SNR=5.3
E24K Your Creek 68.66 23 P **P 12 15 38.4 +0.7**
baz=293,SNR=22
NC303 NORSAR Array S 68.76 329 **P 12 15 37.8 -0.5**
CHUM Lake Minchumin 68.79 28 P **P 12 15 39.9 +1.5**
baz=291,SNR=9.2
D25K Kavik River 68.86 22 P **P 12 15 39.0 +0.1**
baz=294,SNR=13
NB2 NORSAR Subarra 68.89 329 P **P 12 15 38.0 -1.2**
comp=Z,6.6nm,0.7s,baz=70,slow=6.2
NOA NORSAR Array B 68.89 329 P **P 12 15 38.2 -1.0**
comp=Z,7.1nm,0.8s,baz=69,slow=6.2,SNR=18
NOA LR LR 12 47 54.7
comp=Z,179nm,18.2s,baz=75,slow=38
comp=Z,7.1nm,0.8s
O18K Koktuh Hills 68.94 33 P **P 12 15 40.6 +1.1**
baz=290
N19K Bonanza Creek 68.94 31 P **P 12 15 40.9 +1.3**
baz=291,SNR=20
MLY Manley 69.00 27 P **P 12 15 40.8 +1.0**
baz=292,SNR=18
NC204 NORSAR Array S 69.01 329 **P 12 15 39.7 -0.3**
C26K Camden Bay 69.07 21 P **P 12 15 41.1 +1.0**
baz=295
F24K Squaw Lake 69.09 24 P **P 12 15 40.9 +0.6**
F24K Squaw Lake 69.09 24 P **P 12 15 40.7 +0.4**
baz=294,SNR=8.0
P18K Big Mountain, **69.09 33** P **P 12 15 41.2 +0.7**
baz=290
R17L Mt. Peulik Vol 69.14 35 P **P 12 15 41.5 +0.7**
baz=290
H23K Yukon River 69.15 26 P **P 12 15 41.6 +0.9**
baz=293
Q17K Contact Creek 69.16 34 P **P 12 15 41.5 +0.5**
baz=290
M20K Styx River 69.16 30 P **P 12 15 42.5 +1.5**
baz=291

PPLA	Purkeypile	69.20	29	P	P	12 15 42.2 +1.0
	baz=292,SNR=19					
O19K	Port Alsworth	69.23	32	P	P	12 15 42.1 +0.9
	baz=291					
BPAW	Bear Paw Mtn.	69.25	27	P	P	12 15 42.1 +0.8
	baz=292,SNR=27					
CMSA	Cobar Meteorol	69.41	146	P	P	12 15 43.5 +0.9
Q18K	Katmai Hardscr	69.46	34	P	P	12 15 43.1 +0.3
	baz=291					
I23K	Minto, Yukon-K	69.49	26	P	P	12 15 43.5 +0.8
	baz=293,SNR=15					
G24K	Hadweenzic Riv	69.57	24	P	P	12 15 44.0 +0.7
	baz=294,SNR=14					
C27K	Jago River	69.58	21	P	P	12 15 43.8 +0.5
	baz=297,SNR=17					
E25K	Arctic Village	69.64	23	P	P	12 15 44.0 +0.3
	baz=296					
KSP	Ksiaz	69.77	318	eP	P	12 15 45.3 +0.5
H24K	Noodor Dome	69.78	25	P	P	12 15 45.6 +1.0
	baz=294,SNR=14					
TRF	Thorofare Moun	69.79	28	P	P	12 15 45.9 +1.0
	baz=293					
NEA2	Nenana	69.83	27	P	P	12 15 45.8 +0.9
	baz=294,SNR=32					
SPCR	Spurr Chakacha	69.83	31	P	P	12 15 45.7 +0.7
	baz=292					
SKT	Skwentna	69.83	30	P	P	12 15 45.2 +0.2
	baz=293,SNR=13					
F25K	Christian Rive	69.84	23	P	P	12 15 45.9 +0.9
	baz=296,SNR=20					
P19K	Oil Pt	69.94	32	P	P	12 15 46.2 +0.5
	baz=292					
Q19K	Cape Douglas,	70.02	33	P	P	12 15 46.3 +0.1
	baz=292					
G25K	Bearman Lake	70.04	24	P	P	12 15 47.4 +1.3
	baz=296,SNR=16					
VRAC	Vranov	70.13	316	LR	LR	12 48 45.9
	comp=Z,114nm,18.9s,baz=56,slow=38					
COLA	College	70.19	26	P	P	12 15 47.6 +0.6
COLA	College	70.19	26	P	P	12 15 47.7 +0.6
COLA	College	70.19	26	P	P	12 15 47.6 +0.6
COLA	College	70.19	26	P	P	12 15 47.7 +0.6
	baz=295					
CUT	Chulitna	70.21	29	P	P	12 15 47.6 +0.4
	baz=293,SNR=5.6					
MCK	McKinley	70.23	27	P	P	12 15 48.1 +0.7
	baz=294,SNR=11					
POKR	Poker Plat Res	70.25	26	P	P	12 15 48.2 +0.7
	baz=295,SNR=11					
BMAR	Burnt Mountain	70.28	23	P	P	12 15 49.1 +1.4
F26K	Sheenjek River	70.31	23	P	P	12 15 48.5 +0.7
	baz=297,SNR=12					
H25L	Birch Creek	70.36	24	P	P	12 15 49.0 +0.9
	baz=296,SNR=6.1					
SUA	Susitna One	70.38	30	P	P	12 15 48.7 +0.2
	baz=293,SNR=26					
M22K	Willow	70.53	30	P	P	12 15 49.4 +0.1
	baz=294,SNR=11					
ILAR	Eielson Array	70.60	26	P	P	12 15 49.3 -0.3
ILAR	Eielson Array	70.60	26	P	P	12 15 49.0 -0.7
	comp=Z,9.2nm,1.0s,baz=299,slow=3.3,SNR=46					
	comp=Z,9.2nm,1.0s					
ILAR	Eielson Array	70.60	26	P	P	12 15 49.3 -0.3
D27M	Malcolm River	70.62	21	P	P	12 15 50.1 +0.3
	baz=299,SNR=12					
HOM	Homer	70.68	32	P	P	12 15 50.2 0.0
	baz=293					
HDA	Harding Lake	70.74	26	P	P	12 15 50.0 -0.5
	baz=296,SNR=14					
WAT1	Susitna Watana	70.76	28	P	P	12 15 50.5 -0.2
	baz=295					
G26K	Porcupine Rive	70.77	23	P	P	12 15 51.6 +1.0
	baz=297,SNR=13					
PRP	Porcupine Dome	70.80	25	P	P	12 15 51.7 +0.7
	baz=296,SNR=49					
OHAK	Old Harbor	70.84	35	P	P	12 15 51.8 +0.6
OHAK	Old Harbor	70.84	35	P	P	12 15 51.7 +0.5
	baz=293					
E27K	Coleen River	70.93	22	P	P	12 15 52.0 +0.4
	baz=299,SNR=10.0					
KDAK	Kodiak Island	70.97	34		P	12 15 52.5 +0.5
KDAK	Kodiak Island	70.97	34	P	P	12 15 52.5 +0.5
KDAK	Kodiak Island	70.97	34	P	P	12 15 52.2 +0.2
	baz=293					
RC01	Rabbit Creek A	70.97	30	P	P	12 15 52.1 +0.1
	baz=294					
PMR	Palmer	71.03	30	P	P	12 15 52.6 +0.3
PMR	Palmer	71.03	30	P	P	12 15 52.3 +0.1
	baz=295,SNR=14					
BRSE	Bradley Lake S	71.07	32	P	P	12 15 52.5 -0.1
	baz=294					
DHY	Denali Highway	71.14	28	P	P	12 15 53.1 0.0
	baz=296,SNR=7.4					
BRG	Berggiesshubel	71.15	318	eP	P	12 15 53.6 +0.4
BRG				Amp		12 15 54.4
	comp=Z,5.0nm,0.8s					
WAT6	Susitna Watana	71.20	28	P	P	12 15 53.5 0.0
	baz=296,SNR=8.1					
O22K	Cooper Landing	71.23	31	P	P	12 15 53.9 +0.4
	baz=294					
D28M	Stokes Point	71.26	20	P	P	12 15 54.1 +0.6
	baz=301					
J25K	Salcha River,	71.26	26	P	P	12 15 52.5 -1.2
	baz=297,SNR=9.9					
SML	Sawmill	71.29	29	P	P	12 15 54.3 +0.4
	baz=295,SNR=15					
E28M	Babbage River	71.38	21	P	P	12 15 54.7 +0.3
	baz=301,SNR=18					
KNK	Knik Glacier	71.40	30	P	P	12 15 55.1 +0.6
	baz=295					
K24K	Donnelly Dome	71.47	27	P	P	12 15 54.7 -0.2
	baz=297					
SEW	Seward	71.51	31	P	P	12 15 55.3 +0.1
	baz=295					
CLL	Collm	71.54	319	i P	P	12 15 55.5 0.0
CLL				i		12 16 00.3
CLL				pmax	pmax	
	comp=Z,5.0nm,1.0s					
CLL	Collm	71.54	319	i P	P	12 15 55.5 0.0
	comp=Z,5.0nm,1.0s					
CLL				i sP	pP	12 16 00.3 0.0
CLL				Lm	MLR	12 49 00.0
	comp=Z,200nm,19.5s					
M23K	Glacier View	71.55	29	P	P	12 15 56.0 +0.5
	baz=296,SNR=8.3					
G27K	Doyon Strip	71.58	23	P	P	12 15 56.4 +0.8
	baz=299,SNR=41					
PWL	Port Wells	71.69	30	P	P	12 15 56.6 +0.3
	baz=296,SNR=6.5					
SCM	Sheep Creek Mo	71.70	29	P	P	12 15 57.0 +0.5
	baz=296,SNR=5.2					
I26K	Coal Creek Min	71.77	25	P	P	12 15 57.1 +0.4
	baz=298					
F28M	Old Crow	71.78	22	P	P	12 15 57.2 +0.4
	baz=301,SNR=25					
RIDG	Independent Ri	71.86	27	P	P	12 15 57.1 -0.3
	baz=298,SNR=39					
H27K	Steamboat Moun	71.91	24	P	P	12 15 58.9 +1.2
	baz=300,SNR=42					
PAX	Paxson	71.97	27	P	P	12 15 58.3 +0.3
	baz=297,SNR=16					
J26L	Joseph Creek	72.00	26	P	P	12 15 58.0 -0.2
	baz=298,SNR=87					
E29M	Blow River	72.01	21	P	P	12 15 58.6 +0.5
	baz=302,SNR=82					
GERES	GERESS Array B	72.07	316	P	P	12 15 59.1 +0.2
	comp=Z,3.7nm,0.8s,baz=72,slow=8.6,SNR=14					
	comp=Z,3.7nm,0.8s					
M24K	Tolsona, Glenn	72.07	28	P	P	12 16 00.0 +1.4
	baz=297,SNR=12					
SCRK	Sand Creek	72.09	26	P	P	12 15 58.8 0.0
	baz=298,SNR=36					
MOA	Molln	72.10	315	eP	P	12 15 59.7 +0.6
	comp=Z,8.4nm,0.9s					
I27K	Kandik River	72.19	24	P	P	12 16 00.4 +1.1
	baz=300,SNR=35					
GLI	Glacier Island	72.23	30	P	P	12 16 00.8 +1.3
	baz=296					
HARP	HAARP	72.36	28	P	P	12 16 01.3 +1.0
	baz=298					
KLU	Klutina	72.46	29	P	P	12 16 01.9 +0.9
	baz=297,SNR=7.7					
P23K	Montague Islan	72.48	31	P	P	12 16 01.2 +0.1
	baz=296					
G29M	Pine Creek	72.76	22	P	P	12 16 03.1 +0.5
	baz=302,SNR=23					
EGAK	Eagle	72.77	25	P	P	12 16 02.8 +0.1
	baz=300,SNR=12					
K27K	Chicken	72.80	26	P	P	12 16 03.5 +0.6
	baz=300					
I28M	Miner Creek	72.87	24	P	P	12 16 04.2 +0.8
	baz=301,SNR=60					
N25K	Chitina, Valde	72.97	29	P	P	12 16 05.1 +1.1
	baz=298,SNR=12					
EYAK	Cordova Ski Ar	72.97	30	P	P	12 16 04.7 +0.8
	baz=298					
H29M	Whitestone	73.02	23	P	P	12 16 04.4 +0.2
	baz=302,SNR=25					
F30M	Barrier River	73.11	21	P	P	12 16 05.2 +0.6
	baz=304,SNR=40					
M26K	Nabesna, AK	73.24	27	P	P	12 16 06.5 +0.9
	baz=299,SNR=21					
LESA	Schwarzleotal	73.26	315	i P	P	12 16 06.2 +0.2
	comp=Z,9.0nm,0.8s					
BMRM	Bremner River	73.27	29	P	P	12 16 06.6 +0.8
	baz=298,SNR=9.0					
A36M	Sachs Harbour	73.28	15	P	P	12 16 05.3 -0.2
	baz=312,SNR=13					
G30M	tAoh Zraii Nji	73.32	22	P	P	12 16 05.8 -0.2
	baz=304,SNR=43					
L27K	Beaver Creek,	73.38	27	P	P	12 16 07.6 +1.2
	baz=300,SNR=31					
BCAR	Beaver Creek A	73.40	27	P	P	12 16 08.0 +1.5
INK	Inuvik	73.41	20		P	12 16 06.6 +0.3
INK	Inuvik	73.41	20	P	P	12 16 06.6 +0.3
INK	Inuvik	73.41	20	P	P	12 16 06.5 +0.1
	baz=306,SNR=34					
EPYK	Eagle Plains	73.49	22	P	P	12 16 06.8 -0.2
	baz=304,SNR=34					
I29M	Ogilvie Camp,	73.50	24	P	P	12 16 07.0 -0.1
	baz=302					
ABTA	Abfaltersbach	73.64	315	eP	P	12 16 07.6 -0.7
	comp=Z,6.0nm,0.8s					
NEEM	North Greenlan	73.64	355	i P	P	12 16 08.8 +0.9
NEEM				IAmb	IAmb	12 16 11.1
	comp=Z,48nm,0.9s					
M27K	Edge Creek, AK	73.72	27	P	P	12 16 09.7 +1.2
	baz=300,SNR=11					
MCARA	McCarthy VSAT	73.73	28	P	P	12 16 09.6 +1.1
	baz=300,SNR=14					
DAWY	Dawson	73.80	25	P	P	12 16 09.0 +0.2
	baz=302,SNR=49					
F31M	Tsiigehtchic	73.85	21	P	P	12 16 08.7 -0.2
	baz=306,SNR=25					
WTTA	Wattenberg	73.97	315	i P	P	12 16 10.2 -0.1
	comp=Z,8.8nm,1.0s					
G31M	Satah River	73.98	21	P	P	12 16 09.2 -0.5
	baz=306,SNR=31					
CRQE	Cirque	74.02	29	P	P	12 16 11.0 +0.7
	baz=300					
J29N	Klondike Camp	74.02	24	P	P	12 16 11.2 +1.0
	baz=303					
CAN	Canberra	74.08	146	P	P	12 16 11.8 +1.0
SQTA	Sankt Quirin	74.25	315	i P	P	12 16 11.7 -0.1
	comp=Z,7.7nm,0.6s					
I30M	Mount Dempster	74.25	23	P	P	12 16 11.6 0.0
	baz=304,SNR=122					
CNB	Canberra Magne	74.26	146	P	P	12 16 12.6 +0.8
MOTA	Moosalm	74.27	316	eP	P	12 16 12.1 +0.1
	comp=Z,7.3nm,0.8s					
H31M	Peel River	74.61	22	P	P	12 16 13.3 -0.2
	baz=306,SNR=36					
K29M	Barlow Dome	74.61	25	P	P	12 16 14.6 +0.9
	baz=304,SNR=70					
FETA	Feichten	74.63	315	i P	P	12 16 14.0 -0.1
	comp=Z,12nm,1.1s					
J30M	Hart River	74.64	24	P	P	12 16 14.3 +0.5
	baz=304,SNR=40					
CTG	Chitna Glacier	74.65	28	P	P	12 16 15.6 +1.6
	baz=301,SNR=8.5					
L29M	L29M	74.79	26	P	P	12 16 16.0 +1.4
	baz=303,SNR=66					
MESA	MESA	74.80	29	P	P	12 16 16.3 +1.4
	baz=301					
M29M	Somme Creek	75.03	26	P	P	12 16 17.5 +1.4
	baz=303,SNR=17					
YUK8	Steele Glacier	75.13	28	P	P	12 16 17.9 +1.0
	baz=302,SNR=7.4					
DZM	Mont Dzumac	75.20	126	P	P	12 16 17.9 +0.3
	comp=Z,14nm,0.9s,baz=337,slow=7.7,SNR=3.7					
	comp=Z,14nm,0.9s					
O28M	Mount Upton	75.23	28	P	P	12 16 18.7 +1.1
	baz=302					
TULEG	Thule	75.26	359	i P	P	12 16 17.7 +0.7
TULEG				IAmb	IAmb	12 16 20.0
	comp=Z,31nm,1.0s					
MAYO	Mayo, Yukon	75.35	25	P	P	12 16 18.6 +0.8
	baz=305,SNR=37					
C36M	Paulatuk	75.37	17	P	P	12 16 17.1 -0.6
	baz=314,SNR=7.1					
YUK4	Talbot Arm	75.56	27	P	P	12 16 19.9 +0.7
	baz=303,SNR=6.5					
PINM	Pinnacle	75.56	29	P	P	12 16 20.3 +1.1
	baz=302,SNR=5.3					
M30M	Minto, Yukon	75.60	26	P	P	12 16 20.3 +1.0
	baz=304,SNR=38					
TUE	Stuetta	75.73	315		P	12 16 20.6 +0.1
YUK6	Outpost Mounta	75.89	28	P	P	12 16 21.9 +0.7
	baz=304,SNR=5.7					
RES	Resolute Bay	76.02	6	LR	LR	12 51 29.6
	comp=Z,36nm,20.2s,baz=183,slow=37					
N30M	Aishikik Lake	76.11	27	P	P	12 16 23.4 +1.2
	baz=304,SNR=17					
O29M	Mount Kennedy	76.16	28	P	P	12 16 23.9 +1.3
	baz=304,SNR=7.7					
PNL	Peninsula	76.16	29	P	P	12 16 24.0 +1.5
	baz=303					
VAE	Valguarnera	76.22	305	LR	LR	12 56 03.6
	comp=Z,106nm,18.2s,baz=298,slow=40					
HYT	Haines Junctio	76.31	27	P	P	12 16 24.7 +1.2
	baz=304,SNR=20					
N31M	Braeburn, Yuko	76.61	26	P	P	12 16 26.2 +1.1
	baz=306,SNR=23					
M31M	Drury Creek, Y	76.73	25	P	P	12 16 25.7 0.0
	baz=306					
SUMG	Summit	76.73	350	i P	P	12 16 26.0 0.0
SUMG				IAmb	IAmb	12 16 29.0
	comp=Z,14nm,0.6s					
KULLO	Kullorsuaq	76.81	356	i P	P	12 16 26.2 +0.3
KULLO				IAmb	IAmb	12 16 26.7
	comp=Z,48nm,1.3s					
P29M	Windy Craggy	76.88	28	P	P	12 16 27.8 +1.2
	baz=304,SNR=5.8					
O30N	Mendenhall	76.91	27	P	P	12 16 28.0 +1.3
	baz=305,SNR=19					
P30M	Million Dollar	76.93	28	P	P	12 16 28.2 +1.3
	baz=305					
WHY	Whitehorse	77.45	27	P	P	12 16 30.7 +0.8
	baz=306,SNR=7.2					
N32M	Quiet Lake	77.86	26	P	P	12 16 32.6 +0.5
	baz=308					
SKAG	Skagway	77.98	28	P	P	12 16 34.0 +1.3
SKAG	Skagway	77.98	28	P	P	12 16 34.1 +1.3
	baz=306,SNR=20					
EKA	Eskdalemuir Ar	78.24	327	P	P	12 16 33.7 -0.5
	comp=Z,4.0nm,0.8s,baz=35,slow=7.6,SNR=4.2					
	comp=Z,4.0nm,0.8s					
S31K	Pelican	78.48	29	P	P	12 16 36.7 +1.3
	baz=306					
UPNV	Upernavik	78.50	355	i P	P	12 16 35.2 -0.1
UPNV				IAmb	IAmb	12 16 36.1
	comp=Z,34nm,1.4s					
P33M	Teslin, Yukon	78.54	27	P	P	12 16 36.7 +0.7
	baz=308,SNR=9.7					
P32M	Atlin	78.56	27	P	P	12 16 37.0 +0.9
	baz=308					
R32K	Eaglecrest	79.03	29	P	P	12 16 39.7 +1.1
	baz=307					
BORG	Borgarnes	79.26	340	LR	LR	12 55 18.2
	comp=Z,58nm,18.6s,baz=10,slow=38					
TGTN	Hyland Airport	79.41	24	P	P	12 16 41.4 +0.8
	baz=312,SNR=23					
SIT	Sitka	79.42	30	P	P	12 16 42.3 +1.7
SIT	Sitka	79.42	30	P	P	12 16 41.9 +1.3
	baz=307					
Q32M	Nakina River	79.54	27	P	P	12 16 42.5 +0.9
	baz=309					
R33M	Jennings River	79.78	27	P	P	12 16 43.8 +1.0
	baz=310,SNR=12					
WRGLY	Wrigley	79.86	21	P	P	12 16 43.4 +0.5
	baz=315,SNR=9.5					
WTLY	Watson Lake, Y	80.15	25	P	P	12 16 44.9 +0.3
	baz=311,SNR=16					
IDGL	Inch Island, C	80.44	328	P	P	12 16 46.6 +0.4
ILTH	Belurgan, Co L	80.50	327	P	P	12 16 47.9 +1.4
KEST	Kesra	80.64	305	P	P	12 16 48.2 +0.4
	comp=Z,7.0nm,0.7s,baz=110,slow=1.8,SNR=6.3					
	comp=Z,7.0nm,0.7s					
S34M	Telegraph Cree	80.67	28	P	P	12 16 48.5 +1.1
	baz=310					
DLBC	Dease Lake	80.78	27	P	P	12 16 49.3 +1.3
	baz=311,SNR=5.5					
DSB	Dublin	80.98	326	P	P	12 16 50.3 +1.1
WRAK	Wrangell Islan	81.10	29	P	P	12 16 50.8 +1.0
	baz=309					
CRAG	Craig	81.36	30	P	P	12 16 52.6 +1.5
CRAG	Craig	81.36	30	P	P	12 16 52.4 +1.3
	baz=308					
T35M	Bob Quinn	81.63	28	P	P	12 16 53.7 +1.1
	baz=311					
LIRD	Liard River Hi	81.64	25	P	P	12 16 53.7 +1.1
	baz=314					
IWEX	Carrickbyrne,	81.69	326	P	P	12 16 53.9 +1.0
KOTAN	Kotaneelee Air	81.87	24	P	P	12 16 54.5 +0.8
	baz=315					
DGTI	Dogotuki	82.04	113	P	P	12 16 55.4 +0.1
V35K	Ketchikan	82.12	30	P	P	12 16 56.1 +1.0
	baz=310					
IGLA	Glengowla, Co	82.31	328	P	P	12 16 55.0 -1.2
TOAD	Toad River Com	82.35	25	P	P	12 16 57.2 +0.8
	baz=314					
YKA	Yellowknife Ar	83.08	19	P	P	12 17 00.0 0.0
	comp=Z,15nm,0.8s,baz=325,slow=5.7,SNR=51					
	comp=Z,15nm,0.8s					
DY2G	Dye2	83.44	350	i P	P	12 17 02.4 +0.3
DY2G				IAmb	IAmb	12 17 04.0
	comp=Z,25nm,0.5s					
SFJD	Kangerlussuaq	83.55	352	i P	P	12 17 02.6 +0.3
SFJD				IAmb	IAmb	12 17 03.0
	comp=Z,17nm,0.8s					
ESDC	Sonseca Array	87.56	314		P	12 17 23.4 +0.5
ESDC	Sonseca Array	87.56	314	P	P	12 17 23.2 +0.2
	comp=Z,2.6nm,1.0s,baz=49,slow=5.0,SNR=12					
ESDC				LR	LR	13 01 13.4
	comp=Z,59nm,21.7s,baz=334,slow=39					
	comp=Z,2.6nm,1.0s					
FFC	Flin Flon	93.15	17		P	12 17 48.6 -0.1
FFC	Flin Flon	93.15	17	P	P	12 17 48.6 -0.1
SCHQ	Schefferville	96.98	357	P	P	12 18 06.1 -0.1
	comp=Z,37nm,0.8s,baz=68,slow=5.4,SNR=3.6					
TORD	Torodi Ar. Bea	98.02	290	P	P	12 18 11.2 -0.4
	comp=Z,0.6nm,0.8s,baz=50,slow=4.1,SNR=3.3					
	comp=Z,0.6nm,0.8s					
NVAR	Mina Array Bea	100.44	36	P	Pdif	12 18 22.2 -0.1
	comp=Z,0.3nm,0.5s,baz=321,slow=4.1,SNR=5.0					
VNDA	Vanda	110.38	169	PKKPbc	PKKPbc	12 34 07.3 -1.2
	comp=Z,0.4nm,0.7s,baz=94,slow=3.7,SNR=3.9					
TXAR	Lajitas Array	114.89	31	PKP	PKiKP	12 23 15.5 -0.6
	comp=Z,0.3nm,0.5s,baz=265,slow=1.0,SNR=9.3					
QSPA	South Pole Qui	118.21	180	PKP	PKiKP	12 23 21.7 +0.6
	comp=Z,1.1nm,0.6s,baz=284,slow=2.2,SNR=8.5					
QSPA				PKKPbc	PKKPab	12 33 40.7 +0.1
	comp=Z,1.2nm,0.7s,baz=152,slow=0.6,SNR=8.0					
NVL	N'lazarevskaya	118.70	202	i PKIKP	PKPdf	12 23 21.8 0.0
NVL				e		12 24 39.1
NVL				ePPP	PPP	12 27 07.1
NVL				eSS	SS	12 40 59.6 +1.7
NVL				eSSS	SSS	12 45 20.1
NVL				pmax	pmax	
	comp=Z,12nm,1.6s					
NVL				pmax	pmax	
	comp=N,173nm,18.3s					
NVL				MLR	MLR	
	comp=Z,156nm,21.0s					
SDV	Santo Domingo	142.89	358		PKPdf	12 24 05.0 -4.3
RUSC	La Rusia	145.84	3		PKPdf	12 24 15.0 +0.1
ROSC	El Rosal	146.82	5		PKPbc	12 24 18.6 +0.6
ROSC	El Rosal	146.82	5	PKPbc	PKPbc	12 24 18.1 0.0
	comp=Z,27nm,0.5s,baz=45,slow=7.1,SNR=10					
ROSC	El Rosal	146.82	5	PKP2	PKPbc	12 24 18.7 +0.6
BOAV	Boa Vista	147.55	339		PKPbc	12 24 19.9 +0.2
FLOC	Florencia	149.90	8		PKPbc	12 24 26.1 +0.3
MACA	Manacapuru-AM	152.80	336		PKPbc	12 24 32.5 +0.1
LPAZ	La Paz	167.50	344	PKP	PKPdf	12 24 42.2 -0.1
	comp=Z,1.2nm,0.8s,baz=38,slow=5.0,SNR=5.0					

*IDC **02** 12:12:29.6±2.0, 33°.55S×179°.32W, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=47.2km s-min=34.7km az=63.0*

ISC 02 12:12:36.8±1.7, 33°.8S±0°.1×179°.6W±0°.3, h35km, n12, σ0°89/7, mb3.7/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.21	210	Pn	Pn	12 13 51.0	-1.1
	3.6nm,0.3s,baz=35,slow=16,SNR=17						
URZ				Sn	Sn	12 14 51.8	+0.8
	4.5nm,0.3s,baz=71,slow=18,SNR=8.0						
	9.6nm,0.3s						
ASAR	Alice Springs	41.70	271	P	P	12 20 22.7	+0.4
	0.4nm,0.7s,baz=114,slow=7.1,SNR=6.1						
	0.4nm,0.7s						
WRA	Warramunga Arr	42.99	277	P	P	12 20 32.0	-0.9
	0.3nm,0.3s,baz=117,slow=8.0,SNR=8.2						
	0.3nm,0.3s						
FITZ	Fitzroy Crossi	51.09	273	P	P	12 21 36.2	+0.1
	2.7nm,1.0s,baz=121,slow=8.5,SNR=2.9						
	2.7nm,1.0s						
QSPA	South Pole Qui	56.35	180	P	P	12 22 14.5	+0.4
	1.4nm,0.9s,baz=71,slow=8.4,SNR=3.5						
	1.4nm,0.9s						
H03S2	Juan Fernandez	79.74	124	T	T	13 52 50.3	
	baz=236						
H03S1	Juan Fernandez	79.75	124	T	T	13 52 58.2	
	baz=236						
H03S3	Juan Fernandez	79.75	124	T	T	13 52 52.4	
	baz=236						
H03N3	Juan Fernandez	79.95	123	T	T	13 53 14.7	
	baz=235,slow=74						
H03N2	Juan Fernandez	79.95	123	T	T	13 53 14.8	
	baz=235						
H03N1	Juan Fernandez	79.97	123	T	T	13 53 05.4	
	baz=235,slow=74						
FINES	FINESS Array B	147.78	337	PKPbc	PKPdf	12 32 14.1	-0.1
	1.3nm,0.5s,baz=347,slow=5.7,SNR=7.2						

IDC 02 12:14:18.3±1.7, 1°.22N×127°.33E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=165.4km s-min=20.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.12	162	P	P	12 19 14.7	-0.9
	0.6nm,0.7s,baz=341,slow=12,SNR=7.7						
	0.6nm,0.7s						
ASAR	Alice Springs	25.55	166	P	P	12 19 49.3	+0.3
	0.2nm,0.5s,baz=345,slow=10,SNR=6.8						
	0.2nm,0.5s						
STKA	Stephens Creek	35.59	159	P	P	12 21 18.1	+0.4
	0.4nm,0.3s,baz=328,slow=9.5,SNR=3.7						
	0.4nm,0.3s						
MKAR	Makanchi Array	59.95	326	P	P	12 24 26.4	0.0
	0.4nm,0.4s,baz=120,slow=7.3,SNR=5.5						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	64.17	328	P	P	12 24 54.5	-0.1
	0.4nm,0.5s,baz=129,slow=6.3,SNR=4.9						
	0.4nm,0.5s						

*TEH **02** 12:25:34.1, 34°.51N×45°.23E, h7km±78km*
*ISN **02** 12:25:34.1±0.7, 34°.52N×45°.25E, h18km±17km, ML2.5*

ISC 02 12:25:34.8±1.0, 34°.52N±0°.06×45°.20E±0°.05, h10km, n8, σ1°10/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.32	93	Pg	Pg	12 25 40.7	-0.6
GLG1	Gilan-e-Gharb	0.72	125	Pg	Pg	12 25 47.5	-1.1
IDHR	Dehrash	0.99	80	Pg	Pg	12 25 52.5

IBDR AML AML 12 26 28.8
comp=N,6.5nm,0.8s
SNQR Sonqor, Kerman 2.03 80 Pn **Pn 12 26 10.8 +1.5**

IDC 02 12:44:18.1±1.5, 55°80S×149°46W, h0km, mb3.7/2, mbtmp3.7/2, MS3.5/6, Error ellipse: s-maj=331.2km s-min=43.5km az=3.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.54**	**201**	LR	LR	12 57 19.4	
	comp=Z,69nm,21.3s,baz=65,slow=28						
URZ	**Urewera**	**28.37**	**294**	LR	LR	12 59 45.0	
	comp=Z,74nm,19.0s,baz=13,slow=33						
TBI	**Tubuai**	**32.41**	**0**	eLR	LR	12 59 40.9	
	882nm,28.0s						
QSPA	**South Pole Qui**	**34.35**	**180**	LR	LR	13 02 20.5	
	comp=Z,94nm,18.9s,baz=68,slow=32						
PPT2	**Papeete2**	**38.14**	**360**	eLR	LR	13 02 16.9	
	192nm,25.5s						
PPT2				eLR	LR	13 02 33.1	
	188nm,29.0s						
PPT	**Papeete**	**38.16**	**360**	LR	LR	13 03 24.3	
	comp=Z,150nm,20.5s,baz=162,slow=30						
SNAA	**Sanae**	**50.67**	**167**	LR	LR	13 11 58.4	
	comp=Z,41nm,21.7s,baz=198,slow=33						
PLCA	**Paso Flores**	**51.76**	**108**	LR	LR	13 09 14.8	
	comp=Z,44nm,18.2s,baz=208,slow=29						
H03S2	**Juan Fernandez**	**52.12**	**96**	T	T	13 48 27.3	
	baz=220						
H03S1	**Juan Fernandez**	**52.12**	**96**	T	T	13 48 28.6	
	baz=220,slow=74						
H03S3	**Juan Fernandez**	**52.14**	**96**	T	T	13 48 26.0	
	baz=220,slow=74						
H03N3	**Juan Fernandez**	**52.40**	**96**	T	T	13 48 47.7	
	baz=221,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**52.41**	**96**	T	T	13 48 39.1	
	baz=221,slow=72,SNR=24						
H03N1	**Juan Fernandez**	**52.42**	**96**	T	T	13 48 46.6	
	baz=221,slow=72,SNR=13						
ASAR	**Alice Springs**	**63.31**	**267**	P	P	12 54 49.0	+0.1
	0.8nm,0.8s,baz=142,slow=6.2,SNR=6.7						
	0.8nm,0.8s						
H01W1	**Cape Leeuwin H**	**65.27**	**244**	T	T	14 06 39.1	
	baz=144,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**65.27**	**244**	T	T	14 06 42.0	
	baz=144,slow=76,SNR=33						
H01W3	**Cape Leeuwin H**	**65.28**	**244**	T	T	14 06 34.3	
	baz=144,slow=76,SNR=26						
WRA	**Warramunga Arr**	**66.01**	**270**	P	P	12 55 06.0	-0.5
	0.9nm,1.0s,baz=134,slow=6.0,SNR=3.3						
	0.9nm,1.0s						
MKAR	**Makanchi Array**	**147.12**	**276**	PKPbc	PKPbc	13 04 02.1	0.0
	1.4nm,0.7s,baz=114,slow=3.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**151.27**	**280**	PKPbc	PKPbc	13 04 11.7	-0.7
	0.2nm,0.3s,baz=110,slow=2.3,SNR=5.6						
ESDC	**Sonseca Array**	**152.12**	**111**	PKP	PKPdf	13 04 06.4	-1.7
	0.4nm,0.7s,baz=270,slow=3.5,SNR=2.3						
ESDC				PKPbc	PKiKP	13 04 15.0	-0.1
	0.7nm,0.8s,baz=221,slow=1.6,SNR=4.3						

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*IDC **02** 12:52:51.0±2.7, 8°68N×82°45W, h0km, mb3.8/6, mbtmp3.9/8, ML4.1/2, MS3.4/12, Error ellipse: s-maj=84.0km s-min=39.5km az=28.0*
*UCR **02** 12:52:53.1±0.7, 8°43N×82°83W, h21km±1km, MW4.7*
*UPA **02** 12:52:53.7±1.6, 8°48N×82°80W, h20km±3km, MW4.5, Fault plane solution: NP1:φs=50.00000°, δ=68.00000°, λ=-122.00000°.*
*NEIC **02** 12:52:54.6±1.5, 8°57N±0°06×82°90W±0°05, h14km±6km, mb4.6/6, Error ellipse: s-maj=10.1km s-min=6.0km az=212.0*
*CATAC **02** 12:52:54.3±0.3, 9°N±2°×8°3W±°, h14km±1km, M4.5/14, MLv4.5/14, Error ellipse: s-maj=5.3km s-min=3.6km az=3.5, confirmed*

ISC 02 12:52:53.7±0.7, 8°47N±0°02×82°83W±0°02, h18km±2km, n158, σ1§08/172, mb4.2/10, MS3.6/11, 26C-24D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.07**	**353**	‖eP	**Pg**	**12 52 57.5**	**+0.3**
LPPC				eS	**Sg**	**12 53 00.6**	**+1.0**
LESP3	**La Esperanza,**	**0.07**	**146**	‖iP	**Pg**	**12 52 57.3**	**0.0**
LESP3				eS	**Sg**	**12 53 01.5**	**+1.9**
CDITO	**Canoas**	**0.11**	**339**	P	**Pg**	**12 52 57.9**	**+0.2**
CDITO	**Canoas**	**0.11**	**339**	S	**Sg**	**12 53 01.8**	**+1.5**
DMCAL	**E. de Neily**	**0.21**	**11**	‖eP	**Pg**	**12 52 59.3**	**+0.4**
NELY	**Ciudad Neily**	**0.21**	**328**	‖eP	**Pg**	**12 52 59.1**	**+0.1**
NELY				eS	**Sg**	**12 53 03.6**	**+1.1**
BAGA3	**Bagala, Chiriq**	**0.30**	**90**	eP	**Pb**	**12 53 00.5**	**-0.1**
RSRNO	**Rio Sereno**	**0.35**	**355**	‖iP	**Pb**	**12 53 01.8**	**+0.2**
RSRNO				eS	**Sn**	**12 53 08.9**	**-1.7**
RSRNO	**Rio Sereno**	**0.35**	**355**	‖eP	**Pb**	**12 53 01.6**	**+0.1**
BRU2	**Volcan**	**0.35**	**23**		**Pb**	**12 53 01.3**	**-0.3**
BRU2					**Sg**	**12 53 05.8**	**-0.7**
BRU2	**Volcan**	**0.35**	**23**	‖iP	**Pb**	**12 53 01.4**	**-0.3**
BRU2				*i* S	**Sb**	**12 53 07.7**	**+0.7**
BRU2	**Volcan**	**0.35**	**23**	P	**Pb**	**12 53 01.5**	**-0.1**
BRU2	**Volcan**	**0.35**	**23**	‖eP	**Pb**	**12 53 01.4**	**-0.3**
FITO	**Golfito**	**0.36**	**296**	‖eP	**Pg**	**12 53 00.3**	**-1.0**
FITO				eS	**Sg**	**12 53 05.6**	**-0.8**
JEFFS	**S de V. Baru**	**0.36**	**56**	‖eP	**Pg**	**12 53 01.2**	**-0.1**
LMNES	**Limones**	**0.36**	**184**	‖iP	**Pg**	**12 53 01.1**	**-0.4**
LMNES	**Limones**	**0.36**	**184**	‖eP	**Pg**	**12 53 00.9**	**-0.5**
SCLRA	**Santa Clara, W**	**0.37**	**8**	‖iP	**Pb**	**12 53 01.9**	**0.0**
SCLRA				eS	**Sb**	**12 53 08.1**	**+0.7**
SCLRA	**Santa Clara, W**	**0.37**	**8**	‖eP	**Pb**	**12 53 01.8**	**-0.1**
TBS2		**0.37**	**28**	‖eP	**Pb**	**12 53 02.5**	**+0.5**
VITO	**San Vito**	**0.38**	**339**	eP	**Pb**	**12 53 02.0**	**0.0**
VITO				eS	**Sb**	**12 53 09.0**	**+1.4**
DVD	**David**	**0.38**	**95**	eP	**Pg**	**12 53 01.1**	**-0.5**
DVD				eS	**Sg**	**12 53 06.8**	**-0.2**
EDAD	**Golfito**	**0.38**	**299**	eP	**Pg**	**12 53 00.7**	**-1.0**
EDAD				eS	**Sg**	**12 53 06.4**	**-0.7**
BANCO	**falda S V. Bar**	**0.39**	**50**	‖eP	**Pg**	**12 53 01.8**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.40**	**56**	eP	**Pg**	**12 53 01.9**	**-0.3**
PTAR3				eS	**Sb**	**12 53 08.6**	**+0.3**
BC3P	**Paso Ancho**	**0.41**	**32**	‖eP	**Pg**	**12 53 02.1**	**-0.3**
BC3P				eS	**Sb**	**12 53 09.0**	**+0.4**
LOCO3	**Loma Colorada,**	**0.41**	**98**	eP	**Pg**	**12 53 01.9**	**-0.3**
LOCO3				eS	**Sg**	**12 53 07.7**	**-0.4**
PEDE3	**Pedregal, Chir**	**0.41**	**101**	eP	**Pg**	**12 53 01.7**	**-0.6**
LOMA3	**Las Lomas, Chi**	**0.44**	**95**	eP	**Pg**	**12 53 02.2**	**-0.5**
BQTLY	**Boquete Panama**	**0.47**	**52**	‖iP	**Pg**	**12 53 02.8**	**-0.6**
BQTLY	**Boquete Panama**	**0.47**	**52**	‖eP	**Pg**	**12 53 02.7**	**-0.6**
BQSF3	**Alto Boquete,**	**0.48**	**55**	‖eP	**Pg**	**12 53 02.9**	**-0.7**
BQSF3				eS	**Sb**	**12 53 10.2**	**-0.3**
ALCO	**Alturas Coton,**	**0.48**	**360**	‖eP	**Pg**	**12 53 03.0**	**-0.6**
ALCO				eS	**Sb**	**12 53 10.2**	**-0.4**
WILLF	**Boquete**	**0.48**	**54**	‖eP	**Pg**	**12 53 02.8**	**-0.8**
JIME	**Puerto Jimenez**	**0.49**	**278**	eP	**Pg**	**12 53 02.8**	**-0.9**
CHIR3	**Chiriqui UPA,**	**0.50**	**98**	eP	**Pg**	**12 53 03.0**	**-0.9**
LNBQ3	**Los Naranjos,**	**0.50**	**50**	eP	**Pg**	**12 53 03.1**	**-0.9**
LNBQ3				eS	**Sb**	**12 53 10.8**	**-0.4**
PIRO	**Carate, Puerto**	**0.50**	**263**		**Pg**	**12 53 03.4**	**-0.5**
PIRO					**Sg**	**12 53 09.8**	**-1.0**
PIRO	**Carate, Puerto**	**0.50**	**263**	eP	**Pg**	**12 53 03.5**	**-0.5**
PIRO				eS	**Sb**	**12 53 11.9**	**+0.9**
PIRO	**Carate, Puerto**	**0.50**	**263**	P	**Pg**	**12 53 03.3**	**-0.7**
PIRO	**Carate, Puerto**	**0.50**	**263**	S	**Sn**	**12 53 13.1**	**-1.1**
PIRO	**Carate, Puerto**	**0.50**	**263**	eP	**Pg**	**12 53 03.1**	**-0.8**
DAP26	**falda E V. Bar**	**0.52**	**52**	‖eP	**Pg**	**12 53 03.1**	**-1.1**
PSOM3	**Paja de Sombre**	**0.55**	**67**	eP	**Pg**	**12 53 03.6**	**-1.1**
PSOM3				eS	**Sg**	**12 53 11.6**	**-0.6**
EDP2	**Potrero Grande**	**0.64**	**328**	‖eP	**Pb**	**12 53 06.0**	**-0.4**
PBNVO	**Pueblo Nuevo,**	**0.76**	**56**	‖eP	**Pb**	**12 53 06.9**	**-1.5**
RBALA	**Bur**	**0.79**	**58**	‖iP	**Pb**	**12 53 07.7**	**-1.2**
RBALA				eS	**Sb**	**12 53 18.1**	**-1.1**
RBALA	**Bur**	**0.79**	**58**	‖eP	**Pb**	**12 53 07.6**	**-1.2**
PANP	**Palmar Norte**	**0.79**	**308**	‖eP	**Pb**	**12 53 07.5**	**-1.4**
CHGR2	**Aguacate**	**0.82**	**55**	eP	**Pb**	**12 53 08.2**	**-1.4**
CHGR2				eS	**Sb**	**12 53 19.0**	**-1.4**
BURE	**Buenos Aires**	**0.86**	**325**	‖eP	**Pb**	**12 53 09.1**	**-1.1**
DRK0	**Durika**	**0.89**	**333**	eP	**Pb**	**12 53 09.6**	**-1.2**
DRK0				eS	**Sb**	**12 53 22.0**	**-0.4**
DRK0	**Durika**	**0.89**	**333**	P	**Pb**	**12 53 09.7**	**-1.1**
DRK0	**Durika**	**0.89**	**333**	‖eP	**Pb**	**12 53 09.4**	**-1.3**
EDPE	**Pejibaye, P**	**1.00**	**313**	‖eP	**Pb**	**12 53 11.1**	**-1.5**
CNI2	**El Empalme, Bo**	**1.02**	**20**	eP	**Pb**	**12 53 11.9**	**-0.9**
OCHAL	**Ojochal**	**1.02**	**308**	P	**Pb**	**12 53 11.1**	**-1.8**
OCHAL	**Ojochal**	**1.02**	**308**	S	**Sb**	**12 53 25.0**	**-1.0**
SAJE	**San Jernim**	**1.10**	**323**	‖eP	**Pb**	**12 53 12.2**	**-2.1**
RGM0	**Gandoca**	**1.14**	**11**	Pn	**Pg**	**12 53 15.1**	**-0.7**
RGM0				Sn	**Sg**	**12 53 30.5**	**-0.3**
RGM0	**Gandoca**	**1.14**	**11**	eP	**Pg**	**12 53 15.5**	**-0.4**
RGM0				eS	**Sg**	**12 53 33.3**	**+2.5**
RGM0	**Gandoca**	**1.14**	**11**	P	**Pg**	**12 53 15.4**	**-0.4**
RGM0	**Gandoca**	**1.14**	**11**	‖eP	**Pg**	**12 53 15.2**	**-0.7**
BRIBI	**Bribri**	**1.15**	**1**	‖eP	**Pb**	**12 53 15.1**	**+0.1**
LAES	**El Progreso Va**	**1.31**	**351**	‖eP	**Pn**	**12 53 17.0**	**-0.1**
VERH	**Veragua Rainfo**	**1.49**	**346**	‖eP	**Pn**	**12 53 19.1**	**-0.6**
PIEC	**Cerro El Cedra**	**1.60**	**316**	eP	**Pn**	**12 53 19.9**	**-1.5**
MESA3	**La Mesa, Verag**	**1.66**	**101**	eP	**Pn**	**12 53 21.0**	**-0.9**
TURIB	**Turrialba**	**1.66**	**330**	‖eP	**Pn**	**12 53 21.3**	**-0.8**
VERB	**Verbena**	**1.70**	**330**	‖eP	**Pn**	**12 53 22.1**	**-0.5**
LCR2	**La Lucha 2**	**1.72**	**318**	eP	**Pn**	**12 53 21.8**	**-1.1**
LCR2				eS	**Sn**	**12 53 43.6**	**-0.9**
LCR2	**La Lucha 2**	**1.72**	**318**	P	**Pn**	**12 53 22.3**	**-0.7**
LCR2	**La Lucha 2**	**1.72**	**318**	S	**Sn**	**12 53 42.7**	**-1.8**
LCR2	**La Lucha 2**	**1.72**	**318**	eP	**Pn**	**12 53 21.4**	**-1.5**
RSUS3	**Rio de Jesus,**	**1.72**	**106**	eP	**Pn**	**12 53 22.4**	**-0.4**
GMAL	**Guarumal, Vera**	**1.73**	**114**	eP	**Pn**	**12 53 21.1**	**-1.8**
RESJ	**San Isidro (Tu**	**1.75**	**333**	‖eP	**Pn**	**12 53 23.2**	**0.0**
IRES	**Siquirres**	**1.75**	**338**	‖eP	**Pn**	**12 53 23.1**	**-0.1**
LCOCO	**El Coco**	**1.76**	**336**	‖eP	**Pn**	**12 53 23.4**	**+0.1**
ABRB	**Las Abras (San**	**1.76**	**330**	‖eP	**Pn**	**12 53 23.4**	**-0.1**
CVTV	**Tajo**	**1.78**	**329**	‖eP	**Pn**	**12 53 23.6**	**-0.2**
CVTQ	**Turrialba Volc**	**1.79**	**329**	‖eP	**Pn**	**12 53 23.6**	**-0.4**
VTR0	**Volcan Turrial**	**1.79**	**329**	‖eP	**Pn**	**12 53 23.9**	**-0.3**
CVTR	**Volcan Turrial**	**1.79**	**329**	‖eP	**Pn**	**12 53 23.9**	**-0.3**
RVLA	**Villa Bonita**	**1.79**	**335**	‖eP	**Pn**	**12 53 23.8**	**0.0**
PAR1A	**Puntarenas Pro**	**1.80**	**309**	eP	**Pn**	**12 53 23.8**	**-0.1**
VICA	**Volcano Irazu**	**1.81**	**327**	‖eP	**Pn**	**12 53 23.7**	**-0.7**
STIA3	**Santiago, Vera**	**1.88**	**101**	eP	**Pn**	**12 53 25.9**	**+1.0**
CVIMO	**Finca Echandi**	**1.90**	**325**	‖eP	**Pn**	**12 53 25.0**	**-0.4**
PILE	**Guapiles**	**1.98**	**332**	eP	**Pn**	**12 53 26.5**	**+0.2**
HDC	**Heredia**	**1.98**	**320**		**Pn**	**12 53 25.6**	**-0.9**
MARI3	**Mariato, Verag**	**2.00**	**114**	eP	**Pn**	**12 53 26.0**	**-0.5**
VPS8	**V Poas**	**2.20**	**321**	‖eP	**Pn**	**12 53 29.3**	**-0.4**
CRIS3	**El Cristo, Coc**	**2.20**	**95**	eP	**Pn**	**12 53 30.2**	**+0.9**
CHIT3	**Chitre**	**2.44**	**102**	eP	**Pb**	**12 53 35.5**	**-1.6**
PNME	**Penonome**	**2.48**	**89**	eP	**Pb**	**12 53 39.1**	**+1.4**
SOCE	**Pocosol**	**2.59**	**317**	Pn	**Pn**	**12 53 34.3**	**-0.6**
SOCE	**Pocosol**	**2.59**	**317**	P	**Pn**	**12 53 35.4**	**+0.5**
SOCE	**Pocosol**	**2.59**	**317**	S	**Sn**	**12 54 06.7**	**+0.7**
COVE	**Coope Vega, Sa**	**2.72**	**325**	P	**Pn**	**12 53 36.3**	**-0.2**
JTS	**Las Juntas de**	**2.77**	**311**		**Pn**	**12 53 37.6**	**+0.4**
JTS	**Las Juntas de**	**2.77**	**311**	Pn	**Pn**	**12 53 38.0**	**+0.8**
	77nm,0.3s,baz=126,slow=8.7,SNR=62						
JTS				Sn	**Sn**	**12 54 12.4**	**+2.2**
	60nm,0.3s,baz=17,slow=20,SNR=7.2						
	212nm,0.3s						
JTS	**Las Juntas de**	**2.77**	**311**	eP	**Pn**	**12 53 37.9**	**+0.6**
JTS	**Las Juntas de**	**2.77**	**311**	P	**Pn**	**12 53 38.2**	**+1.0**
JTS				S	**Sn**	**12 54 11.1**	**+0.9**
PCRI3	**Pocri, Los San**	**2.80**	**106**	eP	**Pb**	**12 53 42.0**	**-1.3**
ACHO3	**Achotines, Los**	**2.83**	**111**	eP	**Pb**	**12 53 43.2**	**-0.6**
ZANG	**Zanguenga, Cho**	**2.97**	**80**	eP	**Pb**	**12 53 44.0**	**-2.1**
BCIP	**Isla Barro Col**	**3.04**	**77**	eP	**Pn**	**12 53 40.7**	**-0.2**
BCIP	**Isla Barro Col**	**3.04**	**77**	P	**Pn**	**12 53 40.9**	**0.0**
CHOR3	**La Chorrera**	**3.06**	**82**	eP	**Pb**	**12 53 46.8**	**-0.9**
GAMB1	**Gamboa**	**3.15**	**78**	eP	**Pb**	**12 53 48.0**	**-1.3**
UPA	**Univ. de Panam**	**3.30**	**81**	eP	**Pb**	**12 53 51.0**	**-0.8**
ELI1	**Hacienda Flor**	**3.45**	**309**	P	**Pn**	**12 53 47.2**	**+0.6**
ESPN	**Las Esperanzas**	**3.98**	**339**	Pn	**Pn**	**12 53 53.2**	**-0.6**
ACON	**Acoyapa**	**4.17**	**327**		**Pn**	**12 53 55.0**	**-1.5**
TOTI	**Torti**	**4.49**	**84**	eP	**Pb**	**12 54 08.3**	**-3.8**
PRVC	**Isla de Provid**	**5.09**	**16**		**Pn**	**12 54 08.1**	**-1.0**
CNGN	**Cerro Negro**	**5.53**	**317**	Pn	**Pn**	**12 54 13.8**	**-1.3**
SIUN	**Universidad Ur**	**5.55**	**340**		**Pn**	**12 54 14.4**	**-1.2**
BILN	**Bilwi Airport**	**5.57**	**355**		**Pn**	**12 54 13.4**	**-2.3**
TGUH	**Tegucigalpa,Un**	**7.06**	**322**	Pn	**Pn**	**12 54 34.6**	**-1.8**
MTO3	**Montecristo**	**8.70**	**313**	Pn	**Pn**	**12 54 57.9**	**-1.0**
FLOC	**Florencia**	**9.89**	**133**	Pn	**Pn**	**12 55 18.1**	**+3.0**
RUSC	**La Rusia**	**10.00**	**104**		**Pn**	**12 55 20.0**	**+2.9**
SLOR	**San Lorenzo -**	**10.11**	**154**		**Pn**	**12 55 21.1**	**+2.6**
MTDJ	**Mount Denham**	**10.98**	**27**	Pn	**Pn**	**12 55 29.5**	**-0.6**
COHC	**Cochancay**	**11.43**	**162**		**Pn**	**12 55 39.2**	**+3.0**
CCIG	**Comitan**	**11.95**	**311**	Pn	**Pn**	**12 55 41.6**	**-1.9**
CMIG	**Matias Romero**	**14.54**	**307**	Pn	**Pn**	**12 56 19.1**	**+0.4**
	0.3nm,0.3s,baz=136,slow=12,SNR=5.1						
	2.6nm,0.6s						
ATAH	**Atahualpa**	**16.12**	**164**	LR	LR	13 02 13.6	
	comp=Z,171nm,21.5s,baz=321,slow=35						
PCRV	**Puerto La Cruz**	**18.04**	**83**	LR	LR	13 05 21.9	
	comp=Z,135nm,18.1s,slow=42						
SJG	**San Juan**	**18.84**	**58**	LR	LR	13 03 45.9	
	comp=Z,40nm,18.6s,baz=264,slow=36						
TKL	**Tukaleechee C**	**27.08**	**358**	LR	LR	13 09 15.0	
	comp=Z,112nm,18.7s,baz=196,slow=37						
WHAR	**Wooly Hollow**	**28.07**	**343**		**P**	**12 58 43.1**	**-1.1**
WHAR				IAmb	IAmb	12 58 44.8	
	comp=Z,9.4nm,0.8s						
LCAR	**Lake Charles**	**28.51**	**346**		**P**	**12 58 46.5**	**-1.6**
TXAR	**Lajitas Array**	**28.53**	**319**	P	**P**	**12 58 50.6**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=6.9,SNR=2.4						
	comp=Z,0.1nm,0.3s						
LPAZ	**La Paz**	**28.58**	**149**	LR	LR	13 11 18.0	
	comp=Z,108nm,18.4s,baz=264,slow=39						
FCAR	**Ozark Folk Cen**	**28.59**	**344**	P	**P**	**12 58 48.0**	**-0.8**
MGMO	**Mountain Grove**	**29.82**	**345**		**P**	**12 58 59.2**	**-0.5**
MGMO				IAmb	IAmb	12 59 00.4	
	comp=Z,9.6nm,0.9s						
CCM	**Cathedral Cave**	**30.42**	**347**		**P**	**12 59 04.6**	**-0.5**
CCM				IAmb	IAmb	12 59 05.3	
	comp=Z,6.1nm,0.8s						
SADO	**Sadowa**	**36.31**	**4**	LR	LR	13 14 39.5	
	comp=Z,894nm,18.4s,baz=144,slow=36						
PDAR	**Pinedale Array**	**41.44**	**330**	P	**P**	**13 00 39.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=150,slow=9.8,SNR=5.1						
	comp=Z,0.2nm,0.4s						
CPUP	**Villa Florida**	**42.54**	**145**	LR	LR	13 20 05.8	
	comp=Z,16nm,19.4s,baz=144,slow=38						
ULM	**Lac du Bonnet**	**43.04**	**348**	P	**P**	**13 00 50.8**	**-1.5**
	comp=Z,4.5nm,0.6s,baz=165,slow=9.6,SNR=5.6						
	comp=Z,4.5nm,0.6s						
NVAR	**Mina Array Bea**	**43.67**	**319**	P	**P**	**13 00 59.3**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=131,slow=6.4,SNR=9.2						
NVAR				LR	LR	13 22 22.8	
	comp=Z,82nm,18.4s,baz=122,slow=41						
	comp=Z,1.0nm,0.7s						
RPN	**Rapa Nui**	**43.73**	**215**	LR	LR	13 14 21.2	
	comp=Z,79nm,18.5s,baz=151,slow=29						
LYMT	**Lyon Mountain**	**45.86**	**332**	P	**P**	**13 01 15.2**	**+0.1**
WVOR	**Wild Horse Val**	**46.19**	**323**	P	**P**	**13 01 18.0**	**+0.2**
WVOR				IAmb	IAmb	13 01 19.0	
	comp=Z,5.9nm,1.1s						
YBH	**Yreka Blue Hor**	**48.30**	**320**	LR	LR	13 25 44.9	
	comp=Z,5.7nm,18.1s,baz=140,slow=41						
FRB	**Frobisher Bay**	**56.13**	**8**	LR	LR	13 26 19.2	
	comp=Z,59nm,18.8s,baz=70,slow=36						
YKA	**Yellowknife Ar**	**58.67**	**343**	P	**P**	**13 02 49.3**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=146,slow=5.4,SNR=4.4						
	comp=Z,1.2nm,0.8s						
DLBC	**Dease Lake**	**61.45**	**334**	LR	LR	13 34 28.5	
	comp=Z,623nm,18.6s,baz=177,slow=41						
SFJD	**Kangerlussuaq**	**62.39**	**14**	LR	LR	13 30 45.3	
	comp=Z,40nm,20.0s,baz=154,slow=37						
ILAR	**Eielson Array**	**71.48**	**336**	P	**P**	**13 04 13.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=117,slow=4.5,SNR=11						
	comp=Z,0.7nm,0.7s						
DBIC	**Dimbokro**	**77.20**	**85**	LR	LR	13 37 10.0	
	comp=Z,28nm,20.4s,baz=326,slow=35						
ASAR	**Alice Springs**	**141.75**	**242**	PKhKP	PKPpre	13 12 18.9	
	comp=Z,0.2nm,0.5s,baz=121,slow=3.8,SNR=7.3						
WRA	**Warramunga Arr**	**142.29**	**248**	PKhKP	PKPpre	13 12 21.4	
	comp=Z,0.6nm,0.8s,baz=125,slow=1.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**153.19**	**356**	PKP	**PKPdf**	**13 12 43.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=58,slow=2.2,SNR=1.2						
CMAR				PKPbc	**PKPbc**	**13 12 51.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=27,slow=1.8,SNR=5.0						

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*IDC **02** 12:54:27.8±0.6, 3°30S×131°14E, h0km, mb4.1/16, mbtmp4.2/17, ML4.5/2, MS3.5/11, Error ellipse: s-maj=26.6km s-min=13.4km az=83.0*
*NEIC **02** 12:54:29.9±1.4, 3°47S±0°06×130°96E±0°06, h10km±1km, mb4.5/27, Error ellipse: s-maj=11.3km s-min=9.8km az=331.0*
*DJA **02** 12:54:31.4±0.7, 3°S±3°×13°1E±°, h16km±6km, M4.4/13, mB5.0/7, mb4.9/7, MLv4.3/13, Mw(mB)4.3/7*

ISC 02 12:54:31.9±0.4, 3°51S±0°05×130°96E±0°05, h30km, n98, σ1§93/90, mb4.3/26, MS3.5/9, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.42**	**66**		**Pn**	**12 54 55.2**	**-0.3**
FAKI	**Fak Fak**	**1.42**	**66**	P	**Pn**	**12 54 55.3**	**-0.3**
FAKI	**Fak Fak**	**1.42**	**66**	S	**Sn**	**12 55 12.5**	**-0.7**
FAKI	**Fak Fak**	**1.42**	**66**	P	**Pn**	**12 54 55.1**	**-0.5**
BNDI	**Bandanaira**	**1.46**	**226**	P	**Pb**	**12 54 59.7**	**+1.4**
BNDI	**Bandanaira**	**1.46**	**226**	P	**Pb**	**12 54 59.7**	**+1.4**
MSAI	**Masohi**	**2.03**	**275**	P	**Pn**	**12 55 05.1**	**+1.0**
SWI	**Sorong**	**2.65**	**7**	P	**Pn**	**12 55 09.7**	**-2.8**
AAI	**Ambon**	**2.76**	**266**	P	**Pn**	**12 55 12.7**	**-1.4**
RKPI	**Ransiki, Papua**	**3.78**	**58**	P	**Pn**	**12 55 27.6**	**-0.5**
NLAI	**Namlea**	**3.86**	**274**	P	**Pn**	**12 55 31.0**	**+1.8**
SAUI	**Saumlaki**	**4.46**	**176**	Pn	**Pn**	**12 55 37.6**	**+0.2**
SANI	**Sanana**	**5.17**	**286**	P	**Pn**	**12 55 46.2**	**-1.1**
SANI	**Sanana**	**5.17**	**286**	S	**Sn**	**12 56 43.2**	**-2.8**
SANI	**Sanana**	**5.17**	**286**	P	**Pn**	**12 55 45.8**	**-1.5**
	0.3nm36nm,0.4s						
TNTI	**Ternate**	**5.57**	**320**	Pn	**Pn**	**12 55 50.9**	**-1.8**
BAKI	**Biak**	**5.64**	**66**	P	**Pn**	**12 55 53.7**	**0.0**
SMPI	**Sarmi**	**7.89**	**79**	P	**Pn**	**12 56 25.1**	**+0.5**
	0.1nm30nm,1.0s						
LUWI	**Luwuk**	**8.54**	**286**	Pn	**Pn**	**12 56 33.4**	**-0.1**
DRS	**Darwin Rock St**	**8.86**	**180**	P	**Pn**	**12 56 40.5**	**+2.5**
SOEI	**Soe**	**9.09**	**227**		**Pn**	**12 56 41.8**	**+0.5**
SOEI	**Soe**	**9.09**	**227**	P	**Pn**	**12 56 45.8**	**+4.6**
	1um118nm,1.0s						
GENI	**Genyem**	**9.24**	**85**	P	**Pn**	**12 56 43.7**	**+0.5**
	40nm,0.9s						
MTN	**Manton Dam**	**9.28**	**179**	Pn	**Pn**	**12 56 43.6**	**-0.1**
APSI	**Ampana**	**9.65**	**285**	P	**Pn**	**12 56 48.2**	**-0.6**
BATI	**Baumata**	**9.83**	**227**	Pn	**Pn**	**12 56 55.9**	**+4.6**
	9.4nm,0.3s,baz=128,slow=1.4,SNR=11						
BATI				LR	LR	13 01 01.7	
	comp=Z,438nm,21.7s,baz=74,slow=39						
TOLI2	**Tolitoli**	**11.16**	**294**	Pn	**Pn**	**12 57 09.6**	**+0.1**
KAPI	**Kappang**	**11.28**	**262**	Pn	**Pn**	**12 57 09.7**	**-1.4**
KAPI	**Kappang**	**11.28**	**262**	Pn	**Pn

VNDA	**Vanda**	**75.78 173**	P	**P**		**13 06 15.6**	**+1.2**
VNDA			IAmb	IAmb		13 06 40.4	
comp=Z,3.1nm,1.3s							
VNDA	**Vanda**	**75.78 173**	P	**P**		**13 06 16.1**	**+1.7**
comp=Z,0.7nm,0.5s,baz=332,slow=6.4,SNR=8.5							
comp=Z,0.7nm,0.5s							
MAW	**Mawson**	**78.53 201**	P	**P**		**13 06 31.9**	**+2.0**
comp=Z,5.9nm,1.1s,baz=99,slow=3.2,SNR=3.7							
comp=Z,5.9nm,1.1s							
ABKAR	**Akbulak array**	**80.40 321**	P	**P**		**13 06 41.2**	**+0.7**
L18K	**Granite Mounta**	**84.95 27**	P	**P**		**13 07 05.6**	**+1.7**
L18K			IAmb	IAmb		13 07 12.4	
comp=Z,4.3nm,1.1s							
J18K	**Innoko River**	**85.31 25**	P	**P**		**13 07 06.1**	**+0.3**
D19K	**Kuna River**	**86.35 20**	P	**P**		**13 07 11.0**	**+0.2**
QSPA	**South Pole Qui**	**86.44 180**	P	**P**		**13 07 14.3**	**+2.9**
comp=Z,2.5nm,1.0s,baz=43,slow=0.1,SNR=7.6							
comp=Z,2.5nm,1.0s							
ILAR	**Eielson Array**	**89.80 25**	P	**P**		**13 07 27.4**	**+0.1**
comp=Z,0.2nm,0.5s,baz=239,slow=5.8,SNR=6.2							
comp=Z,0.2nm,0.5s							
MMAI	**Mount Meron Ar**	**96.56 303**	LR	LR		14 00 02.7	
comp=Z,23nm,19.2s,baz=198,slow=41							
EIL	**Elat**	**96.94 299**	LR	LR		13 58 39.4	
comp=Z,27nm,19.9s,baz=179,slow=40							
TROLL	**Troll, Antarti**	**97.76 194**	⇑P	Pdif		13 08 05.6	+1.6
comp=Z,133nm,0.3s							
TORD	**Torodi Ar. Bea**	**128.99 284**	PKP	**PKPdf**		**13 13 37.5**	**-0.3**
comp=Z,0.4nm,0.6s,baz=34,slow=2.2,SNR=2.7							
LPAZ	**La Paz**	**152.74 137**	PKPbc	**PKiKP**		**13 14 28.9**	**+1.0**
comp=Z,1.7nm,0.6s,baz=230,slow=1.5,SNR=5.0							

*MCSM **02** 12:54:43.0±0.4, 46°N±3°×2°7E±°, h143km±3km, mb3.9, MLv2.4*
*BUC **02** 12:54:44.0±0.2, 45°64N×26°56E, h139km±1km, ml3.6/49, Error ellipse: s-maj=1.5km s-min=1.2km az=7.0*
ISC 02 12:54:42.7±1.6, 45°68N±0°04×26°56E±0°03, h150km±8km, n55, σ0°62/89, 52C-34D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.16**	**141**	⇑P	**Pn**	**12 55 03.2**	**+0.2**
BISRR				⇑S	**Sn**	**12 55 17.3**	**-1.0**
PLOR	**Plostina**	**0.19**	**19**	⇑P	**Pn**	**12 55 03.1**	**+0.1**
PLOR				⇑S	**Sn**	**12 55 17.6**	**-0.9**
VRI	**Vrincioaia**	**0.22**	**31**	⇑P	**Pn**	**12 55 03.4**	**+0.4**
VRI				⇑S	**Sn**	**12 55 18.2**	**-0.4**
NEHR	**Nehoiu**	**0.31**	**217**	⇓P	**Pn**	**12 55 03.7**	**+0.4**
NEHR				⇑S	**Sn**	**12 55 18.7**	**-0.2**
GRER		**0.41**	**136**	⇑P	**Pn**	**12 55 03.7**	**+0.1**
PANC	**Panciu**	**0.45**	**64**	⇑P	**Pn**	**12 55 04.4**	**+0.7**
PANC				⇓S	**Sn**	**12 55 20.3**	**+0.5**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑P	**Pn**	**12 55 04.4**	**+0.3**
MLR				⇑S	**Sn**	**12 55 19.9**	**-0.4**
COSR	**Cosmesti PH**	**0.55**	**71**	⇓P	**Pn**	**12 55 04.7**	**+0.5**
COSR				⇑S	**Sn**	**12 55 20.8**	**+0.1**
ISR	**Istrita**	**0.56**	**182**	⇑P	**Pn**	**12 55 05.1**	**+0.6**
ISR				⇓S	**Sn**	**12 55 20.9**	**0.0**
ONER	**Baraj Valea Uz**	**0.67**	**350**	⇑P	**Pn**	**12 55 05.2**	**+0.2**
ONER				⇑S	**Sn**	**12 55 21.6**	**-0.5**
OZUR		**0.69**	**308**	⇑P	**Pn**	**12 55 05.1**	**0.0**
OZUR				⇑S	**Sn**	**12 55 21.5**	**-0.8**
GHRR		**0.70**	**57**	⇓S	**Sn**	**12 55 22.9**	**+0.5**
TUDR		**0.78**	**96**	⇓P	**Pn**	**12 55 05.9**	**+0.2**
TUDR				⇑S	**Sn**	**12 55 23.5**	**+0.4**
TESR	**Tescani**	**0.84**	**4**	⇓P	**Pn**	**12 55 06.1**	**-0.1**
PLAR	**PLOIESTI**	**0.85**	**207**	⇑P	**Pn**	**12 55 06.9**	**+0.7**
IZVR	**Izvoarele**	**0.85**	**98**	⇑S	**Sn**	**12 55 23.5**	**-0.6**
DOPR	**Dopca**	**0.87**	**290**	⇑P	**Pn**	**12 55 06.6**	**+0.2**
DOPR				⇓S	**Sn**	**12 55 24.0**	**-0.5**
SCHL	**Schela**	**0.91**	**101**	⇓S	**Sn**	**12 55 24.8**	**-0.1**
VARL	**Varlezi**	**0.93**	**76**	⇑P	**Pn**	**12 55 07.5**	**+0.7**
VARL				⇑S	**Sn**	**12 55 24.9**	**-0.3**
NEGRR	**Negrea**	**0.93**	**98**	⇑P	**Pn**	**12 55 07.5**	**+0.6**
NEGRR				⇓S	**Sn**	**12 55 25.0**	**-0.2**
BIR	**Birlad**	**0.95**	**51**	⇓P	**Pn**	**12 55 07.8**	**+0.8**
BIR				⇓S	**Sn**	**12 55 25.2**	**-0.4**
SCTR	**Scanteiesti**	**1.00**	**90**	⇑P	**Pn**	**12 55 08.3**	**+0.8**
SCTR				⇓S	**Sn**	**12 55 26.1**	**-0.2**
SULR		**1.02**	**192**	⇑P	**Pn**	**12 55 08.3**	**+0.6**
SULR				⇓S	**Sn**	**12 55 26.2**	**-0.4**
TATR	**Tatarca**	**1.04**	**94**	⇓P	**Pn**	**12 55 08.5**	**+0.7**
TATR				⇓S	**Sn**	**12 55 26.6**	**-0.3**
VLDR	**Vladesti**	**1.07**	**80**	⇑P	**Pn**	**12 55 08.8**	**+0.7**
VLDR				⇓S	**Sn**	**12 55 27.0**	**-0.4**
VOIR		**1.09**	**258**	⇑P	**Pn**	**12 55 08.2**	**-0.1**
VOIR				⇑S	**Sn**	**12 55 26.6**	**-1.2**
MTUR	**Matau**	**1.15**	**247**	⇑P	**Pn**	**12 55 09.2**	**+0.3**
GIUM	**Giurgiulesti**	**1.17**	**99**	⇓S	**Sn**	**12 55 28.7**	**-0.2**
AMRR	**Amara**	**1.20**	**153**	⇓P	**Pn**	**12 55 09.7**	**+0.5**
AMRR				⇑S	**Sn**	**12 55 29.3**	**-0.1**
CFR	**Carcaliu**	**1.21**	**114**	⇑P	**Pn**	**12 55 09.6**	**+0.2**
CFR				⇑S	**Sn**	**12 55 29.2**	**-0.4**
LEHL	**Lehliu**	**1.22**	**171**	⇑P	**Pn**	**12 55 09.9**	**+0.5**
LEHL				⇑S	**Sn**	**12 55 30.0**	**+0.3**
CIOR	**Ciorogarla**	**1.32**	**202**	⇓S	**Sn**	**12 55 31.3**	**-0.2**
BUC1	**Bucharest**	**1.38**	**196**	⇑S	**Sn**	**12 55 32.4**	**-0.2**
HARR	**Harsova**	**1.38**	**135**	⇑P	**Pn**	**12 55 11.5**	**+0.5**
ARR	**Arges**	**1.39**	**258**	⇑P	**Pn**	**12 55 12.0**	**+0.8**
ARR				⇓S	**Sn**	**12 55 33.0**	**+0.1**
SGRR	**Singureni**	**1.51**	**196**	⇓P	**Pn**	**12 55 12.5**	**+0.1**
SGRR				⇑S	**Sn**	**12 55 33.9**	**-1.1**
CICN	**Ciocanesti**	**1.52**	**167**	⇓S	**Sn**	**12 55 34.3**	**-0.7**
TLBR	**Topalu**	**1.54**	**137**	⇑P	**Pn**	**12 55 13.2**	**+0.5**
TLBR				⇓S	**Sn**	**12 55 34.9**	**-0.7**
TPGR	**Topolog**	**1.54**	**121**	⇓P	**Pn**	**12 55 13.1**	**+0.3**
HUMR	**Humele**	**1.60**	**225**	⇓P	**Pn**	**12 55 13.2**	**-0.2**
HUMR				⇑S	**Sn**	**12 55 35.9**	**-0.9**
TLCR		**1.66**	**106**	⇓P	**Pn**	**12 55 14.7**	**+0.7**
TLCR				⇓S	**Sn**	**12 55 37.8**	**0.0**
CVDA	**Cernavoda**	**1.70**	**142**	⇑S	**Sn**	**12 55 37.9**	**-0.7**
TIRR	**Tirgusor**	**1.79**	**132**	⇑P	**Pn**	**12 55 15.8**	**+0.5**
TIRR				⇑S	**Sn**	**12 55 39.6**	**-0.8**
ICOR	**Ion Corvin**	**1.79**	**150**	⇑P	**Pn**	**12 55 16.2**	**+0.8**
ICOR				⇓S	**Sn**	**12 55 39.8**	**-0.6**
COPA	**Copaceanca**	**1.81**	**212**	⇓S	**Sn**	**12 55 40.0**	**-0.9**
LOT	**Lotru**	**1.98**	**264**	⇑P	**Pn**	**12 55 18.9**	**+1.3**
LOT				⇑S	**Sn**	**12 55 45.3**	**+0.8**
MILM	**Milestii Mici**	**1.99**	**51**	⇓*i*P	**Pn**	**12 55 17.3**	**-0.4**
40nm,0.1s							
MILM				*i* S	**Sn**	**12 55 42.4**	**-2.2**
230nm,0.2s							
MFTR	**Murfatlar**	**2.00**	**138**	⇓P	**Pn**	**12 55 18.2**	**+0.4**
MFTR				⇑S	**Sn**	**12 55 44.1**	**-0.6**
KIS	**Kishinev**	**2.05**	**49**	*e*P	**Pn**	**12 55 18.7**	**+0.4**
KIS				*e*S	**Sn**	**12 55 44.7**	**-1.0**
150nm,0.2s							
BURAR	**Bucovina Array**	**2.15**	**335**	⇓P	**Pn**	**12 55 21.0**	**+1.4**
EFOR	**EFORIE**	**2.17**	**137**	⇓S	**Sn**	**12 55 48.2**	**-0.1**
MANR	**Mangalia**	**2.35**	**141**	⇑S	**Sn**	**12 55 51.9**	**-0.3**
GZR	**Gura Zlata**	**2.68**	**265**	⇑P	**Pn**	**12 55 26.4**	**+0.4**
PLVB	**Pleven**	**2.68**	**212**	⇑P	**Pn**	**12 55 25.9**	**-0.1**
MDVR	**Moldovita**	**3.54**	**257**	⇑P	**Pn**	**12 55 37.1**	**+0.1**

*NEIC **02** 13:18:21.0±0.6, 35°789N±0°010×96°64W±0°01, h5km±1km, mb_Lg2.8/69, ML3.0/36, ML3.0/66, Error ellipse: s-maj=2.9km s-min=1.9km az=115.0*
NEIC 02 13:18:21.2±0.7, 35°799N±0°009×96°65W±0°02, h7km±5km, Error ellipse: s-maj=1.9km s-min=1.2km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.13**	**71**		Pg	13 18 24.4	+0.3
DEOK				IAML		13 18 27.0	
comp=N,8μm,0.4s							
OK052	**Battle Ridge R**	**0.23**	**328**		Pg	13 18 26.1	+0.3
QUOK	**Quay**	**0.38**	**353**		Pg	13 18 28.8	+0.2
QUOK					Sg	13 18 34.2	+0.7
QUOK				IAML		13 18 34.4	
comp=E,2μm,0.3s							
ADOK	**Arcadia Dam**	**0.60**	**256**		Pg	13 18 32.7	-0.1
OK029	**Liberty Lake**	**0.65**	**270**		Pg	13 18 33.5	-0.2
OK029					Sg	13 18 42.9	+0.6
OK029				IAML		13 18 43.1	
comp=E,589nm,0.4s							
OK048	**Pawnee Station**	**0.66**	**339**		Pg	13 18 33.9	0.0
OK048				IAML		13 18 43.4	
comp=E,715nm,0.3s							
TUL3	**Leonard**	**0.71**	**81**		Pg	13 18 34.9	0.0
TUL3					Sg	13 18 44.2	+0.1
OK051	**E0350 and S346**	**0.72**	**348**		Pg	13 18 35.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.75**	**239**		Pg	13 18 35.5	-0.2
OKCSW					Sg	13 18 46.0	+0.6
OKCSW				IAML		13 18 46.3	
comp=N,728nm,0.1s							
OKCFA	**Oklahoma City**	**0.75**	**240**		Pg	13 18 35.7	0.0
OKCFA					Sg	13 18 46.0	+0.5
BCOK	**Bluff Creek, N**	**0.79**	**260**		Pg	13 18 36.5	+0.1
BCOK					Sg	13 18 47.2	+0.5
BLOK	**Blackwell**	**1.06**	**335**		Pg	13 18 41.1	-0.5
BLOK					Sg	13 18 55.5	+0.1
T35A	**Sooner Cattle**	**1.12**	**6**		Pg	13 18 42.0	-0.7
T35A					Sg	13 18 57.3	0.0
T35A				IAML		13 18 58.0	
comp=N,389nm,0.2s							
T35A				IAML		13 19 00.6	
comp=N,421nm,0.3s							
CROK	**Carrier**	**1.29**	**304**		Pn	13 18 45.1	-0.4
RLO	**Rose Lookout**	**1.37**	**74**		Pn	13 18 46.6	-0.2
RLO					Sg	13 19 05.3	0.0
GC02	**Grant County #**	**1.43**	**318**		Pn	13 18 47.7	+0.1
X34A	**Smith Ranch, M**	**1.54**	**219**		Pn	13 18 49.5	+0.5
X34A				IAmb_Lg		13 19 10.7	
comp=Z,37nm,1.0s							
KAN14	**Manchester OK**	**1.57**	**318**		Pn	13 18 49.6	+0.2
CSTR	**Hydro, Custer**	**1.66**	**265**		Pn	13 18 51.2	+0.4
OK038	**West end E0370**	**1.82**	**292**		Pn	13 18 53.5	+0.6
LOOK	**Love County**	**1.85**	**194**		Pb	13 18 54.4	-0.9
LOOK				IAmb_Lg		13 19 20.3	
comp=Z,28nm,0.7s							
U38A	**Gravette**	**1.94**	**70**		Pn	13 18 55.5	+0.9
U38A				IAmb_Lg		13 19 25.9	
comp=Z,62nm,0.8s							
NOKA	**Waynoka**	**2.02**	**295**		Pn	13 18 56.9	+1.2
WMOK	**Wichita Mounta**	**2.04**	**239**		Pn	13 18 56.5	+0.6
HHAR	**Hobbs**	**2.25**	**77**		Pn	13 18 59.7	+0.9
Z35A	**Perchaven, San**	**2.51**	**192**		Pn	13 19 02.0	-0.4
MIAR	**Mount Ida**	**2.81**	**115**		Pn	13 19 07.2	+0.7
Z38A	**Mt. Pleasant**	**2.88**	**151**	IAmb_Lg		13 19 53.6	
comp=Z,30nm,0.7s							
SMWD	**Samnorwood**	**3.01**	**258**		Pn	13 19 09.3	0.0
R32A	**Long Quarter,**	**3.09**	**328**	Pn	Pn	13 19 10.3	-0.2
R32A				IAmb_Lg		13 20 05.2	
comp=Z,20nm,0.8s							
TREL	**Terrell**	**3.10**	**171**	IAmb_Lg		13 20 07.6	
comp=Z,24nm,0.9s							
PLPT	**Palo Pinto**	**3.28**	**205**		Pn	13 19 12.1	-0.9
KSU1	**Kansas State U**	**3.30**	**1**	IAmb_Lg		13 20 12.7	
comp=Z,26nm,1.0s							
X40A	**Basin Creek Fa**	**3.39**	**112**		Pn	13 19 13.8	-0.7
X40A				IAmb_Lg		13 20 14.1	
comp=Z,16nm,0.9s							
WHAR	**Wooly Hollow**	**3.59**	**97**		Pn	13 19 17.9	+0.6
UALR	**University of**	**3.67**	**105**	IAmb_Lg		13 20 23.5	
comp=Z,33nm,1.0s							
FCAR	**Ozark Folk Cen**	**3.68**	**87**		Pn	13 19 19.1	+0.6
FCAR				IAmb_Lg		13 20 20.3	
comp=Z,43nm,0.8s							
APMT	**Aspermont**	**3.78**	**230**	Pn	Pn	13 19 22.0	+2.1
APMT				IAmb_Lg		13 20 25.4	
comp=Z,14nm,0.8s							
MGMO	**Mountain Grove**	**3.78**	**68**	IAmb_Lg		13 20 25.9	
comp=Z,40nm,0.8s							
WHTX	**Lake Whitney,**	**3.86**	**190**	Pn	Pn	13 19 19.9	-1.0
CBKS	**Cedar Bluff**	**3.89**	**322**	IAmb_Lg		13 20 34.8	
comp=Z,19nm,0.8s							
AMTX	**Amarillo**	**4.21**	**259**	Pn	Pn	13 19 26.2	+0.4
AMTX				IAmb_Lg		13 20 40.2	
comp=Z,27nm,0.8s							
R40A	**Maddies Statio**	**4.30**	**53**	Pn	Pn	13 19 26.9	-0.1
R40A				IAmb_Lg		13 20 44.0	
comp=Z,24nm,0.8s							
SN07	**Snyder 07**	**4.42**	**234**	IAmb_Lg		13 20 44.9	
comp=Z,17nm,0.8s							
LCAR	**Lake Charles**	**4.47**	**85**	Pn	Pn	13 19 28.9	-0.4
LCAR				IAmb_Lg		13 20 49.4	
comp=Z,17nm,0.7s							
P38A	**Dawn**	**4.55**	**32**	Pn	Pn	13 19 29.1	-1.3
P38A				IAmb_Lg		13 20 53.3	
comp=Z,16nm,0.7s							
POST	**Post**	**4.84**	**237**	IAmb_Lg		13 21 05.4	
comp=Z,11nm,0.9s							
CCM	**Cathedral Cave**	**4.88**	**61**	IAmb_Lg		13 21 03.0	
comp=Z,26nm,0.9s							
BRDY	**Brady**	**4.91**	**204**		Pn	13 19 35.2	-0.2
N35A	**Tabor**	**5.12**	**9**	IAmb_Lg		13 21 12.5	
comp=Z,29nm,0.8s							
PBMO	**Poplar Bluff**	**5.12**	**77**	IAmb_Lg		13 21 13.0	
comp=Z,26nm,0.8s							
P40A	**Paris**	**5.22**	**43**	IAmb_Lg		13 21 12.2	
comp=Z,24nm,0.8s							
SGCY	**Sterling City**	**5.37**	**225**	IAmb_Lg		13 21 25.9	
comp=Z,12nm,0.7s							
FVM	**French Village**	**5.45**	**65**	IAmb_Lg		13 21 19.2	
comp=Z,27nm,1.0s							
N38A	**Joes South For**	**5.67**	**27**	IAmb_Lg		13 21 27.9	
comp=Z,29nm,1.0s							
KSCO	**Kaye Shedlock'**	**5.74**	**306**	IAmb_Lg		13 21 31.1	
comp=Z,10nm,0.8s							
CGM3	**Cape Girardeau**	**5.83**	**73**	IAmb_Lg		13 21 26.6	
comp=Z,28nm,0.8s							
JCT	**Junction City**	**5.92**	**207**	IAmb_Lg		13 21 38.0	
comp=Z,13nm,0.7s							
T25A	**Trinidad**	**6.39**	**284**	IAmb_Lg		13 21 47.1	
comp=Z,11nm,0.9s							
HNDO	**Hondo**	**6.63**	**200**	IAmb_Lg		13 21 53.6	
comp=Z,11nm,0.7s							
OGNE	**Ogallala**	**6.65**	**322**	IAmb_Lg		13 21 51.9	
comp=Z,22nm,0.8s							
MNHN	**Monahans**	**6.76**	**231**	IAmb_Lg		13 21 52.6	
comp=Z,6.1nm,0.8s							
ISCO	**Idaho Springs**	**8.14**	**302**	IAmb_Lg		13 22 54.0	
comp=Z,5.1nm,1.1s							

*IDC **02** 13:50:14.5±1.9, 4°98S×151°37E, h30km±16km, mb3.8/8, mbtmp4.1/9, ML2.5/1, MS3.4/11, Error ellipse: s-maj=33.0km s-min=15.0km az=121.0*
*NEIC **02** 13:50:16.0±0.8, 5°01S±0°08×151°53E±0°09, h46km±7km, mb4.3/14, Error ellipse: s-maj=15.2km s-min=9.0km az=132.0*
ISC 02 13:50:14.6±0.6, 5°03S±0°07×151°52E±0°08, h35km, n38, σ1°14/32, mb4.2/14, MS3.3/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**0.88**	**34**	Pg	**Pn**	**13 50 31.1**	**+0.6**
baz=204,slow=20							
I40PG				Lg	Lg	13 50 46.0	
baz=231,slow=466							
I40PG				I	I	13 57 30.0	
76nm,0.3s,baz=225,slow=306,SNR=1.6							
RABL	**Rabaul**	**1.05**	**38**		**Pn**	**13 50 34.0**	**+1.1**
MANU	**Manus Island**	**5.09**	**305**		**Pn**	**13 51 30.6**	**+2.1**
PMG	**Port Moresby**	**6.13**	**225**		**Pn**	**13 51 43.8**	**+0.9**
PMG	**Port Moresby**	**6.13**	**225**	**Pn**	**Pn**	**13 51 43.9**	**+1.1**
7.7nm,0.3s,baz=358,slow=2.8,SNR=21							
PMG				Sn	**Sn**	**13 52 51.5**	**-0.3**
5.4nm,0.3s,baz=207,slow=22,SNR=6.4							
PMG				LR	LR	13 54 13.0	
comp=Z,393nm,18.5s,baz=52,slow=39							
64nm,0.7s							
JAY	**Jayapura**	**11.07**	**283**	LR	LR	13 56 21.5	
comp=Z,238nm,18.2s,baz=82,slow=34							
CTA	**Charters Tower**	**15.82**	**198**	LR	LR	13 59 28.5	
comp=Z,4.2nm,18.9s,baz=24,slow=35							
EIDS	**Eidsvold**	**20.23**	**181**	P	**P**	**13 54 46.7**	**-0.2**
EIDS				IAmb	IAmb	13 55 01.1	
comp=Z,14nm,1.1s							
WB0	**Warramunga Arr**	**22.20**	**227**		**P**	**13 55 06.2**	**-1.9**
WB0				IAmb	IAmb	13 55 25.8	
comp=Z,9.8nm,1.0s							
DZM	**Mont Dzumac**	**22.27**	**141**	P	**P**	**13 55 09.6**	**+0.6**
DZM				IAmb	IAmb	13 55 35.9	
comp=Z,18nm,1.1s							
DZM	**Mont Dzumac**	**22.27**	**141**	LR	LR	14 02 46.7	
comp=Z,294nm,18.3s,baz=8.5,slow=34							
WRA	**Warramunga Arr**	**22.35**	**227**	P	**P**	**13 55 09.1**	**-0.7**
WRA	**Warramunga Arr**	**22.35**	**227**	P	**P**	**13 55 08.1**	**-1.6**
comp=Z,4.3nm,0.8s,baz=50,slow=10,SNR=23							
WRA				LR	LR	14 03 29.5	
comp=Z,80nm,18.7s,baz=12,slow=36							
comp=Z,4.3nm,0.8s							
KNRA	**Kununurra**	**24.73**	**243**	P	**P**	**13 55 32.6**	**-0.3**
KNRA				IAmb	IAmb	13 55 53.0	
comp=Z,9.7nm,1.1s							
INKA	**Innaminka**	**24.81**	**203**		**P**	**13 55 33.3**	**-0.2**
INKA				IAmb	IAmb	13 55 41.5	
comp=Z,7.5nm,0.9s							
AS31	**Alice Springs**	**25.13**	**221**		**P**	**13 55 36.2**	**-0.4**
AS31				IAmb	IAmb	13 55 43.3	
comp=Z,2.1nm,0.6s							
ASAR	**Alice Springs**	**25.13**	**221**		**P**	**13 55 36.1**	**-0.6**
ASAR	**Alice Springs**	**25.13**	**221**	P	**P**	**13 55 36.5**	**-0.2**
comp=Z,4.5nm,0.6s,baz=53,slow=8.5,SNR=101							
ASAR				LR	LR	14 05 03.9	
comp=Z,58nm,19.9s,baz=53,slow=36							
comp=Z,4.5nm,0.6s							
STKA	**Stephens Creek**	**28.28**	**198**	P	**P**	**13 56 04.8**	**-0.1**
comp=Z,2.2nm,0.8s,baz=0.2,slow=5.2,SNR=5.9							
STKA				LR	LR	14 07 41.6	
comp=Z,122nm,18.7s,baz=24,slow=37							
comp=Z,2.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**28.43**	**241**		**P**	**13 56 05.4**	**-1.0**
MBWA	**Marble Bar**	**34.75**	**240**	P	**P**	**13 57 01.3**	**-0.6**
JHJ	**Hachijo jima 2**	**39.53**	**344**	LR	LR	14 14 58.3	
comp=Z,10nm,18.1s,baz=81,slow=38							
NWAO	**Narrogin (SRO)**	**42.32**	**225**	LR	LR	14 15 27.7	
comp=Z,120nm,18.6s,baz=56,slow=36							
MJAR	**Matsushiro Arr**	**43.19**	**344**	P	**P**	**13 58 10.0**	**-2.2**
comp=Z,1.0nm,0.9s,baz=174,slow=8.6,SNR=4.3							
MJAR				LR	LR	14 14 30.0	
comp=Z,29nm,19.1s,baz=171,slow=34							
comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**56.82**	**296**	P	**P**	**13 59 57.1**	**+1.1**
comp=Z,0.6nm,0.3s,baz=122,slow=5.6,SNR=5.6							
comp=Z,0.6nm,0.3s							
SHEM	**Shemya Is, Ala**	**60.64**	**16**	LR	LR	14 21 10.6	
comp=Z,44nm,20.4s,baz=127,slow=31							
CASY	**Casey**	**67.43**	**197**	P	**P**	**14 01 06.2**	**-0.2**
CASY				IAmb	IAmb	14 01 15.2	
comp=Z,3.2nm,0.9s							
SEY	**Seymchan**	**67.77**	**0**	LR	LR	14 25 36.3	
comp=Z,21nm,21.3s,baz=172,slow=31							
VNDA	**Vanda**	**72.65**	**178**	P	**P**	**14 01 37.7**	**-0.6**
J16K	**Anvik River**	**77.04**	**20**	P	**P**	**14 02 03.9**	**+0.1**
J17K	**VABM Dome**	**77.64**	**20**	P	**P**	**14 02 06.8**	**-0.3**
CNPM	**China Poot**	**78.47**	**26**	P	**P**	**14 02 12.4**	**+0.5**
MKAR	**Makanchi Array**	**79.66**	**319**	P	**P**	**14 02 16.6**	**-2.0**
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**14 02 35.1**	**-0.1**
comp=Z,0.4nm,0.8s,baz=247,slow=5.0,SNR=5.5							
comp=Z,0.4nm,0.8s							
QSPA	**South Pole Qui**	**84.94**	**180**	P	**P**	**14 02 48.3**	**+2.2**
QSPA				IAmb	IAmb	14 02 52.6	
comp=Z,4.1nm,0.8s							
QSPA	**South Pole Qui**	**84.94**	**180**	P	**P**	**14 02 47.7**	**+1.7**
comp=Z,3.8nm,0.8s,baz=348,slow=0.8,SNR=29							
comp=Z,3.8nm,0.8s							
NVAR	**Mina Array Bea**	**93.23**	**52**	P	**P**	**14 03 27.2**	**+1.0**
comp=Z,0.1nm,0.5s,baz=286,slow=4.4,SNR=4.0							
comp=Z,0.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**149.16**	**287**	PKPbc	**PKPbc**	**14 10 01.3**	**+0.8**
comp=Z,0.6nm,0.8s,baz=50,slow=3.8,SNR=3.4							

*IDC **02** 13:53:21.3±0.6, 13°72N×120°61E, h79km±6km, mb3.9/13, mbtmp4.2/13, MS3.4/11, Error ellipse: s-maj=19.6km s-min=10.9km az=83.0*
*NEIC **02** 13:53:23.6±0.8, 13°83N±0°09×120°6E±0°1, h85km±6km, mb4.5/31, Error ellipse: s-maj=18.3km s-min=12.3km az=97.0*
ISC 02 13:53:23.1±0.5, 13°77N±0°07×120°73E±0°10, h100km, n69, σ1°73/65, mb4.4/35, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.39**	**31**	P	**Pn**	**13 53 35.7**	**-2.6**
9μm,0.3s,baz=214,slow=3.6,SNR=224							
TGY				S	**Sn**	**13 53 47.4**	**-2.1**
19μm,0.4s,baz=177,slow=22,SNR=17							
DAV	**Davao City (W)**	**8.19**	**144**	Pn	**Pn**	**13 55 19.4**	**+0.1**
DAV	**Davao City (W)**	**8.19**	**144**	LR	LR	13 59 08.8	
comp=Z,400nm,20.3s,baz=310,slow=42							
MYLDM	**Lahad Datu**	**8.81**	**195**	Pn	**Pn**	**13 55 28.4**	**+0.6**
SBUM	**Sibu**	**14.05**	**218**		**P**	**13 56 43.4**	**+1.0**

comp=Z,6.0nm,1.2s
ZALV Zalesovo Beam 49.01 333 P P 14 01 59.3 -0.3
ZALV Zalesovo Beam 49.01 333 P P 14 01 59.4 -0.2
comp=Z,1.4nm,0.6s,baz=120,slow=8.8,SNR=9.2
ZALV LR LR 14 23 57.1
comp=Z,48nm,18.5s,baz=110,slow=38
comp=Z,1.4nm,0.6s
AAK Ala-Archa 49.04 315 LR LR 14 25 01.6
comp=Z,24nm,19.0s,baz=88,slow=39
ARSB Arslanbob 49.64 313 P P 14 02 06.0 +1.2
ARSB IAmb IAmb 14 02 06.7
comp=Z,5.5nm,0.8s
DRK Karamyk 49.92 310 P P 14 02 07.7 +0.5
KURBB Kurchatov Arra 50.15 326 P P 14 02 09.2 +0.9
comp=Z,10.0nm,1.0s,baz=124,slow=7.8,SNR=36
comp=Z,10.0nm,1.0s
KURK Kurchatov 50.15 326 P P 14 02 09.1 +0.8
GAR Garm 50.90 309 P P 14 02 14.4 +0.1
CHGR Chuyangaron 51.69 309 P P 14 02 20.3 +0.1
KK31 Karatay Array 51.95 314 P P 14 02 22.6 +0.7
KKAR Karatay Array 51.95 314 P P 14 02 22.5 +0.6
BVAR Borovoye Array 55.73 326 P P 14 02 50.3 +1.0
comp=Z,7.1nm,0.8s,baz=110,slow=8.3,SNR=16
BVAR LR LR 14 27 00.7
comp=Z,37nm,21.1s,baz=75,slow=36
comp=Z,7.1nm,0.8s
AB31 Akbulak array 60.70 319 P P 14 03 24.0 0.0
AB31 IAmb IAmb 14 03 25.6
comp=Z,3.7nm,0.8s
ABKAR Akbulak array 60.70 319 P P 14 03 24.1 +0.1
AKTO Aktyubinsk 62.18 320 LR LR 14 32 23.4
comp=Z,56nm,20.3s,baz=322,slow=38
RAYN Ar Rayn 71.26 290 P P 14 04 32.5 +0.3
RAYN IAmb IAmb 14 04 34.1
comp=Z,6.0nm,0.9s
GURO Guroymak-BITLI 72.78 306 P P 14 04 42.6 +1.5
GURO IAmb IAmb 14 04 43.8
comp=Z,6.4nm,0.8s
L18K Granite Mounta 74.47 29 P P 14 04 52.8 +2.4
L18K IAmb IAmb 14 05 06.7
comp=Z,12nm,1.4s
G21K Allakaket 75.79 24 P P 14 05 00.6 +2.7
BPAW Bear Paw Mtn. 76.98 27 P P 14 05 06.8 +2.1
BPAW IAmb IAmb 14 05 07.9
comp=Z,4.3nm,0.8s
MLY Manley 77.01 26 P P 14 05 07.0 +2.1
MLY IAmb IAmb 14 05 08.2
comp=Z,4.0nm,0.9s
RND Reindeer 77.99 27 P P 14 05 12.1 +1.7
RND IAmb IAmb 14 05 22.5
comp=Z,8.7nm,1.5s
PWL Port Wells 78.55 30 P P 14 05 15.0 +1.6
ILAR Eielson Array 78.67 26 P P 14 05 13.9 -0.1
comp=Z,0.3nm,0.8s,baz=270,slow=3.6,SNR=3.3
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 79.03 339 P P 14 05 15.5 -0.4
comp=Z,7.6nm,1.1s,baz=97,slow=7.5,SNR=5.2
comp=Z,7.6nm,1.1s
BMAR Burnt Mountain 79.19 23 P P 14 05 19.3 +2.5
I26K Coal Creek Min 80.14 25 P P 14 05 23.5 +1.5
I26K IAmb IAmb 14 05 27.0
comp=Z,4.4nm,0.9s
FINES FINESS Array B 80.24 331 P P 14 05 22.5 -0.1
comp=Z,5.2nm,1.1s,baz=45,slow=7.2,SNR=3.3
comp=Z,5.2nm,1.1s
AKASG Malin Array Be 80.43 320 P P 14 05 22.9 -0.8
comp=Z,0.6nm,0.5s,baz=72,slow=4.5,SNR=4.6
comp=Z,0.6nm,0.5s
EGAK Eagle 81.08 25 P P 14 05 29.0 +2.0
I30M Mount Dempster 82.93 24 P P 14 05 38.7 +1.9
I30M IAmb IAmb 14 05 40.1
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 83.63 317 P P 14 05 41.7 +0.9
BURAR IAmb IAmb 14 05 42.9
comp=Z,3.5nm,0.8s
BUR08 Bucovina Ar. S 83.63 317 P P 14 05 42.1 +1.3
BUR08 IAmb IAmb 14 05 42.7
comp=Z,5.7nm,0.9s
NB2 NORSAR Subarra 87.21 333 P P 14 05 57.9 -0.3
comp=Z,3.7nm,1.0s,baz=66,slow=5.1
NOA NORSAR Array B 87.21 333 P P 14 05 57.3 -0.9
comp=Z,1.5nm,0.8s,baz=72,slow=4.4,SNR=4.3
NOA LR LR 14 46 21.1
comp=Z,27nm,18.2s,baz=310,slow=36
comp=Z,1.5nm,0.8s

IDC 02 13:58:26.5±14.0, 30.66S×176.60W, h0km, mb3.6/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=265.8km s-min=45.9km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.19**	**213**	Pn	Pn	14 00 40.2	-0.1
	1.0nm,0.3s,baz=5.6,slow=11,SNR=5.7						
URZ				Sn	Sn	14 02 26.0	+1.6
	0.3nm,0.3s,baz=342,slow=20,SNR=1.5						
	5.0nm,0.4s						
STKA	**Stephens Creek**	**35.60**	**257**	P	P	14 05 25.7	-0.2
	1.3nm,0.8s,baz=84,slow=9.2,SNR=2.6						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**44.30**	**267**	P	P	14 06 37.4	-1.0
	0.5nm,1.0s,baz=107,slow=7.6,SNR=5.6						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**45.31**	**272**	P	P	14 06 47.0	+0.6
	0.3nm,0.3s,baz=110,slow=8.1,SNR=16						
	0.3nm,0.3s						

*BJI **02** 14:24:25.5, 3.15S×139.60E, h53km, mB5.3/13, mb4.9/60, Ms4.5/9, Ms7 4.2/12*
*IDC **02** 14:24:25.5±0.5, 2.64S×138.96E, h0km, mb4.5/17, mbtmp4.6/20, ML4.3/2, MS4.0/33, Error ellipse: s-maj=16.4km s-min=11.5km az=79.0*
*NEIC **02** 14:24:27.7±1.2, 2.66S±0.08×138.87E±0.07, h10km±1km, mb4.9/54, Error ellipse: s-maj=13.8km s-min=12.2km az=202.0*
*DJA **02** 14:24:31.1±0.4, 3.3S±2.×13.9E±., h32km±4km, M4.9/56, mb5.0/56, mB5.4/25, MLv5.1/11, Mw(mB)4.8/25, MwMwp4.6/1, Mwp4.9/1*

ISC 02 14:24:31.1±0.3, 2.70S±0.04×138.91E±0.04, h37km, n232, σ1**9**63/221, **mb4.8**/66, **MS4.1**/39, **4C-2D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**344**	P	Pn	14 24 42.8	-2.1
GENI	**Genyem**	**1.26**	**85**	P	Pn	14 24 51.2	-0.9
GENI	**Genyem**	**1.26**	**85**	S	Sn	14 25 10.1	+2.3
GENI	**Genyem**	**1.26**	**85**	P	Pn	14 24 50.5	-1.6
JAY	**Jayapura**	**1.80**	**84**	Pn	Pn	14 24 57.6	-2.0
	71nm,0.3s,baz=233,slow=5.5,SNR=316						
JAY				Sn	Sn	14 25 19.1	-2.2
	432nm,0.3s,baz=124,slow=13,SNR=12						
JAY	**Jayapura**	**1.80**	**84**	P	Pn	14 24 57.1	-2.5
SRPI	**Serui, Papua**	**2.79**	**287**	P	Pn	14 25 14.0	+0.8
BAKI	**Biak**	**3.18**	**298**	P	Pn	14 25 19.8	+1.3
RKPI	**Ransiki, Papua**	**4.88**	**284**	P	Pn	14 25 42.6	+0.7
KMPI	**Kaimana, Papua**	**5.28**	**259**	P	Pn	14 25 50.5	+3.0
MMPI	**Merauke**	**5.91**	**166**	P	Pn	14 25 59.2	+3.1
FAKI	**Fak Fak**	**6.66**	**268**		Pn	14 26 07.9	+1.6
FAKI	**Fak Fak**	**6.66**	**268**	P	Pn	14 26 08.6	+2.2
FAKI	**Fak Fak**	**6.66**	**268**	P	Pn	14 26 08.4	+2.0
	0.4nm2μm1μm132nm,1.2s						
SWI	**Sorong**	**7.86**	**283**	P	Pn	14 26 24.9	+2.0
	0.3nm83nm,0.7s						
MANU	**Manus Island**	**8.47**	**86**		Pn	14 26 34.1	+2.8
BNDI	**Bandanaira**	**9.17**	**258**	P	Pn	14 26 44.1	+3.3
SAUI	**Saumlaki**	**9.21**	**235**	P	Pn	14 26 44.8	+3.3
MSAI	**Masohi**	**9.99**	**266**	P	Pn	14 26 53.6	+1.5
PMG	**Port Moresby**	**10.56**	**129**		Pn	14 27 00.6	+0.6
PMG	**Port Moresby**	**10.56**	**129**	Pn	Pn	14 26 59.3	-0.7
	22nm,1.1s,baz=286,slow=15,SNR=2.1						
PMG				Sn	Sn	14 28 59.7	+2.6
	0.5nm,0.3s,baz=28,slow=7.2,SNR=2.1						
PMG	**Port Moresby**	**10.56**	**129**	P	Pn	14 27 00.7	+0.7
PMG	**Port Moresby**	**10.56**	**129**	P	Pn	14 27 00.6	+0.6
AAI	**Ambon**	**10.74**	**264**	P	Pn	14 27 02.6	+0.2
	138nm,0.8s						
NLAI	**Namlea**	**11.81**	**267**	P	Pn	14 27 19.2	+2.2
	1μm194nm,1.0s						
COEN	**Coen**	**11.95**	**160**		Pn	14 27 18.9	-0.1
COEN	**Coen**	**11.95**	**160**	P	Pn	14 27 18.6	-0.4
TNTI	**Ternate**	**12.04**	**286**	Pn	Pn	14 27 19.0	-1.3
TNTI	**Ternate**	**12.04**	**286**	P	Pn	14 27 22.9	+2.6
DRS	**Darwin Rock St**	**12.50**	**219**	P	Pn	14 27 28.0	+1.5
MTN	**Manton Dam**	**12.68**	**217**	Pn	Pn	14 27 28.0	-1.0
SANI	**Sanana**	**12.93**	**273**	P	Pn	14 27 33.7	+1.4
SANI	**Sanana**	**12.93**	**273**	P	Pn	14 27 32.2	-0.1
	602nm88nm,0.8s						
RABL	**Rabaul**	**13.31**	**97**	Pn	Pn	14 27 39.0	+1.3
SGSI	**Sangihe**	**14.80**	**295**	P	Pn	14 28 00.3	+2.4
	49nm,0.9s						
KMSI	**Cibinong**	**15.28**	**282**	P	P	14 28 06.9	-1.6
SOEI	**Soe**	**16.15**	**244**		Pn	14 28 15.8	+0.3
SOEI				IAmb	IAmb	14 28 20.8	
	comp=Z,138nm,0.9s						
SOEI	**Soe**	**16.15**	**244**	P	P	14 28 18.8	+0.4
LUWI	**Luwuk**	**16.21**	**276**		Pn	14 28 13.6	-2.6
LUWI				IAmb	IAmb	14 28 21.7	
	comp=Z,105nm,1.1s						
LUWI	**Luwuk**	**16.21**	**276**	P	Pn	14 28 16.2	0.0
	comp=Z,1μmcomp=Z,119nm,1.0s						
MTSU	**Mount Surprise**	**16.23**	**161**	P	Pn	14 28 16.9	+0.5
KNRA	**Kununurra**	**16.31**	**217**		Pn	14 28 17.1	-0.4
KNRA				IAmb	IAmb	14 28 25.7	
	comp=Z,61nm,0.8s						
BBSI	**Bau Bau**		**16.53**	**260**	P	P	14 28 23.5	+1.0
	comp=Z,985nmcomp=Z,112nm,1.1s						
BATI	**Baumata**		**16.88**	**243**	Pn	P	14 28 26.2	-0.1
	comp=Z,19nm,0.3s,baz=96,slow=1.5,SNR=48						
BATI				Sn	Sn	14 31 26.5	-4.7
	comp=Z,2.2nm,0.3s,baz=248,slow=15,SNR=1.3						
BATI	**Baumata**		**16.88**	**243**	P	P	14 28 28.2	+1.9
GUMO	**Guam**		**17.23**	**20**		Pn	14 28 28.3	-0.7
GUMO					IAmb	IAmb	14 28 32.6	
	comp=Z,89nm,1.0s						
GUMO	**Guam**		**17.23**	**20**	P	Pn	14 28 26.7	-2.3
	comp=Z,1.1nm,0.3s,baz=196,slow=16,SNR=6.1						
GUMO				LR	LR	14 35 21.6	
	comp=Z,309nm,18.3s,baz=208,slow=38						
	comp=Z,76nm,1.2s						
MRSI	**Marisa**		**17.25**	**280**	P	P	14 28 32.3	+1.8
	comp=Z,37nm,1.0s						
APSI	**Ampana**		**17.34**	**276**	P	P	14 28 31.9	+0.4
	comp=Z,1μmcomp=Z,91nm,1.2s						
WB0	**Warramunga Arr**		**17.53**	**194**	P	Pn	14 28 32.4	-0.2
MMRI	**Maumere**		**17.60**	**250**	P	P	14 28 37.0	+2.7
	comp=Z,48nm,0.9s						
WRAB	**Tennant Creek**		**17.70**	**194**	P	Pn	14 28 34.3	-0.5
WRA	**Warramunga Arr**		**17.71**	**194**	Pn	Pn	14 28 32.4	-2.5
WRA	**Warramunga Arr**		**17.71**	**194**	P	Pn	14 28 33.2	-1.7
	comp=Z,1.2nm,0.3s,baz=18,slow=12,SNR=29						
WRA				S	Sn	14 31 41.2	-10
	comp=Z,34nm,0.9s,baz=11,slow=22,SNR=6.0						
WRA				LR	LR	14 36 02.6	
	comp=Z,1μm,18.1s,baz=12,slow=39						
	comp=Z,5.6nm,0.5s						
QIS	**Mount Isa**		**17.76**	**178**	P	Pn	14 28 34.5	-1.1
EDFI	**Ende, Flores**		**18.15**	**250**	P	Pn	14 28 42.1	+1.6
	comp=Z,26nm,0.9s						
TOLI2	**Tolitoli**		**18.52**	**282**		P	14 28 42.6	-1.8
TOLI2	**Tolitoli**		**18.52**	**282**	P	Pn	14 28 46.5	+1.7
BSSI	**Bau Bau, Buton**		**18.68**	**259**	P	Pn	14 28 49.5	+2.7
	comp=Z,50nm,0.9s						
CTA	**Charters Tower**		**18.71**	**158**	LR	LR	14 36 25.3	
	comp=Z,29nm,19.6s,baz=340,slow=38						
CTAO	**Charters Tower**		**18.71**	**158**		P	14 28 46.6	+0.1
CTAO	**Charters Tower**		**18.71**	**158**	P	Pn	14 28 48.4	+1.3
BNSI	**Bone**		**18.84**	**264**	P	Pn	14 28 51.3	+2.5
	comp=Z,37nm,0.7s						
BKSI	**Bulukumba**		**18.92**	**262**	P	Pn	14 28 50.3	+0.6
PCI	**Palu**		**19.15**	**275**	P	Pn	14 28 54.5	+2.0
	comp=Z,2μmcomp=Z,70nm,0.8s						
SPSI	**Sidrap Palu**		**19.15**	**266**	P	Pn	14 28 54.7	+2.2
	comp=Z,31nm,0.8s						
FITZ	**Fitzroy Crossi**		**20.09**	**219**	P	P	14 29 00.9	-0.6
	comp=Z,16nm,0.7s,baz=31,slow=11,SNR=23						
FITZ				S	S	14 32 36.1	-9.3
	comp=Z,31nm,0.8s,baz=163,slow=12,SNR=5.8						
FITZ				LR	LR	14 37 39.1	
	comp=Z,1μm,18.2s,baz=38,slow=39						
	comp=Z,16nm,0.7s						
AS31	**Alice Springs**		**21.40**	**193**		P	14 29 15.7	0.0
ASAR	**Alice Springs**		**21.40**	**193**		P	14 29 15.8	+0.1
ASAR	**Alice Springs**		**21.40**	**193**	P	P	14 29 15.2	-0.6
	comp=Z,5.3nm,0.6s,baz=23,slow=9.6,SNR=44						
ASAR				S	S	14 33 05.5	-5.9
	comp=Z,14nm,0.9s,baz=14,slow=26,SNR=6.2						
ASAR				LR	LR	14 37 59.7	
	comp=Z,496nm,21.4s,baz=12,slow=38						
	comp=Z,5.3nm,0.6s						
TATA	**Tatamba Isabel**		**21.54**	**106**	P	P	14 29 16.8	-0.5
MYLDM	**Lahad Datu**		**21.84**	**291**	P	P	14 29 24.9	+4.4
PLAI	**Plampang**		**21.88**	**253**	P	P	14 29 22.2	+1.2
PLAI	**Plampang**		**21.88**	**253**	P	P	14 29 20.6	-0.4
	comp=Z,47nm,1.2s						
ALEG	**Aligegeo Malai**		**22.48**	**106**	P	P	14 29 27.9	+0.4
TWSI	**Taliwang, Sumb**		**22.71**	**254**	P	P	14 29 30.0	+0.1
	comp=Z,30nm,0.9s						
BBKI	**Banjar Baru**		**24.05**	**268**	P	P	14 29 46.2	+3.2
MTKI	**Muara Teweh, K**		**24.06**	**274**	P	P	14 29 46.3	+3.1
INKA	**Innaminka**		**24.96**	**176**		P	14 29 50.9	-0.3
KMMI	**Kalianget**		**25.22**	**259**	P	P	14 29 56.7	+3.0
	comp=Z,113nm,0.9s						
JAGI	**Jajag, Banyuwa**		**25.29**	**256**	P	P	14 29 54.4	+0.1
	comp=Z,35nm,1.1s						
EIDS	**Eidsvold**		**25.40**	**154**		P	14 29 55.9	+0.7
EIDS				IAmb	IAmb	14 30 17.5	
	comp=Z,68nm,1.6s						
EIDS	**Eidsvold**		**25.40**	**154**	P	P	14 29 56.5	+1.3
MBWA	**Marble Bar**		**26.18**	**224**	P	P	14 30 00.9	-1.4
MBWA				IAmb	IAmb	14 30 23.0	
	comp=Z,20nm,0.9s						
MBWA	**Marble Bar**		**26.18**	**224**	P	P	14 30 03.2	+0.9
PSA00	**Pilbara Seismi**		**26.38**	**223**		P	14 30 03.2	-0.8
PSA00	**Pilbara Seismi**		**26.38**	**223**	P	P	14 30 06.7	+2.6
STKA	**Stephens Creek**		**29.13**	**175**		P	14 30 28.1	-0.5
STKA				IAmb	IAmb	14 31 27.7	
	comp=Z,34nm,0.9s						
STKA	**Stephens Creek**		**29.13**	**175**	P	P	14 30 27.9	-0.6
	comp=Z,2.1nm,0.6s,baz=336,slow=7.9,SNR=9.6						
STKA				LR	LR	14 43 25.8	
	comp=Z,588nm,19.3s,baz=353,slow=39						
	comp=Z,2.1nm,0.6s						
STKA	**Stephens Creek**		**29.13**	**175**	P	P	14 30 28.6	0.0
CMSA	**Cobar Meteorol**		**29.39**	**168**	P	P	14 30 32.3	+1.4
BBOO	**Buckleboo**		**30.07**	**185**	P	P	14 30 37.1	+0.2
BBOO				IAmb	IAmb	14 31 42.5	
	comp=Z,9.7nm,0.7s						
BBOO	**Buckleboo**		**30.07**	**185**	P	P	14 30 38.4	+1.5
HTT	**Hallett**		**30.57**	**180**	P	P	14 30 41.4	0.0
NACB	**Ninganchiao**		**31.58**	**329**	P	P	14 30 49.7	-0.6
DZM	**Mont Dzumac**		**32.95**	**128**	*e*S	S	14 36 18.7	+0.2
	comp=Z,89nm,29.7s						
DZM				*e*LR	LR	14 39 50.9	
	comp=Z,715nm,25.9s						
CAN	**Canberra**		**33.78**	**165**	P	P	14 31 10.7	+1.2
CNB	**Canberra Magne**		**33.87**	**165**	P	P	14 31 12.4	+2.1
TARA	**Tarawa**		**34.24**	**84**	P	P	14 31 11.5	-2.3
MDSI	**Maura Dua**		**34.71**	**266**	P	P	14 31 18.2	+0.4
	comp=Z,28nm,1.0s						
JHJ	**Hachijo jima 2**		**35.64**	**1**	LR	LR	14 42 24.9	
	comp=Z,348nm,20.4s,baz=186,slow=30						
QIZ	**Qiongzhong**		**35.83**	**308**	P	P	14 31 30.5	+3.2
QIZ					S	S	14 37 06.2	+3.5
QIZ					LR	LR		
	comp=Z,100nm,11.4s							
QIZ					LR	LR		
	comp=Z,200nm,12.7s							
QIZ					LR	LR		
	comp=Z,150nm,18.0s							
NWAO	**Narrogin (SRO)**		**36.29**	**212**	LR	LR	14 47 31.9	
	comp=Z,1μm,18.2s,baz=12,slow=38							
JNU	**Nakatsue**		**36.43**	**349**	LR	LR	14 45 33.9	
	comp=Z,128nm,19.4s,baz=170,slow=35							
MJAR	**Matsushiro Arr**		**39.05**	**359**	P	P	14 31 53.0	-1.4
	comp=Z,1.2nm,0.6s,baz=178,slow=9.3,SNR=4.5							
MJAR					LR	LR	14 45 51.7	
	comp=Z,127nm,20.2s,baz=170,slow=33							
	comp=Z,1.2nm,0.6s							
NJ2	**Nanjing**		**39.46**	**333**	*e*P	P	14 31 58.9	+1.0
NJ2					pmax	pmax		
	comp=Z,25nm,0.7s							
RPSI	**Rantau Prapat**		**40.33**	**277**	P	P	14 32 03.8	-1.6
PSI	**Prapat**		**40.34**	**277**	LR	LR	14 50 36.6	
	comp=Z,121nm,18.9s,baz=110,slow=39							
JMM	**Marumori**		**40.40**	**2**	P	P	14 32 04.6	-1.0
JMM					IAmb	IAmb	14 32 06.2	
	comp=Z,29nm,1.3s							
JSD	**Sado**		**40.54**	**359**	P	P	14 32 05.3	-1.4
TAU	**Tasmania Unive**		**40.73**	**171**	P	P	14 32 09.5	+1.2
KSAR	**Wonju Array Be**		**41.23**	**347**	P	P	14 32 11.7	-0.7
KSRS	**Korea Array**		**41.23**	**347**	P	P	14 32 12.9	+0.5
	comp=Z,2.7nm,0.9s,baz=161,slow=8.4,SNR=6.6							
KSRS					LR	LR	14 46 47.3	
	comp=Z,72μm,22.0s,baz=170,slow=33							
	comp=Z,2.7nm,0.9s							
GYA	**Guiyang**		**42.56**	**315**	⇓P	P	14 32 25.7	+2.1
GYA					pmax	pmax		
	comp=Z,7.0nm,0.7s							
ENH	**Enshi**		**43.18**	**322**	P	P	14 32 28.0	-0.5
TIA	**Tai'an**		**43.73**	**334**	P	P	14 32 32.4	-0.4
TIA					pmax	pmax		
	comp=Z,17nm,1.1s							
DL2	**Dalian**		**44.36**	**341**	P	P	14 32 38.8	+1.0
DL2					pmax	pmax		
	comp=Z,40nm,1.1s							
CM31	**Chiang Mai Arr**		**44.61**	**300**	P	P	14 32 39.6	-0.6
CMAR	**Chiang Mai Arr**		**44.61**	**300**	P	P	14 32 37.9	-2.2
CMAR	**Chiang Mai Arr**		**44.61**	**300**	P	P	14 32 40.4	+0.2
	comp=Z,1.9nm,0.8s,baz=117,slow=6.4,SNR=16							
CMAR				PcP	**PcP**		**14 34 23.8**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=136,slow=2.4,SNR=4.9							
	comp=Z,1.9nm,0.8s							
LYN	**LuoYang**		**44.62**	**328**	P	P	14 32 40.3	+0.3
LYN					pmax	pmax		
	comp=Z,27nm,0.9s							
CHTO	**Chiang Mai**		**44.75**	**300**	P	P	14 32 40.7	-0.6
HNS	**HongShan**		**45.79**	**333**	⇑P	P	14 32 49.6	+0.4
HNS					pmax	pmax		
	comp=Z,21nm,1.2s							
PZH	**PanZhiHua**		**46.17**	**311**	P	P	14 32 54.2	+1.6
XAN	**Xi'an**		**46.18**	**325**	⇑P	P	14 32 52.9	+0.5
XAN					pP	sP	14 33 09.8	+2.0
XAN					sP	pP	14 33 15.4	+12
XAN					pmax	pmax		
	comp=Z,22nm,1.5s							
ASAJ	**Asahikawa**		**46.73**	**4**	LR	LR	14 49 52.5	
	comp=Z,109nm,22.0s,baz=166,slow=33							
USRK	**Ussuriysk Ar.**		**47.10**	**353**	P	P	14 33 00.1	+0.8
	comp=Z,7.9nm,0.8s,baz=174,slow=8.2,SNR=16							
	comp=Z,7.9nm,0.8s							
CD2	**Chengdu**		**47.31**	**318**	P	P	14 33 01.3	0.0
BJT	**Baijiatuau**		**47.35**	**336**	P	P	14 33 01.1	-0.3
BJI	**Beijing**		**47.37**	**336**	P	P	14 33 01.6	+0.1
BJI					pP	**pP**	**14 33 11.2**	**-1.6**
BJI					pmax	pmax		
	comp=Z,13nm,1.4s							
MDJ	**Mudanjiang**		**47.84**	**351**	P	P	14 33 05.8	+0.7
MDJ					pmax	pmax		
	comp=Z,19nm,1.2s							
JCZ	**Jackson Bay**		**48.95**	**152**	P	P	14 33 15.1	+1.3
BNX	**BinXian**		**49.30**	**349**	⇓P	P	14 33 16.1	-0.2
BNX					pmax	pmax		
	comp=Z,39nm,1.0s							
URZ	**Urewera**		**49.70**	**140**	LR	LR	14 54 00.9	
	comp=Z,194nm,20.6s,baz=310,slow=36							
RPZ	**Rata Peaks**		**49.80**	**150**	P	P	14 33 20.7	+0.4
RPZ	**Rata Peaks**		**49.80**	**150**	P	P	14 33 21.7	+1.5
HHC	**Hu-ho-hao-te**		**50.02**	**333**	*e*P	P	14 33 23.1	+1.1
HHC					pmax	pmax		
	comp=Z,25nm,0.8s							
HHC					pmax	pmax		
	comp=Z,130nm,4.1s							
HHC					LR	LR		
	comp=Z,190nm,16.8s							
HHC					LR	LR		
	comp=Z,170nm,16.8s							
HHC					LR	LR		
	comp=Z,230nm,17.8s							
KHZ	**Kahutara**		**50.20**	**147**	P	P	14 33 23.3	+0.1
BTO	**Baotou**		**50.54**	**332**	*e*P	P	14 33 28.0	+2.0
BTO					pP	**sP**	14 33 40.5	-0.9
BTO					S	S	14 40 39.7	+1.9
BTO					pmax	pmax		
	comp=Z,32nm,0.5s							
BTO					pmax	pmax		
	comp=Z,240nm,5.3s							
BTO					LR	LR		
	comp=Z,340nm,18.4s							
BTO					LR	LR		
	comp=Z,280nm,15.9s							
BTO					LR	LR		
	comp=Z,450nm,17.4s							
LZH	**Lanzhou**		**50.59**	**323**	*e*P	P	14 33 28.1	+1.5
LZH					pmax	pmax		
	comp=Z,22nm,1.0s							
LZH					LR	LR		
	comp=Z,240nm,14.4s							
LZH					LR	LR		
	comp=Z,160nm,15.8s							
LZDM	**Lanzhou Array**		**50.60**	**323**	LR	LR	14 53 55.0	
	comp=Z,64nm,21.1s,baz=245,slow=35							
BFZ	**Birch Farm**		**50.62**	**143**	P	P	14 33 26.7	+0.2
SHL	**Shillong**		**53.49**	**305**	P	P	14 33 48.0	-0.3
SHL					IAmb	IAmb	14 34 12.6	
	comp=Z,8.0nm,0.7s							
HEH	**HeiHe**		**53.67**	**351**	*e*P	P	14 33 48.9	0.0
HEH					pmax	pmax		
	comp=Z,21nm,1.2s							
HIA	**Hailar**		**54.36**	**345**	P	P	14 33 54.0	0.0
HIA					IAmb	IAmb	14 33 57.2	
	comp=Z,12nm,0.9s							
GTA	**Gaotai**		**55.18**	**323**	P	P	14 34 01.3	+1.0
GTA					pmax	pmax		
	comp=Z,6.0nm,1.1s							
GTA					LR	LR		
	comp=Z,120nm,15.3s							
GTA					LR	LR		
	comp=Z,95nm,16.4s							
GTA					LR	LR		
	comp=Z,100nm,17.5s							
ULN	**Ulaanbaatar**		**57.54**	**335**		P	14 34 16.8	-0.2
ULN					IAmb	IAmb	14 34 20.2	
	comp=Z,26nm,1.6s							
SONM	**Songino Array**		**57.80**	**335**		P	14 34 18.7	-0.1
SONM					IAmb	IAmb	14 34 22.7	
	comp=Z,15nm,1.5s							
SONM	**Songino Array**		**57.80**	**335**	P	P	14 34 17.4	-1.4
	comp=Z,2.0nm,0.6s,baz=154,slow=8.0,SNR=8.9							
SONM					LR	LR	14 58 19.6	
	comp=Z,176nm,21.1s,baz=106,slow=35							
	comp=Z,2.0nm,0.6s							
PETK	**Petropavlovsk-**		**57.81**	**13**	P	P	14 34 18.5	0.0
	comp=Z,

comp=Z,57nm,20.7s,baz=314,slow=33
PPT2 Papeete2 71.57 108 *e*S **S 14 45 02.6 -3.7**
comp=Z,45nm,23.5s
PPT2 Papeete2 71.57 108 *e*LR LR 14 57 42.0
comp=Z,76nm,23.2s
TDK Taldyqorghan 71.58 319 *e*P **P 14 35 49.2 +0.5**
comp=Z,8.0nm,0.9s
MDOK Medeo 71.77 317 *e*P **P 14 35 50.4 +0.3**
TNSS Tian-Shan 71.80 317 *e*P **P 14 35 50.5 0.0**
AAA Alma-Ata 71.88 317 *e*P **P 14 35 51.0 +0.4**
comp=Z,8.7nm,0.6s
ZAA0 Zalesovo Array 72.03 330 P 14 35 50.1 -0.9
ZAA0 IAmb IAmb 14 35 52.0
comp=Z,5.6nm,0.8s
ZALV Zalesovo Beam 72.03 330 P 14 35 49.7 -1.4
ZALV Zalesovo Beam 72.03 330 P **P 14 35 50.4 -0.7**
comp=Z,3.2nm,0.5s,baz=111,slow=6.5,SNR=18
comp=Z,3.2nm,0.5s
TBI Tubuai 72.07 114 *e*LR LR 14 57 49.7
TBI comp=Z,949nm,32.5s
*e*LR LR 14 57 51.8
comp=Z,548nm,27.8s
AAK Ala-Archa 73.34 316 P **P 14 35 58.3 -1.1**
AAK IAmb IAmb 14 36 06.6
comp=Z,11nm,1.6s
AAK Ala-Archa 73.34 316 LR LR 15 11 15.3
comp=Z,35nm,19.7s,baz=97,slow=38
KURK Kurchatov 73.82 325 P 14 36 01.2 -0.6
KURK IAmb IAmb 14 36 02.5
comp=Z,8.4nm,0.8s
KURBB Kurchatov Arra 73.84 325 P **P 14 36 01.6 -0.3**
comp=Z,6.3nm,0.8s,baz=115,slow=5.6,SNR=52
comp=Z,6.3nm,0.8s
ARSB Arslanbob 73.97 314 P 14 36 02.6 -0.5
ARSB IAmb IAmb 14 36 04.5
comp=Z,13nm,1.1s
TIXI Tiksi 74.51 357 LR LR 15 07 11.6
comp=Z,58nm,20.3s,baz=192,slow=34
GAR Garm 75.24 311 P 14 36 09.7 -0.7
DZA Taraz 75.63 315 *e*P **P 14 36 12.9 +0.4**
comp=Z,11nm,0.8s
VNDA Vanda 75.77 175 P 14 36 13.3 +0.7
VNDA IAmb IAmb 14 36 15.5
comp=Z,8.7nm,0.8s
VNDA Vanda 75.77 175 P **P 14 36 13.3 +0.7**
comp=Z,10nm,0.9s,baz=323,slow=6.9,SNR=61
VNDA LR LR 15 10 02.4
comp=Z,230nm,18.0s,baz=348,slow=36
comp=Z,10nm,0.9s
CHGR Chuyangaron 76.02 311 P 14 36 14.7 -0.2
CHGR IAmb IAmb 14 36 15.7
comp=Z,15nm,0.8s
KKAR Karatay Array 76.26 315 P 14 36 15.2 -0.9
IUG Iuzhnay 76.33 314 *e*P **P 14 36 16.8 +0.2**
SBA Scott Base 76.53 174 P 14 36 17.8 +0.9
SBA IAmb IAmb 14 36 19.7
comp=Z,8.4nm,0.9s
CHM Chimkent 76.68 315 *e*P **P 14 36 18.8 +0.3**
comp=Z,5.1nm,0.4s
BRLS Borolday 76.72 315 *e*P **P 14 36 18.9 +0.2**
BRZS Berezniki 77.05 323 *e*P **P 14 36 21.1 +0.7**
K13K Kusilvak Mount 77.29 24 P **P 14 36 22.0 +0.6**
L14K Kuka Creek 77.81 25 P 14 36 24.8 +0.5
M16K Timber Creek 79.25 26 P **P 14 36 32.7 +0.4**
BVAR Borovoye Array 79.42 325 P **P 14 36 33.4 0.0**
comp=Z,11nm,0.8s,baz=108,slow=8.0,SNR=38
comp=Z,11nm,0.8s
TAOE Nuku Hiva Isla 80.64 98 *e*LR LR 15 01 48.6
comp=Z,194nm,23.8s
L18K Granite Mounta 80.74 25 P 14 36 40.8 +0.5
L18K IAmb IAmb 14 36 42.5
comp=Z,21nm,1.1s
KDAK Kodiak Island 81.00 30 LR LR 15 07 44.8
comp=Z,132nm,21.5s,baz=232,slow=32
L19K White Mountain 81.52 26 P 14 36 44.9 +0.4
L19K IAmb IAmb 14 36 46.3
comp=Z,20nm,1.0s
MAW Mawson 82.21 202 P **P 14 36 48.5 +0.5**
comp=Z,7.0nm,0.9s,baz=78,slow=6.2,SNR=6.1
MAW LR LR 15 11 37.2
comp=Z,181nm,19.3s,baz=86,slow=34
comp=Z,7.0nm,0.9s
F20K Avaraart Lake 83.09 21 P 14 36 53.3 +0.7
F20K IAmb IAmb 14 36 55.0
comp=Z,12nm,1.1s
IMAR Indian Mountai 83.41 22 P **P 14 36 54.5 +0.3**
KNK Knik Glacier 84.12 27 P **P 14 36 57.5 -0.5**
MLY Manley 84.25 24 P 14 36 58.7 0.0
MLY IAmb IAmb 14 37 01.2
comp=Z,13nm,1.1s
I23K Minto, Yukon-K 84.84 24 P **P 14 37 01.7 +0.1**
I23K IAmb IAmb 14 37 02.6
comp=Z,10nm,1.0s
AB31 Abkulak array 84.84 320 P 14 37 00.6 -1.3
AB31 IAmb IAmb 14 37 02.4
comp=Z,4.1nm,0.8s
ABKAR Abkulak array 84.84 320 P 14 37 00.7 -1.2
DHY Denali Highway 85.08 26 P 14 37 02.9 -0.1
ILAR Eielson Array 85.74 24 P **P 14 37 04.5 -1.6**
comp=Z,5.8nm,0.7s,baz=264,slow=4.3,SNR=72
ILAR LR LR 15 11 25.5
comp=Z,38nm,21.8s,baz=235,slow=33
comp=Z,5.8nm,0.7s
QSPA South Pole Qui 87.24 180 P 14 37 15.0 +1.4
QSPA South Pole Qui 87.24 180 P **P 14 37 15.6 +2.0**
comp=Z,14nm,0.7s,baz=328,slow=1.3,SNR=124
QSPA LR LR 15 15 48.5
comp=Z,194nm,22.0s,baz=6.0,slow=35
comp=Z,14nm,0.7s
BMAR Burnt Mountain 87.32 22 P 14 37 14.4 +0.6
BCAR Beaver Creek A 87.55 27 P **P 14 37 15.3 +0.3**
SYO Syowa Base 90.84 201⇑ *e*P **P 14 37 30.4 +0.1**
KIRV Kirov 92.02 328 LR LR 15 20 25.1
comp=Z,84nm,20.9s,baz=84,slow=36
DLBC Dease Lake 92.84 32 LR LR 15 15 15.3
comp=Z,535nm,20.2s,baz=270,slow=33
BBB Bella Bella 93.95 38 LR LR 15 11 29.4
comp=Z,77nm,20.0s,baz=225,slow=30
YBH Yreka Blue Hor 98.05 48 LR LR 15 13 07.6
comp=Z,7.6nm,22.0s,baz=300,slow=30
YKA Yellowknife Ar 99.97 27 LR LR 15 17 51.0
comp=Z,115nm,20.9s,baz=292,slow=32
TROLL Troll, Antarti 100.38 193 ⇑P **Pdif 14 38 13.6 -0.3**
comp=Z,107nm,0.2s
ARCES ARCESS Array B 100.57 341 P **Pdif 14 38 12.5 -2.0**
comp=Z,3.0nm,0.8s,baz=78,slow=5.1,SNR=3.6
NVAR Mina Array Bea 101.69 51 P **Pdif 14 38 19.3 -1.2**
comp=Z,0.3nm,0.5s,baz=298,slow=3.1,SNR=2.2
MNK Minsk 104.30 326 *i* P **Pdif 14 38 29.2 -2.2**
comp=E,18nm,0.8s
MNK *i* P **Pdif 14 38 29.2 -2.2**
comp=N,14nm,0.7s
MNK *i* P **Pdif 14 38 29.2 -2.2**
comp=Z,8.0nm,0.6s,baz=74
MNK *i* PP **PKiKP 14 42 47.9 0.0**
MNK *i* PPP PPP 14 45 00.1
MNK *i* SKS 14 49 54.9
MNK *i* PS **PS 14 52 01.4 -1.4**
MNK *i* SS **SS 14 57 37.0 0.0**
MNK *i* SSS SSS 15 01 34.0
MNK *i* LQ LQ 15 19 42.8
MNK *i* LRM MLR 15 27 28.2
comp=N,46nm,15.5s
MNK *i* LRM MLR 15 27 39.8
comp=Z,70nm,20.5s
TORD Torodi Ar. Bea 136.44 286 PKP **PKPdf 14 43 48.7 -1.4**
comp=Z,1.2nm,0.7s,baz=15,slow=2.6,SNR=4.9
DBIC Dimbokro 143.68 278 PKhKP PKPpre 14 44 00.1
comp=Z,5.4nm,0.8s,baz=110,slow=11,SNR=3.7
CPUP Villa Florida 147.14 152 PKPbc **PKPbc 14 44 10.8 -0.2**
comp=Z,3.6nm,1.0s,baz=27,slow=2.3,SNR=12
LPAZ La Paz 147.29 126 PKPbc **PKPbc 14 44 12.7 +0.2**
comp=Z,7.9nm,0.7s,baz=180,slow=3.5,SNR=11

*IDC **02** 14:35:21.3±1.9, 3°.64S×12°.03W, h0km, mb4.1/6, mbtmp4.1/6, MS3.6/27, Error ellipse: s-maj=136.7km s-min=28.3km az=111.0*
*NEIC **02** 14:35:23.0±1.5, 3°.85S±0°.10×11°.6W±0°.1, h10km±1km, mb4.7/15, Error ellipse: s-maj=21.8km s-min=13.3km az=303.0*
ISC 02 14:35:22.4±0.6, 3°.8S±0°.1×11°.6W±0°.1, h10km, n52, σ1§19/23, mb4.6/13, MS3.6/26, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.91**	**216**	T		T		14 41 12.3	
	baz=29,slow=75,SNR=108								
H10N1	**ASCENSION HYDR**	**4.92**	**216**	T		T		14 41 13.2	
	baz=29,slow=75,SNR=125								
ASCN	**Ascension**	**4.92**	**214**	Pn		**Pn**		**14 36 36.9**	**+0.5**
H10N3	**ASCENSION HYDR**	**4.92**	**216**	T		T		14 41 13.8	
	baz=29,slow=75,SNR=158								
DBIC	**Dimbokro**	**12.41**	**33**	Pn		**Pn**		**14 38 18.6**	**-0.7**
DBIC	**Dimbokro**	**12.41**	**33**	LR		LR		14 42 20.5	
	comp=Z,224nm,20.1s,baz=241,slow=34								
ACRG	**Accra**	**14.75**	**50**	Pn		**Pn**		**14 38 49.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**21.41**	**38**	P		**P**		**14 40 11.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**21.41**	**38**	P		**P**		**14 40 10.8**	**+0.2**
	4.3nm,0.9s,baz=220,slow=9.9,SNR=16								
TORD				LR		LR		14 47 52.3	
	comp=Z,100nm,20.2s,baz=176,slow=35								
	4.3nm,0.9s								
SACV	**Santiago Islan**	**22.17**	**328**	P		**P**		**14 40 17.3**	**-1.5**
SACV				IAmb		IAmb		14 40 19.5	
	comp=Z,37nm,1.1s								
EDA	**Edea**	**23.00**	**71**	P		**P**		**14 40 27.0**	**-0.6**
RCBR	**Riachuelo**	**24.32**	**264**	LR		LR		14 47 29.7	
	comp=Z,73nm,20.6s,baz=68,slow=30								
TSUM	**Tsumeb**	**32.31**	**121**	LR		LR		14 52 20.4	
	comp=Z,123nm,21.5s,baz=338,slow=31								
MDT	**Midelt**	**37.05**	**10**	LR		LR		14 56 59.2	
	comp=Z,94nm,19.6s,baz=25,slow=35								
BDFB	**Brasilia**	**37.70**	**249**	LR		LR		14 56 30.9	
	comp=Z,90nm,19.1s,baz=84,slow=34								
LSZ	**Lusaka**	**40.74**	**109**	LR		LR		14 57 19.9	
	comp=Z,125nm,20.3s,baz=246,slow=32								
LPHEP	**Lephephe**	**41.03**	**122**	P		**P**		**14 43 05.7**	**-0.7**
LPHEP				IAmb		IAmb		14 43 41.5	
	comp=Z,16nm,1.4s								
LBTB	**Lobatse**	**41.47**	**124**	P		**P**		**14 43 09.1**	**-0.9**
LBTB				IAmb		IAmb		14 43 10.1	
	comp=Z,15nm,1.1s								
LBTB	**Lobatse**	**41.47**	**124**	LR		LR		14 58 14.3	
	comp=Z,49nm,18.7s,baz=279,slow=33								
MDP	**Montagnes des**	**41.97**	**282**	LR		LR		14 57 02.6	
	comp=Z,70nm,19.3s,baz=170,slow=31								
MATP	**Matopo**	**42.34**	**116**	LR		LR		14 58 47.5	
	comp=Z,115nm,20.4s,baz=247,slow=33								
BOSA	**Boshof**	**42.79**	**129**			**P**		**14 43 19.2**	**-1.4**
BOSA	**Boshof**	**42.79**	**129**	LR		LR		14 59 36.1	
	comp=Z,50nm,18.8s,baz=214,slow=34								
ESDC	**Sonseca Array**	**43.87**	**8**	LR		LR		15 01 45.0	
	comp=Z,55nm,18.7s,baz=215,slow=36								
KEST	**Kesra**	**43.98**	**25**	LR		LR		15 03 20.5	
	comp=Z,62nm,18.2s,baz=328,slow=38								
AQDB	**Aquidauana**	**46.00**	**245**	P		**P**		**14 43 46.0**	**-0.3**
AQDB				IAmb		IAmb		14 43 47.5	
	comp=Z,7.8nm,1.1s								
CPUP	**Villa Florida**	**49.14**	**238**	P		**P**		**14 44 09.9**	**-0.8**
CPUP				IAmb		IAmb		14 44 12.9	
	comp=Z,8.3nm,1.1s								
CPUP	**Villa Florida**	**49.14**	**238**	LR		LR		15 01 38.9	
	comp=Z,23nm,21.8s,baz=276,slow=32								
SIV	**San Ignacio**	**50.09**	**252**	LR		LR		15 03 42.8	
	comp=Z,81nm,20.1s,baz=115,slow=34								
CUC	**Castrocucco**	**50.36**	**27**	P		**P**		**14 44 20.1**	**+0.4**
CUC				IAmb		IAmb		14 44 32.8	
	comp=Z,11nm,1.4s								
FURI	**Furi**	**51.67**	**76**	LR		LR		15 04 26.4	
	comp=Z,89nm,20.7s,baz=120,slow=34								
PCRV	**Puerto La Cruz**	**54.64**	**285**	LR		LR		15 03 38.0	
	comp=Z,35nm,20.8s,slow=31								
LPAZ	**La Paz**	**56.86**	**253**	LR		LR		15 08 14.6	
	comp=Z,77nm,20.4s,baz=67,slow=35								
GERES	**GERESS Array B**	**56.90**	**20**	P		**P**		**14 45 07.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=208,slow=3.9,SNR=5.5								
	comp=Z,1.3nm,0.7s								
MMAI	**Mount Meron Ar**	**57.60**	**47**	LR		LR		15 10 22.8	
	comp=Z,26nm,21.0s,baz=216,slow=36								
SJG	**San Juan**	**58.03**	**294**	LR		LR		15 04 18.9	
	comp=Z,56nm,19.8s,baz=148,slow=30								
ASF	**Jabal al Asfar**	**58.28**	**48**	LR		LR		15 12 39.5	
	comp=Z,34nm,18.0s,baz=244,slow=38								
VRAC	**Vranov**	**58.31**	**21**	LR		LR		15 11 42.5	
	comp=Z,40nm,18.7s,baz=256,slow=37								
BRTR	**Keskin Array B**	**60.02**	**39**	P		**P**		**14 45 32.4**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=233,slow=6.3,SNR=5.9								
	comp=Z,0.4nm,0.3s								
ROSC	**El Rosal**	**63.27**	**277**	LR		LR		15 10 23.4	
	comp=Z,90nm,20.8s,baz=237,slow=34								
KIEV	**Kiev**	**64.59**	**27**	P		**P**		**14 45 59.6**	**-0.2**
KIEV				IAmb		IAmb		14 46 01.1	
	comp=Z,4.4nm,0.9s								
AKASG	**Malin Array Be**	**64.60**	**27**	P		**P**		**14 45 60.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=234,slow=6.9,SNR=5.1								
	comp=Z,0.5nm,0.5s								
AKBB	**Malin Array Si**	**64.60**	**27**	P		**P**		**14 45 59.5**	**-0.5**
AKBB				IAmb		IAmb		14 46 01.1	
	comp=Z,5.2nm,0.9s								
NNA	**Nana**	**65.02**	**259**	P		**P**		**14 46 02.4**	**-1.1**
NNA	**Nana**	**65.02**	**259**	LR		LR		15 14 11.1	
	comp=Z,75nm,18.4s,baz=84,slow=36								
ATAH	**Atahualpa**	**66.55**	**264**	LR		LR		15 13 38.9	
	comp=Z,105nm,20.6s,baz=131,slow=35								
NC303	**NORSAR Array S**	**67.27**	**12**	P		**P**		**14 46 17.6**	**+0.6**
KBZ	**Khabaz**	**68.01**	**40**	P		**P**		**14 46 24.2**	**+2.3**
	comp=Z,2.0nm,0.7s,baz=225,slow=10.0,SNR=2.6								
	comp=Z,2.0nm,0.7s								
QSPA	**South Pole Qui**	**86.25**	**180**	P		**P**		**14 48 05.4**	**+1.3**
QSPA	**South Pole Qui**	**86.25**	**180**	P		**P**		**14 48 05.5**	**+1.3**
	comp=Z,6.6nm,0.9s,baz=221,slow=1.8,SNR=17								
	comp=Z,6.6nm,0.9s								
ULM	**Lac du Bonnet**	**89.28**	**320**	LR		LR		15 24 29.5	
	comp=Z,87nm,18.2s,baz=324,slow=33								
PALK	**Pallekele**	**92.74**	**83**	LR		LR		15 28 01.5	
	comp=Z,64nm,18.5s,baz=264,slow=34								

*IDC **02** 14:37:41.1±1.5, 2°.73S×138°.97E, h0km, mb3.2/3, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=32.8km s-min=21.5km az=151.0*
*DJA **02** 14:37:45.3±1.0, 3°S±7°×13°9E±°, h15km±11km, M3.5/7, MLv3.5/7*
ISC 02 14:37:46.0±1.0, 2°.7S±0°.1×139°.00E±0°.05, h37km, n10, σ1§21/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.74**	**337**	P		**Pn**		**14 37 58.3**	**-1.6**
GENI	**Genyem**	**1.17**	**86**	P		**Pn**		**14 38 06.0**	**+0.2**
JAY	**Jayapura**	**1.71**	**85**	Pn		**Pn**		**14 38 13.6**	**+0.2**
	3.1nm,0.3s,baz=253,slow=14,SNR=28								
JAY				Sn		**Sn**		**14 38 35.2**	**+1.2**
	12nm,0.3s,baz=109,slow=18,SNR=8.2								
JAY				LR		LR		14 39 10.2	
	comp=Z,162nm,19.2s,baz=274,slow=51								
JAY	**Jayapura**	**1.71**	**85**	P		**Pn**		**14 38 13.5**	**+0.2**
SRPI	**Serui, Papua**	**2.87**	**286**	P		**Pn**		**14 38 30.5**	**+1.3**
BAKI	**Biak**	**3.24**	**297**	P		**Pn**		**14 38 35.5**	**+1.1**
WRA	**Warramunga Arr**	**17.75**	**195**	P		**Pn**		**14 41 48.9**	**-1.5**
	0.1nm,0.3s,baz=16,slow=13,SNR=7.0								
	0.3nm,0.3s								
FITZ	**Fitzroy Crossi**	**20.16**	**220**	P		**P**		**14 42 16.6**	**-0.7**
	1.7nm,0.9s,baz=42,slow=12,SNR=1.1								
	1.7nm,0.9s								
ASAR	**Alice Springs**	**21.44**	**193**	P		**P**		**14 42 30.3**	**-0.8**
	0.2nm,0.4s,baz=22,slow=9.6,SNR=12								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**69.94**	**322**	P		**P**		**14 48 54.6**	**+1.0**
	0.2nm,0.5s,baz=98,slow=9.7,SNR=2.3								
	0.2nm,0.5s								

IDC 02 14:48:58.7±3.5, 20°.67S×175°.83W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=157.7km s-min=39.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.55**	**245**	P		**P**		14 56 32.2	+0.5
	0.9nm,0.8s,baz=76,slow=9.7,SNR=5.6								
	0.9nm,0.8s								
ASAR	**Alice Springs**	**46.46**	**257**	P		P		14 57 27.9	+0.1
	0.5nm,0.6s,baz=90,slow=8.5,SNR=25								
ASAR				PcP		PcP		14 59 00.7	-1.9
	0.2nm,0.8s,baz=110,slow=4.1,SNR=4.1								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**46.59**	**262**	P		P		14 57 28.6	-0.3
	0.4nm,0.6s,baz=97,slow=8.1,SNR=12								
	0.4nm,0.6s								
ILAR	**Eielson Array**	**88.04**	**12**	P		P		15 01 51.2	+0.7
	0.3nm,0.9s,baz=202,slow=5.5,SNR=1.7								
	0.3nm,0.9s								

IDC 02 14:52:25.0±65.0, 16°.53S×179°.22W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1185.0km s-min=172.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.64**	**239**	P		P		14 59 50.7	+0.3
	1.4nm,0.9s,baz=84,slow=10,SNR=4.5								
	1.4nm,0.9s								
WRA	**Warramunga Arr**	**44.14**	**258**	P		P		15 00 35.3	-0.4
	0.4nm,0.9s,baz=92,slow=8.5,SNR=1.8								
	0.4nm,0.9s								
ASAR	**Alice Springs**	**44.44**	**253**	P		P		15 00 37.8	-0.3
	1.2nm,0.5s,baz=89,slow=8.0,SNR=48								
	1.2nm,0.5s								

*AEIC **02** 14:53:20.1±1.1, 51°.8N±0°.3×179°.43W±0°.05, h94km±6km, Error ellipse: s-maj=37.0km s-min=4.1km az=182.0*
NEIC 02 14:53:21.0±0.7, 51°.7N±0°.2×179°.47W±0°.05, h95km±7km, ML3.5/10, ML3.2(AEIC), Error ellipse: s-maj=31.4km s-min=3.7km az=184.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**0.38**	**83**				Pn	14 53 35.5	0.0
GASW							Sn	14 53 46.5	+0.2
GANO	**Gareloi North**	**0.42**	**78**				Pn	14 53 35.4	-0.4
GANO							Sn	14 53 46.5	-0.3
GAKI	**Gareloi-Kavalg**	**0.45**	**114**				Pn	14 53 35.8	-0.1
GAKI							Sn	14 53 47.0	0.0
CEPE	**Semis' Perret**	**0.59**	**293**				Pn	14 53 37.1	0.0
CEPE							Sn	14 53 48.8	-0.3
CERB	**Semis' Cerberu**	**0.59**	**289**				Pn	14 53 37.2	+0.1
CERB							Sn	14 53 49.7	+0.6
CESW	**Semis' Southwe**	**0.62**	**286**				Pn	14 53 37.1	-0.2
CESW							Sn	14 53 49.2	-0.3
AMKA	**Amchitka**	**0.85**	**245**				Pn	14 53 39.5	0.0
AMKA	**Amchitka**	**0.85**	**245**				Sn	14 53 53.4	+0.1
TANO	**Tanaga North**	**0.85**	**77**				Pn	14 53 39.5	0.0
TANO							Sn	14 53 53.5	+0.1
TASE	**Tanaga Southea**	**0.89**	**83**				Pn	14 53 39.8	-0.1
TASE							Sn	14 53 54.2	+0.1
TAFL	**Tanaga Flats**	**0.97**	**88**				Pn	14 53 40.7	-0.1
TAFL							Sn	14 53 56.0	+0.4
TAPA	**Tanaga Point A**	**1.03**	**85**				Pn	14 53 41.2	-0.2
LSSE	**Little Sitkin**	**1.24**	**280**				Pn	14 53 44.1	+0.3
LSPA	**Little Sitkin**	**1.24**	**281**				Pn	14 53 44.2	+0.4
LSPA							Sn	14 54 01.3	+0.3
LSSA	**Little Sitkin**	**1.27**	**280**				Pn	14 53 44.4	+0.2
LSSA							Sn	14 54 01.9	+0.1
LSNW	**Little Sitkin**	**1.27**	**281**				Pn	14 53 44.2	0.0
LSNW							Sn	14 54 01.7	-0.1
KIMD	**Kanaga Island**	**1.39**	**88**				Pn	14 53 45.3	-0.2
KIMD							Sn	14 54 04.1	-0.1
KIKV	**Kanaga Island**	**1.43**	**83**				Pn	14 53 45.9	-0.3
KIKV							Sn	14 54 05.0	-0.2
KIWB	**Kanaga Island**	**1.44**	**84**				Pn	14 53 46.0	-0.3
KIWB						IAML		14 54 06.2	
	comp=N,428nm,0.6s								
KIWB						IAML		14 54 07.2	
	comp=E,490nm,0.5s								
KIWB	**Kanaga Island**	**1.44**	**84**				Sn	14 54 05.5	+0.1
ADK	**Adak**	**1.73**	**84**				Pn	14 53 49.4	-0.5
ADK						IAML		14 54 11.8	
	comp=E,289nm,0.7s								
ADK						IAML		14 54 12.8	
	comp=E,412nm,0.4s								
ADK	**Adak**	**1.73**	**84**				Sn	14 54 11.8	-0.1
ADAG	**Mount Adagdak**	**1.79**	**81**				Pn	14 53 50.2	-0.5
ADAG							Sn	14 54 13.5	+0.3
ETKA	**Kagalaska Isla**	**1.90**	**85**				Pn	14 53 51.6	-0.5
ETKA							Sn	14 54 15.7	-0.1
GSCK	**Great Sitkin C**	**2.07**	**81**				Pn	14 53 53.5	-0.7
GSCK							Sn	14 54 19.4	-0.2
GSTD	**Great Sitkin T**	**2.08**	**80**				Pn	14 53 53.4	-1.1
GSTD							Sn	14 54 19.1	-1.0
GSMY	**Great Sitkin M**	**2.13**	**80**				Pn	14 53 54.2	-1.0
GSMY							Sn	14 54 21.7	+0.5
GSTR	**Great Sitkin T**	**2.14**	**79**				Pn	14 53 54.5	-0.7
ATKA	**Atka Island**	**3.29**	**80**				Pn	14 54 10.1	-0.4
ATKA							Sn	14 54 48.6	-0.1
KOFP	**Korovin Flat P**	**3.36**	**79**				Pn	14 54 11.7	+0.2
SMY	**Shemya**	**4.08**	**287**	Pn			Pn	14 54 20.9	-0.2
SMY						IAML		14 55 21.9	
	comp=N,46nm,1.3s								
SMY						IAML		14 55 51.5	
	comp=E,69nm,1.4s								
NIKH	**Nikolski High**	**6.62**	**75**	Pn		Pn		14 54 55.8	+0.2
SPIA	**Saint Paul Isl**	**7.65**	**41**	Pn		Pn		14 55 10.4	+0.9
LVA	**Lava Point**	**8.47**	**68**	Pn		Pn		14 55 21.6	+0.9
AKUT	**Akutan**	**8.61**	**68**	Pn		Pn		14 55 23.3	+0.7

*IDC **02** 14:54:19.6±0.9, 39°.80N×143°.64E, h0km, mb4.1/15, mbtmp4.1/20, ML3.4/4, MS3.3/3, Error ellipse: s-maj=21.7km s-min=14.9km az=94.0*
*MOS **02** 14:54:20.5±1.0, 39°.92N×143°.58E, h15km, mb4.5/13, Error ellipse: s-maj=9.2km s-min=5.8km az=95.2*
*JMA **02** 14:54:22.4±0.2, 39°.9N±0°.8×14°4E±°, h33km, MD4.4/34, MV4.0/34, FAR E OFF SANRIKU*
*NIED **02** 14:54:22.4, 39°.91N×143°.57E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.10; Mθθ0.34; Mφφ-1.44; Mrθ0.46; Mrφ-0.66; Mθφ0.69; Fault plane solution: M0 1.62000×10^15 NP1: φs180.00000°, δ32.00000°, λ63.00000°. NP2: φs31.00000°, δ62.00000°, λ106.00000°.*
*NEIC **02** 14:54:23.4±1.6, 39°.86N±0°.06×143°.6E±0°.1, h22km±7km, mb4.4/13 Error ellipse: s-maj=13.9km s-min=8.4km az=108.0*
ISC 02 14:54:20.3±0.6, 39°.86N±0°.05×143°.73E±0°.07, h6km, n107, σ1§37/114, mb4.3/32, MS3.9/6, 10C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.44**	**274**	*i* P		**Pn**		**14 54 44.9**	**-2.0**
MIYJ	**Miyakonagasawa**	**1.50**	**260**	*i* P		**Pn**		**14 54 46.5**	**-1.2**
JKEN	**Kujiedanarisaw**	**1.59**	**283**	P		**Pn**		**14 54 46.9**	**-2.1**
JANG	**Nango**	**1.77**	**288**	*i* P		**Pn**		**14 54 49.8**	**-1.7**
JOM	**Ohasama**	**1.92**	**259**	*i* P		**Pn**		**14 54 53.0**	**-0.5**
JOM	**Ohasama**	**1.92**	**259**	A		A		14 54 53.0	
	comp=N,3.0nm,1.4s,comp=E,4.0nm,0.3s								
JMK	**Ichinoseki**	**2.15**	**246**	*i* P		**Pn**		**14 54 55.8**	**-0.8**
ERM	**Erimo**	**2.20**	**349**			**Pn**		**14 54 57.6**	**+0.3**
ERM	**Erimo**	**2.20**	**349**	P		**Pn**		**14 54 57.6**	**+0.3**
JEM	**

ASAJ Asahikawa 4.34 349 Pn Pn 14 55 28.0 +1.3
comp=E,1.7nm,0.3s,baz=208,slow=15,SNR=14
ASAJ Sn Sn 14 56 15.9 -1.7
comp=E,2.7nm,0.3s,baz=159,slow=11,SNR=4.6
comp=E,7.3nm,0.5s
RUSJ Misakicho 4.39 14 *e*P **Pn 14 55 28.2 +0.8**
RUSJ *e*S **Sn 14 56 18.2 -0.6**
YUK Yuzh-Kuril'sk 4.46 20 *e*P **Pn 14 55 28.8 +0.4**
YUK *e*S **Sn 14 56 17.2 -3.5**
YUK pmax pmax
comp=Z,105nm,0.4s
YUK pmax pmax
comp=N,84nm,0.3s
YUK smax smax
comp=E,305nm,0.7s
YUK smax smax
comp=N,278nm,0.6s
MJAR Matsushiro Arr 5.47 234 Pn 14 55 42.9 +0.6
MJAR Matsushiro Arr 5.47 234 Pn **Pn 14 55 42.3 0.0**
comp=N,0.3nm,0.3s,baz=38,slow=12,SNR=39
MJAR LR LR 14 57 47.7
comp=N,184nm,18.1s,baz=181,slow=39
comp=N,9.6nm,0.8s
MJAR Matsushiro Arr 5.47 234 P **Pn 14 55 42.9 +0.6**
MAJO Matsushiro 5.47 234 Pn 14 55 42.4 +0.1
MAJO Matsushiro 5.47 234 *i* P **Pn 14 55 42.6 +0.3**
MJB9 Matsu-Tunnel 5.47 235 Pn 14 55 43.6 +1.3
KUR Kuril'sk 6.18 28 *e*P **Pn 14 55 52.1 +0.1**
KUR *i* S **Sn 14 56 58.9 -4.0**
KUR pmax pmax
comp=Z,32nm,1.0s
KUR smax smax
comp=E,82nm,0.7s
KUR smax smax
comp=N,44nm,0.4s
JGF Kuroka 6.60 232 Pn 14 55 59.5 +1.6
INU Inuyama 6.97 232 Pn **Pn 14 56 01.5 -1.5**
YSS Yuzhno-Sakhali 7.13 355 *e*P **Pn 14 56 06.2 +1.2**
YSS pmax pmax
comp=Z,20nm,1.0s
JHJ Hachijo jima 2 7.44 207 Pn **Pn 14 56 08.6 -0.7**
comp=Z,2.8nm,0.3s,baz=45,slow=19,SNR=1.5
JHJ Sn Sn 14 57 25.1 -9.0
comp=Z,7.3nm,0.3s,baz=73,slow=23,SNR=1.2
comp=Z,63nm,0.8s
USRK Ussuriysk Ar. 9.75 300 Pn **Pn 14 56 40.5 -0.5**
comp=Z,0.5nm,0.3s,baz=106,slow=13,SNR=10
comp=Z,9.5nm,0.7s
MSHR Mys Shultsa 9.86 290 *i* P **Pn 14 56 42.7 +0.3**
MSHR pmax pmax
comp=Z,4.0nm,0.6s
MDJ Mudanjiang 11.51 299 Pn **Pn 14 57 04.9 -0.1**
KSRS Korea Array 12.59 264 Pn **Pn 14 57 20.2 +0.3**
comp=Z,1.5nm,0.9s,baz=69,slow=13,SNR=1.4
BNX BinXian 13.34 301 ⇓P **Pn 14 57 29.8 -0.3**
BNX pmax pmax
comp=Z,12nm,1.0s
ZEA Zeya 17.82 327 *e*P **Pn 14 58 26.5 -2.3**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 19.44 307 *i* P **P 14 58 46.7 -0.6**
HIA pmax pmax
comp=Z,5.0nm,0.9s
SEY Seymchan 23.68 10 P **P 14 59 33.0 +0.6**
comp=Z,4.2nm,0.7s,baz=184,slow=7.5,SNR=6.5
comp=Z,4.2nm,0.7s
SEY Seymchan 23.68 10 *i* P **P 14 59 32.4 0.0**
SEY pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 23.79 344 P 14 59 32.6 -0.9
YAK Yakutsk 23.79 344 P **P 14 59 33.3 -0.1**
comp=Z,20nm,0.8s,baz=230,slow=2.1,SNR=5.5
YAK LR LR 15 09 38.7
comp=Z,51nm,18.6s,baz=294,slow=39
comp=Z,20nm,0.8s
YAK Yakutsk 23.79 344 *e*P **P 14 59 32.2 -1.2**
YAK *e**PP **pwP 14 59 39.1 +1.0**
YAK *e*PPP PPP 15 00 07.2
YAK *e* 15 03 16.2
YAK *e*S **S 15 03 47.8 -1.3**
YAK *e**SS **sS 15 03 58.1 +7.4**
YAK *e*SS **SnSn 15 04 26.2 -0.9**
YAK *e* 15 10 41.0
YAK pmax pmax
comp=Z,24nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,51nm,2.5s
YAK pmax pmax
comp=N,49nm,2.0s
YAK pmax pmax
comp=E,21nm,1.9s
YAK smax smax
comp=N,112nm,3.3s
YAK smax smax
comp=E,86nm,3.8s
ULN Ulaanbaatar 27.42 299 *ce*P **P 15 00 07.3 +0.5**
ULN pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 27.86 299 P **P 15 00 10.6 -0.2**
SONM Songino Array 27.86 299 P **P 15 00 10.8 +0.1**
comp=Z,2.5nm,0.6s,baz=86,slow=9.2,SNR=11
comp=Z,2.5nm,0.6s
H11N2 WAKE ISLAND Hy 28.25 128 T T 15 29 50.0
baz=320
H11N1 WAKE ISLAND Hy 28.26 129 T T 15 29 59.3
baz=320
H11N3 WAKE ISLAND Hy 28.27 128 T T 15 30 02.1
baz=320
BILL Bilibino 30.81 16 *i* P **P 15 00 35.6 -0.8**
BILL pmax pmax
comp=Z,6.0nm,1.2s
LZDM Lanzhou Array 31.64 276 P **P 15 00 42.9 -1.6**
comp=Z,2.2nm,0.4s,baz=107,slow=7.7,SNR=1.4
comp=Z,2.2nm,0.4s
GTA Gaotai 33.57 284 *e*P **P 15 01 01.8 +0.6**
GTA pP pwP 15 01 07.1 +1.1
GTA sP sP 15 01 10.6 +8.1
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA LR LR
comp=N,110nm,15.6s
GTA LR LR
comp=E,170nm,15.6s
GTA LR LR
comp=Z,180nm,15.6s
QIZ Qiongzhong 35.77 244 P **P 15 01 20.6 +0.4**
QIZ S **S 15 06 57.5 -0.3**
QIZ LR LR
comp=N,150nm,12.8s
QIZ LR LR
comp=E,110nm,11.6s
QIZ LR LR
comp=Z,150nm,15.6s
GOMU GeErMu 38.33 281 P **P 15 01 41.6 -0.6**
GOMU pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 41.42 310 P 15 02 07.2 -0.1
ZAA0 IAmb IAmb 15 02 16.0
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 41.42 310 P 15 02 06.8 -0.5
ZALV Zalesovo Beam 41.42 310 P **P 15 02 07.3 0.0**
comp=Z,2.7nm,0.8s,baz=87,slow=9.1,SNR=11
ZALV PcP **PcP 15 04 05.6 +0.5**
comp=Z,1.2nm,0.8s,baz=66,slow=3.6,SNR=2.8
comp=Z,2.7nm,0.8s
CMAR Chiang Mai Arr 43.99 254 P **P 15 02 28.7 +0.1**
comp=Z,0.4nm,0.3s,baz=47,slow=6.7,SNR=5.4
comp=Z,0.4nm,0.3s
MK31 Makanchi Array 44.22 300 *ce*P **P 15 02 30.8 +0.7**
MKAR Makanchi Array 44.22 300 P **P 15 02 29.9 -0.2**
MKAR Makanchi Array 44.22 300 P **P 15 02 30.0 -0.2**
comp=Z,2.1nm,0.8s,baz=74,slow=10,SNR=12
MKAR PcP **PP 15 04 14.6 +1.7**
comp=Z,0.5nm,0.8s,baz=81,slow=3.8,SNR=1.7
MKAR LR LR 15 21 57.5
comp=Z,79nm,18.3s,baz=100,slow=38
comp=Z,2.1nm,0.8s
KURK Kurchatov 45.68 306 **P 15 02 41.1 -0.5**
KURK IAmb IAmb 15 02 49.4
comp=Z,4.5nm,0.6s
KURK Kurchatov 45.68 306 *ce*P **P 15 02 41.5 -0.1**
KURK pmax pmax
comp=Z,7.0nm,1.3s

KURBB Kurchatov Arra 45.75 306 P **P 15 02 42.0 -0.2**
comp=Z,3.9nm,0.7s,baz=80,slow=8.5,SNR=31
comp=Z,3.9nm,0.7s
ILAR Eielson Array 46.14 34 P **P 15 02 46.8 +1.7**
comp=Z,0.4nm,0.7s,baz=260,slow=6.6,SNR=7.8
comp=Z,0.4nm,0.7s
EVN Everest 47.98 274 P 15 02 59.0 -1.7
BVAR Borovoye Array 50.06 311 P **P 15 03 15.6 0.0**
comp=Z,1.3nm,0.6s,baz=81,slow=9.2,SNR=5.9
comp=Z,1.3nm,0.6s
BORK Borovoye 50.09 311 *ce*P **P 15 03 15.0 -0.8**
BORK pmax pmax
comp=Z,3.0nm,1.3s
I30M Mount Dempster 50.52 33 P **P 15 03 20.9 +1.9**
I30M IAmb IAmb 15 03 31.9
comp=Z,6.4nm,1.1s
AAK Ala-Archa 50.79 297 *i* P **P 15 03 20.6 -0.8**
AAK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 51.04 28 P **P 15 03 23.7 +1.0**
INK IAmb IAmb 15 03 29.9
comp=Z,4.7nm,1.1s
INK Inuvik 51.04 28 P **P 15 03 23.7 +1.0**
INK pmax pmax
comp=Z,5.0nm,1.2s
MAYO Mayo, Yukon 51.06 35 P **P 15 03 23.7 +0.7**
H31M Peel River 51.23 32 P **P 15 03 25.9 +1.6**
H31M IAmb IAmb 15 03 37.2
comp=Z,7.0nm,1.1s
ARSB Arslanbob 52.33 296 P 15 03 32.8 -0.2
ARSB Arslanbob 52.33 296 P **P 15 03 32.8 -0.2**
KK31 Karatay Array 53.32 299 P **P 15 03 39.0 -1.1**
KK31 IAmb IAmb 15 03 51.1
comp=Z,4.9nm,1.4s
KK31 Karatay Array 53.32 299 P **P 15 03 39.0 -1.1**
KK31 pmax pmax
comp=Z,5.0nm,1.4s
KKAR Karatay Array 53.32 299 P **P 15 03 39.0 -1.1**
KKAR Karatay Array 53.32 299 P **P 15 03 39.0 -1.1**
ARTI Arti 55.58 318 *c i* P **P 15 03 56.2 -0.1**
ARTI 15 04 54.0
ARTI 15 05 59.5
ARTI S **S 15 11 44.3 +2.2**
ARTI SS **SS 15 15 24.6 -1.8**
ARTI pmax pmax
comp=Z,4.0nm,0.8s
AB31 Akbulak array 57.53 309 P 15 04 09.8 -0.5
AB31 IAmb IAmb 15 04 10.7
comp=Z,1.9nm,0.7s
WRA Warramunga Arr 60.13 190 P **P 15 04 29.3 +0.7**
WRA Warramunga Arr 60.13 190 P **P 15 04 27.9 -0.8**
comp=Z,1.0nm,0.6s,baz=7.7,slow=6.9,SNR=13
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 60.13 190 P **P 15 04 29.3 +0.7**
AS31 Alice Springs 63.86 190 P **P 15 04 53.2 -0.4**
ASAR Alice Springs 63.86 190 P **P 15 04 54.4 +0.8**
ASAR Alice Springs 63.86 190 P **P 15 04 53.2 -0.4**
comp=Z,0.4nm,0.6s,baz=6.2,slow=5.7,SNR=11
comp=Z,0.4nm,0.6s
ASAR Alice Springs 63.86 190 P **P 15 04 54.4 +0.8**
OBN Obninsk 66.92 323⇑ *e*P **P 15 05 14.6 +1.5**
OBN *e* 15 07 39.4
OBN *e*PPP PPP 15 09 19.7
OBN *e*S SKiKP 15 14 42.4 -32
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,94nm,17.0s
FINES FINESS Array B 67.16 332 P **P 15 05 14.5 -0.1**
comp=Z,1.4nm,0.6s,baz=79,slow=4.4,SNR=4.1
comp=Z,1.4nm,0.6s
VSU Vasula 68.94 330 *ce*P **P 15 05 25.1 -0.6**
VSU pmax pmax
comp=Z,42nm,2.5s
KIV Kislovodsk 70.42 311 *e*P **P 15 05 37.3 +2.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,54nm,18.0s
KBZ Khabaz 70.44 311 P **P 15 05 36.3 +1.0**
comp=Z,2.3nm,0.7s,baz=12,slow=4.4,SNR=6.7
comp=Z,2.3nm,0.7s
KBZ Khabaz 70.44 311 *ce*P **P 15 05 36.0 +0.7**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 73.16 323 P **P 15 05 51.1 -0.5**
comp=Z,0.2nm,0.3s,baz=47,slow=4.5,SNR=4.5
comp=Z,0.2nm,0.3s
BFO Black Forest 83.70 332 *ce*P **P 15 06 49.9 0.0**
LPAZ La Paz 143.69 59 PKP PKPbc 15 13 57.8 +3.0
comp=Z,0.7nm,0.5s,baz=288,slow=3.2,SNR=1.8

*ISN **02** 14:57:21.9±2.1, 34°.55N×45°.30E, h25km, ML2.5*
*TEH **02** 14:57:21.1, 34°.56N×45°.33E, h13km*
ISC 02 14:57:20.9±3.7, 34°.6N±0°.1×45°.3E±0°.2, h18km, n4, σ0§47/6,
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.25	106		Pg	Pg	14 57 26.0	-0.6
IDHR	Dehrash	0.91	82		Pg	Pb	14 57 38.1	-0.1
IDHR					Sg	Sg	14 57 51.0	+0.4
IGHG	Ghaleghazi	1.08	103		Pg	Pb	14 57 41.1	0.0
IBDR	Badra	1.55	160	*e*P	g	Pn	14 57 48.0	+0.4
	baz=340							
IBDR				*e*S	g	Sg	14 58 11.0	0.0
IBDR					AML	AML	14 58 14.2	
	comp=N,4.7nm,0.7s							

*NIED **02** 14:58:46.9, 32°.22N×140°.69E, h21km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.36; $M_{\theta\theta}$0.33; $M_{\phi\phi}$2.03; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.99; $M_{\phi r}$-1.82; Fault plane solution: $M_0$3.10000×10^{15} NP1: ϕ_s151.00000°, δ26.00000°, λ-97.00000°. NP2: ϕ_s339.00000°, δ64.00000°, λ-87.00000°.*
*IDC **02** 14:58:46.3±1.9, 31°.92N×140°.36E, h70km±15km, mb3.8/17, mbtmp4.1/20, MS3.2/5 Error ellipse: s-maj=19.9km s-min=14.1km az=83.0*
*JMA **02** 14:58:46.9±0.2, 32°.2N±0°.6×140°.7E±0°.6, h21km, MV4.4/34, E OFF HACHIJOJIMA ISLAND*
*NEIC **02** 14:58:49.1±2.5, 32°.17N±0°.09×140°.3E±0°.1, h79km±7km, mb4.5/18, Error ellipse: s-maj=16.1km s-min=12.3km az=114.0*
ISC 02 14:58:44.4±1.5, 31°.95N±0°.07×140°.58E±0°.07, h56km±11km, n94, σ1§80/101, mb4.3/24, MS3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	0.86	307		P	Pn	14 59 02.2	+1.7
JAOM				*e*S		Sn	14 59 13.5	+1.1
JHCJ	Hachijojimakas	1.30	330	*i* P		Pn	14 59 07.3	+1.0
JHCJ				*e*S		Sn	14 59 21.6	-1.1
JHJ2	Mitsune	1.33	331			Pn	14 59 07.9	+1.2
JHJ2	Mitsune	1.33	331	P		Pn	14 59 07.7	+1.1
JHJ2				S		Sn	14 59 22.3	-1.0
JHJ	Hachijo jima 2	1.35	330	P		Pn	14 59 07.8	+0.8
	166nm,0.3s,baz=36,slow=21,SNR=65							
JHJ				S		Sn	14 59 21.3	-2.6
	2μm,0.3s,baz=69,slow=22,SNR=18							
JHJ				LR		LR	14 59 52.4	
	comp=Z,437nm,20.0s,baz=128,slow=52							
JMKN	Mikurajimanish	2.11	337	*e*P		Pn	14 59 18.8	+1.5
JMKN				S		Sn	14 59 41.7	-0.7
JMYK	Miyake Tsubota	2.28	338	*e*P		Pn	14 59 21.5	+1.9
JMYK				*e*S		Sn	14 59 46.6	+0.1
JSKK	Shikinejimakit	2.64	335	*e*P		Pn	14 59 27.1	+2.5
JSKK				S		Sn	14 59 55.6	+0.2
BSO1	Boso 1	2.72	7	P		Pn	14 59 26.2	+1.1
BSO1				*e*S		Sn	14 59 55.2	-1.3
BSO3	Boso 3	2.84	359	P		Pn	14 59 28.3	+1.2
BSO3				*e*S		Sn	14 59 58.9	-1.1
JIM2	Oshima 3	2.92	341	P		Pn	14 59 30.1	+1.6
TK02	Tokai 2	3.10	311	P		Pn	14 59 33.2	+2.6
JIZS	Izushimoda	3.11	333	P		Pn	14 59 33.6	+2.6
JSG	Sagara	3.38	324			Pn	14 59 36.0	+1.4
JOD2	Odawara 2	3.53	340	P		Pn	14 59 39.3	+2.5
TTO1	TONANKAI O.B.S	3.61	299	P		Pn	14 59 39.3	+1.8
JYN	Shimob	3.93	335	P		Pn	14 59 46.4	+4.2
JIE	Ise	4.06	308	P		Pn	14 59 46.2	+2.2
JIE				*e*S		Sn	15 00 29.7	-0.6
JRY	Ryogami san	4.29	341	*e*P		Pn	14 59 50.8	+3.6

INU Inuyama 4.51 320 Pn 14 59 52.2 +2.0
INU Inuyama 4.51 320 P **Pn 14 59 53.5 +3.3**
JGF Kuroka 4.53 324 Pn 14 59 52.6 +2.2
JGF Kuroka 4.53 324 P **Pn 14 59 54.1 +3.7**
JAG Ashikaga 4.56 348 *e*P **Pn 14 59 52.8 +1.9**
JAG S **Sn 15 00 39.8 -2.8**
JTNC Tanabenakahech 4.58 295 P **Pn 14 59 53.2 +2.1**
MJAR Matsushiro Arr 4.99 337 Pn 14 59 59.0 +2.3
MJAR Matsushiro Arr 4.99 337 P **Pn 14 59 58.3 +1.6**
3.5nm,0.5s,baz=119,slow=31,SNR=26
MJAR S **Sn 15 00 53.5 +0.4**
22nm,0.9s,baz=122,slow=14,SNR=5.6
MAJO Matsushiro 4.99 337 Pn 14 59 59.6 +2.9
MAJO Matsushiro 4.99 337 P Pn 15 00 03.1 +6.4
MJB9 Matsu-Tunnel 4.99 337 Pn 14 59 59.0 +2.2
JMM Marumori 5.91 2 Pn 15 00 10.0 +0.8
JMN Monobe 5.92 289 Pn 15 00 11.4 +1.9
JMN Monobe 5.92 289 P **Pn 15 00 12.3 +2.8**
JNU Nakatsue 8.28 281 Pn 15 00 45.1 +3.2
JNU Nakatsue 8.28 281 P **Pn 15 00 42.5 +0.7**
32nm,0.9s,baz=144,slow=4.0,SNR=10.0
JMZ Minamidaito 2 10.22 236 Pn Pn 15 01 14.4 +5.9
KSRS Korea Array 11.77 301 P **Pn 15 01 29.9 +0.3**
1.6nm,0.7s,baz=115,slow=14,SNR=7.8
ASAJ Asahikawa 12.25 7 P **Pn 15 01 34.4 -1.6**
2.9nm,0.7s,baz=235,slow=14,SNR=5.2
ASAJ S Sn 15 03 41.5 -9.4
11nm,1.1s,baz=16,slow=32,SNR=1.9
ASAJ LR LR 15 07 07.3
comp=Z,79nm,18.5s,baz=165,slow=41
JKA Kamikawa-asahi 12.25 7 Pn **Pn 15 01 33.8 -2.2**
YHNB Yeheng 18.39 252 Pn 15 02 55.6 +0.2
YHNB IAmb IAmb 15 02 57.9
comp=Z,30nm,0.8s
YULB Yu-li 19.07 248 P **Pn 15 03 03.9 +0.3**
SSLB Suanglung 19.14 250 P **Pn 15 03 04.2 -0.3**
SSLB IAmb IAmb 15 03 07.6
comp=Z,21nm,0.8s
TWG Pinlang 19.54 247 P **Pn 15 03 08.7 -0.5**
TWG IAmb IAmb 15 03 11.2
comp=Z,20nm,0.8s
TPUB Ta-pu 19.64 249 Pn 15 03 10.4 0.0
TPUB IAmb IAmb 15 03 14.0
comp=Z,14nm,0.7s
WHN Wuhan 22.46 273 P **P 15 03 40.0 +1.1**
PETK Petropavlovsk- 24.50 25 LR LR 15 15 00.1
comp=Z,28nm,19.8s,baz=170,slow=40
BTO Baotou 26.01 298 *e*P **P 15 04 07.5 -4.7**
BTO S **S 15 08 44.9 +5.8**
BTO pmax pmax
comp=Z,12nm,0.8s
BTO pmax pmax
comp=Z,290nm,7.3s
BTO LR LR
comp=N,140nm,3.9s
BTO LR LR
comp=E,190nm,4.5s
BTO LR LR
comp=Z,160nm,5.5s
H11N2 WAKE ISLAND Hy 26.55 111 T T 15 33 15.3
baz=304,slow=75,SNR=21
H11N1 WAKE ISLAND Hy 26.55 111 T T 15 33 16.0
baz=304,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 26.57 111 T T 15 33 28.6
baz=304,slow=75,SNR=132
H11S3 WAKE ISLAND Hy 27.06 113 T T 15 32 58.2
baz=304,slow=75,SNR=40
H11S1 WAKE ISLAND Hy 27.07 113 T T 15 33 00.2
baz=304,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 27.08 113 T T 15 33 04.0
baz=304,slow=75,SNR=32
SONM Songino Array 30.35 311 P **P 15 04 51.0 +0.1**
comp=Z,0.7nm,0.5s,baz=122,slow=8.1,SNR=1.8
comp=Z,0.7nm,0.5s
SHEM Shemya Is, Ala 31.89 39 LR LR 15 14 50.4
comp=Z,26nm,20.6s,baz=170,slow=30
MYLDM Lahad Datu 33.72 222 P **P 15 05 20.6 +0.1**
MYLDM IAmb IAmb 15 05 50.9
comp=Z,8.9nm,1.1s
PZH PanZhiHua 34.20 271 P **P 15 05 25.6 +0.8**
CMAR Chiang Mai Arr 39.76 260 P **P 15 06 10.8 -1.1**
comp=Z,0.5nm,0.3s,baz=49,slow=6.9,SNR=4.5
CMAR PcP **PcP 15 08 17.1 -0.4**
comp=Z,0.5nm,0.6s,baz=66,slow=2.9,SNR=5.0
comp=Z,0.5nm,0.3s
ZAA0 Zalesovo Array 44.97 316 P **P 15 06 52.3 -1.6**
ZALV Zalesovo Beam 44.97 316 P **P 15 06 52.3 -1.6**
ZALV Zalesovo Beam 44.97 316 P **P 15 06 53.0 -0.9**
comp=Z,0.9nm,0.5s,baz=96,slow=7.9,SNR=5.0
ZALV PcP **PcP 15 08 33.9 -0.3**
comp=Z,1.0nm,0.5s,baz=81,slow=2.5,SNR=5.5
comp=Z,0.9nm,0.5s
EVN Everest 46.36 280 P **P 15 07 05.5 -0.5**
MKAR Makanchi Array 46.40 306 P **P 15 07 03.8 -1.5**
MKAR Makanchi Array 46.40 306 P **P 15 07 04.5 -0.9**
comp=Z,1.0nm,0.5s,baz=84,slow=9.4,SNR=15
MKAR PcP **PcP 15 08 39.0 -0.4**
comp=Z,0.5nm,0.6s,baz=88,slow=4.6,SNR=1.8
comp=Z,1.0nm,0.5s
M16K Timber Creek 48.39 35 P **P 15 07 21.4 +0.9**
M16K IAmb IAmb 15 07 51.0
comp=Z,11nm,1.1s
KURK Kurchatov 48.66 312 P 15 07 21.3 -1.4
KURK IAmb IAmb 15 07 24.8
comp=Z,2.9nm,0.7s
KURBB Kurchatov Arra 48.72 312 P **P 15 07 22.1 -1.0**
comp=Z,2.0nm,0.6s,baz=86,slow=7.2,SNR=24
comp=Z,2.0nm,0.6s
J17K VABM Dome 48.73 31 P **P 15 07 24.8 +1.8**
J17K IAmb IAmb 15 07 36.3
comp=Z,12nm,1.3s
K17K Iditarod 48.96 32 P **P 15 07 27.0 +2.2**
K17K IAmb IAmb 15 07 30.1
comp=Z,9.5nm,1.2s
M17K Holitna River 49.17 34 P **P 15 07 28.3 +1.8**
N17K Nushagak Hills 49.19 35 P **P 15 07 28.4 +1.8**
C19K Lookout Ridge 49.85 24 P **P 15 07 32.0 +0.5**
H19K Roundabout Mou 50.23 29 P **P 15 07 35.9 +1.5**
H19K IAmb IAmb 15 08 13.5
comp=Z,7.3nm,1.2s
KDAK Kodiak Island 51.40 39 LR LR 15 29 22.3
comp=Z,39nm,19.4s,baz=186,slow=36
WRA Warramunga Arr 51.94 187 P **P 15 07 47.1 -0.6**
comp=Z,1.3nm,0.7s,baz=2.7,slow=7.7,SNR=15
WRA PcP **PcP 15 09 00.2 +0.5**
comp=Z,0.8nm,0.6s,baz=7.5,slow=4.0,SNR=2.6
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 53.58 315 P **P 15 07 59.1 -0.5**
comp=Z,2.4nm,0.5s,baz=99,slow=6.5,SNR=13
BVAR PcP **PcP 15 09 04.3 -1.3**
comp=Z,0.7nm,0.5s,baz=97,slow=3.3,SNR=2.2
comp=Z,2.4nm,0.5s
ILAR Eielson Array 54.19 30 P **P 15 08 04.8 +0.9**
comp=Z,0.7nm,0.9s,baz=275,slow=6.1,SNR=7.4
ILAR PcP **PcP 15 09 07.3 -0.4**
comp=Z,0.2nm,0.5s,baz=270,slow=3.4,SNR=0.9
comp=Z,0.7nm,0.9s
KKAR Karatay Array 55.20 303 P **P 15 08 09.2 -2.3**
AS31 Alice Springs 55.67 187 P 15 08 15.2 +0.3
ASAR Alice Springs 55.67 187 P **P 15 08 15.9 +0.9**
ASAR Alice Springs 55.67 187 P **P 15 08 14.5 -0.5**
comp=Z,0.3nm,0.5s,baz=3.4,slow=7.3,SNR=11
comp=Z,0.3nm,0.5s
ARTI Arti 59.88 320 P 15 08 42.9 -1.2
ABKAR Akbulak array 60.76 312 P 15 08 48.7 -1.6
FINES FINESS Array B 73.00 333 P **P 15 10 07.3 -0.5**
comp=Z,3.8nm,0.7s,baz=104,slow=6.1,SNR=6.3
comp=Z,3.8nm,0.7s
KBZ Khabaz 73.72 312 P **P 15 10 12.2 -0.2**
comp=Z,5.1nm,0.8s,baz=37,slow=4.7,SNR=13
comp=Z,5.1nm,0.8s
AKASG Malin Array Be 77.91 323 P **P 15 10 35.5 -0.7**
comp=Z,1.7nm,0.6s,baz=52,slow=5.9,SNR=8.4
comp=Z,1.7nm,0.6s
NB2 NORSAR Subarra 78.60 337 P **P 15 10 39.5 -0.3**
comp=Z,1.1nm,0.6s,baz=42,slow=5.3
NOA NORSAR Array B 78.60 337 P **P 15 10 39.6 -0.3**
comp=Z,1.4nm,0.6s,baz=43,slow=5.5,SNR=7.2
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 78.62 52 LR LR 15 38 50.0
comp=Z,35nm,19.7s,baz=98,slow=30
BRTR Keskin Array B 81.71 312 P **P 15 10 57.2 0.0**
comp=Z,2.0nm,0.8s,baz=106,slow=4.0,SNR=9.2
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 81.74 44 P **P 15 10 59.2 +1.8**
comp=Z,0.3nm,0.5s,baz=144,slow=3.3,SNR=4.3
comp=Z,0.3nm,0.5s

MMAI	**Mount Meron Ar**	**84.34**	**305**	P	**P**	**15 11 11.4**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=11,slow=4.7,SNR=4.9						
	comp=Z,1.9nm,0.5s						
TXAR	**Lajitas Array**	**93.77**	**52**	P	**P**	**15 11 57.9**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=311,slow=2.9,SNR=7.9						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.33**	**312**	PKP	**PKPdf**	**15 17 29.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=61,slow=1.7,SNR=4.1						

*IDC **02** 15:13:25.5±1.4, 3°.46S×12°.50W, h0km, mb4.2/9, mbtmp4.2/10, ML3.4/1, MS3.5/17, Error ellipse: s-maj=82.9km s-min=26.5km az=112.0*
*NEIC **02** 15:13:28.1±1.4, 3°.7S±0°.1×12°.1W±0°.1, h10km±1km, mb4.8/23, Error ellipse: s-maj=23.2km s-min=8.8km az=223.0*

ISC 02 15:13:27.1±0.8, 3°.7S±0°.2×12°.1W±0°.1, h10km, n60, σ0s81/39, mb4.7/21, MS3.5/17, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.73**	**209**	T	T	15 19 21.3	
	baz=30,slow=74,SNR=253						
H10N1	**ASCENSION HYDR**	**4.74**	**209**	T	T	15 19 21.5	
	baz=30,slow=74,SNR=191						
H10N3	**ASCENSION HYDR**	**4.75**	**209**	T	T	15 19 22.7	
	baz=30,slow=74,SNR=189						
DBIC	**Dimbokro**	**12.60**	**35**	Pn	**Pn**	**15 16 27.5**	**+0.9**
	0.2nm,0.3s,baz=227,slow=14,SNR=3.3						
DBIC				LR	LR	15 20 25.8	
	comp=Z,154nm,20.9s,baz=206,slow=33						
	5.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**21.65**	**39**	P	**P**	**15 18 17.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**21.65**	**39**	P	**P**	**15 18 17.0**	**-0.9**
	9.7nm,0.8s,baz=229,slow=9.2,SNR=24						
	9.7nm,0.8s						
RCBR	**Riachuelo**	**23.77**	**264**	LR	LR	15 25 24.4	
	comp=Z,51nm,20.8s,baz=85,slow=31						
LSZ	**Lusaka**	**41.33**	**109**	P	**P**	**15 21 13.0**	**-0.6**
LSZ	**Lusaka**	**41.33**	**109**	LR	LR	15 35 02.9	
	comp=Z,63nm,19.2s,baz=218,slow=31						
LBTB	**Lobatse**	**42.02**	**124**	LR	LR	15 35 47.9	
	comp=Z,57nm,19.0s,baz=268,slow=32						
MATP	**Matopo**	**42.92**	**116**	LR	LR	15 36 31.3	
	comp=Z,64nm,21.2s,baz=240,slow=32						
BOSA	**Boshof**	**43.33**	**129**	LR	LR	15 37 23.2	
	comp=Z,50nm,18.6s,baz=212,slow=33						
KEST	**Kesra**	**44.08**	**25**	LR	LR	15 41 08.6	
	comp=Z,77nm,18.2s,baz=327,slow=38						
BOAV	**Boa Vista**	**48.73**	**276**	P	**P**	**15 22 12.7**	**+0.2**
CPUP	**Villa Florida**	**48.74**	**238**	LR	LR	15 41 28.4	
	comp=Z,14nm,18.6s,baz=358,slow=35						
IDI	**Anoyia**	**52.05**	**39**	P	**P**	**15 22 37.2**	**-0.1**
	7.3nm,0.9s,baz=260,slow=3.1,SNR=4.0						
	7.3nm,0.9s						
FURI	**Furi**	**52.18**	**76**	LR	LR	15 42 32.0	
	comp=Z,44nm,21.4s,baz=306,slow=33						
KARP	**Karpathos**	**53.65**	**40**	P	**P**	**15 22 49.7**	**+0.6**
SQTA	**Sankt Quirin**	**54.70**	**19**	*eP*	**P**	**15 22 57.0**	**+0.3**
	5.2nm,0.8s						
WTTA	**Wattenberg**	**54.88**	**20**	*eP*	**P**	**15 22 58.9**	**+0.8**
	12nm,1.1s						
RDO	**Rodhopi**	**56.32**	**34**	P	**P**	**15 23 08.8**	**+0.6**
LPAZ	**La Paz**	**56.36**	**253**	LR	LR	15 46 48.6	
	comp=Z,32nm,18.2s,baz=75,slow=36						
RONA	**Rosalia, Austr**	**56.93**	**23**	*eP*	**P**	**15 23 14.3**	**+1.7**
	7.0nm,1.2s						
GERES	**GERESS Array B**	**56.95**	**20**	P	**P**	**15 23 12.5**	**-0.3**
	1.6nm,0.7s,baz=182,slow=6.5,SNR=8.0						
	1.6nm,0.7s						
CONA	**Conrad Observa**	**56.95**	**22**	*eP*	**P**	**15 23 14.0**	**+1.2**
	3.8nm,1.1s						
BAUV	**El Baul**	**57.11**	**283**	P	**P**	**15 23 14.9**	**+0.5**
BAUV				IAmb	IAmb	15 23 15.9	
	comp=Z,15nm,1.1s						
SJG	**San Juan**	**57.45**	**294**	LR	LR	15 42 15.7	
	comp=Z,41nm,21.4s,baz=320,slow=30						
VRAC	**Vranov**	**58.37**	**22**	LR	LR	15 49 49.8	
	comp=Z,34nm,18.2s,baz=16,slow=38						
BRG	**Berggiesshubel**	**58.77**	**19**	*eP*	**P**	**15 23 25.1**	**-0.3**
BRG				Amp		15 23 28.3	
	comp=Z,2.4nm,0.8s						
MLR	**Muntele Rosu**	**59.53**	**30**	P	**P**	**15 23 31.2**	**+0.3**
MLR				IAmb	IAmb	15 23 33.2	
	comp=Z,21nm,1.5s						
ANTO	**Ankara**	**59.81**	**39**	P	**P**	**15 23 33.6**	**+0.7**
BR131	**Keskin Array S**	**60.26**	**40**	P	**P**	**15 23 37.2**	**+1.1**
BR131				IAmb	IAmb	15 23 45.0	
	comp=Z,8.1nm,1.2s						
BRTR	**Keskin Array B**	**60.26**	**40**	P	**P**	**15 23 36.7**	**+0.7**
BRTR	**Keskin Array B**	**60.26**	**40**	P	**P**	**15 23 37.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=216,slow=6.1,SNR=9.4						
	comp=Z,1.2nm,0.8s						
BNN	**Bunyan**	**61.21**	**41**	P	**P**	**15 23 42.0**	**-0.6**
BNN				IAmb	IAmb	15 23 44.7	
	comp=Z,6.6nm,0.9s						
GAZ	**Gaziantep**	**61.26**	**44**	P	**P**	**15 23 43.5**	**+0.7**
GAZ				IAmb	IAmb	15 23 45.6	
	comp=Z,6.0nm,0.9s						
FLOC	**Florencia**	**63.69**	**274**	P	**P**	**15 23 58.7**	**-0.8**
FLOC				IAmb	IAmb	15 25 47.9	
	comp=Z,11nm,1.2s						
MARD	**Mardin**	**63.82**	**45**	P	**P**	**15 24 00.8**	**+0.7**
MARD				IAmb	IAmb	15 24 01.9	
	comp=Z,9.6nm,1.2s						
NNA	**Nana**	**64.50**	**259**	LR	LR	15 52 06.8	
	comp=Z,50nm,18.1s,baz=15,slow=36						
AKASG	**Malin Array Be**	**64.72**	**28**	P	**P**	**15 24 04.5**	**-1.0**
AKASG				IAmb	IAmb	15 24 07.4	
	comp=Z,6.8nm,1.4s						
AKASG	**Malin Array Be**	**64.72**	**28**	P	**P**	**15 24 05.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=227,slow=6.9,SNR=11						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**64.72**	**28**	P	**P**	**15 24 04.1**	**-1.4**
AKBB				IAmb	IAmb	15 24 06.2	
	comp=Z,7.9nm,1.1s						
GURO	**Guroymak-BITLI**	**65.27**	**44**	P	**P**	**15 24 09.5**	**0.0**
ATAH	**Atahualpa**	**66.00**	**264**	LR	LR	15 51 43.3	
	comp=Z,75nm,20.8s,baz=81,slow=35						
GNI	**Garni**	**67.86**	**44**	P	**P**	**15 24 26.4**	**+0.3**
GNI				IAmb	IAmb	15 26 20.9	
	comp=Z,4.8nm,0.7s						
KIV	**Kislovodsk**	**68.22**	**39**	P	**P**	**15 24 28.8**	**+0.6**
KBZ	**Khabaz**	**68.25**	**40**	P	**P**	**15 24 28.8**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=266,slow=7.2,SNR=3.5						
	comp=Z,0.8nm,0.4s						
FINES	**FINESS Array B**	**71.29**	**18**	P	**P**	**15 24 46.7**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=202,slow=6.9,SNR=4.0						
	comp=Z,3.9nm,0.8s						
SADO	**Sadowa**	**76.53**	**318**	LR	LR	15 52 28.7	
	comp=Z,552nm,20.0s,baz=25,slow=31						
TKL	**Tuckaleechee C**	**77.35**	**308**	LR	LR	15 52 34.2	
	comp=Z,47nm,19.9s,baz=36,slow=30						
ARCES	**ARCESS Array B**	**77.40**	**13**	P	**P**	**15 25 20.2**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=219,slow=5.6,SNR=4.8						
	comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**81.21**	**39**	P	**P**	**15 25 43.7**	**+0.4**
CHGR	**Chuyangaron**	**85.50**	**51**	P	**P**	**15 26 05.9**	**+0.1**
CHGR				IAmb	IAmb	15 26 07.0	
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**86.41**	**180**	P	**P**	**15 26 10.2**	**+0.5**
QSPA				IAmb	IAmb	15 26 17.8	
	comp=Z,5.9nm,1.0s						
QSPA	**South Pole Qui**	**86.41**	**180**	P	**P**	**15 26 10.9**	**+1.2**
	comp=Z,5.0nm,1.0s,baz=211,slow=1.7,SNR=17						
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**87.14**	**47**	P	**P**	**15 26 13.2**	**-0.4**
KKAR	**Karatay Array**	**87.14**	**47**	P	**P**	**15 26 13.1**	**-0.5**
PALK	**Pallekele**	**93.28**	**83**	LR	LR	16 03 52.8	
	comp=Z,32nm,21.9s,baz=262,slow=32						
ZALV	**Zalesovo Beam**	**97.07**	**36**	LR	LR	16 14 51.1	
	comp=Z,11nm,19.5s,baz=6.0,slow=38						
ASAR	**Alice Springs**	**137.18**	**131**	PKhKP	PKPpre	15 32 34.9	
	comp=Z,0.4nm,0.8s,baz=229,slow=2.9,SNR=5.7						

*BUL **02** 15:43:28.4±1.3, 26°.24S×29°.56E, h10km, MD2.9*
PRE 02 15:43:19.6±0.6, 26°.38S×29°.32E, h0km, ML2.0, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.74**	**59**	*eP*	Pg	15 43 34.1	+0.4
CRLN				*eS*	Sg	15 43 44.4	+1.0
CRLN				IAML		15 43 56.5	
	comp=Z,24nm,0.5s						
NWCL	**Newcastle**	**1.45**	**159**	*eP*	Pb	15 43 47.8	+0.3
NWCL				*eS*	Sn	15 44 07.8	+0.7
NWCL				IAML		15 44 10.0	
	comp=Z,19nm,0.4s						
PRYS	**Parys**	**1.83**	**252**	*eP*	Pb	15 43 53.4	-0.8
PRYS				*eS*	Sb	15 44 17.5	-0.3
PRYS				IAML		15 44 20.5	
	comp=Z,16nm,0.4s						
PILG	**Pilgrimsrest,**	**1.91**	**41**	*eP*	Pn	15 43 54.1	+0.5
PILG				*eS*	Sb	15 44 19.6	-0.4
PILG				IAML		15 44 22.5	
	comp=Z,16nm,0.5s						
POGA	**Pongola**	**2.34**	**115**	*eP*	Pn	15 43 59.6	+0.1
POGA				*eS*	Sn	15 44 29.6	+0.7
POGA				IAML		15 44 35.8	
	comp=Z,22nm,0.3s						
LEPH	**Lephalale, Lim**	**2.86**	**331**	*eP*	Pn	15 44 07.7	+1.1
LEPH				*eS*	Sn	15 44 42.3	+0.5
LEPH				IAML		15 44 51.6	
	comp=Z,11nm,0.4s						
MOPA	**Mopani**	**3.42**	**34**	*eP*	Pn	15 44 14.9	+0.7
MOPA				*eS*	Sn	15 44 54.9	-0.6
MOPA				IAML		15 45 10.2	
	comp=Z,13nm,0.3s						
MOPA	**Mopani**	**3.42**	**34**	*i* P	Pn	15 44 15.8	+1.6
MOPA				*i* S	Sn	15 44 54.0	-1.4
MOPA	**Mopani**	**3.42**	**34**	*i* P	Pn	15 44 16.7	+2.6
MOPA				*i* S	Sn	15 44 55.3	-0.1
LBTB	**Lobatse**	**3.62**	**291**	*eP*	Pn	15 44 18.0	+1.0
LBTB				*eS*	Sn	15 45 00.2	-0.3
LBTB				IAML		15 45 17.0	
	comp=Z,9.6nm,0.3s						
LBTB	**Lobatse**	**3.62**	**291**	*i* P	Pb	15 44 24.9	+0.4
LBTB				*i* S	Sb	15 45 05.6	-3.4
LBTB	**Lobatse**	**3.62**	**291**	*i* P	Pb	15 44 25.9	+1.4
LBTB				*i* S	Sb	15 45 08.7	-0.4
MUSN	**Musina, Limpop**	**4.10**	**7**	*i* P	Pb	15 44 28.4	-4.3
MUSN				*i* S	Sn	15 45 11.7	-0.7
MUSN	**Musina, Limpop**	**4.10**	**7**	*i* P	Pb	15 44 28.3	-4.4
MUSN				*i* S	Sn	15 45 13.0	+0.6
BOSA	**Boshof**	**4.24**	**237**	*eP*	Pn	15 44 26.5	+0.9
BOSA				*eS*	Sn	15 45 15.1	-0.8
BOSA				IAML		15 45 35.0	
	comp=Z,4.1nm,0.3s						
BOSA	**Boshof**	**4.24**	**237**	*i* P	Pb	15 44 32.8	-2.3
BOSA				*i* S	Sn	15 45 19.4	+3.5
BOSA	**Boshof**	**4.24**	**237**	*i* P	Pb	15 44 37.0	+1.8
BOSA				*i* S	Sb	15 45 25.9	-1.0

IDC 02 15:53:06.2±6.6, 17°.44S×171°.13W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=311.0km s-min=105.8km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.53**	**258**	P	P	16 02 14.3	0.0
	0.3nm,0.3s,baz=97,slow=7.5,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**51.59**	**253**	P	P	16 02 14.6	-0.1
	0.6nm,0.7s,baz=89,slow=8.5,SNR=17						
	0.6nm,0.7s						
AKASG	**Malin Array Be**	**143.04**	**338**	PKP	PKPdf	16 12 40.8	-1.2
	0.5nm,0.4s,baz=33,slow=0.6,SNR=2.3						

IDC 02 16:47:38.8±5.5, 17°.89S×174°.31W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=163.5km s-min=109.1km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.07**	**242**	P	P	16 55 33.2	+0.6
	1.3nm,0.8s,baz=82,slow=14,SNR=4.0						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**48.47**	**259**	P	P	16 56 23.2	-0.4
	1.1nm,0.4s,baz=97,slow=7.0,SNR=28						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**48.55**	**254**	P	P	16 56 23.7	-0.5
	5.0nm,0.5s,baz=93,slow=7.8,SNR=154						
ASAR				PcP	PcP	16 57 49.9	-0.3
	0.4nm,1.0s,baz=97,slow=3.9,SNR=1.6						
	5.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**56.88**	**260**	P	P	16 57 25.9	0.0
	0.8nm,0.3s,baz=108,slow=5.1,SNR=7.9						
	0.8nm,0.3s						

IDC 02 16:54:49.8±2.1, 6°.38S×129°.51E, h0km, mb3.4/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=82.6km s-min=28.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.25**	**198**	Pn	Pn	16 57 47.8	+2.2
	0.3nm,0.3s,baz=23,slow=11,SNR=20						
FITZ				Sn	Sn	16 59 56.6	-6.5
	0.5nm,0.3s,baz=134,slow=20,SNR=7.0						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**14.28**	**161**	Pn	Pn	16 58 11.8	-1.6
	0.3nm,0.3s,baz=338,slow=13,SNR=16						
WRA				Sn	Sn	17 00 36.8	-16
	0.4nm,0.3s,baz=330,slow=23,SNR=6.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.70**	**167**	P	Pn	16 58 57.5	-0.5
	0.1nm,0.3s,baz=340,slow=13,SNR=13						
ASAR				S	Sn	17 02 00.6	-15
	0.3nm,0.6s,baz=352,slow=24,SNR=6.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	17 05 47.3	-0.1
	0.2nm,0.5s,baz=118,slow=7.8,SNR=5.5						
	0.2nm,0.5s						

*IDC **02** 16:58:50.1±0.7, 53°.32S×24°.93E, h0km, mb4.3/13, mbtmp4.3/13, MS3.6/14, Error ellipse: s-maj=21.6km s-min=17.4km az=55.0*
*NEIC **02** 16:58:52.7±1.7, 53°.5S±0°.1×25°.0E±0°.2, h10km±1km, mb4.6/28, Error ellipse: s-maj=19.8km s-min=16.6km az=36.0*

ISC 02 16:58:52.7±0.5, 53°.48S±0°.09×24°.9E±0°.1, h10km, n65, σ1s12/49, mb4.5/24, MS3.6/14, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**18.42**	**80**	T	T	17 22 04.2	
	baz=240,slow=76						
H04S3	**CROZET ISLANDS**	**18.43**	**80**	T	T	17 22 05.9	
	baz=240,slow=76						
H04S1	**CROZET ISLANDS**	**18.44**	**80**	T	T	17 22 00.2	
	baz=240,slow=76						
H04N3	**CROZET ISLANDS**	**18.72**	**78**	T	T	17 22 26.2	
	baz=240,slow=76						
H04N1	**CROZET ISLANDS**	**18.72**	**78**	T	T	17 22 23.4	
	baz=240,slow=76						
H04N2	**CROZET ISLANDS**	**18.73**	**78**	T	T	17 22 26.4	
	baz=240,slow=76						
SUR	**Sutherland**	**21.30**	**350**	P	**P**	**17 03 43.1**	**+3.6**
SUR				IAmb	IAmb	17 03 43.6	
	comp=Z,31nm,1.1s						
SNAA	**Sanae**	**21.90**	**203**		**P**	**17 03 46.4**	**+0.8**
SNAA				IAmb	IAmb	17 03 50.5	
	comp=Z,38nm,0.9s						
SNAA	**Sanae**	**21.90**	**203**	P	**P**	**17 03 46.0**	**+0.4**
	comp=Z,33nm,0.9s,baz=94,slow=3.8,SNR=22						
SNAA				LR	LR	17 10 20.3	
	comp=Z,130nm,20.2s,baz=28,slow=31						
	comp=Z,33nm,0.9s						
VNA1	**Neumayer--Stat**	**22.70**	**208**	⇑P	**P**	**17 03 56.5**	**+2.4**
	comp=Z,57nm,0.9s						
MAW	**Mawson**	**22.90**	**143**	P	**P**	**17 03 56.4**	**+0.2**
	comp=Z,10nm,0.9s,baz=286,slow=9.0,SNR=10						
MAW				LR	LR	17 12 39.0	
	comp=Z,49nm,18.4s,baz=290,slow=36						
	comp=Z,10nm,0.9s						
BOSA	**Boshof**	**24.84**	**1**	P	**P**	**17 04 14.1**	**-1.1**
BOSA				IAmb	IAmb	17 04 17.8	
	comp=Z,13nm,1.1s						
BOSA	**Boshof**	**24.84**	**1**	P	**P**	**17 04 13.8**	**-1.5**
	comp=Z,9.7nm,1.0s,baz=182,slow=9.8,SNR=6.7						
BOSA				LR	LR	17 11 58.8	
	comp=Z,121nm,21.2s,baz=202,slow=32						
	comp=Z,9.7nm,1.0s						
MAKGR	**Makgori**	**27.63**	**360**	P	**P**	**17 04 39.6**	**-0.8**
MAKGR				IAmb	IAmb	17 04 42.9	
	comp=Z,12nm,1.0s						
LBTB	**Lobatse**	**28.43**	**1**	P	**P**	**17 04 46.8**	**-0.8**
LBTB				IAmb	IAmb	17 04 50.4	
	comp=Z,10nm,0.9s						
LBTB	**Lobatse**	**28.43**	**1**	LR	LR	17 14 47.6	
	comp=Z,95nm,18.9s,baz=174,slow=34						
LPHEP	**Lephephe**	**30.08**	**2**	P	**P**	**17 05 03.1**	**+0.9**
LPHEP				IAmb	IAmb	17 05 04.9	
	comp=Z,8.6nm,1.1s						
KHWEE	**KHWEE**	**31.48**	**1**	P	**P**	**17 05 16.5**	**+1.9**
BELA	**Belgrano 2**	**32.05**	**200**	P	**P**	**17 05 18.5**	**-0.5**
BELA				IAmb	IAmb	17 05 20.5	
	comp=Z,8.9nm,1.0s						
MATP	**Matopo**	**33.11**	**6**	LR	LR	17 16 54.5	
	comp=Z,125nm,21.6s,baz=183,slow=33						
PHDHD	**Phuduhudu**	**33.22**	**359**	P	**P**	**17 05 29.4**	**-0.4**
XAUDM	**Khaudum**	**34.98**	**354**	P	**P**	**17 05 46.0**	**+0.9**
XAUDM				IAmb	IAmb	17 05 48.5	
	comp=Z,9.4nm,1.1s						
KSANE	**Kasane**	**35.60**	**0**	P	**P**	**17 05 50.9**	**+0.4**
KSANE				IAmb	IAmb	17 05 53.2	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**36.74**	**180**	P	**P**	**17 06 00.7**	**+0.8**
QSPA	**South Pole Qui**	**36.74**	**180**	P	**P**	**17 06 01.2**	**+1.2**
	comp=Z,4.6nm,0.6s,baz=255,slow=2.3,SNR=40						
QSPA				LR	LR	17 20 01.5	
	comp=Z,109nm,21.1s,baz=240,slow=34						
	comp=Z,4.6nm,0.6s						
LSZ	**Lusaka**	**38.20**	**5**	P	**P**	**17 06 13.0**	**+0.3**
LSZ	**Lusaka**	**38.20**	**5**	LR	LR	17 20 35.1	
	comp=Z,114nm,18.5s,baz=149,slow=34						
CASY	**Casey**	**41.26**	**142**	P	**P**	**17 06 37.1**	**-0.3**
CASY				IAmb	IAmb	17 06 38.5	
	comp=Z,8.1nm,0.8s						
PMSA	**Palmer Station**	**43.21**	**219**	LR	LR	17 21 43.7	
	comp=Z,93nm,18.2s,baz=114,slow=32						
VNDA	**Vanda**	**46.56**	**168**	P	**P**	**17 07 20.2**	**+0.3**
VNDA	**Vanda**	**46.56**	**168**	P	**P**	**17 07 19.6**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=236,slow=7.5,SNR=7.8						
VNDA				LR	LR	17 26 41.6	
	comp=Z,89nm,19.1s,baz=228,slow=36						
	comp=Z,1.1nm,0.9s						
SBA	**Scott Base**	**46.84**	**170**	P	**P**	**17 07 23.2**	**+1.1**
SBA				IAmb	IAmb	17 07 25.4	
	comp=Z,6.2nm,1.0s						
TRQA	**Tornquist**	**58.84**	**247**	P	**P**	**17 08 50.6**	**-0.6**
TRQA				IAmb	IAmb	17 08 51.4	
	comp=Z,8.1nm,0.9s						
PLCA	**Paso Flores**	**61.47**	**239**	P	**P**	**17 09 09.2**	**-0.1**
PLCA				IAmb	IAmb	17 09 09.8	
	comp=Z,7.0nm,1.0s						
PLCA	**Paso Flores**	**61.47**	**239**	P	**P**	**17 09 08.8**	**-0.5**
	comp=Z,4.9nm,1.0s,baz=144,slow=7.1,SNR=9.2						
	comp=Z,4.9nm,1.0s						
H01W2	**Cape Leeuwin H**	**62.39**	**112**	T	T	18 17 29.9	
	baz=222,slow=75,SNR=25						
H01W3	**Cape Leeuwin H**	**62.40**	**112**	T	T	18 17 38.4	
	baz=222,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**62.40**	**112**	T	T	18 17 39.2	
	baz=222,slow=75,SNR=29						
FURI	**Furi**	**63.22**	**15**	LR	LR	17 34 34.6	
	comp=Z,38nm,21.1s,baz=156,slow=34						
CPUP	**Villa Florida**	**64.80**	**259**	P	**P**	**17 09 30.6**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=313,slow=5.9,SNR=6.5						
CPUP				LR	LR	17 34 09.1	
	comp=Z,38nm,18.9s,baz=149,slow=33						
	comp=Z,1.3nm,0.8s						
BO02	**Sierra Bellavi**	**66.02**	**244**	P	**P**	**17 09 39.0**	**-0.5**
MT16	**CCHEN**	**66.92**	**245**	P	**P**	**17 09 44.9**	**-0.2**
CFA	**Coronel Fontan**	**67.06**	**248**	P	**P**	**17 09 45.5**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=145,slow=5.1,SNR=5.6						
	comp=Z,2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**69.28**	**336**	P	**P**	**17 10 00.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**69.28**	**336**	P	**P**	**17 09 58.2**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=168,slow=5.0,SNR=6.8						
	comp=Z,1.7nm,0.8s						
SIV	**San Ignacio**	**74.96**	**263**	P	**P**	**17 10 33.9**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=143,slow=6.3,SNR=4.7						
	comp=Z,1.5nm,0.9s						
PB11	**IPOC Station P**	**77.03**	**254**	P	**P**	**17 10 46.2**	**+0.1**
STKA	**Stephens Creek**	**78.86**	**129**	P	**P**	**17 10 56.0**	**+0.1**
STKA	**Stephens Creek**	**78.86**	**129**	P	**P**	**17 10 56.0**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=245,slow=1.5,SNR=4.3						
	comp=Z,3.5nm,1.0s						
ASAR	**Alice Springs**	**81.84**	**119**	P	**P**	**17 11 11.7**	**-0.5**
ASAR	**Alice Springs**	**81.84**	**119**	P	**P**	**17 11 11.4**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=208,slow=5.3,SNR=32						
ASAR				LR	LR	17 42 18.5	
	comp=Z,31nm,19.2s,baz=190,slow=32						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**81.84**	**119**	P	**P**	**17 11 11.2**	**-1.0**
INKA	**Innaminka**	**81.92**	**126**	P	**P**	**17 11 12.8**	**+0.4**
WRA	**Warramunga Arr**	**85.12**	**117**	P	**P**	**17 11 28.6**	**-0.5**
WRA	**Warramunga Arr**	**85.12**	**117**	P	**P**	**17 11 28.2**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=208,slow=3.7,SNR=12						
	comp=Z,3.0nm,1.0s						
WR8	**Warramunga Arr**	**85.20**	**117**	P	**P**	**17 11 27.4**	**-2.0**
WB0	**Warramunga Arr**	**85.29**	**117**	P	**P**	**17 11 29.2**	**-0.6**
WB0				IAmb	IAmb	17 11 58.3	
	comp=Z,7.3nm,1.4s						
URZ	**Urewera**	**85.51**	**158**	LR	LR	17 47 27.2	
	comp=Z,41nm,20.7s,baz=227,slow=34						
ASF	**Jabal al Asfar**	**85.92**	**10**	LR	LR	17 47 44.8	
	comp=Z,32nm,21.1s,baz=186,slow=34						
ZAA0	**Zalesovo Array**	**117.99**	**35**	PKPdf	**PKiKP**	**17 17 37.8**	**-0.6**
ZALV	**Zalesovo Beam**	**117.99**	**35**	PKPdf	**PKiKP**	**17 17 37.8**	**-0.6**
MDND	**Maddock**	**145.17**	**284**	PKPbc	**PKPbc**	**17 18 28.3**	**-0.9**
PV22	**Blue Mesa, Par**	**145.23**	**264**	PKPbc	**PKPbc**	**17 18 28.5**	**-1.4**
PDAR	**Pinedale Array**	**148.31**	**269**	PKPbc	**PKPbc**	**17 18 36.8**	**-1.9**
	comp=Z,1.2nm,1.0s,baz=126,slow=3.8,SNR=5.3						
NVAR	**Mina Array

SN03					Sg		17 08 17.6	-0.3
SN03	**Snyder 3**	**0.04 276**	⇓P		Pg		17 08 16.5	-0.5
SN03			S		Sg		17 08 17.6	-0.3
SN02	**Snyder 2**	**0.06 194**			Pg		17 08 16.6	-0.7
SN02					Sg		17 08 17.6	-0.6
SN02	**Snyder 2**	**0.06 194**	⇓P		Pg		17 08 16.6	-0.7
SN02			S		Sg		17 08 17.6	-0.6
SN07	**Snyder 07**	**0.17 1**			Pg		17 08 18.8	-0.4
SN07					Sg		17 08 21.2	-0.3
SN07			IAML				17 08 21.6	
	2μm,0.2s							
SN07	**Snyder 07**	**0.17 1**	⇑P		Pg		17 08 18.8	-0.4
SN07			S		Sg		17 08 21.2	-0.3
SN08	**Arah**	**0.20 226**	⇓P		Pg		17 08 19.0	-0.6
SN08			S		Sg		17 08 22.0	-0.3
POST	**Post**	**0.53 286**			Pg		17 08 25.4	-0.5
POST					Sg		17 08 32.5	-0.4
POST			IAML				17 08 32.9	
	526nm,0.3s							
POST	**Post**	**0.53 286**	⇑P		Pg		17 08 25.4	-0.6
POST			S		Sg		17 08 32.5	-0.4
DKNS	**Dickens**	**0.74 358**			Pg		17 08 29.1	-1.0
DKNS					Sg		17 08 39.4	-0.4
DKNS	**Dickens**	**0.74 358**	⇑P		Pg		17 08 29.1	-1.0
DKNS			S		Sg		17 08 39.4	-0.4
APMT	**Aspermont**	**0.76 58**			Pg		17 08 29.4	-1.1
APMT					Sg		17 08 39.4	-1.0
APMT	**Aspermont**	**0.76 58**	⇓P		Pg		17 08 29.4	-1.1
APMT			S		Sg		17 08 39.4	-1.0
TMB05	**Klondike**	**0.86 250**	P		Pg		17 08 31.1	-1.2
TMB05			S		Sg		17 08 42.7	-0.9
SGCY	**Sterling City**	**1.02 191**			Pg		17 08 34.0	-1.4
SGCY					Sg		17 08 47.3	-1.4
SGCY	**Sterling City**	**1.02 191**	P		Pg		17 08 34.0	-1.4
SGCY			S		Sg		17 08 47.3	-1.4
ABTX	**Abilene, Hawle**	**1.09 105**			Pg		17 08 35.3	-1.5
ABTX					Sg		17 08 49.2	-1.8
ABTX	**Abilene, Hawle**	**1.09 105**	P		Pg		17 08 35.3	-1.5
ABTX			S		Sg		17 08 49.2	-1.8
TMB06	**Greenwood**	**1.21 219**	P		Pg		17 08 37.6	-1.4
TMB06			S		Sg		17 08 53.3	-1.4
TMB04	**Seminole**	**1.37 258**	P		Pn		17 08 40.2	-1.5
TMB04			S		Sb		17 08 58.4	-1.5
TMB01	**Midkiff**	**1.60 219**	P		Pn		17 08 44.8	-0.1
TMB01			S		Sn		17 09 05.5	-0.5
ODSA	**Odessa**	**1.61 241**			Pn		17 08 44.8	-0.2
ODSA					Sn		17 09 05.8	-0.3
ODSA	**Odessa**	**1.61 241**	P		Pn		17 08 44.8	-0.2
ODSA			S		Sn		17 09 05.8	-0.3
MSTX	**Muleshoe**	**1.89 304**			Pn		17 08 49.0	+0.2
MSTX					Sb		17 09 14.6	-0.1
MSTX	**Muleshoe**	**1.89 304**	P		Pn		17 08 49.0	+0.2
MSTX			S		Sb		17 09 14.6	-0.1
OZNA	**Ozona**	**2.00 186**			Pn		17 08 50.8	+0.5
OZNA					Sb		17 09 17.4	-0.6
OZNA	**Ozona**	**2.00 186**	P		Pn		17 08 50.8	+0.5
OZNA			S		Sb		17 09 17.4	-0.6
AMTX	**Amarillo**	**2.06 342**			Pn		17 08 51.5	+0.3
AMTX			Sg		Sb		17 09 20.3	+0.5
AMTX	**Amarillo**	**2.06 342**	Pg		Pb		17 08 52.5	-1.3
AMTX			Sg		Sb		17 09 20.3	+0.5
PLPT	**Palo Pinto**	**2.17 92**	Pg		Pb		17 08 54.2	-1.4
PLPT			Sg		Sb		17 09 23.0	+0.1
PLPT	**Palo Pinto**	**2.17 92**	Pg		Pb		17 08 54.2	-1.4
PLPT			Sg		Sb		17 09 23.0	+0.1
NM01	**Eunice**	**2.19 256**	Pg		Pb		17 08 54.9	-1.0
NM01			Sg		Sb		17 09 23.1	-0.2
WTFS	**Witchita Falls**	**2.20 67**	Pg		Pb		17 08 55.0	-1.1
WTFS			Sg		Sb		17 09 24.0	+0.3
WTFS	**Witchita Falls**	**2.20 67**	Pg		Pb		17 08 55.0	-1.1
WTFS			Sg		Sb		17 09 24.0	+0.3
MNHN	**Monahans**	**2.23 226**			Pn		17 08 53.2	-0.3
MNHN			Sg		Sb		17 09 24.0	-0.7
MNHN	**Monahans**	**2.23 226**	Pg		Pn		17 08 54.9	+1.4
MNHN			Sg		Sb		17 09 24.0	-0.7
SMWD	**Samnorwood**	**2.25 14**	Pg		Pb		17 08 55.9	-0.9
SMWD			Sg		Sb		17 09 24.1	-0.9
SMWD			IAmb_Lg				17 09 29.9	
	comp=Z,40nm,0.8s							
SMWD	**Samnorwood**	**2.25 14**	Pg		Pb		17 08 55.9	-0.9
SMWD			Sg		Sb		17 09 24.1	-0.9
BRDY	**Brady**	**2.29 135**			Pn		17 08 53.9	-0.3
BRDY			Sg		Sb		17 09 25.8	-0.5
BRDY			IAmb_Lg				17 09 31.0	
	comp=Z,12nm,0.8s							
BRDY	**Brady**	**2.29 135**	Pg		Pn		17 08 55.9	+1.7
BRDY			Sg		Sb		17 09 25.8	-0.5
FW03	**Perrin-Whitt E**	**2.38 86**	Pg		Pb		17 08 58.7	-0.5
FW03			Sg		Sb		17 09 28.9	+0.1
FW03	**Perrin-Whitt E**	**2.38 86**	Pg		Pb		17 08 58.7	-0.5
FW03			Sg		Sb		17 09 28.9	+0.1
CPRX	**Cap Rock**	**2.50 273**			Pn		17 08 57.2	-0.1
CLN7	**Carlsbad 7**	**2.51 259**			Pb		17 08 59.6	-1.7
WMOK	**Wichita Mounta**	**2.53 44**			Pn		17 08 57.2	-0.3
WMOK	**Wichita Mounta**	**2.53 44**			Pn		17 08 56.9	-0.7
JCT	**Junction City**	**2.61 159**			Pn		17 08 58.3	-0.3
JCT			IAmb_Lg				17 09 43.5	
	comp=Z,35nm,1.0s							
PECS	**Pecos**	**2.96 239**			Pn		17 09 04.4	+0.9
WHTX	**Lake Whitney,**	**3.05 107**	IAmb_Lg				17 09 53.9	
	comp=Z,11nm,0.8s							
SAND	**Sanderson**	**3.14 200**			Pn		17 09 06.0	0.0
SAND			IAmb_Lg				17 09 55.9	
	comp=Z,8.9nm,0.8s							
DRIO	**Del Rio**	**3.49 176**	IAmb_Lg				17 10 14.2	
	comp=Z,20nm,1.0s							
435B	**Jarrell**	**3.53 126**	IAmb_Lg				17 10 13.5	
	comp=Z,30nm,0.8s							
RTBA	**Rita Blanca**	**3.82 337**			Pn		17 09 13.9	-1.6
RTBA			IAmb_Lg				17 10 21.6	
	comp=Z,9.6nm,0.8s							
OK038	**West end E0370**	**3.97 26**	IAmb_Lg				17 10 29.0	
	comp=Z,16nm,0.7s							
MNTX	**Cornudas Mount**	**3.99 253**			Pn		17 09 16.3	-1.3
NOKA	**Waynoka**	**4.04 23**	IAmb_Lg				17 10 25.0	
	comp=Z,10nm,0.9s							
TX31	**Lajitas Ar. Si**	**4.29 214**			Pn		17 09 21.1	-0.8
TXAR	**Lajitas Array**	**4.29 214**	Pn		Pn		17 09 21.5	-0.4
237A	**Washetta, Mont**	**4.40 101**	IAmb_Lg				17 10 36.4	
	comp=Z,17nm,0.8s							
833A	**Chaparral WMA,**	**4.76 164**			Pn		17 09 29.5	+1.3
833A			IAmb_Lg				17 10 53.2	
	comp=Z,16nm,0.8s							
BNM	**Barren Site**	**4.94 286**			Pn		17 09 30.0	-0.9
CRNM	**Carthage**	**4.99 283**			Pb		17 09 45.4	+1.6
ANMO	**Albuquerque**	**5.05 295**	IAmb_Lg				17 10 55.6	
	comp=Z,6.1nm,0.8s							
Y22A	**Socorro**	**5.18 283**	IAmb_Lg				17 11 06.2	
	comp=Z,5.2nm,0.9s							

SJA ***02*** *17:26:50.5±0.7,23°.37S×67°.78W,h159km±3km,ML5.0, MW4.7*

NEIC ***02*** *17:26:51.2±2.6,23°.41S±0°.06×67°.56W±0°.04,h126km±5km, mb4.7/33,Mww4.8/17,Mwr4.9(GUC),Error ellipse: s-maj=8.9km s-min=3.7km az=201.0*

NEIC ***02*** *17:26:51,23°.41S×67°.63W,h120km*

NEIC ***02*** *17:26:51,23°.41S×67°.73W,h120km,Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.00; $M_{\theta\theta}$=0.91; $M_{\phi\phi}$=1.91; $M_{r\theta}$=0.90; $M_{\phi\theta}$=-0.25; $M_{\phi r}$=0.36; Fault plane solution: M_0=1.93000×10^{16} NP1: ϕ_s=209.99000°,δ=51.15000°,λ=-31.13000°. NP2: ϕ_s=320.74000°,δ=66.26000°,λ=-136.74000°. Principal axes: T 2.0019, Plg9.0000°, Azm82.0000°; N -0.1492, Plg42.0000°, Azm344.0000°; P -1.8527, Plg47.0000°, Azm182.0000°;*

VAO ***02*** *17:26:51.8±1.4,23°.27S×67°.58W,h138km±5km,mb4.9*

IDC ***02*** *17:26:51.8±1.3,23°.29S×67°.48W,h136km±10km,mb4.6/8, mbtmp5.0/14,MS3.5/11,Error ellipse: s-maj=16.4km s-min=11.5km az=89.0*

GUC ***02*** *17:26:51.4±0.9,23°.42S×67°.78W,h146km±5km,ML5.0*

GCMT ***02*** *17:26:56.2±0.4,23°.48S±0°.02×67°.69W±0°.03,h153km±5km, MW4.9/92,Moment Tensor Solution. s17,c19; s92,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.29±.12; $M_{\theta\theta}$=1.36±.17; $M_{\phi\phi}$2.65±.18; $M_{r\theta}$1.58±.08; $M_{\phi\theta}$0.27±.16; $M_{\phi r}$=0.39±.10; Best double couple: $M_0$2.81800×10^{16} NP1:ϕ_s=219.00000°,δ56.00000°,λ=-31.00000°. NP2: ϕ_s=328.00000°,δ64.00000°,λ=-142.00000°. Principal axes:*

T 2.6920, Plg5.0000°, Azm92.0000°; N 0.2520, Plg45.0000°, Azm357.0000°; P -2.9440, Plg44.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 02 17:26:50.7±0.5,23°.38S±0°.03×67°.76W±0°.03,h134km±4km, n240,σ2§01/256,mb4.7/27,12C-8D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.58 318**			**Pn**	**17 27 13.8**	**+2.8**
AF01	**San Pedro de A**	**0.58 318**		⇓*iP*	**Pn**	**17 27 14.0**	**+3.0**
AF01				*i* S	**Sn**	**17 27 30.8**	**+4.3**
AF01				IAML		17 27 32.4	
	comp=E,49μm,0.4s						
AF01	**San Pedro de A**	**0.58 318**		*eP*	**Pn**	**17 27 13.9**	**+2.8**
AF01				*eS*	**Sn**	**17 27 31.5**	**+5.0**
AF01				IAML		17 27 49.7	
	comp=Z,17μm,0.7s						
SALTA		**1.54**	**123**	⇑*iP*	**Pn**	**17 27 22.6**	**+2.5**
SALTA				*eS*	**Sn**	**17 27 46.3**	**+3.8**
SALTA		**1.54**	**123**	*eP*	**Pn**	**17 27 22.5**	**+2.4**
PB06	**IPOC Station P**	**1.80 292**			**Pn**	**17 27 24.4**	**+1.7**
PB06				Sn	**Sn**	**17 27 50.5**	**+3.3**
PB06	**IPOC Station P**	**1.80 292**		⇑*iP*	**Pn**	**17 27 25.1**	**+2.3**
PB06				*i* S	**Sn**	**17 27 50.0**	**+2.8**
PB06				IAML		17 27 52.6	
	comp=N,19μm,0.2s						
PB06	**IPOC Station P**	**1.80 292**		*eP*	**Pn**	**17 27 25.1**	**+2.3**
PB06				*eS*	**Sn**	**17 27 51.0**	**+3.9**
PB06				IAML		17 27 53.4	
	comp=Z,12μm,0.7s						
PB09	**IPOC Station P**	**2.09 319**			**Pn**	**17 27 28.5**	**+2.3**
PB09	**IPOC Station P**	**2.09 319**		⇑*iP*	**Pn**	**17 27 29.0**	**+2.8**
PB09				*i* S	**Sn**	**17 27 56.4**	**+3.0**
PB09				IAML		17 27 59.3	
	comp=N,9μm,0.6s						
PB09	**IPOC Station P**	**2.09 319**		*eP*	**Pn**	**17 27 29.2**	**+3.0**
PB09				*eS*	**Sn**	**17 27 57.4**	**+4.0**
PB09				IAML		17 28 00.4	
	comp=Z,8μm,0.7s						
HJA	**Humahuaca**	**2.17**	**86**	*eP*	**Pn**	**17 27 30.1**	**+2.8**
PB03	**IPOC Station P**	**2.27 305**			**Pn**	**17 27 30.2**	**+1.9**
PB03	**IPOC Station P**	**2.27 305**		⇑*iP*	**Pn**	**17 27 30.4**	**+2.0**
PB03				IAML		17 28 01.6	
	comp=N,12μm,0.5s						
PB03	**IPOC Station P**	**2.27 305**		*eP*	**Pn**	**17 27 30.4**	**+1.9**
PB03				*eS*	**Sn**	**17 27 59.0**	**+1.7**
PB03				IAML		17 28 02.2	
	comp=Z,8μm,0.2s						
PB05	**IPOC Station P**	**2.31 283**			**Pn**	**17 27 30.3**	**+1.4**
PB05	**IPOC Station P**	**2.31 283**		⇑*iP*	**Pn**	**17 27 30.2**	**+1.4**
PB05				IAML		17 28 07.9	
	comp=N,4μm,0.3s						
PB05	**IPOC Station P**	**2.31 283**		*eP*	**Pn**	**17 27 30.3**	**+1.4**
PB05				*eS*	**Sn**	**17 27 59.8**	**+1.7**
PB05				IAML		17 28 14.8	
	comp=Z,3μm,0.6s						
YJA	**Yavi**	**2.39**	**60**	⇓*iP*	**Pn**	**17 27 32.8**	**+2.5**
YJA	**Yavi**	**2.39**	**60**	*eP*	**Pn**	**17 27 32.7**	**+2.5**
YJA				*eS*	**Sn**	**17 28 04.1**	**+3.7**
GO02	**Mina Guanaco**	**2.44 223**			**Pn**	**17 27 32.5**	**+1.9**
GO02	**Mina Guanaco**	**2.44 223**		⇑*iP*	**Pn**	**17 27 32.5**	**+1.9**
GO02				*eS*	**Sn**	**17 28 03.4**	**+2.2**
GO02				IAML		17 28 05.6	
	comp=E,8μm,0.4s						
GO02	**Mina Guanaco**	**2.44 223**		*eP*	**Pn**	**17 27 32.5**	**+1.9**
GO02				*eS*	**Sn**	**17 28 03.5**	**+2.3**
GO02				IAML		17 28 04.5	
	comp=Z,8μm,0.3s						
SLA	**San Lorenzo**	**2.45 123**		*eP*	**Pn**	**17 27 33.5**	**+2.8**
SLA	**San Lorenzo**	**2.45 123**		*eP*	Pn	17 27 34.3	+3.7
PB10	**IPOC Station P**	**2.57 267**			**Pn**	**17 27 33.3**	**+1.3**
PB10	**IPOC Station P**	**2.57 267**		⇑*iP*	**Pn**	**17 27 33.5**	**+1.5**
PB10				IAML		17 28 17.1	
	comp=N,4μm,0.4s						
PB10	**IPOC Station P**	**2.57 267**		*eP*	**Pn**	**17 27 33.5**	**+1.5**
PB10				*eS*	**Sn**	**17 28 04.6**	**+0.9**
PB10				IAML		17 28 16.3	
	comp=Z,2μm,0.5s						
AZAP	**Zapla**	**2.60 109**		*eP*	**Pn**	**17 27 34.3**	**+1.7**
PB14	**IPOC Station P**	**2.72 242**			**Pn**	**17 27 35.1**	**+0.9**
PB14	**IPOC Station P**	**2.72 242**		⇑*iP*	**Pn**	**17 27 35.3**	**+1.2**
PB14	**IPOC Station P**	**2.72 242**		*eP*	**Pn**	**17 27 35.3**	**+1.2**
PB14				*eS*	**Sn**	**17 28 07.9**	**+0.3**
PB14				IAML		17 28 09.4	
	comp=Z,2μm,0.6s						
PB01	**IPOC Station P**	**2.83 325**			**Pn**	**17 27 37.0**	**+1.7**
PB01	**IPOC Station P**	**2.83 325**		⇑*iP*	**Pn**	**17 27 37.0**	**+1.7**
PB01	**IPOC Station P**	**2.83 325**		*eP*	**Pn**	**17 27 37.1**	**+1.7**
PB01				*eS*	**Sn**	**17 28 11.5**	**+1.7**
PB01				IAML		17 28 14.7	
	comp=Z,6μm,0.2s						
PB02	**IPOC Station P**	**2.85 316**			**Pn**	**17 27 37.1**	**+1.5**
PB02	**IPOC Station P**	**2.85 316**		⇑*iP*	**Pn**	**17 27 37.2**	**+1.5**
PB02	**IPOC Station P**	**2.85 316**		*eP*	**Pn**	**17 27 37.2**	**+1.5**
PB02				*eS*	**Sn**	**17 28 11.6**	**+1.2**
PB02				IAML		17 28 18.8	
	comp=Z,10μm,0.6s						
FSA	**Cafayete**	**3.16 150**		*eP*	**Pn**	**17 27 42.0**	**+2.2**
PATCX	**Punta Patache**	**3.38 318**			**Pn**	**17 27 43.2**	**+0.7**
PATCX	**Punta Patache**	**3.38 318**		⇑*eP*	**Pn**	**17 27 43.1**	**+0.5**
PATCX	**Punta Patache**	**3.38 318**		*eP*	**Pn**	**17 27 43.4**	**+0.9**
PATCX				*eS*	**Sn**	**17 28 22.3**	**-0.3**
PATCX				IAML		17 28 28.1	
	comp=Z,3μm,0.5s						
PX03	**IPOC Station P**	**3.44 329**		*eP*	**Pn**	**17 27 43.5**	**+0.2**
TA01	**Diego Aracena**	**3.59 321**			**Pn**	**17 27 45.9**	**+0.7**
TA01	**Diego Aracena**	**3.59 321**		*eP*	**Pn**	**17 27 46.0**	**+0.8**
TA01	**Diego Aracena**	**3.59 321**		*eP*	**Pn**	**17 27 46.9**	**+1.7**
TA01				*eS*	**Sn**	**17 28 24.1**	**-3.3**
TA01				IAML		17 28 32.8	
	comp=Z,2μm,0.8s						
AC02	**Maricunga**	**3.66 200**			**Pn**	**17 27 48.0**	**+1.5**
AC02	**Maricunga**	**3.66 200**		*eP*	**Pn**	**17 27 48.4**	**+1.9**
AC02				*eS*	**Sn**	**17 28 31.8**	**+2.2**
HMBC	**Humberstone**	**3.67 327**			**Pn**	**17 27 46.3**	**0.0**
HMBC	**Humberstone**	**3.67 327**		⇑*eP*	**Pn**	**17 27 46.5**	**+0.2**
HMBC	**Humberstone**	**3.67 327**		*eP*	**Pn**	**17 27 46.8**	**+0.4**
HMBC				*eS*	**Sn**	**17 28 26.7**	**-2.7**
HMBC				IAML		17 28 37.4	
	comp=Z,3μm,0.3s						
AC01	**Pan de Azucar**	**3.78 223**			**Pn**	**17 27 47.4**	**-0.2**
TA02	**Huaiquique**	**3.80 324**		*eP*	**Pn**	**17 27 50.4**	**+2.4**
GO01	**Chusmiza**	**3.93 340**			**Pn**	**17 27 51.7**	**+1.6**
GO01	**Chusmiza**	**3.93 340**		*eP*	**Pn**	**17 27 51.9**	**+1.8**
GO01	**Chusmiza**	**3.93 340**		*eP*	**Pn**	**17 27 51.2**	**+1.1**
GO01				*eS*	**Sn**	**17 28 39.0**	**+2.9**
GO01				IAML		17 28 40.5	
	comp=Z,1μm,0.6s						
PB11	**IPOC Station P**	**4.01 334**			**Pn**	**17 27 51.6**	**+0.7**
PB11	**IPOC Station P**	**4.01 334**		*eP*	**Pn**	**17 27 51.6**	**+0.7**
PB11	**IPOC Station P**	**4.01 334**		*eP*	**Pn**	**17 27 51.5**	**+0.5**
PB11				*eS*	**Sn**	**17 28 37.4**	**-0.2**
PB11				IAML		17 28 39.8	
	comp=Z,2μm,0.4s						
GO03	**Copiapo**	**4.75 208**			**Pn**	**17 27 59.8**	**-0.8**
GO03	**Copiapo**	**4.75 208**		⇓*eP*	**Pn**	**17 27 59.9**	**-0.8**
GO03	**Copiapo**	**4.75 208**		*eP*	**Pn**	**17 28 00.1**	**-0.5**
GO03				*eS*	**Sn**	**17 28 49.4**	**-5.7**
GO03				IAML		17 28 55.1	
	comp=Z,874nm,0.8s						
PX02	**IPOC Station P**	**4.95 332**		*eP*	**Pn**	**17 28 01.1**	**-2.2**
PB16	**IPOC Station P**	**5.28 342**			**Pn**	**17 28 08.7**	**+0.5**
PB16	**IPOC Station P**	**5.28 342**		*eP*	**Pn**	**17 28 09.2**	**+1.0**
PB16				*eS*	**Sn**	**17 29 11.5**	**+3.0**
PB16				IAML		17 29 38.8	
	comp=Z,438nm,0.9s						
CYA	**Choya**	**5.34 161**		*eP*	**Pn**	**17 28 09.8**	**+1.5**
CYA				*eS*	**Sn**	**17 29 11.6**	**+2.7**
AC04	**Llanos de Chal**	**5.66 211**			**Pn**	**17 28 10.2**	**-2.4**
LCO	**Las Campanas**	**6.20 205**			**Pn**	**17 28 17.7**	**-2.4**
LPAZ	**La Paz**	**7.07 357**		P	**Pn**	**17 28 33.7**	**+1.5**
	comp=Z,75nm,0.5s,baz=163,slow=8.4,SNR=178						
LPAZ				S	**Sn**	**17 29 50.2**	**-1.3**
	comp=Z,38nm,0.8s,baz=224,slow=1.0,SNR=1.7						
LPAZ	**La Paz**	**7.07 357**		*eP*	**Pn**	**17 28 33.8**	**+1.6**
CO03	**El Pedregal**	**7.87 199**			**Pn**	**17 28 39.1**	**-3.4**
CO06	**Fray Jorge**	**8.04 205**			**Pn**	**17 28 47.0**	**+2.3**
ZON	**Zonda**	**8.17 186**			**Pn**	**17 28 44.7**	**-1.8**
CFA	**Coronel Fontan**	**8.20 183**		P	**Pn**	**17 28 45.4**	**-1.5**
	comp=Z,17nm,0.5s,baz=358,slow=13,SNR=63						
CFA				S	**Sn**	**17 30 10.4**	**-7.6**
	comp=Z,14nm,0.4s,baz=93,slow=15,SNR=4.8						
CO02	**Combarbal**	**8.31 200**			**Pn**	**17 28 44.9**	**-3.4**
MURT	**Porto Murtinho**	**9.54 82**		*eP*	**Pn**	**17 29 02.9**	**-1.8**
VA06	**Catapilco**	**9.66 198**			Pn	17 29 01.6	-4.8
VA03	**San Esteban**	**9.67 194**			**Pn**	17 29 02.4	-4.2
SIV	**San Ignacio**	**9.68 42**		P	**Pn**	**17 29 04.4**	**-2.4**
	comp=Z,58nm,0.6s,baz=215,slow=12,SNR=201						
SIV				S	Sn	17 30 37.1	-17
	comp=Z,26nm,0.8s,baz=220,slow=15,SNR=3.0						
CPUP	**Villa Florida**	**9.91 109**			**Pn**	**17 29 08.5**	**-1.3**
CPUP	**Villa Florida**	**9.91 109**		P	**Pn**	**17 29 08.2**	**-1.5**
	comp=Z,15nm,0.8s,baz=153,slow=12,SNR=74						
CPUP	**Villa Florida**	**9.91 109**		*eP*	**Pn**	**17 29 08.7**	**-1.1**
MT08	**Bocatoma Ro**	**10.22 191**			**Pn**	**17 29 12.7**	**-1.4**
MT16	**CCHEN**	**10.30 193**			**Pn**	**17 29 15.6**	**+0.6**
BDQN	**Bodoquena, MS**	**10.63 76**		*eP*	**Pn**	**17 29 16.9**	**-2.5**
PTLB	**Pontes e Lacer**	**11.33 47**			**Pn**	**17 29 25.8**	**-2.9**
PTLB	**Pontes e Lacer**	**11.33 47**		*eP*	**Pn**	**17 29 26.2**	**-2.5**
BO01	**Tunca**	**11.35 194**			Pn	17 29 23.5	-5.3
AQDB	**Aquidauana**	**11.56 78**			**Pn**	**17 29 30.1**	**-1.6**
AQDB	**Aquidauana**	**11.56 78**		*eP*	**Pn**	**17 29 29.9**	**-1.8**
BO02	**Sierra Bellavi**	**11.67 192**			**Pn**	**17 29 29.5**	**-3.6**
AMBA	**Amambaí (Brazi**	**11.75 90**		*eP*	**Pn**	**17 29 32.6**	**-1.6**
PSAL	**Palomas, Salto**	**11.84 133**		*eP*	**Pn**	**17 29 35.8**	**+0.5**
VILB	**Vilhena**	**12.61 36**			**Pn**	**17 29 44.2**	**-1.3**
VILB	**Vilhena**	**12.61 36**		*eP*	**Pn**	**17 29 44.5**	**-1.1**
PP1B	**Ponte de Pedra**	**13.36 67**		*eP*	**Pn**	**17 29 52.1**	**-3.1**
SALV	**Santo Antonio**	**13.58 59**		*eP*	**Pn**	**17 29 56.5**	**-1.4**
VA04	**Juan Fernndez**	**14.11 221**		P	**P**	**17 30 08.4**	**+0.5**
NNA	**Nana**	**14.25 321**		P	**Pn**	**17 30 09.3**	**+2.7**
	comp=Z,7.5nm,0.4s,baz=164,slow=8.9,SNR=5.9						
NNA				S	**Sn**	**17 32 39.3**	**-5.0**
	comp=Z,9.9nm,0.4s,baz=100,slow=13,SNR=4.0						
PTGB	**Pitanga**	**14.40 98**		*eP*	**Pn**	**17 30 08.0**	**-0.4**
CPSB	**Cacapava Do Su**	**14.56 122**		*eP*	**Pn**	**17 30 09.8**	**-0.4**
ITAB	**Concordia**	**14.64 108**		P	**Pn**	**17 30 10.7**	**-0.6**
ITAB	**Concordia**	**14.64 108**		*eP*	**Pn**	**17 30 10.9**	**-0.4**
LDASE	**Londrina, Braz**	**15.28 93**		*eP*	**Pn**	**17 30 18.2**	**-1.2**
TRQA	**Tornquist**	**15.44 163**			**Pn**	**17 30 17.7**	**-3.5**
PDRB	**Porto dos Gac**	**15.72 44**		*eP*	**Pn**	**17 30 23.4**	**-1.5**
CNLB	**Canela**	**16.26 115**		*eP*	**P**	**17 30 30.9**	**-1.1**
CZSB	**Cruzeiro do Su**	**16.27 342**			**Pn**	**17 30 29.9**	**-1.8**
ITRB	**Iturama**	**16.59 81**		*eP*	**P**	**17 30 35.4**	**-0.3**
FRTB	**Fartura**	**16.71 93**		*eP*	**P**	**17 30 36.5**	**-0.4**
ARAG	**Araguaiana, MT**	**16.85 66**		*eP*	**P**	**17 30 38.2**	**-0.3**
CLDB	**Colíder**	**16.88 45**		*eP*	**Pn**	**17 30 38.2**	**-0.8**
LR05	**Currie**	**17.18 191**			**P**	**17 30 42.9**	**+0.9**
MAJ01	**Sao Joao Batis**	**17.40 107**		*eP*	**Pn**	**17 30 44.1**	**-1.2**
PLCA	**Paso Flores**	**17.46 187**			**P**	**17 30 45.4**	**+0.2**
PLCA	**Paso Flores**	**17.46 187**		P	**P**	**17 30 45.8**	**+0.7**
	comp=Z,25nm,0.9s,baz=9.5,slow=14,SNR=59						
PLCA				PcP	**PcP**	**17 35 18.3**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=346,slow=8.3,SNR=3.4						
PLCA				LR	LR	17 38 43.8	
	comp=Z,118nm,18.2s,baz=14,slow=40						
PLCA	**Paso Flores**	**17.46 187**		*eP*	**P**	**17 30 45.9**	**+0.8**
BB19B	**Bebedouro**	**17.95 86**		*eP*	**Pn**	**17 30 50.6**	**-1.4**
SPB	**Sao Paulo**	**18.65 95**		P	**P**	**17 30 57.1**	**-1.0**
SPB	**Sao Paulo**	**18.65 95**		*eP*	**Pn**	**17 30 57.8**	**-2.2**
RCLB	**Rio Claro- Sao**	**18.66 91**		*eP*	**Pn**	**17 30 58.1**	**-2.2**
PET01	**Itanhaem-SP**

PPT	**Papeete**	**75.93**	**257**	LR	LR	18 03 03.9	
	comp=Z,35nm,18.3s,baz=6.5,slow=28						
PDAR	**Pinedale Array**	**76.27**	**330**	P	**P**	**17 38 26.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=4.5						
SUR	**Sutherland**	**76.72**	**120**	P	**P**	**17 38 29.5**	**+1.8**
TORD	**Torodi Ar. Bea**	**77.00**	**69**	P	**P**	**17 38 26.6**	**-2.5**
TORD	**Torodi Ar. Bea**	**77.00**	**69**	P	**P**	**17 38 26.8**	**-2.4**
	comp=Z,29nm,0.7s,baz=262,slow=5.0,SNR=76						
	comp=Z,29nm,0.7s						
ULM	**Lac du Bonnet**	**77.43**	**342**	LR	LR	18 17 13.3	
	comp=Z,32nm,18.2s,baz=112,slow=39						
TSUM	**Tsumeb**	**78.49**	**106**		**P**	**17 38 38.1**	**+0.5**
TSUM				IAmb	IAmb	17 38 39.6	
	comp=Z,8.1nm,0.8s						
HLID	**Hailey**	**79.20**	**327**		**P**	**17 38 43.7**	**+2.8**
KOOLE	**Kule**	**79.42**	**110**	IAmb	IAmb	17 38 46.9	
	comp=Z,7.5nm,0.7s						
GRTLG	**Ghanzi**	**80.89**	**109**	IAmb	IAmb	17 40 38.7	
	comp=Z,11nm,1.3s						
PLID	**Pearl Lake**	**81.09**	**328**		**P**	**17 38 53.1**	**+2.0**
BOSA	**Boshof**	**81.63**	**117**		**P**	**17 38 54.7**	**+0.4**
BOSA				IAmb	IAmb	17 38 56.8	
	comp=Z,16nm,1.2s						
BOSA	**Boshof**	**81.63**	**117**	P	**P**	**17 38 54.5**	**+0.2**
	comp=Z,8.0nm,0.9s,baz=261,slow=5.4,SNR=13						
	comp=Z,8.0nm,0.9s						
BOSA	**Boshof**	**81.63**	**117**	P	**P**	**17 38 54.5**	**+0.2**
BOSA				sP	**sP**	**17 39 39.4**	**-5.0**
MDT	**Midelt**	**82.15**	**49**	LR	LR	18 13 26.5	
	comp=Z,40nm,20.1s,baz=244,slow=34						
MAW	**Mawson**	**82.23**	**163**	P	**P**	**17 38 57.5**	**+1.1**
	comp=Z,10nm,0.6s,baz=227,slow=6.3,SNR=22						
	comp=Z,10nm,0.6s						
LBTB	**Lobatse**	**83.27**	**114**	IAmb	IAmb	17 39 04.3	
	comp=Z,12nm,0.8s						
LBTB	**Lobatse**	**83.27**	**114**	P	**P**	**17 39 03.8**	**+0.9**
LPHEP	**Lephephe**	**84.13**	**113**		**P**	**17 39 07.8**	**+0.6**
PHDHD	**Phuduhudu**	**84.21**	**109**	IAmb	IAmb	17 39 09.8	
	comp=Z,9.4nm,0.7s						
KHWEE	**KHWEE**	**84.32**	**111**	IAmb	IAmb	17 39 10.4	
	comp=Z,22nm,0.8s						
KSANE	**Kasane**	**85.68**	**107**	IAmb	IAmb	17 39 17.7	
	comp=Z,12nm,0.7s						
MREMI	**Moremi**	**85.78**	**113**	IAmb	IAmb	17 39 17.9	
	comp=Z,16nm,1.0s						
ESDC	**Sonseca Array**	**86.43**	**44**		**P**	**17 39 18.9**	**+0.7**
ESDC	**Sonseca Array**	**86.43**	**44**	P	**P**	**17 39 19.4**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=228,slow=5.0,SNR=9.5						
ESDC				LR	LR	18 18 05.4	
	comp=Z,38nm,18.1s,baz=266,slow=36						
	comp=Z,2.8nm,1.0s						
DRV	**Dumont d'Urvil**	**87.82**	**191**	P	**P**	**17 39 25.5**	**+1.2**
CASY	**Casey**	**90.61**	**179**		**P**	**17 39 38.9**	**+1.5**
KBZ	**Khabaz**	**120.45**	**52**	PKP	**PKPdf**	**17 45 25.0**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=354,slow=2.8,SNR=4.1						
ASAR	**Alice Springs**	**128.72**	**206**	PKP	**PKPdf**	**17 45 43.2**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=135,slow=1.9,SNR=73						
WRA	**Warramunga Arr**	**131.85**	**208**	PKP	**PKPdf**	**17 45 49.2**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=158,slow=1.7,SNR=56						
WRA				SKPbc	**SKPbc**	**17 49 02.5**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=153,slow=3.7,SNR=25						
PETK	**Petropavlovsk-**	**134.70**	**323**	PKKP		17 55 47.6	
	comp=Z,2.0nm,0.5s,baz=216,slow=6.7,SNR=5.3						
BVAR	**Borovoye Array**	**136.71**	**36**	PKP	**PKPdf**	**17 45 57.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=274,slow=6.9,SNR=2.1						
FITZ	**Fitzroy Crossi**	**136.75**	**199**		**PKPdf**	**17 45 53.0**	**-5.0**
FITZ	**Fitzroy Crossi**	**136.75**	**199**	PKP	**PKiKP**	**17 46 00.1**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=179,slow=7.5,SNR=8.9						
KURBB	**Kurchatov Arra**	**142.28**	**35**	PKP	**PKPdf**	**17 46 08.0**	**+1.0**
	comp=Z,3.9nm,0.2s,baz=302,slow=2.6,SNR=4.6						
KURBB				SKPbc	**SKPbc**	**17 49 30.9**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=298,slow=3.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**143.17**	**27**	PKP	PKPbc	17 46 07.0	+1.2
	comp=Z,1.6nm,0.7s,baz=329,slow=4.9,SNR=8.5						
ZALV				SKPbc	**SKPbc**	**17 49 34.9**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=304,slow=3.4,SNR=10						
BATI	**Baumata**	**144.80**	**200**	PKP	**PKPdf**	**17 46 13.2**	**+0.6**
	comp=Z,46nm,0.7s,baz=99,slow=0.6,SNR=9.6						
SOEI	**Soe**	**145.03**	**201**		**PKPbc**	**17 46 12.5**	**-0.2**
KSH	**Kashi**	**145.40**	**54**	PKPbc	**PKPab**	**17 46 13.7**	**+0.2**
KDJ	**Kajisay**	**145.41**	**49**	PKPdf	**PKPdf**	**17 46 09.7**	**-3.4**
TARG	**Taragay, Kyrgy**	**145.99**	**49**	PKPdf	**PKPbc**	**17 46 15.3**	**0.0**
MKAR	**Makanchi Array**	**146.48**	**38**	PKPdf	**PKPdf**	**17 46 15.2**	**+0.8**
MKAR	**Makanchi Array**	**146.48**	**38**	PKPbc	**PKPbc**	**17 46 15.8**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=328,slow=1.8,SNR=9.6						
MKAR				SKPbc	**SKPbc**	**17 49 42.6**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=315,slow=3.3,SNR=5.3						
GUMO	**Guam**	**147.63**	**258**	PKPbc	**PKPdf**	**17 46 18.9**	**+1.7**
	comp=Z,84nm,1.1s,baz=27,slow=2.3,SNR=3.6						
JAGI	**Jajag, Banyuwa**	**148.29**	**184**		**PKPbc**	**17 46 22.4**	**+0.5**
LEM	**Lembang**	**149.64**	**171**	PKPbc	**PKiKP**	**17 46 27.1**	**+0.6**
	comp=Z,47nm,0.6s,baz=122,slow=9.5,SNR=12						
HEH	**HeiHe**	**150.68**	**340**	*e*P	**PKPbc**	**17 46 27.3**	**+0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KAPI	**Kappang**	**150.84**	**195**	PKPbc	**PKPbc**	**17 46 29.0**	**+0.8**
	comp=Z,15nm,0.6s,baz=42,slow=7.2,SNR=4.6						
MJAR	**Matsushiro Arr**	**154.06**	**306**	PKPbc	**PKPbc**	**17 46 35.2**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=89,slow=2.6,SNR=5.5						
SONM	**Songino Array**	**155.16**	**9**	PKP	**PKPdf**	**17 46 29.1**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=318,slow=1.9,SNR=2.7						
GTA	**Gaotai**	**160.85**	**31**	*e*PKP	**PKPdf**	**17 46 36.3**	**+1.2**
GTA				sPKP		17 47 18.1	
HHC	**Hu-ho-hao-te**	**162.57**	**2**	*e*P	**PKPdf**	**17 46 32.1**	**-4.7**
LZH	**Lanzhou**	**165.40**	**28**	*e*P	**PKPdf**	**17 46 32.8**	**-6.8**
LZH				pP	pPKPdf	17 46 48.1	-29
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
CMAR	**Chiang Mai Arr**	**166.64**	**109**	PKP	**PKPdf**	**17 46 42.0**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=233,slow=0.8,SNR=4.8						
CMAR				PKPab	**PKPab**	**17 47 44.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=251,slow=5.7,SNR=7.9						
NJ2	**Nanjing**	**169.57**	**327**	*e*P	**PKPdf**	**17 46 42.1**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PZH	**PanZhiHua**	**169.98**	**70**	PKP	**PKPdf**	**17 46 41.4**	**-1.6**

*IDC **02** 17:51:04.7±1.5, 3°.36N×64°.01E, h0km, mb3.8/7, mbtmp3.8/7, MS3.1/3, Error ellipse: s-maj=47.1km s-min=23.3km az=47.0*
*NEIC **02** 17:51:05.0±1.1, 3°.32N±0°.06×64°.0E±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=26.1km s-min=9.2km az=257.0*
ISC 02 17:51:07.1±0.9, 3°.5N±0°.1×64°.3E±0°.1, h23km, n29, σ1§97/28, mb4.1/15, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.81**	**76**	Pn	**P**	**17 55 03.2**	**-0.1**
PALK	**Pallekele**	**16.81**	**76**	LR	LR	17 59 55.8	
	comp=Z,75nm,19.1s,baz=264,slow=31						
KAD	**Karad**	**16.87**	**35**	IAmb	IAmb	17 54 36.5	
	comp=Z,8.8nm,1.2s						
KAD				*e*P	**Pn**	**17 54 57.7**	**-4.2**
KAD				*e*S	**Sn**	**17 58 09.8**	**+0.9**
AKL	**Akola**	**21.18**	**35**	*e*P	**P**	**17 55 48.4**	**-2.6**
AKL				IAmb	IAmb	17 56 04.0	
	comp=Z,10nm,1.2s						
AKL				*e*S	**S**	**17 59 47.7**	**+2.1**
CMBY	**CAMPBELL BAY**	**29.76**	**82**	IAmb	IAmb	17 55 21.1	
CMBY				*e*P	**P**	**17 57 10.3**	**-1.8**
CMBY				*e*S	**S**	**18 02 08.3**	**+0.8**
DGPR	**DIGLIPUR**	**29.94**	**69**	*e*P	**P**	**17 57 12.5**	**-1.3**
DGPR				IAmb	IAmb	17 58 28.2	
	comp=Z,2.4nm,0.5s						
DGPR				*e*S	**S**	**18 02 09.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**37.07**	**64**	P	**P**	**17 58 17.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**37.07**	**64**	P	**P**	**17 58 19.7**	**+3.8**
	comp=Z,0.5nm,0.4s,baz=255,slow=9.2,SNR=11						
CMAR				LR	LR	18 12 27.3	
	comp=Z,19nm,20.1s,baz=220,slow=34						
	comp=Z,0.5nm,0.4s						
CHTO	**Chiang Mai**	**37.19**	**63**	P	**P**	**17 58 18.1**	**+1.3**
CHTO				IAmb	IAmb	17 58 21.6	
	comp=Z,4.4nm,1.2s						
AAK	**Ala-Archa**	**40.07**	**12**	LR	LR	18 17 00.2	
	comp=Z,23nm,18.2s,baz=238,slow=39						
KBZ	**Khabaz**	**44.34**	**338**	P	**P**	**17 59 17.8**	**+2.4**
	comp=Z,1.6nm,0.8s,baz=136,slow=7.0,SNR=4.0						
	comp=Z,1.6nm,0.8s						
BRTR	**Keskin Array B**	**45.52**	**327**	P	**P**	**17 59 26.9**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=72,slow=4.7,SNR=2.6						
	comp=Z,0.8nm,1.0s						
AB31	**Akbulak array**	**45.78**	**356**	P	**P**	**17 59 27.1**	**+0.3**
AB31				IAmb	IAmb	17 59 34.7	
	comp=Z,3.9nm,1.5s						
ABKAR	**Akbulak array**	**45.78**	**356**	P	**P**	**17 59 26.9**	**+0.1**
KURBB	**Kurchatov Arra**	**48.52**	**12**	P	**P**	**17 59 49.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=184,slow=5.6,SNR=2.0						
	comp=Z,0.1nm,0.3s						
KURK	**Kurchatov**	**48.63**	**12**	P	**P**	**17 59 49.9**	**+0.9**
KURK				IAmb	IAmb	18 00 11.8	
	comp=Z,2.5nm,1.1s						
RDO	**Rodhopi**	**51.13**	**323**	P	**P**	**18 00 06.2**	**-2.0**
RDO				IAmb	IAmb	18 00 10.3	
	comp=Z,4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**53.08**	**15**	P	**P**	**18 00 20.9**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=244,slow=6.3,SNR=3.7						
SONM	**Songino Array**	**57.12**	**33**	P	**P**	**18 00 54.1**	**+2.1**
	comp=Z,0.9nm,0.9s,baz=255,slow=5.7,SNR=4.8						
	comp=Z,0.9nm,0.9s						
H01W3	**Cape Leeuwin H**	**60.35**	**134**	T	T	19 06 34.1	
	baz=299,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**60.36**	**134**	T	T	19 06 35.4	
	baz=299,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**60.37**	**134**	T	T	19 06 35.1	
	baz=299,slow=75,SNR=14						
WRA	**Warramunga Arr**	**72.57**	**112**	P	**P**	**18 02 33.6**	**+0.5**
WRA	**Warramunga Arr**	**72.57**	**112**	P	**P**	**18 02 35.8**	**+2.7**
	comp=Z,3.4nm,0.9s,baz=287,slow=5.6,SNR=15						
	comp=Z,3.4nm,0.9s						
WRAB	**Tennant Creek**	**72.58**	**112**	P	**P**	**18 02 34.5**	**+1.4**
ASAR	**Alice Springs**	**72.88**	**116**	P	**P**	**18 02 35.2**	**+0.3**
ASAR	**Alice Springs**	**72.88**	**116**	P	**P**	**18 02 37.4**	**+2.5**
	comp=Z,1.4nm,0.9s,baz=296,slow=5.7,SNR=12						
	comp=Z,1.4nm,0.9s						
VNDA	**Vanda**	**95.00**	**168**	P	**P**	**18 04 26.1**	**-1.2**
VNDA				IAmb	IAmb	18 04 52.9	
	comp=Z,2.7nm,1.4s						
TXAR	**Lajitas Array**	**145.40**	**341**	PKPbc	**PKPbc**	**18 10 42.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=18,slow=4.3,SNR=7.9						

*IDC **02** 18:04:51.9±0.9, 64°.20N×20°.93E, h0km, mbtmp2.7/3, ML1.6/3, Error ellipse: s-maj=11.2km s-min=7.8km az=74.0*
*UPP **02** 18:04:55.0±0.1, 64°.21N×21°.15E, h25km±1km, ML2.3, Confirmed Earthquake*
*BER **02** 18:04:55.4±2.4, 64°.17N×21°.30E, h13km±6km, ML2.1, ML2.2(UPP), Confirmed Earthquake*
*HEL **02** 18:04:55.2, 64°.25N×21°.15E, h24km, ML2.2, ML2.3(UPP), Confirmed Earthquake*
ISC 02 18:04:54.6±1.0, 64°.23N±0°.02×21°.19E±0°.02, h18km±3km, n98, σ1§48/178, 8C-2D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODEU	**Stanfors**	**0.28**	**312**	⇑P	**Pb**	**18 05 01.5**	**+0.6**
ODEU				S	**Sg**	**18 05 06.0**	**+1.1**
ODEU	**Stanfors**	**0.28**	**312**	⇑P	**Pb**	**18 05 01.5**	**+0.6**
ODEU				S	**Sg**	**18 05 06.0**	**+1.1**
ODEU	**Stanfors**	**0.28**	**312**	⇑*i*P	**Pb**	**18 05 01.5**	**+0.6**
ODEU				*i* S	**Sg**	**18 05 06.0**	**+1.1**
BURU	**Burvik**	**0.37**	**13**	⇑P	**Pb**	**18 05 03.1**	**+0.5**
BURU				S	**Sb**	**18 05 08.5**	**+0.5**
BURU	**Burvik**	**0.37**	**13**	P	**Pb**	**18 05 03.1**	**+0.5**
BURU				S	**Sb**	**18 05 08.5**	**+0.5**
BURU	**Burvik**	**0.37**	**13**	*e*P	**Pb**	**18 05 03.1**	**+0.5**
BURU				*e*S	**Sb**	**18 05 08.4**	**+0.5**
UMAU	**Umeaa**	**0.41**	**213**	⇑P	**Pg**	**18 05 03.2**	**+0.1**
UMAU				S	**Sg**	**18 05 08.9**	**+0.1**
UMAU	**Umeaa**	**0.41**	**213**	⇑P	**Pg**	**18 05 03.2**	**+0.1**
UMAU				S	**Sg**	**18 05 08.9**	**+0.1**
UMAU	**Umeaa**	**0.41**	**213**	*e*P	**Pg**	**18 05 03.2**	**+0.1**
UMAU				*e*S	**Sg**	**18 05 08.9**	**+0.1**
SVAU	**Svanoeiden**	**0.75**	**291**	⇓P	**Pb**	**18 05 08.9**	**-0.2**
SVAU				S	**Sb**	**18 05 18.9**	**-0.1**
SVAU	**Svanoeiden**	**0.75**	**291**	P	**Pb**	**18 05 08.9**	**-0.2**
SVAU				S	**Sb**	**18 05 18.9**	**-0.1**
SVAU	**Svanoeiden**	**0.75**	**291**	⇓*i*P	**Pb**	**18 05 08.9**	**-0.2**
SVAU				*i* S	**Sb**	**18 05 18.9**	**-0.1**
OBF8	**Ulkokalla**	**0.99**	**83**	*e*P	**Pb**	**18 05 13.2**	**+0.1**
OBF8				*e*S	**Sb**	**18 05 26.0**	**+0.3**
BREU	**Bredtraesk**	**1.20**	**255**	P	**Pn**	**18 05 16.2**	**-0.1**
BREU				S	**Sb**	**18 05 31.8**	**0.0**
BREU	**Bredtraesk**	**1.20**	**255**	P	**Pn**	**18 05 16.0**	**-0.3**
BREU				S	**Sb**	**18 05 31.8**	**0.0**
BREU	**Bredtraesk**	**1.20**	**255**	*e*P	**Pn**	**18 05 16.2**	**-0.1**
BREU				*e*S	**Sb**	**18 05 31.8**	**0.0**
HUSU	**Husum**	**1.25**	**225**	P	**Pn**	**18 05 17.0**	**0.0**
HUSU				S	**Sb**	**18 05 32.7**	**-0.5**
HUSU	**Husum**	**1.25**	**225**	P	**Pn**	**18 05 17.0**	**0.0**
HUSU				S	**Sb**	**18 05 32.7**	**-0.5**
HUSU	**Husum**	**1.25**	**225**	*e*P	**Pn**	**18 05 17.0**	**0.0**
HUSU				*e*S	**Sb**	**18 05 32.6**	**-0.5**
SJUU	**Sjulsmark**	**1.30**	**8**	⇑P	**Pn**	**18 05 18.4**	**+0.7**
SJUU				S	**Sb**	**18 05 35.5**	**+0.8**
SJUU	**Sjulsmark**	**1.30**	**8**	*e*P	**Pn**	**18 05 18.2**	**+0.5**
SJUU	**Sjulsmark**	**1.30**	**8**	P	**Pn**	**18 05 18.4**	**+0.7**
SJUU				S	**Sb**	**18 05 35.6**	**+1.0**
SJUU	**Sjulsmark**	**1.30**	**8**	⇑*e*P	**Pn**	**18 05 18.4**	**+0.7**
SJUU				*e*S	**Sb**	**18 05 35.5**	**+0.8**
OBF0	**Syolatti, Pyha**	**1.35**	**77**	*e*P	**Pb**	**18 05 19.2**	**-0.1**
OBF0				*e*S	**Sb**	**18 05 36.7**	**+0.5**
OBF0				MSG		18 05 37.8	
	comp=Z,34nm,0.1s						
VAF	**Ylistaro**	**1.36**	**150**	*e*P	**Pn**	**18 05 18.9**	**+0.3**
VAF	**Ylistaro**	**1.36**	**150**	*e*P	**Pn**	**18 05 19.0**	**+0.4**
VAF				*e*S	**Sb**	**18 05 36.5**	**+0.1**
VAF				MSG		18 05 37.4	
	comp=Z,70nm,0.1s						
OUF	**Merijarvi**	**1.55**	**83**	*e*P	**Pn**	**18 05 21.4**	**+0.2**
OUF				*e*S	**Sb**	**18 05 42.5**	**+0.6**
OBF4	**Vikkela, Lumij**	**1.79**	**69**	*e*P	**Pn**	**18 05 24.9**	**+0.4**
OBF4				*e*S	**Sb**	**18 05 49.3**	**+0.5**
KALU	**Kalix**	**1.88**	**28**	P	**Pn**	**18 05 26.8**	**+1.1**
KALU				S	**Sn**	**18 05 50.4**	**+1.4**
KALU	**Kalix**	**1.88**	**28**	*e*P	**Pb**	**18 05 27.7**	**-0.6**
KALU				*e*S	**Sn**	**18 05 50.3**	**+1.4**
KALU				MSG		18 05 53.3	
	comp=Z,11nm,0.1s						
HEMU	**Hemsoen**	**2.10**	**224**	*e*P	**Pn**	**18 05 29.5**	**+0.7**
HEMU				*e*S	**Sn**	**18 05 55.2**	**+0.8**
HEMU				MSG		18 05 59.0	
	comp=Z,18nm,0.1s						
OUL	**Oulu**	**2.20**	**65**	*e*P	**Pn**	**18 05 29.7**	**-0.4**
OUL				*e*S	**Sn**	**18 05 56.9**	**+0.1**
OUL				MSG		18 06 02.8	
	comp=Z,12nm,0.2s						
TOF	**Tornio**	**2.28**	**34**	*e*P	**Pn**	**18 05 33.0**	**+1.8**
TOF				*e*S	**Sn**	**18 05 59.4**	**+0.6**
ERTU	**Ertsjaerv**	**2.38**	**10**	*e*P	**Pn**	**18 05 33.2**	**+0.7**
ERTU				*e*S	**Sn**	**18 06 01.0**	**-0.1**
KPF	**Kankaanpaa**	**2.44**	**170**	*e*P	**Pn**	**18 05 34.5**	**+1.1**
KPF				*e*S	**Sn**	**18 06 01.9**	**-0.7**
KEF	**Keuruu**	**2.66**	**139**	*e*P	**Pn**	**18 05 38.2**	**+1.9**
KEF	**Keuruu**	**2.66**	**139**	*e*P	**Pn**	**18 05 37.8**	**+1.4**
KEF				*e*S	**Sn**	**18 06 08.6**	**+0.5**
KEF				MSG		18 06 13.7	
	comp=Z,7.0nm,0.1s						
SUF	**Sumiainen**	**2.69**	**122**	*e*P	**Pn**	**18 05 38.3**	**+1.5**
SUF				*e*S	**Sn**	**18 06 08.9**	**0.0**
SUF				MSG		18 06 15.8	
	comp=Z,6.9nm,0.2s						
PAJU	**Pajala**	**2.92**	**15**	*e*P	**Pn**	**18 05 40.7**	**+0.7**
PAJU				*e*S	**Sn**	**18 06 14.3**	**-0.3**
RANF	**Ranua**	**2.97**	**50**	*e*P	**Pn**	**18 05 40.9**	**+0.3**
RANF				*e*S	**Sn**	**18 06 15.0**	**-0.8**
NIF	**Nilsia**	**3.05**	**103**	*e*P	**Pn**	**18 05 41.5**	**-0.4**
NIF				*e*S	**Sn**	**18 06 18.0**	**+0.1**
RNF	**Rovaniemi**	**3.13**	**38**	*e*P	**Pn**	**18 05 43.6**	**+0.8**
RNF				*e*S	**Sn**	**18 06 19.0**	**-0.7**
KAF	**Kangasniemi**	**3.14**	**130**	*e*P	**Pn**	**18 05 43.9**	**+0.9**
KAF				*e*S	**Sn**	**18 06 20.5**	**+0.4**
RAF	**Rauma**	**3.23**	**175**	*e*P	**Pn**	**18 05 44.8**	**+0.6**
RAF	**Rauma**	**3.23**	**175**	*e*P	**Pn**	**18 05 44.9**	**+0.7**
RAF				*e*S	**Sn**	**18 06 22.5**	**+0.5**
SALU	**Saltoluokta**	**3.35**	**342**	*e*P	**Pn**	**18 05 47.7**	**+1.7**
SALU				*e*Pg	**Pb**	**18 05 54.9**	**+1.5**
SALU				*e*S	**Sn**	**18 06 25.8**	**+0.5**
SALU	**Saltoluokta**	**3.35**	**342**	*e*P	**Pn**	**18 05 47.7**	**+1.7**
SALU				*e*PB	**Pb**	**18 05 54.9**	**+1.5**
SALU				*e*S	**Sn**	**18 06 25.8**	**+0.5**
MOR8	**Moi Rana**	**3.45**	**307**	*e*P	**Pn**	**18 05 47.6**	**+0.3**
MOR8				IAML		18 06 43.6	
	comp=Z,11nm,0.4s						
MOR8	**Moi Rana**	**3.45**	**307**	*e*P	**Pn**	**18 05 47.6**	**+0.3**
MOR8				IAML		18 06 43.6	
	comp=Z,11nm,0.4s						
FIA0	**FINESS Array S**	**3.58**	**139**	*e*P	**Pn**	**18 05 50.8**	**+1.7**
FIA0				*e*S	**Sn**	**18 06 31.3**	**+0.5**
FIA1	**FINESS Array S**	**3.58**	**139**	*e*P	**Pn**	**18 05 50.5**	**+1.4**
FIA1				*e*S	**Sn**	**18 06 31.0**	**+0.2**
FINES	**FINESS Array B**	**3.58**	**139**	Pn	**Pn**	**18 05 50.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=324,slow=11,SNR=9.0						
FINES				Pg	**Pb**	**18 05 57.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=328,slow=15,SNR=8.6						
FINES				Sn	**Sn**	**18 06 31.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=334,slow=22,SNR=5.5						
FINES				Lg	Lg	18 06 43.6	
	comp=Z,0.8nm,0.3s,baz=333,slow=24,SNR=5.3						
	comp=Z,2.2nm,0.8s						
MSF	**Maaselka**	**3.73**	**60**	*e*P	**Pn**	**18 05 50.9**	**-0.2**
MSF				*e*S	**Sn**	**18 06 33.5**	**-0.9**
RAUS	**Rausandaksla**	**3.73**	**310**	*e*P	**Pn**	**18 05 51.7**	**+0.6**
RAUS				*e*S	**Sn**	**18 06 33.2**	**-1.2**
KU1	**Kurvinen**	**3.81**	**66**	*e*P	**Pn**	**18 05 52.0**	**-0.2**
KU1				*e*S	**Sn**	**18 06 35.4**	**-1.1**
RMF	**Romuvaara**	**3.82**	**86**	*e*P	**Pn**	**18 05 52.4**	**+0.1**
RMF				*e*S	**Sn**	**18 06 35.9**	**-0.8**
LANU	**Lannavaara**	**3.85**	**5**	*e*P	**Pn**	**18 05 52.7**	**-0.1**
LANU	**Lannavaara**	**3.85**	**5**	*e*S	**Sn**	**18 06 36.1**	**-1.4**
LEIR	**Leirfjorden**	**3.90**	**303**	*e*P	**Pn**	**18 05 53.4**	**0.0**
LEIR				*e*S	**Sn**	**18 06 37.4**	**-1.2**
LEIR				*e*Sg	**Sg**	**18 06 56.1**	**-3.4**
LEIR				IAML		18 06 58.7	
	comp=Z,12nm,0.5s						
LEIR	**Leirfjorden**	**3.90**	**303**	*e*P	**Pn**	**18 05 53.4**	**0.0**
LEIR				*e*S	**Sn**	**18 06 37.4**	**-1.2**
LEIR				IAML		18 06 58.7	
	comp=Z,12nm,0.5s						
SGF	**Sodankyl**	**3.90**	**32**	*e*P	**Pn**	**18 05 53.9**	**+0.4**
SGF				*e*S	**Sn**	**18 06 36.7**	**-2.0**
FAUS	**Fauske**	**3.99**	**325**	*e*P	**Pn**	**18 05 55.8**	**+1.1**
FAUS				*e*S	**Sn**	**18 06 40.8**	**-0.1**
FAUS				*e*		18 06 57.5	
FAUS	**Fauske**	**3.99**	**325**	*e*P	**Pn**	**18 05 55.8**	**+1.1**
FAUS				*e*S	**Sn**	**18 06 40.8**	**-0.1**
STOK	**Stokkvaagen**	**4.03**	**305**	*e*P	**Pn**	**18 05 55.9**	**+0.6**
STOK				*e*		18 06 40.7	
STOK				*e*Sg	**Sg**	**18 06 59.4**	**-4.4**
STOK	**Stokkvaagen**	**4.03**	**305**	*e*P	**Pn**	**18 05 55.9**	**+0.6**
STOK				*e*S	**Sn**	**18 06 40.7**	**-1.2**
OLKF	**Oulanka, Finla**	**4.04**	**55**	*e*P	**Pn**	**18 05 55.5**	**+0.1**
OLKF				*e*S	**Sn**	**18 06 40.5**	**-1.6**
NUR	**Nurmijarvi**	**4.06**	**155**	*e*S	**Sn**	**18 06 43.3**	**+0.6**
KONS	**Konsvik**	**4.08**	**308**	*e*P	**Pn**	**18 05 56.1**	**+0.2**
KONS	**Konsvik**	**4.08**	**308**	*e*P	**Pn**	**18 05 56.1**	**+0.2**
KU6	**Riekki**	**4.09**	**60**	*e*P	**Pn**	**18 05 56.0**	**-0.1**
KU6				*e*S	**Sn**	**18 06 43.4**	**-0.1**
AAL	**Aland**	**4.10**	**188**	*e*P	**Pn**	**18 05 56.9**	**+0.7**
AAL	**Aland**	**4.10**	**188**	*e*

AGUA				*e*S	**Sg**	**18 10 50.8**	**-3.1**
AGUA				IAML		18 11 04.9	
	comp=Z,135nm,0.6s						
RTLL	**Cerro Villicun**	**3.37**	**108**	*i* P	**Pn**	**18 10 02.7**	**+2.8**
RTLL				*e*S	**Sb**	**18 10 47.9**	**-0.2**
VCA	**Vinchina**	**3.85**	**66**	*i* P	**Pb**	**18 10 12.4**	**-2.6**
VCA				*e*S	**Sb**	**18 11 03.8**	**+1.8**
VCA				IAML		18 11 22.9	
	comp=Z,109nm,0.6s						
AVFE	**Valle Fertil**	**4.12**	**96**	*i* P	**Pn**	**18 10 13.8**	**+3.5**
ACLC	**CERRO LA CRUZ**	**4.67**	**80**	*i* P	**Pn**	**18 10 22.4**	**+4.5**
ACLC				*e*S	**Sb**	**18 11 23.5**	**-2.1**
ACLC				IAML		18 11 37.4	
	comp=Z,24nm,1.1s						
APLL	**PUNTA DE LOS L**	**4.92**	**92**	*i* P	**Pn**	**18 10 24.7**	**+3.4**
APLL				*e*S	**Sb**	**18 11 27.9**	**-4.9**
CYA	**Choya**	**5.91**	**73**	*i* P	**Pn**	**18 10 38.6**	**+3.7**
CYA				*i* P		18 10 39.6	
CYA				IAML		18 12 22.7	
	comp=Z,16nm,0.7s						

*IDC **02** 18:41:47.4±2.6, 5.°46S×147.°37E, h164km±22km, mb3.3/8, mbtmp3.8/11, MS3.1/1, Error ellipse: s-maj=34.6km s-min=16.1km az=85.0*
*NEIC **02** 18:41:49.2±1.3, 5.°64S±0.°08×147.°3E±0.°2, h161km±11km, mb4.0/10, Error ellipse: s-maj=33.6km s-min=11.6km az=92.0*

ISC 02 18:41:48.0±0.6, 5.°61S±0.°06×147.°36E±0.°08, h170km, n35, σ2§13/37, mb3.6/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.54**	**0**	Pn	**Pn**	**18 42 44.3**	**+1.3**
PMG	**Port Moresby**	**3.78**	**183**		**Pn**	**18 42 46.3**	**+0.3**
PMG				Sn	**Sn**	**18 43 28.0**	**-3.3**
PMG	**Port Moresby**	**3.78**	**183**	P	**Pn**	**18 42 46.2**	**+0.3**
	34nm,0.3s,baz=288,slow=17,SNR=84						
PMG				S	**Sn**	**18 43 25.3**	**-6.0**
	34nm,0.3s,baz=278,slow=20,SNR=3.8						
PMG	**Port Moresby**	**3.78**	**183**	P	**Pn**	**18 42 46.4**	**+0.4**
RABL	**Rabaul**	**4.99**	**74**		**Sn**	**18 43 54.0**	**-5.3**
JAY	**Jayapura**	**7.32**	**295**	P	**Pn**	**18 43 31.6**	**-0.8**
	3.7nm,0.4s,baz=158,slow=9.4,SNR=10						
COEN	**Coen**	**9.27**	**206**	Pn	**Pn**	**18 43 59.4**	**+1.3**
COEN				Sn	**Sn**	**18 45 38.6**	**-2.7**
COEN	**Coen**	**9.27**	**206**	P	**Pn**	**18 43 57.5**	**-0.6**
TATA	**Tatamba Isabel**	**12.65**	**103**	P	Pn	18 44 33.6	-8.6
SAVO	**Savo Central**	**12.84**	**107**	P	Pn	18 44 37.7	-6.9
TV1H	**Townsville Har**	**13.58**	**182**	P	**P**	**18 45 00.3**	**+3.1**
CTAO	**Charters Tower**	**14.44**	**184**		**Pn**	**18 45 06.0**	**+1.4**
QIS	**Mount Isa**	**16.66**	**206**	P	**Pn**	**18 45 34.0**	**+2.1**
MTN	**Manton Dam**	**17.55**	**245**		**P**	**18 45 42.4**	**+1.4**
MTN				IAmb	IAmb	18 46 08.8	
	comp=Z,19nm,1.5s						
WB0	**Warramunga Arr**	**18.90**	**221**	P	**P**	**18 45 57.1**	**+1.3**
WB0				IAmb	IAmb	18 45 57.9	
	comp=Z,10nm,1.4s						
WR8	**Warramunga Arr**	**18.97**	**220**	P	**P**	**18 45 57.7**	**+1.1**
WR8				IAmb	IAmb	18 45 58.5	
	comp=Z,3.4nm,0.7s						
WRAB	**Tennant Creek**	**19.05**	**220**	P	**P**	**18 45 58.5**	**+1.1**
WRAB				IAmb	IAmb	18 46 06.8	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**19.07**	**220**	P	**P**	**18 45 58.6**	**+1.1**
	comp=Z,2.6nm,0.7s,baz=49,slow=11,SNR=23						
WRA				S	**S**	**18 49 21.4**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=42,slow=21,SNR=14						
KNRA	**Kununurra**	**20.82**	**240**	P	**P**	**18 46 16.6**	**+0.2**
AS31	**Alice Springs**	**22.14**	**214**	P	**P**	**18 46 31.1**	**+0.9**
AS31				IAmb	IAmb	18 46 32.3	
	comp=Z,2.7nm,0.3s						
ASAR	**Alice Springs**	**22.14**	**214**	P	**P**	**18 46 30.0**	**-0.2**
ASAR	**Alice Springs**	**22.14**	**214**	P	**P**	**18 46 31.5**	**+1.3**
	comp=Z,2.6nm,0.5s,baz=48,slow=8.4,SNR=108						
ASAR				S	**S**	**18 50 18.9**	**-3.0**
	comp=Z,1.7nm,0.8s,baz=33,slow=22,SNR=8.8						
	comp=Z,2.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.58**	**238**	P	**P**	**18 46 53.0**	**+0.5**
ARMA	**Armidale**	**25.00**	**171**	P	**P**	**18 46 57.3**	**+0.9**
STKA	**Stephens Creek**	**26.69**	**191**	P	**P**	**18 47 12.9**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=343,slow=11,SNR=2.8						
	comp=Z,1.6nm,0.8s						
LEM	**Lembang**	**39.52**	**266**	LR	LR	19 09 02.8	
	comp=Z,23nm,18.8s,baz=206,slow=41						
MJAR	**Matsushiro Arr**	**42.80**	**349**	P	**P**	**18 49 28.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=165,slow=6.3,SNR=2.8						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**18 52 55.2**	**+0.8**
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**18 52 54.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=333,slow=6.8,SNR=2.2						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**77.43**	**320**	P	**P**	**18 53 24.5**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=100,slow=8.2,SNR=4.2						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**78.88**	**328**	P	**P**	**18 53 29.6**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=133,slow=8.1,SNR=3.9						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**84.36**	**180**	P	**P**	**18 54 03.1**	**+2.2**
QSPA				IAmb	IAmb	18 54 15.2	
	comp=Z,2.4nm,1.3s						
QSPA	**South Pole Qui**	**84.36**	**180**	P	**P**	**18 54 02.5**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=314,slow=4.8,SNR=1.2						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**84.98**	**23**	P	**P**	**18 54 03.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=254,slow=5.3,SNR=5.0						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.34**	**285**	PKPbc	**PKPdf**	**19 01 05.5**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=67,slow=4.4,SNR=15						

GII 02 18:53:54.2±0.0, 32.°834N±0.°002×35.°592E±0.°001, h6km, Mws1.4, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHM	**Kefar Nahum**	**0.05**	**348**	P	Pg	18 53 55.6	0.0
KNHM	**Kefar Nahum**	**0.05**	**348**	S	Sg	18 53 57.4	+0.7
SPIR	**Sapir Facility**	**0.05**	**304**	P	Pg	18 53 55.7	+0.1
SPIR	**Sapir Facility**	**0.05**	**304**	S	Sg	18 53 57.3	+0.6
RMOT	**Ramot**	**0.06**	**74**	P	Pg	18 53 56.0	+0.2
MGDL	**Migdal**	**0.07**	**275**	P	Pg	18 53 56.0	+0.1
MGDL	**Migdal**	**0.07**	**275**	S	Sg	18 53 58.2	+1.1
HDNS	**Had-Ness**	**0.10**	**24**	P	Pg	18 53 56.9	+0.5
KSHT	**Keshet**	**0.24**	**51**	P	Pg	18 53 59.1	+0.2
KSHT	**Keshet**	**0.24**	**51**	S	Sg	18 54 03.6	+1.6
MMA0B	**Mount Meron ar**	**0.24**	**319**	P	Pg	18 53 59.3	+0.4
MMA0B	**Mount Meron ar**	**0.24**	**319**	S	Sg	18 54 03.5	+1.4
MMC7	**Mount Meron ar**	**0.25**	**318**	P	Pg	18 53 59.4	+0.3
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	P	Pb	18 54 02.0	-0.9
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	S	Sb	18 54 07.4	-1.3
GEM	**Giv'at Ha'Em**	**0.38**	**9**	P	Pg	18 54 02.5	+0.9
GEM	**Giv'at Ha'Em**	**0.38**	**9**	S	Sb	18 54 08.8	-0.7
MMLI	**Mount Malkishu**	**0.42**	**200**	P	Pg	18 54 02.6	+0.3
MMLI	**Mount Malkishu**	**0.42**	**200**	S	Sb	18 54 09.6	-1.1
NATI	**Neve Ativ**	**0.44**	**16**	P	Pg	18 54 03.3	+0.6
NATI	**Neve Ativ**	**0.44**	**16**	S	Sb	18 54 10.2	-1.1
HMDT	**Nahal Hemdat**	**0.58**	**186**	P	Pb	18 54 06.2	-0.6
HMDT	**Nahal Hemdat**	**0.58**	**186**	S	Sb	18 54 15.1	-0.1

*IDC **02** 18:57:44.2±5.8, 14.°97S×179.°30W, h459km±64km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=33.3km s-min=22.9km az=130.0*

ISC 02 18:57:43.5±0.8, 14.°9S±0.°3×179.°3W±0.°2, h450km, n11, σ0§89/10, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.29**	**240**	P	**P**	**19 00 59.4**	**+1.6**
	11nm,1.0s,baz=288,slow=21,SNR=2.5						
STKA	**Stephens Creek**	**39.42**	**238**	P	**P**	**19 04 32.5**	**-0.7**
	1.3nm,0.7s,baz=56,slow=5.6,SNR=3.0						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**44.43**	**257**	P	**P**	**19 05 12.6**	**-0.7**
	0.6nm,0.5s,baz=96,slow=7.3,SNR=19						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**44.87**	**251**	P	**P**	**19 05 16.4**	**-0.2**
	12nm,0.5s,baz=84,slow=8.6,SNR=437						
	12nm,0.5s						
QSPA	**South Pole Qui**	**75.10**	**180**	P	**P**	**19 08 37.8**	**-0.3**
	1.1nm,0.7s,baz=51,slow=1.1,SNR=10						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**77.89**	**45**	P	**P**	**19 08 54.2**	**+0.2**
	0.6nm,0.7s,baz=225,slow=6.1,SNR=3.8						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.20**	**13**	P	**P**	**19 09 20.9**	**0.0**
	0.6nm,0.5s,baz=229,slow=5.3,SNR=11						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**85.13**	**58**	P	**P**	**19 09 32.2**	**+0.8**
	0.4nm,0.7s,baz=242,slow=5.9,SNR=3.1						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**85.79**	**44**	P	**P**	**19 09 33.4**	**-1.1**
	0.4nm,0.5s,baz=289,slow=4.5,SNR=4.5						
	0.4nm,0.5s						
MMAI	**Mount Meron Ar**	**143.78**	**306**	PKP	**PKPdf**	**19 16 27.3**	**+0.2**
	1.9nm,0.5s,baz=65,slow=4.0,SNR=8.8						
GERES	**GERESS Array B**	**144.54**	**345**	PKP	PKPbc	19 16 28.1	+0.4
	0.4nm,0.4s,baz=51,slow=9.3,SNR=3.9						

*SKHL **02** 19:21:15.8±0.6, 43.°40N×142.°00E, h149km±6km, mb3.8/4, msha4.3/2*
*IDC **02** 19:21:15.2±1.0, 43.°36N×141.°90E, h155km±9km, mb3.4/8, mbtmp3.8/10, Error ellipse: s-maj=30.0km s-min=20.7km az=91.0*
*JMA **02** 19:21:16.2±0.2, 43.°3N±0.°6×141.°9E±0.°8, h156km±1km, MV2.6/36, ISHIKARI DEPRESSION*

ISC 02 19:21:15.5±0.7, 43.°31N±0.°05×141.°92E±0.°05, h162km±5km, n33, σ0§66/47, mb3.6/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAB	**Ashibetsu**	**0.29**	**49**	*i* P	**Pn**	**19 21 37.5**	**+0.1**
JAB				S	**Sn**	**19 21 53.8**	**-0.5**
JISS	**Ishikarishitsu**	**0.37**	**265**	P	**Pn**	**19 21 37.9**	**+0.2**
JISS				S	**Sn**	**19 21 54.3**	**-0.3**
JHR	**Hokuryu**	**0.46**	**342**	*e*P	**Pn**	**19 21 38.2**	**+0.2**
JFR	**Furan**	**0.52**	**106**	P	**Pn**	**19 21 38.1**	**-0.2**
JFR				*e*S	**Sn**	**19 21 55.1**	**-0.6**
JEW	**Eniwo**	**0.58**	**216**	*e*P	**Pn**	**19 21 39.0**	**+0.3**
JEW				*e*S	**Sn**	**19 21 55.9**	**-0.4**
JBT2	**Biratori 2**	**0.62**	**148**	*i* P	**Pn**	**19 21 39.1**	**+0.2**
JBT2				S	**Sn**	**19 21 57.0**	**+0.3**
JIAM	**Iburiatsuma**	**0.69**	**180**	P	**Pn**	**19 21 40.0**	**+0.8**
JKK2	**Kamakawa 2**	**0.82**	**47**	*i* P	**Pn**	**19 21 40.3**	**+0.2**
JKK2				S	**Sn**	**19 21 58.6**	**-0.4**
ASAJ	**Asahikawa**	**0.94**	**31**	P	**Pn**	**19 21 40.6**	**-0.3**
	15nm,0.3s,baz=208,slow=10,SNR=129						
ASAJ				S	**Sn**	**19 21 58.9**	**-1.7**
	22nm,0.5s,baz=71,slow=31,SNR=32						
JSS	**Shosan**	**1.09**	**358**	*e*P	**Pn**	**19 21 42.6**	**+0.5**
JSS				S	**Sn**	**19 22 02.5**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.20**	**149**	*e*P	**Pn**	**19 21 44.0**	**+0.9**
JCH	**Churui**	**1.27**	**123**	*i* P	**Pn**	**19 21 43.4**	**-0.4**
JCH				*e*S	**Sn**	**19 22 04.2**	**-1.2**
JAR	**Ashorobuto**	**1.35**	**90**	*i* P	**Pn**	**19 21 45.5**	**+1.0**
JAR				S	**Sn**	**19 22 08.1**	**+1.3**
JTKR	**Abashiri--Toko**	**1.59**	**65**	P	**Pn**	**19 21 47.9**	**+1.0**
JTKR				*e*S	**Sn**	**19 22 11.8**	**+0.8**
JSE	**Soyaes**	**1.72**	**16**	P	**Pn**	**19 21 48.1**	**-0.1**
JWK2	**Keihoku**	**2.01**	**360**	*e*P	**Pn**	**19 21 51.8**	**+0.5**
JOT	**Ohata**	**2.03**	**199**	*e*P	**Pn**	**19 21 51.7**	**-0.1**
JOT				S	**Sn**	**19 22 18.9**	**-0.7**
AKK	**Akkeshi**	**2.16**	**97**	*e*P	**Pn**	**19 21 52.9**	**-0.2**
AKK				*e*S	**Sn**	**19 22 21.0**	**-1.2**
JOSM	**Okushiri--Mats**	**2.18**	**237**	P	**Pn**	**19 21 53.4**	**0.0**
JOMM	**Oshimamatsumae**	**2.28**	**219**	P	**Pn**	**19 21 55.0**	**+0.5**
NMR	**Nemuro--Hokkai**	**2.78**	**87**	*e*P	**Pn**	**19 22 00.6**	**0.0**
NMR				AMB	AMB	19 22 02.1	
	10.0nm,0.5s						
NMR				*e*S	**Sn**	**19 22 34.1**	**-1.4**
NMR				A	A	19 22 35.8	
	20nm,0.3s						
NMR				A	A	19 22 35.8	
	20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.95**	**74**	*e*P	**Pn**	**19 22 02.7**	**0.0**
YUK				AMB	AMB	19 22 05.4	
	40nm,0.6s						
YSS	**Yuzhno-Sakhali**	**3.69**	**9**	*e*P	**Pn**	**19 22 11.8**	**-0.2**
YSS				AMB	AMB	19 22 12.6	
	20nm,0.5s						
MJAR	**Matsushiro Arr**	**7.33**	**204**	P	**Pn**	**19 23 00.9**	**+0.8**
	0.7nm,0.4s,baz=15,slow=13,SNR=4.9						
PETK	**Petropavlovsk-**	**14.35**	**41**	P	**Pn**	**19 24 31.8**	**+0.7**
	2.4nm,0.8s,baz=206,slow=9.6,SNR=2.3						
SONM	**Songino Array**	**25.13**	**293**	P	**P**	**19 26 24.9**	**-0.5**
	1.0nm,0.6s,baz=82,slow=10,SNR=5.3						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**38.22**	**307**	P	**P**	**19 28 19.1**	**-0.1**
	0.6nm,0.5s,baz=95,slow=10,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**41.39**	**296**	P	**P**	**19 28 45.0**	**-0.6**
	0.7nm,0.8s,baz=75,slow=9.3,SNR=5.3						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**42.68**	**303**	P	**P**	**19 28 55.9**	**-0.1**
	0.7nm,0.4s,baz=74,slow=8.6,SNR=8.6						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**46.81**	**308**	P	**P**	**19 29 29.3**	**+0.7**
	0.7nm,0.4s,baz=77,slow=9.6,SNR=6.0						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**63.48**	**331**	P	**P**	**19 31 27.5**	**-0.2**
	1.0nm,0.6s,baz=20,slow=6.1,SNR=7.8						
	1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.57**	**337**	P	**P**	**19 32 00.3**	**+0.1**
	0.6nm,0.7s,baz=28,slow=3.7,SNR=1.2						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**74.82**	**180**	P	**P**	**19 32 37.8**	**+0.1**
	2.7nm,1.0s,baz=342,slow=3.2,SNR=2.7						
	2.7nm,1.0s						

*LDG **02** 19:22:06.3±0.2, 52.°73N×0.°88W, h5km, Ml2.8/26, Error ellipse: s-maj=3.6km s-min=2.2km az=179.0*
*BGS **02** 19:22:06.6±0.9, 52.°80N×0.°89W, h5km±3km, ML2.4*

ISC 02 19:22:03.7±0.8, 52.°76N±0.°03×0.°79W±0.°03, h10km, n40, σ2§24/72, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CWF	**Charnwood Fore**	**0.32**	**266**	*e*P	**Pb**	**19 22 12.1**	**+0.6**
CWF				*e*S	**Sg**	**19 22 15.9**	**+1.7**
CWF				IAML		19 22 16.3	
	comp=E,391nm,0.1s						
CWF				IAML		19 22 16.5	
	comp=N,366nm,0.1s						
LMK	**Market Rasen**	**0.75**	**22**	*e*P	**Pg**	**19 22 16.5**	**-1.7**
LMK				*e*S	**Sg**	**19 22 26.3**	**-1.7**
LMK				IAML		19 22 26.9	
	comp=E,214nm,0.4s						
LMK				IAML		19 22 29.4	
	comp=N,178nm,0.5s						
LBWR	**Ladybower, Pea**	**0.86**	**319**	*e*P	**Pb**	**19 22 21.2**	**+0.6**
LBWR				*e*S	**Sg**	**19 22 31.9**	**+0.5**
LBWR				IAML		19 22 33.4	
	comp=E,67nm,0.1s						
LBWR				IAML		19 22 33.6	
	comp=N,104nm,0.5s						
WACR	**West Acre**	**0.86**	**92**	*e*P	**Pn**	**19 22 22.9**	**+1.0**
WACR				IAML		19 22 36.3	
	comp=N,137nm,0.1s						
WACR				IAML		19 22 37.0	
	comp=E,126nm,0.1s						
STNC	**Stoke**	**0.92**	**292**	*e*P	**Pb**	**19 22 22.8**	**+1.0**
STNC				*e*S	**Sg**	**19 22 33.0**	**-0.4**
ELMS	**Elmsett, Ipswi**	**1.28**	**121**	*e*P	**Pg**	**19 22 30.8**	**+2.6**
ELMS				IAML		19 22 49.5	
	comp=E,129nm,0.2s						
ELMS				IAML		19 22 49.9	
	comp=N,130nm,0.2s						
HLM1	**Long Mynd**	**1.30**	**260**	*e*P	**Pn**	**19 22 28.9**	**+1.0**
HLM1				*e*S	**Sb**	**19 22 45.0**	**+0.1**
HLM1				IAML		19 22 47.0	
	comp=E,69nm,0.2s						
HLM1				IAML		19 22 47.4	
	comp=N,61nm,0.2s						
STRD	**Stroud**	**1.30**	**221**	*e*P	**Pb**	**19 22 29.6**	**+1.4**
STRD				*e*S	**Sg**	**19 22 46.8**	**+1.3**
STRD				IAML		19 22 49.0	
	comp=N,215nm,0.2s						
STRD				IAML		19 22 49.1	
	comp=E,146nm,0.2s						
HPK	**Haverah Park**	**1.30**	**338**	*e*P	**Pg**	**19 22 29.3**	**+0.7**
HPK				*e*S	**Sb**	**19 22 45.3**	**+0.3**
HPK				IAML		19 22 46.3	
	comp=E,78nm,0.3s						
HPK				IAML		19 22 46.8	
	comp=N,99nm,0.3s						
FOEL	**Foel Wylfa**	**1.47**	**276**	*e*P	**Pb**	**19 22 32.0**	**+0.9**
FOEL				*e*S	**Sn**	**19 22 49.7**	**+0.2**
FOEL				IAML		19 22 51.9	
	comp=E,37nm,0.3s						
FOEL				IAML		19 22 52.0	
	comp=N,55nm,0.3s						
MONM	**Monmouth**	**1.54**	**234**	*e*P	**Pb**	**19 22 33.4**	**+1.0**
MONM				*e*S	**Sb**	**19 22 52.9**	**+0.9**
MONM				IAML		19 22 54.4	
	comp=E,55nm,0.2s						
MONM				IAML		19 22 54.8	
	comp=N,82nm,0.2s						
MCH1	**Michaelchurch**	**1.56**	**241**	*e*P	**Pb**	**19 22 33.4**	**+0.9**
MCH1				*e*S	**Sn**	**19 22 53.0**	**+1.3**
MCH1				IAML		19 22 53.8	
	comp=E,43nm,0.1s						
MCH1				IAML		19 22 54.4	
	comp=N,46nm,0.1s						
RSBS	**Rosebush, Pemb**	**2.56**	**253**	*e*P	**Pn**	**19 22 46.4**	**+1.2**
RSBS				IAML		19 23 27.5	
	comp=E,7.7nm,0.2s						
RSBS				IAML		19 23 30.8	
	comp=N,6.1nm,0.4s						
FLN	**La Foliniere**	**4.01**	**177**	*e*Pn	**Pn**	**19 23 05.7**	**+0.6**
	baz=355						
FLN				*e*Sn	**Sn**	**19 23 49.7**	**-2.4**
	comp=N,1.5nm,0.2s						
LDF	**La Druitiere**	**4.19**	**174**	*e*Pn	**Pn**	**19 23 08.4**	**+0.7**
LDF				*e*Sn	**Sn**	**19 23 54.8**	**-1.9**
	comp=N,1.5nm,0.2s						
GRR	**Gorron**	**4.38**	**181**	*e*Pn	**Pn**	**19 23 10.9**	**+0.7**
GRR				*e*Sn	**Sn**	**19 23 58.7**	**-2.5**
	comp=N,3.8nm,0.2s						
GIVF	**Givet**	**4.41**	**125**	*e*P	**Pn**	**19 23 13.9**	**+3.3**
GIVF				*e*Sn	**Sn**	**19 24 00.7**	**-1.2**
	comp=N,3.4nm,0.3s						
SGMF	**Saint Gilles**	**4.65**	**195**	*e*Pn	**Pn**	**19 23 14.5**	**+0.6**
SGMF				*e*Sn	**Sn**	**19 24 04.2**	**-3.7**
	comp=N,1.9nm,0.2s						
ROSF	**Rostrenen**	**4.70**	**201**	*e*Pn	**Pn**	**19 23 14.7**	**0.0**
ROSF				*e*Sn	**Sn**	**19 24 06.0**	**-3.2**
	comp=N,1.4nm,0.2s						
QUIF	**Quistinic**	**5.08**	**198**	*e*Pn	**Pn**	**19 23 20.0**	**+0.1**
QUIF				*e*Sn	**Sn**	**19 24 14.5**	**-4.0**
	comp=N,1.5nm,0.2s						
MEZF	**Maizieres J'vi**	**5.65**	**137**	*e*Pn	**Pn**	**19 23 29.7**	**+2.0**
	baz=321						
MEZF				*e*Sn	**Sn**	**19 24 31.3**	**-1.4**
	comp=N,1.1nm,0.2s						
SFTF	**Sexfontaines**	**5.88**	**139**	*e*Pn	**Pn**	**19 23 33.0**	**+2.1**
	baz=322						
SFTF				*e*Sn	**Sn**	**19 24 36.9**	**-1.4**
	comp=N,0.9nm,0.1s						
PAGF	**Fort de Pagny**	**5.90**	**133**	*e*Pn	**Pn**	**19 23 32.7**	**+1.5**
HYF	**Humbligny**	**5.92**	**157**	*e*Pn	**Pn**	**19 23 32.6**	**+1.1**
MFF	**Saint Martin d**	**6.18**	**176**	*e*Pn	**Pn**	**19 23 34.8**	**-0.1**
	baz=357						
MFF	**Saint Martin d**	**6.18**	**176**	*e*Pn	**Pn**	**19 23 35.2**	**+0.3**
MFF				*e*Sn	**Sn**	**19 24 41.3**	**-4.3**
	comp=N,0.6nm,0.2s						
MFF				*e*Sn	**Sn**	**19 24 41.7**	**-3.9**
	comp=N,0.3nm,0.2s						
LOR	**Lormes**	**6.26**	**150**	*e*Pn	**Pn**	**19 23 37.0**	**+0.9**
	baz=334						
LOR				*e*Sn	**Sn**	**19 24 44.5**	**-3.1**
	comp=N,0.7nm,0.2s						
SSF	**Saint Saulge**	**6.34**	**152**	*e*Pn	**Pn**	**19 23 37.7**	**+0.5**
SSF				*e*Sn	**Sn**	**19 24 45.9**	**-3.7**
	comp=N,0.4nm,0.2s						
AVF	**Avril sur Loir**	**6.55**	**154**	*e*Pn	**Pn**	**19 23 40.3**	**+0.3**
AVF				*e*Sn	**Sn**	**19 24 51.5**	**-3.2**
	comp=N,0.3nm,0.2s						
TCF	**Toulx Ste Croi**	**6.76**	**162**	*e*Pn	**Pn**	**19 23 43.8**	**+0.8**
SMF	**Signal de Mont**	**6.82**	**152**	*e*Pn	**Pn**	**19 23 44.6**	**+0.9**
SMF				*e*Sn	**Sn**	**19 24 58.1**	**-3.2**
	comp=N,0.3nm,0.2s						
HINF	**Hinteralfeld**	**6.96**	**132**	*e*Pn	**Pn**	**19 23 49.3**	**+3.6**
HINF				*e*Sn	**Sn**	**19 25 01.2**	**-3.7**
	comp=N,1.2nm,0.3s						
CABF	**La Chapelle**	**7.60**	**141**	*e*Pn	**Pn**	**19 23 56.4**	**+1.9**
CABF				*e*Sn	**Sn**	**19 25 16.8**	**-3.8**
	comp=N,1.3nm,0.3s						
RJF	**Les Rejaudoux**	**7.61**	**168**	*e*Pn	**Pn**	**19 23 54.6**	**0.0**
RJF				*e*Sn	**Sn**	**19 25 17.3**	**-3.6**
	comp=N,1.6nm,0.3s						
LFF	**La Frestale**	**7.89**	**172**	*e*Pn	**Pn**	**19 23 58.8**	**+0.4**
LFF				*e*Sn	**Sn**	**19 25 25.0**	**-2.7**
	comp=N,2.8nm,0.3s						
CAF	**Calviac**	**8.06**	**165**	*e*Pn	**Pn**	**19 24 00.9**	**+0.1**
CAF				*e*Sn	**Sn**	**19 25 27.5**	**-4.5**
	comp=N,0.9nm,0.2s						
VIVF	**Saint-Julien-l**	**8.69**	**153**	*e*Pn	**Pn**	**19 24 11.1**	**+1.7**
LPL	**La Plagne**	**8.76**	**143**	*e*Pn	**Pn**	**19 24 11.7**	**+1.1**
SJPF	**Ste Jean**	**9.66**	**182

comp=Z,8.6nm,1.1s
DRK Karamyk 36.39 10 P **P 19 51 35.2 +0.6**
LSA Lhasa 36.43 42 P **P 19 51 35.3 +0.1**
LSA Lhasa 36.43 42 P **P 19 51 34.5 -0.8**
CM31 Chiang Mai Arr 37.08 64 P **P 19 51 39.9 -0.5**
CM31 IAmb IAmb 19 51 43.2
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 37.08 64 P **P 19 51 42.4 +2.0**
comp=Z,3.0nm,1.1s,baz=259,slow=9.2,SNR=17
CMAR LR LR 20 05 48.0
comp=Z,28nm,19.6s,baz=250,slow=34
comp=Z,3.0nm,1.1s
CHTO Chiang Mai 37.19 63 P **P 19 51 41.4 0.0**
CHTO IAmb IAmb 19 51 44.7
comp=Z,11nm,1.3s
KSH Kashi 37.33 15 P **P 19 51 40.2 -2.2**
KSH pmax pmax
comp=Z,5.0nm,1.6s
EIL Elat 37.94 316 LR LR 20 04 28.1
comp=Z,41nm,18.7s,baz=148,slow=32
ASF Jabal al Asfar 38.27 321 LR LR 20 07 29.6
comp=Z,42nm,19.2s,baz=159,slow=36
MMAI Mount Meron Ar 39.77 321 LR LR 20 07 22.3
comp=Z,37nm,18.6s,baz=140,slow=34
AAK Ala-Archa 39.96 12 LR LR 20 08 20.9
comp=Z,22nm,19.5s,baz=222,slow=36
LSZ Lusaka 40.26 241 LR LR 20 06 34.1
comp=Z,45nm,18.5s,baz=161,slow=33
GNI Garni 40.42 337 **P 19 52 09.3 +1.0**
GNI IAmb IAmb 19 52 13.0
comp=Z,16nm,1.4s
GNI Garni 40.42 337 LR LR 20 09 06.0
comp=Z,26nm,19.6s,baz=102,slow=36
MATP Matopo 42.37 234 LR LR 20 06 27.7
comp=Z,52nm,22.0s,baz=85,slow=31
GOMU GeErMu 43.02 37 P **P 19 52 27.0 -2.9**
GOMU pmax pmax
comp=Z,5.0nm,1.2s
KBZ Khabaz 44.20 338 P **P 19 52 40.8 +2.0**
comp=Z,2.9nm,1.0s,baz=141,slow=2.1,SNR=4.6
KBZ LR LR 20 12 18.4
comp=Z,22nm,18.1s,baz=160,slow=38
comp=Z,2.9nm,1.0s
BRTR Keskin Array B 45.37 327 P **P 19 52 49.0 +0.6**
comp=Z,0.8nm,1.0s,baz=131,slow=13,SNR=4.9
comp=Z,0.8nm,1.0s
ELL Elmali 45.62 321 P **P 19 52 50.6 +0.2**
ELL IAmb IAmb 19 52 53.3
comp=Z,12nm,1.4s
AB31 Akbulak array 45.65 356 P **P 19 52 51.3 +1.0**
ABKAR Akbulak array 45.65 356 P **P 19 52 51.3 +1.0**
MKAR Makanchi Array 45.82 17 LR LR 20 10 31.5
comp=Z,30nm,21.7s,baz=204,slow=34
LBTB Lobatse 47.02 231 LR LR 20 09 37.1
comp=Z,51nm,18.0s,baz=54,slow=32
KURBB Kurchatov Arra 48.41 12 P **P 19 53 11.9 +0.1**
comp=Z,0.7nm,0.9s,baz=210,slow=7.5,SNR=4.8
comp=Z,0.7nm,0.9s
BOSA Boshof 49.23 227 LR LR 20 11 55.8
comp=Z,21nm,21.0s,baz=28,slow=34
BVAR Borovoye Array 49.55 5 LR LR 20 15 07.8
comp=Z,43nm,20.1s,baz=174,slow=37
TSUM Tsumeb 51.11 242 LR LR 20 12 54.3
comp=Z,78nm,21.3s,baz=66,slow=34
XAN Xi'an 51.44 48 ⇑P **P 19 53 36.5 +1.2**
XAN pP pP 19 53 41.6 +0.3
XAN pmax pmax
comp=Z,14nm,1.3s
ZAA0 Zalesovo Array 52.97 15 P **P 19 53 44.6 -1.6**
ZALV Zalesovo Beam 52.97 15 P **P 19 53 45.8 -0.4**
comp=Z,0.8nm,0.6s,baz=214,slow=7.2,SNR=7.4
ZALV LR LR 20 16 09.0
comp=Z,40nm,19.4s,baz=306,slow=36
comp=Z,0.8nm,0.6s
MLR Muntele Rosu 53.45 327 P **P 19 53 49.3 -0.7**
BURAR Bucovina Array 55.20 329 P **P 19 54 02.9 +0.2**
SONM Songino Array 57.05 33 P **P 19 54 15.6 -0.3**
SONM IAmb IAmb 19 54 18.9
comp=Z,4.1nm,1.1s
SONM Songino Array 57.05 33 P **P 19 54 16.9 +0.9**
comp=Z,2.3nm,1.0s,baz=243,slow=6.5,SNR=8.8
comp=Z,2.3nm,1.0s
TAM Tamanrasset 59.80 294 P **P 19 54 36.5 +0.8**
H01W3 Cape Leeuwin H 60.49 134 T T 20 59 54.6
baz=299,slow=75,SNR=66
H01W2 Cape Leeuwin H 60.50 134 T T 20 59 55.1
baz=299,slow=75,SNR=83
H01W1 Cape Leeuwin H 60.51 134 T T 20 59 56.0
baz=299,slow=75,SNR=63
CLL Collm 63.83 327 P **P 19 55 02.1 +0.1**
CLL Collm 63.83 327 *e*P **P 19 55 03.0 +0.9**
comp=Z,23nm,1.8s
CLL *e*PP **PP 19 57 20.0 -2.6**
ESDC Sonseca Array 70.96 311 P **P 19 55 47.0 -0.5**
comp=Z,1.5nm,1.0s,baz=86,slow=5.6,SNR=5.5
comp=Z,1.5nm,1.0s
WRA Warramunga Arr 72.68 112 P **P 19 55 58.0 -0.2**
comp=Z,7.4nm,1.0s,baz=287,slow=5.6,SNR=29
comp=Z,7.4nm,1.0s
WRAB Tennant Creek 72.69 112 P **P 19 55 57.6 -0.6**
WRAB **P 19 55 58.9 +0.7**
WR8 Warramunga Arr 72.83 112 P **P 19 55 58.8 -0.3**
ASAR Alice Springs 73.00 116 P **P 19 55 59.5 -0.6**
ASAR Alice Springs 73.00 116 P **P 19 55 59.9 -0.2**
comp=Z,2.9nm,0.9s,baz=280,slow=6.3,SNR=18
comp=Z,2.9nm,0.9s
AS31 Alice Springs 73.00 116 P **P 19 55 59.0 -1.0**
TXAR Lajitas Array 145.25 341 PKPbc **PKPdf 20 04 07.9 -0.5**
comp=Z,1.6nm,0.8s,baz=30,slow=4.6,SNR=18

IDC 02 19:58:02.3±8.0, 16°.45S×177°.16W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=204.0km s-min=49.6km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.38**	**240**	P	P		20 05 42.7	+0.5
	0.8nm,0.4s,baz=100,slow=9.9,SNR=5.2							
	0.8nm,0.4s							
WRA	**Warramunga Arr**	**46.09**	**258**	P	P		20 06 28.1	-0.4
	0.5nm,0.5s,baz=96,slow=7.2,SNR=9.7							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**46.35**	**253**	P	P		20 06 30.1	-0.4
	4.4nm,0.6s,baz=88,slow=8.1,SNR=78							
	4.4nm,0.6s							
QSPA	**South Pole Qui**	**73.60**	**180**	P	P		20 09 37.5	+0.2
	1.6nm,1.1s,baz=214,slow=3.6,SNR=3.0							
	1.6nm,1.1s							

*NEIC **02** 20:10:54.5±2.0, 19°.77N±0°.08×146°.4E±0°.1, h71km±7km, mb4.6/47, Error ellipse: s-maj=20.1km s-min=11.5km az=98.0*
*IDC **02** 20:10:59.2±1.7, 19°.60N×145°.91E, h107km±14km, mb4.0/22, mbtmp4.4/27, MS3.2/17, Error ellipse: s-maj=18.3km s-min=7.3km az=87.0*

ISC 02 20:10:57.9±0.5, 19°.64N±0°.05×146°.12E±0°.10, h100km, n111, σ1§89/99, mb4.5/52, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.13**	**191**			**Pn**	**20 12 26.4**	**+0.2**
GUMO					Sn	**Sn**	**20 13 33.8**	**-1.1**
GUMO	**Guam**	**6.13**	**191**		P	**Pn**	**20 12 27.4**	**+1.3**
	431nm,0.8s,baz=126,slow=1.4,SNR=26							
GUMO					LR	LR	20 13 30.3	
	comp=Z,54nm,18.9s,baz=346,slow=25							
GUMO					S	**Sn**	**20 13 34.5**	**-0.4**
	100nm,0.6s,baz=32,slow=19,SNR=1.1							
JHJ2	**Mitsune**	**14.55**	**338**		P	**Pn**	**20 14 18.7**	**-0.2**
JHJ	**Hachijo jima 2**	**14.57**	**338**		P	**Pn**	**20 14 20.2**	**+1.0**
	73nm,0.7s,baz=66,slow=6.3,SNR=1.7							
INU	**Inuyama**	**17.59**	**335**		P	**P**	**20 14 53.3**	**-3.0**
JGF	**Kuroka**	**17.68**	**336**			**P**	**20 14 53.7**	**-3.6**
JGF	**Kuroka**	**17.68**	**336**		P	**Pn**	**20 15 00.1**	**+2.3**
	25nm,0.9s							
JMN	**Monobe**	**17.77**	**325**		P	**Pn**	**20 15 02.2**	**+3.3**
JOW	**Kunigami**	**17.89**	**297**		P	**P**	**20 14 58.7**	**-0.9**
JOW					IAmb	IAmb	20 15 07.0	
	comp=Z,37nm,1.2s							
JOW	**Kunigami**	**17.89**	**297**		P	**P**	**20 14 58.5**	**-1.1**
	comp=Z,12nm,0.7s,baz=69,slow=9.8,SNR=4.7							
JOW					LR	LR	20 20 27.3	
	comp=Z,179nm,21.3s,baz=180,slow=32							
JOW	**Kunigami**	**17.89**	**297**		P	**Pn**	**20 15 02.5**	**+2.2**
	comp=Z,38nm,1.6s							
MJAR	**Matsushiro Arr**	**18.21**	**339**			**P**	**20 14 59.5**	**-3.7**
MJAR	**Matsushiro Arr**	**18.21**	**339**		P	**P**	**20 15 01.7**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=171,slow=12,SNR=13							
MJAR					S	**Sn**	**20 18 26.9**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=156,slow=13,SNR=4.4							
MAJO	**Matsushiro**	**18.22**	**339**		P	**P**	**20 14 59.0**	**-4.2**
MJB9	**Matsu-Tunnel**	**18.22**	**339**		P	**P**	**20 15 00.2**	**-3.0**
JMM	**Marumori**	**18.75**	**347**		P	**P**	**20 15 05.4**	**-3.5**
JMM					IAmb	IAmb	20 15 22.3	
	comp=Z,58nm,1.3s							
JNU	**Nakatsue**	**19.12**	**318**		P	**P**	**20 15 11.9**	**-1.2**
JNU	**Nakatsue**	**19.12**	**318**		P	**P**	**20 15 11.9**	**-1.2**
	comp=Z,12nm,0.8s,baz=135,slow=8.6,SNR=2.2							
H11S3	**WAKE ISLAND Hy**	**19.47**	**90**		T	T	20 36 23.2	
	baz=275,slow=74,SNR=48							
H11S1	**WAKE ISLAND Hy**	**19.48**	**90**		T	T	20 36 17.5	
	baz=275,slow=74,SNR=44							
H11S2	**WAKE ISLAND Hy**	**19.49**	**90**		T	T	20 36 25.8	
	baz=275,slow=74,SNR=55							
H11N1	**WAKE ISLAND Hy**	**19.56**	**86**		T	T	20 36 29.9	
	baz=273,slow=75,SNR=23							
H11N2	**WAKE ISLAND Hy**	**19.56**	**86**		T	T	20 36 33.9	
	baz=273,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hy**	**19.58**	**86**		T	T	20 36 31.2	
	baz=273,slow=75,SNR=19							
JTM	**Tenmabayashi**	**21.52**	**349**		P	**P**	**20 15 36.1**	**-2.7**
JTM					IAmb	IAmb	20 15 59.1	
	comp=Z,38nm,1.0s							
MANU	**Manus Island**	**21.58**	**177**			**P**	**20 15 39.1**	**-0.6**
MANU					IAmb	IAmb	20 15 45.5	
	comp=Z,20nm,0.6s							
ERM	**Erimo**	**22.45**	**354**		P	**P**	**20 15 45.9**	**-2.7**
ERM					IAmb	IAmb	20 16 05.2	
	comp=Z,25nm,1.4s							
ERM	**Erimo**	**22.45**	**354**		P	**P**	**20 15 54.6**	**+6.0**
	comp=Z,19nm,0.8s							
JAY	**Jayapura**	**22.65**	**194**		P	**P**	**20 15 51.5**	**+0.6**
	comp=Z,6.4nm,0.5s,baz=45,slow=1.4,SNR=5.9							
	comp=Z,6.4nm,0.5s							
NACB	**Ninganchiao**	**23.19**	**286**		P	**P**	**20 16 00.9**	**+4.8**
	comp=Z,26nm,0.8s							
YULB	**Yu-li**	**23.39**	**284**		P	**P**	**20 15 57.4**	**-0.6**
YULB	**Yu-li**	**23.39**	**284**		P	**P**	**20 16 02.6**	**+4.6**
	comp=Z,17nm,1.2s							
YHNB	**Yeheng**	**23.45**	**287**		P	**P**	**20 15 58.2**	**-0.4**
YHNB					IAmb	IAmb	20 16 00.1	
	comp=Z,17nm,0.8s							
DAV	**Davao City (W)**	**23.53**	**241**		LR	LR	20 26 53.7	
	comp=Z,18nm,18.2s,baz=273,slow=41							
TWG	**Pinlang**	**23.55**	**282**		P	**P**	**20 15 58.7**	**-0.8**
TWG					IAmb	IAmb	20 16 15.0	
	comp=Z,32nm,1.3s							
SSLB	**Suanglung**	**23.73**	**285**		P	**P**	**20 16 00.5**	**-0.7**
SSLB					IAmb	IAmb	20 16 04.9	
	comp=Z,23nm,0.8s							
KSRS	**Korea Array**	**23.81**	**322**		P	**P**	**20 16 00.5**	**-1.2**
	comp=Z,30nm,0.7s,baz=149,slow=7.8,SNR=50							
	comp=Z,30nm,0.7s							
KSAR	**Wonju Array Be**	**23.83**	**322**		P	**P**	**20 16 02.4**	**+0.6**
KS19	**Wonju Array Si**	**23.88**	**322**		P	**P**	**20 16 01.6**	**-0.7**
TPUB	**Ta-pu**	**23.99**	**283**		P	**P**	**20 16 02.5**	**-0.9**
TPUB					IAmb	IAmb	20 16 33.7	
	comp=Z,20nm,0.9s							
ASAJ	**Asahikawa**	**24.58**	**354**		LR	LR	20 27 30.4	
	comp=Z,11nm,19.2s,baz=186,slow=40							
USRK	**Ussuriysk Ar.**	**27.19**	**337**		P	**P**	**20 16 32.5**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=129,slow=6.2,SNR=6.9							
	comp=Z,2.9nm,0.7s							
NJ2	**Nanjing**	**27.39**	**302**	*e*P		**P**	**20 16 34.3**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
HNS	**HongShan**	**32.58**	**310**	⇓P		**P**	**20 17 19.7**	**-0.1**
HNS					pmax	pmax		
	comp=Z,6.0nm,0.7s							
HEH	**HeiHe**	**33.98**	**338**	*e*P		**P**	**20 17 27.2**	**-4.6**
HEH					pmax	pmax		
	comp=Z,6.0nm,1.1s							
PETK	**Petropavlovsk-**	**34.59**	**12**	LR		LR	20 36 13.9	
	comp=Z,16nm,18.1s,baz=218,slow=44							
HHC	**Hu-ho-hao-te**	**36.24**	**313**	*e*P		**P**	**20 17 52.1**	**+0.6**
HHC					pmax	pmax		
	comp=Z,11nm,0.6s							
HHC					pmax	pmax		
	comp=Z,82nm,4.3s							
DLV	**Lat**	**36.95**	**264**			**P**	**20 17 58.7**	**+0.8**
BATI	**Baumata**	**37.00**	**219**		P	**P**	**20 17 55.5**	**-2.6**
	comp=Z,5.0nm,0.3s,baz=146,slow=3.6,SNR=2.2							
	comp=Z,5.0nm,0.3s							
SBUM	**Sibu**	**37.27**	**247**			**P**	**20 18 01.3**	**+0.9**
SBUM					IAmb	IAmb	20 18 02.2	
	comp=Z,6.7nm,0.6s							
SLVN	**Son La**	**39.50**	**280**			**P**	**20 18 21.4**	**+2.2**
SLVN					IAmb	IAmb	20 18 22.3	
	comp=Z,6.6nm,0.8s							
WB0	**Warramunga Arr**	**40.82**	**197**			**P**	**20 18 30.2**	**+0.4**
WB0					IAmb	IAmb	20 18 34.3	
	comp=Z,13nm,1.0s							
WR8	**Warramunga Arr**	**40.97**	**197**			**P**	**20 18 31.3**	**+0.3**
WR8					IAmb	IAmb	20 18 36.1	
	comp=Z,9.0nm,0.9s							
WRAB	**Tennant Creek**	**40.99**	**197**			**P**	**20 18 31.4**	**+0.2**
WRAB					IAmb	IAmb	20 18 32.6	
	comp=Z,13nm,1.0s							
WRA	**Warramunga Arr**	**41.00**	**197**		P	**P**	**20 18 30.9**	**-0.4**
	comp=Z,8.9nm,0.7s,baz=19,slow=8.8,SNR=56							
WRA					ScP	**ScP**	**20 24 08.4**	**-2.1**
	comp=Z,0.5nm,1.1s,baz=31,slow=4.0,SNR=1.7							
WRA					S	**S**	**20 24 35.7**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=26,slow=18,SNR=4.8							
	comp=Z,8.9nm,0.7s							
PZH	**PanZhiHua**	**41.24**	**288**		P	**P**	**20 18 34.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**42.55**	**209**		P	**P**	**20 18 43.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.55**	**209**		P	**P**	**20 18 44.0**	**0.0**
	comp=Z,2.7nm,0.5s,baz=21,slow=7.0,SNR=22							
	comp=Z,2.7nm,0.5s							
SONM	**Songino Array**	**42.67**	**321**		P	**P**	**20 18 44.9**	**0.0**
SONM	**Songino Array**	**42.67**	**321**		P	**P**	**20 18 44.8**	**0.0**
	comp=Z,3.4nm,0.8s,baz=129,slow=8.3,SNR=11							
SONM					LR	LR	20 35 42.1	
	comp=Z,39nm,21.9s,baz=54,slow=35							
	comp=Z,3.4nm,0.8s							
YAK	**Yakutsk**	**43.88**	**349**			**P**	**20 18 52.8**	**-1.3**
YAK	**Yakutsk**	**43.88**	**349**		LR	LR	20 38 17.9	
	comp=Z,12nm,21.9s,baz=175,slow=37							
GTA	**Gaotai**	**44.30**	**307**		P	**P**	**20 18 58.2**	**+0.1**
GTA					pP	pP	20 19 17.7	-3.1
GTA					pmax	pmax		
	comp=Z,2.0nm,1.5s							
CMAR	**Chiang Mai Arr**	**44.50**	**277**		P	**P**	**20 18 59.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**44.50**	**277**		P	**P**	**20 18 59.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=64,slow=8.7,SNR=8.4							
CMAR					LR	LR	20 34 57.1	
	comp=Z,10nm,21.8s,baz=175,slow=32							
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**44.66**	**196**		P	**P**	**20 18 59.9**	**-1.0**
ASAR	**Alice Springs**	**44.66**	**196**		P	**P**	**20 19 00.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=15,slow=8.1,SNR=25							
ASAR					S	**S**	**20 25 28.9**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=18,slow=18,SNR=4.1							
	comp=Z,1.5nm,0.6s							
MYKOM	**Kota Tinggi**	**44.97**	**252**			**P**	**20 19 05.1**	**+1.6**
DZM	**Mont Dzumac**	**45.97**	**153**	*e*LR		LR	20 32 07.8	
	comp=Z,112nm,25.8s							
KULM	**Kulim**	**46.47**	**258**			**P**	**20 19 16.0**	**+0.7**
GOMU	**GeErMu**	**47.70**	**301**		P	**P**	**20 19 24.4**	**-0.7**
GOMU					pmax	pmax		
	comp=Z,5.0nm,0.8s							
SHL	**Shillong**	**50.14**	**287**		P	**P**	**20 19 43.4**	**-0.3**
SHL					IAmb	IAmb	20 20 15.5	
	comp=Z,3.7nm,0.7s							
LSA	**Lhasa**	**50.55**	**293**		P	**P**	**20 19 45.3**	**-1.8**
LSA					IAmb	IAmb	20 19 51.0	
	comp=Z,4.8nm,0.6s							
LSA	**Lhasa**	**50.55**	**293**		P	**P**	**20 19 44.4**	**-2.6**
LSA					pmax	pmax		
	comp=Z,2.0nm,0.5s							
GSI	**Gunungsitoli**	**50.85**	**255**		P	**P**	**20 19 49.8**	**+0.9**
STKA	**Stephens Creek**	**51.41**	**185**		P	**P**	**20 19 51.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=5.3,slow=11,SNR=4.9							
	comp=Z,1.6nm,0.8s							
EVN	**Everest**	**54.45**	**291**		P	**P**	**20 20 17.7**	**+1.6**
EVN					IAmb	IAmb	20 20 44.0	
	comp=Z,3.7nm,0.8s							
ZAA0	**Zalesovo Array**	**57.52**	**322**			**P**	**20 20 36.0**	**-0.7**
ZAA0					IAmb	IAmb	20 20 40.9	
	comp=Z,4.0nm,0.8s							
ZALV	**Zalesovo Beam**	**57.52**	**322**			**P**	**20 20 35.4**	**-1.3**
ZALV	**Zalesovo Beam**	**57.52**	**322**		P	**P**	**20 20 36.2**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=98,slow=7.0,SNR=16							
ZALV					LR	LR	20 44 13.6	
	comp=Z,27nm,22.0s,baz=76,slow=35							
	comp=Z,3.1nm,0.6s							
MKAR	**Makanchi Array**	**58.10**	**313**		P	**P**	**20 20 41.2**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=83,slow=8.7,SNR=35							
	comp=Z,3.5nm,0.6s							
BPAW	**Bear Paw Mtn.**	**60.74**	**27**		P	**P**	**20 21 01.3**	**+2.5**
BPAW					IAmb	IAmb	20 21 29.9	
	comp=Z,4.8nm,0.8s							
KURK	**Kurchatov**	**60.84**	**318**			**P**	**20 20 58.7**	**-1.0**
KURK					IAmb	IAmb	20 21 05.3	
	comp=Z,4.8nm,0.8s							
TRF	**Thorofare Moun**	**60.87**	**27**			**P**	**20 20 58.4**	**-1.4**
KURBB	**Kurchatov Arra**	**60.89**	**318**		P	**P**	**20 20 59.7**	**-0.3**
	comp=Z,4.3nm,0.4s,baz=94,slow=7.5,SNR=26							
	comp=Z,4.3nm,0.4s							
ILAR	**Eielson Array**	**62.63**	**26**		P	**P**	**20 21 12.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=261,slow=4.7,SNR=8.6							
ILAR					LR	LR	20 47 08.4	
	comp=Z,16nm,21.0s,baz=311,slow=35							
	comp=Z,0.8nm,0.7s							
KSH	**Kashi**	**62.66**	**305**		P	**P**	**20 21 16.8**	**+4.5**
KSH					pmax	pmax		
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**63.59**	**309**		LR	LR	20 50 55.0	
	comp=Z,25nm,18.1s,baz=128,slow=38							
NIL	**Nilore**	**65.43**	**299**		P	**P**	**20 21 29.4**	**-0.9**
NIL					IAmb	IAmb	20 21 34.8	
	comp=Z,6.5nm,0.8s							
BVAR	**Borovoye Array**	**66.01**	**320**		P	**P**	**20 21 33.6**	**-0.2**
	comp=Z,8.0nm,0.5s,baz=101,slow=7.1,SNR=25							
	comp=Z,8.0nm,0.5s							
KK31	**Karatay Array**	**66.48**	**309**			**P**	**20 21 36.7**	**-0.3**
KBL	**Kabul**	**68.74**	**300**		P	**P**	**20 21 50.1**	**-1.5**
KBL					IAmb	IAmb	20 21 55.7	
	comp=Z,7.5nm,1.0s							
AB31	**Akbulak array**	**72.93**	**317**		IAmb	IAmb	20 22 17.0	
	comp=Z,4.9nm,0.8s							
ABKAR	**Akbulak array**	**72.93**	**317**			**P**	**20 22 16.1**	**-0.3**
PPT2	**Papeete2**	**73.17**	**116**	*e*LR		LR	20 44 40.3	
	comp=Z,70nm,24.2s							
TBI	**Tubuai**	**75.97**	**121**	*e*LR		LR	20 45 58.7	
	comp=Z,623nm,35.0s							
YKA	**Yellowknife Ar**	**76.97**	**28**		LR	LR	20 55 22.7	
	comp=Z,18nm,20.9s,baz=326,slow=34							
WELL	**Weller Preserv**	**80.44**	**53**		P	**P**	**20 22 55.5**	**-3.4**
ARCES	**ARCESS Array B**	**81.72**	**342**		P	**P**	**20 23 06.6**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=61,slow=5.3,SNR=7.0							
ARCES					LR	LR	21 06 01.7	
	comp=Z,13nm,18.8s,baz=358,slow=40							
	comp=Z,2.2nm,0.6s							
NVAR	**Mina Array Bea**	**82.25**	**52**		P	**P**	**20 23 10.7**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=283,slow=5.1,SNR=8.7							
	comp=Z,0.4nm,0.4s							
KBZ	**Khabaz**	**85.77**	**315**		P	**P**	**20 23 26.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=78,slow=9.9,SNR=5.4							
	comp=Z,1.2nm,0.7s							
FINES	**FINESS Array B**	**86.20**	**335**		P	**P**	**20 23 26.8**	**-1.1**
	comp=Z,4.2nm,0.4s,baz=72,slow=4.7,SNR=23							
FINES					LR	LR	21 05 22.9	
	comp=Z,45nm,18.8s,baz=316,slow=38							
	comp=Z,4.2nm,0.4s							
PDAR	**Pinedale Array**	**86.88**	**46**		P	**P**	**20 23 34.5**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=286,slow=5.3,SNR=2.7							
	comp=Z,0.3nm,0.7s							
AKASG	**Malin Array Be**	**90.76**	**325**		LR	LR	21 07 17.2	
	comp=Z,31nm,18.2s,baz=58,slow=37							
NOA	**NORSAR Array B**	**91.83**	**340**		P	**P**	**20 23 56.9**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=47,slow=4.5,SNR=1.7							
NOA					LR	LR	21 08 38.8	
	comp=Z,8.3nm,20.3s,baz=25,slow=38							
	comp=Z,0.3nm,0.5s							
BRTR	**Keskin Array B**	**93.74**	**314**		P	**P**	**20 24 02.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=93,slow=5.1,SNR=5.2							
	comp=Z,0.8nm,0.7s							
VRAC	**Vranov**	**98.05**	**329**		LR	LR	21 10 37.3	
	comp=Z,39nm,18.4s,baz=328,slow=36							
BELA	**Belgrano 2**	**121.72**	**180**		PKPdf	**PKiKP**	**20 29 40.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**132.17**	**310**		PKP	**PKPdf**	**20 30 01.5**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=15,slow=3.5,SNR=2.4							
PLCA	**Paso Flores**	**142.34**	**132**		PKP	**PKPdf**	**20 30 20.1**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=297,slow=4.5,SNR=2.8							
LPAZ	**La Paz**	**147.28**	**90**		PKPbc	**PKPdf**	**20 30 30.1**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=252,slow=3.2,SNR=4.4							

*SOME **02** 20:25:29.9, 42°.63N×73°.42E, h0km*
*NNC **02** 20:25:31.5±1.4, 42°.68N×73°.46E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=18.7km s-min=4.5km az=178.0*

ISC 02 20:25:32.2±1.2, 42°.8N±0°.2×73°.40E±0°.05, h14km, n6, σ1§10/12, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.13**	**270**		P	**Pg**	**20 25 34.9**	**-0.9**
	20nm,0.2s							
MRKS					S	**Sg**	**20 25 38.2**	**-0.1**
	74nm,0.2s							
MRKS	**Merke**	**0.13**	**270**	*e*P		**Pg**	**20 25 34.9**	**-0.9**
	20nm,0.2s							
MRKS				*e*S		**Sg**	**20 25 38.2**	**-0.1**
	74nm,0.2s							
SGDS	**Sogindy**	**1.14**	**51**		P	**Pn**	**20 25 52.8**	**-1.1**
	1.8nm,0.2s							
SGDS					S	**Sb**	**20 26 09.5**	**+0.9**
	3.2nm,0.1s							
KST	**Kastek**	**1.91**	**80**		P	**Pn**	**20 26 05.1**	**+0.7**
	0.7nm,0.3s							
KST					S	**Sb**	**20 26 30.6**	**+0.1**
	3.2nm,0.4s							
KST	**Kastek**	**1.91**	**80**	*e*P		**Pn**	**20 26 05.1**	**+0.7**
	0.7nm,0.3s							
KST				*e*S		**Sb**	**20 26 30.6**	**+0.1**

comp=Z,0.9nm,0.9s,baz=234,slow=7.1,SNR=6.2
ASAR LR LR 20 56 47.6
comp=Z,45nm,19.9s,baz=224,slow=32
comp=Z,0.9nm,0.9s
LBTB Lobatse 47.99 272 LR LR 20 56 02.3
comp=Z,38nm,19.5s,baz=130,slow=31
VNDA Vanda 48.26 163 P **P 20 39 39.6 -0.9**
VNDA Vanda 48.26 163 P **P 20 39 40.0 -0.5**
comp=Z,0.3nm,0.6s,baz=284,slow=6.1,SNR=4.4
VNDA LR LR 20 58 14.0
comp=Z,83nm,19.2s,baz=268,slow=34
comp=Z,0.3nm,0.6s
PALK Pallekele 48.27 0 LR LR 20 56 08.2
comp=Z,31nm,20.3s,baz=168,slow=31
MATP Matopo 48.47 279 LR LR 20 56 24.8
comp=Z,60nm,20.1s,baz=336,slow=32
BATI Baumata 48.90 63 LR LR 20 57 54.4
comp=Z,73nm,18.2s,baz=246,slow=33
QSPA South Pole Qui 48.92 180 P **P 20 39 47.1 +1.2**
QSPA IAmb IAmb 20 39 50.8
comp=Z,7.8nm,1.2s
QSPA South Pole Qui 48.92 180 P **P 20 39 47.0 +1.2**
comp=Z,4.9nm,1.0s,baz=273,slow=6.1,SNR=9.1
QSPA LR LR 20 58 43.1
comp=Z,124nm,19.2s,baz=277,slow=34
comp=Z,4.9nm,1.0s
STKA Stephens Creek 49.04 100 P **P 20 39 48.2 +1.2**
STKA Stephens Creek 49.04 100 P **P 20 39 48.1 +1.0**
comp=Z,2.2nm,1.1s,baz=279,slow=7.4,SNR=4.7
STKA LR LR 20 57 43.8
comp=Z,26nm,18.5s,baz=207,slow=33
comp=Z,2.2nm,1.1s
WRA Warramunga Arr 50.09 82 P **P 20 39 55.3 +0.1**
comp=Z,1.1nm,0.8s,baz=231,slow=7.7,SNR=9.0
comp=Z,1.1nm,0.8s
WB2 Warramunga Arr 50.10 82 P **P 20 39 54.3 -0.9**
WB2 IAmb IAmb 20 40 02.0
comp=Z,3.0nm,0.9s
WR8 Warramunga Arr 50.20 82 P **P 20 39 54.7 -1.4**
WB0 Warramunga Arr 50.24 82 P **P 20 39 55.9 -0.4**
WB0 IAmb IAmb 20 40 13.4
comp=Z,3.9nm,1.1s
LKGWB Lokgwabe 51.80 270 P P 20 40 04.9 -3.3
BELA Belgrano 2 54.97 194 P **P 20 40 30.5 -0.1**
BELA IAmb IAmb 20 40 37.1
comp=Z,4.6nm,0.9s
CMAR Chiang Mai Arr 61.80 20 P **P 20 41 18.1 -0.9**
CMAR Chiang Mai Arr 61.80 20 P **P 20 41 19.2 +0.3**
comp=Z,0.8nm,0.5s,baz=210,slow=5.7,SNR=8.1
CMAR LR LR 21 03 58.6
comp=Z,25nm,20.2s,baz=185,slow=32
comp=Z,0.8nm,0.5s
BRDH Bariadhala 64.42 11 LR LR 21 08 27.8
comp=Z,35nm,18.2s,baz=157,slow=35
PMSA Palmer Station 70.73 195 LR LR 21 13 16.8
comp=Z,51nm,18.6s,baz=142,slow=36
KK31 Karatay Array 84.44 353 P **P 20 43 31.8 -0.5**
KK31 IAmb IAmb 20 43 40.1
comp=Z,3.3nm,1.1s
KKAR Karatay Array 84.44 353 P **P 20 43 32.2 -0.1**
MKAR Makanchi Array 87.66 1 P **P 20 43 48.0 -0.1**
MKAR Makanchi Array 87.66 1 LR LR 21 20 44.6
comp=Z,25nm,18.1s,baz=210,slow=34
DBIC Dimbokro 90.89 278 LR LR 21 18 57.5
comp=Z,31nm,18.8s,baz=178,slow=32

*ZUR **02** 20:42:30.6, 45°.89N×7°.03E, h2km, MLh0.6/9, Error ellipse: s-maj=1561.0km s-min=547.5km az=270.0*
STR 02 20:42:30.8±0.4, 46°N±2°×°±°, h5km, MLv1.4/10, 5C-2D, LOCSAT earthModelID alpes_taup-2.11 preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFERR	**Prayon, Val Fe**	**0.09**	**36**	⇓Pg	Pg	20 42 32.6	-0.2
MFERR				Sg	Sg	20 42 33.8	-0.3
REMY	**Saint-Rhmy-en**	**0.09**	**119**	⇑Pg	Pg	20 42 33.1	+0.2
REMY	**Saint-Rhmy-en**	**0.09**	**119**	Pg	Pg	20 42 33.1	+0.2
REMY				Sg	Sg	20 42 34.9	+0.5
SEMOS	**Emosson Stauma**	**0.20**	**338**	⇑Pg	Pg	20 42 34.7	-0.1
SALAN	**Lac Salanfe**	**0.27**	**350**	⇑Pg	Pg	20 42 36.0	0.0
SALAN				Sg	Sg	20 42 39.5	-0.1
OGSI	**Sixt**	**0.27**	**313**	Pg	Pg	20 42 35.7	-0.4
OGSI	**Sixt**	**0.27**	**313**	Pg	Pg	20 42 35.7	-0.4
FULLY	**Reservoir Maze**	**0.28**	**14**	⇑Pg	Pg	20 42 36.3	0.0
FULLY				Sg	Sg	20 42 40.0	-0.1
DIX	**Grande Dixence**	**0.32**	**52**	Pg	Pg	20 42 37.3	+0.1
DIX				Sg	Sg	20 42 41.5	0.0
DIX	**Grande Dixence**	**0.32**	**52**	Pg	Pg	20 42 37.2	+0.1
DIX				Sg	Sg	20 42 41.6	+0.1
RAW4	**Former Reservo**	**0.34**	**16**	Sg	Sg	20 42 42.0	+0.1
ILLEZ	**Chalet Vouargn**	**0.34**	**348**	Pg	Pg	20 42 37.4	-0.1
RSL	**Roselend**	**0.35**	**236**	⇑Pg	Pg	20 42 37.6	0.0
RSL				Sg	Sg	20 42 42.0	-0.2
RSL	**Roselend**	**0.35**	**236**	Pg	Pg	20 42 37.5	0.0
RSL				Sg	Sg	20 42 42.0	-0.2
GRYON	**Gryon**	**0.37**	**8**	Pg	Pg	20 42 38.0	0.0
GRYON				Sg	Sg	20 42 42.9	-0.1
LSD	**Lago del Serru**	**0.43**	**171**	⇓Pg	Pg	20 42 39.2	+0.1
LSD				Sg	Sg	20 42 44.8	+0.1
LSD	**Lago del Serru**	**0.43**	**171**	Pg	Pg	20 42 39.2	+0.1
LSD				Sg	Sg	20 42 44.9	+0.2
AIGLE	**Aigle**	**0.46**	**353**	Pg	Pg	20 42 39.7	0.0
AIGLE				Sg	Sg	20 42 45.8	+0.1
CIRO	**Champorcher**	**0.46**	**127**	Pg	Pg	20 42 39.6	-0.2
CIRO				Sg	Sg	20 42 46.4	+0.6
SATI	**Passo dei Sala**	**0.58**	**90**	Pg	Pg	20 42 41.4	-0.6
SATI				Sg	Sg	20 42 49.6	+0.1
TRAV	**Traversella**	**0.62**	**126**	Pg	Pg	20 42 42.3	-0.3
RSP	**Reno Superiore**	**0.75**	**168**	Pg	Pg	20 42 45.2	0.0
RSP				Sg	Sg	20 42 54.9	0.0
OG35	**Corcelles**	**1.04**	**280**	Pn	Pg	20 42 50.8	+0.1
OG35				Sn	Sn	20 43 08.0	+1.0
BHB	**Bricherasio**	**1.05**	**171**	Sg	Sb	20 43 05.1	-0.5
BRANT	**Les Verrieres**	**1.13**	**340**	Pg	Pn	20 42 54.2	+0.9

ROM 02 20:42:51.4±0.1, 45°.969N±0°.009×7°.50E±0°.01, h7km, ML1.0/4, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.8km az=8.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.13**	**330**	⇑P	Pg	20 42 54.8	+0.5
DIX				S	Sg	20 42 56.4	+0.1
DIX				AML	AML		
	comp=E,186μm,1.5s						
DIX				AML	AML		
	comp=N,170μm,0.3s						
DIX				AML	AML		
	comp=E,186μm,0.5s						
SATI	**Passo dei Sala**	**0.27**	**110**	P	Pg	20 42 57.8	+0.9
SATI				S	Sg	20 43 01.7	+1.1
SATI				AML	AML		
	comp=E,21μm,1.5s						
SATI				AML	AML		
	comp=E,21μm,0.5s						
SATI				AML	AML		
	comp=N,30μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.27**	**241**	P	Pb	20 42 57.9	-0.9
REMY				S	Sg	20 43 01.6	+1.0
MRGE	**Morge**	**0.37**	**237**	⇓P	Pb	20 42 59.6	-0.7
MRGE				S	Sb	20 43 05.7	-0.7

*RSPR **02** 21:04:43.8, 19°.12N×67°.21W, h10km±31km, MD2.8/7*
*SDD **02** 21:04:43.3±2.0, 19°.10N×67°.18W, h16km±8km, MD2.6, ML1.7, MW2.7*
ISC 02 21:04:41.8±2.2, 19°.12N±0°.10×67°.19W±0°.06, h18km±7km, n19, σ0°.85/25, 15C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.65**	**173**	⇓eP	**Pg**	**21 04 55.4**	**+0.8**
AGPR	**Aguadilla, PR**	**0.65**	**173**	eS	**Sb**	**21 05 05.3**	**+2.0**
AGPR	**Aguadilla, PR**	**0.65**	**173**	⇑iP	**Pg**	**21 04 54.9**	**+0.2**
AGPR				⇑iS	**Sg**	**21 05 03.1**	**-0.3**
AGPR				IAML		21 05 06.0	
	comp=N,48nm,1.1s						
IDE	**Isla Desecheo**	**0.77**	**200**	⇑eP	**Pg**	**21 04 57.0**	**0.0**
IDE	**Isla Desecheo**	**0.77**	**200**	eS	**Sb**	**21 05 08.6**	**+1.7**
AOPR	**Arecibo Observ**	**0.87**	**151**	⇑iP	**Pb**	**21 04 58.8**	**+0.4**
AOPR				⇑iS	**Sb**	**21 05 09.7**	**-0.1**
AOPR				IAML		21 05 19.8	
	comp=N,32nm,0.7s						
LSP	**Las Mesas**	**0.94**	**174**	⇑eP	**Pb**	**21 05 00.3**	**+0.7**
LSP	**Las Mesas**	**0.94**	**174**	eS	**Sb**	**21 05 12.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	⇓eP	**Pb**	**21 05 02.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	eS	**Sb**	**21 05 16.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	⇑iP	**Pb**	**21 05 00.3**	**-2.1**
CRPR				⇑iS	**Sb**	**21 05 15.5**	**-1.0**
CRPR				IAML		21 05 52.0	
	comp=N,35nm,2.8s						
ECPR	**Experimental S**	**1.12**	**135**	eS	**Sb**	**21 05 16.8**	**-0.1**
MLPR	**Magueyes Islan**	**1.15**	**173**	⇓eP	**Pn**	**21 05 02.5**	**-0.6**
MLPR	**Magueyes Islan**	**1.15**	**173**	eS	**Sb**	**21 05 18.1**	**+0.3**
MLPR	**Magueyes Islan**	**1.15**	**173**	⇑iP	**Pn**	**21 05 03.0**	**-0.1**
MLPR				⇑iS	**Sb**	**21 05 17.5**	**-0.3**
MLPR				IAML		21 05 22.1	
	comp=N,5.5nm,1.5s						
CELP	**Cerrillos**	**1.19**	**151**	⇑eP	**Pn**	**21 05 03.2**	**-0.4**
CELP	**Cerrillos**	**1.19**	**151**	⇑iP	**Pn**	**21 05 03.1**	**-0.5**
CELP				⇑iS	**Sb**	**21 05 19.4**	**+0.5**
CELP				IAML		21 05 20.9	
	comp=N,21nm,0.4s						
PDPR	**Patillas Dam,**	**1.56**	**134**	eS	**Sn**	**21 05 29.0**	**+0.6**
HATOM	**Hato Mayor del**	**2.10**	**261**	⇑iP	**Pn**	**21 05 16.3**	**+0.2**
HATOM				⇑iS	**Sn**	**21 05 41.5**	**-0.3**
HATOM				IAML		21 05 50.2	
	comp=N,3.8nm,0.4s						

IDC 02 21:22:36.3±3.0, 25°.93N×142°.53E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=127.8km s-min=31.6km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**23.27**	**100**	T	T	21 51 23.4	
	baz=290,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**23.27**	**100**	T	T	21 51 23.5	
	baz=290,slow=74,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**23.29**	**100**	T	T	21 51 24.7	
	baz=290,slow=74,SNR=16						
WRA	**Warramunga Arr**	**46.29**	**191**	P	P	21 31 03.7	-0.1
	0.3nm,0.4s,baz=9.3,slow=8.4,SNR=5.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**51.46**	**310**	P	P	21 31 43.7	+0.3
	0.3nm,0.7s,baz=95,slow=9.3,SNR=4.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**54.08**	**315**	P	P	21 32 02.8	+0.1
	0.2nm,0.3s,baz=90,slow=7.9,SNR=2.2						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**79.13**	**334**	P	P	21 34 42.1	-0.4
	4.6nm,1.1s,baz=67,slow=5.1,SNR=5.8						
	4.6nm,1.1s						

*IDC **02** 21:26:04.4±2.8, 57°.40N×34°.39W, h0km, mb3.6/6, mbtmp3.6/6, MS3.5/4, Error ellipse: s-maj=84.4km s-min=28.3km az=2.0*
ISC 02 21:26:05.7±2.3, 57°.4N±0°.5×34°.4W±0°.2, h10km, n10, σ0°.48/6, mb3.7/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**17.78**	**305**	LR	LR	21 35 45.4	
	comp=Z,101nm,18.2s,baz=266,slow=33						
SCHQ	**Schefferville**	**18.18**	**276**	LR	LR	21 36 25.9	
	comp=Z,853nm,19.6s,baz=83,slow=34						
VRAC	**Vranov**	**30.82**	**83**	LR	LR	21 43 16.0	
	comp=Z,29nm,18.8s,baz=318,slow=34						
AKASG	**Malin Array Be**	**36.69**	**72**	LR	LR	21 47 08.1	
	comp=Z,31nm,18.2s,baz=282,slow=34						
BRTR	**Keskin Array B**	**46.26**	**82**	P	**P**	**21 34 31.2**	**0.0**
	0.4nm,0.6s,baz=319,slow=5.7,SNR=2.4						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**47.87**	**286**	P	**P**	**21 34 43.9**	**0.0**
	0.3nm,0.8s,baz=26,slow=8.0,SNR=2.3						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**47.88**	**328**	P	**P**	**21 34 43.3**	**0.0**
	0.3nm,0.7s,baz=31,slow=7.3,SNR=5.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**54.09**	**46**	P	**P**	**21 35 30.6**	**+0.4**
	1.1nm,0.7s,baz=324,slow=7.1,SNR=4.2						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**59.09**	**43**	P	**P**	**21 36 06.2**	**+0.5**
	0.7nm,0.9s,baz=329,slow=8.1,SNR=5.7						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**63.66**	**43**	P	**P**	**21 36 36.2**	**-0.5**
	1.0nm,1.0s,baz=336,slow=5.2,SNR=1.6						
	1.0nm,1.0s						

*DJA **02** 21:37:46.4±1.0, 6°N±6°×9°3E±1°.1, h10km, M4.7/10, mb4.6/10, mB5.2/4, MLv4.8/9, Mw(mB)4.7/4*
*NEIC **02** 21:38:19.8±1.0, 5°.18N±0°.07×94°.81E±0°.06, h65km±8km, mb4.6/30, Error ellipse: s-maj=10.2km s-min=8.3km az=173.0*
*BKK **02** 21:38:20.5±3.8, 5°N±23°×9°5E±2°3, h10km, M4.4/11, mb4.4/6, ML4.4/10, MLv4.4/11*
*IDC **02** 21:38:21.7±3.8, 5°.26N×94°.84E, h82km±34km, mb3.8/17, mbtmp4.1/19, MS3.0/4, Error ellipse: s-maj=34.1km s-min=14.7km az=56.0*
ISC 02 21:38:17.3±0.5, 5°.14N±0°.06×94°.70E±0°.05, h43km, n93, σ1°54/94, mb4.4/39, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.91**	**117**	P	**Pn**	**21 38 49.0**	**+1.6**
CMBY	**CAMPBELL BAY**	**2.01**	**338**	eP	**Pn**	**21 38 50.4**	**+1.7**
CMBY				eS	**Sn**	**21 39 16.0**	**+3.5**
CMBY				IAML		21 39 19.2	
	comp=E,1μm,0.7s						
CMBY				IAML		21 39 23.2	
	comp=N,1μm,0.3s						
LHMI	**Lhok Sumawe**	**2.25**	**88**		**Pn**	**21 38 53.4**	**+1.5**
LHMI				Sn	**Sn**	**21 39 19.9**	**+1.5**
LHMI	**Lhok Sumawe**	**2.25**	**88**	P	**Pn**	**21 38 53.8**	**+1.9**
SNSI	**Sinabang, Aceh**	**3.17**	**149**	P	**Pn**	**21 39 05.4**	**+0.8**
	comp=N,0.7nmcomp=N,110nm,0.7s						
KCSI	**Kotacane, Aceh**	**3.46**	**118**	P	**Pn**	**21 39 11.6**	**+2.9**
	comp=N,0.4nmcomp=N,893nmcomp=N,63nm,0.8s						
PKDT	**Phuket**	**4.53**	**53**	P	**Pn**	**21 39 25.0**	**+1.6**
GSI	**Gunungsitoli**	**4.78**	**143**	Pn	**Pn**	**21 39 27.9**	**+1.1**
GSI	**Gunungsitoli**	**4.78**	**143**	P	**Pn**	**21 39 27.6**	**+0.8**
	comp=N,0.2nmcomp=N,39nm,1.3s						
PSI	**Prapat**	**4.82**	**119**	P	**Pn**	**21 39 31.5**	**+4.0**
	comp=N,10.0nm,0.3s,baz=331,slow=16,SNR=8.3						
PSI				S	**Sn**	**21 40 22.6**	**+0.6**
	comp=N,11nm,0.5s,baz=175,slow=11,SNR=4.5						
PSI				LR	LR	21 41 51.5	
	comp=N,70nm,19.3s,baz=271,slow=44						
RPSI	**Rantau Prapat**	**4.87**	**120**		**Pn**	**21 39 29.8**	**+1.7**
RPSI				Sn	**Sn**	**21 40 22.3**	**-0.8**
RPSI	**Rantau Prapat**	**4.87**	**120**		**Pn**	**21 39 31.5**	**+3.4**
RNTT	**Ranong**	**5.65**	**41**	P	**Pn**	**21 39 40.5**	**+1.8**
	comp=N,0.4nmcomp=N,0.2nmcomp=N,44nm,0.7s						
KULM	**Kulim**	**5.93**	**88**		**Pn**	**21 39 43.4**	**+0.7**
PBSI	**Pulau Batu**	**6.28**	**145**	P	**Pn**	**21 39 47.6**	**+0.2**
	comp=N,101nm,1.0s						
SURA	**Surathani**	**6.32**	**50**	P	**Pn**	**21 39 49.9**	**+1.9**
IPM	**Ipoh**	**6.34**	**96**		**Pn**	**21 39 49.0**	**+0.7**
MNSI	**Mandailing Nat**	**6.51**	**131**	P	**Pn**	**21 39 53.0**	**+2.4**
PBA	**Port Blair**	**6.75**	**344**	Pn	**Pn**	**21 39 55.8**	**+1.9**
DGPR	**DIGLIPUR**	**8.17**	**348**	eP	**Pn**	**21 40 10.9**	**-2.4**
DGPR				eS	**Sn**	**21 41 38.3**	**-6.1**
DGPR				IAML		21 41 53.5	
	comp=N,876nm,0.3s						
DGPR				IAML		21 41 56.7	
	comp=E,881nm,0.2s						
CM31	**Chiang Mai Arr**	**13.87**	**17**		**Pn**	**21 41 33.3**	**+1.9**
CMAR	**Chiang Mai Arr**	**13.87**	**17**	P	**Pn**	**21 41 34.6**	**+3.2**
	comp=E,1.9nm,0.6s,baz=213,slow=12,SNR=14						
CMAR				LR	LR	21 46 31.3	
	comp=E,28nm,18.4s,baz=205,slow=36						
PALK	**Pallekele**	**14.07**	**279**	Pn	**Pn**	**21 41 37.0**	**+2.8**
PALK	**Pallekele**	**14.07**	**279**	LR	LR	21 46 25.7	
	comp=E,67nm,19.4s,baz=121,slow=34						
CHTO	**Chiang Mai**	**14.21**	**17**		**Pn**	**21 41 37.3**	**+1.4**
SALM	**Salem**	**17.55**	**293**	IAmb	IAmb	21 41 50.2	
	comp=Z,33nm,1.7s						
SALM				eP	**Pn**	**21 42 18.1**	**-0.7**
VJD	**Vijayawada**	**17.82**	**310**	IAmb	IAmb	21 41 59.7	
	comp=Z,18nm,1.3s						
VJD				eP	**Pn**	**21 42 21.2**	**-1.0**
VJD				eS	**Sn**	**21 45 41.8**	**+1.9**
PZH	**PanZhiHua**	**22.28**	**17**	P	**P**	**21 43 12.6**	**+1.5**
LSA	**Lhasa**	**24.66**	**353**		**P**	**21 43 34.3**	**-0.3**
LSA				IAmb	IAmb	21 43 35.7	
	comp=Z,5.7nm,0.5s						
H08S3	**Diego Garcia H**	**25.53**	**240**	T	T	22 10 54.4	
	baz=60,slow=76,SNR=133						
H08S2	**Diego Garcia H**	**25.54**	**240**	T	T	22 10 41.1	
	baz=60,slow=76,SNR=67						
H08S1	**Diego Carcia H**	**25.55**	**240**	T	T	22 10 42.4	
	baz=50,slow=76,SNR=21						
LZH	**Lanzhou**	**31.93**	**14**	eP	**P**	**21 44 43.1**	**+4.0**
LZH				pP	sP	21 45 00.4	+4.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**34.43**	**7**	P	**P**	**21 45 00.2**	**-0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NJ2	**Nanjing**	**35.04**	**37**	eP	**P**	**21 45 07.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HNS	**HongShan**	**36.95**	**27**	⇓P	**P**	**21 45 22.8**	**+0.5**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH	**Kashi**	**38.17**	**336**	P	**P**	**21 45 31.0**	**-1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**38.28**	**128**	P	**P**	**21 45 32.7**	**-1.1**
FAKI	**Fak Fak**	**38.36**	**101**	P	**P**	**21 45 33.2**	**-1.4**
HHC	**Hu-ho-hao-te**	**38.64**	**21**	eP	**P**	**21 45 37.2**	**+0.5**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,5.7s						
WMQ	**Urumqi**	**39.01**	**352**	eP	**P**	**21 45 41.2**	**+1.5**
TARG	**Taragay, Kyrgy**	**39.43**	**340**	P	**P**	**21 45 43.8**	**+0.2**
TARG				IAmb	IAmb	21 45 45.3	
	comp=Z,12nm,1.3s						
PRZ	**Przheval'sk**	**39.91**	**341**	P	**P**	**21 45 47.4**	**+0.1**
PRZ				IAmb	IAmb	21 46 00.0	
	comp=Z,27nm,1.4s						
DRK	**Karamyk**	**39.96**	**332**	P	**P**	**21 45 47.7**	**-0.2**
KDJ	**Kajisay**	**40.00**	**340**	P	**P**	**21 45 48.4**	**+0.3**
BOOM	**Boomskoye usch**	**40.75**	**339**	P	**P**	**21 45 54.0**	**-0.3**
BOOM				IAmb	IAmb	21 45 55.6	
	comp=Z,6.5nm,0.6s						
ARSB	**Arslanbob**	**40.93**	**335**		**P**	**21 45 55.9**	**+0.1**
ARSB				IAmb	IAmb	21 45 59.0	
	comp=Z,5.5nm,0.6s						
MKAR	**Makanchi Array**	**42.86**	**347**	P	**P**	**21 46 10.9**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=163,slow=8.0,SNR=24						
MKAR				PcP	**PcP**	**21 48 01.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=203,slow=5.5,SNR=1.3						
	comp=Z,1.4nm,0.5s						
KK31	**Karatay Array**	**43.44**	**334**	P	**P**	**21 46 15.6**	**-0.5**
KK31				IAmb	IAmb	21 46 16.6	
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	**43.44**	**334**	P	**P**	**21 46 15.7**	**-0.4**
SONM	**Songino Array**	**43.70**	**11**	P	**P**	**21 46 16.9**	**-1.3**
SONM	**Songino Array**	**43.70**	**11**	P	**P**	**21 46 17.1**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=192,slow=7.7,SNR=5.5						
SONM				PcP	**PcP**	**21 48 04.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=219,slow=3.7,SNR=3.2						
	comp=Z,1.2nm,0.6s						
KSRS	**Korea Array**	**44.20**	**39**	P	**P**	**21 46 20.5**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=220,slow=9.0,SNR=4.4						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**46.23**	**124**	P	**P**	**21 46 38.1**	**-0.5**
WB0				IAmb	IAmb	21 46 38.9	
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**46.26**	**124**	P	**P**	**21 46 36.9**	**-2.0**
WRA	**Warramunga Arr**	**46.26**	**124**	P	**P**	**21 46 38.5**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=303,slow=9.3,SNR=27						
	comp=Z,2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**47.31**	**346**	P	**P**	**21 46 46.5**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=168,slow=7.0,SNR=18						
	comp=Z,2.5nm,0.4s						
KURK	**Kurchatov**	**47.38**	**346**		**P**	**21 46 46.6**	**-0.4**
KURK				IAmb	IAmb	21 46 47.7	
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**47.77**	**128**	P	**P**	**21 46 49.9**	**-0.7**
ASAR	**Alice Springs**	**47.77**	**128**	P	**P**	**21 46 50.8**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=298,slow=7.9,SNR=17						
	comp=Z,1.2nm,0.4s						
AS31	**Alice Springs**	**47.77**	**128**	P	**P**	**21 46 49.7**	**-0.9**
ZAA0	**Zalesovo Array**	**49.32**	**352**		**P**	**21 47 01.1**	**-0.8**
ZAA0				IAmb	IAmb	21 47 02.0	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**49.32**	**352**		**P**	**21 47 01.2**	**-0.8**
ZALV	**Zalesovo Beam**	**49.32**	**352**	P	**P**	**21 47 01.3**	**-0.6**
	comp=Z,5.0nm,0.5s,baz=176,slow=7.3,SNR=37						
ZALV				PcP	**PcP**	**21 48 22.7**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=150,slow=6.0,SNR=1.5						
	comp=Z,5.0nm,0.5s						
BVAR	**Borovoye Array**	**51.74**	**342**	P	**P**	**21 47 19.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=156,slow=15,SNR=7.2						
	comp=Z,1.4nm,0.5s						
AB31	**Akbulak array**	**52.88**	**332**		**P**	**21 47 28.6**	**-0.2**
AB31				IAmb	IAmb	21 47 29.1	
	comp=Z,2.8nm,0.5s						
ABKAR	**Akbulak array**	**52.88**	**332**		**P**	**21 47 28.6**	**-0.2**
ARTI	**Arti**	**58.64**	**337**	P	**P**	**21 48 09.1**	**-0.9**
ARTI				IAmb	IAmb	21 48 11.0	
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**59.48**	**319**	P	**P**	**21 48 16.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=293,slow=10,SNR=2.4						
	comp=Z,0.8nm,0.7s						
H04N2	**CROZET ISLANDS**	**63.70**	**212**	T	T	22 58 24.3	
	baz=50,slow=75,SNR=27						
H04N1	**CROZET ISLANDS**	**63.70**	**212**	T	T	22 58 25.0	
	baz=50,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**63.71**	**212**	T	T	22 58 23.9	
	baz=50,slow=75,SNR=24						
BRTR	**Keskin Array B**	**64.63**	**312**	P	**P**	**21 48 50.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=149,slow=6.1,SNR=3.6						
	comp=Z,0.5nm,0.6s						
KARP	**Karpathos**	**68.78**	**306**	P	**P**	**21 49 17.1**	**-0.2**

az=64.0

ISC 02 21:42:59.0±0.5,5°57.5S±0°.06×80°.86W±0°.08,h35km,n61, σ1°16/57,mb4.2/14,MS3.2/4,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.90**	**122**		**Pn**	**21 43 44.3**	**+1.2**
	14nm,0.3s,baz=354,slow=12,SNR=57						
ATAH				Sn	**Sn**	**21 44 19.0**	**+1.9**
	29nm,0.3s,baz=276,slow=7.9,SNR=5.9						
ATAH				LR	LR	21 44 50.5	
	comp=Z,270nm,21.1s,baz=297,slow=38						
	61nm,0.4s						
COHC	**Cochancay**	**3.48**	**28**		**Pn**	**21 43 53.1**	**+2.4**
SLOR	**San Lorenzo -**	**5.36**	**26**		**Pn**	**21 44 17.6**	**+0.6**
OTAV	**Otavalo**	**6.25**	**23**	Pn	**Pn**	**21 44 30.3**	**+1.0**
NNA	**Nana**	**7.51**	**148**	Pn	**Pn**	**21 44 48.6**	**+2.5**
NNA	**Nana**	**7.51**	**148**	Pn	**Pn**	**21 44 46.9**	**+0.7**
	2.3nm,0.3s,baz=342,slow=8.9,SNR=6.0						
NNA				Sn	**Sn**	**21 46 09.5**	**-0.7**
	1.9nm,0.3s,baz=240,slow=16,SNR=1.3						
	8.5nm,0.4s						
CZSB	**Cruzeiro do Su**	**8.38**	**105**	Pn	**Pn**	**21 44 58.0**	**-0.1**
FLOC	**Florencia**	**8.81**	**36**	Pn	**Pn**	**21 45 04.7**	**+0.7**
PAYG	**Puerto Ayora**	**10.59**	**297**	Pn	**Pn**	**21 45 29.8**	**+1.3**
RUSC	**La Rusia**	**13.79**	**34**		**Pn**	**21 46 12.4**	**-0.1**
JTS	**Las Juntas de**	**16.28**	**345**	LR	LR	21 51 43.8	
	comp=Z,44nm,18.7s,baz=137,slow=32						
LPAZ	**La Paz**	**16.41**	**131**		**Pn**	**21 46 48.0**	**+0.6**
LPAZ	**La Paz**	**16.41**	**131**	Pn	**Pn**	**21 46 48.5**	**+1.1**
	0.1nm,0.3s,baz=308,slow=7.4,SNR=2.5						
LPAZ				LR	LR	21 53 38.3	
	comp=Z,65nm,20.2s,baz=278,slow=39						
	1.7nm,1.0s						
PB16	**IPOC Station P**	**16.85**	**140**	Pn	**Pn**	**21 46 53.3**	**+0.5**
SDV	**Santo Domingo**	**17.61**	**35**	LR	LR	21 55 00.6	
	comp=Z,84nm,18.9s,baz=230,slow=41						
ESPN	**Las Esperanzas**	**17.98**	**349**	P	**Pn**	**21 47 06.1**	**-0.2**
ESPN				IAmb	IAmb	21 47 16.7	
	comp=Z,21nm,0.5s						
BAUV	**El Baul**	**19.27**	**42**	P	**P**	**21 47 21.1**	**+0.3**
BAUV				IAmb	IAmb	21 47 51.2	
	comp=Z,19nm,1.0s						
PB09	**IPOC Station P**	**19.66**	**146**		**P**	**21 47 24.2**	**-1.1**
MACA	**Manacapuru-AM**	**20.26**	**84**	P	**P**	**21 47 31.6**	**-0.1**
MACA				IAmb	IAmb	21 47 46.3	
	comp=Z,22nm,0.7s						
MTO3	**Montecristo**	**21.56**	**337**	P	**P**	**21 47 44.7**	**-1.2**
MTO3				IAmb	IAmb	21 48 01.1	
	comp=Z,11nm,1.1s						
VILB	**Vilhena**	**21.66**	**111**		**P**	**21 47 46.1**	**-0.7**
VILB				IAmb	IAmb	21 48 11.2	
	comp=Z,17nm,0.8s						
BOAV	**Boa Vista**	**21.80**	**69**		**P**	**21 47 47.7**	**-0.7**
BOAV				IAmb	IAmb	21 47 58.3	
	comp=Z,13nm,1.3s						
SIV	**San Ignacio**	**22.00**	**120**	LR	LR	21 57 09.8	
	comp=Z,100nm,20.9s,baz=290,slow=39						
PCRV	**Puerto La Cruz**	**22.49**	**46**	LR	LR	21 57 41.1	
	comp=Z,85nm,18.9s,slow=39						
PTLB	**Pontes e Lacer**	**23.48**	**116**		**P**	**21 48 06.3**	**+0.5**
H03N2	**Juan Fernandez**	**27.79**	**177**	T	T	22 17 16.1	
	baz=357						
H03N1	**Juan Fernandez**	**27.79**	**177**	T	T	22 17 20.1	
	baz=357,slow=74						
H03N3	**Juan Fernandez**	**27.80**	**177**	T	T	22 17 21.1	
	baz=357,slow=74						
MDP	**Montagnes des**	**30.11**	**70**	LR	LR	22 01 59.0	
	comp=Z,102nm,18.9s,baz=246,slow=38						
CPUP	**Villa Florida**	**30.51**	**135**	LR	LR	22 04 23.6	
	comp=Z,14nm,18.0s,baz=165,slow=42						
PLCA	**Paso Flores**	**36.21**	**167**	P	**P**	**21 49 58.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=347,slow=11,SNR=3.9						
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**41.05**	**329**	P	**P**	**21 50 38.6**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=137,slow=10,SNR=2.4						
	comp=Z,0.1nm,0.4s						
VHRN	**Van Horn**	**42.89**	**329**		**P**	**21 50 55.3**	**+0.8**
SMWD	**Samnorwood**	**44.39**	**337**		**P**	**21 51 07.5**	**+1.1**
MSTX	**Muleshoe**	**44.46**	**334**		**P**	**21 51 07.7**	**+0.7**
MSTX				IAmb	IAmb	21 51 09.7	
	comp=Z,12nm,1.3s						
HWUT	**Hardware Ranch**	**54.69**	**332**	P	**P**	**21 52 25.2**	**+0.2**
HWUT				IAmb	IAmb	21 52 26.6	
	comp=Z,5.1nm,0.8s						
PD31	**Pinedale Array**	**54.71**	**334**	P	**P**	**21 52 25.3**	**+0.1**
PD31				IAmb	IAmb	21 52 26.4	
	comp=Z,4.3nm,1.2s						
PDAR	**Pinedale Array**	**54.71**	**334**	P	**P**	**21 52 25.1**	**-0.1**
PDAR	**Pinedale Array**	**54.71**	**334**	P	**P**	**21 52 25.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=132,slow=8.6,SNR=8.3						
PDAR				pP	**pP**	**21 52 35.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.1,SNR=5.2						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**55.88**	**325**	P	**P**	**21 52 34.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=128,slow=5.6,SNR=7.4						
NVAR				pP	**pP**	**21 52 46.0**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=116,slow=10,SNR=3.5						
	comp=Z,1.4nm,0.8s						
YHL	**Hebgen Lake**	**57.09**	**335**		**P**	**21 52 43.6**	**+1.4**
YHL				IAmb	IAmb	21 52 44.8	
	comp=Z,5.3nm,0.8s						
HLID	**Hailey**	**57.54**	**332**	P	**P**	**21 52 46.1**	**+0.8**
HLID				IAmb	IAmb	21 52 47.4	
	comp=Z,3.6nm,0.8s						
MFID	**Camas Ranch**	**58.11**	**331**	P	**P**	**21 52 50.5**	**+1.3**
K05A	**Summer Lake**	**60.24**	**327**	P	**P**	**21 53 05.3**	**+1.2**
DBIC	**Dimbokro**	**76.82**	**82**	P	**P**	**21 54 47.3**	**-0.8**
ESDC	**Sonseca Array**	**85.52**	**49**	P	**P**	**21 55 23.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=289,slow=3.9,SNR=2.7						
ESDC				pP	**pP**	**21 55 35.7**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=243,slow=4.2,SNR=3.1						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.04**	**76**	P	**P**	**21 55 25.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**84.04**	**76**	P	**P**	**21 55 26.3**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=293,slow=5.2,SNR=4.6						
TORD				pP	**pP**	**21 55 38.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=278,slow=3.1,SNR=1.9						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**84.52**	**180**	P	**P**	**21 55 29.1**	**+0.8**
QSPA				IAmb	IAmb	21 55 30.1	
	comp=Z,4.2nm,0.9s						
QSPA	**South Pole Qui**	**84.52**	**180**	P	**P**	**21 55 29.1**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=162,slow=2.1,SNR=15						
	comp=Z,3.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**87.59**	**34**	P	**P**	**21 55 42.3**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=243,slow=4.5,SNR=1.4						
EKA				pP	**pP**	**21 55 53.7**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=238,slow=7.8,SNR=2.3						
	comp=Z,0.5nm,0.6s						
H11N3	**WAKE ISLAND Hyl**	**12.77**	**289**	T	T	00 03 53.9	
	baz=88,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**12.78**	**289**	T	T	00 03 56.2	
	baz=88,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**12.79**	**289**	T	T	00 03 57.3	
	baz=88,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**13.01**	**288**	T	T	00 04 13.5	
	baz=83,slow=73,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**13.01**	**288**	T	T	00 04 09.4	
	baz=83,slow=73,SNR=24						
H11S3	**WAKE ISLAND Hyl**	**13.03**	**288**	T	T	00 04 07.4	
	baz=83,slow=73,SNR=11						
ZALV	**Zalesovo Beam**	**130.38**	**11**	PKP	**PKPdf**	**22 02 04.8**	**-1.0**
	comp=Z,0.2nm,0.2s,baz=326,slow=2.1,SNR=1.7						
ZALV				pPKP	**pPKPdf**	**22 02 16.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=336,slow=3.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**131.90**	**18**	PKP	**PKPdf**	**22 02 09.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=288,slow=3.2,SNR=2.0						
KURBB				pP	**pPKPdf**	**22 02 20.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=307,slow=3.6,SNR=1.9						
ASAR	**Alice Springs**	**135.33**	**228**	PKP	**PKPdf**	**22 02 13.7**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=99,slow=2.0,SNR=4.8						
ASAR				pPKP	**pPKPdf**	**22 02 24.5**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=101,slow=0.9,SNR=2.5						
WRA	**Warramunga Arr**	**137.09**	**233**	PKP	**PKPdf**	**22 02 18.1**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=115,slow=2.1,SNR=5.9						
WRA				pPKP	**pPKPdf**	**22 02 28.2**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=119,slow=1.8,SNR=3.4						

*IDC **02** 21:47:16.1±10.0, 17°.43S×178°.97W, h570km±126km, mb2.9/6, mbtmp3.9/6, Error ellipse: s-maj=48.2km s-min=39.3km az=107.0*

ISC 02 21:47:13.3±1.0, 17°.4S±0°.3×178°.9W±0°.2, h539km, n6, σ0°46/7, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.44**	**240**	P	**P**	**21 53 49.2**	**0.0**
	0.8nm,0.3s,baz=67,slow=7.7,SNR=3.6						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**21 54 35.2**	**0.0**
	0.5nm,0.6s,baz=95,slow=7.2,SNR=12						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**21 54 37.3**	**+0.5**
	5.9nm,0.5s,baz=88,slow=8.1,SNR=90						
ASAR				PcP	**PcP**	**21 56 08.2**	**-0.6**
	0.2nm,0.5s,baz=106,slow=3.9,SNR=1.8						
	5.9nm,0.5s						
QSPA	**South Pole Qui**	**72.68**	**180**	P	**P**	**21 57 46.1**	**-0.1**
	0.7nm,0.8s,baz=297,slow=4.5,SNR=1.4						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**85.49**	**13**	P	**P**	**21 58 53.5**	**-0.3**
	0.2nm,0.6s,baz=209,slow=4.9,SNR=1.7						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**21 58 58.3**	**+0.4**
	0.2nm,0.4s,baz=300,slow=8.7,SNR=2.2						
	0.2nm,0.4s						

*NOU **02** 22:06:03.0, 37°.96S×176°.15E, h203km, MLv3.7/16, North Island, New Zealand*

*WEL **02** 22:06:07.4±0.8, 38°.5±5°×17°.6E±°, h175km±7km, M3.1/41, ML2.9/7, MLv3.1/41, Error ellipse: s-maj=7.3km s-min=5.3km az=154.7, confirmed*

ISC 02 22:06:01.3±1.8, 37°.92S±0°.07×176°.16E±0°.05, h223km±10km, n106, σ1°76/121, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.19**	**294**	P	**Pn**	**22 06 31.8**	**+1.3**
OMRZ	**Omania**	**0.25**	**138**	P	**Pn**	**22 06 31.8**	**+1.3**
OPRZ	**Ohinepanea**	**0.32**	**76**	P	**Pn**	**22 06 31.6**	**+1.0**
RRRZ	**Republican Roa**	**0.50**	**146**	P	**Pn**	**22 06 32.5**	**+1.4**
TOZ	**Tahuroa Road**	**0.56**	**290**	P	**Pn**	**22 06 33.0**	**+1.7**
WPRZ	**Whakapapatarin**	**0.60**	**180**	P	**Pn**	**22 06 33.2**	**+1.7**
PRRZ	**Plateau Road**	**0.60**	**163**	P	**Pn**	**22 06 32.9**	**+1.4**
TLZ	**Tolley Road**	**0.64**	**230**	P	**Pn**	**22 06 33.4**	**+1.8**
MUGZ	**Murupara**	**0.73**	**139**	P	**Pn**	**22 06 33.1**	**+1.1**
URZ	**Urewera**	**0.82**	**115**	P	**Pn**	**22 06 33.3**	**+0.8**
URZ	**Urewera**	**0.82**	**115**	S	**S**	**22 06 54.4**	**-2.4**
URZ	**Urewera**	**0.82**	**115**	P	**Pn**	**22 06 33.4**	**+1.0**
URZ				S	**S**	**22 06 53.9**	**-2.9**
MRHZ	**Matea Rd**	**0.93**	**168**	P	**Pn**	**22 06 34.6**	**+1.4**
RTZ	**Ruatahuna**	**0.95**	**137**	P	**Pn**	**22 06 34.6**	**+1.3**
MTHZ	**Maungataniwha**	**1.07**	**150**	P	**Pn**	**22 06 35.5**	**+1.5**
MTHZ				S	**S**	**22 06 57.7**	**-1.9**
MKAZ	**Moumakai**	**1.14**	**315**	P	**Pn**	**22 06 36.3**	**+1.9**
RAGZ	**Rawiri**	**1.14**	**120**	P	**Pn**	**22 06 36.2**	**+1.7**
RAGZ				S	**S**	**22 06 58.8**	**-1.6**
MWZ	**Matawai**	**1.15**	**111**	P	**Pn**	**22 06 35.9**	**+1.4**
MWZ				S	**S**	**22 06 57.9**	**-2.6**
HIZ	**Hauiti**	**1.19**	**240**	P	**Pn**	**22 06 35.1**	**+0.4**
HIZ	**Hauiti**	**1.19**	**240**	P	**Pn**	**22 06 36.9**	**+2.2**
RUGZ	**Raukumara Rang**	**1.20**	**93**	P	**Pn**	**22 06 35.4**	**+0.4**
RAHZ	**Arahi**	**1.23**	**144**	P	**Pn**	**22 06 37.1**	**+2.1**
RAHZ				S	**S**	**22 07 00.2**	**-1.3**
NTVZ	**North Tongarir**	**1.23**	**198**	P	**Pn**	**22 06 37.4**	**+2.2**
TMVZ	**Te Maari**	**1.25**	**197**	P	**Pn**	**22 06 37.5**	**+2.2**
ETVZ	**East Tongariro**	**1.26**	**196**	P	**Pn**	**22 06 37.6**	**+2.2**
SNGZ	**Shannon Statio**	**1.26**	**133**	P	**Pn**	**22 06 37.3**	**+2.0**
SNGZ				S	**S**	**22 07 00.1**	**-1.7**
BKZ	**Black Stump Fm**	**1.27**	**168**	P	**Pn**	**22 06 36.7**	**+1.3**
BKZ	**Black Stump Fm**	**1.27**	**168**	S	**S**	**22 07 00.0**	**-2.0**
BKZ	**Black Stump Fm**	**1.27**	**168**	P	**Pn**	**22 06 36.9**	**+1.5**
BKZ				S	**S**	**22 06 59.7**	**-2.4**
NMHZ	**Naumai**	**1.28**	**157**	P	**Pn**	**22 06 38.1**	**+2.7**
NMHZ				S	**S**	**22 07 01.5**	**-0.6**
TWVZ	**Taurewa**	**1.28**	**206**	P	**Pn**	**22 06 37.6**	**+2.1**
HAZ	**Te Kaha**	**1.29**	**83**	P	**Pn**	**22 06 36.4**	**+0.9**
HAZ				S	**S**	**22 06 58.9**	**-3.1**
OTVZ	**Oturere**	**1.30**	**197**	P	**Pn**	**22 06 37.9**	**+2.2**
SNVZ	**South Ngauruho**	**1.33**	**198**	P	**Pn**	**22 06 38.0**	**+2.1**
TUVZ	**Tukino**	**1.40**	**196**	P	**Pn**	**22 06 38.6**	**+2.1**
TKGZ	**Te Karaka**	**1.43**	**112**	P	**Pn**	**22 06 38.5**	**+2.0**
WHVZ	**Whangaehu Hut**	**1.43**	**198**	P	**Pn**	**22 06 38.9**	**+2.1**
TWGZ	**Tauwhareparae**	**1.46**	**101**	P	**Pn**	**22 06 38.8**	**+2.0**
TWGZ				S	**S**	**22 07 03.5**	**-1.0**
WNVZ	**Wahianoa**	**1.47**	**197**	P	**Pn**	**22 06 39.0**	**+2.0**
RIGZ	**Rimuhau**	**1.48**	**122**	P	**Pn**	**22 06 39.2**	**+2.2**
RIGZ				S	**S**	**22 07 03.6**	**-1.2**
ARHZ	**Aropaoanui**	**1.49**	**154**	P	**Pn**	**22 06 39.4**	**+2.4**
ARHZ				S	**S**	**22 07 04.1**	**-0.8**
PKVZ	**Pokaka**	**1.51**	**205**	P	**Pn**	**22 06 39.3**	**+2.1**
MOVZ	**Moawhango**	**1.52**	**192**	P	**Pn**	**22 06 38.9**	**+1.6**
MOVZ				S	**S**	**22 07 03.3**	**-2.2**
PKGZ	**Pakihiroa**	**1.52**	**88**	P	**Pn**	**22 06 38.9**	**+1.6**
MTVZ	**Mangateitei**	**1.56**	**200**	P	**Pn**	**22 06 39.6**	**+2.0**
MCHZ	**McNeill Hill**	**1.58**	**165**	P	**Pn**	**22 06 40.3**	**+2.6**
MCHZ				S	**S**	**22 07 05.7**	**-0.5**
KNZ	**Kokohu**	**1.62**	**133**	P	**Pn**	**22 06 40.2**	**+2.2**
VRZ	**Vera Road**	**1.63**	**222**	P	**Pn**	**22 06 40.9**	**+2.8**
PUZ	**Puketiti**	**1.66**	**96**	P	**Pn**	**22 06 40.1**	**+1.5**
PRGZ	**Paritu Road**	**1.68**	**127**	P	**Pn**	**22 06 40.8**	**+2.2**
CNGZ	**Carnagh Statio**	**1.71**	**110**	P	**Pn**	**22 06 41.6**	**+2.7**
KRHZ	**Kereru**	**1.73**	**175**	P	**Pn**	**22 06 41.1**	**+2.0**
MXZ	**Matakaoa Point**	**1.74**	**79**	P	**Pn**	**22 06 38.6**	**-0.6**
MXZ	**Matakaoa Point**	**1.74**	**79**	S	**S**	**22 07 07.5**	**-1.0**
MXZ	**Matakaoa Point**	**1.74**	**79**	P	**Pn**	**22 06 40.9**	**+1.8**
MXZ				S	**S**	**22 07 07.2**	**-1.4**
WMGZ	**Waiomatatini S**	**1.79**	**87**	P	**Pn**	**22 06 41.3**	**+1.7**
MHGZ	**Mahia Peninsul**	**1.84**	**132**	P	**Pn**	**22 06 42.6**	**+2.6**
CKHZ	**Cape Kidnapper**	**1.88**	**158**	P	**Pn**	**22 06 42.9**	**+2.5**
KAHZ	**Kahuranaki**	**1.95**	**164**	P	**Pn**	**22 06 43.7**	**+2.5**
PNHZ	**Pukenui**	**1.99**	**179**	P	**Pn**	**22 06 43.4**	**+1.9**
NEZ	**North Egmont**	**2.11**	**230**	P	**Pn**	**22 06 46.2**	**+3.5**
PKE	**Pukeiti**	**2.13**	**233**	P	**Pn**	**22 06 46.3**	**+3.5**
TSZ	**Takapari Road**	**2.14**	**184**	P	**Pn**	**22 06 44.8**	**+1.8**
WPHZ	**Waipukurau**	**2.15**	**174**	P	**Pn**	**22 06 45.2**	**+2.1**
KHEZ	**Kahui Hut**	**2.17**	**230**	P	**Pn**	**22 06 43.8**	**+0.5**
KHEZ	**Kahui Hut**	**2.17**	**230**	P	**Pn**	**22 06 46.7**	**+3.4**
PXZ	**Pawaui**	**2.17**	**166**	P	**Pn**	**22 06 45.6**	**+2.3**
PRHZ	**Porangahau**	**2.37**	**171**	P	**Pn**	**22 06 47.4**	**+2.2**
DVHZ	**Dannevirke**	**2.37**	**180**	P	**Pn**	**22 06 47.0**	**+1.6**
POWZ	**Post Office Ro**	**2.48**	**187**	P	**Pn**	**22 06 48.1**	**+1.6**
PRWZ	**Pori Road**	**2.63**	**183**	P	**Pn**	**22 06 49.8**	**+1.8**
BFZ	**Birch Farm**	**2.76**	**179**	P	**Pn**	**22 06 51.0**	**+1.5**
BFZ	**Birch Farm**	**2.76**	**179**	S	**S**	**22 07 26.2**	**-0.9**
BFZ	**Birch Farm**	**2.76**	**179**	P	**Pn**	**22 06 50.9**	**+1.5**
MRZ	**Mangatainoka R**	**2.77**	**189**	P	**Pn**	**22 06 50.9**	**+1.3**
OGWZ	**Otaki Gorge**	**2.99**	**195**	P	**Pn**	**22 06 53.4**	**+1.3**
HOWZ	**Holdsworth Sta**	**3.01**	**189**	P	**Pn**	**22 06 53.4**	**+1.1**
KIW	**Kapiti Island**	**3.09**	**198**	P	**Pn**	**22 06 54.1**	**+0.9**
MTW	**Mount Morrison**	**3.27**	**189**	P	**Pn**	**22 06 56.1**	**+0.8**
CAW	**Cannon Point**	**3.29**	**195**	P	**Pn**	**22 06 56.5**	**+1.0**
DUWZ	**D'Urville Isla**	**3.36**	**210**	P	**Pn**	**22 06 57.2**	**+0.9**
TRWZ	**Traveller**	**3.49**	**186**	P	**Pn**	**22 06 59.0**	**+1.2**
PAWZ	**Paruwai Farm**	**3.50**	**189**	P	**Pn**	**22 06 58.6**	**+0.7**
MSWZ	**Moikau Station**	**3.56**	**191**	P	**Pn**	**22 06 59.4**	**+0.7**
TCW	**Tory Channel**	**3.59**	**203**	P	**Pn**	**22 07 00.2**	**+1.2**
PLWZ	**Palliser**	**3.71**	**191**	P	**Pn**	**22 07 01.0**	**+0.5**
TUWZ	**Tuamarina**	**3.90**	**205**	P	**Pn**	**22 07 04.5**	**+1.8**
NNZ	**Nelson**	**3.93**	**212**	P	**Pn**	**22 07 03.7**	**+0.7**
TKNZ	**Takaka Hill**	**3.97**	**218**	P	**Pn**	**22 07 04.6**	**+1.0**
QRZ	**Quartz Range**	**4.04**	**223**	P	**Pn**	**22 07 05.0**	**+0.6**
QRZ	**Quartz Range**	**4.04**	**223**	S	**S**	**22 07 52.8**	**-1.3**
QRZ	**Quartz Range**	**4.04**	**223**	P	**Pn**	**22 07 05.5**	**+1.1**
MRNZ	**Matariki Terra**	**4.35**	**216**	P	**Pn**	**22 07 09.6**	**+1.4**
THZ	**Tophouse**	**4.58**	**212**	P	**Pn**	**22 07 12.2**	**+1.1**
KHZ	**Kahutara**	**4.92**	**203**	P	**Pn**	**22 07 16.0**	**+0.8**
KHZ	**Kahutara**	**4.92**	**203**	P	**Pn**	**22 07 16.1**	**+1.0**
DSZ	**Denniston Nort**	**5.08**	**220**	P	**Pn**	**22 07 19.3**	**+2.0**
GVZ	**Greta Valley S**	**5.58**	**204**	P	**Pn**	**22 07 24.0**	**+0.6**
LTZ	**Lake Taylor**	**5.69**	**210**	P	**Pn**	**22 07 25.4**	**+0.4**
MQZ	**McQueen's Vall**	**6.36**	**204**	P	**Pn**	**22 07 33.0**	**-0.4**
RPZ	**Rata Peaks**	**6.96**	**212**	P	**Pn**	**22 07 42.0**	**+0.9**
RPZ	**Rata Peaks**	**6.96**	**212**	P	**Pn**	**22 07 41.8**	**+0.7**
ARCZ	**Arundel**	**7.10**	**211**	P	**Pn**	**22 07 43.5**	**+0.5**
TMZ	**Timaru**	**7.54**	**209**	P	**Pn**	**22 07 49.4**	**+0.9**
ODZ	**Otahua Downs**	**8.23**	**208**	P	**Pn**	**22 07 57.9**	**+0.5**
SYZ	**Scrubby Hill**	**10.06**	**209**	P	**Pn**	**22 08 21.1**	**+0.3**

*IDC **02** 22:10:34.9±5.6, 21°.50N×142°.98E, h334km±52km, mb3.2/8, mbtmp3.9/10, Error ellipse: s-maj=56.6km s-min=15.3km az=77.0*

ISC 02 22:10:32.0±1.3, 21°.5N±0°.2×143°.2E±0°.4, h311km, n11, σ0°47/12, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Art**	**15.57**	**345**	P	**Pn**	**22 13 56.4**	**-0.3**
	1.1nm,0.5s,baz=171,slow=10,SNR=5.1						
JNU	**Nakatsue**	**15.90**	**319**	P	**P**	**22 13 58.4**	**0.0**
	9.9nm,0.8s,baz=333,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**42.14**	**193**	P	**P**	**22 17 55.0**	**+0.2**
	0.5nm,0.5s,baz=16,slow=8.8,SNR=8.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.84**	**192**	P	**P**	**22 18 23.5**	**-0.5**
	0.2nm,0.3s,baz=8.8,slow=7.1,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.83**	**313**	P	**P**	**22 19 30.9**	**+0.3**
	0.2nm,0.6s,baz=97,slow=9.1,SNR=1.5						
MKAR				PcP	**PcP**	**22 20 28.8**	**+0.2**
	0.2nm,0.4s,baz=88,slow=3.8,SNR=1.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.66**	**317**	P	**P**	**22 19 49.9**	**-0.5**
	0.7nm,0.4s,baz=102,slow=7.5,SNR=6.9						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**62.81**	**320**	P	**P**	**22 20 25.1**	**0.0**
	1.5nm,0.4s,baz=97,slow=7.7,SNR=14						
	1.5nm,0.4s						
ARCES	**ARCESS Array B**	**79.08**	**342**	P	**P**	**22 22 02.3**	**+0.5**
	1.5nm,0.7s,baz=41,slow=6.4,SNR=4.4						
	1.5nm,0.7s						
KBZ	**Khabaz**	**82.50**	**314**	P	**P**	**22 22 20.6**	**+0.2**
	1.2nm,0.8s,baz=26,slow=8.4,SNR=3.1						
	1.2nm,0.8s						
FINES	**FINESS Array B**	**83.34**	**335**	P	**P**	**22 22 23.2**	**-1.0**
	0.7nm,0.5s,baz=72,slow=6.2,SNR=9.7						
	0.7nm,0.5s						
PLCA	**Paso Flores**	**145.62**	**132**	PKPbc	**PKPbc**	**22 29 34.9**	**+0.3**
	0.5nm,0.4s,baz=242,slow=3.5,SNR=3.7						

*KOLA **02** 22:11:39.4, 67°.69N×34°.11E, h0km, ML1.3, Error ellipse: s-maj=2.7km s-min=1.4km az=140.0, Khibiny Mines*

HEL 02 22:11:39.4±0.1, 67°.67N×34°.16E, h0km, ML1.1, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.29**	**39**	P	Pg	22 11 44.2	-0.8
LVZ				S	Sg	22 11 48.4	-0.4
LVZ	**Lovozero**	**0.29**	**39**	PG	Pg	22 11 44.7	-0.3
LVZ				SG	Sg	22 11 48.5	-0.3
APA0	**Apatity Array**	**0.45**	**262**	P	Pg	22 11 47.4	-0.7
APA0				S	Sg	22 11 52.6	-1.2
KVDA	**Kovda**	**1.11**	**208**	P	Pg	22 11 59.6	-0.9
KVDA				S	Sg	22 12 13.4	-1.4
VRF	**Varrio**	**1.74**	**275**	PG	Pn	22 12 10.5	-0.3
VRF				MSG		22 12 31.2	
	comp=Z,1.2nm,0.2s						
VRF				SG	Sn	22

comp=N,123nm,0.8s
KLP Kalpa 7.65 148 *e*P **Pn 22 30 41.4 -0.8**
KLP *e*S Sn 22 32 03.1 -4.6
KLP IAML 22 32 05.0
comp=E,145nm,0.3s
KLP IAML 22 32 07.5
comp=N,102nm,0.9s
UTK UTTARKASHI 8.43 150 *e*P **Pn 22 30 52.9 +0.4**
UTK IAML 22 32 21.4
comp=N,142nm,0.1s
UTK *e*S **Sn 22 32 22.5 -3.9**
UTK IAML 22 32 23.6
comp=E,175nm,0.5s
JOSI Joshimath 9.06 145 *e*P **Pn 22 31 01.9 +1.0**
JOSI *e*S Sn 22 32 35.8 -5.8
JOSI IAML 22 32 38.7
comp=E,137nm,0.9s
JOSI IAML 22 32 39.2
comp=N,86nm,1.2s
KUDL Kundal 10.27 165 *e*P **Pn 22 31 17.9 +1.1**
KUDL *e*S Sn 22 33 04.0 -6.4
MKAR Makanchi Array 10.79 34 Pn **Pn 22 31 26.3 +2.7**
MKAR Makanchi Array 10.79 34 P **Pn 22 31 23.3 -0.3**
comp=N,0.4nm,0.8s,baz=223,slow=14,SNR=1.8
KURBB Kurchatov Arra 12.98 14 P **Pn 22 31 51.8 -0.1**
comp=N,0.4nm,0.3s,baz=205,slow=10,SNR=13
KURK Kurchatov 13.09 14 Pn 22 31 53.1 -0.1
AB31 Abkulak array 14.81 323 Pn 22 32 13.7 -1.3
AB31 Abkulak array 14.81 323 P **Pn 22 32 13.9 -1.1**
comp=N,0.9nm,0.4s,baz=127,slow=14,SNR=39
AB31 ⇑S Sn 22 34 49.4 -10
comp=N,2.1nm,0.5s,baz=131,slow=24,SNR=11
ABKAR Abkulak array 14.81 323 Pn **Pn 22 32 14.5 -0.5**
BVAR Borovoye Array 15.05 353 P **Pn 22 32 17.1 -0.9**
comp=N,1.7nm,0.3s,baz=155,slow=9.5,SNR=24
EVN Everest 15.06 129 Pn 22 32 17.0 -2.0
EVN IAmb IAmb 22 32 19.5
comp=Z,4.9nm,0.6s
AKTO Aktyubinsk 16.52 323 P **Pn 22 32 35.5 -0.7**
comp=Z,3.6nm,0.6s,baz=120,slow=14,SNR=12
AKTO Aktyubinsk 16.52 323 ⇓P **Pn 22 32 35.4 -0.7**
comp=Z,2.0nm,0.6s
AKTO ⇑S **S 22 35 33.9 -5.7**
comp=Z,1.6nm,0.7s
ZAA0 Zalesovo Array 17.61 22 P **P 22 32 47.1 -0.8**
ZALV Zalesovo Beam 17.61 22 P **P 22 32 47.9 0.0**
comp=Z,2.0nm,0.5s,baz=222,slow=11,SNR=11
ARTI Arti 20.86 336 P 22 33 23.1 0.0
ARTI IAmb IAmb 22 33 24.8
comp=Z,10nm,0.5s
ARTI Arti 20.86 336 P **P 22 33 24.2 +1.1**
comp=Z,5.7nm,0.6s,baz=141,slow=6.3,SNR=11
comp=Z,5.7nm,0.6s
BELG Belogornoye 22.98 317 P **P 22 33 44.4 0.0**
comp=Z,2.8nm,0.6s,baz=5.2,slow=21,SNR=1.6
comp=Z,2.8nm,0.6s
LZH Lanzhou 24.21 85 *e*P **P 22 33 56.8 +0.7**
LZH pP sP 22 34 47.3 +0.7
LZH pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 25.75 57 P **P 22 34 11.9 +2.1**
comp=Z,0.5nm,0.5s,baz=224,slow=10,SNR=2.0
comp=Z,0.5nm,0.5s
PZH PanZhiHua 26.41 108 P **P 22 34 18.9 +2.9**
AKASG Malin Array Be 33.54 307 P **P 22 35 19.2 +0.7**
comp=Z,0.3nm,0.4s,baz=78,slow=8.6,SNR=2.5
comp=Z,0.3nm,0.4s
FINES FINESS Array B 37.29 324 P **P 22 35 50.6 +0.3**
FINES FINESS Array B 37.29 324 P **P 22 35 51.5 +1.2**
comp=Z,2.3nm,1.0s,baz=117,slow=9.7,SNR=7.5
comp=Z,2.3nm,1.0s
ARCES ARCESS Array B 40.43 336 P **P 22 36 17.3 +1.0**
comp=Z,2.0nm,0.7s,baz=98,slow=9.1,SNR=6.8
comp=Z,2.0nm,0.7s
NC405 NORSAR Array S 44.07 322 P **P 22 36 45.8 -0.1**
NOA NORSAR Array B 44.31 322 P **P 22 36 47.7 -0.2**
comp=Z,0.3nm,0.4s,baz=79,slow=5.9,SNR=0.9
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 67.76 269 P **P 22 39 34.5 -0.5**
comp=Z,0.4nm,0.5s,baz=48,slow=5.9,SNR=7.4
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 81.18 124 P **P 22 40 51.5 -0.8**
comp=Z,0.4nm,0.7s,baz=274,slow=3.4,SNR=1.7
comp=Z,0.4nm,0.7s

IDC 02 22:34:58.1±1.4, **15°.64S**×**69°.25W, h193**km±20km, **mb3.1**/2, **mbtmp3.5**/3, **Error ellipse: s-maj=86.7km s-min=23.9km az=12.0, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.25**	**121**	P	Pn	22 35 29.6	-0.2
	58nm,0.4s,baz=278,slow=6.7,SNR=306						
LPAZ				S	Sn	22 35 54.5	+0.2
	22nm,0.7s,baz=154,slow=24,SNR=9.7						
SIV	**San Ignacio**	**7.88**	**94**	P	Pn	22 36 49.4	-0.5
	0.5nm,0.3s,baz=292,slow=16,SNR=3.1						
SIV				S	Sn	22 38 18.8	+0.1
	0.4nm,0.3s,baz=297,slow=22,SNR=1.3						
TXAR	**Lajitas Array**	**55.71**	**323**	P	P	22 44 14.6	-0.2
	0.2nm,0.3s,baz=147,slow=7.5,SNR=4.0						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**75.77**	**72**	P	P	22 46 23.5	+0.3
	0.5nm,0.6s,baz=266,slow=5.1,SNR=6.1						
	0.5nm,0.6s						

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*IDC **02** 22:47:03.5±5.0, 6°.87S×149°.97E, h91km±40km, mb3.4/5, mbtmp3.7/7, Error ellipse: s-maj=49.5km s-min=27.3km az=106.0*

ISC 02 22:46:57.0±1.1, **6°.8S**±0°.2×**150°.4E**±0°.2, **h35**km, **n8**, σ1♀**95**/9, **mb3.7**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**230**	P	Pn	22 48 00.3	+3.0
	9.8nm,0.3s,baz=64,slow=11,SNR=4.2						
PMG				S	Sn	22 48 43.0	-1.2
	106nm,0.7s,baz=149,slow=19,SNR=15						
WRA	**Warramunga Arr**	**20.32**	**228**	P	P	22 51 28.4	-1.9
	1.6nm,0.6s,baz=54,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.07**	**222**	P	P	22 51 57.1	-2.6
	0.5nm,0.3s,baz=61,slow=9.2,SNR=10						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**26.28**	**197**	P	P	22 52 29.5	+0.2
	0.6nm,0.3s,baz=29,slow=10,SNR=1.3						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**83.20**	**180**	P	P	22 59 19.7	+0.2
	0.8nm,0.8s,baz=335,slow=12,SNR=2.2						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**83.86**	**323**	P	P	22 59 22.9	-0.2
	0.3nm,0.8s,baz=115,slow=4.1,SNR=4.1						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**84.90**	**22**	P	P	22 59 28.6	+0.6
	0.9nm,0.7s,baz=247,slow=5.3,SNR=10.0						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.52**	**284**	PKPbc	**PKPbc**	23 06 39.9	-1.3
	1.0nm,0.6s,baz=84,slow=3.9,SNR=7.4						

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*JMA **02** 22:58:02.6±0.2, 39°.N±1°.×14°.4E±°., h51km, MV3.7/27, FAR E OFF NORTH HONSHU*
*NIED **02** 22:58:02.6, 39°.11N×144°.38E, h51km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.30; Mθθ=0.08; Mφφ=1.22; Mrθ=-0.51; Mθφ=-0.04; Mφr=1.28; Fault plane solution: M0=1.86000×10^14^ NP1:φs=8.00000°, δ=23.00000°, λ=-68.00000°. NP2:φs=164.00000°, δ=69.00000°, λ=-99.00000°.*
*IDC **02** 22:58:22.4±12.0, 39°.24N×141°.86E, h0km, mb3.5/4, mbtmp3.4/5, ML2.6/1 Error ellipse: s-maj=248.5km s-min=44.1km az=105.0*

ISC 02 22:57:59.0±2.3, **39°.09N**±0°.08×**144°.6E**±0°.1, **h19**km, **n22**, σ2♀**08**/17, **mb3.5**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.17**	**284**	P	Pn	22 58 35.6	+1.4
MIYJ				S	Sn	22 59 00.2	-0.4
OFUJ	**Ofunato**	**2.25**	**271**	*i* P	Pn	22 58 36.4	+1.2
JTH	**Tanohata**	**2.25**	**293**	P	Pn	22 58 36.1	+0.9
JOM	**Ohasama**	**2.56**	**280**	*i* P	Pn	22 58 41.2	+1.8
JMK	**Ichinoseki**	**2.60**	**268**	P	Pn	22 58 41.6	+1.6
JANG	**Nango**	**2.67**	**300**	P	Pn	22 58 42.0	+1.0
JYK	**Kaneyama**	**3.27**	**268**	P	Pn	22 58 51.3	+2.0
JNBK	**Urakawa-nobuka**	**3.47**	**337**	P	Pn	22 58 54.6	+2.7
JCH	**Churui**	**3.63**	**346**	S	Sn	22 59 35.3	-1.3
JOTO	**OTAMA OYAMA**	**3.65**	**247**	P	Pn	22 58 56.4	+1.9
JOTO				S	Sn	22 59 36.5	-0.6
NEM2	**Nemuro 2**	**4.37**	**11**	*e*P	Pn	22 59 04.3	0.0
JTKR	**Abashiri--Toko**	**4.90**	**355**	S	Sn	23 00 05.4	-2.4
JRY	**Ryogami san**	**5.44**	**237**	P	Pn	22 59 20.3	+1.3
MJAR	**Matsushiro Arr**	**5.63**	**245**	Pn	Pn	22 59 24.0	+2.3
	0.4nm,0.3s,baz=45,slow=10,SNR=14						
	1.0nm,0.3s						
JOD2	**Odawara 2**	**5.80**	**230**	S	Sn	23 00 25.5	-4.5
H11N2	**WAKE ISLAND Hy**	**27.28**	**129**	T	T	23 35 11.2	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.29**	**129**	T	T	23 35 17.6	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.29**	**129**	T	T	23 35 10.6	
	baz=314						
ZALV	**Zalesovo Beam**	**42.41**	**311**	P	P	23 06 04.3	+12
	0.4nm,0.5s,baz=92,slow=10,SNR=2.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.16**	**301**	P	P	23 06 25.8	+11
	0.6nm,0.9s,baz=70,slow=9.3,SNR=2.2						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**46.72**	**307**	P	P	23 06 38.7	+12
	0.6nm,0.5s,baz=89,slow=8.0,SNR=6.0						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**51.04**	**312**	P	P	23 07 13.3	+14
	0.2nm,0.3s,baz=72,slow=9.7,SNR=1.3						
	0.2nm,0.3s						

IDC 02 22:58:21.8±3.2, **6°.14S**×**121°.96E, h387**km±43km, **mb2.6**/2, **mbtmp3.4**/4, **Error ellipse: s-maj=223.6km s-min=26.7km az=55.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.38**	**157**	P	Pn	22 59 36.6	-0.2
	8.2nm,0.3s,baz=54,slow=3.3,SNR=1.3						
BATI				S	S	23 00 32.1	-5.6
	22nm,0.4s,baz=17,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**18.25**	**140**	P	P	23 02 10.3	+0.7
	0.5nm,0.5s,baz=314,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**20.87**	**148**	P	P	23 02 34.8	-0.4
	0.2nm,0.3s,baz=337,slow=15,SNR=4.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.34**	**331**	P	P	23 08 11.1	0.0
	0.8nm,1.1s,baz=123,slow=5.9,SNR=1.6						
	0.8nm,1.1s						

RSNC 02 23:03:06.6±0.0, **6°N**±1°.×**7°4W**±°., **h23**km±2km, **M2.8, mb4.0, ML2.5, MLv3.2, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.65**	**204**	P	Pb	23 03 19.2	-0.2
SPBC				S	Sn	23 03 29.1	-1.0
PTBC	**PUERTO BERRIO,**	**0.70**	**294**	P	Pb	23 03 19.5	-0.7
PTBC				S	Sb	23 03 29.4	-0.1
BRJC	**Barrancabermej**	**0.72**	**5**	P	Pb	23 03 20.5	0.0
BRJC				S	Sn	23 03 31.8	0.0
RUSC	**La Rusia**	**0.81**	**116**	P	Pb	23 03 21.1	-1.1
RUSC				S	Sb	23 03 32.6	-0.3
NORC	**Norcasia**	**1.25**	**237**	P	Pn	23 03 27.0	-1.8
NORC				S	Sn	23 03 42.2	-2.8
ROSC	**El Rosal**	**1.49**	**200**	P	Pb	23 03 33.7	-0.2
PAMC	**Pamplona, Colo**	**1.54**	**45**	P	Pn	23 03 32.6	-0.6
PAMC				S	Sb	23 03 53.6	-0.6
ZARC	**Zaragoza, Cauc**	**1.61**	**320**	P	Pn	23 03 31.8	-1.9
ZARC				S	Sn	23 03 52.2	-1.6
HELC	**Santa Helena**	**1.71**	**268**	P	Pn	23 03 34.2	-1.1
HELC				S	Sn	23 03 54.5	-2.2
GUY2C	**Guyana, Caldas**	**1.85**	**237**	P	Pn	23 03 37.1	-0.3
GUY2C				S	Sn	23 04 00.1	-0.3
OCAC	**Ocana**	**2.04**	**14**	P	Pn	23 03 38.2	-1.4
OCAC				S	Sn	23 04 02.7	-1.7
UREC	**San Jos de Ur**	**2.27**	**311**	P	Pn	23 03 42.3	-0.4
UREC				S	Sn	23 04 12.3	+2.3
DBBC	**Dabeiba**	**2.50**	**288**	P	Pn	23 03 47.8	+1.8
PTGC	**Puerto Gaitan,**	**2.63**	**141**	P	Pn	23 03 50.0	+2.3
ORTC	**Ortega, Tolima**	**2.73**	**212**	P	Pn	23 03 48.6	-0.5
ORTC				S	Sn	23 04 22.1	+0.6
URMC	**La Uribe, Meta**	**3.04**	**191**	P	Pn	23 03 54.7	+1.3
SJCC	**San Jacinto, C**	**3.87**	**340**	P	Pn	23 04 04.4	-0.4
SJCC				S	Sn	23 04 47.7	-1.9
SDV	**Santo Domingo**	**4.10**	**50**	P	Pn	23 04 07.5	-0.5
SDV				S	Sn	23 04 54.5	-0.9
URIC	**Uribia, Colomb**	**5.71**	**18**	P	Pn	23 04 27.3	-2.7
URIC				S	Sn	23 05 30.3	-4.5

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*IDC **02** 23:03:42.4±3.6, 35°.76N×52°.66E, h0km, mb3.3/5, mbtmp3.4/6, ML2.7/1, MS3.1/12, Error ellipse: s-maj=66.4km s-min=21.5km az=12.0*
*TIF **02** 23:03:42.7, 35°.88N×52°.97E, h18km*
*TEH **02** 23:03:43.0, 35°.86N×52°.98E, h5km*

ISC 02 23:03:44.4±0.7, **35°.87N**±0°.03×**52°.96E**±0°.03, **h10**km, **n91**, σ1♀**79**/87, **mb3.3**/5, **MS3.1**/7, **4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.24**	**330**	Pg	**Pg**	23 03 48.7	-0.9
IALA				Sg	**Sg**	23 03 52.9	-0.2
IFIR	**Firoozkooh**	**0.28**	**217**	Pg	**Pg**	23 03 49.0	-1.2
ILAS	**Lasjerd**	**0.49**	**180**	Pg	**Pg**	23 03 52.9	-1.0
ILAS				Sg	**Sg**	23 04 00.2	-0.2
IPRN	**Peran**	**0.63**	**306**	Pg	**Pg**	23 03 55.7	-0.9
IKIA	**Kiasar**	**0.68**	**60**	Pg	**Pg**	23 03 56.2	-1.3
IDMV	**Damavand**	**0.81**	**249**	Pg	**Pg**	23 03 58.9	-1.2
IDMV				Sg	**Sg**	23 04 11.6	+0.9
IANJ	**Anjilo**	**0.87**	**117**	Pg	**Pg**	23 03 59.9	-1.4
IGLO	**Ghaloghah**	**0.94**	**48**	Pg	**Pg**	23 04 01.9	-0.7
TEHA	**Amirabad Tehra**	**1.29**	**265**	Pg	**Pn**	23 04 07.7	-0.8
TEH	**Tehran**	**1.29**	**265**	Pg	**Pn**	23 04 09.2	+0.6
IVRN	**Varamin**	**1.33**	**229**	Pg	**Pn**	23 04 09.1	0.0
IHSB	**Hasanabad**	**1.44**	**253**	Pg	**Pn**	23 04 10.5	-0.1
ISFB	**Sefidab**	**1.63**	**202**	Pg	**Pn**	23 04 13.2	0.0
IQOM	**Qom**	**1.85**	**237**	Pn	**Pn**	23 04 17.4	+0.9
KRSH	**Karshahi**	**2.02**	**200**	Pn	**Pn**	23 04 19.8	+1.2
IGZV	**Ghazvin**	**2.28**	**284**	Pn	**Pn**	23 04 24.6	+2.3
QRS1	**Rashteghoun_ Q**	**2.33**	**282**	Pn	**Pn**	23 04 25.5	+2.6
IMND	**Minoodasht**	**2.41**	**54**	Pn	**Pn**	23 04 25.2	+1.4
QAMS	**Qamsar**	**2.49**	**212**	Pn	**Pn**	23 04 26.4	+1.2
LHJ2	**Lahijan - Gila**	**2.67**	**300**	Pn	**Pn**	23 04 29.5	+2.1
GIDE	**GILAN DEYLAMAN**	**2.68**	**294**	Pn	**Pn**	23 04 29.8	+2.1
JIR1	**Jirandeh**	**2.69**	**289**	Pn	**Pn**	23 04 30.6	+2.8
ANAR	**Anarak**	**2.75**	**166**	Pn	**Pn**	23 04 30.2	+1.5
QABG	**Abgarm-Qazvin**	**2.75**	**268**	Pn	**Pn**	23 04 31.3	+2.5
IKLH	**Kolahrood**	**2.79**	**205**	Pn	**Pn**	23 04 30.8	+1.4
IZEF	**Zefreh**	**3.01**	**190**	Pn	**Pn**	23 04 33.9	+1.4
MRVT	**Maraveh tapeh**	**3.08**	**54**	Pn	**Pn**	23 04 34.7	+1.5
HAGD	**Aghdareh**	**3.29**	**253**	Pn	**Pn**	23 04 38.2	+1.9
HGHA	**Hamedan- Ghaye**	**3.36**	**265**	Pn	**Pn**	23 04 39.8	+2.6
CSN1	**Caspian**	**3.54**	**300**	Pn	**Pn**	23 04 41.4	+2.1
IGAR	**Gharneh**	**3.54**	**193**	Pn	**Pn**	23 04 41.1	+1.5
ZNJK	**Zanjan**	**3.55**	**284**	Pn	**Pn**	23 04 42.1	+2.4
TNSJ	**Nastanj**	**3.55**	**121**	Pn	**Pn**	23 04 41.2	+1.5
TAPT	**Tabas- Tapeh t**	**3.57**	**105**	Pn	**Pn**	23 04 40.9	+1.0
SBZV	**Sabzevar**	**3.80**	**81**	Pn	**Pn**	23 04 44.7	+1.5
ICHK	**Chekchek**	**3.81**	**161**	Pn	**Pn**	23 04 44.9	+1.5
BDRS	**Dareh Seyedi**	**3.86**	**241**	Pn	**Pn**	23 04 46.5	+2.4
IRAM	**Ramesheh**	**4.08**	**187**	Pn	**Pn**	23 04 48.6	+1.5
TKDS	**Koohdasht(Taba**	**4.10**	**122**	Pn	**Pn**	23 04 48.2	+1.0
JHBN	**Jahan bin**	**4.10**	**208**	Pn	**Pn**	23 04 49.7	+2.3
ZNGN	**Zangian**	**4.13**	**206**	Pn	**Pn**	23 04 49.5	+1.6
GAS1	**Astara - Iran**	**4.14**	**309**	Pn	**Pn**	23 04 48.9	+1.3
TPRV	**Parvadeh(Tabas**	**4.18**	**132**	Pn	**Pn**	23 04 49.3	+1.0
IBRJ	**Brojen**	**4.20**	**200**	Pn	**Pn**	23 04 50.6	+1.9
ISFR	**Sfrayin**	**4.23**	**72**	Pn	**Pn**	23 04 51.0	+1.9
SNQR	**Sonqor, Kerman**	**4.47**	**258**	Pn	**Pn**	23 04 54.9	+2.4
IMEH	**Mehriz**	**4.68**	**162**	Pn	**Pn**	23 04 56.7	+1.4
IAKL	**Akhelmad**	**4.74**	**79**	Pn	**Pn**	23 04 57.8	+1.6
IHSH	**Hashtrud**	**4.80**	**289**	Pn	**Pn**	23 04 59.5	+2.4
IEMG	**Emamgholi**	**4.83**	**70**	Pn	**Pn**	23 04 59.6	+2.3
IPAY	**Payeh**	**4.92**	**81**	Pn	**Pn**	23 05 00.5	+1.9
IHRS	**Heris**	**5.33**	**299**	Pn	**Pn**	23 05 06.6	+2.4
IGHG	**Ghaleghazi**	**5.46**	**256**	Pn	**Pn**	23 05 08.7	+2.6
AFRZ	**Afriz**	**5.55**	**114**	Pn	**Pn**	23 05 09.0	+1.8
ITEG	**Tejag**	**5.63**	**120**	Pn	**Pn**	23 05 09.6	+1.3
IMYA	**Miami**	**5.80**	**83**	Pn	**Pn**	23 05 12.2	+1.6
IAZR	**Azarshahr**	**5.89**	**290**	Pn	**Pn**	23 05 14.3	+2.4
JRKH	**Jarkhoshk**	**6.00**	**87**	Pn	**Pn**	23 05 14.9	+1.6
TBJM	**Torbat-e-JAM**	**6.04**	**94**	Pn	**Pn**	23 05 15.8	+1.9
IKOO	**Kooshah**	**6.08**	**123**	Pn	**Pn**	23 05 16.0	+1.5
ISHB	**Shabestar**	**6.35**	**294**	Pn	**Pn**	23 05 20.8	+2.6
SHRT	**Shahrakht**	**6.43**	**108**	Pn	**Pn**	23 05 20.7	+1.6
BSRN	**Basiran**	**6.44**	**125**	Pn	**Pn**	23 05 20.5	+1.1
IMRD	**Marand**	**6.44**	**298**	Pn	**Pn**	23 05 22.2	+2.7
KRM1	**Kerman Provinc**	**6.46**	**145**	Pn	**Pn**	23 05 21.6	+1.9
IDAH	**Dahanechah**	**6.51**	**117**	Pn	**Pn**	23 05 21.7	+1.2
CHMN	**Cheshme madani**	**7.12**	**146**	Pn	**Pn**	23 05 30.9	+1.9
NHDN	**Nehbandan**	**7.41**	**125**	Pn	**Pn**	23 05 33.8	+1.1
VSHL	**Vashlovani**	**7.42**	**318**	P	**Pn**	23 05 34.1	+1.4
VSHL				S	**Sn**	23 06 58.0	+1.1
GNI	**Garni**	**7.77**	**306**	LR	LR	23 09 12.0	
	comp=Z,78nm,18.8s,baz=113,slow=43						
DGRG	**David-gareji**	**8.14**	**315**	P	**Pn**	23 05 44.0	+1.4
DGRG				S	**Sn**	23 07 14.5	-0.1
SHTL	**Shatili**	**9.08**	**321**	P	**Pn**	23 05 57.0	+1.3
SHTL				S	Sn	23 07 48.4	+10
GARIG	**Gari**	**9.97**	**315**	P	**Pn**	23 06 10.1	+2.4
GARIG				S	**Sn**	23 07 59.9	+0.2
KBZ	**Khabaz**	**11.02**	**318**	Pn	**Pn**	23 06 21.5	-0.4
	0.1nm,0.3s,baz=77,slow=21,SNR=1.9						
KBZ				Sn	**Sn**	23 08 24.1	-1.1
	0.1nm,0.3s,baz=271,slow=14,SNR=1.9						
	0.8nm,0.6s						
ASF	**Jabal al Asfar**	**13.82**	**259**	LR	LR	23 12 54.9	
	comp=Z,32nm,19.4s,baz=115,slow=41						
AB31	**Abkulak array**	**14.32**	**19**	⇓P	Pn	23 07 04.6	-2.5
	2.7nm,0.8s,baz=208,slow=13,SNR=26						
AB31				⇓S	Sn	23 09 32.8	-13
	1.5nm,0.5s,baz=199,slow=25,SNR=13						
MMAI	**Mount Meron Ar**	**14.77**	**264**	LR	LR	23 13 38.4	
	comp=Z,46nm,18.9s,baz=68,slow=41						
AKTO	**Aktyubinsk**	**15.01**	**13**	⇓P	**Pn**	**23 07 13.3**	**-3.2**
	1.8nm,0.7s						
AKTO				⇓S	Sn	23 09 50.7	-12
	4.0nm,1.0s						
EIL	**Elat**	**16.35**	**253**	LR	LR	23 15 07.7	
	comp=Z,54nm,19.2s,baz=178,slow=43						
AAK	**Ala-Archa**	**17.97**	**61**	LR	LR	23 15 16.7	
	comp=Z,58nm,21.9s,baz=254,slow=38						
ARTI	**Arti**	**20.85**	**8**	LR	LR	23 18 44.6	
	comp=Z,51nm,18.4s,baz=203,slow=43						
BVAR	**Borovoye Array**	**21.09**	**30**	P	**P**	**23 08 30.6**	**+1.8**
	2.1nm,0.6s,baz=218,slow=11,SNR=13						
BVAR				S	**S**	**23 12 19.0**	**-4.4**
	0.7nm,0.6s,baz=223,slow=28,SNR=2.6						
BVAR				LR	LR	23 17 54.2	
	comp=Z,58nm,19.3s,baz=215,slow=40						
	2.1nm,0.6s						
AKASG	**Malin Array Be**	**22.63**	**318**	P	**P**	**23 08 42.6**	**-2.6**
	0.5nm,0.4s,baz=126,slow=9.6,SNR=4.9						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**23.59**	**43**	P	**P**	**23 08 58.0**	**+2.8**
	0.9nm,1.1s,baz=245,slow=12,SNR=6.7						
	0.9nm,1.1s						
MKAR	**Makanchi Array**	**24.44**	**54**	P	**P**	**23 09 04.7**	**+1.4**
	0.5nm,0.6s,baz=250,slow=8.2,SNR=6.9						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**28.56**	**41**	LR	LR	23 21 52.8	
	comp=Z,18nm,19.0s,baz=61,slow=38						
FURI	**Furi**	**29.84**	**209**	LR	LR	23 22 28.8	
	comp=Z,40nm,18.2s,baz=30,slow=38						
GERES	**GERESS Array B**	**31.42**	**307**	P	**P**	**23 10 05.1**	**-0.6**
	0.1nm,0.3s,baz=91,slow=9.9,SNR=1.5						
	0.1nm,0.3s						
TIXI	**Tiksi**	**51.98**	**23**	LR	LR	23 38 31.4	
	comp=Z,55nm,18.6s,baz=223,slow=40						
PSI	**Prapat**	**53.68**	**117**	LR	LR	23 37 43.5	
	comp=Z,34nm,18.3s,baz=259,slow=38						
LSZ	**Lusaka**	**56.02**	**209**	LR	LR	23 36 34.7	
	comp=Z,36nm,18.4s,baz=203,slow=35						

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*SOF **02** 23:27:58.7, 39°.79N±0°.06×25°.54E±0°.04, h4km±4km, MD2.7/5*
*ISK **02** 23:27:59.2, 39°.72N×25°.59E, h7km, ML2.7/19*
*ATH **02** 23:27:59.8, 39°.75N×25°.65E, h8km±1km, ML2.4/13, Manual Solution by N.Liadopoulou First location: 2019/10/02 23:29:16, This location: 2019/10/03 06:35:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*AFAD **02** 23:28:00.4, 39°.71N×25°.64E, h7km±2km, ML2.5*

ISC 02 23:27:59.9±1.0, **39°.74N**±0°.02×**25°.65E**±0°.02, **h9**km±9km, **n71**, σ0♀**51**/93, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.33**	**72**	P	**Pb**	**23 28 07.2**	**-0.7**
BOZC				S	**Sb**	23 28 12.5	-0.8
LIA	**Limnos Island**	**0.39**	**294**	P	**Pg**	**23 28 07.7**	**+0.1**
LIA				S	**Sg**	**23 28 12.8**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.45**	**122**	P	**Pg**	**23 28 09.1**	**+0.4**
KOCA				S	**Sb**	**23 28 15.9**	**-0.9**
KOCA				*i* IAML		23 28 16.0	
	comp=E,324nm,0.5s						
GOAD	**anakkale-G¶**	**0.46**	**26**	P	**Pb**	**23 28 10.0**	**-0.3**
GOAD				S	**Sb**	**23 28 17.5**	**+0.3**
GOAD				*i* IAML		23 28 26.0	
	comp=N,298nm,0.3s

RDO	Rodhopi	1.40 357	Pn	Pn	23 28 25.7	+0.1
RDO	Rodhopi	1.40 357	P	Pn	23 28 25.4	-0.2
OUR	Ouranopolis	1.41 295	Pn	Pn	23 28 24.8	-0.9
OUR	Ouranopolis	1.41 295	P	Pn	23 28 24.7	-0.9
KRBG	Karabiga-Canak	1.42 62	Pn	Pb	23 28 26.8	+0.2
KAVA	Kavala	1.52 326	P	Pn	23 28 26.9	-0.4
BALY	Balya	1.52 90	P	Pb	23 28 28.0	-0.3
BALY			S	Sg	23 28 48.5	-0.3
BALY			*i* IAML		23 28 55.0	
	comp=N,103nm,0.7s					
PAIG	Paliouri	1.52 278	P	Pn	23 28 26.1	-1.2
KVLA	Kavala	1.53 321	P	Pn	23 28 27.4	0.0
SOMA	Soma-Manisa	1.57 111	Pn	Pn	23 28 28.5	+0.5
UKOP	Uzunkopru-Edir	1.57 28	Pn	Pb	23 28 28.9	+0.3
GONE	Gonen-Balikesi	1.60 78	Pn	Pb	23 28 29.1	-0.5
KYMI	Kymi, Euboea I	1.64 228	P	Pn	23 28 29.2	+0.4
PLG	Polygyros	1.80 291	P	Pn	23 28 32.1	+0.9
KDZ	Kurdzhali	1.90 353	P	Pn	23 28 32.5	0.0
KDZ			Pg	Pb	23 28 35.3	+0.6
NEO	Neokhori	1.92 258	P	Pn	23 28 33.6	+0.8
KARY	Karystos	1.95 209	P	Pn	23 28 33.2	0.0
SOH	Sokhos	2.06 302	P	Pn	23 28 34.4	-0.3
RZN	Rozhen	2.07 341	P	Pn	23 28 35.2	+0.2
RZN			Pg	Pb	23 28 38.0	+0.3
SRS	Serrai	2.08 312	P	Pn	23 28 34.7	-0.4
GORD	Gordes-Manisa	2.13 112	Pn	Pn	23 28 36.6	+0.9
DION	Dionisos Attik	2.13 219	P	Pn	23 28 36.2	+0.5
ATAL	Atalanti	2.29 244	P	Pn	23 28 37.9	0.0
MMB	Musomishta	2.31 322	*e*P	Pn	23 28 39.0	+0.9
VIL2	Platees	2.40 231	P	Pn	23 28 39.5	+0.1
PLD	Plovdiv	2.50 344	P	Pb	23 28 45.6	+0.7
AYDB	Zeytinkoy-Aydi	2.51 135	Pn	Pn	23 28 41.4	+0.4
KNT	Kendrikon	2.53 305	P	Pn	23 28 41.6	+0.4
LTK	Loutraki	2.71 231	P	Pn	23 28 44.4	+0.8
MET4	Agioi Theodoro	2.75 220	P	Pn	23 28 45.4	+1.2
KKB	Krupnik	2.84 318	Pg	Pg	23 28 54.5	+0.2

ATH ***02*** *23:47:07.8, 36°.50N×22°.16E, h16km±2km, ML3.0/26, Manual Solution by N.Liadopoulou First location: 2019/10/02 23:48:15, This location: 2019/10/03 05:54:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

IDC ***02*** *23:47°.08.8±29.0, 37°.36N×22°.94E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=562.5km s-min=48.4km az=35.0*

THE ***02*** *23:47:08.2, 37°N±4°×2°2E±°, h49km±10km, M3.0/12, MLh3.0/12*

HLW ***02*** *23:47:14.2, 36°.08N×22°.88E, h52km±2km, Ml3.3*

ISC 02 23:47:07.2±1.0, 36°.49N±0°.04×22°.06E±0°.04, h42km±11km, n90, σ2s02/99, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTHA	Methoni	0.43	320	P	Pn	23 47 17.6	+0.4
MTHA				S	Sn	23 47 24.7	+0.5
PYL2	Kinigos	0.49	327	P	Pn	23 47 17.8	-0.1
PYL2				S	Sn	23 47 25.5	-0.1
PYL1	Pylos	0.52	326	P	Pn	23 47 17.9	-0.3
PYL1				S	Sn	23 47 26.0	0.0
ITM	Ithomi	0.70	351	P	Pn	23 47 20.8	+0.1
ITM				S	Sn	23 47 31.2	+0.9
ITM	Ithomi	0.70	351	P	Pn	23 47 20.9	+0.3
ITM				S	Sn	23 47 31.9	+1.5
VLI	Veliai	0.74	72	P	Pn	23 47 21.8	+0.5
VLI				S	Sn	23 47 33.3	+1.9
VLI	Veliai	0.74	72	P	Pn	23 47 21.4	+0.2
VLI				S	Sn	23 47 30.1	-1.4
MNVA	Monemvasia	0.81	76	P	Pn	23 47 22.9	+0.7
KTHA	Kythira Island	0.84	106	P	Pn	23 47 23.0	+0.4
VLX	Vlachokerasia	0.92	16	P	Pn	23 47 24.2	+0.5
VLX	Vlachokerasia	0.92	16	P	Pn	23 47 24.2	+0.5
ZARO	Zacharo	1.05	342	P	Pn	23 47 26.8	+1.4
ANKY	Antikythira Is	1.18	121	P	Pn	23 47 29.1	+1.9
ANKY				S	Sn	23 47 44.3	+2.2
ANKY	Antikythira Is	1.18	121	P	Pn	23 47 29.0	+1.7
NPLA	Nafplio	1.23	29	P	Pn	23 47 30.0	+2.1
ARS1	Argos	1.27	25	P	Pn	23 47 31.5	+3.1
VDRA	Hydra	1.42	52	P	Pn	23 47 31.5	+1.1
GUR	Goura	1.46	9	P	Pn	23 47 34.0	+2.8
GUR	Goura	1.46	9	P	Pn	23 47 33.8	+2.5
DRO	Drossia	1.49	349	P	Pn	23 47 34.7	+3.3
MET6	Megalochori,Me	1.52	43	P	Pn	23 47 32.6	+0.8
MET2	Kameni Chora,	1.52	42	P	Pn	23 47 33.1	+1.3
KRI1	kERI	1.54	320	P	Pn	23 47 32.3	+0.3
KRI1				S	Sn	23 47 51.7	+0.9
KRI1	kERI	1.54	320	P	Pn	23 47 34.9	+2.9
MET5	Makryloggos,Me	1.54	42	P	Pn	23 47 33.6	+1.5
KLV1	Kalavrita	1.54	2	P	Pn	23 47 35.0	+2.7
KLV	Kalavryta, Ach	1.55	3	P	Pn	23 47 35.0	+2.6
KLV	Kalavryta, Ach	1.55	3	P	Pn	23 47 35.3	+2.8
LTHK	Lithakia	1.56	322	P	Pn	23 47 32.1	-0.3
LTHK	Lithakia	1.56	322	P	Pn	23 47 35.5	+3.0
MET4	Agioi Theodoro	1.56	43	P	Pn	23 47 33.7	+1.3
RLS	Riolos of Patr	1.64	343	P	Pn	23 47 33.3	-0.2
RLS	Riolos of Patr	1.64	343	P	Pn	23 47 36.4	+3.0
KYPS	Kipseli, Zakin	1.65	324	P	Pn	23 47 37.0	+3.3
RODP	Rodopos	1.66	123	P	Pn	23 47 35.4	+1.6
RODP	Rodopos	1.66	123	P	Pn	23 47 35.2	+1.3
LOUT	Loutraki	1.67	26	P	Pn	23 47 35.8	+1.9
LTK	Loutraki	1.69	25	P	Pn	23 47 36.8	+2.4
YRMI	Loutra Irminis	1.71	341	P	Pn	23 47 37.1	+2.7
ORTH	Orthonies,Zaky	1.74	322	P	Pn	23 47 35.9	+1.0
ORTH	Orthonies,Zaky	1.74	322	P	Pn	23 47 38.2	+3.2
PATG	Patra B	1.77	352	P	Pn	23 47 38.3	+3.0
KNDR	Palaiochora Ch	1.79	134	P	Pn	23 47 38.2	+2.7
KNDR	Palaiochora Ch	1.79	134	P	Pn	23 47 37.9	+2.4
AXS	Araxos	1.79	343	P	Pn	23 47 39.0	+3.4
UPR	University Cam	1.81	353	P	Pn	23 47 38.8	+3.0
CH01	Chania	1.86	121	P	Pn	23 47 38.4	+1.9
CHAN	Chania	1.88	120	P	Pn	23 47 38.2	+1.5
MHLO	Agia Marina, M	1.90	83	P	Pn	23 47 37.9	+0.8
MHLO	Agia Marina, M	1.90	83	P	Pn	23 47 38.1	+1.0
KALE	Kalithea	1.90	2	P	Pn	23 47 39.6	+2.5
CHNB	Souda	1.91	121	P	Pn	23 47 39.9	+2.7
SERG	Sergoula	1.92	0	P	Pn	23 47 40.3	+2.9
EFP	Efpalio	1.94	356	P	Pn	23 47 40.3	+2.7
VLY	Voula,Athens	1.94	45	P	Pn	23 47 38.6	+0.9
MAGU	Magoula	1.97	36	P	Pn	23 47 39.3	+1.3
VIL2	Platees	1.97	29	P	Pn	23 47 39.7	+1.6
ATH	Athens Observa	1.99	41	P	Pn	23 47 39.9	+1.6
LVRA	Laurium	2.01	52	P	Pn	23 47 39.8	+1.2
ATHU	Athens Univers	2.02	43	P	Pn	23 47 39.6	+0.8
VLS	Valsamata	2.05	326	P	Pn	23 47 42.3	+3.1
STFN	Stefani	2.06	35	P	Pn	23 47 41.8	+2.5
ANX	Ano Chora	2.10	357	P	Pn	23 47 42.9	+2.9
PTL	Penteli	2.12	42	P	Pn	23 47 41.0	+0.8
PTL	Penteli	2.12	42	P	Pn	23 47 41.0	+0.8
PVO	Paravola	2.17	349	P	Pn	23 47 44.2	+3.5
DION	Dionisos Attik	2.18	43	P	Pn	23 47 41.6	+0.7
DION	Dionisos Attik	2.18	43	P	Pn	23 47 41.7	+0.8
LKR	Lokris	2.29	19	P	Pn	23 47 43.9	+1.5
FSK	Fiskardo	2.30	329	P	Pn	23 47 45.3	+2.8
AXAR	Agios Charalam	2.32	12	P	Pn	23 47 46.1	+3.2
ATAL	Atalanti	2.33	19	P	Pn	23 47 45.5	+2.5
GVD	Gavdhos	2.33	134	P	Pn	23 47 45.2	+2.2
EVGI	Lefkada island	2.40	333	P	Pn	23 47 47.5	+3.5
EVR	Evrytania	2.43	355	P	Pn	23 47 47.8	+3.3
KARY	Karystos	2.45	50	P	Pn	23 47 45.1	+0.5
MAKR	Makrakomi, Fth	2.52	1	P	Pn	23 47 49.3	+3.6
LKD2	Lefkada island	2.55	335	P	Pn	23 47 48.3	+2.2
TSLK	Tsoukalades, L	2.58	335	P	Pn	23 47 49.2	+2.8
IDI	Anoyia	2.59	117	P	Pn	23 47 48.1	+1.4
SAP3	Santorini-Thir	2.65	90	P	Pn	23 47 48.2	+0.8
KYMI	Kymi, Euboea I	2.69	37	P	Pn	23 47 48.4	+0.4
SLUM	Salum	5.63	151	P	Pn	23 48 27.2	-1.1
SWA2		7.77	157	P	Pn	23 48 56.5	-1.2
HFRF	Wahat Farafira	10.72	149	P	Pn	23 49 36.2	-1.9
FINES	FINESS Array B	25.11	5	P	P	23 52 26.7	-1.0
	1.5nm,0.8s,baz=175,slow=8.5,SNR=5.2 1.5nm,0.8s						
ARCES	ARCESS Array B	33.16	2	P	P	23 53 38.6	-0.6
	4.8nm,1.0s,baz=182,slow=9.4,SNR=2.3 4.8nm,1.0s						
KURBB	Kurchatov Arra	42.27	52	P	P	23 54 54.4	-1.9
	0.3nm,0.5s,baz=272,slow=8.2,SNR=4.2 0.3nm,0.5s						
MKAR	Makanchi Array	45.16	57	P	P	23 55 18.7	-1.0
	0.3nm,0.4s,baz=271,slow=8.0,SNR=7.4 0.3nm,0.4s						
ZALV	Zalesovo Beam	45.93	47	P	P	23 55 24.3	-1.2
	0.5nm,0.4s,baz=272,slow=6.9,SNR=2.7 0.5nm,0.4s						

IDC 02 23:47:46.1±1.7, 10°.29N×57°.78E, h0km, mb3.7/4, mbtmp3.7/4, MS3.0/1, Error ellipse: s-maj=69.3km s-min=35.1km az=43.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	35.38	21	LR	LR	00 09 49.8	
	comp=Z,27nm,20.9s,baz=246,slow=37						
ZALV	Zalesovo Beam	48.60	21	P	P	23 56 31.3	-0.1
	0.3nm,0.3s,baz=201,slow=7.6,SNR=1.9 0.3nm,0.3s						
H04N1	CROZET ISLANDS	56.45	185	T	T	00 57 42.6	
	baz=11						
H04N2	CROZET ISLANDS	56.45	185	T	T	00 57 38.9	
	baz=11						
H04N3	CROZET ISLANDS	56.46	185	T	T	00 57 40.7	
	baz=11						
ESDC	Sonseca Array	61.81	310	P	P	23 58 07.1	-0.1
	0.5nm,0.9s,baz=81,slow=5.6,SNR=3.4 0.5nm,0.9s						
WRA	Warramunga Arr	81.08	112	P	P	00 00 03.8	0.0
	0.7nm,0.8s,baz=279,slow=6.7,SNR=3.0 0.7nm,0.8s						
ASAR	Alice Springs	81.63	116	P	P	00 00 06.8	+0.1
	0.7nm,0.8s,baz=291,slow=5.1,SNR=6.0 0.7nm,0.8s						

KRSC ***03*** *00:39:20.8±1.7, 50°.73N×157°.82E, h51km±27km, Mc3.9, Ml4.9, Felt [II] at Paujetka.*

MOS ***03*** *00:39:21.9±0.9, 50°.75N×157°.46E, h70km, mb4.6/16, Error ellipse: s-maj=10.4km s-min=3.7km az=76.0*

IDC ***03*** *00:39:23.3±0.6, 51°.00N×157°.24E, h66km±4km, mb3.8/21, mbtmp4.2/26, MS3.0/15, Error ellipse: s-maj=12.6km s-min=8.7km az=120.0*

NEIC ***03*** *00:39:25.1±1.3, 51°.05N±0°.08×157°.1E±0°.2, h80km±5km, mb4.5/42, Error ellipse: s-maj=16.1km s-min=9.5km az=121.0*

ISC 03 00:39:23.6±0.7, 50°.86N±0°.05×157°.36E±0°.05, h73km±5km, n195, σ1s35/213, mb4.4/51, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.70	331	PN	Pn	00 39 39.0	+0.3
PAU				S	Sn	00 39 51.2	+1.2
PAU	Pauzhetka	0.70	331	*e*P	Pn	00 39 39.1	+0.3
PAU				*e*S	Sn	00 39 51.2	+1.2
SKR	Severo-Kuril's	0.81	258	*i* PN	Pn	00 39 39.7	-0.3
SKR				*e*S	Sn	00 39 51.8	-0.3
SKR				pmax	pmax		
	comp=Z,3μm,0.6s						
SKR				smax	smax		
	comp=E,19μm,0.6s						
SKR				smax	smax		
	comp=N,12μm,0.5s						
SKR	Severo-Kuril's	0.81	258	*e*P	Pn	00 39 39.6	-0.3
SKR				*e*S	Sn	00 39 51.8	-0.3
MIPR	Malaya Ipel'ka	1.47	345	PN	Pn	00 39 49.2	+0.9
MIPR				S	Sn	00 40 08.5	+1.6
MIPR	Malaya Ipel'ka	1.47	345	*e*P	Pn	00 39 49.2	+0.9
MIPR				*e*S	Sn	00 40 08.6	+1.6
ASAK	Asacha	1.56	12	PN	Pn	00 39 49.8	+0.2
ASAK				S	Sn	00 40 10.3	+1.1
ASAK	Asacha	1.56	12	*e*P	Pn	00 39 49.9	+0.2
ASAK				*e*S	Sn	00 40 10.3	+1.1
MTVR	Mutnovka	1.71	17	PN	Pn	00 39 51.6	+0.1
MTVR				S	Sn	00 40 12.6	0.0
MTVR	Mutnovka	1.71	17	*e*P	Pn	00 39 51.7	+0.1
MTVR				*e*S	Sn	00 40 12.7	0.0
RUS	Russkaya	1.73	24	PN	Pn	00 39 51.1	-0.6
RUS				S	Sn	00 40 12.0	-1.0
RUS	Russkaya	1.73	24	*e*P	Pn	00 39 51.1	-0.6
RUS				*e*S	Sn	00 40 12.0	-1.0
GRL	Gorelyy	1.75	14	PN	Pn	00 39 52.8	+0.7
GRL				S	Sn	00 40 14.5	+0.7
GRL	Gorelyy	1.75	14	*e*P	Pn	00 39 52.8	+0.7
GRL				*e*S	Sn	00 40 14.5	+0.7
KRMR	Karymshinskiy	2.03	13	PN	Pn	00 39 56.6	+0.9
KRMR				S	Sn	00 40 21.6	+1.4
KRMR	Karymshinskiy	2.03	13	*e*P	Pn	00 39 56.7	+0.9
KRMR				*e*S	Sn	00 40 21.6	+1.4
PEA0B	Petropavlovsk-	2.26	5		Pn	00 39 59.9	+1.1
PEA0B	Petropavlovsk-	2.26	5	PN	Pn	00 39 59.8	+0.9
PETK	Petropavlovsk-	2.26	5		Pn	00 39 58.7	-0.1
PETK	Petropavlovsk-	2.26	5	P	Pn	00 39 58.5	-0.4
	comp=N,37nm,0.5s,baz=194,slow=14,SNR=73						
PETK				S	Sn	00 40 23.3	-2.5
	comp=N,58nm,0.4s,baz=196,slow=14,SNR=3.1						
PETK				LR	LR	00 40 58.1	
	comp=N,138nm,18.9s,baz=161,slow=44						
PET	Petropavlovsk	2.31	20		Pn	00 39 59.9	+0.4
PET				Sn	Sn	00 40 26.2	-0.7
PET	Petropavlovsk	2.31	20	PN	Pn	00 39 59.9	+0.4
PET				S	Sn	00 40 27.4	+0.5
PET	Petropavlovsk	2.31	20	*e*P	Pn	00 39 60.0	+0.4
PET				*e*S	Sn	00 40 27.4	+0.5
DALK	Dalny	2.34	21	PN	Pn	00 40 00.3	+0.5
DALK				S	Sn	00 40 27.8	+0.2
DALK	Dalny	2.34	21	*e*P	Pn	00 40 00.4	+0.5
DALK				*e*S	Sn	00 40 27.9	+0.2
INSR	Institute	2.34	19	PN	Pn	00 40 00.5	+0.6
INSR				S	Sn	00 40 28.7	+1.1
INSR	Institute	2.34	19	*e*P	Pn	00 40 00.5	+0.6
INSR				*e*S	Sn	00 40 28.8	+1.1
KOK	Koryaka	2.56	17	PN	Pn	00 40 05.1	+2.2
KOK	Koryaka	2.56	17	*e*P	Pn	00 40 05.2	+2.2
SMAR	Somma	2.57	20	PN	Pn	00 40 04.1	+1.0
SMAR	Somma	2.57	20	*e*P	Pn	00 40 04.1	+1.0
SDLR	Sedlovina	2.60	21	PN	Pn	00 40 04.2	+0.7
SDLR	Sedlovina	2.60	21	*e*P	Pn	00 40 04.2	+0.7
NLC	Nalytchevo	2.62	27	PN	Pn	00 40 02.8	-0.8
NLC				S	Sn	00 40 31.9	-2.4
NLC	Nalytchevo	2.62	27	*e*P	Pn	00 40 02.8	-0.8
NLC				*e*S	Sn	00 40 32.0	-2.4
KRX	Arik	2.63	17	PN	Pn	00 40 05.5	+1.6
KRX				S	Sn	00 40 37.6	+2.8
KRX	Arik	2.63	17	*e*P	Pn	00 40 05.5	+1.6
KRX				*e*S	Sn	00 40 37.7	+2.8
SPN	Mys Shipunski	2.78	35	PN	Pn	00 40 05.7	-0.1
SPN				S	Sn	00 40 37.2	-1.1
SPN	Mys Shipunski	2.78	35	*e*P	Pn	00 40 05.8	-0.1
SPN				*e*S	Sn	00 40 37.3	-1.1
GNL	Ganaly	2.86	7	PN	Pn	00 40 08.8	+1.7
GNL	Ganaly	2.86	7	*e*P	Pn	00 40 08.9	+1.7
MKZ	Mys Kozlova	4.56	34	PN	Pn	00 40 28.1	-1.9
MKZ	Mys Kozlova	4.56	34	*e*P	Pn	00 40 28.1	-1.9
TUMD	Tumrok D	4.72	22	PN	Pn	00 40 33.3	+1.0
TUMD	Tumrok D	4.72	22	*e*P	Pn	00 40 33.3	+1.0
KMNR	Kamenistaya	5.20	18	PN	Pn	00 40 40.9	+2.0
KMNR	Kamenistaya	5.20	18	*e*P	Pn	00 40 40.9	+2.0
KPT	Kopyto	5.40	17	PN	Pn	00 40 43.1	+1.6
KPT	Kopyto	5.40	17	*e*P	Pn	00 40 43.1	+1.6
KIRR	Kirishev	5.41	18	PN	Pn	00 40 44.5	+2.8
KIRR	Kirishev	5.41	18	*e*P	Pn	00 40 44.6	+2.8
BZMR	Bezymyannaya	5.42	19	PN	Pn	00 40 44.0	+2.1
BZMR	Bezymyannaya	5.42	19	*e*P	Pn	00 40 44.0	+2.1
KOZ	Kozyrevsk	5.42	15	PN	Pn	00 40 45.3	+3.5
KOZ	Kozyrevsk	5.42	15	*e*P	Pn	00 40 45.4	+3.5
BZWR	Bezymyannyi-We	5.45	19	PN	Pn	00 40 45.0	+2.7
BZWR	Bezymyannyi-We	5.45	19	*e*P	Pn	00 40 45.0	+2.7
BZGR	Bezymyannyi-Gr	5.47	20	PN	Pn	00 40 45.4	+2.9
BZGR	Bezymyannyi-Gr	5.47	20	*e*P	Pn	00 40 45.4	+2.9
KBTR	Krutoberegovo	6.27	29	PN	Pn	00 40 53.1	-0.2
KBTR	Krutoberegovo	6.27	29	*e*P	Pn	00 40 53.2	-0.2
KBG	Krutoberegovo	6.27	28	PN	Pn	00 40 54.3	+0.9
KBG	Krutoberegovo	6.27	28	*e*P	Pn	00 40 54.3	+0.9
BKI	Bering	6.77	47	PN	Pn	00 40 59.4	-0.8
BKI	Bering	6.77	47	*e*P	Pn	00 40 59.4	-0.8
KUR	Kuril'sk	8.49	232	*i* PN	Pn	00 41 22.4	-1.3
TYV	Tymovskoe	9.31	276	*e*PN	Pn	00 41 36.4	+1.6
TYV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,3.8s						
MA2	Magadan	9.51	339	Pn	Pn	00 41 37.1	-0.5
MA2	Magadan	9.51	339	PN	Pn	00 41 37.1	-0.5
YSS	Yuzhno-Sakhali	10.38	254	*e*PN	Pn	00 41 51.3	+1.8
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
SHEM	Shemya Is, Ala	10.54	73	Pn	Pn	00 41 51.5	0.0
SHEM	Shemya Is, Ala	10.54	73	P	Pn	00 41 52.0	+0.4
	comp=Z,25nm,0.6s,baz=79,slow=18,SNR=2.2						
SHEM				S	Sn	00 43 38.1	-10
	comp=Z,49nm,0.5s,baz=144,slow=23,SNR=14						
SHEM				LR	LR	00 45 40.2	
	comp=Z,44nm,20.1s,baz=248,slow=36						
SMY	Shemya	10.54	73	Pn	Pn	00 41 51.4	-0.2
SMY	Shemya	10.54	73	PN	Pn	00 41 51.4	-0.2
JKA	Kamikawa-asahi	12.04	242	Pn	Pn	00 42 13.2	+1.1
ASAJ	Asahikawa	12.04	242	P	Pn	00 42 13.7	+1.6
	comp=Z,10nm,0.5s,baz=151,slow=6.1,SNR=8.3						
ASAJ				LR	LR	00 46 26.5	
	comp=Z,37nm,18.5s,baz=350,slow=35						
SEY	Seymchan	12.40	349	LR	LR	00 47 38.8	
	comp=Z,44nm,21.0s,baz=164,slow=40						
SEY	Seymchan	12.40	349	*i* PN	Pn	00 42 15.0	-1.9
SEY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ERM	Erimo	13.18	233		Pn	00 42 27.5	-0.1
ERM	Erimo	13.18	233	PN	Pn	00 42 27.5	-0.1
JTM	Tenmabayashi	15.15	235	Pn	Pn	00 42 50.1	-3.1
JTM				IAmb	IAmb	00 43 27.1	
	comp=Z,26nm,1.0s						
BILL	Bilibino	17.78	11	*i* P	Pn	00 43 27.7	+1.9
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZEA	Zeya	18.57	291	*e*P	Pn	00 43 35.9	+0.4
JSD	Sado	18.64	234	P	P	00 43 35.2	-0.2
YAK	Yakutsk	18.78	317	P	P	00 43 34.3	-2.3
YAK	Yakutsk	18.78	317	P	P	00 43 36.4	-0.3
	comp=Z,28nm,0.4s,baz=309,slow=1.4,SNR=3.4						
YAK				LR	LR	00 50 41.9	
	comp=Z,66nm,21.6s,baz=100,slow=36						
YAK	Yakutsk	18.78	317	*ce*P	P	00 43 34.9	-1.8
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
HEH	HeiHe	18.98	280	*e*P	P	00 43 39.8	+0.8
HEH				pmax	pmax		
	comp=Z,32nm,0.8s						
MJB9	Matsu-Tunnel	19.83	231	P	P	00 43 50.6	+2.3
MAJO	Matsushiro	19.83	231	P	P	00 43 49.5	+1.2
MAJO	Matsushiro	19.83	231	P	P	00 43 49.5	+1.2
MAJO				pmax	pmax		
	comp=Z,17nm,1.3s						
MJAR	Matsushiro Arr	19.83	231	P	P	00 43 49.4	+1.1
	comp=Z,1.6nm,0.4s,baz=22,slow=12,SNR=7.0						
MJAR				LR	LR	00 52 02.8	
	comp=Z,27nm,19.2s,baz=46,slow=38						
JGF	Kuroka	20.99	231	P	P	00 44 01.1	+0.2
INU	Inuyama	21.36	231	P	P	00 44 04.5	-0.3
INU				IAmb	IAmb	00 44 06.0	
	comp=Z,18nm,0.8s						
HIA	Hailar	24.04	281	*i* P	P	00 44 31.0	-0.6
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
J14K	Nanvaranak Lak	24.06	45	P	P	00 44 30.7	-0.8
J14K				IAmb	IAmb	00 44 33.8	
	comp=Z,31nm,1.3s						
L14K	Kuka Creek	24.23	49	P	P	00 44 33.3	+0.2
L14K				IAmb	IAmb	00 44 56.5	
	comp=Z,23nm,1.4s						
TIXI	Tiksi	24.48	339	LR	LR	00 55 10.4	
	comp=Z,36nm,18.5s,baz=40,slow=39						
KSRS	Korea Array	24.82	249	P	P	00 44 41.0	+2.3
	comp=Z,1.8nm,0.8s,baz=226,slow=42,SNR=2.6 comp=Z,1.8nm,0.8s						
KSRS	Korea Array	24.82	249	P	P	00 44 41.0	+2.3
K15K	Wolf Creek Mou	24.90	47	P	P	00 44 39.7	+0.4
K15K				IAmb	IAmb	00 44 42.2	
	comp=Z,11nm,0.9s						
N15K	Kwethluk River	25.40	52	P	P	00 44 44.2	+0.4
N15K				IAmb	IAmb	00 45 28.4	
	comp=Z,28nm,1.4s						
J16K	Anvik River	25.48	45	P	P	00 44 44.7	+0.2
IMAR	Indian Mountai	28.80	40	P	P	00 45 13.5	-0.8
IMAR				PcP	PcP	00 48 23.1	+1.1
F24K	Squaw Lake	31.27	37	P	P	00 45 35.8	-0.3
ILAR	Eielson Array	31.60	43	P	P	00 45 38.5	-0.5
	comp=Z,1.4nm,0.8s,baz=257,slow=7.4,SNR=16 comp=Z,1.4nm,0.8s						
H11N2	WAKE ISLAND Hy	31.96	163	T	T	01 19 26.6	
	baz=348,slow=76,SNR=448						
H11N3	WAKE ISLAND Hy	31.98	163	T	T	01 19 27.7	
	baz=348,slow=76,SNR=618						
H11N1	WAKE ISLAND Hy	31.98	163	T	T	01 19 27.8	
	baz=348,slow=76,SNR=243						
D25K	Kavik River	32.00	34	P	P	00 45 42.0	-

N02D IAmb IAmb 00 48 42.3
comp=Z,6.6nm,0.8s
ARTI Arti 54.00 317 *c iP* **P 00 48 38.3 -1.4**
ARTI 00 49 39.1
ARTI S **S 00 56 09.9 +0.2**
ARTI SS **SS 00 59 51.9 +0.8**
ARTI pmax pmax
comp=Z,5.0nm,1.5s
O02D Mt. Diablo Mer 54.36 68 P **P 00 48 44.6 +1.9**
O02D IAmb IAmb 00 48 45.8
comp=Z,4.9nm,1.1s
AAK Ala-Archa 54.54 296 LR LR 01 12 32.5
comp=Z,24nm,19.6s,baz=23,slow=37
ARCES ARCESS Array B 54.88 341 LR LR 01 15 00.7
comp=Z,18nm,19.0s,baz=332,slow=39
PLID Pearl Lake 55.09 60 P **P 00 48 49.0 +0.9**
PLID IAmb IAmb 00 48 49.8
comp=Z,3.7nm,1.0s
CHTO Chiang Mai 55.78 257 **P 00 48 53.9 +0.8**
CHTO Chiang Mai 55.78 257 P **P 00 48 53.9 +0.8**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 56.05 257 P **P 00 48 54.7 -0.3**
CMAR Chiang Mai Arr 56.05 257 P **P 00 48 56.5 +1.5**
comp=Z,5.2nm,0.7s,baz=27,slow=7.2,SNR=25
CMAR pP **pP 00 49 13.4 -0.2**
comp=Z,1.4nm,0.3s,baz=30,slow=7.1,SNR=6.3
CMAR LR LR 01 14 39.9
comp=Z,8.5nm,20.4s,baz=205,slow=38
comp=Z,5.2nm,0.7s
CMAR Chiang Mai Arr 56.05 257 *e*P **P 00 48 56.4 +1.5**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 56.49 299 P **P 00 48 56.2 -1.6**
KKAR Karatay Array 56.49 299 P **P 00 48 56.2 -1.6**
WAKR Walker 57.42 68 **P 00 49 06.1 +1.4**
RYN Ryan 57.87 67 P **P 00 49 08.7 +0.9**
RYN IAmb IAmb 00 49 10.1
comp=Z,5.5nm,0.8s
AB31 Akbulak array 57.95 310 P **P 00 49 06.2 -1.8**
ABKAR Akbulak array 57.95 310 P **P 00 49 05.8 -2.1**
NVAR Mina Array Bea 58.13 67 **P 00 49 11.0 +1.3**
NVAR Mina Array Bea 58.13 67 P **P 00 49 11.3 +1.6**
comp=Z,3.8nm,0.5s,baz=298,slow=7.4,SNR=50
comp=Z,3.8nm,0.5s
LHV Little Huntoon 58.14 67 P **P 00 49 10.6 +1.2**
ELK Elko 58.35 63 **P 00 49 12.4 +1.3**
ELK IAmb IAmb 00 49 13.6
comp=Z,2.1nm,0.7s
ELK Elko 58.35 63 P **P 00 49 12.5 +1.3**
ELK pmax pmax
comp=Z,2.0nm,0.7s
RLMT Red Lodge 58.67 56 P **P 00 49 14.1 +0.7**
TPH Tonopah 59.00 67 P **P 00 49 17.0 +1.3**
TPH Tonopah 59.00 67 P **P 00 49 17.0 +1.3**
TPH pmax pmax
comp=Z,7.0nm,0.8s
GAR Garm 59.32 295 **P 00 49 16.2 -1.7**
BW06 Boulder Array 60.12 58 P **P 00 49 24.2 +0.8**
BW06 IAmb IAmb 00 49 25.3
comp=Z,2.3nm,0.8s
PDAR Pinedale Array 60.12 58 P **P 00 49 23.5 +0.1**
comp=Z,1.5nm,0.7s,baz=311,slow=1.5,SNR=15
comp=Z,1.5nm,0.7s
CHGR Chuyangaron 60.22 296 P **P 00 49 22.0 -1.9**
CHGR Chuyangaron 60.22 296 P **P 00 49 22.0 -1.9**
CHGR pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 60.33 67 P **P 00 49 25.6 +0.7**
TPNV Topopah Spring 60.33 67 P **P 00 49 25.6 +0.7**
TPNV pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 61.48 336 P **P 00 49 30.7 -1.3**
comp=Z,2.3nm,0.9s,baz=36,slow=10.0,SNR=3.8
comp=Z,2.3nm,0.9s
FINES FINESS Array B 61.48 336 *e*P **P 00 49 33.5 +1.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
SRU San Rafael Swe 62.11 62 P **P 00 49 37.8 +1.0**
SRU San Rafael Swe 62.11 62 P **P 00 49 37.8 +1.0**
SRU pmax pmax
comp=Z,7.0nm,0.8s
PFO Pinyon Flats O 62.52 70 LR LR 01 15 29.8
comp=Z,24nm,18.0s,baz=22,slow=35
ISCO Idaho Springs 64.31 58 **P 00 49 52.7 +1.1**
ISCO IAmb IAmb 00 49 54.0
comp=Z,8.6nm,1.5s
ISCO Idaho Springs 64.31 58 P **P 00 49 52.7 +1.1**
ISCO pmax pmax
comp=Z,9.0nm,1.5s
NOA NORSAR Array B 65.19 343 P **P 00 49 55.2 -1.4**
comp=Z,0.5nm,0.7s,baz=28,slow=7.6,SNR=2.3
NOA LR LR 01 22 18.3
comp=Z,13nm,18.3s,baz=255,slow=40
comp=Z,0.5nm,0.7s
ANMO Albuquerque 67.36 62 *ce*P **P 00 50 10.5 -0.5**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
SCHQ Schefferville 68.41 26 P **P 00 50 16.8 -0.3**
comp=Z,26nm,0.6s,baz=323,slow=5.2,SNR=5.9
KIV Kislovodsk 69.89 316 *e*P **P 00 50 24.7 -1.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
MNTX Cornudas Mount 70.35 64 **P 00 50 30.2 +0.7**
EKA Eskdalemuir Ar 72.94 349 P **P 00 50 43.8 -0.8**
comp=Z,0.5nm,0.3s,baz=19,slow=5.1,SNR=11
EKA pP **PcP 00 51 01.6 +0.4**
comp=Z,0.4nm,0.4s,baz=18,slow=5.1,SNR=4.6
comp=Z,0.5nm,0.3s
TXAR Lajitas Array 73.10 64 **P 00 50 47.0 +0.9**
TXAR Lajitas Array 73.10 64 P **P 00 50 47.2 +1.1**
comp=Z,6.0nm,0.7s,baz=319,slow=5.6,SNR=83
comp=Z,6.0nm,0.7s
WR8 Warramunga Arr 73.33 202 P **P 00 50 47.3 +0.2**
WR8 IAmb IAmb 00 51 05.1
comp=Z,5.1nm,1.2s
WRA Warramunga Arr 73.35 203 P **P 00 50 47.8 +0.4**
comp=Z,1.1nm,0.6s,baz=19,slow=6.3,SNR=11
WRA pP **PcP 00 51 05.7 +2.4**
comp=Z,0.6nm,0.5s,baz=19,slow=6.2,SNR=7.5
comp=Z,1.1nm,0.6s
BURAR Bucovina Array 73.63 328 P **P 00 50 48.2 -0.7**
ASAR Alice Springs 77.04 202 P **P 00 51 09.6 +1.2**
comp=Z,0.8nm,0.6s,baz=15,slow=5.3,SNR=7.2
ASAR pP PcP 00 51 27.5 +8.4
comp=Z,0.9nm,0.6s,baz=14,slow=5.6,SNR=6.6
comp=Z,0.8nm,0.6s
MMAI Mount Meron Ar 82.09 314 P **P 00 51 35.8 -0.3**
comp=Z,0.4nm,0.3s,baz=46,slow=7.1,SNR=4.2
comp=Z,0.4nm,0.3s
RAYN Ar Rayn 84.82 301 **P 00 51 49.2 -0.9**
RAYN IAmb IAmb 00 51 49.8
comp=Z,3.9nm,0.6s
RAYN Ar Rayn 84.82 301 P **P 00 51 49.3 -0.9**
RAYN pmax pmax
comp=Z,4.0nm,0.6s
ESDC Sonseca Array 88.37 346 P **P 00 52 06.5 -0.7**
comp=Z,0.5nm,0.7s,baz=10,slow=3.1,SNR=2.9
ESDC pP pP 00 52 23.8 -3.5
comp=Z,0.2nm,0.6s,baz=359,slow=4.2,SNR=4.7
comp=Z,0.5nm,0.7s
KEST Kesra 89.29 334 P **P 00 52 11.9 +0.3**
comp=Z,5.1nm,1.0s,baz=333,slow=3.4,SNR=4.3
comp=Z,5.1nm,1.0s
VNDA Vanda 128.13 179 PKP **PKPdf 00 58 19.1 -0.5**
comp=Z,0.4nm,0.4s,baz=90,slow=19,SNR=12
H03N2 Juan Fernandez 135.92 89 T T 03 29 36.9
baz=313,slow=77,SNR=96
H03N1 Juan Fernandez 135.93 89 T T 03 29 35.3
baz=313,slow=77,SNR=66
H03N3 Juan Fernandez 135.93 89 T T 03 29 43.6
baz=313,slow=77,SNR=89
QSPA South Pole Qui 140.60 180 PKhKP PKPpre 00 58 38.3
comp=Z,0.8nm,0.6s,baz=304,slow=1.5,SNR=8.7
PLCA Paso Flores 145.65 92 PKPbc **PKPdf 00 58 53.0 +0.1**
comp=Z,2.6nm,0.7s,baz=258,slow=4.6,SNR=9.3

RSNC 03 00:53:52.1±0.0, 12°N±3°×7°1W±°, h18km±3km, M3.5, mb4.3, mB5.1, ML3.0, Mw(mB)4.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.55**	**263**	P	Pg	00 54 02.1	-0.9
URIC				S	Sg	00 54 10.0	-0.4
CRJC	**Cerrejon, Guaj**	**1.60**	**242**	P	Pn	00 54 17.7	-1.9
CRJC				S	Sn	00 54 37.7	-2.1
SMRC	**Santa Marta, M**	**2.79**	**258**	P	Pn	00 54 35.2	-0.8
SMRC				S	Sn	00 55 09.4	+0.1
SDV	**Santo Domingo**	**2.97**	**164**	P	Pn	00 54 38.4	-0.2
SDV				S	Sn	00 55 13.0	-0.9
ARGC	**Ariguani, Magd**	**3.35**	**236**	P	Pn	00 54 42.3	-1.3
OCAC	**Ocana**	**3.97**	**208**	P	Pn	00 54 50.3	-1.9
OCAC				S	Sn	00 55 37.0	-1.4
SJCC	**San Jacinto, C**	**4.12**	**243**	P	Pn	00 54 54.2	0.0
SJCC				S	Sn	00 55 44.2	+2.2
PAMC	**Pamplona, Colo**	**4.57**	**196**	P	Pn	00 55 00.8	-0.1
PAMC				S	Sn	00 55 52.3	-1.6
BRJC	**Barrancabermej** 1μm30nm,0.7s	**5.28**	**206**	P	Pn	00 55 08.7	-1.5
BRJC				S	Sn	00 56 09.0	-1.6
ZARC	**Zaragoza, Cauc** 2μm16nm,0.7s	**5.42**	**219**	P	Pn	00 55 12.8	+0.6
ZARC				S	Sn	00 56 14.8	+0.6
BARC	**Barichara**	**5.42**	**199**	P	Pn	00 55 12.8	+0.4
BARC				S	Sn	00 56 13.7	-0.8
UREC	**San Jos de Ur**	**5.67**	**226**	P	Pn	00 55 18.9	+3.3
UREC				S	Sn	00 56 20.7	+0.3
PTBC	**PUERTO BERRIO,**	**5.99**	**210**	P	Pn	00 55 18.9	-1.0
PTBC				S	Sn	00 56 25.4	-2.7
RUSC	**La Rusia** 1μm34nm,0.7s	**6.06**	**196**	P	Pn	00 55 20.9	-0.4
RUSC				S	Sn	00 56 29.5	-1.1
SPBC	**San Pablo de B** 516nm14nm,0.4s	**6.61**	**203**	P	Pn	00 55 27.5	-1.1
HELC	**Santa Helena** 8.5nm,0.5s	**6.86**	**216**	P	Pn	00 55 31.7	-0.5
NORC	**Norcasia** 8.3nm,0.5s	**7.04**	**209**	P	Pn	00 55 34.5	+0.1
PRAC	**Prado** 14nm,0.8s	**8.70**	**203**	P	Pn	00 55 58.0	+0.8
GTBY	**Guantanamo Bay**	**8.85**	**337**	P	Pn	00 55 57.4	-1.7

*IDC **03** 00:54:14.3±3.6, 18°.06S×178°.19W, h530km±40km, mb3.5/12, mbtmp4.4/12, Error ellipse: s-maj=17.6km s-min=16.7km az=118.0*
*NEIC **03** 00:54:17.5±1.7, 18°.3S±0°.1×178°.2W±0°.1, h562km±7km, mb4.1/21, Error ellipse: s-maj=21.0km s-min=17.3km az=133.0*

ISC 03 00:54:17.7±0.8, 18°.2S±0°.1×178°.22W±0°.09, h577km±10km, n79, σ0.96/83, mb4.0/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	**00 55 40.2**	**+1.4**
FUTU	**Fugatoga**	**3.85**	**1**	P	**P**	**00 55 40.4**	**-0.1**
NIUE	**Niue**	**7.91**	**98**	P	**P**	**00 56 14.0**	**-1.4**
URZ	**Urewera**	**20.42**	**191**	P	**P**	**00 58 14.2**	**-2.0**
5.6nm,0.4s,baz=322,slow=1.5,SNR=7.5							
5.6nm,0.4s							
TKNZ	**Takaka Hill**	**24.01**	**197**	P	**P**	**00 58 46.8**	**-1.3**
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**01 00 53.3**	**+0.3**
STKA				IAmb	IAmb	01 00 54.7	
comp=Z,11nm,1.0s							
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**01 00 53.1**	**+0.2**
comp=Z,1.5nm,0.6s,baz=82,slow=9.0,SNR=3.3							
comp=Z,1.5nm,0.6s							
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**01 01 30.8**	**0.0**
BBOO				IAmb	IAmb	01 01 33.5	
comp=Z,4.6nm,0.9s							
WB0	**Warramunga Arr**	**44.73**	**260**	P	**P**	**01 01 40.4**	**-0.5**
WB0				IAmb	IAmb	01 01 41.2	
comp=Z,3.1nm,0.6s							
WB0				PcP	**PcP**	**01 03 10.8**	**+0.2**
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**01 01 40.6**	**-0.6**
WRA				PcP	**PcP**	**01 03 10.8**	**+0.1**
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**01 01 41.1**	**0.0**
comp=Z,1.8nm,0.5s,baz=96,slow=7.1,SNR=36							
WRA				PcP	**PcP**	**01 03 11.6**	**+0.8**
comp=Z,0.7nm,0.8s,baz=90,slow=4.2,SNR=5.2							
WRA				S	**S**	**01 07 34.1**	**-3.0**
comp=Z,0.3nm,0.7s,baz=92,slow=13,SNR=1.5							
comp=Z,1.8nm,0.5s							
AS31	**Alice Springs**	**44.90**	**254**		**P**	**01 01 41.7**	**-0.4**
AS31				IAmb	IAmb	01 01 43.3	
comp=Z,3.1nm,0.6s							
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**01 01 41.6**	**-0.5**
ASAR				PcP	**PcP**	**01 03 11.4**	**+0.2**
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**01 01 42.4**	**+0.3**
comp=Z,9.8nm,0.6s,baz=87,slow=8.8,SNR=113							
ASAR				PcP	**PcP**	**01 03 11.2**	**+0.1**
comp=Z,1.0nm,0.5s,baz=86,slow=4.8,SNR=6.9							
ASAR				S	**S**	**01 07 37.0**	**-1.9**
comp=Z,0.3nm,0.5s,baz=85,slow=14,SNR=4.3							
comp=Z,9.8nm,0.6s							
FORT	**Forrest**	**50.06**	**245**	P	**P**	**01 02 19.9**	**-0.7**
FORT				IAmb	IAmb	01 02 40.4	
comp=Z,5.4nm,0.9s							
KNRA	**Kununurra**	**50.65**	**264**	P	**P**	**01 02 24.9**	**-0.1**
KNRA				IAmb	IAmb	01 02 50.0	
comp=Z,4.4nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	**P**	**01 02 43.2**	**+0.1**
SOEI	**Soe**	**56.26**	**270**	P	**P**	**01 03 06.3**	**+1.5**
PSA00	**Pilbara Seismi**	**58.02**	**256**	P	**P**	**01 03 16.0**	**-0.6**
PSA00				IAmb	IAmb	01 03 17.0	
comp=Z,6.3nm,0.8s							
MJAR	**Matsushiro Arr**	**68.23**	**323**	P	**P**	**01 04 21.5**	**-0.1**
comp=Z,2.4nm,0.3s,baz=165,slow=5.0,SNR=11							
comp=Z,2.4nm,0.3s							
KIWB	**Kanaga Island**	**69.73**	**1**	P	**P**	**01 04 29.3**	**-1.0**
ADK	**Adak**	**69.77**	**1**	P	**P**	**01 04 29.5**	**-0.9**
ATKA	**Atka Island**	**70.17**	**3**	P	**P**	**01 04 31.6**	**-1.2**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**01 04 45.3**	**+2.3**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**01 04 45.5**	**+2.6**
comp=Z,1.8nm,0.5s,baz=272,slow=0.4,SNR=21							
comp=Z,1.8nm,0.5s							
PETK	**Petropavlovsk-**	**73.98**	**345**	P	**P**	**01 04 54.9**	**+0.1**
comp=Z,2.8nm,0.6s,baz=116,slow=8.6,SNR=5.3							
comp=Z,2.8nm,0.6s							
KSRS	**Korea Array**	**75.02**	**318**	P	**P**	**01 05 02.6**	**+1.6**
comp=Z,0.7nm,0.6s,baz=124,slow=4.3,SNR=1.7							
comp=Z,0.7nm,0.6s							
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**01 05 26.1**	**+0.6**
comp=Z,1.3nm,0.6s,baz=223,slow=9.1,SNR=17							
comp=Z,1.3nm,0.6s							
J05D	**Fort Rock, OR**	**80.41**	**38**		**P**	**01 05 31.1**	**+0.9**
J05D				IAmb	IAmb	01 05 31.9	
comp=Z,6.2nm,0.6s							
BELA	**Belgrano 2**	**81.88**	**173**	P	**P**	**01 05 36.8**	**-0.2**
G08A	**Pilot Rock**	**82.91**	**38**		**P**	**01 05 43.4**	**+0.6**
CTGM	**Chitina Glacie**	**84.24**	**17**	P	**P**	**01 05 48.9**	**-0.1**
CTGM				IAmb	IAmb	01 05 49.6	
comp=Z,5.6nm,0.8s							
RND	**Reindeer**	**84.49**	**13**		**P**	**01 05 49.2**	**-0.8**
RND				IAmb	IAmb	01 05 50.3	
comp=Z,8.2nm,0.7s							
BCAR	**Beaver Creek A**	**85.85**	**16**	P	**P**	**01 05 56.8**	**+0.2**
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**01 05 59.5**	**+1.4**
comp=Z,1.9nm,0.8s,baz=221,slow=5.4,SNR=14							
comp=Z,1.9nm,0.8s							
ILAR	**Eielson Array**	**86.10**	**13**	P	**P**	**01 05 56.9**	**-0.9**
comp=Z,1.4nm,0.4s,baz=222,slow=5.0,SNR=22							
comp=Z,1.4nm,0.4s							
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**01 06 05.2**	**+0.5**
comp=Z,0.9nm,0.6s,baz=219,slow=4.9,SNR=7.8							
CMAR	**Chiang Mai Arr**	**89.15**	**290**	P	**P**	**01 06 15.0**	**+2.0**
comp=Z,0.8nm,0.4s,baz=120,slow=3.5,SNR=6.2							
comp=Z,0.8nm,0.4s							
G31M	**Satah River**	**90.86**	**16**	P	**P**	**01 06 18.9**	**-0.9**
BVAR	**Borovoye Array**	**117.17**	**321**	PKP	**PKPdf**	**01 11 57.1**	**-0.7**
comp=Z,0.8nm,0.4s,baz=114,slow=1.8,SNR=5.0							
AKTO	**Aktyubinsk**	**125.19**	**319**	PKP	**PKPdf**	**01 12 13.2**	**-0.1**
comp=Z,0.5nm,0.2s,baz=15,slow=5.2,SNR=4.3							
ARCES	**ARCESS Array B**	**126.61**	**350**	PKP	**PKPdf**	**01 12 15.1**	**-0.3**
comp=Z,6.4nm,0.9s,baz=25,slow=1.5,SNR=8.7							
FINES	**FINESS Array B**	**133.49**	**344**	PKP	**PKPdf**	**01 12 27.9**	**-0.7**
comp=Z,1.8nm,0.9s,baz=20,slow=4.4,SNR=3.9							
EKA	**Eskdalemuir Ar**	**142.72**	**5**	PKhKP	PKPpre	01 12 41.8	
comp=Z,0.7nm,0.6s,baz=289,slow=2.6,SNR=2.5							
EKA				PKP	**PKPdf**	**01 12 44.4**	**-1.2**
comp=Z,0.7nm,0.7s,baz=325,slow=2.0,SNR=4.7							
BNN	**Bunyan**	**143.97**	**312**		PKPbc	01 12 47.8	-0.2
ILGA	**Ilgaz**	**144.40**	**317**		**PKPab**	**01 12 49.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**144.92**	**332**		PKPbc	01 12 51.0	+0.4
BURAR	**Bucovina Array**	**144.93**	**332**	PKPbc	PKPbc	01 12 51.0	+0.4
BRTR	**Keskin Array B**	**145.10**	**315**		**PKPbc**	**01 12 51.1**	**-0.4**
BRTR	**Keskin Array B**	**145.10**	**315**	PKPbc	**PKPbc**	**01 12 51.4**	**-0.1**
comp=Z,1.8nm,0.7s,baz=89,slow=3.0,SNR=12							
OSTC	**Ostas**	**145.70**	**344**	*e*PKP	**PKPbc**	**01 12 53.4**	**+0.7**
STEB	**Steborice**	**145.81**	**342**	*e*PKP	**PKPbc**	**01 12 53.2**	**+0.2**
DPC	**Dobruska-Polom**	**145.85**	**343**	*e*PKP	**PKPbc**	**01 12 53.5**	**+0.3**
KRLC	**Kraliky**	**145.98**	**343**	*e*PKP	**PKPbc**	**01 12 53.9**	**+0.4**
PVCC	**Panska Ves**	**146.14**	**345**	*e*PKP	**PKPbc**	**01 12 54.7**	**+0.8**
MLR	**Muntele Rosu**	**146.15**	**329**		**PKPbc**	**01 12 53.5**	**-0.7**
MAUC	**Maruska**	**146.30**	**341**	*e*PKP	**PKPbc**	**01 12 55.0**	**+0.6**
MMAI	**Mount Meron Ar**	**146.44**	**303**	PKPbc	**PKPbc**	**01 12 56.0**	**+0.6**
comp=Z,2.3nm,0.5s,baz=74,slow=6.2,SNR=14							
PRU	**Pruhonice**	**146.65**	**345**	*e*PKP	**PKPbc**	**01 12 55.3**	**0.0**
BORA	**Eskisehir**	**147.13**	**317**	PKPbc	**PKPbc**	**01 12 56.4**	**-0.7**
ZVC	**Zvikov**	**147.24**	**345**	*e*PKP	**PKPbc**	**01 12 57.1**	**+0.2**
KHC	**Kasperske Hory**	**147.68**	**345**	*e*PKP	**PKPbc**	**01 12 58.6**	**+0.5**
CKRC	**Cesky Krumlov**	**147.79**	**344**	*e*PKP	**PKPbc**	**01 12 58.4**	**+0.1**
GEC2	**GERESS Array S**	**147.92**	**345**	PKPbc	**PKPbc**	**01 12 58.5**	**-0.3**
GERES	**GERESS Array B**	**147.92**	**345**	PKPbc	**PKPbc**	**01 12 59.0**	**+0.2**
comp=Z,1.8nm,0.5s,baz=42,slow=3.9,SNR=16							
ELL	**Elmali**	**149.11**	**312**	PKPbc	**PKPbc**	**01 13 01.4**	**-0.7**
RDO	**Rodhopi**	**149.36**	**323**	PKPbc	**PKPbc**	**01 13 01.9**	**-0.5**
LESA	**Schwarzleotal**	**149.49**	**345**	*e*PKP	**PKPbc**	**01 13 02.1**	**-0.5**
comp=Z,5.4nm,1.0s							
SOKA	**Soboth**	**149.54**	**342**	*e*PKP	**PKPdf**	**01 12 59.8**	**+2.3**
comp=Z,6.5nm,1.1s							
WATA	**Walderalm**	**149.82**	**347**	*e*PKP	**PKPbc**	**01 13 03.1**	**-0.4**
comp=Z,4.4nm,0.6s							
WTTA	**Wattenberg**	**149.88**	**347**	*e*PKP	**PKPbc**	**01 13 02.8**	**-0.9**
comp=Z,5.2nm,0.5s							
MOTA	**Moosalm**	**149.92**	**347**	*e*PKP	**PKPbc**	**01 13 03.0**	**-0.8**
comp=Z,7.5nm,1.2s							
MYKA	**Terra Mystica**	**149.98**	**344**	*e*PKP	**PKPbc**	**01 13 02.9**	**-0.9**
comp=Z,3.7nm,0.7s							
SQTA	**Sankt Quirin**	**150.01**	**347**	*e*PKP	**PKPbc**	**01 13 03.5**	**-0.4**
comp=Z,3.4nm,0.6s							
ABTA	**Abfaltersbach**	**150.16**	**345**	*e*PKP	**PKPbc**	**01 13 03.7**	**-0.5**
comp=Z,5.7nm,0.6s							
FETA	**Feichten**	**150.30**	**348**	*e*PKP	**PKPbc**	**01 13 04.5**	**-0.2**
comp=Z,7.5nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**150.78**	**348**	PKPbc	**PKPbc**	**01 13 05.8**	**0.0**
KARP	**Karpathos**	**151.63**	**313**	PKPbc	**PKPbc**	**01 13 07.3**	**-0.6**
ESDC	**Sonseca Array**	**158.00**	**12**	PKPab	**PKPab**	**01 13 45.1**	**-1.4**
comp=Z,0.2nm,0.3s,baz=337,slow=3.7,SNR=2.7							

*IDC **03** 01:11:42.5±0.6, 56°.86S×30°.49W, h0km, mb4.4/11, mbtmp4.5/13, ML4.1/2, MS4.5/35, Error ellipse: s-maj=21.0km s-min=15.1km az=69.0*
*NEIC **03** 01:11:43.6±1.7, 56°.98S±0°.10×30°.5W±0°.2, h10km±1km, mb5.1/37, Mww5.2/10, Error ellipse: s-maj=19.3km s-min=13.9km az=224.0*
*NEIC **03** 01:11:43.6, 56°.97S×30°.46W, h20km*
*NEIC **03** 01:11:43.6, 56°.97S×30°.46W, h20km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}0.16; $M_{\theta\theta}$-4.62; $M_{\phi\phi}$4.46; $M_{r\theta}$0.38; $M_{\theta\phi}$-5.93; $M_{\phi r}$1.05; Fault plane solution: $M_0$7.56000×10^{16} NP1: ϕ_s288.72000°, δ81.47000°, λ179.90000°. NP2: ϕ_s18.74000°, δ89.90000°, λ8.53000°. Principal axes: T 7.4742, Plg6.0000°, Azm244.0000°; N 0.1629, Plg81.0000°, Azm19.0000°; P -7.6371, Plg6.0000°, Azm153.0000°;*
*GCMT **03** 01:11:46.6±0.1, 57°.08S±0°.01×30°.50W±0°.01, h13km, MW5.2/135, Moment Tensor Solution. s101,c137; s135,c238; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.29±.01; $M_{\theta\theta}$0.12±.01; $M_{\phi\phi}$0.41±.01; $M_{r\theta}$-0.05±.03; $M_{\theta\phi}$-0.85±.01; $M_{\phi r}$-0.14±.03; Best double couple: $M_0$0.90700×10^{17} NP1:ϕ_s99.00000°, δ78.00000°, λ-173.00000°. NP2:ϕ_s8.00000°, δ83.00000°, λ-12.00000°. Principal axes: T 1.0380, Plg4.0000°, Azm254.0000°; N -0.2620, Plg76.0000°, Azm158.0000°; P -0.7770, Plg14.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 01:11:43.8±0.3, 57°.00S±0°.06×30°.65W±0°.07, h10km, n189, σ1.41/152, mb5.0/28, MS4.5/34, 8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.28**	**307**		**Pn**	**01 12 49.0**	**+0.1**
HOPE				Sn	**Sn**	**01 13 40.1**	**+1.3**
ESPZ	**Base Esperanza**	**14.50**	**233**	Pn	**Pn**	**01 15 07.3**	**-1.5**
VNA1	**Neumayer--Stat**	**16.71**	**154**	⇑P	**P**	**01 15 41.1**	**+1.2**
comp=Z,141nm,1.0s							
VNA3	**Neumayer Olymp**	**16.81**	**156**	⇑P	**P**	**01 15 42.2**	**+1.1**
comp=Z,106nm,0.9s							
VNA2	**Neumayer--Watz**	**17.11**	**154**	⇑P	**P**	**01 15 44.3**	**-0.1**
comp=Z,20nm,0.8s,baz=315,slow=8.5							
PMSA	**Palmer Station**	**17.82**	**230**		**P**	**01 15 52.3**	**+0.1**
PMSA	**Palmer Station**	**17.82**	**230**	P	**P**	**01 15 53.0**	**+0.7**
comp=Z,0.3nm,0.3s,baz=83,slow=11,SNR=9.5							
PMSA				LR	LR	01 21 23.5	
comp=Z,3μm,21.9s,baz=64,slow=32							
comp=Z,45nm,1.2s							
PMSA	**Palmer Station**	**17.82**	**230**	*e*P	**P**	**01 15 52.6**	**+0.3**
SNAA	**Sanae**	**18.72**	**153**	⇑P	**Pn**	**01 16 02.5**	**0.0**
comp=Z,272nm,0.5s							
SNAA	**Sanae**	**18.72**	**153**		**P**	**01 16 01.0**	**-1.1**
SNAA	**Sanae**	**18.72**	**153**	P	**Pn**	**01 16 03.1**	**+0.5**
comp=Z,1.4nm,0.3s,baz=316,slow=9.1,SNR=35							
SNAA				LR	LR	01 21 48.1	
comp=Z,942nm,20.1s,baz=20,slow=32							
comp=Z,23nm,0.9s							
TROLL	**Troll, Antarti**	**20.31**	**151**	⇑P	**P**	**01 16 20.4**	**+0.9**
comp=Z,4μm,0.9s							
BELA	**Belgrano 2**	**21.02**	**182**		**P**	**01 16 26.9**	**-0.2**
BELA				IAmb	IAmb	01 16 36.4	
comp=Z,118nm,1.3s							
MG05	**Puerto Natales**	**24.67**	**264**	P	**P**	**01 17 04.7**	**+0.3**
GO09	**Cerro Castillo**	**24.78**	**265**	P	**P**	**01 17 05.2**	**-0.2**
PLTB	**Pedras Altas**	**29.81**	**318**		**P**	**01 17 51.8**	**+1.1**
PLTB				IAmb	IAmb	01 17 58.8	
comp=Z,33nm,1.1s							
PLTB	**Pedras Altas**	**29.81**	**318**	*e*P	**P**	**01 17 52.1**	**+1.4**
PLCA	**Paso Flores**	**30.34**	**285**		**P**	**01 17 55.3**	**0.0**
PLCA	**Paso Flores**	**30.34**	**285**	P	**P**	**01 17 55.4**	**0.0**
comp=Z,3.7nm,0.9s,baz=142,slow=11,SNR=4.8							
PLCA				LR	LR	01 29 19.5	

BDFB	**Brasilia**	**43.32**	**335**	P	**P**	**01 19 46.3**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=75,slow=2.3,SNR=6.0						
BDFB				LR	LR	01 34 58.9	
	comp=Z,537nm,21.1s,baz=154,slow=32						
	comp=Z,5.3nm,0.9s						
ARAG	**Araguaiana, MT**	**44.22**	**330**	*e*P	**P**	**01 19 54.4**	**+1.4**
SBA	**Scott Base**	**44.98**	**185**	P	**P**	**01 19 59.4**	**+1.0**
SBA				IAmb	IAmb	01 20 11.4	
	comp=Z,36nm,1.6s						
SALV	**Santo Antonio**	**45.17**	**325**	*e*P	**P**	**01 20 02.2**	**+1.6**
VNDA	**Vanda**	**45.52**	**184**	P	**P**	**01 20 03.8**	**+1.1**
VNDA	**Vanda**	**45.52**	**184**	P	**P**	**01 20 04.2**	**+1.5**
	comp=Z,7.1nm,0.8s,baz=192,slow=6.1,SNR=42						
	comp=Z,7.1nm,0.8s						
PTLB	**Pontes e Lacer**	**46.73**	**321**	P	**P**	**01 20 13.1**	**+0.2**
PTLB	**Pontes e Lacer**	**46.73**	**321**	*e*P	**P**	**01 20 13.8**	**+0.9**
SIV	**San Ignacio**	**46.92**	**318**	LR	LR	01 39 42.2	
	comp=Z,420nm,21.1s,baz=182,slow=36						
SNDB	**Serra Nova Dou**	**47.65**	**332**	*e*P	**P**	**01 20 21.6**	**+1.6**
BOSA	**Boshof**	**48.05**	**78**	P	**P**	**01 20 22.0**	**-1.3**
BOSA	**Boshof**	**48.05**	**78**	P	**P**	**01 20 21.9**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=217,slow=7.8,SNR=7.5						
BOSA				LR	LR	01 36 02.1	
	comp=Z,1μm,21.2s,baz=224,slow=30						
	comp=Z,4.0nm,0.8s						
H04S2	**CROZET ISLANDS**	**48.89**	**115**	T	T	02 13 40.4	
	baz=226,slow=75,SNR=23						
H04S3	**CROZET ISLANDS**	**48.90**	**115**	T	T	02 13 41.4	
	baz=226,slow=75,SNR=16						
H04S1	**CROZET ISLANDS**	**48.91**	**115**	T	T	02 13 41.5	
	baz=226,slow=75,SNR=14						
VILB	**Vilhena**	**49.42**	**321**		**P**	**01 20 33.6**	**-0.2**
VILB				IAmb	IAmb	01 20 41.0	
	comp=Z,26nm,0.9s						
VILB	**Vilhena**	**49.42**	**321**	*e*P	**P**	**01 20 34.0**	**+0.2**
LPAZ	**La Paz**	**49.43**	**310**	P	**P**	**01 20 32.7**	**-1.9**
LPAZ	**La Paz**	**49.43**	**310**	P	**P**	**01 20 34.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=198,slow=2.8,SNR=5.3						
LPAZ				LR	LR	01 45 21.3	
	comp=Z,260nm,18.0s,baz=155,slow=41						
	comp=Z,1.4nm,0.7s						
LPAZ	**La Paz**	**49.43**	**310**	*e*P	**P**	**01 20 34.6**	**+0.1**
PDRB	**Porto dos Gac**	**49.53**	**326**	*e*P	**P**	**01 20 34.4**	**-0.3**
SMTB	**Santa Maria do**	**49.80**	**338**	*e*P	**P**	**01 20 38.8**	**+2.2**
CLDB	**Colider**	**49.95**	**327**	*e*P	**P**	**01 20 37.0**	**-0.8**
KOOLE	**Kule**	**49.95**	**69**		**P**	**01 20 35.4**	**-2.5**
KOOLE				IAmb	IAmb	01 20 45.5	
	comp=Z,28nm,1.1s						
KOOLE	**Kule**	**49.95**	**69**	*i* P	**P**	**01 20 36.5**	**-1.4**
MAKGR	**Makgori**	**50.05**	**76**	P	**P**	**01 20 36.6**	**-2.0**
H10N1	**ASCENSION HYDR**	**50.63**	**21**	T	T	02 15 26.7	
	baz=191,slow=76,SNR=4.0						
H10N3	**ASCENSION HYDR**	**50.63**	**21**	T	T	02 15 29.2	
	baz=191,slow=76,SNR=10						
H10N2	**ASCENSION HYDR**	**50.65**	**21**	T	T	02 15 29.0	
	baz=191,slow=76,SNR=7.9						
KGCAE	**Kacgae**	**51.10**	**71**		**P**	**01 20 44.6**	**-2.0**
KGCAE				IAmb	IAmb	01 20 48.5	
	comp=Z,49nm,1.4s						
KGCAE	**Kacgae**	**51.10**	**71**	*i* P	**P**	**01 20 45.3**	**-1.2**
LBTB	**Lobatse**	**51.11**	**76**	P	**P**	**01 20 44.8**	**-1.8**
LBTB	**Lobatse**	**51.11**	**76**	LR	LR	01 39 45.5	
	comp=Z,469nm,18.5s,baz=212,slow=33						
RCBR	**Riachuelo**	**51.20**	**353**	LR	LR	01 40 46.6	
	comp=Z,98nm,18.0s,baz=207,slow=34						
TSUM	**Tsumeb**	**51.82**	**64**		**P**	**01 20 49.6**	**-2.4**
TSUM	**Tsumeb**	**51.82**	**64**	LR	LR	01 39 59.2	
	comp=Z,463nm,18.3s,baz=176,slow=33						
GRTLG	**Ghanzi**	**51.82**	**69**		**P**	**01 20 50.3**	**-1.7**
GRTLG				IAmb	IAmb	01 20 54.0	
	comp=Z,35nm,1.5s						
GRTLG	**Ghanzi**	**51.82**	**69**	*i* P	**P**	**01 20 50.3**	**-1.7**
PRPB	**Parauapebas**	**52.89**	**336**	*e*P	**P**	**01 21 00.9**	**+1.1**
NPGB	**Novo Progresso**	**53.45**	**329**	*e*P	**P**	**01 21 04.2**	**+0.3**
CASY	**Casey**	**53.64**	**162**	P	**P**	**01 21 04.7**	**0.0**
CASY				IAmb	IAmb	01 21 13.5	
	comp=Z,21nm,1.4s						
GMARE	**Gumare**	**53.95**	**68**	P	**P**	**01 21 06.0**	**-1.7**
GMARE				IAmb	IAmb	01 21 14.7	
	comp=Z,32nm,1.4s						
MREMI	**Moremi**	**54.08**	**76**		**P**	**01 21 06.6**	**-1.9**
MREMI				IAmb	IAmb	01 21 08.6	
	comp=Z,48nm,1.6s						
XAUDM	**Khaudum**	**54.25**	**67**	P	**P**	**01 21 08.7**	**-1.2**
XAUDM				IAmb	IAmb	01 21 18.6	
	comp=Z,14nm,1.0s						
PHDHD	**Phuduhudu**	**54.50**	**71**	P	**P**	**01 21 10.5**	**-1.2**
PHDHD				IAmb	IAmb	01 21 26.6	
	comp=Z,16nm,1.2s						
BROLN	**Tlhalogang**	**55.22**	**75**	*i* P	**P**	**01 21 15.2**	**-1.8**
ITTB	**Itaituba**	**56.11**	**329**	*e*P	**P**	**01 21 24.4**	**+1.2**
MATP	**Matopo**	**56.39**	**75**	LR	LR	01 42 53.5	
	comp=Z,430nm,18.2s,baz=214,slow=33						
KSANE	**Kasane**	**56.82**	**70**	P	**P**	**01 21 26.9**	**-1.5**
KSANE				IAmb	IAmb	01 21 35.2	
	comp=Z,58nm,1.9s						
KSANE	**Kasane**	**56.82**	**70**	*i* P	**P**	**01 21 26.2**	**-2.2**
LSZ	**Lusaka**	**60.50**	**72**	P	**P**	**01 21 53.0**	**-1.1**
LSZ	**Lusaka**	**60.50**	**72**	LR	LR	01 45 37.9	
	comp=Z,519nm,18.1s,baz=196,slow=34						
RPN	**Rapa Nui**	**61.62**	**263**	LR	LR	01 41 57.1	
	comp=Z,349nm,21.0s,baz=146,slow=29						
ATAH	**Atahualpa**	**62.06**	**304**	LR	LR	01 52 19.8	
	comp=Z,174nm,18.3s,baz=161,slow=39						
BOAV	**Boa Vista**	**63.93**	**326**	P	**P**	**01 22 15.8**	**-1.1**
BOAV				IAmb	IAmb	01 22 23.8	
	comp=Z,12nm,0.9s						
BOAV	**Boa Vista**	**63.93**	**326**	*e*P	**P**	**01 22 15.4**	**-1.4**
MDP	**Montagnes des**	**64.43**	**336**	LR	LR	01 51 09.4	
	comp=Z,324nm,18.4s,baz=146,slow=37						
DBIC	**Dimbokro**	**66.87**	**28**	P	**P**	**01 22 36.8**	**+1.0**
	comp=Z,4.7nm,0.7s,baz=216,slow=7.5,SNR=4.6						
DBIC				LR	LR	01 46 16.6	
	comp=Z,233nm,18.2s,baz=206,slow=31						
	comp=Z,4.7nm,0.7s						
FLOC	**Florencia**	**68.66**	**311**	P	**P**	**01 22 46.5**	**-0.7**
FLOC				IAmb	IAmb	01 22 53.5	
	comp=Z,10nm,1.1s						
ROSC	**El Rosal**	**71.08**	**313**	LR	LR	01 57 00.5	
	comp=Z,151nm,19.6s,baz=165,slow=38						
RUSC	**La Rusia**	**71.55**	**315**	P	**P**	**01 23 03.3**	**-2.2**
RUSC				IAmb	IAmb	01 23 06.3	
	comp=Z,23nm,1.4s						
BAUV	**El Baul**	**72.52**	**321**	P	**P**	**01 23 09.9**	**-0.8**
PCRV	**Puerto La Cruz**	**72.55**	**325**	LR	LR	01 54 27.9	
	comp=Z,450nm,21.9s,slow=35						
SDV	**Santo Domingo**	**73.39**	**319**	P	**P**	**01 23 16.0**	**0.0**
SDV				IAmb	IAmb	01 23 22.9	
	comp=Z,16nm,1.3s						
SDV	**Santo Domingo**	**73.39**	**319**	LR	LR	01 57 18.2	
	comp=Z,444nm,19.4s,baz=144,slow=37						
SDV	**Santo Domingo**	**73.39**	**319**	*e*P	**P**	**01 23 16.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**74.86**	**33**	P	**P**	**01 23 23.8**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=199,slow=5.5,SNR=22						
TORD				LR	LR	01 49 15.9	
	comp=Z,854nm,21.8s,baz=176,slow=30						
	comp=Z,5.0nm,0.8s						
KMBO	**Kilima Mbogo**	**77.16**	**72**	LR	LR	01 55 15.7	
	comp=Z,365nm,19.1s,baz=106,slow=34						
RKT	**Rikitea**	**78.34**	**246**	*e*LR	LR	01 48 02.3	
	comp=Z,11μm,37.5s						
JTS	**Las Juntas de**	**80.46**	**306**	LR	LR	01 59 11.4	
	comp=Z,68nm,21.1s,baz=152,slow=35						
SJG	**San Juan**	**80.50**	**326**	LR	LR	02 01 09.4	
	comp=Z,163nm,19.4s,baz=163,slow=37						
TBI	**Tubuai**	**84.98**	**234**	*e*P	P	01 24 11.8	-7.4
	comp=Z,492nm,41.0s						
TBI	**Tubuai**	**84.98**	**234**	*e*S	**S**	**01 34 46.5**	**-1.6**
	comp=Z,712nm,27.5s						
TBI				*e*SS	SS	01 40 06.1	-14
	comp=Z,695nm,30.8s						
TBI	**Tubuai**	**84.98**	**234**	*e*LR	LR	01 50 59.0	
	comp=Z,6μm,29.8s						
TBI				*e*LR	LR	01 51 03.1	
	comp=Z,1μm,28.2s						
TAM	**Tamanrasset**	**85.11**	**33**	P	**P**	**01 24 18.7**	**-1.1**
TAM				IAmb	IAmb	01 24 28.8	
	comp=Z,13nm,1.4s						
MTO3	**Montecristo**	**86.07**	**304**	P	**P**	**01 24 23.8**	**-1.0**
FURI	**Furi**	**86.43**	**68**	LR	LR	01 59 15.6	
	comp=Z,499nm,21.7s,baz=202,slow=33						
PPT2	**Papeete2**	**90.06**	**237**	*e*S	**S**	**01 35 33.5**	**-3.6**
	comp=Z,147nm,26.5s						
PPT2	**Papeete2**	**90.06**	**237**	*e*LR	LR	01 53 21.9	
	comp=Z,1μm,29.8s						
PPT2				*e*LR	LR	01 53 29.9	
	comp=Z,829nm,32.2s						
PPT	**Papeete**	**90.08**	**237**	LR	LR	01 56 28.6	
	comp=Z,265nm,20.4s,baz=174,slow=30						
CMIG	**Matias Romero**	**90.97**	**301**	LR	LR	02 00 16.7	
	comp=Z,110nm,20.0s,baz=152,slow=32						
STKA	**Stephens Creek**	**91.23**	**173**	LR	LR	02 05 38.6	
	comp=Z,317nm,19.4s,baz=189,slow=35						
MDT	**Midelt**	**92.14**	**22**	LR	LR	01 59 54.2	
	comp=Z,205nm,20.8s,baz=204,slow=31						
TAOE	**Nuku Hiva Isla**	**93.01**	**249**	*e*LR	LR	01 54 44.6	
	comp=Z,541nm,28.0s						
KEST	**Kesra**	**98.37**	**32**	LR	LR	02 04 14.5	
	comp=Z,731nm,21.9s,baz=216,slow=32						
ASAR	**Alice Springs**	**98.60**	**166**	P	**P**	**01 25 21.5**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=179,slow=3.7,SNR=6.2						
ASAR				LR	LR	02 07 05.4	
	comp=Z,447nm,20.5s,baz=189,slow=34						
	comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**98.91**	**21**	LR	LR	02 05 13.4	
	comp=Z,261nm,19.8s,baz=182,slow=32						
DZM	**Mont Dzumac**	**99.94**	**196**	*e*LR	LR	01 57 52.7	
	comp=Z,383nm,24.5s						
CLL	**Collm**	**113.77**	**28**	*e*PS	PS	01 40 56.0	+5.2
CLL				*e*PPS	PPS	01 42 05.0	
CMAR	**Chiang Mai Arr**	**126.47**	**115**	PKP	**PKiKP**	**01 30 47.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=217,slow=2.0,SNR=5.0						
QIZ	**Qiongzhong**	**132.12**	**126**	PKP	**PKPdf**	**01 30 57.7**	**+0.2**
QIZ				PP	**PP**	**01 33 18.2**	**-1.0**
QIZ				SS	SS	01 50 57.1	+0.9
QIZ				LR	LR		
	comp=Z,120nm,19.6s						
QIZ				LR	LR		
	comp=Z,97nm,15.7s						
QIZ				LR	LR		
	comp=Z,180nm,16.7s						
PZH	**PanZhiHua**	**134.60**	**112**	PKP	**PKPdf**	**01 31 02.1**	**-0.1**
WMQ	**Urumqi**	**139.96**	**82**	*e*PKP	**PKiKP**	**01 31 12.7**	**-1.2**
LZH	**Lanzhou**	**143.27**	**105**	*e*PKP	PKPab	01 31 08.1	-5.5
GTA	**Gaotai**	**143.55**	**97**	*e*PKP	**PKPdf**	**01 31 18.1**	**0.0**
GTA				PP	**PP**	**01 34 37.8**	**+7.1**
HYT	**Haines Junctio**	**143.84**	**307**		PKPbc	01 31 16.1	+0.4
XAN	**Xi'an**	**144.32**	**113**	⇑PKP	**PKPdf**	**01 31 19.1**	**-0.4**
M30M	**Minto, Yukon**	**144.32**	**310**		**PKPab**	**01 31 16.2**	**-0.5**
ZALV	**Zalesovo Beam**	**144.51**	**67**		**PKPab**	**01 31 16.1**	**-1.5**
ZALV	**Zalesovo Beam**	**144.51**	**67**	PKP	**PKPab**	**01 31 16.8**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=250,slow=6.8,SNR=11						
H31M	**Peel River**	**144.68**	**316**		**PKPab**	**01 31 17.8**	**-0.1**
PCA	**Pinnacle**	**144.72**	**305**		**PKPab**	**01 31 18.2**	**0.0**
M29M	**Somme Creek**	**144.96**	**310**		PKPbc	01 31 18.8	-0.4
J30M	**Hart River**	**144.97**	**314**		**PKPab**	**01 31 19.4**	**+0.3**
F31M	**Tsiigehtchic**	**145.08**	**319**		**PKPbc**	**01 31 19.0**	**-0.1**
G31M	**Satah River**	**145.08**	**318**		**PKPbc**	**01 31 18.9**	**-0.3**
L29M	**L29M**	**145.10**	**311**		**PKPbc**	**01 31 19.1**	**-0.4**
K29M	**Barlow Dome**	**145.15**	**312**		**PKPdf**	**01 31 20.5**	**+0.4**
I30M	**Mount Dempster**	**145.24**	**315**		**PKPbc**	**01 31 19.5**	**-0.4**
INK	**Inuvik**	**145.31**	**320**		**PKPab**	**01 31 21.2**	**+1.2**
G30M	**tAoh Zraii Nji**	**145.82**	**318**		**PKPdf**	**01 31 21.1**	**+0.1**
F30M	**Barrier River**	**145.88**	**319**		**PKPbc**	**01 31 21.9**	**+0.2**
DAWY	**Dawson**	**146.00**	**312**		**PKPbc**	**01 31 22.1**	**-0.2**
I29M	**Ogilvie Camp,**	**146.04**	**314**		**PKPbc**	**01 31 22.4**	**0.0**
H29M	**Whitestone**	**146.37**	**316**		**PKPbc**	**01 31 22.7**	**-0.6**
BCAR	**Beaver Creek A**	**146.62**	**309**		**PKPbc**	**01 31 23.7**	**-0.4**
L27K	**Beaver Creek,**	**146.63**	**309**		**PKPbc**	**01 31 23.6**	**-0.6**
E29M	**Blow River**	**146.88**	**320**		**PKPbc**	**01 31 23.9**	**-0.8**
F28M	**Old Crow**	**147.37**	**318**		**PKPbc**	**01 31 26.2**	**+0.1**
NJ2	**Nanjing**	**147.40**	**127**	*e*PKPbc	**PKPdf**	**01 31 24.2**	**-0.5**
H27K	**Steamboat Moun**	**147.58**	**315**		**PKPbc**	**01 31 25.6**	**-1.1**
KLU	**Klutina**	**147.83**	**305**	PKPdf	**PKPdf**	**01 31 25.8**	**+1.2**
J26L	**Joseph Creek**	**147.86**	**311**		**PKPdf**	**01 31 26.1**	**+1.5**
SCRK	**Sand Creek**	**147.86**	**310**		**PKPdf**	**01 31 26.1**	**+1.4**
RIDG	**Independent Ri**	**148.14**	**310**		**PKPdf**	**01 31 25.8**	**+0.8**
PAX	**Paxson**	**148.15**	**308**		**PKPdf**	**01 31 26.2**	**+1.1**
FYU	**Fort Yukon**	**149.11**	**315**	PKPdf	**PKPdf**	**01 31 26.3**	**-0.1**
ILAR	**Eielson Array**	**149.30**	**311**	PKPbc	**PKPbc**	**01 31 30.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=117,slow=1.3,SNR=31						
BRLK	**Bradley Lake**	**149.47**	**301**	PKPdf	**PKPdf**	**01 31 28.4**	**+1.2**
CCB	**Clear Creek Bu**	**149.65**	**311**	PKPdf	**PKPdf**	**01 31 28.7**	**+1.4**
RND	**Reindeer**	**149.75**	**308**		**PKPdf**	**01 31 28.4**	**+0.7**
HNS	**HongShan**	**149.85**	**116**	⇑PKPbc	**PKiKP**	**01 31 35.3**	**+1.0**
MCK	**McKinley**	**149.87**	**309**	PKPdf	**PKPdf**	**01 31 28.2**	**+0.5**
BTO	**Baotou**	**149.88**	**106**	*e*PKPbc	**PKPdf**	**01 31 24.2**	**-4.4**
BTO				LR	LR		
	comp=Z,160nm,6.8s						
BWN	**Browne**	**150.22**	**309**		**PKPdf**	**01 31 30.2**	**+1.9**
TRF	**Thorofare Moun**	**150.38**	**308**	PKPdf	**PKPdf**	**01 31 28.8**	**0.0**
SKT	**Skwentna**	**150.50**	**305**	PKPdf	**PKPdf**	**01 31 30.1**	**+1.3**
BPAW	**Bear Paw Mtn.**	**150.85**	**309**		**PKPdf**	**01 31 31.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**150.86**	**107**	*e*PKPbc	**PKPdf**	**01 31 26.2**	**-4.0**
G23K	**Bananza Creek**	**151.01**	**314**	PKPbc	**PKiKP**	**01 31 36.3**	**+0.5**
PPLA	**Purkeypile**	**151.06**	**306**	PKPbc	**PKiKP**	**01 31 37.0**	**+0.8**
SONM	**Songino Array**	**152.67**	**91**	PKPbc	**PKPbc**	**01 31 39.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=228,slow=3.6,SNR=3.9						

NEIC ***03*** *01:13:12.2±2.0,2°.47S±0°.07×119°.50E±0°.09,h35km±2km, mb4.4/14,Error ellipse: s-maj=17.8km s-min=5.9km az=55.0*
DJA ***03*** *01:13:33.8±0.8,0°.N±7°×12°.3E±°,h177km±10km,M3.7/6, mb3.8/1,MLv3.7/6*
IDC ***03*** *01:13:46.6±5.3,2°.60S×123°.27E,h200km×71km,mb3.6/4, mbtmp4.1/5,Error ellipse: s-maj=71.0km s-min=21.8km az=71.0*

ISC 03 01:13:12.4±0.8,2°.50S±0°.10×119°.6E±0°.1,h35km,n24, σ1°25/20,mb4.3/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**2.62**	**53**	P	Pn	01 14 05.3	+13
LUWI	**Luwuk**	**3.53**	**66**	Pn	**Pn**	**01 14 06.0**	**+1.3**
LUWI				Sn	Sn	01 14 33.9	-11
LUWI	**Luwuk**	**3.53**	**66**	P	**Pn**	**01 14 03.9**	**-0.8**
LUWI				S	Sn	01 14 27.5	-18
TOLI2	**Tolitoli**	**3.79**	**19**	Pn	**Pn**	**01 14 09.9**	**+1.5**
TOLI2				Sn	Sn	01 14 40.0	-12
KMSI	**Cibinong**	**5.38**	**55**	P	Pn	01 14 05.0	+0.2
SANI	**Sanana**	**6.44**	**86**	P	Pn	01 14 35.5	-0.5
MTN	**Manton Dam**	**15.39**	**132**		**P**	**01 16 50.1**	**-1.2**
KNRA	**Kununurra**	**15.93**	**146**		**P**	**01 16 56.9**	**-0.4**
WB0	**Warramunga Arr**	**22.46**	**141**	P	**P**	**01 18 07.9**	**-0.9**
WB0				IAmb	IAmb	01 18 09.8	
	comp=Z,6.4nm,0.5s						
WRA	**Warramunga Arr**	**22.56**	**141**	P	**P**	**01 18 08.9**	**-0.9**
WRA	**Warramunga Arr**	**22.56**	**141**	P	**P**	**01 18 09.1**	**-0.7**
	comp=Z,4.2nm,0.4s,baz=326,slow=11,SNR=43						
	comp=Z,4.2nm,0.4s						
WB2	**Warramunga Arr**	**22.57**	**141**	P	**P**	**01 18 09.2**	**-0.7**
WB2				IAmb	IAmb	01 18 11.0	
	comp=Z,4.2nm,0.6s						
WR8	**Warramunga Arr**	**22.67**	**141**	P	**P**	**01 18 10.0**	**-0.9**
ASAR	**Alice Springs**	**25.21**	**148**	P	**P**	**01 18 37.2**	**+2.2**
	comp=Z,1.1nm,0.5s,baz=344,slow=15,SNR=31						
	comp=Z,1.1nm,0.5s						
MORW	**Morawa**	**26.63**	**187**	P	**P**	**01 18 48.8**	**+1.0**
MORW				IAmb	IAmb	01 19 20.3	
	comp=Z,8.4nm,1.2s						
NWAO	**Narrogin (SRO)**	**30.34**	**184**	P	**P**	**01 19 22.4**	**+1.5**
NWAO				IAmb	IAmb	01 19 29.4	
	comp=Z,19nm,1.2s						
BBOO	**Buckleboo**	**33.90**	**155**	P	**P**	**01 19 53.1**	**+1.0**
BBOO				IAmb	IAmb	01 20 02.4	
	comp=Z,9.5nm,1.2s						
STKA	**Stephens Creek**	**35.84**	**147**	P	**P**	**01 20 08.3**	**-0.6**
STKA	**Stephens Creek**	**35.84**	**147**	P	**P**	**01 20 08.8**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=338,slow=8.6,SNR=6.9						
	comp=Z,2.7nm,0.6s						
BJT	**Baijiatuau**	**42.43**	**356**	P	**P**	**01 21 02.9**	**-0.9**
BJT				IAmb	IAmb	01 21 14.8	
	comp=Z,4.1nm,1.0s						
CAN	**Canberra**	**42.57**	**144**	P	**P**	**01 21 03.3**	**-1.8**
CAN				IAmb	IAmb	01 21 03.5	
	comp=Z,5.4nm,0.6s						
PETK	**Petropavlovsk-**	**63.95**	**24**	P	P	01 23 49.6	+7.7
	comp=Z,2.4nm,0.6s,baz=226,slow=5.8,SNR=4.6						
	comp=Z,2.4nm,0.6s						
MSEY	**Mahe Island**	**63.97**	**266**	P	**P**	**01 23 41.1**	**-1.9**
QSPA	**South Pole Qui**	**87.45**	**180**	P	**P**	**01 25 56.8**	**+0.6**
QSPA				IAmb	IAmb	01 26 18.0	
	comp=Z,3.7nm,1.2s						

IDC ***03*** *01:25:04.4±0.6,5°.06S×133°.73E,h0km,mb4.2/12, mbtmp4.4/18,ML4.7/6,MS3.8/18,Error ellipse:*
s-maj=24.8km s-min=14.1km az=78.0
DJA ***03*** *01:25:06.6±1.0,5°.S±2°×13°.4E±°,h13km±8km,M5.0/35, mb4.8/35,mB5.5/14,MLv5.0/17,Mw(mB)5.0/14*
NEIC ***03*** *01:25:08.7±1.5,4°.83S±0°.06×133°.68E±0°.04,h33km±6km, mb4.6/18,Error ellipse: s-maj=8.7km s-min=5.4km az=151.0*

ISC 03 01:25:07.6±0.4,4°.99S±0°.05×133°.65E±0°.05,h25km,n103, σ2°13/97,mb4.3/18,MS3.9/12,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.32**	**2**	P	**Pn**	**01 25 28.8**	**-1.7**
FAKI	**Fak Fak**	**2.49**	**326**		**Pn**	**01 25 45.3**	**-1.2**
FAKI				Sn	**Sn**	**01 26 12.4**	**-3.8**
FAKI	**Fak Fak**	**2.49**	**326**	P	**Pn**	**01 25 45.4**	**-1.2**
FAKI	**Fak Fak**	**2.49**	**326**	S	**Sn**	**01 26 13.5**	**-2.7**
FAKI	**Fak Fak**	**2.49**	**326**	P	**Pn**	**01 25 45.5**	**-1.1**
RKPI	**Ransiki, Papua**	**3.50**	**9**	P	**Pn**	**01 26 00.3**	**-0.1**
BNDI	**Bandanaira**	**3.76**	**277**	P	**Pn**	**01 26 05.9**	**+1.8**
SAUI	**Saumlaki**	**3.78**	**218**		**Pn**	**01 26 06.7**	**+2.4**
SAUI	**Saumlaki**	**3.78**	**218**	P	**Pn**	**01 26 07.7**	**+3.4**
SAUI	**Saumlaki**	**3.78**	**218**	P	**Pn**	**01 26 07.4**	**+3.1**
SRPI	**Serui, Papua**	**4.04**	**40**	P	**Pn**	**01 26 08.4**	**+0.6**
BAKI	**Biak**	**4.50**	**33**	P	**Pn**	**01 26 15.5**	**+1.3**
SWI	**Sorong**	**4.75**	**330**	P	**Pn**	**01 26 17.6**	**0.0**
MSAI	**Masohi**	**4.99**	**289**	P	**Pn**	**01 26 21.8**	**+0.9**
WAMI	**Wamena**	**5.16**	**78**	P	**Pn**	**01 26 27.0**	**+3.7**
AAI	**Ambon**	**5.59**	**283**	P	**Pn**	**01 26 30.8**	**+1.5**
SMPI	**Sarmi**	**5.86**	**60**	P	**Pn**	**01 26 33.5**	**+0.6**
	0.5nm56nm,0.7s						
NLAI	**Namlea**	**6.76**	**285**	P	**Pn**	**01 26 48.4**	**+3.1**
GENI	**Genyem**	**6.92**	**70**	P	**Pn**	**01 26 48.3**	**+0.8**
	0.7nm3μm109nm,0.8s						
JAY	**Jayapura**	**7.46**	**71**	Pn	**Pn**	**01 26 54.3**	**-0.6**
	3.7nm,0.3s,baz=208,slow=13,SNR=11						
JAY				Sn	**Sn**	**01 28 12.8**	**-5.9**
	3.5nm,0.3s,baz=276,slow=18,SNR=6.4						
JAY				LR	LR	01 30 32.3	
	comp=Z,588nm,21.7s,slow=44						
	18nm,0.4s						
JAY	**Jayapura**	**7.46**	**71**	P	**Pn**	**01 26 54.5**	**-0.4**
	0.2nm32nm,0.8s						
DRS	**Darwin Rock St**	**7.88**	**200**	P	**Pn**	**01 27 01.9**	**+1.3**
SANI	**Sanana**	**8.19**	**291**	P	**Pn**	**01 27 03.8**	**-1.1**
SANI	**Sanana**	**8.19**	**291**	P	**Pn**	**01 27 03.6**	**-1.3**
MTN	**Manton Dam**	**8.19**	**198**	Pn	**Pn**	**01 27 05.8**	**+0.9**
SOEI	**Soe**	**10.44**	**243**		**Pn**	**01 27 36.5**	**+0.6**
SOEI	**Soe**	**10.44**	**243**	P	**Pn**	**01 27 37.7**	**+1.8**
SOEI	**Soe**	**10.44**	**243**	P	**Pn**	**01 27 37.6**	**+1.7**
BATI	**Baumata**	**11.17**	**242**	Pn	**Pn**	**01 27 47.5**	**+1.7**
	15nm,0.3s,baz=235,slow=5.1,SNR=6.3						
BATI				Sn	**Sn**	**01 29 46.3**	**-3.8**
	23nm,0.3s,baz=295,slow=20,SNR=7.1						
	46nm,0.4s						
BATI	**Baumata**	**11.17**	**242**	P	**Pn**	**01 27 46.7**	**+0.8**
	86nm,0.7s						
LUWI	**Luwuk**	**11.55**	**290**		**Pn**	**01 27 50.9**	**-0.1**
LUWI	**Luwuk**	**11.55**	**290**	P	**Pn**	**01 27 50.9**	**-0.1**
	2μm90nm,1.1s						
KNRA	**Kununurra**	**11.65**	**204**		**Pn**	**01 27 52.4**	**0.0**
APSI	**Ampana**	**12

CMAR Chiang Mai Arr 41.40 305 P P 01 32 52.8 +0.6
comp=Z,1.1nm,0.3s,baz=126,slow=7.3,SNR=5.5
comp=Z,1.1nm,0.3s
MJAR Matsushiro Arr 41.54 6 LR LR 01 48 36.9
comp=Z,203nm,18.6s,baz=190,slow=34
USRK Ussuriysk Ar. 48.99 358 P **P 01 33 54.6 +2.5**
comp=Z,7.5nm,0.7s,baz=186,slow=6.7,SNR=9.7
comp=Z,7.5nm,0.7s
ASAJ Asahikawa 49.54 8 LR LR 01 55 15.5
comp=Z,74nm,19.6s,baz=214,slow=36
BNX BinXian 50.81 354 ⇑P **P 01 34 07.4 +1.5**
BNX pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 57.80 339 P **P 01 34 57.5 +0.6**
comp=Z,0.7nm,0.7s,baz=152,slow=6.5,SNR=2.4
comp=Z,0.7nm,0.7s
RAR Rarotonga 66.38 111 P **P 01 35 51.1 -3.9**
SHEM Shemya Is, Ala 66.89 25 LR LR 02 01 53.6
comp=Z,43nm,21.9s,baz=290,slow=33
MKAR Makanchi Array 68.62 325 P **P 01 36 10.6 +2.0**
comp=Z,2.6nm,0.8s,baz=123,slow=6.4,SNR=12
comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 71.46 332 P **P 01 36 25.0 -0.8**
ZALV Zalesovo Beam 71.46 332 P **P 01 36 26.6 +0.7**
comp=Z,1.9nm,0.7s,baz=112,slow=5.1,SNR=7.4
comp=Z,1.9nm,0.7s
KURBB Kurchatov Arra 72.77 327 P **P 01 36 34.9 +1.1**
comp=Z,2.3nm,0.9s,baz=126,slow=4.8,SNR=14
comp=Z,2.3nm,0.9s
VNDA Vanda 74.02 174 P **P 01 36 41.7 +1.0**
comp=Z,0.6nm,0.7s,baz=310,slow=7.8,SNR=7.1
VNDA LR LR 02 08 43.1
comp=Z,55nm,18.2s,baz=336,slow=35
comp=Z,0.6nm,0.7s
MAW Mawson 78.14 202 P **P 01 37 06.0 +1.8**
comp=Z,1.9nm,0.8s,baz=65,slow=4.5,SNR=7.0
MAW LR LR 02 09 13.4
comp=Z,79nm,20.2s,baz=81,slow=34
comp=Z,1.9nm,0.8s
BVAR Borovoye Array 78.36 327 P **P 01 37 06.8 +1.1**
comp=Z,2.0nm,0.8s,baz=132,slow=8.2,SNR=6.1
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 84.97 180 P **P 01 37 43.5 +2.9**
QSPA IAmb IAmb 01 37 48.1
comp=Z,4.4nm,1.0s
QSPA South Pole Qui 84.97 180 P **P 01 37 41.4 +0.7**
comp=Z,1.7nm,0.8s,baz=346,slow=3.4,SNR=7.1
QSPA LR LR 02 14 37.5
comp=Z,69nm,20.4s,baz=356,slow=35
comp=Z,1.7nm,0.8s
ILAR Eielson Array 90.00 25 P **P 01 38 04.9 +0.2**
comp=Z,0.9nm,1.1s,baz=259,slow=5.3,SNR=3.5
comp=Z,0.9nm,1.1s
SNAA Sanae 98.43 193 LR LR 02 22 56.6
comp=Z,76nm,21.4s,baz=200,slow=35
TORD Torodi Ar. Bea 131.94 283 PKP **PKPdf 01 44 19.8 -0.1**
comp=Z,0.8nm,0.7s,baz=29,slow=2.7,SNR=4.7
CPUP Villa Florida 147.09 162 PKPbc **PKPdf 01 44 47.6 +0.6**
comp=Z,1.0nm,0.8s,baz=33,slow=1.3,SNR=7.2
LPAZ La Paz 149.81 135 PKPbc **PKiKP 01 44 59.8 +1.5**
comp=Z,2.4nm,0.8s,baz=165,slow=0.7,SNR=6.9

*JSN **03** 01:32:34.7±0.5, 17°.97N×76°.51W, h8km±4km, MD2.5*
*SSNC **03** 01:32:35.3±1.6, 18°.13N×76°.56W, h5km±9km, MD2.9, ML1.9, MW1.7*
ISC 03 01:32:30.5±1.8, 18°.13N±0°.10×76°.36W±0°.06, h12km±12km, n10, σ0°62/18, 1C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.36**	**261**	⇑*iP*	**Pb**	**01 32 39.5**	**+0.6**
HOJ	**Hope**	**0.40**	**251**	*iP*	**Pb**	**01 32 39.7**	**+0.2**
STH	**Stony Hill**	**0.43**	**263**	⇓*iP*	**Pb**	**01 32 40.8**	**+0.6**
STH	**Stony Hill**	**0.43**	**263**	*eP*	**Pb**	**01 32 40.6**	**+0.5**
STH				*eS*	**Sg**	**01 32 44.7**	**-0.2**
MTDJ	**Mount Denham**	**1.12**	**275**	*iP*	**Pg**	**01 32 52.6**	**+0.4**
MTDJ				*iS*	**Sb**	**01 33 05.9**	**-0.7**
MTDJ				*iS*	**Sg**	**01 33 06.1**	**-0.7**
MTDJ	**Mount Denham**	**1.12**	**275**	*eP*	**Pg**	**01 32 52.1**	**0.0**
MTDJ				*eS*	**Sb**	**01 33 05.2**	**-1.3**
MTDJ				IAML		01 33 08.8	
	34nm,0.2s						
MTDJ				IAML		01 33 09.3	
	comp=Z,36nm,0.3s						
MARVS	**Santiago de Cu**	**1.91**	**13**	*eP*	**Pg**	**01 33 07.5**	**+0.4**
MARVS				*eS*	**Sg**	**01 33 32.2**	**+0.3**
MARVS				IAML		01 34 32.2	
	comp=E,12nm,1.5s						
LMGC	**Las Mercedes**	**2.02**	**342**	*eP*	**Pb**	**01 33 07.1**	**0.0**
LMGC				*eS*	**Sn**	**01 33 30.1**	**+0.6**
LMGC				IAML		01 33 32.8	
	comp=E,7.0nm,0.1s						
LMGC				IAML		01 33 33.1	
	comp=N,9.5nm,0.1s						
GTBY	**Guantanamo Bay**	**2.14**	**33**	*eP*	**Pg**	**01 33 11.3**	**-0.2**
GTBY				*eS*	**Sg**	**01 33 39.8**	**+0.5**
GTBY				IAML		01 33 41.5	
	comp=N,3.7nm,0.3s						
GTBY				IAML		01 33 43.1	
	comp=N,4.3nm,0.3s						
QMBU	**Quimbuelo**	**2.52**	**35**	*eP*	**Pb**	**01 33 15.0**	**-0.7**
QMBU				*eS*	**Sb**	**01 33 46.9**	**+0.2**
QMBU				IAML		01 33 48.0	
	comp=E,9.9nm,1.3s						
QMBU				IAML		01 33 53.3	
	comp=N,9.0nm,1.2s						

*AEIC **03** 01:39:22.2±0.8, 52°.56N±0°.09×166°.91W±0°.09, h15km±8km, Error ellipse: s-maj=15.1km s-min=4.6km az=151.0*
NEIC 03 01:39:18.9±1.2, 52°.39N±0°.04×166°.82W±0°.06, h10km±2km, ML2.8/8, ML2.7(AEIC), Error ellipse: s-maj=7.5km s-min=5.5km az=202.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.22**	**328**		Pn	01 39 41.0	-1.0
OKFG					Sb	01 39 56.7	-1.1
OKTU	**Okmok Mt. Tuli**	**1.24**	**324**		Pn	01 39 41.9	-0.4
OKSP	**Okmok Steeple**	**1.25**	**315**		Pn	01 39 42.1	-0.3
OKCE	**Okmok Cone E**	**1.32**	**322**		Pn	01 39 43.3	-0.1
OKNC	**Okmok New Cone**	**1.33**	**324**		Pn	01 39 43.5	-0.1
NIKH	**Nikolski High**	**1.37**	**296**		Sb	01 40 02.0	-0.1
NIKH	**Nikolski High**	**1.37**	**296**		Pb	01 39 44.5	-0.1
NIKH				IAML		01 40 08.4	
	comp=E,194nm,0.9s						
NIKH				IAML		01 40 12.8	
	comp=N,187nm,1.0s						
MGOD	**Makushin Gods**	**1.41**	**359**		Pn	01 39 44.4	-0.2
MGOD					Sn	01 40 02.0	-1.2
MAPS	**Pakushin South**	**1.43**	**357**		Pn	01 39 44.7	-0.1
MREP	**Makushin Rep't**	**1.43**	**2**		Pn	01 39 44.5	-0.4
UNV	**Unalaska Valle**	**1.47**	**7**		Pn	01 39 45.1	-0.3
UNV					Sn	01 40 04.9	+0.1
MNAT	**Makushin Natee**	**1.50**	**3**		Pn	01 39 45.6	-0.3
MSW	**Makushin Switc**	**1.53**	**1**		Pn	01 39 46.2	-0.1
ZRO	**Akutan Zero**	**1.78**	**16**		Pn	01 39 50.1	+0.4
AKBBA	**Akutan Broad B**	**1.79**	**17**		Pn	01 39 50.5	+0.7
AKRB	**Akutan Reef Bi**	**1.80**	**14**		Pn	01 39 50.4	+0.4
AKRB					Sn	01 40 11.9	-1.0
AKV	**Akutan Volcano**	**1.82**	**16**		Pn	01 39 50.7	+0.4
CLCO	**Concord Point,**	**1.82**	**284**		Pb	01 39 51.4	-0.8
CLCO					Sn	01 40 13.8	+0.6
AHB	**Akutan Harbor**	**1.83**	**19**		Pn	01 39 50.6	+0.2
LVA	**Lava Point**	**1.84**	**15**		Pn	01 39 51.0	+0.5
AKUT	**Akutan**	**1.86**	**19**		Pb	01 39 52.1	-0.8
AKUT				IAML		01 40 18.5	
	comp=E,66nm,1.7s						
AKUT				IAML		01 40 30.3	
	comp=N,64nm,0.7s						
AKSA	**Akutan Strait**	**1.88**	**21**		Pn	01 39 51.3	+0.3
AKGG	**Akutan Green G**	**1.88**	**15**		Pn	01 39 51.3	+0.2

*IDC **03** 01:39:48.0±13.0, 17°.05S×179°.02W, h466km±133km, mb2.9/4, mbtmp3.8/4, Error ellipse: s-maj=161.6km s-min=55.8km az=136.0*
ISC 03 01:39:47.8±3.3, 17°.65±0°.9×178°.5W±0°.8, h500km, n7, σ1°71/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**01 46 29.2**	**+1.0**
	1.7nm,0.6s,baz=68,slow=3.8,SNR=3.3						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**01 47 14.3**	**-0.7**
	0.2nm,0.3s,baz=97,slow=7.0,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**01 47 16.8**	**+0.3**
	2.5nm,0.7s,baz=88,slow=8.4,SNR=20						
	2.5nm,0.7s						
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**01 51 34.0**	**+1.7**
	0.2nm,0.4s,baz=229,slow=5.3,SNR=4.9						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**144.45**	**315**	PKP	**PKiKP**	**01 58 29.1**	**-1.9**
	0.7nm,0.8s,baz=71,slow=1.9,SNR=3.8						
MMAI	**Mount Meron Ar**	**145.85**	**303**	PKPbc	**PKiKP**	**01 58 32.8**	**-1.3**
	0.7nm,0.4s,baz=57,slow=9.3,SNR=2.3						
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	**PKiKP**	**01 58 35.1**	**-1.3**
	0.7nm,0.6s,baz=31,slow=2.3,SNR=4.5						

*KRNET **03** 01:43:46.5±0.1, 40°.54N×72°.24E, h6km, mb2.4*
*ISU **03** 01:43:46, 40°.39N×72°.29E, h21km*
*SOME **03** 01:43:50.4, 40°.75N×72°.22E, h10km*
*NNC **03** 01:43:59.0±5.9, 40°.95N×72°.40E, h0km, mb2.8, mpv3.0, Error ellipse: s-maj=49.0km s-min=20.8km az=178.0*
ISC 03 01:43:46.0±1.2, 40°.46N±0°.03×72°.16E±0°.03, h6km±10km, n18, σ1°35/32, 10C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.27**	**64**	P	**Pg**	**01 43 52.2**	**+0.8**
TSTA				S	**Sg**	**01 43 56.5**	**+1.4**
FRG	**Fergana**	**0.29**	**254**	P	**Pn**	**01 43 55.2**	**-1.7**
FRG				S	**Sb**	**01 44 01.3**	**+2.5**
ANR	**Andizhan**	**0.34**	**28**	P	**Pg**	**01 43 52.9**	**+0.3**
ANR				S	**Sg**	**01 43 59.0**	**+2.0**
OHH	**Osh**	**0.48**	**82**	⇑*iP*	**Pg**	**01 43 54.5**	**-0.9**
OHH				⇑*iS*	**Sg**	**01 44 00.8**	**-0.9**
CHMI	**Chimion**	**0.52**	**249**	S	**Sn**	**01 44 07.8**	**-1.3**
DRK	**Karamyk**	**1.01**	**196**	⇑*eP*	**Pn**	**01 44 07.9**	**+0.9**
DRK				⇑*eS*	**Sn**	**01 44 23.2**	**+1.5**
ARSB	**Arslanbob**	**1.07**	**36**	⇓*iP*	**Pg**	**01 44 05.3**	**-1.2**
ARSB				⇓*iS*	**Sg**	**01 44 18.7**	**-1.7**
SFK	**Sufi-Kurgan**	**1.12**	**113**	⇓*iP*	**Pb**	**01 44 07.3**	**-0.6**
SFK				⇓*iS*	**Sn**	**01 44 22.8**	**-1.5**
TRKS	**Terek-Say**	**1.32**	**325**	⇑*iP*	**Pn**	**01 44 09.8**	**-1.3**
TRKS				⇑*iS*	**Sg**	**01 44 27.1**	**-1.3**
SALK	**Salom-Alik**	**1.34**	**71**	⇑*iP*	**Pn**	**01 44 10.6**	**-0.7**
SALK				⇑*iS*	**Sg**	**01 44 28.0**	**-1.0**
ARK	**Arkit**	**1.35**	**354**	⇓*eP*	**Pn**	**01 44 11.4**	**0.0**
ARK				⇓*eS*	**Sb**	**01 44 28.7**	**-0.5**
IUG	**Iuzhnay**	**2.33**	**317**	Pg	**Pb**	**01 44 29.6**	**+1.2**
	7.3nm,0.2s						
IUG				Lg	Lg	01 44 59.8	
	16nm,0.2s						
MRKS	**Merke**	**2.42**	**19**	Pg	**Pb**	**01 44 29.7**	**-0.3**
	3.2nm,0.1s						
MRKS				Lg	Lg	01 45 00.2	
	7.5nm,0.4s						
MRKS	**Merke**	**2.42**	**19**	*eP*	**Pb**	**01 44 29.7**	**-0.3**
	0.5nm,0.1s						
MRKS				*eS*	**Sb**	**01 45 00.2**	**0.0**
	8.8nm,0.2s						
AAK	**Ala-Archa**	**2.80**	**38**	⇑Pn	**Pb**	**01 44 37.9**	**+1.4**
AAK				⇓Sn	**Sn**	**01 45 08.9**	**+3.4**
	1.5nm,0.5s						
KK31	**Karatay Array**	**2.92**	**336**	⇑Pn	**Pg**	**01 44 41.2**	**-0.7**
	1.4nm,0.7s,baz=149,slow=16,SNR=3.7						
KK31				⇓Sn	**Sb**	**01 45 14.9**	**+0.7**
	2.7nm,0.3s,baz=139,slow=25						
BRLS	**Borolday**	**3.10**	**327**	Pg	**Pb**	**01 44 41.5**	**0.0**
	0.9nm,0.2s						
BRLS				Lg	Lg	01 45 20.4	
	0.5nm,0.2s						
BRLS	**Borolday**	**3.10**	**327**	*eP*	**Pb**	**01 44 41.5**	**0.0**
	0.2nm,0.1s						
BRLS				*eS*	**Sb**	**01 45 20.4**	**+0.8**
	3.2nm,0.1s						

*NEIC **03** 01:43:55.4±1.8, 38°.51N±0°.04×142°.20E±0°.10, h35km±2km, mb4.4/7, Error ellipse: s-maj=14.6km s-min=3.0km az=117.0*
*JMA **03** 01:43:56.2±0.1, 38°.6N±0°.2×142°.1E±0°.5, h49km, MD3.9/39, MV4.2/39, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*NIED **03** 01:43:56.2, 38°.55N×142°.11E, h49km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.37; $M_{\theta\theta}$2.51; $M_{\phi\phi}$-5.88; $M_{r\theta}$0.23; $M_{\theta\phi}$-4.73; $M_{\phi r}$-2.30; Fault plane solution: $M_0$6.88000×10^{14} NP1:ϕ_s66.00000°, δ59.00000°, λ162.00000°. NP2:ϕ_s166.00000°, δ74.00000°, λ32.00000°.*
*IDC **03** 01:43:56.1±0.9, 38°.54N×142°.18E, h51km±5km, mb3.5/5, mbtmp3.8/9 Error ellipse: s-maj=18.8km s-min=10.6km az=121.0*
ISC 03 01:43:56.2±0.7, 38°.51N±0°.04×142°.13E±0°.07, h51km±4km, n54, σ0°89/63, mb4.2/10, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.56**	**249**	*iP*	**Pn**	**01 44 08.1**	**0.0**
JIKH				S	**Sn**	**01 44 16.5**	**-0.2**
JIKH	**Ishinomakikobu**	**0.56**	**249**	A	A	01 44 08.1	
	comp=N,11nm,0.7s,comp=E,10.0nm,0.9s						
JKMT	**Kesennumamotoy**	**0.59**	**300**	⇓*iP*	**Pn**	**01 44 08.3**	**-0.2**
JKMT				⇓*eS*	**Sn**	**01 44 16.8**	**-0.7**
JKMT	**Kesennumamotoy**	**0.59**	**300**	A	A	01 44 08.3	
	comp=N,7.0nm,0.4s,comp=E,10.0nm,1.0s						
JIO	**Ouri**	**0.61**	**265**	P	**Pn**	**01 44 08.7**	**-0.1**
JIO				S	**Sn**	**01 44 17.4**	**-0.6**
JIO	**Ouri**	**0.61**	**265**	A	A	01 44 08.7	
	comp=N,14nm,0.5s,comp=E,20nm,0.5s						
OFUJ	**Ofunato**	**0.67**	**328**	⇓P	**Pn**	**01 44 09.2**	**-0.4**
OFUJ				⇓S	**Sn**	**01 44 18.5**	**-0.8**
OFUJ	**Ofunato**	**0.67**	**328**	A	A	01 44 09.2	
	comp=N,10.0nm,0.4s,comp=E,15nm,0.4s						
JMK	**Ichinoseki**	**0.83**	**302**	⇓P	**Pn**	**01 44 11.4**	**-0.2**
JMK				⇓S	**Sn**	**01 44 22.5**	**-0.5**
JOFO	**Osakifurukawao**	**0.96**	**276**	A	A	01 44 13.3	
	comp=N,60nm,0.4s,comp=E,59nm,0.6s						
JOU	**Okura**	**1.16**	**263**	⇓P	**Pn**	**01 44 16.2**	**+0.1**
JOU				⇓S	**Sn**	**01 44 30.9**	**+0.1**
JOU	**Okura**	**1.16**	**263**	A	A	01 44 16.2	
	comp=N,13nm,0.6s,comp=E,8.0nm,0.5s						
JOM	**Ohasama**	**1.16**	**326**	⇓P	**Pn**	**01 44 16.0**	**-0.1**
JOM				⇓S	**Sn**	**01 44 31.0**	**+0.2**
JOM	**Ohasama**	**1.16**	**326**	A	A	01 44 16.0	
	comp=N,7.0nm,0.3s,comp=E,10.0nm,0.2s						
JMM	**Marumori**	**1.23**	**239**		**Pn**	**01 44 16.8**	**-0.1**
JMM				Sn	**Sn**	**01 44 32.0**	**-0.6**
JMM	**Marumori**	**1.23**	**239**	P	**Pn**	**01 44 16.9**	**-0.1**
JMM				S	**Sn**	**01 44 32.1**	**-0.4**
JYK	**Kaneyama**	**1.44**	**287**	⇓P	**Pn**	**01 44 20.0**	**+0.2**
JYK				⇓*eS*	**Sn**	**01 44 37.9**	**+0.3**
JRG	**Rokugo**	**1.46**	**308**	⇓P	**Pn**	**01 44 20.1**	**0.0**
JRG				⇓S	**Sn**	**01 44 39.2**	**+1.1**
JYS	**Shiratake**	**1.65**	**260**	P	**Pn**	**01 44 23.2**	**+0.6**
JYS				S	**Sn**	**01 44 43.2**	**+0.5**
JTM	**Tenmabayashi**	**2.41**	**341**		**Pn**	**01 44 33.8**	**+0.7**
JTM				Sn	**Sn**	**01 45 00.4**	**-1.1**
JSD	**Sado**	**3.08**	**262**	Pn	**Pn**	**01 44 42.3**	**0.0**
ERM	**Erimo**	**3.59**	**12**		**Pn**	**01 44 48.3**	**-0.9**
MJAR	**Matsushiro Arr**	**3.68**	**239**		**Pn**	**01 44 51.6**	**+1.0**
MJAR	**Matsushiro Arr**	**3.68**	**239**	P	**Pn**	**01 44 52.4**	**+1.8**
	comp=E,8.7nm,0.6s,baz=37,slow=13,SNR=19						
MJAR				S	**Sn**	**01 45 34.9**	**+2.2**
	comp=E,3.1nm,0.4s,baz=348,slow=30,SNR=5.3						
MAJO	**Matsushiro**	**3.68**	**239**		**Pn**	**01 44 50.3**	**-0.3**
MJB9	**Matsu-Tunnel**	**3.68**	**239**		**Pn**	**01 44 51.3**	**+0.6**
JGF	**Kuroka**	**4.79**	**234**		**Pn**	**01 45 06.1**	**+0.2**
INU	**Inuyama**	**5.17**	**234**	Pn	**Pn**	**01 45 10.5**	**-0.4**
ASAJ	**Asahikawa**	**5.61**	**3**	P	**Pn**	**01 45 17.6**	**+0.6**
	comp=E,3.7nm,0.3s,baz=338,slow=21,SNR=4.4						
ASAJ				S	**Sn**	**01 46 19.1**	**-0.9**
	comp=E,11nm,0.8s,baz=279,slow=31,SNR=4.1						
JHJ2	**Mitsune**	**5.71**	**200**	Pn	**Pn**	**01 45 16.6**	**-1.7**
JHJ	**Hachijo jima 2**	**5.71**	**200**	P	**Pn**	**01 45 18.3**	**-0.1**
	comp=E,39nm,0.3s,baz=54,slow=22,SNR=7.8						
JHJ				S	**Sn**	**01 46 18.8**	**-3.7**
	comp=E,39nm,0.3s,baz=253,slow=22,SNR=1.5						
USRK	**Ussuriysk Ar.**	**9.50**	**310**	Pn	**Pn**	**01 46 10.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.50**	**310**	P	**Pn**	**01 46 11.0**	**+0.7**
	comp=E,5.8nm,0.8s,baz=127,slow=12,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	02 20 08.7	
	baz=316,slow=76,SNR=240						
H11N1	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	02 20 09.3	
	baz=316,slow=76,SNR=268						
H11N3	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	02 20 19.0	
	baz=316,slow=76,SNR=222						
H11S1	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	02 21 11.9	
	baz=318,slow=76,SNR=76						
H11S3	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	02 21 12.0	
	baz=318,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	02 21 13.2	
	baz=318,slow=76,SNR=63						
M14K	**Bethel**	**40.88**	**38**	P	**P**	**01 51 31.8**	**-1.0**
O16K	**Kokwok River B**	**42.71**	**40**	P	**P**	**01 51 46.3**	**-1.5**
O16K				IAmb	IAmb	01 51 57.0	
	comp=Z,8.9nm,1.2s						
MK31	**Makanchi Array**	**43.83**	**301**	P	**P**	**01 51 57.4**	**+0.3**
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**01 51 57.3**	**+0.2**
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**01 51 56.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.6,SNR=6.6						
MKAR				sP	**sP**	**01 52 15.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=84,slow=12,SNR=3.0						
	comp=Z,0.6nm,0.5s						
E19K	**Redstone River**	**43.91**	**29**	P	**P**	**01 51 58.6**	**+1.2**
E19K				IAmb	IAmb	01 52 01.5	
	comp=Z,8.7nm,1.2s						
KURK	**Kurchatov**	**45.48**	**307**	P	**P**	**01 52 09.8**	**-0.3**
KURK				IAmb	IAmb	01 52 10.7	
	comp=Z,4.5nm,0.8s						
KURBB	**Kurchatov Arra**	**45.55**	**307**	P	**P**	**01 52 10.4**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=81,slow=8.2,SNR=27						
KURBB				sP	**sP**	**01 52 30.8**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=83,slow=8.4,SNR=3.1						
	comp=Z,3.4nm,0.5s						
D22K	**Ayikyak River**	**45.79**	**27**	P	**P**	**01 52 13.4**	**+1.0**
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**01 52 29.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=276,slow=8.5,SNR=6.3						
ILAR				pP	**pP**	**01 52 42.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=156,slow=1.4,SNR=5.3						
ILAR				sP	**sP**	**01 52 49.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=274,slow=5.9,SNR=2.3						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**50.01**	**312**	P	**P**	**01 52 45.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=65,slow=8.0,SNR=2.4						
	comp=Z,0.5nm,0.5s						
AB31	**Akbulak array**	**57.43**	**310**	P	**P**	**01 53 39.0**	**-0.5**
AB31				IAmb	IAmb	01 53 42.3	
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**57.43**	**310**	P	**P**	**01 53 39.1**	**-0.3**
WB0	**Warramunga Arr**	**58.42**	**189**	P	**P**	**01 53 47.1**	**+0.4**
WB0				IAmb	IAmb	01 54 01.5	
	comp=Z,4.4nm,1.3s						
WRA	**Warramunga Arr**	**58.60**	**189**	P	**P**	**01 53 47.1**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=7.1,slow=6.9,SNR=2.1						
WRA				pP	**pP**	**01 54 01.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=6.7,slow=7.1,SNR=4.6						
WRA				sP	**sP**	**01 54 08.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=6.2,slow=7.3,SNR=3.6						
	comp=Z,0.2nm,0.6s						

*NEIC **03** 01:44:09.7±1.2, 12°.22S±0°.09×166°.0E±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=26.0km s-min=15.6km az=84.0*
*IDC **03** 01:44:14.2±1.0, 10°.94S×164°.37E, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/4, Error ellipse: s-maj=42.7km s-min=27.6km az=119.0*
ISC 03 01:44:13.7±0.7, 12°.35±0°.1×165°.9E±0°.1, h40km, n22, σ1°38/17, mb4.1/9, MS3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.34**	**158**	Pn	**Pn**	**01 45 03.8**	**+0.3**
DZM	**Mont Dzumac**	**9.69**	**177**	Pn	**Pn**	**01 46 31.3**	**+0.5**
PMG	**Port Moresby**	**18.62**	**277**	LR	LR	01 54 27.3	
	comp=Z,96nm,18.0s,baz=110,slow=36						
NIUE	**Niue**	**24.21**	**109**	P	**P**	**01 49 24.9**	**-1.9**
WR8	**Warramunga Arr**	**31.05**	**252**	P	**P**	**01 50 27.7**	**-0.5**
WR8				IAmb	IAmb	01 50 33.4	
	comp=Z,4.1nm,1.1s						
TOO	**Toolangi**	**31.05**	**212**	P	**P**	**01 50 28.6**	**+0.5**
TOO				IAmb	IAmb	01 50 33.0	
	comp=Z,6.6nm,1.5s						
WB0	**Warramunga Arr**	**31.12**	**252**	P	**P**	**01 50 28.9**	**+0.1**
WB0				IAmb	IAmb	01 50 30.7	
	comp=Z,5.9nm,1.3s						
WRA	**Warramunga Arr**	**31.19**	**252**	P	**P**	**01 50 27.7**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=82,slow=9.1,SNR=4.8						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**01 50 37.9**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=74,slow=8.9,SNR=5.7						
	comp=Z,0.8nm,0.8s						
TAU	**Tasmania Unive**	**34.45**	**204**	P	**P**	**01 50 57.9**	**+0.4**
TAU				IAmb	IAmb	01 51 03.6	
	comp=Z,5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.20**	**256**	P	**P**	**01 51 38.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.20**	**256**	LR	LR	02 07 28.0	
	comp=Z,112nm,18.6s,baz=181,slow=37						
KAPI	**Kappang**	**46.13**	**275**	LR	LR	02 11 21.6	
	comp=Z,66nm,19.3s,baz=252,slow=36						
AMKA	**Amchitka**	**64.52**	**9**	P	**P**	**01 54 45.3**	**-1.0**
VNDA	**Vanda**	**65.21**	**181**	P	P	01 55 06.2	+16
	comp=Z,0.7nm,0.4s,baz=88,slow=20,SNR=14						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**77

PB06 eS **S** **01 45 55.5 -0.8**
PB06 IPOC Station P 2.75 297 eP **Pn** **01 45 20.5 +1.0**
PB06 eS **S** **01 45 55.9 -0.4**
PB06 IAML 01 45 58.3
comp=Z,288nm,0.1s
PB09 IPOC Station P 3.06 315 Pn 01 45 24.6 +1.6
PB09 IPOC Station P 3.06 315 eP **Pn** **01 45 24.6 +1.6**
PB09 IAML 01 46 04.6
comp=E,222nm,0.2s
PB09 IPOC Station P 3.06 315 eP **Pn** **01 45 24.4 +1.3**
PB09 eS **S** **01 46 03.4 +0.7**
PB09 IAML 01 46 05.9
comp=Z,177nm,0.6s
PB05 IPOC Station P 3.22 290 Pn 01 45 25.7 +0.9
PB05 IPOC Station P 3.22 290 eP **Pn** **01 45 25.5 +0.7**
PB05 IPOC Station P 3.22 290 eP **Pn** **01 45 25.6 +0.9**
PB05 eS **S** **01 46 06.4 +0.5**
PB05 IAML 01 46 08.7
comp=Z,121nm,0.2s
PB14 IPOC Station P 3.23 258 Pn 01 45 25.9 +0.8
PB14 IPOC Station P 3.23 258 eP **Pn** **01 45 25.9 +0.8**
PB14 IAML 01 46 07.0
comp=E,108nm,0.3s
PB14 IPOC Station P 3.23 258 eP **Pn** **01 45 25.9 +0.8**
PB14 eS **S** **01 46 06.3 -0.2**
PB14 IAML 01 46 07.1
comp=Z,162nm,0.3s
PB03 IPOC Station P 3.25 306 Pn 01 45 25.9 +0.7
PB03 IPOC Station P 3.25 306 eP **Pn** **01 45 25.8 +0.6**
PB03 IPOC Station P 3.25 306 eP **Pn** **01 45 25.9 +0.7**
PB03 eS **S** **01 46 05.7 -0.9**
PB03 IAML 01 46 07.4
comp=Z,479nm,0.3s
PB10 IPOC Station P 3.36 278 Pn 01 45 27.2 +0.9
PB10 IPOC Station P 3.36 278 ⇑eP **Pn** **01 45 27.4 +1.1**
PB10 IPOC Station P 3.36 278 eP **Pn** **01 45 27.3 +0.9**
PB10 eS **S** **01 46 08.2 -0.5**
PB10 IAML 01 46 11.1
comp=Z,178nm,0.4s
AC02 Maricunga 3.45 215 Pn 01 45 29.4 +1.4
AC02 Maricunga 3.45 215 eP **Pn** **01 45 29.1 +1.2**
AC02 Maricunga 3.45 215 eP **Pn** **01 45 29.6 +1.7**
AC02 eS **S** **01 46 09.1 -2.5**
PB01 IPOC Station P 3.78 321 Pn 01 45 32.2 +0.7
PB01 IPOC Station P 3.78 321 eP **Pn** **01 45 32.0 +0.5**
PB01 IPOC Station P 3.78 321 eP **Pn** **01 45 32.1 +0.7**
PB01 eS **S** **01 46 17.6 -0.4**
PB01 IAML 01 46 18.6
comp=Z,171nm,0.3s
PB02 IPOC Station P 3.83 314 Pn 01 45 32.4 +0.4
PB02 IPOC Station P 3.83 314 eP **Pn** **01 45 32.5 +0.4**
PB02 IPOC Station P 3.83 314 eP **Pn** **01 45 32.5 +0.4**
PB02 eS **S** **01 46 16.9 -2.2**
PB02 IAML 01 46 23.6
comp=Z,587nm,0.3s
AC01 Pan de Azucar 3.96 237 Pn **Pn** **01 45 33.6 +0.1**
AC01 Pan de Azucar 3.96 237 eP **Pn** **01 45 33.4 -0.1**
AC01 Pan de Azucar 3.96 237 eP **Pn** **01 45 33.4 -0.1**
AC01 eS **S** **01 46 20.2 -1.5**
AC01 IAML 01 46 20.6
comp=Z,77nm,0.5s
PATCX Punta Patache 4.35 316 Pn 01 45 38.4 -0.1
PATCX Punta Patache 4.35 316 eP **Pn** **01 45 38.3 -0.1**
PATCX Punta Patache 4.35 316 eP **Pn** **01 45 38.6 +0.1**
PATCX eS **S** **01 46 28.3 -2.4**
PATCX IAML 01 46 30.2
comp=Z,87nm,0.2s
PB08 IPOC Station P 4.36 331 Pn 01 45 40.4 +1.4
PB08 IPOC Station P 4.36 331 eP **Pn** **01 45 40.3 +1.4**
PB08 IPOC Station P 4.36 331 eP **Pn** **01 45 40.2 +1.3**
PB08 eS **S** **01 46 31.3 -0.1**
PB08 IAML 01 46 34.5
comp=Z,67nm,0.2s
CYA Choya 4.54 167 eP **Pn** **01 45 42.1 +1.4**
CYA eS **S** **01 46 41.1 +6.3**
TA01 Diego Aracena 4.56 318 Pn 01 45 41.0 0.0
TA01 Diego Aracena 4.56 318 eP **Pn** **01 45 41.4 +0.4**
TA01 eS **S** **01 46 34.0 -1.3**
TA01 IAML 01 46 35.1
comp=Z,53nm,1.9s
HMBC Humberstone 4.61 323 Pn 01 45 40.6 -1.2
HMBC Humberstone 4.61 323 eP **Pn** **01 45 41.0 -0.7**
HMBC Humberstone 4.61 323 eP **Pn** **01 45 41.1 -0.7**
HMBC eS **S** **01 46 34.6 -2.1**
HMBC IAML 01 46 35.0
comp=Z,214nm,0.3s
GO03 Copiapo 4.66 219 Pn **Pn** **01 45 42.1 -0.1**
GO03 Copiapo 4.66 219 eP **Pn** **01 45 42.0 -0.2**
GO03 Copiapo 4.66 219 eP **Pn** **01 45 42.2 -0.1**
GO03 eS **S** **01 46 35.8 -1.8**
GO03 IAML 01 46 39.1
comp=Z,80nm,0.3s
GO01 Chusmiza 4.80 334 Pn 01 45 44.9 +0.4
PB11 IPOC Station P 4.92 328 Pn 01 45 45.3 -0.4
PB11 IPOC Station P 4.92 328 eP **Pn** **01 45 45.3 -0.4**
PB11 eS **S** **01 46 40.9 -2.9**
PB11 IAML 01 46 46.9
comp=Z,92nm,0.2s
PB16 IPOC Station P 6.13 336 Pn 01 46 01.6 0.0
PB18 Visviri 6.81 339 Pn 01 46 12.3 +2.1
CFA Coronel Fontan 7.66 188 P **Pn** **01 46 21.4 +0.7**
comp=Z,2.8nm,0.3s,baz=240,slow=23,SNR=76
CFA S **S** **01 47 42.4 -5.1**
comp=Z,2.8nm,0.3s,baz=252,slow=19,SNR=7.5
LPAZ La Paz 7.76 351 Pn 01 46 23.2 +0.7
LPAZ La Paz 7.76 351 P **Pn** **01 46 23.9 +1.4**
comp=Z,7.4nm,0.5s,baz=135,slow=4.6,SNR=56
LPAZ S **S** **01 47 51.3 +0.5**
comp=Z,0.9nm,0.6s,baz=73,slow=24,SNR=1.1
SIV San Ignacio 9.68 36 P **Pn** **01 46 46.2 -0.7**
comp=Z,6.1nm,0.7s,baz=214,slow=8.7,SNR=14
BO02 Sierra Bellavi 11.27 196 Pn **Pn** **01 47 07.1 +0.1**
TRQA Tornquist 14.63 164 Pn 01 47 48.5 -0.5
PLCA Paso Flores 16.96 189 P **Pn** **01 48 19.8 +2.8**
comp=Z,0.7nm,0.5s,baz=28,slow=10,SNR=3.9
BDFB Brasilia 19.62 68 P **P** **01 48 45.9 +1.4**
comp=Z,2.0nm,0.4s,baz=254,slow=11,SNR=3.6
PRVC Isla de Provid 39.74 338 P **P** **01 51 41.6 -2.3**
PRVC IAmb IAmb 01 51 47.0
comp=Z,16nm,1.0s
UCCT U. Connecticut 65.64 356 P **P** **01 54 52.0 -1.0**
CCM Cathedral Cave 65.82 339 P **P** **01 54 55.6 +1.4**
CCM IAmb IAmb 01 55 07.8
comp=Z,4.6nm,1.1s
QSPA South Pole Qui 66.20 180 P P 01 55 02.5 +6.0
comp=Z,1.1nm,0.5s,baz=290,slow=1.1,SNR=9.6
comp=Z,1.1nm,0.5s
BINY Binghamton 66.40 353 P **P** **01 54 57.4 -0.4**
BINY IAmb IAmb 01 55 10.6
comp=Z,18nm,1.4s
P38A Dawn 68.00 338 P **P** **01 55 05.1 -2.8**
P38A IAmb IAmb 01 55 09.8
comp=Z,21nm,1.4s
TORD Torodi Ar. Bea 76.51 69 P **P** **01 55 57.6 -1.2**
TORD Torodi Ar. Bea 76.51 69 P **P** **01 56 00.9 +2.1**
comp=Z,0.5nm,0.7s,baz=257,slow=6.0,SNR=2.0
comp=Z,0.5nm,0.7s
HRY Holter Researc 81.24 331 P **P** **01 56 23.5 -0.5**
ASAR Alice Springs 128.48 205 PKP **PKiKP** **02 03 17.8 +3.1**
comp=Z,0.2nm,0.3s,baz=225,slow=39,SNR=2.1
WRA Warramunga Arr 131.66 207 PKP **PKiKP** **02 03 23.6 +2.6**
comp=Z,0.2nm,0.4s,baz=161,slow=1.7,SNR=4.5
MKAR Makanchi Array 146.48 40 PKPbc **PKiKP** **02 03 50.0 -0.5**
comp=Z,0.9nm,0.6s,baz=344,slow=3.3,SNR=6.5

IDC 03 01:50:58.4±52.0, 22°73S×176°12W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=957.0km s-min=172.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.47**	**247**	P	P	01 58 22.4	+0.2
	1.1nm,0.4s,baz=99,slow=14,SNR=2.3						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**45.76**	**259**	P	P	01 59 21.8	-0.2
	1.2nm,0.8s,baz=90,slow=8.5,SNR=10						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**46.06**	**264**	P	P	01 59 24.1	-0.3
	1.4nm,0.6s,baz=103,slow=8.2,SNR=13						
	1.4nm,0.6s						

IDC 03 01:50:58.8±10.0, 22°65S×172°95W, h0km, mb4.2/3, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=212.1km s-min=137.2km az=46.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.07**	**268**	P	Pn	01 55 23.4	-0.3
	0.6nm,0.3s,baz=93,slow=20,SNR=2.0						
	10nm,1.0s						
STKA	**Stephens Creek**	**41.19**	**247**	P	P	01 58 45.1	-0.2
	1.4nm,0.4s,baz=92,slow=13,SNR=4.4						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**48.63**	**258**	P	P	01 59 45.1	+0.3
	2.1nm,0.7s,baz=93,slow=8.3,SNR=15						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**48.98**	**263**	P	P	01 59 46.8	-0.6
	3.3nm,0.6s,baz=103,slow=8.4,SNR=22						
	3.3nm,0.6s						

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*IDC **03** 01:55:07.8±4.4, 56°06S×27°31W, h104km±39km, mb4.3/9, mbtmp4.6/11, MS3.0/2, Error ellipse: s-maj=18.7km s-min=14.0km az=58.0*
*NEIC **03** 01:55:09.6±1.6, 56°2S±0°1×27°5W±0°1, h116km±6km, mb4.8/38, Error ellipse: s-maj=16.7km s-min=11.4km az=198.0*
ISC 03 01:55:09.7±0.9, 56°17S±0°08×27°47W±0°07, h122km±8km, n212, σ0°74/224, mb4.6/23, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.50**	**286**		**Pn**	**01 56 28.6**	**-0.6**
HOPE					**Sn**	**01 57 29.6**	**-1.6**
VNA1	**Neumayer--Stat**	**16.74**	**158**	⇑P	**P**	**01 58 59.1**	**+2.4**
	comp=Z,12nm,0.7s						
VNA3	**Neumayer Olymp**	**16.93**	**160**	⇑P	**Pn**	**01 58 57.9**	**-0.9**
	comp=Z,7.9nm,0.5s						
EFI	**East Falkland**	**18.48**	**271**	Pn	**Pn**	**01 59 19.6**	**+2.1**
EFI				IAmb	IAmb	01 59 20.7	
	comp=Z,101nm,1.4s						
SNAA	**Sanae**	**18.69**	**156**	⇑P	**P**	**01 59 17.2**	**-1.0**
	comp=Z,229nm,0.4s						
SNAA	**Sanae**	**18.69**	**156**		**P**	**01 59 17.6**	**-0.5**
SNAA	**Sanae**	**18.69**	**156**	P	**P**	**01 59 17.5**	**-0.6**
	comp=Z,12nm,0.6s,baz=305,slow=11,SNR=15						
PMSA	**Palmer Station**	**19.70**	**229**	P	**P**	**01 59 29.2**	**+0.2**
PMSA				IAmb	IAmb	01 59 33.7	
	comp=Z,38nm,0.6s						
PMSA	**Palmer Station**	**19.70**	**229**	P	**P**	**01 59 30.2**	**+1.2**
	comp=Z,45nm,0.6s,baz=67,slow=5.9,SNR=48						
TROLL	**Troll, Antarti**	**20.21**	**153**	⇑P	Pn	01 59 37.3	-0.3
	comp=Z,1μm,0.4s						
BELA	**Belgrano 2**	**21.94**	**184**	P	**P**	**01 59 50.6**	**-2.3**
BELA				IAmb	IAmb	01 59 53.5	
	comp=Z,31nm,0.8s						
MG02	**Cerro Sombrero**	**24.22**	**260**	P	**P**	**02 00 14.8**	**+0.1**
TRQA	**Tornquist**	**29.23**	**294**	P	**P**	**02 00 59.2**	**-0.6**
TRQA				IAmb	IAmb	02 01 19.1	
	comp=Z,26nm,1.9s						
PLCA	**Paso Flores**	**31.87**	**281**	P	**P**	**02 01 22.0**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=2.8,slow=5.5,SNR=3.1						
	comp=Z,1.4nm,0.9s						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**02 01 42.9**	**+0.8**
QSPA				IAmb	IAmb	02 01 48.5	
	comp=Z,27nm,1.4s						
QSPA				PcP	**PcP**	**02 04 17.9**	**+1.4**
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**02 01 43.9**	**+1.8**
	comp=Z,10nm,0.5s,baz=14,slow=7.4,SNR=54						
QSPA				PcP	**PcP**	**02 04 18.0**	**+1.5**
	comp=Z,1.9nm,0.4s,baz=344,slow=0.5,SNR=6.6						
	comp=Z,10nm,0.5s						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**02 01 44.4**	**+2.3**
QSPA				PcP	**PcP**	**02 04 16.1**	**-0.4**
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**02 02 07.0**	**+1.7**
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**02 02 04.8**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=5.8,slow=4.4,SNR=3.4						
CPUP				LR	LR	02 20 05.2	
	comp=Z,6.0nm,18.1s,baz=274,slow=41						
MT09	**Talagante**	**37.20**	**288**	P	**P**	**02 02 06.9**	**-2.2**
MT01	**Popeta**	**37.27**	**288**	P	**P**	**02 02 07.4**	**-2.1**
MT05	**Renca**	**37.36**	**289**	P	**P**	**02 02 11.8**	**+1.4**
MT02	**Curacav**	**37.68**	**289**	P	**P**	**02 02 11.8**	**-1.1**
MAW	**Mawson**	**40.14**	**144**	P	**P**	**02 02 32.9**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=232,slow=8.1,SNR=20						
MAW				PcP	**PcP**	**02 04 35.4**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=266,slow=4.2,SNR=6.2						
	comp=Z,4.4nm,0.6s						
AC04	**Llanos de Chal**	**41.65**	**294**	P	**P**	**02 02 45.0**	**-0.9**
SBA	**Scott Base**	**45.95**	**184**	P	**P**	**02 03 19.8**	**+0.2**
BOSA	**Boshof**	**46.15**	**76**	P	**P**	**02 03 22.1**	**+0.2**
BOSA	**Boshof**	**46.15**	**76**	P	**P**	**02 03 21.3**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=196,slow=7.1,SNR=4.1						
BOSA				LR	LR	02 20 30.5	
	comp=Z,63nm,18.2s,baz=192,slow=33						
	comp=Z,2.2nm,0.7s						
VNDA	**Vanda**	**46.44**	**183**		**P**	**02 03 23.8**	**+0.3**
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**02 03 23.6**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=188,slow=6.6,SNR=24						
	comp=Z,4.4nm,0.7s						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**02 03 23.6**	**+0.1**
VNDA				sP	**sP**	**02 04 04.6**	**+0.7**
VNDA				PcP	**PcP**	**02 04 54.5**	**-1.4**
PB08	**IPOC Station P**	**47.45**	**302**	P	**P**	**02 03 33.1**	**+0.7**
GO01	**Chusmiza**	**47.88**	**302**	P	**P**	**02 03 36.0**	**+0.2**
GO01				IAmb	IAmb	02 03 39.2	
	comp=Z,15nm,1.4s						
KOOLE	**Kule**	**48.01**	**66**	P	**P**	**02 03 37.2**	**+0.8**
KOOLE				IAmb	IAmb	02 03 37.8	
	comp=Z,11nm,0.9s						
KGCAE	**Kacgae**	**49.16**	**68**	P	**P**	**02 03 45.9**	**+0.8**
KGCAE				IAmb	IAmb	02 03 46.9	
	comp=Z,9.9nm,0.9s						
PB16	**IPOC Station P**	**49.18**	**303**	P	**P**	**02 03 46.1**	**+0.2**
PB16				IAmb	IAmb	02 03 48.8	
	comp=Z,20nm,1.4s						
PB16				PcP	**PcP**	**02 05 07.4**	**+0.1**
LBTB	**Lobatse**	**49.19**	**73**	P	**P**	**02 03 45.6**	**+0.1**
LBTB				IAmb	IAmb	02 03 46.5	
	comp=Z,7.0nm,0.8s						
LBTB	**Lobatse**	**49.19**	**73**	P	**P**	**02 03 46.0**	**+0.6**
PB18	**Visviri**	**49.81**	**303**	P	**P**	**02 03 50.8**	**+0.1**
PB18				PcP	**PcP**	**02 05 09.8**	**+0.2**
GRTLG	**Ghanzi**	**49.88**	**66**	P	**P**	**02 03 50.9**	**+0.2**
GRTLG				IAmb	IAmb	02 03 56.2	
	comp=Z,20nm,1.6s						
LPAZ	**La Paz**	**50.32**	**306**		**P**	**02 03 55.2**	**+0.7**
LPAZ				IAmb	IAmb	02 03 55.9	
	comp=Z,8.3nm,0.5s						
LPAZ				PcP	**PcP**	**02 05 12.1**	**+0.5**
LPAZ	**La Paz**	**50.32**	**306**	P	**P**	**02 03 55.3**	**+0.7**
	comp=Z,7.2nm,0.4s,baz=125,slow=4.7,SNR=40						
LPAZ				PcP	**PcP**	**02 05 12.0**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=199,slow=7.0,SNR=3.8						
	comp=Z,7.2nm,0.4s						
LPAZ	**La Paz**	**50.32**	**306**	P	**P**	**02 03 55.3**	**+0.7**
LPAZ				PcP	**PcP**	**02 05 11.2**	**-0.3**
LPHEP	**Lephephe**	**50.67**	**72**	P	**P**	**02 03 57.2**	**+0.6**
LPHEP				IAmb	IAmb	02 04 16.4	
	comp=Z,21nm,1.5s						
POGA	**Pongola**	**50.68**	**81**	P	**P**	**02 03 57.2**	**+0.7**
POGA				IAmb	IAmb	02 04 13.4	
	comp=Z,24nm,1.3s						
MREMI	**Moremi**	**52.16**	**73**		**P**	**02 04 08.2**	**+0.5**
PHDHD	**Phuduhudu**	**52.56**	**69**		**P**	**02 04 11.6**	**+0.9**
PHDHD				IAmb	IAmb	02 04 12.1	
	comp=Z,8.7nm,0.6s						
CASY	**Casey**	**53.84**	**160**		**P**	**02 04 19.4**	**+0.1**
CASY				IAmb	IAmb	02 04 20.2	
	comp=Z,9.0nm,0.8s						
KSANE	**Kasane**	**54.88**	**68**		**P**	**02 04 27.5**	**0.0**
KSANE				IAmb	IAmb	02 04 29.1	
	comp=Z,8.1nm,0.9s						
DRV	**Dumont d'Urvil**	**57.12**	**174**	P	**P**	**02 04 41.6**	**-1.1**
DRV				PcP	**PcP**	**02 05 35.8**	**-0.2**
LSZ	**Lusaka**	**58.56**	**69**		**P**	**02 04 54.3**	**+0.7**
LSZ				IAmb	IAmb	02 04 55.2	
	comp=Z,6.8nm,0.8s						
BOAV	**Boa Vista**	**64.28**	**323**	P	**P**	**02 05 31.3**	**-0.6**
DBIC	**Dimbokro**	**65.34**	**25**	P	**P**	**02 05 39.8**	**+1.1**
DBIC				IAmb	IAmb	02 05 53.2	
	comp=Z,30nm,1.6s						
DBIC	**Dimbokro**	**65.34**	**25**	P	**P**	**02 05 37.5**	**-1.2**
	comp=Z,8.5nm,0.9s,baz=208,slow=8.1,SNR=7.0						
	comp=Z,8.5nm,0.9s						
OTAV	**Otavalo**	**69.59**	**304**	P	**P**	**02 06 06.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.24**	**30**		**P**	**02 06 26.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	**P**	**02 06 26.6**	**-0.7**
	comp=Z,9.4nm,0.7s,baz=197,slow=4.0,SNR=27						
	comp=Z,9.4nm,0.7s						
ROCAM	**Rodrigues Isla**	**74.29**	**102**	P	**P**	**02 06 32.6**	**-0.9**
ASAR	**Alice Springs**	**98.92**	**163**	P	**P**	**02 08 34.9**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=186,slow=4.3,SNR=10						
	comp=Z,0.9nm,0.5s						
NVAR	**Mina Array Bea**	**121.30**	**293**	PKP	**PKPdf**	**02 13 48.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=128,slow=2.4,SNR=5.8						
FINES	**FINESS Array B**	**124.56**	**28**	PKP	**PKPdf**	**02 13 52.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=237,slow=4.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**125.17**	**111**	PKP	**PKPdf**	**02 13 55.2**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=232,slow=2.8,SNR=5.8						
G08A	**Pilot Rock**	**126.69**	**298**		**PKPdf**	**02 13 58.1**	**+0.3**
ARCES	**ARCESS Array B**	**131.12**	**22**	PKP	**PKPdf**	**02 14 04.9**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=156,slow=1.2,SNR=6.7						
BVAR	**Borovoye Array**	**134.98**	**58**	PKP	**PKPdf**	**02 14 12.7**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=252,slow=0.5,SNR=4.4						
YKA	**Yellowknife Ar**	**136.16**	**318**	PKP	**PKPdf**	**02 14 14.4**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=173,slow=15,SNR=5.6						
MKAR	**Makanchi Array**	**137.07**	**72**	PKP	**PKPdf**	**02 14 16.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=248,slow=4.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**137.50**	**65**	PKP	**PKPdf**	**02 14 17.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=239,slow=2.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**142.56**	**64**	PKhKP	PKPpre	02 14 22.3	
	comp=Z,1.1nm,0.4s,baz=205,slow=3.7,SNR=1.9						
ZALV				PKP	**PKPdf**	**02 14 27.8**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=216,slow=4.0,SNR=4.2						
A36M	**Sachs Harbour**	**144.23**	**328**	P	PKPbc	02 14 28.1	+0.2
	baz=109						
N31M	**Braeburn, Yuko**	**144.25**	**309**	P	**PKPab**	**02 14 28.2**	**+0.2**
	baz=115						
P29M	**Windy Craggy**	**144.34**	**305**	P	**PKPab**	**02 14 28.9**	**+0.6**
	baz=116						
HYT	**Haines Junctio**	**144.74**	**307**	P	PKPbc	02 14 30.6	+0.6
	baz=115						
N30M	**Aishikik Lake**	**144.82**	**308**	P	**PKPdf**	**02 14 30.9**	**+0.2**
	baz=114						
M30M	**Minto, Yukon**	**145.13**	**310**	P	**PKPbc**	**02 14 31.3**	**+0.3**
	baz=113						
H31M	**Peel River**	**145.31**	**316**	P	**PKPdf**	**02 14 31.5**	**+0.1**
	baz=110						
YUK4	**Talbot Arm**	**145.46**	**308**	P	**PKPdf**	**02 14 32.3**	**+0.3**
	baz=113						
F31M	**Tsiigehtchic**	**145.62**	**319**	P	**PKPdf**	**02 14 32.1**	**+0.3**
	baz=108						
G31M	**Satah River**	**145.65**	**318**	P	**PKPdf**	**02 14 32.5**	**+0.7**
	baz=109						
J30M	**Hart River**	**145.67**	**314**	P	**PKPdf**	**02 14 32.9**	**+0.7**
	baz=110						
INK	**Inuvik**	**145.80**	**321**	P	**PKPdf**	**02 14 32.6**	**+0.5**
	baz=107						
M29M	**Somme Creek**	**145.80**	**309**	P	**PKPdf**	**02 14 33.1**	**+0.7**
	baz=112						
L29M	**L29M**	**145.90**	**311**	P	**PKPdf**	**02 14 33.4**	**+0.9**
	baz=111						
K29M	**Barlow Dome**	**145.91**	**312**	P	**PKPbc**	**02 14 33.7**	**+0.1**
	baz=111						
I30M	**Mount Dempster**	**145.91**	**315**	P	**PKPbc**	**02 14 33.6**	**+0.1**
	baz=109						
O28M	**Mount Upton**	**145.93**	**306**	P	**PKPbc**	**02 14 33.9**	**0.0**
	baz=113						
YUK8	**Steele Glacier**	**145.93**	**307**	P	**PKPdf**	**02 14 33.5**	**+0.6**
	baz=113						
G30M	**tAoh Zraii Nji**	**146.40**	**318**	P	**PKPbc**	**02 14 34.5**	**-0.3**
	baz=107,SNR=9.4						
J29N	**Klondike Camp**	**146.40**	**313**	P	**PKPbc**	**02 14 34.6**	**-0.3**
	baz=109						
EPYK	**Eagle Plains**	**146.41**	**317**	P	**PKPbc**	**02 14 34.7**	**-0.2**
	baz=108						
F30M	**Barrier River**	**146.42**	**319**	P	**PKPbc**	**02 14 34.6**	**-0.2**
	baz=106,SNR=14						
MESA	**MESA**	**146.50**	**305**	P	**PKPdf**	**02 14 35.0**	**+1.2**
	baz=113						
CTG	**Chitna Glacier**	**146.52**	**306**	P	**PKPbc**	**02 14 35.2**	**-0.2**
	baz=112						
I29M	**Ogilvie Camp,**	**146.72**	**314**	P	**PKPbc**	**02 14 35.8**	**0.0**
	baz=108						
DAWY	**Dawson**	**146.76**	**312**	P	**PKPbc**	**02 14 35.6**	**-0.3**
	baz=109						
H29M	**Whitestone**	**147.00**	**316**	P	**PKPbc**	**02 14 36.1**	**-0.3**
	baz=107,SNR=17						
G29M	**Pine Creek**	**147.06**	**317**	P	**PKPbc**	**02 14 36.3**	**-0.3**
	baz=106						
BGLC	**Bering Glacier**	**147.09**	**304**	P	**PKPbc**	**02 14 36.5**	**-0.3**
	baz=112						
CRQE	**Cirque**	**147.24**	**305**	P	**PKPbc**	**02 14 36.6**	**-0.8**
	baz=112						
M27K	**Edge Creek, AK**	**147.26**	**308**	P	**PKPbc**	**02 14 36.7**	**-0.7**
	baz=110						
E29M	**Blow River**	**147.39**	**320**	P	**PKPbc**	**02 14 36.8**	**-0.6**
	baz=104						
I28M	**Miner Creek**	**147.40**	**314**	P	**PKPbc**	**02 14 36.9**	**-0.8**
	baz=107						
L27K	**Beaver Creek,**	**147.47**	**310**	P	**PKPbc**	**02 14 37.5**	**-0.4**
	baz=109						
KAIM	**Kayak Island**	**147.55**	**303**	P	**PKPbc**	**02 14 37.5**	**-0.6**
	baz=112						
EGAK	**Eagle**	**147.71**	**313**	P	**PKPbc**	**02 14 38.0**	**-0.4**
	baz=107						
M26K	**Nabesna, AK**	**147.76**	**308**	P	**PKPbc**	**02 14 38.0**	**-0.7**
	baz=109						
K27K	**Chicken**	**147.87**	**311**	P	**PKPbc**	**02 14 38.4**	**-0.5**
	baz=107						
F28M	**Old Crow**	**147.93**	**318**	P	**PKPbc**	**02 14 38.6**	**-0.4**
	baz=103						
BMRM	**Bremner River**	**148.01**	**305**	P	**PKPbc**	**02 14 38.6**	**-0.8**
	baz=110						
E28M	**Babbage River**	**148.02**	**320**	P	**PKPbc**	**02 14 38.8**	**-0.4**
	baz=102						
I27K	**Kandik River**	**148.12**	**314**	P	**PKPbc**	**02 14 39.1**	**-0.4**
	baz=105						
N25K	**Chitina, Valde**	**148.22**	**306**	P	**PKPbc**	**02 14 39.5**	**-0.5**
	baz=109						
H27K	**Steamboat Moun**	**148.24**	**315**	P	**PKPbc**	**02 14 39.6**	**-0.2**
	baz=104,SNR=10						
EYAK	**Cordova Ski Ar**	**148.39**	**304**	P	**PKPbc**	**02 14 39.8**	**-0.5**
	baz=110						
G27K	**Doyon Strip**	**148.42**	**316**	P	**PKPbc**	**02 14 40.2**	**-0.1**
	baz=103						
J26L	**Joseph Creek**	**148.63**	**312**	P	**PKPbc**	**02 14 40.5**	**-0.4**
	baz=105						
D27M	**Malcolm River**	**148.65**	**321**	P	**PKPbc**	**02 14 40.8**	**-0.1**
	baz=100						
I26K	**Coal Creek Min**	**148.66**	**313**	P	**PKPbc**	**02 14 40.9**	**0.0**
	baz=104						
SCRK	**Sand Creek**	**148.66**	**311**	P	**PKPbc**	**02 14 40.7**	**-0.4**
	baz=106						
E27K	**Coleen River**	**148.69**	**

HDA	**Harding Lake**	**150.03 311**	P	**PKPbc**	02 14 44.5	+0.2
	baz=103					
ILAR	**Eielson Array**	**150.08 312**	PKP	**PKPdf**	02 14 36.4	-2.9
	comp=Z,0.9nm,0.9s,baz=52,slow=0.0,SNR=5.1					
ILAR			PKPbc	**PKPbc**	02 14 43.8	-0.6
	comp=Z,9.8nm,0.9s,baz=132,slow=1.5,SNR=51					
ILAR			PKPab	**PKPab**	02 14 50.8	0.0
	comp=Z,2.1nm,0.9s,baz=105,slow=-4.8,SNR=6.7					
F25K	**Christian Rive**	**150.10 317**	P	**PKPbc**	02 14 44.8	+0.3
	baz=99,SNR=8.7					
G25K	**Bearman Lake**	**150.14 316**	P	**PKPbc**	02 14 44.8	+0.3
	baz=100					
E25K	**Arctic Village**	**150.15 318**	P	**PKPbc**	02 14 44.8	+0.3
	baz=98,SNR=7.1					
PMR	**Palmer**	**150.28 305**	P	**PKPbc**	02 14 45.0	+0.1
	baz=106					
WAT1	**Susitna Watana**	**150.34 307**	P	**PKPbc**	02 14 45.1	0.0
	baz=105					
POKR	**Poker Plat Res**	**150.38 312**	P	**PKPbc**	02 14 45.5	+0.3
	baz=102					
RC01	**Rabbit Creek A**	**150.41 304**	P	**PKPbc**	02 14 45.5	+0.2
	baz=107					
BRSE	**Bradley Lake S**	**150.48 301**	P	**PKPbc**	02 14 45.6	+0.1
	baz=109					
D25K	**Kavik River**	**150.57 321**	P	**PKPbc**	02 14 45.7	+0.2
	baz=95					
G24K	**Hadweenzic Riv**	**150.67 315**	P	**PKPbc**	02 14 46.0	+0.2
	baz=99					
H24K	**Noodor Dome**	**150.69 314**	P	**PKPbc**	02 14 45.7	-0.2
	baz=100					
MCK	**McKinley**	**150.73 309**	P	**PKPbc**	02 14 46.0	0.0
	baz=103					
KDAK	**Kodiak Island**	**150.73 296**	P	**PKPbc**	02 14 45.9	-0.2
	baz=111					
M22K	**Willow**	**150.78 305**	P	**PKPbc**	02 14 46.3	+0.2
	baz=106					
OHAK	**Old Harbor**	**150.89 295**	P	**PKPbc**	02 14 46.4	0.0
	baz=112					
SONM	**Songino Array**	**150.89 87**	PKPbc	**PKPbc**	02 14 46.8	-0.2
	comp=Z,5.3nm,0.6s,baz=235,slow=2.7,SNR=16					
F24K	**Squaw Lake**	**150.94 317**	P	**PKPbc**	02 14 46.8	+0.4
	baz=97					
NEA2	**Nenana**	**150.96 311**	P	**PKPbc**	02 14 46.8	+0.3
	baz=101					
SUA	**Susitna One**	**150.99 304**	P	**PKPbc**	02 14 46.8	0.0
	baz=106					
CUT	**Chulitna**	**151.01 306**	P	**PKPbc**	02 14 47.0	+0.3
	baz=104					
I23K	**Minto, Yukon-K**	**151.19 312**	P	**PKPbc**	02 14 46.6	-0.4
	baz=100					
E24K	**Your Creek**	**151.23 318**	P	**PKPbc**	02 14 47.1	0.0
	baz=95					
TRF	**Thorofare Moun**	**151.26 308**	P	**PKPbc**	02 14 47.4	0.0
	baz=102					
D24K	**Happy Valley**	**151.43 320**	P	**PKPbc**	02 14 47.5	+0.1
	baz=93					
SKT	**Skwentna**	**151.48 305**	P	**PKPbc**	02 14 47.9	+0.1
	baz=104					
E23K	**Chandalar**	**151.65 318**	P	**PKPbc**	02 14 47.9	-0.2
	baz=94					
TOLK	**Toolik Lake Re**	**151.67 319**	P	**PKPbc**	02 14 48.2	+0.1
	baz=94					
G23K	**Bananza Creek**	**151.68 315**	P	**PKPbc**	02 14 48.3	+0.2
	baz=97					
BPAW	**Bear Paw Mtn.**	**151.69 309**	P	**PKPbc**	02 14 48.3	+0.1
	baz=101					
MLY	**Manley**	**151.74 311**	P	**PKPbc**	02 14 48.4	+0.1
	baz=99					
COLD	**Coldfoot**	**151.80 316**	P	**PKPbc**	02 14 48.7	+0.4
	baz=96					
PPLA	**Purkeypile**	**151.99 307**	P	**PKPbc**	02 14 48.7	-0.3
	baz=102					
C23K	**Itkillik River**	**152.08 322**	P	**PKPbc**	02 14 49.2	+0.3
	baz=90					
D23K	**Nanushuk River**	**152.09 320**	P	**PKPbc**	02 14 49.5	+0.5
	baz=92					
H22K	**Ishtalitna Cre**	**152.13 313**	P	**PKPbc**	02 14 49.3	+0.2
	baz=97					
M20K	**Styx River**	**152.19 304**	P	**PKPbc**	02 14 49.2	-0.3
	baz=103					
CHUM	**Lake Minchumin**	**152.23 309**	P	**PKPbc**	02 14 49.3	0.0
	baz=100					
G22K	**Bettles**	**152.28 315**	P	**PKPbc**	02 14 49.6	+0.2
	baz=95					
O19K	**Port Alsworth**	**152.34 301**	P	**PKPbc**	02 14 49.7	0.0
	baz=106					
E22K	**Anaktuvuk Pass**	**152.48 318**	P	**PKPbc**	02 14 50.0	+0.1
	baz=92					
Q17K	**Contact Creek**	**152.55 296**	P	**PKPbc**	02 14 49.8	-0.6
	baz=108					
P18K	**Big Mountain,**	**152.56 299**	P	**PKPbc**	02 14 49.7	-0.6
	baz=107					
N19K	**Bonanza Creek**	**152.57 302**	P	**PKPbc**	02 14 49.8	-0.5
	baz=104					
F22K	**John River**	**152.59 317**	P	**PKPbc**	02 14 50.1	0.0
	baz=93					
R17L	**Mt. Peulik Vol**	**152.59 295**	P	**PKPbc**	02 14 50.0	-0.4
	baz=109					
L20K	**Farewell, AK**	**152.66 306**	P	**PKPbc**	02 14 50.3	-0.2
	baz=102					
O18K	**Koktuh Hills**	**152.68 300**	P	**PKPbc**	02 14 50.4	-0.1
	baz=106					
H21K	**Melozitna Rive**	**152.69 313**	P	**PKPbc**	02 14 50.3	-0.1
	baz=96					
M19K	**Big River Lodg**	**152.78 304**	P	**PKPbc**	02 14 50.8	+0.1
	baz=102					
D22K	**Ayikyak River**	**152.81 320**	P	**PKPbc**	02 14 51.1	+0.5
	baz=90					
K20K	**Telida**	**152.91 307**	P	**PKPbc**	02 14 51.1	+0.1
	baz=100					
G21K	**Allakaket**	**153.04 314**	P	**PKPbc**	02 14 51.4	+0.3
	baz=94					
Q16K	**King Salmon**	**153.06 297**	P	**PKPbc**	02 14 51.2	-0.1
	baz=107					
J20K	**Nowinta River**	**153.07 309**	P	**PKiKP**	02 14 51.8	+0.4
	baz=98					
F21K	**Alatna River**	**153.08 316**	P	**PKPbc**	02 14 51.6	+0.4
	baz=93					
P17K	**Kvichak River**	**153.10 298**	P	**PKPbc**	02 14 51.8	+0.4
	baz=106					
CHGN	**Chignik**	**153.20 291**	P	**PKiKP**	02 14 52.7	+0.9
	baz=111					
N18K	**Kilae Creek**	**153.21 301**	P	**PKiKP**	02 14 53.1	+1.3
	baz=104					
I20K	**Naaghedeneel**	**153.29 310**	P	**PKiKP**	02 14 52.5	+0.7
	baz=97					
B21K	**Ikpikpuk River**	**153.48 321**	P	**PKiKP**	02 14 52.4	+0.4
	baz=87					
H20K	**Anotleneega Mo**	**153.53 312**	P	**PKPbc**	02 14 52.5	+0.2
	baz=95					
O17K	**Koliganek Bris**	**153.57 299**	P	**PKPbc**	02 14 52.3	-0.2
	baz=105					
J19K	**Poorman**	**153.69 309**	P	**PKPbc**	02 14 52.9	+0.3
	baz=97					
P16K	**Nushagak River**	**153.82 297**	P	**PKPbc**	02 14 53.3	+0.3
	baz=106					
L18K	**Granite Mounta**	**153.90 304**	P	**PKPbc**	02 14 53.3	+0.2
	baz=100					
SDPT	**Sand Point**	**153.94 288**	P	**PKPbc**	02 14 53.8	+0.4
	baz=112					
F20K	**Avaraart Lake**	**153.95 315**	P	**PKiKP**	02 14 54.7	+1.6
	baz=91					
M17K	**Holitna River**	**154.10 302**	P	**PKiKP**	02 14 54.7	+1.1
	baz=101					
J18K	**Innoko River**	**154.10 307**	P	**PKiKP**	02 14 54.7	+1.2
	baz=98					
E20K	**Nigu River**	**154.11 318**	P	**PKiKP**	02 14 55.8	+2.3
	baz=88					
H19K	**Roundabout Mou**	**154.18 312**	P	**PKiKP**	02 14 56.2	+2.6
	baz=94					

*IDC **03** 02:01:04.8±1.9, 1°.09N×99°.11E, h101km±12km, mb4.0/12, mbtmp4.3/14, Error ellipse: s-maj=29.6km s-min=12.8km az=57.0*
*NEIC **03** 02:01:06.2±1.8, 1°.12N±0°.06×99°.00E±0°.05, h107km±8km, mb4.4/15, Error ellipse: s-maj=8.9km s-min=7.5km az=215.0*
*DJA **03** 02:01:06.5±0.2, 1°.N±2°.×9°.9E±°, h99km±3km, M4.4/23, mB4.9/4, mb4.5/6, MLv4.3/23, Mw(mB)4.2/4*

ISC 03 02:01:06.0±0.7, 1°.18N±0°.03×99°.01E±0°.04, h107km±6km, n75, σ1§58/94, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.39**	**342**	P	**Pn**	**02 01 22.7**	**+0.9**
SBSI				S	**Sn**	**02 01 35.0**	**+1.3**
MNSI	**Mandailing Nat**	**0.69**	**124**	P	**Pn**	**02 01 24.6**	**+0.7**
MNSI				S	**Sn**	**02 01 39.0**	**+1.6**
PBSI	**Pulau Batu**	**1.43**	**211**	P	**Pn**	**02 01 32.1**	**+0.3**
PBSI				S	**Sn**	**02 01 52.4**	**+1.1**
GSI	**Gunungsitoli**	**1.44**	**275**		**Pn**	**02 01 32.3**	**+0.4**
GSI				Sn	**Sn**	**02 01 51.2**	**-0.4**
GSI	**Gunungsitoli**	**1.44**	**275**	P	**Pn**	**02 01 32.8**	**+0.9**
GSI	**Gunungsitoli**	**1.44**	**275**	S	**Sn**	**02 01 52.5**	**+1.0**
GSI	**Gunungsitoli**	**1.44**	**275**	P	**Pn**	**02 01 32.5**	**+0.6**
GSI				S	**Sn**	**02 01 52.6**	**+1.0**
RPSI	**Rantau Prapat**	**1.51**	**357**		**Pn**	**02 01 33.4**	**+0.7**
RPSI				Sn	**Sn**	**02 01 53.4**	**+0.4**
RPSI	**Rantau Prapat**	**1.51**	**357**		**Pn**	**02 01 33.2**	**+0.5**
RPSI					**Sn**	**02 01 53.5**	**+0.6**
PSI	**Prapat**	**1.61**	**357**	P	**Pn**	**02 01 33.2**	**-0.9**
	221nm,0.3s,baz=169,slow=21,SNR=111						
PSI				S	**Sn**	**02 01 53.5**	**-1.9**
	60nm,0.3s,baz=75,slow=23,SNR=17						
PSI	**Prapat**	**1.61**	**357**	P	**Pn**	**02 01 33.5**	**-0.6**
PSI	**Prapat**	**1.61**	**357**	S	**Sn**	**02 01 54.0**	**-1.4**
PPI	**Padang Panjang**	**2.14**	**140**	P	**Pn**	**02 01 41.5**	**+0.9**
PPI				S	**Sn**	**02 02 07.6**	**+0.5**
BKNI	**Bangkinang**	**2.20**	**113**		**Pn**	**02 01 41.8**	**+0.4**
BKNI	**Bangkinang**	**2.20**	**113**	P	**Pn**	**02 01 42.3**	**+0.9**
BKNI	**Bangkinang**	**2.20**	**113**	S	**Sn**	**02 02 09.4**	**+0.9**
BKNI	**Bangkinang**	**2.20**	**113**	P	**Pn**	**02 01 41.8**	**+0.4**
BKNI				S	**Sn**	**02 02 08.8**	**+0.3**
TSI	**Tuntungan**	**2.35**	**349**	P	**Pn**	**02 01 44.0**	**+0.7**
TSI				S	**Sn**	**02 02 11.8**	**-0.1**
SISI	**Saibi**	**2.49**	**178**	P	**Pn**	**02 01 44.3**	**-0.9**
SISI				S	**Sn**	**02 02 16.3**	**+1.0**
PDSI	**Padang**	**2.54**	**145**	P	**Pn**	**02 01 46.3**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.63**	**332**	P	**Pn**	**02 01 46.9**	**-0.2**
KCSI				S	**Sn**	**02 02 18.8**	**+0.1**
SNSI	**Sinabang, Aceh**	**2.95**	**294**	P	**Pn**	**02 01 51.9**	**+0.7**
IPM	**Ipoh**	**3.84**	**32**		**Pn**	**02 02 04.4**	**+1.2**
IPM	**Ipoh**	**3.84**	**32**	P	**Pn**	**02 02 05.6**	**+2.4**
IPM	**Ipoh**	**3.84**	**32**	S	**Sn**	**02 02 49.2**	**+1.6**
MLSI	**Meulaboh, Aceh**	**4.02**	**320**	P	**Pn**	**02 02 06.0**	**+0.4**
PPSI	**Pulau Pagai**	**4.04**	**166**	P	**Pn**	**02 02 05.6**	**-0.3**
KRJI	**Kerinci**	**4.07**	**143**	P	**Pn**	**02 02 06.7**	**+0.3**
KULM	**Kulim**	**4.40**	**22**		**Pn**	**02 02 11.1**	**+0.5**
KULM	**Kulim**	**4.40**	**22**	P	**Pn**	**02 02 12.4**	**+1.7**
LHMI	**Lhok Sumawe**	**4.52**	**333**		**Pn**	**02 02 12.4**	**+0.1**
LHMI	**Lhok Sumawe**	**4.52**	**333**	P	**Pn**	**02 02 14.0**	**+1.7**
MYKOM	**Kota Tinggi**	**4.88**	**83**		**Pn**	**02 02 18.0**	**+0.9**
MYKOM	**Kota Tinggi**	**4.88**	**83**	P	**Pn**	**02 02 19.2**	**+2.1**
MASI	**Maura Aman, Be**	**5.37**	**143**	P	**Pn**	**02 02 25.0**	**+1.1**
LHSI	**Lahat**	**6.71**	**138**	P	**Pn**	**02 02 42.7**	**+0.6**
	0.3nm3μm54nm,0.7s						
MNAI	**Manna**	**6.77**	**144**	Pn	**Pn**	**02 02 41.6**	**-1.2**
MDSI	**Maura Dua**	**7.64**	**138**	P	**Pn**	**02 02 54.4**	**-0.2**
	0.2nm532nm54nm,0.7s						
CMBY	**CAMPBELL BAY**	**7.70**	**319**	*eP*	Pn	02 03 04.3	+8.9
CMBY				*eS*	**Sn**	**02 04 23.3**	**+2.3**
CMBY				IAML		02 06 45.4	
	comp=E,151nm,0.4s						
CMBY				IAML		02 06 48.9	
	comp=N,187nm,0.7s						
PPBI	**Pangkal Pinang**	**7.86**	**115**	P	**Pn**	**02 02 58.6**	**+1.0**
PBA	**Port Blair**	**12.12**	**329**	*eP*	**P**	**02 04 00.4**	**-2.9**
PBA				IAML		02 04 15.0	
	comp=E,48nm,0.2s						
PBA				IAML		02 04 16.3	
	comp=N,36nm,0.0s						
PBA				*eS*	**Sn**	**02 06 04.9**	**-3.7**
DGPR	**DIGLIPUR**	**13.35**	**333**	*eP*	**P**	**02 04 16.0**	**-1.0**
DGPR				*eS*	**Sn**	**02 06 32.2**	**-6.3**
CMAR	**Chiang Mai Arr**	**17.17**	**360**	P	**P**	**02 04 59.2**	**-0.1**
	comp=N,2.3nm,0.3s,baz=191,slow=11,SNR=17						
PALK	**Pallekele**	**19.23**	**289**	P	**Pn**	**02 05 23.6**	**-0.5**
	comp=N,5.1nm,0.9s,baz=119,slow=14,SNR=2.1						
TOLI2	**Tolitoli**	**21.77**	**90**	P	**P**	**02 05 49.4**	**+0.1**
TOLI2				IAmb	IAmb	02 05 50.5	
	comp=Z,16nm,0.8s						
KOD	**Kodaikanal**	**23.23**	**294**	*eP*	**P**	**02 06 09.3**	**+5.0**
KOD				IAmb	IAmb	02 06 17.6	
	comp=Z,22nm,1.8s						
KOD				*eS*	**S**	**02 10 15.3**	**+6.8**
SHL	**Shillong**	**25.20**	**345**	P	**P**	**02 06 22.3**	**+0.3**
SHL				IAmb	IAmb	02 06 23.9	
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**40.47**	**123**	P	**P**	**02 08 32.4**	**-2.0**
WB0				IAmb	IAmb	02 08 37.4	
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**40.50**	**123**	P	**P**	**02 08 35.2**	**+0.4**
WRA	**Warramunga Arr**	**40.50**	**123**	P	**P**	**02 08 32.6**	**-2.2**
	comp=Z,2.6nm,0.5s,baz=302,slow=9.0,SNR=29						
WRA				PcP	**PcP**	**02 10 35.1**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=315,slow=2.7,SNR=4.7						
	comp=Z,2.6nm,0.5s						
WR8	**Warramunga Arr**	**40.64**	**123**	P	**P**	**02 08 33.9**	**-2.0**
BJT	**Baijiatuau**	**41.69**	**20**	P	**P**	**02 08 45.3**	**+1.2**
ASAR	**Alice Springs**	**41.95**	**128**	P	**P**	**02 08 44.0**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=308,slow=8.1,SNR=8.2						
ASAR				PcP	**PcP**	**02 10 39.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=296,slow=3.1,SNR=2.9						
	comp=Z,0.6nm,0.5s						
FORT	**Forrest**	**42.12**	**141**	P	**P**	**02 08 47.6**	**-0.2**
FORT				IAmb	IAmb	02 08 51.2	
	comp=Z,9.0nm,1.1s						
KSH	**Kashi**	**43.56**	**334**	P	**P**	**02 09 00.3**	**+0.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TARG	**Taragay, Kyrgy**	**44.66**	**337**	P	**P**	**02 09 10.6**	**+2.0**
KSRS	**Korea Array**	**44.86**	**33**	P	**P**	**02 09 08.7**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=223,slow=8.9,SNR=9.3						
	comp=Z,3.2nm,0.6s						
SONM	**Songino Array**	**46.91**	**7**	P	**P**	**02 09 27.0**	**+1.2**
SONM				IAmb	IAmb	02 09 27.8	
	comp=Z,7.2nm,0.8s						
SONM	**Songino Array**	**46.91**	**7**	P	**P**	**02 09 26.6**	**+0.8**
	comp=Z,6.8nm,0.5s,baz=190,slow=9.0,SNR=24						
SONM				PcP	**PcP**	**02 10 56.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=183,slow=4.1,SNR=3.4						
	comp=Z,6.8nm,0.5s						
ULN	**Ulaanbaatar**	**47.02**	**7**	P	**P**	**02 09 27.7**	**+1.0**
ULN				IAmb	IAmb	02 09 28.6	
	comp=Z,7.3nm,0.7s						
MKAR	**Makanchi Array**	**47.72**	**345**	P	**P**	**02 09 32.4**	**+0.4**
MKAR	**Makanchi Array**	**47.72**	**345**	P	**P**	**02 09 32.5**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=158,slow=8.0,SNR=31						
	comp=Z,1.7nm,0.4s						
BBOO	**Buckleboo**	**48.63**	**137**	P	**P**	**02 09 37.5**	**-1.6**
BBOO				IAmb	IAmb	02 09 52.3	
	comp=Z,8.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**51.87**	**30**	P	**P**	**02 10 03.6**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=194,slow=4.0,SNR=5.0						
	comp=Z,2.1nm,0.5s						
STKA	**Stephens Creek**	**52.01**	**133**	P	**P**	**02 10 03.4**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=299,slow=10,SNR=3.5						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**52.24**	**344**	P	**P**	**02 10 05.6**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=160,slow=7.1,SNR=11						
	comp=Z,1.5nm,0.4s						
ZAA0	**Zalesovo Array**	**53.88**	**350**	P	**P**	**02 10 18.2**	**+0.2**
ZALV	**Zalesovo Beam**	**53.88**	**350**	P	**P**	**02 10 18.3**	**+0.3**
ZALV	**Zalesovo Beam**	**53.88**	**350**	P	**P**	**02 10 18.1**	**+0.1**
	comp=Z,8.4nm,0.5s,baz=174,slow=6.6,SNR=30						
	comp=Z,8.4nm,0.5s						
BVAR	**Borovoye Array**	**56.88**	**340**	P	**P**	**02 10 39.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=130,slow=8.5,SNR=5.2						
	comp=Z,1.3nm,0.6s						
AB31	**Akbulak array**	**58.40**	**331**	P	**P**	**02 10 50.3**	**+0.1**
AB31				IAmb	IAmb	02 10 55.3	
	comp=Z,1.3nm,0.7s						
ABKAR	**Akbulak array**	**58.40**	**331**	P	**P**	**02 10 50.2**	**0.0**
BURAR	**Bucovina Array**	**78.24**	**318**	P	**P**	**02 12 54.6**	**+0.5**
FINES	**FINESS Array B**	**80.85**	**332**	P	**P**	**02 13 07.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=120,slow=5.5,SNR=8.7						
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**83.17**	**340**	P	**P**	**02 13 19.7**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=103,slow=3.9,SNR=9.6						
	comp=Z,3.1nm,0.9s						

*GCG **03** 02:09:14.6±0.5, 15°.82N×94°.97W, h35km±999km, MD3.7, ML3.0*
*MEX **03** 02:09:14.5±0.7, 15°.43N×94°.83W, h24km±35km, MD4.0*

ISC 03 02:09:08.8±1.4, 15°.52N±0°.05×94°.84W±0°.03, h9km±11km, n14, σ1§46/26, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.06**	**12**	*eP*	**Pn**	**02 09 31.6**	**+1.7**
NILT				*eS*	**Sn**	**02 09 44.6**	**-0.1**
HUIG	**Huatulco**	**1.25**	**282**	*eP*	**Pn**	**02 09 34.1**	**+1.7**
HUIG				*eS*	**Sg**	**02 09 48.1**	**-0.9**
HUIG	**Huatulco**	**1.25**	**282**	*eP*	**Pg**	**02 09 33.6**	**+0.9**
HUIG				*eS*	**Sg**	**02 09 47.9**	**-1.0**
HUIG				IAML		02 09 49.5	
	comp=N,261nm,0.2s						
CMIG	**Matias Romero**	**1.56**	**358**	*eP*	**Pg**	**02 09 39.3**	**+0.5**
CMIG				*eS*	**Sg**	**02 09 58.1**	**-1.1**
PCIG		**1.57**	**83**	*eP*	**Pb**	**02 09 38.4**	**+0.2**
PCIG				*eS*	**Sn**	**02 09 56.3**	**-1.1**
UXUV	**UXUV**	**1.91**	**20**	*eP*	**Pg**	**02 09 44.9**	**-0.5**
UXUV				*eS*	**Sb**	**02 10 07.5**	**-0.2**
TGIG		**2.07**	**53**	*eP*	**Pb**	**02 09 46.4**	**-0.2**
TGIG				*eS*	**Sb**	**02 10 12.3**	**-0.2**
TGIG		**2.07**	**53**	*eP*	**Pb**	**02 09 46.4**	**-0.2**
TGIG				IAML		02 10 16.3	
	comp=Z,115nm,0.4s						
PEIG	**Puerto Escondi**	**2.27**	**282**	*eP*	**Pn**	**02 09 48.4**	**+1.9**
PEIG				*eS*	**Sn**	**02 10 11.2**	**-3.5**
NEUV	**Arroyo Zacate**	**2.37**	**337**	*eP*	**Pb**	**02 09 50.6**	**-1.0**
NEUV				*eS*	**Sn**	**02 10 18.6**	**+1.6**
PATR	**El Naranjo**	**2.55**	**99**	*eP*	**Pn**	**02 09 52.1**	**+1.6**
PATR				*eS*	**Sn**	**02 10 19.7**	**-2.1**
PAVE	**Pavencul**	**2.59**	**97**	*eP*	**Pn**	**02 09 53.2**	**+2.1**
PAVE				*eS*	**Sn**	**02 10 21.8**	**-1.1**
CHUJ	**Union Juarez**	**2.67**	**99**	*eP*	**Pn**	**02 09 53.6**	**+1.3**
CHUJ				*eS*	**Sn**	**02 10 23.6**	**-1.2**
CCIG	**Comitan**	**2.71**	**73**	*eP*	**Pb**	**02 09 57.2**	**-0.4**
CCIG				IAML		02 10 35.7	
	comp=N,78nm,0.4s						

RSNC 03 02:09:26.1±0.0, 7°.N±1°.×7°.3W±°, h143km±2km, M2.6, mb3.6, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**195**	P	Pn	02 09 45.4	-0.5
BARC				S	Sn	02 09 59.4	-1.5
BRJC	**Barrancabermej**	**0.64**	**287**	P	Pn	02 09 47.3	-0.1
BRJC				S	Sn	02 10 04.1	+0.5
PAMC	**Pamplona, Colo**	**0.69**	**38**	P	Pn	02 09 48.6	+0.2
PAMC				S	Sn	02 10 05.5	+0.2
RUSC	**La Rusia**	**0.89**	**177**	P	Pn	02 09 49.3	-0.6
RUSC				S	Sn	02 10 07.1	-0.9
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	02 09 51.8	-1.7
PTBC				S	Sn	02 10 13.5	-0.9
OCAC	**Ocana**	**1.45**	**353**	P	Pn	02 09 54.1	-0.7
OCAC				S	Sn	02 10 15.8	-1.0
SPBC	**San Pablo de B**	**1.47**	**220**	P	Pn	02 09 54.2	-0.7
SPBC				S	Sn	02 10 16.1	-0.8
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	P	Pn	02 09 58.8	-0.3
ZARC				S	Sn	02 10 24.8	+0.2
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	02 10 04.5	0.0
ROSC				S	Sn	02 10 34.8	+0.9
HELC	**Santa Helena**	**2.46**	**256**	P	Pn	02 10 07.7	+1.0
HELC				S	Sn	02 10 37.0	-0.9
UREC	**San Jos de Ur**	**2.57**	**292**	P	Pn	02 10 06.9	-0.9
UREC				S	Sn	02 10 37.9	-1.9
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	02 10 10.7	+0.7
GUY2C				S	Sn	02 10 43.0	-0.8
CBOC	**Ciudad Bolivar**	**3.01**	**252**	P	Pn	02 10 14.3	+0.8
CBOC				S	Sn	02 10 50.7	+0.7
DBBC	**Dabeiba**	**3.07**	**274**	P	Pn	02 10 14.1	0.0
DBBC				S	Sn	02 10 49.6	-1.6
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	02 10 15.2	-1.2
SDV				S	Sn	02 10 53.9	-1.4
PRAC	**Prado**	**3.52**	**210**	P	Pn	02 10 19.5	-0.5
PRAC				S	Sn	02 11 00.7	-1.0
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	02 10 20.4	0.0
ORTC				S	Sn	02 11 02.9	+0.4
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	02 10 21.0	+0.1
APAC				S	Sn	02 11 02.8	-0.6
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	02 10 20.4	-1.8
SJCC				S	Sn	02 11 02.3	-3.5
URMC	**La Uribe, Meta**	**3.73**	**200**	P	Pn	02 10 22.5	-0.3
URMC				S	Sn	02 11 06.4	-0.4
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	P	Pn	02 10 26.5	-2.6
CRJC				S	Sn	02 11 17.6	-0.4
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	02 10 28.7	-0.9
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	02 10 37.6	-1.9

OMAN 03 02:24:56.4±0.1, 14°.68N×51°.74E, h10km, mb4.1/5, ml3.8/5, Error ellipse: s-maj=2.4km s-min=0.9km az=323.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.05**	**29**	P	Pn	02 25 45.1	+0.3
	SNR=44						
ABTO				S	Sn	02 26 23.7	+2.3
	SNR=5.9						
RBK	**

MORW IAmb IAmb 02 46 10.9
comp=Z,14nm,1.5s
BBOO Buckleboo 38.05 166 P **P** **02 46 15.3 +0.3**
STKA Stephens Creek 38.84 159 P **P** **02 46 21.9 +0.1**
STKA Stephens Creek 38.84 159 P **P** **02 46 22.6 +0.9**
comp=Z,1.0nm,0.4s,baz=352,slow=8.8,SNR=4.9
comp=Z,1.0nm,0.4s
CAN Canberra 44.87 153 P **P** **02 47 10.9 0.0**
CAN IAmb IAmb 02 47 54.2
comp=Z,10nm,1.3s
SONM Songino Array 46.61 342 P **P** **02 47 24.3 -0.1**
SONM Songino Array 46.61 342 P **P** **02 47 24.6 +0.2**
comp=Z,0.7nm,0.5s,baz=156,slow=7.4,SNR=2.7
comp=Z,0.7nm,0.5s
TAU Tasmania Unive 50.73 160 P **P** **02 47 55.7 -0.1**
TAU IAmb IAmb 02 48 03.1
comp=Z,13nm,1.1s
MKAR Makanchi Array 56.75 325 P **P** **02 48 39.3 -0.4**
MKAR Makanchi Array 56.75 325 P **P** **02 48 41.0 +1.3**
comp=Z,0.6nm,0.5s,baz=112,slow=7.8,SNR=6.2
comp=Z,0.6nm,0.5s
KURBB Kurchatov Arra 60.95 328 P **P** **02 49 09.9 +1.3**
comp=Z,0.7nm,0.7s,baz=126,slow=6.1,SNR=7.0
comp=Z,0.7nm,0.7s
KURK Kurchatov 60.95 328 P **P** **02 49 09.2 +0.5**
KURK IAmb IAmb 02 49 18.7
comp=Z,1.4nm,0.8s
BKZ Black Stump Fm 63.42 138 P **P** **02 49 26.0 +0.5**
ABKAR Akbulak array 71.32 321 P **P** **02 50 15.5 +0.5**
K13K Kusilvak Mount 76.64 27 P **P** **02 50 45.3 -0.4**
K13K IAmb IAmb 02 50 54.8
comp=Z,15nm,1.1s
BRTR Keskin Array B 89.17 310 P **P** **02 51 52.0 +1.0**
comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=2.3
comp=Z,0.5nm,0.8s
FIA1 FINESS Array S 91.06 332 P **P** **02 51 57.6 -1.6**

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*SNET **03** 02:42:59.6±3.6, 15°.70N×88°.50W, h28km, ML3.3*
*GCG **03** 02:42:59.6±0.7, 15°.54N×88°.49W, h12km±4km, MD3.7, ML3.2*
*CATAC **03** 02:43:00.2±0.3, 16°N±2°×8°8W±°, h1km, M3.1/8, MLv3.1/8, Error ellipse: s-maj=4.3km s-min=3.5km az=82.0, confirmed*
ISC 03 02:42:59.7±1.0, 15°.51N±0°.03×88°.50W±0°.05, h8km±10km, n29, σ0°81/36, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	**Izabal, Puerto**	**0.24**	**340**	*eP*	**Pg**	**02 43 04.3**	**-0.1**
IZABA				*eS*	**Sg**	**02 43 08.5**	**+0.8**
IZABA	**Izabal, Puerto**	**0.24**	**340**	P	**Pg**	**02 43 04.3**	**-0.1**
IZABA				S	**Sg**	**02 43 08.6**	**+0.8**
SARH	**Santa Rosa de**	**0.77**	**199**	*eP*	**Pg**	**02 43 14.5**	**0.0**
SARH				*eS*	**Sb**	**02 43 27.1**	**+1.1**
SARH	**Santa Rosa de**	**0.77**	**199**	P	**Pg**	**02 43 14.0**	**-0.6**
SARH	**Santa Rosa de**	**0.77**	**199**	S	**Sb**	**02 43 26.2**	**+0.1**
ESQI	**Esquipulas**	**1.24**	**221**	*eP*	**Pn**	**02 43 23.1**	**-0.4**
ESQI				*eS*	**Sb**	**02 43 40.0**	**+0.3**
ESQI	**Esquipulas**	**1.24**	**221**	P	**Pn**	**02 43 23.2**	**-0.3**
INTHN	**La Esperanza I**	**1.25**	**162**	P	**Pn**	**02 43 23.2**	**-0.5**
INTHN	**La Esperanza I**	**1.25**	**162**	S	**Sn**	**02 43 40.5**	**-0.3**
MTO3	**Montecristo**	**1.38**	**217**	*eS*	**Sb**	**02 43 44.5**	**+0.7**
MTO3	**Montecristo**	**1.38**	**217**	*eP*	**Pn**	**02 43 24.9**	**-0.6**
MTO3	**Montecristo**	**1.38**	**217**	P	**Pn**	**02 43 25.2**	**-0.3**
MTO3	**Montecristo**	**1.38**	**217**	S	**Sn**	**02 43 43.9**	**-0.2**
LLGN	**La Laguna**	**1.40**	**198**	P	**Pn**	**02 43 25.2**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.81**	**187**	P	**Pn**	**02 43 32.2**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.81**	**187**	S	**Sg**	**02 43 57.9**	**0.0**
PAVA	**Las Pavas**	**1.83**	**193**	P	**Pn**	**02 43 32.4**	**+0.8**
PAVA	**Las Pavas**	**1.83**	**193**	S	**Sg**	**02 43 59.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.87**	**140**	P	**Pb**	**02 43 33.5**	**-0.6**
TGUH				S	**Sg**	**02 43 59.0**	**-0.8**
PETF	**Flores**	**1.92**	**317**	*eS*	**Sn**	**02 43 56.5**	**-0.6**
PETF				IAML		02 44 01.5	
comp=N,268nm,0.6s							
PETF	**Flores**	**1.92**	**317**	P	**Pb**	**02 43 34.1**	**-0.9**
CEVE	**Cerro Verde**	**1.99**	**213**	*eP*	**Pn**	**02 43 34.1**	**+0.1**
NUBE	**Las Nubes**	**2.02**	**218**	P	**Pb**	**02 43 35.9**	**-0.9**
NUBE	**Las Nubes**	**2.02**	**218**	S	**Sb**	**02 44 03.4**	**+1.2**
PACA	**Pacayal**	**2.03**	**175**	*eS*	**Sg**	**02 44 04.6**	**-0.5**
JAYA	**Jayaque - finc**	**2.06**	**207**	*eP*	**Pn**	**02 43 35.3**	**+0.5**
JAYA				*eS*	**Sn**	**02 44 01.6**	**+0.9**
JAYA	**Jayaque - finc**	**2.06**	**207**	P	**Pb**	**02 43 36.4**	**-1.1**
JAYA	**Jayaque - finc**	**2.06**	**207**	S	**Sb**	**02 44 04.9**	**+1.6**
CNCH	**Conchagua**	**2.31**	**164**	*eP*	**Pb**	**02 43 41.4**	**-0.3**
CNCH				*eS*	**Sb**	**02 44 12.5**	**+2.0**

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*MOS **03** 03:55:40.9±0.9, 39°.93N×143°.49E, h12km, mb4.9/25, Error ellipse: s-maj=9.2km s-min=5.3km az=98.1*
*IDC **03** 03:55:40.4±0.6, 39°.83N×143°.56E, h0km, mb4.4/21, mbtmp4.4/25, ML4.1/4, MS3.6/20, Error ellipse: s-maj=16.4km s-min=13.4km az=94.0*
*BJI **03** 03:55:40.4, 39°.84N×143°.58E, h16km, mB4.8/16, mb4.8/64, Ms4.3/40, Ms7 4.1/42*
*NIED **03** 03:55:41.6, 39°.94N×143°.58E, h14km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr2.75; Mθθ0.91; Mφφ-3.66; Mrθ2.32; Mrφ-1.32; Mθφ2.62; Fault plane solution: M0 4.95000×10^15^ NP1: ϕs168.00000°, δ29.00000°, λ45.00000°. NP2: ϕs37.00000°, δ70.00000°, λ111.00000°.*
*JMA **03** 03:55:41.6±0.3, 39°.9N±0°.8×14°4E±°, h14km±4km, MD4.7/32, MW4.2/32, FAR E OFF SANRIKU*
*NEIC **03** 03:55:43.9±1.4, 39°.84N±0°.06×143°.5E±0°.1, h18km±4km, mb4.7/63, Mwr4.4/12, Error ellipse: s-maj=12.4km s-min=8.0km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.74; Mθθ1.96; Mφφ-2.69; Mrθ1.49; Mθφ3.29; Mφr1.98; Fault plane solution: M0 4.77000×10^15^ NP1: ϕs111.06000°, δ60.15000°, λ12.44000°. NP2: ϕs14.80000°, δ79.23000°, λ149.55000°. Principal axes: T 4.8962, Plg29.0000°, Azm329.0000°; N -0.2577, Plg58.0000°, Azm177.0000°; P -4.6384, Plg13.0000°, Azm66.0000°;*
*NEIC **03** 03:55:46.3, 39°.85N×143°.50E, h35km*
ISC 03 03:55:43.3±0.8, 39°.85N±0°.05×143°.62E±0°.05, h20km±6km, n242, σ1°56/234, mb4.6/94, MS4.0/32, 16C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.35**	**274**	P	**Pn**	**03 56 05.4**	**-1.7**
JTH				*eS*	**Sn**	**03 56 22.9**	**-1.6**
JTH	**Tanohata**	**1.35**	**274**	A	A	03 56 05.4	
comp=N,4.0nm,2.2s,comp=E,4.0nm,0.9s							
MIYJ	**Miyakonagasawa**	**1.42**	**259**	P	**Pn**	**03 56 07.1**	**-0.8**
MIYJ				*eS*	**Sb**	**03 56 26.8**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.51**	**284**	P	**Pn**	**03 56 07.2**	**-2.0**
JKEN	**Kujiedanarisaw**	**1.51**	**284**	A	A	03 56 07.2	
comp=N,9.0nm,0.9s,comp=E,9.0nm,0.9s							
OFUJ	**Ofunato**	**1.70**	**244**	A	A	03 56 11.5	
comp=N,6.0nm,2.1s,comp=E,6.0nm,1.3s							
JANG	**Nango**	**1.70**	**289**	P	**Pn**	**03 56 10.4**	**-1.4**
JOM	**Ohasama**	**1.84**	**259**	P	**Pn**	**03 56 13.5**	**-0.2**
JOM	**Ohasama**	**1.84**	**259**	A	A	03 56 13.5	
comp=N,10.0nm,0.5s,comp=E,9.0nm,0.5s							
JSZI	**Iwateshizukuis**	**2.06**	**268**	A	A	03 56 16.2	
comp=N,16nm,1.5s,comp=E,14nm,1.0s							
JMK	**Ichinoseki**	**2.07**	**245**	P	**Pn**	**03 56 16.3**	**-0.5**
JTM	**Tenmabayashi**	**2.17**	**296**		**Pn**	**03 56 17.5**	**-0.7**
JTM	**Tenmabayashi**	**2.17**	**296**	P	**Pn**	**03 56 17.7**	**-0.5**
JTM	**Tenmabayashi**	**2.17**	**296**	P	**Pn**	**03 56 17.6**	**-0.7**
JTM				*eS*	**Sn**	**03 56 43.6**	**-0.8**
ERM	**Erimo**	**2.19**	**351**		**Pn**	**03 56 17.3**	**-1.2**
ERM	**Erimo**	**2.19**	**351**	P	**Pn**	**03 56 18.7**	**+0.1**
ERM	**Erimo**	**2.19**	**351**	P	**Pn**	**03 56 17.3**	**-1.2**
JEM	**Erimo**	**2.19**	**351**	P	**Pn**	**03 56 18.7**	**+0.1**
JEM	**Erimo**	**2.19**	**351**	P	**Pn**	**03 56 17.3**	**-1.3**
JAHD	**Aomorihigashid**	**2.24**	**310**	A	A	03 56 18.1	
comp=N,11nm,1.0s,comp=E,13nm,0.7s							
JAH	**Hinai**	**2.32**	**279**	P	**Pn**	**03 56 19.7**	**-0.6**
JAH				*eS*	**Sn**	**03 56 48.4**	**+0.2**
JRG	**Rokugo**	**2.35**	**260**	A	A	03 56 20.6	
comp=N,11nm,2.8s,comp=E,12nm,0.9s							
JOFO	**Osakifurukawao**	**2.45**	**240**	A	A	03 56 22.5	
comp=N,22nm,3.7s,comp=E,25nm,1.7s							
JOT	**Ohata**	**2.49**	**309**	P	**Pn**	**03 56 21.8**	**-0.8**
JOT				*eS*	**Sn**	**03 56 51.2**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.52**	**345**	P	**Pn**	**03 56 22.8**	**-0.3**
JNBK				*eS*	**Sn**	**03 56 52.9**	**-0.1**
JYW	**Yuwa**	**2.65**	**264**	A	A	03 56 24.8	
comp=N,17nm,1.2s,comp=E,14nm,2.8s							
JNTW	**Noshirotokiwa**	**2.69**	**280**	A	A	03 56 25.0	
comp=N,13nm,1.3s,comp=E,11nm,1.7s							
JSI2	**Shiura 2**	**2.73**	**297**	A	A	03 56 25.3	
comp=N,6.0nm,0.7s,comp=E,8.0nm,1.2s							
JOU	**Okura**	**2.74**	**238**	A	A	03 56 26.7	
comp=N,7.0nm,1.0s,comp=E,7.0nm,1.6s							
JMM	**Marumori**	**2.97**	**229**		**Pn**	**03 56 27.9**	**-1.3**
JMM	**Marumori**	**2.97**	**229**	P	**Pn**	**03 56 29.8**	**+0.6**
JYYZ	**Yamagatayuza**	**2.98**	**255**	A	A	03 56 29.7	
comp=N,9.0nm,2.4s,comp=E,8.0nm,4.2s							
JYS	**Shiratake**	**3.21**	**241**	A	A	03 56 33.4	
comp=N,7.0nm,0.9s,comp=E,6.0nm,1.8s							
JYA	**Atsumi**	**3.29**	**249**	A	A	03 56 34.2	
comp=N,8.0nm,1.4s,comp=E,8.0nm,1.0s							
JAR	**Ashorobuto**	**3.44**	**2**	A	A	03 56 35.2	
comp=N,7.0nm,0.5s,comp=E,4.0nm,0.5s							
NMR	**Nemuro--Hokkai**	**3.85**	**231**	⇑P	**Pn**	**03 56 39.4**	**-2.0**
NMR				*i* S	**Sn**	**03 57 21.4**	**-4.7**
GLVR	**Golovnino**	**4.14**	**19**	*eP*	**Pn**	**03 56 44.9**	**-0.4**
GLVR				*i* S	**Sn**	**03 57 29.1**	**-3.9**
GLVR				pmax	pmax		
comp=Z,238nm,0.3s							
GLVR				pmax	pmax		
comp=N,162nm,0.2s							
GLVR				pmax	pmax		
comp=E,98nm,0.2s							
GLVR				smax	smax		
comp=E,727nm,0.2s							
GLVR				smax	smax		
comp=N,2μm,0.3s							
JKA	**Kamikawa-asahi**	**4.33**	**350**		**Pn**	**03 56 47.6**	**-0.4**
ASAJ	**Asahikawa**	**4.33**	**350**	Pn	**Pn**	**03 56 48.0**	**0.0**
comp=N,11nm,0.3s,baz=202,slow=11,SNR=42							
ASAJ				Sn	**Sn**	**03 57 39.1**	**+1.3**
comp=N,16nm,0.3s,baz=309,slow=32,SNR=7.0							
ASAJ				LR	LR	03 58 52.1	
comp=N,415nm,19.1s,baz=170,slow=44							
comp=N,26nm,0.4s							
RUSJ	**Misakicho**	**4.42**	**15**	*eP*	**Pn**	**03 56 48.2**	**-1.0**
RUSJ				*i* S	**Sn**	**03 57 36.1**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**4.50**	**21**	*c iP*	**Pn**	**03 56 48.8**	**-1.5**
YUK				*i* S	**Sn**	**03 57 37.3**	**-4.7**
YUK				pmax	pmax		
comp=Z,442nm,0.2s							
YUK				pmax	pmax		
comp=N,80nm,0.1s							
YUK				pmax	pmax		
comp=E,56nm,0.1s							
YUK				smax	smax		
comp=N,1μm,0.7s							
YUK				smax	smax		
comp=E,2μm,0.6s							
JSD	**Sado**	**4.55**	**248**	P	**Pn**	**03 56 51.5**	**+0.4**
MAJO	**Matsushiro**	**5.39**	**234**		**Pn**	**03 57 03.4**	**+0.7**
MAJO	**Matsushiro**	**5.39**	**234**	P	**Pn**	**03 57 03.7**	**+1.1**
MAJO	**Matsushiro**	**5.39**	**234**	*i* P	**Pn**	**03 57 03.0**	**+0.4**
MJAR	**Matsushiro Arr**	**5.39**	**234**	Pn	**Pn**	**03 57 03.5**	**+0.9**
MJAR	**Matsushiro Arr**	**5.39**	**234**	Pn	**Pn**	**03 57 02.3**	**-0.3**
comp=E,1.9nm,0.3s,baz=43,slow=12,SNR=88							
MJAR				LR	LR	03 59 09.0	
comp=E,376nm,19.8s,baz=191,slow=39							
comp=E,25nm,0.5s							
MJAR	**Matsushiro Arr**	**5.39**	**234**	P	**Pn**	**03 57 03.5**	**+0.9**
MJB9	**Matsu-Tunnel**	**5.39**	**234**		**Pn**	**03 57 04.1**	**+1.5**
KUR	**Kuril'sk**	**6.23**	**29**	*eP*	**Pn**	**03 57 12.9**	**-1.1**
KUR				*eS*	**Sn**	**03 58 18.3**	**-6.2**
KUR				pmax	pmax		
comp=Z,159nm,0.3s							
KUR				pmax	pmax		
comp=N,67nm,0.4s							
KUR				pmax	pmax		
comp=E,13nm,0.2s							
KUR				smax	smax		
comp=N,371nm,0.5s							
KUR				smax	smax		
comp=E,314nm,0.5s							
JGF	**Kuroka**	**6.53**	**231**		**Pn**	**03 57 19.6**	**+1.3**
JGF	**Kuroka**	**6.53**	**231**	P	**Pn**	**03 57 19.8**	**+1.6**
INU	**Inuyama**	**6.90**	**231**		**Pn**	**03 57 23.5**	**+0.2**
INU	**Inuyama**	**6.90**	**231**	P	**Pn**	**03 57 24.1**	**+0.8**
YSS	**Yuzhno-Sakhali**	**7.13**	**355**	*eP*	**Pn**	**03 57 28.4**	**+2.0**
YSS				*eS*	**Sn**	**03 58 44.7**	**-2.0**
YSS				pmax	pmax		
comp=Z,30nm,0.7s							
YSS				MLR	MLR		
comp=N,600nm,16.0s							
YSS				MLR	MLR		
comp=Z,900nm,16.0s							
TEY	**Ternei**	**7.33**	**317**	*eP*	**Pn**	**03 57 31.7**	**+2.5**
JHJ	**Hachijo jima 2**	**7.39**	**206**	Pn	**Pn**	**03 57 29.2**	**-0.9**
comp=Z,21nm,0.3s,baz=20,slow=9.9,SNR=5.7							
JHJ				Sn	**Sn**	**03 58 47.8**	**-5.6**
comp=Z,18nm,0.3s,baz=98,slow=22,SNR=6.8							
comp=Z,42nm,0.3s							
USRK	**Ussuriysk Ar.**	**9.68**	**300**	Pn	**Pn**	**03 57 59.9**	**-1.5**
comp=Z,1.3nm,0.3s,baz=93,slow=13,SNR=30							
comp=Z,30nm,1.3s							
MSHR	**Mys Shultsa**	**9.78**	**290**	*i* P	**Pn**	**03 57 59.4**	**-3.3**
MDJ	**Mudanjiang**	**11.44**	**299**		**Pn**	**03 58 26.1**	**+0.7**
MDJ	**Mudanjiang**	**11.44**	**299**	P	**Pn**	**03 58 27.0**	**+1.6**
MDJ				pmax	pmax		
comp=Z,22nm,1.0s							
JNU	**Nakatsue**	**12.25**	**241**	LR	LR	04 03 37.1	
comp=Z,637nm,18.8s,baz=43,slow=39							
KSRS	**Korea Array**	**12.51**	**264**	Pn	**Pn**	**03 58 42.9**	**+2.8**
comp=Z,0.4nm,0.3s,baz=86,slow=14,SNR=6.2							
BNX	**BinXian**	**13.28**	**302**	⇑P	**Pn**	**03 58 50.1**	**-0.4**
BNX				pmax	pmax		
comp=Z,22nm,0.9s							
CN2	**Changchun**	**14.11**	**292**	*eP*	**Pn**	**03 59 03.7**	**+1.7**
CN2				*eS*	**Sn**	**04 01 45.3**	**+7.4**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=Z,500nm,14.0s							
CN2				LR	LR		
comp=Z,500nm,14.0s							
CN2				LR	LR		
comp=Z,400nm,12.0s							
HEH	**HeiHe**	**15.44**	**318**	*eP*	**Pn**	**03 59 20.5**	**+0.7**
HEH				LR	LR		
comp=Z,410nm,12.0s							
HEH				LR	LR		
comp=Z,710nm,12.7s							
HEH				LR	LR		
comp=Z,980nm,14.4s							
PETK	**Petropavlovsk-**	**16.38**	**31**	LR	LR	04 05 22.2	
comp=Z,102nm,21.1s,baz=212,slow=35							
PET	**Petropavlovsk**	**16.71**	**33**	*i* P	**Pn**	**03 59 36.7**	**+0.6**
PET				pmax	pmax		
comp=Z,19nm,1.2s							
DL2	**Dalian**	**17.03**	**274**	P	**Pn**	**03 59 40.5**	**+0.3**
DL2				S	**Sn**	**04 02 48.6**	**-0.2**
DL2				pmax	pmax		
comp=Z,44nm,0.9s							
DL2				LR	LR		
comp=Z,370nm,16.9s							
DL2				LR	LR		
comp=Z,500nm,14.0s							
DL2				LR	LR		
comp=Z,570nm,14.2s							
ZEA	**Zeya**	**17.79**	**327**	*eP*	**Pn**	**03 59 47.0**	**-2.5**
ZEA				pmax	pmax		
comp=E,30nm,0.6s							
ZEA				pmax	pmax		
comp=N,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,30nm,0.6s							
ZEA				MLR	MLR		
comp=E,300nm,13.0s							
ZEA				MLR	MLR		
comp=N,200nm,12.0s							
ZEA				MLR	MLR		
comp=Z,300nm,16.0s							
HIA	**Hailar**	**19.38**	**307**		**P**	**04 00 06.1**	**-1.6**
HIA	**Hailar**	**19.38**	**307**	P	**P**	**04 00 06.1**	**-1.6**
HIA				pmax	pmax		
comp=Z,12nm,0.8s							
MA2	**Magadan**	**20.26**	**11**	LR	LR	04 08 55.3	
comp=Z,148nm,18.3s,baz=200,slow=39							
XLT	**XiLinHaoTe**	**20.86**	**290**	*eP*	**P**	**04 00 22.0**	**-2.0**
XLT				pmax	pmax		
comp=Z,19nm,1.2s							
XLT				LR	LR		
comp=Z,210nm,14.1s							
XLT				LR	LR		
comp=Z,190nm,12.8s							
BJI	**Beijing**	**21.02**	**279**	P	**P**	**04 00 23.2**	**-2.3**
BJI				pP	**pwP**	**04 00 32.5**	**-0.8**
BJI				sP	sP	04 00 36.7	+3.4
BJI				pmax	pmax		
comp=Z,6.0nm,0.8s							
BJI				LR	LR		
comp=Z,120nm,13.7s							
BJI				LR	LR		
comp=Z,170nm,13.6s							
BJI				LR	LR		
comp=Z,180nm,15.6s							
BJT	**Baijiatuau**	**21.03**	**279**		**P**	**04 00 22.9**	**-2.8**
BJT	**Baijiatuau**	**21.03**	**279**	P	**P**	**04 00 22.9**	**-2.8**
BJT				pmax	pmax		
comp=Z,10.0nm,0.9s							
TIA	**Tai'an**	**21.16**	**269**	P	**P**	**04 00 25.5**	**-1.6**
TIA				pmax	pmax		
comp=Z,32nm,1.0s							
TIA				LR	LR		
comp=Z,350nm,10.6s							
TIA				LR	LR		
comp=Z,670nm,15.3s							
TIA				LR	LR		
comp=Z,1μm,14.5s							
NJ2	**Nanjing**	**21.46**	**256**	*eP*	**P**	**04 00 31.5**	**+1.1**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
HNS	**HongShan**	**22.68**	**273**	⇑P	**P**	**04 00 44.8**	**+1.4**
HNS				*eS*	**S**	**04 04 53.4**	**+2.9**
HNS				pmax	pmax		
comp=Z,15nm,0.9s							
HNS				LR	LR		
comp=Z,390nm,14.3s							
HNS				LR	LR		
comp=Z,430nm,16.1s							
HNS				LR	LR		
comp=Z,500nm,16.2s							
SEY	**Seymchan**	**23.71**	**10**	LR	LR	04 11 51.0	
comp=Z,156nm,18.9s,baz=203,slow=41							
SEY	**Seymchan**	**23.71**	**10**	*ceP*	**P**	**04 00 54.4**	**+0.9**
SEY				pmax	pmax		
comp=Z,12nm,0.7s							
YAK	**Yakutsk**	**23.78**	**344**		**P**	**04 00 53.9**	**-0.3**
YAK	**Yakutsk**	**23.78**	**344**	LR	LR	04 10 40.4	
comp=Z,99nm,20.0s,baz=130,slow=38							
YAK	**Yakutsk**	**23.78**	**344**	*eP*	**P**	**04 00 52.5**	**-1.7**
YAK				*eS*	**S**	**04 05 05.3**	**-3.1**
YAK				*e*SSS	SSS	04 05 54.1	
YAK				pmax	pmax		
comp=Z,55nm,0.9s							
YAK				pmax	pmax		
comp=N,8.0nm,1.0s							
YAK				pmax	pmax		
comp=E,4.0nm,0.8s							
YAK				smax	smax		
comp=N,81nm,2.6s							
YAK				smax	smax		
comp=E,108nm,3.8s							
YAK				MLR	MLR		
comp=Z,131nm,14.0s							
YAK				MLR	MLR		
comp=N,170nm,13.0s							
YAK				MLR	MLR		
comp=E,196nm,13.0s							
HHC	**Hu-ho-hao-te**	**24.38**	**283**	*eP*	**P**	**04 01 00.4**	**+0.2**
HHC				pP	sP	04 01 07.5	-0.7
HHC				pmax	pmax		
comp=E,7.0nm,0.6s							
HHC				pmax	pmax		
comp=E,120nm,5.9s							
HHC				LR	LR		
comp=E,140nm,13.5s							
HHC				LR	LR		
comp=E,360nm,14.6s							
HHC				LR	LR		
comp=E,450nm,17.1s							
YULB	**Yu-li**	**25.01**	**236**	P	**P**	**04 01 04.5**	**-1.3**
LYN	**LuoYang**	**25.30**	**268**	P	**P**	**04 01 08.4**	**0.0**
LYN				pP	pP	04 01 12.7	-1.3
LYN				S	**S**	**04 05 31.4**	**-1.9**
LYN				sS	sS	04 05 45.9	+2.9
LYN				pmax	pmax		
comp=E,61nm,1.1s							
LYN				LR	LR		
comp=E,520nm,14.8s							
LYN				LR	LR		
comp=E,930nm,15.1s							
LYN				LR	LR		
comp=E,1μm,14.4s							
WHN	**Wuhan**	**25.57**	**258**	⇑P	**P**	**04 01 10.7**	**-0.1**
WHN				pmax	pmax		
comp=E,110nm,0.8s							
WHN				LR	LR		
comp=E,890nm,17.3s							
BTO	**Baotou**	**25.58**	**283**	*eP*	**P**	**04 01 11.0**	**-0.1**
BTO				PP	**PnPn**	**04 01 47.4**	**+0.4**
BTO				S	**S**	**04 05 38.8**	**+0.9**
BTO				pmax	pmax		
comp=E,28nm,0.7s							
BTO				pmax	pmax		
comp=E,140nm,4.9s							
BTO				LR	LR		
comp=E,350nm,4.0s							
BTO				LR	LR		
comp=E,850nm,13.1s							
BTO				LR	LR		
comp=E,860nm,15.4s							
GUMO	**Guam**	**26.18**	**177**	LR	LR	04 12 23.3	
comp=E,48nm,18.5s,baz=7.5,slow=38							
ULN	**Ulaanbaatar**	**27.35**	**299**		**P**	**04 01 26.9**	**-0.2**
ULN				IAmb	IAmb	04 01 28.3	
comp=Z,16nm,0.9s							
ULN	**Ulaanbaatar**	**27.35**	**299**	*ceP*	**P**	**04 01 27.2**	**+0.1**
ULN				pmax	pmax		
comp=Z,24nm,1.3s							
SONM	**Songino Array**	**27.79**	**299**		**P**	**04 01 31.0**	**0.0**
SONM				IAmb	IAmb	04 01 33.1	
comp=Z,9.3nm,0.7s							
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**04 01 31.1**	**+0.2**
comp=Z,7.6nm,0.6s,baz=88,slow=8.7,SNR=30							
SONM				LR	LR	04 13 20.4	
comp=Z,338nm,18.3s,baz=86,slow=38							
comp=Z,7.6nm,0.6s							
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**04 01 31.0**	**0.0**
SONM				pmax	pmax		
comp=Z,9.0nm,0.7s							
XAN	**Xi'an**	**28.21**	**269**	⇑P	**P**	**04 01 34.1**	**-0.7**
XAN				pP	pP	04 01 39.0	-1.4
XAN				pmax	pmax		
comp=Z,17nm,0.9s							
XAN				LR	LR		
comp=Z,190nm,12.4s							
XAN				LR	LR		
comp=Z,370nm,11.7s							
XAN				LR	LR		
comp=Z,480nm,15.8s							
H11N2	**WAKE ISLAND Hy**	**28.31**	**128**	T	T	04 32 38.2	
baz=318,slow=75,SNR=143							
H11N1	**WAKE ISLAND Hy**	**28.32**	**128**	T	T	04 32 39.2	
baz=318,slow=75,SNR=216							
H11N3	**WAKE ISLAND Hy**	**28.33**	**128**	T	T	04 32 43.2	
baz=318,slow=75,SNR=159							
H11S1	**WAKE ISLAND Hy**	**29.14**	**130**	T	T	04 32 51.6	
baz=322,slow=76,SNR=41							
H11S3	**WAKE ISLAND Hy**	**29.14**	**130**	T	T	04 32 51.7	
baz=322,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**29.16**	**130**	T	T

comp=Z,230nm,12.2s
LZH LR LR
comp=Z,360nm,10.5s
LZH LR LR
comp=Z,410nm,14.6s
LZDM Lanzhou Array 31.56 276 P **P 04 02 04.3 -0.4**
comp=Z,4.1nm,0.6s,baz=92,slow=4.7,SNR=4.6
comp=Z,4.1nm,0.6s
TIXI Tiksi 32.73 351 LR LR 04 17 01.6
comp=Z,172nm,18.4s,baz=204,slow=39
TIXI Tiksi 32.73 351 *i* P **P 04 02 16.0 +1.8**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
GYA Guiyang 33.46 258 P **P 04 02 20.1 -1.0**
GYA pP pwP 04 02 32.6 +2.8
GYA pmax pmax
comp=Z,25nm,0.7s
GYA LR LR
comp=Z,260nm,16.8s
CD2 Chengdu 33.48 267 P **P 04 02 20.0 -1.2**
CD2 sP sP 04 02 34.4 +5.1
CD2 S **S 04 07 38.4 -3.4**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,110nm,5.7s
CD2 LR LR
comp=Z,520nm,12.6s
CD2 LR LR
comp=Z,380nm,13.5s
CD2 LR LR
comp=Z,510nm,15.3s
GTA Gaotai 33.49 284 P **P 04 02 22.2 +0.9**
GTA pP pP 04 02 27.1 +0.2
GTA pmax pmax
comp=Z,25nm,1.1s
GTA LR LR
comp=Z,200nm,16.0s
GTA LR LR
comp=Z,390nm,15.6s
GTA LR LR
comp=Z,510nm,16.7s
QIZ Qiongzhong 35.69 244 P **P 04 02 40.2 -0.1**
QIZ S **S 04 08 14.2 -1.8**
QIZ LR LR
comp=Z,160nm,12.6s
QIZ LR LR
comp=Z,160nm,14.0s
QIZ LR LR
comp=Z,290nm,16.0s
DAV Davao City (W) 36.44 211 LR LR 04 17 57.4
comp=Z,56nm,18.8s,baz=50,slow=37
PZH PanZhiHua 37.16 262 P **P 04 02 53.5 +0.5**
GOMU GeErMu 38.24 280 P **P 04 03 02.4 0.0**
GOMU pmax pmax
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 41.37 310 **P 04 03 26.7 -0.9**
ZAA0 IAmb IAmb 04 03 36.4
comp=Z,7.9nm,0.6s
ZALV Zalesovo Beam 41.37 310 P **P 04 03 27.4 -0.3**
ZALV Zalesovo Beam 41.37 310 P **P 04 03 27.3 -0.4**
comp=Z,4.2nm,0.4s,baz=86,slow=7.7,SNR=24
ZALV PcP **PcP 04 05 26.1 +0.5**
comp=Z,3.2nm,0.8s,baz=73,slow=4.1,SNR=4.5
ZALV LR LR 04 21 24.9
comp=Z,88nm,20.4s,baz=74,slow=37
comp=Z,4.2nm,0.4s
E19K Redstone River 42.17 30 **P 04 03 35.5 +1.4**
E19K IAmb IAmb 04 03 45.3
comp=Z,12nm,0.9s
H19K Roundabout Mou 42.19 32 **P 04 03 36.3 +2.1**
H19K IAmb IAmb 04 03 44.8
comp=Z,7.6nm,0.6s
CMAR Chiang Mai Arr 43.91 254 P **P 04 03 48.6 -0.1**
comp=Z,2.3nm,0.3s,baz=48,slow=7.2,SNR=4.6
CMAR LR LR 04 24 08.0
comp=Z,75nm,18.2s,baz=55,slow=39
comp=Z,2.3nm,0.3s
MK31 Makanchi Array 44.15 300*ce*P **P 04 03 50.3 -0.1**
MKAR Makanchi Array 44.15 300 **P 04 03 49.9 -0.5**
MKAR Makanchi Array 44.15 300 P **P 04 03 50.2 -0.2**
comp=Z,4.9nm,0.8s,baz=83,slow=9.3,SNR=26
MKAR LR LR 04 23 18.1
comp=Z,163nm,18.2s,baz=97,slow=38
comp=Z,4.9nm,0.8s
E22K Anaktuvuk Pass 44.30 29 **P 04 03 52.8 +1.4**
E22K IAmb IAmb 04 04 03.1
comp=Z,12nm,0.9s
E23K Chandalar 45.12 29 **P 04 03 59.7 +1.8**
E23K IAmb IAmb 04 04 11.7
comp=Z,12nm,1.1s
KURK Kurchatov 45.61 306 P **P 04 04 00.7 -1.2**
KURK Kurchatov 45.61 306*ce*P **P 04 04 01.2 -0.7**
KURK pmax pmax
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 45.69 306 P **P 04 04 02.3 -0.3**
comp=Z,13nm,0.7s,baz=80,slow=8.5,SNR=65
KURBB PcP **PcP 04 05 40.3 0.0**
comp=Z,1.5nm,0.7s,baz=88,slow=4.1,SNR=2.1
comp=Z,13nm,0.7s
IL31 46.19 34 P **P 04 04 07.2 +0.9**
IL31 IAmb IAmb 04 04 19.0
comp=Z,7.5nm,1.1s
ILAR Eielson Array 46.19 34 P **P 04 04 07.2 +0.9**
comp=Z,1.3nm,0.7s,baz=266,slow=6.4,SNR=19
comp=Z,1.3nm,0.7s
D25K Kavik River 46.36 27 P **P 04 04 09.4 +1.8**
D25K IAmb IAmb 04 04 23.7
comp=Z,9.8nm,1.1s
PRP Porcupine Dome 46.73 33 **P 04 04 12.3 +1.6**
PRP IAmb IAmb 04 04 24.1
comp=Z,5.1nm,0.8s
BRDH Bariadhala 46.95 265 LR LR 04 26 41.5
comp=Z,60nm,18.4s,baz=74,slow=40
F26K Sheenjek River 47.19 30 P **P 04 04 16.6 +2.4**
F26K IAmb IAmb 04 04 27.0
comp=Z,4.8nm,0.8s
EVN Everest 47.90 274 **P 04 04 20.5 -0.3**
EGAK Eagle 48.64 34 P **P 04 04 27.4 +2.1**
EGAK IAmb IAmb 04 04 38.3
comp=Z,6.9nm,1.1s
I29M Ogilvie Camp, 49.75 33 P **P 04 04 35.3 +1.4**
I29M IAmb IAmb 04 04 46.2
comp=Z,7.6nm,1.2s
BOOM Boomskoye usch 49.78 296 P **P 04 04 34.0 -0.6**
BOOM Boomskoye usch 49.78 296 P **P 04 04 34.0 -0.6**
BOOM pmax pmax
comp=Z,13nm,0.7s
BVAR Borovoye Array 50.00 311 P **P 04 04 36.1 +0.2**
comp=Z,3.6nm,0.4s,baz=78,slow=9.6,SNR=11
BVAR LR LR 04 26 51.5
comp=Z,77nm,20.6s,baz=75,slow=37
comp=Z,3.6nm,0.4s
BORK Borovoye 50.03 311*ce*P **P 04 04 36.3 +0.1**
BORK pmax pmax
comp=Z,4.0nm,0.6s
G30M tAoh Zraii Nji 50.31 30 **P 04 04 38.9 +0.7**
G30M IAmb IAmb 04 04 50.3
comp=Z,20nm,1.4s
I30M Mount Dempster 50.57 33 **P 04 04 41.5 +1.3**
I30M IAmb IAmb 04 04 52.3
comp=Z,14nm,1.1s
AAK Ala-Archa 50.72 297 LR LR 04 27 15.0
comp=Z,127nm,19.4s,baz=80,slow=37
AAK Ala-Archa 50.72 297*ce*P **P 04 04 41.4 -0.3**
AAK pmax pmax
comp=Z,2.0nm,0.7s
KSH Kashi 50.88 293 P **P 04 04 46.8 +3.9**
KSH pmax pmax
comp=Z,6.0nm,0.9s
HYT Haines Junctio 51.01 38 **P 04 04 44.9 +1.3**
HYT IAmb IAmb 04 04 57.5
comp=Z,7.2nm,0.9s
H31M Peel River 51.28 32 **P 04 04 47.0 +1.5**
H31M IAmb IAmb 04 04 56.5
comp=Z,20nm,1.4s
IPM Ipoh 52.08 239 **P 04 04 51.2 -0.8**
MYKOM Kota Tinggi 52.32 234 **P 04 04 53.9 +0.1**
KK31 Karatay Array 53.25 299 **P 04 04 59.5 -0.9**
KK31 IAmb IAmb 04 05 00.4
comp=Z,4.2nm,0.6s
KK31 Karatay Array 53.25 299 P **P 04 04 59.5 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 53.25 299 **P 04 04 59.4 -1.0**
KKAR Karatay Array 53.25 299 P **P 04 04 59.4 -1.0**

SVE Sverdlovsk 54.21 318 *eP* **P 04 05 07.7 +0.6**
SVE pmax pmax
comp=Z,10.0nm,0.6s
ARTI Arti 55.53 318 **P 04 05 15.8 -1.0**
ARTI Arti 55.53 318 LR LR 04 31 38.5
comp=Z,173nm,20.0s,baz=86,slow=39
ARTI Arti 55.53 318*d iP* **P 04 05 16.1 -0.6**
ARTI 04 06 11.4
ARTI 04 07 17.1
ARTI S **S 04 13 02.8 +2.1**
ARTI SS **SS 04 16 43.7 -1.4**
ARTI pmax pmax
comp=Z,11nm,0.7s
ARTI MLR MLR
comp=Z,354nm,15.0s
CHGR Chuyangaron 56.05 295 **P 04 05 20.2 -0.7**
CHGR Chuyangaron 56.05 295 P **P 04 05 20.2 -0.7**
CHGR pmax pmax
comp=Z,17nm,0.8s
AB31 Akbulak array 57.47 309 **P 04 05 29.9 -0.8**
AB31 IAmb IAmb 04 05 31.4
comp=Z,6.9nm,0.6s
ABKAR Akbulak array 57.47 309 **P 04 05 30.0 -0.6**
WB0 Warramunga Arr 59.93 190 **P 04 05 48.0 0.0**
FITZ Fitzroy Crossi 60.04 200 P **P 04 05 48.6 -0.1**
comp=Z,2.7nm,0.8s,baz=45,slow=14,SNR=4.6
comp=Z,2.7nm,0.8s
WR8 Warramunga Arr 60.10 190 **P 04 05 48.4 -0.8**
WR8 IAmb IAmb 04 05 58.5
comp=Z,12nm,1.4s
WRA Warramunga Arr 60.11 190 P **P 04 05 48.0 -1.2**
WRA Warramunga Arr 60.11 190 P **P 04 05 48.8 -0.4**
comp=Z,2.2nm,0.6s,baz=7.9,slow=6.9,SNR=24
comp=Z,2.2nm,0.6s
WRA Warramunga Arr 60.11 190 P **P 04 05 48.0 -1.2**
ARCES ARCESS Array B 61.97 339 P **P 04 06 01.8 +0.5**
comp=Z,5.0nm,0.9s,baz=58,slow=7.3,SNR=4.9
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 62.31 328 *eP* **P 04 05 59.6 -4.1**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Sprngs 63.84 190 P **P 04 06 14.3 +0.1**
comp=Z,1.2nm,0.6s,baz=9.4,slow=5.5,SNR=13
comp=Z,1.2nm,0.6s
OBN Obninsk 66.88 323*eP* **P 04 06 33.8 +0.2**
OBN *e* 04 08 59.3
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,206nm,16.0s
NEW Newport 66.91 46 LR LR 04 38 23.9
comp=Z,21nm,18.9s,baz=36,slow=38
FINES FINESS Array B 67.13 332 P **P 04 06 35.0 0.0**
comp=Z,4.2nm,0.6s,baz=59,slow=6.0,SNR=26
comp=Z,4.2nm,0.6s
PLID Pearl Lake 69.38 48 P **P 04 06 51.6 +1.8**
PLID IAmb IAmb 04 07 01.3
comp=Z,7.0nm,1.4s
BEKR Beckworth 69.80 55 **P 04 06 53.1 +0.7**
KIV Kislovodsk 70.37 311 **P 04 06 55.3 -0.4**
KIV Kislovodsk 70.37 311 *eP* **P 04 06 56.1 +0.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 70.38 311 P **P 04 06 56.5 +0.8**
comp=Z,6.8nm,0.8s,baz=50,slow=4.3,SNR=20
comp=Z,6.8nm,0.8s
KBZ Khabaz 70.38 311*ce*P **P 04 06 55.2 -0.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
LRM Limekiln Ridge 70.93 46 P **P 04 07 00.5 +1.2**
MNK Minsk 71.13 326 *i* P **P 04 07 00.0 0.0**
MNK *i* 04 09 37.1
MNK *i* PPP PPP 04 11 20.0
MNK *i* S **S 04 16 16.8 +1.5**
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=N,96nm,16.0s
MNK MLR MLR
comp=Z,152nm,17.0s
MNK MLR MLR
comp=E,90nm,14.0s
DLMT Dillon 71.13 46 P **P 04 07 02.5 +2.0**
DLMT IAmb IAmb 04 07 14.9
comp=Z,9.8nm,1.2s
BOZ Bozeman (W) 71.53 46 P **P 04 07 04.1 +1.3**
BOZ Bozeman (W) 71.53 46 P **P 04 07 04.1 +1.3**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
LHV Little Huntoon 71.91 55 P **P 04 07 06.5 +1.5**
LHV IAmb IAmb 04 07 16.9
comp=Z,5.6nm,0.8s
NVAR Mina Array Bea 71.93 55 P **P 04 07 06.6 +1.2**
NVAR Mina Array Bea 71.93 55 P **P 04 07 06.5 +1.0**
comp=Z,1.2nm,0.8s,baz=286,slow=7.1,SNR=8.9
comp=Z,1.2nm,0.8s
NB2 NORSAR Subarra 72.25 338 P **P 04 07 07.0 +0.3**
comp=Z,3.6nm,1.0s,baz=35,slow=6.2
NOA NORSAR Array B 72.25 338 P **P 04 07 07.0 +0.3**
comp=Z,3.5nm,0.8s,baz=37,slow=6.0,SNR=12
comp=Z,3.5nm,0.8s
NOA NORSAR Array B 72.25 338 P **P 04 07 07.0 +0.3**
DSP Deep Springs 72.78 56 **P 04 07 11.1 +0.9**
AKASG Malin Array Be 73.12 323 P **P 04 07 11.8 -0.2**
comp=Z,3.1nm,0.7s,baz=46,slow=5.8,SNR=15
comp=Z,3.1nm,0.7s
AKBB Malin Array Si 73.12 323 P **P 04 07 12.1 +0.1**
AKBB IAmb IAmb 04 07 13.0
comp=Z,7.0nm,1.0s
AKBB Malin Array Si 73.12 323*ce*P **P 04 07 11.1 -0.9**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 73.13 323 P **P 04 07 12.0 -0.1**
KIEV IAmb IAmb 04 07 13.1
comp=Z,6.3nm,1.0s
KIEV Kiev 73.13 323 P **P 04 07 12.0 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 74.12 55 P **P 04 07 19.6 +1.2**
TPNV IAmb IAmb 04 07 31.0
comp=Z,5.6nm,1.0s
TPNV Topopah Spring 74.12 55 P **P 04 07 19.6 +1.2**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
GWY Greenwater Val 74.33 56 **P 04 07 21.2 +1.6**
PDAR Pinedale Array 74.47 47 P **P 04 07 20.3 -0.1**
comp=Z,0.6nm,0.7s,baz=294,slow=3.6,SNR=5.2
SHPR Sheep Range 75.09 55 P **P 04 07 24.9 +0.9**
CCUT Cedar City 75.55 53 **P 04 07 27.8 +1.1**
MARD Mardin 75.59 307 **P 04 07 27.2 +0.4**
LCMT Little Creek M 75.96 53 P **P 04 07 30.8 +1.8**
PFO Pinyon Flats O 76.05 58 LR LR 04 32 35.3
comp=Z,18nm,20.1s,baz=299,slow=29
BUR08 Bucovina Ar. S 77.15 322 **P 04 07 35.4 -0.1**
BUR08 IAmb IAmb 04 07 37.6
comp=Z,5.8nm,1.1s
BURAR Bucovina Array 77.16 322 P **P 04 07 35.3 -0.2**
BURAR IAmb IAmb 04 07 37.1
comp=Z,3.9nm,0.7s
PV10 Paradox Valley 77.63 50 P **P 04 07 39.3 +0.8**
STHS Stebnicka Huta 77.64 326 *eP* **P 04 07 38.8 +0.8**
STHS Stebnicka Huta 77.64 326 *eP* **P 04 07 38.8 +0.8**
OJC Ojcow 77.65 327 **P 04 07 37.7 -0.4**
OJC Ojcow 77.65 327 P **P 04 07 37.7 -0.4**
PV19 Morning Glory 77.70 50 P **P 04 07 39.5 +0.6**
PV19 IAmb IAmb 04 07 50.0
comp=Z,9.0nm,0.9s
WUAZ Wupatki 78.08 54 **P 04 07 42.4 +1.5**
BRTR Keskin Array B 78.27 312 P **P 04 07 42.2 +0.4**
comp=Z,1.0nm,0.7s,baz=60,slow=5.8,SNR=5.5
comp=Z,1.0nm,0.7s
LANS Liptovska Anna 78.60 326 *eP* **P 04 07 45.1 +1.7**
LANS Liptovska Anna 78.60 326 *eP* **P 04 07 45.1 +1.7**
CLL Collm 79.50 331 *eP* **P 04 07 48.0 -0.2**
comp=Z,6.0nm,0.8s
MODS Modra-Piesok 80.13 327 *eP* **P 04 07 52.0 +0.3**
MODS Modra-Piesok 80.13 327 *eP* **P 04 07 52.0 +0.3**
KHC Kasperske Hory 81.03 329*ce*P **P 04 07 57.4 +0.8**
KHC pmax pmax
comp=Z,10.0nm,2.5s
EKA Eskdalemuir Ar 81.04 342 P **P 04 07 56.7 +0.3**
comp=Z,0.7nm,0.6s,baz=44,slow=7.3,SNR=1.6

comp=Z,0.7nm,0.6s
RONA Rosalia, Austr 81.06 327 *eP* **P 04 07 58.5 +1.7**
comp=Z,4.6nm,0.6s
CONA Conrad Observa 81.07 327 *eP* **P 04 07 58.1 +1.2**
comp=Z,1.6nm,0.5s
GERES GERESS Array B 81.21 329 P **P 04 07 57.9 +0.3**
comp=Z,1.2nm,0.7s,baz=35,slow=3.3,SNR=3.9
comp=Z,1.2nm,0.7s
ANMO Albuquerque 81.46 51*ce*P **P 04 08 03.8 +4.5**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
SOKA Soboth 82.40 327 *eP* **P 04 08 04.5 +0.6**
comp=Z,3.7nm,0.7s
OBKA Obir 82.74 327 *eP* **P 04 08 06.7 +1.0**
comp=Z,3.0nm,0.7s
WATA Walderalm 83.27 329 *e*PcP **P 04 08 10.2 +1.7**
comp=Z,2.3nm,0.4s
MOTA Moosalm 83.45 330 *eP* **P 04 08 10.7 +1.3**
comp=Z,1.8nm,0.5s
RETA Reutte 83.46 330 *eP* **P 04 08 10.5 +1.1**
comp=Z,2.2nm,0.5s
FETA Feichten 83.86 330 *eP* **P 04 08 12.1 +0.5**
comp=Z,2.6nm,0.9s
DAVA Damuels 83.97 330 *e*PcP **P 04 08 13.5 +1.4**
comp=Z,1.5nm,0.3s
FUORN Ofenpass-Fuorn 84.37 330 **P 04 08 14.9 +0.6**
PPT2 Papeete2 84.40 118 *e*LR LR 04 34 58.1
comp=Z,84nm,23.2s
TAOE Nuku Hiva Isla 85.21 106 *e*LR LR 04 35 26.4
comp=Z,65nm,21.7s
DKNS Dickens 85.63 49 P **P 04 08 21.9 +1.3**
DKNS IAmb IAmb 04 08 32.3
comp=Z,4.6nm,0.8s
TXAR Lajitas Array 87.05 54 P **P 04 08 29.0 +1.4**
comp=Z,0.9nm,0.9s,baz=300,slow=5.0,SNR=3.5
comp=Z,0.9nm,0.9s

HEL 03 04:05:48.5±0.2, 65°.78N×24°.67E, h0km, ML1.1, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.34**	**335**	PG	Pg		04 05 53.5	-1.4
TOF				SG	Sg		04 05 58.0	-1.3
KALU	**Kalix**	**0.55**	**279**	PG	Pg		04 05 58.6	-0.4
KALU				SG	Sg		04 06 04.6	-1.5
OUL	**Oulu**	**0.86**	**143**	PG	Pg		04 06 03.4	-1.6
	baz=320							
RANF	**Ranua**	**0.90**	**74**	PG	Pg		04 06 03.0	-2.7
RANF				SG	Sg		04 06 17.0	-0.4
OBF4	**Vikkela, Lumij**	**0.98**	**169**	PG	Pg		04 06 05.9	-1.4
OBF4				MSG			04 06 18.6	
	comp=Z,1.1nm,0.2s							
RNF	**Rovaniemi**	**1.00**	**32**	PB	Pn		04 06 09.4	-0.3
RNF				SN	Sn		04 06 23.7	-0.8
ERTU	**Ertsjaerv**	**1.27**	**309**	PG	Pg		04 06 11.4	-1.5
ERTU				SG	Sg		04 06 29.4	0.0
OBF0	**Syolatti, Pyha**	**1.30**	**188**	PG	Pg		04 06 11.4	-1.9
OBF0				MSG			04 06 27.6	
	comp=Z,1.3nm,0.2s							
PAJU	**Pajala**	**1.40**	**334**	PN	Pn		04 06 15.0	-0.3
PAJU				SB	Sg		04 06 32.7	-0.8
KU2	**Taivalkoski**	**1.47**	**91**	PG	Pn		04 06 15.3	-0.9
	baz=276							
KU2				SG	Sg		04 06 33.7	-2.0
OBF8	**Ulkokalla**	**1.54**	**200**	PN	Pn		04 06 17.3	+0.1
OBF8				MSG			04 06 34.6	
	comp=Z,1.4nm,0.2s							
MSF	**Maaselka**	**1.80**	**84**	SG	Sn		04 06 44.6	+0.2
OLKF	**Oulanka, Finla**	**2.00**	**72**	MSG			04 06 48.1	
	comp=Z,1.1nm,0.2s							
OLKF				SG	Sb		04 06 50.6	-0.7

KOLA 03 04:07:46.6, 67°.63N×33°.79E, h0km, ML1.3, Error ellipse: s-maj=2.3km s-min=1.3km az=150.0, Khibiny, mines Rasvumchorr, Central, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**246**	P	P	Pg	04 07 49.5	-0.2
APA0	**Apatity Array**	**0.31**	**265**	P	P	Pg	04 07 52.0	-0.5
APA0				S	Sg	Sg	04 07 56.4	-0.1
LVZ	**Lovozero**	**0.42**	**51**	P	Pg	Pg	04 07 54.4	-0.3
LVZ				S	Sg	Sg	04 08 00.2	+0.1
LVZ	**Lovozero**	**0.42**	**51**	SB	Sg	Sg	04 08 00.2	+0.1
KVDA	**Kovda**	**1.01**	**201**	P	Pg	Pg	04 08 05.4	-0.6
KVDA				S	Sg	Sg	04 08 17.7	-1.4
VADS	**Vadso**	**2.97**	**329**	S	Sn	Sn	04 09 09.6	-1.6
ARCES	**ARCESS Array B**	**3.59**	**306**	P	Pn	Pn	04 08 42.7	-0.8

MOS ***03*** *04:44:53.3±1.1, 36°.20N×28°.64E, h13km, mb5.1/35, MS4.5/23, Error ellipse: s-maj=5.1km s-min=3.0km az=78.3*
NIC ***03*** *04:44:54.8, 36°.27N×28°.62E, h0km±2km, Ml4.8/16*
BJI ***03*** *04:44:54.2, 36°.05N×28°.37E, h34km, mB5.2/35, mb5.0/68, Ms5.0/49, Ms7 4.8/49*
ISK ***03*** *04:44:55.3, 36°.30N×28°.56E, h15km, ML5.2/14*
ATH ***03*** *04:44:55.7, 36°.28N×28°.60E, h14km±1km, ML5.1/25, Manual Solution by A.Moschou First location: 2019/10/03 04:46:28, This location: 2020/11/25 07:01:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
HLW ***03*** *04:44:55.1, 36°.17N×28°.61E, h1km±1km, Ml5.1*
THE ***03*** *04:44:57.0, 36°.N±2°×2°.9E±°, h8km±4km, M4.9/39, MLh4.9/39*
NEIC ***03*** *04:44:56.5±2.0, 36°.28N±0°.05×28°.57E±0°.04, h18km±3km, mb5.2/264, Mww5.1/19, Error ellipse: s-maj=7.6km s-min=3.7km az=153.0*
NEIC ***03*** *04:44:56.8, 36°.26N×28°.58E, h18km*
MED_RC ***03*** *04:44:56.0±0.2, 36°.22N×28°.53E, h23km, MW5.2/29, Moment Tensor Solution. Body waves: s5,c5;Mantle waves: s29,c52; Duration: 1*^{s}*4 Moment tensor: Scale 10*^{16}*Nm; M_{rr}5.95±.25; $M_{\theta\theta}$-3.99±.17; $M_{\phi\phi}$-1.96±.15; $M_{r\theta}$1.08±.24; $M_{\theta\phi}$-3.97±.11; $M_{\phi r}$-2.72±.25; Best double couple: $M_0$7.20000×10*^{16} *NP1:*ϕ_s*75.00000°,*δ*46.00000°,* λ*125.00000°. NP2:*ϕ_s*210.00000°,*δ*53.00000°,*λ*59.00000°. Principal axes: T 7.2800, Plg65.0000°, Azm59.0000°; N -0.1500, Plg24.0000°, Azm229.0000°; P -7.1300, Plg4.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
AFAD ***03*** *04:44:56.2, 36°.31N×28°.50E, h19km±2km, MW5.0*
NEIC ***03*** *04:44:56.8, 36°.36N×28°.83E, h18km, Moment Tensor Solution. Duration: 1*^{s}*8 Moment tensor: Scale 10*^{16}*Nm; M_{rr}4.92; $M_{\theta\theta}$-2.77; $M_{\phi\phi}$-2.15; $M_{r\theta}$2.27; $M_{\theta\phi}$-1.65; $M_{\phi r}$1.13; Fault plane solution: $M_0$5.24000×10*^{16} *NP1:* ϕ_s*226.29000°,*δ*30.84000°,*λ*81.45000°. NP2:*ϕ_s*56.21000°,* δ*59.54000°,*λ*95.07000°. Principal axes: T 5.6022, Plg75.0000°, Azm340.0000°; N -0.8274, Plg4.0000°, Azm234.0000°; P -4.7748, Plg14.0000°, Azm143.0000°;*
GII ***03*** *04:44:56.8±0.0, 36°.109N±0°.003×28°.584E±0°.001, h20km, Mws5.2, confirmed*
IDC ***03*** *04:44:57.4±2.5, 36°.31N×28°.57E, h29km±17km, mb4.5/26, mbtmp4.7/39, ML4.5/11, MS4.7/69, Error ellipse: s-maj=11.2km s-min=9.1km az=167.0*
GCMT ***03*** *04:44:58.5±0.1, 36°.19N±0°.01×28°.43E±0°.01, h21km, MW5.2/139, Moment Tensor Solution. s95,c136; s139,c235; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; M_{rr}6.43±.13; $M_{\theta\theta}$-3.95±.09; $M_{\phi\phi}$-2.48±.09; $M_{r\theta}$1.50±.16; $M_{\theta\phi}$-3.05±.07; $M_{\phi r}$-3.21±.17; Best double couple: $M_0$7.18400×10*^{16} *NP1:*ϕ_s*72.00000°,*δ*46.00000°,* λ*123.00000°. NP2:*ϕ_s*209.00000°,*δ*53.00000°,*λ*61.00000°. Principal axes: T 7.9570, Plg67.0000°, Azm59.0000°; N -1.5450, Plg23.0000°, Azm228.0000°; P -6.4120, Plg4.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
PDG ***03*** *04:44:59.3, 36°.24N×28°.59E, h20km, mb5.1/3*
NAO ***03*** *04:45:10.6, 38°.18N×28°.46E, h10km, mb4.0*
ISC 03 04:44:56.9±0.5, 36°.27N±0°.02×28°.56E±0°.02, h23km±3km, n1086, σ**1**^{s}**60/1097, mb5.1/225, MS4.7/88, 84C-64D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ARG	**Arkhangelos**	**0.35**	**261**	Pg	**Pb**	**04 45 02.8**		**-1.9**
ARG				Sg	**Sb**	**04 45 08.9**		**-1.1**
ARG	**Arkhangelos**	**0.35**	**261**		**Pb**	**04 45 03.3**		**-1.4**
ARG				Sg	**Sb**	**04 45 09.3**		**-0.7**
ARG	**Arkhangelos**	**0.35**	**261**	P	**Pb**	**04 45 03.7**		**-1.0**
ARG				S	**Sb**	**04 45 09.2**		**-0.7**
ARG	**Arkhangelos**	**0.35**	**261**	⇑P	**Pb**	**04 45 03.2**		**-1.4**
ARG	**Arkhangelos**	**0.35**	**261**	P	**Pb**	**04 45 03.3**		**-1.4**
ARG				S	**Sb**	**04 45 09.7**		**-0.3**
ARG				AML	AML	04 45 12.6		
	2μm,0.8s							
ARG				AML	AML	04 45 12.8		
	662nm,0.3s							
ARG	**Arkhangelos**	**0.35**	**261**	P	**Pb**	**04 45 03.6**		**-1.0**
ARG				S	**Sb**	**04 45 09.3**		**-0.7**
DALY	**Dalyan (Mula)**	**0.55**	**8**	Pg	**Pb**	**04 45 05.6**		**-2.3**
DALY				Sg	**Sb**	**04 45 13.7**		**-1.7**
FETY	**Fethiye**	**0.56**	**49**	P	Pb	04 44 57.8		-10
FETY				S	**Sb**	**04 45 07.0**		**-8.6**
IZZE	**Mula-Seydike**	**0.56**	**73**	P	**Pb**	**04 45 07.7**		**-0.4**
IZZE				S	**Sb**	**04 45 16.7**		**+0.9**
TURN	**Turunc**	**0.56**	**333**	P	**Pb**	**04 45 06.3**		**-1.8**
TURN				S	**Sb**	**04 45 14.1**		**-1.7**
FETI	**Fethiye-Mugla**	**0.60**	**46**	Pg	**Pb**	**04 45 07.7**		**-1.1**
SABU	**Mula-Dalaman**	**0.64**	**31**	P	**Pb**	**04 45 08.0**		**-1.5**
SABU				S	**Sb**	**04 45 18.2**		**+0.2**
KSL	**Kastellorizon**	**0.84**	**98**	P	**Pn**	**04 45 13.3**		**+0.1**
KSL				S	**Sn**	**04 45 26.5**		**+1.7**
KSL	**Kastellorizon**	**0.84**	**98**	P	**Pb**	**04 45 12.6**		**-0.1**
KSL				S	**Sb**	**04 45 22.8**		**-0.8**
KSL				AML	AML	04 45 36.7		
	86nm,0.6s							
KSL				AML	AML	04 45 43.2		
	114nm,1.1s							
AKAS	**Kas**	**0.85**	**92**	Pg	**Pb**	**04 45 12.6**		**-0.4**
AKAS				Sn	**Sn**	**04 45 26.1**		**+0.9**
AKAS	**Kas**	**0.85**	**92**	P	**Pb**	**04 45 13.3**		**+0.3**
AKAS				S	**Sn**	**04 45 27.1**		**+1.8**
DATC	**Datca-Mugla**	**0.87**	**304**	Pg	**Pb**	**04 45 12.2**		**-1.2**
YER	**Yerkesik**	**0.89**	**346**	Pg	**Pn**	**04 45 14.2**		**+0.2**
CAME	**Cameli-Denizli**	**0.90**	**42**	Pg	**Pb**	**04 45 13.2**		**-0.7**
DAT	**Datca**	**0.91**	**300**	Pg	**Pb**	**04 45 12.9**		**-1.2**
DAT	**Datca**	**0.91**	**300**	P	**Pb**	**04 45 13.3**		**-0.9**
DAT				S	**Sb**	**04 45 24.8**		**-1.1**
DAT	**Datca**	**0.91**	**300**	P	**Pb**	**04 45 13.5**		**-0.7**
DAT				S	**Sb**	**04 45 25.9**		**0.0**
YAZI	**Mula-Dat§a-**	**0.98**	**295**	P	**Pn**	**04 45 13.8**		**-1.4**
YAZI				S	**Sb**	**04 45 27.1**		**-0.7**
KNIK	**Mula-Seydike**	**1.00**	**55**	P	**Pn**	**04 45 15.2**		**-0.4**
KNIK				S	**Sn**	**04 45 30.4**		**+1.4**
MULA	**Mugla, Merkez-**	**1.00**	**349**	P	**Pn**	**04 45 14.3**		**-1.3**
CAEL	**Denizli, Camel**	**1.05**	**36**	P	**Pn**	**04 45 15.7**		**-0.6**
CAEL				S	**Sn**	**04 45 32.1**		**+1.9**
DNZT	**Denizli-Tavas-**	**1.07**	**20**	P	**Pn**	**04 45 16.2**		**-0.4**
DNZT				P	**Pb**	**04 45 16.6**		**-0.2**
DNZT				S	**Sb**	**04 45 30.7**		**+0.3**
DEMR	**Demre-Antalya**	**1.09**	**92**	Pn	**Pn**	**04 45 16.7**		**0.0**
ELL	**Elmali**	**1.19**	**66**	Pn	**Pn**	**04 45 18.5**		**+0.3**
ELL	**Elmali**	**1.19**	**66**		**Pn**	**04 45 18.5**		**+0.3**
ELL	**Elmali**	**1.19**	**66**	⇑P	**Pn**	**04 45 18.3**		**+0.2**
ELL	**Elmali**	**1.19**	**66**	P	**Pn**	**04 45 17.9**		**-0.3**
ELL				S	**Sb**	**04 45 37.0**		**+3.2**
ELL				AML	AML	04 45 45.5		
	204nm,0.8s							
ELL				AML	AML	04 45 51.0		
	146nm,1.0s							
BDRM	**Kayabasi**	**1.20**	**312**	P	**Pb**	**04 45 18.7**		**-0.2**
BDRM				S	**Sb**	**04 45 35.2**		**+1.2**
NISR	**Nisiros**	**1.20**	**287**	P	**Pb**	**04 45 18.6**		**-0.4**
NISR				S	**Sb**	**04 45 34.8**		**+0.7**
NISR	**Nisiros**	**1.20**	**287**	P	**Pn**	**04 45 18.4**		**+0.1**
TAVA	**DENIZLI_Tavas**	**1.22**	**13**	P	**Pn**	**04 45 18.4**		**-0.2**
TAVA				S	**Sb**	**04 45 36.8**		**+2.0**
GOLH	**Golhisar**	**1.25**	**40**	P	**Pn**	**04 45 19.4**		**+0.3**
GOLH				S	**Sb**	**04 45 38.5**		**+2.8**
BODT	**Bodrum**	**1.28**	**308**	Pn	**Pn**	**04 45 19.7**		**+0.4**
BODT				Sn	**Sb**	**04 45 36.2**		**-0.1**
BODT	**Bodrum**	**1.28**	**308**	P	**Pb**	**04 45 20.1**		**-0.2**
BODT				S	**Sb**	**04 45 36.8**		**+0.5**
YKAV	**Yalikavak-Bodr**	**1.33**	**310**	Pn	**Pn**	**04 45 19.5**		**-0.6**
APMY	**Acipayam-Deniz**	**1.34**	**26**	Pn	**Pn**	**04 45 20.3**		**+0.1**
KARP	**Karpathos**	**1.35**	**238**	Pn	**Pn**	**04 45 20.8**		**+0.5**
KARP	**Karpathos**	**1.35**	**238**		**Pn**	**04 45 20.8**		**+0.5**
KARP	**Karpathos**	**1.35**	**238**	P	**Pb**	**04 45 21.1**		**-0.3**
KARP				S	**Sb**	**04 45 39.7**		**+1.4**
KARP	**Karpathos**	**1.35**	**238**	*e*P	**Pn**	**04 45 20.7**		**+0.4**
KARP	**Karpathos**	**1.35**	**238**	P	**Pb**	**04 45 21.4**		**0.0**
KARP				S	**Sb**	**04 45 41.5**		**+3.2**
KARP				AML	AML	04 45 44.2		
	327nm,1.0s							
KARP				AML	AML	04 45 48.0		
	278nm,0.7s							
KARP	**Karpathos**	**1.35**	**238**	P	**Pn**	**04 45 20.7**		**+0.4**
KARP				S	**Sb**	**04 45 39.5**		**+1.2**
DNIZ	**Denizli-Tavas-**	**1.40**	**16**	P	**Pb**	**04 45 22.6**		**+0.1**
DNIZ				S	**Sb**	**04 45 43.2**		**+3.2**
AKUM	**Antalya-Kumluc**	**1.44**	**87**	P	**Pb**	**04 45 23.3**		**+0.3**
KLNA	**Kalymnos**	**1.45**	**299**	P	**Pn**	**04 45 21.7**		**0.0**
KLNA				S	**Sb**	**04 45 41.1**		**0.0**
AYDN	**Tasoluk**	**1.49**	**339**	P	**Pb**	**04 45 23.8**		**-0.2**
AYDN				S	**Sb**	**04 45 42.7**		**+0.3**
DIDI	**Didim-Aydin**	**1.53**	**317**	Pn	**Pn**	**04 45 22.9**		**+0.2**
ESEN	**Aydn-Nazilli**	**1.53**	**354**	P	**Pb**	**04 45 24.6**		**0.0**
ESEN				S	**Sb**	**04 45 44.1**		**+0.5**
DDIM	**Aydin, Didim**	**1.59**	**319**	P	**Pn**	**04 45 24.2**		**+0.7**
KORT	**Korkueli**	**1.61**	**63**	P	**Pb**	**04 45 26.5**		**+0.4**
KEMT	**Kemer-ANTALYA**	**1.64**	**78**	Pn	**Pn**	**04 45 24.3**		**0.0**
INCE	**Denizli-Bozkur**	**1.65**	**29**	P	**Pb**	**04 45 26.7**		**0.0**
INCE				S	**Sb**	**04 45 48.7**		**+1.6**
NAZL	**Nazilli-Aydin**	**1.70**	**353**	Pn	**Pn**	**04 45 26.4**		**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**342**	Pn	**Pn**	**04 45 26.3**		**+0.3**
GCAM	**G?zelcaml?**	**1.78**	**324**	P	**Pn**	**04 45 27.1**		**+0.9**
GCAM				S	**Sb**	**04 45 51.0**		**+0.3**
ANTB	**Antalya**	**1.80**	**69**	Pn	**Pn**	**04 45 26.4**		**0.0**
ASTA	**Astypalaia**	**1.80**	**279**	P	**Pn**	**04 45 26.3**		**-0.2**
BRDR	**BURDUR-Merkez**	**1.86**	**40**	P	**Pb**	**04 45 29.5**		**-0.7**
KUSD	**Kusadasi-Aydin**	**1.88**	**328**	Pn	**Pn**	**04 45 27.5**		**-0.2**
BUCA	**Burdur, Bucak-**	**1.92**	**56**	P	**Pb**	**04 45 31.0**		**-0.3**
IZMR	**zmir-demi**	**1.92**	**346**	P	**Pb**	**04 45 29.8**		**-1.5**
IZMR				S	**Sb**	**04 45 53.7**		**-1.1**
KIRA	**zmir-Kiraz**	**1.93**	**356**	P	**Pn**	**04 45 29.5**		**+1.2**
BCK	**Bucak**	**2.01**	**53**	Pn	**Pn**	**04 45 30.2**		**+0.7**
BASM	**Basmaki-Afyon**	**2.03**	**35**	Pn	**Pn**	**04 45 30.4**		**+0.7**
ODEM	**Odemis-Izmir**	**2.04**	**349**	Pn	**Pn**	**04 45 29.8**		**0.0**
KRL1	**Karlovasi Samo**	**2.12**	**316**	P	**Pn**	**04 45 31.2**		**+0.3**
KHL	**Karahalli**	**2.19**	**20**	Pn	**Pn**	**04 45 31.9**		**0.0**
PASA	**Karahalli, USA**	**2.20**	**19**	P	**Pn**	**04 45 33.2**		**+1.2**
PASA				S	**Sn**	**04 45 59.9**		**+1.3**
ISP	**Isparta**	**2.20**	**45**	Pn	**Pn**	**04 45 32.3**		**+0.1**
ISP	**Isparta**	**2.20**	**45**		**Pn**	**04 45 33.7**		**+1.5**
ISP	**Isparta**	**2.20**	**45**	*e*P	**Pn**	**04 45 32.8**		**+0.7**
ISP	**Isparta**	**2.20**	**45**	*ce*P	**Pn**	**04 45 33.5**		**+1.3**
ISP				pmax	pmax			
	comp=Z,926nm,0.6s							
ISP	**Isparta**	**2.20**	**45**	⇑P	**Pn**	**04 45 33.6**		**+1.5**
ISP	**Isparta**	**2.20**	**45**	P	**Pn**	**04 45 33.4**		**+1.2**
MANT	**Manisa**	**2.21**	**360**		**Pn**	**04 45 33.1**		**+0.7**
MANT	**Manisa**	**2.21**	**360**	P	**Pn**	**04 45 33.2**		**+0.8**
MANT				S	**Sn**	**04 45 58.3**		**-0.8**
DGB	**zmir**	**2.23**	**323**	P	**Pn**	**04 45 32.6**		**+0.3**
DGB				S	**Sn**	**04 46 01.2**		**+2.1**
GMLD	**Gumuldur**	**2.23**	**324**	Pn	**Pn**	**04 45 32.7**		**+0.3**
ZKR	**Zakros**	**2.23**	**239**	Pn	**Pn**	**04 45 32.8**		**+0.4**
ZKR	**Zakros**	**2.23**	**239**	P	**Pb**	**04 45 35.3**		**-1.2**
ZKR	**Zakros**	**2.23**	**239**	P	**Pb**	**04 45 35.1**		**-1.4**
ZKR				S	**Sb**	**04 46 05.0**		**+1.4**
ZKR				AML	AML	04 46 18.3		
	comp=Z,150nm,0.8s							
ZKR				AML	AML	04 46 23.4		
	comp=Z,46nm,0.8s							
ZKR	**Zakros**	**2.23**	**239**	P	**Pb**	**04 45 34.6**		**-1.9**
KULA	**Kula-Manisa**	**2.24**	**2**	Pn	**Pn**	**04 45 33.4**		**+0.8**
KZIL	**AFYON_Kizioren**	**2.35**	**32**	P	**Pn**	**04 45 35.4**		**+1.3**
MNVG	**Manavgat-Antal**	**2.36**	**76**	Pn	**Pn**	**04 45 34.6**		**+0.5**
BLCB	**Balcova**	**2.43**	**331**	Pn	**Pn**	**04 45 35.3**		**+0.1**
BLCB	**Balcova**	**2.43**	**331**	P	**Pn**	**04 45 35.3**		**+0.1**
USAK	**Uak-Merkez**	**2.46**	**8**	P	**Pn**	**04 45 36.6**		**+0.9**
USAK				S	**Sn**	**04 46 06.5**		**+1.4**
GOMA	**Golmarmara-Man**	**2.48**	**348**	Pn	**Pn**	**04 45 36.4**		**+0.5**
THERA	**Ancient Thera,**	**2.49**	**273**	P	**Pn**	**04 45 36.7**		**+0.7**
THERA				S	**Sn**	**04 46 07.5**		**+1.7**
THERA	**Ancient Thera,**	**2.49**	**273**	P	**Pn**	**04 45 36.4**		**+0.3**
THR3	**Thira Island,**	**2.55**	**274**	P	**Pn**	**04 45 37.8**		**+0.9**
THR3	**Thira Island,**	**2.55**	**274**	P	**Pn**	**04 45 37.7**		**+0.9**
SNT5	**Nea Kammeni, S**	**2.56**	**274**	P	**Pn**	**04 45 37.2**		**+0.3**
ZEYE	**Izmir, Urla-Ze**	**2.56**	**321**	P	**Pn**	**04 45 37.0**		**+0.1**
ZEYE				S	**Sn**	**04 46 07.2**		**-0.1**
APE	**Apeiranthos**	**2.56**	**289**	Pn	**Pn**	**04 45 37.3**		**+0.3**
APE	**Apeiranthos**	**2.56**	**289**	P	**Pn**	**04 45 37.6**		**+0.5**
APE	**Apeiranthos**	**2.56**	**289**	⇓P	**Pn**	**04 45 37.6**		**+0.5**
APE	**Apeiranthos**	**2.56**	**289**	*i* P	**Pn**	**04 45 37.4**		**+0.4**
APE	**Apeiranthos**	**2.56**	**289**	⇓P	**Pn**	**04 45 37.5**		**+0.5**
APE	**Apeiranthos**	**2.56**	**289**	P	**Pn**	**04 45 37.5**		**+0.5**
APE	**Apeiranthos**	**2.56**	**289**	P	**Pn**	**04 45 37.4**		**+0.4**
NPS	**Neapolis**	**2.60**	**248**	P	**Pn**	**04 45 39.0**		**+1.5**
NPS	**Neapolis**	**2.60**	**248**	P	**Pn**	**04 45 38.8**		**+1.3**
SAP3	**Santorini-Thir**	**2.60**	**275**	P	**Pn**	**04 45 38.4**		**+0.9**
SAP3	**Santorini-Thir**	**2.60**	**275**	P	**Pn**	**04 45 38.6**		**+1.1**
URLA	**Izmir**	**2.61**	**324**	P	**Pn**	**04 45 38.2**		**+0.6**
BNAZ	**Uak-Banaz**	**2.62**	**23**	P	**Pn**	**04 45 39.3**		**+1.4**
GORD	**Gordes-Manisa**	**2.65**	**354**	Pn	**Pn**	**04 45 38.4**		**+0.2**
AKHS	**Akhisar**	**2.67**	**347**	P	**Pn**	**04 45 39.5**		**+1.1**
AKHS				S	**Sn**	**04 46 12.4**		**+2.3**
AKS	**Akhisar**	**2.67**	**347**	Pn	**Pn**	**04 45 38.7**		**0.2**
CESE	**eme**	**2.73**	**319**	Pn	**Pn**	**04 45 39.7**		**+0.4**
DEMI	**Demirci**	**2.77**	**3**	P	**Pn**	**04 45 41.0**		**+1.1**
SHAP	**Saphane-Kutahy**	**2.79**	**11**	Pn	**Pn**	**04 45 40.8**		**+0.5**
KRBN	**Karaburun**	**2.81**	**326**	Pn	**Pn**	**04 45 40.9**		**+0.5**
ALAN	**Alanya-ANTALYA**	**2.81**	**83**	Pn	**Pn**	**04 45 41.4**		**+0.9**
SEDI	**Konya, Seydise**	**2.82**	**64**	P	**Pn**	**04 45 43.3**		**+2.7**
SMAA	**Simav-Kutahya**	**2.84**	**7**	Pn	**Pn**	**04 45 41.1**		**+0.2**
GEDZ	**Gediz**	**2.85**	**13**	Pn	**Pn**	**04 45 41.2**		**+0.2**
SEYD	**Seydisehir-KON**	**2.86**	**66**	Pn	**Pn**	**04 45 41.5**		**+0.3**
CHOS	**Chios island**	**2.91**	**317**	P	**Pn**	**04 45 42.2**		**+0.4**
GDZ	**Gediz**	**2.91**	**14**	P	**Pn**	**04 45 42.8**		**+0.9**
KARB	**zmir-Karabur**	**2.94**	**325**	P	**Pn**	**04 45 42.8**		**+0.8**
KARB				S	**Sn**	**04 46 19.0**		**+2.4**
ZEDA	**zmir-Bergama**	**2.94**	**337**	P	**Pn**	**04 45 42.5**		**+0.4**
ZEDA				S	**Sn**	**04 46 19.6**		**+3.0**
SOMA	**Soma-Manisa**	**2.99**	**345**	Pn	**Pn**	**04 45 44.1**		**+1.2**
IACM	**Heraklion**	**3.00**	**252**	P	**Pn**	**04 45 44.2**		**+1.3**
IZMD	**zmir-Dikili-**	**3.00**	**335**	P	**Pn**	**04 45 44.3**		**+1.2**
GAZI	**Gazipasa**	**3.04**	**90**	P	**Pn**	**04 45 43.9**		**0.4**
GAZI				S	**Sn**	**04 46 17.2**		**-1.9**
DKL	**Dikili**	**3.09**	**335**	Pn	**Pn**	**04 45 44.6**		**0.4**
DKL	**Dikili**	**3.09**	**335**	⇓P	**Pn**	**04 45 46.1**		**+2.0**
IDI	**Anoyia**	**3.14**	**253**	Pn	**Pn**	**04 45 46.0**		**+1.0**
IDI	**Anoyia**	**3.14**	**253**	P	**Pn**	**04 45 46.3**		**+1.2**
IDI	**Anoyia**	**3.14**	**253**	Pn	**Pn**	**04 45 46.1**		**+1.1**
	comp=Z,359nm,0.3s,baz=58,slow=11,SNR=430							
IDI				Sn	**Sn**	**04 46 22.1**		**+0.3**
	comp=Z,485nm,0.3s,baz=148,slow=16,SNR=8.9							
IDI				LR	LR	04 47 10.9		
	comp=Z,10μm,19.9s,baz=64,slow=42							
IDI	**Anoyia**	**3.14**	**253**	P	**Pn**	**04 45 46.0**		**+1.0**
EMET	**Ktahya-Emet**	**3.16**	**11**	P	**Pn**	**04 45 46.3**		**+1.0**
STEP	**BALIKESIR_Sava**	**3.17**	**348**	P	**Pn**	**04 45 46.6**		**+1.2**
BLVD	**Bolvadin-AFYON**	**3.22**	**38**	Pn	**Pn**	**04 45 46.6**		**0.4**
HDMB	**Hadim**	**3.23**	**77**	Pn	**Pn**	**04 45 46.9**		**+0.5**
TVSB	**Tavsanli**	**3.25**	**12**	Pn	**Pn**	**04 45 46.9**		**+0.4**
UCKU	**Afyonkarahisar**	**3.28**	**43**	P	**Pn**	**04 45 49.0**		**+2.1**
BYAT	**Afyon-Bayat**	**3.29**	**35**	P	**Pn**	**04 45 48.7**		**+1.6**
TMBK	**Timbaki Herakl**	**3.31**	**250**	P	**Pn**	**04 45 50.3**		**+3.1**
AKMS	**Akamas**	**3.32**	**111**	⇑*i*P	**Pn**	**04 45 47.4**		**0.0**
AKMS				AML	AML	04 46 30.3		
	comp=Z,12nm,0.8s							
AKMS				AML	AML	04 46 31.8		
	comp=Z,11nm,0.5s							
AKMS	**Akamas**	**3.32**	**111**	P	**Pn**	**04 45 47.3**		**-0.1**
DST	**Dursunbey**	**3.33**	**1**	Pn	**Pn**	**04 45 48.1**		**+0.6**
MHLO	**Agia Marina, M**	**3.38**	**278**	P	**Pn**	**04 45 50.4**		**+2.2**
ANDZ	**Kutahya, Merke**	**3.40**	**18**	P	**Pn**	**04 45 49.9**		**+1.3**
ANDZ				S	**Sn**	**04 46 29.1**		**+0.9**
ALFC	**Alefka**	**3.47**	**108**	⇑*e*P	**Pn**	**04 45 49.0**		**-0.5**
ALFC				S	**Sn**	**04 46 33.0**		**+3.1**
ALFC				AML	AML	04 46 35.6		
	comp=Z,6.3nm,0.5s							
ALFC				AML	AML	04 46 37.6		
	comp=Z,6.1nm,0.7s							
ALFC	**Alefka**	**3.47**	**108**	P	**Pn**	**04 45 49.1**		**-0.4**
PRK	**Paraskevi**	**3.48**	**329**	P	**Pn**	**04 45 50.4**		**+0.9**
PRK	**Paraskevi**	**3.48**	**329**	P	**Pn**	**04 45 50.1**		**+0.6**
ERMK	**Ermenek**	**3.53**	**83**	P	**Pn**	**04 45 53.0**		**+2.5**
ERMK				S	**Sn**	**04 46 34.8**		**+3.3**
YAYO	**Edremit-Balk**	**3.53**	**341**	Pn	**Pn**	**04 45 51.0**		**+0.7**
BOZY	**Bozyazi-Mersin**	**3.58**	**91**	Pn	**Pn**	**04 45 51.9**		**+1.0**
LADK	**Ladik-KONYA**	**3.59**	**57**	Pn	**Pn**	**04 45 52.2**		**+0.9**
NATA	**Nata**	**3.59**	**113**	⇑*i*P	**Pn**	**04 45 51.5**		**+0.3**
NATA				S	**Sn**	**04 46 36.2**		**+3.3**
NATA				AML	AML	04 46 40.8		
	comp=Z,17nm,0.9s							
NATA				AML	AML	04 46 41.3		
	comp=Z,18nm,0.8s							
NATA	**Nata**	**3.59**	**113**	P	**Pn**	**04 45 51.3**		**+0.2**
KDHN	**Kadinhani**	**3.61**	**51**	P	**Pn**	**04 45 52.8**		**+1.3**
DOMA	**Ktahya-Doman**	**3.62**	**14**	P	**Pn**	**04 45 52.8**		**+1.2**
SIGR	**SIGRI**	**3.63**	**325**	P	**Pn**	**04 45 52.8**		**+1.1**
KKBE	**Karaman, Kazim**	**3.64**	**74**	P	**Pn**	**04 45 54.6**		**+2.7**
KKBE				S	**Sn**	**04 46 35.5**		**+1.3**
CIFT	**Cifteler, Eski**	**3.67**	**32**	Pn	**Pn**	**04 45 52.1**		**-0.1**
CTIK	**Konya-Celtik**	**3.68**	**41**	P	**Pn**	**04 45 54.1**		**+1.7**
TEKE	**Tekeli-Mersin**	**3.69**	**91**	Pn	**Pn**	**04 45 53.6**		**+1.2**
ESKT	**Eskisehir**	**3.71**	**29**	Pn	**Pn**	**04 45 53.6**		**+0.7**
GPNR	**Gulpinar-Canak**	**3.71**	**330**	Pn	**Pn**	**04 45 53.6**		**0.8**
SGAZ	**Eskisehir, Sey**	**3.72**	**28**	P	**Pn**	**04 45 54.0**		**+1.1**
KARY	**Karystos**	**3.73**	**299**	P	**Pn**	**04 45 54.2**		**+1.1**
KARY	**Karystos**	**3.73**	**299**	P	**Pn**	**04 45 53.9**		**+0.8**
CHAN	**Chania**	**3.74**	**260**	P	**Pn**	**04 45 54.3**		**+1.1**
TROD	**Troodos**	**3.75**	**109**	⇑*i*P	**Pn**	**04 45 53.6**		**+0.1**
TROD				S	**Sn**	**04 46 40.4**		**+3.4**
TROD				AML	AML	04 46 48.6		
	comp=Z,5.3nm,0.6s							
TROD				AML	AML	04 46 49.9		
	comp=Z,5.1nm,0.8s							
BERE	**Bereket-Mersin**	**3.77**	**87**	Pn	**Pn**	**04 45 54.6**		**+0.9**
ORLT	**Orhaneli**	**3.78**	**4**	Pn	**Pn**	**04 45 54.4**		**+0.7**
YENI	**Yenice-Canakka**	**3.80**	**345**	Pn	**Pn**	**04 45 54.9**		**+0.9**
APOL	**The Sanctuary**	**3.86**	**113**	⇑*e*P	**Pn**	**04 45 55.0**		**+0.2**
APOL				S	**Sn**	**04 46 42.1**		**+2.7**
APOL				AML	AML	04 46 57.3		
	comp=Z,5.9nm,0.8s							
APOL				AML	AML	04 47 17.5		
	comp=Z,4.1nm,1.0s							
XYLS	**Xyliatos**	**3.87**	**108**	P	**Pn**	**04 45 55.4**		**+0.5**
XYLS				S	**Sn**	**04 46 42.8**		**+3.1**
XYLS				AML	AML	04 46 46.3		
	comp=Z,4.9nm,0.8s							
XYLS				AML	AML	04 46 46.7		
	comp=Z,5.0nm,0.4s							
KRMN	**Karaman**	**3.88**	**75**	Pn	**Pn**	**04 45 56.3**		**+1.1**
EZNE	**Ezine-Canakkal**	**3.88**	**334**	Pn	**Pn**	**04 45 56.1**		**+1.0**
BORA	**Eskisehir**	**3.90**	**22**		**Pn**	**04 45 56.3**		**+0.8**
CANM	**Can-anakkale**	**3.92**	**343**	Pn	**Pn**	**04 45 56.5**		**+0.9**
GVD	**Gavdhos**	**3.92**	**250**	Pn	**Pn**	**04 45 57.7**		**+2.1**
GVD	**Gavdhos**	**3.92**	**250**	P	**Pn**	**04 45 58.2**		**+2.6**
YORU	**Yoruktepe-Mers**	**3.92**	**90**	Pn	**Pn**	**04 45 56.6**		**+0.9**
TEVE	**Tevekalti-Mers**	**3.94**	**86**	Pn	**Pn**	**04 45 57.4**		**+1.3**
OREN	**Orenkoy-Mersin**	**3.96**	**89**	Pn	**Pn**	**04 45 57.2**		**+1.0**
EZN	**Ezine**	**3.96**	**334**	Pn	**Pn**	**04 45 57.2**		**+1.0**
EZN	**Ezine**	**3.96**	**334**	P	**Pn**	**04 45 57.3**		**+1.1**
EZN	**Ezine**	**3.96**	**334**	⇓P	**Pn**	**04 45 56.9**		**+0.7**
EZN	**Ezine**	**3.96**	**334**	P	**Pn**	**04 45 56.9**		**+0.7**
RODP	**Rodopos**	**3.96**	**261**	Pn	**Pn**	**04 45 57.3**		**+1.1**
RODP	**Rodopos**	**3.96**	**261**	P	**Pn**	**04 45 56.3**		**+0.1**
AKK1	**Akkuyu-Mersin**	**4.03**	**90**	Pn	**Pn**	**04 45 58.2**		**+1.1**
TEPK	**Tepekoy-MERSIN**	**4.03**	**89**	Pn	**Pn**	**04 45 58.1**		**+0.9**
BAND	**Balkesir-Ban**	**4.09**	**355**	⇓P	**Pn**	**04 45 58.9**		**+0.9**
ATHAL	**Athalassa**	**4.09**	**105**	P	**Pn**	**04 45 57.9**		**-0.1**
ATHAL				AML	AML	04 47 09.4		
	comp=Z,9.8nm,1.0s							
ATHAL				AML	AML	04 47 11.3		
	comp=Z,9.9nm,1.0s							
MDNY	**Mudanya-Bursa**	**4.10**	**3**	Pn	**Pn**	**04 45 58.9**		**+0.8**
CSS	**Mathiatis**	**4.10**	**107**	Pn	**Pn**	**04 45 59.5**		**+1.4**
CSS	**Mathiatis**	**4.10**	**107**		**Pn**	**04 45 57.9**		**-0.2**
CSS	**Mathiatis**	**4.10**	**107**	⇑P	**Pn**	**04 45 58.0**		**-0.2**
CSS	**Mathiatis**	**4.10**	**107**	P	**Pn**	**04 45 58.5**		**+0.4**
CSS				AML	AML	04 46 52.6		
	comp=Z,3.1nm,1.1s							
CSS				AML	AML	04 47 11.7		
	comp=Z,2.5nm,0.7s							
CSS	**Mathiatis**	**4.10**	**107**	P	**Pn**	**04 45 57.9**		**-0.2**
CSS	**Mathiatis**	**4.10**	**107**	P	**Pn**	**04 45 58.5**		**+0.4**
ASGA	**Asgata**	**4.10**	**110**	⇑*i*P	**Pn**	**04 45 58.0**		**-0.2**
ASGA				S	**Sn**	**04 46 49.2**		**+3.8**
ASGA				AML	AML	04 46 57.7		
	comp=Z,6.5nm,0.7s							
ASGA				AML	AML	04 46 58.6		
	comp=Z,6.6nm,0.7s							
ASGA	**Asgata**	**4.10**	**110**	P	**Pn**	**04 45 58.1**		**0.0**
YESI	**Yesilovacik-Me**	**4.11**	**90**	Pn	**Pn**	**04 45 59.2**		**+1.0**
DION	**Dionisos Attik**	**4.11**	**297**	P	**Pn**	**04 45 59.7**		**+1.4**
DION	**Dionisos Attik**	**4.11**	**297**	P	**Pn**	**04 45 58.6**		**+0.3**
VLY	**Voula,Athens**	**4.12**	**294**	P	**Pn**	**04 45 59.8**		**+1.3**
TISA	**Tisan-Mersin**	**4.14**	**90**	Pn	**Pn**	**04 45 59.9**		**+1.2**
KNDR	**Palaiochora Ch**	**4.14**	**257**	Pn	**Pn**	**04 45 59.9**		**+1.2**
KNDR	**Palaiochora Ch**	**4.14**	**257**	P	**Pn**	**04 46 01.4**		**+2.7**
KNDR	**Palaiochora Ch**	**4.14**	**257**	P	**Pn**	**04 45 58.6**		**-0.1**
PTL	**Penteli**	**4.15**	**297**	P	**Pn**	**04 46 00.0**		**+1.2**
PTL	**Penteli**	**4.15**	**297**	P	**Pn**	**04 45 60.0**		**+1.2**
COMU	**Canakkale**	**4.16**	**337**	Pn	**Pn**	**04

JMB Yambol 6.41 346 P **Pn 04 46 31.7 +1.9**
OFRI `Ofer 6.44 123 P **Pn 04 46 29.9 -0.3**
KURC Kurucasile-Bar 6.45 29 Pn **Pn 04 46 32.4 +2.1**
QRWL Qaraoun 6.45 113 *eP* **Pn 04 46 29.6 -0.9**
BEIL Beino 6.46 103 *eP* **Pn 04 46 30.0 -0.6**
MMB Musomishta 6.46 326 ⇓*iP* **Pn 04 46 32.4 +1.8**
ZAHL Zahle 6.47 110 *eP* **Pn 04 46 29.9 -1.0**
MMA0B Mount Meron ar 6.51 118 P **Pn 04 46 30.4 -0.8**
MMA0B Mount Meron ar 6.51 118 S **Sn 04 47 43.5 -1.3**
MMAI Mount Meron Ar 6.51 118 Pn **Pn 04 46 30.4 -0.9**
comp=Z,144nm,0.4s,baz=308,slow=13,SNR=113
MMAI Sn **Sn 04 47 44.6 -0.2**
comp=Z,134nm,0.3s,baz=292,slow=31,SNR=7.0
MMAI LR LR 04 50 06.2
comp=Z,7μm,18.0s,baz=326,slow=47
BLGI Bet Lehem HaGe 6.51 121 P **Pn 04 46 31.2 -0.1**
CIDE Kastamonu/Cide 6.56 30 ⇑*P* **Pn 04 46 34.1 +2.3**
PLD Plovdiv 6.57 334 P **Pn 04 46 33.6 +1.6**
PLD Plovdiv 6.57 334 Pn **Pn 04 46 33.7 +1.7**
RCY Rachaya 6.59 113 *eP* **Pn 04 46 31.8 -0.7**
SHBL Chebaa 6.59 114 *eP* **Pn 04 46 31.7 -0.8**
GEM Giv'at Ha'Em 6.60 116 ⇑*P* **Pn 04 46 31.6 -0.8**
GEM Giv'at Ha'Em 6.60 116 P **Pn 04 46 31.7 -0.7**
GEM Giv'at Ha'Em 6.60 116 S **Sn 04 47 45.7 -1.2**
NATI Neve Ativ 6.62 115 P **Pn 04 46 32.0 -0.8**
NATI Neve Ativ 6.62 115 S **Sn 04 47 45.9 -1.6**
SLTI Sal'it 6.71 125 P **Pn 04 46 33.0 -1.0**
HMYD Mayadein 6.73 163 P **Pn 04 46 33.7 -0.5**
FKH Fakeheh 6.73 105 *eP* **Pn 04 46 34.2 -0.2**
KSHT Keshet 6.82 117 P **Pn 04 46 35.2 -0.3**
KSHT Keshet 6.82 117 S **Sn 04 47 51.6 -0.9**
MMLI Mount Malkishu 6.84 122 Pn **Pn 04 46 37.9 +2.1**
MMLI Mount Malkishu 6.84 122 P **Pn 04 46 35.0 -0.8**
HNAT Natroun 6.84 165 P **Pn 04 46 35.4 -0.4**
VAY Valandovo 6.88 319 *i* Pn **Pn 04 46 39.4 +3.2**
KOT Kottamia 6.90 156 P **Pn 04 46 36.1 -0.5**
SALP Salfit 6.91 125 ⇓*P* **Pn 04 46 36.1 -0.6**
ELND Elena 6.96 344 ⇑*P* **Pn 04 46 38.7 +1.3**
KKB Krupnik 6.98 324 P **Pn 04 46 40.6 +2.9**
GAZ Gaziantep 7.01 80 **Pn 04 46 37.9 -0.2**
GAZ Gaziantep 7.01 80 ⇑*P* **Pn 04 46 38.1 0.0**
HMDT Nahal Hemdat 7.02 123 P **Pn 04 46 37.2 -1.0**
BZK Bozkurt 7.08 35 ⇓*P* **Pn 04 46 42.1 +3.0**
AMAZ Amatzia 7.09 130 ⇑*P* **Pn 04 46 39.6 +0.4**
AMAZ Amatzia 7.09 130 P **Pn 04 46 39.0 -0.2**
AMAZ Amatzia 7.09 130 S **Sn 04 47 57.3 -1.8**
PGB Panagyurishte 7.10 333 *eP* **Pn 04 46 41.2 +1.9**
KZIT Kziot 7.24 136 P **Pn 04 46 40.8 -0.4**
KZIT Kziot 7.24 136 S **Sn 04 48 00.1 -2.5**
SZH Strazhitsa 7.26 345 P **Pn 04 46 42.9 +1.4**
RYAN Fayoum 7.32 168 P **Pn 04 46 41.5 -0.8**
PVL Pavlikeni 7.32 340 P **Pn 04 46 44.6 +2.3**
DSI Dead Sea 7.36 128 P **Pn 04 46 41.4 -1.4**
DSI Dead Sea 7.36 128 S **Sn 04 48 03.9 -1.7**
PLNA Plana 7.36 329 P **Pn 04 46 45.7 +2.7**
PSN Preselentsi 7.36 358 *eP* **Pn 04 46 45.1 +2.2**
SWA2 7.48 201 P **Pn 04 46 44.6 0.0**
MSBI Mazada 7.51 129 ⇓*P* **Pn 04 46 44.6 -0.4**
MSBI Mazada 7.51 129 P **Pn 04 46 44.2 -0.8**
VTS Vitosha 7.56 329 P **Pn 04 46 48.1 +2.4**
VTS S **Sn 04 48 17.7 +7.0**
GHAJ Ghor Haditha 7.65 128 **Pn 04 46 47.3 +0.4**
GHAJ Ghor Haditha 7.65 128 P **Pn 04 46 46.9 0.0**
PLVB Pleven 7.72 338 ⇓*P* **Pn 04 46 49.6 +1.8**
ICOR Ion Corvin 7.86 356 ⇑*P* **Pn 04 46 51.9 +2.2**
SKO Skopje 7.94 318 *i* Pn **Pn 04 46 53.8 +3.0**
MPEP Malo Peshtene 7.99 334 P **Pn 04 46 53.3 +1.8**
PRNI Paran 8.00 136 P **Pn 04 46 50.3 -1.3**
CICN Ciocanesti 8.00 352 ⇓*P* **Pn 04 46 53.8 +2.2**
KRMI Paran Flat 8.02 138 P **Pn 04 46 50.5 -1.6**
ASF Jabal al Asfar 8.02 118 Pn **Pn 04 46 52.1 0.0**
comp=Z,7.4nm,0.3s,baz=312,slow=5.9,SNR=35
ASF LR LR 04 51 14.7
comp=Z,5μm,20.6s,baz=342,slow=47
comp=Z,30nm,0.3s
TIRR Tirgusor 8.18 359 ⇑*P* **Pn 04 46 55.9 +1.9**
TIRR Tirgusor 8.18 359 P **Pn 04 46 56.2 +2.1**
TIRR Tirgusor 8.18 359 ⇑*P* **Pn 04 46 56.0 +2.0**
HRFI Mount Harif 8.25 137 P **Pn 04 46 54.6 -0.6**
HRFI Mount Harif 8.25 137 S **Sn 04 48 24.4 -3.3**
MBRI Mt Berech 8.38 139 P **Pn 04 46 56.0 -0.9**
VALD Valchedram 8.38 334 *eP* **Pn 04 47 00.9 +4.0**
HARR Harsova 8.42 357 ⇑*P* **Pn 04 46 59.8 +2.3**
HARR Harsova 8.42 357 P **Pn 04 46 59.7 +2.3**
JURR Jurilovca 8.49 2 ⇑*P* **Pn 04 47 00.0 +1.7**
EIL Elat 8.49 139 Pn **Pn 04 46 58.0 -0.5**
comp=Z,35nm,0.3s,baz=322,slow=8.9,SNR=62
EIL Sn **Sn 04 48 34.7 +1.1**
comp=Z,53nm,0.3s,baz=347,slow=15,SNR=8.4
comp=Z,70nm,0.4s
EIL Elat 8.49 139 P **Pn 04 46 57.4 -1.1**
TPGR Topolog 8.57 359 ⇑*P* **Pn 04 47 02.0 +2.5**
CFR Carcaliu 8.90 358 ⇓*P* **Pn 04 47 05.3 +1.3**
CFR Carcaliu 8.90 358 P **Pn 04 47 05.2 +1.3**
TLCR 8.91 1 ⇓*P* **Pn 04 47 06.7 +2.7**
TLCR 8.91 1 P **Pn 04 47 06.7 +2.7**
BOVS Bovan 9.04 327 ⇓*P* **Pn 04 47 08.2 +2.3**
SEV Sevastopol' 9.13 24 *eP* **Pn 04 47 08.9 +1.8**
SEV *eS* **Sn 04 48 47.8 -1.3**
ULC Ulcinj 9.20 311 ⇓*iP* **Pn 04 47 11.8 +3.7**
YAL Yalta 9.25 26 *eP* **Pn 04 47 11.0 +2.3**
YAL *eS* **Sn 04 48 52.2 +0.3**
NEGRR Negrea 9.27 357 ⇑*P* **Pn 04 47 11.7 +2.7**
NEHR Nehoiu 9.30 350 ⇓*P* **Pn 04 47 10.3 +0.8**
SRE Strehaia 9.32 336 ⇓*P* **Pn 04 47 11.6 +1.9**
SRE Strehaia 9.32 336 P **Pn 04 47 11.6 +1.9**
DRME Dracevica, Mon 9.37 312 ⇓*iP* Pn 04 47 15.4 +5.0
IVA Berane 9.39 317 ⇑*iP* **Pn 04 47 14.4 +3.6**
MLR Muntele Rosu 9.42 349 Pn **Pn 04 47 12.8 +1.5**
comp=Z,4.5nm,0.3s,baz=168,slow=9.3,SNR=80
MLR LR LR 04 51 05.6
comp=Z,4μm,19.9s,baz=167,slow=39
MLR Muntele Rosu 9.42 349 ⇑*P* **Pn 04 47 12.9 +1.7**
PDG Podgorica 9.47 313 **Pn 04 47 11.9 +0.1**
PDG Podgorica 9.47 313 ⇑*P* Pn 04 47 16.6 +4.8
PDG Podgorica 9.47 313 ⇓*iP* **Pn 04 47 15.8 +4.0**
ALU Alushta 9.50 26 *eP* **Pn 04 47 13.8 +1.6**
ARR Arges 9.56 343 ⇓*P* **Pn 04 47 15.2 +2.1**
VLDR Vladesti 9.57 358 ⇑*P* **Pn 04 47 15.3 +2.1**
KOME Kolasin 9.58 316 ⇓*iP* **Pn 04 47 17.4 +4.0**
BUM Brajici-Budva 9.61 312 ⇓*iP* **Pn 04 47 17.3 +3.5**
SIM Simferopol' 9.64 24 P **Pn 04 47 15.4 +1.3**
SIM S **Sn 04 48 59.1 -2.5**
SIM pmax pmax
comp=Z,86nm,0.8s
SIM smax smax
comp=E,174nm,0.9s
SIM smax smax
comp=N,163nm,1.0s
PLOR Plostina 9.68 352 ⇓*P* **Pn 04 47 16.6 +1.9**
PLOR Plostina 9.68 352 P **Pn 04 47 16.5 +1.9**
VRI Vrincioaia 9.68 352 ⇑*P* **Pn 04 47 17.4 +2.6**
VRI Vrincioaia 9.68 352 P **Pn 04 47 17.3 +2.6**
CEME Cevo 9.74 313 ⇓*iP* **Pn 04 47 19.4 +3.9**
HERR Herculane 9.78 333 ⇑*P* **Pn 04 47 18.0 +1.9**
TIP Timpagrande 9.79 291 **Pn 04 47 16.9 +0.7**
TIP Timpagrande 9.79 291 ⇑*P* **Pn 04 47 17.1 +0.8**
TIP Timpagrande 9.79 291 ⇑*P* **Pn 04 47 17.9 +1.6**
NKME Niksic 9.85 314 ⇓*iP* **Pn 04 47 21.8 +4.7**
MARD Mardin 9.86 80 **Pn 04 47 17.4 +0.2**
SUDU Sudak 9.90 28 *eP* **Pn 04 47 19.5 +1.8**
SUDU *eS* **Sn 04 49 05.5 -2.5**
HCY Herceg Novi 9.93 311 ⇓*iP* Pn 04 47 23.2 +5.0
TURR Turia 9.96 350 ⇑*P* **Pn 04 47 20.4 +1.8**
MDVR Moldovita 9.97 331 ⇓*P* **Pn 04 47 20.7 +2.1**
DOPR Dopca 9.97 347 ⇑*P* **Pn 04 47 21.2 +2.4**
UPM Unac-Piva 10.15 316 ⇓*iP* Pn 04 47 26.2 +4.9
RUDO Rudo 10.17 319 *ePn* **Pn 04 47 24.0 +2.6**
BRY Bratogost 10.18 314 ⇓*iP* **Pn 04 47 24.8 +3.2**
TREB Trebinje 10.18 312 *ePn* **Pn 04 47 23.5 +2.0**
ONER Baraj Valea Uz 10.18 351 ⇑*P* **Pn 04 47 24.0 +2.4**
MATE Matera 10.27 299 ⇑*P* **Pn 04 47 24.8 +2.0**
MATE Matera 10.27 299 *eP* **Pn 04 47 22.8 +0.1**
MATE Matera 10.27 299 ⇑*P* **Pn 04 47 24.8 +2.0**
CEL Celeste 10.29 285 **Pn 04 47 22.5 -0.6**
CEL Celeste 10.29 285 ⇑*P* **Pn 04 47 23.8 +0.7**
KLINJ Klinje 10.31 315 *ePn* **Pn 04 47 27.3 +3.9**
TESR Tescani 10.33 353 ⇑*P* **Pn 04 47 25.7 +2.1**
MILM Milestii Mici 10.64 1 ⇓*iP* **Pn 04 47 28.5 +0.7**
comp=N,230nm,0.6s
MILM *eS* **Sn 04 49 27.5 +1.4**
MILM *eL* L 04 51 54.0
MILM LRM MLR 04 52 10.0
comp=N,7μm,15.5s
MILM Milestii Mici 10.64 1 *diP* **Pn 04 47 28.5 +0.7**
MILM *eS* **Sn 04 49 27.5 +1.4**
MILM pmax pmax
comp=Z,230nm,0.6s
MILM MLR MLR
comp=Z,7μm,15.5s
STON Ston 10.66 311 *ePn* **Pn 04 47 32.8 +4.8**
BZS Buzias 10.71 333 ⇑*P* **Pn 04 47 30.1 +1.4**
KIS Kishinev 10.72 1 *eP* **Pn 04 47 29.0 +0.1**
KIS *eS* **Sn 04 49 27.0 -1.0**
KIS *eLg* Lg 04 51 23.0
KIS *eLR* LR 04 51 59.0
comp=Z,2μm,14.6s
KIS Kishinev 10.72 1 *eP* **Pn 04 47 29.0 +0.1**
KIS *eS* **Sn 04 49 27.0 -1.0**
KIS MLR MLR
comp=Z,2μm,14.6s
KIS MLR MLR
comp=E,2μm,16.0s
ACER Acerenza 10.86 298 **Pn 04 47 32.7 +1.8**
ANN Anapa 10.86 36 *eP* **Pn 04 47 28.8 -2.0**
ANN *eS* **Sn 04 49 31.4 -0.2**
ANN pmax pmax
comp=Z,9.0nm,0.8s
ANN MLR MLR
comp=E,1μm,11.0s
MARR Marisel-Cluj 11.16 340 ⇑*P* **Pn 04 47 37.9 +2.8**
SOC Sochi 11.25 46 *eP* **Pn 04 47 34.9 -1.2**
SOC *e* 04 49 42.5
SOC pmax pmax
comp=Z,6.0nm,0.7s
SOC MLR MLR
comp=Z,5μm,14.0s
SIRR Siria 11.25 335 ⇓*P* **Pn 04 47 38.7 +2.6**
SGRT San Giovanni R 11.37 303 **Pn 04 47 39.3 +1.4**
VAE Valguarnera 11.40 280 Pn **Pn 04 47 39.5 +1.2**
comp=Z,20nm,0.7s,baz=354,slow=4.9,SNR=4.2
VAE Sn **Sn 04 49 46.8 +1.9**
comp=Z,6.1nm,0.3s,baz=281,slow=9.1,SNR=2.7
VAE LR LR 04 52 13.6
comp=Z,3μm,20.6s,baz=106,slow=38
RAFF Raffo Rosso 11.43 279 **Pn 04 47 39.3 +0.6**
BURAR Bucovina Array 11.60 349 **Pn 04 47 42.8 +1.8**
BURAR Bucovina Array 11.60 349 ⇑*P* **Pn 04 47 43.1 +2.0**
BURAR Bucovina Array 11.60 349 P **Pn 04 47 43.1 +2.0**
BUR08 Bucovina Ar. S 11.63 349 **Pn 04 47 42.8 +1.3**
KIJV Kijevo 12.08 313 *ePn* **Pn 04 47 50.1 +2.6**
BLY Banja Luka 12.10 318 *ePn* **Pn 04 47 51.4 +3.6**
BLY Banja Luka 12.10 318 ⇑*P* **Pn 04 47 52.3 +4.6**
LABN Labinsk 12.47 44 *eP* **Pn 04 47 49.9 -2.9**
LABN *eS* **Sn 04 50 09.6 -1.3**
LABN pmax pmax
comp=Z,24nm,0.6s
LABN MLR MLR
comp=N,8μm,13.0s
KOVH Kovagotottos 12.57 324 ⇑*P* **Pn 04 47 56.8 +2.6**
MOSL Moslavina 12.90 320 *ePn* **Pn 04 48 00.9 +2.2**
ERBR Yeremizino-Bor 13.03 40 *eP* **Pn 04 47 57.9 -2.5**
ERBR *eS* **Sn 04 50 23.4 -1.2**
ERBR MLR MLR
comp=Z,2μm,14.0s
AQU L'Aquila 13.21 302 ⇑*P* **P 04 48 08.3 -4.5**
KIV Kislovodsk 13.25 50 P **Pn 04 48 05.5 +2.0**
KIV Kislovodsk 13.25 50 *eP* **Pn 04 48 03.7 +0.2**
KIV *eS* **Sn 04 50 31.8 +1.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,1μm,13.0s
KBZ Khabaz 13.27 51 Pn **Pn 04 48 06.8 +3.1**
comp=Z,0.4nm,0.3s,baz=251,slow=9.4,SNR=4.8
KBZ LR LR 04 53 55.3
comp=Z,1μm,18.9s,baz=265,slow=41
comp=Z,3.4nm,0.8s
KBZ Khabaz 13.27 51 *iP* **Pn 04 48 03.9 +0.2**
KBZ MLR MLR
comp=Z,2μm,13.0s
PSZ Piszkesteto 13.29 334 **Pn 04 48 05.8 +1.8**
PSZ Piszkesteto 13.29 334 *eP* **Pn 04 48 05.6 +1.6**
PSZ Piszkesteto 13.29 334 P **Pn 04 48 05.8 +1.8**
PSZ Piszkesteto 13.29 334 ⇑*P* **Pn 04 48 06.7 +2.6**
GNI Garni 13.30 68 **Pn 04 48 03.5 -0.8**
GNI Garni 13.30 68 Pn **Pn 04 48 06.7 +2.4**
comp=Z,1.4nm,0.3s,baz=247,slow=7.7,SNR=8.2
GNI LR LR 04 54 24.9
comp=Z,9μm,18.7s,baz=264,slow=43
comp=Z,8.3nm,0.5s
GNI Garni 13.30 68 P **Pn 04 48 07.1 +2.8**
GNI Garni 13.30 68 *iP* **Pn 04 48 03.4 -1.0**
KOLS Kolonicke sedl 13.47 342 *eP* **P 04 48 11.7 -3.8**
KOLS Kolonicke sedl 13.47 342 *ePN* **P 04 48 11.7 -3.8**
OZLJ Ozalj 13.59 317 *ePn* **Pn 04 48 09.4 +1.4**
BOJS Bojanci 13.64 317 *ePn* **Pn 04 48 09.5 +0.8**
BOJS *e* 04 48 16.1
BOJS *eSn* **Sn 04 50 40.5 +1.1**
STHS Stebnicka Huta 14.18 340 *eP* **Pn 04 48 19.2 +3.0**
STHS Stebnicka Huta 14.18 340 *ePN* **Pn 04 48 19.2 +3.0**
STHS Stebnicka Huta 14.18 340 *eP* **P 04 48 28.0 +4.5**
MGAB Montegabbione 14.30 303 ⇑*P* **P 04 48 21.6 -3.3**
KIEV Kiev 14.42 2 **Pn 04 48 19.8 +0.3**
KIEV Kiev 14.42 2 P **Pn 04 48 20.0 +0.6**
KIEV Kiev 14.42 2 P **Pn 04 48 19.8 +0.3**
KIEV Kiev 14.42 2 ⇑*P* **Pn 04 48 20.1 +0.6**
AKASG Malin Array Be 14.43 2 Pn **Pn 04 48 19.8 +0.2**
comp=Z,4.3nm,0.3s,baz=179,slow=12,SNR=24
AKASG LR LR 04 54 49.2
comp=Z,5μm,18.3s,baz=178,slow=41
comp=Z,2.4nm,0.4s
AKBB Malin Array Si 14.43 2 **Pn 04 48 19.9 +0.3**
AKBB Malin Array Si 14.43 2 *ceP* **Pn 04 48 20.5 +0.9**
NIE Niedzica 14.45 338 *eP* **P 04 48 23.7 -2.8**
NIE *eL* L 04 54 55.2
comp=Z,4μm,16.4s
LANS Liptovska Anna 14.49 335 *eP* **P 04 48 27.2 +0.3**
LANS Liptovska Anna 14.49 335 *ePN* **P 04 48 27.2 +0.3**
LANS Liptovska Anna 14.49 335 *eP* P 04 48 32.4 +5.5
SOKA Soboth 14.50 320 *ePn* **P 04 48 27.9 +0.8**
comp=Z,18nm,0.8s
GANJ Ganja 14.58 67 P **P 04 48 26.0 -2.0**
RONA Rosalia, Austr 14.59 325 *ePn* **P 04 48 26.4 -1.6**
comp=Z,3.9nm,0.5s
ARSA Arzberg 14.64 323 *ePn* **P 04 48 27.5 -1.0**
comp=Z,12nm,0.8s
OBKA Obir 14.65 319 *i* Pn **P 04 48 29.7 +1.0**
comp=Z,9.1nm,0.5s
MODS Modra-Piesok 14.67 329 *eP* **P 04 48 28.0 -0.9**
MODS Modra-Piesok 14.67 329 *ePN* **P 04 48 28.0 -0.9**
MODS Modra-Piesok 14.67 329 *eP* **P 04 48 32.0 +3.1**
JAVC Velka Javorina 14.90 331 *ePN* **Pn 04 48 26.1 +0.1**
CONA Conrad Observa 14.96 325 *ePn* **P 04 48 29.6 -2.6**
comp=Z,4.4nm,0.6s,SNR=7.4
MNGR Mingechevir, A 15.18 67 P **P 04 48 33.9 -0.6**
MYKA Terra Mystica 15.21 317 *ePn* **P 04 48 33.1 -1.9**
comp=Z,11nm,0.5s
PTCC Patocco-Chiusa 15.24 316 ⇓*P* **Pn 04 48 32.8 +2.3**
MAUC Maruska 15.25 332 *eP* **P 04 48 36.8 +1.4**
OJC Ojcow 15.31 338 *eP* **P 04 48 36.9 +0.9**
OJC *eL* L 04 56 49.0
comp=Z,5μm,16.2s
SEKA Sheki 15.35 66 P **P 04 48 36.3 -0.3**
VSL Villasalto 15.48 288 IAmb IAmb 04 48 40.3
comp=Z,289nm,1.9s
VSL Villasalto 15.48 288 ⇑*P* **Pn 04 48 35.7 +2.0**
KEST Kesra 15.56 274 **Pn 04 48 36.6 +1.8**
KEST IAmb IAmb 04 48 42.0
comp=Z,146nm,1.1s
KEST Kesra 15.56 274 Pn **Pn 04 48 36.0 +1.2**
comp=Z,2.5nm,0.3s,baz=76,slow=7.5,SNR=17
comp=Z,95nm,1.0s
KRUC Moravsky 15.57 329 *ePN* **Pn 04 48 35.2 +0.4**
KBA Koelnbreinsper 15.65 318 *ePn* **P 04 48 44.0 +4.0**
comp=Z,32nm,0.7s
TEOL Teolo 15.66 311 IAmb IAmb 04 48 42.4
comp=Z,135nm,1.3s
MOA Molln 15.67 322 *ePn* **P 04 48 39.5 -0.6**
comp=Z,8.9nm,0.8s
VRAC Vranov 15.69 330 Pn **Pn 04 48 37.2 +0.9**
comp=Z,0.8nm,0.3s,baz=134,slow=9.6,SNR=9.1
VRAC LR LR 04 55 31.8
comp=Z,3μm,19.6s,baz=164,slow=40
comp=Z,6.0nm,0.7s
VRAC Vranov 15.69 330 *ePN* **Pn 04 48 36.4 +0.1**
MORC Moravsky Berou 15.69 333 *ePN* **Pn 04 48 36.7 +0.3**
MORC Moravsky Berou 15.69 333 ⇑*P* **P 04 48 40.4 +0.1**
STEB Steborice 15.74 334 *eP* **P 04 48 42.0 +1.2**
AKT Akhty 15.80 65 *eP* **Pn 04 48 38.3 +0.4**
AKT *eS* **Sn 04 51 36.3 +3.9**
AKT pmax pmax
comp=Z,25nm,1.2s
AKT MLR MLR
comp=Z,7μm,17.0s
BIOA Bad Ischl, Aus 15.88 321 *ePn* **P 04 48 43.8 +1.4**
comp=Z,10nm,0.5s,SNR=9.3
ABTA Abfaltersbach 15.91 316 *ePn* **P 04 48 42.7 -0.1**
comp=Z,21nm,0.6s
MAK Makhachkala 16.04 60 *eP* **Pn 04 48 37.7 -3.1**
MAK *eS* **Sn 04 51 36.0 -1.9**
MAK pmax pmax
comp=Z,157nm,0.9s
MAK MLR MLR
comp=Z,3μm,14.0s
TREC Trest 16.14 328 AMS AMS 04 56 00.0
comp=Z,14μm,12.5s
LESA Schwarzleotal 16.22 318 *ePn* **P 04 48 48.0 +1.8**
comp=Z,57nm,0.7s,SNR=8.7
LKRN Lenkeran, Azer 16.23 75 P **P 04 48 47.0 +0.7**
PRMA PARMA 16.24 307 IAmb IAmb 04 48 51.5
comp=Z,290nm,1.3s
CKRC Cesky Krumlov 16.32 325 *eP* **P 04 48 48.2 +1.0**
CKRC *eS* **S 04 51 54.7 -2.2**
CKRC MLR MLR
comp=Z,13μm,12.3s
CKRC Cesky Krumlov 16.32 325 *eP* **P 04 48 48.2 +1.0**
CKRC *eS* **S 04 51 54.7 -2.2**
CKRC AMS AMS 04 56 00.0
comp=Z,13μm,12.3s
BEL Belsk 16.51 343 *eP* **P 04 48 54.0 +4.8**
BEL *eL* L 04 56 43.3
comp=Z,9μm,15.3s
DPC Dobruska-Polom 16.62 332 *eP* **P 04 48 50.7 +0.1**
DPC MLR MLR
comp=Z,8μm,10.8s
DPC Dobruska-Polom 16.62 332 *eP* **P 04 48 50.7 +0.1**
DPC AMS AMS 04 56 20.0
comp=Z,8μm,10.8s
GERES GERESS Array B 16.62 324 Pn **Pn 04 48 49.4 +1.0**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=21
GERES LR LR 04 55 42.5
comp=Z,3μm,20.2s,baz=134,slow=39
GERES ScP **ScP 04 57 08.9 -1.8**
comp=Z,0.5nm,0.6s,baz=108,slow=3.2,SNR=2.6
comp=Z,5.6nm,0.6s
WTTA Wattenberg 16.69 316 *ePn* **P 04 48 53.6 +2.0**
comp=Z,24nm,0.6s
VSR Storozhevoye 16.76 24 *eP* **P 04 48 52.0 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=Z,2μm,13.0s
WATA Walderalm 16.77 316 *ePn* **P 04 48 54.1 +1.8**
comp=Z,53nm,1.1s,SNR=5.3
BOB Bobbio (Coli) 16.80 306 ⇑*P* **P 04 48 52.9 +0.3**
ZVC Zvikov 16.82 326 *eP* **P 04 48 53.7 +1.0**
ZVC *eS* **S 04 52 06.2 -0.8**
ZVC AMS AMS 04 56 20.0
comp=Z,11μm,12.8s
OSTC Ostas 16.82 332 AMS AMS 04 56 30.0
comp=Z,8μm,11.5s
UPC Upice 16.86 331 *eS* **S 04 52 08.4 +0.4**
UPC AMS AMS 04 56 50.0
comp=Z,6μm,11.8s
KHC Kasperske Hory 16.88 324 *ceP* **Pn 04 48 51.4 -0.2**
KHC pmax pmax
comp=Z,42nm,1.0s
KHC Kasperske Hory 16.88 324 *eP* **P 04 48 54.3 +0.8**
KHC *ex* x 04 48 59.5
KHC *eS* **S 04 52 08.3 -0.1**
KHC AMS AMS 04 56 10.0
comp=Z,15μm,11.7s
KHC Kasperske Hory 16.88 324 ⇓*P* **P 04 48 54.1 +0.6**
SQTA Sankt Quirin 16.91 316 *ePn* **P 04 48 56.0 +2.2**
comp=Z,26nm,0.8s,SNR=11
CHVC Chvalec 16.91 332 *eP* **P 04 48 54.6 +0.8**
CHVC Chvalec 16.91 332 *eP* **P 04 48 54.6 +0.8**
KSP Ksiaz 17.03 333 *eP* **P 04 48 56.0 +1.0**
KSP *eS* **S 04 52 14.3 +3.0**
KSP *eL* L 04 56 51.6
comp=Z,8μm,14.2s
MOTA Moosalm 17.04 316 *ePn* **P 04 48 56.2 +0.8**
comp=Z,28nm,0.9s,SNR=19
PRU Pruhonice 17.06 328 *eP* **P 04 48 56.3 +0.9**
PRU MLR MLR
comp=Z,12μm,11.9s
PRU Pruhonice 17.06 328 *eP* **P 04 48 56.3 +0.9**
PRU AMS AMS 04 56 30.0
comp=Z,12μm,11.9s
FETA Feichten 17.07 314 *ePn* **P 04 48 57.1 +1.3**
comp=Z,54nm,0.8s,SNR=36
VORR Voronezh 17.17 23 *eP* **P 04 48 58.1 +1.6**
VORR pmax pmax
comp=Z,80nm,0.4s
VORR MLR MLR
comp=Z,990nm,9.0s
PRA Prague 17.17 328 *eP* **P 04 48 59.0 +2.4**
PRA *eS* **S 04 52 15.2 +0.9**
PRA MLR MLR
comp=Z,12μm,12.1s
PRA Prague 17.17 328 *eP* **P 04 48 59.0 +2.4**
PRA *eS* **S 04 52 15.2 +0.9**
PRA AMS AMS 04 56 30.0
comp=Z,12μm,12.1s
RETA Reutte 17.31 316 *ePn* **P 04 48 58.8 +0.5**
comp=Z,17nm,0.6s,SNR=8.9
PVCC Panska Ves 17.46 329 *eP* **P 04 49 02.1 +2.3**
PVCC MLR MLR
comp=Z,10μm,14.2s
PVCC Panska Ves 17.46 329 *eP* **P 04 49 02.1 +2.3**
PVCC AMS AMS 04 56 50.0
comp=Z,10μm,14.2s
KBD Kabd 17.57 108 P **Pn 04 49 00.1 -0.2**
TUE Stuetta 17.61 311 ⇑*P* **P 04 49 05.8 +4.0**
VRH Novokhopyorsk 17.65 28 *eP* **P 04 49 02.5 +0.6**
VRH pmax pmax
comp=Z,40nm,1.0s
VRH MLR MLR
comp=Z,2μm,18.0s
RICC Richard 17.67 328 AMS AMS 04 56 50.0
comp=Z,9μm,12.8s
DAVA Damuels 17.71 314 *ePn* **P 04 49 04.4 +1.7**
comp=Z,36nm,0.9s,SNR=12
DAVA Damuels 17.71 314 ⇑*P* **P 04 49 03.6 +0.8**
LPSR Galich'ya Gora 17.89 21 *eP* **Pn 04 49 02.3 -1.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
LPSR MLR MLR
comp=Z,2μm,15.0s
MONC Moncucco Torin 17.91 306 ⇓*P* **P 04 49 06.3 +1.4**
BRG Berggiesshubel 17.98 329 *eP* **P 04 49 07.2 +1.6**
BRG Amp 04 49 09.1
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 17.98 329 P **P 04 49 10.4 +4.8**
BRG Amp 04 49 13.2
comp=Z,22nm,1.1s
BRG PP **PnPn 04 49 19.6 +3.4**
BRG Amp 04 49 23.5
comp=Z,77nm,1.3s
HSKC Hora Svate Kat 18.00 327 *eP* **P 04 49 06.5 +0.7**
HSKC AMS AMS 04 57 00.0
comp=Z,10μm,12.0s
SUW Suwalki 18.13 350 *eP* **P 04 49 10.4 +3.3**
SUW Suwalki 18.13 350 *eP* **P 04 49 07.7 +0.6**
MNK Minsk 18.24 359 *iP* **P 04 49 10.0 +1.7**
comp=E,46nm,0.7s
MNK *iP* **P 04 49 10.0 +1.7**
comp=N,19nm,0.7s
MNK *iP* **P 04 49 10.0 +1.7**
comp=Z,25nm,0.6s,baz=178
MNK *i* PP **PnPn 04 49 21.1 +1.5**
MNK *i* S **Sn 04 52 33.3 +2.2**
MNK *i* SS **SnSn 04 52 48.3 +3.5**
MNK *i* LQ LQ 04 54 34.0
MNK *i* LR LR 04 55 59.5
MNK *i* LRM MLR 04 56 50.1
comp=N,936nm,14.1s
MNK *i* LRM MLR 04 56 58.1
comp=Z,2μm,14.3s

MNK *i* LRM MLR 04 57 02.0
comp=E,2µm,14.6s
MNK Minsk 18.24 359 *i* P **P 04 49 10.0 +1.7**
MNK *i* S **Sn 04 52 33.2 +2.2**
MNK pmax pmax
comp=Z,25nm,0.6s
MNK pmax pmax
comp=N,19nm,0.7s
MNK pmax pmax
comp=E,46nm,0.7s
MNK MLR MLR
comp=N,936nm,14.0s
MNK MLR MLR
comp=Z,2µm,14.0s
MNK MLR MLR
comp=E,2µm,15.0s
GRFO Grafenberg 18.40 322 P **Pn 04 49 12.1 +1.8**
GRFO Grafenberg 18.40 322 P **Pn 04 49 12.1 +1.8**
GRFO pmax pmax
comp=Z,135nm,1.5s
NACGM Naroch 18.67 357 *e*P **P 04 49 13.2 +0.1**
CLL Collm 18.70 328 *e*P **Pn 04 49 15.0 +1.1**
CLL *e*S **S 04 52 47.0 +2.2**
CLL Collm 18.70 328 *e*P **Pn 04 49 15.0 +1.1**
CLL *i* Pmax 04 49 16.9
comp=Z,19nm,0.6s
CLL *i* pP **pP 04 49 19.4 +0.2**
CLL *e*sP **sP 04 49 22.0 -0.2**
CLL *i* x x 04 49 24.5
CLL *i* PP **PnPn 04 49 28.8 +2.8**
CLL *e*PPP PPP 04 49 37.0
CLL *e*S **S 04 52 47.0 +2.2**
CLL *e*SSS SSS 04 53 18.0
CLL Lmax 04 57 00.0
GKP Gorka Klasztor 18.76 338 *e*P **Pn 04 49 14.8 +0.3**
GKP *e*L L 04 58 12.1
comp=Z,7µm,16.8s
STU Stuttgart 18.90 317 *e*P **Pn 04 49 16.1 -0.2**
BFO Black Forest 19.14 315 P **Pn 04 49 19.3 -0.1**
BFO Black Forest 19.14 315 P **Pn 04 49 19.3 -0.1**
BFO pmax pmax
comp=Z,29nm,1.0s
BFO Black Forest 19.14 315 ⇓P **Pn 04 49 20.3 +0.9**
IIGN Ignalina 19.15 356 *e*P **P 04 49 18.2 -0.1**
ORIF Oris-en-Rattie 19.22 304 P **P 04 49 18.6 -0.7**
RAYN Ar Rayn 19.39 126 P **Pn 04 49 23.3 +0.8**
RAYN Ar Rayn 19.39 126 P **Pn 04 49 23.9 +1.4**
RAYN S **Sn 04 52 59.8 +0.6**
RAYN Ar Rayn 19.39 126 P **P 04 49 21.3 0.0**
RAYN Ar Rayn 19.39 126 ⇑P **Pn 04 49 23.6 +1.1**
OBN Obninsk 19.63 14 P **P 04 49 23.8 +0.3**
comp=Z,5.3nm,0.3s,baz=186,slow=10,SNR=5.7
OBN LR LR 04 58 04.1
comp=Z,3µm,18.1s,baz=148,slow=40
comp=Z,15nm,0.3s
OBN Obninsk 19.63 14 ⇓*i* P **P 04 49 24.3 +0.7**
OBN *e*S **S 04 53 02.4 -1.2**
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,2µm,14.0s
ECH Echery 19.76 314 ⇓P **Pn 04 49 26.3 -0.4**
FLTG Flechtingen 20.20 328 ⇑P Pn 04 49 31.6 -0.1
SSB Saint Sauveur 20.23 304 P **P 04 49 28.7 -1.6**
SSB Saint Sauveur 20.23 304 ⇓P **P 04 49 29.9 -0.4**
MOS Moscow 20.43 15 *e*P **P 04 49 30.6 -1.6**
MOS *e* 04 50 06.4
MOS *e*S Sn 04 53 22.6 -1.2
MOS pmax pmax
comp=Z,78nm,1.0s
MOS MLR MLR
comp=N,2µm,17.0s
MOS MLR MLR
comp=Z,2µm,17.0s
BELG Belogornoye 21.01 34 P **P 04 49 37.7 -0.9**
comp=Z,26nm,0.7s,baz=315,slow=7.5,SNR=6.1
BELG LR LR 05 00 12.8
comp=Z,443nm,18.1s,baz=263,slow=44
comp=Z,26nm,0.7s
BELG Belogornoye 21.01 34 *i* P **P 04 49 39.1 +0.6**
BELG pmax pmax
comp=Z,5.0nm,0.7s
WLF Walferdange 21.06 316 *d*P **P 04 49 42.1 +2.9**
comp=Z,28nm,1.0s
LOR Lormes 21.36 309 ⇑P **P 04 49 43.1 +0.6**
MTLF Montolieu 21.38 297 ⇑P **P 04 49 42.7 0.0**
BHOU Houvegnez 21.50 318 *d*P **P 04 49 42.7 -1.2**
comp=Z,18nm,1.1s
BTNL Ternell 21.56 319 *d*P **P 04 49 45.4 +0.8**
comp=Z,24nm,1.0s
MEM Membach 21.64 319 *d*P **P 04 49 44.6 -0.8**
comp=Z,28nm,0.9s
RCHB Rochefort 21.83 317 *d*P **P 04 49 46.0 -1.4**
BSTI Sart Tilman 21.86 318 *d*P **P 04 49 50.1 +2.4**
LUNU Lund 21.94 337 *i* P **P 04 49 46.7 -1.8**
CEST Esterri de Car 21.96 295 P **P 04 49 48.2 -0.8**
CEST IAmb IAmb 04 50 00.3
comp=Z,79nm,1.2s
BGES Gesves 22.02 317 *d*P **P 04 49 53.2 +3.7**
comp=Z,23nm,0.9s
DOU Dourbes 22.15 316 *d*P **P 04 49 49.8 -1.0**
comp=Z,23nm,1.1s
BMRD Maredsous 22.16 317 *d*P **P 04 49 51.5 +0.6**
VSU Vasula 22.23 357 *ce*P **P 04 49 51.6 0.0**
VSU pmax pmax
comp=Z,44nm,1.0s
VSU MLR MLR
comp=Z,2µm,17.0s
VSU Vasula 22.23 357 ⇓P **P 04 49 55.1 +3.5**
SMRA Abu-Samra 22.30 115 P **P 04 49 53.4 +0.7**
SNR=27
SMRA S **S 04 53 56.4 -0.4**
BJUU Bjuv 22.44 337 *i* P **P 04 49 52.5 -1.4**
DEL Delary 22.51 338 *i* P **P 04 49 51.3 -3.4**
TRNA Turayna 22.60 114 P **P 04 49 56.9 +1.1**
SNR=19
TRNA S **S 04 54 01.3 -0.9**
CLF Chambon-Foret 22.64 309 IAmb IAmb 04 50 21.1
comp=Z,68nm,0.9s
CLF Chambon-Foret 22.64 309 ⇑P **P 04 49 59.2 +3.1**
FABU Falkenberg 23.30 338 *i* P **P 04 50 01.2 -1.6**
PUL Pulkovo 23.54 2 *ce*P **P 04 50 04.8 -0.3**
PUL pmax pmax
comp=Z,83nm,1.1s
PUL MLR MLR
comp=Z,3µm,17.0s
BORU Boraas 23.82 339 *i* P **P 04 50 08.3 +0.4**
TAM Tamanrasset 24.05 242 P **P 04 50 11.7 +1.2**
TAM IAmb IAmb 04 50 24.8
comp=Z,71nm,1.0s
GHWR Ruwais 24.27 114 P **P 04 50 14.3 +2.0**
GHWR P **P 04 50 14.3 +2.0**
GHWR S **S 04 54 33.6 +3.7**
GHWR S **S 04 54 33.6 +3.7**
TJOU Tjoern 24.49 338 *i* P **P 04 50 12.8 -1.2**
MZWR Madinat Zayed 25.14 113 P **P 04 50 22.9 +2.6**
MZWR P **P 04 50 22.9 +2.6**
FINES FINESS Array B 25.24 357 P **P 04 50 20.5 -0.3**
FINES FINESS Array B 25.24 357 P **P 04 50 20.0 -0.8**
comp=Z,16nm,0.6s,baz=156,slow=11,SNR=48
FINES PcP **PcP 04 53 53.2 -0.3**
comp=Z,4.8nm,0.4s,baz=134,slow=2.0,SNR=14
FINES LR LR 05 01 09.2
comp=Z,2µm,18.1s,baz=187,slow=39
comp=Z,16nm,0.6s
FIA1 FINESS Array S 25.24 357 P **P 04 50 20.4 -0.4**
MZR Muzera 25.29 115 P **P 04 50 24.5 +2.9**
SNR=28
MZR P **P 04 50 24.5 +2.9**
SNR=28
MZR S **S 04 54 45.6 -0.7**
MZR S **S 04 54 45.6 -0.7**
STRU Stroemstad 25.45 339 *i* P **P 04 50 20.7 -2.0**
AKTO Aktyubinsk 25.47 47 LR LR 05 04 17.7
comp=Z,1µm,18.6s,baz=214,slow=46
AKTO Aktyubinsk 25.47 47 P **P 04 50 23.0 0.0**
KLMR Klimovskoe 25.57 12 *e*P **P 04 50 26.0 +2.2**
KLMR S **S 04 54 55.0 +4.9**
KLMR pmax pmax
comp=Z,63nm,0.8s
KLMR MLR MLR
comp=Z,2µm,13.0s
SHME Shamm 25.63 106 P **P 04 50 24.8 +0.1**
SHME P **P 04 50 24.8 +0.1**
SHME Shamm 25.63 106 P **P 04 50 23.8 -0.9**
ASUD Al Ashush, Dub 25.75 109 P **P 04 50 26.8 +1.0**
ASUD P **P 04 50 26.8 +1.0**
ASUD Al Ashush, Dub 25.75 109 P **P 04 50 26.5 +0.8**
ESBB Sonseca Array 25.78 287 IAmb IAmb 04 50 37.7
comp=Z,37nm,0.9s
ESDC Sonseca Array 25.79 287 P **P 04 50 25.3 -0.8**
ESDC Sonseca Array 25.79 287 P **P 04 50 25.8 -0.3**
comp=Z,18nm,0.6s,baz=83,slow=9.3,SNR=65
ESDC ScP **ScP 04 57 31.9 -1.4**
comp=Z,0.4nm,0.6s,baz=47,slow=2.3,SNR=2.0
ESDC LR LR 05 01 37.0
comp=Z,2µm,18.3s,baz=65,slow=39
comp=Z,18nm,0.6s
NAZ Nazwa, Dubai 25.81 108 P **P 04 50 27.3 +1.0**
NAZ Nazwa, Dubai 25.81 108 P **P 04 50 26.6 +0.3**
BANOM Banah 25.82 106 P **P 04 50 26.8 +0.3**
BANOM P **P 04 50 26.8 +0.3**
BANOM S **S 04 54 54.0 -0.7**
BANOM S **S 04 54 54.0 -0.7**
BANOM Banah 25.82 106 P **P 04 50 26.3 -0.2**
MSFE Esma-Masafi 26.00 107 P **P 04 50 28.1 0.0**
PAB San Pablo 26.09 287 P **P 04 50 27.9 -1.0**
PAB IAmb IAmb 04 50 40.6
comp=Z,69nm,1.2s
PAB San Pablo 26.09 287 P **P 04 50 27.9 -1.0**
PAB pmax pmax
comp=Z,69nm,1.2s
MDH Madha 26.13 107 P **P 04 50 31.5 +2.3**
MDH P **P 04 50 31.5 +2.3**
MDH S **S 04 54 59.3 -0.3**
MDH S **S 04 54 59.3 -0.3**
KIRV Kirov 26.19 25 LR LR 05 02 05.3
comp=Z,415nm,20.5s,baz=228,slow=39
AB31 Akbulak array 26.23 51 P **P 04 50 29.8 -0.1**
AB31 Akbulak array 26.23 51 *i* P **P 04 50 28.7 -1.2**
ABKAR Akbulak array 26.23 51 P **P 04 50 29.5 -0.4**
UOSS Minazif 26.25 108 P **P 04 50 31.5 +1.2**
UOSS P **P 04 50 31.5 +1.2**
UOSS S **S 04 55 01.9 +0.5**
UOSS S **S 04 55 01.9 +0.5**
UOSS Minazif 26.25 108 P **P 04 50 30.1 -0.2**
HATD Hatta, Dubai 26.25 108 P **P 04 50 31.8 +1.4**
HATD S **S 04 55 01.2 -0.4**
HATD Hatta, Dubai 26.25 108 P **P 04 50 30.8 +0.4**
ASHO Ashiyiah 26.27 108 P **P 04 50 31.3 +0.7**
ASHO S **S 04 55 01.4 -0.5**
ALNE Al Ain 26.38 110 P **P 04 50 32.1 +0.6**
ALNE P **P 04 50 32.1 +0.6**
ALNE S **S 04 55 02.8 -0.8**
ALNE S **S 04 55 02.8 -0.8**
UMZA Um Al Zommool 26.70 113 P **P 04 50 34.8 +0.4**
UMZA P **P 04 50 34.8 +0.4**
UMZA S **S 04 55 06.6 -2.0**
UMZA S **S 04 55 06.6 -2.0**
SOHO SOHO 26.93 109 P **P 04 50 37.1 +0.7**
SOHO P **P 04 50 37.1 +0.7**
SOHO S **S 04 55 10.9 -1.3**
SOHO S **S 04 55 10.9 -1.3**
NB2 NORSAR Subarra 27.13 341 P **P 04 50 36.4 -1.5**
comp=Z,2.9nm,0.8s,baz=147,slow=9.3
NB2 PCP **PcP 04 53 57.8 -0.2**
comp=Z,1.1nm,0.6s,baz=165,slow=4.8
NOA NORSAR Array B 27.13 341 P **P 04 50 35.7 -2.2**
comp=Z,0.7nm,0.6s,baz=147,slow=9.1,SNR=6.6
NOA PcP **PcP 04 53 57.5 -0.5**
comp=Z,1.1nm,0.6s,baz=150,slow=2.7,SNR=5.3
NOA LR LR 05 03 49.8
comp=Z,2µm,19.4s,baz=160,slow=42
comp=Z,0.7nm,0.6s
NBO00 NORSAR Array S 27.23 341 P **P 04 50 38.8 0.0**
NBO00 IAmb IAmb 04 51 03.8
comp=Z,121nm,1.9s
ARQ Araqi 27.37 110 P **P 04 50 42.9 +2.4**
ARQ P **P 04 50 42.9 +2.4**
ARQ S **S 04 55 16.5 -2.7**
ARQ S **S 04 55 16.5 -2.7**
MDT Midelt 27.46 273 LR LR 05 03 25.3
comp=Z,1µm,20.9s,baz=86,slow=40
HRA Herat 27.47 84 P **P 04 50 40.5 -0.9**
PBRG Braganca 27.84 292 *e*P **P 04 50 43.8 -0.7**
PBRG *i* IAmb IAmb 04 50 56.0
comp=Z,51nm,1.7s
MVO Moncorvo 28.07 291 *e*P **P 04 50 45.4 -1.2**
MVO *i* IAmb IAmb 04 50 59.0
comp=Z,68nm,1.4s
MVO *e*S S 04 55 52.5 +22
MVO *i* IAMs_20 IAMs_20 05 03 13.5
comp=Z,939nm,18.0s
BSY Bisya 28.22 111 P **P 04 50 49.8 +1.8**
BSY P **P 04 50 49.8 +1.8**
PBAR Barrancos 28.31 285 *e*P **P 04 50 47.8 -0.9**
PBAR *i* IAmb IAmb 04 51 01.9
comp=Z,92nm,1.6s
ARTI Arti 28.43 36 P **P 04 50 48.8 -0.8**
ARTI IAmb IAmb 04 50 49.9
comp=Z,23nm,0.5s
ARTI Arti 28.43 36 LR LR 05 04 55.0
comp=Z,1µm,18.8s,baz=238,slow=42
ARTI Arti 28.43 36 *d i* P **P 04 50 49.3 -0.2**
ARTI 04 51 35.5
ARTI 04 53 59.0
ARTI S **S 04 55 39.2 +4.0**
ARTI SS **SnSn 04 57 01.0 +7.0**
ARTI pmax pmax
comp=Z,6.0nm,0.5s
ARTI MLR MLR
comp=Z,2µm,16.0s
PMRV Marv??o 28.45 287 *e*P **P 04 50 49.0 -0.9**
PMRV *i* IAmb IAmb 04 51 03.6
comp=Z,40nm,1.6s
PMRV *e*S S 04 55 56.5 +21
PMRV *i* IAMs_20 IAMs_20 05 03 21.4
comp=Z,1µm,18.0s
PCBR Castelo Branco 28.48 288 *e*P **P 04 50 49.5 -0.7**
PCBR *i* IAmb IAmb 04 51 04.2
comp=Z,68nm,1.5s
MTE Manteigas 28.49 289 IAmb IAmb 04 51 00.8
comp=Z,46nm,1.1s
MTE Manteigas 28.49 289 *e*P **P 04 50 49.9 -0.5**
MTE *i* IAmb IAmb 04 51 01.0
comp=Z,55nm,1.2s
MTE *e*S **S 04 55 42.5 +5.8**
MTE *i* IAMs_20 IAMs_20 05 03 14.8
comp=Z,2µm,20.0s
MTE Manteigas 28.49 289 ⇑P **P 04 50 49.9 -0.5**
DOK Doka 28.57 121 P **P 04 50 51.9 +0.7**
DOK P **P 04 50 51.9 +0.7**
PVRL Vila Real 28.58 291 *e*P **P 04 50 53.2 +2.0**
PVRL *i* IAmb IAmb 04 51 00.6
comp=Z,32nm,1.7s
POLO Lamas de Olo 28.64 291 *e*P **P 04 50 51.5 -0.2**
POLO *i* IAmb IAmb 04 51 08.2
comp=Z,20nm,1.1s
PESTR Estremoz 28.66 286 IAmb IAmb 04 51 02.8
comp=Z,47nm,1.0s
PESTR Estremoz 28.66 286 *e*P **P 04 50 50.5 -1.3**
PESTR *i* IAmb IAmb 04 51 02.6
comp=Z,51nm,1.1s
PESTR Estremoz 28.66 286 ⇑P **P 04 50 50.8 -1.0**
SMDO Samad 28.68 109 P **P 04 50 53.7 +1.4**
SMDO P **P 04 50 53.7 +1.4**
PVIS Viseu 28.74 290 *e*P **P 04 50 52.1 -0.5**
PCAB Cabril 28.80 292 *e*P **P 04 50 53.8 +0.7**
PCAB *i* IAmb IAmb 04 51 04.4
comp=Z,45nm,2.0s
WHFO Wadi Hawf 28.81 123 P **P 04 50 53.8 +0.5**
EKA Eskdalemuir Ar 28.81 321 P **P 04 50 52.8 -0.2**
comp=Z,0.7nm,0.4s,baz=119,slow=9.7,SNR=6.0
EKA PcP **PcP 04 54 01.6 -0.6**
comp=Z,4.4nm,0.6s,baz=116,slow=2.3,SNR=16
comp=Z,0.7nm,0.4s
ABTO Aybut 28.89 124 P **P 04 50 55.3 +1.2**
PVAQ Vaqueiros 28.95 283 *e*P **P 04 50 53.4 -1.0**
PVAQ *i* IAmb IAmb 04 51 08.2
comp=Z,104nm,1.5s
PVAQ *e*S S 04 56 03.9 +20
PVAQ *i* IAMs_20 IAMs_20 05 06 18.7
comp=Z,457nm,18.0s
PVAQ Vaqueiros 28.95 283 ⇓P **P 04 50 53.3 -1.0**
PBEJ Beja 28.97 285 *e*P **P 04 50 54.0 -0.6**
PBEJ *i* IAmb IAmb 04 51 08.9
comp=Z,81nm,1.5s
PGAV Gavieira, Arco 28.98 293 *e*P **P 04 50 54.9 +0.2**
PGAV *i* IAmb IAmb 04 51 19.7
comp=Z,80nm,1.5s
PGAV *e*S S 04 56 17.0 +33
PGAV *i* IAMs_20 IAMs_20 05 06 30.4
comp=Z,855nm,18.0s
EVO Evora 29.02 286 *e*P **P 04 50 54.4 -0.7**
EVO *i* IAmb IAmb 04 51 08.3
comp=Z,36nm,1.7s
PSARD Sardoal 29.02 288 *e*P **P 04 50 54.8 -0.3**
PSARD *i* IAmb IAmb 04 51 10.5
comp=Z,47nm,1.3s
WSAR Wadi Sarin 29.03 108 LR LR 05 05 06.0
comp=Z,5.9nm,20.4s,baz=328,slow=42
WSAR Wadi Sarin 29.03 108 P **P 04 50 56.6 +1.4**
JMDO Jabal Madar 29.11 110 P **P 04 50 57.1 +1.1**
PMTG Montargil 29.12 287 *e*P **P 04 50 55.3 -0.6**
PMTG *i* IAmb IAmb 04 51 09.5
comp=Z,43nm,1.7s
PBDV Barranco-do-Ve 29.14 283 *e*P **P 04 50 55.3 -0.8**
PBDV *i* IAmb IAmb 04 51 09.6
comp=Z,127nm,1.5s
PCVE Castro Verde 29.16 284 *e*P **P 04 50 55.8 -0.5**
PCVE *i* IAmb IAmb 04 51 29.7
comp=Z,33nm,1.7s
COI Coimbra 29.17 289 IAmb IAmb 04 51 11.1
comp=Z,40nm,1.1s
COI Coimbra 29.17 289 *e*P **P 04 50 55.8 -0.4**
COI *i* IAmb IAmb 04 51 09.9
comp=Z,53nm,1.5s
PCAS Casmilo, Conde 29.24 289 *e*P **P 04 50 57.3 +0.3**
PCAS *i* IAmb IAmb 04 51 07.7
comp=Z,50nm,1.3s
MESJ Messejana 29.28 284 *e*P **P 04 50 56.5 -0.8**
MESJ IAmb IAmb 04 51 01.9
comp=Z,55nm,1.3s
MESJ Messejana 29.28 284 IAmb IAmb 04 51 01.5
comp=Z,32nm,1.0s
MESJ Messejana 29.28 284 *e*P **P 04 50 56.5 -0.8**
MESJ *i* IAmb IAmb 04 51 11.5
comp=Z,51nm,1.4s
MESJ Messejana 29.28 284 *e*P **P 04 50 56.5 -0.8**
MESJ Messejana 29.28 284 ⇑P **P 04 50 56.8 -0.5**
RBK Rabkut 29.39 123 P **P 04 50 59.4 +0.9**
PSBE So Bento 29.52 288 *e*P **P 04 50 59.5 0.0**
PSBE *i* IAmb IAmb 04 51 25.6
comp=Z,60nm,1.5s
PTEO Sao Teotonio 29.72 284 *e*P **P 04 51 00.8 -0.4**
PTEO *i* IAmb IAmb 04 51 15.4
comp=Z,78nm,1.8s
DMTO DMTO 29.75 121 P **P 04 51 02.2 +0.6**
DMTO P **P 04 51 02.2 +0.6**
PARRA Arraiolos 29.79 286 *e*P P 04 50 50.8 -11
PARRA *i* IAmb IAmb 04 51 17.5
comp=Z,25nm,1.9s
MHTO MHTO 29.82 113 P **P 04 51 03.2 +1.0**
MHTO P **P 04 51 03.2 +1.0**
PMAFR Mafra 29.96 287 *e*P **P 04 51 04.3 +1.0**
SHAO Shalim 30.02 120 P **P 04 51 04.2 +0.1**
DQM DQM 30.15 115 P **P 04 51 06.3 +1.1**
DQM P **P 04 51 06.3 +1.1**
CHM Chimkent 32.10 66 *e*P **P 04 51 21.4 -0.8**
comp=Z,9.6nm,0.6s
CHM LR LR 05 06 32.2
CHM Chimkent 32.10 66 *e*P **P 04 51 21.4 -0.8**
CHM pmax pmax
comp=Z,10.0nm,0.6s
BRLS Borolday 32.24 65 ⇑*i* P **P 04 51 21.6 -1.8**
BRLS Borolday 32.24 65 *c i* P **P 04 51 21.6 -1.8**
IUG Iuzhnay 32.42 67 *e*P **P 04 51 24.1 -1.0**
comp=Z,7.7nm,0.6s
IUG Iuzhnay 32.42 67 *e*P **P 04 51 24.1 -1.0**
IUG pmax pmax
comp=Z,8.0nm,0.6s
KK31 Karatay Array 32.73 65 P **P 04 51 27.6 -0.1**
KK31 Karatay Array 32.73 65 P **P 04 51 27.6 -0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 32.73 65 P **P 04 51 27.7 0.0**
KKAR Karatay Array 32.73 65 P **P 04 51 27.7 0.0**
LODK Lodwar 33.29 168 P **P 04 51 34.4 +1.6**
LODK IAmb IAmb 04 51 44.6
comp=Z,31nm,1.2s
LODK Lodwar 33.29 168 P **P 04 51 35.4 +2.5**
SNR=17
DZA Taraz 33.34 65 *e*P **P 04 51 32.3 -0.8**
comp=Z,6.8nm,0.4s
DZA Taraz 33.34 65 *e*P **P 04 51 32.3 -0.8**
DZA pmax pmax
comp=Z,7.0nm,0.4s
TORD Torodi Ar. Bea 33.35 233 P **P 04 51 32.9 -0.4**
TORD IAmb IAmb 04 51 48.4
comp=Z,17nm,0.7s
TORD Torodi Ar. Bea 33.35 233 P **P 04 51 32.0 -1.3**
comp=Z,5.0nm,0.5s,baz=36,slow=9.5,SNR=46
TORD PcP **PcP 04 54 14.3 -0.6**
comp=Z,2.0nm,1.0s,baz=65,slow=1.9,SNR=1.5
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 33.36 358 P **P 04 51 31.5 -1.4**
comp=Z,4.2nm,0.8s,baz=178,slow=8.3,SNR=13
ARCES PcP **PcP 04 54 12.8 -1.2**
comp=Z,6.9nm,1.0s,baz=168,slow=4.6,SNR=2.0
ARCES LR LR 05 06 00.2
comp=Z,2µm,18.5s,baz=178,slow=38
comp=Z,4.2nm,0.8s
BORK Borovoye 33.54 47 *ce*P **P 04 51 33.2 -1.4**
BORK pmax pmax
comp=Z,7.0nm,1.0s
BORK MLR MLR
comp=Z,2µm,18.0s
BVA0 Borovoye Array 33.58 47 *i* P **P 04 51 34.7 -0.2**
BVAR Borovoye Array 33.58 47 P **P 04 51 34.7 -0.3**
comp=Z,7.0nm,0.6s,baz=256,slow=6.7,SNR=24
BVAR LR LR 05 08 35.3
comp=Z,2µm,20.4s,baz=261,slow=42
comp=Z,7.0nm,0.6s
BRZS Berezniki 34.48 53 *e*P **P 04 51 42.5 -0.4**
BRZS *e*S **S 04 57 11.1 +1.2**
BRZS Berezniki 34.48 53 *e*P **P 04 51 42.4 -0.4**
BRZS *e*S **S 04 57 11.0 +1.2**
BTLS Baital 35.21 61 ⇑*i* P **P 04 51 48.6 -0.5**
comp=Z,15nm,1.3s
BTLS Baital 35.21 61 *c i* P **P 04 51 48.6 -0.5**
BTLS pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 35.68 65 P **P 04 51 52.1 -1.4**
AAK Ala-Archa 35.68 65 LR LR 05 09 39.6
comp=Z,1µm,18.4s,baz=286,slow=42
AAK Ala-Archa 35.68 65 P **P 04 51 54.3 +0.8**
AAK P **P 04 51 54.3 +0.8**
AAK Ala-Archa 35.68 65 *ce*P **P 04 51 53.5 0.0**
AAK pmax pmax
comp=Z,15nm,1.5s
AAK MLR MLR
comp=Z,1µm,17.0s
NIL Nilore 36.48 81 P **P 04 51 59.6 -0.6**
NIL Nilore 36.48 81 P **P 04 51 59.6 -0.6**
NIL pmax pmax
comp=Z,59nm,0.9s
MBAR Mbarara 36.74 176 P **P 04 52 03.0 +0.3**
MBAR Mbarara 36.74 176 P **P 04 52 03.0 +0.3**
MBAR pmax pmax
comp=Z,22nm,1.2s
KUU Kurty 36.91 63 *e*P **P 04 52 03.1 -0.8**
comp=Z,13nm,0.8s
KUU LR LR 05 09 23.1
comp=Z,328nm,12.9s
KUU Kurty 36.91 63 *e*P **P 04 52 03.0 -0.8**
KUU pmax pmax
comp=Z,13nm,0.8s
KSH Kashi 37.22 70 P **P 04 52 05.1 -1.5**
KSH pmax pmax
comp=Z,18nm,1.0s
KSH LR LR
comp=Z,660nm,19.6s
KSH LR LR
comp=Z,590nm,17.5s
KSH LR LR
comp=Z,830nm,20.3s
CHKK Chushkaly 37.38 63 *e*P **P 04 52 07.1 -0.8**
CHKK Chushkaly 37.38 63 *e*P **P 04 52 07.0 -0.8**
PMAR Madeira 37.38 278 *e*P **P 04 52 09.3 +1.2**
PMAR *i* IAmb IAmb 04 52 23.1
comp=Z,148nm,1.5s
AAA Alma-Ata 37.39 64 *e*P **P 04 52 07.1 -0.9**
AAA LR LR 05 10 15.2

AAA	**Alma-Ata**	37.39	64	*e*P	P		04 52 07.1	-0.9
TNSS	**Tian-Shan**	37.44	64	*e*P	P		04 52 07.5	-1.2
TNSS	**Tian-Shan**	37.44	64	*e*P	P		04 52 07.5	-1.2
MDOK	**Medeo**	37.50	64	*e*P	P		04 52 08.1	-0.8
MDOK				LR	LR		05 09 37.8	
MDOK	**Medeo**	37.50	64	*e*P	P		04 52 08.1	-0.8
KURBB	**Kurchatov Arra**	38.27	52	P	P		04 52 15.0	-0.1
	comp=Z,26nm,0.7s,baz=274,slow=8.7,SNR=121							
KURBB				PcP	PcP		04 54 28.6	-0.3
	comp=Z,3.0nm,0.5s,baz=267,slow=4.0,SNR=4.5							
KURBB				LR	LR		05 11 31.6	
	comp=Z,964nm,18.8s,baz=292,slow=42							
	comp=Z,26nm,0.7s							
KURBB	**Kurchatov Arra**	38.27	52	P	P		04 52 14.0	-1.1
TDK	**Taldyqorghan**	38.30	61	*e*P	P		04 52 14.7	-0.8
	comp=Z,541nm,14.9s							
TDK				LR	LR		05 10 35.5	
	comp=Z,541nm,14.9s							
TDK	**Taldyqorghan**	38.30	61	*e*P	P		04 52 14.7	-0.8
TDK				MLR	MLR			
	comp=Z,541nm,15.0s							
KURK	**Kurchatov**	38.33	52	P	P		04 52 15.2	-0.5
KURK				IAmb	IAmb		04 52 16.4	
	comp=Z,24nm,0.7s							
KURK	**Kurchatov**	38.33	52	P	P		04 52 15.8	+0.2
KURK				P	P		04 52 15.8	+0.2
KURK	**Kurchatov**	38.33	52	*ce*P	P		04 52 15.3	-0.3
KURK				pmax	pmax			
	comp=Z,25nm,0.9s							
SATY	**Saty**	38.49	64	*e*P	P		04 52 16.4	-1.0
	comp=Z,17nm,1.3s							
SATY	**Saty**	38.49	64	*e*P	P		04 52 16.3	-1.0
SATY				pmax	pmax			
	comp=Z,17nm,1.3s							
UZB	**Uzynbulak**	38.93	64	*e*P	P		04 52 20.0	-1.0
UZB	**Uzynbulak**	38.93	64	*e*P	P		04 52 20.0	-1.0
PDGK	**Podgornoye**	39.25	64	P	P		04 52 22.3	-1.3
SHLS	**Shalkode**	39.25	64	*e*P	P		04 52 25.4	+1.8
SHLS	**Shalkode**	39.25	64	*e*P	P		04 52 25.4	+1.8
SEM	**Semipalatinsk**	39.36	52	*e*P	P		04 52 24.0	-0.6
	comp=Z,9.3nm,0.9s							
SEM				LR	LR		05 11 16.3	
	comp=Z,282nm,13.6s							
SEM	**Semipalatinsk**	39.36	52	*e*P	P		04 52 23.9	-0.6
SEM				pmax	pmax			
	comp=Z,9.0nm,0.9s							
JMIC	**Jan Mayen**	39.84	342	LR	LR		05 11 08.7	
	comp=Z,864nm,18.1s,baz=122,slow=40							
MK31	**Makanchi Array**	40.85	58	*i* P	P		04 52 36.8	+0.1
MKAR	**Makanchi Array**	40.85	58	P	P		04 52 36.6	-0.1
	comp=Z,63nm,0.6s,baz=279,slow=6.7,SNR=439							
MKAR				LR	LR		05 13 22.1	
	comp=Z,432nm,18.9s,baz=270,slow=42							
	comp=Z,63nm,0.6s							
BORG	**Borgarnes**	40.94	330	LR	LR		05 13 06.1	
	comp=Z,1μm,18.3s,baz=115,slow=41							
ZAA0	**Zalesovo Array**	42.23	47	P	P		04 52 46.7	-1.2
ZAA0				IAmb	IAmb		04 52 48.9	
	comp=Z,20nm,0.6s							
ZALV	**Zalesovo Beam**	42.23	47	P	P		04 52 47.4	-0.5
ZALV	**Zalesovo Beam**	42.23	47	P	P		04 52 47.1	-0.8
	comp=Z,22nm,0.6s,baz=267,slow=8.3,SNR=83							
ZALV				LR	LR		05 14 10.0	
	comp=Z,846nm,20.2s,baz=265,slow=42							
	comp=Z,22nm,0.6s							
SPITS	**Spitsbergen Ar**	42.33	356	P	P		04 52 48.2	-0.3
	comp=Z,8.2nm,0.8s,baz=149,slow=9.8,SNR=7.7							
SPITS				PcP	PcP		04 54 41.2	-0.4
	comp=Z,4.3nm,0.7s,baz=144,slow=5.4,SNR=1.5							
SPITS				LR	LR		05 12 34.6	
	comp=Z,942nm,18.0s,baz=166,slow=39							
	comp=Z,8.2nm,0.8s							
DBIC	**Dimbokro**	42.44	234	P	P		04 52 49.6	-0.5
DBIC	**Dimbokro**	42.44	234	P	P		04 52 49.1	-0.9
	comp=Z,8.4nm,0.3s,baz=22,slow=9.1,SNR=41							
DBIC				LR	LR		05 13 49.4	
	comp=Z,1μm,18.8s,baz=56,slow=41							
	comp=Z,8.4nm,0.3s							
DBIC	**Dimbokro**	42.44	234	P	P		04 52 49.6	-0.5
DBIC				pmax	pmax			
	comp=Z,20nm,0.7s							
ZSN	**Zaisan**	42.53	57	*e*P	P		04 52 49.8	-0.7
	comp=Z,13nm,1.1s							
ZSN	**Zaisan**	42.53	57	*e*P	P		04 52 49.8	-0.7
ZSN				pmax	pmax			
	comp=Z,13nm,1.1s							
WMQ	**Urumqi**	45.05	61	*e*P	P		04 53 11.4	+0.5
WMQ				pmax	pmax			
	comp=Z,55nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,110nm,3.7s							
WMQ				LR	LR			
	comp=Z,680nm,21.3s							
WMQ				LR	LR			
	comp=Z,740nm,17.9s							
WMQ				LR	LR			
	comp=Z,340nm,23.5s							
DAG	**Danmarks Havn**	45.60	346	*i* P	P		04 53 12.9	-1.8
HYB	**Hyderabad**	47.84	99	*e*P	P		04 53 32.9	-0.1
HYB				*e*pP	pP		04 53 38.5	-0.7
HYB				*e*S	S		05 00 30.5	+1.7
NOR	**Nord**	48.22	352	*i* P	P		04 53 34.0	-1.1
ISOG	**Isortoq, Green**	48.38	329	*i* P	P		04 53 40.3	+3.8
ISOG				IAmb	IAmb		04 53 45.4	
	comp=Z,58nm,0.8s							
SUMG	**Summit**	48.95	338	*i* P	P		04 53 40.3	-0.9
EVN	**Everest**	49.40	82	P	P		04 53 45.7	0.0
LSZ	**Lusaka**	51.27	180	LR	LR		05 18 16.5	
	comp=Z,637nm,20.0s,baz=348,slow=39							
DY2G	**Dye2**	51.36	330	*i* P	P		04 53 57.5	-1.9
LSA	**Lhasa**	52.12	78	IAmb	IAmb		04 54 07.9	
	comp=Z,49nm,1.4s							
LSA	**Lhasa**	52.12	78	P	P		04 54 03.5	-2.4
LSA				S	S		05 01 20.6	-8.6
LSA				pmax	pmax			
	comp=Z,24nm,1.1s							
LSA				LR	LR			
	comp=Z,280nm,20.5s							
LSA				LR	LR			
	comp=Z,230nm,19.4s							
LSA				LR	LR			
	comp=Z,490nm,24.4s							
GOMU	**GeErMu**	52.44	69	P	P		04 54 08.0	-0.1
GOMU				PcP	PcP		04 55 20.0	+1.3
GOMU				S	S		05 01 35.5	+2.2
GOMU				pmax	pmax			
	comp=Z,11nm,1.2s							
GOMU				LR	LR			
	comp=Z,340nm,16.6s							
GOMU				LR	LR			
	comp=Z,310nm,17.4s							
GOMU				LR	LR			
	comp=Z,470nm,17.8s							
NEEM	**North Greenlan**	52.66	344	*i* P	P		04 54 06.1	-2.9
SFJD	**Kangerlussuaq**	53.04	331	LR	LR		05 19 18.4	
	comp=Z,1μm,18.5s,baz=88,slow=39							
KSANE	**Kasane**	53.87	184	P	P		04 54 20.2	+1.9
KSANE				IAmb	IAmb		04 54 36.3	
	comp=Z,48nm,1.3s							
ZAK	**Zakamensk**	53.92	50	*e*P	P		04 54 18.0	-0.5
ZAK				pmax	pmax			
	comp=Z,11nm,1.6s							
UPNV	**Upernavik**	54.23	339	*i* P	P		04 54 18.0	-2.3
KULLO	**Kullorsuaq**	54.30	341	*i* P	P		04 54 17.7	-3.1
KULLO				IAmb	IAmb		04 54 19.7	
	comp=Z,11nm,0.9s							
SHL	**Shillong**	54.51	82	P	P		04 54 21.3	-1.9
SHL				IAmb	IAmb		04 54 51.0	
	comp=Z,19nm,0.9s							
SHL	**Shillong**	54.51	82	P	P		04 54 21.3	-1.9
SHL				pmax	pmax			
	comp=Z,19nm,0.9s							
XAUDM	**Khaudum**	54.94	188	IAmb	IAmb		04 54 32.4	
	comp=Z,30nm,1.4s							
GTA	**Gaotai**	54.99	64	P	P		04 54 25.9	-0.6
GTA				pP	pP		04 54 32.2	-0.5
GTA				pmax	pmax			
	comp=Z,33nm,0.9s							
GTA				pmax	pmax			
	comp=Z,210nm,8.0s							
GTA				LR	LR			
	comp=Z,670nm,19.3s							
GTA				LR	LR			
	comp=Z,610nm,18.5s							
GTA				LR	LR			
	comp=Z,600nm,19.3s							
PALK	**Pallekele**	55.52	108	LR	LR		05 22 44.6	
	comp=Z,459nm,18.1s,baz=311,slow=41							
TSUM	**Tsumeb**	56.14	193	P	P		04 54 35.6	+0.9
TSUM	**Tsumeb**	56.14	193	LR	LR		05 19 35.7	
	comp=Z,864nm,20.7s,baz=6.0,slow=37							
TSUM	**Tsumeb**	56.14	193	⇑P	P		04 54 35.9	+1.1
MATP	**Matopo**	56.39	180	LR	LR		05 21 49.9	
	comp=Z,844nm,18.1s,baz=13,slow=39							
SONM	**Songino Array**	56.63	52	P	P		04 54 38.3	+0.2
SONM	**Songino Array**	56.63	52	P	P		04 54 38.3	+0.2
	comp=Z,2.5nm,0.5s,baz=286,slow=8.2,SNR=19							
SONM				LR	LR		05 22 43.1	
	comp=Z,529nm,18.1s,baz=288,slow=40							
	comp=Z,2.5nm,0.5s							
TULEG	**Thule**	56.75	344	*i* P	P		04 54 34.5	-3.7
ULN	**Ulaanbaatar**	57.04	52	P	P		04 54 40.2	-0.8
ULN	**Ulaanbaatar**	57.04	52	*ce*P	P		04 54 40.6	-0.4
ULN				pmax	pmax			
	comp=Z,15nm,1.7s							
ULN	**Ulaanbaatar**	57.04	52	⇓P	P		04 54 41.4	+0.4
BROLN	**Tlhalogang**	57.07	181	*i* P	P		04 54 42.8	+1.5
OPO	**Ambohidratompo**	57.32	159	LR	LR		05 21 27.9	
	comp=Z,294nm,19.8s,baz=156,slow=38							
GRTLG	**Ghanzi**	57.74	188	P	P		04 54 47.3	+1.3
GRTLG				IAmb	IAmb		04 54 53.1	
	comp=Z,29nm,1.0s							
GRTLG	**Ghanzi**	57.74	188	*i* P	P		04 54 48.0	+1.9
BOD	**Bodaibo**	57.86	39	*e*P	P		04 54 45.5	-0.9
BOD				pmax	pmax			
	comp=Z,40nm,0.7s							
KHWEE	**KHWEE**	57.98	183	*i* P	P		04 54 48.9	+1.2
MREMI	**Moremi**	58.53	181	*i* P	P		04 54 53.4	+1.8
KGCAE	**Kacgae**	59.11	187	IAmb	IAmb		04 55 02.7	
	comp=Z,27nm,0.9s							
KGCAE	**Kacgae**	59.11	187	*i* P	P		04 54 57.0	+1.4
TIXI	**Tiksi**	59.14	21	LR	LR		05 24 32.7	
	comp=Z,872nm,18.1s,baz=9.5,slow=40							
LZDM	**Lanzhou Array**	59.17	66	P	P		04 54 56.1	-0.2
	comp=Z,8.1nm,0.5s,baz=297,slow=6.5,SNR=14							
LZDM				LR	LR		05 25 59.8	
	comp=Z,515nm,18.4s,baz=85,slow=42							
	comp=Z,8.1nm,0.5s							
LZH	**Lanzhou**	59.22	66	*e*P	P		04 54 56.2	-0.3
LZH				pmax	pmax			
	comp=Z,35nm,1.1s							
LZH				pmax	pmax			
	comp=Z,240nm,4.3s							
LZH				LR	LR			
	comp=Z,730nm,17.7s							
LZH				LR	LR			
	comp=Z,360nm,16.3s							
LZH				LR	LR			
	comp=Z,860nm,18.6s							
LPHEP	**Lephephe**	59.37	183	*i* P	P		04 54 59.2	+1.9
KDWAN	**Kaudwane**	59.44	184	*i* P	P		04 55 00.1	+2.2
KOOLE	**Kule**	59.47	189	*i* P	P		04 54 59.0	+0.9
WIN	**Windhoek**	59.52	192	IAmb	IAmb		04 55 05.7	
	comp=Z,17nm,0.8s							
CIT	**Chita**	59.55	46	*e*P	P		04 54 57.9	-0.5
CIT				*e*			04 55 05.1	
CIT				pmax	pmax			
	comp=Z,55nm,4.0s							
TNCH	**TengChong**	60.06	80	*e*P	P		04 55 02.6	+0.1
TNCH				pP	pP		04 55 09.9	+1.2
TNCH				sP	pwP		04 55 14.0	+0.6
TNCH				S	S		05 03 13.1	-1.2
TNCH				pmax	pmax			
	comp=Z,130nm,3.7s							
TNCH				LR	LR			
	comp=Z,590nm,15.6s							
TNCH				LR	LR			
	comp=Z,400nm,27.5s							
TNCH				LR	LR			
	comp=Z,300nm,23.5s							
LBTB	**Lobatse**	61.02	183	P	P		04 55 10.8	+2.2
LBTB	**Lobatse**	61.02	183	LR	LR		05 23 23.2	
	comp=Z,381nm,19.5s,baz=358,slow=38							
LBTB	**Lobatse**	61.02	183	P	P		04 55 10.8	+2.2
LBTB				pmax	pmax			
	comp=Z,33nm,1.0s							
FRB	**Frobisher Bay**	61.11	330	LR	LR		05 22 06.7	
	comp=Z,812nm,20.6s,baz=72,slow=36							
CD2	**Chengdu**	61.41	71	P	P		04 55 11.1	-0.3
CD2				S	S		05 03 29.5	-1.6
CD2				pmax	pmax			
	comp=Z,20nm,0.8s							
CD2				pmax	pmax			
	comp=Z,210nm,10.8s							
CD2				LR	LR			
	comp=Z,510nm,12.0s							
CD2				LR	LR			
	comp=Z,590nm,12.8s							
CD2				LR	LR			
	comp=Z,530nm,11.6s							
BTO	**Baotou**	61.76	59	*e*P	P		04 55 12.5	-1.1
BTO				S	S		05 03 33.8	-1.5
BTO				pmax	pmax			
	comp=Z,30nm,0.8s							
BTO				pmax	pmax			
	comp=Z,520nm,7.3s							
BTO				LR	LR			
	comp=Z,830nm,19.0s							
BTO				LR	LR			
	comp=Z,440nm,13.1s							
BTO				LR	LR			
	comp=Z,1μm,18.8s							
PZH	**PanZhiHua**	61.90	76	P	P		04 55 15.8	+0.9
HHC	**Hu-ho-hao-te**	62.71	58	⇓*i*P	P		04 55 20.8	+0.7
HHC				sP	pwP		04 55 31.8	+0.7
HHC				pmax	pmax			
	comp=Z,25nm,1.0s							
HHC				pmax	pmax			
	comp=Z,120nm,6.7s							
HHC				LR	LR			
	comp=Z,620nm,17.7s							
HHC				LR	LR			
	comp=Z,460nm,16.8s							
HHC				LR	LR			
	comp=Z,820nm,21.0s							
RES	**Resolute Bay**	63.29	346	LR	LR		05 24 13.7	
	comp=Z,824nm,18.8s,baz=28,slow=37							
KMI	**Kunming**	63.36	77	P	P		04 55 23.8	-0.9
KMI				pmax	pmax			
	comp=Z,14nm,0.7s							
KMI				pmax	pmax			
	comp=Z,190nm,6.3s							
KMI				LR	LR			
	comp=Z,250nm,20.4s							
KMI				LR	LR			
	comp=Z,250nm,20.6s							
KMI				LR	LR			
	comp=Z,250nm,21.2s							
YAK	**Yakutsk**	63.51	31	*i* P	P		04 55 25.4	+0.6
YAK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
CHTO	**Chiang Mai**	63.53	85	P	P		04 55 24.8	-0.8
CHTO	**Chiang Mai**	63.53	85	P	P		04 55 25.3	-0.3
CHTO	**Chiang Mai**	63.53	85	P	P		04 55 24.8	-0.8
CHTO				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CMAR	**Chiang Mai Arr**	63.71	86	P	P		04 55 25.7	-1.2
CMAR	**Chiang Mai Arr**	63.71	86	P	P		04 55 26.1	-0.8
	comp=Z,9.1nm,0.7s,baz=299,slow=7.7,SNR=30							
CMAR				LR	LR		05 29 43.8	
	comp=Z,127nm,20.5s,baz=285,slow=42							
	comp=Z,9.1nm,0.7s							
XAN	**Xi'an**	63.86	66	⇑P	P		04 55 27.4	-0.3
XAN				pmax	pmax			
	comp=Z,16nm,0.7s							
XAN				LR	LR			
	comp=Z,230nm,16.2s							
XAN				LR	LR			
	comp=Z,610nm,17.2s							
XAN				LR	LR			
	comp=Z,720nm,17.2s							
SCHQ	**Schefferville**	64.12	320	P	P		04 55 29.4	+0.4
	comp=Z,27nm,0.5s,baz=43,slow=2.8,SNR=9.4							
SCHQ				LR	LR		05 23 07.7	
	comp=Z,7μm,19.9s,baz=95,slow=36							
	comp=Z,27nm,0.5s							
HIA	**Hailar**	64.27	47	P	P		04 55 31.1	+1.0
XLT	**XiLinHaoTe**	64.39	53	*e*P	P		04 55 30.2	-0.8
XLT				sP	pwP		04 55 42.2	+0.1
XLT				pmax	pmax			
	comp=Z,16nm,1.0s							
XLT				pmax	pmax			
	comp=Z,280nm,4.8s							
XLT				LR	LR			
	comp=Z,500nm,17.1s							
XLT				LR	LR			
	comp=Z,740nm,17.3s							
BOSA	**Boshof**	64.62	183	P	P		04 55 33.6	+1.1
BOSA	**Boshof**	64.62	183	P	P		04 55 33.2	+0.6
	comp=Z,22nm,1.2s,baz=2.9,slow=9.0,SNR=7.6							
BOSA				LR	LR		05 25 58.3	
	comp=Z,712nm,20.1s,baz=5.5,slow=38							
	comp=Z,22nm,1.2s							
BOSA	**Boshof**	64.62	183	P	P		04 55 33.6	+1.1
BOSA				pmax	pmax			
	comp=Z,34nm,1.2s							
GYA	**Guiyang**	65.77	74	P	P		04 55 39.8	-0.6
GYA				LR	LR			
	comp=Z,310nm,17.4s							
SLVN	**Son La**	66.19	80	P	P		04 55 42.4	-0.6
LYN	**LuoYang**	66.21	64	*e*P	P		04 55 42.9	0.0
LYN				pmax	pmax			
	comp=Z,16nm,0.8s							
LYN				pmax	pmax			
	comp=Z,230nm,6.6s							
LYN				LR	LR			
	comp=Z,720nm,17.9s							
LYN				LR	LR			
	comp=Z,720nm,18.2s							
LYN				LR	LR			
	comp=Z,970nm,19.6s							
BJI	**Beijing**	66.22	57	P	P		04 55 42.2	-0.6
BJI				PcP	PcP		04 56 17.0	+4.1
BJI				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BJI				LR	LR			
	comp=Z,200nm,13.6s							
BJI				LR	LR			
	comp=Z,160nm,17.4s							
BJI				LR	LR			
	comp=Z,270nm,18.4s							
BJT	**Baijiatuau**	66.22	57	IAmb	IAmb		04 55 44.6	
	comp=Z,9.7nm,0.6s							
ZEA	**Zeya**	66.34	40	*e*P	P		04 55 44.9	+1.5
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HNS	**HongShan**	66.45	60	⇑P	P		04 55 44.7	+0.3
HNS				S	S		05 04 33.0	-0.4
HNS				pmax	pmax			
	comp=Z,11nm,0.9s							
HNS				LR	LR			
	comp=Z,380nm,21.1s							
HNS				LR	LR			
	comp=Z,430nm,18.3s							
HEH	**HeiHe**	68.17	43	*e*P	P		04 55 55.1	0.0
HEH				pmax	pmax			
	comp=Z,24nm,1.4s							
HEH				LR	LR			
	comp=Z,1μm,17.8s							
HEH				LR	LR			
	comp=Z,1μm,14.7s							
HEH				LR	LR			
	comp=Z,2μm,15.6s							
TIA	**Tai'an**	68.72	60	P	P		04 55 58.6	-0.2
TIA				pmax	pmax			
	comp=Z,13nm,1.2s							
WHN	**Wuhan**	69.57	67	P	P		04 56 17.0	+13
SNY	**Shenyang**	70.21	52	⇑P	P		04 56 11.3	+3.5
SNY				pmax	pmax			
	comp=Z,33nm,1.4s							
CN2	**Changchun**	70.36	50	*e*P	P		04 56 07.9	-0.8
CN2				*e*S	S		05 05 12.1	-7.6
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=Z,600nm,16.0s							
CN2				LR	LR			
	comp=Z,800nm,16.0s							
CN2				LR	LR			
	comp=Z,700nm,17.0s							
BNX	**BinXian**	70.52	47	⇓P	P		04 56 09.6	-0.1
BNX				pmax	pmax			
	comp=Z,13nm,0.9s							
BILL	**Biilibino**	71.28	15	*ce*P	P		04 56 15.1	+1.2
BILL				pmax	pmax			
	comp=Z,11nm,1.4s							
BILL				MLR	MLR			
	comp=Z,402nm,21.0s							
SEY	**Seymchan**	71.46	24	LR	LR		05 32 50.3	
	comp=Z,612nm,18.2s,baz=321,slow=40							
SEY	**Seymchan**	71.46	24	*ce*P	P		04 56 15.6	+0.6
SEY				pmax	pmax			
	comp=Z,11nm,1.4s							
NJ2	**Nanjing**	72.09	63	*e*P	P		04 56 20.4	+1.0
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
QIZ	**Qiongzhong**	72.14	79	P	P		04 56 19.8	-0.1
QIZ				S	S		05 05 42.4	+1.4
QIZ				pmax	pmax			
	comp=Z,130nm,5.2s							
QIZ				LR	LR			
	comp=Z,100nm,15.0s							
QIZ				LR	LR			
	comp=Z,210nm,13.5s							
QIZ				LR	LR			
	comp=Z,190nm,22.0s							
PSI	**Prapat**	72.55	100	P	P		04 56 22.7	+0.2
RPSI	**Rantau Prapat**	72.62	100	IAmb	IAmb		04 56 47.0	
	comp=Z,29nm,1.3s							
MA2	**Magadan**	73.27	27	LR	LR		05 32 29.5	
	comp=Z,202nm,20.0s,baz=310,slow=39							
RCBR	**Riachuelo**	73.31	250	LR	LR		05 29 14.3	
	comp=Z,234nm,20.5s,baz=60,slow=36							
USRK	**Ussuriysk Ar.**	74.08	47	P	P		04 56 30.5	-0.4
	comp=Z,11nm,0.6s,baz=304,slow=4.4,SNR=16							
	comp=Z,11nm,0.6s							
INK	**Inuvik**	74.87	353	LR	LR		05 31 50.6	
	comp=Z,427nm,21.0s,baz=43,slow=38							
E29M	**Blow River**	75.16	355	IAmb	IAmb		04 56 50.5	
	comp=Z,22nm,0.9s							
L59A	**Walton**	75.35	312	P	P		04 56 38.3	-0.1
KSRS	**Korea Array**	75.40	54	P	P		04 56 38.1	-0.5
	comp=Z,5.0nm,0.6s,baz=306,slow=4.6,SNR=18							
	comp=Z,5.0nm,0.6s							
F31M	**Tsiigehtchic**	75.74	353	IAmb	IAmb		04 57 00.1	
	comp=Z,37nm,1.3s							
F30M	**Barrier River**	75.76	354	IAmb	IAmb		04 56 56.3	
	comp=Z,18nm,1.0s							
E22K	**Anaktuvuk Pass**	75.91	0	IAmb	IAmb		04 57 24.0	
	comp=Z,35nm,1.6s							
E24K	**Your Creek**	75.95	359	IAmb	IAmb		04 57 14.8	
	comp=Z,28nm,1.6s							
E23K	**Chandalar**	75.98	359	IAmb	IAmb		04 57 03.0	
	comp=Z,15nm,0.8s							
F26K	**Sheenjek River**	76.20	357	IAmb	IAmb		04 57 02.2	
	comp=Z,18nm,1.2s							
SADO	**Sadowa**	76.21	316	LR	LR		05 32 04.0	
	comp=Z,4μm,18.2s,baz=68,slow=37							
G31M	**Satah River**	76.29	353	P	P		04 56 42.1	-1.2
G31M				IAmb	IAmb		04 57 30.1	
	comp=Z,19nm,1.1s							
G30M	**tAoh Zraii Nji**	76.41	354	IAmb	IAmb		04 57 10.5	
	comp=Z,25nm,1.2s							
F24K	**Squaw Lake**	76.49	359	IAmb	IAmb		04 57 20.4	
	comp=Z,18nm,1.2s							
E19K	**Redstone River**	76.50	2	IAmb	IAmb		04 57 02.0	
	comp=Z,18nm,0.8s							
G29M	**Pine Creek**	76.63	355	IAmb	IAmb		04 57 29.8	
	comp=Z,20nm,1.1s							
F21K	**Alatna River**	76.81	1	P	P		04 56 46.6	+0.4
F21K				IAmb	IAmb		04 57 04.9	
	comp=Z,31nm,1.3s							
COLD	**Coldfoot**	76.82	360	IAmb	IAmb		04 57 36.4	
	comp=Z,19nm,1.4s							
G26K	**Porcupine Rive**	76.93	357	IAmb	IAmb		04 57 08.5	
	comp=Z,26nm,1.1s							
EPYK	**Eagle Plains**	77.05	354	IAmb	IAmb		04 57 05.5	
	com

G23K	Bananza Creek	77.33	359	IAmb	IAmb	04 57 03.4
	comp=Z,51nm,1.9s					
H31M	Peel River	77.39	353	IAmb	IAmb	04 57 59.4
	comp=Z,50nm,1.6s					
MVL	Millersville	77.44	310	IAmb	IAmb	04 57 01.6
	comp=Z,22nm,0.9s					
G21K	Allakaket	77.52	1	IAmb	IAmb	04 57 07.9
	comp=Z,12nm,0.8s					
SSPA	Standing Stone	77.99	312	P	P	04 56 52.7 -0.6
SSPA				IAmb	IAmb	04 57 04.0
	comp=Z,32nm,1.2s					
I30M	Mount Dempster	78.15	354	IAmb	IAmb	04 57 07.0
	comp=Z,14nm,0.8s					
I29M	Ogilvie Camp,	78.18	354	IAmb	IAmb	04 57 38.4
	comp=Z,29nm,1.2s					
I28M	Miner Creek	78.21	355	IAmb	IAmb	04 57 07.6
	comp=Z,65nm,1.9s					
H23K	Yukon River	78.22	359	IAmb	IAmb	04 57 00.3
	comp=Z,34nm,1.6s					
YSS	Yuzhno-Sakhali	78.33	40	eP	P	04 56 55.7 +0.6
YSS				e		05 00 00.5
YSS				ePPP	PPP	05 01 42.8
YSS				eS	S	05 06 47.7 -1.2
YSS				pmax	pmax	
	comp=Z,40nm,1.2s					
YSS				pmax	pmax	
	comp=Z,400nm,3.4s					
H21K	Melozitna Rive	78.39	1	IAmb	IAmb	04 57 24.9
	comp=Z,38nm,1.6s					
H19K	Roundabout Mou	78.45	2	IAmb	IAmb	04 57 12.2
	comp=Z,33nm,1.4s					
YULB	Yu-li	78.63	69	P	P	04 56 59.2 +2.1
YULB				IAmb	IAmb	04 57 18.1
	comp=Z,17nm,0.8s					
P57A	Homestead Farm	78.78	311	IAmb	IAmb	04 57 10.5
	comp=Z,20nm,0.9s					
J30M	Hart River	78.78	353	IAmb	IAmb	04 57 18.1
	comp=Z,19nm,0.8s					
I23K	Minto, Yukon-K	78.90	359	IAmb	IAmb	04 57 16.3
	comp=Z,49nm,1.8s					
MLY	Manley	79.03	360	IAmb	IAmb	04 57 12.2
	comp=Z,46nm,2.0s					
ILAR	Eielson Array	79.22	358	P	P	04 56 59.0 -0.7
ILAR	Eielson Array	79.22	358	P	P	04 56 58.9 -0.8
	comp=Z,0.8nm,0.6s,baz=348,slow=2.0,SNR=12					
	comp=Z,0.8nm,0.6s					
CCB	Clear Creek Bu	79.37	358	IAmb	IAmb	04 57 51.2
	comp=Z,45nm,2.0s					
R58B	Mineral	79.62	310	IAmb	IAmb	04 57 02.7
	comp=Z,12nm,0.6s					
K27K	Chicken	79.76	356	IAmb	IAmb	04 57 19.2
	comp=Z,55nm,1.8s					
MCWV	Mont Chateau	79.78	312	IAmb	IAmb	04 57 16.1
	comp=Z,23nm,0.9s					
J20K	Nowinta River	79.86	1	IAmb	IAmb	04 57 12.8
	comp=Z,65nm,1.9s					
MDP	Montagnes des	79.91	269	LR	LR	05 32 14.1
	comp=Z,224nm,20.7s,baz=58,slow=36					
J19K	Poorman	80.01	2	IAmb	IAmb	04 57 22.4
	comp=Z,30nm,1.5s					
MMPY	Sheldon Lake,	80.12	351	P	P	04 57 05.3 +0.7
ASAJ	Asahikawa	80.12	42	LR	LR	05 38 13.8
	comp=Z,549nm,19.1s,baz=323,slow=40					
ASAJ	Asahikawa	80.12	42	P	P	04 57 04.9 0.0
ASAJ				pmax	pmax	
	comp=Z,81nm,1.7s					
JKA	Kamikawa-asahi	80.12	42	P	P	04 57 04.9 0.0
K24K	Donnelly Dome	80.16	357	IAmb	IAmb	04 57 17.7
	comp=Z,34nm,1.6s					
O53A	New Philadelph	80.22	313	IAmb	IAmb	04 57 16.4
	comp=Z,20nm,0.8s					
DOT	Dot Lake	80.24	357	P	P	04 57 05.2 -0.1
L29M	L29M	80.38	354	IAmb	IAmb	04 57 33.2
	comp=Z,23nm,1.2s					
S57A	Dark Hollow, R	80.42	310	IAmb	IAmb	04 57 13.3
	comp=Z,51nm,2.0s					
J18K	Innoko River	80.51	2	IAmb	IAmb	04 57 35.8
	comp=Z,34nm,1.9s					
PETK	Petropavlovsk-	80.65	28	P	P	04 57 05.8 -1.8
	comp=Z,3.1nm,0.7s,baz=296,slow=4.6,SNR=3.0					
PETK				LR	LR	05 38 58.1
	comp=Z,628nm,18.1s,baz=319,slow=40					
	comp=Z,3.1nm,0.7s					
O52A	Adamsville	80.67	313	IAmb	IAmb	04 57 20.4
	comp=Z,25nm,0.9s					
BCAR	Beaver Creek A	80.70	356	P	P	04 57 07.5 -0.3
R55A	Marlinton	80.81	311	IAmb	IAmb	04 57 33.7
	comp=Z,23nm,1.1s					
ULM	Lac du Bonnet	80.89	328	LR	LR	05 34 27.0
	comp=Z,964nm,19.4s,baz=37,slow=37					
MENT	Mentasta	80.93	356	P	P	04 57 10.9 +1.9
DHY	Denali Highway	80.94	358	IAmb	IAmb	04 57 43.2
	comp=Z,16nm,0.9s					
M29M	Somme Creek	81.07	354	IAmb	IAmb	04 57 24.1
	comp=Z,19nm,0.7s					
PET	Petropavlovsk	81.08	28	eP	P	04 57 07.9 -1.9
PET				e		05 00 20.2
PET				eS	S	05 07 13.3 -4.4
PET				pmax	pmax	
	comp=Z,200nm,10.2s					
PET				pmax	pmax	
	comp=Z,300nm,14.7s					
PET				pmax	pmax	
	comp=Z,100nm,14.0s					
T57A	Hurt	81.08	310	IAmb	IAmb	04 57 10.9
	comp=Z,11nm,0.6s					
MDSI	Maura Dua	81.12	102	P	P	04 57 13.1 +2.4
	comp=Z,848nmcomp=Z,20nm,1.2s					
P52A	Corning	81.16	313	IAmb	IAmb	04 57 22.8
	comp=Z,22nm,0.9s					
PPLA	Purkeypile	81.17	0	IAmb	IAmb	04 57 27.3
	comp=Z,24nm,1.2s					
N49A	Columbus Grove	81.51	315	IAmb	IAmb	04 57 29.5
	comp=Z,24nm,0.9s					
Q52A	Bidwell	81.67	313	IAmb	IAmb	04 57 25.7
	comp=Z,20nm,0.8s					
L18K	Granite Mounta	81.76	2	IAmb	IAmb	04 57 31.7
	comp=Z,32nm,1.6s					
N32M	Quiet Lake	81.77	351	IAmb	IAmb	04 57 37.4
	comp=Z,26nm,0.8s					
JOW	Kunigami	81.80	63	LR	LR	05 39 16.7
	comp=Z,310nm,20.2s,baz=322,slow=40					
L19K	White Mountain	81.85	2	IAmb	IAmb	04 57 32.7
	comp=Z,28nm,1.6s					
O49A	Covington	82.08	315	IAmb	IAmb	04 57 41.8
	comp=Z,36nm,1.1s					
SKT	Skwentna	82.09	0	P	P	04 57 13.9 -1.2
M20K	Styx River	82.18	1	IAmb	IAmb	04 57 31.7
	comp=Z,46nm,1.9s					
U56A	King	82.19	310	IAmb	IAmb	04 57 27.2
	comp=Z,27nm,1.1s					
SML	Sawmill	82.23	359	IAmb	IAmb	04 57 38.1
	comp=Z,24nm,1.0s					
Q51A	Peebles	82.27	313	IAmb	IAmb	04 57 28.3
	comp=Z,28nm,1.0s					
PMR	Palmer	82.46	359	IAmb	IAmb	04 57 48.2
	comp=Z,15nm,1.0s					
PMR	Palmer	82.46	359	P	P	04 57 17.7 +0.7
MJAR	Matsushiro Arr	82.51	50		P	04 57 17.6 -0.2
MJAR	Matsushiro Arr	82.51	50	P	P	04 57 17.4 -0.3
	comp=Z,5.2nm,0.8s,baz=326,slow=2.4,SNR=13					
MJAR				LR	LR	05 38 32.8
	comp=Z,377nm,19.9s,baz=316,slow=39					
	comp=Z,5.2nm,0.8s					
MJAR	Matsushiro Arr	82.51	50	P	P	04 57 17.6 -0.2
MJAR				pmax	pmax	
	comp=Z,11nm,1.3s					
M17K	Holitna River	82.55	3	IAmb	IAmb	04 57 35.5
	comp=Z,16nm,0.9s					
SUA	Susitna One	82.61	360	IAmb	IAmb	04 57 48.7
	comp=Z,15nm,0.8s					
W57A	Gilead	82.71	308	IAmb	IAmb	04 57 19.1
	comp=Z,30nm,1.5s					
V55A	Taylorsville	83.03	310	IAmb	IAmb	04 57 46.0
	comp=Z,23nm,1.3s					
SJG	San Juan	83.17	287	LR	LR	05 29 27.7
	comp=Z,114nm,21.6s,baz=74,slow=32					
R33M	Jennings River	83.18	350	IAmb	IAmb	04 57 35.2
	comp=Z,15nm,0.8s					
P48A	Milroy	83.19	315	IAmb	IAmb	04 57 33.0
	comp=Z,17nm,0.9s					
N19K	Bonanza Creek	83.23	2	P	P	04 57 20.8 -0.3
N19K				IAmb	IAmb	04 57 22.5
	comp=Z,18nm,1.2s					
R50A	Paris	83.33	313	IAmb	IAmb	04 57 47.0
	comp=Z,28nm,1.4s					
SBUM	Sibu	83.44	92	P	P	04 57 24.8 +1.9
CELP	Cerrillos	83.52	288	IAmb	IAmb	04 57 31.8
	comp=Z,12nm,0.8s					
KMSC	Kings Mountain	83.56	309	IAmb	IAmb	04 57 34.0
	comp=Z,15nm,1.1s					
DLBC	Dease Lake	83.96	349	LR	LR	05 36 13.3
	comp=Z,4μm,21.3s,baz=353,slow=37					
V53A	Saluda	84.14	310	IAmb	IAmb	04 57 38.5
	comp=Z,11nm,1.0s					
T50A	Nancy	84.47	312	IAmb	IAmb	04 57 40.2
	comp=Z,23nm,1.1s					
WCI	Wyandotte Cave	84.52	314	P	P	04 57 26.6 -1.4
WCI	Wyandotte Cave	84.52	314	P	P	04 57 26.6 -1.4
WCI				pmax	pmax	
	comp=Z,21nm,0.9s					
S34M	Telegraph Cree	84.63	349	IAmb	IAmb	04 57 47.4
	comp=Z,12nm,0.9s					
HODGE	Hodges	84.73	309	IAmb	IAmb	04 57 43.8
	comp=Z,34nm,1.7s					
TKL	Tuckaleechee C	84.73	311	IAmb	IAmb	04 57 50.1
	comp=Z,16nm,0.9s					
TKL	Tuckaleechee C	84.73	311	LR	LR	05 36 37.9
	comp=Z,672nm,19.6s,baz=53,slow=37					
W52A	Murphy	85.20	311	IAmb	IAmb	04 57 43.9
	comp=Z,21nm,1.1s					
LEM	Lembang	85.25	102	LR	LR	05 41 54.5
	comp=Z,212nm,18.8s,baz=139,slow=40					
MAL2	Monte Alegre,	85.33	264	P	P	04 57 33.4 +0.9
JHJ	Hachijo jima 2	85.71	52	LR	LR	05 42 24.1
	comp=Z,89nm,18.1s,baz=334,slow=40					
W50A	Signal Mountai	85.97	311	IAmb	IAmb	04 57 46.0
	comp=Z,25nm,1.1s					
GOGA	Godfrey	86.02	309	IAmb	IAmb	04 57 47.0
	comp=Z,19nm,1.0s					
PBKI	Pangkalan Bun	86.03	96	P	P	04 57 16.8 -19
ECSD	EROS Data Cent	86.08	324	IAmb	IAmb	04 58 19.6
	comp=Z,34nm,1.8s					
KDAK	Kodiak Island	86.30	1	LR	LR	05 38 07.2
	comp=Z,202nm,20.5s,baz=6.3,slow=37					
SHEM	Shmya Is, Ala	86.42	20	LR	LR	05 40 56.2
	comp=Z,305nm,19.3s,baz=314,slow=39					
V48A	Smith Brothers	86.52	313	IAmb	IAmb	04 57 57.4
	comp=Z,16nm,1.2s					
SIUC	Southern Illin	86.55	315	IAmb	IAmb	04 57 50.6
	comp=Z,20nm,0.9s					
S44A	Carbondale	86.59	315	IAmb	IAmb	04 57 55.6
	comp=Z,22nm,1.0s					
P40A	Paris	86.84	318	IAmb	IAmb	04 58 03.4
	comp=Z,14nm,1.0s					
WVT	Waverly	86.85	313		P	04 57 37.8 -1.8
WVT	Waverly	86.85	313	P	P	04 57 37.8 -1.8
WVT				pmax	pmax	
	comp=Z,8.0nm,1.0s					
FVM	French Village	87.04	316	IAmb	IAmb	04 57 53.1
	comp=Z,18nm,0.9s					
CGM3	Cape Girardeau	87.09	315	IAmb	IAmb	04 57 52.5
	comp=Z,28nm,1.3s					
CCM	Cathedral Cave	87.45	317	P	P	04 57 41.3 -1.2
CCM				IAmb	IAmb	04 58 09.9
	comp=Z,15nm,0.7s					
CCM	Cathedral Cave	87.45	317	P	P	04 57 41.3 -1.2
CCM				pmax	pmax	
	comp=Z,15nm,0.7s					
X48A	Hartselle	87.53	312	IAmb	IAmb	04 58 01.9
	comp=Z,7.9nm,0.8s					
MTKI	Muara Teweh, K	87.59	93	P	P	04 57 45.0 +1.5
PLAL	Pickwick Lake	87.78	313	IAmb	IAmb	04 57 55.8
	comp=Z,12nm,1.0s					
R40A	Maddies Statio	87.84	317	IAmb	IAmb	04 58 08.9
	comp=Z,17nm,1.1s					
BOAV	Boa Vista	87.86	271	P	P	04 57 45.4 +0.5
BOAV				IAmb	IAmb	04 57 51.3
	comp=Z,30nm,1.6s					
PBMO	Poplar Bluff	87.90	315	IAmb	IAmb	04 58 02.0
	comp=Z,16nm,1.0s					
LRAL	Lakeview Retre	88.47	311	IAmb	IAmb	04 58 04.3
	comp=Z,7.7nm,0.8s					
BDFB	Brasília	88.69	250	P	P	04 57 49.0 +0.3
	comp=Z,5.1nm,0.8s,baz=63,slow=4.5,SNR=6.2					
BDFB				LR	LR	05 40 15.7
	comp=Z,512nm,19.0s,baz=49,slow=37					
	comp=Z,5.1nm,0.8s					
LCAR	Lake Charles	88.81	315	IAmb	IAmb	04 58 06.0
	comp=Z,15nm,1.2s					
BBB	Bella Bella	89.58	346	LR	LR	05 40 38.5
	comp=Z,318nm,18.5s,baz=30,slow=37					
WHAR	Wooly Hollow	90.01	315	IAmb	IAmb	04 58 25.0
	comp=Z,21nm,1.2s					
NEW	Newport	90.44	338	LR	LR	05 41 15.0
	comp=Z,322nm,18.4s,baz=33,slow=37					
MIAR	Mount Ida	91.28	316	IAmb	IAmb	04 58 21.8
	comp=Z,10nm,0.9s					
PDAR	Pinedale Array	92.55	331	P	P	04 58 04.3 -2.3
	comp=Z,0.3nm,0.7s,baz=329,slow=6.7,SNR=3.6					
	comp=Z,0.3nm,0.7s					
KAPI	Kappang	93.89	93	LR	LR	05 47 51.2
	comp=Z,119nm,18.3s,baz=264,slow=40					
ELK	Elko	96.46	333	LR	LR	05 46 16.5
	comp=Z,251nm,18.3s,baz=26,slow=38					
ANMO	Albuquerque	97.68	324	LR	LR	05 43 23.2
	comp=Z,704nm,20.4s,baz=136,slow=36					
SIV	San Ignacio	98.99	257	LR	LR	05 42 56.8
	comp=Z,221nm,21.7s,baz=112,slow=35					
NVAR	Mina Array Bea	99.61	334	LR	LR	05 46 23.2
	comp=Z,484nm,19.6s,baz=21,slow=37					
ASAR	Alice Springs	115.54	101	PKP	PKPdf	05 03 36.3 -0.9
	comp=Z,1.4nm,0.6s,baz=325,slow=2.2,SNR=4.5					
ASAR				PKKPbc	PKKPbc	05 14 09.3 -0.1
	comp=Z,0.4nm,0.5s,baz=112,slow=3.6,SNR=4.1					
PLCA	Paso Flores	118.69	239	PKP	PKiKP	05 03 42.9 0.0
	comp=Z,1.6nm,0.9s,baz=72,slow=6.4,SNR=2.7					
BELA	Belgrano 2	119.91	193		PKPdf	05 03 43.8 -0.2
QSPA	South Pole Qui	126.12	180	PKP	PKiKP	05 03 57.6 +0.8
	comp=Z,3.3nm,0.9s,baz=283,slow=1.9,SNR=16					
DZM	Mont Dzumac	140.91	81	eLR	LR	05 50 01.7
	comp=Z,229nm,23.2s					
TAOE	Nuku Hiva Isla	150.84	337	eLR	LR	05 54 41.9
	comp=Z,247nm,23.9s					
PPT2	Papeete2	161.32	354	eLR	LR	05 59 33.0
	comp=Z,212nm,29.8s					
PPT2				eLR	LR	05 59 37.8
	comp=Z,209nm,21.8s					
TBI	Tubuai	167.01	352	eLR	LR	06 02 21.1
	comp=Z,1μm,25.0s					

*IDC **03** 04:54:55.1±0.5, 13°.62N×120°.89E, h140km±4km, mb4.2/26, mbtmp4.6/26, MS3.7/2, Error ellipse: s-maj=21.3km s-min=8.5km az=62.0*
*NEIC **03** 04:54:56.4±1.2, 13°.61N±0°.07×120°.8E±0°.1, h138km±4km, mb4.6/89, Error ellipse: s-maj=17.6km s-min=10.1km az=75.0*
*BJI **03** 04:54:59.8, 13°.46N×120°.73E, h204km, mB4.8/8, mb4.6/44*
*DJA **03** 04:55:00.8±0.4, 14°N±2°×12°1E±°, h194km±6km, M4.6/32, mb4.5/32, mB5.2/13, Mw(mB)4.6/13*
ISC 03 04:54:56.1±0.7, **13°59N**±0°.05×**120°84E**±0°.07, **h145**km±6km, **n356**, σ1°**s12**/364, **mb4.6**/79, **1C**, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.52	11	P	Pn	04 55 16.3	-0.7
	7μm,0.4s,baz=237,slow=2.7,SNR=348						
TGY				S	Sn	04 55 31.5	-1.4
	7μm,0.5s,baz=180,slow=20,SNR=6.1						
DAV	Davao City (W)	7.98	144	LR	LR	05 00 51.5	
	comp=Z,38nm,18.3s,baz=53,slow=45						
MYLDM	Lahad Datu	8.67	196		Pn	04 56 58.9	+0.3
SSLB	Suanglung	10.14	1		Pn	04 57 18.7	+0.6
QIZ	Qiongzhong	11.86	299	Pn	Pn	04 57 38.8	-1.9
QIZ	Qiongzhong	11.86	299	P	Pn	04 57 42.8	+2.1
QIZ				S	Sn	04 59 49.9	-1.8
MRSI	Marisa	13.08	175	P	P	04 58 00.3	-1.1
	934nm22nm,1.1s						
MRSI	Marisa	13.08	175	P	P	04 58 06.3	+4.9
SBUM	Sibu	13.97	218		Pn	04 58 07.7	-0.2
APSI	Ampana	14.43	177	P	P	04 58 18.8	+2.4
	39nm,1.0s						
PCI	Palu	14.44	184	P	P	04 58 19.0	+2.5
	6μm65nm,0.5s						
LUWI	Luwuk	14.67	172	P	P	04 58 22.7	+3.7
	4μm97nm,1.0s						
JOW	Kunigami	14.90	27	LR	LR	05 03 22.1	
	comp=Z,60nm,20.0s,baz=320,slow=34						
BKB	Balikpapan	15.27	195	P	P	04 58 27.5	+1.8
	83nm,1.3s						
LBMI	Labuha	15.60	154	P	P	04 58 32.5	+3.0
KSM	Kuching	15.93	222		P	04 58 35.9	+2.9
WHN	Wuhan	17.90	342	P	Pn	04 58 57.4	+1.4
BBKI	Banjar Baru	17.96	200	P	Pn	04 58 58.8	+2.0
	10μm67nm,0.6s						
NJ2	Nanjing	18.46	355	eP	Pn	04 59 04.2	+1.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KAPI	Kappang	18.52	183		P	04 59 02.4	+0.9
KAPI				IAmb	IAmb	04 59 06.5	
	comp=Z,20nm,0.5s						
KAPI	Kappang	18.52	183	P	Pn	04 59 03.8	+0.5
	comp=Z,21nm,0.5s,baz=342,slow=5.9,SNR=10						
BKSI	Bulukumba	18.80	182	P	Pn	04 59 08.1	+1.3
	comp=Z,14nm,0.8s						
BSSI	Bau Bau, Buton	19.61	181	P	Pn	04 59 16.4	+0.2
	comp=Z,38nm,1.0s						
KULM	Kulim	21.54	249	P	P	04 59 35.6	+1.5
KULM				IAmb	IAmb	04 59 36.3	
	comp=Z,14nm,0.6s						
CM31	Chiang Mai Arr	21.59	286	P	P	04 59 35.2	+0.7
CM31				IAmb	IAmb	04 59 36.5	
	comp=Z,27nm,0.8s						
CMAR	Chiang Mai Arr	21.59	286		P	04 59 33.4	-1.1
CMAR	Chiang Mai Arr	21.59	286	P	P	04 59 35.3	+0.7
	comp=Z,16nm,0.8s,baz=93,slow=7.8,SNR=63						
CMAR				PcP	PcP	05 03 31.6	+0.7
	comp=Z,2.4nm,0.3s,baz=74,slow=0.9,SNR=6.7						
	comp=Z,16nm,0.8s						
CHTO	Chiang Mai	21.65	287		P	04 59 34.0	-1.2
PZH	PanZhiHua	22.02	309	P	P	04 59 39.7	+0.5
LYN	LuoYang	22.20	341	P	P	04 59 41.2	+0.5
LYN				pmax	pmax		
	comp=Z,37nm,0.7s						
PLAI	Plampang	22.48	188	P	P	04 59 45.4	+1.8
	comp=Z,974nmcomp=Z,99nm,0.8s						
XAN	Xi'an	23.05	334	⇑P	P	04 59 48.0	-0.8
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
CD2	Chengdu	23.33	320	P	P	04 59 50.8	-0.6
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
RPSI	Rantau Prapat	24.22	245		P	04 59 59.8	+0.2
RPSI				IAmb	IAmb	05 00 00.7	
	comp=Z,24nm,0.7s						
MNSI	Mandailing Nat	24.59	241	P	P	05 00 03.5	+0.5
PPI	Padang Panjang	24.60	237	P	P	05 00 03.8	+0.7
	comp=Z,24nm,0.6s						
GSI	Gunungsitoli	26.06	244		P	05 00 15.7	-0.6
GSI	Gunungsitoli	26.06	244	P	P	05 00 16.0	-0.3
LZDM	Lanzhou Array	27.08	328	P	P	05 00 26.1	+0.5
	comp=Z,5.6nm,0.5s,baz=162,slow=11,SNR=9.9						
	comp=Z,5.6nm,0.5s						
LZH	Lanzhou	27.11	329	eP	P	05 00 26.6	+1.0
LZH				S	S	05 04 56.9	+3.6
LZH				pmax	pmax		
	comp=Z,49nm,1.1s						
LZH				LR	LR		
	comp=Z,730nm,17.7s						
LZH				LR	LR		
	comp=Z,360nm,16.3s						
LZH				LR	LR		
	comp=Z,860nm,18.6s						
HHC	Hu-ho-hao-te	28.34	345	eP	P	05 00 40.1	+3.6
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
SHL	Shillong	29.69	298	P	P	05 00 47.8	-1.0
GTA	Gaotai	31.70	328	P	P	05 01 07.5	+1.3
GTA				pmax	pmax		
	comp=Z,38nm,0.7s						
GTA				LR	LR		
	comp=Z,670nm,19.3s						
GTA				LR	LR		
	comp=Z,610nm,18.9s						
GTA				LR	LR		
	comp=Z,600nm,19.6s						
LSA	Lhasa	31.78	305	P	P	05 01 07.7	+0.3
LSA				IAmb	IAmb	05 01 08.9	
	comp=Z,10nm,0.6s						
GOMU	GeErMu	32.43	319	P	P	05 01 13.3	+0.4
GOMU				pmax	pmax		
	comp=Z,11nm,1.0s						
MBWA	Marble Bar	34.55	182	P	P	05 01 31.0	+0.1
EVN	Everest	34.73	300	P	P	05 01 33.5	+0.2
EVN				PcP	PcP	05 04 04.6	+0.7
PSA00	Pilbara Seismi	34.96	182	P	P	05 01 34.5	0.0
PSA00	Pilbara Seismi	34.96	182	P	P	05 01 33.8	-0.6
PSA00				IAmb	IAmb	05 01 35.4	
	comp=Z,12nm,0.8s						
WB0	Warramunga Arr	35.73	158	P	P	05 01 40.1	-1.0
WB0				IAmb	IAmb	05 02 14.5	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	35.88	158	P	P	05 01 41.5	-0.8
	comp=Z,2.9nm,0.6s,baz=335,slow=9.6,SNR=30						
WRA				PcP	PcP	05 04 04.4	-2.1
	comp=Z,1.0nm,0.8s,baz=343,slow=2.6,SNR=2.3						
WRA				S	S	05 07 05.0	-4.7
	comp=Z,2.1nm,0.9s,baz=342,slow=14,SNR=5.3						
	comp=Z,2.9nm,0.6s						
SONM	Songino Array	36.20	343	P	P	05 01 44.6	-0.3
	comp=Z,4.1nm,0.6s,baz=164,slow=9.7,SNR=22						
SONM				PcP	PcP	05 04 06.0	-1.2
	comp=Z,0.6nm,0.5s,baz=159,slow=2.8,SNR=1.8						
	comp=Z,4.1nm,0.6s						
AS31	Alice Springs	39.17	161	P	P	05 02 10.6	+0.6
ASAR	Alice Springs	39.17	161	P	P	05 02 10.1	+0.1
	comp=Z,2.7nm,0.5s,baz=337,slow=7.0,SNR=25						
ASAR				PcP	PcP	05 04 16.8	+0.1
	comp=Z,1.2nm,0.4s,baz=344,slow=3.2,SNR=4.1						
ASAR				S	S	05 07 58.4	-1.0
	comp=Z,0.6nm,0.9s,baz=353,slow=16,SNR=4.6						
	comp=Z,2.7nm,0.5s						
WMQ	Urumqi	41.37	323	eP	P	05 02 30.3	+2.3
WMQ				LR	LR		
	comp=Z,790nm,13.7s						
WMQ				LR	LR		
	comp=Z,670nm,13.9s						
WMQ				LR	LR		
	comp=Z,500nm,16.3s						
MORW	Morawa	42.66	186	P	P	05 02 38.3	-0.2
MORW				IAmb	IAmb	05 02 39.9	
	comp=Z,18nm,0.9s						
MKAR	Makanchi Array	46.20	324	P	P	05 03 06.5	+0.1
MKAR	Makanchi Array	46.20	324	P	P	05 03 06.7	+0.3
	comp=Z,11nm,0.8s,baz=128,slow=9.1,SNR=55						
MKAR				PcP	PcP	05 04 39.8	0.0
	comp=Z,1.0nm,0.7s,baz=114,slow=1.7,SNR=2.5						
	comp=Z,11nm,0.8s						
TARG	Taragay, Kyrgy	46.62	315	P	P	05 03 10.6	+0.3
KSH	Kashi	47.07	312	P	P	05 03 15.1	+1.6
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KDJ	Kajisay	47.21	316	P	P	05 03 15.1	+0.6
KDJ				IAmb	IAmb	05 03 16.1	
	comp=Z,15nm,1.0s						
NIL	Nilore	47.48	303	P	P	05 03 16.2	-0.4
ULHL	Ulahol	47.89	315	P	P	05 03 20.6	+0.7
	SNR=11						
BOOM	Boomskoye usch	48.19	316	P	P	05 03 22.5	+0.4
BOOM				IAmb	IAmb	05 03 23.5	
	comp=

KURK	Kurchatov	50.35	326	P	P	05 03 38.4	+0.2
KBL	Kabul	51.08	304	P	P	05 03 44.4	+0.2
GAR	Garm	51.09	309		P	05 03 44.0	-0.1
CHGR	Chuyangaron	51.88	309		P	05 03 49.6	-0.3
KK31	Karatay Array	52.15	314		P	05 03 51.9	+0.2
KK31				IAmb	IAmb	05 03 52.4	
	comp=Z,10nm,0.7s						
KKAR	Karatay Array	52.15	314	P	P	05 03 51.6	-0.1
BVAR	Borovoye Array	55.94	326	P	P	05 04 18.8	-0.2
	comp=Z,4.1nm,0.6s,baz=107,slow=8.1,SNR=12						
	comp=Z,4.1nm,0.6s						
AB31	Akbulak array	60.90	319	P	P	05 04 53.2	-0.3
ABKAR	Akbulak array	60.90	319	P	P	05 04 53.1	-0.4
BELG	Belogornoye	69.11	321	P	P	05 05 45.2	-1.2
	comp=Z,22nm,0.8s,baz=99,slow=3.0,SNR=12						
	comp=Z,22nm,0.8s						
GNI	Garni	70.79	308	P	P	05 05 56.1	-1.1
	comp=Z,2.6nm,0.4s,baz=70,slow=18,SNR=4.0						
	comp=Z,2.6nm,0.4s						
F15K	North Star Dit	71.33	25	P	P	05 06 00.8	+1.0
	baz=262						
RAYN	Ar Rayn	71.42	290	P	P	05 06 01.1	0.0
C16K	Lisburne Hills	71.48	22	P	P	05 06 01.4	+0.9
	baz=260						
S12K	Black Hills	71.61	36	P	P	05 06 02.9	+1.3
	baz=267						
L14K	Kuka Creek	71.69	30	P	P	05 06 03.3	+1.4
	baz=265						
M14K	Bethel	71.99	30	P	P	05 06 04.8	+1.1
	baz=266						
KBZ	Khabaz	72.05	312	P	P	05 06 03.5	-0.9
	comp=Z,5.4nm,0.9s,baz=102,slow=13,SNR=9.1						
	comp=Z,5.4nm,0.9s						
H16K	Elim	72.21	26	P	P	05 06 05.9	+0.9
	baz=264						
D17K	Noatak River	72.23	23	P	P	05 06 06.2	+1.2
	baz=262						
G16K	Koyuk River	72.24	25	P	P	05 06 05.8	+0.7
	baz=264						
L15K	Ungalak Mounta	72.29	29	P	P	05 06 06.1	+0.7
	baz=266						
K15K	Wolf Creek Mou	72.31	29	P	P	05 06 05.8	+0.2
	baz=266						
SDPT	Sand Point	72.50	36	P	P	05 06 07.4	+0.5
	baz=269						
M15K	Kasigluk River	72.61	30	P	P	05 06 07.9	+0.5
	baz=267						
N15K	Kwethluk River	72.88	31	P	P	05 06 09.5	+0.5
	baz=268						
B18K	Kokolik River	72.91	21	P	P	05 06 09.9	+0.8
	baz=263						
G17K	Kiwalik Mounta	72.96	25	P	P	05 06 10.2	+0.8
	baz=265						
GURO	Guroymak-BITLI	72.97	306	P	P	05 06 11.0	+0.8
O15K	Ungalikthiuk R	72.97	32	P	P	05 06 10.1	+0.5
	baz=268						
C18K	Utukok River	73.05	22	P	P	05 06 10.9	+0.9
	baz=264						
E18K	Tukpahlearik C	73.15	23	P	P	05 06 11.4	+0.9
	baz=265						
H17K	Granite Mounta	73.23	26	P	P	05 06 12.3	+1.3
	baz=266						
L16K	Owhat River	73.25	29	P	P	05 06 12.1	+1.0
	baz=268						
F18K	Selawik	73.45	24	P	P	05 06 13.4	+1.1
	baz=266						
M16K	Timber Creek	73.47	30	P	P	05 06 13.6	+1.1
	baz=268						
J17K	VABM Dome	73.50	28	P	P	05 06 14.6	+1.9
J17K				IAmb	IAmb	05 06 15.6	
	comp=Z,16nm,1.0s						
J17K	VABM Dome	73.50	28	P	P	05 06 14.2	+1.5
	baz=267						
N16K	Nishlik Lake	73.55	31	P	P	05 06 14.4	+1.4
	baz=268						
C19K	Lookout Ridge	73.67	22	P	P	05 06 14.8	+1.2
	baz=265						
G18K	Tagagawik	73.81	25	P	P	05 06 15.7	+1.3
	baz=267						
L17K	Donlin	73.82	29	P	P	05 06 16.1	+1.6
	baz=268						
K17K	Iditarod	73.83	28	P	P	05 06 16.3	+1.7
K17K				IAmb	IAmb	05 06 17.1	
	comp=Z,12nm,0.8s						
K17K	Iditarod	73.83	28	P	P	05 06 16.2	+1.7
	baz=268						
O16K	Kokwok River B	73.87	32	P	P	05 06 16.2	+1.4
	baz=269						
H18K	Honhosa River	73.90	26	P	P	05 06 15.8	+0.9
	baz=268						
MARD	Mardin	74.05	305		P	05 06 16.6	+0.1
D19K	Kuna River	74.16	22	P	P	05 06 17.7	+1.2
	baz=267						
M17K	Holitna River	74.21	30	P	P	05 06 18.4	+1.6
	baz=269						
N17K	Nushagak Hills	74.33	31	P	P	05 06 18.4	+0.9
	baz=270						
O17K	Koliganek Bris	74.38	31	P	P	05 06 18.5	+0.8
	baz=270						
E19K	Redstone River	74.45	23	P	P	05 06 18.6	+0.6
	baz=268						
GCSA	Galena City Sc	74.52	26	P	P	05 06 19.5	+1.1
	baz=269						
J18K	Innoko River	74.57	28	P	P	05 06 19.3	+0.4
	baz=270						
L18K	Granite Mounta	74.57	29	P	P	05 06 19.5	+0.7
	baz=270						
B20K	Meade River	74.58	21	P	P	05 06 19.9	+1.1
	baz=267						
Q16K	King Salmon	74.61	32	P	P	05 06 19.9	+0.8
	baz=271						
H19K	Roundabout Mou	74.71	25	P	P	05 06 21.2	+1.6
H19K				IAmb	IAmb	05 06 21.9	
	comp=Z,11nm,0.8s						
H19K	Roundabout Mou	74.71	25	P	P	05 06 20.6	+1.1
	baz=269,SNR=5.8						
P17K	Kvichak River	74.71	32	P	P	05 06 20.7	+1.0
	baz=271						
D20K	Etivluk River	74.72	22	P	P	05 06 20.6	+0.9
	baz=268						
A21K	Barrow	74.83	19	P	P	05 06 20.3	+0.2
	baz=267						
E20K	Nigu River	74.87	23	P	P	05 06 21.4	+0.8
	baz=269						
N18K	Kilae Creek	74.97	30	P	P	05 06 22.2	+0.9
	baz=271						
M18K	Stony River	74.99	30	P	P	05 06 22.6	+1.3
	baz=271						
Q17K	Contact Creek	75.02	33	P	P	05 06 22.2	+0.5
	baz=272						
F20K	Avaraart Lake	75.02	24		P	05 06 22.6	+1.2
F20K				IAmb	IAmb	05 06 23.2	
	comp=Z,6.3nm,0.7s						
F20K	Avaraart Lake	75.02	24	P	P	05 06 22.3	+0.9
	baz=269						
J19K	Poorman	75.06	27	P	P	05 06 22.6	+1.0
	baz=270						
O18K	Koktuh Hills	75.33	31	P	P	05 06 24.4	+1.2
	baz=272						
H20K	Anotleneega Mo	75.36	25	P	P	05 06 24.5	+1.1
	baz=271,SNR=6.4						
L19K	White Mountain	75.43	29		P	05 06 25.1	+1.3
L19K	White Mountain	75.43	29	P	P	05 06 24.8	+0.9
	baz=272						
B21K	Ikpikpuk River	75.46	21	P	P	05 06 24.7	+0.9
	baz=270						
Q18K	Katmai Hardscr	75.47	32	P	P	05 06 24.7	+0.5
	baz=272						
I20K	Naaghedeneel	75.54	26	P	P	05 06 25.8	+1.5
	baz=271						
N19K	Bonanza Creek	75.65	30	P	P	05 06 26.2	+0.9
	baz=272						
E21K	Killik River	75.69	22	P	P	05 06 25.8	+0.6
	baz=271						
J20K	Nowinta River	75.70	27	P	P	05 06 26.9	+1.6
J20K	Nowinta River	75.70	27	P	P	05 06 26.6	+1.3
	baz=272						
O19K	Port Alsworth	75.76	31	P	P	05 06 26.2	+0.5
	baz=272						
K20K	Telida	75.76	28	P	P	05 06 27.0	+1.3
	baz=272						
ARPR	Arapgir-MALATY	75.80	307	P	P	05 06 27.2	+0.6
ARPR				IAmb	IAmb	05 06 28.2	
	comp=Z,9.8nm,0.9s						
L20K	Farewell, AK	75.88	29	P	P	05 06 27.3	+0.9
	baz=272						
G21K	Allakaket	75.91	24		P	05 06 26.8	+0.4
G21K				IAmb	IAmb	05 06 28.4	
	comp=Z,11nm,0.9s						
G21K	Allakaket	75.91	24	P	P	05 06 27.6	+1.2
	baz=272						
H21K	Melozitna Rive	76.22	25	P	P	05 06 28.9	+0.6
H21K				IAmb	IAmb	05 06 30.6	
	comp=Z,16nm,1.4s						
H21K	Melozitna Rive	76.22	25	P	P	05 06 29.3	+1.0
	baz=272						
M20K	Styx River	76.26	29	P	P	05 06 29.7	+1.0
	baz=273						
F22K	John River	76.39	23	P	P	05 06 30.2	+1.0
	baz=273						
OHAK	Old Harbor	76.47	34	P	P	05 06 31.1	+1.4
	baz=274						
E22K	Anaktuvuk Pass	76.50	23	P	P	05 06 30.6	+0.8
	baz=273						
CHUM	Lake Minchumin	76.52	27	P	P	05 06 31.2	+1.3
	baz=273						
PPLA	Purkeypile	76.64	28	P	P	05 06 31.6	+0.8
	baz=274						
G22K	Bettles	76.68	24	P	P	05 06 31.5	+0.7
	baz=273						
N20K	Mount Spurr	76.74	30	P	P	05 06 32.0	+0.7
	baz=274						
SPCR	Spurr Chakacha	76.74	30	P	P	05 06 31.9	+0.6
	baz=274						
H22K	Ishtalitna Cre	76.80	25	P	P	05 06 32.7	+1.2
	baz=274,SNR=6.1						
C23K	Itkillik River	76.84	21	P	P	05 06 32.6	+1.0
	baz=273						
D23K	Nanushuk River	76.87	22	P	P	05 06 32.9	+1.1
	baz=274						
SKT	Skwentna	77.01	29	P	P	05 06 33.0	+0.3
	baz=274						
BPAW	Bear Paw Mtn.	77.09	27	P	P	05 06 33.7	+0.6
BPAW				IAmb	IAmb	05 06 35.0	
	comp=Z,10nm,0.7s						
BPAW	Bear Paw Mtn.	77.09	27	P	P	05 06 34.2	+1.1
	baz=274,SNR=7.9						
MLY	Manley	77.12	26		P	05 06 34.2	+0.8
MLY				IAmb	IAmb	05 06 35.2	
	comp=Z,7.0nm,0.7s						
MLY	Manley	77.12	26	P	P	05 06 34.6	+1.2
	baz=274,SNR=5.7						
COLD	Coldfoot	77.17	24	P	P	05 06 34.8	+1.3
	baz=274						
G23K	Bananza Creek	77.28	24	P	P	05 06 35.0	+0.7
	baz=275						
CAPN	Captain Cook N	77.29	30	P	P	05 06 34.8	+0.6
	baz=275						
TOLK	Toolik Lake Re	77.30	22	P	P	05 06 35.1	+0.9
	baz=275						
E23K	Chandalar	77.33	23	P	P	05 06 35.8	+1.3
E23K	Chandalar	77.33	23	P	P	05 06 35.2	+0.7
	baz=275						
SUA	Susitna One	77.42	29	P	P	05 06 35.9	+0.7
SUA				IAmb	IAmb	05 06 36.0	
	comp=Z,14nm,1.0s						
SUA	Susitna One	77.42	29	P	P	05 06 35.6	+0.4
	baz=275						
TRF	Thorofare Moun	77.45	27	P	P	05 06 36.1	+0.7
	baz=275						
C24K	Franklin Bluff	77.52	21	P	P	05 06 36.7	+1.3
	baz=275						
D24K	Happy Valley	77.53	22	P	P	05 06 36.4	+0.9
	baz=275						
H23K	Yukon River	77.56	25	P	P	05 06 37.1	+1.3
H23K				IAmb	IAmb	05 06 42.8	
	comp=Z,17nm,1.5s						
H23K	Yukon River	77.56	25	P	P	05 06 37.1	+1.3
	baz=275						
CUT	Chulitna	77.56	28	P	P	05 06 37.2	+1.5
	baz=276						
BRSE	Bradley Lake S	77.59	31	P	P	05 06 37.3	+1.3
	baz=276						
M22K	Willow	77.69	29	P	P	05 06 37.1	+0.6
	baz=276						
I23K	Minto, Yukon-K	77.70	26	P	P	05 06 37.3	+0.8
I23K	Minto, Yukon-K	77.70	26	P	P	05 06 37.4	+0.9
	baz=276,SNR=5.3						
BNN	Bunyan	77.75	307		P	05 06 37.3	-0.2
BNN				IAmb	IAmb	05 06 38.9	
	comp=Z,9.5nm,1.0s						
E24K	Your Creek	77.75	23	P	P	05 06 37.8	+0.9
	baz=276						
ASF	Jabal al Asfar	77.83	300	P	P	05 06 38.4	+0.3
	comp=Z,8.7nm,0.9s,baz=90,slow=2.0,SNR=9.0						
	comp=Z,8.7nm,0.9s						
NEA2	Nenana	77.88	26	P	P	05 06 38.9	+1.4
NEA2	Nenana	77.88	26	P	P	05 06 38.5	+1.0
	baz=276						
RC01	Rabbit Creek A	77.94	30	P	P	05 06 38.3	+0.4
	baz=276						
O22K	Cooper Landing	78.02	30	P	P	05 06 38.5	+0.2
	baz=276						
MCK	McKinley	78.03	27	P	P	05 06 38.9	+0.5
	baz=276,SNR=5.1						
F24K	Squaw Lake	78.04	23	P	P	05 06 39.5	+1.1
F24K				IAmb	IAmb	05 06 40.3	
	comp=Z,7.0nm,0.8s						
F24K	Squaw Lake	78.04	23	P	P	05 06 39.6	+1.1
	baz=276						
RND	Reindeer	78.10	27		P	05 06 38.9	+0.1
RND				IAmb	IAmb	05 06 40.3	
	comp=Z,5.1nm,0.6s						
PMR	Palmer	78.18	29	P	P	05 06 39.6	+0.4
	baz=277						
SEW	Seward	78.19	31	P	P	05 06 39.7	+0.4
	baz=277						
H24K	Noodor Dome	78.24	25		P	05 06 40.6	+1.1
H24K	Noodor Dome	78.24	25	P	P	05 06 40.6	+1.1
	baz=277						
G24K	Hadweenzic Riv	78.29	24	P	P	05 06 41.0	+1.2
	baz=277						
WAT1	Susitna Watana	78.30	28	P	P	05 06 40.2	+0.2
	baz=277						
COLA	College	78.36	26	P	P	05 06 40.8	+0.7
	baz=277						
D25K	Kavik River	78.37	21	P	P	05 06 41.3	+1.0
	baz=278						
CCB	Clear Creek Bu	78.41	26		P	05 06 40.4	0.0
SML	Sawmill	78.53	29	P	P	05 06 42.0	+0.8
	baz=277						
PWL	Port Wells	78.65	30	P	P	05 06 42.5	+0.7
	baz=278						
WAT6	Susitna Watana	78.71	28	P	P	05 06 42.8	+0.5
	baz=278						
ILAR	Eielson Array	78.79	26	P	P	05 06 42.0	-0.5
	comp=Z,1.1nm,0.7s,baz=259,slow=5.1,SNR=11						
	comp=Z,1.1nm,0.7s						
DHY	Denali Highway	78.81	28	P	P	05 06 42.8	-0.1
	baz=278						
HDA	Harding Lake	78.81	26	P	P	05 06 42.1	-0.5
HDA	Harding Lake	78.81	26	P	P	05 06 42.0	-0.7
	baz=278						
M23K	Glacier View	78.82	29	P	P	05 06 43.3	+0.6
	baz=278						
G25K	Bearman Lake	78.83	24	P	P	05 06 44.1	+1.5
	baz=278,SNR=5.3						
F25K	Christian Rive	78.88	23	P	P	05 06 43.8	+0.7
F25K	Christian Rive	78.88	23	P	P	05 06 44.5	+1.4
	baz=278						
MMAI	Mount Meron Ar	78.95	301	P	P	05 06 44.0	-0.1
	comp=Z,1.1nm,0.4s,baz=67,slow=8.0,SNR=1.8						
	comp=Z,1.1nm,0.4s						
SCM	Sheep Creek Mo	79.00	29	P	P	05 06 45.0	+1.2
	baz=278						
H25L	Birch Creek	79.01	24	P	P	05 06 44.9	+1.2
	baz=279						
GHAJ	Ghor Haditha	79.09	300	P	P	05 06 44.8	0.0
P23K	Montague Islan	79.23	31	P	P	05 06 45.9	+0.9
	baz=278						
ARCES	ARCESS Array B	79.23	339	P	P	05 06 44.0	-0.9
	comp=Z,5.6nm,0.8s,baz=75,slow=6.8,SNR=22						
	comp=Z,5.6nm,0.8s						
PRP	Porcupine Dome	79.25	25	P	P	05 06 45.8	+0.6
	baz=279						
GLI	Glacier Island	79.25	30	P	P	05 06 45.5	+0.4
	baz=278						
C27K	Jago River	79.26	21	P	P	05 06 45.8	+0.8
	baz=280						
BMAR	Burnt Mountain	79.31	23	P	P	05 06 46.9	+1.6
BRTR	Keskin Array B	79.32	308	P	P	05 06 45.5	-0.6
	comp=Z,2.0nm,0.8s,baz=107,slow=4.9,SNR=9.7						
	comp=Z,2.0nm,0.8s						
K24K	Donnelly Dome	79.41	27	P	P	05 06 46.4	+0.4
	baz=279						
F26K	Sheenjek River	79.43	23	P	P	05 06 46.7	+0.7
	baz=280						
J25K	Salcha River,	79.45	26	P	P	05 06 46.7	+0.5
	baz=279						
M24K	Tolsona, Glenn	79.50	29	P	P	05 06 47.7	+1.2
	baz=279						
PAX	Paxson	79.68	28	P	P	05 06 48.4	+0.9
	baz=280						
G26K	Porcupine Rive	79.70	23	P	P	05 06 48.7	+1.3
	baz=280						
KLU	Klutina	79.71	29	P	P	05 06 48.6	+0.9
	baz=279						
SPITS	Spitsbergen Ar	79.72	348	P	P	05 06 46.6	-0.8
	comp=Z,5.0nm,0.6s,baz=84,slow=8.5,SNR=12						
	comp=Z,5.0nm,0.6s						
RIDG	Independent Ri	79.83	27	P	P	05 06 48.7	+0.5
RIDG				IAmb	IAmb	05 06 49.2	
	comp=Z,9.4nm,0.8s						
RIDG	Independent Ri	79.83	27	P	P	05 06 48.9	+0.7
	baz=280						
EIL	Elat	79.88	298	P	P	05 06 49.2	+0.1
	comp=Z,17nm,0.9s,baz=63,slow=4.5,SNR=11						
	comp=Z,17nm,0.9s						
HARP	HAARP	79.92	28	P	P	05 06 50.0	+1.3
	baz=280						
SCRK	Sand Creek	80.16	26	P	P	05 06 51.2	+1.1
	baz=281						
J26L	Joseph Creek	80.24	26	P	P	05 06 50.9	+0.4
	baz=281						
I26K	Coal Creek Min	80.26	25		P	05 06 50.8	+0.4
I26K				IAmb	IAmb	05 06 51.7	
	comp=Z,8.1nm,0.7s						
I26K	Coal Creek Min	80.26	25	P	P	05 06 51.2	+0.8
	baz=281,SNR=8.3						
D27M	Malcolm River	80.28	21	P	P	05 06 51.8	+1.2
	baz=282						
E27K	Coleen River	80.28	22	P	P	05 06 52.0	+1.4
	baz=282						
N25K	Chitina, Valde	80.32	29	P	P	05 06 52.2	+1.2
	baz=281						
BMRM	Bremner River	80.43	30	P	P	05 06 52.5	+1.0
	baz=281						
FINES	FINESS Array B	80.44	331	P	P	05 06 50.3	-1.2
	comp=Z,1.3nm,0.4s,baz=55,slow=5.6,SNR=16						
	comp=Z,1.3nm,0.4s						
G27K	Doyon Strip	80.55	23	P	P	05 06 53.1	+1.1
G27K	Doyon Strip	80.55	23	P	P	05 06 53.3	+1.3
	baz=282						
H27K	Steamboat Moun	80.73	24	P	P	05 06 54.4	+1.4
	baz=282						
I27K	Kandik River	80.83	25	P	P	05 06 55.3	+1.7
	baz=282,SNR=7.1						
M26K	Nabesna, AK	80.91	28	P	P	05 06 55.0	+1.0
	baz=282						
E28M	Babbage River	80.93	21	P	P	05 06 54.8	+0.9
	baz=284						
K27K	Chicken	80.97	26	P	P	05 06 55.7	+1.4
K27K	Chicken	80.97	26	P	P	05 06 55.6	+1.3
	baz=282						
D28M	Stokes Point	81.03	21	P	P	05 06 55.8	+1.4
	baz=285						
F28M	Old Crow	81.05	22	P	P	05 06 55.8	+1.1
F28M				IAmb	IAmb	05 06 56.4	
	comp=Z,8.6nm,0.8s						
F28M	Old Crow	81.05	22	P	P	05 06 55.7	+1.1
	baz=284,SNR=7.0						
EGAK	Eagle	81.20	25	P	P	05 06 56.1	+0.7
EGAK				IAmb	IAmb	05 06 56.8	
	comp=Z,6.0nm,0.7s						
EGAK	Eagle	81.20	25	P	P	05 06 56.5	+1.1
	baz=283						
L27K	Beaver Creek,	81.29	27	P	P	05 06 57.6	+1.5
L27K	Beaver Creek,	81.29	27	P	P	05 06 57.6	+1.5
	baz=283						
M27K	Edge Creek, AK	81.42	28	P	P	05 06 57.7	+0.9
	baz=283						
I28M	Miner Creek	81.54	25		P	05 06 58.6	+1.2
I28M				IAmb	IAmb	05 06 59.6	
	comp=Z,7.6nm,0.8s						
I28M	Miner Creek	81.54	25	P	P	05 06 59.0	+1.7
	baz=284,SNR=7.5						
E29M	Blow River	81.57	22		P	05 06 58.2	+0.9
E29M	Blow River	81.57	22	P	P	05 06 58.2	+0.9
	baz=286						
G29M	Pine Creek	81.92	23	P	P	05 07 00.9	+1.7
	baz=286,SNR=10.0						
H29M	Whitestone	81.97	24		P	05 07 00.7	+1.2
H29M				IAmb	IAmb	05 07 01.2	
	comp=Z,11nm,0.8s						
H29M	Whitestone	81.97	24	P	P	05 07 00.8	+1.3
	baz=285,SNR=7.3						
CTG	Chitna Glacier	81.99	29	P	P	05 07 01.4	+1.5
	baz=284						
CTGM	Chitina Glacie	82.00	29	P	P	05 07 01.2	+1.3
CTGM				IAmb	IAmb	05 07 03.2	
	comp=Z,13nm,1.0s						
DAWY	Dawson	82.11	26	P	P	05 07 01.4	+1.1
	baz=285						
I29M	Ogilvie Camp,	82.23	25	P	P	05 07 01.6	+0.8
I29M	Ogilvie Camp,	82.23	25	P	P	05 07 01.7	+0.9
	baz=286						
J29N	Klondike Camp	82.51	25	P	P	05 07 03.5	+1.1
J29N				IAmb	IAmb	05 07 04.8	
	comp=Z,12nm,0.7s						
J29N	Klondike Camp	82.51	25	P	P	05 07 03.8	+1.4
	baz=286						
F30M	Barrier River	82.56	22		P	05 07 03.5	+1.0
F30M				IAmb	IAmb	05 07 04.1	
	comp=Z,11nm,0.8s						
F30M	Barrier River	82.56	22	P	P	05 07 03.5	+1.0
	baz=288						
EPYK	Eagle Plains	82.57	23	P	P	05 07 03.2	+0.6
EPYK				IAmb	IAmb	05 07 03.9	
	comp=Z,8.1nm,0.7s						
EPYK	Eagle Plains	82.57	23	P	P	05 07 03.5	+0.9
	baz=287,SNR=5.5						
G30M	tAoh Zraii Nji	82.58	23		P	05 07 02.9	+0.2
G30M				IAmb	IAmb	05 07 04.1	
	comp=Z,8.8nm,0.9s						
G30M	tAoh Zraii Nji	82.58	23	P	P	05 07 03.1	+0.4
	baz=287,SNR=5.3						
O28M	Mount Upton	82.58	29	P	P	05 07 04.1	+1.0
	baz=284						
PINM	Pinnacle	82.72	30	P	P	05 07 04.9	+1.3
	baz=284						
L29M	L29M	82.91	27		P	05 07 06.2	+1.7
L29M				IAmb	IAmb	05 07 07.1	
	comp=Z,5.9nm,0.8s						
L29M	L29M	82.91	27	P	P	05 07 06.2	+1.7
	baz=286,SNR=5.4						
M29M	Somme Creek	82.95	27		P	05 07 06.1	+1.4
M29M				IAmb	IAmb	05 07 07.3	
	comp=Z,5.7nm,0.7s						
M29M	Somme Creek	82.95	27	P	P	05 07 06.8	+2.0
	baz=286,SNR=7.0						
K29M	Barlow Dome	82.97	26	P	P	05 07 06.2	+1.3
K29M				IAmb	IAmb	05 07 06.9	
	comp=Z,4.9nm,0.7s						
K29M	Barlow Dome	82.97	26	P	P	05 07 06.0	+1.2
	baz=286						
I30M	Mount Dempster	83.04	24		P	05 07 05.8	+0.5
I30M				IAmb	IAmb	05 07 06.8	
	comp=Z,6.4nm,0.7s						
I30M	Mount Dempster	83.04	24	P	P	05 07 06.4	+1.2
	baz=287,SNR=7.6						
INK	Inuvik	83.14	21	P	P	05 07 05.9	+0.4
INK				IAmb	IAmb	05 07 06.6	
	comp=Z,6.4nm,0.8s						
INK	Inuvik	83.14	21	P	P	05 07 05.9	+0.4
	baz=290						
J30M	Hart River	83.25	25		P	05 07 07.3	+1.0
J30M	Hart River	83.25	25	P	P	05 07 07.6	+1.3
	baz=287						
G31M	Satah River	83.33	23	P	P	05 07 06.9	+0.5
	baz=289						
F31M	Tsiigehtchic	83.36	22	P	P	05 07 06.6	+0.1
F31M	Tsiigehtchic	83.36	22	P	P	05 07 07.1	+0.6
	baz=289						
YUK6	Outpost Mounta	83.40	29	P	P	05 07 06.9	-0.4
	baz=286						
M30M	Minto, Yukon	83.65	27		P	05 07 09.7	+1.5
M30M				IAmb	IAmb	05 07 10.8	
	comp=Z,14nm,1.4s						
M30M	Minto, Yukon	83.65	27	P	P	05 07 09.7	+1.5
	baz=287						
H31M	Peel River	83.67	24	P	P	05 07 08.7	+0.5
	baz=289						
MAYO	Mayo, Yukon	83.74	26

baz=288
MLR Muntele Rosu 83.82 315 P P 05 07 09.2 -0.4
MLR Muntele Rosu 83.82 315 P P 05 07 08.7 -0.9
comp=Z,3.7nm,0.6s,baz=107,slow=11,SNR=7.3
comp=Z,3.7nm,0.6s
BUR08 Bucovina Ar. S 83.83 317 P 05 07 09.3 -0.3
HYT Haines Junctio 83.84 29 P P 05 07 10.9 +1.5
baz=287
N30M Aishikik Lake 83.85 28 P P 05 07 10.8 +1.5
baz=287
P29M Windy Craggy 84.07 30 P P 05 07 12.0 +1.5
baz=287
A36M Sachs Harbour 84.30 17 P P 05 07 12.8 +1.6
baz=297
P30M Million Dollar 84.30 29 P P 05 07 13.0 +1.4
baz=287
N31M Braeburn, Yuko 84.44 28 P P 05 07 13.8 +1.5
baz=288
O30N Mendenhall 84.52 29 P P 05 07 14.1 +1.4
baz=288
M31M Drury Creek, Y 84.83 27 P P 05 07 15.1 +0.9
M31M Drury Creek, Y 84.83 27 P P 05 07 15.3 +1.1
baz=289
WHY Whitehorse 85.12 29 P P 05 07 17.0 +1.2
WHY Whitehorse 85.12 29 P P 05 07 16.7 +0.9
baz=289
KARP Karpathos 85.16 305 P 05 07 16.6 +0.1
SKAG Skagway 85.29 30 P P 05 07 17.6 +1.1
baz=289
N32M Quiet Lake 85.78 28 P P 05 07 20.2 +1.3
N32M Quiet Lake 85.78 28 P P 05 07 20.1 +1.1
baz=290
C36M Paulatuk 85.87 19 P P 05 07 19.6 +0.5
baz=298
STHS Stebnicka Huta 85.93 320 *e*P **P 05 07 19.4 -0.5**
MMPY Sheldon Lake, 86.05 26 P P 05 07 21.6 +1.3
baz=292
NB2 NORSAR Subarra 87.42 333 P P 05 07 25.7 -1.2
comp=Z,1.7nm,0.7s,baz=66,slow=4.6
NOA NORSAR Array B 87.42 333 P P 05 07 25.1 -1.9
comp=Z,3.5nm,0.8s,baz=68,slow=4.5,SNR=9.0
comp=Z,3.5nm,0.8s
TGTN Hyland Airport 87.77 27 P P 05 07 29.7 +1.1
baz=295
WTLY Watson Lake, Y 88.13 28 P P 05 07 31.3 +1.0
baz=294
GERES GERESS Array B 90.80 321 P P 05 07 41.7 -1.5
comp=Z,0.6nm,0.8s,baz=14,slow=6.1,SNR=4.1
comp=Z,0.6nm,0.8s
MAW Mawson 91.04 199 LR LR 05 46 07.7
comp=Z,157nm,20.9s,baz=324,slow=34
YKA Yellowknife Ar 92.82 23 P P 05 07 50.9 -1.1
comp=Z,2.6nm,0.8s,baz=309,slow=4.6,SNR=6.1
comp=Z,2.6nm,0.8s
VNDA Vanda 93.92 172 P P 05 07 55.9 -0.7
comp=Z,1.1nm,0.8s,baz=309,slow=6.9,SNR=5.3
comp=Z,1.1nm,0.8s
TORD Torodi Ar. Bea 114.11 291 PKiKP PKPdf 05 13 17.7 -1.5
comp=Z,0.4nm,0.4s,baz=45,slow=2.9,SNR=5.9
TXAR Lajitas Array 119.45 45 PKP **PKPdf 05 13 29.2 0.0**
comp=Z,1.3nm,0.6s,baz=273,slow=0.9,SNR=22
DBIC Dimbokro 122.45 287 PKP **PKPdf 05 13 34.8 -0.5**
comp=Z,7.1nm,1.1s,baz=48,slow=0.4,SNR=3.7
PLCA Paso Flores 151.18 162 PKPbc **PKPbc 05 14 32.9 +0.2**
comp=Z,4.5nm,0.9s,baz=201,slow=3.1,SNR=14
CPUP Villa Florida 167.21 187 PKPab **PKPab 05 15 49.2 -1.2**
comp=Z,0.3nm,0.7s,baz=170,slow=6.1,SNR=3.3
BDFB Brasilia 169.02 258 PKPab **PKPab 05 15 58.4 -0.8**
comp=Z,2.0nm,0.8s,baz=108,slow=9.6,SNR=3.9
LPAZ La Paz 170.93 108 PKP **PKPdf 05 14 49.1 +0.4**
comp=Z,1.0nm,0.8s,baz=0.5,slow=8.4,SNR=3.9
LPAZ PKPab **PKPab 05 16 09.4 +1.2**
comp=Z,1.5nm,1.0s,baz=334,slow=1.4,SNR=4.6

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*NAO **03** 04:57:05.8, 36.°39N×22.°85E, h10km, mb3.8*
*IDC **03** 04:57:36.6±1.0, 39.°98N×22.°29E, h0km, mb3.6/9, mbtmp3.7/12, ML4.0/2, Error ellipse: s-maj=17.9km s-min=13.6km az=114.0*
*SOF **03** 04:57:37.9, 40.°03N±0.°02×22.°42E±0.°02, h16km±1km, MD3.8/4*
*ATH **03** 04:57:37.8, 40.°03N×22.°41E, h14km, ML3.7/40, Manual Solution by N.Liadopoulou First location: 2019/10/03 04:58:41, This location: 2019/10/03 05:10:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **03** 04:57:38.4, 40.°0N±0.°9×22.°4E±1.°0, h9km±1km, M3.7/31, MLh3.7/31*
*SKO **03** 04:57:38.1, 39.°99N×22.°38E, h6km, ML3.5*
*AFAD **03** 04:57:40.9, 40.°04N×22.°99E, h5km±3km, ML3.1*
ISC 03 04:57:38.4±0.7, 40.°02N±0.°01×22.°42E±0.°02, h14km±4km, n201, σ1°91/253, mb3.6/7, 16C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.10**	**31**	P		**Pg**	**04 57 41.4**	**-0.3**
LIT				S		**Sg**	**04 57 43.6**	**-0.2**
LIT	**Litokhoron**	**0.10**	**31**	*i* Pg		**Pg**	**04 57 41.3**	**-0.3**
LIT				*i* Sg		**Sg**	**04 57 43.7**	**-0.2**
LIT	**Litokhoron**	**0.10**	**31**	P		**Pg**	**04 57 41.4**	**-0.3**
LIT				S		**Sg**	**04 57 43.1**	**-0.7**
LRSO	**Larissa Observ**	**0.34**	**184**	P		**Pg**	**04 57 45.1**	**-0.4**
LRSO				S		**Sg**	**04 57 50.8**	**+0.6**
LRSO	**Larissa Observ**	**0.34**	**184**	P		**Pg**	**04 57 44.8**	**-0.6**
LRSO				S		**Sg**	**04 57 50.7**	**+0.6**
GINA	**Giannouli**	**0.35**	**184**	P		**Pg**	**04 57 45.0**	**-0.6**
GINA				S		**Sg**	**04 57 50.5**	**+0.2**
THL	**Klokotos Trika**	**0.55**	**215**	P		**Pg**	**04 57 48.0**	**-1.2**
THL				S		**Sg**	**04 57 56.1**	**-0.4**
THL	**Klokotos Trika**	**0.55**	**215**	P		**Pg**	**04 57 47.8**	**-1.4**
THL				S		**Sg**	**04 57 56.2**	**-0.4**
KZN	**Kozani**	**0.58**	**301**	P		**Pg**	**04 57 48.9**	**-0.9**
KZN	**Kozani**	**0.58**	**301**	P		**Pg**	**04 57 48.7**	**-1.2**
KZN				S		**Sg**	**04 57 57.1**	**-0.4**
NASA	**Naoussa**	**0.67**	**336**	P		**Pg**	**04 57 50.6**	**-1.0**
NASA				S		**Sb**	**04 58 00.2**	**-1.0**
TRKA	**Trikala**	**0.68**	**228**	P		**Pg**	**04 57 51.2**	**-0.5**
TRKA				S		**Sg**	**04 58 00.8**	**0.0**
SOFA	**Sofades**	**0.72**	**200**	P		**Pg**	**04 57 52.0**	**-0.5**
SOFA				S		**Sb**	**04 58 03.3**	**+0.8**
THE	**Thessaloniki**	**0.74**	**34**	P		**Pb**	**04 57 52.8**	**-0.4**
THE				S		**Sb**	**04 58 03.9**	**+0.8**
THE	**Thessaloniki**	**0.74**	**34**	*i* Pg		**Pb**	**04 57 52.8**	**-0.4**
THE				*i* Sg		**Sg**	**04 58 01.9**	**-0.8**
THE	**Thessaloniki**	**0.74**	**34**	P		**Pg**	**04 57 52.4**	**-0.6**
THE				S		**Sg**	**04 58 01.7**	**-1.0**
VOL2	**Volos**	**0.77**	**148**	P		**Pg**	**04 57 53.0**	**-0.3**
VOL2				S		**Sb**	**04 58 04.1**	**+0.3**
HORT	**Hortiatis**	**0.78**	**41**	P		**Pg**	**04 57 53.3**	**-0.3**
HORT				S		**Sb**	**04 58 05.1**	**+0.8**
HORT	**Hortiatis**	**0.78**	**41**	P		**Pg**	**04 57 53.0**	**-0.7**
OREA	**Oraiokastro**	**0.81**	**28**	P		**Pg**	**04 57 51.9**	**-2.2**
OREA				S		**Sg**	**04 58 03.6**	**-1.0**
PLG	**Polygyros**	**0.86**	**65**	P		**Pb**	**04 57 55.0**	**-0.2**
PLG				S		**Sb**	**04 58 08.0**	**+1.4**
PLG	**Polygyros**	**0.86**	**65**	P		**Pg**	**04 57 54.6**	**-0.6**
PLG				S		**Sg**	**04 58 05.9**	**-0.6**
PLN1	**Chaniotis**	**0.89**	**91**	P		**Pb**	**04 57 55.6**	**+0.1**
PLN1				S		**Sg**	**04 58 07.1**	**0.0**
NEO	**Neokhori**	**0.94**	**139**	P		**Pg**	**04 57 55.9**	**-0.8**
NEO				S		**Sb**	**04 58 09.6**	**+0.8**
NEO	**Neokhori**	**0.94**	**139**	P		**Pg**	**04 57 55.8**	**-0.9**
NEO				S		**Sb**	**04 58 09.6**	**+0.8**
PAIG	**Paliouri**	**0.97**	**95**	P		**Pg**	**04 57 57.0**	**-0.2**
PAIG				S		**Sb**	**04 58 10.6**	**+0.9**
MSVA	**Metsovo**	**0.98**	**256**	P		**Pg**	**04 57 56.4**	**-1.0**
MSVA				S		**Sg**	**04 58 10.0**	**-0.3**
AGG	**Agios Georgios**	**0.99**	**184**	P		**Pg**	**04 57 56.8**	**-0.9**
AGG				S		**Sg**	**04 58 10.7**	**0.0**
PENT	**Pentalofos**	**1.00**	**281**	P		**Pg**	**04 57 56.7**	**-1.1**
PENT	**Pentalofos**	**1.00**	**281**	P		**Pg**	**04 57 56.4**	**-1.4**
PENT				S		**Sg**	**04 58 10.3**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.02**	**193**	P		**Pg**	**04 57 57.5**	**-0.8**
MAKR				S		**Sg**	**04 58 11.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.02**	**193**	P		**Pg**	**04 57 57.4**	**-0.8**
MAKR				S		**Sn**	**04 58 13.0**	**+0.5**
SOH	**Sokhos**	**1.07**	**41**	P		**Pg**	**04 57 58.2**	**-1.0**
SOH				S		**Sn**	**04 58 14.1**	**+0.2**
SOH	**Sokhos**	**1.07**	**41**	*i* Pg		**Pg**	**04 57 58.2**	**-1.0**
SOH				*i* Sg		**Sn**	**04 58 14.1**	**+0.2**
SOH	**Sokhos**	**1.07**	**41**	P		**Pg**	**04 57 57.9**	**-1.4**
SOH				S		**Sg**	**04 58 12.6**	**-0.7**
TETR	**Tetrakomo, Epi**	**1.11**	**233**	P		**Pg**	**04 57 58.0**	**-1.9**
TETR				S		**Sg**	**04 58 13.8**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.11**	**233**	P		**Pg**	**04 57 58.6**	**-1.3**
TETR				S		**Sg**	**04 58 13.7**	**-0.6**
LAM2	**Lamia**	**1.11**	**180**	P		**Pg**	**04 57 58.5**	**-1.3**
EVR	**Evrytania**	**1.20**	**204**	P		**Pb**	**04 58 00.0**	**-0.9**
EVR				S		**Sg**	**04 58 16.3**	**-0.7**
EVR	**Evrytania**	**1.20**	**204**	P		**Pb**	**04 57 59.9**	**-1.0**
EVR				S		**Sg**	**04 58 16.7**	**-0.3**
KNT	**Kendrikon**	**1.20**	**17**	*i* Pg		**Pb**	**04 58 00.4**	**-0.6**
KNT				*i* Sg		**Sn**	**04 58 18.2**	**+1.3**
KNT	**Kendrikon**	**1.20**	**17**	P		**Pb**	**04 58 00.1**	**-0.9**
KNT				S		**Sg**	**04 58 16.4**	**-0.9**
OUR	**Ouranopolis**	**1.24**	**75**	P		**Pn**	**04 58 01.5**	**+0.2**
OUR				S		**Sn**	**04 58 18.8**	**+1.1**
OUR	**Ouranopolis**	**1.24**	**75**	P		**Pn**	**04 58 01.0**	**-0.2**
AIDA	**Aidipsos**	**1.26**	**157**	P		**Pn**	**04 58 01.4**	**-0.1**
AIDA				S		**Sb**	**04 58 18.8**	**+0.9**
AXAR	**Agios Charalam**	**1.26**	**172**	P		**Pn**	**04 58 01.6**	**0.0**
AXAR	**Agios Charalam**	**1.26**	**172**	P		**Pn**	**04 58 01.3**	**-0.3**
JAN	**Janina**	**1.26**	**254**	P		**Pn**	**04 58 01.3**	**-0.3**
LMS2	**Laimos Florina**	**1.27**	**310**	P		**Pn**	**04 58 01.4**	**-0.4**
VAY	**Valandovo**	**1.31**	**5**	*i* Pg		**Pn**	**04 58 01.9**	**-0.3**
VAY				*i* Sg		**Sn**	**04 58 20.2**	**+0.6**
VAY				*e*Lg		Lg	04 58 21.4	
	comp=E,652nm,0.8s							
VAY				*e*Lg		Lg	04 58 22.5	
	comp=N,608nm,0.5s							
KBN	**Korpo**	**1.39**	**296**	P		**Pg**	**04 58 04.3**	**-0.9**
ATAL	**Atalanti**	**1.40**	**160**	P		**Pn**	**04 58 03.3**	**-0.2**
ATAL	**Atalanti**	**1.40**	**160**	P		**Pn**	**04 58 03.0**	**-0.5**
ARTB	**Arta**	**1.41**	**233**	P		**Pn**	**04 58 03.4**	**-0.2**
AOS	**Alonnisos**	**1.41**	**126**	P		**Pn**	**04 58 02.7**	**-0.9**
SRS	**Serrai**	**1.42**	**39**	P		**Pn**	**04 58 03.8**	**+0.1**
SRS	**Serrai**	**1.42**	**39**	*i* Pg		**Pn**	**04 58 03.9**	**+0.1**
SRS	**Serrai**	**1.42**	**39**	P		**Pn**	**04 58 03.5**	**-0.3**
LKR	**Lokris**	**1.43**	**162**	P		**Pn**	**04 58 03.5**	**-0.4**
ANX	**Ano Chora**	**1.47**	**195**	P		**Pn**	**04 58 04.8**	**+0.2**
ANX	**Ano Chora**	**1.47**	**195**	P		**Pn**	**04 58 04.5**	**-0.1**
DLFA	**Delphi**	**1.54**	**178**	P		**Pn**	**04 58 05.7**	**+0.3**
PVO	**Paravola**	**1.56**	**207**	P		**Pn**	**04 58 06.4**	**+0.7**
PVO	**Paravola**	**1.56**	**207**	P		**Pn**	**04 58 06.2**	**+0.5**
SERG	**Sergoula**	**1.62**	**190**	P		**Pn**	**04 58 06.7**	**0.0**
SERG	**Sergoula**	**1.62**	**190**	P		**Pn**	**04 58 06.2**	**-0.4**
EFP	**Efpalio**	**1.64**	**194**	P		**Pn**	**04 58 06.9**	**+0.2**
EFP	**Efpalio**	**1.64**	**194**	P		**Pn**	**04 58 06.6**	**-0.2**
KALE	**Kalithea**	**1.64**	**188**	P		**Pn**	**04 58 06.8**	**0.0**
KALE	**Kalithea**	**1.64**	**188**	P		**Pn**	**04 58 06.6**	**-0.2**
IGT	**Igoumenitsa**	**1.68**	**254**	P		**Pb**	**04 58 09.1**	**0.0**
PRGA	**Parga**	**1.72**	**246**	P		**Pn**	**04 58 07.2**	**-0.7**
DRA2	**DRAMA**	**1.74**	**48**	P		**Pn**	**04 58 07.7**	**-0.5**
KVLA	**Kavala**	**1.76**	**58**	P		**Pn**	**04 58 07.8**	**-0.6**
THS1	**Thassos, Thass**	**1.80**	**66**	P		**Pn**	**04 58 08.5**	**-0.5**
AST1	**Astakos**	**1.80**	**216**	P		**Pb**	**04 58 10.9**	**-0.2**
UPR	**University Cam**	**1.80**	**196**	P		**Pn**	**04 58 09.5**	**+0.5**
TSLK	**Tsoukalades, L**	**1.81**	**230**	P		**Pn**	**04 58 09.2**	**0.0**
MMB	**Musomishta**	**1.83**	**33**	⇑*i*P		**Pn**	**04 58 10.1**	**+0.6**
MMB	**Musomishta**	**1.83**	**33**	P		**Pn**	**04 58 10.1**	**+0.6**
MMB	**Musomishta**	**1.83**	**33**	*i* Pn		**Pn**	**04 58 10.1**	**+0.6**
LKD2	**Lefkada island**	**1.83**	**229**	P		**Pb**	**04 58 11.3**	**-0.5**
LKD2	**Lefkada island**	**1.83**	**229**	P		**Pn**	**04 58 10.1**	**+0.6**
THAS	**Thassos island**	**1.85**	**71**	P		**Pn**	**04 58 09.3**	**-0.5**
THAS	**Thassos island**	**1.85**	**71**	P		**Pn**	**04 58 09.1**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.86**	**226**	P		**Pb**	**04 58 11.5**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.86**	**226**	P		**Pn**	**04 58 10.5**	**+0.6**
KAVA	**Kavala**	**1.87**	**58**	P		**Pn**	**04 58 09.7**	**-0.3**
KAVA	**Kavala**	**1.87**	**58**	P		**Pn**	**04 58 09.5**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.90**	**136**	P		**Pn**	**04 58 10.4**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.90**	**136**	P		**Pn**	**04 58 09.4**	**-1.0**
KKB	**Krupnik**	**1.90**	**16**	⇑*i*P		**Pn**	**04 58 11.0**	**+0.6**
KKB				S		**Sb**	**04 58 36.0**	**-0.5**
KKB	**Krupnik**	**1.90**	**16**	P		**Pn**	**04 58 11.1**	**+0.6**
KKB	**Krupnik**	**1.90**	**16**	*i* Pn		**Pn**	**04 58 11.1**	**+0.6**
VIL2	**Platees**	**1.92**	**160**	P		**Pn**	**04 58 10.9**	**+0.3**
EVGI	**Lefkada island**	**1.95**	**225**	P		**Pb**	**04 58 12.9**	**-0.9**
VILL	**Villia**	**1.97**	**159**	P		**Pn**	**04 58 11.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.98**	**186**	P		**Pn**	**04 58 10.9**	**-0.6**
AXS	**Araxos**	**1.99**	**204**	P		**Pn**	**04 58 12.2**	**+0.6**
STFN	**Stefani**	**2.03**	**154**	P		**Pn**	**04 58 12.1**	**-0.2**
LTK	**Loutraki**	**2.03**	**168**	P		**Pn**	**04 58 12.1**	**-0.1**
LOUT	**Loutraki**	**2.07**	**168**	P		**Pn**	**04 58 11.9**	**-0.9**
GUR	**Goura**	**2.08**	**182**	P		**Pn**	**04 58 12.8**	**-0.2**
RLS	**Riolos of Patr**	**2.09**	**201**	P		**Pn**	**04 58 13.6**	**+0.6**
SKO	**Skopje**	**2.09**	**340**	*i* Pn		**Pn**	**04 58 13.7**	**+0.6**
MAGU	**Magoula**	**2.11**	**156**	P		**Pn**	**04 58 13.1**	**-0.2**
FSK	**Fiskardo**	**2.12**	**224**	P		**Pn**	**04 58 14.5**	**+1.1**
LIA	**Limnos Island**	**2.13**	**92**	P		**Pn**	**04 58 12.1**	**-1.4**
DRO	**Drossia**	**2.13**	**195**	P		**Pn**	**04 58 14.4**	**+0.8**
XANC	**Avdira**	**2.16**	**63**	P		**Pn**	**04 58 12.9**	**-1.0**
PTL	**Penteli**	**2.26**	**150**	P		**Pn**	**04 58 15.4**	**0.0**
DION	**Dionisos Attik**	**2.26**	**148**	P		**Pn**	**04 58 15.2**	**-0.2**
ATH	**Athens Observa**	**2.27**	**153**	P		**Pn**	**04 58 15.4**	**-0.1**
ATHU	**Athens Univers**	**2.30**	**152**	P		**Pn**	**04 58 15.9**	**-0.1**
VLS	**Valsamata**	**2.32**	**218**	P		**Pn**	**04 58 17.5**	**+1.3**
VLY	**Voula,Athens**	**2.41**	**153**	P		**Pn**	**04 58 17.6**	**+0.2**
SMTH	**Samothraki Isl**	**2.42**	**78**	P		**Pn**	**04 58 16.7**	**-0.9**
RZN	**Rozhen**	**2.43**	**46**	⇓*i*P		**Pn**	**04 58 18.4**	**+0.5**
MET5	**Makryloggos,Me**	**2.50**	**163**	P		**Pn**	**04 58 18.4**	**-0.2**
MET2	**Kameni Chora,**	**2.50**	**163**	P		**Pn**	**04 58 18.5**	**-0.2**
MET4	**Agioi Theodoro**	**2.51**	**162**	P		**Pn**	**04 58 18.9**	**+0.2**
KARY	**Karystos**	**2.53**	**141**	P		**Pn**	**04 58 18.6**	**-0.4**
MET6	**Megalochori,Me**	**2.53**	**163**	P		**Pn**	**04 58 19.1**	**+0.1**
ORTH	**Orthonies,Zaky**	**2.54**	**212**	P		**Pn**	**04 58 20.2**	**+1.0**
PLNA	**Plana**	**2.57**	**17**	⇑*i*P		**Pn**	**04 58 20.7**	**+0.9**
LTHK	**Lithakia**	**2.61**	**209**	P		**Pn**	**04 58 21.6**	**+1.4**
RDO	**Rodhopi**	**2.63**	**64**	P		**Pn**	**04 58 19.8**	**-0.6**
KRI1	**kERI**	**2.66**	**209**	P		**Pn**	**04 58 21.7**	**+0.9**
VTS	**Vitosha**	**2.67**	**13**	⇑*i*P		**Pn**	**04 58 21.7**	**+0.5**
GOAD	**anakkale-G¶**	**2.68**	**86**	P		**Pn**	**04 58 21.2**	**+0.1**
SIGR	**SIGRI**	**2.77**	**106**	P		**Pn**	**04 58 22.7**	**+0.4**
BOZC	**Bozcaada**	**2.80**	**92**	P		**Pn**	**04 58 23.0**	**+0.3**
BOZC				S		**Sn**	**04 58 51.8**	**-4.4**
PGB	**Panagyurishte**	**2.82**	**27**	P		**Pn**	**04 58 23.9**	**+0.8**
BARS	**Barje**	**2.84**	**351**	*i* Pn		**Pn**	**04 58 24.1**	**+0.8**
ITM	**Ithomi**	**2.86**	**188**	P		**Pn**	**04 58 24.5**	**+0.9**
ALN	**Alexandroupoli**	**2.90**	**71**	P		**Pn**	**04 58 23.9**	**-0.2**
CNKL	**anakkale-Mer**	**3.04**	**88**	P		**Pn**	**04 58 25.2**	**-0.9**
CNKL				S		**Sn**	**04 58 59.7**	**-2.6**
BAYC	**CANAKKALE_Bayr**	**3.19**	**94**	P		**Pn**	**04 58 28.9**	**+0.8**
BAYC				S		**Sn**	**04 59 04.5**	**-1.3**
VLI	**Veliai**	**3.32**	**173**	P		**Pn**	**04 58 29.6**	**-0.2**
KESN	**Edirne-Kesan**	**3.35**	**75**	P		**Pn**	**04 58 31.1**	**+0.5**
KESN				S		**Sn**	**04 59 08.2**	**-2.2**
KESN				*i* IAML			04 59 11.0	
	comp=N,100nm,0.4s							
PDG	**Podgorica**	**3.40**	**316**	⇑S		**Sn**	**04 59 09.9**	**-1.0**
MPEP	**Malo Peshtene**	**3.48**	**16**	⇑*i*P		**Pn**	**04 58 33.1**	**+1.0**
BLKB	**Belogradchik**	**3.61**	**3**	⇓S		**Sn**	**04 59 16.3**	**-0.1**
URLA	**Izmir**	**3.64**	**116**	P		**Pn**	**04 58 35.1**	**+0.8**
URLA				*i* IAML			04 59 53.0	
	comp=N,48nm,1.1s							
URLA				*i* IAML			04 59 53.0	
	comp=N,46nm,1.2s							
BOVS	**Bovan**	**3.66**	**352**	⇑P		**Pn**	**04 58 35.0**	**+0.4**
BOVS				⇑S		**Sn**	**04 59 16.8**	**-0.7**
SART	**Tekirdag**	**3.70**	**78**	P		**Pn**	**04 58 35.5**	**+0.3**
PLVB	**Pleven**	**3.75**	**25**	⇑P		**Pn**	**04 58 36.6**	**+0.8**
ELND	**Elena**	**3.90**	**41**	⇓P		**Pn**	**04 58 38.7**	**+0.8**
KIRK	**Kırklareli**	**3.96**	**62**	P		**Pn**	**04 58 39.8**	**+1.1**
KIRK				*i* IAML			04 59 46.0	
	comp=N,37nm,0.6s							
KIRK				*i* IAML			04 59 55.0	
	comp=N,33nm,1.0s							
BALY	**Balya**	**4.01**	**92**	P		**Pn**	**04 58 40.5**	**+1.1**
BALY				S		**Sn**	**04 59 22.8**	**-3.5**
TREB	**Trebinje**	**4.08**	**313**	*e*Pn		**Pn**	**04 58 41.3**	**+0.9**
STEP	**BALIKESIR_Sava**	**4.13**	**97**	P		**Pn**	**04 58 41.0**	**-0.1**
SZH	**Strazhitsa**	**4.20**	**38**	*e*P		**Pn**	**04 58 42.9**	**+0.9**
BKES	**Balkesir-Mer**	**4.25**	**92**	P		**Pn**	**04 58 44.1**	**+1.4**
BKES				S		**Sn**	**04 59 30.5**	**-1.5**
RUDO	**Rudo**	**4.26**	**329**	*e*Pn		**Pn**	**04 58 43.1**	**+0.2**
BLKS	**Balkesir-Sus**	**4.27**	**90**	P		**Pn**	**04 58 44.1**	**+1.2**
BLKS				S		**Sn**	**04 59 30.3**	**-2.2**
KLINJ	**Klinje**	**4.27**	**319**	*e*Pn		**Pn**	**04 58 44.6**	**+1.6**
VIZE	**Kirklareli, Vi**	**4.40**	**67**	P		**Pn**	**04 58 45.4**	**+0.7**
VIZE				*i* IAML			05 00 07.0	
	comp=N,32nm,0.7s							
TIP	**Timpagrande**	**4.45**	**261**	⇑P		**Pn**	**04 58 46.2**	**+0.6**
STON	**Ston**	**4.55**	**310**	*e*Pn		**Pn**	**04 58 47.6**	**+0.8**
DURS	**Dursunbey**	**4.68**	**93**	P		**Pn**	**04 58 50.3**	**+1.6**
DURS				S		**Sn**	**04 59 40.3**	**-2.5**
DURS				*i* IAML			04 59 42.0	
	comp=N,20nm,0.5s							
SRE	**Strehaia**	**4.68**	**7**	⇑P		**Pn**	**04 58 48.4**	**-0.2**
MDVR	**Moldovita**	**4.79**	**354**	⇓P		**Pn**	**04 58 50.0**	**-0.2**
HERR	**Herculane**	**4.86**	**360**	⇑P		**Pn**	**04 58 51.0**	**-0.1**
IDI	**Anoyia**	**5.11**	**157**	Pn		**Pn**	**04 58 56.6**	**+2.0**
	comp=N,7.1nm,0.4s,baz=343,slow=12,SNR=9.3							
IDI				Sn		**Sn**	**04 59 53.9**	**+0.5**
	comp=N,0.1nm,0.3s,baz=333,slow=18,SNR=1.5							
GZR	**Gura Zlata**	**5.38**	**3**	⇑P		**Pn**	**04 58 58.0**	**-0.3**
ARR	**Arges**	**5.59**	**16**	⇓P		**Pn**	**04 59 01.8**	**+0.6**
BZS	**Buzias**	**5.63**	**354**	⇑P		**Pn**	**04 59 01.2**	**-0.4**
VOIR		**5.75**	**19**	⇓P		**Pn**	**04 59 04.4**	**+1.0**
ISR	**Istrita**	**5.94**	**29**	⇓P		**Pn**	**04 59 06.8**	**+0.9**
KIJV	**Kijevo**	**6.00**	**314**	*e*Pn		**Pn**	**04 59 06.1**	**-0.6**
MLR	**Muntele Rosu**	**6.06**	**24**	Pn		**Pn**	**04 59 09.7**	**+2.1**
	comp=N,3.2nm,0.3s,baz=208,slow=7.6,SNR=20							
MLR				Sn		**Sn**	**05 00 19.2**	**+2.4**
	baz=246,slow=19							
	comp=N,19nm,0.5s							
MLR	**Muntele Rosu**	**6.06**	**24**	⇓P		**Pn**	**04 59 08.9**	**+1.3**
NEHR	**Nehoiu**	**6.12**	**27**	⇓P		**Pn**	**04 59 09.9**	**+1.6**
BLY	**Banja Luka**	**6.12**	**322**	*e*Pn		**Pn**	**04 59 08.7**	**+0.4**
DOPR	**Dopca**	**6.33**	**19**	⇑P		**Pn**	**04 59 12.4**	**+1.1**
OZUR		**6.56**	**21**	⇑P		**Pn**	**04 59 15.7**	**+1.3**
PLOR	**Plostina**	**6.61**	**27**	⇓P		**Pn**	**04 59 16.2**	**+1.1**
VRI	**Vrincioaia**	**6.65**	**27**	⇓P		**Pn**	**04 59 17.6**	**+2.0**
MOSL	**Moslavina**	**6.97**	**325**	*e*Pn		**Pn**	**04 59 19.5**	**-0.6**
OZLJ	**Ozalj**	**7.58**	**320**	*e*Pn		**Pn**	**04 59 24.2**	**-4.2**
BURAR	**Bucovina Array**	**7.86**	**14**	⇓P		**Pn**	**04 59 33.8**	**+1.5**
BRTR	**Keskin Array B**	**8.63**	**88**	Pn		**Pn**	**04 59 44.7**	**+1.7**
	comp=N,0.5nm,0.3s,baz=262,slow=11,SNR=12							
	comp=N,0.7nm,0.3s							
OBKA	**Obir**	**8.66**	**321**	*e*Pn		**Pn**	**04 59 42.7**	**-0.6**
	comp=N,1.7nm,0.3s							
ARSA	**Arzberg**	**8.79**	**328**	*e*Pn		**Pn**	**04 59 49.0**	**+4.0**
	comp=N,3.5nm,0.6s							
RONA	**Rosalia, Austr**	**8.86**	**332**	*e*Pn		**Pn**	**04 59 48.0**	**+2.0**
	comp=N,4.7nm,0.4s							
MODS	**Modra-Piesok**	**9.13**	**338**	*e*PN		**Pn**	**04 59 51.4**	**+1.7**
ABTA	**Abfaltersbach**	**9.86**	**316**	*e*Pn		**Pn**	**04 59 59.0**	**-0.8**
	comp=N,2.9nm,0.4s							
LESA	**Schwarzleotal**	**10.22**	**320**	*e*Pn		**Pn**	**05 00 04.7**	**+0.1**
	comp=N,1.0nm,0.3s							
WATA	**Walderalm**	**10.73**	**317**	*e*Pn		**Pn**	**05 00 10.2**	**-1.5**
	comp=N,2.8nm,0.4s							
GERES	**GERESS Array B**	**10.80**	**328**	Pn		Pn	05 00 18.2	+5.5
	baz=144,slow=13,SNR=4.2							
ESDC	**Sonseca Array**	**20.24**	**278**	P		**P**	**05 02 12.8**	**-0.4**
	comp

H10N3	**ASCENSION HYDR**	**50.27**	**21**	T	T	06 41 34.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**50.28**	**21**	T	T	06 41 32.0	
	baz=192						
BOAV	**Boa Vista**	**63.78**	**326**	P	**P**	**05 48 26.4**	**-0.2**
BOAV				IAmb	IAmb	05 48 27.4	
	comp=Z,5.4nm,1.2s						
ROSC	**El Rosal**	**71.01**	**313**	P	**P**	**05 49 12.8**	**0.0**
ROSC				IAmb	IAmb	05 49 37.1	
	comp=Z,4.9nm,1.0s						
BAUV	**El Baul**	**72.41**	**321**	P	**P**	**05 49 20.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**74.48**	**32**	P	**P**	**05 49 34.3**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=202,slow=5.0,SNR=7.2						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**149.25**	**311**	PKPbc	**PKPbc**	**05 57 40.4**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=129,slow=1.6,SNR=15						
SONM	**Songino Array**	**152.46**	**90**	PKPbc	**PKPbc**	**05 57 49.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=238,slow=1.4,SNR=2.0						

*FUNV **03** 05:41:05.9, 7.˚68N×72.˚26W, h70km, MW3.1*
*RSNC **03** 05:41:05.2±0.0, 7.˚N±2.˚×7.˚2W±.˚, h4km±3km, M2.2, ML1.9*
ISC 03 05:41:02.3±1.6, 7.˚45N±0.˚05×71.˚93W±0.˚05, h3km±13km, n10, σ1°71/19, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.57**	**317**	*e*P	**Pn**	**05 41 16.2**	**-1.3**
CAPV				*e*S	**Sn**	**05 41 24.6**	**-2.9**
PAMC	**Pamplona, Colo**	**0.77**	**262**	P	**Pg**	**05 41 16.8**	**-0.4**
PAMC				S	**Sg**	**05 41 25.5**	**-1.7**
BARC	**Barichara**	**1.51**	**236**	P	**Pg**	**05 41 31.1**	**-0.1**
BARC				S	**Sn**	**05 41 50.8**	**0.0**
OCAC	**Ocana**	**1.59**	**300**	P	**Pg**	**05 41 33.1**	**+0.3**
OCAC				S	**Sg**	**05 41 55.0**	**+1.6**
BRJC	**Barrancabermej**	**1.86**	**255**	P	**Pb**	**05 41 36.6**	**-0.5**
BRJC				S	**Sg**	**05 42 02.1**	**-0.1**
RUSC	**La Rusia**	**1.92**	**217**	P	**Pn**	**05 41 36.7**	**+0.2**
RUSC				S	**Sn**	**05 42 01.7**	**+0.2**
SJCC	**San Jacinto, C**	**4.03**	**307**	P	**Pn**	**05 42 06.5**	**+1.4**
SJCC				S	**Sn**	**05 42 55.6**	**+2.6**
GUY2C	**Guyana, Caldas**	**4.07**	**237**	P	**Pn**	**05 42 06.9**	**+0.9**
BAUV	**El Baul**	**4.12**	**69**	*e*P	**Pn**	**05 42 07.5**	**+1.1**
BAUV				*e*S	**Sn**	**05 42 55.1**	**0.0**
BENV	**Beln**	**4.96**	**59**	*e*P	**Pn**	**05 42 19.9**	**+2.1**
BENV				*e*S	**Sn**	**05 43 12.3**	**-3.4**

*IDC **03** 05:59:44.9±0.8, 56.˚72S×30.˚32W, h0km, mb3.9/6, mbtmp3.8/7, ML3.6/1, MS3.6/3, Error ellipse: s-maj=42.2km s-min=19.5km az=73.0*
ISC 03 05:59:46.6±0.8, 56.˚7S±0.˚1×30.˚5W±0.˚2, h10km, n21, σ2°35/12, mb3.9/5, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.98**	**154**	⇑P	**P**	**06 03 51.5**	**+5.7**
	comp=Z,5.2nm,0.9s						
VNA3	**Neumayer Olymp**	**17.09**	**157**	⇑P	**Pn**	**06 03 45.0**	**-0.3**
	comp=Z,4.1nm,0.8s						
PMSA	**Palmer Station**	**18.11**	**230**	LR	LR	06 10 14.0	
	comp=Z,218nm,18.4s,baz=67,slow=35						
SNAA	**Sanae**	**18.98**	**153**	P	**P**	**06 04 07.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=326,slow=14,SNR=4.0						
	comp=Z,1.1nm,0.4s						
QSPA	**South Pole Qui**	**33.60**	**180**	P	**P**	**06 06 27.7**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=226,slow=1.0,SNR=6.4						
	comp=Z,1.4nm,1.0s						
MAW	**Mawson**	**40.74**	**144**	P	**P**	**06 07 23.9**	**-3.2**
	comp=Z,1.6nm,0.4s,baz=262,slow=23,SNR=7.5						
	comp=Z,1.6nm,0.4s						
BDFB	**Brasilia**	**43.05**	**335**	P	**P**	**06 07 46.2**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=188,slow=14,SNR=3.1						
	comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**45.87**	**184**	P	**P**	**06 08 07.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=192,slow=7.2,SNR=6.8						
	comp=Z,0.9nm,0.7s						
BOSA	**Boshof**	**47.89**	**78**	LR	LR	06 24 15.0	
	comp=Z,58nm,20.4s,baz=207,slow=31						
H04S2	**CROZET ISLANDS**	**48.96**	**116**	T	T	07 01 54.7	
	baz=226,slow=74						
H04S3	**CROZET ISLANDS**	**48.97**	**116**	T	T	07 01 54.6	
	baz=226,slow=74						
H04S1	**CROZET ISLANDS**	**48.98**	**116**	T	T	07 01 52.4	
	baz=226						
LPAZ	**La Paz**	**49.28**	**309**	P	**P**	**06 08 36.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=162,slow=3.2,SNR=1.4						
	comp=Z,0.3nm,0.6s						
H10N1	**ASCENSION HYDR**	**50.28**	**21**	T	T	07 03 43.1	
	baz=190						
H10N3	**ASCENSION HYDR**	**50.28**	**21**	T	T	07 03 27.8	
	baz=190						
H10N2	**ASCENSION HYDR**	**50.30**	**21**	T	T	07 03 31.0	
	baz=190						
LBTB	**Lobatse**	**50.94**	**76**	LR	LR	06 25 54.3	
	comp=Z,46nm,20.3s,baz=202,slow=31						
TORD	**Torodi Ar. Bea**	**74.52**	**33**	P	**P**	**06 11 27.0**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=200,slow=4.4,SNR=5.6						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**144.29**	**66**	PKP	**PKPab**	**06 19 19.4**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=225,slow=1.9,SNR=4.0						
ILAR	**Eielson Array**	**149.15**	**312**	PKPbc	**PKPbc**	**06 19 33.2**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=117,slow=5.6,SNR=5.7						
SONM	**Songino Array**	**152.58**	**90**	PKPbc	**PKPbc**	**06 19 41.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=217,slow=3.6,SNR=2.0						

*NEIC **03** 06:10:43.8±0.6, 19.˚33N±0.˚02×155.˚196W±0.˚006, h7km±2km, Error ellipse: s-maj=2.6km s-min=0.7km az=170.0*
HVO 03 06:10:43.4±0.5, 19.˚33N±0.˚02×155.˚192W±0.˚009, h6km±2km, ML2.6/40, ML2.6/40(NEIC), Error ellipse: s-maj=3.3km s-min=1.0km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.05**	**332**		Pg	06 10 45.3	+0.3
PUH				IAML		06 10 49.5	
	comp=N,3μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.05**	**24**		Pg	06 10 45.3	+0.3
STCH	**Steam Cracks**	**0.08**	**50**		Pg	06 10 45.7	+0.3
STCH				IAML		06 10 47.8	
	comp=E,2μm,0.5s						
STCH				IAML		06 10 47.8	
	comp=N,4μm,0.5s						
KKO	**Keanakako'i**	**0.10**	**313**		Pg	06 10 46.0	+0.4
KKO					Sg	06 10 48.0	+0.8
NPOC	**North of Pu'u**	**0.10**	**52**		Pg	06 10 46.0	+0.4
NPOC					Sg	06 10 48.0	+0.8
JCUZ	**Jacuzzi**	**0.10**	**59**		Pg	06 10 46.2	+0.5
JCUZ					Sg	06 10 48.0	+0.8
RIM	**Rim**	**0.10**	**309**		Pg	06 10 46.1	+0.4
RIM					Sg	06 10 48.0	+0.7
BYL	**Byron's Ledge**	**0.10**	**321**		Pg	06 10 46.0	+0.3
BYL				IAML		06 10 49.9	
	comp=E,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.11**	**325**		Pg	06 10 46.1	+0.2
HATHI				IAML		06 10 48.6	
	comp=N,3μm,0.2s						
HATHI				IAML		06 10 49.8	
	comp=E,2μm,0.5s						
SDHHI	**Sand Hill**	**0.11**	**301**		Pg	06 10 46.2	+0.3
SDHHI					Sg	06 10 48.5	+0.9
HLP	**Hilina Pali**	**0.12**	**252**		Pg	06 10 46.4	+0.5
HLP				IAML		06 10 49.0	
	comp=N,3μm,0.5s						
HLP				IAML		06 10 49.7	
	comp=E,3μm,0.2s						
SBLHI	**Steaming Bluff**	**0.12**	**323**		Pg	06 10 46.3	+0.3
SBLHI					Sg	06 10 48.5	+0.7
OBL	**Observatory Le**	**0.12**	**315**		Pg	06 10 46.4	+0.4
OBL					Sg	06 10 49.0	+1.1
UWB	**Uwekahuna Bluf**	**0.12**	**319**		Pg	06 10 46.4	+0.3
UWB					Sg	06 10 48.8	+0.9
WRMHI	**West Rim**	**0.13**	**306**		Pg	06 10 46.4	+0.3
WRMHI					Sg	06 10 49.0	+1.0
UWE	**Uwekahuna**	**0.13**	**313**		Pg	06 10 46.5	+0.3
UWE				IAML		06 10 49.7	
	comp=E,2μm,0.8s						
UWE				IAML		06 10 49.7	
	comp=N,2μm,0.9s						
RSD	**Rainshed**	**0.15**	**328**		Pg	06 10 46.8	+0.1
JOKA	**Jonika Flow**	**0.20**	**60**		Pg	06 10 47.4	-0.1
HTC	**Hot Caves**	**0.21**	**244**		Pg	06 10 48.2	+0.6
MLH	**Mauna Loa**	**0.24**	**312**		Pg	06 10 48.5	+0.2
MLH				IAML		06 10 54.7	
	comp=N,1μm,0.2s						
MLH				IAML		06 10 54.9	
	comp=E,857nm,0.2s						
AIN	**Ainahou**	**0.25**	**279**		Pg	06 10 48.6	+0.1
HMH	**Humu'ula Sheep**	**0.39**	**315**		Pg	06 10 50.8	-0.2
HMH	**Humu'ula Sheep**	**0.39**	**315**		Sg	06 10 57.2	+1.2
KHU	**Kahuku**	**0.41**	**258**		Pg	06 10 51.3	-0.1
KHU					Sg	06 10 57.9	+1.1
MWH	**Mokuaweoweo**	**0.41**	**292**		Pg	06 10 51.4	-0.2
MWH	**Mokuaweoweo**	**0.41**	**292**		Sg	06 10 57.9	+0.9
HPO	**Honuapo**	**0.42**	**235**		Sg	06 10 58.2	+1.2
ALEP	**Alea Permanent**	**0.47**	**296**		Pg	06 10 52.2	-0.4
ALEP					Sg	06 10 59.6	+0.7
POHA	**Pohakuloa**	**0.53**	**323**		Pg	06 10 53.1	-0.6
POHA	**Pohakuloa**	**0.53**	**323**		Sg	06 11 00.6	0.0
HUH	**Hualalai**	**0.70**	**300**		Pg	06 10 56.0	-1.0

*IDC **03** 06:11:08.4±1.8, 6.˚83N×124.˚02E, h607km±23km, mb3.6/9, mbtmp4.7/10, Error ellipse: s-maj=50.7km s-min=9.7km az=62.0*
*NEIC **03** 06:11:10.1±1.5, 6.˚61N±0.˚08×123.˚7E±0.˚1, h612km±10km, mb4.4/30, Error ellipse: s-maj=15.9km s-min=11.6km az=96.0*
ISC 03 06:11:08.7±0.5, 6.˚63N±0.˚08×123.˚7E±0.˚1, h600km, n51, σ1°11/53, mb4.3/28, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBUM	**Sibu**	**12.18**	**251**		**P**	**06 13 49.8**	**+0.5**
FAKI	**Fak Fak**	**12.76**	**138**	P	**P**	**06 13 55.1**	**0.0**
BATI	**Baumata**	**16.73**	**180**	P	**P**	**06 14 32.6**	**-0.2**
	50nm,0.5s,baz=108,slow=1.9,SNR=4.3						
TPUB	**Ta-pu**	**16.84**	**350**		**P**	**06 14 33.7**	**0.0**
KNRA	**Kununurra**	**22.72**	**167**	P	**P**	**06 15 25.3**	**-1.6**
KNRA				IAmb	IAmb	06 16 07.5	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.65**	**176**		**P**	**06 15 44.0**	**+0.1**
GSI	**Gunungsitoli**	**26.59**	**260**	P	**P**	**06 15 59.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**26.83**	**298**	P	**P**	**06 16 03.8**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=110,slow=6.9,SNR=10						
	comp=Z,1.2nm,0.3s						
CHTO	**Chiang Mai**	**26.97**	**299**	P	**P**	**06 16 05.1**	**+0.7**
CHTO				IAmb	IAmb	06 16 05.5	
	comp=Z,5.1nm,0.9s						
MBWA	**Marble Bar**	**27.89**	**188**	P	**P**	**06 16 11.9**	**-0.4**
MBWA				IAmb	IAmb	06 16 43.7	
	comp=Z,7.0nm,1.0s						
COEN	**Coen**	**28.14**	**137**	P	**P**	**06 16 14.0**	**-0.5**
COEN				IAmb	IAmb	06 16 55.1	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**28.26**	**158**		**P**	**06 16 15.3**	**-0.3**
PSA00	**Pilbara Seismi**	**28.28**	**188**	P	**P**	**06 16 15.3**	**-0.4**
WRAB	**Tennant Creek**	**28.40**	**159**	P	**P**	**06 16 16.6**	**-0.1**
WRA	**Warramunga Arr**	**28.40**	**159**	P	**P**	**06 16 15.6**	**-1.2**
WRA	**Warramunga Arr**	**28.40**	**159**	P	**P**	**06 16 16.2**	**-0.6**
	comp=Z,15nm,0.5s,baz=340,slow=9.3,SNR=106						
WRA				ScP	**ScP**	**06 21 52.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=341,slow=3.1,SNR=4.6						
	comp=Z,15nm,0.5s						
WR8	**Warramunga Arr**	**28.48**	**158**	P	**P**	**06 16 17.3**	**-0.1**
WR8				IAmb	IAmb	06 16 18.3	
	comp=Z,9.9nm,0.7s						
PZH	**PanZhiHua**	**28.78**	**316**	P	**P**	**06 16 20.8**	**+0.7**
AS31	**Alice Springs**	**31.72**	**162**		**P**	**06 16 45.6**	**+0.4**
ASAR	**Alice Springs**	**31.72**	**162**		**P**	**06 16 45.9**	**+0.7**
ASAR	**Alice Springs**	**31.72**	**162**	P	**P**	**06 16 45.5**	**+0.3**
	comp=Z,11nm,0.3s,baz=342,slow=6.8,SNR=209						
ASAR				ScP	**ScP**	**06 22 03.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=333,slow=3.1,SNR=5.2						
	comp=Z,11nm,0.3s						
CTAO	**Charters Tower**	**34.60**	**141**	P	**P**	**06 17 10.8**	**+1.4**
CTAO				IAmb	IAmb	06 17 47.9	
	comp=Z,31nm,1.4s						
SHL	**Shillong**	**35.75**	**305**		**P**	**06 17 19.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**35.76**	**344**	*e*P	**P**	**06 17 21.9**	**+3.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**36.25**	**191**	P	**P**	**06 17 22.8**	**-0.1**
MORW				IAmb	IAmb	06 18 03.0	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**37.43**	**174**	P	**P**	**06 17 32.9**	**+0.4**
FORT				IAmb	IAmb	06 17 33.5	
	comp=Z,7.1nm,0.7s						
GTA	**Gaotai**	**39.09**	**330**	*e*P	**P**	**06 17 47.4**	**+1.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**39.82**	**189**	P	**P**	**06 17 51.8**	**+0.2**
NWAO				IAmb	IAmb	06 18 23.7	
	comp=Z,22nm,1.3s						
EVN	**Everest**	**40.86**	**306**		**P**	**06 18 01.4**	**+0.6**
EVN				IAmb	IAmb	06 18 01.9	
	comp=Z,4.4nm,0.7s						
BBOO	**Buckleboo**	**40.95**	**164**	P	**P**	**06 18 00.9**	**+0.3**
BBOO				IAmb	IAmb	06 18 01.6	
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**41.48**	**141**	P	**P**	**06 18 05.1**	**+0.1**
EIDS				IAmb	IAmb	06 18 41.0	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**41.93**	**157**	P	**P**	**06 18 09.0**	**+0.7**
STKA	**Stephens Creek**	**41.93**	**157**	P	**P**	**06 18 08.7**	**+0.3**
	comp=Z,5.6nm,0.4s,baz=330,slow=7.5,SNR=17						
	comp=Z,5.6nm,0.4s						
SONM	**Songino Array**	**43.63**	**343**	P	**P**	**06 18 18.4**	**-3.1**
	comp=Z,0.5nm,0.4s,baz=160,slow=8.9,SNR=3.7						
ARMA	**Armidale**	**45.54**	**145**	P	**P**	**06 18 38.2**	**+1.8**
ARMA				IAmb	IAmb	06 18 52.6	
	comp=Z,14nm,1.4s						
WMQ	**Urumqi**	**48.64**	**325**	*e*P	**P**	**06 19 00.9**	**+1.6**
WMQ				LR	LR		
	comp=Z,150nm,21.5s						
MKAR	**Makanchi Array**	**53.47**	**326**	P	**P**	**06 19 34.2**	**+0.1**
	comp=Z,4.9nm,0.4s,baz=119,slow=7.8,SNR=84						
	comp=Z,4.9nm,0.4s						
MAKZ	**Makanchi**	**53.66**	**325**	P	**P**	**06 19 35.6**	**+0.2**
KDJ	**Kajisay**	**54.19**	**318**	P	**P**	**06 19 40.1**	**+0.6**
KDJ				IAmb	IAmb	06 19 40.7	
	comp=Z,5.2nm,0.6s						
ZALV	**Zalesovo Beam**	**56.66**	**334**	P	**P**	**06 19 54.4**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=145,slow=5.3,SNR=2.7						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**57.69**	**328**	P	**P**	**06 20 02.7**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=130,slow=6.4,SNR=28						
	comp=Z,3.6nm,0.6s						
KURK	**Kurchatov**	**57.70**	**328**	P	**P**	**06 20 03.0**	**-0.1**
KURK				IAmb	IAmb	06 20 03.5	
	comp=Z,8.2nm,0.5s						
GAR	**Garm**	**57.76**	**312**	P	**P**	**06 20 04.1**	**+0.1**
KKAR	**Karatay Array**	**59.07**	**317**	P	**P**	**06 20 11.1**	**-1.4**
BVAR	**Borovoye Array**	**63.26**	**327**	P	**P**	**06 20 39.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=134,slow=11,SNR=4.8						
	comp=Z,0.9nm,0.5s						
LBZ	**Lake Benmore**	**65.76**	**145**	P	**P**	**06 20 56.6**	**+1.0**
LBZ				IAmb	IAmb	06 21 23.1	
	comp=Z,41nm,1.3s						
AB31	**Akbulak array**	**68.01**	**321**		**P**	**06 21 08.9**	**-0.4**
ABKAR	**Akbulak array**	**68.01**	**321**	P	**P**	**06 21 08.6**	**-0.7**
ARTI	**Arti**	**70.97**	**328**	P	**P**	**06 21 25.1**	**-1.7**
	comp=Z,2.3nm,0.4s,baz=127,slow=5.1,SNR=4.1						
	comp=Z,2.3nm,0.4s						
VNDA	**Vanda**	**86.68**	**172**	P	**P**	**06 22 49.0**	**-0.2**
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**06 22 53.7**	**-1.4**

*MRB **03** 06:14:25.6±0.5, 43.˚06N×0.˚33W, h0km±4km, ML2.0/26, Error ellipse: s-maj=2.5km s-min=1.5km az=12.0*
*STR **03** 06:14:25.7±0.4, 43.˚N±.3˚×±.˚, h5km, MLv2.2/14, LOCSAT earthModelD pyrenees_taup-2.11 preliminary*
*LDG **03** 06:14:26.3±0.1, 43.˚12N×0.˚34W, h2km, Md3.0/2, Ml2.9/13, Error ellipse: s-maj=2.3km s-min=1.9km az=6.0*
*MDD **03** 06:14:27.2±0.3, 43.˚06N×0.˚33W, h0km, mb_Lg2.5/12, Error ellipse: s-maj=2.8km s-min=1.9km az=10.0*
ISC 03 06:14:25.1±0.8, 43.˚13N±0.˚02×0.˚33W±0.˚01, h10km±5km, n76, σ0°94/135, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.08**	**219**	Pg	**Pg**	**06 14 27.3**	**-0.3**
REYF				Sg	**Sg**	**06 14 28.7**	**-0.6**
PYLO	**Lourdes**	**0.21**	**99**	P	**Pg**	**06 14 30.0**	**+0.6**
PYLO				S	**Sg**	**06 14 33.1**	**+0.7**
PYLO	**Lourdes**	**0.21**	**99**	Pg	**Pg**	**06 14 29.5**	**+0.1**
PYLO				Sg	**Sg**	**06 14 32.8**	**+0.4**
ATE	**Arette**	**0.28**	**261**	P	**Pb**	**06 14 31.3**	**-0.9**
ATE				S	**Sg**	**06 14 35.6**	**+1.1**
ATE	**Arette**	**0.28**	**261**	Pg	**Pg**	**06 14 30.6**	**-0.1**
ATE				Sg	**Sg**	**06 14 35.0**	**+0.5**
ETSF	**Etsaut**	**0.29**	**217**	*e*Pg	**Pg**	**06 14 30.1**	**-0.9**
ETSF				*e*Sg	**Sg**	**06 14 33.5**	**-1.4**
	200nm,0.3s						
LABF	**Labassere**	**0.30**	**106**	Pg	**Pg**	**06 14 30.7**	**-0.6**
LABF				Sg	**Sg**	**06 14 35.4**	**0.0**
VIEF	**Viey**	**0.35**	**134**	P	**Pg**	**06 14 31.9**	**-0.3**
VIEF				S	**Sg**	**06 14 36.7**	**-0.2**
	94nm,0.1s						
VIEF	**Viey**	**0.35**	**134**	Pg	**Pg**	**06 14 31.3**	**-0.9**
VIEF				Sg	**Sg**	**06 14 35.9**	**-1.0**
URDF	**Urds**	**0.36**	**328**	Pg	**Pb**	**06 14 34.1**	**+0.4**
CANF	**Canfranc**	**0.39**	**201**	Pg	**Pg**	**06 14 31.9**	**-1.0**
ORDF	**Ordiarp**	**0.45**	**281**	Pg	**Pb**	**06 14 34.5**	**-0.7**
EPF	**Esparros**	**0.50**	**101**	*e*Pg	**Pg**	**06 14 34.4**	**-0.4**
EPF				*e*Sg	**Sg**	**06 14 41.0**	**-0.4**
	33nm,0.2s						
IRAF	**Chalets d'Irat**	**0.53**	**260**	Pg	**Pg**	**06 14 35.7**	**+0.2**
RESF	**Ens**	**0.58**	**123**	P	**Pg**	**06 14 35.7**	**-0.8**
RESF				S	**Sg**	**06 14 44.5**	**+0.3**
	88nm,0.3s						
SJPF	**Ste Jean**	**0.66**	**269**	*e*Pg	**Pg**	**06 14 37.9**	**0.0**
SJPF				*e*Sg	**Sg**	**06 14 46.9**	**+0.4**
	6.2nm,0.1s						
OSSF	**Osses**	**0.70**	**281**	P	**Pg**	**06 14 38.8**	**+0.2**
OSSF				S	**Sb**	**06 14 49.6**	**+0.6**
OSSF	**Osses**	**0.70**	**281**	Pg	**Pg**	**06 14 38.7**	**+0.1**
MLZA	**Monlezun-d-Arm**	**0.71**	**12**	Pg	**Pb**	**06 14 40.2**	**+0.6**
MLZA				Sg	**Sn**	**06 14 52.5**	**+0.3**
TERF	**Tercis-les-Bai**	**0.79**	**314**	Pg	**Pn**	**06 14 42.0**	**-0.3**
EALK	**Alkurruntz**	**0.87**	**276**	Pg	**Pb**	**06 14 42.1**	**-0.2**
EALK				Sg	**Sb**	**06 14 54.1**	**0.0**
EALK	**Alkurruntz**	**0.87**	**276**	Pg	**Pg**	**06 14 41.8**	**-0.1**
VIER	**Vielha - Casau**	**0.92**	**117**	P	**Pg**	**06 14 42.4**	**-0.4**
VIER				S	**Sb**	**06 14 55.4**	**-0.1**
	35nm,0.2s						
CARA	**Val d'Aran**	**0.94**	**116**	P	**Pg**	**06 14 42.9**	**-0.4**
CARA				S	**Sb**	**06 14 55.9**	**-0.2**
	18nm,0.2s						
CRAS	**Crastes**	**0.97**	**52**	Pg	**Pn**	**06 14 45.1**	**+0.3**
CRAS				Sg	**Sn**	**06 14 59.9**	**+1.4**
MLS	**Moulis**	**1.05**	**99**	P	**Pb**	**06 14 45.3**	**-0.2**
MLS				S	**Sn**	**06 15 00.6**	**-0.1**
CTRE	**Tremp**	**1.14**	**134**	P	**Pg**	**06 14 45.9**	**-1.2**
CTRE				S	**Sb**	**06 15 01.8**	**-0.1**
	24nm,0.4s						
SALF	**Salau**	**1.17**	**108**	P	**Pn**	**06 14 47.9**	**+0.3**
SALF				S	**Sb**	**06 15 03.8**	**+1.0**
	13nm,0.1s						
SALF	**Salau**	**1.17**	**108**	Pg	**Pg**	**06 14 46.6**	**-1.0**
SALF				Sg	**Sb**	**06 15 03.2**	**+0.4**
CEST	**Esterri de Car**	**1.28**	**114**	P	**Pg**	**06 14 49.0**	**-0.7**
CEST				S	**Sb**	**06 15 06.0**	**+0.2**
	8.7nm,0.1s						
CSOR	**Sort**	**1.31**	**125**	P	**Pg**	**06 14 49.1**	**-1.2**
CSOR				S	**Sn**	**06 15 07.6**	**+0.4**
	15nm,0.2s						
ESAC	**San Caprasio**	**1.41**	**184**	Pg	**Pb**	**06 14 51.5**	**0.0**
ESAC				Sg	**Sn**	**06 15 10.4**	**+0.8**
ESAC	**San Caprasio**	**1.41**	**184**	P	**Pn**	**06 14 51.4**	**+0.5**
ESAC				S	**Sg**	**06 15 08.5**	**-2.0**
	25nm,0.2s						
GENF	**Genat**	**1.43**	**102**	P	**Pb**	**06 14 51.8**	**0.0**
GENF				S	**Sn**	**06 15 11.5**	**+1.6**
CAVN	**Les Avellanes**	**1.48**	**147**	P	**Pn**	**06 14 51.8**	**0.0**
CAVN				S	**Sb**	**06 15 11.7**	**+0.2**
	31nm,0.1s						
PAND	**Andorre**	**1.50**	**113**	P	**Pb**	**06 14 53.1**	**-0.1**
PAND				S	**Sg**	**06 15 13.5**	**-0.1**
	8.7nm,0.2s						
CORG	**Organya**	**1.51**	**126**	P	**Pn**	**06 14 52.7**	**+0.5**
CORG				S	**Sn**	**06 15 12.7**	**+0.8**
	5.4nm,0.3s						
ARBS	**La Rabassa**	**1.54**	**116**	P	**Pb**	**06 14 54.0**	**+0.1**
ARBS				S	**Sg**	**06 15 14.1**	**-0.6**
	37nm,0.5s						
DUNF	**Dun**	**1.57**	**93**	Pg	**Pg**	**06 14 54.7**	**-0.5**
MONQ	**Montcuq**	**1.66**	**41**	Pn	**Pn**	**06 14 54.1**	**-0.1**
MONQ				Pg	**Pg**	**06 14 57.3**	**+0.4**
MONQ				Sn	**Sg**	**06 15 19.1**	**+0.8**
FNEB	**Nbias**	**1.80**	**96**	P	**Pn**	**06 14 57.2**	**+1.0**
FNEB				S	**Sb**	**06 15 21.2**	**+0.5**
	8.1nm,0.2s						
FNEB	**Nbias**	**1.80**	**96**	Pn	**Pn**	**06 14 56.9**	**+0.7**
FNEB				Sg	**Sg**	**06 15 24.7**	**+1.8**
CLLI	**Llivia**	**1.81**	**110**	P	**Pn**	**06 14 57.5**	**+1.1**
CLLI				S	**Sb**	**06 15 21.2**	**-0.1**
	4.9nm,0

4.6nm,0.3s
BGF Bois d'Agland 4.10 32 *e*Pg **Pg 06 15 42.4 -1.3**
BGF *e*Sg **Sg 06 16 35.0 -1.8**
14nm,0.3s
AVF Avril sur Loir 4.50 34 *e*Sg **Sg 06 16 48.0 -1.4**
5.0nm,0.4s
SMF Signal de Mont 4.59 39 *e*Sg **Sg 06 16 52.0 -0.6**
3.5nm,0.3s
SSF Saint Saulge 4.78 33 *e*Sg **Sg 06 16 54.9 -3.5**
2.7nm,0.4s
LOR Lormes 5.08 34 *e*Sg **Sg 06 17 06.2 -2.1**
2.4nm,0.3s

TRN 03 06:23:06.5, 17°.12N×61°.42W, h21km, MD3.6, East of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.65**	**328**	*e*P	Pn	06 23 22.1	+1.6
ANWB				*e*S	Sn	06 23 31.3	+1.3
DSDZ	**La Diserade, G**	**0.87**	**157**	*e*P	Pn	06 23 24.4	+0.7
DSDZ				*e*S	Sn	06 23 36.2	+0.5
DHSZ	**Broadband at M**	**0.91**	**201**	*e*P	Pn	06 23 25.6	+1.5
DHSZ				*e*S	Sn	06 23 39.2	+2.7
ATGZ	**Broadband at L**	**1.06**	**196**	*e*P	Pn	06 23 27.9	+1.8
ATGZ				*e*S	Sn	06 23 42.9	+2.6
MMLZ	**Guadeloupe Bro**	**1.10**	**192**	*e*P	Pb	06 23 28.4	+1.6
MMLZ				*e*S	Sn	06 23 43.2	+2.0
SKI	**Saint Kitts**	**1.28**	**280**	*e*P	Pb	06 23 31.8	+1.9
SKI				*e*S	Sb	06 23 48.9	+3.0
TBG	**Guadaloupe-3**	**1.28**	**190**	*e*P	Pb	06 23 30.8	+0.9
TBG				*e*S	Sb	06 23 49.1	+3.2
DWS	**Wesley**	**1.55**	**176**	*e*P	Pb	06 23 34.6	+0.1
DWS				*e*S	Sb	06 23 56.3	+2.7
DSLB	**Salisbury**	**1.67**	**180**	*e*P	Pb	06 23 37.3	+0.6
DSLB				*e*S	Sb	06 23 58.4	+1.1
MDN	**Morne-Daniel**	**1.79**	**179**	*e*P	Pb	06 23 37.7	-1.0

*IDC **03** 06:24:41.3±1.4, 24°.83N×94°.28E, h43km±12km, mb4.0/30, mbtmp4.3/32, ML4.5/2, MS3.5/20, Error ellipse: s-maj=11.7km s-min=9.5km az=109.0*
*NEIC **03** 06:24:43.4±1.3, 24°.87N±0°.04×94°.10E±0°.06, h59km±7km, mb4.8/61, Error ellipse: s-maj=7.4km s-min=6.6km az=103.0*
*NDI **03** 06:24:43.5±1.4, 24°.94N×94°.16E, h52km±9km, ML4.8, MW4.8*
*BJI **03** 06:24:45.5, 25°.18N×94°.15E, h80km, mB4.6/11, mb4.6/46, Ms4.0/23, Ms7 3.7/23*
ISC 03 06:24:43.3±0.5, 24°.84N±0°.03×94°.08E±0°.03, h60km±5km, n196, σ1°35/211, mb4.6/75, MS3.5/22, 4C-5D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.12**	**267**	*e*P	**Pn**	**06 24 51.6**	**-0.9**
IMP				IAML		06 24 56.1	
comp=N,114μm,0.4s							
IMP				IAML		06 24 56.1	
comp=E,23μm,0.2s							
IMP				*e*S	**Sn**	**06 24 59.0**	**-0.1**
KOHI	**KOHIMA**	**0.88**	**2**	*e*P	**Pn**	**06 24 58.6**	**-1.3**
SILR	**SILCHAR**	**1.16**	**268**	*e*P	**Pn**	**06 25 05.4**	**+2.0**
SILR				*e*P	**Sn**	**06 25 15.4**	**-2.9**
SILR				IAML		06 25 30.8	
comp=N,22μm,0.2s							
JORH	**JORHAT**	**1.91**	**5**	*e*P	**Pn**	**06 25 12.2**	**-1.3**
JORH				*e*S	**Sn**	**06 25 33.8**	**-2.6**
JORH				IAML		06 25 40.5	
comp=N,11μm,0.5s							
JORH				IAML		06 25 40.7	
comp=E,10μm,0.4s							
TEZP	**TEZPUR**	**2.12**	**327**	*e*P	**Pn**	**06 25 15.6**	**-0.7**
TEZP				*e*S	**Sn**	**06 25 39.9**	**-1.6**
TEZP				IAML		06 25 47.8	
comp=E,15μm,0.3s							
TEZP				IAML		06 25 48.5	
comp=N,29μm,0.1s							
SHL	**Shillong**	**2.12**	**291**		**Pn**	**06 25 15.5**	**-1.0**
SHL				Sn	**Sn**	**06 25 40.0**	**-1.8**
SHL	**Shillong**	**2.12**	**291**	*e*P	**Pn**	**06 25 15.1**	**-1.4**
SHL				*e*S	**Sn**	**06 25 38.8**	**-3.0**
SHL				IAML		06 25 43.3	
comp=N,10μm,0.1s							
SHL				IAML		06 25 43.5	
comp=E,10μm,0.1s							
ZIRO	**ZIRO**	**2.69**	**356**	*e*P	**Pn**	**06 25 23.1**	**-1.2**
AGT	**Agartala**	**2.75**	**250**	*e*P	**Pn**	**06 25 26.2**	**+1.3**
AGT				*e*S	**Sn**	**06 25 58.9**	**+1.9**
AGT				IAML		06 26 01.6	
comp=E,10μm,0.2s							
AGT				IAML		06 26 01.7	
comp=N,11μm,0.3s							
BRDH	**Bariadhala**	**3.10**	**227**	P	**Pn**	**06 25 29.6**	**-0.2**
comp=N,42nm,0.3s,baz=60,slow=11,SNR=14							
BRDH				S	**Sn**	**06 26 06.9**	**+1.4**
comp=N,906nm,0.4s,baz=206,slow=22,SNR=26							
comp=N,290nm,0.5s							
TNCH	**TengChong**	**4.04**	**86**	P	**Pn**	**06 25 43.0**	**+0.2**
TNCH				S	**Sn**	**06 26 28.1**	**-0.8**
TNCH				smax	smax		
comp=N,1μm,1.1s							
TNCH				smax	smax		
comp=N,980nm,1.0s							
TNCH				LR	LR		
comp=N,1μm,5.1s							
LSA	**Lhasa**	**5.50**	**332**		**Pn**	**06 26 03.6**	**+0.5**
LSA	**Lhasa**	**5.50**	**332**	P	**Pn**	**06 26 01.0**	**-2.1**
LSA				S	**Sn**	**06 26 59.3**	**-5.9**
LSA				smax	smax		
comp=N,300nm,1.1s							
LSA				smax	smax		
comp=N,370nm,0.8s							
PZH	**PanZhiHua**	**7.11**	**75**	P	**Pn**	**06 26 27.6**	**+2.8**
PZH				S	**Sn**	**06 27 48.5**	**+4.2**
PZH				pmax	pmax		
comp=N,70nm,0.8s							
PZH				pmax	pmax		
comp=N,150nm,4.2s							
PZH				LR	LR		
comp=N,770nm,11.8s							
PZH				LR	LR		
comp=N,460nm,9.9s							
PZH				LR	LR		
comp=N,440nm,9.8s							
EVN	**Everest**	**7.21**	**297**		**Pn**	**06 26 26.2**	**-0.5**
CHTO	**Chiang Mai**	**7.51**	**142**		**Pn**	**06 26 29.8**	**-0.3**
CHTO	**Chiang Mai**	**7.51**	**142**	P	**Pn**	**06 26 30.9**	**+0.7**
CM31	**Chiang Mai Arr**	**7.79**	**144**		**Pn**	**06 26 34.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.79**	**144**		**Pn**	**06 26 34.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.79**	**144**	P	**Pn**	**06 26 34.1**	**0.0**
comp=N,23nm,0.7s,baz=319,slow=13,SNR=46							
CMAR				S	**Sn**	**06 27 57.2**	**-3.7**
comp=N,11nm,0.8s,baz=321,slow=17,SNR=1.3							
KMI	**Kunming**	**7.87**	**86**	⇑P	**Pn**	**06 26 37.7**	**+2.4**
KMI				S	**Sn**	**06 28 07.1**	**+4.1**
KMI				smax	smax		
comp=N,56nm,1.4s							
KMI				smax	smax		
comp=N,38nm,1.6s							
KMI				LR	LR		
comp=N,2μm,8.2s							
KMI				LR	LR		
comp=N,580nm,6.0s							
KMI				LR	LR		
comp=N,360nm,13.9s							
SLVN	**Son La**	**9.70**	**109**		**Pn**	**06 26 58.2**	**-2.0**
SLVN	**Son La**	**9.70**	**109**	P	**Pn**	**06 27 00.6**	**+0.4**
CD2	**Chengdu**	**10.48**	**53**	P	**Pn**	**06 27 11.9**	**+1.0**
CD2				S	**Sn**	**06 29 08.8**	**+2.0**
GOMU	**GeErMu**	**11.34**	**3**	P	**Pn**	**06 27 19.9**	**-3.0**
GOMU				S	**Sn**	**06 29 30.7**	**+2.5**
GOMU				pmax	pmax		
comp=N,22nm,1.0s							
PBA	**Port Blair**	**13.17**	**186**	Pn	**Pn**	**06 27 46.7**	**-0.8**
LZDM	**Lanzhou Array**	**13.84**	**35**	P	**Pn**	**06 27 53.0**	**-3.7**
baz=224,slow=12							
LZDM				LR	LR	06 34 09.2	
comp=N,220nm,18.5s,baz=75,slow=41							
comp=N,4.8nm,0.5s							
LZH	**Lanzhou**	**14.01**	**35**	*e*P	**P**	**06 28 04.8**	**-0.3**
LZH				pP	Pn	06 28 15.6	+17
LZH				sP		06 28 22.8	
LZH				pmax	pmax		
comp=Z,37nm,1.0s							
LZH				LR	LR		
comp=N,450nm,12.9s							
LZH				LR	LR		
comp=E,510nm,11.7s							
LZH				LR	LR		
comp=Z,370nm,13.7s							
ENH	**Enshi**	**14.70**	**65**	Pn	**Pn**	**06 28 07.2**	**-0.6**
GTA	**Gaotai**	**15.32**	**17**	*e*P	**Pn**	**06 28 14.4**	**-1.5**
GTA				sP	pP	06 28 36.1	+3.4
QIZ	**Qiongzhong**	**15.72**	**108**		**Pn**	**06 28 21.3**	**+0.2**
QIZ	**Qiongzhong**	**15.72**	**108**	P	**P**	**06 28 22.9**	**-1.1**
QIZ				S	**Sn**	**06 31 16.4**	**+1.9**
QIZ				pmax	pmax		
comp=Z,39nm,0.9s							
QIZ				LR	LR		
comp=Z,200nm,14.3s							
QIZ				LR	LR		
comp=Z,140nm,14.9s							
QIZ				LR	LR		
comp=Z,220nm,14.7s							
QIZ	**Qiongzhong**	**15.72**	**108**	P	**Pn**	**06 28 21.3**	**+0.2**
XAN	**Xi'an**	**15.84**	**51**	⇓P	**Pn**	**06 28 23.2**	**+0.7**
XAN				pP	pP	06 28 32.0	-6.5
XAN				sP	sP	06 28 41.0	-5.3
XAN				S	**Sn**	**06 31 19.8**	**+2.6**
XAN				pmax	pmax		
comp=Z,18nm,0.6s							
XAN				LR	LR		
comp=Z,420nm,11.0s							
XAN				LR	LR		
comp=Z,280nm,10.3s							
XAN				LR	LR		
comp=Z,150nm,7.6s							
HYB	**Hyderabad**	**16.25**	**246**	*e*P	**P**	**06 28 30.8**	**+0.9**
HYB				*e*S	**S**	**06 31 38.0**	**+0.9**
SURA	**Surathani**	**16.46**	**160**	P	**P**	**06 28 31.6**	**-0.6**
DLV	**Lat**	**18.72**	**131**	P	**P**	**06 28 55.9**	**-1.5**
DLV				IAmb	IAmb	06 28 59.7	
comp=Z,27nm,0.8s							
DLV	**Lat**	**18.72**	**131**	P	**Pn**	**06 28 59.1**	**+0.8**
WHN	**Wuhan**	**18.82**	**68**	P	**Pn**	**06 29 01.6**	**+2.4**
WMQ	**Urumqi**	**19.65**	**346**	*e*P	**Pn**	**06 29 09.3**	**+0.3**
NIL	**Nilore**	**20.16**	**301**	P	**P**	**06 29 12.0**	**-0.7**
NIL				IAmb	IAmb	06 29 17.1	
comp=Z,45nm,0.6s							
KULM	**Kulim**	**20.43**	**161**	P	**P**	**06 29 14.4**	**-1.4**
BTO	**Baotou**	**20.62**	**36**	*e*P	**P**	**06 29 16.2**	**-1.5**
BTO				pP	**pP**	**06 29 34.0**	**+2.8**
BTO				S	**S**	**06 33 01.8**	**-3.1**
BTO				pmax	pmax		
comp=Z,120nm,0.6s							
BTO				pmax	pmax		
comp=Z,280nm,4.9s							
BTO				LR	LR		
comp=Z,590nm,10.2s							
BTO				LR	LR		
comp=Z,970nm,11.2s							
BTO				LR	LR		
comp=Z,550nm,17.7s							
KSH	**Kashi**	**21.13**	**318**	P	**P**	**06 29 24.1**	**+0.8**
KSH				pP	pP	06 29 36.2	-0.5
KSH				pmax	pmax		
comp=Z,23nm,0.8s							
IPM	**Ipoh**	**21.32**	**161**	P	**P**	**06 29 24.3**	**-1.0**
IPM				IAmb	IAmb	06 29 43.3	
comp=Z,29nm,1.2s							
TARG	**Taragay, Kyrgy**	**21.59**	**325**	P	**P**	**06 29 27.5**	**-1.0**
TARG				IAmb	IAmb	06 29 46.4	
comp=Z,23nm,0.8s							
HNS	**HongShan**	**21.59**	**50**	⇓P	**P**	**06 29 30.7**	**+2.6**
HNS				pmax	pmax		
comp=Z,8.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**21.63**	**38**	*e*P	**P**	**06 29 30.6**	**+2.0**
HHC				pP	pP	06 29 45.2	+2.9
HHC				sP	sP	06 29 52.2	+2.1
HHC				pmax	pmax		
comp=Z,13nm,1.0s							
HHC				pmax	pmax		
comp=Z,92nm,5.9s							
HHC				LR	LR		
comp=Z,260nm,11.8s							
HHC				LR	LR		
comp=Z,410nm,15.1s							
HHC				LR	LR		
comp=Z,210nm,13.5s							
PALK	**Pallekele**	**21.65**	**218**	P	**P**	**06 29 29.2**	**+0.3**
PALK				IAmb	IAmb	06 29 31.4	
comp=Z,18nm,0.8s							
PALK	**Pallekele**	**21.65**	**218**	P	**P**	**06 29 29.4**	**+0.5**
comp=Z,13nm,0.6s,baz=25,slow=11,SNR=12							
PALK				LR	LR	06 39 14.4	
comp=Z,47nm,19.9s,baz=37,slow=40							
comp=Z,13nm,0.6s							
PRZ	**Przheval'sk**	**21.85**	**328**	P	**P**	**06 29 29.4**	**-1.5**
PRZ				IAmb	IAmb	06 29 48.8	
comp=Z,32nm,0.7s							
SHLS	**Shalkode**	**21.87**	**330**	*e*P	**P**	**06 29 29.6**	**-1.6**
UZB	**Uzynbulak**	**22.06**	**330**	*e*P	**P**	**06 29 33.9**	**+0.6**
KDJ	**Kajisay**	**22.20**	**325**	P	**P**	**06 29 34.3**	**-0.5**
KDJ				IAmb	IAmb	06 29 50.8	
comp=Z,31nm,0.8s							
SATY	**Saty**	**22.28**	**329**	*e*P	**P**	**06 29 36.1**	**+0.5**
comp=Z,20nm,0.9s							
PSI	**Prapat**	**22.40**	**167**	P	**P**	**06 29 36.7**	**-0.3**
comp=Z,3.5nm,0.4s,baz=330,slow=11,SNR=5.7							
comp=Z,3.5nm,0.4s							
RPSI	**Rantau Prapat**	**22.50**	**167**	P	**P**	**06 29 36.7**	**-1.3**
RPSI	**Rantau Prapat**	**22.50**	**167**	P	**P**	**06 29 36.7**	**-1.3**
RPSI				IAmb	IAmb	06 29 44.5	
comp=Z,7.6nm,0.7s							
TIA	**Tai'an**	**22.80**	**55**	P	**P**	**06 29 40.0**	**-1.1**
TIA				pP	**pP**	**06 29 55.6**	**+0.8**
TIA				pmax	pmax		
comp=Z,11nm,0.9s							
NJ2	**Nanjing**	**22.91**	**66**	*e*P	**P**	**06 29 42.2**	**0.0**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.6s							
MDOK	**Medeo**	**23.02**	**327**	*e*P	**P**	**06 29 43.7**	**+0.4**
BOOM	**Boomskoye usch**	**23.11**	**324**	P	**P**	**06 29 44.2**	**-0.1**
BOOM				IAmb	IAmb	06 30 10.4	
comp=Z,28nm,1.2s							
AAA	**Alma-Ata**	**23.12**	**327**	*e*P	**P**	**06 29 44.7**	**+0.5**
comp=Z,16nm,0.5s							
ZSN	**Zaisan**	**23.73**	**344**	*e*P	**P**	**06 29 50.6**	**+0.8**
KBL	**Kabul**	**23.75**	**300**		**P**	**06 29 50.2**	**-0.1**
KBL				IAmb	IAmb	06 30 14.0	
comp=Z,30nm,0.9s							
DRK	**Karamyk**	**23.76**	**313**	P	**P**	**06 29 50.7**	**+0.1**
MKAR	**Makanchi Array**	**23.85**	**340**		**P**	**06 29 50.2**	**-0.8**
MKAR	**Makanchi Array**	**23.85**	**340**	P	**P**	**06 29 50.7**	**-0.3**
comp=Z,3.6nm,0.5s,baz=145,slow=12,SNR=39							
MKAR				ScP	**ScP**	**06 37 08.3**	**+2.4**
comp=Z,0.4nm,0.5s,baz=135,slow=2.3,SNR=3.0							
comp=Z,3.6nm,0.5s							
AAK	**Ala-Archa**	**23.99**	**323**	P	**P**	**06 29 53.4**	**+0.9**
AAK				IAmb	IAmb	06 30 21.0	
comp=Z,30nm,1.6s							
AAK	**Ala-Archa**	**23.99**	**323**	P	**P**	**06 29 53.5**	**+1.1**
comp=Z,2.1nm,0.6s,baz=116,slow=8.0,SNR=5.0							
AAK				LR	LR	06 40 12.3	
comp=Z,42nm,18.8s,baz=120,slow=39							
comp=Z,2.1nm,0.6s							
ARSB	**Arslanbob**	**24.04**	**318**		**P**	**06 29 52.2**	**-0.7**
GAR	**Garm**	**24.53**	**311**		**P**	**06 29 56.5**	**-0.8**
SONM	**Songino Array**	**24.94**	**20**	P	**P**	**06 30 00.6**	**-0.5**
SONM	**Songino Array**	**24.94**	**20**	P	**P**	**06 30 00.5**	**-0.5**
comp=Z,5.6nm,0.7s,baz=199,slow=10,SNR=20							
SONM				ScP	**ScP**	**06 37 09.5**	**+0.5**
comp=Z,1.3nm,0.6s,baz=205,slow=3.5,SNR=5.3							
comp=Z,5.6nm,0.7s							
CHGR	**Chuyangaron**	**25.18**	**309**		**P**	**06 30 03.1**	**-0.1**
CHGR				IAmb	IAmb	06 30 29.0	
comp=Z,49nm,0.9s							
ULN	**Ulaanbaatar**	**25.18**	**21**		**P**	**06 30 02.9**	**-0.3**
BTLS	**Baital**	**25.87**	**326**	*e*P	**P**	**06 30 10.0**	**+0.6**
DZA	**Taraz**	**25.96**	**320**	*e*P	**P**	**06 30 10.4**	**+0.2**
XLT	**XiLinHaoTe**	**26.16**	**38**	*e*P	**P**	**06 30 11.6**	**-0.4**
XLT				pP	pP	06 30 30.2	+3.0
XLT				PP	**PnPn**	**06 30 57.2**	**+3.9**
XLT				pmax	pmax		
comp=Z,17nm,1.0s							
IUG	**Iuzhnay**	**26.32**	**317**	*e*P	**P**	**06 30 13.1**	**-0.5**
comp=Z,17nm,0.7s							
KK31	**Karatay Array**	**26.57**	**319**	P	**P**	**06 30 15.3**	**-0.4**
KKAR	**Karatay Array**	**26.57**	**319**	P	**P**	**06 30 16.2**	**+0.5**
BRLS	**Borolday**	**26.94**	**318**	*e*P	**P**	**06 30 19.2**	**+0.2**
DL2	**Dalian**	**27.15**	**52**	P	**P**	**06 30 20.7**	**-0.2**
DL2				pP	**pP**	**06 30 35.5**	**-0.5**
DL2				pmax	pmax		
comp=Z,26nm,0.9s							
TGY	**Tagaytay City**	**27.43**	**108**	LR	LR	06 40 59.0	
comp=Z,151nm,21.1s,baz=192,slow=36							
SBUM	**Sibu**	**28.31**	**139**	P	**P**	**06 30 31.1**	**-0.4**
KURBB	**Kurchatov Arra**	**28.41**	**339**	P	**P**	**06 30 31.8**	**-0.2**
comp=Z,2.2nm,0.7s,baz=158,slow=7.5,SNR=11							
KURBB				ScP	**ScP**	**06 37 20.3**	**+1.3**
comp=Z,0.5nm,0.3s,baz=155,slow=2.7,SNR=1.7							
comp=Z,2.2nm,0.7s							
KURK	**Kurchatov**	**28.46**	**339**	P	**P**	**06 30 32.3**	**-0.2**
ZAA0	**Zalesovo Array**	**29.89**	**349**	P	**P**	**06 30 44.9**	**-0.2**
ZALV	**Zalesovo Beam**	**29.89**	**349**	P	**P**	**06 30 45.0**	**0.0**
ZALV	**Zalesovo Beam**	**29.89**	**349**	P	**P**	**06 30 45.3**	**+0.2**
comp=Z,2.0nm,0.5s,baz=160,slow=4.7,SNR=4.4							
comp=Z,2.0nm,0.5s							
JOW	**Kunigami**	**30.79**	**79**	LR	LR	06 43 00.1	
comp=Z,70nm,18.2s,baz=268,slow=36							
KSRS	**Korea Array**	**31.41**	**58**	P	**P**	**06 30 57.2**	**-1.4**
comp=Z,0.8nm,0.7s,baz=251,slow=6.8,SNR=1.4							
comp=Z,0.8nm,0.7s							
JNU	**Nakatsue**	**33.10**	**67**	LR	LR	06 44 39.6	
comp=Z,76nm,20.6s,baz=240,slow=36							
BVAR	**Borovoye Array**	**33.34**	**334**	P	**P**	**06 31 15.5**	**+0.2**
comp=Z,1.6nm,0.4s,baz=138,slow=11,SNR=6.3							
BVAR				ScP	**ScP**	**06 37 35.4**	**0.0**
comp=Z,1.4nm,0.7s,baz=119,slow=1.9,SNR=5.1							
BVAR				LR	LR	06 46 38.9	
comp=Z,85nm,18.7s,baz=137,slow=39							
comp=Z,1.6nm,0.4s							
BNX	**BinXian**	**33.92**	**44**	⇑P	**P**	**06 31 22.4**	**+1.9**
BNX				pmax	pmax		
comp=Z,9.0nm,0.9s							
DAV	**Davao City (W)**	**34.92**	**115**	LR	LR	06 46 04.6	
comp=Z,34nm,20.8s,baz=302,slow=37							
KPJI	**Karang Pucung**	**35.10**	**154**	P	**P**	**06 31 32.5**	**+1.5**
AB31	**Akbulak array**	**36.07**	**321**		**P**	**06 31 39.3**	**+0.3**
AB31				IAmb	IAmb	06 31 56.0	
comp=Z,13nm,0.7s							
ABKAR	**Akbulak array**	**36.07**	**321**		**P**	**06 31 39.3**	**+0.3**
HEH	**HeiHe**	**36.14**	**37**	*e*P	**P**	**06 31 38.9**	**-0.7**
HEH				pmax	pmax		
comp=Z,18nm,0.9s							
USRK	**Ussuriysk Ar.**	**36.31**	**48**	P	**P**	**06 31 40.0**	**-1.1**
comp=Z,5.4nm,0.8s,baz=253,slow=9.0,SNR=5.8							
comp=Z,5.4nm,0.8s							
AKTO	**Aktyubinsk**	**37.74**	**322**	P	**P**	**06 31 53.7**	**+0.5**
comp=Z,1.1nm,0.4s,baz=136,slow=4.4,SNR=4.2							
AKTO				LR	LR	06 49 19.1	
comp=Z,88nm,18.6s,baz=100,slow=39							
comp=Z,1.1nm,0.4s							
KAPI	**Kappang**	**38.78**	**136**	LR	LR	06 51 32.0	
comp=Z,14nm,19.3s,baz=328,slow=42							
MJAR	**Matsushiro Arr**	**39.39**	**62**	P	**P**	**06 32 05.9**	**-1.3**
comp=Z,1.7nm,0.4s,baz=268,slow=9.1,SNR=4.3							
comp=Z,1.7nm,0.4s							
ARTI	**Arti**	**40.75**	**330**	P	**P**	**06 32 17.5**	**-0.7**
ARTI				IAmb	IAmb	06 32 35.4	
comp=Z,14nm,0.4s							
ARTI	**Arti**	**40.75**	**330**	P	**P**	**06 32 19.4**	**+1.2**
comp=Z,2.8nm,0.5s,baz=128,slow=8.9,SNR=4.3							
comp=Z,2.8nm,0.5s							
ASAJ	**Asahikawa**	**43.68**	**51**	LR	LR	06 51 14.6	
comp=Z,34nm,18.5s,baz=252,slow=37							
JKA	**Kamikawa-asahi**	**43.68**	**51**	P	**P**	**06 32 41.9**	**-0.3**
ERM	**Erimo**	**43.78**	**54**	P	**P**	**06 32 41.5**	**-1.5**
RAYN	**Ar Rayn**	**44.15**	**279**	P	**P**	**06 32 45.6**	**-0.7**
BATI	**Baumata**	**45.23**	**137**	LR	LR	06 54 38.5	
comp=Z,149nm,18.1s,baz=160,slow=40							
SOEI	**Soe**	**45.27**	**136**	P	**P**	**06 32 56.6**	**+1.3**
comp=Z,33nm,1.0s							
KBZ	**Khabaz**	**45.52**	**308**	LR	LR	06 54 27.9	
comp=Z,50nm,21.8s,baz=74,slow=39							
FAKI	**Fak Fak**	**46.19**	**121**	P	**P**	**06 33 00.4**	**-2.1**
MBWA	**Marble Bar**	**52.08**	**149**	P	**P**	**06 33 46.5**	**-0.8**
comp=Z,27nm,0.7s							
MBWA	**Marble Bar**	**52.08**	**149**	P	**P**	**06 33 46.5**	**-0.8**
MBWA	**Marble Bar**	**52.08**	**149**	P	**P**	**06 33 47.5**	**+0.2**
MA2	**Magadan**	**52.16**	**33**	LR	LR	06 56 55.6	
comp=Z,2μm,21.6s,baz=115,slow=37							
BRTR	**Keskin Array B**	**52.29**	**302**	P	**P**	**06 33 49.4**	**+0.4**
BRTR	**Keskin Array B**	**52.29**	**302**	P	**P**	**06 33 50.4**	**+1.4**
comp=Z,0.7nm,0.6s,baz=108,slow=7.7,SNR=3.4							
comp=Z,0.7nm,0.6s							
PSAC1	**Pilbara Seismi**	**52.44**	**149**	P	**P**	**06 33 48.8**	**-1.1**
comp=Z,22nm,0.7s							
PSA00	**Pilbara Seismi**	**52.49**	**149**	P	**P**	**06 33 48.9**	**-1.4**
comp=Z,19nm,0.9s							
PSA00	**Pilbara Seismi**	**52.49**	**149**	P	**P**	**06 33 49.0**	**-1.3**
PSA00				IAmb	IAmb	06 33 50.5	
comp=Z,13nm,0.7s							
PSA00	**Pilbara Seismi**	**52.49**	**149**	P	**P**	**06 33 48.9**	**-1.4**
PSA00				IAmb	IAmb	06 33 50.6	
comp=Z,6.9nm,0.7s							
PSA00	**Pilbara Seismi**	**52.49**	**149**	P	**P**	**06 33 50.2**	**-0.2**
KNRA	**Kununurra**	**52.59**	**136**	P	**P**	**06 33 49.6**	**-1.6**
comp=Z,17nm,0.6s							
KNRA	**Kununurra**	**52.59**	**136**	P	**P**	**06 33 49.7**	**-1.6**
KNRA				IAmb	IAmb	06 33 51.4	
comp=Z,11nm,0.7s							
PETK	**Petropavlovsk-**	**54.79**	**41**	P	**P**	**06 34 05.4**	**-1.5**
comp=Z,9.2nm,1.0s,baz=262,slow=2.9,SNR=3.9							
comp=Z,9.2nm,1.0s							
AKASG	**Malin Array Be**	**55.40**	**316**	P	**P**	**06 34 10.9**	**-0.4**
comp=Z,0.8nm,0.4s,baz=81,slow=7.0,SNR=5.4							
comp=Z,0.8nm,0.4s							
AKBB	**Malin Array Si**	**55.40**	**316**	P	**P**	**06 34 11.0**	**-0.2**
AKBB				IAmb	IAmb	06 34 28.9	
comp=Z,7.4nm,0.8s							
KIEV	**Kiev**	**55.41**	**316**	P	**P**	**06 34 10.9**	**-0.4**
KIEV				IAmb	IAmb	06 34 28.9	
comp=Z,6.6nm,0.8s							
MEEK	**Meekatharra**	**56.39**	**153**	P	**P**	**06 34 17.9**	**-0.7**
comp=Z,24nm,0.9s							
MEEK	**Meekatharra**	**56.39**	**153**	P	**P**	**06 34 18.6**	**0.0**
ONER	**Baraj Valea Uz**	**57.30**	**310**	⇑P	**P**	**06 34 27.9**	**+3.0**
MLR	**Muntele Rosu**	**57.66**	**309**	P	**P**	**06 34 27.8**	**+0.2**
MLR				IAmb	IAmb	06 34 47.0	
comp=Z,13nm,0.8s							
MLR	**Muntele Rosu**	**57.66**	**309**	P	**P**	**06 34 29.0**	**

comp=Z,15nm,1.0s
VRAC Vranov 63.60 314 LR LR 07 05 39.4
comp=Z,49nm,21.7s,baz=76,slow=39
NB2 NORSAR Subarra 65.17 328 P **P** **06 35 18.0 0.0**
comp=Z,2.0nm,0.6s,baz=84,slow=6.5
NOA NORSAR Array B 65.17 328 P **P** **06 35 18.1 +0.2**
comp=Z,0.5nm,0.4s,baz=84,slow=6.4,SNR=3.2
NOA LR LR 07 06 56.7
comp=Z,19nm,18.0s,baz=285,slow=39
comp=Z,0.5nm,0.4s
VOI Vohitsoka 65.33 229 P **P** **06 35 19.6 +0.1**
NC204 NORSAR Array S 65.36 328 P **P** **06 35 18.6 -0.5**
GERES GERESS Array B 65.55 314 P **P** **06 35 21.0 +0.3**
comp=Z,0.7nm,0.5s,baz=68,slow=8.7,SNR=4.1
comp=Z,0.7nm,0.5s
BBOO Buckleboo 69.91 143 P **P** **06 35 46.8 -1.2**
comp=Z,22nm,0.7s
BBOO Buckleboo 69.91 143 **P** **06 35 47.2 -0.9**
BBOO IAmb IAmb 06 35 48.0
comp=Z,16nm,0.8s
BBOO Buckleboo 69.91 143 P **P** **06 35 47.6 -0.5**
QLP Quilpie 70.41 133 P **P** **06 35 51.3 0.0**
comp=Z,12nm,1.4s
HTT Hallett 71.96 142 P **P** **06 35 59.5 -1.1**
comp=Z,1.7nm,1.1s
STKA Stephens Creek 72.39 139 P **P** **06 36 02.0 -1.1**
STKA IAmb IAmb 06 36 02.8
comp=Z,19nm,0.8s
STKA Stephens Creek 72.39 139 P **P** **06 36 01.9 -1.3**
comp=Z,5.5nm,0.8s,baz=333,slow=8.2,SNR=10
comp=Z,5.5nm,0.8s
C19K Lookout Ridge 72.65 21 P **P** **06 36 03.9 -0.3**
E18K Tukpahlearik C 72.99 23 P **P** **06 36 06.0 -0.1**
E18K IAmb IAmb 06 37 07.3
comp=Z,46nm,1.7s
EKA Eskdalemuir Ar 73.89 324 P **P** **06 36 12.1 +0.4**
comp=Z,1.1nm,0.6s,baz=70,slow=5.8,SNR=4.1
comp=Z,1.1nm,0.6s
B21K Ikpikpuk River 74.00 20 P **P** **06 36 11.7 -0.4**
CMSA Cobar Meteorol 74.67 136 P **P** **06 36 15.8 -0.7**
comp=Z,14nm,0.7s
CMSA Cobar Meteorol 74.67 136 P **P** **06 36 16.3 -0.2**
K17K Iditarod 75.88 27 P **P** **06 36 23.3 +0.2**
K17K IAmb IAmb 06 36 56.2
comp=Z,52nm,1.8s
ARPS Mount Arapiles 76.03 142 P **P** **06 36 23.7 -0.4**
comp=Z,5.4nm,1.9s
ARMA Armidale 77.84 132 P **P** **06 36 35.2 +0.5**
comp=Z,7.9nm,0.8s
BPAW Bear Paw Mtn. 78.05 24 P **P** **06 36 34.4 -0.9**
BMAR Burnt Mountain 78.29 20 P **P** **06 36 37.0 +0.5**
M20K Styx River 78.40 26 P **P** **06 36 37.5 +0.2**
M20K IAmb IAmb 06 36 59.6
comp=Z,20nm,1.4s
G26K Porcupine Rive 78.83 20 P **P** **06 36 39.2 -0.2**
G26K IAmb IAmb 06 37 12.7
comp=Z,7.8nm,1.1s
ILAR Eielson Array 79.14 22 P **P** **06 36 40.0 -1.2**
comp=Z,0.8nm,0.6s,baz=302,slow=4.5,SNR=11
comp=Z,0.8nm,0.6s
CAN Canberra 79.25 137 P **P** **06 36 41.9 -0.3**
K24K Donnelly Dome 80.11 23 P **P** **06 36 45.6 -0.9**
K24K IAmb IAmb 06 37 12.6
comp=Z,13nm,0.7s
RIDG Independent Ri 80.47 23 P **P** **06 36 48.1 -0.4**
RIDG IAmb IAmb 06 37 18.1
comp=Z,7.8nm,1.0s
KDAK Kodiak Island 80.80 30 LR LR 07 13 39.7
comp=Z,64nm,19.3s,baz=149,slow=36
I30M Mount Dempster 82.24 19 P **P** **06 36 57.8 -0.2**
I30M IAmb IAmb 06 37 15.9
comp=Z,8.3nm,1.2s
LBTB Lobatse 82.72 238 P **P** **06 37 02.6 +1.6**
comp=Z,3.9nm,0.9s,baz=57,slow=3.2,SNR=4.0
comp=Z,3.9nm,0.9s
BOSA Boshof 84.86 235 P **P** **06 37 13.2 +1.3**
comp=Z,3.5nm,0.9s,baz=65,slow=6.0,SNR=3.9
BOSA LR LR 07 10 58.6
comp=Z,39nm,21.9s,baz=212,slow=33
comp=Z,3.5nm,0.9s
TORD Torodi Ar. Bea 86.70 283 P **P** **06 37 22.7 +1.5**
comp=Z,0.8nm,0.8s,baz=74,slow=5.9,SNR=3.8
comp=Z,0.8nm,0.8s
FRB Frobisher Bay 90.66 352 LR LR 07 20 48.0
comp=Z,56nm,20.1s,baz=104,slow=37
QSPA South Pole Qui 114.64 180 PKP **PKiKP** **06 43 16.8 +0.7**
comp=Z,0.8nm,0.7s,baz=312,slow=2.7,SNR=6.3
TXAR Lajitas Array 123.51 19 PKP **PKPdf** **06 43 34.4 -0.1**
comp=Z,0.7nm,0.6s,baz=79,slow=1.3,SNR=13

*ISK **03** 06:34:27.5, 36°.25N×28°.63E, h6km, ML2.5/10*
*THE **03** 06:34:27.7, 37°N±59°×2°8E±4°, h13km±37km, MLh2.2/3*
*AFAD **03** 06:34:28.8, 36°.33N×28°.50E, h7km±4km, ML2.1*
ISC 03 06:34:27.6±1.3, 36°.31N±0°.03×28°.54E±0°.03, h3km±11km, n22, σ1§12/37, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**255**	Pg	**Pb**	**06 34 35.9**	**-0.5**
ARG				Sg	**Sb**	**06 34 42.0**	**-0.2**
ARG	**Arkhangelos**	**0.34**	**255**	P	**Pb**	**06 34 35.9**	**-0.5**
ARG				S	**Sb**	**06 34 41.9**	**-0.2**
DALY	**Dalyan (Mula)**	**0.52**	**10**	Pg	**Pb**	**06 34 38.9**	**-0.4**
DALY				Sg	**Sb**	**06 34 46.8**	**-0.5**
TURN	**Turunc**	**0.53**	**333**	P	**Pb**	**06 34 39.0**	**-0.5**
TURN				S	**Sb**	**06 34 45.7**	**-1.7**
TURN				*i* IAML		06 34 48.0	
comp=N,80nm,0.2s							
IZZE	**Mula-Seydike**	**0.57**	**77**	P	**Pb**	**06 34 39.6**	**-0.6**
IZZE				S	**Sb**	**06 34 49.2**	**+0.4**
IZZE				*i* IAML		06 34 50.0	
comp=N,492nm,0.2s							
SABU	**Mula-Dalaman**	**0.62**	**34**	P	**Pb**	**06 34 40.8**	**-0.3**
SABU				S	**Sb**	**06 34 50.3**	**0.0**
SABU				*i* IAML		06 34 51.0	
comp=N,113nm,0.2s							
YER	**Yerkesik**	**0.85**	**346**	Pg	**Pn**	**06 34 45.9**	**-0.7**
KSL	**Kastellorizon**	**0.86**	**100**	P	**Pn**	**06 34 45.7**	**-0.8**
KSL				S	**Sn**	**06 35 00.5**	**+0.9**
AKAS	**Kas**	**0.87**	**94**	P	**Pn**	**06 34 45.8**	**-1.0**
AKAS				S	**Sn**	**06 34 60.0**	**-0.1**
AKAS				*i* IAML		06 35 01.0	
comp=N,98nm,0.9s							
DAT	**Datca**	**0.88**	**299**	Pg	**Pn**	**06 34 46.6**	**-0.4**
CAME	**Cameli-Denizli**	**0.89**	**44**	Pg	**Pg**	**06 34 44.6**	**0.0**
CAME				Sg	**Sb**	**06 34 57.8**	**-0.2**
YAZI	**Mula-Dat§a-**	**0.95**	**294**	P	**Pn**	**06 34 46.8**	**-1.0**
YAZI				S	**Sg**	**06 34 56.7**	**-1.4**
YAZI				*i* IAML		06 35 02.0	
comp=E,33nm,0.2s							
TAVA	**DENIZLI_Tavas**	**1.20**	**14**	P	**Pg**	**06 34 53.1**	**+2.6**
TAVA				S	**Sn**	**06 35 10.0**	**+1.8**
TAVA				*i* IAML		06 35 13.0	
comp=E,24nm,0.2s							
GOLH	**Golhisar**	**1.24**	**41**	P	**Pg**	**06 34 51.6**	**+0.2**
GOLH				S	**Sn**	**06 35 11.9**	**+2.6**
GOLH				*i* IAML		06 35 14.0	
comp=N,41nm,0.5s							
BODT	**Bodrum**	**1.24**	**308**	Pn	**Pg**	**06 34 53.3**	**+1.9**
APMY	**Acipayam-Deniz**	**1.32**	**28**	Pn	**Pg**	**06 34 53.2**	**+0.4**
KARP	**Karpathos**	**1.35**	**236**	Pn	**Pg**	**06 34 53.4**	**0.0**
KARP	**Karpathos**	**1.35**	**236**	P	**Pn**	**06 34 52.3**	**-1.1**
KARP				S	**Sg**	**06 35 13.4**	**+2.5**
AYDN	**Tasoluk**	**1.45**	**339**	P	**Pg**	**06 34 56.5**	**+1.1**
AYDN				S	**Sg**	**06 35 14.3**	**+0.1**
AYDN				*i* IAML		06 35 18.0	
comp=E,48nm,0.7s							
ESEN	**Aydn-Nazilli**	**1.50**	**354**	P	**Pg**	**06 34 56.4**	**+0.1**
ESEN				S	**Sg**	**06 35 15.1**	**-0.7**
ESEN				*i* IAML		06 35 21.0	
comp=E,26nm,0.5s							
NAZL	**Nazilli-Aydin**	**1.67**	**353**	Pn	**Pg**	**06 34 59.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**343**	Pn	**Pg**	**06 34 59.9**	**-0.6**

*SOME **03** 06:47:59.2, 42°.28N×72°.48E, h5km*
*NNC **03** 06:48:00.2±1.7, 42°.35N×72°.47E, h0km, mpv2.8, Error ellipse: s-maj=23.0km s-min=7.4km az=158.0*
ISC 03 06:47:59.7±1.9, 42°.3N±0°.2×72°.50E±0°.05, h9km±15km, n7, σ0§82/11, 2C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.71**	**49**	P	**Pg**	**06 48 13.5**	**0.0**
1.7nm,0.1s							
MRKS				S	**Sg**	**06 48 23.5**	**+0.6**
23nm,0.3s							
MRKS	**Merke**	**0.71**	**49**	*e*P	**Pg**	**06 48 13.6**	**+0.1**
1.7nm,0.1s							
MRKS				*e*S	**Sb**	**06 48 23.9**	**-0.5**
22nm,0.1s							
KK31	**Karatay Array**	**1.68**	**300**	⇑Pn	**Pn**	**06 48 29.1**	**-0.3**
0.2nm,0.1s,baz=118,slow=16,SNR=3.7							
KK31				⇑Lg	Lg	06 48 51.1	
2.1nm,0.2s,baz=119,slow=28							
IUG	**Iuzhnay**	**1.84**	**267**	P	**Pb**	**06 48 33.7**	**+0.2**
8.8nm,0.2s							
IUG				S	**Sg**	**06 48 58.7**	**-0.1**
19nm,0.5s							
BRLS	**Borolday**	**2.10**	**292**	Lg	Lg	06 49 04.3	
4.0nm,0.3s							
BRLS	**Borolday**	**2.10**	**292**	*e*P	**Pb**	**06 48 37.8**	**-0.3**
0.8nm,0.1s							
BRLS				*e*S	**Sb**	**06 49 05.1**	**+0.8**
3.3nm,0.1s							
KST	**Kastek**	**2.67**	**72**	*e*P	**Pb**	**06 48 48.7**	**+0.9**
0.6nm,0.1s							
KST				*e*S	**Sg**	**06 49 23.9**	**-1.5**
6.6nm,0.4s							

*HLW **03** 07:30:19.5, 34°.79N×24°.96E, h28km±8km, Md3.1, Ml2.6*
*ATH **03** 07:30:20.6, 34°.83N×24°.87E, h17km±1km, ML2.4/6, Manual Solution by E.Daskalaki First location: 2019/10/03 07:31:22, This location: 2019/10/03 07:54:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
ISC 03 07:30:18.8±1.4, 34°.74N±0°.05×24°.93E±0°.05, h10km±13km, n12, σ0§70/17, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.35**	**338**	P	**Pg**	**07 30 26.3**	**+0.4**
IDI	**Anoyia**	**0.55**	**357**	P	**Pg**	**07 30 29.9**	**+0.4**
IDI				S	**Sg**	**07 30 35.5**	**-1.2**
GVD	**Gavdhos**	**0.70**	**278**	P	**Pg**	**07 30 33.2**	**+0.9**
GVD				S	**Sg**	**07 30 42.0**	**+0.5**
PRNS	**Prines Rethymn**	**0.71**	**331**	P	**Pg**	**07 30 33.1**	**+0.5**
PRNS				S	**Sg**	**07 30 41.5**	**-0.4**
NPS	**Neapolis**	**0.77**	**47**	P	**Pn**	**07 30 35.2**	**-0.5**
NPS				S	**Sb**	**07 30 45.3**	**+0.6**
CHAN	**Chania**	**1.06**	**317**	P	**Pb**	**07 30 39.1**	**-0.2**
ZKR	**Zakros**	**1.12**	**70**	P	**Pb**	**07 30 40.2**	**-0.1**
ZKR				S	**Sn**	**07 30 57.0**	**+0.9**
RODP	**Rodopos**	**1.26**	**311**	P	**Pn**	**07 30 42.0**	**-0.5**
THERA	**Ancient Thera,**	**1.68**	**15**	P	**Pn**	**07 30 48.3**	**0.0**
ANKY	**Antikythira Is**	**1.74**	**311**	P	**Pb**	**07 30 50.2**	**-0.6**
SLUM	**Salum**	**3.25**	**176**	P	**Pn**	**07 31 09.1**	**-0.7**
SWA2		**5.50**	**175**	P	**Pn**	**07 31 40.1**	**-0.7**

*CATAC **03** 07:34:54.7±0.6, 12°N±3°×8°8W±°, h35km±11km, M3.9/24, MLv3.9/24, Error ellipse: s-maj=7.4km s-min=2.3km az=31.2, confirmed*
*NEIC **03** 07:34:56.0±2.0, 12°.15N±0°.07×88°.09W±0°.06, h25km±8km, mb4.4/21, Error ellipse: s-maj=10.2km s-min=7.2km az=210.0*
*SNET **03** 07:34:56.2±4.2, 12°.12N×88°.21W, h31km, ML3.8*
*IDC **03** 07:34:56.1±2.2, 12°.09N×88°.04W, h43km±30km, mb4.0/6, mbtmp4.1/8, ML3.2/2, MS3.5/5, Error ellipse: s-maj=55.7km s-min=15.2km az=31.0*
ISC 03 07:34:56.3±1.1, 12°.06N±0°.05×88°.17W±0°.04, h40km±13km, n110, σ1§25/116, mb4.3/14, MS3.3/5, 14C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**1.14**	**35**	⇑P	**Pn**	**07 35 15.0**	**-0.8**
POTN				S	**Sn**	**07 35 31.0**	**+0.8**
CNCH	**Conchagua**	**1.25**	**15**	*e*P	**Pn**	**07 35 16.5**	**-1.0**
CNCH	**Conchagua**	**1.25**	**15**	⇑P	**Pn**	**07 35 16.6**	**-0.8**
CRIN	**San Cristobal**	**1.27**	**60**		**Pn**	**07 35 17.3**	**-0.3**
CRIN	**San Cristobal**	**1.27**	**60**	⇑P	**Pn**	**07 35 17.3**	**-0.3**
PKGN	**Cerro Pekin**	**1.31**	**63**	⇑P	**Pn**	**07 35 17.6**	**-0.6**
LCY	**Lacayo**	**1.36**	**355**	*e*P	**Pn**	**07 35 17.5**	**-1.4**
BLLM	**Bellamira**	**1.37**	**357**	*e*P	**Pn**	**07 35 18.1**	**-1.0**
CNRM	**Centro Naciona**	**1.40**	**0**	*e*S	**Sn**	**07 35 41.0**	**+4.3**
PACA	**Pacayal**	**1.41**	**354**	⇓P	**Pn**	**07 35 18.5**	**-1.1**
HERN	**Volcan Telica**	**1.42**	**67**		**Pn**	**07 35 17.8**	**-1.9**
POLN	**Al Sur del Vol**	**1.45**	**66**	⇑P	**Pn**	**07 35 17.9**	**-2.3**
POLN				S	**Sn**	**07 35 38.7**	**+0.7**
CNGA	**Al SSO del Vol**	**1.50**	**73**	P	**Pn**	**07 35 19.8**	**-1.0**
CNGN	**Cerro Negro**	**1.50**	**73**		**Pn**	**07 35 20.5**	**-0.4**
CNGN	**Cerro Negro**	**1.50**	**73**	⇑P	**Pn**	**07 35 19.9**	**-1.0**
COPN	**Copaltepe**	**1.55**	**86**	⇑P	**Pn**	**07 35 21.0**	**-0.5**
TECO	**Alcaldia de Te**	**1.58**	**338**	P	**Pn**	**07 35 20.7**	**-1.2**
UESV	**Universidad de**	**1.68**	**339**	P	**Pn**	**07 35 22.5**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.72**	**342**	S	**Sn**	**07 35 44.4**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.72**	**342**	⇑P	**Pn**	**07 35 22.7**	**-1.1**
LFRS	**El Faro**	**1.78**	**331**	*e*P	**Pn**	**07 35 22.9**	**-1.8**
LFRS				*e*S	**Sn**	**07 35 48.8**	**+2.6**
PAVA	**Las Pavas**	**1.80**	**336**	⇑P	**Pn**	**07 35 23.7**	**-1.3**
PAVA	**Las Pavas**	**1.80**	**336**	S	**Sn**	**07 35 46.6**	**-0.1**
LOMA	**Loma Larga**	**1.85**	**328**	P	**Pn**	**07 35 24.7**	**-1.0**
LOMA	**Loma Larga**	**1.85**	**328**	S	**Sn**	**07 35 48.1**	**+0.1**
USIM	**UNAN**	**1.86**	**88**	Pn	**Pn**	**07 35 24.2**	**-1.4**
UNAN	**Cigeo UNAN**	**1.86**	**88**	⇑P	**Pn**	**07 35 25.4**	**-0.4**
UNAN				S	**Sn**	**07 35 49.3**	**+1.3**
TISN	**Laguna Tiscapa**	**1.86**	**87**	P	**Pn**	**07 35 23.6**	**-2.2**
LBRS	**Las Brisas**	**1.87**	**333**	*e*P	**Pn**	**07 35 24.8**	**-1.1**
MGAN	**Managua**	**1.89**	**87**		**Pn**	**07 35 25.6**	**-0.5**
MGAN	**Managua**	**1.89**	**87**	P	**Pn**	**07 35 25.6**	**-0.5**
MGAN	**Managua**	**1.89**	**87**	S	**Sn**	**07 35 49.7**	**+1.1**
UEES	**Universidad Ev**	**1.94**	**328**	⇓P	**Pn**	**07 35 25.6**	**-1.3**
MAS3	**Al N del Volca**	**1.95**	**91**	P	**Pn**	**07 35 26.2**	**-0.8**
MAS3				S	**Sn**	**07 35 50.9**	**+0.5**
SABN	**Sabanita**	**1.97**	**93**	P	**Pn**	**07 35 26.0**	**-1.3**
BOQS	**Boqueron**	**1.98**	**327**	*e*P	**Pn**	**07 35 27.2**	**-0.4**
PMON	**Piamonte**	**1.98**	**326**	P	**Pn**	**07 35 26.2**	**-1.3**
NANN	**Nandasmo**	**2.01**	**93**	⇑P	**Pn**	**07 35 28.4**	**+0.6**
NANN	**Nandasmo**	**2.01**	**93**	S	**Sn**	**07 35 52.7**	**+0.9**
JAYA	**Jayaque - finc**	**2.01**	**322**	*e*P	**Pn**	**07 35 26.0**	**-2.0**
JAYA	**Jayaque - finc**	**2.01**	**322**	P	**Pn**	**07 35 25.7**	**-2.3**
NADN	**Granada**	**2.12**	**98**	⇓P	**Pn**	**07 35 28.8**	**-0.5**
NADN				S	**Sn**	**07 35 54.6**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.17**	**24**		**Pn**	**07 35 29.5**	**-0.6**
LLGN	**La Laguna**	**2.22**	**340**	*e*P	**Pn**	**07 35 29.8**	**-1.0**
LLGN	**La Laguna**	**2.22**	**340**	P	**Pn**	**07 35 30.4**	**-0.3**
INTHN	**La Esperanza I**	**2.24**	**2**	P	**Pn**	**07 35 31.3**	**+0.1**
CEVE	**Cerro Verde**	**2.25**	**321**	*e*P	**Pn**	**07 35 29.5**	**-1.9**
CEVE	**Cerro Verde**	**2.25**	**321**	P	**Pn**	**07 35 30.5**	**-0.9**
YUSH	**Yuscaran**	**2.28**	**34**	⇑P	**Pn**	**07 35 31.3**	**-0.3**
UNIC	**Universidad Ca**	**2.33**	**325**	P	**Pn**	**07 35 31.2**	**-1.1**
UNIC	**Universidad Ca**	**2.33**	**325**	S	**Sn**	**07 35 59.4**	**-0.3**
MATN	**Matagalpa**	**2.36**	**68**	⇑P	**Pn**	**07 35 31.1**	**-1.5**
NUBE	**Las Nubes**	**2.41**	**320**	P	**Pn**	**07 35 31.6**	**-1.8**
RCVN	**Varilla12**	**2.45**	**52**	⇓P	**Pn**	**07 35 34.0**	**0.0**
RCPN	**Sur Rio San Ju**	**2.50**	**54**	⇑P	**Pn**	**07 35 34.7**	**+0.2**
FAME	**Alcaldia de Sa**	**2.52**	**315**	S	**Sn**	**07 36 02.8**	**-1.6**
FAME	**Alcaldia de Sa**	**2.52**	**315**	P	**Pn**	**07 35 33.0**	**-1.9**
MORN	**Al O del Volca**	**2.52**	**101**	⇓P	**Pn**	**07 35 34.3**	**-0.6**
MORN				S	**Sn**	**07 36 04.0**	**-0.5**
CONN	**Concepcion**	**2.54**	**101**	P	**Pn**	**07 35 34.5**	**-0.6**
CONN				S	**Sn**	**07 36 04.9**	**0.0**
OMEN	**Al SSO del Vol**	**2.55**	**102**	P	**Pn**	**07 35 34.0**	**-1.3**
OMEN				S	**Sn**	**07 36 05.7**	**+0.6**
MTO3	**Montecristo**	**2.59**	**334**		**Pn**	**07 35 35.0**	**-1.1**
MTO3	**Montecristo**	**2.59**	**334**	P	**Pn**	**07 35 35.7**	**-0.4**
ESQI	**Esquipulas**	**2.73**	**336**		**Pn**	**07 35 37.4**	**-0.4**
ACON	**Acoyapa**	**2.94**	**92**		**Pn**	**07 35 38.4**	**-2.1**
ACON	**Acoyapa**	**2.94**	**92**	P	**Pn**	**07 35 38.7**	**-1.8**
JTS	**Las Juntas de**	**3.62**	**119**		**Pn**	**07 35 48.9**	**-1.0**
JTS	**Las Juntas de**	**3.62**	**119**	P	**Pn**	**07 35 49.8**	**-0.1**
1.8nm,0.3s,baz=306,slow=19,SNR=16							
JTS				S	**Sn**	**07 36 28.4**	**-3.0**
20nm,0.4s,baz=301,slow=21,SNR=5.0							
4.1nm,0.3s							
SIUN	**Universidad Ur**	**3.70**	**63**		**Pn**	**07 35 50.8**	**-0.2**
ESPN	**Las Esperanzas**	**3.79**	**88**		**Pn**	**07 35 51.4**	**-0.9**
SOCE	**Pocosol**	**3.87**	**115**	Pn	**Pn**	**07 35 53.1**	**-0.2**
RTAL	**Retalhuleu**	**4.21**	**306**	Pn	**Pn**	**07 35 58.9**	**+0.8**
HDC	**Heredia**	**4.48**	**117**		**Pn**	**07 36 00.6**	**-1.3**
PETF	**Flores**	**5.10**	**341**	Pn	**Pn**	**07 36 09.8**	**-0.4**
PIRO	**Carate, Puerto**	**5.99**	**127**		**Pn**	**07 36 23.4**	**+0.9**
BRU2	**Volcan**	**6.29**	**121**		**Pn**	**07 36 26.2**	**-0.6**
CMIG	**Matias Romero**	**8.20**	**308**	P	**Pn**	**07 36 52.7**	**-0.1**
0.4nm,0.3s,baz=135,slow=14,SNR=11							
2.5nm,0.8s							
TLIG	**Tlapa**	**11.44**	**300**	Pn	**Pn**	**07 37 38.2**	**+0.9**
FLOC	**Florencia**	**16.20**	**129**	Pn	**Pn**	**07 38 41.7**	**+0.4**
FLOC				IAmb	IAmb	07 38 56.6	
comp=Z,24nm,1.5s							
ZAIG	**Zacatecas**	**17.36**	**310**	Pn	**Pn**	**07 38 56.1**	**+0.1**
SDDR	**Presa de Saban**	**17.66**	**65**		**Pn**	**07 38 58.4**	**-1.0**
451A	**Vernon**	**18.60**	**7**	P	**P**	**07 39 08.5**	**-1.8**
833A	**Chaparral WMA,**	**19.28**	**329**		**Pn**	**07 39 18.4**	**-0.7**
DR12	**Loma Pena Alta**	**19.30**	**67**	P	**Pn**	**07 39 18.0**	**-1.4**
BAUV	**El Baul**	**20.03**	**97**	P	**P**	**07 39 25.1**	**-1.0**
VBMS	**Vicksburg**	**20.18**	**354**	P	**P**	**07 39 27.4**	**-0.1**
VBMS				IAmb	IAmb	07 39 30.2	
comp=Z,27nm,0.8s							
152A	**Waverly Hall**	**20.75**	**8**	P	**P**	**07 39 33.6**	**-0.1**
152A				IAmb	IAmb	07 39 38.1	
comp=Z,8.6nm,0.9s							
DRIO	**Del Rio**	**20.80**	**328**		**P**	**07 39 33.3**	**-1.0**
237A	**Washetta, Mont**	**21.05**	**342**	P	**P**	**07 39 37.6**	**+0.7**
237A				IAmb	IAmb	07 39 41.6	
comp=Z,19nm,0.8s							
JCT	**Junction City**	**21.26**	**331**	P	**P**	**07 39 38.5**	**-0.8**
JCT				IAmb	IAmb	07 39 45.6	
comp=Z,6.5nm,0.6s							
BRDY	**Brady**	**21.59**	**334**		**P**	**07 39 41.6**	**-1.1**
BRDY				IAmb	IAmb	07 39 43.6	
comp=Z,6.7nm,0.9s							
TREL	**Terrell**	**21.82**	**342**	P	**P**	**07 39 46.0**	**+0.9**
TREL				IAmb	IAmb	07 39 48.9	
comp=Z,24nm,0.8s							
FW13	**Cleburne**	**21.91**	**339**	P	**P**	**07 39 45.8**	**-0.4**
FW13				IAmb	IAmb	07 40 29.1	
comp=Z,9.6nm,0.4s							
WLAR	**White Oak Lake**	**21.99**	**349**		**P**	**07 39 48.6**	**+1.5**
WLAR				IAmb	IAmb	07 39 50.5	
comp=Z,27nm,0.9s							
SJG	**San Juan**	**22.09**	**72**	P	**P**	**07 39 47.6**	**-0.6**
comp=Z,3.4nm,0.3s,baz=255,slow=12,SNR=3.5							
comp=Z,3.4nm,0.3s							
OZNA	**Ozona**	**22.27**	**329**		**P**	**07 39 50.5**	**+0.4**
OZNA				IAmb	IAmb	07 39 52.5	
comp=Z,12nm,0.9s							
TXAR	**Lajitas Array**	**22.43**	**322**		**P**	**07 39 52.4**	**+0.4**
TXAR	**Lajitas Array**	**22.43**	**322**	P	**P**	**07 39 52.2**	**+0.2**
comp=Z,2.7nm,0.9s,baz=151,slow=12,SNR=22							
comp=Z,2.7nm,0.9s							
TX31	**Lajitas Ar. Si**	**22.44**	**322**		**P**	**07 39 53.1**	**+1.1**
TKL	**Tuckaleechee C**	**23.83**	**9**	LR	LR	07 49 26.8	
comp=Z,49nm,18.1s,baz=76,slow=37							
CCM	**Cathedral Cave**	**26.03**	**354**		**P**	**07 40 24.5**	**-1.2**
CCM				IAmb	IAmb	07 40 27.3	
comp=Z,6.2nm,0.9s							
SADO	**Sadowa**	**33.50**	**12**	LR	LR	07 55 30.0	
comp=Z,547nm,18.5s,baz=344,slow=37							
PFO	**Pinyon Flats O**	**33.56**	**314**	LR	LR	07 56 27.9	
comp=Z,38nm,21.6s,baz=222,slow=38							
LPAZ	**La Paz**	**34.45**	**144**	LR	LR	07 55 04.0	
comp=Z,52nm,18.5s,baz=54,slow=35							
PDAR	**Pinedale Array**	**35.78**	**333**	P	**P**	**07 41 51.7**	**-0.3**
comp=Z,1.3nm,1.0s,baz=107,slow=5.0,SNR=6.3							
comp=Z,1.3nm,1.0s							
NVAR	**Mina Array Bea**	**37.53**	**320**	P	**P**	**07 42 08.2**	**+1.3**
comp=Z,1.3nm,1.1s,baz=138,slow=10.0,SNR=3.5							
comp=Z,1.3nm,1.1s							
ULM	**Lac du Bonnet**	**38.60**	**352**	P	**P**	**07 42 13.2**	**-2.2**
comp=Z,7.7nm,0.7s,baz=164,slow=8.9,SNR=5.8							
ULM				LR	LR	07 58 47.8	
comp=Z,54nm,18.4s,baz=145,slow=37							
comp=Z,7.7nm,0.7s							
VA02	**Isla de Pascua**	**44.12**	**208**	P	**P**	**07 43 04.2**	**+3.4**
LCO	**Las Campanas**	**44.19**	**158**	P	**P**	**07 43 04.5**	**+2.7**
SCHQ	**Schefferville**	**45.85**	**17**	P	**P**	**07 43 13.3**	**-1.1**
comp=Z,15nm,0.5s,baz=225,slow=7.1,SNR=1.2							
comp=Z,15nm,0.5s							
CMAR	**Chiang Mai Arr**	**148.87**	**347**	PKPbc	**PKPbc**	**07 54 39.0**	**-1.6**
comp=Z,2.2nm,0.3s,baz=20,slow=3.2,SNR=5.8							

*ASRS **03** 07:34:58.0±0.5, 54°.02N×86°.49E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 03 07:35:01.3±2.9, 54°.04N×86°.55E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=23.2km s-min=13.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**266**	I	I	07 41 50.0	
baz=84,slow=323,SNR=1.9							
ZALV	**Zalesovo Beam**	**1.03**	**266**	Pg	Pg	07 35 20.0	-0.9
0.8nm,0.3s,baz=83,slow=17,SNR=8.3							
ZALV				Lg	Lg	07 35 35.5	
2.2nm,0.3s,baz=86,slow=32,SNR=14							
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	07 36 31.9	+0.8
0.1nm,0.3s,baz=56,slow=14,SNR=6.1						

MASBT	Mashibuluo	0.63 228	⇑ i P	Pg	07 36 57.1	-1.1
WCKO	Fanlu	0.64 309	P	Pb	07 36 58.7	-0.1
WCKO			S	Sb	07 37 07.8	+0.2
TWK	Hsinying	0.65 291	eP	Pb	07 36 58.7	-0.2
TWK			S	Sb	07 37 07.8	+0.1
SGLT	Jiouru	0.68 243	eP	Pb	07 36 59.1	-0.3
EGFH	Guangfu	0.69 22	P	Pg	07 36 58.6	-0.7
EGFH			S	Sg	07 37 07.1	-1.2
TWM1	Shoushan	0.70 253	i P	Pb	07 37 00.2	+0.5
EAST	Anshuo	0.70 203	eP	Pg	07 36 58.9	-0.7
EAST			eS	Sg	07 37 08.1	-0.7
TAW	Tawu	0.71 199	P	Pg	07 36 59.0	-0.6
TAW			S	Sg	07 37 08.3	-0.8
WHYT	Xinyi Township	0.71 338	P	Pb	07 36 59.4	-0.6
WHYT			eS	Sg	07 37 08.2	-1.0
CHN3	Shinhua	0.72 274	eP	Pn	07 37 01.6	+0.2
WARBT	Fenglin Townsh	0.72 18	P	Pg	07 36 58.8	-1.0
WARBT			S	Sg	07 37 08.1	-1.3
TAWH	Dawu Township	0.73 199	eP	Pg	07 36 59.1	-0.9
TAWH			S	Sg	07 37 08.6	-1.1
SHHT	Tainan City	0.73 269	P	Pn	07 37 02.0	+0.3
SHHT			S	Sn	07 37 14.1	+1.5
TEGC	Jichi Village	0.77 28	eP	Pb	07 37 01.2	+0.3
SSLB	Suanglung	0.77 347	eP	Pg	07 37 00.0	-0.9
SSLB			eS	Sg	07 37 08.5	-2.6
CHN2	Minshiung	0.79 309	eP	Pg	07 37 00.5	-0.7
CHN2			eS	Sn	07 37 14.2	+0.2
CHY	Chiayi	0.81 305	eP	Pb	07 37 01.9	+0.3
CHY			eS	Sb	07 37 13.4	+1.0
SCZT	Fangliau	0.82 216	eP	Pg	07 37 00.8	-0.9
SCZT			eS	Sb	07 37 12.7	+0.1
ESL	Shilin	0.82 19	eP	Pg	07 37 01.0	-0.8
ESL			eS	Sg	07 37 11.9	-0.8
WGK	Gukeng	0.84 321	eP	Pn	07 37 02.8	-0.4
WGK			eS	Sn	07 37 15.6	+0.3
TAI1	Yung-k'ang	0.84 271	eP	Pg	07 37 01.2	-1.0
SHUL	Shoufeng	0.84 27	eP	Pb	07 37 02.2	0.0
WDLH	Douliu	0.86 320	eP	Pn	07 37 03.3	-0.1
WDLH			S	Sn	07 37 16.0	+0.3
ICHU	Yijhu	0.86 293	P	Pn	07 37 03.2	-0.2
ICHU			S	Sn	07 37 16.7	+1.0
SLIU	Shizi	0.87 201	eP	Pg	07 37 02.1	-0.7
SMLT	Sun Moon Lake	0.88 345	eP	Pg	07 37 02.3	-0.6
WDL	Douliou City	0.88 321	eP	Pb	07 37 03.0	+0.2
WDL			eS	Sn	07 37 17.1	+0.9
SCLT	Jiali	0.89 279	eP	Pg	07 37 02.0	-1.1
SCLT			eS	Sn	07 37 17.9	+1.5
WSSB	Gushan	0.90 245	P	Pn	07 37 05.6	+1.6
WSSB			S	Sn	07 37 20.5	+3.7
TYC	Yuchr	0.91 343	P	Pb	07 37 03.6	+0.3
TYC			eS	Sn	07 37 17.5	+0.6
CHN8	Yiju	0.91 290	P	Pb	07 37 03.1	-0.3
CHN8			S	Sn	07 37 17.6	+0.5
OWD	Renai	0.92 2	eP	Pg	07 37 02.6	-1.1
OWD			eS	Sg	07 37 15.1	-0.7
TEYL	Yanliau Villag	0.93 27	eP	Pb	07 37 04.4	+0.7
WNT	Mingjian	0.94 333	eP	Pn	07 37 05.2	+0.6
WNT			S	Sn	07 37 18.2	+0.4
WTK	Tuku	0.95 313	P	Pn	07 37 04.6	-0.1
WTK			eS	Sn	07 37 18.2	+0.2
WUSB	Renai	0.95 359	eP	Pg	07 37 03.1	-1.2
WUSB			eS	Sb	07 37 16.9	+0.1
WSL	Shuilin Townsh	0.97 300	P	Pb	07 37 04.6	+0.2
WSL			S	Sn	07 37 18.8	+0.3
TSCK	Chigu Township	0.98 277	P	Pn	07 37 05.4	+0.3
TSCK			S	Sn	07 37 19.7	+1.0
ETM	Tongmen	0.98 19	eP	Pg	07 37 03.9	-0.9
ETM			S	Sb	07 37 17.5	+0.1
TWP	Hsiaoliuchiu	0.99 227	eP	Pn	07 37 07.8	+2.6
HWA	Hwalien	1.03 24	eP	Pg	07 37 05.3	-0.5
WSF	Szhu	1.04 306	P	Pn	07 37 05.9	0.0
WSF			S	Sn	07 37 20.9	+0.7
WCS	Beigang Elemen	1.04 348	eP	Pb	07 37 05.5	-0.1
WCS			S	Sn	07 37 20.8	+0.5
SMST	Manzhou Townsh	1.05 196	eP	Pg	07 37 05.3	-0.7
LAY	Lan-yu	1.06 159	eP	Pg	07 37 05.3	-1.0
HEN	Hengchun	1.09 200	eP	Pb	07 37 06.8	+0.4
LYUB	Lan-yu	1.10 158	eP	Pg	07 37 03.0	-4.2
WHF	Hehuan Shan	1.11 6	i P	Pg	07 37 06.2	-1.3
WHF			S	Sn	07 37 22.9	+0.3
TWD	Chiawan	1.12 22	eP	Pg	07 37 06.6	-0.9
TWD			eS	Sn	07 37 23.0	+0.7
TWK1	Hengchun	1.13 196	P	Pg	07 37 07.2	-0.4
TWKBT	Hengchun	1.13 196	eP	Pg	07 37 06.9	-0.7
WTCT	Ta-ch'eng	1.15 316	eP	Pg	07 37 06.2	-1.8
WTCT			eS	Sn	07 37 14.2	+1.4
TSEB	Hengchuen, Pin	1.15 191	eP	Pn	07 37 08.7	+1.3
WCH1	Changhua City	1.17 332	eP	Pn	07 37 08.3	+0.6
WCH1			eS	Sn	07 37 26.6	+3.2
WCHH	Zhanghua	1.17 333	eP	Pn	07 37 09.1	+1.4
WCHH			S	Sn	07 37 25.5	+2.0
TCU	Taichung	1.19 339	eP	Pn	07 37 09.7	+1.7
TCU			S	Sn	07 37 25.8	+1.8
ETL	Fush Village	1.21 21	eP	Pg	07 37 07.7	-1.4
NACB	Ninganchiao	1.21 20	eP	Pg	07 37 07.2	-1.9
NACB			eS	Sb	07 37 24.4	+0.5
ETLH	Xiulin Townshi	1.21 15	i P	Pg	07 37 07.8	-1.4
ETLH			eS	Sb	07 37 24.4	+0.4
FUSS	Fushou	1.21 4	P	Pg	07 37 07.8	-1.5
FUSS			eS	Sn	07 37 26.0	+1.2
TDCB	Techi	1.22 1	i P	Pg	07 37 08.2	-1.1
TDCB			eS	Sb	07 37 24.5	+0.2
TWT	Tachien	1.22 1	eP	Pg	07 37 08.3	-1.0
WHP	Taichung City	1.25 352	P	Pn	07 37 10.1	+1.2
WHP			eS	Sn	07 37 26.8	+1.2
TWQ1	Liyutan	1.35 346	eP	Pg	07 37 12.4	+0.5
WDGT	Dungji	1.38 280	eP	Pn	07 37 10.7	+0.1
WDGT			i S	Sb	07 37 28.6	-0.4
EAHA	Aohua	1.40 23	eP	Pn	07 37 11.5	+0.7
EAHA			eS	Sb	07 37 29.8	+0.4
NNSB	Datong	1.41 9	P	Pn	07 37 11.6	+0.5
NNSB			eS	Sn	07 37 30.4	+1.0
NNS	Nan Shan	1.42 9	P	Pn	07 37 11.7	+0.5
NNS			eS	Sn	07 37 31.1	+1.4
NSY	Sanyi	1.42 346	eP	Pg	07 37 14.1	+0.9
NSY			eS	Sg	07 37 34.9	+3.1
ENA	Nanau	1.49 21	eP	Pn	07 37 12.5	+0.4
ENA			eS	Sn	07 37 30.1	-1.3
EWUT	Wuta	1.52 22	eP	Pn	07 37 13.3	+0.8
PHUB	P'eng-hu	1.52 289	eP	Pn	07 37 12.3	-0.3
PHUB			eS	Sn	07 37 31.7	-0.4
EOS4	EOS4	1.53 45	eP	Pn	07 37 11.6	-0.7
EOS4			eS	Sn	07 37 31.3	-0.4
NMLH	Miaoli	1.53 348	eP	Pg	07 37 15.0	-0.3
LATG	Datong	1.54 13	P	Pb	07 37 14.0	-0.1
PNG	Penghu	1.55 290	eP	Pn	07 37 13.2	+0.2
PNG			eS	Sn	07 37 32.9	0.0
VCHM	Qimei	1.59 277	eP	Pn	07 37 13.9	+0.5
VCHM			S	Sn	07 37 34.1	+0.4
NFF	Wufeng Townshi	1.59 359	P	Pb	07 37 15.4	+0.3
NFF			eS	Sg	07 37 37.8	+0.6
NSTT	Nanjuang	1.60 355	eP	Pg	07 37 16.2	-0.3
NSTT			eS	Sg	07 37 36.6	-0.7
LIOB	Emei	1.61 356	eP	Pg	07 37 16.4	-0.4
LIOB			eS	Sg	07 37 39.6	+1.8
YHNB	Yeheng	1.64 7	P	Pb	07 37 16.1	+0.1
YHNB			eS	Sn	07 37 36.4	+1.2
ENTT	Nioudou	1.65 14	eP	Pb	07 37 15.7	-0.2
EOS3	EOS3	1.65 41	eP	Pn	07 37 14.7	+0.5
EOS3			eS	Sn	07 37 35.0	0.0
NSK	Sanguang	1.65 7	eP	Pb	07 37 16.2	+0.2
ESAO	Su ao	1.67 23	eP	Pb	07 37 16.6	+0.3
NDS	Dongshan	1.68 18	eP	Pb	07 37 16.7	+0.2
TWC	Suao	1.70 22	eP	Pb	07 37 16.8	0.0
TWC			eS	Sg	07 37 39.7	-0.8
EOS2	EOS2	1.70 36	eP	Pb	07 37 16.6	-0.2
KSHI	Guanxi Townshi	1.74 1	eP	Pg	07 37 18.6	-0.6
TWE	Neicheng	1.75 16	eP	Pb	07 37 17.9	+0.2
SBCB	Hsinchu	1.76 355	eP	Pb	07 37 18.2	+0.3
FUSB	Fushanzhiwuyua	1.77 13	eP	Pb	07 37 17.8	-0.2
NWLT	Wulai	1.77 11	eP	Pb	07 37 17.8	-0.2
NCUH	Zhongli	1.93 1	eP	Pb	07 37 21.2	+0.5
NCU	National Centr	1.93 1	eP	Pn	07 37 18.7	+0.6
TIPB	Shuangxi	2.03 18	eP	Pn	07 37 21.3	+1.8
TWS1	Kuangyinshan	2.07 7	eP	Pb	07 37 23.1	-0.1
NWF	Wu-fen Shan	2.11 16	eP	Pn	07 37 22.7	+1.9
WFSB	Wu-fen Shan	2.11 16	eP	Pb	07 37 22.7	-1.2
TWB1	Santiao Chiao	2.11 21	eP	Pb	07 37 24.0	+0.1
YM01	YM01	2.14 10	eP	Pb	07 37 24.2	-0.2
ZUZH	Zhuzihu	2.15 10	P	Pb	07 37 24.7	+0.1
SXI1	Grass Mountain	2.16 18	eP	Pb	07 37 23.8	-0.9
ANP	Anpu	2.17 9	eP	Pb	07 37 24.2	-0.8
JYNG	Yonagunijimaku	2.17 49	eP	Pn	07 37 21.2	-0.3
JYNG			eS	Sn	07 37 47.9	-0.2
YOJ	Yonaguni jima	2.23 50	eP	Pn	07 37 21.7	-0.5
YOJ			eS	Sn	07 37 48.7	-0.8
HATJ	Hateruma jima	2.65 67	eS	Sn	07 37 58.0	-1.8
IRIF	Iriomote-Funau	2.70 61	eP	Pn	07 37 28.2	-0.6
IRIF			eS	Sn	07 38 00.7	-0.6
PTMZ	Houxiangcun	2.72 318	eP	Pn	07 37 29.1	+0.1
KNM	Kinmen	2.84 300	eP	Pn	07 37 31.9	+1.2
KNMB	Chin-men Tao	2.90 300	eP	Pn	07 37 30.9	-0.6
KNMB			eS	Sn	07 38 05.9	-0.2
JIJ	Ishigaki jima	3.05 64	eP	Pn	07 37 32.8	-0.8
JIJ			eS	Sn	07 38 08.7	-1.2
ZPLA	Ao Xicun	3.24 287	eP	Pn	07 37 36.4	+0.2
JISG	Ishigakijimahi	3.29 61	eP	Pn	07 37 35.9	-0.9
JISG			eS	Sn	07 38 12.9	-2.7
MATB	Ma-tsu	3.29 341	eP	Pn	07 37 37.2	+0.3
XPSS	Dashiqiu	3.98 348	eP	Pn	07 37 48.2	+2.0
XPSS			eS	Sn	07 38 34.0	+1.4
SXFK	Yanhouchang	4.62 317	eP	Pn	07 37 56.1	+0.9

IDC 03 07:43:18.8±2.2, 5°.88S×130°.52E, h0km, mb4.1/2, mbtmp4.2/5, ML4.3/3, Error ellipse: s-maj=113.7km s-min=25.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.05	201	Pn	Pn	07 46 24.3	-1.2
	1.2nm,0.3s,baz=21,slow=16,SNR=18						
FITZ				Sn	Sn	07 48 35.9	-16
	1.0nm,0.3s,baz=114,slow=20,SNR=3.8 3.5nm,0.3s						
WRA	Warramunga Arr	14.47	165	Pn	Pn	07 46 44.5	-0.4
	1.8nm,0.3s,baz=351,slow=13,SNR=28						
WRA				Sn	Sn	07 49 15.0	-11
	2.0nm,0.3s,baz=342,slow=21,SNR=8.6 4.1nm,0.6s						
ASAR	Alice Springs	17.99	170	P	P	07 47 31.4	+0.3
	0.9nm,0.3s,baz=357,slow=11,SNR=56						
ASAR				S	Sn	07 50 39.5	-12
	1.0nm,0.4s,baz=1.8,slow=28,SNR=5.7 2.3nm,0.5s						
MKAR	Makanchi Array	67.58	326	P	P	07 54 17.4	+0.2
	1.5nm,0.5s,baz=126,slow=7.2,SNR=14 1.5nm,0.5s						
KURBB	Kurchatov Arra	71.83	328	P	P	07 54 43.0	-0.3
	0.4nm,0.3s,baz=126,slow=5.0,SNR=4.1 0.4nm,0.3s						

*IDC **03** 07:50:09.6±3.3, 53°.79N×88°.27E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=26.9km s-min=17.7km az=51.0*

ASRS 03 07:50:08.0±1.0, 53°.75N×88°.13E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	277	I	I	08 03 20.0	
	baz=91,slow=333,SNR=5.6						
ZALV	Zalesovo Beam	1.97	277	Pg	Pg	07 50 46.4	+0.6
	1.4nm,0.3s,baz=88,slow=13,SNR=18						
ZALV				Lg	Lg	07 51 14.6	
	3.2nm,0.3s,baz=91,slow=21,SNR=16						
KURBB	Kurchatov Arra	6.68	246	Pn	Pn	07 51 51.1	+3.8
	0.1nm,0.3s,baz=61,slow=14,SNR=5.5						
KURBB				Sn	Sn	07 53 06.9	+2.8
	baz=55,slow=15,SNR=2.0						
KURBB				Lg	Lg	07 53 45.0	
	0.1nm,0.3s,baz=65,slow=33,SNR=4.1 0.4nm,0.3s						
MKAR	Makanchi Array	7.90	211	Pn	Pn	07 52 07.9	+3.7
	0.1nm,0.3s,baz=28,slow=12,SNR=4.7						
MKAR				Sn	Sn	07 53 37.0	+2.8
	0.1nm,0.3s,baz=31,slow=26,SNR=2.7 0.2nm,0.4s						

*WEL **03** 07:59:22.9±0.7, 34°.S±5°.×17°.9W±1°.1, h33km, mB5.2/11, ML4.7/21, MLv4.7/16, Mw(mB)4.6/11, Error ellipse: s-maj=16.0km s-min=3.7km az=111.1, confirmed*
*NOU **03** 07:59:29.4, 34°.37S×179°.26W, h252km, MLv4.4/8, South of Kermadec Islands*

ISC 03 07:59:19.7±1.5, 33°.91S±0°.07×178°.5W±0°.1, h50km, n115, σ2°.21/130, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.47	214	P	Pn	08 00 29.8	+4.9
MXZ	Matakaoa Point	4.47	214	P	Pn	08 00 27.8	+2.9
MXZ				S	Sn	08 01 17.7	+2.1
WMGZ	Waiomatatini S	4.63	212	P	Pn	08 00 30.9	+3.7
GLKZ	Green Lake	4.66	6	P	Pn	08 00 28.6	+1.1
GLKZ				S	Sn	08 01 19.5	-0.9
PKGZ	Pakihiroa	4.82	214	P	Pn	08 00 32.7	+2.9
PKGZ				S	Sn	08 01 24.5	+0.2
HAZ	Te Kaha	4.88	217	P	Pn	08 00 33.7	+3.2
HAZ				S	Sn	08 01 27.6	+1.9
PUZ	Puketiti	4.91	211	P	Pn	08 00 33.8	+2.8
PUZ				S	Sn	08 01 26.6	+0.1
RUGZ	Raukumara Rang	5.09	216	P	Pn	08 00 35.9	+2.3
TWGZ	Tauwhareparae	5.12	213	P	Pn	08 00 35.9	+2.0
TBAS	Tolaga Bay Are	5.15	209	P	Pn	08 00 41.3	+7.1
CNGZ	Carnagh Statio	5.28	209	P	Pn	08 00 39.4	+3.4
WHRZ	Whale Island	5.38	222	P	Pn	08 00 42.4	+5.0
TKGZ	Te Karaka	5.39	212	P	Pn	08 00 39.5	+1.9
MWZ	Matawai	5.46	215	P	Pn	08 00 40.4	+1.9
GRZ	Great Barrier	5.47	243	P	Pn	08 00 39.2	+0.6
KUZ	Kuaotunu	5.50	237	P	Pn	08 00 42.2	+3.2
KUZ	Kuaotunu	5.50	237	P	Pn	08 00 43.3	+4.3
URZ	Urewera	5.60	218	P	Pn	08 00 43.5	+3.0
URZ	Urewera	5.60	218	P	Pn	08 00 41.9	+1.4
URZ				S	Sn	08 01 43.5	0.0
OPRZ	Ohinepanea	5.61	224	P	Pn	08 00 43.5	+3.0
MARZ	Manawahe	5.64	222	P	Pn	08 00 44.7	+3.7
RAGZ	Rawiri	5.64	215	P	Pn	08 00 43.3	+2.3
RIGZ	Rimuhau	5.65	211	P	Pn	08 00 44.4	+3.2
RIGZ				S	Sn	08 01 45.2	+0.4
TGRZ	Tauranga	5.71	227	P	Pn	08 00 44.8	+3.0
PRGZ	Paritu Road	5.79	209	P	Pn	08 00 44.7	+1.7
PRGZ				S	Sn	08 01 47.6	-0.5
SNGZ	Shannon Statio	5.90	213	P	Pn	08 00 47.4	+2.8
SNGZ				S	Sn	08 01 52.5	+1.6
TARZ	Mount Tarawera	5.91	222	P	Pn	08 00 48.1	+3.4
MUGZ	Murupara	5.94	219	P	Pn	08 00 45.1	0.0
MUGZ				S	Sn	08 01 50.2	-1.7
KNZ	Kokohu	5.96	210	P	Pn	08 00 49.4	+4.1
MHGZ	Mahia Peninsul	5.97	208	P	Pn	08 00 50.1	+4.5
RRRZ	Republican Roa	5.98	221	P	Pn	08 00 48.6	+3.0
MKAZ	Moumakai	6.06	236	P	Pn	08 00 49.1	+2.3
RAHZ	Arahi	6.13	214	P	Pn	08 00 49.6	+1.9
RAHZ				S	Sn	08 01 56.9	+0.4
PRRZ	Plateau Road	6.16	220	P	Pn	08 00 50.7	+2.6
TOZ	Tahuroa Road	6.18	230	P	Pn	08 00 47.3	-1.1
WHHZ	Waihua	6.19	212	P	Pn	08 00 52.9	+4.3
WHHZ				S	Sn	08 01 58.6	+0.6
MTHZ	Maungataniwha	6.19	216	P	Pn	08 00 51.3	+2.6
MTHZ				S	Sn	08 01 59.1	+1.0
WCZ	Waipu Caves	6.21	249	P	Pn	08 00 48.2	-0.5
ALRZ	Allen Road	6.23	220	P	Pn	08 00 51.9	+2.8
MRHZ	Matea Rd	6.39	218	P	Pn	08 00 53.1	+1.7
NMHZ	Naumai	6.40	215	P	Pn	08 00 53.6	+2.0
NMHZ				S	Sn	08 02 03.0	-0.3
ARHZ	Aropaoanui	6.45	213	P	Pn	08 00 54.9	+2.8
ARHZ				S	Sn	08 02 03.7	-0.6
KUTZ	Kaahu Road	6.47	223	P	Pn	08 00 55.6	+3.3
TLZ	Tolley Road	6.53	226	P	Pn	08 00 55.8	+2.5
BKZ	Black Stump Fm	6.61	216	P	Pn	08 00 56.2	+1.9
BKZ	Black Stump Fm	6.61	216	P	Pn	08 00 56.7	+2.3
BKZ				S	Sn	08 02 06.8	-1.6
OUZ	Omahuta	6.64	256	P	Pn	08 00 55.8	+1.1
MCHZ	McNeill Hill	6.73	213	P	Pn	08 00 57.4	+1.4
MCHZ				S	Sn	08 02 11.0	-0.3
CKHZ	Cape Kidnapper	6.74	210	P	Pn	08 00 59.3	+3.3
CKHZ				S	Sn	08 02 08.2	-3.2
RATZ	Rangitukua	6.76	221	P	Pn	08 00 58.9	+2.5
RITZ	Rihia Road	6.79	220	P	Pn	08 00 58.9	+2.1
KWHZ	Kaweka Forest	6.84	215	P	Pn	08 00 57.7	+0.1
KWHZ				S	Sn	08 02 12.3	-1.8
KAHZ	Kahuranaki	6.94	211	P	Pn	08 01 00.0	+1.2
KAHZ				S	Sn	08 02 16.1	-0.3
TMVZ	Te Maari	6.98	220	P	Pn	08 01 01.1	+1.7
NTVZ	North Tongarir	6.98	220	P	Pn	08 01 00.7	+1.2
ETVZ	East Tongariro	6.99	220	P	Pn	08 01 01.2	+1.6
KRVZ	Karewarewa	6.99	221	P	Pn	08 01 01.8	+2.1
OTVZ	Oturere	7.03	220	P	Pn	08 00 58.9	-1.3
NNVZ	North Ngauruho	7.04	221	P	Pn	08 01 02.3	+2.0
WTVZ	West Tongariro	7.04	221	P	Pn	08 01 02.2	+2.0
KRHZ	Kereru	7.04	214	P	Pn	08 01 00.7	+0.5
HIZ	Hauiti	7.06	227	P	Pn	08 01 03.4	+3.0
SNVZ	South Ngauruho	7.06	220	P	Pn	08 01 02.3	+1.7
NGZ	Ngauruhoe	7.07	220	P	Pn	08 01 02.7	+1.9
TWVZ	Taurewa	7.09	222	P	Pn	08 01 02.6	+1.6
TUVZ	Tukino	7.11	220	P	Pn	08 01 02.6	+1.3
PXZ	Pawanui	7.14	210	P	Pn	08 01 02.5	+0.9
FWVZ	Far West T-bar	7.16	220	P	Pn	08 01 03.3	+1.3
WHVZ	Whangaehu Hut	7.16	220	P	Pn	08 01 03.3	+1.3
MAVZ	Matarangi	7.16	220	P	Pn	08 01 03.7	+1.5
MOVZ	Moawhango	7.16	218	P	Pn	08 01 02.7	+0.7
WNVZ	Wahianoa	7.19	219	P	Pn	08 01 03.0	+0.7
TRVZ	Turoa	7.19	220	P	Pn	08 01 03.8	+1.3
PKVZ	Pokaka	7.29	221	P	Pn	08 01 05.0	+1.3
PNHZ	Pukenui	7.34	214	P	Pn	08 01 04.2	-0.1
WPHZ	Waipukurau	7.35	212	P	Pn	08 01 05.9	+1.4
PRHZ	Porangahau	7.43	210	P	Pn	08 01 06.7	+1.1
VRZ	Vera Road	7.51	224	P	Pn	08 01 08.4	+1.8
TSZ	Takapari Road	7.56	214	P	Pn	08 01 07.4	0.0
ANWZ	Angora Road	7.66	210	P	Pn	08 01 10.3	+1.5
DVHZ	Dannevirke	7.66	212	P	Pn	08 01 08.6	-0.1
WAZ	Wanganui	7.82	220	P	Pn	08 01 11.5	+0.6
POWZ	Post Office Ro	7.92	214	P	Pn	08 01 12.9	+0.7
BFZ	Birch Farm	7.94	210	P	Pn	08 01 13.9	+1.3
BFZ	Birch Farm	7.94	210	P	Pn	08 01 13.7	+1.1
PRWZ	Pori Road	7.96	212	P	Pn	08 01 13.8	+1.1
NEZ	North Egmont	8.00	226	P	Pn	08 01 15.8	+2.4
TIWZ	Tintock	8.18	211	P	Pn	08 01 15.5	-0.3
MRZ	Mangatainoka R	8.22	213	P	Pn	08 01 15.0	-1.4
HOWZ	Holdsworth Sta	8.44	213	P	Pn	08 01 17.8	-1.6
TMWZ	Te Maipa	8.45	210	P	Pn	08 01 18.8	-0.7
OGWZ	Otaki Gorge	8.53	214	P	Pn	08 01 19.3	-1.3
MTW	Mount Morrison	8.65	212	P	Pn	08 01 20.6	-1.7
KIW	Kapiti Island	8.69	215	P	Pn	08 01 20.6	-2.2
CAW	Cannon Point	8.81	213	P	Pn	08 01 22.5	-1.9
PAWZ	Paruwai Farm	8.87	211	P	Pn	08 01 24.7	-0.6
MSWZ	Moikau Station	8.97	212	P	Pn	08 01 25.9	-0.8
PLWZ	Palliser	9.10	211	P	Pn	08 01 26.4	-2.0
SNZO	South Karori	9.14	214	P	Pn	08 01 27.0	-1.9
DUWZ	D'Urville Isla	9.14	219	P	Pn	08 01 26.4	-2.5
TCW	Tory Channel	9.26	216	P	Pn	08 01 27.7	-2.9
TUWZ	Tuamarina	9.59	216	P	Pn	08 01 32.8	-2.3
NNZ	Nelson	9.72	219	P	Pn	08 01 34.4	-2.5
TKNZ	Takaka Hill	9.82	221	P	Pn	08 01 34.8	-3.5
BSWZ	Blackbirch Sta	9.84	215	P	Pn	08 01 35.9	-2.7
QRZ	Quartz Range	9.92	223	P	Pn	08 01 36.9	-2.7
QRZ	Quartz Range	9.92	223	P	Pn	08 01 35.8	-3.8
CTZ	Chatham Island	9.92	172	P	Pn	08 01 55.1	+15
MRNZ	Matariki Terra	10.18	220	P	Pn	08 01 39.4	-3.8
THZ	Tophouse	10.36	218	P	Pn	08 01 42.0	-3.8
KHZ	Kahutara	10.54	214	P	Pn	08 01 45.8	-2.3
KHZ	Kahutara	10.54	214	P	Pn	08 01 45.3	-2.8
GVZ	Greta Valley S	11.21	214	P	Pn	08 01 53.4	-3.7
OKCZ	Okains Bay	11.79	211	P	Pn	08 02 01.4	-3.8
MQZ	McQueen's Vall	11.96	213	P	Pn	08 02 02.6	-4.8

*IDC **03** 08:10:50.3±2.6, 41°.74N×141°.47E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=94.0km s-min=32.9km az=68.0*
*JMA **03** 08:11:04.5±0.1, 41°.8N±0°.3×141°.3E±0°.7, h100km, MV2.7/35, S OFF TOMAKOMAI*

ISC 03 08:11:03.8±0.9, 41°.75N±0°.04×141°.24E±0°.05, h107km±6km, n27, σ0°.41/33, mb3.8/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.21	311	i P	Pn	08 11 18.7	-0.1
JKB				S	Sn	08 11 29.2	-0.8
JOT	Ohata	0.40	201	P	Pn	08 11 19.8	+0.1
JOT				eS	Sn	08 11 31.7	+0.2
JAHD	Aomorihigashid	0.49	172	i P	Pn	08 11 20.4	+0.1
JAHD				eS	Sn	08 11 32.2	-0.3
JSR	Shiriuchi	0.66	250	i P	Pn	08 11 21.8	+0.3
JSR				S	Sn	08 11 34.4	+0.6
JNB	Noboribets

OGSM				Sg	Sg	08 12 19.1	+0.7
OGMY	**Moye**	**0.35**	**78**	Pg	Pg	08 12 16.0	+0.1
OGMY				Sg	Sg	08 12 21.7	+1.3
GRN	**Grenoble**	**0.61**	**157**	Pg	Pg	08 12 20.4	-0.6
GRN				Sg	Sg	08 12 29.9	+1.0

*IDC **03** 08:16:24.5±0.9, 12°.41S×165°.93E, h0km, mb4.0/8, mbtmp4.0/9, ML3.1/1, MS3.5/6, Error ellipse: s-maj=33.8km s-min=21.0km az=97.0*

ISC 03 08:16:30.4±0.9, 12°.42S±0°.09×165°.9E±0°.2, h40km, n14, σ1§51/13, mb3.8/8, MS3.6/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.62**	**177**	P	**Pn**	**08 18 44.0**	**-2.4**
	0.2nm,0.3s,baz=323,slow=20,SNR=2.0						
DZM				Sn	**Sn**	**08 20 36.0**	**+2.7**
	0.2nm,0.3s,baz=17,slow=20,SNR=3.5						
	5.9nm,0.8s						
PMG	**Port Moresby**	**18.66**	**277**	LR	LR	08 27 42.1	
	comp=Z,100nm,18.6s,baz=151,slow=36						
STKA	**Stephens Creek**	**29.58**	**225**	P	**P**	**08 22 32.4**	**+0.6**
	2.1nm,0.8s,baz=36,slow=10,SNR=4.0						
STKA				LR	LR	08 34 30.2	
	comp=Z,120nm,18.4s,baz=27,slow=37						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**31.20**	**252**	P	**P**	**08 22 44.5**	**-1.7**
	0.7nm,0.8s,baz=81,slow=8.6,SNR=2.2						
WRA				PcP	**PcP**	**08 25 40.4**	**-0.1**
	0.6nm,1.0s,baz=72,slow=3.7,SNR=3.7						
WRA				LR	LR	08 33 18.2	
	comp=Z,30nm,21.3s,baz=69,slow=32						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**32.35**	**245**	P	**P**	**08 22 55.5**	**-0.8**
	1.0nm,0.8s,baz=78,slow=8.8,SNR=9.4						
ASAR				LR	LR	08 35 30.4	
	comp=Z,90nm,19.3s,baz=95,slow=35						
	1.0nm,0.8s						
VNDA	**Vanda**	**65.14**	**181**	P	**P**	**08 27 06.6**	**-0.2**
	0.2nm,0.3s,baz=18,slow=3.2,SNR=2.1						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**77.60**	**180**	P	**P**	**08 28 23.0**	**+0.7**
	4.6nm,0.9s,baz=347,slow=2.4,SNR=19						
	4.6nm,0.9s						
SONM	**Songino Array**	**79.86**	**324**	P	**P**	**08 28 36.8**	**+1.7**
	0.5nm,0.3s,baz=126,slow=2.0,SNR=4.6						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**84.75**	**18**	P	**P**	**08 28 59.0**	**-1.0**
	0.5nm,0.7s,baz=234,slow=5.8,SNR=5.1						
	0.5nm,0.7s						
PFO	**Pinyon Flats O**	**86.73**	**55**	LR	LR	09 05 10.5	
	comp=Z,23nm,18.1s,baz=290,slow=34						
PMSA	**Palmer Station**	**94.38**	**161**	LR	LR	09 06 36.7	
	comp=Z,40nm,18.7s,baz=219,slow=32						
MKAR	**Makanchi Array**	**94.63**	**317**	P	**P**	**08 29 48.2**	**+1.0**
	1.2nm,0.8s,baz=98,slow=6.1,SNR=6.6						
	1.2nm,0.8s						
ARCES	**ARCESS Array B**	**117.69**	**345**	PKP	**PKiKP**	**08 35 11.7**	**-0.1**
	1.8nm,0.7s,baz=47,slow=2.3,SNR=7.0						
ESDC	**Sonseca Array**	**151.41**	**344**	PKPbc	**PKiKP**	**08 36 20.5**	**-0.3**
	1.1nm,0.8s,baz=16,slow=2.2,SNR=9.3						

STR 03 08:26:33.6±0.4, 45°.8N±0°.5×5°.4E±0°.9, h0km, MLv2.1/10, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.27**	**28**	Pg	Pb	08 26 40.5	-0.9
OG35				Sg	Sb	08 26 44.9	-1.7
OGSM	**Saint Maurice**	**0.29**	**132**	Pg	Pg	08 26 39.5	+0.3
OGSM				Sg	Sg	08 26 43.1	+0.1
OGMY	**Moye**	**0.36**	**78**	Pg	Pg	08 26 41.2	+0.7
OGMY				Sg	Sg	08 26 46.5	+1.4
GRN	**Grenoble**	**0.62**	**156**	Pg	Pg	08 26 45.6	+0.2
GRN				Sg	Sg	08 26 53.9	+0.6
SSB	**Saint Sauveur**	**0.79**	**229**	Pg	Pb	08 26 49.9	-0.4
SSB				Pn	Pn	08 26 51.0	-1.1
SSB				Sg	Sb	08 27 00.7	-0.9
RSL	**Roselend**	**0.88**	**97**	Pg	Pg	08 26 50.7	+0.3
RSL				Pn	Pn	08 26 53.1	-0.2
RSL				Sn	Sn	08 27 06.5	-0.3
ORIF	**Oris-en-Rattie**	**0.95**	**158**	Sn	Sn	08 27 07.7	-1.0
COLF	**Collangettes**	**1.22**	**257**	Pn	Pn	08 26 58.1	+0.1
PLDF	**La Plantade**	**1.25**	**278**	Pn	Pb	08 26 57.7	-0.3
PLDF				Sg	Sn	08 27 15.3	-0.6

*IDC **03** 08:31:44.5±0.9, 56°.74S×30°.43W, h0km, mb4.0/6, mbtmp3.9/7, ML3.6/1, MS3.4/7, Error ellipse: s-maj=36.3km s-min=20.7km az=71.0*

*NEIC **03** 08:31:45.6±0.8, 56°.9S±0°.1×30°.5W±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=27.0km s-min=5.8km az=48.0*

ISC 03 08:31:45.7±0.6, 56°.84S±0°.09×30°.6W±0°.1, h10km, n36, σ0§99/29, mb4.3/11, MS3.5/6, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.21**	**305**	Pn	**Pn**	**08 32 50.7**	**+0.8**
VNA1	**Neumayer--Stat**	**16.84**	**154**	⇑P	**P**	**08 35 44.9**	**+1.6**
	comp=Z,4.1nm,0.9s						
VNA3	**Neumayer Olymp**	**16.95**	**157**	⇑P	**P**	**08 35 46.2**	**+1.7**
	comp=Z,4.1nm,0.7s						
PMSA	**Palmer Station**	**17.95**	**230**	P	**Pn**	**08 35 53.1**	**-1.9**
	comp=Z,7.5nm,0.9s,baz=90,slow=11,SNR=6.0						
PMSA				LR	LR	08 41 35.5	
	comp=Z,125nm,18.3s,baz=74,slow=33						
SNAA	**Sanae**	**18.85**	**153**	P	**Pn**	**08 36 06.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=5.0						
	comp=Z,1.3nm,0.5s						
MG01	**Puerto William**	**20.70**	**260**	P	**P**	**08 36 25.7**	**0.0**
MG01				IAmb	IAmb	08 36 27.9	
	comp=Z,50nm,0.7s						
BELA	**Belgrano 2**	**21.18**	**182**	P	**P**	**08 36 29.4**	**-1.3**
PLCA	**Paso Flores**	**30.32**	**285**	P	**P**	**08 37 57.0**	**-0.2**
PLCA	**Paso Flores**	**30.32**	**285**	P	**P**	**08 37 57.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=172,slow=7.1,SNR=4.5						
PLCA				LR	LR	08 49 11.0	
	comp=Z,63nm,19.2s,baz=146,slow=34						
	comp=Z,1.5nm,0.8s						
LR03	**Panguipulli**	**32.07**	**284**	P	**P**	**08 38 12.7**	**+0.2**
LR03				IAmb	IAmb	08 38 19.6	
	comp=Z,19nm,1.2s						
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**08 38 24.5**	**+0.4**
QSPA				IAmb	IAmb	08 38 32.2	
	comp=Z,4.8nm,1.1s						
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**08 38 26.7**	**+2.5**
	comp=Z,1.9nm,0.7s,baz=184,slow=1.0,SNR=20						
	comp=Z,1.9nm,0.7s						
MT05	**Renca**	**35.99**	**293**	P	**P**	**08 38 47.0**	**+0.3**
MT05				IAmb	IAmb	08 39 18.9	
	comp=Z,32nm,1.2s						
CPUP	**Villa Florida**	**36.00**	**317**	P	**P**	**08 38 46.3**	**-0.4**
CPUP	**Villa Florida**	**36.00**	**317**	P	**P**	**08 38 47.8**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=106,slow=1.6,SNR=3.5						
	comp=Z,1.0nm,0.9s						
CO06	**Fray Jorge**	**38.63**	**295**	P	**P**	**08 39 10.4**	**+1.5**
AQDB	**Aquidauana**	**40.79**	**322**	P	**P**	**08 39 26.3**	**-0.6**
AQDB				IAmb	IAmb	08 39 44.1	
	comp=Z,8.5nm,1.3s						
VNDA	**Vanda**	**45.68**	**184**	P	**P**	**08 40 05.6**	**-0.3**
VNDA				IAmb	IAmb	08 40 08.2	
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**45.68**	**184**	P	**P**	**08 40 06.5**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=180,slow=2.0,SNR=13						
	comp=Z,2.1nm,0.9s						
PB02	**IPOC Station P**	**45.69**	**304**	P	**P**	**08 40 06.5**	**-0.3**
PTLB	**Pontes e Lacer**	**46.63**	**321**	P	**P**	**08 40 14.5**	**+0.6**
PTLB				IAmb	IAmb	08 40 17.6	
	comp=Z,7.6nm,0.9s						
BOSA	**Boshof**	**47.99**	**78**	LR	LR	08 56 37.6	
	comp=Z,45nm,20.4s,baz=207,slow=31						
H04S2	**CROZET ISLANDS**	**48.93**	**116**	T	T	09 33 44.5	
	baz=225						
H04S3	**CROZET ISLANDS**	**48.94**	**115**	T	T	09 33 43.4	
	baz=225,SNR=3.8						
H04S1	**CROZET ISLANDS**	**48.95**	**116**	T	T	09 33 50.7	
	baz=225						
VILB	**Vilhena**	**49.31**	**321**	P	**P**	**08 40 34.6**	**-0.2**
VILB				IAmb	IAmb	08 40 38.1	
	comp=Z,5.8nm,0.9s						
LBTB	**Lobatse**	**51.04**	**76**	LR	LR	08 57 44.3	
	comp=Z,24nm,21.5s,baz=188,slow=31						
KHWEE	**KHWEE**	**53.45**	**73**	P	**P**	**08 41 05.3**	**-0.6**
CASY	**Casey**	**53.78**	**162**	P	**P**	**08 41 07.2**	**-0.4**
CASY				IAmb	IAmb	08 41 36.4	
	comp=Z,3.4nm,1.1s						
LSZ	**Lusaka**	**60.42**	**72**	LR	LR	09 05 52.3	
	comp=Z,44nm,18.3s,baz=183,slow=34						
MBAR	**Mbarara**	**74.19**	**66**	LR	LR	09 12 48.6	
	comp=Z,23nm,18.1s,baz=131,slow=33						
TORD	**Torodi Ar. Bea**	**74.71**	**33**	P	**P**	**08 43 25.2**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=200,slow=4.6,SNR=5.8						
	comp=Z,1.4nm,0.8s						
FURI	**Furi**	**86.34**	**68**	LR	LR	09 18 54.9	
	comp=Z,25nm,21.6s,baz=76,slow=33						
ASAR	**Alice Springs**	**98.75**	**166**	P	**P**	**08 45 24.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=193,slow=3.8,SNR=4.3						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**126.51**	**114**	PKP	**PKiKP**	**08 50 48.9**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=212,slow=2.0,SNR=4.7						
ILAR	**Eielson Array**	**149.22**	**311**	PKP	**PKPdf**	**08 51 28.4**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=138,slow=1.5,SNR=5.2						
ILAR				PKPbc	**PKPbc**	**08 51 32.5**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=126,slow=1.4,SNR=11						

*IDC **03** 08:41:17.1±0.5, 3°.67S×128°.50E, h0km, mb4.3/15, mbtmp4.3/17, ML3.9/2, MS3.4/17, Error ellipse: s-maj=31.8km s-min=10.1km az=75.0*

*NEIC **03** 08:41:19.5±1.9, 3°.63S±0°.06×128°.50E±0°.06, h10km±1km, mb4.7/33, Error ellipse: s-maj=10.6km s-min=9.9km az=132.0*

*DJA **03** 08:41:20.8±0.2, 4°.S±2°.×12°.8E±°., h10km, M4.7/19, mb4.9/19, mB5.3/8, MLv4.7/17, Mw(mB)4.7/8*

ISC 03 08:41:19.4±0.3, 3°.69S±0°.04×128°.45E±0°.03, h10km, n121, σ1§51/119, mb4.6/29, MS3.4/15, 2D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.25**	**270**	P	**Pg**	**08 41 24.9**	**+0.4**
AAI				S	**Sb**	**08 41 31.4**	**+1.0**
MSAI	**Masohi**	**0.59**	**55**	P	**Pb**	**08 41 31.2**	**-0.6**
NLAI	**Namlea**	**1.42**	**288**	P	**Pn**	**08 41 43.9**	**-1.3**
NLAI				S	**Sn**	**08 42 04.1**	**+0.2**
BNDI	**Bandanaira**	**1.68**	**120**	P	**Pb**	**08 41 50.3**	**0.0**
BNDI	**Bandanaira**	**1.68**	**120**	P	**Pb**	**08 41 50.3**	**0.0**
BNDI				S	**Sg**	**08 42 13.5**	**+0.2**
SANI	**Sanana**	**2.94**	**303**	P	**Pn**	**08 42 06.0**	**-0.2**
SANI	**Sanana**	**2.94**	**303**	P	**Pn**	**08 42 05.2**	**-1.0**
SANI				S	**Sn**	**08 42 42.5**	**+0.8**
FAKI	**Fak Fak**	**3.87**	**79**	P	**Pn**	**08 42 18.8**	**-0.3**
FAKI	**Fak Fak**	**3.87**	**79**	P	**Pn**	**08 42 21.1**	**+2.1**
FAKI	**Fak Fak**	**3.87**	**79**	P	**Pn**	**08 42 19.9**	**+0.9**
FAKI				S	**Sn**	**08 43 06.8**	**+2.2**
SWI	**Sorong**	**3.97**	**45**	P	**Pn**	**08 42 21.1**	**+0.7**
SWI				S	**Sn**	**08 43 07.7**	**+0.7**
TNTI	**Ternate**	**4.56**	**346**		**Pn**	**08 42 28.4**	**0.0**
TNTI	**Ternate**	**4.56**	**346**	P	**Pn**	**08 42 28.9**	**+0.5**
RKPI	**Ransiki, Papua**	**6.12**	**69**	P	**Pn**	**08 42 50.4**	**+0.5**
LUWI	**Luwuk**	**6.25**	**295**	Pn	**Pn**	**08 42 50.3**	**-1.4**
LUWI	**Luwuk**	**6.25**	**295**	P	**Pn**	**08 42 52.5**	**+0.8**
SOEI	**Soe**	**7.32**	**214**		**Pn**	**08 43 06.9**	**+0.4**
SOEI	**Soe**	**7.32**	**214**	P	**Pn**	**08 43 10.4**	**+3.9**
	0.3nm81nm,0.9s						
APSI	**Ampana**	**7.33**	**292**	P	**Pn**	**08 43 08.5**	**+2.0**
	2μm230nm,1.0s						
MRSI	**Marisa**	**7.71**	**302**	P	**Pn**	**08 43 12.5**	**+0.8**
	0.3nm71nm,0.6s						
SGSI	**Sangihe**	**7.88**	**338**	P	Pn	08 43 20.4	+6.2
BATI	**Baumata**	**8.03**	**216**	Pn	**Pn**	**08 43 19.9**	**+3.7**
	3.6nm,0.3s,baz=7.5,slow=3.7,SNR=3.8						
BAKI	**Biak**	**8.04**	**72**	P	**Pn**	**08 43 18.4**	**+2.0**
	92nm,0.9s						
BSSI	**Bau Bau, Buton**	**8.29**	**253**	P	**Pn**	**08 43 22.9**	**+3.1**
	80nm,1.0s						
BKSI	**Bulukumba**	**8.46**	**259**	P	**Pn**	**08 43 25.0**	**+3.0**
SPSI	**Sidrap Palu**	**8.66**	**268**	P	**Pn**	**08 43 27.1**	**+2.2**
	33nm,0.8s						
KAPI	**Kappang**	**8.77**	**261**		**Pn**	**08 43 28.7**	**+2.4**
KAPI	**Kappang**	**8.77**	**261**	Pn	**Pn**	**08 43 31.0**	**+4.6**
	2.8nm,0.3s,baz=84,slow=9.7,SNR=18						
KAPI				LR	LR	08 48 12.2	
	comp=Z,166nm,18.3s,baz=68,slow=47						
TOLI2	**Tolitoli**	**9.02**	**302**		**Pn**	**08 43 30.4**	**+0.6**
TOLI2	**Tolitoli**	**9.02**	**302**	P	**Pn**	**08 43 31.5**	**+1.7**
MTN	**Manton Dam**	**9.48**	**164**	Pn	**Pn**	**08 43 38.0**	**+1.9**
SMPI	**Sarmi**	**10.39**	**81**	P	**Pn**	**08 43 51.1**	**+2.6**
	2μm26nm,0.9s						
KNRA	**Kununurra**	**11.92**	**179**		**Pn**	**08 44 09.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.58**	**191**	Pn	**Pn**	**08 44 44.1**	**-1.9**
	0.5nm,0.3s,baz=12,slow=7.3,SNR=19						
	13nm,0.8s						
JAGI	**Jajag, Banyuwa**	**14.98**	**251**		**Pn**	**08 44 54.2**	**+2.8**
JAGI				IAmb	IAmb	08 45 01.8	
	comp=Z,53nm,1.1s						
JAGI	**Jajag, Banyuwa**	**14.98**	**251**	P	**Pn**	**08 44 50.4**	**-1.0**
WRAB	**Tennant Creek**	**17.14**	**161**	Pn	**Pn**	**08 45 17.3**	**-1.9**
WRAB				IAmb	IAmb	08 45 23.7	
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**17.14**	**161**	P	**Pn**	**08 45 17.5**	**-1.7**
WRA	**Warramunga Arr**	**17.15**	**161**	Pn	**Pn**	**08 45 16.6**	**-2.7**
WRA	**Warramunga Arr**	**17.15**	**161**	P	**Pn**	**08 45 17.1**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=339,slow=13,SNR=28						
WRA				LR	LR	08 53 00.7	
	comp=Z,142nm,19.6s,baz=346,slow=41						
	comp=Z,8.8nm,0.8s						
SBUM	**Sibu**	**17.32**	**290**	P	**P**	**08 45 23.0**	**0.0**
COEN	**Coen**	**17.76**	**126**		**Pn**	**08 45 27.0**	**+0.1**
COEN				IAmb	IAmb	08 45 32.3	
	comp=Z,32nm,0.9s						
COEN	**Coen**	**17.76**	**126**	P	**P**	**08 45 27.8**	**+0.1**
KSM	**Kuching**	**18.84**	**285**	P	**P**	**08 45 39.2**	**-0.4**
TGY	**Tagaytay City**	**19.18**	**337**	LR	LR	08 54 59.1	
	comp=Z,74nm,20.2s,baz=264,slow=43						
MBWA	**Marble Bar**	**19.33**	**205**	P	**P**	**08 45 44.2**	**-0.7**
MBWA				IAmb	IAmb	08 45 48.4	
	comp=Z,26nm,1.3s						
PMG	**Port Moresby**	**19.43**	**108**	P	**Pn**	**08 45 47.5**	**+0.2**
	comp=Z,37nm,0.8s,baz=281,slow=16,SNR=5.3						
PSA00	**Pilbara Seismi**	**19.64**	**204**	P	**P**	**08 45 47.6**	**-0.8**
PSA00				IAmb	IAmb	08 46 00.9	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**19.64**	**204**	P	**P**	**08 45 49.5**	**+1.1**
PSA00				IAmb	IAmb	08 45 56.1	
	comp=Z,8.9nm,1.1s						
PSA00	**Pilbara Seismi**	**19.64**	**204**	P	**P**	**08 45 47.8**	**-0.6**
KPJI	**Karang Pucung**	**19.76**	**259**	P	**Pn**	**08 45 51.4**	**+0.2**
QIS	**Mount Isa**	**19.98**	**148**	P	**P**	**08 45 52.9**	**+0.7**
AS31	**Alice Springs**	**20.55**	**166**	P	**P**	**08 45 59.3**	**+0.9**
AS31				IAmb	IAmb	08 46 02.1	
	comp=Z,42nm,0.8s						
ASAR	**Alice Springs**	**20.55**	**166**	P	**P**	**08 45 59.0**	**+0.7**
ASAR	**Alice Springs**	**20.55**	**166**	P	**P**	**08 45 58.8**	**+0.5**
	comp=Z,123nm,0.8s,baz=346,slow=11,SNR=451						
ASAR				S	**S**	**08 49 50.7**	**+2.4**
	comp=Z,1.7nm,0.9s,baz=348,slow=24,SNR=5.0						
ASAR				PcP	**PcP**	**08 50 08.4**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=344,slow=2.3,SNR=6.9						
ASAR				LR	LR	08 53 16.9	
	comp=Z,183nm,20.7s,baz=344,slow=35						
BBJI	**Bungbulang**	**21.03**	**259**	P	**P**	**08 46 02.7**	**-0.9**
RABL	**Rabaul**	**23.67**	**92**	P	**P**	**08 46 30.0**	**-1.4**
GUMO	**Guam**	**23.67**	**43**	LR	LR	08 55 54.4	
	comp=Z,46nm,20.3s,baz=216,slow=37						
MEEK	**Meekatharra**	**24.69**	**201**	P	**P**	**08 46 42.2**	**+1.4**
DLV	**Lat**	**25.20**	**308**	P	**P**	**08 46 46.0**	**+0.4**
DLV				IAmb	IAmb	08 46 47.6	
	comp=Z,16nm,1.1s						
IPM	**Ipoh**	**28.57**	**286**	P	**P**	**08 47 16.7**	**+0.8**
IPM				IAmb	IAmb	08 47 20.2	
	comp=Z,18nm,1.0s						
BBOO	**Buckleboo**	**29.84**	**167**	P	**P**	**08 47 26.3**	**-0.6**
BBOO	**Buckleboo**	**29.84**	**167**	P	**P**	**08 47 26.5**	**-0.4**
RPSI	**Rantau Prapat**	**30.18**	**282**	P	**P**	**08 47 30.3**	**+0.2**
RPSI				IAmb	IAmb	08 47 31.8	
	comp=Z,7.7nm,0.7s						
PSI	**Prapat**	**30.20**	**282**	LR	LR	09 02 11.6	
	comp=Z,74nm,18.9s,baz=109,slow=42						
JOW	**Kunigami**	**30.34**	**360**	LR	LR	08 58 50.8	
	comp=Z,51nm,22.0s,baz=130,slow=35						
STKA	**Stephens Creek**	**30.65**	**158**	P	**P**	**08 47 34.4**	**+0.3**
STKA	**Stephens Creek**	**30.65**	**158**	P	**P**	**08 47 32.1**	**-1.9**
	comp=Z,6.8nm,0.9s,baz=333,slow=9.1,SNR=11						
STKA				LR	LR	09 00 18.1	
	comp=Z,83nm,18.0s,baz=351,slow=37						
	comp=Z,6.8nm,0.9s						
ARMA	**Armidale**	**34.45**	**143**	P	**P**	**08 48 06.2**	**-1.3**
ARMA				IAmb	IAmb	08 48 10.1	
	comp=Z,7.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.45**	**308**	P	**P**	**08 48 24.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=125,slow=8.9,SNR=12						
CMAR				LR	LR	09 07 29.4	
	comp=Z,27nm,18.4s,baz=125,slow=43						
	comp=Z,1.0nm,0.3s						
WHN	**Wuhan**	**36.61**	**339**	P	**P**	**08 48 28.0**	**+2.1**
CHTO	**Chiang Mai**	**36.65**	**309**	P	**P**	**08 48 25.9**	**-0.6**
JNU	**Nakatsue**	**36.68**	**3**	LR	LR	09 02 17.5	
	comp=Z,46nm,21.7s,baz=183,slow=34						
NJ2	**Nanjing**	**36.69**	**346**	*e*P	**P**	**08 48 28.1**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PZH	**PanZhiHua**	**39.60**	**321**	P	**P**	**08 48 53.5**	**+2.1**
LYN	**LuoYang**	**40.90**	**340**	P	**P**	**08 49 06.5**	**+4.6**
LYN				pP	sP	08 49 11.3	+5.1
LYN				pmax	pmax		
	comp=Z,19nm,0.6s						
KSRS	**Korea Array**	**40.93**	**359**	P	**P**	**08 49 02.3**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=176,slow=9.5,SNR=3.0						
	comp=Z,1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**41.05**	**12**	P	**P**	**08 49 01.5**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=198,slow=9.2,SNR=4.3						
MJAR				LR	LR	09 05 48.9	
	comp=Z,32nm,18.6s,baz=196,slow=36						
	comp=Z,1.1nm,0.6s						
HNS	**HongShan**	**42.83**	**344**	‖P	**P**	**08 49 19.1**	**+1.5**
BRDH	**Bariadhala**	**44.48**	**308**	LR	LR	09 10 55.6	
	comp=Z,60nm,18.6s,baz=85,slow=40						
HHC	**Hu-ho-hao-te**	**46.94**	**342**	*e*P	**P**	**08 49 53.1**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
USRK	**Ussuriysk Ar.**	**47.78**	**3**	P	**P**	**08 49 55.4**	**-1.4**
	comp=Z,3.4nm,0.9s,baz=198,slow=9.1,SNR=4.1						
	comp=Z,3.4nm,0.9s						
PALK	**Pallekele**	**48.87**	**283**	LR	LR	09 11 50.9	
	comp=Z,25nm,19.4s,baz=107,slow=38						
ASAJ	**Asahikawa**	**49.26**	**13**	LR	LR	09 10 40.4	
	comp=Z,29nm,21.1s,baz=187,slow=36						
GTA	**Gaotai**	**50.34**	**331**	*e*P	**P**	**08 50 18.0**	**+1.3**
GTA				pP	sP	08 50 23.2	+2.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
EVN	**Everest**	**50.95**	**311**	P	**P**	**08 50 21.6**	**-0.5**
EVN				IAmb	IAmb	08 50 34.4	
	comp=Z,8.0nm,0.8s						
LBZ	**Lake Benmore**	**54.66**	**144**	P	**P**	**08 50 48.6**	**0.0**
SONM	**Songino Array**	**54.83**	**342**	P	**P**	**08 50 49.6**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=152,slow=6.5,SNR=9.3						
	comp=Z,3.6nm,1.0s						
WMQ	**Urumqi**	**59.79**	**327**	*e*P	**P**	**08 51 26.8**	**+1.9**
WMQ				LR	LR		
	comp=Z,500nm,21.5s						
PETK	**Petropavlovsk-**	**61.71**	**20**	P	**P**	**08 51 38.2**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=228,slow=8.4,SNR=2.5						
	comp=Z,4.5nm,0.9s						
CASY	**Casey**	**63.73**	**188**	P	**P**	**08 51 49.9**	**-1.1**
CASY				IAmb	IAmb	08 51 52.3	
	comp=Z,5.1nm,0.9s						
MKAR	**Makanchi Array**	**64.62**	**327**	P	**P**	**08 51 56.3**	**-0.9**
MKAR	**Makanchi Array**	**64.62**	**327**	P	**P**	**08 51 56.8**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=125,slow=8.7,SNR=17						
	comp=Z,4.5nm,0.8s						
AAK	**Ala-Archa**	**67.03**	**320**	LR	LR	09 23 34.1	
	comp=Z,27nm,21.1s,baz=126,slow=38						
ARSB	**Arslanbob**	**67.41**	**318**	P	**P**	**08 52 15.0**	**-0.5**
ARSB				IAmb	IAmb	08 52 19.6	
	comp=Z,6.6nm,1.1s						
ZAA0	**Zalesovo Array**	**67.95**	**334**		**P**	**08 52 17.3**	**-1.1**
ZAA0				IAmb	IAmb	08 52 21.9	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**67.95**	**334**		**P**	**08 52 17.0**	**-1.3**
ZALV	**Zalesovo Beam**	**67.95**	**334**	P	**P**	**08 52 16.5**	**-1.9**
	comp=Z,4.9nm,0.9s,baz=120,slow=5.2,SNR=8.1						
	comp=Z,4.9nm,0.9s						
GAR	**Garm**	**68.25**	**315**		**P**	**08 52 20.3**	**-0.5**
KURBB	**Kurchatov Arra**	**68.89**	**329**	P	**P**	**08 52 23.9**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=124,slow=5.4,SNR=22						
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**68.90**	**329**		**P**	**08 52 23.6**	**-0.8**
KKAR	**Karatay Array**	**69.85**	**319**		**P**	**08 52 29.0**	**-

comp=Z,3.0nm,0.6s,baz=46,slow=16,SNR=1.2
comp=Z,10nm,0.8s
BKZ Black Stump Fm 20.74 203 P **P 09 01 44.6 -0.9**
BKZ IAmb IAmb 09 02 13.2
comp=Z,23nm,1.2s
TBI Tubuai 22.34 102 *e*S **S 09 05 59.7 -7.8**
TBI *e*LR LR 09 07 18.5
comp=Z,818nm,23.2s
MRZ Mangatainoka R 22.39 203 P **P 09 02 03.0 -0.2**
MRZ IAmb IAmb 09 02 30.9
comp=Z,28nm,1.2s
PPT2 Papeete2 22.61 87 *e*P **P 09 02 07.1 +1.3**
PPT2 *e*S **S 09 06 06.3 -6.3**
comp=Z,268nm,24.2s
PPT2 *e*LR LR 09 07 22.4
comp=Z,169nm,23.0s
PPT2 *e*LR LR 09 07 29.1
comp=Z,207nm,21.8s
PPT Papeete 22.61 87 LR LR 09 09 34.5
comp=Z,252nm,18.0s,baz=254,slow=32
TAOE Nuku Hiva Isla 33.98 75 *e*LR LR 09 12 44.9
comp=Z,143nm,20.7s
CAN Canberra 36.30 238 P **P 09 04 07.8 -0.7**
CAN IAmb IAmb 09 04 16.3
comp=Z,10nm,1.0s
CTAO Charters Tower 37.88 263 P **P 09 04 21.5 -0.5**
CTAO IAmb IAmb 09 04 33.3
comp=Z,10nm,1.0s
STKA Stephens Creek 41.84 245 P 09 04 53.5 -1.3
STKA Stephens Creek 41.84 245 P **P 09 04 53.6 -1.1**
comp=Z,3.4nm,0.8s,baz=90,slow=15,SNR=4.1
comp=Z,3.4nm,0.8s
AS31 Alice Springs 48.84 256 P 09 05 50.1 -0.4
ASAR Alice Springs 48.84 256 P **P 09 05 49.6 -0.9**
ASAR Alice Springs 48.84 256 P **P 09 05 48.8 -1.7**
comp=Z,4.6nm,0.8s,baz=95,slow=8.3,SNR=20
ASAR PcP **PcP 09 07 17.1 +2.1**
comp=Z,1.7nm,0.8s,baz=95,slow=3.6,SNR=4.5
comp=Z,4.6nm,0.8s
WRA Warramunga Arr 48.98 261 P **P 09 05 50.2 -1.4**
WRA Warramunga Arr 48.98 261 P **P 09 05 49.5 -2.0**
comp=Z,2.7nm,0.8s,baz=97,slow=5.1,SNR=25
WRA PcP **PcP 09 07 18.3 +2.7**
comp=Z,1.2nm,0.9s,baz=101,slow=2.9,SNR=5.2
comp=Z,2.7nm,0.8s
GUMO Guam 53.16 306 LR LR 09 25 01.6
comp=Z,22nm,21.6s,baz=144,slow=32
SBA Scott Base 58.39 185 P **P 09 07 02.3 +2.7**
RPN Rapa Nui 58.43 110 LR LR 09 27 02.8
comp=Z,91nm,19.3s,baz=299,slow=30
VNDA Vanda 58.53 186 P **P 09 07 04.5 +3.9**
comp=Z,3.3nm,1.2s,baz=18,slow=8.8,SNR=6.9
comp=Z,3.3nm,1.2s
CASY Casey 66.02 205 P 09 07 52.2 +1.4
KAPI Kappang 66.66 273 LR LR 09 37 07.5
comp=Z,18nm,18.4s,baz=82,slow=36
QSPA South Pole Qui 69.76 180 P P 09 08 20.2 +5.5
comp=Z,5.7nm,1.0s,baz=55,slow=2.8,SNR=9.9
comp=Z,5.7nm,1.0s
MJAR Matsushiro Arr 72.75 321 P **P 09 08 31.8 -1.2**
comp=Z,0.8nm,0.6s,baz=132,slow=6.7,SNR=4.3
comp=Z,0.8nm,0.6s
JOW Kunigami 73.48 307 LR LR 09 38 10.4
comp=Z,25nm,18.5s,baz=106,slow=34
ESJX Sierra Juarez 75.64 48 P **P 09 08 49.0 -1.1**
ESJX IAmb IAmb 09 09 03.4
comp=Z,4.9nm,1.1s
CCCA Chr Cany lake 76.76 44 P **P 09 08 56.8 +0.6**
CCCA IAmb IAmb 09 09 06.2
comp=Z,4.6nm,1.0s
BELC Belle Mtn. Jos 76.76 46 P **P 09 08 56.2 -0.2**
NVAR Mina Array Bea 77.93 41 P P 09 09 09.2 +6.2
comp=Z,4.3nm,0.8s,baz=241,slow=7.3,SNR=16
comp=Z,4.3nm,0.8s
KSRS Korea Array 79.73 316 P **P 09 09 12.5 0.0**
comp=Z,1.0nm,0.9s,baz=133,slow=41,SNR=1.6
comp=Z,1.0nm,0.9s
H03S2 Juan Fernandez 82.44 123 T T 10 42 13.2
baz=249,slow=74,SNR=3.6
H03S1 Juan Fernandez 82.45 123 T T 10 42 15.7
baz=249,slow=74,SNR=3.7
H03S3 Juan Fernandez 82.46 123 T T 10 42 15.2
baz=249
MAW Mawson 83.19 199 P **P 09 09 33.0 +2.5**
comp=Z,1.9nm,0.8s,baz=122,slow=7.5,SNR=3.8
comp=Z,1.9nm,0.8s
NJ2 Nanjing 83.20 308 *e*P **P 09 09 32.0 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TXAR Lajitas Array 83.29 56 P P 09 09 38.8 +7.1
comp=Z,1.3nm,0.8s,baz=243,slow=4.7,SNR=14
comp=Z,1.3nm,0.8s
CMIG Matias Romero 85.45 70 LR LR 09 42 09.6
comp=Z,80nm,18.0s,baz=211,slow=31
PDAR Pinedale Array 85.86 41 P P 09 09 50.4 +5.7
comp=Z,0.8nm,0.8s,baz=256,slow=3.9,SNR=6.1
comp=Z,0.8nm,0.8s
ILAR Eielson Array 87.22 11 P **P 09 09 54.0 +3.5**
comp=Z,0.9nm,0.8s,baz=206,slow=4.8,SNR=8.5
comp=Z,0.9nm,0.8s
CMAR Chiang Mai Arr 94.22 288 P **P 09 10 24.6 +0.4**
comp=Z,2.0nm,0.3s,baz=102,slow=5.5,SNR=7.9
comp=Z,2.0nm,0.3s
PZH PanZhiHua 94.54 296 P **P 09 10 27.3 +1.6**
LPAZ La Paz 98.04 111 LR LR 09 47 32.7
comp=Z,49nm,18.1s,baz=247,slow=31
SONM Songino Array 98.53 318 P **P 09 10 43.4 0.0**
SONM IAmb IAmb 09 10 55.6
comp=Z,1.5nm,1.2s
EKA Eskdalemuir Ar 144.25 10 PKP **PKiKP 09 16 43.4 -0.4**
comp=Z,0.7nm,0.6s,baz=333,slow=5.6,SNR=3.6
AKASG Malin Array Be 144.84 335 PKPdf PKPbc 09 16 40.8 +0.3
AKASG Malin Array Be 144.84 335 PKP **PKiKP 09 16 44.1 -1.1**
comp=Z,4.0nm,0.6s,baz=40,slow=4.4,SNR=17
ASCN Ascension 145.12 142 PKPbc **PKPbc 09 16 41.5 -1.0**
LODK Lodwar 147.41 243 PKPdf **PKPdf 09 16 45.8 -1.2**
BRTR Keskin Array B 149.87 316 PKPbc **PKiKP 09 16 56.8 +0.6**
comp=Z,1.0nm,0.8s,baz=57,slow=5.3,SNR=4.3
KHC Kasperske Hory 150.72 351 *e*PKP **PKPab 09 17 04.0 +0.3**
GERES GERESS Array B 150.98 350 PKPbc **PKiKP 09 17 00.7 +2.6**
comp=Z,0.6nm,0.8s,baz=20,slow=1.1,SNR=2.3

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*UPP **03** 09:00:14.6±1.0, 67°.69N×26°.72E, h0km, ML1.7, Presumed earthquake*
HEL 03 09:00:13.4±0.1, 67°.71N×26°.95E, h0km, ML1.6, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.93**	**33**	PG	Pg	09 00 30.2	-0.9
RAJF				SB	Sg	09 00 42.5	-0.6
VRF	**Varrio**	**1.02**	**86**	PG	Pg	09 00 31.8	-1.1
VRF				MSG		09 00 44.5	
	comp=Z,4.5nm,0.2s						
VRF				SB	Sg	09 00 45.4	-0.6
RNF	**Rovaniemi**	**1.16**	**199**	PB	Pg	09 00 34.7	-0.9
	baz=18						
RNF				SB	Sg	09 00 50.0	-0.5
PAJU	**Pajala**	**1.63**	**247**	P	Pn	09 00 42.9	-0.5
PAJU				S	Sn	09 01 04.0	-1.1
PAJU	**Pajala**	**1.63**	**247**	PG	Pn	09 00 42.8	-0.6
PAJU				SN	Sb	09 01 05.5	0.0
OLKF	**Oulanka, Finla**	**1.69**	**144**	PG	Pn	09 00 43.5	-0.6
OLKF				MSG		09 01 03.9	
	comp=Z,4.5nm,0.2s						
OLKF				SN	Sg	09 01 07.8	+0.1
RANF	**Ranua**	**1.70**	**182**	PG	Pn	09 00 43.7	-0.5
	baz=5.0						
RANF				SN	Sn	09 01 05.4	-1.2
KTK1	**Kautokeino**	**1.90**	**315**	*e*P	Pn	09 00 47.7	+0.7
KTK1	**Kautokeino**	**1.90**	**315**	PG	Pn	09 00 47.6	+0.6
KTK1				SG	Sb	09 01 12.5	-0.7
LANU	**Lannavaara**	**1.91**	**283**	P	Pn	09 00 47.0	-0.1
LANU	**Lannavaara**	**1.91**	**283**	PG	Pn	09 00 47.6	+0.5
LANU				SG	Sb	09 01 13.2	-0.1
ARA0	**ARCESS Array S**	**1.91**	**345**	*e*P	Pn	09 00 47.9	+0.6
ARA0	**ARCESS Array S**	**1.91**	**345**	PG	Pn	09 00 47.7	+0.5
ARA0				SG	Sb	09 01 12.8	-0.7
TOF	**Tornio**	**1.93**	**214**	PG	Pn	09 00 47.7	+0.3
	baz=35						
TOF				MSG		09 01 10.9	
	comp=Z,4.0nm,0.2s						
TOF				SG	Sn	09 01 12.7	+0.3
MSF	**Maaselka**	**1.98**	**154**	PG	Pn	09 00 48.9	+0.8
MSF				SG	Sb	09 01 14.8	-0.8
KU6	**Riekki**	**2.05**	**144**	PG	Pn	09 00 49.8	+0.8
	baz=326						
KU6				MSG		09 01 14.3	
	comp=Z,2.7nm,0.2s						
KU6				SG	Sb	09 01 17.1	-0.3
KEV	**Kevo**	**2.06**	**1**	PG	Pn	09 00 50.0	+0.8
KEV				SG	Sn	09 01 15.8	+0.3
KU2	**Taivalkoski**	**2.07**	**165**	PG	Pn	09 00 48.9	-0.5
KU2				SG	Sb	09 01 17.0	-1.0
ERTU	**Ertsjaerv**	**2.19**	**240**	P	Pn	09 00 51.7	+0.7
ERTU				S	Sb	09 01 21.6	+0.2
ERTU	**Ertsjaerv**	**2.19**	**240**	PG	Pn	09 00 51.8	+0.8
ERTU				SG	Sb	09 01 21.8	+0.4
KALU	**Kalix**	**2.34**	**219**	P	Pn	09 00 53.5	+0.5
KALU	**Kalix**	**2.34**	**219**	PG	Pn	09 00 53.5	+0.5
KALU				SG	Sb	09 01 24.7	-0.9
KU1	**Kurvinen**	**2.39**	**153**	PG	Pn	09 00 54.7	+1.0
KUA	**Kurravaara**	**2.52**	**279**	P	Pn	09 00 56.0	+0.4
KOVU	**Salmi**	**2.61**	**285**	P	Pn	09 00 57.3	+0.5
	baz=118						
KIF	**Kilpisjarvi**	**2.62**	**303**	PG	Pb	09 00 59.2	-2.0
KIF				MSG		09 01 31.4	
	comp=Z,1.8nm,0.2s						
KIF				SG	Sb	09 01 34.0	+0.1
OUL	**Oulu**	**2.67**	**190**	SG	Sb	09 01 33.8	-1.3
RATU	**Laukkuluspa**	**2.80**	**276**	P	Pn	09 00 59.6	+0.2
RATU				S	Sn	09 01 35.6	+1.7
HARU	**Harads**	**2.81**	**239**	P	Pn	09 00 59.4	-0.2
NIKU	**Nikkaluokta**	**3.01**	**277**	P	Pn	09 01 02.5	+0.3
SALU	**Saltoluokta**	**3.26**	**268**	P	Pn	09 01 06.3	+0.6
OUF	**Merijarvi**	**3.47**	**196**	SN	Sn	09 01 51.0	+0.6
TRO	**Tromso**	**3.51**	**307**	PG	Pb	09 01 17.1	+0.8
BURU	**Burvik**	**3.87**	**218**	PG	Pb	09 01 23.6	+1.3
	baz=34						
UMAU	**Umeaa**	**4.62**	**217**	PN	Pn	09 01 24.5	+0.2
	baz=34						

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*UCC **03** 09:02:19.5, 50°.13N×1°.16E, h0km, ML3.0, Explosion.*
*STR **03** 09:02:20.3±0.4, 50°.N±5°×°±°, h0km, MLv3.8/21, LOCSAT earthModelID haslach_taup-2.11 preliminary*
ISC 03 09:02:18.1±1.0, 50°.12N±0°.05×1°.10E±0°.04, h0km, n36, σ0°82/37, 5D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELSH	**Elham, Standar**	**1.03**	**1**	Pg	**Pb**	**09 02 39.3**	**+0.6**
BZEV	**Zevekote**	**1.53**	**48**	*d*P	**Pn**	**09 02 44.9**	**-1.8**
CLEV	**Clevilliers**	**1.59**	**173**	Pn	**Pg**	**09 02 48.8**	**+0.4**
BBOU	**Bougnies**	**1.85**	**81**	*d*P	**Pb**	**09 02 52.7**	**0.0**
BSKQ	**Steenkerk**	**1.98**	**73**	*d*P	**Pn**	**09 02 53.7**	**+0.9**
BRQR	**Ronquire**	**2.06**	**75**	*d*P	**Pn**	**09 02 54.8**	**+0.9**
LOUF	**Saint-Loup**	**2.12**	**228**	Pn	**Pn**	**09 02 55.4**	**+0.6**
UCC	**Uccle**	**2.19**	**71**	*d*P	**Pn**	**09 02 56.3**	**+0.5**
SWN1	**Swindon**	**2.31**	**308**	Pn	**Pn**	**09 02 58.7**	**+1.4**
TSDF	**Thoir-sur-Di**	**2.41**	**190**	Pn	**Pn**	**09 02 59.8**	**+1.1**
PLEF	**Pleven - 22200**	**2.77**	**235**	Pn	**Pn**	**09 03 04.4**	**+0.7**
GUEF	**Guhenno - 56**	**3.32**	**229**	Pn	**Pn**	**09 03 11.4**	**+0.2**
BEGF	**Beganne - 5601**	**3.35**	**223**	Pn	**Pn**	**09 03 12.0**	**+0.4**
ROSF	**Rostrenen**	**3.38**	**240**	Pn	**Pn**	**09 03 12.4**	**+0.4**
ROSF				Sn	**Sn**	**09 03 50.0**	**-2.7**
LOR	**Lormes**	**3.39**	**146**	Pn	**Pn**	**09 03 12.3**	**0.0**
MANO	**Manonville**	**3.40**	**111**	Pn	**Pn**	**09 03 13.6**	**+1.2**
LOCF	**Locquirec - 29**	**3.43**	**247**	Pn	**Pn**	**09 03 12.9**	**+0.1**
ETNF	**Estrennes**	**3.74**	**118**	Pn	**Pn**	**09 03 17.4**	**+0.4**
PLOF	**Ploemeur**	**3.81**	**233**	Pn	**Pn**	**09 03 18.6**	**+0.6**
PLYF	**Puligny Montra**	**3.99**	**141**	Pn	**Pn**	**09 03 20.7**	**+0.3**
XAFF	**Xaffevillers**	**4.00**	**113**	Pn	**Pn**	**09 03 20.9**	**+0.3**
VOEL	**Voellerdingen**	**4.09**	**104**	Pn	**Pn**	**09 03 22.2**	**+0.4**
OLIV	**Plomelin**	**4.09**	**239**	Pn	**Pn**	**09 03 21.5**	**-0.3**
CIEL	**Dossenheim-sur**	**4.29**	**105**	Pn	**Pn**	**09 03 24.6**	**0.0**
AGO	**Saint Agoulin**	**4.29**	**161**	Pn	**Pn**	**09 03 25.1**	**+0.4**
RONF	**Ronchamp**	**4.38**	**121**	Pn	**Pn**	**09 03 26.5**	**+0.6**
ECH	**Echery**	**4.41**	**113**	Pn	**Pn**	**09 03 26.2**	**-0.1**
WLS	**Welschbruch**	**4.44**	**110**	Pn	**Pn**	**09 03 26.9**	**+0.2**
VERF	**Verneugheol**	**4.47**	**167**	Pn	**Pn**	**09 03 27.3**	**+0.1**
PLDF	**La Plantade**	**4.49**	**157**	Pn	**Pn**	**09 03 27.1**	**-0.3**
WALT	**Westhalten**	**4.60**	**116**	Pn	**Pn**	**09 03 29.8**	**+0.9**
CHMF	**Charmoille**	**4.67**	**126**	Pn	**Pn**	**09 03 30.4**	**+0.5**
BRANT	**Les Verrieres**	**4.79**	**130**	Pn	**Pn**	**09 03 32.2**	**+0.7**
BABA	**Baden-Baden-Ne**	**4.84**	**104**	Pn	**Pn**	**09 03 32.2**	**+0.1**
BOURR	**Bourrignon**	**4.89**	**122**	Pn	**Pn**	**09 03 33.8**	**+0.9**
OPP	**Oppenau**	**4.91**	**107**	Pn	**Pn**	**09 03 33.1**	**0.0**

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*IDC **03** 09:05:16.0±0.7, 45°.27N×81°.62E, h0km, mb3.9/10, mbtmp3.7/16, ML3.0/5, MS3.2/2, Error ellipse: s-maj=11.3km s-min=8.7km az=95.0*
*NNC **03** 09:05:18.3±1.2, 45°.33N×81°.79E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=15.2km s-min=6.3km az=118.0*
*SOME **03** 09:05:19.2, 45°.32N×81°.75E, h20km, MS3.0*
ISC 03 09:05:17.7±0.5, 45°.34N±0°.03×81°.58E±0°.03, h7km, n52, σ2°17/59, mb3.9/10, 6C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.53**	**18**	⇓P	**Pg**	**09 05 47.0**	**-0.1**
	18nm,0.2s,baz=192,slow=8.6,SNR=3023						
MK31				⇓S	**Sg**	**09 06 06.4**	**-0.6**
	224nm,0.3s,baz=192,slow=26						
MKAR	**Makanchi Array**	**1.53**	**18**	Pg	**Pg**	**09 05 46.9**	**-0.2**
	46nm,0.3s,baz=193,slow=16,SNR=2086						
MKAR				Lg		09 06 06.3	
	290nm,0.3s,baz=198,slow=27,SNR=58						
KAPS	**Kapalarasan**	**1.57**	**269**	P	**Pg**	**09 05 50.1**	**+2.3**
	129nm,0.2s						
TDK	**Taldyqorghan**	**2.27**	**263**	Pg	**Pg**	**09 06 03.6**	**+2.4**
	135nm,0.2s						
TDK				Lg	Lg	09 06 33.4	
	1μm,0.3s						
TDK	**Taldyqorghan**	**2.27**	**263**	*e*P	**Pg**	**09 06 02.8**	**+1.5**
	35nm,0.1s						
TDK				*e*S	**Sg**	**09 06 34.2**	**+3.5**
	1μm,0.1s						
PDGK	**Podgornoye**	**2.51**	**217**	⇑Pg	**Pg**	**09 06 05.6**	**-0.2**
	55nm,0.5s						
PDGK				⇑Lg	Lg	09 06 39.4	
	594nm,0.7s						
SHLS	**Shalkode**	**2.66**	**216**	Pg	**Pb**	**09 06 05.4**	**-0.4**
	104nm,0.3s						
SHLS				Lg	Lg	09 06 36.5	
	407nm,0.2s						
SHLS	**Shalkode**	**2.66**	**216**	*e*P	**Pb**	**09 06 05.5**	**-0.4**
	48nm,0.1s						
SHLS				*e*S	**Sb**	**09 06 39.0**	**+0.3**
	458nm,0.2s						
KPKS	**Kokpek**	**2.80**	**229**	Pg	**Pg**	**09 06 12.3**	**+1.0**
	0.5nm,0.5s						
KPKS				Lg	Lg	09 06 47.5	
	260nm,0.3s						
UZB	**Uzynbulak**	**2.86**	**221**	Lg	Lg	09 06 48.5	
	106nm,0.4s						
UZB	**Uzynbulak**	**2.86**	**221**	*e*P	**Pg**	**09 06 12.3**	**-0.3**
	6.9nm,0.1s						
UZB				*e*S	**Sg**	**09 06 50.6**	**+0.9**
	147nm,0.2s						
KURS	**Kuram**	**3.07**	**234**	Lg	Lg	09 06 55.3	
	79nm,0.4s						
ZSN	**Zaisan**	**3.10**	**46**	Pg	**Pg**	**09 06 15.5**	**-1.6**
	30nm,0.4s						
ZSN				Lg	Lg	09 06 53.5	
	184nm,0.5s						
ZSN	**Zaisan**	**3.10**	**46**	*e*P	**Pb**	**09 06 13.7**	**+0.5**
	4.8nm,0.1s						
ZSN				*e*S	**Sb**	**09 06 53.0**	**+1.8**
	474nm,0.3s						
SATY	**Saty**	**3.23**	**226**	Pg	**Pg**	**09 06 20.1**	**+0.5**
	85nm,0.6s						
SATY				Lg	Lg	09 07 01.1	
	185nm,0.2s						
CHKK	**Chushkaly**	**3.60**	**247**	Lg	Lg	09 07 12.3	
	224nm,0.2s						
CHKK	**Chushkaly**	**3.60**	**247**	*e*P	**Pg**	**09 06 25.4**	**-1.3**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**09 07 13.0**	**-0.4**
	236nm,0.3s						
KOTS	**Kotyrbulak**	**3.84**	**238**	*e*P	**Pg**	**09 06 30.6**	**-0.6**
	6.8nm,0.2s						
KOTS				*e*S	**Sg**	**09 07 21.7**	**+0.8**
	193nm,0.3s						
MDOK	**Medeo**	**3.92**	**238**	Lg	Lg	09 07 23.8	
	45nm,0.4s						
TNSS	**Tian-Shan**	**4.05**	**237**	Lg	Lg	09 07 27.5	
	15nm,0.3s						
TNSS	**Tian-Shan**	**4.05**	**237**	*e*P	**Pg**	**09 06 34.0**	**-1.4**
	0.5nm,0.1s						
TNSS				*e*S	**Sg**	**09 07 27.7**	**-0.1**
	25nm,0.2s						
MTBS	**Maitube**	**4.31**	**241**	*e*P	**Pg**	**09 06 37.8**	**-2.5**
	3.4nm,0.1s						
MTBS				*e*S	**Sg**	**09 07 34.3**	**-1.9**
	232nm,0.3s						
WMQ	**Urumqi**	**4.62**	**107**	Pn	**Pn**	**09 06 31.6**	**+3.6**
WMQ				Sn	**Sn**	**09 07 22.7**	**+0.7**
WMQ				smax	smax		
	comp=N,140nm,0.7s						
WMQ				smax	smax		
	comp=E,88nm,0.9s						
KST	**Kastek**	**4.65**	**242**	Lg	Lg	09 07 45.3	
	comp=E,112nm,0.6s						
KST	**Kastek**	**4.65**	**242**	*e*P	**Pg**	**09 06 45.3**	**-1.5**
	comp=E,6.3nm,0.2s						
KST				*e*S	**Sg**	**09 07 47.1**	**+0.1**
	comp=E,120nm,0.4s						
SEM	**Semipalatinsk**	**5.15**	**350**	Lg	Lg	09 08 06.9	
	comp=E,87nm,0.7s						
BTLS	**Baital**	**5.34**	**269**	*e*P	**Pg**	**09 06 59.8**	**-0.1**
	comp=E,4.0nm,0.1s						
BTLS				*e*S	**Sg**	**09 08 12.1**	**+3.1**
	comp=E,24nm,0.4s						
KURBB	**Kurchatov Arra**	**5.67**	**340**	Pn	**Pn**	**09 06 42.5**	**+0.3**
	comp=E,0.2nm,0.3s,baz=160,slow=12,SNR=11						
KURBB				Sn	**Sn**	**09 07 47.2**	**-0.3**
	comp=E,1.3nm,0.3s,baz=164,slow=14,SNR=9.3						
KURBB				Lg	Lg	09 08 15.5	
	comp=E,1.5nm,0.3s,baz=152,slow=28,SNR=7.4						
	comp=E,1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**5.67**	**340**	⇑Lg	Lg	09 08 19.2	
	comp=E,225nm,0.7s						
KURK	**Kurchatov**	**5.73**	**341**	⇑Pn	**Pn**	**09 06 45.2**	**+2.0**
	comp=E,5.6nm,0.8s						
KURK				⇑Lg	Lg	09 08 22.4	
	comp=E,20μm,0.1s						
AAK	**Ala-Archa**	**5.78**	**245**	Pn	**Pn**	**09 06 43.9**	**-0.2**
	comp=E,0.3nm,0.3s,baz=47,slow=19,SNR=1.8						
AAK				Lg	Lg	09 08 20.6	
	comp=E,4.0nm,0.3s,baz=18,slow=20,SNR=5.9						
	comp=E,1.1nm,0.4s						
AAK	**Ala-Archa**	**5.78**	**245**	P	**Pg**	**09 07 05.3**	**-3.2**
AAK				S	**Sg**	**09 08 19.0**	**-4.4**
MRKS	**Merke**	**6.56**	**250**	Lg	Lg	09 08 46.5	
	comp=E,15nm,0.9s						
KK31	**Karatay Array**	**8.26**	**258**	⇑P	**Pn**	**09 07 20.1**	**+2.1**
	comp=E,0.3nm,0.2s,baz=13,slow=4.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**8.87**	**13**	Pn	**Pn**	**09 07 26.6**	**+0.5**
	comp=E,0.8nm,0.3s,baz=191,slow=12,SNR=4.9						
ZALV				Sn	**Sn**	**09 09 01.7**	**-4.4**
	comp=E,0.4nm,0.3s,baz=201,slow=20,SNR=2.2						
ZALV				Lg	Lg	09 09 53.9	
	comp=E,1.8nm,0.3s,baz=201,slow=30,SNR=5.3						
	comp=E,2.5nm,0.6s						
BVAR	**Borovoye Array**	**10.61**	**320**	Pn	**Pn**	**09 07 49.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=129,slow=15,SNR=1.8						
BVAR				Sn	**Sn**	**09 09 45.8**	**-3.2**
	comp=E,0.1nm,0.3s,baz=115,slow=27,SNR=4.4						
BVAR				Lg	Lg	09 10 47.6	
	comp=E,0.2nm,0.3s,baz=114,slow=24,SNR=3.6						
BVAR				LR	LR	09 11 54.7	
	comp=E,87nm,18.9s,baz=127,slow=37						
	comp=E,0.5nm,0.3s						
AB31	**Akbulak array**	**15.18**	**293**	P	**Pn**	**09 08 55.1**	**+2.8**
	comp=E,1.1nm,0.2s,baz=110,slow=9.0,SNR=24						
AKTO	**Aktyubinsk**	**16.58**	**296**	Pn	**Pn**	**09 09 08.2**	**-2.2**
	comp=E,0.3nm,0.3s,baz=113,slow=12,SNR=4.6						
AKTO				Sn	**Sn**	**09 12 05.2**	**-9.4**
	comp=E,0.2nm,0.3s,baz=34,slow=11,SNR=1.7						
AKTO				Lg	Lg	09 13 59.3	
	comp=E,0.1nm,0.3s,baz=110,slow=16,SNR=0.9						
	comp=E,1.2nm,0.5s						
SONM	**Songino Array**	**17.22**	**73**	P	**Pn**	**09 09 16.8**	**-1.8**
	comp=E,0.4nm,0.5s,baz=278,slow=13,SNR=1.0						
SONM				Lg	Lg	09 14 17.4	
	baz=280,slow=26						
HHC	**Hu-ho-hao-te**	**22.28**	**91**	*e*P	**P**	**09 10 17.4**	**+1.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.45**	**146**	P	**P**	**09 11 30.6**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=337,slow=9.8,SNR=13						
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**35.55**	**317**	P	**P**	**09 12 15.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=98,slow=10,SNR=4.0						
	comp=Z,1.9nm,0.8s						
ARCES	**ARCESS Array B**	**36.67**	**331**	P	**P**	**09 12 25.8**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=113,slow=9.2,SNR=4.3						
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**42.56**	**40**	LR	LR	09 32 49.8	
	comp=Z,40nm,19.7s,baz=128,slow=39						
NB2	**NORSAR Subarra**	**42.72**	**317**	P	**P**	**09 13 15.4**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=78,slow=8.6						
NOA	**NORSAR Array B**	**42.72**	**317**	P	**P**	**09 13 15.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=79,slow=8.0,SNR=5.5						
	comp=Z,1.3nm,0.7s						
GERES	**GERESS Array B**	**44.95**	**300**	P	**P**	**09 13 33.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=70,slow=6.5,SNR=1.7						
	comp=Z,0.3nm,0.3s						
ESDC	**Sonseca Array**	**60.46**	**298**	P	**P**	**09 15 28.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=44,slow=5.1,SNR=1.9						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**63.89**	**21**	P	**P**	**09 15 49.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=325,slow=6.1,SNR=16						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.69**	**272**	P	**P**	**09 16 52.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=50,slow=6.8,SNR=5.7						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**80.72**	**131**	P	**P**	**09 17 29.8**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=320,slow=5.9,SNR=4.7						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**83.55**	**133**	P	**P**	**09 17 44.5**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=326,slow=4.9,SNR=6.9						
	comp=Z,0.3nm,0.8s						

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*CATAC **03** 09:07:44.0±0.5, 13°N±3°×9°0W±°, h19km±3km, M3.4/22, MLv3.4/22, Error ellipse: s-maj=6.4km s-min=5.2km az=16.2, confirmed*
*GCG **03** 09:07:45.5±1.6, 13°.36N×89°.94W, h37km±818km, MD4.1, ML3.3*
*SNET **03** 09:07:45.5±1.3, 13°.28N×89°.91W, h31

IGN	Direccin Gen	0.68	59	P	Pn	09 08 00.2	-1.5
IGN	Direccin Gen	0.68	59	S	Sn	09 08 13.0	+1.9
UDBS	Universidad Do	0.69	59	P	Pn	09 08 00.7	-1.2
PAVA	Las Pavas	0.88	66	S	Sn	09 08 18.2	+2.1
PAVA	Las Pavas	0.88	66	P	Pn	09 08 03.8	-0.7
TECO	Alcaldia de Te	0.97	80	P	Pn	09 08 04.1	-1.6
UESV	Universidad de	0.99	74	P	Pn	09 08 04.9	-1.0
UESV	Universidad de	0.99	74	S	Sn	09 08 20.6	+1.8
SCLA	Alcaldia de Sa	1.06	71	S	Sn	09 08 22.7	+2.1
SCLA	Alcaldia de Sa	1.06	71	P	Pn	09 08 06.1	-0.9
MTO3	Montecristo	1.10	21	*i* P	Pn	09 08 06.3	-1.4
MTO3	Montecristo	1.10	21	P	Pn	09 08 06.3	-1.4
LLGN	La Laguna	1.13	45	S	Sn	09 08 24.4	+2.2
FG16	Alotenango, Sa	1.16	321	*e*P	Pn	09 08 09.4	+0.9
FG16				IAML		09 08 33.9	
	comp=N,2μm,0.2s						
ESQI	Esquipulas	1.26	19	*e*P	Pn	09 08 08.6	-1.1
ESQI	Esquipulas	1.26	19	⇓P	Pn	09 08 08.6	-1.1
PACA	Pacayal	1.41	85	P	Pn	09 08 10.1	-1.7
PACA	Pacayal	1.41	85	S	Sn	09 08 30.2	+1.0
CNCH	Conchagua	1.88	92	*e*S	Sn	09 08 43.0	+2.1
CNCH	Conchagua	1.88	92	P	Pn	09 08 17.7	-0.6
CNCH	Conchagua	1.88	92	S	Sn	09 08 42.5	+1.6
STG2	El Palmar, Qui	1.89	305	*e*S	Sn	09 08 44.6	+3.3
POTN	Potosi Cosigui	2.23	99	P	Pn	09 08 19.9	-3.1
PKGN	Cerro Pekin	2.80	104	P	Pn	09 08 29.9	-1.0
PKGN				S	Sn	09 09 04.0	+0.5
CNGA	Al SSO del Vol	3.11	106	P	Pn	09 08 34.2	-0.9
CNGN	Cerro Negro	3.11	106	P	Pn	09 08 33.8	-1.4
LIMN	Finca el Limon	3.32	95	⇑P	Pn	09 08 36.4	-1.7
LIMN				S	Sn	09 09 17.7	+1.2

IDC ***03*** *09:19:52.9±3.5, 53°.82N×91°.15E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=32.8km s-min=24.3km az=31.0*
NNC ***03*** *09:19:58.1±2.7, 53°.27N×91°.37E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=20.1km s-min=13.9km az=82.0, Suspected Mining explosion.*
ASRS ***03*** *09:20:16.0±1.0, 53°.68N×87°.68E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

ISC 03 09:19:51.6±3.7, 53°.9N±0°.1×91°.4E±0°.2, h0km, n9, σ2s56/14, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.90	274	I	I	09 46 30.0	
	0.1nm,2.1s,baz=90,slow=331,SNR=8.1						
ZAA0	Zalesovo Array	3.90	274	⇑Pn	Pb	09 21 00.7	-0.5
	1.2nm,0.7s,baz=92,slow=16						
ZAA0				⇑Sn	Sb	09 21 48.7	-0.2
	6.5nm,1.3s,baz=97,slow=25						
ZALV	Zalesovo Beam	3.90	274	Pn	Pn	09 20 51.1	-1.6
	0.7nm,0.3s,baz=99,slow=18,SNR=4.7						
ZALV				Pg	Pb	09 21 01.4	+0.2
	0.5nm,0.3s,baz=92,slow=16,SNR=3.6						
ZALV				Lg	Lg	09 21 51.3	
	2.4nm,0.3s,baz=93,slow=28,SNR=8.6						
	1.0nm,0.3s						
KURK	Kurchatov	8.45	253	⇑Pn	Pn	09 21 58.5	+3.3
	1.2nm,1.4s						
KURK				⇑Sn	Sn	09 23 34.1	+2.9
	1.2nm,0.7s						
KURK				⇓Lg	Lg	09 24 20.3	
	12nm,1.4s						
KURBB	Kurchatov Arra	8.54	253	Pn	Pn	09 21 54.4	-2.1
	0.1nm,0.3s,baz=64,slow=14,SNR=4.9						
KURBB				Sn	Sn	09 23 30.0	-3.5
	baz=67,slow=26,SNR=7.8						
KURBB				Lg	Lg	09 24 19.9	
	baz=65,slow=33,SNR=8.7						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	8.54	253	⇓Pn	Pn	09 21 59.7	+3.2
	1.8nm,0.6s,baz=64,slow=15						
KURBB				⇓Sn	Sn	09 23 35.5	+2.0
	13nm,0.8s,baz=97,slow=25						
KURBB				⇑Lg	Lg	09 24 22.7	
	34nm,1.4s						
MK31	Makanchi Array	9.16	223	Pn	Pn	09 22 06.0	+0.9
	0.4nm,0.5s,baz=35,slow=15,SNR=6.6						
MK31				⇑Sn	Sn	09 23 44.7	-4.2
	0.5nm,0.6s						
MK31				⇑Lg	Lg	09 24 34.1	
	9.9nm,1.5s,baz=226,slow=25						
MKAR	Makanchi Array	9.16	223	Pn	Pn	09 22 05.8	+0.8
	0.3nm,0.3s,baz=33,slow=14,SNR=8.1						
MKAR				Sn	Sn	09 23 49.0	+0.1
	0.1nm,0.3s,baz=30,slow=26,SNR=2.6						
MKAR				Lg	Lg	09 24 36.3	
	0.1nm,0.3s,baz=36,slow=28,SNR=3.9						
	0.5nm,0.4s						
SONM	Songino Array	11.22	116	Lg	Lg	09 25 52.0	
	0.3nm,0.3s,baz=304,slow=20,SNR=5.8						

BJI ***03*** *09:48:39.9, 54°.53N×169°.39E, h11km, mB5.0/9, mb4.8/47, Ms4.8/35, Ms7 4.4/33*
IDC ***03*** *09:48:40.9±0.5, 54°.23N×169°.29E, h0km, mb4.5/32, mbtmp4.5/35, ML4.1/3, MS3.8/57, Error ellipse: s-maj=14.0km s-min=10.0km az=169.0*
MOS ***03*** *09:48:40.7±1.1, 54°.14N×169°.30E, h62km, mb5.0/42, MS4.0/12, Error ellipse: s-maj=6.0km s-min=4.3km az=41.0*
KRSC ***03*** *09:48:42.6±1.5, 54°.04N×169°.16E, h67km±46km, Ml5.2*
NEIC ***03*** *09:48:43.2±1.8, 54°.19N±0°.09×169°.26E±0°.03, h10km±1km, mb4.8/427, Error ellipse: s-maj=15.9km s-min=2.9km az=174.0*
GCMT ***03*** *09:48:47.2±0.2, 54°.28N±0°.02×169°.16E±0°.02, h22km±1km, MW4.9/104, Moment Tensor Solution. s37,c48; s104,c147; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.27±.11; Mθθ=2.62±.09; Mφφ2.89±.09; Mrθ=0.24±.14; Mθφ=0.01±.07; Mφr=0.03±.12; Best double couple: M0=2.76700×10^16^ NP1:φs=135.00000°, δ86.00000°, λ=-176.00000°. NP2:φs=45.00000°, δ86.00000°, λ=-5.00000°. Principal axes: T 2.8900, Plg1.0000°, Azm90.0000°; N -0.2490, Plg84.0000°, Azm186.0000°; P -2.6440, Plg6.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 09:48:44.4±0.3, 54°.14N±0°.05×169°.19E±0°.03, h25km, n790, σ1s24/588, mb4.8/239, MS4.0/74, 19C-19D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.15	301	PN	Pn	09 49 17.4	-1.2
BKI				S	Sn	09 49 45.8	+1.4
BKI	Bering	2.15	301	*e*P	Pn	09 49 17.4	-1.2
BKI				*e*S	Sn	09 49 45.8	+1.4
SHEM	Shemya Is, Ala	3.26	114	Pn	Pn	09 49 32.4	-1.5
SHEM	Shemya Is, Ala	3.26	114	Pn	Pn	09 49 31.9	-1.9
	65nm,0.3s,baz=305,slow=8.8,SNR=54						
SHEM				Sn	Sn	09 50 11.4	-0.4
	68nm,0.3s,baz=306,slow=19,SNR=8.0						
	455nm,0.5s						
SMY	Shemya	3.26	114		Pn	09 49 32.4	-1.5
SMY	Shemya	3.26	114	P	Pn	09 49 32.7	-1.2
SMY	Shemya	3.26	114	PN	Pn	09 49 32.1	-1.8
SMY				S	Sn	09 50 13.3	+1.5
KBTR	Krutoberegovo	4.20	302	PN	Pn	09 49 45.7	-1.0
KBTR	Krutoberegovo	4.20	302	*e*P	Pn	09 49 45.7	-1.0
KBG	Krutoberegovo	4.28	302	PN	Pn	09 49 49.4	+1.7
KBG	Krutoberegovo	4.28	302	*e*P	Pn	09 49 49.5	+1.7
MKZ	Mys Kozlova	4.38	278	PN	Pn	09 49 49.3	0.0
MKZ	Mys Kozlova	4.38	278	*e*P	Pn	09 49 49.3	0.0
MKZ				*e*S	Sn	09 50 36.8	-2.6
SMKR	Semkarok	5.04	302	PN	Pn	09 50 00.5	+2.2
SMKR	Semkarok	5.04	302	*e*P	Pn	09 50 00.5	+2.2
ZLN	Zelenaya	5.17	295	PN	Pn	09 50 02.4	+2.2
ZLN	Zelenaya	5.17	295	*e*P	Pn	09 50 02.4	+2.2
BZGR	Bezymyannyi-Gr	5.20	294	PN	Pn	09 50 02.3	+1.6
BZGR	Bezymyannyi-Gr	5.20	294	*e*P	Pn	09 50 02.3	+1.6
TUMD	Tumrok D	5.21	285	PN	Pn	09 50 01.0	+0.4
TUMD	Tumrok D	5.21	285	*e*P	Pn	09 50 01.1	+0.4
CIRR	Tsirk	5.23	296	PN	Pn	09 50 04.0	+3.0
CIRR	Tsirk	5.23	296	*e*P	Pn	09 50 04.1	+3.0
BZMR	Bezymyannaya	5.31	293	PN	Pn	09 50 03.9	+1.7
BZMR	Bezymyannaya	5.31	293	*e*P	Pn	09 50 04.0	+1.7
BZWR	Bezymyannyi-We	5.32	294	PN	Pn	09 50 03.8	+1.5
BZWR	Bezymyannyi-We	5.32	294	*e*P	Pn	09 50 03.9	+1.5
KLY	Klyuchi	5.35	297	PN	Pn	09 50 02.9	+0.4
KLY	Klyuchi	5.35	297	*e*P	Pn	09 50 02.9	+0.4
KLY				*e*S	Sn	09 51 04.1	+0.9
KIRR	Kirishev	5.40	293	PN	Pn	09 50 05.1	+1.7
KIRR	Kirishev	5.40	293	*e*P	Pn	09 50 05.1	+1.7
KIRR				*e*S	Sn	09 51 07.4	+2.7
KMNR	Kamenistaya	5.41	291	PN	Pn	09 50 05.1	+1.7
KMNR	Kamenistaya	5.41	291	*e*P	Pn	09 50 05.2	+1.7
KPT	Kopyto	5.47	293	PN	Pn	09 50 06.5	+2.3
KPT	Kopyto	5.47	293	*e*P	Pn	09 50 06.6	+2.3
SPN	Mys Shipunski	5.55	263	PN	Pn	09 50 05.1	-0.2
SPN	Mys Shipunski	5.55	263	*e*P	Pn	09 50 05.1	-0.2
SPN				*e*S	Sn	09 51 05.1	-3.2
KOZ	Kozyrevsk	5.68	294	PN	Pn	09 50 09.1	+2.0
KOZ	Kozyrevsk	5.68	294	*e*P	Pn	09 50 09.2	+2.0
KII	Karymskiy	5.73	273	PN	Pn	09 50 08.1	+0.2
KII	Karymskiy	5.73	273	*e*P	Pn	09 50 08.2	+0.2
SRDR	Sredinnyy	5.84	296	PN	Pn	09 50 12.7	+3.4
SRDR	Sredinnyy	5.84	296	*e*P	Pn	09 50 12.8	+3.4
NLC	Nalytchevo	5.93	265	PN	Pn	09 50 10.4	-0.1
NLC	Nalytchevo	5.93	265	*e*P	Pn	09 50 10.5	-0.1
NLC				*e*S	Sn	09 51 13.5	-4.1
OSSR	Ossora	6.13	329	PN	Pn	09 50 14.0	+0.8
OSSR	Ossora	6.13	329	*e*P	Pn	09 50 14.0	+0.8
SDLR	Sedlovina	6.18	266	PN	Pn	09 50 14.4	+0.4
SDLR	Sedlovina	6.18	266	*e*P	Pn	09 50 14.5	+0.4
UGLR	Uglovaya	6.23	266	PN	Pn	09 50 15.2	+0.5
UGLR	Uglovaya	6.23	266	*e*P	Pn	09 50 15.2	+0.5
SMAR	Somma	6.23	266	PN	Pn	09 50 15.1	+0.3
SMAR	Somma	6.23	266	*e*P	Pn	09 50 15.1	+0.3
KRER	Koryakskii	6.25	267	PN	Pn	09 50 15.6	+0.5
KRER	Koryakskii	6.25	267	*e*P	Pn	09 50 15.7	+0.5
AVH	Avacha	6.27	266	PN	Pn	09 50 15.9	+0.7
AVH	Avacha	6.27	266	*e*P	Pn	09 50 15.9	+0.7
ESO	Esso	6.29	291	PN	Pn	09 50 16.5	+1.1
ESO	Esso	6.29	291	*e*P	Pn	09 50 16.6	+1.1
KRX	Arik	6.30	267	PN	Pn	09 50 15.9	+0.2
KRX	Arik	6.30	267	*e*P	Pn	09 50 15.9	+0.2
DALK	Dalny	6.31	264	PN	Pn	09 50 15.7	-0.1
DALK	Dalny	6.31	264	*e*P	Pn	09 50 15.7	-0.1
KOK	Koryaka	6.32	267	PN	Pn	09 50 16.5	+0.5
KOK	Koryaka	6.32	267	*e*P	Pn	09 50 16.6	+0.5
PET	Petropavlovsk	6.37	264		Pn	09 50 17.4	+0.8
PET	Petropavlovsk	6.37	264	P	Pn	09 50 17.6	+1.0
PET	Petropavlovsk	6.37	264	S	Sn	09 51 29.1	+0.6
PET	Petropavlovsk	6.37	264	*e*PN	Pn	09 50 17.4	+0.8
PET				pmax	pmax		
	comp=Z,400nm,4.7s						
PET				pmax	pmax		
	comp=Z,205nm,0.3s						
PET				pmax	pmax		
	comp=Z,100nm,5.2s						
PET				MLR	MLR		
	comp=Z,800nm,17.0s						
PET				MLR	MLR		
	comp=Z,800nm,12.0s						
PET	Petropavlovsk	6.37	264	*e*P	Pn	09 50 17.7	+1.2
PET				*e*S	Sn	09 51 27.6	-0.8
INSR	Institute	6.39	265	PN	Pn	09 50 17.3	+0.5
INSR	Institute	6.39	265	*e*P	Pn	09 50 17.4	+0.5
INSR				*e*S	Sn	09 51 27.2	-1.7
TILK	Tilichiki	6.53	347	PN	Pn	09 50 19.5	+0.8
TILK	Tilichiki	6.53	347	*e*P	Pn	09 50 19.5	+0.8
RUS	Russkaya	6.62	259	PN	Pn	09 50 21.4	+1.4
RUS	Russkaya	6.62	259	*e*P	Pn	09 50 21.5	+1.4
KRMR	Karymshinskiy	6.73	263	PN	Pn	09 50 21.7	+0.3
KRMR	Karymshinskiy	6.73	263	*e*P	Pn	09 50 21.8	+0.3
AMKA	Amchitka	6.73	110		Pn	09 50 21.4	-0.2
MTVR	Mutnovka	6.80	260	PN	Pn	09 50 22.5	-0.1
MTVR	Mutnovka	6.80	260	*e*P	Pn	09 50 22.6	-0.1
GRL	Gorelyy	6.84	261	PN	Pn	09 50 24.2	+1.1
GRL	Gorelyy	6.84	261	*e*P	Pn	09 50 24.3	+1.1
PEA0B	Petropavlovsk-	6.91	266		Pn	09 50 25.2	+1.2
PEA0B	Petropavlovsk-	6.91	266	*i* PN	Pn	09 50 25.6	+1.6
PETK	Petropavlovsk-	6.91	266		Pn	09 50 24.8	+0.8
PETK	Petropavlovsk-	6.91	266	Pn	Pn	09 50 24.3	+0.3
	comp=Z,44nm,0.3s,baz=86,slow=20,SNR=315						
PETK				Sn	Sn	09 51 42.2	+0.4
	comp=Z,12nm,0.3s,baz=78,slow=24,SNR=4.5						
PETK				LR	LR	09 53 07.5	
	comp=Z,703nm,19.2s,baz=84,slow=38						
	comp=Z,71nm,0.5s						
PETK	Petropavlovsk-	6.91	266	PN	Pn	09 50 24.8	+0.8
ASAK	Asacha	7.00	260	PN	Pn	09 50 26.2	+1.0
ASAK	Asacha	7.00	260	*e*P	Pn	09 50 26.3	+1.0
ASAK				*e*S	Sn	09 51 40.6	-3.4
PAU	Pauzhetka	7.96	255	PN	Pn	09 50 39.5	+1.1
PAU	Pauzhetka	7.96	255	*e*P	Pn	09 50 39.6	+1.1
KMSK	Kamenskaya	8.49	351	PN	Pn	09 50 45.8	+0.2
KMSK	Kamenskaya	8.49	351	*e*P	Pn	09 50 45.9	+0.2
KIWB	Kanaga Island	8.55	100		Pn	09 50 45.0	-1.6
SKR	Severo-Kuril's	8.71	252	*e*PN	Pn	09 50 45.5	-3.1
SKR				pmax	pmax		
	comp=Z,115nm,0.8s						
SKR				pmax	pmax		
	comp=Z,600nm,3.3s						
SKR				MLR	MLR		
	comp=Z,800nm,15.0s						
SKR	Severo-Kuril's	8.71	252	*e*P	Pn	09 50 48.4	-0.1
ADK	Adak	8.82	99		Pn	09 50 49.0	-1.1
ADK	Adak	8.82	99	P	Pn	09 50 48.9	-1.1
ADK	Adak	8.82	99	PN	Pn	09 50 49.0	-1.1
GSTR	Great Sitkin T	9.11	97		Pn	09 50 53.4	-0.7
ATKA	Atka Island	10.17	94		Pn	09 51 08.2	-0.4
MA2	Magadan	11.44	306	LR	LR	09 55 09.5	
	comp=Z,274nm,21.9s,baz=90,slow=34						
SPIA	Saint Paul Isl	11.99	67	P	Pn	09 51 35.4	+1.9
P08K	Saint George I	12.34	70	P	Pn	09 51 37.5	-0.6
	baz=267						
SEY	Seymchan	12.40	322	Pn	Pn	09 51 38.6	-0.4
	comp=Z,0.2nm,0.3s,baz=127,slow=16,SNR=8.9						
SEY				LR	LR	09 56 06.1	
	comp=Z,294nm,19.3s,baz=122,slow=36						
	comp=Z,4.2nm,0.9s						
SEY	Seymchan	12.40	322	*e*PN	Pn	09 51 40.2	+1.2
SEY				pmax	pmax		
	comp=Z,27nm,1.4s						
NIKH	Nikolski High	13.10	86		Pn	09 51 48.0	-0.7
NIKH	Nikolski High	13.10	86	P	Pn	09 51 47.7	-0.9
	baz=284						
GAMB	Gambell	13.74	38	P	Pn	09 51 57.7	+0.4
	baz=234						
BILL	Bilibino	14.02	355		Pn	09 52 02.7	+1.6
BILL	Bilibino	14.02	355	⇓*i*P	Pn	09 52 02.9	+1.8
BILL				pmax	pmax		
	comp=Z,44nm,1.2s						
UNV	Unalaska Valle	14.29	81		Pn	09 52 05.4	+0.6
UNV	Unalaska Valle	14.29	81	P	Pn	09 52 04.7	-0.1
UNV	Unalaska Valle	14.29	81	P	Pn	09 52 04.8	-0.1
	baz=281						
LVA	Lava Point	14.50	80		Pn	09 52 05.9	-1.9
M11K	Mekoryuk	14.65	55	P	Pn	09 52 09.8	+0.1
	baz=255						
AKUT	Akutan	14.66	80		Pn	09 52 10.3	+0.4
AKUT	Akutan	14.66	80	P	Pn	09 52 09.7	-0.2
OKH	Okha	15.48	278	*de*P	Pn	09 52 18.3	-2.5
OKH				MLR	MLR		
	comp=E,700nm,15.0s						
OKH				MLR	MLR		
	comp=N,600nm,13.0s						
OKH				MLR	MLR		
	comp=Z,300nm,12.0s						
K13K	Kusilvak Mount	15.80	50		P	09 52 26.1	-2.4
K13K	Kusilvak Mount	15.80	50	P	Pn	09 52 23.9	-1.0
	baz=252,SNR=7.4						
FALS	False Pass	15.89	76	IAmb	IAmb	09 52 34.4	
	comp=Z,56nm,0.7s						
FALS	False Pass	15.89	76	P	Pn	09 52 24.9	-1.3
	baz=278						
M13K	Dall Lake	16.04	56	P	P	09 52 30.6	-0.6
M13K				IAmb	IAmb	09 52 32.0	
	comp=Z,94nm,1.0s						
M13K	Dall Lake	16.04	56	P	Pn	09 52 27.4	-0.5
	baz=259,SNR=7.3						
TNA	Tin City	16.10	36	P	Pn	09 52 28.7	+0.1
	baz=235						
TYV	Tymovskoe	16.44	269	*e*P	P	09 52 36.5	+0.7
TYV				*e*S	S	09 55 41.3	-5.1
TYV				pmax	pmax		
	comp=Z,18nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
TYV				smax	smax		
	comp=N,200nm,2.6s						
TYV				smax	smax		
	comp=E,100nm,2.6s						
TYV				smax	smax		
	comp=N,9.0nm,1.7s						
TYV				smax	smax		
	comp=E,12nm,1.7s						
ANM	Nome	16.51	41	P	Pn	09 52 33.6	-0.4
	baz=242						
J14K	Nanvaranak Lak	16.55	48	P	Pn	09 52 34.1	-0.3
	baz=251						
L14K	Kuka Creek	16.55	53	P	Pn	09 52 34.2	-0.2
	baz=257						
S12K	Black Hills	16.55	73	P	P	09 52 37.2	+0.2
S12K				IAmb	IAmb	09 52 38.4	
	comp=Z,210nm,1.8s						
S12K	Black Hills	16.55	73	P	Pn	09 52 34.2	-0.4
	baz=276						
F14K	Arctic Creek	16.61	37	P	P	09 52 35.6	-1.8
	baz=238						
M14K	Bethel	16.78	55	P	Pn	09 52 36.8	-0.5
	baz=259,SNR=33						
N14K	Kuskokwak Cree	16.78	58	P	Pn	09 52 37.3	-0.1
	baz=262,SNR=22						
O14K	Tigyukauivet M	16.93	60	P	P	09 52 40.9	-0.1
O14K	Tigyukauivet M	16.93	60	P	P	09 52 39.5	-1.5
	baz=265						
L15K	Ungalak Mounta	17.19	52	P	Pn	09 52 42.3	-0.1
	baz=257,SNR=8.1						
G15K	Niukluk	17.22	40	P	P	09 52 43.2	-1.0
	baz=243						
K15K	Wolf Creek Mou	17.31	50	IAmb	IAmb	09 52 48.7	
	comp=Z,68nm,1.1s						
K15K	Wolf Creek Mou	17.31	50	P	Pn	09 52 43.5	-0.6
	baz=255,SNR=18						
F15K	North Star Dit	17.33	38	P	P	09 52 44.7	-0.8
	baz=240						
M15K	Kasigluk River	17.38	56	P	Pn	09 52 44.6	-0.3
	baz=261,SNR=13						
SDPT	Sand Point	17.49	74		P	09 52 46.5	-0.8
SDPT	Sand Point	17.49	74	P	P	09 52 46.2	-1.1
	baz=278						
N15K	Kwethluk River	17.61	58	P	P	09 52 47.7	-0.9
	baz=263,SNR=8.3						
O15K	Ungalikthiuk R	17.66	61	P	P	09 52 48.3	-0.8
	baz=267,SNR=5.4						
H16K	Elim	17.77	42	P	P	09 52 49.5	-0.8
	baz=247						
J16K	Anvik River	17.99	47	P	Pn	09 52 51.6	-0.9
	baz=253						
G16K	Koyuk River	18.03	40	P	Pn	09 52 51.8	-1.1
	baz=245						
CHNA	Chernabura Isl	18.08	75	P	Pn	09 52 52.5	-1.1
	baz=280						
CNBA	Chernabura Isl	18.08	75	P	P	09 52 53.9	+0.1
L16K	Owhat River	18.13	53	P	Pn	09 52 53.3	-0.8
	baz=259,SNR=7.7						
I17K	Unalakleet	18.14	46	P	P	09 52 53.9	-0.4
	baz=251						
YSS	Yuzhno-Sakhali	18.20	258	*e*P	P	09 52 58.9	+3.8
YSS				*e*S	S	09 56 19.4	-2.6
YSS				pmax	pmax		
	comp=Z,100nm,5.6s						
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
YSS				smax	smax		
	comp=N,300nm,7.2s						
YSS				smax	smax		
	comp=E,300nm,5.8s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,600nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
M16K	Timber Creek	18.27	55	P	P	09 52 55.7	-0.1
	baz=262,SNR=14						
N16K	Nishlik Lake	18.29	57	P	Pn	09 52 55.3	-0.8
	baz=264,SNR=7.0						
CHGN	Chignik	18.52	70	IAmb	IAmb	09 53 10.4	
	comp=Z,109nm,1.1s						
CHGN	Chignik	18.52	70	P	Pn	09 52 58.2	-0.6
	baz=277,SNR=9.1						
C16K	Lisburne Hills	18.52	30	P	Pn	09 52 58.6	-0.1
	baz=233						
O16K	Kokwok River B	18.57	60	P	Pn	09 52 59.3	-0.1
	baz=267						
P16K	Nushagak River	18.60	61	IAmb	IAmb	09 53 09.9	
	comp=Z,72nm,0.9s						
P16K	Nushagak River	18.60	61	P	Pn	09 52 59.5	-0.4
	baz=269						
J17K	VABM Dome	18.68	48	IAmb	IAmb	09 53 05.2	
	comp=Z,177nm,1.8s						
J17K	VABM Dome	18.68	48	P	Pn	09 53 00.2	-0.7
	baz=255,SNR=9.9						
G17K	Kiwalik Mounta	18.73	41	P	Pn	09 53 00.7	-0.7
	baz=247						
L17K	Donlin	18.76	52	P	Pn	09 53 00.8	-0.9
	baz=259,SNR=18						
H17K	Granite Mounta	18.81	43	P	Pn	09 53 01.5	-0.8
	baz=249						
R16K	Pilot Point	18.86	66	P	P	09 53 01.7	-0.6
	baz=274						
K17K	Iditarod	18.87	50	IAmb	IAmb	09 53 07.1	
	comp=Z,74nm,1.1s						
K17K	Iditarod	18.87	50	P	Pn	09 53 02.4	-0.7
	baz=258						
D17K	Noatak River	18.89	33	P	Pn	09 53 02.7	-0.6
	baz=238						
F17K	Baldwin Pennin	18.90	38	P	Pn	09 53 03.0	-0.4
	baz=244						
E17K	Hotham Inlet	18.99	36	P	Pn	09 53 03.9	-0.7
	baz=241						
M17K	Holitna River	19.05	54	IAmb	IAmb	09 53 07.0	
	comp=Z,46nm,0.8s						
M17K	Holitna River	19.05	54	P	Pn	09 53 04.2	-1.1
	baz=262,SNR=16						
N17K	Nushagak Hills	19.08	57	IAmb	IAmb	09 53 18.1	
	comp=Z,52nm,1.1s						
N17K	Nushagak Hills	19.08	57	P	Pn	09 53 04.7	-0.9
	baz=265,SNR=16						
O17K	Koliganek Bris

baz=254,SNR=11
C18K Utukok River 19.99 32 Pn 09 53 15.9 -0.6
C18K IAmb IAmb 09 53 21.3
comp=Z,79nm,1.4s
C18K Utukok River 19.99 32 P P 09 53 14.5 -0.2
baz=238
ACHA Angle Creek He 20.01 64 P Pn 09 53 16.0 -0.9
P18K Big Mountain, 20.02 60 IAmb IAmb 09 53 17.2
comp=Z,50nm,0.9s
P18K Big Mountain, 20.02 60 P P 09 53 15.3 +0.2
baz=270,SNR=11
O18K Koktuh Hills 20.04 59 P P 09 53 15.0 -0.2
baz=269,SNR=8.5
GRNR Gornyy 20.14 274 ⇓ *i*P Pn 09 53 19.6 +1.2
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=E,330nm,14.0s
GRNR MLR MLR
comp=N,240nm,16.0s
GRNR MLR MLR
comp=Z,360nm,14.0s
Q18K Katmai Hardscr 20.16 63 P P 09 53 16.2 -0.4
baz=272,SNR=28
B18K Kokolik River 20.20 30 P Pn 09 53 17.2 -1.7
baz=236
F19K Shaleruckik Mo 20.32 38 Pn 09 53 19.6 -0.7
F19K Shaleruckik Mo 20.32 38 P **P 09 53 18.2 -0.1**
baz=247
J19K Poorman 20.32 47 Pn 09 53 19.4 -1.0
J19K IAmb IAmb 09 53 33.3
comp=Z,39nm,0.9s
J19K Poorman 20.32 47 P P 09 53 18.6 +0.3
baz=257,SNR=18
L19K White Mountain 20.36 52 P P 09 53 19.0 +0.2
baz=263,SNR=76
H19K Roundabout Mou 20.38 42 Pn 09 53 20.1 -0.9
H19K IAmb IAmb 09 53 30.4
comp=Z,30nm,0.8s
H19K Roundabout Mou 20.38 42 P P 09 53 18.9 +0.1
baz=252,SNR=8.3
N19K Bonanza Creek 20.43 56 Pn 09 53 20.7 -1.0
N19K IAmb IAmb 09 53 21.9
comp=Z,50nm,0.8s
N19K Bonanza Creek 20.43 56 P Pn 09 53 20.0 -1.8
baz=267,SNR=25
O19K Port Alsworth 20.49 58 IAmb IAmb 09 53 22.3
comp=Z,60nm,0.9s
O19K Port Alsworth 20.49 58 P P 09 53 20.3 +0.2
baz=269,SNR=10
R18K Karluk 20.53 66 P P 09 53 19.4 -1.1
baz=276
C19K Lookout Ridge 20.73 32 IAmb IAmb 09 53 35.7
comp=Z,39nm,0.9s
C19K Lookout Ridge 20.73 32 P P 09 53 23.1 +0.4
baz=239
E19K Redstone River 20.76 37 IAmb IAmb 09 53 38.0
comp=Z,28nm,0.8s
E19K Redstone River 20.76 37 P Pn 09 53 23.9 -1.6
baz=246
L20K Farewell, AK 20.85 52 P P 09 53 24.4 +0.3
baz=263,SNR=19
K20K Telida 20.88 49 IAmb IAmb 09 53 26.6
comp=Z,35nm,0.9s
K20K Telida 20.88 49 P Pn 09 53 25.0 -1.9
baz=261
A19K Wainwright 20.89 28 P Pn 09 53 25.2 -1.8
baz=235
D19K Kuna River 20.90 34 IAmb IAmb 09 53 41.9
comp=Z,36nm,0.8s
D19K Kuna River 20.90 34 P P 09 53 24.8 +0.3
baz=243
I20K Naaghedeneel 20.99 45 IAmb IAmb 09 53 43.8
comp=Z,73nm,1.2s
I20K Naaghedeneel 20.99 45 P Pn 09 53 26.2 -1.9
baz=257
J20K Nowinta River 21.00 47 IAmb IAmb 09 53 28.9
comp=Z,47nm,1.1s
J20K Nowinta River 21.00 47 P P 09 53 25.9 +0.3
baz=258,SNR=22
H20K Anotleneega Mo 21.00 43 P P 09 53 25.5 -0.1
baz=254,SNR=10.0
ERM Erimo 21.06 245 P **P 09 53 28.9 +2.5**
ERM IAmb IAmb 09 53 34.7
comp=Z,79nm,1.4s
ERM Erimo 21.06 245 P **P 09 53 25.4 -1.0**
ERM Erimo 21.06 245 P **P 09 53 28.9 +2.5**
ERM pmax pmax
comp=Z,79nm,1.4s
M20K Styx River 21.14 53 IAmb IAmb 09 53 43.0
comp=Z,51nm,1.2s
M20K Styx River 21.14 53 P P 09 53 27.1 -0.1
baz=266
F20K Avaraart Lake 21.15 39 P 09 53 29.0 +1.9
F20K Avaraart Lake 21.15 39 P **P 09 53 27.3 +0.2**
baz=249
OHAK Old Harbor 21.20 66 P P 09 53 26.6 -1.2
OHAK Old Harbor 21.20 66 P P 09 53 26.9 -0.9
baz=278,SNR=10.0
RED Redoubt Volcan 21.26 57 IAmb IAmb 09 53 30.6
comp=Z,61nm,1.2s
O20K Slope Mountain 21.34 58 P P 09 53 28.7 -0.6
baz=271,SNR=6.2
E20K Nigu River 21.45 35 P P 09 53 30.1 -0.3
baz=246
D20K Etivluk River 21.50 34 IAmb IAmb 09 53 45.7
comp=Z,30nm,0.8s
D20K Etivluk River 21.50 34 P P 09 53 30.4 -0.5
baz=244
KDAK Kodiak Island 21.51 65 P P 09 53 29.6 -1.5
comp=Z,13nm,0.8s,baz=279,slow=13,SNR=21
comp=Z,13nm,0.8s
KDAK Kodiak Island 21.51 65 P P 09 53 30.7 -0.4
baz=277
SPCR Spurr Chakacha 21.55 55 P P 09 53 30.7 -0.9
baz=268,SNR=9.4
IMAR Indian Mountai 21.58 42 P P 09 53 32.5 +0.7
SPU Mount Spurr 21.62 55 IAmb IAmb 09 53 35.4
comp=Z,53nm,1.2s
PPLA Purkeypile 21.67 51 P P 09 53 32.2 -0.8
baz=264,SNR=14
CHUM Lake Minchumin 21.74 48 P P 09 53 33.0 -0.5
baz=261,SNR=15
G21K Allakaket 21.82 41 P P 09 53 34.5 +0.2
baz=254
H21K Melozitna Rive 21.87 43 P P 09 53 34.5 -0.4
baz=256,SNR=13
SKT Skwentna 21.90 53 IAmb IAmb 09 53 56.3
comp=Z,43nm,1.2s
SKT Skwentna 21.90 53 P P 09 53 35.3 0.0
baz=267,SNR=17
B20K Meade River 21.92 31 P P 09 53 35.3 -0.1
baz=241
YAK Yakutsk 22.01 307 P 09 53 36.1 -0.3
YAK Yakutsk 22.01 307 LR LR 10 02 02.0
comp=Z,217nm,18.7s,baz=94,slow=36
YAK Yakutsk 22.01 307 *e*P **P 09 53 34.7 -1.7**
YAK *e**PP **sP 09 53 43.4 -2.6**
YAK *e*S **S 09 57 36.1 -1.6**
YAK *e**SS **pS 09 57 40.5 -6.0**
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=E,28nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK smax smax
comp=N,142nm,2.5s
YAK smax smax
comp=E,136nm,2.8s
YAK MLR MLR
comp=Z,304nm,14.0s
YAK MLR MLR
comp=N,596nm,15.0s
YAK MLR MLR
comp=E,287nm,15.0s
F21K Alatna River 22.04 39 P P 09 53 36.7 -0.1
baz=252
CNPM China Poot 22.06 60 P 09 53 37.4 +0.4
CAPN Captain Cook N 22.06 57 P **P 09 53 36.1 -0.8**
baz=270
I21K Tanana 22.11 45 IAmb IAmb 09 53 56.7
comp=Z,34nm,1.1s
I21K Tanana 22.11 45 P P 09 53 37.1 -0.3
baz=258
SUA Susitna One 22.26 55 IAmb IAmb 09 53 57.7
comp=Z,34nm,0.9s
SUA Susitna One 22.26 55 P P 09 53 38.7 -0.5
baz=269,SNR=14
E21K Killik River 22.28 36 P P 09 53 38.8 -0.5
baz=248
C21K Knifeblade Rid 22.28 34 P P 09 53 38.9 -0.4
baz=246
BRSE Bradley Lake S 22.30 59 P P 09 53 38.8 -0.7
baz=273
KTH Kantishna Hill 22.31 49 IAmb IAmb 09 53 57.3
comp=Z,29nm,0.9s
BPAW Bear Paw Mtn. 22.35 48 P P 09 53 39.8 -0.3
baz=262,SNR=7.1
H22K Ishtalitna Cre 22.50 43 P P 09 53 41.2 -0.5
baz=257,SNR=8.0
CUT Chulitna 22.52 52 IAmb IAmb 09 54 01.6
comp=Z,44nm,1.0s
CUT Chulitna 22.52 52 P P 09 53 41.5 -0.3
baz=267
B21K Ikpikpuk River 22.53 33 IAmb IAmb 09 53 48.3
comp=Z,39nm,1.0s
B21K Ikpikpuk River 22.53 33 P P 09 53 41.4 -0.5
baz=245
M22K Willow 22.56 54 IAmb IAmb 09 53 58.6
comp=Z,20nm,0.8s
M22K Willow 22.56 54 P P 09 53 41.5 -0.8
baz=269
TRF Thorofare Moun 22.58 49 IAmb IAmb 09 53 53.5
comp=Z,28nm,0.8s
TRF Thorofare Moun 22.58 49 P P 09 53 42.3 -0.4
baz=264,SNR=14
MLY Manley 22.60 45 IAmb IAmb 09 54 00.6
comp=Z,36nm,1.3s
MLY Manley 22.60 45 P P 09 53 42.0 -0.7
baz=260,SNR=8.2
F22K John River 22.61 39 P P 09 53 42.5 -0.3
baz=253
G22K Bettles 22.69 40 P P 09 53 43.4 -0.3
baz=255
RC01 Rabbit Creek A 22.75 56 P P 09 53 43.6 -0.7
baz=271
O22K Cooper Landing 22.77 57 P P 09 53 43.6 -0.9
baz=272
D22K Ayikyak River 22.88 35 P 09 53 46.7 +1.1
D22K IAmb IAmb 09 54 01.8
comp=Z,49nm,1.3s
D22K Ayikyak River 22.88 35 P P 09 53 45.0 -0.6
baz=249
SEW Seward 22.92 58 IAmb IAmb 09 53 58.4
comp=Z,35nm,1.1s
SEW Seward 22.92 58 P P 09 53 44.0 -2.1
baz=273
E22K Anaktuvuk Pass 22.93 37 IAmb IAmb 09 54 08.0
comp=Z,22nm,0.9s
E22K Anaktuvuk Pass 22.93 37 P P 09 53 45.3 -0.9
baz=252,SNR=7.3
PMR Palmer 23.03 54 IAmb IAmb 09 54 04.8
comp=Z,43nm,1.6s
PMR Palmer 23.03 54 P P 09 53 46.0 -1.2
baz=270
JTM Tenmabayashi 23.04 246 P P 09 53 47.5 0.0
A22K Sinclair Lake 23.05 29 P P 09 53 46.9 -0.4
baz=242
GHO Glory Hole Cre 23.13 54 IAmb IAmb 09 54 13.4
comp=Z,66nm,1.6s
I23K Minto, Yukon-K 23.19 45 P P 09 53 48.3 -0.5
baz=261,SNR=7.4
B22K Teshekpuk Lake 23.21 31 P P 09 53 47.9 -1.1
baz=245
MCK McKinley 23.21 49 IAmb IAmb 09 54 08.3
comp=Z,30nm,0.9s
MCK McKinley 23.21 49 P P 09 53 48.0 -1.1
baz=265,SNR=8.0
G23K Bananza Creek 23.21 41 P P 09 53 48.7 -0.4
baz=257,SNR=6.3
RND Reindeer 23.22 50 IAmb IAmb 09 54 12.7
comp=Z,20nm,0.8s
H23K Yukon River 23.23 44 P P 09 53 48.3 -1.0
baz=260
NEA2 Nenana 23.24 47 P P 09 53 48.6 -0.8
baz=263,SNR=6.8
COLD Coldfoot 23.27 40 P P 09 53 48.7 -0.9
baz=256,SNR=12
WAT1 Susitna Watana 23.33 51 P P 09 53 49.0 -1.3
baz=268
KNK Knik Glacier 23.36 55 P P 09 53 49.7 -0.9
baz=271,SNR=8.4
SML Sawmill 23.41 54 IAmb IAmb 09 53 52.6
comp=Z,33nm,0.9s
SML Sawmill 23.41 54 P P 09 53 50.2 -0.9
baz=270,SNR=14
PWL Port Wells 23.44 56 IAmb IAmb 09 53 52.1
comp=Z,25nm,0.9s
PWL Port Wells 23.44 56 P P 09 53 50.6 -0.8
baz=272,SNR=7.9
D23K Nanushuk River 23.59 36 IAmb IAmb 09 53 58.9
comp=Z,51nm,1.3s
D23K Nanushuk River 23.59 36 P P 09 53 52.5 -0.2
baz=251
WRH Wood River Hil 23.65 47 IAmb IAmb 09 54 16.8
comp=Z,22nm,0.9s
E23K Chandalar 23.70 38 IAmb IAmb 09 54 05.9
comp=Z,16nm,0.8s
E23K Chandalar 23.70 38 P P 09 53 53.3 -0.6
baz=254,SNR=6.6
WAT6 Susitna Watana 23.70 52 P P 09 53 53.3 -0.8
baz=269
M23K Glacier View 23.70 54 P P 09 53 53.0 -1.0
baz=271,SNR=14
CCB Clear Creek Bu 23.79 47 IAmb IAmb 09 54 05.9
comp=Z,17nm,0.7s
COLA College 23.79 46 P P 09 53 54.9 +0.2
COLA IAmb IAmb 09 53 55.6
comp=Z,31nm,0.7s
COLA College 23.79 46 P **P 09 53 54.3 -0.4**
COLA College 23.79 46 *i* P **P 09 53 54.6 -0.1**
COLA College 23.79 46 P **P 09 53 53.7 -1.0**
baz=264
TOLK Toolik Lake Re 23.87 37 P P 09 53 55.0 -0.5
baz=253,SNR=17
DHY Denali Highway 23.88 51 IAmb IAmb 09 54 21.2
comp=Z,22nm,0.9s
DHY Denali Highway 23.88 51 P P 09 53 54.9 -0.8
baz=268,SNR=10
SCM Sheep Creek Mo 23.89 54 P P 09 53 54.7 -1.1
baz=271,SNR=7.6
C23K Itkillik River 23.90 34 P P 09 53 55.2 -0.5
baz=249
H24K Noodor Dome 23.91 44 P P 09 53 55.4 -0.5
baz=261
P23K Montague Islan 23.95 58 P P 09 53 55.7 -0.6
baz=275
POKR Poker Plat Res 24.00 46 IAmb IAmb 09 53 57.8
comp=Z,19nm,0.8s
POKR Poker Plat Res 24.00 46 P P 09 53 56.6 0.0
baz=263,SNR=5.3
GLI Glacier Island 24.04 56 P P 09 53 56.8 -0.3
baz=273
E24K Your Creek 24.11 38 IAmb IAmb 09 54 04.4
comp=Z,31nm,1.0s
E24K Your Creek 24.11 38 P P 09 53 57.6 -0.1
baz=256,SNR=19
HDA Harding Lake 24.14 47 P P 09 53 57.9 -0.1
baz=266,SNR=5.3
ILAR Eielson Array 24.19 47 P **P 09 53 58.1 -0.4**
ILAR Eielson Array 24.19 47 P **P 09 53 57.1 -1.4**
comp=Z,16nm,1.1s,baz=265,slow=9.0,SNR=66
ILAR LR LR 10 03 23.0
comp=Z,244nm,19.3s,baz=251,slow=37
comp=Z,16nm,1.1s
ILAR Eielson Array 24.19 47 *e*P **P 09 53 57.6 -0.9**
ILAR pmax pmax
comp=Z,8.0nm,0.6s
F24K Squaw Lake 24.20 40 P P 09 53 58.0 -0.6
baz=258
G24K Hadweenzic Riv 24.20 42 IAmb IAmb 09 54 12.3
comp=Z,27nm,0.8s
G24K Hadweenzic Riv 24.20 42 P P 09 53 58.5 -0.1
baz=260,SNR=11
D24K Happy Valley 24.28 36 P P 09 53 59.7 +0.5
baz=253,SNR=19
FID Port Fidalgo 24.35 56 IAmb IAmb 09 54 26.4
comp=Z,47nm,1.4s
M24K Tolsona, Glenn 24.43 53 P P 09 54 00.5 -0.2
baz=271,SNR=17
ZEA Zeya 24.43 286 *e*P **P 09 54 01.1 +0.4**
ZEA *e*S **S 09 58 12.1 -6.8**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=E,100nm,6.7s
C24K Franklin Bluff 24.49 34 P **P 09 54 01.4 +0.3**
baz=252
KLU Klutina 24.57 55 IAmb IAmb 09 54 10.1
comp=Z,53nm,1.3s
KLU Klutina 24.57 55 P **P 09 54 01.6 -0.5**
baz=273,SNR=9.0
K24K Donnelly Dome 24.62 49 IAmb IAmb 09 54 20.4
comp=Z,23nm,0.8s
K24K Donnelly Dome 24.62 49 P **P 09 54 01.7 -0.6**
baz=268,SNR=7.2
TIXI Tiksi 24.63 331 P 09 54 03.2 +0.9
TIXI Tiksi 24.63 331 LR LR 10 03 48.3
comp=Z,202nm,19.8s,baz=352,slow=37
TIXI Tiksi 24.63 331 ⇑ *i*P **P 09 54 02.9 +0.6**
TIXI pmax pmax
comp=Z,62nm,1.9s
DIV Divide 24.67 55 IAmb IAmb 09 54 13.8
comp=Z,35nm,1.2s
EYAK Cordova Ski Ar 24.73 57 IAmb IAmb 09 54 21.5
comp=Z,23nm,0.8s
EYAK Cordova Ski Ar 24.73 57 P P 09 54 03.0 -0.3
baz=275
PAX Paxson 24.74 51 IAmb IAmb 09 54 16.0
comp=Z,18nm,0.8s
PAX Paxson 24.74 51 P P 09 54 03.2 -0.3
baz=270,SNR=14
G25K Bearman Lake 24.75 42 P P 09 54 03.6 +0.1
baz=261
H25L Birch Creek 24.80 43 P P 09 54 04.0 +0.1
baz=263
J25K Salcha River, 24.83 47 IAmb IAmb 09 54 15.0
comp=Z,12nm,0.7s
J25K Salcha River, 24.83 47 P P 09 54 03.7 -0.6
baz=267,SNR=13
PRP Porcupine Dome 24.83 45 IAmb IAmb 09 54 18.9
comp=Z,22nm,0.8s
PRP Porcupine Dome 24.83 45 P P 09 54 04.2 -0.2
baz=264,SNR=6.0
HARP HAARP 24.90 52 P P 09 54 04.4 -0.5
baz=272
RIDG Independent Ri 25.03 49 IAmb IAmb 09 54 27.0
comp=Z,17nm,0.8s
RIDG Independent Ri 25.03 49 P P 09 54 05.6 -0.5
baz=269,SNR=7.8
F25K Christian River 25.07 40 IAmb IAmb 09 54 22.3
comp=Z,22nm,0.8s
F25K Christian Rive 25.07 40 P P 09 54 06.2 -0.3
baz=260,SNR=12
D25K Kavik River 25.17 36 P P 09 54 06.9 -0.4
baz=256,SNR=15
E25K Arctic Village 25.19 39 IAmb IAmb 09 54 15.1
comp=Z,14nm,0.8s
E25K Arctic Village 25.19 39 P P 09 54 07.4 -0.1
baz=259,SNR=7.0
N25K Chitina, Valde 25.20 54 IAmb IAmb 09 54 20.1
comp=Z,18nm,0.7s
N25K Chitina, Valde 25.20 54 P P 09 54 07.2 -0.5
baz=274
BMRM Bremner River 25.25 56 P P 09 54 07.5 -0.6
baz=275
SCRK Sand Creek 25.41 49 IAmb IAmb 09 54 28.2
comp=Z,17nm,1.0s
SCRK Sand Creek 25.41 49 P P 09 54 08.8 -0.9
baz=269,SNR=13
BMAR Burnt Mountain 25.44 40 P P 09 54 10.9 +1.1
KAIM Kayak Island 25.45 58 P P 09 54 09.3 -0.6
baz=278
MENT Mentasta 25.54 51 IAmb IAmb 09 54 46.9
comp=Z,16nm,0.8s
GLB Gilahina Butte 25.59 54 IAmb IAmb 09 54 22.2
comp=Z,21nm,0.8s
J26L Joseph Creek 25.61 47 P P 09 54 11.0 -0.4
baz=268,SNR=7.0
F26K Sheenjek River 25.65 40 P P 09 54 11.4 -0.2
baz=261
G26K Porcupine Rive 25.69 42 P P 09 54 12.1 +0.1
baz=263,SNR=25
VRDI Verde Repeater 25.78 55 IAmb IAmb 09 54 24.5
comp=Z,24nm,0.8s
I26K Coal Creek Min 25.81 45 P P 09 54 12.9 -0.2
baz=267
M26K Nabesna, AK 25.90 52 P P 09 54 13.8 -0.2
baz=273
MCARA McCarthy VSAT 25.97 55 P P 09 54 14.8 +0.1
baz=276
USRK Ussuriysk Ar. 25.99 263 P **P 09 54 14.3 -0.6**
comp=Z,6.1nm,0.8s,baz=51,slow=9.4,SNR=5.1
comp=Z,6.1nm,0.8s
CRQE Cirque 26.01 56 P P 09 54 15.2 +0.1
baz=277
C27K Jago River 26.15 36 IAmb IAmb 09 54 26.9
comp=Z,22nm,0.9s
C27K Jago River 26.15 36 P P 09 54 16.6 +0.4
baz=258,SNR=5.3
K27K Chicken 26.25 48 IAmb IAmb 09 54 43.3
comp=Z,18nm,1.1s
K27K Chicken 26.25 48 P P 09 54 16.8 -0.3
baz=271
L27K Beaver Creek, 26.40 51 IAmb IAmb 09 54 46.6
comp=Z,24nm,0.9s
L27K Beaver Creek, 26.40 51 P P 09 54 18.7 +0.1
baz=273,SNR=11
BCAR Beaver Creek A 26.42 51 P P 09 54 19.4 +0.7
M27K Edge Creek, AK 26.43 52 P P 09 54 20.4 +1.5
M27K IAmb IAmb 09 54 33.7
comp=Z,32nm,0.8s
M27K Edge Creek, AK 26.43 52 P P 09 54 18.9 0.0
baz=274,SNR=7.3
I27K Kandik River 26.46 45 P P 09 54 19.4 +0.3
baz=268
G27K Doyon Strip 26.51 42 IAmb IAmb 09 54 41.8
comp=Z,35nm,1.8s
G27K Doyon Strip 26.51 42 P P 09 54 19.8 +0.4
baz=266
H27K Steamboat Moun 26.52 43 P P 09 54 20.0 +0.4
baz=267
EGAK Eagle 26.64 47 IAmb IAmb 09 54 37.0
comp=Z,32nm,0.9s
EGAK Eagle 26.64 47 P P 09 54 20.7 0.0
baz=270,SNR=19
BARN Barnard Glacie 26.66 55 IAmb IAmb 09 54 33.2
comp=Z,33nm,0.9s
E27K Coleen River 26.67 39 P P 09 54 20.7 -0.2
baz=263
CTG Chitna Glacier 26.83 55 P P 09 54 21.6 -1.0
baz=278
CTGM Chitina Glacie 26.83 55 P P 09 54 22.3 -0.3
CTGM IAmb IAmb 09 54 39.0
comp=Z,15nm,0.8s
D27M Malcolm River 27.04 37 P P 09 54 24.2 -0.1
baz=262
I28M Miner Creek 27.16 45 P P 09 54 25.2 -0.2
baz=270
F28M Old Crow 27.26 40 IAmb IAmb 09 54 51.6
comp=Z,20nm,1.1s
F28M Old Crow 27.26 40 P P 09 54 26.0 -0.2
baz=266
O28M Mount Upton 27.41 55 P P 09 54 27.5 -0.5
baz=279
DAWY Dawson 27.43 48 IAmb IAmb 09 54 38.0
comp=Z,20nm,1.1s
DAWY Dawson 27.43 48 P P 09 54 28.0 +0.2
baz=273,SNR=13
E28M Babbage River 27.47 38 P P 09 54 27.9 -0.2
baz=264
PINM Pinnacle 27.50 57 P P 09 54 27.8 -0.7
baz=280
YUK8 Steele Glacier 27.54 54 P P 09 54 28.5 -0.5
baz=278
PSTR Posyet 27.61 261 *i* P **P 09 54 31.6 +2.1**
MJB9 Matsu-Tunnel 27.67 243 P P 09 54 33.6 +3.4
MJB9 IAmb IAmb 09 54 45.5
comp=Z,19nm,0.8s
MAJO Matsushiro 27.67 243 P P 09 54 32.3 +2.2
MAJO IAmb IAmb 09 54 44.5
comp=Z,19nm,0.8s
MAJO Matsushiro 27.67 243 ⇑ *i*P **P 09 54 32.6 +2.4**
MAJO pmax pmax
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 27.67 243 P P 09 54 31.7 +1.5
MJAR Matsushiro Arr 27.67 243 P P 09 54 29.2 -0.9
comp=Z,3.0nm,0.8s,baz=34,slow=7.7,SNR=7.4
MJAR LR LR 10 05 48.3
comp=Z,86nm,21.8s,baz=64,slow=37
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 27.67 243 P P 09 54 31.7 +1.5

MJAR pmax pmax
comp=Z,8.0nm,1.2s
H29M Whitestone 27.80 44 IAmb IAmb 09 54 59.9
comp=Z,20nm,0.9s
H29M Whitestone 27.80 44 P **P 09 54 30.9 -0.1**
baz=270
BNX BinXian 27.82 270 ⇓P **P 09 54 32.0 +0.7**
BNX pmax pmax
comp=Z,20nm,0.9s
I29M Ogilvie Camp, 27.84 45 P **P 09 54 31.5 +0.1**
baz=272
G29M Pine Creek 27.95 42 IAmb IAmb 09 54 38.4
comp=Z,17nm,0.7s
G29M Pine Creek 27.95 42 P **P 09 54 32.5 +0.1**
baz=269,SNR=9.7
M29M Somme Creek 28.00 52 P **P 09 54 32.6 -0.3**
baz=277
PNL Peninsula 28.00 58 P **P 09 54 32.5 -0.4**
baz=282
E29M Blow River 28.06 39 P **P 09 54 32.6 -0.7**
baz=266
YUK4 Talbot Arm 28.07 54 P **P 09 54 33.4 -0.3**
baz=279
L29M L29M 28.07 50 IAmb IAmb 09 54 41.9
comp=Z,33nm,1.5s
L29M L29M 28.07 50 P **P 09 54 33.0 -0.6**
baz=276,SNR=7.3
YUK6 Outpost Mounta 28.27 55 P **P 09 54 34.6 -0.9**
baz=280
K29M Barlow Dome 28.27 49 IAmb IAmb 09 54 43.7
comp=Z,12nm,0.8s
K29M Barlow Dome 28.27 49 P **P 09 54 35.0 -0.4**
baz=275,SNR=16
O29M Mount Kennedy 28.28 56 P **P 09 54 35.0 -0.5**
baz=281
EPYK Eagle Plains 28.47 43 IAmb IAmb 09 54 48.3
comp=Z,19nm,0.8s
EPYK Eagle Plains 28.47 43 P **P 09 54 36.7 -0.3**
baz=271,SNR=9.6
G30M tAoh Zraii Nji 28.66 42 P **P 09 54 39.1 +0.4**
G30M tAoh Zraii Nji 28.66 42 P **P 09 54 38.6 -0.1**
baz=270
I30M Mount Dempster 28.66 46 P **P 09 54 38.8 -0.1**
I30M Mount Dempster 28.66 46 P **P 09 54 39.0 +0.2**
baz=274
HYT Haines Junctio 28.70 55 IAmb IAmb 09 54 51.2
comp=Z,15nm,0.7s
HYT Haines Junctio 28.70 55 P **P 09 54 38.4 -0.9**
baz=281
J30M Hart River 28.73 47 **P 09 54 38.4 -1.0**
J30M Hart River 28.73 47 P **P 09 54 38.4 -1.0**
baz=275
M30M Minto, Yukon 28.75 51 P **P 09 54 39.3 -0.2**
baz=278
N30M Aishikik Lake 28.79 54 P **P 09 54 39.7 -0.2**
baz=280
F30M Barrier River 28.82 41 P **P 09 54 39.9 -0.2**
baz=270
P29M Windy Craggy 28.83 57 P **P 09 54 39.3 -1.0**
baz=283
MAYO Mayo, Yukon 29.02 49 IAmb IAmb 09 55 10.6
comp=Z,23nm,0.8s
MAYO Mayo, Yukon 29.02 49 P **P 09 54 41.5 -0.4**
baz=277
P30M Million Dollar 29.11 56 P **P 09 54 42.2 -0.6**
baz=282
O30N Mendenhall 29.39 55 P **P 09 54 44.6 -0.7**
baz=282
N31M Braeburn, Yuko 29.40 53 P **P 09 54 45.1 -0.2**
baz=281
G31M Satah River 29.43 42 IAmb IAmb 09 54 56.9
comp=Z,12nm,0.8s
G31M Satah River 29.43 42 P **P 09 54 45.2 -0.2**
baz=272,SNR=6.8
H31M Peel River 29.46 44 P **P 09 54 45.2 -0.6**
baz=274
JHJ Hachijo jima 2 29.55 237 LR LR 10 09 06.0
comp=Z,29nm,18.5s,baz=298,slow=41
F31M Tsiigehtchic 29.61 41 P **P 09 54 46.8 -0.2**
baz=272
INK Inuvik 29.68 39 P **P 09 54 47.1 -0.5**
baz=270
M31M Drury Creek, Y 29.91 52 IAmb IAmb 09 55 01.8
comp=Z,18nm,1.1s
M31M Drury Creek, Y 29.91 52 P **P 09 54 49.8 -0.1**
baz=280,SNR=11
S31K Pelican 30.02 60 P **P 09 54 50.2 -0.5**
baz=286
CN2 Changchun 30.06 268 *e*P **P 09 54 51.8 +0.5**
CN2 *e*S **S 09 59 56.2 +8.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,500nm,12.0s
N32M Quiet Lake 30.74 53 IAmb IAmb 09 55 09.0
comp=Z,26nm,1.3s
N32M Quiet Lake 30.74 53 P **P 09 54 56.3 -0.9**
baz=283
SIT Sitka 30.76 62 P **P 09 54 56.8 -0.4**
baz=288
R32K Eaglecrest 30.80 59 P **P 09 54 56.7 -0.9**
baz=287
P32M Atlin 30.83 56 P **P 09 54 57.3 -0.6**
baz=285
P33M Teslin, Yukon 31.10 55 P **P 09 55 00.9 +0.5**
baz=285,SNR=9.4
MMPY Sheldon Lake, 31.26 50 IAmb IAmb 09 55 14.1
comp=Z,18nm,1.3s
MMPY Sheldon Lake, 31.26 50 P **P 09 55 01.7 0.0**
baz=282,SNR=6.9
Q32M Nakina River 31.72 57 P **P 09 55 05.6 -0.4**
baz=287
U33K Whale Pass 32.22 63 P **P 09 55 09.4 -0.8**
baz=291
R33M Jennings River 32.23 56 IAmb IAmb 09 55 23.2
comp=Z,25nm,1.2s
R33M Jennings River 32.23 56 P **P 09 55 10.7 +0.3**
baz=287,SNR=7.6
WRAK Wrangell Islan 32.52 62 P **P 09 55 12.9 +0.2**
baz=291
S34M Telegraph Cree 32.62 59 IAmb IAmb 09 55 26.8
comp=Z,14nm,0.8s
S34M Telegraph Cree 32.62 59 P **P 09 55 14.3 +0.7**
baz=290
KSRS Korea Array 32.69 256 P **P 09 55 16.5 +2.0**
comp=Z,3.2nm,0.7s,baz=45,slow=8.9,SNR=10
comp=Z,3.2nm,0.7s
KSRS Korea Array 32.69 256 *e*P **P 09 55 17.5 +3.1**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
TGTN Hyland Airport 32.89 52 P **P 09 55 16.6 +0.6**
baz=286
DLBC Dease Lake 32.99 57 P **P 09 55 17.7 +0.7**
baz=289
C36M Paulatuk 33.03 37 P **P 09 55 17.8 +0.8**
baz=277
WTLY Watson Lake, Y 33.06 54 P **P 09 55 17.9 +0.4**
baz=288
T35M Bob Quinn 33.39 60 IAmb IAmb 09 55 34.4
comp=Z,19nm,0.9s
T35M Bob Quinn 33.39 60 P **P 09 55 21.1 +0.6**
baz=291
U35K Hyder 33.91 62 P **P 09 55 24.6 -0.2**
baz=293
JNU Nakatsue 34.19 248 LR LR 10 08 11.7
comp=Z,87nm,21.2s,baz=54,slow=34
H11N2 WAKE ISLAND Hy 34.39 184 T T 10 31 57.3
baz=2.5,slow=76,SNR=3509
H11N3 WAKE ISLAND Hy 34.41 184 T T 10 31 56.7
baz=2.5,slow=76,SNR=4621
H11N1 WAKE ISLAND Hy 34.41 184 T T 10 31 58.7
baz=2.5,slow=76,SNR=6046
TOAD Toad River Com 35.20 55 P **P 09 55 36.9 +0.8**
baz=292,SNR=6.7
KOTAN Kotaneelee Air 35.29 53 P **P 09 55 38.0 +1.2**
baz=291
XLT XiLinHaoTe 35.51 275 *e*P **P 09 55 40.3 +1.3**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT LR LR
comp=Z,430nm,14.6s
XLT LR LR
comp=Z,180nm,13.1s
H11S1 WAKE ISLAND Hy 35.62 184 T T 10 33 29.2
baz=2.7,slow=76,SNR=4534
H11S3 WAKE ISLAND Hy 35.63 184 T T 10 33 30.1
baz=2.7,slow=76,SNR=2797
H11S2 WAKE ISLAND Hy 35.63 184 T T 10 33 30.6
baz=2.7,slow=76,SNR=6107
BBB Bella Bella 36.55 67 LR LR 10 10 19.1
comp=Z,146nm,18.8s,baz=290,slow=36
ULN Ulaanbaatar 38.47 287 P **P 09 56 05.2 +1.1**
ULN Ulaanbaatar 38.47 287 ⇑*i*P **P 09 56 05.3 +1.1**
ULN pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 38.62 46 P **P 09 56 04.9 -0.2**
comp=Z,2.6nm,0.8s,baz=294,slow=8.6,SNR=5.7
comp=Z,2.6nm,0.8s
SONM Songino Array 38.85 287 P **P 09 56 08.2 +0.9**
SONM Songino Array 38.85 287 P **P 09 56 08.8 +1.4**
comp=Z,4.9nm,0.5s,baz=58,slow=8.6,SNR=25
SONM LR LR 10 13 46.5
comp=Z,399nm,18.4s,baz=58,slow=39
comp=Z,4.9nm,0.5s
MOY Mondy 39.76 295 *e*P **P 09 56 15.7 +0.9**
MOY pmax pmax
comp=Z,13nm,2.2s
HHC Hu-ho-hao-te 40.02 275 *e*P **P 09 56 17.8 +0.7**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,95nm,6.7s
HHC LR LR
comp=Z,430nm,16.0s
HHC LR LR
comp=Z,450nm,16.0s
HHC LR LR
comp=Z,360nm,16.9s
RES Resolute Bay 40.23 24 LR LR 10 15 58.9
comp=Z,94nm,19.1s,baz=125,slow=41
HNS HongShan 40.42 268 ⇑P **P 09 56 22.1 +1.8**
HNS pmax pmax
comp=Z,20nm,1.4s
HNS LR LR
comp=Z,440nm,17.7s
HNS LR LR
comp=Z,360nm,14.3s
JOW Kunigami 40.51 244 LR LR 10 14 25.2
comp=Z,35nm,19.4s,baz=148,slow=38
LLLB Lilooet 40.72 66 **P 09 56 23.4 +0.7**
LLLB IAmb IAmb 09 56 40.4
comp=Z,42nm,1.7s
NJ2 Nanjing 41.76 259 *e*P **P 09 56 32.2 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LYN LuoYang 43.70 267 *e*P **P 09 56 49.6 +2.5**
LYN pmax pmax
comp=Z,22nm,0.7s
LYN LR LR
comp=Z,870nm,19.6s
LYN LR LR
comp=Z,570nm,19.2s
LYN LR LR
comp=Z,490nm,16.5s
HOOD Mount Hood Mea 43.89 72 IAmb IAmb 09 57 01.4
comp=Z,14nm,0.7s
WAH2 Wahluke Slope 44.18 69 IAmb IAmb 09 57 09.7
comp=Z,9.3nm,0.8s
C09A Chrisman Ranch 44.26 67 IAmb IAmb 09 57 02.9
comp=Z,13nm,1.1s
HAWA Hanford 44.41 70 **P 09 56 53.3 +0.6**
HAWA IAmb IAmb 09 57 04.5
comp=Z,9.4nm,0.8s
NEW Newport 44.60 66 **P 09 56 54.6 +0.3**
NEW Newport 44.60 66 LR LR 10 15 32.4
comp=Z,135nm,18.0s,baz=292,slow=36
NEW Newport 44.60 66 P **P 09 56 54.6 +0.3**
NEW pmax pmax
comp=Z,7.0nm,1.0s
E08A Dider Farm, El 44.62 69 IAmb IAmb 09 57 15.5
comp=Z,26nm,1.8s
GUMO Guam 44.75 215 LR LR 10 13 17.7
comp=Z,43nm,21.0s,baz=28,slow=33
L02F Cave Junction 44.80 77 IAmb IAmb 09 57 16.3
comp=Z,40nm,1.9s
BLKN Baker Lake 45.07 38 P **P 09 56 58.4 +0.8**
BLKN IAmb IAmb 09 57 13.9
comp=Z,16nm,0.8s
E09A Wood Farm, Sta 45.10 69 IAmb IAmb 09 57 09.6
comp=Z,10nm,0.9s
PINE Pine Mountain 45.23 73 P **P 09 56 59.7 +0.2**
PINE IAmb IAmb 09 57 13.4
comp=Z,20nm,1.5s
J05D Fort Rock, OR 45.39 74 IAmb IAmb 09 57 02.8
comp=Z,11nm,0.8s
L04D Klamath Falls 45.46 76 IAmb IAmb 09 57 03.1
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 45.54 77 LR LR 10 13 18.8
comp=Z,7.2nm,20.1s,baz=292,slow=32
K05A Summer Lake 45.94 74 IAmb IAmb 09 57 26.9
comp=Z,16nm,1.1s
KMRM Mail Ridge 45.94 79 IAmb IAmb 09 57 07.2
comp=Z,14nm,0.9s
XAN Xi'an 46.14 270 ⇑P **P 09 57 07.5 +0.9**
XAN pmax pmax
comp=Z,7.0nm,1.4s
XAN LR LR
comp=Z,290nm,14.4s
XAN LR LR
comp=Z,400nm,12.4s
XAN LR LR
comp=Z,350nm,17.2s
M03C McCloud 46.17 77 IAmb IAmb 09 57 14.7
comp=Z,10nm,0.9s
NEEM North Greenlan 46.31 11 *i*P **P 09 57 07.6 -0.1**
BMO Blue Mountains 46.59 70 IAmb IAmb 09 57 23.6
comp=Z,9.5nm,1.2s
ZALV Zalesovo Beam 46.66 306 P **P 09 57 09.6 -0.8**
comp=Z,1.4nm,0.6s,baz=46,slow=6.2,SNR=4.2
ZALV LR LR 10 17 20.6
comp=Z,166nm,18.8s,baz=47,slow=37
comp=Z,1.4nm,0.6s
SPITS Spitsbergen Ar 46.90 353 P **P 09 57 11.3 -0.7**
comp=Z,3.9nm,0.6s,baz=27,slow=6.8,SNR=7.9
SPITS LR LR 10 18 03.9
comp=Z,98nm,18.9s,baz=17,slow=38
comp=Z,3.9nm,0.6s
O03E Paynes Creek 46.99 78 IAmb IAmb 09 57 40.2
comp=Z,13nm,0.8s
MSO Missoula 47.19 66 IAmb IAmb 09 57 26.1
comp=Z,6.7nm,0.8s
ORV Oroville 47.66 78 IAmb IAmb 09 57 19.2
comp=Z,6.2nm,0.8s
LZH Lanzhou 47.70 276 *e*P **P 09 57 21.0 +2.1**
LZH sP pwP 09 57 28.6 +2.3
LZH pmax pmax
comp=Z,26nm,1.1s
LZH LR LR
comp=Z,710nm,14.6s
LZH LR LR
comp=Z,510nm,13.9s
LZH LR LR
comp=Z,280nm,15.5s
GTA Gaotai 47.79 282 P **P 09 57 20.7 +1.2**
GTA pP pP 09 57 24.2 -2.7
GTA pmax pmax
comp=Z,19nm,0.7s
GTA LR LR
comp=Z,420nm,18.2s
GTA LR LR
comp=Z,410nm,17.8s
GTA LR LR
comp=Z,470nm,19.6s
LZDM Lanzhou Array 47.88 276 P **P 09 57 22.4 +1.9**
comp=Z,2.5nm,0.4s,baz=46,slow=8.7,SNR=5.4
comp=Z,2.5nm,0.4s
BEKR Beckworth 48.11 77 IAmb IAmb 09 57 27.2
comp=Z,7.0nm,1.1s
ENH Enshi 48.52 266 P **P 09 57 25.5 +0.4**
EGMT Eagleton 48.65 62 IAmb IAmb 09 57 36.9
comp=Z,7.2nm,0.8s
PAHR Pah Rah Range 48.77 76 IAmb IAmb 09 57 28.7
comp=Z,6.3nm,0.9s
BOZ Bozeman (W) 49.21 66 IAmb IAmb 09 57 41.9
comp=Z,7.5nm,0.9s
DAG Danmarks Havn 49.26 2 *i*P **P 09 57 29.3 -0.9**
WAKR Walker 49.55 78 IAmb IAmb 09 57 35.1
comp=Z,9.8nm,0.8s
YHL Hebgen Lake 49.93 66 IAmb IAmb 09 57 48.0
comp=Z,13nm,1.0s
YHB Horse Butte 49.99 66 IAmb IAmb 09 57 49.8
comp=Z,11nm,0.9s
LEGD La Grand CA 50.02 79 IAmb IAmb 09 57 38.3
comp=Z,9.7nm,0.8s
YMR Madison River 50.17 66 IAmb IAmb 09 57 49.7
comp=Z,11nm,0.9s
NVAR Mina Array Bea 50.25 77 **P 09 57 38.8 +0.3**
NVAR Mina Array Bea 50.25 77 P **P 09 57 39.1 +0.5**
comp=Z,4.8nm,0.7s,baz=312,slow=7.4,SNR=54
NVAR LR LR 10 15 13.3
comp=Z,105nm,21.5s,baz=296,slow=32
comp=Z,4.8nm,0.7s
LHV Little Huntoon 50.26 77 IAmb IAmb 09 57 46.8
comp=Z,11nm,1.2s
MDPB Devils Postpil 50.35 78 IAmb IAmb 09 57 41.4
comp=Z,7.0nm,0.8s
ELK Elko 50.42 73 LR LR 10 18 06.9
comp=Z,171nm,19.9s,baz=319,slow=35
YNE Yellowstone No 50.46 65 IAmb IAmb 09 57 51.8
comp=Z,9.2nm,1.0s
YMP Mirror Lake Pl 50.56 66 IAmb IAmb 09 58 00.1
comp=Z,8.6nm,0.9s
RLMT Red Lodge 50.78 65 IAmb IAmb 09 57 54.5
comp=Z,14nm,0.9s
TPH Tonopah 51.12 77 IAmb IAmb 09 57 46.7
comp=Z,10nm,0.8s
LAO LASA Array 51.34 61 IAmb IAmb 09 57 58.5
comp=Z,12nm,0.8s
CD2 Chengdu 51.42 271 P **P 09 57 48.9 +1.7**
CD2 S **S 10 05 06.5 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,490nm,15.7s
CD2 LR LR
comp=Z,630nm,14.7s
CD2 LR LR
comp=Z,310nm,14.9s
WMQ Urumqi 51.62 294 *e*P **P 09 57 48.5 0.0**
WMQ PP **PP 09 59 44.2 -1.6**
WMQ pmax pmax
comp=Z,56nm,0.9s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,1μm,17.3s
WMQ LR LR
comp=Z,420nm,21.5s
KURK Kurchatov 51.65 306 **P 09 57 48.4 -0.1**
KURK IAmb IAmb 09 57 49.6
comp=Z,14nm,0.8s
KURK Kurchatov 51.65 306 ⇓*i*P **P 09 57 48.3 -0.3**
KURK pmax pmax
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 51.75 306 P **P 09 57 49.2 -0.2**
comp=Z,4.2nm,0.3s,baz=52,slow=7.6,SNR=28
KURBB LR LR 10 20 31.5
comp=Z,153nm,18.2s,baz=166,slow=37
comp=Z,4.2nm,0.3s
BW06 Boulder Array 52.20 67 IAmb IAmb 09 58 05.3
comp=Z,7.2nm,0.8s
PDAR Pinedale Array 52.20 67 **P 09 57 53.0 -0.1**
PDAR Pinedale Array 52.20 67 P **P 09 57 53.1 0.0**
comp=Z,3.7nm,0.8s,baz=310,slow=7.8,SNR=33
PDAR LR LR 10 19 23.3
comp=Z,66nm,21.0s,baz=321,slow=35
comp=Z,3.7nm,0.8s
FURC Furnace Creek, 52.44 78 IAmb IAmb 09 57 56.6
comp=Z,16nm,0.8s
MK31 Makanchi Array 52.45 300 *d i*P **P 09 57 53.8 -0.9**
MKAR Makanchi Array 52.45 300 P **P 09 57 54.1 -0.6**
comp=Z,3.6nm,0.7s,baz=48,slow=7.3,SNR=27
MKAR LR LR 10 20 59.3
comp=Z,261nm,18.1s,baz=28,slow=37
comp=Z,3.6nm,0.7s
TPNV Topopah Spring 52.45 77 IAmb IAmb 09 57 56.8
comp=Z,10nm,0.8s
GWY Greenwater Val 52.75 78 IAmb IAmb 09 58 20.0
comp=Z,8.5nm,0.8s
PRN Pahroc Range 52.82 76 IAmb IAmb 09 58 26.3
comp=Z,17nm,1.3s
GOMU GeErMu 52.87 282 P **P 09 57 55.8 -2.5**
GOMU S **S 10 05 24.8 -0.9**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,350nm,16.9s
GOMU LR LR
comp=Z,260nm,19.0s
GOMU LR LR
comp=Z,380nm,18.0s
SHOC Shoshone, Teco 53.17 78 IAmb IAmb 09 58 07.8
comp=Z,12nm,0.9s
MWC Mount Wilson 53.33 81 P **P 09 58 02.1 +0.6**
MWC IAmb IAmb 09 58 09.7
comp=Z,15nm,1.2s
MWC Mount Wilson 53.33 81 P **P 09 58 02.1 +0.6**
MWC pmax pmax
comp=Z,15nm,1.2s
TMUT Trail Mountain 53.67 71 IAmb IAmb 09 58 16.4
comp=Z,10nm,1.0s
RDMU Red Mountain 53.70 69 IAmb IAmb 09 58 17.5
comp=Z,8.2nm,0.8s
ARCES ARCESS Array B 53.83 345 **P 09 58 04.3 -0.1**
ARCES ARCESS Array B 53.83 345 P **P 09 58 04.0 -0.4**
comp=Z,9.9nm,0.8s,baz=30,slow=7.1,SNR=19
ARCES LR LR 10 22 31.7
comp=Z,69nm,20.2s,baz=22,slow=38
comp=Z,9.9nm,0.8s
ARCES ARCESS Array B 53.83 345 *e*P **P 09 58 03.7 -0.7**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 53.84 312 P **P 09 58 04.2 -0.5**
comp=Z,22nm,0.8s,baz=52,slow=8.2,SNR=45
BVAR LR LR 10 23 02.6
comp=Z,190nm,18.6s,baz=51,slow=38
comp=Z,22nm,0.8s
BORK Borovoye 53.85 312 *d i*P **P 09 58 04.7 -0.1**
BORK pmax pmax
comp=Z,27nm,0.8s
Q16A Castle Valley 53.96 72 IAmb IAmb 09 58 27.2
comp=Z,11nm,1.2s
ULM Lac du Bonnet 54.02 52 P **P 09 58 05.8 -0.3**
comp=Z,3.4nm,0.7s,baz=315,slow=5.7,SNR=2.2
ULM LR LR 10 23 02.6
comp=Z,107nm,19.0s,baz=322,slow=38
comp=Z,3.4nm,0.7s
V12A Nelson 54.11 77 IAmb IAmb 09 58 09.3
comp=Z,17nm,1.8s
SRU San Rafael Swe 54.18 71 IAmb IAmb 09 58 09.6
comp=Z,13nm,0.8s
RSSD Black Hills 54.21 62 **P 09 58 07.7 -0.1**
RSSD IAmb IAmb 09 58 19.8
comp=Z,11nm,0.7s
RSSD Black Hills 54.21 62 P **P 09 58 07.7 -0.1**
RSSD pmax pmax
comp=Z,11nm,0.7s
PFO Pinyon Flats O 54.70 80 LR LR 10 20 03.2
comp=Z,86nm,19.1s,baz=297,slow=34
IRM Iron Mountain 55.06 79 IAmb IAmb 09 58 32.9
comp=Z,9.7nm,1.3s
AGMN Agassiz Nation 55.39 54 IAmb IAmb 09 58 28.0
comp=Z,9.4nm,0.9s
PV21 Cone Mtn., Par 55.43 70 IAmb IAmb 09 58 32.4
comp=Z,7.9nm,0.7s
CBX Cerro Bola 55.51 81 P **P 09 58 18.3 +1.0**
CBX IAmb IAmb 09 58 33.4
comp=Z,11nm,0.8s
PV14 Lion Creek, Pa 55.53 71 IAmb IAmb 09 58 30.5
comp=Z,10nm,0.7s
SFJD Kangerlussuaq 55.54 18 LR LR 10 25 21.4
comp=Z,123nm,18.2s,baz=335,slow=40
PV22 Blue Mesa, Par 55.55 70 IAmb IAmb 09 58 30.7
comp=Z,12nm,0.7s
PV16 Nyswonger Mesa 55.64 71 IAmb IAmb 09 58 30.3
comp=Z,11nm,0.8s
PZH PanZhiHua 55.87 269 P **P 09 58 21.7 +1.8**
PV01 Paradox Valley 55.95 71 IAmb IAmb 09 58 53.5
comp=Z,6.2nm,0.9s
ESJX Sierra Juarez 56.15 81 IAmb IAmb 09 58 23.8
comp=Z,8.8nm,1.2s
ARTI Arti 56.23 321 **P 09 58 22.3 +0.4**
ARTI Arti 56.23 321 LR LR 10 24 47.3
comp=Z,93nm,18.5s,baz=50,slow=38
ARTI Arti 56.23 321 *d i*P **P 09 58 21.9 -0.1**
ARTI 09 59 17.0
ARTI 10 00 25.2

ARTI				S	S	10 06 10.4	+0.7
ARTI				SS	SS	10 09 54.0	-1.6
ARTI				pmax	pmax		
	comp=Z,13nm,0.8s						
WUAZ	**Wupatki**	**56.25**	**75**	IAmb	IAmb	09 58 43.4	
	comp=Z,9.1nm,1.1s						
ISCO	**Idaho Springs**	**56.40**	**67**	IAmb	IAmb	09 58 36.6	
	comp=Z,9.8nm,0.9s						
MVCO	**Mesa Verde**	**56.65**	**71**	IAmb	IAmb	09 58 55.7	
	comp=Z,29nm,1.7s						
S22A	**4UR Ranch, Cre**	**57.20**	**70**	IAmb	IAmb	09 58 42.4	
	comp=Z,9.9nm,1.0s						
KIRV	**Kirov**	**57.60**	**327**	LR	LR	10 24 47.9	
	comp=Z,146nm,20.4s,baz=43,slow=38						
214A	**Organ Pipe Nat**	**58.00**	**79**	IAmb	IAmb	09 58 36.9	
	comp=Z,9.2nm,0.9s						
ECSD	**EROS Data Cent**	**58.28**	**58**	IAmb	IAmb	09 58 51.9	
	comp=Z,5.9nm,0.8s						
KDJ	**Kajisay**	**58.33**	**299**	IAmb	IAmb	09 58 44.4	
	comp=Z,7.4nm,0.8s						
SLVN	**Son La**	**58.54**	**263**		**P**	**09 58 41.0**	**+2.2**
SLVN				IAmb	IAmb	09 58 46.3	
	comp=Z,8.9nm,0.8s						
DAV	**Davao City (W)**	**58.55**	**233**	LR	LR	10 20 41.7	
	comp=Z,38nm,20.2s,baz=296,slow=33						
KLMR	**Klimovskoe**	**58.59**	**334**	*e*P	**P**	**09 58 36.6**	**-1.8**
KLMR				*e*		09 59 26.8	
KLMR				pmax	pmax		
	comp=Z,22nm,1.0s						
KLMR				MLR	MLR		
	comp=Z,228nm,14.0s						
BOOM	**Boomskoye usch**	**58.70**	**300**	P	**P**	**09 58 40.2**	**+0.4**
BOOM				IAmb	IAmb	09 58 47.2	
	comp=Z,15nm,1.5s						
BOOM	**Boomskoye usch**	**58.70**	**300**	P	**P**	**09 58 40.2**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,15nm,1.5s						
TUC	**Tucson**	**58.91**	**77**		**P**	**09 58 42.1**	**+0.8**
TUC	**Tucson**	**58.91**	**77**	P	**P**	**09 58 42.1**	**+0.8**
TUC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
T25A	**Trinidad**	**58.96**	**69**	IAmb	IAmb	09 58 54.1	
	comp=Z,11nm,1.1s						
AAK	**Ala-Archa**	**59.32**	**301**	LR	LR	10 23 56.8	
	comp=Z,174nm,20.4s,baz=42,slow=36						
AAK	**Ala-Archa**	**59.32**	**301**	⇑*i*P	**P**	**09 58 44.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	**Albuquerque**	**59.43**	**72**		**P**	**09 58 46.0**	**+1.0**
ANMO	**Albuquerque**	**59.43**	**72**	LR	LR	10 23 08.8	
	comp=Z,90nm,20.3s,baz=64,slow=35						
ANMO	**Albuquerque**	**59.43**	**72**	⇑*i*P	**P**	**09 58 45.4**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
Y22A	**Socorro**	**59.88**	**73**	IAmb	IAmb	09 59 01.0	
	comp=Z,12nm,1.1s						
RTBA	**Rita Blanca**	**60.39**	**68**	IAmb	IAmb	09 58 52.6	
	comp=Z,7.3nm,0.8s						
319A	**Douglas**	**60.46**	**77**	IAmb	IAmb	09 59 15.9	
	comp=Z,9.8nm,1.0s						
KSH	**Kashi**	**60.86**	**298**	P	**P**	**09 58 58.6**	**+4.0**
KSH				pP	pwP	09 59 03.0	-1.4
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSH				LR	LR		
	comp=Z,460nm,15.8s						
KSH				LR	LR		
	comp=Z,640nm,17.5s						
KSH				LR	LR		
	comp=Z,150nm,12.7s						
AKTO	**Aktyubinsk**	**60.94**	**317**	LR	LR	10 27 47.5	
	comp=Z,125nm,18.2s,baz=54,slow=38						
KK31	**Karatay Array**	**60.95**	**304**		**P**	**09 58 54.9**	**-0.1**
KK31				IAmb	IAmb	09 58 55.7	
	comp=Z,5.0nm,0.7s						
KK31	**Karatay Array**	**60.95**	**304**	P	**P**	**09 58 54.9**	**-0.1**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**60.95**	**304**		**P**	**09 58 54.2**	**-0.9**
KKAR	**Karatay Array**	**60.95**	**304**	P	**P**	**09 58 54.2**	**-0.9**
ARSB	**Arslanbob**	**61.05**	**301**	IAmb	IAmb	09 59 30.7	
	comp=Z,7.3nm,0.9s						
AB31	**Akbulak array**	**61.07**	**315**		**P**	**09 58 55.8**	**+0.2**
ABKAR	**Akbulak array**	**61.07**	**315**		**P**	**09 58 55.5**	**-0.2**
FINES	**FINESS Array B**	**61.12**	**341**	P	**P**	**09 58 55.4**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=45,slow=5.3,SNR=6.8						
FINES				LR	LR	10 31 18.4	
	comp=Z,94nm,18.5s,baz=48,slow=42						
	comp=Z,5.5nm,0.7s						
FINES	**FINESS Array B**	**61.12**	**341**	*e*P	**P**	**09 58 56.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BORG	**Borgarnes**	**61.17**	**5**	LR	LR	10 26 14.1	
	comp=Z,39nm,18.3s,baz=358,slow=37						
SCHQ	**Schefferville**	**62.01**	**33**	P	**P**	**09 59 01.3**	**-0.8**
	comp=Z,63nm,0.8s,baz=331,slow=8.1,SNR=3.9						
MSTX	**Muleshoe**	**62.20**	**70**	IAmb	IAmb	09 59 15.0	
	comp=Z,11nm,0.9s						
SHL	**Shillong**	**62.36**	**276**	P	**P**	**09 59 05.0**	**0.0**
SHL	**Shillong**	**62.36**	**276**	P	**P**	**09 59 05.0**	**0.0**
SHL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MNTX	**Cornudas Mount**	**62.44**	**73**	IAmb	IAmb	09 59 07.1	
	comp=Z,7.8nm,0.8s						
BELG	**Belogornoye**	**63.24**	**324**	LR	LR	10 28 07.2	
	comp=Z,352nm,21.9s,baz=95,slow=37						
BELG	**Belogornoye**	**63.24**	**324**	⇑*i*P	**P**	**09 59 10.7**	**+0.5**
BELG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VHRN	**Van Horn**	**63.34**	**74**		**P**	**09 59 12.3**	**+0.9**
VHRN				IAmb	IAmb	09 59 24.1	
	comp=Z,4.5nm,0.8s						
CHTO	**Chiang Mai**	**63.41**	**265**	P	**P**	**09 59 13.5**	**+1.7**
CHTO				IAmb	IAmb	09 59 20.1	
	comp=Z,5.9nm,0.7s						
CHTO	**Chiang Mai**	**63.41**	**265**	P	**P**	**09 59 13.5**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DKNS	**Dickens**	**63.44**	**69**	IAmb	IAmb	09 59 20.7	
	comp=Z,8.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**63.69**	**265**	P	**P**	**09 59 14.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**63.69**	**265**	P	**P**	**09 59 15.6**	**+2.0**
	comp=Z,2.4nm,0.6s,baz=38,slow=7.0,SNR=8.2						
CMAR				LR	LR	10 27 12.4	
	comp=Z,57nm,21.5s,baz=35,slow=36						
	comp=Z,2.4nm,0.6s						
P40A	**Paris**	**63.69**	**59**	P	**P**	**09 59 13.4**	**+0.1**
NC405	**NORSAR Array S**	**63.71**	**348**		**P**	**09 59 13.5**	**+0.3**
WMOK	**Wichita Mounta**	**63.80**	**67**	IAmb	IAmb	09 59 15.5	
	comp=Z,8.7nm,0.8s						
NB2	**NORSAR Subarra**	**63.84**	**348**	P	**P**	**09 59 14.0**	**-0.1**
	comp=Z,9.3nm,0.6s,baz=16,slow=6.9						
NOA	**NORSAR Array B**	**63.84**	**348**	P	**P**	**09 59 13.8**	**-0.3**
	comp=Z,10nm,0.8s,baz=15,slow=6.7,SNR=22						
NOA				LR	LR	10 27 44.9	
	comp=Z,32nm,20.8s,baz=45,slow=37						
	comp=Z,10nm,0.8s						
MNHN	**Monahans**	**64.18**	**72**	IAmb	IAmb	09 59 18.1	
	comp=Z,7.6nm,0.7s						
OBN	**Obninsk**	**64.35**	**332**	⇓*i*P	**P**	**09 59 16.9**	**-0.5**
OBN				*e*		10 01 37.9	
OBN				pmax	pmax		
	comp=Z,27nm,1.4s						
OBN				MLR	MLR		
	comp=Z,118nm,20.0s						
R40A	**Maddies Statio**	**64.52**	**60**	IAmb	IAmb	09 59 37.8	
	comp=Z,8.8nm,0.8s						
BRDH	**Bariadhala**	**64.71**	**274**	LR	LR	10 29 30.2	
	comp=Z,119nm,18.5s,baz=4.5,slow=38						
TX31	**Lajitas Ar. Si**	**65.19**	**74**	IAmb	IAmb	09 59 25.0	
	comp=Z,8.4nm,0.8s						
TXAR	**Lajitas Array**	**65.19**	**74**		**P**	**09 59 24.0**	**+0.5**
TXAR	**Lajitas Array**	**65.19**	**74**	P	**P**	**09 59 23.8**	**+0.4**
	comp=Z,8.6nm,0.7s,baz=320,slow=6.2,SNR=129						
	comp=Z,8.6nm,0.7s						
TXAR	**Lajitas Array**	**65.19**	**74**	P	**P**	**09 59 24.0**	**+0.5**
LPIG	**La Paz**	**65.35**	**83**	LR	LR	10 24 36.1	
	comp=Z,35nm,19.4s,baz=300,slow=33						
SAND	**Sanderson**	**65.58**	**72**	IAmb	IAmb	09 59 34.4	
	comp=Z,5.9nm,1.0s						
LPSR	**Galich'ya Gora**	**65.87**	**329**	*e*P	**P**	**09 59 26.2**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRH	**Novokhopyorsk**	**66.21**	**327**	*e*P	**P**	**09 59 27.6**	**-2.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JCT	**Junction City**	**66.48**	**70**	IAmb	IAmb	09 59 32.7	
	comp=Z,8.4nm,0.8s						
MIAR	**Mount Ida**	**66.72**	**63**	IAmb	IAmb	09 59 52.3	
	comp=Z,9.9nm,0.8s						
NIL	**Nilore**	**66.72**	**295**		**P**	**09 59 33.1**	**-0.1**
NIL	**Nilore**	**66.72**	**295**	P	**P**	**09 59 33.1**	**-0.1**
NIL				pmax	pmax		
	comp=Z,21nm,0.9s						
DRIO	**Del Rio**	**66.83**	**72**	IAmb	IAmb	09 59 45.1	
	comp=Z,14nm,1.3s						
VSR	**Storozhevoye**	**67.00**	**328**	*e*P	**P**	**09 59 33.0**	**-1.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MNK	**Minsk**	**67.11**	**337**	*i*P	**P**	**09 59 35.7**	**+0.5**
MNK				*i*		10 00 03.4	
MNK				*i*		10 02 03.6	
MNK				*i*PPP	PPP	10 03 40.4	
MNK				*i*S	**S**	**10 08 28.2**	**+0.8**
MNK				pmax	pmax		
	comp=Z,17nm,0.8s						
MNK				pmax	pmax		
	comp=E,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				MLR	MLR		
	comp=E,143nm,15.0s						
MNK				MLR	MLR		
	comp=N,174nm,17.0s						
MNK				MLR	MLR		
	comp=Z,132nm,17.0s						
VORD	**Divnogorie**	**67.18**	**328**	*e*P	**P**	**09 59 33.9**	**-1.9**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBL	**Kabul**	**68.23**	**299**		**P**	**09 59 42.3**	**-0.6**
KBL				IAmb	IAmb	09 59 46.3	
	comp=Z,8.3nm,0.8s						
KBL	**Kabul**	**68.23**	**299**	P	**P**	**09 59 42.3**	**-0.6**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WVT	**Waverly**	**68.43**	**58**		**P**	**09 59 43.5**	**-0.4**
WVT				IAmb	IAmb	10 00 01.9	
	comp=Z,5.6nm,0.8s						
WVT	**Waverly**	**68.43**	**58**	P	**P**	**09 59 43.5**	**-0.4**
WVT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CLTN	**Cedars of Leba**	**69.20**	**57**	IAmb	IAmb	09 59 55.5	
	comp=Z,5.8nm,0.9s						
PLAL	**Pickwick Lake**	**69.21**	**59**	IAmb	IAmb	10 00 06.5	
	comp=Z,8.4nm,0.8s						
AKASG	**Malin Array Be**	**70.27**	**334**	P	**P**	**09 59 55.8**	**+0.8**
AKASG	**Malin Array Be**	**70.27**	**334**	P	**P**	**09 59 55.0**	**0.0**
	comp=Z,8.0nm,0.8s,baz=29,slow=6.3,SNR=17						
AKASG				LR	LR	10 32 08.0	
	comp=Z,103nm,21.1s,baz=46,slow=37						
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**70.27**	**334**	⇑*i*P	**P**	**09 59 55.4**	**+0.4**
AKBB				pmax	pmax		
	comp=Z,11nm,0.9s						
KIEV	**Kiev**	**70.28**	**334**		**P**	**09 59 55.2**	**+0.1**
KIEV				IAmb	IAmb	10 00 00.1	
	comp=Z,12nm,0.9s						
KIEV	**Kiev**	**70.28**	**334**	P	**P**	**09 59 55.2**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,12nm,0.9s						
EKA	**Eskdalemuir Ar**	**70.71**	**355**	P	**P**	**09 59 58.0**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=28,slow=5.6,SNR=4.5						
	comp=Z,4.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**70.71**	**355**	P	**P**	**09 59 58.0**	**+0.4**
TKL	**Tuckaleechee C**	**70.80**	**56**	LR	LR	10 32 00.8	
	comp=Z,207nm,19.9s,baz=332,slow=37						
HRA	**Herat**	**71.77**	**304**	IAmb	IAmb	10 00 12.5	
	comp=Z,16nm,1.2s						
KIV	**Kislovodsk**	**72.15**	**322**	*e*P	**P**	**10 00 04.8**	**-1.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,59nm,18.0s						
KBZ	**Khabaz**	**72.27**	**322**	P	**P**	**10 00 08.1**	**+0.9**
	comp=Z,7.4nm,0.8s,baz=20,slow=4.7,SNR=13						
KBZ				LR	LR	10 35 13.6	
	comp=Z,99nm,19.8s,baz=36,slow=39						
	comp=Z,7.4nm,0.8s						
KBZ	**Khabaz**	**72.27**	**322**	*e*P	**P**	**10 00 08.6**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHA1	**Shidzhatmaz**	**72.35**	**322**	⇑*i*P	**P**	**10 00 08.3**	**+0.3**
AKT	**Akhty**	**72.37**	**318**	*e*P	**P**	**10 00 06.6**	**-1.4**
AKT				*e*		10 00 23.9	
AKT				*e*		10 02 49.9	
AKT				*e*PPP	PPP	10 04 36.3	
AKT				*e*S	**S**	**10 09 27.3**	**-2.6**
AKT				*e*		10 10 18.4	
AKT				pmax	pmax		
	comp=Z,19nm,1.0s						
AKT				MLR	MLR		
	comp=Z,169nm,17.0s						
HODGE	**Hodges**	**72.68**	**55**	IAmb	IAmb	10 00 22.6	
	comp=Z,6.2nm,0.7s						
SORM	**Soroca**	**72.86**	**334**	⇑P	**P**	**10 00 10.7**	**+0.1**
SORM	**Soroca**	**72.86**	**334**	⇑P	**P**	**10 00 10.7**	**+0.1**
CLL	**Collm**	**73.05**	**345**	*e*P	**P**	**10 00 13.0**	**+1.3**
CLL	**Collm**	**73.05**	**345**	*e*P	**P**	**10 00 13.0**	**+1.3**
DPC	**Dobruska-Polom**	**73.42**	**342**	*e*P	P	10 00 19.0	+5.0
DPC	**Dobruska-Polom**	**73.42**	**342**	*e*P	P	10 00 19.0	+5.0
SOC	**Sochi**	**73.52**	**324**	*e*P	**P**	**10 00 13.3**	**-1.3**
SOC				*e*		10 02 58.2	
SOC				*e*PPP	PPP	10 04 42.6	
SOC				*e*S	**S**	**10 09 40.6**	**-2.0**
SOC				*e*SS	**SS**	**10 14 25.2**	**+0.9**
SOC				MLR	MLR		
	comp=Z,75nm,18.0s						
LANS	**Liptovska Anna**	**73.96**	**340**	*e*P	**P**	**10 00 19.3**	**+2.0**
LANS	**Liptovska Anna**	**73.96**	**340**	*e*P	**P**	**10 00 19.2**	**+2.0**
BUR08	**Bucovina Ar. S**	**74.11**	**336**	IAmb	IAmb	10 00 24.0	
	comp=Z,8.8nm,0.8s						
BURAR	**Bucovina Array**	**74.13**	**336**		**P**	**10 00 19.2**	**+1.0**
BURAR				IAmb	IAmb	10 00 24.4	
	comp=Z,11nm,0.8s						
BURAR	**Bucovina Array**	**74.13**	**336**	⇓P	**P**	**10 00 18.9**	**+0.6**
BURAR	**Bucovina Array**	**74.13**	**336**	⇓P	**P**	**10 00 18.9**	**+0.6**
VRAC	**Vranov**	**74.37**	**342**	LR	LR	10 38 21.2	
	comp=Z,73nm,18.2s,baz=11,slow=40						
ZVC	**Zvikov**	**74.67**	**343**	*e*P	P	10 00 26.0	+4.8
GNI	**Garni**	**74.68**	**319**	LR	LR	10 37 55.9	
	comp=Z,156nm,18.8s,baz=22,slow=40						
TESR	**Tescani**	**74.80**	**334**	⇑P	**P**	**10 00 23.2**	**+1.2**
KHC	**Kasperske Hory**	**75.06**	**344**	*e*P	**P**	**10 00 25.3**	**+1.7**
KHC	**Kasperske Hory**	**75.06**	**344**	*e*P	**P**	**10 00 25.3**	**+1.7**
MODS	**Modra-Piesok**	**75.14**	**341**	*e*P	**P**	**10 00 26.8**	**+2.8**
MODS	**Modra-Piesok**	**75.14**	**341**	*e*P	**P**	**10 00 26.8**	**+2.8**
GERES	**GERESS Array B**	**75.32**	**344**	P	**P**	**10 00 25.1**	**0.0**
	comp=Z,2.0nm,0.6s,baz=12,slow=5.9,SNR=10						
	comp=Z,2.0nm,0.6s						
MARR	**Marisel-Cluj**	**75.51**	**337**	⇑P	**P**	**10 00 26.4**	**+0.2**
DOPR	**Dopca**	**75.62**	**335**	⇑P	**P**	**10 00 28.9**	**+2.1**
TAOE	**Nuku Hiva Isla**	**75.82**	**128**	*e*LR	LR	10 23 42.4	
	comp=Z,93nm,23.7s						
MLR	**Muntele Rosu**	**75.93**	**334**	⇓P	**P**	**10 00 31.2**	**+2.4**
MLR	**Muntele Rosu**	**75.93**	**334**	⇓P	**P**	**10 00 31.2**	**+2.4**
DZM	**Mont Dzumac**	**75.93**	**183**	*e*LR	LR	10 23 53.5	
	comp=Z,146nm,24.8s						
VOIR		**76.20**	**335**	⇑P	**P**	**10 00 32.1**	**+1.8**
VOIR		**76.20**	**335**	⇑P	**P**	**10 00 32.1**	**+1.8**
ARR	**Arges**	**76.37**	**335**	⇓P	**P**	**10 00 33.6**	**+2.4**
KOPT	**Kop Dagi**	**76.38**	**322**	IAmb	IAmb	10 00 40.7	
	comp=Z,13nm,0.9s						
SURR	**Surduc**	**76.61**	**337**	⇓P	**P**	**10 00 34.4**	**+2.0**
GZR	**Gura Zlata**	**76.80**	**336**	⇓P	**P**	**10 00 35.0**	**+1.4**
GZR	**Gura Zlata**	**76.80**	**336**	⇓P	**P**	**10 00 35.0**	**+1.4**
BZS	**Buzias**	**76.85**	**337**	⇓P	**P**	**10 00 35.3**	**+1.5**
BZS	**Buzias**	**76.85**	**337**	⇓P	**P**	**10 00 35.3**	**+1.5**
MDVR	**Moldovita**	**77.62**	**337**	⇑P	**P**	**10 00 41.8**	**+3.6**
BOVS	**Bovan**	**78.71**	**337**	⇑P	P	10 00 49.0	+4.9
BR131	**Keskin Array S**	**79.00**	**327**	IAmb	IAmb	10 00 52.0	
	comp=Z,8.2nm,0.8s						
BRTR	**Keskin Array B**	**79.00**	**327**		**P**	**10 00 46.4**	**+0.4**
BRTR	**Keskin Array B**	**79.00**	**327**	P	**P**	**10 00 46.5**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=49,slow=3.5,SNR=14						
	comp=Z,3.2nm,0.8s						
BRTR	**Keskin Array B**	**79.00**	**327**	*e*P	**P**	**10 00 47.2**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**79.61**	**213**	*i*P	**P**	**10 00 48.4**	**-0.8**
WRA	**Warramunga Arr**	**79.62**	**213**	P	**P**	**10 00 50.8**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=21,slow=5.8,SNR=15						
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**79.62**	**213**	*e*P	**P**	**10 00 50.9**	**+1.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAR	**Rarotonga**	**79.66**	**151**	LR	LR	10 27 39.9	
	comp=Z,66nm,21.8s,baz=317,slow=29						
PPT	**Papeete**	**79.66**	**140**	LR	LR	10 27 13.9	
	comp=Z,76nm,21.7s,baz=316,slow=29						
PPT2	**Papeete2**	**79.68**	**140**	*e*LR	LR	10 25 24.7	
PPT2				*e*LR	LR	10 25 26.2	
	comp=Z,144nm,22.0s						
	comp=Z,203nm,24.5s						
CMIG	**Matias Romero**	**79.74**	**75**	LR	LR	10 33 41.0	
	comp=Z,73nm,21.8s,baz=344,slow=34						
AS31	**Alice Springs**	**83.24**	**212**		**P**	**10 01 10.2**	**+1.8**
ASAR	**Alice Springs**	**83.24**	**212**	P	**P**	**10 01 10.2**	**+1.8**
	comp=Z,4.3nm,1.0s,baz=21,slow=4.9,SNR=20						
	comp=Z,4.3nm,1.0s						
PALK	**Pallekele**	**83.27**	**273**	LR	LR	10 43 59.9	
	comp=Z,35nm,18.7s,baz=37,slow=40						
MMAI	**Mount Meron Ar**	**84.47**	**322**	P	**P**	**10 01 15.4**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=42,slow=9.7,SNR=7.5						
MMAI				LR	LR	10 44 32.8	
	comp=Z,74nm,18.4s,baz=36,slow=40						
	comp=Z,4.5nm,0.6s						
ASF	**Jabal al Asfar**	**84.68**	**321**	LR	LR	10 42 34.4	
	comp=Z,46nm,19.7s,baz=75,slow=38						
TBI	**Tubuai**	**84.99**	**142**	*e*LR	LR	10 27 52.9	
	comp=Z,749nm,27.0s						
VAE	**Valguarnera**	**86.19**	**340**	LR	LR	10 49 27.1	
	comp=Z,63nm,18.8s,baz=134,slow=42						
ESDC	**Sonseca Array**	**86.37**	**355**	P	**P**	**10 01 24.5**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=7.9,slow=4.5,SNR=7.2						
	comp=Z,2.5nm,1.0s						
RAYN	**Ar Rayn**	**88.78**	**310**	P	**P**	**10 01 36.5**	**+0.5**
RAYN				IAmb	IAmb	10 01 44.1	
	comp=Z,7.9nm,1.2s						
RAYN	**Ar Rayn**	**88.78**	**310**	P	**P**	**10 01 36.5**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
STKA	**Stephens Creek**	**88.93**	**203**	P	**P**	**10 01 36.9**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=353,slow=5.5,SNR=9.0						
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	**88.93**	**203**	*e*P	**P**	**10 01 37.4**	**+1.2**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JTS	**Las Juntas de**	**90.84**	**71**	LR	LR	10 43 54.4	
	comp=Z,25nm,21.2s,baz=326,slow=36						
URZ	**Urewera**	**92.28**	**174**	LR	LR	10 35 15.2	
	comp=Z,55nm,21.1s,baz=326,slow=30						
MDT	**Midelt**	**93.24**	**355**	LR	LR	10 44 55.1	
	comp=Z,41nm,18.2s,baz=12,slow=36						
SJG	**San Juan**	**93.92**	**52**	LR	LR	10 44 55.6	
	comp=Z,53nm,21.4s,baz=331,slow=36						
SDV	**Santo Domingo**	**99.68**	**60**	LR	LR	10 49 58.0	
	comp=Z,54nm,18.2s,baz=284,slow=37						
BOSA	**Boshof**	**143.45**	**300**	PKP	**PKPdf**	**10 08 14.8**	**-1.7**
	comp=Z,2.2nm,0.9s,baz=37,slow=4.9,SNR=1.9						
QSPA	**South Pole Qui**	**143.89**	**180**	PKP	**PKPdf**	**10 08 15.0**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=346,slow=1.6,SNR=37						
MAW	**Mawson**	**144.12**	**219**	PKP	**PKPdf**	**10 08 15.1**	**-1.0**

ISK 03 09:56:33.4, 39°.69N×30°.74E, h0km, ML2.0/7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIFT	**Cifteler, Eski**	**0.41**	**142**	Pg	Pb	09 56 42.8	-0.9
CIFT				Sg	Sb	09 56 49.8	-0.7
BLVD	**Bolvadin-AFYON**	**0.94**	**163**	Pg	Pg	09 56 51.9	+0.5
BLVD				Sg	Sb	09 57 05.3	-0.3
YUVA	**Yuva-Kibriscik**	**1.01**	**46**	Pg	Pb	09 56 53.8	-0.1
YUVA				Sg	Sb	09 57 07.5	-0.3
TVSB	**Tavsanli**	**1.01**	**257**	Pg	Pg	09 56 53.2	+0.4
TVSB				Sg	Sb	09 57 07.8	0.0
ADVT	**Abdulvahap**	**1.06**	**314**	Pg	Pg	09 56 54.1	+0.3
ADVT				Sg	Sb	09 57 09.4	+0.2
POLA	**Polatl-ANKAR**	**1.11**	**89**	Pn	Pn	09 56 55.9	-0.3
ANTO	**Ankara**	**1.60**	**83**	Pn	Pn	09 57 02.8	-0.2

AFAD 03 09:56:44.1, 38°.56N×30°.45E, h7km±2km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFYN	**Afyon-Dinar-K**	**0.29**	**172**	P	Pg	09 56 50.2	+0.4
AFYN				P	Pg	09 56 50.2	+0.4
AFYN				S	Sg	09 56 54.9	+1.2
AFYN				S	Sb	09 56 55.1	-1.6
AFYN				*i* IAML		09 56 56.0	
	comp=N,87nm,0.5s						
AFYN				*i* IAML		09 56 56.0	
	comp=N,75nm,0.5s						
AFYN				*i* IAML		09 56 56.0	
	comp=E,87nm,0.5s						
AFYN				*i* IAML		09 56 56.0	
	comp=E,101nm,0.6s						
KZIL	**AFYON_Kizioren**	**0.39**	**219**	P	Pg	09 56 51.8	+0.2
KZIL				S	Sg	09 56 57.9	+1.1
KZIL				*i* IAML		09 57 01.0	
	comp=E,43nm,0.6s						
KZIL				*i* IAML		09 57 01.0	
	comp=N,54nm,0.6s						
KURO	**

33nm,0.2s
IUG Lg Lg 10 14 34.6
52nm,0.7s
PDGK Podgornoye 6.07 30 ⇓Pg **Pn 10 13 38.6 +2.8**
12nm,1.1s
PDGK ⇓Sn Sn 10 14 25.4 -18
17nm,0.8s
KK31 Karatay Array 6.12 325 Pn **Pn 10 13 34.4 -2.0**
1.6nm,0.2s,baz=128,slow=12,SNR=21
KK31 ⇓Sn **Sn 10 14 44.3 -0.7**
12nm,0.4s,baz=134,slow=24
BRLS Borolday 6.39 321 *eP* **Pn 10 13 41.0 +1.0**
17nm,0.2s
BRLS *eS* **Sn 10 14 47.0 -4.4**
14nm,0.2s
MKAR Makanchi Array 10.06 29 Pn **Pn 10 14 29.4 -0.4**
0.1nm,0.3s,baz=199,slow=14,SNR=4.3
0.5nm,0.5s
KURBB Kurchatov Arra 12.67 9 Pn **P 10 15 11.2 -1.0**
0.1nm,0.3s,baz=198,slow=10,SNR=5.3
ZALV Zalesovo Beam 17.09 19 P **Pn 10 15 59.3 -1.6**
0.2nm,0.3s,baz=218,slow=11,SNR=5.9
1.3nm,0.6s
SONM Songino Array 24.58 57 P **P 10 17 18.5 -0.6**
0.6nm,0.4s,baz=245,slow=12,SNR=3.6
0.6nm,0.4s
FINES FINESS Array B 38.08 324 P **P 10 19 17.5 +0.5**
1.8nm,0.5s,baz=107,slow=9.7,SNR=9.9
1.8nm,0.5s
ARCES ARCESS Array B 40.97 336 P **P 10 19 41.1 +0.2**
0.9nm,0.4s,baz=107,slow=8.3,SNR=15
0.9nm,0.4s
NB2 NORSAR Subarra 45.15 322 P **P 10 20 14.4 -0.3**
comp=Z,0.8nm,0.5s,baz=89,slow=7.9
NOA NORSAR Array B 45.15 322 P **P 10 20 14.5 -0.3**
comp=Z,0.7nm,0.4s,baz=90,slow=8.0,SNR=3.6
comp=Z,0.7nm,0.4s
TORD Torodi Ar. Bea 69.14 271 P **P 10 23 04.2 -0.1**
comp=Z,0.7nm,0.5s,baz=43,slow=6.4,SNR=6.1

IDC 03 10:13:29.2±6.9, 19°.11S×177°.95W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=295.0km s-min=41.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**261**	P	P	10 21 45.5	-0.1
	0.4nm,0.5s,baz=98,slow=7.9,SNR=19						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**44.90**	**255**	P	P	10 21 45.9	-0.1
	0.5nm,0.6s,baz=89,slow=8.5,SNR=11						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**86.96**	**13**	P	P	10 26 15.7	-0.1
	0.2nm,0.7s,baz=217,slow=6.8,SNR=1.8						
	0.2nm,0.7s						

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*SJA **03** 10:14:44.3±0.7, 29°.51S×69°.58W, h129km±2km, ML3.5, MW3.4*
*GUC **03** 10:14:45.1±0.6, 29°.52S×69°.80W, h144km±6km, ML3.8*
ISC 03 10:14:44.5±1.3, 29°.53S±0°.03×69°.61W±0°.03, h137km±8km, n52, σ1§34/86, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.65**	**170**	*eP*	**Pn**	**10 15 05.9**	**+0.4**
AROD				*eS*	**Sn**	**10 15 21.4**	**-0.3**
ACDV	**Cuesta del Vie**	**0.77**	**147**	*eP*	**Pn**	**10 15 06.6**	**+0.3**
ACDV				*eS*	**Sn**	**10 15 22.4**	**-0.4**
ACDV				IAML		10 15 22.6	
	comp=Z,660nm,0.5s						
AGUA	**GUANDACOL**	**0.97**	**88**	*eP*	**Pn**	**10 15 08.1**	**+0.2**
AGUA				*eS*	**Sn**	**10 15 26.1**	**+0.5**
AGUA				IAML		10 15 26.9	
	comp=Z,807nm,0.2s						
LCO	**Las Campanas**	**1.09**	**298**	*eP*	**Pn**	**10 15 08.8**	**-0.2**
LCO				*eS*	**Sn**	**10 15 26.7**	**-1.1**
LCO				*i* S		10 15 26.7	
LCO	**Las Campanas**	**1.09**	**298**	*eP*	**Pn**	**10 15 09.2**	**+0.1**
LCO				*eS*	**Sn**	**10 15 27.2**	**-0.5**
ACCO	**Cerro Coronel**	**1.16**	**156**	*eP*	**Pn**	**10 15 10.3**	**+0.5**
ACCO				*eS*	**Sn**	**10 15 29.0**	**-0.2**
GO04	**Tololo Observa**	**1.22**	**238**	*eP*	**Pn**	**10 15 10.5**	**+0.1**
GO04				*eS*	**Sn**	**10 15 29.3**	**-0.7**
GO04	**Tololo Observa**	**1.22**	**238**	*eP*	**Pn**	**10 15 10.3**	**0.0**
GO04				*eS*	**Sn**	**10 15 29.9**	**-0.1**
VCA	**Vinchina**	**1.46**	**58**	*eP*	**Pn**	**10 15 13.7**	**+0.9**
VCA				*eS*	**Sn**	**10 15 34.9**	**+0.6**
VCA				IAML		10 15 35.8	
	comp=Z,855nm,0.4s						
CO05	**La Serena**	**1.47**	**254**	*eP*	**Pn**	**10 15 12.5**	**-0.1**
CO05				*eS*	**Sn**	**10 15 32.8**	**-1.4**
CO05				IAML		10 15 34.7	
	comp=E,1μm,0.2s						
CO03	**El Pedregal**	**1.61**	**215**	*eP*	**Pn**	**10 15 14.7**	**+0.5**
CO03				*eS*	**Sn**	**10 15 37.3**	**+0.1**
CO03				IAML		10 15 39.9	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**1.61**	**215**	*eP*	**Pn**	**10 15 14.8**	**+0.5**
CO03				*eS*	**Sn**	**10 15 37.8**	**+0.6**
CO03				IAML		10 15 39.5	
	comp=Z,415nm,0.2s						
AC04	**Llanos de Chal**	**1.84**	**315**	*eP*	**Pn**	**10 15 17.4**	**+0.4**
AC04				*eS*	**Sn**	**10 15 41.0**	**-0.7**
AC04				IAML		10 15 43.6	
	comp=E,993nm,0.2s						
AC04	**Llanos de Chal**	**1.84**	**315**	*eP*	**Pn**	**10 15 17.4**	**+0.4**
AC04				*eS*	**Sn**	**10 15 41.7**	**-0.1**
AC04				IAML		10 15 43.8	
	comp=Z,471nm,0.2s						
GO03	**Copiapo**	**2.00**	**344**	*eP*	**Pn**	**10 15 19.5**	**+0.6**
GO03				IAML		10 15 46.7	
	comp=E,570nm,0.1s						
GO03	**Copiapo**	**2.00**	**344**	*eP*	**Pn**	**10 15 19.4**	**+0.5**
GO03				*eS*	**Sn**	**10 15 45.0**	**-0.4**
GO03				IAML		10 15 46.6	
	comp=Z,348nm,0.3s						
RTLL	**Cerro Villicun**	**2.04**	**152**	*eP*	**Pn**	**10 15 20.9**	**+1.5**
RTLL				*eS*	**Sn**	**10 15 46.2**	**0.0**
CO02	**Combarbal**	**2.06**	**215**	*eP*	**Pn**	**10 15 19.8**	**+0.1**
CO02				*eS*	**Sn**	**10 15 46.9**	**+0.2**
CO02				IAML		10 15 49.0	
	comp=Z,379nm,0.3s						
CO06	**Fray Jorge**	**2.10**	**236**	*eP*	**Pn**	**10 15 19.3**	**-0.6**
ZON	**Zonda**	**2.17**	**159**	*eP*	**Pn**	**10 15 21.8**	**+1.0**
AVFE	**Valle Fertil**	**2.18**	**122**	*eP*	**Pn**	**10 15 21.3**	**+0.3**
AVFE				*eS*	**Sn**	**10 15 47.5**	**-1.6**
AVFE				IAML		10 15 48.8	
	comp=Z,349nm,0.3s						
RTLS	**Leoncito**	**2.28**	**173**	*eS*	**Sn**	**10 15 52.5**	**+0.7**
RTLS				IAML		10 15 54.1	
	comp=Z,192nm,1.0s						
ACLC	**CERRO LA CRUZ**	**2.32**	**88**	*eP*	**Pn**	**10 15 22.9**	**+0.1**
ACLC				*eS*	**Sn**	**10 15 51.6**	**-0.7**
ACLC				IAML		10 15 52.4	
	comp=Z,85nm,0.2s						
CFA	**Coronel Fontan**	**2.38**	**151**	*eP*	**Pn**	**10 15 24.2**	**+0.7**
CFA				*eS*	**Sn**	**10 15 53.9**	**+0.3**
AANI	**Anillaco**	**2.44**	**74**	*eP*	**Pn**	**10 15 24.9**	**+0.5**
AANI				*eS*	**Sn**	**10 15 54.3**	**-0.7**
AANI				IAML		10 15 55.0	
	comp=Z,298nm,0.3s						
AC02	**Maricunga**	**2.71**	**9**	*eP*	**Pn**	**10 15 29.4**	**+1.3**
AC02				IAML		10 16 03.9	
	comp=N,318nm,0.3s						
AC02	**Maricunga**	**2.71**	**9**	*eP*	**Pn**	**10 15 29.6**	**+1.4**
AC02				*eS*	**Sn**	**10 16 02.6**	**+0.9**
AC02				IAML		10 16 06.1	
	comp=Z,343nm,0.9s						
CO04	**Los Peladeros**	**2.77**	**205**	*eP*	**Pn**	**10 15 28.7**	**+0.1**
CO04				IAML		10 16 05.6	
	comp=N,370nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.81**	**109**	*eP*	**Pn**	**10 15 29.1**	**+0.2**
APLL				*eS*	**Sn**	**10 16 01.4**	**-1.7**
ASAL	**Salagasta**	**3.12**	**168**	*eP*	**Pn**	**10 15 34.7**	**+1.7**
ASAL				*eS*	**Sn**	**10 16 03.4**	**-7.1**
VA03	**San Esteban**	**3.33**	**194**	*eP*	**Pn**	**10 15 36.4**	**+0.8**
VA03				IAML		10 16 18.4	
	comp=N,207nm,0.5s						
VA03	**San Esteban**	**3.33**	**194**	*eP*	**Pn**	**10 15 36.4**	**+0.8**
VA03				*eS*	**Sn**	**10 16 20.1**	**+4.9**
VA03				IAML		10 16 20.7	
	comp=Z,82nm,0.2s						
ACAN	**Cantantal**	**3.44**	**143**	*eP*	**Pn**	**10 15 37.3**	**+0.3**
ACAN				IAML		10 16 22.1	
	comp=Z,142nm,0.5s						
AC01	**Pan de Azucar**	**3.48**	**345**	*eP*	**Pn**	**10 15 37.9**	**+0.4**
AC01	**Pan de Azucar**	**3.48**	**345**	*eP*	**Pn**	**10 15 37.8**	**+0.2**
AC01				*eS*	Sn	10 16 04.5	-14
AC01				IAML		10 16 28.4	
	comp=Z,55nm,1.4s						
CYA	**Choya**	**3.50**	**73**	*eP*	**Pn**	**10 15 37.8**	**-0.1**
CYA				*eS*	**Sn**	**10 16 17.2**	**-2.0**
MT10	**Hacienda Santa**	**3.82**	**192**	*eP*	**Pn**	**10 15 42.6**	**+0.5**
FCH	**Farellones**	**3.83**	**189**	*eP*	**Pn**	**10 15 43.9**	**+1.5**
FCH				*eS*	**Sn**	**10 16 28.7**	**+1.3**
MT04	**Ro Olivares**	**3.89**	**187**	*eP*	**Pn**	**10 15 44.4**	**+1.3**
MT04	**Ro Olivares**	**3.89**	**187**	*eP*	Pn	10 15 34.1	-9.1
MT04				*eS*	**Sn**	**10 16 30.7**	**+2.0**
MT04				IAML		10 16 36.0	
	comp=Z,28nm,0.3s						
MT02	**Curacav**	**3.94**	**199**	*eP*	**Pn**	**10 15 42.0**	**-1.6**
MT02				*eS*	Sn	10 16 40.5	+11
MT02				IAML		10 16 51.3	
	comp=Z,28nm,1.6s						
MT05	**Renca**	**3.97**	**194**	*eP*	**Pn**	**10 15 44.9**	**+0.8**
MT05				*eS*	**Sn**	**10 16 30.4**	**+0.1**
MT05				IAML		10 16 31.5	
	comp=Z,79nm,0.2s						
MT03	**Universidad Ad**	**4.03**	**191**	*eP*	**Pn**	**10 15 45.7**	**+0.9**
MT03				*eS*	**Sn**	**10 16 32.3**	**+0.6**
MT03				IAML		10 16 33.3	
	comp=Z,73nm,0.5s						
MT13	**San Alfonso**	**4.24**	**188**	*eP*	**Pn**	**10 15 45.0**	**-2.7**
MT13				*eP*		10 15 48.7	
MT13				*eS*	**Sn**	**10 16 37.3**	**+0.5**
MT13				IAML		10 16 38.1	
	comp=Z,31nm,1.6s						
LMEL	**Las Melosas**	**4.34**	**187**	*eP*	**Pn**	**10 15 49.7**	**+0.8**
LMEL				*eS*	**Sn**	**10 16 41.4**	**+2.3**
LMEL				IAML		10 16 42.8	
	comp=Z,22nm,0.5s						
MRA	**San Martin**	**4.41**	**132**	*eP*	**Pn**	**10 15 50.5**	**+0.6**
MRA				*eS*	Sn	10 16 28.2	-13
MRA				IAML		10 16 40.1	
	comp=Z,28nm,0.5s						
MT01	**Popeta**	**4.54**	**198**	*eP*	**Pn**	**10 15 50.5**	**-1.0**
MT01				*eS*	**Sn**	**10 16 41.5**	**-2.3**
MT01				IAML		10 16 43.0	
	comp=Z,31nm,0.3s						
FSA	**Cafayete**	**4.68**	**44**	*eP*	**Pn**	**10 15 54.2**	**+0.6**
TCA	**Tanti**	**4.69**	**114**	*eP*	**Pn**	**10 15 53.8**	**+0.2**
TCA				*eS*	Sn	10 16 34.2	-13
TCA				IAML		10 17 09.7	
	comp=Z,14nm,0.4s						
BO01	**Tunca**	**5.01**	**194**	*eP*	Pn	10 15 42.0	-16
BO01				*eS*	**Sn**	**10 16 54.5**	**-0.4**
BO01				IAML		10 17 07.0	
	comp=Z,16nm,2.6s						
RFA	**San Rafael**	**5.32**	**170**	*eP*	**Pn**	**10 16 03.0**	**+1.1**
RFA				*eS*	**Sn**	**10 17 01.1**	**-1.2**
RFA				IAML		10 17 02.0	
	comp=Z,9.6nm,1.1s						
BO02	**Sierra Bellavi**	**5.34**	**190**	*eP*	**Pn**	**10 16 01.8**	**-0.5**
BO02				*eS*	**Sn**	**10 17 01.4**	**-1.6**
BO02				IAML		10 17 05.0	
	comp=Z,19nm,0.2s						

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*IDC **03** 10:26:45.1±0.9, 6°.49S×149°.73E, h0km, mb4.0/9, mbtmp4.1/10, ML3.0/1, MS3.3/8, Error ellipse: s-maj=39.1km s-min=16.8km az=105.0*
*NEIC **03** 10:26:53.6±1.2, 6°.51S±0°.07×149°.40E±0°.08, h55km±10km, mb4.3/12, Error ellipse: s-maj=15.3km s-min=2.6km az=131.0*
ISC 03 10:26:52.7±0.6, 6°.52S±0°.07×149°.39E±0°.10, h49km, n35, σ1§19/33, mb4.0/10, MS3.2/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.60**	**50**		**Pn**	**10 27 47.1**	**+1.0**
PMG	**Port Moresby**	**3.62**	**217**	Pn	**Pn**	**10 27 47.2**	**+0.9**
	74nm,0.3s,baz=31,slow=6.7,SNR=130						
PMG				Sn	**Sn**	**10 28 28.4**	**+0.6**
	55nm,0.3s,baz=100,slow=23,SNR=10						
	212nm,0.4s						
MANU	**Manus Island**	**4.88**	**336**		**Pn**	**10 28 05.5**	**+1.9**
COEN	**Coen**	**9.59**	**219**	Pn	**Pn**	**10 29 07.6**	**-0.7**
EIDS	**Eidsvold**	**18.82**	**175**		**Pn**	**10 31 09.4**	**+0.1**
EIDS				IAmb	IAmb	10 31 51.1	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**19.64**	**226**		**P**	**10 31 17.3**	**-0.2**
WR8	**Warramunga Arr**	**19.68**	**226**		**P**	**10 31 17.9**	**-0.1**
WR8				IAmb	IAmb	10 31 30.2	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**19.78**	**226**	P	**P**	**10 31 18.5**	**-0.5**
WRAB				IAmb	IAmb	10 31 31.1	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**19.79**	**226**	P	**P**	**10 31 18.1**	**-1.1**
WRA	**Warramunga Arr**	**19.79**	**226**	P	**P**	**10 31 18.6**	**-0.6**
	comp=Z,11nm,0.8s,baz=50,slow=11,SNR=73						
WRA				LR	LR	10 39 29.8	
	comp=Z,99nm,18.8s,baz=10.0,slow=38						
	comp=Z,11nm,0.8s						
GUMO	**Guam**	**20.47**	**347**	LR	LR	10 37 30.3	
	comp=Z,88nm,21.6s,baz=147,slow=31						
KNRA	**Kununurra**	**22.17**	**244**	P	**P**	**10 31 43.0**	**-1.8**
KNRA				IAmb	IAmb	10 32 01.0	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**22.63**	**219**		**P**	**10 31 49.5**	**-0.3**
ASAR	**Alice Springs**	**22.64**	**219**		**P**	**10 31 49.4**	**-0.4**
ASAR	**Alice Springs**	**22.64**	**219**	P	**P**	**10 31 49.3**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=54,slow=9.3,SNR=68						
ASAR				S	**S**	**10 35 54.2**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=34,slow=20,SNR=5.2						
ASAR				LR	LR	10 40 20.2	
	comp=Z,102nm,18.5s,baz=359,slow=36						
	comp=Z,2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.86**	**241**	P	**P**	**10 32 19.8**	**-0.2**
STKA	**Stephens Creek**	**26.26**	**195**	P	**P**	**10 32 25.0**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=7.1,slow=14,SNR=4.5						
STKA				LR	LR	10 43 24.9	
	comp=Z,107nm,19.9s,baz=29,slow=38						
	comp=Z,1.5nm,0.5s						
MBWA	**Marble Bar**	**32.18**	**240**	P	**P**	**10 33 15.1**	**-1.0**
JOW	**Kunigami**	**38.95**	**329**	LR	LR	10 48 21.0	
	comp=Z,41nm,20.4s,baz=233,slow=33						
JHJ	**Hachijo jima 2**	**40.46**	**348**	LR	LR	10 51 33.9	
	comp=Z,37nm,18.1s,baz=64,slow=37						
JNU	**Nakatsue**	**43.16**	**337**	LR	LR	10 50 42.1	
	comp=Z,26nm,19.0s,baz=28,slow=33						
MJAR	**Matsushiro Arr**	**44.09**	**347**	LR	LR	10 52 43.1	
	comp=Z,20nm,20.2s,baz=170,slow=35						
KSRS	**Korea Array**	**48.12**	**337**	P	**P**	**10 35 28.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=153,slow=8.7,SNR=4.7						
	comp=Z,1.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.81**	**6**	P	**P**	**10 36 52.7**	**-0.2**
PETK	**Petropavlovsk-**	**59.81**	**6**	P	**P**	**10 36 52.5**	**-0.4**
PETK	**Petropavlovsk-**	**59.81**	**6**	P	**P**	**10 36 52.1**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=155,slow=6.0,SNR=18						
	comp=Z,2.9nm,0.5s						
VNDA	**Vanda**	**71.27**	**177**	P	**P**	**10 38 07.2**	**+0.7**
VNDA				IAmb	IAmb	10 38 23.1	
	comp=Z,4.1nm,1.4s						
VNDA	**Vanda**	**71.27**	**177**	P	**P**	**10 38 06.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=335,slow=7.8,SNR=7.0						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**79.41**	**320**	P	**P**	**10 38 55.1**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=84,slow=7.5,SNR=2.8						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**80.72**	**327**	P	**P**	**10 39 02.1**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=104,slow=6.1,SNR=4.2						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**10 39 17.4**	**+2.4**
QSPA				IAmb	IAmb	10 39 36.1	
	comp=Z,4.1nm,1.1s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**10 39 17.2**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=263,slow=0.7,SNR=7.0						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**10 39 19.9**	**-2.9**
	comp=Z,0.9nm,0.8s,baz=241,slow=5.8,SNR=6.7						
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.52**	**284**	PKP	**PKPdf**	**10 46 29.1**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=56,slow=3.7,SNR=6.1						
TORD				PKPbc	**PKPbc**	**10 46 31.3**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=36,slow=3.8,SNR=7.3						
BDFB	**Brasilia**	**152.04**	**142**	PKPbc	**PKPbc**	**10 46 42.9**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=45,slow=1.4,SNR=3.4						

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*IDC **03** 10:34:30.3±1.2, 53°.34N×159°.31W, h0km, mb4.0/9, mbtmp3.9/12, ML3.6/3, Error ellipse: s-maj=31.4km s-min=19.4km az=11.0*
*NEIC **03** 10:34:31.6±1.8, 53°.37N±0°.07×159°.3W±0°.1, h10km±2km, mb3.9/6, ML3.7/22, ML3.5(AEIC), Error ellipse: s-maj=13.0km s-min=10.7km az=137.0*
*AEIC **03** 10:34:34.7±1.3, 53°.25N±0°.09×159°.2W±0°.1, h9km±7km, Error ellipse: s-maj=14.2km s-min=9.9km az=150.0*
ISC 03 10:34:31.8±0.8, 53°.39N±0°.08×159°.22W±0°.06, h10km, n86, σ1§19/86, mb4.0/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.45**	**351**		**Pn**	**10 34 57.4**	**-0.7**
CNBA				IAML		10 35 19.1	
	comp=E,789nm,0.4s						
CNBA	**Chernabura Isl**	**1.45**	**351**		**Sn**	**10 35 16.8**	**-0.3**
SDPT	**Sand Point**	**2.10**	**340**		**Sn**	**10 35 31.5**	**-1.5**
SDPT	**Sand Point**	**2.10**	**340**	Pn	**Pn**	**10 35 06.7**	**-0.2**
SDPT				IAML		10 35 33.6	
	comp=N,321nm,1.1s						
DOL	**Dolgoi Island**	**2.35**	**320**		**Pn**	**10 35 09.2**	**-1.2**
DOL					**Sn**	**10 35 37.2**	**-2.1**
DT1	**Dutton Round H**	**2.49**	**315**		**Pn**	**10 35 11.2**	**-1.2**
DT1					**Sn**	**10 35 40.4**	**-2.4**
HAG	**Hague Volcano**	**2.49**	**322**		**Pn**	**10 35 12.0**	**-0.4**
PS4A	**Pavlof South-4**	**2.49**	**323**		**Pn**	**10 35 12.2**	**-0.3**
PS4A					**Sn**	**10 35 42.8**	**-0.1**
PS1A	**Pavlof South-1**	**2.51**	**325**		**Pn**	**10 35 12.5**	**-0.2**
PS1A					**Sn**	**10 35 43.3**	**-0.1**
VNSG	**Veniaminof 6**	**2.74**	**2**		**Pn**	**10 35 16.8**	**+0.9**
VNSG					**Sn**	**10 35 50.0**	**+0.9**
S12K	**Black Hills**	**2.85**	**326**		**Pn**	**10 35 17.6**	**+0.3**
S12K				IAML		10 35 53.0	
	comp=E,375nm,0.6s						
S12K				IAML		10 35 54.0	
	comp=N,222nm,0.6s						
FALS	**False Pass**	**2.87**	**302**		**Pn**	**10 35 16.6**	**-1.0**
VNFG	**Fog Glacier, M**	**2.91**	**356**		**Pn**	**10 35 19.3**	**+1.1**
CHGN	**Chignik**	**2.95**	**9**		**Pn**	**10 35 18.1**	**-0.6**
CHGN				IAML		10 36 01.8	
	comp=E,222nm,0.6s						
SSLS	**Shishaldin Sou**	**3.11**	**297**		**Pn**	**10 35 20.2**	**-0.8**
ANPB	**Aniakchak Plen**	**3.46**	**9**		**Pn**	**10 35 27.0**	**+1.2**
AKUT	**Akutan**	**3.96**	**283**	Pn	**Pn**	**10 35 31.7**	**-0.8**
AKUT				IAML		10 36 18.2	
	comp=E,99nm,1.0s						
AKUT				IAML		10 36 18.3	
	comp=N,86nm,0.9s						
AKBBA	**Akutan Broad B**	**4.05**	**283**		**Pn**	**10 35 32.5**	**-1.3**
AKV	**Akutan Volcano**	**4.07**	**283**		**Pn**	**10 35 33.1**	**-1.1**
AKLV	**Akutan Long Va**	**4.07**	**284**		**Pn**	**10 35 33.1**	**-1.1**
ZRO	**Akutan Zero**	**4.07**	**283**		**Pn**	**10 35 32.9**	**-1.2**
AKMO	**Akutan Morgan**	**4.09**	**283**		**Pn**	**10 35 32.9**	**-1.5**
AKGG	**Akutan Green G**	**4.10**	**284**		**Pn**	**10 35 33.6**	**-0.9**
LVA	**Lava Point**	**4.12**	**284**		**Pn**	**10 35 34.2**	**-0.6**
LVA				IAML		10 36 32.3	
	comp=E,70nm,1.1s						
UNV	**Unalaska Valle**	**4.36**	**279**		**Pn**	**10 35 36.5**	**-1.5**
PLK4	**Peulik 4**	**4.55**	**20**		**Pn**	**10 35 41.2**	**+0.5**
PLK4				IAML		10 36 35.4	
	comp=E,94nm,0.6s						
PLK4				IAML		10 36 37.5	
	comp=N,68nm,0.7s						
OHAK	**Old Harbor**	**5.12**	**39**	Pn	**Pn**	**10 35 47.4**	**-1.1**
OHAK				IAML		10 36 48.6	
	comp=E,54nm,3.6s						
OHAK				IAML		10 37 03.8	
	comp=N,44nm,3.5s						
MGLS	**Mageik Landsli**	**5.28**	**24**		**Pn**	**10 35 50.9**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**5.28**	**273**		**Pn**	**10 35 49.0**	**-1.8**
ACHA	**Angle Creek He**	**5.31**	**23**		**Pn**	**10 35 51.1**	**-0.1**
OKCE	**Okmok Cone E**	**5.35**	**274**		**Pn**	**10 35 50.9**	**-0.8**
KDAK	**Kodiak Island**	**5.79**	**38**	Pn	**Pn**	**10 35 56.5**	**-1.2**
KDAK	**Kodiak Island**	**5.79**	**38**	Pn	**Pn**	**10 35 56.2**	**-1.4**
	comp=N,0.6nm,0.3s,baz=236,slow=1.4,SNR=28						
KDAK				Sn	**Sn**	**10 36 58.9**	**-5.1**
	comp=N,0.8nm,0.3s,baz=326,slow=7.3,SNR=2.4						
	comp=N,3.9nm,0.5s						
NIKH	**Nikolski High**	**5.81**	**270**	Pn	**Pn**	**10 35 56.3**	**-1.7**
O15K	**Ungalikthiuk R**	**5.81**	**357**		**Pn**	**10 35 58.9**	**+0.9**
O14K	**Tigyukauivet M**	**5.99**	**350**	Pn	**Pn**	**10 36 01.2**	**+0.8**
N14K	**Kuskokwak Cree**	**6.69**	**349**		**Pn**	**10 36 10.8**	**+0.8**
N15K	**Kwethluk River**	**6.81**	**356**		**Pn**	**10 36 12.5**	**+0.8**
N17K	**Nushagak Hills**	**7.24**	**8**		**Pn**	**10 36 18.5**	**+0.9**
M14K	**Bethel**	**7.53**	**350**		**Pn**	**10 36 22.0**	**+0.5**
CNPM	**China Poot**	**7.57**	**33**	Pn	**Pn**	**10 36 22.3**	**+0.2**
M16K	**Timber Creek**	**7.65**	**1**	Pn	**Pn**	**10 36 23.7**	**+0.5**
M17K	**Holitna River**	**8.09**	**6**	Pn	**Pn**	**10 36 30.1**	**+0.9**
SEW	**Seward**	**8.60**	**35**	Pn	**Pn**	**10 36 36.4**	**+0.2**
SLKM	**Skilak Lake**	**8.66**	**31**	Pn	**Pn**	**10 36 37.9**	**+0.9**
RC01	**Rabbit Creek A**	**9.26**	**30**		**Pn**	**10 36 46.2**	**+0.9**
SUA	**Susitna One**	**9.29**	**26**		**Pn**	**10 36 45.5**	**-0.2**
PWL	**Port Wells**	**9.53**	**34**		**Pn**	**10 36 48.6**	**-0.4**
SKT	**Skwentna**	**9.54**	**22**	Pn	**Pn**	**10 36 49.9**	**+0.8**
HIN	**Hinchinbrook I**	**9.87**	**40**	Pn	**Pn**	**10 36 53.8**	**+0.1**
J16K	**Anvik River**	**9.95**	**356**	Pn	**Pn**	**10 36 55.5**	**+0.8**
FID	**Port Fidalgo**	**10.11**	**38**	Pn	**Pn**	**10 36 56.1**	**-0.8**
PPLA	**Purkeypile**	**10.22**	**18**	Pn	**Pn**	**10 36 58.9**	**+0.3**
SML	**Sawmill**	**10.25**	**30**	Pn	**Pn**	**10 36 58.6**	**-0.

comp=Z,1.3nm,0.5s
BRTR Keskin Array B 86.59 350 P **P 10 47 15.8 +0.6**
comp=Z,0.5nm,0.4s,baz=90,slow=1.4,SNR=3.6
comp=Z,0.5nm,0.4s

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*NEIC **03** 10:38:36.3±1.9, 11°.2S±0°.1×166°.15E±0°.09, h35km±2km, mb4.5/13, Error ellipse: s-maj=24.0km s-min=5.2km az=322.0*
*IDC **03** 10:38:38.7±5.7, 11°.40S×166°.15E, h63km±50km, mb3.8/9, mbtmp4.1/10, ML3.8/1, MS3.4/15, Error ellipse: s-maj=26.8km s-min=25.4km az=145.0*
ISC 03 10:38:36.1±0.7, 11°.2S±0°.1×166°.1E±0°.2, h35km, n37, σ1§18/26, mb4.3/15, MS3.4/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.33**	**166**		**Pn**	**10 39 40.5**	**+1.0**
DZM	**Mont Dzumac**	**10.80**	**178**	Pn	**Pn**	**10 41 08.8**	**+0.4**
DZM	**Mont Dzumac**	**10.80**	**178**	P	**Pn**	**10 41 08.4**	**0.0**
	0.7nm,0.3s,baz=9.0,slow=19,SNR=1.5						
DZM				S	Sn	10 42 57.0	-11
	5.1nm,0.8s,baz=99,slow=19,SNR=1.4						
DZM				LR	LR	10 44 46.6	
	comp=Z,113nm,20.8s,baz=28,slow=35						
	2.8nm,0.4s						
PMG	**Port Moresby**	**18.75**	**274**	LR	LR	10 49 29.6	
	comp=Z,162nm,20.0s,baz=52,slow=35						
STKA	**Stephens Creek**	**30.58**	**224**	P	**P**	**10 44 49.6**	**+2.9**
	1.8nm,0.8s,baz=56,slow=11,SNR=3.3						
STKA				LR	LR	10 56 36.7	
	comp=Z,76nm,20.1s,baz=30,slow=35						
WB0	**Warramunga Arr**	**31.69**	**251**	P	**P**	**10 44 54.7**	**-2.0**
WB0				IAmb	IAmb	10 45 24.9	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**31.77**	**250**	P	**P**	**10 44 57.3**	**0.0**
WRAB				IAmb	IAmb	10 45 22.7	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**31.78**	**250**	P	**P**	**10 44 56.8**	**-0.6**
WRA	**Warramunga Arr**	**31.78**	**250**	P	**P**	**10 44 57.6**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=82,slow=8.8,SNR=6.4						
	comp=Z,1.3nm,0.8s						
GUMO	**Guam**	**32.44**	**319**	LR	LR	10 57 42.6	
	comp=Z,32nm,19.1s,baz=166,slow=35						
ASAR	**Alice Springs**	**33.05**	**244**	P	**P**	**10 45 07.9**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=72,slow=9.3,SNR=9.8						
ASAR				LR	LR	10 57 52.3	
	comp=Z,82nm,18.1s,baz=80,slow=35						
	comp=Z,1.1nm,0.8s						
RAR	**Rarotonga**	**34.15**	**111**	LR	LR	10 55 56.2	
	comp=Z,100nm,21.6s,baz=304,slow=30						
FITZ	**Fitzroy Crossi**	**39.70**	**255**	P	**P**	**10 46 05.1**	**-0.2**
PPT	**Papeete**	**43.29**	**104**	LR	LR	11 01 44.1	
	comp=Z,66nm,19.6s,baz=7.5,slow=32						
JNU	**Nakatsue**	**55.44**	**324**	LR	LR	11 11 03.0	
	comp=Z,23nm,18.3s,baz=354,slow=35						
ASAJ	**Asahikawa**	**59.08**	**340**	LR	LR	11 10 12.9	
	comp=Z,32nm,20.6s,baz=116,slow=32						
PETK	**Petropavlovsk-**	**64.47**	**354**	LR	LR	11 14 00.6	
	comp=Z,16nm,19.7s,baz=119,slow=33						
VNDA	**Vanda**	**66.33**	**181**	P	**P**	**10 49 18.7**	**-2.0**
VNDA				IAmb	IAmb	10 49 20.2	
	comp=Z,4.4nm,1.3s						
VNDA	**Vanda**	**66.33**	**181**	P	**P**	**10 49 17.7**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=51,slow=6.4,SNR=7.6						
	comp=Z,1.3nm,0.6s						
MA2	**Magadan**	**71.63**	**352**	LR	LR	11 14 54.0	
	comp=Z,18nm,20.1s,baz=132,slow=30						
CMAR	**Chiang Mai Arr**	**72.52**	**293**	P	**P**	**10 49 59.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=114,slow=7.1,SNR=4.4						
	comp=Z,0.6nm,0.4s						
KDAK	**Kodiak Island**	**76.60**	**21**	LR	LR	11 24 31.3	
	comp=Z,41nm,18.2s,baz=90,slow=36						
M16K	**Timber Creek**	**77.11**	**17**	P	**P**	**10 50 26.1**	**+0.5**
YAK	**Yakutsk**	**78.36**	**343**	LR	LR	11 26 22.4	
	comp=Z,15nm,18.1s,baz=308,slow=36						
QSPA	**South Pole Qui**	**78.79**	**180**	P	**P**	**10 50 34.8**	**-0.3**
QSPA				IAmb	IAmb	10 50 36.2	
	comp=Z,6.6nm,1.0s						
QSPA	**South Pole Qui**	**78.79**	**180**	P	**P**	**10 50 34.7**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=43,slow=1.2,SNR=13						
	comp=Z,5.2nm,0.9s						
SUA	**Susitna One**	**79.96**	**19**	P	**P**	**10 50 41.3**	**-0.1**
HDA	**Harding Lake**	**83.28**	**19**	P	**P**	**10 50 58.3**	**-0.5**
ILAR	**Eielson Array**	**83.56**	**18**	P	**P**	**10 50 59.6**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=258,slow=5.5,SNR=7.5						
	comp=Z,0.7nm,0.8s						
DOT	**Dot Lake**	**83.71**	**20**	P	**P**	**10 51 00.7**	**-0.3**
DOT				IAmb	IAmb	10 51 03.8	
	comp=Z,2.8nm,0.8s						
J25K	**Salcha River,**	**83.92**	**19**	P	**P**	**10 51 01.9**	**-0.3**
J25K				IAmb	IAmb	10 51 04.5	
	comp=Z,3.3nm,0.7s						
SCRK	**Sand Creek**	**83.95**	**20**	P	**P**	**10 51 02.2**	**-0.2**
SCRK				IAmb	IAmb	10 51 05.1	
	comp=Z,3.7nm,0.8s						
EGAK	**Eagle**	**85.41**	**20**	P	**P**	**10 51 11.2**	**+1.6**
NVAR	**Mina Array Bea**	**85.85**	**50**	P	**P**	**10 51 13.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=228,slow=7.9,SNR=7.1						
NVAR				LR	LR	11 21 44.7	
	comp=Z,32nm,21.1s,baz=304,slow=30						
	comp=Z,0.9nm,0.7s						
PALK	**Pallekele**	**86.94**	**278**	LR	LR	11 36 55.0	
	comp=Z,23nm,18.4s,baz=163,slow=40						
MKAR	**Makanchi Array**	**93.90**	**317**	P	**P**	**10 51 50.3**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=96,slow=5.4,SNR=7.1						
	comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**95.58**	**61**	P	**P**	**10 51 58.9**	**+0.6**
	comp=Z,0.6nm,1.1s,baz=287,slow=4.2,SNR=3.5						
	comp=Z,0.6nm,1.1s						

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*AEIC **03** 10:54:16.0±0.5, 54°.2N±0°.2×164°.7W±0°.2, h74km±8km, Error ellipse: s-maj=28.1km s-min=4.4km az=149.0*
NEIC 03 10:54:16.3±0.6, 54°.2N±0°.3×164°.7W±0°.3, h79km±15km, ML2.5/10, ML2.2(AEIC), Error ellipse: s-maj=46.8km s-min=4.6km az=148.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.38**	**359**		Pn	10 54 28.7	-0.3
WEBT					Sn	10 54 38.4	+0.1
AKSA	**Akutan Strait**	**0.57**	**262**		Pn	10 54 30.9	+0.4
AKSA					Sn	10 54 40.8	-0.2
AKUT	**Akutan**	**0.61**	**263**		Pn	10 54 31.0	+0.1
AKUT	**Akutan**	**0.61**	**263**	IAML		10 54 42.4	
	comp=N,115nm,0.4s						
AKUT				IAML		10 54 43.0	
	comp=E,243nm,0.3s						
AHB	**Akutan Harbor**	**0.64**	**261**		Pn	10 54 31.2	0.0
AHB					Sn	10 54 42.5	+0.1
SSLS	**Shishaldin Sou**	**0.66**	**41**		Pn	10 54 31.1	-0.4
SSBA	**Shishaldin**	**0.67**	**33**		Pn	10 54 31.0	-0.6
SSBA					Sn	10 54 42.4	-0.5
AKBBA	**Akutan Broad B**	**0.71**	**261**		Pn	10 54 32.0	0.0
AKBBA					Sn	10 54 43.8	+0.2
AKLV	**Akutan Long Va**	**0.71**	**266**		Pn	10 54 32.1	0.0
LVA	**Lava Point**	**0.76**	**266**		Pn	10 54 32.7	+0.2
LVA	**Lava Point**	**0.76**	**266**	IAML		10 54 47.0	
	comp=N,142nm,0.6s						
LVA				IAML		10 54 48.1	
	comp=E,94nm,0.5s						
AKRB	**Akutan Reef Bi**	**0.78**	**264**		Pn	10 54 32.9	+0.1
FALS	**False Pass**	**1.00**	**50**		Pn	10 54 35.0	-0.3
MSW	**Makushin Switc**	**1.24**	**257**		Pn	10 54 38.2	-0.1
DT1	**Dutton Round H**	**1.69**	**57**		Pn	10 54 44.0	0.0
DOL	**Dolgoi Island**	**1.92**	**60**		Pn	10 54 46.9	-0.1
DOL					Sn	10 55 10.5	+0.1
SDPT	**Sand Point**	**2.72**	**64**	Pn	Pn	10 54 58.9	+1.1
SDPT				IAML		10 55 39.3	
	comp=E,19nm,1.2s						
SDPT				IAML		10 55 45.9	
	comp=N,13nm,1.3s						

IDC 03 11:00:11.8±2.6, 4°.03S×127°.29E, h0km, mb3.8/3, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=352.3km s-min=25.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.25**	**157**	P	Pn	11 04 13.9	-0.3
	0.1nm,0.3s,baz=333,slow=12,SNR=7.1						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**20.54**	**162**	P	P	11 04 52.2	+0.2
	5.0nm,0.8s,baz=345,slow=11,SNR=11						
	5.0nm,0.8s						
MKAR	**Makanchi Array**	**64.28**	**327**	P	P	11 10 49.4	+0.4
	0.4nm,0.5s,baz=121,slow=8.0,SNR=4.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**68.59**	**329**	P	P	11 11 16.1	-0.3
	0.6nm,0.6s,baz=130,slow=6.3,SNR=5.3						
	0.6nm,0.6s						

IDC 03 11:10:33.7±3.2, 31°.43S×177°.09W, h0km, mb3.3/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=78.3km s-min=36.9km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.32**	**213**	Pn	Pn	11 12 35.9	+0.4
	0.6nm,0.3s,baz=247,slow=5.3,SNR=10						
URZ				Sn	Sn	11 14 09.4	-0.8
	1.2nm,0.3s,baz=94,slow=21,SNR=13						
	18nm,1.0s						
ASAR	**Alice Springs**	**43.84**	**268**	P	P	11 18 42.1	+0.2
	0.3nm,0.8s,baz=107,slow=7.5,SNR=5.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**44.92**	**273**	P	P	11 18 50.2	-0.3
	0.2nm,0.4s,baz=111,slow=8.1,SNR=5.7						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**146.37**	**340**	PKPbc	PKPdf	11 30 14.8	+0.3
	5.7nm,1.1s,baz=30,slow=5.3,SNR=5.2						

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*AEIC **03** 11:14:09.2±1.3, 53°.33N±0°.05×159°.8W±0°.1, h26km±8km, Error ellipse: s-maj=9.2km s-min=6.2km az=64.0*
NEIC 03 11:14:10.6±1.4, 53°.49N±0°.03×159°.98W±0°.03, h10km±2km, ML3.0/20, ML2.8(AEIC), Error ellipse: s-maj=5.7km s-min=3.0km az=155.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.35**	**10**		Pn	11 14 34.0	-1.5
CNBA					Sg	11 14 53.8	-0.2
SDPT	**Sand Point**	**1.88**	**351**		Pn	11 14 42.5	-0.4
SDPT					Sb	11 15 08.5	-0.1
DOL	**Dolgoi Island**	**1.99**	**327**		Pn	11 14 44.1	-0.3
DOL					Sb	11 15 11.0	-0.8
DT1	**Dutton Round H**	**2.11**	**321**		Pn	11 14 46.0	0.0
DT1					Sb	11 15 13.8	-1.3
HAG	**Hague Volcano**	**2.15**	**329**		Pn	11 14 46.8	+0.3
PS4A	**Pavlof South-4**	**2.16**	**330**		Pn	11 14 47.1	+0.5
PS4A					Sb	11 15 16.4	-0.1
PS1A	**Pavlof South-1**	**2.19**	**333**		Pn	11 14 47.5	+0.4
PS1A					Sb	11 15 18.4	+0.9
FALS	**False Pass**	**2.44**	**305**		Pn	11 14 50.4	-0.1
FALS					Sn	11 15 22.4	+2.0
S12K	**Black Hills**	**2.52**	**332**	IAML		11 15 29.7	
	comp=E,62nm,0.4s						
S12K				IAML		11 15 31.7	
	comp=N,46nm,0.5s						
VNKR	**Veniaminof 5**	**2.57**	**8**		Pn	11 14 52.8	+0.5
ISNN	**Isanotski Nort**	**2.61**	**302**		Pn	11 14 53.4	+0.5
VNFG	**Fog Glacier, M**	**2.81**	**5**		Pn	11 14 56.8	+1.1
VNFG	**Fog Glacier, M**	**2.81**	**5**	IAML		11 15 51.2	
	comp=N,81nm,0.9s						
CHGN	**Chignik**	**2.96**	**17**	Pn	Pn	11 14 57.5	0.0
WEBT	**Westdahl Beart**	**3.02**	**293**		Pn	11 14 58.9	+0.4
AKUT	**Akutan**	**3.50**	**283**	Pn	Pn	11 15 05.4	+0.5
AKUT				IAML		11 15 52.9	
	comp=E,34nm,0.8s						
AKUT				IAML		11 15 56.4	
	comp=N,35nm,1.3s						
AHB	**Akutan Harbor**	**3.52**	**283**		Pn	11 15 05.1	-0.2
LVA	**Lava Point**	**3.65**	**283**	Pn	Pn	11 15 07.6	+0.4
LVA				IAML		11 15 53.9	
	comp=E,40nm,1.3s						
UNV	**Unalaska Valle**	**3.90**	**278**	Pn	Pn	11 15 09.7	-0.8
UNV				IAML		11 15 58.2	
	comp=E,18nm,1.1s						
UNV				IAML		11 15 58.2	
	comp=N,20nm,1.4s						
MREP	**Makushin Rep't**	**4.04**	**277**		Pn	11 15 12.1	-0.4
MGOD	**Makushin Gods**	**4.12**	**277**		Pn	11 15 13.0	-0.6
MAPS	**Pakushin South**	**4.16**	**277**		Pn	11 15 13.6	-0.5
PLK4	**Peulik 4**	**4.63**	**25**	Pn	Pn	11 15 19.9	-0.8
PLK4				IAML		11 16 44.2	
	comp=N,13nm,1.2s						
PLK4				IAML		11 17 09.9	
	comp=E,16nm,1.5s						
P16K	**Nushagak River**	**5.66**	**10**	Pn	Pn	11 15 35.0	+0.3
KDAK	**Kodiak Island**	**6.00**	**41**	Pn	Pn	11 15 36.7	-2.6
N15K	**Kwethluk River**	**6.69**	**359**	Pn	Pn	11 15 49.8	+1.0

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*SDD **03** 11:29:49.0±2.2, 19°.20N×67°.20W, h22km±80km, MD3.6, ML3.2, MW3.4*
*OSPL **03** 11:29:50.1±0.3, 19°.14N×67°.29W, h17km±2km, ML3.0*
*NEIC **03** 11:29:51.1±2.0, 19°.00N±0°.03×67°.15W±0°.02, h10km±2km, ML3.0/16, Md3.0/18(RSPR), Error ellipse: s-maj=5.4km s-min=3.4km az=354.0*
*RSPR **03** 11:29:52.9, 19°.08N×67°.18W, h19km±7km, MD3.0/18*
ISC 03 11:29:46.8±1.4, 19°.18N±0°.05×67°.16W±0°.03, h4km±10km, n78, σ0§80/95, 27C-13D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**176**		**Pb**	**11 30 02.4**	**+0.7**
AGPR					**Sb**	**11 30 11.3**	**-0.6**
AGPR	**Aguadilla, PR**	**0.71**	**176**	*e*P	**Pb**	**11 30 02.4**	**+0.7**
AGPR	**Aguadilla, PR**	**0.71**	**176**	*e*Pg	**Pb**	**11 30 02.5**	**+0.7**
AGPR				⇓*e*Sg	**Sb**	**11 30 12.9**	**+1.0**
AGPR				IAML		11 30 14.2	
	comp=N,1μm,0.3s						
AGPR	**Aguadilla, PR**	**0.71**	**176**	*i* P	**Pb**	**11 30 02.4**	**+0.7**
AGPR				*e*S	**Sb**	**11 30 11.4**	**-0.5**
AGPR				IAML		11 30 14.2	
	comp=N,1μm,0.3s						
IDE	**Isla Desecheo**	**0.84**	**201**		**Pb**	**11 30 04.3**	**+0.3**
IDE					**Sb**	**11 30 15.0**	**-0.6**
IDE	**Isla Desecheo**	**0.84**	**201**	⇑*e*P	**Pb**	**11 30 04.3**	**+0.3**
IDE	**Isla Desecheo**	**0.84**	**201**	*e*S	**Sb**	**11 30 15.0**	**-0.6**
AOPR	**Arecibo Observ**	**0.92**	**155**		**Pb**	**11 30 05.7**	**+0.5**
AOPR	**Arecibo Observ**	**0.92**	**155**		**Sg**	**11 30 16.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.92**	**155**	IAML		11 30 13.5	
	comp=E,766nm,0.7s						
AOPR	**Arecibo Observ**	**0.92**	**155**	⇑*e*P	**Pb**	**11 30 05.7**	**+0.5**
AOPR	**Arecibo Observ**	**0.92**	**155**	*e*S	**Sg**	**11 30 16.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.92**	**155**	⇓*e*Pg	**Pb**	**11 30 05.9**	**+0.7**
AOPR				⇑*e*Sg	**Sb**	**11 30 17.3**	**-0.5**
AOPR				IAML		11 30 27.0	
	comp=N,1μm,0.4s						
EMPR	**Esperanza - Ma**	**0.92**	**139**		**Pn**	**11 30 06.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.92**	**139**		**Sn**	**11 30 19.4**	**-0.8**
EMPR	**Esperanza - Ma**	**0.92**	**139**	⇑*e*P	**Pn**	**11 30 06.8**	**+0.4**
EMPR	**Esperanza - Ma**	**0.92**	**139**	*e*S	**Sn**	**11 30 19.4**	**-0.8**
PRSN	**Puerto Rico Se**	**0.96**	**179**		**Pb**	**11 30 06.4**	**+0.4**
PRSN	**Puerto Rico Se**	**0.96**	**179**		**Sb**	**11 30 19.4**	**+0.4**
PRSN	**Puerto Rico Se**	**0.96**	**179**	⇑*e*P	**Pb**	**11 30 06.3**	**+0.4**
PRSN	**Puerto Rico Se**	**0.96**	**179**	*e*S	**Sb**	**11 30 19.4**	**+0.4**
PRSN	**Puerto Rico Se**	**0.96**	**179**	*e*Pg	**Pg**	**11 30 05.3**	**+0.1**
PRSN				⇓*e*Sg	**Sb**	**11 30 20.1**	**+1.1**
PRSN				IAML		11 30 23.2	
	comp=N,2μm,0.3s						
LSP	**Las Mesas**	**1.00**	**176**		**Pb**	**11 30 07.0**	**+0.3**
LSP					**Sg**	**11 30 19.6**	**+0.6**
LSP	**Las Mesas**	**1.00**	**176**	⇑*e*P	**Pb**	**11 30 07.0**	**+0.3**
LSP	**Las Mesas**	**1.00**	**176**	*e*S	**Sg**	**11 30 19.6**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.01**	**156**		**Pg**	**11 30 06.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.01**	**156**	Pn	**Pb**	**11 30 07.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.01**	**156**	⇑*e*P	**Pg**	**11 30 06.6**	**+0.3**
ECPR	**Experimental S**	**1.14**	**138**	⇑*e*P	**Pn**	**11 30 09.7**	**+0.1**
ECPR	**Experimental S**	**1.14**	**138**	*e*S	**Sb**	**11 30 24.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**		**Pg**	**11 30 09.4**	**+0.1**
CRPR					**Sg**	**11 30 23.5**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	IAML		11 30 33.8	
	comp=N,384nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	⇓*e*P	**Pg**	**11 30 09.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	*e*S	**Sg**	**11 30 23.5**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	⇓*e*Pg	**Pb**	**11 30 09.6**	**0.0**
CRPR				⇓*e*Sg	**Sn**	**11 30 26.5**	**+0.3**
CRPR				IAML		11 30 33.7	
	comp=N,431nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	*i* P	**Pg**	**11 30 09.4**	**+0.1**
CRPR				*e*S	**Sg**	**11 30 24.0**	**-0.4**
CRPR				IAML		11 30 26.8	
	comp=Z,323nm,0.3s						

MLPR	**Magueyes Islan**	**1.21**	**175**	⇓*e*P	**Pg**	**11 30 10.0**	**0.0**
MLPR	**Magueyes Islan**	**1.21**	**175**	*e*S	**Sg**	**11 30 23.2**	**-2.5**
MLPR	**Magueyes Islan**	**1.21**	**175**	⇑*e*Pg	**Pb**	**11 30 10.2**	**0.0**
MLPR				⇑*e*Sg	**Sg**	**11 30 25.6**	**-0.1**
MLPR				IAML		11 30 33.1	
	comp=N,76nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.23**	**167**		**Pb**	**11 30 10.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.23**	**167**	⇑*e*P	**Pb**	**11 30 10.6**	**0.0**
CELP	**Cerrillos**	**1.23**	**153**		**Pb**	**11 30 10.7**	**+0.1**
CELP					**Sg**	**11 30 25.4**	**-1.0**
CELP	**Cerrillos**	**1.23**	**153**	IAML		11 30 27.4	
	comp=N,366nm,0.4s						
CELP				IAML		11 30 29.3	
	comp=E,372nm,0.7s						
CELP	**Cerrillos**	**1.23**	**153**	⇑*e*P	**Pb**	**11 30 10.7**	**+0.1**
CELP	**Cerrillos**	**1.23**	**153**	*e*S	**Sg**	**11 30 25.4**	**-1.0**
CELP	**Cerrillos**	**1.23**	**153**	*e*Pg	**Pn**	**11 30 11.4**	**+0.7**
CELP				⇓*e*Sg	**Sb**	**11 30 26.8**	**0.0**
CELP				IAML		11 30 27.3	
	comp=N,354nm,0.3s						
OBIP	**Obispado Ponce**	**1.25**	**155**		**Pb**	**11 30 11.0**	**+0.1**
OBIP					**Sg**	**11 30 26.2**	**-0.8**
OBIP	**Obispado Ponce**	**1.25**	**155**	IAML		11 30 32.9	
	comp=N,369nm,0.4s						
OBIP				IAML		11 30 33.6	
	comp=E,333nm,0.4s						
OBIP	**Obispado Ponce**	**1.25**	**155**	⇓*e*P	**Pb**	**11 30 11.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.25**	**155**	*e*S	**Sg**	**11 30 26.2**	**-0.8**
GCPR	**Guaynabo City**	**1.34**	**130**		**Pg**	**11 30 13.2**	**+0.7**
GCPR					**Sb**	**11 30 30.2**	**+0.3**
GCPR	**Guaynabo City**	**1.34**	**130**	⇑*e*P	**Pg**	**11 30 13.2**	**+0.7**
GCPR	**Guaynabo City**	**1.34**	**130**	*e*S	**Sb**	**11 30 30.2**	**+0.3**
SJG	**San Juan**	**1.43**	**138**		**Pg**	**11 30 14.4**	**+0.1**
SJG	**San Juan**	**1.43**	**138**	IAML		11 30 42.9	
	comp=E,263nm,0.3s						
SJG	**San Juan**	**1.43**	**138**	⇑*e*P	**Pg**	**11 30 14.4**	**+0.1**
SJG	**San Juan**	**1.43**	**138**	⇑*e*Pg	**Pg**	**11 30 15.8**	**+1.6**
SJG				⇓*e*Sg	**Sb**	**11 30 32.4**	**-0.2**
SJG	**San Juan**	**1.43**	**138**	*i* P	**Pg**	**11 30 14.4**	**+0.1**
SJG				*e*S	**Sb**	**11 30 32.3**	**-0.3**
SJG				IAML		11 30 39.2	
	comp=Z,134nm,0.5s						
IGPR	**InterUniversit**	**1.57**	**140**		**Pg**	**11 30 16.7**	**-0.2**
IGPR					**Sn**	**11 30 34.2**	**-1.9**
IGPR	**InterUniversit**	**1.57**	**140**	⇑*e*P	**Pg**	**11 30 16.7**	**-0.2**
IGPR	**InterUniversit**	**1.57**	**140**	*e*S	**Sn**	**11 30 34.2**	**-1.9**
PDPR	**Patillas Dam,**	**1.58**	**137**		**Pb**	**11 30 16.6**	**0.0**
PDPR				IAML		11 30 44.5	
	comp=E,266nm,0.2s						
PDPR	**Patillas Dam,**	**1.58**	**137**	⇑*e*P	**Pb**	**11 30 16.3**	**-0.3**
PDPR	**Patillas Dam,**	**1.58**	**137**	*e*S	**Sn**	**11 30 35.6**	**-0.7**
HIDR	**Higuey Centro**	**1.58**	**249**	⇑*e*P	**Pn**	**11 30 16.2**	**+0.5**
HIDR	**Higuey Centro**	**1.58**	**249**	*e*S	**Sn**	**11 30 36.2**	**-0.4**
HIDR	**Higuey Centro**	**1.58**	**249**	⇑*e*Pg	**Pb**	**11 30 16.4**	**-0.3**
HIDR				⇓*e*Sg	**Sn**	**11 30 36.1**	**-0.4**
HIDR				IAML		11 30 49.9	
	comp=N,392nm,0.2s						
HUMP	**Col San Antoni**	**1.62**	**129**		**Pb**	**11 30 17.3**	**+0.1**
MIDR	**Miches**	**1.80**	**264**	⇑*e*P	**Pb**	**11 30 20.0**	**-0.2**
MIDR	**Miches**	**1.80**	**264**	*e*S	**Sn**	**11 30 42.3**	**+0.5**
MIDR	**Miches**	**1.80**	**264**	⇑*e*Pg	**Pb**	**11 30 20.3**	**0.0**
MIDR				IAML		11 30 46.6	
	comp=N,77nm,0.4s						
MIDR				IAML		11 30 51.8	
	comp=N,129nm,0.3s						
SMDR	**Samana, DR**	**1.92**	**274**	⇑*e*P	**Pn**	**11 30 20.4**	**+0.3**
SMDR	**Samana, DR**	**1.92**	**274**	*e*Pg	**Pn**	**11 30 20.5**	**+0.3**
SMDR				⇑*e*Sg	**Sn**	**11 30 45.5**	**+0.7**
SMDR				IAML		11 30 55.6	
	comp=N,127nm,0.6s						
DR12	**Loma Pena Alta**	**2.14**	**260**		**Pb**	**11 30 25.3**	**-0.8**
HATOM	**Hato Mayor del**	**2.14**	**260**	⇓*e*Pg	**Pb**	**11 30 25.9**	**-0.2**
HATOM				*e*Sg	**Sn**	**11 30 50.5**	**+0.2**
HATOM				IAML		11 31 00.6	
	comp=N,136nm,0.6s						
NADR	**Nagua**	**2.55**	**274**	⇑*e*Pg	**Pb**	**11 30 33.0**	**-0.1**
NADR				⇑*e*Sg	**Sb**	**11 31 03.5**	**-1.3**
NADR				IAML		11 31 20.6	
	comp=N,511nm,0.2s						
BANI	**BANI**	**3.13**	**256**		**Pb**	**11 30 40.3**	**-2.8**
SDDR	**Presa de Saban**	**3.91**	**268**		**Pn**	**11 30 51.1**	**+3.5**

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*HEL **03** 11:30:02.6±0.4, 67°.86N×20°.21E, h0km, ML1.5, Suspected explosion*
UPP 03 11:30:01.1±0.2, 67°.81N×20°.28E, h0km, ML1.8, Confirmed Induced event, Sweden

KEF	**Keuruu**	**2.34 220**	*e*P		Pb	11 31 05.9	-1.4
OLKF	**Oulanka, Finla**	**2.41 12**	PB		Pb	11 31 07.3	-1.2
OLKF	**Oulanka, Finla**	**2.41 12**	PG		Pb	11 31 07.3	-1.2
OLKF			MSG			11 31 35.6	
	comp=Z,1.9nm,0.2s						
VAF	**Ylistaro**	**2.62 251**	PG		Pb	11 31 09.9	-2.0
VAF			MSG			11 31 41.5	
	comp=Z,2.8nm,0.2s						
VAF			SG		Sb	11 31 44.1	-0.4
FIA0	**FINESS Array S**	**2.71 201**	PB		Pn	11 31 11.2	+2.1
	baz=21						
FIA0			MSG			11 31 44.4	
	comp=Z,1.5nm,0.2s						
FIA0			SB		Sb	11 31 47.0	-0.4
SJUU	**Sjulsmark**	**3.18 302**	*e*P		Pn	11 31 16.4	+0.8
UMAU	**Umeaa**	**3.29 272**	PG		Pn	11 31 16.8	-0.1
UMAU	**Umeaa**	**3.29 272**	PN		Pn	11 31 16.8	-0.1
KPF	**Kankaanpaa**	**3.50 235**	PB		Pn	11 31 22.9	+3.0
ERTU	**Ertsjaerv**	**3.59 319**	PB		Pn	11 31 23.0	+1.9
	baz=136						
RAF	**Rauma**	**4.18 228**	*e*P		Pn	11 31 30.2	+1.0
HEMU	**Hemsoen**	**4.73 258**	PN		Pn	11 31 37.8	+1.0
	baz=70						

*IDC **03** 11:49:05.8±3.7, 13°.14S×166°.73E, h46km±33km, mb4.0/16, mbtmp4.2/17, ML4.2/1, MS3.7/5, Error ellipse: s-maj=21.7km s-min=17.2km az=84.0*
*NEIC **03** 11:49:08.6±1.7, 13°.25±0°.1×166°.7E±0°.1, h62km±8km, mb4.6/33, Error ellipse: s-maj=18.6km s-min=14.6km az=93.0*

ISC 03 11:49:05.7±0.6, **13°.11S**±0°.07×**166°.7E**±0°.1, **h44**km, **n67**, σ1§**14**/66, **mb4.5**/31, **MS3.7**/6, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.37 169**			**Pn**	**11 49 43.2**	**+1.1**
DZM	**Mont Dzumac**	**8.92 182**			**Pn**	**11 51 13.6**	**+1.5**
DZM	**Mont Dzumac**	**8.92 182**		P	**Pn**	**11 51 13.2**	**+1.1**
	2.6nm,0.3s,baz=337,slow=12,SNR=15						
DZM				S	**Sn**	**11 52 48.6**	**-2.8**
	12nm,0.6s,baz=307,slow=20,SNR=1.5						
	6.5nm,0.3s						
ONTNC	**Ouen Toro**	**9.15 182**		Pn	**Pn**	**11 51 16.9**	**+1.7**
PINNC	**Pines Island,**	**9.48 176**			**Pn**	**11 51 22.4**	**+2.7**
EIDS	**Eidsvold**	**19.13 228**		Pn	**Pn**	**11 53 27.5**	**+1.1**
CTA	**Charters Tower**	**20.80 248**		LR	LR	12 01 13.7	
	comp=Z,6.7nm,18.4s,baz=25,slow=35						
CTAO	**Charters Tower**	**20.80 248**		P	**P**	**11 53 44.9**	**+1.5**
CTAO				IAmb	IAmb	11 54 16.9	
	comp=Z,22nm,1.2s						
ARMA	**Armidale**	**22.17 217**		P	**P**	**11 53 59.4**	**+1.2**
CAN	**Canberra**	**27.30 213**		P	**P**	**11 54 46.8**	**+0.5**
CAN				IAmb	IAmb	11 55 20.3	
	comp=Z,15nm,1.3s						
INKA	**Innaminka**	**28.28 235**		P	**P**	**11 54 55.3**	**+0.2**
STKA	**Stephens Creek**	**29.67 227**		P	**P**	**11 55 08.1**	**+0.7**
STKA	**Stephens Creek**	**29.67 227**		P	**P**	**11 55 07.6**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=38,slow=11,SNR=4.6						
STKA				PcP	**PcP**	**11 58 09.9**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=54,slow=4.4,SNR=4.9						
	comp=Z,1.6nm,0.5s						
TOO	**Toolangi**	**30.86 214**		P	**P**	**11 55 18.4**	**+0.4**
TOO				IAmb	IAmb	11 55 54.2	
	comp=Z,9.5nm,1.4s						
WR8	**Warramunga Arr**	**31.59 253**		P	**P**	**11 55 23.5**	**-1.0**
WR8				IAmb	IAmb	11 55 52.0	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**31.67 254**		P	**P**	**11 55 24.6**	**-0.7**
WB0				IAmb	IAmb	11 55 25.1	
	comp=Z,7.4nm,0.6s						
WRAB	**Tennant Creek**	**31.73 253**		P	**P**	**11 55 23.2**	**-2.5**
WRAB				IAmb	IAmb	11 55 56.6	
	comp=Z,8.3nm,1.2s						
WRA	**Warramunga Arr**	**31.74 253**		P	**P**	**11 55 22.4**	**-3.4**
WRA	**Warramunga Arr**	**31.74 253**		P	**P**	**11 55 24.8**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=86,slow=9.2,SNR=46						
WRA				PcP	**PcP**	**11 58 15.8**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=350,slow=1.1,SNR=4.8						
WRA				LR	LR	12 08 46.4	
	comp=Z,229nm,18.2s,baz=360,slow=37						
	comp=Z,3.9nm,0.6s						
AS31	**Alice Springs**	**32.79 247**		P	**P**	**11 55 34.1**	**-0.9**
ASAR	**Alice Springs**	**32.79 247**		P	**P**	**11 55 34.1**	**-0.9**
ASAR	**Alice Springs**	**32.79 247**		P	**P**	**11 55 34.3**	**-0.7**
	comp=Z,4.7nm,0.6s,baz=74,slow=9.5,SNR=105						
ASAR				PcP	**PcP**	**11 58 19.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=65,slow=2.3,SNR=11						
	comp=Z,4.7nm,0.6s						
RAR	**Rarotonga**	**32.96 109**		LR	LR	12 08 20.2	
	comp=Z,62nm,18.3s,baz=278,slow=35						
BBOO	**Buckleboo**	**34.18 230**		P	**P**	**11 55 46.9**	**-0.1**
KNRA	**Kununurra**	**36.83 261**		P	**P**	**11 56 10.0**	**+0.1**
KNRA				IAmb	IAmb	11 56 34.7	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**39.69 237**		P	**P**	**11 56 33.5**	**-0.3**
FORT				IAmb	IAmb	11 56 33.9	
	comp=Z,9.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.82 257**		P	**P**	**11 56 35.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.82 257**		P	**P**	**11 56 35.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=124,slow=7.6,SNR=5.3						
	comp=Z,1.9nm,0.7s						
PSA00	**Pilbara Seismi**	**45.39 253**		P	**P**	**11 57 20.3**	**0.0**
MBWA	**Marble Bar**	**45.48 253**		P	**P**	**11 57 21.2**	**+0.3**
MBWA				IAmb	IAmb	11 57 22.2	
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.14 238**		P	**P**	**11 57 48.8**	**-0.5**
MORW	**Morawa**	**49.51 243**		P	**P**	**11 57 52.3**	**+0.1**
JMN	**Monobe**	**56.11 327**		P	**P**	**11 58 41.0**	**+0.3**
MJAR	**Matsushiro Arr**	**56.23 332**		P	**P**	**11 58 41.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=175,slow=8.3,SNR=5.4						
	comp=Z,1.5nm,0.6s						
JNU	**Nakatsue**	**57.30 324**		P	**P**	**11 58 49.2**	**0.0**
KSRS	**Korea Array**	**62.11 326**		P	**P**	**11 59 22.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=140,slow=6.3,SNR=4.8						
	comp=Z,1.5nm,0.7s						
VNDA	**Vanda**	**64.46 181**		P	**P**	**11 59 36.6**	**-0.6**
VNDA	**Vanda**	**64.46 181**		P	**P**	**11 59 36.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=282,slow=5.0,SNR=4.4						
	comp=Z,0.9nm,0.8s						
CASY	**Casey**	**64.83 202**		P	**P**	**11 59 39.1**	**-0.6**
CASY				IAmb	IAmb	11 59 39.2	
	comp=Z,3.8nm,0.6s						
RPSI	**Rantau Prapat**	**69.07 278**		P	**P**	**12 00 06.4**	**-1.2**
RPSI				IAmb	IAmb	12 00 08.4	
	comp=Z,6.0nm,0.9s						
PSI	**Prapat**	**69.10 278**		LR	LR	12 32 30.7	
	comp=Z,30nm,18.2s,baz=152,slow=38						
ENH	**Enshi**	**69.93 309**		P	**P**	**12 00 12.9**	**+0.2**
CM31	**Chiang Mai Arr**	**73.81 294**		P	**P**	**12 00 36.7**	**+0.6**
CM31				IAmb	IAmb	12 00 38.5	
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.81 294**			**P**	**12 00 36.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.81 294**		P	**P**	**12 00 37.5**	**+1.4**
	comp=Z,5.9nm,0.9s,baz=125,slow=4.5,SNR=27						
	comp=Z,5.9nm,0.9s						
CHTO	**Chiang Mai**	**73.93 294**			**P**	**12 00 37.7**	**+0.8**
CHTO				IAmb	IAmb	12 00 38.8	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**76.91 180**		P	**P**	**12 00 54.7**	**+1.4**
QSPA				IAmb	IAmb	12 00 57.6	
	comp=Z,5.2nm,0.8s						
QSPA	**South Pole Qui**	**76.91 180**		P	**P**	**12 00 54.6**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=309,slow=0.7,SNR=36						
	comp=Z,3.6nm,0.7s						
SONM	**Songino Array**	**80.88 324**		P	**P**	**12 01 15.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=147,slow=7.2,SNR=5.6						
	comp=Z,0.9nm,0.6s						
MAW	**Mawson**	**83.18 202**		P	**P**	**12 01 25.9**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=117,slow=7.0,SNR=7.1						
	comp=Z,0.9nm,0.5s						
HDA	**Harding Lake**	**84.88 18**		P	**P**	**12 01 36.7**	**+1.3**
HDA				IAmb	IAmb	12 01 37.5	
	comp=Z,4.7nm,0.5s						
IL31		**85.16 18**		P	**P**	**12 01 37.3**	**+0.6**
IL31				IAmb	IAmb	12 01 40.0	
	comp=Z,3.5nm,1.1s						
ILAR	**Eielson Array**	**85.16 18**		P	**P**	**12 01 37.2**	**+0.3**
ILAR	**Eielson Array**	**85.16 18**		P	**P**	**12 01 36.0**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=238,slow=4.8,SNR=32						
	comp=Z,1.5nm,0.6s						
J25K	**Salcha River,**	**85.51 19**		P	**P**	**12 01 40.0**	**+1.3**
J25K				IAmb	IAmb	12 02 21.9	
	comp=Z,7.6nm,1.5s						
SCRK	**Sand Creek**	**85.52 20**		P	**P**	**12 01 40.0**	**+1.2**
NVAR	**Mina Array Bea**	**86.62 49**		P	**P**	**12 01 46.4**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=234,slow=7.5,SNR=5.6						
	comp=Z,0.8nm,0.8s						
EVN	**Everest**	**87.36 299**		P	**P**	**12 01 49.2**	**-0.2**
INK	**Inuvik**	**91.53 19**		LR	LR	12 38 59.9	
	comp=Z,37nm,18.9s,baz=171,slow=33						
PDAR	**Pinedale Array**	**94.24 47**		P	**P**	**12 02 19.1**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=11,slow=1.5,SNR=3.8						
	comp=Z,0.3nm,0.8s						
ANMO	**Albuquerque**	**94.82 55**		LR	LR	12 40 38.7	
	comp=Z,35nm,18.4s,baz=97,slow=33						
MKAR	**Makanchi Array**	**95.67 317**		P	**P**	**12 02 27.0**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=98,slow=5.9,SNR=15						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**95.78 324**		P	**P**	**12 02 26.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=102,slow=6.2,SNR=4.9						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**118.56 345**		PKP	**PKPdf**	**12 07 46.3**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=349,slow=2.5,SNR=8.2						
BOSA	**Boshof**	**124.25 221**		PKP	**PKPdf**	**12 07 59.3**	**-1.2**
	comp=Z,4.0nm,0.9s,baz=127,slow=5.1,SNR=3.5						
ESDC	**Sonseca Array**	**152.29 344**		PKPab	**PKPab**	**12 09 07.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=8.9,slow=4.6,SNR=7.9						
TORD	**Torodi Ar. Bea**	**165.42 272**		PKPab	**PKPab**	**12 10 04.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=83,slow=6.5,SNR=5.8						

*IDC **03** 11:57:43.4±0.7, 2°.69S×138°.42E, h0km, mb4.1/10, mbtmp4.1/13, ML3.8/3, MS3.4/10, Error ellipse: s-maj=20.3km s-min=11.1km az=92.0*
*DJA **03** 11:57:46.4±0.2, 3°.5±2°.×13°.8E±°, h10km, M4.4/9, mB4.9/1, mb4.5/3, MLv4.4/9, Mw(mB)4.2/1*
*NEIC **03** 11:57:48.8±1.7, 2°.75S±0°.10×138°.54E±0°.03, h30km±6km, mb4.4/17, Error ellipse: s-maj=13.9km s-min=3.6km az=169.0*

ISC 03 11:57:44.9±1.6, **2°.66S**±0°.05×**138°.49E**±0°.04, **h5**km±11km, **n61**, σ1§**15**/62, **mb4.2**/17, **MS3.5**/9, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.70**	**18**	P	**Pg**	**11 57 57.9**	**-0.6**
SMPI				S	**Sg**	**11 58 06.3**	**-1.3**
GENI	**Genyem**	**1.68**	**88**	P	**Pb**	**11 58 17.0**	**+0.6**
GENI	**Genyem**	**1.68**	**88**	P	**Pn**	**11 58 15.9**	**+0.9**
GENI				S	**Sb**	**11 58 38.0**	**+0.2**
JAY	**Jayapura**	**2.22**	**86**	Pn	**Pn**	**11 58 23.3**	**+0.8**
	21nm,0.3s,baz=223,slow=11,SNR=54						
JAY				Sn	**Sb**	**11 58 53.7**	**+0.2**
	13nm,0.3s,baz=82,slow=20,SNR=5.5						
JAY				LR	LR	11 59 10.3	
	comp=Z,547nm,20.0s,baz=325,slow=38						
	53nm,0.4s						
JAY	**Jayapura**	**2.22**	**86**	P	**Pn**	**11 58 23.6**	**+1.1**
JAY				S	**Sn**	**11 58 51.5**	**+1.2**
SRPI	**Serui, Papua**	**2.38**	**289**	P	**Pn**	**11 58 24.3**	**-0.3**
SRPI				S	**Sn**	**11 58 54.8**	**+0.6**
BAKI	**Biak**	**2.79**	**302**	P	**Pn**	**11 58 31.4**	**+1.1**
BAKI				S	**Sn**	**11 59 04.4**	**0.0**
RKPI	**Ransiki, Papua**	**4.46**	**285**	P	**Pn**	**11 58 54.0**	**+0.8**
RKPI				S	**Sn**	**11 59 46.1**	**+0.6**
FAKI	**Fak Fak**	**6.24**	**268**		**Pn**	**11 59 19.2**	**+1.6**
FAKI	**Fak Fak**	**6.24**	**268**	P	**Pn**	**11 59 19.3**	**+1.6**
	40nm,0.9s						
FAKI	**Fak Fak**	**6.24**	**268**	P	**Pn**	**11 59 17.9**	**+0.2**
	0.2nm40nm,0.8s						
SWI	**Sorong**	**7.44**	**284**	P	**Pn**	**11 59 34.8**	**+0.6**
COEN	**Coen**	**12.14**	**158**	Pn	**Pn**	**12 00 39.0**	**+0.4**
COEN	**Coen**	**12.14**	**158**	P	**Pn**	**12 00 39.1**	**+0.4**
	21nm,0.9s						
MTN	**Manton Dam**	**12.46**	**215**	Pn	**Pn**	**12 00 43.4**	**+0.3**
SOEI	**Soe**	**15.79**	**243**		**P**	**12 01 33.1**	**+0.8**
KNRA	**Kununurra**	**16.09**	**216**	Pn	**Pn**	**12 01 30.8**	**-1.3**
KNRA				IAmb	IAmb	12 01 51.4	
	comp=Z,13nm,0.8s						
BATI	**Baumata**	**16.52**	**242**	Pn	**P**	**12 01 41.4**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=217,slow=2.6,SNR=7.7						
WB0	**Warramunga Arr**	**17.46**	**193**	Pn	**Pn**	**12 01 47.4**	**-2.1**
WR8	**Warramunga Arr**	**17.62**	**192**	P	**Pn**	**12 01 50.8**	**-0.7**
WR8				IAmb	IAmb	12 02 04.9	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**17.63**	**193**	P	**Pn**	**12 01 51.7**	**+0.1**
WRAB				IAmb	IAmb	12 02 12.5	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**17.63**	**193**	P	**Pn**	**12 01 51.8**	**+0.2**
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**17.64**	**193**	P	**Pn**	**12 01 50.3**	**-1.4**
WRA	**Warramunga Arr**	**17.64**	**193**	P	**Pn**	**12 01 50.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=25						
WRA				S	**Sn**	**12 05 08.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=18,slow=23,SNR=3.2						
	comp=Z,4.6nm,0.9s						
QIS	**Mount Isa**	**17.82**	**177**	P	**Pn**	**12 01 54.9**	**+1.0**
	comp=Z,14nm,0.9s						
TOLI2	**Tolitoli**	**18.09**	**282**	P	**P**	**12 02 00.3**	**+2.6**
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**18.91**	**157**	LR	LR	12 10 21.5	
	comp=Z,7.2nm,19.5s,baz=0.5,slow=40						
FITZ	**Fitzroy Crossi**	**19.85**	**219**	P	**P**	**12 02 17.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.85**	**219**	P	**P**	**12 02 16.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=48,slow=16,SNR=6.1						
	comp=Z,3.3nm,0.8s						
AS31	**Alice Springs**	**21.34**	**192**		**P**	**12 02 32.2**	**-1.0**
AS31				IAmb	IAmb	12 02 52.6	
	comp=Z,7.2nm,1.0s						
ASAR	**Alice Springs**	**21.34**	**192**	P	**P**	**12 02 31.5**	**-1.7**
ASAR	**Alice Springs**	**21.34**	**192**	P	**P**	**12 02 31.9**	**-1.3**
	comp=Z,4.8nm,0.8s,baz=25,slow=10,SNR=37						
ASAR				S	**S**	**12 06 29.0**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=7.2,slow=24,SNR=4.9						
	comp=Z,4.8nm,0.8s						
MYLDM	**Lahad Datu**	**21.43**	**291**		**P**	**12 02 37.0**	**+2.9**
MYLDM				IAmb	IAmb	12 03 04.0	
	comp=Z,16nm,1.0s						
TATA	**Tatamba Isabel**	**21.96**	**106**	P	**P**	**12 02 41.7**	**+1.9**
	comp=Z,42nm,1.3s						
STKA	**Stephens Creek**	**29.21**	**175**	LR	LR	12 15 30.7	
	comp=Z,61nm,18.1s,baz=358,slow=37						
JOW	**Kunigami**	**30.94**	**342**	LR	LR	12 14 20.7	
	comp=Z,73nm,20.6s,baz=101,slow=32						
JHJ	**Hachijo jima 2**	**35.61**	**2**	LR	LR	12 16 56.9	
	comp=Z,39nm,19.1s,baz=90,slow=32						
CMAR	**Chiang Mai Arr**	**44.22**	**300**		**P**	**12 05 54.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**44.22**	**300**	P	**P**	**12 05 55.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=116,slow=6.2,SNR=11						
CMAR				LR	LR	12 25 58.1	
	comp=Z,20nm,18.5s,baz=265,slow=38						
	comp=Z,0.6nm,0.4s						
CHTO	**Chiang Mai**	**44.37**	**300**	P	**P**	**12 05 55.0**	**-1.7**
CHTO				IAmb	IAmb	12 06 02.6	
	comp=Z,4.9nm,1.1s						
ASAJ	**Asahikawa**	**46.72**	**4**	LR	LR	12 23 01.2	
	comp=Z,52nm,21.8s,baz=178,slow=32						
URZ	**Urewera**	**50.00**	**140**	LR	LR	12 28 59.9	
	comp=Z,66nm,18.1s,baz=291,slow=38						
MRZ	**Mangatainoka R**	**50.50**	**144**	P	**P**	**12 06 43.6**	**-0.5**
SONM	**Songino Array**	**57.58**	**335**	P	**P**	**12 07 35.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=157,slow=8.0,SNR=5.3						
	comp=Z,1.1nm,0.9s						
EVN	**Everest**	**58.23**	**305**	P	**P**	**12 07 41.0**	**-0.4**
EVN				IAmb	IAmb	12 07 48.1	
	comp=Z,7.2nm,1.2s						
YAK	**Yakutsk**	**64.87**	**355**	LR	LR	12 36 04.1	
	comp=Z,40nm,18.0s,baz=187,slow=36						
KIWB	**Kanaga Island**	**66.00**	**28**	P	**P**	**12 08 32.7**	**+0.3**
MKAR	**Makanchi Array**	**69.62**	**322**	P	**P**	**12 08 55.1**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=120,slow=7.2,SNR=16						
MKAR				LR	LR	12 42 30.1	
	comp=Z,25nm,18.0s,baz=12,slow=39						
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**71.78**	**330**	P	**P**	**12 09 06.2**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=100,slow=5.1,SNR=4.0						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**73.56**	**325**	P	**P**	**12 09 17.7**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=120,slow=5.0,SNR=8.1						
	comp=Z,1.4nm,1.0s						
GAR	**Garm**	**74.90**	**311**	P	**P**	**12 09 27.1**	**-0.2**
VNDA	**Vanda**	**75.85**	**175**	P	**P**	**12 09 31.6**	**-0.2**
VNDA	**Vanda**	**75.85**	**175**	P	**P**	**12 09 31.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=333,slow=6.8,SNR=11						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**79.15**	**325**	P	**P**	**12 09 49.9**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=100,slow=7.8,SNR=5.7						
	comp=Z,1.3nm,0.5s						
G18K	**Tagagawik**	**81.66**	**22**	P	**P**	**12 10 03.7**	**-0.2**
G18K				IAmb	IAmb	12 10 34.2	
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**82.08**	**202**	LR	LR	12 44 41.4	
	comp=Z,38nm,18.6s,baz=45,slow=34						
ABKAR	**Akbulak array**	**84.54**	**320**	P	**P**	**12 10 20.0**	**+0.8**
E22K	**Anaktuvuk Pass**	**85.01**	**21**	P	**P**	**12 10 22.9**	**+1.7**
E22K				IAmb	IAmb	12 10 52.5	
	comp=Z,8.2nm,1.3s						
ILAR	**Eielson Array**	**85.88**	**24**	P	**P**	**12 10 23.4**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=260,slow=4.6,SNR=10.0						
	comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**12 10 33.2**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=310,slow=0.8,SNR=15						
	comp=Z,3.3nm,0.8s						
LPAZ	**La Paz**	**147.65**	**126**	PKPbc	**PKPbc**	**12 17 31.6**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=215,slow=4.8,SNR=6.2						

IDC 03 12:07:25.6±275.0, **54°.29N**×**43°.32E**, **h0**km, **Error ellipse: s-maj=133.1km s-min=82.2km az=147.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.24**	**308**	I	I	12 32 50.0	
	0.1nm,0.8s,baz=126,slow=318,SNR=19						
I26DE	**FREYUNG INFRA**	**19.10**	**266**	I	I	14 11 20.0	
	baz=58,slow=332,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**24.08**	**74**	I	I	14 32 00.0	
	baz=291,slow=325,SNR=1.9						
I34MN	**SONGINO INFRAS**	**39.00**	**73**	I	I	16 07 10.0	
	baz=306,slow=330,SNR=0.9						

*IDC **03** 12:08:25.3±9.2, 37°.94N×76°.66E, h0km, mb3.3/1, mbtmp3.3/5, ML2.8/4, Error ellipse: s-maj=123.2km s-min=47.7km az=37.0*

ISC 03 12:08:19.9±4.3, **37°.4N**±0°.4×**75°.5E**±0°.2, **h35**km, **n6**, σ0§**66**/7, **1C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.83**	**328**	⇑P	**Pn**	**12 09 57.2**	**-0.4**
	0.9nm,0.4s,baz=148,slow=17,SNR=5.4						
KK31				⇓S	**Sn**	**12 11 14.7**	**+0.7**
	2.7nm,0.6s,baz=148,slow=27						
MKAR	**Makanchi Array**	**10.63**	**26**	Pn	**Pn**	**12 10 49.4**	**-0.2**
	0.1nm,0.3s,baz=204,slow=13,SNR=2.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**13.37**	**8**	Pn	**Pn**	**12 11 26.8**	**-0.2**
	baz=198,slow=10.0,SNR=4.1						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**16.00**	**349**	Pn	**P**	**12 12 05.1**	**-0.1**
	0.1nm,0.3s,baz=165,slow=12,SNR=4.9						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**17.73**	**18**	Pn	**Pn**	**12 12 23.1**	**-0.7**
	0.2nm,0.3s,baz=208,slow=15,SNR=4.6						
	0.5nm,0.3s						
SONM	**Songino Array**	**24.85**	**55**	P	**P**	**12 13 39.8**	**+0.8**
	0.6nm,0.7s,baz=240,slow=12,SNR=2.5						
	0.6nm,0.7s						

*SNET **03** 12:09:38.8±1.6, 14°.51N×89°.11W, h6km, ML2.6*
*GCG **03** 12:09:39.6±0.3, 14°.49N×89°.20W, h1km±4km, MD3.5*

ISC 03 12:09:36.8±3.0, **14°.6N**±0°.1×**89°.0W**±0°.1, **h10**km, **n8**, σ0§**29**/11, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.33**	**264**	*e*P	**Pg**	**12 09 43.6**	**+0.3**
ESQI				*e*S	**Sg**	**12 09 47.7**	**-0.1**
MTO3	**Montecristo**	**0.39**	**240**	*e*P	**Pg**	**12 09 44.5**	**-0.1**
MTO3	**Montecristo**	**0.39**	**240**	*e*P	**Pg**	**12 09 44.5**	**-0.1**
LLGN	**La Laguna**	**0.43**	**172**	*e*P	**Pb**	**12 09 46.5**	**-0.1**
CEVE	**Cerro Verde**	**0.97**	**218**	*e*P	**Pg**	**12 09 55.9**	**+0.4**
CEVE				*e*S	**Sg**	**12 10 08.4**	**+0.3**
NUBE	**Las Nubes**	**1.02**	**228**	*e*P	**Pg**	**12 09 56.0**	**-0.5**
NUBE	**Las Nubes**	**1.02**	**228**	*e*P	**Pg**	**12 09 56.2**	**-0.3**
JAYA	**Jayaque - finc**	**1.03**	**205**	*e*P	**Pg**	**12 09 56.6**	**0.0**
JAYA				*e*S	**Sg**	**12 10 10.2**	**+0.2**

IDC 03 12:19:54.7±12.0, **4°.10N**×**97°.04E**, **h0**km, **mb3.3**/2, **mbtmp

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
ARA0				*e*S	**Sn**	**12 31 18.1**	**+0.9**
ARA0				IAML		12 31 19.8	
	comp=Z,2.2nm,0.1s						
ARA0	**ARCESS Array S**	**2.31**	**22**	PB	**Pn**	**12 30 48.3**	**+0.3**
	baz=206						
ARA0				SG	**Sn**	**12 31 18.5**	**+1.4**
ARCES	**ARCESS Array B**	**2.31**	**22**	Pn	**Pn**	**12 30 48.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=201,slow=14,SNR=9.9						
ARCES				Lg	Lg	12 31 18.9	
	comp=Z,0.3nm,0.3s,baz=198,slow=28,SNR=11						
I37NO	**I37NO**	**2.36**	**317**	I	I	12 48 40.0	
	baz=127,slow=305,SNR=5.7						
JETT	**Jettan, Norway**	**2.37**	**337**	*e*P	**Pb**	**12 30 51.0**	**-1.1**
VRF	**Varrio**	**2.53**	**79**	PB	**Pn**	**12 30 51.8**	**+0.9**
VRF				MSG		12 31 22.1	
	comp=Z,2.6nm,0.2s						
VRF				SB	**Sn**	**12 31 23.6**	**+1.2**
OLKF	**Oulanka, Finla**	**2.73**	**111**	PN	**Pn**	**12 30 54.9**	**+1.2**
OLKF				MSG		12 31 28.0	
	comp=Z,1.6nm,0.2s						
OLKF				SB	**Sb**	**12 31 31.0**	**-1.2**
KEV	**Kevo**	**2.76**	**30**	SG	**Sb**	**12 31 32.2**	**-0.9**
MSF	**Maaselka**	**2.81**	**120**	SG	**Sb**	**12 31 34.0**	**-0.7**
FAUS	**Fauske**	**3.01**	**273**	*e*P	**Pn**	**12 30 59.0**	**+1.5**
KU6	**Riekki**	**3.04**	**114**	PN	**Pn**	**12 30 58.2**	**+0.2**
KU6				MSG		12 31 37.1	
	comp=Z,0.8nm,0.2s						
KU6				SB	**Sb**	**12 31 39.1**	**-2.2**
KU1	**Kurvinen**	**3.19**	**123**	PN	**Pn**	**12 31 00.3**	**+0.2**
FINES	**FINESS Array B**	**6.13**	**166**	Pn	**Pn**	**12 31 42.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=3.0						
FINES				Sn	**Sn**	**12 32 49.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=343,slow=28,SNR=2.0						
	comp=Z,7.2nm,1.1s						

*BER **03** 12:36:59.8±2.5, 65°.54N×17°.87E, h0km, ML1.6, Suspected explosion*
*UPP **03** 12:36:59.7±0.4, 65°.53N×17°.66E, h0km, ML2.7, Suspected explosion*
*DNK **03** 12:37:00.3±0.7, 65°.54N×17°.63E, h0km, ML2.7(UPP), Explosion*

ISC 03 12:36:58.3±0.8, **65°.54N**±0°.03×**17°.60E**±0°.03, **h0km, n19,** σ**0s25**/38, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVAU	**Svanoeiden**	**1.35**	**141**	P	**Pb**	**12 37 24.3**	**0.0**
SVAU				S	**Sn**	**12 37 42.6**	**-0.2**
SVAU	**Svanoeiden**	**1.35**	**141**	P	**Pn**	**12 37 24.3**	**0.0**
SVAU				S	**Sn**	**12 37 42.6**	**-0.2**
MOR8	**Moi Rana**	**1.45**	**297**	*e*P	**Pn**	**12 37 25.5**	**-0.2**
MOR8				*e*S	**Sn**	**12 37 45.2**	**-0.1**
MOR8				IAML		12 37 48.9	
	comp=Z,10nm,0.5s						
HARU	**Harads**	**1.52**	**64**	P	**Pb**	**12 37 27.4**	**0.0**
HARU				S	**Sn**	**12 37 47.5**	**+0.2**
HARU	**Harads**	**1.52**	**64**	P	**Pb**	**12 37 27.4**	**0.0**
HARU				S	**Sn**	**12 37 47.5**	**+0.2**
SJUU	**Sjulsmark**	**1.67**	**89**	P	**Pb**	**12 37 30.0**	**+0.1**
SJUU				S	**Sg**	**12 37 51.7**	**-0.2**
SJUU	**Sjulsmark**	**1.67**	**89**	P	**Pb**	**12 37 30.0**	**+0.1**
SJUU				S	**Sg**	**12 37 51.7**	**-0.2**
BREU	**Bredtraesk**	**1.71**	**165**	P	**Pb**	**12 37 30.6**	**+0.1**
BREU				S	**Sg**	**12 37 53.4**	**+0.2**
BREU	**Bredtraesk**	**1.71**	**165**	P	**Pb**	**12 37 30.6**	**+0.1**
BREU				S	**Sg**	**12 37 53.4**	**+0.2**
ODEU	**Stanfors**	**1.75**	**129**	P	**Pg**	**12 37 31.8**	**0.0**
ODEU				S	**Sg**	**12 37 54.1**	**-0.2**
ODEU	**Stanfors**	**1.75**	**129**	P	**Pg**	**12 37 31.8**	**0.0**
ODEU				S	**Sg**	**12 37 54.1**	**-0.2**
BURU	**Burvik**	**1.87**	**119**	P	**Pb**	**12 37 32.9**	**-0.4**
BURU				S	**Sb**	**12 37 57.4**	**+0.3**
BURU	**Burvik**	**1.87**	**119**	P	**Pb**	**12 37 32.9**	**-0.4**
BURU				S	**Sb**	**12 37 57.4**	**+0.3**
SALU	**Saltoluokta**	**1.88**	**11**	P	**Pb**	**12 37 33.6**	**0.0**
SALU				S	**Sg**	**12 37 59.0**	**+0.2**
SALU	**Saltoluokta**	**1.88**	**11**	*e*P	**Pg**	**12 37 34.3**	**0.0**
SALU				*e*S	**Sg**	**12 37 58.7**	**0.0**
SALU	**Saltoluokta**	**1.88**	**11**	P	**Pb**	**12 37 33.6**	**0.0**
SALU				S	**Sg**	**12 37 59.0**	**+0.2**
LEIR	**Leirfjorden**	**1.93**	**289**	*e*P	**Pb**	**12 37 34.4**	**0.0**
LEIR				*e*S	**Sg**	**12 38 01.1**	**+0.8**
LEIR				IAML		12 38 04.2	
	comp=Z,6.0nm,0.4s						
STOK	**Stokkvaagen**	**2.04**	**295**	*e*P	**Pb**	**12 37 36.0**	**-0.2**
STOK				*e*S	**Sg**	**12 38 03.8**	**0.0**
STOK				IAML		12 38 06.5	
	comp=Z,12nm,0.7s						
VAGH	**Vaagaholmen**	**2.13**	**306**	*e*P	**Pb**	**12 37 37.7**	**0.0**
VAGH				*e*S	**Sg**	**12 38 05.9**	**-0.7**
VAGH				IAML		12 38 12.2	
	comp=Z,6.1nm,0.5s						

*NEIC **03** 13:01:39.8±2.0, 50°.21N±0°.08×18°.83E±0°.04, h5km±2km, ML2.8/10, Error ellipse: s-maj=14.2km s-min=3.1km az=345.0*
*VIE **03** 13:01:41.7±1.2, 50°.27N×18°.77E, h0km, mb2.8/7, ml2.8/6, ms3.8/1, Error ellipse: s-maj=10.2km s-min=6.9km az=154.0 15 km W of Katowice Suspected Mining induced.*
*IPEC **03** 13:01:41.4±0.1, 50°.23N×18°.81E, h1km, ML2.8/6, Error ellipse: s-maj=1.8km s-min=0.8km az=177.0*
*PRU **03** 13:01:42.4, 50°.26N×18°.75E, h0km*

ISC 03 13:01:40.2±0.8, **50°.31N**±0°.04×**18°.82E**±0°.02, **h0km, n41,** σ**1s07**/71, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.46**	**241**	*e*PG	**Pb**	**13 01 50.9**	**-0.2**
RAC				*e*SG	**Sb**	**13 01 57.7**	**-0.8**
OJC	**Ojcow**	**0.64**	**97**	*e*Pg	**Pb**	**13 01 53.9**	**-0.4**
OJC				*e*Sg	**Sb**	**13 02 03.4**	**-0.3**
OJC	**Ojcow**	**0.64**	**97**		**Pb**	**13 01 53.8**	**-0.4**
OJC				Sg	**Sg**	**13 02 00.3**	**-0.4**
OKC	**Ostrava-Krasne**	**0.64**	**223**	*e*PG	**Pb**	**13 01 53.4**	**-0.8**
OKC				*e*SG	**Sg**	**13 02 01.4**	**+0.8**
	comp=Z,81nm,0.5s						
STEB	**Steborice**	**0.77**	**241**	*e*PG	**Pb**	**13 01 56.1**	**-0.3**
STEB				*e*SG	**Sb**	**13 02 06.3**	**-1.1**
	comp=Z,217nm,0.4s						
ANAC	**Anensky vrch**	**0.95**	**256**	*e*Pg	**Pb**	**13 01 59.4**	**-0.2**
	baz=80						
ANAC				*e*Sg	**Sg**	**13 02 10.8**	**0.0**
	186nm,0.5s,baz=80						
MORC	**Moravsky Berou**	**0.98**	**238**		**Pg**	**13 01 58.6**	**-0.3**
MORC				Sg	**Sg**	**13 02 11.8**	**+0.2**
MORC				IAML		13 02 15.4	
	comp=E,147nm,0.5s						
MORC	**Moravsky Berou**	**0.98**	**238**	*e*Pg	**Pg**	**13 01 59.3**	**+0.4**
	baz=60						
MORC				*e*Sg	**Sg**	**13 02 10.8**	**-0.8**
	comp=E,169nm,0.5s,baz=60						
LOSC	**Losov**	**1.16**	**234**	*e*Pg	**Pb**	**13 02 02.8**	**-0.3**
	baz=56						
LOSC				*e*Sg	**Sg**	**13 02 16.3**	**-1.0**
	comp=E,136nm,0.5s,baz=56						
LANS	**Liptovska Anna**	**1.23**	**160**	*e*PG	**Pb**	**13 02 04.2**	**-0.2**
LANS				*e*SG	**Sb**	**13 02 20.4**	**-0.4**
LANS				*e*LG	Lg	13 02 24.0	
NIE	**Niedzica**	**1.31**	**132**	*e*Pg	**Pn**	**13 02 05.7**	**-0.1**
NIE				*e*Sg	**Sn**	**13 02 24.6**	**+0.6**
KRLC	**Kraliky**	**1.33**	**261**	*e*PG	**Pg**	**13 02 05.5**	**-0.1**
KRLC				*e*SG	**Sg**	**13 02 22.9**	**+0.1**
	comp=E,48nm,0.4s						
DPC	**Dobruska-Polom**	**1.60**	**273**	*e*PG	**Pb**	**13 02 10.5**	**-0.1**
DPC				*e*SG	**Sg**	**13 02 32.5**	**+1.0**
	comp=E,53nm,0.4s						
JAVC	**Velka Javorina**	**1.63**	**208**	*e*Pn	**Pn**	**13 02 10.2**	**0.0**
	baz=28						
OSTC	**Ostas**	**1.68**	**280**	*e*PG	**Pg**	**13 02 13.1**	**+0.7**
OSTC				*e*SG	**Sg**	**13 02 35.3**	**+1.1**
	comp=E,61nm,1.0s						
VRAC	**Vranov**	**1.75**	**236**	*e*Pn	**Pn**	**13 02 12.0**	**+0.1**
	baz=56						
VRAC				*e*Sg	**Sn**	**13 02 34.9**	**0.0**
	comp=E,62nm,0.6s,baz=56						
CHVC	**Chvalec**	**1.79**	**280**	*e*PG	**Pb**	**13 02 13.3**	**-0.5**
STHS	**Stebnicka Huta**	**1.81**	**119**	*e*PG	**Pg**	**13 02 15.1**	**+0.3**
STHS				*e*SG	**Sg**	**13 02 40.1**	**+1.9**
STHS				*e*LG	Lg	13 02 44.6	
KRUC	**Moravsky**	**2.00**	**233**	*e*PN	**Pn**	**13 02 15.7**	**+0.4**
KRUC				*e*SG	**Sb**	**13 02 42.9**	**-0.1**
KRUC	**Moravsky**	**2.00**	**233**	*e*Pn	**Pn**	**13 02 15.6**	**+0.3**
	baz=52						
KRUC				*e*Sg	**Sb**	**13 02 42.8**	**-0.2**
	comp=E,44nm,0.8s,baz=52						
KECS	**Kecovo**	**2.13**	**148**	*e*PN	**Pn**	**13 02 16.8**	**-0.2**
KECS				*e*PG	**Pg**	**13 02 20.5**	**-0.4**
KECS				*e*SN	**Sn**	**13 02 42.1**	**-2.0**
KECS				*e*LG	Lg	13 02 53.5	
MODS	**Modra-Piesok**	**2.18**	**208**	*e*PG	**Pg**	**13 02 22.1**	**+0.1**
MODS				*e*SG	**Sb**	**13 02 48.3**	**+0.2**
PSZ	**Piszkesteto**	**2.49**	**163**	Pn	**Pn**	**13 02 19.5**	**-2.6**
PSZ				IAML		13 03 06.7	
	comp=E,21nm,0.7s						
KOLS	**Kolonicke sedl**	**2.63**	**120**	*e*PN	**Pn**	**13 02 25.4**	**+1.4**
KOLS				*e*SN	**Sn**	**13 02 56.2**	**-0.5**
KOLS				*e*LG	Lg	13 03 17.0	
PRU	**Pruhonice**	**2.77**	**265**	*e*SG	**Sb**	**13 03 06.9**	**+1.9**
	comp=E,15nm,0.8s						
CONA	**Conrad Observa**	**3.07**	**220**	*e*Pn	**Pn**	**13 02 29.2**	**-0.9**
	comp=E,1.0nm,0.3s						
CONA				*e*Sn	**Sn**	**13 03 07.4**	**-0.1**
	comp=E,5.7nm,0.4s						
RONA	**Rosalia, Austr**	**3.09**	**213**	*e*Pn	**Pn**	**13 02 31.7**	**+1.4**
	comp=E,1.7nm,0.2s						
RONA				*i* Sn	**Sn**	**13 03 07.5**	**-0.4**
	comp=E,6.9nm,0.5s						
ZVC	**Zvikov**	**3.11**	**256**	*e*PG	**Pg**	**13 02 38.2**	**-1.7**
ZVC				*e*SG	**Sg**	**13 03 18.1**	**-2.1**
	comp=E,18nm,0.5s						
BRG	**Berggiesshubel**	**3.16**	**282**	Pg	**Pg**	**13 02 42.1**	**+1.4**
BRG				Sg	**Sg**	**13 03 22.2**	**+0.6**
BRG				Amp		13 03 31.0	
	comp=Z,12nm,0.5s						
CKRC	**Cesky Krumlov**	**3.29**	**245**	*e*PG	**Pb**	**13 02 41.2**	**+1.8**
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PN	**Pn**	**13 02 37.3**	**+0.1**
KHC				*e*PG	**Pb**	**13 02 44.7**	**0.0**
KHC				*e*SG	**Sg**	**13 03 34.3**	**-1.4**
	comp=Z,22nm,0.5s						
GEC2	**GERESS Array S**	**3.63**	**248**	Pn	**Pn**	**13 02 36.6**	**-1.2**
GEC2				IAML		13 03 43.2	
	comp=E,22nm,2.9s						
GEC2				IAML		13 03 45.7	
	comp=N,23nm,0.6s						
ARSA	**Arzberg**	**3.75**	**217**	*e*Pg	**Pg**	**13 02 55.2**	**+3.1**
	comp=N,2.5nm,0.4s						
CLL	**Collm**	**3.82**	**287**	Pn	**Pn**	**13 02 38.5**	**-1.8**
CLL				IAML		13 03 50.2	
	comp=N,18nm,1.4s						
CLL				IAML		13 04 25.9	
	comp=E,16nm,4.9s						
CLL	**Collm**	**3.82**	**287**	*e*Pg	**Pg**	**13 02 53.0**	**-0.4**
CLL				*e*Sg	**Sg**	**13 03 45.0**	**+2.1**
	comp=Z,19nm,1.0s						
MOA	**Molln**	**3.87**	**232**	*e*Pn	**Pn**	**13 02 41.0**	**0.0**
	comp=Z,6.3nm,0.4s						
MOA				*i* Sn	**Sn**	**13 03 28.3**	**+1.2**
	comp=Z,1.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.30**	**234**	Sg	**Sg**	**13 04 00.7**	**+2.6**
	comp=Z,21nm,0.5s						
GRFO	**Grafenberg**	**4.94**	**266**	Pn	**Pn**	**13 02 54.0**	**-1.6**
LESA	**Schwarzleotal**	**4.97**	**237**	Sg	**Sg**	**13 04 20.3**	**+0.5**
	comp=Z,9.8nm,0.5s						
WTTA	**Wattenberg**	**5.64**	**240**	Sg	**Sg**	**13 04 41.2**	**0.0**
	comp=Z,9.7nm,0.5s						
FETA	**Feichten**	**6.28**	**242**	Sg	**Sg**	**13 05 01.2**	**-0.8**
	comp=Z,1.2nm,0.4s						

*NNC **03** 13:07:57.3±2.5, 42°.23N×84°.35E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=21.0km s-min=9.3km az=147.0*
*SOME **03** 13:07:58.5, 42°.32N×84°.20E, h10km*
*IDC **03** 13:07:59.4±4.0, 42°.27N×84°.47E, h34km±30km, mb3.5/7, mbtmp3.6/13, ML2.9/5, MS2.5/2, Error ellipse: s-maj=27.1km s-min=22.1km az=33.0*

ISC 03 13:07:56.5±0.8, **42°.32N**±0°.06×**84°.25E**±0°.04, **h10km, n38,** σ**2s38**/44, **mb3.7/6, 9C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.63**	**285**	Lg	Lg	13 09 44.4	
	264nm,0.6s						
SHLS	**Shalkode**	**3.63**	**285**	*e*P	**Pb**	**13 09 00.2**	**-0.6**
	26nm,0.2s						
SHLS				*e*S	**Sb**	**13 09 44.4**	**-0.5**
	413nm,0.4s						
PDGK	**Podgornoye**	**3.65**	**288**	⇑Pg	**Pb**	**13 09 04.9**	**+3.8**
	13nm,0.3s						
PDGK				⇑Lg	Lg	13 09 56.5	
	120nm,0.5s						
UZB	**Uzynbulak**	**3.94**	**284**	Pg	**Pb**	**13 09 10.1**	**+3.9**
	11nm,0.3s						
UZB				Lg	Lg	13 10 01.6	
	87nm,0.5s						
UZB	**Uzynbulak**	**3.94**	**284**	*e*P	**Pb**	**13 09 10.1**	**+3.9**
	4.6nm,0.1s						
UZB				*e*S	**Sg**	**13 10 01.6**	**-1.4**
	91nm,0.5s						
KNOS	**Konyrlen**	**4.22**	**301**	Pg	**Pg**	**13 09 15.9**	**-1.6**
	17nm,0.3s						
KNOS				Lg	Lg	13 10 11.9	
	70nm,0.5s						
KPKS	**Kokpek**	**4.25**	**287**	Pg	**Pg**	**13 09 17.3**	**-0.6**
	0.2nm,0.4s						
KPKS				Lg	Lg	13 10 13.5	
	186nm,0.5s						
MK31	**Makanchi Array**	**4.68**	**343**	⇑Pg	**Pg**	**13 09 25.2**	**-1.0**
	8.8nm,0.3s,baz=157,slow=16,SNR=7.7						
MK31				⇑Lg	Lg	13 10 29.8	
	46nm,0.4s,baz=158,slow=27						
MKAR	**Makanchi Array**	**4.68**	**343**	Pn	**Pn**	**13 09 10.6**	**+3.3**
	0.5nm,0.3s,baz=167,slow=14,SNR=9.2						
MKAR				Pg	**Pg**	**13 09 26.4**	**+0.2**
	13nm,0.3s,baz=154,slow=16,SNR=52						
MKAR				Lg	Lg	13 10 27.5	
	17nm,0.3s,baz=153,slow=28,SNR=9.0						
MKAR				LR	LR	13 11 11.6	
	comp=Z,104nm,18.7s,baz=204,slow=40						
	0.8nm,0.2s						
TDK	**Taldyqorghan**	**5.02**	**304**	*e*P	**Pg**	**13 09 30.1**	**-2.5**
	14nm,0.1s						
TDK				*e*S	**Sg**	**13 10 35.5**	**-2.0**
	68nm,0.2s						
ZSN	**Zaisan**	**5.14**	**5**	Pg	**Pg**	**13 09 33.7**	**-1.3**
	7.8nm,0.4s						
ZSN				Lg	Lg	13 10 42.0	
	98nm,0.7s						
ZSN	**Zaisan**	**5.14**	**5**	*e*P	**Pg**	**13 09 33.7**	**-1.3**
	7.8nm,0.4s						
ZSN				*e*S	**Sg**	**13 10 42.0**	**+0.3**
	98nm,0.7s						
TNSS	**Tian-Shan**	**5.43**	**280**	*e*P	**Pg**	**13 09 38.6**	**-2.0**
	2.3nm,0.2s						
TNSS				*e*S	**Sg**	**13 10 50.1**	**-0.8**
	6.7nm,0.4s						
CHKK	**Chushkaly**	**5.54**	**288**	Pg	**Pg**	**13 09 39.7**	**-2.8**
	8.6nm,0.5s						
CHKK				Lg	Lg	13 10 51.8	
	25nm,0.5s						
CHKK	**Chushkaly**	**5.54**	**288**	*e*P	**Pg**	**13 09 39.7**	**-2.8**
	8.6nm,0.5s						
CHKK				*e*S	**Sg**	**13 10 51.8**	**-2.4**
	25nm,0.5s						
MTBS	**Maitube**	**5.82**	**281**	Pg	**Pg**	**13 09 45.6**	**-2.3**
	5.7nm,0.4s						
MTBS	**Maitube**	**5.82**	**281**	*e*P	**Pg**	**13 09 45.6**	**-2.3**
	3.8nm,0.1s						
MTBS				*e*S	**Sg**	**13 11 02.5**	**-0.8**
	28nm,0.4s						
KST	**Kastek**	**6.15**	**279**	Pg	**Pg**	**13 09 52.4**	**-1.9**
	8.4nm,0.5s						
KST	**Kastek**	**6.15**	**279**	*e*P	**Pg**	**13 09 52.5**	**-1.9**
	1.5nm,0.4s						
KST				*e*S	**Sg**	**13 11 14.2**	**+0.2**
	40nm,0.8s						
AAK	**Ala-Archa**	**7.22**	**276**	Pn	**Pn**	**13 09 46.1**	**+3.9**
	0.4nm,0.3s,baz=126,slow=8.7,SNR=2.5						
AAK				Lg	Lg	13 11 43.9	
	0.7nm,0.3s,baz=266,slow=6.5,SNR=3.6						
AAK				LR	LR	13 12 36.3	
	comp=Z,18nm,20.9s,baz=79,slow=38						
	0.9nm,0.3s						
AAK	**Ala-Archa**	**7.22**	**276**	⇑Pg	Pb	13 10 09.6	+7.6
	3.0nm,0.8s						
AAK				⇓Lg	Lg	13 11 49.8	
	7.2nm,0.7s						
KURBB	**Kurchatov Arra**	**9.19**	**337**	Pn	**Pn**	**13 10 11.4**	**+2.4**
	0.1nm,0.3s,baz=155,slow=13,SNR=3.2						
KURBB				Sn	**Sn**	**13 11 53.1**	**+0.7**
	0.2nm,0.3s,baz=142,slow=17,SNR=4.8						
KURBB				Lg	Lg	13 12 51.4	
	0.3nm,0.3s,baz=148,slow=30,SNR=5.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**9.19**	**337**	⇑Pn	**Pn**	**13 10 13.3**	**+4.2**
	3.1nm,0.9s,baz=148,slow=11						
KURBB				⇑Lg	Lg	13 12 53.5	
	58nm,1.2s						
KURK	**Kurchatov**	**9.25**	**337**	⇑Pn	**Pn**	**13 10 13.2**	**+3.4**
	2.3nm,1.7s						
KURK				⇓Lg	Lg	13 12 55.6	
	15nm,0.9s						
KK31	**Karatay Array**	**10.15**	**279**	⇑Lg	Lg	13 13 21.8	
	2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**11.64**	**2**	Pn	**Pn**	**13 10 43.2**	**+0.7**
	0.4nm,0.3s,baz=174,slow=15,SNR=6.0						
ZALV				Sn	**Sn**	**13 12 46.1**	**-6.3**
	baz=182,slow=19						
ZALV				Lg	Lg	13 14 09.5	
	baz=183,slow=25						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**14.18**	**324**	Pn	**Pn**	**13 11 18.9**	**+1.6**
	baz=126,slow=7.3,SNR=2.5						
BVAR				Lg	Lg	13 15 34.9	
	baz=119,slow=26						
	0.7nm,0.5s						
LZH	**Lanzhou**	**16.40**	**106**	pP	pP	13 12 00.2	+6.9
LZH	**Lanzhou**	**16.40**	**106**	pmax	pmax		
	comp=Z,22nm,1.6s						
LZH	**Lanzhou**	**16.40**	**106**	*e*P	**Pn**	**13 11 48.6**	**+1.7**
SONM	**Songino Array**	**16.56**	**63**	Pn	**Pn**	**13 11 47.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=258,slow=12,SNR=1.3						
ARTI	**Arti**	**21.78**	**319**	P	**P**	**13 12 48.9**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=127,slow=7.0,SNR=4.2						
	comp=Z,3.3nm,0.5s						
ARCES	**ARCESS Array B**	**40.24**	**332**	P	**P**	**13 15 34.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=85,slow=5.9,SNR=11						
	comp=Z,0.7nm,0.4s						
NOA	**NORSAR Array B**	**46.27**	**320**	P	**P**	**13 16 22.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=82,slow=7.7,SNR=2.0						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**66.00**	**21**	P	**P**	**13 18 40.4**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=306,slow=5.4,SNR=4.5						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.81**	**275**	P	**P**	**13 19 42.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.5,SNR=2.5						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**77.28**	**132**	P	**P**	**13 19 50.0**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=330,slow=5.2,SNR=6.0						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**80.07**	**135**	P	**P**	**13 20 05.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=320,slow=5.2,SNR=4.8						
	comp=Z,0.5nm,0.7s						

*SDD **03** 13:30:24.4±1.0, 20°.16N×70°.68W, h23km±50km, MD2.7, ML2.1, MW2.7*
*OSPL **03** 13:30:24.7±0.3, 20°.31N×71°.64W, h0km±81km, ML1.7*

ISC 03 13:30:23.8±1.3, **20°.15N**±0°.04×**70°.72W**±0°.05, **h22km**±10**km, n10,** σ**0s78**/19, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.54**	**237**	*i* P	**Pn**	**13 30 35.8**	**-0.3**
LOPP1				*e*S	**Sn**	**13 30 43.8**	**-0.7**
LOPP1				IAML		13 30 47.7	
	comp=Z,34nm,0.2s						
SDDR	**Presa de Saban**	**1.27**	**205**	*e*Pg	**Pb**	**13 30 47.0**	**-0.2**
SDDR				*e*Sg	**Sb**	**13 31 03.4**	**+0.2**
SDDR				IAML		13 31 03.5	
	comp=N,16nm,0.3s						
DR08	**Loma La Naviza**	**1.35**	**151**	*e*Pg	**Pn**	**13 30 47.6**	**+0.2**
DR08				*e*Sg	**Sb**	**13 31 05.5**	**+0.2**
DR08				IAML		13 31 08.7	
	comp=N,400nm,0.1s						
GRTK	**Grand Turk**	**1.41**	**344**	*e*Pg	**Pb**	**13 30 49.4**	**-0.1**
GRTK				*e*Sg	**Sb**	**13 31 07.1**	**0.0**
GRTK				IAML		13 31 12.7	
	comp=N,48nm,0.1s						
LONE3	**El Aguacate, B**	**1.68**	**205**	*i* P	**Pb**	**13 30 53.9**	**-0.3**
LONE3				*e*S	**Sb**	**13 31 15.3**	**+0.3**
LONE3				IAML		13 31 16.4	
	comp=Z,12nm,0.3s						
BANI	**BANI**	**1.78**	**169**	*e*Pg	**Pb**	**13 30 54.9**	**-0.8**
BANI				*e*Sg	**Sb**	**13 31 18.3**	**+0.7**
BANI				IAML		13 31 30.7	
	comp=N,22nm,2.0s						
HATOM	**Hato Mayor del**	**1.85**	**137**	*e*Pg	**Pb**	**13 30 55.6**	**-1.3**
HATOM				*e*Sg	**Sb**	**13 31 19.3**	**-0.3**
HATOM				IAML		13 31 24.1	
	comp=N,4.2nm,0.7s						
MIDR	**Miches**	**1.95**	**126**	*e*Pg	**Pn**	**13 30 57.1**	**+1.5**
MIDR				IAML		13 31 16.7	
	comp=N,10nm,0.2s						
MIDR				IAML		13 31 41.4	
	comp=N,13nm,2.0s						
PODR	**Polo**	**2.04**	**195**	*e*Pg	**Pb**	**13 30 59.8**	**-0.5**
PODR				*e*Sg	**Sb**	**13 31 26.5**	**+1.2**
PODR				IAML		13 31 29.2	
	comp=N,12nm,0.6s						
PODR	**Polo**	**2.04**	**195**	*i* P	**Pb**	**13 31 00.1**	**-0.2**
PODR				*e*S	**Sb**	**13 31 26.4**	**+1.1**

*IDC **03** 13:47:15.2±1.1, 32°.83N×111°.87E, h0km, mb3.5/5, mbtmp3.5/6, ML4.0/1, MS2.9/2, Error ellipse: s-maj=39.2km s-min=24.1km az=69.0*

ISC 03 13:47:20.4±1.1, **32°.8N**±0°.1×**111°.8E**±0°.2, **h35km, n8,** σ**0s73**/7, **mb3.6**/5, **Southeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

comp=Z,6.5nm,1.0s
COEN Coen 23.30 268 P **P 13 55 07.9 -2.3**
INKA Innaminka 27.86 238 P **P 13 55 51.1 0.0**
STKA Stephens Creek 29.05 229 P **P 13 56 01.3 -0.3**
STKA Stephens Creek 29.05 229 P **P 13 56 04.3 +2.8**
comp=Z,6.4nm,0.4s,baz=52,slow=9.8,SNR=16
comp=Z,6.4nm,0.4s
TOO Toolangi 29.94 216 P **P 13 56 07.2 -2.2**
TOO IAmb IAmb 13 56 25.7
comp=Z,6.6nm,1.2s
WR8 Warramunga Arr 31.65 256 P **P 13 56 24.0 -0.7**
WR8 IAmb IAmb 13 56 25.8
comp=Z,7.9nm,1.2s
WB0 Warramunga Arr 31.74 256 P **P 13 56 25.5 +0.1**
WB0 IAmb IAmb 13 56 27.1
comp=Z,12nm,1.4s
WRA Warramunga Arr 31.80 256 P **P 13 56 25.6 -0.4**
WRA Warramunga Arr 31.80 256 P **P 13 56 26.5 +0.5**
comp=Z,1.7nm,0.6s,baz=84,slow=9.1,SNR=55
comp=Z,1.7nm,0.6s
AS31 Alice Springs 32.67 249 P **P 13 56 34.0 +0.5**
ASAR Alice Springs 32.67 249 P **P 13 56 34.2 +0.7**
ASAR Alice Springs 32.67 249 P **P 13 56 34.0 +0.5**
comp=Z,2.2nm,0.3s,baz=77,slow=9.2,SNR=127
comp=Z,2.2nm,0.3s
MGBR Mount Gambier 33.01 221 P **P 13 56 38.5 +2.4**
BBOO Buckleboo 33.63 232 P **P 13 56 41.8 +0.2**
BBOO IAmb IAmb 13 56 44.1
comp=Z,11nm,0.8s
MTN Manton Dam 35.06 268 P **P 13 56 55.1 +0.9**
KNRA Kununurra 37.09 263 P **P 13 57 12.1 +0.8**
KNRA IAmb IAmb 13 57 38.5
comp=Z,12nm,1.1s
FORT Forrest 39.33 239 P **P 13 57 30.8 +1.0**
FORT IAmb IAmb 13 57 53.3
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 39.98 259 P **P 13 57 36.7 +1.3**
FITZ Fitzroy Crossi 39.98 259 P **P 13 57 36.9 +1.5**
comp=Z,4.5nm,0.7s,baz=99,slow=8.7,SNR=15
comp=Z,4.5nm,0.7s
MORW Morawa 49.28 244 P **P 13 58 48.9 +0.1**
MORW IAmb IAmb 13 59 10.0
comp=Z,19nm,1.5s
VNDA Vanda 63.02 181 P **P 14 00 24.9 -0.2**
VNDA Vanda 63.02 181 P **P 14 00 26.1 +1.0**
comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=5.8
comp=Z,0.9nm,0.7s
CASY Casey 63.65 202 P **P 14 00 30.0 +0.6**
CASY IAmb IAmb 14 00 31.0
comp=Z,6.8nm,1.2s
QSPA South Pole Qui 75.46 180 P **P 14 01 43.9 +2.1**
QSPA IAmb IAmb 14 01 58.4
comp=Z,6.9nm,1.5s
QSPA South Pole Qui 75.46 180 P **P 14 01 44.4 +2.7**
comp=Z,1.2nm,0.7s,baz=210,slow=0.8,SNR=10.0
comp=Z,1.2nm,0.7s
MAW Mawson 82.01 202 P **P 14 02 18.9 +1.7**
comp=Z,2.0nm,0.8s,baz=183,slow=1.4,SNR=7.4
comp=Z,2.0nm,0.8s
SUA Susitna One 82.76 19 P **P 14 02 21.1 -0.1**
SUA IAmb IAmb 14 02 47.7
comp=Z,4.8nm,1.1s
SCM Sheep Creek Mo 84.14 20 P **P 14 02 28.1 -0.1**
SCM IAmb IAmb 14 02 49.0
comp=Z,13nm,1.4s
IMAR Indian Mountai 85.43 15 P **P 14 02 33.4 -1.0**
BCPM Bancas Point 85.63 24 P P 14 02 29.3 -6.3
ILAR Eielson Array 86.39 18 P **P 14 02 37.5 -1.7**
comp=Z,0.8nm,0.7s,baz=240,slow=4.9,SNR=10
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 120.08 345 PKP **PKiKP 14 08 46.8 +0.4**
comp=Z,0.5nm,0.4s,baz=94,slow=1.8,SNR=6.1
NOA NORSAR Array B 130.45 345 SKPbc **SKPab 14 12 15.2 +4.0**
comp=Z,1.0nm,0.7s,baz=31,slow=3.0,SNR=5.8

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*IDC **03** 13:54:48.8±0.6,29°.32S×178°.36W,h0km,mb4.2/9, mbtmp4.3/11,ML4.1/2,MS2.8/1,Error ellipse: s-maj=21.6km s-min=19.4km az=101.0*
*NEIC **03** 13:54:50.0±2.0,29°.3S±0°.1×178°.12W±0°.06,h10km±2km, mb4.3/10,Error ellipse: s-maj=24.4km s-min=6.4km az=346.0*
ISC 03 13:54:56.1±0.5,29°.67S±0°.07×178°.09W±0°.09,h63km,n79, σ1s78/80,mb4.2/12,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**8.43**	**200**	Pn	**Pn**	**13 56 54.9**	**-0.5**
MXZ	**Matakaoa Point**	**8.43**	**200**	P	**Pn**	**13 56 55.3**	**-0.2**
MXZ				S	**Sn**	**13 58 29.5**	**+0.4**
GRZ	**Great Barrier**	**8.51**	**218**	P	Pn	13 57 03.6	+7.0
WMGZ	**Waiomatatini S**	**8.64**	**199**	P	**Pn**	**13 56 59.1**	**+0.9**
WMGZ				S	**Sn**	**13 58 36.2**	**+2.0**
KUZ	**Kuaotunu**	**8.76**	**215**	P	Pn	13 57 05.7	+5.7
HAZ	**Te Kaha**	**8.77**	**202**	P	**Pn**	**13 57 01.3**	**+1.1**
HAZ				S	**Sn**	**13 58 39.5**	**+2.1**
PKGZ	**Pakihiroa**	**8.78**	**200**	P	**Pn**	**13 57 00.3**	**+0.1**
PKGZ				S	**Sn**	**13 58 37.8**	**+0.1**
PUZ	**Puketiti**	**8.92**	**199**	P	**Pn**	**13 57 01.7**	**-0.5**
PUZ				S	**Sn**	**13 58 39.5**	**-1.6**
RUGZ	**Raukumara Rang**	**8.99**	**202**	P	**Pn**	**13 57 03.6**	**+0.2**
RUGZ				S	**Sn**	**13 58 41.6**	**-1.5**
TWGZ	**Tauwhareparae**	**9.09**	**200**	P	**Pn**	**13 57 04.3**	**-0.3**
TWGZ				S	**Sn**	**13 58 44.8**	**-0.7**
OPRZ	**Ohinepanea**	**9.29**	**207**	P	**Pn**	**13 57 08.5**	**+1.2**
CNGZ	**Carnagh Statio**	**9.31**	**198**	P	**Pn**	**13 57 07.4**	**-0.2**
MKAZ	**Moumakai**	**9.32**	**215**	P	Pn	13 57 13.2	+5.6
TKGZ	**Te Karaka**	**9.38**	**200**	P	**Pn**	**13 57 07.3**	**-1.1**
TKGZ				S	**Sn**	**13 58 51.4**	**-0.8**
MWZ	**Matawai**	**9.38**	**202**	P	**Pn**	**13 57 07.9**	**-0.6**
MWZ				S	**Sn**	**13 58 50.9**	**-1.5**
URZ	**Urewera**	**9.45**	**204**	Pn	**Pn**	**13 57 08.0**	**-1.5**
3.8nm,0.3s,baz=258,slow=3.4,SNR=38							
URZ				Sn	**Sn**	**13 58 51.3**	**-2.8**
14nm,0.3s,baz=154,slow=19,SNR=15							
7.1nm,0.3s							
URZ	**Urewera**	**9.45**	**204**	P	**Pn**	**13 57 08.8**	**-0.6**
URZ				S	**Sn**	**13 58 52.9**	**-1.2**
RAGZ	**Rawiri**	**9.56**	**202**	P	**Pn**	**13 57 10.6**	**-0.4**
RAGZ				S	**Sn**	**13 58 55.5**	**-1.4**
RIGZ	**Rimuhau**	**9.65**	**200**	P	**Pn**	**13 57 10.8**	**-1.4**
RIGZ				S	**Sn**	**13 58 58.0**	**-1.0**
TOZ	**Tahuroa Road**	**9.65**	**212**	Pn	**Pn**	**13 57 10.2**	**-1.9**
TOZ	**Tahuroa Road**	**9.65**	**212**	P	Pn	13 57 16.0	+3.9
MUGZ	**Murupara**	**9.77**	**205**	P	**Pn**	**13 57 13.4**	**-0.3**
MUGZ				S	**Sn**	**13 58 59.8**	**-2.0**
PRGZ	**Paritu Road**	**9.81**	**199**	P	**Pn**	**13 57 13.1**	**-1.3**
PRGZ				S	**Sn**	**13 58 57.9**	**-5.2**
RTZ	**Ruatahuna**	**9.81**	**203**	Pn	**Pn**	**13 57 12.4**	**-2.1**
RTZ	**Ruatahuna**	**9.81**	**203**	P	**Pn**	**13 57 12.6**	**-1.9**
SNGZ	**Shannon Statio**	**9.85**	**201**	P	**Pn**	**13 57 13.5**	**-1.4**
SNGZ				S	**Sn**	**13 59 01.4**	**-2.5**
ALRZ	**Allen Road**	**10.00**	**206**	P	**Pn**	**13 57 17.3**	**+0.3**
MHGZ	**Mahia Peninsul**	**10.02**	**198**	P	**Pn**	**13 57 16.0**	**-1.3**
RAHZ	**Arahi**	**10.05**	**202**	P	**Pn**	**13 57 16.1**	**-1.6**
BKZ	**Black Stump Fm**	**10.48**	**204**	Pn	**Pn**	**13 57 21.1**	**-2.4**
NGZ	**Ngauruhoe**	**10.82**	**207**	P	**Pn**	**13 57 28.0**	**-0.3**
NGZ				S	**Sn**	**13 59 27.9**	**+0.2**
WAZ	**Wanganui**	**11.56**	**208**	P	**Pn**	**13 57 35.2**	**-3.0**
BFZ	**Birch Farm**	**11.92**	**201**	Pn	Pn	13 57 37.8	-5.4
TUWZ	**Tuamarina**	**13.40**	**207**	Pn	Pn	13 57 57.0	-6.3
THZ	**Tophouse**	**14.10**	**209**	Pn	Pn	13 58 07.1	-5.6
KHZ	**Kahutara**	**14.40**	**206**	Pn	Pn	13 58 09.6	-6.9
RPZ	**Rata Peaks**	**16.48**	**209**	Pn	**Pn**	**13 58 38.0**	**-5.1**
0.7nm,0.3s,baz=51,slow=14,SNR=1.9							
RPZ				Sn	Sn	14 01 28.5	-17
1.8nm,0.3s,baz=126,slow=22,SNR=7.4							
RAR	**Rarotonga**	**18.54**	**67**	P	**P**	**13 59 04.3**	**-3.3**
RAR				IAmb	IAmb	13 59 21.9	
comp=Z,46nm,1.3s							
RAR	**Rarotonga**	**18.54**	**67**	P	**Pn**	**13 59 09.3**	**+0.8**
comp=Z,2.8nm,0.3s,baz=204,slow=4.3,SNR=7.4							
RAR				S	**Sn**	**14 02 30.3**	**-4.9**
comp=Z,13nm,1.0s,baz=36,slow=17,SNR=2.2							
comp=Z,5.3nm,0.4s							
RAR	**Rarotonga**	**18.54**	**67**	P	**Pn**	**13 59 09.2**	**+0.7**
PPT	**Papeete**	**28.68**	**72**	LR	LR	14 11 50.2	
comp=Z,18nm,18.9s,baz=340,slow=36							
CTAO	**Charters Tower**	**33.61**	**278**	P	**P**	**14 01 29.0**	**-1.7**
BBOO	**Buckleboo**	**39.10**	**253**	P	**P**	**14 02 20.3**	**+3.0**
BBOO				IAmb	IAmb	14 02 22.6	
comp=Z,23nm,1.4s							
AS31	**Alice Springs**	**43.08**	**266**	P	**P**	**14 02 48.9**	**-1.2**
ASAR	**Alice Springs**	**43.08**	**266**	P	**P**	**14 02 49.8**	**-0.4**
ASAR	**Alice Springs**	**43.08**	**266**	P	**P**	**14 02 50.0**	**-0.2**
comp=Z,1.0nm,0.6s,baz=104,slow=6.8,SNR=25							
ASAR				PcP	**PcP**	**14 04 38.3**	**-0.9**
comp=Z,1.1nm,0.6s,baz=116,slow=3.9,SNR=9.5							
comp=Z,1.0nm,0.6s							
WR8 Warramunga Arr 43.85 272 P **P 14 02 56.2 -0.2**							
WR8 IAmb IAmb 14 03 36.0							
comp=Z,7.5nm,1.1s							
WRA Warramunga Arr 44.00 271 P **P 14 02 58.0 +0.4**							
WRA Warramunga Arr 44.00 271 P **P 14 02 57.1 -0.4**							
comp=Z,1.4nm,0.4s,baz=112,slow=6.3,SNR=35							
WRA				PcP	**PcP**	**14 04 41.8**	**-0.5**
comp=Z,1.6nm,0.8s,baz=112,slow=3.3,SNR=5.6							
comp=Z,1.4nm,0.4s							
WB0 Warramunga Arr 44.02 272 P **P 14 02 56.9 -0.8**							
WB0 IAmb IAmb 14 03 33.8							
comp=Z,7.2nm,1.0s							
SBA Scott Base 48.76 184 P P 14 03 39.3 +5.3							
VNDA Vanda 48.81 186 P **P 14 03 37.5 +3.0**							
VNDA IAmb IAmb 14 03 43.1							
comp=Z,2.5nm,1.1s							
VNDA Vanda 48.81 186 P **P 14 03 38.3 +3.8**							
comp=Z,0.8nm,0.7s,baz=358,slow=8.4,SNR=7.7							
comp=Z,0.8nm,0.7s							
FITZ Fitzroy Crossi 52.29 269 P **P 14 03 59.8 -1.7**							
FITZ IAmb IAmb 14 04 39.9							
comp=Z,1.3nm,1.0s							
FITZ Fitzroy Crossi 52.29 269 P **P 14 04 01.9 +0.5**							
comp=Z,1.7nm,0.7s,baz=164,slow=11,SNR=2.4							
comp=Z,1.7nm,0.7s							
QSPA South Pole Qui 60.44 180 P P 14 05 04.2 +5.3							
comp=Z,1.8nm,0.6s,baz=317,slow=0.1,SNR=23							
comp=Z,1.8nm,0.6s							
MJAR Matsushiro Arr 77.60 325 P **P 14 06 45.6 +0.2**							
comp=Z,2.5nm,0.9s,baz=175,slow=4.2,SNR=4.8							
comp=Z,2.5nm,0.9s							
H03S2 Juan Fernandez 80.93 124 T T 15 36 28.8							
baz=238,slow=74,SNR=19							
H03S1 Juan Fernandez 80.94 124 T T 15 36 29.2							
baz=238,slow=74,SNR=16							
H03S3 Juan Fernandez 80.95 124 T T 15 36 31.4							
baz=238,slow=74,SNR=22							
H03N3 Juan Fernandez 81.12 123 T T 15 36 40.6							
baz=240,slow=72,SNR=15							
H03N2 Juan Fernandez 81.12 123 T T 15 36 36.6							
baz=240,slow=72,SNR=13							
H03N1 Juan Fernandez 81.14 123 T T 15 36 38.9							
baz=240,slow=72,SNR=22							
PLCA Paso Flores 83.06 133 P **P 14 07 18.5 +3.5**							
comp=Z,2.0nm,0.9s,baz=243,slow=4.5,SNR=3.3							
comp=Z,2.0nm,0.9s							
PETK Petropavlovsk- 85.09 346 P **P 14 07 26.0 +1.4**							
comp=Z,9.3nm,0.8s,baz=135,slow=6.0,SNR=7.6							
comp=Z,9.3nm,0.8s							
NVAR Mina Array Bea 87.75 43 P **P 14 07 41.2 +2.9**							
comp=Z,1.6nm,0.8s,baz=223,slow=8.8,SNR=8.3							
comp=Z,1.6nm,0.8s							
MKAR Makanchi Array 117.24 310 PKP **PKPdf 14 13 33.1 -0.9**							
comp=Z,0.6nm,0.8s,baz=90,slow=2.9,SNR=2.2							
KURBB Kurchatov Arra 120.53 314 PKP **PKPdf 14 13 39.1 -1.0**							
comp=Z,0.8nm,0.2s,baz=119,slow=2.0,SNR=7.9							
BVAR Borovoye Array 125.83 316 PKP **PKPdf 14 13 50.3 +0.1**							
comp=Z,0.9nm,0.5s,baz=90,slow=3.0,SNR=4.9							
ARCES ARCESS Array B 137.86 348 PKhKP PKPpre 14 14 08.0							
comp=Z,3.2nm,0.8s,baz=51,slow=1.9,SNR=3.7							
FINES FINESS Array B 144.43 340 PKP PKPbc 14 14 23.2 +0.1							
comp=Z,17nm,0.6s,baz=59,slow=3.8,SNR=74							
NB2 NORSAR Subarra148.02 351 PKP **PKPbc 14 14 33.5 -0.3**							
comp=Z,5.3nm,0.7s,baz=17,slow=4.4							
NOA NORSAR Array B148.02 351 PKPbc **PKPbc 14 14 33.2 -0.6**							
comp=Z,3.3nm,0.7s,baz=15,slow=4.4,SNR=12							
HFS Hagfors 148.51 349 PKPbc **PKPbc 14 14 35.0 0.0**							
comp=Z,9.6nm,0.9s,baz=46,slow=4.4,SNR=6.5							
AKASG Malin Array Be 150.67 323 PKPbc **PKPbc 14 14 40.4 -0.2**							
comp=Z,3.4nm,0.5s,baz=49,slow=2.9,SNR=19							
MMAI Mount Meron Ar 151.27 285 PKPbc **PKiKP 14 14 43.1 -0.1**							
comp=Z,2.6nm,0.4s,baz=90,slow=5.0,SNR=8.3							
BRTR Keskin Array B 152.18 300 PKPbc **PKPbc 14 14 43.6 -1.1**							
comp=Z,1.2nm,0.7s,baz=147,slow=2.5,SNR=5.2							
GERES GERESS Array B 156.83 338 PKPab **PKPab 14 15 22.9 +0.3**							
comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=4.2							
TORD Torodi Ar. Bea 163.56 179 PKPab **PKPab 14 15 44.9 +1.0**							
comp=Z,0.7nm,0.7s,baz=139,slow=3.9,SNR=4.3							

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*WEL **03** 14:18:01.5±0.5,44°S±3°×16°8E±°,h5km,M3.5/7,ML3.6/7, MLv3.5/7,Error ellipse: s-maj=5.2km s-min=2.2km az=125.6,confirmed*
*NOU **03** 14:18:02.5,44°.30S×168°.26E,h7km,MLv4.0/13,South Island, New Zealand*
ISC 03 14:18:01.5±1.1,44°.35S±0°.03×168°.20E±0°.04,h6km±10km, n38,σ0s64/57,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.38**	**211**	P	**Pg**	**14 18 09.1**	**+0.3**
MSZ				S	**Sg**	**14 18 14.3**	**+0.6**
NSBS	**Neils Beach**	**0.49**	**44**	P	**Pg**	**14 18 11.5**	**+0.6**
NSBS				S	**Sg**	**14 18 17.7**	**+0.5**
JCZ	**Jackson Bay**	**0.51**	**57**	P	**Pg**	**14 18 11.4**	**+0.1**
JCZ	**Jackson Bay**	**0.51**	**57**	S	**Sg**	**14 18 18.5**	**+0.6**
JCZ	**Jackson Bay**	**0.51**	**57**	P	**Pg**	**14 18 11.2**	**0.0**
JCZ				S	**Sg**	**14 18 18.0**	**+0.1**
GLNY	**Glenorchy**	**0.54**	**164**	P	**Pg**	**14 18 11.9**	**+0.1**
GLNY				S	**Sg**	**14 18 18.3**	**-0.5**
WKZ	**Wanaka**	**0.76**	**129**	P	**Pg**	**14 18 16.1**	**+0.1**
WKZ				S	**Sg**	**14 18 25.8**	**-0.1**
QTPS	**Queenstown Pol**	**0.76**	**154**	P	**Pg**	**14 18 15.9**	**-0.2**
QTPS				S	**Sg**	**14 18 24.5**	**-1.4**
WNPS	**Wanaka Nationa**	**0.76**	**117**	P	**Pg**	**14 18 16.4**	**+0.3**
WNPS				S	**Sb**	**14 18 26.9**	**-0.8**
HDWS	**Haast DOC Work**	**0.77**	**53**	P	**Pg**	**14 18 16.3**	**+0.1**
HDWS				S	**Sb**	**14 18 27.1**	**-0.8**
MLZ	**Mavora Lakes**	**1.02**	**183**	P	**Pg**	**14 18 20.4**	**-0.6**
MLZ				S	**Sg**	**14 18 34.8**	**+0.6**
TAFS	**Te Anau Fire S**	**1.12**	**197**	P	**Pg**	**14 18 22.6**	**-0.3**
TAFS				S	**Sg**	**14 18 38.0**	**+0.5**
EAZ	**Earnscleugh**	**1.19**	**138**	P	**Pg**	**14 18 23.8**	**-0.4**
MOSS	**Mossburn Schoo**	**1.32**	**179**	P	**Pn**	**14 18 26.0**	**-0.5**
MOSS				S	**Sb**	**14 18 44.7**	**+0.8**
DCZ	**Deep Cove**	**1.34**	**213**	P	**Pn**	**14 18 25.5**	**-1.2**
DCZ				S	**Sb**	**14 18 44.8**	**+0.4**
LBZ	**Lake Benmore**	**1.43**	**92**	P	**Pn**	**14 18 28.1**	**+0.1**
LBZ				S	**Sb**	**14 18 46.8**	**-0.2**
FOZ	**Fox Glacier**	**1.43**	**56**	P	**Pn**	**14 18 26.9**	**-1.0**
FOZ				S	**Sb**	**14 18 46.4**	**-0.6**
MCNS	**Mount Cook Ann**	**1.50**	**67**	P	**Pn**	**14 18 28.2**	**-0.8**
WHZ	**Wether Hill Ro**	**1.55**	**186**	P	**Pn**	**14 18 28.8**	**-0.9**
FGPS	**Fox Glacier Pa**	**1.59**	**57**	P	**Pg**	**14 18 32.1**	**+0.1**
FGPS				S	**Sg**	**14 18 52.6**	**+0.1**
FJDS	**Franz Josef DO**	**1.73**	**57**	P	**Pg**	**14 18 34.6**	**0.0**
FJDS				S	**Sb**	**14 18 55.4**	**-0.2**
RRKS	**Rarakau**	**1.87**	**196**	P	**Pn**	**14 18 34.3**	**+0.3**
RRKS				S	**Sn**	**14 18 59.6**	**+1.7**
ODZ	**Otahua Downs**	**1.88**	**113**	P	**Pn**	**14 18 34.4**	**+0.2**
ODZ	**Otahua Downs**	**1.88**	**113**	S	**Sn**	**14 18 58.7**	**+0.5**
ODZ	**Otahua Downs**	**1.88**	**113**	P	**Pn**	**14 18 34.7**	**+0.5**
ODZ				S	**Sn**	**14 18 58.1**	**-0.1**
TUZ	**Tuapeka**	**1.90**	**148**	P	**Pn**	**14 18 35.1**	**+0.6**
TUZ				S	**Sb**	**14 19 00.5**	**0.0**
FDCS	**Fairlie Distri**	**1.91**	**83**	S	**Sb**	**14 19 00.7**	**-0.2**
ORPS	**Orepuki**	**1.96**	**189**	P	**Pn**	**14 18 35.6**	**+0.3**
TMZ	**Timaru**	**2.02**	**92**	P	**Pn**	**14 18 36.0**	**-0.1**
PYZ	**Puysegur Point**	**2.11**	**210**	P	**Pb**	**14 18 39.9**	**-0.2**
RPZ	**Rata Peaks**	**2.16**	**74**	P	**Pn**	**14 18 38.9**	**+0.9**
SYZ	**Scrubby Hill**	**2.29**	**163**	P	**Pn**	**14 18 39.9**	**+0.2**
KHZ	**Kahutara**	**4.35**	**65**	P	**Pn**	**14 19 09.5**	**+1.4**
QRZ	**Quartz Range**	**4.76**	**44**	P	**Pn**	**14 19 12.6**	**-1.1**
SNZO	**South Karori**	**5.67**	**60**	P	**Pn**	**14 19 26.9**	**+0.7**
KHEZ	**Kahui Hut**	**6.66**	**43**	P	**Pn**	**14 19 39.3**	**-0.7**
HIZ	**Hauiti**	**7.68**	**43**	P	**Pn**	**14 19 53.3**	**-0.6**
OUZ	**Omahuta**	**10.02**	**26**	P	**Pn**	**14 20 25.5**	**-0.4**

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*IDC **03** 14:33:01.8±0.4,2°.73S×138°.23E,h0km,mb4.9/20, mbtmp4.9/23,ML4.6/4,MS5.1/44,Error ellipse: s-maj=17.0km s-min=8.6km az=92.0*
*DJA **03** 14:33:02.7±0.5,3°S±2°×13°9E±°,h12km±4km,M5.4/121, mb5.4/121,mB5.9/92,MLv5.7/12,Mw(mB)5.5/92, MwMwp5.4/51,Mwp5.5/51*
*MOS **03** 14:33:02.5±1.1,2°.61S×138°.31E,h16km,mb5.6/47, MS5.2/22,Error ellipse: s-maj=8.3km s-min=5.1km az=110.4*
*ISC-PP **03** 14:33:04,2°.65S×138°.34E,h6km,Mwppsm5.9,Moment Tensor Solution. s47 Moment tensor: Scale 10^{17}Nm; M_{rr}0.57±.13; $M_{\theta\theta}$0.12±.14; $M_{\phi\phi}$-0.68±.13; $M_{r\theta}$-0.01±.13; $M_{\theta\phi}$-0.09±.26; $M_{\phi r}$0.30±.11; Fault plane solution: $M_0$8.81000×10^{17} NP1:ϕ_s335.90000°,δ42.00000°, λ81.90000°. NP2:ϕ_s166.80000°,δ48.50000°,λ97.20000°.*
*NEIC **03** 14:33:04.1±1.8,2°.65S±0°.07×138°.34E±0°.07,h13km±3km, mb5.7/291,Ms_20 5.5/846,Mww5.6/26 Error ellipse: s-maj=10.6km s-min=9.8km az=178.0*
*BJI **03** 14:33:04.6,2°.87S×138°.65E,h56km,mB5.6/68,mb5.3/90, Ms5.4/98,Ms7 5.3/94*
*NEIC **03** 14:33:05,2°.47S×138°.33E,h18km,Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}3.39; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$-1.33; $M_{r\theta}$-0.21; $M_{\theta\phi}$1.66; $M_{\phi r}$-0.57; Fault plane solution: $M_0$3.44000×10^{17} NP1: ϕ_s299.66000°,δ44.14000°,λ76.55000°. NP2: ϕ_s138.09000°,δ47.37000°,λ102.72000°. Principal axes: T 3.4849, Plg81.0000°, Azm119.0000°; N -0.0927, Plg9.0000°, Azm309.0000°; P -3.3922, Plg2.0000°, Azm219.0000°;*
*NEIC **03** 14:33:05,2°.67S×138°.33E,h18km*
*GCMT **03** 14:33:07.1±0.1,2°.59S±0°.01×138°.43E±0°.01,h13km, MW5.6/158,Moment Tensor Solution. s137,c241; s158,c315; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.84±.04; $M_{\theta\theta}$-1.94±.03; $M_{\phi\phi}$-0.89±.03; $M_{r\theta}$0.47±.07; $M_{\theta\phi}$1.66±.02; $M_{\phi r}$-0.10±.07; Best double couple: $M_0$3.03800×10^{17} NP1:ϕ_s311.00000°,δ41.00000°, λ97.00000°. NP2:ϕ_s122.00000°,δ49.00000°,λ84.00000°. Principal axes: T 2.8860, Plg84.0000°, Azm350.0000°; N 0.3100, Plg4.0000°, Azm126.0000°; P -3.1890, Plg4.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IPGP **03** 14:33:09.0,2°.71S×138°.32E,h17km,Mw5.6,Fault plane solution: NP1:ϕ_s294.00000°,δ32.00000°,λ78.00000°. NP2:ϕ_s128.00000°,δ59.00000°,λ97.00000°.*
ISC 03 14:33:02.4±0.2,2°.63S±0°.03×138°.34E±0°.03,h6km, h6km:pP-P,n1291,σ1s83/949,mb5.6/298,MS5.5/483, 33C-18D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**30**	P	Pg	14 33 11.5	-5.1
GENI	**Genyem**	**1.82**	**89**	P	**Pn**	**14 33 30.9**	**-3.4**
SRPI	**Serui, Papua**	**2.23**	**290**	P	**Pn**	**14 33 40.9**	**+0.9**
JAY	**Jayapura**	**2.36**	**87**	Pn	**Pn**	**14 33 42.6**	**+0.8**
85nm,0.3s,baz=224,slow=12,SNR=53							
JAY				Sn	**Sb**	**14 34 14.4**	**-0.5**
156nm,0.3s,baz=297,slow=21,SNR=7.9							
JAY				LR	LR	14 34 29.8	
comp=Z,37μm,20.9s,baz=332,slow=35							
2μm,0.7s							
JAY	**Jayapura**	**2.36**	**87**	P	**Pn**	**14 33 38.2**	**-3.6**
BAKI	**Biak**	**2.65**	**303**	P	**Pn**	**14 33 47.5**	**+1.7**
RKPI	**Ransiki, Papua**	**4.31**	**285**	P	**Pn**	**14 34 10.5**	**+1.9**
KMPI	**Kaimana, Papua**	**4.74**	**257**	P	**Pn**	**14 34 18.6**	**+4.1**
FAKI	**Fak Fak**	**6.09**	**267**		**Pn**	**14 34 33.0**	**-0.1**
FAKI	**Fak Fak**	**6.09**	**267**	P	**Pn**	**14 34 36.1**	**+3.0**
FAKI	**Fak Fak**	**6.09**	**267**	P	**Pn**	**14 34 35.6**	**+2.5**
3.1nm6μm390nm,0.8s							
MMPI	**Merauke**	**6.14**	**161**	P	**Pn**	**14 34 35.7**	**+1.9**
SWI	**Sorong**	**7.29**	**284**	P	**Pn**	**14 34 52.3**	**+2.7**
2.1nm18μm6μm471nm,0.7s							
SWI	**Sorong**	**7.29**	**284**	P	**Pn**	**14 34 53.2**	**+3.6**
BNDI	**Bandanaira**	**8.63**	**257**	P	**Pn**	**14 35 12.4**	**+4.5**
627nm,2.5s							
SAUI	**Saumlaki**	**8.80**	**233**	P	**Pn**	**14 35 14.0**	**+3.7**
635nm,1.6s							
MANU	**Manus Island**	**9.04**	**86**		**Pn**	**14 35 14.3**	**+0.8**
MSAI	**Masohi**	**9.43**	**265**	P	**Pn**	**14 35 21.3**	**+2.4**
18μm5μm426nm,1.1s							
AAI	**Ambon**	**10.19**	**264**	P	**Pn**	**14 35 31.8**	**+2.5**
17um3μm291nm,0.9s							
PMG	**Port Moresby**	**11.05**	**128**		**Pn**	**14 35 43.3**	**+2.1**
PMG	**Port Moresby**	**11.05**	**128**	Pn	**Pn**	**14 35 45.0**	**+3.9**
5.8nm,0.3s,baz=344,slow=7.3,SNR=13							
PMG				LR	LR	14 41 44.9	
comp=Z,28μm,19.9s,baz=310,slow=47							
PMG	**Port Moresby**	**11.05**	**128**	P	**Pn**	**14 35 45.8**	**+4.7**
PMG	**Port Moresby**	**11.05**	**128**	*ceP*	**Pn**	**14 35 44.6**	**+3.5**
PMG				pmax	pmax		
comp=Z,634nm,2.5s							
NLAI	**Namlea**	**11.24**	**267**	P	**Pn**	**14

BSSI Bau Bau, Buton 18.14 258 P **P 14 37 17.8 +2.3**
comp=Z,6µmcomp=Z,7µmcomp=Z,234nm,1.6s
BNSI Bone 18.29 264 P **P 14 37 19.6 +2.4**
comp=Z,7µmcomp=Z,6µmcomp=Z,135nm,1.0s
BKSI Bulukumba 18.37 261 P **P 14 37 20.5 +2.4**
comp=Z,5µmcomp=Z,3µmcomp=Z,85nm,1.0s
TV1H Townsville Har 18.48 154 P **Pn 14 37 22.6 +3.3**
PCI Palu 18.58 275 P **Pn 14 37 22.6 +2.0**
comp=Z,7µmcomp=Z,432nm,1.0s
SPSI Sidrap Palu 18.59 265 P **Pn 14 37 22.7 +2.0**
comp=Z,6µmcomp=Z,163nm,1.9s
KAPI Kappang 18.70 262 P **Pn 14 37 24.1 +2.1**
comp=Z,12nm,0.3s,baz=168,slow=13,SNR=4.1
KAPI LR LR 14 47 17.7
comp=Z,2µm,18.5s,baz=82,slow=46
KAPI Kappang 18.70 262 P **Pn 14 37 23.5 +1.4**
KAPI P **Pn 14 37 23.5 +1.4**
KAPI S **S 14 40 56.4 +1.2**
KAPI S **S 14 40 56.4 +1.2**
KAPI Kappang 18.70 262⇓*e*P **Pn 14 37 24.0 +1.9**
KAPI pmax pmax
comp=Z,27nm,1.3s
CTA Charters Tower 18.99 157 LR LR 14 45 22.4
comp=Z,298nm,20.8s,baz=336,slow=39
CTAO Charters Tower 18.99 157 P **P 14 37 24.5 -0.4**
CTAO Charters Tower 18.99 157 P **Pn 14 37 28.2 +2.6**
CTAO Charters Tower 18.99 157 P **P 14 37 24.5 -0.4**
CTAO pmax pmax
comp=Z,64nm,1.0s
BASI Baing, Sumba 19.18 246 P **Pn 14 37 29.6 +1.7**
comp=Z,5µmcomp=Z,5µmcomp=Z,333nm,0.8s
WSI Waingapu 19.25 248 P **Pn 14 37 29.4 +0.7**
FITZ Fitzroy Crossi 19.78 218 P **P 14 37 32.3 -1.3**
FITZ Fitzroy Crossi 19.78 218 P **P 14 37 33.6 0.0**
comp=Z,1.1nm,0.3s,baz=35,slow=13,SNR=42
FITZ S **S 14 41 08.3 -8.7**
comp=Z,87nm,0.9s,baz=105,slow=11,SNR=6.5
comp=Z,30nm,0.8s
WBSI Waikabubak, Su 20.08 249 P **P 14 37 37.8 +0.9**
comp=Z,4µmcomp=Z,178nm,0.8s
SGKI Sangatta, Kali 20.83 275 P **P 14 37 46.4 +1.3**
comp=Z,6µmcomp=Z,7µmcomp=Z,265nm,1.4s
AS31 Alice Springs 21.35 191 P **P 14 37 50.2 -0.3**
ASAR Alice Springs 21.35 191 P **P 14 37 50.2 -0.3**
ASAR Alice Springs 21.35 191 P **P 14 37 49.1 -1.5**
comp=Z,33nm,0.6s,baz=23,slow=9.1,SNR=238
ASAR S **S 14 41 45.0 -3.1**
comp=Z,41nm,1.0s,baz=13,slow=25,SNR=8.1
ASAR LR LR 14 46 34.7
comp=Z,11µm,19.6s,baz=14,slow=38
comp=Z,33nm,0.6s
ASAR Alice Springs 21.35 191 P **P 14 37 50.3 -0.3**
PLAI Plampang 21.36 252 P **P 14 37 53.0 +2.3**
PLAI Plampang 21.36 252 P **P 14 37 51.4 +0.7**
comp=Z,3µmcomp=Z,94nm,0.8s
BKB Balikpapan 21.48 273 P **P 14 37 54.6 +2.6**
BKB Balikpapan 21.48 273 P **P 14 37 54.5 +2.6**
comp=Z,10µmcomp=Z,460nm,1.1s
PATS Pohnpei 22.04 65 P **P 14 37 57.6 -0.4**
comp=Z,0.0nmcomp=Z,571nm,1.2s
PATS Pohnpei 22.04 65 P **P 14 37 57.1 -1.0**
PATS IAMs_20 IAMs_20 14 44 32.4
comp=Z,14µm,20.0s
PATS Pohnpei 22.04 65 P **P 14 37 59.1 +1.1**
TATA Tatamba Isabel 22.11 106 P **P 14 37 59.2 +0.4**
TWSI Taliwang, Sumb 22.19 253 P **P 14 38 00.7 +1.0**
comp=Z,3µmcomp=Z,74nm,0.9s
SAVO Savo Central 22.31 108 P **P 14 38 04.1 +3.2**
ALEG Aligegeo Malai 23.05 106 P **P 14 38 12.1 +3.3**
BBKI Banjar Baru 23.48 267 P **P 14 38 14.5 +1.3**
MTKI Muara Teweh, K 23.50 274 P **P 14 38 12.8 -0.5**
comp=Z,5µmcomp=Z,113nm,0.7s
SRBI Singaraja 23.65 256 P **P 14 38 16.8 +2.0**
KKM Kota Kinabalu 23.72 291 P **P 14 38 16.7 +1.1**
KKM Kota Kinabalu 23.72 291 P **P 14 38 17.9 +2.3**
DNP Denpasar 23.78 254 P **P 14 38 15.5 -0.6**
comp=Z,198nm,0.8s
WRKA Warakurna 24.29 203 P **P 14 38 18.2 -2.6**
QLP Quilpie 24.48 167 P **P 14 38 21.8 -0.7**
comp=Z,292nm,1.5s
QLP Quilpie 24.48 167 P **P 14 38 25.0 +2.5**
ABJI Asem Bagus 24.54 257 P **P 14 38 24.9 +1.7**
comp=Z,6µmcomp=Z,4µmcomp=Z,85nm,1.2s
KMMI Kalianget 24.68 259 P **P 14 38 26.6 +2.2**
comp=Z,6µmcomp=Z,7µmcomp=Z,198nm,1.4s
JAGI Jajag, Banyuwa 24.76 255 P **P 14 38 24.4 -0.7**
JAGI Jajag, Banyuwa 24.76 255 P **P 14 38 25.3 +0.2**
comp=Z,3µmcomp=Z,43nm,0.7s
BLJI Banyuglugur 25.16 257 P **P 14 38 31.6 +2.9**
comp=Z,3µmcomp=Z,74nm,0.7s
EIDS Eidsvold 25.72 153 P **P 14 38 33.7 0.0**
comp=Z,135nm,1.3s
EIDS Eidsvold 25.72 153 P **P 14 38 34.0 +0.2**
EIDS Eidsvold 25.72 153 P **P 14 38 36.1 +2.4**
BWJI Bawean 25.81 262 P **P 14 38 35.5 +0.8**
MBWA Marble Bar 25.84 223 P **P 14 38 35.9 +1.1**
comp=Z,113nm,1.1s
MBWA Marble Bar 25.84 223 P **P 14 38 34.5 -0.4**
MBWA Marble Bar 25.84 223 P **P 14 38 35.9 +1.1**
MBWA S **S 14 43 04.9 -0.2**
MBWA Marble Bar 25.84 223 P **P 14 38 37.2 +2.3**
PSAC2 Pilbara Seismi 26.00 222 P **P 14 38 36.4 0.0**
comp=Z,73nm,1.1s
PSAC1 Pilbara Seismi 26.04 222 P **P 14 38 36.7 0.0**
comp=Z,76nm,1.6s
PSA00 Pilbara Seismi 26.04 222 P **P 14 38 37.0 +0.3**
comp=Z,79nm,1.0s
PSA00 Pilbara Seismi 26.04 222 P **P 14 38 36.8 0.0**
PSA00 Pilbara Seismi 26.04 222 P **P 14 38 39.1 +2.4**
PSAB3 Pilbara Seismi 26.05 222 P **P 14 38 37.8 +1.0**
comp=Z,69nm,1.5s
GRJI Gresik 26.12 260 P **P 14 38 38.6 +1.1**
comp=Z,4µmcomp=Z,5µmcomp=Z,255nm,1.3s
SBUM Sibu 26.60 281 P **P 14 38 43.4 +1.5**
SBUM Sibu 26.60 281 P **P 14 38 45.6 +3.8**
PBKI Pangkalan Bun 26.64 269 P **P 14 38 45.0 +2.7**
SZP Santa 26.71 319 P **P 14 38 45.2 +2.5**
TBJI Tambak Boyo 26.72 260 P **P 14 38 42.9 -0.1**
comp=Z,243nm,1.2s
NGJI Ngawi 27.18 259 P **P 14 38 48.1 +1.0**
comp=Z,2µmcomp=Z,38nm,1.3s
PCJI Pacitan 27.59 257 P **P 14 38 50.6 -0.2**
comp=Z,48nm,1.1s
WOJI Wonogiri, Jawa 27.78 258 P **P 14 38 54.1 +1.6**
comp=Z,2µmcomp=Z,62nm,1.1s
TW1H Toowoomba 1 Ha 27.99 154 P **P 14 38 57.0 +2.7**
UGM Wanagama 28.18 258 P **P 14 38 55.2 -0.9**
UGM IAmb IAmb 14 38 59.4
comp=Z,324nm,1.7s
UGM Wanagama 28.18 258 P **P 14 38 57.2 +1.1**
comp=Z,95nm,1.5s
KSM Kuching 28.32 278 P **P 14 38 58.6 +1.3**
KSM Kuching 28.32 278 P **P 14 38 58.9 +1.6**
STKA Stephens Creek 29.25 174 P **P 14 39 05.4 0.0**
STKA Stephens Creek 29.25 174 P **P 14 39 03.9 -1.4**
comp=Z,5.0nm,0.7s,baz=349,slow=8.1,SNR=8.3
STKA LR LR 14 52 01.7
comp=Z,10µm,18.0s,baz=343,slow=39
comp=Z,5.0nm,0.7s
STKA Stephens Creek 29.25 174 P **P 14 39 05.4 0.0**
STKA pmax pmax
comp=Z,437nm,1.4s
STKA MLR MLR
comp=Z,36µm,19.0s
CMSA Cobar Meteorol 29.58 167 P **P 14 39 10.7 +2.4**
CMSA Cobar Meteorol 29.58 167 P **P 14 39 10.4 +2.2**
FORT Forrest 29.64 198 P **P 14 39 07.0 -1.8**
KPJI Karang Pucung 29.66 260 P **P 14 39 10.8 +1.6**
comp=Z,32nm,0.8s
BBOO Buckleboo 30.10 184 P **P 14 39 12.4 -0.4**
BBOO IAMs_20 IAMs_20 14 51 60.0
comp=Z,9µm,18.0s
WHYH Whyalla 30.25 181 P **P 14 39 16.8 +2.6**
ARMA Armidale 30.37 157 P **P 14 39 16.2 +0.8**
comp=Z,29nm,0.9s
ARMA Armidale 30.37 157 P **P 14 39 16.8 +1.4**
ARMA IAMs_20 IAMs_20 14 52 23.2
comp=Z,11µm,19.0s
ARMA Armidale 30.37 157 P **P 14 39 19.3 +3.9**
MEEK Meekatharra 30.46 217 P **P 14 39 13.6 -2.6**
MEEK Meekatharra 30.46 217 P **P 14 39 18.2 +2.0**
HTT Hallett 30.64 179 P **P 14 39 17.5 -0.3**
comp=Z,6.1nm,1.0s
HTT Hallett 30.64 179 P **P 14 39 19.9 +2.2**
TPI Tanjungpandan 30.66 269 P **P 14 39 18.5 +0.5**
comp=Z,840nmcomp=Z,36nm,1.4s
YULB Yu-li 30.74 328 P **P 14 39 18.0 -0.7**
YULB Yu-li 30.74 328 P **P 14 39 20.3 +1.7**
YOJ Yonaguni jima 30.78 332 P **P 14 39 18.6 -0.3**
YOJ IAmb IAmb 14 39 21.8
comp=Z,181nm,1.6s
YOJ Yonaguni jima 30.78 332 P **P 14 39 18.6 -0.3**
YOJ pmax pmax
comp=Z,181nm,1.6s
JOW Kunigami 30.86 342 P **P 14 39 19.4 -0.3**
JOW Kunigami 30.86 342 LR LR 14 49 40.0
comp=Z,6µm,20.4s,baz=176,slow=32
JOW Kunigami 30.86 342 P **P 14 39 22.0 +2.3**
LEM Lembang 30.89 261 LR LR 14 54 09.2
comp=Z,3µm,20.2s,baz=88,slow=41
LEM Lembang 30.89 261 P **P 14 39 21.2 +0.9**
comp=Z,1µmcomp=Z,16nm,0.8s
TPUB Ta-pu 31.02 327 P **P 14 39 22.2 +1.1**
NACB Ninganchiao 31.23 329 P **P 14 39 22.2 -0.7**
NACB IAmb IAmb 14 39 30.1
comp=Z,89nm,1.0s
NACB Ninganchiao 31.23 329 P **P 14 39 24.4 +1.5**
SSLB Suanglung 31.24 328 P **P 14 39 24.5 +1.4**
CNJI Cibinong 31.43 260 P **P 14 39 23.9 -1.0**
comp=Z,27nm,1.0s
DBJI Dramaga 31.72 262 P **P 14 39 31.9 +4.4**
comp=Z,56nm,0.5s
YHNB Yeheng 31.75 330 P **P 14 39 26.8 -0.8**
YHNB IAmb IAmb 14 39 43.0
comp=Z,100nm,1.2s
YHNB Yeheng 31.75 330 P **P 14 39 29.8 +2.2**
TATO Taipei 31.95 330 P **P 14 39 29.1 -0.1**
TATO IAmb IAmb 14 39 31.9
comp=Z,51nm,0.7s
TATO Taipei 31.95 330 P **P 14 39 28.4 -0.9**
TATO P **P 14 39 28.4 -0.9**
TATO S **S 14 44 40.6 -0.5**
TATO S **S 14 44 40.6 -0.5**
TATO Taipei 31.95 330 P **P 14 39 30.9 +1.7**
KMBL Kambalda 32.53 207 P **P 14 39 33.9 -0.4**
comp=Z,14nm,1.2s
CGJI Cibinong 32.77 262 P **P 14 39 35.9 -0.8**
YNG Young 32.87 165 P **P 14 39 38.4 +1.1**
comp=Z,19nm,1.0s
DLV Lat 33.02 297 P **P 14 39 39.2 +0.2**
DLV IAmb IAmb 14 39 47.6
comp=Z,156nm,1.7s
DLV Lat 33.02 297 P **P 14 39 40.1 +1.1**
SYDH Sydney Hard Ro 33.07 161 P **P 14 39 41.2 +2.2**
KNMB Chin-men Tao 33.19 325 P **P 14 39 40.8 +0.7**
DZM Mont Dzumac 33.44 128 *e*P **P 14 39 41.1 -1.4**
comp=Z,104nm,1.4s
DZM Mont Dzumac 33.44 128 *e*PP **PP 14 40 57.0 -1.2**
comp=Z,248nm,23.1s
DZM *e*S **S 14 44 57.6 -7.1**
comp=Z,2µm,33.3s
DZM *e*LR LR 14 48 39.9
comp=Z,10µm,25.2s
DZM Mont Dzumac 33.44 128 P **P 14 39 45.6 +3.1**
KLI Kotabumi 33.48 265 P **P 14 39 44.5 +1.6**
PMBI Palembang 33.53 269 P **P 14 39 44.4 +1.1**
MORW Morawa 33.78 217 P **P 14 39 45.5 +0.2**
comp=Z,56nm,1.1s
MORW Morawa 33.78 217 P **P 14 39 45.1 -0.3**
MORW IAMs_20 IAMs_20 14 54 25.4
comp=Z,9µm,20.0s
MORW Morawa 33.78 217 P **P 14 39 47.4 +2.1**
YATNC Mamie plateau, 33.79 127 P **P 14 39 48.5 +3.0**
DSRI Dabo 33.82 273 P **P 14 39 46.2 +0.4**
KASI Kota Agung 33.88 264 P **P 14 39 46.1 -0.2**
comp=Z,35nm,1.0s
TPRI Tanjung Pinang 33.99 276 P **P 14 39 48.8 +1.5**
comp=Z,57nm,0.8s
CAN Canberra 34.00 164 IAMs_20 IAMs_20 14 55 35.7
comp=Z,6µm,18.0s
CAN Canberra 34.00 164 P **P 14 39 49.7 +2.6**
CNB Canberra Magne 34.09 164 P **P 14 39 48.7 +0.7**
comp=Z,55nm,1.4s
CNB Canberra Magne 34.09 164 P **P 14 39 50.7 +2.7**
ARPS Mount Arapiles 34.12 175 P **P 14 39 48.0 -0.1**
comp=Z,22nm,0.9s
MDSI Maura Dua 34.15 266 P **P 14 39 48.9 +0.3**
comp=Z,1µmcomp=Z,80nm,1.2s
HKPS Hong Kong Po S 34.23 318 P **P 14 39 51.0 +1.7**
LWLI Liwa 34.29 265 P **P 14 39 50.3 +0.3**
comp=Z,88nm,0.8s
PINNC Pines Island, 34.52 128 IAMs_20 IAMs_20 14 53 34.8
comp=Z,7µm,21.0s
BLDU Ballidu 34.55 214 P **P 14 39 54.0 +2.1**
MYKOM Kota Tinggi 34.76 277 P **P 14 39 56.4 +2.4**
LHSI Lahat 34.78 267 P **P 14 39 55.2 +1.0**
comp=Z,3µmcomp=Z,90nm,1.2s
BTDF Bukit Timah Da 34.79 276 P **P 14 39 56.1 +1.9**
TARA Tarawa 34.80 84 P **P 14 39 57.5 +3.2**
BRAT Ballarat 35.13 172 P **P 14 39 59.0 +2.2**
GZH Guangzhou 35.32 318 P **P 14 40 00.8 +2.2**
GZH S **S 14 45 36.2 +2.8**
GZH LR LR
comp=Z,3µm,16.3s
GZH LR LR
comp=Z,2µm,16.7s
GZH LR LR
comp=Z,5µm,17.7s
QIZ Qiongzhong 35.34 309 IAmb IAmb 14 40 07.2
comp=Z,173nm,1.5s
QIZ Qiongzhong 35.34 309 P **P 14 39 59.2 +0.3**
QIZ sP sP 14 40 19.1 +17
QIZ PP **PP 14 41 21.1 +2.0**
QIZ S **S 14 45 32.5 -1.3**
QIZ pmax pmax
comp=Z,57nm,1.7s
QIZ pmax pmax
comp=Z,450nm,3.8s
QIZ LR LR
comp=Z,2µm,16.0s
QIZ LR LR
comp=Z,3µm,17.8s
QIZ LR LR
comp=Z,4µm,16.9s
QIZ Qiongzhong 35.34 309 P **P 14 40 00.6 +1.7**
TOO Toolangi 35.39 170 IAMs_20 IAMs_20 14 55 55.3
comp=Z,6µm,18.0s
JHJ Hachijo jima 2 35.58 2 LR LR 14 51 21.0
comp=Z,3µm,21.3s,baz=192,slow=31
KSI Kapahiang 35.71 267 P **P 14 40 00.3 -1.9**
NWAO Narrogin (SRO) 36.06 211 IAMs_20 IAMs_20 14 54 14.5
comp=Z,8µm,22.0s
NWAO Narrogin (SRO) 36.06 211 P **P 14 40 03.4 -1.5**
comp=Z,8.6nm,0.8s,baz=15,slow=6.5,SNR=6.5
NWAO LR LR 14 55 26.1
comp=Z,5µm,19.4s,baz=34,slow=37
comp=Z,8.6nm,0.8s
MASI Maura Aman, Be 36.06 268 P **P 14 40 06.4 +1.2**
JNU Nakatsue 36.25 349 IAmb IAmb 14 40 14.8
comp=Z,285nm,1.6s
JNU Nakatsue 36.25 349 LR LR 14 54 38.1
comp=Z,4µm,19.0s,baz=170,slow=36
JNU Nakatsue 36.25 349 P **P 14 40 08.2 +1.6**
SSE Sheshan 37.31 335 P **P 14 40 16.9 +1.4**
SSE S **S 14 46 03.1 -0.5**
SSE pmax pmax
comp=Z,33nm,0.7s
SSE LR LR
comp=Z,1µm,16.2s
INU Inuyama 37.80 358 P **P 14 40 21.7 +2.1**
JWT Wachi 37.82 356 P **P 14 40 21.8 +2.0**
PDSI Padang 37.90 272 P **P 14 40 21.2 +0.3**
comp=Z,3µmcomp=Z,46nm,1.3s
IPM Ipoh 37.95 281 P **P 14 40 21.6 +0.3**
IPM IAmb IAmb 14 40 25.7
comp=Z,220nm,1.9s
IPM Ipoh 37.95 281 P **P 14 40 23.2 +1.9**
PPI Padang Panjang 37.99 273 P **P 14 40 22.3 +0.7**
comp=Z,2µmcomp=Z,72nm,1.4s
KULM Kulim 38.47 282 P **P 14 40 26.1 +0.5**
KULM Kulim 38.47 282 P **P 14 40 27.5 +1.9**
GULI GuiLin 38.81 317 P **P 14 40 27.7 -0.6**
GULI S **S 14 46 27.6 +1.1**
GULI pmax pmax
comp=Z,64nm,1.8s
GULI LR LR
comp=Z,1µm,15.5s
GULI LR LR
comp=Z,2µm,16.9s
GULI LR LR
comp=Z,3µm,18.2s
MAJO Matsushiro 38.97 360⇓*e*P **P 14 40 31.1 +1.6**
MAJO pmax pmax
comp=Z,36nm,1.7s
MJAR Matsushiro Arr 38.97 360 P **P 14 40 29.4 -0.1**
comp=Z,2.8nm,0.7s,baz=176,slow=8.6,SNR=4.9
MJAR PcP **PcP 14 42 42.9 +2.8**
comp=Z,3.7nm,0.9s,baz=210,slow=3.4,SNR=4.2
MJAR LR LR 14 56 07.2
comp=Z,2µm,18.2s,baz=170,slow=36
comp=Z,2.8nm,0.7s
NJ2 Nanjing 39.14 333 ⇑P **P 14 40 31.8 +0.8**
NJ2 S **S 14 46 33.9 +2.6**
NJ2 sS sS 14 46 53.3 +19
NJ2 pmax pmax
comp=Z,50nm,0.9s
NJ2 pmax pmax
comp=Z,400nm,3.5s
NJ2 LR LR
comp=Z,3µm,18.5s
NJ2 LR LR
comp=Z,2µm,17.0s
NJ2 LR LR
comp=Z,4µm,18.5s
CNSH ChangSha 39.19 323 P **P 14 40 33.5 +2.1**
CNSH pmax pmax
comp=Z,23nm,0.4s
SISI Saibi 39.25 271 P **P 14 40 33.4 +1.2**
comp=Z,91nm,0.8s
PSI Prapat 39.77 278 P **P 14 40 37.7 +1.0**
PBSI Pulau Batu 40.13 273 P **P 14 40 40.5 +1.0**
comp=Z,85nm,2.1s
TJN Taejon 40.14 346 P **P 14 40 41.7 +2.5**
TJN Taejon 40.14 346⇓*e*P **P 14 40 39.5 +0.3**
WHN Wuhan 40.15 327 ⇑P **P 14 40 40.9 +1.5**
WHN S **S 14 46 49.8 +3.2**
WHN LR LR
comp=Z,5µm,18.0s
WHN LR LR
comp=Z,2µm,11.1s
WHN LR LR
comp=Z,5µm,13.9s
SURA Surathani 40.32 287 P **P 14 40 43.0 +1.9**
JMM Marumori 40.36 3 P **P 14 40 41.2 +0.2**
JMM IAmb IAmb 14 40 54.1
comp=Z,197nm,1.4s
JMM Marumori 40.36 3 P **P 14 40 42.1 +1.1**
JSD Sado 40.46 360 P **P 14 40 44.1 +2.2**
GSI Gunungsitoli 40.94 275 P **P 14 40 46.5 +0.2**
GSI Gunungsitoli 40.94 275 P **P 14 40 47.3 +1.0**
GSI Gunungsitoli 40.94 275 P **P 14 40 45.2 -1.1**
comp=Z,71nm,1.3s
KCSI Kotacane, Aceh 41.01 278 P **P 14 40 47.0 +0.2**
comp=Z,42nm,0.8s
KSRS Korea Array 41.04 347 P **P 14 40 47.1 +0.5**
comp=Z,10nm,0.8s,baz=159,slow=8.9,SNR=23
comp=Z,10nm,0.8s
FUNA Funafuti 41.06 100 P **P 14 40 48.5 +1.3**
SLVN Son La 41.27 307 P **P 14 40 49.7 +0.8**
INCN Inchon 41.37 346 IAMs_20 IAMs_20 14 57 49.9
comp=Z,5µm,19.0s
INCN Inchon 41.37 346 P **P 14 40 51.6 +2.2**
MSVF Nonsavu 41.73 114 P **P 14 40 54.7 +1.9**
MSVF Nonsavu 41.73 114⇑*e*P **P 14 40 53.3 +0.5**
MSVF pmax pmax
comp=Z,46nm,1.3s
MSVF MLR MLR
comp=Z,3µm,20.0s
LHMI Lhok Sumawe 42.08 281 P **P 14 40 57.2 +1.6**
LHMI Lhok Sumawe 42.08 281 P **P 14 40 56.8 +1.2**
GYA Guiyang 42.11 315 ⇑P **P 14 40 56.9 +1.1**
GYA pP sP 14 41 12.0 +13
GYA S **S 14 47 14.8 -1.3**
GYA sS sS 14 47 35.1 +16
GYA pmax pmax
comp=Z,57nm,1.2s
GYA LR LR
comp=Z,2µm,18.7s
GYA LR LR
comp=Z,2µm,23.8s
GYA LR LR
comp=Z,4µm,19.7s
SNSI Sinabang, Aceh 42.30 276 P **P 14 40 58.4 +1.0**
MLSI Meulaboh, Aceh 42.47 279 P **P 14 40 58.9 +0.1**
ENH Enshi 42.77 322 IAmb IAmb 14 41 03.5
comp=Z,152nm,1.4s
ENH Enshi 42.77 322 P **P 14 41 02.8 +1.8**
DGTI Dogotuki 42.91 111 P **P 14 41 03.5 +1.1**
JTM Tenmabayashi 43.28 3 P **P 14 41 04.2 -0.8**
TIA Tai'an 43.42 335 P **P 14 41 07.0 +0.8**
TIA S **S 14 47 35.2 +0.3**
TIA sS sS 14 47 51.2 +13
TIA SS **SS 14 50 40.8 -8.3**
TIA pmax pmax
comp=Z,29nm,0.8s
TIA pmax pmax
comp=Z,610nm,5.7s
TIA LR LR
comp=Z,2µm,16.9s
TIA LR LR
comp=Z,3µm,17.1s
TIA LR LR
comp=Z,4µm,17.8s
CM31 Chiang Mai Arr 44.08 300 P **P 14 41 12.0 +0.2**
CM31 P **P 14 41 12.0 +0.2**
CM31 S **S 14 47 46.0 +1.0**
CM31 S **S 14 47 46.0 +1.0**
CMAR Chiang Mai Arr 44.08 300 P **P 14 41 12.7 +1.0**
CMAR Chiang Mai Arr 44.08 300 P **P 14 41 12.4 +0.7**
comp=Z,8.3nm,0.7s,baz=119,slow=5.7,SNR=73
CMAR LR LR 15 01 26.2
comp=Z,1µm,18.1s,baz=110,slow=39
comp=Z,8.3nm,0.7s
DL2 Dalian 44.11 341 P **P 14 41 11.0 -0.6**
DL2 S **S 14 47 46.1 +1.3**
DL2 pmax pmax
comp=Z,94nm,2.1s
DL2 pmax pmax
comp=Z,1µm,4.5s
DL2 LR LR
comp=Z,2µm,17.1s
DL2 LR LR
comp=Z,2µm,19.9s
DL2 LR LR
comp=Z,3µm,20.8s
KMI Kunming 44.19 311 ⇑P **P 14 41 14.1 +1.3**
KMI S **S 14 47 45.8 -1.1**
KMI SS **SS 14 51 02.7 -2.1**
KMI pmax pmax
comp=Z,78nm,1.3s
KMI LR LR
comp=Z,2µm,18.7s
KMI LR LR
comp=Z,2µm,20.1s
KMI LR LR
comp=Z,3µm,20.4s
CHTO Chiang Mai 44.23 300 P **P 14 41 12.8 -0.1**
CHTO IAmb IAmb 14 41 21.3
comp=Z,102nm,1.3s
CHTO Chiang Mai 44.23 300 P **P 14 41 12.0 -0.9**
CHTO P **P 14 41 12.0 -0.9**
CHTO S **S 14 47 46.9 -0.3**
CHTO S **S 14 47 46.9 -0.3**
CHTO Chiang Mai 44.23 300 P **P 14 41 14.4 +1.5**
CHTO Chiang Mai 44.23 300 P **P 14 41 12.8 -0.1**
CHTO pmax pmax
comp=Z,102nm,1.3s
CHTO MLR MLR
comp=Z,2µm,19.0s
LYN LuoYang 44.26 329⇓*i*P **P 14 41 14.2 +1.3**
LYN sP sP 14 41 37.5 +22
LYN S **S 14 47 48.4 +1.2**
LYN pmax pmax
comp=Z,200nm,1.7s
LYN pmax pmax
comp=Z,620nm,5.1s
LYN LR LR
comp=Z,2µm,16.1s
LYN LR LR
comp=Z,1µm,16.1s
LYN LR LR
comp=Z,3µm,22.7s
HNS HongShan 45.47 333 ⇑P **P 14 41 22.8 +0.3**
HNS S **S 14 48 07.7 +3.1**
HNS pmax pmax

	comp=Z,61nm,1.4s					
HNS				pmax	pmax	
	comp=Z,510nm,6.1s					
HNS				LR	LR	
	comp=Z,2μm,20.8s					
HNS				LR	LR	
	comp=Z,2μm,19.2s					
HNS				LR	LR	
	comp=Z,4μm,20.6s					
PZH	**PanZhiHua**	**45.70**	**312**	P	**P**	**14 41 25.9 +1.2**
PZH				S	**S**	**14 48 07.6 -1.0**
PZH				SS	**ScS**	**14 51 27.8 +5.6**
PZH				pmax	pmax	
	comp=Z,50nm,1.5s					
PZH				pmax	pmax	
	comp=Z,280nm,5.1s					
PZH				LR	LR	
	comp=Z,1μm,18.0s					
PZH				LR	LR	
	comp=Z,2μm,19.6s					
PZH				LR	LR	
	comp=Z,2μm,21.4s					
XAN	**Xi'an**	**45.80**	**325**	⇑P	**P**	**14 41 25.7 +0.4**
XAN				pP	sP	14 41 38.7 +11
XAN				PP	**PP**	**14 43 11.6 -1.0**
XAN				S	**S**	**14 48 09.3 -0.4**
XAN				pmax	pmax	
	comp=Z,190nm,1.8s					
XAN				pmax	pmax	
	comp=Z,1μm,4.6s					
XAN				LR	LR	
	comp=Z,2μm,20.6s					
XAN				LR	LR	
	comp=Z,2μm,19.2s					
XAN				LR	LR	
	comp=Z,2μm,19.2s					
VLA	**Vladivostok**	**45.91**	**353**	*de*P	**P**	**14 41 26.2 +0.3**
VLA				pmax	pmax	
	comp=Z,46nm,0.7s					
OUZ	**Omahuta**	**46.05**	**139**	IAms_20	IAms_20	14 59 30.6
	comp=Z,4μm,20.0s					
OUZ	**Omahuta**	**46.05**	**139**	P	**P**	**14 41 29.2 +2.1**
SNY	**Shenyang**	**46.24**	**345**	⇓P	**P**	**14 41 29.4 +0.9**
SNY				pmax	pmax	
	comp=Z,68nm,2.0s					
SNY				pmax	pmax	
	comp=Z,660nm,6.2s					
SNY				LR	LR	
	comp=Z,2μm,20.4s					
SNY				LR	LR	
	comp=Z,2μm,18.4s					
SNY				LR	LR	
	comp=Z,3μm,18.4s					
ASAJ	**Asahikawa**	**46.69**	**4**	P	**P**	**14 41 32.6 +0.6**
	comp=Z,22nm,0.8s,baz=227,slow=9.0,SNR=8.6					
ASAJ				LR	LR	15 00 38.6
	comp=Z,1μm,19.4s,baz=192,slow=35					
	comp=Z,22nm,0.8s					
ASAJ	**Asahikawa**	**46.69**	**4**	P	**P**	**14 41 33.1 +1.1**
ASAJ				pmax	pmax	
	comp=Z,277nm,2.0s					
JKA	**Kamikawa-asahi**	**46.69**	**4**	P	**P**	**14 41 33.1 +1.0**
JKA				IAmb	IAmb	14 41 33.9
	comp=Z,276nm,2.0s					
TIY	**Taiyuan**	**46.78**	**332**	*e*P	**P**	**14 41 33.1 +0.2**
TIY				S	**S**	**14 48 22.5 -1.1**
TIY				pmax	pmax	
	comp=Z,480nm,4.8s					
TIY				LR	LR	
	comp=Z,2μm,18.4s					
TIY				LR	LR	
	comp=Z,2μm,17.8s					
TIY				LR	LR	
	comp=Z,3μm,19.7s					
CD2	**Chengdu**	**46.88**	**318**	P	**P**	**14 41 35.0 +1.2**
CD2				pP	sP	14 41 49.0 +12
CD2				sP	pP	14 41 55.1 +19
CD2				PP	**PP**	**14 43 26.6 +2.5**
CD2				S	**S**	**14 48 25.5 +0.3**
CD2				sS	sS	14 48 50.2 +22
CD2				pmax	pmax	
	comp=Z,140nm,1.1s					
CD2				pmax	pmax	
	comp=Z,810nm,4.8s					
CD2				LR	LR	
	comp=Z,3μm,17.6s					
CD2				LR	LR	
	comp=Z,3μm,17.5s					
CD2				LR	LR	
	comp=Z,4μm,15.8s					
WCZ	**Waipu Caves**	**46.96**	**139**	P	**P**	**14 41 35.4 +1.1**
USRK	**Ussuriysk Ar.**	**46.97**	**354**	P	**P**	**14 41 33.0 -1.2**
USRK	**Ussuriysk Ar.**	**46.97**	**354**	P	**P**	**14 41 35.4 +1.3**
	comp=Z,16nm,1.0s,baz=168,slow=7.3,SNR=10					
	comp=Z,16nm,1.0s					
BJT	**Baijiatuau**	**47.06**	**337**	IAmb	IAmb	14 41 37.0
	comp=Z,191nm,1.8s					
BJT	**Baijiatuau**	**47.06**	**337**	P	**P**	**14 41 35.8 +0.8**
BJI	**Beijing**	**47.08**	**337**	P	**P**	**14 41 35.9 +0.8**
BJI				pP	sP	14 41 49.4 +12
BJI				sP	pP	14 41 56.5 +19
BJI				S	**S**	**14 48 26.8 -0.8**
BJI				pmax	pmax	
	comp=Z,27nm,1.8s					
BJI				pmax	pmax	
	comp=Z,300nm,4.3s					
BJI				LR	LR	
	comp=Z,1μm,21.4s					
BJI				LR	LR	
	comp=Z,500nm,18.6s					
BJI				LR	LR	
	comp=Z,1μm,19.8s					
TNCH	**TengChong**	**47.40**	**308**	⇑P	**P**	**14 41 38.7 +0.5**
TNCH				pP	sP	14 41 52.9 +12
TNCH				sP	pP	14 41 58.7 +19
TNCH				PP	**PP**	**14 43 31.0 +1.5**
TNCH				S	**S**	**14 48 28.3 -4.8**
TNCH				pmax	pmax	
	comp=Z,70nm,1.9s					
TNCH				pmax	pmax	
	comp=Z,570nm,2.9s					
TNCH				LR	LR	
	comp=Z,770nm,14.1s					
TNCH				LR	LR	
	comp=Z,900nm,13.0s					
TNCH				LR	LR	
	comp=Z,2μm,16.4s					
CN2	**Changchun**	**47.65**	**347**	*e*P	**P**	**14 41 40.2 +0.7**
CN2				*e*S	**S**	**14 48 38.4 +2.7**
CN2				pmax	pmax	
	comp=Z,50nm,1.6s					
CN2				pmax	pmax	
	comp=Z,800nm,5.0s					
CN2				LR	LR	
	comp=Z,3μm,18.0s					
CN2				LR	LR	
	comp=Z,2μm,18.0s					
CN2				LR	LR	
	comp=Z,4μm,21.1s					
MDJ	**Mudanjiang**	**47.68**	**352**	P	**P**	**14 41 41.2 +1.4**
MDJ				pmax	pmax	
	comp=Z,50nm,1.6s					
MDJ				LR	LR	
	comp=Z,2μm,16.5s					
MDJ				LR	LR	
	comp=Z,1μm,19.9s					
MDJ				LR	LR	
	comp=Z,3μm,15.8s					
MDJ	**Mudanjiang**	**47.68**	**352**	P	**P**	**14 41 41.9 +2.1**
KUZ	**Kuaotunu**	**48.34**	**139**	P	**P**	**14 41 46.7 +1.8**
KUZ	**Kuaotunu**	**48.34**	**139**	P	**P**	**14 41 46.7 +1.8**
TOZ	**Tahuroa Road**	**48.77**	**140**	P	**P**	**14 41 48.2 -0.1**
TOZ				IAmb	IAmb	14 41 58.8
	comp=Z,92nm,1.1s					
TOZ				IAms_20	IAms_20	15 01 48.8
	comp=Z,4μm,20.0s					
TOZ	**Tahuroa Road**	**48.77**	**140**	P	**P**	**14 41 51.1 +2.7**
HIZ	**Hauiti**	**48.84**	**142**	IAms_20	IAms_20	15 01 41.5
	comp=Z,4μm,21.0s					
HIZ	**Hauiti**	**48.84**	**142**	P	**P**	**14 41 52.2 +3.3**
QRZ	**Quartz Range**	**48.94**	**146**	IAms_20	IAms_20	15 03 29.1
	comp=Z,6μm,18.0s					
QRZ	**Quartz Range**	**48.94**	**146**	P	**P**	**14 41 52.8 +3.2**
BNX	**BinXian**	**49.13**	**350**	⇑P	**P**	**14 41 50.9 0.0**
BNX				pP	sP	14 42 05.8 +12
BNX				PP	**PP**	**14 43 46.2 +1.5**
BNX				S	**S**	**14 48 56.3 -0.2**
BNX				sS	sS	14 49 20.2 +20
BNX				pmax	pmax	
	comp=Z,100nm,1.7s					
BNX				pmax	pmax	
	comp=Z,520nm,5.2s					
BNX				LR	LR	
	comp=Z,2μm,19.5s					
BNX				LR	LR	
	comp=Z,1μm,15.7s					
BNX				LR	LR	
	comp=Z,3μm,18.4s					
TLZ	**Tolley Road**	**49.16**	**141**	P	**P**	**14 41 53.4 +2.1**
VRZ	**Vera Road**	**49.16**	**142**	P	**P**	**14 41 54.8 +3.6**
DSZ	**Denniston Nort**	**49.16**	**147**	P	**P**	**14 41 52.4 +1.1**
JCZ	**Jackson Bay**	**49.28**	**151**	P	**P**	**14 41 54.8 +2.6**
JCZ	**Jackson Bay**	**49.28**	**151**	P	**P**	**14 41 55.8 +3.6**
TKNZ	**Takaka Hill**	**49.33**	**145**	P	**P**	**14 41 53.3 +0.7**
YSS	**Yuzhno-Sakhali**	**49.53**	**4**	P	**P**	**14 41 53.8 -0.1**
YSS				IAmb	IAmb	14 41 55.2
	comp=Z,111nm,1.4s					
YSS	**Yuzhno-Sakhali**	**49.53**	**4**	*e*P	**P**	**14 41 54.3 +0.4**
YSS				*e**PP	**sP**	**14 42 04.1 +7.5**
YSS				*e*		14 43 52.8
YSS				*e*S	**S**	**14 49 00.0 -2.0**
YSS				*e*PS	pS	14 49 18.9 +14
YSS				pmax	pmax	
	comp=Z,40nm,1.4s					
INZ	**Inchbonnie**	**49.65**	**148**	IAms_20	IAms_20	15 02 20.6
	comp=Z,4μm,20.0s					
NNZ	**Nelson**	**49.69**	**145**	IAms_20	IAms_20	15 04 01.7
	comp=Z,4μm,18.0s					
NNZ	**Nelson**	**49.69**	**145**	P	**P**	**14 41 56.1 +0.8**
HHC	**Hu-ho-hao-te**	**49.70**	**333**	⇓*i*P	**P**	**14 41 57.2 +1.7**
HHC				sP	sP	14 42 15.6 +17
HHC				S	**S**	**14 49 06.9 +2.0**
HHC				SS	**SS**	**14 52 27.9 -10**
HHC				pmax	pmax	
	comp=Z,71nm,1.7s					
HHC				pmax	pmax	
	comp=Z,410nm,6.7s					
HHC				LR	LR	
	comp=Z,3μm,20.2s					
HHC				LR	LR	
	comp=Z,2μm,18.5s					
HHC				LR	LR	
	comp=Z,3μm,20.6s					
NGZ	**Ngauruhoe**	**49.71**	**142**	P	**P**	**14 41 58.1 +2.4**
THZ	**Tophouse**	**49.78**	**146**	P	**P**	**14 41 58.5 +2.4**
MLZ	**Mavora Lakes**	**49.94**	**153**	P	**P**	**14 42 00.5 +3.3**
URZ	**Urewera**	**50.11**	**140**	LR	LR	15 02 32.9
	comp=Z,4μm,21.3s,baz=302,slow=35					
URZ	**Urewera**	**50.11**	**140**	P	**P**	**14 41 59.0 +0.4**
LTZ	**Lake Taylor**	**50.13**	**148**	IAms_20	IAms_20	15 02 55.3
	comp=Z,5μm,19.0s					
LTZ	**Lake Taylor**	**50.13**	**148**	P	**P**	**14 42 00.1 +1.5**
RPZ	**Rata Peaks**	**50.14**	**149**	IAms_20	IAms_20	15 02 25.6
	comp=Z,4μm,20.0s					
RPZ	**Rata Peaks**	**50.14**	**149**	LR	LR	15 02 37.2
	comp=Z,4μm,20.4s,baz=306,slow=35					
RPZ	**Rata Peaks**	**50.14**	**149**	P	**P**	**14 42 00.5 +1.8**
TUWZ	**Tuamarina**	**50.15**	**145**	P	**P**	**14 41 57.1 -1.7**
LBZ	**Lake Benmore**	**50.19**	**150**	IAms_20	IAms_20	15 03 50.8
	comp=Z,4μm,19.0s					
LBZ	**Lake Benmore**	**50.19**	**150**	P	**P**	**14 42 00.9 +1.8**
LZH	**Lanzhou**	**50.20**	**323**	⇑P	**P**	**14 42 00.9 +1.4**
LZH				sP	sP	14 42 16.0 +14
LZH				S	**S**	**14 49 14.2 +2.0**
LZH				pmax	pmax	
	comp=Z,160nm,1.2s					
LZH				pmax	pmax	
	comp=Z,1μm,4.3s					
LZH				LR	LR	
	comp=Z,2μm,17.7s					
LZH				LR	LR	
	comp=Z,2μm,17.5s					
LZH				LR	LR	
	comp=Z,4μm,21.0s					
LZDM	**Lanzhou Array**	**50.20**	**323**	P	**P**	**14 42 00.8 +1.1**
	comp=Z,6.6nm,0.4s,baz=150,slow=10,SNR=7.2					
LZDM				LR	LR	15 01 40.4
	comp=Z,2μm,21.8s,baz=120,slow=34					
	comp=Z,6.6nm,0.4s					
BTO	**Baotou**	**50.21**	**332**	*e*P	**P**	**14 42 01.3 +1.9**
BTO				sP	sP	14 42 17.9 +16
BTO				S	**S**	**14 49 15.7 +3.6**
BTO				pmax	pmax	
	comp=Z,94nm,1.2s					
BTO				pmax	pmax	
	comp=Z,1μm,4.2s					
BTO				LR	LR	
	comp=Z,6μm,19.9s					
BTO				LR	LR	
	comp=Z,3μm,16.9s					
BTO				LR	LR	
	comp=Z,7μm,19.5s					
RTZ	**Ruatahuna**	**50.24**	**140**	IAms_20	IAms_20	15 02 15.5
	comp=Z,5μm,21.0s					
RTZ	**Ruatahuna**	**50.24**	**140**	P	**P**	**14 42 00.1 +0.4**
BKZ	**Black Stump Fm**	**50.25**	**141**	P	**P**	**14 42 00.0 +0.3**
BKZ				IAms_20	IAms_20	15 02 48.9
	comp=Z,4μm,20.0s					
BKZ	**Black Stump Fm**	**50.25**	**141**	P	**P**	**14 42 02.2 +2.5**
BKZ	**Black Stump Fm**	**50.25**	**141**	P	**P**	**14 42 00.8 +1.1**
HAZ	**Te Kaha**	**50.26**	**139**	P	**P**	**14 41 59.7 0.0**
WHZ	**Wether Hill Ro**	**50.26**	**153**	P	**P**	**14 42 01.5 +1.9**
OXZ	**Oxford**	**50.38**	**148**	IAms_20	IAms_20	15 04 47.7
	comp=Z,3μm,19.0s					
OXZ	**Oxford**	**50.38**	**148**	P	**P**	**14 42 02.1 +1.6**
MWZ	**Matawai**	**50.42**	**140**	P	**P**	**14 42 01.3 +0.3**
XLT	**XiLinHaoTe**	**50.45**	**339**	*e*P	**P**	**14 42 00.7 -0.4**
XLT				S	**S**	**14 49 13.9 -1.3**
XLT				sS	sS	14 49 39.3 +21
XLT				pmax	pmax	
	comp=Z,40nm,1.8s					
XLT				pmax	pmax	
	comp=Z,320nm,4.4s					
XLT				LR	LR	
	comp=Z,2μm,18.4s					
XLT				LR	LR	
	comp=Z,2μm,20.2s					
TSZ	**Takapari Road**	**50.47**	**143**	P	**P**	**14 42 02.2 +1.0**
SNZO	**South Karori**	**50.51**	**145**	IAms_20	IAms_20	15 06 34.1
	comp=Z,4μm,18.0s					
SNGZ	**Shannon Statio**	**50.56**	**140**	P	**P**	**14 42 02.9 +0.9**
KHZ	**Kahutara**	**50.57**	**146**	P	**P**	**14 42 02.3 +0.3**
TMZ	**Timaru**	**50.60**	**150**	P	**P**	**14 42 02.5 +0.4**
MRZ	**Mangatainoka R**	**50.61**	**143**	IAmb	IAmb	14 42 08.8
	comp=Z,120nm,1.0s					
MRZ				IAms_20	IAms_20	15 04 06.9
	comp=Z,4μm,20.0s					
MRZ	**Mangatainoka R**	**50.61**	**143**	P	**P**	**14 42 02.2 -0.1**
GVZ	**Greta Valley S**	**50.66**	**147**	IAms_20	IAms_20	15 03 03.3
	comp=Z,4μm,20.0s					
GVZ	**Greta Valley S**	**50.66**	**147**	P	**P**	**14 42 03.8 +1.1**
PUZ	**Puketiti**	**50.75**	**139**	P	**P**	**14 42 04.4 +1.0**
RIGZ	**Rimuhau**	**50.79**	**140**	P	**P**	**14 42 05.5 +1.7**
MQZ	**McQueen's Vall**	**50.97**	**148**	P	**P**	**14 42 06.3 +1.4**
IMP	**Imphal**	**50.99**	**305**	*e*P	**P**	**14 42 03.5 -2.0**
IMP				IAmb	IAmb	14 42 12.0
	comp=Z,130nm,1.6s					
IMP				*e*S	**S**	**14 49 21.3 -2.0**
PXZ	**Pawanui**	**51.00**	**142**	P	**P**	**14 42 05.8 +0.6**
BFZ	**Birch Farm**	**51.02**	**143**	IAmb	IAmb	14 42 08.6
	comp=Z,63nm,0.8s					
BFZ				IAms_20	IAms_20	15 05 00.8
	comp=Z,5μm,19.0s					
BFZ	**Birch Farm**	**51.02**	**143**	P	**P**	**14 42 05.5 +0.1**
KOHI	**KOHIMA**	**51.25**	**306**	*e*P	**P**	**14 42 05.8 -1.7**
KOHI				IAmb	IAmb	14 42 15.4
	comp=Z,81nm,1.3s					
AZL	**Aizawl**	**51.56**	**303**	*e*P	**P**	**14 42 08.5 -1.3**
AZL				IAmb	IAmb	14 42 17.5
	comp=Z,155nm,1.2s					
AZL				*e*S	**S**	**14 49 31.1 -0.3**
ZIRO	**ZIRO**	**52.27**	**308**	*e*P	**P**	**14 42 14.8 -0.4**
ZIRO				IAmb	IAmb	14 42 24.8
	comp=Z,123nm,1.6s					
TEZP	**TEZPUR**	**52.70**	**307**	*e*P	**P**	**14 42 16.4 -1.7**
TEZP				IAmb	IAmb	14 42 25.6
	comp=Z,100nm,1.1s					
TEZP				*e*S	**S**	**14 49 45.6 -1.0**
SHL	**Shillong**	**52.99**	**305**	*e*P	**P**	**14 42 19.8 -0.8**
SHL				IAmb	IAmb	14 42 27.9
	comp=Z,110nm,1.1s					
SHL				*e*S	**S**	**14 49 49.2 -1.8**
GRNR	**Gornyy**	**53.22**	**358**	⇑*i*P	**P**	**14 42 22.4 +0.8**
GRNR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
GRNR				MLR	MLR	
	comp=N,750nm,14.0s					
GRNR				MLR	MLR	
	comp=E,540nm,14.0s					
GRNR				MLR	MLR	
	comp=Z,1μm,16.0s					
TYV	**Tymovskoe**	**53.42**	**3**	*e*P	**P**	**14 42 23.5 +0.5**
TYV				*e*S	**S**	**14 49 54.7 -0.9**
TYV				pmax	pmax	
	comp=Z,20nm,1.5s					
TYV				pmax	pmax	
	comp=Z,300nm,2.6s					
TYV				smax	smax	
	comp=N,300nm,3.4s					
TYV				smax	smax	
	comp=E,200nm,3.4s					
HEH	**HeiHe**	**53.51**	**351**	*e*P	**P**	**14 42 23.0 -0.7**
HEH				sP	sP	14 42 42.1 +16
HEH				PP	**PP**	**14 44 31.4 +7.0**
HEH				S	**S**	**14 49 58.6 +1.7**
HEH				pmax	pmax	
	comp=E,72nm,1.8s					
HEH				pmax	pmax	
	comp=E,870nm,5.6s					
HEH				LR	LR	
	comp=E,1μm,18.8s					
HEH				LR	LR	
	comp=E,1μm,19.2s					
HEH				LR	LR	
	comp=E,3μm,19.1s					
HIA	**Hailar**	**54.15**	**345**	IAmb	IAmb	14 42 31.7
	comp=Z,215nm,1.7s					
HIA	**Hailar**	**54.15**	**345**	P	**P**	**14 42 30.2 +1.8**
GTA	**Gaotai**	**54.79**	**324**	P	**P**	**14 42 35.0 +1.6**
GTA				S	**S**	**14 50 17.1 +2.2**
GTA				pmax	pmax	
	comp=Z,78nm,1.6s					
GTA				pmax	pmax	
	comp=Z,740nm,5.3s					
GTA				LR	LR	
	comp=Z,2μm,20.7s					
GTA				LR	LR	
	comp=Z,1μm,22.2s					
GTA				LR	LR	
	comp=Z,2μm,21.1s					
COBR	**COOCHBEHAR**	**55.27**	**305**	*e*P	**P**	**14 42 35.1 -1.8**
COBR				IAmb	IAmb	14 42 39.6
	comp=Z,12nm,0.2s					
COBR				*e*S	**S**	**14 50 20.3 -1.2**
LSA	**Lhasa**	**55.38**	**309**	P	**P**	**14 42 37.1 -1.2**
LSA				pmax	pmax	
	comp=Z,33nm,2.0s					
LSA				LR	LR	
	comp=Z,710nm,20.1s					
LSA				LR	LR	
	comp=Z,680nm,16.9s					
LSA				LR	LR	
	comp=Z,1μm,19.1s					
LSA	**Lhasa**	**55.38**	**309**	P	**P**	**14 42 38.2 -0.1**
LSA				P	**P**	**14 42 38.2 -0.1**
GOMU	**GeErMu**	**56.01**	**318**	P	**P**	**14 42 43.8 +1.2**
GOMU				PcP	**PcP**	**14 43 44.0 +3.0**
GOMU				S	**S**	**14 50 31.3 -0.5**
GOMU				pmax	pmax	
	comp=Z,30nm,1.3s					
GOMU				pmax	pmax	
	comp=Z,370nm,8.1s					
GOMU				LR	LR	
	comp=Z,360nm,16.7s					
GOMU				LR	LR	
	comp=Z,1μm,17.5s					
GOMU				LR	LR	
	comp=Z,2μm,17.4s					
ZEA	**Zeya**	**56.93**	**352**	*e*P	**P**	**14 42 48.6 +0.3**
ZEA				*e*S	**S**	**14 50 41.8 -0.8**
ZEA				pmax	pmax	
	comp=E,100nm,4.5s					
ZEA				pmax	pmax	
	comp=N,200nm,4.4s					
ZEA				pmax	pmax	
	comp=Z,400nm,7.6s					
ZEA				pmax	pmax	
	comp=N,30nm,1.3s					
ZEA				pmax	pmax	
	comp=Z,50nm,1.3s					
ULN	**Ulaanbaatar**	**57.24**	**335**		**P**	**14 42 51.5 +0.7**
ULN				IAmb	IAmb	14 42 54.7
	comp=Z,101nm,1.4s					
ULN	**Ulaanbaatar**	**57.24**	**335**	IAms_20	IAms_20	15 06 07.0
	comp=Z,3μm,20.0s					
ULN	**Ulaanbaatar**	**57.24**	**335**	P	**P**	**14 42 50.1 -0.8**
ULN				P	**P**	**14 42 50.1 -0.8**
ULN				S	**S**	**14 50 47.4 +0.1**
ULN				S	**S**	**14 50 47.4 +0.1**
ULN	**Ulaanbaatar**	**57.24**	**335**	*c i*P	**P**	**14 42 52.0 +1.2**
ULN				pmax	pmax	
	comp=Z,30nm,1.2s					
SONM	**Songino Array**	**57.49**	**335**		**P**	**14 42 52.3 -0.3**
SONM				IAmb	IAmb	14 42 56.3
	comp=Z,180nm,1.9s					
SONM	**Songino Array**	**57.49**	**335**	P	**P**	**14 42 53.4 +0.8**
	comp=Z,9.4nm,0.9s,baz=157,slow=7.2,SNR=32					
SONM				LR	LR	15 06 48.3
	comp=Z,4μm,20.5s,baz=147,slow=35					
SONM				PKPPKP	**P'P'df**	**15 12 45.2 +6.5**
	comp=Z,0.6nm,0.9s,baz=350,slow=5.9,SNR=6.2					
	comp=Z,9.4nm,0.9s					
KNTI	**KHUNTI**	**57.64**	**299**	*e*P	**P**	**14 42 53.3 -0.7**
KNTI				IAmb	IAmb	14 43 01.9
	comp=Z,109nm,1.4s					
KNTI				*e*S	**S**	**14 50 53.1 -0.1**
PEA0B	**Petropavlovsk-**	**57.87**	**14**	P	**P**	**14 42 56.2 +1.3**
PEA0B	**Petropavlovsk-**	**57.87**	**14**	⇓*e*P	**P**	**14 42 55.9 +0.9**
PETK	**Petropavlovsk-**	**57.87**	**14**	P	**P**	**14 42 55.4 +0.4**
	comp=Z,19nm,1.0s,baz=146,slow=3.2,SNR=8.9					
	comp=Z,19nm,1.0s					
PET	**Petropavlovsk**	**58.02**	**14**	*e*P	**P**	**14 42 55.0 -1.0**
PET				*e*S	**S**	**14 50 58.0 +1.0**
PET						14 57 11.7
PET				pmax	pmax	
	comp=Z,500nm,15.6s					
PET				pmax	pmax	
	comp=Z,700nm,6.9s					
PET				MLR	MLR	
	comp=Z,1μm,14.0s					
PET				MLR	MLR	
	comp=Z,700nm,13.0s					
EVN	**Everest**	**58.09**	**305**		**P**	**14 42 57.4 -0.4**
EVN				IAmb	IAmb	14 43 06.9
	comp=Z,91nm,1.1s					
PALK	**Pallekele**	**58.35**	**280**	P	**P**	**14 42 57.6 -1.5**
PALK				S	**S**	**14 51 01.6 -1.1**
VJD	**Vijayawada**	**60.05**	**291**	*e*P	**P**	**14 43 08.8 -2.0**
VJD				IAmb	IAmb	14 43 24.9
	comp=Z,97nm,1.2s					
ZAK	**Zakamensk**	**60.76**	**335**	*e*P	**P**	**14 43 15.0 -0.2**
ZAK				pmax	pmax	
	comp=Z,183nm,1.6s					
SALM	**Salem**	**61.44**	**285**	*e*P	**P**	**14 43 17.4 -2.8**
SALM				IAmb	IAmb	14 43 28.4
	comp=Z,79nm,1.7s					
IRK	**Irkutsk**	**61.78**	**337**	*e*P	**P**	**14 43 22.6 +0.7**
IRK				*e*		14 51 51.8
IRK				pmax	pmax	
	comp=Z,312nm,2.5s					
KOD	**Kodaikanal**	**61.93**	**283**	*e*P	**P**	**14 43 20.7 -3.3**
KOD				IAmb	IAmb	14 43 32.2
	comp=Z,93nm,1.4s					
KOD				*e*S	**S**	**14 51 46.4 -2.8**
HYB	**Hyderabad**	**62.20**	**291**	*e*P	**P**	**14 43 25.2 -0.3**
HYB				*e*pP	**pP**	**14 43 28.5 +0.9**
HYB				*e*PP	**PP**	**14 45 42.1 -0.3**
HYB				*e*S	**S**	**14 51 51.2 -0.8**
MOY	**Mondy**	**62.68**	**335**	*e*P	**P**	**14 43 28.7 +0.6**
MOY				pmax	pmax	
	comp=Z,221nm,2.3s					
MA2	**Magadan**	**62.79**	**7**	P	**P**	**14 43 29.7 +1.1**
	comp=Z,22nm,0.8s,baz=189,slow=11,SNR=5.5					
MA2				LR	LR	15 08 56.0
	comp=Z,528nm,20.9s,baz=199,slow=34					
	comp=Z,22nm,0.8s					
MA2	**Magadan**	**62.79**	**7**	⇓*e*P	**P**	**14 43 29.4 +0.9**

MA2 pmax pmax
comp=Z,148nm,2.1s
SHEM Shemya Is, Ala 62.82 24 LR LR 15 05 29.8
comp=Z,2μm,21.3s,baz=231,slow=31
BOD Bodaibo 63.35 346 *e*P **P 14 43 32.7 +0.5**
BOD pmax pmax
comp=Z,141nm,1.6s
KNGR Kungurtug, Tuv 63.48 332*d i*P **P 14 43 34.9 +1.5**
KNGR pmax pmax
comp=Z,27nm,1.1s
KNGR MLR MLR
comp=Z,2μm,19.0s
NRDN NARMADA NAGAR 64.71 297 *e*P **P 14 43 39.4 -2.6**
NRDN IAmb IAmb 14 43 54.4
comp=Z,98nm,1.7s
NRDN *e*S **S 14 52 21.2 -1.9**
WMQ Urumqi 64.72 322 ⇑P **P 14 43 42.7 +1.0**
WMQ sP PcP 14 44 05.7 -10
WMQ S **S 14 52 25.9 +3.2**
WMQ pmax pmax
comp=Z,100nm,1.7s
WMQ pmax pmax
comp=Z,620nm,3.8s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,780nm,13.9s
WMQ LR LR
comp=Z,610nm,17.1s
YAK Yakutsk 64.83 356 **P 14 43 42.2 +0.3**
YAK Yakutsk 64.83 356 P **P 14 43 42.3 +0.5**
comp=Z,136nm,0.7s,baz=159,slow=2.4,SNR=61
YAK LR LR 15 10 19.8
comp=Z,2μm,19.2s,baz=169,slow=34
YAK Yakutsk 64.83 356*c i*P **P 14 43 42.1 +0.3**
YAK *e**PP **sP 14 43 47.2 +2.6**
YAK *e* 14 46 05.9
YAK *e*S **S 14 52 23.3 +0.2**
YAK *e**SS **sS 14 52 33.5 +7.1**
YAK *e*SS **SS 14 56 31.7 -2.9**
YAK pmax pmax
comp=Z,176nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,69nm,1.2s
YAK pmax pmax
comp=Z,97nm,1.6s
YAK pmax pmax
comp=E,30nm,1.6s
YAK pmax pmax
comp=N,128nm,2.2s
YAK smax smax
comp=N,202nm,2.7s
YAK smax smax
comp=E,235nm,3.7s
UGON Onchagaon 65.60 303 *e*P **P 14 43 45.6 -2.0**
UGON IAmb IAmb 14 43 53.1
comp=Z,29nm,0.5s
UGON *e*S **S 14 52 33.2 -0.6**
UTK UTTARKASHI 65.91 305 *e*P **P 14 43 47.4 -2.3**
UTK IAmb IAmb 14 43 56.8
comp=Z,32nm,0.5s
UTK *e*S **S 14 52 36.4 -1.4**
SEY Seymchan 66.25 7 P **P 14 43 51.8 +0.8**
comp=Z,24nm,0.8s,baz=195,slow=3.8,SNR=32
SEY LR LR 15 10 42.3
comp=Z,697nm,21.4s,baz=191,slow=34
comp=Z,24nm,0.8s
SEY Seymchan 66.25 7 *e*P **P 14 43 51.1 0.0**
SEY pmax pmax
comp=Z,106nm,1.9s
ADK Adak 66.28 29 P **P 14 43 50.7 -0.8**
ADK Adak 66.28 29 P **P 14 43 51.7 +0.2**
ADK Adak 66.28 29 P **P 14 43 50.7 -0.8**
ADK pmax pmax
comp=Z,166nm,1.3s
CASY 66.47 192 P **P 14 43 51.7 -0.8**
CASY Casey 66.47 192 IAms_20 IAms_20 15 12 41.3
comp=Z,2μm,19.0s
KIP Kipapa 66.63 65⇓*e*P **P 14 43 55.4 +1.1**
KIP pmax pmax
comp=Z,112nm,1.0s
ATKA Atka Island 67.68 29 IAms_20 IAms_20 15 08 41.0
comp=Z,2μm,21.0s
UDPR Udaipur 68.23 298 *e*P **P 14 44 03.1 -1.5**
UDPR IAmb IAmb 14 44 11.9
comp=Z,24nm,0.9s
UDPR *e*S **S 14 53 04.4 -1.5**
ZSN Zaisan 68.28 324 *e*P **P 14 44 04.5 +0.1**
comp=Z,77nm,2.1s
ZSN Zaisan 68.28 324 *e*P **P 14 44 04.5 +0.1**
ZSN pmax pmax
comp=Z,77nm,2.1s
HMH Humu'ula Sheep 68.58 68 **P 14 44 06.2 -0.9**
MK31 Makanchi Array 69.50 323*c e*P **P 14 44 11.9 -0.1**
MKAR Makanchi Array 69.50 323 **P 14 44 12.1 +0.1**
MKAR Makanchi Array 69.50 323 P **P 14 44 12.5 +0.5**
comp=Z,22nm,0.7s,baz=110,slow=8.0,SNR=35
MKAR LR LR 15 16 27.7
comp=Z,1μm,20.1s,baz=106,slow=38
comp=Z,22nm,0.7s
SHLS Shalkode 69.71 318 *e*P **P 14 44 11.9 -1.6**
comp=Z,67nm,1.7s
SHLS Shalkode 69.71 318 *e*P **P 14 44 11.9 -1.6**
SHLS pmax pmax
comp=Z,67nm,1.7s
UZB Uzynbulak 70.00 318⇑*i*P **P 14 44 15.4 +0.1**
comp=Z,90nm,2.0s
UZB *e*S **S 14 53 22.7 -3.8**
UZB Uzynbulak 70.00 318*c i*P **P 14 44 15.4 +0.1**
UZB *e*S **S 14 53 22.7 -3.8**
UZB pmax pmax
comp=Z,90nm,2.0s
TARG Taragay, Kyrgy 70.27 316 IAmb IAmb 14 44 26.0
comp=Z,98nm,1.4s
SATY Saty 70.38 318 *e*P **P 14 44 17.7 +0.1**
comp=Z,80nm,1.9s
SATY *e*S **S 14 53 27.0 -3.9**
SATY Saty 70.38 318 *e*P **P 14 44 17.7 +0.1**
SATY *e*S **S 14 53 27.0 -3.9**
SATY pmax pmax
comp=Z,80nm,1.9s
KSH Kashi 70.76 313 P **P 14 44 21.8 +1.8**
KSH PcP **PcP 14 44 43.9 +3.1**
KSH S **S 14 53 34.8 -0.7**
KSH SS **SS 14 58 10.6 +2.8**
KSH pmax pmax
comp=Z,69nm,1.3s
KSH pmax pmax
comp=Z,380nm,5.6s
KSH LR LR
comp=Z,700nm,17.7s
KSH LR LR
comp=Z,970nm,19.2s
KSH LR LR
comp=Z,2μm,21.6s
NIKH Nikolski High 70.80 31 IAms_20 IAms_20 15 06 35.4
comp=Z,2μm,19.0s
NIKH Nikolski High 70.80 31 P **P 14 44 19.3 -0.4**
baz=237
KDJ Kajisay 70.86 316 IAmb IAmb 14 44 29.1
comp=Z,104nm,1.2s
NIL Nilore 70.98 307 **P 14 44 21.4 0.0**
NIL Nilore 70.98 307 P **P 14 44 20.3 -1.0**
NIL P **P 14 44 20.3 -1.0**
NIL Nilore 70.98 307 P **P 14 44 21.4 0.0**
NIL pmax pmax
comp=Z,46nm,1.2s
NIL MLR MLR
comp=Z,900nm,20.0s
TDK Taldyqorghan 71.16 320 *e*P **P 14 44 22.4 +0.2**
comp=Z,62nm,1.4s
TDK LR LR 15 18 38.9
comp=Z,570nm,19.5s
TDK Taldyqorghan 71.16 320 *e*P **P 14 44 22.3 +0.2**
TDK pmax pmax
comp=Z,62nm,1.4s
MDOK Medeo 71.34 317 *e*P **P 14 44 23.6 +0.1**
MDOK *e*S **S 14 53 38.4 -3.7**
MDOK LR LR 15 18 49.5
MDOK Medeo 71.34 317 *e*P **P 14 44 23.5 +0.1**
MDOK *e*S **S 14 53 38.3 -3.7**
TNSS Tian-Shan 71.36 317 *e*P **P 14 44 23.7 -0.2**
TNSS Tian-Shan 71.36 317 *e*P **P 14 44 23.7 -0.2**

AAA Alma-Ata 71.44 317 *e*P **P 14 44 24.2 +0.2**
comp=Z,52nm,1.4s
AAA LR LR 15 19 12.9
AAA Alma-Ata 71.44 317 *e*P **P 14 44 24.1 +0.1**
AAA pmax pmax
comp=Z,52nm,1.4s
ULHL Ulahol 71.55 316 P **P 14 44 26.4 +1.6**
SNR=8.5
ZAA0 Zalesovo Array 71.68 330 P **P 14 44 24.4 -0.6**
ZAA0 IAmb IAmb 14 44 32.0
comp=Z,66nm,1.4s
ZALV Zalesovo Beam 71.68 330 P **P 14 44 24.0 -1.1**
ZALV Zalesovo Beam 71.68 330 P **P 14 44 24.3 -0.7**
comp=Z,4.5nm,0.5s,baz=113,slow=5.8,SNR=29
ZALV LR LR 15 15 52.8
comp=Z,674nm,20.9s,baz=116,slow=36
comp=Z,4.5nm,0.5s
BOOM Boomskoye usch 71.84 316 IAmb IAmb 14 44 35.0
comp=Z,64nm,1.0s
KUU Kurty 72.09 318 *e*P **P 14 44 28.0 +0.2**
comp=Z,52nm,1.8s
KUU LR LR 15 19 06.7
comp=Z,900nm,17.2s
KUU Kurty 72.09 318 *e*P **P 14 44 28.0 +0.2**
KUU pmax pmax
comp=Z,52nm,1.8s
KUU MLR MLR
comp=Z,901nm,17.0s
PPT Papeete 72.13 108 LR LR 15 12 01.1
comp=Z,686nm,21.8s,baz=276,slow=32
PPT2 Papeete2 72.13 108 *e*P P 14 44 21.3 -7.3
comp=Z,176nm,24.8s
PPT2 *e*S **S 14 53 48.1 -3.8**
comp=Z,580nm,25.5s
PPT2 *e*SS **SS 14 58 21.4 -7.9**
comp=Z,740nm,28.0s
PPT2 *e*LQ LQ 15 03 28.9
comp=Z,3μm,37.2s
PPT2 *e*LR LR 15 06 27.0
comp=Z,1μm,22.5s
PPT2 *e*LR LR 15 06 29.3
comp=Z,961nm,22.8s
TKM2 Tokmak 2 72.24 317 P **P 14 44 29.6 +0.7**
SNR=27
UNV Unalaska Valle 72.45 31 P **P 14 44 28.4 -1.3**
UNV Unalaska Valle 72.45 31 P **P 14 44 30.7 +1.0**
UNV Unalaska Valle 72.45 31 P **P 14 44 29.7 +0.1**
baz=239
P08K Saint George I 72.46 27 P **P 14 44 30.8 +1.1**
baz=236
SPIA Saint Paul Isl 72.48 27 P **P 14 44 30.6 +0.9**
baz=235
KBK Karagaybulak 72.59 316 P **P 14 44 31.8 +0.8**
SNR=7.1
TBI Tubuai 72.62 114 *e*P **P 14 44 28.0 -3.3**
comp=Z,640nm,27.5s
TBI *e*S **S 14 53 53.0 -4.2**
comp=Z,1μm,24.5s
TBI *e*SS **SS 14 58 31.1 -5.4**
comp=Z,3μm,28.2s
TBI *e*LQ LQ 15 03 40.4
comp=Z,11μm,41.0s
TBI *e*LR LR 15 06 39.5
comp=Z,6μm,23.5s
TBI *e*LR LR 15 06 42.1
comp=Z,2μm,23.5s
UCH Uchtor 72.74 316 P **P 14 44 33.4 +1.1**
SNR=36
CHMS Chumysh 72.84 317 P **P 14 44 33.1 +0.8**
SNR=6.1
LVA Lava Point 72.85 31 IAms_20 IAms_20 15 09 18.7
comp=Z,2μm,21.0s
AAK Ala-Archa 72.89 316 P **P 14 44 31.0 -1.8**
AAK P **P 14 44 31.0 -1.8**
AAK S **S 14 53 59.0 -0.9**
AAK S **S 14 53 59.0 -0.9**
AAK Ala-Archa 72.89 316 P **P 14 44 34.4 +1.6**
SNR=6.8
AAK Ala-Archa 72.89 316*ce*P **P 14 44 33.1 +0.3**
AAK pmax pmax
comp=Z,68nm,2.5s
AKUT Akutan 72.97 31 IAms_20 IAms_20 15 08 59.0
comp=Z,2μm,21.0s
AKUT Akutan 72.97 31 P **P 14 44 34.4 +1.7**
SGDS Sogindy 73.09 317⇑*i*P **P 14 44 33.9 +0.1**
comp=Z,39nm,1.6s
USP Ospenovka 73.11 317 P **P 14 44 34.6 +0.7**
SNR=25
BILL Bilibino 73.16 11 P **P 14 44 35.0 +1.4**
BILL Bilibino 73.16 11*de*P **P 14 44 34.3 +0.7**
BILL pmax pmax
comp=Z,49nm,1.3s
EKS2 Erkin-Say 73.40 316 P **P 14 44 36.8 +1.1**
SNR=21
KURK Kurchatov 73.44 325 P **P 14 44 35.4 -0.2**
KURK P **P 14 44 35.4 -0.2**
KURK S **S 14 54 04.5 -0.9**
KURK S **S 14 54 04.5 -0.9**
KURK Kurchatov 73.44 325*c i*P **P 14 44 35.4 -0.2**
KURK pmax pmax
comp=Z,167nm,2.5s
KURK MLR MLR
comp=Z,1μm,17.0s
KURBB Kurchatov Arra 73.45 325 P **P 14 44 35.1 -0.6**
comp=Z,13nm,1.0s,baz=123,slow=5.2,SNR=84
KURBB PP PP 14 47 05.8 -14
comp=Z,2.2nm,0.9s,baz=119,slow=9.8,SNR=2.8
comp=Z,13nm,1.0s
DRK Karamyk 73.81 312 IAmb IAmb 14 44 46.9
comp=Z,109nm,1.3s
BTLS Baital 74.04 318⇑*i*P **P 14 44 39.5 +0.2**
comp=Z,81nm,2.2s
BTLS Baital 74.04 318*c i*P **P 14 44 39.4 +0.2**
BTLS pmax pmax
comp=Z,81nm,2.2s
TIXI Tiksi 74.40 357 LR LR 15 17 04.9
comp=Z,2μm,19.3s,baz=192,slow=36
TIXI Tiksi 74.40 357⇓*e*P **P 14 44 40.6 -0.2**
TIXI pmax pmax
comp=Z,66nm,1.7s
TIXI MLR MLR
comp=Z,2μm,19.0s
FALS False Pass 74.52 31 IAms_20 IAms_20 15 21 45.0
comp=Z,2μm,19.0s
FALS False Pass 74.52 31 P **P 14 44 41.7 -0.1**
baz=242,SNR=13
KBL Kabul 74.59 307 P **P 14 44 40.8 -2.2**
KBL P **P 14 44 40.8 -2.2**
KBL S **S 14 54 18.3 -1.2**
KBL S **S 14 54 18.3 -1.2**
GAR Garm 74.77 312 P **P 14 44 43.8 -0.1**
GAR IAmb IAmb 14 44 51.7
comp=Z,177nm,1.3s
DZA Taraz 75.18 316 *e*P **P 14 44 46.0 0.0**
comp=Z,44nm,1.2s
DZA Taraz 75.18 316 *e*P **P 14 44 46.0 0.0**
DZA pmax pmax
comp=Z,44nm,1.2s
S12K Black Hills 75.61 30 P **P 14 44 48.1 0.0**
baz=243,SNR=12
KK31 Karatay Array 75.82 316 P **P 14 44 50.1 +0.5**
KK31 IAmb IAmb 14 44 57.6
comp=Z,70nm,1.2s
KK31 Karatay Array 75.82 316 P **P 14 44 50.1 +0.5**
KK31 pmax pmax
comp=Z,70nm,1.2s
KKAR Karatay Array 75.82 316 P **P 14 44 49.9 +0.3**
KKAR Karatay Array 75.82 316 P **P 14 44 49.9 +0.3**
GAMB Gambell 75.84 21 P **P 14 44 49.9 +0.7**
baz=232
IUG Iuzhnay 75.87 315 *e*P **P 14 44 50.1 -0.1**
comp=Z,104nm,2.1s
IUG Iuzhnay 75.87 315 *e*P **P 14 44 50.0 -0.1**
IUG pmax pmax
comp=Z,105nm,2.1s
VNDA Vanda 75.89 175 P **P 14 44 49.6 +0.2**
VNDA Vanda 75.89 175 P **P 14 44 49.4 0.0**
comp=Z,11nm,0.7s,baz=323,slow=6.6,SNR=61
VNDA LR LR 15 18 01.7
comp=Z,2μm,19.1s,baz=353,slow=36
comp=Z,11nm,0.7s
VNDA Vanda 75.89 175 P **P 14 44 49.6 +0.2**
VNDA pmax pmax
comp=Z,20nm,0.9s
M11K Mekoryuk 76.01 25 IAms_20 IAms_20 15 12 57.1
comp=Z,2μm,22.0s
M11K Mekoryuk 76.01 25 P **P 14 44 51.5 +1.2**
baz=238
CHM Chimkent 76.23 315 *e*P **P 14 44 52.1 0.0**
comp=Z,34nm,0.8s
CHM LR LR 15 21 26.2
comp=Z,482nm,20.1s
CHM Chimkent 76.23 315 *e*P **P 14 44 52.0 0.0**
CHM pmax pmax
comp=Z,34nm,0.8s
CHM MLR MLR
comp=Z,482nm,20.0s
SDPT Sand Point 76.25 31 P **P 14 44 51.5 -0.2**
baz=244,SNR=20
BRLS Borolday 76.27 315⇑*i*P **P 14 44 52.4 +0.2**
comp=Z,51nm,1.9s
BRLS Borolday 76.27 315*c i*P **P 14 44 52.4 +0.2**
BRLS pmax pmax
comp=Z,51nm,1.9s
CHNA Chernabura Isl 76.49 32 P **P 14 44 52.9 -0.3**
baz=245,SNR=9.1
BRZS Berezniki 76.65 323 *e*P **P 14 44 54.0 -0.2**
BRZS Berezniki 76.65 323 *e*P **P 14 44 54.0 -0.2**
SBA Scott Base 76.66 174 P **P 14 44 56.0 +2.2**
SBA IAmb IAmb 14 45 06.8
comp=Z,86nm,1.6s
SBA Scott Base 76.66 174 P **P 14 44 56.0 +2.2**
SBA pmax pmax
comp=Z,86nm,1.6s
SBA MLR MLR
comp=Z,1μm,18.0s
S14K Fog Glacier 77.13 30 P **P 14 44 57.3 +0.5**
baz=245
M13K Dall Lake 77.24 26 P **P 14 44 58.5 +1.3**
baz=241,SNR=9.3
K13K Kusilvak Mount 77.46 24 P **P 14 44 59.5 +1.1**
baz=239,SNR=21
O14K Tigyukauivet M 77.62 27 P **P 14 44 59.5 +0.1**
O14K IAmb IAmb 14 45 07.4
comp=Z,95nm,1.1s
O14K Tigyukauivet M 77.62 27 P **P 14 44 59.9 +0.5**
baz=243,SNR=8.4
CHGN Chignik 77.71 31 P **P 14 44 59.6 -0.4**
baz=246,SNR=9.6
N14K Kuskokwak Cree 77.74 27 P **P 14 45 00.3 +0.3**
baz=242,SNR=6.9
L14K Kuka Creek 77.98 25 P **P 14 45 02.1 +0.8**
baz=241
M14K Bethel 78.01 26 P **P 14 45 02.7 +1.2**
M14K Bethel 78.01 26 P **P 14 45 02.1 +0.7**
baz=242,SNR=20
TNA Tin City 78.21 20 P **P 14 45 03.1 +0.5**
baz=235
O15K Ungalikthiuk R 78.25 28 IAmb IAmb 14 45 11.0
comp=Z,82nm,1.2s
O15K Ungalikthiuk R 78.25 28 P **P 14 45 03.4 +0.5**
baz=244,SNR=8.9
J14K Nanvaranak Lak 78.32 24 IAmb IAmb 14 45 11.7
comp=Z,107nm,1.4s
J14K IAms_20 IAms_20 15 14 36.2
comp=Z,3μm,21.0s
J14K Nanvaranak Lak 78.32 24 P **P 14 45 04.0 +0.8**
baz=240
M15K Kasigluk River 78.53 26 P **P 14 45 05.0 +0.5**
baz=243,SNR=16
ANM Nome 78.56 21 P **P 14 45 05.4 +0.9**
baz=238
N15K Kwethluk River 78.56 27 IAms_20 IAms_20 15 16 03.6
comp=Z,2μm,21.0s
N15K Kwethluk River 78.56 27 P **P 14 45 05.2 +0.5**
baz=244,SNR=17
L15K Ungalak Mounta 78.64 25 P **P 14 45 05.7 +0.6**
baz=242,SNR=12
R16K Pilot Point 78.65 30 P **P 14 45 05.0 -0.1**
baz=246
F14K Arctic Creek 78.71 20 P **P 14 45 06.1 +0.8**
baz=237
K15K Wolf Creek Mou 78.92 24 IAmb IAmb 14 45 15.7
comp=Z,91nm,1.1s
K15K Wolf Creek Mou 78.92 24 P **P 14 45 07.5 +1.0**
baz=242,SNR=16
BVAR Borovoye Array 79.04 325 P **P 14 45 07.4 0.0**
comp=Z,18nm,0.6s,baz=113,slow=7.4,SNR=42
BVAR LR LR 15 22 25.5
comp=Z,616nm,18.9s,baz=98,slow=38
comp=Z,18nm,0.6s
P16K Nushagak River 79.04 28 IAms_20 IAms_20 15 19 29.3
comp=Z,2μm,19.0s
P16K Nushagak River 79.04 28 P **P 14 45 07.6 +0.3**
baz=246
BORK Borovoye 79.08 325*c i*P **P 14 45 07.7 0.0**
BORK pmax pmax
comp=Z,25nm,1.1s
O16K Kokwok River B 79.22 28 IAmb IAmb 14 45 17.0
comp=Z,130nm,1.3s
O16K Kokwok River B 79.22 28 P **P 14 45 08.7 +0.4**
baz=246,SNR=23
G15K Niukluk 79.27 21 P **P 14 45 08.9 +0.4**
baz=239
R17L Mt. Peulik Vol 79.27 30 P **P 14 45 08.7 0.0**
baz=247
PLK4 Peulik 4 79.27 30 IAmb IAmb 14 45 16.0
comp=Z,128nm,1.3s
PLK4 IAms_20 IAms_20 15 13 49.1
comp=Z,2μm,22.0s
N16K Nishlik Lake 79.29 27 P **P 14 45 09.4 +0.8**
baz=245,SNR=19
F15K North Star Dit 79.43 21 IAmb IAmb 14 45 11.7
comp=Z,105nm,1.4s
F15K North Star Dit 79.43 21 P **P 14 45 09.9 +0.6**
baz=238
M16K Timber Creek 79.44 26 IAmb IAmb 14 45 18.4
comp=Z,124nm,1.2s
M16K Timber Creek 79.44 26 P **P 14 45 10.1 +0.7**
baz=244,SNR=34
L16K Owhat River 79.51 25 IAmb IAmb 14 45 17.9
comp=Z,126nm,1.4s
L16K Owhat River 79.51 25 P **P 14 45 10.6 +0.8**
baz=244,SNR=24
Q16K King Salmon 79.53 29 P **P 14 45 09.0 -1.0**
baz=247
Q17K Contact Creek 79.75 29 P **P 14 45 10.6 -0.7**
baz=248,SNR=26
J16K Anvik River 79.76 24 IAmb IAmb 14 45 19.8
comp=Z,112nm,1.3s
J16K IAms_20 IAms_20 15 16 13.1
comp=Z,3μm,21.0s
J16K Anvik River 79.76 24 P **P 14 45 12.2 +1.1**
baz=243,SNR=12
O17K Koliganek Bris 79.76 28 P **P 14 45 11.7 +0.5**
baz=246,SNR=45
H16K Elim 79.76 22 P **P 14 45 11.0 -0.1**
baz=241
P17K Kvichak River 79.84 28 P **P 14 45 10.9 -0.7**
baz=247
I17K Unalakleet 80.00 23 IAms_20 IAms_20 15 15 58.5
comp=Z,2μm,20.0s
I17K Unalakleet 80.00 23 P **P 14 45 13.6 +1.3**
baz=242,SNR=5.6
N17K Nushagak Hills 80.02 27 IAmb IAmb 14 45 21.2
comp=Z,122nm,1.2s
N17K IAms_20 IAms_20 15 17 09.2
comp=Z,2μm,20.0s
N17K Nushagak Hills 80.02 27 P **P 14 45 13.4 +0.8**
baz=246,SNR=21
G16K Koyuk River 80.09 21 P **P 14 45 13.6 +0.8**
G16K IAmb IAmb 14 45 21.6
comp=Z,99nm,1.3s
G16K Koyuk River 80.09 21 P **P 14 45 13.3 +0.5**
baz=241
L17K Donlin 80.20 25 P **P 14 45 14.6 +1.1**
baz=245,SNR=20
R18K Karluk 80.20 30 P **P 14 45 13.5 -0.1**
baz=249
M17K Holitna River 80.27 26 IAmb IAmb 14 45 23.3
comp=Z,133nm,1.2s
M17K Holitna River 80.27 26 P **P 14 45 14.7 +0.8**
baz=246,SNR=21
Q18K Katmai Hardscr 80.32 29 P **P 14 45 13.8 -0.6**
baz=248,SNR=22
J17K VABM Dome 80.42 24 IAmb IAmb 14 45 23.4
comp=Z,142nm,1.4s
J17K IAms_20 IAms_20 15 15 39.7
comp=Z,2μm,21.0s
J17K VABM Dome 80.42 24 P **P 14 45 15.2 +0.5**
baz=244,SNR=11
K17K Iditarod 80.45 25 IAmb IAmb 14 45 24.1
comp=Z,159nm,1.1s
K17K Iditarod 80.45 25 P **P 14 45 15.4 +0.6**
baz=245,SNR=22

P18K	Big Mountain, comp=Z,2µm,20.0s	80.49	28	IAMs_20	IAMs_20	15 18 37.6	
P18K	Big Mountain, baz=248	80.49	28	P	P	14 45 14.5	-0.7
C16K	Lisburne Hills baz=237	80.56	18	P	P	14 45 15.4	0.0
N18K	Kilae Creek comp=Z,121nm,1.3s	80.67	27	IAmb	IAmb	14 45 25.3	
N18K	Kilae Creek baz=247,SNR=20	80.67	27	P	P	14 45 17.2	+1.1
O18K	Koktuh Hills comp=Z,2µm,22.0s	80.67	28	IAMs_20	IAMs_20	15 14 48.5	
O18K	Koktuh Hills baz=248	80.67	28	P	P	14 45 16.1	-0.1
OHAK	Old Harbor comp=Z,102nm,1.2s	80.67	31	IAmb	IAmb	14 45 24.0	
OHAK	Old Harbor	80.67	31	P	P	14 45 17.9	+1.7
OHAK	Old Harbor baz=250,SNR=9.0	80.67	31	P	P	14 45 16.2	+0.1
G17K	Kiwalik Mounta baz=242,SNR=8.0	80.77	22	P	P	14 45 17.4	+0.9
H17K	Granite Mounta comp=Z,180nm,1.8s	80.78	22	IAmb	IAmb	14 45 19.1	
H17K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	15 17 24.2	
H17K	Granite Mounta baz=243,SNR=7.2	80.78	22	P	P	14 45 17.5	+0.9
L18K	Granite Mounta comp=Z,100nm,1.3s	80.92	25	IAmb	IAmb	14 45 25.9	
L18K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 16 23.0	
L18K	Granite Mounta baz=246,SNR=21	80.92	25	P	P	14 45 18.4	+1.0
D17K	Noatak River baz=240,SNR=6.7	80.99	19	P	P	14 45 18.4	+0.8
F17K	Baldwin Pennin comp=Z,69nm,1.1s	80.99	21	IAmb	IAmb	14 45 29.1	
F17K	Baldwin Pennin baz=242	80.99	21	P	P	14 45 18.1	+0.5
M18K	Stony River baz=247,SNR=49	81.01	26	P	P	14 45 18.7	+0.8
E17K	Hotham Inlet baz=241,SNR=11	81.10	20	P	P	14 45 18.9	+0.6
O19K	Port Alsworth comp=Z,2µm,21.0s	81.21	28	IAMs_20	IAMs_20	15 16 32.7	
O19K	Port Alsworth baz=249	81.21	28	P	P	14 45 18.3	-0.7
TAOE	Nuku Hiva Isla comp=Z,173nm,24.4s	81.21	99	*e*P	P	14 45 12.2	-7.9
TAOE	Nuku Hiva Isla comp=Z,215nm,25.5s	81.21	99	*e*S	S	14 55 25.2	-6.3
TAOE	comp=Z,530nm,31.0s			*e*SS	SS	15 00 46.6	-0.4
TAOE	comp=Z,2µm,22.1s			*e*LR	LR	15 10 38.0	
KDAK	Kodiak Island	81.22	30	P	P	14 45 19.2	+0.1
KDAK	comp=Z,97nm,1.1s			IAmb	IAmb	14 45 27.5	
KDAK	Kodiak Island comp=Z,3µm,20.0s	81.22	30	IAMs_20	IAMs_20	15 16 33.1	
KDAK	Kodiak Island comp=Z,2µm,20.2s,baz=241,slow=33	81.22	30	LR	LR	15 17 26.8	
KDAK	Kodiak Island	81.22	30	*c i*P	P	14 45 19.4	+0.3
KDAK	comp=Z,68nm,1.1s			pmax	pmax		
KDAK	Kodiak Island baz=251	81.22	30	P	P	14 45 19.4	+0.3
RDOG	Red Dog Mine comp=Z,173nm,1.5s	81.22	19	IAmb	IAmb	14 45 27.1	
RDOG	Red Dog Mine baz=240	81.22	19	P	P	14 45 19.5	+0.6
C17K	DeLong Mountai baz=239	81.35	19	P	P	14 45 20.5	+0.9
N19K	Bonanza Creek comp=Z,156nm,1.2s	81.36	27	IAmb	IAmb	14 45 28.7	
N19K	Bonanza Creek baz=249,SNR=41	81.36	27	P	P	14 45 20.5	+0.6
J18K	Innoko River comp=Z,91nm,1.6s	81.41	24	IAmb	IAmb	14 45 22.0	
J18K	Innoko River baz=246,SNR=12	81.41	24	P	P	14 45 20.4	+0.4
H18K	Honhosa River baz=244	81.47	22	P	P	14 45 20.5	+0.2
F18K	Selawik baz=243	81.64	21	P	P	14 45 21.3	+0.2
G18K	Tagagawik comp=Z,78nm,1.5s	81.68	22	IAmb	IAmb	14 45 29.1	
G18K	Tagagawik baz=244,SNR=11	81.68	22	P	P	14 45 21.7	+0.3
E18K	Tukpahlearik C comp=Z,97nm,1.4s	81.68	20	IAmb	IAmb	14 45 30.2	
E18K	Tukpahlearik C baz=242,SNR=8.1	81.68	20	P	P	14 45 22.0	+0.6
ILSW	Iliamna Southw comp=Z,76nm,1.4s	81.69	28	IAmb	IAmb	14 45 28.1	
ILSW	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	15 20 13.4	
L19K	White Mountain comp=Z,108nm,1.4s	81.70	26	IAmb	IAmb	14 45 23.8	
L19K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 16 13.6	
L19K	White Mountain baz=248,SNR=25	81.70	26	P	P	14 45 22.1	+0.5
M19K	Big River Lodg comp=Z,69nm,1.3s	81.80	26	IAmb	IAmb	14 45 30.4	
M19K	Big River Lodg baz=248	81.80	26	P	P	14 45 23.0	+0.9
GCSA	Galena City Sc baz=246,SNR=10	81.87	23	P	P	14 45 22.7	+0.4
MHTO	MHTO	81.96	291	P	P	14 45 20.7	-3.1
MHTO				P	P	14 45 20.7	-3.1
O20K	Slope Mountain baz=250	81.97	28	P	P	14 45 22.3	-0.8
RED	Redoubt Volcan comp=Z,142nm,1.7s	82.01	28	IAmb	IAmb	14 45 31.2	
MAW	Mawson comp=Z,14nm,0.9s,baz=66,slow=5.8,SNR=22	82.06	202	P	P	14 45 24.2	+0.9
MAW	comp=Z,2µm,18.2s,baz=64,slow=34			LR	LR	15 20 07.7	
	comp=Z,14nm,0.9s						
J19K	Poorman comp=Z,50nm,1.1s	82.07	24	IAmb	IAmb	14 45 32.3	
J19K	Poorman baz=247,SNR=15	82.07	24	P	P	14 45 23.8	+0.3
C18K	Utukok River baz=241	82.07	19	P	P	14 45 23.6	+0.1
BIDO	Bidbid	82.08	294	P	P	14 45 22.7	-1.7
BIDO				P	P	14 45 22.7	-1.7
SMDO	Samad	82.10	294	P	P	14 45 21.1	-3.6
SMDO				P	P	14 45 21.1	-3.6
B18K	Kokolik River baz=241	82.23	18	P	P	14 45 24.5	+0.3
L20K	Farewell, AK baz=249,SNR=17	82.23	26	P	P	14 45 25.2	+0.8
DQM	DQM	82.25	290	P	P	14 45 24.4	-1.0
M20K	Styx River comp=Z,98nm,1.2s	82.35	26	IAmb	IAmb	14 45 36.2	
M20K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 16 47.4	
M20K	Styx River baz=250	82.35	26	P	P	14 45 25.3	+0.2
H19K	Roundabout Mou comp=Z,167nm,1.4s	82.36	22	IAmb	IAmb	14 45 33.1	
H19K	Roundabout Mou baz=246,SNR=18	82.36	22	P	P	14 45 25.3	+0.4
F19K	Shaleruckik Mo baz=245,SNR=7.9	82.41	21	P	P	14 45 25.0	-0.1
CNPM	China Poot comp=Z,2µm,21.0s	82.45	29	IAMs_20	IAMs_20	15 17 49.5	
K20K	Telida comp=Z,72nm,1.1s	82.47	25	IAmb	IAmb	14 45 34.6	
K20K	Telida baz=249	82.47	25	P	P	14 45 26.3	+0.7
SPCR	Spurr Chakacha baz=251	82.53	27	P	P	14 45 25.0	-1.0
J20K	Nowinta River comp=Z,103nm,1.2s	82.74	24	IAmb	IAmb	14 45 36.0	
J20K	Nowinta River baz=248,SNR=26	82.74	24	P	P	14 45 27.3	+0.3
BRSE	Bradley Lake S baz=252	82.76	29	P	P	14 45 26.3	-0.9
C19K	Lookout Ridge baz=243	82.80	19	P	P	14 45 27.2	-0.1
I20K	Naaghedeneel comp=Z,137nm,1.4s	82.84	23	IAmb	IAmb	14 45 36.4	
I20K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 17 25.6	
I20K	Naaghedeneel	82.84	23	P	P	14 45 27.8	+0.4
	baz=248,SNR=9.4						
E19K	Redstone River comp=Z,74nm,1.0s	82.87	21	IAmb	IAmb	14 45 36.7	
E19K	Redstone River baz=245,SNR=20	82.87	21	P	P	14 45 27.9	+0.3
CAPN	Captain Cook N baz=252	82.88	28	P	P	14 45 26.8	-1.0
H20K	Anotleneega Mo baz=248,SNR=16	82.94	23	P	P	14 45 28.3	+0.2
D19K	Kuna River baz=244	83.01	19	P	P	14 45 28.2	-0.1
SKT	Skwentna comp=Z,56nm,1.3s	83.10	27	IAmb	IAmb	14 45 35.8	
SKT	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	15 17 33.5	
SKT	Skwentna baz=251,SNR=11	83.10	27	P	P	14 45 27.6	-1.3
PPLA	Purkeypile baz=250,SNR=17	83.11	26	P	P	14 45 28.7	-0.4
F20K	Avaraart Lake comp=Z,44nm,1.0s	83.23	21	IAmb	IAmb	14 45 38.9	
F20K	Avaraart Lake baz=247,SNR=15	83.23	21	P	P	14 45 30.1	+0.6
SLKM	Skilak Lake comp=Z,2µm,20.0s	83.24	28	IAMs_20	IAMs_20	15 20 23.3	
SUA	Susitna One comp=Z,114nm,1.4s	83.29	27	IAmb	IAmb	14 45 39.4	
SUA	Susitna One baz=252,SNR=16	83.29	27	P	P	14 45 28.9	-1.1
CHUM	Lake Minchumin baz=250,SNR=37	83.39	25	P	P	14 45 30.8	+0.4
FIS	Fire Island comp=Z,3µm,21.0s	83.43	28	IAMs_20	IAMs_20	15 18 04.4	
O22K	Cooper Landing comp=Z,49nm,0.8s	83.47	28	IAmb	IAmb	14 45 47.4	
O22K	Cooper Landing baz=253	83.47	28	P	P	14 45 29.9	-0.8
SEW	Seward comp=Z,115nm,1.3s	83.48	29	IAmb	IAmb	14 45 38.6	
SEW	comp=Z,3µm,22.0s			IAMs_20	IAMs_20	15 16 49.9	
SEW	Seward baz=253,SNR=7.2	83.48	29	P	P	14 45 30.1	-0.7
ARQ	Araqi	83.53	294	P	P	14 45 30.4	-1.5
ARQ				P	P	14 45 30.4	-1.5
ARQ				S	S	14 55 51.3	-3.5
ARQ				S	S	14 55 51.3	-3.5
E20K	Nigu River baz=246,SNR=9.5	83.56	20	P	P	14 45 31.3	+0.1
IMAR	Indian Mountai	83.56	22	P	P	14 45 31.4	+0.2
SOHO	SOHO	83.60	294	P	P	14 45 30.2	-2.1
D20K	Etivluk River baz=246,SNR=9.4	83.60	19	P	P	14 45 31.8	+0.4
RC01	Rabbit Creek A comp=Z,133nm,1.4s	83.64	28	IAmb	IAmb	14 45 32.5	
RC01	comp=Z,3µm,21.0s			IAMs_20	IAMs_20	15 18 41.9	
RC01	Rabbit Creek A baz=253,SNR=18	83.64	28	P	P	14 45 30.8	-0.9
M22K	Willow baz=252,SNR=13	83.66	27	P	P	14 45 30.4	-1.3
CUT	Chulitna comp=Z,2µm,22.0s	83.79	26	IAMs_20	IAMs_20	15 17 54.0	
CUT	Chulitna baz=252,SNR=8.9	83.79	26	P	P	14 45 31.2	-1.2
H21K	Melozitna Rive comp=Z,50nm,1.2s	83.81	23	IAmb	IAmb	14 45 41.1	
H21K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	15 18 48.2	
H21K	Melozitna Rive baz=250,SNR=16	83.81	23	P	P	14 45 32.7	+0.3
G21K	Allakaket baz=249,SNR=6.1	83.84	22	P	P	14 45 32.9	+0.2
KTH	Kantishna Hill comp=Z,105nm,1.3s	83.87	25	IAmb	IAmb	14 45 41.0	
I21K	Tanana comp=Z,61nm,1.3s	83.97	23	IAmb	IAmb	14 45 42.0	
I21K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 18 20.5	
I21K	Tanana baz=250	83.97	23	P	P	14 45 33.6	+0.3
B20K	Meade River baz=245	83.97	18	P	P	14 45 32.8	-0.4
UOSS	Minazif	83.98	295	P	P	14 45 32.6	-1.6
BANOM	Banah	83.99	296	P	P	14 45 32.6	-1.7
BPAW	Bear Paw Mtn. comp=Z,72nm,1.5s	84.02	25	IAmb	IAmb	14 45 41.5	
BPAW	Bear Paw Mtn. baz=251,SNR=7.6	84.02	25	P	P	14 45 33.3	-0.3
PMR	Palmer comp=Z,85nm,1.2s	84.06	27	IAmb	IAmb	14 45 40.6	
PMR	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 19 28.2	
PMR	Palmer	84.06	27	P	P	14 45 33.9	+0.1
PMR	Palmer baz=253,SNR=17	84.06	27	P	P	14 45 33.1	-0.7
ASHO	Ashiyiah	84.08	295	P	P	14 45 32.4	-2.4
ASHO				S	SKSac	14 55 54.7	-4.6
TRF	Thorofare Moun comp=Z,106nm,1.5s	84.11	25	IAmb	IAmb	14 45 41.5	
TRF	Thorofare Moun baz=252,SNR=13	84.11	25	P	P	14 45 33.1	-1.2
F21K	Alatna River baz=249	84.11	21	P	P	14 45 33.8	-0.2
SHME	Shamm	84.14	296	P	P	14 45 33.1	-2.0
PWL	Port Wells comp=Z,2µm,19.0s	84.23	28	IAMs_20	IAMs_20	15 22 41.5	
PWL	Port Wells baz=254,SNR=27	84.23	28	P	P	14 45 34.2	-0.5
ALNE	Al Ain	84.30	294	P	P	14 45 34.0	-1.9
ALNE				P	P	14 45 34.0	-1.9
ALNE				S	SKSac	14 55 55.2	-5.5
ALNE				S	SKSac	14 55 55.2	-5.5
KNK	Knik Glacier comp=Z,2µm,21.0s	84.32	28	IAMs_20	IAMs_20	15 19 03.0	
KNK	Knik Glacier baz=254,SNR=20	84.32	28	P	P	14 45 35.1	-0.1
C21K	Knifeblade Rid baz=247	84.39	19	P	P	14 45 35.0	-0.3
E21K	Killik River comp=Z,128nm,1.4s	84.39	20	IAmb	IAmb	14 45 43.4	
E21K	Killik River baz=248,SNR=7.9	84.39	20	P	P	14 45 35.7	+0.3
MLY	Manley comp=Z,47nm,1.2s	84.41	24	IAmb	IAmb	14 45 45.3	
MLY	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	15 18 25.2	
MLY	Manley baz=252,SNR=15	84.41	24	P	P	14 45 35.8	+0.2
AB31	Akbulak array comp=Z,79nm,1.4s	84.42	320	IAmb	IAmb	14 45 43.4	
ABKAR	Akbulak array	84.42	320		P	14 45 35.4	-0.6
H22K	Ishtalitna Cre baz=251,SNR=8.5	84.44	23	P	P	14 45 35.9	+0.1
P23K	Montague Islan comp=Z,2µm,20.0s	84.44	29	IAMs_20	IAMs_20	15 22 29.2	
P23K	Montague Islan baz=255	84.44	29	P	P	14 45 36.0	+0.2
SML	Sawmill comp=Z,3µm,20.0s	84.49	27	IAMs_20	IAMs_20	15 19 42.4	
SML	Sawmill baz=254,SNR=52	84.49	27	P	P	14 45 35.6	-0.4
B21K	Ikpikpuk River baz=248,SNR=7.9	84.62	19	P	P	14 45 36.8	+0.4
WAT1	Susitna Watana baz=254	84.68	26	P	P	14 45 36.4	-0.6
F22K	John River baz=250,SNR=14	84.68	21	P	P	14 45 37.7	+0.8
UMZA	Um Al Zommool	84.72	293	P	P	14 45 35.3	-2.7
G22K	Bettles baz=251	84.73	22	P	P	14 45 37.1	0.0
ASUD	Al Ashush, Dub	84.74	295	P	P	14 45 36.5	-1.6
M23K	Glacier View baz=254,SNR=8.3	84.76	27	P	P	14 45 36.9	-0.6
MCK	McKinley comp=Z,79nm,1.2s	84.77	25	IAmb	IAmb	14 45 44.7	
MCK	McKinley baz=253,SNR=25	84.77	25	P	P	14 45 36.6	-0.8
GLI	Glacier Island comp=Z,2µm,22.0s	84.82	28	IAMs_20	IAMs_20	15 17 31.1	
GLI	Glacier Island baz=255,SNR=9.4	84.82	28	P	P	14 45 37.4	-0.3
SCM	Sheep Creek Mo comp=Z,2µm,20.0s	84.96	27	IAMs_20	IAMs_20	15 22 12.7	
SCM	Sheep Creek Mo baz=255,SNR=16	84.96	27	P	P	14 45 38.3	-0.1
NEA2	Nenana	84.96	24	P	P	14 45 37.9	-0.5
	baz=253,SNR=9.6						
WAT6	Susitna Watana baz=254,SNR=17	84.97	27	P	P	14 45 38.0	-0.7
HIN	Hinchinbrook I comp=Z,2µm,20.0s	84.98	29	IAMs_20	IAMs_20	15 21 47.4	
D22K	Ayikyak River baz=249,SNR=8.6	84.99	20	P	P	14 45 39.3	+0.9
I23K	Minto, Yukon-K comp=Z,56nm,1.3s	85.01	24	IAmb	IAmb	14 45 40.1	
I23K	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 18 42.9	
I23K	Minto, Yukon-K baz=253,SNR=16	85.01	24	P	P	14 45 38.5	0.0
E22K	Anaktuvuk Pass baz=250,SNR=17	85.03	21	P	P	14 45 39.2	+0.5
A22K	Sinclair Lake baz=247	85.04	18	P	P	14 45 38.7	+0.1
AJN	Ajban	85.04	295	P	P	14 45 37.6	-2.0
AJN				P	P	14 45 37.6	-2.0
H23K	Yukon River comp=Z,2µm,20.0s	85.14	23	IAMs_20	IAMs_20	15 19 48.8	
H23K	Yukon River baz=253	85.14	23	P	P	14 45 39.2	0.0
G23K	Bananza Creek comp=Z,157nm,1.9s	85.22	22	IAmb	IAmb	14 45 49.8	
G23K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	15 21 04.5	
G23K	Bananza Creek baz=252,SNR=15	85.22	22	P	P	14 45 39.9	+0.2
DHY	Denali Highway comp=Z,86nm,1.2s	85.26	26	IAmb	IAmb	14 45 47.9	
DHY	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 19 51.7	
DHY	Denali Highway baz=255,SNR=20	85.26	26	P	P	14 45 39.9	-0.2
B22K	Teshekpuk Lake baz=249	85.27	18	P	P	14 45 39.9	+0.2
COLD	Coldfoot comp=Z,164nm,1.8s	85.31	22	IAmb	IAmb	14 45 42.5	
COLD	Coldfoot baz=252,SNR=13	85.31	22	P	P	14 45 40.6	+0.5
WRH	Wood River Hil comp=Z,53nm,1.1s	85.33	25	IAmb	IAmb	14 45 47.8	
DOK	Doka	85.35	289	P	P	14 45 39.8	-1.4
DOK				P	P	14 45 39.8	-1.4
DOK				S	SKSac	14 56 02.3	-5.2
DOK				S	SKSac	14 56 02.3	-5.2
EYAK	Cordova Ski Ar comp=Z,54nm,1.4s	85.38	29	IAmb	IAmb	14 45 47.8	
EYAK	comp=Z,3µm,20.0s			IAMs_20	IAMs_20	15 22 00.9	
EYAK	Cordova Ski Ar baz=256	85.38	29	P	P	14 45 40.1	-0.3
SVE	Sverdlovsk	85.48	327	*e*P	P	14 45 41.1	0.0
SVE	comp=Z,49nm,2.2s			pmax	pmax		
SVE	comp=Z,1µm,18.0s			MLR	MLR		
CCB	Clear Creek Bu comp=Z,33nm,0.9s	85.50	25	IAmb	IAmb	14 45 49.3	
DIV	Divide comp=Z,3µm,22.0s	85.51	28	IAMs_20	IAMs_20	15 17 42.2	
KLU	Klutina	85.52	28	P	P	14 45 41.4	+0.1
KLU	comp=Z,82nm,1.4s			IAmb	IAmb	14 45 48.8	
KLU	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	15 19 42.7	
KLU	Klutina baz=256,SNR=12	85.52	28	P	P	14 45 40.5	-0.8
COLA	College	85.54	24	P	P	14 45 41.8	+0.6
COLA	College	85.54	24	*ce*P	P	14 45 39.9	-1.3
COLA	comp=Z,11nm,1.0s			pmax	pmax		
COLA	College baz=254	85.54	24	P	P	14 45 39.9	-1.3
M24K	Tolsona, Glenn	85.55	27	P	P	14 45 41.2	-0.2
M24K	comp=Z,96nm,1.1s			IAmb	IAmb	14 45 52.4	
M24K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	15 19 54.5	
M24K	Tolsona, Glenn baz=256,SNR=8.2	85.55	27	P	P	14 45 41.4	0.0
D23K	Nanushuk River baz=251,SNR=29	85.70	20	P	P	14 45 42.4	+0.5
POKR	Poker Plat Res comp=Z,2µm,21.0s	85.78	24	IAMs_20	IAMs_20	15 19 17.4	
POKR	Poker Plat Res baz=254	85.78	24	P	P	14 45 41.3	-1.1
E23K	Chandalar baz=252,SNR=36	85.78	21	P	P	14 45 42.9	+0.4
HDA	Harding Lake comp=Z,46nm,1.3s	85.79	25	IAmb	IAmb	14 45 50.0	
HDA	Harding Lake baz=255,SNR=14	85.79	25	P	P	14 45 40.9	-1.6
H24K	Noodor Dome comp=Z,2µm,20.0s	85.80	23	IAMs_20	IAMs_20	15 19 58.8	
H24K	Noodor Dome baz=254,SNR=15	85.80	23	P	P	14 45 42.4	-0.1
AKTO	Aktyubinsk comp=Z,1µm,19.4s,baz=84,slow=38	85.85	321	LR	LR	15 26 37.4	
RAGM	Ragged Mountai comp=Z,107nm,1.3s	85.86	29	IAmb	IAmb	14 45 50.6	
RAGM	comp=Z,3µm,22.0s			IAMs_20	IAMs_20	15 18 12.7	
KAIM	Kayak Island comp=Z,2µm,22.0s	85.89	30	IAMs_20	IAMs_20	15 17 11.4	
KAIM	Kayak Island baz=258	85.89	30	P	P	14 45 41.9	-1.1
ILAR	Eielson Array	85.91	24	P	P	14 45 41.1	-1.9
ILAR	Eielson Array comp=Z,7.7nm,0.7s,baz=263,slow=4.5,SNR=98	85.91	24	P	P	14 45 41.8	-1.3
ILAR	comp=Z,804nm,19.7s,baz=228,slow=34			LR	LR	15 22 15.8	
ILAR	Eielson Array	85.91	24	P	P	14 45 41.2	-1.9
RKT	Rikitea comp=Z,20µm,35.5s	85.93	113	*e*LR	LR	15 12 53.3	
TOLK	Toolik Lake Re baz=252,SNR=24	85.98	20	P	P	14 45 43.7	+0.3
C23K	Itkillik River baz=251,SNR=14	86.00	19	P	P	14 45 43.9	+0.5
BMRM	Bremner River comp=Z,95nm,1.4s	86.02	28	IAmb	IAmb	14 45 51.9	
BMRM	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	15 22 12.9	
BMRM	Bremner River baz=257,SNR=12	86.02	28	P	P	14 45 43.6	-0.2
ABTO	Aybut	86.05	287	P	P	14 45 43.1	-1.7
ABTO				P	P	14 45 43.1	-1.7
HMT	Hamilton comp=Z,82nm,1.2s	86.05	29	IAmb	IAmb	14 45 51.4	
HMT	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	15 18 05.7	
PAX	Paxson comp=Z,135nm,1.9s	86.08	26	IAmb	IAmb	14 45 45.5	
PAX	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	15 21 03.3	
PAX	Paxson baz=256,SNR=11	86.08	26	P	P	14 45 43.4	-0.7
HARP	HAARP baz=257	86.09	27	P	P	14 45 43.8	-0.2
K24K	Donnelly Dome comp=Z,2µm,21.0s	86.14	26	IAMs_20	IAMs_20	15 19 27.9	
K24K	Donnelly Dome baz=256	86.14	26	P	P	14 45 44.0	-0.3
N25K	Chitina, Valde comp=Z,92nm,1.6s	86.17	28	IAmb	IAmb	14 45 52.2	
N25K	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	15 18 15.7	
N25K	Chitina, Valde baz=257,SNR=14	86.17	28	P	P	14 45 44.2	-0.3
G24K	Hadweenzic Riv comp=Z,2µm,20.0s	86.19	23	IAMs_20	IAMs_20	15 21 03.1	
G24K	Hadweenzic Riv baz=254,SNR=23	86.19	23	P	P	14 45 44.7	+0.3
E24K	Your Creek comp=Z,85nm,1.6s	86.19	21	IAmb	IAmb	14 45 47.7	
E24K	Your Creek baz=253,SNR=9.8	86.19	21	P	P	14 45 44.7	+0.3
SUCK	Suckling Hills comp=Z,2µm,20.0s	86.23	29	IAMs_20	IAMs_20	15 16 10.5	
F24K	Squaw Lake baz=254,SNR=32	86.26	22	P	P	14 45 45.1	+0.3
MZR	Muzera	86.29	293	P	P	14 45 44.3	-1.5
MZR				P	P	14 45 44.3	-1.5
BERG	Berg Lake comp=Z,105nm,1.3s	86.33	29	IAmb	IAmb	14 45 53.7	
BERG	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	15 18 04.2	

D24K	**Happy Valley**	86.39	20	P	P	14 45 45.2	-0.1
	baz=253						
BGLC	**Bering Glacier**	86.48	29	P	P	14 45 44.1	-1.9
	baz=259						
GLB	**Gilahina Butte**	86.50	28	IAmb	IAmb	14 45 54.9	
	comp=Z,69nm,1.2s						
J25K	**Salcha River,**	86.51	25	IAmb	IAmb	14 45 52.9	
	comp=Z,76nm,1.3s						
J25K	**Salcha River,**	86.51	25	P	P	14 45 45.0	-1.1
	baz=256,SNR=28						
RIDG	**Independent Ri**	86.53	26	IAmb	IAmb	14 45 48.5	
	comp=Z,81nm,1.3s						
RIDG				IAMs_20	IAMs_20	15 21 51.2	
	comp=Z,2µm,20.0s						
RIDG	**Independent Ri**	86.53	26	P	P	14 45 45.8	-0.4
	baz=257,SNR=20						
C24K	**Franklin Bluff**	86.60	20	P	P	14 45 46.8	+0.5
	baz=253						
ARTI	**Arti**	86.62	327	LR	LR	15 25 45.1	
	comp=Z,1µm,21.3s,baz=97,slow=36						
ARTI	**Arti**	86.62	327	*c iP*	P	14 45 45.2	-1.5
ARTI						14 49 05.0	
ARTI				S	SKSac	14 56 06.4	-7.5
ARTI				pmax	pmax		
	comp=Z,24nm,2.8s						
ARTI				MLR	MLR		
	comp=Z,984nm,20.0s						
VRDI	**Verde Repeater**	86.62	28		P	14 45 46.8	-0.1
VRDI				IAMs_20	IAMs_20	15 22 31.8	
	comp=Z,2µm,20.0s						
PRP	**Porcupine Dome**	86.66	24	IAMs_20	IAMs_20	15 20 25.5	
	comp=Z,2µm,20.0s						
PRP	**Porcupine Dome**	86.66	24	P	P	14 45 45.8	-1.1
	baz=256						
CRQM	**Cirque**	86.68	29	IAmb	IAmb	14 45 54.7	
	comp=Z,128nm,1.4s						
CRQM				IAMs_20	IAMs_20	15 18 04.9	
	comp=Z,2µm,22.0s						
CRQE	**Cirque**	86.70	29	P	P	14 45 47.0	-0.2
	baz=259,SNR=7.6						
SNH	**Sunshine Point**	86.71	29	IAMs_20	IAMs_20	15 23 46.2	
	comp=Z,2µm,19.0s						
H25L	**Birch Creek**	86.72	23	P	P	14 45 47.4	+0.4
	baz=256,SNR=16						
G25K	**Bearman Lake**	86.73	23	P	P	14 45 47.8	+0.8
	baz=256,SNR=12						
WAX	**Waxell Ridge**	86.76	29	IAMs_20	IAMs_20	15 24 35.4	
	comp=Z,2µm,20.0s						
TGL	**Tana Glacier**	86.83	29	IAMs_20	IAMs_20	15 18 44.3	
	comp=Z,2µm,22.0s						
DOT	**Dot Lake**	86.85	26	IAmb	IAmb	14 45 50.1	
	comp=Z,71nm,1.4s						
DOT				IAMs_20	IAMs_20	15 22 37.6	
	comp=Z,1µm,20.0s						
MENT	**Mentasta**	86.85	27	IAmb	IAmb	14 45 49.5	
	comp=Z,120nm,1.9s						
MENT				IAMs_20	IAMs_20	15 20 44.8	
	comp=Z,2µm,20.0s						
MENT	**Mentasta**	86.85	27	P	P	14 45 48.6	+0.8
MCARA	**McCarthy VSAT**	86.86	28	IAmb	IAmb	14 45 56.2	
	comp=Z,54nm,1.3s						
MCARA				IAMs_20	IAMs_20	15 21 42.0	
	comp=Z,1µm,21.0s						
MCARA	**McCarthy VSAT**	86.86	28	P	P	14 45 47.7	-0.1
	baz=259						
GHWR	**Ruwais**	86.92	294	P	P	14 45 47.1	-1.8
GHWR				P	P	14 45 47.1	-1.8
SCRK	**Sand Creek**	86.95	26	IAmb	IAmb	14 45 49.8	
	comp=Z,71nm,1.6s						
SCRK				IAMs_20	IAMs_20	15 22 23.4	
	comp=Z,2µm,20.0s						
SCRK	**Sand Creek**	86.95	26	P	P	14 45 48.2	-0.1
	baz=258,SNR=14						
FYU	**Fort Yukon**	87.02	23	IAMs_20	IAMs_20	15 21 18.1	
	comp=Z,2µm,20.0s						
L26K	**Log Cabin Wild**	87.03	27	IAMs_20	IAMs_20	15 20 18.8	
	comp=Z,2µm,20.0s						
ISLE	**Juniper Island**	87.04	29	IAMs_20	IAMs_20	15 17 36.8	
	comp=Z,2µm,22.0s						
M26K	**Nabesna, AK**	87.07	27	IAmb	IAmb	14 45 51.8	
	comp=Z,136nm,2.0s						
M26K	**Nabesna, AK**	87.07	27	P	P	14 45 48.8	-0.1
	baz=259,SNR=8.8						
F25K	**Christian Rive**	87.11	22	IAmb	IAmb	14 45 56.8	
	comp=Z,135nm,1.6s						
F25K				IAMs_20	IAMs_20	15 21 54.4	
	comp=Z,2µm,20.0s						
F25K	**Christian Rive**	87.11	22	P	P	14 45 49.3	+0.3
	baz=256,SNR=19						
MESA	**MESA**	87.15	29	IAMs_20	IAMs_20	15 24 27.8	
	comp=Z,2µm,20.0s						
J26L	**Joseph Creek**	87.24	25	IAMs_20	IAMs_20	15 30 23.1	
	comp=Z,1µm,18.0s						
J26L	**Joseph Creek**	87.24	25	P	P	14 45 49.9	+0.1
	baz=258,SNR=33						
E25K	**Arctic Village**	87.26	21	P	P	14 45 50.4	+0.7
	baz=256,SNR=23						
D25K	**Kavik River**	87.28	20	P	P	14 45 49.6	-0.1
	baz=255						
YAH	**Yahtse**	87.28	29	IAMs_20	IAMs_20	15 23 55.2	
	comp=Z,2µm,19.0s						
QSPA	**South Pole Qui**	87.31	180	P	P	14 45 51.5	+1.4
QSPA				IAmb	IAmb	14 46 00.7	
	comp=Z,88nm,1.1s						
QSPA	**South Pole Qui**	87.31	180	P	P	14 45 52.0	+1.9
	comp=Z,33nm,0.8s,baz=312,slow=1.3,SNR=68						
QSPA				LR	LR	15 25 28.8	
	comp=Z,3µm,19.0s,baz=6.5,slow=36						
	comp=Z,33nm,0.8s						
BMAR	**Burnt Mountain**	87.47	22	P	P	14 45 51.1	+0.4
M27K	**Edge Creek, AK**	87.57	27	IAmb	IAmb	14 45 59.4	
	comp=Z,104nm,1.4s						
M27K	**Edge Creek, AK**	87.57	27	P	P	14 45 51.4	0.0
	baz=260,SNR=30						
I26K	**Coal Creek Min**	87.58	24	IAmb	IAmb	14 45 59.1	
	comp=Z,80nm,1.4s						
I26K	**Coal Creek Min**	87.58	24	P	P	14 45 50.9	-0.2
	baz=258						
CTG	**Chitna Glacier**	87.58	29	P	P	14 45 52.1	+0.6
	baz=260,SNR=29						
CTGM	**Chitina Glacie**	87.59	29	IAMs_20	IAMs_20	15 18 20.2	
	comp=Z,2µm,22.0s						
TABL	**Table Mountain**	87.59	29	IAMs_20	IAMs_20	15 23 26.4	
	comp=Z,2µm,20.0s						
G26K	**Porcupine Rive**	87.67	23	IAMs_20	IAMs_20	15 21 27.2	
	comp=Z,1µm,20.0s						
G26K	**Porcupine Rive**	87.67	23	P	P	14 45 52.4	+0.8
	baz=258,SNR=51						
F26K	**Sheenjek River**	87.69	22	P	P	14 45 52.4	+0.7
	baz=257,SNR=34						
L27K	**Beaver Creek,**	87.72	27	IAmb	IAmb	14 46 00.0	
	comp=Z,69nm,1.3s						
L27K				IAMs_20	IAMs_20	15 25 08.8	
	comp=Z,2µm,20.0s						
L27K	**Beaver Creek,**	87.72	27	P	P	14 45 52.2	+0.2
	baz=260,SNR=37						
BCAR	**Beaver Creek A**	87.74	27	P	P	14 45 51.9	-0.2
K27K	**Chicken**	87.79	26	P	P	14 45 53.2	+0.9
	baz=260						
C26K	**Camden Bay**	87.92	20	P	P	14 45 53.1	+0.4
	baz=257						
PCA	**Pinnacle**	87.97	30	IAmb	IAmb	14 46 04.1	
	comp=Z,57nm,1.0s						
PCA				IAMs_20	IAMs_20	15 18 53.6	
	comp=Z,2µm,22.0s						
PINM	**Pinnacle**	87.97	30	P	P	14 45 53.5	+0.2
	baz=261						
O28M	**Mount Upton**	88.11	29	IAmb	IAmb	14 46 02.1	
	comp=Z,78nm,1.4s						
O28M	**Mount Upton**	88.11	29	P	P	14 45 54.5	+0.3
	baz=261,SNR=12						
C27K	**Jago River**	88.26	20	P	P	14 45 54.8	+0.4
	baz=258						
I27K	**Kandik River**	88.27	24	P	P	14 45 54.7	+0.1
	baz=260,SNR=41						
EGAK	**Eagle**	88.31	25	IAMs_20	IAMs_20	15 21 19.3	
	comp=Z,2µm,20.0s						
EGAK	**Eagle**	88.31	25	P	P	14 45 54.8	+0.1
	baz=260,SNR=34						
PNL	**Peninsula**	88.34	30	P	P	14 45 55.1	+0.1
	baz=262						
YUK8	**Steele Glacier**	88.39	29	P	P	14 45 55.8	+0.3
	baz=262,SNR=13						
H27K	**Steamboat Moun**	88.41	24	IAMs_20	IAMs_20	15 21 40.9	
	comp=Z,2µm,20.0s						
H27K	**Steamboat Moun**	88.41	24	P	P	14 45 56.1	+0.9
	baz=260,SNR=48						
G27K	**Doyon Strip**	88.46	23	IAMs_20	IAMs_20	15 21 42.3	
	comp=Z,2µm,20.0s						
G27K	**Doyon Strip**	88.46	23	P	P	14 45 56.2	+0.8
	baz=260,SNR=17						
E27K	**Coleen River**	88.73	22	IAMs_20	IAMs_20	15 23 06.3	
	comp=Z,1µm,20.0s						
E27K	**Coleen River**	88.73	22	P	P	14 45 57.1	+0.4
	baz=260						
O29M	**Mount Kennedy**	88.83	30	IAmb	IAmb	14 45 59.5	
	comp=Z,43nm,1.2s						
O29M				IAMs_20	IAMs_20	15 21 52.3	
	comp=Z,2µm,21.0s						
O29M	**Mount Kennedy**	88.83	30	P	P	14 45 57.9	+0.5
	baz=263,SNR=7.3						
SMRA	**Abu-Samra**	88.83	295	P	P	14 45 56.8	-1.3
SMRA				S	SKSac	14 56 24.6	-4.0
I28M	**Miner Creek**	88.93	24	IAMs_20	IAMs_20	15 21 40.6	
	comp=Z,1µm,20.0s						
I28M	**Miner Creek**	88.93	24	P	P	14 45 58.1	+0.3
	baz=261,SNR=32						
YUK4	**Talbot Arm**	88.93	29	P	P	14 45 58.2	+0.2
	baz=263,SNR=17						
DAWY	**Dawson**	88.96	26	P	P	14 45 58.4	+0.5
	baz=262,SNR=50						
YUK6	**Outpost Mounta**	89.02	29	P	P	14 45 58.7	+0.3
	baz=263,SNR=7.3						
D27M	**Malcolm River**	89.14	21	P	P	14 45 58.7	+0.1
	baz=260						
M29M	**Somme Creek**	89.16	28	IAmb	IAmb	14 46 07.0	
	comp=Z,46nm,1.2s						
M29M	**Somme Creek**	89.16	28	P	P	14 45 59.3	+0.4
	baz=263,SNR=20						
P29M	**Windy Craggy**	89.17	30	IAmb	IAmb	14 46 07.7	
	comp=Z,48nm,1.0s						
P29M	**Windy Craggy**	89.17	30	P	P	14 45 59.0	+0.1
	baz=263,SNR=10.0						
F28M	**Old Crow**	89.28	22	IAmb	IAmb	14 46 10.0	
	comp=Z,84nm,1.9s						
F28M				IAMs_20	IAMs_20	15 21 06.8	
	comp=Z,2µm,22.0s						
F28M	**Old Crow**	89.28	22	P	P	14 45 59.4	+0.2
	baz=261						
L29M	**L29M**	89.39	27	IAmb	IAmb	14 46 08.2	
	comp=Z,58nm,1.1s						
L29M				IAMs_20	IAMs_20	15 22 35.0	
	comp=Z,2µm,21.0s						
L29M	**L29M**	89.39	27	P	P	14 46 00.2	+0.3
	baz=263,SNR=31						
HYT	**Haines Junctio**	89.42	29	IAmb	IAmb	14 46 12.0	
	comp=Z,64nm,1.3s						
HYT	**Haines Junctio**	89.42	29	P	P	14 46 00.1	-0.1
	baz=264,SNR=15						
J29N	**Klondike Camp**	89.52	26	IAmb	IAmb	14 46 08.9	
	comp=Z,72nm,1.3s						
J29N				IAMs_20	IAMs_20	15 25 16.3	
	comp=Z,2µm,20.0s						
J29N	**Klondike Camp**	89.52	26	P	P	14 46 01.1	+0.6
	baz=263						
E28M	**Babbage River**	89.55	21	IAmb	IAmb	14 46 11.3	
	comp=Z,72nm,1.9s						
E28M	**Babbage River**	89.55	21	P	P	14 46 00.4	-0.1
	baz=262						
I29M	**Ogilvie Camp,**	89.59	25	IAMs_20	IAMs_20	15 21 57.2	
	comp=Z,2µm,21.0s						
I29M	**Ogilvie Camp,**	89.59	25	P	P	14 46 00.7	-0.1
	baz=263,SNR=25						
P30M	**Million Dollar**	89.61	30	P	P	14 46 01.4	+0.3
	baz=264						
H29M	**Whitestone**	89.68	24	IAMs_20	IAMs_20	15 23 01.3	
	comp=Z,2µm,20.0s						
H29M	**Whitestone**	89.68	24	P	P	14 46 01.2	+0.1
	baz=263						
N30M	**Aishikik Lake**	89.69	29	P	P	14 46 01.5	+0.2
	baz=264,SNR=14						
K29M	**Barlow Dome**	89.75	26	IAmb	IAmb	14 46 09.7	
	comp=Z,68nm,1.2s						
K29M	**Barlow Dome**	89.75	26	P	P	14 46 01.7	0.0
	baz=264,SNR=34						
S31K	**Pelican**	89.78	32	IAMs_20	IAMs_20	15 17 23.4	
	comp=Z,2µm,21.0s						
S31K	**Pelican**	89.78	32	P	P	14 46 01.3	-0.4
	baz=265						
G29M	**Pine Creek**	89.90	23	IAmb	IAmb	14 46 09.0	
	comp=Z,107nm,1.7s						
G29M				IAMs_20	IAMs_20	15 22 38.2	
	comp=Z,2µm,20.0s						
G29M	**Pine Creek**	89.90	23	P	P	14 46 01.9	-0.2
	baz=263						
D28M	**Stokes Point**	89.94	21	P	P	14 46 02.3	+0.1
	baz=262						
M30M	**Minto, Yukon**	89.94	27	P	P	14 46 02.5	0.0
	baz=264,SNR=12						
O30N	**Mendenhall**	90.11	29	IAmb	IAmb	14 46 05.1	
	comp=Z,59nm,1.5s						
O30N				IAMs_20	IAMs_20	15 20 36.9	
	comp=Z,2µm,20.0s						
O30N	**Mendenhall**	90.11	29	P	P	14 46 03.3	0.0
	baz=265						
E29M	**Blow River**	90.12	22	P	P	14 46 02.8	-0.3
	baz=263						
SIT	**Sitka**	90.19	33	P	P	14 46 03.5	-0.1
	baz=266						
N31M	**Braeburn, Yuko**	90.32	29	IAmb	IAmb	14 46 12.1	
	comp=Z,49nm,1.3s						
N31M				IAMs_20	IAMs_20	15 20 48.5	
	comp=Z,1µm,21.0s						
N31M	**Braeburn, Yuko**	90.32	29	P	P	14 46 04.4	+0.2
	baz=265						
J30M	**Hart River**	90.34	25	IAmb	IAmb	14 46 12.4	
	comp=Z,83nm,1.4s						
J30M	**Hart River**	90.34	25	P	P	14 46 04.7	+0.3
	baz=265,SNR=19						
EPYK	**Eagle Plains**	90.36	24	P	P	14 46 04.0	-0.3
	baz=264						
SKAG	**Skagway**	90.37	31	IAmb	IAmb	14 46 12.3	
	comp=Z,53nm,1.1s						
SKAG	**Skagway**	90.37	31	P	P	14 46 06.3	+1.8
SKAG	**Skagway**	90.37	31	P	P	14 46 04.6	+0.2
	baz=266						
I30M	**Mount Dempster**	90.39	25	P	P	14 46 04.5	-0.1
	baz=265,SNR=9.9						
BESE	**Bessie Mountai**	90.55	32	IAmb	IAmb	14 46 13.2	
	comp=Z,53nm,1.5s						
G30M	**tAoh Zraii Nji**	90.61	23	IAMs_20	IAMs_20	15 22 59.0	
	comp=Z,2µm,21.0s						
G30M	**tAoh Zraii Nji**	90.61	23	P	P	14 46 05.2	-0.3
	baz=265						
WHY	**Whitehorse**	90.69	29	IAmb	IAmb	14 46 09.0	
	comp=Z,45nm,1.0s						
WHY	**Whitehorse**	90.69	29	P	P	14 46 05.8	-0.3
	baz=266						
SYO	**Syowa Base**	90.70	201⇑	*eP*	P	14 46 06.0	+0.2
SYO	**Syowa Base**	90.70	201⇑	*ep*P	pP	14 46 10.4	+2.5
SYO	**Syowa Base**	90.70	201⇓	*es*P	sP	14 46 13.8	+5.2
R32K	**Eaglecrest**	90.71	32	P	P	14 46 06.1	0.0
	baz=266						
F30M	**Barrier River**	90.83	22	IAmb	IAmb	14 46 16.4	
	comp=Z,100nm,1.9s						
F30M	**Barrier River**	90.83	22	P	P	14 46 06.0	-0.4
	baz=265						
M31M	**Drury Creek, Y**	91.03	28	IAMs_20	IAMs_20	15 22 15.2	
	comp=Z,2µm,21.0s						
M31M	**Drury Creek, Y**	91.03	28	P	P	14 46 07.3	-0.2
	baz=266						
P32M	**Atlin**	91.20	31	P	P	14 46 07.6	-0.8
	baz=267						
H31M	**Peel River**	91.28	24	IAMs_20	IAMs_20	15 22 58.6	
	comp=Z,2µm,21.0s						
H31M	**Peel River**	91.28	24	P	P	14 46 08.0	-0.6
	baz=266						
CRAG	**Craig**	91.31	35	P	P	14 46 08.2	-0.8
	baz=267						
U33K	**Whale Pass**	91.35	34	P	P	14 46 07.8	-1.2
	baz=267						
G31M	**Satah River**	91.37	23	IAMs_20	IAMs_20	15 24 10.1	
	comp=Z,2µm,20.0s						
G31M	**Satah River**	91.37	23	P	P	14 46 08.3	-0.6
	baz=267						
N32M	**Quiet Lake**	91.59	29	IAmb	IAmb	14 46 17.7	
	comp=Z,31nm,0.9s						
N32M				IAMs_20	IAMs_20	15 24 50.3	
	comp=Z,1µm,20.0s						
N32M	**Quiet Lake**	91.59	29	P	P	14 46 09.8	-0.4
	baz=268						
F31M	**Tsiigehtchic**	91.61	23	IAmb	IAmb	14 46 16.5	
	comp=Z,42nm,1.4s						
F31M	**Tsiigehtchic**	91.61	23	P	P	14 46 09.0	-1.0
	baz=267						
KIRV	**Kirov**	91.66	328	LR	LR	15 28 33.3	
	comp=Z,1µm,21.8s,baz=88,slow=36						
P33M	**Teslin, Yukon**	91.69	30	P	P	14 46 09.5	-1.2
	baz=268						
INK	**Inuvik**	91.73	22	LR	LR	15 25 18.3	
	comp=Z,891nm,19.9s,baz=228,slow=34						
INK	**Inuvik**	91.73	22	P	P	14 46 09.6	-1.0
	baz=267						
WRAK	**Wrangell Islan**	91.79	34	IAMs_20	IAMs_20	15 17 52.7	
	comp=Z,2µm,21.0s						
WRAK	**Wrangell Islan**	91.79	34	P	P	14 46 10.0	-1.0
	baz=268						
Q32M	**Nakina River**	91.92	31	P	P	14 46 10.6	-1.3
	baz=268						
V35K	**Ketchikan**	92.17	35	IAMs_20	IAMs_20	15 17 26.7	
	comp=Z,2µm,22.0s						
V35K	**Ketchikan**	92.17	35	P	P	14 46 12.0	-0.9
	baz=268						
AKT	**Akhty**	92.18	311	*eP*	P	14 46 12.8	-0.7
AKT				*e*		14 49 51.8	
AKT				pmax	pmax		
	comp=Z,14nm,1.2s						
AKT				MLR	MLR		
	comp=Z,711nm,20.0s						
MAK	**Makhachkala**	92.39	313	*eP*	P	14 46 10.8	-3.4
MAK				*e*		14 49 51.8	
MAK				*e*PPP	PPP	14 51 51.1	
MAK				*e*		14 56 39.5	
MAK				*e*SSS	SSS	15 07 06.7	
MAK				pmax	pmax		
	comp=Z,187nm,1.2s						
S34M	**Telegraph Cree**	92.49	32	P	P	14 46 13.8	-0.6
	baz=269						
MMPY	**Sheldon Lake,**	92.50	28	IAmb	IAmb	14 46 16.2	
	comp=Z,72nm,1.9s						
MMPY				IAMs_20	IAMs_20	15 23 51.1	
	comp=Z,2µm,22.0s						
MMPY	**Sheldon Lake,**	92.50	28	P	P	14 46 14.1	-0.3
	baz=269						
BELG	**Belogornoye**	92.50	322	LR	LR	15 29 26.7	
	comp=Z,877nm,22.0s,baz=89,slow=37						
BELG	**Belogornoye**	92.50	322	*deP*	P	14 46 13.5	-1.0
BELG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
R33M	**Jennings River**	92.60	31	IAmb	IAmb	14 46 16.6	
	comp=Z,41nm,1.6s						
R33M	**Jennings River**	92.60	31	P	P	14 46 14.7	-0.3
	baz=269						
T35M	**Bob Quinn**	92.96	33	IAMs_20	IAMs_20	15 18 42.5	
	comp=Z,2µm,21.0s						
T35M	**Bob Quinn**	92.96	33	P	P	14 46 16.3	-0.3
	baz=270						
DLBC	**Dease Lake**	93.08	32	LR	LR	15 25 26.8	
	comp=Z,12µm,19.4s,baz=271,slow=34						
DLBC	**Dease Lake**	93.08	32	P	P	14 46 16.8	-0.3
	baz=270						
WTLY	**Watson Lake, Y**	93.69	30	P	P	14 46 20.6	+0.7
WTLY	**Watson Lake, Y**	93.69	30	P	P	14 46 19.7	-0.2
	baz=271						
TGTN	**Hyland Airport**	93.92	29	P	P	14 46 20.9	0.0
	baz=272						
BBB	**Bella Bella**	94.24	38	LR	LR	15 23 32.4	
	comp=Z,1µm,19.2s,baz=275,slow=32						
GNI	**Garni**	94.44	310	LR	LR	15 32 30.0	
	comp=Z,387nm,21.4s,baz=87,slow=38						
A36M	**Sachs Harbour**	94.48	18	P	P	14 46 23.3	+0.2
	baz=275						
C36M	**Paulatuk**	95.13	21	P	P	14 46 26.3	+0.1
	baz=276						
TOAD	**Toad River Com**	95.57	31	P	P	14 46 28.1	-0.5
	baz=274						
KBZ	**Khabaz**	95.75	314	LR	LR	15 36 06.5	
	comp=Z,351nm,18.1s,baz=64,slow=40						
KBZ	**Khabaz**	95.75	314	*deP*	P	14 46 28.2	-1.4
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.6s						
KIV	**Kislovodsk**	95.89	314	*eP*	P	14 46 28.0	-2.4
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ATD	**Arta Tunnel**	95.90	281	LR	LR	15 29 29.6	
	comp=Z,9.6nm,20.9s,baz=85,slow=35						
WRGLY	**Wrigley**	96.04	27	IAMs_20	IAMs_20	15 29 39.6	
	comp=Z,2µm,20.0s						
KLMR	**Klimovskoe**	96.59	331	*eP*	P	14 46 30.3	-2.7
KLMR				*e*		14 50 23.1	
KLMR				pmax	pmax		
	comp=Z,42nm,1.5s						
NLWA	**Neilton Lookou**	97.21	43	IAMs_20	IAMs_20	15 24 41.4	
	comp=Z,2µm,19.0s						
KBO	**Bosley Butte**	97.27	48	IAMs_20	IAMs_20	15 23 35.4	
	comp=Z,1µm,20.0s						
RADR	**Rader Ridge**	97.32	44	IAMs_20	IAMs_20	15 27 41.5	
	comp=Z,2µm,18.0s						
KMPM	**Mount Pierce**	97.44	50	IAMs_20	IAMs_20	15 34 02.1	
	comp=Z,2µm,18.0s						
E03A	**Lebam**	97.47	44	IAMs_20	IAMs_20	15 23 01.6	
	comp=Z,1µm,20.0s						
KRPM	**Rodgers**	97.48	49	IAMs_20	IAMs_20	15 20 47.0	
	comp=Z,2µm,21.0s						
JCC	**Jacoby Creek,**	97.49	49	IAMs_20	IAMs_20	15 21 09.3	
	comp=Z,2µm,20.0s						
F03A	**Seaside**	97.52	44	IAMs_20	IAMs_20	15 24 59.8	
	comp=Z,2µm,20.0s						
KRMB	**Red Mountain**	97.54	49	IAMs_20	IAMs_20	15 20 49.7	
	comp=Z,2µm,21.0s						
KSXB	**Camp Six Broad**	97.55	48	IAMs_20	IAMs_20	15 25 11.9	
	comp=Z,1µm,19.0s						
K02D	**Willamette Mer**	97.66	47	IAMs_20	IAMs_20	15 34 18.6	
	comp=Z,1µm,19.0s						
KHMM	**Horse Mountain**	97.71	49	IAmb	IAmb	14 46 47.3	
	comp=Z,20nm,1.2s						
KHMM				IAMs_20	IAMs_20	15 20 32.2	
	comp=Z,2µm,22.0s						
L02F	**Cave Junction**	97.76	48	IAMs_20	IAMs_20	15 24 39.4	
	comp=Z,2µm,20.0s						
G03D	**McMinnville, O**	97.78	45	IAMs_20	IAMs_20	15 22 40.7	
	comp=Z,2µm,20.0s						
COR	**Corvallis**	97.79	46	IAMs_20	IAMs_20	15 26 49.1	
	comp=Z,2µm,20.0s						
I03D	**Drain, OR**	97.82	46	IAMs_20	IAMs_20	15 28 25.0	
	comp=Z,1µm,20.0s						
A04D	**Lummi Island**	97.88	41	IAMs_20	IAMs_20	15 23 26.2	
	comp=Z,2µm,19.0s						
F04D	**Rainier, OR**	97.89	44	IAMs_20	IAMs_20	15 25 09.6	
	comp=Z,2µm,19.0s						
GNW	**Green Mountain**	97.90	43	IAMs_20	IAMs_20	15 26 39.8	
	comp=Z,2µm,20.0s						
BUCK	**Buck Mountain**	98.05	46	IAMs_20	IAMs_20	15 26 35.9	
	comp=Z,1µm,19.0s						
SOC	**Sochi**	98.06	313	*eP*	P	14 46 37.2	-2.9
SOC				*e*		14 50 37.7	
SOC				*e*PPP	PPP	14 52 42.1	
SOC				*e*S	SKSac	14 57 10.4	-8.2
SOC				*e*SS	SS

comp=Z,1µm,22.0s
MNRC McLaughlin Min 98.82 51 IAmb IAmb 14 46 51.3
comp=Z,14nm,1.0s
SPITS Spitsbergen Ar 98.84 350 LR LR 15 33 50.6
comp=Z,782nm,19.3s,baz=43,slow=37
CVS Carmenet Viney 98.84 52 IAMs_20 IAMs_20 15 25 56.4
comp=Z,1µm,20.0s
OBN Obninsk 98.88 325 IAMs_20 IAMs_20 15 36 59.7
comp=Z,1µm,20.0s
OBN Obninsk 98.88 325 LR LR 15 33 15.7
comp=Z,983nm,21.2s,baz=16,slow=36
OBN Obninsk 98.88 325⇑ *e*P Pdif 14 46 44.3 +0.8
OBN *e* 14 50 45.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,1µm,21.0s
M03C McCloud 98.90 49 IAmb IAmb 14 46 51.3
M03C
comp=Z,19nm,1.0s
M03C IAMs_20 IAMs_20 15 21 43.6
comp=Z,2µm,22.0s
HOOD Mount Hood Mea 98.90 45 IAMs_20 IAMs_20 15 24 57.5
comp=Z,1µm,20.0s
K04D Chiloquin, OR 99.07 47 IAMs_20 IAMs_20 15 26 14.0
comp=Z,1µm,20.0s
JRSC Jasper Ridge 99.08 53 IAMs_20 IAMs_20 15 29 20.6
comp=Z,2µm,20.0s
G05A Wamic 99.15 45 IAMs_20 IAMs_20 15 25 13.9
comp=Z,2µm,20.0s
O03E Paynes Creek 99.22 50 Pdif 14 46 43.3 -2.2
O03E IAmb IAmb 14 47 00.2
comp=Z,20nm,1.1s
O03E IAMs_20 IAMs_20 15 35 11.1
comp=Z,1µm,18.0s
J05D Fort Rock, OR 99.39 47 IAmb IAmb 14 46 54.4
comp=Z,28nm,1.3s
J05D IAMs_20 IAMs_20 15 28 57.4
comp=Z,1µm,18.0s
PINE Pine Mountain 99.55 46 IAMs_20 IAMs_20 15 27 26.8
comp=Z,1µm,20.0s
ANN Anapa 99.59 315 *e*P **Pdif 14 46 55.0 +8.1**
ANN pmax pmax
comp=Z,12nm,0.8s
ANN MLR MLR
comp=Z,631nm,19.0s
ANN MLR MLR
comp=N,687nm,18.0s
G06A Carlson Farm, 99.63 45 IAMs_20 IAMs_20 15 31 52.6
comp=Z,1µm,19.0s
K05A Summer Lake 99.69 47 IAMs_20 IAMs_20 15 25 35.4
comp=Z,1µm,20.0s
MXC Moxie City 99.72 43 IAMs_20 IAMs_20 15 32 50.8
comp=Z,1µm,19.0s
FURI Furi 99.95 279 LR LR 15 35 00.6
comp=Z,266nm,18.7s,baz=104,slow=37
E07A Sunnyside 100.02 43 IAMs_20 IAMs_20 15 27 07.9
comp=Z,1µm,20.0s
F07A Phinny Hill Vi 100.05 44 IAMs_20 IAMs_20 15 23 54.7
comp=Z,1µm,20.0s
B08A Colville Reser 100.15 41 IAMs_20 IAMs_20 15 24 58.2
comp=Z,1µm,20.0s
YKA Yellowknife Ar 100.16 27 P **Pdif 14 46 50.3 +1.3**
comp=Z,2.3nm,0.8s,baz=286,slow=5.8,SNR=4.7
WAH2 Wahluke Slope 100.19 43 IAMs_20 IAMs_20 15 26 47.5
comp=Z,1µm,20.0s
HAWA Hanford 100.26 43 IAMs_20 IAMs_20 15 29 15.3
comp=Z,2µm,19.0s
ARCES ARCESS Array B 100.31 341 P **Pdif 14 46 51.1 +1.5**
comp=Z,8.3nm,1.0s,baz=103,slow=6.8,SNR=5.8
CMB Columbia Colle 100.50 52 IAMs_20 IAMs_20 15 26 48.1
comp=Z,1µm,20.0s
E08A Dider Farm, El 100.57 43 IAMs_20 IAMs_20 15 33 04.6
comp=Z,1µm,20.0s
D08A Wollman Farm, 100.59 43 IAMs_20 IAMs_20 15 28 15.1
comp=Z,2µm,20.0s
YPT Yellepit 100.70 44 IAMs_20 IAMs_20 15 24 22.9
comp=Z,2µm,21.0s
C09A Chrisman Ranch 100.93 42 IAMs_20 IAMs_20 15 25 02.8
comp=Z,1µm,20.0s
LNOR Lincton Mounta 101.19 44 IAMs_20 IAMs_20 15 29 44.8
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 101.20 43 IAMs_20 IAMs_20 15 27 19.0
comp=Z,1µm,20.0s
WVOR Wild Horse Val 101.38 47 IAMs_20 IAMs_20 15 27 47.1
comp=Z,1µm,19.0s
J08A Circle Bar Ran 101.38 46 IAMs_20 IAMs_20 15 34 02.2
comp=Z,1µm,18.0s
MDPB Devils Postpil 101.56 52 IAMs_20 IAMs_20 15 32 27.4
comp=Z,1µm,19.0s
NEW Newport 101.62 41 IAMs_20 IAMs_20 15 27 51.2
comp=Z,2µm,20.0s
SIM Simferopol' 101.91 315 P **Pdif 14 46 56.6 -0.7**
SIM *e* 14 51 03.7
BMO Blue Mountains 102.02 45 IAMs_20 IAMs_20 15 33 23.8
comp=Z,979nm,18.0s
NVAR Mina Array Bea 102.09 51 P **Pdif 14 46 59.4 +0.8**
comp=Z,2.7nm,0.9s,baz=263,slow=6.8,SNR=12
NVAR PP **PP 14 51 03.3 -6.8**
comp=Z,0.6nm,0.7s,baz=229,slow=3.4,SNR=4.7
OSI Osito Audit: C 102.13 55 IAMs_20 IAMs_20 15 23 50.7
comp=Z,1µm,21.0s
TPO Tropico Hills 102.52 55 IAMs_20 IAMs_20 15 23 50.7
comp=Z,1µm,21.0s
PASC Pasadena Art C 102.62 56 IAMs_20 IAMs_20 15 24 14.5
comp=Z,1µm,20.0s
MWC Mount Wilson 102.72 56 IAMs_20 IAMs_20 15 24 07.2
comp=Z,2µm,21.0s
PLID Pearl Lake 102.89 44 IAMs_20 IAMs_20 15 30 03.1
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 102.90 54 IAMs_20 IAMs_20 15 30 51.9
comp=Z,2µm,19.0s
CLC China Lake 102.93 54 IAMs_20 IAMs_20 15 32 31.7
comp=Z,1µm,18.0s
GRAC Grapevine Rang 102.99 53 IAMs_20 IAMs_20 15 33 31.1
comp=Z,2µm,18.0s
WSHM Spangler Hills 103.04 54 IAMs_20 IAMs_20 15 30 37.6
comp=Z,1µm,19.0s
BFSC Mount Baldy Ra 103.05 56 IAMs_20 IAMs_20 15 24 17.8
comp=Z,2µm,22.0s
CCCA Chr Cany lake 103.15 54 IAMs_20 IAMs_20 15 31 01.6
comp=Z,1µm,18.0s
MFID Camas Ranch 103.28 46 IAMs_20 IAMs_20 15 26 56.5
comp=Z,1µm,20.0s
ELS Elsinore Mount 103.30 56 IAMs_20 IAMs_20 15 25 05.5
comp=Z,1µm,20.0s
GSC Goldstone, Bar 103.63 54 IAMs_20 IAMs_20 15 31 15.3
comp=Z,2µm,19.0s
CPE Camp Elliot 103.64 57 IAMs_20 IAMs_20 15 24 43.7
comp=Z,2µm,21.0s
DPP Dos Picos Cty 103.77 57 IAMs_20 IAMs_20 15 24 57.0
comp=Z,1µm,20.0s
TPNV Topopah Spring 103.88 53 IAMs_20 IAMs_20 15 34 27.8
comp=Z,2µm,18.0s
MNK Minsk 103.93 326 *i* P **Pdif 14 47 03.2 -2.8**
MNK *i* PPP PPP 14 53 35.7
MNK *i* S **Sdif 14 58 49.2 -7.3**
MNK *i* PS **PS 15 00 35.0 +0.8**
MNK *i* 15 01 34.2
MNK *i* SS SS 15 06 26.2 +16
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=E,20nm,0.8s
MNK MLR MLR
comp=Z,1µm,18.0s
MNK MLR MLR
comp=N,1µm,18.0s
DNR Dunn Ranch,Anz 103.97 56 IAMs_20 IAMs_20 15 25 25.2
comp=Z,1µm,20.0s
SHOC Shoshone, Teco 103.99 54 IAMs_20 IAMs_20 15 32 13.7
comp=Z,1µm,18.0s
MSO Missoula 104.00 42 IAMs_20 IAMs_20 15 34 05.1
comp=Z,1µm,19.0s
AKASG Malin Array Be 104.08 322 Pdiff **Pdif 14 47 12.9 +6.2**
comp=Z,0.2nm,0.3s,baz=66,slow=4.4,SNR=5.4
AKASG PP **PP 14 51 20.4 -3.8**
comp=Z,1.2nm,0.7s,baz=66,slow=6.4,SNR=5.6
AKBB Malin Array Si 104.08 322 IAMs_20 IAMs_20 15 40 22.4
comp=Z,1µm,20.0s
PFO Pinyon Flats O 104.10 56 IAMs_20 IAMs_20 15 28 05.0
comp=Z,1µm,20.0s
CCX Cicese 104.11 58 IAMs_20 IAMs_20 15 23 39.3
comp=Z,2µm,22.0s
ELK Elko 104.13 49 IAMs_20 IAMs_20 15 38 55.2
comp=Z,1µm,18.0s
ELK Elko 104.13 49 Pdiff **Pdif 14 47 08.6 +1.0**
comp=Z,2.3nm,1.0s,baz=282,slow=4.9,SNR=7.1
ELK PP **PKiKP 14 51 24.4 -0.4**
comp=Z,1.3nm,0.8s,baz=277,slow=5.9,SNR=6.0
PMD Palm Desert 104.17 56 IAMs_20 IAMs_20 15 28 07.6
comp=Z,1µm,20.0s
BORC Borrego Spring 104.18 56 IAMs_20 IAMs_20 15 25 09.8
comp=Z,2µm,20.0s
HLID Hailey 104.28 46 IAMs_20 IAMs_20 15 32 52.7
comp=Z,1µm,19.0s
BELC Belle Mtn. Jos 104.44 56 IAMs_20 IAMs_20 15 26 03.8
comp=Z,1µm,20.0s
SALN Salton City 104.53 56 IAMs_20 IAMs_20 15 25 31.3
comp=Z,1µm,20.0s
MTPC Mountain Pass 104.62 54 IAMs_20 IAMs_20 15 32 23.6
comp=Z,2µm,19.0s
DANC Danby, Needles 104.87 55 IAMs_20 IAMs_20 15 25 36.1
comp=Z,1µm,21.0s
VTX Valle De La Tr 104.91 58 IAMs_20 IAMs_20 15 26 46.4
comp=Z,1µm,21.0s
BC3 Big Chuckawall 104.93 56 IAMs_20 IAMs_20 15 25 46.8
comp=Z,1µm,20.0s
IRM Iron Mountain 105.12 55 IAMs_20 IAMs_20 15 25 31.9
comp=Z,2µm,21.0s
CPBX Cerro Prieto 105.20 57 IAMs_20 IAMs_20 15 27 55.0
comp=Z,2µm,21.0s
DLMT Dillon 105.21 44 IAMs_20 IAMs_20 15 32 34.2
comp=Z,1µm,19.0s
NEE2 Needles Airpor 105.48 55 IAMs_20 IAMs_20 15 33 56.2
comp=Z,1µm,19.0s
GLA Glamis 105.53 57 IAMs_20 IAMs_20 15 26 21.6
comp=Z,1µm,20.0s
BLYC Blythe 105.69 56 IAMs_20 IAMs_20 15 26 29.8
comp=Z,2µm,20.0s
SFX San Felipe 105.74 59 IAMs_20 IAMs_20 15 27 41.4
comp=Z,1µm,21.0s
BOZ Bozeman (W) 105.82 43 IAMs_20 IAMs_20 15 31 38.5
comp=Z,1µm,20.0s
TIRR Tirgusor 106.00 316 IAMs_20 IAMs_20 15 38 32.8
comp=Z,1µm,21.0s
W13A Hualapai Mount 106.03 54 IAMs_20 IAMs_20 15 32 40.5
comp=Z,1µm,19.0s
113A Mohawk Valley, 106.45 57 IAMs_20 IAMs_20 15 28 55.9
comp=Z,2µm,20.0s
EGMT Eagleton 106.50 41 IAMs_20 IAMs_20 15 31 34.1
comp=Z,2µm,20.0s
FXWY Fox Creek 106.67 45 IAMs_20 IAMs_20 15 28 06.1
comp=Z,1µm,21.0s
HWUT Hardware Ranch 106.71 47 IAMs_20 IAMs_20 15 34 36.2
comp=Z,1µm,19.0s
TPAW Teton Pass 106.76 45 IAMs_20 IAMs_20 15 29 01.3
comp=Z,1µm,20.0s
AHID Auburn Hatcher 106.81 46 IAMs_20 IAMs_20 15 35 16.8
comp=Z,913nm,18.0s
PIX Pinacate 106.86 58 IAMs_20 IAMs_20 15 25 23.0
comp=Z,1µm,22.0s
LKWY Lake 106.90 44 IAMs_20 IAMs_20 15 32 11.1
comp=Z,2µm,20.0s
SNOW Snow King Moun 106.90 45 IAMs_20 IAMs_20 15 28 04.2
comp=Z,2µm,21.0s
Y14A Wickenburg 106.92 55 IAMs_20 IAMs_20 15 26 37.3
comp=Z,2µm,21.0s
LOHW Long Hollow 106.98 45 IAMs_20 IAMs_20 15 28 18.2
comp=Z,1µm,22.0s
214A Organ Pipe Nat 107.36 57 IAMs_20 IAMs_20 15 26 01.1
comp=Z,2µm,21.0s
RLMT Red Lodge 107.55 43 IAMs_20 IAMs_20 15 36 56.3
comp=Z,1µm,20.0s
BW06 Boulder Array 107.92 46 IAMs_20 IAMs_20 15 33 47.0
comp=Z,1µm,21.0s
PDAR Pinedale Array 107.92 46 Pdiff **Pdif 14 47 26.2 +1.9**
comp=Z,0.4nm,0.7s,baz=289,slow=8.2,SNR=2.7
WUAZ Wupatki 107.99 54 IAMs_20 IAMs_20 15 33 56.6
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 108.12 55 IAMs_20 IAMs_20 15 27 27.2
comp=Z,2µm,21.0s
SRIG Santa Rosalia 108.44 62 IAMs_20 IAMs_20 15 35 02.0
comp=Z,1µm,20.0s
LSZ Lusaka 108.68 253 IAMs_20 IAMs_20 15 34 05.9
comp=Z,1µm,22.0s
TUC Tucson 109.00 57 IAMs_20 IAMs_20 15 26 30.7
comp=Z,2µm,22.0s
LAO LASA Array 109.17 41 IAMs_20 IAMs_20 15 32 21.9
comp=Z,1µm,20.0s
X18A Snowflake 109.32 54 IAMs_20 IAMs_20 15 28 18.8
comp=Z,1µm,21.0s
W18A Petrified Fore 109.38 54 IAMs_20 IAMs_20 15 34 59.4
comp=Z,1µm,19.0s
PV16 Nyswonger Mesa 109.39 50 IAMs_20 IAMs_20 15 36 10.3
comp=Z,2µm,19.0s
PV22 Blue Mesa, Par 109.44 50 IAMs_20 IAMs_20 15 39 11.6
comp=Z,1µm,19.0s
NOA NORSAR Array B 109.47 336 PP **PP 14 52 03.6 +0.2**
comp=Z,2.0nm,0.9s,baz=62,slow=6.6,SNR=3.4
O20A White River Ci 109.49 48 IAMs_20 IAMs_20 15 34 33.9
comp=Z,1µm,19.0s
DGMT Dagmar 109.91 39 IAMs_20 IAMs_20 15 30 55.4
comp=Z,1µm,20.0s
MVCO Mesa Verde 109.94 51 IAMs_20 IAMs_20 15 37 26.4
comp=Z,1µm,18.0s
K22A Casper 110.11 45 IAMs_20 IAMs_20 15 28 38.0
comp=Z,1µm,22.0s
319A Douglas 110.42 58 IAMs_20 IAMs_20 15 30 27.2
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 111.12 50 IAMs_20 IAMs_20 15 39 29.5
comp=Z,1µm,18.0s
121A Cookes Peak, D 111.46 56 IAMs_20 IAMs_20 15 30 25.8
comp=Z,1µm,19.0s
Y22A Socorro 111.86 54 IAMs_20 IAMs_20 15 29 38.0
comp=Z,1µm,22.0s
Y22D IRIS PASSCAL I 111.86 54 IAMs_20 IAMs_20 15 29 27.5
comp=Z,1µm,21.0s
ANMO Albuquerque 112.05 53 IAMs_20 IAMs_20 15 36 56.1
comp=Z,1µm,19.0s
E28A Huff 112.80 40 IAMs_20 IAMs_20 15 39 03.9
comp=Z,1µm,20.0s
MDND Maddock 113.00 38 IAMs_20 IAMs_20 15 33 53.1
comp=Z,1µm,20.0s
BRG Berggiesshubel 113.13 325⇓ *e*Pif **Pdif 14 47 50.8 +3.7**
BRG Amp 14 47 55.3
comp=Z,2.8nm,0.9s
BRG PP **PP 14 52 24.8 -5.3**
BRG Amp 14 52 27.0
comp=Z,4.9nm,1.1s
T25A Trinidad 113.13 51 IAMs_20 IAMs_20 15 38 07.9
comp=Z,1µm,19.0s
CLL Collm 113.47 326 *e*PP **PP 14 52 33.0 +0.6**
CLL *e*x x 14 55 06.0
CLL *e*Sdif Sdif 15 00 12.0 -4.2
CLL *e*PS **PS 15 02 06.0 -2.9**
CLL *e*PPS PPS 15 03 15.0
CLL *e*SS **SS 15 08 18.0 -1.2**
CLL *e*(SSS) 15 13 00.0
CLL Lm MLR 15 44 00.0
comp=N,1µm,19.3s
CLL Lm MLR 15 44 00.0
comp=E,800nm,18.1s
CLL Lm MLR 15 44 00.0
comp=Z,2µm,19.0s
MNTX Cornudas Mount 113.63 57 IAMs_20 IAMs_20 15 33 22.1
comp=Z,1µm,20.0s
ARSA Arzberg 113.72 321 IAMs_20 IAMs_20 15 42 42.4
comp=Z,1µm,21.0s
OGNE Ogallala 113.82 46 IAMs_20 IAMs_20 15 39 21.2
comp=Z,976nm,20.0s
KSCO Kaye Shedlock' 113.97 48 IAMs_20 IAMs_20 15 40 25.5
comp=Z,1µm,20.0s
GEC2 GERESS Array S 114.16 323 IAMs_20 IAMs_20 15 42 25.0
comp=Z,1µm,21.0s
HPIG 114.29 62 IAMs_20 IAMs_20 15 41 41.1
comp=Z,1µm,19.0s
SUSD Miller 114.73 42 IAMs_20 IAMs_20 15 36 52.1
comp=Z,1µm,20.0s
MSTX Muleshoe 115.24 54 IAMs_20 IAMs_20 15 32 00.5
comp=Z,1µm,21.0s
TXAR Lajitas Array 115.57 59 PKP **PKPdf 14 51 45.9 -0.5**
comp=Z,0.5nm,0.4s,baz=196,slow=2.0,SNR=7.5
TXAR PP **PP 14 52 44.5 -3.8**
comp=Z,1.5nm,1.0s,baz=325,slow=10,SNR=4.7
TXAR PKKPbc **PKKPbc 15 02 20.6 +0.7**
comp=Z,0.2nm,0.3s,baz=77,slow=5.3,SNR=2.5
TIP Timpagrande 115.81 313 IAMs_20 IAMs_20 15 45 41.5
comp=Z,957nm,22.0s
F33A 5 Mile Ranch, 115.90 39 IAMs_20 IAMs_20 15 39 33.7
comp=Z,1µm,19.0s
BGNE Belgrade 116.42 44 IAMs_20 IAMs_20 15 39 01.8
comp=Z,852nm,20.0s
ECSD EROS Data Cent 116.56 42 IAMs_20 IAMs_20 15 35 03.5
comp=Z,1µm,20.0s
R32A Long Quarter, 117.06 48 IAMs_20 IAMs_20 15 46 40.3
comp=Z,1µm,18.0s
L34A Svendsen Farm, 117.43 43 IAMs_20 IAMs_20 15 43 04.6
comp=Z,892nm,20.0s
WIN Windhoek 117.49 243 IAMs_20 IAMs_20 15 37 35.6
comp=Z,882nm,19.0s
OK038 West end E0370 117.68 50 IAMs_20 IAMs_20 15 42 12.8
comp=Z,1µm,19.0s
ZAIG Zacatecas 117.76 66 IAMs_20 IAMs_20 15 31 59.3
comp=Z,1µm,20.0s
OSSC Osservatorio P 118.01 319 IAMs_20 IAMs_20 15 45 59.1
comp=Z,944nm,19.0s
ABTX Abilene, Hawle 118.12 54 IAMs_20 IAMs_20 15 32 20.9
comp=Z,1µm,22.0s
WMOK Wichita Mounta 118.19 52 IAMs_20 IAMs_20 15 42 32.6
comp=Z,1µm,20.0s
KSU1 Kansas State U 118.36 46 IAMs_20 IAMs_20 15 33 25.5
comp=Z,1µm,22.0s
SPMN Marine on St. 118.37 39 IAMs_20 IAMs_20 15 42 37.0
comp=Z,1µm,19.0s
JCT Junction City 118.57 57 IAMs_20 IAMs_20 15 39 20.9
comp=Z,1µm,20.0s
OK029 Liberty Lake 118.89 50 IAMs_20 IAMs_20 15 41 21.8
comp=Z,1µm,20.0s
OK048 Pawnee Station 119.07 49 IAMs_20 IAMs_20 15 42 11.5
comp=Z,1µm,18.0s
OK051 E0350 and S346 119.12 49 IAMs_20 IAMs_20 15 43 11.8
comp=Z,1µm,19.0s
SCIA State Center 119.60 42 IAMs_20 IAMs_20 15 37 20.9
comp=Z,1µm,20.0s
Z35A Perchaven, San 119.83 53 IAMs_20 IAMs_20 15 41 27.1
comp=Z,1µm,20.0s
N38A Joes South For 120.07 43 IAMs_20 IAMs_20 15 46 08.4
comp=Z,1µm,20.0s
WHTX Lake Whitney, 120.08 54 IAMs_20 IAMs_20 15 37 23.7
comp=Z,1µm,21.0s
TUL3 Leonard 120.12 50 IAMs_20 IAMs_20 15 41 42.3
comp=Z,1µm,20.0s
P38A Dawn 120.35 45 IAMs_20 IAMs_20 15 37 35.1
comp=Z,1µm,21.0s
I40A Norwalk 120.38 39 IAMs_20 IAMs_20 15 43 30.2
comp=Z,1µm,20.0s
735A Kenedy 120.66 58 IAMs_20 IAMs_20 15 33 30.5
comp=Z,1µm,21.0s
UNM Universidad Na 121.44 69 IAMs_20 IAMs_20 15 34 28.8
comp=Z,1µm,19.0s
I42A Draeger Farm, 121.45 38 IAMs_20 IAMs_20 15 43 47.4
comp=Z,1µm,20.0s
Z38A Mt. Pleasant 121.65 52 IAMs_20 IAMs_20 15 45 36.2
comp=Z,1µm,18.0s
R40A Maddies Statio 121.80 46 IAMs_20 IAMs_20 15 42 20.5
comp=Z,1µm,19.0s
HKT Hockley 122.01 56 IAMs_20 IAMs_20 15 43 11.9
comp=Z,1µm,20.0s
CCM Cathedral Cave 122.63 46 IAMs_20 IAMs_20 15 43 15.5
comp=Z,1µm,20.0s
E46A Sault Ste Mari 122.80 34 IAMs_20 IAMs_20 15 44 07.8
comp=Z,1µm,20.0s
HDIL Hopedale 122.85 42 IAMs_20 IAMs_20 15 39 48.5
comp=Z,1µm,20.0s
SLM Saint Louis 123.09 45 IAMs_20 IAMs_20 15 39 27.5
comp=Z,1µm,21.0s
PBMO Poplar Bluff 123.76 47 IAMs_20 IAMs_20 15 48 32.6
comp=Z,1µm,18.0s
L46A Eue Claire 124.06 39 IAMs_20 IAMs_20 15 44 48.8
comp=Z,1µm,20.0s
CGM3 Cape Girardeau 124.09 46 IAMs_20 IAMs_20 15 46 53.2
comp=Z,1µm,20.0s
S44A Carbondale 124.20 45 IAMs_20 IAMs_20 15 44 41.1
comp=Z,1µm,21.0s
PVMO Portageville 124.45 47 IAMs_20 IAMs_20 15 46 27.8
comp=Z,1µm,19.0s
P46A Rosedale 124.70 42 IAMs_20 IAMs_20 15 42 16.0
comp=Z,1µm,19.0s
MET Memphis--Engin 124.83 48 IAMs_20 IAMs_20 15 39 39.9
comp=Z,1µm,20.0s
T45A Paducah 124.94 46 IAMs_20 IAMs_20 15 45 04.7
comp=Z,1µm,20.0s
USIN University of 125.19 44 IAMs_20 IAMs_20 15 43 29.1
comp=Z,1µm,20.0s
P48A Milroy 125.97 41 IAMs_20 IAMs_20 15 42 24.4
comp=Z,1µm,20.0s
T47A Sharon Grove 126.05 45 IAMs_20 IAMs_20 15 44 53.9
comp=Z,1µm,20.0s
PLAL Pickwick Lake 126.27 48 IAMs_20 IAMs_20 15 47 23.9
comp=Z,1µm,20.0s
346A Big Creek Wild 126.69 52 IAMs_20 IAMs_20 15 40 02.5
comp=Z,983nm,19.0s
Z47A Carrollton 127.04 50 IAMs_20 IAMs_20 15 45 56.5
comp=Z,1µm,20.0s
N51A Ashland 127.12 38 IAMs_20 IAMs_20 15 45 38.7
comp=Z,1µm,20.0s
U49A Red Boiling Sp 127.21 45 IAMs_20 IAMs_20 15 45 47.6
comp=Z,1µm,20.0s
X48A Hartselle 127.26 48 IAMs_20 IAMs_20 15 48 40.2
comp=Z,1µm,19.0s
R50A Paris 127.31 42 IAMs_20 IAMs_20 15 43 20.1
comp=Z,1µm,20.0s
P51A Williamsport 127.50 40 IAMs_20 IAMs_20 15 44 53.8
comp=Z,1µm,20.0s
Q51A Peebles 127.57 41 IAMs_20 IAMs_20 15 46 11.6
comp=Z,1µm,19.0s
DELO Deloro Mine 127.61 32 IAMs_20 IAMs_20 15 44 11.0
comp=Z,1µm,20.0s
T50A Nancy 127.61 44 IAMs_20 IAMs_20 15 48 10.2
comp=Z,1µm,20.0s
ERPA Erie 127.84 36 IAMs_20 IAMs_20 15 39 24.4
comp=Z,980nm,21.0s
LRAL Lakeview Retre 127.92 49 IAMs_20 IAMs_20 15 54 15.8
comp=Z,952nm,18.0s
O52A Adamsville 127.92 39 IAMs_20 IAMs_20 15 46 15.2
comp=Z,1µm,20.0s
O53A New Philadelph 128.23 38 IAMs_20 IAMs_20 15 40 32.0
comp=Z,1µm,22.0s
CCIG Comitan 128.55 71 IAMs_20 IAMs_20 15 36 34.5
comp=Z,939nm,22.0s
BRAL Brewton 128.67 51 IAMs_20 IAMs_20 15 40 06.9
comp=Z,1µm,21.0s
TZTN Tazewell 128.75 44 IAMs_20 IAMs_20 15 47 27.2
comp=Z,1µm,20.0s
250A Grady 128.93 50 IAMs_20 IAMs_20 15 43 51.8
comp=Z,1µm,20.0s
CART Cartagena 129.03 318 IAMs_20 IAMs_20 15 56 24.9
comp=Z,831nm,20.0s
J57A Williamstown 129.22 32 IAMs_20 IAMs_20 15 42 21.6
comp=Z,1µm,21.0s
LR03 Panguipulli 129.38 149 IAMs_20 IAMs_20 15 48 56.9
comp=Z,1µm,18.0s
PLCA Paso Flores 129.42 152 PKP **PKPdf 14 52 13.6 +1.0**
comp=Z,2.6nm,1.0s,baz=262,slow=4.7,SNR=3.4
S54A Dingess, Beckl 129.57 41 IAMs_20 IAMs_20 15 45 11.8
comp=Z,1µm,20.0s
V53A Saluda 129.71 44 IAMs_20 IAMs_20 15 47 18.7
comp=Z,1µm,20.0s
Y52A Lilburn 129.72 47 IAMs_20 IAMs_20 15 49 16.3
comp=Z,1µm,20.0s
152A Waverly Hall 129.80 49 IAMs_20 IAMs_20 15 47 35.6
comp=Z,1µm,19.0s
451A Vernon 129.92 51 IAMs_20 IAMs_20 15 40 45.0
comp=Z,1µm,22.0s
352A Blakely 130.18 50 IAMs_20 IAMs_20 15 48 39.7
comp=Z,816nm,19.0s
GOGA Godfrey 130.38 47 IAMs_20 IAMs_20 15 45 09.7
comp=Z,1µm,21.0s
BLA Blacksburg 130.49 41 IAMs_20 IAMs_20 15 41 24.1
comp=Z,855nm,21.0s
V55A Taylorsville 130.71 43 IAMs_20 IAMs_20 15 49 55.2
comp=Z,1µm,20.0s
KMSC Kings Mountain 131.01 44 IAMs_20 IAMs_20 15 45 39.2
comp=Z,1µm,19.0s
TIGA Tifton 131.22 49 IAMs_20 IAMs_20 15 49 13.1
comp=Z,1µm,20.0s
SDMD Soldier's Deli 131.40 37 IAMs_20 IAMs_20 15 41 35.8
comp=Z,1µm,22.0s
MTO3 Montecristo 131.50 73 IAMs_20 IAMs_20 15 41 36.8
comp=Z,920nm,19.0s
WUPA West Chester U 131.78 35 IAMs_20 IAMs_20 15 47 30.7
comp=Z,1µm,20.0s
N62A Caumsett State 132.30 33 IAMs_20 IAMs_20 15 50 01.0
comp=Z,1µm,21.0s
UCCT U. Connecticut 132.33 31 IAMs_20 IAMs_20 15 51 56.8
comp=Z,1µm,20.0s
WES Weston 132.36 30 IAMs_20 IAMs_20 15 46 10.3
comp=Z,1µm,21.0s
656A Willston 132.97 51 IAMs_20 IAMs_20 15 44 54.7
comp=Z,1µm,20.0s
TGUH Tegucigalpa,Un 133.56 73 IAMs_20 IAMs_20 15 43 27.2
comp=Z,830nm,20.0s

Y60A Bolivia 133.79 43 IAMs_20 IAMs_20 15 48 47.6
comp=Z,916nm,19.0s
V61A Roper 133.83 40 IAMs_20 IAMs_20 15 48 46.3
comp=Z,1μm,20.0s
HERN Volcan Telica 134.22 75 IAMs_20 IAMs_20 15 57 40.7
comp=Z,439nm,22.0s
DWPF Disney Wildern 134.39 52 IAMs_20 IAMs_20 15 51 26.6
comp=Z,894nm,20.0s
MT08 Bocatoma Ro 135.23 146 IAMs_20 IAMs_20 16 00 36.4
comp=Z,974nm,20.0s
060A Indiantown 135.72 53 IAMs_20 IAMs_20 15 51 57.9
comp=Z,1μm,21.0s
061Z Ochoppi 135.79 55 IAMs_20 IAMs_20 15 52 58.8
comp=Z,974nm,19.0s
TORD Torodi Ar. Bea 135.88 286 PKP **PKPdf 14 52 24.7 -0.7**
comp=Z,1.7nm,0.9s,baz=132,slow=4.1,SNR=5.4
JTS Las Juntas de 136.35 78 IAMs_20 IAMs_20 15 41 08.5
comp=Z,894nm,22.0s
HDC Heredia 137.21 78 IAMs_20 IAMs_20 15 41 45.2
comp=Z,857nm,21.0s
BILN Bilwi Airport 137.28 72 IAMs_20 IAMs_20 15 45 55.7
comp=Z,420nm,20.0s
BRU2 Volcan 138.74 80 IAMs_20 IAMs_20 15 41 36.9
comp=Z,868nm,19.0s
BCIP Isla Barro Col 141.50 79 IAMs_20 IAMs_20 15 44 48.8
comp=Z,1μm,21.0s
MTDJ Mount Denham 141.58 64 IAMs_20 IAMs_20 15 59 19.2
comp=Z,689nm,20.0s
NMDO Nuevo Mundo 142.95 59 IAMs_20 IAMs_20 15 53 49.9
comp=Z,833nm,20.0s
GTBY Guantanamo Bay 143.09 60 IAMs_20 IAMs_20 15 52 14.9
comp=Z,671nm,22.0s
DBIC Dimbokro 143.11 278 PKP **PKPdf 14 52 39.2 +0.7**
comp=Z,6.4nm,0.8s,baz=62,slow=4.2,SNR=4.7
OTAV Otavalo 143.14 93 IAMs_20 IAMs_20 15 45 06.9
comp=Z,680nm,21.0s
PB02 IPOC Station P 143.52 132 PKPbc 14 52 36.9 +0.5
PB11 IPOC Station P 144.63 130 **PKPab 14 52 40.4 +0.6**
FLOC Florencia 146.01 91 IAMs_20 IAMs_20 15 50 05.6
comp=Z,636nm,19.0s
SMRC Santa Marta, M 146.61 74 **PKPdf 14 52 45.5 +0.9**
SC01 Santiago de lo 147.04 57 IAMs_20 IAMs_20 15 50 12.3
comp=Z,904nm,21.0s
ROSC El Rosal 147.34 85 PKP **PKPdf 14 52 46.5 +0.1**
comp=Z,24nm,0.5s,baz=164,slow=1.8,SNR=4.7
ROSC PKPbc **pPKPdf 14 52 49.0 +0.5**
comp=Z,24nm,0.5s,baz=162,slow=1.9,SNR=11
CZSB Cruzeiro do Su 147.36 109 IAMs_20 IAMs_20 15 50 03.3
comp=Z,977nm,19.0s
CPUP Villa Florida 147.46 153 PKP **PKPdf 14 52 46.2 +0.4**
comp=Z,2.2nm,0.8s,baz=88,slow=3.6,SNR=11
CPUP PKPbc **sPKPdf 14 52 49.5 +0.9**
comp=Z,6.2nm,1.0s,baz=76,slow=3.5,SNR=9.5
LPAZ La Paz 147.79 127 PKP **PKPdf 14 52 47.7 +0.4**
comp=Z,13nm,0.9s,baz=295,slow=2.0,SNR=29
LPAZ PKPbc **PKPbc 14 52 50.9 +0.8**
comp=Z,26nm,1.0s,baz=258,slow=2.8,SNR=19
DR12 Loma Pena Alta 148.47 57 **PKPdf 14 52 49.3 +1.6**
SDV Santo Domingo 150.52 77 IAMs_20 IAMs_20 15 50 12.0
comp=Z,895nm,21.0s
SJG San Juan 151.48 56 IAMs_20 IAMs_20 16 02 41.7
comp=Z,632nm,21.0s
SMRT St. Maarten 154.00 52 IAMs_20 IAMs_20 16 00 47.1
comp=Z,679nm,20.0s
SEUS St. Eustatius 154.38 53 IAMs_20 IAMs_20 16 01 44.2
comp=Z,918nm,22.0s
ANWB Willy Bob 155.23 52 IAMs_20 IAMs_20 16 01 48.5
comp=Z,880nm,20.0s
FDF Fort de France 157.32 57 IAMs_20 IAMs_20 16 03 45.5
comp=Z,683nm,20.0s
ILAM Ilet Lapin Mar 157.53 56 IAMs_20 IAMs_20 15 57 41.9
comp=Z,539nm,20.0s
MPOM Morne Pois Mar 157.71 57 IAMs_20 IAMs_20 15 58 48.7
comp=Z,832nm,22.0s

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*KRSC **03** 14:45:51.2±1.8, 49.°94N×156.°88E, h48km±26km, Ml4.2*
*IDC **03** 14:45:58.8±1.9, 50.°65N×156.°10E, h0km, mb3.5/3, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=91.0km s-min=29.1km az=119.0*
*MOS **03** 14:46:01.3±1.7, 49.°71N×156.°83E, h48km, mb4.2/1, Error ellipse: s-maj=35.2km s-min=5.9km az=70.5*
ISC 03 14:45:51.1±4.3, 49.°9N±0.°2×156.°6E±0.°1, h27km±22km, n42, σ1°29/45, mb3.4/3, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.89**	**339**	*e*PN	**Pn**	**14 46 07.8**	**0.0**
SKR				*e*S	**Sb**	**14 46 19.3**	**0.0**
SKR				pmax	pmax		
	comp=Z,728nm,0.3s						
SKR				smax	smax		
	comp=N,10μm,0.3s						
SKR				smax	smax		
	comp=E,8μm,0.2s						
SKR	**Severo-Kuril's**	**0.89**	**339**	*i* P	**Pn**	**14 46 07.6**	**-0.2**
SKR				*e*S	**Sb**	**14 46 18.7**	**-0.6**
PAU	**Pauzhetka**	**1.62**	**4**	PN	**Pn**	**14 46 18.3**	**+0.5**
PAU	**Pauzhetka**	**1.62**	**4**	*e*P	**Pn**	**14 46 18.3**	**+0.5**
PAU				*e*S	**Sn**	**14 46 37.7**	**-0.1**
MTVR	**Mutnovka**	**2.81**	**20**	PN	**Pn**	**14 46 35.0**	**+0.7**
MTVR	**Mutnovka**	**2.81**	**20**	*e*P	**Pn**	**14 46 35.1**	**+0.7**
RUS	**Russkaya**	**2.84**	**24**	PN	**Pn**	**14 46 34.6**	**0.0**
RUS				S	**Sn**	**14 47 06.2**	**-1.8**
RUS	**Russkaya**	**2.84**	**24**	*e*P	**Pn**	**14 46 34.7**	**0.0**
RUS				*e*S	**Sn**	**14 47 06.2**	**-1.8**
GRL	**Gorelyy**	**2.85**	**18**	PN	**Pn**	**14 46 36.3**	**+1.4**
GRL	**Gorelyy**	**2.85**	**18**	*e*P	**Pn**	**14 46 36.4**	**+1.4**
GRL				*e*S	**Sn**	**14 47 09.2**	**+0.8**
KRMR	**Karymshinskiy**	**3.12**	**17**	PN	**Pn**	**14 46 40.2**	**+1.7**
KRMR	**Karymshinskiy**	**3.12**	**17**	*e*P	**Pn**	**14 46 40.3**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.33**	**11**	*e*PN	**Pn**	**14 46 42.3**	**+0.9**
PETK	**Petropavlovsk-**	**3.33**	**11**	Pn	**Pn**	**14 46 42.0**	**+0.6**
PETK				Sn	**Sn**	**14 47 21.4**	**+1.5**
	comp=E,0.7nm,0.3s,baz=205,slow=14,SNR=23						
PETK				Sn	**Sn**	**14 47 21.4**	**+1.5**
	comp=E,1.0nm,0.3s,baz=190,slow=7.4,SNR=2.5						
PET	**Petropavlovsk**	**3.42**	**21**	*e*PN	**Pn**	**14 46 43.5**	**+0.9**
PET				*e*S	**Sn**	**14 47 21.3**	**-0.9**
PET				smax	smax		
	comp=N,100nm,0.5s						
PET				smax	smax		
	comp=E,112nm,0.5s						
PET	**Petropavlovsk**	**3.42**	**21**	*e*S	**Sn**	**14 47 22.5**	**+0.3**
DALK	**Dalny**	**3.45**	**22**	PN	**Pn**	**14 46 43.8**	**+0.8**
DALK				S	**Sn**	**14 47 22.4**	**-0.5**
DALK	**Dalny**	**3.45**	**22**	*e*P	**Pn**	**14 46 43.9**	**+0.8**
DALK				*e*S	**Sn**	**14 47 22.4**	**-0.5**
UGLR	**Uglovaya**	**3.63**	**21**	PN	**Pn**	**14 46 47.4**	**+1.8**
UGLR	**Uglovaya**	**3.63**	**21**	*e*P	**Pn**	**14 46 47.5**	**+1.8**
AVH	**Avacha**	**3.66**	**20**	PN	**Pn**	**14 46 48.8**	**+2.8**
AVH	**Avacha**	**3.66**	**20**	*e*P	**Pn**	**14 46 48.8**	**+2.8**
SDLR	**Sedlovina**	**3.71**	**22**	PN	**Pn**	**14 46 48.2**	**+1.5**
SDLR	**Sedlovina**	**3.71**	**22**	*e*P	**Pn**	**14 46 48.3**	**+1.5**
KRX	**Arik**	**3.73**	**19**	PN	**Pn**	**14 46 49.1**	**+2.1**
KRX	**Arik**	**3.73**	**19**	*e*P	**Pn**	**14 46 49.1**	**+2.1**
SPN	**Mys Shipunski**	**3.88**	**32**	PN	**Pn**	**14 46 49.9**	**+1.0**
SPN				S	**Sn**	**14 47 32.4**	**-1.2**
SPN	**Mys Shipunski**	**3.88**	**32**	*e*P	**Pn**	**14 46 49.9**	**+1.0**
SPN				*e*S	**Sn**	**14 47 32.4**	**-1.2**
MKZ	**Mys Kozlova**	**5.66**	**32**	PN	**Pn**	**14 47 13.2**	**-0.1**
MKZ	**Mys Kozlova**	**5.66**	**32**	*e*P	**Pn**	**14 47 13.3**	**-0.1**
KBTR	**Krutoberegovo**	**7.38**	**28**	PN	**Pn**	**14 47 37.5**	**+0.6**
KBTR	**Krutoberegovo**	**7.38**	**28**	*e*P	**Pn**	**14 47 37.5**	**+0.6**
SEY	**Seymchan**	**13.31**	**352**	*e*PN	**Pn**	**14 48 56.8**	**-1.3**
SEY				pmax	pmax		
	comp=Z,14nm,1.6s						
H11N2	**WAKE ISLAND Hy 31.16**	**161**		T	T	15 25 07.9	
	baz=347,slow=77,SNR=16						
H11N1	**WAKE ISLAND Hy 31.17**	**161**		T	T	15 25 08.5	
	baz=347,slow=77,SNR=14						
H11N3	**WAKE ISLAND Hy 31.17**	**161**		T	T	15 25 09.3	
	baz=347,slow=77,SNR=20						
H11S1	**WAKE ISLAND Hy 32.30**	**162**		T	T	15 26 31.6	
	baz=347,slow=76,SNR=152						
H11S3	**WAKE ISLAND Hy 32.31**	**162**		T	T	15 26 31.4	
	baz=347,slow=76,SNR=146						
H11S2	**WAKE ISLAND Hy 32.32**	**162**		T	T	15 26 31.0	
	baz=347,slow=76,SNR=103						
ILAR	**Eielson Array**	**32.66**	**41**	P	P	14 52 30.0	+9.5
	comp=Z,0.2nm,0.5s,baz=255,slow=7.5,SNR=5.7						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**61.06**	**57**	P	P	14 56 12.7	+10
	comp=Z,1.0nm,0.8s,baz=336,slow=3.3,SNR=7.1						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**75.93**	**201**	P	P	14 57 50.7	+15
	comp=Z,0.3nm,0.7s,baz=9.0,slow=8.0,SNR=1.8						
	comp=Z,0.3nm,0.7s						

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*NEIC **03** 15:02:54.8±2.2, 32.°08N±0.°08×140.°5E±0.°1, h73km±7km, mb4.4/21, Error ellipse: s-maj=13.0km s-min=10.9km az=67.0*
*IDC **03** 15:02:55.2±1.9, 31.°88N×140.°29E, h77km±15km, mb3.7/18, mbtmp4.0/19, Error ellipse: s-maj=31.5km s-min=13.4km az=79.0*
*JMA **03** 15:02:55.4±0.2, 32.°2N±0.°7×140.°7E±0.°7, h23km, MV4.2/35, E OFF HACHIJOJIMA ISLAND*
ISC 03 15:02:52.7±1.5, 31.°96N±0.°08×140.°67E±0.°09, h62km±12km, n106, σ1°88/107, mb4.2/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**0.92**	**303**	*i* P	**Pn**	**15 03 10.6**	**+0.8**
JHCJ	**Hachijojimakas**	**1.33**	**327**	P	**Pn**	**15 03 15.7**	**+0.5**
JHCJ				*e*S	**Sn**	**15 03 29.8**	**-2.2**
JHJ2	**Mitsune**	**1.36**	**328**		**Pn**	**15 03 15.8**	**+0.3**
JHJ2				Sn	**Sn**	**15 03 30.0**	**-2.6**
JHJ2	**Mitsune**	**1.36**	**328**	P	**Pn**	**15 03 17.0**	**+1.5**
JHJ2	**Mitsune**	**1.36**	**328**	P	**Pn**	**15 03 16.1**	**+0.6**
JHJ2				*e*S	**Sn**	**15 03 30.6**	**-2.0**
JHJ	**Hachijo jima 2**	**1.38**	**327**	P	**Pn**	**15 03 16.1**	**+0.3**
	236nm,0.2s,baz=7.6,slow=7.4,SNR=74						
JHJ				S	**Sn**	**15 03 30.2**	**-2.9**
	1μm,0.4s,baz=68,slow=19,SNR=22						
JMKN	**Mikurajimanish**	**2.13**	**335**	*e*P	**Pn**	**15 03 27.0**	**+1.1**
JMYK	**Miyake Tsubota**	**2.30**	**336**	P	**Pn**	**15 03 30.0**	**+1.8**
JMYK				*e*S	**Sn**	**15 03 55.3**	**0.0**
BSO1	**Boso 1**	**2.70**	**5**	*e*P	**Pn**	**15 03 34.7**	**+1.5**
BSO1				*e*S	**Sn**	**15 04 03.6**	**-0.8**
BSO3	**Boso 3**	**2.84**	**357**	P	**Pn**	**15 03 36.7**	**+1.4**
JIM2	**Oshima 3**	**2.94**	**340**	*e*S	**Sn**	**15 04 11.1**	**-0.1**
JIZS	**Izushimoda**	**3.13**	**332**	*e*P	**Pn**	**15 03 41.9**	**+2.3**
TK02	**Tokai 2**	**3.15**	**310**	*e*P	**Pn**	**15 03 41.8**	**+2.2**
JSG	**Sagara**	**3.42**	**323**	Pn	**Pn**	**15 03 44.3**	**+0.9**
JSG	**Sagara**	**3.42**	**323**	P	**Pn**	**15 03 47.3**	**+3.8**
JOD2	**Odawara 2**	**3.55**	**339**	*e*P	**Pn**	**15 03 47.3**	**+1.9**
TTO1	**TONANKAI O.B.S**	**3.67**	**298**	*e*P	**Pn**	**15 03 48.0**	**+1.3**
JYN	**Shimob**	**3.95**	**334**	*e*P	**Pn**	**15 03 54.0**	**+3.1**
JIE	**Ise**	**4.12**	**307**	*e*P	**Pn**	**15 03 54.6**	**+1.5**
JRY	**Ryogami san**	**4.30**	**340**	*e*P	**Pn**	**15 03 59.2**	**+3.5**
INU	**Inuyama**	**4.55**	**319**		**Pn**	**15 03 59.3**	**+0.3**
INU	**Inuyama**	**4.55**	**319**	P	**Pn**	**15 04 02.7**	**+3.7**
INU	**Inuyama**	**4.55**	**319**	S	**Sn**	**15 04 54.7**	**+4.1**
JGF	**Kuroka**	**4.56**	**324**		**Pn**	**15 04 00.6**	**+1.4**
JGF	**Kuroka**	**4.56**	**324**	P	**Pn**	**15 04 02.6**	**+3.4**
JAG	**Ashikaga**	**4.57**	**348**	*e*P	**Pn**	**15 04 01.2**	**+1.9**
JTNC	**Tanabenakahech**	**4.64**	**295**	P	**Pn**	**15 04 01.5**	**+1.1**
JWY	**Kouya**	**4.82**	**299**	*e*P	**Pn**	**15 04 04.7**	**+1.9**
JYTA	**Yamagatataniai**	**4.89**	**319**	P	**Pn**	**15 04 06.3**	**+2.7**
MJAR	**Matsushiro Arr**	**5.00**	**337**		**Pn**	**15 04 08.2**	**+3.0**
MJAR	**Matsushiro Arr**	**5.00**	**337**	P	**Pn**	**15 04 08.5**	**+3.3**
	10nm,0.8s,baz=168,slow=10,SNR=23						
MJAR				S	**Sn**	**15 05 05.2**	**+3.5**
	11nm,0.8s,baz=103,slow=17,SNR=5.9						
MAJO	**Matsushiro**	**5.01**	**337**		**Pn**	**15 04 09.2**	**+3.9**
MJB9	**Matsu-Tunnel**	**5.01**	**337**		**Pn**	**15 04 09.2**	**+3.9**
JWT	**Wachi**	**5.50**	**308**	P	**Pn**	**15 04 14.6**	**+2.5**
JMM	**Marumori**	**5.89**	**1**		**Pn**	**15 04 17.8**	**+0.4**
JMM	**Marumori**	**5.89**	**1**	P	**Pn**	**15 04 18.3**	**+0.9**
JMN	**Monobe**	**5.98**	**289**	Pn	**Pn**	**15 04 18.7**	**0.0**
JMN	**Monobe**	**5.98**	**289**	P	**Pn**	**15 04 20.6**	**+1.9**
JSD	**Sado**	**6.38**	**343**	Pn	**Pn**	**15 04 25.1**	**+1.0**
JNU	**Nakatsue**	**8.35**	**281**	Pn	**Pn**	**15 04 49.3**	**-1.8**
JNU	**Nakatsue**	**8.35**	**281**	P	**Pn**	**15 04 53.6**	**+2.6**
	22nm,1.0s,baz=88,slow=4.1,SNR=11						
JTM	**Tenmabayashi**	**8.81**	**2**	Pn	**Pn**	**15 04 56.5**	**-0.8**
JTM	**Tenmabayashi**	**8.81**	**2**	P	**Pn**	**15 04 57.0**	**-0.3**
ERM	**Erimo**	**10.23**	**10**	Pn	**Pn**	**15 05 15.5**	**-1.2**
ERM	**Erimo**	**10.23**	**10**	P	**Pn**	**15 05 18.1**	**+1.4**
JMZ	**Minamidaito 2**	**10.29**	**236**		**Pn**	**15 05 21.0**	**+3.4**
JMZ	**Minamidaito 2**	**10.29**	**236**	P	Pn	15 05 23.2	+5.6
KSRS	**Korea Array**	**11.83**	**301**	P	**Pn**	**15 05 41.5**	**+3.0**
	4.5nm,0.9s,baz=113,slow=14,SNR=6.2						
JOW	**Kunigami**	**11.96**	**248**	Pn	**Pn**	**15 05 42.2**	**+1.9**
JOW	**Kunigami**	**11.96**	**248**	P	**Pn**	**15 05 42.8**	**+2.5**
	6.5nm,0.5s,baz=112,slow=21,SNR=7.6						
JOW	**Kunigami**	**11.96**	**248**	P	**Pn**	**15 05 44.9**	**+4.6**
ASAJ	**Asahikawa**	**12.23**	**7**	P	**Pn**	**15 05 41.9**	**-2.1**
	3.9nm,0.7s,baz=229,slow=22,SNR=6.2						
JKA	**Kamikawa-asahi**	**12.23**	**7**	Pn	**Pn**	**15 05 42.4**	**-1.6**
INCN	**Inchon**	**12.79**	**299**	Pn	**Pn**	**15 05 48.5**	**-3.3**
YHNB	**Yeheng**	**18.46**	**252**	P	**P**	**15 07 03.3**	**-0.3**
YHNB				IAmb	IAmb	15 07 06.4	
	comp=Z,11nm,0.6s						
NACB	**Ninganchiao**	**18.52**	**250**	P	**P**	**15 07 04.5**	**+0.3**
NACB				IAmb	IAmb	15 07 07.3	
	comp=Z,10nm,0.6s						
YULB	**Yu-li**	**19.14**	**248**	P	**P**	**15 07 10.8**	**-0.2**
SSLB	**Suanglung**	**19.22**	**250**	P	**P**	**15 07 11.6**	**-0.3**
TWG	**Pinlang**	**19.62**	**247**	P	**P**	**15 07 15.8**	**-0.4**
TWG				IAmb	IAmb	15 07 18.2	
	comp=Z,10nm,0.5s						
TPUB	**Ta-pu**	**19.72**	**249**	P	**P**	**15 07 17.1**	**-0.2**
TPUB				IAmb	IAmb	15 07 19.7	
	comp=Z,8.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.48**	**111**	T	T	15 36 59.5	
	baz=303,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hy**	**26.49**	**111**	T	T	15 36 57.2	
	baz=303,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hy**	**26.50**	**111**	T	T	15 37 00.8	
	baz=303,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hy**	**27.00**	**114**	T	T	15 37 07.0	
	baz=304,slow=75,SNR=286						
H11S1	**WAKE ISLAND Hy**	**27.00**	**113**	T	T	15 37 11.6	
	baz=304,slow=75,SNR=186						
H11S2	**WAKE ISLAND Hy**	**27.02**	**114**	T	T	15 37 09.7	
	baz=304,slow=75,SNR=70						
CMAR	**Chiang Mai Arr**	**39.84**	**261**	P	**P**	**15 10 17.5**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=78,slow=10,SNR=1.8						
	comp=Z,0.4nm,0.4s						
ZAA0	**Zalesovo Array**	**45.02**	**316**	P	**P**	**15 11 00.3**	**-1.6**
ZALV	**Zalesovo Beam**	**45.02**	**316**	P	**P**	**15 10 59.9**	**-2.1**
ZALV	**Zalesovo Beam**	**45.02**	**316**	P	**P**	**15 11 01.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=98,slow=6.1,SNR=4.9						
ZALV				PcP	**PcP**	**15 12 42.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=146,slow=2.8,SNR=4.2						
	comp=Z,0.8nm,0.5s						
MK31	**Makanchi Array**	**46.46**	**306**	P	**P**	**15 11 11.3**	**-2.1**
MKAR	**Makanchi Array**	**46.46**	**306**	P	**P**	**15 11 11.8**	**-1.7**
MKAR	**Makanchi Array**	**46.46**	**306**	P	**P**	**15 11 12.6**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=85,slow=9.4,SNR=12						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**46.67**	**306**	P	**P**	**15 11 14.2**	**-0.9**
MAKZ				IAmb	IAmb	15 11 25.8	
	comp=Z,7.6nm,1.4s						
KURBB	**Kurchatov Arra**	**48.77**	**312**	P	**P**	**15 11 30.6**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=85,slow=6.9,SNR=22						
	comp=Z,1.1nm,0.5s						
M17K	**Holitna River**	**49.12**	**34**	P	**P**	**15 11 36.1**	**+2.3**
G18K	**Tagagawik**	**49.36**	**28**	P	**P**	**15 11 37.2**	**+1.6**
G18K				IAmb	IAmb	15 11 42.2	
	comp=Z,6.8nm,1.4s						
WB0	**Warramunga Arr**	**51.78**	**188**	P	**P**	**15 11 54.1**	**-0.2**
WB0				IAmb	IAmb	15 12 05.4	
	comp=Z,9.2nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.82**	**198**	P	**P**	**15 11 53.9**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=299,slow=13,SNR=2.2						
	comp=Z,1.7nm,0.8s						
WR8	**Warramunga Arr**	**51.96**	**187**	P	**P**	**15 11 55.0**	**-0.6**
WRA	**Warramunga Arr**	**51.96**	**188**	P	**P**	**15 11 55.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=3.1,slow=7.7,SNR=22						
	comp=Z,1.0nm,0.6s						
RND	**Reindeer**	**53.25**	**32**	P	**P**	**15 12 05.9**	**+1.1**
RND				IAmb	IAmb	15 12 27.3	
	comp=Z,4.7nm,1.2s						
BVAR	**Borovoye Array**	**53.63**	**315**	P	**P**	**15 12 06.8**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=104,slow=5.8,SNR=9.3						
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**54.14**	**30**	P	**P**	**15 12 13.9**	**+2.8**
	comp=Z,0.8nm,1.1s,baz=276,slow=7.4,SNR=2.9						
	comp=Z,0.8nm,1.1s						
KKAR	**Karaty Array**	**55.25**	**303**	P	**P**	**15 12 18.9**	**-0.7**
ASAR	**Alice Springs**	**55.69**	**188**	P	**P**	**15 12 23.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=17,slow=12,SNR=8.8						
	comp=Z,0.4nm,0.6s						
I28M	**Miner Creek**	**57.05**	**29**	P	**P**	**15 12 34.0**	**+1.9**
I28M				IAmb	IAmb	15 12 37.1	
	comp=Z,1.9nm,0.9s						
I30M	**Mount Dempster**	**58.55**	**29**	P	**P**	**15 12 44.6**	**+1.9**
I30M				IAmb	IAmb	15 13 07.2	
	comp=Z,3.9nm,1.4s						
ARTI	**Arti**	**59.92**	**320**	P	**P**	**15 12 51.4**	**-0.7**
ARTI	**Arti**	**59.92**	**320**	P	**P**	**15 12 51.8**	**-0.3**
	comp=Z,8.0nm,0.5s,baz=79,slow=2.8,SNR=15						
	comp=Z,8.0nm,0.5s						
AB31	**Akbulak array**	**60.81**	**312**	P	**P**	**15 12 57.4**	**-0.9**
ABKAR	**Akbulak array**	**60.81**	**312**	P	**P**	**15 12 57.4**	**-0.9**
AKTO	**Aktyubinsk**	**61.68**	**314**	P	**P**	**15 13 03.6**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=68,slow=11,SNR=6.4						
	comp=Z,1.6nm,0.6s						
ARCES	**ARCESS Array B**	**68.53**	**340**	P	**P**	**15 13 48.8**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=56,slow=6.7,SNR=1.7						
	comp=Z,2.8nm,0.9s						
FIA1	**FINESS Array S**	**73.02**	**333**	P	**P**	**15 14 15.2**	**-0.4**
FINES	**FINESS Array B**	**73.02**	**333**	P	**P**	**15 14 15.2**	**-0.4**
FINES	**FINESS Array B**	**73.02**	**333**	P	**P**	**15 14 15.7**	**0.0**
	comp=Z,2.0nm,0.7s,baz=46,slow=8.2,SNR=6.7						
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**73.77**	**312**	P	**P**	**15 14 21.1**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=46,slow=1.6,SNR=5.2						
	comp=Z,2.7nm,0.7s						
DCMP	**DeCamp, Califo**	**74.64**	**53**	P	**P**	**15 14 25.8**	**+0.2**
AKASG	**Malin Array Be**	**77.94**	**323**	P	**P**	**15 14 43.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=53,slow=5.9,SNR=5.4						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**78.45**	**336**	P	**P**	**15 14 46.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=86,slow=4.5,SNR=5.0						
	comp=Z,1.6nm,0.6s						
NB2	**NORSAR Subarra**	**78.62**	**337**	P	**P**	**15 14 47.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**78.62**	**337**	P	**P**	**15 14 47.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=43,slow=5.6,SNR=4.8						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**81.76**	**312**	P	**P**	**15 15 05.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=102,slow=4.9,SNR=5.8						
	comp=Z,1.1nm,0.6s						
RAYN	**Ar Rayn**	**82.02**	**293**	P	**P**	**15 15 06.0**	**-0.6**
RAYN				IAmb	IAmb	15 15 07.8	
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**85.18**	**330**	*e*P	**P**	**15 15 22.0**	**-0.2**

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*IDC **03** 15:11:09.6±1.9, 2.°06N×126.°88E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=179.7km s-min=21.5km az=67.0*
*DJA **03** 15:11:15.4±1.1, 2.°N±2.°×12.°7E±.°, h21km±10km, M3.6/11, mb3.8/2, MLv3.5/11*
ISC 03 15:11:16.1±1.1, 1.°93N±0.°07×126.°69E±0.°09, h47km, n10, σ0°72/13, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.33**	**150**	P	**Pn**	**15 11 38.1**	**-0.2**
TNTI				S	**Sn**	**15 11 54.5**	**-0.3**
SGSI	**Sangihe**	**2.10**	**326**	P	**Pn**	**15 11 48.6**	**-0.2**
SGSI				S	**Sn**	**15 12 13.9**	**+0.2**
KMSI	**Cibinong**	**3.03**	**244**	P	**Pn**	**15 12 00.4**	**-1.1**
SANI	**Sanana**	**4.01**	**190**	P	**Pn**	**15 12 15.0**	**-0.1**
LUWI	**Luwuk**	**4.91**	**233**	P	**Pn**	**15 12 27.9**	**+0.6**
LUWI				S	**Sn**	**15 13 22.5**	**-0.4**
BKSI	**Bulukumba**	**9.74**	**222**	P	**Pn**	**15 13 34.4**	**+0.7**
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**15 16 16.1**	**-0.9**
	1.0nm,0.5s,baz=340,slow=11,SNR=13						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.39**	**165**	P	**P**	**15 16 49.7**	**+1.4**
	0.2nm,0.5s,baz=347,slow=12,SNR=6.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.01**	**326**	P	**P**	**15 21 11.0**	**-0.1**
	0.3nm,0.4s,baz=123,slow=8.0,SNR=7.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.23**	**328**	P	**P**	**15 21 39.8**	**+0.2**
	0.3nm,0.4s,baz=131,slow=6.0,SNR=4.9						
	0.3nm,0.4s						

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*MOS **03** 15:23:36.3±1.2, 48.°

SPN	Mys Shipunski	6.08	28	eP	Pn	15 25 05.8	+2.4
YUK	Yuzh-Kuril'sk	7.59	243	ePN	Pn	15 25 25.5	+1.4
YUK				pmax	pmax		
	comp=Z,29nm,0.2s						
YUK	Yuzh-Kuril'sk	7.59	243	eP	Pn	15 25 26.5	+2.4
YUK				AMB	AMB	15 25 27.2	
	comp=Z,50nm,0.4s						
MKZ	Mys Kozlova	7.85	29	PN	Pn	15 25 28.4	+0.8
MKZ	Mys Kozlova	7.85	29	eP	Pn	15 25 28.5	+0.8
NMR	Nemuro--Hokkai	8.05	240	ePN	Pn	15 25 30.7	+0.2
NMR	Nemuro--Hokkai	8.05	240	eP	Pn	15 25 30.7	+0.2
YSS	Yuzhno-Sakhali	8.55	269	eP	Pn	15 25 37.9	+0.6
YSS				AMB	AMB	15 25 38.5	
	comp=Z,10.0nm,0.8s						
JKA	Kamikawa-asahi	9.58	252	eP	Pn	15 25 54.5	+3.0
ASAJ	Asahikawa	9.58	252	P	Pn	15 25 54.5	+3.0
	comp=Z,8.7nm,0.8s,baz=82,slow=22,SNR=5.7						
H11N2	WAKE ISLAND Hy	29.58	157	T	T	16 01 24.7	
	baz=343,slow=76,SNR=28						
H11N1	WAKE ISLAND Hy	29.59	157	T	T	16 01 26.7	
	baz=343,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	29.59	157	T	T	16 01 28.1	
	baz=343,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	30.70	158	T	T	16 02 46.5	
	baz=345,slow=76,SNR=488						
H11S3	WAKE ISLAND Hy	30.71	158	T	T	16 02 46.5	
	baz=345,slow=76,SNR=455						
H11S2	WAKE ISLAND Hy	30.72	158	T	T	16 02 51.0	
	baz=345,slow=76,SNR=326						
ZALV	Zalesovo Beam	43.18	306	P	P	15 31 29.7	-3.5
	comp=Z,0.5nm,0.3s,baz=61,slow=12,SNR=2.1						
	comp=Z,0.5nm,0.3s						
KURK	Kurchatov	47.99	304	P	P	15 32 08.9	-2.3
KURK	Kurchatov	47.99	304	eP	P	15 32 08.9	-2.3
KURBB	Kurchatov Arra	48.09	304	P	P	15 32 08.8	-3.1
	comp=Z,0.9nm,0.5s,baz=66,slow=8.3,SNR=9.5						
	comp=Z,0.9nm,0.5s						
BVAR	Borovoye Array	51.31	310	P	P	15 32 33.0	-3.4
	comp=Z,1.9nm,0.4s,baz=52,slow=7.8,SNR=10						
	comp=Z,1.9nm,0.4s						
EKA	Eskdalemuir Ar	75.62	347	P	P	15 35 15.7	-1.3
	comp=Z,0.7nm,0.5s,baz=16,slow=5.9,SNR=3.4						
	comp=Z,0.7nm,0.5s						
GERES	GERESS Array B	78.11	335	P	P	15 35 30.5	-0.8
	comp=Z,0.5nm,0.5s,baz=35,slow=5.4,SNR=4.3						
	comp=Z,0.5nm,0.5s						

*DJA **03** 15:28:04.8±0.9, 3°S±6°×13°9E±°, h11km±8km, M4.0/8, mb4.1/2, MLv3.9/8*
*IDC **03** 15:28:16.8±1.8, 4°.09S×138°.44E, h0km, mb3.5/2, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=79.5km s-min=28.6km az=103.0*
ISC 03 15:28:03.3±1.0, 2°.63S±0°.09×138°.50E±0°.06, h10km, n12, σ2s06/10, mb3.2/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.67	18	P	Pb	15 28 16.2	-0.9
GENI	Genyem	1.67	89	P	Pn	15 28 34.1	+1.5
JAY	Jayapura	2.20	87	P	Pn	15 28 40.9	+0.8
SRPI	Serui, Papua	2.38	288	P	Pn	15 28 43.1	+0.6
BAKI	Biak	2.79	301	P	Pn	15 28 49.1	+1.1
RKPI	Ransiki, Papua	4.46	284	P	Pn	15 29 11.3	+0.2
FAKI	Fak Fak	6.25	267	P	Pn	15 29 37.2	+1.5
	0.1nm33nm,1.3s						
WRA	Warramunga Arr	17.68	193	Pn	Pn	15 32 07.0	-2.9
	0.1nm,0.3s,baz=15,slow=13,SNR=2.6						
	0.6nm,0.9s						
FITZ	Fitzroy Crossi	19.89	218	P	P	15 32 38.4	+3.4
	0.1nm,0.3s,baz=50,slow=16,SNR=1.5						
	2.4nm,1.1s						
ASAR	Alice Springs	21.38	192	P	P	15 32 49.7	-1.6
	0.2nm,0.3s,baz=17,slow=10,SNR=6.4						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	73.54	325	P	P	15 39 57.8	+21
	0.2nm,0.8s,baz=116,slow=6.7,SNR=1.7						
	0.2nm,0.8s						
ILAR	Eielson Array	85.84	24	P	P	15 41 05.3	+22
	0.3nm,0.7s,baz=268,slow=5.5,SNR=2.3						
	0.3nm,0.7s						

*NOU **03** 15:30:43.6, 34°.96S×179°.37E, h279km, MLv4.3/18, South of Kermadec Islands*
WEL 03 15:30:42.9±0.8, 35°S±11°×18°0E±1°3, h258km±14km, M4.0/26, mB4.4/4, MLL4.3/36, MLv4.1/26, Mw(mB)3.6/4, Error ellipse: s-maj=18.7km s-min=11.6km az=123.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.91	201	P	Pn	15 31 34.8	+0.1
MXZ	Matakaoa Point	2.91	201	P	S	15 32 15.9	0.0
MXZ	Matakaoa Point	2.91	201	P	Pn	15 31 34.3	-0.4
MXZ				S	S	15 32 15.7	-0.2
WMGZ	Waiomatatini S	3.12	197	P	Pn	15 31 37.4	+0.4
WMGZ				S	S	15 32 21.6	+1.6
HAZ	Te Kaha	3.25	206	P	Pn	15 31 38.0	-0.5
HAZ				S	S	15 32 22.2	-0.4
PKGZ	Pakihiroa	3.25	202	P	Pn	15 31 38.5	0.0
PUZ	Puketiti	3.40	198	P	Pn	15 31 39.9	-0.1
PUZ				S	S	15 32 26.8	+1.2
RUGZ	Raukumara Rang	3.48	206	P	Pn	15 31 40.6	-0.5
RUGZ				S	S	15 32 25.9	-1.5
TWGZ	Tauwhareparae	3.57	201	P	Pn	15 31 42.4	+0.3
TWGZ				S	S	15 32 30.5	+1.3
WHRZ	Whale Island	3.67	214	P	Pn	15 31 44.9	+1.7
WHRZ				S	S	15 32 33.4	+2.1
KUZ	Kuaotunu	3.68	238	P	Pn	15 31 41.5	-1.7
KUZ	Kuaotunu	3.68	238	P	Pn	15 31 41.3	-2.0
CNGZ	Carnagh Statio	3.80	197	P	Pn	15 31 45.2	+0.6
CNGZ				S	S	15 32 29.4	-4.3
TKGZ	Te Karaka	3.85	201	P	Pn	15 31 45.0	-0.2
TKGZ				S	S	15 32 36.4	+1.5
MWZ	Matawai	3.86	205	P	Pn	15 31 45.0	-0.4
MWZ				S	S	15 32 34.8	-0.3
OPRZ	Ohinepanea	3.87	218	P	Pn	15 31 46.2	+0.8
MARZ	Manawahe	3.92	216	P	Pn	15 31 46.8	+0.8
MARZ				S	S	15 32 40.1	+3.8
URZ	Urewera	3.95	210	P	Pn	15 31 46.3	0.0
URZ	Urewera	3.95	210	P	S	15 32 37.0	+0.1
URZ	Urewera	3.95	210	P	Pn	15 31 45.3	-1.0
URZ				S	S	15 32 35.4	-1.5
EDRZ	Edgecumbe	3.99	214	P	Pn	15 31 48.0	+1.1
RAGZ	Rawiri	4.04	205	P	Pn	15 31 47.4	-0.1
RAGZ				S	S	15 32 39.4	+0.4
RIGZ	Rimuhau	4.12	200	P	Pn	15 31 48.2	-0.3
RIGZ				S	S	15 32 41.8	+1.1
OMRZ	Omania	4.16	218	P	Pn	15 31 49.3	+0.4
MUGZ	Murupara	4.28	211	P	Pn	15 31 49.9	-0.3
MUGZ				S	S	15 32 43.3	-0.5
RRRZ	Republican Roa	4.28	215	P	Pn	15 31 51.5	+1.3
PRGZ	Paritu Road	4.29	198	P	Pn	15 31 49.7	-0.7
RTZ	Ruatahuna	4.31	208	P	Pn	15 31 49.4	-1.3
RTZ				S	S	15 32 43.2	-1.4
SNGZ	Shannon Statio	4.33	204	P	Pn	15 31 46.7	-4.1
SNGZ				S	S	15 32 45.3	+0.4
PRRZ	Plateau Road	4.46	214	P	Pn	15 31 53.3	+1.0
RAHZ	Arahi	4.53	206	P	Pn	15 31 53.0	-0.2
RAHZ				S	S	15 32 50.0	+0.6
ALRZ	Allen Road	4.54	214	P	Pn	15 31 54.2	+0.9
MTHZ	Maungataniwha	4.57	208	P	Pn	15 31 51.7	-2.0
WPRZ	Whakapapatarin	4.59	216	P	Pn	15 31 55.4	+1.5
WHHZ	Waihua	4.63	203	P	Pn	15 31 54.1	-0.2
WHHZ				S	S	15 32 52.4	+1.0
MRHZ	Matea Rd	4.73	212	P	Pn	15 31 55.5	-0.1
KUTZ	Kaahu Road	4.74	219	P	Pn	15 31 56.2	+0.6
TLZ	Tolley Road	4.77	222	P	Pn	15 31 57.2	+1.1
NMHZ	Naumai	4.79	207	P	Pn	15 31 56.4	0.0
NMHZ				S	S	15 32 55.4	+0.3
ARHZ	Aropaoanui	4.88	204	P	Pn	15 31 56.6	-0.6
ARHZ				S	S	15 32 58.3	+1.5
BKZ	Black Stump Fm	4.98	209	P	Pn	15 31 57.6	-1.0
BKZ	Black Stump Fm	4.98	209	S	S	15 32 58.7	-0.3
BKZ	Black Stump Fm	4.98	209	P	Pn	15 31 57.5	-1.0
BKZ				S	S	15 32 58.3	-0.8
MCHZ	McNeill Hill	5.14	206	P	Pn	15 32 00.1	-0.5
CKHZ	Cape Kidnapper	5.21	202	P	Pn	15 32 01.5	+0.2
KWHZ	Kaweka Forest	5.23	208	P	Pn	15 32 00.6	-1.0
NTVZ	North Tongarir	5.28	215	P	Pn	15 32 02.6	+0.2
TMVZ	Te Maari	5.28	215	P	Pn	15 32 02.4	0.0
HIZ	Hauiti	5.28	225	P	Pn	15 32 03.3	+1.0
HIZ	Hauiti	5.28	225	P	Pn	15 32 03.2	+0.9
ETVZ	East Tongariro	5.29	215	P	Pn	15 32 02.5	0.0
KRVZ	Karewarewa	5.29	216	P	Pn	15 32 02.8	+0.3
WTVZ	West Tongariro	5.33	216	P	Pn	15 32 02.7	-0.2
NNVZ	North Ngauruho	5.33	216	P	Pn	15 32 03.6	+0.5
OTVZ	Oturere	5.33	215	P	Pn	15 32 01.7	-1.3
SNVZ	South Ngauruho	5.37	215	P	Pn	15 32 02.1	-1.3
TWVZ	Taurewa	5.37	217	P	Pn	15 32 03.5	+0.1
NGZ	Ngauruhoe	5.38	215	P	Pn	15 32 04.0	+0.4
KAHZ	Kahuranaki	5.39	203	P	Pn	15 32 03.0	-0.6
TUVZ	Tukino	5.42	214	P	Pn	15 32 03.9	-0.2
KRHZ	Kereru	5.44	207	P	Pn	15 32 02.7	-1.4
FWVZ	Far West T-bar	5.46	215	P	Pn	15 32 03.7	-1.0
WHVZ	Whangaehu Hut	5.47	215	P	Pn	15 32 04.2	-0.5
MAVZ	Matarangi	5.47	215	P	Pn	15 32 03.7	-1.1
MOVZ	Moawhango	5.49	213	P	Pn	15 32 03.8	-1.1
WNVZ	Wahianoa	5.50	214	P	Pn	15 32 03.7	-1.4
PKVZ	Pokaka	5.59	216	P	Pn	15 32 06.2	+0.1
PXZ	Pawanui	5.61	202	P	Pn	15 32 04.7	-1.6
PNHZ	Pukenui	5.74	207	P	Pn	15 32 05.9	-2.0
VRZ	Vera Road	5.76	221	P	Pn	15 32 09.2	+1.1
WPHZ	Waipukurau	5.78	205	P	Pn	15 32 07.5	-0.8
PRHZ	Porangahau	5.90	203	P	Pn	15 32 09.0	-0.9
TSZ	Takapari Road	5.95	208	P	Pn	15 32 08.7	-1.8
DVHZ	Dannevirke	6.09	206	P	Pn	15 32 11.4	-0.8
WAZ	Wanganui	6.12	216	P	Pn	15 32 11.9	-0.8
ANWZ	Angora Road	6.13	203	P	Pn	15 32 12.2	-0.4
LREZ	Lake Rotokare	6.20	220	P	Pn	15 32 13.5	-0.1
NEZ	North Egmont	6.23	223	P	Pn	15 32 15.5	+1.5
PKE	Pukeiti	6.24	224	P	Pn	15 32 15.9	+1.8
PREZ	Palmer Road	6.25	222	P	Pn	15 32 15.7	+1.5
KHEZ	Kahui Hut	6.29	224	P	Pn	15 32 16.1	+1.3
POWZ	Post Office Ro	6.31	208	P	Pn	15 32 13.6	-1.4
PRWZ	Pori Road	6.38	206	P	Pn	15 32 15.6	-0.2
BFZ	Birch Farm	6.40	203	P	Pn	15 32 15.2	-0.8
BFZ	Birch Farm	6.40	203	S	S	15 33 29.4	-1.4
BFZ	Birch Farm	6.40	203	P	Pn	15 32 14.8	-1.2
TIWZ	Tintock	6.61	205	P	Pn	15 32 17.3	-1.4
CPWZ	Castlepoint	6.62	203	P	Pn	15 32 19.1	+0.4
TMWZ	Te Maipa	6.90	204	P	Pn	15 32 21.3	-1.0
SNZO	South Karori	7.52	209	P	Pn	15 32 28.3	-1.7
SNZO	South Karori	7.52	209	S	S	15 33 53.5	-2.7
QRZ	Quartz Range	8.18	221	P	Pn	15 32 35.4	-2.9
KHZ	Kahutara	8.92	210	P	Pn	15 32 44.3	-3.3
KHZ	Kahutara	8.92	210	S	S	15 34 23.5	-5.1
RPZ	Rata Peaks	11.05	214	P	Pn	15 33 12.7	-1.7
ODZ	Otahua Downs	12.28	211	P	Pn	15 33 28.9	-0.6
JCZ	Jackson Bay	12.43	219	P	Pn	15 33 29.7	-1.8

DJA 03 15:34:13.1±0.8, 3°S±5°×13°8E±°, h11km±9km, M3.9/6, mB5.9/1, mb4.5/3, MLv3.7/6, Mw(mB)5.5/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.58	30	P	Pb	15 34 25.5	+0.2
GENI	Genyem	1.75	93	P	Pn	15 34 43.8	+0.4
SRPI	Serui, Papua	2.27	286	P	Pn	15 34 50.2	-0.3
JAY	Jayapura	2.28	90	P	Pn	15 34 49.8	-1.0
BAKI	Biak	2.65	299	P	Pn	15 34 56.7	+0.9
FAKI	Fak Fak	6.18	266	P	Pn	15 35 44.4	0.0
	28nm,1.3s						
BNDI	Bandanaira	8.73	256	P	Pn	15 36 18.8	-0.7
	6μm107nm,0.6s						

*NEIC **03** 15:50:11.8±1.4, 5°.42S±0°.03×147°.2E±0°.1, h163km±11km, mb4.4/18, Error ellipse: s-maj=20.1km s-min=4.2km az=89.0*
*IDC **03** 15:50:13.4±2.8, 5°.42S×147°.06E, h175km±21km, mb3.7/6, mbtmp4.2/9, Error ellipse: s-maj=33.3km s-min=21.1km az=65.0*
ISC 03 15:50:13.9±0.8, 5°.49S±0°.06×147°.1E±0°.1, h195km, n31, σ1s97/36, mb4.4/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.43	4	Pn	Pn	15 51 04.8	-3.7
PMG	Port Moresby	3.90	180		Pn	15 51 12.9	-1.4
PMG				Sn	Sn	15 51 56.2	-5.5
PMG	Port Moresby	3.90	180	P	Pn	15 51 13.0	-1.3
	26nm,0.3s,baz=14,slow=10,SNR=58						
PMG				S	Sn	15 51 57.1	-4.6
	35nm,0.4s,baz=253,slow=23,SNR=10						
JAY	Jayapura	7.06	294	P	Pn	15 51 54.5	-0.5
	10.0nm,0.8s,baz=169,slow=16,SNR=5.7						
COEN	Coen	9.28	205	Pn	Pn	15 52 25.2	+1.3
COEN				Sn	Sn	15 54 03.6	-4.2
MTN	Manton Dam	17.40	244	P	P	15 54 03.2	-0.5
MTN				IAmb	IAmb	15 54 22.9	
	comp=Z,22nm,1.4s						
WB0	Warramunga Arr	18.85	220	P	P	15 54 20.2	+0.8
WB0				IAmb	IAmb	15 54 21.4	
	comp=Z,11nm,1.1s						
WR8	Warramunga Arr	18.92	219	P	P	15 54 21.2	+1.0
WR8				IAmb	IAmb	15 54 22.0	
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	19.00	220	P	P	15 54 21.3	+0.3
WRAB				IAmb	IAmb	15 54 22.9	
	comp=Z,21nm,1.1s						
WRA	Warramunga Arr	19.01	220	P	P	15 54 22.5	+1.3
	comp=Z,6.6nm,0.5s,baz=41,slow=11,SNR=120						
WRA				S	S	15 57 45.1	-1.6
	comp=Z,4.4nm,1.0s,baz=42,slow=20,SNR=9.1						
EIDS	Eidsvold	20.13	170	P	P	15 54 32.7	-0.4
KNRA	Kununurra	20.68	239	P	P	15 54 38.8	-0.2
KNRA				IAmb	IAmb	15 54 52.7	
	comp=Z,23nm,1.5s						
AS31	Alice Springs	22.11	214	P	P	15 54 55.0	+1.2
AS31				IAmb	IAmb	15 54 56.2	
	comp=Z,5.1nm,0.3s						
ASAR	Alice Springs	22.12	214	P	P	15 54 54.6	+0.7
ASAR	Alice Springs	22.12	214	P	P	15 54 55.1	+1.3
	comp=Z,6.8nm,0.6s,baz=35,slow=11,SNR=180						
ASAR				S	S	15 58 45.6	+2.3
	comp=Z,4.7nm,0.8s,baz=30,slow=22,SNR=18						
	comp=Z,6.8nm,0.6s						
INKA	Innaminka	22.95	195	P	P	15 55 02.7	+1.3
SOEI	Soe	23.05	258	P	P	15 55 03.5	+0.9
SOEI				IAmb	IAmb	15 55 30.0	
	comp=Z,13nm,1.0s						
FITZ	Fitzroy Crossi	24.45	237	P	P	15 55 16.1	+1.1
FITZ	Fitzroy Crossi	24.45	237	P	P	15 55 16.1	+1.1
	comp=Z,15nm,0.5s,baz=51,slow=10,SNR=75						
	comp=Z,15nm,0.5s						
STKA	Stephens Creek	26.76	191	P	P	15 55 37.2	+1.5
STKA	Stephens Creek	26.76	191	P	P	15 55 36.1	+0.4
	comp=Z,1.2nm,0.6s,baz=28,slow=15,SNR=3.0						
	comp=Z,1.2nm,0.6s						
MBWA	Marble Bar	30.80	237	P	P	15 56 11.9	+0.3
MBWA				IAmb	IAmb	15 56 35.8	
	comp=Z,11nm,1.0s						
PSA00	Pilbara Seismi	30.89	236	P	P	15 56 12.3	0.0
PSA00				IAmb	IAmb	15 56 56.2	
	comp=Z,11nm,1.4s						
PSA00	Pilbara Seismi	30.89	236	P	P	15 56 12.6	+0.2
PSA00				IAmb	IAmb	15 56 13.1	
	comp=Z,29nm,1.4s						
FORT	Forrest	30.90	213	P	P	15 56 12.7	+0.3
FORT				IAmb	IAmb	15 56 36.0	
	comp=Z,12nm,1.1s						
MORW	Morawa	37.61	228	P	P	15 57 10.5	+0.4
OXZ	Oxford	43.63	154	P	P	15 57 59.5	+0.4
VNDA	Vanda	72.42	177	P	P	16 01 20.0	+1.7
VNDA	Vanda	72.42	177	P	P	16 01 20.4	+2.0
	comp=Z,1.0nm,0.7s,baz=326,slow=5.7,SNR=5.8						
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	78.65	328	P	P	16 01 53.4	-0.7
	comp=Z,0.4nm,0.5s,baz=97,slow=9.0,SNR=2.2						
	comp=Z,0.4nm,0.5s						
QSPA	South Pole Qui	84.48	180	P	P	16 02 27.8	+3.1
	comp=Z,0.8nm,0.7s,baz=150,slow=0.8,SNR=12						
	comp=Z,0.8nm,0.7s						

*GCG **03** 15:53:50.4±1.7, 15°.28N×93°.51W, h54km±73km, MD4.0, ML3.6*
*MEX **03** 15:53:53.0±0.5, 15°.35N×93°.37W, h88km±4km, MD4.1*
ISC 03 15:53:49.8±1.4, 15°.30N±0°.05×93°.40W±0°.03, h97km±11km, n26, σ2s25/47, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.44	23	iP	Pn	15 54 05.3	+0.4
PCIG				iS	Sn	15 54 15.3	-0.8
PATR	El Naranjo	1.14	99	eP	Pn	15 54 12.9	+1.1
PATR				eS	Sn	15 54 28.4	+0.1
THIG		1.16	109	iP	Pn	15 54 12.4	+0.7
THIG				eS	Sn	15 54 27.6	-0.8
THIG		1.16	109	eS	Sn	15 54 28.7	+0.4
PAVE	Pavencul	1.18	95	eP	Pn	15 54 13.6	+1.3
PAVE				eS	Sn	15 54 29.9	+0.7
CHUJ	Union Juarez	1.26	99	eP	Pn	15 54 14.4	+1.2
CHUJ				eS	Sn	15 54 31.4	+0.5
SMCA	Catarina	1.35	109	eS	Sn	15 54 32.6	+0.2
TGIG		1.50	10	eP	Pn	15 54 16.9	+0.9
TGIG				eS	Sn	15 54 34.7	-1.0
TGIG		1.50	10	iP	Pn	15 54 16.9	+0.9
TGIG				eS	Sn	15 54 34.4	-1.4
TGIG				IAML		15 54 35.5	
	comp=E,249nm,0.2s						
TGBT	Tuxtla Gutierr	1.50	11	eP	Pn	15 54 15.6	-0.4
TGBT				eS	Sn	15 54 32.3	-3.4
CCIG	Comitan	1.56	51	eP	Pn	15 54 17.7	+0.9
CCIG				eS	Sn	15 54 33.2	-4.1
CCIG	Comitan	1.56	51	eP	Pn	15 54 18.3	+1.4
NILT	Santiago Nilte	1.72	317	eP	Pn	15 54 20.7	+1.9
NILT				eS	Sn	15 54 41.7	+1.0
RTAL	Retalhuleu	1.81	115	eS	Sn	15 54 43.4	+0.6
STG2	El Palmar, Qui	2.13	113	eS	Sn	15 54 43.9	-6.4
UXUV	UXUV	2.13	340	iP	Pn	15 54 26.6	+2.6
UXUV				eS	Sn	15 54 50.7	+0.4
CMIG	Matias Romero	2.29	321	eP	Pn	15 54 27.7	+1.6
CMIG				eS	Sn	15 54 48.7	-5.1
HUIG	Huatulco	2.66	281	eP	Pn	15 54 31.8	+0.8
HUIG				eS	Sn	15 54 59.2	-3.3
NEUV	Arroyo Zacate	3.33	316	eP	Pn	15 54 42.9	+2.9
NEUV				eS	Sn	15 55 17.8	-0.9
PEIG	Puerto Escondi	3.68	281	eP	Pn	15 54 45.8	+1.1
PEIG				eS	Sn	15 55 21.8	-5.4
PETF	Flores	3.75	64	eP	Pn	15 54 45.9	+0.3
PETF				eS	Sn	15 55 26.1	-2.8
PETF	Flores	3.75	64	eP	Pn	15 54 47.3	+1.7
PETF				eS	Sn	15 55 28.1	-0.8
PETF				IAML		15 55 31.6	
	comp=N,211nm,0.2s						
SCIG	Sabancuy	4.22	30	eP	Pn	15 54 54.6	+2.6
SCIG				eS	Sn	15 55 38.6	-1.5
YOIG	Yosondua	4.28	292	eP	Pn	15 54 54.1	+1.1
YOIG				iS	Sn	15 55 41.6	-0.5
TOIG	Toxpalan	4.49	309	eP	Pn	15 54 54.9	-0.8
TOIG				eS	Sn	15 55 46.9	+0.1
TXIG	Tlaxiaco	4.63	295	eP	Pn	15 55 02.0	+4.2
TXIG				eS	Sn	15 55 50.3	-0.2

HEL 03 16:04:10.8±0.5, 69°.36N×30°.57E, h0km, ML1.2, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADS	Vadso	0.88	332	eP	Pg	16 04 25.5	-2.1
VADS				eS	Sg	16 04 36.4	-2.5
VADS				IAML		16 04 38.9	
	comp=Z,2.4nm,0.3s						
RAJF	Raja-Jooseppi	1.21	224	PG	Pg	16 04 32.3	-1.6
RAJF				SB	Sg	16 04 48.1	-1.3
KEV	Kevo	1.32	289	PG	Pg	16 04 34.1	-1.8
KEV				SG	Sg	16 04 51.7	-1.2
VRF	Varrio	1.65	193	MSG		16 05 00.3	
	comp=Z,1.3nm,0.2s						
VRF				SN	Sn	16 05 03.1	+0.1
ARA0	ARCESS Array S	1.80	278	PG	Pn	16 04 43.0	0.0
	baz=94						
ARA0				SG	Sn	16 05 06.3	-0.2

*BER **03** 16:04:22.3±2.5, 66°.80N×20°.74E, h0km, ML1.3, Suspected explosion*
*HEL **03** 16:04:25.6±0.4, 67°.18N×20°.61E, h0km, ML1.2, Suspected explosion*
UPP 03 16:04:25.3±0.0, 67°.19N×20°.68E, h0km, ML2.3, 1D, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.08	212	∥P	Pg	16 04 27.2	+0.3
DUNU				S	Sg	16 04 28.5	+0.5
MASU	Masugnsbyn	0.58	62	P	Pg	16 04 36.4	+0.1
MASU				S	Sg	16 04 44.5	+0.8
RATU	Laukkuluspa	0.76	327	P	Pg	16 04 39.6	-0.2
RATU				S	Sg	16 04 50.3	+0.6
KUA	Kurravaara	0.78	350	P	Pg	16 04 39.6	-0.6
KUA				S	Sg	16 04 50.6	+0.4
SALU	Saltoluokta	0.86	284	P	Pg	16 04 41.6	-0.2
SALU				S	Sg	16 04 53.3	+0.2
SALU	Saltoluokta	0.86	284	eP	Pg	16 04 41.9	+0.1
SALU				eS	Sg	16 04 53.7	+0.7
ERTU	Ertsjaerv	0.88	136	P	Pg	16 04 41.4	-0.7
ERTU				S	Sg	16 04 53.0	-0.3
ERTU	Ertsjaerv	0.88	136	PG	Pg	16 04 41.4	-0.6
ERTU				SB	Sg	16 04 53.2	-0.1
NIKU	Nikkaluokta	0.93	318	P	Pg	16 04 42.8	-0.3
PAJU	Pajala	0.97	99	P	Pg	16 04 43.2	-0.6
PAJU	Pajala	0.97	99	PG	Pg	16 04 43.3	-0.5
PAJU				SB	Sg	16 04 56.6	+0.3
LANU	Lannavaara	1.00	30	PN	Sn	16 05

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.10**	**82**	P	**Pg**	**16 09 26.2**	**-1.9**
	35nm,0.2s						
SATY				S	**Sg**	**16 09 27.8**	**-2.2**
	540nm,0.2s						
KPKS	**Kokpek**	**0.52**	**35**	P	**Pg**	**16 09 34.1**	**-1.4**
	0.2nm,0.1s						
KPKS				S	**Sg**	**16 09 41.4**	**-0.9**
	13nm,0.5s						
UZB	**Uzynbulak**	**0.56**	**79**	P	**Pg**	**16 09 34.3**	**-1.9**
	6.0nm,0.1s						
UZB				S	**Sg**	**16 09 41.7**	**-1.9**
	9.5nm,0.1s						
UZB	**Uzynbulak**	**0.56**	**79**	*e*P	**Pg**	**16 09 34.3**	**-1.9**
	2.1nm,0.1s						
UZB				*e*S	**Sg**	**16 09 41.7**	**-1.9**
	9.5nm,0.1s						
KOTS	**Kotyrbulak**	**0.87**	**283**	*e*P	**Pg**	**16 09 41.0**	**-1.2**
	1.1nm,0.1s						
KOTS				*e*S	**Sg**	**16 09 53.2**	**-0.4**
	7.7nm,0.2s						
SHLS	**Shalkode**	**0.88**	**82**	P	**Pn**	**16 09 45.6**	**+1.7**
	3.3nm,0.2s						
SHLS				S	**Sn**	**16 10 01.4**	**+4.7**
	3.9nm,0.1s						
SHLS	**Shalkode**	**0.88**	**82**	*e*P	**Pn**	**16 09 45.6**	**+1.7**
	1.7nm,0.1s						
SHLS				*e*S	**Sn**	**16 10 01.4**	**+4.7**
	3.5nm,0.1s						
PDGK	**Podgornoye**	**0.93**	**72**	⇑P	**Pg**	**16 09 41.1**	**-2.3**
	1.2nm,0.3s						
PDGK				⇓S	**Sg**	**16 09 53.2**	**-2.3**
	3.5nm,0.6s						
CHKK	**Chushkaly**	**1.24**	**311**	*e*P	**Pn**	**16 09 47.9**	**-0.9**
	6.1nm,0.0s						
CHKK				*e*S	**Sg**	**16 10 05.0**	**-0.2**
	9.8nm,0.2s						
KNOS	**Konyrlen**	**1.47**	**26**	P	**Pb**	**16 09 52.4**	**-0.4**
	2.6nm,0.2s						
KNOS				S	**Sg**	**16 10 13.1**	**+0.5**
	7.9nm,0.3s						

WEL 03 16:31:18.0±0.9, 32°S±17′×17°9E±3°3, h365km±32km, M4.0/6, mB4.2/5, MLv4.3/6, Mw(mB)3.3/5, Error ellipse: s-maj=46.7km s-min=12.5km az=115.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.44**	**188**	P	Pn	16 32 40.6	-2.4
MXZ				S	S	16 33 51.3	-0.6
WMGZ	**Waiomatatini S**	**5.68**	**187**	P	Pn	16 32 45.3	-0.4
WMGZ				S	S	16 33 59.0	+2.2
HAZ	**Te Kaha**	**5.70**	**192**	P	Pn	16 32 47.2	+1.3
HAZ				S	S	16 33 57.0	-0.3
PKGZ	**Pakihiroa**	**5.76**	**189**	P	Pn	16 32 46.9	+0.3
PKGZ				S	S	16 33 59.7	+1.1
RUGZ	**Raukumara Rang**	**5.92**	**192**	P	Pn	16 32 48.0	-0.5
RUGZ				S	S	16 34 01.9	-0.2
PUZ	**Puketiti**	**5.95**	**188**	P	Pn	16 32 49.7	+1.0
PUZ				S	S	16 34 03.9	+1.6
TWGZ	**Tauwhareparae**	**6.08**	**190**	P	Pn	16 32 50.0	-0.2
TWGZ				S	S	16 34 06.7	+1.5
MWZ	**Matawai**	**6.31**	**193**	P	Pn	16 32 53.5	+0.6
MWZ				S	S	16 34 10.3	+0.4
URZ	**Urewera**	**6.33**	**196**	P	Pn	16 32 50.9	-2.1
URZ				S	S	16 34 10.2	+0.1
CNGZ	**Carnagh Statio**	**6.36**	**188**	P	Pn	16 32 53.3	0.0
TKGZ	**Te Karaka**	**6.36**	**190**	P	Pn	16 32 52.5	-0.8
TKGZ				S	S	16 34 11.1	+0.3
RAGZ	**Rawiri**	**6.49**	**193**	P	Pn	16 32 56.1	+1.2
RAGZ				S	S	16 34 15.7	+2.0
RIGZ	**Rimuhau**	**6.63**	**190**	P	P	16 32 57.5	-0.2
RIGZ				S	S	16 34 16.8	+0.2
SNGZ	**Shannon Statio**	**6.78**	**193**	P	P	16 32 59.4	+0.1
SNGZ				S	S	16 34 23.0	+3.3
MTHZ	**Maungataniwha**	**6.95**	**196**	P	P	16 33 01.0	-0.4
MTHZ				S	S	16 34 22.7	-0.7
RAHZ	**Arahi**	**6.96**	**194**	P	Pn	16 33 00.7	+0.5
RAHZ				S	S	16 34 23.1	-0.4
MHGZ	**Mahia Peninsul**	**7.05**	**189**	P	Pn	16 32 58.5	-2.8
NMHZ	**Naumai**	**7.20**	**195**	P	P	16 33 03.9	-0.2
NMHZ				S	S	16 34 31.3	+2.8
ARHZ	**Aropaoanui**	**7.31**	**194**	P	Pn	16 33 04.1	-0.2
ARHZ				S	S	16 34 32.0	+1.1
BKZ	**Black Stump Fm**	**7.33**	**197**	P	Pn	16 33 02.4	-2.1
BKZ				S	S	16 34 30.6	-0.9
NNVZ	**North Ngauruho**	**7.55**	**202**	P	P	16 33 08.8	+0.5
OTVZ	**Oturere**	**7.57**	**202**	P	P	16 33 08.1	-0.4
SNVZ	**South Ngauruho**	**7.59**	**202**	P	P	16 33 08.8	-0.1
KWHZ	**Kaweka Forest**	**7.60**	**197**	P	Pn	16 33 07.2	-0.4
KWHZ				S	S	16 34 37.6	+0.5
WNVZ	**Wahianoa**	**7.74**	**202**	P	Pn	16 33 09.6	+0.2
KRHZ	**Kereru**	**7.82**	**197**	P	Pn	16 33 09.7	-0.5
KRHZ				S	S	16 34 40.9	-0.8
KAHZ	**Kahuranaki**	**7.85**	**194**	P	Pn	16 33 11.0	+0.4
KAHZ				S	S	16 34 44.0	+1.6
PXZ	**Pawanui**	**8.08**	**193**	P	Pn	16 33 12.4	-0.8
PXZ				S	S	16 34 44.6	-2.8
PNHZ	**Pukenui**	**8.11**	**197**	P	Pn	16 33 11.3	-2.4
PNHZ				S	S	16 34 46.9	-1.3

*NEIC **03** 16:37:09.6±1.0, 36°.156N±0°.01×97°.67W±0°.01, h9km±7km, mb_Lg2.6/6, ML2.1/20, ML2.1/74, Error ellipse: s-maj=1.5km s-min=1.0km az=158.0*

NEIC 03 16:37:09.7±0.9, 36°.156N±0°.007×97°.67W±0°.01, h8km±4km, Error ellipse: s-maj=1.3km s-min=1.1km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**		Pg	16 37 17.6	+0.2
OK029					Sg	16 37 23.2	+0.6
OK029				IAML		16 37 23.4	
	214nm,0.3s						
CROK	**Carrier**	**0.43**	**324**		Pg	16 37 18.2	+0.2
CROK					Sg	16 37 24.3	+0.6
CROK				IAML		16 37 24.6	
	comp=N,167nm,0.3s						
CROK				IAML		16 37 24.7	
	comp=E,185nm,0.2s						
BCOK	**Bluff Creek, N**	**0.50**	**174**		Pg	16 37 19.4	+0.1
BCOK					Sg	16 37 26.4	+0.6
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	Pg	16 37 20.2	-0.2
ADOK				Sg	Sg	16 37 28.4	+0.6
OK048	**Pawnee Station**	**0.64**	**66**		Pg	16 37 22.0	-0.1
OK048				Sg	Sg	16 37 30.7	+0.2
OK048				IAML		16 37 33.3	
	comp=E,82nm,0.4s						
BLOK	**Blackwell**	**0.71**	**31**		Pg	16 37 23.1	-0.2
BLOK				IAML		16 37 47.4	
	comp=E,116nm,0.2s						
GC02	**Grant County #**	**0.71**	**348**		Pg	16 37 23.3	-0.1
GC02					Sg	16 37 33.1	+0.4
OK052	**Battle Ridge R**	**0.72**	**103**		Pg	16 37 23.6	0.0
OK052					Sg	16 37 33.5	+0.5
OK051	**E0350 and S346**	**0.76**	**62**		Pg	16 37 24.1	-0.2
OK051				Sg	Sg	16 37 34.2	+0.1
OKCFA	**Oklahoma City**	**0.76**	**166**		Pg	16 37 24.4	+0.1
OKCFA					Sb	16 37 34.9	-0.8
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pb	16 37 25.3	-0.1
QUOK	**Quay**	**0.78**	**89**		Pg	16 37 24.6	0.0
QUOK					Sg	16 37 35.1	+0.3
QUOK				IAML		16 37 39.3	
	comp=N,57nm,0.2s						
QUOK				IAML		16 37 44.2	
	comp=E,64nm,0.2s						
KAN14	**Manchester OK**	**0.83**	**344**		Pg	16 37 25.5	-0.2
KAN14					Sg	16 37 36.8	+0.2
KAN14				IAML		16 37 41.2	
	comp=N,89nm,0.1s						
KAN13	**South Haven SW**	**0.87**	**10**		Pg	16 37 26.3	-0.1
KAN13					Sg	16 37 38.2	+0.5
OK038	**West end E0370**	**0.92**	**291**		Pg	16 37 26.9	-0.5
OK038					Sg	16 37 39.7	+0.3
CSTR	**Hydro, Custer**	**0.97**	**239**		Pb	16 37 28.6	-0.2
CSTR					Sb	16 37 41.4	-0.4
KAN01	**Argonia South**	**1.00**	**356**		Pg	16 37 28.5	-0.3
KAN01					Sg	16 37 42.2	+0.4
KAN01				IAML		16 37 45.8	
	comp=E,53nm,0.1s						
KAN01				IAML		16 37 46.2	
	comp=N,58nm,0.1s						
DEOK	**Depew**	**1.00**	**108**		Pg	16 37 28.4	-0.4
DEOK					Sg	16 37 42.1	+0.2
DEOK				IAML		16 37 44.7	
	comp=E,44nm,0.2s						
NOKA	**Waynoka**	**1.12**	**296**		Pg	16 37 29.8	-1.4
T35A	**Sooner Cattle**	**1.20**	**51**		Pb	16 37 31.1	-1.7
T35A				IAML		16 37 55.2	
	comp=E,48nm,0.2s						
ELIS	**Ellis County**	**1.42**	**267**	Pn	Pn	16 37 34.8	-1.0
TUL3	**Leonard**	**1.54**	**99**		Pn	16 37 36.8	-0.7
X34A	**Smith Ranch, M**	**1.56**	**185**		Pn	16 37 37.8	+0.1
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn	16 37 39.0	-0.4
RLO	**Rose Lookout**	**2.14**	**89**		Pn	16 37 45.4	-0.4
U38A	**Gravette**	**2.67**	**83**		Pn	16 37 51.4	-1.6
SN07	**Snyder 07**	**4.05**	**222**	IAmb_Lg		16 39 17.3	
	comp=Z,18nm,1.3s						
MGMO	**Mountain Grove**	**4.46**	**75**	Pn	Pn	16 38 17.5	-0.1
R40A	**Maddies Statio**	**4.81**	**62**	Pn	Pn	16 38 19.5	-2.9
KSCO	**Kaye Shedlock'**	**4.86**	**307**	IAmb_Lg		16 39 55.1	
	comp=Z,10nm,0.8s						
CCM	**Cathedral Cave**	**5.48**	**68**	Pn	Pn	16 38 30.0	-1.6
P40A	**Paris**	**5.58**	**51**	Pn	Pn	16 38 31.0	-2.1
VHRN	**Van Horn**	**8.12**	**231**	IAmb_Lg		16 41 33.5	
	comp=Z,3.8nm,0.7s						

*HVO **03** 16:42:39.5±0.9, 19°.46N±0°.02×155°.62W±0°.01, h-2km±7km, ML2.2/4, ML2.0/39(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=193.0*

NEIC 03 16:42:39.7±0.8, 19°.46N±0°.02×155°.62W±0°.01, h5km±1km, Error ellipse: s-maj=3.9km s-min=2.7km az=13.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.04**	**46**		Pg	16 42 40.9	-0.5
MWH				IAML		16 42 43.9	
	comp=E,3μm,0.2s						
MWH				IAML		16 42 44.3	
	comp=N,4μm,0.3s						
ALEP	**Alea Permanent**	**0.08**	**347**		Pg	16 42 42.3	+0.6
ALEP					Sg	16 42 44.4	+1.1
AIN	**Ainahou**	**0.18**	**119**		Pg	16 42 43.6	+0.3
HMH	**Humu'ula Sheep**	**0.20**	**43**		Pg	16 42 43.9	+0.2
KHU	**Kahuku**	**0.21**	**178**		Pg	16 42 44.1	+0.2
KHU					Sg	16 42 47.7	+1.0
MLH	**Mauna Loa**	**0.23**	**81**		Pg	16 42 44.4	+0.2
MLH				IAML		16 42 46.6	
	comp=N,285nm,3.6s						
MLH				IAML		16 42 51.6	
	comp=E,265nm,0.2s						
HUH	**Hualalai**	**0.30**	**318**		Pg	16 42 45.7	+0.1
HUH				IAML		16 42 54.1	
	comp=N,182nm,1.0s						
HUH				IAML		16 42 54.8	
	comp=E,153nm,1.4s						
HTC	**Hot Caves**	**0.31**	**136**		Pg	16 42 45.6	0.0
POHA	**Pohakuloa**	**0.31**	**16**	Pg	Pg	16 42 45.9	+0.2
POHA				IAML		16 42 54.0	
	comp=E,181nm,3.4s						
WRMHI	**West Rim**	**0.31**	**100**		Pg	16 42 45.8	0.0
WRMHI					Sg	16 42 50.5	+0.6
UWE	**Uwekahuna**	**0.32**	**97**		Pg	16 42 45.7	-0.1
UWE	**Uwekahuna**	**0.32**	**97**		Sg	16 42 51.2	+1.2
SDHHI	**Sand Hill**	**0.32**	**103**		Pg	16 42 45.9	-0.1
SDHHI					Sg	16 42 50.9	+0.7
OBL	**Observatory Le**	**0.32**	**97**		Pg	16 42 46.3	+0.2
OBL					Sg	16 42 51.1	+0.8
RSD	**Rainshed**	**0.33**	**89**		Pg	16 42 46.2	+0.1
RSD				IAML		16 42 54.4	
	comp=E,158nm,1.9s						
UWB	**Uwekahuna Bluf**	**0.33**	**96**		Pg	16 42 46.0	-0.1
RIM	**Rim**	**0.34**	**101**		Pg	16 42 46.2	0.0
SBLHI	**Steaming Bluff**	**0.34**	**96**		Pg	16 42 46.4	+0.1
SBLHI					Sg	16 42 51.1	+0.3
HLP	**Hilina Pali**	**0.34**	**119**	Pg	Pg	16 42 46.3	0.0
KKO	**Keanakako'i**	**0.34**	**100**		Pg	16 42 46.3	-0.1
KKO					Sg	16 42 51.5	+0.6
HATHI	**Halema'uma'u T**	**0.34**	**96**		Pg	16 42 46.0	-0.4
HATHI				IAML		16 42 51.5	
	comp=N,144nm,2.9s						
HATHI				IAML		16 42 56.5	
	comp=E,210nm,1.8s						
BYL	**Byron's Ledge**	**0.35**	**98**		Pg	16 42 46.0	-0.4
BYL				IAML		16 42 47.9	
	comp=N,163nm,3.2s						
BYL				IAML		16 42 55.5	
	comp=E,196nm,1.4s						
PUH	**Pauahi**	**0.40**	**102**	Pg	Pg	16 42 46.6	-0.7
KNHH	**Kane Nui o Ham**	**0.44**	**101**	Pg	Pg	16 42 47.2	-0.9
STCH	**Steam Cracks**	**0.48**	**99**	Pg	Pg	16 42 48.1	-0.8
STCH				IAML		16 42 56.9	
	comp=E,81nm,2.9s						
JOKA	**Jonika Flow**	**0.59**	**92**		Pg	16 42 49.8	-1.2

WEL 03 16:51:53.8±0.8, 32°S±19′×17°9W±3°8, h395km±23km, M4.4/7, mB4.5/3, ML4.4/5, MLv4.5/7, Mw(mB)3.6/3, Error ellipse: s-maj=54.4km s-min=9.5km az=115.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.84**	**200**	P	Pn	16 53 25.3	+1.0
MXZ				S	S	16 54 40.0	+1.8
WMGZ	**Waiomatatini S**	**6.05**	**199**	P	Pn	16 53 26.7	+0.1
WMGZ				S	S	16 54 46.7	+4.3
HAZ	**Te Kaha**	**6.19**	**203**	P	Pn	16 53 27.8	-0.3
HAZ				S	S	16 54 46.6	+1.6
PKGZ	**Pakihiroa**	**6.19**	**201**	P	Pn	16 53 28.9	+0.7
PKGZ				S	S	16 54 46.1	+0.9
PUZ	**Puketiti**	**6.33**	**199**	P	Pn	16 53 30.7	+0.9
RUGZ	**Raukumara Rang**	**6.41**	**203**	P	Pn	16 53 29.0	-1.7
RUGZ				S	S	16 54 47.0	-2.8
TWGZ	**Tauwhareparae**	**6.51**	**200**	P	Pn	16 53 32.0	+0.2
TWGZ				S	S	16 54 54.6	+2.9
CNGZ	**Carnagh Statio**	**6.73**	**198**	P	P	16 53 36.5	+1.7
TKGZ	**Te Karaka**	**6.79**	**200**	P	P	16 53 35.7	+0.2
TKGZ				S	S	16 54 58.5	+1.1
MWZ	**Matawai**	**6.80**	**203**	P	Pn	16 53 33.5	-1.4
MWZ				S	S	16 54 59.3	+1.8
URZ	**Urewera**	**6.87**	**205**	P	Pn	16 53 35.6	0.0
URZ				S	S	16 54 59.4	+0.4
RAGZ	**Rawiri**	**6.98**	**203**	P	Pn	16 53 36.0	-1.0
RAGZ				S	S	16 55 06.3	+5.0
RIGZ	**Rimuhau**	**7.07**	**200**	P	Pn	16 53 37.8	-0.2
RIGZ				S	S	16 55 03.0	0.0
MUGZ	**Murupara**	**7.19**	**206**	P	Pn	16 53 38.8	-0.5
PRGZ	**Paritu Road**	**7.23**	**199**	S	S	16 55 06.8	+0.3
SNGZ	**Shannon Statio**	**7.26**	**202**	P	Pn	16 53 37.8	-2.3
SNGZ				S	S	16 55 08.3	+1.2
MHGZ	**Mahia Peninsul**	**7.44**	**198**	P	P	16 53 44.5	+1.7
MHGZ				S	S	16 55 13.8	+3.0
RAHZ	**Arahi**	**7.47**	**203**	P	Pn	16 53 41.3	-1.1
RAHZ				S	S	16 55 12.2	+0.7
MTHZ	**Maungataniwha**	**7.50**	**205**	P	P	16 53 43.6	+0.2
MTHZ				S	S	16 55 13.2	+1.1
NMHZ	**Naumai**	**7.73**	**204**	P	P	16 53 46.9	+0.9
NMHZ				S	S	16 55 19.2	+2.2
BKZ	**Black Stump Fm**	**7.90**	**205**	P	Pn	16 53 46.8	-0.6
BKZ				S	S	16 55 20.3	-0.2
KWHZ	**Kaweka Forest**	**8.15**	**205**	P	Pn	16 53 49.7	-0.7
KWHZ				S	S	16 55 25.3	-0.6
OTVZ	**Oturere**	**8.22**	**209**	P	P	16 53 52.4	+0.7
KAHZ	**Kahuranaki**	**8.33**	**202**	P	P	16 53 53.4	+0.5
KAHZ				S	S	16 55 31.5	+1.8
KRHZ	**Kereru**	**8.37**	**204**	P	Pn	16 53 52.3	-0.5
KRHZ				S	S	16 55 29.9	-0.4
PXZ	**Pawanui**	**8.55**	**201**	P	P	16 53 56.5	+1.3
PXZ				S	S	16 55 32.9	-1.3
PNHZ	**Pukenui**	**8.67**	**204**	P	Pn	16 53 54.9	-1.3
PNHZ				S	S	16 55 35.0	-1.7

*NEIC **03** 16:52:44.0±1.7, 22°.4S±0°.1×179°.7E±0°.1, h561km±9km, mb4.5/36, Error ellipse: s-maj=19.3km s-min=15.5km az=123.0*

*IDC **03** 16:52:47.1±2.6, 22°.39S×179°.42E, h583km±30km, mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=21.4km s-min=14.8km az=151.0*

ISC 03 16:52:46.2±0.5, 22°.52S±0°.08×179°.60E±0°.08, h591km, n64, σ1§56/63, mb4.4/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.98**	**343**	P	**P**	**16 54 16.0**	**-2.6**
FUTU	**Fugatoga**	**8.45**	**15**	P	**P**	**16 54 48.2**	**-1.5**
NIUE	**Niue**	**10.38**	**73**	P	**P**	**16 55 05.0**	**-3.6**
PINNC	**Pines Island,**	**11.23**	**267**	P	**P**	**16 55 15.1**	**-2.1**
AFI	**Afiamalu**	**11.85**	**45**	P	P	16 55 19.3	-4.4
DZM	**Mont Dzumac**	**12.19**	**270**	P	**P**	**16 55 25.4**	**-1.6**
DZM	**Mont Dzumac**	**12.19**	**270**	P	**P**	**16 55 24.6**	**-2.4**
	11nm,0.8s,baz=75,slow=18,SNR=4.3						
URZ	**Urewera**	**15.83**	**187**	P	**P**	**16 55 58.7**	**-3.5**
	9.3nm,0.4s,baz=87,slow=2.4,SNR=3.7						
URZ				S	**S**	**16 58 36.1**	**-5.9**
	17nm,1.1s,baz=189,slow=19,SNR=1.9						
QRZ	**Quartz Range**	**19.20**	**196**	P	**P**	**16 56 32.0**	**-1.0**
LBZ	**Lake Benmore**	**23.15**	**197**	P	**P**	**16 57 06.8**	**-1.5**
LBZ				IAmb	IAmb	16 57 43.4	
	comp=Z,16nm,1.2s						
WKZ	**Wanaka**	**23.89**	**199**	P	**P**	**16 57 13.9**	**-1.0**
WHZ	**Wether Hill Ro**	**25.17**	**199**	P	**P**	**16 57 26.8**	**+0.6**
ARMA	**Armidale**	**26.20**	**247**	P	**P**	**16 57 36.6**	**+1.0**
ARMA				IAmb	IAmb	16 57 37.9	
	comp=Z,11nm,0.7s						
EIDS	**Eidsvold**	**26.20**	**258**	P	**P**	**16 57 35.4**	**-0.1**
EIDS				IAmb	IAmb	16 57 37.0	
	comp=Z,7.0nm,0.7s						
CAN	**Canberra**	**29.54**	**238**	P	**P**	**16 58 05.3**	**+0.8**
CAN				IAmb	IAmb	16 58 06.7	
	comp=Z,15nm,1.0s						
CTAO	**Charters Tower**	**31.13**	**268**	P	**P**	**16 58 18.5**	**+0.3**
TOO	**Toolangi**	**32.91**	**235**	P	**P**	**16 58 33.4**	**+0.3**
PMG	**Port Moresby**	**33.71**	**288**	P	**P**	**16 58 39.4**	**-0.8**
PMG				IAmb	IAmb	16 58 41.7	
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**33.71**	**288**	P	**P**	**16 58 40.3**	**+0.2**
	comp=Z,21nm,0.9s,baz=177,slow=7.0,SNR=2.8						
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**34.91**	**246**	P	**P**	**16 58 50.7**	**+0.7**
STKA	**Stephens Creek**	**34.91**	**246**	P	**P**	**16 58 50.5**	**+0.6**
	comp=Z,8.2nm,0.4s,baz=93,slow=10,SNR=39						
	comp=Z,8.2nm,0.4s						
INKA	**Innaminka**	**35.46**	**253**	P	**P**	**16 58 55.6**	**+1.1**
COEN	**Coen**	**35.55**	**278**	P	**P**	**16 58 56.3**	**+0.9**
BBOO	**Buckleboo**	**39.66**	**245**	P	**P**	**16 59 28.1**	**-0.4**
BBOO				IAmb	IAmb	16 59 58.0	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**41.91**	**259**	P	**P**	**16 59 46.4**	**-0.1**
ASAR	**Alice Springs**	**41.91**	**259**	P	**P**	**16 59 45.5**	**-1.0**
ASAR	**Alice Springs**	**41.91**	**259**	P	**P**	**16 59 46.5**	**0.0**
	comp=Z,12nm,0.7s,baz=98,slow=8.1,SNR=129						
ASAR				S	**S**	**17 05 23.1**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=86,slow=17,SNR=4.4						
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**42.13**	**265**	P	**P**	**16 59 47.8**	**-0.6**
WB0				IAmb	IAmb	16 59 48.7	
	comp=Z,8.8nm,0.7s						
WRA	**Warramunga Arr**	**42.15**	**265**	P	**P**	**16 59 48.0**	**-0.4**
WRA	**Warramunga Arr**	**42.15**	**265**	P	**P**	**16 59 48.1**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=99,slow=5.1,SNR=29						
	comp=Z,5.5nm,0.6s						
FORT	**Forrest**	**46.46**	**248**	P	**P**	**17 00 21.1**	**-0.3**
FORT				IAmb	IAmb	17 00 22.1	
	comp=Z,13nm,0.6s						
MTN	**Manton Dam**	**46.99**	**273**	P	**P**	**17 00 25.4**	**-0.2**
KNRA	**Kununurra**	**48.34**	**269**	P	**P**	**17 00 34.9**	**-0.7**
KNRA				IAmb	IAmb	17 00 36.5	
	comp=Z,11nm,0.6s						
GUMO	**Guam**	**49.46**	**313**	P	**P**	**17 00 43.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.58**	**265**	P	**P**	**17 00 52.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.58**	**265**	P	**P**	**17 00 52.5**	**+0.6**
	comp=Z,7.1nm,0.5s,baz=106,slow=5.0,SNR=26						
	comp=Z,7.1nm,0.5s						
SOEI	**Soe**	**54.37**	**274**	P	**P**	**17 01 19.8**	**+0.6**
SOEI				IAmb	IAmb	17 01 30.4	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**55.06**	**259**	P	**P**	**17 01 24.0**	**+0.2**
PSA00				IAmb	IAmb	17 01 51.6	
	comp=Z,27nm,1.4s						
PSA00	**Pilbara Seismi**	**55.06**	**259**	P	**P**	**17 01 23.8**	**0.0**
PSA00				IAmb	IAmb	17 01 34.9	
	comp=Z,10nm,1.4s						
MBWA	**Marble Bar**	**55.26**	**259**	P	**P**	**17 01 24.9**	**-0.2**
MBWA				IAmb	IAmb	17 01 25.9	
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**57.01**	**249**	P	**P**	**17 01 37.0**	**-0.1**
MORW				IAmb	IAmb	17 02 00.0	
	comp=Z,35nm,1.5s						
GIRL	**Giralia**	**59.88**	**256**	P	**P**	**17 01 57.7**	**+1.3**
CASY	**Casey**	**61.19**	**206**	P	**P**	**17 02 06.2**	**+1.9**
QSPA	**South Pole Qui**	**67.56**	**180**	P	**P**	**17 02 48.0**	**+3.5**
QSPA	**South Pole Qui**	**67.56**	**180**	P	**P**	**17 02 47.0**	**+2.4**
	comp=Z,1.4nm,0.8s,baz=277,slow=1.1,SNR=7.0						
	comp=Z,1.4nm,0.8s						
KIWB	**Kanaga Island**	**74.11**	**2**	P	**P**	**17 03 22.4**	**-0.4**
KIWB				IAmb	IAmb	17 03 37.5	
	comp=Z,33nm,1.3s						
ADK	**Adak**	**74.15**	**2**	P	**P**	**17 03 23.1**	**0.0**
ADK				IAmb	IAmb	17 04 07.3	
	comp=Z,31nm,1.2s						
JKA	**Kamikawa-asahi**	**74.47**	**333**	P	**P**	**17 03 27.2**	**+2.2**
JKA				IAmb	IAmb	17 03 28.8	
	comp=Z,33nm,1.4s						
PEA0B	**Petropavlovsk-**	**77.68**	**347**	P	**P**	**17 03 41.7**	**-0.8**
PETK	**Petropavlovsk-**	**77.68**	**347**	P	**P**	**17 03 41.9**	**-0.6**
PETK	**Petropavlovsk-**	**77.68**	**347**	P	**P**	**17 03 43.1**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=115,slow=7.3,SNR=14					

comp=E,2μm,0.2s
CANA Caviahue 1.16 70 *eP* **Pn 16 53 50.4 +0.3**
CANA *eS* **Sn 16 54 07.1 +2.0**
LR03 Panguipulli 1.35 177 *eP* **Pn 16 53 52.2 -0.3**
LR03 *i* S **Sn 16 54 09.0 -0.3**
LR03 IAML 16 54 12.5
comp=E,2μm,0.5s
LR03 Panguipulli 1.35 177 *eP* **Pn 16 53 53.0 +0.5**
LR03 *eS* **Sn 16 54 09.3 -0.1**
LR03 IAML 16 54 12.5
comp=Z,1μm,0.2s
GO06 Curarrehue 1.50 150 *eP* **Pn 16 53 54.4 -0.3**
GO06 *i* S **Sn 16 54 13.2 -0.1**
GO06 Curarrehue 1.50 150 *eP* **Pn 16 53 54.5 -0.3**
GO06 *eS* **Sn 16 54 14.3 +1.0**
BI05 Punta Hualpn 1.64 339 *eP* **Pn 16 53 56.5 0.0**
BI05 *i* S **Sn 16 54 16.6 0.0**
BI05 Punta Hualpn 1.64 339 *eP* **Pn 16 53 56.1 -0.4**
BI05 IAML 16 54 23.2
comp=Z,638nm,0.2s
BI02 San Fabin de 1.87 30 *eP* **Pn 16 53 59.4 -0.3**
BI02 *i* S **Sn 16 54 21.8 -0.3**
LR05 Currie 1.97 170 *eP* **Pn 16 54 01.8 +0.8**
LR05 *eS* **Sn 16 54 22.9 -1.7**
LL03 Petrohue 2.85 179 *eP* Pn 16 54 16.6 +3.6
LL03 *eS* Sn 16 54 57.2 +11
LL03 IAML 16 55 07.0
comp=Z,139nm,0.8s
PLCA Paso Flores 2.85 150 *eP* **Pn 16 54 13.7 +0.6**
PLCA *eS* Sn 16 54 58.0 +12
GO05 Hualane 3.29 7 *eP* **Pn 16 54 19.2 +0.1**
GO05 IAML 16 55 09.3
comp=N,221nm,0.4s
GO05 Hualane 3.29 7 *eP* **Pn 16 54 19.6 +0.5**
GO05 *eS* **Sn 16 54 57.5 +0.4**
GO05 IAML 16 55 09.3
comp=Z,159nm,0.8s
EDS3 Malargue 3.50 45 *eP* Pn 16 54 31.0 +9.0
BO02 Sierra Bellavi 3.73 22 *eP* **Pn 16 54 25.7 +0.5**
BO02 *eS* **Sn 16 55 09.1 +1.2**
BO02 IAML 16 55 23.1
comp=Z,140nm,0.2s
BO01 Tunca 4.04 16 *eP* **Pn 16 54 28.7 -0.5**
BO01 *eS* **Sn 16 55 14.4 -0.9**
BO01 IAML 16 55 26.6
comp=Z,47nm,0.3s
MT01 Popeta 4.52 13 *eP* **Pn 16 54 34.5 -1.4**
MT01 *eS* **Sn 16 55 25.4 -1.6**
MT01 IAML 16 55 43.2
comp=Z,60nm,0.3s
LMEL Las Melosas 4.79 23 *eP* **Pn 16 54 41.2 +1.5**
LMEL *eS* **Sn 16 55 36.1 +2.2**
LMEL IAML 16 55 39.4
comp=Z,42nm,1.9s
MT02 Curacav 5.13 12 *eP* **Pn 16 54 42.2 -2.0**
MT02 *eS* Sn 16 55 31.3 -11
MT02 IAML 16 55 37.1
comp=Z,52nm,0.5s
MT04 Ro Olivares 5.22 22 *eP* **Pn 16 54 45.2 -0.4**
MT04 *eS* **Sn 16 55 44.0 -0.6**
MT04 IAML 16 55 50.1
comp=Z,20nm,0.3s

*IDC **03** 16:59:25.4±2.1, 0°.98N×126°.42E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=191.1km s-min=26.6km az=65.0*
*DJA **03** 16:59:35.9±0.4, 1°N±3°×12°7E±°, h72km±8km, M3.4/10, mb3.6/1, MLv3.4/10*
ISC 03 16:59:34.9±1.2, 1°.42N±0°.08×127°.2E±0°.1, h103km, n8, σ1ᵠ55/10, mb2.9/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.67**	**165**	P	**Pn**	**16 59 50.9**	**-1.5**
TNTI				S	**Sn**	**17 00 04.6**	**-0.8**
SGSI	**Sangihe**	**2.80**	**323**	P	**Pn**	**17 00 17.2**	**-0.9**
SGSI				S	**Sn**	**17 00 49.8**	**-1.5**
KMSI	**Cibinong**	**3.32**	**255**	P	**Pn**	**17 00 24.6**	**-0.5**
SANI	**Sanana**	**3.66**	**199**	P	**Pn**	**17 00 28.6**	**-0.9**
NLAI	**Namlea**	**4.63**	**181**	P	**Pn**	**17 00 43.5**	**+0.8**
WRA	**Warramunga Arr**	**22.36**	**162**	P	**P**	**17 04 23.4**	**-1.3**
	0.3nm,0.5s,baz=338,slow=11,SNR=5.8 0.3nm,0.5s						
ASAR	**Alice Springs**	**25.78**	**166**	P	**P**	**17 04 56.3**	**-0.1**
	0.3nm,0.7s,baz=345,slow=12,SNR=1.3 0.3nm,0.7s						
MKAR	**Makanchi Array**	**59.71**	**326**	P	**P**	**17 09 31.5**	**+2.7**
	0.2nm,0.3s,baz=126,slow=7.2,SNR=6.4 0.2nm,0.3s						

*IDC **03** 17:00:00.1±29.0, 37°.34N×73°.94E, h76km±130km, mb3.8/2, mbtmp4.1/5, ML3.5/3, Error ellipse: s-maj=317.7km s-min=76.9km az=166.0*
*NNC **03** 17:00:17.9±10.0, 39°.07N×73°.14E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=85.3km s-min=54.5km az=161.0*
*SOME **03** 17:00:18.6, 39°.00N×73°.10E, h20km*
ISC 03 17:00:06.5±2.2, 38°.2N±0°.2×73°.15E±0°.09, h35km, n22, σ3ᵠ17/29, 3C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**4.13**	**14**	P	**Pn**	**17 01 11.2**	**+3.7**
	SNR=90						
EKS2	**Erkin-Say**	**4.46**	**6**	P	**Pn**	**17 01 15.5**	**+3.8**
	SNR=80						
MRKS	**Merke**	**4.52**	**1**	*eP*	**Pn**	**17 01 16.0**	**+3.5**
	55nm,0.3s						
MRKS				*eS*	**Sn**	**17 02 02.7**	**-1.1**
	120nm,0.3s						
AAK	**Ala-Archa**	**4.53**	**13**	P	**Pn**	**17 01 16.9**	**+4.3**
	5.0nm,0.3s,baz=190,slow=7.2,SNR=31						
AAK				S	**Sn**	**17 02 02.8**	**-1.4**
	16nm,0.3s,baz=114,slow=15,SNR=21 13nm,0.3s						
AAK	**Ala-Archa**	**4.53**	**13**	P	**Pn**	**17 01 16.8**	**+4.1**
	SNR=11						
AAK	**Ala-Archa**	**4.53**	**13**	⇑Pn	**Pn**	**17 01 16.7**	**+4.1**
	2.7nm,0.4s						
AAK				⇑Sn	**Sn**	**17 02 03.1**	**-1.0**
	13nm,0.5s						
IUG	**Iuzhnay**	**4.59**	**330**	Pg	**Pn**	**17 01 17.8**	**+4.4**
	53nm,0.2s						
IUG				Lg	Lg	17 02 05.8	
	33nm,0.3s						
ULHL	**Ulahol**	**4.66**	**30**	P	**Pn**	**17 01 17.7**	**+3.1**
	SNR=19						
CHMS	**Chumysh**	**4.92**	**14**	P	**Pn**	**17 01 21.6**	**+3.6**
	SNR=7.5						
USP	**Ospenovka**	**5.14**	**11**	P	**Pn**	**17 01 24.1**	**+3.2**
	SNR=7.2						
KK31	**Karatay Array**	**5.27**	**339**	Pn	**Pn**	**17 01 26.3**	**+3.6**
	8.2nm,0.3s,baz=139,slow=12,SNR=118						
KK31				⇑Sn	**Sn**	**17 02 20.8**	**-1.4**
	8.6nm,0.4s,baz=149,slow=22						
KST	**Kastek**	**5.27**	**23**	Pg	**Pn**	**17 01 26.4**	**+3.6**
	4.3nm,0.3s						
KST				Lg	Lg	17 02 20.9	
	36nm,0.9s						
KST	**Kastek**	**5.27**	**23**	*eP*	**Pn**	**17 01 26.4**	**+3.6**
	4.3nm,0.3s						
KST				*eS*	**Sn**	**17 02 20.9**	**-1.5**
	36nm,0.9s						
MTBS	**Maitube**	**5.50**	**26**	Pg	**Pn**	**17 01 29.6**	**+3.7**
	4.5nm,0.2s						
MTBS				Lg	Lg	17 02 26.9	
	16nm,0.6s						
MTBS	**Maitube**	**5.50**	**26**	*eP*	**Pn**	**17 01 29.6**	**+3.7**
	2.7nm,0.2s						
MTBS				*eS*	**Sn**	**17 02 26.9**	**-1.1**
	9.2nm,0.2s						
TNSS	**Tian-Shan**	**5.61**	**30**	Pg	**Pn**	**17 01 31.4**	**+3.7**
	1.8nm,0.2s						
TNSS				Lg	Lg	17 02 30.3	
	3.5nm,0.8s						
TNSS	**Tian-Shan**	**5.61**	**30**	*eP*	**Pn**	**17 01 31.4**	**+3.7**
	1.8nm,0.2s						
TNSS				*eS*	**Sn**	**17 02 30.3**	**-0.9**
	3.5nm,0.4s						
AB31	**Akbulak array**	**14.56**	**323**	P	**P**	**17 03 34.9**	**-0.9**
	1.6nm,0.3s,baz=128,slow=14,SNR=68						
BVAR	**Borovoye Array**	**14.93**	**354**	P	**P**	**17 03 38.9**	**-1.0**
	0.1nm,0.3s,baz=163,slow=9.8,SNR=21 4.6nm,0.3s						
ZALV	**Zalesovo Beam**	**17.65**	**23**	P	**Pn**	**17 04 07.2**	**-2.2**
	0.3nm,0.3s,baz=206,slow=11,SNR=5.1 0.8nm,0.3s						
FINES	**FINESS Array B**	**37.05**	**324**	P	**P**	**17 07 11.3**	**-1.3**
	2.0nm,0.8s,baz=124,slow=9.5,SNR=5.0 2.0nm,0.8s						
ARCES	**ARCESS Array B**	**40.23**	**336**	P	**P**	**17 07 37.4**	**-1.9**
	4.6nm,1.0s,baz=105,slow=7.9,SNR=6.9 4.6nm,1.0s						

*UPP **03** 17:00:26.2±0.1, 67°.06N×20°.94E, h0km, ML2.2, Suspected explosion*
*IDC **03** 17:00:27.0±1.0, 67°.09N×21°.19E, h0km, mbtmp2.9/4, ML1.9/4, Error ellipse: s-maj=19.2km s-min=7.5km az=111.0*
ISC 03 17:00:26.3±1.0, 67°.07N±0°.04×20°.95E±0°.03, h0km, n20, σ0ᵠ62/21, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**291**	P	**Pg**	**17 00 29.5**	**+0.1**
DUNU				S	**Sg**	**17 00 32.0**	**+0.6**
MASU	**Masugnsbyn**	**0.56**	**45**	P	**Pg**	**17 00 37.3**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**136**	P	**Pg**	**17 00 39.6**	**-0.3**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**17 00 42.2**	**-0.4**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 00 43.1**	**-0.6**
KUA	**Kurravaara**	**0.92**	**345**	P	**Pg**	**17 00 43.3**	**-0.7**
	baz=189						
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**17 00 43.3**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 00 44.9**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**289**	*eP*	**Pg**	**17 00 45.1**	**-0.5**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**17 00 45.9**	**-0.8**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**17 00 46.5**	**-0.8**
KOVU	**Salmi**	**1.20**	**346**	P	**Pg**	**17 00 48.6**	**-0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 00 54.7**	**-0.4**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 00 55.2**	**-0.4**
I37NO	**I37NO**	**2.20**	**337**	I	I	17 14 50.0	
	baz=154,slow=334,SNR=2.2						
FAUS	**Fauske**	**2.23**	**281**	*eP*	**Pn**	**17 01 05.1**	**+0.7**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 01 15.4**	**+0.4**
	0.3nm,0.3s,baz=211,slow=14,SNR=24						
ARCES				Sn	**Sn**	**17 01 51.8**	**+0.1**
	0.7nm,0.3s,baz=212,slow=17,SNR=8.0						
ARCES				Lg	Lg	17 01 57.7	
	0.6nm,0.3s,baz=219,slow=27,SNR=5.2 1.3nm,0.2s						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 01 58.3**	**+1.2**
	0.1nm,0.3s,baz=346,slow=14,SNR=9.8						
FINES				Lg	Lg	17 03 36.1	
	0.4nm,0.3s,baz=338,slow=23,SNR=8.6 1.9nm,0.7s						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**17 02 14.9**	**-0.5**
	baz=11,slow=17,SNR=1.4 0.4nm,0.7s						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 19.4**	**+0.3**
	0.1nm,0.3s,baz=28,slow=13,SNR=1.5 0.8nm,0.6s						

*CATAC **03** 17:08:56.9±0.5, 13°N±3°×9°0W±°, h32km±3km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=7.3km s-min=3.6km az=19.6, confirmed*
*GCG **03** 17:08:57.8±0.5, 13°.26N×89°.53W, h57km±6km, MD3.7, ML3.8*
*SNET **03** 17:08:57.5±1.2, 13°.22N×89°.54W, h52km, ML3.5*
ISC 03 17:08:57.2±1.8, 13°.14N±0°.09×89°.55W±0°.06, h50km±13km, n63, σ0ᵠ42/72, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.41**	**32**	*eP*	**Pn**	**17 09 07.3**	**-0.2**
LALI	**Alcalda de L**	**0.41**	**32**	*eP*	**Pn**	**17 09 07.3**	**-0.2**
LALI				*i* S	**Sn**	**17 09 15.5**	**+0.7**
LALI	**Alcalda de L**	**0.41**	**32**	P	**Pn**	**17 09 07.3**	**-0.2**
JAYA	**Jayaque - finc**	**0.52**	**11**	*i* P	**Pn**	**17 09 08.6**	**-0.4**
JAYA				*eS*	**Sn**	**17 09 17.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.52**	**11**	*i* P	**Pn**	**17 09 08.6**	**-0.4**
JAYA				*i* S	**Sn**	**17 09 16.8**	**-0.5**
PANCS	**Alcalda de**	**0.59**	**37**	P	**Pn**	**17 09 09.2**	**-0.5**
PANCS	**Alcalda de**	**0.59**	**37**	S	**Sn**	**17 09 18.9**	**+0.3**
ITCA	**Escuela Especi**	**0.59**	**26**	*eP*	**Pn**	**17 09 09.3**	**-0.5**
ITCA	**Escuela Especi**	**0.59**	**26**	S	**Sn**	**17 09 19.3**	**+0.6**
ITCA	**Escuela Especi**	**0.59**	**26**	P	**Pn**	**17 09 09.2**	**-0.5**
PMON	**Piamonte**	**0.61**	**22**	*i* P	**Pn**	**17 09 09.6**	**-0.4**
PMON	**Piamonte**	**0.61**	**22**	P	**Pn**	**17 09 09.7**	**-0.3**
PMON	**Piamonte**	**0.61**	**22**	S	**Sn**	**17 09 19.6**	**+0.4**
LOMA	**Loma Larga**	**0.62**	**36**	||*i* P	**Pn**	**17 09 09.8**	**-0.4**
BOQS	**Boqueron**	**0.65**	**24**	*i* P	**Pn**	**17 09 10.4**	**-0.2**
UTEC	**Universidad Te**	**0.65**	**31**	P	**Pn**	**17 09 10.2**	**-0.3**
UTEC	**Universidad Te**	**0.65**	**31**	S	**Sn**	**17 09 20.5**	**+0.5**
PIC2	**El Picacho**	**0.67**	**25**	*eP*	**Pn**	**17 09 10.8**	**0.0**
LFRS	**El Faro**	**0.68**	**44**	*i* P	**Pn**	**17 09 10.3**	**-0.5**
CEDA	**San Andres**	**0.68**	**13**	||*i* P	**Pn**	**17 09 10.5**	**-0.2**
CEDA				*eS*	**Sn**	**17 09 21.2**	**+0.7**
IGN	**Direccin Gen**	**0.68**	**33**	S	**Sn**	**17 09 21.3**	**+0.7**
IGN	**Direccin Gen**	**0.68**	**33**	P	**Pn**	**17 09 10.6**	**-0.2**
CEVE	**Cerro Verde**	**0.69**	**354**	*eP*	**Pn**	**17 09 11.1**	**0.0**
UDBS	**Universidad Do**	**0.69**	**34**	S	**Sn**	**17 09 21.5**	**+0.6**
UDBS	**Universidad Do**	**0.69**	**34**	P	**Pn**	**17 09 10.4**	**-0.5**
SBLS	**San Blas**	**0.70**	**354**	*i* P	**Pn**	**17 09 11.1**	**-0.2**
SBLS				*i* P		17 09 11.2	
SNJE	**San Jose**	**0.73**	**356**	*i* P	**Pn**	**17 09 11.4**	**-0.2**
SNJE				*eP*		17 09 11.5	
LFU	**La Fuente**	**0.74**	**35**	*i* P	**Pn**	**17 09 11.5**	**-0.1**
RTR	**El Retiro**	**0.76**	**353**	*eP*	**Pn**	**17 09 12.1**	**+0.1**
LBRS	**Las Brisas**	**0.77**	**39**	*i* P	**Pn**	**17 09 11.9**	**-0.1**
NUBE	**Las Nubes**	**0.79**	**344**	*eP*	**Pn**	**17 09 12.1**	**-0.2**
NUBE	**Las Nubes**	**0.79**	**344**	*i* P	**Pn**	**17 09 12.1**	**-0.2**
NUBE				*eS*	**Sn**	**17 09 23.1**	**-0.2**
NUBE	**Las Nubes**	**0.79**	**344**	P	**Pn**	**17 09 12.2**	**-0.2**
PAVA	**Las Pavas**	**0.82**	**46**	*eP*	**Pn**	**17 09 12.5**	**-0.2**
PAVA				*eS*	**Sn**	**17 09 24.5**	**+0.5**
FAME	**Alcaldia de Sa**	**0.83**	**327**	P	**Pn**	**17 09 12.7**	**0.0**
FAME	**Alcaldia de Sa**	**0.83**	**327**	S	**Sn**	**17 09 24.3**	**+0.1**
TECO	**Alcaldia de Te**	**0.85**	**62**	*i* P	**Pn**	**17 09 12.0**	**-0.9**
LOAL	**Lomas de Alarc**	**0.88**	**345**	P	**Pn**	**17 09 13.2**	**-0.3**
UESV	**Universidad de**	**0.89**	**56**	S	**Sn**	**17 09 25.5**	**0.0**
UESV	**Universidad de**	**0.89**	**56**	P	**Pn**	**17 09 12.9**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.97**	**55**	*eP*	**Pn**	**17 09 14.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.97**	**55**	P	**Pn**	**17 09 14.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.97**	**55**	S	**Sn**	**17 09 28.0**	**+0.5**
RBDL	**Robledal**	**0.98**	**352**	*eP**	**Pn**	**17 09 14.8**	**0.0**
TECA	**Tecapa**	**1.08**	**71**	*i* P	**Pn**	**17 09 15.4**	**-0.8**
LLGN	**La Laguna**	**1.18**	**30**	S	**Sn**	**17 09 32.9**	**+0.5**
LLGN	**La Laguna**	**1.18**	**30**	P	**Pn**	**17 09 16.8**	**-0.7**
PACA	**Pacayal**	**1.24**	**74**	*eP*	**Pn**	**17 09 18.7**	**+0.4**
PACA				*eS*	**Sn**	**17 09 34.3**	**+0.4**
PACA	**Pacayal**	**1.24**	**74**	P	**Pn**	**17 09 18.9**	**+0.6**
LCY	**Lacayo**	**1.25**	**77**	*eP*	**Pn**	**17 09 18.5**	**0.0**
RANC	**El Ranchito**	**1.26**	**76**	*eP*	**Pn**	**17 09 18.8**	**+0.2**
RANC				*eS*	**Sn**	**17 09 35.1**	**+0.5**
MTO3	**Montecristo**	**1.27**	**8**	*eP*	**Pn**	**17 09 18.4**	**-0.4**
MTO3	**Montecristo**	**1.27**	**8**	*i* P	**Pn**	**17 09 18.4**	**-0.4**
VSM	**San Miguel**	**1.27**	**77**	*eP*	**Pn**	**17 09 19.0**	**+0.1**
ESQI	**Esquipulas**	**1.43**	**8**	S	**Sn**	**17 09 39.0**	**+0.4**
ESQI	**Esquipulas**	**1.43**	**8**	P	**Pn**	**17 09 20.9**	**0.0**
FG16	**Alotenango, Sa**	**1.47**	**320**	*eP**	Pn	17 09 26.9	+5.4
CNCH	**Conchagua**	**1.68**	**85**	*eP**	**Pn**	**17 09 23.8**	**-0.4**
CNCH	**Conchagua**	**1.68**	**85**	S	**Sn**	**17 09 45.1**	**+0.4**
CNCH	**Conchagua**	**1.68**	**85**	P	**Pn**	**17 09 23.8**	**-0.4**
POTN	**Potosi Cosigui**	**2.00**	**94**	P	**Pn**	**17 09 28.7**	**+0.2**
POTN				S	**Sn**	**17 09 52.4**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.39**	**67**	S	**Sn**	**17 10 01.5**	**-0.9**
LIMN	**Finca el Limon**	**3.10**	**91**	P	**Pn**	**17 09 43.7**	**-0.1**
LIMN				S	**Sn**	**17 10 19.5**	**-0.2**

IDC 03 17:24:23.0±3.7, 47°.59N×92°.50W, h0km, mbtmp2.9/2, ML1.5/1, Error ellipse: s-maj=39.3km s-min=19.0km az=83.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.47**	**321**	Pn	Pn	17 25 18.1	-0.2
	0.7nm,0.3s,baz=153,slow=9.0,SNR=2.4						
ULM				Pg	Pb	17 25 24.1	-1.2
	0.7nm,0.3s,baz=143,slow=13,SNR=2.4						
ULM				Lg	Lg	17 26 10.1	
	2.4nm,0.3s,baz=44,slow=22,SNR=11 2.4nm,0.6s						
I10CA	**LAC DU BONNET**	**3.50**	**320**	I	I	17 48 50.0	
	baz=136,slow=329,SNR=5.9						
PDAR	**Pinedale Array**	**12.96**	**254**	Pn	Pn	17 27 25.6	-3.0
	0.2nm,0.6s,baz=43,slow=11,SNR=1.9						
PDAR				Lg	Lg	17 31 05.5	
	0.1nm,0.3s,baz=68,slow=33,SNR=1.9						

IDC 03 17:25:44.2±1.9, 2°.53S×138°.20E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=41.2km s-min=26.3km az=135.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.50**	**90**	Pn	Pn	17 26 25.7	-0.5
	4.3nm,0.3s,baz=227,slow=11,SNR=22						
JAY				Sn	Sb	17 27 00.5	-1.0
	2.8nm,0.3s,baz=328,slow=22,SNR=4.5 14nm,0.3s						
WRA	**Warramunga Arr**	**17.71**	**192**	P	Pn	17 29 52.0	-0.5
	0.2nm,0.3s,baz=16,slow=12,SNR=8.7 0.3nm,0.4s						
ASAR	**Alice Springs**	**21.42**	**191**	P	P	17 30 34.2	+0.2
	0.7nm,0.6s,baz=22,slow=11,SNR=12 0.7nm,0.6s						
ILAR	**Eielson Array**	**85.88**	**25**	P	P	17 38 25.7	0.0
	0.5nm,0.8s,baz=245,slow=6.6,SNR=4.7 0.5nm,0.8s						

*IDC **03** 17:25:59.5±1.0, 30°.68N×50°.52E, h0km, mb3.8/13, mbtmp3.8/14, ML3.5/1, MS3.2/5, Error ellipse: s-maj=23.6km s-min=18.8km az=138.0*
*TEH **03** 17:25:59.9, 30°.67N×50°.76E, h8km±22km*
*OMAN **03** 17:26:03.5±0.1, 30°.44N×50°.90E, h10km, mb4.9/10, Error ellipse: s-maj=1.2km s-min=0.8km az=13.0*
ISC 03 17:26:00.5±0.5, 30°.62N±0°.04×50°.75E±0°.03, h10km, n101, σ1ᵠ72/119, mb4.2/18, 5C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.43**	**267**	Pg	**Pg**	**17 26 09.3**	**+0.3**
ABEH				Sg	**Sb**	**17 26 16.5**	**-0.3**
KLNJ	**Kolanjah**	**0.82**	**62**	Pg	**Pg**	**17 26 15.9**	**-0.5**
KAZ2	**Kazeron-Fars-I**	**1.28**	**142**	Pg	**Pg**	**17 26 26.2**	**+1.1**
IBRJ	**Brojen**	**1.35**	**19**	Pg	**Pn**	**17 26 25.5**	**-0.2**
ZNGN	**Zangian**	**1.49**	**3**	Pg	**Pn**	**17 26 28.9**	**+1.1**
JHBN	**Jahan bin**	**1.60**	**357**	Pg	**Pn**	**17 26 31.0**	**+1.7**
SHI	**Shiraz**	**1.81**	**122**	Pn	**Pb**	**17 26 34.6**	**+0.7**
IRAM	**Ramesheh**	**1.83**	**49**	Pg	**Pn**	**17 26 34.0**	**+1.7**
AHWZ	**Ahwaz**	**1.94**	**292**	Pn	**Pb**	**17 26 36.1**	**0.0**
IPIR	**Pirpir**	**2.06**	**3**	Pn	**Pn**	**17 26 38.0**	**+2.5**
IGAR	**Gharneh**	**2.09**	**31**	Pn	**Pn**	**17 26 38.3**	**+2.5**
DSBU	**Dashti - Bushe**	**2.30**	**169**	Pn	**Pb**	**17 26 41.5**	**-0.6**
IZEF	**Zefreh**	**2.63**	**30**	Pn	**Pn**	**17 26 46.0**	**+2.6**
IKLH	**Kolahrood**	**2.78**	**14**	Pn	**Pn**	**17 26 47.8**	**+2.4**
KBD	**Kabd**	**3.02**	**242**	P	**Pn**	**17 26 50.8**	**+2.3**
KBD				S	**Sn**	**17 27 27.6**	**+2.9**
QAMS	**Qamsar**	**3.15**	**10**	Pn	**Pn**	**17 26 53.0**	**+2.5**
IMEH	**Mehriz**	**3.40**	**76**	Pn	**Pn**	**17 26 56.8**	**+2.8**
ICHK	**Chekchek**	**3.52**	**62**	Pn	**Pn**	**17 26 57.9**	**+2.4**
KRSH	**Karshahi**	**3.54**	**19**	Pn	**Pn**	**17 26 58.2**	**+2.5**
ANAR	**Anarak**	**3.60**	**44**	Pn	**Pn**	**17 26 58.9**	**+2.4**
BDRS	**Dareh Seyedi**	**3.68**	**335**	Pn	**Pn**	**17 26 59.7**	**+1.9**
ISFB	**Sefidab**	**3.92**	**18**	Pn	**Pn**	**17 27 03.1**	**+2.2**
IQOM	**Qom**	**4.22**	**4**	Pn	**Pn**	**17 27 07.0**	**+1.9**
IBAF	**Bafgh**	**4.24**	**76**	Pn	**Pn**	**17 27 07.7**	**+2.3**
HAGD	**Aghdareh**	**4.40**	**342**	Pn	**Pn**	**17 27 09.5**	**+1.8**
IVRN	**Varamin**	**4.44**	**10**	Pn	**Pn**	**17 27 10.2**	**+2.2**
SAKB	**Bahrain**	**4.63**	**182**	P	**Pn**	**17 27 13.2**	**+2.6**
SAKB				S	**Sn**	**17 28 04.0**	**-0.4**
SHMA	**Al-Shehemyia**	**4.75**	**178**	P	**Pn**	**17 27 13.7**	**+1.4**
	SNR=11						
SHMA				S	**Sn**	**17 28 08.3**	**+0.9**
KHGB	**Koh Gabri**	**4.95**	**91**	Pn	**Pn**	**17 27 17.4**	**+2.2**
SNQR	**Sonqor, Kerman**	**4.97**	**329**	Pn	**Pn**	**17 27 18.0**	**+2.4**
IDMV	**Damavand**	**5.06**	**12**	Pn	**Pn**	**17 27 18.9**	**+2.2**
ILAS	**Lasjerd**	**5.09**	**21**	Pn	**Pn**	**17 27 19.9**	**+2.7**
HGHA	**Hamedan- Ghaye**	**5.11**	**342**	Pn	**Pn**	**17 27 19.6**	**+2.3**
QABG	**Abgarm-Qazvin**	**5.17**	**349**	Pn	**Pn**	**17 27 20.2**	**+2.1**
KRBR	**Kerman**	**5.24**	**95**	Pn	**Pn**	**17 27 21.9**	**+2.7**
NGRK	**Negar Kerman**	**5.27**	**99**	Pn	**Pn**	**17 27 22.7**	**+3.0**
IFIR	**Firoozkooh**	**5.28**	**18**	Pn	**Pn**	**17 27 22.0**	**+2.3**
IDHR	**Dehrash**	**5.48**	**319**	Pn	**Pn**	**17 27 24.8**	**+2.3**
TPRV	**Parvadeh(Tabas**	**5.59**	**63**	Pn	**Pn**	**17 27 26.5**	**+2.7**
IALA	**Alasht**	**5.71**	**17**	Pn	**Pn**	**17 27 28.3**	**+2.6**
IPRN	**Peran**	**5.76**	**13**	Pn	**Pn**	**17 27 28.3**	**+2.1**
IGZV	**Ghazvin**	**5.76**	**356**	Pn	**Pn**	**17 27 29.1**	**+2.7**
SMRA	**Abu-Samra**	**5.86**	**179**	P	**Pn**	**17 27 28.7**	**+1.3**
SMRA				S	**Sn**	**17 28 35.8**	**+1.2**
TRNA	**Turayna**	**5.88**	**176**	P	**Pn**	**17 27 29.4**	**+1.6**
	SNR=17						
TRNA				S	**Sn**	**17 28 35.6**	**+0.4**
CHMN	**Cheshme madani**	**5.92**	**96**	Pn	**Pn**	**17 27 31.3**	**+2.6**
TNSJ	**Nastanj**	**5.97**	**55**	Pn	**Pn**	**17 27 31.5**	**+2.4**
TKDS	**Koohdasht(Taba**	**6.17**	**59**	Pn	**Pn**	**17 27 34.2**	**+2.3**
SHME	**Shamm**	**6.58**	**133**	P	**Pn**	**17 27 37.9**	**+0.5**
SHME				S	**Sn**	**17 28 51.6**	**-0.9**
SLWR	**Sila**	**6.58**	**172**	P	**Pn**	**17 27 38.1**	**+0.8**
SLWR				S	**Sn**	**17 28 52.3**	**-0.2**
BANOM	**Banah**	**6.77**	**132**	P

BURAR	**Bucovina Array**	**25.91 318**	⇑P		**P**	**17 31 32.8**	**0.0**
GZR	**Gura Zlata**	**26.35 312**	⇓P		**P**	**17 31 39.0**	**+2.2**
BVAR	**Borovoye Array**	**26.57 27**	P		**P**	**17 31 39.5**	**+0.9**
	1.7nm,0.8s,baz=268,slow=4.2,SNR=6.1						
	1.7nm,0.8s						
MARR	**Marisel-Cluj**	**26.69 315**	⇑P		**P**	**17 31 41.3**	**+1.4**
KURBB	**Kurchatov Arra**	**28.77 38**	P		**P**	**17 31 59.5**	**+1.2**
	0.4nm,0.7s,baz=240,slow=9.7,SNR=4.7						
	0.4nm,0.7s						
BIOA	**Bad Ischl, Aus**	**33.06 312**	*i* P		**P**	**17 32 36.5**	**+0.2**
	2.9nm,0.5s						
LESA	**Schwarzleotal**	**33.60 311**	*i* P		**P**	**17 32 40.8**	**-0.3**
	2.6nm,0.6s						
WTTA	**Wattenberg**	**34.24 310**	*i* P		**P**	**17 32 46.0**	**-0.7**
	3.9nm,0.6s						
SQTA	**Sankt Quirin**	**34.51 310**	*i* P		**P**	**17 32 48.5**	**-0.5**
	5.3nm,0.6s						
MOTA	**Moosalm**	**34.62 310**	*e*P		**P**	**17 32 49.2**	**-0.7**
	4.1nm,0.7s						
FETA	**Feichten**	**34.78 310**	*e*P		**P**	**17 32 51.1**	**-0.3**
	5.4nm,1.0s						
FINES	**FINESS Array B**	**34.83 339**	P		**P**	**17 32 50.3**	**-1.0**
	2.8nm,0.9s,baz=181,slow=14,SNR=2.0						
	2.8nm,0.9s						
DAVA	**Damuels**	**35.41 310**	*e*P		**P**	**17 32 55.8**	**-1.0**
	8.3nm,0.6s						
HFS	**Hagfors**	**38.45 331**	P		**P**	**17 33 20.6**	**-1.7**
	0.9nm,0.3s,baz=134,slow=8.5,SNR=6.6						
	0.9nm,0.3s						
NOA	**NORSAR Array B**	**39.97 331**	P		**P**	**17 33 33.9**	**-1.1**
	0.2nm,0.6s,baz=137,slow=7.7,SNR=2.0						
	0.2nm,0.6s						
ESDC	**Sonseca Array**	**45.04 297**	P		**P**	**17 34 15.0**	**-1.6**
	0.4nm,0.7s,baz=90,slow=7.9,SNR=4.4						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**48.33 260**	P		**P**	**17 34 41.7**	**-0.9**
	1.0nm,0.6s,baz=60,slow=8.7,SNR=4.9						
	1.0nm,0.6s						
KSRS	**Korea Array**	**62.66 61**	P		**P**	**17 36 26.9**	**+1.5**
	1.3nm,0.8s,baz=285,slow=6.6,SNR=2.4						
	1.3nm,0.8s						
BOSA	**Boshof**	**63.73 205**	P		**P**	**17 36 33.0**	**+0.4**
	3.1nm,0.8s,baz=37,slow=9.0,SNR=3.8						
	3.1nm,0.8s						
QSPA	**South Pole Qui**	**120.46 180**	PKP		**PKPdf**	**17 44 52.0**	**+0.5**
	0.6nm,0.6s,baz=176,slow=1.1,SNR=6.9						

IDC 03 17:26:51.5±2.2,27°.83N×95°.12E,h0km,mb3.1/4,
mbtmp3.2/4,Error ellipse: s-maj=87.9km s-min=27.2km
az=71.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.45 335**		P	P	17 31 41.2	-0.1
	0.5nm,0.7s,baz=146,slow=12,SNR=2.4						
	0.5nm,0.7s						
SONM	**Songino Array**	**21.82 21**		P	P	17 31 45.5	+0.1
	0.2nm,0.4s,baz=195,slow=10,SNR=2.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**60.79 137**		P	P	17 37 05.1	-0.4
	0.2nm,0.5s,baz=316,slow=7.4,SNR=5.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**63.41 140**		P	P	17 37 23.6	+0.5
	0.3nm,0.7s,baz=325,slow=7.3,SNR=1.9						
	0.3nm,0.7s						

*TAP **03** 17:37:29.1,24°.89N×122°.94E,h36km±1km,ML3.0,D*
*JMA **03** 17:37:29.3±0.3,25°.N±1°.×122°.9E±0°.8,h22km±3km,*
MV2.3/11,NW OFF ISHIGAKIJIMA IS

ISC 03 17:37:29.3±1.2,24°.90N±0°.05×122°.91E±0°.03,h31km±10km,
n58,σ1°.08/68,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45 168**		P	**Pb**	**17 37 38.7**	**-0.2**
YOJ				*e*S	**Sb**	**17 37 45.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.45 168**		⇑*i*P	**Pb**	**17 37 38.8**	**-0.2**
JYNG	**Yonagunijimaku**	**0.45 176**		P	**Pb**	**17 37 38.5**	**-0.5**
JYNG				*e*S	**Sb**	**17 37 45.5**	**-0.1**
EOS2	**EOS2**	**0.78 232**		*i* P	**Pn**	**17 37 44.1**	**+0.1**
EOS2				*i* S	**Sn**	**17 37 55.4**	**+0.7**
EOS3	**EOS3**	**0.81 222**		*i* P	**Pb**	**17 37 45.0**	**+0.1**
EOS3				S	**Sn**	**17 37 56.1**	**+0.6**
IRIF	**Iriomote-Funau**	**0.93 127**		*e*P	**Pb**	**17 37 46.7**	**-0.3**
IRIF				*e*S	**Sn**	**17 37 58.2**	**-0.4**
EOS4	**EOS4**	**0.94 215**		P	**Pn**	**17 37 46.5**	**+0.4**
EOS4				S	**Sn**	**17 37 58.9**	**+0.6**
SXI1	**Grass Mountain**	**0.96 282**		*e*P	**Pn**	**17 37 46.6**	**-0.1**
TIPB	**Shuangxi**	**0.99 274**		*e*P	**Pn**	**17 37 46.8**	**-0.3**
TWC	**Suao**	**1.01 254**		*e*P	**Pn**	**17 37 47.8**	**+0.5**
PCYT	**Pengchaiyu**	**1.05 314**		P	**Pb**	**17 37 48.7**	**-0.3**
NDS	**Dongshan**	**1.12 257**		*e*P	**Pb**	**17 37 51.2**	**+1.1**
TWE	**Neicheng**	**1.15 261**		*e*P	**Pb**	**17 37 50.6**	**+0.1**
ENA	**Nanau**	**1.16 246**		P	**Pn**	**17 37 50.2**	**+0.8**
ENA				S	**Sn**	**17 38 03.2**	**-1.1**
HATJ	**Hateruma jima**	**1.17 136**		*e*S	**Sb**	**17 38 06.5**	**+0.7**
JKRS	**Kuro-shima**	**1.20 123**		*e*P	**Pb**	**17 37 51.1**	**-0.3**
JKRS				*e*S	**Sb**	**17 38 06.6**	**+0.1**
EAHA	**Aohua**	**1.21 242**		*e*P	**Pn**	**17 37 50.7**	**+0.7**
EAHA				*e*S	**Sn**	**17 38 05.6**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.21 264**		*e*P	**Pb**	**17 37 51.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.24 115**		P	**Pb**	**17 37 51.3**	**-0.9**
ENTT	**Nioudou**	**1.25 258**		P	**Pb**	**17 37 52.6**	**+0.2**
JISG	**Ishigakijimahi**	**1.31 103**		P	**Pb**	**17 37 52.4**	**-0.9**
LATG	**Datong**	**1.31 254**		*e*P	**Pn**	**17 37 52.5**	**+1.0**
NACB	**Ninganchiao**	**1.40 239**		P	**Pn**	**17 37 53.6**	**+0.9**
NACB				*e*S	**Sb**	**17 38 11.5**	**-0.8**
YHNB	**Yeheng**	**1.42 261**		*e*P	**Pb**	**17 37 54.7**	**-0.4**
NSK	**Sanguang**	**1.43 261**		*e*P	**Pb**	**17 37 54.5**	**-0.9**
TWD	**Chiawan**	**1.45 236**		*e*P	**Pb**	**17 37 55.0**	**-0.7**
NNSB	**Datong**	**1.47 252**		*e*P	**Pb**	**17 37 56.3**	**+0.2**
ETLH	**Xiulin Townshi**	**1.47 242**		*e*P	**Pb**	**17 37 55.6**	**-0.6**
NNS	**Nan Shan**	**1.47 252**		*e*P	**Pb**	**17 37 56.9**	**+0.7**
LXIB	**Xiulin Townshi**	**1.62 238**		*e*P	**Pn**	**17 37 57.2**	**+1.4**
FUSS	**Fushou**	**1.65 247**		*e*P	**Pb**	**17 37 59.1**	**-0.2**
SHUL	**Shoufeng**	**1.66 228**		*e*P	**Pb**	**17 37 55.3**	**-0.9**
WHF	**Hehuan Shan**	**1.68 244**		*e*P	**Pb**	**17 37 59.4**	**-0.4**
TWT	**Tachien**	**1.71 248**		*e*P	**Pb**	**17 37 59.8**	**-0.4**
TDCB	**Techi**	**1.72 248**		*e*P	**Pn**	**17 37 58.5**	**+1.2**
ESL	**Shilin**	**1.73 232**		*e*P	**Pn**	**17 37 57.6**	**+0.4**
LIOB	**Emei**	**1.74 262**		*e*P	**Pb**	**17 37 59.6**	**-1.1**
NSTT	**Nanjuang**	**1.76 262**		*e*P	**Pb**	**17 38 00.1**	**-0.9**
WARBT	**Fenglin Townsh**	**1.82 230**		*e*P	**Pn**	**17 37 59.5**	**+1.0**
OWD	**Renai**	**1.84 240**		*e*P	**Pn**	**17 37 58.3**	**-0.6**
WUSB	**Renai**	**1.87 241**		*e*P	**Pb**	**17 38 01.4**	**-1.5**
WHP	**Taichung City**	**1.89 251**		*e*P	**Pb**	**17 38 03.0**	**-0.3**
HGSD	**Ruisui**	**1.95 224**		*e*P	**Pn**	**17 38 00.1**	**-0.2**
SMLT	**Sun Moon Lake**	**2.10 242**		*e*P	**Pb**	**17 38 05.7**	**-1.0**
SSLB	**Suanglung**	**2.10 239**		*e*P	**Pb**	**17 38 05.2**	**-1.6**
YULB	**Yu-li**	**2.10 225**		*e*P	**Pn**	**17 38 02.2**	**-0.2**
WHYT	**Xinyi Township**	**2.23 238**		*e*P	**Pn**	**17 38 05.3**	**+1.2**
FULB	**Fuli**	**2.25 221**		*e*P	**Pn**	**17 38 06.0**	**+1.6**
YUS	**Yu-Shan**	**2.27 232**		*e*P	**Pn**	**17 38 06.5**	**+1.3**
EHD	**Haiduan**	**2.34 222**		*e*P	**Pn**	**17 38 06.9**	**+1.3**
ALS	**Alishan**	**2.37 235**		*e*P	**Pn**	**17 38 08.5**	**+2.1**
CHN5	**Tsauling**	**2.42 238**		*e*P	**Pb**	**17 38 10.9**	**-1.3**
EDH	**Donghe**	**2.42 218**		*e*P	**Pn**	**17 38 06.4**	**-0.3**
WCKO	**Fanlu**	**2.56 236**		*e*P	**Pb**	**17 38 11.8**	**-2.8**
STYH	**Taoyuan**	**2.60 229**		*e*P	**Pn**	**17 38 12.2**	**+3.0**
TPUB	**Ta-pu**	**2.62 233**		*e*P	**Pn**	**17 38 12.2**	**+2.6**
WTP	**Ta-pu**	**2.67 232**		*e*P	**Pb**	**17 38 13.9**	**-2.6**
SSD	**Sandimen**	**2.99 225**		*e*P	**Pn**	**17 38 16.4**	**+1.8**

WEL 03 17:46:34.2±0.6,33°.S±6°.×17°.9W±1°.6,h33km,mB4.9/6,
ML5.3/19,MLv5.0/14,Mw(mB)4.2/6,Error ellipse:
s-maj=22.2km s-min=2.8km az=111.2,confirmed,South
of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.39**	**9**	P	Pn	17 47 24.2	-0.7
GLKZ				S	Sn	17 48 02.4	-1.5
RIZ	**Raoul Island**	**3.41**	**9**	P	Pn	17 47 24.2	-0.8
RIZ				S	Sn	17 48 05.1	+0.8
MXZ	**Matakaoa Point**	**5.56 207**		P	Pn	17 47 55.8	+1.1
MXZ				S	Sn	17 48 57.3	-0.2
WMGZ	**Waiomatatini S**	**5.75 205**		P	Pn	17 47 59.1	+1.8
WMGZ				S	Sn	17 49 04.2	+2.1
PKGZ	**Pakihiroa**	**5.92 207**		P	Pn	17 48 01.4	+1.8
PKGZ				S	Sn	17 49 08.7	+2.5
HAZ	**Te Kaha**	**5.94 209**		P	Pn	17 48 02.6	+2.7
HAZ				S	Sn	17 49 10.0	+3.2
PUZ	**Puketiti**	**6.03 205**		P	Pn	17 48 01.9	+0.8
PUZ				S	Sn	17 49 09.3	+0.2
RUGZ	**Raukumara Rang**	**6.16 209**		P	Pn	17 48 04.5	+1.5
RUGZ				S	Sn	17 49 16.3	+3.8
TWGZ	**Tauwhareparae**	**6.23 206**		P	Pn	17 48 05.6	+1.7
TWGZ				S	Sn	17 49 15.4	+1.5
CNGZ	**Carnagh Statio**	**6.42 203**		P	Pn	17 48 07.4	+0.9
TKGZ	**Te Karaka**	**6.51 206**		S	Sn	17 49 21.4	+0.7
MWZ	**Matawai**	**6.54 208**		P	Pn	17 48 09.2	+1.0
MWZ				S	Sn	17 49 22.4	+0.8
URZ	**Urewera**	**6.65 211**		P	Pn	17 48 11.0	+1.4
URZ				S	Sn	17 49 24.8	+0.6
RAGZ	**Rawiri**	**6.72 208**		P	Pn	17 48 10.8	+0.1
RAGZ				S	Sn	17 49 27.9	+1.8
WCZ	**Waipu Caves**	**6.75 239**		P	Pb	17 48 21.8	-9.1
RIGZ	**Rimuhau**	**6.78 205**		P	Pn	17 48 11.6	+0.2
RIGZ				S	Sn	17 49 27.4	0.0
PRGZ	**Paritu Road**	**6.93 204**		P	Pn	17 48 12.5	-1.0
PRGZ				S	Sn	17 49 29.1	-2.0
MUGZ	**Murupara**	**6.98 212**		P	Pn	17 48 14.9	+0.7
MUGZ				S	Sn	17 49 34.2	+1.8
SNGZ	**Shannon Statio**	**7.00 207**		P	Pn	17 48 15.3	+0.9
SNGZ				S	Sn	17 49 33.6	+0.7
RTZ	**Ruatahuna**	**7.00 210**		P	Pn	17 48 15.5	+1.0
RTZ				S	Sn	17 49 33.0	-0.1
OUZ	**Omahuta**	**7.03 246**		P	Pn	17 48 25.1	+10
KNZ	**Kokohu**	**7.09 205**		P	Pn	17 48 14.8	-0.8
MHGZ	**Mahia Peninsul**	**7.13 203**		S	Sn	17 49 31.2	-4.7
RAHZ	**Arahi**	**7.22 208**		P	Pn	17 48 19.6	+2.2
RAHZ				S	Sn	17 49 38.2	0.0
MTHZ	**Maungataniwha**	**7.26 210**		P	Pn	17 48 19.5	+1.5
MTHZ				S	Sn	17 49 40.4	+1.1
NMHZ	**Naumai**	**7.48 209**		P	Pn	17 48 21.9	+0.7
NMHZ				S	Sn	17 49 45.7	+0.8
BKZ	**Black Stump Fm**	**7.67 210**		P	Pn	17 48 24.3	+0.6
BKZ				S	Sn	17 49 48.8	-0.7
MCHZ	**McNeill Hill**	**7.82 208**		P	Pn	17 48 26.1	+0.4
MCHZ				S	Sn	17 49 53.3	+0.2
KWHZ	**Kaweka Forest**	**7.92 210**		P	Pn	17 48 28.5	+1.4
KWHZ				S	Sn	17 49 54.9	-0.6
NTVZ	**North Tongarir**	**7.99 214**		P	Pn	17 48 30.8	+2.8
NTVZ				S	Sn	17 49 59.5	+2.2
ETVZ	**East Tongariro**	**8.00 214**		P	Pn	17 48 28.7	+0.5
ETVZ				S	Sn	17 49 59.1	+1.5
OTVZ	**Oturere**	**8.04 214**		P	Pn	17 48 30.3	+1.4
OTVZ				S	Sn	17 50 00.0	+1.3
SNVZ	**South Ngauruho**	**8.07 214**		P	Pn	17 48 30.5	+1.2
SNVZ				S	Sn	17 49 59.9	+0.4
NGZ	**Ngauruhoe**	**8.08 214**		P	Pn	17 48 31.1	+1.7
NGZ				S	Sn	17 49 59.7	0.0
KRHZ	**Kereru**	**8.12 209**		P	Pn	17 48 30.2	+0.3
KRHZ				S	Sn	17 49 58.3	-2.3
WNVZ	**Wahianoa**	**8.20 214**		P	Pn	17 48 29.9	-1.2
WNVZ				S	Sn	17 50 02.3	-0.4
WAZ	**Wanganui**	**8.83 214**		S	Sn	17 50 17.7	-0.2
TIWZ	**Tintock**	**9.29 207**		P	Pn	17 48 43.6	-2.2
TIWZ				S	Sn	17 50 22.6	-6.5
MRZ	**Mangatainoka R**	**9.31 209**		P	Pn	17 48 43.9	-2.2
MRZ				S	Sn	17 50 24.3	-5.3
HOWZ	**Holdsworth Sta**	**9.53 208**		P	Pn	17 48 47.1	-2.0
HOWZ				S	Sn	17 50 28.7	-6.5
OGWZ	**Otaki Gorge**	**9.61 210**		P	Pn	17 48 49.8	-0.4
OGWZ				S	Sn	17 50 32.1	-4.8
KIW	**Kapiti Island**	**9.76 211**		P	Pn	17 48 51.1	-1.1
DUWZ	**D'Urville Isla**	**10.16 214**		P	Pn	17 48 59.7	+2.0
TCW	**Tory Channel**	**10.32 212**		P	Pn	17 48 57.6	-2.3
TUWZ	**Tuamarina**	**10.64 212**		P	Pn	17 49 03.7	-0.7
QRZ	**Quartz Range**	**10.87 219**		P	Pn	17 49 08.0	+0.5
MRNZ	**Matariki Terra**	**11.18 216**		P	Pn	17 49 10.9	-0.8
THZ	**Tophouse**	**11.38 214**		P	Pn	17 49 15.5	+0.9
KHZ	**Kahutara**	**11.62 210**		P	Pn	17 49 12.2	-5.5
KHZ				P		17 49 17.2	
DSZ	**Denniston Nort**	**11.92 217**		P	Pn	17 49 23.7	+1.8
GVZ	**Greta Valley S**	**12.28 210**		P	Pn	17 49 26.0	-0.7
LTZ	**Lake Taylor**	**12.47 213**		P	Pn	17 49 28.8	-0.6
OKCZ	**Okains Bay**	**12.89 208**		P	Pn	17 49 34.1	-1.0
OXZ	**Oxford**	**13.01 212**		P	Pn	17 49 33.4	-3.2
WVZ	**Waitaha Valley**	**13.43 216**		P	Pn	17 49 42.4	+0.1
FOZ	**Fox Glacier**	**14.22 217**		P	Pn	17 49 52.1	-1.1
TMZ	**Timaru**	**14.30 212**		P	Pn	17 49 51.8	-2.5
LBZ	**Lake Benmore**	**14.67 214**		P	Pn	17 49 58.1	-1.3
ODZ	**Otahua Downs**	**14.98 211**		P	Pn	17 50 01.1	-2.4
JCZ	**Jackson Bay**	**15.13 217**		P	Pn	17 50 03.6	-2.0
EAZ	**Earnscleugh**	**15.72 213**		P	Pn	17 50 11.5	-1.7
MLZ	**Mavora Lakes**	**16.39 215**		P	Pn	17 50 19.9	-1.8
WHZ	**Wether Hill Ro**	**16.85 214**		P	Pn	17 50 26.4	-1.1

*IDC **03** 17:49:42.0±0.6,2°.68S×138°.27E,h0km,mb4.2/11,*
mbtmp4.2/14,ML4.0/3,MS3.4/13,Error ellipse:
s-maj=20.3km s-min=11.9km az=86.0
*NEIC **03** 17:49:44.8±1.8,2°.65S±0°.10×138°.34E±0°.04,h19km±4km,*
mb4.5/33,Error ellipse: s-maj=14.4km s-min=5.4km
az=177.0
*DJA **03** 17:49:45.2±0.2,3°.S±3°.×13°.8E±°.,h10km,M4.5/17,*
mb4.6/17,mB4.6/1,MLv4.4/10,Mw(mB)3.9/1

ISC 03 17:49:44.9±0.4,2°.63S±0°.06×138°.40E±0°.05,h21km±4km,
n85,σ1°.34/83,mb4.5/25,MS3.5/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.71**	**26**	P	**Pb**	**17 49 56.3**	**-2.3**
GENI	**Genyem**	**1.77**	**89**	P	**Pn**	**17 50 15.0**	**+0.7**
GENI				S	**Sb**	**17 50 43.5**	**+5.1**
SRPI	**Serui, Papua**	**2.29 289**		P	**Pn**	**17 50 22.1**	**+0.6**
SRPI				S	**Sn**	**17 50 50.8**	**+1.8**
JAY	**Jayapura**	**2.31**	**87**	Pn	**Pn**	**17 50 22.5**	**+0.7**
	40nm,0.3s,baz=240,slow=10,SNR=101						
JAY				Sn	**Sb**	**17 50 56.0**	**+2.1**
	21nm,0.3s,baz=323,slow=22,SNR=8.2						
JAY				LR	LR	17 51 44.1	
	comp=Z,607nm,18.5s,baz=318,slow=50						
	117nm,0.3s						
JAY	**Jayapura**	**2.31**	**87**	P	**Pn**	**17 50 23.0**	**+1.2**
JAY				S	**Sb**	**17 50 53.5**	**-0.4**
BAKI	**Biak**	**2.70 302**		P	**Pn**	**17 50 29.1**	**+1.9**
BAKI				S	**Sn**	**17 51 01.9**	**+2.6**
RKPI	**Ransiki, Papua**	**4.36 285**		P	**Pn**	**17 50 51.2**	**+1.1**
MMPI	**Merauke**	**6.12 161**		P	**Pn**	**17 51 17.2**	**+2.9**
FAKI	**Fak Fak**	**6.15 267**		Pn	**Pn**	**17 51 15.9**	**+1.2**
FAKI	**Fak Fak**	**6.15 267**		P	**Pn**	**17 51 16.0**	**+1.3**
	0.2nm38nm,1.0s						
SWI	**Sorong**	**7.35 284**		P	**Pn**	**17 51 33.1**	**+2.0**
	0.1nm411nm22nm,0.8s						
PMG	**Port Moresby**	**11.01 128**		LR	LR	17 57 02.6	
	comp=Z,203nm,18.5s,baz=271,slow=40						
NLAI	**Namlea**	**11.30 267**		P	**Pn**	**17 52 26.9**	**+1.6**
	43nm,1.1s						
COEN	**Coen**	**12.20 158**		Pn	**Pn**	**17 52 37.2**	**-0.5**
SANI	**Sanana**	**12.41 272**		P	**Pn**	**17 52 39.9**	**-0.7**
	20nm,1.1s						
MTN	**Manton Dam**	**12.44 215**			**Pn**	**17 52 40.8**	**-0.1**
RABL	**Rabaul**	**13.83**	**97**		**Pn**	**17 52 59.5**	**-0.4**
SOEI	**Soe**	**15.73 243**		Pn	**Pn**	**17 53 23.9**	**-1.6**
SOEI				IAmb	IAmb	17 53 45.1	
	comp=Z,41nm,0.9s						
SOEI	**Soe**	**15.73 243**		P	**P**	**17 53 28.8**	**-0.6**
DAV	**Davao City (W)**	**16.02 307**		LR	LR	17 58 44.3	
	comp=Z,108nm,21.4s,baz=137,slow=34						
KNRA	**Kununurra**	**16.07 216**			**Pn**	**17 53 28.4**	**-1.4**
KNRA				IAmb	IAmb	17 53 39.1	
	comp=Z,24nm,1.0s						
BATI	**Baumata**	**16.46 242**		Pn	**P**	**17 53 37.4**	**0.0**
	comp=Z,2.8nm,0.3s,baz=288,slow=6.4,SNR=4.0						
BATI	**Baumata**	**16.46 242**		P	**P**	**17 53 37.1**	**-0.3**
APSI	**Ampana**	**16.83 276**		P	**P**	**17 53 41.2**	**-0.3**
	comp=Z,47nm,1.2s						
GUMO	**Guam**	**17.34**	**22**	LR	LR	17 59 03.5	
	comp=Z,66nm,20.2s,baz=208,slow=32						
WB0	**Warramunga Arr**	**17.48 193**		P	**Pn**	**17 53 47.1**	**-0.4**
WR0	**Warramunga Arr**	**17.63 192**		Pn	**Pn**	**17 53 48.1**	**-1.4**
WR0				IAmb	IAmb	17 54 11.8	
	comp=Z,17nm,0.8s						
WR8	**Warramunga Arr**	**17.64 192**			**Pn**	**17 53 47.7**	**-1.8**
WRAB	**Tennant Creek**	**17.65 193**		P	**Pn**	**17 53 50.0**	**+0.3**
WRA	**Warramunga Arr**	**17.66 193**			**Pn**	**17 53 47.5**	**-2.3**
WRA	**Warramunga Arr**	**17.66 193**		P	**Pn**	**17 53 48.2**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=4.6,slow=12,SNR=32						
WRA				S	Sn	17 56 52.6	-14
	comp=Z,0.8nm,0.7s,baz=14,slow=20,SNR=2.0						
WRA				LR	LR	18 01 25.5	
	comp=Z,350nm,18.2s,baz=27,slow=40						
	comp=Z,2.8nm,0.5s						
TOLI2	**Tolitoli**	**18.00 282**		P	**Pn**	**17 53 53.8**	**-0.3**
KAPI	**Kappang**	**18.76 262**		LR	LR	18 02 41.0	
	comp=Z,91nm,19.8s,baz=70,slow=42						
WSI	**Waingapu**	**19.30 248**		P	**P**	**17 54 09.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.82 218**		P	**P**	**17 54 14.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=6.0						
FITZ				S	S	17 57 43.9	-13
	comp=Z,6.9nm,0.8s,baz=193,slow=14,SNR=4.9						
FITZ				LR	LR	18 03 10.2	
	comp=Z,183nm,19.5s,baz=38,slow=41						
	comp=Z,6.3nm,1.0s						
AS31	**Alice Springs**	**21.36 191**		P	**P**	**17 54 29.8**	**-1.3**
ASAR	**Alice Springs**	**21.36 191**		P	**P**	**17 54 30.9**	**-0.2**
ASAR	**Alice Springs**	**21.36 191**		P	**P**	**17 54 30.5**	**-0.6**
	comp=Z,6.9nm,0.7s,baz=21,slow=11,SNR=71						
ASAR				S	**S**	**17 58 26.5**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=14,slow=28,SNR=5.1						
	comp=Z,6.9nm,0.7s						
STKA	**Stephens Creek**	**29.25 174**		P	**P**	**17 55 45.9**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=318,slow=14,SNR=1.9						
	comp=Z,1.4nm,0.8s						
LEM	**Lembang**	**30.95 261**		LR	LR	18 11 47.0	
	comp=Z,52nm,18.5s,baz=206,slow=43						
CM31	**Chiang Mai Arr**	**44.13 300**		P	**P**	**17 57 49.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**44.13 300**		P	**P**	**17 57 50.0**	**-2.3**
CMAR	**Chiang Mai Arr**	**44.13 300**		P	**P**	**17 57 53.2**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=121,slow=6.1,SNR=7.7						
CMAR				LR	LR	18 17 55.9	
	comp=Z,18nm,19.1s,baz=215,slow=38						
	comp=Z,1.0nm,0.8s						
ASAJ	**Asahikawa**	**46.69**	**4**	LR	LR	18 15 53.6	
	comp=Z,46nm,20.3s,baz=164,slow=34						
URZ	**Urewera**	**50.08 140**		LR	LR	18 20 58.7	
	comp=Z,68nm,19.0s,baz=329,slow=37						
SHL	**Shillong**	**53.03 305**		P	**P**	**17 59 01.5**	**+0.4**
SHL				IAmb	IAmb	17 59 03.2	
	comp=Z,6.7nm,1.1s						
GTA	**Gaotai**	**54.82 324**		*e*P	**P**	**17 59 16.0**	**+2.2**
GTA				pP	pP	17 59 19.8	-0.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONM	**Songino Array**	**57.52 335**		P	**P**	**17 59 32.4**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=159,slow=7.5,SNR=5.4						
	comp=Z,0.9nm,0.5s						
PET	**Petropavlovsk**	**58.01**	**14**	P	**P**	**17 59 35.5**	**-0.5**
RAR	**Rarotonga**	**62.84 112**		LR	LR	18 25 54.9	
	comp=Z,63nm,18.6s,baz=290,slow=34						
YAK	**Yakutsk**	**64.83 355**		P	**P**	**18 00 22.1**	**+0.1**
MKAR	**Makanchi Array**	**69.54 323**		P	**P**	**18 00 51.5**	**-0.8**
MKAR	**Makanchi Array**	**69.54 323**		P	**P**	**18 00 53.3**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=118,slow=8.4,SNR=19						
	comp=Z,4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**71.71 330**		P	**P**	**18 01 04.0**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=113,slow=5.6,SNR=6.3						
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**73.47 325**		P	**P**	**18 01 14.8**	**-1.1**
KURK				IAmb	IAmb	18 01 17.2	
	comp=Z,3.1nm,1.1s						
KURBB	**Kurchatov Arra**	**73.48 325**		P	**P**	**18 01 16.3**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=116,slow=5.7,SNR=7.3						
	comp=Z,1.1nm,0.5s						
GAR	**Garm**	**74.81 311**		P	**P**	**18 01 22.5**	**-1.6**
GAR				IAmb	IAmb	18 01 25.0	
	comp=Z,4.6nm,0.8s						
KKAR	**Karatay Array**	**75.86 316**		P	**P**	**18 01 29.3**	**-0.7**
VNDA	**Vanda**	**75.89 175**		P	**P**	**18 01 30.3**	**+0.9**
VNDA				IAmb	IAmb	18 02 02.7	
	comp=Z,4.3nm,1.5s						
VNDA	**Vanda**	**75.89 175**		P

comp=Z,1.4nm,0.5s,baz=196,slow=0.9,SNR=21
comp=Z,1.4nm,0.5s
MAW Mawson 40.44 144 P **P 18 26 21.5 +0.8**
comp=Z,2.1nm,0.7s,baz=224,slow=7.4,SNR=8.3
comp=Z,2.1nm,0.7s
VNDA Vanda 46.70 183 P **P 18 27 11.6 +0.9**
VNDA IAmb IAmb 18 27 23.2
comp=Z,3.5nm,1.5s
VNDA Vanda 46.70 183 P **P 18 27 11.7 +1.0**
comp=Z,1.7nm,0.6s,baz=184,slow=6.6,SNR=16
comp=Z,1.7nm,0.6s
CASY Casey 54.14 161 P **P 18 28 07.7 +0.9**
TORD Torodi Ar. Bea 73.09 30 P **P 18 30 12.7 +0.9**
TORD Torodi Ar. Bea 73.09 30 P **P 18 30 13.1 +1.3**
comp=Z,1.6nm,0.7s,baz=198,slow=5.5,SNR=8.2
comp=Z,1.6nm,0.7s
N30M Aishikik Lake 144.54 309 PKPdf **PKiKP 18 38 16.1 -3.4**
O29M Mount Kennedy 144.73 306 PKPdf **PKiKP 18 38 17.2 -2.8**
M30M Minto, Yukon 144.85 311 **PKiKP 18 38 17.0 -3.1**
H31M Peel River 145.02 316 **PKPdf 18 38 16.2 -0.2**
BCPM Bancas Point 145.07 305 **PKPdf 18 38 16.6 0.0**
G31M Satah River 145.35 318 PKPdf **PKPab 18 38 17.4 +0.1**
J30M Hart River 145.38 314 PKPdf **PKPab 18 38 17.7 0.0**
INK Inuvik 145.50 321 PKPdf **PKiKP 18 38 18.2 -2.9**
L29M L29M 145.62 311 PKPdf **PKiKP 18 38 18.8 -2.8**
K29M Barlow Dome 145.62 312 PKPdf **PKiKP 18 38 18.6 -3.1**
I30M Mount Dempster 145.62 315 PKPdf **PKPab 18 38 18.3 -0.4**
ILAR Eielson Array 149.80 312 PKPbc **PKiKP 18 38 29.4 -0.7**
comp=Z,2.1nm,0.7s,baz=137,slow=2.0,SNR=19
SONM Songino Array 151.03 87 PKPbc **PKiKP 18 38 32.9 -0.4**
comp=Z,1.6nm,0.5s,baz=218,slow=3.9,SNR=10

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*IDC **03** 18:26:08.7±0.6,2°.62S×138°.31E,h0km,mb4.3/11, mbtmp4.3/15,ML4.0/4,MS3.6/14,Error ellipse: s-maj=20.2km s-min=15.2km az=74.0*
*NEIC **03** 18:26:09.9±1.7,2°.66S±0°.10×138°.41E±0°.07,h10km±1km, mb4.3/26,Error ellipse: s-maj=16.8km s-min=11.7km az=171.0*
*DJA **03** 18:26:11.9±0.2,3°S±3°×138°8E±°,h10km,M4.5/15, mb4.6/15,mB4.7/1,MLv4.5/10,Mw(mB)4.0/1*
ISC 03 18:26:12.1±0.4,2°.65S±0°.06×138°.53E±0°.04,h32km,n85, σ1$61/78,mb4.3/26,MS3.5/9,1C,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.68**	**15**	P	**Pn**	**18 26 23.1**	**-2.4**
GENI	**Genyem**	**1.64**	**88**	P	**Pb**	**18 26 42.5**	**+0.8**
JAY	**Jayapura**	**2.17**	**87**	Pn	**Pb**	**18 26 49.4**	**-1.5**
	18nm,0.3s,baz=236,slow=11,SNR=52						
JAY				Sn	**Sb**	**18 27 22.1**	**+4.7**
	28nm,0.3s,baz=339,slow=22,SNR=8.0						
JAY				LR	LR	18 27 36.9	
	comp=Z,726nm,19.9s,baz=318,slow=37						
	195nm,0.6s						
JAY	**Jayapura**	**2.17**	**87**	P	**Pb**	**18 26 49.8**	**-1.1**
JAY				S	**Sb**	**18 27 19.6**	**+2.1**
SRPI	**Serui, Papua**	**2.42**	**289**	P	**Pn**	**18 26 48.8**	**-0.7**
SRPI				S	**Sn**	**18 27 18.3**	**+0.3**
BAKI	**Biak**	**2.82**	**301**	P	**Pn**	**18 26 54.8**	**-0.2**
BAKI				S	**Sn**	**18 27 29.0**	**+1.0**
RKPI	**Ransiki, Papua**	**4.50**	**284**	P	**Pn**	**18 27 18.6**	**+0.5**
KMPI	**Kaimana, Papua**	**4.92**	**258**	P	**Pn**	**18 27 28.1**	**+4.1**
FAKI	**Fak Fak**	**6.28**	**267**	Pn	**Pn**	**18 27 43.5**	**+0.9**
FAKI	**Fak Fak**	**6.28**	**267**	P	**Pn**	**18 27 43.2**	**+0.6**
	0.2nm58nm,1.1s						
SWI	**Sorong**	**7.48**	**284**	P	**Pn**	**18 27 59.2**	**+0.1**
	0.1nm493nm30nm,0.8s						
PMG	**Port Moresby**	**10.89**	**128**	LR	LR	18 34 51.4	
	comp=Z,513nm,19.1s,baz=312,slow=47						
NLAI	**Namlea**	**11.43**	**267**	P	**Pn**	**18 28 55.5**	**+2.2**
	29nm,1.0s						
COEN	**Coen**	**12.14**	**158**		**Pn**	**18 28 58.7**	**-4.3**
MTN	**Manton Dam**	**12.50**	**215**	Pn	**Pn**	**18 29 05.8**	**-2.2**
SANI	**Sanana**	**12.55**	**272**	P	**Pn**	**18 29 08.0**	**-0.6**
	20nm,0.8s						
SOEI	**Soe**	**15.84**	**243**		**P**	**18 29 56.3**	**-0.2**
SOEI	**Soe**	**15.84**	**243**	P	**P**	**18 29 57.0**	**+0.5**
KNRA	**Kununurra**	**16.13**	**216**		**Pn**	**18 29 55.8**	**-0.8**
KNRA				IAmb	IAmb	18 30 13.3	
	comp=Z,25nm,0.9s						
BBSI	**Bau Bau**	**16.17**	**259**	P	**P**	**18 30 01.3**	**+1.2**
	comp=Z,30nm,1.0s						
BATI	**Baumata**	**16.57**	**242**	Pn	**Pn**	**18 30 00.7**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=161,slow=5.9,SNR=7.1						
	comp=Z,10nm,0.4s						
BATI	**Baumata**	**16.57**	**242**	P	**P**	**18 30 04.4**	**-0.1**
GUMO	**Guam**	**17.31**	**21**	LR	LR	18 36 31.8	
	comp=Z,124nm,18.6s,baz=198,slow=36						
WB0	**Warramunga Arr**	**17.49**	**193**		**Pn**	**18 30 12.0**	**-1.7**
WB0				IAmb	IAmb	18 30 31.2	
	comp=Z,26nm,1.0s						
WR8	**Warramunga Arr**	**17.65**	**193**		**Pn**	**18 30 14.4**	**-1.3**
WR8				IAmb	IAmb	18 30 32.7	
	comp=Z,21nm,0.9s						
WRAB	**Tennant Creek**	**17.66**	**193**	P	**P**	**18 30 16.4**	**-0.2**
WRAB				IAmb	IAmb	18 30 54.0	
	comp=Z,22nm,0.9s						
WRA	**Warramunga Arr**	**17.67**	**193**		**Pn**	**18 30 14.8**	**-1.3**
WRA	**Warramunga Arr**	**17.67**	**193**	P	**Pn**	**18 30 15.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=4.8,slow=12,SNR=21						
WRA				LR	LR	18 37 43.4	
	comp=Z,428nm,19.5s,baz=359,slow=39						
	comp=Z,3.1nm,0.6s						
TOLI2	**Tolitoli**	**18.13**	**282**		**Pn**	**18 30 16.9**	**-4.8**
PCI	**Palu**	**18.77**	**275**	P	**Pn**	**18 30 30.2**	**+0.8**
KAPI	**Kappang**	**18.88**	**262**	LR	LR	18 38 47.3	
	comp=Z,75nm,20.4s,baz=82,slow=41						
CTA	**Charters Tower**	**18.91**	**157**	LR	LR	18 38 38.5	
	comp=Z,7.3nm,19.3s,baz=336,slow=39						
FITZ	**Fitzroy Crossi**	**19.89**	**219**	Pn	**Pn**	**18 30 41.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.89**	**219**	P	**P**	**18 30 40.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=10.0						
	comp=Z,4.1nm,0.7s						
AS31	**Alice Springs**	**21.37**	**192**		**P**	**18 30 56.5**	**-0.5**
AS31				IAmb	IAmb	18 31 08.6	
	comp=Z,9.7nm,0.9s						
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**18 30 57.0**	**-0.1**
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**18 30 57.2**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=22,slow=9.1,SNR=41						
ASAR				LR	LR	18 40 07.0	
	comp=Z,351nm,19.0s,baz=14,slow=39						
	comp=Z,4.8nm,0.6s						
STKA	**Stephens Creek**	**29.22**	**175**	LR	LR	18 45 17.4	
	comp=Z,178nm,18.9s,baz=339,slow=39						
JOW	**Kunigami**	**30.93**	**342**	LR	LR	18 42 35.9	
	comp=Z,96nm,20.2s,baz=255,slow=32						
LEM	**Lembang**	**31.08**	**261**	LR	LR	18 45 41.7	
	comp=Z,40nm,18.1s,baz=206,slow=38						
NACB	**Ninganchiao**	**31.34**	**329**	P	**P**	**18 32 29.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**36.14**	**211**	LR	LR	18 49 16.1	
	comp=Z,354nm,20.9s,baz=11,slow=38						
JNU	**Nakatsue**	**36.30**	**349**	LR	LR	18 47 53.9	
	comp=Z,64nm,18.4s,baz=182,slow=36						
KSRS	**Korea Array**	**41.10**	**347**	P	**P**	**18 33 53.5**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=169,slow=9.7,SNR=5.8						
	comp=Z,2.8nm,0.8s						
SLVN	**Son La**	**41.43**	**307**	P	**P**	**18 33 56.4**	**+0.3**
SLVN				IAmb	IAmb	18 34 03.2	
	comp=Z,6.2nm,1.0s						
ENH	**Enshi**	**42.90**	**322**		**P**	**18 34 08.5**	**+0.5**
ENH				IAmb	IAmb	18 34 10.6	
	comp=Z,6.0nm,1.0s						
CM31	**Chiang Mai Arr**	**44.25**	**300**	P	**P**	**18 34 18.1**	**-0.9**
CM31				IAmb	IAmb	18 34 28.8	
	comp=Z,6.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.25**	**300**		**P**	**18 34 17.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**44.25**	**300**	P	**P**	**18 34 19.4**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=122,slow=6.5,SNR=18						
	comp=Z,2.1nm,0.9s						
CHTO	**Chiang Mai**	**44.40**	**300**		**P**	**18 34 20.2**	**0.0**
PZH	**PanZhiHua**	**45.85**	**312**	P	**P**	**18 34 34.1**	**+2.3**
XAN	**Xi'an**	**45.92**	**325**	⇑P	**P**	**18 34 33.0**	**+0.9**
XAN				pP	pP	18 34 37.5	-4.3
XAN				sP	sP	18 34 40.4	-5.4
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
ASAJ	**Asahikawa**	**46.70**	**4**	LR	LR	18 54 34.1	
	comp=Z,43nm,19.5s,baz=148,slow=36						
HHC	**Hu-ho-hao-te**	**49.80**	**333**	*e*P	**P**	**18 35 05.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LZH	**Lanzhou**	**50.32**	**323**	*e*P	**P**	**18 35 08.0**	**+1.8**
LZH				pP	sP	18 35 19.3	-0.7
LZH				pmax	pmax		
	comp=Z,40nm,1.3s						
GTA	**Gaotai**	**54.91**	**324**	*e*P	**P**	**18 35 42.4**	**+2.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**55.53**	**309**	P	**P**	**18 35 44.5**	**-0.7**
LSA				IAmb	IAmb	18 35 55.3	
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**57.33**	**335**	P	**P**	**18 35 55.2**	**-2.0**
ULN				IAmb	IAmb	18 36 02.7	
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**57.59**	**335**	P	**P**	**18 35 59.0**	**-0.1**
SONM	**Songino Array**	**57.59**	**335**	P	**P**	**18 36 00.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=164,slow=7.1,SNR=6.8						
SONM				LR	LR	19 01 11.1	
	comp=Z,63nm,19.4s,baz=142,slow=37						
	comp=Z,1.7nm,0.8s						
PETK	**Petropavlovsk-**	**57.84**	**14**	LR	LR	18 56 47.4	
	comp=Z,39nm,22.0s,baz=263,slow=32						
YAK	**Yakutsk**	**64.86**	**355**		**P**	**18 36 48.1**	**+0.3**
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	**18 37 18.5**	**0.0**
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	**18 37 19.2**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=115,slow=7.6,SNR=26						
	comp=Z,8.3nm,0.9s						
KSH	**Kashi**	**70.91**	**313**	P	**P**	**18 37 29.0**	**+2.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAA0	**Zalesovo Array**	**71.79**	**330**	P	**P**	**18 37 30.2**	**-1.2**
ZAA0				IAmb	IAmb	18 37 32.6	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**71.79**	**330**	P	**P**	**18 37 31.4**	**0.0**
ZALV	**Zalesovo Beam**	**71.79**	**330**	P	**P**	**18 37 32.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=112,slow=5.6,SNR=6.6						
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**73.56**	**325**	P	**P**	**18 37 40.8**	**-1.2**
KURK				IAmb	IAmb	18 37 44.0	
	comp=Z,4.2nm,1.0s						
KURBB	**Kurchatov Arra**	**73.57**	**325**	P	**P**	**18 37 42.9**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=114,slow=5.7,SNR=15						
	comp=Z,2.6nm,0.9s						
ARSB	**Arslanbob**	**73.67**	**314**	P	**P**	**18 37 44.0**	**+0.9**
ARSB				IAmb	IAmb	18 37 58.1	
	comp=Z,5.2nm,1.0s						
GAR	**Garm**	**74.92**	**311**	P	**P**	**18 37 48.9**	**-1.5**
CHGR	**Chuyangaron**	**75.70**	**311**	P	**P**	**18 37 54.0**	**-0.9**
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**18 37 54.5**	**-0.3**
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**18 37 56.2**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=319,slow=9.1,SNR=6.7						
	comp=Z,1.3nm,0.8s						
KK31	**Karatay Array**	**75.96**	**316**	P	**P**	**18 37 56.2**	**+0.1**
KK31				IAmb	IAmb	18 37 57.6	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**75.96**	**316**	P	**P**	**18 37 56.4**	**+0.3**
BVAR	**Borovoye Array**	**79.16**	**325**	P	**P**	**18 38 14.5**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=112,slow=7.1,SNR=11						
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**85.85**	**24**	P	**P**	**18 38 48.9**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=258,slow=4.7,SNR=15						
	comp=Z,1.6nm,0.7s						
QSPA	**South Pole Qui**	**87.30**	**180**	P	**P**	**18 38 58.8**	**+3.2**
QSPA	**South Pole Qui**	**87.30**	**180**	P	**P**	**18 38 58.6**	**+2.9**
	comp=Z,3.4nm,0.9s,baz=27,slow=3.2,SNR=7.2						
	comp=Z,3.4nm,0.9s						
BMAR	**Burnt Mountain**	**87.41**	**22**	P	**P**	**18 38 55.7**	**-0.3**
PB11	**IPOC Station P**	**144.47**	**130**	PKPdf	**PKPdf**	**18 45 47.2**	**+0.7**
CPUP	**Villa Florida**	**147.37**	**153**	PKPbc	**PKiKP**	**18 45 55.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=145,slow=1.5,SNR=3.9						
LPAZ	**La Paz**	**147.62**	**126**	PKPbc	**PKPab**	**18 45 57.5**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=94,slow=1.7,SNR=8.0						

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*MOS **03** 18:27:21.8±1.3,28°.44N×53°.64E,h11km,mb4.3/18,Error ellipse: s-maj=6.4km s-min=4.9km az=100.5*
*IDC **03** 18:27:22.9±0.6,28°.61N×53°.53E,h0km,mb4.1/23, mbtmp4.0/28,ML3.5/6,MS3.2/8,Error ellipse: s-maj=15.9km s-min=12.5km az=19.0*
*NEIC **03** 18:27:24.0±2.1,28°.54N±0°.07×53°.64E±0°.06,h10km±1km, mb4.4/57,Error ellipse: s-maj=11.7km s-min=9.4km az=170.0*
*TEH **03** 18:27:23.4,28°.44N×53°.65E,h11km±20km*
*DSN **03** 18:27:28.9±1.1,28°.22N×53°.53E,h15km,ML3.6/16,Error ellipse: s-maj=14.4km s-min=6.8km az=13.0*
*OMAN **03** 18:27:28.9±0.1,28°.22N×53°.64E,h10km,mb5.2/5, ml4.1/16,Error ellipse: s-maj=1.4km s-min=0.8km az=0.0*
ISC 03 18:27:23.5±1.1,28°.47N±0°.04×53°.66E±0°.03,h9km±7km, n271,σ1$70/284,mb4.3/65,MS3.4/6,5C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.08**	**297**	Pg	**Pg**	**18 27 25.8**	**+0.1**
QIR1	**Qir**	**0.54**	**271**	Pg	**Pg**	**18 27 33.9**	**0.0**
LAR1	**LAR**	**1.02**	**141**	Pg	**Pg**	**18 27 43.5**	**+0.4**
LMD1	**Lamerd**	**1.21**	**201**	Pg	**Pn**	**18 27 45.9**	**-0.7**
SHI	**Shiraz**	**1.54**	**320**	Pg	**Pb**	**18 27 51.8**	**-0.5**
SHI				Sg	**Sg**	**18 28 16.9**	**+3.9**
SHI	**Shiraz**	**1.54**	**320**	P	**Pg**	**18 27 53.3**	**+0.3**
KAZ2	**Kazeron-Fars-I**	**2.08**	**304**	Pn	**Pn**	**18 28 00.1**	**+1.3**
DSBU	**Dashti - Bushe**	**2.11**	**268**	Pn	**Pb**	**18 28 00.7**	**-1.3**
BNDS	**Bandar-Abbas**	**2.47**	**115**	Pn	**Pn**	**18 28 05.4**	**+1.3**
GENO	**Geno**	**2.47**	**115**	Pn	**Pn**	**18 28 05.9**	**+1.8**
NGRK	**Negar Kerman**	**2.94**	**66**	Pn	**Pn**	**18 28 12.4**	**+1.7**
IMEH	**Mehriz**	**3.03**	**16**	Pn	**Pn**	**18 28 14.1**	**+2.3**
KLNJ	**Kolanjah**	**3.10**	**325**	Pn	**Pn**	**18 28 14.2**	**+1.2**
KRBR	**Kerman**	**3.10**	**60**	Pn	**Pn**	**18 28 15.1**	**+2.2**
KHGB	**Koh Gabri**	**3.11**	**52**	Pn	**Pn**	**18 28 14.8**	**+1.9**
SHME	**Shamm**	**3.27**	**137**	P	**Pn**	**18 28 18.0**	**+3.0**
SHME	**Shamm**	**3.27**	**137**	P	**Pb**	**18 28 18.9**	**-2.8**
BANOM	**Banah**	**3.46**	**137**	P	**Pn**	**18 28 21.4**	**+3.8**
BANOM	**Banah**	**3.46**	**137**	*i* P	**Pn**	**18 28 21.0**	**+3.4**
	SNR=25						
IRAM	**Ramesheh**	**3.50**	**342**	Pn	**Pn**	**18 28 20.1**	**+1.7**
IBAF	**Bafgh**	**3.52**	**28**	Pn	**Pn**	**18 28 20.4**	**+1.8**
ZRDN	**Zarand Kerman**	**3.53**	**44**	Pn	**Pn**	**18 28 20.7**	**+1.9**
KHNJ	**Kahnooj**	**3.61**	**97**	Pn	**Pn**	**18 28 21.6**	**+1.9**
CHMN	**Cheshme madani**	**3.67**	**67**	Pn	**Pn**	**18 28 22.8**	**+2.1**
SAKB	**Bahrain**	**3.72**	**229**	P	**Pn**	**18 28 23.9**	**+2.7**
SAKB				S	**Sn**	**18 29 09.3**	**+4.1**
KRM1	**Kerman Provinc**	**3.75**	**56**	Pn	**Pn**	**18 28 23.5**	**+1.8**
MASF	**Masafi**	**3.81**	**144**	P	**Pn**	**18 28 26.1**	**+3.7**
	SNR=13						
ICHK	**Chekchek**	**3.82**	**10**	Pn	**Pn**	**18 28 24.6**	**+1.9**
MSFE	**Esma-Masafi**	**3.82**	**144**	*i* P	**Pn**	**18 28 25.3**	**+2.8**
	SNR=13						
NAZ	**Nazwa, Dubai**	**3.91**	**152**	P	**Pn**	**18 28 27.1**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.91**	**152**	*i* P	**Pn**	**18 28 26.8**	**+3.1**
	SNR=16						
MDH	**Madha**	**3.94**	**143**	P	**Pn**	**18 28 27.5**	**+3.3**
MDH	**Madha**	**3.94**	**143**	P	**Pn**	**18 28 27.1**	**+2.8**
IBRJ	**Brojen**	**4.00**	**329**	Pn	**Pn**	**18 28 26.7**	**+1.4**
AJN	**Ajban**	**4.07**	**163**	P	**Pn**	**18 28 28.8**	**+2.8**
AJN				S	**Sn**	**18 29 16.1**	**+2.3**
AJN	**Ajban**	**4.07**	**163**	*i* P	**Pn**	**18 28 28.9**	**+2.9**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**4.09**	**155**	P	**Pn**	**18 28 29.2**	**+2.8**
	SNR=12						
FAQ				S	**Sn**	**18 29 16.8**	**+2.5**
FAQ	**Al Faqa, Dubai**	**4.09**	**155**	P	**Pn**	**18 28 29.0**	**+2.7**
ASUD	**Al Ashush, Dub**	**4.11**	**158**	P	**Pn**	**18 28 29.9**	**+3.3**
ASUD	**Al Ashush, Dub**	**4.11**	**158**	*i* P	**Pn**	**18 28 29.4**	**+2.9**
	SNR=51						
IGAR	**Gharneh**	**4.16**	**341**	Pn	**Pn**	**18 28 30.1**	**+2.7**
UOSS	**Minazif**	**4.19**	**146**		**Pn**	**18 28 28.9**	**+1.3**
UOSS	**Minazif**	**4.19**	**146**	P	**Pn**	**18 28 30.4**	**+2.8**
UOSS	**Minazif**	**4.19**	**146**	Pn	**Pn**	**18 28 29.9**	**+2.3**
UOSS	**Minazif**	**4.19**	**146**	*i* P	**Pn**	**18 28 29.8**	**+2.3**
	SNR=14						
HATD	**Hatta, Dubai**	**4.25**	**148**	P	**Pn**	**18 28 31.7**	**+3.2**
HATD				S	**Sn**	**18 29 19.7**	**+1.4**
HATD	**Hatta, Dubai**	**4.25**	**148**	P	**Pn**	**18 28 31.0**	**+2.5**
HATD				S	**Sn**	**18 29 19.3**	**+1.0**
KBAM	**BAM**	**4.26**	**80**	Pn	**Pn**	**18 28 30.9**	**+2.2**
TRNA	**Turayna**	**4.32**	**211**	P	**Pn**	**18 28 31.8**	**+2.4**
	SNR=36						
ASHO	**Ashiyiah**	**4.34**	**150**	P	**Pn**	**18 28 32.7**	**+3.0**
	SNR=43						
ASHO				S	**Sn**	**18 29 20.6**	**0.0**
ASHO	**Ashiyiah**	**4.34**	**150**	*i* P	**Pn**	**18 28 32.1**	**+2.3**
	SNR=43						
ZNGN	**Zangian**	**4.37**	**327**	Pn	**Pn**	**18 28 31.8**	**+1.4**
SMRA	**Abu-Samra**	**4.49**	**215**	P	**Pn**	**18 28 34.9**	**+3.2**
	SNR=15						
SMRA				S	**Sn**	**18 29 25.6**	**+1.5**
GHWR	**Ruwais**	**4.54**	**189**	P	**Pn**	**18 28 33.2**	**+0.7**
GHWR				S	**Sn**	**18 29 25.7**	**+0.3**
JHBN	**Jahan bin**	**4.55**	**326**	Pn	**Pn**	**18 28 33.8**	**+0.9**
IZEF	**Zefreh**	**4.56**	**346**	Pn	**Pn**	**18 28 34.0**	**+1.1**
MZWR	**Madinat Zayed**	**4.69**	**177**	P	**Pn**	**18 28 35.1**	**+0.6**
MZWR				S	**Sn**	**18 29 29.4**	**+0.3**
ANAR	**Anarak**	**4.71**	**1**	Pn	**Pn**	**18 28 36.3**	**+1.4**
SLWR	**Sila**	**4.72**	**202**	P	**Pn**	**18 28 36.0**	**+1.1**
SLWR				S	**Sn**	**18 29 32.0**	**+2.1**
ALNE	**Al Ain**	**4.78**	**156**	P	**Pn**	**18 28 38.2**	**+2.4**
ALNE	**Al Ain**	**4.78**	**156**	*i* P	**Pn**	**18 28 37.9**	**+2.1**
	SNR=31						
IPIR	**Pirpir**	**4.83**	**331**	Pn	**Pn**	**18 28 37.8**	**+1.1**
SOHO	**SOHO**	**5.03**	**148**	P	**Pn**	**18 28 40.9**	**+1.7**
SOHO				S	**Sn**	**18 29 38.9**	**+1.4**
SOHO	**SOHO**	**5.03**	**148**	*i* P	**Pn**	**18 28 41.0**	**+1.8**
	SNR=18						
IKLH	**Kolahrood**	**5.15**	**340**	Pn	**Pn**	**18 28 42.7**	**+1.6**
TPRV	**Parvadeh(Tabas**	**5.24**	**29**	Pn	**Pn**	**18 28 43.4**	**+1.3**
MZR	**Muzera**	**5.45**	**182**	P	**Pn**	**18 28 46.5**	**+1.6**
	SNR=14						
MZR				S	**Sn**	**18 29 48.3**	**+0.6**
	SNR=16						
MZR	**Muzera**	**5.45**	**182**	*i* P	**Pn**	**18 28 46.1**	**+1.1**
	SNR=14						
QAMS	**Qamsar**	**5.59**	**340**	Pn	**Pn**	**18 28 48.9**	**+1.7**
KRSH	**Karshahi**	**5.63**	**347**	Pn	**Pn**	**18 28 49.4**	**+1.8**
ARQ	**Araqi**	**5.73**	**153**	P	**Pn**	**18 28 50.7**	**+1.9**
	SNR=40						
BSRN	**Basiran**	**5.88**	**52**	Pn	**Pn**	**18 28 53.9**	**+3.0**
UMZA	**Um Al Zommool**	**5.89**	**166**	P	**Pn**	**18 28 52.7**	**+1.7**
UMZA				S	**Sn**	**18 29 58.4**	**-0.2**
TKDS	**Koohdasht(Taba**	**5.93**	**29**	Pn	**Pn**	**18 28 52.7**	**+1.1**
ISFB	**Sefidab**	**5.99**	**349**	Pn	**Pn**	**18 28 53.4**	**+1.0**
TNSJ	**Nastanj**	**6.03**	**24**	Pn	**Pn**	**18 28 54.0**	**+1.0**
IKOO	**Kooshah**	**6.07**	**48**	Pn	**Pn**	**18 28 55.4**	**+1.7**
NHDN	**Nehbandan**	**6.27**	**61**	Pn	**Pn**	**18 28 58.4**	**+2.1**
ZHSF	**Zahedan**	**6.34**	**78**	Pn	**Pn**	**18 28 59.9**	**+2.6**
BIDO	**Bidbid**	**6.36**	**140**	P	**Pn**	**18 28 59.2**	**+1.8**
BIDO				S	**Sn**	**18 30 10.8**	**+0.5**
SMDO	**Samad**	**6.69**	**143**	P	**Pn**	**18 29 04.7**	**+2.6**
	SNR=19						
SMDO				P	Pb	18 29 04.7	-15
	SNR=19						
SMDO				S	**Sn**	**18 30 19.3**	**+0.8**
IVRN	**Varamin**	**6.71**	**346**	Pn	**Pn**	**18 29 03.7**	**+1.4**
IQOM	**Qom**	**6.72**	**342**	Pn	**Pn**	**18 29 04.3**	**+1.7**
CHBR	**Chabahar**	**6.73**	**114**	Pn	**Pn**	**18 29 02.8**	**+0.3**
AFRZ	**Afriz**	**6.75**	**42**	Pn	**Pn**	**18 29 04.4**	**+1.5**
BDRS	**Dareh Seyedi**	**6.83**	**324**	Pn	**Pn**	**18 29 04.7**	**+0.6**
WSAR	**Wadi Sarin**	**6.87**	**138**	Pn	**Pn**	**18 29 06.8**	**+2.3**
	0.1nm,0.3s,baz=344,slow=24,SNR=35						
WSAR				Sn	**Sn**	**18 30 21.9**	**-1.0**
	baz=134,slow=24,SNR=1.2						
WSAR	**Wadi Sarin**	**6.87**	**138**	P	**Pn**	**18 29 06.1**	**+1.6**
	SNR=20						
WSAR				S	**Sn**	**18 30 22.5**	**-0.4**
ILAS	**Lasjerd**	**6.92**	**355**	Pn	**Pn**	**18 29 06.8**	**+1.5**
TAPT	**Tabas- Tapeh t**	**7.06**	**24**	Pn	**Pn**	**18 29 08.4**	**+1.3**
IFIR	**Firoozkooh**	**7.19**	**354**	Pn	**Pn**	**18 29 11.6**	**+2.5**
IDMV	**Damavand**	**7.22**	**349**	Pn	**Pn**	**18 29 10.7**	**+1.2**
JMDO	**Jabal Madar**	**7.28**	**146**	P	**Pn**	**18 29 11.7**	**+1.6**
SHRT	**Shahrakht**	**7.68**	**46**	Pn	**Pn**	**18 29 18.0**	**+2.4**
IKIA	**Kiasar**	**7.71**	**0**	Pn	**Pn**	**18 29 18.2**	**+2.0**
SRVN	**Saravan**	**7.81**	**96**	Pn	**Pn**	**18 29 19.2**	**+1.7**
QABG	**Abgarm-Qazvin**	**8.00**	**335**	Pn	**Pn

comp=Z,11nm,1.0s
ILGA Ilgaz 20.58 313 P P 18 32 01.9 -1.0
ANTO Ankara 20.62 309 P Pn 18 32 04.5 -1.0
ANTO IAmb IAmb 18 32 13.3
comp=Z,9.7nm,0.7s
ANTO Ankara 20.62 309 P Pn 18 32 04.5 -0.9
ANTO pmax pmax
comp=Z,10.0nm,0.7s
AB31 Akbulak array 21.31 11 P 18 32 10.0 -0.5
ABKAR Akbulak array 21.31 11 P 18 32 09.6 -0.9
KSH Kashi 21.48 53 P **P 18 32 10.3 -2.2**
KSH pmax pmax
comp=Z,8.0nm,0.7s
ELL Elmali 21.60 299 P 18 32 11.9 -2.0
ELL IAmb IAmb 18 32 31.9
comp=Z,9.5nm,0.8s
ELL Elmali 21.60 299 P **P 18 32 11.9 -2.0**
ELL pmax pmax
comp=Z,10.0nm,0.8s
MDUB Mudurnu 21.98 309 P **P 18 32 17.7 -0.2**
MDUB IAmb IAmb 18 32 47.4
comp=Z,12nm,0.8s
AAK Ala-Archa 22.00 45 P **P 18 32 18.0 -0.1**
AAK Ala-Archa 22.00 45⇑ *eP* **P 18 32 16.0 -2.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BORA Eskisehir 22.25 307 P **P 18 32 17.1 -3.7**
BORA IAmb IAmb 18 32 30.5
comp=Z,14nm,1.4s
BOOM Boomskoye usch 22.82 46 P **P 18 32 26.7 -0.3**
BOOM IAmb IAmb 18 32 48.7
comp=Z,7.2nm,0.9s
BOOM Boomskoye usch 22.82 46 P **P 18 32 26.7 -0.3**
BOOM pmax pmax
comp=Z,7.0nm,0.9s
TARG Taragay, Kyrgy 23.68 50 P **P 18 32 36.3 +0.3**
TARG Taragay, Kyrgy 23.68 50 P **P 18 32 36.3 +0.3**
TARG pmax pmax
comp=Z,4.0nm,0.9s
BELG Belogornoye 24.32 351⇑ *eP* **P 18 32 41.6 +0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
VRH Novokhopyorsk 24.42 342 *eP* **P 18 32 42.4 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 24.95 338 *eP* **P 18 32 49.5 +2.5**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 25.20 338 *eP* **P 18 32 48.3 -1.0**
VSR pmax pmax
comp=Z,5.0nm,1.0s
IDI Anoyia 25.30 293 P **P 18 32 50.4 0.0**
IDI IAmb IAmb 18 33 09.6
comp=Z,25nm,1.1s
VORR Voronezh 25.58 339 *eP* **P 18 32 53.6 +0.9**
VORR pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 26.47 340 *eP* **P 18 32 59.9 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BORK Borovoye 27.47 22⇓ *eP* **P 18 33 06.5 -3.3**
BVAR Borovoye Array 27.47 22 P **P 18 33 09.4 -0.5**
comp=Z,1.4nm,0.4s,baz=207,slow=9.3,SNR=11
BVAR PcP **PcP 18 36 29.2 +1.1**
comp=Z,1.3nm,0.4s,baz=217,slow=3.1,SNR=12
comp=Z,1.4nm,0.4s
MLR Muntele Rosu 27.71 315 P **P 18 33 13.8 +1.6**
MLR IAmb IAmb 18 33 27.6
comp=Z,3.7nm,0.8s
MLR Muntele Rosu 27.71 315 P **P 18 33 13.8 +1.6**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 28.72 43 P **P 18 33 20.8 -0.3**
MAKZ IAmb IAmb 18 33 51.0
comp=Z,5.6nm,1.0s
MAKZ Makanchi 28.72 43 P **P 18 33 20.8 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 28.87 327 P **P 18 33 21.3 -1.0**
comp=Z,0.5nm,0.4s,baz=136,slow=8.4,SNR=6.7
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 28.87 327 P **P 18 33 21.1 -1.2**
AKBB IAmb IAmb 18 33 39.6
comp=Z,4.1nm,0.8s
AKBB Malin Array Si 28.87 327 P **P 18 33 21.1 -1.2**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 28.87 327 P **P 18 33 20.9 -1.4**
KIEV IAmb IAmb 18 33 39.6
comp=Z,3.8nm,0.8s
KIEV Kiev 28.87 327 P **P 18 33 20.9 -1.4**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 28.90 43 P **P 18 33 22.6 -0.1**
MKAR Makanchi Array 28.90 43 P **P 18 33 21.8 -0.9**
comp=Z,1.1nm,0.9s,baz=234,slow=9.5,SNR=6.9
MKAR PcP **PcP 18 36 34.4 +2.6**
comp=Z,0.5nm,0.5s,baz=248,slow=3.8,SNR=4.2
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 29.03 34 P **P 18 33 23.3 -0.4**
comp=Z,0.7nm,0.7s,baz=233,slow=8.6,SNR=9.7
KURBB PcP **PcP 18 36 34.9 +2.9**
comp=Z,0.3nm,0.5s,baz=238,slow=3.2,SNR=4.9
comp=Z,0.7nm,0.7s
KURK Kurchatov 29.14 33 P **P 18 33 23.5 -1.2**
KURK Kurchatov 29.14 33⇓ *eP* **P 18 33 24.4 -0.3**
KURK pmax pmax
comp=Z,3.0nm,1.7s
BURAR Bucovina Array 29.19 319 P **P 18 33 25.6 +0.2**
BURAR Bucovina Array 29.19 319 P **P 18 33 25.6 +0.2**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
BUR08 Bucovina Ar. S 29.22 319 P 18 33 25.2 -0.4
WMQ Urumqi 31.21 51 *eP* **P 18 33 45.6 +2.4**
KOLS Kolonicke sedl 31.55 319 *eP* **P 18 33 48.9 +2.8**
KOLS Kolonicke sedl 31.55 319 *eP* **P 18 33 48.9 +2.8**
ZAA0 Zalesovo Array 34.12 33 P **P 18 34 05.8 -2.7**
ZAA0 IAmb IAmb 18 34 27.5
comp=Z,5.6nm,1.3s
ZALV Zalesovo Beam 34.12 33 P **P 18 34 07.9 -0.6**
comp=Z,2.5nm,0.4s,baz=239,slow=9.6,SNR=9.7
ZALV LR LR 18 50 42.3
comp=Z,26nm,18.6s,baz=258,slow=41
comp=Z,2.5nm,0.4s
ZALV Zalesovo Beam 34.12 33 *eP* **P 18 34 07.8 -0.7**
BRDH Bariadhala 34.65 91 LR LR 18 50 31.8
comp=Z,77nm,18.4s,baz=301,slow=40
RONA Rosalia, Austr 34.68 314 *epP* **P 18 34 14.2 +0.8**
comp=Z,1.1nm,0.3s
VRAC Vranov 35.08 317 LR LR 18 52 26.4
comp=Z,57nm,19.8s,baz=276,slow=43
NRCA Norcia 35.57 305 P **P 18 34 21.0 -0.2**
FDMO Fiordimonte 35.63 305 P **P 18 34 22.6 +0.9**
CHVC Chvalec 35.90 318 *eP* **P 18 34 25.2 +1.3**
CHVC Chvalec 35.90 318 *eP* **P 18 34 25.2 +1.3**
SABO M.te Sabotino 35.92 310 P **P 18 34 24.8 +0.6**
BIOA Bad Ischl, Aus 36.37 313 *epP* **P 18 34 29.2 +1.2**
comp=Z,1.6nm,0.3s
ZVC Zvikov 36.59 316 *eP* **P 18 34 30.2 +0.4**
STAL STALIGIAL 36.59 310 P 18 34 27.6 -2.2
GERES GERESS Array B 36.69 315 P **P 18 34 30.4 -0.5**
comp=Z,0.4nm,0.4s,baz=95,slow=9.2,SNR=5.1
comp=Z,0.4nm,0.4s
CIMO Cimolais 36.78 310 P **P 18 34 31.7 +0.1**
CIMO IAmb IAmb 18 34 53.8
comp=Z,19nm,1.5s
ABTA Abfaltersbach 36.85 311 *epP* pP 18 34 33.8 -1.7
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 36.86 315 *eP* **P 18 34 32.1 -0.1**
KHC Kasperske Hory 36.86 315 *eP* **P 18 34 32.1 -0.1**
LESA Schwarzleotal 36.92 312 *epP* **P 18 34 32.9 +0.2**
comp=Z,2.6nm,0.4s
WTTA Wattenberg 37.56 312 *epP* **P 18 34 39.0 +0.7**
comp=Z,3.1nm,0.7s
FIA1 FINESS Array S 37.73 339 P **P 18 34 39.7 +0.4**
FINES FINESS Array B 37.73 339 P **P 18 34 39.5 +0.2**
comp=Z,3.1nm,0.4s,baz=140,slow=9.5,SNR=18
comp=Z,3.1nm,0.4s
SQTA Sankt Quirin 37.83 311 *eP* **P 18 34 39.6 -0.9**
comp=Z,1.1nm,0.9s
MOTA Moosalm 37.93 312 *epP* **P 18 34 41.9 +0.5**
comp=Z,5.2nm,0.9s
CLL Collm 37.96 318 *eP* **P 18 34 40.0 -1.4**
CLL Collm 37.96 318 *eP* **P 18 34 40.0 -1.4**
FETA Feichten 38.10 311 *epP* **P 18 34 43.7 +0.8**
comp=Z,4.1nm,0.5s
RETA Reutte 38.19 312 *eP* **P 18 34 43.2 -0.3**
comp=Z,6.1nm,0.9s
FUORN Ofenpass-Fuorn 38.32 310 P **P 18 34 46.4 +1.5**
FUORN IAmb IAmb 18 34 48.2
comp=Z,3.2nm,0.8s
DAVA Damuels 38.73 311 *eP* **P 18 34 47.2 -0.9**
comp=Z,7.6nm,0.5s
TUE Stuetta 38.91 310 P **P 18 34 50.1 +0.4**
TUE IAmb IAmb 18 35 22.7
comp=Z,3.5nm,0.7s
GTA Gaotai 39.44 62 P **P 18 34 55.1 +0.9**
GTA sP sP 18 35 07.7 +8.9
SENIN Lac Senin/Sane 40.28 309 P **P 18 35 01.1 -0.1**
SENIN IAmb IAmb 18 35 34.2
comp=Z,17nm,1.5s
BNI Bardonecchia 40.51 307 P **P 18 35 02.7 -0.3**
BNI IAmb IAmb 18 35 43.0
comp=Z,14nm,1.3s
BNI Bardonecchia 40.51 307 P **P 18 35 02.7 -0.3**
BNI pmax pmax
comp=Z,14nm,1.3s
HFS Hagfors 41.56 331 P **P 18 35 10.8 -0.3**
comp=Z,1.0nm,0.4s,baz=134,slow=8.5,SNR=8.4
comp=Z,1.0nm,0.4s
PZH PanZhiHua 42.48 81 P **P 18 35 19.7 +0.3**
CMAR Chiang Mai Arr 42.51 93 P **P 18 35 21.9 +2.3**
comp=Z,0.9nm,0.7s,baz=286,slow=8.9,SNR=7.5
comp=Z,0.9nm,0.7s
LZDM Lanzhou Array 42.61 67 LR LR 18 54 25.8
comp=Z,56nm,22.0s,baz=45,slow=38
NC405 NORSAR Array S 42.90 332 P **P 18 35 21.5 -0.6**
NC405 IAmb IAmb 18 35 25.8
comp=Z,27nm,1.4s
NB2 NORSAR Subarra 43.07 331 P **P 18 35 22.9 -0.7**
comp=Z,1.5nm,0.7s,baz=120,slow=8.6
NB2 NORSAR Subarra 43.07 331 P **P 18 35 28.1 +4.5**
NOA NORSAR Array B 43.07 331 P **P 18 35 23.1 -0.5**
comp=Z,0.4nm,0.5s,baz=122,slow=8.1,SNR=4.6
NOA LR LR 18 53 53.9
comp=Z,22nm,20.2s,baz=260,slow=37
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 44.20 346 P **P 18 35 31.6 -0.9**
ARCES IAmb IAmb 18 35 35.7
comp=Z,14nm,1.3s
ARCES ARCESS Array B 44.20 346 P **P 18 35 31.6 -0.9**
comp=Z,2.9nm,0.9s,baz=150,slow=8.5,SNR=9.8
comp=Z,2.9nm,0.9s
CEST Esterri de Car 44.24 303 P **P 18 35 36.4 +3.0**
CEST IAmb IAmb 18 35 45.3
comp=Z,21nm,1.4s
SONM Songino Array 44.80 50 P **P 18 35 38.1 +0.3**
comp=Z,0.4nm,0.5s,baz=262,slow=8.8,SNR=3.6
comp=Z,0.4nm,0.5s
ULN Ulaanbaatar 45.24 50⇑ *eP* **P 18 35 42.0 +0.6**
ULN pmax pmax
comp=Z,7.0nm,1.9s
ESDC Sonseca Array 48.28 299 P **P 18 36 04.8 -0.4**
comp=Z,0.8nm,0.8s,baz=62,slow=7.7,SNR=7.8
comp=Z,0.8nm,0.8s
EKA Eskdalemuir Ar 48.35 320 P **P 18 36 04.3 -1.0**
comp=Z,1.1nm,0.7s,baz=98,slow=7.6,SNR=5.1
comp=Z,1.1nm,0.7s
HHC Hu-ho-hao-te 48.41 59 *eP* **P 18 36 06.4 +0.2**
HHC pmax pmax
comp=Z,10.0nm,0.8s
PAB San Pablo 48.59 299 P **P 18 36 06.4 -1.1**
PAB IAmb IAmb 18 36 39.9
comp=Z,9.6nm,1.4s
PAB San Pablo 48.59 299 P **P 18 36 06.4 -1.1**
PAB pmax pmax
comp=Z,10.0nm,1.4s
MD01 Midelt array s 49.89 290 P **P 18 36 17.9 +0.2**
TORD Torodi Ar. Bea 50.53 264 P **P 18 36 19.4 -3.1**
TORD IAmb IAmb 18 36 27.6
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 50.53 264 P **P 18 36 21.8 -0.7**
comp=Z,8.2nm,0.5s,baz=56,slow=8.7,SNR=68
comp=Z,8.2nm,0.5s
SPITS Spitsbergen Ar 52.52 351 P **P 18 36 36.2 -0.4**
comp=Z,6.8nm,1.0s,baz=140,slow=12,SNR=4.5
comp=Z,6.8nm,1.0s
SPITS Spitsbergen Ar 52.52 351 P **P 18 36 36.7 +0.1**
SPITS pmax pmax
comp=Z,29nm,1.3s
MATP Matopo 54.35 209 LR LR 18 59 17.6
comp=Z,46nm,19.2s,baz=354,slow=35
DBIC Dimbokro 59.24 260 P **P 18 37 24.4 -1.2**
DBIC Dimbokro 59.24 260 P **P 18 37 24.6 -1.0**
comp=Z,2.3nm,0.6s,baz=80,slow=8.6,SNR=4.7
comp=Z,2.3nm,0.6s
KGCAE Kacgae 59.36 214 P **P 18 37 25.8 -0.5**
LBTB Lobatse 59.64 210 P **P 18 37 28.6 +0.4**
LBTB Lobatse 59.64 210 P **P 18 37 28.6 +0.4**
LBTB pmax pmax
comp=Z,18nm,1.4s
KOOLE Kule 60.49 216 P **P 18 37 34.7 +0.6**
MAKGR Makgori 60.68 210 P **P 18 37 35.2 -0.2**
LKGWB Lokgwabe 60.90 214 P **P 18 37 35.2 -1.7**
KSRS Korea Array 61.50 61 P **P 18 37 40.3 -0.5**
comp=Z,1.9nm,0.7s,baz=277,slow=6.4,SNR=5.6
comp=Z,1.9nm,0.7s
BOSA Boshof 62.94 208 P **P 18 37 48.9 -1.7**
BOSA Boshof 62.94 208 P **P 18 37 50.7 +0.2**
comp=Z,1.7nm,0.7s,baz=38,slow=8.1,SNR=1.8
comp=Z,1.7nm,0.7s
E19K Redstone River 81.59 12 P **P 18 39 41.0 -0.4**
IMAR Indian Mountai 83.52 11 P **P 18 39 51.3 -0.2**
FITZ Fitzroy Crossi 83.54 114 P **P 18 39 55.4 +3.1**
comp=Z,3.1nm,0.8s,baz=264,slow=5.7,SNR=5.4
comp=Z,3.1nm,0.8s
ILAR Eielson Array 85.69 9 P **P 18 40 02.9 +0.4**
comp=Z,0.7nm,0.7s,baz=314,slow=3.7,SNR=6.3
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 91.53 112 P **P 18 40 33.0 +2.0**
comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=6.8
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 91.53 112 P **P 18 40 33.0 +2.0**
ASAR Alice Springs 93.01 115 P **P 18 40 39.2 +1.4**
comp=Z,0.6nm,0.7s,baz=303,slow=4.8,SNR=6.7
comp=Z,0.6nm,0.7s
QSPA South Pole Qui 118.31 180 PKP **PKiKP 18 46 11.4 +0.8**
comp=Z,1.7nm,1.0s,baz=303,slow=2.3,SNR=6.0

*NNC **03** 18:49:33.9±5.2, 36°.95N×68°.90E, h0km, mb3.8, mpv3.8,*
Error ellipse: s-maj=47.1km s-min=35.0km az=151.0
ISC 03 18:49:33.1±3.7, 36°.6N±0°.2×69°.0E±0°.2, h35km, n11,
σ0°69/13, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.64**	**9**	⇑P	**Pn**	**18 51 08.7**	**+0.5**
	1.8nm,0.3s,baz=195,slow=13,SNR=51						
KK31				⇑S	**Sn**	**18 52 22.2**	**-0.4**
	4.7nm,0.5s,baz=197,slow=19						
UCH	**Uchtor**	**7.07**	**35**	P	**Pn**	**18 51 15.0**	**+0.5**
	SNR=24						
EKS2	**Erkin-Say**	**7.11**	**29**	P	**Pn**	**18 51 16.1**	**+1.3**
	SNR=16						
AAK	**Ala-Archa**	**7.39**	**33**	P	**Pn**	**18 51 19.2**	**+0.6**
	SNR=20						
AAK	**Ala-Archa**	**7.39**	**33**	⇑P	**Pn**	**18 51 18.9**	**+0.3**
	4.4nm,0.4s						
AAK				⇑S	**Sn**	**18 52 41.3**	**0.0**
	3.2nm,0.5s						
KBK	**Karagaybulak**	**7.61**	**35**	P	**Pn**	**18 51 22.1**	**+0.5**
	SNR=8.3						
CHMS	**Chumysh**	**7.79**	**33**	P	**Pn**	**18 51 24.4**	**+0.3**
	SNR=5.7						
USP	**Ospenovka**	**7.91**	**30**	P	**Pn**	**18 51 25.9**	**+0.3**
	SNR=9.0						
TKM2	**Tokmak 2**	**8.12**	**36**	P	**Pn**	**18 51 27.8**	**-0.9**
	SNR=9.2						
AB31	**Akbulak array**	**14.32**	**335**	P	**Pn**	**18 52 53.0**	**-0.2**
	1.5nm,0.5s,baz=145,slow=12,SNR=49						
BVA0	**Borovoye Array**	**16.50**	**3**	P	**Pn**	**18 53 20.9**	**-0.8**
	0.2nm,0.8s,baz=181,slow=8.6,SNR=18						

*IDC **03** 18:51:49.9±18.0, 20°.95S×179°.02W, h527km±184km,*
mb2.7/3, mbtmp3.6/3, Error ellipse: s-maj=111.2km
s-min=34.9km az=52.0
ISC 03 18:51:56.9±1.3, 21°.1S±0°.3×179°.3W±0°.3, h600km, n8,
σ0°92/8, mb3.1/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.20**	**257**	P	**P**	**18 59 06.9**	**+0.2**
	0.4nm,0.6s,baz=98,slow=8.0,SNR=5.9						
ASAR				PcP	**PcP**	**19 00 42.7**	**+0.5**
	0.4nm,0.5s,baz=105,slow=3.8,SNR=5.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.31**	**263**	P	**P**	**18 59 07.1**	**-0.5**
	0.1nm,0.3s,baz=98,slow=7.3,SNR=1.6						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**68.99**	**180**	P	**P**	**19 02 03.1**	**-0.1**
	1.6nm,0.8s,baz=340,slow=1.1,SNR=5.8						
	1.6nm,0.8s						
ARCES	**ARCESS Array B**	**129.26**	**349**	PKP	**PKPdf**	**19 09 58.1**	**+0.8**
	5.0nm,1.0s,baz=38,slow=1.9,SNR=5.7						
HFS	**Hagfors**	**139.91**	**350**	PKhKP	PKPpre	19 10 11.2	
	2.9nm,1.0s,baz=74,slow=2.1,SNR=4.0						
AKASG	**Malin Array Be**	**142.91**	**330**	PKP	**PKPdf**	**19 10 21.3**	**-1.6**
	1.5nm,0.6s,baz=40,slow=3.6,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.03**	**298**	PKPbc	**PKPbc**	**19 10 34.4**	**+0.6**
	1.3nm,0.6s,baz=163,slow=1.5,SNR=2.9						
GERES	**GERESS Array B**	**150.41**	**342**	PKPbc	**PKPbc**	**19 10 41.6**	**0.0**
	0.3nm,0.4s,baz=69,slow=3.3,SNR=3.2						

*IDC **03** 18:53:34.5±5.3, 6°.36S×146°.85E, h94km±50km, mb3.5/4,*
mbtmp3.8/6, MS3.3/1, Error ellipse: s-maj=52.5km
s-min=30.3km az=135.0
ISC 03 18:53:34.7±1.4, 6°.3S±0°.1×146°.8E±0°.3, h100km, n8,
σ0°97/8, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**174**	P	**Pn**	**18 54 21.5**	**0.0**
	77nm,0.5s,baz=31,slow=5.5,SNR=66						
PMG				S	**Sn**	**18 54 56.8**	**-0.8**
	24nm,0.4s,baz=198,slow=21,SNR=7.7						
WRA	**Warramunga Arr**	**18.18**	**221**	P	**P**	**18 57 38.8**	**-0.8**
	0.9nm,0.5s,baz=40,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.25**	**214**	P	**P**	**18 58 13.2**	**+0.1**
	0.5nm,0.4s,baz=56,slow=8.9,SNR=34						
	0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.75**	**239**	P	**P**	**18 58 37.5**	**-0.6**
	4.5nm,0.8s,baz=58,slow=11,SNR=9.7						
	4.5nm,0.8s						
STKA	**Stephens Creek**	**25.89**	**190**	P	**P**	**18 58 59.0**	**+1.7**
	1.3nm,0.6s,baz=24,slow=7.5,SNR=3.1						
	1.3nm,0.6s						
JOW	**Kunigami**	**37.55**	**332**	LR	LR	19 14 50.5	
	comp=Z,48nm,19.7s,baz=342,slow=34						
ILAR	**Eielson Array**	**85.85**	**23**	P	**P**	**19 06 02.4**	**-0.5**
	0.5nm,0.7s,baz=254,slow=4.7,SNR=4.7						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.01**	**284**	PKPbc	**PKPdf**	**19 13 01.7**	**+0.3**
	1.0nm,0.7s,baz=60,slow=4.4,SNR=7.1						

*IDC **03** 19:01:45.7±0.9, 2°.58S×138°.37E, h0km, mb3.7/6,*
mbtmp3.7/9, ML3.5/3, MS3.2/2, Error ellipse: s-maj=24.2km
s-min=20.5km az=94.0
ISC 03 19:01:50.4±0.8, 2°.6S±0°.1×138°.36E±0°.10, h32km, n11,
σ0°81/10, mb3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.35**	**88**	Pn	**Pn**	**19 02 26.4**	**-0.4**
	5.8nm,0.3s,baz=232,slow=11,SNR=43						
JAY				Sn	**Sn**	**19 02 55.4**	**+0.8**
	4.7nm,0.3s,baz=111,slow=18,SNR=6.3						
	26nm,0.4s						
GUMO	**Guam**	**17.35**	**22**	LR	LR	19 12 27.4	
	comp=Z,28nm,19.6s,baz=160,slow=37						
WRA	**Warramunga Arr**	**17.66**	**193**	P	**Pn**	**19 05 53.6**	**-0.6**
	0.4nm,0.3s,baz=13,slow=12,SNR=20						
WRA				S	Sn	19 09 00.5	-10
	0.7nm,1.0s,baz=358,slow=25,SNR=2.2						
	2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.80**	**218**	P	**P**	**19 06 18.7**	**+0.3**
	0.1nm,0.3s,baz=141,slow=13,SNR=1.8						
FITZ				S	S	19 09 47.8	-12
	2.3nm,0.7s,baz=113,slow=15,SNR=2.7						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**21.36**	**191**	P	**P**	**19 06 34.8**	**-0.5**
	2.0nm,0.7s,baz=20,slow=11,SNR=36						
	2.0nm,0.7s						
URZ	**Urewera**	**50.11**	**140**	LR	LR	19 31 49.3	
	comp=Z,58nm,19.1s,baz=300,slow=36						
SONM	**Songino Array**	**57.49**	**335**	P	**P**	**19 11 36.8**	**+0.2**
	0.4nm,0.5s,baz=154,slow=10,SNR=2.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**69.50**	**323**	P	**P**	**19 12 57.0**	**+1.0**
	1.4nm,1.0s,baz=129,slow=9.6,SNR=4.6						
	1.4nm,1.0s						
ZALV	**Zalesovo Beam**	**71.68**	**330**	P	**P**	**19 13 08.8**	**-0.2**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=1.8						
	0.2nm,0.3s						
VNDA	**Vanda**	**75.90**	**175**	P	**P**	**19 13 34.3**	**+0.9**
	0.4nm,0.6s,baz=327,slow=8.0,SNR=5.6						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**19 14 25.8**	**-1.1**
	0.3nm,0.6s,baz=262,slow=5.5,SNR=4.7						
	0.3nm,0.6s						

*JSO **03** 19:18:42.7±1.1, 33°.N±7°.×3°.5E±°, h7km±3km, M2.3/18,*
ML2.3/18, MLv2.3/18, MLv2.3/18
*GII **03** 19:18:43.8±0.0, 33°.127N±0°.002×35°.105E±0°.001,*
h10km, Mws2.1, confirmed
*GRAL **03** 19:18:44.1±0.3, 33°.10N×35°.16E, h26km±2km, MD3.1*
ISC 03 19:18:42.8±1.2, 33°.15N±0°.03×35°.07E±0°.05, h15km±6km,
n53, σ0°58/57, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.11**	**125**	P	**Pg**	**19 18 45.9**	**-0.3**
HNTI	**Hanita**	**0.11**	**125**	P	**Pg**	**19 18 45.9**	**-0.3**
HNTI				S	**Sg**	**19 18 47.8**	**-0.6**
MMC7	**Mount Meron ar**	**0.30**	**114**	P	**Pg**	**19 18 49.5**	**+0.4**
MMA0B	**Mount Meron ar**	**0.31**	**115**	P	**Pg**	**19 18 49.8**	**+0.4**
MMA0B	**Mount Meron ar**	**0.31**	**115**	S	**Sg**	**19 18 54.2**	**+0.4**
BLGI	**Bet Lehem HaGe**	**0.42**	**166**	P	**Pg**	**19 18 51.5**	**+0.2**
BLGI	**Bet Lehem HaGe**	**0.42**	**166**	P	**Pg**	**19 18 51.9**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.42**	**166**	S	**Sg**	**19 18 57.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.50**	**82**	P	**Pg**	**19 18 52.9**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.50**	**82**	P	**Pg**	**19 18 53.0**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.50**	**82**	S	**Sg**	**19 19 00.1**	**+0.6**
OFRI	**`Ofer**	**0.53**	**188**	P	**Pg**	**19 18 53.5**	**+0.3**
OFRI	**`Ofer**	**0.53**	**188**	P	**Pg**	**19 18 53.6**	**+0.3**
OFRI	**`Ofer**	**0.53**	**188**	S	**Sb**	**19 19 01.7**	**+0.5**
NATI	**Neve Ativ**	**0.57**	**78**	P	**Pg**	**19 18 54.0**	**-0.1**
NATI	**Neve Ativ**	**0.57**	**78**	P	**Pg**	**19 18 54.0**	**-0.1**
NATI	**Neve Ativ**	**0.57**	**78**	S	**Sg**	**19 19 01.8**	**+0.1**
SHBL	**Chebaa**	**0.60**	**70**	*eP*	**Pg**	**19 18 54.5**	**-0.2**
KSHT	**Keshet**	**0.64**	**104**	P	**Pg**	**19 18 55.2**	**-0.2**
KSHT	**Keshet**	**0.64**	**104**	S	**Sg**	**19 19 04.1**	**+0.1**
QRWL	**Qaraoun**	**0.65**	**52**	*eP*	**Pg**	**19 18 55.6**	**0.0**
QRWL				*eS*	**Sg**	**19 19 04.1**	**-0.2**
DQRL	**Deir Qamar**	**0.70**	**37**	*eP*	**Pg**	**19 18 56.7**	**+0.2**
DQRL				*eS*	**Sg**	**19 19 06.1**	**+0.4**
RCY	**Rachaya**	**0.73**	**61**	*eP*	**Pg**	**19 18 56.6**	**-0.5**
RCY				*eS*	**Sg**	**19 19 06.0**	**-0.8**
MMLI	**Mount Malkishu**	**0.77**	**157**	P	**Pg**	**19 18 57.1**	**-0.7**
MMLI	**Mount Malkishu**	**0.77**	**157**	P	**Pg**	**19 18 57.0**	**-0.7**
MMLI	**Mount Malkishu**	**0.77**	**157**	S	**Sg**	**19 19 07.1**	**-0.7**
BHL	**Bhannes**	**0.90**	**33**	*eP*	**Pg**	**19 18 59.9**	**-0.4**
SLTI	**Sal'it**	**0.90**	**182**	P	**Pg**	**19 18 59.6**	**-0.7**
SLTI	**Sal'it**	**0.90**	**182**	P	**Pg**	**19 18 59.6**	**-0.7**
SLTI	**Sal'it**	**0.90**	**182**	S	**Sb**	**19 19 12.7**	**+0.7**
QRNJ	**Al-Qirein**	**0.91**	**152**	P	**Pg**	**19 18 59.5**	**-1.0**
HMDT	**Nahal Hemdat**	**0.97**	**156**	P	**Pg**	**19 19 00.3**	**-1.3**
HMDT	**Nahal Hemdat**	**0.97**	**156**	P	**Pg**	**19 19 00.4**	**-1.2**
HMDT	**Nahal Hemdat**	**0.97**	**156**	S	**Sg**	**19 19 13.9**	**-0.4**
ZAHL	**Zahle**	**0.98**	**44**	*eP*	**Pg**	**19 19 01.2**	**-0.7**
SALP	**Salfit**	**1.08**	**174**	P	**Pg**	**19 19 02.2**	**-1.5**
UJAP	**Al Uja**	**1.24**	**164**	P	**Pn**	**19 19 05.1**	**-0.4**
HWQ	**Hawqa**	**1.34**	**33**	*eP*	**Pn**	**19 19 06.5**	**-0.7**
HSUJ	**Al Zarqa**	**1.41**	**137**	P	**Pn**	**19 19 07.8**	**-0.1**
DSI	**Dead Sea**	**1.59**	**170**	P	**Pn**	**19 19 10.1**	**-0.3**
DSI	**Dead Sea**	**1.59**	**170**	P	**Pn**	**19 19 09.7**	**-0.8**
AMAZ	**Amatzia**	**1.61**	**185**	P	**Pn**	**19 19 11.0**	**+0.3**
AMAZ	**Amatzia**	**1.61**	**185**	P	**Pn**	**19 19 11.3**	**+0.5**
AMAZ	**Amatzia**	**1.61**	**185**	S	**Sb**	**19 19 33.1**	**+0.6**
YTIR	**Yattir**	**1.78**	**179**	P	**Pn**	**19 19 13.5**	**+0.4**
YTIR	**Yattir**	**1.78**	**179**

GHAJ	Ghor Haditha	1.89 167	P	Pn	19 19 14.6 +0.2
LISJ	El Lisan	1.93 169	P	Pn	19 19 15.7 +0.7
KZIT	Kziot	2.31 195	P	Pn	19 19 20.8 +0.6
PRNI	Paran	2.79 181	P	Pn	19 19 27.5 +0.6

IDC 03 19:36:08.1±1.9, 35°.56N×76°.54E, h0km, mb3.7/5, mbtmp3.6/8, ML2.9/3, MS3.1/2, Error ellipse: s-maj=42.8km s-min=24.0km az=46.0

ISC 03 19:36:12.9±1.7, 35°.5N±0°.2×76°.5E±0°.2, h35km, n10, σ0§81/8, mb3.6/4, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.27	348	LR	LR	19 40 49.5	
	comp=Z,42nm,18.9s,baz=294,slow=39						
MKAR	Makanchi Array	12.07	19	Pn	Pn	19 39 02.8	+0.4
	0.2nm,0.3s,baz=198,slow=13,SNR=9.2 0.3nm,0.4s						
BVAR	Borovoye Array	18.02	348	P	P	19 40 21.3	+0.7
	baz=159,slow=14,SNR=5.9 1.1nm,0.7s						
ZALV	Zalesovo Beam	19.32	15	P	P	19 40 35.1	+0.2
	0.1nm,0.3s,baz=217,slow=9.9,SNR=2.5 0.5nm,0.5s						
AKTO	Aktyubinsk	20.04	324	P	P	19 40 43.6	+0.9
	1.2nm,0.7s,baz=111,slow=8.6,SNR=5.5 1.2nm,0.7s						
SONM	Songino Array	25.33	52	P	P	19 41 35.8	-0.6
	0.4nm,0.7s,baz=267,slow=8.5,SNR=3.7 0.4nm,0.7s						
CMAR	Chiang Mai Arr	26.15	125	P	P	19 41 44.5	+0.5
	0.5nm,0.9s,baz=310,slow=10,SNR=4.6 0.5nm,0.9s						
FINES	FINESS Array B	40.80	325	P	P	19 43 50.4	-0.1
	2.9nm,0.9s,baz=120,slow=12,SNR=5.1 2.9nm,0.9s						
SPITS	Spitsbergen Ar	49.48	346	P	P	19 44 58.1	-1.1
	6.0nm,0.9s,baz=94,slow=14,SNR=8.6 6.0nm,0.9s						
PETK	Petropavlovsk-	57.54	45	LR	LR	20 14 28.4	
	comp=Z,41nm,18.4s,baz=331,slow=40						

NEIC 03 20:27:26.4±1.4, 43°.56N±0°.05×105°.23W±0°.06, h0km±1km, ML3.0/42, Error ellipse: s-maj=10.1km s-min=4.0km az=139.0
IDC 03 20:27:26.4±3.3, 43°.66N×105°.45W, h0km, mbtmp3.0/2, ML3.5/2, Error ellipse: s-maj=69.5km s-min=25.4km az=168.0

ISC 03 20:27:24.1±1.2, 43°.66N±0°.05×105°.30W±0°.06, h0km, n25, σ1§97/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	63	Pg	Pn	20 27 46.6	+0.7
K22A	Casper	1.35	222	Pn	Pn	20 27 52.9	+2.6
LAO	LASA Array	3.10	348		Pb	20 28 20.0	0.0
RLMT	Red Lodge	3.20	299	Pn	Pb	20 28 19.1	-2.7
RLMT				IAML		20 29 23.2	
	37nm,0.8s						
RLMT				IAML		20 29 37.3	
	30nm,0.9s						
BW06	Boulder Array	3.24	255	Pn	Pb	20 28 20.3	-2.2
BW06				IAML		20 29 10.7	
	31nm,0.8s						
BW06				IAML		20 29 11.2	
	19nm,1.1s						
PD31	Pinedale Array	3.24	255	Pn	Pb	20 28 20.9	-1.6
PDAR	Pinedale Array	3.24	255	Pn	Pb	20 28 21.0	-1.6
	1.2nm,0.3s,baz=70,slow=18,SNR=23						
PDAR				Lg	Lg	20 29 03.8	
	1.4nm,0.3s,baz=74,slow=32,SNR=4.2 2.2nm,0.6s						
HAYD	Hayden	3.46	206		Pn	20 28 22.2	+2.8
HAYD				IAML		20 29 32.4	
	comp=N,26nm,0.9s						
HAYD				IAML		20 29 34.7	
	comp=E,33nm,1.0s						
OGNE	Ogallala	3.64	137		Pn	20 28 22.7	+1.0
OGNE				IAML		20 29 32.9	
	comp=E,43nm,1.1s						
YMP	Mirror Lake Pl	3.65	289	Pn	Pn	20 28 25.3	+3.2
YMP				IAML		20 29 35.8	
	comp=N,35nm,0.8s						
LOHW	Long Hollow	3.85	271	Pg	Pg	20 28 37.0	-0.8
LOHW				IAML		20 29 32.6	
	comp=N,17nm,1.0s						
LOHW				IAML		20 29 55.3	
	comp=N,15nm,1.3s						
ISCO	Idaho Springs	3.87	184		Pn	20 28 23.9	-1.1
H17A	Grant Village	3.87	283	Pg	Pg	20 28 37.8	-0.5
SNOW	Snow King Moun	3.97	269	Pn	Pn	20 28 27.3	+0.9
SNOW				IAML		20 29 45.6	
	comp=N,26nm,1.0s						
SNOW				IAML		20 30 02.8	
	comp=N,30nm,1.4s						
YPP	Pitchstone Pla	4.02	281		Pb	20 28 34.0	-1.9
YPP				IAML		20 29 37.7	
	comp=E,13nm,4.9s						
YPP				IAML		20 30 56.0	
	comp=N,12nm,5.0s						
YFT	Old Faithful	4.07	283		Pg	20 28 40.1	-1.9
YFT				IAML		20 29 35.9	
	comp=N,15nm,4.4s						
YFT				IAML		20 29 51.5	
	comp=E,17nm,0.9s						
TPAW	Teton Pass	4.11	270		Pb	20 28 39.1	+1.7
TPAW				IAML		20 29 53.6	
	comp=E,22nm,1.1s						
TPAW				IAML		20 29 55.0	
	comp=E,13nm,1.1s						
O20A	White River Ci	4.15	213	Pn	Pn	20 28 30.4	+1.6
O20A				IAML		20 29 45.6	
	comp=E,29nm,0.9s						
O20A				IAML		20 30 24.4	
	comp=E,29nm,1.7s						
FXWY	Fox Creek	4.16	272	Pn	Pn	20 28 30.7	+1.8
YMR	Madison River	4.20	286	Pn	Pb	20 28 37.1	-1.8
YMR				IAML		20 29 55.6	
	comp=E,34nm,1.2s						
YMR				IAML		20 30 02.4	
	comp=N,33nm,1.0s						
EGMT	Eagleton	5.36	326		Pn	20 28 46.2	+0.8
PV22	Blue Mesa, Par	5.76	208		Pg	20 29 13.2	-1.1
I10CA	LAC DU BONNET	9.11	41	I	I	21 21 10.0	
	baz=225,slow=312,SNR=7.9						
ULM	Lac du Bonnet	9.21	41	Lg	Lg	20 32 10.4	
	comp=N,0.3nm,0.3s,baz=310,slow=16,SNR=3.2						
NVAR	Mina Array Bea	11.12	246	Pn	Pn	20 30 07.7	+3.2
	comp=N,0.1nm,0.3s,baz=48,slow=14,SNR=4.1 comp=N,0.5nm,0.6s						

IDC 03 20:45:21.4±1.6, 0°.71S×127°.38E, h0km, mb3.6/4, mbtmp3.7/5, ML3.5/1, MS3.2/7, Error ellipse: s-maj=110.7km s-min=21.6km az=70.0
DJA 03 20:45:24.8±0.2, 1°S±2°×12°8E±°, h10km, M4.2/19, mB4.9/4, mb4.5/7, MLv4.1/19, Mw(mB)4.2/4

ISC 03 20:45:26.9±0.9, 0°.59S±0°.05×127°.78E±0°.06, h35km, n24, σ1§49/24, mb3.9/3, MS3.3/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.42	343	P	Pn	20 45 49.5	-0.7
TNTI				S	Sn	20 46 09.6	+2.0
SANI	Sanana	2.31	231	P	Pn	20 46 01.5	-1.0
SANI				S	Sn	20 46 30.1	+0.4
NLAI	Namlea	2.72	195	P	Pn	20 46 08.3	+0.2
NLAI				S	Sn	20 46 41.1	+1.3
MSAI	Masohi	2.97	157	P	Pn	20 46 11.4	-0.2
MSAI				S	Sn	20 46 49.3	+3.3
AAI	Ambon	3.10	172	P	Pn	20 46 14.8	+1.4
SWI	Sorong	3.49	94	P	Pn	20 46 19.1	+0.4
SWI				S	Sn	20 47 00.1	+1.3
KMSI	Cibinong	3.97	287	P	Pn	20 46 26.6	+1.2
SGSI	Sangihe	4.81	332	P	Pn	20 46 37.9	+1.0
FAKI	Fak Fak	5.03	117	P	Pn	20 46 38.7	-1.2
	0.1nm26nm,1.2s						
LUWI	Luwuk	5.03	265	P	Pn	20 46 39.7	-0.2
	0.4nm2μm76nm,1.0s						
APSI	Ampana	6.14	267	P	Pn	20 46 56.8	+1.6
	789nm51nm,0.5s						
DAV	Davao City (W)	7.92	344	LR	LR	20 49 51.2	
	comp=Z,49nm,19.1s,baz=214,slow=34						

PCI	Palu	7.95	268	P	Pn	20 47 21.7	+1.6
	0.1nm35nm,1.3s						
SPSI	Sidrap Palu	8.68	247	P	Pn	20 47 32.4	+2.3
BKSI	Bulukumba	8.98	238	P	Pn	20 47 36.1	+1.9
BATI	Baumata	10.40	203	LR	LR	20 51 46.4	
	comp=Z,184nm,19.4s,baz=24,slow=38						
FITZ	Fitzroy Crossi	17.53	187	P	Pn	20 49 27.1	-1.5
	0.1nm,0.3s,baz=24,slow=11,SNR=5.2 1.5nm,0.9s						
WRA	Warramunga Arr	20.28	162	P	P	20 49 58.2	-1.4
	0.7nm,0.5s,baz=338,slow=12,SNR=8.8						
WRA				LR	LR	20 58 24.0	
	comp=Z,91nm,20.6s,baz=16,slow=39 0.7nm,0.5s						
ASAR	Alice Springs	23.70	166	P	P	20 50 35.0	-0.7
	1.8nm,0.8s,baz=345,slow=11,SNR=19						
ASAR				LR	LR	21 00 33.8	
	comp=Z,94nm,19.2s,baz=336,slow=38 1.8nm,0.8s						
STKA	Stephens Creek	33.75	159	LR	LR	21 07 48.1	
	comp=Z,71nm,18.7s,baz=268,slow=40						
CMAR	Chiang Mai Arr	34.09	305	LR	LR	21 06 34.9	
	comp=Z,9.6nm,22.0s,baz=85,slow=38						
SONM	Songino Array	51.70	342	LR	LR	21 17 10.4	
	comp=Z,48nm,20.3s,baz=336,slow=37						
MKAR	Makanchi Array	61.69	326	P	P	20 55 40.5	-1.1
	0.6nm,0.6s,baz=119,slow=8.1,SNR=5.6 0.6nm,0.6s						
KURBB	Kurchatov Arra	65.93	328	P	P	20 56 08.5	-0.8
	0.6nm,0.6s,baz=124,slow=6.5,SNR=2.6 0.6nm,0.6s						

IPEC 03 20:46:09.6±0.2, 50°.09N×18°.43E, h1km, ML2.4/6, Error ellipse: s-maj=1.7km s-min=1.4km az=34.0
VIE 03 20:46:09.7±1.0, 50°.12N×18°.32E, h0km, mb2.8/6, ml2.5/6, ms3.9/3, Error ellipse: s-maj=7.5km s-min=6.0km az=162.0
33 km N of Ostrava Suspected Mining induced.
PRU 03 20:46:12.5, 50°.03N×18°.25E, h0km

ISC 03 20:46:09.6±0.8, 50°.09N±0°.03×18°.41E±0°.02, h0km, n45, σ1§23/72, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.14	267	ePG	Pg	20 46 13.4	+1.2
RAC				eSG	Sg	20 46 16.4	+2.4
OKC	Ostrava-Krasne	0.30	214	ePG	Pg	20 46 15.9	+0.5
OKC				eSG	Sg	20 46 20.0	+0.7
	comp=Z,152nm,0.6s						
STEB	Steborice	0.44	249	ePG	Pg	20 46 18.6	+0.6
STEB				eSG	Sg	20 46 24.5	+0.8
	comp=Z,170nm,0.3s						
MORC	Moravsky Berou	0.64	241	ePG	Pg	20 46 22.1	+0.2
MORC				eSG	Sg	20 46 30.1	-0.1
MORC	Moravsky Berou	0.64	241	ePg	Pg	20 46 22.0	+0.2
	baz=61						
MORC				eSg	Sg	20 46 30.0	-0.1
	68nm,0.4s,baz=61						
ANAC	Anensky vrch	0.66	269	ePg	Pg	20 46 22.4	+0.1
	baz=88						
ANAC				eSg	Sg	20 46 31.0	+0.1
	66nm,0.3s,baz=88						
LOSC	Losov	0.82	235	ePg	Pg	20 46 25.4	+0.1
	baz=56						
LOSC				eSg	Sg	20 46 35.5	-0.4
	57nm,0.4s,baz=56						
OJC	Ojcow	0.91	81	ePg	Pg	20 46 26.2	-0.8
OJC				eSg	Sg	20 46 39.1	+0.4
KRLC	Kraliky	1.05	270	ePG	Pg	20 46 28.9	-0.8
KRLC				eSG	Sg	20 46 43.3	+0.1
	comp=Z,94nm,0.4s						
LANS	Liptovska Anna	1.17	143	ePG	Pg	20 46 31.6	-0.4
LANS				eSG	Sn	20 46 49.5	-0.4
LANS				eLG	Lg	20 46 52.3	
JAVC	Velka Javorina	1.32	202	ePG	Pg	20 46 34.7	-0.3
JAVC	Velka Javorina	1.32	202	ePg	Pg	20 46 34.6	-0.4
	baz=22						
DPC	Dobruska-Polom	1.36	282	ePG	Pg	20 46 35.3	-0.5
DPC				eSG	Sb	20 46 54.1	0.0
	comp=Z,69nm,0.4s						
NIE	Niedzica	1.40	118	ePg	Pg	20 46 35.9	-0.5
NIE				eSg	Sn	20 46 56.5	+0.8
VRAC	Vranov	1.41	237	ePG	Pn	20 46 35.9	-0.7
VRAC				eSG	Sg	20 46 54.2	-0.8
VRAC	Vranov	1.41	237	ePg	Pn	20 46 35.8	-0.8
	baz=56						
VRAC				eSg	Sg	20 46 54.1	-0.9
	47nm,0.4s,baz=56						
OSTC	Ostas	1.48	289	ePG	Pn	20 46 37.4	-0.2
OSTC				eSG	Sn	20 46 57.6	0.0
KSP	Ksiaz	1.55	300	ePg	Pn	20 46 37.9	-0.5
KSP				eSg	Sn	20 46 58.6	-0.7
CHVC	Chvalec	1.59	289	ePG	Pn	20 46 38.9	-0.1
UPC	Upice	1.59	286	eSG	Sg	20 47 01.6	+0.9
	comp=Z,26nm,0.6s						
KRUC	Moravsky	1.67	233	ePn	Pn	20 46 39.8	-0.3
	baz=52						
KRUC				eSg	Sn	20 47 02.0	-0.1
	52nm,0.5s,baz=52						
MODS	Modra-Piesok	1.87	204	ePG	Pn	20 46 41.8	-1.1
MODS				eSG	Sb	20 47 08.1	-0.5
STHS	Stebnicka Huta	1.96	109	ePG	Pg	20 46 46.4	-0.8
STHS				eSG	Sg	20 47 15.5	+2.9
STHS				eLG	Lg	20 47 16.8	
TREC	Trest	2.06	248	eSG	Sb	20 47 13.9	0.0
KECS	Kecovo	2.11	139	ePN	Pn	20 46 46.4	+0.3
KECS				e		20 46 51.3	
KECS	Kecovo	2.11	139	eSN	Sn	20 47 13.5	+0.5
KECS				eLG	Lg	20 47 18.7	
PRU	Pruhonice	2.49	269	ePG	Pb	20 46 54.4	-0.9
PRU				eSG	Sb	20 47 26.6	+0.1
	comp=Z,16nm,0.7s						
PVCC	Panska Ves	2.50	282	ePG	Pg	20 46 56.6	-0.9
PVCC				eSG	Sg	20 47 29.5	-0.4
CONA	Conrad Observa	2.74	219	ePn	Pn	20 46 55.0	+0.2
	0.9nm,0.3s						
CONA				eSn	Sn	20 47 27.3	-1.4
	3.6nm,0.4s						
RONA	Rosalia, Austr	2.77	211	ePn	Pn	20 46 55.2	-0.1
	0.9nm,0.3s						
KOLS	Kolonicke sedl	2.77	113	ePG	Pg	20 47 01.9	-0.9
ZVC	Zvikov	2.81	258	ePG	Pb	20 47 01.1	+0.4
BRG	Berggiesshubel	2.96	287	Pg	Pb	20 47 04.3	+1.2
BRG				Sg	Sg	20 47 44.4	-0.1
BRG				Amp		20 47 50.2	
	comp=Z,7.6nm,0.5s						
CKRC	Cesky Krumlov	2.96	246	eSG	Sb	20 47 40.5	+0.6
HSKC	Hora Svate Kat	3.23	281	eSG	Sg	20 47 52.6	-0.7
KHC	Kasperske Hory	3.28	255	ePN	Pn	20 47 00.0	-2.4
KHC				ePG	Pb	20 47 09.2	+0.4
KHC				eSG	Sb	20 47 51.7	+2.4
	comp=Z,12nm,0.6s						
MOA	Molln	3.53	232	i Pn	Pn	20 47 05.3	-0.4
	comp=Z,0.8nm,0.3s						
MOA				eSg	Sg	20 48 00.3	-2.7
	comp=Z,9.7nm,0.5s						
CLL	Collm	3.65	292	ePg	Pg	20 47 19.0	-0.5
CLL				eSg	Sg	20 48 06.0	-0.7
	comp=Z,11nm,1.0s						
LESA	Schwarzleotal	4.63	237	eSg	Sg	20 48 35.7	-2.8
	comp=Z,3.9nm,0.5s						
ABTA	Abfaltersbach	5.16	232	Sg	Sg	20 48 53.6	-1.6
	comp=Z,2.0nm,0.6s						
WTTA	Wattenberg	5.30	240	Sg	Sg	20 49 03.9	+4.1
	comp=Z,6.1nm,0.7s						
MOTA	Moosalm	5.56	243	Sg	Sg	20 49 08.5	+0.3
	comp=Z,8.0nm,0.7s						
SQTA	Sankt Quirin	5.57	242	Sg	Sg	20 49 09.8	+1.5
	comp=Z,2.8nm,0.4s						
RETA	Reutte	5.68	246	Sg	Sg	20 49 14.4	+2.3
	comp=Z,4.0nm,0.7s						
DAVA	Damuels	6.30	247	eSg	Sg	20 49 36.0	+4.0
	comp=Z,6.6nm,0.5s						

HEL 03 20:52:10.9±0.2, 66°.50N×22°.41E, h9km±1km, ML0.7, Confirmed Earthquake, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.10	301	i P	Pg	20 52 13.3	-0.2
ERTU				i S	Sg	20 52 15.1	-0.1
PAJU	Pajala	0.59	28	eP	Pg	20 52 21.5	-0.9
PAJU				eS	Sg	20 52 29.2	-1.0
TOF	Tornio	0.88	118	eP	Pg	20 52 27.3	-0.5
TOF				eS	Sg	20 52 38.1	-1.3
RNF	Rovaniemi	1.45	84	ePN	Pn	20 52 37.1	-0.1
RNF				eSG	Sn	20 52 55.6	-0.6
RANF	Ranua	1.84	103	ePG	Pb	20 52 43.6	-1.0
RANF				eSG	Sb	20 53 08.1	+0.4
SGF	Sodankyl	1.88	58	ePG	Pb	20 52 44.2	-1.0
SGF				eSG	Sb	20 53 09.0	+0.3
SGF				MSG		20 53 12.0	
	comp=Z,0.2nm,0.1s						

BER 03 20:52:30.4±2.8, 67°.79N×20°.49E, h0km, ML0.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	Saltoluokta	0.86	243	eP	Pg	20 52 43.1	-3.7
KIF	Kilpisjarvi	1.23	5	eP	Pg	20 52 51.9	-2.0
KIF				eS	Sg	20 53 08.4	-1.4
HEF	Hetta	1.34	61	eP	Pg	20 52 54.2	-1.9
HEF				eS	Sg	20 53 12.2	-1.3
HEF	Hetta	1.34	61	eSG	Sg	20 53 12.1	-1.4
HEF				MSG		20 53 12.6	
	comp=Z,0.2nm,0.1s						
KTK1	Kautokeino	1.60	38	eP	Pn	20 52 58.8	-1.1
KTK1				eS	Sn	20 53 20.2	-1.0
KTK1				IAML		20 53 23.2	
	comp=Z,2.1nm,0.4s						
JETT	Jettan, Norway	1.78	359	eP	Pn	20 53 00.2	-2.2
JETT				eS	Sn	20 53 22.8	-3.0
JETT				IAML		20 53 28.6	
	comp=Z,3.1nm,0.3s						
STEI	Steigen	1.99	277	eP	Pn	20 53 02.4	-2.9
STEI				eS	Sn	20 53 28.6	-2.3
STEI				eS	Sb	20 53 28.9	-3.9
STEI				IAML		20 53 31.4	
	comp=Z,1.7nm,0.3s						
FAUS	Fauske	2.04	261	eP	Pn	20 53 04.5	-1.3
FAUS				eS	Sn	20 53 30.1	-1.8
FAUS				IAML		20 53 35.8	
	comp=Z,1.8nm,0.5s						
OUL	Oulu	3.47	139	MSG		20 53 15.3	
	comp=Z,0.3nm,0.1s						

IDC 03 21:03:05.3±0.9, 2°.61S×138°.30E, h0km, mb3.6/7, mbtmp3.7/10, ML3.8/3, Error ellipse: s-maj=26.4km s-min=20.4km az=79.0
DJA 03 21:03:08.3±0.8, 3°S±4°×13°8E±°, h11km±7km, M4.0/7, mB4.8/1, mb4.1/7, MLv4.0/6, Mw(mB)4.1/1

ISC 03 21:03:09.2±0.6, 2°.65S±0°.07×138°.53E±0°.05, h32km, n19, σ1§32/24, mb3.8/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.68	16	P	Pb	21 03 20.6	-2.1
GENI	Genyem	1.64	88	P	Pb	21 03 39.2	+0.4
JAY	Jayapura	2.18	86	Pn	Pb	21 03 46.6	-1.4
	8.3nm,0.3s,baz=230,slow=12,SNR=29						
JAY				Sn	Sb	21 04 13.8	-1.0
	4.7nm,0.3s,baz=110,slow=20,SNR=3.7 22nm,0.3s						
JAY	Jayapura	2.18	86	P	Pn	21 03 45.5	+2.2
SRPI	Serui, Papua	2.41	289	P	Pn	21 03 46.7	+0.3
SRPI				S	Sn	21 04 16.0	+1.1
BAKI	Biak	2.82	301	P	Pn	21 03 53.4	+1.4
BAKI				S	Sn	21 04 26.6	+1.6
FAKI	Fak Fak	6.27	267	P	Pn	21 04 40.4	+0.8
	0.1nm26nm,1.5s						
FAKI				S	Sn	21 05 47.7	-2.5
	0.1nm26nm,1.5s						
SWI	Sorong	7.48	284	P	Pn	21 04 57.8	+1.7
	650nm13nm,0.6s						
SOEI	Soe	15.83	243	P	P	21 06 52.8	-0.6
WRA	Warramunga Arr	17.66	193	P	Pn	21 07 11.6	-1.4
	0.5nm,0.3s,baz=14,slow=12,SNR=20						
WRA				S	Sn	21 10 19.4	-10
	1.1nm,1.0s,baz=360,slow=23,SNR=2.7 1.1nm,0.4s						
FITZ	Fitzroy Crossi	19.88	219	P	P	21 07 37.6	-0.4
	0.3nm,0.3s,baz=46,slow=12,SNR=7.0 1.5nm,0.7s						
ASAR	Alice Springs	21.36	192	P	P	21 07 54.4	+0.3
	1.5nm,0.6s,baz=23,slow=11,SNR=11						
ASAR				S	S	21 11 48.4	-1.3
	0.8nm,0.8s,baz=12,slow=23,SNR=3.4 1.5nm,0.6s						
CMAR	Chiang Mai Arr	44.25	300	P	P	21 11 15.8	-0.2
	0.2nm,0.3s,baz=131,slow=6.2,SNR=5.4 0.2nm,0.3s						
MKAR	Makanchi Array	69.63	322	P	P	21 14 14.8	-0.8
	0.5nm,0.5s,baz=103,slow=8.3,SNR=5.8 0.5nm,0.5s						
ZALV	Zalesovo Beam	71.79	330	P	P	21 14 29.4	+0.9
	0.4nm,0.4s,baz=116,slow=6.7,SNR=2.1 0.4nm,0.4s						
KURBB	Kurchatov Arra	73.58	325	P	P	21 14 39.5	+0.4
	0.4nm,0.7s,baz=114,slow=4.1,SNR=4.4 0.4nm,0.7s						
VNDA	Vanda	75.85	175	P	P	21 14 53.5	+1.6
	0.5nm,0.5s,baz=280,slow=9.9,SNR=2.3 0.5nm,0.5s						
ILAR	Eielson Array	85.86	24	P	P	21 15 45.5	0.0
	0.4nm,0.7s,baz=265,slow=6.0,SNR=2.3 0.4nm,0.7s						
LPAZ	La Paz	147.63	126	PKPbc	PKiKP	21 22 54.4	+0.1
	0.8nm,0.6s,baz=241,slow=2.9,SNR=2.3						

IDC 03 21:12:21.4±0.7, 2°.71S×138°.47E, h0km, mb3.9/10, mbtmp4.0/14, ML4.2/4, MS3.5/17, Error ellipse: s-maj=20.3km s-min=17.5km az=72.0
NEIC 03 21:12:26.0±1.6, 2°.8S±0°.1×138°.50E±0°.06, h26km±6km, mb4.7/26, Error ellipse: s-maj=16.7km s-min=7.1km az=201.0
DJA 03 21:12:25.3±0.7, 3°S±3°×13°9E±°, h18km±7km, M4.3/12, mb4.3/12, mB5.1/2, MLv4.3/9, Mw(mB)4.5/2

ISC 03 21:12:26.5±0.5, 2°.88S±0°.06×138°.44E±0°.04, h35km, n80, σ1§44/70, mb4.5/26, MS3.5/12, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.93	17	P	Pn	21 12 36.4	-6.6
GENI	Genyem	1.75	81	P	Pn	21 12 55.9	+1.5
GENI				S	Sn	21 13 13.9	-1.6
JAY	Jayapura	2.29	81	Pn	Pn	21 13 01.7	-0.2
	16nm,0.3s,baz=234,slow=12,SNR=38						
JAY				Sn	Sn	21 13 29.6	+0.7
	12nm,0.3s,baz=242,slow=15,SNR=4.7 40nm,0.3s						
JAY	Jayapura	2.29	81	P	Pn	21 13 02.6	+0.7
SRPI	Serui, Papua	2.41	294	P	Pn	21 13 03.2	-0.3
SRPI				S	Sn	21 13 31.5	-0.4
BAKI	Biak	2.87	306	P	Pn	21 13 09.5	-0.3
RKPI	Ransiki, Papua	4.47	288	P	Pn	21 13 31.8	0.0
RKPI				S	Sn	21 14 23.7	+1.1
FAKI	Fak Fak	6.18	269	Pn	Pn	21 13 56.2	+0.8
FAKI	Fak Fak	6.18	269	P	Pn	21 13 57.1	+1.7
	0.1nm23nm,1.0s						
SWI	Sorong	7.45	285	P	Pn	21 14 13.5	+0.7
	0.1nm23nm,0.6s						
PMG	Port Moresby	10.82	127	LR	LR	21 20 34.7	
	comp=Z,253nm,20.0s,baz=308,slow=45						
COEN	Coen	11.96	157	Pn	Pn	21 15 15.4	+0.8
SANI	Sanana	12.46	274	P	Pn	21 15 22.0	+0.4
	13nm,1.1s						
SOEI	Soe	15.65	243		P	21 16 09.2	+0.7
SOEI				IAmb	IAmb	21 16 22.8	
	comp=Z,48nm,0.9s						
KNRA	Kununurra	15.89	216		Pn	21 16 08.6	+1.0
DAV	Davao City (W)	16.20	308	LR	LR	21 22 09.8	
	comp=Z,64nm,20.2s,baz=153,slow=36						
BATI	Baumata	16.38	243	Pn	Pn	21 16 15.8	+1.9
	comp=Z,4.

comp=Z,0.7nm,0.3s,baz=14,slow=12,SNR=26
WRA S Sn 21 19 29.3 -11
comp=Z,0.6nm,0.8s,baz=12,slow=23,SNR=1.5
WRA LR LR 21 23 48.3
comp=Z,276nm,20.6s,baz=16,slow=39
comp=Z,1.6nm,0.4s
GUMO Guam 17.56 21 LR LR 21 22 46.0
comp=Z,105nm,18.4s,baz=170,slow=36
EDFI Ende, Flores 17.64 250 P **P 21 16 31.0 +0.4**
TOLI2 Tolitoli 18.09 282 P **Pn 21 16 35.0 -0.3**
CTA Charters Tower 18.73 157 LR LR 21 24 51.6
comp=Z,5.5nm,20.7s,baz=330,slow=40
KAPI Kappang 18.76 263 LR LR 21 25 27.4
comp=Z,52nm,18.7s,baz=89,slow=42
FITZ Fitzroy Crossi 19.65 219 P **P 21 16 53.5 +1.1**
comp=Z,0.5nm,0.3s,baz=45,slow=15,SNR=9.6
FITZ S **S 21 20 25.3 -7.1**
comp=Z,4.5nm,0.8s,baz=249,slow=23,SNR=2.9
comp=Z,2.8nm,0.8s
AS31 Alice Springs 21.12 192 **P 21 17 09.6 +1.1**
ASAR Alice Springs 21.12 192 **P 21 17 09.4 +0.9**
ASAR Alice Springs 21.12 192 P **P 21 17 09.8 +1.3**
comp=Z,3.9nm,0.9s,baz=21,slow=11,SNR=13
ASAR S **S 21 20 58.1 -3.7**
comp=Z,2.1nm,1.0s,baz=18,slow=23,SNR=4.6
ASAR LR LR 21 26 02.0
comp=Z,196nm,20.9s,baz=13,slow=38
comp=Z,3.9nm,0.9s
PSA00 Pilbara Seismi 25.93 223 P **P 21 17 56.8 +1.1**
STKA Stephens Creek 29.00 174 LR LR 21 31 31.6
comp=Z,121nm,19.9s,baz=352,slow=39
JMZ Minamidaito 2 29.37 347 P **P 21 18 26.1 -0.4**
JOW Kunigami 31.13 342 LR LR 21 29 01.2
comp=Z,111nm,20.3s,baz=186,slow=32
NACB Ninganchiao 31.49 330 P **P 21 18 43.9 -1.3**
NACB IAmb IAmb 21 18 44.2
comp=Z,13nm,1.2s
NWAO Narrogin (SRO) 35.89 211 LR LR 21 35 13.9
comp=Z,173nm,21.0s,baz=353,slow=38
JNU Nakatsue 36.51 349 P **P 21 19 27.4 -1.4**
JNU Nakatsue 36.51 349 LR LR 21 32 00.9
comp=Z,63nm,21.2s,baz=164,slow=32
KULM Kulim 38.61 282 P **P 21 19 44.1 -2.6**
KULM IAmb IAmb 21 19 47.0
comp=Z,21nm,1.3s
WHN Wuhan 40.41 327 P **P 21 20 02.0 +0.5**
GSI Gunungsitoli 41.06 275 P **P 21 20 05.8 -1.4**
GSI IAmb IAmb 21 20 32.2
comp=Z,34nm,1.5s
MSVF Nonsavu 41.55 114 P **P 21 20 10.7 -0.5**
MSVF IAmb IAmb 21 20 40.1
comp=Z,32nm,1.3s
CMAR Chiang Mai Arr 44.29 300 P **P 21 20 33.5 +0.2**
comp=Z,0.9nm,0.7s,baz=117,slow=6.2,SNR=10
comp=Z,0.9nm,0.7s
PZH PanZhiHua 45.94 312 P **P 21 20 48.3 +1.9**
XAN Xi'an 46.06 325 ⇓P **P 21 20 46.6 -0.6**
XAN pP pP 21 20 53.6 -4.0
XAN pmax pmax
comp=Z,12nm,1.3s
ASAJ Asahikawa 46.93 4 LR LR 21 38 28.7
comp=Z,39nm,21.2s,baz=154,slow=34
HHC Hu-ho-hao-te 49.96 333 *e*P **P 21 21 20.1 +2.8**
HHC pmax pmax
comp=Z,9.0nm,0.8s
LZH Lanzhou 50.45 323 *e*P **P 21 21 21.2 0.0**
LZH pP pP 21 21 28.2 -3.5
LZH sP sP 21 21 32.6 -3.3
LZH pmax pmax
comp=Z,10.0nm,1.0s
LZDM Lanzhou Array 50.45 323 P **P 21 21 21.5 +0.1**
comp=Z,0.8nm,0.3s,baz=149,slow=6.9,SNR=3.6
comp=Z,0.8nm,0.3s
GTA Gaotai 55.04 324 *e*P **P 21 21 55.8 +0.8**
GTA pP pP 21 22 02.2 -3.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 57.76 335 P **P 21 22 13.4 -0.8**
comp=Z,0.5nm,0.7s,baz=166,slow=5.6,SNR=3.4
SONM LR LR 21 46 09.8
comp=Z,58nm,20.4s,baz=96,slow=35
comp=Z,0.5nm,0.7s
PETK Petropavlovsk- 58.09 14 LR LR 21 43 55.7
comp=Z,30nm,22.0s,baz=154,slow=33
MA2 Magadan 63.02 7 LR LR 21 49 25.0
comp=Z,15nm,19.6s,baz=75,slow=35
MKAR Makanchi Array 69.76 323 **P 21 23 32.6 -0.6**
MKAR Makanchi Array 69.76 323 P **P 21 23 33.0 -0.2**
comp=Z,2.7nm,1.0s,baz=98,slow=8.9,SNR=9.4
comp=Z,2.7nm,1.0s
KSH Kashi 71.00 313 P P 21 23 48.8 +7.7
KSH pmax pmax
comp=Z,5.0nm,1.4s
NIL Nilore 71.21 307 P **P 21 23 43.2 +0.8**
ZALV Zalesovo Beam 71.94 330 P **P 21 23 45.0 -1.3**
comp=Z,0.5nm,0.4s,baz=115,slow=6.8,SNR=1.9
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 73.71 325 P **P 21 23 56.1 -0.7**
comp=Z,0.8nm,0.9s,baz=122,slow=5.0,SNR=6.0
comp=Z,0.8nm,0.9s
ARSB Arslanbob 73.76 314 P **P 21 23 58.1 +0.5**
ARSB IAmb IAmb 21 24 05.3
comp=Z,17nm,1.5s
VNDA Vanda 75.64 175 P **P 21 24 08.4 +0.8**
comp=Z,0.5nm,0.6s,baz=333,slow=6.4,SNR=5.7
comp=Z,0.5nm,0.6s
KKAR Karatay Array 76.06 316 P **P 21 24 10.8 +0.2**
M14K Bethel 78.19 26 P **P 21 24 21.6 -0.5**
BVAR Borovoye Array 79.30 325 P **P 21 24 27.9 -0.5**
comp=Z,1.6nm,0.6s,baz=120,slow=10,SNR=5.2
comp=Z,1.6nm,0.6s
OHAK Old Harbor 80.84 31 P **P 21 24 36.6 0.0**
OHAK IAmb IAmb 21 24 58.5
comp=Z,3.3nm,1.1s
L18K Granite Mounta 81.11 25 P **P 21 24 37.7 -0.3**
L18K IAmb IAmb 21 24 53.6
comp=Z,9.5nm,1.4s
KDAK Kodiak Island 81.39 30 P **P 21 24 38.1 -1.4**
KDAK IAmb IAmb 21 24 55.9
comp=Z,22nm,1.4s
KDAK Kodiak Island 81.39 30 LR LR 21 57 59.6
comp=Z,48nm,21.4s,baz=347,slow=34
MAW Mawson 81.87 202 LR LR 21 59 11.7
comp=Z,42nm,18.6s,baz=54,slow=34
L19K White Mountain 81.88 26 P **P 21 24 42.1 -0.1**
L19K IAmb IAmb 21 24 49.5
comp=Z,17nm,1.4s
J20K Nowinta River 82.93 24 P **P 21 24 48.3 +0.8**
J20K IAmb IAmb 21 24 56.4
comp=Z,8.4nm,1.4s
E19K Redstone River 83.06 20 P **P 21 24 47.3 -0.9**
E19K IAmb IAmb 21 25 04.2
comp=Z,17nm,1.4s
ABKAR Akbulak array 84.67 320 P **P 21 24 56.9 +0.1**
ILAR Eielson Array 86.10 24 P **P 21 25 01.5 -2.1**
comp=Z,0.6nm,0.6s,baz=262,slow=4.3,SNR=5.6
ILAR LR LR 21 57 51.2
comp=Z,30nm,21.4s,baz=22,slow=32
comp=Z,0.6nm,0.6s
F24K Squaw Lake 86.45 22 P **P 21 25 06.0 +0.7**
BARN Barnard Glacie 87.62 29 P **P 21 25 11.9 +0.6**
BMAR Burnt Mountain 87.66 22 P **P 21 25 12.1 +0.9**
LPAZ La Paz 147.56 127 PKPbc **PKPbc 21 32 09.2 +0.3**
comp=Z,2.5nm,0.9s,baz=272,slow=4.2,SNR=5.6

*MOS **03** 22:02:55.4±0.9, 37.°47N×72.°26E, h192km, mb4.6/44, Error ellipse: s-maj=5.8km s-min=3.7km az=96.7*
*NNC **03** 22:02:56.6±1.6, 37.°87N×72.°20E, h0km, mb5.3, mpv5.1, Error ellipse: s-maj=14.2km s-min=11.2km az=36.0*
*NEIC **03** 22:02:57.2±1.4, 37.°50N±0.°05×72.°19E±0.°08, h197km±4km, mb4.5/178, Error ellipse: s-maj=9.0km s-min=7.4km az=108.0*
*IDC **03** 22:02:58.4±0.5, 37.°51N×72.°27E, h208km±4km, mb4.0/25, mbtmp4.6/30, Error ellipse: s-maj=9.1km s-min=7.9km az=4.0*
ISC 03 22:02:56.2±0.3, 37.°39N±0.°03×72.°21E±0.°03, h194km±2km, h193km:pP-P, n732, σ1.53/801, mb4.4/170, 24C-36D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.11**	**351**			**22 03 35.4**	**-0.3**
DRK				Sn	**Sn**	**22 04 03.7**	**-2.9**
DRK	**Karamyk**	**2.11**	**351**	PN	**Pn**	**22 03 35.4**	**-0.3**
DRK						22 04 03.7	
GAR	**Garm**	**2.19**	**318**		**Pn**	**22 03 35.8**	**-0.6**
GAR				Sn	**Sn**	**22 04 04.8**	**-3.1**
CHGR	**Chuyangaron**	**2.72**	**299**		**Pn**	**22 03 41.5**	**-0.8**
CHGR				Sn	**Sn**	**22 04 15.4**	**-3.0**
CHGR	**Chuyangaron**	**2.72**	**299**	PN	**Pn**	**22 03 41.5**	**-0.8**
CHGR						22 04 15.4	
OHH	**Osh**	**3.16**	**8**	PN	**Pn**	**22 03 44.5**	**-3.0**
KSH	**Kashi**	**3.64**	**53**	Pn	Pn	22 03 48.2	-5.1
KSH				Sn	Sn	22 04 25.2	-13
KSH				smax	smax		
	comp=N,3μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
NIL	**Nilore**	**3.83**	**167**		**Pn**	**22 03 57.3**	**+1.6**
NIL	**Nilore**	**3.83**	**167**	P	**Pn**	**22 03 57.7**	**+2.0**
NIL	**Nilore**	**3.83**	**167**	PN	**Pn**	**22 03 57.3**	**+1.6**
KBL	**Kabul**	**3.83**	**223**		**Pn**	**22 03 57.3**	**+1.4**
KBL				Sn	**Sn**	**22 04 43.5**	**+0.9**
KBL	**Kabul**	**3.83**	**223**	P	**Pn**	**22 03 57.1**	**+1.2**
	SNR=87						
KBL				S	**Sn**	**22 04 42.9**	**+0.3**
KBL	**Kabul**	**3.83**	**223**	PN	**Pn**	**22 03 57.3**	**+1.4**
KBL						22 04 43.5	
SRNI	**Srinagar**	**3.92**	**146**	*e*P	**Pn**	**22 03 57.4**	**+0.6**
SRNI				*e*S	**Sn**	**22 04 42.8**	**-1.4**
SRNI				IAML		22 04 47.4	
	comp=E,354nm,0.4s						
SRNI				IAML		22 04 49.0	
	comp=N,234nm,0.8s						
ARSB	**Arslanbob**	**3.98**	**8**		**Pn**	**22 03 56.3**	**-1.2**
ARSB				Sn	**Sn**	**22 04 41.7**	**-4.0**
ARSB	**Arslanbob**	**3.98**	**8**	PN	**Pn**	**22 03 56.3**	**-1.2**
ARSB						22 04 41.7	
TRKS	**Terek-Say**	**4.22**	**349**	PN	**Pn**	**22 03 58.9**	**-1.7**
IUG	**Iuzhnay**	**5.04**	**341**	Pg	**Pn**	**22 04 10.6**	**-0.4**
	comp=N,432nm,0.1s						
IUG				Lg	Lg	22 05 04.2	
	comp=N,13μm,0.7s						
IUG	**Iuzhnay**	**5.04**	**341**	*i* PN	**Pn**	**22 04 10.6**	**-0.4**
ALCI	**Alchi Leh**	**5.13**	**127**	*e*P	**Pn**	**22 04 12.5**	**-0.1**
UCH	**Uchtor**	**5.15**	**19**	P	**Pn**	**22 04 11.7**	**-1.0**
	SNR=271						
JMU	**Jammu**	**5.16**	**154**	*e*P	**Pn**	**22 04 11.2**	**-1.3**
JMU				*e*S	**Sn**	**22 05 07.7**	**-4.9**
JMU				IAML		22 05 13.3	
	comp=N,379nm,0.4s						
JMU				IAML		22 05 13.7	
	comp=E,580nm,0.5s						
EKS2	**Erkin-Say**	**5.40**	**12**	P	**Pn**	**22 04 14.9**	**-0.8**
	SNR=203						
AAK	**Ala-Archa**	**5.53**	**18**	P	**Pn**	**22 04 16.3**	**-1.0**
	comp=E,279nm,0.7s,baz=190,slow=5.8,SNR=221						
AAK				S	**Sn**	**22 05 17.4**	**-4.0**
	comp=E,677nm,0.8s,baz=327,slow=23,SNR=32						
AAK	**Ala-Archa**	**5.53**	**18**	P	**Pn**	**22 04 16.6**	**-0.7**
AAK				S	**Sn**	**22 05 17.8**	**-3.5**
AAK	**Ala-Archa**	**5.53**	**18**	P	**Pn**	**22 04 16.7**	**-0.6**
	SNR=114						
AAK	**Ala-Archa**	**5.53**	**18**	⇓P	**Pn**	**22 04 13.9**	**-3.4**
	comp=E,163nm,0.8s						
AAK				⇓S	**Sn**	**22 05 14.4**	**-7.0**
	comp=E,364nm,0.6s						
AAK	**Ala-Archa**	**5.53**	**18**	P	**Pn**	**22 04 16.7**	**-0.6**
AAK	**Ala-Archa**	**5.53**	**18**	*c i* PN	**Pn**	**22 04 16.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,179nm,0.6s						
TSSA	**Tissa**	**5.57**	**143**	*e*P	**Pn**	**22 04 18.2**	**+0.1**
TSSA				*e*S	**Sn**	**22 05 19.6**	**-3.0**
TSSA				IAML		22 05 22.4	
	comp=E,157nm,0.6s						
TSSA				IAML		22 05 23.9	
	comp=N,336nm,0.5s						
KBK	**Karagaybulak**	**5.66**	**21**	P	**Pn**	**22 04 18.4**	**-0.7**
	SNR=74						
FRU1	**Bishkek**	**5.72**	**18**		**Pn**	**22 04 19.3**	**-0.5**
FRU1	**Bishkek**	**5.72**	**18**	PN	**Pn**	**22 04 19.3**	**-0.5**
ULHL	**Ulahol**	**5.76**	**31**	P	**Pn**	**22 04 19.1**	**-1.3**
	SNR=24						
BOOM	**Boomskoye usch**	**5.84**	**28**		**Pn**	**22 04 20.1**	**-1.3**
BOOM	**Boomskoye usch**	**5.84**	**28**	PN	**Pn**	**22 04 20.1**	**-1.3**
KK31	**Karatay Array**	**5.85**	**348**		**Pn**	**22 04 20.1**	**-1.3**
KK31	**Karatay Array**	**5.85**	**348**	P	**Pn**	**22 04 17.3**	**-4.1**
	comp=N,44nm,0.2s,baz=157,slow=11,SNR=1761						
KK31				⇓S	**Sn**	**22 05 22.3**	**-6.5**
	comp=N,2μm,0.7s,baz=167,slow=16,SNR=26						
KK31	**Karatay Array**	**5.85**	**348**	PN	**Pn**	**22 04 20.1**	**-1.3**
KKAR	**Karatay Array**	**5.85**	**348**		**Pn**	**22 04 19.7**	**-1.7**
KKAR	**Karatay Array**	**5.85**	**348**	PN	**Pn**	**22 04 19.7**	**-1.7**
BRLS	**Borolday**	**5.92**	**343**	*i* PN	**Pn**	**22 04 18.4**	**-3.9**
CHMS	**Chumysh**	**5.93**	**18**	P	**Pn**	**22 04 21.4**	**-1.0**
	SNR=106						
KDJ	**Kajisay**	**6.09**	**37**		**Pn**	**22 04 23.0**	**-1.6**
KDJ	**Kajisay**	**6.09**	**37**	PN	**Pn**	**22 04 23.0**	**-1.6**
TKM2	**Tokmak 2**	**6.10**	**24**	P	**Pn**	**22 04 23.9**	**-0.9**
	SNR=169						
USP	**Ospenovka**	**6.13**	**16**	P	**Pn**	**22 04 23.5**	**-1.5**
	SNR=54						
DHRM	**DHARAMSHALA**	**6.13**	**146**	*e*P	**Pn**	**22 04 23.8**	**-1.6**
DHRM				*e*S	**Sn**	**22 05 30.4**	**-5.3**
DHRM				IAML		22 05 35.8	
	comp=N,909nm,0.3s						
DHRM				IAML		22 05 36.0	
	comp=E,911nm,0.1s						
SGDS	**Sogindy**	**6.33**	**16**	Pg	**Pn**	**22 04 26.1**	**-1.6**
	comp=E,21nm,0.4s						
SGDS				Lg	Lg	22 05 31.8	
	comp=E,178nm,0.8s						
MTBS	**Maitube**	**6.58**	**28**	Pg	**Pn**	**22 04 30.3**	**-0.6**
	comp=E,160nm,0.6s						
TNSS	**Tian-Shan**	**6.70**	**31**	Pg	**Pn**	**22 04 31.6**	**-1.2**
	comp=E,16nm,0.4s						
TNSS				Lg	Lg	22 05 42.0	
	comp=E,57nm,1.1s						
AAA	**Alma-Ata**	**6.83**	**30**	*i* PN	**Pn**	**22 04 33.5**	**-0.7**
MDOK	**Medeo**	**6.85**	**31**	Pg	**Pn**	**22 04 33.5**	**-1.0**
	comp=E,62nm,0.8s						
MDOK				Lg	Lg	22 05 45.1	
	comp=E,84nm,1.1s						
KNDC	**Almaty**	**6.86**	**30**	⇑P	**Pn**	**22 04 33.7**	**-0.9**
	comp=E,242nm,0.8s						
KNDC	**Almaty**	**6.86**	**30**	PN	**Pn**	**22 04 33.7**	**-0.9**
PRZ	**Przheval'sk**	**6.96**	**41**		**Pn**	**22 04 35.2**	**-0.8**
PRZ	**Przheval'sk**	**6.96**	**41**	PN	**Pn**	**22 04 35.2**	**-0.8**
SMLA	**Simla**	**7.47**	**145**	*e*P	**Pn**	**22 04 42.3**	**-0.2**
SMLA				*e*S	**Sn**	**22 06 02.6**	**-4.4**
SMLA				IAML		22 06 04.9	
	comp=N,503nm,0.5s						
SMLA				IAML		22 06 06.0	
	comp=E,620nm,0.2s						
CGRH	**CHANDIGARH**	**7.64**	**149**	*e*P	**Pn**	**22 04 43.5**	**-1.3**
CGRH				*e*S	**Sn**	**22 06 04.6**	**-6.5**
CGRH				IAML		22 06 10.3	
	comp=E,356nm,0.4s						
CGRH				IAML		22 06 10.4	
	comp=N,450nm,0.4s						
UZB	**Uzynbulak**	**7.76**	**40**	*i* PN	**Pn**	**22 04 44.9**	**-1.4**
BTLS	**Baital**	**7.77**	**10**	*i* PN	**Pn**	**22 04 44.5**	**-1.8**
SHLS	**Shalkode**	**7.99**	**42**	*i* PN	**Pn**	**22 04 51.2**	**+1.8**
PDGK	**Podgornoye**	**8.13**	**41**	P	**Pn**	**22 04 51.6**	**+0.5**
PDGK				S	**Sn**	**22 06 20.9**	**-1.7**
PDGK	**Podgornoye**	**8.13**	**41**	PN	**Pn**	**22 04 51.6**	**+0.5**
UTK	**UTTARKASHI**	**8.42**	**140**	*e*P	**Pn**	**22 04 54.8**	**-0.3**
UTK				*e*S	**Sn**	**22 06 24.3**	**-5.3**
UTK				IAML		22 06 26.5	
	comp=N,218nm,0.5s						
UTK				IAML		22 06 27.9	
	comp=E,183nm,0.6s						
DDI	**Dehra Dun**	**8.56**	**144**	*e*P	**Pn**	**22 04 56.7**	**-0.2**
DDI				*e*S	**Sn**	**22 06 26.2**	**-6.8**
DDI				IAML		22 06 33.3	
	comp=E,262nm,0.2s						
DDI				IAML		22 06 36.0	
	comp=N,109nm,1.1s						
HRA	**Herat**	**8.62**	**253**		**Pn**	**22 04 57.7**	**-0.1**
JOSI	**Joshimath**	**9.14**	**136**	*e*P	**Pn**	**22 05 04.5**	**-0.2**
JOSI				*e*S	**Sn**	**22 06 40.0**	**-7.2**
JOSI				IAML		22 06 44.7	
	comp=N,333nm,0.7s						
JOSI				IAML		22 06 45.5	
	comp=E,248nm,0.5s						
BKNR	**BIKANER**	**9.39**	**174**	*e*P	**Pn**	**22 05 05.1**	**-2.5**
BKNR				*e*S	Sn	22 06 40.5	-12
BKNR				IAML		22 06 47.7	
	comp=N,245nm,0.8s						
BKNR				IAML		22 06 48.2	
	comp=E,134nm,0.6s						
KUDL	**Kundal**	**9.90**	**157**	*e*P	**Pn**	**22 05 14.4**	**+0.2**
KUDL				*e*S	**Sn**	**22 06 56.6**	**-8.1**
KUDL				IAML		22 06 58.4	
	comp=E,353nm,0.9s						
KUDL				IAML		22 06 59.9	
	comp=N,213nm,0.6s						
LGTI	**Lohaghat**	**10.38**	**137**	*e*P	**Pn**	**22 05 19.9**	**-0.5**
LGTI				*e*S	**Sn**	**22 07 07.9**	**-8.3**
LGTI				IAML		22 07 10.0	
	comp=N,386nm,0.8s						
LGTI				IAML		22 07 10.9	
	comp=E,147nm,0.2s						
MK31	**Makanchi Array**	**12.00**	**35**	P	**Pn**	**22 05 43.2**	**+2.0**
	comp=E,10nm,0.6s,baz=221,slow=14,SNR=91						
MK31	**Makanchi Array**	**12.00**	**35**	*de*P	**Pn**	**22 05 39.5**	**-1.7**
MKAR	**Makanchi Array**	**12.00**	**35**		**Pn**	**22 05 39.7**	**-1.5**
MKAR	**Makanchi Array**	**12.00**	**35**	P	**Pn**	**22 05 40.0**	**-1.2**
	comp=E,3.6nm,0.7s,baz=229,slow=16,SNR=18						
MKAR	**Makanchi Array**	**12.00**	**35**	P	**Pn**	**22 05 39.7**	**-1.5**
UDPR	**Udaipur**	**12.83**	**174**	*e*P	**P**	**22 05 54.4**	**-1.1**
UDPR				*e*S	**Sn**	**22 08 06.9**	**-8.1**
UDPR				IAML		22 08 11.2	
	comp=E,172nm,1.3s						
UDPR				IAML		22 08 13.4	
	comp=N,102nm,0.7s						
WMQ	**Urumqi**	**13.39**	**57**	*e*P	**P**	**22 06 02.7**	**+1.0**
WMQ				S	**Sn**	**22 08 22.7**	**-5.4**
WMQ				pmax	pmax		
	comp=Z,24nm,1.3s						
KURBB	**Kurchatov Arra**	**13.98**	**17**	P	**Pn**	**22 06 04.8**	**-1.1**
	comp=Z,87nm,0.9s,baz=206,slow=11,SNR=85						
KURBB	**Kurchatov Arra**	**13.98**	**17**	⇓P	**P**	**22 06 09.3**	**+1.3**
	comp=Z,166nm,0.9s						
KURBB	**Kurchatov Arra**	**13.98**	**17**	P	**P**	**22 06 09.3**	**+1.3**
KURK	**Kurchatov**	**14.09**	**17**	P	**P**	**22 06 08.4**	**-0.7**
KURK	**Kurchatov**	**14.09**	**17**	P	**Pn**	**22 06 07.6**	**+0.3**
KURK	**Kurchatov**	**14.09**	**17**	⇑P	**P**	**22 06 12.0**	**+2.9**
	comp=Z,62nm,1.1s						
KURK	**Kurchatov**	**14.09**	**17**	⇑*e*P	**Pn**	**22 06 08.1**	**+0.8**
KURK				pmax	pmax		
	comp=Z,138nm,1.0s						
AB31	**Akbulak array**	**14.82**	**327**		**Pn**	**22 06 14.2**	**-2.1**
AB31	**Akbulak array**	**14.82**	**327**	P	P	22 06 22.2	+4.9
	comp=Z,94nm,0.7s,baz=141,slow=12,SNR=709						
AB31				⇑S	S	22 08 47.7	-14
	comp=Z,47nm,0.6s,baz=145,slow=22,SNR=15						
AB31	**Akbulak array**	**14.82**	**327**	P	P	22 06 22.2	+4.9
AB31				S	S	22 08 47.7	-14
ABKAR	**Akbulak array**	**14.82**	**327**	P	**Pn**	**22 06 14.2**	**-2.1**
EVN	**Everest**	**15.47**	**123**	P	**P**	**22 06 25.4**	**0.0**
BVA0	**Borovoye Array**	**15.69**	**356**	P	**P**	**22 06 33.6**	**+6.7**
BVAR	**Borovoye Array**	**15.69**	**356**	P	**Pn**	**22 06 25.7**	**-1.2**
	comp=Z,56nm,0.7s,baz=161,slow=9.6,SNR=83						
BVAR				S	**S**	**22 09 15.0**	**-5.9**
	comp=Z,40nm,0.9s,baz=164,slow=23,SNR=11						
BORK	**Borovoye**	**15.71**	**356**	*d i* P	**Pn**	**22 06 25.0**	**-2.1**
BORK				pmax	pmax		
	comp=Z,78nm,0.8s						
BRVK	**Borovoye**	**15.73**	**356**	⇑P	**Pn**	**22 06 34.2**	**+6.9**
	comp=Z,36nm,0.8s						
AKTO	**Aktyubinsk**	**16.53**	**327**	P	**P**	**22 06 36.3**	**+0.1**
	comp=Z,77nm,0.6s,baz=127,slow=7.5,SNR=122						
AKTO				S	**S**	**22 09 33.0**	**-5.9**
	comp=Z,63nm,0.7s,baz=311,slow=22,SNR=8.6						
AKTO	**Aktyubinsk**	**16.53**	**327**	⇑P	**Pn**	**22 06 37.3**	**+0.3**
	comp=Z,59nm,0.8s						
AKTO				⇓S	**S**	**22 09 30.9**	**-8.1**
	comp=Z,48nm,0.9s						
LSA	**Lhasa**	**17.53**	**110**	P	**Pn**	**22 06 48.9**	**-0.7**
LSA				pmax	pmax		
	comp=Z,33nm,0.7s						
LSA	**Lhasa**	**17.53**	**110**	P	**Pn**	**22 06 51.5**	**+1.9**
BANOM	**Banah**	**17.70**	**234**	P	**P**	**22 06 49.0**	**-0.3**
BANOM	**Banah**	**17.70**	**234**	P	**Pn**	**22 06 50.2**	**-0.8**
SHME	**Shamm**	**17.71**	**235**	P	**P**	**22 06 49.6**	**+0.2**
SHME	**Shamm**	**17.71**	**235**	P	**P**	**22 06 49.4**	**+0.1**
MASF	**Masafi**	**18.17**	**233**	P	**P**	**22 06 55.2**	**+0.8**
MSFE	**Esma-Masafi**	**18.18**	**233**	P	**Pn**	**22 06 56.1**	**-0.6**
WSAR	**Wadi Sarin**	**18.31**	**223**	P	**P**	**22 06 57.0**	**+1.1**
	comp=Z,0.2nm,0.9s,baz=53,slow=24,SNR=9.9						
WSAR	**Wadi Sarin**	**18.31**	**223**	P	**Pn**	**22 06 57.8**	**-0.4**
	SNR=5.4						
UOSS	**Minazif**	**18.45**	**232**	P	**P**	**22 06 57.8**	**+0.4**
UOSS	**Minazif**	**18.45**	**232**	P	**P**	**22 06 57.8**	**+0.4**
UOSS	**Minazif**	**18.45**	**232**	P	**P**	**22 06 57.8**	**+0.4**
HATD	**Hatta, Dubai**	**18.58**	**232**	P	**P**	**22 06 59.8**	**+1.0**
HATD	**Hatta, Dubai**	**18.58**	**232**	P	**P**	**22 06 59.0**	**+0.2**
ZAA0	**Zalesovo Array**	**18.71**	**24**	P	**P**	**22 06 59.4**	**-0.4**
ZAA0	**Zalesovo Array**	**18.71**	**24**	⇓P	**P**	**22 06 58.7**	**-1.2**
	comp=Z,34nm,0.8s						
ZALV	**Zalesovo Beam**	**18.71**	**24**	P	**P**	**22 06 59.6**	**-0.3**
	comp=Z,193nm,0.6s,baz=221,slow=10,SNR=798						
ASHO	**Ashiyiah**	**18.73**	**232**	P	**P**	**22 07 01.2**	**+0.7**
	SNR=7.8						
ASHO	**Ashiyiah**	**18.73**	**232**	*i* P	**Pn**	**22 07 02.0**	**-1.2**
	SNR=23						
NAZ	**Nazwa, Dubai**	**18.76**	**233**	P	**P**	**22 07 01.5**	**+0.7**
NAZ	**Nazwa, Dubai**	**18.76**	**233**	P	**P**	**22 07 01.3**	**+0.5**
SMDO	**Samad**	**18.77**	**224**	P	**P**	**22 07 01.9**	**+0.9**
JLN	**Jalan Bani Buh**	**18.79**	**220**	P	**Pn**	**22 07 02.6**	**-1.2**
	SNR=6.7						
FAQ	**Al Faqa, Dubai**	**18.98**	**233**	P	**P**	**22 07 03.0**	**-0.1**
ASUD	**Al Ashush, Dub**	**19.23**	**233**	P	**P**	**22 07 06.0**	**+0.3**
ASUD	**Al Ashush, Dub**	**19.23**	**233**	P	**P**	**22 07 06.7**	**+0.9**
JMDO	**Jabal Madar**	**19.30**	**223**	P	**Pn**	**22 07 08.4**	**-1.5**
	SNR=5.3						
AKT	**Akhty**	**19.32**	**290**	*e*P	**P**	**22 07 07.9**	**+1.1**
AKT				*e*S	**S**	**22 10 36.6**	**+1.6**
AKT				MLR	MLR		
	comp=Z,153nm,15.0s						
ALNE	**Al Ain**	**19.37**	**231**	P	**P**	**22 07 07.9**	**+0.6**
	SNR=5.1						
ALNE	**Al Ain**	**19.37**	**231**	*i* P	**P**	**22 07 08.0**	**+0.6**
	SNR=9.6						
ARQ	**Araqi**	**19.44**	**228**	P	**P**	**22 07 09.0**	**+0.9**
AJN	**Ajban**	**19.49**	**234**	P	**P**	**22 07 09.4**	**+0.7**
MAK	**Makhachkala**	**19.65**	**294**	*d i* P	**P**	**22 07 07.9**	**-2.2**
MAK				*e*S	**S**	**22 10 38.2**	**-2.9**
MAK				pmax	pmax		
	comp=Z,287nm,1.4s						
SHL	**Shillong**	**20.46**	**120**	P	**P**	**22 07 19.5**	**+0.4**
SHL	**Shillong**	**20.46**	**120**	P	**P**	**22 07 19.5**	**+0.4**
SHL				pmax	pmax		
	comp=Z,21nm,0.6s						
MHTO	**MHTO**	**20.50**	**221**	P	**P**	**22 07 21.2**	**+1.8**
	SNR=7.4						
JRN	**Qarnain Island**	**20.65**	**239**	P	**P**	**22 07 19.7**	**-1.2**
SVE	**Sverdlovsk**	**20.93**	**342**	*ce*P

comp=Z,59nm,0.8s,baz=339,slow=2.2,SNR=18
comp=Z,59nm,0.8s
BELG Belogornoye 22.83 319 *c i* P **P 22 07 41.7 -0.6**
BELG pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 23.08 295 P **P 22 07 45.5 +0.9**
comp=Z,6.5nm,0.8s,baz=122,slow=7.8,SNR=16
comp=Z,6.5nm,0.8s
KBZ Khabaz 23.08 295 *ce* P **P 22 07 46.0 +1.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
GOF Gofitskoye 23.15 299 *ce* P **P 22 07 48.3 +3.0**
SHA1 Shidzhatmaz 23.25 295⇓ *e* P **P 22 07 47.8 +1.3**
KIV Kislovodsk 23.25 296 P **P 22 07 47.1 +0.7**
KIV Kislovodsk 23.25 296 *e* P **P 22 07 47.1 +0.7**
KIV *e* S **S 22 11 45.0 +1.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
GURO Guroymak-BITLI 23.77 282 P **P 22 07 50.7 -0.5**
DOK Doka 24.51 225 P **P 22 07 58.4 +0.5**
DMTO DMTO 24.79 222 P **P 22 08 00.7 +0.3**
MOY Mondy 24.79 46 *e* P **P 22 08 01.9 +1.6**
MOY pmax pmax
comp=Z,23nm,1.4s
LZDM Lanzhou Array 25.24 84 P **P 22 08 06.2 +1.5**
comp=Z,0.9nm,0.3s,baz=244,slow=6.3,SNR=4.7
comp=Z,0.9nm,0.3s
WHFO Wadi Hawf 25.27 225 P **P 22 08 04.9 +0.1**
LZH Lanzhou 25.33 83 *e* P **P 22 08 09.4 +4.1**
LZH pP pP 22 08 48.2 +2.9
LZH sP sP 22 09 15.8 +7.0
LZH pmax pmax
comp=Z,8.0nm,1.0s
RBK Rabkut 25.37 224 P **P 22 08 06.0 +0.3**
ZAK Zakamensk 25.68 50 *e* P **P 22 08 09.1 +0.9**
ZAK *e* 22 08 51.5
ZAK pmax pmax
comp=Z,11nm,1.3s
ZAK pmax pmax
comp=Z,10.0nm,1.5s
KIRV Kirov 25.88 332 P **P 22 08 10.6 +0.8**
comp=Z,33nm,0.9s,baz=118,slow=4.3,SNR=10
comp=Z,33nm,0.9s
ABTO Aybut 25.99 225 P **P 22 08 10.8 -0.5**
RAYN Ar Rayn 26.74 246 P **P 22 08 18.0 0.0**
RAYN Ar Rayn 26.74 246 P **P 22 08 16.4 -1.6**
RAYN Ar Rayn 26.74 246 *i* P **P 22 08 18.2 +0.2**
SNR=7.6
RAYN Ar Rayn 26.74 246 P **P 22 08 18.0 0.0**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 27.03 56 P **P 22 08 21.5 +1.1**
SONM Songino Array 27.03 56 P **P 22 08 21.6 +1.1**
comp=Z,5.2nm,0.9s,baz=258,slow=9.1,SNR=28
SONM pP **pP 22 09 02.9 +2.0**
comp=Z,3.4nm,0.8s,baz=254,slow=11,SNR=4.8
comp=Z,5.2nm,0.9s
SONM Songino Array 27.03 56 P **P 22 08 21.5 +1.1**
SONM pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 27.13 311 *e* P **P 22 08 19.3 -1.7**
VSR pmax pmax
comp=Z,8.0nm,0.9s
PZH PanZhiHua 27.20 105 P **P 22 08 24.7 +2.5**
ULN Ulaanbaatar 27.48 56 *de* P **P 22 08 25.4 +1.0**
ULN *i* *PP **pP 22 09 05.1 +0.1**
ULN pmax pmax
comp=Z,17nm,2.5s
LPSR Galich'ya Gora 27.71 314 *e* P **P 22 08 24.3 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BTO Baotou 29.41 72 *e* P **P 22 08 41.7 +0.1**
BTO S **S 22 13 22.9 +1.8**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,190nm,4.3s
BTO LR LR
comp=N,460nm,5.0s
BTO LR LR
comp=E,340nm,4.9s
BTO LR LR
comp=Z,270nm,5.6s
MOS Moscow 29.60 319 *e* P **P 22 08 40.8 -2.1**
MOS *e* *PP **pP 22 09 21.4 -1.7**
MOS *e* 22 09 43.4
MOS pmax pmax
comp=Z,23nm,0.6s
OBN Obninsk 29.91 318 *de* P **P 22 08 45.3 -0.3**
OBN *e* *PP **pP 22 09 24.7 -1.3**
OBN *e* 22 09 53.4
OBN pmax pmax
comp=Z,35nm,1.3s
CMAR Chiang Mai Arr 30.06 122 P **P 22 08 48.4 +1.0**
comp=Z,1.2nm,0.3s,baz=312,slow=9.1,SNR=8.8
CMAR pP **pP 22 09 31.1 +2.8**
comp=Z,0.9nm,0.3s,baz=306,slow=10,SNR=2.6
comp=Z,1.2nm,0.3s
BR131 Keskin Array S 30.10 286 P **P 22 08 49.2 +1.5**
BR131 Keskin Array S 30.10 286⇓ *e* P **P 22 08 48.9 +1.2**
BRTR Keskin Array B 30.10 286 P **P 22 08 49.4 +1.7**
comp=Z,1.6nm,0.5s,baz=107,slow=8.0,SNR=15
BRTR pP **pP 22 09 31.9 +3.7**
comp=Z,1.0nm,0.8s,baz=92,slow=8.7,SNR=2.2
comp=Z,1.6nm,0.5s
HHC Hu-ho-hao-te 30.55 71 *e* P **P 22 08 53.4 +1.8**
HHC pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 30.96 163 P **P 22 08 56.3 +1.0**
PALK IAmb IAmb 22 08 57.4
comp=Z,14nm,1.1s
PALK Pallekele 30.96 163 P **P 22 08 56.3 +1.0**
PALK pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 31.20 329 *e* P **P 22 08 54.8 -2.1**
KLMR *e* *SP **sP 22 09 57.3 -3.3**
KLMR *e* 22 10 06.1
KLMR *e* 22 11 45.9
KLMR pmax pmax
comp=Z,37nm,1.3s
AKASG Malin Array Be 33.16 308 P **P 22 09 14.5 +0.4**
AKASG Malin Array Be 33.16 308 P **P 22 09 14.5 +0.4**
comp=Z,3.1nm,0.6s,baz=83,slow=7.3,SNR=15
AKASG sP **sP 22 10 20.8 +2.8**
comp=Z,2.7nm,0.7s,baz=82,slow=8.0,SNR=2.9
AKASG PP **PP 22 10 34.6 +1.6**
comp=Z,5.4nm,0.7s,baz=87,slow=9.5,SNR=8.6
comp=Z,3.1nm,0.6s
AKBB Malin Array Si 33.16 308 P **P 22 09 14.3 +0.3**
AKBB IAmb IAmb 22 09 15.4
comp=Z,8.4nm,0.8s
AKBB Malin Array Si 33.16 308⇓ *e* P **P 22 09 14.2 +0.1**
KIEV Kiev 33.17 308 P **P 22 09 14.3 +0.1**
KIEV IAmb IAmb 22 09 15.4
comp=Z,8.0nm,0.9s
KIEV Kiev 33.17 308⇓ P **P 22 09 14.5 +0.3**
KIEV Kiev 33.17 308 P **P 22 09 14.3 +0.1**
KIEV Kiev 33.17 308⇓ P **P 22 09 14.5 +0.3**
SORM Soroca 33.52 303⇑ P **P 22 09 18.0 +0.7**
SORM Soroca 33.52 303⇑ P **P 22 09 18.0 +0.7**
ELL Elmali 33.56 282 P **P 22 09 19.7 +1.8**
ELL IAmb IAmb 22 09 21.8
comp=Z,11nm,0.8s
ELL Elmali 33.56 282 P **P 22 09 19.7 +1.8**
ELL pmax pmax
comp=Z,11nm,0.8s
CFR Carcaliu 33.68 297⇓ P **P 22 09 20.0 +1.4**
CFR Carcaliu 33.68 297⇓ P **P 22 09 20.0 +1.4**
MNK Minsk 34.57 314 *i* P **P 22 09 27.0 +0.9**
comp=E,8.0nm,0.9s
MNK *i* P **P 22 09 27.0 +0.9**
comp=N,13nm,0.9s
MNK *i* P **P 22 09 27.0 +0.9**
comp=Z,12nm,0.8s,baz=101
MNK *i* pP **pP 22 10 03.8 -3.4**
MNK *i* sP **sP 22 10 24.2 -5.6**
MNK *i* PcP **PcP 22 11 57.1 +1.0**
MNK *i* S **S 22 14 43.9 +3.5**
MNK *i* ScP ScP 22 15 04.4 -18
MNK *i* PcS **ScP 22 15 23.2 +0.3**
MNK *i* sS **sS 22 15 49.5 -4.1**
MNK *i* SS SS 22 16 47.6 -29
MNK Minsk 34.57 314 *i* P **P 22 09 27.0 +0.9**
MNK *i* *PP **pP 22 10 03.8 -3.4**
MNK *i* 22 11 57.1
MNK *i* S **S 22 14 43.9 +3.5**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
TESR Tescani 34.67 300⇑ P **P 22 09 28.5 +1.3**
PLOR Plostina 34.69 299⇓ P **P 22 09 29.9 +2.5**
PLOR Plostina 34.69 299⇓ P **P 22 09 29.9 +2.5**
MLR Muntele Rosu 35.21 298 P **P 22 09 34.2 +2.2**
MLR IAmb IAmb 22 09 35.6
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 35.21 298⇓ P **P 22 09 34.9 +3.0**
MLR Muntele Rosu 35.21 298 P **P 22 09 34.2 +2.2**
MLR pmax pmax
comp=Z,10.0nm,0.8s
NACGM Naroch 35.27 315 *e* P **P 22 09 33.1 +0.9**
comp=Z,38nm,0.9s,baz=101
ELND Elena 35.49 294⇓ P **P 22 09 36.2 +1.9**
JOF Joensuu 35.59 329 *e* P **P 22 09 33.9 -0.9**
BURAR Bucovina Array 35.63 302 P **P 22 09 35.9 +0.4**
BURAR Bucovina Array 35.63 302⇑ P **P 22 09 37.1 +1.6**
BURAR Bucovina Array 35.63 302⇑ P **P 22 09 37.1 +1.6**
BUR08 Bucovina Ar. S 35.64 302 P **P 22 09 36.0 +0.4**
VOIR 35.84 298⇑ P **P 22 09 39.1 +1.9**
VOIR 35.84 298⇑ P **P 22 09 39.1 +1.9**
KARP Karpathos 36.02 281 P **P 22 09 40.7 +1.8**
KARP Karpathos 36.02 281 *e* P **P 22 09 39.8 +0.9**
ARR Arges 36.13 298⇓ P **P 22 09 41.7 +1.9**
ARCR ARCALIA 36.23 301⇓ P **P 22 09 43.8 +3.4**
LOT Lotru 36.74 298⇓ P **P 22 09 46.8 +1.9**
ARBE Arbavere 36.74 322 *e* P **P 22 09 45.1 +0.5**
CBBR Cluj-Babes-Bol 36.80 300⇓ P P 22 09 34.0 -11
LVZ Lovozero 37.00 337 P **P 22 09 46.8 +0.1**
LVZ Lovozero 37.00 337 P **P 22 09 46.8 +0.1**
LVZ pmax pmax
comp=Z,73nm,1.4s
MARR Marisel-Cluj 37.10 300⇓ P **P 22 09 50.2 +2.3**
FIA1 FINESS Array S 37.30 325 P **P 22 09 49.4 +0.1**
FINES FINESS Array B 37.30 325 P **P 22 09 49.8 +0.6**
comp=Z,8.2nm,0.6s,baz=117,slow=8.7,SNR=42
FINES pP **pP 22 10 32.5 +1.4**
comp=Z,4.3nm,0.8s,baz=201,slow=10,SNR=3.0
FINES sP **sP 22 10 56.5 +3.2**
comp=Z,3.1nm,0.7s,baz=116,slow=9.6,SNR=2.1
comp=Z,8.2nm,0.6s
DRGR 37.37 301 P **P 22 09 52.3 +2.1**
DRGR pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 37.57 304 *e* P **P 22 09 53.1 +1.3**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 37.57 304 *e* P **P 22 09 53.1 +1.3**
KOLS *e* PP **PnPn 22 11 24.3 -0.7**
SURR Surduc 37.86 299⇑ P **P 22 09 56.7 +2.5**
KEF Keuruu 38.07 326 *e* P **P 22 09 56.2 +0.5**
BZS Buzias 38.23 299⇓ P **P 22 09 58.9 +1.7**
BZS Buzias 38.23 299⇓ P **P 22 09 58.9 +1.7**
SLIT Slitere, Latvi 38.23 318 *e* P **P 22 09 56.2 -0.8**
MDVR Moldovita 38.25 297⇓ P **P 22 09 59.4 +1.9**
BOVS Bovan 38.41 296⇓ P **P 22 10 01.1 +2.3**
NIE Niedzica 38.85 305 P **P 22 10 04.7 +2.2**
OJC Ojcow 39.15 306 P **P 22 10 03.9 -0.9**
OJC Ojcow 39.15 306 P **P 22 10 05.8 +0.9**
OJC pmax pmax
comp=Z,14nm,1.0s
VADS Vadso 39.83 339 *e* P **P 22 10 11.1 +0.9**
AAL Aland 39.86 322 *e* P **P 22 10 10.2 -0.3**
KEV Kevo 40.34 338 P **P 22 10 14.3 -0.1**
KEV Kevo 40.34 338 P **P 22 10 14.3 -0.1**
KEV pmax pmax
comp=Z,31nm,1.0s
STEB Steborice 40.47 306 *e* P **P 22 10 16.8 +1.1**
SJUU Sjulsmark 40.51 330 *e* P **P 22 10 15.6 -0.2**
JAVC Velka Javorina 40.51 304 *e* P **P 22 10 18.8 +1.8**
MORC Moravsky Berou 40.62 306 P **P 22 10 17.7 +0.6**
MORC Moravsky Berou 40.62 306 *e* P **P 22 10 18.1 +1.0**
MORC *e* PP **PP 22 11 55.4 +0.7**
MORC Moravsky Berou 40.62 306 P **P 22 10 17.7 +0.6**
MORC pmax pmax
comp=Z,4.0nm,0.8s
ARA0 ARCESS Array S 40.70 337 *e* P **P 22 10 18.1 +0.8**
ARCES ARCESS Array B 40.70 337 P **P 22 10 18.0 +0.6**
ARCES ARCESS Array B 40.70 337 P **P 22 10 18.2 +0.8**
comp=Z,23nm,0.7s,baz=115,slow=8.7,SNR=63
comp=Z,23nm,0.7s
ARCES ARCESS Array B 40.70 337 P **P 22 10 18.0 +0.6**
ARCES pmax pmax
comp=Z,24nm,0.9s
GKP Gorka Klasztor 40.71 311 *e* P **P 22 10 17.6 -0.1**
ZEA Zeya 40.75 48 *e* P **P 22 10 19.8 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MODS Modra-Piesok 40.91 304 *e* P **P 22 10 21.0 +1.6**
MODS Modra-Piesok 40.91 304 *e* P **P 22 10 21.0 +1.6**
HEH HeiHe 40.94 54 *e* P **P 22 10 20.7 +1.2**
HEH pmax pmax
comp=Z,31nm,0.8s
KRLC Kraliky 41.10 306 *e* P **P 22 10 22.0 +1.1**
KRLC Kraliky 41.10 306 *e* P **P 22 10 22.0 +1.1**
KTK1 Kautokeino 41.20 336 *e* P **P 22 10 21.9 +0.4**
LANU Lannavaara 41.24 334 *e* P **P 22 10 21.6 -0.2**
SNSI Sinabang, Aceh 41.27 142 P **P 22 10 24.4 +1.8**
VRAC Vranov 41.28 305⇑ P **P 22 10 24.5 +2.1**
VRAC Vranov 41.28 305 *e* P **P 22 10 23.8 +1.4**
VRAC Vranov 41.28 305⇑ P **P 22 10 24.5 +2.1**
DPC Dobruska-Polom 41.37 307 *e* P **P 22 10 24.3 +1.1**
DPC Dobruska-Polom 41.37 307 *e* P **P 22 10 24.3 +1.1**
KRUC Moravsky 41.43 305 *e* P **P 22 10 25.0 +1.4**
KRUC *e* PP **PP 22 12 04.1 +0.9**
CHVC Chvalec 41.53 307 *e* P **P 22 10 25.7 +1.3**
CHVC Chvalec 41.53 307 *e* P **P 22 10 25.7 +1.3**
RONA Rosalia, Austr 41.64 303 *e* P **P 22 10 26.8 +1.5**
comp=Z,23nm,0.6s
HAMF Hammerfest 41.76 338 *e* P **P 22 10 27.2 +1.3**
CONA Conrad Observa 41.90 303 *e* P **P 22 10 29.0 +1.5**
comp=Z,5.2nm,0.7s
ARSA Arzberg 42.22 302 *i* P **P 22 10 31.3 +1.3**
comp=Z,0.9nm,0.5s
JETT Jettan, Norway 42.34 336 *e* P **P 22 10 31.6 +0.9**
PRU Pruhonice 42.54 306 *e* P **P 22 10 34.2 +1.6**
PRU Pruhonice 42.54 306 *e* P **P 22 10 34.2 +1.6**
SOKA Soboth 42.63 301 *i* P **P 22 10 34.8 +1.4**
comp=Z,4.0nm,0.8s
YAK Yakutsk 42.68 36 *e* P **P 22 10 33.4 0.0**
YAK *e* *PP **pP 22 11 14.8 -1.4**
YAK *e* 22 12 14.0
YAK *e* PPP PPP 22 12 58.4
YAK *e* S **S 22 16 45.2 +3.5**
YAK *e* *SS **sS 22 17 58.0 +1.2**
YAK *e* SS **ScS 22 20 12.2 -0.7**
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,33nm,2.0s
YAK pmax pmax
comp=E,116nm,2.8s
YAK pmax pmax
comp=N,99nm,2.8s
YAK smax smax
comp=N,67nm,2.8s
YAK smax smax
comp=E,117nm,3.3s
DEL Delary 42.69 316 *i* P **P 22 10 34.3 +0.6**
CKRC Cesky Krumlov 42.82 305 *e* P **P 22 10 36.2 +1.4**
CKRC Cesky Krumlov 42.82 305 *e* P **P 22 10 36.2 +1.4**
ZVC Zvikov 42.83 305 *e* P **P 22 10 36.5 +1.6**
BRG Berggiesshubel 42.84 308⇓ *i* P **P 22 10 36.4 +1.4**
BRG Amp 22 10 37.3
comp=Z,8.2nm,0.8s
GSI Gunungsitoli 42.84 141 P **P 22 10 37.1 +1.7**
TRO Tromso 42.85 336 *e* P **P 22 10 35.3 +0.6**
LUNU Lund 42.92 315 *i* P **P 22 10 36.5 +0.9**
HFS Hagfors 42.97 321 P **P 22 10 36.3 +0.4**
comp=Z,24nm,0.6s,baz=98,slow=11,SNR=63
HFS pP **pP 22 11 20.5 +2.1**
comp=Z,5.5nm,0.7s,baz=92,slow=12,SNR=2.7
comp=Z,24nm,0.6s
MOA Molln 42.98 303 *i* P **P 22 10 37.3 +1.2**
comp=Z,2.4nm,0.7s
BJUU Bjuv 43.16 315 *i* P **P 22 10 38.1 +0.7**
GERES GERESS Array B 43.22 305 P **P 22 10 38.6 +0.5**
comp=Z,0.6nm,0.6s,baz=81,slow=8.6,SNR=5.5
GERES PP **PP 22 12 18.9 -3.5**
comp=Z,1.2nm,0.8s,baz=54,slow=9.9,SNR=3.9
comp=Z,0.6nm,0.6s
KHC Kasperske Hory 43.26 305⇓ *e* P **P 22 10 39.6 +1.2**
KHC pmax pmax
comp=Z,14nm,2.5s
KHC Kasperske Hory 43.26 305 *e* P **P 22 10 39.7 +1.3**
BORU Boraas 43.32 318 *i* P **P 22 10 39.0 +0.3**
FABU Falkenberg 43.34 317 *i* P **P 22 10 39.1 +0.3**
CLL Collm 43.40 308 P **P 22 10 40.0 +0.6**
CLL Collm 43.40 308 *i* P **P 22 10 40.2 +0.8**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 43.40 308 *i* P **P 22 10 40.2 +0.8**
comp=Z,6.0nm,0.8s
CLL *i* x x 22 10 49.2
CLL *e* PP **PP 22 12 25.0 +0.9**
FAUS Fauske 43.47 332 *e* P **P 22 10 39.6 -0.1**
MOR8 Moi Rana 43.52 330 *e* P **P 22 10 40.1 -0.1**
STEI Steigen 43.62 333 *e* P **P 22 10 41.7 +0.7**
SSLB Suanglung 43.64 94 P **P 22 10 40.3 -1.5**
SSLB IAmb IAmb 22 10 44.5
comp=Z,6.2nm,0.6s
KSRS Korea Array 43.68 72 P **P 22 10 41.7 -0.1**
comp=Z,1.0nm,0.6s,baz=288,slow=8.7,SNR=2.7
comp=Z,1.0nm,0.6s
RAUS Rausandaksla 43.74 330 *e* P **P 22 10 42.9 +1.0**
ONAU Onsala 43.77 317 *i* P **P 22 10 42.3 +0.1**
NC405 NORSAR Array S 44.02 323 P **P 22 10 44.0 -0.3**
LEIR Leirfjorden 44.04 330 *e* P **P 22 10 44.7 +0.4**
NC602 NORSAR Array S 44.08 322 P **P 22 10 44.6 -0.1**
NC602 IAmb IAmb 22 10 46.2
comp=Z,15nm,1.1s
NC602 NORSAR Array S 44.08 322 *e* P **P 22 10 44.8 +0.1**
NORES NORESS Array B 44.08 322 P **P 22 10 44.8 +0.1**
LESA Schwarzleotal 44.10 303 *e* P **P 22 10 46.2 +1.0**
comp=Z,2.4nm,0.4s
STRU Stroemstad 44.19 320 *e* P **P 22 10 45.6 +0.1**
STRU Stroemstad 44.19 320 *i* P **P 22 10 45.4 -0.1**
NC303 NORSAR Array S 44.20 323 P **P 22 10 46.2 +0.6**
NB201 NORSAR Array S 44.22 322 P **P 22 10 46.0 +0.1**
NB201 IAmb IAmb 22 11 17.3
comp=Z,28nm,1.4s
NB2 NORSAR Subarra 44.26 322 P **P 22 10 45.8 -0.4**
comp=Z,12nm,0.6s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.26 322 P **P 22 10 43.0 -3.2**
NB2 NORSAR Subarra 44.26 322 P **P 22 10 45.8 -0.4**
baz=93,slow=7.9
NOA NORSAR Array B 44.26 322 P **P 22 10 46.1 -0.1**
comp=Z,12nm,0.7s,baz=93,slow=7.7,SNR=52
NOA pP **pP 22 11 31.4 +2.5**
comp=Z,2.0nm,0.8s,baz=93,slow=8.1,SNR=2.2
NOA PP **PP 22 12 30.9 -2.4**
comp=Z,1.0nm,0.8s,baz=92,slow=9.7,SNR=3.5
comp=Z,12nm,0.7s
ABTA Abfaltersbach 44.33 302 P **P 22 10 46.7 -0.3**
comp=Z,2.4nm,0.6s
NAO01 NORSAR Array S 44.41 322 P **P 22 10 46.6 -0.7**
NAO01 IAmb IAmb 22 10 48.1
comp=Z,23nm,1.1s
CIMO Cimolais 44.46 301 P **P 22 10 48.3 +0.4**
NBO00 NORSAR Array S 44.47 322 P **P 22 10 47.3 -0.5**
NBO00 IAmb IAmb 22 10 48.7
comp=Z,12nm,0.7s
NC204 NORSAR Array S 44.49 323 P **P 22 10 47.5 -0.6**
TIXI Tiksi 44.59 22 P **P 22 10 48.7 +0.1**
TIXI Tiksi 44.59 22⇑ *e* P **P 22 10 48.1 -0.4**
TIXI pmax pmax
comp=Z,21nm,1.7s
FDMO Fiordimonte 44.70 297 P **P 22 10 49.9 0.0**
FDMO IAmb IAmb 22 11 20.5
comp=Z,17nm,1.2s
NRCA Norcia 44.72 296 P **P 22 10 51.3 +1.2**
NRCA IAmb IAmb 22 10 53.3
comp=Z,26nm,1.3s
WTTA Wattenberg 44.83 303 *i* P **P 22 10 51.7 +0.6**
comp=Z,4.7nm,0.8s
WATA Walderalm 44.85 303 *i* P **P 22 10 51.7 +0.5**
comp=Z,2.9nm,0.7s
KONO Kongsberg 45.01 320 P **P 22 10 51.7 -0.4**
KONO IAmb IAmb 22 10 53.1
comp=Z,14nm,0.8s
KONO Kongsberg 45.01 320 P **P 22 10 51.7 -0.4**
KONO pmax pmax
comp=Z,14nm,0.8s
KONO Kongsberg 45.01 320 *e* P **P 22 10 52.4 +0.3**
MURB Monte Urbino 45.04 297 P **P 22 10 52.1 -0.6**
CTI Castel Tesino 45.05 301 P **P 22 10 52.6 -0.1**
CTI Castel Tesino 45.05 301 P **P 22 10 52.6 -0.1**
CTI pmax pmax
comp=Z,6.0nm,0.8s
SQTA Sankt Quirin 45.12 303 *i* P **P 22 10 53.6 +0.3**
comp=Z,1.3nm,0.4s
MOTA Moosalm 45.17 303 *i* P **P 22 10 54.3 +0.6**
comp=Z,2.8nm,0.6s,SNR=5.8
DOMB Dombas 45.34 324 *e* P **P 22 10 55.1 +0.4**
RETA Reutte 45.37 303 *i* P **P 22 10 56.3 +1.1**
comp=Z,1.1nm,0.4s
FETA Feichten 45.48 303 *i* P **P 22 10 56.3 +0.2**
comp=Z,3.3nm,0.8s,SNR=5.3
HOMB Homborsund 45.59 318 *i* P **P 22 10 57.0 +0.5**
PPI Padang Panjang 45.80 139 P **P 22 10 59.2 +0.5**
comp=Z,11nm,0.7s
FUORN Ofenpass-Fuorn 45.87 302 P **P 22 11 00.0 +0.7**
DAVA Damuels 46.00 303 *e* P **P 22 11 00.7 +0.5**
comp=Z,12nm,0.7s
PDSI Padang 46.21 139 P **P 22 11 02.3 +0.3**
comp=Z,25nm,0.9s
SNART Snartemo 46.27 319 *i* P **P 22 11 02.8 +0.9**
BLS5 Blasjo 46.62 320 *e* P **P 22 11 05.9 +1.3**
SPB2 Spitsbergen Ar 46.85 346 P **P 22 11 07.5 +1.3**
SPB2 IAmb IAmb 22 11 08.0
comp=Z,22nm,0.8s
SPA0 Spitsbergen Ar 46.85 346 *e* P **P 22 11 07.7 +1.4**
SPITS Spitsbergen Ar 46.85 346 P **P 22 11 07.7 +1.4**
comp=Z,10nm,0.6s,baz=114,slow=10,SNR=17
comp=Z,10nm,0.6s
SPITS Spitsbergen Ar 46.85 346 P **P 22 11 07.4 +1.2**
SPITS pmax pmax
comp=Z,26nm,1.0s
SENIN Lac Senin/Sane 47.93 302 P **P 22 11 15.9 +0.7**
KBS Kingsbay 47.96 347 *ce* P **P 22 11 16.0 +1.3**
KBS pmax pmax
comp=Z,20nm,1.3s
KBS Kingsbay 47.96 347 *e* P **P 22 11 15.8 +1.1**
MASI Maura Aman, Be 49.03 139 P **P 22 11 23.1 -0.6**
comp=Z,87nm,1.0s
KSI Kapahiang 49.65 139 P **P 22 11 28.1 -0.3**
SSB Saint Sauveur 50.07 302 P **P 22 11 32.1 +0.8**
SSB Saint Sauveur 50.07 302 P **P 22 11 32.1 +0.8**
SSB pmax pmax
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 50.15 228 P **P 22 11 33.6 +1.2**
comp=Z,2.0nm,0.5s,baz=38,slow=13,SNR=5.7
comp=Z,2.0nm,0.5s
KIBK Kibwezi 50.66 227 P **P 22 11 36.4 +0.4**
EKA Eskdalemuir Ar 52.33 316 P **P 22 11 47.8 0.0**
comp=Z,4.3nm,0.7s,baz=86,slow=7.2,SNR=10.0
comp=Z,4.3nm,0.7s
SEY Seymchan 53.14 34 *e* P **P 22 11 53.6 0.0**
SEY pmax pmax
comp=Z,15nm,1.6s
MBAR Mbarara 53.81 235⇓ *i* P **P 22 11 59.5 +0.1**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 54.15 343 *i* P **P 22 12 01.0 +0.2**
DAG IAmb IAmb 22 12 02.6
comp=Z,26nm,1.0s
BILL Bilibino 57.38 26⇑ *e* P **P 22 12 25.1 +1.3**
BILL pmax pmax
comp=Z,9.0nm,1.7s
ESDC Sonseca Array 57.90 298 P **P 22 12 28.0 0.0**
ESDC Sonseca Array 57.90 298 P **P 22 12 28.8 +0.8**
comp=Z,2.5nm,0.8s,baz=67,slow=6.8,SNR=19
ESDC pP **pP 22 13 14.2 +0.9**
comp=Z,2.1nm,1.0s,baz=52,slow=7.1,SNR=3.6
comp=Z,2.5nm,0.8s
NEEM North Greenlan 60.37 348 *i* P **P 22 12 45.3 +0.7**
NEEM IAmb IAmb 22 12 46.5
comp=Z,18nm,0.9s

SUMG	Summit	60.54	341		P	P	22 12 46.5	+0.6
SUMG	Summit	60.54	341		P	P	22 12 46.5	+0.6
SUMG					pmax	pmax		
	comp=Z,16nm,0.8s							
SUMG	Summit	60.54	341	i	P	P	22 12 46.8	+0.9
SUMG					IAmb	IAmb	22 12 48.3	
	comp=Z,21nm,0.9s							
PVAQ	Vaqueiros	61.53	297		P	P	22 12 50.9	-1.8
NIAQ	Niaqornat	65.42	343	i	P	P	22 13 15.2	-2.3
DY2G	Dye2	66.34	337	i	P	P	22 13 24.7	+0.9
DY2G					IAmb	IAmb	22 13 25.9	
	comp=Z,25nm,0.9s							
TORD	Torodi Ar. Bea	66.71	269		P	P	22 13 24.4	-2.3
TORD	Torodi Ar. Bea	66.71	269		P	P	22 13 26.5	-0.1
	comp=Z,3.1nm,0.3s,baz=45,slow=6.1,SNR=68							
TORD					pP	pP	22 14 16.4	+3.4
	comp=Z,1.4nm,0.8s,baz=46,slow=7.0,SNR=1.6							
	comp=Z,3.1nm,0.3s							
B20K	Meade River	67.08	16		P	P	22 13 28.2	0.0
	baz=319							
C18K	Utukok River	67.12	19		P	P	22 13 29.1	+0.6
C18K					IAmb	IAmb	22 13 34.7	
	comp=Z,14nm,1.3s							
C18K	Utukok River	67.12	19		P	P	22 13 28.7	+0.1
	baz=316							
C19K	Lookout Ridge	67.19	18		P	P	22 13 29.4	+0.5
C19K	Lookout Ridge	67.19	18		P	P	22 13 29.0	0.0
	baz=317							
SFJD	Kangerlussuaq	67.28	339		P	P	22 13 29.1	-0.3
SFJD	Kangerlussuaq	67.28	339		P	P	22 13 29.1	-0.3
SFJD					pmax	pmax		
	comp=Z,34nm,1.4s							
SFJD	Kangerlussuaq	67.28	339	i	P	P	22 13 29.6	+0.2
D17K	Noatak River	67.31	20		P	P	22 13 30.2	+0.6
	baz=315							
B22K	Teshekpuk Lake	67.64	15		P	P	22 13 32.1	+0.5
	baz=322							
F14K	Arctic Creek	67.92	23		P	P	22 13 33.9	+0.4
	baz=313							
B21K	Ikpikpuk River	67.95	16		P	P	22 13 33.1	-0.5
B21K	Ikpikpuk River	67.95	16		P	P	22 13 34.0	+0.5
	baz=321							
D19K	Kuna River	68.00	18		P	P	22 13 34.2	+0.1
	baz=319							
E17K	Hotham Inlet	68.09	20		P	P	22 13 35.1	+0.6
	baz=316							
E18K	Tukpahlearik C	68.17	19		P	P	22 13 34.7	-0.3
E18K					IAmb	IAmb	22 13 36.3	
	comp=Z,10nm,0.9s							
E18K	Tukpahlearik C	68.17	19		P	P	22 13 35.5	+0.5
	baz=317							
D20K	Etivluk River	68.20	17		P	P	22 13 35.3	+0.1
D20K					IAmb	IAmb	22 13 36.2	
	comp=Z,10.0nm,0.9s							
D20K	Etivluk River	68.20	17		P	P	22 13 35.7	+0.5
	baz=320							
F15K	North Star Dit	68.26	22		P	P	22 13 36.2	+0.5
F15K	North Star Dit	68.26	22		P	P	22 13 36.5	+0.9
	baz=314							
C21K	Knifeblade Rid	68.28	16		P	P	22 13 36.1	+0.4
	baz=321							
C23K	Itkillik River	68.62	15		P	P	22 13 38.6	+0.9
C23K					IAmb	IAmb	22 13 39.8	
	comp=Z,9.0nm,0.8s							
C23K	Itkillik River	68.62	15		P	P	22 13 37.9	+0.2
	baz=324							
E20K	Nigu River	68.65	17		P	P	22 13 38.5	+0.4
	baz=320							
F17K	Baldwin Pennin	68.71	20		P	P	22 13 39.0	+0.7
	baz=317							
ANM	Nome	68.84	23		P	P	22 13 39.3	+0.1
	baz=314							
G15K	Niukluk	68.95	22		P	P	22 13 40.2	+0.3
	baz=315							
D22K	Ayikyak River	68.96	16		P	P	22 13 40.0	+0.1
D22K					IAmb	IAmb	22 13 41.5	
	comp=Z,11nm,1.0s							
D22K	Ayikyak River	68.96	16		P	P	22 13 40.1	+0.1
	baz=323							
E19K	Redstone River	69.01	18		P	P	22 13 40.2	-0.1
E19K					IAmb	IAmb	22 13 43.9	
	comp=Z,13nm,1.2s							
E19K	Redstone River	69.01	18		P	P	22 13 40.2	-0.1
	baz=320							
E21K	Killik River	69.02	17		P	P	22 13 40.3	0.0
	baz=322							
F18K	Selawik	69.03	20		P	P	22 13 40.8	+0.5
	baz=318							
C24K	Franklin Bluff	69.09	14		P	P	22 13 41.0	+0.3
C24K	Franklin Bluff	69.09	14		P	P	22 13 41.3	+0.7
	baz=326							
G16K	Koyuk River	69.16	21		P	P	22 13 41.4	+0.3
G16K	Koyuk River	69.16	21		P	P	22 13 41.5	+0.3
	baz=316							
D23K	Nanushuk River	69.32	15		P	P	22 13 42.6	+0.5
D23K					IAmb	IAmb	22 13 43.9	
	comp=Z,7.5nm,0.9s							
D23K	Nanushuk River	69.32	15		P	P	22 13 42.6	+0.5
	baz=325							
G17K	Kiwalik Mounta	69.57	21		P	P	22 13 44.0	+0.3
	baz=317							
F20K	Avaraart Lake	69.70	18		P	P	22 13 44.6	+0.2
	baz=321							
E22K	Anaktuvuk Pass	69.75	16		P	P	22 13 44.6	-0.2
E22K					IAmb	IAmb	22 13 51.0	
	comp=Z,15nm,1.3s							
E22K	Anaktuvuk Pass	69.75	16		P	P	22 13 45.0	+0.2
	baz=324							
TOLK	Toolik Lake Re	69.82	15		P	P	22 13 45.7	+0.5
TOLK	Toolik Lake Re	69.82	15		P	P	22 13 45.6	+0.5
	baz=326							
G18K	Tagagawik	69.83	20		P	P	22 13 45.9	+0.6
	baz=319							
D25K	Kavik River	69.87	14		P	P	22 13 46.3	+0.8
	baz=328							
C27K	Jago River	70.09	13		P	P	22 13 47.0	+0.1
C27K	Jago River	70.09	13		P	P	22 13 47.7	+0.8
	baz=330							
F21K	Alatna River	70.10	17		P	P	22 13 47.0	+0.1
F21K					IAmb	IAmb	22 13 49.2	
	comp=Z,7.4nm,0.8s							
F21K	Alatna River	70.10	17		P	P	22 13 47.6	+0.7
	baz=323							
F22K	John River	70.18	17		P	P	22 13 48.0	+0.6
	baz=324							
H17K	Granite Mounta	70.20	21		P	P	22 13 46.9	-0.6
H17K					IAmb	IAmb	22 13 49.4	
	comp=Z,11nm,1.1s							
H17K	Granite Mounta	70.20	21		P	P	22 13 47.9	+0.4
	baz=318							
A36M	Sachs Harbour	70.23	6		P	P	22 13 47.5	0.0
	baz=345							
E23K	Chandalar	70.29	15		P	P	22 13 48.2	0.0
	baz=326							
H18K	Honhosa River	70.47	20		P	P	22 13 48.5	-0.7
H18K	Honhosa River	70.47	20		P	P	22 13 49.3	+0.1
	baz=319							
E24K	Your Creek	70.51	15		P	P	22 13 49.6	+0.2
	baz=327							
G21K	Allakaket	70.66	18		P	P	22 13 50.1	-0.2
G21K	Allakaket	70.66	18		P	P	22 13 51.0	+0.7
	baz=323							
H19K	Roundabout Mou	70.70	19		P	P	22 13 51.1	+0.7
H19K					IAmb	IAmb	22 13 51.9	
	comp=Z,6.1nm,0.9s							
H19K	Roundabout Mou	70.70	19		P	P	22 13 51.0	+0.5
	baz=321							
J14K	Nanvaranak Lak	70.70	24		P	P	22 13 51.0	+0.5
J14K	Nanvaranak Lak	70.70	24		P	P	22 13 51.4	+0.9
	baz=316							
I17K	Unalakleet	70.75	22		P	P	22 13 51.7	+0.9
	baz=318							
G22K	Bettles	70.81	17		P	P	22 13 51.7	+0.5
	baz=324							
COLD	Coldfoot	70.85	16		P	P	22 13 52.0	+0.6
COLD					IAmb	IAmb	22 13 52.5	
	comp=Z,8.1nm,0.9s							
COLD	Coldfoot	70.85	16		P	P	22 13 52.1	+0.7
	baz=325							
K13K	Kusilvak Mount	70.92	25		P	P	22 13 52.1	+0.2
K13K	Kusilvak Mount	70.92	25		P	P	22 13 52.6	+0.7
	baz=315							
IMAR	Indian Mountai	71.03	18		P	P	22 13 52.4	-0.1
E25K	Arctic Village	71.06	14		P	P	22 13 53.3	+0.6
E25K					IAmb	IAmb	22 14 12.6	
	comp=Z,15nm,1.4s							
E25K	Arctic Village	71.06	14		P	P	22 13 53.4	+0.6
	baz=329							
F24K	Squaw Lake	71.11	15		P	P	22 13 53.7	+0.7
	baz=327							
H20K	Anotleneega Mo	71.14	19		P	P	22 13 53.8	+0.6
	baz=322							
J16K	Anvik River	71.23	22		P	P	22 13 53.5	-0.3
J16K	Anvik River	71.23	22		P	P	22 13 54.7	+1.0
	baz=318							
G23K	Bananza Creek	71.32	16		P	P	22 13 54.6	+0.3
G23K					IAmb	IAmb	22 13 56.3	
	comp=Z,7.0nm,1.0s							
G23K	Bananza Creek	71.32	16		P	P	22 13 55.2	+0.9
	baz=326							
F25K	Christian Rive	71.50	14		P	P	22 13 56.4	+1.1
F25K	Christian Rive	71.50	14		P	P	22 13 56.5	+1.1
	baz=329							
H21K	Melozitna Rive	71.53	18		P	P	22 13 56.1	+0.6
	baz=324							
J17K	VABM Dome	71.60	22		P	P	22 13 55.4	-0.6
J17K					IAmb	IAmb	22 14 27.2	
	comp=Z,20nm,1.4s							
J17K	VABM Dome	71.60	22		P	P	22 13 56.6	+0.6
	baz=319							
K15K	Wolf Creek Mou	71.68	23		P	P	22 13 55.5	-1.0
K15K					IAmb	IAmb	22 14 10.9	
	comp=Z,19nm,1.4s							
K15K	Wolf Creek Mou	71.68	23		P	P	22 13 57.2	+0.7
	baz=318							
H22K	Ishtalitna Cre	71.68	17		P	P	22 13 57.0	+0.6
	baz=325							
F26K	Sheenjek River	71.70	14		P	P	22 13 56.8	+0.2
F26K					IAmb	IAmb	22 13 59.5	
	comp=Z,8.6nm,1.3s							
F26K	Sheenjek River	71.70	14		P	P	22 13 57.0	+0.4
	baz=330							
E28M	Babbage River	71.70	12		P	P	22 13 57.0	+0.5
E28M					IAmb	IAmb	22 13 59.7	
	comp=Z,7.9nm,1.1s							
E28M	Babbage River	71.70	12		P	P	22 13 57.3	+0.8
	baz=334							
E27K	Coleen River	71.73	13		P	P	22 13 57.5	+0.7
E27K					IAmb	IAmb	22 13 58.6	
	comp=Z,6.3nm,0.9s							
E27K	Coleen River	71.73	13		P	P	22 13 57.4	+0.7
	baz=332							
I20K	Naaghedeneel	71.79	19		P	P	22 13 57.6	+0.5
	baz=322							
BMAR	Burnt Mountain	71.85	14		P	P	22 13 58.1	+0.7
G24K	Hadweenzic Riv	71.88	16		P	P	22 13 58.4	+0.8
G24K					IAmb	IAmb	22 13 59.0	
	comp=Z,8.1nm,0.9s							
G24K	Hadweenzic Riv	71.88	16		P	P	22 13 58.4	+0.8
	baz=328							
L14K	Kuka Creek	72.00	24		P	P	22 13 59.3	+0.9
	baz=317							
I21K	Tanana	72.12	18		P	P	22 13 59.7	+0.7
	baz=324							
G25K	Bearman Lake	72.12	15		P	P	22 14 00.2	+1.2
	baz=329							
J19K	Poorman	72.12	20		P	P	22 13 59.3	+0.2
J19K					IAmb	IAmb	22 14 00.8	
	comp=Z,8.3nm,0.9s							
J19K	Poorman	72.12	20		P	P	22 13 59.7	+0.6
	baz=322							
SPIA	Saint Paul Isl	72.15	30		P	P	22 14 00.2	+0.9
	baz=312							
E29M	Blow River	72.16	11		P	P	22 13 59.4	+0.2
E29M	Blow River	72.16	11		P	P	22 14 00.0	+0.8
	baz=335							
H23K	Yukon River	72.16	17		P	P	22 13 59.0	-0.3
H23K					IAmb	IAmb	22 14 01.2	
	comp=Z,9.4nm,0.9s							
H23K	Yukon River	72.16	17		P	P	22 14 00.2	+0.9
	baz=326							
J18K	Innoko River	72.23	21		P	P	22 13 59.5	-0.2
J18K	Innoko River	72.23	21		P	P	22 14 00.2	+0.5
	baz=321							
K17K	Iditarod	72.35	22		P	P	22 14 00.9	+0.5
K17K					IAmb	IAmb	22 14 02.7	
	comp=Z,9.0nm,1.0s							
K17K	Iditarod	72.35	22		P	P	22 14 01.0	+0.6
	baz=320							
J20K	Nowinta River	72.37	19		P	P	22 14 01.0	+0.5
J20K					IAmb	IAmb	22 14 02.1	
	comp=Z,6.7nm,0.8s							
J20K	Nowinta River	72.37	19		P	P	22 14 01.4	+0.8
	baz=323							
G26K	Porcupine Rive	72.42	14		P	P	22 14 01.6	+0.9
	baz=331							
H24K	Noodor Dome	72.53	16		P	P	22 14 02.2	+0.7
H24K	Noodor Dome	72.53	16		P	P	22 14 02.3	+0.7
	baz=328							
F28M	Old Crow	72.54	12		P	P	22 14 02.0	+0.4
	baz=334							
MLY	Manley	72.54	18		P	P	22 14 01.6	0.0
MLY	Manley	72.54	18		P	P	22 14 02.1	+0.5
	baz=325							
M14K	Bethel	72.68	25		P	P	22 14 03.7	+1.3
M14K	Bethel	72.68	25		P	P	22 14 03.2	+0.9
	baz=318							
L16K	Owhat River	72.76	23		P	P	22 14 04.0	+1.2
L16K					IAmb	IAmb	22 14 05.4	
	comp=Z,11nm,1.2s							
L16K	Owhat River	72.76	23		P	P	22 14 03.8	+1.0
	baz=319							
I23K	Minto, Yukon-K	72.77	17		P	P	22 14 03.6	+0.8
I23K					IAmb	IAmb	22 14 04.5	
	comp=Z,6.9nm,0.9s							
I23K	Minto, Yukon-K	72.77	17		P	P	22 14 03.7	+0.8
	baz=326,SNR=5.3							
L17K	Donlin	72.80	22		P	P	22 14 03.5	+0.4
	baz=320							
INK	Inuvik	72.87	10		P	P	22 14 04.0	+0.7
INK					IAmb	IAmb	22 14 05.0	
	comp=Z,8.4nm,0.9s							
INK	Inuvik	72.87	10		P	P	22 14 04.1	+0.7
INK					pmax	pmax		
	comp=Z,8.0nm,0.9s							
INK	Inuvik	72.87	10		P	P	22 14 03.9	+0.5
	baz=339							
C36M	Paulatuk	72.90	6		P	P	22 14 03.7	+0.2
G27K	Doyon Strip	72.94	13		P	P	22 14 05.0	+1.1
G27K	Doyon Strip	72.94	13		P	P	22 14 04.8	+0.9
	baz=332							
K20K	Telida	73.05	20			P	22 14 05.2	+0.6
K20K					IAmb	IAmb	22 14 06.2	
	comp=Z,7.9nm,0.8s							
K20K	Telida	73.05	20		P	P	22 14 05.4	+0.8
	baz=323,SNR=5.7							
CHUM	Lake Minchumin	73.09	19		P	P	22 14 05.3	+0.5
	baz=324							
M15K	Kasigluk River	73.14	24		P	P	22 14 06.0	+0.9
	baz=318							
F30M	Barrier River	73.20	11		P	P	22 14 06.0	+0.7
F30M					IAmb	IAmb	22 14 07.0	
	comp=Z,8.8nm,0.9s							
F30M	Barrier River	73.20	11		P	P	22 14 05.9	+0.6
	baz=337							
L18K	Granite Mounta	73.21	22		P	P	22 14 05.8	+0.3
L18K	Granite Mounta	73.21	22		P	P	22 14 06.0	+0.5
	baz=321							
POKR	Poker Plat Res	73.24	16		P	P	22 14 06.4	+0.8
	baz=328							
BPAW	Bear Paw Mtn.	73.25	18		P	P	22 14 05.6	-0.1
BPAW					IAmb	IAmb	22 14 07.3	
	comp=Z,8.5nm,1.1s							
BPAW	Bear Paw Mtn.	73.25	18		P	P	22 14 05.9	+0.2
	baz=325,SNR=5.4							
NEA2	Nenana	73.31	17		P	P	22 14 06.2	+0.2
NEA2					IAmb	IAmb	22 14 07.1	
	comp=Z,11nm,0.9s							
NEA2	Nenana	73.31	17		P	P	22 14 06.3	+0.3
	baz=327,SNR=9.1							
PRP	Porcupine Dome	73.31	15		P	P	22 14 07.0	+0.7
	baz=330							
COLA	College	73.35	17		P	P	22 14 07.0	+0.7
	baz=328							
N14K	Kuskokwak Cree	73.38	25		P	P	22 14 07.3	+0.8
	baz=318							
M16K	Timber Creek	73.45	23		P	P	22 14 07.2	+0.3
	baz=320							
H27K	Steamboat Moun	73.48	14		P	P	22 14 07.8	+0.7
H27K	Steamboat Moun	73.48	14		P	P	22 14 07.8	+0.7
	baz=333							
G29M	Pine Creek	73.49	12		P	P	22 14 08.0	+0.9
G29M					IAmb	IAmb	22 14 08.7	
	comp=Z,6.3nm,1.0s							
G29M	Pine Creek	73.49	12		P	P	22 14 07.5	+0.4
	baz=335							
M17K	Holitna River	73.62	22		P	P	22 14 09.1	+1.1
M17K					IAmb	IAmb	22 14 10.4	
	comp=Z,8.3nm,0.9s							
M17K	Holitna River	73.62	22		P	P	22 14 08.8	+0.8
	baz=321							
F31M	Tsiigehtchic	73.65	10		P	P	22 14 08.6	+0.6
	baz=339							
ILAR	Eielson Array	73.66	16		P	P	22 14 07.5	-0.6
ILAR	Eielson Array	73.66	16		P	P	22 14 07.8	-0.3
	comp=Z,3.7nm,0.9s,baz=314,slow=4.4,SNR=32							
ILAR					pP	pP	22 14 56.8	+1.3
	comp=Z,2.1nm,0.8s,baz=319,slow=5.5,SNR=7.6							
ILAR					PP	PP	22 16 55.2	+1.0
	comp=Z,1.6nm,0.9s,baz=321,slow=8.4,SNR=5.5							
	comp=Z,3.7nm,0.9s							
G30M	tAoh Zraii Nji	73.71	11		P	P	22 14 09.0	+0.6
	baz=337							
KTH	Kantishna Hill	73.72	19		P	P	22 14 08.8	+0.2
N15K	Kwethluk River	73.73	24		P	P	22 14 09.1	+0.5
	baz=319							
L19K	White Mountain	73.77	21		P	P	22 14 09.1	+0.3
L19K	White Mountain	73.77	21		P	P	22 14 09.5	+0.7
	baz=323							
L20K	Farewell, AK	73.81	20		P	P	22 14 09.5	+0.4
	baz=323,SNR=5.0							
N16K	Nishlik Lake	73.93	24		P	P	22 14 10.9	+1.1
	baz=320							
PPLA	Purkeypile	73.93	19		P	P	22 14 09.7	-0.1
PPLA	Purkeypile	73.93	19		P	P	22 14 10.0	+0.2
	baz=325							
HDA	Harding Lake	73.95	17		P	P	22 14 09.5	-0.3
	baz=328							
TRF	Thorofare Moun	73.96	18		P	P	22 14 10.6	+0.5
TRF	Thorofare Moun	73.96	18		P	P	22 14 09.9	-0.2
	baz=326							
I26K	Coal Creek Min	73.99	15		P	P	22 14 10.7	+0.7
I26K					IAmb	IAmb	22 14 11.4	
	comp=Z,6.8nm,1.0s							
I26K	Coal Creek Min	73.99	15		P	P	22 14 10.3	+0.4
	baz=331							
I27K	Kandik River	74.03	14		P	P	22 14 10.5	+0.3
	baz=333							
O14K	Tigyukauivet M	74.03	25		P	P	22 14 10.6	+0.3
	baz=318							
M18K	Stony River	74.04	22		P	P	22 14 10.6	+0.3
	baz=322							
G31M	Satah River	74.06	11		P	P	22 14 10.2	-0.1
G31M					IAmb	IAmb	22 14 11.5	
	comp=Z,8.8nm,0.9s							
G31M	Satah River	74.06	11		P	P	22 14 10.6	+0.3
	baz=338							
H29M	Whitestone	74.06	12		P	P	22 14 11.2	+0.8
H29M					IAmb	IAmb	22 14 12.1	
	comp=Z,7.8nm,0.8s							
H29M	Whitestone	74.06	12		P	P	22 14 10.7	+0.3
	baz=335							
MCK	McKinley	74.06	18		P	P	22 14 10.2	-0.3
MCK					IAmb	IAmb	22 14 11.9	
	comp=Z,14nm,1.4s							
MCK	McKinley	74.06	18		P	P	22 14 10.2	-0.3
MCK					pmax	pmax		
	comp=Z,14nm,1.4s							
MCK	McKinley	74.06	18		P	P	22 14 11.1	+0.7
	baz=327							
J25K	Salcha River,	74.13	16		P	P	22 14 10.7	-0.2
J25K	Salcha River,	74.13	16		P	P	22 14 11.0	+0.1
	baz=330,SNR=5.1							
EPYK	Eagle Plains	74.19	12		P	P	22 14 11.3	+0.1
	baz=336							
RND	Reindeer	74.36	18		P	P	22 14 11.6	-0.6
RND					IAmb	IAmb	22 14 12.4	
	comp=Z,5.3nm,0.8s							
RND	Reindeer	74.36	18		P	P	22 14 11.6	-0.6
RND					pmax	pmax		
	comp=Z,5.0nm,0.8s							
N17K	Nushagak Hills	74.38	23		P	P	22 14 13.6	+1.3
N17K	Nushagak Hills	74.38	23		P	P	22 14 12.9	+0.6
	baz=321							
I28M	Miner Creek	74.48	13			P	22 14 12.7	-0.3
I28M					IAmb	IAmb	22 14 14.0	
	comp=Z,6.2nm,0.8s							
I28M	Miner Creek	74.48	13		P	P	22 14 13.2	+0.2
	baz=334,SNR=7.4							
M20K	Styx River	74.50	20		P	P	22 14 13.3	+0.2
	baz=324							
O15K	Ungalikthiuk R	74.57	25		P	P	22 14 12.1	-1.3
O15K					IAmb	IAmb	22 14 36.8	
	comp=Z,13nm,1.1s							
O15K	Ungalikthiuk R	74.57	25		P	P	22 14 14.2	+0.7
	baz=320							
J26L	Joseph Creek	74.61	15		P	P	22 14 13.7	-0.1
J26L					IAmb	IAmb	22 14 14.8	
	comp=Z,5.3nm,0.8s							
J26L	Joseph Creek	74.61	15		P	P	22 14 14.2	+0.5
	baz=331,SNR=6.9							
N18K	Kilae Creek	74.66	22		P	P	22 14 14.5	+0.6
N18K	Kilae Creek	74.66	22		P	P	22 14 14.3	+0.3
	baz=322							
K24K	Donnelly Dome	74.74	16		P	P	22 14 14.1	-0.3
K24K	Donnelly Dome	74.74	16		P	P	22 14 14.1	-0.3
	baz=330,SNR=8.0							
O16K	Kokwok River B	74.82	24		P	P	22 14 15.8	+0.9
O16K					IAmb	IAmb	22 14 17.3	
	comp=Z,7.7nm,0.9s							
O16K	Kokwok River B	74.82	24		P	P	22 14 15.8	+0.9
	baz=321							
EGAK	Eagle	74.85	14		P	P	22 14 14.1	-0.8
EGAK	Eagle	74.85	14		P	P	22 14 15.5	+0.6
	baz=333							
I29M	Ogilvie Camp,	74.85	13		P	P	22 14 14.8	-0.1
	baz=335							
SKT	Skwentna	74.86	20		P	P	22 14 14.5	-0.5
SKT	Skwentna	74.86	20		P	P	22 14 14.8	-0.2
	baz=325,SNR=10.0							
WAT1	Susitna Watana	74.92	18		P	P	22 14 14.5	-0.9
	baz=328							
N19K	Bonanza Creek	74.97	22		P	P	22 14 17.0	+1.2
N19K					IAmb	IAmb	22 14 19.7	
	comp=Z,6.8nm,1.0s							
N19K	Bonanza Creek	74.97	22		P	P	22 14 16.1	+0.2
	baz=323							
SCRK	Sand Creek	74.98	16		P	P	22 14 16.2	+0.3
SCRK	Sand Creek	74.98	16		P	P	22 14 16.6	+0.7
	baz=331,SNR=6.5							
DHY	Denali Highway	74.99	17		P	P	22 14 16.0	0.0
DHY					IAmb	IAmb	22 14 17.1	
	comp=Z,6.7nm,0.7s							
DHY	Denali Highway	74.99	17		P	P	22 14 16.4	+0.4
	baz=328,SNR=7.2							
O17K	Koliganek Bris	75.00	23		P	P	22 14 16.6	+0.8
	baz=321							
RIDG	Independent Ri	75.00	16		P	P	22 14 15.6	-0.3
RIDG					IAmb	IAmb	22 14 16.6	
	comp=Z,10nm,1.2s							
RIDG	Independent Ri	75.00	16		P	P	22 14 16.0	0.0
	baz=330							
H31M	Peel River	75.09	11		P	P	22 14 16.6	+0.3
H31M					IAmb	IAmb	22 14 17.4	
	comp=Z,9.3nm,0.8s							
H31M	Peel River	75.09	11		P	P	22 14 16.9	+0.5
	baz=338							
STLK	Strandline Lak	75.17	20		P	P	22 14 17.0	0.0
DOT	Dot Lake	75.25	16		P	P	22 14 17.2	-0.1
P16K	Nushagak River	75.29	24		P	P	22 14 18

SUA	**Susitna One**	**75.50**	**20**	P	**P**	**22 14 18.7**	**-0.1**
SUA				IAmb	IAmb	22 14 19.9	
	comp=Z,7.4nm,1.0s						
SUA	**Susitna One**	**75.50**	**20**	P	**P**	**22 14 19.2**	**+0.3**
	baz=326						
O18K	**Koktuh Hills**	**75.52**	**23**	P	**P**	**22 14 19.9**	**+1.0**
	baz=323						
PAX	**Paxson**	**75.53**	**17**	P	**P**	**22 14 18.9**	**-0.1**
PAX				IAmb	IAmb	22 14 19.9	
	comp=Z,7.7nm,0.9s						
PAX	**Paxson**	**75.53**	**17**	P	**P**	**22 14 18.9**	**-0.1**
PAX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PAX	**Paxson**	**75.53**	**17**	P	**P**	**22 14 19.3**	**+0.3**
	baz=330,SNR=6.9						
P17K	**Kvichak River**	**75.66**	**24**	P	**P**	**22 14 21.0**	**+1.3**
	baz=322						
DBIC	**Dimbokro**	**75.71**	**267**	P	**P**	**22 14 20.8**	**+0.1**
DBIC				IAmb	IAmb	22 14 21.5	
	comp=Z,15nm,1.1s						
DBIC	**Dimbokro**	**75.71**	**267**	P	**P**	**22 14 20.7**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=73,slow=6.7,SNR=5.0						
	comp=Z,5.5nm,0.8s						
DBIC	**Dimbokro**	**75.71**	**267**	P	**P**	**22 14 20.8**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,15nm,1.1s						
GHO	**Glory Hole Cre**	**75.72**	**19**	P	**P**	**22 14 20.3**	**+0.2**
GHO				IAmb	IAmb	22 14 21.1	
	comp=Z,11nm,0.9s						
DAWY	**Dawson**	**75.83**	**14**	P	**P**	**22 14 20.7**	**0.0**
	baz=335						
SML	**Sawmill**	**75.84**	**19**	P	**P**	**22 14 20.4**	**-0.3**
SML	**Sawmill**	**75.84**	**19**	P	**P**	**22 14 20.4**	**-0.3**
SML				pmax	pmax		
	comp=Z,16nm,0.8s						
SML	**Sawmill**	**75.84**	**19**	P	**P**	**22 14 21.1**	**+0.4**
	baz=328,SNR=7.2						
P18K	**Big Mountain,**	**75.89**	**23**	P	**P**	**22 14 21.1**	**+0.1**
P18K				IAmb	IAmb	22 14 22.6	
	comp=Z,7.0nm,0.8s						
P18K	**Big Mountain,**	**75.89**	**23**	P	**P**	**22 14 21.7**	**+0.7**
	baz=323						
J30M	**Hart River**	**75.92**	**12**	P	**P**	**22 14 21.3**	**+0.1**
J30M				IAmb	IAmb	22 14 22.7	
	comp=Z,7.4nm,1.1s						
J30M	**Hart River**	**75.92**	**12**	P	**P**	**22 14 22.1**	**+0.9**
	baz=337,SNR=5.1						
UNV	**Unalaska Valle**	**76.00**	**31**	P	**P**	**22 14 22.6**	**+1.0**
	baz=316						
M23K	**Glacier View**	**76.00**	**18**	P	**P**	**22 14 22.1**	**+0.5**
	baz=328						
SCM	**Sheep Creek Mo**	**76.07**	**18**	P	**P**	**22 14 22.0**	**0.0**
SCM				IAmb	IAmb	22 14 22.9	
	comp=Z,11nm,0.7s						
SCM	**Sheep Creek Mo**	**76.07**	**18**	P	**P**	**22 14 22.0**	**0.0**
SCM				pmax	pmax		
	comp=Z,11nm,0.7s						
SCM	**Sheep Creek Mo**	**76.07**	**18**	P	**P**	**22 14 22.5**	**+0.5**
	baz=329						
RC01	**Rabbit Creek A**	**76.08**	**20**	P	**P**	**22 14 22.5**	**+0.5**
	baz=327						
HARP	**HAARP**	**76.10**	**17**	P	**P**	**22 14 23.2**	**+1.1**
	baz=330,SNR=8.5						
M24K	**Tolsona, Glenn**	**76.11**	**18**	P	**P**	**22 14 22.8**	**+0.5**
M24K	**Tolsona, Glenn**	**76.11**	**18**	P	**P**	**22 14 23.0**	**+0.7**
	baz=329						
KNK	**Knik Glacier**	**76.14**	**19**	P	**P**	**22 14 22.5**	**+0.1**
KNK				IAmb	IAmb	22 14 23.6	
	comp=Z,11nm,1.0s						
KNK	**Knik Glacier**	**76.14**	**19**	P	**P**	**22 14 23.0**	**+0.7**
	baz=328						
L27K	**Beaver Creek,**	**76.25**	**15**	P	**P**	**22 14 24.0**	**+1.0**
	baz=333						
BCAR	**Beaver Creek A**	**76.25**	**15**	P	**P**	**22 14 23.7**	**+0.7**
K29M	**Barlow Dome**	**76.38**	**13**	P	**P**	**22 14 24.1**	**+0.4**
K29M				IAmb	IAmb	22 14 25.4	
	comp=Z,6.7nm,0.9s						
K29M	**Barlow Dome**	**76.38**	**13**	P	**P**	**22 14 24.2**	**+0.4**
	baz=336,SNR=6.5						
Q18K	**Katmai Hardscr**	**76.55**	**23**	P	**P**	**22 14 24.7**	**-0.1**
	baz=323						
Q17K	**Contact Creek**	**76.58**	**24**	P	**P**	**22 14 24.8**	**-0.2**
	baz=323						
M26K	**Nabesna, AK**	**76.59**	**16**	P	**P**	**22 14 24.1**	**-0.8**
	baz=332						
PWL	**Port Wells**	**76.64**	**19**	P	**P**	**22 14 25.2**	**0.0**
	baz=328						
KLU	**Klutina**	**76.70**	**18**	P	**P**	**22 14 26.1**	**+0.5**
KLU				IAmb	IAmb	22 14 27.1	
	comp=Z,7.4nm,1.0s						
KLU	**Klutina**	**76.70**	**18**	P	**P**	**22 14 26.3**	**+0.7**
	baz=330						
M27K	**Edge Creek, AK**	**76.87**	**16**	P	**P**	**22 14 27.1**	**+0.6**
M27K				IAmb	IAmb	22 14 29.1	
	comp=Z,9.9nm,1.1s						
M27K	**Edge Creek, AK**	**76.87**	**16**	P	**P**	**22 14 27.3**	**+0.7**
	baz=333,SNR=5.4						
N25K	**Chitina, Valde**	**76.92**	**17**	P	**P**	**22 14 27.9**	**+1.0**
N25K	**Chitina, Valde**	**76.92**	**17**	P	**P**	**22 14 27.2**	**+0.3**
	baz=331						
R17L	**Mt. Peulik Vol**	**76.93**	**24**	P	**P**	**22 14 27.2**	**+0.3**
	baz=322						
L29M	**L29M**	**76.94**	**14**	P	**P**	**22 14 27.0**	**+0.1**
L29M				IAmb	IAmb	22 14 29.3	
	comp=Z,7.0nm,1.1s						
L29M	**L29M**	**76.94**	**14**	P	**P**	**22 14 27.6**	**+0.7**
	baz=336						
GLI	**Glacier Island**	**76.94**	**19**	P	**P**	**22 14 27.1**	**+0.2**
	baz=329						
FID	**Port Fidalgo**	**77.21**	**18**	P	**P**	**22 14 28.0**	**-0.3**
BMRM	**Bremner River**	**77.48**	**17**		**P**	**22 14 28.9**	**-1.0**
BMRM				IAmb	IAmb	22 14 47.9	
	comp=Z,8.5nm,1.2s						
BMRM	**Bremner River**	**77.48**	**17**	P	**P**	**22 14 30.4**	**+0.5**
	baz=331						
MCARA	**McCarthy VSAT**	**77.48**	**17**	P	**P**	**22 14 30.6**	**+0.8**
	baz=332						
M29M	**Somme Creek**	**77.49**	**14**	P	**P**	**22 14 30.6**	**+0.6**
M29M	**Somme Creek**	**77.49**	**14**	P	**P**	**22 14 30.7**	**+0.7**
	baz=336,SNR=5.4						
VRDI	**Verde Repeater**	**77.52**	**17**	P	**P**	**22 14 30.7**	**+0.4**
VRDI				IAmb	IAmb	22 14 40.7	
	comp=Z,12nm,1.5s						
EYAK	**Cordova Ski Ar**	**77.57**	**18**	P	**P**	**22 14 31.0**	**+0.7**
	baz=330						
R18K	**Karluk**	**77.60**	**24**	P	**P**	**22 14 30.4**	**0.0**
	baz=324						
P23K	**Montague Islan**	**77.62**	**19**	P	**P**	**22 14 29.9**	**-0.7**
	baz=329						
M30M	**Minto, Yukon**	**77.68**	**13**	P	**P**	**22 14 31.2**	**+0.3**
	baz=337						
RAGM	**Ragged Mountai**	**77.97**	**18**	P	**P**	**22 14 32.5**	**-0.1**
RAGM				IAmb	IAmb	22 15 12.8	
	comp=Z,16nm,1.2s						
CHNA	**Chernabura Isl**	**77.98**	**28**	P	**P**	**22 14 33.1**	**+0.4**
	baz=320						
CNBA	**Chernabura Isl**	**77.99**	**28**	P	**P**	**22 14 32.9**	**+0.1**
CNBA				IAmb	IAmb	22 14 33.9	
	comp=Z,8.9nm,0.9s						
KDAK	**Kodiak Island**	**78.01**	**23**	P	**P**	**22 14 33.2**	**+0.5**
KDAK				IAmb	IAmb	22 14 34.1	
	comp=Z,9.2nm,0.8s						
KDAK	**Kodiak Island**	**78.01**	**23**	P	**P**	**22 14 33.2**	**+0.5**
KDAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KDAK	**Kodiak Island**	**78.01**	**23**	P	**P**	**22 14 33.5**	**+0.7**
	baz=325						
CRQE	**Cirque**	**78.02**	**17**	P	**P**	**22 14 33.6**	**+0.6**
	baz=332						
BLKN	**Baker Lake**	**78.20**	**355**	P	**P**	**22 14 34.1**	**+0.4**
BLKN				IAmb	IAmb	22 14 34.9	
	comp=Z,11nm,0.9s						
CTG	**Chitna Glacier**	**78.23**	**16**	P	**P**	**22 14 35.0**	**+0.8**
	baz=333						
CTGM	**Chitina Glacie**	**78.23**	**16**	P	**P**	**22 14 35.0**	**+0.8**
CTGM				IAmb	IAmb	22 14 35.4	
	comp=Z,13nm,1.3s						
OHAK	**Old Harbor**	**78.25**	**23**	P	**P**	**22 14 34.8**	**+0.7**
	baz=325						
YUK8	**Steele Glacier**	**78.28**	**15**	P	**P**	**22 14 35.0**	**+0.4**
	baz=335						
LOGN	**Logan Glacier**	**78.43**	**16**	P	**P**	**22 14 35.4**	**+0.1**
KAIM	**Kayak Island**	**78.44**	**18**	P	**P**	**22 14 35.6**	**+0.5**
	baz=331						
M31M	**Drury Creek, Y**	**78.45**	**12**	P	**P**	**22 14 35.7**	**+0.5**
	baz=339						
YUK4	**Talbot Arm**	**78.45**	**15**	P	**P**	**22 14 36.1**	**+0.6**
	baz=336						
MMPY	**Sheldon Lake,**	**78.56**	**11**	P	**P**	**22 14 36.4**	**+0.5**
MMPY	**Sheldon Lake,**	**78.56**	**11**	P	**P**	**22 14 36.6**	**+0.8**
	baz=341						
N30M	**Aishikik Lake**	**78.65**	**14**	P	**P**	**22 14 37.7**	**+1.4**
	baz=337						
O28M	**Mount Upton**	**78.65**	**16**	P	**P**	**22 14 37.0**	**+0.4**
O28M	**Mount Upton**	**78.65**	**16**	P	**P**	**22 14 37.1**	**+0.4**
	baz=334						
MESA	**MESA**	**78.80**	**17**	P	**P**	**22 14 37.9**	**+0.5**
	baz=333						
N31M	**Braeburn, Yuko**	**78.87**	**13**	P	**P**	**22 14 38.0**	**+0.5**
	baz=338						
YUK6	**Outpost Mounta**	**78.88**	**15**	P	**P**	**22 14 38.0**	**+0.2**
	baz=336						
BOSA	**Boshof**	**79.05**	**221**	P	**P**	**22 14 37.6**	**-1.4**
BOSA				IAmb	IAmb	22 14 58.5	
	comp=Z,15nm,1.4s						
BOSA	**Boshof**	**79.05**	**221**	P	**P**	**22 14 37.6**	**-1.4**
BOSA				pmax	pmax		
	comp=Z,15nm,1.4s						
HYT	**Haines Junctio**	**79.16**	**14**	P	**P**	**22 14 39.6**	**+0.4**
HYT				IAmb	IAmb	22 14 41.1	
	comp=Z,6.8nm,0.8s						
HYT	**Haines Junctio**	**79.16**	**14**	P	**P**	**22 14 40.0**	**+0.8**
	baz=336						
PCA	**Pinnacle**	**79.25**	**16**	P	**P**	**22 14 39.7**	**+0.1**
PINM	**Pinnacle**	**79.25**	**16**	P	**P**	**22 14 40.3**	**+0.7**
	baz=334						
O30N	**Mendenhall**	**79.48**	**14**	P	**P**	**22 14 41.6**	**+0.8**
	baz=338						
WHY	**Whitehorse**	**79.81**	**13**	P	**P**	**22 14 43.0**	**+0.4**
	baz=338						
PNL	**Peninsula**	**79.82**	**16**	P	**P**	**22 14 43.5**	**+0.8**
	baz=335						
P30M	**Million Dollar**	**79.91**	**14**	P	**P**	**22 14 43.9**	**+0.7**
	baz=337						
P29M	**Windy Craggy**	**80.20**	**15**	P	**P**	**22 14 45.3**	**+0.6**
	baz=336						
YKA	**Yellowknife Ar**	**80.31**	**3**	P	**P**	**22 14 45.5**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=343,slow=6.0,SNR=8.0						
YKA				sP	**sP**	**22 15 59.5**	**+5.0**
	comp=Z,1.2nm,0.7s,baz=327,slow=5.4,SNR=2.7						
	comp=Z,3.4nm,0.8s						
P33M	**Teslin, Yukon**	**80.59**	**12**	P	**P**	**22 14 46.6**	**-0.2**
P33M				IAmb	IAmb	22 14 47.9	
	comp=Z,9.2nm,1.0s						
P33M	**Teslin, Yukon**	**80.59**	**12**	P	**P**	**22 14 47.2**	**+0.4**
	baz=340						
SKAG	**Skagway**	**80.84**	**14**	P	**P**	**22 14 46.9**	**-1.2**
SKAG				IAmb	IAmb	22 14 50.1	
	comp=Z,9.0nm,1.2s						
SKAG	**Skagway**	**80.84**	**14**	P	**P**	**22 14 48.8**	**+0.8**
	baz=338						
P32M	**Atlin**	**81.02**	**13**	P	**P**	**22 14 49.4**	**+0.3**
P32M				IAmb	IAmb	22 14 59.5	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**81.65**	**123**	P	**P**	**22 14 52.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=329,slow=5.2,SNR=9.1						
WRA				pP	**pP**	**22 15 45.0**	**+3.6**
	comp=Z,1.8nm,0.8s,baz=325,slow=5.2,SNR=6.3						
	comp=Z,0.5nm,0.5s						
WB2	**Warramunga Arr**	**81.65**	**123**	P	**P**	**22 14 52.4**	**-0.5**
WB2				IAmb	IAmb	22 15 09.3	
	comp=Z,9.5nm,1.3s						
R33M	**Jennings River**	**81.67**	**12**	P	**P**	**22 14 52.7**	**+0.1**
R33M				IAmb	IAmb	22 14 54.0	
	comp=Z,9.2nm,1.1s						
R33M	**Jennings River**	**81.67**	**12**	P	**P**	**22 14 53.2**	**+0.6**
	baz=342						
WR8	**Warramunga Arr**	**81.76**	**123**	P	**P**	**22 14 52.4**	**-1.1**
WR8				IAmb	IAmb	22 14 56.8	
	comp=Z,10nm,1.4s						
Q32M	**Nakina River**	**81.86**	**13**	P	**P**	**22 14 54.0**	**+0.2**
Q32M	**Nakina River**	**81.86**	**13**	P	**P**	**22 14 53.8**	**+0.1**
	baz=341						
R32K	**Eaglecrest**	**82.10**	**14**	P	**P**	**22 14 55.5**	**+0.8**
	baz=339						
DLBC	**Dease Lake**	**82.73**	**12**	P	**P**	**22 14 58.8**	**+0.7**
	baz=342						
TOAD	**Toad River Com**	**83.02**	**9**	P	**P**	**22 15 00.0**	**+0.5**
	baz=346						
S34M	**Telegraph Cree**	**83.05**	**12**	P	**P**	**22 15 00.4**	**+0.8**
	baz=342						
ASAR	**Alice Springs**	**83.97**	**126**	pP	pP	22 15 57.3	+3.7
	comp=Z,0.8nm,0.6s,baz=306,slow=5.1,SNR=3.5						
T35M	**Bob Quinn**	**84.09**	**12**	P	**P**	**22 15 05.6**	**+0.7**
	baz=342						
U33K	**Whale Pass**	**84.39**	**14**	P	**P**	**22 15 07.6**	**+1.2**
	baz=340						
CRAG	**Craig**	**85.00**	**14**	P	**P**	**22 15 09.9**	**+0.4**
	baz=340						

NEIC ***03*** *22:03:26.9±1.4, 19°.16N±0°.03×67°.37W±0°.03, h10km±1km, ML3.4/21, Md3.6/13(RSPR), Error ellipse: s-maj=5.9km s-min=3.6km az=41.0*
SDD ***03*** *22:03:26.3±1.4, 19°.33N×67°.21W, h23km±81km, MD3.8, ML3.5, MW3.8*
RSPR ***03*** *22:03:27.7, 19°.28N×67°.48W, h10km±31km, MD3.6/13*
OSPL ***03*** *22:03:29.6±0.6, 19°.12N×67°.46W, h21km±3km, ML3.2*
ISC 03 22:03:25.1±1.3,**19°.26N**±0°.05×**67°.32W**±0°.03,**h5**km±10km,
n76,σ0^{s}**72**/96,**19C-6D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.81**	**166**		**Pn**	**22 03 42.4**	**-0.8**
AGPR					**Sb**	**22 03 54.0**	**+1.1**
AGPR	**Aguadilla, PR**	**0.81**	**166**	⇑*e*P	**Pn**	**22 03 42.4**	**-0.8**
AGPR	**Aguadilla, PR**	**0.81**	**166**	*e*S	**Sb**	**22 03 54.0**	**+1.1**
AGPR	**Aguadilla, PR**	**0.81**	**166**	⇑*e*Pg	**Pb**	**22 03 41.6**	**0.0**
AGPR				⇑*e*Sg	**Sb**	**22 03 53.5**	**+0.7**
AGPR				IAML		22 03 58.4	
	comp=N,1μm,0.4s						
AGPR				IAML		22 03 59.3	
	comp=E,1μm,0.5s						
AGPR	**Aguadilla, PR**	**0.81**	**166**	*i* P	**Pn**	**22 03 42.4**	**-0.8**
AGPR				*e*S	**Sb**	**22 03 52.5**	**-0.3**
AGPR				IAML		22 03 56.7	
	comp=Z,960nm,0.2s						
IDE	**Isla Desecheo**	**0.88**	**190**		**Pn**	**22 03 43.3**	**-0.8**
IDE					**Sb**	**22 03 55.1**	**+0.2**
IDE	**Isla Desecheo**	**0.88**	**190**	⇑*e*P	**Pn**	**22 03 43.3**	**-0.8**
IDE	**Isla Desecheo**	**0.88**	**190**	*e*S	**Sb**	**22 03 55.1**	**+0.2**
PRSN	**Puerto Rico Se**	**1.05**	**171**		**Pn**	**22 03 46.5**	**0.0**
PRSN				Sg	**Sb**	**22 03 59.7**	**0.0**
PRSN	**Puerto Rico Se**	**1.05**	**171**		**Sb**	**22 04 00.1**	**+0.3**
PRSN	**Puerto Rico Se**	**1.05**	**171**	⇓*e*P	**Pn**	**22 03 47.3**	**+0.8**
PRSN	**Puerto Rico Se**	**1.05**	**171**	*e*S	**Sb**	**22 04 00.1**	**+0.3**
AOPR	**Arecibo Observ**	**1.05**	**149**		**Pn**	**22 03 45.8**	**-0.7**
AOPR					**Sg**	**22 03 59.1**	**+0.2**
AOPR				IAML		22 04 02.9	
	comp=N,2μm,0.5s						
AOPR	**Arecibo Observ**	**1.05**	**149**	⇓*e*P	**Pn**	**22 03 45.9**	**-0.7**
AOPR	**Arecibo Observ**	**1.05**	**149**	*e*S	**Sn**	**22 04 01.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.05**	**149**	⇑*e*Pg	**Pn**	**22 03 45.8**	**-0.7**
AOPR				IAML		22 04 02.7	
	comp=N,1μm,0.4s						
EMPR	**Esperanza - Ma**	**1.07**	**136**		**Pn**	**22 03 47.1**	**+0.3**
EMPR					**Sn**	**22 04 02.0**	**-0.1**
EMPR	**Esperanza - Ma**	**1.07**	**136**		**Pn**	**22 03 47.0**	**+0.2**
EMPR	**Esperanza - Ma**	**1.07**	**136**	⇑*e*P	**Pn**	**22 03 47.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.07**	**136**	*e*S	**Sn**	**22 04 02.0**	**-0.1**
LSP	**Las Mesas**	**1.10**	**168**		**Pn**	**22 03 46.8**	**-0.4**
LSP					**Sn**	**22 04 02.5**	**-0.2**
LSP	**Las Mesas**	**1.10**	**168**	⇓*e*P	**Pn**	**22 03 46.8**	**-0.4**
LSP	**Las Mesas**	**1.10**	**168**	*e*S	**Sn**	**22 04 02.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.15**	**150**		**Pn**	**22 03 47.5**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.15**	**150**		**Sn**	**22 04 04.5**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.15**	**150**	Pn	**Pn**	**22 03 47.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.15**	**150**	⇑*e*P	**Pn**	**22 03 47.5**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.15**	**150**	*e*S	**Sn**	**22 04 04.5**	**+0.5**
PCDR	**Punta Cana, DR**	**1.25**	**234**	*e*Pg	**Pg**	**22 03 49.6**	**+0.5**
PCDR				IAML		22 04 11.8	
	comp=N,2μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.26**	**171**		**Pg**	**22 03 49.3**	**+0.1**
CRPR					**Sb**	**22 04 04.7**	**-1.2**
CRPR				IAML		22 04 12.2	
	comp=N,563nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.26**	**171**	⇑*e*P	**Pg**	**22 03 49.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.26**	**171**	*e*S	**Sb**	**22 04 05.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.26**	**171**	*e*Pg	**Pb**	**22 03 48.8**	**-0.5**
CRPR				⇑*e*Sg	**Sb**	**22 04 05.5**	**-0.3**
CRPR				IAML		22 04 05.7	
	comp=E,577nm,0.3s						
CRPR				IAML		22 04 15.7	
	comp=N,592nm,0.9s						
CRPR	**Cabo Rojo, PR**	**1.26**	**171**	*i* P	**Pg**	**22 03 49.4**	**+0.1**
CRPR				*e*S	**Sb**	**22 04 03.2**	**-2.6**
CRPR				IAML		22 04 05.8	
	comp=Z,524nm,0.3s						
ECPR	**Experimental S**	**1.30**	**136**	⇑*e*P	**Pg**	**22 03 50.7**	**+0.7**
ECPR	**Experimental S**	**1.30**	**136**	*e*S	**Sn**	**22 04 08.7**	**+1.0**
MLPR	**Magueyes Islan**	**1.31**	**169**	⇑*e*P	**Pb**	**22 03 49.8**	**-0.4**
MLPR	**Magueyes Islan**	**1.31**	**169**	*e*S	**Sb**	**22 04 06.6**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.34**	**162**		**Pg**	**22 03 51.0**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.34**	**162**	⇑*e*P	**Pg**	**22 03 51.0**	**+0.1**
CELP	**Cerrillos**	**1.37**	**149**		**Pg**	**22 03 51.1**	**-0.3**
CELP					**Sb**	**22 04 08.4**	**-0.5**
CELP				IAML		22 04 11.4	
	comp=N,838nm,0.6s						
CELP				IAML		22 04 14.3	
	comp=E,564nm,0.6s						
CELP	**Cerrillos**	**1.37**	**149**	⇑*e*P	**Pg**	**22 03 50.9**	**-0.5**
CELP	**Cerrillos**	**1.37**	**149**	*e*S	**Sg**	**22 04 09.3**	**+0.2**
CELP	**Cerrillos**	**1.37**	**149**	⇑*e*Pg	**Pb**	**22 03 50.7**	**-0.5**
CELP				IAML		22 04 11.3	
	comp=N,778nm,0.4s						
CELP				IAML		22 04 14.1	
	comp=E,540nm,0.5s						
OBIP	**Obispado Ponce**	**1.38**	**151**		**Pg**	**22 03 51.7**	**0.0**
OBIP					**Sb**	**22 04 08.3**	**-1.1**
OBIP				IAML		22 04 12.0	
	comp=N,604nm,0.5s						
OBIP				IAML		22 04 18.3	
	comp=E,622nm,0.4s						
OBIP	**Obispado Ponce**	**1.38**	**151**	⇑*e*P	**Pg**	**22 03 51.4**	**-0.3**
OBIP	**Obispado Ponce**	**1.38**	**151**	*e*S	**Sg**	**22 04 09.8**	**+0.2**
HIDR	**Higuey Centro**	**1.48**	**244**	⇑*e*P	**Pg**	**22 03 53.1**	**-0.5**
HIDR	**Higuey Centro**	**1.48**	**244**	*e*Pg	**Pg**	**22 03 53.6**	**0.0**
HIDR				IAML		22 04 14.9	
	comp=E,960nm,0.5s						
HIDR				IAML		22 04 20.3	
	comp=N,1μm,0.2s						
GCPR	**Guaynabo City**	**1.50**	**129**		**Pg**	**22 03 54.1**	**+0.2**
GCPR					**Sg**	**22 04 13.4**	**0.0**
GCPR	**Guaynabo City**	**1.50**	**129**	⇓*e*P	**Pg**	**22 03 53.2**	**-0.7**
GCPR	**Guaynabo City**	**1.50**	**129**	*e*S	**Sg**	**22 04 13.6**	**+0.1**
SJG	**San Juan**	**1.59**	**136**		**Pg**	**22 03 55.1**	**-0.5**
SJG	**San Juan**	**1.59**	**136**	Sn	**Sn**	**22 04 14.6**	**-0.2**
SJG				IAML		22 04 18.4	
	comp=N,350nm,0.5s						
SJG	**San Juan**	**1.59**	**136**	⇑*e*P	**Pg**	**22 03 55.1**	**-0.5**
SJG	**San Juan**	**1.59**	**136**	*e*S	**Sg**	**22 04 16.5**	**+0.3**
SJG	**San Juan**	**1.59**	**136**	*i* P	**Pg**	**22 03 55.1**	**-0.5**
SJG				*e*S	**Sn**	**22 04 14.1**	**-0.7**
SJG				IAML		22 04 19.5	
	comp=Z,266nm,0.3s						
MIDR	**Miches**	**1.66**	**261**	⇓*e*P	**Pg**	**22 03 57.0**	**0.0**
MIDR	**Miches**	**1.66**	**261**	*e*Pg	**Pg**	**22 03 57.0**	**0.0**
MIDR				*e*Sg	**Sg**	**22 04 20.3**	**+1.7**
MIDR				IAML		22 04 20.9	
	comp=E,780nm,0.5s						
MIDR				IAML		22 04 24.3	
	comp=N,314nm,0.8s						
MIDR				IAML		22 04 24.4	
	comp=N,314nm,0.8s						
IGPR	**InterUniversit**	**1.72**	**138**		**Sb**	**22 04 19.1**	**0.0**
IGPR	**InterUniversit**	**1.72**	**138**	*e*S	**Sb**	**22 04 19.1**	**0.0**
PDPR	**Patillas Dam,**	**1.74**	**135**		**Pn**	**22 03 55.7**	**-0.2**
PDPR				Sn	**Sb**	**22 04 18.9**	**-0.8**
PDPR				IAML		22 04 27.7	
	comp=N,292nm,0.3s						
PDPR	**Patillas Dam,**	**1.74**	**135**	⇑*e*P	**Pg**	**22 03 57.5**	**-1.0**
PDPR	**Patillas Dam,**	**1.74**	**135**	*e*S	**Sg**	**22 04 20.7**	**-0.3**
SMDR	**Samana, DR**	**1.77**	**271**	*e*Pg	**Pg**	**22 03 57.7**	**-1.4**
SMDR				IAML		22 04 29.9	
	comp=E,398nm,0.5s						
SMDR				IAML		22 04 32.8	
	comp=N,311nm,0.8s						
HUMP	**Col San Antoni**	**1.78**	**128**		**Pb**	**22 03 58.1**	**-0.1**
HUMP				Sn	**Sb**	**22 04 20.4**	**-0.4**
DR12	**Loma Pena Alta**	**2.01**	**257**	Pg	**Pg**	**22 04 02.5**	**-1.2**
DR12				Sg	**Sb**	**22 04 27.0**	**-0.5**
HATOM	**Hato Mayor del**	**2.01**	**257**	⇓*e*Pg	**Pg**	**22 04 03.0**	**-0.7**
HATOM				⇑*e*Sg	**Sg**	**22 04 29.6**	**-0.2**
HATOM				IAML		22 04 34.6	
	comp=N,292nm,0.3s						
HATOM				IAML		22 04 36.6	
	comp=E,271nm,0.8s						
SDD	**Santo Domingo**	**2.58**	**253**	Pn	**Pn**	**22 04 06.2**	**-1.4**
SDD				IAML		22 04 51.7	
	comp=E,191nm,1.1s						
SDD				IAML		22 04 56.4	
	comp=N,152nm,0.9s						
BANI	**BANI**	**3.01**	**254**		**Pn**	**22 04 13.0**	**-0.6**
SC01	**Santiago de lo**	**3.23**	**274**		**Pn**	**22 04 15.3**	**-1.2**
SDDR	**Presa de Saban**	**3.77**	**266**		**Pb**	**22 04 33.5**	**+1.3**
SMRT	**St. Maarten**	**4.20**	**106**	Pn	**Pn**	**22 04 29.7**	**-0.1**
SMRT

TETR	**Tetrakomo, Epi**	**0.89**	**77**	P	**Pg**	**22 10 20.1**	**-1.3**
TETR	**Tetrakomo, Epi**	**0.89**	**77**	P	**Pg**	**22 10 20.1**	**-1.3**
TETR				S	**Sb**	**22 10 33.2**	**-0.8**
VLS	**Valsamata**	**1.03**	**160**	P	**Pg**	**22 10 22.0**	**-2.0**

HEL 03 22:10:47.0±0.4, 67°.17N×20°.51E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.91**	**132**	PG	Pg	22 11 02.8	-1.5
	baz=322						
LANU	**Lannavaara**	**1.05**	**32**	PG	Pg	22 11 05.6	-1.5
HEF	**Hetta**	**1.73**	**43**	PG	Pn	22 11 17.8	-0.5
	baz=219						
HEF				MSG		22 11 38.6	
	comp=Z,0.7nm,0.2s						
HEF				SN	Sn	22 11 41.2	+0.2
KALU	**Kalix**	**1.74**	**138**	PG	Pn	22 11 18.4	-0.1
KALU				SN	Sb	22 11 42.3	+0.1
KIF	**Kilpisjarvi**	**1.85**	**3**	PG	Pb	22 11 20.8	-0.8
	baz=169						
KIF				MSG		22 11 43.0	
	comp=Z,1.0nm,0.2s						
KIF				SG	Sg	22 11 46.8	+0.6
TOF	**Tornio**	**1.88**	**124**	PG	Pn	22 11 20.6	+0.4
	baz=295						
TOF				MSG		22 11 43.0	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	22 11 45.4	-0.6
KTK1	**Kautokeino**	**2.11**	**28**	SG	Sb	22 11 52.5	-0.4
RNF	**Rovaniemi**	**2.25**	**102**	SG	Sb	22 11 55.3	-1.3

UPP 03 22:11:34.3±0.0, 67°.18N×20°.67E, h0km, ML1.9, 1D, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**214**	P	Pg	22 11 36.0	+0.3
DUNU				S	Sg	22 11 37.0	+0.4
MASU	**Masugnsbyn**	**0.58**	**61**	P	Pg	22 11 45.5	0.0
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	22 11 48.6	-0.4
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 11 49.0	-0.4
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	22 11 50.5	-0.4
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	22 11 50.2	-0.8
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	22 11 51.7	-0.5
PAJU	**Pajala**	**0.97**	**98**	P	Pg	22 11 52.2	-0.6
HARU	**Harads**	**1.03**	**173**	P	Pg	22 11 53.1	-0.9
KOVU	**Salmi**	**1.06**	**350**	P	Pg	22 11 54.4	-0.3
KALU	**Kalix**	**1.71**	**140**	P	Pn	22 12 05.2	0.0
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	22 12 05.3	-0.1
SJUU				S	Sb	22 12 28.7	-0.2

*IDC **03** 22:18:46.6±1.8, 3°.74S×128°.21E, h0km, mb3.8/3, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=113.9km s-min=24.3km az=71.0*
*DJA **03** 22:18:48.9±0.3, 4°.5±3°.×12°.8E±°, h10km, M3.7/7, MLv3.7/7*
ISC 03 22:18:48.5±0.8, 3.70S±0°.08×128°.40E±0°.04, h10km, n12, σ1§16/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.20**	**274**	P	**Pg**	**22 18 53.2**	**+0.4**
AAI				S	**Sg**	**22 18 56.2**	**+0.6**
MSAI	**Masohi**	**0.64**	**57**	P	**Pg**	**22 19 00.9**	**0.0**
MSAI				S	**Sg**	**22 19 09.2**	**0.0**
NLAI	**Namlea**	**1.37**	**289**	P	**Pb**	**22 19 13.7**	**-0.6**
BNDI	**Bandanaira**	**1.71**	**119**	P	**Pn**	**22 19 19.7**	**+1.3**
SANI	**Sanana**	**2.91**	**304**	P	**Pn**	**22 19 35.9**	**+1.0**
FAKI	**Fak Fak**	**3.92**	**79**	P	**Pn**	**22 19 50.2**	**+1.3**
SWI	**Sorong**	**4.01**	**46**	P	**Pn**	**22 19 51.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**14.56**	**190**	Pn	Pn	22 22 11.2	-3.5
	baz=0.0,slow=12,SNR=1.1 1.9nm,0.8s						
WRA	**Warramunga Arr**	**17.15**	**161**	P	**Pn**	**22 22 46.3**	**-2.2**
	0.3nm,0.3s,baz=343,slow=13,SNR=11 1.3nm,0.6s						
ASAR	**Alice Springs**	**20.55**	**165**	P	**P**	**22 23 28.4**	**+1.0**
	10nm,0.7s,baz=348,slow=11,SNR=79 10nm,0.7s						
MKAR	**Makanchi Array**	**64.61**	**327**	P	**P**	**22 29 25.6**	**-0.7**
	0.5nm,0.7s,baz=112,slow=6.6,SNR=2.4 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**68.88**	**329**	P	**P**	**22 29 52.6**	**-0.7**
	0.2nm,0.4s,baz=138,slow=5.8,SNR=4.0 0.2nm,0.4s						

*NEIC **03** 22:41:15.3±1.9, 62°.32N±0°.01×150°.39W±0°.04, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=288.0*
AEIC 03 22:41:16.3±2.2, 62°.31N±0°.01×150°.39W±0°.04, h10km±3km, ML2.5, ML2.7/200(NEIC), **Error ellipse: s-maj=2.7km s-min=1.8km az=101.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.11**	**31**	Pg	Pg	22 41 19.5	+0.4
CUT				Sg	Sg	22 41 21.4	+0.4
CUT				IAML		22 41 23.2	
	comp=N,3μm,0.3s						
M22K	**Willow**	**0.57**	**167**		Pg	22 41 26.5	-0.9
M22K				Sg	Sg	22 41 33.9	-1.0
SKT	**Skwentna**	**0.63**	**239**		Pg	22 41 27.1	-1.4
SKT				Sg	Sg	22 41 35.7	-1.0
SKT				IAML		22 41 36.6	
	comp=N,322nm,0.3s						
SUA	**Susitna One**	**0.86**	**191**		Pg	22 41 31.6	-1.4
SUA				IAML		22 41 45.3	
	comp=N,178nm,0.4s						
SUA	**Susitna One**	**0.86**	**191**		Sg	22 41 43.5	-0.7
GHO	**Glory Hole Cre**	**0.88**	**127**		Pg	22 41 31.1	-2.1
GHO				Sg	Sg	22 41 43.5	-1.2
WAT7	**Susitna Watana**	**0.89**	**53**		Pg	22 41 31.4	-2.0
WAT7					Sg	22 41 43.2	-1.8
PMR	**Palmer**	**0.93**	**140**		Pg	22 41 32.5	-1.7
PMR				Sg	Sg	22 41 44.8	-1.6
PMR				IAML		22 41 45.8	
	comp=E,266nm,0.4s						
WAT1	**Susitna Watana**	**1.00**	**58**		Pg	22 41 33.3	-2.2
WAT1					Sg	22 41 46.8	-1.7
PPLA	**Purkeypile**	**1.02**	**306**		Pg	22 41 34.7	-1.3
PPLA				Sg	Sg	22 41 48.2	-1.0
STLK	**Strandline Lak**	**1.06**	**221**		Pg	22 41 34.6	-2.2
STLK				IAML		22 41 49.8	
	comp=E,204nm,0.2s						
STLK				IAML		22 41 49.9	
	comp=N,158nm,0.2s						
SML	**Sawmill**	**1.09**	**117**		Pg	22 41 35.2	-2.1
SML				IAML		22 41 50.7	
	comp=N,212nm,0.6s						
SML				IAML		22 41 51.0	
	comp=E,266nm,1.0s						
TRF	**Thorofare Moun**	**1.15**	**2**		Pb	22 41 36.5	-1.9
TRF				IAML		22 41 51.5	
	comp=E,236nm,0.6s						
TRF	**Thorofare Moun**	**1.15**	**2**		Sg	22 41 51.2	-2.0
FIS	**Fire Island**	**1.17**	**176**		Pb	22 41 36.8	-1.8
RC01	**Rabbit Creek A**	**1.26**	**165**		Pn	22 41 37.6	-2.4
RC01	**Rabbit Creek A**	**1.26**	**165**	Sg	Sb	22 41 54.5	-2.0
RC01				IAML		22 41 55.3	
	comp=E,132nm,0.4s						
RC01				IAML		22 41 59.6	
	comp=N,196nm,0.4s						
KTH	**Kantishna Hill**	**1.27**	**349**		Pn	22 41 38.3	-1.9
KTH	**Kantishna Hill**	**1.27**	**349**		Sb	22 41 54.6	-2.2
KTH				IAML		22 41 55.1	
	comp=E,190nm,0.5s						
KTH				IAML		22 41 55.9	
	comp=N,152nm,0.5s						
SPCG	**Spurr Capps Gl**	**1.28**	**218**		Pn	22 41 38.0	-2.4
KNK	**Knik Glacier**	**1.28**	**134**		Pn	22 41 38.2	-2.2
KNK				IAML		22 41 56.8	
	comp=N,109nm,0.6s						
KNK				IAML		22 41 56.9	
	comp=E,201nm,0.5s						
RND	**Reindeer**	**1.31**	**32**		Pn	22 41 38.7	-2.0
RND				Sg	Sb	22 41 56.7	-1.2
RND				IAML		22 41 57.5	
	comp=E,128nm,0.3s						
SPCR	**Spurr Chakacha**	**1.41**	**219**		Pn	22 41 40.3	-1.8
SCM	**Sheep Creek Mo**	**1.52**	**107**		Pn	22 41 41.7	-2.0
SCM				IAML		22 42 03.3	
	comp=E,136nm,0.7s						
SCM					Sn	22 42 03.6	+0.1
SCM				IAML		22 42 03.6	
	comp=N,91nm,0.5s						
MCK	**McKinley**	**1.57**	**24**		Pn	22 41 43.3	-1.0
MCK				Sg	Sb	22 42 05.8	+0.2
MCK				IAML		22 42 05.9	
	comp=E,99nm,0.5s						
MCK				IAML		22 42 06.1	
	comp=N,117nm,0.4s						
DHY	**Denali Highway**	**1.59**	**60**		Pn	22 41 43.2	-1.5
DHY				IAML		22 42 08.1	
	comp=N,95nm,0.4s						
DHY				IAML		22 42 11.1	
	comp=E,96nm,0.8s						
L20K	**Farewell, AK**	**1.63**	**278**		Pn	22 41 44.0	-1.1
PWL	**Port Wells**	**1.76**	**145**		Pn	22 41 46.8	-0.1
SLKM	**Skilak Lake**	**1.81**	**177**		Pn	22 41 46.0	-1.5
SLKM				IAML		22 42 10.8	
	comp=N,68nm,0.2s						
SLKM				IAML		22 42 15.8	
	comp=E,58nm,0.4s						
BPAW	**Bear Paw Mtn.**	**1.82**	**352**		Pn	22 41 45.5	-2.2
BPAW				IAML		22 42 14.7	
	comp=E,56nm,0.3s						
BWN	**Browne**	**1.92**	**12**		Pn	22 41 48.8	-0.3
BWN				IAML		22 42 29.2	
	comp=E,72nm,1.1s						
M24K	**Tolsona, Glenn**	**1.99**	**94**		Pn	22 41 49.1	-1.0
M24K				IAML		22 42 27.1	
	comp=E,89nm,0.6s						
M24K				IAML		22 42 30.3	
	comp=N,88nm,1.0s						
K20K	**Telida**	**1.99**	**304**		Pn	22 41 49.7	-0.3
K20K				IAML		22 42 18.5	
	comp=N,44nm,0.6s						
K20K				IAML		22 42 18.7	
	comp=E,43nm,0.7s						
RDT	**Redoubt**	**1.99**	**210**		Pn	22 41 49.4	-0.7
RDJH	**Redoubt Jeurge**	**2.08**	**215**		Pn	22 41 50.8	-0.6
L19K	**White Mountain**	**2.09**	**268**		Pn	22 41 50.6	-0.9
L19K				IAML		22 42 23.5	
	comp=E,53nm,0.4s						
L19K				IAML		22 42 33.8	
	comp=N,38nm,0.8s						
RED	**Redoubt Volcan**	**2.22**	**212**		Pn	22 41 52.6	-0.6
SEW	**Seward**	**2.26**	**168**	Pn	Pn	22 41 53.6	0.0
KLU	**Klutina**	**2.27**	**109**		Pn	22 41 52.9	-1.0
KLU				IAML		22 42 33.5	
	comp=N,37nm,0.5s						
NEA2	**Nenana**	**2.37**	**14**		Pn	22 41 54.0	-1.2
PAX	**Paxson**	**2.37**	**72**		Pn	22 41 55.3	0.0
PAX				IAML		22 42 31.3	
	comp=E,44nm,0.8s						
WRH	**Wood River Hil**	**2.41**	**24**		Pn	22 41 54.2	-1.5
FID	**Port Fidalgo**	**2.44**	**128**		Pn	22 41 55.9	-0.3
FID	**Port Fidalgo**	**2.44**	**128**	IAML		22 42 31.4	
	comp=E,51nm,0.5s						
N19K	**Bonanza Creek**	**2.47**	**234**		Pn	22 41 55.9	-0.8
N19K				IAML		22 42 37.8	
	comp=E,28nm,0.6s						
N19K				IAML		22 42 40.9	
	comp=N,25nm,0.6s						
DIV	**Divide**	**2.50**	**116**		Pn	22 41 56.2	-0.9
DIV				IAML		22 42 37.1	
	comp=E,28nm,0.5s						
DIV				IAML		22 42 37.6	
	comp=N,54nm,1.0s						
J20K	**Nowinta River**	**2.53**	**319**		Pn	22 41 56.1	-1.4
K24K	**Donnelly Dome**	**2.58**	**52**		Pn	22 41 58.0	-0.1
HDA	**Harding Lake**	**2.62**	**35**		Pn	22 41 58.6	0.0
HDA				IAML		22 42 39.0	
	comp=E,35nm,0.4s						
CCB	**Clear Creek Bu**	**2.62**	**25**		Pn	22 41 56.7	-1.9
HIN	**Hinchinbrook I**	**2.68**	**134**		Pn	22 41 59.4	-0.1
HIN				IAML		22 42 41.3	
	comp=N,44nm,0.6s						
ILSW	**Iliamna Southw**	**2.69**	**211**		Pn	22 41 58.9	-0.9
ILS	**Iliamna Low So**	**2.69**	**210**		Pn	22 41 58.9	-0.9
P23K	**Montague Islan**	**2.73**	**147**	Pn	Pn	22 41 59.9	-0.4
P23K				IAML		22 42 44.5	
	comp=E,32nm,0.3s						
MLY	**Manley**	**2.74**	**357**		Pn	22 41 58.6	-1.8
MLY				IAML		22 42 41.9	
	comp=N,27nm,0.3s						
CNPM	**China Poot**	**2.82**	**189**	Pn	Pn	22 42 01.6	+0.1
CNPM				IAML		22 42 50.8	
	comp=E,24nm,1.1s						
N25K	**Chitina, Valde**	**2.83**	**102**		Pn	22 42 01.6	0.0
EYAK	**Cordova Ski Ar**	**2.84**	**126**		Pn	22 42 01.7	-0.1
I23K	**Minto, Yukon-K**	**2.89**	**9**		Pn	22 42 00.6	-1.7
RIDG	**Independent Ri**	**2.91**	**58**		Pn	22 42 02.0	-0.7
J19K	**Poorman**	**2.91**	**308**		Pn	22 42 01.3	-1.4
J19K				IAML		22 42 46.8	
	comp=N,38nm,0.4s						
IL31		**2.93**	**31**		Pn	22 42 01.2	-1.7
L18K	**Granite Mounta**	**2.95**	**271**		Pn	22 42 02.5	-0.7
L18K				IAML		22 42 49.8	
	comp=N,19nm,1.0s						
L18K				IAML		22 42 52.5	
	comp=E,20nm,1.0s						
BMRM	**Bremner River**	**3.07**	**113**		Pn	22 42 05.0	+0.1
BMRM				IAML		22 42 52.5	
	comp=E,21nm,1.2s						
BMRM				IAML		22 42 58.5	
	comp=N,19nm,1.0s						
I20K	**Naaghedeneel**	**3.10**	**326**		Pn	22 42 03.4	-1.7
N18K	**Kilae Creek**	**3.10**	**241**		Pn	22 42 05.3	-0.1
N18K				IAML		22 42 53.5	
	comp=E,22nm,0.7s						
N18K				IAML		22 42 54.2	
	comp=N,29nm,0.8s						
POKR	**Poker Plat Res**	**3.11**	**24**	Pn	Pn	22 42 04.7	-0.7
POKR				IAML		22 42 54.8	
	comp=E,16nm,0.8s						
POKR				IAML		22 42 59.5	
	comp=N,16nm,1.1s						
J18K	**Innoko River**	**3.12**	**295**		Pn	22 42 04.2	-1.3
MENT	**Mentasta**	**3.15**	**75**		Pn	22 42 06.1	+0.2
DOT	**Dot Lake**	**3.19**	**62**		Pn	22 42 06.9	+0.4
DOT				IAML		22 43 00.6	
	comp=E,21nm,0.6s						
J25K	**Salcha River,**	**3.23**	**42**		Pn	22 42 04.9	-2.2
J25K				IAML		22 42 59.9	
	comp=N,15nm,1.0s						
GLB	**Gilahina Butte**	**3.24**	**103**		Pn	22 42 06.9	-0.3
L26K	**Log Cabin Wild**	**3.33**	**74**	Pn	Pn	22 42 08.1	-0.4
SCRK	**Sand Creek**	**3.35**	**57**		Pn	22 42 08.9	+0.1
SCRK				IAML		22 43 02.9	
	comp=E,16nm,0.6s						
SCRK				IAML		22 43 04.1	
	comp=N,20nm,0.7s						
RAGM	**Ragged Mountai**	**3.36**	**122**		Pn	22 42 09.3	+0.4
M26K	**Nabesna, AK**	**3.45**	**85**		Pn	22 42 09.1	-1.0
M26K				IAML		22 43 10.3	
	comp=E,19nm,0.5s						
M26K				IAML		22 43 10.8	
	comp=N,22nm,0.5s						
M17K	**Holitna River**	**3.46**	**258**	Pn	Pn	22 42 08.4	-1.9
VRDI	**Verde Repeater**	**3.47**	**105**		Pn	22 42 10.7	+0.2
H21K	**Melozitna Rive**	**3.53**	**344**	Pn	Pn	22 42 10.2	-0.9
H21K				IAML		22 43 05.0	
	comp=E,15nm,0.5s						
H21K				IAML		22 43 09.5	
	comp=N,12nm,0.7s						
HMT	**Hamilton**	**3.56**	**121**		Pn	22 42 11.8	+0.3
MCARA	**McCarthy VSAT**	**3.61**	**102**		Pn	22 42 10.4	-1.9
MCARA				IAML		22 43 19.7	
	comp=E,18nm,1.2s						
K17K	**Iditarod**	**3.69**	**280**	Pn	Pn	22 42 12.0	-1.4
K17K				IAML		22 43 16.4	
	comp=N,9.6nm,1.1s						
K17K				IAML		22 43 19.9	
	comp=E,13nm,1.0s						
N17K	**Nushagak Hills**	**3.72**	**244**	Pn	Pn	22 42 12.1	-1.7
N17K				IAML		22 43 14.1	
	comp=E,16nm,0.8s						
BERG	**Berg Lake**	**3.75**	**118**	Pn	Pn	22 42 13.7	-0.6
P18K	**Big Mountain,**	**3.76**	**221**	Pn	Pn	22 42 13.7	-0.8
J26L	**Joseph Creek**	**3.78**	**51**		Pn	22 42 14.1	-0.6
J26L				IAML		22 43 15.4	
	comp=N,14nm,0.8s						
J26L				IAML		22 43 19.4	
	comp=E,12nm,1.0s						
CRQM	**Cirque**	**3.81**	**111**		Pn	22 42 14.8	-0.3
PRP	**Porcupine Dome**	**3.87**	**32**	Pn	Pn	22 42 14.4	-1.5
PRP				IAML		22 43 16.4	
	comp=N,12nm,0.5s						
PRP				IAML		22 43 21.1	
	comp=E,9.0nm,1.1s						
SUCK	**Suckling Hills**	**3.91**	**122**	Pn	Pn	22 42 14.2	-2.2
SUCK				IAML		22 43 25.1	
	comp=E,9.6nm,1.0s						
SUCK				IAML		22 43 54.2	
	comp=N,9.9nm,1.2s						
TGL	**Tana Glacier**	**3.94**	**110**		Pn	22 42 16.2	-0.7
TGL				IAML		22 43 16.7	
	comp=E,13nm,0.6s						
TGL				IAML		22 43 21.5	
	comp=N,14nm,0.6s						
IMAR	**Indian Mountai**	**3.97**	**340**	Pn	Pn	22 42 15.8	-1.4
M27K	**Edge Creek, AK**	**3.97**	**86**	Pn	Pn	22 42 16.8	-0.6
M27K				IAML		22 43 27.2	
	comp=N,7.6nm,0.7s						
M27K				IAML		22 43 28.2	
	comp=E,7.4nm,0.8s						
BCAR	**Beaver Creek A**	**4.04**	**75**	Pn	Pn	22 42 17.2	-1.0
WAX	**Waxell Ridge**	**4.08**	**114**		Pn	22 42 17.2	-1.6
J17K	**VABM Dome**	**4.13**	**289**	Pn	Pn	22 42 18.2	-1.1
J17K				IAML		22 43 32.9	
	comp=E,7.8nm,0.6s						
J17K				IAML		22 43 39.0	
	comp=N,6.7nm,1.1s						
H19K	**Roundabout Mou**	**4.19**	**323**		Pn	22 42 18.8	-1.4
H19K				IAML		22 43 27.1	
	comp=E,12nm,0.4s						
H19K				IAML		22 43 28.4	
	comp=N,10.0nm,0.9s						
SNH	**Sunshine Point**	**4.23**	**117**	Pn	Pn	22 42 18.4	-2.4
SNH				IAML		22 42 56.1	
	comp=E,7.5nm,1.2s						
SNH				IAML		22 44 09.9	
	comp=N,9.9nm,1.1s						
M16K	**Timber Creek**	**4.28**	**256**	Pn	Pn	22 42 19.1	-2.4
M16K				IAML		22 43 37.1	
	comp=E,7.8nm,0.7s						
M16K				IAML		22 43 43.0	
	comp=N,12nm,1.1s						
L16K	**Owhat River**	**4.32**	**266**	Pn	Pn	22 42 19.8	-2.2
L16K				IAML		22 43 42.2	
	comp=E,6.8nm,1.1s						
L16K				IAML		22 43 48.6	
	comp=N,6.0nm,1.1s						
BARN	**Barnard Glacie**	**4.34**	**103**		Pn	22 42 20.1	-2.5
BARN				IAML		22 43 32.6	
	comp=E,7.4nm,0.6s						
G23K	**Bananza Creek**	**4.42**	**2**	Pn	Pn	22 42 21.9	-1.6
GRNC	**Granite Creek**	**4.43**	**107**	Pn	Pn	22 42 22.5	-1.2
GRNC				IAML		22 43 39.8	
	comp=N,6.8nm,1.0s						
G21K	**Allakaket**	**4.43**	**344**	Pn	Pn	22 42 22.3	-1.3
G21K				IAML		22 43 30.7	
	comp=E,7.2nm,1.0s						
G21K				IAML		22 43 37.2	
	comp=N,7.7nm,0.8s						
CTGM	**Chitina Glacie**	**4.53**	**103**		Pn	22 42 24.3	-0.7
H18K	**Honhosa River**	**4.55**	**312**	Pn	Pn	22 42 23.3	-1.8
H18K				IAML		22 43 49.5	
	comp=E,7.6nm,1.0s						
G24K	**Hadweenzic Riv**	**4.58**	**15**	Pn	Pn	22 42 22.8	-2.9
KDAK	**Kodiak Island**	**4.67**	**195**	Pn	Pn	22 42 26.8	-0.1
LOGN	**Logan Glacier**	**4.73**	**104**	Pn	Pn	22 42 25.6	-2.1
LOGN				IAML		22 43 42.8	
	comp=E,5.0nm,1.2s						
J16K	**Anvik River**	**4.79**	**286**	Pn	Pn	22 42 26.2	-2.2
J16K				IAML		22 43 51.1	
	comp=N,5.1nm,0.9s						
J16K				IAML		22 43 51.8	
	comp=E,6.0nm,1.0s						
COLD	**Coldfoot**	**4.94**	**1**	Pn	Pn	22 42 29.4	-1.1
COLD				IAML		22 44 53.6	
	comp=E,5.6nm,1.0s						
COLD				IAML		22 45 11.1	
	comp=N,5.0nm,1.2s						
H17K	**Granite Mounta**	**5.00**	**306**	Pn	Pn	22 42 29.4	-1.9
H17K				IAML		22 43 59.9	
	comp=N,3.8nm,1.1s						
H17K				IAML		22 44 06.9	
	comp=E,4.1nm,1.1s						
G18K	**Tagagawik**	**5.10**	**318**	Pn	Pn	22 42 30.8	-2.0
F21K	**Alatna River**	**5.11**	**346**	Pn	Pn	22 42 30.8	-2.0
N15K	**Kwethluk River**	**5.15**	**250**	Pn	Pn	22 42 33.5	0.0
K15K	**Wolf Creek Mou**	**5.20**	**275**	Pn	Pn	22 42 33.5	-0.6
K15K				IAML		22 44 19.5	
	comp=E,3.4nm,1.1s						
K15K				IAML		22 45 42.0	
	comp=N,5.2nm,1.1s						
OHAK	**Old Harbor**	**5.31**	**197**	Pn	Pn	22 42 33.6	-2.0
G26K	**Porcupine Rive**	**5.45**	**28**	Pn	Pn	22 42 36.5	-1.1
H27K	**Steamboat Moun**	**5.51**	**41**	Pn	Pn	22 42 36.5	-1.8
M29M	**Somme Creek**	**5.55**	**83**	Pn	Pn	22 42 38.1	-0.9
I28M	**Miner Creek**	**5.59**	**51**	Pn	Pn	22 42 38.7	-0.8
BMAR	**Burnt Mountain**	**5.70**	**23**	Pn	Pn	22 42 39.1	-2.0
E23K	**Chandalar**	**5.78**	**3**	Pn	Pn	22 42 41.8	-0.4
E19K	**Redstone River**	**5.93**	**334**	Pn	Pn	22 42 43.3	-0.8
YKU2	**Yakutat**	**5.93**	**113**	Pn	Pn	22 42 41.4	-2.7
F26K	**Sheenjek River**	**6.02**	**23**	Pn	Pn	22 42 43.4	-1.9
K29M	**Barlow Dome**	**6.05**	**70**	Pn	Pn	22 42 45.1	-0.7

*IDC **03** 22:41:58.2±1.4, 52°.45N×170°.60W, h0km, mb3.9/12, mbtmp3.9/13, ML3.5/1, MS3.0/2, Error ellipse: s-maj=45.8km s-min=19.3km az=8.0*
*AEIC **03** 22:42:02.0±2.0, 52°.15N±0°.07×170°.47W±0°.09, h24km±6km, Error ellipse: s-maj=11.3km s-min=4.5km az=143.0*
*NEIC **03** 22:42:04.8±1.1, 52°.47N±0°.05×170°.56W±0°.07, h49km±8km, mb3.7/7, ML3.4(AEIC), Error ellipse: s-maj=7.9km s-min=6.1km az=193.0*
ISC 03 22:42:05.1±0.8, 52°.4N±0°.1×170°.59W±0°.05, h55km, n57, σ1§14/57, mb3.9/15, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.60**	**44**		**Pn**	**22 42 16.4**	**-1.5**
CLES				Sn	**Sn**	**22 42 26.7**	**-0.3**
CLCO	**Concord Point,**	**0.66**	**53**		**Pn**	**22 42 16.7**	**-1.7**
CLCO					**Sn**	**22 42 27.6**	**-0.6**
NIKH	**Nikolski High**	**1.20**	**61**		**Pn**	**22 42 23.5**	**-2.1**
NIKH				Sn	**Sn**	**22 42 38.9**	**-2.0**
OKCE	**Okmok Cone E**	**1.79**	**54**		**Pn**	**22 42 32.9**	**-0.8**
OKNC	**Okmok New Cone**	**1.83**	**54**		**Pn**	**22 42 33.7**	**-0.5**
OKNC					**Sn**	**22 42 59.7**	**+3.5**
OKTU	**Okmok Mt. Tuli**	**1.83**	**56**		**Pn**	**22 42 33.2**	**-1.0**
OKFG	**Magazine Ridge**	**1.91**	**57**		**Pn**	**22 42 34.6**	**-0.7**
KOFP	**Korovin Flat P**	**2.15**	**268**		**Pn**	**22 42 38.6**	**0.0**
ATKA	**Atka Island**	**2.22**	**266**		**Pn**	**22 42 38.5**	**-0.9**
MAPS	**Pakushin South**	**2.62**	**56**		**Pn**	**22 42 45.2**	**+0.4**
MGOD	**Makushin Gods**	**2.64**	**57**		**Pn**	**22 42 45.2**	**0.0**
MSW	**Makushin Switc**	**2.75**	**55**		**Pn**	**

J30M IAmb IAmb 22 46 55.1
comp=Z,2.3nm,1.1s
I30M Mount Dempster 21.53 40 P **P 22 46 49.5 +0.1**
I30M IAmb IAmb 22 46 53.3
comp=Z,1.8nm,0.8s
G29M Pine Creek 21.59 35 P **P 22 46 49.0 -0.8**
MA2 Magadan 22.51 304 LR LR 22 55 08.2
comp=Z,28nm,20.4s,baz=78,slow=35
PRN Pahroc Range 41.05 89 P **P 22 49 42.7 -0.4**
PD31 Pinedale Array 41.13 78 P **P 22 49 43.4 -0.4**
PD31 IAmb IAmb 22 49 45.1
comp=Z,1.7nm,0.9s
PDAR Pinedale Array 41.13 78 P **P 22 49 44.1 +0.3**
PDAR Pinedale Array 41.13 78 P **P 22 49 44.4 +0.6**
comp=Z,1.0nm,0.7s,baz=310,slow=4.2,SNR=9.5
comp=Z,1.0nm,0.7s
KNB Kanab 42.66 87 P **P 22 49 55.3 -1.0**
KNB IAmb IAmb 22 49 57.9
comp=Z,5.9nm,1.0s
SONM Songino Array 50.64 300 P **P 22 50 58.1 -0.4**
comp=Z,0.6nm,0.5s,baz=73,slow=6.3,SNR=5.6
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 53.49 88 P **P 22 51 19.7 -0.1**
TXAR Lajitas Array 53.49 88 P **P 22 51 19.9 0.0**
comp=Z,0.7nm,0.8s,baz=301,slow=7.1,SNR=9.0
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 61.96 318 P **P 22 52 18.9 +0.1**
comp=Z,1.0nm,0.3s,baz=47,slow=6.9,SNR=4.4
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 63.24 313 P **P 22 52 27.6 +0.2**
comp=Z,0.3nm,0.7s,baz=36,slow=8.5,SNR=4.6
comp=Z,0.3nm,0.7s
BVAR Borovoye Array 63.24 324 P **P 22 52 27.3 0.0**
comp=Z,1.2nm,0.5s,baz=49,slow=9.2,SNR=6.0
comp=Z,1.2nm,0.5s
FINES FINESS Array B 65.73 351 P **P 22 52 44.5 +1.2**
comp=Z,4.3nm,1.0s,baz=356,slow=6.3,SNR=4.3
comp=Z,4.3nm,1.0s
NOA NORSAR Array B 66.90 359 P **P 22 52 50.9 -0.1**
comp=Z,0.3nm,0.5s,baz=0.1,slow=6.3,SNR=1.5
comp=Z,0.3nm,0.5s
HFS Hagfors 67.77 358 P **P 22 52 56.7 +0.3**
comp=Z,1.2nm,0.3s,baz=37,slow=3.7,SNR=19
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 75.88 282 P **P 22 53 46.4 +0.7**
comp=Z,1.4nm,0.6s,baz=25,slow=7.0,SNR=12
comp=Z,1.4nm,0.6s
GERES GERESS Array B 79.07 357 P **P 22 54 03.8 +0.7**
comp=Z,0.5nm,0.7s,baz=329,slow=4.7,SNR=4.9
comp=Z,0.5nm,0.7s
ESDC Sonseca Array 87.57 10 P **P 22 54 47.5 +0.5**
comp=Z,0.9nm,0.8s,baz=351,slow=4.4,SNR=5.9
comp=Z,0.9nm,0.8s
H03N2 Juan Fernandez 116.63 111 T T 01 07 57.4
baz=317,slow=77,SNR=7.4
H03N1 Juan Fernandez 116.64 111 T T 01 08 17.1
baz=317,slow=77,SNR=9.7
H03N3 Juan Fernandez 116.65 111 T T 01 08 00.0
baz=317,slow=77,SNR=7.8

*MOS **03** 22:50:33.8±1.1, 49°.80N×156°.39E, h75km, mb4.2/3, Error ellipse: s-maj=17.4km s-min=4.2km az=75.5*
*KRSC **03** 22:50:33.8±2.6, 49°.87N×156°.86E, h42km±27km, Ml4.6*
*IDC **03** 22:50:36.9±3.1, 50°.03N×155°.96E, h87km±29km, mb3.1/5, mbtmp3.6/7, Error ellipse: s-maj=44.0km s-min=20.4km az=134.0*
ISC 03 22:50:34.7±1.4, 49°.80N±0°.09×156°.46E±0°.07, h49km±14km, n79, σ1§75/85, mb3.5/7, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.91**	**346**	*i* PN	**Pn**	**22 50 50.1**	**-1.1**
SKR				*e*S	**Sn**	**22 51 01.3**	**-2.0**
SKR				pmax	pmax		
	comp=Z,1μm,0.3s						
SKR				smax	smax		
	comp=N,6μm,0.2s						
SKR				smax	smax		
	comp=E,5μm,0.2s						
SKR	**Severo-Kuril's**	**0.91**	**346**	*e*P	**Pn**	**22 50 50.0**	**-1.1**
SKR				*e*S	**Sn**	**22 51 01.3**	**-2.0**
PAU	**Pauzhetka**	**1.69**	**7**	PN	**Pn**	**22 51 01.3**	**-0.3**
PAU				S	**Sn**	**22 51 21.5**	**-0.5**
PAU	**Pauzhetka**	**1.69**	**7**	*e*P	**Pn**	**22 51 01.4**	**-0.3**
PAU				*e*S	**Sn**	**22 51 21.6**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.49**	**4**	PN	**Pn**	**22 51 12.5**	**-0.1**
MIPR				S	**Sn**	**22 51 40.9**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.49**	**4**	*e*P	**Pn**	**22 51 12.6**	**-0.1**
MIPR				*e*S	**Sn**	**22 51 40.9**	**-0.9**
ASAK	**Asacha**	**2.74**	**19**	PN	**Pn**	**22 51 17.0**	**+0.8**
ASAK	**Asacha**	**2.74**	**19**	*e*P	**Pn**	**22 51 17.1**	**+0.8**
MTVR	**Mutnovka**	**2.90**	**21**	PN	**Pn**	**22 51 18.6**	**+0.2**
MTVR				S	**Sn**	**22 51 51.8**	**-0.2**
MTVR	**Mutnovka**	**2.90**	**21**	*e*P	**Pn**	**22 51 18.7**	**+0.2**
MTVR				*e*S	**Sn**	**22 51 51.8**	**-0.2**
RUS	**Russkaya**	**2.94**	**25**	PN	**Pn**	**22 51 19.1**	**+0.3**
RUS				S	**Sn**	**22 51 51.2**	**-1.5**
RUS	**Russkaya**	**2.94**	**25**	*e*P	**Pn**	**22 51 19.1**	**+0.3**
RUS				*e*S	**Sn**	**22 51 51.3**	**-1.5**
GRL	**Gorelyy**	**2.94**	**20**	PN	**Pn**	**22 51 19.7**	**+0.8**
GRL				S	**Sn**	**22 51 53.1**	**+0.1**
GRL	**Gorelyy**	**2.94**	**20**	*e*P	**Pn**	**22 51 19.8**	**+0.8**
GRL				*e*S	**Sn**	**22 51 53.2**	**+0.1**
PETK	**Petropavlovsk-**	**3.41**	**13**	P	**Pn**	**22 51 25.6**	**+0.4**
	comp=E,12nm,0.4s,baz=97,slow=24,SNR=21						
PET	**Petropavlovsk**	**3.51**	**22**	*e*PN	**Pn**	**22 51 27.6**	**+1.0**
PET				*e*S	**Sn**	**22 52 07.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,79nm,0.5s						
PET				smax	smax		
	comp=N,322nm,0.5s						
PET				smax	smax		
	comp=E,232nm,0.5s						
PET	**Petropavlovsk**	**3.51**	**22**	*e*P	**Pn**	**22 51 27.8**	**+1.2**
PET				*e*S	**Sn**	**22 52 07.9**	**+1.0**
INSR	**Institute**	**3.54**	**21**	PN	**Pn**	**22 51 29.7**	**+2.7**
INSR	**Institute**	**3.54**	**21**	*e*P	**Pn**	**22 51 29.8**	**+2.7**
DALK	**Dalny**	**3.54**	**23**	PN	**Pn**	**22 51 27.7**	**+0.7**
DALK				S	**Sn**	**22 52 08.3**	**+0.7**
DALK	**Dalny**	**3.54**	**23**	*e*P	**Pn**	**22 51 27.7**	**+0.7**
DALK				*e*S	**Sn**	**22 52 08.4**	**+0.7**
UGLR	**Uglovaya**	**3.72**	**22**	PN	**Pn**	**22 51 31.3**	**+1.7**
UGLR	**Uglovaya**	**3.72**	**22**	*e*P	**Pn**	**22 51 31.4**	**+1.7**
AVH	**Avacha**	**3.75**	**21**	PN	**Pn**	**22 51 31.9**	**+1.9**
AVH	**Avacha**	**3.75**	**21**	*e*P	**Pn**	**22 51 32.0**	**+1.9**
KOK	**Koryaka**	**3.75**	**20**	PN	**Pn**	**22 51 32.3**	**+2.3**
KOK	**Koryaka**	**3.75**	**20**	*e*P	**Pn**	**22 51 32.4**	**+2.3**
SMAR	**Somma**	**3.77**	**22**	PN	**Pn**	**22 51 32.2**	**+1.9**
SMAR	**Somma**	**3.77**	**22**	*e*P	**Pn**	**22 51 32.2**	**+1.9**
KRER	**Koryakskii**	**3.79**	**21**	PN	**Pn**	**22 51 32.3**	**+1.7**
KRER	**Koryakskii**	**3.79**	**21**	*e*P	**Pn**	**22 51 32.4**	**+1.7**
SDLR	**Sedlovina**	**3.80**	**23**	PN	**Pn**	**22 51 31.4**	**+0.7**
SDLR	**Sedlovina**	**3.80**	**23**	*e*P	**Pn**	**22 51 31.5**	**+0.7**
KRX	**Arik**	**3.82**	**20**	PN	**Pn**	**22 51 32.8**	**+1.8**
KRX	**Arik**	**3.82**	**20**	*e*P	**Pn**	**22 51 32.8**	**+1.8**
NLC	**Nalytchevo**	**3.83**	**27**	PN	**Pn**	**22 51 30.3**	**-0.6**
NLC	**Nalytchevo**	**3.83**	**27**	*e*P	**Pn**	**22 51 30.4**	**-0.6**
SPN	**Mys Shipunski**	**3.98**	**33**	PN	**Pn**	**22 51 33.4**	**+0.3**
SPN	**Mys Shipunski**	**3.98**	**33**	*e*P	**Pn**	**22 51 33.5**	**+0.3**
GNL	**Ganaly**	**4.01**	**13**	PN	**Pn**	**22 51 35.2**	**+1.6**
GNL	**Ganaly**	**4.01**	**13**	*e*P	**Pn**	**22 51 35.2**	**+1.6**
MKZ	**Mys Kozlova**	**5.76**	**32**	PN	**Pn**	**22 51 56.7**	**-0.7**
MKZ	**Mys Kozlova**	**5.76**	**32**	*e*P	**Pn**	**22 51 56.8**	**-0.7**
TUMD	**Tumrok D**	**5.92**	**22**	PN	**Pn**	**22 52 04.0**	**+4.3**
TUMD	**Tumrok D**	**5.92**	**22**	*e*P	**Pn**	**22 52 04.0**	**+4.3**
KMNR	**Kamenistaya**	**6.39**	**20**	PN	**Pn**	**22 52 09.4**	**+3.2**
KMNR	**Kamenistaya**	**6.39**	**20**	*e*P	**Pn**	**22 52 09.5**	**+3.2**
KIRR	**Kirishev**	**6.60**	**19**	PN	**Pn**	**22 52 12.9**	**+3.8**
KIRR	**Kirishev**	**6.60**	**19**	*e*P	**Pn**	**22 52 12.9**	**+3.8**
KBTR	**Krutoberegovo**	**7.48**	**28**	PN	**Pn**	**22 52 20.2**	**-0.8**
KBTR	**Krutoberegovo**	**7.48**	**28**	*e*P	**Pn**	**22 52 20.2**	**-0.8**
BKI	**Bering**	**7.93**	**43**	PN	**Pn**	**22 52 26.5**	**-0.7**
BKI	**Bering**	**7.93**	**43**	*e*P	**Pn**	**22 52 26.6**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**9.26**	**236⇑**	*e*PN	**Pn**	**22 52 46.6**	**+1.1**
YSS	**Yuzhno-Sakhali**	**9.56**	**258**	*e*PN	**Pn**	**22 52 49.4**	**-0.1**
MA2	**Magadan**	**10.33**	**344**	*e*PN	**Pn**	**22 52 59.7**	**-0.3**
ASAJ	**Asahikawa**	**11.04**	**244**	P	**Pn**	**22 53 10.1**	**+0.2**
	comp=E,8.5nm,0.6s,baz=78,slow=17,SNR=5.7						
MAJO	**Matsushiro**	**18.72**	**232**	*e*P	**Pn**	**22 54 53.8**	**+4.0**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PSTR	**Posyet**	**19.08**	**258⇑**	*e*P	**Pn**	**22 54 56.3**	**+2.2**
YAK	**Yakutsk**	**19.20**	**320⇓**	*e*P	**P**	**22 54 53.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HIA	**Hailar**	**23.69**	**283**	*de*P	**P**	**22 55 44.0**	**+2.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**31.14**	**161**	T	T	23 29 51.8	
	baz=348						
H11N1	**WAKE ISLAND Hy**	**31.15**	**161**	T	T	23 29 48.2	
	baz=348,slow=74						
H11N3	**WAKE ISLAND Hy**	**31.15**	**161**	T	T	23 29 50.9	
	baz=348,slow=74						
H11S1	**WAKE ISLAND Hy**	**32.28**	**162**	T	T	23 31 18.7	
	baz=346,slow=76,SNR=380						
H11S3	**WAKE ISLAND Hy**	**32.29**	**162**	T	T	23 31 09.0	
	baz=346,slow=76,SNR=1020						
H11S2	**WAKE ISLAND Hy**	**32.30**	**162**	T	T	23 31 09.7	
	baz=346,slow=76,SNR=332						
COLA	**College**	**32.36**	**41⇑**	*i*P	**P**	**22 57 02.0**	**+3.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**32.77**	**41**	P	**P**	**22 57 00.9**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=269,slow=7.5,SNR=4.1						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**32.77**	**41**	P	**P**	**22 57 01.0**	**-1.6**
KURK	**Kurchatov**	**47.57**	**303**	P	**P**	**22 59 00.7**	**-4.3**
KURBB	**Kurchatov Arra**	**47.67**	**303**	P	P	22 59 00.7	-5.1
	comp=Z,0.3nm,0.6s,baz=66,slow=8.2,SNR=2.7						
	comp=Z,0.3nm,0.6s						
BORK	**Borovoye**	**50.70**	**309⇑**	*e*P	**P**	**22 59 29.6**	**+0.8**
BORK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**72.15**	**202**	P	**P**	**23 01 52.0**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=16,slow=6.2,SNR=2.4						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**74.08**	**63**	P	**P**	**23 02 05.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=323,slow=5.3,SNR=5.3						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**75.84**	**201**	P	**P**	**23 02 13.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=16,slow=4.3,SNR=2.4						
	comp=Z,0.3nm,0.6s						
H03N2	**Juan Fernandez**	**136.51**	**89**	T	T	01 41 09.5	
	baz=312						
H03N1	**Juan Fernandez**	**136.52**	**89**	T	T	01 41 05.0	
	baz=312						
H03N3	**Juan Fernandez**	**136.52**	**89**	T	T	01 41 04.0	
	baz=312						

IDC 03 23:14:54.2±55.0, 23°.19S×176°.00W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1019.0km s-min=170.9km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.39**	**247**	P	P	23 22 16.7	-0.7
	1.1nm,0.4s,baz=71,slow=9.3,SNR=4.5						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**45.77**	**259**	P	P	23 23 17.9	0.0
	0.6nm,0.5s,baz=82,slow=7.6,SNR=6.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**46.12**	**264**	P	P	23 23 20.9	+0.2
	1.2nm,0.4s,baz=103,slow=8.1,SNR=12						
	1.2nm,0.4s						

*IDC **03** 23:20:44.5±0.8, 8°.70S×160°.01E, h71km±5km, mb3.9/12, mbtmp4.3/12, MS3.4/4, Error ellipse: s-maj=23.4km s-min=15.9km az=105.0*
*NEIC **03** 23:20:44.7±0.6, 8°.5S±0°.1×160°.2E±0°.1, h87km±14km, mb4.5/17, Error ellipse: s-maj=23.8km s-min=16.1km az=223.0*
ISC 03 23:20:45.7±0.6, 8°.59S±0°.09×160°.0E±0°.1, h100km, n41, σ2§47/39, mb4.2/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**12.74**	**265**	LR	LR	23 28 06.9	
	comp=Z,101nm,20.8s,baz=152,slow=35						
DZM	**Mont Dzumac**	**14.76**	**156**	P	**P**	**23 24 14.1**	**+1.2**
DZM	**Mont Dzumac**	**14.76**	**156**	P	**P**	**23 24 13.9**	**+0.9**
	7.8nm,0.5s,baz=324,slow=16,SNR=10						
ONTNC	**Ouen Toro**	**14.98**	**156**	Pn	**P**	**23 24 12.9**	**-2.3**
ONTNC				IAmb	IAmb	23 24 14.5	
	comp=Z,36nm,1.1s						
PINNC	**Pines Island,**	**15.66**	**154**	Pn	**Pn**	**23 24 19.7**	**-1.1**
PINNC				IAmb	IAmb	23 24 29.7	
	comp=Z,122nm,1.5s						
COEN	**Coen**	**17.36**	**251**		**Pn**	**23 24 42.6**	**+0.7**
COEN				IAmb	IAmb	23 25 00.2	
	comp=Z,24nm,1.2s						
CTAO	**Charters Tower**	**17.56**	**228**	P	**Pn**	**23 24 45.1**	**+1.0**
EIDS	**Eidsvold**	**18.74**	**206**	P	**Pn**	**23 24 57.9**	**-0.5**
JAY	**Jayapura**	**20.15**	**286**	P	Pn	23 25 12.7	-2.3
	comp=Z,5.5nm,0.7s,baz=124,slow=11,SNR=2.0						
	comp=Z,5.5nm,0.7s						
ARMA	**Armidale**	**23.10**	**199**	P	**P**	**23 25 44.7**	**+1.6**
ARMA				IAmb	IAmb	23 25 46.2	
	comp=Z,16nm,1.3s						
WR8	**Warramunga Arr**	**27.15**	**243**	P	**P**	**23 26 20.8**	**+0.9**
WR8				IAmb	IAmb	23 26 21.7	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**27.18**	**243**	P	**P**	**23 26 21.1**	**+1.0**
WB0				IAmb	IAmb	23 26 21.5	
	comp=Z,6.8nm,0.5s						
WRAB	**Tennant Creek**	**27.28**	**243**	P	**P**	**23 26 20.4**	**-0.6**
WRAB				IAmb	IAmb	23 26 24.6	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**27.29**	**243**	P	**P**	**23 26 21.1**	**0.0**
WRA	**Warramunga Arr**	**27.29**	**243**	P	**P**	**23 26 22.1**	**+1.0**
	comp=Z,5.7nm,0.5s,baz=69,slow=9.1,SNR=68						
WRA				pP	**pP**	**23 26 38.7**	**-4.2**
	comp=Z,4.2nm,0.7s,baz=67,slow=9.2,SNR=7.0						
	comp=Z,5.7nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**27.70**	**14**	T	T	23 55 04.2	
	baz=194,slow=76,SNR=391						
H11S3	**WAKE ISLAND Hy**	**27.70**	**14**	T	T	23 55 06.0	
	baz=194,slow=76,SNR=409						
H11S1	**WAKE ISLAND Hy**	**27.71**	**14**	T	T	23 55 07.0	
	baz=194,slow=76,SNR=294						
MTN	**Manton Dam**	**28.69**	**259**	P	**P**	**23 26 33.7**	**+0.1**
MTN				IAmb	IAmb	23 26 39.4	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**28.82**	**214**	P	**P**	**23 26 35.5**	**+1.0**
STKA				IAmb	IAmb	23 26 48.7	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**28.82**	**214**	P	**P**	**23 26 34.5**	**0.0**
	comp=Z,2.5nm,0.5s,baz=52,slow=16,SNR=8.0						
	comp=Z,2.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**28.92**	**13**	T	T	23 56 36.3	
	baz=194,slow=76,SNR=327						
H11N3	**WAKE ISLAND Hy**	**28.93**	**13**	T	T	23 56 39.5	
	baz=194,slow=76,SNR=279						
H11N2	**WAKE ISLAND Hy**	**28.94**	**13**	T	T	23 56 40.2	
	baz=194,slow=76,SNR=248						
AS31	**Alice Springs**	**29.15**	**236**	P	**P**	**23 26 37.8**	**+0.1**
ASAR	**Alice Springs**	**29.15**	**236**	P	**P**	**23 26 38.3**	**+0.7**
ASAR	**Alice Springs**	**29.15**	**236**	P	**P**	**23 26 38.0**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=63,slow=10.0,SNR=34						
ASAR				pP	**pP**	**23 26 56.1**	**-3.5**
	comp=Z,1.8nm,0.6s,baz=65,slow=9.3,SNR=4.3						
ASAR				LR	LR	23 37 13.2	
	comp=Z,65nm,18.1s,baz=112,slow=34						
	comp=Z,3.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**34.71**	**251**	LR	LR	23 40 40.5	
	comp=Z,41nm,19.9s,baz=229,slow=34						
TUWZ	**Tuamarina**	**34.96**	**162**	P	**P**	**23 27 28.5**	**+0.4**
BFZ	**Birch Farm**	**35.07**	**158**	P	**P**	**23 27 27.8**	**-1.3**
MBWA	**Marble Bar**	**40.78**	**248**	P	**P**	**23 28 18.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**46.33**	**232**	P	**P**	**23 29 02.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**65.97**	**295**	P	**P**	**23 31 23.8**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=117,slow=6.5,SNR=4.1						
CMAR				pP	**pP**	**23 31 43.2**	**-3.8**
	comp=Z,1.0nm,0.3s,baz=127,slow=4.8,SNR=1.9						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**68.91**	**180**	P	**P**	**23 31 40.9**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=327,slow=6.8,SNR=16						
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**73.41**	**326**	P	**P**	**23 32 09.4**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=118,slow=5.5,SNR=2.7						
SONM				pP	**pP**	**23 32 30.2**	**-2.5**
	comp=Z,1.9nm,0.8s,baz=130,slow=5.3,SNR=5.6						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**81.40**	**180**	P	**P**	**23 32 53.4**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=288,slow=0.4,SNR=11						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**83.07**	**20**	P	**P**	**23 33 02.2**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=245,slow=5.0,SNR=16						
ILAR				pP	**pP**	**23 33 21.1**	**-4.5**
	comp=Z,0.7nm,0.6s,baz=249,slow=5.0,SNR=4.4						
	comp=Z,0.9nm,0.5s						
MAW	**Mawson**	**84.85**	**202**	P	**P**	**23 33 10.7**	**+1.8**
	comp=Z,3.2nm,0.8s,baz=107,slow=5.7,SNR=9.0						
MAW				pP	**pP**	**23 33 29.6**	**-5.2**
	comp=Z,2.0nm,0.9s,baz=100,slow=5.2,SNR=2.7						
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**87.91**	**318**	P	**P**	**23 33 27.4**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=99,slow=7.5,SNR=5.6						
MKAR				pP	**pP**	**23 33 45.9**	**-4.7**
	comp=Z,1.2nm,0.6s,baz=97,slow=6.2,SNR=6.8						
	comp=Z,0.6nm,0.8s						
PFO	**Pinyon Flats O**	**89.34**	**56**	LR	LR	00 06 18.6	
	comp=Z,46nm,19.1s,baz=14,slow=31						
BVAR	**Borovoye Array**	**96.57**	**323**	P	**P**	**23 34 07.9**	**+3.8**
	comp=Z,0.7nm,0.9s,baz=59,slow=5.6,SNR=2.2						
BVAR				pP	**pP**	**23 34 24.9**	**-5.7**
	comp=Z,0.6nm,0.6s,baz=64,slow=8.4,SNR=3.4						
	comp=Z,0.7nm,0.9s						

NEIC 03 23:33:33.2±1.7, 39°.28N±0°.01×99°.40W±0°.02, h5km±1km, mb_Lg2.6/50, Error ellipse: s-maj=3.6km s-min=2.9km az=238.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.53**	**210**	Pg	Pg	23 33 42.8	-0.6
R32A	**Long Quarter,**	**1.01**	**148**		Pg	23 33 52.0	-0.5
KSU1	**Kansas State U**	**2.17**	**94**		Pn	23 34 10.5	+0.5
KSU1					Sn	23 34 37.8	+0.5
BGNE	**Belgrade**	**2.33**	**24**	Pn	Pn	23 34 13.2	+1.0
BGNE				Pg	Pb	23 34 16.0	+0.3
BGNE					Sn	23 34 42.6	+1.3
KAN08	**Anthony NE Sta**	**2.33**	**151**		Pn	23 34 12.6	+0.3
KAN08					Sb	23 34 43.1	-1.8
KAN08				IAmb_Lg		23 34 52.9	
	comp=Z,27nm,1.0s						
KAN01	**Argonia South**	**2.48**	**148**	Pn	Pn	23 34 14.5	+0.2
KAN01				Sg	Sb	23 34 50.0	+0.8
KAN01				IAmb_Lg		23 34 57.5	
	comp=Z,24nm,0.7s						
KSCO	**Kaye Shedlock'**	**2.53**	**265**		Pn	23 34 14.4	-0.6
KSCO				Sg	Sb	23 34 51.0	+0.3
KAN14	**Manchester OK**	**2.58**	**154**		Pn	23 34 14.7	-0.9
KAN14				IAmb_Lg		23 34 58.6	
	comp=Z,22nm,0.9s						
OGNE	**Ogallala**	**2.62**	**310**		Pn	23 34 15.5	-0.8
OGNE					Sb	23 34 53.1	-0.1
NOKA	**Waynoka**	**2.66**	**172**	Pn	Pn	23 34 16.0	-0.8
GC02	**Grant County #**	**2.71**	**153**	Pn	Pn	23 34 17.5	+0.1
OK038	**West end E0370**	**2.84**	**169**		Pn	23 34 18.2	-1.0
CROK	**Carrier**	**2.98**	**158**	Pn	Pn	23 34 21.7	+0.5
BLOK	**Blackwell**	**3.04**	**145**	Pn	Pn	23 34 22.0	0.0
ELIS	**Ellis County**	**3.21**	**180**		Pn	23 34 25.1	+0.8
T35A	**Sooner Cattle**	**3.27**	**135**		Pn	23 34 25.3	+0.1
T35A				IAmb_Lg		23 35 22.4	
	comp=Z,14nm,0.8s						
N35A	**Tabor**	**3.29**	**60**	Pn	Pn	23 34 25.6	+0.3
N35A				IAmb_Lg		23 35 21.4	
	comp=Z,31nm,0.8s						
K30B	**Basset**	**3.40**	**357**	Pn	Pn	23 34 26.0	-0.9
OK051	**E0350 and S346**	**3.43**	**143**		Pn	23 34 26.1	-1.2
L34A	**Svendsen Farm,**	**3.54**	**40**		Pn	23 34 30.0	+1.3
QUOK	**Quay**	**3.76**	**145**	Pn	Pn	23 34 31.3	-0.6
OK029	**Liberty Lake**	**3.80**	**155**		Pn	23 34 32.0	-0.5
OK029				IAmb_Lg		23 35 30.6	
	comp=Z,14nm,1.2s						
OK052	**Battle Ridge R**	**3.87**	**147**		Pn	23 34 32.5	-0.9
RTBA	**Rita Blanca**	**3.88**	**224**		Pn	23 34 33.1	-0.5
RTBA				IAmb_Lg		23 35 43.7	
	comp=Z,14nm,0.9s						
TUL3	**Leonard**	**4.41**	**138**		Pn	23 34 40.4	-0.4
TUL3				IAmb_Lg		23 36 01.5	
	comp=Z,20nm,0.7s						
Q24A	**Divide**	**4.49**	**268**	IAmb_Lg		23 36 01.4	
	comp=Z,9.1nm,0.7s						
T25A	**Trinidad**	**4.49**	**243**		Pn	23 34 42.0	-0.2
P38A	**Dawn**	**4.55**	**84**	IAmb_Lg		23 36 06.1	
	comp=Z,12nm,0.8s						
WMOK	**Wichita Mounta**	**4.56**	**174**		Pn	23 34 42.2	-0.6
RLO	**Rose Lookout**	**4.65**	**131**		Pn	23 34 42.8	-1.4
AMTX	**Amarillo**	**4.75**	**203**		Pn	23 34 44.6	-1.0
ISCO	**Idaho Springs**	**4.84**	**278**		Pn	23 34 44.9	-2.0
U38A	**Gravette**	**4.87**	**124**		Pn	23 34 44.5	-2.7
U38A				IAmb_Lg		23 36 15.5	
	comp=Z,8.5nm,0.8s						
SDCO	**Great Sand Dun**	**5.03**	**254**	IAmb_Lg		23 36 19.5	
	comp=Z,16nm,1.2s						
R40A	**Maddies Statio**	**5.66**	**98**		Pn	23 34 54.7	-3.2
P40A	**Paris**	**5.70**	**85**		Pn	23 34 56.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.25**	**320**	*e*P	**Pg**	**23 44 53.4**	**+0.1**
MCDR				*e*S	**Sg**	**23 44 57.0**	**+0.4**
MCDR				IAML		23 44 59.7	
	comp=E,2μm,0.5s						
MCDR				IAML		23 45 00.0	
	comp=N,2μm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.26**	**233**	*i* P	**Pg**	**23 44 53.8**	**+0.4**
LODA1				IAML		23 44 57.0	
	comp=Z,474nm,0.7s						
LODA1				*e*S	**Sg**	**23 44 57.3**	**+0.5**
LOPP1	**Punta Rusia, P**	**0.31**	**61**	*i* P	**Pb**	**23 44 56.6**	**+0.1**
LOPP1				*e*S	**Sb**	**23 45 03.1**	**+1.2**
LOPP1				IAML		23 45 04.8	
	comp=Z,94nm,0.7s						
REDR	**Restauracion**	**0.54**	**171**	*e*P	**Pg**	**23 44 57.9**	**-1.0**
REDR				⇓*e*S	**Sg**	**23 45 04.1**	**-1.7**
REDR				IAML		23 45 04.3	
	comp=E,746nm,0.2s						
REDR				IAML		23 45 04.8	
	comp=N,831nm,0.2s						
SDDR	**Presa de Saban**	**0.74**	**165**	*e*Sg	**Sb**	**23 45 14.2**	**-0.1**
SDDR				IAML		23 45 14.4	
	comp=N,49nm,0.7s						
SDDR				IAML		23 45 15.8	
	comp=E,59nm,0.2s						
SDDR	**Presa de Saban**	**0.74**	**165**	*i* P	**Pb**	**23 45 03.8**	**0.0**
SDDR				*e*S	**Sb**	**23 45 13.9**	**-0.4**
SDDR				IAML		23 45 16.7	
	comp=Z,68nm,0.7s						
SC01	**Santiago de Io**	**0.77**	**111**	*e*Sg	**Sn**	**23 45 18.0**	**+0.1**
SC01				IAML		23 45 22.2	
	comp=N,72nm,0.3s						
SC01				IAML		23 45 22.5	
	comp=E,79nm,0.3s						
SC01	**Santiago de Io**	**0.77**	**111**	*i* P	**Pb**	**23 45 04.8**	**+0.5**
SC01				*e*S	**Sb**	**23 45 16.2**	**+1.2**
LONE3	**El Aguacate, B**	**1.09**	**179**	*i* P	**Pb**	**23 45 09.5**	**-0.4**
LONE3				*e*S	**Sg**	**23 45 24.5**	**+1.0**
LONE3				IAML		23 45 28.0	
	comp=Z,30nm,3.2s						
JIDR	**Jimani**	**1.25**	**196**	*e*Pg	**Pb**	**23 45 12.3**	**-0.2**
JIDR				⇓*e*Sg	**Sg**	**23 45 30.0**	**+1.3**
JIDR				IAML		23 45 30.2	
	comp=N,73nm,0.4s						
JIDR				IAML		23 45 30.2	
	comp=E,55nm,0.3s						
LODU1	**El Espartillar**	**1.34**	**179**	*i* P	**Pb**	**23 45 13.5**	**-0.6**
LODU1				IAML		23 45 35.3	
	comp=Z,34nm,0.3s						
PAPH	**Port-au-Prince**	**1.40**	**213**	*i* P	**Pb**	**23 45 14.4**	**-0.7**
PODR	**Polo**	**1.54**	**173**	*e*Pg	**Pb**	**23 45 17.6**	**0.0**
PODR				IAML		23 45 48.8	
	comp=N,16nm,0.7s						
PODR	**Polo**	**1.54**	**173**	*i* P	**Pb**	**23 45 17.7**	**+0.1**
PODR				*e*S	**Sg**	**23 45 39.0**	**+1.1**
GRTK	**Grand Turk**	**1.83**	**10**	IAML		23 45 46.0	
	comp=E,27nm,0.4s						
GRTK				*e*Sg	**Sg**	**23 45 47.1**	**-0.3**
GRTK				IAML		23 46 00.2	
	comp=N,39nm,2.5s						
GRTK	**Grand Turk**	**1.83**	**10**	*i* P	**Pg**	**23 45 23.1**	**-0.5**
GRTK				*e*S	**Sb**	**23 45 44.5**	**-1.2**
GRTK				IAML		23 45 47.7	
	comp=Z,27nm,2.1s						
LOBH	**Bahia de las A**	**1.83**	**184**	*i* P	**Pn**	**23 45 21.0**	**+0.4**
LOBH				IAML		23 46 01.1	
	comp=Z,21nm,2.1s						
LOVI	**El Cajuil, Ovi**	**1.90**	**177**	*i* P	**Pn**	**23 45 21.2**	**-0.3**
LOVI				IAML		23 45 55.6	
	comp=Z,37nm,0.9s						
HATOM	**Hato Mayor del**	**2.19**	**114**	*e*Pg	**Pb**	**23 45 27.8**	**-0.7**
HATOM				IAML		23 46 01.1	
	comp=E,23nm,0.2s						
HATOM				IAML		23 46 04.1	
	comp=N,8.8nm,1.4s						
MASC	**Masc**	**2.62**	**281**	*i* P	**Pn**	**23 45 31.7**	**+0.2**
MASC				IAML		23 46 10.4	
	comp=Z,6.6nm,0.6s						

BEO ***03*** *23:51:56.8±0.5, 44°.65N×18°.34E, h0km, ML2.9/11*
PDG ***03*** *23:51:57.5±0.0, 44°.62N×18°.68E, h7km, ML3.0/8, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
RHSSO ***03*** *23:51:57.2±0.5, 44°.68N×18°.57E, h5km±3km, ML2.9/10*
PRU ***03*** *23:51:58.7, 44°.53N×18°.38E, h10km*
ISC 03 23:51:57.9±1.0, 44°.64N±0°.02×18°.54E±0°.02, h11km±9km, n92, σ1§15/144, 21C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEKS	**Tekeris**	**0.71**	**97**	*e*Pg	**Pg**	**23 52 11.6**	**-0.1**
TEKS				*e*Sg	**Sb**	**23 52 23.0**	**+0.8**
BLY	**Banja Luka**	**0.97**	**277**	*e*Pg	**Pg**	**23 52 15.2**	**-1.3**
BLY				*e*Sg	**Sg**	**23 52 28.8**	**-0.3**
BLY	**Banja Luka**	**0.97**	**277**	⇑P	**Pg**	**23 52 16.2**	**-0.4**
BLY				⇓S	**Sg**	**23 52 28.9**	**-0.3**
BBLS	**Lazi&#263i**	**0.99**	**141**	*e*Pg	**Pg**	**23 52 16.1**	**-0.8**
BBLS				*e*Sg	**Sn**	**23 52 32.1**	**+0.3**
FRGS	**Fruska Gora**	**1.05**	**60**	*e*Pg	**Pg**	**23 52 17.5**	**-0.5**
FRGS				*e*Sg	**Sn**	**23 52 33.6**	**+0.5**
DIVS	**Divibare**	**1.18**	**117**	*e*Pg	**Pg**	**23 52 20.2**	**-0.2**
DIVS				*e*Sg	**Sn**	**23 52 38.5**	**+2.1**
RUDO	**Rudo**	**1.18**	**149**	*e*Pg	**Pb**	**23 52 18.4**	**-1.9**
RUDO				*e*Sg	**Sb**	**23 52 35.7**	**+0.1**
AVAS	**Avala Beograd**	**1.41**	**87**	*e*Pg	**Pg**	**23 52 24.9**	**-0.1**
AVAS				*e*Sg	**Sg**	**23 52 45.2**	**+1.9**
UPM	**Unac-Piva**	**1.46**	**169**	*e*Pg	**Pn**	**23 52 23.8**	**-0.5**
UPM				*i* Sg	**Sg**	**23 52 45.7**	**+1.0**
KLINJ	**Klinje**	**1.47**	**179**	*e*Pn	**Pn**	**23 52 24.5**	**+0.2**
KLINJ				*e*Sn	**Sg**	**23 52 45.3**	**+0.3**
RICI	**Ricice**	**1.52**	**222**	*e*Pn	**Pb**	**23 52 25.7**	**-0.4**
IVAS	**Ivanjica**	**1.57**	**132**	*e*Pg	**Pn**	**23 52 25.8**	**0.0**
IVAS				*e*Sg	**Sg**	**23 52 49.1**	**+0.6**
MORH	**Mrgy, Hungar**	**1.58**	**3**	⇑*i*Pn	**Pn**	**23 52 24.9**	**-0.9**
MORH				*e*Sn	**Sn**	**23 52 45.8**	**-0.5**
MORH	**Mrgy, Hungar**	**1.58**	**3**	⇑P	**Pn**	**23 52 25.1**	**-0.7**
MORH				⇓S	**Sb**	**23 52 47.0**	**-0.1**
MOSL	**Moslavina**	**1.60**	**308**	⇑*i*Pn	**Pn**	**23 52 25.4**	**-0.6**
MOSL				*e*Sn	**Sn**	**23 52 46.6**	**-0.1**
MOSL	**Moslavina**	**1.60**	**308**	*e*Pn	**Pn**	**23 52 25.7**	**-0.3**
KIJV	**Kijevo**	**1.65**	**248**	⇑*i*Pn	**Pn**	**23 52 26.9**	**+0.1**
KIJV				*e*Sn	**Sb**	**23 52 49.5**	**+0.3**
KIJV	**Kijevo**	**1.65**	**248**	*e*Pn	**Pb**	**23 52 27.7**	**-0.6**
SUBS	**Subotica**	**1.67**	**28**	*e*Sn	**Sg**	**23 52 52.9**	**+1.2**
SJES	**Sjenica**	**1.72**	**142**	*e*Pn	**Pb**	**23 52 29.4**	**-0.2**
SJES				*e*Sn	**Sg**	**23 52 54.4**	**+1.2**
GRUS	**Gruza**	**1.73**	**115**	*e*Pn	**Pb**	**23 52 29.7**	**0.0**
MAKA	**Makarska**	**1.73**	**220**	*e*Pn	**Pn**	**23 52 28.3**	**+0.4**
STON	**Ston**	**1.86**	**199**	⇑*i*Pn	**Pn**	**23 52 30.7**	**+1.0**
STON				*e*Sn	**Sb**	**23 52 55.0**	**-0.2**
STON	**Ston**	**1.86**	**199**	*e*Pn	**Pn**	**23 52 30.8**	**+1.2**
NKME	**Niksic**	**1.89**	**171**	*e*Pn	**Pn**	**23 52 30.8**	**+0.7**
NKME				*i* Sn	**Sb**	**23 52 57.0**	**+0.9**
KOME	**Kolasin**	**1.92**	**158**	*e*Pn	**Pn**	**23 52 30.9**	**+0.3**
KOME				*i* Sn	**Sb**	**23 52 57.2**	**+0.3**
TREB	**Trebinje**	**1.92**	**184**	⇑*i*Pn	**Pn**	**23 52 31.7**	**+1.2**
TREB				*e*Sn	**Sb**	**23 52 56.6**	**-0.3**
DBRK	**Dubrovnik**	**1.98**	**188**	*e*Pn	**Pn**	**23 52 32.7**	**+1.3**
BANR	**Banloc**	**1.99**	**67**	⇓P	**Pn**	**23 52 32.2**	**+0.8**
BANR				⇑S	**Sb**	**23 52 58.2**	**-0.6**
GOCS	**Kraljevo Serbi**	**2.00**	**122**	*e*Pn	**Pg**	**23 52 35.7**	**-0.5**
IVA	**Berane**	**2.02**	**150**	*e*Pn	**Pn**	**23 52 32.1**	**+0.2**
IVA				*i* Sn	**Sb**	**23 52 59.3**	**-0.5**
VRSS	**Vrsac**	**2.04**	**75**	*e*Pn	**Pn**	**23 52 31.8**	**-0.4**
VRSS				*e*Sn	**Sg**	**23 53 01.7**	**-1.8**
PLIT	**Plitvice**	**2.09**	**278**	*e*Pn	**Pn**	**23 52 33.6**	**+0.8**
KALN	**Kalnik**	**2.09**	**316**	*e*Pn	**Pn**	**23 52 32.7**	**-0.2**
HVAR	**Hvar**	**2.10**	**227**	*e*Pn	**Pb**	**23 52 34.5**	**-1.4**
HCY	**Herceg Novi**	**2.19**	**181**	*e*Pn	**Pn**	**23 52 35.2**	**+1.0**
HCY				*i* Sn	**Sb**	**23 53 04.5**	**0.0**
BEHE	**Becsehely**	**2.21**	**327**	⇑*i*Pn	**Pn**	**23 52 34.6**	**+0.1**
BEHE				*e*Sn	**Sn**	**23 53 01.3**	**-0.5**
LSTV	**Lastovo**	**2.21**	**213**	*i* Pn	**Pn**	**23 52 35.8**	**+1.3**
PTJ	**Puntijarka**	**2.21**	**306**	*e*Pn	**Pn**	**23 52 34.5**	**-0.1**
PDG	**Podgorica**	**2.27**	**166**	⇑P	**Pb**	**23 52 37.4**	**-1.3**
PDG				⇓S	**Sb**	**23 53 08.0**	**+1.2**
PDG	**Podgorica**	**2.27**	**166**	*e*Pn	**Pb**	**23 52 37.1**	**-1.6**
PDG	**Podgorica**	**2.27**	**166**	*e*Pn	**Pn**	**23 52 36.0**	**+0.8**
PDG				*i* Sn	**Sb**	**23 53 05.8**	**-0.9**
MDVR	**Moldovita**	**2.27**	**85**	⇑P	**Pn**	**23 52 35.9**	**+0.5**
MDVR				⇓S	**Sn**	**23 53 05.1**	**+1.7**
ZIRJ	**Zirje**	**2.30**	**246**	*e*Pn	**Pn**	**23 52 36.8**	**+1.1**
LOBO	**Lobor**	**2.31**	**312**	*e*Pn	**Pn**	**23 52 35.5**	**-0.3**
SELS	**Selova**	**2.34**	**126**	*e*Pn	**Pn**	**23 52 36.6**	**+0.3**
SELS				*e*Sn	**Sb**	**23 53 07.9**	**-1.1**
BUM	**Brajici-Budva**	**2.35**	**173**	*e*Pn	**Pn**	**23 52 37.3**	**+0.9**
BUM				*i* Sn	**Sb**	**23 53 08.1**	**-1.1**
OZLJ	**Ozalj**	**2.38**	**295**	*e*Pn	**Pn**	**23 52 37.3**	**+0.5**
OZLJ				*e*Sn	**Sn**	**23 53 06.8**	**+0.8**
BZS	**Buzias**	**2.39**	**65**	⇑P	**Pn**	**23 52 36.1**	**-0.9**
BZS				⇓S	**Sn**	**23 53 06.4**	**+0.1**
BOVS	**Bovan**	**2.49**	**113**	⇓P	**Pn**	**23 52 39.0**	**+0.7**
BOVS				⇑S	**Sb**	**23 53 11.6**	**-1.7**
BOVS	**Bovan**	**2.49**	**113**	*e*Pn	**Pn**	**23 52 38.9**	**+0.6**
BOVS				*e*Sn	**Sg**	**23 53 18.8**	**+0.9**
DRME	**Dracevica, Mon**	**2.49**	**169**	*e*Pn	**Pn**	**23 52 39.1**	**+0.7**
DRME				*i* Sn	**Sb**	**23 53 11.4**	**-1.9**
VIRC	**Vir**	**2.52**	**263**	*e*Pn	**Pn**	**23 52 40.1**	**+1.5**
DUGI	**Dugi Otok**	**2.58**	**257**	*e*Pn	**Pn**	**23 52 41.2**	**+1.7**
NVLJ	**Novalja**	**2.62**	**270**	*e*Pn	**Pn**	**23 52 42.1**	**+2.0**
SIRR	**Siria**	**2.74**	**52**	⇓P	**Pn**	**23 52 41.3**	**-0.5**
SIRR				⇑S	**Sn**	**23 53 15.3**	**+0.4**
SURR	**Surduc**	**2.77**	**65**	⇓P	**Pn**	**23 52 42.8**	**+0.6**
SURR				⇑S	**Sn**	**23 53 15.8**	**+0.1**
ZAGS	**Zajecar**	**2.78**	**106**	*e*Pn	**Pb**	**23 52 45.1**	**-2.5**
BSZH	**Besenyszg**	**2.93**	**24**	⇓S	**Sn**	**23 53 20.5**	**+1.1**
BARS	**Barje**	**2.99**	**126**	*e*Pn	**Pn**	**23 52 45.5**	**+0.3**
GZR	**Gura Zlata**	**3.10**	**74**	⇓P	**Pn**	**23 52 46.4**	**-0.4**
BLKB	**Belogradchik**	**3.15**	**107**	⇓S	**Sn**	**23 53 25.7**	**+0.7**
SRO	**Srobarova**	**3.18**	**357**	*e*PN	**Pn**	**23 52 49.3**	**+1.5**
SRO				*e*SN	**Sn**	**23 53 28.6**	**+2.9**
SOKA	**Soboth**	**3.19**	**311**	*e*Pn	**Pn**	**23 52 47.9**	**-0.2**
	1.7nm,0.3s						
SOKA				*e*Sn	**Sn**	**23 53 25.1**	**-1.0**
	4.8nm,0.4s						
ZAPS	**Zavoj**	**3.26**	**113**	*e*Pn	**Pn**	**23 52 49.0**	**+0.1**
SRE	**Strehaia**	**3.33**	**88**	⇓P	**Pn**	**23 52 49.1**	**-0.8**
ARSA	**Arzberg**	**3.35**	**322**	*e*Pn	**Pn**	**23 52 50.7**	**+0.4**
	18nm,0.4s						
ARSA				*i* Sn	**Sn**	**23 53 28.3**	**-1.8**
	5.8nm,0.3s						
OBKA	**Obir**	**3.37**	**305**	*e*Pn	**Pn**	**23 52 50.8**	**+0.3**
PSZ	**Piszkesteto**	**3.42**	**16**	⇑P	**Pn**	**23 52 50.6**	**-0.6**
PSZ				⇑S	**Sn**	**23 53 31.0**	**-0.6**
BRJN	**Brijuni**	**3.42**	**276**	*e*Pn	**Pn**	**23 52 51.9**	**+0.9**
BRJN				*e*Sn	**Sn**	**23 53 31.7**	**+0.2**
RONA	**Rosalia, Austr**	**3.44**	**334**	*e*Pn	**Pn**	**23 52 51.7**	**+0.3**
	6.7nm,0.4s						
DRGR		**3.63**	**52**	⇑P	**Pn**	**23 52 53.4**	**-0.7**
DRGR				⇑S	**Sn**	**23 53 36.1**	**-0.9**
CONA	**Conrad Observa**	**3.78**	**332**	*e*Pn	**Pn**	**23 52 56.6**	**+0.5**
	2.4nm,0.3s						
MARR	**Marisel-Cluj**	**3.81**	**56**	⇓P	**Pn**	**23 52 56.1**	**-0.4**
MARR				⇑S	**Sn**	**23 53 40.3**	**-1.1**
MODS	**Modra-Piesok**	**3.84**	**347**	*e*PN	**Pn**	**23 52 57.8**	**+0.9**
MODS				*e*SN	**Sn**	**23 53 42.8**	**+0.8**
KECS	**Kecovo**	**4.08**	**19**	*e*PN	**Pn**	**23 53 00.3**	**+0.2**
JAVC	**Velka Javorina**	**4.27**	**352**	*e*PN	**Pn**	**23 53 03.5**	**+0.7**
MOA	**Molln**	**4.37**	**319**	*e*Pn	**Pn**	**23 53 05.2**	**+1.0**
	2.7nm,0.4s						
MOA				*e*Sn	**Sn**	**23 53 54.3**	**-0.8**
	3.3nm,0.3s						
LANS	**Liptovska Anna**	**4.56**	**8**	*e*PN	**Pn**	**23 53 09.2**	**+2.4**
BIOA	**Bad Ischl, Aus**	**4.57**	**314**	*i* Sn	**Sn**	**23 54 00.2**	**+0.2**
	7.6nm,0.5s						
KRUC	**Moravsky**	**4.67**	**342**	*e*PN	**Pn**	**23 53 09.7**	**+1.5**
KRUC				*e*SN	**Sn**	**23 54 01.4**	**-0.9**
VOIR		**4.69**	**78**	⇓P	**Pn**	**23 53 08.5**	**0.0**
VRAC	**Vranov**	**4.86**	**345**	*e*PN	**Pn**	**23 53 12.1**	**+1.2**
VRAC				*e*SN	**Sn**	**23 54 05.3**	**-1.8**
LESA	**Schwarzleotal**	**4.94**	**306**	*e*Pn	**Pn**	**23 53 13.8**	**+1.7**
	1.1nm,0.3s						
LESA				*i* Sn	**Sn**	**23 54 09.0**	**-0.2**
	1.8nm,0.3s						
KOLS	**Kolonicke sedl**	**5.01**	**30**	*e*PG	Pg	23 53 38.4	+4.7
KOLS				*e*SG	**Sg**	**23 54 44.5**	**+6.0**
CKRC	**Cesky Krumlov**	**5.09**	**327**	*e*PN	**Pn**	**23 53 14.8**	**+0.7**
MORC	**Moravsky Berou**	**5.19**	**353**	⇑P	**Pn**	**23 53 15.2**	**-0.2**
MORC				⇓S	**Sn**	**23 54 13.6**	**-1.6**
MORC	**Moravsky Berou**	**5.19**	**353**	*e*PN	**Pn**	**23 53 16.5**	**+1.1**
MORC				*e*SN	**Sn**	**23 54 13.4**	**-1.9**
WTTA	**Wattenberg**	**5.48**	**301**	*e*Pn	**Pn**	**23 53 21.6**	**+2.0**
	0.8nm,0.2s						
KRLC	**Kraliky**	**5.57**	**348**	*e*PN	**Pn**	**23 53 21.6**	**+0.9**
KHC	**Kasperske Hory**	**5.63**	**325**	*e*PN	**Pn**	**23 53 22.6**	**+1.0**
KHC				*e*SN	**Sn**	**23 54 25.6**	**-0.7**
CLL	**Collm**	**7.64**	**333**	*e*Sg	**Sg**	**23 56 06.0**	**+3.2**

HEL 04 00:05:16.6±0.2, 65°.77N×24°.68E, h0km, ML0.7, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.34**	**335**	PG	Pg	00 05 22.3	-0.9
TOF				SG	Sg	00 05 26.1	-1.5
KALU	**Kalix**	**0.55**	**280**	PG	Pg	00 05 26.1	-1.0
KALU				SG	Sg	00 05 33.5	-0.8
OUL	**Oulu**	**0.85**	**143**	PG	Pg	00 05 31.8	-1.1
RANF	**Ranua**	**0.90**	**73**	PG	Pg	00 05 32.7	-1.1
	baz=257						
RANF				SB	Sg	00 05 44.2	-1.2
OBF4	**Vikkela, Lumij**	**0.98**	**169**	PG	Pg	00 05 34.4	-0.8
OBF4				MSG		00 05 46.4	
	comp=Z,0.3nm,0.2s						
RNF	**Rovaniemi**	**1.00**	**32**	PG	Pg	00 05 35.3	-0.4
	baz=212						
ERTU	**Ertsjaerv**	**1.28**	**309**	PG	Pg	00 05 40.0	-1.2
ERTU				SG	Sg	00 05 57.0	-0.8
OBF0	**Syolatti, Pyha**	**1.29**	**189**	PG	Pg	00 05 39.8	-1.5
	baz=12						
OBF0				MSG		00 05 55.5	
	comp=Z,0.6nm,0.2s						
OUF	**Merijarvi**	**1.41**	**179**	PN	Pn	00 05 43.3	-0.1
OUF				MSG		00 05 59.1	
	comp=Z,0.4nm,0.2s						
KU2	**Taivalkoski**	**1.47**	**91**	PG	Pn	00 05 42.7	-1.6
KU2				SN	Sg	00 06 03.3	-0.3
OLKF	**Oulanka, Finla**	**2.00**	**72**	MSG		00 06 16.2	
	comp=Z,0.3nm,0.2s						
OLKF				SG	Sn	00 06 18.3	+1.0
HEMU	**Hemsoen**	**4.25**	**226**	PG	Pb	00 06 32.9	+0.8

CATAC ***04*** *00:31:19.5±1.1, 13°.N±6°×9°.1W±°, h2km±5km, M3.2/9, MLv3.2/9, Error ellipse: s-maj=13.5km s-min=4.7km az=26.5, confirmed*
GCG ***04*** *00:31:20.9±1.2, 13°.43N×90°.80W, h0km±20km, MD4.2, ML3.4*
SNET ***04*** *00:31:21.0, 13°.32N×90°.77W, h5km, ML3.3*
ISC 04 00:31:16.0±2.8, 13°.1N±0°.1×90°.96W±0°.10, h10km, n34, σ0§52/37, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.21**	**49**	P	**Pn**	**00 31 38.8**	**-0.1**
FAME	**Alcaldia de Sa**	**1.21**	**49**	S	**Sb**	**00 31 54.5**	**0.0**
FG8	**Yepocapa, Chim**	**1.26**	**18**	*e*P	**Pg**	**00 31 40.7**	**+0.5**
FG16	**Alotenango, Sa**	**1.29**	**20**	*e*P	**Pg**	**00 31 41.1**	**+0.4**
FG16				IAML		00 32 10.0	
	comp=N,2μm,0.2s						
NUBE	**Las Nubes**	**1.42**	**53**	*e*P	**Pn**	**00 31 42.2**	**+0.2**
NUBE				*e*S	**Sb**	**00 32 01.6**	**+0.6**
NUBE	**Las Nubes**	**1.42**	**53**	*e*P	**Pn**	**00 31 42.2**	**+0.2**
NUBE	**Las Nubes**	**1.42**	**53**	S	**Sn**	**00 32 00.0**	**-0.9**
NUBE	**Las Nubes**	**1.42**	**53**	P	**Pn**	**00 31 42.3**	**+0.2**
LOAL	**Lomas de Alarc**	**1.48**	**50**	*e*P	**Pb**	**00 31 43.5**	**-0.1**
LOAL	**Lomas de Alarc**	**1.48**	**50**	S	**Sn**	**00 32 01.8**	**-0.4**
LOAL	**Lomas de Alarc**	**1.48**	**50**	P	**Pb**	**00 31 43.4**	**-0.2**
CEVE	**Cerro Verde**	**1.51**	**59**	*e*P	**Pb**	**00 31 44.3**	**+0.1**
CEVE				*e*S	**Sg**	**00 32 04.5**	**-0.1**
SBLS	**San Blas**	**1.51**	**59**	*e*P	**Pb**	**00 31 44.2**	**-0.1**
RTR	**El Retiro**	**1.52**	**56**	*e*P	**Pb**	**00 31 44.5**	**0.0**
SNJE	**San Jose**	**1.54**	**58**	*e*P	**Pb**	**00 31 44.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.58**	**68**	*e*P	**Pb**	**00 31 45.4**	**-0.1**
JAYA	**Jayaque - finc**	**1.58**	**68**	*e*P	**Pb**	**00 31 45.2**	**-0.2**
JAYA				*i* S	**Sb**	**00 32 05.8**	**+0.2**
RBDL	**Robledal**	**1.62**	**49**	*e*P	**Pb**	**00 31 45.6**	**-0.5**
UNIC	**Universidad Ca**	**1.65**	**56**	S	**Sn**	**00 32 06.0**	**-0.4**
UNIC	**Universidad Ca**	**1.65**	**56**	P	**Pb**	**00 31 46.2**	**-0.3**
PMON	**Piamonte**	**1.73**	**68**	P	**Pg**	**00 31 48.8**	**-0.3**
PMON	**Piamonte**	**1.73**	**68**	S	**Sb**	**00 32 10.4**	**+0.7**
LOMA	**Loma Larga**	**1.83**	**71**	*e*P	**Pb**	**00 31 49.7**	**0.0**
UDBS	**Universidad Do**	**1.87**	**69**	S	**Sn**	**00 32 12.9**	**+1.0**
LFRS	**El Faro**	**1.93**	**73**	*e*P	**Pb**	**00 31 51.5**	**+0.2**
ESQI	**Esquipulas**	**2.17**	**46**	*e*P	**Pb**	**00 31 54.5**	**-0.9**
ESQI	**Esquipulas**	**2.17**	**46**	S	**Sn**	**00 32 20.4**	**+1.2**
ESQI	**Esquipulas**	**2.17**	**46**	P	**Pb**	**00 31 54.1**	**-1.3**
TECO	**Alcaldia de Te**	**2.17**	**77**	S	**Sb**	**00 32 22.0**	**-0.4**
TECO	**Alcaldia de Te**	**2.17**	**77**	P	**Pb**	**00 31 54.8**	**-0.6**
QUIS	**Sacapulas**	**2.23**	**357**	*i* S	**Sb**	**00 32 23.9**	**-0.2**
QUIS				IAML		00 32 28.9	
	comp=E,323nm,0.5s						
SCLA	**Alcaldia de Sa**	**2.26**	**73**	*e*P	**Pb**	**00 31 56.6**	**-0.3**
SCLA	**Alcaldia de Sa**	**2.26**	**73**	P	**Pb**	**00 31 56.9**	**0.0**
SCLA	**Alcaldia de Sa**	**2.26**	**73**	S	**Sb**	**00 32 24.4**	**-0.6**

IDC ***04*** *00:44:53.3±8.3, 15°.51S×167°.41E, h115km±82km, mb3.5/2, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=75.1km s-min=40.0km az=152.0*
NOU ***04*** *00:44:54.2, 15°.46S×167°.37E, h101km, MLv4.4/10, Vanuatu Islands*
ISC 04 00:44:53.4±1.1, 15°.45S±0°.09×167°.3E±0°.2, h124km, n7, σ1§55/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.11**	**273**	P	**Pn**	**00 45 09.0**	**-1.3**
SANVU	**Saraoutou**	**0.11**	**273**	S	**Sn**	**00 45 20.8**	**-2.3**
DVP	**Devils Point**	**2.41**	**160**	P	**Pn**	**00 45 32.0**	**-0.2**
DZM	**Mont Dzumac**	**6.63**	**187**	P	**Pn**	**00 46 28.3**	**-0.2**
	3.9nm,0.3s,baz=107,slow=12,SNR=34						
DZM				S	**Sn**	**00 47 41.5**	**-1.4**
	8.3nm,0.5s,baz=149,slow=23,SNR=7.7						
	12nm,0.4s						
ASAR	**Alice Springs**	**32.47**	**250**	P	**P**	**00 51 13.4**	**+1.1**
	0.8nm,0.5s,baz=76,slow=7.8,SNR=8.2						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**87.20**	**18**	P	**P**	**00 57 25.8**	**+0.5**
	0.6nm,0.8s,baz=238,slow=5.2,SNR=4.7						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**120.96**	**345**	PKP	**PKiKP**	**01 03 32.1**	**+1.3**
	2.5nm,0.8s,baz=51,slow=1.8,SNR=5.4						

IDC 04 00:45:56.8±4.2, 1°.73S×131°.34E, h0km, mb3.9/3, mbtmp3.8/4, ML3.4/1, MS3.7/2, Error ellipse: s-maj=310.4km s-min=25.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.34**	**171**	P	Pn	00 50 11.7	-1.0
	0.1nm,0.3s,baz=350,slow=11,SNR=1.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**21.95**	**174**	P	P	00 50 52.3	+0.1
	0.5nm,0.6s,baz=355,slow=11,SNR=6.5						
	0.5nm,0.6s						
DZM	**Mont Dzumac**	**39.67**	**123**	LR	LR	01 11 15.9	
	comp=Z,235nm,19.1s,baz=2.0,slow=38						
ASAJ	**Asahikawa**	**46.75**	**11**	LR	LR	01 12 31.9	
	comp=Z,36nm,19.0s,baz=344,slow=34						
MKAR	**Makanchi Array**	**64.64**	**325**	P	P	00 56 36.1	-0.3
	1.8nm,0.6s,baz=116,slow=6.6,SNR=1.6						
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**68.79**	**327**	P	P	00 57 03.2	+0.4
	2

comp=Z,12nm,0.5s,baz=335,slow=11,SNR=58
WRA S **S** **00 55 00.4 -1.6**
comp=Z,3.5nm,1.0s,baz=334,slow=22,SNR=5.1
comp=Z,12nm,0.5s
WR8 Warramunga Arr 22.87 158 P **P** **00 50 55.6 -1.3**
WR8 IAmb IAmb 00 51 01.4
comp=Z,18nm,0.5s
NACB Ninganchiao 23.01 350 P **P** **00 50 57.4 -1.0**
COEN Coen 23.02 132 P **P** **00 50 55.7 -2.8**
COEN IAmb IAmb 00 51 02.4
comp=Z,40nm,1.5s
MBWA Marble Bar 23.16 194 P **P** **00 50 58.0 -1.8**
MBWA IAmb IAmb 00 50 59.7
comp=Z,16nm,0.8s
PSA00 Pilbara Seismi 23.53 194 P **P** **00 51 00.6 -2.8**
PSA00 IAmb IAmb 00 51 04.2
comp=Z,22nm,1.1s
PMG Port Moresby 23.86 117 LR LR 01 03 13.4
comp=Z,35nm,20.5s,baz=230,slow=43
AS31 Alice Springs 26.13 163 P **P** **00 51 26.9 -0.2**
ASAR Alice Springs 26.13 163 P **P** **00 51 27.2 +0.1**
ASAR Alice Springs 26.13 163 P **P** **00 51 27.4 +0.3**
comp=Z,7.8nm,0.4s,baz=344,slow=11,SNR=67
ASAR PcP **PcP** **00 54 54.3 +0.6**
comp=Z,2.5nm,0.5s,baz=347,slow=2.3,SNR=9.9
ASAR S **S** **00 55 54.0 -1.4**
comp=Z,0.2nm,0.3s,baz=95,slow=25,SNR=1.1
comp=Z,7.8nm,0.4s
RPSI Rantau Prapat 26.85 273 P **P** **00 51 32.9 -0.8**
NJ2 Nanjing 31.20 349 *e*P **P** **00 52 13.5 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 31.30 305 P **P** **00 52 13.5 +0.2**
comp=Z,0.5nm,0.3s,baz=116,slow=8.9,SNR=1.6
comp=Z,0.5nm,0.3s
FORT Forrest 32.06 176 P **P** **00 52 17.7 -2.0**
FORT IAmb IAmb 00 52 21.8
comp=Z,10.0nm,0.8s
JMN Monobe 33.07 12 P **P** **00 52 28.1 -0.5**
PZH PanZhiHua 34.01 319 P **P** **00 52 38.4 +1.4**
NWAO Narrogin (SRO) 35.06 193 P **P** **00 52 44.2 -1.6**
KSRS Korea Array 35.95 3 P **P** **00 52 52.8 -0.5**
comp=Z,1.1nm,0.6s,baz=175,slow=10,SNR=2.4
KSRS LR LR 01 07 37.8
comp=Z,6μm,20.9s,baz=210,slow=36
comp=Z,1.1nm,0.6s
STKA Stephens Creek 36.33 157 P **P** **00 52 55.8 -0.9**
STKA Stephens Creek 36.33 157 P **P** **00 52 57.4 +0.7**
comp=Z,10nm,0.7s,baz=322,slow=8.4,SNR=18
comp=Z,10nm,0.7s
MJAR Matsushiro Arr 36.84 17 P **P** **00 53 01.9 +0.9**
MJAR Matsushiro Arr 36.84 17 P **P** **00 53 02.0 +1.1**
comp=Z,1.7nm,0.5s,baz=195,slow=8.6,SNR=5.3
comp=Z,1.7nm,0.5s
LZH Lanzhou 40.07 332 *e*P **P** **00 53 29.9 +1.6**
LZH sP sP 00 53 48.8 +2.4
LZH pmax pmax
comp=Z,15nm,1.0s
ARMA Armidale 40.10 144 P **P** **00 53 27.9 -0.7**
ARMA IAmb IAmb 00 53 36.7
comp=Z,7.3nm,0.7s
SHL Shillong 40.54 309 P **P** **00 53 29.1 -3.3**
SHL IAmb IAmb 00 53 43.6
comp=Z,5.9nm,0.6s
HHC Hu-ho-hao-te 41.34 344 *e*P **P** **00 53 40.3 +1.7**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.8s
USRK Ussuriysk Ar. 42.99 7 P **P** **00 53 52.1 +0.2**
comp=Z,4.7nm,0.6s,baz=202,slow=6.7,SNR=6.2
comp=Z,4.7nm,0.6s
H11S3 WAKE ISLAND Hy 43.59 64 T T 01 41 03.5
baz=252,slow=75,SNR=76
H11S2 WAKE ISLAND Hy 43.60 64 T T 01 41 03.1
baz=252,slow=75,SNR=98
H11S1 WAKE ISLAND Hy 43.60 64 T T 01 41 03.1
baz=252,slow=75,SNR=68
H11N1 WAKE ISLAND Hy 44.16 63 T T 01 41 49.2
baz=240,slow=78,SNR=18
H11N2 WAKE ISLAND Hy 44.17 63 T T 01 41 48.6
baz=240,slow=78,SNR=9.6
H11N3 WAKE ISLAND Hy 44.18 63 T T 01 41 49.8
baz=240,slow=78,SNR=16
PALK Pallekele 45.28 279 LR LR 01 14 47.8
comp=Z,61nm,19.5s,baz=102,slow=38
LHI Lord Howe Isla 45.49 139 P **P** **00 54 10.2 -1.9**
EVN Everest 45.65 309 **P** **00 54 12.6 -1.7**
EVN IAmb IAmb 00 54 26.2
comp=Z,5.9nm,0.9s
SONM Songino Array 49.22 343 P **P** **00 54 41.4 +0.3**
comp=Z,0.5nm,0.4s,baz=156,slow=11,SNR=1.9
SONM LR LR 01 16 34.2
comp=Z,57nm,21.2s,baz=332,slow=37
comp=Z,0.5nm,0.4s
PETK Petropavlovsk- 57.96 22 P **P** **00 55 46.9 +2.2**
comp=Z,4.6nm,0.9s,baz=222,slow=7.0,SNR=8.3
comp=Z,4.6nm,0.9s
MKAR Makanchi Array 58.94 327 P **P** **00 55 50.4 -1.4**
comp=Z,2.3nm,0.4s,baz=121,slow=7.3,SNR=35
MKAR PcP **PcP** **00 56 40.6 +0.1**
comp=Z,1.8nm,0.6s,baz=134,slow=4.2,SNR=5.5
comp=Z,2.3nm,0.4s
AAK Ala-Archa 61.46 319 LR LR 01 25 23.3
comp=Z,56nm,18.9s,baz=358,slow=39
ZALV Zalesovo Beam 62.24 334 P **P** **00 56 12.4 -1.6**
comp=Z,0.5nm,0.4s,baz=134,slow=8.4,SNR=2.2
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 63.20 328 P **P** **00 56 18.9 -1.6**
comp=Z,2.4nm,0.5s,baz=128,slow=6.4,SNR=29
comp=Z,2.4nm,0.5s
KURK Kurchatov 63.20 329 **P** **00 56 18.6 -1.9**
KURK IAmb IAmb 00 56 20.0
comp=Z,5.1nm,0.5s
BVAR Borovoye Array 68.76 328 P **P** **00 56 54.7 -1.5**
comp=Z,0.8nm,0.4s,baz=150,slow=12,SNR=2.3
comp=Z,0.8nm,0.4s
GAMB Gambell 76.92 24 P **P** **00 57 44.9 +0.6**
baz=246
M11K Mekoryuk 78.08 28 P **P** **00 57 51.3 +0.4**
baz=251
S12K Black Hills 78.88 33 P **P** **00 57 56.0 +0.6**
baz=256
M13K Dall Lake 79.44 28 P **P** **00 57 58.5 +0.2**
baz=254
SDPT Sand Point 79.67 34 P **P** **00 58 00.1 +0.4**
baz=257
ANM Nome 79.79 24 P **P** **00 58 00.0 -0.2**
baz=251
J14K Nanvaranak Lak 80.01 26 P **P** **00 58 01.6 +0.2**
baz=253
L14K Kuka Creek 80.01 28 P **P** **00 58 02.3 +0.8**
baz=254
N14K Kuskokwak Cree 80.12 29 P **P** **00 58 02.7 +0.7**
baz=256
M14K Bethel 80.20 28 P **P** **00 58 03.6 +1.2**
baz=255
F15K North Star Dit 80.44 23 P **P** **00 58 05.3 +1.5**
baz=252
G15K Niukluk 80.47 24 P **P** **00 58 05.2 +1.3**
baz=252
L15K Ungalak Mounta 80.66 27 P **P** **00 58 05.9 +1.0**
baz=255
M15K Kasigluk River 80.79 29 P **P** **00 58 06.7 +1.1**
baz=256
K15K Wolf Creek Mou 80.79 27 P **P** **00 58 06.9 +1.2**
baz=255
O15K Ungalikthiuk R 80.86 30 P **P** **00 58 06.5 +0.5**
baz=257
N15K Kwethluk River 80.95 29 P **P** **00 58 07.7 +1.2**
baz=257
CHGN Chignik 81.01 33 P **P** **00 58 08.2 +1.4**
baz=259
C16K Lisburne Hills 81.01 21 P **P** **00 58 08.0 +1.4**
baz=251
H16K Elim 81.10 24 P **P** **00 58 08.0 +0.7**
baz=254
MAW Mawson 81.23 200 P **P** **00 58 08.8 +1.1**
comp=Z,2.2nm,0.7s,baz=100,slow=7.2,SNR=8.1
comp=Z,2.2nm,0.7s
VNDA Vanda 81.24 173 **P** **00 58 08.6 +0.9**
VNDA Vanda 81.24 173 P **P** **00 58 09.3 +1.6**
comp=Z,1.0nm,0.5s,baz=328,slow=6.7,SNR=10
comp=Z,1.0nm,0.5s
G16K Koyuk River 81.27 24 P **P** **00 58 08.6 +0.5**
baz=254
J16K Anvik River 81.45 26 P **P** **00 58 10.0 +0.9**
baz=256
I17K Unalakleet 81.56 25 P **P** **00 58 09.9 +0.3**
baz=256
L16K Owhat River 81.59 28 P **P** **00 58 11.2 +1.3**
baz=257,SNR=6.6
D17K Noatak River 81.64 21 P **P** **00 58 11.8 +1.8**
baz=253
N16K Nishlik Lake 81.66 29 P **P** **00 58 11.6 +1.2**
baz=258
M16K Timber Creek 81.69 28 P **P** **00 58 11.7 +1.3**
baz=258
R16K Pilot Point 81.70 32 P **P** **00 58 12.2 +1.7**
baz=259
O16K Kokwok River B 81.82 30 P **P** **00 58 12.5 +1.4**
baz=259
C17K DeLong Mountai 81.84 21 P **P** **00 58 12.0 +1.0**
baz=253
E17K Hotham Inlet 81.93 22 P **P** **00 58 13.2 +1.6**
baz=254
G17K Kiwalik Mounta 81.98 24 P **P** **00 58 12.8 +0.9**
baz=256
F17K Baldwin Pennin 81.98 23 P **P** **00 58 12.7 +0.9**
baz=255
H17K Granite Mounta 82.14 24 P **P** **00 58 14.2 +1.5**
baz=256
J17K VABM Dome 82.15 26 P **P** **00 58 14.3 +1.6**
baz=257
L17K Donlin 82.23 27 P **P** **00 58 14.6 +1.4**
baz=258
K17K Iditarod 82.35 27 P **P** **00 58 13.9 +0.1**
baz=258,SNR=8.1
O17K Koliganek Bris 82.35 30 P **P** **00 58 13.8 -0.1**
baz=260
R17L Mt. Peulik Vol 82.35 32 P **P** **00 58 13.8 -0.2**
baz=260
N17K Nushagak Hills 82.44 29 P **P** **00 58 14.9 +0.6**
baz=259
CHIR Chirikof Islan 82.47 34 P **P** **00 58 14.5 -0.1**
baz=261
E18K Tukpahlearik C 82.48 22 P **P** **00 58 15.2 +0.7**
baz=255
M17K Holitna River 82.48 28 P **P** **00 58 14.8 +0.2**
baz=259
B18K Kokolik River 82.57 20 P **P** **00 58 15.7 +0.9**
baz=254
F18K Selawik 82.64 23 P **P** **00 58 16.7 +1.4**
baz=256
Q17K Contact Creek 82.70 31 P **P** **00 58 16.3 +0.4**
baz=261,SNR=5.0
H18K Honhosa River 82.83 24 P **P** **00 58 17.5 +1.2**
baz=258
G18K Tagagawik 82.88 24 P **P** **00 58 17.2 +0.6**
baz=257
L18K Granite Mounta 82.99 27 P **P** **00 58 18.4 +1.3**
baz=260
A19K Wainwright 83.04 19 P **P** **00 58 17.9 +0.7**
baz=255
N18K Kilae Creek 83.10 29 P **P** **00 58 20.0 +2.2**
baz=260
J18K Innoko River 83.20 26 P **P** **00 58 20.7 +2.4**
baz=259,SNR=8.3
P18K Big Mountain, 83.22 30 P **P** **00 58 19.4 +0.9**
baz=261
Q18K Katmai Hardscr 83.22 31 P **P** **00 58 19.5 +0.9**
baz=262
M18K Stony River 83.26 28 P **P** **00 58 20.4 +1.8**
baz=260,SNR=7.2
C19K Lookout Ridge 83.27 20 P **P** **00 58 20.4 +1.9**
baz=256
O18K Koktuh Hills 83.30 30 P **P** **00 58 20.2 +1.3**
baz=261
SII Sitkinak Islan 83.37 33 P **P** **00 58 19.5 +0.2**
baz=262
GCSA Gale City Sc 83.37 25 P **P** **00 58 20.7 +1.7**
baz=259
F19K Shaleruckik Mo 83.42 23 P **P** **00 58 20.6 +1.3**
baz=258
D19K Kuna River 83.65 21 P **P** **00 58 22.8 +2.3**
baz=258
H19K Roundabout Mou 83.69 24 P **P** **00 58 23.3 +2.6**
baz=259,SNR=10
E19K Redstone River 83.76 22 P **P** **00 58 23.4 +2.3**
baz=258,SNR=9.6
J19K Poorman 83.78 26 P **P** **00 58 23.4 +2.2**
baz=260,SNR=5.1
O19K Port Alsworth 83.79 30 P **P** **00 58 23.7 +2.4**
baz=262
N19K Bonanza Creek 83.80 29 P **P** **00 58 23.5 +2.0**
baz=262,SNR=9.5
L19K White Mountain 83.83 28 P **P** **00 58 23.7 +2.2**
baz=261
OHAK Old Harbor 83.94 33 P **P** **00 58 24.2 +2.1**
baz=263
D20K Etivluk River 84.23 21 P **P** **00 58 25.7 +2.2**
baz=259
F20K Avaraart Lake 84.26 23 P **P** **00 58 25.7 +2.1**
baz=260
B20K Meade River 84.30 20 P **P** **00 58 26.0 +2.3**
baz=258
E20K Nigu River 84.30 21 P **P** **00 58 26.1 +2.3**
baz=259,SNR=6.5
L20K Farewell, AK 84.32 27 P **P** **00 58 25.9 +1.8**
baz=262
H20K Anotleneega Mo 84.33 24 P **P** **00 58 26.2 +2.2**
baz=261
K20K Telida 84.36 27 P **P** **00 58 26.1 +1.9**
baz=262
KDAK Kodiak Island 84.38 32 P **P** **00 58 26.0 +1.6**
baz=264
I20K Naaghedeneel 84.39 25 P **P** **00 58 26.1 +1.9**
baz=261
J20K Nowinta River 84.44 26 P **P** **00 58 26.4 +1.8**
baz=262
M20K Styx River 84.59 28 P **P** **00 58 27.2 +1.8**
baz=263
N20K Mount Spurr 84.95 29 P **P** **00 58 28.7 +1.4**
baz=264
C21K Knifeblade Rid 84.96 21 P **P** **00 58 29.2 +2.1**
baz=261
G21K Allakaket 85.04 23 P **P** **00 58 29.4 +1.8**
baz=262
B21K Ikpikpuk River 85.10 20 P **P** **00 58 29.8 +2.0**
baz=261
E21K Killik River 85.14 21 P **P** **00 58 29.9 +1.8**
baz=262
PPLA Purkeypile 85.15 27 P **P** **00 58 30.1 +1.8**
baz=264
F21K Alatna River 85.15 23 P **P** **00 58 29.9 +1.8**
baz=262
CHUM Lake Minchumin 85.20 26 P **P** **00 58 30.2 +1.8**
baz=263
A22K Sinclair Lake 85.20 19 P **P** **00 58 29.9 +1.6**
baz=260
H21K Melozitna Rive 85.21 24 P **P** **00 58 30.0 +1.6**
baz=263
SKT Skwentna 85.35 28 P **P** **00 58 30.6 +1.4**
baz=264
I21K Tanana 85.50 25 P **P** **00 58 31.2 +1.4**
baz=264
BRSE Bradley Lake S 85.53 30 P **P** **00 58 31.8 +1.7**
baz=265
B22K Teshekpuk Lake 85.61 20 P **P** **00 58 31.9 +1.6**
baz=262
D22K Ayikyak River 85.67 21 P **P** **00 58 32.9 +2.3**
baz=263
SUA Susitna One 85.68 29 P **P** **00 58 32.9 +1.9**
baz=265
F22K John River 85.69 22 P **P** **00 58 32.2 +1.5**
baz=263
BPAW Bear Paw Mtn. 85.81 26 P **P** **00 58 32.6 +1.1**
baz=265
H22K Ishtalitna Cre 85.82 24 P **P** **00 58 33.4 +1.9**
baz=264
G22K Bettles 85.88 23 P **P** **00 58 33.6 +1.9**
baz=264
E22K Anaktuvuk Pass 85.90 22 P **P** **00 58 34.0 +2.1**
baz=264
MLY Manley 86.00 25 P **P** **00 58 34.3 +1.9**
baz=265
TRF Thorofare Moun 86.06 27 P **P** **00 58 34.5 +1.6**
baz=265
RC01 Rabbit Creek A 86.13 29 P **P** **00 58 34.9 +1.8**
baz=266
SEW Seward 86.20 30 P **P** **00 58 35.1 +1.7**
baz=266
D23K Nanushuk River 86.40 21 P **P** **00 58 36.5 +2.3**
baz=264
COLD Coldfoot 86.42 23 P **P** **00 58 36.5 +2.1**
baz=265
G23K Bananza Creek 86.44 23 P **P** **00 58 35.8 +1.3**
baz=265
C23K Itkillik River 86.51 20 P **P** **00 58 36.1 +1.4**
baz=264
H23K Yukon River 86.57 24 P **P** **00 58 37.0 +1.8**
baz=266
I23K Minto, Yukon-K 86.59 25 P **P** **00 58 37.0 +1.8**
baz=266
NEA2 Nenana 86.68 26 P **P** **00 58 37.3 +1.6**
baz=266
MCK McKinley 86.69 26 P **P** **00 58 37.6 +1.8**
baz=266
E23K Chandalar 86.71 22 P **P** **00 58 37.2 +1.3**
baz=266
KNK Knik Glacier 86.77 29 P **P** **00 58 37.3 +1.1**
baz=267
TOLK Toolik Lake Re 86.77 21 P **P** **00 58 37.9 +1.7**
baz=266
PWL Port Wells 86.80 29 P **P** **00 58 37.6 +1.2**
baz=267
WAT1 Susitna Watana 86.80 27 P **P** **00 58 37.8 +1.4**
baz=267
SML Sawmill 86.85 28 P **P** **00 58 37.6 +0.9**
baz=267
FURI Furi 86.90 279 LR LR 01 39 18.6
comp=Z,25nm,18.1s,baz=342,slow=37
D24K Happy Valley 87.08 21 P **P** **00 58 38.9 +1.4**
baz=266
E24K Your Creek 87.14 22 P **P** **00 58 39.4 +1.5**
baz=267
M23K Glacier View 87.14 28 P **P** **00 58 39.5 +1.5**
baz=268
C24K Franklin Bluff 87.16 20 P **P** **00 58 39.0 +1.0**
baz=266
WAT6 Susitna Watana 87.17 28 P **P** **00 58 39.4 +1.1**
baz=268
H24K Noodor Dome 87.25 24 P **P** **00 58 40.2 +1.7**
baz=267
SCM Sheep Creek Mo 87.33 28 P **P** **00 58 40.2 +1.2**
baz=268
F24K Squaw Lake 87.33 23 P **P** **00 58 40.1 +1.2**
baz=267
DHY Denali Highway 87.35 27 P **P** **00 58 40.2 +1.0**
baz=268
POKR Poker Plat Res 87.41 25 P **P** **00 58 40.5 +1.2**
baz=268
GLI Glacier Island 87.41 29 P **P** **00 58 40.5 +1.2**
baz=268
G24K Hadweenzic Riv 87.46 23 P **P** **00 58 40.6 +1.1**
baz=268
HDA Harding Lake 87.59 26 P **P** **00 58 40.4 +0.3**
baz=268
ILAR Eielson Array 87.63 25 P **P** **00 58 39.8 -0.5**
comp=Z,0.8nm,0.6s,baz=243,slow=4.6,SNR=10
comp=Z,0.8nm,0.6s
M24K Tolsona, Glenn 87.88 28 P **P** **00 58 42.0 +0.4**
baz=269
D25K Kavik River 87.96 21 P **P** **00 58 43.0 +1.1**
baz=268
KLU Klutina 87.99 29 P **P** **00 58 43.0 +0.8**
baz=269
G25K Bearman Lake 88.00 23 P **P** **00 58 42.8 +0.8**
baz=269
EYAK Cordova Ski Ar 88.06 30 P **P** **00 58 43.7 +1.3**
baz=269
K24K Donnelly Dome 88.09 26 P **P** **00 58 43.9 +1.4**
baz=269
H25L Birch Creek 88.11 24 P **P** **00 58 44.1 +1.6**
baz=269
F25K Christian Rive 88.20 23 P **P** **00 58 44.7 +1.6**
baz=269
PAX Paxson 88.22 27 P **P** **00 58 44.4 +1.2**
baz=270
E25K Arctic Village 88.23 22 P **P** **00 58 44.1 +1.0**
baz=269
J25K Salcha River, 88.28 26 P **P** **00 58 44.0 +0.5**
baz=270
HARP HAARP 88.36 28 P **P** **00 58 44.1 +0.2**
baz=270
RIDG Independent Ri 88.50 26 P **P** **00 58 45.3 +0.8**
baz=270
KMBO Kilima Mbogo 88.53 269 P **P** **00 58 46.1 +0.1**
comp=Z,3.5nm,0.6s,baz=84,slow=6.4,SNR=6.8
comp=Z,3.5nm,0.6s
BMRM Bremner River 88.63 29 P **P** **00 58 46.9 +1.7**
baz=270
KAIM Kayak Island 88.73 30 P **P** **00 58 47.5 +1.9**
baz=271
F26K Sheenjek River 88.77 22 P **P** **00 58 47.1 +1.4**
baz=271
SCRK Sand Creek 88.88 26 P **P** **00 58 47.5 +1.1**
baz=271
C27K Jago River 88.90 21 P **P** **00 58 47.5 +1.3**
baz=271
G26K Porcupine Rive 88.92 23 P **P** **00 58 47.8 +1.5**
baz=271
J26L Joseph Creek 89.06 26 P **P** **00 58 48.2 +1.1**
baz=271
BNN Bunyan 89.07 309 P P 00 58 41.3 -6.6
BNN IAmb IAmb 00 59 01.2
comp=Z,3.6nm,0.6s
I26K Coal Creek Min 89.21 25 P **P** **00 58 46.7 -1.1**
I26K IAmb IAmb 00 59 13.0
comp=Z,3.9nm,1.2s
I26K Coal Creek Min 89.21 25 P **P** **00 58 49.2 +1.4**
baz=272
M26K Nabesna, AK 89.37 28 P **P** **00 58 49.7 +1.1**
baz=272
CRQE Cirque 89.37 29 P **P** **00 58 50.0 +1.3**
baz=272
MCARA McCarthy VSAT 89.38 29 P **P** **00 58 50.6 +1.9**
baz=272
E27K Coleen River 89.72 22 P **P** **00 58 52.2 +2.1**
baz=273
K27K Chicken 89.72 26 P **P** **00 58 52.6 +2.4**
baz=273
G27K Doyon Strip 89.77 23 P **P** **00 58 52.5 +2.2**
baz=273
I27K Kandik River 89.84 25 P **P** **00 58 52.3 +1.5**
baz=273
L27K Beaver Creek, 89.88 27 P **P** **00 58 52.7 +1.8**
baz=273
D27M Malcolm River 89.89 21 P **P** **00 58 52.5 +1.6**
baz=274
M27K Edge Creek, AK 89.89 28 P **P** **00 58 52.9 +1.7**
baz=273
MESA MESA 89.96 30 P **P** **00 58 53.1 +1.5**
baz=273
EGAK Eagle 90.08 25 P **P** **00 58 53.2 +1.4**
baz=273
CTG Chitna Glacier 90.22 29 P **P** **00 58 54.1 +1.3**
baz=273
F28M Old Crow 90.41 22 P **P** **00 58 54.8 +1.5**
baz=275
E28M Babbage River 90.45 21 P **P** **00 58 54.7 +1.2**
baz=275
I28M Miner Creek 90.55 25 P **P** **00 58 55.4 +1.2**
baz=274
D28M Stokes Point 90.67 21 P **P** **00 58 54.8 +0.4**
baz=276
O28M Mount Upton 90.79 29 P **P** **00 58 57.1 +1.5**
baz=274
YUK8 Steele Glacier 90.96 29 P **P** **00 58 58.1 +1.7**
baz=275
E29M Blow River 91.07 22 P **P** **00 58 57.4 +1.1**
baz=276
G29M Pine Creek 91.19 23 P **P** **00 58 57.6 +0.7**
baz=276
I29M Ogilvie Camp, 91.24 25 P **P** **00 58 57.9 +0.6**
baz=276
QSPA South Pole Qui 91.30 180 P **P** **00 59 00.6 +3.0**
comp=Z,0.6nm,0.6s,baz=80,slow=7.0,SNR=2.1
M29M Somme Creek 91.47 28 **P** **00 58 59.9 +1.5**
M29M IAmb IAmb 00 59 01.5
comp=Z,3.1nm,0.7s
M29M Somme Creek 91.47 28 P **P** **00 58 60.0 +1.5**
baz=276
YUK4 Talbot Arm 91.49 29 P **P** **00 59 00.5 +1.7**
baz=276
L29M L29M 91.55 27 **P** **00 58 59.8 +1.0**
L29M L29M 91.55 27 P **P** **00 59 00.6 +1.8**
baz=276
O29M Mount Kennedy 91.63 30 P **P** **00 59 00.5 +1.2**
baz=276
YUK6 Outpost Mounta 91.67 29 P **P** **00 59 00.4 +0.8**
baz=276
K29M Barlow Dome 91.74 26 P **P** **00 59 00.3 +0.6**
K29M IAmb IAmb 00 59 28.6

comp=Z,5.1nm,1.2s
K29M Barlow Dome 91.74 26 P **P 00 59 00.6 +0.9**
baz=277
EPYK Eagle Plains 91.77 24 P **P 00 59 00.3 +0.6**
EPYK Eagle Plains 91.77 24 P **P 00 59 00.9 +1.2**
baz=278
G30M tAoh Zraii Nji 91.88 23 P **P 00 59 01.5 +1.3**
baz=278
F30M Barrier River 91.96 22 P **P 00 59 01.5 +1.0**
baz=278
I30M Mount Dempster 92.06 25 P **P 00 59 01.8 +0.6**
I30M IAmb IAmb 00 59 11.8
comp=Z,4.2nm,1.1s
I30M Mount Dempster 92.06 25 P **P 00 59 03.1 +1.9**
baz=278
HYT Haines Junctio 92.10 29 P **P 00 59 02.3 +0.8**
HYT IAmb IAmb 00 59 10.5
comp=Z,3.5nm,1.0s
HYT Haines Junctio 92.10 29 P **P 00 59 02.9 +1.4**
baz=277
P29M Windy Craggy 92.12 30 P **P 00 59 02.8 +1.4**
baz=276
J30M Hart River 92.17 25 P **P 00 59 03.3 +1.6**
baz=278
M30M Minto, Yukon 92.22 27 P **P 00 59 03.4 +1.5**
baz=277
N30M Aishikik Lake 92.22 28 P **P 00 59 03.2 +1.3**
baz=277
ARCES ARCESS Array B 92.30 340 P **P 00 58 59.2 -2.9**
ARCES ARCESS Array B 92.30 340 P **P 00 59 01.6 -0.5**
comp=Z,1.4nm,0.7s,baz=79,slow=6.4,SNR=6.4
comp=Z,1.4nm,0.7s
INK Inuvik 92.69 21 P **P 00 59 01.6 -2.3**
INK Inuvik 92.69 21 P **P 00 59 04.7 +0.9**
baz=280
H31M Peel River 92.81 24 P **P 00 59 05.0 +0.5**
N31M Braeburn, Yuko 92.84 28 P **P 00 59 06.7 +2.0**
baz=278
S31K Pelican 93.10 32 P **P 00 59 06.3 +0.4**
baz=278
SKAG Skagway 93.36 30 P **P 00 59 09.0 +1.9**
baz=278
M31M Drury Creek, Y 93.39 28 P **P 00 59 08.7 +1.5**
baz=279
WHY Whitehorse 93.40 29 P **P 00 59 09.3 +1.8**
baz=279
FINES FINESS Array B 93.43 332 P **P 00 59 05.9 -1.5**
comp=Z,2.5nm,0.9s,baz=56,slow=4.8,SNR=8.6
comp=Z,2.5nm,0.9s
SIT Sitka 93.70 33 P **P 00 59 10.5 +1.7**
baz=278
R32K Eaglecrest 93.95 31 P **P 00 59 10.9 +1.0**
baz=279
P32M Atlin 94.15 30 P **P 00 59 11.9 +1.1**
baz=280
N32M Quiet Lake 94.18 28 P **P 00 59 12.6 +1.7**
baz=280
P33M Teslin, Yukon 94.48 29 P **P 00 59 14.1 +1.7**
baz=281
A36M Sachs Harbour 94.50 17 P **P 00 59 13.9 +1.8**
baz=289
MMPY Sheldon Lake, 94.74 27 P **P 00 59 15.3 +1.9**
baz=282
R33M Jennings River 95.56 30 P **P 00 59 18.9 +1.5**
baz=282
BUR08 Bucovina Ar. S 96.10 318 **P 00 59 19.3 -0.8**
BUR08 IAmb IAmb 00 59 40.9
comp=Z,5.5nm,1.2s
TGTN Hyland Airport 96.36 28 P **P 00 59 22.7 +1.8**
baz=285
WTLY Watson Lake, Y 96.47 29 P **P 00 59 23.3 +1.9**
baz=284
BOSA Boshof 99.88 241 LR LR 01 44 09.8
comp=Z,46nm,18.2s,baz=18,slow=35
TORD Torodi Ar. Bea 122.69 286 PKP **PKPdf 01 04 49.0 +0.1**
comp=Z,2.0nm,0.7s,baz=44,slow=3.6,SNR=13
TXAR Lajitas Array 123.79 53 PKP **PKiKP 01 04 52.9 +1.8**
comp=Z,0.6nm,0.7s,baz=348,slow=1.8,SNR=5.1
PLCA Paso Flores 138.13 161 PKP **PKPdf 01 05 18.4 +0.8**
comp=Z,5.1nm,1.2s,baz=155,slow=11,SNR=3.6
CFA Coronel Fontan 147.16 158 PKPbc **PKPbc 01 05 36.5 +0.6**
comp=Z,1.8nm,0.7s,baz=198,slow=5.5,SNR=5.7
LPAZ La Paz 159.83 138 PKP **PKPdf 01 05 54.0 +1.1**
comp=Z,1.4nm,0.7s,baz=37,slow=11,SNR=3.9

*NEIC **04** 00:53:54.4±1.7, 56°.33N±0°.03×156°.18W±0°.02, h35km±2km, Error ellipse: s-maj=5.7km s-min=3.1km az=178.0*
AEIC 04 00:53:55.3±1.3, 56°.34N±0°.04×156°.13W±0°.06, h60km±8km, ML2.9, ML3.0/58(NEIC), **Error ellipse: s-maj=6.0km s-min=5.3km az=177.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.60**	**151**		Pn	00 54 07.9	-0.4
CHIR				Sn	Sn	00 54 18.0	+0.2
CHIR				IAML		00 54 18.4	
comp=E,685nm,0.7s							
CHIR				IAML		00 54 18.7	
comp=N,599nm,0.3s							
SII	**Sitkinak Islan**	**1.10**	**78**		Pn	00 54 14.0	-0.7
SII				Sn	Sn	00 54 28.2	-0.9
SII				IAML		00 54 30.8	
comp=N,392nm,0.3s							
SII				IAML		00 54 31.0	
comp=E,392nm,0.4s							
ANPK	**Aniakchak Peak**	**1.21**	**295**		Pn	00 54 15.2	-1.0
CHGN	**Chignik**	**1.27**	**269**		Pn	00 54 15.8	-1.1
CHGN				Sn	Sn	00 54 31.2	-1.7
ANPB	**Aniakchak Plen**	**1.27**	**292**		Pn	00 54 15.9	-1.1
AZAC	**Aniakchak**	**1.28**	**296**		Pn	00 54 16.5	-0.7
PLK4	**Peulik 4**	**1.30**	**355**		Pn	00 54 16.9	-0.4
PLK4					Sn	00 54 33.4	-0.4
PLK3	**Peulik 3**	**1.35**	**357**		Pn	00 54 17.7	-0.3
PLK3					Sn	00 54 35.1	+0.1
PLBL	**Peulik Blue Cr**	**1.41**	**345**		Pn	00 54 18.3	-0.5
PLK2	**Peulik 2**	**1.43**	**356**		Pn	00 54 18.9	-0.1
R16K	**Pilot Point**	**1.46**	**328**	Pn	Pn	00 54 18.3	-1.1
R16K				IAML		00 54 37.9	
comp=E,185nm,0.5s							
R16K				IAML		00 54 59.1	
comp=N,163nm,1.0s							
PLK1	**Peulik 1**	**1.48**	**350**		Sn	00 54 37.1	-0.9
PLK5	**Peulik 5**	**1.71**	**347**		Pn	00 54 22.1	-0.6
VNNF	**Veniaminof 3**	**1.77**	**269**		Pn	00 54 23.8	0.0
VNKR	**Veniaminof 5**	**1.83**	**261**		Pn	00 54 24.3	-0.2
MGLS	**Mageik Landsli**	**1.87**	**16**		Pn	00 54 24.1	-0.9
ANCK	**Angle Creek**	**1.89**	**10**		Pn	00 54 24.6	-0.8
VNFG	**Fog Glacier, M**	**1.91**	**270**		Pn	00 54 25.1	-0.4
VNFG	**Fog Glacier, M**	**1.91**	**270**	IAML		00 54 58.0	
comp=N,236nm,0.7s							
VNFG				IAML		00 55 00.8	
comp=E,228nm,0.6s							
ACHA	**Angle Creek He**	**1.92**	**13**		Pn	00 54 24.9	-0.9
CNTC	**Contact Creek**	**1.93**	**4**		Sn	00 54 47.5	-1.6
VNSW	**Veniaminof 7**	**1.93**	**263**		Pn	00 54 25.4	-0.4
KABU	**Katmai Buttres**	**1.99**	**13**		Pn	00 54 25.9	-0.7
KAWH	**Katmai**	**2.17**	**19**		Sn	00 54 53.1	-1.7
KARR	**Katmai Rainbow**	**2.29**	**19**		Pn	00 54 29.9	-0.9
KAHG	**Katmai Hook Gl**	**2.32**	**21**		Pn	00 54 30.5	-0.6
KAHC	**Katmai Hardscr**	**2.39**	**14**		Pn	00 54 31.3	-0.8
KDAK	**Kodiak Island**	**2.42**	**52**		Pn	00 54 31.1	-1.3
KDAK				IAML		00 54 58.6	
comp=E,42nm,0.4s							
KDAK				IAML		00 54 59.2	
comp=E,38nm,0.4s							
KDAK	**Kodiak Island**	**2.42**	**52**		Sn	00 54 57.3	-3.5
CNBA	**Chernabura Isl**	**2.49**	**234**	Pn	Pn	00 54 31.3	-2.0
SDPT	**Sand Point**	**2.64**	**250**	Pn	Pn	00 54 33.3	-2.1
SDPT				IAML		00 55 08.1	
comp=E,44nm,0.6s							
SDPT				IAML		00 55 12.0	
comp=N,59nm,0.5s							
SDPT	**Sand Point**	**2.64**	**250**		Sn	00 55 04.3	-2.0
P17K	**Kvichak River**	**2.86**	**357**		Pn	00 54 37.4	-1.1
P16K	**Nushagak River**	**2.87**	**340**	Pn	Pn	00 54 36.8	-1.8
P18K	**Big Mountain,**	**3.09**	**9**	Pn	Pn	00 54 40.3	-1.4
PS1A	**Pavlof South-1**	**3.29**	**256**		Pn	00 54 44.0	-0.4
PS4A	**Pavlof South-4**	**3.38**	**255**		Pn	00 54 44.9	-0.7
S12K	**Black Hills**	**3.39**	**262**	Pn	Pn	00 54 43.9	-1.8
S12K				IAML		00 55 27.5	
comp=E,50nm,0.6s							
HAG	**Hague Volcano**	**3.41**	**255**		Pn	00 54 45.4	-0.6
O16K	**Kokwok River B**	**3.42**	**343**		Pn	00 54 44.9	-1.2
PN7A	**Pavlof North-7**	**3.43**	**257**		Pn	00 54 45.9	-0.4
DOL	**Dolgoi Island**	**3.45**	**252**		Pn	00 54 45.4	-1.2
O15K	**Ungalikthiuk R**	**3.46**	**327**		Pn	00 54 45.8	-0.9
O15K				IAML		00 55 25.1	
comp=N,22nm,1.1s							
O15K				IAML		00 55 27.5	
comp=E,22nm,0.8s							
O17K	**Koliganek Bris**	**3.48**	**352**		Pn	00 54 45.7	-1.2
O18K	**Koktuh Hills**	**3.55**	**8**		Pn	00 54 46.9	-1.0
DT1	**Dutton Round H**	**3.69**	**253**		Pn	00 54 49.0	-0.8
ILSW	**Iliamna Southw**	**3.98**	**22**		Pn	00 54 52.5	-1.3
ILSW				IAML		00 55 39.1	
comp=E,10nm,0.8s							
O14K	**Tigyukauivet M**	**4.00**	**319**	Pn	Pn	00 54 52.5	-1.5
O14K				IAML		00 55 48.8	
comp=E,12nm,1.3s							
O14K				IAML		00 56 05.2	
comp=N,12nm,1.4s							
CNPM	**China Poot**	**4.12**	**37**	Pn	Pn	00 54 54.0	-1.7
CNPM				IAML		00 55 39.8	
comp=E,11nm,1.2s							
CNPM				IAML		00 55 40.7	
comp=N,13nm,1.0s							
N17K	**Nushagak Hills**	**4.23**	**353**	Pn	Pn	00 54 55.7	-1.4
N17K				IAML		00 55 55.9	
comp=N,10nm,0.6s							
N17K				IAML		00 56 16.3	
comp=E,11nm,0.9s							
N18K	**Kilae Creek**	**4.35**	**2**	Pn	Pn	00 54 57.4	-1.5
N15K	**Kwethluk River**	**4.37**	**333**	Pn	Pn	00 54 58.3	-0.7
N15K				IAML		00 56 09.7	
comp=N,13nm,1.1s							
N15K				IAML		00 56 16.9	
comp=E,15nm,1.4s							
N16K	**Nishlik Lake**	**4.37**	**343**		Pn	00 54 58.2	-0.8
BRLK	**Bradley Lake**	**4.42**	**37**	Pn	Pn	00 54 58.0	-1.8
BRLK				IAML		00 56 06.8	
comp=E,30nm,0.1s							
RED	**Redoubt Volcan**	**4.45**	**22**	Pn	Pn	00 54 59.6	-0.7
N19K	**Bonanza Creek**	**4.56**	**10**		Pn	00 55 01.4	-0.4
N19K				IAML		00 56 23.7	
comp=N,8.2nm,0.9s							
DFR	**Drift River**	**4.63**	**22**		Pn	00 55 02.3	-0.3
N14K	**Kuskokwak Cree**	**4.64**	**323**	Pn	Pn	00 55 01.4	-1.3
M16K	**Timber Creek**	**4.92**	**344**		Pn	00 55 06.0	-0.5
M16K				IAML		00 55 59.9	
comp=E,6.0nm,0.8s							
M16K				IAML		00 56 01.0	
comp=N,7.4nm,1.1s							
M15K	**Kasigluk River**	**4.97**	**333**		Pn	00 55 06.7	-0.6
M17K	**Holitna River**	**5.12**	**353**	Pn	Pn	00 55 08.4	-0.9
M17K				IAML		00 56 33.4	
comp=E,13nm,0.8s							
M17K				IAML		00 56 45.9	
comp=N,16nm,0.9s							
M18K	**Stony River**	**5.17**	**2**		Pn	00 55 09.4	-0.5
SPU	**Mount Spurr**	**5.29**	**22**	Pn	Pn	00 55 11.2	-0.6
O22K	**Cooper Landing**	**5.34**	**36**	Pn	Pn	00 55 11.7	-0.6
M14K	**Bethel**	**5.37**	**328**	Pn	Pn	00 55 11.8	-0.9
M13K	**Dall Lake**	**5.57**	**320**	Pn	Pn	00 55 13.9	-1.6
STLK	**Strandline Lak**	**5.63**	**22**	Pn	Pn	00 55 15.0	-1.3
L16K	**Owhat River**	**5.65**	**344**	Pn	Pn	00 55 14.9	-1.6
RC01	**Rabbit Creek A**	**5.81**	**32**	Pn	Pn	00 55 16.6	-2.2
SUA	**Susitna One**	**5.84**	**26**		Pn	00 55 18.6	-0.7
L19K	**White Mountain**	**5.89**	**6**	Pn	Pn	00 55 18.8	-1.1
L14K	**Kuka Creek**	**6.05**	**329**		Pn	00 55 21.3	-0.7
MID	**Middleton Isla**	**6.07**	**55**	Pn	Pn	00 55 21.2	-1.1
PWL	**Port Wells**	**6.09**	**39**		Pn	00 55 20.9	-1.7
SKT	**Skwentna**	**6.13**	**21**	Pn	Pn	00 55 22.1	-1.0
M22K	**Willow**	**6.25**	**27**	Pn	Pn	00 55 23.5	-1.2
KNK	**Knik Glacier**	**6.45**	**35**	Pn	Pn	00 55 25.0	-2.6
UNV	**Unalaska Valle**	**6.46**	**252**	Pn	Pn	00 55 27.3	-0.3
K17K	**Iditarod**	**6.49**	**351**	Pn	Pn	00 55 27.3	-0.7
HIN	**Hinchinbrook I**	**6.49**	**47**	Pn	Pn	00 55 26.5	-1.6
GLI	**Glacier Island**	**6.55**	**42**	Pn	Pn	00 55 26.9	-2.0
K15K	**Wolf Creek Mou**	**6.57**	**337**	Pn	Pn	00 55 29.1	-0.1
GHO	**Glory Hole Cre**	**6.59**	**31**	Pn	Pn	00 55 27.8	-1.7
M11K	**Mekoryuk**	**6.67**	**312**	Pn	Pn	00 55 28.9	-1.5
FID	**Port Fidalgo**	**6.71**	**45**	Pn	Pn	00 55 28.7	-2.4
SML	**Sawmill**	**6.79**	**33**	Pn	Pn	00 55 30.5	-1.8
PPLA	**Purkeypile**	**6.87**	**15**	Pn	Pn	00 55 32.5	-0.9
K13K	**Kusilvak Mount**	**7.11**	**326**	Pn	Pn	00 55 35.9	-0.6
K20K	**Telida**	**7.11**	**8**	Pn	Pn	00 55 36.5	-0.1
SCM	**Sheep Creek Mo**	**7.13**	**36**	Pn	Pn	00 55 34.9	-1.9
J18K	**Innoko River**	**7.15**	**358**	Pn	Pn	00 55 35.1	-2.0
KAIM	**Kayak Island**	**7.16**	**55**		Pn	00 55 35.9	-1.4
J17K	**VABM Dome**	**7.23**	**349**	Pn	Pn	00 55 36.1	-2.0
RAGM	**Ragged Mountai**	**7.26**	**51**	Pn	Pn	00 55 37.6	-1.0
J16K	**Anvik River**	**7.32**	**344**	Pn	Pn	00 55 37.2	-2.1
GOAT	**Goat Mountain**	**7.33**	**50**		Pn	00 55 38.2	-1.4
KLU	**Klutina**	**7.38**	**41**	Pn	Pn	00 55 38.0	-2.3
HMT	**Hamilton**	**7.42**	**52**	Pn	Pn	00 55 40.0	-0.7
SUCK	**Suckling Hills**	**7.52**	**55**	Pn	Pn	00 55 41.6	-0.6
J19K	**Poorman**	**7.68**	**2**	Pn	Pn	00 55 43.6	-0.8
KTH	**Kantishna Hill**	**7.69**	**18**	Pn	Pn	00 55 43.3	-1.2
BERG	**Berg Lake**	**7.69**	**53**		Pn	00 55 42.9	-1.6
M24K	**Tolsona, Glenn**	**7.71**	**37**	Pn	Pn	00 55 43.8	-0.9
TRF	**Thorofare Moun**	**7.71**	**20**	Pn	Pn	00 55 42.7	-2.1
N25K	**Chitina, Valde**	**7.95**	**44**	Pn	Pn	00 55 46.1	-2.0
RND	**Reindeer**	**7.97**	**24**	Pn	Pn	00 55 47.6	-0.7
VRDI	**Verde Repeater**	**8.20**	**48**	Pn	Pn	00 55 50.2	-1.4
TGL	**Tana Glacier**	**8.24**	**52**	Pn	Pn	00 55 50.5	-1.6
ISLE	**Juniper Island**	**8.39**	**54**	Pn	Pn	00 55 53.2	-0.9
MCARA	**McCarthy VSAT**	**8.46**	**48**	Pn	Pn	00 55 53.8	-1.2
KIAG	**Kiagna River**	**8.52**	**52**		Pn	00 55 55.0	-0.9
BALM	**Baldy**	**8.58**	**51**		Pn	00 55 55.3	-1.4
GRNC	**Granite Creek**	**8.71**	**54**	Pn	Pn	00 55 57.8	-0.7
H17K	**Granite Mounta**	**8.82**	**349**	Pn	Pn	00 55 59.3	-0.6
TABL	**Table Mountain**	**8.87**	**56**	Pn	Pn	00 56 00.3	-0.6

*NEIC **04** 00:59:56.4±2.6, 15°.29S±0°.08×172°.95W±0°.08, h10km±1km, mb4.7/16, Error ellipse: s-maj=14.6km s-min=10.8km az=134.0*
*IDC **04** 00:59:56.4±0.6, 15°.31S×173°.39W, h0km, mb4.2/11, mbtmp4.2/11, MS3.8/39, Error ellipse: s-maj=30.0km s-min=16.8km az=135.0*
ISC 04 00:59:57.3±0.4, 15°.42S±0°.07×173°.09W±0°.06, h10km, n95, σ2.9 51/57, mb4.5/17, MS3.9/39, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**40**		**Pn**	**01 00 27.2**	**-3.7**
AFI				Sn	Sn	01 00 47.0	-8.6
NIUE	**Niue**	**4.73**	**141**		**Pn**	**01 01 07.1**	**-1.5**
MSVF	**Nonsavu**	**8.80**	**254**	Pn	**Pn**	**01 02 06.3**	**+1.6**
FUNA	**Funafuti**	**10.19**	**311**	Pn	**Pn**	**01 02 23.6**	**-0.2**
RAR	**Rarotonga**	**13.89**	**116**	Pn	**Pn**	**01 03 12.8**	**-1.5**
RAR	**Rarotonga**	**13.89**	**116**	Pn	**Pn**	**01 03 14.6**	**+0.3**
1.7nm,0.3s,baz=185,slow=24,SNR=2.5							
RAR				LR	LR	01 07 28.2	
comp=Z,308nm,18.1s,baz=306,slow=32							
PINNC	**Pines Island,**	**19.73**	**246**	P	**Pn**	**01 04 27.4**	**-1.3**
DZM	**Mont Dzumac**	**20.46**	**248**	*e*LR	LR	01 10 14.9	
564nm,24.5s							
DZM	**Mont Dzumac**	**20.46**	**248**	P	**P**	**01 04 35.5**	**+0.1**
DZM	**Mont Dzumac**	**20.46**	**248**	P	**P**	**01 04 34.0**	**-1.4**
8.4nm,0.8s,baz=86,slow=18,SNR=5.5							
DZM				S	S	01 08 10.3	-14
11nm,1.0s,baz=262,slow=23,SNR=2.8							
8.4nm,0.8s							
ONTNC	**Ouen Toro**	**20.52**	**247**	P	**P**	**01 04 36.3**	**+0.4**
ONTNC				IAmb	IAmb	01 04 54.9	
comp=Z,31nm,0.8s							
PPT	**Papeete**	**22.65**	**99**	LR	LR	01 11 19.7	
comp=Z,167nm,21.4s,baz=264,slow=30							
PPT2	**Papeete2**	**22.65**	**99**	*e*P	**P**	**01 05 02.7**	**+3.8**
comp=Z,137nm,36.8s							
PPT2				*e*S	**S**	**01 08 57.8**	**-9.3**
comp=Z,359nm,25.8s							
PPT2				*e*LR	LR	01 10 15.8	
comp=Z,489nm,25.0s							
PPT2				*e*LR	LR	01 10 22.1	
comp=Z,336nm,26.2s							
TBI	**Tubuai**	**23.62**	**113**	*e*S	**S**	**01 09 21.6**	**-1.8**
comp=Z,2μm,32.0s							
TBI				*e*LR	LR	01 10 47.7	
comp=Z,2μm,25.8s							
RPZ	**Rata Peaks**	**31.27**	**202**	LR	LR	01 17 55.0	
comp=Z,153nm,21.1s,baz=138,slow=34							
TAOE	**Nuku Hiva Isla**	**32.83**	**82**	*e*LR	LR	01 15 01.0	
comp=Z,324nm,26.9s							
H11S2	**WAKE ISLAND Hy**	**39.14**	**329**	T	T	01 49 01.0	
baz=148,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	01 49 01.2	
baz=148,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	01 49 01.2	
baz=148,slow=76,SNR=13							
PMG	**Port Moresby**	**39.23**	**274**	LR	LR	01 21 54.7	
comp=Z,53nm,18.6s,baz=110,slow=34							
H11N3	**WAKE ISLAND Hy**	**40.08**	**330**	T	T	01 50 04.3	
baz=149							
H11N1	**WAKE ISLAND Hy**	**40.08**	**330**	T	T	01 50 04.3	
baz=149							
H11N2	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	01 50 04.3	
baz=149							
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**01 08 06.0**	**-1.4**
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**01 08 06.5**	**-0.9**
comp=Z,6.1nm,0.9s,baz=72,slow=4.4,SNR=7.5							
STKA				LR	LR	01 24 02.1	
comp=Z,123nm,20.9s,baz=48,slow=33							
comp=Z,6.1nm,0.9s							
BBOO	**Buckleboo**	**49.06**	**240**	P	**P**	**01 08 43.6**	**-1.2**
BBOO				IAmb	IAmb	01 08 56.2	
comp=Z,12nm,1.1s							
WR8	**Warramunga Arr**	**49.98**	**257**	P	**P**	**01 08 50.9**	**-1.2**
WB0	**Warramunga Arr**	**50.09**	**257**	P	**P**	**01 08 51.2**	**-1.7**
WB0				IAmb	IAmb	01 08 51.7	
comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**50.13**	**257**	P	**P**	**01 08 51.8**	**-1.5**
WRA	**Warramunga Arr**	**50.13**	**257**	P	**P**	**01 08 51.3**	**-1.9**
comp=Z,3.1nm,0.7s,baz=91,slow=7.0,SNR=41							
WRA				PcP	**PcP**	**01 10 12.2**	**-0.6**
comp=Z,1.6nm,0.7s,baz=88,slow=3.8,SNR=6.3							
WRA				LR	LR	01 29 03.4	
comp=Z,165nm,18.6s,baz=80,slow=35							
comp=Z,3.1nm,0.7s							
AS31	**Alice Springs**	**50.38**	**252**		**P**	**01 08 53.9**	**-1.2**
ASAR	**Alice Springs**	**50.39**	**252**		**P**	**01 08 53.2**	**-1.9**
ASAR	**Alice Springs**	**50.39**	**252**	P	**P**	**01 08 53.6**	**-1.5**
comp=Z,7.1nm,0.6s,baz=86,slow=8.0,SNR=75							
ASAR				S	**S**	**01 16 03.1**	**-5.6**
comp=Z,0.4nm,0.6s,baz=226,slow=38,SNR=1.6							
ASAR				LR	LR	01 28 32.8	
comp=Z,268nm,20.5s,baz=107,slow=34							
comp=Z,7.1nm,0.6s							
GUMO	**Guam**	**50.60**	**303**	LR	LR	01 28 06.2	
comp=Z,54nm,19.4s,baz=120,slow=34							
FORT	**Forrest**	**55.67**	**243**	P	**P**	**01 09 32.9**	**-1.2**
FORT				IAmb	IAmb	01 09 52.0	
comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**58.50**	**258**	LR	LR	01 33 28.3	
comp=Z,189nm,18.4s,baz=107,slow=34							
VNDA	**Vanda**	**63.38**	**186**	P	**P**	**01 10 28.6**	**+2.1**
comp=Z,1.5nm,0.9s,baz=3.5,slow=4.9,SNR=7.1							
VNDA				LR	LR	01 37 39.6	
comp=Z,30nm,18.0s,baz=350,slow=36							
comp=Z,1.5nm,0.9s							
DAV	**Davao City (W)**	**64.73**	**286**	LR	LR	01 36 52.4	
comp=Z,63nm,19.2s,baz=170,slow=34							
NWAO	**Narrogin (SRO)**	**64.87**	**241**	LR	LR	01 38 42.0	
comp=Z,72nm,18.0s,baz=108,slow=36							
SHEM	**Shemya Is, Ala**	**68.77**	**352**	LR	LR	01 35 38.8	
comp=Z,104nm,19.7s,baz=281,slow=31							
MJAR	**Matsushiro Arr**	**69.15**	**320**	LR	LR	01 34 33.6	
comp=Z,96nm,21.7s,baz=128,slow=30							
JOW	**Kunigami**	**70.74**	**306**	LR	LR	01 36 05.9	
comp=Z,66nm,21.1s,baz=274,slow=31							
ASAJ	**Asahikawa**	**71.72**	**328**	LR	LR	01 36 40.4	
comp=Z,49nm,22.0s,baz=170,slow=31							
JNU	**Nakatsue**	**72.03**	**313**	LR	LR	01 36 16.6	
comp=Z,56nm,18.9s,baz=69,slow=30							
PFO	**Pinyon Flats O**	**72.72**	**47**	LR	LR	01 37 15.9	
comp=Z,94nm,19.1s,baz=224,slow=31							
PETK	**Petropavlovsk-**	**72.74**	**342**	LR	LR	01 38 59.0	
comp=Z,50nm,20.2s,baz=105,slow=32							
LPIG	**La Paz**	**72.80**	**58**	LR	LR	01 36 24.3	
comp=Z,74nm,18.8s,baz=316,slow=30							
YBH	**Yreka Blue Hor**	**73.44**	**37**	LR	LR	01 35 55.1	
comp=Z,5.6nm,19.8s,baz=293,slow=29							
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**01 11 35.5**	**+1.1**
comp=Z,0.4nm,0.6s,baz=239,slow=7.4,SNR=5.7							
NVAR				LR	LR	01 38 32.8	
comp=Z,74nm,20.0s,baz=269,slow=31							
comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**74.62**	**180**	P	**P**	**01 11 38.2**	**+1.6**
comp=Z,6.4nm,1.0s,baz=40,slow=1.4,SNR=15							
QSPA				LR	LR	01 40 12.4	
comp=Z,28nm,19.9s,baz=24,slow=32							
comp=Z,6.4nm,1.0s							
KDAK	**Kodiak Island**	**74.89**	**11**	LR	LR	01 36 37.0	
comp=Z,71nm,21.3s,baz=138,slow=29							
ILSW	**Iliamna Southw**	**76.86**	**10**	P	**P**	**01 11 49.6**	**+0.3**
ILSW				IAmb	IAmb	01 11 50.5	
comp=Z,6.4nm,0.8s							
ELK	**Elko**	**77.40**	**41**	LR	LR	01 38 51.8	
comp=Z,57nm,19.6s,baz=282,slow=30							
TXAR	**Lajitas Array**	**80.38**	**56**	P	**P**	**01 12 10.8**	**+1.4**
comp=Z,0.5nm,0.8s,baz=250,slow=3.6,SNR=5.8							
TXAR				LR	LR	01 41 56.7	
comp=Z,44nm,19.1s,baz=5.0,slow=31							
comp=Z,0.5nm,0.8s							
ANMO	**Albuquerque**	**80.59**	**50**	LR	LR	01 42 41.8	
comp=Z,87nm,19.1s,baz=134,slow=32							
WRH	**Wood River Hil**	**81.92**	**11**	P	**P**	**01 12 16.9**	**+0.2**
YHB	**Horse Butte**	**82.05**	**39**	P	**P**	**01 12 18.3**	**+0.2**
YHB				IAmb	IAmb	01 12 20.6	
comp=Z,6.3nm,0.9s							
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**01 12 19.7**	**+1.3**
comp=Z,0.8nm,0.9s,baz=201,slow=2.9,SNR=6.8							
PDAR				LR	LR	01 44 40.8	
comp=Z,54nm,20.0s,baz=1.5,slow=33							
comp=Z,0.8nm,0.9s							
CCB	**Clear Creek Bu**	**82.13**	**11**	P	**P**	**01 12 17.9**	**+0.2**

ARSA	Arzberg	147.47	349	*i* Pdiff	PKiKP	01 19 44.6 +0.7
	comp=Z,7.6nm,1.6s					
LESA	Schwarzleotal	147.73	353	*i* Pdiff	PKPab	01 19 54.2 +9.5
	comp=Z,9.3nm,1.7s					
WATA	Walderalm	147.94	354	*e*Pdiff	PKPab	01 19 53.1 +7.4
	comp=Z,4.5nm,0.6s					
WTTA	Wattenberg	148.01	354	*e*Pdiff	PKPab	01 19 54.3 +8.3
	comp=Z,2.5nm,0.6s					
SOKA	Soboth	148.11	349	*e*Pdiff	PKPab	01 19 49.0 +2.7
	comp=Z,5.3nm,1.2s					
MMAI	Mount Meron Ar	148.81	309	PKPbc	PKPbc	01 19 44.9 -0.8
	comp=Z,1.2nm,0.6s,baz=20,slow=2.7,SNR=4.8					
ESDC	Sonseca Array	154.03	19	PKPab	PKPab	01 20 12.1 +1.2
	comp=Z,0.4nm,0.8s,baz=354,slow=4.2,SNR=4.1					

*IDC **04** 01:05:56.8±6.1, 6°.02N×127°.28E, h76km±50km, mb3.6/8, mbtmp4.0/8, ML5.4/1, Error ellipse: s-maj=117.4km s-min=13.5km az=67.0*
*DJA **04** 01:05:57.9±1.0, 6°N±3°×12°7E±°, h16km±8km, M4.7/12, mB5.4/4, mb4.6/11, MLv4.6/12, Mw(mB)4.8/4*
*NEIC **04** 01:05:59.0±1.0, 5°.72N±0°.04×126°.52E±0°.09, h83km±10km, mb4.6/11, Error ellipse: s-maj=13.8km s-min=5.0km az=106.0*
ISC 04 01:05:57.1±0.6, **5°.69N**±0°.05×**126°.65E**±0°.09, **h66**km, **n41**, σ1§69/45, **mb4.2**/13, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.74	322		Pn	01 06 26.3	+1.2
DAV	Davao City (W)	1.74	322	P	Pn	01 06 29.1	+4.0
	181nm,0.3s,baz=302,slow=11,SNR=1.6						
DAV				S	Sn	01 06 49.7	+3.3
	549nm,0.3s,baz=265,slow=22,SNR=15						
SGSI	Sangihe	2.29	209	P	Pn	01 06 34.3	+1.8
SGSI				S	Sn	01 07 01.2	+1.5
TNTI	Ternate	4.94	172		Pn	01 07 10.9	+2.2
TNTI	Ternate	4.94	172	P	Pn	01 07 10.3	+1.5
TNTI				S	Sn	01 08 06.0	+1.4
MRSI	Marisa	7.00	222	P	Pn	01 07 38.8	+1.8
TOLI2	Tolitoli	7.42	232		Pn	01 07 42.0	-0.7
SANI	Sanana	7.72	185	P	Pn	01 07 45.2	-1.6
MYLDM	Lahad Datu	8.13	267	Pn	Pn	01 07 54.3	+1.8
APSI	Ampana	8.24	217	P	Pn	01 07 57.1	+3.1
	56nm,0.7s						
NLAI	Namlea	8.88	177	P	Pn	01 08 02.5	-0.3
FAKI	Fak Fak	10.22	147	Pn	Pn	01 08 23.5	+2.5
FAKI	Fak Fak	10.22	147	P	Pn	01 08 23.2	+2.2
	20nm,1.2s						
SPSI	Sidrap Palu	11.80	216	P	Pn	01 08 43.9	+1.3
	20nm,0.5s						
SBUM	Sibu	14.75	258	P	P	01 09 26.4	-0.2
BATI	Baumata	16.07	191	P	P	01 09 43.5	+2.2
	13nm,0.3s,baz=323,slow=1.9,SNR=4.0						
PLAI	Plampang	16.92	212	P	P	01 09 51.0	+0.3
	34nm,0.8s						
TWSI	Taliwang, Sumb	17.33	214	P	Pn	01 09 54.8	+0.1
	24nm,0.8s						
MTN	Manton Dam	18.94	166	P	Pn	01 10 14.1	-0.1
MTN				IAmb	IAmb	01 10 14.5	
	comp=Z,22nm,1.4s						
KNRA	Kununurra	21.33	174	P	P	01 10 38.9	+0.1
KNRA				IAmb	IAmb	01 10 39.9	
	comp=Z,21nm,0.6s						
COEN	Coen	25.49	140	P	P	01 11 19.3	-0.2
COEN				IAmb	IAmb	01 11 43.2	
	comp=Z,19nm,1.2s						
WRA	Warramunga Arr	26.57	164	P	P	01 11 30.3	+1.2
WRA	Warramunga Arr	26.57	164	P	P	01 11 28.9	-0.2
	comp=Z,0.8nm,0.3s,baz=344,slow=10,SNR=18						
	comp=Z,0.8nm,0.3s						
WR8	Warramunga Arr	26.63	163	P	P	01 11 30.0	+0.4
WR8				IAmb	IAmb	01 11 34.8	
	comp=Z,18nm,1.4s						
PSA00	Pilbara Seismi	27.91	194	P	P	01 11 39.1	-1.9
PSA00				IAmb	IAmb	01 12 17.6	
	comp=Z,18nm,1.2s						
ASAR	Alice Springs	30.02	167	P	P	01 11 59.8	-0.1
	comp=Z,1.4nm,0.6s,baz=342,slow=6.5,SNR=8.7						
ASAR				PcP	PcP	01 15 00.6	-0.3
	comp=Z,0.7nm,0.5s,baz=342,slow=2.2,SNR=7.2						
	comp=Z,1.4nm,0.6s						
FORT	Forrest	36.29	178	P	P	01 12 53.9	-0.4
FORT				IAmb	IAmb	01 13 07.3	
	comp=Z,10.0nm,1.1s						
BBOO	Buckleboo	39.32	167	P	P	01 13 20.1	+0.3
NWAO	Narrogin (SRO)	39.43	193	P	P	01 13 20.2	-0.6
STKA	Stephens Creek	39.98	160	P	P	01 13 25.7	+0.3
STKA				IAmb	IAmb	01 13 28.4	
	comp=Z,18nm,0.8s						
STKA	Stephens Creek	39.98	160	P	P	01 13 24.9	-0.5
	comp=Z,2.6nm,0.5s,baz=341,slow=11,SNR=6.9						
	comp=Z,2.6nm,0.5s						
SONM	Songino Array	45.43	341	P	P	01 14 06.8	-2.7
	comp=Z,0.3nm,0.3s,baz=146,slow=6.4,SNR=2.4						
	comp=Z,0.3nm,0.3s						
MK31	Makanchi Array	55.92	325	P	P	01 15 27.1	-1.3
MKAR	Makanchi Array	55.92	325	P	P	01 15 27.0	-1.4
	comp=Z,0.6nm,0.3s,baz=116,slow=6.3,SNR=12						
	comp=Z,0.6nm,0.3s						
ZALV	Zalesovo Beam	58.82	333	P	P	01 15 47.7	-0.8
	comp=Z,0.4nm,0.3s,baz=123,slow=7.1,SNR=2.3						
	comp=Z,0.4nm,0.3s						
KURBB	Kurchatov Arra	60.06	327	P	P	01 15 55.7	-1.5
	comp=Z,1.2nm,0.6s,baz=123,slow=6.6,SNR=6.8						
	comp=Z,1.2nm,0.6s						
BVAR	Borovoye Array	65.65	327	P	P	01 16 34.1	-0.2
	comp=Z,0.6nm,0.5s,baz=119,slow=12,SNR=2.4						
	comp=Z,0.6nm,0.5s						
ABKAR	Akbulak array	70.60	320	P	P	01 17 03.9	-1.5
BMAR	Burnt Mountain	84.31	23	P	P	01 18 23.0	+1.3
CLL	Collm	100.02	324	*e*PKPdf	Pdif	01 19 31.0	-4.1
TORD	Torodi Ar. Bea	122.22	289	PKP	PKPdf	01 24 44.6	-0.9
	comp=Z,0.2nm,0.4s,baz=60,slow=2.0,SNR=2.3						

*MDD **04** 01:15:52.2±1.5, 35°.62N×4°.92E, h0km, Mb4.2/9, M_mb3.6/9, Error ellipse: s-maj=20.1km s-min=11.2km az=2.0*
*CRAAG **04** 01:15:53.4, 35°.70N×4°.69E, Ml3.7, Algerie 06km E M"Tarfa*
ISC 04 01:15:54.6±1.1, **35°.76N**±0°.05×**4°.71E**±0°.04, **h10**km, **n24**, σ1§56/33, **6C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABSD	Ouled Sidi Bra	0.53	232	P	Pg	01 16 03.7	-1.2
CAZD	Ain Tagrout	0.55	41	P	Pb	01 16 06.2	-0.3
SET	Setif	0.71	52	P	Pn	01 16 10.0	-0.9
AKET	Djebel Ketaf	0.73	293	P	Pg	01 16 08.7	0.0
CKTS	El Kantara	0.96	123	P	Pn	01 16 15.3	+1.1
ATKB	Taksebt	1.03	333	P	Pn	01 16 14.7	-0.4
ADJB	Djebel Djouab	1.10	292	P	Pg	01 16 15.3	-0.5
ABRIN	Birine	1.29	265	P	Pn	01 16 17.7	-1.1
COAT	Oued Athmania	1.36	69	P	Pg	01 16 21.0	+0.2
AKED	El Kharrouba	1.37	311	P	Pn	01 16 19.6	-0.2
EIBI	Ibiza	4.22	322	P	Pn	01 17 00.8	+1.8
EIBI				S	Sn	01 17 46.4	-1.9
EIBI	Ibiza	4.22	322	Pn	Pn	01 16 59.7	+0.7
EIBI				⇑*i*Vmb_VC		01 17 04.5	
	300nm,SNR=1.2						
EIBI				Sn	Sn	01 17 46.2	-2.1
ETOS	Mallorca	4.27	340	S	Sn	01 17 48.7	-1.0
ETOS				P	Pn	01 16 59.1	-0.7
ETOS	Mallorca	4.27	340	Pn	Pn	01 16 59.0	-0.7
ETOS				⇑*i*Vmb_VC		01 17 06.4	
	318nm,SNR=0.8						
CART	Cartagena	4.94	293	P	Pn	01 17 08.5	-0.3
EMUR	La Murta	5.21	295	P	Pn	01 17 12.9	+0.3
EMUR	La Murta	5.21	295	⇑*i*Vmb_VC		01 17 13.2	
	169nm,SNR=1.3						
EMUR				Pn	Pn	01 17 13.6	+1.0
EMUR				Sn	Sn	01 18 14.1	+1.4
ENIJ	Nijar	5.71	284	P	Pn	01 17 18.5	-1.0
ENIJ				S	Sn	01 18 23.1	-2.0
ENIJ	Nijar	5.71	284	Pn	Pn	01 17 19.0	-0.5
ENIJ				⇑*i*Vmb_VC		01 17 20.5	
	139nm,SNR=1.6						
ENIJ				Sn	Sn	01 18 25.0	0.0
ETOB	Tobarra	5.76	302	P	Pn	01 17 22.2	+1.9
ETOB				S	Sn	01 18 26.3	-0.2
ETOB	Tobarra	5.76	302	Pn	Pn	01 17 21.0	+0.7
ETOB				⇑*i*Vmb_VC		01 17 26.6	
	121nm,SNR=1.0						
ETOB				Sn	Sn	01 18 31.0	+4.5
ECHE	Chera	5.91	312	P	Pn	01 17 25.1	+2.9
EQES	Quesada	6.57	290	Pn	Pn	01 17 33.4	+2.1
EQES				⇑*i*Vmb_VC		01 17 43.4	
	92nm,SNR=1.0						
EQES				Sn	Sn	01 18 49.2	+2.8
ELGU	Los Guajares,	6.82	282	Pn	Pn	01 17 35.3	+0.6

*PRE **04** 01:22:36.5±0.9, 27°.09S×26°.52E, h2km, ML2.5*
*BGSI **04** 01:22:38.7±1.7, 27°.17S×26°.74E, h0km±62km, ML3.1*
*BUL **04** 01:22:44.5±1.8, 27°.11S×26°.20E, h25km±20km, MD3.1*
ISC 04 01:22:37.6±1.3, **27°.14S**±0°.03×**26°.54E**±0°.03, **h7**km±10km, **n36**, σ1§46/67, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.76	74	*e*P	Pg	01 22 51.5	-0.8
PRYS				*e*S	Sg	01 23 01.2	-1.0
PRYS				IAML		01 23 06.6	
	comp=Z,126nm,0.8s						
SNKL	Senekal, Frees	1.58	136	*e*P	Pb	01 23 07.2	+0.1
SNKL				*e*S	Sg	01 23 28.5	+0.2
SNKL				IAML		01 23 34.8	
	comp=Z,210nm,0.5s						
BOSA	Boshof	1.86	217	*e*P	Pb	01 23 11.5	-0.5
BOSA				*e*S	Sb	01 23 35.7	+0.2
BOSA				IAML		01 23 41.0	
	comp=Z,42nm,0.3s						
BOSA	Boshof	1.86	217	*i* P	Pg	01 23 13.3	+0.1
BOSA				*i* S	Sn	01 23 33.2	-0.7
LBTB	Lobatse	2.27	338	*e*P	Pn	01 23 15.3	-0.4
LBTB				*e*S	Sn	01 23 43.9	-0.2
LBTB				IAML		01 23 48.0	
	comp=Z,137nm,0.3s						
LBTB	Lobatse	2.27	338	*i* P	Pb	01 23 19.0	-0.1
LBTB				*i* S	Sn	01 23 44.4	+0.3
NWCL	Newcastle	3.04	102	*e*P	Pn	01 23 26.7	+0.4
NWCL				*e*S	Sn	01 24 03.7	+0.7
NWCL				IAML		01 24 17.8	
	comp=Z,50nm,0.4s						
LEPH	Lephalale, Lim	3.46	20	*e*P	Pn	01 23 31.6	-0.3
LEPH				*e*S	Sn	01 24 12.0	-1.2
LEPH				IAML		01 24 24.5	
	comp=Z,25nm,0.4s						
SKOMA	Sekoma	3.51	317	*i* P	Pn	01 23 34.5	+1.9
SKOMA				IAML		01 24 31.1	
	comp=E,32nm,0.5s						
PHPEN	Phepeng	3.69	296	*i* P	Pn	01 23 37.4	+2.2
PHPEN				*i* S	Sn	01 24 21.7	+2.6
PHPEN				IAML		01 24 42.0	
	comp=E,182nm,0.5s						
LPHEP	Lephephe	3.81	351	*i* P	Pn	01 23 38.0	+1.2
LPHEP				*i* S	Sn	01 24 22.3	+0.5
LPHEP				IAML		01 24 36.0	
	comp=E,30nm,0.9s						
KDWAN	Kaudwane	4.11	335	*i* P	Pn	01 23 41.8	+0.9
KDWAN				IAML		01 24 46.6	
	comp=N,169nm,0.6s						
PMBG	Pietermaritzbu	4.23	125	*e*P	Pn	01 23 43.4	+0.9
PMBG				*e*S	Sn	01 24 32.1	-0.1
PMBG				IAML		01 24 54.3	
	comp=Z,17nm,0.5s						
KSTD	Kokstad	4.24	146	*e*P	Pn	01 23 44.2	+1.5
KSTD				*e*S	Sn	01 24 32.6	+0.1
KSTD				IAML		01 24 56.2	
	comp=Z,19nm,0.4s						
POGA	Pongola	4.61	94	*e*P	Pn	01 23 48.8	+1.1
POGA				*e*S	Sn	01 24 41.1	-0.4
POGA				IAML		01 25 04.1	
	comp=Z,17nm,0.5s						
MREMI	Moremi	4.62	10	*i* P	Pn	01 23 48.7	+0.7
MREMI				IAML		01 25 01.5	
	comp=N,92nm,0.3s						
ALKP	Alkanpan, Nort	4.70	232	*e*P	Pn	01 23 50.0	+1.0
ALKP				*e*S	Sn	01 24 42.6	-1.2
ALKP				IAML		01 25 15.6	
	comp=Z,8.5nm,0.5s						
UPI	Upington	4.84	254	*e*P	Pn	01 23 51.4	+0.4
UPI				*e*S	Sn	01 24 45.2	-2.1
UPI				IAML		01 25 18.5	
	comp=Z,10.0nm,0.3s						
KEIM	Keimoes	5.17	251	*e*P	Pn	01 23 55.7	+0.3
KEIM				*e*S	Sn	01 24 53.3	-2.1
KEIM				IAML		01 25 24.4	
	comp=Z,10nm,0.3s						
KHWEE	KHWEE	5.26	349	*i* P	Pn	01 23 57.9	+1.1
KHWEE				*i* S	Sn	01 24 54.3	-3.4
KHWEE				IAML		01 25 24.7	
	comp=N,77nm,0.4s						
BFON	Badsfontein, M	5.27	207	*e*P	Pn	01 23 58.2	+1.4
BFON				*e*S	Sn	01 24 56.8	-1.2
BFON				IAML		01 25 37.2	
	comp=Z,8.3nm,0.5s						
GRAF	Camdeboo Natio	5.43	199	*e*P	Pn	01 23 59.5	+0.5
GRAF				*e*S	Sn	01 25 00.9	-0.9
GRAF				IAML		01 25 39.8	
	comp=Z,13nm,0.5s						
BRAK	Brakfontein	5.61	214	*e*P	Pn	01 24 02.2	+0.6
BRAK				*e*S	Sn	01 25 05.2	-1.2
BRAK				IAML		01 25 43.4	
	comp=Z,5.1nm,0.3s						
MOPA	Mopani	5.68	52	*i* P	Pb	01 24 10.5	-6.6
MOPA				*i* S	Sn	01 25 12.1	+4.1
MUSN	Musina, Limpop	5.69	33	*e*P	Pn	01 24 02.7	+0.1
MUSN				*e*S	Sn	01 25 05.6	-2.7
MUSN				IAML		01 25 40.9	
	comp=Z,5.0nm,0.4s						
MUSN	Musina, Limpop	5.69	33	*i* P	Pn	01 24 09.7	+7.1
MUSN				*i* S	Sn	01 25 10.8	+2.5
KGCAE	Kacgae	5.80	316	*i* P	Pn	01 24 05.9	+1.8
KGCAE				*i* S	Sn	01 25 10.9	-0.1
KGCAE				IAML		01 25 49.5	
	comp=E,36nm,2.0s						
ROOI	Rooidraai Farm	5.94	205	*e*P	Pn	01 24 07.0	+1.0
ROOI				*e*S	Sn	01 25 13.7	-0.7
ROOI				IAML		01 25 55.5	
	comp=Z,5.9nm,0.6s						
ARMS	Ukamas	6.10	260	*e*P	Pn	01 24 08.9	+0.6
ARMS				*e*S	Sn	01 25 15.9	-2.4
GRHM	Grahamstown, E	6.12	181	*e*P	Pn	01 24 09.8	+1.3
GRHM				*e*S	Sn	01 25 18.0	-0.9
GRHM				IAML		01 26 05.3	
	comp=Z,3.9nm,0.5s						
GRAN	Grantham	6.40	215	*e*P	Pn	01 24 12.8	+0.5
GRAN				*e*S	Sn	01 25 23.6	-2.1
GRAN				IAML		01 26 06.9	
	comp=Z,4.6nm,0.5s						
FRAZ	Fraserburg	6.54	222	*e*P	Pn	01 24 14.6	+0.2
FRAZ				*e*S	Sn	01 25 27.3	-2.0
FRAZ				IAML		01 26 07.8	
	comp=Z,2.6nm,0.7s						
MERW	Merweville	7.03	217	*e*P	Pn	01 24 21.8	+0.7
MERW				*e*S	Sn	01 25 39.4	-1.9
MERW				IAML		01 26 34.5	
	comp=Z,2.7nm,0.5s						
BUFB	Buffelsbos	7.16	192	*e*P	Pn	01 24 24.2	+1.5
BUFB				*e*S	Sn	01 25 43.3	-1.0
BUFB				IAML		01 26 21.7	
	comp=Z,3.3nm,0.9s						
SUR	Sutherland	7.22	222	*e*P	Pn	01 24 24.3	+0.6
SUR				*e*S	Sn	01 25 43.3	-2.8
SUR				IAML		01 26 27.8	
	comp=Z,3.1nm,0.4s						
BLWY	Bulawayo	7.22	16	*i* P	Pn	01 24 25.4	+1.7
BLWY				*i* S	Sn	01 25 43.8	-2.3

*GCG **04** 01:31:13.6±0.5, 12°.94N×89°.72W, h27km±6km, MD3.7*
*SNET **04** 01:31:13.0±1.1, 13°.01N×89°.45W, h74km±8km, ML2.8*
ISC 04 01:31:13.6±3.8, **12°.9N**±0°.2×**89°.5W**±0°.1, **h43**km, **n17**, σ0§45/22, **1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.77	5	⇓*i*P	Pn	01 31 27.6	-0.7
JAYA				*e*S	Sn	01 31 38.8	0.0
JAYA	Jayaque - finc	0.77	5	*i* P	Pn	01 31 27.6	-0.7
JAYA				*i* S	Sn	01 31 38.9	+0.1
LOMA	Loma Larga	0.83	24	*e*P	Pn	01 31 28.8	-0.2
PMON	Piamonte	0.85	13	*e*P	Pn	01 31 28.9	-0.3
BOQS	Boqueron	0.88	15	*e*P	Pn	01 31 29.4	-0.3
BOQS				*e*S	Sn	01 31 41.7	+0.2
CEVE	Cerro Verde	0.95	354	*e*P	Pn	01 31 30.6	-0.1
SBLS	San Blas	0.96	354	*e*P	Pn	01 31 30.7	-0.2
TECO	Alcaldia de Te	0.97	47	*e*P	Pn	01 31 30.1	-0.6
SNJE	San Jose	0.99	355	*e*P	Pn	01 31 31.2	0.0
RTR	El Retiro	1.02	353	*e*P	Pn	01 31 31.8	+0.1
NUBE	Las Nubes	1.05	346	*e*P	Pn	01 31 31.7	-0.2
NUBE				*e*S	Sn	01 31 45.4	-0.1
NUBE	Las Nubes	1.05	346	*i* P	Pn	01 31 31.8	-0.2
NUBE				*e*S	Sn	01 31 45.4	-0.1
SCLA	Alcaldia de Sa	1.12	43	*e*P	Pn	01 31 32.9	0.0
RBDL	Robledal	1.24	352	*e*P	Pn	01 31 35.0	+0.3
PACA	Pacayal	1.30	63	*e*P	Pn	01 31 35.7	+0.3
MTO3	Montecristo	1.52	6	*e*P	Pn	01 31 39.4	+0.9
MTO3	Montecristo	1.52	6	*e*P	Pn	01 31 39.4	+0.9

*SOME **04** 01:50:50.3, 39°.22N×75°.12E, h10km*
*KRNET **04** 01:50:50.8±0.1, 39°.22N×75°.28E, mb3.3*
*NNC **04** 01:50:53.0±0.7, 39°.34N×75°.14E, h10km±5km, mb3.8, mpv3.5, Error ellipse: s-maj=5.0km s-min=3.0km az=169.0*
ISC 04 01:50:50.5±1.9, **39°.10N**±0°.08×**75°.06E**±0°.03, **h2**km±12km, **n35**, σ1§98/54, **9C-14D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.51	308	⇓*i*P	Pb	01 51 20.2	+0.8
SFK				⇓*i*S	Sg	01 51 41.8	+2.8
JNKS	Jany-Kuch	2.01	13	⇓*i*P	Pn	01 51 25.1	-0.6
JNKS				⇓*i*S	Sn	01 51 50.3	-1.3
SALK	Salom-Alik	2.02	332	⇑*i*P	Pb	01 51 27.8	-0.3
SALK				⇑*i*S	Sb	01 51 54.2	+0.4
OHH	Osh	2.26	310	⇓*e*P	Pb	01 51 31.8	-0.2
OHH				⇓*e*S	Sb	01 52 01.5	+1.1
DRK	Karamyk	2.56	280	⇑*e*P	Pb	01 51 37.2	-0.1
DRK				⇑*e*S	Sb	01 52 11.2	+2.0
UCH	Uchtor	3.16	353	⇓*i*P	Pn	01 51 42.0	+0.4
UCH				⇓*i*S	Sn	01 52 19.4	-0.7
TARG	Taragay, Kyrgy	3.37	38	⇑*i*P	Pn	01 51 43.4	-1.1
TARG				⇑*i*S	Sn	01 52 21.7	-3.5
KDJ	Kajisay	3.44	27	⇓*e*P	Pn	01 51 44.5	-0.7
KDJ				⇓*e*S	Sn	01 52 23.9	-2.7
BOOM	Boomskoye usch	3.46	11	⇓*e*P	Pn	01 51 45.6	+0.1
BOOM				⇓*e*S	Sn	01 52 25.7	-1.4
AAK	Ala-Archa	3.56	353	⇑Pg	Pb	01 51 53.8	-0.6
	2.2nm,0.5s						
AAK				⇓Lg	Lg	01 52 40.2	
	10nm,0.9s						
MRKS	Merke	3.90	340	Pg	Pb	01 52 00.5	+0.4
	6.3nm,0.3s						
MRKS				Lg	Lg	01 52 51.0	
	16nm,0.4s						
MRKS	Merke	3.90	340	*e*P	Pb	01 52 00.5	+0.4
	4.5nm,0.3s						
MRKS				*e*S	Sb	01 52 51.0	+3.2
	16nm,0.4s						
KST	Kastek	4.00	10	Pg	Pb	01 52 00.9	-0.9
	4.1nm,0.5s						
KST				Lg	Lg	01 52 51.7	
	21nm,0.5s						
KST	Kastek	4.00	10	*e*P	Pb	01 52 00.9	-0.9
	4.1nm,0.5s						
KST				*e*S	Sb	01 52 51.7	+1.0
	21nm,0.5s						
MTBS	Maitube	4.16	14	Pg	Pb	01 52 04.5	0.0
	2.5nm,0.2s						
MTBS				Lg	Lg	01 52 58.0	
	12nm,0.2s						
MTBS	Maitube	4.16	14	*e*P	Pb	01 52 04.5	0.0
	2.5nm,0.2s						
MTBS				*e*S	Sb	01 52 58.0	+2.7
	12nm,0.2s						
TNSS	Tian-Shan	4.19	19	Pg	Pb	01 52 04.5	-0.6
	2.0nm,0.3s						
TNSS				Lg	Lg	01 52 57.9	
	4.2nm,0.8s						
TNSS	Tian-Shan	4.19	19	*e*P	Pb	01 52 04.5	-0.6
	2.0nm,0.3s						
TNSS				*e*S	Sb	01 52 57.9	+1.6
	4.2nm,0.8s						
MDOK	Medeo	4.33	20	Pg	Pb	01 52 07.2	-0.3
	2.7nm,0.4s						
MDOK				Lg	Lg	01 53 02.5	
	18nm,0.7s						
KOTS	Kotyrbulak	4.42	20	Pg	Pb	01 52 08.7	-0.2
	4.5nm,0.3s						
KOTS				Lg	Lg	01 53 05.1	
	29nm,0.8s						
KOTS	Kotyrbulak	4.42	20	*e*P	Pb	01 52 08.7	-0.2
	4.5nm,0.3s						
KOTS				*e*S	Sb	01 53 05.1	+2.5
	29nm,0.8s						
SATY	Saty	4.70	32	Pg	Pb	01 52 14.2	+0.5
	6.5nm,0.6s						
SATY				Lg	Lg	01 53 14.7	
	21nm,0.5s						
IUG	Iuzhnay	4.89	310	Pg	Pb	01 52 19.7	+2.8
	12nm,0.3s						
IUG				Lg	Lg	01 53 24.1	
	26nm,0.3s						
CHKK	Chushkaly	4.97	16	Pg	Pb	01 52 19.5	+1.3
	5.2nm,0.4s						
CHKK				Lg	Lg	01 53 23.7	
	11nm,0.6s						
CHKK	Chushkaly	4.97	16	*e*P	Pb	01 52 19.5	+1.3
	5.2nm,0.4s						
CHKK				*e*S	Sb	01 53 23.7	+5.3
	11nm,0.6s						
KURS	Kuram	4.98	27	Pg	Pb	01 52 19.3	+1.0
	3.5nm,0.6s						
KURS				Lg	Lg	01 53 23.4	
	5.8nm,1.0s						
UZB	Uzynbulak	5.04	35	Pg	Pb	01 52 20.3	+0.9
	4.6nm,0.4s						
UZB				Lg	Lg	01 53 24.9	
	8.9nm,0.5s						
UZB	Uzynbulak	5.04	35	*e*P	Pb	01 52 20.3	+0.9
	4.6nm,0.4s						
UZB				*e*S	Sb	01 53 24.9	+4.5
	8.9nm,0.5s						
KPKS	Kokpek	5.15	31	Pg	Pb	01 52 21.9	+0.6
	0.4nm,0.2s						
KPKS				Lg	Lg	01 53 27.8	
	30nm,0.6s						
SHLS	Shalkode	5.25	38	Pg	Pg	01 52 29.5	-1.5
	28nm,0.1s						
SHLS				Lg	Lg	01 53 40.9	
	20nm,0.9s						
SHLS	Shalkode	5.25	38	*e*P	Pg	01 52 29.5	-1.5
	28nm,0.1s			

OBL					Sg	01 52 36.5	+1.1
WRMHI	**West Rim**	**0.03**	**303**		Pg	01 52 35.4	+0.5
WRMHI					Sg	01 52 36.2	+0.8
UWB	**Uwekahuna Bluf**	**0.03**	**357**		Pg	01 52 35.6	+0.6
UWB					Sg	01 52 36.6	+1.0
UWE	**Uwekahuna**	**0.03**	**331**		Pg	01 52 35.6	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**25**		Pg	01 52 35.7	+0.7
SBLHI	**Steaming Bluff**	**0.04**	**13**		Pg	01 52 35.6	+0.6
SBLHI					Sg	01 52 36.7	+1.1
PUH	**Pauahi**	**0.06**	**107**		Pg	01 52 36.2	+0.7
PUH				IAML		01 52 38.5	
	comp=N,5μm,0.7s						
PUH				IAML		01 52 39.5	
	comp=E,4μm,0.5s						
RSD	**Rainshed**	**0.07**	**359**		Pg	01 52 36.4	+0.7
RSD				IAML		01 52 39.5	
	comp=E,2μm,0.6s						
RSD				IAML		01 52 40.3	
	comp=N,2μm,0.6s						
HLP	**Hilina Pali**	**0.10**	**197**		Pg	01 52 37.0	+0.8
HLP				IAML		01 52 39.5	
	comp=E,2μm,0.7s						
HLP				IAML		01 52 41.9	
	comp=N,2μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.10**	**97**		Pg	01 52 37.0	+0.7
STCH	**Steam Cracks**	**0.14**	**93**		Pg	01 52 37.6	+0.6
STCH					Sg	01 52 40.4	+1.4
STCH	**Steam Cracks**	**0.14**	**93**	IAML		01 52 40.5	
	comp=N,897nm,0.4s						
STCH				IAML		01 52 42.6	
	comp=E,941nm,0.3s						
MLH	**Mauna Loa**	**0.14**	**314**		Pg	01 52 38.1	+1.0
MLH				Sg	Sg	01 52 41.0	+1.9
MLH				IAML		01 52 41.3	
	comp=E,1μm,0.3s						
MLH				IAML		01 52 41.6	
	comp=N,1μm,0.3s						
NPOC	**North of Pu'u**	**0.16**	**90**		Pg	01 52 37.9	+0.6
NPOC					Sg	01 52 40.7	+1.4
JCUZ	**Jacuzzi**	**0.17**	**93**		Pg	01 52 38.1	+0.7
JCUZ					Sg	01 52 41.0	+1.4
AIN	**Ainahou**	**0.17**	**263**		Pg	01 52 38.5	+0.9
AIN				Sg	Sg	01 52 41.9	+2.0
AIN				IAML		01 52 42.3	
	comp=N,977nm,0.4s						
AIN				IAML		01 52 42.4	
	comp=E,1μm,0.3s						
HTC	**Hot Caves**	**0.19**	**217**		Pg	01 52 38.6	+0.7
JOKA	**Jonika Flow**	**0.26**	**81**		Pg	01 52 39.6	+0.4
JOKA				IAML		01 52 47.5	
	comp=N,301nm,0.9s						
HMH	**Humu'ula Sheep**	**0.29**	**317**		Pg	01 52 40.5	+0.8
HMH					Sg	01 52 45.0	+1.4
HMH	**Humu'ula Sheep**	**0.29**	**317**	IAML		01 52 45.3	
	comp=N,181nm,0.4s						
HMH				IAML		01 52 48.8	
	comp=E,176nm,0.7s						
MWH	**Mokuaweoweo**	**0.32**	**287**		Pg	01 52 40.9	+0.6
MWH					Sg	01 52 46.0	+1.4
MWH	**Mokuaweoweo**	**0.32**	**287**	IAML		01 52 50.1	
	comp=N,326nm,1.8s						
MWH				IAML		01 52 50.9	
	comp=E,435nm,1.1s						
KHU	**Kahuku**	**0.35**	**246**		Pg	01 52 41.2	+0.2
KHU					Sg	01 52 46.6	+1.0
ALEP	**Alea Permanent**	**0.38**	**293**		Pg	01 52 41.8	+0.3
ALEP					Sg	01 52 47.5	+1.0
POHA	**Pohakuloa**	**0.44**	**326**		Pg	01 52 42.8	+0.1
POHA					Sg	01 52 49.9	+1.5
POHA	**Pohakuloa**	**0.44**	**326**	IAML		01 52 50.3	
	comp=E,150nm,0.5s						
POHA				IAML		01 52 55.2	
	comp=E,107nm,0.7s						

*IDC **04** 02:07:21.5±1.2,2°.55S×138°.41E, h0km, mb3.6/3, mbtmp3.8/7, ML3.6/3, MS3.1/3, Error ellipse: s-maj=27.5km s-min=21.2km az=150.0*
*DJA **04** 02:07:24.2±0.3,3°.S±2°.×13°.8E±°, h10km, M3.9/7, MLv3.9/7*
ISC 04 02:07:25.3±0.7, 2°.60S±0°.06×138°.49E±0°.04, h32km, n15, σ2°26/20, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.65**	**20**	P	**Pb**	**02 07 36.4**	**-1.9**
SMPI				S	**Sb**	**02 07 44.2**	**-2.9**
GENI	**Genyem**	**1.68**	**90**	P	**Pn**	**02 07 54.4**	**+1.9**
JAY	**Jayapura**	**2.22**	**88**	Pn	**Pn**	**02 08 00.4**	**+0.4**
	11nm,0.3s,baz=240,slow=8.5,SNR=32						
JAY				Sn	**Sb**	**02 08 31.5**	**-0.5**
	12nm,0.3s,baz=312,slow=23,SNR=6.7						
JAY				LR	LR	02 08 48.3	
	comp=Z,145nm,20.8s,baz=114,slow=38 35nm,0.5s						
JAY	**Jayapura**	**2.22**	**88**	P	**Pn**	**02 08 00.7**	**+0.7**
SRPI	**Serui, Papua**	**2.36**	**288**	P	**Pn**	**02 08 02.0**	**+0.1**
SRPI				S	**Sn**	**02 08 32.1**	**+2.4**
BAKI	**Biak**	**2.76**	**300**	P	**Pn**	**02 08 08.9**	**+1.5**
BAKI				S	**Sn**	**02 08 41.6**	**+2.0**
FAKI	**Fak Fak**	**6.24**	**267**	P	**Pn**	**02 08 54.0**	**-1.2**
FAKI				S	**Sn**	**02 10 08.6**	**+3.1**
DAV	**Davao City (W)**	**16.07**	**307**	LR	LR	02 16 56.8	
	comp=Z,42nm,19.1s,baz=176,slow=36						
WRA	**Warramunga Arr**	**17.70**	**193**	P	**Pn**	**02 11 31.0**	**+1.4**
	0.5nm,0.3s,baz=3.8,slow=12,SNR=12						
WRA				S	Sn	02 14 35.6	-10
	0.9nm,0.8s,baz=360,slow=23,SNR=2.9 1.1nm,0.6s						
KAPI	**Kappang**	**18.84**	**262**	P	**Pn**	**02 11 43.6**	**+0.1**
	12nm,0.5s,baz=80,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**19.89**	**218**	P	**P**	**02 11 54.4**	**+0.1**
	0.1nm,0.3s,baz=45,slow=14,SNR=2.1						
FITZ				S	**S**	**02 15 30.4**	**-6.3**
	1.4nm,0.8s,baz=164,slow=18,SNR=1.3 2.2nm,1.0s						
ASAR	**Alice Springs**	**21.40**	**192**	P	**P**	**02 12 10.6**	**0.0**
	0.9nm,0.4s,baz=19,slow=10,SNR=14						
ASAR				S	**S**	**02 16 05.7**	**-1.0**
	0.8nm,0.7s,baz=12,slow=24,SNR=4.4 0.9nm,0.4s						
NWAO	**Narrogin (SRO)**	**36.15**	**211**	LR	LR	02 30 19.2	
	comp=Z,127nm,20.5s,baz=70,slow=38						
MKAR	**Makanchi Array**	**69.57**	**322**	P	**P**	**02 18 33.2**	**+1.9**
	0.5nm,0.7s,baz=113,slow=5.8,SNR=2.6 0.5nm,0.7s						
ILAR	**Eielson Array**	**85.83**	**24**	P	**P**	**02 20 01.4**	**-0.1**
	0.4nm,0.6s,baz=254,slow=5.3,SNR=6.2 0.4nm,0.6s						

*IDC **04** 02:12:50.3±0.9, 15°.22S×179°.39W, h0km, mb3.8/7, mbtmp3.8/7, MS3.3/4, Error ellipse: s-maj=46.1km s-min=23.7km az=141.0*
ISC 04 02:12:55.8±1.0, 15°.2S±0°.3×179°.4W±0°.2, h35km, n9, σ1°05/7, mb3.8/7, MS3.6/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**19.57**	**111**	LR	LR	02 24 02.1	
	comp=Z,61nm,18.1s,baz=55,slow=34						
PPT	**Papeete**	**28.70**	**99**	LR	LR	02 27 14.8	
	comp=Z,28nm,21.0s,baz=325,slow=30						
WRA	**Warramunga Arr**	**44.23**	**257**	P	**P**	**02 21 03.4**	**+1.4**
	0.5nm,0.8s,baz=88,slow=9.1,SNR=2.2						
WRA				LR	LR	02 37 12.6	
	comp=Z,75nm,18.1s,baz=101,slow=33 0.5nm,0.8s						
ASAR	**Alice Springs**	**44.65**	**252**	P	**P**	**02 21 04.2**	**-1.2**
	1.7nm,0.9s,baz=84,slow=9.1,SNR=8.3						
ASAR				LR	LR	02 37 22.9	
	comp=Z,75nm,20.6s,baz=86,slow=33 1.7nm,0.9s						
QSPA	**South Pole Qui**	**74.81**	**180**	P	**P**	**02 24 32.3**	**0.0**
	2.4nm,0.7s,baz=345,slow=1.2,SNR=8.0 2.4nm,0.7s						
NVAR	**Mina Array Bea**	**78.19**	**45**	P	**P**	**02 24 51.6**	**-0.4**
	0.5nm,0.8s,baz=224,slow=8.3,SNR=4.3 0.5nm,0.8s						
ILAR	**Eielson Array**	**83.52**	**13**	P	**P**	**02 25 19.1**	**-0.5**
	0.9nm,0.9s,baz=230,slow=6.2,SNR=6.3 0.9nm,0.9s						
TXAR	**Lajitas Array**	**85.39**	**58**	P	**P**	**02 25 30.9**	**+0.8**
	0.4nm,0.7s,baz=224,slow=5.2,SNR=4.3 0.4nm,0.7s						
PDAR	**Pinedale Array**	**86.09**	**44**	P	**P**	**02 25 33.4**	**-0.1**
	0.3nm,0.5s,baz=198,slow=4.2,SNR=4.8 0.3nm,0.5s						

*IDC **04** 02:13:49.0±1.4,5°.90N×126°.65E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=121.4km s-min=18.4km az=70.0*
*NEIC **04** 02:14:03.5±2.2,5°.5N±0°.1×126°.5E±0°.2, h99km±12km, mb4.3/9, Error ellipse: s-maj=26.9km s-min=9.1km az=63.0*
ISC 04 02:14:02.4±0.7, 5°.47N±0°.08×126°.5E±0°.1, h100km, n24, σ1°55/24, mb3.9/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.82**	**331**	Pn	**Pn**	**02 14 34.6**	**+1.8**
TNTI	**Ternate**	**4.75**	**169**	Pn	**Pn**	**02 15 12.6**	**+0.8**
TOLI2	**Tolitoli**	**7.14**	**233**		**Pn**	**02 15 43.1**	**-1.3**
FAKI	**Fak Fak**	**10.13**	**145**	Pn	**Pn**	**02 16 24.1**	**-0.9**
SBUM	**Sibu**	**14.53**	**259**	Pn	**Pn**	**02 17 25.0**	**+1.7**
SOEI	**Soe**	**15.28**	**188**		**Pn**	**02 17 32.4**	**-0.5**
MTN	**Manton Dam**	**18.77**	**166**	P	**P**	**02 18 14.9**	**+1.0**
MTN				IAmb	IAmb	02 18 25.6	
	comp=Z,14nm,1.4s						
QIZ	**Qiongzhong**	**21.08**	**311**	P	**P**	**02 18 39.4**	**+0.4**
QIZ				IAmb	IAmb	02 18 53.0	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**21.13**	**174**	P	**P**	**02 18 41.1**	**+1.7**
KNRA				IAmb	IAmb	02 18 49.3	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.43**	**182**	P	**P**	**02 19 03.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.43**	**182**	P	**P**	**02 19 04.2**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=352,slow=9.5,SNR=7.6 comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**02 19 31.0**	**+1.2**
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**02 19 31.0**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=344,slow=10,SNR=9.3 comp=Z,1.2nm,0.5s						
WR8	**Warramunga Arr**	**26.47**	**163**	P	**P**	**02 19 31.3**	**+0.9**
WR8				IAmb	IAmb	02 20 07.4	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**02 20 01.2**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=342,slow=6.8,SNR=4.1 comp=Z,0.4nm,0.6s						
BBOO	**Buckleboo**	**39.14**	**167**	P	**P**	**02 21 21.7**	**+1.3**
STKA	**Stephens Creek**	**39.84**	**160**	P	**P**	**02 21 26.6**	**+0.4**
STKA				IAmb	IAmb	02 22 03.8	
	comp=Z,37nm,1.2s						
STKA	**Stephens Creek**	**39.84**	**160**	P	**P**	**02 21 27.7**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=340,slow=7.4,SNR=3.6 comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**55.99**	**325**	P	**P**	**02 23 28.2**	**-2.5**
MKAR	**Makanchi Array**	**55.99**	**325**	P	**P**	**02 23 27.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=123,slow=8.2,SNR=4.9 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.15**	**327**	P	**P**	**02 23 56.8**	**-2.7**
	comp=Z,0.5nm,0.6s,baz=130,slow=6.1,SNR=4.9 comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**70.65**	**320**	P	**P**	**02 25 07.5**	**+0.2**
ARCES	**ARCESS Array B**	**88.74**	**340**	P	**P**	**02 26 42.0**	**-2.5**
	comp=Z,1.9nm,0.8s,baz=64,slow=8.2,SNR=3.9 comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.13**	**289**	PKP	**PKPdf**	**02 32 46.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=65,slow=1.5,SNR=1.8						

ANF 04 02:23:25.4±0.1, 61°.00N×139°.97W, h9km±1km, ML1.8/8, Error ellipse: s-maj=1.2km s-min=0.9km az=130.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O28M	**Mount Upton**	**0.25**	**205**	P	Pg	02 23 31.2	+0.7
	baz=22,SNR=127						
O28M				S	Sg	02 23 35.1	+1.0
	baz=22						
YUK8	**Steele Glacier**	**0.30**	**19**	P	Pg	02 23 31.7	+0.1
	baz=202,SNR=246						
YUK8				S	Sg	02 23 35.7	0.0
	baz=202						
CTG	**Chitna Glacier**	**0.67**	**268**	P	Pg	02 23 38.5	+0.1
	baz=85,SNR=31						
CTG				S	Sg	02 23 47.7	+0.7
	baz=85						
YUK4	**Talbot Arm**	**0.73**	**61**	P	Pb	02 23 41.3	+0.8
	baz=239,SNR=57						
YUK4				S	Sn	02 23 52.4	-1.2
	baz=239						
YUK6	**Outpost Mounta**	**0.79**	**93**	P	Pg	02 23 40.9	+0.3
	baz=276,SNR=107						
YUK6				S	Sb	02 23 51.6	-0.7
	baz=276						
PINM	**Pinnacle**	**0.92**	**189**	Pb	Pb	02 23 43.8	+0.2
	baz=7.7						
PINM				S	Sg	02 23 55.1	+0.1
	baz=7.7						
O29M	**Mount Kennedy**	**0.98**	**135**	P	Pg	02 23 44.3	+0.1
	baz=316						
O29M				S	Sb	02 23 58.1	+0.3
	baz=316						
HYT	**Haines Junctio**	**1.22**	**97**	P	Pb	02 23 48.8	0.0
	baz=280						
HYT				S	Sn	02 24 05.2	-0.3
	baz=280						
N30M	**Aishikik Lake**	**1.47**	**70**	Pb	Pb	02 23 52.9	-0.1
	baz=254						
N30M				S	Sg	02 24 12.3	-0.4
	baz=254						
MCARA	**McCarthy VSAT**	**1.53**	**286**	Pb	Pb	02 23 53.8	-0.1
	baz=103						
MCARA				Sb	Sg	02 24 14.9	+0.5
	baz=103						
CRQE	**Cirque**	**1.55**	**262**	Pb	Pb	02 23 54.0	-0.3
	baz=79						
M29M	**Somme Creek**	**1.62**	**26**	Pb	Pb	02 23 55.4	-0.1
	baz=208						
M29M				Sb	Sg	02 24 17.1	-0.4
	baz=208						
M27K	**Edge Creek, AK**	**1.64**	**327**	Pb	Pb	02 23 55.9	0.0
	baz=146						
M27K				Sb	Sg	02 24 18.0	-0.1
	baz=146						
P30M	**Million Dollar**	**1.73**	**119**	Sb	Sg	02 24 20.6	-0.4
	baz=302						
P29M	**Windy Craggy**	**1.77**	**140**	Pg	Pg	02 23 59.2	0.0
	baz=322						
P29M				Sb	Sg	02 24 22.7	+0.5
	baz=322						
O30N	**Mendenhall**	**1.91**	**95**	Sb	Sg	02 24 26.3	-0.5
	baz=279						
M26K	**Nabesna, AK**	**2.01**	**316**	Pb	Pb	02 24 02.7	+0.5
	baz=133						
M30M	**Minto, Yukon**	**2.19**	**42**	Pb	Pb	02 24 05.7	+0.5
	baz=226						
M30M				Sb	Sg	02 24 35.4	-0.2
	baz=226						
L29M	**L29M**	**2.29**	**22**	Sb	Sg	02 24 37.4	-1.5
	baz=204						

ANF 04 02:24:25.1±0.3, 60°.26N×141°.65W, h8km±2km, ML2.3/15, Error ellipse: s-maj=2.1km s-min=1.5km az=176.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESA	**MESA**	**0.17**	**241**	P	Pg	02 24 28.8	+0.1
	baz=58,SNR=261						
MESA				S	Sg	02 24 31.9	+0.7
	baz=58						
PINM	**Pinnacle**	**0.72**	**103**	P	Pb	02 24 40.0	0.0
	baz=284,SNR=11						
PINM				S	Sg	02 24 48.6	+0.2
	baz=284						
CTG	**Chitna Glacier**	**0.72**	**12**	P	Pb	02 24 39.7	-0.4
	baz=194,SNR=15						
CTG				S	Sb	02 24 49.4	-0.8
	baz=194						
BGLC	**Bering Glacier**	**0.83**	**261**	P	Pb	02 24 41.6	-0.1
	baz=80						
BGLC				S	Sg	02 24 52.4	+0.6
	baz=80						
CRQE	**Cirque**	**0.87**	**305**	P	Pg	02 24 41.6	-0.2
	baz=125						
CRQE				S	Sb	02 24 54.1	-0.1
	baz=125						
O28M	**Mount Upton**	**0.89**	**54**	P	Pg	02 24 42.2	+0.1
	baz=236,SNR=9.1						
O28M				S	Sg	02 24 54.3	+0.6
	baz=236						
PNL	**Peninsula**	**1.28**	**117**	P	Pn	02 24 48.3	-1.0
	baz=298						
PNL				S	Sb	02 25 05.8	-0.3
	baz=298						
MCARA	**McCarthy VSAT**	**1.31**	**330**	P	Pn	02 24 49.1	-0.7
	baz=149						
MCARA				Sg	Sn	02 25 08.3	+0.9
	baz=149						
YUK8	**Steele Glacier**	**1.38**	**41**	Pg	Pb	02 24 51.4	0.0
	baz=223,SNR=6.4						
YUK8				Sg	Sn	02 25 10.7	+1.1
	baz=223						
KAIM	**Kayak Island**	**1.43**	**258**	P	Pn	02 24 50.9	-0.4
	baz=75						
KAIM				S	Sn	02 25 10.1	-0.1
	baz=75						
O29M	**Mount Kennedy**	**1.53**	**87**	Pb	Pn	02 24 53.2	+0.3
	baz=270,SNR=13						
O29M				Sb	Sg	02 25 14.0	-0.4
	baz=270						
BMRM	**Bremner River**	**1.62**	**297**	P	Pn	02 24 53.7	-0.4
	baz=115,SNR=6.1						
BMRM				Sb	Sg	02 25 16.9	-0.2
	baz=115						
YUK6	**Outpost Mounta**	**1.76**	**66**	Pg	Pg	02 24 58.3	-0.5
	baz=249						
YUK6				Sg	Sg	02 25 22.7	+1.0
	baz=249						
YUK4	**Talbot Arm**	**1.83**	**52**	Pb	Pg	02 25 01.1	+0.9
	baz=234						
YUK4				Sb	Sg	02 25 27.4	+3.5
	baz=234						
N25K	**Chitina, Valde**	**1.97**	**314**	P	Pn	02 24 59.2	+0.3
	baz=132						
N25K				Sb	Sb	02 25 26.8	+0.8
	baz=132						
EYAK	**Cordova Ski Ar**	**2.05**	**280**	P	Pn	02 24 59.8	-0.1
	baz=96						
P29M	**Windy Craggy**	**2.07**	**106**	P	Pn	02 25 00.1	-0.1
	baz=289						
P29M				S	Sn	02 25 26.7	+0.5
	baz=289						
M27K	**Edge Creek, AK**	**2.11**	**357**	Pb	Pb	02 25 03.0	-0.6
	baz=177						
M27K				Sb	Sg	02 25 33.3	+0.6
	baz=177						
HYT	**Haines Junctio**	**2.13**	**73**	Pb	Pb	02 25 03.2	-0.8
	baz=256						
HYT				Sb	Sb	02 25 31.3	+0.8
	baz=256						
M26K	**Nabesna, AK**	**2.24**	**344**	Pb	Pb	02 25 05.4	-0.5
	baz=163						
M26K				Sb	Sb	02 25 35.3	+1.5
	baz=163						
P30M	**Million Dollar**	**2.35**	**91**	P	Pn	02 25 04.7	+0.7
	baz=275						
P30M				Sb	Sb	02 25 37.5	+0.7
	baz=275						
KLU	**Klutina**	**2.43**	**302**	P	Pn	02 25 05.8	+0.7
	baz=119						
KLU				S	Sn	02 25 35.1	+0.1
	baz=119						
N30M	**Aishikik Lake**	**2.54**	**60**	P	Pn	02 25 07.9	+1.3
	baz=244						
N30M				S	Sn	02 25 37.6	-0.2
	baz=244						
M29M	**Somme Creek**	**2.67**	**34**	S	Sn	02 25 43.0	+1.8
	baz=217						
GLI	**Glacier Island**	**2.76**	**285**	P	Pn	02 25 09.3	-0.3
	baz=101						
O30N	**Mendenhall**	**2.80**	**77**	P	Pn	02 25 11.2	+1.0
	baz=262						
P23K	**Montague Islan**	**2.89**	**267**	P	Pn	02 25 10.9	-0.5
	baz=82						

IDC 04 02:34:36.2±2.0, 6°.48S×129°.39E, h0km, mb3.9/2, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=105.1km s-min=25.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.12**	**197**	Pn	Pn	02 37 29.9	-0.3
	0.6nm,0.3s,baz=25,slow=10,SNR=16						
FITZ				Sn	Sn	02 39 31.3	-15
	1.2nm,0.3s,baz=256,slow=21,SNR=6.6 0.9nm,0.3s						
WRA	**Warramunga Arr**	**14.22**	**161**	Pn	Pn	02 37 57.4	-1.6
	0.4nm,0.3s,baz=337,slow=14,SNR=11						
WRA				Sn	Sn	02 40 22.8	-15
	1.4nm,0.3s,baz=333,slow=22,SNR=9.4 0.8nm,0.5s						
ASAR	**Alice Springs**	**17.63**	**166**	P	P	02 38 44.8	+0.2
	0.9nm,0.3s,baz=352,slow=11,SNR=45						
ASAR				S	Sn	02 41 45.3	-15
	0.6nm,0.5s,baz=217,slow=24,SNR=2.5 4.2nm,0.5s						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	02 45 34.2	+0.3
	0.5nm,0.4s,baz=126,slow=7.3,SNR=5.9 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**71.75**	**329**	P	P	02 46 00.1	-0.2
	0.6nm,0.5s,baz=133,slow=5.1,SNR=7.1 0.6nm,0.5s						

*IDC **04** 02:43:46.8±4.6, 3°.27S×148°.86E, h0km, mb4.1/7, mbtmp4.1/8, ML1.9/1, MS3.6/23, Error ellipse: s-maj=169.5km s-min=19.7km az=99.0*
ISC 04 02:43:48.0±3.5, 3°.2S±0°.1×149°.0E±0°.9, h10km, n35, σ0°97/10, mb4.2/7, MS3.8/21, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.39**	**196**	Pn	**Pn**	**02 45 22.0**	**-0.2**
	1.9nm,0.3s,baz=320,slow=8.5,SNR=2.4						
PMG				Sn	**Sn**	**02 46 36.5**	**+1.3**
	2.3nm,0.3s,baz=8.9,slow=17,SNR=1.7						
PMG				LR	LR	02 47 54.4	
	comp=Z,494nm,20.6s,baz=38,slow=39 6.0nm,0.4s						
JAY	**Jayapura**	**8.30**	**275**	LR	LR	02 48 34.7	
	comp=Z,465nm,19.2s,baz=12,slow=35						
CTA	**Charters Tower**	**16.95**	**189**	LR	LR	02 54 01.4	
	comp=Z,5.0nm,20.4s,baz=30,slow=36						
GUMO	**Guam**	**17.21**	**346**	LR	LR	02 53 24.6	
	comp=Z,109nm,21.5s,baz=166,slow=34						
WRA	**Warramunga Arr**	**21.90**	**220**	P	**P**	**02 48 40.3**	**-1.3**
	14nm,1.1s,baz=43,slow=11,SNR=19						
WRA				LR	LR	02 58 01.8	
	comp=Z,104nm,19.1s,baz=100,slow=39 14nm,1.1s						
ASAR	**Alice Springs**	**25.00**	**214**	P	**P**	**02 49 11.7**	**-0.5**
	4.0nm,1.0s,baz=46,slow=7.9,SNR=20						
ASAR				LR	LR	02 59 39.1	
	comp=Z,118nm,19.9s,baz=82,slow=38 4.0nm,1.0s						
DAV	**Davao City (W)**	**25.50**	**294**	LR	LR	02 59 54.0	
	comp=Z,52nm,18.2s,baz=320,slow=38						
BATI	**Baumata**	**26.06**	**253**	LR	LR	03 00 33.7	
	comp=Z,264nm,18.1s,baz=129,slow=39						
H11S3	**WAKE ISLAND Hy**	**27.76**	**38**	T	T	03 18 55.2	
	baz=220,slow=76,SNR=310						
H11S2	**WAKE ISLAND Hy**	**27.77**	**38**	T	T	03 18 52.9	
	baz=220,slow=76,SNR=258						
H11S1	**WAKE ISLAND Hy**	**27.78**	**38**	T	T	03 18 53.7	
	baz=220,slow=76,SNR=303						
H11N1	**WAKE ISLAND Hy**	**28.81**	**37**	T	T	03 20 13.6	
	baz=218,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**28.83**	**37**	T	T	03 20 14.8	
	baz=218,slow=76,SNR=82						
H11N2	**WAKE ISLAND Hy**	**28.83**	**37**	T	T	03 20 15.1	
	baz=218,slow=76,SNR=156						
KAPI	**Kappang**	**29.20**	**266**	LR	LR	03 02 34.4	
	comp=Z,59nm,18.7s,baz=70,slow=39						
STKA	**Stephens Creek**	**29.32**	**193**	LR	LR	03 02 13.6	
	comp=Z,202nm,19.6s,baz=24,slow=38						
JOW	**Kunigami**	**35.97**	**327**	LR	LR	03 02 26.3	
	comp=Z,70nm,21.5s,baz=97,slow=31						
MJAR	**Matsushiro Arr**	**

comp=Z,49nm,21.5s,baz=173,slow=32
MA2 Magadan 62.64 1 LR LR 03 22 14.9
comp=Z,23nm,18.9s,baz=168,slow=37
SONM Songino Array 63.02 329 P **P** **02 54 16.3 +0.9**
1.3nm,0.8s,baz=146,slow=5.5,SNR=5.5
SONM LR LR 03 21 58.7
comp=Z,74nm,19.6s,baz=34,slow=36
1.3nm,0.8s
TIXI Tiksi 75.90 354 LR LR 03 27 58.6
comp=Z,28nm,21.0s,baz=136,slow=35
KDAK Kodiak Island 76.55 28 LR LR 03 23 46.1
comp=Z,44nm,20.4s,baz=348,slow=31
MKAR Makanchi Array 76.67 320 P **P** **02 55 39.9 +0.5**
1.4nm,1.0s,baz=110,slow=7.9,SNR=2.9
1.4nm,1.0s
ZALV Zalesovo Beam 77.77 327 P **P** **02 55 45.3 0.0**
0.9nm,0.3s,baz=116,slow=5.6,SNR=2.1
ZALV LR LR 03 30 18.2
comp=Z,63nm,20.1s,baz=350,slow=36
0.9nm,0.3s
KURBB Kurchatov Arra 80.24 322 P **P** **02 55 59.2 +0.3**
1.2nm,0.7s,baz=110,slow=5.2,SNR=11
1.2nm,0.7s
BVAR Borovoye Array 85.73 324 P **P** **02 56 26.1 -1.3**
1.3nm,0.6s,baz=93,slow=7.2,SNR=6.2
1.3nm,0.6s
QSPA South Pole Qui 86.71 180 LR LR 03 33 24.9
comp=Z,66nm,18.3s,baz=314,slow=34
DLBC Dease Lake 88.03 31 LR LR 03 26 47.4
comp=Z,411nm,21.1s,baz=12,slow=29
ARTI Arti 93.01 326 LR LR 03 38 33.5
comp=Z,62nm,20.8s,baz=0.5,slow=35
AKTO Aktyubinsk 93.09 320 LR LR 03 40 40.4
comp=Z,78nm,19.0s,baz=242,slow=37
TORD Torodi Ar. Bea 146.20 289 PKPbc **PKPbc** **03 03 29.4 -0.4**
0.7nm,0.6s,baz=66,slow=3.7,SNR=4.9

NNC 04 02:48:24.8±6.2, 37°.03N×70°.80E, h0km, mb3.9, mpv3.6, 2C-2D, Error ellipse: s-maj=53.9km s-min=45.6km az=136.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.07**	**358**	⇓P	Pn	02 49 56.9	+1.1
	4.0nm,0.2s,baz=174,slow=12,SNR=106						
KK31				⇓S	Sn	02 51 07.7	+1.6
	1.2nm,0.3s,baz=332,slow=42,SNR=2.6						
AAK	**Ala-Archa**	**6.28**	**26**	⇑P	Pn	02 49 59.3	+0.5
	0.7nm,0.4s						
AAK				⇑S	Sn	02 51 11.7	+0.3
	1.7nm,0.5s						
AB31	**Akbulak array**	**14.54**	**331**	P	Pn	02 51 48.3	-3.4
	0.5nm,0.3s,baz=150,slow=12,SNR=26						

*ISK **04** 03:05:31.8, 41°.09N×43°.95E, h5km, ML2.8/10*
*TIF **04** 03:05:32.6, 41°.09N×43°.94E, h9km±1km*
*AZER **04** 03:05:34.4, 40°.96N×44°.10E, h2km, ml3.1*
*AFAD **04** 03:05:34.3, 41°.08N×43°.77E, h3km±3km, ML2.8*
*NORS **04** 03:05:36.1, 41°.31N×44°.09E, h1km, MPVA3.7*

ISC 04 03:05:32.7±1.1, 41°.06N±0°.02×43°.95E±0°.01, h3km±9km, n72, σ1§26/131, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.33**	**308**	P	**Pg**	**03 05 39.9**	**+0.7**
BGD				S	**Sg**	**03 05 44.8**	**+1.2**
EAK	**Akyaka**	**0.46**	**215**	P	**Pg**	**03 05 42.0**	**+0.5**
KZRT	**Kazreti**	**0.47**	**46**	P	**Pg**	**03 05 40.2**	**-1.5**
KZRT				S	**Sg**	**03 05 46.9**	**-1.0**
TRLG	**Trialeti**	**0.49**	**14**	P	**Pg**	**03 05 42.6**	**+0.4**
TRLG				S	**Sg**	**03 05 49.3**	**+0.8**
DIGO	**Kars**	**0.78**	**214**	P	**Pb**	**03 05 49.2**	**+0.1**
DIGO				S	**Sg**	**03 05 57.8**	**0.0**
DIGO				*i* IAML		03 05 59.0	
	comp=E,1μm,0.4s						
DIGO				*i* IAML		03 06 02.0	
	comp=N,1μm,0.5s						
BOZK	**Kars-Merkez-Bo**	**0.88**	**238**	P	**Pg**	**03 05 49.6**	**+0.1**
BOZK				S	**Sg**	**03 06 01.4**	**+0.6**
TBLG	**Delisi**	**0.89**	**41**	P	**Pg**	**03 05 49.8**	**-0.1**
TBLG				S	**Sb**	**03 06 02.4**	**-0.8**
TBLG	**Delisi**	**0.89**	**41**	Pg	**Pg**	**03 05 49.8**	**-0.1**
TBLG				Sg	**Sb**	**03 06 02.9**	**-0.3**
SEAG	**Tbilisi Sea**	**0.95**	**42**	P	**Pb**	**03 05 51.2**	**-0.6**
SEAG				S	**Sb**	**03 06 04.7**	**-0.2**
AHAN	**Ardahan-Merkez**	**1.00**	**276**	P	**Pg**	**03 05 52.0**	**0.0**
AHAN				S	**Sg**	**03 06 05.1**	**+0.1**
AHAN				*i* IAML		03 06 06.0	
	comp=N,326nm,0.4s						
AHAN				*i* IAML		03 06 06.0	
	comp=E,489nm,0.4s						
EPOS	**Posof**	**1.02**	**296**	P	**Pg**	**03 05 52.1**	**-0.1**
EPOS				S	**Sg**	**03 06 04.4**	**-1.1**
EPOS				*i* IAML		03 06 07.0	
	comp=N,271nm,0.5s						
GOLE	**Ardahan-G¶le**	**1.05**	**258**	P	**Pg**	**03 05 52.9**	**+0.1**
GOLE				S	**Sg**	**03 06 05.8**	**-0.6**
GOLE				*i* IAML		03 06 11.0	
	comp=N,234nm,0.2s						
QZX	**Qazax, Azerbai**	**1.08**	**90**	P	**Pb**	**03 05 53.7**	**-0.3**
QZX				S	**Sb**	**03 06 08.0**	**-0.5**
GNI	**Garni**	**1.09**	**146**	Pn	**Pb**	**03 05 54.4**	**0.0**
GNI				Sn	**Sn**	**03 06 10.9**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.10**	**168**	Pn	**Pg**	**03 05 54.1**	**+0.3**
TASB				Sn	**Sn**	**03 06 11.2**	**+0.4**
DGRG	**David-gareji**	**1.14**	**70**	P	**Pn**	**03 05 55.3**	**-0.3**
DGRG				S	**Sn**	**03 06 12.6**	**+0.8**
IGDI	**IGDIR**	**1.20**	**175**	P	**Pb**	**03 05 55.0**	**-1.1**
IGDI				S	**Sb**	**03 06 09.9**	**-2.0**
IGDI	**IGDIR**	**1.20**	**175**	P	**Pb**	**03 05 55.2**	**-0.9**
IGDI				S	**Sb**	**03 06 11.0**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.31**	**248**	Pn	**Pn**	**03 05 57.5**	**-0.6**
SENK				Sn	**Sn**	**03 06 17.6**	**+1.4**
KOTA	**Agri, Merkez-K**	**1.38**	**204**	P	**Pg**	**03 05 59.9**	**+0.7**
GDB	**GEDABAY**	**1.41**	**103**	P	**Pn**	**03 05 59.1**	**-0.3**
GDB				S	**Sb**	**03 06 17.6**	**-0.6**
GUDG	**Gudauri**	**1.46**	**16**	P	**Pn**	**03 05 59.8**	**-0.3**
GUDG				S	**Sg**	**03 06 19.6**	**+0.1**
TKB	**Tkibuli**	**1.47**	**331**	P	**Pb**	**03 06 00.1**	**-0.6**
TKB				S	**Sb**	**03 06 19.5**	**-0.3**
HYR	**Heyderabad**	**1.51**	**152**	P	**Pn**	**03 06 00.7**	**0.0**
HYR				S	**Sn**	**03 06 19.8**	**-1.1**
GARIG	**Gari**	**1.58**	**347**	P	**Pb**	**03 06 02.2**	**-0.4**
GARIG				S	**Sg**	**03 06 23.9**	**+0.3**
EATA	**Eleskirt**	**1.63**	**223**	P	**Pb**	**03 06 03.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.66**	**206**	Pn	**Pb**	**03 06 03.5**	**-0.4**
DDEM	**Demirkent**	**1.67**	**265**	P	**Pn**	**03 06 03.1**	**+0.2**
DDEM				S	**Sn**	**03 06 22.3**	**-2.7**
DDEM				*i* IAML		03 06 31.0	
	comp=N,299nm,0.4s						
DBAD	**Bademkaya**	**1.70**	**269**	P	**Pb**	**03 06 04.2**	**-0.5**
DBAD				S	**Sn**	**03 06 24.3**	**-1.4**
DBAD				*i* IAML		03 06 28.0	
	comp=E,112nm,0.6s						
DBOC	**Borcka**	**1.74**	**280**	P	**Pb**	**03 06 04.7**	**-0.6**
DBOC				S	**Sb**	**03 06 27.1**	**-0.5**
BATM	**Batumi**	**1.78**	**288**	P	**Pb**	**03 06 05.6**	**-0.4**
BATM				S	**Sb**	**03 06 27.8**	**-0.9**
BATM	**Batumi**	**1.78**	**288**	Pn	**Pn**	**03 06 04.9**	**+0.5**
BATM				Sn	**Sb**	**03 06 28.9**	**+0.2**
LACR	**Lac**	**1.78**	**8**	*e*Pg	**Pb**	**03 06 05.9**	**-0.2**
LACR				*e*Sg	**Sg**	**03 06 29.8**	**-0.2**
BCA	**Borcka**	**1.79**	**283**	Pn	**Pn**	**03 06 05.1**	**+0.5**
SHTL	**Shatili**	**1.83**	**29**	P	**Pb**	**03 06 06.5**	**-0.4**
SHTL				S	**Sg**	**03 06 31.0**	**-0.5**
GANJ	**Ganja**	**1.85**	**102**	P	**Pb**	**03 06 06.3**	**-0.8**
GANJ				S	**Sb**	**03 06 30.3**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.86**	**352**	*e*Pg	**Pb**	**03 06 07.3**	**-0.1**
DIGR				*e*Sg	**Sg**	**03 06 33.0**	**+0.6**
HOMI	**Horasan**	**1.86**	**238**	P	**Pb**	**03 06 06.7**	**-0.8**
VSHL	**Vashlovani**	**1.86**	**84**	P	**Pg**	**03 06 08.0**	**-0.3**
VSHL				S	**Sg**	**03 06 36.8**	**+4.3**
DORK	**Agr/Tutak/Do**	**1.90**	**208**	P	**Pb**	**03 06 08.2**	**+0.1**
HOPA	**Hopa-Artvin**	**1.91**	**281**	Pn	**Pn**	**03 06 06.8**	**+0.6**
CLDR	**Caldiran**	**1.92**	**181**	Pn	**Pb**	**03 06 07.9**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.92**	**237**	Pn	**Pb**	**03 06 07.7**	**-0.8**
KORR	**Kora**	**2.02**	**3**	*e*Pg	**Pg**	**03 06 11.4**	**-0.1**
KORR				*e*Sg	**Sg**	**03 06 39.0**	**+1.2**
SBZ	**Shahbuz**	**2.07**	**143**	P	**Pg**	**03 06 11.9**	**-0.5**
SBZ				S	**Sb**	**03 06 36.5**	**-0.5**
ZKTA	**Zakatala**	**2.09**	**73**	P	**Pb**	**03 06 10.5**	**-0.8**
ZKTA				S	**Sg**	**03 06 40.6**	**+0.6**
ARNR	**Ardon**	**2.13**	**7**	*e*Pg	**Pg**	**03 06 13.5**	**0.0**
ARNR				*e*Sg	**Sg**	**03 06 43.2**	**+2.0**
LSNR	**Lesken**	**2.22**	**358**	*e*Pg	**Pg**	**03 06 14.6**	**-0.6**
LSNR				*e*Sg	**Sg**	**03 06 44.3**	**+0.4**
NAX	**Nakhchivan**	**2.23**	**147**	P	**Pn**	**03 06 11.9**	**+1.3**
NAX				S	**Sb**	**03 06 41.8**	**+0.2**
ERZM	**Erzurum**	**2.28**	**240**	P	**Pb**	**03 06 14.7**	**0.0**
STDR	**Stavd-Durt**	**2.31**	**2**	*e*Pg	**Pg**	**03 06 17.2**	**+0.3**
STDR				*e*Sg	**Sg**	**03 06 47.1**	**+0.3**
BTLR	**Botlikh**	**2.33**	**46**	*e*Pg	**Pb**	**03 06 15.5**	**+0.1**
BTLR				*e*Sg	**Sg**	**03 06 46.7**	**-1.0**
EJDE	**Erzurum, Palan**	**2.36**	**240**	P	**Pb**	**03 06 15.9**	**-0.2**
MNGR	**Mingechevir, A**	**2.40**	**96**	P	**Pb**	**03 06 14.8**	**-1.6**
MNGR				S	**Sb**	**03 06 45.5**	**-0.8**
CHOM	**Cayeli-Rize**	**2.41**	**272**	Pn	**Pn**	**03 06 13.9**	**+0.9**
SEKA	**Sheki**	**2.46**	**86**	P	**Pb**	**03 06 16.9**	**-0.6**
SEKA				S	**Sb**	**03 06 48.8**	**+0.5**
DVE	**Vedeno**	**2.49**	**40**	*e*Pg	**Pb**	**03 06 18.1**	**0.0**
DVE				*e*Sg	**Sg**	**03 06 50.7**	**-2.1**
BRDA	**Brd**	**2.58**	**107**	P	**Pb**	**03 06 19.0**	**-0.6**
BRDA				S	**Sb**	**03 06 50.3**	**-1.5**
AGDM	**Agdam**	**2.59**	**111**	P	**Pb**	**03 06 18.9**	**-0.8**
AGDM				S	**Sb**	**03 06 49.9**	**-2.1**
ORD	**Ordubad**	**2.65**	**143**	P	**Pb**	**03 06 19.3**	**-1.5**
ORD				S	**Sb**	**03 06 51.3**	**-2.4**
QBL	**Gabala**	**2.95**	**91**	P	**Pb**	**03 06 23.9**	**-1.9**
QBL				S	**Sb**	**03 06 59.9**	**-2.4**
ZRD	**Zardab**	**2.95**	**104**	P	**Pb**	**03 06 23.0**	**-2.8**
ZRD				S	**Sb**	**03 06 58.6**	**-3.6**
QRD	**Qoradiz**	**3.04**	**121**	P	**Pb**	**03 06 28.3**	**+1.0**
QRD				S	**Sn**	**03 07 00.4**	**+1.9**
XNQ	**Khinaliq**	**3.17**	**87**	P	**Pn**	**03 06 26.2**	**+2.6**
XNQ				S	**Sb**	**03 07 07.3**	**-1.6**
IML	**Ismayilli**	**3.22**	**93**	P	**Pn**	**03 06 26.4**	**+2.3**
IML				S	**Sb**	**03 07 06.4**	**-3.7**
QSAR	**Qusar**	**3.28**	**81**	P	**Pn**	**03 06 27.0**	**+2.0**
QSAR				S	**Sb**	**03 07 08.5**	**-3.4**
PQL	**Pirkuli**	**3.53**	**93**	P	**Pn**	**03 06 30.1**	**+1.6**
PQL				S	**Sn**	**03 07 13.3**	**+2.5**
SIZA	**Siyzn**	**3.74**	**88**	P	**Pn**	**03 06 33.3**	**+1.9**
SIZA				S	**Sn**	**03 07 17.5**	**+1.4**
ATGJ	**Altiaghaj**	**3.79**	**91**	P	**Pn**	**03 06 33.8**	**+1.8**
ATGJ				S	**Sn**	**03 07 18.2**	**+1.2**
GBS	**Qobustan**	**3.83**	**96**	P	**Pn**	**03 06 34.3**	**+1.7**
GBS				S	**Sn**	**03 07 19.4**	**+1.3**
YRD	**Yardimli**	**3.93**	**122**	P	**Pn**	**03 06 36.2**	**+2.1**
YRD				S	**Sn**	**03 07 22.3**	**+1.4**
LRK	**Lerik**	**4.16**	**124**	P	**Pb**	**03 06 45.7**	**-0.9**
LRK				S	**Sn**	**03 07 27.4**	**+1.1**

*NEIC **04** 03:08:11.8±2.4, 29°.70S±0°.06×72°.85W±0°.08, h10km±1km, mb4.4/9, Mwr4.1/40, Mwr4.5(GUC), Error ellipse: s-maj=12.0km s-min=9.4km az=278.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.94; $M_{\theta\theta}$0.23; $M_{\phi\phi}$1.71; $M_{r\theta}$0.84; $M_{\theta\phi}$-0.08; $M_{\phi r}$-0.16; Fault plane solution: $M_0$2.03000×10^{15} NP1:ϕ_s338.08000°, δ51.44000°, λ-113.92000°. NP2:ϕ_s193.52000°, δ44.37000°, λ-63.04000°. Principal axes: T 1.7300, Plg4.0000°, Azm85.0000°; N 0.4992, Plg18.0000°, Azm354.0000°; P -2.2292, Plg71.0000°, Azm186.0000°;*
*NEIC **04** 03:08:11.8, 29°.70S×72°.85W, h10km*
*SJA **04** 03:08:12.1±0.8, 29°.64S×72°.74W, h40km±9km, ML4.0, MW4.0*
*IDC **04** 03:08:12.1±0.7, 29°.80S×72°.64W, h0km, mb4.1/9, mbtmp4.0/12, ML4.1/3, Error ellipse: s-maj=27.3km s-min=18.5km az=48.0*
*GUC **04** 03:08:14.0±0.8, 29°.71S×72°.50W, h15km, ML4.3*

ISC 04 03:08:11.9±1.6, 29°.65S±0°.03×72°.69W±0°.05, h4km±9km, n109, σ1§84/133, mb4.3/10, 10C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**1.29**	**102**		**Pn**	**03 08 35.3**	**-1.4**
CO05	**La Serena**	**1.29**	**102**	⇑*i*P	**Pn**	**03 08 35.3**	**-1.4**
CO05				*e*S	**Sb**	**03 08 49.6**	**-4.2**
CO06	**Fray Jorge**	**1.37**	**138**		**Pn**	**03 08 35.9**	**-1.9**
CO06	**Fray Jorge**	**1.37**	**138**	⇑*i*P	**Pn**	**03 08 35.9**	**-1.9**
GO04	**Tololo Observa**	**1.73**	**108**		**Pn**	**03 08 42.0**	**-0.9**
GO04	**Tololo Observa**	**1.73**	**108**	⇑*i*P	**Pn**	**03 08 41.8**	**-1.2**
GO04				*i* S	**Sn**	**03 09 01.9**	**-3.7**
GO04				IAML		03 09 06.4	
	comp=E,10μm,0.4s						
GO04	**Tololo Observa**	**1.73**	**108**	*e*P	**Pn**	**03 08 42.0**	**-0.9**
GO04				*e*S	**Sn**	**03 09 02.2**	**-3.3**
GO04				IAML		03 09 02.8	
	comp=Z,4μm,0.2s						
LCO	**Las Campanas**	**1.85**	**70**		**Pn**	**03 08 44.1**	**-0.6**
LCO	**Las Campanas**	**1.85**	**70**	*e*P	**Pn**	**03 08 43.5**	**-1.2**
LCO	**Las Campanas**	**1.85**	**70**	*e*P	**Pn**	**03 08 44.0**	**-0.7**
LCO				*e*S	**Sn**	**03 09 06.5**	**-2.2**
LCO				IAML		03 09 06.8	
	comp=Z,4μm,0.2s						
AC04	**Llanos de Chal**	**2.02**	**45**		**Pn**	**03 08 45.4**	**-1.3**
AC04	**Llanos de Chal**	**2.02**	**45**	⇑*i*P	**Pn**	**03 08 45.4**	**-1.3**
AC04				*i* S	**Sn**	**03 09 08.3**	**-4.1**
AC04				IAML		03 09 09.2	
	comp=N,4μm,0.2s						
AC04	**Llanos de Chal**	**2.02**	**45**	*e*P	**Pn**	**03 08 45.4**	**-1.3**
AC04				*e*S	**Sn**	**03 09 08.6**	**-3.9**
AC04				IAML		03 09 09.5	
	comp=Z,1μm,0.3s						
CO03	**El Pedregal**	**2.10**	**125**		**Pn**	**03 08 47.1**	**-0.8**
CO03	**El Pedregal**	**2.10**	**125**	⇑*i*P	**Pn**	**03 08 47.1**	**-0.8**
CO03				IAML		03 09 12.6	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**2.10**	**125**	*e*P	**Pn**	**03 08 47.2**	**-0.8**
CO03				*e*S	**Sn**	**03 09 13.1**	**-1.5**
CO03				IAML		03 09 15.1	
	comp=Z,1μm,0.3s						
CO02	**Combarbal**	**2.13**	**137**		**Pn**	**03 08 47.7**	**-0.7**
CO02	**Combarbal**	**2.13**	**137**	⇑*i*P	**Pn**	**03 08 47.6**	**-0.8**
CO02				IAML		03 09 13.7	
	comp=N,5μm,0.2s						
CO02	**Combarbal**	**2.13**	**137**	*e*P	**Pn**	**03 08 47.8**	**-0.7**
CO02				*e*S	**Sn**	**03 09 13.2**	**-2.1**
CO02				IAML		03 09 15.2	
	comp=Z,1μm,0.8s						
CO04	**Los Peladeros**	**2.81**	**149**	*e*P	**Pn**	**03 08 57.2**	**-0.7**
CO04				*i* S	**Sn**	**03 09 27.3**	**-5.0**
CO04				IAML		03 09 39.2	
	comp=E,880nm,0.8s						
AROD	**Rodeo**	**2.84**	**101**	*e*P	**Pn**	**03 09 00.6**	**+2.2**
AROD				*e*S	**Sn**	**03 09 33.2**	**0.0**
GO03	**Copiapo**	**2.98**	**47**		**Pn**	**03 08 59.6**	**-0.4**
GO03	**Copiapo**	**2.98**	**47**	⇑*i*P	**Pn**	**03 08 59.6**	**-0.4**
GO03				IAML		03 09 35.0	
	comp=N,1μm,0.4s						
GO03	**Copiapo**	**2.98**	**47**	*e*P	**Pn**	**03 08 59.8**	**-0.2**
GO03				*e*S	**Sn**	**03 09 34.5**	**-1.7**
GO03				IAML		03 09 35.0	
	comp=Z,775nm,0.2s						
VA06	**Catapilco**	**3.14**	**158**		**Pn**	**03 09 00.9**	**-1.2**
ACDV	**Cuesta del Vie**	**3.15**	**100**	*e*P	**Pn**	**03 09 02.3**	**-0.1**
ACDV				*e*S	**Sn**	**03 09 39.3**	**-1.2**
ACDV				IAML		03 09 48.1	
	comp=Z,303nm,0.5s						
ACCO	**Cerro Coronel**	**3.28**	**107**	*e*P	**Pn**	**03 09 07.2**	**+2.8**
ACCO				*e*S	**Sn**	**03 09 43.7**	**-0.3**
VA01	**Torpederas**	**3.48**	**165**		**Pn**	**03 09 05.4**	**-1.4**
VA03	**San Esteban**	**3.61**	**150**		**Pn**	**03 09 08.9**	**+0.2**
VA03	**San Esteban**	**3.61**	**150**	⇓*i*P	**Pn**	**03 09 08.7**	**0.0**
VA03				IAML		03 10 00.1	
	comp=N,340nm,0.4s						
VA03				IAML		03 10 01.6	
	comp=E,424nm,0.3s						
VA03	**San Esteban**	**3.61**	**150**	*e*P	**Pn**	**03 09 08.7**	**0.0**
VA03				*e*S	**Sn**	**03 09 50.4**	**-1.4**
VA03				IAML		03 10 01.4	
	comp=Z,224nm,0.7s						
MT02	**Curacav**	**3.84**	**160**		**Pn**	**03 09 10.9**	**-0.9**
MT02	**Curacav**	**3.84**	**160**	*e*P	**Pn**	**03 09 10.8**	**-0.9**
MT02				IAML		03 10 18.1	
	comp=Z,77nm,0.6s						
PEL	**Peldehue**	**3.88**	**154**		**Pn**	**03 09 12.2**	**-0.2**
ZON	**Zonda**	**3.94**	**120**		**Pn**	**03 09 15.7**	**+2.4**
ZON	**Zonda**	**3.94**	**120**	*e*P	**Pn**	**03 09 11.1**	**-2.2**
ZON				*e*S	**Sn**	**03 09 58.5**	**-1.6**
ZON				IAML		03 10 14.9	
	comp=Z,162nm,1.1s						
AC01	**Pan de Azucar**	**3.95**	**28**		**Pn**	**03 09 11.7**	**-1.7**
AC01	**Pan de Azucar**	**3.95**	**28**	*e*P	**Pn**	**03 09 11.6**	**-1.7**
AC01				*e*S	**Sn**	**03 09 55.6**	**-4.5**
AC01				IAML		03 09 56.7	
	comp=Z,128nm,0.3s						
RTLL	**Cerro Villicun**	**4.01**	**116**	*e*P	**Pn**	**03 09 13.2**	**-1.0**
RTLL				*e*S	**Sn**	**03 09 59.1**	**-2.5**
RTLL				IAML		03 10 06.8	
	comp=Z,266nm,0.9s						
VCA	**Vinchina**	**4.03**	**78**	⇑*i*P	**Pn**	**03 09 18.5**	**+3.9**
VCA	**Vinchina**	**4.03**	**78**	*e*P	**Pn**	**03 09 13.4**	**-1.1**
VCA				*e*S	**Sn**	**03 10 01.9**	**-0.4**
VCA				IAML		03 10 08.9	
	comp=Z,340nm,0.3s						
MT05	**Renca**	**4.09**	**156**		**Pn**	**03 09 15.1**	**-0.1**
MT05	**Renca**	**4.09**	**156**	*e*P	**Pn**	**03 09 15.2**	**-0.1**
MT05				*e*S	**Sn**	**03 10 02.5**	**-1.0**
MT16	**CCHEN**	**4.20**	**154**		**Pn**	**03 09 17.6**	**+0.9**
AC02	**Maricunga**	**4.21**	**49**		**Pn**	**03 09 18.2**	**+0.8**
AC02	**Maricunga**	**4.21**	**49**	⇑*e*P	**Pn**	**03 09 18.2**	**+0.8**
AC02	**Maricunga**	**4.21**	**49**	*e*P	**Pn**	**03 09 18.2**	**+0.8**
AC02				*e*S	**Sn**	**03 10 06.8**	**-0.5**
AC02				IAML		03 10 12.2	
	comp=Z,241nm,0.3s						
MT03	**Universidad Ad**	**4.26**	**155**		**Pn**	**03 09 17.7**	**0.0**
MT03	**Universidad Ad**	**4.26**	**155**	*e*P	**Pn**	**03 09 17.6**	**0.0**
MT03				*e*S	**Sn**	**03 10 06.0**	**-1.9**
MT03				IAML		03 10 13.3	
	comp=Z,112nm,0.9s						
CFA	**Coronel Fontan**	**4.31**	**118**	Pn	**Pn**	**03 09 19.2**	**+1.0**
	comp=Z,7.7nm,0.3s,baz=306,slow=12,SNR=132						
CFA				Sn	**Sn**	**03 10 08.3**	**-0.6**
	comp=Z,12nm,0.3s,baz=37,slow=20,SNR=11						
	comp=Z,20nm,0.3s						
CFA	**Coronel Fontan**	**4.31**	**118**	*e*P	**Pn**	**03 09 20.3**	**+2.0**
CFA				*e*S	**Sn**	**03 10 09.8**	**+0.9**
MT04	**Ro Olivares**	**4.33**	**150**	*e*P	**Pn**	**03 09 20.0**	**+1.2**
MT04				*e*S	**Sn**	**03 10 07.8**	**-2.1**
MT04				IAML		03 10 25.3	
	comp=Z,87nm,0.9s						
MT09	**Talagante**	**4.36**	**161**		**Pn**	**03 09 18.9**	**-0.2**
MT01	**Popeta**	**4.38**	**164**		**Pn**	**03 09 18.1**	**-1.1**
MT01	**Popeta**	**4.38**	**164**	*e*P	**Pn**	**03 09 17.9**	**-1.2**
MT01				*e*S	**Sn**	**03 10 04.4**	**-6.3**
MT01				IAML		03 10 10.3	
	comp=Z,59nm,0.3s						
MT08	**Bocatoma Ro**	**4.42**	**150**		**Pn**	**03 09 21.5**	**+1.5**
ASAL	**Salagasta**	**4.42**	**133**	*e*P	**Pn**	**03 09 17.9**	**-1.9**
ASAL				*e*S	**Sn**	**03 10 11.4**	**-0.4**
MT13	**San Alfonso**	**4.57**	**154**	*e*P	**Pn**	**03 09 22.3**	**+0.4**
MT13				*e*S	**Sn**	**03 10 12.2**	**-3.3**
MT13				IAML		03 10 14.8	
	comp=Z,86nm,0.5s						
AVFE	**Valle Fertil**	**4.65**	**104**	*e*P	**Pn**	**03 09 19.0**	**-3.9**
AVFE				IAML		03 10 42.1	
	comp=Z,92nm,0.4s						
LMEL	**Las Melosas**	**4.69**	**154**	*e*P	**Pn**	**03 09 24.0**	**+0.4**
LMEL				*e*S	**Sn**	**03 10 16.5**	**-2.1**
LMEL				IAML		03 10 26.8	
	comp=Z,67nm,0.4s						
BO01	**Tunca**	**4.92**	**164**		**Pn**	**03 09 26.0**	**-0.7**
ACLC	**CERRO LA CRUZ**	**5.01**	**89**	*e*S	**Sn**	**03 10 26.4**	**-0.1**
GO02	**Mina Guanaco**	**5.25**	**32**		**Pn**	**03 09 30.6**	**-0.9**
PB14	**IPOC Station P**	**5.40**	**23**		**Pn**	**03 09 30.9**	**-2.7**
CYA	**Choya**	**6.15**	**80**	*e*P	**Pn**	**03 09 44.3**	**+0.7**
H03N1	**Juan Fernandez**	**6.51**	**233**	Pn	**Pn**	**03 09 46.4**	**-1.9**
	baz=111,slow=18						
H03N1				Sn	Sn	03 10 53.0	-10
	baz=256,slow=72						
H03N1				T	T	03 17 57.2	
	baz=64,slow=71,SNR=62						
H03N2	**Juan Fernandez**	**6.53**	**233**	Pn	**Pn**	**03 09 46.8**	**-1.7**
	baz=111,slow=18						
H03N2				Sn	Sn	03 10 53.1	-10
	baz=256,slow=72						
H03N2				T	T	03 18 02.1	
	baz=64,slow=71,SNR=91						
H03N3	**Juan Fernandez**	**6.53**	**233**	Pn	**Pn**	**03 09 46.6**	**-1.9**
	baz=111,slow=18						
H03N3				Sn	Sn	03 10 52.6	-11
	baz=256,slow=72						
H03N3				T	T	03 18 01.2	
	baz=64,slow=71,SNR=108						
VA04	**Juan Fernndez**	**6.57**	**231**		**Pn**	**03 09 46.0**	**-3.3**
H03S3	**Juan Fernandez**	**6.74**	**230**	Pn	**Pn**	**03 09 48.9**	**-2.4**
H03S3				Sn	Sn	03 10 56.2	-12
	baz=249,slow=75						
H03S1	**Juan Fernandez**	**6.74**	**230**	Pn	**Pn**	**03 09 48.7**	**-2.7**
H03S1				Sn	Sn	03 10 55.9	-13
	baz=249,slow=75						
H03S2	**Juan Fernandez**	**6.75**	**230**	Pn	**Pn**	**03 09 48.9**	**-2.6**

H11S1 WAKE ISLAND Hyl 25.16 273 T T 05 46 21.6
baz=114,slow=74,SNR=4.3
H11S3 WAKE ISLAND Hyl 25.17 273 T T 05 46 22.1
baz=114,slow=74,SNR=3.6
BVAR Borovoye Array 144.35 39 PKP **PKPdf 03 27 49.5 +0.6**
comp=Z,1.8nm,0.4s,baz=318,slow=2.6,SNR=7.7
KURBB Kurchatov Arra 149.93 38 PKPbc **PKiKP 03 28 04.8 +0.7**
comp=Z,6.4nm,0.7s,baz=302,slow=3.2,SNR=34
ZALV Zalesovo Beam 150.74 28 PKP **PKPdf 03 28 00.8 +1.3**
comp=Z,0.8nm,0.4s,baz=321,slow=3.7,SNR=3.9
ZALV PKPbc **pPKPbc 03 28 06.2 +1.5**
comp=Z,8.0nm,0.6s,baz=298,slow=3.2,SNR=16
MKAR Makanchi Array 154.10 42 PKPbc **PKiKP 03 28 13.9 +1.0**
comp=Z,2.0nm,0.7s,baz=323,slow=1.8,SNR=9.7

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*IDC **04** 03:22:16.6±0.7,2°.60S×138°.14E, h0km, mb3.7/10, mbtmp3.7/13, ML3.8/3, MS3.3/6, Error ellipse: s-maj=16.8km s-min=10.4km az=108.0*
*NEIC **04** 03:22:23.1±2.5,3°.0S±0°.1×138°.37E±0°.04, h10km±1km, mb4.2/5, Error ellipse: s-maj=19.5km s-min=4.8km az=347.0*
*DJA **04** 03:22:24.3±0.5,2°.5±6°×13°.9E±°, h30km±8km, M4.3/8, mB5.7/1, mb4.5/6, MLv4.2/8, Mw(mB)5.2/1*
ISC 04 03:22:20.9±0.6,2°.57S±0°.06×138°.50E±0°.06, h32km, n39, σ2.12/37, mb3.7/10, MS3.4/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.61**	**20**	P	**Pn**	**03 22 33.7**	**+0.3**
SMPI				S	**Sb**	**03 22 40.0**	**-1.7**
GENI	**Genyem**	**1.67**	**91**	P	**Pb**	**03 22 52.1**	**+1.1**
JAY	**Jayapura**	**2.21**	**89**	Pn	**Pb**	**03 22 58.4**	**-1.8**
3.3nm,0.3s,baz=231,slow=9.5,SNR=8.8							
JAY				Pg	Pn	03 23 04.4	+9.0
17nm,0.3s,baz=229,slow=7.8,SNR=33							
JAY				Sn	**Sb**	**03 23 31.6**	**+4.4**
8.8nm,0.3s,baz=308,slow=19,SNR=7.2							
11nm,0.5s							
JAY	**Jayapura**	**2.21**	**89**	P	**Pb**	**03 22 58.4**	**-1.8**
SRPI	**Serui, Papua**	**2.36**	**287**	P	**Pn**	**03 22 58.4**	**+1.0**
BAKI	**Biak**	**2.75**	**300**	P	**Pn**	**03 23 05.6**	**+2.8**
RKPI	**Ransiki, Papua**	**4.44**	**284**	P	**Pn**	**03 23 29.7**	**+3.6**
FAKI	**Fak Fak**	**6.25**	**267**		**Pn**	**03 23 53.4**	**+2.4**
FAKI	**Fak Fak**	**6.25**	**267**	P	**Pn**	**03 23 54.5**	**+3.5**
0.1nm35nm,0.7s							
SWI	**Sorong**	**7.43**	**283**	P	**Pn**	**03 24 10.0**	**+2.8**
MSAI	**Masohi**	**9.59**	**265**	P	**Pn**	**03 24 40.9**	**+4.1**
COEN	**Coen**	**12.23**	**158**		**Pn**	**03 25 12.5**	**-0.4**
MTN	**Manton Dam**	**12.55**	**215**		**Pn**	**03 25 16.5**	**-0.8**
DAV	**Davao City (W)**	**16.06**	**307**	LR	LR	03 32 48.7	
comp=Z,63nm,19.2s,baz=341,slow=40							
KNRA	**Kununurra**	**16.18**	**216**		**Pn**	**03 26 03.1**	**-3.0**
GUMO	**Guam**	**17.25**	**21**	LR	LR	03 32 48.5	
comp=Z,57nm,19.8s,baz=175,slow=36							
WB0	**Warramunga Arr**	**17.56**	**193**	Pn	**Pn**	**03 26 21.0**	**-2.4**
WB0				IAmb	IAmb	03 27 02.6	
comp=Z,13nm,0.9s							
WR8	**Warramunga Arr**	**17.72**	**192**	Pn	**Pn**	**03 26 22.8**	**-2.6**
WR8				IAmb	IAmb	03 26 36.0	
comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**17.74**	**193**	P	**Pn**	**03 26 22.2**	**-3.5**
comp=Z,0.5nm,0.3s,baz=9.0,slow=13,SNR=12							
WRA				S	**Sn**	**03 29 41.9**	**-0.7**
comp=Z,1.0nm,0.5s,baz=11,slow=23,SNR=1.8							
comp=Z,0.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.93**	**218**	P	**P**	**03 26 47.1**	**-3.1**
comp=Z,0.3nm,0.3s,baz=50,slow=13,SNR=7.0							
FITZ				S	**S**	**03 30 31.6**	**-1.4**
comp=Z,2.9nm,0.7s,baz=78,slow=21,SNR=2.4							
comp=Z,2.5nm,1.0s							
AS31	**Alice Springs**	**21.44**	**192**	P	**P**	**03 27 05.8**	**-0.8**
ASAR	**Alice Springs**	**21.44**	**192**	P	**P**	**03 27 05.3**	**-1.3**
ASAR	**Alice Springs**	**21.44**	**192**	P	**P**	**03 27 05.8**	**-0.8**
comp=Z,0.8nm,0.5s,baz=21,slow=11,SNR=8.9							
ASAR				S	**S**	**03 31 03.3**	**+0.3**
comp=Z,1.1nm,1.1s,baz=15,slow=25,SNR=1.2							
comp=Z,0.8nm,0.5s							
STKA	**Stephens Creek**	**29.30**	**175**	P	**P**	**03 28 21.7**	**+1.1**
comp=Z,1.7nm,0.9s,baz=333,slow=13,SNR=1.9							
STKA				LR	LR	03 41 22.0	
comp=Z,104nm,18.9s,baz=251,slow=39							
comp=Z,1.7nm,0.9s							
JNU	**Nakatsue**	**36.22**	**349**	LR	LR	03 41 38.9	
comp=Z,68nm,21.7s,baz=164,slow=32							
MJAR	**Matsushiro Arr**	**38.91**	**360**	LR	LR	03 44 28.5	
comp=Z,46nm,18.0s,baz=334,slow=34							
SONM	**Songino Array**	**57.50**	**335**	P	**P**	**03 32 06.3**	**-0.9**
comp=Z,0.3nm,0.4s,baz=116,slow=6.6,SNR=2.8							
comp=Z,0.3nm,0.4s							
PETK	**Petropavlovsk-**	**57.77**	**14**	LR	LR	03 54 00.4	
comp=Z,20nm,21.9s,baz=235,slow=33							
MKAR	**Makanchi Array**	**69.55**	**322**	P	P	03 33 34.4	+7.7
MKAR	**Makanchi Array**	**69.55**	**322**	P	**P**	**03 33 27.2**	**+0.5**
comp=Z,0.5nm,0.8s,baz=120,slow=7.2,SNR=6.6							
comp=Z,0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**71.70**	**330**	P	**P**	**03 33 39.0**	**-0.6**
comp=Z,0.6nm,0.6s,baz=119,slow=12,SNR=1.4							
comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**73.49**	**325**	P	**P**	**03 33 49.7**	**-0.7**
comp=Z,0.2nm,0.5s,baz=112,slow=5.9,SNR=1.8							
comp=Z,0.2nm,0.5s							
VNDA	**Vanda**	**75.94**	**175**	P	**P**	**03 34 05.0**	**+0.8**
VNDA				IAmb	IAmb	03 34 31.3	
comp=Z,4.0nm,1.4s							
VNDA	**Vanda**	**75.94**	**175**	P	**P**	**03 34 05.0**	**+0.8**
comp=Z,0.2nm,0.6s,baz=334,slow=6.4,SNR=9.6							
comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**79.07**	**325**	P	**P**	**03 34 21.9**	**-0.1**
comp=Z,0.4nm,0.3s,baz=94,slow=8.8,SNR=4.4							
comp=Z,0.4nm,0.3s							
ABKAR	**Akbulak array**	**84.47**	**320**	P	P	03 34 58.5	+8.0
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**03 34 57.3**	**+0.4**
comp=Z,0.3nm,0.9s,baz=246,slow=3.7,SNR=12							
comp=Z,0.3nm,0.9s							
QSPA	**South Pole Qui**	**87.38**	**180**	P	**P**	**03 35 06.8**	**+2.0**
comp=Z,0.4nm,0.3s,baz=6.1,slow=0.7,SNR=5.6							
comp=Z,0.4nm,0.3s							
LPAZ	**La Paz**	**147.70**	**126**	PKPbc	**PKPab**	**03 42 06.2**	**-0.2**
comp=Z,1.2nm,0.7s,baz=256,slow=4.2,SNR=3.5							

GII 04 03:31:18.4±0.0, 32°.830N±0°.001×35°.594E±0°.001, h6km, Mws1.6, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHM	**Kefar Nahum**	**0.06**	**347**	P	Pg	03 31 19.9	0.0
KNHM	**Kefar Nahum**	**0.06**	**347**	S	Sg	03 31 21.4	+0.4
SPIR	**Sapir Facility**	**0.06**	**307**	P	Pg	03 31 19.9	0.0
SPIR	**Sapir Facility**	**0.06**	**307**	S	Sg	03 31 21.5	+0.5
ENGV	**Ein-Gev**	**0.06**	**142**	P	Pg	03 31 20.5	+0.5
RMOT	**Ramot**	**0.06**	**70**	P	Pg	03 31 20.2	+0.2
TVER	**Teveria**	**0.07**	**223**	P	Pg	03 31 20.2	+0.2
TVER	**Teveria**	**0.07**	**223**	S	Sg	03 31 22.0	+0.8
MGDL	**Migdal**	**0.07**	**278**	P	Pg	03 31 20.2	+0.1
MGDL	**Migdal**	**0.07**	**278**	S	Sg	03 31 22.1	+0.7
HDNS	**Had-Ness**	**0.11**	**22**	P	Pg	03 31 21.1	+0.4
HDNS	**Had-Ness**	**0.11**	**22**	S	Sg	03 31 23.2	+0.9
AMID	**Amiad**	**0.11**	**335**	P	Pg	03 31 21.1	+0.4
AMID	**Amiad**	**0.11**	**335**	S	Sg	03 31 23.5	+1.2
GOLA	**Golan Heights**	**0.12**	**158**	P	Pg	03 31 21.6	+0.5
KSHT	**Keshet**	**0.24**	**50**	P	Pg	03 31 23.3	+0.2
KSHT	**Keshet**	**0.24**	**50**	S	Sg	03 31 27.7	+1.5
MMA0B	**Mount Meron ar**	**0.24**	**319**	P	Pg	03 31 23.6	+0.3
MMA0B	**Mount Meron ar**	**0.24**	**319**	S	Sg	03 31 28.2	+1.6
MMC7	**Mount Meron ar**	**0.26**	**319**	P	Pg	03 31 24.1	+0.6
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	P	Pg	03 31 24.9	-0.4
BLGI	**Bet Lehem HaGe**	**0.35**	**254**	S	Sb	03 31 31.8	-1.1
GEM	**Giv'at Ha'Em**	**0.38**	**9**	P	Pb	03 31 26.8	-0.9
GEM	**Giv'at Ha'Em**	**0.38**	**9**	S	Sb	03 31 33.0	-0.9
MMLI	**Mount Malkishu**	**0.42**	**200**	P	Pg	03 31 26.9	+0.4
MMLI	**Mount Malkishu**	**0.42**	**200**	S	Sb	03 31 34.1	-0.7
HNTI	**Hanita**	**0.43**	**306**	P	Pg	03 31 27.3	+0.5
HNTI	**Hanita**	**0.43**	**306**	S	Sb	03 31 34.5	-0.8
NATI	**Neve Ativ**	**0.45**	**15**	P	Pg	03 31 27.6	+0.5
NATI	**Neve Ativ**	**0.45**	**15**	S	Sb	03 31 34.7	-1.0
HMDT	**Nahal Hemdat**	**0.58**	**186**	P	Pg	03 31 30.0	+0.5
HMDT	**Nahal Hemdat**	**0.58**	**186**	S	Sb	03 31 38.9	-0.5

IDC 04 03:59:58.5±4.8, 21°.81S×148°.03E, h0km, mb3.4/1, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=45.0km s-min=35.0km az=73.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.55**	**208**	Pn	Pn	04 02 42.6	-2.2
0.2nm,0.3s,baz=0.6,slow=18,SNR=2.8							
STKA				Sn	Sn	04 04 42.5	-12
0.1nm,0.3s,baz=315,slow=17,SNR=2.7							
STKA				Lg	Lg	04 06 07.0	
0.2nm,0.3s,baz=120,slow=20,SNR=2.9							
0.8nm,0.3s							
WRA	**Warramunga Arr**	**12.93**	**276**	Pn	Pn	04 03 04.7	+1.0
0.2nm,0.3s,baz=98,slow=12,SNR=8.4							
WRA				Sn	Sn	04 05 30.1	+1.6
0.1nm,0.3s,baz=102,slow=23,SNR=1.6							
WRA				Lg	Lg	04 06 49.6	
0.2nm,0.3s,baz=99,slow=25,SNR=5.3							
0.6nm,0.5s							
ASAR	**Alice Springs**	**13.16**	**259**	Pn	Pn	04 03 08.0	+1.1
0.2nm,0.3s,baz=86,slow=14,SNR=4.4							
ASAR				Sn	Sn	04 05 33.0	-1.1
0.1nm,0.3s,baz=81,slow=23,SNR=4.9							
ASAR				Lg	Lg	04 06 54.2	
0.2nm,0.3s,baz=87,slow=26,SNR=5.5							
0.4nm,0.3s							
FITZ	**Fitzroy Crossi**	**21.36**	**276**	P	P	04 04 48.1	+0.4
1.6nm,0.9s,baz=110,slow=12,SNR=1.6							
1.6nm,0.9s							

HEL 04 04:01:01.2±0.7, 69°.28N×31°.06E, h0km, ML1.1, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.28**	**232**	PN	Pn	04 01 26.8	+0.5
RAJF				SN	Sn	04 01 45.2	+1.0
KEV	**Kevo**	**1.50**	**290**	PG	Pn	04 01 28.6	-0.7
baz=108							
KEV				SG	Sg	04 01 46.7	-2.8
ARA0	**ARCESS Array S**	**1.98**	**280**	PG	Pb	04 01 37.4	-0.7
KTK1	**Kautokeino**	**2.81**	**268**	SG	Sb	04 02 28.5	+1.3
HEF	**Hetta**	**2.82**	**255**	MSG		04 02 24.4	
comp=Z,0.4nm,0.2s							

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*NEIC **04** 04:02:26.4, 18°.63S×71°.17W, h18km*
*GUC **04** 04:02:26.5±0.9, 18°.63S×71°.28W, h22km±6km, ML4.9*
*NEIC **04** 04:02:26.9±2.4, 18°.62S±0°.05×71°.16W±0°.08, h22km±4km, mb5.0/252, Mwr4.7/40, Mww4.9/24, Mwr4.9(GUC), Error ellipse: s-maj=11.4km s-min=7.5km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr1.46; Mθθ-0.26; Mφφ-1.20; Mrθ-0.06; Mθφ0.29; Mφr-0.79; Fault plane solution: M0 1.59000×10^16 NP1: φs337.21000°, δ31.14000°, λ76.02000°. NP2: φs173.43000°, δ59.88000°, λ98.30000°. Principal axes: T 1.6881, Plg74.0000°, Azm105.0000°; N -0.2160, Plg7.0000°, Azm349.0000°; P -1.4721, Plg15.0000°, Azm257.0000°;*
*NEIC **04** 04:02:26.3, 18°.63S×71°.16W, h30km*
*NEIC **04** 04:02:26.3, 18°.63S×71°.06W, h30km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr2.51; Mθθ0.09; Mφφ-2.60; Mrθ0.41; Mθφ1.07; Mφr-1.28; Fault plane solution: M0 3.08000×10^16 NP1: φs339.72000°, δ31.99000°, λ88.54000°. NP2: φs161.44000°, δ58.03000°, λ90.91000°. Principal axes: T 2.8215, Plg77.0000°, Azm74.0000°; N 0.4614, Plg1.0000°, Azm341.0000°; P -3.2829, Plg13.0000°, Azm251.0000°;*
*GCMT **04** 04:02:28.3±0.4, 18°.81S±0°.02×71°.41W±0°.02, h39km±1km, MW5.0/72, Moment Tensor Solution. s42,c45; s72,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.90±.20; Mθθ1.08±.14; Mφφ-3.98±.14; Mrθ0.26±.14; Mθφ1.40±.08; Mφr-1.93±.14; Best double couple: M0 4.11800×10^16 NP1: φs337.00000°, δ31.00000°, λ78.00000°. NP2: φs171.00000°, δ59.00000°, λ97.00000°. Principal axes: T 3.4090, Plg75.0000°, Azm101.0000°; N 1.4170, Plg6.0000°, Azm348.0000°; P -4.8260, Plg14.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **04** 04:02:28.8±0.6, 18°.56S×71°.05W, h48km±5km, mb4.6*
*MOS **04** 04:02:29.6±1.6, 18°.59S×71°.08W, h64km, mb5.0/18, Error ellipse: s-maj=15.3km s-min=9.8km az=108.0*
*IDC **04** 04:02:31.5±3.7, 18°.54S×71°.05W, h66km±31km, mb4.2/13, mbtmp4.5/14, ML3.8/1, MS4.1/43, Error ellipse: s-maj=23.1km s-min=14.4km az=67.0*
ISC 04 04:02:27.6±0.3, 18°.61S±0°.03×71°.05W±0°.04, h34km, n382, σ1.61/249, mb5.0/150, MS4.1/43, 12C-4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.88**	**114**	*e*P	**Pn**	**04 02 42.6**	**-1.1**
PX02				*i* S	**Sb**	**04 02 57.0**	**+0.9**
PB16	**IPOC Station P**	**1.49**	**80**		**Pn**	**04 02 53.6**	**+1.1**
PB16	**IPOC Station P**	**1.49**	**80**	*e*P	**Pn**	**04 02 53.6**	**+1.1**
PB16				IAML		04 03 20.2	
comp=N,14μm,0.8s							
PB11	**IPOC Station P**	**1.75**	**131**		**Pn**	**04 02 57.6**	**+1.9**
PB11	**IPOC Station P**	**1.75**	**131**	*i*P	**Pn**	**04 02 57.5**	**+1.9**
PB11				*i* S	**Sb**	**04 03 21.8**	**+0.9**
PB11				IAML		04 03 27.3	
comp=N,21μm,0.7s							
PB18	**Visviri**	**1.81**	**56**		**Pb**	**04 03 00.4**	**0.0**
PB18	**Visviri**	**1.81**	**56**	*i*P	**Pb**	**04 03 00.4**	**0.0**
PB18				*i* S	**Sb**	**04 03 25.1**	**+2.2**
TA02	**Huaiquique**	**1.87**	**152**	*e*P	**Pn**	**04 02 58.5**	**+1.3**
TA02				IAML		04 03 38.2	
comp=E,6μm,0.5s							
GO01	**Chusmiza**	**2.05**	**121**		**Pn**	**04 03 02.5**	**+2.4**
GO01	**Chusmiza**	**2.05**	**121**	*i*P	**Pn**	**04 03 02.5**	**+2.4**
TA01	**Diego Aracena**	**2.11**	**157**		**Pn**	**04 03 01.2**	**+0.6**
TA01	**Diego Aracena**	**2.11**	**157**	*i*P	**Pn**	**04 03 01.2**	**+0.6**
TA01				IAML		04 03 43.5	
comp=N,4μm,0.5s							
PX03	**IPOC Station P**	**2.23**	**143**	*e*P	**Pn**	**04 03 02.8**	**+0.5**
PB08	**IPOC Station P**	**2.35**	**131**		**Pn**	**04 03 06.1**	**+1.9**
PB08	**IPOC Station P**	**2.35**	**131**	*i*P	**Pn**	**04 03 06.2**	**+1.9**
PB08				*i* S	**Sb**	**04 03 37.0**	**-1.4**
PB08				IAML		04 03 42.6	
comp=N,5μm,0.4s							
PATCX	**Punta Patache**	**2.36**	**159**		**Pn**	**04 03 04.4**	**+0.3**
PB01	**IPOC Station P**	**2.83**	**149**		**Pn**	**04 03 11.6**	**+1.0**
PB01	**IPOC Station P**	**2.83**	**149**	*i*P	**Pn**	**04 03 11.5**	**+1.0**
PB01				IAML		04 04 05.4	
comp=N,3μm,0.3s							
PB02	**IPOC Station P**	**2.91**	**158**		**Pn**	**04 03 12.3**	**+0.7**
PB02	**IPOC Station P**	**2.91**	**158**	*i*P	**Pn**	**04 03 12.2**	**+0.7**
PB02				IAML		04 04 06.3	
comp=E,6μm,0.3s							
PB09	**IPOC Station P**	**3.60**	**152**		**Pn**	**04 03 22.8**	**+1.7**
LPAZ	**La Paz**	**3.62**	**51**		**Pb**	**04 03 27.4**	**-3.9**
LPAZ	**La Paz**	**3.62**	**51**	P	**Pb**	**04 03 26.9**	**-4.4**
comp=E,5.3nm,0.3s,baz=201,slow=4.4,SNR=154							
LPAZ				LR	LR	04 05 02.0	
comp=E,4μm,18.8s,baz=233,slow=42							
comp=E,92nm,0.7s							
LPAZ	**La Paz**	**3.62**	**51**	P	**Pb**	**04 03 27.4**	**-3.9**
LPAZ	**La Paz**	**3.62**	**51**	*e*P	**Pn**	**04 03 22.5**	**+0.7**
PB03	**IPOC Station P**	**3.63**	**161**		**Pn**	**04 03 21.9**	**+0.3**
PB05	**IPOC Station P**	**4.30**	**170**		**Pn**	**04 03 29.6**	**-1.2**
PB06	**IPOC Station P**	**4.30**	**162**		**Pn**	**04 03 30.4**	**-0.5**
PB10	**IPOC Station P**	**4.90**	**175**		**Pn**	**04 03 37.5**	**-1.5**
AF01	**San Pedro de A**	**5.09**	**149**		**Pn**	**04 03 44.4**	**+2.6**
PB14	**IPOC Station P**	**6.02**	**174**		**Pn**	**04 03 52.4**	**-2.2**
GO02	**Mina Guanaco**	**6.66**	**169**		**Pn**	**04 04 02.4**	**-1.0**
AC01	**Pan de Azucar**	**7.51**	**177**		**Pn**	**04 04 12.0**	**-2.8**
AC02	**Maricunga**	**8.38**	**168**		**Pn**	**04 04 25.9**	**-1.2**
NNA	**Nana**	**8.63**	**319**	P	**Pn**	**04 04 30.5**	**+0.2**
comp=E,6.7nm,0.3s,baz=180,slow=18,SNR=2.2							
NNA				S	**Sn**	**04 05 59.2**	**-7.4**
comp=E,37nm,0.8s,baz=140,slow=9.2,SNR=1.5							
NNA	**Nana**	**8.63**	**319**	P	**Pn**	**04 04 31.4**	**+1.1**
comp=E,84nm,0.7s							
SIV	**San Ignacio**	**9.88**	**76**	P	**Pn**	**04 04 47.6**	**+0.3**
comp=E,21nm,0.6s,baz=260,slow=11,SNR=111							
SIV				S	**Sn**	**04 06 38.3**	**+1.2**
comp=E,26nm,0.9s,baz=326,slow=24,SNR=7.1							
PTLB	**Pontes e Lacer**	**11.82**	**76**		**Pn**	**04 05 14.8**	**+1.0**
PTLB	**Pontes e Lacer**	**11.82**	**76**	*e*P	**Pn**	**04 05 15.1**	**+1.2**
VILB	**Vilhena**	**11.86**	**63**		**Pn**	**04 05 15.9**	**+1.5**
VILB	**Vilhena**	**11.86**	**63**	*e*P	**Pn**	**04 05 15.7**	**+1.3**
CFA	**Coronel Fontan**	**13.19**	**169**	P	**Pn**	**04 05 30.2**	**-2.4**
comp=E,1.4nm,0.3s,baz=16,slow=18,SNR=10.0							
CFA				S	Sn	04 07 49.3	-8.8
comp=E,1.5nm,0.5s,baz=359,slow=16,SNR=1.4							
ATAH	**Atahualpa**	**13.46**	**327**	P	**Pn**	**04 05 34.9**	**-1.8**
comp=E,1.2nm,0.5s,baz=156,slow=9.0,SNR=1.3							
ATAH				S	**Sn**	**04 08 04.2**	**-1.2**
comp=E,3.0nm,0.6s,baz=172,slow=20,SNR=1.1							
BDQN	**Bodoquena, MS**	**13.61**	**100**	*e*P	**Pn**	**04 05 39.5**	**+1.2**
AQDB	**Aquidauana**	**14.59**	**100**		**Pn**	**04 05 52.5**	**+0.8**
AQDB	**Aquidauana**	**14.59**	**100**	*e*P	**Pn**	**04 05 52.6**	**+0.8**
CPUP	**Villa Florida**	**14.82**	**124**		**Pn**	**04 05 54.9**	**+0.1**
CPUP	**Villa Florida**	**14.82**	**124**	P	**Pn**	**04 05 53.5**	**-1.3**
comp=E,2.3nm,1.0s,baz=343,slow=15,SNR=5.3							
CPUP				S	**Sn**	**04 08 31.8**	**-6.0**
comp=E,0.6nm,0.3s,baz=203,slow=3.9,SNR=4.9							
CPUP				LR	LR	04 12 13.4	
comp=E,165nm,20.9s,baz=160,slow=39							
CPUP	**Villa Florida**	**14.82**	**124**	P	**Pn**	**04 05 54.9**	**+0.1**
CPUP	**Villa Florida**	**14.82**	**124**	*e*P	**Pn**	**04 05 53.3**	**-1.5**
SALV	**Santo Antonio**	**14.91**	**82**	*e*P	**Pn**	**04 05 56.7**	**+0.6**
PP1B	**Ponte de Pedra**	**15.41**	**89**	*e*P	**Pn**	**04 06 03.3**	**+0.7**
PDRB	**Porto dos Gac**	**15.47**	**65**	*e*P	**Pn**	**04 06 02.5**	**-1.0**
AMBA	**Amambai (Brazi**	**15.62**	**109**	*e*P	**Pn**	**04 06 05.3**	**-0.1**
BO01	**Tunca**	**15.72**	**180**	P	**P**	**04 06 10.9**	**+0.7**
BO02	**Sierra Bellavi**	**16.12**	**179**	P	**P**	**04 06 15.0**	**+0.2**
TEFE	**Tefe**	**16.27**	**23**	*e*P	**Pn**	**04 06 13.9**	**+0.3**
H03N1	**Juan Fernandez**	**16.36**	**204**	P	**Pn**	**04 06 14.0**	**-0.5**
baz=111,slow=13,SNR=9.4							
H03N1				T	T	04 23 43.6	
baz=31							
H03N2	**Juan Fernandez**	**16.37**	**204**	P	**Pn**	**04 06 14.0**	**-0.5**
baz=111,slow=13,SNR=8.4							
H03N2				T	T	04 23 25.6	
baz=31,slow=74,SNR=669							
H03N3	**Juan Fernandez**	**16.38**	**204**	P	**Pn**	**04 06 13.8**	**-0.9**
baz=111,slow=13,SNR=11							
H03N3				T	T	04 23 27.3	
baz=31,slow=74,SNR=528							
MCRA	**Macar, Loja**	**16.61**	**327**	P	**P**	**04 06 21.1**	**+0.8**
comp=E,25nm,0.9s							
CLDB	**Colider**	**16.63**	**65**	*e*P	**Pn**	**04 06 18.6**	**+0.4**
H03S3	**Juan Fernandez**	**16.70**	**203**	P	**Pn**	**04 06 18.9**	**+0.1**
baz=312,slow=17,SNR=10							
H03S1	**Juan Fernandez**	**16.72**	**203**	P	**Pn**	**04 06 19.0**	**+0.1**
baz=312,slow=17,SNR=8.7							
H03S2	**Juan Fernandez**	**16.72**	**203**	P	**Pn**	**04 06 19.3**	**+0.3**
baz=312,slow=17,SNR=9.4							
PSAL	**Palomas, Salto**	**17.39**	**138**	*e*P	**P**	**04 06 29.3**	**+0.7**
COHC	**Cochancay**	**17.95**	**332**	P	**P**	**04 06 37.0**	**+2.1**
comp=E,30nm,1.2s							
MACA	**Manacapuru-AM**	**18.40**	**35**	P	**P**	**04 06 38.5**	**-1.5**
MACA				IAmb	IAmb	04 06 40.8	
comp=Z,144nm,0.8s							
MACA	**Manacapuru-AM**	**18.40**	**35**	*e*P	**P**	**04 06 38.9**	**-1.1**
ARAG	**Araguaiana, MT**	**18.61**	**84**	*e*P	**Pn**	**04 06 43.0**	**+0.3**
PTGB	**Pitanga**	**18.65**	**112**	*e*P	**Pn**	**04 06 44.0**	**+0.6**
SGC2	**Sao Gabriel da**	**18.77**	**13**	P	**P**	**04 06 42.0**	**-2.1**
comp=Z,28nm,0.9s							
PIAT	**Ana Tenorio**	**18.88**	**337**	P	**Pn**	**04 06 46.7**	**+0.3**
comp=Z,33nm,0.6s							
NPGB	**Novo Progresso**	**19.11**	**55**	*e*P	**P**	**04 06 46.8**	**-1.1**
LDASE	**Londrina, Braz**	**19.20**	**108**	*e*P	**P**	**04 06 49.0**	**+0.2**
ITAB	**Concordia**	**19.41**	**120**	P	**P**	**04 06 51.4**	**+0.4**
ITAB				IAmb	IAmb	04 06 53.4	
comp=Z,75nm,1.2s							
ITAB	**Concordia**	**19.41**	**120**	*e*P	**P**	**04 06 51.7**	**+0.8**
ITRB	**Iturama**	**19.58**	**97**	*e*P	**Pn**	**04 06 54.6**	**+0.2**
CPSB	**Cacapava Do Su**	**19.84**	**130**	*e*P	**P**	**04 06 56.0**	**+0.4**
BONI	**La Bonita**	**19.98**	**341**	P	**Pn**	**04 07 00.1**	**+0.6**
comp=Z,838nmcomp=Z,52nm,0.7s							
OTAV	**Otavalo**	**20.09**	**338**	P	**P**	**04 06 58.6**	**-0.4**
OTAV				pmax	pmax		
comp=Z,38nm,1.3s							
OTAV	**Otavalo**	**20.09**	**338**	*e*P	**P**	**04 06 58.4**	**-0.6**
OTAV	**Otavalo**	**20.09**	**338**	P	Pn	04 07 00.5	-0.4
comp=Z,37nm,1.4s							
SNDB	**Serra Nova Dou**	**20.16**	**74**	*e*P	**P**

PTBC **PUERTO BERRIO,** 25.21 352 P **P** **04 07 48.0 -2.4**
comp=Z,203nmcomp=Z,20nm,0.9s
BRJC **Barrancabermej** 25.56 354 P **P** **04 07 51.3 -2.2**
comp=Z,827nmcomp=Z,66nm,1.2s
JANB **Januaria** 25.82 86 *eP* **P** **04 07 55.4 -0.7**
PAMC **Pamplona, Colo** 25.84 356 P **P** **04 07 56.3 -0.3**
SDBA **SAO DESIDERIO** 25.92 80 *eP* **P** **04 07 55.7 -1.3**
DIAM **Diamantina, MG** 25.96 94 *eP* **P** **04 07 57.8 +0.3**
DBBC **Dabeiba** 25.97 348 P **P** **04 07 58.4 +1.0**
ZARC **Zaragoza, Cauc** 26.21 351 P **P** **04 07 58.2 -1.2**
comp=Z,74nm,1.0s
PTAC **Punta Ardita,** 26.45 345 P **P** **04 08 06.9 +5.3**
UREC **San Jos de Ur** 26.57 350 P **P** **04 08 01.7 -1.0**
APAC **Apartado, Choc** 26.90 348 P **P** **04 08 07.6 +1.9**
SDV **Santo Domingo** 27.32 1 *eP* **P** **04 08 08.7 -1.0**
SDV **Santo Domingo** 27.32 1 P **P** **04 08 08.5 -1.2**
ARGC **Ariguani, Magd** 28.46 353 P **P** **04 08 18.7 -0.9**
SJCC **San Jacinto, C** 28.62 351 P **P** **04 08 20.2 -0.9**
PCRV **Puerto La Cruz** 29.29 13 LR LR 04 21 15.4
comp=Z,1µm,18.7s,slow=38
MDP **Montagnes des** 29.74 39 LR LR 04 21 02.3
comp=Z,1µm,18.0s,baz=215,slow=37
JTS **Las Juntas de** 31.82 333 LR LR 04 21 17.4
comp=Z,517nm,21.6s,baz=152,slow=35
NBAN **Anadia - AL** 34.82 80 *eP* **P** **04 09 14.8 -0.8**
GDSD **La Dsirade Is** 36.07 16 IAmb IAmb 04 09 23.2
comp=Z,28nm,0.9s
RPN **Rapa Nui** 36.17 249 LR LR 04 20 21.9
comp=Z,791nm,20.6s,baz=82,slow=30
RCBR **Riachuelo** 36.54 74 LR LR 04 25 21.6
comp=Z,332nm,18.6s,baz=242,slow=38
CRPR **Cabo Rojo, PR** 36.59 6 **P** **04 09 28.9 -1.8**
CELP **Cerrillos** 36.72 7 **P** **04 09 29.8 -2.0**
CELP IAmb IAmb 04 09 32.6
comp=Z,31nm,0.9s
SJG **San Juan** 36.81 8 P **P** **04 09 30.4 -2.1**
SJG **San Juan** 36.81 8 LR LR 04 26 06.0
comp=Z,197nm,19.1s,baz=202,slow=38
SJG **San Juan** 36.81 8 P **P** **04 09 30.4 -2.1**
SJG pmax pmax
comp=Z,53nm,1.0s
SJG **San Juan** 36.81 8 P **P** **04 09 29.9 -2.6**
AOPR **Arecibo Observ** 36.97 7 IAmb IAmb 04 09 33.4
comp=Z,27nm,0.7s
GCPR **Guaynabo City** 37.01 8 IAmb IAmb 04 09 33.3
comp=Z,18nm,0.8s
CMIG **Matias Romero** 42.52 325 LR LR 04 27 22.9
comp=Z,160nm,19.1s,baz=134,slow=35
SMAI **San Martin Ant** 49.57 178 P **P** **04 11 17.0 +2.0**
SMAI IAmb IAmb 04 11 18.2
comp=Z,14nm,1.2s
352A **Blakely** 51.55 345 IAmb IAmb 04 11 59.9
comp=Z,22nm,0.8s
NHSC **New Hope** 52.16 350 P **P** **04 11 36.5 +1.7**
Y57A **Sumter** 53.09 350 IAmb IAmb 04 11 44.0
comp=Z,20nm,0.9s
BIRD **Birdtown, Kers** 53.71 350 IAmb IAmb 04 11 48.6
comp=Z,22nm,1.1s
HKT **Hockley** 53.86 333 P **P** **04 11 48.3 +0.9**
HKT **Hockley** 53.86 333 ⇓*iP* **P** **04 11 48.6 +1.2**
HKT pmax pmax
comp=Z,8.0nm,1.0s
W57A **Gilead** 54.14 351 IAmb IAmb 04 11 51.0
comp=Z,14nm,1.0s
KMSC **Kings Mountain** 54.34 350 IAmb IAmb 04 12 18.6
comp=Z,9.6nm,0.8s
V58A **Windy Hill, Pi** 54.64 352 IAmb IAmb 04 11 54.2
comp=Z,13nm,0.9s
V55A **Taylorsville** 55.01 350 IAmb IAmb 04 12 23.7
comp=Z,11nm,0.8s
HNDO **Hondo** 55.06 330 IAmb IAmb 04 11 57.8
comp=Z,19nm,1.0s
TKL **Tuckaleechee C** 55.30 347 IAmb IAmb 04 12 21.3
comp=Z,8.0nm,0.8s
TKL **Tuckaleechee C** 55.30 347 LR LR 04 37 52.1
comp=Z,226nm,19.0s,baz=174,slow=38
U56A **King** 55.37 351 IAmb IAmb 04 12 00.7
comp=Z,22nm,1.1s
DRIO **Del Rio** 55.63 329 P **P** **04 12 00.3 0.0**
PLAL **Pickwick Lake** 55.70 343 IAmb IAmb 04 12 00.6
comp=Z,15nm,1.4s
U54A **Nelsons Funny** 55.77 350 IAmb IAmb 04 12 27.7
comp=Z,16nm,1.1s
T57A **Hurt** 55.85 352 IAmb IAmb 04 12 03.1
comp=Z,15nm,0.9s
JCT **Junction City** 56.10 330 IAmb IAmb 04 12 04.7
comp=Z,12nm,1.2s
BLA **Blacksburg** 56.22 351 IAmb IAmb 04 12 39.1
comp=Z,30nm,1.4s
WHTX **Lake Whitney,** 56.32 333 IAmb IAmb 04 12 06.6
comp=Z,23nm,1.0s
S57A **Dark Hollow, R** 56.56 352 IAmb IAmb 04 12 08.4
comp=Z,24nm,1.1s
FW13 **Cleburne** 56.62 333 IAmb IAmb 04 12 08.6
comp=Z,12nm,0.9s
R58B **Mineral** 56.64 354 IAmb IAmb 04 12 09.0
comp=Z,43nm,1.6s
WVT **Waverly** 56.71 344 P **P** **04 12 06.7 -1.2**
WVT **Waverly** 56.71 344 P **P** **04 12 06.7 -1.2**
WVT pmax pmax
comp=Z,9.0nm,1.1s
T50A **Nancy** 56.84 347 IAmb IAmb 04 12 09.0
comp=Z,17nm,1.4s
MIAR **Mount Ida** 57.04 338 IAmb IAmb 04 12 11.3
comp=Z,35nm,1.6s
MIAR **Mount Ida** 57.04 338 P **P** **04 12 10.1 -0.2**
MIAR pmax pmax
comp=Z,10.0nm,0.8s
TXAR **Lajitas Array** 57.12 326 P **P** **04 12 10.8 -0.2**
comp=Z,1.2nm,0.8s,baz=150,slow=8.1,SNR=12
TXAR LR LR 04 36 21.0
comp=Z,66nm,18.8s,baz=117,slow=36
comp=Z,1.2nm,0.8s
PLPT **Palo Pinto** 57.40 333 IAmb IAmb 04 12 14.2
comp=Z,20nm,1.3s
ABTX **Abilene, Hawle** 57.83 332 IAmb IAmb 04 12 17.1
comp=Z,20nm,1.0s
Q56A **Snyder Ridge,** 57.85 353 IAmb IAmb 04 12 17.9
comp=Z,17nm,0.9s
R50A **Paris** 57.95 348 IAmb IAmb 04 12 17.0
comp=Z,19nm,1.3s
Q54A **Coxs Mills** 58.02 351 IAmb IAmb 04 12 18.5
comp=Z,16nm,1.1s
PBMO **Poplar Bluff** 58.05 342 IAmb IAmb 04 12 17.6
comp=Z,34nm,1.6s
MNHN **Monahans** 58.26 328 IAmb IAmb 04 12 21.0
comp=Z,27nm,1.5s
WTFS **Witchita Falls** 58.28 333 IAmb IAmb 04 12 20.3
comp=Z,25nm,1.0s
P53A **Whipple** 58.59 351 IAmb IAmb 04 12 33.7
comp=Z,19nm,1.0s
APMT **Aspermont** 58.63 332 IAmb IAmb 04 12 22.8
comp=Z,19nm,0.9s
X34A **Smith Ranch, M** 58.73 334 IAmb IAmb 04 12 23.5
comp=Z,22nm,0.9s
HHAR **Hobbs** 58.73 338 IAmb IAmb 04 12 22.9
comp=Z,21nm,1.3s
ODSA **Odessa** 58.78 329 IAmb IAmb 04 12 24.3
comp=Z,18nm,1.2s
SN07 **Snyder 07** 58.79 331 IAmb IAmb 04 12 23.6
comp=Z,11nm,1.0s
MGMO **Mountain Grove** 58.96 340 IAmb IAmb 04 12 24.4
comp=Z,19nm,1.2s
VHRN **Van Horn** 58.96 326 IAmb IAmb 04 12 25.4
comp=Z,21nm,1.5s
POST **Post** 59.05 330 IAmb IAmb 04 13 14.7
comp=Z,12nm,1.1s
FVM **French Village** 59.17 342 IAmb IAmb 04 12 25.6
comp=Z,21nm,1.1s
DKNS **Dickens** 59.28 331 IAmb IAmb 04 12 27.0
comp=Z,12nm,1.1s
CCM **Cathedral Cave** 59.48 342 P **P** **04 12 26.5 -0.7**
CCM IAmb IAmb 04 12 27.6
comp=Z,17nm,1.3s
CCM **Cathedral Cave** 59.48 342 P **P** **04 12 26.5 -0.7**
CCM pmax pmax
comp=Z,17nm,1.3s
SMWD **Samnorwood** 60.18 333 P **P** **04 12 32.3 0.0**
MSTX **Muleshoe** 60.40 330 IAmb IAmb 04 12 35.3
comp=Z,25nm,1.1s
P40A **Paris** 61.08 342 IAmb IAmb 04 13 34.3
comp=Z,15nm,1.2s
319A **Douglas** 61.78 323 IAmb IAmb 04 12 45.4
comp=Z,8.4nm,0.9s
121A **Cookes Peak, D** 61.82 325 IAmb IAmb 04 12 45.8
comp=Z,18nm,1.4s
BELA **Belgrano 2** 61.88 172 P **P** **04 12 44.3 +1.2**
BELA IAmb IAmb 04 12 46.2
comp=Z,10nm,1.1s
KSU1 **Kansas State U** 62.20 338 IAmb IAmb 04 12 46.2
comp=Z,13nm,1.0s
R32A **Long Quarter,** 62.39 336 IAmb IAmb 04 12 48.2
comp=Z,22nm,1.0s
ANMO **Albuquerque** 62.99 328 P **P** **04 12 51.9 +0.5**
ANMO **Albuquerque** 62.99 328 LR LR 04 40 50.7
comp=Z,85nm,19.2s,baz=206,slow=36
ANMO **Albuquerque** 62.99 328 P **P** **04 12 51.9 +0.5**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
FRNY **Flat Rock** 63.18 358 IAmb IAmb 04 12 53.8
comp=Z,14nm,0.9s
L40A **Anamosa** 63.18 343 IAmb IAmb 04 12 52.5
comp=Z,22nm,1.1s
G62A **West of Eustis** 63.52 0 P **P** **04 12 56.0 +1.6**
VNA1 **Neumayer--Stat** 63.66 161 ⇑P **P** **04 12 56.9 +1.8**
comp=Z,13nm,1.0s
T25A **Trinidad** 63.75 331 IAmb IAmb 04 12 58.2
comp=Z,7.2nm,0.9s
214A **Organ Pipe Nat** 64.26 321 IAmb IAmb 04 13 02.2
comp=Z,11nm,1.4s
TRQ **Mont Tremblant** 64.60 357 IAmb IAmb 04 13 02.8
comp=Z,21nm,1.0s
SDCO **Great Sand Dun** 64.75 330 IAmb IAmb 04 13 05.0
comp=Z,12nm,0.9s
E62A **Clayton Lake** 64.94 1 P **P** **04 13 04.8 +1.1**
E62A IAmb IAmb 04 13 05.7
comp=Z,14nm,0.7s
D62A **Allapoint, All** 65.41 2 P **P** **04 13 07.2 +0.5**
SNAA **Sanae** 65.65 161 ⇑P **P** **04 13 09.4 +1.2**
comp=Z,121nm,0.5s
SNAA **Sanae** 65.65 161 P **P** **04 13 09.5 +1.3**
SNAA **Sanae** 65.65 161 P **P** **04 13 08.6 +0.4**
comp=Z,7.7nm,0.8s,baz=291,slow=6.4,SNR=21
SNAA LR LR 04 39 46.5
comp=Z,117nm,22.0s,baz=19,slow=34
comp=Z,7.7nm,0.8s
SNAA **Sanae** 65.65 161 P **P** **04 13 09.5 +1.3**
SNAA pmax pmax
comp=Z,33nm,1.4s
MVCO **Mesa Verde** 65.79 328 IAmb IAmb 04 13 11.7
comp=Z,30nm,1.8s
WUAZ **Wupatki** 66.02 325 IAmb IAmb 04 13 13.8
comp=Z,11nm,1.2s
ISCO **Idaho Springs** 66.46 332 P **P** **04 13 14.5 +0.5**
ISCO pmax pmax
comp=Z,7.0nm,1.1s
TROLL **Troll, Antarti** 67.37 161 ⇑P **P** **04 13 20.6 +1.4**
comp=Z,222nm,0.6s
TAOE **Nuku Hiva Isla** 67.49 268 *e*LR LR 04 33 33.6
comp=Z,117nm,24.5s
HMU **Henry Mountain** 67.49 327 IAmb IAmb 04 13 23.4
comp=Z,16nm,1.2s
PFO **Pinyon Flats O** 67.61 320 ⇑*iP* **P** **04 13 23.0 +1.7**
PFO **Pinyon Flats O** 67.61 320 ⇑*iP* **P** **04 13 23.0 +1.7**
PFO pmax pmax
comp=Z,4.0nm,1.0s
HAYD **Hayden** 67.79 331 IAmb IAmb 04 13 25.0
comp=Z,9.3nm,1.2s
KNB **Kanab** 67.92 325 IAmb IAmb 04 13 26.4
comp=Z,23nm,1.3s
O20A **White River Ci** 67.94 330 IAmb IAmb 04 13 26.0
comp=Z,12nm,1.2s
F33A **5 Mile Ranch,** 68.11 341 IAmb IAmb 04 13 24.6
comp=Z,12nm,1.0s
Q16A **Castle Valley** 68.45 327 IAmb IAmb 04 13 29.2
comp=Z,17nm,1.6s
P18A **Preston Nutter** 68.52 328 IAmb IAmb 04 13 29.5
comp=Z,14nm,1.2s
CCUT **Cedar City** 68.60 325 IAmb IAmb 04 13 30.9
comp=Z,9.6nm,1.1s
P17A **Butcher Ranch,** 68.65 328 IAmb IAmb 04 13 30.0
comp=Z,13nm,1.1s
RDMU **Red Mountain** 68.92 329 IAmb IAmb 04 13 31.2
comp=Z,15nm,1.6s
RSSD **Black Hills** 69.34 335 P **P** **04 13 32.0 0.0**
RSSD pmax pmax
comp=Z,8.0nm,1.6s
CCCA **Chr Cany lake** 69.46 321 IAmb IAmb 04 13 35.7
comp=Z,15nm,1.2s
MPU **Maple Canyon** 69.51 328 IAmb IAmb 04 13 35.5
comp=Z,12nm,1.2s
FURC **Furnace Creek,** 69.81 322 IAmb IAmb 04 13 37.8
comp=Z,13nm,1.2s
JLU **Jordanelle** 69.86 328 IAmb IAmb 04 13 37.7
comp=Z,11nm,1.1s
WCT **Wildcat Mounta** 69.90 322 IAmb IAmb 04 13 38.7
comp=Z,13nm,1.3s
DBIC **Dimbokro** 69.90 75 P **P** **04 13 35.0 -0.8**
DBIC IAmb IAmb 04 13 36.4
comp=Z,15nm,0.9s
DBIC **Dimbokro** 69.90 75 P **P** **04 13 35.2 -0.6**
comp=Z,16nm,1.0s,baz=259,slow=7.1,SNR=10
DBIC LR LR 04 44 19.8
comp=Z,192nm,18.3s,baz=267,slow=36
comp=Z,16nm,1.0s
DBIC **Dimbokro** 69.90 75 P **P** **04 13 35.0 -0.8**
DBIC pmax pmax
comp=Z,15nm,0.9s
AGMN **Agassiz Nation** 70.20 343 IAmb IAmb 04 13 37.6
comp=Z,11nm,0.9s
NVL **N'lazarevskaya** 70.23 160 *e*P P 04 13 23.8 -13
NVL *e* 04 13 44.8
NVL *e*S **S** **04 22 37.7 -8.2**
NVL *e* 04 23 26.9
NVL *e*SS **SS** **04 27 09.8 -6.1**
NVL *e*SSS SSS 04 30 28.2
NVL pmax pmax
comp=Z,5.0nm,0.9s
NVL smax smax
comp=N,89nm,12.9s
NVL MLR MLR
comp=Z,92nm,17.0s
R11B **Troy Canyon, C** 70.40 324 IAmb IAmb 04 13 57.0
comp=Z,25nm,2.0s
PDAR **Pinedale Array** 70.62 331 P **P** **04 13 40.2 +0.3**
PDAR **Pinedale Array** 70.62 331 P **P** **04 13 40.4 +0.5**
comp=Z,1.6nm,0.9s,baz=138,slow=6.9,SNR=11
PDAR LR LR 04 46 42.4
comp=Z,80nm,18.3s,baz=117,slow=38
comp=Z,1.6nm,0.9s
HWUT **Hardware Ranch** 70.68 329 IAmb IAmb 04 13 42.1
comp=Z,8.5nm,1.1s
QSPA **South Pole Qui** 71.56 180 P **P** **04 13 48.4 +3.2**
QSPA IAmb IAmb 04 13 50.3
comp=Z,19nm,1.2s
QSPA **South Pole Qui** 71.56 180 P **P** **04 13 45.4 +0.2**
comp=Z,9.1nm,1.1s,baz=153,slow=3.4,SNR=10
comp=Z,9.1nm,1.1s
TPAW **Teton Pass** 71.82 331 IAmb IAmb 04 13 51.2
comp=Z,14nm,1.4s
ELK **Elko** 71.92 326 LR LR 04 45 43.5
comp=Z,95nm,18.7s,baz=138,slow=36
ULM **Lac du Bonnet** 71.98 344 P **P** **04 13 46.4 -1.2**
comp=Z,6.0nm,0.7s,baz=126,slow=6.1,SNR=6.4
ULM LR LR 04 48 34.8
comp=Z,54nm,19.2s,baz=101,slow=38
comp=Z,6.0nm,0.7s
ULM **Lac du Bonnet** 71.98 344 ⇑*iP* **P** **04 13 47.0 -0.6**
NVAR **Mina Array Bea** 71.99 323 P **P** **04 13 47.5 -0.7**
comp=Z,2.6nm,1.1s,baz=160,slow=5.4,SNR=7.5
NVAR LR LR 04 43 28.7
comp=Z,111nm,19.4s,baz=94,slow=34
comp=Z,2.6nm,1.1s
LAO **LASA Array** 72.33 335 IAmb IAmb 04 13 51.8
comp=Z,25nm,1.2s
RLMT **Red Lodge** 72.33 333 IAmb IAmb 04 13 52.3
comp=Z,13nm,1.1s
TBI **Tubuai** 72.54 251 *e*S S 04 23 05.0 -9.1
comp=Z,470nm,26.2s
TBI **Tubuai** 72.54 251 *e*LR LR 04 35 34.2
comp=Z,1µm,30.2s
TBI *e*LR LR 04 35 57.6
comp=Z,1µm,27.8s
YNE **Yellowstone No** 72.57 332 IAmb IAmb 04 13 53.8
comp=Z,22nm,0.9s
YMR **Madison River** 72.74 331 IAmb IAmb 04 13 55.6
comp=Z,18nm,1.3s
YHB **Horse Butte** 72.90 331 IAmb IAmb 04 13 56.3
comp=Z,10nm,1.0s
YHL **Hebgen Lake** 72.97 331 IAmb IAmb 04 13 57.7
comp=Z,14nm,1.2s
SCHQ **Schefferville** 73.23 3 P **P** **04 13 55.0 0.0**
comp=Z,121nm,1.1s,baz=225,slow=5.7,SNR=4.2
SCHQ LR LR 04 46 19.3
comp=Z,789nm,21.1s,baz=158,slow=36
DLMT **Dillon** 74.01 331 IAmb IAmb 04 14 02.4
comp=Z,15nm,1.4s
PPT2 **Papeete2** 74.03 256 *e*P P 04 14 06.4 +5.8
comp=Z,36nm,22.8s
PPT2 *e*S **SKiKP** **04 23 26.4 -0.3**
comp=Z,111nm,25.2s
PPT2 **Papeete2** 74.03 256 *e*LR LR 04 36 18.1
comp=Z,108nm,29.8s
PPT2 *e*LR LR 04 36 32.8
comp=Z,77nm,27.2s
PPT **Papeete** 74.03 257 LR LR 04 39 22.1
comp=Z,86nm,18.1s,baz=100,slow=30
MFID **Camas Ranch** 74.14 328 IAmb IAmb 04 14 03.6
comp=Z,16nm,1.1s
EGMT **Eagleton** 74.83 334 IAmb IAmb 04 14 06.3
comp=Z,17nm,1.1s
PLID **Pearl Lake** 75.43 329 IAmb IAmb 04 14 10.4
comp=Z,12nm,1.2s
MSO **Missoula** 75.73 331 IAmb IAmb 04 14 13.3
comp=Z,22nm,1.6s
BMO **Blue Mountains** 75.91 328 IAmb IAmb 04 14 13.9
comp=Z,26nm,1.8s
YBH **Yreka Blue Hor** 76.70 323 LR LR 04 46 23.0
comp=Z,7.9nm,19.9s,baz=101,slow=34
HAWA **Hanford** 78.10 328 IAmb IAmb 04 14 25.9
comp=Z,11nm,1.1s
NEW **Newport** 78.25 331 LR LR 04 51 31.5
comp=Z,70nm,18.3s,baz=126,slow=38
TORD **Torodi Ar. Bea** 78.33 72 P **P** **04 14 24.2 -0.8**
comp=Z,16nm,1.0s,baz=260,slow=4.6,SNR=51
TORD LR LR 04 48 12.9
comp=Z,378nm,18.3s,baz=306,slow=35
comp=Z,16nm,1.0s
VNDA **Vanda** 79.33 190 P **P** **04 14 30.7 +1.3**
comp=Z,1.3nm,0.9s,baz=123,slow=5.5,SNR=4.3
VNDA LR LR 04 43 31.2
comp=Z,36nm,19.7s,baz=144,slow=31
comp=Z,1.3nm,0.9s
LON **Longmire** 79.50 327 IAmb IAmb 04 14 32.4
comp=Z,34nm,1.6s
SYO **Syowa Base** 79.90 160 ⇓*eP* **P** **04 14 34.0 +1.4**
MORF **Marmelete** 80.85 46 *eP* **P** **04 14 38.0 -0.3**
MORF *i* IAmb IAmb 04 14 39.3
comp=Z,32nm,1.6s
PARRA **Arraiolos** 81.39 44 *eP* **P** **04 14 45.8 +4.7**
PARRA *i* IAmb IAmb 04 14 57.2
comp=Z,22nm,1.7s
MD01 **Midelt array s** 81.40 51 P **P** **04 14 42.7 +1.3**
MD31 **MD31** 81.40 51 IAmb IAmb 04 14 54.6
comp=Z,18nm,1.4s
MDT **Midelt** 81.48 51 LR LR 04 49 46.4
comp=Z,58nm,20.7s,baz=256,slow=35
PBEJ **Beja** 81.76 45 *eP* **P** **04 14 44.7 +1.6**
PBEJ *i* IAmb IAmb 04 14 54.6
comp=Z,10nm,2.2s
EVO **Evora** 81.92 45 *eP* **P** **04 14 45.3 +1.4**
EVO *i* IAmb IAmb 04 14 46.7
comp=Z,23nm,1.7s
PMTG **Montargil** 82.06 44 *eP* **P** **04 14 46.0 +1.4**
PMTG *i* IAmb IAmb 04 14 47.9
comp=Z,46nm,1.8s
FRB **Frobisher Bay** 82.11 1 LR LR 04 54 49.8
comp=Z,95nm,18.3s,baz=118,slow=38
LLLB **Lillooet** 82.12 330 IAmb IAmb 04 14 46.0
comp=Z,15nm,1.2s
RAR **Rarotonga** 82.31 250 LR LR 04 44 24.4
comp=Z,126nm,18.5s,baz=114,slow=30
PSARD **Sardoal** 82.38 44 *eP* **P** **04 14 47.8 +1.5**
PSARD *i* IAmb IAmb 04 14 49.6
comp=Z,36nm,1.4s
PBAR **Barrancos** 82.40 46 *eP* **P** **04 14 47.8 +1.4**
PBAR *i* IAmb IAmb 04 14 50.9
comp=Z,14nm,1.3s
COI **Coimbra** 82.54 43 *eP* **P** **04 14 45.6 -1.4**
COI *i* IAmb IAmb 04 14 49.1
comp=Z,46nm,1.5s
TSUM **Tsumeb** 82.81 108 P **P** **04 14 50.4 +1.2**
TSUM IAmb IAmb 04 15 02.9
comp=Z,25nm,1.1s
TSUM **Tsumeb** 82.81 108 LR LR 04 49 32.0
comp=Z,145nm,19.7s,baz=262,slow=34
PCBR **Castelo Branco** 82.96 44 *eP* **P** **04 14 52.8 +3.6**
PCBR *i* IAmb IAmb 04 15 07.6
comp=Z,18nm,1.7s
POLO **Lamas de Olo** 83.55 43 *eP* **P** **04 14 53.3 +0.9**
POLO *i* IAmb IAmb 04 14 54.2
comp=Z,18nm,1.7s
PCAB **Cabril** 83.58 42 *eP* **P** **04 14 52.9 +0.5**
PCAB *i* IAmb IAmb 04 14 55.0
comp=Z,30nm,1.4s
MVO **Moncorvo** 83.93 43 *eP* **P** **04 14 55.5 +1.1**
MVO *i* IAmb IAmb 04 15 05.6
comp=Z,25nm,2.0s
PBRG **Braganca** 84.45 43 *eP* **P** **04 14 57.9 +1.0**
PBRG *i* IAmb IAmb 04 14 59.4
comp=Z,31nm,1.4s
PAB **San Pablo** 84.90 45 P **P** **04 15 00.2 +0.9**
PAB IAmb IAmb 04 15 01.4
comp=Z,13nm,0.9s
PAB **San Pablo** 84.90 45 P **P** **04 15 00.2 +0.9**
PAB pmax pmax
comp=Z,13nm,0.9s
ESDC **Sonseca Array** 85.22 46 P **P** **04 15 01.5 +0.6**
comp=Z,6.4nm,1.0s,baz=250,slow=5.5,SNR=31
ESDC LR LR 04 48 51.2
comp=Z,99nm,21.2s,baz=286,slow=33
comp=Z,6.4nm,1.0s
TAM **Tamanrasset** 85.35 64 IAmb IAmb 04 15 04.0
comp=Z,13nm,1.1s
TAM **Tamanrasset** 85.35 64 P **P** **04 15 03.2 +1.2**
TAM pmax pmax
comp=Z,7.0nm,1.2s
GRTLG **Ghanzi** 85.42 111 P **P** **04 15 03.5 +1.1**
BBB **Bella Bella** 86.13 329 LR LR 04 57 05.9
comp=Z,48nm,18.2s,baz=96,slow=38
XAUDM **Khaudum** 86.40 108 P **P** **04 15 09.8 +2.5**
XAUDM IAmb IAmb 04 15 10.9
comp=Z,22nm,1.3s
BOSA **Boshof** 86.59 119 LR LR 04 50 46.4
comp=Z,101nm,19.0s,baz=223,slow=33
MAW **Mawson** 87.66 164 P **P** **04 15 13.0 +0.7**
comp=Z,4.4nm,1.0s,baz=224,slow=6.1,SNR=9.4
MAW LR LR 04 52 57.4
comp=Z,83nm,21.9s,baz=236,slow=34
comp=Z,4.4nm,1.0s
MAW **Mawson** 87.66 164 P **P** **04 15 13.9 +1.6**
YKAW1 **Yellowknife Wh** 87.77 341 IAmb IAmb 04 15 14.2
comp=Z,22nm,1.0s
YKA **Yellowknife Ar** 87.81 341 P **P** **04 15 13.5 +0.6**
YKA **Yellowknife Ar** 87.81 341 P **P** **04 15 13.3 +0.4**
comp=Z,12nm,0.9s,baz=143,slow=3.9,SNR=41
YKA LR LR 04 57 10.9
comp=Z,73nm,20.0s,baz=112,slow=37
comp=Z,12nm,0.9s
YKA **Yellowknife Ar** 87.81 341 P **P** **04 15 13.5 +0.6**
YKAW3 **Yellowknife Wh** 87.87 341 IAmb IAmb 04 15 14.7
comp=Z,20nm,0.9s
LBTB **Lobatse** 88.06 116 LR LR 04 53 34.8
comp=Z,101nm,18.2s,baz=248,slow=35
DLBC **Dease Lake** 90.73 333 LR LR 04 59 33.0
comp=Z,873nm,19.2s,baz=66,slow=38
WTLY **Watson Lake, Y** 91.21 335 IAmb IAmb 04 15 31.0
comp=Z,10nm,1.2s
BORG **Borgarnes** 91.35 19 LR LR 04 53 35.7
comp=Z,80nm,20.4s,baz=233,slow=34
MATP **Matopo** 92.15 112 LR LR 04 55 49.1
comp=Z,192nm,18.2s,baz=218,slow=35
KEST **Kesra** 93.19 53 LR LR 04 55 27.3
comp=Z,77nm,22.0s,baz=268,slow=34
LSZ **Lusaka** 93.66 107 LR LR 04 56 24.1
comp=Z,168nm,18.9s,baz=210,slow=34
KIP **Kipapa** 93.92 291 *eP* **P** **04 15 42.2 -0.1**
KIP pmax pmax
comp=Z,26nm,0.7s
RES **Resolute Bay** 94.32 354 LR LR 04 59 44.4
comp=Z,76nm,21.2s,baz=104,slow=36
URZ **Urewera** 94.71 227 LR LR 04 51 03.3
comp=Z,108nm,18.4s,baz=118,slow=31
INK **Inuvik** 97.56 341 LR LR 05 04 21.5
comp=Z,96nm,18.9s,baz=68,slow=38
DZM **Mont Dzumac** 110.75 237 *e*LR LR 04 53 37.9
comp=Z,109nm,21.6s
OBN **Obninsk** 115.12 37 ⇑*i*PKIKP **PKPdf** **04 21 08.0 +3.0**
OBN 04 21 21.0
OBN 04 22 10.0
OBN *e* 04 24 37.0

OBN 04 28 07.0
OBN SS SS 04 38 22.0 +22
OBN pmax pmax
comp=Z,3.0nm,0.6s
KIV Kislovodsk 119.67 50 *e*PKIKP **PKiKP 04 21 15.5 +1.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
H11S2 WAKE ISLAND Hyl 25.46 280 T T 06 39 18.4
baz=100,slow=75,SNR=631
H11S1 WAKE ISLAND Hyl 25.47 280 T T 06 39 13.2
baz=100,slow=75,SNR=123
H11N3 WAKE ISLAND Hyl 25.48 281 T T 06 39 25.5
baz=100,slow=75,SNR=53
H11S3 WAKE ISLAND Hyl 25.48 280 T T 06 39 19.6
baz=100,slow=75,SNR=250
H11N2 WAKE ISLAND Hyl 25.49 281 T T 06 39 23.5
baz=100,slow=75,SNR=48
H11N1 WAKE ISLAND Hyl 25.49 281 T T 06 39 14.8
baz=100,slow=75,SNR=34
ASAR Alice Springs 131.43 211 PKP **PKPdf 04 21 38.0 +0.6**
comp=Z,1.9nm,0.9s,baz=109,slow=2.2,SNR=9.9
WRA Warramunga Arr 134.31 214 PKP **PKPdf 04 21 43.0 +0.1**
comp=Z,1.6nm,0.9s,baz=176,slow=1.5,SNR=7.4
KURBB Kurchatov Arra 139.95 30 PKP **PKPdf 04 21 50.9 -1.4**
comp=Z,0.3nm,0.2s,baz=303,slow=2.3,SNR=4.5
ZALV Zalesovo Beam 140.12 22 PKhKP PKPpre 04 21 44.4
comp=Z,0.6nm,0.3s,baz=340,slow=3.9,SNR=5.7
ZALV PKP **PKPdf 04 21 52.1 -0.4**
comp=Z,4.0nm,0.8s,baz=318,slow=2.0,SNR=10
MKAR Makanchi Array 144.37 32 PKP **PKPab 04 21 58.6 +0.1**
comp=Z,4.6nm,0.8s,baz=313,slow=2.5,SNR=17
KSH Kashi 144.73 47 PKP **PKPdf 04 22 01.4 +0.1**
KSH sPKP 04 22 14.7
HEH HeiHe 145.15 339 *e*P **PKPbc 04 22 01.2 +0.1**
HEH pmax pmax
comp=Z,19nm,1.1s
MOY Mondy 146.42 9 *e*PKP2 **PKPab 04 22 06.5 +0.5**
MOY pmax pmax
comp=Z,16nm,1.4s
ZAK Zakamensk 147.98 7 *e*PKIKP **PKPdf 04 22 05.6 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.7s
USRK Ussuriysk Ar. 148.00 328 PKPbc **PKPbc 04 22 09.2 -0.4**
comp=Z,9.1nm,0.9s,baz=82,slow=2.9,SNR=6.5
MJAR Matsushiro Ar. 148.69 311 PKPbc **PKPbc 04 22 11.4 -0.3**
comp=Z,13nm,1.0s,baz=84,slow=0.8,SNR=15
SONM Songino Array 150.78 4 PKP **PKPdf 04 22 10.3 -0.8**
comp=Z,5.2nm,1.0s,baz=333,slow=0.3,SNR=4.2
SONM PKPbc **PKiKP 04 22 17.8 +0.5**
comp=Z,6.1nm,0.8s,baz=322,slow=1.2,SNR=22
HHC Hu-ho-hao-te 157.72 355 *e*P **PKPdf 04 22 18.8 -2.1**
TIA Tai'an 161.04 339 PKP **PKPdf 04 22 26.5 +1.7**
NJ2 Nanjing 163.91 328 *e*P **PKPdf 04 22 29.2 +1.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 166.88 20 PKP **PKPdf 04 22 30.0 -0.3**
PZH PanZhiHua 169.70 39 PKP **PKPdf 04 22 32.4 0.0**
CMAR Chiang Mai Arr 170.50 89 PKP **PKPdf 04 22 34.2 -1.9**
comp=Z,1.1nm,0.3s,baz=251,slow=12,SNR=1.7
CMAR PKPab **PKPab 04 23 51.1 +1.0**
comp=Z,1.3nm,0.3s,baz=268,slow=5.6,SNR=14

GCG ***04*** *04:07:27.8±1.4, 14°.18N×90°.44W, h9km±5km, MD3.8, ML3.2*
SNET ***04*** *04:07:28.9±0.9, 14°.17N×90°.43W, h13km±9km, ML2.9*
CATAC ***04*** *04:07:28.5±0.2, 14°N±2"×9°0W±°, h3km±1km, M2.9/13, MLv2.9/13, Error ellipse: s-maj=5.2km s-min=1.8km az=29.6, confirmed*
ISC 04 04:07:30.5±0.9, 14°.25N±0°.04×90°.29W±0°.02, h17km±6km, n45, σ1§76/52, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG5	**San Vicente Pa**	**0.09**	**250**	*i* P	**Pg**	**04 07 34.3**	**+0.1**
PCG5				*e*S	**Sg**	**04 07 38.1**	**+1.5**
FG16	**Alotenango, Sa**	**0.22**	**276**	*i* P	**Pb**	**04 07 38.4**	**+2.2**
FG16				*e*S	**Sb**	**04 07 45.6**	**+5.7**
FG16				IAML		04 07 46.4	
	comp=N,5μm,0.3s						
FG8	**Yepocapa, Chim**	**0.27**	**272**	*e*P	**Pb**	**04 07 39.6**	**+2.7**
FG8				*e*S	Sb	04 07 47.9	+6.6
FAME	**Alcaldia de Sa**	**0.48**	**147**	P	**Pg**	**04 07 38.6**	**-1.5**
FAME	**Alcaldia de Sa**	**0.48**	**147**	S	**Sg**	**04 07 46.0**	**-0.7**
ESSG	**Sabana Grande**	**0.55**	**284**	*e*P	**Pg**	**04 07 37.3**	**-4.1**
ESSG				*e*S	**Sg**	**04 07 43.9**	**-4.8**
LOAL	**Lomas de Alarc**	**0.55**	**117**	*e*P	**Pg**	**04 07 40.8**	**-0.7**
LOAL	**Lomas de Alarc**	**0.55**	**117**	S	**Sg**	**04 07 49.8**	**+1.0**
LOAL	**Lomas de Alarc**	**0.55**	**117**	P	**Pg**	**04 07 40.9**	**-0.6**
RBDL	**Robledal**	**0.60**	**103**	*e*P	**Pg**	**04 07 41.6**	**-0.7**
NUBE	**Las Nubes**	**0.60**	**125**	*e*P	**Pg**	**04 07 41.4**	**-1.0**
NUBE				*e*S	**Sg**	**04 07 50.7**	**+0.2**
NUBE	**Las Nubes**	**0.60**	**125**	P	**Pg**	**04 07 41.7**	**-0.8**
RTR	**El Retiro**	**0.71**	**119**	*e*P	**Pg**	**04 07 43.8**	**-0.7**
RTR				*e*S	**Sb**	**04 07 55.4**	**+1.3**
SNJE	**San Jose**	**0.76**	**120**	*e*P	**Pb**	**04 07 44.5**	**-0.9**
SBLS	**San Blas**	**0.76**	**122**	*e*P	**Pg**	**04 07 45.2**	**-0.3**
UNIC	**Universidad Ca**	**0.76**	**110**	S	**Sb**	**04 07 56.1**	**+0.6**
UNIC	**Universidad Ca**	**0.76**	**110**	P	**Pb**	**04 07 43.9**	**-1.4**
CEVE	**Cerro Verde**	**0.77**	**123**	*e*P	**Pg**	**04 07 44.9**	**-0.6**
MTO3	**Montecristo**	**0.91**	**80**	*e*P	**Pb**	**04 07 47.1**	**-0.9**
MTO3	**Montecristo**	**0.91**	**80**	*i* P	**Pb**	**04 07 47.0**	**-0.9**
ESQI	**Esquipulas**	**0.97**	**71**	*e*P	**Pb**	**04 07 48.5**	**-0.3**
ESQI	**Esquipulas**	**0.97**	**71**	P	**Pb**	**04 07 48.8**	**-0.1**
ESQI	**Esquipulas**	**0.97**	**71**	S	**Sb**	**04 08 02.9**	**+1.5**
JAYA	**Jayaque - finc**	**1.00**	**126**	*e*P	**Pb**	**04 07 48.3**	**-1.2**
JAYA				*e*S	**Sb**	**04 08 03.2**	**+0.7**
JAYA	**Jayaque - finc**	**1.00**	**126**	*e*P	**Pb**	**04 07 48.1**	**-1.4**
JAYA				*e*S	**Sb**	**04 08 02.6**	**0.0**
STG2	**El Palmar, Qui**	**1.07**	**280**	*e*S	**Sn**	**04 08 08.8**	**+3.3**
PMON	**Piamonte**	**1.08**	**119**	*e*P	**Pn**	**04 07 50.4**	**-0.6**
PMON	**Piamonte**	**1.08**	**119**	P	**Pn**	**04 07 50.6**	**-0.4**
PMON	**Piamonte**	**1.08**	**119**	S	**Sn**	**04 08 06.6**	**+0.9**
LALI	**Alcalda de L**	**1.20**	**129**	P	**Pn**	**04 07 52.2**	**-0.3**
LALI	**Alcalda de L**	**1.20**	**129**	S	**Sn**	**04 08 09.4**	**+0.9**
UDBS	**Universidad Do**	**1.22**	**116**	P	**Pn**	**04 07 52.7**	**-0.1**
UDBS	**Universidad Do**	**1.22**	**116**	S	**Sn**	**04 08 10.0**	**+1.0**
LLGN	**La Laguna**	**1.30**	**94**	S	**Sb**	**04 08 12.6**	**+1.5**
LLGN	**La Laguna**	**1.30**	**94**	P	**Pn**	**04 07 54.2**	**+0.2**
RTAL	**Retalhuleu**	**1.39**	**282**	S	**Sn**	**04 08 09.9**	**-3.3**
RTAL	**Retalhuleu**	**1.39**	**282**	P	**Pn**	**04 07 52.7**	**-2.5**
SARH	**Santa Rosa de**	**1.57**	**70**	*e*S	**Sg**	**04 08 22.3**	**+1.2**
SARH	**Santa Rosa de**	**1.57**	**70**	P	**Pn**	**04 07 58.3**	**+0.7**
SARH	**Santa Rosa de**	**1.57**	**70**	S	**Sb**	**04 08 20.3**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.61**	**110**	*e*P	**Pn**	**04 07 58.8**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.61**	**110**	S	**Sb**	**04 08 21.0**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.61**	**110**	P	**Pn**	**04 07 58.0**	**-0.1**
TECO	**Alcaldia de Te**	**1.62**	**116**	S	**Sb**	**04 08 21.5**	**+1.3**
TECO	**Alcaldia de Te**	**1.62**	**116**	P	**Pn**	**04 07 59.1**	**+0.8**

DNK ***04*** *04:14:43.8±2.1, 51°.72N×15°.97E, h0km±101km, ML2.7*
IPEC ***04*** *04:14:44.5±0.2, 51°.61N×16°.16E, h1km, ML2.6/6, Error ellipse: s-maj=2.8km s-min=1.4km az=75.0*
IDC ***04*** *04:14:45.5±1.0, 51°.59N×15°.97E, h0km, mbtmp3.3/4, ML2.1/3, Error ellipse: s-maj=20.6km s-min=9.3km az=119.0*
VIE ***04*** *04:14:46.3±0.8, 51°.47N×16°.02E, h0km, mb2.7/9, ml2.8/9, Error ellipse: s-maj=6.2km s-min=4.5km az=41.0 81 km WNW of Wroclaw Suspected Mining induced.*
PRU ***04*** *04:14:47.1, 51°.51N×16°.01E, h0km*
ISC 04 04:14:42.7±0.8, 51°.70N±0°.03×16°.10E±0°.02, h0km, n44, σ1§08/89, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.86**	**172**	*i* Pg	**Pg**	**04 14 59.6**	**+0.4**
KSP				*e*Sg	**Sg**	**04 15 09.7**	**-0.6**
CHVC	**Chvalec**	**1.11**	**182**	*e*PG	**Pg**	**04 15 04.3**	**+0.4**
CHVC				*e*SG	**Sg**	**04 15 17.5**	**-0.8**
OSTC	**Ostas**	**1.14**	**176**	*e*PG	**Pg**	**04 15 05.0**	**+0.4**
OSTC				*e*SG	**Sg**	**04 15 18.8**	**-0.6**
UPC	**Upice**	**1.19**	**183**	*e*PG	**Pg**	**04 15 05.7**	**+0.2**
UPC				*e*SG	**Sg**	**04 15 19.8**	**-1.1**
DPC	**Dobruska-Polom**	**1.35**	**174**	*e*PG	**Pg**	**04 15 08.4**	**-0.2**
DPC				*e*SG	**Sg**	**04 15 24.3**	**-1.9**
	comp=Z,56nm,0.4s						
PVCC	**Panska Ves**	**1.52**	**220**	*e*PG	**Pg**	**04 15 11.8**	**0.0**
PVCC				*e*SG	**Sg**	**04 15 30.1**	**-1.3**
	comp=Z,209nm,0.2s						
PIVO	**Bartosovice**	**1.54**	**169**	*e*Pg	**Pn**	**04 15 11.2**	**-0.2**
	baz=350						
PIVO				*e*Sg	**Sn**	**04 15 29.6**	**-2.5**
	64nm,0.4s,baz=350						
BRG	**Berggiesshubel**	**1.59**	**240**	Pn	**Pn**	**04 15 11.9**	**-0.2**
BRG				Pg	**Pg**	**04 15 13.4**	**+0.3**
BRG				Sg	**Sg**	**04 15 33.7**	**+0.1**
BRG				Amp		04 15 34.7	
	comp=Z,85nm,0.4s						
KRLC	**Kraliky**	**1.68**	**165**	*e*PG	**Pn**	**04 15 13.4**	**0.0**
KRLC				*e*SG	**Sn**	**04 15 35.1**	**-0.5**
	comp=Z,75nm,0.6s						
RYBC	**Ceska Rybna**	**1.89**	**181**	*e*Pn	**Pn**	**04 15 16.3**	**+0.1**
	baz=1.8						
RYBC				*e*Sg	**Sn**	**04 15 40.8**	**0.0**
	comp=Z,38nm,0.2s,baz=1.8						
CLL	**Collm**	**1.98**	**260**	*i* Pn	**Pn**	**04 15 17.6**	**+0.2**
CLL				*i* Pg	**Pg**	**04 15 20.8**	**+0.2**
CLL				*i* x	x	04 15 24.7	
CLL				*i* Sg	**Sg**	**04 15 46.6**	**+0.4**
	comp=Z,31nm,0.4s						
PRU	**Pruhonice**	**1.98**	**211**	*e*PG	**Pb**	**04 15 19.2**	**-0.3**
PRU				*e*SG	**Sn**	**04 15 43.4**	**+0.6**
	comp=Z,39nm,0.5s						
HSKC	**Hora Svate Kat**	**2.00**	**238**	*e*PN	**Pn**	**04 15 17.6**	**-0.2**
HSKC				*e*PG	**Pb**	**04 15 20.0**	**0.0**
HSKC				*e*SG	**Sb**	**04 15 45.8**	**+0.3**
STEB	**Steborice**	**2.06**	**148**	*e*PN	**Pn**	**04 15 18.7**	**+0.2**
STEB				*e*PG	**Pb**	**04 15 21.6**	**+0.7**
STEB				*e*SG	**Sg**	**04 15 48.7**	**-0.1**
MORC	**Moravsky Berou**	**2.13**	**154**	*e*Pn	**Pn**	**04 15 19.5**	**0.0**
	baz=335						
MORC				*e*Sg	**Sb**	**04 15 48.3**	**-0.8**
	comp=Z,50nm,0.7s,baz=335						
OKC	**Ostrava-Krasne**	**2.27**	**144**	*e*SG	**Sb**	**04 15 54.0**	**+0.9**
VRAC	**Vranov**	**2.41**	**172**	*e*Pn	**Pn**	**04 15 23.7**	**+0.3**
	baz=353						
VRAC				*e*Sg	**Sb**	**04 15 57.0**	**-0.2**
	comp=Z,27nm,0.5s,baz=353						
TREC	**Trest**	**2.44**	**190**	*e*SG	**Sb**	**04 15 58.8**	**+0.9**
	comp=Z,25nm,0.2s						
KRUC	**Moravsky**	**2.64**	**176**	*e*PN	**Pn**	**04 15 27.0**	**+0.4**
KRUC				*e*SG	**Sb**	**04 16 04.5**	**+0.6**
KRUC	**Moravsky**	**2.64**	**176**	*e*Pn	**Pn**	**04 15 26.9**	**+0.4**
	baz=357						
KRUC				*e*Sg	**Sb**	**04 16 04.4**	**+0.6**
	comp=Z,21nm,0.6s,baz=357						
OJC	**Ojcow**	**2.77**	**121**	*e*Pg	**Pg**	**04 15 36.2**	**+0.5**
OJC				*e*Sg	**Sg**	**04 16 11.9**	**+0.4**
JAVC	**Velka Javorina**	**3.01**	**160**	*e*Pn	**Pn**	**04 15 32.0**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**3.03**	**213**	*e*PN	**Pn**	**04 15 32.1**	**+0.1**
KHC				*e*PG	**Pb**	**04 15 38.2**	**+0.6**
KHC				*e*SN	**Sn**	**04 16 07.5**	**-1.5**
KHC				*e*SG	**Sb**	**04 16 16.7**	**+1.5**
	comp=Z,10nm,0.3s						
CKRC	**Cesky Krumlov**	**3.10**	**202**	*e*PN	**Pn**	**04 15 33.7**	**+0.8**
CKRC				*e*PG	**Pb**	**04 15 39.5**	**+0.8**
CKRC				*e*SG	**Sb**	**04 16 17.8**	**+0.7**
	comp=Z,16nm,0.4s						
GERES	**GERESS Array B**	**3.24**	**209**	Pn	**Pn**	**04 15 35.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=23						
GERES				Pg	**Pb**	**04 15 42.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=28,slow=19,SNR=25						
GERES				Lg	Lg	04 16 23.5	
	comp=Z,0.7nm,0.3s,baz=29,slow=26,SNR=10						
	comp=Z,1.7nm,0.3s						
MODS	**Modra-Piesok**	**3.41**	**167**	*e*PN	**Pn**	**04 15 38.6**	**+1.4**
MODS				*e*PG	**Pg**	**04 15 47.8**	**-0.2**
MODS				*e*SG	**Sg**	**04 16 30.9**	**-1.3**
NIE	**Niedzica**	**3.52**	**129**	*e*Pg	**Pg**	**04 15 50.3**	**+0.3**
NIE				*e*Sg	**Sg**	**04 16 34.4**	**-1.2**
CONA	**Conrad Observa**	**3.77**	**182**	*i* Pn	**Pn**	**04 15 43.1**	**+0.9**
	comp=Z,2.0nm,0.3s,SNR=6.5						
CONA				*i* Sg	**Sg**	**04 16 43.9**	**0.0**
	comp=Z,16nm,0.4s						
RONA	**Rosalia, Austr**	**4.00**	**178**	*i* Pn	**Pn**	**04 15 45.6**	**+0.3**
	comp=Z,0.6nm,0.2s						
RONA				*e*Sg	**Sg**	**04 16 47.7**	**-3.5**
	comp=Z,8.9nm,0.5s						
MOA	**Molln**	**4.03**	**198**	*i* Pn	**Pn**	**04 15 46.1**	**+0.5**
	comp=Z,4.5nm,0.3s,SNR=13						
MOA				*e*Sg	**Sg**	**04 16 49.5**	**-2.6**
	comp=Z,3.2nm,0.3s						
LUNU	**Lund**	**4.25**	**339**	*i* P	**Pn**	**04 15 48.0**	**-0.6**
LUNU				*i* S	**Sn**	**04 16 37.3**	**-1.5**
BIOA	**Bad Ischl, Aus**	**4.32**	**203**	*i* Pn	**Pn**	**04 15 50.0**	**+0.4**
	comp=Z,2.7nm,0.3s						
BIOA				*e*Sg	**Sg**	**04 16 58.8**	**-2.5**
	comp=Z,13nm,0.3s						
ARSA	**Arzberg**	**4.47**	**185**	*i* Pn	**Pn**	**04 15 52.1**	**+0.5**
	comp=Z,1.3nm,0.2s						
ARSA				*e*Sg	**Sg**	**04 17 04.3**	**-1.8**
	comp=Z,2.4nm,0.4s						
BJUU	**Bjuv**	**4.75**	**339**	*i* P	**Pn**	**04 15 56.1**	**+0.6**
BJUU				*i* S	**Sn**	**04 16 48.4**	**-2.8**
LESA	**Schwarzleotal**	**4.82**	**209**	*e*Sg	**Sg**	**04 17 15.9**	**-1.7**
	comp=Z,5.0nm,0.5s						
KOLS	**Kolonicke sedl**	**4.82**	**123**	*e*PN	**Pn**	**04 15 57.7**	**+1.1**
KOLS				*e*PG	**Pg**	**04 16 15.5**	**+0.4**
KBA	**Koelnbreinsper**	**4.96**	**202**	*i* Pn	**Pn**	**04 15 59.3**	**+0.7**
	comp=Z,2.6nm,0.3s,SNR=7.7						
KBA				*e*Sg	**Sg**	**04 17 22.1**	**+0.1**
	comp=Z,5.6nm,0.5s						
DEL	**Delary**	**4.96**	**346**	*i* P	**Pn**	**04 15 59.4**	**+1.0**
DEL				*i* S	**Sn**	**04 16 54.2**	**-2.2**
SOKA	**Soboth**	**5.07**	**188**	*e*Pn	**Pn**	**04 16 00.7**	**+0.7**
	comp=Z,0.4nm,0.2s						
SOKA				*e*Sg	**Sg**	**04 17 23.7**	**-1.8**
	comp=Z,1.3nm,0.3s						
WTTA	**Wattenberg**	**5.31**	**215**	*i* Pn	**Pn**	**04 16 04.2**	**+0.9**
	comp=Z,1.2nm,0.2s						
WTTA				*e*Sg	**Sg**	**04 17 35.2**	**+2.1**
	comp=Z,5.3nm,0.4s						
FABU	**Falkenberg**	**5.67**	**341**	*i* P	**Pn**	**04 16 09.6**	**+1.5**
FABU				*i* S	**Sn**	**04 17 12.8**	**-1.0**
AKASG	**Malin Array Be**	**8.30**	**92**	Pn	**Pn**	**04 16 44.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=281,slow=12,SNR=2.7						
HFS	**Hagfors**	**8.56**	**352**	Pn	**Pn**	**04 16 49.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=1.5						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**11.20**	**25**	Pn	**Pn**	**04 17 23.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=3.7						
	comp=Z,2.5nm,0.9s						

IDC ***04*** *04:19:05.8±1.3, 19°.00S×71°.27W, h0km, mb3.6/4, mbtmp3.7/6, ML3.7/2, MS2.8/1, Error ellipse: s-maj=35.7km s-min=26.9km az=105.0*
GUC ***04*** *04:19:12.4±0.7, 18°.64S×71°.19W, h24km±5km, ML3.7*
ISC 04 04:19:11.1±1.1, 18°.70S±0°.06×71°.4W±0°.1, h35km, n27, σ1§96/21, mb3.3/3, 2C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.79**	**79**	*e*P	**Pn**	**04 19 38.4**	**-1.6**
PB11	**IPOC Station P**	**1.93**	**124**	⇑*i*P	**Pn**	**04 19 42.5**	**+1.0**
PB11				*e*S	**Sn**	**04 20 05.5**	**+0.9**
PB11				IAML		04 20 07.8	
	comp=E,793nm,0.2s						
TA02	**Huaiquique**	**1.95**	**144**	*e*P	**Pn**	**04 19 43.3**	**+1.6**
PB18	**Visviri**	**2.10**	**59**	*e*P	**Pn**	**04 19 45.2**	**+1.0**
PB18				*e*S	**Sn**	**04 20 10.0**	**+0.7**
PB18				IAML		04 20 19.4	
	comp=N,2μm,0.5s						
TA01	**Diego Aracena**	**2.17**	**149**	*e*P	**Pn**	**04 19 46.3**	**+1.6**
GO01	**Chusmiza**	**2.26**	**116**	*e*P	**Pn**	**04 19 47.5**	**+1.1**
GO01				*e*S	**Sn**	**04 20 15.3**	**+1.9**
GO01				IAML		04 20 20.8	
	comp=E,494nm,0.1s						
PATCX	**Punta Patache**	**2.40**	**152**	*e*P	**Pn**	**04 19 49.5**	**+1.6**
PB08	**IPOC Station P**	**2.53**	**125**	*e*P	**Pn**	**04 19 51.1**	**+1.1**
PB01	**IPOC Station P**	**2.92**	**143**	*e*P	**Pn**	**04 19 56.6**	**+1.4**
PB01				IAML		04 20 47.7	
	comp=E,150nm,0.3s						
PB02	**IPOC Station P**	**2.95**	**153**	⇑*e*P	**Pn**	**04 19 57.5**	**+1.9**
PB02				IAML		04 20 35.2	
	comp=E,187nm,0.4s						
PB03	**IPOC Station P**	**3.66**	**156**	*e*P	**Pn**	**04 20 07.0**	**+1.6**
PB09	**IPOC Station P**	**3.67**	**148**	*e*P	**Pn**	**04 20 07.9**	**+2.4**
PB09				IAML		04 21 17.1	
	comp=E,144nm,0.6s						
LPAZ	**La Paz**	**3.90**	**53**	Pn	**Pn**	**04 20 11.2**	**+2.1**
	comp=E,1.8nm,0.3s,baz=218,slow=5.3,SNR=39						
LPAZ				LR	LR	04 21 45.3	
	comp=E,132nm,20.6s,baz=262,slow=40						
	comp=E,8.3nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**10.18**	**76**	Pn	**Pn**	**04 21 33.5**	**-1.3**
	comp=E,0.1nm,0.3s,baz=256,slow=9.1,SNR=19						
	comp=E,2.6nm,0.4s						
H03N1	**Juan Fernandez**	**16.17**	**203**	T	T	04 39 58.3	
	baz=32						
H03N2	**Juan Fernandez**	**16.18**	**203**	T	T	04 39 53.6	
	baz=32,slow=74						
H03N3	**Juan Fernandez**	**16.18**	**203**	T	T	04 39 42.3	
	baz=32,slow=74						
PLCA	**Paso Flores**	**21.98**	**178**	P	**P**	**04 23 57.3**	**-4.7**
	comp=E,1.2nm,0.9s,baz=343,slow=10,SNR=2.9						
	comp=E,1.2nm,0.9s						
TXAR	**Lajitas Array**	**57.03**	**326**	P	**P**	**04 28 56.0**	**+2.2**
	comp=E,0.1nm,0.4s,baz=137,slow=7.2,SNR=3.9						
	comp=E,0.1nm,0.4s						
SNAA	**Sanae**	**65.67**	**161**	P	**P**	**04 29 50.7**	**-0.8**
	comp=E,0.7nm,0.5s,baz=268,slow=18,SNR=4.4						
	comp=E,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.63**	**72**	P	**P**	**04 31 08.9**	**-1.1**
	comp=E,1.1nm,0.8s,baz=253,slow=4.1,SNR=6.2						
	comp=E,1.1nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**25.19**	**280**	T	T	06 56 08.7	
	baz=100,slow=74,SNR=47						
H11S1	**WAKE ISLAND Hyl**	**25.20**	**280**	T	T	06 55 58.7	
	baz=100,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hyl**	**25.21**	**281**	T	T	06 56 03.5	
	baz=100,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hyl**	**25.21**	**280**	T	T	06 56 09.9	
	baz=100,slow=74,SNR=33						
H11N2	**WAKE ISLAND Hyl**	**25.22**	**281**	T	T	06 55 58.5	
	baz=100,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hyl**	**25.22**	**281**	T	T	06 55 58.9	
	baz=100,slow=75,SNR=6.5						

AEIC ***04*** *04:24:55.9±0.7, 53°.8N±0°.1×166°.0W±0°.1, h66km±8km, Error ellipse: s-maj=18.6km s-min=5.3km az=139.0*
NEIC 04 04:24:56.6±0.5, 53°.8N±0°.2×166°.1W±0°.2, h65km±12km, ML3.0/10, ML2.5(AEIC), Error ellipse: s-maj=33.1km s-min=3.8km az=148.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.27**	**290**		Pn	**04 25 07.2**	**+0.2**
UNV					Sn	04 25 15.8	+1.2
UNV	**Unalaska Valle**	**0.27**	**290**	IAML		04 25 16.7	
	comp=N,775nm,0.2s						
UNV				IAML		04 25 18.1	
	comp=E,550nm,0.2s						
AKMO	**Akutan Morgan**	**0.34**	**7**		Pn	04 25 07.5	0.0
AKMO					Sn	04 25 16.4	+0.9
ZRO	**Akutan Zero**	**0.34**	**10**		Pn	04 25 07.6	0.0
ZRO					Sn	04 25 16.4	+0.8
AKBBA	**Akutan Broad B**	**0.35**	**14**		Pn	04 25 07.6	-0.1
AKBBA					Sn	04 25 16.5	+0.7
AKRB	**Akutan Reef Bi**	**0.38**	**1**		Pn	04 25 07.8	-0.1
AKV	**Akutan Volcano**	**0.38**	**10**		Pn	04 25 07.7	-0.2
MNAT	**Makushin Natee**	**0.38**	**290**		Pn	04 25 07.9	0.0
AHB	**Akutan Harbor**	**0.39**	**23**		Pn	04 25 07.9	-0.1
AHB					Sn	04 25 16.9	+0.6
MREP	**Makushin Rep't**	**0.40**	**278**		Pn	04 25 08.2	+0.1
LVA	**Lava Point**	**0.41**	**4**		Pn	04 25 08.1	-0.1
LVA				IAML		04 25 18.4	
	comp=N,482nm,0.4s						
LVA	**Lava Point**	**0.41**	**4**		Sn	04 25 17.3	+0.8
AKUT	**Akutan**	**0.42**	**25**		Pn	04 25 08.2	0.0
AKUT				IAML		04 25 17.6	
	comp=N,1μm,0.1s						
AKUT	**Akutan**	**0.42**	**25**		Sn	04 25 17.3	+0.6
AKSA	**Akutan Strait**	**0.44**	**30**		Sn	04 25 17.3	+0.3
MSW	**Makushin Switc**	**0.45**	**291**		Pn	04 25 08.4	-0.1
MSW					Sn	04 25 18.3	+1.1
WEBT	**Westdahl Beart**	**1.14**	**42**		Pn	04 25 16.4	-0.3
OKTU	**Okmok Mt. Tuli**	**1.23**	**253**		Pn	04 25 17.8	-0.1
SSBA	**Shishaldin**	**1.53**	**48**		Pn	04 25 21.4	-0.5
ISNN	**Isanotski Nort**	**1.73**	**50**		Pn	04 25 24.5	0.0
NIKH	**Nikolski High**	**1.84**	**246**		Pn	04 25 25.9	-0.1
NIKH	**Nikolski High**	**1.84**	**246**	IAML		04 25 57.2	
	comp=N,65nm,0.7s						
FALS	**False Pass**	**1.91**	**54**	Pn	Pn	04 25 27.0	+0.2
FALS				IAML		04 26 02.2	
	comp=N,186nm,0.6s						
DT1	**Dutton Round H**	**2.60**	**57**		Pn	04 25 36.0	-0.2
DOL	**Dolgoi Island**	**2.83**	**59**		Pn	04 25 39.2	-0.1
O14K	**Tigyukauivet M**	**6.12**	**24**	Pn	Pn	04 26 24.7	+

STEI	**Steigen**	**5.87**	**142**	*eP*	**Pn**	**04 59 56.4**	**+2.2**
STEI				*eS*	**Sn**	**05 00 57.3**	**-4.0**
SPA0	**Spitsbergen Ar**	**5.99**	**21**	Pn	**Pn**	**04 59 55.2**	**-0.7**
	baz=216,slow=16						
SPA0	**Spitsbergen Ar**	**5.99**	**21**	*eP*	**Pn**	**04 59 55.9**	**0.0**
SPA0				IAML		05 00 01.4	
	comp=Z,3.7nm,0.9s						
SPITS	**Spitsbergen Ar**	**5.99**	**21**	Pn	**Pn**	**04 59 55.0**	**-0.9**
	baz=208,slow=16						
	comp=Z,1.9nm,0.3s						
HAMF	**Hammerfest**	**6.05**	**102**	Pn	**Pn**	**04 59 57.7**	**+1.0**
HAMF				Sn	**Sn**	**05 01 01.4**	**-4.4**
HAMF	**Hammerfest**	**6.05**	**102**	*eP*	**Pn**	**04 59 58.0**	**+1.2**
HAMF				Sn	**Sn**	**05 01 01.4**	**-4.4**
KIF	**Kilpisjarvi**	**6.25**	**120**	Pn	**Pn**	**05 00 00.9**	**+1.5**
KIF	**Kilpisjarvi**	**6.25**	**120**	*eP*	**Pn**	**05 00 00.9**	**+1.5**
KBS	**Kingsbay**	**6.31**	**11**	Pn	**Pn**	**04 59 58.3**	**-2.0**
KBS	**Kingsbay**	**6.31**	**11**	*eP*	**Pn**	**05 00 00.2**	**-0.1**
KBS				IAML		05 00 09.3	
	comp=Z,3.4nm,0.5s						
VAGH	**Vaagaholmen**	**6.66**	**153**	*eP*	**Pn**	**05 00 06.0**	**+0.9**
VAGH				*eS*	**Sn**	**05 01 14.8**	**-6.0**
KTK1	**Kautokeino**	**6.88**	**115**	Pn	**Pn**	**05 00 10.1**	**+1.9**
KTK1	**Kautokeino**	**6.88**	**115**	*eP*	**Pn**	**05 00 10.5**	**+2.3**
RAUS	**Rausandaksla**	**7.04**	**152**	*eP*	**Pn**	**05 00 12.3**	**+2.0**
RAUS				*eS*	**Sn**	**05 01 26.8**	**-3.4**
RAUS				IAML		05 01 31.7	
	comp=Z,6.8nm,0.4s						
ARA0	**ARCESS Array S**	**7.18**	**108**	Pn	**Pn**	**05 00 14.5**	**+2.3**
	baz=298,slow=10						
ARA0	**ARCESS Array S**	**7.18**	**108**	*eP*	**Pn**	**05 00 15.4**	**+3.2**
ARCES	**ARCESS Array B**	**7.18**	**108**	Pn	**Pn**	**05 00 13.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=22						
ARCES				Sn	**Sn**	**05 01 32.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=316,slow=23,SNR=1.9						
	comp=Z,0.6nm,0.4s						
LEIR	**Leirfjorden**	**7.22**	**155**	*eP*	**Pn**	**05 00 14.8**	**+2.0**
MOR8	**Moi Rana**	**7.34**	**151**	*eP*	**Pn**	**05 00 16.6**	**+2.1**
HEF	**Hetta**	**7.41**	**118**	Pn	**Pn**	**05 00 18.0**	**+2.6**
HEF	**Hetta**	**7.41**	**118**	*eP*	**Pn**	**05 00 17.8**	**+2.3**
DAG	**Danmarks Havn**	**7.47**	**313**	*i P*	Pn	05 00 10.8	-5.4
DAG				*i S*	Sn	05 01 23.1	-18
KEV	**Kevo**	**7.48**	**104**	Pn	**Pn**	**05 00 18.6**	**+2.3**
KEV	**Kevo**	**7.48**	**104**	*eP*	**Pn**	**05 00 17.8**	**+1.5**
VADS	**Vadso**	**7.97**	**98**	Pn	**Pn**	**05 00 24.9**	**+1.8**
VADS	**Vadso**	**7.97**	**98**	*eP*	**Pn**	**05 00 24.9**	**+1.8**
NSS	**Namsos**	**8.63**	**162**	*eP*	**Pn**	**05 00 35.0**	**+2.9**
APA0	**Apatity Array**	**10.53**	**106**	Pn	**Pn**	**05 00 59.6**	**+1.4**
	baz=322,slow=9.3						
APA0	**Apatity Array**	**10.53**	**106**	Pn	**Pn**	**05 00 59.6**	**+1.4**
	baz=322,slow=9.3						
NOA	**NORSAR Array B**	**12.03**	**167**	Pn	**Pn**	**05 01 20.0**	**+1.4**
	baz=331,slow=13,SNR=2.1						
NOA				LR	LR	05 05 43.6	
	comp=Z,47nm,18.3s,baz=240,slow=36						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**13.12**	**162**	P	**Pn**	**05 01 35.4**	**+1.9**
	baz=348,slow=14						
HFS	**Hagfors**	**13.12**	**162**	Pn	**Pn**	**05 01 34.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=354,slow=12,SNR=7.6						
	comp=Z,1.3nm,0.4s						
HFS	**Hagfors**	**13.12**	**162**	P	**Pn**	**05 01 35.4**	**+1.9**
	baz=348,slow=14						
FINES	**FINESS Array B**	**13.78**	**135**	Pn	**Pn**	**05 01 43.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=12,SNR=5.9						
	comp=Z,2.2nm,0.8s						
KIRV	**Kirov**	**22.20**	**107**	LR	LR	05 11 20.8	
	comp=Z,136nm,18.9s,baz=300,slow=35						
GERES	**GERESS Array B**	**24.33**	**167**	P	**P**	**05 03 47.6**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=2.1,slow=8.0,SNR=1.4						
	comp=Z,0.2nm,0.5s						
FRB	**Frobisher Bay**	**26.99**	**289**	LR	LR	05 13 17.6	
	comp=Z,34nm,21.4s,baz=80,slow=33						
BRTR	**Keskin Array B**	**35.88**	**142**	P	**P**	**05 05 29.9**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=0.6,slow=9.0,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**41.44**	**343**	P	**P**	**05 06 14.1**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=6.5,slow=6.5,SNR=6.8						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**67.71**	**297**	P	**P**	**05 09 23.6**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=15,slow=5.9,SNR=2.1						
	comp=Z,0.1nm,0.6s						

*AEIC **04** 05:00:47.5±0.5, 53°.40N±0°.05×165°.80W±0°.03, h26km±8km, Error ellipse: s-maj=7.3km s-min=2.4km az=176.0*

NEIC 04 05:00:46.6±0.6, 53°.37N±0°.07×165°.80W±0°.07, h26km±15km, ML2.9/10, ML2.2(AEIC), Error ellipse: s-maj=11.0km s-min=4.5km az=157.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.64**	**319**		Pn	05 00 59.7	-0.2
UNV					Sb	05 01 08.2	+0.5
UNV	**Unalaska Valle**	**0.64**	**319**	IAML		05 01 09.0	
	comp=E,675nm,0.3s						
UNV				IAML		05 01 09.3	
	comp=N,529nm,0.2s						
MREP	**Makushin Rep't**	**0.72**	**308**		Pn	05 01 01.1	0.0
ZRO	**Akutan Zero**	**0.73**	**352**		Pn	05 01 01.1	-0.2
ZRO					Sn	05 01 11.3	-0.2
AKBBA	**Akutan Broad B**	**0.73**	**354**		Pb	05 01 01.0	+0.2
AKBBA					Sn	05 01 11.7	+0.1
MNAT	**Makushin Natee**	**0.74**	**315**		Pn	05 01 01.1	-0.2
AHB	**Akutan Harbor**	**0.74**	**359**		Pn	05 01 01.3	-0.1
AKV	**Akutan Volcano**	**0.76**	**353**		Pb	05 01 01.5	+0.1
AKUT	**Akutan**	**0.77**	**1**		Pb	05 01 01.4	+0.1
AKSA	**Akutan Strait**	**0.77**	**4**		Pb	05 01 01.5	+0.1
AKSA					Sn	05 01 12.2	-0.3
MGOD	**Makushin Gods**	**0.77**	**304**		Pn	05 01 01.8	0.0
AKRB	**Akutan Reef Bi**	**0.78**	**348**		Pn	05 01 01.8	-0.1
AKRB					Sn	05 01 13.0	+0.3
AKLV	**Akutan Long Va**	**0.80**	**353**		Pb	05 01 01.8	-0.1
MSW	**Makushin Switc**	**0.80**	**313**		Pn	05 01 02.3	0.0
MSW					Sn	05 01 13.3	0.0
LVA	**Lava Point**	**0.80**	**350**		Pb	05 01 01.6	-0.4
MAPS	**Pakushin South**	**0.81**	**303**		Pn	05 01 02.3	0.0
AKGG	**Akutan Green G**	**0.84**	**352**		Pb	05 01 02.5	-0.1
OKFG	**Magazine Ridge**	**1.27**	**273**		Pn	05 01 08.9	+0.3
OKTU	**Okmok Mt. Tuli**	**1.34**	**271**		Pn	05 01 10.4	+0.7
WEBT	**Westdahl Beart**	**1.37**	**26**		Pn	05 01 10.6	+0.5
OKSP	**Okmok Steeple**	**1.50**	**266**		Pn	05 01 12.6	+0.7
NIKH	**Nikolski High**	**1.89**	**259**		Pn	05 01 17.3	+0.2
NIKH				IAML		05 01 42.3	
	comp=N,54nm,0.9s						
NIKH				IAML		05 01 49.1	
	comp=E,68nm,0.8s						
FALS	**False Pass**	**2.04**	**42**	Pn	Pn	05 01 19.9	+0.6
FALS				IAML		05 01 52.2	
	comp=N,162nm,0.7s						
FALS				IAML		05 01 52.7	
	comp=E,138nm,0.6s						
CLES	**Cleveland East**	**2.53**	**259**	Pn	Pn	05 01 24.9	-1.0

IDC 04 05:33:03.4±1.5, 2°.53S×138°.28E, h0km, mb3.6/2, mbtmp3.6/5, ML3.4/3, MS2.7/1, Error ellipse: s-maj=30.3km s-min=24.7km az=151.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.43**	**90**	Pn	Pn	05 33 44.5	+0.2
	3.8nm,0.3s,baz=234,slow=12,SNR=12						
JAY				Sn	Sb	05 34 16.7	-1.8
	2.5nm,0.3s,baz=306,slow=23,SNR=4.9						
	11nm,0.3s						
GUMO	**Guam**	**17.30**	**22**	LR	LR	05 44 09.8	
	comp=Z,23nm,19.3s,baz=174,slow=38						
WRA	**Warramunga Arr**	**17.73**	**192**	P	P	05 37 12.8	0.0
	0.3nm,0.3s,baz=15,slow=12,SNR=7.9						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.82**	**218**	P	Pn	05 37 36.5	-0.7
	0.1nm,0.3s,baz=49,slow=11,SNR=2.3						
	3.0nm,1.1s						
ASAR	**Alice Springs**	**21.43**	**191**	P	P	05 37 52.0	-1.3
	1.1nm,0.6s,baz=19,slow=11,SNR=10						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**69.39**	**323**	P	P	05 44 13.3	+0.1
	0.6nm,0.7s,baz=119,slow=7.1,SNR=3.8						
	0.6nm,0.7s						

*SOME **04** 05:36:07.4, 43°.45N×77°.88E, h15km*
*NNC **04** 05:36:08.0±4.3, 43°.40N×77°.92E, h0km, mpv2.6, Error ellipse: s-maj=27.9km s-min=13.1km az=96.0*

ISC 04 05:36:03.6±2.5, 43°.36N±0°.09×77°.7E±0°.1, h10km, n5, σ0°.34/10, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.36**	**68**	P	**Pb**	**05 36 12.1**	**-0.1**
	5.1nm,0.1s						
KURS				S	**Sg**	**05 36 15.5**	**-0.2**
	7.8nm,0.2s						
SATY	**Saty**	**0.59**	**120**	P	**Pn**	**05 36 17.9**	**-0.3**
	1.6nm,0.1s						
SATY				S	**Sb**	**05 36 25.4**	**+0.7**
	41nm,0.1s						
ARXS	**Arharly**	**0.86**	**6**	*eP*	**Pn**	**05 36 21.8**	**-0.2**
ARXS				*eS*	**Sg**	**05 36 31.7**	**+0.2**
UZB	**Uzynbulak**	**0.98**	**102**	P	**Pn**	**05 36 23.6**	**-0.1**
	2.3nm,0.1s						
UZB				S	**Sg**	**05 36 35.3**	**-0.1**
	2.5nm,0.1s						
UZB	**Uzynbulak**	**0.98**	**102**	*eP*	**Pn**	**05 36 23.6**	**-0.1**
	2.3nm,0.1s						
UZB				*eS*	**Sg**	**05 36 35.3**	**-0.1**
	2.5nm,0.1s						

IDC 04 05:51:11.4±1.4, 3°.57S×152°.04E, h0km, mb3.8/8, mbtmp3.9/9, ML1.6/1, MS3.5/14, Error ellipse: s-maj=47.2km s-min=22.9km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.56**	**220**	Pn	Pn	05 53 02.6	-0.3
	0.5nm,0.3s,baz=29,slow=10,SNR=1.4						
	5.6nm,0.3s						
JAY	**Jayapura**	**11.37**	**275**	LR	LR	05 57 45.5	
	comp=Z,665nm,19.4s,baz=95,slow=35						
GUMO	**Guam**	**18.48**	**337**	LR	LR	06 03 14.3	
	comp=Z,76nm,18.9s,baz=150,slow=39						
DZM	**Mont Dzumac**	**23.10**	**144**	LR	LR	06 04 45.8	
	comp=Z,220nm,20.0s,baz=248,slow=35						
WRA	**Warramunga Arr**	**23.73**	**225**	P	P	05 56 25.5	0.0
	3.8nm,0.8s,baz=51,slow=9.8,SNR=9.5						
	3.8nm,0.8s						
ASAR	**Alice Springs**	**26.57**	**220**	P	P	05 56 52.7	+1.2
	1.0nm,0.8s,baz=51,slow=8.9,SNR=5.0						
	1.0nm,0.8s						
DAV	**Davao City (W)**	**28.45**	**292**	LR	LR	06 07 45.9	
	comp=Z,72nm,20.8s,baz=178,slow=35						
JOW	**Kunigami**	**37.96**	**324**	LR	LR	06 11 16.9	
	comp=Z,34nm,20.3s,baz=155,slow=32						
URZ	**Urewera**	**41.42**	**150**	LR	LR	06 15 01.3	
	comp=Z,72nm,18.7s,baz=298,slow=34						
JNU	**Nakatsue**	**41.63**	**333**	LR	LR	06 13 48.9	
	comp=Z,49nm,21.9s,baz=146,slow=33						
MJAR	**Matsushiro Arr**	**41.94**	**343**	LR	LR	06 15 39.2	
	comp=Z,43nm,18.2s,baz=174,slow=35						
CMAR	**Chiang Mai Arr**	**56.68**	**295**	P	P	06 00 57.8	+0.6
	1.1nm,0.3s,baz=102,slow=7.4,SNR=4.4						
CMAR				LR	LR	06 24 03.1	
	comp=Z,33nm,20.2s,baz=195,slow=35						
	1.1nm,0.3s						
PPT	**Papeete**	**58.82**	**108**	LR	LR	06 22 31.7	
	comp=Z,42nm,19.5s,baz=337,slow=32						
SONM	**Songino Array**	**64.89**	**328**	LR	LR	06 28 00.3	
	comp=Z,46nm,21.0s,baz=178,slow=34						
PALK	**Pallekele**	**72.00**	**279**	LR	LR	06 36 27.7	
	comp=Z,20nm,18.2s,baz=106,slow=38						
MKAR	**Makanchi Array**	**78.91**	**319**	P	P	06 03 15.8	-1.1
	0.4nm,0.9s,baz=102,slow=6.1,SNR=1.5						
	0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**79.72**	**326**	P	P	06 03 21.2	+0.1
	0.3nm,0.3s,baz=108,slow=4.7,SNR=1.3						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**81.31**	**22**	P	P	06 03 30.8	+1.3
	0.5nm,0.9s,baz=252,slow=5.1,SNR=6.0						
	0.5nm,0.9s						
AAK	**Ala-Archa**	**83.28**	**313**	LR	LR	06 43 31.2	
	comp=Z,42nm,18.2s,baz=335,slow=38						
QSPA	**South Pole Qui**	**86.38**	**180**	P	P	06 03 54.4	-1.1
	1.0nm,0.9s,baz=336,slow=2.2,SNR=3.7						
	1.0nm,0.9s						
BVAR	**Borovoye Array**	**87.81**	**323**	P	P	06 04 01.2	-1.4
	0.5nm,0.4s,baz=117,slow=5.0,SNR=1.5						
BVAR				LR	LR	06 43 58.9	
	comp=Z,44nm,19.5s,baz=334,slow=36						
	0.5nm,0.4s						

*ASRS **04** 06:09:57.0±1.0, 54°.20N×86°.37E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 06:10:00.2±2.8, 54°.16N×86°.32E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.9km s-min=11.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	I	I	06 16 20.0	
	baz=75,slow=325,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	06 10 16.9	-0.7
	2.1nm,0.3s,baz=74,slow=18,SNR=20						
ZALV				Lg	Lg	06 10 30.8	
	4.3nm,0.3s,baz=78,slow=31,SNR=22						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	06 11 29.8	+0.5
	0.1nm,0.3s,baz=52,slow=14,SNR=2.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 11 56.4	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=4.0						
	0.2nm,0.4s						

*TAP **04** 06:10:46.7, 24°.17N×121°.84E, h27km, ML3.7, B*
*JMA **04** 06:10:46.4±0.1, 24°.1N±0°.5×121°.9E±0°.6, h27km±1km, MV3.0/13, TAIWAN REGION*

ISC 04 06:10:46.7±0.9, 24°.12N±0°.02×121°.88E±0°.02, h24km±5km, n120, σ0°.85/203, 3C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.22**	**326**	*i P*	**Pb**	**06 10 52.4**	**-0.2**
EHP				S	**Sb**	**06 10 57.0**	**+0.4**
ETL	**Fush Village**	**0.24**	**279**	P	**Pb**	**06 10 52.7**	**-0.1**
ETL				*eS*	**Sb**	**06 10 57.5**	**+0.7**
EAHA	**Aohua**	**0.24**	**328**	P	**Pb**	**06 10 52.6**	**-0.3**
EAHA				S	**Sb**	**06 10 57.2**	**+0.3**
TWD	**Chiawan**	**0.26**	**261**	*i P*	**Pb**	**06 10 53.1**	**0.0**
TWD				*eS*	**Sb**	**06 10 58.0**	**+0.5**
NACB	**Ninganchiao**	**0.27**	**281**	P	**Pb**	**06 10 53.0**	**-0.2**
NACB	**Ninganchiao**	**0.27**	**281**	*i P*	**Pb**	**06 10 52.9**	**-0.2**
NACB				S	**Sb**	**06 10 57.7**	**+0.2**
HWA	**Hwalien**	**0.29**	**240**	*eP*	**Pb**	**06 10 54.3**	**+0.8**
ENA	**Nanau**	**0.33**	**337**	*i P*	**Pb**	**06 10 53.8**	**-0.4**
ENA				S	**Sb**	**06 10 59.2**	**0.0**
EWUT	**Wuta**	**0.33**	**344**	*i P*	**Pb**	**06 10 54.0**	**-0.2**
EWUT				S	**Sb**	**06 10 59.4**	**+0.2**
TEYL	**Yanliau Villag**	**0.36**	**225**	*eP*	**Pb**	**06 10 55.0**	**+0.4**
TEYL				*eS*	**Sn**	**06 11 01.9**	**-1.0**
ETLH	**Xiulin Townshi**	**0.37**	**283**	*i P*	**Pb**	**06 10 54.6**	**-0.2**
ETLH				S	**Sb**	**06 11 00.6**	**+0.2**
ETM	**Tongmen**	**0.39**	**246**	P	**Pb**	**06 10 55.0**	**0.0**
ETM				S	**Sb**	**06 11 01.6**	**+1.0**
EOS4	**EOS4**	**0.40**	**90**	P	**Pn**	**06 10 55.9**	**-0.8**
EOS3	**EOS3**	**0.43**	**68**	*i P*	**Pn**	**06 10 57.2**	**-0.1**
EOS3				S	**Sn**	**06 11 05.5**	**+1.1**
EOS2	**EOS2**	**0.44**	**48**	P	**Pn**	**06 10 57.2**	**-0.2**
EOS2				S	**Sn**	**06 11 06.2**	**+1.7**
LXIB	**Xiulin Townshi**	**0.44**	**257**	*i P*	**Pb**	**06 10 55.7**	**-0.2**
LXIB				S	**Sb**	**06 11 03.1**	**+0.9**
SHUL	**Shoufeng**	**0.44**	**221**	P	**Pn**	**06 10 56.8**	**-0.8**
SHUL				S	**Sn**	**06 11 04.9**	**0.0**
ESAO	**Su ao**	**0.45**	**356**	P	**Pb**	**06 10 55.7**	**-0.4**
ESAO				S	**Sb**	**06 11 02.6**	**+0.1**
TWC	**Suao**	**0.48**	**357**	*i P*	**Pb**	**06 10 56.3**	**-0.3**
TWC				S	**Sb**	**06 11 03.6**	**+0.3**
ESL	**Shilin**	**0.51**	**233**	*eP*	**Pb**	**06 10 57.0**	**-0.1**
ESL				*eS*	**Sn**	**06 11 05.7**	**-1.0**
TEGC	**Jichi Village**	**0.52**	**217**	*eP*	**Pn**	**06 10 57.9**	**-0.7**
TEGC				*eS*	**Sn**	**06 11 07.1**	**+0.4**
LATG	**Datong**	**0.52**	**322**	*i P*	**Pb**	**06 10 56.7**	**-0.7**
LATG				S	**Sb**	**06 11 04.2**	**-0.3**
NDS	**Dongshan**	**0.53**	**344**	P	**Pb**	**06 10 57.2**	**-0.3**
NDS				*eS*	**Sb**	**06 11 04.9**	**+0.2**
NNSB	**Datong**	**0.55**	**304**	*i P*	**Pb**	**06 10 57.3**	**-0.5**
NNSB				S	**Sb**	**06 11 04.8**	**-0.5**
NNS	**Nan Shan**	**0.56**	**304**	*i P*	**Pb**	**06 10 57.5**	**-0.5**
NNS				S	**Sb**	**06 11 05.5**	**-0.2**
WHF	**Hehuan Shan**	**0.56**	**272**	*i P*	**Pb**	**06 10 57.8**	**-0.4**
WHF				S	**Sb**	**06 11 06.0**	**0.0**
ENTT	**Nioudou**	**0.59**	**331**	P	**Pb**	**06 10 57.9**	**-0.6**
ENTT				S	**Sb**	**06 11 06.2**	**-0.2**
FUSS	**Fushou**	**0.59**	**282**	*i P*	**Pb**	**06 10 58.4**	**-0.2**
FUSS				S	**Sn**	**06 11 07.2**	**-1.8**
WARBT	**Fenglin Townsh**	**0.61**	**228**	*eP*	**Pb**	**06 10 58.3**	**-0.4**
WARBT				*eS*	**Sn**	**06 11 07.7**	**-1.3**
EGFH	**Guangfu**	**0.61**	**222**	*eP*	**Pn**	**06 10 59.3**	**-0.7**
TWE	**Neicheng**	**0.62**	**342**	P	**Pb**	**06 10 58.5**	**-0.5**
TWE				S	**Sb**	**06 11 07.5**	**+0.1**
TWT	**Tachien**	**0.66**	**281**	P	**Pn**	**06 10 60.0**	**-0.8**
TWT				S	**Sn**	**06 11 09.0**	**-1.4**
OWD	**Renai**	**0.67**	**255**	P	**Pb**	**06 10 59.5**	**-0.2**
OWD				*eS*	**Sb**	**06 11 08.2**	**-0.5**
TDCB	**Techi**	**0.67**	**281**	*eP*	**Pb**	**06 10 59.7**	**-0.2**
TDCB				*eS*	**Sb**	**06 11 08.8**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.69**	**337**	*i P*	**Pb**	**06 10 59.5**	**-0.6**
FUSB				S	**Sb**	**06 11 08.6**	**-0.7**
WUSB	**Renai**	**0.71**	**259**	P	**Pb**	**06 11 00.3**	**-0.2**
WUSB				*eS*	**Sn**	**06 11 10.4**	**-1.3**
YHNB	**Yeheng**	**0.71**	**320**	P	**Pb**	**06 10 59.9**	**-0.6**
YHNB	**Yeheng**	**0.71**	**320**	S	**Sb**	**06 11 09.7**	**-0.3**
YHNB	**Yeheng**	**0.71**	**320**	*i P*	**Pb**	**06 10 60.0**	**-0.6**
YHNB				S	**Sb**	**06 11 09.3**	**-0.7**
EGS		**0.72**	**4**	*eP*	**Pn**	**06 11 01.0**	**-0.5**
NSK	**Sanguang**	**0.73**	**319**	*i P*	**Pb**	**06 11 00.1**	**-0.7**
NSK				*eS*	**Sb**	**06 11 09.6**	**-0.8**
NWLT	**Wulai**	**0.74**	**332**	P	**Pb**	**06 11 00.2**	**-0.7**
NWLT				S	**Sb**	**06 11 10.1**	**-0.5**
HGSD	**Ruisui**	**0.76**	**214**	*eP*	**Pb**	**06 11 01.3**	**0.0**
HGSD				*eS*	**Sn**	**06 11 12.4**	**+0.2**
EHYH	**Wanrong**	**0.80**	**218**	*eP*	**Pn**	**06 11 02.5**	**0.0**
EHY	**Hungye**	**0.80**	**220**	*eP*	**Pb**	**06 11 01.5**	**-0.5**
TIPB	**Shuangxi**	**0.85**	**357**	P	**Pn**	**06 11 02.7**	**-0.5**
TIPB				*eS*	**Sn**	**06 11 13.7**	**-1.2**
NFF	**Wufeng Townshi**	**0.86**	**306**	*eP*	**Pn**	**06 11 03.1**	**-0.4**
NFF				S	**Sn**	**06 11 14.2**	**-1.1**
WHP	**Taichung City**	**0.87**	**280**	*eP*	**Pn**	**06 11 03.2**	**-0.4**
WHP				*eS*	**Sn**	**06 11 14.6**	**-0.9**
TWB1	**Santiao Chiao**	**0.89**	**6**	*eP*	**Pb**	**06 11 03.5**	**+0.1**
TWB1				*eS*	**Sn**	**06 11 15.9**	**0.0**
ECBN	**Changbin**	**0.89**	**206**	*eP*	**Pn**	**06 11 02.9**	**-1.0**
NHDH	**Xindian Distri**	**0.90**	**339**	*eP*	**Pb**	**06 11 03.8**	**+0.1**
YULB	**Yu-li**	**0.90**	**216**	P	**Pn**	**06 11 02.8**	**-1.1**
YULB	**Yu-li**	**0.90**	**216**	S	**Sn**	**06 11 16.1**	**-0.2**
YULB	**Yu-li**	**0.90**	**216**	*eP*	**Pn**	**06 11 02.9**	**-1.1**
YULB				*eS*	**Sb**	**06 11 14.9**	**-0.5**
SSLB	**Suanglung**	**0.91**	**249**	P	**Pn**	**06 11 03.2**	**-0.9**
SSLB	**Suanglung**	**0.91**	**249**	P	**Pn**	**06 11 03.4**	**-0.8**
SSLB				*eS*	**Sb**	**06 11 15.3**	**-0.3**
KSHI	**Guanxi Townshi**	**0.91**	**316**	*eP*	**Pb**	**06 11 04.2**	**+0.3**
KSHI				*eS*	**Sn**	**06 11 18.0**	**+1.4**
TATO	**Taipei**	**0.92**	**337**	P	**Pb**	**06 11 03.9**	**-0.1**
SMLT	**Sun Moon Lake**	**0.93**	**255**	*eP*	**Pb**	**06 11 04.0**	**-0.2**
TWF1	**Yuli**	**0.94**	**215**	*eP*	**Pn**	**06 11 03.5**	**-0.9**
LIOB	**Emei**	**0.94**	**304**	*eP*	**Pb**	**06 11 04.7**	**+0.2**
LIOB				*eS*	**Sn**	**06 11 17.1**	**-0.2**
NSTT	**Nanjuang**	**0.95**	**302**	*eP*	**Pb**	**06 11 04.6**	**+0.1**
NSTT				*eS*	**Sn**	**06 11 16.8**	**-0.6**
NWF	**Wu-fen Shan**	**0.95**	**355**	*eP*	**Pb**	**06 11 04.9**	**+0.4**
NWF				*eS*	**Sn**	**06 11 17.5**	**0.0**
WFSB	**Wu-fen Shan**	**0.95**	**355**	*eP*	**Pb**	**06 11 04.6**	**+0.1**
WFSB				*eS*	**Sn**	**06 11 17.1**	**-0.2**
SXI1	**Grass Mountain**	**0.97**	**360**	*i P*	**Pb**	**06 11 05.0**	**+0.1**
SXI1				*eS*	**Sn**	**06 11 18.4**	**+0.4**
JYNG	**Yonagunijimaku**	**1.03**	**71**	P	**Pn**	**06 11 05.1**	**-0.5**
JYNG				*eS*	**Sb**	**06 11 19.4**	**+0.5**
TNOU	**National Taiwa**	**1.03**	**355**	*eP*	**Pb**	**06 11 05.7**	**-0.1**
TNOU				*eS*	**Sn**	**06 11 19.2**	**-0.1**
CHKH	**Chenggong**	**1.03**	**206**	*eP*	**Pb**	**06 11 06.3**	**+0.5**
CHKH				*eS*	**Sb**	**06 11 19.4**	**+0.5**
WHYT	**Xinyi Township**	**1.03**	**246**	*eP*	**Pb**	**06 11 06.2**	**+0.3**
WHYT				*eS*	**Sb**	**06 11 20.5**	**+1.5

*IDC **04** 06:14:11.4±0.7,61°.14S×39°.18W,h0km,mb4.0/11, mbtmp4.2/14,ML4.4/3,MS3.7/19,Error ellipse: s-maj=24.0km s-min=16.5km az=58.0*

*NEIC **04** 06:14:12.5±1.6,61°.03S±0°.06×39°.0W±0°.2,h10km±1km, mb4.8/18,Error ellipse: s-maj=15.3km s-min=7.7km az=119.0*

*GCMT **04** 06:14:15.5±0.3,61°.13S±0°.02×39°.01W±0°.04,h24km±1km, MW4.9/96,Moment Tensor Solution. s25,c27; s96,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.55±.13; $M_{\theta\theta}$0.79±.10; $M_{\phi\phi}$-1.34±.10; $M_{r\theta}$0.17±.22; $M_{\theta\phi}$2.48±.09; $M_{\phi r}$0.19±.22; Best double couple: $M_0$2.71600×10^{16} NP1:ϕ_s102.00000°,δ84.00000°,λ5.00000°. NP2: ϕ_s11.00000°,δ85.00000°,λ174.00000°. Principal axes: T 2.4560, Plg8.0000°, Azm327.0000°; N 0.5220, Plg82.0000°, Azm154.0000°; P -2.9760, Plg1.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 06:14:12.4±0.4,61°.21S±0°.06×38°.97W±0°.06,h10km,n273, σ1°.77/253,mb4.4/16,MS3.8/18,8C,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.07**	**12**	Pn	**Pn**	**06 15 52.5**	**-3.3**
ESPZ	**Base Esperanza**	**8.67**	**248**		**Pn**	**06 16 16.8**	**-0.9**
PMSA	**Palmer Station**	**11.90**	**242**	Pn	**Pn**	**06 17 02.6**	**+0.7**
	4.7nm,0.3s,baz=61,slow=10.0,SNR=24						
PMSA				Sn	**Sn**	**06 19 10.0**	**-4.5**
	0.3nm,0.3s,baz=337,slow=16,SNR=1.7 23nm,0.6s						
SMAI	**San Martin Ant**	**13.78**	**228**		**Pn**	**06 17 28.4**	**+1.0**
EFI	**East Falkland**	**14.18**	**304**	Pn	**Pn**	**06 17 31.5**	**-1.6**
VNA3	**Neumayer Olymp**	**15.31**	**143**	⇑P	**Pn**	**06 17 47.6**	**-0.6**
	comp=Z,22nm,0.6s						
VNA3				⇑S	**Sn**	**06 20 30.5**	**-7.0**
	comp=N,1.8nm,0.2s						
VNA1	**Neumayer--Stat**	**15.48**	**140**	⇑P	**Pn**	**06 17 49.3**	**-1.2**
	comp=Z,69nm,0.9s						
VNA1				⇑S	**Sn**	**06 20 33.5**	**-8.2**
	comp=N,0.6nm,0.1s						
VNA2	**Neumayer--Watz**	**15.86**	**141**	⇑P	**Pn**	**06 17 53.8**	**-1.5**
	comp=Z,34nm,0.5s,baz=297,slow=16						
USHA	**Ushuaia**	**16.75**	**279**	Pn	**Pn**	**06 18 05.3**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=92,slow=14,SNR=2.1 comp=Z,16nm,0.6s						
BELA	**Belgrano 2**	**16.81**	**177**	Pn	**P**	**06 18 09.8**	**+0.2**
SNAA	**Sanae**	**17.49**	**142**	⇑P	**Pn**	**06 18 16.8**	**+0.7**
	comp=Z,1μm,1.2s						
SNAA				⇑S	**Sn**	**06 21 23.2**	**-7.3**
	comp=Z,15nm,0.2s						
SNAA	**Sanae**	**17.49**	**142**	Pn	**Pn**	**06 18 16.2**	**+0.1**
SNAA				IAmb	IAmb	06 18 22.4	
	comp=Z,114nm,1.2s						
SNAA	**Sanae**	**17.49**	**142**	P	**Pn**	**06 18 16.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=301,slow=12,SNR=62						
SNAA				S	**Sn**	**06 21 21.0**	**-10**
	comp=Z,4.4nm,0.5s,baz=307,slow=21,SNR=8.4						
SNAA				LR	LR	06 23 44.0	
	comp=Z,251nm,21.8s,baz=358,slow=32 comp=Z,35nm,0.9s						
TROLL	**Troll, Antarti**	**19.20**	**141**	⇑P	**Pn**	**06 18 39.2**	**+2.1**
	comp=Z,1μm,1.0s						
GO09	**Cerro Castillo**	**20.80**	**283**	P	**P**	**06 18 52.6**	**-1.0**
GO09				IAmb	IAmb	06 18 55.4	
	comp=Z,69nm,1.2s						
COYC	**Coyhaique**	**24.82**	**294**	P	**P**	**06 19 32.6**	**-1.8**
COYC				IAmb	IAmb	06 20 18.1	
	comp=Z,18nm,1.2s						
TRQA	**Tornquist**	**27.26**	**318**	P	**P**	**06 19 56.6**	**0.0**
TRQA				IAmb	IAmb	06 20 30.6	
	comp=Z,24nm,1.2s						
GO07	**Milladeo Hill,**	**27.46**	**295**	P	**P**	**06 19 57.7**	**-0.6**
GO07				IAmb	IAmb	06 20 25.8	
	comp=Z,25nm,0.8s						
PLCA	**Paso Flores**	**28.09**	**302**	P	**P**	**06 20 03.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=201,slow=14,SNR=3.0						
PLCA				LR	LR	06 30 49.4	
	comp=Z,129nm,18.9s,baz=144,slow=36 comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**29.03**	**180**	P	**P**	**06 20 17.1**	**+4.7**
QSPA				IAmb	IAmb	06 20 58.5	
	comp=Z,8.8nm,0.8s						
QSPA	**South Pole Qui**	**29.03**	**180**	P	P	06 20 18.0	+5.7
	comp=Z,5.5nm,0.7s,baz=179,slow=6.4,SNR=45						
QSPA				LR	LR	06 32 49.6	
	comp=Z,121nm,18.1s,baz=166,slow=38						
PLTB	**Pedras Altas**	**30.98**	**335**	P	**P**	**06 20 27.7**	**-1.9**
MT01	**Popeta**	**34.32**	**308**	P	**P**	**06 20 57.9**	**-1.0**
MT02	**Curacav**	**34.81**	**309**	P	**P**	**06 21 02.5**	**-0.6**
MT02				IAmb	IAmb	06 21 14.8	
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	**37.02**	**332**	P	**P**	**06 21 21.2**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=21,slow=8.4,SNR=7.7						
CPUP				LR	LR	06 35 32.1	
	comp=Z,19nm,21.1s,baz=16,slow=35 comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**39.63**	**144**	P	**P**	**06 21 45.9**	**+2.3**
	comp=Z,6.0nm,0.9s,baz=217,slow=8.7,SNR=14 comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**40.92**	**187**	P	**P**	**06 21 54.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=142,slow=3.1,SNR=4.2						
VNDA				LR	LR	06 40 04.4	
	comp=Z,78nm,18.1s,baz=156,slow=38 comp=Z,0.5nm,0.7s						
PB03	**IPOC Station P**	**44.57**	**317**	P	**P**	**06 22 23.1**	**-1.4**
BDFB	**Brasilia**	**45.97**	**348**	P	**P**	**06 22 35.7**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=84,slow=12,SNR=4.0 comp=Z,0.6nm,0.3s						
SIV	**San Ignacio**	**47.86**	**331**	LR	LR	06 44 01.1	
	comp=Z,57nm,18.9s,baz=134,slow=38						
PTLB	**Pontes e Lacer**	**47.94**	**333**		**P**	**06 22 50.3**	**-0.6**
PB18	**Visviri**	**48.65**	**320**		**P**	**06 22 56.5**	**-0.5**
LPAZ	**La Paz**	**49.47**	**322**		**P**	**06 23 02.7**	**-0.7**
LPAZ				IAmb	IAmb	06 23 13.4	
	comp=Z,8.1nm,1.0s						
LPAZ	**La Paz**	**49.47**	**322**	P	**P**	**06 23 03.3**	**0.0**
	comp=Z,2.6nm,0.9s,baz=148,slow=7.1,SNR=6.0						
LPAZ				LR	LR	06 44 54.1	
	comp=Z,37nm,19.8s,baz=154,slow=37 comp=Z,2.6nm,0.9s						
VILB	**Vilhena**	**50.59**	**333**		**P**	**06 23 10.0**	**-1.2**
CASY	**Casey**	**50.84**	**165**	P	**P**	**06 23 15.5**	**+3.0**
H04S2	**CROZET ISLANDS**	**50.85**	**118**	T	T	07 18 33.6	
	baz=220,slow=76,SNR=5.5						
H04S3	**CROZET ISLANDS**	**50.86**	**118**	T	T	07 18 20.7	
	baz=220,slow=76,SNR=5.4						
H04S1	**CROZET ISLANDS**	**50.87**	**118**	T	T	07 18 21.2	
	baz=220,slow=76,SNR=5.1						
BOSA	**Boshof**	**52.99**	**83**	P	**P**	**06 23 30.8**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=238,slow=13,SNR=1.2						
BOSA				LR	LR	06 39 46.0	
	comp=Z,79nm,20.0s,baz=198,slow=29 comp=Z,1.1nm,0.6s						
H10S2	**ASCENSION HYDR**	**55.17**	**30**	T	T	07 23 16.9	
	baz=26,slow=74,SNR=39						
H10S3	**ASCENSION HYDR**	**55.17**	**30**	T	T	07 23 07.3	
	baz=194,slow=74,SNR=42						
LBTB	**Lobatse**	**56.18**	**80**	LR	LR	06 42 43.3	
	comp=Z,117nm,20.6s,baz=208,slow=30						
H10N3	**ASCENSION HYDR**	**56.28**	**30**	T	T	07 24 29.5	
	baz=193,slow=75,SNR=30						
H10N1	**ASCENSION HYDR**	**56.28**	**30**	T	T	07 24 32.3	
	baz=193,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**56.30**	**30**	T	T	07 24 33.5	
	baz=193,slow=75,SNR=22						
MATP	**Matopo**	**61.48**	**80**	LR	LR	06 46 02.3	
	comp=Z,83nm,21.9s,baz=201,slow=31						
BOAV	**Boa Vista**	**65.57**	**336**		**P**	**06 24 54.4**	**-1.7**
BOAV				IAmb	IAmb	06 25 05.3	
	comp=Z,11nm,1.2s						
LSZ	**Lusaka**	**65.77**	**77**	P	**P**	**06 24 57.4**	**-0.2**
LSZ				IAmb	IAmb	06 25 08.1	
	comp=Z,9.7nm,1.3s						
LSZ	**Lusaka**	**65.77**	**77**	LR	LR	06 48 44.5	
	comp=Z,114nm,20.4s,baz=182,slow=32						
MDP	**Montagnes des**	**66.97**	**345**	LR	LR	06 54 50.9	
	comp=Z,38nm,19.3s,baz=152,slow=36						
ROSC	**El Rosal**	**71.33**	**323**	LR	LR	06 59 31.1	
	comp=Z,48nm,19.1s,baz=219,slow=38						
DBIC	**Dimbokro**	**72.71**	**36**	P	**P**	**06 25 40.7**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=228,slow=5.6,SNR=1.7 comp=Z,2.8nm,0.9s						
PCRV	**Puerto La Cruz**	**73.98**	**334**	LR	LR	06 58 13.1	
	comp=Z,66nm,21.4s,slow=36						
SDV	**Santo Domingo**	**74.16**	**327**	LR	LR	06 59 23.0	
	comp=Z,51nm,20.4s,baz=256,slow=37						
TBI	**Tubuai**	**79.10**	**241**	*e*LR	LR	06 50 58.4	
	comp=Z,481nm,22.8s						
MBAR	**Mbarara**	**79.81**	**72**	LR	LR	06 58 12.1	
	comp=Z,72nm,18.9s,baz=174,slow=33						
TORD	**Torodi Ar. Bea**	**80.80**	**40**	P	**P**	**06 26 26.7**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=198,slow=4.4,SNR=5.8 comp=Z,1.3nm,0.9s						
SJG	**San Juan**	**82.00**	**334**	LR	LR	07 02 54.1	
	comp=Z,38nm,21.7s,baz=124,slow=36						
PPT2	**Papeete2**	**84.24**	**244**	*e*LR	LR	06 53 05.5	
	comp=Z,219nm,28.8s						
PPT2				*e*LR	LR	06 53 23.7	
	comp=Z,271nm,28.2s						
PPT	**Papeete**	**84.26**	**244**	LR	LR	06 55 12.9	
	comp=Z,50nm,21.5s,baz=141,slow=29						
DZM	**Mont Dzumac**	**94.51**	**204**	*e*LR	LR	06 57 54.6	
	comp=Z,87nm,23.4s						
ASAR	**Alice Springs**	**95.23**	**173**	P	**P**	**06 27 36.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=178,slow=3.9,SNR=7.9						
ASAR				LR	LR	07 08 57.7	
	comp=Z,60nm,19.5s,baz=124,slow=34 comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**98.95**	**174**	P	Pdif	06 27 53.2	+0.1
	comp=Z,0.2nm,0.4s,baz=172,slow=4.7,SNR=1.8 comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**128.05**	**126**	PKP	**PKPdf**	**06 33 17.9**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=195,slow=3.8,SNR=2.5						
PZH	**PanZhiHua**	**136.40**	**125**	PKP	**PKPdf**	**06 33 34.6**	**+0.6**
SIT	**Sitka**	**139.65**	**303**	P	**PKiKP**	**06 33 43.2**	**+2.1**
	baz=132						
P33M	**Teslin, Yukon**	**140.74**	**308**	P	**PKiKP**	**06 33 45.3**	**+1.8**
	baz=130						
CD2	**Chengdu**	**141.11**	**124**	PKP	**PKPdf**	**06 33 42.5**	**+0.1**
SKAG	**Skagway**	**141.23**	**306**	P	**PKiKP**	**06 33 46.0**	**+1.7**
	baz=130						
N32M	**Quiet Lake**	**141.45**	**309**	P	**PKiKP**	**06 33 46.3**	**+1.5**
	baz=129						
MMPY	**Sheldon Lake,**	**141.70**	**312**	P	**PKiKP**	**06 33 46.8**	**+1.5**
	baz=128						
WHY	**Whitehorse**	**141.82**	**308**	P	**PKiKP**	**06 33 47.4**	**+1.7**
	baz=129						
P29M	**Windy Craggy**	**142.29**	**305**	P	**PKiKP**	**06 33 48.1**	**+1.5**
	baz=128						
P30M	**Milton Dollar**	**142.29**	**306**	P	**PKiKP**	**06 33 48.2**	**+1.6**
	baz=128						
O30N	**Mendenhall**	**142.35**	**307**	P	**PKiKP**	**06 33 48.8**	**+2.1**
	baz=128						
M31M	**Drury Creek, Y**	**142.59**	**310**	P	**PKiKP**	**06 33 49.0**	**+1.9**
	baz=127						
N31M	**Braeburn, Yuko**	**142.68**	**308**	P	**PKiKP**	**06 33 49.2**	**+1.9**
	baz=127						
HYT	**Haines Junctio**	**142.94**	**306**	P	**PKiKP**	**06 33 49.4**	**+1.4**
	baz=127						
PNL	**Peninsula**	**142.98**	**304**	P	**PKiKP**	**06 33 49.1**	**+1.1**
	baz=128						
O29M	**Mount Kennedy**	**143.04**	**305**	P	**PKiKP**	**06 33 49.6**	**+1.4**
	baz=127						
N30M	**Aishikik Lake**	**143.16**	**308**	P	**PKiKP**	**06 33 50.1**	**+1.7**
	baz=127						
YUK6	**Outpost Mounta**	**143.34**	**306**	P	**PKiKP**	**06 33 50.4**	**+1.4**
	baz=127						
C36M	**Paulatuk**	**143.46**	**324**	P	**PKiKP**	**06 33 50.7**	**+2.1**
	baz=126						
PINM	**Pinnacle**	**143.58**	**304**	P	**PKiKP**	**06 33 51.3**	**+2.0**
	baz=127						
YUK4	**Talbot Arm**	**143.69**	**307**	P	**PKiKP**	**06 33 51.2**	**+1.6**
	baz=126						
M30M	**Minto, Yukon**	**143.71**	**309**	P	**PKiKP**	**06 33 51.4**	**+2.0**
	baz=126						
MKAR	**Makanchi Array**	**143.94**	**86**	PKP	**PKPdf**	**06 33 48.2**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=251,slow=3.7,SNR=6.3						
O28M	**Mount Upton**	**143.96**	**305**	P	**PKiKP**	**06 33 51.7**	**+1.4**
	baz=126						
MAYO	**Mayo, Yukon**	**143.97**	**311**	P	**PKiKP**	**06 33 51.7**	**+1.8**
	baz=125						
YUK8	**Steele Glacier**	**144.09**	**306**	P	**PKiKP**	**06 33 52.0**	**+1.5**
	baz=126						
M29M	**Somme Creek**	**144.27**	**308**		**PKPdf**	**06 33 46.5**	**-0.5**
M29M	**Somme Creek**	**144.27**	**308**	P	**PKiKP**	**06 33 52.4**	**+1.8**
	baz=125						
MESA	**MESA**	**144.31**	**303**	P	**PKiKP**	**06 33 52.4**	**+1.5**
	baz=126						
WMQ	**Urumqi**	**144.39**	**94**	*e*PKP	**PKPdf**	**06 33 49.5**	**+1.7**
L29M	**L29M**	**144.52**	**309**	P	**PKiKP**	**06 33 51.7**	**+0.7**
	baz=124						
CTG	**Chitna Glacier**	**144.53**	**305**	P	**PKiKP**	**06 33 51.9**	**+0.6**
	baz=125						
H31M	**Peel River**	**144.68**	**315**	P	**PKiKP**	**06 33 52.1**	**+0.8**
	baz=123						
J30M	**Hart River**	**144.69**	**312**	P	**PKiKP**	**06 33 52.5**	**+1.0**
	baz=124						
K29M	**Barlow Dome**	**144.71**	**311**		PKPbc	06 33 47.0	+0.2
K29M	**Barlow Dome**	**144.71**	**311**	P	**PKiKP**	**06 33 52.5**	**+0.9**
	baz=124						
KURBB	**Kurchatov Arra**	**144.78**	**78**	PKP	**PKPdf**	**06 33 49.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=236,slow=3.4,SNR=4.3						
BGLC	**Bering Glacier**	**144.82**	**303**	P	**PKiKP**	**06 33 53.2**	**+1.6**
	baz=125						
I30M	**Mount Dempster**	**145.06**	**313**	P	**PKiKP**	**06 33 53.7**	**+1.5**
	baz=123						
CRQE	**Cirque**	**145.11**	**304**	P	**PKiKP**	**06 33 54.0**	**+1.6**
	baz=125						
KAIM	**Kayak Island**	**145.17**	**302**	P	**PKiKP**	**06 33 53.7**	**+1.2**
	baz=125						
G31M	**Satah River**	**145.26**	**316**	P	**PKiKP**	**06 33 54.5**	**+2.1**
	baz=122						
A36M	**Sachs Harbour**	**145.26**	**327**	P	**PKiKP**	**06 33 54.6**	**+2.3**
	baz=122						
J29N	**Klondike Camp**	**145.30**	**311**	P	**PKiKP**	**06 33 55.0**	**+2.3**
	baz=123						
F31M	**Tsiigehtchic**	**145.36**	**317**	P	**PKiKP**	**06 33 55.1**	**+2.6**
	baz=122						
MCARA	**McCarthy VSAT**	**145.44**	**305**	P	**PKiKP**	**06 33 55.3**	**+2.3**
	baz=124						
DAWY	**Dawson**	**145.52**	**310**	P	**PKiKP**	**06 33 55.4**	**+2.3**
	baz=122						
M27K	**Edge Creek, AK**	**145.53**	**307**	P	**PKiKP**	**06 33 55.5**	**+2.2**
	baz=123						
INK	**Inuvik**	**145.75**	**319**	P	**PKiKP**	**06 33 55.8**	**+2.5**
	baz=121						
EPYK	**Eagle Plains**	**145.80**	**315**	P	**PKiKP**	**06 33 55.9**	**+2.3**
	baz=121						
I29M	**Ogilvie Camp,**	**145.82**	**313**	P	**PKiKP**	**06 33 56.0**	**+2.3**
	baz=122						
BMRM	**Bremner River**	**145.84**	**303**	P	**PKiKP**	**06 33 55.4**	**+1.6**
	baz=124						
L27K	**Beaver Creek,**	**145.90**	**308**	P	**PKiKP**	**06 33 55.9**	**+2.0**
	baz=122						
G30M	**tAoh Zraii Nji**	**145.95**	**316**	P	**PKiKP**	**06 33 55.8**	**+1.9**
	baz=121						
M26K	**Nabesna, AK**	**145.99**	**306**	P	**PKiKP**	**06 33 56.1**	**+2.0**
	baz=123						
EYAK	**Cordova Ski Ar**	**146.07**	**302**	P	**PKiKP**	**06 33 55.2**	**+0.9**
	baz=124						
F30M	**Barrier River**	**146.12**	**317**	P	**PKiKP**	**06 33 55.4**	**+1.3**
	baz=120						
N25K	**Chitina, Valde**	**146.19**	**304**	P	**PKiKP**	**06 33 55.6**	**+1.0**
	baz=123						
H29M	**Whitestone**	**146.29**	**314**	P	**PKiKP**	**06 33 55.8**	**+1.3**
	baz=120						
P23K	**Montague Islan**	**146.45**	**300**	P	**PKiKP**	**06 33 56.4**	**+1.3**
	baz=124						
I28M	**Miner Creek**	**146.45**	**312**	P	**PKiKP**	**06 33 56.1**	**+1.1**
	baz=120						
K27K	**Chicken**	**146.51**	**309**	P	**PKiKP**	**06 33 56.7**	**+1.6**
	baz=121						
G29M	**Pine Creek**	**146.52**	**315**	P	**PKiKP**	**06 33 56.6**	**+1.5**
	baz=120						
EGAK	**Eagle**	**146.55**	**311**	P	**PKiKP**	**06 33 56.5**	**+1.4**
	baz=121						
GTA	**Gaotai**	**146.66**	**112**	*e*PKPbc	**PKPab**	**06 33 55.4**	**+0.7**
GTA				pPKP	sPKPab	06 34 06.5	+9.0
KLU	**Klutina**	**146.66**	**303**	P	**PKiKP**	**06 33 57.5**	**+1.9**
	baz=122						
GLI	**Glacier Island**	**146.81**	**302**	P	**PKiKP**	**06 33 57.3**	**+1.5**
	baz=123						
HARP	**HAARP**	**146.84**	**305**	P	**PKiKP**	**06 33 57.7**	**+1.9**
	baz=122						
M24K	**Tolsona, Glenn**	**147.09**	**304**	P	**PKiKP**	**06 33 58.1**	**+1.7**
	baz=121						
I27K	**Kandik River**	**147.14**	**312**	P	**PKiKP**	**06 33 58.2**	**+1.8**
	baz=119						
E29M	**Blow River**	**147.20**	**318**	P	**PKiKP**	**06 33 57.9**	**+1.5**
	baz=118						
SCRK	**Sand Creek**	**147.20**	**308**	P	**PKiKP**	**06 33 58.2**	**+1.5**
	baz=120						
PAX	**Paxson**	**147.26**	**306**	P	**PKiKP**	**06 33 58.1**	**+1.4**
	baz=121						
J26L	**Joseph Creek**	**147.31**	**309**	P	**PKiKP**	**06 33 58.3**	**+1.5**
	baz=120						
PWL	**Port Wells**	**147.31**	**301**	P	**PKiKP**	**06 33 58.8**	**+2.0**
	baz=122						
SEW	**Seward**	**147.37**	**300**	P	**PKiKP**	**06 33 59.1**	**+2.2**
	baz=122						
H27K	**Steamboat Moun**	**147.41**	**313**	P	**PKiKP**	**06 33 58.3**	**+1.3**
	baz=118						
RIDG	**Independent Ri**	**147.41**	**307**	P	**PKiKP**	**06 33 58.7**	**+1.7**
	baz=120						
SCM	**Sheep Creek Mo**	**147.41**	**303**	P	**PKiKP**	**06 33 58.8**	**+1.7**
	baz=121						
OHAK	**Old Harbor**	**147.42**	**293**	P	**PKiKP**	**06 33 59.1**	**+2.0**
	baz=125						
KDAK	**Kodiak Island**	**147.43**	**294**	P	**PKiKP**	**06 33 58.5**	**+1.4**
	baz=124						
NJ2	**Nanjing**	**147.44**	**143**	*e*P	**PKPbc**	**06 33 54.6**	**-1.2**
F28M	**Old Crow**	**147.49**	**316**	P	**PKPab**	**06 33 59.1**	**+2.0**
	baz=118						
I26K	**Coal Creek Min**	**147.55**	**311**	P	**PKPab**	**06 33 58.9**	**+1.6**
	baz=119						
M23K	**Glacier View**	**147.55**	**303**	P	**PKPab**	**06 33 59.3**	**+1.8**
	baz=121						
KNK	**Knik Glacier**	**147.65**	**302**	P	**PKPab**	**06 33 59.7**	**+1.8**
	baz=121						
O22K	**Cooper Landing**	**147.69**	**300**	P	**PKPab**	**06 33 59.5**	**+1.6**
	baz=122						
BRSE	**Bradley Lake S**	**147.72**	**298**	P	**PKPab**	**06 33 59.8**	**+1.6**
	baz=122						
G27K	**Doyon Strip**	**147.73**	**314**	P	**PKPab**	**06 33 59.6**	**+1.5**
	baz=118						
K24K	**Donnelly Dome**	**147.80**	**307**	P	**PKPab**	**06 34 00.0**	**+1.6**
	baz=119						
SML	**Sawmill**	**147.81**	**303**	P	**PKPab**	**06 34 00.1**	**+1.5**
	baz=121						
E28M	**Babbage River**	**147.84**	**317**	P	**PKPab**	**06 34 00.4**	**+2.0**
	baz=116						
D28M	**Stokes Point**	**147.90**	**319**	P	**PKPab**	**06 34 00.3**	**+1.7**
	baz=116						
WAT6	**Susitna Watana**	**147.96**	**304**	P	**PKPab**	**06 34 00.4**	**+1.2**
	baz=120						
RC01	**Rabbit Creek A**	**148.01**	**301**	P	**PKPab**	**06 34 00.6**	**+1.3**
	baz=121						
PMR	**Palmer**	**148.02**	**302**	P	**PKPab**	**06 34 00.9**	**+1.6**
	baz=121						
J25K	**Salcha River,**	**148.04**	**309**	P	**PKPab**	**06 34 00.9**	**+1.5**
	baz=118						
DHY	**Denali Highway**	**148.07**	**305**	P	**PKPab**	**06 34 01.3**	**+1.6**
	baz=120						
R18K	**Karluk**	**148.14**	**293**	P	**PKPab**	**06 34 01.3**	**+1.5**
	baz=124						
E27K	**Coleen River**	**148.34**	**316**	P	**PKPab**	**06 34 01.8**	**+1.3**
	baz=116						
WAT1	**Susitna Watana**	**148.41**	**304**	P	**PKPab**	**06 34 01.6**	**+0.7**
	baz=119						
CAPN	**Captain Cook N**	**148.44**	**300**	P	**PKPab**	**06 34 02.3**	**+1.4**
	baz=121						
M22K	**Willow**	**148.51**	**302**	P	**PKPab**	**06 34 02.1**	**+0.9**
	baz=120						
PRP	**Porcupine Dome**	**148.53**	**310**	P	**PKPab**	**06 34 02.2**	**+0.8**
	baz=117						
G26K	**Porcupine Rive**	**148.54**	**313**	P	**PKPab**	**06 34 02.4**	**+1.1**
	baz=116						
HDA	**Harding Lake**	**148.55**	**308**	P	**PKPab**	**06 34 02.1**	**+0.8**
	baz=118						
D27M	**Malcolm River**	**148.58**	**318**	P	**PKPab**	**06 34 02.1**	**+0.6**
	baz=114						
SUA	**Susitna One**	**148.62**	**301**	P	**PKPab**	**06 34 02.9**	**+1.0**
	baz=120						
ILAR	**Eielson Array**	**148.69**	**308**	PKPbc	**PKPbc**	**06 33 58.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=143,slow=1.5,SNR=6.3						
O20K	**Slope Mountain**	**148.70**	**298**	P	**PKPab**	**06 34 02.6**	**+0.5**
	baz=121						
CUT	**Chulitna**	**148.90**	**303**	P	**PKPab**	**06 34 03.2**	**+0.4**
	baz=119						
CHNA	**Chernabura Isl**	**148.91**	**285**	P	**PKPab**	**06 34 03.4**	**+0.4**
	baz=126						
H25L	**Birch Creek**	**148.97**	**311**	P	**PKPab**	**06 34 03.8**	**+0.9**
	baz=116						
Q18K	**Katmai Hardscr**	**148.98**	**294**	P	**PKPab**	**06 34 03.7**	**+0.2**
	baz=122						
F26K	**Sheenjek River**	**148.99**	**314**	P	**PKPab**	**06 34 03.6**	**+0.5**
	baz=115,SNR=5.1						
MCK	**McKinley**	**149.00**	**306**	P	**PKPab**	**06 34 03.7**	**+0.4**
	baz=118,SNR=6.3						
R17L	**Mt. Peulik Vol**	**149.03**	**292**	P	**PKPab**	**06 34 04.3**	**+0.8**
	baz=123						
POKR	**Poker Plat Res**	**149.06**	**309**	P	**PKPab**	**06 34 04.1**	**+0.7**
	baz=116						
N20K	**Mount Spurr**	**149.10**	**300**	P	**PKPab**	**06 34 04.1**	**+0.3**
	baz=120						
SPCR	**Spurr Chakacha**	**149.10**	**300**	P	**PKPab**	**06 34 04.4**	**+0.6**
	baz=120						
COLA	**College**	**149.11**	**308**	P	**PKPab**	**06 34 04.8**	**+1.2**
	baz=117						
Q17K	**Contact Creek**	**149.16**	**293**	P	**PKPab**	**06 34 03.8**	**-0.3**
	baz=122						
SKT	**Skwentna**	**149.20**	**302**	P	**PKPab**	**06 34 04.6**	**+0.4**
	baz=119,SNR=7.1						
CHGN	**Chignik**	**149.22**	**288**	P	**PKPab**	**06 34 05.0**	**+0.7**
	baz=124						
G25K	**Bearman Lake**	**149.29**	**312**	P	**PKPab**	**06 34 04.7**	**+0.4**

S12K	Black Hills	150.57 285	P	PKPab	06 34 10.9	+1.1
	baz=124					
E24K	Your Creek	150.66 314	P	PKPab	06 34 11.4	+1.4
	baz=111					
L19K	White Mountain	150.68 300	P	PKPab	06 34 11.4	+1.2
	baz=117					
G23K	Bananza Creek	150.69 311	P	PKPab	06 34 11.5	+1.4
	baz=112					
TIA	Tai'an	150.76 138	PKPbc	PKPab	06 34 14.7	+3.5
M18K	Stony River	150.77 299	P	PKPab	06 34 11.7	+1.1
	baz=118					
I21K	Tanana	150.82 307	P	PKPab	06 34 11.7	+1.1
	baz=114					
O16K	Kokwok River B	150.83 294	P	PKPab	06 34 12.1	+1.3
	baz=120					
H22K	Ishtalitna Cre	150.88 309	P	PKPab	06 34 12.1	+1.1
	baz=113					
K20K	Telida	150.88 303	P	PKPab	06 34 12.2	+1.2
	baz=115					
N17K	Nushagak Hills	150.89 296	P	PKPab	06 34 12.6	+1.5
	baz=118					
COLD	Coldfoot	150.95 312	P	PKPab	06 34 13.2	+2.0
	baz=111					
E23K	Chandalar	151.04 313	P	PKPab	06 34 13.4	+1.8
	baz=110					
D24K	Happy Valley	151.15 316	P	PKPab	06 34 13.6	+1.7
	baz=109					
TOLK	Toolik Lake Re	151.23 315	P	PKPab	06 34 13.7	+1.3
	baz=109					
J20K	Nowinta River	151.26 304	P	PKPab	06 34 14.3	+1.8
	baz=114					
C24K	Franklin Bluff	151.29 317	P	PKPab	06 34 14.1	+1.7
	baz=108					
G22K	Bettles	151.32 311	P	PKPab	06 34 14.3	+1.6
	baz=111					
H21K	Melozitna Rive	151.33 308	P	PKPab	06 34 14.3	+1.5
	baz=112					
O15K	Ungalikthiuk R	151.39 293	P	PKPab	06 34 14.6	+1.4
	baz=120					
M17K	Holitna River	151.41 298	P	PKPab	06 34 14.2	+1.0
	baz=117					
L18K	Granite Mounta	151.46 300	P	PKPab	06 34 14.7	+1.2
	baz=116					
N16K	Nishlik Lake	151.56 296	P	PKPab	06 34 15.0	+1.1
	baz=118					
UNV	Unalaska Valle	151.59 279	P	PKPab	06 34 15.5	+1.3
	baz=126					
I20K	Naaghedeneel	151.64 306	P	PKPab	06 34 15.5	+1.4
	baz=113					
D23K	Nanushuk River	151.72 315	P	PKPab	06 34 15.6	+1.2
	baz=108					
F22K	John River	151.77 312	P	PKPab	06 34 16.2	+1.6
	baz=110					
J19K	Poorman	151.78 304	P	PKPab	06 34 16.5	+1.8
	baz=114					
E22K	Anaktuvuk Pass	151.85 313	P	PKPab	06 34 16.6	+1.6
	baz=109					
M16K	Timber Creek	151.89 296	P	PKPab	06 34 16.8	+1.5
	baz=117					
G21K	Allakaket	151.91 309	P	PKPab	06 34 16.8	+1.6
	baz=110					
C23K	Itkillik River	151.96 317	P	PKPab	06 34 16.6	+1.3
	baz=107					
N15K	Kwethluk River	151.99 294	P	PKPab	06 34 17.2	+1.5
	baz=118					
J18K	Innoko River	152.01 302	P	PKPab	06 34 17.1	+1.4
	baz=114					
H20K	Anotleneega Mo	152.06 307	P	PKPab	06 34 17.1	+1.3
	baz=111					
O14K	Tigyukauivet M	152.07 292	P	PKPab	06 34 17.2	+1.2
	baz=119					
L17K	Donlin	152.10 299	P	PKPab	06 34 17.6	+1.4
	baz=115					
F21K	Alatna River	152.15 311	P	PKPab	06 34 17.1	+0.9
	baz=109					
NIKH	Nikolski High	152.20 276	P	PKPab	06 34 17.9	+1.1
	baz=127					
K17K	Iditarod	152.35 300	P	PKPab	06 34 17.8	+0.7
	baz=114					
D22K	Ayikyak River	152.38 314	P	PKPab	06 34 17.5	+0.3
	baz=107					
L16K	Owhat River	152.42 298	P	PKPab	06 34 17.8	+0.4
	baz=115					
M15K	Kasigluk River	152.50 295	P	PKPab	06 34 18.4	+0.6
	baz=117					
GCSA	Galena City Sc	152.57 305	P	PKPab	06 34 18.6	+0.6
	baz=112					
N14K	Kuskokwak Cree	152.58 293	P	PKPab	06 34 18.5	+0.4
	baz=118					
H19K	Roundabout Mou	152.69 306	P	PKPab	06 34 18.6	+0.2
	baz=110					
E21K	Killik River	152.71 313	P	PKPab	06 34 18.2	-0.4
	baz=107					
HHC	Hu-ho-hao-te	152.86 125	eP	PKPdf	06 33 58.2	-3.5
F20K	Avaraart Lake	152.92 310	P	PKPab	06 34 19.2	-0.2
	baz=108					
J17K	VABM Dome	152.95 301	P	PKPab	06 34 19.2	-0.4
	baz=113					
B22K	Teshekpuk Lake	153.02 317	P	PKPab	06 34 19.3	-0.4
	baz=104					

IDC 04 06:32:06.2±9.2, 17°.73S×178°.68W, h593km±104km, mb2.7/4, mbtmp3.7/4, Error ellipse: s-maj=105.5km s-min=38.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.41	259	P	P	06 39 25.4	-0.4
	0.5nm,0.6s,baz=97,slow=7.2,SNR=5.5						
	0.5nm,0.6s						
ASAR	Alice Springs	44.59	254	P	P	06 39 27.2	+0.1
	2.6nm,0.6s,baz=88,slow=8.4,SNR=32						
ASAR				PcP	PcP	06 40 56.3	-0.7
	0.3nm,0.6s,baz=89,slow=4.1,SNR=4.3						
	2.6nm,0.6s						
ILAR	Eielson Array	85.77	13	P	P	06 43 42.6	-0.5
	0.2nm,0.6s,baz=216,slow=5.3,SNR=8.2						
	0.2nm,0.6s						
TXAR	Lajitas Array	86.12	58	P	P	06 43 46.0	+0.2
	0.2nm,0.7s,baz=224,slow=5.2,SNR=3.5						
	0.2nm,0.7s						
GERES	GERESS Array B	147.37	345	PKPbc	PKPbc	06 50 44.1	-0.1
	0.5nm,0.5s,baz=22,slow=3.8,SNR=3.5						

*ASRS **04** 06:39:57.0±1.2, 54°.25N×87°.10E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 06:39:57.8±3.2, 54°.28N×87°.28E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.9km s-min=19.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.48	258	I	I	06 49 30.0	
	baz=76,slow=327,SNR=7.2						
ZALV	Zalesovo Beam	1.48	258	Pg	Pn	06 40 23.7	-2.1
	1.5nm,0.3s,baz=73,slow=16,SNR=12						
ZALV				Lg	Lg	06 40 45.6	
	1.2nm,0.3s,baz=77,slow=22,SNR=9.9						
KURBB	Kurchatov Arra	6.48	239	Pn	Pn	06 41 35.3	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=5.0						
KURBB				Lg	Lg	06 43 22.4	
	baz=50,slow=29,SNR=4.3						
	0.8nm,0.5s						
MKAR	Makanchi Array	8.14	205	Pn	Pn	06 41 58.5	+1.3
	0.1nm,0.3s,baz=26,slow=14,SNR=1.8						
MKAR				Lg	Lg	06 44 14.1	
	0.1nm,0.3s,baz=22,slow=28,SNR=1.9						
	0.1nm,0.4s						

*NNC **04** 06:47:10.7±1.8, 51°.26N×82°.30E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=16.3km s-min=6.6km az=31.0, Suspected Mining explosion.*

*IDC **04** 06:47:15.5±1.6, 51°.41N×81°.73E, h0km, mbtmp2.1/2, ML1.7/2, Error ellipse: s-maj=18.7km s-min=13.1km az=146.0*

ISC 04 06:47:13.1±1.3, 50°.94N±0°.08×82°.10E±0°.10, h0km, n7, σ0°.77/6, 5C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.22	266	⇑Pg	Pb	06 47 54.5	+0.4
KURK				⇓Lg	Lg	06 48 26.2	
	2.5nm,0.6s						
KURBB	Kurchatov Arra	2.29	264	Pg	Pb	06 47 55.5	+0.2
	0.1nm,0.3s,baz=70,slow=19,SNR=2.7						
KURBB				Lg	Lg	06 48 21.8	
	0.1nm,0.3s,baz=71,slow=34,SNR=7.9						
KURBB	Kurchatov Arra	2.29	264	⇑Pg	Pb	06 47 55.8	+0.5
	0.7nm,0.3s						
KURBB				⇑Lg	Lg	06 48 29.2	
	9.6nm,0.6s						
ZALV	Zalesovo Beam	3.44	28	Pn	Pn	06 48 07.9	0.0
	0.3nm,0.3s,baz=216,slow=20,SNR=3.6						
ZALV				Lg	Lg	06 48 53.1	
	0.3nm,0.3s,baz=214,slow=24,SNR=5.1						
	0.3nm,0.3s						
I46RU	ZALESOVO INFRA	3.45	28	I	I	07 05 50.0	
	0.1nm,0.8s,baz=214,slow=319,SNR=6.1						
MK31	Makanchi Array	4.15	178	⇑Pg	Pg	06 48 31.8	-0.8
	0.3nm,0.5s,baz=6.3,slow=11,SNR=4.6						
MK31				⇑Lg	Lg	06 49 33.8	
	3.4nm,0.9s,baz=3.0,slow=28,SNR=2.8						
MKAR	Makanchi Array	4.15	178	Pn	Pb	06 48 27.8	+0.8
	0.1nm,0.3s,baz=350,slow=7.5,SNR=5.9						
MKAR				Lg	Lg	06 49 38.7	
	0.2nm,0.3s,baz=8.2,slow=28,SNR=5.2						
	0.4nm,0.8s						

*ASRS **04** 07:06:03.0±1.3, 53°.93N×86°.53E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 07:06:05.2±3.0, 53°.94N×86°.57E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=24.0km s-min=14.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	271	I	I	07 13 30.0	
	baz=89,slow=327,SNR=2.2						
ZALV	Zalesovo Beam	1.03	271	Pg	Pg	07 06 24.5	-0.5
	0.7nm,0.3s,baz=90,slow=17,SNR=5.1						
ZALV				Lg	Lg	07 06 39.1	
	1.4nm,0.3s,baz=92,slow=30,SNR=10						
KURBB	Kurchatov Arra	5.95	239	Pn	Pn	07 07 35.9	+1.5
	0.1nm,0.3s,baz=57,slow=14,SNR=2.9						
	0.5nm,0.4s						
MKAR	Makanchi Array	7.66	203	Pn	Pn	07 07 58.5	+0.6
	0.1nm,0.3s,baz=25,slow=13,SNR=1.7						
	0.1nm,0.3s						

*IDC **04** 07:09:46.3±3.8, 14°.37S×171°.27E, h600km±51km, mb2.8/5, mbtmp3.8/6, Error ellipse: s-maj=68.8km s-min=27.6km az=158.0*

ISC 04 07:09:46.2±1.1, 14°.4S±0°.3×171°.3E±0°.3, h600km, n6, σ0°.64/7, mb3.8/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.91	210	P	P	07 11 54.4	+0.1
	8.2nm,1.0s,baz=30,slow=20,SNR=7.0						
STKA	Stephens Creek	32.22	232	P	P	07 15 27.1	+0.3
	2.0nm,0.5s,baz=46,slow=11,SNR=4.8						
	2.0nm,0.5s						
WRA	Warramunga Arr	35.68	256	P	P	07 15 56.0	+0.1
	1.3nm,0.6s,baz=88,slow=9.0,SNR=15						
	1.3nm,0.6s						
ASAR	Alice Springs	36.43	250	P	P	07 16 02.1	+0.1
	1.6nm,0.6s,baz=76,slow=9.4,SNR=29						
ASAR				PcP	PcP	07 18 08.2	-1.2
	0.3nm,0.8s,baz=75,slow=3.1,SNR=1.5						
	1.6nm,0.6s						
ILAR	Eielson Array	85.06	17	P	P	07 21 19.5	+0.3
	0.2nm,0.7s,baz=233,slow=5.5,SNR=5.4						
	0.2nm,0.7s						
TXAR	Lajitas Array	92.72	61	P	P	07 21 55.9	+0.1
	baz=284,slow=5.1,SNR=1.5						

DJA 04 07:36:24.2±0.7, 2°.S±5°.×13°.9E±°, h15km±8km, M3.8/6, mB4.9/1, mb4.0/1, MLv3.7/6, Mw(mB)4.2/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.46	7	P	Pb	07 36 34.8	+0.8
GENI	Genyem	1.52	95	P	Pn	07 36 50.8	-0.1
GENI				S	Sn	07 37 10.2	-0.3
JAY	Jayapura	2.05	92	P	Pn	07 36 57.1	-1.2
JAY				S	Sn	07 37 25.0	+1.3
FAKI	Fak Fak	6.41	266	P	Pn	07 37 57.3	-0.9

*FCIAR **04** 07:36:36.0, 83°.34N×19°.36E, h10km, station OMEGA has station magnitude of 3.50 station ZFI2 has station magnitude of 3.40*

*BER **04** 07:36:37.5±2.5, 83°.39N×18°.71E, h10km, Mw3.3, Confirmed Earthquake*

*KOLA **04** 07:36:43.0, 82°.94N×13°.27E, h0km, ML1.8, Error ellipse: s-maj=131.5km s-min=47.9km az=80.0, Arctic Ocean*

ISC 04 07:36:41.7±3.0, 82°.9N±0°.2×15°.6E±0°.1, h10km, n19, σ2°.22/32, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	4.03	190	P	Pn	07 37 43.1	-0.2
KBS				S	Sn	07 38 27.8	-2.6
KBS	Kingsbay	4.03	190	eP	Pn	07 37 43.2	0.0
KBS				eS	Sn	07 38 34.5	+4.1
KBS				IAML		07 38 39.0	
	comp=Z,5.9nm,0.4s						
KBS	Kingsbay	4.03	190	i P	Pn	07 37 42.9	-0.4
KBS				i S	Sn	07 38 33.6	+3.3
NOR	Nord	4.50	270	eP	Pn	07 37 49.8	-0.1
NOR				i S	Sn	07 38 41.1	-1.0
NOR				IAML		07 38 44.1	
	comp=Z,0.4nm,0.2s						
NOR	Nord	4.50	270	i P	Pn	07 37 47.5	-2.3
NOR				i S	Sn	07 38 41.1	-1.0
NOR				IAML		07 38 44.1	
	comp=Z,0.4nm,0.2s						
SPA0	Spitsbergen Ar	4.74	178	eP	Pn	07 37 53.2	+0.1
SPA0				eS	Sn	07 38 49.8	+1.8
SPA0	Spitsbergen Ar	4.74	178	eP	Pn	07 37 52.5	-0.6
SPA0				eS	Sn	07 38 49.9	+1.9
SPA0				IAML		07 39 04.0	
	comp=Z,3.4nm,0.9s						
SPITS	Spitsbergen Ar	4.74	178	P	Pn	07 37 52.9	-0.2
SPITS				S	Sn	07 38 48.5	+0.5
BRBB	Barentsburg B	4.83	183	P	Pn	07 37 55.7	+1.4
BRBB				S	Sn	07 38 53.6	+3.5
BRBB	Barentsburg B	4.83	183	eP	Pn	07 37 55.8	+1.5
BRBB				eS	Sn	07 38 53.1	+3.0
ZFI2	Zemlya Franca-	4.95	98	eP	Pn	07 37 43.2	-13
ZFI2				eS	Sn	07 38 33.6	-19
	comp=Z,34nm,1.4s						
OMEGA	Omega	4.97	98	eP	Pn	07 37 43.2	-13
OMEGA				eS	Sn	07 38 33.6	-20
	comp=Z,40nm,0.7s						
HSPB	Hornsund (broa	5.92	180	e	Pn	07 38 06.2	-3.1
HSPB				eS	Sn	07 39 19.4	+2.4
HSPB				IAML		07 39 24.4	
	comp=Z,2.9nm,0.8s						
HOPEN	Hopen	6.62	160	eP	Pn	07 38 16.0	-2.8
HOPEN				eS	Sn	07 39 29.7	-4.4
HOPEN	Hopen	6.62	160	eP	Pn	07 38 18.2	-0.6
HOPEN				eS	Sn	07 39 31.8	-2.3
DAG	Danmarks Havn	8.40	242	eP	Pn	07 38 42.2	-1.1
DAG				eS	Sn	07 40 16.9	-1.1
DAG				IAML		07 40 21.8	
	comp=Z,0.3nm,0.2s						
DAG	Danmarks Havn	8.40	242	i P	Pn	07 38 42.2	-1.1
DAG				eS	Sn	07 40 13.8	-4.2
DAG				IAML		07 40 21.8	
	comp=Z,0.3nm,0.2s						
DBG	Daneborg	10.81	238	i P	Pn	07 39 16.3	+0.1
DBG	Daneborg	10.81	238	i P	Pn	07 39 16.3	+0.1

*RSPR **04** 07:47:15.3, 19°.33N×67°.52W, h39km±14km, MD4.0/12*

*SDD **04** 07:47:15.7±2.2, 19°.26N×67°.24W, h19km±82km, MD3.7, ML3.8, MW4.0*

*NEIC **04** 07:47:16.6±1.4, 19°.02N±0°.04×67°.28W±0°.04, h10km±1km, mb4.1/12, ML3.8/21, Md4.0/12(RSPR), Error ellipse: s-maj=6.0km s-min=5.5km az=12.0*

*OSPL **04** 07:47:17.0±3.6, 19°.28N×67°.10W, h15km±22km, ML3.8*

*IDC **04** 07:47:24.1±4.6, 18°.86N×67°.38W, h89km±46km, mb3.3/8, mbtmp3.6/9, Error ellipse: s-maj=29.6km s-min=20.2km az=57.0*

ISC 04 07:47:14.1±1.2, 19°.21N±0°.04×67°.35W±0°.03, h5km±8km, n112, σ1°.82/141, mb3.8/10, 22C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.77	163		Pb	07 47 30.1	+0.1
AGPR	Aguadilla, PR	0.77	163	⇑eP	Pb	07 47 30.1	+0.1
AGPR	Aguadilla, PR	0.77	163	eS	Sn	07 47 42.6	-1.1
AGPR	Aguadilla, PR	0.77	163	⇓ePg	Pb	07 47 30.4	+0.3
AGPR				⇑eSg	Sb	07 47 40.8	-0.1
AGPR				IAML		07 47 46.8	
	comp=N,5μm,0.3s						
AGPR	Aguadilla, PR	0.77	163	i P	Pb	07 47 30.2	+0.1
AGPR				eS	Sb	07 47 40.5	-0.4
AGPR				IAML		07 47 45.9	
	comp=Z,2μm,0.2s						
IDE	Isla Desecheo	0.83	188		Pb	07 47 31.6	+0.6
IDE	Isla Desecheo	0.83	188	⇑eP	Pb	07 47 31.6	+0.6
IDE	Isla Desecheo	0.83	188	eS	Sb	07 47 43.5	+1.0
PRSN	Puerto Rico Se	1.01	169		Pg	07 47 33.6	+0.1
PRSN				Sn	Sg	07 47 45.4	-1.2
PRSN	Puerto Rico Se	1.01	169	⇑eP	Pb	07 47 33.9	-0.1
PRSN	Puerto Rico Se	1.01	169	eS	Sb	07 47 48.0	+0.3
PRSN	Puerto Rico Se	1.01	169	⇓ePg	Pb	07 47 34.0	-0.1
PRSN				⇑eSg	Sb	07 47 47.6	0.0
PRSN				IAML		07 47 52.0	
	comp=N,7μm,0.3s						
AOPR	Arecibo Observ	1.03	147		Pg	07 47 34.0	+0.1
AOPR				Sn	Sg	07 47 46.7	-0.5
AOPR	Arecibo Observ	1.03	147	⇓eP	Pb	07 47 34.3	-0.2
AOPR	Arecibo Observ	1.03	147	eS	Sn	07 47 49.8	-0.3
AOPR	Arecibo Observ	1.03	147	ePg	Pb	07 47 34.4	0.0
AOPR				⇑eSg	Sb	07 47 47.9	-0.4
AOPR				IAML		07 47 51.1	
	comp=N,5μm,0.3s						
LSP	Las Mesas	1.06	166		Pg	07 47 34.8	+0.3
LSP	Las Mesas	1.06	166	⇑eP	Pg	07 47 34.8	+0.3
LSP	Las Mesas	1.06	166	eS	Sn	07 47 50.2	-0.6
EMPR	Esperanza - Ma	1.07	133		Pb	07 47 34.7	-0.4
EMPR				Sn	Sg	07 47 47.3	-1.2
EMPR	Esperanza - Ma	1.07	133	⇓eP	Pn	07 47 35.3	-0.5
EMPR	Esperanza - Ma	1.07	133	eS	Sn	07 47 51.7	+0.7
UUPR	Utuado, UPR, P	1.12	148		Pb	07 47 35.3	-0.8
UUPR	Utuado, UPR, P	1.12	148	⇓eP	Pb	07 47 35.6	-0.5
UUPR	Utuado, UPR, P	1.12	148	eS	Sn	07 47 52.7	+0.3
CRPR	Cabo Rojo, PR	1.22	169		Pn	07 47 36.8	-1.1
CRPR				Sn	Sb	07 47 50.5	-3.3
CRPR				IAML		07 47 58.1	
	comp=N,2μm,0.4s						
CRPR	Cabo Rojo, PR	1.22	169	⇑eP	Pg	07 47 37.8	+0.3
CRPR	Cabo Rojo, PR	1.22	169	⇓ePg	Pn	07 47 37.3	-0.6
CRPR				⇓eSg	Sb	07 47 53.6	-0.1
CRPR				IAML		07 47 58.0	
	comp=N,3μm,0.3s						
CRPR	Cabo Rojo, PR	1.22	169	i P	Pn	07 47 37.0	-0.8
CRPR				eS	Sg	07 47 53.8	+0.5
CRPR				IAML		07 47 58.1	
	comp=Z,2μm,0.3s						
MLPR	Magueyes Islan	1.27	167	⇑eP	Pn	07 47 37.7	-0.8
MLPR	Magueyes Islan	1.27	167	eS	Sn	07 47 55.2	-0.7
MLPR	Magueyes Islan	1.27	167	ePg	Pn	07 47 37.9	-0.7
MLPR				⇓eSg	Sb	07 47 54.3	-0.9
MLPR				IAML		07 47 59.0	
	comp=N,473nm,0.6s						
ECPR	Experimental S	1.29	133	⇓eP	Pn	07 47 38.2	-0.6
ECPR	Experimental S	1.29	133	eS	Sg	07 47 57.3	+1.7
GBPR	Guanica, Bosqu	1.31	160		Pb	07 47 39.0	-0.1
GBPR	Guanica, Bosqu	1.31	160	⇑eP	Pb	07 47 39.0	-0.1
CELP	Cerrillos	1.35	147		Pn	07 47 38.8	-0.9
CELP					Sb	07 47 53.2	-4.2
CELP				IAML		07 48 02.6	
	comp=E,2μm,0.6s						
CELP				IAML		07 48 03.1	
	comp=N,2μm,0.5s						
CELP	Cerrillos	1.35	147	⇑eP	Pn	07 47 38.6	-0.9
CELP	Cerrillos	1.35	147	eS	Sb	07 47 56.9	-0.5
CELP	Cerrillos	1.35	147	ePg	Pb	07 47 39.4	-0.5
CELP				⇑eSg	Sb	07 47 55.3	-2.1
CELP				IAML		07 48 03.0	
	comp=N,2μm,0.7s						
OBIP	Obispado Ponce	1.36	149		Pn	07 47 38.8	-1.0
OBIP					Sb	07 47 54.6	-3.2
OBIP				IAML		07 48 01.3	
	comp=E,2μm,0.4s						
OBIP				IAML		07 48 03.8	
	comp=N,2μm,0.8s						
OBIP	Obispado Ponce	1.36	149	⇑eP	Pn	07 47 39.0	-0.8
OBIP	Obispado Ponce	1.36	149	eS	Sn	07 47 57.4	-0.8
HIDR	Higuey Centro	1.43	245	⇓ePg	Pb	07 47 41.6	+0.3
HIDR				eSg	Sg	07 48 01.6	+1.5
HIDR				IAML		07 48 04.7	
	comp=N,2μm,0.2s						
GCPR	Guaynabo City	1.50	127		Pn	07 47 40.4	-1.3
GCPR	Guaynabo City	1.50	127	⇑eP	Pn	07 47 41.0	-0.7
GCPR	Guaynabo City	1.50	127	eS	Sg	07 48 02.3	0.0
SJG	San Juan	1.58	134		Pn	07 47 42.0	-0.8
SJG				IAML		07 48 07.3	
	comp=N,1μm,0.5s						
SJG				IAML		07 48 09.1	
	comp=N,1μm,0.4s						
SJG	San Juan	1.58	134	⇓eP	Pn	07 47 42.8	0.0
SJG	San Juan	1.58	134	eS	Sb	07 48 04.1	0.0
SJG	San Juan	1.58	134	ePg	Pn	07 47 42.8	0.0
SJG				⇑eSg	Sn	07 48 02.5	-1.1
SJG	San Juan	1.58	134	i P	Pn	07 47 42.9	0.0
SJG				IAML		07 48 10.0	
	comp=Z,600nm,0.5s						
MIDR	Miches	1.62	262	ePg	Pg	07 47 45.4	+0.2
MIDR				IAML		07 48 11.5	
	comp=N,728nm,0.5s						
MIDR				IAML		07 48 12.7	
	comp=N,854nm,0.7s						
IGPR	InterUniversit	1.71	136		Pn	07 47 44.5	-0.1
IGPR	InterUniversit	1.71	136	⇓eP	Pn	07 47 44.5	-0.1
IGPR	InterUniversit	1.71	136	eS	Sb	07 48 07.0	-0.9
PDPR	Patillas Dam,	1.73	133		Pn	07 47 44.5	-0.4
PDPR	Patillas Dam,	1.73	133	⇑eP	Pn	07 47 45.0	+0.1
PDPR	Patillas Dam,	1.73	133	eS	Sb	07 48 07.2	-1.3
SMDR	Samana, DR	1.74	273	ePg	Pb	07 47 46.0	-0.6
SMDR				⇑eSg	Sg	07 48 12.9	+2.9
SMDR				IAML		07 48 22.1	
	comp=N,790nm,1.0s						
HUMP	Col San Antoni	1.78	127		Pn	07 47 44.7	-0.8
DR12	Loma Pena Alta	1.97	258		Pb	07 47 51.1	+0.6
HATOM	Hato Mayor del	1.97	258	⇑ePg	Pb	07 47 50.6	+0.2
HATOM				⇑eSg	Sg	07 48 18.4	+1.0
HATOM				IAML		07 48 23.0	
	comp=N,727nm,0.3s						
NADR	Nagua	2.37	274	⇓ePg	Pb	07 47 58.8	+1.5
NADR				⇑eSg	Sg	07 48 30.0	-0.4
NADR				IAML		07 48 38.7	
	comp=N,3μm,0.7s						
DR08	Loma La Naviza	2.54	265	⇑ePg	Pb	07 47 59.6	-0.7
DR08				⇓iSg	Sg	07 48 34.8	-0.8
DR08				⇓eSg	Sg	07 48 34.9	-0.8
DR08				IAML		07 48 39.6	
	comp=N,11μm,0.3s						
SDD	Santo Domingo	2.54	253		Pb	07 47 58.7	-1.5
SDD				IAML		07 48 40.1	
	comp=E,366nm,0.8s						
SDD				IAML		07 48 44.2	
	comp=N,363nm,1.3s						
SDD	Santo Domingo	2.54	253	i P	Pb	07 48 00.2	-0.1
ABDR	Alto Bandera	3.12	263	⇓ePg	Pb	07 48 10.3	-0.1
ABDR				IAML		07 49 17.5	
	comp=N,0.

LOVI				*e*S		**Sn**	**07 49 06.9 +1.9**
LOVI				IAML			07 49 22.1
	comp=Z,106nm,0.7s						
SABA	**Saba**	**4.21 111**		Pn		**Pn**	**07 48 19.0 0.0**
SABA				IAML			07 49 24.0
	comp=N,124nm,0.5s						
SMRT	**St. Maarten**	**4.21 105**				**Pn**	**07 48 19.6 +0.5**
SMRT				IAML			07 49 18.6
	comp=E,135nm,0.6s						
GRTK	**Grand Turk**	**4.22 303**	*i* P			**Pn**	**07 48 19.2 +0.1**
GRTK				*e*S		**Sn**	**07 49 06.8 -2.1**
LOBH	**Bahia de las A**	**4.28 252**	*i* P			**Pn**	**07 48 24.5 +4.4**
LOBH				IAML			07 49 34.9
	comp=Z,138nm,0.5s						
MASC	**Masc**	**6.55 280**	*e*P			**Pn**	**07 48 49.8 -1.4**
MASC			*i* S			**Sn**	**07 50 01.9 -4.5**
MASC	**Masc**	**6.55 280**	*i* P			**Pn**	**07 48 51.2 0.0**
MASC				IAML			07 50 17.0
	comp=Z,15nm,1.0s						
QMBU	**Quimbuelo**	**7.10 279**	*i* P			**Pn**	**07 48 57.7 -1.0**
QMBU			*i* S			**Sn**	**07 50 13.2 -6.7**
GTBY	**Guantanamo Bay**	**7.35 277**	*i* P			**Pn**	**07 49 01.1 -1.1**
GTBY			*i* S			**Sn**	**07 50 20.9 -5.2**
GTBY	**Guantanamo Bay**	**7.35 277**	*i* P			**Pn**	**07 49 04.0 +1.8**
GTBY			*e*S			**Sn**	**07 50 22.4 -3.7**
BIM	**Bigot**	**7.61 127**	Pn			**Pn**	**07 49 05.5 -0.4**
MPOM	**Morne Pois Mar**	**7.82 126**	Pn			**Pn**	**07 49 09.2 +0.6**
RCC	**Rio Carpintero**	**7.91 277**	*e*P			**Pn**	**07 49 07.6 -2.2**
PINC	**Pinares de May**	**8.04 280**	*i* P			**Pn**	**07 49 09.0 -2.7**
HLGC	**Holguin**	**8.36 283**	*i* P			**Pn**	**07 49 14.7 -1.3**
PCRV	**Puerto La Cruz**	**9.36 163**	P			**Pn**	**07 49 32.4 +2.6**
	comp=Z,5.9nm,1.0s,baz=321,slow=13,SNR=10.0						
PCRV				S		**Sn**	**07 51 12.2 -3.4**
	comp=Z,5.9nm,0.6s,baz=17,slow=22,SNR=7.3						
SMRC	**Santa Marta, M**	**10.39 221**	Pn			**Pn**	**07 49 47.1 +3.2**
BBSR	**BB Station**	**13.32 10**	Pn			**Pn**	**07 50 23.7 -0.2**
RUSC	**La Rusia**	**14.37 204**				**Pn**	**07 50 39.2 +0.5**
656A	**Willston**	**17.12 309**	P			**P**	**07 51 17.5 +1.4**
656A			IAmb			IAmb	07 51 48.3
	comp=Z,24nm,1.0s						
456A	**Hilliard**	**17.54 314**	P			**P**	**07 51 22.2 +1.6**
BOAV	**Boa Vista**	**18.00 157**	P			**Pn**	**07 51 24.2 -1.0**
Y58A	**Scranton**	**18.29 326**	P			**P**	**07 51 32.6 +3.7**
FLOC	**Florencia**	**19.31 206**	P			**P**	**07 51 40.1 -0.2**
V58A	**Windy Hill, Pi**	**19.51 330**	P			**Pn**	**07 51 47.0 +3.5**
V58A			IAmb			IAmb	07 52 14.9
	comp=Z,19nm,1.5s						
HODGE	**Hodges**	**19.99 321**	P			**Pn**	**07 51 48.9 -0.3**
HODGE			IAmb			IAmb	07 52 18.4
	comp=Z,8.7nm,1.2s						
PAULI	**Pauline**	**20.16 323**	P			Pn	07 51 51.1 0.0
MACA	**Manacapuru-AM**	**23.18 163**	P			**P**	**07 52 19.4 -2.5**
MACA			IAmb			IAmb	07 52 22.4
	comp=Z,9.9nm,0.7s						
WVT	**Waverly**	**24.68 317**	P			**P**	**07 52 37.7 +1.7**
WVT			IAmb			IAmb	07 52 41.3
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**34.48 294**	P			**P**	**07 54 04.7 +1.3**
	comp=Z,0.2nm,0.6s,baz=91,slow=7.3,SNR=3.1						
	comp=Z,0.2nm,0.6s						
LPAZ	**La Paz**	**35.28 181**	P			**P**	**07 54 08.1 -2.7**
	comp=Z,0.8nm,0.8s,baz=344,slow=7.4,SNR=2.1						
	comp=Z,0.8nm,0.8s						
SIV	**San Ignacio**	**35.52 170**	P			**P**	**07 54 09.9 -2.4**
	comp=Z,1.5nm,0.7s,baz=18,slow=9.5,SNR=9.2						
	comp=Z,1.5nm,0.7s						
PDAR	**Pinedale Array**	**42.55 313**	P			**P**	**07 55 13.1 +1.9**
	comp=Z,0.2nm,0.5s,baz=90,slow=5.0,SNR=1.8						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**47.93 305**	P			**P**	**07 55 56.3 +2.3**
	comp=Z,0.2nm,0.5s,baz=78,slow=8.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
ESDC	**Sonseca Array**	**57.68 55**	P			**P**	**07 57 07.5 +1.7**
	comp=Z,0.6nm,0.7s,baz=269,slow=6.0,SNR=4.7						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**68.34 333**	P			**P**	**07 58 16.8 +0.5**
	comp=Z,0.7nm,0.8s,baz=103,slow=3.4,SNR=7.8						
	comp=Z,0.7nm,0.8s						
ARCES	**ARCESS Array B**	**73.17 22**	P			**P**	**07 58 46.7 +1.1**
	comp=Z,0.4nm,0.5s,baz=308,slow=4.0,SNR=4.8						
	comp=Z,0.4nm,0.5s						

*IDC **04** 07:49:11.2±10.0, 21°.61N×143°.15E, h302km±102km, mb3.2/10, mbtmp3.9/10, Error ellipse: s-maj=29.5km s-min=18.1km az=76.0*

ISC 04 07:49:12.0±0.9, 21°.6N±0°.2×143°.1E±0°.2, h311km, n11, σ0°45/11, mb3.5/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.17 192**		P		**P**	**07 56 35.1 +0.1**
	0.3nm,0.4s,baz=17,slow=9.6,SNR=6.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.88 192**		P		**P**	**07 57 04.2 -0.1**
	0.1nm,0.4s,baz=8.8,slow=7.1,SNR=1.6						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**54.27 322**		P		**P**	**07 58 05.8 -0.6**
	0.8nm,0.4s,baz=116,slow=6.6,SNR=1.4						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**57.57 317**		P		**P**	**07 58 29.8 0.0**
	0.8nm,0.3s,baz=94,slow=7.1,SNR=5.4						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**62.15 27**		P		**P**	**07 59 00.5 +0.1**
	0.4nm,0.6s,baz=252,slow=5.5,SNR=10						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**62.72 320**		P		**P**	**07 59 05.0 +0.6**
	2.2nm,0.4s,baz=81,slow=7.3,SNR=7.7						
	2.2nm,0.4s						
YKA	**Yellowknife Ar**	**76.56 28**		P		**P**	**08 00 28.7 +0.5**
	0.8nm,0.7s,baz=299,slow=6.3,SNR=4.6						
	0.8nm,0.7s						
ARCES	**ARCESS Array B**	**79.00 341**		P		**P**	**08 00 41.7 +0.2**
	4.2nm,1.1s,baz=72,slow=9.3,SNR=7.7						
	4.2nm,1.1s						
NVAR	**Mina Array Bea**	**83.24 51**		P		**P**	**08 01 03.9 -0.6**
	0.4nm,0.6s,baz=304,slow=5.1,SNR=2.8						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**83.25 334**		P		**P**	**08 01 03.3 -0.4**
	0.8nm,0.4s,baz=68,slow=4.8,SNR=7.3						
	0.8nm,0.4s						
LPAZ	**La Paz**	**149.99 85**		PKPbc		**PKPbc**	**08 08 27.6 +0.1**
	0.8nm,0.5s,baz=346,slow=3.4,SNR=6.5						

*NEIC **04** 07:51:43.8±1.0, 19°.19N±0°.04×67°.28W±0°.03, h10km±1km, ML3.3/19, Md3.5/10(RSPR), Error ellipse: s-maj=6.2km s-min=4.8km az=5.0*

*SDD **04** 07:51:44.9±1.8, 19°.25N×67°.28W, h22km±70km, MD3.5, ML3.3, MW3.6*

*RSPR **04** 07:51:46.2, 19°.22N×67°.34W, h10km±31km, MD3.5/10*

ISC 04 07:51:42.7±1.5, 19°23N±0°.05×67°28W±0°.03, h5km±10km, n70, σ0°50/82, 11C-22D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.77 168**				**Pn**	**07 51 59.9 -0.4**
AGPR						**Sb**	**07 52 10.8 +1.3**
AGPR	**Aguadilla, PR**	**0.77 168**		⇑*e*P		**Pn**	**07 51 59.9 -0.4**
AGPR	**Aguadilla, PR**	**0.77 168**		*e*S		**Sb**	**07 52 10.8 +1.3**
AGPR	**Aguadilla, PR**	**0.77 168**		⇑*e*Pg		**Pn**	**07 51 59.5 -0.8**
AGPR				*e*Sg		**Sb**	**07 52 09.4 0.0**
AGPR				IAML			07 52 14.6
	comp=N,1μm,0.2s						
IDE	**Isla Desecheo**	**0.86 193**				**Pb**	**07 52 00.4 +0.3**
IDE						**Sb**	**07 52 12.2 +0.3**
IDE	**Isla Desecheo**	**0.86 193**		⇓*e*P		**Pb**	**07 52 00.4 +0.3**
IDE	**Isla Desecheo**	**0.86 193**		*e*S		**Sb**	**07 52 12.2 +0.3**
AOPR	**Arecibo Observ**	**1.01 151**				**Pn**	**07 52 03.0 -0.5**
AOPR						**Sb**	**07 52 16.8 +0.6**
AOPR	**Arecibo Observ**	**1.01 151**		⇓*e*P		**Pn**	**07 52 03.0 -0.5**
AOPR	**Arecibo Observ**	**1.01 151**		*e*S		**Sb**	**07 52 16.8 +0.6**
AOPR	**Arecibo Observ**	**1.01 151**		⇓*e*Pg		**Pn**	**07 52 03.0 -0.5**
AOPR				⇓*e*Sg		**Sb**	**07 52 16.7 +0.6**
AOPR				IAML			07 52 19.8
	comp=N,1μm,0.3s						
PRSN	**Puerto Rico Se**	**1.01 173**				**Sb**	**07 52 16.9 +0.6**
PRSN	**Puerto Rico Se**	**1.01 173**				**Pb**	**07 52 02.5 -0.2**
PRSN	**Puerto Rico Se**	**1.01 173**		⇑*e*P		**Pb**	**07 52 03.1 +0.3**
PRSN	**Puerto Rico Se**	**1.01 173**		*e*S		**Sb**	**07 52 16.9 +0.6**
PRSN	**Puerto Rico Se**	**1.01 173**		⇓*e*Pg		**Pn**	**07 52 03.3 -0.3**
PRSN				⇓*e*Sg		**Sb**	**07 52 17.4 +1.0**
PRSN				IAML			07 52 24.6
	comp=N,2μm,0.2s						
EMPR	**Esperanza - Ma**	**1.03 137**				**Sn**	**07 52 18.1 -0.4**
EMPR	**Esperanza - Ma**	**1.03 137**		Pn		**Pn**	**07 52 03.5 -0.2**
EMPR	**Esperanza - Ma**	**1.03 137**		⇓*e*P		**Pn**	**07 52 04.0 +0.3**
EMPR	**Esperanza - Ma**	**1.03 137**		*e*S		**Sn**	**07 52 18.1 -0.4**
LSP	**Las Mesas**	**1.06 170**				**Pb**	**07 52 03.5 -0.1**
LSP						**Sb**	**07 52 18.3 +0.5**
LSP	**Las Mesas**	**1.06 170**		⇓*e*P		**Pb**	**07 52 03.5 -0.1**
LSP	**Las Mesas**	**1.06 170**		*e*S		**Sb**	**07 52 18.3 +0.5**
UUPR	**Utuado, UPR, P**	**1.10 151**				**Sb**	**07 52 19.1 +0.1**
UUPR	**Utuado, UPR, P**	**1.10 151**		Pn		**Pb**	**07 52 04.3 0.0**
UUPR	**Utuado, UPR, P**	**1.10 151**		⇓*e*P		**Pb**	**07 52 04.3 0.0**
UUPR	**Utuado, UPR, P**	**1.10 151**		*e*S		**Sb**	**07 52 19.1 +0.1**
CRPR	**Cabo Rojo, PR**	**1.23 173**				**Pg**	**07 52 06.0 -0.3**
CRPR				IAML			07 52 26.8
	comp=N,676nm,0.4s						
CRPR				IAML			07 52 29.9
	comp=E,405nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.23 173**				**Sb**	**07 52 22.6 +0.2**
CRPR	**Cabo Rojo, PR**	**1.23 173**		⇑*e*P		**Pb**	**07 52 06.3 0.0**
CRPR	**Cabo Rojo, PR**	**1.23 173**		*e*S		**Sb**	**07 52 22.6 +0.2**
CRPR	**Cabo Rojo, PR**	**1.23 173**		*e*Pg		**Pn**	**07 52 06.6 +0.1**
CRPR				⇓*e*Sg		**Sg**	**07 52 22.4 +0.3**
CRPR				IAML			07 52 26.7
	comp=N,761nm,0.3s						
ECPR	**Experimental S**	**1.25 136**		⇓*e*P		**Pn**	**07 52 07.0 +0.2**
ECPR	**Experimental S**	**1.25 136**		*e*S		**Sn**	**07 52 24.2 +0.1**
MLPR	**Magueyes Islan**	**1.27 170**		⇑*e*P		**Pn**	**07 52 06.8 -0.3**
MLPR	**Magueyes Islan**	**1.27 170**		*e*S		**Sg**	**07 52 22.9 -0.7**
MLPR	**Magueyes Islan**	**1.27 170**		*e*Pg		**Pn**	**07 52 06.8 -0.3**
MLPR				IAML			07 52 27.7
	comp=N,128nm,0.6s						
GBPR	**Guanica, Bosqu**	**1.30 163**				**Pg**	**07 52 08.0 +0.3**
GBPR	**Guanica, Bosqu**	**1.30 163**		⇓*e*P		**Pg**	**07 52 08.0 +0.3**
CELP	**Cerrillos**	**1.32 150**				**Pn**	**07 52 07.8 -0.1**
CELP						**Sg**	**07 52 25.0 -0.3**
CELP	**Cerrillos**	**1.32 150**		IAML			07 52 31.2
	comp=E,504nm,0.5s						
CELP				IAML			07 52 32.4
	comp=N,622nm,0.5s						
CELP	**Cerrillos**	**1.32 150**		⇑*e*P		**Pn**	**07 52 07.8 -0.1**
CELP	**Cerrillos**	**1.32 150**		*e*S		**Sg**	**07 52 25.0 -0.3**
CELP	**Cerrillos**	**1.32 150**		⇑*e*Pg		**Pg**	**07 52 08.2 +0.1**
CELP				⇓*e*Sg		**Sg**	**07 52 25.1 -0.3**
CELP				IAML			07 52 30.3
	comp=N,580nm,0.6s						
OBIP	**Obispado Ponce**	**1.34 152**				**Pb**	**07 52 08.1 -0.2**
OBIP						**Sg**	**07 52 25.9 +0.1**
OBIP	**Obispado Ponce**	**1.34 152**		IAML			07 52 29.0
	comp=N,627nm,0.4s						
OBIP				IAML			07 52 30.0
	comp=E,700nm,0.5s						
OBIP	**Obispado Ponce**	**1.34 152**		⇑*e*P		**Pb**	**07 52 08.1 -0.2**
OBIP	**Obispado Ponce**	**1.34 152**		*e*S		**Sg**	**07 52 25.9 +0.1**
GCPR	**Guaynabo City**	**1.45 129**				**Pn**	**07 52 09.5 -0.1**
HIDR	**Higuey Centro**	**1.50 245**		⇓*e*Pg		**Pn**	**07 52 10.4 +0.1**
HIDR				⇓*e*Sg		**Sn**	**07 52 29.1 -1.2**
HIDR				IAML			07 52 39.9
	comp=N,381nm,0.2s						
SJG	**San Juan**	**1.54 136**				**Pb**	**07 52 11.7 0.0**
SJG	**San Juan**	**1.54 136**		IAML			07 52 36.0
	comp=N,361nm,0.4s						
SJG				IAML			07 52 42.1
	comp=N,287nm,0.3s						
SJG	**San Juan**	**1.54 136**		⇑*e*P		**Pb**	**07 52 11.7 0.0**
SJG	**San Juan**	**1.54 136**		*e*S		**Sn**	**07 52 30.3 -0.9**
SJG	**San Juan**	**1.54 136**		⇑*e*Pg		**Pg**	**07 52 12.4 +0.1**
IGPR	**InterUniversit**	**1.68 138**				**Pb**	**07 52 13.3 -0.7**
IGPR						**Sn**	**07 52 34.8 +0.3**
IGPR	**InterUniversit**	**1.68 138**		⇓*e*P		**Pb**	**07 52 13.3 -0.7**
IGPR	**InterUniversit**	**1.68 138**		*e*S		**Sn**	**07 52 34.8 +0.3**
PDPR	**Patillas Dam,**	**1.69 135**				**Pn**	**07 52 13.3 +0.4**
PDPR				IAML			07 52 42.0
	comp=E,274nm,0.3s						
PDPR				IAML			07 52 43.1
	comp=N,260nm,0.3s						
PDPR	**Patillas Dam,**	**1.69 135**		⇓*e*P		**Pb**	**07 52 13.6 -0.7**
PDPR	**Patillas Dam,**	**1.69 135**		*e*S		**Sn**	**07 52 34.6 -0.3**
MIDR	**Miches**	**1.69 262**		⇑*e*Pg		**Pb**	**07 52 14.2 -0.1**
MIDR				IAML			07 52 37.7
	comp=N,181nm,0.7s						
MIDR				IAML			07 52 40.3
	comp=N,187nm,0.4s						
HUMP	**Col San Antoni**	**1.73 128**				**Pn**	**07 52 13.8 +0.4**
SMDR	**Samana, DR**	**1.81 272**		⇓*e*P		**Pn**	**07 52 14.2 -0.2**
SMDR	**Samana, DR**	**1.81 272**		⇓*e*Pg		**Pn**	**07 52 15.1 +0.6**
SMDR				⇓*e*Sg		**Sg**	**07 52 40.7 -0.1**
SMDR				IAML			07 52 50.6
	comp=N,238nm,0.5s						
DR12	**Loma Pena Alta**	**2.04 258**				**Pb**	**07 52 18.8 -1.4**
HATOM	**Hato Mayor del**	**2.04 258**		⇑*e*Pg		**Pb**	**07 52 19.9 -0.4**
HATOM				⇓*e*Sg		**Sb**	**07 52 46.9 +0.9**
HATOM				IAML			07 52 51.7
	comp=N,174nm,0.5s						
SDD	**Santo Domingo**	**2.61 253**		Pn		**Pn**	**07 52 26.1 +0.5**
SDDR	**Presa de Saban**	**3.80 267**				**Pn**	**07 52 42.7 +0.7**
SMRT	**St. Maarten**	**4.15 106**		Pn		**Pn**	**07 52 46.9 +0.1**
SMRT				IAML			07 53 47.1
	comp=E,53nm,0.4s						

*GCG **04** 08:00:55.7±1.5, 15°.13N×93°.12W, h54km±34km, MD4.0, ML3.4*

*CATAC **04** 08:00:55.9±0.4, 15°N±2°×9°3W±°, h44km±7km, M3.6/20, MLv3.6/20, Error ellipse: s-maj=6.7km s-min=3.2km az=51.3, confirmed*

*MEX **04** 08:00:55.2±0.5, 15°.11N×93°.21W, h73km±6km, MD4.1*

ISC 04 08:00:55.7±1.2, 15°18N±0°.04×93°19W±0°.03, h51km±15km, n51, σ1°39/71, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53 357**		*e*P		**Pn**	**08 01 07.9 +0.6**
PCIG				*e*S		**Sn**	**08 01 17.9 +2.2**
PATR	**El Naranjo**	**0.93 94**		*e*P		**Pn**	**08 01 11.7 -1.0**
PATR				*e*S		**Sn**	**08 01 24.6 -0.6**
THIG		**0.94 106**		*e*P		**Pn**	**08 01 11.3 -1.3**
THIG				*e*S		**Sn**	**08 01 24.3 -0.7**
THIG		**0.94 106**		*e*P		**Pn**	**08 01 11.8 -0.8**
THIG				*e*S		**Sn**	**08 01 24.3 -0.7**
THIG				IAML			08 01 26.7
	comp=N,2μm,0.3s						
PAVE	**Pavencul**	**0.98 89**		*e*P		**Pn**	**08 01 12.8 -0.7**
PAVE				*e*S		**Sn**	**08 01 26.7 +0.2**
CHUJ	**Union Juarez**	**1.05 94**		*e*P		**Pn**	**08 01 13.2 -1.2**
CHUJ				*e*S		**Sn**	**08 01 27.3 -0.9**
SMCA	**Catarina**	**1.13 106**		*e*P		**Pn**	**08 01 13.9 -1.3**
SMCA				*e*S		**Sn**	**08 01 27.9 -1.7**
SMCA				IAML			08 01 31.3
	comp=N,541nm,0.1s						
CCIG	**Comitan**	**1.50 43**		*e*P		**Pn**	**08 01 20.1 -0.3**
CCIG				*e*S		**Sn**	**08 01 38.6 -0.2**
CCIG	**Comitan**	**1.50 43**		*e*P		**Pn**	**08 01 21.1 +0.7**
CCIG				IAML			08 01 50.7
	comp=N,204nm,0.4s						
CCIG	**Comitan**	**1.50 43**		P		**Pn**	**08 01 21.2 +0.8**
RTAL	**Retalhuleu**	**1.59 114**		*e*P		**Pn**	**08 01 19.9 -1.5**
RTAL				*e*S		**Sn**	**08 01 39.3 -1.5**
RTAL	**Retalhuleu**	**1.59 114**		S		**Sn**	**08 01 41.2 +0.4**
RTAL	**Retalhuleu**	**1.59 114**		P		**Pn**	**08 01 20.8 -0.6**
TGIG		**1.59 2**		*e*P		**Pn**	**08 01 21.3 -0.3**
TGIG				*e*S		**Sn**	**08 01 41.4 +0.3**
TGIG		**1.59 2**		*i* P		**Pn**	**08 01 21.6 0.0**
TGIG				IAML			08 01 54.3
	comp=N,143nm,0.5s						
HUEH	**Huehuetenango**	**1.64 85**		*e*P		**Pn**	**08 01 21.8 -0.5**
HUEH				*e*S		**Sn**	**08 01 45.0 +2.6**
HUEH	**Huehuetenango**	**1.64 85**		*i* P		**Pn**	**08 01 23.0 +0.6**
HUEH				*e*S		**Sn**	**08 01 44.8 +2.4**
HUEH				IAML			08 01 55.5
	comp=E,529nm,0.7s						
HUEH	**Huehuetenango**	**1.64 85**		P		**Pn**	**08 01 22.2 -0.1**
HUEH	**Huehuetenango**	**1.64 85**		S		**Sn**	**08 01 43.0 +0.6**
QUEO	**Labor Ovalle**	**1.65 100**		*e*S		**Sn**	**08 01 42.6 -0.2**
STG2	**El Palmar, Qui**	**1.91 112**		*e*P		Pn	08 01 20.2 -5.7
STG2				*e*S		Sn	08 01 39.4 -9.4
NILT	**Santiago Nilte**	**1.95 315**		*e*P		**Pn**	**08 01 26.5 +0.2**
NILT				*e*S		**Sn**	**08 01 50.0 +0.4**
UXUV	**UXUV**	**2.32 337**		*e*P		**Pn**	**08 01 31.9 +0.5**
UXUV				*e*S		**Sn**	**08 01 54.8 -4.0**
CMIG	**Matias Romero**	**2.50 320**		*e*P		**Pn**	**08 01 33.6 -0.4**
CMIG				*e*S		**Sn**	**08 02 03.7 +0.4**
FAME	**Alcaldia de Sa**	**3.35 113**		P		**Pn**	**08 01 46.2 +0.6**
NUBE	**Las Nubes**	**3.54 111**		S		**Sn**	**08 02 30.3 +1.3**
NUBE	**Las Nubes**	**3.54 111**		P		**Pn**	**08 01 49.6 +1.3**
NEUV	**Arroyo Zacate**	**3.55 316**		*e*P		**Pn**	**08 01 47.1 -1.3**
NEUV				*e*S		**Sn**	**08 02 28.5 -0.7**
PETF	**Flores**	**3.64 61**		*e*P		**Pn**	**08 01 49.5 0.0**
PETF				*e*S		**Sn**	**08 02 30.3 -0.9**
PETF	**Flores**	**3.64 61**		*e*P		**Pn**	**08 01 49.8 +0.4**
PETF				IAML			08 02 36.1
	comp=E,80nm,0.4s						
PETF	**Flores**	**3.64 61**		P		**Pn**	**08 01 49.9 +0.4**
UNIC	**Universidad Ca**	**3.72 108**		P		**Pn**	**08 01 51.1 +0.3**
ESQI	**Esquipulas**	**3.77 99**		P		**Pn**	**08 01 51.5 0.0**
MTO3	**Montecristo**	**3.79 101**		P		**Pn**	**08 01 52.1 +0.3**
JAYA	**Jayaque - finc**	**3.93 112**		S		**Sn**	**08 02 39.1 +0.5**
JAYA	**Jayaque - finc**	**3.93 112**		P		**Pn**	**08 01 53.9 +0.2**
PMON	**Piamonte**	**4.03 111**		P		**Pn**	**08 01 56.0 +1.0**
PMON	**Piamonte**	**4.03 111**		S		**Sn**	**08 02 42.3 +1.2**
UEES	**Universidad Ev**	**4.09 110**		P		**Pn**	**08 01 56.4 +0.5**
IGN	**Direccin Gen**	**4.16 110**		P		**Pn**	**08 01 56.9 +0.1**
LOMA	**Loma Larga**	**4.18 111**		P		**Pn**	**08 01 57.3 +0.1**
PANCS	**Alcalda de**	**4.19 111**		P		**Pn**	**08 01 57.2 +0.1**
SCIG	**Sabancuy**	**4.23 27**		*e*P		**Pn**	**08 01 56.7 -0.9**
SCIG				*e*S		**Sn**	**08 02 44.8 -1.0**
SCIG	**Sabancuy**	**4.23 27**		P		**Pn**	**08 01 57.5 -0.2**
SCIG	**Sabancuy**	**4.23 27**		S		**Sn**	**08 02 45.6 -0.2**
SARH	**Santa Rosa de**	**4.30 95**		P		**Pn**	**08 01 59.2 +0.5**
YOIG	**Yosondua**	**4.51 292**		*e*P		**Pn**	**08 02 03.6 +1.9**
YOIG				*e*S		**Sn**	**08 02 53.6 +0.6**
TOIG	**Toxpalan**	**4.71 309**		*e*P		**Pn**	**08 02 05.9 +1.5**
TOIG				*e*S		**Sn**	**08 02 56.5 -1.4**
TXIG	**Tlaxiaco**	**4.86 296**		*e*P		**Pn**	**08 02 05.0 -1.5**
TXIG				*e*S		**Sn**	**08 03 04.2 +2.6**
HLIG	**Huajuapan de L**	**5.15 301**		*e*S		**Sn**	**08 03 02.1 -6.7**
MYIG	**Merida**	**6.62 29**		S		**Sn**	**08 03 45.8 +1.2**

*NOU **04** 08:10:16.9, 38°.69S×177°.99E, h13km, MLv3.6/13, North Island, New Zealand*

*WEL **04** 08:10:18.7±0.5, 39°S±2°×17°8E±°, h18km±3km, M3.2/56, ML3.8/15, MLv3.2/56, Error ellipse: s-maj=3.9km s-min=3.1km az=75.4, confirmed*

ISC 04 08:10:18.9±1.0, 38°62S±0°.02×177°96E±0°.03, h28km±5km, n107, σ1°00/114, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWTS	**Gisborne Waipa**	**0.03 253**		P		**Pb**	**08 10 22.8 -0.8**
GWTS				S		**Sb**	**08 10 27.6 +0.9**
GHHS	**Gisborne Hospi**	**0.05 118**		P		**Pb**	**08 10 23.4 -0.2**
GHHS				S		**Sb**	**08 10 27.9 +1.0**
GISS	**Gisborne 2ZG**	**0.07 134**		P		**Pb**	**08 10 23.6 -0.1**
GISS				S		**Sb**	**08 10 28.2 +1.2**
GKBS	**Kaiti Beach**	**0.09 138**		P		**Pb**	**08 10 23.8 0.0**
GKBS				S		**Sb**	**08 10 28.5 +1.4**
RIGZ	**Rimuhau**	**0.18 240**		P		**Pb**	**08 10 24.1 -0.6**
RIGZ				S		**Sb**	**08 10 28.9 +0.4**
TKGZ	**Te Karaka**	**0.20 334**		P		**Pb**	**08 10 23.4 -1.4**
TKGZ				S		**Sb**	**08 10 27.4 -1.4**
CNGZ	**Carnagh Statio**	**0.24 56**		P		**Pb**	**08 10 26.0 +0.7**
PRGZ	**Paritu Road**	**0.31 191**		P		**Pb**	**08 10 27.3 +0.9**
TBAS	**Tolaga Bay Are**	**0.36 48**		P		**Pn**	**08 10 28.4 +0.1**
MWZ	**Matawai**	**0.44 310**		P		**Pb**	**08 10 27.0 -1.3**
MWZ				S		**Sb**	**08 10 33.5 -1.1**
TWGZ	**Tauwhareparae**	**0.44 2**		P		**Pb**	**08 10 28.1 -0.2**
RAGZ	**Rawiri**	**0.44 286**		P		**Pb**	**08 10 27.4 -0.9**
KNZ	**Kokohu**	**0.46 209**		P		**Pb**	**08 10 29.2 +0.7**
SNGZ	**Shannon Statio**	**0.51 251**		P		**Pb**	**08 10 29.5 +0.1**
MHGZ	**Mahia Peninsul**	**0.54 184**		P		**Pn**	**08 10 31.0 +0.3**
WFSS	**Wairoa Fire St**	**0.59 225**

IDC 04 08:15:07.6±12.0, 21°.88S×178°.19W, h599km±152km, mb2.6/5, mbtmp3.6/5, Error ellipse: s-maj=110.7km s-min=56.0km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.04	246	P	P	08 21 28.0	-0.4
	3.3nm,1.1s,baz=73,slow=11,SNR=2.0 3.3nm,1.1s						
ASAR	Alice Springs	44.04	258	P	P	08 22 23.5	-0.5
	0.4nm,0.7s,baz=99,slow=7.9,SNR=7.7 0.4nm,0.7s						
WRA	Warramunga Arr	44.25	263	P	P	08 22 26.0	+0.5
	0.4nm,0.8s,baz=96,slow=8.5,SNR=5.8 0.4nm,0.8s						
TXAR	Lajitas Array	87.95	57	P	P	08 26 55.4	+0.3
	0.2nm,0.7s,baz=240,slow=5.6,SNR=2.5 0.2nm,0.7s						
ILAR	Eielson Array	89.69	13	P	P	08 27 01.9	-0.4
	0.2nm,0.4s,baz=215,slow=5.7,SNR=5.1 0.2nm,0.4s						
AKASG	Malin Array Be	144.12	330	PKP	PKPbc	08 33 35.2	-0.3
	0.5nm,0.3s,baz=50,slow=2.9,SNR=6.1						

NEIC 04 08:24:23.3±1.2, 38°.38N±0°.02×115°.85W±0°.03, h5km±4km, Error ellipse: s-maj=3.1km s-min=2.5km az=134.0

REN 04 08:24:23.7±1.4, 38°.37N±0°.02×115°.83W±0°.03, h6km±3km, ML2.9/7, ML2.6/54(NEIC), Error ellipse: s-maj=3.1km s-min=2.9km az=119.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	Troy Canyon, C	0.19	95		Pg	08 24 27.7	+0.2
R11B				IAML		08 24 30.6	
	comp=N,2μm,0.2s						
R11B				IAML		08 24 31.0	
	comp=E,938nm,0.1s						
S11A	Rachel	0.72	175		Pg	08 24 37.5	-0.1
S11A				IAML		08 24 48.4	
	comp=N,389nm,0.3s						
S11A				IAML		08 24 48.7	
	comp=E,354nm,0.4s						
S11A	Rachel	0.72	175		Sg	08 24 47.7	+0.7
TPH	Tonopah	1.14	256		Pg	08 24 44.5	-0.9
TPH				IAML		08 25 02.5	
	comp=N,231nm,0.3s						
TPH				IAML		08 25 04.4	
	comp=E,128nm,0.4s						
TPH	Tonopah	1.14	256		Sg	08 24 59.9	-0.3
PRN	Pahroc Range	1.14	147		Pg	08 24 45.4	-0.1
PRN				IAML		08 25 07.4	
	comp=E,156nm,0.5s						
Q09A	Carvers	1.16	294		Pg	08 24 45.4	-0.5
SPR3	Spring Creek 3	1.33	61		Pn	08 24 47.9	-1.2
SPR3	Spring Creek 3	1.33	61	IAML		08 25 06.5	
	comp=N,97nm,0.6s						
SPR3				IAML		08 25 06.9	
	comp=E,109nm,0.6s						
TPNV	Topopah Spring	1.45	193		Pb	08 24 51.0	-0.3
TPNV	Topopah Spring	1.45	193	IAML		08 25 14.9	
	comp=E,125nm,0.4s						
GMN	Gold Mountain	1.56	227		Pn	08 24 51.6	-0.5
GMN	Gold Mountain	1.56	227	IAML		08 25 15.8	
	comp=N,52nm,0.5s						
NSP	Numbskull Pass	1.66	191		Pn	08 24 52.9	-0.6
SGV	South Grapevin	1.68	215		Pn	08 24 53.2	-0.6
WCT	Wildcat Mounta	1.69	202		Pn	08 24 54.4	+0.5
WCT				IAML		08 25 19.8	
	comp=E,51nm,0.4s						
MCY	Mercury	1.71	184		Pb	08 24 55.4	-0.1
SDH	Striped Hills	1.77	193		Pb	08 24 56.1	-0.4
NV11	Mina Array Sit	1.83	273		Pn	08 24 56.4	+0.6
NV11				IAML		08 25 23.1	
	comp=N,38nm,0.6s						
LCH	Last Change Ra	1.83	232		Pb	08 24 57.5	-0.2
GRAC	Grapevine Rang	1.83	222		Pn	08 24 56.5	+0.8
GRAC				IAML		08 25 23.8	
	comp=E,84nm,0.5s						
GRAC				IAML		08 25 26.7	
	comp=N,86nm,0.3s						
SHPR	Sheep Range	1.93	164		Pn	08 24 56.8	-0.4
AMDNV	Amargosa	1.94	191		Pb	08 24 59.2	-0.2
NVAR	Mina Array Bea	1.95	273		Pn	08 24 58.5	+1.0
NV08	Mina Array Sit	1.96	272		Pn	08 24 57.1	-0.5
NV09	Mina Array Sit	1.97	273		Pn	08 24 57.4	-0.4
LHV	Little Huntoon	2.11	268		Pb	08 25 02.0	-0.3
CCUT	Cedar City	2.11	112		Pn	08 24 59.7	0.0
CCUT				IAML		08 25 31.4	
	comp=N,37nm,0.5s						
RYN	Ryan	2.13	278		Pn	08 24 58.7	-1.3
SZCU	Shurtz Canyon	2.30	109	Pn	Pn	08 25 03.6	+1.3
SZCU				IAML		08 25 41.7	
	comp=E,52nm,0.3s						
SZCU				IAML		08 25 46.8	
	comp=N,51nm,0.4s						
ELK	Elko	2.42	11		Pn	08 25 04.0	0.0
ELK				IAML		08 25 42.2	
	comp=N,18nm,0.3s						
LCMT	Little Creek M	2.46	123		Pn	08 25 04.7	+0.3
LCMT				IAML		08 25 45.8	
	comp=E,19nm,0.2s						
KNB	Kanab	2.74	119		Pn	08 25 09.0	+0.7
V12A	Nelson	2.75	163		Pn	08 25 08.2	-0.2
V12A				IAML		08 25 56.7	
	comp=N,14nm,0.9s						
PAHR	Pah Rah Range	3.08	297	Pn	Pn	08 25 13.3	+0.4
PAHR				IAML		08 26 01.8	
	comp=E,10.0nm,1.3s						

IDC 04 08:35:28.8±8.8, 19°.32S×174°.07W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=385.0km s-min=40.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.39	255	P	P	08 44 13.2	+0.2
	0.6nm,0.7s,baz=93,slow=8.1,SNR=9.5 0.6nm,0.7s						
WRA	Warramunga Arr	48.44	260	P	P	08 44 12.8	-0.5
	0.3nm,0.6s,baz=96,slow=8.0,SNR=5.9 0.3nm,0.6s						
ILAR	Eielson Array	86.39	11	P	P	08 48 12.6	0.0
	0.8nm,1.0s,baz=193,slow=8.3,SNR=4.5 0.8nm,1.0s						

ASRS 04 08:37:35.0±1.2, 54°.11N×86°.44E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 04 08:37:39.3±2.7, 54°.11N×86°.43E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.1km s-min=12.9km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	261	I	I	08 44 40.0	
	baz=80,slow=321,SNR=1.4						
ZALV	Zalesovo Beam	0.96	261	Pg	Pg	08 37 56.3	-1.4
	1.0nm,0.3s,baz=80,slow=18,SNR=5.1						
ZALV				Lg	Lg	08 38 11.8	
	1.9nm,0.3s,baz=80,slow=30,SNR=6.1						
KURBB	Kurchatov Arra	5.97	237	Pn	Pn	08 39 09.4	+0.7
	0.1nm,0.3s,baz=51,slow=14,SNR=4.5 0.8nm,0.5s						
MKAR	Makanchi Array	7.79	201	Pn	Pn	08 39 35.1	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=6.8 0.3nm,0.3s						

ASRS 04 08:40:10.0±0.9, 53°.77N×87°.79E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 04 08:40:14.0±1.1, 54°.08N×87°.39E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

NOU 04 08:40:48.3, 10°.64S×164°.33E, h0km, MLv4.6/8, Santa Cruz Islands Region, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	Huro Makira	2.39	274	P	Pn	08 41 27.6	-1.2
NGOA	Tingoa Renbel	4.29	257	P	Pn	08 41 54.2	-0.6
SAVO	Savo Central	4.69	288	P	Pn	08 42 01.4	+1.0
TATA	Tatamba Isabel	4.99	296	P	Pn	08 42 04.5	-0.1
SANVU	Saraoutou	5.54	150	P	Pn	08 42 11.9	-0.1
DZM	Mont Dzumac	11.55	170	P	Pn	08 43 35.0	+0.4
OUENC	Ouen Island, N	11.96	169	P	Pn	08 43 40.9	+0.8

IDC 04 08:43:06.0±2.7, 27°.42N×53°.39E, h0km, mb3.8/8, mbtmp3.8/8, MS3.5/1, Error ellipse: s-maj=54.8km s-min=27.5km az=154.0
TEH 04 08:43:09.5, 27°.64N×53°.28E, h9km±21km
NEIC 04 08:43:09.3±1.4, 27°.65N±0°.09×53°.15E±0°.08, h10km±2km, mb4.0/10, Error ellipse: s-maj=15.8km s-min=10.7km az=214.0
DSN 04 08:43:14.5±1.4, 27°.27N×53°.16E, h10km, ML3.1/13, Error ellipse: s-maj=21.0km s-min=8.1km az=3.0
OMAN 04 08:43:16.5±0.9, 27°.21N×53°.26E, h10km, mb4.7/3, ml3.4/17, Error ellipse: s-maj=10.9km s-min=4.6km az=17.0

ISC 04 08:43:09.5±0.6, 27°.64N±0°.03×53°.23E±0°.04, h10km, n80, σ1§96/97, mb3.9/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.31	192	Pg	Pg	08 43 15.7	0.0
QIR1	Qir	0.85	349	Pg	Pg	08 43 26.0	+0.1
JHRM	Jahrom	0.91	19	Pg	Pg	08 43 27.3	+0.2
LAR1	LAR	1.01	88	Pg	Pg	08 43 28.6	-0.4
DSBU	Dashti - Bushe	1.89	293	Pn	Pb	08 43 45.4	+1.3
SHI	Shiraz	2.09	343	Pn	Pn	08 43 46.4	+1.5
GENO	Geno	2.62	95	Pn	Pn	08 43 53.4	+1.3
SHMA	Al-Shehemyia	2.70	229	P	Pn	08 43 55.1	+2.2
JRN	Qarnain Island	2.71	187	P	Pn	08 43 55.8	+2.7
SAKB	Bahrain	2.92	236	P	Pn	08 43 59.9	+3.8
UMQ	Umm Al-Quwin	3.03	134	P	Pn	08 44 00.8	+3.2
UMQ				S	Sn	08 44 34.4	+0.5
SHME	Shamm	3.04	121	P	Pn	08 44 02.1	+4.4
SHME				S	Sn	08 44 38.1	+3.8
SHME	Shamm	3.04	121	P	Pn	08 44 00.5	+2.7
BANOM	Banah	3.23	121	P	Pn	08 44 03.5	+3.2
TRNA	Turayna	3.42	213	P	Pn	08 44 05.0	+2.1
	SNR=14						
NAZ	Nazwa, Dubai	3.42	140	P	Pn	08 44 05.5	+2.4
NAZ				S	Sn	08 44 43.5	-0.2
NAZ	Nazwa, Dubai	3.42	140	P	Pn	08 44 05.0	+2.0
AJN	Ajban	3.45	152	P	Pn	08 44 06.0	+2.7
AJN				S	Sn	08 44 45.5	+1.3
MASF	Masafi	3.46	130	P	Pn	08 44 07.5	+4.0
MASF				S	Sn	08 44 45.7	+1.0
MSFE	Esma-Masafi	3.47	130	P	Pn	08 44 07.4	+3.7
ASUD	Al Ashush, Dub	3.54	147	P	Pn	08 44 07.1	+2.4
ASUD				S	Sn	08 44 45.7	-0.9
ASUD	Al Ashush, Dub	3.54	147	P	Pn	08 44 07.3	+2.7
FAQ	Al Faqa, Dubai	3.58	143	P	Pn	08 44 07.2	+2.1
FAQ				S	Sn	08 44 47.7	+0.2
FAQ	Al Faqa, Dubai	3.58	143	P	Pn	08 44 08.0	+2.9
MDH	Madha	3.60	130	P	Pn	08 44 09.5	+4.0
MDH				S	Sn	08 44 48.6	+0.5
MDH	Madha	3.60	130	P	Pn	08 44 08.1	+2.6
SMRA	Abu-Samra	3.61	217	P	Pn	08 44 08.0	+2.5
	SNR=9.0						
UOSS	Minazif	3.79	135	Pn	Pn	08 44 08.9	+1.0
UOSS	Minazif	3.79	135	P	Pn	08 44 10.4	+2.5
UOSS	Minazif	3.79	135	P	Pn	08 44 09.4	+1.4
SLWR	Sila	3.82	202	P	Pn	08 44 09.9	+1.5
HATD	Hatta, Dubai	3.83	136	P	Pn	08 44 11.6	+3.1
HATD				S	Sn	08 44 54.1	+0.5
HATD	Hatta, Dubai	3.83	136	P	Pn	08 44 10.8	+2.3
HATD				S	Sn	08 44 52.1	-1.5
KRBR	Kerman	3.87	52	Pn	Pn	08 44 11.2	+1.7
ASHO	Ashiyiah	3.89	139	P	Pn	08 44 12.0	+2.5
	SNR=15						
ASHO				S	Sn	08 44 56.2	+1.0
ASHO	Ashiyiah	3.89	139	P	Pn	08 44 10.8	+1.3
MZWR	Madinat Zayed	3.91	171	P	Pn	08 44 11.4	+1.7
IMEH	Mehriz	3.92	18	Pn	Pn	08 44 11.9	+1.9
KHGB	Koh Gabri	3.94	45	Pn	Pn	08 44 11.8	+1.6
IRAM	Ramesheh	4.22	350	Pn	Pn	08 44 15.5	+1.4
ALNE	Al Ain	4.23	147	P	Pn	08 44 16.0	+1.9
	SNR=9.0						
ALNE				S	Sn	08 45 05.1	+1.5
ALNE	Al Ain	4.23	147	P	Pn	08 44 16.0	+1.9
ZRDN	Zarand Kerman	4.39	40	Pn	Pn	08 44 18.1	+1.6
IBAF	Bafgh	4.43	27	Pn	Pn	08 44 18.8	+1.9
SOHO	SOHO	4.59	139	P	Pn	08 44 21.3	+2.4
SOHO				S	Sn	08 45 10.7	-1.6
SOHO	SOHO	4.59	139	P	Pn	08 44 21.1	+2.1
ICHK	Chekchek	4.70	12	Pn	Pn	08 44 22.7	+2.0
KBAM	BAM	4.83	71	Pn	Pn	08 44 23.9	+1.5
ARQ	Araqi	5.22	145	P	Pn	08 44 29.0	+1.3
	SNR=48						
ARQ				S	Sn	08 45 25.7	-2.3
HOQ	Hoqain	5.47	137	P	Pn	08 44 33.5	+2.4
HOQ				S	Sn	08 45 32.6	-1.5
ANAR	Anarak	5.55	4	Pn	Pn	08 44 33.4	+1.1
BSY	Bisya	6.06	143	P	Pn	08 44 40.7	+1.5
	SNR=7.6						
BSY				S	Sn	08 45 45.8	-2.9
TPRV	Parvadeh(Tabas	6.14	28	Pn	Pn	08 44 42.4	+2.0
SMDO	Samad	6.31	135	P	Pn	08 44 45.0	+2.2
	SNR=6.1						
SMDO				S	Sn	08 45 56.6	+1.7
WSAR	Wadi Sarin	6.56	131	P	Pn	08 44 48.1	+2.0
	SNR=7.5						
WSAR				S	Sn	08 45 59.7	-1.3
TKDS	Koohdasht(Taba	6.83	28	Pn	Pn	08 44 50.8	+0.9
MHTO	MHTO	7.91	146	P	Pn	08 45 05.6	+1.0
	SNR=17						
RAYN	Ar Rayn	8.10	241		Pn	08 45 05.5	-1.7
RAYN	Ar Rayn	8.10	241	P	Pn	08 45 07.0	-0.2
HRA	Herat	10.24	47	Pn	Pn	08 45 38.2	+1.4
KBL	Kabul	15.18	59	Pn	Pn	08 46 45.3	+1.0
KBL				IAmb	IAmb	08 46 49.2	
	comp=Z,3.7nm,0.5s						
CHGR	Chuyangaron	17.25	46	Pn	Pn	08 47 09.2	-1.5
GAR	Garm	18.19	47		Pn	08 47 22.4	+0.1
GAR				IAmb	IAmb	08 47 24.2	
	comp=Z,10nm,0.9s						
NIL	Nilore	18.23	66		Pn	08 47 23.2	+0.5
NIL				IAmb	IAmb	08 47 25.4	
	comp=Z,10nm,0.9s						
BRTR	Keskin Array B	20.23	312	P	P	08 47 46.2	+1.3
	comp=Z,0.5nm,0.4s,baz=135,slow=14,SNR=3.4 comp=Z,0.5nm,0.4s						
KK31	Karatay Array	20.83	38		P	08 47 51.6	+0.3
KK31				IAmb	IAmb	08 47 55.2	
	comp=Z,6.3nm,0.8s						
KKAR	Karatay Array	20.83	38		P	08 47 51.1	-0.2
ARSB	Arslanbob	21.18	45	P	P	08 47 55.3	+0.1
AB31	Akbulak array	22.19	12		P	08 48 05.1	-0.7
ABKAR	Akbulak array	22.19	12		P	08 48 05.0	-0.8
AKTO	Aktyubinsk	23.05	8	P	P	08 48 16.4	+1.5
	comp=Z,2.3nm,0.7s,baz=186,slow=9.6,SNR=8.7 comp=Z,2.3nm,0.7s						
MLR	Muntele Rosu	28.04	317	LR	LR	09 04 15.1	
	comp=Z,81nm,18.1s,baz=306,slow=45						
EVN	Everest	29.66	81	P	P	08 49 13.6	-2.6
MKAR	Makanchi Array	29.76	42	P	P	08 49 14.9	-1.3
	comp=Z,0.3nm,0.5s,baz=234,slow=12,SNR=2.8 comp=Z,0.3nm,0.5s						
KURBB	Kurchatov Arra	29.93	33	P	P	08 49 16.3	-1.3
	comp=Z,0.3nm,0.5s,baz=224,slow=7.8,SNR=4.5 comp=Z,0.3nm,0.5s						
FINES	FINESS Array B	38.37	339	P	P	08 50 29.5	-1.0
FINES	FINESS Array B	38.37	339	P	P	08 50 30.3	-0.2
	comp=Z,2.9nm,0.7s,baz=144,slow=7.4,SNR=9.0 comp=Z,2.9nm,0.7s						
HFS	Hagfors	42.10	332	P	P	08 51 00.9	-0.6
	comp=Z,1.2nm,0.5s,baz=134,slow=10,SNR=5.2 comp=Z,1.2nm,0.5s						
ARCES	ARCESS Array B	44.91	347	P	P	08 51 23.3	-0.7
	comp=Z,2.6nm,1.0s,baz=156,slow=5.4,SNR=4.0 comp=Z,2.6nm,1.0s						
TORD	Torodi Ar. Bea	50.07	264	P	P	08 52 04.2	-0.7
	comp=Z,0.8nm,0.6s,baz=53,slow=8.2,SNR=5.1 comp=Z,0.8nm,0.6s						

KRNET 04 08:49:54.2±0.1, 39°.72N×71°.33E, h20km, mb2.6

ISC 04 08:49:54.6±1.5, 39°.60N±0°.05×71°.43E±0°.05, h4km±14km, n7, σ1§00/14, 10C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.31	111	⇑iP	Pb	08 50 03.1	+0.2
DRK				⇑iS	Sb	08 50 09.2	+0.7
GAR	Garm	1.05	236	⇑iP	Pg	08 50 14.0	-0.7
GAR				⇑iS	Sg	08 50 28.0	-0.3
OHH	Osh	1.40	48	⇓eP	Pn	08 50 19.6	-1.4
OHH				⇓eS	Sn	08 50 37.8	-2.1
SFK	Sufi-Kurgan	1.65	75	⇑iP	Pn	08 50 25.3	+0.7
SFK				⇑iS	Sb	08 50 47.6	+0.5
CHGR	Chuyangaron	2.00	243	⇑eP	Pn	08 50 29.6	+0.4
CHGR				⇑iS	Sn	08 50 54.8	+0.1
SALK	Salom-Alik	2.24	54	⇑iP	Pn	08 50 33.1	+0.5
SALK				⇑iS	Sn	08 51 01.1	+0.3
KK31	Karatay Array	3.57	349	Pn	Pb	08 50 58.6	+0.2
	1.3nm,0.5s,baz=171,slow=12,SNR=11						
KK31				⇓Sn	Sg	08 51 50.6	+1.3
	1.3nm,0.6s,baz=175,slow=19,SNR=4.3						

ASRS 04 08:51:50.0±1.1, 53°.78N×91°.10E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 04 08:51:54.9±5.0, 53°.75N×90°.83E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=55.0km s-min=30.2km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	3.56	276	Pn	Pn	08 52 52.4	+1.0
	0.3nm,0.3s,baz=104,slow=15,SNR=1.6						
ZALV				Lg	Lg	08 53 47.5	
	0.7nm,0.3s,baz=90,slow=26,SNR=5.9 0.6nm,0.3s						
KURBB	Kurchatov Arra	8.18	252	Pn	Pn	08 53 54.5	-0.2
	0.1nm,0.3s,baz=67,slow=15,SNR=4.3						
KURBB				Lg	Lg	08 56 15.7	
	0.1nm,0.3s,baz=57,slow=30,SNR=5.0 0.3nm,0.4s						
MKAR	Makanchi Array	8.85	222	Pn	Pn	08 54 04.4	+0.5
	0.1nm,0.3s,baz=21,slow=12,SNR=2.0 0.1nm,0.3s						
I34MN	SONGINO INFRAS	11.51	115	I	I	10 01 20.0	
	baz=308,slow=329,SNR=1.0						

CATAC 04 08:54:15.1±0.6, 14°.N±3°.×9°.1W±°, h1km±3km, M3.2/18, MLv3.2/18, Error ellipse: s-maj=8.1km s-min=2.7km az=25.9, confirmed
GCG 04 08:54:15.2±1.1, 13°.59N×91°.37W, h44km±144km, MD3.9, ML3.0
SNET 04 08:54:18.0±2.3, 13°.56N×91°.13W, h75km±44km, ML3.0

ISC 04 08:54:17.1±2.3, 13°.6N±0°.1×91°.33W±0°.09, h35km, n48, σ1§23/50, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.88	357	eP	Pn	08 54 35.1	+1.9
ESSG	Sabana Grande	0.96	31	eP	Pn	08 54 32.6	-1.6
RTAL	Retalhuleu	1.03	340	eP	Pn	08 54 34.3	-0.7
RTAL				eS	Sn	08 54 46.6	-1.6
RTAL	Retalhuleu	1.03	340	S	Sn	08 54 47.5	-0.7
RTAL	Retalhuleu	1.03	340	P	Pn	08 54 34.0	-1.0
FAME	Alcaldia de Sa	1.31	77	P	Pn	08 54 38.5	-0.5
FAME	Alcaldia de Sa	1.31	77	S	Sn	08 54 54.1	-1.2
NUBE	Las Nubes	1.55	77	eP	Pn	08 54 40.6	-1.7
NUBE	Las Nubes	1.55	77	eP	Pn	08 54 40.6	-1.7
NUBE	Las Nubes	1.55	77	P	Pn	08 54 40.7	-1.7
NUBE	Las Nubes	1.55	77	S	Sn	08 55 00.9	-0.4
LOAL	Lomas de Alarc	1.57	74	S	Sn	08 55 01.8	+0.1
LOAL	Lomas de Alarc	1.57	74	P	Pn	08 54 39.7	-2.9
CEVE	Cerro Verde	1.68	81	eP	Pn	08 54 42.9	-1.4
CEVE	Cerro Verde	1.68	81	S	Sn	08 55 04.2	-0.5
CEVE	Cerro Verde	1.68	81	P	Pn	08 54 43.8	-0.5
SBLS	San Blas	1.69	80	eP	Pn	08 54 41.6	-2.7
RBDL	Robledal	1.69	71	eP	Pn	08 54 43.8	-0.5
SNJE	San Jose	1.71	79	eP	Pn	08 54 43.4	-1.2
HUEH	Huehuetenango	1.76	355	P	Pn	08 54 45.5	+0.2
HUEH	Huehuetenango	1.76	355	S	Sn	08 55 08.8	+2.1
UNIC	Universidad Ca	1.78	76	P	Pn	08 54 45.3	-0.2
UNIC	Universidad Ca	1.78	76	S	Sn	08 55 06.8	-0.2
JAYA	Jayaque - finc	1.83	87	eP	Pn	08 54 44.9	-1.4
JAYA	Jayaque - finc	1.83	87	eP	Pn	08 54 44.9	-1.4
JAYA				eS	Sn	08 55 06.2	-2.2
JAYA	Jayaque - finc	1.83	87	P	Pn	08 54 45.5	-0.8
JAYA	Jayaque - finc	1.83	87	S	Sn	08 55 08.3	0.0
LALI	Alcalda de L	1.96	92	P	Pn	08 54 48.6	+0.8
PMON	Piamonte	1.97	85	P	Pn	08 54 48.6	+0.5
PMON	Piamonte	1.97	85	S	Sn	08 55 12.0	+0.3
ITCA	Escuela Especi	2.00	86	P	Pn	08 54 48.9	+0.3
ITCA	Escuela Especi	2.00	86	S	Sn	08 55 13.6	+1.2
UEES	Universidad Ev	2.04	85	S	Sn	08 55 14.5	+1.1
UEES	Universidad Ev	2.04	85	P	Pn	08 54 49.5	+0.4
UTEC	Universidad Te	2.08	86	P	Pn	08 54 50.2	+0.7
UTEC	Universidad Te	2.08	86	S	Sn	08 55 15.4	+1.1
MTO3	Montecristo	2.09	66	P	Pn	08 54 50.3	+0.4
MTO3	Montecristo	2.09	66	S	Sn	08 55 15.9	+1.1
LOMA	Loma Larga	2.10	87	eP	Pn	08 54 51.0	+1.0
LOMA	Loma Larga	2.10	87	S	Sn	08 55 15.6	+0.6
LOMA	Loma Larga	2.10	87	P	Pn	08 54 49.4	-0.5
ESQI	Esquipulas	2.17	62	P	Pn	08 54 51.3	+0.3
ESQI	Esquipulas	2.17	62	S	Sn	08 55 17.6	+0.9
PAVA	Las Pavas	2.33	86	S	Sn	08 55 22.0	+1.3
PAVA	Las Pavas	2.33	86	P	Pn	08 54 53.5	+0.3
TECO	Alcaldia de Te	2.48	90	P	Pn	08 54 56.0	+0.9
TECO	Alcaldia de Te	2.48	90	S	Sn	08 55 25.9	+1.7
SARH	Santa Rosa de	2.77	64	P	Pn	08 54 59.0	-0.2

IDC 04 08:54:37.9±2.5, 9°.54S×122°.02E, h0km, mb3.8/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=274.9km s-min=31.4km az=53.0
DJA 04 08:54:44.6±0.4, 10°.S±2°.×12°.2E±°, h11km±3km, M3.5/10, MLv3.5/10

ISC 04 08:54:42.8±2.1, 9°.82S±0°.07×121°.86E±0°.04, h6km±16km, n12, σ1§73/18, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	1.08	351	P	Pg	08 55 03.9	+0.4
EDFI				S	Sg	08 55 17.7	+0.2
MMRI	Maumere	1.24	18	P	Pn	08 55 06.3	-0.4
MMRI				S	Sb	08 55 22.8	-0.1
BASI	Baing, Sumba	1.32	253	P	Pn	08 55 08.7	+0.9
BASI				S	Sb	08 55 25.9	+0.7
WSI	Waingapu	1.54	276	P	Pn	08 55 11.4	+0.5
BATI	Baumata	1.82	102	P	Pn	08 55 15.4	+0.7
BATI				S	Sn	08 55 40.9	+2.7
SOEI	Soe	2.38	89	P	Pn	08 55 23.7	+1.2
SOEI				S	Sn	08 55 53.5	+1.4
WBSI	Waikab

AKASG Malin Array Be 5.34 267 Pn Pn 09 22 49.5 -1.6
1.2nm,0.3s,baz=81,slow=13,SNR=4.6
AKASG Sn Sn 09 23 49.6 -3.5
2.4nm,0.3s,baz=75,slow=26,SNR=5.8
FINES FINESS Array B 12.01 332 Pn Pn 09 24 17.9 -4.5
0.2nm,0.3s,baz=150,slow=12,SNR=7.2
1.7nm,0.7s
ARCES ARCESS Array B 19.19 347 Pn P 09 25 49.5 -5.6
0.1nm,0.3s,baz=155,slow=11,SNR=5.1
6.8nm,1.3s

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*SNET **04** 09:23:59.9±0.7, 13°.08N×89°.49W, h39km±10km, ML3.8*
*CATAC **04** 09:23:59.0±0.4, 13°.N±2°×9°.0W±°, h28km±2km, M4.1/21, MLv4.1/21, Error ellipse: s-maj=5.4km s-min=3.2km az=26.8, confirmed*
*GCG **04** 09:24:00.9±0.8, 13°.17N×89°.56W, h42km±10km, MD4.3, ML3.8*
ISC 04 09:24:00.7±1.5,**13°.10N**±0°.07×**89°.49W**±0°.04,**h40**km±18km,
n101,σ0°.**74**/104,**21C-2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**23**	⇑*iP*	**Pn**	**09 24 10.2**	**-0.3**
LALI	**Alcalda de L**	**0.42**	**23**	*iP*	**Pn**	**09 24 10.2**	**-0.3**
LALI				IAML		09 24 18.9	
	comp=N,1μm,0.6s						
LALI	**Alcalda de L**	**0.42**	**23**	S	**Sn**	**09 24 18.3**	**+0.9**
LALI	**Alcalda de L**	**0.42**	**23**	P	**Pn**	**09 24 10.2**	**-0.3**
JAYA	**Jayaque - finc**	**0.56**	**4**	⇑*iP*	**Pn**	**09 24 11.7**	**-0.7**
JAYA				*e*S	**Sn**	**09 24 20.4**	**-0.3**
JAYA	**Jayaque - finc**	**0.56**	**4**	*iP*	**Pn**	**09 24 11.7**	**-0.7**
JAYA				*i*S	**Sn**	**09 24 19.9**	**-0.7**
PANCS	**Alcalda de**	**0.60**	**31**	P	**Pn**	**09 24 12.2**	**-0.6**
PANCS	**Alcalda de**	**0.60**	**31**	S	**Sn**	**09 24 21.9**	**+0.5**
ITCA	**Escuela Especi**	**0.61**	**20**	*e*P	**Pn**	**09 24 12.4**	**-0.7**
ITCA	**Escuela Especi**	**0.61**	**20**	S	**Sn**	**09 24 22.4**	**+0.6**
ITCA	**Escuela Especi**	**0.61**	**20**	P	**Pn**	**09 24 12.3**	**-0.7**
MAGS	**Ministerio de**	**0.62**	**19**	⇑*e*P	**Pn**	**09 24 12.5**	**-0.7**
LOMA	**Loma Larga**	**0.63**	**30**	⇑*iP*	**Pn**	**09 24 12.7**	**-0.6**
LOMA				*e*S	**Sn**	**09 24 22.9**	**+0.5**
LOMA	**Loma Larga**	**0.63**	**30**	P	**Pn**	**09 24 12.8**	**-0.6**
PMON	**Piamonte**	**0.64**	**16**	⇑*e*P	**Pn**	**09 24 12.8**	**-0.6**
PMON	**Piamonte**	**0.64**	**16**	S	**Sn**	**09 24 23.3**	**+0.8**
PMON	**Piamonte**	**0.64**	**16**	P	**Pn**	**09 24 12.8**	**-0.6**
UEES	**Universidad Ev**	**0.67**	**22**	⇑*e*P	**Pn**	**09 24 13.2**	**-0.6**
UEES	**Universidad Ev**	**0.67**	**22**	P	**Pn**	**09 24 13.2**	**-0.6**
UTEC	**Universidad Te**	**0.67**	**25**	*e*P	**Pn**	**09 24 13.2**	**-0.6**
BOQS	**Boqueron**	**0.67**	**18**	⇑*iP*	**Pn**	**09 24 13.4**	**-0.5**
LFRS	**El Faro**	**0.67**	**39**	⇓*iP*	**Pn**	**09 24 13.3**	**-0.6**
UESS	**Universidad de**	**0.68**	**25**	*e*P	**Pn**	**09 24 13.5**	**-0.5**
PIC2	**El Picacho**	**0.69**	**20**	*e*P	**Pn**	**09 24 13.7**	**-0.5**
IGN	**Direccin Gen**	**0.69**	**27**	*e*P	**Pn**	**09 24 13.6**	**-0.5**
IGN	**Direccin Gen**	**0.69**	**27**	S	**Sn**	**09 24 24.5**	**+0.8**
IGN	**Direccin Gen**	**0.69**	**27**	P	**Pn**	**09 24 13.5**	**-0.5**
UDBS	**Universidad Do**	**0.70**	**28**	*e*P	**Pn**	**09 24 13.6**	**-0.6**
UDBS	**Universidad Do**	**0.70**	**28**	S	**Sn**	**09 24 24.9**	**+1.0**
UDBS	**Universidad Do**	**0.70**	**28**	P	**Pn**	**09 24 13.6**	**-0.6**
CEDA	**San Andres**	**0.71**	**8**	⇑*iP*	**Pn**	**09 24 13.8**	**-0.5**
CEDA	**San Andres**	**0.71**	**8**	S	**Sn**	**09 24 24.8**	**+0.7**
CEDA	**San Andres**	**0.71**	**8**	P	**Pn**	**09 24 13.8**	**-0.5**
CEVE	**Cerro Verde**	**0.74**	**350**	⇑*e*P	**Pn**	**09 24 14.3**	**-0.6**
CEVE	**Cerro Verde**	**0.74**	**350**	S	**Sn**	**09 24 25.7**	**+0.6**
CEVE	**Cerro Verde**	**0.74**	**350**	P	**Pn**	**09 24 14.3**	**-0.6**
LFU	**La Fuente**	**0.75**	**30**	⇑*e*P	**Pn**	**09 24 14.5**	**-0.4**
SBLS	**San Blas**	**0.75**	**350**	⇑*e*P	**Pn**	**09 24 14.5**	**-0.6**
LBRS	**Las Brisas**	**0.78**	**34**	⇑*e*P	**Pn**	**09 24 15.0**	**-0.3**
SNJE	**San Jose**	**0.78**	**352**	⇑*e*P	**Pn**	**09 24 14.8**	**-0.6**
RTR	**El Retiro**	**0.81**	**349**	⇑*iP*	**Pn**	**09 24 15.4**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**41**	⇑*e*P	**Pn**	**09 24 15.5**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**41**	P	**Pn**	**09 24 15.5**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**41**	S	**Sn**	**09 24 27.8**	**+1.0**
TECO	**Alcaldia de Te**	**0.82**	**58**	*e*P	**Pn**	**09 24 14.6**	**-1.2**
TECO	**Alcaldia de Te**	**0.82**	**58**	S	**Sn**	**09 24 27.5**	**+0.7**
TECO	**Alcaldia de Te**	**0.82**	**58**	P	**Pn**	**09 24 14.6**	**-1.2**
NUBE	**Las Nubes**	**0.85**	**341**	⇑*iP*	**Pn**	**09 24 15.5**	**-0.9**
NUBE				*e*S	**Sn**	**09 24 27.3**	**-0.4**
NUBE	**Las Nubes**	**0.85**	**341**	*iP*	**Pn**	**09 24 15.5**	**-0.9**
NUBE				*e*S	**Sn**	**09 24 26.8**	**-0.9**
NUBE	**Las Nubes**	**0.85**	**341**	P	**Pn**	**09 24 15.5**	**-0.9**
UESV	**Universidad de**	**0.87**	**52**	*e*P	**Pn**	**09 24 15.8**	**-0.8**
UESV	**Universidad de**	**0.87**	**52**	S	**Sn**	**09 24 28.1**	**0.0**
UESV	**Universidad de**	**0.87**	**52**	P	**Pn**	**09 24 15.8**	**-0.8**
UNIC	**Universidad Ca**	**0.88**	**356**	*e*P	**Pn**	**09 24 16.3**	**-0.4**
UNIC	**Universidad Ca**	**0.88**	**356**	S	**Sn**	**09 24 28.3**	**-0.1**
UNIC	**Universidad Ca**	**0.88**	**356**	P	**Pn**	**09 24 16.3**	**-0.4**
FAME	**Alcaldia de Sa**	**0.90**	**326**	P	**Pn**	**09 24 16.0**	**-0.9**
FAME	**Alcaldia de Sa**	**0.90**	**326**	S	**Sn**	**09 24 28.4**	**-0.3**
LOAL	**Lomas de Alarc**	**0.94**	**343**	*e*P	**Pn**	**09 24 17.2**	**-0.3**
LOAL	**Lomas de Alarc**	**0.94**	**343**	P	**Pn**	**09 24 17.2**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.96**	**51**	*e*P	**Pn**	**09 24 17.3**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.96**	**51**	P	**Pn**	**09 24 17.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.96**	**51**	S	**Sn**	**09 24 30.7**	**+0.5**
RBDL	**Robledal**	**1.03**	**349**	⇑*e*P	**Pn**	**09 24 18.5**	**-0.3**
TECA	**Tecapa**	**1.04**	**68**	*e*P	**Pn**	**09 24 17.9**	**-1.1**
ESSJ	**San Jos, E**	**1.09**	**295**	*e*P	Pn	09 24 25.3	+5.9
LLGN	**La Laguna**	**1.19**	**27**	⇑*e*P	**Pn**	**09 24 20.3**	**-0.6**
LLGN	**La Laguna**	**1.19**	**27**	S	**Sn**	**09 24 37.0**	**+1.1**
LLGN	**La Laguna**	**1.19**	**27**	P	**Pn**	**09 24 20.4**	**-0.6**
PACA	**Pacayal**	**1.20**	**72**	*e*P	**Pn**	**09 24 20.8**	**-0.3**
PACA	**Pacayal**	**1.20**	**72**	P	**Pn**	**09 24 20.9**	**-0.1**
PACA	**Pacayal**	**1.20**	**72**	S	**Sn**	**09 24 36.2**	**0.0**
LCY	**Lacayo**	**1.21**	**74**	*e*P	**Pn**	**09 24 20.8**	**-0.4**
RANC	**El Ranchito**	**1.22**	**74**	*e*P	**Pn**	**09 24 20.9**	**-0.6**
BLLM	**Bellamira**	**1.27**	**74**	*e*P	**Pn**	**09 24 21.5**	**-0.5**
MTO3	**Montecristo**	**1.30**	**6**	⇑*iP*	**Pn**	**09 24 22.1**	**-0.5**
MTO3	**Montecristo**	**1.30**	**6**	*iP*	**Pn**	**09 24 22.2**	**-0.5**
MTO3	**Montecristo**	**1.30**	**6**	S	**Sn**	**09 24 39.3**	**+0.4**
MTO3	**Montecristo**	**1.30**	**6**	P	**Pn**	**09 24 22.1**	**-0.5**
CNRM	**Centro Naciona**	**1.34**	**74**	⇑*e*P	**Pn**	**09 24 22.7**	**-0.3**
CNRM	**Centro Naciona**	**1.34**	**74**	S	**Sn**	**09 24 40.3**	**+0.7**
CNRM	**Centro Naciona**	**1.34**	**74**	P	**Pn**	**09 24 22.7**	**-0.3**
ESQI	**Esquipulas**	**1.46**	**6**	⇑*iP*	**Pn**	**09 24 24.5**	**-0.2**
ESQI	**Esquipulas**	**1.46**	**6**	S	**Sn**	**09 24 43.1**	**+0.4**
ESQI	**Esquipulas**	**1.46**	**6**	P	**Pn**	**09 24 24.6**	**-0.2**
FG16	**Alotenango, Sa**	**1.53**	**320**	*iP*	Pn	09 24 29.8	+4.0
FG16				*i*S	Sn	09 24 53.3	+8.7
FG16				IAML		09 24 58.3	
	comp=N,4μm,0.2s						
FG8	**Yepocapa, Chim**	**1.56**	**318**	*e*P	Pn	09 24 30.2	+4.2
FG8				*i*S	Sn	09 24 54.1	+9.1
CNCH	**Conchagua**	**1.63**	**83**	⇓*iP*	**Pn**	**09 24 26.1**	**-0.8**
CNCH	**Conchagua**	**1.63**	**83**	S	**Sn**	**09 24 47.5**	**+0.8**
CNCH	**Conchagua**	**1.63**	**83**	P	**Pn**	**09 24 26.1**	**-0.8**
INTHN	**La Esperanza I**	**1.81**	**48**	S	**Sn**	**09 24 51.8**	**+0.2**
INTHN	**La Esperanza I**	**1.81**	**48**	P	**Pn**	**09 24 29.1**	**-0.6**
SARH	**Santa Rosa de**	**1.82**	**23**	*iP*	**Pn**	**09 24 29.6**	**+0.1**
SARH	**Santa Rosa de**	**1.82**	**23**	S	**Sn**	**09 24 52.0**	**+0.6**
SARH	**Santa Rosa de**	**1.82**	**23**	P	**Pn**	**09 24 29.7**	**+0.1**
ESSG	**Sabana Grande**	**1.82**	**315**	*e*P	**Pn**	**09 24 28.7**	**-1.0**
ESSG				*e*S	**Sn**	**09 24 50.2**	**-1.4**
ESSG				IAML		09 24 54.6	
	comp=N,712nm,0.2s						
POTN	**Potosi Cosigui**	**1.94**	**93**	P	**Pn**	**09 24 30.1**	**-1.1**
POTN				S	**Sn**	**09 24 54.9**	**+0.7**
STG2	**El Palmar, Qui**	**2.26**	**306**	*e*P	**Pn**	**09 24 39.6**	**+3.8**
SOKI	**Kika Raxquin**	**2.53**	**313**	*e*P	**Pn**	**09 24 40.0**	**+0.4**
SOKI				IAML		09 25 15.9	
	comp=N,435nm,0.7s						
QUIS	**Sacapulas**	**2.68**	**325**	IAML		09 25 26.5	
	comp=E,234nm,0.4s						
SMCA	**Catarina**	**3.06**	**305**	*e*P	**Pn**	**09 24 46.0**	**-0.6**

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*ASRS **04** 09:33:21.0±1.0, 54°.11N×87°.13E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 09:33:22.4±3.4,**54°.15N×87°.30E, h0km, mbtmp2.7**/2,
ML2.3/2,**Error ellipse: s-maj=31.2km s-min=19.6km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**263**	I	I	09 42 50.0	
	baz=81,slow=330,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.48**	**263**	Pg	Pn	09 33 48.6	-1.6
	1.7nm,0.3s,baz=84,slow=16,SNR=15						
ZALV				Lg	Lg	09 34 09.4	
	1.0nm,0.3s,baz=83,slow=25,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	09 34 58.9	+0.8
	0.1nm,0.3s,baz=52,slow=13,SNR=4.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.02**	**205**	Pn	Pn	09 35 21.4	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=1.8						
	0.1nm,0.3s						

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*SOME **04** 09:34:38.8, 40°.97N×68°.62E, h15km*
*KRNET **04** 09:34:42.4±0.1, 40°.87N×69°.66E, h15km, mb2.7*
ISC 04 09:34:36.9±3.5,**41°.0N**±0°.1×**69°.3E**±0°.2,**h5**km±19km,**n8,**
σ0°.**81**/10,**8C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.52**	**69**	⇑*iP*	**Pg**	**09 35 06.6**	**+0.6**
TRKS				⇑*i*S	**Sn**	**09 35 24.0**	**-1.1**
GAR	**Garm**	**2.16**	**157**	⇑*iP*	**Pg**	**09 35 18.1**	**-0.2**
GAR				⇑*i*S	**Sb**	**09 35 44.3**	**+0.6**
ARK	**Arkit**	**2.19**	**68**	⇑*eP*	**Pg**	**09 35 18.8**	**0.0**
ARK				⇑*e*S	**Sb**	**09 35 45.3**	**+0.8**
KK31	**Karatay Array**	**2.30**	**24**	⇑Pg	Pg	09 35 25.3	+4.4
	0.2nm,0.1s,baz=195,slow=37,SNR=15						
KK31				⇑Lg	Lg	09 35 58.0	
	1.7nm,0.3s,baz=68,slow=56,SNR=8.5						
CHGR	**Chuyangaron**	**2.34**	**182**	⇓*iP*	**Pg**	**09 35 22.4**	**+0.6**
CHGR				⇓*i*S	**Sg**	**09 35 51.6**	**-0.6**
DRK	**Karamyk**	**2.47**	**127**	⇓*eP*	**Pb**	**09 35 21.5**	**-0.5**
DRK				⇓*e*S	**Sn**	**09 35 49.5**	**+0.6**
MRKS	**Merke**	**3.44**	**58**	*eP*	Pg	09 35 49.7	+6.9
	2.6nm,0.3s						
MRKS				*e*S	Sg	09 36 41.0	+14
	6.2nm,0.3s						
AAK	**Ala-Archa**	**4.25**	**66**	⇓Lg	Lg	09 36 46.1	
	0.8nm,0.5s						

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*ASRS **04** 09:35:22.0±1.1, 54°.68N×83°.63E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 09:35:24.8±1.7,**54°.67N×83°.82E, h0km, mbtmp3.3**/3,
ML2.5/3,**Error ellipse: s-maj=15.3km s-min=10.1km az=10.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**140**	I	I	09 40 52.2	
	0.1nm,0.8s,baz=318,slow=322,SNR=8.9						
ZALV	**Zalesovo Beam**	**0.93**	**140**	Pg	Pg	09 35 41.6	-1.0
	2.5nm,0.3s,baz=326,slow=15,SNR=12						
ZALV				Lg	Lg	09 35 55.9	
	7.7nm,0.3s,baz=321,slow=29,SNR=20						
KURBB	**Kurchatov Arra**	**5.17**	**221**	Pn	Pn	09 36 44.6	+1.1
	0.1nm,0.3s,baz=40,slow=14,SNR=2.7						
KURBB				Pg	Pb	09 36 57.9	+1.8
	0.2nm,0.3s,baz=38,slow=17,SNR=6.4						
KURBB				Lg	Lg	09 38 08.7	
	0.2nm,0.3s,baz=43,slow=33,SNR=6.5						
	2.3nm,0.2s						
MKAR	**Makanchi Array**	**7.94**	**188**	Pn	Pn	09 37 22.8	+1.3
	0.1nm,0.3s,baz=11,slow=12,SNR=3.2						
MKAR				Lg	Lg	09 39 34.6	
	0.1nm,0.3s,baz=8.9,slow=31,SNR=3.5						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**8.11**	**264**	Pn	Pn	09 37 21.9	-1.9
	0.1nm,0.3s,baz=69,slow=12,SNR=4.1						
	0.9nm,0.4s						

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*SDD **04** 10:13:46.8±0.7, 19°.60N×68°.60W, h83km±93km, MD3.1, ML2.3, MW2.8*
*OSPL **04** 10:13:46.6±1.4, 18°.05N×69°.01W, h176km±22km, ML2.7*
ISC 04 10:13:49.2±2.5,**18°.3N**±0°.2×**69°.05W**±0°.06,**h107**km±25km,
n9,σ0°.**92**/16,**3C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.47**	**42**	⇑*e*Pg	**Pn**	**10 14 04.7**	**-0.8**
HIDR				⇑*e*Sg	**Sn**	**10 14 19.0**	**+1.2**
HIDR				IAML		10 14 23.4	
	comp=N,32nm,0.2s						
HATOM	**Hato Mayor del**	**0.63**	**329**	⇑*e*Pg	**Pn**	**10 14 06.4**	**-0.4**
HATOM				⇓*e*Sg	**Sn**	**10 14 20.5**	**+0.5**
HATOM				IAML		10 14 23.1	
	comp=N,7.0nm,0.3s						
DR08	**Loma La Naviza**	**1.17**	**308**	⇓*e*Pg	**Pn**	**10 14 11.4**	**-0.7**
DR08				⇑*e*Sg	**Sn**	**10 14 29.0**	**-0.4**
DR08				IAML		10 14 32.6	
	comp=N,403nm,0.1s						
CRPR	**Cabo Rojo, PR**	**1.86**	**97**	*iP*	**Pn**	**10 14 20.1**	**-0.2**
CRPR				IAML		10 14 45.3	
	comp=Z,18nm,2.8s						
PODR	**Polo**	**2.13**	**268**	*iP*	**Pn**	**10 14 24.2**	**+0.3**
PODR				*e*S	**Sn**	**10 14 52.3**	**+1.9**
LOVI	**El Cajuil, Ovi**	**2.25**	**259**	*iP*	**Pn**	**10 14 24.1**	**-1.3**
LOVI				*e*S	**Sn**	**10 14 52.3**	**-0.7**
LOVI				IAML		10 14 53.0	
	comp=Z,35nm,1.0s						
LODU1	**El Espartillar**	**2.31**	**273**	*iP*	**Pn**	**10 14 26.4**	**+0.3**
LODU1				IAML		10 15 02.2	
	comp=Z,24nm,3.0s						
LONE3	**El Aguacate, B**	**2.32**	**279**	*iP*	**Pn**	**10 14 26.1**	**-0.2**
LONE3				*e*S	**Sn**	**10 14 55.6**	**+0.9**
LONE3				IAML		10 14 56.5	
	comp=Z,5.3nm,2.5s						
LOBH	**Bahia de las A**	**2.50**	**262**	*iP*	**Pn**	**10 14 28.4**	**-0.1**
LOBH				*e*S	**Sn**	**10 14 58.5**	**-0.2**
LOBH				IAML		10 15 04.8	
	comp=Z,32nm,1.7s						

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*SNET **04** 10:35:26.0±1.1, 13°.22N×90°.48W, h2km±16km, ML3.3*
*GCG **04** 10:35:27.8±1.1, 13°.26N×90°.43W, h11km±41km, MD4.0, ML3.4*
ISC 04 10:35:27.3±3.0,**13°.1N**±0°.1×**90°.3W**±0°.1,**h10**km,**n17,**
σ0°.**28**/19,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.94**	**31**	*e*P	**Pb**	**10 35 45.7**	**-0.1**
NUBE				*e*S	**Sn**	**10 36 00.3**	**0.0**
NUBE	**Las Nubes**	**0.94**	**31**	*e*P	**Pg**	**10 35 45.3**	**-0.2**
CEVE	**Cerro Verde**	**0.97**	**41**	*e*P	**Pb**	**10 35 46.4**	**0.0**
SBLS	**San Blas**	**0.98**	**40**	*e*P	**Pg**	**10 35 46.3**	**+0.1**
JAYA	**Jayaque - finc**	**0.98**	**55**	*e*P	**Pb**	**10 35 46.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.98**	**55**	*iP*	**Pb**	**10 35 46.5**	**-0.1**
JAYA				*e*S	**Sb**	**10 35 59.9**	**+0.3**
RTR	**El Retiro**	**1.01**	**37**	*e*P	**Pb**	**10 35 47.1**	**+0.1**
SNJE	**San Jose**	**1.01**	**40**	*e*P	**Pg**	**10 35 46.9**	**0.0**
PMON	**Piamonte**	**1.12**	**56**	*e*P	**Pn**	**10 35 49.5**	**+0.3**
BOQS	**Boqueron**	**1.16**	**56**	*e*P	**Pb**	**10 35 49.2**	**-0.4**
RBDL	**Robledal**	**1.17**	**29**	*e*P	**Pb**	**10 35 48.9**	**-0.8**
FG16	**Alotenango, Sa**	**1.20**	**349**	*e*P	**Pb**	**10 35 50.3**	**0.0**
LFRS	**El Faro**	**1.29**	**66**	*e*P	**Pn**	**10 35 51.4**	**-0.2**
TECO	**Alcaldia de Te**	**1.52**	**73**	*e*P	**Pn**	**10 35 54.8**	**+0.2**
MTO3	**Montecristo**	**1.57**	**34**	*e*P	**Pn**	**10 35 55.6**	**+0.1**
MTO3	**Montecristo**	**1.57**	**34**	*e*P	**Pn**	**10 35 55.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.62**	**68**	*e*P	**Pb**	**10 35 57.1**	**-0.3**

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*NEIC **04** 10:38:37.4±0.4, 17°.7S±0°.1×177°.8W±0°.2, h593km±11km, mb4.0/25, Error ellipse: s-maj=21.1km s-min=20.4km az=137.0*
*IDC **04** 10:38:39.1±6.1, 17°.73S×178°.33W, h577km±68km, mb3.1/7, mbtmp4.1/7, Error ellipse: s-maj=49.8km s-min=25.9km az=140.0*
ISC 04 10:38:40.0±0.7,**18°.0S**±0°.1×**178°.2W**±0°.1,**h600**km,**n38,**
σ0°.**61**/38,**mb4.0**/19,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.56**	**273**	P	**P**	**10 40 02.2**	**-0.5**
AFI	**Afiamalu**	**7.39**	**58**	P	P	10 40 26.4	-7.4
NIUE	**Niue**	**7.95**	**99**	P	P	10 40 32.0	-6.8
BKZ	**Black Stump Fm**	**21.63**	**191**	P	**P**	**10 42 48.3**	**+0.1**
EIDS	**Eidsvold**	**29.42**	**250**	P	**P**	**10 43 57.5**	**+0.6**
EIDS				IAmb	IAmb	10 44 13.5	
	comp=Z,4.5nm,1.1s						
ARMA	**Armidale**	**30.07**	**240**	P	**P**	**10 44 03.3**	**+0.8**
ARMA				IAmb	IAmb	10 44 26.2	
	comp=Z,3.3nm,0.8s						
CTAO	**Charters Tower**	**33.62**	**261**	P	**P**	**10 44 33.1**	**+0.6**
CAN	**Canberra**	**33.82**	**233**	P	**P**	**10 44 34.9**	**+0.8**
PMG	**Port Moresby**	**34.65**	**280**	P	**P**	**10 44 40.6**	**-0.6**
TOO	**Toolangi**	**37.28**	**231**	P	**P**	**10 45 03.2**	**+0.7**
TOO				IAmb	IAmb	10 45 11.4	
	comp=Z,3.3nm,1.1s						
COEN	**Coen**	**37.29**	**270**		**P**	**10 45 04.6**	**+1.7**
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**10 45 15.4**	**+0.8**
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**10 45 15.3**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=83,slow=9.3,SNR=5.9						
	comp=Z,3.3nm,0.6s						
BBOO	**Buckleboo**	**43.54**	**241**	P	**P**	**10 45 52.0**	**-0.3**
WR0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**10 46 01.1**	**+0.4**
WR0				IAmb	IAmb	10 46 04.3	
	comp=Z,5.7nm,1.2s						
WR8	**Warramunga Arr**	**44.65**	**260**	P	**P**	**10 46 01.2**	**+0.2**
WB0	**Warramunga Arr**	**44.77**	**260**	P	**P**	**10 46 01.8**	**-0.1**
WB0				IAmb	IAmb	10 46 02.6	
	comp=Z,3.4nm,0.8s						
WB2	**Warramunga Arr**	**44.79**	**260**	P	**P**	**10 46 01.9**	**-0.2**
WB2				IAmb	IAmb	10 46 16.2	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**10 46 02.2**	**0.0**
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**10 46 02.1**	**0.0**
	comp=Z,1.8nm,0.5s,baz=94,slow=7.2,SNR=113						
WRA				PcP	**PcP**	**10 47 31.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=91,slow=3.8,SNR=5.9						
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**44.95**	**254**	P	**P**	**10 46 03.7**	**+0.4**
AS31				IAmb	IAmb	10 46 04.5	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**10 46 03.0**	**-0.2**
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**10 46 03.5**	**+0.2**
	comp=Z,7.3nm,0.6s,baz=87,slow=8.8,SNR=132						
ASAR				PcP	**PcP**	**10 47 31.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=103,slow=3.9,SNR=10.0						
	comp=Z,7.3nm,0.6s						
MTN	**Manton Dam**	**48.98**	**268**	P	**P**	**10 46 33.6**	**+0.1**
MTN				IAmb	IAmb	10 46 34.5	
	comp=Z,6.9nm,0.9s						
FORT	**Forrest**	**50.15**	**245**	P	**P**	**10 46 41.3**	**-0.6**
FORT				IAmb	IAmb	10 46 59.0	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**50.66**	**264**	P	**P**	**10 46 44.7**	**-1.1**
KNRA				IAmb	IAmb	10 47 05.4	
	comp=Z,8.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.20**	**261**	P	**P**	**10 47 03.8**	**-0.1**
PSA00	**Pilbara Seismi**	**58.07**	**255**	P	**P**	**10 47 37.8**	**+0.2**
PSA00				IAmb	IAmb	10 47 57.9	
	comp=Z,9.7nm,1.1s						
MBWA	**Marble Bar**	**58.24**	**256**	P	**P**	**10 47 38.6**	**0.0**
MBWA				IAmb	IAmb	10 47 55.1	
	comp=Z,7.8nm,1.1s						
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**10 47 52.0**	**-0.1**
MJAR	**Matsushiro Arr**	**68.05**	**323**	P	**P**	**10 48 40.4**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=170,slow=5.0,SNR=4.6						
	comp=Z,1.0nm,0.4s						
QSPA	**South Pole Qui**	**72.10**	**180**	P	**P**	**10 49 04.4**	**-0.2**
BELA	**Belgrano 2**	**82.09**	**173**	P	**P**	**10 49 57.5**	**-0.9**
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**	**10 50 19.1**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=208,slow=5.7,SNR=6.4						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**85.89**	**13**	P	**P**	**10 50 16.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.1,SNR=12						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**87.26**	**43**	P	**P**	**10 50 24.6**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=241,slow=2.5,SNR=2.0						
	comp=Z,0.2nm,0.7s						
BRTR	**Keskin Array B**	**144.94**	**315**	PKP	**PKPab**	**10 57 11.6**	**-0.5**

XAN sP sP 11 03 20.1 -0.1
XAN pmax pmax
comp=Z,10.0nm,1.4s
H11N2 WAKE ISLAND Hy 27.45 120 T T 11 32 46.1
baz=312,slow=75,SNR=30
H11N1 WAKE ISLAND Hy 27.45 120 T T 11 32 41.8
baz=312,slow=75,SNR=27
H11N3 WAKE ISLAND Hy 27.46 120 T T 11 32 47.7
baz=312,slow=75,SNR=26
SHEM Shemya Is, Ala 28.01 44 LR LR 11 14 32.4
comp=Z,47nm,18.9s,baz=256,slow=36
H11S1 WAKE ISLAND Hy 28.14 122 T T 11 33 33.8
baz=314,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 28.14 122 T T 11 33 35.0
baz=314,slow=75,SNR=29
H11S2 WAKE ISLAND Hy 28.16 122 T T 11 33 32.7
baz=314,slow=75,SNR=31
SONM Songino Array 28.52 305 P **P** **11 03 25.9 +0.4**
SONM Songino Array 28.52 305 P **P** **11 03 25.2 -0.2**
comp=Z,2.3nm,0.7s,baz=98,slow=9.5,SNR=7.8
comp=Z,2.3nm,0.7s
LZDM Lanzhou Array 30.69 281 P **P** **11 03 44.8 -0.3**
comp=Z,1.0nm,0.3s,baz=323,slow=2.2,SNR=1.9
LZDM sP **sP** **11 03 54.6 +0.7**
comp=Z,1.9nm,0.4s,baz=132,slow=2.2,SNR=2.4
comp=Z,1.0nm,0.3s
GTA Gaotai 33.13 288 *e*P **P** **11 04 05.7 -0.5**
GTA sP sP 11 04 17.1 +2.0
GTA pmax pmax
comp=Z,3.0nm,1.1s
PZH PanZhiHua 35.37 266 P **P** **11 04 26.7 +1.0**
CMAR Chiang Mai Arr 41.63 257 P **P** **11 05 18.1 -0.2**
comp=Z,0.8nm,0.5s,baz=54,slow=6.7,SNR=6.9
CMAR LR LR 11 23 40.2
comp=Z,32nm,20.0s,baz=355,slow=38
comp=Z,0.8nm,0.5s
ZAA0 Zalesovo Array 42.71 313 P **P** **11 05 26.0 -0.7**
ZAA0 IAmb IAmb 11 05 37.9
comp=Z,3.9nm,0.7s
ZALV Zalesovo Beam 42.71 313 P **P** **11 05 25.9 -0.8**
ZALV Zalesovo Beam 42.71 313 P **P** **11 05 26.4 -0.2**
comp=Z,1.9nm,0.6s,baz=94,slow=7.7,SNR=6.4
ZALV sP **pwP** **11 05 37.1 +1.6**
comp=Z,4.7nm,0.7s,baz=86,slow=6.1,SNR=7.8
comp=Z,1.9nm,0.6s
MKAR Makanchi Array 44.84 303 P **P** **11 05 44.0 +0.1**
comp=Z,1.9nm,0.8s,baz=86,slow=8.8,SNR=12
MKAR pP **sP** **11 05 51.8 -1.1**
comp=Z,2.9nm,0.7s,baz=87,slow=9.9,SNR=11
MKAR sP **pwP** **11 05 55.2 +2.4**
comp=Z,2.8nm,0.7s,baz=88,slow=8.7,SNR=11
comp=Z,1.9nm,0.8s
KURK Kurchatov 46.70 309 P **P** **11 05 58.1 -0.4**
KURBB Kurchatov Arra 46.77 309 P **P** **11 05 58.4 -0.7**
comp=Z,2.3nm,0.5s,baz=85,slow=7.9,SNR=22
KURBB pP **sP** **11 06 07.1 -0.9**
comp=Z,3.2nm,0.5s,baz=85,slow=8.2,SNR=8.2
KURBB sP **pwP** **11 06 09.8 +1.9**
comp=Z,3.2nm,0.5s,baz=84,slow=8.0,SNR=8.1
comp=Z,2.3nm,0.5s
IL31 49.99 32 P **P** **11 06 23.5 -0.2**
IL31 IAmb IAmb 11 06 34.2
comp=Z,4.0nm,1.2s
ILAR Eielson Array 49.99 32 P **P** **11 06 23.5 -0.2**
ILAR Eielson Array 49.99 32 P **P** **11 06 23.9 +0.1**
comp=Z,0.8nm,0.8s,baz=260,slow=4.9,SNR=12
ILAR pP **sP** **11 06 30.8 -1.8**
comp=Z,0.7nm,0.8s,baz=260,slow=6.5,SNR=4.2
ILAR sP **pwP** **11 06 34.4 +1.3**
comp=Z,0.6nm,0.7s,baz=258,slow=6.3,SNR=4.2
comp=Z,0.8nm,0.8s
AAK Ala-Archa 51.17 299 LR LR 11 29 36.1
comp=Z,100nm,18.3s,baz=84,slow=38
BVAR Borovoye Array 51.37 313 P **P** **11 06 34.0 -0.3**
comp=Z,0.6nm,0.4s,baz=78,slow=9.2,SNR=4.2
BVAR sP **pwP** **11 06 44.7 +1.1**
comp=Z,1.3nm,0.6s,baz=90,slow=10,SNR=4.2
comp=Z,0.6nm,0.4s
KK31 Karatay Array 53.83 301 P **P** **11 06 52.7 +0.1**
KK31 IAmb IAmb 11 07 06.6
comp=Z,3.3nm,1.1s
KKAR Karatay Array 53.83 301 P **P** **11 06 52.8 +0.2**
FITZ Fitzroy Crossi 56.16 199 P **P** **11 07 09.4 -0.1**
WR8 Warramunga Arr 56.31 188 P **P** **11 07 09.7 -0.9**
WRA Warramunga Arr 56.31 188 P **P** **11 07 09.5 -1.1**
comp=Z,1.0nm,0.6s,baz=6.0,slow=7.4,SNR=24
WRA pP **pP** **11 07 16.4 -0.9**
comp=Z,1.7nm,0.5s,baz=5.8,slow=7.5,SNR=10.0
comp=Z,1.0nm,0.6s
AB31 Akbulak array 58.72 311 P **P** **11 07 26.9 -0.4**
AB31 IAmb IAmb 11 07 39.6
comp=Z,1.7nm,0.7s
ABKAR Akbulak array 58.72 311 P **P** **11 07 26.9 -0.4**
ASAR Alice Springs 60.04 188 P **P** **11 07 36.1 -0.6**
comp=Z,0.3nm,0.5s,baz=18,slow=12,SNR=7.4
ASAR pP **pP** **11 07 43.7 +0.4**
comp=Z,0.8nm,0.6s,baz=15,slow=13,SNR=5.3
comp=Z,0.3nm,0.5s
NOA NORSAR Array B 75.06 338 P **P** **11 09 11.0 -0.3**
comp=Z,0.7nm,0.7s,baz=40,slow=5.8,SNR=2.4
NOA sP **pwP** **11 09 21.6 +1.0**
comp=Z,0.8nm,0.7s,baz=39,slow=5.7,SNR=3.0
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 75.14 323 P **P** **11 09 11.3 -0.5**
comp=Z,0.7nm,0.4s,baz=47,slow=6.2,SNR=5.3
AKASG sP **pwP** **11 09 21.9 +0.6**
comp=Z,1.1nm,0.4s,baz=48,slow=5.7,SNR=3.3
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 77.99 46 P **P** **11 09 28.7 +0.3**
comp=Z,0.2nm,0.4s,baz=296,slow=5.4,SNR=2.1
PDAR sP **PcP** **11 09 38.8 +0.7**
comp=Z,0.3nm,0.6s,baz=323,slow=0.7,SNR=3.2
comp=Z,0.2nm,0.4s
BRTR Keskin Array B 79.64 312 sP sP 11 09 48.6 +1.9
comp=Z,0.8nm,0.8s,baz=77,slow=6.5,SNR=3.9
TXAR Lajitas Array 90.34 53 P **P** **11 10 31.8 +0.5**
comp=Z,0.2nm,0.7s,baz=343,slow=2.5,SNR=2.6
TXAR pP **sP** **11 10 38.9 -1.7**
comp=Z,0.7nm,0.9s,baz=324,slow=3.8,SNR=5.1
TXAR sP **pwP** **11 10 42.3 +1.1**
comp=Z,0.7nm,0.9s,baz=273,slow=3.1,SNR=5.0
comp=Z,0.2nm,0.7s

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*IDC **04** 10:59:59.5±5.1, 1°.26S×99°.94E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=168.8km s-min=96.2km az=62.0*
*DJA **04** 11:00:13.7±0.4, 1°.S±2°.×10°.0E±°, h64km±7km, M3.7/9, MLv3.7/9*
ISC 04 11:00:13.0±0.9, **0°.80S**±0°.05×**99°.84E**±0°.05, **h86**km±8km, **n19**, σ0**62**/19, **mb3.9**/4, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.64**	**100**	P	**Pn**	**11 00 28.6**	**0.0**
PDSI				S	**Sn**	**11 00 40.1**	**-0.2**
PPI	**Padang Panjang**	**0.66**	**59**	P	**Pn**	**11 00 28.9**	**+0.1**
PPI				S	**Sn**	**11 00 40.2**	**-0.3**
SISI	**Saibi**	**0.91**	**235**	P	**Pn**	**11 00 31.8**	**+0.3**
SISI				S	**Sn**	**11 00 45.4**	**+0.1**
MNSI	**Mandailing Nat**	**1.60**	**351**	P	**Pn**	**11 00 40.1**	**+0.1**
MNSI				S	**Sn**	**11 01 00.4**	**0.0**
BKNI	**Bangkinang**	**1.64**	**47**	P	**Pn**	**11 00 40.7**	**+0.2**
PBSI	**Pulau Batu**	**1.72**	**295**	P	**Pn**	**11 00 41.9**	**+0.4**
PBSI				S	**Sn**	**11 01 01.9**	**-1.2**
PPSI	**Pulau Pagai**	**1.96**	**175**	P	**Pn**	**11 00 44.3**	**-0.3**
PPSI				S	**Sn**	**11 01 09.1**	**+0.4**
GSI	**Gunungsitoli**	**3.08**	**313**	P	**Pn**	**11 00 59.5**	**-0.1**
H08S2	**Diego Garcia H**	**28.09**	**255**	T	T	11 33 58.1	
baz=77,slow=76,SNR=9.8							
H08S3	**Diego Garcia H**	**28.09**	**255**	T	T	11 34 07.0	
baz=77,slow=76,SNR=16							
H08S1	**Diego Carcia H**	**28.11**	**255**	T	T	11 34 02.0	
baz=77,slow=76,SNR=6.2							
SONM	**Songino Array**	**48.77**	**6**	P	**P**	**11 08 49.8**	**+0.4**
0.8nm,0.7s,baz=198,slow=8.8,SNR=2.1							
0.8nm,0.7s							
MKAR	**Makanchi Array**	**49.84**	**344**	P	**P**	**11 08 57.8**	**+0.4**
1.1nm,0.5s,baz=150,slow=8.0,SNR=8.1							
1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**54.36**	**343**	P	**P**	**11 09 31.7**	**+0.9**
0.7nm,0.8s,baz=161,slow=7.2,SNR=4.0							
0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**55.97**	**349**	P	**P**	**11 09 42.2**	**-0.1**
1.4nm,0.5s,baz=157,slow=7.2,SNR=4.7							
1.4nm,0.5s							
H04N2	**CROZET ISLANDS**	**61.66**	**216**	T	T	12 16 05.0	
baz=57,slow=75,SNR=20							
H04N1	**CROZET ISLANDS**	**61.67**	**216**	T	T	12 16 07.4	
baz=57,slow=75,SNR=19							
H04N3	**CROZET ISLANDS**	**61.68**	**216**	T	T	12 16 04.0	
baz=57,slow=75,SNR=16							
TXAR	**Lajitas Array**	**143.84**	**36**	PKP	**PKPdf**	**11 19 37.7**	**-1.5**
0.2nm,0.5s,baz=342,slow=2.9,SNR=5.5							

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*NNC **04** 11:14:56.1±1.0, 51°.71N×75°.45E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=46.6km s-min=6.4km az=27.0, Suspected Mining explosion.*
*IDC **04** 11:14:58.8±1.1, 51°.78N×75°.62E, h0km, mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=23.7km s-min=9.2km az=31.0*
ISC 04 11:14:55.4±1.0, **51°.7N**±0°.1×**75°.19E**±0°.08, **h0**km, **n10**, σ0**83**/10, **8C, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.35**	**115**	Pn	**Pn**	**11 15 35.6**	**+0.4**
0.3nm,0.3s,baz=302,slow=18,SNR=20							
KURBB				Pg	**Pb**	**11 15 38.4**	**-0.2**
0.3nm,0.3s,baz=303,slow=18,SNR=16							
KURBB				Lg	Lg	11 16 05.6	
0.5nm,0.3s,baz=308,slow=30,SNR=8.3							
1.2nm,0.4s							
KURBB	**Kurchatov Arra**	**2.35**	**115**	⇑Pg	**Pb**	**11 15 37.3**	**-1.3**
3.5nm,0.4s							
KURBB				⇑Lg	Lg	11 16 08.8	
42nm,0.7s							
KURK	**Kurchatov**	**2.36**	**113**	⇑Pg	**Pn**	**11 15 36.4**	**+1.0**
0.8nm,0.5s							
KURK				⇑Lg	Lg	11 16 04.4	
5.2nm,0.5s							
BVA0	**Borovoye Array**	**3.24**	**297**	Pg	**Pg**	**11 15 57.4**	**0.0**
2.1nm,0.6s,baz=100,slow=15,SNR=7.5							
BVA0				⇑Lg	Lg	11 16 43.3	
6.5nm,0.6s,baz=110,slow=26,SNR=6.0							
BVAR	**Borovoye Array**	**3.24**	**297**	Pn	**Pb**	**11 15 53.1**	**-0.5**
0.1nm,0.3s,baz=105,slow=17,SNR=8.3							
BVAR				Lg	Lg	11 16 42.6	
0.2nm,0.3s,baz=106,slow=26,SNR=7.6							
0.7nm,0.4s							
BRVK	**Borovoye**	**3.31**	**297**	⇑Lg	Lg	11 16 45.5	
7.4nm,0.8s							
I46RU	**ZALESOVO INFRA**	**6.27**	**65**	I	I	11 47 30.0	
baz=252,slow=316,SNR=3.2							
ZALV	**Zalesovo Beam**	**6.27**	**65**	Pn	**Pn**	**11 16 29.5**	**+0.5**
0.4nm,0.3s,baz=257,slow=14,SNR=5.8							
ZALV				Lg	Lg	11 18 09.7	
0.1nm,0.3s,baz=252,slow=23,SNR=1.5							
0.9nm,0.4s							
MK31	**Makanchi Array**	**6.74**	**134**	⇑Sn	**Sn**	**11 17 52.3**	**-0.7**
0.6nm,0.5s,baz=333,slow=20,SNR=4.7							
MK31				⇑Lg	Lg	11 18 25.8	
2.1nm,0.6s,baz=322,slow=29,SNR=5.9							
MKAR	**Makanchi Array**	**6.74**	**134**	Pn	**Pn**	**11 16 36.4**	**+0.8**
0.1nm,0.3s,baz=316,slow=14,SNR=2.2							
MKAR				Sn	**Sn**	**11 17 53.4**	**+0.3**
0.2nm,0.3s,baz=328,slow=19,SNR=5.7							
MKAR				Lg	Lg	11 18 26.2	
0.5nm,0.3s,baz=326,slow=28,SNR=8.2							
0.4nm,0.6s							

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*IDC **04** 11:50:54.2±0.8, 2°.66S×138°.27E, h0km, mb3.7/7, mbtmp3.8/10, ML3.7/3, MS3.3/3, Error ellipse: s-maj=24.0km s-min=19.9km az=96.0*
*DJA **04** 11:50:57.8±0.7, 3°.S±4°.×13°.8E±°, h14km±5km, M4.1/7, mb4.5/1, MLv3.9/7*
ISC 04 11:50:54.2±3.1, **2°.64S**±0°.08×**138°.35E**±0°.04, **h1**km±21km, **n19**, σ1**51**/21, **mb3.8**/7, **MS3.4**/3, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.74**	**29**	P	**Pb**	**11 51 09.6**	**-0.4**
GENI	**Genyem**	**1.82**	**88**	P	**Pb**	**11 51 28.4**	**0.0**
GENI				S	**Sb**	**11 51 49.8**	**-1.9**
SRPI	**Serui, Papua**	**2.24**	**290**	P	**Pb**	**11 51 34.4**	**-1.2**
SRPI				S	**Sb**	**11 52 03.9**	**0.0**
JAY	**Jayapura**	**2.36**	**87**	Pn	**Pn**	**11 51 35.5**	**+1.2**
11nm,0.3s,baz=232,slow=11,SNR=56							
JAY				Sn	**Sb**	**11 52 05.9**	**-1.4**
12nm,0.3s,baz=102,slow=18,SNR=8.6							
29nm,0.3s							
JAY	**Jayapura**	**2.36**	**87**	P	**Pn**	**11 51 35.4**	**+1.2**
JAY				S	**Sn**	**11 52 02.8**	**-1.1**
BAKI	**Biak**	**2.66**	**303**	P	**Pb**	**11 51 41.9**	**-0.9**
BAKI				S	**Sb**	**11 52 13.3**	**-2.7**
SWI	**Sorong**	**7.30**	**284**	P	**Pn**	**11 52 45.1**	**+2.9**
WRA	**Warramunga Arr**	**17.63**	**193**	P	**Pn**	**11 54 59.7**	**-1.8**
0.5nm,0.3s,baz=4.5,slow=12,SNR=26							
2.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.78**	**218**	P	**P**	**11 55 25.1**	**-1.0**
0.1nm,0.3s,baz=66,slow=17,SNR=1.7							
1.7nm,0.7s							
ASAR	**Alice Springs**	**21.34**	**191**	P	**P**	**11 55 42.5**	**-0.5**
2.6nm,0.7s,baz=22,slow=11,SNR=41							
2.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.09**	**300**	LR	LR	12 17 33.2	
comp=Z,21nm,20.1s,baz=110,slow=36							
LZDM	**Lanzhou Array**	**50.21**	**323**	LR	LR	12 23 50.1	
comp=Z,37nm,18.3s,baz=50,slow=39							
SONM	**Songino Array**	**57.51**	**335**	LR	LR	12 24 51.2	
comp=Z,32nm,20.6s,baz=44,slow=35							
MKAR	**Makanchi Array**	**69.52**	**323**	P	**P**	**12 02 05.2**	**+0.4**
0.9nm,0.8s,baz=119,slow=9.9,SNR=4.7							
0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**73.47**	**325**	P	**P**	**12 02 28.9**	**+0.4**
0.3nm,0.8s,baz=101,slow=4.8,SNR=2.6							
0.3nm,0.8s							
VNDA	**Vanda**	**75.88**	**175**	P	**P**	**12 02 41.8**	**-0.2**
0.5nm,0.5s,baz=331,slow=5.8,SNR=11							
0.5nm,0.5s							
BVAR	**Borovoye Array**	**79.05**	**325**	P	**P**	**12 03 01.2**	**+1.0**
0.5nm,0.5s,baz=104,slow=6.1,SNR=1.6							
0.5nm,0.5s							
ILAR	**Eielson Array**	**85.92**	**24**	P	**P**	**12 03 34.2**	**-1.6**
0.3nm,0.7s,baz=270,slow=4.5,SNR=7.7							
0.3nm,0.7s							
QSPA	**South Pole Qui**	**87.30**	**180**	P	**P**	**12 03 44.3**	**+1.5**
0.7nm,0.6s,baz=304,slow=1.5,SNR=8.1							
0.7nm,0.6s							

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*IDC **04** 11:53:57.0±0.7, 2°.58S×138°.37E, h0km, mb4.1/11, mbtmp4.1/14, ML4.1/3, MS3.3/6, Error ellipse: s-maj=21.7km s-min=15.6km az=73.0*
*NEIC **04** 11:53:59.6±1.4, 2°.73S±0°.08×138°.42E±0°.07, h10km±1km, mb4.2/13, Error ellipse: s-maj=15.3km s-min=8.0km az=139.0*
*DJA **04** 11:54:01.8±0.6, 2°.S±4°.×13°.8E±°, h23km±5km, M4.5/9, mb4.9/3, MLv4.3/9*
ISC 04 11:53:58.1±0.5, **2°.72S**±0°.05×**138°.50E**±0°.04, **h10**km, **n50**, σ1**52**/54, **mb4.1**/15, **1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.76**	**16**	P	**Pg**	**11 54 11.6**	**-1.2**
GENI	**Genyem**	**1.68**	**86**	P	**Pg**	**11 54 31.0**	**+0.7**
GENI				S	**Sg**	**11 54 52.5**	**+0.4**
JAY	**Jayapura**	**2.22**	**85**	Pn	**Pb**	**11 54 37.4**	**-1.0**
23nm,0.3s,baz=232,slow=11,SNR=23							
JAY				Sn	**Sg**	**11 55 09.2**	**-0.3**
12nm,0.3s,baz=124,slow=20,SNR=4.5							
JAY				LR	LR	11 55 24.1	
comp=Z,393nm,19.5s,baz=315,slow=37							
102nm,0.5s							
JAY	**Jayapura**	**2.22**	**85**	P	**Pb**	**11 54 37.8**	**-0.5**
JAY				S	**Sb**	**11 55 05.2**	**-0.7**
SRPI	**Serui, Papua**	**2.41**	**291**	P	**Pn**	**11 54 37.2**	**-0.4**
SRPI				S	**Sn**	**11 55 06.8**	**-0.4**
BAKI	**Biak**	**2.83**	**302**	P	**Pn**	**11 54 43.2**	**-0.2**
RKPI	**Ransiki, Papua**	**4.48**	**285**	P	**Pn**	**11 55 05.9**	**-0.2**
RKPI				S	**Sn**	**11 55 56.9**	**-1.5**
MMPI	**Merauke**	**6.01**	**162**	P	Pb	11 55 36.1	-6.9
369nm,1.0s							
MMPI				S	**Sb**	**11 56 50.0**	**-5.0**
369nm,1.0s							
FAKI	**Fak Fak**	**6.24**	**268**	Pn	**Pn**	**11 55 31.5**	**+1.1**
FAKI	**Fak Fak**	**6.24**	**268**	P	**Pn**	**11 55 31.7**	**+1.3**
0.2nm27nm,0.7s							
SWI	**Sorong**	**7.46**	**284**	P	**Pn**	**11 55 48.7**	**+1.5**
SWI				S	**Sn**	**11 57 11.0**	**-0.9**
COEN	**Coen**	**12.08**	**158**	Pn	**Pn**	**11 56 51.7**	**+1.2**
MTN	**Manton Dam**	**12.42**	**216**		**Pn**	**11 56 55.5**	**+0.4**
SOEI	**Soe**	**15.77**	**243**		**Pn**	**11 57 41.5**	**+0.9**
KNRA	**Kununurra**	**16.05**	**216**		**Pn**	**11 57 45.3**	**+1.2**
KNRA				IAmb	IAmb	11 57 59.6	
comp=Z,17nm,0.8s							
BATI	**Baumata**	**16.50**	**243**	Pn	**P**	**11 57 55.4**	**+2.8**
comp=Z,7.8nm,0.3s,baz=344,slow=1.6,SNR=4.3							
GUMO	**Guam**	**17.39**	**21**	LR	LR	12 04 37.8	
comp=Z,53nm,18.5s,baz=198,slow=37							
WB0	**Warramunga Arr**	**17.41**	**193**	P	**Pn**	**11 58 02.1**	**+0.8**
WB0				IAmb	IAmb	11 58 29.4	
comp=Z,16nm,1.1s							
WR8	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**11 58 03.9**	**+0.6**
WRAB	**Tennant Creek**	**17.58**	**193**	P	**Pn**	**11 58 04.0**	**+0.6**
WRAB				IAmb	IAmb	11 58 12.5	
comp=Z,10nm,0.6s							
WRA	**Warramunga Arr**	**17.59**	**193**	P	**Pn**	**11 58 03.1**	**-0.5**
WRA	**Warramunga Arr**	**17.59**	**193**	P	**Pn**	**11 58 03.4**	**-0.2**
comp=Z,1.0nm,0.3s,baz=11,slow=12,SNR=17							
WRA				S	**Sn**	**12 01 14.0**	**-5.7**
comp=Z,1.5nm,0.7s,baz=9.0,slow=22,SNR=3.2							
WRA				LR	LR	12 05 31.5	
comp=Z,205nm,18.6s,baz=33,slow=39							
comp=Z,3.6nm,0.6s							
KAPI	**Kappang**	**18.84**	**262**	LR	LR	12 05 16.7	
comp=Z,42nm,21.8s,baz=94,slow=36							
CTAO	**Charters Tower**	**18.85**	**157**	P	**Pn**	**11 58 19.3**	**+0.3**
CTAO				IAmb	IAmb	11 58 30.0	
comp=Z,10.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.81**	**219**	P	**P**	**11 58 29.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.81**	**219**	P	**P**	**11 58 29.8**	**+0.8**
comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=2.8							
FITZ				S	S	12 02 01.9	-10
comp=Z,6.5nm,0.8s,baz=168,slow=10,SNR=4.1							
comp=Z,3.2nm,0.6s							
AS31	**Alice Springs**	**21.29**	**192**		**P**	**11 58 46.3**	**+1.2**
AS31				IAmb	IAmb	11 58 55.2	
comp=Z,6.9nm,0.6s							
ASAR	**Alice Springs**	**21.29**	**192**		**P**	**11 58 45.6**	**+0.6**
ASAR	**Alice Springs**	**21.29**	**192**	P	**P**	**11 58 45.8**	**+0.7**
comp=Z,6.0nm,0.7s,baz=19,slow=11,SNR=25							
ASAR				S	**S**	**12 02 40.8**	**-1.0**
comp=Z,3.0nm,1.0s,baz=16,slow=26,SNR=4.7							
comp=Z,6.0nm,0.7s							
HNR	**Honiara**	**22.34**	**108**	LR	LR	12 08 09.0	
comp=Z,67nm,19.0s,baz=256,slow=38							
MBWA	**Marble Bar**	**25.88**	**223**	P	**P**	**11 59 30.1**	**-0.3**
MBWA				IAmb	IAmb	11 59 35.4	
comp=Z,6.7nm,0.8s							
NWAO	**Narrogin (SRO)**	**36.06**	**211**	LR	LR	12 17 03.5	
comp=Z,275nm,20.6s,baz=258,slow=38							
KSRS	**Korea Array**	**41.16**	**347**	P	**P**	**12 01 43.0**	**+0.2**
comp=Z,1.0nm,0.7s,baz=152,slow=8.1,SNR=4.0							
comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.26**	**300**	P	**P**	**12 02 07.8**	**-0.4**
comp=Z,0.9nm,0.3s,baz=118,slow=6.4,SNR=7.2							
comp=Z,0.9nm,0.3s							
XAN	**Xi'an**	**45.96**	**325**	⇓P	**P**	**12 02 21.2**	**-0.4**
XAN				pmax	pmax		
comp=Z,10.0nm,1.2s							
GTA	**Gaotai**	**54.95**	**324**	*e*P	**P**	**12 03 30.2**	**+0.5**
GTA				pP	sP	12 03 34.8	+0.6
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
SONM	**Songino Array**	**57.64**	**335**	P	**P**	**12 03 48.1**	**-0.6**
comp=Z,1.0nm,0.7s,baz=147,slow=8.2,SNR=5.2							
comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**69.67**	**322**	P	**P**	**12 05 08.2**	**+0.1**
MKAR	**Makanchi Array**	**69.67**	**322**	P	**P**	**12 05 07.4**	**-0.6**
comp=Z,4.4nm,0.9s,baz=115,slow=8.1,SNR=21							
comp=Z,4.4nm,0.9s							
MAKZ	**Makanchi**	**69.86**	**322**	P	**P**	**12 05 09.4**	**+0.1**
ZALV	**Zalesovo Beam**	**71.84**	**330**	P	**P**	**12 05 20.1**	**-0.9**
comp=Z,1.1nm,0.6s,baz=101,slow=7.7,SNR=4.6							
comp=Z,1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**73.61**	**325**	P	**P**	**12 05 30.8**	**-0.9**
comp=Z,1.3nm,0.8s,baz=115,slow=5.7,SNR=8.4							
comp=Z,1.3nm,0.8s							
VNDA	**Vanda**	**75.79**	**175**	P	**P**	**12 05 44.8**	**+1.0**
VNDA				IAmb	IAmb	12 05 50.6	
comp=Z,1.5nm,0.9s							
VNDA	**Vanda**	**75.79**	**175**	P	**P**	**12 05 45.1**	**+1.3**
comp=Z,1.2nm,0.5s,baz=327,slow=7.3,SNR=24							
comp=Z,1.2nm,0.5s							
KKAR	**Karatay Array**	**75.99**	**316**	P	**P**	**12 05 44.8**	**-0.8**
BVAR	**Borovoye Array**	**79.20**	**325**	P	**P**	**12 06 02.9**	**-0.4**
comp=Z,1.2nm,0.5s,baz=104,slow=6.3,SNR=4.6							
comp=Z,1.2nm,0.5s							
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**12 06 36.5**	**-1.7**
comp=Z,1.0nm,0.6s,baz=260,slow=4.5,SNR=23							
comp=Z,1.0nm,0.6s							
QSPA	**South Pole Qui**	**87.22**	**180**	P	**P**	**12 06 48.0**	**+3.3**
QSPA	**South Pole Qui**	**87.22**	**180**	P	**P**	**12 06 47.8**	**+3.1**
comp=Z,2.1nm,0.8s,baz=287,slow=0.3,SNR=14							
comp=Z,2.1nm,0.8s							
LPAZ	**La Paz**	**147.61**	**127**	PKPbc	**PKPbc**	**12 13 44.8**	**+0.2**
comp=Z,1.6nm,0.8s,baz=260,slow=0.8,SNR=5.0							

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*SJA **04** 12:14:53.5±0.7, 24°.12S×66°.86W, h211km±7km, ML4.5, MW4.1*
*IDC **04** 12:14:53.3±1.7, 24°.10S×66°.77W, h178km±16km, mb3.5/6, mbtmp4.0/12, Error ellipse: s-maj=20.0km s-min=12.6km az=80.0*
*GUC **04** 12:14:55.1±0.7, 24°.16S×66°.91W, h201km±5km, ML4.2*
*NEIC **04** 12:14:56.1±1.6, 24°.14S±0°.06×67°.1W±0°.1, h209km±5km, mb4.3/4, Mwr4.3(GUC), Error ellipse: s-maj=18.1km s-min=7.8km az=80.0*
ISC 04 12:14:54.8±0.6, **24°.14S**±0°.04×**66°.93W**±0°.04, **h197**km±6km, **n79**, σ1**35**/100, **mb4.2**/9, **6C-4D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.54**	**99**	⇓*i*P	**Pn**	**12 15 22.8**	**+0.4**
SALTA				*e*S	**Sn**	**12 15 44.3**	**+0.7**
SALTA		**0.54**	**99**	*e*P	**Pn**	**12 15 22.8**	**+0.4**
SLA	**San Lorenzo**	**1.42**	**114**	⇓*i*P	**Pn**	**12 15 28.1**	**+0.3**
SLA	**San Lorenzo**	**1.42**	**114**	*e*P	**Pn**	**12 15 28.1**	**+0.3**
SLA				*e*P		12 15 28.2	
SLA				*e*S	**Sn**	**12 15 54.3**	**+1.0**
AF01	**San Pedro de A**	**1.65**	**316**		**Pn

PB03			*e*S	**Sn**	**12 16 28.2**	**-2.3**
PB03			IAML		12 16 33.6	
	comp=Z,1μm,0.2s					
AC02	**Maricunga**	**3.34 216**		**Pn**	**12 15 49.7**	**+0.8**
AC02	**Maricunga**	**3.34 216**	‖ *i*P	**Pn**	**12 15 49.7**	**+0.8**
AC02	**Maricunga**	**3.34 216**	*e*P	**Pn**	**12 15 49.9**	**+1.1**
AC02			*e*S	**Sn**	**12 16 31.4**	**+0.3**
PB10	**IPOC Station P**	**3.38 280**		**Pn**	**12 15 49.3**	**+0.4**
PB10	**IPOC Station P**	**3.38 280**	*e*P	**Pn**	**12 15 49.4**	**+0.4**
PB10	**IPOC Station P**	**3.38 280**	*e*P	**Pn**	**12 15 49.4**	**+0.4**
PB10			*e*S	**Sn**	**12 16 30.5**	**-0.8**
PB10			IAML		12 16 32.0	
	comp=Z,928nm,0.6s					
AC01	**Pan de Azucar**	**3.88 238**		**Pn**	**12 15 54.5**	**-0.5**
AC01	**Pan de Azucar**	**3.88 238**	*e*P	**Pn**	**12 15 54.4**	**-0.7**
AC01	**Pan de Azucar**	**3.88 238**	*e*P	**Pn**	**12 15 54.4**	**-0.7**
AC01			*e*S	Sn	12 16 29.8	-13
AC01			IAML		12 16 40.7	
	comp=Z,294nm,0.3s					
PB01	**IPOC Station P**	**3.89 322**		**Pn**	**12 15 54.5**	**-0.8**
PB01	**IPOC Station P**	**3.89 322**	*e*P	**Pn**	**12 15 54.7**	**-0.6**
PB02	**IPOC Station P**	**3.93 315**		**Pn**	**12 15 55.1**	**-0.7**
PB02	**IPOC Station P**	**3.93 315**	*e*P	**Pn**	**12 15 55.1**	**-0.7**
PATCX	**Punta Patache**	**4.46 317**		**Pn**	**12 16 01.1**	**-1.2**
PB08	**IPOC Station P**	**4.49 332**		**Pn**	**12 16 03.2**	**+0.1**
PB08	**IPOC Station P**	**4.49 332**	*e*P	**Pn**	**12 16 03.2**	**+0.1**
GO03	**Copiapo**	**4.55 220**		**Pn**	**12 16 02.7**	**-0.7**
GO03	**Copiapo**	**4.55 220**	*e*P	**Pn**	**12 16 02.8**	**-0.7**
GO03			*e*S	**Sn**	**12 16 55.3**	**-2.2**
GO03			IAML		12 16 56.8	
	comp=Z,159nm,0.2s					
TA01	**Diego Aracena**	**4.66 319**		**Pn**	**12 16 04.2**	**-0.7**
TA01	**Diego Aracena**	**4.66 319**	*e*P	**Pn**	**12 16 04.0**	**-1.0**
TA01	**Diego Aracena**	**4.66 319**	*e*P	**Pn**	**12 16 03.6**	**-1.3**
TA01			*e*S	**Sn**	**12 16 58.1**	**-2.0**
TA01			IAML		12 17 02.3	
	comp=Z,182nm,0.3s					
GO01	**Chusmiza**	**4.93 334**	Pn	**Pn**	**12 16 08.3**	**-0.5**
GO01	**Chusmiza**	**4.93 334**	*e*P	**Pn**	**12 16 08.2**	**-0.5**
GO01			*e*S	**Sn**	**12 17 05.9**	**-1.0**
GO01			IAML		12 17 06.8	
	comp=Z,155nm,0.2s					
PB11	**IPOC Station P**	**5.04 329**	*e*P	**Pn**	**12 16 09.2**	**-0.8**
AC04	**Llanos de Chal**	**5.50 222**		**Pn**	**12 16 14.3**	**-1.3**
CFA	**Coronel Fontan**	**7.52 189**	P	**Pn**	**12 16 39.6**	**-2.2**
	comp=Z,3.2nm,0.3s,baz=339,slow=8.1,SNR=31					
CFA			S	**Sn**	**12 17 59.8**	**-7.2**
	comp=Z,17nm,0.3s,baz=137,slow=19,SNR=24					
LPAZ	**La Paz**	**7.90 352**		**Pn**	**12 16 47.0**	**-0.4**
LPAZ	**La Paz**	**7.90 352**	P	**Pn**	**12 16 46.8**	**-0.6**
	comp=Z,9.9nm,0.5s,baz=162,slow=9.9,SNR=30					
LPAZ			S	**Sn**	**12 18 13.6**	**-3.3**
	comp=Z,4.5nm,0.6s,baz=305,slow=17,SNR=2.4					
CO02	**Combarbal**	**7.91 206**	Pn	**Pn**	**12 16 45.5**	**-1.4**
CPUP	**Villa Florida**	**8.96 106**	P	**Pn**	**12 16 59.0**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=137,slow=14,SNR=3.7					
SIV	**San Ignacio**	**9.80 35**	P	**Pn**	**12 17 08.8**	**-2.8**
	comp=Z,4.8nm,0.9s,baz=210,slow=14,SNR=16					
TRQA	**Tornquist**	**14.50 164**		**Pn**	**12 18 08.6**	**-2.3**
PLCA	**Paso Flores**	**16.82 190**	P	**Pn**	**12 18 38.4**	**-0.7**
	comp=Z,4.3nm,1.0s,baz=24,slow=14,SNR=2.8					
BDFB	**Brasília**	**19.68 68**	P	**P**	**12 19 07.6**	**-1.6**
	comp=Z,3.9nm,0.5s,baz=240,slow=12,SNR=6.2					
BELA	**Belgrano 2**	**55.89 172**	P	**P**	**12 24 12.1**	**+0.5**
VNA1	**Neumayer--Stat**	**57.19 160**	⇑P	**P**	**12 24 20.8**	**0.0**
	comp=Z,4.7nm,1.0s					
SNAA	**Sanae**	**59.19 161**	⇑P	**P**	**12 24 35.4**	**+0.6**
	comp=Z,70nm,0.7s					
SNAA	**Sanae**	**59.19 161**		**P**	**12 24 35.2**	**+0.4**
SNAA			IAmb	IAmb	12 24 36.2	
	comp=Z,4.1nm,0.8s					
SNAA	**Sanae**	**59.19 161**	P	**P**	**12 24 35.1**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=258,slow=7.6,SNR=10					
	comp=Z,2.5nm,0.6s					
TROLL	**Troll, Antarti**	**60.91 161**	⇑P	**P**	**12 24 47.2**	**+0.7**
	comp=Z,182nm,0.6s					
WVT	**Waverly**	**63.12 341**	P	**P**	**12 25 00.7**	**-0.7**
WVT			IAmb	IAmb	12 25 01.2	
	comp=Z,4.5nm,0.7s					
TXAR	**Lajitas Array**	**63.83 324**	P	**P**	**12 25 07.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=146,slow=8.1,SNR=7.7					
	comp=Z,0.5nm,0.7s					
QSPA	**South Pole Qui**	**66.06 180**	P	**P**	**12 25 21.3**	**+1.0**
QSPA	**South Pole Qui**	**66.06 180**	P	**P**	**12 25 23.7**	**+3.4**
	comp=Z,4.5nm,0.5s,baz=159,slow=1.9,SNR=56					
VNDA	**Vanda**	**74.57 190**	P	**P**	**12 26 13.8**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=66,slow=4.1,SNR=2.4					
	comp=Z,0.5nm,0.8s					
TORD	**Torodi Ar. Bea**	**76.56 69**	P	**P**	**12 26 22.3**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=260,slow=5.0,SNR=6.3					
PDAR	**Pinedale Array**	**77.31 329**	P	**P**	**12 26 27.2**	**-0.5**
PDAR	**Pinedale Array**	**77.31 329**	P	**P**	**12 26 28.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=136,slow=8.3,SNR=4.5					
	comp=Z,0.3nm,0.5s					
BOSA	**Boshof**	**80.61 117**	P	**P**	**12 26 46.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=266,slow=4.1,SNR=5.1					
	comp=Z,0.8nm,0.4s					
MAW	**Mawson**	**81.28 163**	P	**P**	**12 26 49.5**	**+1.0**
	comp=Z,3.5nm,0.6s,baz=222,slow=7.1,SNR=22					
	comp=Z,3.5nm,0.6s					
ASAR	**Alice Springs**	**128.35 205**	PKP	**PKPdf**	**12 33 38.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=138,slow=1.5,SNR=5.5					
WRA	**Warramunga Arr**	**131.53 207**	PKP	**PKiKP**	**12 33 45.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=158,slow=1.7,SNR=11					
MKAR	**Makanchi Array**	**146.59 40**	PKPbc	**PKPbc**	**12 34 13.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=288,slow=4.0,SNR=8.7					

BJI ***04*** *12:27:55.6, 62˚.42N×151˚.61W, h70km, mB5.2/20, mb5.4/74, Ms4.8/5, Ms7 4.6/3*
MOS ***04*** *12:28:00.5±0.8, 62˚.60N×151˚.78W, h95km, mb5.2/60, Error ellipse: s-maj=9.4km s-min=4.6km az=97.9*
NEIC ***04*** *12:28:02, 62˚.48N×151˚.45W, h90km*
NEIC ***04*** *12:28:02, 62˚.48N×151˚.45W, h90km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr3.77; Mθθ-2.21; Mφφ-1.55; Mrθ0.75; Mθφ1.05; Mφr2.67; Fault plane solution: M0 4.42000×10^16^ NP1: φs114.75000°, δ37.18000°, λ53.70000°. NP2: φs337.43000°, δ60.85000°, λ114.18000°. Principal axes: T 5.0412, Plg65.0000°, Azm291.0000°; N -1.8278, Plg21.0000°, Azm145.0000°; P -3.2134, Plg13.0000°, Azm50.0000°;*
NEIC ***04*** *12:28:02, 62˚.48N×151˚.45W, h72km*
NEIC ***04*** *12:28:02.2±1.3, 62˚.49N±0˚.03×151˚.59W±0˚.07, h96km±1km, Error ellipse: s-maj=4.4km s-min=4.3km az=118.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr4.14; Mθθ-2.11; Mφφ-2.03; Mrθ0.82; Mθφ1.01; Mφr2.60; Fault plane solution: M0 4.62000×10^16^ NP1: φs125.83000°, δ35.27000°, λ58.19000°. NP2: φs343.05000°, δ60.61000°, λ110.45000°. Principal axes: T 5.2589, Plg68.0000°, Azm293.0000°; N -1.8825, Plg18.0000°, Azm153.0000°; P -3.3764, Plg13.0000°, Azm58.0000°;*
ANF ***04*** *12:28:02.3±0.1, 62˚.47N×151˚.48W, h92km±1km, ML5.3/123 Error ellipse: s-maj=1.0km s-min=0.9km az=167.0*
AEIC ***04*** *12:28:02.2±1.3, 62˚.50N±0˚.03×151˚.57W±0˚.06, h93km±3km, mb5.2/481(NEIC), ML5.3/256(NEIC), Mwr5.0/124(NEIC), Mww5.0/107(NEIC), Error ellipse: s-maj=4.5km s-min=4.1km az=170.0*
IDC ***04*** *12:28:03.0±0.4, 62˚.64N×151˚.75W, h104km±3km, mb4.6/30, mbtmp5.0/34, MS3.6/46, Error ellipse: s-maj=10.4km s-min=8.1km az=24.0*
GCMT ***04*** *12:28:04.2±0.1, 62˚.54N±0˚.01×151˚.65W±0˚.02, h119km±1km, MW5.0/146, Moment Tensor Solution. s88, c118; s146, c209; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.77±.09; Mθθ-2.43±.15; Mφφ-1.35±.16; Mrθ0.98±.09; Mθφ1.10±.12; Mφr3.18±.08; Best double couple: M0 4.43200×10^16^ NP1: φs111.00000°, δ37.00000°, λ49.00000°. NP2: φs339.00000°, δ63.00000°, λ117.00000°. Principal axes: T 5.5260, Plg62.0000°, Azm291.0000°; N -2.1970, Plg24.0000°, Azm146.0000°; P -3.3390, Plg14.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 12:28:01.9±0.3, 62˚.50N±0˚.03×151˚.59W±0˚.03, h97km±2km, h96km: pP-P, n1324, σ1.9 17/1306, mb5.1/355, 46C-13D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.48**	**325**		**Pn**	**12 28 18.0**	**+0.5**
PPLA					**Sn**	**12 28 29.9**	**+0.9**
PPLA				IAML		12 28 31.4	
	comp=N,149μm,0.7s						
PPLA				IAML		12 28 31.4	
	comp=E,114μm,0.8s						
PPLA	**Purkeypile**	**0.48**	**325**	P	**Pn**	**12 28 18.0**	**+0.5**
	baz=143,SNR=1000						
PPLA				S	**Sn**	**12 28 30.0**	**+1.0**
	baz=143						
SKT	**Skwentna**	**0.52**	**177**		**Pn**	**12 28 17.3**	**-0.3**
SKT					**Sn**	**12 28 29.3**	**+0.1**
SKT	**Skwentna**	**0.52**	**177**	P	**Pn**	**12 28 17.7**	**+0.2**
	baz=1.0,SNR=1000						
SKT				S	**Sn**	**12 28 29.3**	**+0.1**
	baz=1.0						
CUT	**Chulitna**	**0.62**	**98**		**Pn**	**12 28 18.2**	**0.0**
CUT					**Sn**	**12 28 31.0**	**+0.5**
CUT	**Chulitna**	**0.62**	**98**	P	**Pn**	**12 28 18.3**	**0.0**
	baz=278,SNR=1000						
CUT				S	**Sn**	**12 28 31.3**	**+0.7**
	baz=278						
M20K	**Styx River**	**0.95**	**230**		**Pn**	**12 28 21.6**	**0.0**
M20K					**Sn**	**12 28 36.1**	**-0.4**
M20K				IAML		12 28 37.2	
	comp=N,69μm,0.6s						
M20K				IAML		12 28 37.6	
	comp=E,68μm,0.5s						
M20K	**Styx River**	**0.95**	**230**	P	**Pn**	**12 28 21.6**	**0.0**
	baz=51						
M20K				S	**Sn**	**12 28 36.3**	**-0.2**
	baz=51						
STLK	**Strandline Lak**	**1.01**	**187**		**Pn**	**12 28 22.1**	**-0.2**
STLK					**Sn**	**12 28 37.3**	**-0.2**
STLK				IAML		12 28 38.4	
	comp=N,73μm,0.5s						
M22K	**Willow**	**1.02**	**137**		**Pn**	**12 28 22.0**	**-0.1**
M22K	**Willow**	**1.02**	**137**	P	**Pn**	**12 28 22.1**	**-0.1**
	baz=319,SNR=1000						
M22K				S	**Sn**	**12 28 36.4**	**-1.1**
	baz=319						
L20K	**Farewell, AK**	**1.06**	**270**		**Pn**	**12 28 23.1**	**+0.3**
L20K	**Farewell, AK**	**1.06**	**270**	P	**Pn**	**12 28 22.9**	**+0.1**
	baz=89,SNR=1000						
L20K				S	**Sn**	**12 28 38.4**	**-0.2**
	baz=89						
KTH	**Kantishna Hill**	**1.10**	**16**		**Pn**	**12 28 23.6**	**+0.3**
KTH					**Sn**	**12 28 39.2**	**-0.2**
KTH				IAML		12 28 40.5	
	comp=E,36μm,0.5s						
KTH				IAML		12 28 43.4	
	comp=N,40μm,0.5s						
SUA	**Susitna One**	**1.11**	**159**		**Pn**	**12 28 23.5**	**0.0**
SUA					**Sn**	**12 28 39.6**	**0.0**
SUA				IAML		12 28 41.0	
	comp=E,28μm,0.7s						
SUA				IAML		12 28 44.2	
	comp=N,23μm,0.8s						
SUA	**Susitna One**	**1.11**	**159**	P	**Pn**	**12 28 23.6**	**+0.2**
	baz=341,SNR=1000						
SUA				S	**Sn**	**12 28 39.7**	**0.0**
	baz=341						
TRF	**Thorofare Moun**	**1.12**	**31**	Pn	**Pn**	**12 28 24.2**	**+0.5**
TRF					**Sn**	**12 28 41.0**	**+1.0**
TRF				IAML		12 28 43.5	
	comp=E,56μm,0.3s						
TRF	**Thorofare Moun**	**1.12**	**31**	P	**Pn**	**12 28 24.1**	**+0.4**
	baz=210,SNR=1000						
TRF				S	**Sn**	**12 28 40.6**	**+0.6**
	baz=210						
SPCG	**Spurr Capps Gl**	**1.23**	**190**		**Pn**	**12 28 24.6**	**-0.2**
SPCG					**Sn**	**12 28 42.1**	**0.0**
SPNN	**North Nagishla**	**1.25**	**205**		**Pn**	**12 28 25.2**	**+0.1**
SPBG	**Spurr Blockage**	**1.30**	**197**		**Pn**	**12 28 26.0**	**+0.4**
WAT7	**Susitna Watana**	**1.31**	**74**		**Pn**	**12 28 25.9**	**+0.1**
WAT7					**Sn**	**12 28 43.6**	**-0.2**
SPCN	**Chakachatna No**	**1.31**	**193**		**Pn**	**12 28 26.0**	**+0.3**
SPWE	**Spurr West**	**1.31**	**201**		**Pn**	**12 28 26.0**	**+0.2**
N20K	**Mount Spurr**	**1.34**	**193**	P	**Pn**	**12 28 26.0**	**-0.1**
	baz=14						
N20K				S	**Sn**	**12 28 44.0**	**-0.3**
	baz=14						
SPCR	**Spurr Chakacha**	**1.34**	**193**		**Pn**	**12 28 26.0**	**0.0**
SPCR	**Spurr Chakacha**	**1.34**	**193**		**Pn**	**12 28 26.0**	**0.0**
SPCR	**Spurr Chakacha**	**1.34**	**193**	P	**Pn**	**12 28 26.0**	**0.0**
	baz=14,SNR=952						
SPCR				S	**Sn**	**12 28 44.1**	**-0.2**
	baz=14						
SPU	**Mount Spurr**	**1.34**	**190**		**Pn**	**12 28 25.8**	**-0.3**
CKL	**Chakachamna La**	**1.35**	**196**		**Pn**	**12 28 26.5**	**+0.2**
K20K	**Telida**	**1.43**	**308**	P	**Pn**	**12 28 27.5**	**+0.5**
	baz=126,SNR=1000						
K20K				S	**Sn**	**12 28 45.7**	**-0.3**
	baz=126						
CHUM	**Lake Minchumin**	**1.43**	**347**		**Pn**	**12 28 27.5**	**+0.5**
CHUM	**Lake Minchumin**	**1.43**	**347**	P	**Pn**	**12 28 27.5**	**+0.5**
	baz=165,SNR=1000						
CHUM				S	**Sn**	**12 28 46.1**	**0.0**
	baz=165						
WAT1	**Susitna Watana**	**1.44**	**75**		**Pn**	**12 28 27.5**	**+0.2**
WAT1	**Susitna Watana**	**1.44**	**75**	P	**Pn**	**12 28 27.4**	**+0.2**
	baz=257						
WAT1				S	**Sn**	**12 28 46.0**	**-0.4**
	baz=257						
M19K	**Big River Lodg**	**1.44**	**247**		**Pn**	**12 28 27.1**	**-0.2**
M19K	**Big River Lodg**	**1.44**	**247**	P	**Pn**	**12 28 27.4**	**+0.1**
	baz=66						
M19K				S	**Sn**	**12 28 46.4**	**0.0**
	baz=66						
GHO	**Glory Hole Cre**	**1.45**	**119**		**Pn**	**12 28 27.7**	**+0.3**
GHO					**Sn**	**12 28 46.8**	**0.0**
GHO				IAML		12 28 49.5	
	comp=N,61μm,0.7s						
GHO				IAML		12 28 52.6	
	comp=E,60μm,0.7s						
PMR	**Palmer**	**1.47**	**127**		**Pn**	**12 28 27.4**	**-0.2**
PMR				IAML		12 28 50.9	
	comp=E,49μm,0.5s						
PMR				IAML		12 28 51.3	
	comp=N,29μm,0.5s						
PMR	**Palmer**	**1.47**	**127**	P	**Pn**	**12 28 27.5**	**-0.1**
PMR	**Palmer**	**1.47**	**127**	P	**Pn**	**12 28 27.4**	**-0.2**
PMR	**Palmer**	**1.47**	**127**	P	**Pn**	**12 28 27.2**	**-0.4**
	baz=310,SNR=1000						
PMR				S	**Sn**	**12 28 46.5**	**-0.5**
	baz=310						
FIS	**Fire Island**	**1.51**	**154**		**Pn**	**12 28 29.4**	**+1.4**
RND	**Reindeer**	**1.55**	**53**		**Pn**	**12 28 29.0**	**+0.4**
RND				IAML		12 28 50.2	
	comp=N,36μm,0.5s						
RND				IAML		12 28 51.5	
	comp=E,22μm,0.5s						
RND	**Reindeer**	**1.55**	**53**	P	**Pn**	**12 28 29.0**	**+0.4**
L19K	**White Mountain**	**1.56**	**260**	Pn	**Pn**	**12 28 28.9**	**+0.2**
L19K					**Sn**	**12 28 49.0**	**0.0**
L19K				IAML		12 28 51.4	
	comp=E,17μm,0.9s						
L19K	**White Mountain**	**1.56**	**260**	P	**Pn**	**12 28 28.9**	**+0.2**
	baz=78,SNR=1000						
L19K				S	**Sn**	**12 28 49.1**	**0.0**
	baz=78						
BPAW	**Bear Paw Mtn.**	**1.63**	**9**	Pn	**Pn**	**12 28 29.8**	**+0.1**
BPAW				IAML		12 28 51.9	
	comp=N,13μm,0.9s						
BPAW				IAML		12 28 52.2	
	comp=E,19μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.63**	**9**	P	**Pn**	**12 28 29.7**	**+0.1**
	baz=188,SNR=1000						
BPAW				S	**Sn**	**12 28 50.1**	**-0.5**
	baz=188						
RC01	**Rabbit Creek A**	**1.67**	**147**		**Pn**	**12 28 29.7**	**-0.3**
RC01				IAML		12 28 55.0	
	comp=E,42μm,0.5s						
RC01				IAML		12 28 55.1	
	comp=N,47μm,0.6s						
RC01	**Rabbit Creek A**	**1.67**	**147**	P	**Pn**	**12 28 29.6**	**-0.5**
	baz=330,SNR=1000						
RC01				S	**Sn**	**12 28 50.7**	**-0.7**
	baz=330						
SML	**Sawmill**	**1.68**	**113**	Pn	**Pn**	**12 28 30.1**	**-0.2**
SML				IAML		12 28 59.0	
	comp=N,44μm,0.8s						
SML	**Sawmill**	**1.68**	**113**	P	**Pn**	**12 28 30.1**	**-0.2**
	baz=296,SNR=1000						
SML				S	**Sn**	**12 28 50.8**	**-1.0**
	baz=296						
MCK	**McKinley**	**1.73**	**43**	Pn	**Pn**	**12 28 31.3**	**+0.5**
MCK				IAML		12 28 55.6	
	comp=N,21μm,1.2s						
MCK				IAML		12 29 03.1	
	comp=E,15μm,0.5s						
MCK	**McKinley**	**1.73**	**43**	P	**Pn**	**12 28 31.3**	**+0.5**
MCK	**McKinley**	**1.73**	**43**	P	**Pn**	**12 28 31.3**	**+0.5**
	baz=224,SNR=1000						
MCK				S	**Sn**	**12 28 52.8**	**0.0**
	baz=224						
CAPN	**Captain Cook N**	**1.75**	**173**		**Pn**	**12 28 33.0**	**+1.9**
CAPN	**Captain Cook N**	**1.75**	**173**	P	**Pn**	**12 28 32.7**	**+1.7**
	baz=354,SNR=38						
CAPN				S	**Sn**	**12 28 55.7**	**+2.5**
	baz=354						
WAT6	**Susitna Watana**	**1.79**	**86**		**Pn**	**12 28 31.6**	**-0.2**
WAT6	**Susitna Watana**	**1.79**	**86**	P	**Pn**	**12 28 31.5**	**-0.2**
	baz=268,SNR=1000						
WAT6				S	**Sn**	**12 28 53.5**	**-0.8**
	baz=268						
KNK	**Knik Glacier**	**1.84**	**125**		**Pn**	**12 28 31.9**	**-0.4**
KNK				IAML		12 29 01.5	
	comp=N,35μm,0.7s						
KNK	**Knik Glacier**	**1.84**	**125**	P	**Pn**	**12 28 31.9**	**-0.4**
	baz=308,SNR=1000						
KNK				S	**Sn**	**12 28 54.7**	**-0.6**
	baz=308						
BWN	**Browne**	**1.93**	**29**		**Pn**	**12 28 34.1**	**+0.7**
BWN				IAML		12 29 02.5	
	comp=E,16μm,0.5s						
BWN				IAML		12 29 28.6	
	comp=N,18μm,0.7s						
M23K	**Glacier View**	**1.95**	**110**		**Pn**	**12 28 33.2**	**-0.5**
M23K	**Glacier View**	**1.95**	**110**	P	**Pn**	**12 28 33.0**	**-0.7**
	baz=293,SNR=1000						
M23K				S	**Sn**	**12 28 57.3**	**-0.6**
	baz=293						
RDT	**Redoubt**	**1.97**	**192**		**Pn**	**12 28 34.0**	**-0.1**
DFR	**Drift River**	**1.98**	**196**		**Pn**	**12 28 34.3**	**+0.1**
RDJH	**Redoubt Jeurge**	**2.00**	**197**		**Pn**	**12 28 34.8**	**+0.3**
DHY	**Denali Highway**	**2.02**	**72**	P	**Pn**	**12 28 34.4**	**-0.3**
	baz=254,SNR=1000						
DHY				S	**Sn**	**12 28 57.6**	**-2.1**
	baz=254						
J20K	**Nowinta River**	**2.04**	**327**	Pn	**Pn**	**12 28 35.0**	**+0.2**
J20K				IAML		12 29 01.6	
	comp=N,9μm,0.9s						
J20K				IAML		12 29 02.6	
	comp=E,10μm,0.9s						
J20K	**Nowinta River**	**2.04**	**327**	P	**Pn**	**12 28 35.2**	**+0.4**
	baz=144,SNR=1000						
J20K				S	**Sn**	**12 28 59.4**	**-0.5**
	baz=144						
NCT	**North Crescent**	**2.05**	**199**		**Pn**	**12 28 35.3**	**+0.2**
SLKM	**Skilak Lake**	**2.10**	**161**		**Pn**	**12 28 35.7**	**+0.1**
SLKM				IAML		12 29 10.0	
	comp=N,14μm,0.6s						
SLKM				IAML		12 29 11.7	
	comp=E,14μm,0.5s						
RDWB	**Redoubt West**	**2.11**	**197**		**Pn**	**12 28 36.2**	**+0.3**
SCM	**Sheep Creek Mo**	**2.11**	**107**	Pn	**Pn**	**12 28 35.3**	**-0.5**
SCM	**Sheep Creek Mo**	**2.11**	**107**	P	**Pn**	**12 28 35.3**	**-0.5**
SCM	**Sheep Creek Mo**	**2.11**	**107**	P	**Pn**	**12 28 35.0**	**-0.8**
	baz=290,SNR=1000						
SCM				S	**Sn**	**12 29 00.7**	**-0.9**
	baz=290						
RDSO	**Redoubt South**	**2.13**	**196**		**Pn**	**12 28 36.4**	**+0.3**
RED	**Redoubt Volcan**	**2.16**	**196**		**Pn**	**12 28 36.8**	**+0.2**
RED				IAML		12 29 06.7	
	comp=E,10μm,0.9s						
RED				IAML		12 29 07.5	
	comp=N,9μm,0.7s						
N19K	**Bonanza Creek**	**2.18**	**221**	P	**Pn**	**12 28 37.3**	**+0.5**
	baz=39,SNR=1000						
N19K				S	**Sn**	**12 28 59.5**	**-4.0**
	baz=39						
O22K	**Cooper Landing**	**2.21**	**155**		**Pn**	**12 28 37.1**	**0.0**
O22K	**Cooper Landing**	**2.21**	**155**	P	**Pn**	**12 28 36.6**	**-0.4**
	baz=338,SNR=1000						
O22K				S	**Sn**	**12 29 02.1**	**-1.9**
	baz=338						
M18K	**Stony River**	**2.24**	**245**		**Pn**	**12 28 37.6**	**+0.2**
M18K	**Stony River**	**2.24**	**245**	P	**Pn**	**12 28 37.6**	**+0.2**
	baz=62,SNR=1000						
M18K				S	**Sn**	**12 29 01.6**	**-3.0**
	baz=62						
PWL	**Port Wells**	**2.26**	**135**		**Pn**	**12 28 37.0**	**-0.7**
PWL				IAML		12 29 14.7	
	comp=E,25μm,0.8s						
PWL				IAML		12 29 17.9	
	comp=N,31μm,0.7s						
PWL	**Port Wells**	**2.26**	**135**	P	**Pn**	**12 28 36.7**	**-1.0**
	baz=318,SNR=1000						
PWL				S	**Sn**	**12 29 03.5**	**-1.7**
	baz=318						
J19K	**Poorman**	**2.36**	**311**	Pn	**Pn**	**12 28 39.4**	**+0.4**
J19K	**Poorman**	**2.36**	**311**	P	**Pn**	**12 28 39.5**	**+0.5**
	baz=128,SNR=1000						
J19K				S	**Sn**	**12 29 05.6**	**-1.9**
	baz=128						
NEA2	**Nenana**	**2.38**	**27**	Pn	**Pn**	**12 28 39.2**	**-0.2**
NEA2				IAML		12 29 09.3	
	comp=E,7μm,0.5s						
NEA2	**Nenana**	**2.38**	**27**	P	**Pn**	**12 28 39.1**	**-0.2**
	baz=208,SNR=1000						
NEA2				S	**Sn**	**12 29 04.5**	**-3.5**
	baz=208						
L18K	**Granite Mounta**	**2.39**	**266**	Pn	**Pn**	**12 28 39.6**	**+0.2**
L18K	**Granite Mounta**	**2.39**	**266**	P	**Pn**	**12 28 39.8**	**+0.4**
	baz=82,SNR=1000						
L18K				S	**Sn**	**12 29 07.1**	**-1.1**
	baz=82						
O20K	**Slope Mountain**	**2.48**	**192**		**Pn**	**12 28 40.7**	**+0.1**
O20K	**Slope Mountain**	**2.48**	**192**	P	**Pn**	**12 28 40.7**	**+0.1**
	baz=12,SNR=290						
O20K				S	**Sn**	**12 29 10.6**	**+0.3**
	baz=12						
WRH	**Wood River Hil**	**2.53**	**37**	Pn	**Pn**	**12 28 41.1**	**0.0**
WRH				IAML		12 29 11.0	
	comp=E,6μm,0.5s						
J18K	**Innoko River**	**2.53**	**295**		**Pn**	**12 28 41.8**	**+0.6**
J18K	**Innoko River**	**2.53**	**295**	P	**Pn**	**

GLI	**Glacier Island**	**2.69 125**		**Pn**	**12 28 42.4**	**-0.9**
GLI	**Glacier Island**	**2.69 125**	P	**Pn**	**12 28 42.2**	**-1.1**
	baz=309,SNR=1000					
GLI			S	**Sn**	**12 29 13.8**	**-1.4**
	baz=309					
I21K	**Tanana**	**2.70 356**		**Pn**	**12 28 43.8**	**+0.4**
I21K	**Tanana**	**2.70 356**	P	**Pn**	**12 28 44.0**	**+0.6**
	baz=175					
I21K			S	**Sn**	**12 29 15.0**	**-0.4**
	baz=175					
CCB	**Clear Creek Bu**	**2.74 36**		**Pn**	**12 28 44.1**	**+0.1**
CCB			IAML		12 29 17.8	
	comp=E,5μm,0.6s					
CCB			IAML		12 29 17.9	
	comp=N,5μm,0.7s					
N18K	**Kilae Creek**	**2.75 230**		**Pn**	**12 28 44.4**	**+0.2**
N18K	**Kilae Creek**	**2.75 230**	P	**Pn**	**12 28 44.5**	**+0.2**
	baz=47,SNR=1000					
BRLK	**Bradley Lake**	**2.77 173**		**Pn**	**12 28 44.0**	**-0.5**
BRLK			IAML		12 29 25.4	
	comp=N,20μm,0.7s					
BRLK			IAML		12 29 25.5	
	comp=E,21μm,0.7s					
BRSE	**Bradley Lake S**	**2.80 171**		**Pn**	**12 28 45.1**	**+0.3**
BRSE	**Bradley Lake S**	**2.80 171**	P	**Pn**	**12 28 44.1**	**-0.7**
	baz=353,SNR=1000					
BRSE			S	**Sn**	**12 29 20.4**	**+2.5**
	baz=353					
HDA	**Harding Lake**	**2.83 45**	Pn	**Pn**	**12 28 45.2**	**0.0**
HDA			IAML		12 29 24.2	
	comp=N,10μm,0.5s					
HDA			IAML		12 29 27.1	
	comp=E,10μm,0.5s					
HDA	**Harding Lake**	**2.83 45**	P	**Pn**	**12 28 45.2**	**0.0**
	baz=229,SNR=1000					
I23K	**Minto, Yukon-K**	**2.84 19**	P	**Pn**	**12 28 45.6**	**+0.3**
	baz=201,SNR=1000					
I23K			S	**Sn**	**12 29 17.6**	**-1.1**
	baz=201					
HOM	**Homer**	**2.85 181**		**Pn**	**12 28 45.8**	**+0.3**
HOM	**Homer**	**2.85 181**	P	**Pn**	**12 28 45.8**	**+0.3**
	baz=1.3					
PAX	**Paxson**	**2.86 78**	Pn	**Pn**	**12 28 45.6**	**0.0**
PAX			IAML		12 29 29.1	
	comp=E,15μm,0.8s					
PAX	**Paxson**	**2.86 78**	P	**Pn**	**12 28 45.7**	**0.0**
PAX	**Paxson**	**2.86 78**	P	**Pn**	**12 28 45.6**	**0.0**
	baz=263,SNR=1000					
KLU	**Klutina**	**2.86 108**		**Pn**	**12 28 44.5**	**-1.2**
KLU			IAML		12 29 28.7	
	comp=E,12μm,0.4s					
KLU	**Klutina**	**2.86 108**	P	**Pn**	**12 28 44.5**	**-1.2**
	baz=293,SNR=1000					
KLU			S	**Sn**	**12 29 17.6**	**-1.7**
	baz=293					
I53US	**FAIRBANKS INFR**	**2.91 33**	P	**Pn**	**12 28 47.2**	**+1.0**
	baz=202,slow=16					
I53US			I	I	12 41 40.0	
	comp=E,0.1nm,0.8s,baz=219,slow=326,SNR=3.8					
COLA	**College**	**2.91 33**	Pn	**Pn**	**12 28 46.5**	**+0.3**
COLA			IAML		12 29 23.7	
	comp=E,15μm,0.5s					
COLA			IAML		12 29 25.9	
	comp=E,14μm,0.5s					
COLA	**College**	**2.91 33**	P	**Pn**	**12 28 46.8**	**+0.6**
COLA	**College**	**2.91 33**	*d iP*	**Pn**	**12 28 46.3**	**+0.1**
COLA	**College**	**2.91 33**	P	**Pn**	**12 28 46.5**	**+0.3**
	baz=216					
COLA			S	**Sn**	**12 29 19.5**	**-0.8**
	baz=216					
K24K	**Donnelly Dome**	**2.94 61**		**Pn**	**12 28 47.8**	**+1.0**
K24K	**Donnelly Dome**	**2.94 61**	P	**Pn**	**12 28 46.8**	**0.0**
	baz=246,SNR=1000					
M17K	**Holitna River**	**2.98 251**		**Pn**	**12 28 46.9**	**-0.3**
M17K			IAML		12 29 58.0	
	comp=N,8μm,0.7s					
M17K			IAML		12 30 02.2	
	comp=E,5μm,0.8s					
M17K	**Holitna River**	**2.98 251**	P	**Pn**	**12 28 46.9**	**-0.3**
	baz=66,SNR=759					
M17K			S	**Sn**	**12 29 23.4**	**+1.4**
	baz=66					
CNPM	**China Poot**	**2.99 177**	Pn	**Pn**	**12 28 47.1**	**-0.3**
CNPM			IAML		12 29 30.4	
	comp=E,17μm,1.1s					
CNPM			IAML		12 29 32.3	
	comp=N,12μm,0.6s					
HARP	**HAARP**	**2.99 89**		**Pn**	**12 28 47.4**	**-0.1**
HARP	**HAARP**	**2.99 89**	P	**Pn**	**12 28 47.3**	**-0.1**
	baz=274,SNR=1000					
FID	**Port Fidalgo**	**3.01 123**		**Pn**	**12 28 46.2**	**-1.4**
DIV	**Divide**	**3.08 114**		**Pn**	**12 28 47.1**	**-1.5**
DIV			IAML		12 29 35.9	
	comp=E,8μm,0.5s					
IL31		**3.10 41**		**Pn**	**12 28 48.8**	**0.0**
ILAR	**Eielson Array**	**3.10 41**	P	**Pn**	**12 28 49.3**	**+0.5**
	comp=E,2μm,0.5s,baz=224,slow=14					
ILAR			S	**Sn**	**12 29 20.1**	**-4.9**
	comp=E,569nm,0.5s,baz=225,slow=18,SNR=8.3					
ILAR			PKiKP	**PKiKP**	**12 44 19.5**	**-2.3**
	comp=E,0.2nm,0.5s,baz=314,slow=3.4,SNR=5.2					
ILAR			P3KPbc		13 07 20.1	
	comp=E,0.7nm,1.0s,baz=247,slow=4.5,SNR=5.4					
K17K	**Iditarod**	**3.11 277**		**Pn**	**12 28 49.5**	**+0.6**
K17K	**Iditarod**	**3.11 277**	P	**Pn**	**12 28 50.0**	**+1.0**
	baz=91					
L17K	**Donlin**	**3.15 266**		**Pn**	**12 28 49.8**	**+0.3**
L17K	**Donlin**	**3.15 266**	P	**Pn**	**12 28 50.0**	**+0.4**
	baz=81,SNR=1000					
O18K	**Koktuh Hills**	**3.18 215**		**Pn**	**12 28 50.4**	**+0.4**
O18K	**Koktuh Hills**	**3.18 215**	P	**Pn**	**12 28 50.4**	**+0.4**
	baz=33,SNR=883					
POKR	**Poker Plat Res**	**3.21 33**		**Pn**	**12 28 50.7**	**+0.4**
POKR			IAML		12 29 29.9	
	comp=N,3μm,0.5s					
POKR	**Poker Plat Res**	**3.21 33**	P	**Pn**	**12 28 50.7**	**+0.4**
	baz=216,SNR=912					
POKR			S	**Sn**	**12 29 27.0**	**-0.7**
	baz=216					
H21K	**Melozitna Rive**	**3.21 351**		**Pn**	**12 28 50.9**	**+0.5**
H21K	**Melozitna Rive**	**3.21 351**	P	**Pn**	**12 28 51.0**	**+0.5**
	baz=169,SNR=1000					
H21K			S	**Sn**	**12 29 26.2**	**-1.6**
	baz=169					
P23K	**Montague Islan**	**3.22 139**	P	**Pn**	**12 28 48.6**	**-1.9**
	baz=323,SNR=151					
HIN	**Hinchinbrook I**	**3.23 129**		**Pn**	**12 28 49.4**	**-1.2**
AUL	**Augustine Lava**	**3.25 197**		**Pn**	**12 28 51.6**	**+0.6**
GCSA	**Galena City Sc**	**3.27 316**		**Pn**	**12 28 51.6**	**+0.6**
GCSA	**Galena City Sc**	**3.27 316**	P	**Pn**	**12 28 52.0**	**+1.0**
	baz=131,SNR=238					
GCSA			S	**Sn**	**12 29 27.6**	**-1.3**
	baz=131					
AGU	**Augustine-Summ**	**3.28 197**		**Pn**	**12 28 51.3**	**0.0**
AUJK	**Augustine Jueg**	**3.28 197**		**Pn**	**12 28 51.5**	**+0.2**
RIDG	**Independent Ri**	**3.31 65**		**Pn**	**12 28 52.5**	**+0.8**
RIDG	**Independent Ri**	**3.31 65**	P	**Pn**	**12 28 52.1**	**+0.4**
	baz=250,SNR=1000					
N17K	**Nushagak Hills**	**3.33 236**	Pn	**Pn**	**12 28 52.1**	**+0.2**
N17K			IAML		12 30 05.8	
	comp=E,3μm,0.7s					
N17K	**Nushagak Hills**	**3.33 236**	P	**Pn**	**12 28 52.2**	**+0.2**
	baz=52,SNR=814					
H20K	**Anotleneega Mo**	**3.34 336**		**Pn**	**12 28 52.6**	**+0.6**
H20K	**Anotleneega Mo**	**3.34 336**	P	**Pn**	**12 28 52.6**	**+0.6**
	baz=152,SNR=945					
H20K			S	**Sn**	**12 29 30.1**	**-0.6**
	baz=152					
H22K	**Ishtalitna Cre**	**3.41 1**		**Pn**	**12 28 53.7**	**+0.7**
H22K	**Ishtalitna Cre**	**3.41 1**	P	**Pn**	**12 28 53.8**	**+0.8**
	baz=181,SNR=1000					
H22K			S	**Sn**	**12 29 31.8**	**-0.7**
	baz=181					
N25K	**Chitina, Valde**	**3.41 102**		**Pn**	**12 28 52.6**	**-0.4**
N25K			IAML		12 29 46.2	
	comp=N,10μm,0.5s					
N25K			IAML		12 29 46.8	
	comp=E,8μm,0.6s					
N25K	**Chitina, Valde**	**3.41 102**	P	**Pn**	**12 28 52.3**	**-0.8**
	baz=288,SNR=728					
EYAK	**Cordova Ski Ar**	**3.41 122**		**Pn**	**12 28 51.7**	**-1.3**
EYAK			IAML		12 29 47.8	
	comp=N,6μm,1.1s					
EYAK			IAML		12 29 52.3	
	comp=E,6μm,1.1s					
EYAK	**Cordova Ski Ar**	**3.41 122**	P	**Pn**	**12 28 51.4**	**-1.6**
EYAK	**Cordova Ski Ar**	**3.41 122**	P	**Pn**	**12 28 51.8**	**-1.2**
	baz=308,SNR=343					
WACK	**Wrangell Chich**	**3.44 95**		**Pn**	**12 28 53.2**	**-0.4**
H23K	**Yukon River**	**3.46 14**		**Pn**	**12 28 54.1**	**+0.5**
H23K			IAML		12 29 36.2	
	comp=E,3μm,1.0s					
H23K	**Yukon River**	**3.46 14**	P	**Pn**	**12 28 54.3**	**+0.7**
	baz=195					
H23K			S	**Sn**	**12 29 33.1**	**-0.6**
	baz=195					
J25K	**Salcha River,**	**3.50 50**		**Pn**	**12 28 54.2**	**-0.1**
J25K			IAML		12 29 44.2	
	comp=E,7μm,0.7s					
J25K			IAML		12 29 50.5	
	comp=N,4μm,0.7s					
J25K	**Salcha River,**	**3.50 50**	P	**Pn**	**12 28 54.1**	**-0.1**
	baz=235,SNR=1000					
WAZA	**Wrangell Mount**	**3.50 94**		**Pn**	**12 28 54.8**	**+0.3**
WASW	**Wrangell South**	**3.52 96**		**Pn**	**12 28 54.3**	**-0.4**
J17K	**VABM Dome**	**3.54 288**		**Pn**	**12 28 55.2**	**+0.5**
J17K	**VABM Dome**	**3.54 288**	P	**Pn**	**12 28 55.0**	**+0.3**
	baz=102,SNR=421					
P18K	**Big Mountain,**	**3.59 211**		**Pn**	**12 28 55.9**	**+0.5**
P18K	**Big Mountain,**	**3.59 211**	P	**Pn**	**12 28 56.0**	**+0.5**
	baz=29,SNR=432					
P18K			S	**Sn**	**12 29 35.9**	**-0.9**
	baz=29					
DOT	**Dot Lake**	**3.61 68**		**Pn**	**12 28 55.6**	**-0.1**
DOT			IAML		12 29 49.0	
	comp=N,11μm,1.0s					
DOT			IAML		12 29 50.8	
	comp=E,10μm,1.2s					
IMAR	**Indian Mountai**	**3.62 346**		**Pn**	**12 28 56.5**	**+0.6**
IM01	**Indian Mountai**	**3.63 346**		**Pn**	**12 28 56.6**	**+0.7**
MENT	**Mentasta**	**3.65 80**		**Pn**	**12 28 56.6**	**+0.3**
MENT	**Mentasta**	**3.65 80**	P	**Pn**	**12 28 55.6**	**-0.7**
BMRM	**Bremner River**	**3.66 112**		**Pn**	**12 28 55.6**	**-0.8**
BMRM			IAML		12 29 59.7	
	comp=E,10μm,0.7s					
BMRM	**Bremner River**	**3.66 112**	P	**Pn**	**12 28 54.8**	**-1.6**
	baz=298,SNR=456					
H19K	**Roundabout Mou**	**3.72 327**		**Pn**	**12 28 57.7**	**+0.6**
H19K	**Roundabout Mou**	**3.72 327**	P	**Pn**	**12 28 57.8**	**+0.7**
	baz=142,SNR=1000					
H19K			S	**Sn**	**12 29 38.3**	**-1.5**
	baz=142					
H24K	**Noodor Dome**	**3.72 24**		**Pn**	**12 28 57.5**	**+0.3**
H24K	**Noodor Dome**	**3.72 24**	P	**Pn**	**12 28 57.4**	**+0.1**
	baz=207,SNR=1000					
H24K			S	**Sn**	**12 29 38.8**	**-1.2**
	baz=207					
SCRK	**Sand Creek**	**3.75 63**	Pn	**Pn**	**12 28 57.7**	**+0.1**
SCRK			IAML		12 29 46.9	
	comp=E,5μm,1.0s					
SCRK			IAML		12 29 48.2	
	comp=N,4μm,0.4s					
SCRK	**Sand Creek**	**3.75 63**	P	**Pn**	**12 28 57.2**	**-0.4**
	baz=250,SNR=1000					
L16K	**Owhat River**	**3.79 261**		**Pn**	**12 28 58.5**	**+0.5**
L16K	**Owhat River**	**3.79 261**	P	**Pn**	**12 28 58.5**	**+0.5**
	baz=75,SNR=759					
L16K			S	**Sn**	**12 29 40.6**	**-1.0**
	baz=75					
M16K	**Timber Creek**	**3.80 250**		**Pn**	**12 28 58.0**	**-0.2**
M16K	**Timber Creek**	**3.80 250**	P	**Pn**	**12 28 58.3**	**0.0**
	baz=64,SNR=164					
M16K			S	**Sn**	**12 29 40.8**	**-1.2**
	baz=64					
GOAT	**Goat Mountain**	**3.81 117**		**Pn**	**12 28 57.4**	**-1.0**
O17K	**Koliganek Bris**	**3.82 227**		**Pn**	**12 28 58.9**	**+0.4**
O17K	**Koliganek Bris**	**3.82 227**	P	**Pn**	**12 28 59.0**	**+0.4**
	baz=42,SNR=341					
GLB	**Gilahina Butte**	**3.82 103**		**Pn**	**12 28 57.6**	**-0.9**
GLB			IAML		12 30 07.4	
	comp=E,6μm,1.3s					
L26K	**Log Cabin Wild**	**3.83 78**		**Pn**	**12 28 58.7**	**+0.1**
RAGM	**Ragged Mountai**	**3.94 119**		**Pn**	**12 28 59.4**	**-0.8**
M26K	**Nabesna, AK**	**3.99 88**		**Pn**	**12 29 00.5**	**-0.4**
M26K			IAML		12 30 07.8	
	comp=E,6μm,0.8s					
M26K			IAML		12 30 10.6	
	comp=N,6μm,0.5s					
M26K	**Nabesna, AK**	**3.99 88**	P	**Pn**	**12 29 00.1**	**-0.8**
	baz=275,SNR=433					
N16K	**Nishlik Lake**	**4.00 243**		**Pn**	**12 29 01.0**	**+0.1**
N16K	**Nishlik Lake**	**4.00 243**	P	**Pn**	**12 29 01.1**	**+0.1**
	baz=57,SNR=290					
MID	**Middleton Isla**	**4.00 138**		**Pn**	**12 29 00.9**	**0.0**
MID			IAML		12 30 21.0	
	comp=N,5μm,1.5s					
MID			IAML		12 30 26.2	
	comp=E,6μm,0.9s					
H18K	**Honhosa River**	**4.01 315**		**Pn**	**12 29 01.4**	**+0.3**
H18K	**Honhosa River**	**4.01 315**	P	**Pn**	**12 29 02.3**	**+1.2**
	baz=128					
PRP	**Porcupine Dome**	**4.04 39**		**Pn**	**12 29 01.5**	**-0.1**
PRP			IAML		12 30 01.7	
	comp=N,2μm,0.9s					
PRP			IAML		12 30 29.2	
	comp=E,2μm,0.6s					
PRP	**Porcupine Dome**	**4.04 39**	P	**Pn**	**12 29 01.6**	**0.0**
	baz=224,SNR=733					
VRDI	**Verde Repeater**	**4.06 105**		**Pn**	**12 29 00.9**	**-1.1**
VRDI			IAML		12 30 06.8	
	comp=E,6μm,0.8s					
VRDI			IAML		12 30 08.3	
	comp=N,5μm,0.7s					
P17K	**Kvichak River**	**4.08 218**		**Pn**	**12 29 02.9**	**+0.9**
P17K	**Kvichak River**	**4.08 218**	P	**Pn**	**12 29 03.0**	**+1.0**
	baz=34,SNR=214					
G21K	**Allakaket**	**4.12 349**		**Pn**	**12 29 03.2**	**+0.7**
G21K			IAML		12 29 51.6	
	comp=N,2μm,0.8s					
G21K	**Allakaket**	**4.12 349**	P	**Pn**	**12 29 03.3**	**+0.8**
	baz=167					
G21K			S	**Sn**	**12 29 48.6**	**-0.9**
	baz=167					
J26L	**Joseph Creek**	**4.12 57**		**Pn**	**12 29 02.8**	**+0.2**
J26L			IAML		12 29 57.1	
	comp=E,7μm,0.8s					
J26L			IAML		12 29 58.4	
	comp=N,7μm,0.4s					
J26L	**Joseph Creek**	**4.12 57**	P	**Pn**	**12 29 02.8**	**+0.2**
	baz=244,SNR=1000					
HMT	**Hamilton**	**4.13 118**		**Pn**	**12 29 01.6**	**-1.2**
KAPH	**Katmai Pasha**	**4.15 200**		**Pn**	**12 29 03.3**	**+0.4**
MCARA	**McCarthy VSAT**	**4.20 102**		**Pn**	**12 29 03.2**	**-0.5**
MCARA	**McCarthy VSAT**	**4.20 102**	P	**Pn**	**12 29 03.0**	**-0.6**
	baz=289,SNR=210					
J16K	**Anvik River**	**4.20 285**		**Pn**	**12 29 03.7**	**+0.1**
J16K	**Anvik River**	**4.20 285**	P	**Pn**	**12 29 04.3**	**+0.7**
	baz=97,SNR=261					
KAHC	**Katmai Hardscr**	**4.22 205**		**Pn**	**12 29 04.3**	**+0.3**
Q18K	**Katmai Hardscr**	**4.22 205**	P	**Pn**	**12 29 04.4**	**+0.4**
	baz=23,SNR=475					
KAHG	**Katmai Hook Gl**	**4.28 201**		**Pn**	**12 29 04.9**	**+0.2**
G23K	**Bananza Creek**	**4.28 8**		**Pn**	**12 29 05.7**	**+0.9**
G23K			IAML		12 29 55.5	
	comp=E,1μm,0.9s					
G23K			IAML		12 29 55.8	
	comp=N,2μm,0.7s					
G23K	**Bananza Creek**	**4.28 8**	P	**Pn**	**12 29 05.8**	**+0.9**
	baz=189,SNR=1000					
G23K			S	**Sn**	**12 29 52.8**	**-0.8**
	baz=189					
KARR	**Katmai Rainbow**	**4.30 202**		**Pn**	**12 29 05.3**	**+0.2**
O16K	**Kokwok River B**	**4.30 230**		**Pn**	**12 29 05.0**	**0.0**
O16K			IAML		12 29 41.3	
	comp=E,1μm,0.8s					
O16K	**Kokwok River B**	**4.30 230**	P	**Pn**	**12 29 05.2**	**+0.2**
	baz=45,SNR=111					
NICHA	**Nichawak Mount**	**4.31 118**		**Pn**	**12 29 04.0**	**-1.2**
KAIM	**Kayak Island**	**4.32 123**		**Pn**	**12 29 04.0**	**-1.3**
KAIM			IAML		12 30 30.1	
	comp=E,4μm,0.9s					
KAIM			IAML		12 30 53.3	
	comp=N,3μm,1.5s					
KAIM	**Kayak Island**	**4.32 123**	P	**Pn**	**12 29 04.0**	**-1.3**
	baz=310,SNR=33					
BERG	**Berg Lake**	**4.33 116**		**Pn**	**12 29 04.5**	**-1.0**
I17K	**Unalakleet**	**4.35 293**		**Pn**	**12 29 06.9**	**+1.2**
I17K	**Unalakleet**	**4.35 293**	P	**Pn**	**12 29 07.2**	**+1.6**
	baz=105,SNR=117					
CRQM	**Cirque**	**4.39 110**		**Pn**	**12 29 05.6**	**-0.9**
CRQE	**Cirque**	**4.42 110**	P	**Pn**	**12 29 05.5**	**-1.2**
	baz=297,SNR=302					
CRQE			S	**Sn**	**12 29 55.7**	**-1.3**
	baz=297					
KAWH	**Katmai**	**4.42 202**		**Pn**	**12 29 06.6**	**-0.2**
H17K	**Granite Mounta**	**4.44 307**		**Pn**	**12 29 07.8**	**+1.0**
H17K	**Granite Mounta**	**4.44 307**	P	**Pn**	**12 29 07.8**	**+1.0**
	baz=120,SNR=247					
G22K	**Bettles**	**4.44 0**		**Pn**	**12 29 07.8**	**+1.0**
G22K	**Bettles**	**4.44 0**	P	**Pn**	**12 29 07.7**	**+0.8**
	baz=180					
SUCK	**Suckling Hills**	**4.49 119**		**Pn**	**12 29 06.2**	**-1.3**
SUCK			IAML		12 30 27.5	
	comp=E,4μm,1.0s					
KHIT	**Khitrov Hills**	**4.50 114**		**Pn**	**12 29 06.6**	**-1.2**
M27K	**Edge Creek, AK**	**4.52 87**		**Pn**	**12 29 08.2**	**+0.1**
M27K			IAML		12 30 32.0	
	comp=N,4μm,1.1s					
M27K			IAML		12 30 33.6	
	comp=E,4μm,1.1s					
M27K	**Edge Creek, AK**	**4.52 87**	P	**Pn**	**12 29 08.1**	**+0.1**
	baz=276,SNR=298					
BC01	**Beaver Creek A**	**4.52 79**		**Pn**	**12 29 07.3**	**-0.6**
L27K	**Beaver Creek,**	**4.52 79**		**Pn**	**12 29 07.3**	**-0.7**
L27K			IAML		12 30 20.3	
	comp=N,2μm,1.9s					
L27K			IAML		12 30 24.3	
	comp=E,2μm,0.9s					
L27K	**Beaver Creek,**	**4.52 79**	P	**Pn**	**12 29 07.4**	**-0.6**
	baz=267					
PTPK	**Patty Peak**	**4.52 103**		**Pn**	**12 29 07.4**	**-0.7**
TGL	**Tana Glacier**	**4.53 109**		**Pn**	**12 29 07.1**	**-1.1**
H25L	**Birch Creek**	**4.54 31**		**Pn**	**12 29 09.1**	**+1.0**
H25L	**Birch Creek**	**4.54 31**	P	**Pn**	**12 29 09.1**	**+1.0**
	baz=216,SNR=875					
BCAR	**Beaver Creek A**	**4.54 78**		**Pn**	**12 29 07.8**	**-0.5**
BC05	**Beaver Creek A**	**4.55 79**		**Pn**	**12 29 07.6**	**-0.9**
KAKN	**Katmai Knife C**	**4.55 204**		**Pn**	**12 29 08.5**	**0.0**
K27K	**Chicken**	**4.56 66**		**Pn**	**12 29 08.3**	**-0.3**
K27K			IAML		12 30 06.4	
	comp=E,3μm,0.6s					
K27K			IAML		12 30 21.8	
	comp=N,3μm,1.5s					
K27K	**Chicken**	**4.56 66**	P	**Pn**	**12 29 08.1**	**-0.5**
	baz=254					
G24K	**Hadweenzic Riv**	**4.57 21**		**Pn**	**12 29 09.2**	**+0.5**
G24K	**Hadweenzic Riv**	**4.57 21**	P	**Pn**	**12 29 09.1**	**+0.4**
	baz=204,SNR=1000					
Q16K	**King Salmon**	**4.58 215**		**Pn**	**12 29 09.7**	**+1.0**
Q16K	**King Salmon**	**4.58 215**	P	**Pn**	**12 29 09.7**	**+1.0**
	baz=31,SNR=191					
G18K	**Tagagawik**	**4.60 321**		**Pn**	**12 29 09.9**	**+0.9**
G18K	**Tagagawik**	**4.60 321**	P	**Pn**	**12 29 10.1**	**+1.1**
	baz=134,SNR=305					
G18K			S	**Sn**	**12 29 59.5**	**-1.6**
	baz=134					
KABU	**Katmai Buttres**	**4.62 205**		**Pn**	**12 29 10.0**	**+0.6**
BALM	**Baldy**	**4.63 104**		**Pn**	**12 29 08.5**	**-1.1**
K15K	**Wolf Creek Mou**	**4.63 272**		**Pn**	**12 29 10.1**	**+0.6**
K15K	**Wolf Creek Mou**	**4.63 272**	P	**Pn**	**12 29 10.2**	**+0.7**
	baz=83,SNR=269					
K15K			S	**Sn**	**12 30 00.2**	**-1.8**
	baz=83					
BGLC	**Bering Glacier**	**4.66 117**		**Pn**	**12 29 09.6**	**-0.3**
BGLC	**Bering Glacier**	**4.66 117**	P	**Pn**	**12 29 09.5**	**-0.3**
	baz=304					
WAX	**Waxell Ridge**	**4.67 112**		**Pn**	**12 29 09.5**	**-0.5**
KIAG	**Kiagna River**	**4.67 106**		**Pn**	**12 29 08.7**	**-1.5**
I26K	**Coal Creek Min**	**4.67 49**		**Pn**	**12 29 09.9**	**-0.1**
I26K			IAML		12 30 26.9	
	comp=E,4μm,1.1s					
I26K			IAML		12 30 44.9	
	comp=N,3μm,1.5s					
I26K	**Coal Creek Min**	**4.67 49**	P	**Pn**	**12 29 09.9**	**-0.1**
	baz=236					
ACHA	**Angle Creek He**	**4.69 205**		**Pn**	**12 29 10.2**	**-0.1**
P16K	**Nushagak River**	**4.69 225**		**Pn**	**12 29 10.8**	**+0.6**
P16K			IAML		12 30 57.4	
	comp=E,4μm,0.7s					
P16K	**Nushagak River**	**4.69 225**	P	**Pn**	**12 29 10.7**	**+0.6**
	baz=40,SNR=27					
M15K	**Kasigluk River**	**4.71 251**		**Pn**	**12 29 10.4**	**-0.1**
M15K	**Kasigluk River**	**4.71 251**	P	**Pn**	**12 29 10.4**	**-0.1**
	baz=64,SNR=48					
N15K	**Kwethluk River**	**4.71 244**		**Pn**	**12 29 10.5**	**-0.1**
N15K			IAML		12 30 52.5	
	comp=N,1μm,0.7s					
N15K			IAML		12 30 54.5	
	comp=E,1μm,0.7s					
N15K	**Kwethluk River**	**4.71 244**	P	**Pn**	**12 29 10.8**	**+0.2**
	baz=57,SNR=101					
L15K	**Ungalak Mounta**	**4.72 264**		**Pn**	**12 29 10.8**	**+0.1**
L15K	**Ungalak Mounta**	**4.72 264**	P	**Pn**	**12 29 11.0**	**+0.3**
	baz=76,SNR=146					
MGLS	**Mageik Landsli**	**4.72 204**		**Pn**	**12 29 11.3**	**+0.6**
ANCK	**Angle Creek**	**4.73 206**		**Pn**	**12 29 11.6**	**+0.7**
CNTC	**Contact Creek**	**4.75 209**		**Pn**	**12 29 12.0**	**+0.8**
Q17K	**Contact Creek**	**4.75 209**	P	**Pn**	**12 29 11.9**	**+0.7**
	baz=25					
KDAK	**Kodiak Island**	**4.76 186**		**Pn**	**12 29 09.3**	**-1.9**
KDAK			IAML		12 30 19.1	
	comp=E,2μm,0.8s					
KDAK			IAML		12 30 38.7	
	comp=E,1μm,0.8s					
KDAK	**Kodiak Island**	**4.76 186**	P	**Pn**	**12 29 09.9**	**-1.3**
	comp=E,123nm,0.4s,baz=35,slow=4.6,SNR=940					
KDAK			S	**Sn**	**12 30 04.4**	**-0.7**
	comp=E,744nm,0.6s,baz=142,slow=12,SNR=5.4					
KDAK	**Kodiak Island**	**4.76 186**	*i P*	**Pn**	**12 29 09.7**	**-1.5**
KDAK	**Kodiak Island**	**4.76 186**	P	**Pn**	**12 29 09.7**	**-1.5**
	baz=6.0					
COLD	**Coldfoot**	**4.79 6**		**Pn**	**12 29 12.5**	**+1.0**
COLD	**Coldfoot**	**4.79 6**	P	**Pn**	**12 29 12.5**	**+1.0**
	baz=187,SNR=1000					
COLD			S	**Sn**	**12 30 04.5**	**-1.2**
	baz=187					
F21K	**Alatna River**	**4.81 351**		**Pn**	**12 29 13.1**	**+1.2**
F21K			IAML		12 30 08.4	
	comp=E,1μm,0.9s					
F21K			IAML		12 30 08.9	
	comp=N,1μm,0.5s					
F21K	**Alatna River**	**4.81 351**	P	**Pn**	**12 29 13.1**	**+1.2**
	baz=169,SNR=658					
F21K			S	**Sn**	**12 30 05.9**	**-0.4**
	baz=169					
SNH	**Sunshine Point**	**4.81 115**		**Pn**	**12 29 11.1**	**-0.9**
SNH	**Sunshine Point**	**4.81 115**	IAML		12 30 36.7	
	comp=E,4μm,1.0s					
SNH			IAML		12 30 38.9	
	comp=N,4μm,1.0s					
**CAHL

CTG	Chitna Glacier	5.11	103	P	Pn	12 29 15.5	-0.6
	baz=292,SNR=312						
CTGM	Chitina Glacie	5.11	103	IAML		12 30 37.3	
	comp=N,3μm,0.8s						
CTGM				IAML		12 30 39.0	
	comp=E,2μm,1.5s						
R18K	Karluk	5.15	197		Pn	12 29 15.3	-1.2
R18K	Karluk	5.15	197	IAML		12 30 17.2	
	comp=E,1μm,0.5s						
R18K				IAML		12 30 19.9	
	comp=N,1μm,0.6s						
R18K	Karluk	5.15	197	P	Pn	12 29 16.1	-0.4
	baz=15						
EGAK	Eagle	5.18	59		Pn	12 29 16.6	-0.2
EGAK				IAML		12 30 43.1	
	comp=N,3μm,0.9s						
EGAK	Eagle	5.18	59	P	Pn	12 29 16.2	-0.7
	baz=248,SNR=674						
YAH	Yahtse	5.19	110		Pn	12 29 16.1	-1.1
YAH	Yahtse	5.19	110	IAML		12 30 37.2	
	comp=E,2μm,0.8s						
MESA	MESA	5.19	112	P	Pn	12 29 16.3	-0.9
	baz=301,SNR=214						
MESA				S	Sn	12 30 13.3	-2.6
	baz=301						
H16K	Elim	5.22	299		Pn	12 29 18.1	+0.7
H16K	Elim	5.22	299	P	Pn	12 29 18.0	+0.6
	baz=110,SNR=24						
O15K	Ungalikthiuk R	5.23	234		Pn	12 29 18.1	+0.5
O15K				IAML		12 31 12.8	
	comp=E,971nm,0.7s						
O15K	Ungalikthiuk R	5.23	234	P	Pn	12 29 18.2	+0.6
	baz=47,SNR=56						
PLK5	Peulik 5	5.23	213		Pn	12 29 18.9	+1.4
M14K	Bethel	5.25	255	IAML		12 31 08.2	
	comp=N,722nm,1.4s						
M14K	Bethel	5.25	255	P	Pn	12 29 18.5	+0.7
	baz=66,SNR=65						
M14K				S	Sn	12 30 15.8	-1.1
	baz=66						
F24K	Squaw Lake	5.28	16	P	Pn	12 29 19.0	+0.8
	baz=199,SNR=654						
F24K				S	Sn	12 30 16.8	-0.9
	baz=199						
PLK2	Peulik 2	5.31	209		Pn	12 29 19.3	+0.6
LOGN	Logan Glacier	5.32	104	IAML		12 30 40.9	
	comp=E,3μm,1.0s						
LOGN				IAML		12 30 49.1	
	comp=N,2μm,1.8s						
PLK1	Peulik 1	5.34	210		Pn	12 29 19.5	+0.5
OHAK	Old Harbor	5.36	190	IAML		12 30 37.8	
	comp=N,660nm,0.7s						
OHAK				IAML		12 30 59.4	
	comp=E,630nm,1.3s						
OHAK	Old Harbor	5.36	190	P	Pn	12 29 19.0	-0.4
OHAK	Old Harbor	5.36	190	P	Pn	12 29 17.6	-1.7
	baz=8.9,SNR=140						
PLK3	Peulik 3	5.36	208		Pn	12 29 20.6	+1.1
L14K	Kuka Creek	5.37	262		Pn	12 29 20.2	+0.7
L14K	Kuka Creek	5.37	262	IAML		12 30 20.7	
	comp=N,752nm,1.2s						
L14K				IAML		12 31 04.2	
	comp=E,863nm,1.1s						
L14K	Kuka Creek	5.37	262	P	Pn	12 29 20.4	+0.9
	baz=73,SNR=76						
L14K				S	Sn	12 30 19.1	-0.8
	baz=73						
I27K	Kandik River	5.37	50		Pn	12 29 19.3	-0.3
I27K	Kandik River	5.37	50	P	Pn	12 29 19.2	-0.3
	baz=239,SNR=1000						
F18K	Selawik	5.39	323		Pn	12 29 20.4	+0.8
F18K	Selawik	5.39	323	P	Pn	12 29 20.9	+1.3
	baz=136,SNR=49						
PLK4	Peulik 4	5.43	208		Pn	12 29 21.8	+1.3
R17L	Mt. Peulik Vol	5.44	208	P	Pn	12 29 21.1	+0.7
	baz=24						
N14K	Kuskokwak Cree	5.52	247		Pn	12 29 21.9	+0.3
N14K	Kuskokwak Cree	5.52	247	P	Pn	12 29 21.8	+0.3
	baz=58,SNR=16						
N14K				S	Sn	12 30 23.9	+0.4
	baz=58						
E19K	Redstone River	5.52	337		Pn	12 29 22.8	+1.2
E19K	Redstone River	5.52	337	P	Pn	12 29 22.7	+1.2
	baz=152						
E19K				S	Sn	12 30 21.9	-1.7
	baz=152						
J14K	Nanvaranak Lak	5.53	278		Pn	12 29 22.4	+0.9
J14K	Nanvaranak Lak	5.53	278	P	Pn	12 29 22.5	+0.9
	baz=87,SNR=44						
G16K	Koyuk River	5.56	306		Pn	12 29 22.9	+0.8
G16K	Koyuk River	5.56	306	P	Pn	12 29 23.0	+1.0
	baz=116,SNR=51						
G26K	Porcupine Rive	5.58	33	P	Pn	12 29 22.1	-0.1
	baz=220,SNR=553						
G26K				S	Sn	12 30 24.1	-0.7
	baz=220						
CHX	Chaix Hills	5.61	111		Pn	12 29 22.6	-0.2
E23K	Chandalar	5.64	8	P	Pn	12 29 24.2	+0.9
	baz=189,SNR=501						
E23K				S	Sn	12 30 26.5	-0.2
	baz=189						
E22K	Anaktuvuk Pass	5.66	359		Pn	12 29 24.6	+1.2
E22K	Anaktuvuk Pass	5.66	359	P	Pn	12 29 24.6	+1.2
	baz=179,SNR=82						
E22K				S	Sn	12 30 26.2	-0.8
	baz=179						
F25K	Christian Rive	5.70	24	P	Pn	12 29 24.3	+0.3
	baz=208,SNR=339						
F25K				S	Sn	12 30 29.6	+1.6
	baz=208						
O28M	Mount Upton	5.70	103	P	Pn	12 29 23.6	-0.7
	baz=292,SNR=653						
SAMH	Samovar Hills	5.72	110		Pn	12 29 24.0	-0.3
YUK8	Steele Glacier	5.72	97	P	Pn	12 29 24.0	-0.5
	baz=287,SNR=88						
DAWY	Dawson	5.72	69	P	Pn	12 29 23.8	-0.6
	baz=259,SNR=758						
O14K	Tigyukauivet M	5.74	240		Pn	12 29 24.8	+0.3
O14K	Tigyukauivet M	5.74	240	P	Pn	12 29 24.8	+0.3
	baz=52,SNR=18						
E24K	Your Creek	5.75	12	P	Pn	12 29 25.6	+1.0
	baz=194,SNR=541						
E24K				S	Sn	12 30 28.4	-0.7
	baz=194						
H27K	Steamboat Moun	5.75	45	P	Pn	12 29 24.1	-0.6
	baz=234,SNR=653						
F17K	Baldwin Pennin	5.75	318		Pn	12 29 26.1	+1.6
F17K	Baldwin Pennin	5.75	318	P	Pn	12 29 25.4	+0.9
	baz=129,SNR=74						
BMAR	Burnt Mountain	5.77	28		Pn	12 29 25.1	+0.2
R16K	Pilot Point	5.78	214		Pn	12 29 24.8	-0.2
R16K	Pilot Point	5.78	214	P	Pn	12 29 26.3	+1.3
	baz=29,SNR=11						
BM01	Burnt Mountain	5.80	28		Pn	12 29 25.4	+0.1
I28M	Miner Creek	5.92	55	P	Pn	12 29 26.8	-0.2
	baz=245,SNR=1000						
PINM	Pinnacle	5.97	109	P	Pn	12 29 27.3	-0.5
	baz=299,SNR=399						
PINM				S	Sn	12 30 32.3	-2.4
	baz=299						
M13K	Dall Lake	6.01	255		Pn	12 29 29.5	+1.3
M13K	Dall Lake	6.01	255	P	Pn	12 29 29.2	+1.1
	baz=65,SNR=20						
E21K	Killik River	6.05	352		Pn	12 29 30.3	+1.6
E21K	Killik River	6.05	352	P	Pn	12 29 29.7	+1.1
	baz=169,SNR=190						
E21K				S	Sn	12 30 36.2	-0.3
	baz=169						
G15K	Niukluk	6.06	300		Pn	12 29 29.6	+0.7
G15K	Niukluk	6.06	300	P	Pn	12 29 30.8	+1.9
	baz=109						
G27K	Doyon Strip	6.07	40	P	Pn	12 29 28.3	-0.7
	baz=229,SNR=285						
G27K				S	Sn	12 30 36.3	-0.7
	baz=229						
F26K	Sheenjek River	6.09	28	P	Pn	12 29 29.5	+0.3
	baz=214,SNR=363						
F26K				S	Sn	12 30 36.5	-0.9
	baz=214						
M29M	Somme Creek	6.09	85	P	Pn	12 29 29.2	-0.2
	baz=276,SNR=528						
E20K	Nigu River	6.09	344		Pn	12 29 30.8	+1.5
E20K	Nigu River	6.09	344	P	Pn	12 29 30.7	+1.4
	baz=159						
E20K				S	Sn	12 30 36.9	-0.6
	baz=159						
K13K	Kusilvak Mount	6.14	270		Pn	12 29 30.7	+0.9
K13K	Kusilvak Mount	6.14	270	P	Pn	12 29 30.8	+0.9
	baz=79,SNR=31						
E25K	Arctic Village	6.18	21	P	Pn	12 29 30.9	+0.5
	baz=206,SNR=390						
L29M	L29M	6.20	78	P	Pn	12 29 30.3	-0.6
	baz=270,SNR=456						
YUK4	Talbot Arm	6.22	95	P	Pn	12 29 30.9	-0.4
	baz=285,SNR=146						
TOLK	Toolik Lake Re	6.22	7	P	Pn	12 29 33.0	+1.9
	baz=188						
TOLK				S	Sn	12 30 41.4	+0.7
	baz=188						
E18K	Tukpahlearik C	6.24	326		Pn	12 29 32.9	+1.6
E18K	Tukpahlearik C	6.24	326	P	Pn	12 29 32.5	+1.2
	baz=138,SNR=105						
E18K				S	Sn	12 30 39.7	-1.4
	baz=138						
J29N	Klondike Camp	6.30	66	P	Pn	12 29 31.8	-0.3
	baz=258,SNR=105						
E17K	Hotham Inlet	6.34	321		Pn	12 29 33.9	+1.3
E17K	Hotham Inlet	6.34	321	P	Pn	12 29 33.7	+1.0
	baz=132,SNR=99						
D22K	Ayikyak River	6.42	356		Pn	12 29 35.2	+1.4
D22K	Ayikyak River	6.42	356	P	Pn	12 29 35.1	+1.4
	baz=175,SNR=88						
YUK6	Outpost Mounta	6.48	98	P	Pn	12 29 33.6	-1.1
	baz=290,SNR=103						
ANM	Nome	6.50	295		Pn	12 29 34.2	-0.6
ANM	Nome	6.50	295	P	Pn	12 29 34.2	-0.6
ANM	Nome	6.50	295	P	Pn	12 29 36.4	+1.6
	baz=102,SNR=9.3						
D23K	Nanushuk River	6.50	3	P	Pn	12 29 36.0	+1.2
	baz=183,SNR=129						
D23K				S	Sn	12 30 48.9	+1.5
	baz=183						
K29M	Barlow Dome	6.51	72	P	Pn	12 29 34.4	-0.7
	baz=264,SNR=261						
I29M	Ogilvie Camp,	6.52	58	P	Pn	12 29 34.6	-0.4
	baz=250,SNR=341						
YKU2	Yakutat	6.52	112	P	Pn	12 29 33.9	-1.2
YKU2	Yakutat	6.52	112	S	Sn	12 30 45.3	-2.6
PNL	Peninsula	6.56	110	P	Pn	12 29 35.0	-0.7
PNL	Peninsula	6.56	110	P	Pn	12 29 34.9	-0.7
	baz=301,SNR=84						
F15K	North Star Dit	6.56	305		Pn	12 29 35.7	+0.1
F15K	North Star Dit	6.56	305	P	Pn	12 29 36.8	+1.2
	baz=113,SNR=18						
ANPK	Aniakchak Peak	6.57	213		Pn	12 29 36.7	+0.9
D20K	Etivluk River	6.58	344		Pn	12 29 36.6	+0.8
D20K	Etivluk River	6.58	344	P	Pn	12 29 36.9	+1.1
	baz=159						
D20K				S	Sn	12 30 49.6	+0.4
	baz=159						
D19K	Kuna River	6.60	339		Pn	12 29 37.5	+1.3
D19K	Kuna River	6.60	339	P	Pn	12 29 37.4	+1.3
	baz=152						
O29M	Mount Kennedy	6.62	104	P	Pn	12 29 35.9	-0.8
	baz=295,SNR=154						
D24K	Happy Valley	6.78	8		Pn	12 29 40.4	+1.9
D24K	Happy Valley	6.78	8	P	Pn	12 29 39.9	+1.3
	baz=191						
C21K	Knifeblade Rid	6.81	350	P	Pn	12 29 40.7	+1.7
	baz=167,SNR=78						
C21K				S	Sn	12 30 56.2	+1.3
	baz=167						
H29M	Whitestone	6.84	51	P	Pn	12 29 39.5	+0.1
	baz=243,SNR=280						
M30M	Minto, Yukon	6.84	83		Pn	12 29 38.8	-0.8
M30M	Minto, Yukon	6.84	83	P	Pn	12 29 38.7	-0.8
	baz=276,SNR=74						
HYT	Haines Junctio	6.91	98	P	Pn	12 29 39.5	-1.0
	baz=290,SNR=156						
N30M	Aishikik Lake	6.91	92	P	Pn	12 29 39.3	-1.2
	baz=285,SNR=214						
E27K	Coleen River	7.07	32	P	Pn	12 29 42.3	-0.2
	baz=220,SNR=80						
D17K	Noatak River	7.12	322		Pn	12 29 44.3	+1.1
D17K	Noatak River	7.12	322	P	Pn	12 29 45.1	+2.0
	baz=132,SNR=14						
CHGN	Chignik	7.12	212		Pn	12 29 43.4	+0.1
CHGN	Chignik	7.12	212	P	Pn	12 29 43.4	+0.1
	baz=27,SNR=52						
F28M	Old Crow	7.12	39		Pn	12 29 42.7	-0.6
F28M	Old Crow	7.12	39	P	Pn	12 29 42.7	-0.6
	baz=229,SNR=171						
J30M	Hart River	7.13	66		Pn	12 29 43.5	0.0
J30M	Hart River	7.13	66	P	Pn	12 29 43.3	-0.1
	baz=260,SNR=248						
F14K	Arctic Creek	7.13	301		Pn	12 29 44.2	+0.8
F14K	Arctic Creek	7.13	301	P	Pn	12 29 44.7	+1.3
	baz=108						
D25K	Kavik River	7.17	15	P	Pn	12 29 45.6	+1.6
	baz=199,SNR=360						
D25K				S	Sn	12 31 03.3	-0.5
	baz=199						
MAYO	Mayo, Yukon	7.22	74	P	Pn	12 29 44.0	-0.6
	baz=268,SNR=71						
I30M	Mount Dempster	7.25	61		Pn	12 29 44.5	-0.6
I30M	Mount Dempster	7.25	61	P	Pn	12 29 44.2	-0.9
	baz=255,SNR=97						
B21K	Ikpikpuk River	7.26	352	P	Pn	12 29 45.3	+0.3
	baz=169,SNR=62						
B21K				S	Sn	12 31 05.1	-0.6
	baz=169						
G29M	Pine Creek	7.30	47	P	Pn	12 29 45.4	-0.3
	baz=239,SNR=110						
P29M	Windy Craggy	7.31	107	P	Pn	12 29 44.8	-1.0
	baz=299,SNR=253						
P29M				S	Sn	12 31 03.9	-3.2
	baz=299						
RDOG	Red Dog Mine	7.31	325		Pn	12 29 48.2	+2.4
RDOG	Red Dog Mine	7.31	325	P	Pn	12 29 47.4	+1.6
	baz=134,SNR=27						
M11K	Mekoryuk	7.32	260		Pn	12 29 46.7	+0.8
M11K	Mekoryuk	7.32	260	P	Pn	12 29 47.3	+1.4
	baz=67,SNR=8.8						
C18K	Utukok River	7.34	331		Pn	12 29 47.2	+1.0
C18K	Utukok River	7.34	331	P	Pn	12 29 47.6	+1.4
	baz=142,SNR=33						
C24K	Franklin Bluff	7.35	8		Pn	12 29 47.8	+1.6
C24K	Franklin Bluff	7.35	8	P	Pn	12 29 47.8	+1.6
	baz=190						
C23K	Itkillik River	7.38	3		Pn	12 29 48.1	+1.4
C23K	Itkillik River	7.38	3	P	Pn	12 29 48.2	+1.5
	baz=183,SNR=51						
C23K				S	Sn	12 31 08.0	-0.7
	baz=183						
C19K	Lookout Ridge	7.39	337		Pn	12 29 48.0	+1.0
C19K	Lookout Ridge	7.39	337	P	Pn	12 29 48.9	+1.9
	baz=150,SNR=20						
P30M	Milton Dollar	7.43	102	P	Pn	12 29 46.6	-0.9
	baz=295,SNR=85						
S14K	Fog Glacier	7.44	217	P	Pn	12 29 49.8	+2.1
	baz=30						
VNFG	Fog Glacier, M	7.44	217		Pn	12 29 49.7	+2.0
VNSG	Veniaminof 6	7.45	214		Pn	12 29 47.9	+0.1
EPYK	Eagle Plains	7.50	52		Pn	12 29 48.1	-0.3
EPYK	Eagle Plains	7.50	52	P	Pn	12 29 48.1	-0.3
	baz=246,SNR=349						
EPYK				S	Sn	12 31 11.4	-0.4
	baz=246						
N31M	Braeburn, Yuko	7.51	91		Pn	12 29 48.1	-0.5
N31M	Braeburn, Yuko	7.51	91	P	Pn	12 29 48.1	-0.5
	baz=285,SNR=37						
O30N	Mendenhall	7.58	96	P	Pn	12 29 48.4	-1.2
	baz=290,SNR=80						
VNKR	Veniaminof 5	7.61	215		Pn	12 29 50.5	+0.5
C17K	DeLong Mountai	7.68	326		Pn	12 29 52.1	+1.3
C17K	DeLong Mountai	7.68	326	P	Pn	12 29 52.8	+2.0
	baz=136,SNR=20						
TNA	Tin City	7.79	300		Pn	12 29 53.0	+0.7
TNA	Tin City	7.79	300	P	Pn	12 29 53.7	+1.4
	baz=106,SNR=18						
C27K	Jago River	7.83	21	P	Pn	12 29 54.4	+1.5
	baz=208,SNR=226						
C27K				S	Sn	12 31 20.5	+0.8
	baz=208						
B20K	Meade River	7.87	346		Pn	12 29 53.9	+0.7
B20K	Meade River	7.87	346	P	Pn	12 29 53.8	+0.5
	baz=161,SNR=12						
B20K				S	Sn	12 31 21.7	+1.2
	baz=161						
E28M	Babbage River	7.89	34	P	Pn	12 29 53.0	-0.8
	baz=225,SNR=86						
B22K	Teshekpuk Lake	7.91	355		Pn	12 29 54.7	+0.8
B22K	Teshekpuk Lake	7.91	355	P	Pn	12 29 54.6	+0.7
	baz=174,SNR=46						
B22K				S	Sn	12 31 20.6	-1.0
	baz=174						
C26K	Camden Bay	7.92	17		Pn	12 29 55.6	+1.6
C26K	Camden Bay	7.92	17	P	Pn	12 29 55.8	+1.8
	baz=203,SNR=111						
G30M	tAoh Zraii Nji	7.95	49	P	Pn	12 29 53.6	-0.9
	baz=242,SNR=124						
G30M				S	Sn	12 31 21.8	-0.9
	baz=242						
M31M	Drury Creek, Y	8.01	84		Pn	12 29 55.0	-0.3
M31M	Drury Creek, Y	8.01	84	P	Pn	12 29 54.9	-0.4
	baz=280,SNR=64						
D27M	Malcolm River	8.04	28		Pn	12 29 56.6	+0.9
D27M	Malcolm River	8.04	28	P	Pn	12 29 56.1	+0.4
	baz=217,SNR=101						
D27M				S	Sn	12 31 24.2	-0.6
	baz=217						
B18K	Kokolik River	8.04	333		Pn	12 29 56.8	+1.0
B18K	Kokolik River	8.04	333	P	Pn	12 29 57.0	+1.3
	baz=144,SNR=36						
C16K	Lisburne Hills	8.14	321	P	Pn	12 29 58.5	+1.5
	baz=129						
WHY	Whitehorse	8.18	96		Pn	12 29 56.6	-1.2
WHY	Whitehorse	8.18	96	P	Pn	12 29 56.5	-1.2
	baz=290,SNR=62						
WHY				S	Sn	12 31 25.4	-3.0
	baz=290						
E29M	Blow River	8.20	38	P	Pn	12 29 57.4	-0.4
	baz=230,SNR=57						
H31M	Peel River	8.22	59	P	Pn	12 29 56.6	-1.6
	baz=254,SNR=57						
H31M				S	Sn	12 31 27.6	-1.7
	baz=254						
F30M	Barrier River	8.40	46		Pn	12 30 00.3	-0.3
F30M	Barrier River	8.40	46	P	Pn	12 30 00.2	-0.5
	baz=240,SNR=54						
F30M				S	Sn	12 31 32.0	-1.6
	baz=240						
SKAG	Skagway	8.47	104	P	Pn	12 30 00.7	-0.8
SKAG	Skagway	8.47	104	P	Pn	12 30 00.7	-0.8
	baz=298,SNR=124						
SKAG				S	Sn	12 31 32.5	-2.7
	baz=298						
SDPT	Sand Point	8.51	217		Pn	12 30 01.8	-0.4
SDPT	Sand Point	8.51	217	P	Pn	12 30 02.9	+0.8
	baz=29,SNR=32						
A19K	Wainwright	8.61	338		Pn	12 30 02.0	-1.4
A19K	Wainwright	8.61	338	P	Pn	12 30 03.3	-0.1
	baz=149						
A19K				S	Sn	12 31 38.0	-0.6
	baz=149						
D28M	Stokes Point	8.62	32		Pn	12 30 03.8	+0.3
D28M	Stokes Point	8.62	32	P	Pn	12 30 04.0	+0.5
	baz=223,SNR=16						
D28M				S	Sn	12 31 38.5	-0.2
	baz=223						
G31M	Satah River	8.62	52		Pn	12 30 02.1	-1.4
G31M	Satah River	8.62	52	P	Pn	12 30 02.3	-1.3
	baz=247,SNR=111						
A22K	Sinclair Lake	8.64	353		Pn	12 30 03.3	-0.6
A22K	Sinclair Lake	8.64	353	P	Pn	12 30 03.6	-0.2
	baz=169,SNR=7.5						
A22K				S	Sn	12 31 38.8	-0.6
	baz=169						
S12K	Black Hills	8.68	223	P	Pn	12 30 04.6	+0.2
	baz=34						
CHNA	Chernabura Isl	8.74	212	P	Pn	12 30 04.3	-1.0
CHNA	Chernabura Isl	8.74	212	P	Pn	12 30 05.6	+0.3
	baz=25,SNR=18						
CHNA				S	Sn	12 31 39.6	-2.3
	baz=25						
PS1A	Pavlof South-1	8.82	221		Pn	12 30 06.4	+0.1
R31K	City Hall, Gus	8.83	111		Pn	12 30 05.9	-0.5
R31K	City Hall, Gus	8.83	111	P	Pn	12 30 05.1	-1.3
	baz=304,SNR=11						
R31K				S	Sn	12 31 40.0	-4.0
	baz=304						
N32M	Quiet Lake	8.86	91		Pn	12 30 06.5	-0.5
N32M	Quiet Lake	8.86	91	P	Pn	12 30 06.4	-0.5
	baz=287						
S31K	Pelican	8.88	114	P	Pn	12 30 04.7	-2.5
	baz=307,SNR=25						
S31K				S	Sn	12 31 40.7	-4.6
	baz=307						
PN7A	Pavlof North-7	8.88	222		Pn	12 30 08.6	+1.3
PS4A	Pavlof South-4	8.91	221		Pn	12 30 07.9	+0.3
F31M	Tsiigehtchic	9.02	49	P	Pn	12 30 07.4	-1.6
	baz=245,SNR=73						
F31M				S	Sn	12 31 45.4	-3.2
	baz=245						
A21K	Barrow	9.07	350		Pn	12 30 09.7	0.0
A21K	Barrow	9.07	350	P	Pn	12 30 10.1	+0.4
	baz=165						
P32M	Atlin	9.14	101	P	Pn	12 30 09.3	-1.4
	baz=296,SNR=31						
P32M				S	Sn	12 31 47.0	-4.7
	baz=296						
GAMB	Gambell	9.19	287	P	Pn	12 30 13.5	+2.2
	baz=89						
DT1	Dutton Round H	9.25	222		Pn	12 30 12.5	+0.3
P33M	Teslin, Yukon	9.29	96		Pn	12 30 11.6	-1.3
P33M	Teslin, Yukon	9.29	96	P	Pn	12 30 11.7	-1.3
	baz=292,SNR=41						
MMPY	Sheldon Lake,	9.38	80		Pn	12 30 13.9	-0.1
MMPY	Sheldon Lake,	9.38	80	P	Pn	12 30 13.8	-0.1
	baz=278,SNR=154						
R32K	Eaglecrest	9.44	109	P	Pn	12 30 13.6	-1.2
	baz=304,SNR=63						
INK	Inuvik	9.49	44	P	Pn	12 30 15.4	0.0
	comp=E,359nm,1.0s,baz=241,slow=16,SNR=190						
INK				S	Sn	12 31 57.8	-2.2
	comp=E,54nm,0.8s,baz=306,slow=8.7,SNR=1.8						
INK				LR	LR	12 33 59.7	
	comp=E,796nm,21.8s,baz=214,slow=38						
INK	Inuvik	9.49	44	P	Pn	12 30 14.6	-0.8
	baz=241,SNR=210						
JIS	Juneau Island	9.50	109	P	Pn	12 30 14.8	-0.7
FALS	False Pass	9.82	224		Pn	12 30 21.6	+1.7
FALS	False Pass	9.82	224	P	Pn	12 30 21.6	+1.7
FALS	False Pass	9.82	224	P	Pn	12 30 21.6	+1.7
	baz=34,SNR=15						
SIT	Sitka	9.83	116	P	Pn	12 30 18.6	-1.5
SIT	Sitka	9.83	116	P	Pn	12 30 18.3	-1.8
	baz=310,SNR=23						
SIT				S	Sn	12 32 02.5	-5.9
	baz=310						
Q32M	Nakina River	10.09	102	P	Pn	12 30 22.6	-1.3
	baz=299,SNR=60						
R33M	Jennings River	10.48	98		Pn	12 30 27.8	-1.4
R33M	Jennings River	10.48	98	P	Pn	12 30 27.7	-1.4
	baz=296,SNR=57						
SPIA	Saint Paul Isl	10.77	249	P	Pn	12 30 33.7	+0.8
	baz=53						
TGTN	Hyland Airport	10.98	85	P	Pn	12 30 36.0	+0.2
	baz=285,SNR=32						
T33K	Petersburg	10.99	113	P	Pn	12 30 33.6	-2.2
	baz=309						
S34M	Telegraph Cree	11.14	105	P	Pn	12 30 37.2	-0.7
	baz=303,SNR=83						
AKUT	Akutan	11.20	228		Pn	12 30 40.1	+1.5
AKUT	Akutan	11.20	228	P	Pn	12 30 40.4	+1.8
WTLY	Watson Lake, Y	11.20	92	P	Pn	12 30 37.6	-1.1
	baz=292,SNR=8.6						
DLBC	Dease Lake	11.37	101	P	Pn	12 30 40.0	-1.0
	comp=E,202nm,0.5s,baz=281,slow=12,SNR

U35K **Hyder** 12.82 111 P **Pn** 12 30 59.2 -1.0
baz=310,SNR=15
C36M **Paulatuk** 13.05 47 **Pn** 12 31 00.9 -2.2
C36M **Paulatuk** 13.05 47 P **Pn** 12 31 00.6 -2.5
baz=252,SNR=17
NIKH **Nikolski High** 13.23 232 P **Pn** 12 31 07.0 +1.4
NIKH **Nikolski High** 13.23 232 P **Pn** 12 31 08.1 +2.5
baz=37,SNR=5.4
TOAD **Toad River Com** 13.38 94 P **Pn** 12 31 07.0 -0.6
baz=297,SNR=34
KOTAN **Kotaneelee Air** 13.39 88 P **Pn** 12 31 06.7 -1.0
baz=292,SNR=42
DIB **Dawson Inlet,** 13.74 124 **Pn** 12 31 12.1 -0.2
A36M **Sachs Harbour** 13.79 35 **Pn** 12 31 10.9 -1.8
A36M **Sachs Harbour** 13.79 35 P **Pn** 12 31 10.0 -2.8
baz=240
HG4B **Hotspring** 14.93 124 **Pn** 12 31 28.1 +0.4
ATKA **Atka Island** 15.88 240 P **P** 12 31 41.8 +0.6
ATKA **Atka Island** 15.88 240 P **P** 12 31 41.0 -0.2
BBB **Bella Bella** 16.24 119 P **P** 12 31 45.3 0.0
comp=E,81nm,0.8s,baz=307,slow=13,SNR=22
BBB S **Sn** 12 34 39.5 -4.1
comp=E,7.9nm,0.7s,baz=90,slow=17,SNR=8.2
YKAW3 **Yellowknife Wh** 16.91 73 **Pn** 12 31 51.1 -1.1
YKA **Yellowknife Ar** 16.93 74 **Pn** 12 31 50.7 -1.8
YKA **Yellowknife Ar** 16.93 74 P **Pn** 12 31 52.0 -0.5
comp=E,41nm,0.8s,baz=53,slow=10,SNR=67
YKA LR LR 12 38 30.8
comp=E,374nm,18.3s,baz=302,slow=37
YKA ScP **ScP** 12 39 58.8 +0.5
comp=E,7.1nm,0.9s,baz=296,slow=3.1,SNR=7.3
YKA **Yellowknife Ar** 16.93 74 P **Pn** 12 31 52.0 -0.5
YKAW1 **Yellowknife Wh** 16.99 74 P **Pn** 12 31 52.5 -0.7
ADK **Adak** 17.13 243 P **P** 12 31 55.8 +0.7
ADK **Adak** 17.13 243 P **P** 12 31 56.5 +1.4
ADK **Adak** 17.13 243 P **P** 12 31 55.8 +0.7
KIWB **Kanaga Island** 17.35 244 P **Pn** 12 31 58.0 +0.4
BILL **Bilibino** 18.17 306 *i* P **P** 12 32 05.1 -1.3
SHEM **Shemya Is, Ala** 20.56 257 P **P** 12 32 32.4 -0.1
comp=E,69nm,0.9s,baz=39,slow=5.5,SNR=4.3
comp=E,69nm,0.9s
E03A **Lebam** 22.52 122 P **P** 12 32 55.8 +2.5
RES **Resolute Bay** 22.84 35 P **P** 12 32 57.7 +1.5
RES **Resolute Bay** 22.84 35 P **P** 12 32 57.7 +1.5
NEW **Newport** 23.84 111 LR LR 12 43 15.9
comp=E,283nm,18.9s,baz=339,slow=38
NEW **Newport** 23.84 111 P **P** 12 33 07.4 +1.6
NEW pmax pmax
comp=Z,47nm,0.7s
D08A **Wollman Farm,** 24.00 115 P **P** 12 33 08.8 +1.6
HAWA **Hanford** 24.27 117 P **P** 12 33 10.5 +0.8
BLKN **Baker Lake** 24.28 61 P **P** 12 33 10.3 +0.8
G06A **Carlson Farm,** 24.76 120 P **P** 12 33 15.9 +1.7
I03D **Drain, OR** 24.99 126 P **P** 12 33 19.1 +2.8
SEY **Seymchan** 25.00 296 LR LR 12 43 34.9
comp=Z,119nm,18.0s,baz=72,slow=38
SEY **Seymchan** 25.00 296 *e*P **P** 12 33 13.8 -2.4
SEY pmax pmax
comp=Z,52nm,1.3s
WIFE **Three Sisters-** 25.27 123 P **P** 12 33 21.3 +2.3
F10A **Beach Ranch, E** 25.57 114 P **P** 12 33 22.6 +0.9
FFC **Flin Flon** 26.37 84 P **P** 12 33 29.5 +0.9
FFC **Flin Flon** 26.37 84 P **P** 12 33 29.5 +0.9
FFC pmax pmax
comp=Z,24nm,0.9s
KSXB **Camp Six Broad** 26.41 129 IAmb IAmb 12 33 33.2
comp=Z,102nm,1.7s
BMO **Blue Mountains** 26.44 116 P **P** 12 33 31.0 +1.5
K04D **Chiloquin, OR** 26.51 125 IAmb IAmb 12 33 33.6
comp=Z,49nm,0.9s
L04D **Klamath Falls** 26.65 126 IAmb IAmb 12 33 34.9
comp=Z,38nm,0.8s
K05A **Summer Lake** 26.76 123 IAmb IAmb 12 33 59.5
comp=Z,56nm,1.3s
PLID **Pearl Lake** 26.80 114 P **P** 12 33 33.9 +1.0
PLID IAmb IAmb 12 33 34.7
comp=Z,28nm,0.6s
LYMT **Lyon Mountain** 26.95 107 P **P** 12 33 35.5 +1.3
MA2 **Magadan** 27.27 290 *i* P **P** 12 33 36.0 -0.6
MA2 pmax pmax
comp=Z,10.0nm,0.7s
EGMT **Eagleton** 27.29 102 IAmb IAmb 12 33 39.1
comp=Z,57nm,0.7s
PET **Petropavlovsk** 27.50 273 P **P** 12 33 39.9 +1.2
PET **Petropavlovsk** 27.50 273 *e*P **P** 12 33 37.4 -1.3
PET *e**SP **sP** 12 34 12.9 +0.8
PET *e*S **S** 12 38 10.6 -1.5
PET pmax pmax
comp=Z,100nm,13.2s
PET MLR MLR
comp=Z,200nm,19.0s
PET MLR MLR
comp=Z,400nm,13.0s
KMPM **Mount Pierce** 27.57 130 IAmb IAmb 12 33 43.5
comp=Z,30nm,0.7s
FCC **Fort Churchill** 27.64 71 P **P** 12 33 41.1 +1.3
FCC IAmb IAmb 12 34 04.7
comp=Z,43nm,0.8s
FCC **Fort Churchill** 27.64 71 P **P** 12 33 41.2 +1.3
FCC pmax pmax
comp=Z,43nm,0.8s
KMRM **Mail Ridge** 27.88 130 IAmb IAmb 12 33 46.5
comp=Z,64nm,0.7s
PEA0B **Petropavlovsk-** 27.89 274 *i* P **P** 12 33 41.7 -0.5
PETK **Petropavlovsk-** 27.89 274 P **P** 12 33 41.7 -0.5
comp=Z,5.5nm,0.6s,baz=68,slow=14,SNR=23
PETK PKiKP **PKiKP** 12 44 27.9 -2.7
comp=Z,3.2nm,0.9s,baz=68,slow=5.4,SNR=6.0
PETK LR LR 12 45 32.6
comp=Z,57nm,19.9s,baz=43,slow=38
comp=Z,5.5nm,0.6s
WVOR **Wild Horse Val** 27.89 121 P **P** 12 33 44.8 +2.3
WVOR pmax pmax
comp=Z,12nm,0.8s
HATC **Hat Creek Radi** 28.18 126 IAmb IAmb 12 33 48.6
comp=Z,37nm,0.7s
MFID **Camas Ranch** 28.23 116 IAmb IAmb 12 33 47.8
comp=Z,37nm,0.6s
BOZ **Bozeman (W)** 28.29 108 P **P** 12 33 47.8 +1.7
KCPM **Cahto Peak** 28.40 130 IAmb IAmb 12 33 50.6
comp=Z,43nm,0.6s
O03E **Paynes Creek** 28.51 127 IAmb IAmb 12 33 50.8
comp=Z,46nm,0.8s
YMR **Madison River** 29.31 108 IAmb IAmb 12 33 58.5
comp=Z,30nm,0.8s
BEKR **Beckworth** 29.42 126 IAmb IAmb 12 33 59.1
comp=Z,28nm,0.7s
SUTB **Sutter Butte** 29.45 128 IAmb IAmb 12 34 22.3
comp=Z,48nm,1.5s
YNE **Yellowstone No** 29.47 107 IAmb IAmb 12 33 59.7
comp=Z,35nm,0.8s
DGMT **Dagmar** 29.51 96 IAmb IAmb 12 33 58.5
comp=Z,27nm,0.5s
LKWY **Lake** 29.64 108 IAmb IAmb 12 34 02.5
comp=Z,24nm,0.8s
RLMT **Red Lodge** 29.71 106 IAmb IAmb 12 34 02.5
comp=Z,65nm,1.0s
LAO **LASA Array** 29.89 101 IAmb IAmb 12 34 03.0
comp=Z,46nm,0.8s
TIXI **Tiksi** 29.91 321 LR LR 12 48 26.2
comp=Z,72nm,18.6s,baz=106,slow=41
CVS **Carmenet Viney** 30.00 130 IAmb IAmb 12 34 04.3
comp=Z,35nm,0.9s
TPAW **Teton Pass** 30.25 110 IAmb IAmb 12 34 07.2
comp=Z,26nm,0.8s
ELK **Elko** 30.69 118 P **P** 12 34 09.8 +2.4
BW06 **Boulder Array** 31.44 109 IAmb IAmb 12 34 17.0
comp=Z,43nm,1.3s
PD31 **Pinedale Array** 31.44 109 IAmb IAmb 12 34 17.0
comp=Z,39nm,1.2s
PDAR **Pinedale Array** 31.44 109 P **P** 12 34 15.6 +1.6
PDAR **Pinedale Array** 31.44 109 P **P** 12 34 15.8 +1.7
comp=Z,13nm,0.6s,baz=319,slow=3.4,SNR=240
PDAR PcP **PcP** 12 37 04.7 -0.2
comp=Z,1.3nm,0.5s,baz=304,slow=1.7,SNR=2.9
PDAR ScP **ScP** 12 40 38.3 -0.4
comp=Z,2.3nm,0.8s,baz=86,slow=0.7,SNR=8.8
PDAR LR LR 12 48 24.5
comp=Z,36nm,20.8s,baz=356,slow=39
comp=Z,13nm,0.6s
NVAR **Mina Array Bea** 31.46 124 P **P** 12 34 16.4 +2.2
NVAR **Mina Array Bea** 31.46 124 P **P** 12 34 16.6 +2.4
comp=Z,20nm,0.6s,baz=318,slow=9.3,SNR=160
NVAR pP **pP** 12 34 39.4 +3.4
comp=Z,19nm,0.8s,baz=312,slow=7.9,SNR=7.1
NVAR PcP **PcP** 12 37 06.2 +1.2
comp=Z,2.5nm,0.9s,baz=315,slow=4.2,SNR=3.0
NVAR ScP **ScP** 12 40 40.5 +1.7
comp=Z,5.9nm,0.8s,baz=268,slow=3.0,SNR=18
NVAR LR LR 12 47 28.5
comp=Z,116nm,18.3s,baz=312,slow=37
comp=Z,20nm,0.6s
NV11 **Mina Array Sit** 31.51 124 IAmb IAmb 12 34 18.0
comp=Z,22nm,0.7s
LHV **Little Huntoon** 31.54 125 IAmb IAmb 12 34 18.3
comp=Z,35nm,1.2s
LEGD **La Grand CA** 31.83 128 IAmb IAmb 12 34 21.6
comp=Z,53nm,1.4s
TCUT **Toone Canyon** 31.98 113 IAmb IAmb 12 34 22.6
comp=Z,26nm,0.6s
MDND **Maddock** 32.09 93 IAmb IAmb 12 34 21.8
comp=Z,46nm,0.9s
ULM **Lac du Bonnet** 32.12 86 P **P** 12 34 20.7 +1.2
comp=Z,8.8nm,0.6s,baz=318,slow=9.0,SNR=9.2
ULM PcP **PcP** 12 37 06.0 -0.2
comp=Z,3.6nm,0.4s,baz=40,slow=2.5,SNR=2.5
ULM LR LR 12 48 38.5
comp=Z,132nm,18.4s,baz=320,slow=38
comp=Z,8.8nm,0.6s
CTU **Camp Tracy** 32.19 114 IAmb IAmb 12 34 23.1
comp=Z,20nm,0.8s
NEEM **North Greenlan** 32.25 24 *i* P **P** 12 34 20.8 0.0
NEEM IAmb IAmb 12 34 26.8
comp=Z,29nm,0.4s
R11B **Troy Canyon, C** 32.59 121 IAmb IAmb 12 34 50.5
comp=Z,52nm,2.0s
BSUT **Blindstream Ca** 32.74 113 IAmb IAmb 12 34 28.7
comp=Z,38nm,0.7s
RSSD **Black Hills** 32.85 102 P **P** 12 34 28.1 +1.8
RSSD pmax pmax
comp=Z,172nm,0.7s
RSSD **Black Hills** 32.85 102 P **P** 12 34 27.8 +1.6
RSSD sP **sP** 12 34 59.1 -0.3
RSSD ScP **ScP** 12 40 43.9 +0.5
K22A **Casper** 32.88 106 IAmb IAmb 12 34 28.8
comp=Z,37nm,0.9s
GRAC **Grapevine Rang** 33.07 124 IAmb IAmb 12 34 54.5
comp=Z,133nm,2.0s
RDMU **Red Mountain** 33.22 111 IAmb IAmb 12 34 33.1
comp=Z,36nm,0.9s
AGMN **Agassiz Nation** 33.50 89 IAmb IAmb 12 34 33.5
comp=Z,40nm,1.4s
P18A **Preston Nutter** 33.71 113 IAmb IAmb 12 34 38.7
comp=Z,32nm,0.6s
FURC **Furnace Creek,** 33.73 124 IAmb IAmb 12 35 01.5
comp=Z,87nm,1.7s
ISA **Isabella, Lake** 33.83 127 IAmb IAmb 12 34 37.1
comp=Z,15nm,0.7s
NOR **Nord** 34.12 11 *i* P **P** 12 34 37.7 +1.1
NOR IAmb IAmb 12 34 38.4
comp=Z,15nm,1.2s
QSM **Queen of Sheba** 34.17 125 IAmb IAmb 12 34 41.0
comp=Z,28nm,0.6s
CCUT **Cedar City** 34.17 119 IAmb IAmb 12 35 05.2
comp=Z,15nm,0.6s
HAYD **Hayden** 34.27 109 IAmb IAmb 12 34 41.6
comp=Z,28nm,0.7s
LRMC **Laurel Mtn Rad** 34.29 126 IAmb IAmb 12 34 41.5
comp=Z,23nm,0.7s
YAK **Yakutsk** 34.52 305 P **P** 12 34 39.6 -0.7
YAK **Yakutsk** 34.52 305 LR LR 12 49 03.8
comp=Z,68nm,20.1s,baz=48,slow=37
YAK **Yakutsk** 34.52 305 *c i* P **P** 12 34 39.5 -0.8
YAK *e**PP **pP** 12 35 04.6 +2.2
YAK *e* 12 35 56.1
YAK *e* 12 37 10.9
YAK *e*S **S** 12 39 59.7 -1.8
YAK *e*SS **SnSn** 12 42 23.7 +1.2
YAK *e* 12 44 55.5
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=Z,55nm,1.2s
YAK pmax pmax
comp=E,26nm,1.5s
YAK pmax pmax
comp=Z,180nm,4.2s
YAK pmax pmax
comp=N,81nm,4.2s
YAK pmax pmax
comp=E,151nm,4.0s
YAK smax smax
comp=E,120nm,4.1s
YAK smax smax
comp=N,74nm,3.5s
KNB **Kanab** 34.85 119 IAmb IAmb 12 34 47.1
comp=Z,19nm,0.7s
HMU **Henry Mountain** 34.92 115 IAmb IAmb 12 35 45.6
comp=Z,28nm,0.7s
FRB **Frobisher Bay** 35.08 50 LR LR 12 48 41.5
comp=Z,178nm,20.3s,baz=331,slow=35
MTPC **Mountain Pass** 35.09 123 IAmb IAmb 12 34 49.4
comp=Z,24nm,0.9s
V12A **Nelson** 35.16 122 IAmb IAmb 12 34 50.0
comp=Z,20nm,1.1s
MWC **Mount Wilson** 35.26 128 IAmb IAmb 12 35 14.1
comp=Z,42nm,1.4s
BFSC **Mount Baldy Ra** 35.40 127 IAmb IAmb 12 35 15.3
comp=Z,68nm,1.5s
ISCO **Idaho Springs** 35.59 108 P **P** 12 34 52.0 +2.0
ISCO pmax pmax
comp=Z,13nm,0.7s
EYMN **Ely** 35.78 85 IAmb IAmb 12 34 54.0
comp=Z,19nm,0.6s
DANC **Danby, Needles** 35.91 124 IAmb IAmb 12 35 01.4
comp=Z,21nm,0.8s
NEE2 **Needles Airpor** 36.09 123 IAmb IAmb 12 34 57.2
comp=Z,26nm,0.8s
BELC **Belle Mtn. Jos** 36.23 125 IAmb IAmb 12 34 58.4
comp=Z,20nm,0.7s
TBO **Thunder Bay** 36.23 83 IAmb IAmb 12 36 17.7
comp=Z,19nm,1.0s
TYV **Tymovskoe** 36.30 283 *e*P **P** 12 34 56.2 +0.6
TYV *e*S **S** 12 40 31.2 +2.4
TYV pmax pmax
comp=Z,300nm,3.7s
TYV pmax pmax
comp=Z,23nm,1.1s
TYV smax smax
comp=N,100nm,2.5s
TYV smax smax
comp=E,200nm,2.5s
TYV smax smax
comp=N,6.0nm,1.7s
TYV smax smax
comp=E,8.0nm,1.7s
PMD **Palm Desert** 36.40 126 IAmb IAmb 12 34 59.4
comp=Z,17nm,0.7s
PFO **Pinyon Flats O** 36.41 126 P **P** 12 34 57.9 +1.0
PFO IAmb IAmb 12 34 59.2
comp=Z,13nm,0.7s
PFO **Pinyon Flats O** 36.41 126 LR LR 12 47 27.0
comp=Z,122nm,21.7s,baz=0.5,slow=32
PFO **Pinyon Flats O** 36.41 126 *i* P **P** 12 34 58.5 +1.6
PFO pmax pmax
comp=Z,23nm,0.7s
PFO **Pinyon Flats O** 36.41 126 P **P** 12 34 58.7 +1.9
PFO pP **pP** 12 35 21.9 +2.8
PFO ScP **ScP** 12 40 57.5 +1.2
Q24A **Divide** 36.48 108 IAmb IAmb 12 35 00.5
comp=Z,14nm,0.8s
MVCO **Mesa Verde** 36.49 113 IAmb IAmb 12 34 60.0
comp=Z,23nm,0.7s
BORC **Borrego Spring** 36.73 126 IAmb IAmb 12 35 02.1
comp=Z,13nm,0.7s
WUAZ **Wupatki** 36.73 118 IAmb IAmb 12 35 03.0
comp=Z,35nm,0.8s
E38A **The Farm, Brul** 36.73 87 IAmb IAmb 12 35 01.6
comp=Z,19nm,1.0s
DPP **Dos Picos Cty** 36.77 127 IAmb IAmb 12 35 26.7
comp=Z,22nm,1.0s
CPE **Camp Elliot** 36.81 127 IAmb IAmb 12 35 03.5
comp=Z,33nm,1.1s
BLYC **Blythe** 37.02 123 IAmb IAmb 12 35 05.3
comp=Z,35nm,0.7s
BAR **Barrett** 37.16 127 IAmb IAmb 12 35 05.9
comp=Z,12nm,0.7s
SDCO **Great Sand Dun** 37.33 110 IAmb IAmb 12 35 07.9
comp=Z,17nm,0.7s
GLA **Glamis** 37.52 124 IAmb IAmb 12 35 09.4
comp=Z,31nm,0.7s
SUMG **Summit** 37.85 27 P **P** 12 35 09.6 +0.6
SUMG IAmb IAmb 12 35 59.9
comp=Z,97nm,1.9s
SUMG **Summit** 37.85 27 P **P** 12 35 09.6 +0.6
SUMG pmax pmax
comp=Z,97nm,1.9s
SUMG **Summit** 37.85 27 *i* P **P** 12 35 09.9 +0.9
DAG **Danmarks Havn** 37.90 16 *i* P **P** 12 35 08.5 -0.3
DAG IAmb IAmb 12 35 10.2
comp=Z,16nm,0.7s
ESJX **Sierra Juarez** 38.03 127 IAmb IAmb 12 35 13.5
comp=Z,19nm,0.6s
X18A **Snowflake** 38.17 117 IAmb IAmb 12 35 15.2
comp=Z,24nm,0.9s
G40A **Rib Lake** 38.36 87 IAmb IAmb 12 35 14.8
comp=Z,22nm,0.8s
KBS **Kingsbay** 38.47 5 P **P** 12 35 10.1 -3.5
KBS IAmb IAmb 12 35 16.5
comp=Z,26nm,1.1s
KBS **Kingsbay** 38.47 5 P **P** 12 35 10.1 -3.5
KBS pmax pmax
comp=Z,26nm,1.1s
KBS **Kingsbay** 38.47 5 *i* P **P** 12 35 09.0 -4.6
KUQ **Kuujjuuaa** 38.75 57 P **P** 12 35 16.7 +0.6
SFJD **Kangerlussuaq** 38.76 38 LR LR 12 50 33.1
comp=Z,200nm,20.6s,baz=326,slow=35
SFJD **Kangerlussuaq** 38.76 38 *i* P **P** 12 35 17.2 +1.0
YSS **Yuzhno-Sakhali** 39.07 278 P **P** 12 35 19.6 +0.6
YSS **Yuzhno-Sakhali** 39.07 278 *e*P **P** 12 35 18.4 -0.6
YSS *e* 12 45 15.2
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,800nm,14.0s
GRNR **Gornyy** 39.16 287⇑ *i* P **P** 12 35 19.8 +0.1
GRNR pmax pmax
comp=E,30nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,50nm,0.7s
GRNR MLR MLR
comp=E,300nm,15.0s
GRNR MLR MLR
comp=Z,160nm,15.0s
ANMO **Albuquerque** 39.28 113 P **P** 12 35 22.6 +1.6
ANMO **Albuquerque** 39.28 113 LR LR 12 53 00.7
comp=Z,105nm,19.0s,baz=70,slow=38
ANMO **Albuquerque** 39.28 113 *c e*P **P** 12 35 23.2 +2.1
ANMO pmax pmax
comp=Z,13nm,1.3s
ANMO **Albuquerque** 39.28 113 P **P** 12 35 22.9 +1.8
ANMO PcP **PcP** 12 37 27.8 -0.1
ANMO ScP **ScP** 12 41 08.3 +1.1
SFX **San Felipe** 39.31 126 IAmb IAmb 12 35 24.5
comp=Z,20nm,0.9s
SPA0 **Spitsbergen Ar** 39.37 4 *e*P **P** 12 35 20.7 -0.4
SPITS **Spitsbergen Ar** 39.37 4 P **P** 12 35 20.7 -0.4
comp=Z,12nm,0.3s,baz=17,slow=6.1,SNR=402
SPITS PcP **PcP** 12 37 26.9 -0.4
comp=Z,2.0nm,0.4s,baz=56,slow=5.7,SNR=2.8
comp=Z,12nm,0.3s
SPB2 **Spitsbergen Ar** 39.37 4 IAmb IAmb 12 35 29.2
comp=Z,51nm,1.3s
RTBA **Rita Blanca** 39.64 108 IAmb IAmb 12 35 26.1
comp=Z,15nm,0.6s
DBG **Daneborg** 39.75 19 *i* P **P** 12 35 24.2 -0.1
TUC **Tucson** 39.76 120 P **P** 12 35 27.6 +2.5
TUC **Tucson** 39.76 120 P **P** 12 35 27.6 +2.5
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC **Tucson** 39.76 120 P **P** 12 35 27.5 +2.5
TUC pP **pP** 12 35 50.9 +3.5
Y22A **Socorro** 39.92 115 IAmb IAmb 12 35 29.8
comp=Z,22nm,0.7s
JFWS **Jewell Farm** 40.14 90 IAmb IAmb 12 35 28.9
comp=Z,31nm,0.5s
DUN6 **Lazy B Ranch** 40.24 118 IAmb IAmb 12 35 32.1
comp=Z,39nm,0.7s
E46A **Sault Ste Mari** 40.26 81 IAmb IAmb 12 35 30.4
comp=Z,33nm,0.6s
DY2G **Dye2** 40.36 37 *i* P **P** 12 35 30.2 +0.5
121A **Cookes Peak, D** 40.80 117 IAmb IAmb 12 35 37.1
comp=Z,16nm,0.6s
ZEA **Zeya** 40.99 296 *e*P **P** 12 35 34.0 -0.7
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,30nm,1.3s
P38A **Dawn** 41.21 96 IAmb IAmb 12 35 38.1
comp=Z,24nm,0.8s
HOPEN **Hopen** 41.22 1 *e*P **P** 12 35 37.9 +1.6
ASAJ **Asahikawa** 41.29 275 LR LR 12 51 49.6
comp=Z,46nm,21.6s,baz=44,slow=35
KAN14 **Manchester OK** 41.34 102 IAmb IAmb 12 35 39.1
comp=Z,20nm,0.8s
AMTX **Amarillo** 41.41 108 IAmb IAmb 12 35 41.0
comp=Z,27nm,0.6s
SCHQ **Schefferville** 41.67 60 P **P** 12 35 41.2 +0.9
comp=Z,104nm,0.4s,baz=313,slow=6.1,SNR=45
SCHQ pP **pP** 12 36 04.5 +1.3
comp=Z,53nm,0.4s,baz=287,slow=5.8,SNR=3.0
SCHQ LR LR 12 53 38.7
comp=Z,697nm,19.2s,baz=300,slow=37
SMWD **Samnorwood** 41.86 106 IAmb IAmb 12 35 44.5
comp=Z,18nm,0.7s
P40A **Paris** 41.97 95 IAmb IAmb 12 35 44.1
comp=Z,32nm,0.7s
EPT **El Paso** 41.99 116 IAmb IAmb 12 35 45.8
comp=Z,18nm,0.6s
VLDQ **Val d'Or** 42.06 74 IAmb IAmb 12 36 06.6
comp=Z,100nm,1.8s
OK048 **Pawnee Station** 42.25 102 IAmb IAmb 12 35 46.4
comp=Z,26nm,0.7s
QUOK **Quay** 42.56 102 IAmb IAmb 12 35 49.1
comp=Z,36nm,0.6s
ERM **Erimo** 42.66 273 P **P** 12 35 49.2 +0.8
JEM **Erimo** 42.66 273 P **P** 12 35 49.2 +0.8
OK052 **Battle Ridge R** 42.67 102 IAmb IAmb 12 35 50.0
comp=Z,48nm,1.0s
DKNS **Dickens** 42.77 108 IAmb IAmb 12 35 51.5
comp=Z,40nm,0.7s
WMOK **Wichita Mounta** 42.82 105 IAmb IAmb 12 35 52.0
comp=Z,38nm,0.7s
WMOK **Wichita Mounta** 42.82 105 P **P** 12 35 51.2 +1.3
WMOK pmax pmax
comp=Z,53nm,0.7s
R40A **Maddies Statio** 42.87 96 IAmb IAmb 12 35 51.6
comp=Z,29nm,0.6s
DEOK **Depew** 42.93 102 IAmb IAmb 12 35 51.8
comp=Z,22nm,0.7s
STCH **Steam Cracks** 43.15 185 P **P** 12 35 52.6 -0.1
PUH **Pauahi** 43.16 185 P **P** 12 35 52.7 -0.2
BOD **Bodaibo** 43.19 309 *e*P **P** 12 35 51.1 -1.4
BOD pmax pmax
comp=Z,69nm,1.4s
TUL3 **Leonard** 43.19 101 IAmb IAmb 12 35 55.7
comp=Z,20nm,0.5s
SN07 **Snyder 07** 43.27 109 IAmb IAmb 12 35 55.5
comp=Z,44nm,0.7s
X34A **Smith Ranch, M** 43.36 104 IAmb IAmb 12 35 56.8
comp=Z,20nm,0.6s
APMT **Aspermont** 43.41 108 IAmb IAmb 12 35 56.2
comp=Z,26nm,0.9s
HEH **HeiHe** 43.47 293 *e*P **P** 12 35 53.6 -1.3
HEH pmax pmax
comp=Z,58nm,0.8s
VHRN **Van Horn** 43.48 115 IAmb IAmb 12 35 58.6
comp=Z,30nm,0.6s
CCM **Cathedral Cave** 43.53 95 P **P** 12 35 55.7 +0.2
CCM **Cathedral Cave** 43.53 95 P **P** 12 35 55.7 +0.2
CCM pmax pmax
comp=Z,13nm,0.8s
CCM **Cathedral Cave** 43.53 95 P **P** 12 35 55.1 -0.5
CCM ScP **ScP** 12 41 23.7 0.0
SFIN **Lafayette** 43.59 89 IAmb IAmb 12 35 57.1
comp=Z,22nm,0.7s
SRIG **Santa Rosalia** 43.64 125 P **P** 12 35 58.7 +2.2
SRIG IAmb IAmb 12 35 59.7
comp=Z,40nm,0.7s
HHAR **Hobbs** 43.73 99 P **P** 12 35 56.9 -0.3
MGMO **Mountain Grove** 43.79 97 P **P** 12 35 57.9 +0.2
N47A **Urbana** 43.84 88 IAmb IAmb 12 35 59.0
comp=Z,38nm,0.7s
P46A **Rosedale** 44.15 90 IAmb IAmb 12 36 02.0
comp=Z,47nm,0.8s

LOOK Love County 44.16 104 IAmb IAmb 12 36 02.2
comp=Z,21nm,0.6s
ABTX Abilene, Hawle 44.22 108 IAmb IAmb 12 36 03.2
comp=Z,20nm,0.7s
JMIC Jan Mayen 44.34 16 LR LR 12 57 42.1
comp=Z,52nm,18.2s,baz=189,slow=40
ALPN Alpine 44.41 114 IAmb IAmb 12 36 06.8
comp=Z,14nm,0.6s
N49A Columbus Grove 44.51 86 IAmb IAmb 12 36 04.7
comp=Z,28nm,0.7s
JTM Tenmabayashi 44.59 274 P **P** **12 36 04.0 0.0**
Z35A Perchaven, San 44.69 105 IAmb IAmb 12 36 07.1
comp=Z,36nm,0.7s
S44A Carbondale 44.74 94 IAmb IAmb 12 36 06.6
comp=Z,38nm,1.0s
SIUC Southern Illin 44.74 94 IAmb IAmb 12 36 06.6
comp=Z,36nm,0.9s
TRQ Mont Tremblant 44.78 74 IAmb IAmb 12 36 30.1
comp=Z,31nm,0.8s
CGM3 Cape Girardeau 44.88 94 IAmb IAmb 12 37 02.5
comp=Z,46nm,1.9s
FCAR Ozark Folk Cen 44.89 98 IAmb IAmb 12 36 06.7
comp=Z,19nm,0.8s
LDAQ Lac Daran 44.91 70 IAmb IAmb 12 36 31.4
comp=Z,45nm,1.6s
OZNA Ozona 45.02 110 IAmb IAmb 12 36 09.7
comp=Z,39nm,0.6s
O49A Covington 45.02 87 IAmb IAmb 12 36 08.0
comp=Z,19nm,0.8s
LCAR Lake Charles 45.19 97 IAmb IAmb 12 37 55.3
comp=Z,16nm,0.6s
TX31 Lajitas Ar. Si 45.30 114 IAmb IAmb 12 36 12.5
comp=Z,19nm,0.6s
TXAR Lajitas Array 45.30 114 P **P** **12 36 11.4 +1.6**
TXAR Lajitas Array 45.30 114 P **P** **12 36 11.9 +2.0**
comp=Z,16nm,0.6s,baz=328,slow=6.0,SNR=328
TXAR pP **pP** **12 36 35.9 +3.1**
comp=Z,4.7nm,0.5s,baz=328,slow=4.6,SNR=4.2
TXAR ScP **ScP** **12 41 31.4 +0.1**
comp=Z,1.7nm,0.9s,baz=298,slow=2.7,SNR=7.2
TXAR LR LR 12 57 10.0
comp=Z,80nm,19.9s,baz=344,slow=38
comp=Z,16nm,0.6s
TXAR Lajitas Array 45.30 114 P **P** **12 36 11.5 +1.6**
WHAR Wooly Hollow 45.31 98 IAmb IAmb 12 37 55.3
comp=Z,50nm,2.0s
MIAR Mount Ida 45.34 100 IAmb IAmb 12 36 11.4
comp=Z,22nm,0.9s
MIAR Mount Ida 45.34 100 P **P** **12 36 10.5 +0.6**
MIAR pmax pmax
comp=Z,28nm,0.9s
WBO Williamsburg 45.40 75 IAmb IAmb 12 36 11.1
comp=Z,27nm,0.6s
SAND Sanderson 45.42 112 IAmb IAmb 12 36 13.4
comp=Z,22nm,0.8s
FW13 Cleburne 45.43 106 IAmb IAmb 12 36 12.7
comp=Z,42nm,0.7s
ACSO Alum Creek Sta 45.62 86 IAmb IAmb 12 36 27.3
comp=Z,30nm,0.7s
LMQ La Malbaie 45.63 70 IAmb IAmb 12 36 37.3
comp=Z,34nm,1.3s
BRDY Brady 45.64 108 IAmb IAmb 12 36 14.3
comp=Z,28nm,0.9s
WCI Wyandotte Cave 45.68 90 P **P** **12 36 12.9 +0.3**
WCI IAmb IAmb 12 36 14.5
comp=Z,24nm,0.8s
WCI Wyandotte Cave 45.68 90 P **P** **12 36 12.9 +0.3**
WCI pmax pmax
comp=Z,24nm,0.9s
UALR University of 45.71 99 IAmb IAmb 12 36 13.8
comp=Z,21nm,0.6s
WHTX Lake Whitney, 45.73 106 IAmb IAmb 12 36 14.9
comp=Z,28nm,1.0s
LONY Lake Ozonia 46.01 75 IAmb IAmb 12 36 39.3
comp=Z,14nm,0.7s
USRK Ussuriysk Ar. 46.07 284 P **P** **12 36 14.6 -1.1**
comp=Z,3.6nm,0.6s,baz=50,slow=8.6,SNR=7.8
comp=Z,3.6nm,0.6s
PAOC Oil Creek Stat 46.12 82 IAmb IAmb 12 37 14.0
comp=Z,55nm,1.3s
N53A Lisbon 46.15 84 IAmb IAmb 12 36 17.9
comp=Z,54nm,0.9s
FRNY Flat Rock 46.29 74 IAmb IAmb 12 36 17.2
comp=Z,15nm,0.5s
T47A Sharon Grove 46.31 92 IAmb IAmb 12 36 19.4
comp=Z,20nm,0.6s
PAMR Moraine State 46.39 83 IAmb IAmb 12 37 01.3
comp=Z,87nm,1.5s
Q51A Peebles 46.41 87 IAmb IAmb 12 36 19.6
comp=Z,36nm,0.9s
HPIG 46.58 118 IAmb IAmb 12 36 22.6
comp=Z,29nm,0.6s
L56A Greenwood 46.60 80 IAmb IAmb 12 36 45.3
comp=Z,22nm,0.8s
WVT Waverly 46.68 94 P **P** **12 36 20.9 +0.4**
WVT Waverly 46.68 94 P **P** **12 36 20.9 +0.4**
WVT pmax pmax
comp=Z,11nm,0.7s
WVT Waverly 46.68 94 P **P** **12 36 21.2 +0.8**
WVT PcP **PcP** **12 37 52.6 +0.1**
E62A Clayton Lake 46.70 70 IAmb IAmb 12 36 21.3
comp=Z,18nm,0.4s
435B Jarrell 46.70 107 IAmb IAmb 12 36 22.8
comp=Z,30nm,0.9s
MDJ Mudanjiang 46.82 286 P **P** **12 36 21.4 -0.1**
MDJ IAmb IAmb 12 36 21.7
comp=Z,44nm,1.3s
BNX BinXian 46.92 289 ⇑P **P** **12 36 21.6 -0.6**
BNX pmax pmax
comp=Z,14nm,1.0s
P53A Whipple 46.95 85 IAmb IAmb 12 36 36.8
comp=Z,29nm,0.5s
Q52A Bidwell 46.96 86 IAmb IAmb 12 36 23.4
comp=Z,33nm,0.9s
HAMF Hammerfest 47.10 2 *eP* **P** **12 36 22.6 -0.7**
BINY Binghamton 47.27 78 IAmb IAmb 12 36 26.1
comp=Z,30nm,0.6s
U49A Red Boiling Sp 47.31 91 IAmb IAmb 12 36 26.6
comp=Z,23nm,0.6s
T50A Nancy 47.34 90 IAmb IAmb 12 37 08.3
comp=Z,20nm,0.7s
G62A West of Eustis 47.34 72 IAmb IAmb 12 37 10.1
comp=Z,78nm,1.6s
CLTN Cedars of Leba 47.40 92 IAmb IAmb 12 36 41.9
comp=Z,15nm,0.5s
S51A Beattyville 47.41 89 IAmb IAmb 12 36 40.4
comp=Z,15nm,0.7s
HIA Hailar 47.44 297 IAmb IAmb 12 36 28.3
comp=Z,55nm,1.3s
V48A Smith Brothers 47.46 93 IAmb IAmb 12 36 42.8
comp=Z,16nm,0.7s
PLAL Pickwick Lake 47.51 95 IAmb IAmb 12 36 28.1
comp=Z,23nm,0.9s
Q54A Coxs Mills 47.61 85 IAmb IAmb 12 36 41.9
comp=Z,18nm,0.5s
SSPA Standing Stone 47.64 81 P **P** **12 36 28.2 +0.3**
SSPA IAmb IAmb 12 36 54.1
comp=Z,37nm,1.3s
SSPA Standing Stone 47.64 81 P **P** **12 36 28.2 +0.3**
SSPA pP **pP** **12 36 52.2 +1.2**
VADS Vadso 47.66 360 *eP* **P** **12 36 28.2 +0.5**
HNVL Huntsville, TX 47.66 105 IAmb IAmb 12 36 30.7
comp=Z,39nm,0.9s
BATG Bathurst New B 47.68 67 IAmb IAmb 12 36 56.7
comp=Z,20nm,1.0s
CIT Chita 47.77 304 *eP* **P** **12 36 29.6 +0.8**
CIT *e* 12 36 55.4
CIT *e* 12 37 03.4
CIT *e* 12 38 20.0
CIT pmax pmax
comp=Z,122nm,2.5s
MLDN Muldoon 47.78 107 IAmb IAmb 12 36 32.9
comp=Z,30nm,0.8s
SLBS Sierra La Lagu 47.79 125 P **P** **12 36 31.7 +2.4**
SLBS IAmb IAmb 12 36 32.1
comp=Z,13nm,0.7s
F64A Sherman 47.80 70 IAmb IAmb 12 36 29.7
comp=Z,29nm,0.6s
PSTR Posyet 47.82 284 *i* P **P** **12 36 29.9 +0.7**
PKME Peaks-Kenny Pk 47.85 71 P **P** **12 36 29.8 +0.4**
PKME IAmb IAmb 12 36 30.7
comp=Z,23nm,0.6s
TRO Tromso 47.98 4 *eP* **P** **12 36 31.5 +1.4**
N58A Sunbury 48.02 80 IAmb IAmb 12 36 31.6
comp=Z,19nm,0.7s
JETT Jettan, Norway 48.11 4 *eP* **P** **12 36 31.7 +0.5**
HKT Hockley 48.19 106 P **P** **12 36 33.9 +1.7**

HKT Hockley 48.19 106 *i* P **P** **12 36 34.0 +1.9**
HKT pmax pmax
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 48.23 1 *e*P **P** **12 36 31.5 -0.6**
ARCES ARCESS Array B 48.23 1 P **P** **12 36 31.6 -0.5**
ARCES IAmb IAmb 12 37 53.5
comp=Z,96nm,1.9s
ARCES ARCESS Array B 48.23 1 P **P** **12 36 31.6 -0.5**
comp=Z,8.7nm,0.4s,baz=358,slow=7.5,SNR=133
ARCES pP **pP** **12 36 56.8 +1.1**
comp=Z,1.8nm,0.4s,baz=345,slow=8.8,SNR=1.9
ARCES PcP **PcP** **12 37 56.5 -1.0**
comp=Z,2.8nm,0.6s,baz=348,slow=3.8,SNR=1.9
comp=Z,8.7nm,0.4s
I63A Otisfield 48.24 73 P **P** **12 36 32.7 +0.3**
I63A IAmb IAmb 12 38 03.3
comp=Z,88nm,1.8s
SWET Sewanee 48.31 92 IAmb IAmb 12 36 33.7
comp=Z,14nm,0.5s
Q56A Snyder Ridge, 48.32 84 IAmb IAmb 12 37 09.8
comp=Z,20nm,0.8s
S54A Dingess, Beckl 48.34 86 IAmb IAmb 12 37 09.7
comp=Z,19nm,0.6s
X48A Hartselle 48.42 94 IAmb IAmb 12 36 49.3
comp=Z,16nm,0.4s
R55A Marlinton 48.50 85 IAmb IAmb 12 37 25.7
comp=Z,110nm,2.0s
P57A Homestead Farm 48.51 82 IAmb IAmb 12 37 10.0
comp=Z,22nm,0.9s
KTK1 Kautokeino 48.72 2 *eP* **P** **12 36 35.6 -0.2**
CPCT Cooper Cave 48.77 91 IAmb IAmb 12 37 12.3
comp=Z,50nm,1.7s
TKL Tuckaleechee C 48.95 90 IAmb IAmb 12 36 53.2
comp=Z,23nm,0.5s
TKL Tuckaleechee C 48.95 90 LR LR 12 57 45.5
comp=Z,61nm,21.3s,baz=338,slow=36
GGN Saint George 49.04 69 P **P** **12 36 39.0 +0.5**
EMMW East Machias 49.09 70 P **P** **12 36 39.0 +0.1**
Y49A Blount Mountai 49.20 94 IAmb IAmb 12 37 23.4
comp=Z,13nm,0.7s
LOF Lofoten 49.22 7 *eP* **P** **12 36 39.7 +0.1**
BLA Blacksburg 49.23 86 IAmb IAmb 12 37 16.8
comp=Z,15nm,0.7s
CN2 Changchun 49.30 289 P **P** **12 36 40.2 -0.4**
CN2 pmax pmax
comp=Z,100nm,0.7s
MJB9 Matsu-Tunnel 49.33 273 P **P** **12 36 42.5 +1.6**
MAJO Matsushiro 49.33 273 P **P** **12 36 41.4 +0.4**
MAJO Matsushiro 49.33 273 P **P** **12 36 41.3 +0.4**
MAJO Matsushiro 49.33 273 *i* P **P** **12 36 40.5 -0.4**
MAJO pmax pmax
comp=Z,20nm,0.6s
MJAR Matsushiro Arr 49.33 273 P **P** **12 36 41.1 +0.2**
MJAR IAmb IAmb 12 36 43.0
comp=Z,31nm,1.5s
MJAR Matsushiro Arr 49.33 273 P **P** **12 36 41.5 +0.6**
comp=Z,11nm,0.9s,baz=2.0,slow=8.5,SNR=16
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 49.33 273 P **P** **12 36 41.1 +0.2**
MJAR pmax pmax
comp=Z,31nm,1.5s
LMN Caledonia Moun 49.33 67 P **P** **12 36 40.9 +0.1**
STEI Steigen 49.52 6 *eP* **P** **12 36 41.7 -0.1**
LANU Lannavaara 49.66 3 *eP* **P** **12 36 42.7 -0.4**
V55A Taylorsville 49.97 88 IAmb IAmb 12 37 22.6
comp=Z,11nm,0.7s
FAUS Fauske 50.06 7 *eP* **P** **12 36 45.6 -0.4**
APA Apatity 50.17 358 ⇓*i*P **P** **12 36 44.2 -2.7**
APA *i* S **S** **12 43 47.0 -3.8**
APA *i* SS **SS** **12 47 27.7 +3.4**
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,854nm,5.2s
JGF Kuroka 50.49 273 P **P** **12 36 50.5 +0.7**
JGF Kuroka 50.49 273 P **P** **12 36 50.5 +0.7**
VAGH Vaagaholmen 50.59 8 *eP* **P** **12 36 50.0 +0.1**
HAL Halifax 50.82 67 P **P** **12 36 52.0 +0.1**
HAL Halifax 50.82 67 P **P** **12 36 52.1 +0.1**
HAL pmax pmax
comp=Z,110nm,1.8s
RAUS Rausandaksla 50.93 7 *eP* **P** **12 36 52.6 +0.1**
STOK Stokkvaagen 50.97 8 *eP* **P** **12 36 53.4 +0.5**
152A Waverly Hall 50.98 93 IAmb IAmb 12 37 19.2
comp=Z,25nm,0.9s
IRK Irkutsk 51.04 310 *eP* **P** **12 36 53.5 -0.1**
IRK pmax pmax
comp=Z,703nm,2.8s
W57A Gilead 51.11 87 IAmb IAmb 12 37 32.1
comp=Z,14nm,0.6s
LEIR Leirfjorden 51.20 8 *eP* **P** **12 36 54.6 +0.1**
MOR8 Moi Rana 51.22 7 *eP* **P** **12 36 54.0 -0.8**
JSC Jenkinsville 51.24 89 IAmb IAmb 12 37 33.3
comp=Z,23nm,0.7s
SJUU Sjulsmark 52.20 4 *eP* **P** **12 37 01.2 -0.8**
MOY Mondy 52.67 312 *eP* **P** **12 37 07.1 +1.3**
MOY pmax pmax
comp=Z,66nm,2.1s
ZAK Zakamensk 52.93 309 *eP* **P** **12 37 06.7 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
XLT XiLinHaoTe 53.25 296 *eP* **P** **12 37 10.2 +0.1**
XLT pP pP 12 37 29.8 -4.1
XLT pmax pmax
comp=Z,24nm,0.6s
XLT pmax pmax
comp=Z,140nm,4.8s
KS19 Wonju Array Si 53.30 282 P **P** **12 37 10.7 +0.2**
KSRS Korea Array 53.32 282 P **P** **12 37 11.2 +0.6**
comp=Z,15nm,0.8s,baz=28,slow=6.8,SNR=32
comp=Z,15nm,0.8s
KSAR Wonju Array Be 53.34 282 P **P** **12 37 11.1 +0.3**
KSAR Wonju Array Be 53.34 282 P **P** **12 37 11.1 +0.3**
ULN Ulaanbaatar 53.61 305 P **P** **12 37 13.2 +0.4**
ULN Ulaanbaatar 53.61 305 *ce*P **P** **12 37 13.4 +0.6**
ULN pmax pmax
comp=Z,25nm,1.3s
ULN Ulaanbaatar 53.61 305 P **P** **12 37 13.3 +0.4**
SONM Songino Array 53.88 305 P **P** **12 37 16.0 +1.2**
SONM Songino Array 53.88 305 P **P** **12 37 15.8 +1.0**
comp=Z,14nm,0.6s,baz=34,slow=6.3,SNR=58
SONM pP **pP** **12 37 39.2 +0.7**
comp=Z,5.4nm,0.6s,baz=32,slow=7.0,SNR=3.0
SONM LR LR 13 00 16.9
comp=Z,93nm,20.8s,baz=30,slow=36
comp=Z,14nm,0.6s
MOL Molde 54.26 12 *eP* **P** **12 37 17.5 +0.4**
TJN Taejon 54.46 282 P **P** **12 37 19.5 +0.6**
TJN Taejon 54.46 282 *i* P **P** **12 37 19.3 +0.4**
AKN Aaknes 54.59 12 *eP* **P** **12 37 20.6 +1.1**
KNGR Kungurtug, Tuv 54.75 313 *i* P **P** **12 37 22.2 +1.2**
KNGR pmax pmax
comp=Z,29nm,1.3s
JOF Joensuu 54.88 358 *eP* **P** **12 37 21.3 -0.3**
DOMB Dombas 54.91 11 *eP* **P** **12 37 22.9 +1.0**
DL2 Dalian 54.95 288 P **P** **12 37 22.3 -0.1**
DL2 pmax pmax
comp=Z,66nm,1.2s
JTU Tsushima 55.06 279 P **P** **12 37 24.1 +0.8**
JNU Nakatsue 55.54 276 LR LR 13 02 54.7
comp=Z,25nm,19.8s,baz=38,slow=38
JNU Nakatsue 55.54 276 P **P** **12 37 27.2 +0.4**
KEF Keuruu 55.62 2 *eP* **P** **12 37 26.4 -0.5**
ZAA0 Zalesovo Array 55.76 323 P **P** **12 37 27.4 -0.7**
ZAA0 IAmb IAmb 12 37 28.8
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 55.76 323 P **P** **12 37 27.4 -0.6**
ZALV Zalesovo Beam 55.76 323 P **P** **12 37 27.3 -0.8**
comp=Z,21nm,0.4s,baz=30,slow=6.9,SNR=82
ZALV LR LR 13 05 28.7
comp=Z,36nm,19.4s,baz=18,slow=40
comp=Z,21nm,0.4s
ZALV Zalesovo Beam 55.76 323 P **P** **12 37 27.4 -0.6**
NC204 NORSAR Array S 55.82 10 IAmb IAmb 12 38 08.9
comp=Z,30nm,1.4s
NC405 NORSAR Array S 56.05 10 IAmb IAmb 12 37 31.0
comp=Z,14nm,0.5s
NB2 NORSAR Subarra 56.09 10 P **P** **12 37 29.3 -1.0**
comp=Z,1.9nm,0.5s,baz=350,slow=7.4
NB2 NORSAR Subarra 56.09 10 P **P** **12 37 29.3 -1.0**
baz=350,slow=7.4
NOA NORSAR Array B 56.09 10 P **P** **12 37 29.7 -0.7**
comp=Z,1.9nm,0.5s,baz=336,slow=5.8,SNR=15
NOA pP **pP** **12 37 54.5 -0.3**
comp=Z,4.2nm,0.7s,baz=350,slow=7.1,SNR=6.6

comp=Z,1.9nm,0.5s
FIA1 FINESS Array S 56.36 1 P **P** **12 37 31.8 -0.4**
FINES FINESS Array B 56.36 1 P **P** **12 37 31.7 -0.5**
FINES FINESS Array B 56.36 1 P **P** **12 37 31.5 -0.7**
comp=Z,9.0nm,0.3s,baz=4.9,slow=8.9,SNR=132
FINES pP **pP** **12 37 56.9 +0.2**
comp=Z,5.6nm,0.5s,baz=12,slow=9.8,SNR=3.1
comp=Z,9.0nm,0.3s
FINES FINESS Array B 56.36 1 P **P** **12 37 31.7 -0.5**
BJI Beijing 56.38 293 P **P** **12 37 32.4 -0.2**
BJI pmax pmax
comp=Z,18nm,0.5s
BJT Baijiatuau 56.40 293 P **P** **12 37 33.5 +0.7**
BJT Baijiatuau 56.40 293 P **P** **12 37 33.6 +0.8**
BJT Baijiatuau 56.40 293 P **P** **12 37 33.5 +0.7**
BJT pmax pmax
comp=Z,30nm,0.5s
NORES NORESS Array B 56.41 10 P **P** **12 37 32.7 +0.1**
KLMR Klimovskoe 56.68 354 *eP* P 12 37 29.1 -5.3
KLMR pmax pmax
comp=Z,172nm,1.3s
RAF Rauma 56.70 4 *eP* **P** **12 37 33.8 -0.7**
HFS Hagfors 57.17 9 P **P** **12 37 37.3 -0.7**
comp=Z,9.0nm,0.4s,baz=36,slow=5.5,SNR=88
HFS pP **pP** **12 38 03.1 +0.6**
comp=Z,8.9nm,0.7s,baz=14,slow=6.9,SNR=3.1
comp=Z,9.0nm,0.4s
KONO Kongsberg 57.32 11 *eP* **P** **12 37 38.6 -0.5**
AAL Aland 57.48 5 *eP* **P** **12 37 39.7 -0.4**
MEF Metsahovi 57.57 2 *eP* **P** **12 37 40.7 0.0**
HHC Hu-ho-hao-te 57.65 297 *eP* **P** **12 37 42.7 +1.0**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.1s
HHC LR LR
comp=Z,110nm,10.1s
HHC LR LR
comp=Z,190nm,10.7s
TLIG Tlapa 57.86 116 IAmb IAmb 12 38 11.3
comp=Z,39nm,1.6s
KIRV Kirov 58.16 347 LR LR 13 03 21.7
comp=Z,38nm,20.2s,baz=346,slow=36
KIRV Kirov 58.16 347 *ce*P **P** **12 37 45.0 +0.1**
ARBE Arbavere 58.38 1 *eP* **P** **12 37 46.6 +0.3**
BTO Baotou 58.49 298 *eP* **P** **12 37 47.5 -0.1**
BTO pP **pP** **12 38 06.9 -4.8**
BTO sP **sP** **12 38 15.8 -6.8**
BTO pmax pmax
comp=Z,44nm,1.1s
BTO pmax pmax
comp=Z,410nm,5.3s
TJOU Tjoern 59.10 10 *i* P **P** **12 37 51.4 0.0**
TIA Tai'an 59.17 290 P **P** **12 37 52.6 +0.4**
TIA pmax pmax
comp=Z,13nm,0.7s
ARTI Arti 59.17 341 P **P** **12 37 52.0 0.0**
ARTI Arti 59.17 341 LR LR 13 05 16.1
comp=Z,78nm,19.9s,baz=13,slow=38
ARTI Arti 59.17 341 *c i*P **P** **12 37 51.7 -0.2**
ARTI *PP **pP** **12 38 13.1 -3.0**
ARTI 12 38 40.7
ARTI S **S** **12 45 53.9 +2.5**
ARTI SS **SS** **12 49 44.0 -2.1**
ARTI pmax pmax
comp=Z,71nm,0.6s
ARTI Arti 59.17 341 P **P** **12 37 51.9 -0.1**
ARTI pP **pP** **12 38 18.1 +2.0**
HNS HongShan 59.22 292 ⇑P **P** **12 37 52.8 +0.3**
HNS pmax pmax
comp=Z,45nm,1.0s
VSU Vasula 59.36 1 *eP* **P** **12 37 52.8 -0.4**
VSU Vasula 59.36 1 *ce*P **P** **12 37 53.2 0.0**
VSU pmax pmax
comp=Z,24nm,1.0s
BORU Boraas 59.59 10 *i* P **P** **12 37 54.1 -0.7**
ONAU Onsala 59.75 10 *i* P **P** **12 37 54.8 -1.1**
CMIG Matias Romero 59.84 112 LR LR 13 03 44.2
comp=Z,61nm,20.2s,baz=330,slow=36
EKA Eskdalemuir Ar 59.94 20 P **P** **12 37 56.7 -0.5**
comp=Z,4.9nm,0.4s,baz=334,slow=5.6,SNR=32
EKA pP **pP** **12 38 22.4 +0.5**
comp=Z,6.1nm,0.5s,baz=332,slow=5.2,SNR=2.6
comp=Z,4.9nm,0.4s
EKA Eskdalemuir Ar 59.94 20 P **P** **12 37 56.5 -0.7**
EKA pmax pmax
comp=Z,49nm,1.6s
TEIG Tepich 59.99 104 P **P** **12 37 58.0 0.0**
TEIG pP **pP** **12 38 22.1 +0.1**
SLIT Slitere, Latvi 60.11 4 *eP* **P** **12 37 58.0 -0.3**
BORK Borovoye 60.16 332 *ce*P **P** **12 37 56.2 -2.6**
BORK pmax pmax
comp=Z,37nm,1.0s
BORK Borovoye 60.16 332 P **P** **12 37 58.2 -0.6**
BORK pP **pP** **12 38 27.2 +3.9**
BVA0 Borovoye Array 60.17 332 P **P** **12 37 57.8 -1.1**
BVAR Borovoye Array 60.17 332 P **P** **12 37 58.3 -0.5**
comp=Z,19nm,0.4s,baz=50,slow=9.9,SNR=69
BVAR LR LR 13 06 11.0
comp=Z,67nm,21.6s,baz=13,slow=38
comp=Z,19nm,0.4s
FABU Falkenberg 60.21 10 *i* P **P** **12 37 58.0 -1.0**
KURK Kurchatov 60.34 326 P **P** **12 37 59.5 -0.5**
KURK IAmb IAmb 12 38 00.6
comp=Z,35nm,1.1s
KURK Kurchatov 60.34 326 *ce*P **P** **12 37 58.4 -1.6**
KURK pmax pmax
comp=Z,73nm,1.7s
KURK Kurchatov 60.34 326 P **P** **12 37 59.4 -0.6**
KURK PcP **PcP** **12 38 44.5 +0.3**
KURBB Kurchatov Arra 60.45 326 P **P** **12 38 00.0 -0.8**
comp=Z,21nm,0.5s,baz=27,slow=7.0,SNR=65
KURBB LR LR 13 09 22.4
comp=Z,62nm,18.1s,baz=164,slow=41
comp=Z,21nm,0.5s
KURBB Kurchatov Arra 60.45 326 P **P** **12 37 59.7 -1.1**
DEL Delary 60.83 9 *i* P **P** **12 38 02.2 -1.0**
BJUU Bjuv 61.15 10 *i* P **P** **12 38 04.2 -1.2**
JMZ Minamidaito 2 61.55 272 P **P** **12 38 09.1 +0.6**
ZSN Zaisan 61.55 320 *eP* **P** **12 38 08.2 -0.1**
comp=Z,13nm,0.5s
ZSN Zaisan 61.55 320 *eP* **P** **12 38 08.2 -0.1**
ZSN pmax pmax
comp=Z,13nm,0.5s
LUNU Lund 61.63 10 *i* P **P** **12 38 08.1 -0.5**
MOS Moscow 61.88 354 *eP* **P** **12 38 09.2 -1.1**
MOS pmax pmax
comp=Z,65nm,0.6s
NJ2 Nanjing 61.91 286 ⇑P **P** **12 38 10.6 -0.3**
NJ2 pmax pmax
comp=Z,39nm,1.0s
JOW Kunigami 62.05 275 LR LR 13 06 59.9
comp=Z,31nm,18.3s,baz=56,slow=38
JOW Kunigami 62.05 275 P **P** **12 38 12.4 +0.5**
PETF Flores 62.18 108 P **P** **12 38 13.4 +0.5**
PETF IAmb IAmb 12 38 39.9
comp=Z,49nm,1.3s
PABE Paberze 62.28 3 *eP* **P** **12 38 14.1 +1.1**
BRZS Berezniki 62.49 329 *eP* **P** **12 38 14.7 +0.1**
BRZS Berezniki 62.49 329 *eP* **P** **12 38 14.7 +0.1**
OBN Obninsk 62.55 355 P **P** **12 38 14.8 -0.1**
OBN Obninsk 62.55 355 ⇑P **P** **12 38 14.7 -0.1**
OBN Obninsk 62.55 355 *c i*P **P** **12 38 14.6 -0.2**
OBN *e*SP **pP** **12 38 40.2 +0.8**
OBN 12 38 53.0
OBN PPP PPP 12 42 06.0
OBN *e*S **S** **12 46 34.4 +0.1**
OBN *e*SS **sS** **12 47 09.3 -6.5**
OBN *e* 12 47 56.9
OBN pmax pmax
comp=Z,63nm,1.1s
OBN Obninsk 62.55 355 P **P** **12 38 14.4 -0.4**
comp=Z,3μmcomp=Z,170nm,0.5s
OBN Obninsk 62.55 355 P **P** **12 38 15.1 +0.3**
LYN LuoYang 62.59 292 ⇑P **P** **12 38 15.8 +0.4**
LYN pmax pmax
comp=Z,200nm,0.9s
LYN pmax pmax
comp=Z,420nm,3.7s
MK31 Makanchi Array 62.90 321 *eP* **P** **12 38 16.2 -1.1**
MKAR Makanchi Array 62.90 321 P **P** **12 38 16.5 -0.8**
MKAR Makanchi Array 62.90 321 P **P** **12 38 16.3 -1.1**
comp=Z,27nm,0.4s,baz=33,slow=6.7,SNR=574
MKAR PKPPKP **P'P'df** **13 07 18.7 -1.1**
comp=Z,0.7nm,0.9s,baz=225,slow=0.2,SNR=3.6

MKAR LR LR 13 09 17.1
comp=Z,53nm,18.4s,baz=294,slow=39
comp=Z,27nm,0.4s
MKAR Makanchi Array 62.90 321 P P 12 38 16.5 -0.8
MAKZ Makanchi 62.98 322 P P 12 38 16.9 -0.9
MAKZ Makanchi 62.98 322 P P 12 38 17.0 -0.9
MAKZ pmax pmax
comp=Z,42nm,0.6s
MAKZ Makanchi 62.98 322 P P 12 38 17.1 -0.7
MNK Minsk 63.34 0 *i* P **P 12 38 20.6 +0.6**
MNK *i* *PP **pP 12 38 41.3 -3.6**
MNK *i* 12 40 41.5
MNK *i* PPP PPP 12 42 10.4
MNK *i* S **S 12 46 47.9 +3.7**
MNK *i* *SS **sS 12 47 25.7 +0.1**
MNK *i* SS **SS 12 50 59.6 +8.4**
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK MLR MLR
comp=N,606nm,25.0s
MNK MLR MLR
comp=E,339nm,21.0s
MNK MLR MLR
comp=Z,87nm,19.0s
GTA Gaotai 63.55 305 P **P 12 38 22.0 +0.1**
GTA pP pP 12 38 39.3 -7.1
GTA sP sP 12 38 50.5 -6.7
GTA pmax pmax
comp=Z,96nm,0.5s
WMQ Urumqi 63.93 316 *eP* **P 12 38 25.6 +1.4**
WMQ pmax pmax
comp=Z,30nm,0.9s
XAN Xi'an 64.53 295 ⇑P **P 12 38 27.6 -0.7**
XAN sP PcP 12 39 00.4 -1.2
XAN pmax pmax
comp=Z,27nm,1.3s
LZH Lanzhou 64.86 300 ⇑P **P 12 38 30.5 0.0**
LZH pP pP 12 38 54.8 -0.3
LZH pmax pmax
comp=Z,80nm,1.0s
LZH pmax pmax
comp=Z,300nm,3.4s
LPSR Galich'ya Gora 64.94 353 *eP* **P 12 38 27.6 -2.9**
LPSR pmax pmax
comp=Z,30nm,0.9s
AKTO Aktyubinsk 64.99 340 LR LR 13 09 49.0
comp=Z,52nm,18.1s,baz=47,slow=39
LZDM Lanzhou Array 65.03 300 P **P 12 38 31.9 +0.1**
comp=Z,8.9nm,0.4s,baz=318,slow=2.0,SNR=14
LZDM LR LR 13 07 47.1
comp=Z,80nm,21.9s,baz=300,slow=37
comp=Z,8.9nm,0.4s
JMJ Miyako jima 2 65.15 276 P **P 12 38 33.0 +0.7**
WHN Wuhan 65.20 289 P **P 12 38 32.4 -0.1**
WHN pmax pmax
comp=Z,110nm,0.7s
TDK Taldyqorghan 65.64 323 *eP* **P 12 38 35.2 -0.1**
TDK Taldyqorghan 65.64 323 *eP* **P 12 38 35.1 -0.1**
AB31 Akbulak array 65.80 338 P **P 12 38 36.0 -0.2**
AB31 Akbulak array 65.80 338 P **P 12 38 35.3 -0.8**
ABKAR Akbulak array 65.80 338 P **P 12 38 36.0 -0.2**
CLL Collm 65.88 11 *i* P **P 12 38 37.3 +0.7**
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 65.88 11 P **P 12 38 35.8 -0.8**
comp=Z,6.0nm,0.8s
CLL Collm 65.88 11 *i* P **P 12 38 37.3 +0.7**
comp=Z,10.0nm,0.9s
GUMO Guam 65.93 252 LR LR 13 06 51.9
comp=Z,18nm,18.7s,baz=58,slow=35
GUMO Guam 65.93 252 P **P 12 38 35.8 -1.6**
VSR Storozhevoye 66.31 353 *eP* **P 12 38 35.9 -3.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 66.39 10 *eP* **P 12 38 39.7 -0.2**
BRG Amp 12 38 41.2
comp=Z,6.1nm,0.9s
BRG Berggiesshubel 66.39 10 P **P 12 38 44.5 +4.5**
BRG Amp 12 38 45.0
comp=Z,5.1nm,0.8s
RNPP9 Sopachiv 66.42 2 P **P 12 38 39.3 -0.7**
RNPP8 Varash 66.49 2 P **P 12 38 39.9 -0.6**
ARXS Arharly 66.53 323 *eP* **P 12 38 40.3 -0.7**
VORD Divnogorie 66.55 353 *eP* **P 12 38 38.2 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
KSP Ksiaz 66.59 8 P **P 12 38 40.5 -0.7**
comp=Z,11nm,0.9s
RNPP5 Staryi Chortor 66.60 2 P **P 12 38 40.3 -0.9**
HSKC Hora Svate Kat 66.61 10 *eP* **P 12 38 41.0 -0.4**
HSKC *ep*P **pP 12 39 07.5 +1.3**
BTLS Baital 66.76 327 ⇑*i* P **P 12 38 42.1 -0.3**
comp=Z,10nm,0.4s
BTLS Baital 66.76 327*c i* P **P 12 38 42.0 -0.3**
BTLS pmax pmax
comp=Z,10.0nm,0.4s
CHVC Chvalec 66.83 9 *eP* **P 12 38 42.6 -0.2**
CHVC Chvalec 66.83 9 *eP* **P 12 38 42.6 -0.2**
OSTC Ostas 66.88 8 *eP* **P 12 38 43.7 +0.7**
OSTC Ostas 66.88 8 *eP* **P 12 38 43.7 +0.7**
SHLS Shalkode 67.04 322 *eP* **P 12 38 43.5 -0.9**
comp=Z,29nm,0.7s
SHLS Shalkode 67.04 322 *eP* **P 12 38 43.4 -0.9**
SHLS pmax pmax
comp=Z,29nm,0.7s
AK21 Malin Array Si 67.07 360 P **P 12 38 43.3 -0.9**
AK23 Malin Array Si 67.08 360 P **P 12 38 43.7 -0.6**
AK22 Malin Array Si 67.08 360 P **P 12 38 43.4 -0.9**
DPC Dobruska-Polom 67.09 8 *eP* **P 12 38 44.6 +0.2**
DPC Dobruska-Polom 67.09 8 *eP* **P 12 38 44.6 +0.2**
DPC Dobruska-Polom 67.09 8 P **P 12 38 44.1 -0.3**
comp=Z,21nm,1.2s
AK20 Malin Array Si 67.10 360 P **P 12 38 43.5 -0.9**
AK03 Malin Array Si 67.12 359 P **P 12 38 43.6 -0.9**
AKASG Malin Array Be 67.14 359 P **P 12 38 43.8 -0.8**
AKASG Malin Array Be 67.14 359 P **P 12 38 43.5 -1.2**
comp=Z,26nm,0.4s,baz=2.7,slow=6.2,SNR=117
AKASG pP **pP 12 39 10.0 +0.5**
comp=Z,3.9nm,0.5s,baz=24,slow=16,SNR=2.7
comp=Z,26nm,0.4s
AKASG Malin Array Be 67.14 359 P **P 12 38 43.8 -0.8**
AKASG pmax pmax
comp=Z,34nm,0.5s
AKBB Malin Array Si 67.14 359*ce*P **P 12 38 43.8 -0.9**
AKBB pmax pmax
comp=Z,26nm,0.5s
KIEV Kiev 67.15 359 P **P 12 38 43.9 -0.8**
KIEV Kiev 67.15 359 ⇓P **P 12 38 44.1 -0.6**
KIEV Kiev 67.15 359 P **P 12 38 44.1 -0.6**
KIEV Kiev 67.15 359 P **P 12 38 44.0 -0.6**
KIEV pP **pP 12 39 09.8 +0.2**
KIEV sP **sP 12 39 19.8 -0.6**
AK01 Malin Array Si 67.15 359 P **P 12 38 43.6 -1.1**
AK17 Malin Array Si 67.16 360 P **P 12 38 43.7 -1.1**
AK11 Malin Array Si 67.17 359 P **P 12 38 43.7 -1.1**
UZB Uzynbulak 67.17 322 ⇑*i* P **P 12 38 45.1 -0.1**
UZB Uzynbulak 67.17 322*c i* P **P 12 38 45.0 -0.1**
AK16 Malin Array Si 67.18 360 P **P 12 38 44.0 -0.9**
AK02 Malin Array Si 67.19 359 P **P 12 38 44.1 -0.8**
AK12 Malin Array Si 67.20 359 P **P 12 38 44.1 -0.9**
AK08 Malin Array Si 67.21 359 P **P 12 38 44.2 -0.9**
AK14 Malin Array Si 67.22 360 P **P 12 38 44.2 -0.9**
AK05 Malin Array Si 67.23 359 P **P 12 38 44.3 -0.9**
AK09 Malin Array Si 67.23 359 P **P 12 38 44.3 -0.9**
SIUN Universidad Ur 67.28 104 P **P 12 38 45.9 -0.1**
SIUN IAmb IAmb 12 41 13.6
comp=Z,27nm,0.5s
PRU Pruhonice 67.32 10 *eP* **P 12 38 45.6 -0.2**
PRU Pruhonice 67.32 10 *eP* **P 12 38 45.6 -0.2**
KRLC Kraliky 67.39 8 *eP* **P 12 38 46.3 0.0**
KRLC *e* 12 39 11.9
KRLC Kraliky 67.39 8 *eP* **P 12 38 46.3 0.0**
KRLC *ep*P **pP 12 39 11.9 +0.7**
NACB Ninganchiao 67.40 279 P **P 12 38 45.9 -0.8**
SATY Saty 67.43 323 ⇑*i* P **P 12 38 46.7 -0.2**
comp=Z,11nm,0.6s
SATY Saty 67.43 323*c i* P **P 12 38 46.6 -0.2**
SATY pmax pmax
comp=Z,11nm,0.6s
ENH Enshi 67.54 292 P **P 12 38 47.2 -0.3**

STEB Steborice 67.59 7 *eP* **P 12 38 47.0 -0.5**
AAA Alma-Ata 67.70 324 *eP* **P 12 38 48.3 -0.1**
comp=Z,18nm,0.6s
AAA Alma-Ata 67.70 324 *eP* **P 12 38 48.3 -0.1**
AAA pmax pmax
comp=Z,17nm,0.6s
MDOK Medeo 67.71 324 *eP* **P 12 38 48.4 -0.3**
MDOK Medeo 67.71 324 *eP* **P 12 38 48.3 -0.3**
MORC Moravsky Berou 67.74 8 ⇑P **P 12 38 48.0 -0.5**
MORC Moravsky Berou 67.74 8 *eP* **P 12 38 48.0 -0.5**
MORC Moravsky Berou 67.74 8 P **P 12 38 48.0 -0.5**
ZVC Zvikov 67.84 10 *eP* **P 12 38 49.2 +0.1**
TNSS Tian-Shan 67.86 324 *eP* **P 12 38 49.4 -0.5**
TNSS Tian-Shan 67.86 324 *eP* **P 12 38 49.3 -0.5**
SSLB Suanglung 68.03 279 IAmb IAmb 12 38 51.5
comp=Z,21nm,0.5s
SSLB Suanglung 68.03 279 P **P 12 38 50.9 +0.2**
KHC Kasperske Hory 68.09 10*ce*P **P 12 38 51.0 +0.3**
KHC pmax pmax
comp=Z,16nm,1.7s
KHC Kasperske Hory 68.09 10 *eP* **P 12 38 50.7 0.0**
KHC *ep*P **PcP 12 39 17.1 +1.0**
SGDS Sogindy 68.09 325 *eP* **P 12 38 50.7 -0.1**
VRAC Vranov 68.14 8 ⇑P **P 12 38 51.0 -0.1**
VRAC Vranov 68.14 *eP* **P 12 38 50.7 -0.3**
VRAC Vranov 68.14 8 P **P 12 38 50.9 -0.1**
MAUC Maruska 68.17 7 *eP* **P 12 38 52.4 +1.2**
YULB Yu-li 68.21 279 IAmb IAmb 12 38 56.3
comp=Z,13nm,0.6s
YULB Yu-li 68.21 279 P **P 12 38 50.5 -1.3**
GOMU GeErMu 68.25 307 P **P 12 38 52.8 +0.5**
GOMU pmax pmax
comp=Z,26nm,0.8s
STHS Stebnicka Huta 68.29 5 *eP* **P 12 38 51.9 0.0**
STHS pmax pmax
comp=Z,15nm,0.7s
STHS Stebnicka Huta 68.29 5 *eP* **P 12 38 51.9 0.0**
USP Ospenovka 68.30 326 P **P 12 38 52.1 -0.1**
SNR=14
TKM2 Tokmak 2 68.33 325 P **P 12 38 52.7 +0.1**
SNR=30
KRUC Moravsky 68.38 8 *eP* **P 12 38 52.0 -0.4**
GERES GERESS Array B 68.39 10 P **P 12 38 51.9 -0.7**
comp=Z,1.8nm,0.4s,baz=328,slow=4.9,SNR=10
GERES pP **pP 12 39 18.9 +1.3**
comp=Z,2.0nm,0.8s,baz=320,slow=5.6,SNR=3.7
GERES PKPPKP **P'P'df 13 07 05.1 -5.7**
comp=Z,0.2nm,0.5s,baz=126,slow=2.5,SNR=4.9
comp=Z,1.8nm,0.4s
CKRC Cesky Krumlov 68.46 10 *eP* **P 12 38 52.5 -0.5**
CKRC Cesky Krumlov 68.46 10 *eP* **P 12 38 52.5 -0.5**
LANS Liptovska Anna 68.47 6 *eP* **P 12 38 53.9 +0.8**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 68.47 6 *eP* **P 12 38 53.9 +0.8**
CHMS Chumysh 68.48 325 P **P 12 38 53.6 +0.3**
SNR=7.5
SHIU Shidnytsya 68.55 4 P **P 12 38 54.0 +0.4**
TPUB Ta-pu 68.60 279 IAmb IAmb 12 38 55.0
comp=Z,11nm,0.5s
TPUB Ta-pu 68.60 279 P **P 12 38 54.0 -0.2**
JAVC Velka Javorina 68.66 8 *eP* **P 12 38 54.9 +0.6**
KBK Karagaybulak 68.75 325 P **P 12 38 55.6 +0.5**
SNR=17
KOLS Kolonicke sedl 68.81 4 *eP* **P 12 38 56.3 +1.1**
KOLS pmax pmax
comp=Z,20nm,0.5s
KOLS Kolonicke sedl 68.81 4 *eP* **P 12 38 56.3 +1.1**
TWG Pinlang 68.81 279 IAmb IAmb 12 39 01.0
comp=Z,15nm,0.5s
AAK Ala-Archa 68.89 325 P **P 12 38 55.8 -0.1**
AAK IAmb IAmb 12 38 57.9
comp=Z,53nm,1.2s
AAK Ala-Archa 68.89 325 LR LR 13 10 34.4
comp=Z,71nm,20.2s,baz=14,slow=37
AAK Ala-Archa 68.89 325 P **P 12 38 56.5 +0.6**
SNR=15
AAK Ala-Archa 68.89 325*ce*P **P 12 38 56.2 +0.3**
AAK pmax pmax
comp=Z,71nm,1.7s
AAK Ala-Archa 68.89 325 P **P 12 38 56.3 +0.3**
AAK pP **PcP 12 39 19.6 -0.2**
EKS2 Erkin-Say 69.06 326 P **P 12 38 57.2 +0.3**
SNR=44
STNU Starunia 69.09 3 P **P 12 38 56.1 -0.8**
MODS Modra-Piesok 69.12 8 *eP* **P 12 38 57.4 +0.3**
MODS pmax pmax
comp=Z,25nm,0.9s
MODS Modra-Piesok 69.12 8 *eP* **P 12 38 57.4 +0.3**
HOLU Holmets 69.22 4 P **P 12 38 56.9 -0.7**
UCH Uchtor 69.27 325 P **P 12 38 58.5 -0.2**
SNR=11
KMPD K-Podol'skiy 69.28 1 P **P 12 38 57.2 -0.8**
MUKU Mukachevo 69.30 4 P **P 12 38 58.0 -0.2**
CD2 Chengdu 69.40 297 P **P 12 38 58.8 -0.3**
CD2 pmax pmax
comp=Z,30nm,0.4s
MOA Molin 69.42 10 *i* P **P 12 38 58.7 -0.2**
comp=Z,0.6nm,0.5s
BRIU Brid 69.43 4 P **P 12 38 58.9 0.0**
RETA Reutte 69.46 13 *i* P **P 12 38 58.7 -0.6**
comp=Z,1.5nm,1.0s
DZA Taraz 69.46 328 *eP* **P 12 38 59.2 -0.1**
comp=Z,11nm,0.6s
DZA Taraz 69.46 328 *eP* **P 12 38 59.2 -0.1**
DZA pmax pmax
comp=Z,11nm,0.6s
KK31 Karatay Array 69.46 328 P **P 12 38 58.8 -0.5**
KK31 IAmb IAmb 12 39 00.1
comp=Z,90nm,1.6s
KK31 Karatay Array 69.46 328 P **P 12 38 58.8 -0.5**
KK31 pmax pmax
comp=Z,90nm,1.7s
KKAR Karatay Array 69.46 328 P **P 12 38 58.6 -0.6**
KKAR Karatay Array 69.46 328 P **P 12 38 58.7 -0.6**
CONA Conrad Observa 69.47 9 *i* P **P 12 38 59.1 -0.2**
comp=Z,3.3nm,0.6s
KSV Kosov 69.50 2 P **P 12 38 58.2 -1.2**
BERU Beregovo 69.52 4 P **P 12 38 59.2 -0.3**
BIOA Bad Ischl, Aus 69.53 11 *i* P **P 12 38 59.6 0.0**
comp=Z,0.3nm,0.4s
MOTA Moosalm 69.63 12 *eP* **P 12 38 59.8 -0.6**
comp=Z,0.3nm,0.4s
WATA Walderalm 69.69 12 *i* P **P 12 39 00.3 -0.5**
comp=Z,2.1nm,0.3s
LESA Schwarzleotal 69.71 11 *i* P **P 12 39 00.3 -0.5**
comp=Z,2.8nm,0.8s
SORM Soroca 69.72 0 ⇑P **P 12 39 00.3 -0.4**
SORM Soroca 69.72 0 P **P 12 39 00.3 -0.4**
PSZ Piszkesteto 69.72 6 ⇑P **P 12 39 00.7 -0.2**
PSZ Piszkesteto 69.72 6 *eP* **P 12 39 00.8 0.0**
PSZ Piszkesteto 69.72 6 P **P 12 39 00.7 -0.2**
RONA Rosalia, Austr 69.72 9 *i* P **P 12 39 00.8 0.0**
comp=Z,0.7nm,0.4s
WTTA Wattenberg 69.77 12 *i* P **P 12 39 00.5 -0.8**
comp=Z,1.5nm,0.3s
SQTA Sankt Quirin 69.77 12 *eP* **P 12 39 00.5 -0.7**
comp=Z,2.3nm,0.7s
FETA Feichten 69.92 13 *eP* **P 12 39 01.9 -0.3**
comp=Z,0.5nm,0.5s
KBA Koelnbreinsper 70.11 11 *eP* **P 12 39 03.2 -0.2**
comp=Z,4.9nm,0.5s
ARSA Arzberg 70.11 9 *i* P **P 12 39 03.2 0.0**
comp=Z,0.6nm,0.4s
BUR08 Bucovina Ar. S 70.18 2 IAmb IAmb 12 39 05.7
comp=Z,12nm,0.5s
BURAR Bucovina Array 70.21 2 P **P 12 39 03.6 -0.3**
BURAR IAmb IAmb 12 39 06.1
comp=Z,17nm,0.5s
BURAR Bucovina Array 70.21 2 ⇓P **P 12 39 03.6 -0.3**
BURAR Bucovina Array 70.21 2 P **P 12 39 03.6 -0.3**
JTS Las Juntas de 70.22 106 LR LR 13 12 41.7
comp=Z,61nm,20.9s,baz=314,slow=38
TUE Stuetta 70.31 14 P **P 12 39 05.0 +0.3**
TUE IAmb IAmb 12 39 23.6
comp=Z,47nm,2.0s
TUE Stuetta 70.31 14 P **P 12 39 05.0 +0.3**
ABTA Abfaltersbach 70.36 12 *i* P **P 12 39 05.2 +0.3**
comp=Z,2.5nm,0.7s
CHM Chimkent 70.42 329 *eP* **P 12 39 05.0 -0.2**
comp=Z,15nm,0.6s
CHM Chimkent 70.42 329 *eP* **P 12 39 05.0 -0.2**
CHM pmax pmax
comp=Z,15nm,0.6s
IUG luzhnay 70.48 328⇑*iP* **P 12 39 05.5 -0.2**

comp=Z,21nm,0.9s
IUG luzhnay 70.48 328*c i* P **P 12 39 05.4 -0.2**
IUG pmax pmax
comp=Z,21nm,0.9s
MYKA Terra Mystica 70.58 11 *i* P **P 12 39 06.8 +0.7**
comp=Z,0.7nm,0.4s
SOKA Soboth 70.65 10 *i* P **P 12 39 06.8 +0.2**
comp=Z,2.0nm,0.6s
OBKA Obir 70.78 10 *i* P **P 12 39 07.4 +0.1**
comp=Z,10nm,0.6s
MILM Milestii Mici 70.93 360 ⇓P **P 12 39 07.4 -0.7**
MILM Milestii Mici 70.93 360 P **P 12 39 07.4 -0.7**
MARR Marisel-Cluj 71.09 4 ⇓P **P 12 39 09.0 -0.2**
TESR Tescani 71.33 1 ⇑P **P 12 39 09.9 -0.7**
MORH Mrgy, Hungar 71.35 7 ⇑P **P 12 39 10.8 +0.1**
KSH Kashi 71.39 323 P **P 12 39 14.0 +2.7**
KSH pmax pmax
comp=Z,31nm,1.0s
ONER Baraj Valea Uz 71.50 1 ⇓P **P 12 39 12.0 +0.4**
TAOE Nuku Hiva Isla 71.69 168 *e*LR LR 13 01 07.5
comp=Z,280nm,32.5s
ERBR Yeremizino-Bor 71.70 351 *eP* **P 12 39 11.7 -1.1**
ERBR pmax pmax
comp=Z,34nm,1.0s
OZUR 71.73 2 ⇑P **P 12 39 13.4 +0.3**
PGAV Gavieira, Arco 71.79 28 *eP* P 12 39 18.5 +5.0
PGAV *i* IAmb IAmb 12 39 21.0
comp=Z,53nm,2.2s
VRI Vrincioaia 71.98 1 ⇑P **P 12 39 14.1 -0.4**
VRI Vrincioaia 71.98 1 P **P 12 39 14.1 -0.4**
SURR Surduc 71.98 5 ⇓P **P 12 39 14.4 -0.1**
PLOR Plostina 71.99 1 ⇑P **P 12 39 14.8 +0.2**
PLOR Plostina 71.99 1 P **P 12 39 14.8 +0.2**
SJG San Juan 72.01 85 LR LR 13 12 05.1
comp=Z,38nm,20.9s,baz=325,slow=37
GYA Guiyang 72.07 293 P **P 12 39 15.3 -0.2**
GYA pmax pmax
comp=Z,37nm,0.8s
PCAB Cabril 72.09 28 *eP* **P 12 39 18.9 +3.6**
PCAB *i* IAmb IAmb 12 39 25.5
comp=Z,38nm,1.9s
BZS Buzias 72.10 5 ⇑P **P 12 39 15.1 -0.1**
BZS Buzias 72.10 5 P **P 12 39 15.1 -0.1**
GOF Gofitskoye 72.15 349*ce*P **P 12 39 15.3 -0.2**
MLR Muntele Rosu 72.34 2 ⇓P **P 12 39 16.5 -0.3**
MLR Muntele Rosu 72.34 2 P **P 12 39 16.5 -0.3**
GZR Gura Zlata 72.36 4 ⇓P **P 12 39 16.6 -0.2**
GZR Gura Zlata 72.36 4 P **P 12 39 16.6 -0.2**
VOIR 72.38 2 ⇑P **P 12 39 17.0 0.0**
VOIR 72.38 2 P **P 12 39 16.9 0.0**
ARR Arges 72.44 3 ⇑P **P 12 39 17.1 -0.3**
POLO Lamas de Olo 72.46 28 *eP* **P 12 39 19.3 +1.7**
POLO *i* IAmb IAmb 12 39 22.2
comp=Z,11nm,2.1s
PVRL Vila Real 72.57 28 *eP* **P 12 39 21.7 +3.6**
PVRL *i* IAmb IAmb 12 39 22.8
comp=Z,28nm,1.8s
CFR Carcaliu 72.67 0 ⇓P **P 12 39 18.3 -0.3**
CFR Carcaliu 72.67 0 P **P 12 39 18.2 -0.3**
LABN Labinsk 72.75 351 *eP* **P 12 39 17.8 -1.3**
LABN pmax pmax
comp=Z,32nm,0.5s
ANN Anapa 72.81 353 *eP* **P 12 39 15.0 -4.4**
ANN pmax pmax
comp=Z,97nm,1.4s
MVO Moncorvo 72.83 27 *eP* **P 12 39 20.4 +0.8**
MVO *i* IAmb IAmb 12 39 22.5
comp=Z,28nm,1.9s
MDVR Moldovita 72.93 5 ⇓P **P 12 39 19.8 -0.4**
TPGR Topolog 72.99 360 ⇑P **P 12 39 20.0 -0.5**
PVIS Viseu 73.07 28 *eP* **P 12 39 21.9 +0.8**
KIV Kislovodsk 73.28 349 *eP* **P 12 39 22.1 -0.2**
KIV pmax pmax
comp=Z,20nm,1.1s
MTE Manteigas 73.45 28 *eP* **P 12 39 23.0 -0.4**
MTE *i* IAmb IAmb 12 39 24.0
comp=Z,31nm,1.2s
KBZ Khabaz 73.48 349 P **P 12 39 23.2 -0.1**
comp=Z,6.6nm,0.8s,baz=9.6,slow=6.8,SNR=7.1
KBZ pP **pP 12 39 49.7 +1.0**
comp=Z,3.4nm,0.7s,baz=331,slow=9.0,SNR=2.5
comp=Z,6.6nm,0.8s
KBZ Khabaz 73.48 349*ce*P **P 12 39 22.8 -0.6**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
SOC Sochi 73.88 351 *eP* **P 12 39 21.6 -4.1**
SOC *e*PPP PPP 12 43 53.5
SOC *e*S **SKiKP 12 48 44.4 +0.1**
SOC MLR MLR
comp=Z,42nm,15.0s
CHGR Chuyangaron 74.00 328 P **P 12 39 26.2 -0.4**
PCBR Castelo Branco 74.00 28 *eP* **P 12 39 28.0 +1.5**
PCBR *i* IAmb IAmb 12 39 35.9
comp=Z,22nm,1.5s
SIMJ Simiganj 74.03 328 P **P 12 39 26.7 -0.2**
BOVS Bovan 74.08 5 ⇑P **P 12 39 26.1 -0.8**
PSARD Sardoal 74.08 29 *eP* **P 12 39 28.0 +1.0**
PSARD *i* IAmb IAmb 12 39 28.5
comp=Z,24nm,1.8s
FDMO Fiordimonte 74.09 12 IAmb IAmb 12 40 23.1
comp=Z,100nm,2.0s
PZH PanZhiHua 74.11 297 P **P 12 39 30.1 +2.6**
NRCA Norcia 74.30 12 IAmb IAmb 12 39 31.1
comp=Z,31nm,1.4s
ESDC Sonseca Array 74.89 25 P **P 12 39 31.9 +0.2**
ESDC Sonseca Array 74.89 25 P **P 12 39 31.5 -0.3**
comp=Z,4.3nm,1.1s,baz=346,slow=5.6,SNR=15
ESDC pP **pP 12 39 58.4 +1.3**
comp=Z,2.0nm,0.7s,baz=346,slow=5.4,SNR=3.1
ESDC LR LR 13 15 13.7
comp=Z,33nm,19.0s,baz=346,slow=38
comp=Z,4.3nm,1.1s
PESTR Estremoz 74.91 28 *eP* **P 12 39 32.1 +0.4**
PESTR *i* IAmb IAmb 12 39 34.0
comp=Z,26nm,1.6s
KMI Kunming 74.91 295 ⇑P **P 12 39 31.9 -0.4**
KMI pmax pmax
comp=Z,19nm,1.3s
AKT Akhty 75.21 345 *eP* **P 12 39 33.4 -0.2**
AKT pmax pmax
comp=Z,25nm,1.2s
LSA Lhasa 75.43 307 P **P 12 39 36.9 +1.4**
LSA IAmb IAmb 12 39 38.2
comp=Z,89nm,1.7s
LSA Lhasa 75.43 307 P **P 12 39 36.9 +1.4**
LSA pmax pmax
comp=Z,89nm,1.7s
PBAR Barrancos 75.69 28 *eP* **P 12 39 36.7 +0.5**
PBAR *i* IAmb IAmb 12 39 38.1
comp=Z,26nm,1.5s
PVAQ Vaqueiros 76.28 29 *eP* **P 12 39 41.5 +1.9**
PVAQ *i* IAmb IAmb 12 39 45.3
comp=Z,26nm,1.6s
PFVI Vila Bisbo 76.29 30 *eP* **P 12 39 42.5 +2.8**
PFVI *i* IAmb IAmb 12 39 48.7
comp=Z,74nm,1.5s
TNCH TengChong 76.74 299 *eP* **P 12 39 42.5 -0.1**
TNCH pmax pmax
comp=Z,200nm,3.3s
GNI Garni 76.86 347 LR LR 13 18 13.7
comp=Z,34nm,19.7s,baz=0.5,slow=39
QIZ Qiongzhong 77.19 286 P **P 12 39 44.3 -0.7**
QIZ S **S 12 49 28.8 +2.3**
QIZ LR LR
comp=Z,83nm,14.1s
QIZ LR LR
comp=Z,97nm,16.3s
QIZ LR LR
comp=Z,120nm,12.3s
MDUB Mudurnu 77.35 358 IAmb IAmb 12 39 51.5
comp=Z,27nm,0.6s
BAND Balkesir-Ban 77.49 0 ⇓P **P 12 39 46.4 0.0**
NIL Nilore 77.65 323 P **P 12 39 47.1 -0.3**
NIL IAmb IAmb 12 39 48.4
comp=Z,95nm,1.6s
NIL Nilore 77.65 323 P **P 12 39 47.1 -0.3**
NIL pmax pmax
comp=Z,95nm,1.6s
SLVN Son La 77.76 293 P **P 12 39 47.8 -0.4**
SLVN IAmb IAmb 12 39 49.8
comp=Z,80nm,1.7s
ANTO Ankara 77.92 357 P **P 12 39 49.2 +0.4**
ANTO IAmb IAmb 12 39 51.3
comp=Z,16nm,0.6s
ANTO Ankara 77.92 357 P **P 12 39 49.2 +0.4**

ANTO				pmax	pmax		
	comp=Z,16nm,0.6s						
KBL	**Kabul**		**77.93 327**	P	**P**	**12 39 47.8**	**-1.4**
KBL				IAmb	IAmb	12 39 48.8	
	comp=Z,40nm,1.6s						
KBL	**Kabul**		**77.93 327**	P	**P**	**12 39 47.8**	**-1.4**
KBL				pmax	pmax		
	comp=Z,40nm,1.7s						
BORA	**Eskisehir**		**77.95 358**	P	**P**	**12 39 49.2**	**+0.2**
SDV	**Santo Domingo**	**77.99**	**94**	LR	LR	13 16 30.7	
	comp=Z,48nm,20.4s,baz=348,slow=37						
BR131	**Keskin Array S**	**78.03**	**356**	P	**P**	**12 39 47.2**	**-2.3**
BR131	**Keskin Array S**	**78.03**	**356**	*i* P	**P**	**12 39 49.4**	**-0.2**
BRTR	**Keskin Array B**	**78.03**	**356**	P	**P**	**12 39 48.7**	**-0.9**
BRTR	**Keskin Array B**	**78.03**	**356**	P	**P**	**12 39 49.0**	**-0.6**
	comp=Z,3.3nm,0.4s,baz=353,slow=3.4,SNR=19						
BRTR				pP	**pP**	**12 40 15.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=348,slow=2.4,SNR=3.1						
	comp=Z,3.3nm,0.4s						
BRTR	**Keskin Array B**	**78.03**	**356**	P	**P**	**12 39 48.7**	**-0.9**
EVN	**Everest**	**78.58**	**310**	P	**P**	**12 39 53.7**	**+0.3**
EVN				IAmb	IAmb	12 39 55.2	
	comp=Z,44nm,1.5s						
BNN	**Bunyan**	**78.82**	**354**	P	**P**	**12 39 54.0**	**+0.1**
PCRV	**Puerto La Cruz**	**79.64**	**88**	LR	LR	13 16 55.9	
	comp=Z,37nm,18.7s,slow=37						
HRA	**Herat**	**79.69**	**332**	IAmb	IAmb	12 40 00.3	
	comp=Z,43nm,1.6s						
PPT2	**Papeete2**	**79.84**	**178**	*e*LR	LR	13 04 52.5	
PPT2				*e*LR	LR	13 04 59.9	
	comp=Z,217nm,29.2s						
ROSC	**El Rosal**	**79.85**	**99**	LR	LR	13 18 46.1	
	comp=Z,38nm,18.6s,baz=261,slow=38						
KEST	**Kesra**	**80.91**	**16**	IAmb	IAmb	12 40 14.9	
	comp=Z,45nm,1.6s						
KEST	**Kesra**	**80.91**	**16**	P	**P**	**12 40 04.3**	**-0.8**
	comp=Z,8.4nm,0.4s,baz=258,slow=1.6,SNR=13						
KEST				LR	LR	13 20 06.1	
	comp=Z,43nm,18.8s,baz=232,slow=39						
	comp=Z,8.4nm,0.4s						
MD01	**Midelt array s**	**81.29**	**28**	P	**P**	**12 40 07.0**	**-0.3**
MDT	**Midelt**	**81.38**	**28**	LR	LR	13 18 21.3	
	comp=Z,19nm,18.1s,baz=9.5,slow=37						
OTAV	**Otavalo**	**82.05**	**105**	P	**P**	**12 40 13.9**	**+2.1**
CHTO	**Chiang Mai**	**82.10**	**296**	P	**P**	**12 40 10.3**	**-1.3**
CHTO	**Chiang Mai**	**82.10**	**296**	P	**P**	**12 40 10.3**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,12nm,1.4s						
JAY	**Jayapura**	**82.11**	**249**	P	**P**	**12 40 11.6**	**0.0**
	comp=Z,22nm,1.3s						
FLOC	**Florencia**	**82.12**	**102**	IAmb	IAmb	12 40 12.4	
	comp=Z,54nm,1.6s						
GENI	**Genyem**	**82.41**	**249**	P	**P**	**12 40 13.4**	**+0.3**
CM31	**Chiang Mai Arr**	**82.42**	**295**	P	**P**	**12 40 12.7**	**-0.5**
CM31				IAmb	IAmb	12 40 14.1	
	comp=Z,32nm,1.6s						
CMAR	**Chiang Mai Arr**	**82.42**	**295**	P	**P**	**12 40 12.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**82.42**	**295**	P	**P**	**12 40 12.6**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=9.4,slow=5.7,SNR=41						
CMAR				pP	**pP**	**12 40 39.7**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=14,slow=6.5,SNR=2.8						
CMAR				LR	LR	13 18 44.7	
	comp=Z,22nm,19.1s,baz=0.0,slow=37						
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**82.42**	**295**	P	**P**	**12 40 12.4**	**-0.8**
RAR	**Rarotonga**	**83.68**	**188**	LR	LR	13 10 11.7	
	comp=Z,44nm,20.4s,baz=316,slow=30						
MMAI	**Mount Meron Ar**	**84.65**	**354**	P	**P**	**12 40 24.8**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=340,slow=3.8,SNR=5.2						
	comp=Z,0.6nm,0.3s						
SWI	**Sorong**	**84.84**	**258**	P	**P**	**12 40 25.5**	**0.0**
	comp=Z,40nm,0.8s						
MYLDM	**Lahad Datu**	**85.40**	**272**	IAmb	IAmb	12 40 31.2	
	comp=Z,29nm,1.2s						
TBI	**Tubuai**	**85.57**	**178**	*e*LR	LR	13 07 45.7	
	comp=Z,1μm,34.8s						
TBI				*e*LR	LR	13 07 47.4	
	comp=Z,838nm,29.5s						
KKM	**Kota Kinabalu**	**85.70**	**275**	P	**P**	**12 40 30.0**	**0.0**
KKM				IAmb	IAmb	12 40 31.8	
	comp=Z,40nm,1.3s						
FAKI	**Fak Fak**	**86.21**	**256**	P	**P**	**12 40 31.3**	**-1.0**
FAKI	**Fak Fak**	**86.21**	**256**	P	**P**	**12 40 32.0**	**-0.3**
	comp=Z,58nm,1.2s						
EIL	**Elat**	**88.00**	**354**	LR	LR	13 25 06.1	
	comp=Z,14nm,21.7s,baz=341,slow=39						
ATAH	**Atahualpa**	**88.63**	**108**	P	**P**	**12 40 45.6**	**+1.2**
	comp=Z,8.1nm,0.8s,baz=318,slow=3.3,SNR=5.0						
ATAH				LR	LR	13 22 41.5	
	comp=Z,15nm,21.9s,baz=6.1,slow=37						
	comp=Z,8.1nm,0.8s						
NLAI	**Namlea**	**88.84**	**261**	P	**P**	**12 40 45.7**	**+0.8**
	comp=Z,24nm,1.0s						
DZM	**Mont Dzumac**	**90.62**	**218**	*e*LR	LR	13 09 56.9	
	comp=Z,122nm,25.4s						
SBUM	**Sibu**	**90.71**	**277**	P	**P**	**12 40 53.2**	**-0.5**
KSM	**Kuching**	**92.45**	**278**	IAmb	IAmb	12 41 03.8	
	comp=Z,16nm,1.2s						
RAYN	**Ar Rayn**	**93.20**	**344**	P	**P**	**12 41 04.5**	**-0.7**
RAYN	**Ar Rayn**	**93.20**	**344**	P	**P**	**12 41 04.5**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**100.40**	**247**	P	**Pdif**	**12 41 35.7**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=26,slow=5.2,SNR=9.5						
WRA				PKiKP	**PKiKP**	**12 46 01.9**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=357,slow=1.7,SNR=12						
WRA				PKKPbc	**PKKPbc**	**12 57 51.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=220,slow=2.6,SNR=1.8						
WRA				PKKP	**PKKPdf**	**12 57 55.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=220,slow=2.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**101.75**	**27**	P	**Pdif**	**12 41 42.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=346,slow=7.5,SNR=1.9						
ASAR	**Alice Springs**	**103.88**	**246**	Pdiff	**Pdif**	**12 41 52.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=25,slow=4.2,SNR=4.0						
ASAR				PKiKP	**PKiKP**	**12 46 08.6**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=54,slow=1.2,SNR=13						
ASAR				PKKPbc	**PKKPbc**	**12 57 40.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=197,slow=2.6,SNR=8.1						
ASAR				PKKP	**PKKPdf**	**12 57 46.3**	**-3.3**
	comp=Z,0.4nm,0.4s,baz=200,slow=2.3,SNR=18						
PLCA	**Paso Flores**	**121.39**	**118**	PKP	**PKPdf**	**12 46 42.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=241,slow=5.2,SNR=4.0						
PLCA				pPKP	**pPKPdf**	**12 47 11.0**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=266,slow=2.6,SNR=2.8						
LL01	**San Ignacio de**	**122.02**	**121**		**PKiKP**	**12 46 44.8**	**+0.8**
TRQA	**Tornquist**	**122.77**	**110**	PKPdf	**PKPdf**	**12 46 45.2**	**-0.3**
TRQA	**Tornquist**	**122.77**	**110**	PKiKP	**PKPdf**	**12 46 45.2**	**-0.3**
TSUM	**Tsumeb**	**136.09**	**15**	PKP	**PKPdf**	**12 47 11.2**	**-0.3**
	comp=Z,5.4nm,0.6s,baz=191,slow=0.8,SNR=6.8						
TSUM				pPKP	**pPKPdf**	**12 47 38.2**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=127,slow=5.1,SNR=1.6						
TSUM				SKPbc	**SKPbc**	**12 50 33.5**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=353,slow=6.3,SNR=5.0						
MATP	**Matopo**	**137.96**	**360**	SKPab	**SKiKP**	**12 50 45.0**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=336,slow=5.6,SNR=4.4						
LBTB	**Lobatse**	**142.48**	**4**	PKhKP	PKPpre	12 47 18.4	
	comp=Z,3.1nm,0.6s,baz=306,slow=3.2,SNR=5.5						
VNDA	**Vanda**	**142.66**	**195**	PKhKP	PKPpre	12 47 17.6	
	comp=Z,1.3nm,0.7s,baz=295,slow=0.9,SNR=5.8						
BOSA	**Boshof**	**146.05**	**5**	PKPbc	**PKPdf**	**12 47 28.3**	**-0.7**
	comp=Z,5.2nm,0.4s,baz=330,slow=2.4,SNR=29						
GRHM	**Grahamstown, E**	**150.73**	**3**		**PKPbc**	**12 47 42.1**	**+0.1**
QSPA	**South Pole Qui**	**152.31**	**180**		**PKPdf**	**12 47 37.2**	**-0.6**
QSPA				PKPbc	**PKiKP**	**12 47 46.5**	**+1.6**
QSPA	**South Pole Qui**	**152.31**	**180**	PKP	**PKPdf**	**12 47 37.8**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=304,slow=2.5,SNR=6.9						
QSPA				PKPbc	**PKiKP**	**12 47 46.2**	**+1.3**
	comp=Z,17nm,0.5s,baz=192,slow=0.5,SNR=185						
QSPA				pPKPbc	**pPKPbc**	**12 48 12.4**	**+1.0**
	comp=Z,26nm,0.6s,baz=296,slow=0.3,SNR=8.3						
BELA	**Belgrano 2**	**155.53**	**153**		PKPdf	12 47 50.0	+8.0
SNAA	**Sanae**	**164.97**	**141**	PKPab	**PKPab**	**12 48 49.1**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=239,slow=5.9,SNR=4.4						
TROLL	**Troll, Antarti**	**166.33**	**145**	⇑P	**PKPab**	**12 48 54.5**	**-1.6**
	comp=Z,135nm,0.8s						

*NORS **04** 12:52:18.2, 43.°34N×46.°00E, h8km, MPVA3.8*
*DRS **04** 12:52:21.4, 43.°24N×46.°00E, h15km*
MOS 04 12:52:20.2, 43.°26N×45.°98E, h21km, MPVA3.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.32**	**161**	*e*Pg	Pb	12 52 28.2	+1.0
DVE				*e*Sg	Sn	12 52 35.4	-0.3
DVE	**Vedeno**	**0.32**	**161**	*e*PG	Pb	12 52 28.1	+0.9
DVE				pmax	pmax		
	comp=Z,19nm,0.2s						
DLMR	**Dylym**	**0.51**	**111**	*e*Pg	Pn	12 52 32.1	-0.2
DLMR				*e*Sg	Sn	12 52 40.2	-0.2
DLMR	**Dylym**	**0.51**	**111**	*e*PG	Pn	12 52 32.1	-0.2
DLMR				*e*S	Sn	12 52 40.2	-0.2
BTLR	**Botlikh**	**0.62**	**163**	*e*Pg	Pn	12 52 34.1	+0.3
BTLR				*e*Sg	Sn	12 52 43.7	+0.6
BTLR	**Botlikh**	**0.62**	**163**	*e*PG	Pn	12 52 33.3	-0.5
BTLR				*e*S	Sn	12 52 44.4	+1.3
KRNR	**Karanay**	**0.80**	**122**	*e*Pg	Pn	12 52 36.4	0.0
KRNR				*e*Sg	Sn	12 52 48.5	+0.8
KRNR	**Karanay**	**0.80**	**122**	*e*PG	Pn	12 52 37.2	+0.8
KRNR				*e*S	Sn	12 52 50.1	+2.4
UNCR	**Uncukul**	**0.81**	**132**	*e*Pg	Pn	12 52 36.3	-0.1
UNCR				*e*Sg	Sn	12 52 48.4	+0.7
UNCR	**Uncukul**	**0.81**	**132**	*e*PG	Pn	12 52 37.2	+0.8
UNCR				*e*S	Sn	12 52 51.0	+3.3
HNZR	**Khunzah**	**0.88**	**142**	*e*PG	Pn	12 52 38.7	+1.2
HNZR				*e*S	Sn	12 52 52.8	+3.0
XNZR	**Khunzakh**	**0.89**	**143**	*e*Pg	Pn	12 52 38.7	+1.0
XNZR				*e*Sg	Sn	12 52 52.8	+2.8
BUJR	**Buynaksk**	**0.93**	**117**	*e*Pg	Pn	12 52 39.4	+1.3
BUJR				*e*Sg	Sn	12 52 53.7	+2.9
BUJR	**Buynaksk**	**0.93**	**117**	*e*PG	Pn	12 52 39.4	+1.3
BUJR				*e*S	Sn	12 52 53.7	+2.9
ARKR	**Arakani**	**0.99**	**131**	*e*Pg	Pn	12 52 40.1	+1.2
ARKR				*e*Sg	Sn	12 52 54.7	+2.4
ARKR	**Arakani**	**0.99**	**131**	*e*PG	Pn	12 52 40.0	+1.1
ARKR				*e*S	Sn	12 52 54.7	+2.4
MAK	**Makhachkala**	**1.15**	**104**	*e*PG	Pn	12 52 39.6	-1.5
MAK				*e*S	Sb	12 52 55.4	-0.5
MAK				pmax	pmax		
	comp=Z,164nm,0.2s						
MAK				smax	smax		
	comp=N,221nm,0.5s						
MAK				smax	smax		
	comp=N,185nm,0.4s						
TLTR	**Tlyarata**	**1.18**	**166**	*e*Pg	Pb	12 52 43.1	+1.1
TLTR				*e*Sg	Sn	12 52 60.0	+2.8
TLTR	**Tlyarata**	**1.18**	**166**	*e*PG	Pb	12 52 43.1	+1.1
TLTR				*e*S	Sn	12 53 00.0	+2.8
ARNR	**Ardon**	**1.24**	**267**	*e*Pg	Pb	12 52 43.9	+0.9
ARNR				*e*Sg	Sb	12 53 02.5	+4.0
ARNR	**Ardon**	**1.24**	**267**	*e*PG	Pb	12 52 43.9	+0.9
ARNR				*e*S	Sb	12 53 02.5	+4.0
LACR	**Lac**	**1.31**	**251**	*e*PG	Pb	12 52 44.2	+0.1
LACR				*e*S	Sb	12 53 04.2	+3.7
PRTR	**Priterechnaya**	**1.33**	**292**	*e*PG	Pb	12 52 44.1	-0.3
PRTR				*e*S	Sb	12 53 03.9	+2.9
KMKR	**Kumukh**	**1.39**	**143**	*e*Pg	Pb	12 52 46.6	+1.0
KMKR				*e*Sg	Sb	12 53 06.1	+3.1
KMKR	**Kumukh**	**1.39**	**143**	*e*PG	Pb	12 52 46.6	+1.0
KMKR				*e*S	Sb	12 53 06.1	+3.0
STDR	**Stavd-Durt**	**1.41**	**275**	*e*PG	Pb	12 52 46.0	+0.3
STDR				*e*S	Sb	12 53 07.1	+3.9
KORR	**Kora**	**1.41**	**264**	*e*Pg	Pb	12 52 46.1	+0.3
KORR				*e*Sg	Sb	12 53 07.6	+4.2
KORR	**Kora**	**1.41**	**264**	*e*PG	Pb	12 52 46.1	+0.3
KORR				*e*S	Sb	12 53 07.6	+4.2
NCK	**Nalchik**	**1.76**	**279**	*i* PN	Pb	12 52 51.0	-0.7
DIGR	**Digorskoe uzhe**	**1.79**	**259**	*e*PN	Pb	12 52 51.7	-0.8
DIGR				*e*S	Sb	12 53 17.0	+2.4
AKT	**Akhty**	**2.20**	**143**	*i* PN	Pn	12 52 49.9	-5.7
PYA1	**Pyatigorsk**	**2.24**	**292**	*i* PN	Pn	12 52 57.5	+1.4
KBZ	**Khabaz**	**2.29**	**283**	*i* PN	Pn	12 52 56.3	-0.4
NEUR	**Neytrino**	**2.40**	**271**	*e*PN	Pn	12 52 58.7	+0.3
NEUR				*e*S	Sb	12 53 29.9	-2.0
KIV	**Kislovodsk**	**2.49**	**287**	*i* PN	Pn	12 53 01.4	+1.8

IDC 04 13:02:56.4±2.3, 6.°78S×129.°62E, h0km, mb3.4/1, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=79.6km s-min=30.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.90**	**199**	Pn	Pn	13 05 48.5	+1.0
	0.5nm,0.3s,baz=32,slow=8.4,SNR=28						
FITZ				Sn	Sn	13 07 48.9	-12
	0.3nm,0.3s,baz=285,slow=19,SNR=1.6						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**13.87**	**161**	Pn	Pn	13 06 14.2	-0.2
	0.5nm,0.3s,baz=339,slow=14,SNR=41						
WRA				Sn	Sn	13 08 34.5	-15
	0.1nm,0.3s,baz=334,slow=22,SNR=3.0						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.29**	**167**	P	Pn	13 06 58.8	-0.7
	0.2nm,0.3s,baz=339,slow=9.3,SNR=16						
ASAR				S	Sn	13 10 03.3	-9.3
	0.3nm,0.8s,baz=349,slow=25,SNR=1.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	13 13 56.5	0.0
	0.2nm,0.5s,baz=109,slow=7.8,SNR=2.1						
	0.2nm,0.5s						

*IDC **04** 13:06:32.9±3.0, 39.°21N×141.°17E, h0km, mb3.6/4, mbtmp3.5/5, ML2.1/1, Error ellipse: s-maj=77.6km s-min=29.5km az=75.0*
*JMA **04** 13:06:33.5±0.1, 38.°6N±0.°2×141.°9E±0.°6, h48km, MV3.4/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 04 13:06:32.8±2.1, 38.°64N±0.°06×142.°0E±0.°2, h47km±11km, n21, σ0°88/19, mb3.5/4, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.41**	**295**	⇓*i*P	**Pn**	**13 06 43.3**	**+0.4**
JKMT				⇓S	**Sn**	**13 06 49.9**	**-0.1**
OFUJ	**Ofunato**	**0.50**	**333**	⇓P	**Pn**	**13 06 44.3**	**+0.4**
OFUJ				⇓S	**Sn**	**13 06 52.0**	**+0.3**
JIKH	**Ishinomakikobu**	**0.50**	**230**	⇓*i*P	**Pn**	**13 06 44.2**	**+0.3**
JIKH				⇓S	**Sn**	**13 06 51.5**	**-0.3**
JIO	**Ouri**	**0.51**	**249**	⇓P	**Pn**	**13 06 44.2**	**+0.2**
JIO				⇓S	**Sn**	**13 06 51.4**	**-0.6**
JMK	**Ichinoseki**	**0.66**	**299**	⇓P	**Pn**	**13 06 46.1**	**+0.3**
JMK				⇓S	**Sn**	**13 06 55.1**	**-0.2**
JOM	**Ohasama**	**0.98**	**329**	⇓P	**Pn**	**13 06 50.8**	**+0.5**
JOU	**Okura**	**1.05**	**255**	⇓P	**Pn**	**13 06 51.3**	**+0.2**
JMM	**Marumori**	**1.19**	**230**	P	**Pn**	**13 06 52.7**	**-0.4**
JRG	**Rokugo**	**1.28**	**307**	P	**Pn**	**13 06 54.8**	**+0.5**
JYK	**Kaneyama**	**1.28**	**283**	⇓P	**Pn**	**13 06 54.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.64**	**236**	Pn	**Pn**	**13 07 28.8**	**+2.1**
	0.2nm,0.3s,baz=39,slow=12,SNR=8.8						
	2.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	13 42 42.8	
	baz=317,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	13 42 44.0	
	baz=317,slow=75,SNR=79						
H11N3	**WAKE ISLAND Hy**	**28.66**	**124**	T	T	13 42 47.7	
	baz=317,slow=75,SNR=76						
H11S1	**WAKE ISLAND Hy**	**29.41**	**126**	T	T	13 43 38.6	
	baz=318,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**29.41**	**126**	T	T	13 43 38.9	
	baz=318,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.43**	**126**	T	T	13 43 39.9	
	baz=318,slow=76,SNR=75						
ZALV	**Zalesovo Beam**	**41.17**	**311**	P	**P**	**13 14 10.2**	**-2.2**
	0.3nm,0.3s,baz=99,slow=9.1,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.65**	**301**	P	**P**	**13 14 33.3**	**+0.6**
	0.2nm,0.5s,baz=82,slow=10,SNR=2.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.37**	**307**	P	**P**	**13 14 46.4**	**+0.1**
	1.3nm,0.4s,baz=80,slow=8.1,SNR=8.4						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**58.70**	**188**	P	P	13 16 35.6	+10
	0.4nm,1.1s,baz=6.2,slow=7.1,SNR=1.3						
	0.4nm,1.1s						

*BJI **04** 13:19:26.3, 5.°42S×134.°05E, h20km, mB5.1/11, mb4.7/42, Ms4.9/3, Ms7 4.6/2*
*IDC **04** 13:19:26.4±0.5, 5.°26S×133.°92E, h0km, mb4.6/17, mbtmp4.6/19, ML3.5/2, MS3.9/37, Error ellipse: s-maj=19.3km s-min=12.6km az=82.0*
*MOS **04** 13:19:26.6±0.9, 5.°25S×133.°95E, h13km, mb5.0/16, Error ellipse: s-maj=10.9km s-min=7.5km az=120.9*
*NEIC **04** 13:19:27.1±1.6, 5.°36S±0.°06×133.°78E±0.°02, h10km±1km, mb5.0/32, Error ellipse: s-maj=10.4km s-min=3.0km az=184.0*
*DJA **04** 13:19:28.0±0.7, 5.°S±2.°×13.°4E±.°, h11km±5km, M5.0/78, mb5.1/78, mB5.5/37, MLv5.5/15, Mw(mB)5.0/37, MwMwp4.6/6, Mwp5.0/6*
*GCMT **04** 13:19:31.1±0.3, 5.°29S±0.°02×133.°77E±0.°02, h24km, MW4.9/81, Moment Tensor Solution. s47,c54; s81,c105; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.32±.14; $M_{\theta\theta}$0.20±.09; $M_{\phi\phi}$2.11±.09; $M_{r\theta}$0.05±.13; $M_{\theta\phi}$0.81±.06; $M_{\phi r}$1.32±.11; Best double couple: $M_0$2.71000×10^16 NP1:ϕ_s29.00000°, δ32.00000°, λ-75.00000°. NP2: ϕ_s191.00000°, δ60.00000°, λ-99.00000°. Principal axes: T 2.7260, Plg14.0000°, Azm288.0000°; N -0.0370, Plg8.0000°, Azm196.0000°; P -2.6940, Plg74.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 13:19:27.3±0.3, 5.°37S±0.°04×133.°85E±0.°04, h10km, n272, σ1°82/253, mb4.9/74, MS3.9/30, 11C-5D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.71**	**355**	P	**Pn**	**13 19 56.7**	**-0.4**
FAKI	**Fak Fak**	**2.91**	**327**		**Pn**	**13 20 13.7**	**0.0**
FAKI				Sn	**Sn**	**13 20 46.7**	**-2.1**
FAKI	**Fak Fak**	**2.91**	**327**	P	**Pn**	**13 20 14.2**	**+0.4**
FAKI	**Fak Fak**	**2.91**	**327**	S	**Sn**	**13 20 46.6**	**-2.3**
FAKI	**Fak Fak**	**2.91**	**327**	P	**Pn**	**13 20 13.6**	**-0.2**
SAUI	**Saumlaki**	**3.62**	**224**		**Pn**	**13 20 22.8**	**-0.7**
SAUI	**Saumlaki**	**3.62**	**224**	P	**Pn**	**13 20 26.0**	**+2.5**
SAUI	**Saumlaki**	**3.62**	**224**	P	**Pn**	**13 20 27.3**	**+3.8**
RKPI	**Ransiki, Papua**	**3.85**	**5**	P	**Pn**	**13 20 27.2**	**+0.5**
BNDI	**Bandanaira**	**4.02**	**282**	P	**Pn**	**13 20 31.6**	**+2.7**
BNDI	**Bandanaira**	**4.02**	**282**	S	**Sn**	**13 21 18.4**	**+2.3**
BNDI	**Bandanaira**	**4.02**	**282**	P	**Pn**	**13 20 31.4**	**+2.5**
SRPI	**Serui, Papua**	**4.22**	**35**	P	**Pn**	**13 20 31.1**	**-0.6**
BAKI	**Biak**	**4.73**	**29**	P	**Pn**	**13 20 40.1**	**+1.4**
WAMI	**Wamena**	**5.07**	**73**	P	Pn	13 20 48.3	+4.9
SWI	**Sorong**	**5.17**	**330**	P	**Pn**	**13 20 44.7**	**-0.1**
	5.1nm2μm313nm,0.7s						
SWI	**Sorong**	**5.17**	**330**	P	**Pn**	**13 20 45.0**	**+0.2**
SWI				pmax	pmax		
	comp=Z,476nm,0.8s						
MSAI	**Masohi**	**5.30**	**292**	P	**Pn**	**13 20 48.3**	**+1.7**
GENI	**Genyem**	**6.88**	**67**	P	**Pn**	**13 21 09.8**	**+1.4**
GENI	**Genyem**	**6.88**	**67**	P	**Pn**	**13 21 09.0**	**+0.6**
NLAI	**Namlea**	**7.05**	**287**	P	**Pn**	**13 21 12.4**	**+1.7**
MMPI	**Merauke**	**7.18**	**116**	P	**Pn**	**13 21 12.8**	**+0.4**
TABU	**Tabubil**	**7.34**	**90**	P	**Pn**	**13 21 15.2**	**+0.4**
JAY	**Jayapura**	**7.41**	**68**	Pn	**Pn**	**13 21 16.2**	**+0.6**
	comp=Z,4.6nm,0.3s,baz=239,slow=7.3,SNR=37						
JAY				Sn	**Sn**	**13 22 39.5**	**-0.3**
	comp=Z,7.8nm,0.3s,baz=281,slow=23,SNR=4.1						
JAY				LR	LR	13 24 53.9	
	comp=Z,2μm,20.7s,baz=288,slow=45						
	comp=Z,105nm,0.8s						
JAY	**Jayapura**	**7.41**	**68**	P	**Pn**	**13 21 15.7**	**+0.1**
	comp=Z,0.4nmcomp=Z,1μmcomp=Z,166nm,0.9s						
DRS	**Darwin Rock St**	**7.59**	**202**	P	**Pn**	**13 21 21.0**	**+2.9**
MTN	**Manton Dam**	**7.89**	**200**	P	**Pn**	**13 21 24.5**	**+2.4**
	comp=Z,165nm,0.4s						
MTN				S	**Sn**	**13 22 49.1**	**-2.6**
MTN	**Manton Dam**	**7.89**	**200**		**Pn**	**13 21 24.6**	**+2.4**
SANI	**Sanana**	**8.51**	**293**	P	**Pn**	**13 21 30.4**	**-0.3**
SANI	**Sanana**	**8.51**	**293**	P	**Pn**	**13 21 30.2**	**-0.5**
TNTI	**Ternate**	**8.90**	**313**		**Pn**	**13 21 34.7**	**-1.3**
TNTI	**Ternate**	**8.90**	**313**	P	**Pn**	**13 21 39.3**	**+3.3**
TNTI	**Ternate**	**8.90**	**313**	P	**Pn**	**13 21 37.7**	**+1.7**
	comp=Z,1μmcomp=Z,148nm,1.1s						
SOEI	**Soe**	**10.45**	**245**		**Pn**	**13 21 57.8**	**+0.4**
SOEI	**Soe**	**10.45**	**245**	P	**Pn**	**

QIS **Mount Isa** 16.10 160 P **Pn** **13 23 11.8 -2.1**
QIS **Mount Isa** 16.10 160 P **Pn** **13 23 13.1 -0.8**
MTSU **Mount Surprise** 16.29 142 P **P** **13 23 20.8 +1.4**
comp=Z,65nm,0.9s
MTSU **Mount Surprise** 16.29 142 P **Pn** **13 23 16.2 -0.2**
PLAI **Plampang** 16.31 257 P **Pn** **13 23 17.5 +0.9**
PLAI **Plampang** 16.31 257 P **Pn** **13 23 15.6 -1.0**
comp=Z,89nm,0.9s
TWSI **Taliwang, Sumb** 17.16 258 P **Pn** **13 23 25.8 -1.6**
comp=Z,51nm,1.0s
AS31 **Alice Springs** 18.19 180 P **Pn** **13 23 38.8 -1.3**
ASAR **Alice Springs** 18.19 180 P **Pn** **13 23 38.8 -1.3**
comp=Z,28nm,0.9s,baz=0.5,slow=8.0,SNR=68
ASAR S Sn 13 26 53.2 -10
comp=Z,4.1nm,0.8s,baz=7.1,slow=31,SNR=2.8
ASAR Lg Lg 13 28 58.9
baz=5.5,slow=30
ASAR LR LR 13 31 09.1
comp=Z,645nm,18.1s,baz=357,slow=38
MYLDM **Lahad Datu** 18.57 304 P **Pn** **13 23 46.5 +1.7**
TV1H **Townsville Har** 18.70 139 P **Pn** **13 23 47.0 +0.6**
CTA **Charters Tower** 18.96 142 LR LR 13 32 01.6
comp=Z,47nm,20.1s,baz=316,slow=40
CTAO **Charters Tower** 18.96 142 P **Pn** **13 23 51.1 +1.6**
CTAO **Charters Tower** 18.96 142 P **P** **13 23 43.6 -5.3**
CTAO pmax pmax
comp=Z,68nm,1.2s
BBKI **Banjar Baru** 19.04 275 P **P** **13 23 51.1 +1.3**
comp=Z,204nm,1.3s
ABJI **Asem Bagus** 19.63 262 P **P** **13 23 57.3 +1.0**
comp=Z,105nm,1.4s
JAGI **Jajag, Banyuwa** 19.79 260 P **P** **13 23 54.1 -4.0**
JAGI **Jajag, Banyuwa** 19.79 260 P **P** **13 23 57.7 -0.3**
comp=Z,46nm,0.9s
KMMI **Kalianget** 19.83 264 P **Pn** **13 24 02.1 +2.1**
comp=Z,231nm,1.0s
WRKA **Warakurna** 20.26 195 P **P** **13 24 04.8 +1.7**
comp=Z,23nm,0.7s
MBWA **Marble Bar** 20.82 220 P **P** **13 24 11.1 +1.9**
comp=Z,56nm,1.4s
MBWA **Marble Bar** 20.82 220 P **P** **13 24 07.4 -1.8**
MBWA IAmb IAmb 13 24 27.2
comp=Z,41nm,0.9s
MBWA **Marble Bar** 20.82 220 P **P** **13 24 11.3 +2.1**
KKM **Kota Kinabalu** 20.94 303 P **P** **13 24 09.4 -1.2**
KKM IAmb IAmb 13 24 13.0
comp=Z,46nm,0.9s
KKM **Kota Kinabalu** 20.94 303 P **P** **13 24 12.3 +1.7**
PSAC2 **Pilbara Seismi** 21.01 219 P **P** **13 24 13.0 +1.8**
comp=Z,46nm,1.4s
PSAC1 **Pilbara Seismi** 21.05 219 P **P** **13 24 13.4 +1.8**
comp=Z,34nm,0.9s
PSA00 **Pilbara Seismi** 21.06 219 P **P** **13 24 13.5 +1.8**
comp=Z,43nm,1.2s
PSA00 **Pilbara Seismi** 21.06 219 P **P** **13 24 10.7 -1.0**
PSA00 **Pilbara Seismi** 21.06 219 P **P** **13 24 11.7 0.0**
PSA00 IAmb IAmb 13 24 30.9
comp=Z,16nm,1.0s
PSA00 **Pilbara Seismi** 21.06 219 P **P** **13 24 14.3 +2.6**
PSAB3 **Pilbara Seismi** 21.07 219 P **P** **13 24 13.4 +1.5**
comp=Z,34nm,0.9s
GUMO **Guam** 21.79 30 P **P** **13 24 18.1 -1.4**
GUMO **Guam** 21.79 30 P **P** **13 24 20.4 +0.9**
comp=Z,100nm,0.9s,baz=184,slow=8.0,SNR=15
GUMO LR LR 13 31 40.2
comp=Z,134nm,21.2s,baz=202,slow=34
comp=Z,100nm,0.9s
GUMO **Guam** 21.79 30 P **P** **13 24 20.6 +1.0**
GUMO **Guam** 21.79 30 P **P** **13 24 18.1 -1.4**
GUMO pmax pmax
comp=Z,519nm,1.6s
SBUM **Sibu** 22.96 289 P **P** **13 24 29.0 -3.2**
SBUM **Sibu** 22.96 289 P **P** **13 24 34.3 +2.2**
INKA **Innaminka** 23.19 164 P **P** **13 24 34.1 -0.2**
QLP **Quilpie** 23.31 156 P **P** **13 24 36.4 +0.8**
comp=Z,153nm,1.1s
QLP **Quilpie** 23.31 156 P **P** **13 24 37.3 +1.7**
KSM **Kuching** 24.48 285 P **P** **13 24 48.7 +1.8**
KPJI **Karang Pucung** 24.84 264 P **P** **13 24 50.7 +0.6**
comp=Z,54nm,0.9s
EIDS **Eidsvold** 25.85 142 P **P** **13 25 00.0 +0.8**
comp=Z,30nm,1.3s
EIDS **Eidsvold** 25.85 142 P **P** **13 24 59.5 +0.3**
EIDS IAmb IAmb 13 25 02.5
comp=Z,69nm,1.4s
EIDS **Eidsvold** 25.85 142 P **P** **13 25 01.0 +1.8**
FORT **Forrest** 25.85 191 P **P** **13 24 59.8 +0.6**
comp=Z,58nm,0.8s
FORT **Forrest** 25.85 191 P **P** **13 25 00.3 +1.2**
FORT IAmb IAmb 13 25 17.9
comp=Z,38nm,0.8s
TATA **Tatamba Isabel** 25.94 98 P **P** **13 25 01.1 +1.0**
SAVO **Savo Central** 26.02 100 P **P** **13 25 01.8 +0.9**
BBJI **Bungbulang** 26.11 264 P **P** **13 25 02.1 +0.3**
LEM **Lembang** 26.12 265 LR LR 13 37 34.8
comp=Z,286nm,19.6s,baz=170,slow=42
LEM **Lembang** 26.12 265 P **P** **13 25 02.9 +0.9**
comp=Z,61nm,1.5s
HNR **Honiara** 26.19 100 LR LR 13 35 52.7
comp=Z,397nm,20.4s,baz=250,slow=38
TPI **Tanjungpandan** 26.25 275 P **P** **13 25 04.5 +1.5**
comp=Z,753nmcomp=Z,47nm,1.2s
CNJI **Cibinong** 26.62 264 P **P** **13 25 06.3 0.0**
comp=Z,77nm,1.2s
STKA **Stephens Creek** 27.35 166 P **P** **13 25 12.1 -0.5**
comp=Z,84nm,1.0s
STKA **Stephens Creek** 27.35 166 P **P** **13 25 12.1 -0.5**
STKA **Stephens Creek** 27.35 166 P **P** **13 25 12.8 +0.2**
comp=Z,13nm,0.9s,baz=344,slow=7.7,SNR=13
STKA LR LR 13 37 13.7
comp=Z,894nm,19.7s,baz=352,slow=39
comp=Z,13nm,0.9s
STKA **Stephens Creek** 27.35 166 P **P** **13 25 14.7 +2.1**
TW1H **Toowoomba 1 Ha** 27.99 144 P **P** **13 25 19.7 +1.1**
CMSA **Cobar Meteorol** 28.30 158 P **P** **13 25 21.7 +0.5**
comp=Z,16nm,0.9s
CMSA **Cobar Meteorol** 28.30 158 P **P** **13 25 23.3 +2.1**
HTT **Hallett** 28.31 171 P **P** **13 25 22.4 +1.1**
comp=Z,4.8nm,1.6s
HTT **Hallett** 28.31 171 P **P** **13 25 22.8 +1.5**
MDSI **Maura Dua** 29.57 270 P **P** **13 25 33.0 +0.3**
DSRI **Dabo** 29.62 278 P **P** **13 25 33.9 +0.7**
comp=Z,24nm,1.1s
LHSI **Lahat** 30.26 272 P **P** **13 25 38.7 -0.1**
comp=Z,37nm,1.5s
MYKOM **Kota Tinggi** 30.80 283 P **P** **13 25 45.8 +2.3**
NWAO **Narrogin (SRO)** 31.49 207 LR LR 13 40 05.0
comp=Z,685nm,19.7s,baz=344,slow=39
JOW **Kunigami** 32.47 351 LR LR 13 38 32.2
comp=Z,257nm,20.1s,baz=126,slow=35
BKNI **Bangkinang** 33.25 279 P **P** **13 26 07.2 +2.1**
BKNI **Bangkinang** 33.25 279 P **P** **13 26 06.3 +1.2**
PDSI **Padang** 33.62 276 P **P** **13 26 09.1 +0.7**
comp=Z,36nm,1.0s
PPI **Padang Panjang** 33.75 277 P **P** **13 26 10.5 +1.0**
comp=Z,66nm,1.0s
IPM **Ipoh** 34.21 286 P **P** **13 26 11.2 -2.3**
IPM IAmb IAmb 13 26 15.6
comp=Z,42nm,1.2s
IPM **Ipoh** 34.21 286 P **P** **13 26 15.4 +1.9**
MNSI **Mandailing Nat** 34.77 279 P **P** **13 26 19.2 +0.9**
comp=Z,51nm,0.8s
KULM **Kulim** 34.80 287 P **P** **13 26 17.0 -1.6**
DZM **Mont Dzumac** 35.62 121 *eP* **P** **13 26 24.1 -1.6**
comp=Z,68nm,1.1s
DZM *e*LR LR 13 35 58.6
comp=Z,197nm,23.2s
DZM **Mont Dzumac** 35.62 121 P **P** **13 26 24.2 -1.6**
DZM IAmb IAmb 13 26 47.0
comp=Z,34nm,1.1s
DZM **Mont Dzumac** 35.62 121 LR LR 13 41 17.5
comp=Z,304nm,18.1s,baz=310,slow=37
DZM **Mont Dzumac** 35.62 121 P **P** **13 26 27.1 +1.4**
PSI **Prapat** 35.82 282 LR LR 13 44 42.8
comp=Z,282nm,18.3s,baz=131,slow=42
PSI **Prapat** 35.82 282 P **P** **13 26 28.9 +1.4**
PSI **Prapat** 35.82 282 P **P** **13 26 27.7 +0.2**
PSI pmax pmax
comp=Z,21nm,0.9s
YATNC **Mamie plateau,** 36.00 121 P **P** **13 26 29.2 +0.4**
GSI **Gunungsitoli** 36.83 279 P **P** **13 26 33.0 -3.0**
GSI IAmb IAmb 13 26 36.2
comp=Z,36nm,1.0s
SURA **Surathani** 37.04 293 P **P** **13 26 39.4 +1.6**
JNU **Nakatsue** 38.39 356 P **P** **13 26 48.6 -0.3**
JNU **Nakatsue** 38.39 356 LR LR 13 43 02.2
comp=Z,129nm,19.6s,baz=177,slow=37
JNU **Nakatsue** 38.39 356 P **P** **13 26 50.1 +1.2**
MLSI **Meulaboh, Aceh** 38.60 284 P **P** **13 26 51.0 0.0**
comp=Z,2μmcomp=Z,122nm,1.2s
SLVN **Son La** 39.58 313 P **P** **13 27 00.0 +0.8**
NJ2 **Nanjing** 39.86 340 *eP* **P** **13 27 01.5 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
GYA **Guiyang** 41.17 322 ⇓P **P** **13 27 13.2 +0.9**
GYA pP pwP 13 27 25.4 +6.3
GYA pmax pmax
comp=Z,20nm,0.9s
CMAR **Chiang Mai Arr** 41.77 305 P **P** **13 27 18.1 +0.8**
comp=Z,3.8nm,0.9s,baz=132,slow=6.7,SNR=35
comp=Z,3.8nm,0.9s
MJAR **Matsushiro Arr** 41.90 5 P **P** **13 27 16.4 -1.6**
comp=Z,5.5nm,0.9s,baz=188,slow=8.1,SNR=5.9
MJAR LR LR 13 41 49.3
comp=Z,166nm,18.6s,baz=180,slow=32
comp=Z,5.5nm,0.9s
CHTO **Chiang Mai** 41.96 306 P **P** **13 27 19.9 +1.1**
CHTO **Chiang Mai** 41.96 306 P **P** **13 27 19.5 +0.7**
CHTO pmax pmax
comp=Z,12nm,1.2s
KMI **Kunming** 42.82 316 ⇑P **P** **13 27 27.1 +1.1**
KMI pmax pmax
comp=Z,17nm,0.8s
KSRS **Korea Array** 42.96 353 P **P** **13 27 25.7 -0.9**
comp=Z,1.3nm,0.7s,baz=179,slow=10,SNR=5.1
KSRS LR LR 13 47 02.9
comp=Z,47μm,18.2s,baz=170,slow=39
comp=Z,1.3nm,0.7s
PZH **PanZhiHua** 44.40 317 P **P** **13 27 39.2 +0.6**
LYN **LuoYang** 44.54 335 P **P** **13 27 42.7 +3.3**
LYN pmax pmax
comp=Z,15nm,0.7s
XAN **Xi'an** 45.74 331 ⇑P **P** **13 27 49.2 +0.2**
XAN pP pwP 13 27 54.3 -1.4
XAN sP sP 13 28 01.8 +10
XAN pmax pmax
comp=Z,11nm,1.3s
CD2 **Chengdu** 46.14 323 P **P** **13 27 52.5 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HNS **HongShan** 46.15 339 ⇓P **P** **13 27 53.1 +1.1**
MSHR **Mys Shultsa** 47.79 357 *ceP* **P** **13 28 09.3 +4.5**
MSHR pmax pmax
comp=Z,15nm,0.9s
USRK **Ussuriysk Ar.** 49.37 358 P **P** **13 28 16.3 -0.7**
comp=Z,2.9nm,0.7s,baz=156,slow=5.5,SNR=4.5
comp=Z,2.9nm,0.7s
ASAJ **Asahikawa** 49.89 8 LR LR 13 48 49.1
comp=Z,74nm,19.9s,baz=199,slow=35
HHC **Hu-ho-hao-te** 50.34 338 *eP* **P** **13 28 24.3 -0.2**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.3s
TUWZ **Tuamarina** 50.65 141 P **P** **13 28 26.0 -0.8**
SHL **Shillong** 51.04 309 P **P** **13 28 30.3 +0.1**
SHL pmax pmax
comp=Z,18nm,1.0s
URZ **Urewera** 51.09 136 LR LR 13 51 01.7
comp=Z,480nm,18.1s,baz=317,slow=37
BKZ **Black Stump Fm** 51.11 137 P **P** **13 28 30.2 -0.2**
BNX **BinXian** 51.21 354 ⇓P **P** **13 28 31.6 +0.7**
BNX pmax pmax
comp=Z,15nm,1.1s
PALK **Pallekele** 54.50 283 LR LR 13 56 09.9
comp=Z,61nm,18.2s,baz=112,slow=40
GTA **Gaotai** 54.52 328 P **P** **13 28 58.1 +2.4**
GTA pP pwP 13 29 10.9 +8.4
GTA pmax pmax
comp=Z,8.0nm,1.1s
EVN **Everest** 56.16 309 P **P** **13 29 06.3 -2.0**
EVN IAmb IAmb 13 29 23.0
comp=Z,12nm,1.0s
ULN **Ulaanbaatar** 58.02 339 *ceP* **P** **13 29 22.1 +1.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM **Songino Array** 58.23 339 P **P** **13 29 21.9 0.0**
comp=Z,0.8nm,0.4s,baz=116,slow=6.6,SNR=4.8
SONM LR LR 13 54 40.6
comp=Z,56nm,20.1s,baz=180,slow=36
comp=Z,0.8nm,0.4s
HYB **Hyderabad** 59.10 294 *eP* **P** **13 29 26.8 -1.7**
ZEA **Zeya** 59.15 355 *eP* **P** **13 29 29.1 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
PETK **Petropavlovsk-** 61.66 16 P **P** **13 29 45.4 +0.1**
comp=Z,6.6nm,0.8s,baz=174,slow=5.7,SNR=4.6
comp=Z,6.6nm,0.8s
CASY **Casey** 62.94 190 P **P** **13 29 53.5 -0.1**
CASY IAmb IAmb 13 30 11.1
comp=Z,7.0nm,1.0s
MOY **Mondy** 63.38 338 *eP* **P** **13 30 01.3 +4.4**
KNGR **Kungurtug, Tuv** 63.93 335 *iP* **P** **13 30 03.0 +2.4**
KNGR pmax pmax
comp=Z,7.0nm,1.5s
WMQ **Urumqi** 64.21 325 *eP* **P** **13 30 03.7 +1.1**
RAR **Rarotonga** 66.06 111 LR LR 13 56 34.0
comp=Z,59nm,20.0s,baz=276,slow=34
MA2 **Magadan** 66.13 9 LR LR 13 57 39.0
comp=Z,54nm,19.7s,baz=185,slow=35
SHEM **Shemya Is, Ala** 67.15 25 LR LR 13 55 14.6
comp=Z,71nm,21.7s,baz=280,slow=32
YAK **Yakutsk** 67.29 358 P **P** **13 30 20.4 -1.5**
YAK **Yakutsk** 67.29 358 LR LR 14 00 26.1
comp=Z,53nm,18.7s,baz=162,slow=37
YAK **Yakutsk** 67.29 358 *eP* **P** **13 30 21.7 -0.2**
YAK *e* 13 30 49.3
YAK *e* 13 32 50.0
YAK *e*PPP PPP 13 34 31.2
YAK *e*S **S** **13 39 13.6 -3.2**
YAK *e*SS sS 13 39 36.0 +16
YAK *e* 13 40 13.0
YAK *e*SS **SS** **13 43 34.3 -2.4**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,146nm,4.6s
YAK pmax pmax
comp=N,135nm,5.1s
YAK pmax pmax
comp=E,106nm,3.5s
YAK smax smax
comp=E,162nm,5.8s
YAK smax smax
comp=N,94nm,5.2s
MK31 **Makanchi Array** 69.04 325 *iP* **P** **13 30 33.9 +0.6**
MKAR **Makanchi Array** 69.04 325 P **P** **13 30 34.6 +1.3**
comp=N,8.3nm,0.7s,baz=118,slow=7.9,SNR=66
MKAR LR LR 14 02 01.4
comp=N,56nm,19.2s,baz=138,slow=37
comp=N,8.3nm,0.7s
KSH **Kashi** 69.48 316 P **P** **13 30 38.4 +2.1**
KSH pmax pmax
comp=N,8.0nm,0.8s
SEY **Seymchan** 69.57 9 LR LR 14 00 43.5
comp=N,44nm,19.3s,baz=202,slow=36
SEY **Seymchan** 69.57 9 *ceP* **P** **13 30 36.2 0.0**
SEY pmax pmax
comp=Z,9.0nm,1.4s
AAK **Ala-Archa** 71.84 318 *ceP* **P** **13 30 52.9 +2.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
ZALV **Zalesovo Beam** 71.89 332 P **P** **13 30 50.2 -0.3**
comp=Z,2.1nm,0.7s,baz=106,slow=5.3,SNR=11
comp=Z,2.1nm,0.7s
KURK **Kurchatov** 73.19 327 *ceP* **P** **13 30 58.5 +0.2**
KURK pmax pmax
comp=Z,12nm,1.1s
KURBB **Kurchatov Arra** 73.19 327 P **P** **13 30 59.0 +0.7**
comp=Z,5.0nm,0.8s,baz=124,slow=4.9,SNR=58
comp=Z,5.0nm,0.8s
VNDA **Vanda** 73.62 174 P **P** **13 31 00.5 +0.1**
VNDA **Vanda** 73.62 174 P **P** **13 31 01.1 +0.7**
comp=Z,7.2nm,0.8s,baz=320,slow=6.2,SNR=42
VNDA LR LR 14 02 45.0
comp=Z,193nm,18.8s,baz=348,slow=35
comp=Z,7.2nm,0.8s
TRKS **Terek-Say** 73.66 316 P **P** **13 31 02.8 +1.3**
TRKS pmax pmax
comp=Z,12nm,0.8s
SBA **Scott Base** 74.45 173 P **P** **13 31 07.4 +2.1**
SBA pmax pmax
comp=Z,15nm,1.6s
KK31 **Karatay Array** 74.70 317 *i*P **P** **13 31 08.3 +0.9**
PPT2 **Papeete2** 75.62 107 *e*LR LR 13 54 29.5
comp=Z,99nm,23.8s
PPT2 *e*LR LR 13 54 37.3
comp=Z,117nm,33.2s
PPT **Papeete** 75.62 107 LR LR 14 04 20.2
comp=Z,51nm,18.1s,baz=334,slow=36
TBI **Tubuai** 75.68 113 *e*LR LR 13 54 29.5
comp=Z,482nm,26.5s
TIXI **Tiksi** 76.94 358 LR LR 14 06 14.0
comp=Z,78nm,18.7s,baz=176,slow=36
MAW **Mawson** 77.86 202 P **P** **13 31 26.7 +1.9**
comp=Z,3.4nm,0.6s,baz=92,slow=8.2,SNR=24
MAW LR LR 14 03 51.5
comp=Z,288nm,19.1s,baz=54,slow=34
comp=Z,3.4nm,0.6s
BVA0 **Borovoye Array** 78.78 327 *i*P **P** **13 31 30.6 +0.4**
BVAR **Borovoye Array** 78.78 327 P **P** **13 31 30.6 +0.4**
comp=Z,7.2nm,0.8s,baz=123,slow=7.3,SNR=22
comp=Z,7.2nm,0.8s
BORK **Borovoye** 78.83 327 *ceP* **P** **13 31 31.1 +0.7**
BORK pmax pmax
comp=Z,29nm,2.5s
AB31 **Akbulak array** 83.65 321 *i*P **P** **13 31 55.9 -0.3**
QSPA **South Pole Qui** 84.59 180 **P** **13 32 00.0 -0.8**
QSPA **South Pole Qui** 84.59 180 P **P** **13 32 03.0 +2.2**
comp=Z,12nm,0.7s,baz=321,slow=1.4,SNR=86
QSPA LR LR 14 09 37.0
comp=Z,134nm,19.6s,baz=2.0,slow=36
comp=Z,12nm,0.7s
AKTO **Aktyubinsk** 85.16 322 ⇑Sn **SKiKP** **13 40 42.3 -7.6**
comp=Z,2.0nm,1.1s
OHAK **Old Harbor** 85.33 31 P **P** **13 32 03.6 -0.9**
KDAK **Kodiak Island** 85.85 31 **P** **13 32 05.2 -1.8**
KDAK IAmb IAmb 13 32 08.4
comp=Z,18nm,1.1s
KDAK **Kodiak Island** 85.85 31 LR LR 14 05 41.5
comp=Z,60nm,21.1s,baz=240,slow=32
KDAK **Kodiak Island** 85.85 31 P **P** **13 32 05.2 -1.8**
KDAK pmax pmax
comp=Z,18nm,1.1s
L19K **White Mountain** 86.12 26 **P** **13 32 09.3 +1.0**
L19K IAmb IAmb 13 32 10.1
comp=Z,12nm,0.9s
M19K **Big River Lodg** 86.24 27 IAmb IAmb 13 32 13.2
comp=Z,8.8nm,1.0s
ARTI **Arti** 86.46 327 *d*P **P** **13 32 09.8 -0.3**
ARTI 13 35 27.3
ARTI S **SKSac** **13 42 31.1 -5.6**
ARTI SS **SS** **13 48 19.7 -6.9**
ARTI pmax pmax
comp=Z,5.0nm,1.5s
SYO **Syowa Base** 86.55 201⇑*eP* **P** **13 32 11.6 +1.3**
SYO **Syowa Base** 86.55 201⇑*ePcP* **P** **13 32 13.4 +3.1**
M20K **Styx River** 86.80 27 IAmb IAmb 13 32 13.3
comp=Z,17nm,1.1s
SKT **Skwentna** 87.55 27 **P** **13 32 11.2 -4.2**
SKT IAmb IAmb 13 32 15.2
comp=Z,11nm,1.0s
ILAR **Eielson Array** 90.26 25 P **P** **13 32 26.1 -1.9**
comp=Z,1.2nm,0.7s,baz=271,slow=3.9,SNR=11
ILAR LR LR 14 10 56.3
comp=Z,41nm,19.1s,baz=276,slow=34
comp=Z,1.2nm,0.7s
RAYN **Ar Rayn** 90.60 293 P **P** **13 32 30.6 0.0**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
KBZ **Khabaz** 94.36 313 *i*P **P** **13 32 47.5 +0.1**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
BELA **Belgrano 2** 96.62 182 P **P** **13 32 57.1 0.0**
BELA IAmb IAmb 13 32 59.0
comp=Z,7.0nm,1.3s
TROLL **Troll, Antarti** 96.65 194 ⇓P **P** **13 32 58.6 +1.0**
comp=Z,150nm,0.9s
SNAA **Sanae** 98.10 193 P **P** **13 33 03.5 -0.5**
SNAA IAmb IAmb 13 33 21.4
comp=Z,3.9nm,1.1s
SNAA **Sanae** 98.10 193 P Pdif 13 33 05.0 +0.9
comp=Z,1.4nm,1.0s,baz=127,slow=5.1,SNR=3.3
comp=Z,1.4nm,1.0s
SNAA **Sanae** 98.10 193 P Pdif 13 33 05.0 +0.9
ASF **Jabal al Asfar** 98.71 302 LR LR 14 24 41.6
comp=Z,14nm,20.7s,baz=142,slow=40
BBB **Bella Bella** 99.15 38 LR LR 14 15 32.1
comp=Z,47nm,18.3s,baz=186,slow=34
TXAR **Lajitas Array** 120.82 59 PKP **PKPdf** **13 38 20.3 -0.4**
comp=Z,0.1nm,0.4s,baz=205,slow=1.8,SNR=4.6
PLCA **Paso Flores** 128.95 156 PKP **PKiKP** **13 38 37.1 +0.5**
comp=Z,5.2nm,0.9s,baz=122,slow=2.2,SNR=10
TORD **Torodi Ar. Bea** 132.22 283 PKP **PKiKP** **13 38 44.1 +0.4**
comp=Z,1.9nm,0.6s,baz=53,slow=3.1,SNR=11
DBIC **Dimbokro** 138.92 274 PKP **PKPdf** **13 38 55.9 +0.7**
comp=Z,1.6nm,0.5s,baz=59,slow=5.9,SNR=1.3
CPUP **Villa Florida** 146.67 162 PKPbc **PKPab** **13 39 11.2 0.0**
comp=Z,11nm,0.9s,baz=75,slow=1.9,SNR=46
LPAZ **La Paz** 149.40 135 PKPbc **PKPbc** **13 39 19.4 +0.9**
comp=Z,13nm,0.8s,baz=208,slow=2.1,SNR=22
FLOC **Florencia** 150.32 96 **PKPbc** **13 39 20.7 +0.5**
CZSB **Cruzeiro do Su** 150.49 116 **PKiKP** **13 39 21.5 +0.3**

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*LDG **04** 13:21:40.1±0.1,45°.04N×6°.54E,h5km,Md1.9/2,Ml2.0/1,*
Error ellipse: s-maj=1.2km s-min=1.0km az=113.0
STR 04 13:21:40.8±0.3,45°N±2°×°±°,h3km,MLv2.0/19,LOCSAT
earthModelID alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.22**	**123**	Pg	Pg	13 21 45.0	-0.1
RRL				Sg	Sg	13 21 48.9	+0.9
MBDF	**Montbardon**	**0.36**	**151**	*e*Pg	Pg	13 21 47.3	-0.4
MBDF				*e*Sg	Sg	13 21 51.7	-0.7
10.0nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.47**	**255**	*e*Pg	Pg	13 21 49.6	-0.3
ORIF				*e*Sg	Sg	13 21 55.7	-0.4
11nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.47**	**255**	Pg	Pg	13 21 49.6	-0.3
ORIF				Sg	Sg	13 21 55.8	-0.3
LPG	**La Plagne**	**0.48**	**19**	*e*Pg	Pg	13 21 49.8	-0.3
LPG				*e*Sg	Sg	13 21 55.5	-0.9
7.1nm,0.2s							
CREF	**Crivoux**	**0.49**	**172**	Pg	Pg	13 21 50.0	-0.2
CREF				Sg	Sg	13 21 57.1	+0.4
LPL	**La Plagne**	**0.50**	**17**	*e*Pg	Pg	13 21 50.0	-0.3
LPL				*e*Sg	Sg	13 21 56.1	-0.7
6.0nm,0.2s							
RSP	**Reno Superiore**	**0.53**	**78**	Pg	Pg	13 21 50.8	-0.2
BHB	**Bricherasio**	**0.56**	**111**	Pg	Pg	13 21 51.4	-0.1
BHB				Sg	Sg	13 21 58.8	+0.1
OGAG	**Argentiere**	**0.59**	**179**	Pg	Pg	13 21 45.6	-6.4
OGAG				Sg	Sg	13 21 49.4	-10
GRN	**Grenoble**	**0.59**	**290**	Pg	Pg	13 21 52.4	+0.3
GRN				Sg	Sg	13 22 00.7	+1.0
SURF	**Saint Ours**	**0.59**	**160**	Pg	Pg	13 21 52.2	+0.1
SURF				Sg	Sg	13 22 01.1	+1.2
LSD	**Lago del Serru**	**0.60**	**45**	Pg	Pg	13 21 52.2	-0.1
LSD				Sg	Sg	13 21 59.8	-0.3
JAUF	**Jausiers**	**0.63**	**165**	Pg	Pg	13 21 52.7	-0.1
JAUF				Sg	Sg	13 21 59.8	-1.2
PZZ	**Stroppo**	**0.68**	**142**	Pg	Pg	13 21 53.7	-0.1
PZZ				Sg	Sg	13 22 03.2	+0.6
ISO	**Isola**	**0.94**	**156**	Pg	Pg	13 21 58.2	-0.5
OGMY	**Moye**	**0.95**	**332**	Pg	Pg	13 21 59.5	+0.4
TRAV	**Traversella**	**0.98**	**61**	Pg	Pg	13 21 59.7	+0.1
TRAV				Sg	Sg	13 22 12.3	-0.1
GBOS	**Grotte di Boss**	**1.23**	**130**	Pg	Pg	13 22 03.5	-0.9
TRIGF	**Trigance**	**1.30**	**184**	Pg	Pn	13 22 06.9	+1.0
RUSF	**Rustrel**	**1.33**	**215**	Pg	Pb	13 22 07.7	+1.4
VIVF	**Saint-Julien-l**	**1.33**	**263**	*e*Pg	Pg	13 22 05.9	-0.3
VIVF				*e*Sg	Sg	13 22 23.5	0.0
3.3nm,0.3s							
SSB	**Saint Sauveur**	**1.43**	**280**	Pg	Pg	13 22 08.1	0.0
SSB				Sg	Sn	13 22 26.8	-0.1
A184A	**Saint Michel d**	**1.48**	**265**	Pg	Pg	13 22 09.2	+0.1
A184A				Sn	Sg	13 22 28.8	+0.5
LMR	**La Mourre**	**1.71**	**180**	*e*Pg	Pb	13 22 13.0	+0.3

*LDG **04** 13:22:45.7±0.1, 45.°05N×6.°52E, h2km, Md1.6/2, Ml1.6/1, Error ellipse: s-maj=1.3km s-min=1.1km az=131.0*
STR 04 13:22:46.2±0.4, 45.°N±3.°×.°±.°, h3km, MLv1.8/8, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.23**	**123**	Pg	Pg	13 22 51.1	+0.4
RRL				Sg	Sg	13 22 54.4	+0.7
MBDF	**Montbardon**	**0.37**	**150**	*e*Pg	Pg	13 22 53.0	-0.3
MBDF				*e*Sg	Sg	13 22 57.4	-0.6
2.8nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.47**	**254**	*e*Pg	Pg	13 22 55.3	+0.1
ORIF				*e*Sg	Sg	13 23 00.7	-0.6
3.5nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.47**	**254**	Pg	Pg	13 22 55.3	+0.1
ORIF				Sg	Sg	13 23 01.4	+0.1
LPG	**La Plagne**	**0.48**	**20**	*e*Pg	Pg	13 22 55.0	-0.4
LPG				*e*Sg	Sg	13 23 01.0	-0.7
2.7nm,0.3s							
LPL	**La Plagne**	**0.49**	**18**	*e*Pg	Pg	13 22 55.6	-0.1
LPL				*e*Sg	Sg	13 23 01.8	-0.3
1.5nm,0.2s							
CREF	**Crivoux**	**0.50**	**171**	Pg	Pg	13 22 55.7	-0.1
CREF				Sg	Sg	13 23 02.7	+0.4
RSP	**Reno Superiore**	**0.54**	**79**	Pg	Pg	13 22 56.5	-0.1
RSP				Sg	Sg	13 23 04.2	+0.7
BHB	**Bricherasio**	**0.57**	**111**	Pg	Pg	13 22 56.9	-0.2
BHB				Sg	Sg	13 23 04.4	-0.1
OGAG	**Argentiere**	**0.59**	**178**	Pg	Pg	13 22 51.1	-6.4
LSD	**Lago del Serru**	**0.60**	**46**	Pg	Pg	13 22 57.9	+0.1
LSD				Sg	Sg	13 23 05.4	-0.1
VIVF	**Saint-Julien-l**	**1.32**	**262**	*e*Pg	Pg	13 23 10.7	-0.8
VIVF				*e*Sg	Sg	13 23 27.0	-1.7
1.5nm,0.3s							

ROM 04 13:23:21.7±0.1, 44.°910N±0.°008×11.°29E±0.°01, h8km, ML2.3/36, Error ellipse: s-maj=1.1km s-min=0.7km az=304.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FERS	**Ferrara-Casagl**	**0.18**	**92**	P	Pg	13 23 27.6	+2.1
FERS				S	Sg	13 23 31.6	+3.6
RAVA	**Ravarino**	**0.20**	**218**	P	Pg	13 23 27.4	+1.7
RAVA				S	Sg	13 23 31.8	+3.5
RAVA				AML	AML		
comp=E,3375μm,0.5s							
RAVA				AML	AML		
comp=N,4500μm,0.3s							
RAVA				AML	AML		
comp=N,4547μm,0.5s							
RAVA				AML	AML		
comp=E,4228μm,0.3s							
GAZZ	**Gazzo Veronese**	**0.24**	**326**	*e*Pg	Pg	13 23 29.5	+2.9
GAZZ				*e*Sg	Sg	13 23 33.6	+3.6
TEOL	**Teolo**	**0.53**	**31**	*e*Pg	Pn	13 23 35.4	-0.2
TEOL				*e*Sg	Sn	13 23 46.3	+1.6
TEOL	**Teolo**	**0.53**	**31**	P	Pn	13 23 34.7	-0.9
TEOL				S	Sn	13 23 46.2	+1.5
TEOL				AML	AML		
comp=E,200μm,1.2s							
TEOL				AML	AML		
comp=N,126μm,1.2s							
TEOL				AML	AML		
comp=E,348μm,1.0s							
TEOL				AML	AML		
comp=E,348μm,1.0s							
TEOL				AML	AML		
comp=N,256μm,0.5s							
MTRZ	**Monterenzio**	**0.55**	**166**	P	Pn	13 23 37.6	+1.7
ZOVE	**Zovencedo**	**0.56**	**15**	P	Pn	13 23 35.5	-0.5
ZCCA	**Zocca**	**0.60**	**202**	P	Pn	13 23 36.9	+0.3
MARN	**Marana (Italy)**	**0.73**	**356**	*e*Pg	Pn	13 23 38.8	+0.4
MARN				*e*Sg	Sn	13 23 50.7	+0.9
MARN	**Marana (Italy)**	**0.73**	**356**	P	Pn	13 23 38.5	+0.1
MARN				S	Sn	13 23 49.4	-0.4
ROVR	**Rover Verones**	**0.75**	**348**	P	Pn	13 23 38.7	-0.1
ROVR				S	Sn	13 23 50.3	-0.1
ROVR				AML	AML		
comp=E,216μm,0.2s							
ROVR				AML	AML		
comp=N,382μm,0.3s							
ROVR				AML	AML		
comp=E,85μm,0.2s							
ROVR				AML	AML		
comp=N,156μm,0.3s							
ROVR				AML	AML		
comp=E,216μm,0.2s							
ROVR				AML	AML		
comp=N,382μm,0.3s							
BRIS	**BRISIGHELLA**	**0.78**	**168**	P	Pn	13 23 41.2	+2.2
BALD	**Monte Baldo**	**0.84**	**337**	P	Pn	13 23 41.0	+0.9
MBAL	**Monte Baldo -**	**0.84**	**339**	P	Pn	13 23 41.2	+1.1
MBAL				AML	AML		
comp=E,316μm,0.9s							
MBAL				AML	AML		
comp=N,297μm,0.5s							
MBAL				AML	AML		
comp=E,322μm,0.5s							
MBAL				AML	AML		
comp=N,226μm,0.5s							
MBAL				AML	AML		
comp=N,297μm,1.5s							
MBAL				AML	AML		
comp=E,322μm,1.5s							
MBAL				AML	AML		
comp=E,316μm,1.1s							
VARA	**Varagna**	**0.96**	**343**	*e*Sg	Sn	13 23 57.4	+1.9
VARA	**Varagna**	**0.96**	**343**	P	Pn	13 23 42.8	+1.1
VARA				AML	AML		
comp=E,412μm,1.3s							
VARA				AML	AML		
comp=E,306μm,0.2s							
VARA				AML	AML		
comp=N,271μm,0.2s							
VARA				AML	AML		
comp=N,417μm,1.3s							
VARA	**Varagna**	**0.96**	**343**	*e*Pg	Pn	13 23 42.9	+1.3
SARO	**Sassorosso**	**0.96**	**221**	P	Pn	13 23 43.4	+1.8
GRAM	**Graiana**	**0.97**	**245**	P	Pn	13 23 43.7	+2.0
GRAM				AML	AML		
comp=E,103μm,0.5s							
GRAM				AML	AML		
comp=N,94μm,0.2s							
GRAM				AML	AML		
comp=E,103μm,1.5s							
DOSS	**Dosso del Somm**	**0.97**	**356**	P	Pn	13 23 42.3	+0.5
DOSS				AML	AML		
comp=E,158μm,0.3s							
DOSS				AML	AML		
comp=N,118μm,1.0s							
DOSS				AML	AML		
comp=E,140μm,1.8s							
DOSS				AML	AML		
comp=N,153μm,0.3s							
BDI	**Bagni Di Lucca**	**0.98**	**210**	P	Pn	13 23 43.8	+2.0
MAGA	**Magasa**	**0.98**	**332**	P	Pn	13 23 42.8	+0.9
MAGA				AML	AML		
comp=E,584μm,0.5s							
MAGA				AML	AML		
comp=N,519μm,1.4s							
MAGA				AML	AML		
comp=N,519μm,0.6s							
LUSI	**Trento, Gardas**	**1.08**	**347**	P	Pn	13 23 44.4	+1.2
LUSI				AML	AML		
comp=E,184μm,1.3s							
LUSI				AML	AML		
comp=N,362μm,1.3s							
LUSI				AML	AML		
comp=N,362μm,0.7s							
LUSI				AML	AML		
comp=E,184μm,0.7s							
PANI	**Panarotta**	**1.14**	**2**	P	Pn	13 23 45.5	+1.3
PANI				AML	AML		
comp=N,69μm,1.3s							
RONC	**Roncone**	**1.17**	**337**	P	Pn	13 23 46.9	+2.3
RONC				AML	AML		
comp=E,113μm,0.7s							
RONC				AML	AML		
comp=E,113μm,1.3s							
RONC				AML	AML		
comp=N,135μm,0.2s							
ZONE	**Zone**	**1.19**	**316**	P	Pn	13 23 47.7	+3.0
ZONE				AML	AML		
comp=E,127μm,0.3s							
ZONE				AML	AML		
comp=E,127μm,1.7s							
ZONE				AML	AML		
comp=N,102μm,0.6s							
VARN	**Col Varnada, M**	**1.23**	**28**	P	Pg	13 23 47.3	+2.0
VARN				AML	AML		
comp=N,70μm,1.6s							
VARN				AML	AML		
comp=N,70μm,0.4s							
VARN				AML	AML		
comp=E,96μm,0.6s							
VARN				AML	AML		
comp=N,64μm,2.4s							
PLMA	**Palmaria, Port**	**1.34**	**231**	P	Pg	13 23 49.5	+2.1
OZOL	**Ozolo**	**1.50**	**354**	P	Pg	13 23 52.2	+1.7
OZOL				AML	AML		
comp=E,92μm,0.5s							
OZOL				AML	AML		
comp=N,77μm,1.4s							
OZOL				AML	AML		
comp=N,77μm,0.6s							
OZOL				AML	AML		
comp=E,92μm,1.5s							
CIRO	**Champorcher**	**2.71**	**286**	AML	AML		
comp=E,42μm,1.6s							
CIRO				AML	AML		
comp=N,38μm,1.4s							
CIRO				AML	AML		
comp=N,38μm,0.6s							
VIVA	**Pratoni del Vi**	**3.34**	**161**	AML	AML		
comp=E,946μm,0.9s							
VIVA				AML	AML		
comp=N,652μm,0.2s							

*LDG **04** 13:25:07.3±0.1, 45.°05N×6.°51E, h2km, Md1.5/2, Error ellipse: s-maj=1.4km s-min=1.1km az=154.0*
STR 04 13:25:07.6±0.5, 45.°N±4.°×.°±.°, h5km, MLv1.5/8, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.23**	**122**	Sg	Sg	13 25 16.1	+0.7
MBDF	**Montbardon**	**0.37**	**150**	*e*Pg	Pg	13 25 14.6	-0.2
MBDF				*e*Sg	Sg	13 25 19.7	+0.1
2.2nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.47**	**255**	*e*Pg	Pg	13 25 16.6	0.0
ORIF				*e*Sg	Sg	13 25 21.9	-0.8
3.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.47**	**255**	Pg	Pg	13 25 16.6	0.0
ORIF				Sg	Sg	13 25 22.9	+0.2
LPG	**La Plagne**	**0.48**	**20**	*e*Pg	Pg	13 25 16.9	-0.1
LPG				*e*Sg	Sg	13 25 22.9	-0.5
3.0nm,0.2s							
LPL	**La Plagne**	**0.50**	**18**	*e*Pg	Pg	13 25 17.1	-0.1
CREF	**Crivoux**	**0.50**	**171**	Pg	Pg	13 25 17.1	-0.1
CREF				Sg	Sg	13 25 24.2	+0.5
RSP	**Reno Superiore**	**0.54**	**79**	Pg	Pg	13 25 17.8	-0.3
RSP				Sg	Sg	13 25 25.7	+0.5
OGAG	**Argentiere**	**0.59**	**178**	Pg	Pg	13 25 12.6	-6.3
OGAG				Sg	Sg	13 25 16.5	-10

NNC 04 14:06:10.0±6.5, 36.°87N×70.°47E, h0km, mb3.6, mpv3.3, 2C-1D, Error ellipse: s-maj=55.6km s-min=46.8km az=134.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**0**	P	Pn	14 07 44.9	+1.8
0.7nm,0.2s,baz=181,slow=12,SNR=12							
KK31				⇑S	Sn	14 08 55.9	+0.9
1.9nm,0.5s,baz=190,slow=25,SNR=4.2							
AAK	**Ala-Archa**	**6.54**	**27**	⇓S	Sn	14 09 04.2	+1.2
4.3nm,0.8s							
MK31	**Makanchi Array**	**13.25**	**38**	⇑P	Pn	14 09 17.6	-1.7
2.1nm,0.9s,baz=195,slow=9.2,SNR=4.9							
AB31	**Akbulak array**	**14.55**	**332**	P	Pn	14 09 35.1	-2.0
0.2nm,0.3s,baz=160,slow=12,SNR=15							

GII 04 14:10:51.4±0.0, 32.°439N±0.°001×35.°397E±0.°001, h14km, Mws1.5, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMLI	**Mount Malkishu**	**0.02**	**93**	P	Pg	14 10 54.1	+0.1
MMLI	**Mount Malkishu**	**0.02**	**93**	S	Sg	14 10 56.2	+0.5
GNNR	**Gan-Ner**	**0.10**	**330**	P	Pg	14 10 54.5	-0.1
GNNR	**Gan-Ner**	**0.10**	**330**	S	Sg	14 10 57.4	-0.4
BTSH	**Beit Shean**	**0.10**	**56**	P	Pg	14 10 54.5	-0.1
MEHL	**Mehola**	**0.12**	**126**	P	Pg	14 10 54.7	-0.2
MEHL	**Mehola**	**0.12**	**126**	S	Sb	14 10 57.8	-0.5
IZRL	**Izrael**	**0.14**	**333**	P	Pg	14 10 54.8	-0.2
IZRL	**Izrael**	**0.14**	**333**	S	Sg	14 10 57.8	+0.3
CVYN	**Cohav Hayarden**	**0.19**	**33**	P	Pg	14 10 55.4	-0.4
CVYN	**Cohav Hayarden**	**0.19**	**33**	S	Sb	14 10 59.5	-0.7
ROII	**Roi**	**0.20**	**158**	P	Pg	14 10 55.8	-0.3
ROII	**Roi**	**0.20**	**158**	S	Sg	14 10 59.5	+0.3
HMDT	**Nahal Hemdat**	**0.21**	**149**	P	Pg	14 10 55.9	-0.3
HMDT	**Nahal Hemdat**	**0.21**	**149**	S	Sg	14 10 59.9	+0.4
RGMN	**Argaman**	**0.29**	**159**	P	Pg	14 10 57.8	+0.4
RGMN	**Argaman**	**0.29**	**159**	S	Sg	14 11 02.0	+0.4
AMOT	**Alumot**	**0.30**	**25**	P	Pg	14 10 57.1	-0.5
AMOT	**Alumot**	**0.30**	**25**	S	Sg	14 11 02.4	+0.6
SLTI	**Sal'it**	**0.36**	**237**	P	Pg	14 10 59.1	+0.3
SLTI	**Sal'it**	**0.36**	**237**	S	Sg	14 11 04.1	+0.4
MEFR	**Maale Efrayim**	**0.37**	**179**	P	Pg	14 10 58.9	0.0
MEFR	**Maale Efrayim**	**0.37**	**179**	S	Sg	14 11 04.5	+0.6
ARIL	**Ariel Universi**	**0.37**	**205**	P	Pg	14 10 58.9	-0.1
ARIL	**Ariel Universi**	**0.37**	**205**	S	Sg	14 11 04.3	+0.3
OFRI	**`Ofer**	**0.39**	**298**	P	Pg	14 10 59.3	-0.1
OFRI	**`Ofer**	**0.39**	**298**	S	Sg	14 11 05.3	+0.6
SALP	**Salfit**	**0.41**	**205**	P	Pg	14 10 58.9	-0.7
SALP	**Salfit**	**0.41**	**205**	S	Sg	14 11 05.3	+0.1
KNHM	**Kefar Nahum**	**0.47**	**19**	P	Pg	14 11 00.7	0.0
KNHM	**Kefar Nahum**	**0.47**	**19**	S	Sg	14 11 07.4	+0.3
MMA0B	**Mount Meron ar**	**0.57**	**1**	P	Pg	14 11 01.8	-1.0
MMA0B	**Mount Meron ar**	**0.57**	**1**	S	Sg	14 11 10.1	-0.3
MMC7	**Mount Meron ar**	**0.58**	**360**	P	Pg	14 11 01.9	-1.0
KSHT	**Keshet**	**0.64**	**33**	P	Pg	14 11 03.9	-0.2
KSHT	**Keshet**	**0.64**	**33**	S	Sg	14 11 12.6	0.0
GEM	**Giv'at Ha'Em**	**0.80**	**16**	P	Pg	14 11 06.2	-0.8
GEM	**Giv'at Ha'Em**	**0.80**	**16**	S	Sb	14 11 17.9	0.0
NATI	**Neve Ativ**	**0.87**	**19**	P	Pg	14 11 07.9	-0.4
NATI	**Neve Ativ**	**0.87**	**19**	S	Sg	14 11 19.5	-0.2
YTIR	**Yattir**	**1.10**	**193**	P	Pb	14 11 10.8	-1.5
YTIR	**Yattir**	**1.10**	**193**	S	Sb	14 11 25.7	-0.8

*DNK **04** 14:37:22.7±2.1, 78.°31N×15.°03W, h7km±15km, ML2.8*
*BER **04** 14:37:25.4±2.3, 78.°30N×14.°89W, h10km, Mw4.5, ML2.8(DNK), Confirmed Earthquake*
ISC 04 14:37:19.7±0.8, 78.°44N±0.°04×15.°65W±0.°06, h10km, n14, σ2°15/27, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**1.80**	**203**	*i* P	**Pb**	**14 37 52.0**	**-0.7**
DAG				*i* S	**Sg**	**14 38 15.7**	**-1.8**
DAG				IAML		14 38 18.4	
comp=Z,304nm,0.3s							
DAG	**Danmarks Havn**	**1.80**	**203**	*i* P	**Pb**	**14 37 52.0**	**-0.7**
DAG				*i* S	**Sg**	**14 38 15.7**	**-1.8**
DAG				IAML		14 38 18.4	
comp=Z,304nm,0.3s							
NOR	**Nord**	**3.18**	**357**	*i* P	**Pb**	**14 38 15.0**	**-1.1**
NOR				*i* S	**Sb**	**14 38 53.4**	**-1.5**
NOR				IAML		14 38 56.5	
comp=Z,99nm,0.4s							
NOR	**Nord**	**3.18**	**357**	*i* P	**Pb**	**14 38 15.0**	**-1.1**
NOR				*i* S	**Sb**	**14 38 53.4**	**-1.5**
NOR				IAML		14 38 56.5	
comp=Z,99nm,0.4s							
DBG	**Daneborg**	**4.30**	**197**	*i* P	**Pn**	**14 38 26.1**	**+1.2**
DBG				*i* S	**Sn**	**14 39 13.6**	**-1.4**
DBG				IAML		14 39 39.7	
comp=Z,34nm,0.5s							
DBG	**Daneborg**	**4.30**	**197**	*i* P	**Pn**	**14 38 26.1**	**+1.2**
DBG				*i* S	**Sn**	**14 39 13.6**	**-1.4**
DBG				IAML		14 39 39.7	
comp=Z,34nm,0.5s							
KBS	**Kingsbay**	**5.42**	**71**	*e*P	**Pn**	**14 38 42.3**	**+2.0**
KBS				*i* P	**Pn**	**14 38 42.9**	**+2.6**
KBS				*i* S	**Sn**	**14 39 39.6**	**-3.0**
KBS	**Kingsbay**	**5.42**	**71**	*i* P	**Pn**	**14 38 42.9**	**+2.6**
KBS				*i* S	**Sn**	**14 39 39.6**	**-3.0**
SPA0	**Spitsbergen Ar**	**6.45**	**77**	*e*P	**Pn**	**14 38 57.6**	**+3.1**
NEEM	**North Greenlan**	**7.39**	**280**	*i* P	**Pn**	**14 39 11.1**	**+3.4**
NEEM				*i* S	**Sn**	**14 40 30.8**	**-0.8**
NEEM				IAML		14 40 41.0	
comp=Z,21nm,0.6s							
NEEM	**North Greenlan**	**7.39**	**280**	*i* P	**Pn**	**14 39 11.1**	**+3.4**
NEEM				*i* S	**Sn**	**14 40 30.8**	**-0.8**
NEEM				IAML		14 40 41.0	
comp=Z,21nm,0.6s							
JNW	**Jan Mayen West**	**7.69**	**162**	*e*P	**Pn**	**14 39 12.4**	**+1.0**
SUMG	**Summit**	**8.13**	**236**	*i* P	**Pn**	**14 39 19.9**	**+2.1**
SUMG				*i* S	**Sn**	**14 40 47.6**	**-2.3**
SUMG				IAML		14 40 49.0	
comp=Z,6.1nm,0.4s							
SUMG	**Summit**	**8.13**	**236**	*i* P	**Pn**	**14 39 19.9**	**+2.1**
SUMG				*i* S	**Sn**	**14 40 47.6**	**-2.3**
SUMG				IAML		14 40 49.0	
comp=Z,6.1nm,0.4s							

*IDC **04** 14:45:09.8±1.3, 1.°89S×141.°11E, h0km, mb3.8/4, mbtmp3.8/5, ML3.9/1, MS3.0/3, Error ellipse: s-maj=44.5km s-min=10.8km az=118.0*
*DJA **04** 14:45:12.0±1.0, 2.°S±4.°×14.°1E±.°, h10km, M3.8/5, MLv3.8/5*
ISC 04 14:45:12.0±1.1, 1.°88S±0.°07×140.°55E±0.°09, h10km, n16, σ0°92/13, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.65**	**166**	Pg	**Pb**	**14 45 25.3**	**-0.2**
48nm,0.3s,baz=306,slow=6.0,SNR=438							
JAY				Lg	Lg	14 45 33.8	
183nm,0.3s,baz=162,slow=20,SNR=16							
JAY				LR	LR	14 45 48.5	
comp=Z,762nm,18.1s,baz=130,slow=52							
JAY	**Jayapura**	**0.65**	**166**	P	**Pg**	**14 45 25.2**	**+0.5**
JAY				S	**Sb**	**14 45 34.6**	**-0.1**
GENI	**Genyem**	**0.81**	**208**	P	**Pn**	**14 45 29.2**	**-0.2**
GENI				S	**Sn**	**14 45 41.9**	**+0.4**
SMPI	**Sarmi**	**1.84**	**266**	P	**Pb**	**14 45 45.3**	**-0.5**
WAMI	**Wamena**	**2.71**	**223**	P	**Pb**	**14 45 59.7**	**-0.9**
BAKI	**Biak**	**4.49**	**279**	P	**Pn**	**14 46 20.7**	**+0.5**
GUMO	**Guam**	**15.95**	**15**	LR	LR	14 54 14.4	
comp=Z,27nm,20.7s,baz=182,slow=34							
WRA	**Warramunga Arr**	**18.95**	**198**	P	**P**	**14 49 32.8**	**-0.7**
0.3nm,0.3s,baz=25,slow=12,SNR=28							
1.2nm,0.5s							
ASAR	**Alice Springs**	**22.60**	**196**	P	**P**	**14 50 12.7**	**-0.3**
1.7nm,0.7s,baz=28,slow=10,SNR=16							
ASAR				LR	LR	15 00 04.1	
comp=Z,74nm,21.3s,baz=352,slow=39							
1.7nm,0.7s							
STKA	**Stephens Creek**	**29.86**	**178**	P	**P**	**14 51 20.5**	**+0.8**
1.6nm,0.6s,baz=337,slow=11,SNR=3.0							
1.6nm,0.6s							
JOW	**Kunigami**	**30.90**	**338**	LR	LR	15 01 49.0	
comp=Z,24nm,21.0s,baz=112,slow=32							
H11S3	**WAKE ISLAND Hy**	**32.73**	**51**	T	T	15 27 22.1	
baz=232,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**32.74**	**51**	T	T	15 27 24.2	
baz=232,slow=75,SNR=9.5							
H11S1	**WAKE ISLAND Hy**	**32.75**	**51**	T	T	15 27 23.5	
baz=232,slow=75,SNR=5.8							
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**14 56 27.0**	**+1.4**
0.3nm,0.4s,baz=116,slow=6.6,SNR=5.1							
0.3nm,0.4s							
ILAR	**Eielson Array**	**84.32**	**24**	P	**P**	**14 57 42.1**	**-1.8**
0.3nm,0.7s,baz=253,slow=4.8,SNR=5.1							
0.3nm,0.7s							

*SJA **04** 14:55:04.3±0.6, 22.°88S×66.°13W, h252km±5km, ML4.1, MW4.0*
*GUC **04** 14:55:06.2±0.4, 22.°71S×66.°27W, h250km±4km, ML4.3*
*NEIC **04** 14:55:06.2±1.6, 22.°87S±0.°08×66.°2W±0.°1, h232km±10km, mb4.0/3, Mwr4.2(GUC), Error ellipse: s-maj=16.3km s-min=11.2km az=97.0*
ISC 04 14:55:06.2±0.8, 22.°88S±0.°04×66.°31W±0.°04, h242km±7km, n67, σ1°44/95, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.89**	**112**	*e*P	**Pn**	**14 55 36.7**	**-3.4**
HJA				*e*S	**S**	**14 56 09.5**	**+2.8**
YJA	**Yavi**	**1.01**	**46**	*e*P	**Pn**	**14 55 42.5**	**+1.6**
YJA				*e*S	**S**	**14 56 06.5**	**-1.6**
YJA	**Yavi**	**1.01**	**46**	*e*P	**Pn**	**14 55 42.6**	**+1.6**
YJA				*e*S	**S**	**14 56 06.9**	**-1.3**
SALTA		**1.34**	**181**	*e*P	**Pn**	**14 55 45.3**	**+2.3**
SALTA				*e*S	**S**	**14 56 15.5**	**+3.5**
SALTA		**1.34**	**181**	*e*P	**Pn**	**14 55 39.7**	**-3.3**
SALTA				*e*P		14 55 40.3	
SALTA				*e*P		14 55 45.4	
SALTA				*e*S	**S**	**14 56 14.0**	**+2.0**
AF01	**San Pedro de A**	**1.73**	**267**	Pn	**Pn**	**14 55 45.4**	**-0.4**
AF01	**San Pedro de A**	**1.73**	**267**	*e*P	Pn	14 55 53.0	+7.1
AZAP	**Zapla**	**1.75**	**140**	*e*P	**Pn**	**14 55 47.1**	**+1.1**
AZAP				*e*S	**S**	**14 56 14.4**	**-2.9**
SLA	**San Lorenzo**	**1.97**	**158**	*e*P	**Pn**	**14 55 49.8**	**+1.9**
SLA	**San Lorenzo**	**1.97**	**158**	*e*P	**Pn**	**14 55 50.4**	**+2.5**
PB09	**IPOC Station P**	**2.92**	**291⇑**	*e*P	**Pn**	**14 55 59.3**	**+1.8**
PB09				*e*S	**S**	**14 56 38.5**	**+0.6**
PB09				IAML		14 56 40.2	
comp=N,235nm,0.5s							
PB09	**IPOC Station P**	**2.92**	**291**	*e*P	**Pn**	**14 55 58.8**	**+1.3**
PB09				*e*S	**S**	**14 56 39.1**	**+1.2**
PB09				IAML		14 56 40.2	
comp=Z,251nm,0.4s							
PB06	**IPOC Station P**	**3.02**	**273**		**Pn**	**14 55 59.9**	**+1.4**
PB06	**IPOC Station P**	**3.02**	**273⇑**	*e*P	**Pn**	**14 55 59.8**	**+1.3**
PB06				*e*S	**S**	**14 56 40.0**	**+0.3**
PB06				IAML		14 56 43.7	
comp=E,561nm,0.2s							
PB06	**IPOC Station P**	**3.02**	**273**	*e*P	**Pn**	**14 55 59.5**	**+1.0**
PB06				*e*S	**S**	**14 56 39.9**	**+0.1**
PB06				IAML		14 56 42.8	
comp=Z,190nm,0.3s							
PB03	**IPOC Station P**	**3.29**	**284**		**Pn**	**14 56 02.6**	**+1.0**
PB03	**IPOC Station P**	**3.29**	**284⇑**	*e*P	**Pn**	**14 56 02.6**	**+1.0**
PB03				*e*S	**S**	**14 56 44.7**	**-0.6**
PB03	**IPOC Station P**	**3.29**	**284**	*e*P	**Pn**	**14 56 02.6**	**+1.0**
PB03				*e*S	**S**	**14 56 45.5**	**+0.2**
PB03				IAML		14 56 46.9	
comp=Z,553nm,0.4s							
PB01	**IPOC Station P**	**3.47**	**301**		**Pn**	**14 56 04.5**	**+0.8**
PB01	**IPOC Station P**	**3.47**	**301⇑**	*e*P	**Pn**	**14 56 04.4**	**+0.8**
PB01				*e*S	**S**	**14 56 48.4**	**-0.5**
PB01	**IPOC Station P**	**3.47**	**301**	*e*P	**Pn**	**14 56 04.4**	**+0.8**
PB01				*e*S	**S**	**14 56 49.1**	**+0.2**
PB01				IAML		14 56 51.9	
comp=Z,140nm,0.2s							
PB02	**IPOC Station P**	**3.67**	**294**		**Pn**	**14 56 06.6**	**+0.7**
PB02	**IPOC Station P**	**3.67**	**294⇑**	*e*P	**Pn**	**14 56 06.4**	**+0.5**
PB02				*e*S	**S**	**14 56 51.8**	**-1.3**
PB02	**IPOC Station P**	**3.67**	**294**	*e*P	**Pn**	**14 56 06.5**	**+0.7**
PB02				*e*S	**S**	**

PB14				IAML			14 57 05.3
	comp=Z,328nm,0.3s						
GO01	**Chusmiza**	**4.18 319**			**Pn**	**14 56 13.4**	**+1.1**
GO01	**Chusmiza**	**4.18 319**	⇑	*e*P	**Pn**	**14 56 13.0**	**+0.7**
GO01				*e*S	**S**	**14 57 06.4**	**+1.8**
GO01	**Chusmiza**	**4.18 319**		*e*P	**Pn**	**14 56 12.5**	**+0.3**
GO01				*e*S	**S**	**14 57 08.4**	**+3.8**
HMBC	**Humberstone**	**4.22 307**			**Pn**	**14 56 12.1**	**-0.3**
TA01	**Diego Aracena**	**4.28 302**			**Pn**	**14 56 12.7**	**-0.2**
TA01	**Diego Aracena**	**4.28 302**		*e*P	**Pn**	**14 56 12.7**	**-0.2**
TA01				*e*S	**S**	**14 57 04.0**	**-1.9**
TA01	**Diego Aracena**	**4.28 302**		*e*P	**Pn**	**14 56 13.0**	**+0.1**
TA01				*e*S	**S**	**14 57 04.3**	**-1.5**
TA01				IAML		14 57 05.8	
	comp=Z,57nm,0.8s						
PB11	**IPOC Station P**	**4.40 314**			**Pn**	**14 56 14.4**	**-0.3**
PB11	**IPOC Station P**	**4.40 314**	⇑	*e*P	**Pn**	**14 56 14.3**	**-0.3**
PB11				*e*S	**S**	**14 57 06.7**	**-2.2**
PB11	**IPOC Station P**	**4.40 314**		*e*P	**Pn**	**14 56 14.4**	**-0.3**
PB11				*e*S	**S**	**14 57 07.4**	**-1.5**
TA02	**Huaiquique**	**4.41 305**		*e*P	**Pn**	**14 56 14.1**	**-0.4**
AC02	**Maricunga**	**4.70 213**			**Pn**	**14 56 19.7**	**+1.2**
AC02	**Maricunga**	**4.70 213**	⇓	*e*P	**Pn**	**14 56 19.4**	**+1.0**
AC01	**Pan de Azucar**	**5.08 229**			**Pn**	**14 56 22.2**	**-0.5**
AC01	**Pan de Azucar**	**5.08 229**		*e*P	**Pn**	**14 56 22.5**	**-0.2**
AC01				*e*S	**S**	**14 57 22.0**	**-1.7**
AC01				IAML		14 57 28.3	
	comp=Z,45nm,0.3s						
PB16	**IPOC Station P**	**5.43 326**			**Pn**	**14 56 28.3**	**+0.7**
PB16	**IPOC Station P**	**5.43 326**	⇑	*e*P	**Pn**	**14 56 28.1**	**+0.5**
GO03	**Copiapo**	**5.89 216**			**Pn**	**14 56 32.4**	**-0.3**
GO03	**Copiapo**	**5.89 216**		*e*P	**Pn**	**14 56 32.0**	**-0.7**
PB18	**Visviri**	**6.05 330**			**Pn**	**14 56 37.0**	**+1.7**
LPAZ	**La Paz**	**6.78 345**			**Pn**	**14 56 44.8**	**+0.1**
AC04	**Llanos de Chal**	**6.83 218**		Pn	**Pn**	**14 56 43.2**	**-1.3**
LCO	**Las Campanas**	**7.27 212**		Pn	**Pn**	**14 56 49.8**	**-0.6**
CO02	**Combarbal**	**9.28 206**		Pn	**Pn**	**14 57 16.0**	**+0.2**
PTLB	**Pontes e Lacer**	**10.03 44**			**Pn**	**14 57 23.3**	**-1.9**
MT02	**Curacav**	**11.18 201**		Pn	**Pn**	**14 57 39.5**	**-0.2**
MT01	**Popeta**	**11.77 201**		Pn	**Pn**	**14 57 47.4**	**+0.3**
BO02	**Sierra Bellavi**	**12.50 197**		Pn	**Pn**	**14 57 56.0**	**-0.1**
ITAB	**Concordia**	**13.56 112**		Pn	**Pn**	**14 58 07.9**	**-1.3**
TRQA	**Tornquist**	**15.57 167**			**Pn**	**14 58 33.2**	**-0.3**
TRQA				IAmb	IAmb	14 58 55.1	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**60.19 161**		P	**P**	**15 04 49.2**	**+0.8**
SNAA				IAmb	IAmb	15 05 25.1	
	comp=Z,4.8nm,1.3s						
QSPA	**South Pole Qui**	**67.32 180**		P	**P**	**15 05 36.9**	**+1.9**
QSPA				IAmb	IAmb	15 06 12.1	
	comp=Z,1.8nm,1.1s						

*IDC **04** 15:33:45.8±1.5,21°.44S×66°.63W,h201km±16km,mb3.0/1, mbtmp4.0/5,Error ellipse: s-maj=23.3km s-min=13.8km az=97.0*
*SJA **04** 15:33:46.1±0.7,21°.32S×66°.79W,h223km±6km,ML3.5, MW3.7*
*SCB **04** 15:33:47.4±1.4,21°.48S×66°.88W,h210km±9km,MB4.9, ML3.9/4,Error ellipse: s-maj=4.7km s-min=4.0km az=0.0*
ISC 04 15:33:46.8±0.8,**21°.48S**±0°.04×**66°.87W**±0°.04,**h219**km±7km, **n58**,σ1$**70**/88,**Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.17**	**79**	Pg	**Pn**	**15 34 20.6**	**+0.3**
MOCB				Sg	**S**	**15 34 44.8**	**-1.4**
MOCB				IAML		15 34 46.2	
	1μm,0.3s						
YJA	**Yavi**	**1.44 119**		Pg	**Pn**	**15 34 23.1**	**+0.9**
YJA	**Yavi**	**1.44 119**		*e*P	**Pn**	**15 34 23.2**	**+1.0**
YJA				*e*S	**S**	**15 34 50.0**	**+0.3**
AF01	**San Pedro de A**	**1.90 219**		*e*P	Pn	15 34 11.9	-14
AF01				IAML		15 35 19.4	
	comp=Z,66nm,0.6s						
HJA	**Humahuaca**	**2.19 142**		*e*P	**Pn**	**15 34 30.4**	**+1.4**
HJA				IAML		15 35 05.1	
	comp=Z,98nm,0.6s						
PB09	**IPOC Station P**	**2.23 261**		*e*P	**Pn**	**15 34 30.5**	**+1.2**
PB09				*i* S	**S**	**15 35 02.8**	**+0.6**
PB09				IAML		15 35 05.8	
	comp=N,85nm,0.2s						
PB09	**IPOC Station P**	**2.23 261**		*e*P	**Pn**	**15 34 30.6**	**+1.2**
PB09				*e*S	**S**	**15 35 04.0**	**+1.8**
PB09				IAML		15 35 06.3	
	comp=Z,60nm,0.2s						
PB01	**IPOC Station P**	**2.48 280**		*e*P	**Pn**	**15 34 32.6**	**+0.8**
PB01				*i* S	**S**	**15 35 06.7**	**0.0**
PB01				IAML		15 35 07.6	
	comp=E,189nm,0.1s						
PB01	**IPOC Station P**	**2.48 280**		Pg	**Pn**	**15 34 32.1**	**+0.3**
PB01				Sg	**S**	**15 35 05.9**	**-0.9**
PB01				IAML		15 35 07.6	
	comp=E,173nm,0.2s						
PB01	**IPOC Station P**	**2.48 280**		*e*P	**Pn**	**15 34 32.4**	**+0.5**
PB01				*e*S	**S**	**15 35 06.9**	**+0.1**
PB01				IAML		15 35 08.3	
	comp=Z,108nm,0.2s						
PB08	**IPOC Station P**	**2.52 302**		*e*P	**Pn**	**15 34 33.5**	**+0.9**
PB08				*i* S	**S**	**15 35 08.0**	**-0.1**
PB08				IAML		15 35 11.5	
	comp=E,116nm,0.2s						
PB03	**IPOC Station P**	**2.74 258**		*e*P	**Pn**	**15 34 35.5**	**+0.7**
PB03				*i* S	**S**	**15 35 10.6**	**-1.4**
PB03				IAML		15 35 11.7	
	comp=N,322nm,0.4s						
PB03	**IPOC Station P**	**2.74 258**		*e*P	**Pn**	**15 34 35.4**	**+0.7**
PB03				*e*S	**S**	**15 35 10.8**	**-1.2**
PB03				IAML		15 35 13.2	
	comp=Z,322nm,0.2s						
SALTA		**2.77 170**		*e*P	Pn	15 34 17.0	-18
SALTA				*e*P		15 34 17.5	
SALTA				*e*P		15 34 37.6	
PB06	**IPOC Station P**	**2.79 244**		*e*P	**Pn**	**15 34 36.7**	**+1.5**
PB06				*i* S	**S**	**15 35 12.3**	**-0.6**
PB06				IAML		15 35 17.3	
	comp=N,179nm,0.2s						
PB06	**IPOC Station P**	**2.79 244**		Pg	**Pn**	**15 34 36.3**	**+1.1**
PB06				Sg	**S**	**15 35 12.8**	**-0.1**
PB06				IAML		15 35 14.1	
	comp=N,148nm,0.2s						
PB06	**IPOC Station P**	**2.79 244**		*e*P	**Pn**	**15 34 36.5**	**+1.3**
PB06				*e*S	**S**	**15 35 14.3**	**+1.4**
PB06				IAML		15 35 14.9	
	comp=Z,96nm,0.2s						
PB02	**IPOC Station P**	**2.82 273**		*e*P	**Pn**	**15 34 36.1**	**+0.5**
PB02				*i* S	**S**	**15 35 12.1**	**-1.5**
PB02	**IPOC Station P**	**2.82 273**		*e*P	**Pn**	**15 34 36.1**	**+0.5**
PB02				*e*S	**S**	**15 35 12.3**	**-1.2**
PB02				IAML		15 35 13.2	
	comp=Z,330nm,0.4s						
GO01	**Chusmiza**	**2.83 309**		Pg	**Pn**	**15 34 36.7**	**+0.6**
GO01	**Chusmiza**	**2.83 309**		*e*P	**Pn**	**15 34 36.3**	**+0.2**
GO01				IAML		15 35 25.6	
	comp=Z,67nm,0.1s						
SOEO	**Opoqueri**	**3.06 342**		Pg	**Pn**	**15 34 40.2**	**+1.5**
PB11	**IPOC Station P**	**3.12 303**		*e*P	**Pn**	**15 34 39.1**	**0.0**
PB11				*i* S	**S**	**15 35 18.2**	**-1.6**
PB11	**IPOC Station P**	**3.12 303**		Pg	**Pn**	**15 34 39.1**	**0.0**
PB11				Sg	**S**	**15 35 18.2**	**-1.6**
PB11				IAML		15 35 20.8	
	comp=Z,573nm,0.2s						
PB11	**IPOC Station P**	**3.12 303**		*e*P	**Pn**	**15 34 38.9**	**-0.2**
PB11				IAML		15 35 21.8	
	comp=Z,254nm,0.2s						
AZAP	**Zapla**	**3.20 149**		*e*P	**Pn**	**15 34 40.7**	**+0.7**
AZAP				*e*S	**S**	**15 35 22.7**	**+1.2**
AZAP				IAML		15 35 23.6	
	comp=Z,117nm,0.9s						
TA01	**Diego Aracena**	**3.22 286**		*e*P	**Pn**	**15 34 40.1**	**0.0**
TA01				*i* S	**S**	**15 35 18.9**	**-2.7**
TA01	**Diego Aracena**	**3.22 286**		*e*P	**Pn**	**15 34 40.2**	**+0.1**
TA01				*e*S	**S**	**15 35 19.6**	**-2.0**
TA01				IAML		15 35 21.7	
	comp=Z,50nm,0.3s						
TA02	**Huaiquique**	**3.28 291**		*e*P	**Pn**	**15 34 42.1**	**+1.4**
TA02				*e*S	**S**	**15 35 20.5**	**-2.3**
TA02				IAML		15 35 22.6	
	comp=Z,142nm,0.4s						
PB05	**IPOC Station P**	**3.38 246**		*e*P	**Pn**	**15 34 42.7**	**+0.7**
PB05				*i* S	**S**	**15 35 22.8**	**-2.3**
PB05	**IPOC Station P**	**3.38 246**		*e*P	**Pn**	**15 34 42.6**	**+0.6**
PB05				*e*S	**S**	**15 35 23.1**	**-2.0**
PB05				IAML		15 35 31.1	
	comp=Z,62nm,0.4s						
SLA	**San Lorenzo**	**3.46 159**		*e*P	**Pn**	**15 34 44.8**	**+1.8**
SLA				*e*S	**S**	**15 35 24.6**	**-2.5**
SOET	**ToroToro**	**3.49 17**		Pg	**Pn**	**15 34 43.8**	**+0.1**
AOEA	**Aiquile**	**3.63 25**		Pg	**Pn**	**15 34 45.7**	**+0.5**
PB10	**IPOC Station P**	**3.96 239**		*e*P	**Pn**	**15 34 49.1**	**+0.3**
PB10				*i* S	**S**	**15 35 33.5**	**-4.0**
PB10	**IPOC Station P**	**3.96 239**		*e*P	**Pn**	**15 34 49.2**	**+0.4**
PB10				*e*S	**S**	**15 35 35.5**	**-2.1**
PB10				IAML		15 35 36.1	
	comp=Z,45nm,0.2s						
PB16	**IPOC Station P**	**3.99 321**		*e*P	**Pn**	**15 34 50.8**	**+0.9**
PB16				*i* S	**S**	**15 35 39.9**	**+0.7**
PB16	**IPOC Station P**	**3.99 321**		Pg	**Pn**	**15 34 50.8**	**+0.9**
PB16	**IPOC Station P**	**3.99 321**		*e*P	**Pn**	**15 34 50.9**	**+0.9**
PB16				IAML		15 35 45.6	
	comp=Z,39nm,0.6s						
GO02	**Mina Guanaco**	**4.44 214**		Pg	**Pn**	**15 34 55.7**	**+0.7**
GO02	**Mina Guanaco**	**4.44 214**		*e*P	**Pn**	**15 34 55.0**	**+0.1**
GO02				*e*S	**S**	**15 35 47.4**	**-1.2**
PB14	**IPOC Station P**	**4.52 225**		Pg	**Pn**	**15 34 55.8**	**-0.2**
PB14	**IPOC Station P**	**4.52 225**		*e*P	**Pn**	**15 34 56.2**	**+0.3**
PB14				*e*S	**S**	**15 35 47.9**	**-2.4**
BBOJ	**La Paz, Jacaqu**	**4.65 344**		Pg	**Pn**	**15 34 59.5**	**+1.5**
FSA	**Cafayete**	**4.68 170**		*e*P	**Pn**	**15 35 00.4**	**+2.5**
BBOE	**La Paz, Chanca**	**4.76 347**		Pg	**Pn**	**15 35 00.9**	**+1.6**
BBOD	**La Paz, Gloria**	**5.09 341**		Pg	**Pn**	**15 35 04.3**	**+0.9**
LPAZ	**La Paz**	**5.30 347**		P	**Pn**	**15 35 06.8**	**+0.6**
	comp=Z,10nm,0.3s,baz=146,slow=7.9,SNR=26						
LPAZ				S	**S**	**15 36 06.6**	**-2.2**
	comp=Z,13nm,0.9s,baz=312,slow=16,SNR=8.2						
BBOB	**La Paz, Bander**	**5.44 347**		Pg	**Pn**	**15 35 08.3**	**+0.4**
SIV	**San Ignacio**	**7.74 46**		P	**Pn**	**15 35 34.8**	**-2.1**
	comp=Z,16nm,0.4s,baz=217,slow=11,SNR=102						
SIV				S	**S**	**15 36 57.9**	**-7.0**
	comp=Z,1.8nm,0.5s,baz=323,slow=20,SNR=1.5						
CPUP	**Villa Florida**	**9.97 121**		P	**Pn**	**15 36 07.5**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=151,slow=15,SNR=4.5						
CFA	**Coronel Fontan**	**10.16 187**		P	**Pn**	**15 36 07.1**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=20,slow=14,SNR=19						
CFA				S	**S**	**15 37 54.4**	**-7.4**
	comp=Z,1.7nm,0.3s,baz=138,slow=22,SNR=7.8						
PLCA	**Paso Flores**	**19.45 188**		P	**P**	**15 37 57.9**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=356,slow=8.9,SNR=6.0						
PDAR	**Pinedale Array**	**75.06 329**		P	**P**	**15 45 06.1**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=141,slow=7.4,SNR=4.6						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.56 69**		P	**P**	**15 45 07.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=267,slow=5.5,SNR=4.7						
ASAR	**Alice Springs**	**130.78 205**		PKP	**PKPdf**	**15 52 33.0**	**+0.4**
	comp=Z,0.3nm,1.0s,baz=106,slow=1.6,SNR=4.6						
WRA	**Warramunga Arr**	**133.90 208**		PKP	**PKiKP**	**15 52 40.8**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=142,slow=1.8,SNR=1.2						
MKAR	**Makanchi Array**	**144.49 37**		PKP	**PKPdf**	**15 52 57.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=347,slow=2.8,SNR=11						

*SOF **04** 15:54:29.1,40°.4N±0°.1×27°.3E±0°.1,h2km±3km,MD3.6/8*
*ISK **04** 15:54:30.6,40°.31N×27°.26E,h15km,ML3.6/29*
*AFAD **04** 15:54:31.5,40°.28N×27°.24E,h6km,MW3.5*
*THE **04** 15:54:32.1,40°.N±2°.×2°.7E±°.,h11km±7km,M3.2/18, MLh3.2/18*
*BEO **04** 15:54:34.0±0.6,40°.30N×27°.05E,h19km±2km,ML3.3/6*
ISC 04 15:54:30.4±0.8,**40°.31N**±0°.02×**27°.25E**±0°.01,**h17**km±5km, **n143**,σ1$**30**/191,**17C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.10**	**22**	Pg	**Pg**	**15 54 33.9**	**0.0**
KRBG				Sg	**Sg**	**15 54 36.2**	**0.0**
CANM	**Can-anakkale**	**0.33**	**207**	Pg	**Pb**	**15 54 38.1**	**+0.3**
CANM				Sg	**Sb**	**15 54 43.5**	**+0.7**
YENI	**Yenice-Canakka**	**0.37**	**181**	Pg	**Pb**	**15 54 38.8**	**+0.4**
LPK	**Lapseki**	**0.38**	**280**	Pg	**Pb**	**15 54 38.9**	**+0.2**
LPK				Sg	**Sb**	**15 54 44.9**	**+0.6**
SART	**Tekirdag**	**0.39**	**352**	P	**Pb**	**15 54 39.1**	**+0.3**
SART				S	**Sg**	**15 54 44.1**	**+0.3**
MRMT	**Marmara Adasi**	**0.40**	**41**	Pg	**Pb**	**15 54 38.9**	**-0.1**
EDC	**Edincik**	**0.47**	**85**	Pg	**Pb**	**15 54 40.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.60**	**279**	Pg	**Pb**	**15 54 42.9**	**+0.5**
GELI				Sg	**Sb**	**15 54 51.8**	**+1.2**
COMU	**Canakkale**	**0.63**	**251**	Pg	**Pb**	**15 54 43.7**	**+0.8**
BALY	**Balya**	**0.63**	**153**	P	**Pb**	**15 54 43.4**	**+0.4**
BALY				S	**Sb**	**15 54 51.2**	**-0.3**
BAND	**Balkesir-Ban**	**0.65**	**85**	P	**Pg**	**15 54 42.9**	**-0.3**
BAND				S	**Sg**	**15 54 50.6**	**-1.3**
BAND	**Balkesir-Ban**	**0.65**	**85**	⇑P	**Pb**	**15 54 43.2**	**0.0**
ERIK	**Erikli-Kesan**	**0.67**	**303**	Pg	**Pb**	**15 54 44.1**	**+0.5**
BLKS	**Balkesir-Sus**	**0.70**	**128**	P	**Pb**	**15 54 44.4**	**+0.3**
BLKS				S	**Sb**	**15 54 53.8**	**+0.4**
CNKL	**anakkale-Mer**	**0.70**	**250**	P	**Pb**	**15 54 44.6**	**+0.4**
CNKL				S	**Sg**	**15 54 53.2**	**-0.3**
YAYO	**Edremit-Balk**	**0.71**	**191**	Pg	**Pb**	**15 54 44.9**	**+0.7**
TKR	**Tekirdag**	**0.72**	**17**	Pg	**Pb**	**15 54 44.9**	**+0.5**
BKES	**Balkesir-Mer**	**0.77**	**137**	P	**Pb**	**15 54 46.0**	**+0.7**
BKES				S	**Sb**	**15 54 56.0**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.78**	**224**	P	**Pb**	**15 54 45.8**	**+0.3**
BAYC				S	**Sb**	**15 54 56.0**	**+0.2**
BUHA	**Balikesir, Bur**	**0.81**	**190**	P	**Pn**	**15 54 47.0**	**0.0**
BUHA				S	**Sb**	**15 54 57.2**	**+0.5**
EZN	**Ezine**	**0.86**	**236**	Pg	**Pb**	**15 54 47.4**	**+0.6**
EZN	**Ezine**	**0.86**	**236**	P	**Pb**	**15 54 47.2**	**+0.5**
EZN				S	**Sb**	**15 54 58.7**	**+0.8**
EZN	**Ezine**	**0.86**	**236**	⇓P	**Pb**	**15 54 46.5**	**-0.2**
ECEA	**Canakkale, Ece**	**0.86**	**253**	P	**Pb**	**15 54 47.8**	**+0.9**
EZNE	**Ezine-Canakkal**	**0.87**	**231**	Pg	**Pb**	**15 54 47.8**	**+0.8**
ENZZ	**Sultanice-Enez**	**0.90**	**290**	Pg	**Pb**	**15 54 48.5**	**+1.0**
CAVK	**Edirne/Enez-Ca**	**0.91**	**295**	P	**Pb**	**15 54 48.2**	**+0.5**
CAVK	**Edirne/Enez-Ca**	**0.91**	**295**	⇑P	**Pg**	**15 54 47.2**	**-0.9**
UKOP	**Uzunkopru-Edir**	**0.95**	**330**	Pg	**Pb**	**15 54 49.3**	**+1.0**
STEP	**BALIKESIR_Sava**	**0.99**	**159**	P	**Pn**	**15 54 50.0**	**+0.5**
STEP				S	**Sb**	**15 55 02.8**	**+0.9**
BOZC	**Bozcaada**	**1.03**	**244**	Pg	**Pb**	**15 54 50.4**	**+0.6**
BOZC	**Bozcaada**	**1.03**	**244**	P	**Pb**	**15 54 50.3**	**+0.6**
BOZC				S	**Sb**	**15 55 03.5**	**+0.5**
GOAD	**anakkale-G¶**	**1.04**	**263**	P	**Pb**	**15 54 50.5**	**+0.6**
GOAD				S	**Sb**	**15 55 04.8**	**+1.6**
GADA	**Gvkgeada**	**1.04**	**264**	Pg	**Pb**	**15 54 50.7**	**+0.8**
GADA	**Gvkgeada**	**1.04**	**264**	P	**Pb**	**15 54 50.6**	**+0.8**
GADA				S	**Sb**	**15 55 04.6**	**+1.3**
AYVA	**Ayvalik**	**1.08**	**204**	P	**Pn**	**15 54 51.8**	**+1.0**
AYVA				S	**Sb**	**15 55 05.4**	**+0.9**
ALN	**Alexandroupoli**	**1.09**	**303**	Pn	**Pb**	**15 54 51.5**	**+0.7**
ALN	**Alexandroupoli**	**1.09**	**303**	P	**Pb**	**15 54 51.4**	**+0.7**
ALN				S	**Sb**	**15 55 06.1**	**+1.4**
SOMA	**Soma-Manisa**	**1.17**	**169**	Pn	**Pn**	**15 54 52.9**	**+1.0**
KOCA	**Canakkale, Ayv**	**1.17**	**227**	P	**Pn**	**15 54 52.8**	**+0.8**
DURS	**Dursunbey**	**1.17**	**126**	P	**Pn**	**15 54 52.9**	**+0.8**
DURS				S	**Sb**	**15 55 08.7**	**+1.5**
SLVT	**Silivri**	**1.18**	**38**	Pn	**Pg**	**15 54 52.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**1.21**	**226**	Pn	**Pn**	**15 54 53.5**	**+1.1**
ELBA	**Catalca**	**1.23**	**46**	P	**Pg**	**15 54 53.0**	**-1.1**
ELBA				S	**Sg**	**15 55 07.9**	**-2.3**
MDNY	**Mudanya-Bursa**	**1.25**	**87**	Pn	**Pg**	**15 54 53.9**	**-0.6**
ARMT	**Armutlu**	**1.26**	**78**	Pn	**Pg**	**15 54 54.0**	**-0.6**
DKL	**Dikili**	**1.26**	**192**	Pn	**Pn**	**15 54 54.2**	**+1.0**
DST	**Dursunbey**	**1.26**	**123**	Pn	**Pn**	**15 54 54.2**	**+0.9**
ORLT	**Orhaneli**	**1.29**	**101**	Pn	**Pn**	**15 54 55.3**	**+1.7**
PRK	**Paraskevi**	**1.30**	**216**	P	**Pn**	**15 54 54.6**	**+0.9**
PRK				S	**Sn**	**15 55 12.9**	**+2.3**
SMTH	**Samothraki Isl**	**1.32**	**278**	P	**Pn**	**15 54 55.0**	**+0.9**
SMTH				S	**Sb**	**15 55 12.8**	**+1.3**
CTKS	**Kestanelik-??a**	**1.33**	**45**	Pn	**Pn**	**15 54 55.0**	**+0.8**
PHSR	**Pinarhisar**	**1.34**	**9**	Pn	**Pn**	**15 54 55.1**	**+0.8**
PHSR	**Pinarhisar**	**1.34**	**9**	⇑P	**Pn**	**15 54 55.5**	**+1.1**
IZMD	**zmir-Dikili-**	**1.34**	**191**	P	**Pb**	**15 54 55.4**	**+0.3**
IZMD				S	**Sn**	**15 55 13.4**	**+1.5**
ZEDA	**zmir-Bergama**	**1.34**	**186**	P	**Pb**	**15 54 55.5**	**+0.4**
ZEDA				S	**Sg**	**15 55 12.2**	**-1.5**
VIZE	**Kirklareli, Vi**	**1.35**	**19**	P	**Pn**	**15 54 54.8**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.41**	**34**	⇓P	**Pg**	**15 54 57.1**	**-0.4**
BGKT	**Bogazkoy**	**1.45**	**52**	Pn	**Pn**	**15 54 56.7**	**+0.9**
ULDT	**Uludag**	**1.45**	**96**	P	**Pg**	**15 54 58.0**	**-0.4**
ULDT				S	**Sb**	**15 55 16.2**	**+0.9**
KIRK	**Kırklareli**	**1.48**	**356**	P	**Pn**	**15 54 56.9**	**+0.7**
KIRK				S	**Sn**	**15 55 13.7**	**-1.5**
AKHS	**Akhisar**	**1.49**	**163**	P	**Pb**	**15 54 57.4**	**-0.2**
AKS	**Akhisar**	**1.49**	**163**	Pn	**Pb**	**15 54 57.4**	**-0.2**
KURT	**Yalova, Merkez**	**1.52**	**79**	P	**Pn**	**15 54 57.4**	**+0.6**
SIGR	**SIGRI**	**1.53**	**225**	Pn	**Pb**	**15 54 58.1**	**-0.2**
SIGR	**SIGRI**	**1.53**	**225**	P	**Pn**	**15 54 57.9**	**+1.0**
SIGR				S	**Sg**	**15 55 18.6**	**-1.2**
RDO	**Rodhopi**	**1.55**	**303**	Pn	**Pn**	**15 54 58.5**	**+1.3**
RDO	**Rodhopi**	**1.55**	**303**	P	**Pn**	**15 54 58.4**	**+1.2**
RDO				S	**Sn**	**15 55 18.0**	**+1.2**
GORD	**Gordes-Manisa**	**1.57**	**153**	Pn	**Pb**	**15 54 59.2**	**+0.3**
EDRB	**Edirne**	**1.59**	**346**	Pn	**Pn**	**15 54 58.7**	**+1.0**
LIA	**Limnos Island**	**1.64**	**256**	P	**Pn**	**15 54 58.9**	**+0.6**
YLV	**Yalova**	**1.64**	**80**	Pn	**Pn**	**15 54 59.4**	**+0.9**
KLYT	**Kilyos**	**1.66**	**55**	Pn	**Pn**	**15 54 59.6**	**+1.0**
KLYT	**Kilyos**	**1.66**	**55**	⇓P	**Pb**	**15 55 00.7**	**+0.3**
DEMI	**Demirci**	**1.69**	**138**	P	**Pn**	**15 55 00.7**	**+1.5**
KARB	**zmir-Karabur**	**1.76**	**202**	P	**Pn**	**15 55 01.0**	**+0.9**
EMET	**Ktahya-Emet**	**1.84**	**120**	P	**Pb**	**15 55 03.4**	**-0.3**
BLCB	**Balcova**	**1.92**	**185**	P	**Pn**	**15 55 03.3**	**+1.0**
DOMA	**Ktahya-Doman**	**1.95**	**105**	P	**Pb**	**15 55 05.1**	**-0.3**
THAS	**Thassos island**	**1.96**	**280**	P	**Pn**	**15 55 03.4**	**+0.7**
KDZ	**Kurdzhali**	**1.96**	**313**	*i* P	**Pn**	**15 55 04.1**	**+1.3**
KDZ	**Kurdzhali**	**1.96**	**313**	P	**Pn**	**15 55 03.9**	**+1.1**
SEMS	**Kocaeli-K¶rfe**	**1.98**	**73**	P	**Pn**	**15 55 03.3**	**+0.2**
SILT	**Sile**	**2.01**	**64**	⇑P	**Pn**	**15 55 05.7**	**+2.2**
BILE	**Bilecik/Merkez**	**2.01**	**93**	P	**Pn**	**15 55 05.2**	**+1.5**
MANT	**Manisa**	**2.08**	**150**	P	**Pn**	**15 55 06.1**	**+1.5**
USAK	**Uak-Merkez**	**2.10**	**139**	P	**Pn**	**15 55 06.4**	**+1.7**
CHOS	**Chios island**	**2.13**	**206**	P	**Pn**	**15 55 06.2**	**+1.0**
DIM	**Dimitrovgrad**	**2.15**	**325**	*i* P	**Pn**	**15 55 06.9**	**+1.5**
DIM	**Dimitrovgrad**	**2.15**	**325**	P	**Pn**	**15 55 07.0**	**+1.6**
KAVA	**Kavala**	**2.19**	**289**	P	**Pn**	**15 55 07.0**	**+1.0**
JMB	**Yambol**	**2.25**	**346**	P	**Pn**	**15 55 08.9**	**+2.0**
RZN	**Rozhen**	**2.35**	**307**	*i* P	**Pn**	**15 55 10.0**	**+1.6**
RZN	**Rozhen**	**2.35**	**307**	P	**Pn**	**15 55 09.6**	**+1.2**
OUR	**Ouranopolis**	**2.50**	**272**	P	**Pn**	**15 55 11.2**	**+1.0**
PLD	**Plovdiv**	**2.64**	**315**	*i* P	**Pn**	**15 55 13.6**	**+1.5**
PLD	**Plovdiv**	**2.64**	**315**	P	**Pn**	**15 55 13.5**	**+1.4**
PLD	**Plovdiv**	**2.64**	**315**	*e*Pn	**Pn**	**15 55 13.7**	**+1.6**
PLD	**Plovdiv**	**2.64**	**315**	*e*Pg	**Pb**	**15 55 18.5**	**+1.4**
PLD				*e*Sn	**Sn**	**15 55 44.5**	**+0.8**
PLD				*e*Sg	**Sg**	**15 55 54.3**	**-0.8**
SAHE	**Sakarya_HENDEK**	**2.80**	**78**	⇑P	**Pn**	**15 55 16.2**	**+1.9**
ELND	**Elena**	**2.82**	**339**	⇑P	**Pn**	**15 55 15.7**	**+1.1**
SRS	**Serrai**	**2.90**	**287**	P	**Pn**	**15 55 16.6**	**+0.9**
SRS	**Serrai**	**2.90**	**287**	*e*Pn	**Pn**	**15 55 17.0**	**+1.3**
SRS	**Serrai**	**2.90**	**287**	*e*Pg	**Pb**	**15 55 22.6**	**+1.0**
SR

IKAL				P	Pg	16 31 50.9	-0.8
ISVA	Svartarkot	0.71	7	P	Pn	16 31 52.1	-2.1
ISVA				S	Sn	16 32 02.6	-2.5
IFAL	Falljokull	0.74	158	P	Pg	16 31 51.2	-1.1
IFAL				S	Sg	16 32 01.7	-0.2
IVSH	V-Sauoahnukur	0.76	76	P	Pb	16 31 52.0	-1.5
IVSH				S	Sb	16 32 02.9	-1.0
IVAT	Vatnsfell	0.78	235	P	Pg	16 31 52.6	-0.5
IVAT				S	Sn	16 32 04.5	-2.4
SLET	Slettubjorg	0.79	153	P	Pb	16 31 52.2	-1.8
SLET				S	Sg	16 32 03.9	+0.2
IKVI	Kvisker	0.80	145	P	Pb	16 31 51.6	-2.4
IKVI				S	Sb	16 32 03.4	-1.4
IFAG	Fagurholsmyri	0.84	155	P	Pb	16 31 53.2	-1.6
IFAG				S	Sg	16 32 05.3	+0.1
IADA	Aoalbol	0.89	64	P	Pb	16 31 53.9	-1.8
IADA				S	Sg	16 32 06.4	-0.5
ISTE	Stelbrattur	0.96	284	P	Pn	16 31 55.9	-1.8
IMEL	Melhnausar	1.00	20	P	Pb	16 31 55.6	-1.8
IMEL				S	Sn	16 32 10.6	-1.6
IREN	Reynihlio	1.04	13	P	Pn	16 31 56.6	-2.1
IHES	Hestalda	1.09	238	P	Pb	16 31 57.8	-1.3
ISLY	Slysaalda	1.09	222	P	Pb	16 31 57.7	-1.4
ISLY				S	Sg	16 32 13.0	-0.2
IKVO	Krokottuvotn	1.11	12	P	Pn	16 31 57.9	-1.8
IGRS	Grimsstaoir	1.15	29	P	Pb	16 31 58.6	-1.5
IRJU	Rjupnafell	1.15	208	P	Pn	16 31 58.6	-1.7
IRJU				S	Sn	16 32 14.2	-1.9
IAUS	Austmannsbunga	1.20	217	P	Pb	16 31 59.8	-1.2
IAUS				S	Sn	16 32 15.6	-1.9
IGYG	Gygjarholskot	1.25	255	P	Pb	16 32 00.6	-1.1
IGYG				S	Sn	16 32 16.3	-2.1
ISKI	Skildingahlsh	1.25	8	P	Pb	16 32 00.3	-1.5
IGHA	Grjothals	1.26	15	P	Pb	16 32 00.5	-1.4
IHVO	Lagu-Hvolar	1.27	209	P	Pb	16 32 00.9	-1.3
IHAU	Haukadalur	1.28	240	P	Pb	16 32 00.8	-1.5
IGRA	Granastaoir	1.29	358	P	Pb	16 32 00.8	-1.6
IDIM	Dimmadalss	1.35	9	P	Pb	16 32 01.7	-1.7
IESK	Eystri-Skogar	1.42	219	P	Pn	16 32 02.6	-1.3
IESK				S	Sb	16 32 22.2	-0.5
IMID	Miomork	1.45	228	P	Pn	16 32 03.3	-1.1
IMID				S	Sb	16 32 22.7	-0.9
IHED	Heoinshofoi	1.45	2	P	Pb	16 32 03.7	-1.5
IHED				S	Sg	16 32 24.0	-0.8
IBRE	Brettingsstaoi	1.50	353	P	Pb	16 32 04.2	-1.9
IBRE				S	Sg	16 32 24.9	-1.5
IGIL	Gilhagi	1.52	17	P	Pb	16 32 04.3	-2.1
IASM	Asmuli	1.60	241	P	Pb	16 32 05.7	-2.0
ISIG	Siglufjorour	1.62	339	P	Pb	16 32 05.9	-2.2
IASB	sbjarnarstai	1.67	276	P	Pb	16 32 07.2	-1.6
BORG	Borgarnes	1.67	276	Pg	Pb	16 32 07.7	-1.1
	8.6nm,0.3s,baz=92,slow=8.4,SNR=33						
BORG				Lg	Lg	16 32 30.7	
	9.5nm,0.3s,baz=224,slow=23,SNR=6.0						
IKRO	Krokur	1.68	253	P	Pn	16 32 06.7	-0.9
EKA	Eskdalemuir Ar	11.73	136	Pn	Pn	16 34 27.1	+1.8
	1.6nm,0.5s,baz=321,slow=13,SNR=9.1						
NOA	NORSAR Array B	13.52	92	Pn	P	16 34 53.4	-5.6
	baz=299,slow=14,SNR=2.0						
NOA				LR	LR	16 40 02.9	
	comp=Z,56nm,19.4s,baz=295,slow=37 0.2nm,0.5s						
FINES	FINESS Array B	19.69	79	P	Pn	16 36 11.8	+3.3
	0.1nm,0.3s,baz=282,slow=7.0,SNR=1.6 3.8nm,1.1s						
BRG	Berggiesshubel	21.39	115	eP	P	16 36 29.1	+3.6
BRG				Amp		16 36 29.4	
	comp=Z,2.0nm,0.8s						
BRG	Berggiesshubel	21.39	115	P	P	16 36 35.8	+10
BRG				Amp		16 36 39.1	
	comp=Z,4.0nm,1.1s						
GERES	GERESS Array B	22.93	119	P	P	16 36 45.1	+3.0
	comp=Z,0.4nm,0.6s,baz=313,slow=12,SNR=2.6 comp=Z,0.4nm,0.6s						
ESDC	Sonseca Array	26.22	156	P	P	16 37 14.9	+2.0
	comp=Z,0.5nm,0.6s,baz=359,slow=10,SNR=4.2 comp=Z,0.5nm,0.6s						
BRTR	Keskin Array B	38.46	105	P	P	16 39 03.4	+3.5
	comp=Z,1.0nm,0.8s,baz=312,slow=6.0,SNR=5.3 comp=Z,1.0nm,0.8s						
KURBB	Kurchatov Arra	48.16	58	P	P	16 40 21.7	+3.8
	comp=Z,1.0nm,0.8s,baz=322,slow=8.1,SNR=10.0 comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	53.20	293	P	P	16 40 59.0	+2.6
	comp=Z,1.1nm,0.9s,baz=30,slow=8.0,SNR=5.6						
PDAR				LR	LR	17 04 43.9	
	comp=Z,41nm,18.2s,baz=14,slow=37 comp=Z,1.1nm,0.9s						
AAK	Ala-Archa	53.26	67	LR	LR	17 04 02.6	
	comp=Z,42nm,18.3s,baz=339,slow=36						

JMA 04 16:32:47.3±0.2,30°N±1°×13°9E±°,h437km,MV3.6/30, NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.90	6	eS	S	16 34 45.0	-0.4
CBIJ	Chichi jima	3.92	142	P	P	16 34 01.2	+0.3
CBIJ				S	S	16 34 59.5	-1.3
BSO1	Boso 1	4.60	16	P	P	16 34 08.7	+2.3
BSO3	Boso 3	4.65	11	eP	P	16 34 09.1	+1.9
BSO3				eS	S	16 35 13.4	+0.9
JIE	Ise	4.78	331	eP	P	16 34 09.7	+1.0
BSO4	Boso 4	4.81	8	eP	P	16 34 10.0	+1.0
BSO4				eS	S	16 35 15.6	-0.1
JOD2	Odawara 2	5.04	356	eP	P	16 34 12.7	+1.4
JOD2				S	S	16 35 19.9	0.0
JNY	Yasuok	5.30	346	eP	P	16 34 15.2	+1.2
JRY	Ryogami san	5.80	355	eP	P	16 34 20.0	+1.0
JAG	Ashikaga	6.19	360	P	P	16 34 23.1	+0.2
JAG				S	S	16 35 37.4	-3.9
JHO	Hitachi	6.44	8	eP	P	16 34 26.2	+0.7
JHO				eS	S	16 35 44.8	-1.3
JSJ	Shimokoshiki	8.51	282	eP	P	16 34 44.6	-3.4

*NNC **04** 16:33:30.9±3.7,36°.96N×68°.98E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=38.1km s-min=29.6km az=164.0*

ISC 04 16:33:23.1±6.3,36°2N±0°.5×68°9E±0°2,h10km,n11, σ1§49/12,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.99	10	⇑Pn	Pn	16 35 06.2	+0.7
	1.3nm,0.3s,baz=209,slow=16,SNR=21						
KK31				⇑Pg	Pb	16 35 24.7	+0.1
	4.9nm,0.5s						
KK31				⇓Lg	Lg	16 36 48.9	
	9.0nm,0.5s,baz=197,slow=31,SNR=6.5						
UCH	Uchtor	7.41	34	P	Pn	16 35 12.7	+0.9
	SNR=8.7						
EKS2	Erkin-Say	7.45	29	P	Pn	16 35 13.9	+1.8
	SNR=7.5						
AAK	Ala-Archa	7.73	32	P	Pn	16 35 17.2	+1.4
	SNR=5.2						
AAK	Ala-Archa	7.73	32	⇓Pn	Pn	16 35 15.9	+0.1
	3.3nm,0.4s						
AAK				⇑Lg	Lg	16 37 14.4	
	15nm,1.0s						
KBK	Karagaybulak	7.94	34	P	Pn	16 35 20.4	+1.6
	SNR=5.8						
TKM2	Tokmak 2	8.45	36	P	Pn	16 35 26.3	+0.5
	SNR=12						
MK31	Makanchi Array	14.54	39	P	Pn	16 36 48.4	-0.6
	2.8nm,0.8s,baz=224,slow=14,SNR=4.1						
AB31	Akbulak array	14.59	336	⇑P	Pn	16 36 48.4	-1.1
	1.9nm,0.6s,baz=154,slow=12,SNR=41						
AKTO	Aktyubinsk	16.25	334	⇑P	Pn	16 37 12.2	+0.9
	4.0nm,0.7s						
BVA0	Borovoye Array	16.84	3	P	Pn	16 37 16.0	-2.8
	2.2nm,0.7s,baz=198,slow=18,SNR=6.5						

*NOU **04** 16:35:20.6,25°.63S×136°.91E,h0km,mb4.3/22,Northern Territory, Australia*
*IDC **04** 16:35:22.1±0.7,25°.66S×136°.89E,h0km,mb3.9/11, mbtmp4.0/16,ML4.3/4,Error ellipse: s-maj=28.5km s-min=13.5km az=69.0*
*AUST **04** 16:35:22.9±0.2,26°S±2°×13°7E±°,h10km,mb4.5/10, ML3.3/13,Error ellipse: s-maj=5.6km s-min=5.2km az=86.6*

ISC 04 16:35:22.6±0.5,25°.64S±0°.05×136°.95E±0°.05,h10km,n66, σ1§73/73,mb4.0/11,Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OOD	Oodnadatta	2.42	207	P	Pn	16 36 03.6	+1.3
OOD				S	Sn	16 36 33.6	+1.6
ASAR	Alice Springs	3.40	305	Pn	Pn	16 36 17.8	+2.0
	13nm,0.3s,baz=129,slow=14,SNR=454						
ASAR				Pg	Pg	16 36 28.0	+0.3
	16nm,0.3s,baz=128,slow=16,SNR=19						
ASAR				Sn	Sn	16 36 57.9	+1.7
	33nm,0.3s,baz=127,slow=22,SNR=1.9						
ASAR				Lg	Lg	16 37 10.5	
	72nm,0.3s,baz=119,slow=27,SNR=3.0 22nm,0.3s						
AUALC	St Philip's Co	3.40	304	P	Pn	16 36 17.9	+2.2
AUALC	St Philip's Co	3.40	304	S	Sn	16 36 57.8	+1.6
INKA	Innaminka	3.99	122	P	Pn	16 36 25.1	+1.3
LCRK	Leigh Creek	4.92	167	P	Pn	16 36 37.1	+0.5
MULG	Mulgathing	5.28	208	P	Pn	16 36 42.5	+0.9
	comp=Z,0.1nmcomp=Z,38nm,0.6s						
MULG				S	Sn	16 37 41.8	-0.8
QIS	Mount Isa	5.62	26	P	Pn	16 36 46.3	0.0
QIS	Mount Isa	5.62	26	P	Pn	16 36 46.2	-0.1
WR0	Warramunga Arr	6.08	338	P	Pn	16 36 52.8	+0.2
WRA	Warramunga Arr	6.16	336	Pn	Pn	16 36 54.4	+0.7
	comp=Z,3.7nm,0.3s,baz=165,slow=12,SNR=136						
WRA				Sn	Sn	16 38 03.2	-1.2
	comp=Z,9.0nm,0.3s,baz=158,slow=24,SNR=9.0						
WRA				Lg	Lg	16 38 37.2	
	comp=Z,9.2nm,0.3s,baz=156,slow=21,SNR=5.6 comp=Z,2.5nm,0.3s						
WRAB	Tennant Creek	6.17	337	P	Pn	16 36 54.1	+0.3
	comp=Z,0.1nmcomp=Z,15nm,0.5s						
WRAB				S	Sn	16 38 03.2	-1.2
WRAB	Tennant Creek	6.17	337	P	Pn	16 36 53.6	-0.2
WB10	Warramunga Arr	6.30	338	P	Pn	16 36 55.9	+0.2
YAPP	Yappala Statio	6.32	169	P	Pn	16 36 56.1	+0.3
	comp=Z,0.0nmcomp=Z,7.6nm,0.6s						
QLP	Quilpie	6.62	100	P	Pn	16 37 00.2	+0.2
	comp=Z,0.2nmcomp=Z,92nm,0.6s						
QLP	Quilpie	6.62	100	P	Pn	16 37 00.4	+0.4
BBOO	Buckleboo	7.18	186	P	Pn	16 37 01.0	-0.7
	comp=Z,0.1nmcomp=Z,21nm,0.4s						
BBOO	Buckleboo	7.18	186	P	Pn	16 37 07.1	-0.7
WHYH	Whyalla	7.39	176	P	Pn	16 37 10.4	-0.1
WHYH	Whyalla	7.39	176	P	Pn	16 37 10.4	-0.1
STKA	Stephens Creek	7.43	148	Pn	Pn	16 37 10.7	-0.5
	comp=Z,4.4nm,0.3s,baz=323,slow=13,SNR=49						
STKA				Sn	Sn	16 38 28.4	-7.1
	comp=Z,19nm,0.3s,baz=21,slow=7.8,SNR=8.7 comp=Z,9.7nm,0.3s						
STKA	Stephens Creek	7.43	148	P	Pn	16 37 10.6	-0.5
NAPP	Napperby	7.59	172	P	Pn	16 37 13.1	-0.2
WRKA	Warakurna	7.85	273	P	Pn	16 37 17.4	+0.4
	comp=Z,0.1nmcomp=Z,5.5nm,0.6s						
HTT	Hallett	7.95	168	P	Pn	16 37 18.0	-0.3
HTT	Hallett	7.95	168	P	Pn	16 37 17.7	-0.6
AUCAS	Cummins Area S	8.65	187	P	Pn	16 37 28.3	+0.4
SDAN	Sedan	9.07	167	P	Pn	16 37 32.8	-0.8
FORT	Forrest	9.36	235	P	Pn	16 37 37.0	-0.6
	comp=Z,0.1nmcomp=Z,22nm,0.6s						
CMSA	Cobar Meteorol	9.67	129	P	Pn	16 37 40.4	-1.5
	comp=Z,22nm,0.6s,comp=Z,0.1nm						
CMSA	Cobar Meteorol	9.67	129	P	Pn	16 37 40.8	-1.1
AUMBR	Murray Bridge	9.67	169	P	Pn	16 37 40.9	-1.0
MTSU	Mount Surprise	10.13	44	P	Pn	16 37 47.6	-0.6
	comp=Z,7.8nm,0.7s,comp=Z,0.0nm						
MTSU	Mount Surprise	10.13	44	P	Pn	16 37 47.5	-0.6
CTAO	Charters Tower	10.20	59	P	Pn	16 37 48.7	-0.5
	comp=Z,14nm,1.0s,comp=Z,0.1nm						
CTAO	Charters Tower	10.20	59	P	Pn	16 37 48.8	-0.4
KELC	Kelly Hill Cav	10.30	180	P	Pn	16 37 50.1	-0.4
EIDS	Eidsvold	12.77	92	P	Pn	16 38 23.5	-0.8
FITZ	Fitzroy Crossi	12.90	303	Pn	Pn	16 38 25.3	-0.8
	comp=Z,3.0nm,0.3s,baz=133,slow=11,SNR=68						
FITZ				Sn	Sn	16 40 41.2	-8.6
	comp=Z,2.2nm,0.3s,baz=180,slow=20,SNR=5.5						
FITZ				Lg	Lg	16 42 11.8	
	comp=Z,1.7nm,0.3s,baz=195,slow=14,SNR=4.3 comp=Z,10nm,0.4s						
FITZ	Fitzroy Crossi	12.90	303	P	Pn	16 38 24.8	-1.3
COEN	Coen	13.01	28	P	Pn	16 38 25.2	-2.5
ARMA	Armidale	13.81	113	P	Pn	16 38 38.1	-0.5
CAN	Canberra	14.17	136	P	Pn	16 38 41.9	-1.5
CNB	Canberra Magne	14.39	135	P	Pn	16 38 46.0	-0.5
PSA00	Pilbara Seismi	16.19	281	P	Pn	16 39 07.5	-2.8
MBWA	Marble Bar	16.42	282	P	Pn	16 39 10.9	-2.3
MEEK	Meekatharra	16.50	263	P	Pn	16 39 12.9	-1.3
BLDU	Ballidu	18.52	250	P	P	16 39 38.5	-0.7
NWAO	Narrogin (SRO)	18.65	243	P	P	16 39 39.2	-1.4
	comp=Z,12nm,0.9s,baz=123,slow=4.5,SNR=2.2						
NWAO				S	Sn	16 42 52.4	-17
	comp=Z,9.0nm,0.6s,baz=16,slow=15,SNR=2.0						
MORW	Morawa	18.88	255	P	P	16 39 42.6	-0.6
MUN	Mundaring	19.23	246	P	P	16 39 46.5	-0.5
VNDA	Vanda	53.26	173	P	P	16 44 42.1	+1.1
	comp=Z,0.1nm,0.3s,baz=332,slow=9.4,SNR=1.4 comp=Z,0.1nm,0.3s						
CMAR	Chiang Mai Arr	57.34	316	P	P	16 45 12.2	+1.1
	comp=Z,0.6nm,0.7s,baz=146,slow=6.0,SNR=6.9 comp=Z,0.6nm,0.7s						
MAW	Mawson	60.50	205	P	P	16 45 33.4	+0.9
	comp=Z,1.8nm,0.8s,baz=38,slow=2.2,SNR=3.7 comp=Z,1.8nm,0.8s						
QSPA	South Pole Qui	64.44	180	P	P	16 46 01.3	+2.3
	comp=Z,0.8nm,0.7s,baz=335,slow=1.1,SNR=7.5 comp=Z,0.8nm,0.7s						
USRK	Ussuriysk Ar.	69.65	356	P	P	16 46 33.6	+1.6
	comp=Z,1.7nm,0.6s,baz=178,slow=5.6,SNR=7.2 comp=Z,1.7nm,0.6s						
SONM	Songino Array	78.13	340	P	P	16 47 23.1	+1.2
	comp=Z,1.1nm,0.6s,baz=158,slow=6.6,SNR=4.5 comp=Z,1.1nm,0.6s						
SNAA	Sanae	79.04	192	P	P	16 47 27.3	+0.7
	comp=Z,1.1nm,1.0s,baz=196,slow=9.7,SNR=5.6 comp=Z,1.1nm,1.0s						
PETK	Petropavlovsk-	80.47	13	P	P	16 47 36.0	+1.7
	comp=Z,0.9nm,0.6s,baz=203,slow=1.1,SNR=5.1 comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	87.36	326	P	P	16 48 10.6	+0.8
	comp=Z,0.9nm,0.5s,baz=143,slow=6.1,SNR=13 comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	91.12	332	P	P	16 48 28.7	+1.5
	comp=Z,0.4nm,0.4s,baz=146,slow=3.1,SNR=2.3 comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	91.76	327	P	P	16 48 30.6	+0.3
	comp=Z,0.3nm,0.5s,baz=128,slow=3.9,SNR=6.3 comp=Z,0.3nm,0.5s						
ARCES	ARCESS Array B	121.26	337	PKP	PKPdf	16 54 15.1	0.0
	comp=Z,4.0nm,1.0s,baz=66,slow=2.3,SNR=2.1						
FINES	FINESS Array B	122.14	328	PKP	PKiKP	16 54 17.3	+0.2
	comp=Z,1.4nm,0.8s,baz=80,slow=2.1,SNR=3.5						
ESDC	Sonseca Array	144.53	303	PKP	PKPbc	16 54 58.7	+0.5
	comp=Z,0.7nm,0.5s,baz=49,slow=3.2,SNR=5.2						

AUST 04 16:46:00.1±0.9,18°S±7°×12°0E±°,h10km,mb4.2/2, ML2.6/3,Error ellipse: s-maj=15.1km s-min=10.4km az=158.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	Eighty Mile Be	1.78	135	P	Pn	16 46 31.8	+0.9
CAAN				S	Sn	16 46 53.7	+0.1
MBWA	Marble Bar	3.16	188	P	Pn	16 46 50.7	+0.7
MBWA				S	Sn	16 47 24.9	-2.9
PSAC1	Pilbara Seismi	3.52	186	P	Pn	16 46 55.3	+0.4
PSAC1				S	Sn	16 47 32.6	-4.0
PSA00	Pilbara Seismi	3.56	185	P	Pn	16 46 55.9	+0.5
PSA00				S	Sn	16 47 33.6	-4.0
KNRA	Kununurra	8.54	76	P	Pn	16 48 03.6	-0.3
	comp=Z,6.6nm,1.3s,comp=Z,0.0nm						
MEEK	Meekatharra	8.71	189	P	Pn	16 48 06.3	+0.1
BLDU	Ballidu	12.94	193	P	Pn	16 49 02.6	-1.6
	comp=Z,32nm,1.4s						

*MOS **04** 16:53:31.4,42°.14N×45°.74E,h10km,MPVA3.8*
*NORS **04** 16:53:32.0,42°.06N×45°.75E,h3km,MPVA3.7*
*TIF **04** 16:53:33.1,42°.19N×45°.67E,h12km*
*AZER **04** 16:53:35.0,41°.88N×45°.77E,h5km,ml2.6*
*DRS **04** 16:53:34.8,42°.18N×45°.78E,h24km*

ISC 04 16:53:33.0±1.0,42°.14N±0°.01×45°.73E±0°.01,h7km±9km, n75,σ1§36/146,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLTR	Tlyarata	0.47	94	iPg	Pg	16 53 42.4	+0.3
TLTR				eSg	Sg	16 53 48.6	+0.4
BTLR	Botlikh	0.64	35	ePg	Pg	16 53 45.6	+0.3
BTLR				eSg	Sb	16 53 54.6	-1.2
SHTL	Shatili	0.67	321	P	Pg	16 53 45.3	-0.6
SHTL				S	Sg	16 53 54.1	-0.6
DGRG	David-gareji	0.74	201	P	Pb	16 53 48.6	+0.4
DGRG				S	Sn	16 54 00.1	-1.3
DGRG	David-gareji	0.74	201	ePg	Pb	16 53 48.6	+0.4
DGRG				eSg	Sn	16 54 00.1	-1.3
SEAG	Tbilisi Sea	0.78	242	P	Pg	16 53 48.4	+0.3
SEAG				S	Sb	16 54 00.4	+0.6
SEAG	Tbilisi Sea	0.78	242	ePg	Pg	16 53 48.4	+0.3
SEAG				eSg	Sb	16 54 00.4	+0.6
BTNK	Botanikuri	0.83	237	ePg	Pg	16 53 48.8	-0.1
BTNK				eSg	Sb	16 54 01.8	+0.7
XNZR	Khunzakh	0.83	61	ePg	Pb	16 53 49.6	-0.3
XNZR				eSg	Sn	16 54 01.9	-2.0
ZKTA	Zakatala	0.83	126	P	Pb	16 53 49.5	-0.3
ZKTA				S	Sn	16 54 01.8	-2.0
TBLG	Delisi	0.84	241	P	Pg	16 53 49.1	-0.1
TBLG				S	Sb	16 54 02.1	+0.6
DVE	Vedeno	0.87	20	ePg	Pg	16 53 49.9	+0.2
DVE				eSg	Sb	16 54 02.2	-0.2
UNCR	Uncukul	0.98	54	iPg	Pg	16 53 51.6	-0.2
UNCR				eSg	Sn	16 54 05.8	-1.6
GUDG	Gudauri	0.98	290	P	Pg	16 53 51.1	-0.8
GUDG				S	Sg	16 54 04.3	-0.4
GUDG	Gudauri	0.98	290	ePg	Pg	16 53 51.1	-0.8
GUDG				eSg	Sg	16 54 04.3	-0.4
KMKR	Kumukh	1.02	90	iPg	Pb	16 53 52.6	-0.5
KMKR				eSg	Sb	16 54 06.7	-0.2
VSHL	Vashlovani	1.04	151	P	Pn	16 53 54.1	+0.1
VSHL				S	Sn	16 54 10.3	+1.5
VSHL	Vashlovani	1.04	151	ePg	Pn	16 53 54.1	+0.1
VSHL				eSg	Sn	16 54 10.3	+1.5
ARKR	Arakani	1.05	63	iPg	Pb	16 53 53.1	-0.5
ARKR				eSg	Sn	16 54 08.0	-1.2
QZX	Qazax, Azerbai	1.11	194	P	Pg	16 53 53.6	-0.7
QZX				S	Sb	16 54 09.1	-0.2
KRNR	Karanay	1.11	51	ePg	Pg	16 53 54.0	-0.3
KRNR				eSg	Sb	16 54 09.1	-0.3
KMGR	Komgaron	1.12	326	ePg	Pn	16 53 55.4	+0.2
KMGR				eSg	Sn	16 54 11.9	+1.1
DLMR	Dylym	1.15	35	ePg	Pb	16 53 54.3	-0.9
DLMR				eSg	Sn	16 54 11.0	-0.5
VLKR	Vladikavkaz	1.19	320	ePg	Pb	16 53 55.4	-0.6
VLKR				eSg	Sb	16 54 11.7	-0.1
BUJR	Buynaksk	1.23	56	ePg	Pb	16 53 55.1	-1.5
BUJR				eSg	Sg	16 54 12.3	-0.3
KZRT	Kazreti	1.25	233	P	Pn	16 53 53.1	-3.8
KZRT				S	Sb	16 54 10.4	-2.8
LACR	Lac	1.26	304	ePg	Pn	16 53 56.2	-1.0
LACR				eSg	Sb	16 54 13.3	-0.4
TRLG	Trialeti	1.35	244	P	Pn	16 53 57.5	-1.0
TRLG				S	Sb	16 54 16.1	-0.3
GDB	GEDABAY	1.42	179	P	Pn	16 53 58.2	-1.2
GDB				S	Sb	16 54 17.1	-1.0
URKR	Urkarakh	1.42	88	ePg	Pg	16 53 59.8	-0.4
URKR				eSg	Sg	16 54 20.4	+1.8
SEKA	Sheki	1.44	130	P	Pg	16 54 01.0	+0.3
SEKA				S	Sg	16 54 21.1	+1.7
ARNR	Ardon	1.49	315	ePg	Pb	16 54 01.0	0.0
ARNR				eSg	Sg	16 54 23.1	+2.2
BTKR	Batakoyurt	1.51	325	ePg	Pn	16 53 59.4	-1.2
BTKR				eSg	Sg	16 54 21.7	+0.1
KORR	Kora	1.55	308	ePg	Pb	16 54 02.3	+0.3
KORR				eSg	Sg	16 54 24.3	+1.5
GANJ	Ganja	1.56	163	P	Pn	16 54 00.7	-0.4
GANJ				S	Sb	16 54 21.7	-0.3
AKT	Akhty	1.64	113	ePg	Pg	16 54 03.8	-0.5
AKT				eSg	Sg	16 54 24.4	-1.1
MNGR	Mingechevir, A	1.70	143	P	Pg	16 54 05.1	-0.5
MNGR				S	Sg	16 54 28.6	+0.9
GARIG	Gari	1.74	286	P	Pn	16 54 04.2	+0.5
GARIG				S	Sb	16 54 27.2	-0.1
STDR	Stavd-Durt	1.74	316	ePg	Pb	16 54 05.9	+0.7
STDR				eSg	Sg	16 54 30.7	+1.8
TRKR	Terskaya	1.75	336	ePg	Pb	16 54 05.3	-0.1
TRKR				eSg	Sg	16 54 29.6	+0.5
DIGR	Digorskoe uzhe	1.76	296	ePg	Pb	16 54 05.3	-0.4
DIGR				eSg	Sg	16 54 29.4	-0.2
LSNR	Lesken	1.81	310	ePg	Pb	16 54 07.3	+0.8
LSNR				eSg	Sg	16 54 32.8	+1.7
BGD	Bogdanovka	1.82	242	P	Pn	16 54 05.2	+0.3
BGD				S	Sb	16 54 29.5	-0.2
BGD	Bogdanovka	1.82	242	ePg	Pn	16 54 05.2	+0.3
BGD				eSg	Sb	16 54 29.5	-0.2
KSMR	Kasumkent	1.87	106	ePg	Pb	16 54 07.6	+0.1
KSMR				eSg	Sg	16 54 33.1	0.0
PRTR	Priterechnaya	1.93	327	ePg	Pb	16 54 07.9	-0.7
PRTR				eSg	Sg	16 54 34.6	-0.4
QBL	Gabala	1.98	126	P	Pg	16 54 10.0	-1.0
QBL				S	Sg	16 54 37.0	+0.3
QSAR	Qusar	2.00	107

Error ellipse: s-maj=6.0km s-min=5.5km az=78.0

ISC 04 16:55:04.4±0.5,63°17N±0°03×150°81W±0°04,h127km, n235,σ0.81/200,mb3.9/16,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.37**	**40**		**Pn**	**16 55 23.7**	**+1.1**
TRF				IAML		16 55 39.1	
	comp=E,2μm,1.0s						
TRF				IAML		16 55 39.8	
	comp=N,2μm,0.6s						
TRF	**Thorofare Moun**	**0.37**	**40**		**Sn**	**16 55 37.8**	**+1.3**
KTH	**Kantishna Hill**	**0.39**	**353**		**Pn**	**16 55 23.8**	**+1.1**
KTH				IAML		16 55 38.0	
	comp=N,2μm,0.6s						
KTH				IAML		16 55 38.0	
	comp=E,3μm,0.7s						
KTH	**Kantishna Hill**	**0.39**	**353**		**Sn**	**16 55 37.5**	**+1.1**
PPLA	**Purkeypile**	**0.69**	**247**		**Pn**	**16 55 25.6**	**+1.1**
PPLA				IAML		16 55 41.6	
	comp=E,1μm,0.9s						
PPLA				IAML		16 55 41.9	
	comp=N,1μm,0.6s						
PPLA	**Purkeypile**	**0.69**	**247**		**Sn**	**16 55 41.4**	**+1.7**
CUT	**Chulitna**	**0.81**	**162**		**Pn**	**16 55 26.2**	**+0.9**
CUT	**Chulitna**	**0.81**	**162**		**Sn**	**16 55 42.7**	**+1.6**
RND	**Reindeer**	**0.92**	**74**		**Pn**	**16 55 27.0**	**+0.7**
RND				IAML		16 55 44.7	
	comp=N,1μm,0.6s						
RND				IAML		16 55 46.1	
	comp=E,1μm,0.4s						
BPAW	**Bear Paw Mtn.**	**0.94**	**355**		**Pn**	**16 55 27.0**	**+0.6**
BPAW				IAML		16 55 44.1	
	comp=E,1μm,0.7s						
BPAW				IAML		16 55 44.2	
	comp=N,942nm,0.8s						
BPAW	**Bear Paw Mtn.**	**0.94**	**355**		**Sn**	**16 55 43.8**	**+0.6**
WAT7	**Susitna Watana**	**0.96**	**110**		**Pn**	**16 55 27.3**	**+0.5**
WAT7					**Sn**	**16 55 44.6**	**+1.0**
CHUM	**Lake Minchumin**	**0.98**	**317**		**Pn**	**16 55 27.9**	**+1.1**
CHUM					**Sn**	**16 55 44.7**	**+0.9**
MCK	**McKinley**	**1.02**	**55**		**Pn**	**16 55 28.1**	**+0.9**
MCK				IAML		16 55 46.1	
	comp=E,661nm,0.7s						
MCK				IAML		16 55 48.8	
	comp=N,553nm,0.5s						
WAT1	**Susitna Watana**	**1.09**	**107**		**Sn**	**16 55 46.6**	**+0.9**
BWN	**Browne**	**1.17**	**30**		**Pn**	**16 55 29.9**	**+1.2**
BWN				IAML		16 55 49.2	
	comp=E,1μm,0.8s						
BWN				IAML		16 55 52.1	
	comp=N,681nm,1.3s						
SKT	**Skwentna**	**1.24**	**196**		**Pn**	**16 55 30.1**	**+0.6**
SKT				IAML		16 55 51.2	
	comp=E,2μm,0.3s						
SKT	**Skwentna**	**1.24**	**196**		**Sn**	**16 55 49.8**	**+1.4**
M22K	**Willow**	**1.46**	**167**		**Pn**	**16 55 32.6**	**+0.9**
WAT6	**Susitna Watana**	**1.53**	**111**		**Pn**	**16 55 33.0**	**+0.2**
DHY	**Denali Highway**	**1.56**	**92**		**Pn**	**16 55 33.9**	**+0.7**
L20K	**Farewell, AK**	**1.57**	**245**		**Pn**	**16 55 33.8**	**+0.7**
L20K					**Sn**	**16 55 55.2**	**+0.3**
NEA2	**Nenana**	**1.62**	**28**		**Pn**	**16 55 33.8**	**+0.1**
NEA2				IAML		16 55 56.9	
	comp=N,424nm,1.0s						
GHO	**Glory Hole Cre**	**1.66**	**147**		**Pn**	**16 55 34.8**	**+0.7**
GHO	**Glory Hole Cre**	**1.66**	**147**		**Sn**	**16 55 58.1**	**+1.3**
M20K	**Styx River**	**1.68**	**221**		**Pn**	**16 55 34.9**	**+0.5**
M20K	**Styx River**	**1.68**	**221**	IAML		16 55 59.7	
	comp=E,653nm,0.5s						
M20K				IAML		16 56 06.1	
	comp=N,341nm,0.5s						
SUA	**Susitna One**	**1.71**	**179**		**Pn**	**16 55 36.4**	**+1.6**
SUA				IAML		16 56 02.2	
	comp=E,602nm,0.5s						
SUA				IAML		16 56 06.5	
	comp=N,756nm,0.6s						
SUA	**Susitna One**	**1.71**	**179**		**Sn**	**16 55 59.6**	**+1.5**
STLK	**Strandline Lak**	**1.74**	**196**		**Pn**	**16 55 36.1**	**+0.9**
STLK				IAML		16 56 02.4	
	comp=N,629nm,0.3s						
STLK				IAML		16 56 02.8	
	comp=E,1μm,0.5s						
STLK	**Strandline Lak**	**1.74**	**196**		**Sn**	**16 55 59.9**	**+1.2**
PMR	**Palmer**	**1.77**	**153**		**Pn**	**16 55 35.5**	**+0.2**
PMR				IAML		16 56 05.1	
	comp=N,1μm,0.5s						
PMR	**Palmer**	**1.77**	**153**	P	**Pn**	**16 55 34.7**	**-0.6**
PMR	**Palmer**	**1.77**	**153**	S	**Sn**	**16 55 58.9**	**0.0**
WRH	**Wood River Hil**	**1.78**	**42**		**Pn**	**16 55 35.8**	**+0.4**
WRH				IAML		16 56 00.7	
	comp=N,375nm,1.2s						
SML	**Sawmill**	**1.79**	**139**		**Pn**	**16 55 35.9**	**+0.2**
SML				IAML		16 56 07.4	
	comp=N,1μm,0.4s						
J20K	**Nowinta River**	**1.80**	**306**		**Pn**	**16 55 36.3**	**+0.7**
J20K				IAML		16 56 00.8	
	comp=N,300nm,1.4s						
MLY	**Manley**	**1.87**	**1**		**Pn**	**16 55 37.1**	**+0.5**
CCB	**Clear Creek Bu**	**1.99**	**41**		**Pn**	**16 55 38.3**	**+0.3**
CCB				IAML		16 56 05.0	
	comp=N,271nm,1.1s						
CCB				IAML		16 56 05.0	
	comp=E,348nm,0.6s						
SPBG	**Spurr Blockage**	**2.05**	**202**		**Pn**	**16 55 40.1**	**+1.2**
SPCN	**Chakachatna No**	**2.06**	**199**		**Pn**	**16 55 40.0**	**+1.1**
KNK	**Knik Glacier**	**2.08**	**147**		**Pn**	**16 55 39.5**	**+0.4**
SPU	**Mount Spurr**	**2.08**	**197**		**Pn**	**16 55 39.8**	**+0.6**
SPCR	**Spurr Chakacha**	**2.08**	**199**		**Pn**	**16 55 39.8**	**+0.5**
SPCR	**Spurr Chakacha**	**2.08**	**199**		**Pn**	**16 55 39.8**	**+0.5**
I21K	**Tanana**	**2.08**	**346**		**Pn**	**16 55 39.8**	**+0.6**
I23K	**Minto, Yukon-K**	**2.09**	**17**		**Pn**	**16 55 39.6**	**+0.5**
I23K				IAML		16 56 07.0	
	comp=E,359nm,0.8s						
I23K				IAML		16 56 07.0	
	comp=N,422nm,0.8s						
M19K	**Big River Lodg**	**2.09**	**234**		**Pn**	**16 55 39.9**	**+0.6**
SCM	**Sheep Creek Mo**	**2.10**	**128**		**Pn**	**16 55 39.7**	**+0.2**
SCM				IAML		16 56 14.5	
	comp=E,946nm,0.7s						
CKL	**Chakachamna La**	**2.11**	**201**		**Pn**	**16 55 40.3**	**+0.7**
L19K	**White Mountain**	**2.11**	**244**		**Pn**	**16 55 40.0**	**+0.4**
L19K				IAML		16 56 12.7	
	comp=E,220nm,0.6s						
HDA	**Harding Lake**	**2.12**	**52**		**Pn**	**16 55 39.8**	**+0.2**
HDA	**Harding Lake**	**2.12**	**52**	IAML		16 56 11.6	
	comp=E,417nm,0.3s						
HDA				IAML		16 56 13.5	
	comp=N,535nm,0.5s						
RC01	**Rabbit Creek A**	**2.15**	**166**		**Pn**	**16 55 40.6**	**+0.6**
RC01				IAML		16 56 08.8	
	comp=E,801nm,0.2s						
RC01				IAML		16 56 15.8	
	comp=N,700nm,0.4s						
COLA	**College**	**2.15**	**36**		**Pn**	**16 55 40.5**	**+0.5**
COLA				IAML		16 56 12.4	
	comp=N,347nm,0.6s						
COLA				IAML		16 56 16.0	
	comp=N,403nm,0.6s						
COLA	**College**	**2.15**	**36**	P	**Pn**	**16 55 40.2**	**+0.2**
COLA	**College**	**2.15**	**36**	S	**Sn**	**16 56 07.8**	**+0.5**
I20K	**Naaghedeneel**	**2.30**	**317**		**Pn**	**16 55 42.5**	**+0.7**
I20K				IAML		16 56 11.3	
	comp=E,669nm,1.3s						
I20K				IAML		16 56 13.0	
	comp=N,522nm,1.1s						
J19K	**Poorman**	**2.30**	**293**		**Pn**	**16 55 42.6**	**+0.7**
J19K				IAML		16 56 12.2	
	comp=E,427nm,1.1s						
J19K				IAML		16 56 12.2	
	comp=N,588nm,0.8s						
K24K	**Donnelly Dome**	**2.35**	**72**		**Pn**	**16 55 43.2**	**+0.7**
IL31		**2.36**	**45**		**Pn**	**16 55 42.8**	**+0.2**
ILAR	**Eielson Array**	**2.36**	**45**	P	**Pn**	**16 55 42.9**	**+0.2**
	comp=N,135nm,0.4s,baz=227,slow=12,SNR=1951						
ILAR				S	**Sn**	**16 56 12.8**	**+0.8**
	comp=N,16nm,0.5s,baz=215,slow=27,SNR=8.0						
M24K	**Tolsona, Glenn**	**2.39**	**114**		**Pn**	**16 55 43.9**	**+0.8**
CAPN	**Captain Cook N**	**2.42**	**184**		**Pn**	**16 55 46.0**	**+2.7**
PAX	**Paxson**	**2.44**	**92**		**Pn**	**16 55 44.2**	**+0.4**
PAX				IAML		16 56 22.9	
	comp=E,600nm,0.5s						
PAX				IAML		16 56 24.4	
	comp=N,424nm,0.6s						
PWL	**Port Wells**	**2.60**	**152**		**Pn**	**16 55 45.7**	**+0.1**
H21K	**Melozitna Rive**	**2.64**	**342**		**Pn**	**16 55 46.7**	**+0.5**
J18K	**Innoko River**	**2.68**	**279**		**Pn**	**16 55 47.5**	**+0.8**
J18K				IAML		16 56 20.8	
	comp=N,172nm,0.6s						
J18K				IAML		16 56 21.4	
	comp=E,268nm,1.2s						
SLKM	**Skilak Lake**	**2.69**	**174**		**Pn**	**16 55 47.7**	**+0.8**
SLKM				IAML		16 56 34.2	
	comp=N,376nm,0.2s						
SLKM				IAML		16 56 34.9	
	comp=E,377nm,0.3s						
HARP	**HAARP**	**2.71**	**104**		**Pn**	**16 55 47.6**	**+0.5**
H23K	**Yukon River**	**2.72**	**11**		**Pn**	**16 55 48.0**	**+0.7**
H23K				IAML		16 56 21.5	
	comp=N,172nm,0.8s						
DFR	**Drift River**	**2.73**	**200**		**Pn**	**16 55 48.4**	**+0.8**
RIDG	**Independent Ri**	**2.74**	**75**		**Pn**	**16 55 48.1**	**+0.5**
RIDG				IAML		16 56 27.5	
	comp=N,266nm,0.7s						
RIDG				IAML		16 56 27.8	
	comp=E,486nm,0.8s						
RDJH	**Redoubt Jeurge**	**2.75**	**201**		**Pn**	**16 55 48.9**	**+1.1**
NCT	**North Crescent**	**2.80**	**202**		**Pn**	**16 55 49.5**	**+1.1**
J25K	**Salcha River,**	**2.81**	**57**		**Pn**	**16 55 48.6**	**+0.2**
J25K				IAML		16 56 23.3	
	comp=N,322nm,0.5s						
J25K				IAML		16 56 26.3	
	comp=E,304nm,0.5s						
L18K	**Granite Mounta**	**2.87**	**253**		**Pn**	**16 55 49.8**	**+0.7**
L18K				IAML		16 56 24.0	
	comp=E,133nm,0.8s						
L18K				IAML		16 56 43.8	
	comp=N,170nm,0.9s						
RED	**Redoubt Volcan**	**2.91**	**199**		**Pn**	**16 55 50.4**	**+0.6**
RED	**Redoubt Volcan**	**2.91**	**199**	IAML		16 56 32.5	
	comp=E,135nm,0.5s						
H20K	**Anotleneega Mo**	**2.93**	**325**		**Pn**	**16 55 50.2**	**+0.3**
N19K	**Bonanza Creek**	**2.93**	**218**		**Pn**	**16 55 50.6**	**+0.5**
DOT	**Dot Lake**	**3.08**	**78**	IAML		16 56 32.2	
	comp=N,249nm,0.7s						
DOT				IAML		16 56 34.4	
	comp=E,318nm,0.5s						
IMAR	**Indian Mountai**	**3.10**	**337**		**Pn**	**16 55 52.2**	**+0.2**
DIV	**Divide**	**3.13**	**129**	IAML		16 56 42.8	
	comp=E,379nm,0.7s						
SEW	**Seward**	**3.14**	**167**		**Pn**	**16 55 52.9**	**+0.2**
SEW				IAML		16 56 30.5	
	comp=N,264nm,0.4s						
SEW				IAML		16 56 32.8	
	comp=E,301nm,0.5s						
SCRK	**Sand Creek**	**3.16**	**72**		**Pn**	**16 55 53.0**	**-0.1**
SCRK				IAML		16 56 34.8	
	comp=E,259nm,0.5s						
SCRK				IAML		16 56 35.5	
	comp=N,320nm,0.7s						
FID	**Port Fidalgo**	**3.18**	**138**		**Pn**	**16 55 52.8**	**-0.4**
O20K	**Slope Mountain**	**3.22**	**196**		**Pn**	**16 55 54.5**	**+0.7**
WACK	**Wrangell Chich**	**3.23**	**109**		**Pn**	**16 55 54.0**	**0.0**
MENT	**Mentasta**	**3.24**	**91**		**Pn**	**16 55 54.2**	**+0.2**
MENT				IAML		16 56 42.6	
	comp=E,393nm,0.5s						
MENT				IAML		16 56 51.6	
	comp=N,414nm,0.6s						
MENT	**Mentasta**	**3.24**	**91**	P	**Pn**	**16 55 54.1**	**+0.2**
WAZA	**Wrangell Mount**	**3.27**	**107**		**Pn**	**16 55 54.9**	**+0.3**
N25K	**Chitina, Valde**	**3.29**	**116**		**Pn**	**16 55 54.8**	**+0.1**
N25K	**Chitina, Valde**	**3.29**	**116**	IAML		16 56 36.4	
	comp=N,385nm,0.5s						
N25K				IAML		16 56 46.9	
	comp=E,220nm,0.8s						
PRP	**Porcupine Dome**	**3.29**	**42**		**Pn**	**16 55 54.7**	**-0.1**
PRP				IAML		16 56 36.0	
	comp=N,90nm,0.6s						
WASW	**Wrangell South**	**3.32**	**109**		**Pn**	**16 55 55.4**	**+0.2**
ILSW	**Iliamna Southw**	**3.39**	**200**		**Pn**	**16 55 56.8**	**+0.8**
ILSW	**Iliamna Southw**	**3.39**	**200**	IAML		16 57 29.4	
	comp=N,117nm,0.7s						
ILSW				IAML		16 57 29.5	
	comp=E,182nm,0.7s						
BRLK	**Bradley Lake**	**3.42**	**181**	IAML		16 56 40.0	
	comp=N,282nm,0.1s						
BRLK				IAML		16 56 49.6	
	comp=E,284nm,0.4s						
O19K	**Port Alsworth**	**3.42**	**211**	IAML		16 56 38.1	
	comp=N,169nm,0.5s						
O19K				IAML		16 56 39.5	
	comp=E,349nm,0.5s						
BRSE	**Bradley Lake S**	**3.44**	**179**		**Pn**	**16 55 56.7**	**+0.1**
K17K	**Iditarod**	**3.45**	**266**		**Pn**	**16 55 57.2**	**+0.5**
K17K	**Iditarod**	**3.45**	**266**	IAML		16 56 38.2	
	comp=E,127nm,1.1s						
K17K				IAML		16 56 53.0	
	comp=N,132nm,1.2s						
J26L	**Joseph Creek**	**3.48**	**64**	IAML		16 56 42.0	
	comp=N,347nm,0.6s						
J26L				IAML		16 56 43.1	
	comp=E,264nm,0.8s						
EYAK	**Cordova Ski Ar**	**3.56**	**135**		**Pn**	**16 55 58.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.56**	**135**	IAML		16 56 59.0	
	comp=E,210nm,0.7s						
EYAK	**Cordova Ski Ar**	**3.56**	**135**	P	**Pn**	**16 55 58.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.56**	**135**	S	**Sn**	**16 56 40.4**	**+0.7**
M17K	**Holitna River**	**3.57**	**243**	IAML		16 57 01.2	
	comp=N,127nm,0.8s						
M17K				IAML		16 57 19.8	
	comp=E,125nm,0.9s						
G23K	**Bananza Creek**	**3.57**	**5**		**Pn**	**16 55 59.1**	**+0.7**
P23K	**Montague Islan**	**3.58**	**151**		**Pn**	**16 55 57.9**	**-0.5**
BMRM	**Bremner River**	**3.66**	**124**		**Pn**	**16 55 59.0**	**-0.6**
M26K	**Nabesna, AK**	**3.67**	**99**		**Pn**	**16 55 59.7**	**0.0**
M26K	**Nabesna, AK**	**3.67**	**99**	IAML		16 57 00.6	
	comp=N,183nm,0.6s						
M26K				IAML		16 57 06.3	
	comp=E,136nm,0.8s						
GLB	**Gilahina Butte**	**3.70**	**115**	IAML		16 56 44.5	
	comp=E,280nm,0.4s						
GLB				IAML		16 56 45.1	
	comp=N,259nm,0.9s						
P19K	**Oil Pt**	**3.72**	**199**		**Pn**	**16 56 00.7**	**+0.4**
P19K	**Oil Pt**	**3.72**	**199**	IAML		16 56 47.8	
	comp=N,196nm,0.6s						
P19K				IAML		16 57 08.7	
	comp=E,157nm,0.7s						
J17K	**VABM Dome**	**3.74**	**277**	IAML		16 57 03.8	
	comp=N,60nm,0.9s						
H25L	**Birch Creek**	**3.78**	**32**		**Pn**	**16 56 01.6**	**+0.7**
G24K	**Hadweenzic Riv**	**3.82**	**20**	IAML		16 56 48.8	
	comp=N,82nm,0.9s						
GOAT	**Goat Mountain**	**3.88**	**129**		**Pn**	**16 56 01.9**	**-0.6**
O18K	**Koktuh Hills**	**3.94**	**214**		**Pn**	**16 56 03.8**	**+0.6**
VRDI	**Verde Repeater**	**3.96**	**116**	IAML		16 56 52.7	
	comp=E,115nm,0.5s						
VRDI				IAML		16 57 07.2	
	comp=N,152nm,0.5s						
I26K	**Coal Creek Min**	**3.97**	**54**		**Pn**	**16 56 03.7**	**+0.1**
I26K	**Coal Creek Min**	**3.97**	**54**	IAML		16 56 56.2	
	comp=N,81nm,0.7s						
I26K				IAML		16 57 20.5	
	comp=E,72nm,0.7s						
K27K	**Chicken**	**4.00**	**74**		**Pn**	**16 56 04.1**	**+0.2**
K27K	**Chicken**	**4.00**	**74**	IAML		16 56 54.8	
	comp=N,204nm,0.9s						
K27K				IAML		16 56 55.0	
	comp=E,190nm,0.6s						
AU22	**Augustine Moun**	**4.01**	**199**		**Pn**	**16 56 04.9**	**+0.8**
AUL	**Augustine Lava**	**4.01**	**200**		**Pn**	**16 56 05.2**	**+1.1**
RAGM	**Ragged Mountai**	**4.04**	**131**		**Pn**	**16 56 04.2**	**-0.3**
BC01	**Beaver Creek A**	**4.08**	**88**		**Pn**	**16 56 04.6**	**-0.6**
FYU	**Fort Yukon**	**4.16**	**32**	IAML		16 56 55.1	
	comp=E,71nm,1.3s						
FYU				IAML		16 56 56.2	
	comp=N,88nm,0.8s						
M27K	**Edge Creek, AK**	**4.19**	**97**	IAML		16 57 22.0	
	comp=N,103nm,0.8s						
M27K				IAML		16 57 28.4	
	comp=E,69nm,0.7s						
L16K	**Owhat River**	**4.28**	**254**	IAML		16 56 58.7	
	comp=N,51nm,1.0s						
L16K				IAML		16 57 30.2	
	comp=E,43nm,1.1s						
G18K	**Tagagawik**	**4.35**	**312**		**Pn**	**16 56 09.2**	**+0.5**
M16K	**Timber Creek**	**4.39**	**244**	IAML		16 56 59.4	
	comp=E,41nm,0.7s						
M16K				IAML		16 57 01.3	
	comp=N,73nm,1.0s						
J16K	**Anvik River**	**4.43**	**276**		**Pn**	**16 56 10.2**	**+0.5**
KAIM	**Kayak Island**	**4.46**	**134**		**Pn**	**16 56 09.3**	**-0.8**
KAIM	**Kayak Island**	**4.46**	**134**	IAML		16 57 29.6	
	comp=N,118nm,0.5s						
KAIM				IAML		16 57 39.4	
	comp=E,113nm,0.7s						
KHIT	**Khitrov Hills**	**4.51**	**124**		**Pn**	**16 56 10.2**	**-0.7**
F24K	**Squaw Lake**	**4.54**	**14**		**Pn**	**16 56 11.6**	**+0.5**
EGAK	**Eagle**	**4.55**	**65**	IAML		16 57 05.4	
	comp=E,115nm,0.8s						
EGAK				IAML		16 57 19.6	
	comp=E,124nm,0.8s						
SUCK	**Suckling Hills**	**4.57**	**130**		**Pn**	**16 56 11.1**	**-0.6**
SYI	**Shuyak Island**	**4.64**	**190**		**Pn**	**16 56 12.0**	**-0.5**
SYI	**Shuyak Island**	**4.64**	**190**	IAML		16 57 05.9	
	comp=N,106nm,0.3s						
SYI				IAML		16 57 06.3	
	comp=E,105nm,0.2s						
WAX	**Waxell Ridge**	**4.66**	**122**		**Pn**	**16 56 12.3**	**-0.5**
BARN	**Barnard Glacie**	**4.79**	**112**	IAML		16 57 31.4	
	comp=N,74nm,0.5s						
BARN				IAML		16 57 40.9	
	comp=E,82nm,0.6s						
G26K	**Porcupine Rive**	**4.82**	**35**	IAML		16 57 11.4	
	comp=N,65nm,1.6s						
G26K				IAML		16 57 51.7	
	comp=E,30nm,1.2s						
SNH	**Sunshine Point**	**4.84**	**125**		**Pn**	**16 56 14.8**	**-0.4**
G17K	**Kiwalik Mounta**	**4.88**	**303**		**Pn**	**16 56 16.5**	**+0.8**
GRNC	**Granite Creek**	**4.93**	**116**		**Pn**	**16 56 16.0**	**-0.6**
GRNC	**Granite Creek**	**4.93**	**116**	IAML		16 57 34.9	
	comp=N,111nm,0.7s						
GRNC				IAML		16 57 37.6	
	comp=E,78nm,0.7s						
F25K	**Christian Rive**	**4.94**	**24**		**Pn**	**16 56 16.7**	**+0.2**
CTGM	**Chitina Glacie**	**4.98**	**112**	IAML		16 57 39.9	
	comp=E,30nm,0.7s						
CTGM				IAML		16 57 39.9	
	comp=N,98nm,0.6s						
K15K	**Wolf Creek Mou**	**5.01**	**265**	IAML		16 58 04.7	
	comp=E,32nm,2.5s						
K15K				IAML		16 59 06.8	
	comp=N,31nm,3.3s						
BM05	**Burnt Mountain**	**5.01**	**29**		**Pn**	**16 56 17.7**	**+0.3**
O16K	**Kokwok River B**	**5.01**	**228**	IAML		16 57 43.7	
	comp=E,29nm,1.8s						
KAHG	**Katmai Hook Gl**	**5.03**	**203**		**Pn**	**16 56 18.4**	**+0.5**
KARR	**Katmai Rainbow**	**5.06**	**204**		**Pn**	**16 56 18.8**	**+0.6**
YAH	**Yahtse**	**5.14**	**119**	IAML		16 57 42.6	
	comp=E,85nm,0.8s						
DAWY	**Dawson**	**5.17**	**75**	IAML		16 57 36.8	
	comp=N,56nm,0.7s						
DAWY				IAML		16 58 02.1	
	comp=E,39nm,0.7s						
L15K	**Ungalak Mounta**	**5.18**	**258**		**Pn**	**16 56 20.3**	**+0.6**
KAWH	**Katmai**	**5.18**	**204**		**Pn**	**16 56 20.4**	**+0.5**
LOGN	**Logan Glacier**	**5.19**	**113**	IAML		16 57 46.6	
	comp=N,65nm,0.6s						
LOGN				IAML		16 57 48.5	
	comp=E,58nm,1.2s						
I28M	**Miner Creek**	**5.26**	**59**	IAML		16 57 26.3	
	comp=E,36nm,0.7s						
I28M				IAML		16 57 42.1	
	comp=N,31nm,0.7s						
M15K	**Kasigluk River**	**5.28**	**246**		**Pn**	**16 56 21.6**	**+0.5**
KAKN	**Katmai Knife C**	**5.31**	**205**		**Pn**	**16 56 21.9**	**+0.2**
F26K	**Sheenjek River**	**5.33**	**29**	IAML		16 57 21.4	
	comp=E,20nm,2.0s						
TABL	**Table Mountain**	**5.34**	**116**	IAML		16 57 48.8	
	comp=E,54nm,0.7s						
TABL				IAML		16 57 52.0	
	comp=N,64nm,0.8s						
RKAV	**Rock Avalanche**	**5.34**	**118**		**Pn**	**16 56 21.9**	**-0.2**
N15K	**Kwethluk River**	**5.35**	**240**		**Pn**	**16 56 22.2**	**+0.2**
N15K	**Kwethluk River**	**5.35**	**240**	IAML		16 58 10.1	
	comp=E,51nm,1.9s						
N15K				IAML		16 58 11.3	
	comp=N,39nm,1.0s						
E25K	**Arctic Village**	**5.42**	**21**		**Pn**	**16 56 23.6**	**+0.6**
ACHA	**Angle Creek He**	**5.45**	**206**		**Pn**	**16 56 24.4**	**+1.0**
KDAK	**Kodiak Island**	**5.48**	**190**		**Pn**	**16 56 21.6**	**-2.1**
KDAK	**Kodiak Island**	**5.48**	**190**	P	**Pn**	**16 56 21.5**	**-2.2**
	comp=N,5.7nm,0.3s,baz=44,slow=4.4,SNR=55						
KDAK				S	**Sn**	**16 57 21.8**	**-3.7**
	comp=N,9.5nm,0.3s,baz=55,slow=9.9,SNR=3.5						
ANCK	**Angle Creek**	**5.49**	**207**		**Pn**	**16 56 24.6**	**+0.5**
G16K	**Koyuk River**	**5.50**	**299**	Pn	**Pn**	**16 56 24.6**	**+0.7**
YUK8	**Steele Glacier**	**5.50**	**105**		**Pn**	**16 56 25.0**	**+0.7**
O28M	**Mount Upton**	**5.56**	**111**	Pn	**Pn**	**16 56 25.1**	**0.0**
E20K	**Nigu River**	**5.57**	**339**		**Pn**	**16 56 25.4**	**+0.5**
CHX	**Chaix Hills**	**5.58**	**120**		**Pn**	**16 56 25.2**	**0.0**
SAMH	**Samovar Hills**	**5.67**	**118**		**Pn**	**16 56 25.4**	**-1.1**
M29M	**Somme Creek**	**5.71**	**92**		**Pn**	**16 56 27.0**	**0.0**
J14K	**Nanvaranak Lak**	**5.83**	**272**		**Pn**	**16 56 29.2**	**+0.8**
L14K	**Kuka Creek**	**5.84**	**257**		**Pn**	**16 56 29.7**	**+1.1**
PCA	**Pinnacle**	**5.90**	**117**		**Pn**	**16 56 29.2**	**-0.3**
O15K	**Ungalikthiuk R**	**5.92**	**231**		**Pn**	**16 56 30.5**	**+0.8**
OHAK	**Old Harbor**	**6.09**	**193**	P	**Pn**	**16 56 30.5**	**-1.5**
D19K	**Kuna River**	**6.13**	**334**		**Pn**	**16 56 33.3**	**+0.8**
N14K	**Kuskokwak Cree**	**6.13**	**243**		**Pn**	**16 56 33.1**	**+0.6**
PLK4	**Peulik 4**	**6.20**	**209**		**Pn**	**16 56 33.9**	**+0.4**
YUK6	**Outpost Mounta**	**6.26**	**105**		**Pn**	**16 56 33.9**	**-0.6**
F28M	**Old Crow**	**6.38**	**41**		**Pn**	**16 56 35.3**	**-0.6**
O14K	**Tigyukauivet M**	**6.39**	**237**		**Pn**	**16 56 36.6**	**+0.6**
O29M	**Mount Kennedy**	**6.48**	**111**		**Pn**	**16 56 37.1**	**-0.2**
PNL	**Peninsula**	**6.50**	**118**		**Pn**	**16 56 37.1**	**-0.4**
PNL	**Peninsula**	**6.50**	**118**	P	**Pn**	**16 56 37.4**	**-0.2**
N30M	**Aishikik Lake**	**6.62**	**99**		**Pn**	**16 56 39.0**	**-0.1**
I30M	**Mount Dempster**	**6.63**	**66**		**Pn**	**16 56 39.0**	**-0.3**
HYT	**Haines Junctio**	**6.69**	**105**		**Pn**	**16 56 39.7**	**-0

comp=Z,0.9nm,0.7s
BVAR Borovoye Array 59.74 333 P P 17 04 54.8 -0.4
comp=Z,0.9nm,0.4s,baz=24,slow=8.2,SNR=6.5
comp=Z,0.9nm,0.4s
KURBB Kurchatov Arra 60.09 326 P P 17 04 56.8 -0.8
comp=Z,0.3nm,0.3s,baz=26,slow=7.3,SNR=3.0
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 62.59 322 P P 17 05 13.2 -1.4
comp=Z,0.6nm,0.5s,baz=42,slow=7.1,SNR=9.4
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 66.47 360 P P 17 05 38.5 -1.1
comp=Z,1.5nm,0.4s,baz=4.6,slow=6.4,SNR=8.8
comp=Z,1.5nm,0.4s
KBZ Khabaz 72.89 350 P P 17 06 19.0 0.0
comp=Z,1.6nm,0.6s,baz=20,slow=3.3,SNR=3.9
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 82.45 296 P P 17 07 11.5 -1.0
comp=Z,0.2nm,0.5s,baz=360,slow=5.4,SNR=4.0
comp=Z,0.2nm,0.5s

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*NEIC **04** 16:58:58.5±1.4, 9°.82S±0°.10×160°.67E±0°.07, h12km±5km, mb4.4/24, Error ellipse: s-maj=16.1km s-min=5.5km az=211.0*
*IDC **04** 16:59:00.2±1.0, 9°.80S×160°.24E, h0km, mb4.0/9, mbtmp4.0/9, MS3.5/2, Error ellipse: s-maj=28.2km s-min=12.5km az=68.0*
ISC 04 16:58:59.0±0.5, 9°.91S±0°.06×160°.56E±0°.07, h10km, n53, σ1§62/50, **mb4.2**/16, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.77 308**			**Pb**	**16 59 14.4**	**0.0**
HNR				Sg	**Sg**	**16 59 22.1**	**-1.8**
HNR	**Honiara**	**0.77 308**		Pn	**Pb**	**16 59 14.4**	**0.0**
HNR	459nm,0.3s,baz=149,slow=6.4,SNR=190			Sn	**Sg**	**16 59 22.6**	**-1.3**
	4μm,0.3s,baz=80,slow=18,SNR=46						
HNR	**Honiara**	**0.77 308**		P	**Pb**	**16 59 13.8**	**-0.6**
HNR	**Honiara**	**0.77 308**		S	**Sg**	**16 59 22.5**	**-1.3**
SAVO	**Savo Central**	**1.05 316**		P	**Pn**	**16 59 19.4**	**-0.5**
SAVO	**Savo Central**	**1.05 316**		S	**Sb**	**16 59 32.1**	**-1.1**
ALEG	**Aligegeo Malai**	**1.16 7**		P	Pn	16 59 24.4	+3.2
ALEG	**Aligegeo Malai**	**1.16 7**		S	**Sn**	**16 59 41.7**	**+4.6**
HURO	**Huro Makira**	**1.43 113**		P	Pg	16 59 31.3	+4.8
TATA	**Tatamba Isabel**	**1.69 334**		P	**Pg**	**16 59 31.9**	**+0.5**
SANVU	**Saraoutou**	**8.50 131**		Pn	**Pn**	**17 01 00.7**	**-1.6**
SANVU				Sn	**Sn**	**17 02 36.2**	**-2.2**
RABL	**Rabaul**	**10.08 304**		Pn	**Pn**	**17 01 24.0**	**0.0**
PATS	**Pohnpei**	**16.79 352**			**Pn**	**17 02 53.6**	**-0.7**
PATS				IAmb	IAmb	17 03 09.9	
	comp=Z,34nm,1.0s						
CTAO	**Charters Tower**	**17.11 232**			**P**	**17 03 00.0**	**-0.2**
EIDS	**Eidsvold**	**17.82 209**		P	**P**	**17 03 08.8**	**+0.9**
ARMA	**Armidale**	**22.04 201**		P	**P**	**17 03 53.5**	**-0.5**
ARMA				IAmb	IAmb	17 04 10.3	
	comp=Z,24nm,1.4s						
INKA	**Innaminka**	**25.74 224**		P	**P**	**17 04 29.4**	**-0.4**
WR8	**Warramunga Arr**	**27.05 245**		P	**P**	**17 04 41.2**	**-0.6**
WR8				IAmb	IAmb	17 04 52.5	
	comp=Z,4.5nm,0.9s						
WB0	**Warramunga Arr**	**27.09 246**		P	**P**	**17 04 41.1**	**-1.1**
WB0				IAmb	IAmb	17 05 03.0	
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**27.19 245**		P	**P**	**17 04 43.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=76,slow=9.3,SNR=8.6						
WRA				LR	LR	17 14 55.7	
	comp=Z,113nm,21.4s,baz=234,slow=36						
	comp=Z,1.6nm,0.7s						
AFI	**Afiamalu**	**27.35 101**		P	**P**	**17 04 43.0**	**-1.6**
STKA	**Stephens Creek**	**28.04 216**		P	**P**	**17 04 52.4**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=116,slow=4.6,SNR=1.6						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**28.88 238**		P	**P**	**17 04 57.7**	**-0.5**
ASAR	**Alice Springs**	**28.88 238**		P	**P**	**17 04 57.8**	**-0.4**
ASAR	**Alice Springs**	**28.88 238**		P	**P**	**17 04 58.2**	**0.0**
	comp=Z,0.5nm,0.8s,baz=64,slow=10,SNR=5.4						
	comp=Z,0.5nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.09 12**		T	T	17 35 33.0	
	baz=193,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy**	**30.10 12**		T	T	17 35 40.0	
	baz=193,slow=76,SNR=35						
H11N2	**WAKE ISLAND Hy**	**30.11 12**		T	T	17 35 34.3	
	baz=193,slow=76,SNR=57						
KNRA	**Kununurra**	**31.51 256**		P	**P**	**17 05 20.5**	**-1.0**
BBOO	**Buckleboo**	**32.09 221**		P	**P**	**17 05 25.6**	**-0.8**
BKZ	**Black Stump Fm**	**32.43 157**		P	**P**	**17 05 29.5**	**+0.1**
BKZ				IAmb	IAmb	17 05 49.6	
	comp=Z,6.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**34.79 253**		P	**P**	**17 05 50.4**	**+0.2**
MJAR	**Matsushiro Arr**	**50.76 337**		P	**P**	**17 07 58.3**	**-1.1**
MJAR				IAmb	IAmb	17 08 01.0	
	comp=Z,4.3nm,1.2s						
MAJO	**Matsushiro**	**50.77 337**		P	**P**	**17 07 58.3**	**-1.1**
PEA0B	**Petropavlovsk-**	**62.81 358**		P	**P**	**17 09 23.9**	**-0.7**
PETK	**Petropavlovsk-**	**62.81 358**		P	**P**	**17 09 23.6**	**-1.0**
KIWB	**Kanaga Island**	**64.45 15**		P	**P**	**17 09 33.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**67.00 295**		P	**P**	**17 09 54.2**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=127,slow=5.3,SNR=6.3						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**67.59 180**			**P**	**17 09 57.8**	**+2.4**
VNDA				IAmb	IAmb	17 10 05.7	
	comp=Z,3.2nm,0.8s						
VNDA	**Vanda**	**67.59 180**		P	**P**	**17 09 58.7**	**+3.3**
	comp=Z,1.1nm,0.7s,baz=345,slow=7.3,SNR=6.3						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**74.79 326**		P	**P**	**17 10 41.9**	**+2.3**
	comp=Z,1.5nm,0.8s,baz=135,slow=6.1,SNR=5.6						
	comp=Z,1.5nm,0.8s						
YAK	**Yakutsk**	**75.65 346**		LR	LR	17 42 35.4	
	comp=Z,24nm,20.5s,baz=214,slow=35						
QSPA	**South Pole Qui**	**80.09 180**		P	**P**	**17 11 10.2**	**+1.3**
QSPA				IAmb	IAmb	17 11 21.5	
	comp=Z,3.8nm,1.0s						
QSPA	**South Pole Qui**	**80.09 180**		P	**P**	**17 11 12.3**	**+3.4**
	comp=Z,2.1nm,0.8s,baz=336,slow=1.2,SNR=7.8						
	comp=Z,2.1nm,0.8s						
TRF	**Thorofare Moun**	**82.13 20**		P	**P**	**17 11 17.9**	**-2.0**
TRF				IAmb	IAmb	17 11 24.7	
	comp=Z,7.3nm,1.3s						
IMAR	**Indian Mountai**	**82.78 17**		P	**P**	**17 11 22.1**	**-0.8**
E19K	**Redstone River**	**82.90 15**		P	**P**	**17 11 21.6**	**-2.0**
D19K	**Kuna River**	**83.46 14**		P	**P**	**17 11 25.0**	**-1.4**
H23K	**Yukon River**	**83.94 18**		P	**P**	**17 11 27.0**	**-2.0**
ILAR	**Eielson Array**	**84.13 20**		P	**P**	**17 11 28.7**	**-1.2**
ILAR	**Eielson Array**	**84.13 20**		P	**P**	**17 11 32.3**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=252,slow=5.1,SNR=21						
	comp=Z,1.0nm,0.5s						
E22K	**Anaktuvuk Pass**	**84.82 16**		P	**P**	**17 11 31.6**	**-1.8**
E22K				IAmb	IAmb	17 12 01.2	
	comp=Z,4.7nm,1.1s						
MKAR	**Makanchi Array**	**89.23 318**		P	**P**	**17 11 57.1**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=79,slow=7.5,SNR=3.8						
	comp=Z,0.6nm,0.8s						

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*UPP **04** 17:00:23.5±0.1, 67°.05N×20°.97E, h0km, ML2.1, Suspected explosion*
*IDC **04** 17:00:24.6±0.8, 67°.06N×21°.13E, h0km, mbtmp2.8/4, ML1.8/4, Error ellipse: s-maj=15.8km s-min=6.0km az=114.0*
*BER **04** 17:00:26.5±2.8, 67°.00N×20°.99E, h0km, ML1.9, Suspected explosion*
ISC 04 17:00:23.2±0.8, 67°.05N±0°.03×21°.00E±0°.03, h0km, n38, σ1§13/49, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.18 292**		P	**Pg**	**17 00 27.0**	**+0.4**
DUNU				S	**Sg**	**17 00 29.9**	**+0.9**
MASU	**Masugnsbyn**	**0.56 43**		P	**Pg**	**17 00 34.4**	**+0.5**
ERTU	**Ertsjaerv**	**0.69 136**		P	**Pg**	**17 00 36.5**	**+0.2**
PAJU	**Pajala**	**0.83 91**		P	**Pg**	**17 00 39.1**	**+0.1**
HARU	**Harads**	**0.89 181**		P	**Pg**	**17 00 40.1**	**-0.1**
KUA	**Kurravaara**	**0.94 345**		P	**Pg**	**17 00 40.8**	**-0.4**
RATU	**Laukkuluspa**	**0.95 326**		P	**Pg**	**17 00 40.9**	**-0.4**
SALU	**Saltoluokta**	**1.03 290**		P	**Pg**	**17 00 42.4**	**-0.4**
SALU	**Saltoluokta**	**1.03 290**		*eP*	**Pg**	**17 00 42.5**	**-0.3**
SALU				*eS*	**Sn**	**17 00 59.1**	**-0.8**
LANU	**Lannavaara**	**1.07 20**		P	**Pg**	**17 00 43.3**	**-0.3**
LANU	**Lannavaara**	**1.07 20**		*eP*	**Pg**	**17 00 43.0**	**-0.6**
NIKU	**Nikkaluokta**	**1.12 318**		P	**Pg**	**17 00 43.9**	**-0.6**
KOVU	**Salmi**	**1.22 345**		P	**Pg**	**17 00 45.8**	**-0.6**
KALU	**Kalix**	**1.53 141**		P	**Pn**	**17 00 51.5**	**-0.1**
SJUU	**Sjulsmark**	**1.57 171**		P	**Pn**	**17 00 52.2**	**0.0**
SJUU	**Sjulsmark**	**1.57 171**		*eP*	**Pn**	**17 00 52.6**	**+0.4**
HEF	**Hetta**	**1.70 35**		*eP*	**Pn**	**17 00 54.2**	**+0.2**
HEF				*eS*	**Sg**	**17 01 18.4**	**+0.8**
KIF	**Kilpisjarvi**	**1.96 358**		*eP*	**Pb**	**17 00 59.8**	**+0.1**
KTK1	**Kautokeino**	**2.14 22**		*eP*	**Pb**	**17 01 02.5**	**-0.3**
KTK1				*eS*	**Sg**	**17 01 31.1**	**-0.8**
KTK1				IAML		17 01 36.7	
	comp=Z,11nm,0.4s						
FAUS	**Fauske**	**2.25 281**		*eP*	**Pn**	**17 01 02.6**	**+1.0**
FAUS				*eS*	**Sb**	**17 01 33.9**	**+1.0**
FAUS				IAML		17 01 40.1	
	comp=Z,19nm,0.3s						
STEI	**Steigen**	**2.38 294**		*eP*	**Pn**	**17 01 04.3**	**+0.9**
STEI				*eS*	**Sg**	**17 01 38.3**	**-1.4**
JETT	**Jettan, Norway**	**2.52 355**		*eP*	**Pb**	**17 01 07.9**	**-1.4**
MOR8	**Moi Rana**	**2.76 254**		*eP*	**Pn**	**17 01 09.3**	**+0.6**
RAUS	**Rausandaksla**	**2.83 261**		*eP*	**Pn**	**17 01 11.5**	**+1.9**
ARA0	**ARCESS Array S**	**3.00 32**		*eP*	**Pn**	**17 01 13.0**	**+1.1**
ARCES	**ARCESS Array B**	**3.00 32**		Pn	**Pn**	**17 01 12.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=208,slow=14,SNR=26						
ARCES				Pg	**Pb**	**17 01 16.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=2.2						
ARCES				Sn	**Sn**	**17 01 49.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=22,SNR=7.7						
ARCES				Lg	Lg	17 01 58.8	
	comp=Z,0.5nm,0.3s,baz=213,slow=28,SNR=5.7						
	comp=Z,0.5nm,0.3s						
LOF	**Lofoten**	**3.06 294**		*eP*	**Pn**	**17 01 12.6**	**0.0**
VAGH	**Vaagaholmen**	**3.07 268**		*eP*	**Pn**	**17 01 14.5**	**+1.8**
STOK	**Stokkvaagen**	**3.25 261**		*eP*	**Pn**	**17 01 17.1**	**+1.7**
LEIR	**Leirfjorden**	**3.29 257**		*eP*	**Pn**	**17 01 17.9**	**+2.1**
VADS	**Vadso**	**4.34 41**		*eP*	**Pn**	**17 01 31.2**	**+0.9**
VADS				IAML		17 02 44.9	
	comp=Z,5.3nm,0.6s						
NSS	**Namsos**	**4.50 240**		*eP*	**Pn**	**17 01 35.9**	**+3.5**
KEF	**Keuruu**	**5.18 159**		*eP*	**Pn**	**17 01 42.4**	**+0.6**
FINES	**FINESS Array B**	**6.05 156**		Pn	**Pn**	**17 01 55.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=6.6						
FINES				Sn	**Sn**	**17 03 04.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=5.3						
FINES				Lg	Lg	17 03 34.8	
	comp=Z,0.3nm,0.3s,baz=343,slow=30,SNR=2.0						
	comp=Z,2.9nm,0.9s						
RAF	**Rauma**	**6.06 176**		*eP*	**Pn**	**17 01 53.4**	**-0.6**
AAL	**Aland**	**6.92 184**		*eP*	**Pn**	**17 02 03.9**	**-1.7**
NOA	**NORSAR Array B**	**7.40 220**		Pn	**Pn**	**17 02 12.8**	**+0.5**
	baz=46,slow=24,SNR=1.0						
NOA				Sn	**Sn**	**17 03 35.4**	**-1.5**
	baz=52,slow=11,SNR=1.7						
	comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**7.67 209**		Pn	**Pn**	**17 02 15.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=5.5						
HFS				Sn	**Sn**	**17 03 40.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=25,slow=25,SNR=1.5						
HFS				Lg	Lg	17 04 26.3	
	comp=Z,0.1nm,0.3s,baz=20,slow=31,SNR=1.4						
	comp=Z,1.2nm,0.7s						

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*BJI **04** 17:03:46.9, 6°.19S×155°.30E, h155km, mB5.2/14, mb4.9/58*
*MOS **04** 17:03:48.0±0.9, 6°.21S×155°.21E, h162km, mb5.0/30, Error ellipse: s-maj=8.6km s-min=6.4km az=105.3*
*NEIC **04** 17:03:49.5±1.3, 6°.22S±0°.06×155°.26E±0°.04, h159km±5km, mb4.9/272, Error ellipse: s-maj=9.3km s-min=5.2km az=158.0*
*GCMT **04** 17:03:50.5±0.3, 6°.30S±0°.03×155°.24E±0°.02, h167km±3km, MW5.0/88, Moment Tensor Solution. s25,c26; s88,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.10; $M_{\theta\theta}$1.17±.14; $M_{\phi\phi}$1.88±.14; $M_{r\theta}$-0.21±.11; $M_{\theta\phi}$-2.03±.13; $M_{r\phi}$-0.06±.11; Best double couple: $M_0$3.32700×10^{16} NP1:ϕ_s324.00000°, δ44.00000°, λ-84.00000°. NP2: ϕ_s136.00000°, δ46.00000°, λ-96.00000°. Principal axes: T 3.5870, Plg1.0000°, Azm230.0000°; N -0.5210, Plg4.0000°, Azm140.0000°; P -3.0660, Plg86.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **04** 17:03:50.5±0.5, 6°.24S×155°.19E, h168km±4km, mb4.4/23, mbtmp4.9/26, MS3.5/9 Error ellipse: s-maj=11.0km s-min=8.0km az=110.0*
*DJA **04** 17:03:54.0±0.8, 6°S±3°×15°5E±°, h199km±7km, M4.9/60, mb5.0/60, mB5.4/18, Mw(mB)4.9/18, MwMwp6.8/1, Mwp6.6/1*
ISC 04 17:03:49.5±0.3, 6°.23S±0°.04×155°.26E±0°.04, h163km±2km, **h163**km:**pP-P, n729,** σ1§09/664, **mb4.9**/209, **9C-4D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.69 303**			**Pn**	**17 04 45.0**	**-1.2**
HNR	**Honiara**	**5.62 125**		Pn	**Pn**	**17 05 10.3**	**-1.0**
HNR				Sn	**Sn**	**17 06 11.6**	**-3.9**
HNR	**Honiara**	**5.62 125**		P	**Pn**	**17 05 11.3**	**-0.1**
	14nm,0.4s,baz=323,slow=20,SNR=1.4						
HNR				S	**Sn**	**17 06 12.9**	**-2.6**
	287nm,0.9s,baz=265,slow=23,SNR=4.8						
PMG	**Port Moresby**	**8.62 248**			**Pn**	**17 05 50.2**	**-1.0**
PMG	**Port Moresby**	**8.62 248**		P	**Pn**	**17 05 53.1**	**+1.9**
	197nm,0.9s,baz=11,slow=8.4,SNR=22						
PMG				S	**Sn**	**17 07 29.2**	**+1.9**
	97nm,0.9s,baz=105,slow=23,SNR=7.4						
PMG				LR	LR	17 09 41.9	
	comp=Z,410nm,18.0s,baz=65,slow=41						
PMG	**Port Moresby**	**8.62 248**		P	**Pn**	**17 05 53.5**	**+2.3**
PMG	**Port Moresby**	**8.62 248**		P	**Pn**	**17 05 53.7**	**+2.5**
PMG	**Port Moresby**	**8.62 248**		P	**Pn**	**17 05 50.2**	**-1.0**
MANU	**Manus Island**	**8.91 298**		Pn	**Pn**	**17 05 53.5**	**-1.4**
PATS	**Pohnpei**	**13.34 13**		P	**P**	**17 06 58.5**	**+2.0**
COEN	**Coen**	**14.15 236**			**P**	**17 07 05.2**	**-0.4**
COEN	**Coen**	**14.15 236**		P	**P**	**17 07 06.1**	**+0.5**
JAY	**Jayapura**	**14.98 284**		P	**Pn**	**17 07 13.3**	**0.0**
	51nm,0.5s,baz=123,slow=4.8,SNR=27						
JAY				S	**Sn**	**17 09 58.4**	**-1.7**
	5.9nm,0.8s,baz=14,slow=23,SNR=1.6						
JAY	**Jayapura**	**14.98 284**		P	**Pn**	**17 07 12.7**	**-0.6**
	66nm,0.7s						
TV1H	**Townsville Har**	**15.35 212**		P	**P**	**17 07 20.7**	**+1.9**
MTSU	**Mount Surprise**	**15.94 221**		P	**P**	**17 07 27.1**	**+1.7**
CTAO	**Charters Tower**	**16.32 212**			**Pn**	**17 07 29.8**	**+0.2**
CTAO	**Charters Tower**	**16.32 212**		P	**Pn**	**17 07 29.8**	**+0.2**
SMPI	**Sarmi**	**17.04 284**		P	**Pn**	**17 07 39.3**	**+1.0**
	1μm180nm,0.9s						
GD1S	**Gladstone Soft**	**17.95 192**		P	**Pn**	**17 07 49.5**	**+0.5**
DZM	**Mont Dzumac**	**19.09 147**			**P**	**17 07 59.5**	**-0.5**
DZM	**Mont Dzumac**	**19.09 147**		P	**P**	**17 08 00.6**	**+0.6**
	34nm,0.4s,baz=264,slow=9.4,SNR=141						
DZM				LR	LR	17 14 57.1	
	comp=Z,136nm,18.9s,baz=1.5,slow=35						
TARA	**Tarawa**	**19.18 67**		P	**P**	**17 07 59.4**	**-1.4**
ONTNC	**Ouen Toro**	**19.29 147**			**P**	**17 08 01.0**	**-1.0**
ONTNC	**Ouen Toro**	**19.29 147**		P	**Pn**	**17 08 04.3**	**-0.5**
YATNC	**Mamie plateau,**	**19.33 146**		P	**Pn**	**17 08 05.7**	**+0.4**
EIDS	**Eidsvold**	**19.44 191**			**P**	**17 08 04.6**	**+1.0**
SRPI	**Serui, Papua**	**19.46 282**		P	**Pn**	**17 08 07.9**	**+1.0**
BAKI	**Biak**	**19.75 284**		P	**P**	**17 08 08.8**	**+1.7**
	148nm,0.7s						
PINNC	**Pines Island,**	**20.08 145**		P	**P**	**17 08 10.1**	**-0.4**
QIS	**Mount Isa**	**20.82 225**		P	**P**	**17 08 19.4**	**+1.0**
TW1H	**Toowoomba 1 Ha**	**21.42 188**		P	**P**	**17 08 26.0**	**+1.1**
RKPI	**Ransiki, Papua**	**21.55 282**		P	**P**	**17 08 27.6**	**+1.3**
	4μm171nm,1.2s						
GUMO	**Guam**	**22.23 332**		P	**P**	**17 08 31.1**	**-2.1**
GUMO	**Guam**	**22.23 332**		P	**P**	**17 08 35.3**	**+2.1**
GUMO	**Guam**	**22.23 332**		P	**P**	**17 08 31.1**	**-2.1**
GUMO				pmax	pmax		
	comp=Z,177nm,1.8s						
QLP	**Quilpie**	**22.80 206**		P	**P**	**17 08 39.6**	**+1.2**
FAKI	**Fak Fak**	**23.17 277**			**P**	**17 08 41.2**	**-0.8**
FAKI				IAmb	IAmb	17 08 45.5	
	comp=Z,50nm,1.0s						
FAKI	**Fak Fak**	**23.17 277**		P	**P**	**17 08 43.3**	**+1.4**
FAKI	**Fak Fak**	**23.17 277**		P	**P**	**17 08 41.1**	**-0.8**
	comp=Z,56nm,0.9s						
ARMA	**Armidale**	**24.30 188**		P	**P**	**17 08 52.5**	**+0.3**
ARMA				IAmb	IAmb	17 08 53.9	
	comp=Z,40nm,0.8s						
ARMA	**Armidale**	**24.30 188**		P	**P**	**17 08 52.8**	**+0.7**
WB0	**Warramunga Arr**	**24.34 235**			**P**	**17 08 52.7**	**+0.2**
WB0				IAmb	IAmb	17 09 29.5	
	comp=Z,36nm,1.0s						
WR8	**Warramunga Arr**	**24.35 234**			**P**	**17 08 52.9**	**+0.3**
WR8				IAmb	IAmb	17 09 29.6	
	comp=Z,45nm,1.0s						
WRAB	**Tennant Creek**	**24.46 234**		P	**P**	**17 08 54.4**	**+0.8**
WRAB				IAmb	IAmb	17 09 30.5	
	comp=Z,40nm,1.1s						
WRAB	**Tennant Creek**	**24.46 234**		P	**P**	**17 08 54.4**	**+0.8**
WRAB	**Tennant Creek**	**24.46 234**	*i*	P	**P**	**17 08 53.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,26nm,1.1s						
WRA	**Warramunga Arr**	**24.47 234**		P	**P**	**17 08 53.3**	**-0.4**
WRA	**Warramunga Arr**	**24.47 234**		P	**P**	**17 08 54.3**	**+0.6**
	comp=Z,13nm,0.4s,baz=58,slow=10,SNR=235						
WRA				pP	**pwP**	**17 09 28.6**	**-2.9**
	comp=Z,35nm,0.9s,baz=57,slow=9.6,SNR=7.4						
WRA				PcP	**PcP**	**17 12 28.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=61,slow=2.8,SNR=3.1						
WRA				S	**S**	**17 13 01.4**	**-0.8**
	comp=Z,5.5nm,0.9s,baz=59,slow=15,SNR=4.7						
	comp=Z,13nm,0.4s						
SWI	**Sorong**	**24.54 282**		P	**P**	**17 08 54.8**	**+0.5**
	comp=Z,894nmcomp=Z,91nm,0.7s						
MTN	**Manton Dam**	**24.67 253**		P	**P**	**17 08 55.3**	**-0.3**
MSVF	**Nonsavu**	**25.01 119**		P	P	17 09 07.0	+8.2
MSVF				IAmb	IAmb	17 09 35.7	
	comp=Z,86nm,1.9s						
MSVF	**Nonsavu**	**25.01 119**		P	P	17 09 07.0	+8.3
MSVF				pmax	pmax		
	comp=Z,86nm,1.9s						
INKA	**Innaminka**	**25.45 211**			**P**	**17 09 02.1**	**-0.3**
CMSA	**Cobar Meteorol**	**26.72 198**		P	**P**	**17 09 14.5**	**+0.7**
AS31	**Alice Springs**	**26.88 228**			**P**	**17 09 14.5**	**-0.8**
ASAR	**Alice Springs**	**26.88 228**		P	**P**	**17 09 14.9**	**-0.4**
ASAR	**Alice Springs**	**26.88 228**		P	**P**	**17 09 15.0**	**-0.4**
	comp=Z,4.9nm,0.5s,baz=57,slow=9.4,SNR=42						
ASAR				pP	**pP**	**17 09 50.1**	**+3.0**
	comp=Z,1.8nm,0.8s,baz=63,slow=12,SNR=7.0						
ASAR				PcP	**PcP**	**17 12 33.9**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=46,slow=2.0,SNR=4.1						
ASAR				S	**S**	**17 13 38.7**	**-1.5**
	comp=Z,5.5nm,1.1s,baz=52,slow=15,SNR=4.2						
	comp=Z,4.9nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.03 24**		T	T	17 38 05.4	
	baz=202,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**27.04 24**		T	T	17 38 09.9	
	baz=202,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**27.05 24**		T	T	17 37 58.5	
	baz=202,slow=75,SNR=26						
KNRA	**Kununurra**	**27.63 248**		P	**P**	**17 09 21.1**	**-1.0**
KNRA				IAmb	IAmb	17 10 21.5	
	comp=Z,57nm,1.6s						
H11N1	**WAKE ISLAND Hy**	**28.21 24**		T	T	17 39 44.1	
	baz=195,slow=74						
NLAI	**Namlea**	**28.22 275**		P	**P**	**17 09 27.4**	**0.0**
	comp=Z,4.1nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**28.22 24**		T	T	17 39 35.7	
	baz=195,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.23 24**		T	T	17 39 49.0	
	baz=195						
STKA	**Stephens Creek**	**28.53 205**		P	**P**	**17 09 29.1**	**-0.8**
STKA	**Stephens Creek**	**28.53 205**		P	**P**	**17 09 29.4**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=15,slow=9.0,SNR=5.1						
	comp=Z,3.4nm,0.7s						
SANI	**Sanana**	**29.49 277**		P	**P**	**17 09 39.1**	**+0.5**
SANI	**Sanana**	**29.49 277**		P	**P**	**17 09 38.5**	**-0.1**
	comp=Z,68nm,1.1s						
CAN	**Canberra**	**29.52 190**		P	**P**	**17 09 38.6**	**-0.1**
CAN	**Canberra**	**29.52 190**		P	**P**	**17 09 38.6**	**-0.1**
CAN				pmax	pmax		
	comp=Z,78nm,1.7s						
SOEI	**Soe**	**30.89 261**			**P**	**17 09 50.0**	**-1.1**
SOEI	**Soe**	**30.89 261**		P	**P**	**17 09 51.8**	**+0.7**
SOEI	**Soe**	**30.89 261**		P	**P**	**17 09 51.9**	**+0.8**
	comp=Z,58nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.21 245**			**P**	**17 09 52.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**31.21 245**		LR	LR	17 22 00.1	
	comp=Z,120nm,20.0s,baz=62,slow=35						
FITZ	**Fitzroy Crossi**	**31.21 245**		P	**P**	**17 09 53.1**	**-0.6**
BBOO	**Buckleboo**	**31.92 212**		P	**P**	**17 09 58.9**	**-1.0**
KMSI	**Cibinong**	**31.95 281**		P	**P**	**17 10 01.0**	**+0.7**
TOO	**Toolangi**	**32.44 195**		P	**P**	**17 10 03.8**	**-0.5**
TOO

THZ	Tophouse	38.71 159	P	P	17 10 57.7	0.0
TCW	Tory Channel	38.74 157	P	P	17 10 58.4	+0.4
TUWZ	Tuamarina	38.80 157	P	P	17 10 58.5	+0.1
MRZ	Mangatainoka R	38.81 155	P	P	17 10 58.0	-0.5
MRZ	Mangatainoka R	38.81 155	P	P	17 10 58.2	-0.3
PXZ	Pawanui	38.84 153	P	P	17 10 58.7	-0.1
BSWZ	Blackbirch Sta	39.02 158		P	17 10 59.8	-0.5
BFZ	Birch Farm	39.11 154	P	P	17 10 59.0	-2.0
BFZ				PcP	17 13 09.8	+2.4
LTZ	Lake Taylor	39.38 160	P	P	17 11 03.6	+0.3
PLWZ	Palliser	39.44 156	P	P	17 11 03.1	-0.7
KHZ	Kahutara	39.51 159	P	P	17 11 03.6	-0.6
KHZ			IAmb	IAmb	17 11 04.2	
	comp=Z,36nm,0.9s					
OXZ	Oxford	39.79 161	P	P	17 11 06.3	-0.4
LBZ	Lake Benmore	40.19 163	P	P	17 11 10.1	+0.3
MQZ	McQueen's Vall	40.33 160	P	P	17 11 11.0	0.0
MQZ	McQueen's Vall	40.33 160	P	P	17 11 11.1	0.0
BBKI	Banjar Baru	40.36 272	P	P	17 11 13.0	+1.2
TMZ	Timaru	40.42 163	P	P	17 11 13.1	+1.3
MLZ	Mavora Lakes	40.55 166	P	P	17 11 13.1	+0.2
MTKI	Muara Teweh, K	40.61 276	P	P	17 11 14.1	+0.3
	comp=Z,50nm,1.0s					
JAGI	Jajag, Banyuwa	40.82 264	P	P	17 11 14.1	-1.4
JAGI			IAmb	IAmb	17 11 15.0	
	comp=Z,66nm,1.3s					
JAGI	Jajag, Banyuwa	40.82 264	P	P	17 11 14.7	-0.8
JAGI	Jajag, Banyuwa	40.82 264	P	P	17 11 14.3	-1.2
	comp=Z,36nm,1.0s					
KKM	Kota Kinabalu	40.84 287	P	P	17 11 15.2	-0.5
KKM			IAmb	IAmb	17 11 18.1	
	comp=Z,15nm,0.5s					
WHZ	Wether Hill Ro	41.01 166	P	P	17 11 16.4	-0.1
WHZ	Wether Hill Ro	41.01 166	P	P	17 11 16.7	+0.1
TUZ	Tuapeka	41.48 165	P	P	17 11 20.8	+0.4
JOW	Kunigami	42.00 323	P	P	17 11 25.8	+0.9
GIRL	Giralia	42.77 243	P	P	17 11 30.7	-0.5
MORW	Morawa	43.42 234	P	P	17 11 35.8	-0.6
PBKI	Pangkalan Bun	43.59 273	P	P	17 11 40.1	+2.1
PCJI	Pacitan	43.77 265	P	P	17 11 39.1	-0.2
	comp=Z,156nm,1.1s					
NWAO	Narrogin (SRO)	44.20 228	P	P	17 11 41.7	-0.8
NWAO	Narrogin (SRO)	44.20 228	P	P	17 11 41.7	-0.8
NWAO			pmax	pmax		
	comp=Z,161nm,2.0s					
YULB	Yu-li	44.36 313	P	P	17 11 43.5	-0.4
YULB	Yu-li	44.36 313	P	P	17 11 44.9	+1.0
UGM	Wanagama	44.42 265	P	P	17 11 43.5	-1.0
JMN	Monobe	44.61 334	P	P	17 11 46.5	+0.7
NACB	Ninganchiao	44.62 314	P	P	17 11 45.5	-0.4
NACB			IAmb	IAmb	17 11 47.4	
	comp=Z,37nm,1.1s					
NACB	Ninganchiao	44.62 314	P	P	17 11 47.5	+1.5
TPUB	Ta-pu	44.79 312	P	P	17 11 46.2	-1.2
TPUB			IAmb	IAmb	17 11 47.8	
	comp=Z,17nm,0.7s					
TPUB	Ta-pu	44.79 312	P	P	17 11 47.6	+0.2
SSLB	Suanglung	44.85 313	P	P	17 11 46.9	-0.9
SSLB	Suanglung	44.85 313	P	P	17 11 48.6	+0.8
YHNB	Yeheng	45.08 314	P	P	17 11 48.8	-0.9
YHNB			IAmb	IAmb	17 11 51.4	
	comp=Z,24nm,0.9s					
YHNB	Yeheng	45.08 314	P	P	17 11 50.7	+1.0
MJAR	Matsushiro Arr	45.45 341		P	17 11 52.0	-0.4
MJAR	Matsushiro Arr	45.45 341	P	P	17 11 51.4	-0.9
	comp=Z,9.3nm,0.8s,baz=167,slow=7.9,SNR=19					
MJAR			PcP	PcP	17 13 28.2	-0.4
	comp=Z,5.0nm,0.9s,baz=158,slow=4.5,SNR=5.3					
MJAR			LR	LR	17 31 13.5	
	comp=Z,19nm,19.1s,baz=348,slow=36					
	comp=Z,9.3nm,0.8s					
MJAR	Matsushiro Arr	45.45 341	P	P	17 11 52.0	-0.4
MJAR			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MAJO	Matsushiro	45.46 341	P	P	17 11 51.6	-0.7
MAJO			IAmb	IAmb	17 11 53.0	
	comp=Z,18nm,0.7s					
MAJO	Matsushiro	45.46 341	*i* P	P	17 11 50.7	-1.7
MAJO			pmax	pmax		
	comp=Z,27nm,1.1s					
MAJO	Matsushiro	45.46 341	P	P	17 11 52.2	-0.2
JNU	Nakatsue	45.48 331	P	P	17 11 52.5	-0.1
JNU			IAmb	IAmb	17 11 53.8	
	comp=Z,110nm,1.9s					
KSM	Kuching	45.53 278	P	P	17 11 52.3	-1.1
KSM	Kuching	45.53 278	P	P	17 11 53.7	+0.4
KPJI	Karang Pucung	46.01 266	P	P	17 11 57.0	0.0
	comp=Z,99nm,0.8s					
BBJI	Bungbulang	47.27 266	P	P	17 12 06.0	-1.0
TPI	Tanjungpandan	47.57 272	P	P	17 12 09.7	+0.4
	comp=Z,49nm,0.8s					
CNJI	Cibinong	47.79 266	P	P	17 12 09.9	-1.0
SKJI	Sukabumi	48.37 266	P	P	17 12 14.2	-1.2
JTM	Tenmabayashi	48.58 346	P	P	17 12 16.9	+0.5
CGJI	Cibinong	49.24 267	P	P	17 12 20.4	-1.6
TJN	Taejon	49.81 330	*i* P	P	17 12 25.1	-0.7
TJN			pmax	pmax		
	comp=Z,5.0nm,2.5s					
DLV	Lat	49.90 291	P	P	17 12 26.7	-0.5
DLV			IAmb	IAmb	17 12 28.5	
	comp=Z,31nm,0.8s					
DLV	Lat	49.90 291	P	P	17 12 28.2	+1.0
KSRS	Korea Array	50.40 332	P	P	17 12 30.1	-0.2
	comp=Z,11nm,0.3s,baz=147,slow=7.6,SNR=8.1					
	comp=Z,11nm,0.3s					
MDSI	Maura Dua	50.88 269	P	P	17 12 32.9	-1.4
	comp=Z,33nm,1.3s					
JKA	Kamikawa-asahi	51.41 348	P	P	17 12 39.0	+1.4
ASAJ	Asahikawa	51.41 348	LR	LR	17 31 53.7	
	comp=Z,43nm,20.9s,baz=172,slow=33					
ASAJ	Asahikawa	51.41 348	P	P	17 12 39.0	+1.3
ASAJ			pmax	pmax		
	comp=Z,315nm,1.8s					
NJ2	Nanjing	51.50 320	⇑P	P	17 12 40.0	+1.4
NJ2			pmax	pmax		
	comp=Z,15nm,1.2s					
MYKOM	Kota Tinggi	51.95 277	P	P	17 12 41.8	-0.5
WHN	Wuhan	53.59 315	P	P	17 12 54.9	+0.9
WHN			pmax	pmax		
	comp=Z,60nm,0.9s					
YSS	Yuzhno-Sakhali	54.11 349	P	P	17 12 58.4	+1.0
YSS	Yuzhno-Sakhali	54.11 349	*e*P	P	17 12 55.8	-1.6
YSS			pmax	pmax		
	comp=Z,40nm,1.0s					
USRK	Ussuriysk Ar.	54.41 340	P	P	17 13 00.7	+1.0
	comp=Z,34nm,1.0s,baz=160,slow=7.9,SNR=16					
USRK			pP	pP	17 13 37.9	+1.3
	comp=Z,6.0nm,0.9s,baz=128,slow=9.3,SNR=1.8					
	comp=Z,34nm,1.0s					
IPM	Ipoh	55.19 280	P	P	17 13 04.2	-1.7
IPM			IAmb	IAmb	17 13 06.1	
	comp=Z,17nm,0.8s					
IPM	Ipoh	55.19 280	P	P	17 13 05.7	-0.2
MDJ	Mudanjiang	55.64 338	IAmb	IAmb	17 13 10.6	
	comp=Z,29nm,1.1s					
MDJ	Mudanjiang	55.64 338	P	P	17 13 10.3	+1.8
KULM	Kulim	55.71 281	P	P	17 13 08.5	-1.1
KULM			IAmb	IAmb	17 13 09.6	
	comp=Z,23nm,1.2s					
KULM	Kulim	55.71 281	P	P	17 13 09.2	-0.4
CN2	Changchun	56.62 334	P	P	17 13 16.5	+1.0
CN2			pmax	pmax		
	comp=Z,20nm,1.1s					
CN2			pmax	pmax		
	comp=Z,310nm,5.5s					
ENH	Enshi	56.92 312	IAmb	IAmb	17 13 18.8	
	comp=Z,21nm,1.1s					
ENH	Enshi	56.92 312	P	P	17 13 18.4	+0.4
BNX	BinXian	57.41 337	⇓P	P	17 13 22.3	+1.3
BNX			pmax	pmax		
	comp=Z,36nm,1.2s					
HNS	HongShan	57.57 322	⇓P	P	17 13 22.6	+0.3
HNS			pmax	pmax		
	comp=Z,19nm,1.3s					
TYV	Tymovskoe	57.90 351	*e*P	P	17 13 24.9	+0.6
TYV			*e*S	S	17 21 10.6	-0.7
TYV			pmax	pmax		
	comp=Z,19nm,0.9s					
TYV			pmax	pmax		
	comp=Z,100nm,2.4s					
TYV			smax	smax		
	comp=N,200nm,3.7s					
TYV			smax	smax		
	comp=E,200nm,3.7s					
GSI	Gunungsitoli	58.07 275	P	P	17 13 24.9	-1.4
GSI			IAmb	IAmb	17 13 25.4	
	comp=Z,20nm,0.9s					
GRNR	Gornyy	59.06 346	⇓*i* P	P	17 13 33.6	+1.2
GRNR			pmax	pmax		
	comp=Z,20nm,1.0s					
PET	Petropavlovsk	59.10 2	P	P	17 13 32.8	+0.2
PET	Petropavlovsk	59.10 2	*e*P	P	17 13 33.8	+1.2
PET			pmax	pmax		
	comp=Z,41nm,0.7s					
PEA0B	Petropavlovsk-	59.15 2	P	P	17 13 34.1	+1.2
PEA0B	Petropavlovsk-	59.15 2	*ce*P	P	17 13 33.5	+0.5
PETK	Petropavlovsk-	59.15 2		P	17 13 33.5	+0.5
PETK	Petropavlovsk-	59.15 2	P	P	17 13 34.3	+1.3
	comp=Z,54nm,0.8s,baz=170,slow=7.4,SNR=52					
	comp=Z,54nm,0.8s					
XAN	Xi'an	59.35 316	⇑P	P	17 13 34.9	+0.1
XAN			pmax	pmax		
	comp=Z,23nm,0.8s					
CM31	Chiang Mai Arr	60.70 295	P	P	17 13 44.6	+0.4
CM31			IAmb	IAmb	17 13 46.6	
	comp=Z,11nm,0.8s					
CMAR	Chiang Mai Arr	60.70 295		P	17 13 44.0	-0.3
CMAR	Chiang Mai Arr	60.70 295	P	P	17 13 44.4	+0.1
	comp=Z,7.7nm,0.7s,baz=123,slow=5.3,SNR=78					
CMAR			pP	pP	17 14 22.0	-0.2
	comp=Z,2.9nm,0.8s,baz=110,slow=6.5,SNR=4.5					
	comp=Z,7.7nm,0.7s					
CHTO	Chiang Mai	60.81 295	P	P	17 13 44.4	-0.6
CHTO	Chiang Mai	60.81 295	P	P	17 13 45.7	+0.7
	comp=Z,6.2nm,0.9s					
CHTO	Chiang Mai	60.81 295	P	P	17 13 44.4	-0.6
CHTO			pmax	pmax		
	comp=Z,8.0nm,0.9s					
XLT	XiLinHaoTe	61.15 329	*e*P	P	17 13 47.3	+0.4
XLT			PcP	PcP	17 14 28.6	+0.5
XLT			sP	sP	17 14 41.7	-1.1
XLT			pmax	pmax		
	comp=Z,25nm,1.0s					
PZH	PanZhiHua	61.20 305	P	P	17 13 49.3	+1.7
HEH	HeiHe	61.21 340	*e*P	P	17 13 47.4	+0.4
HEH			pmax	pmax		
	comp=Z,16nm,0.8s					
DRV	Dumont d'Urvil	61.25 187	P	P	17 13 47.3	+0.3
DRV			pP	pP	17 14 24.2	+0.2
CD2	Chengdu	61.53 310	*e*P	P	17 13 50.0	+0.4
HHC	Hu-ho-hao-te	61.64 323	*e*P	P	17 13 52.2	+1.9
HHC			pmax	pmax		
	comp=Z,22nm,0.5s					
HHC			pmax	pmax		
	comp=Z,84nm,4.2s					
TNCH	TengChong	63.31 302	*e*P	P	17 14 02.4	+0.7
TNCH			pmax	pmax		
	comp=Z,15nm,0.9s					
HIA	Hailar	63.35 335	P	P	17 14 00.8	-0.5
HIA			IAmb	IAmb	17 14 03.9	
	comp=Z,13nm,0.8s					
HIA	Hailar	63.35 335	P	P	17 14 02.9	+1.6
HIA	Hailar	63.35 335	P	P	17 14 00.8	-0.5
HIA			pmax	pmax		
	comp=Z,13nm,0.8s					
LZH	Lanzhou	63.96 315	*e*P	P	17 14 07.2	+1.4
LZH			sP	sP	17 14 55.3	-6.6
LZH			pmax	pmax		
	comp=Z,28nm,1.1s					
LZDM	Lanzhou Array	64.00 315	P	P	17 14 06.2	0.0
	comp=Z,2.6nm,0.3s,baz=153,slow=10.0,SNR=3.8					
	comp=Z,2.6nm,0.3s					
ZEA	Zeya	64.24 342	*e*P	P	17 14 08.2	+1.2
ZEA			pmax	pmax		
	comp=E,10.0nm,1.2s					
ZEA			pmax	pmax		
	comp=N,20nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,50nm,0.9s					
MA2	Magadan	65.70 357	P	P	17 14 16.4	+0.2
MA2	Magadan	65.70 357	*ce*P	P	17 14 15.4	-0.9
MA2			pmax	pmax		
	comp=Z,33nm,1.3s					
CASY	Casey	67.39 198	P	P	17 14 26.0	-1.0
CASY	Casey	67.39 198	P	P	17 14 26.7	-0.3
GTA	Gaotai	68.37 317	P	P	17 14 35.1	+1.3
GTA			pP	pP	17 15 11.4	-1.6
GTA			pmax	pmax		
	comp=Z,19nm,1.2s					
ULN	Ulaanbaatar	68.51 327		P	17 14 35.1	+0.6
ULN			IAmb	IAmb	17 14 36.9	
	comp=Z,18nm,1.0s					
ULN	Ulaanbaatar	68.51 327	P	P	17 14 35.1	+0.6
ULN			pmax	pmax		
	comp=Z,18nm,1.0s					
SONM	Songino Array	68.84 327		P	17 14 36.8	+0.3
SONM			IAmb	IAmb	17 14 38.7	
	comp=Z,18nm,1.0s					
SONM	Songino Array	68.84 327	P	P	17 14 37.7	+1.2
	comp=Z,17nm,0.9s,baz=133,slow=5.8,SNR=56					
	comp=Z,17nm,0.9s					
P08K	Saint George I	68.93 20	P	P	17 14 37.4	+0.8
	baz=218					
SEY	Seymchan	69.00 359	*e*P	P	17 14 36.6	-0.4
SEY			pmax	pmax		
	comp=Z,34nm,1.6s					
SHL	Shillong	69.14 300		P	17 14 37.9	-1.0
SHL			IAmb	IAmb	17 14 39.7	
	comp=Z,18nm,1.2s					
SHL	Shillong	69.14 300	P	P	17 14 37.9	-1.0
SHL			pmax	pmax		
	comp=Z,18nm,1.2s					
FALS	False Pass	69.90 24	P	P	17 14 44.1	+1.5
	baz=224					
GOMU	GeErMu	70.54 312	P	P	17 14 47.8	+0.4
GOMU			pmax	pmax		
	comp=Z,4.0nm,0.9s					
YAK	Yakutsk	70.88 348	P	P	17 14 47.7	-0.7
YAK	Yakutsk	70.88 348	*d* *i* P	P	17 14 49.3	+0.9
YAK			*e*		17 15 07.2	
YAK			*e**PP	pP	17 15 27.4	+0.1
YAK			*e*		17 17 26.8	
YAK			*e*PPP	PPP	17 19 12.4	
YAK			*e*S	S	17 23 51.7	+1.5
YAK			*e*		17 24 36.3	
YAK			*e*SS	SS	17 28 22.5	-3.9
YAK			pmax	pmax		
	comp=Z,72nm,1.0s					
YAK			pmax	pmax		
	comp=N,17nm,1.3s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,74nm,3.0s					
YAK			pmax	pmax		
	comp=N,44nm,3.2s					
YAK			pmax	pmax		
	comp=E,87nm,3.9s					
YAK			smax	smax		
	comp=E,154nm,5.8s					
YAK			smax	smax		
	comp=N,125nm,5.6s					
YAK	Yakutsk	70.88 348	P	P	17 14 49.5	+1.2
YAK			pP	pP	17 15 27.7	+0.4
S12K	Black Hills	71.05 24	P	P	17 14 50.9	+1.3
	baz=225					
LSA	Lhasa	71.07 304	P	P	17 14 48.8	-2.1
LSA			pmax	pmax		
	comp=N,7.0nm,1.2s					
CCD	Concordia, Ant	71.19 188	P	P	17 14 51.1	+0.4
CCD			pP	pP	17 15 28.8	-0.1
VNDA	Vanda	71.33 178	P	P	17 14 51.4	+0.4
	comp=N,6.5nm,1.0s,baz=334,slow=6.6,SNR=23					
VNDA			pP	pP	17 15 30.6	+0.8
	comp=N,2.6nm,1.0s,baz=0.5,slow=3.0,SNR=3.4					
	comp=N,6.5nm,1.0s					
VNDA	Vanda	71.33 178	P	P	17 14 51.5	+0.5
VNDA			pP	pP	17 15 29.3	-0.4
VNDA			sP	sP	17 15 47.0	0.0
SDPT	Sand Point	71.45 25	P	P	17 14 53.2	+1.2
	baz=227					
CHNA	Chernabura Isl	71.48 26	P	P	17 14 53.2	+1.1
	baz=228					
SBA	Scott Base	71.83 177	P	P	17 14 55.0	+1.0
SBA	Scott Base	71.83 177	P	P	17 14 55.0	+1.0
SBA			pmax	pmax		
	comp=Z,15nm,1.1s					
ZAK	Zakamensk	71.99 328	*e*P	P	17 14 53.6	-1.9
ZAK			*e*		17 15 31.9	
ZAK			pmax	pmax		
	comp=Z,18nm,1.2s					
ZAK			pmax	pmax		
	comp=Z,8.0nm,1.1s					
S14K	Fog Glacier	72.47 25	P	P	17 14 59.1	+0.9
	baz=228					
M11K	Mekoryuk	72.98 19	P	P	17 15 02.3	+1.3
	baz=220					
O14K	Tigyukauivet M	73.85 22	P	P	17 15 06.1	0.0
O14K	Tigyukauivet M	73.85 22	P	P	17 15 06.9	+0.8
	baz=225					
M13K	Dall Lake	73.95 20	P	P	17 15 08.0	+1.4
	baz=223					
EVN	Everest	74.17 301	P	P	17 15 09.4	-0.1
N14K	Kuskokwak Cree	74.17 21	P	P	17 15 09.0	+1.1
	baz=225					
O15K	Ungalikthiuk R	74.33 22	P	P	17 15 09.9	+1.0
	baz=227					
BILL	Bilibino	74.51 4	P	P	17 15 10.8	+1.1
BILL			IAmb	IAmb	17 15 12.1	
	comp=Z,33nm,1.1s					
BILL	Bilibino	74.51 4	*ce*P	P	17 15 10.2	+0.4
BILL			pmax	pmax		
	comp=Z,76nm,2.5s					
M14K	Bethel	74.67 20	P	P	17 15 11.6	+0.9
	baz=224					
R17L	Mt. Peulik Vol	74.67 25	P	P	17 15 11.7	+0.7
	baz=230					
PLK4	Peulik 4	74.68 25	P	P	17 15 11.3	+0.3
L14K	Kuka Creek	74.85 20	P	P	17 15 13.3	+1.5
	baz=224					
N15K	Kwethluk River	74.92 21	P	P	17 15 13.9	+1.6
	baz=226					
M15K	Kasigluk River	75.07 21	P	P	17 15 14.2	+1.1
	baz=226					
KNGR	Kungurtug, Tuv	75.23 326	*i* P	P	17 15 15.6	+1.2
KNGR			pmax	pmax		
	comp=Z,13nm,0.9s					
O16K	Kokwok River B	75.27 22	P	P	17 15 15.4	+1.1
	baz=228					
Q17K	Contact Creek	75.27 24	P	P	17 15 14.5	0.0
	baz=231					
R18K	Karluk	75.44 25	P	P	17 15 16.1	+0.9
	baz=232					
L15K	Ungalak Mounta	75.49 20	P	P	17 15 16.3	+0.8
	baz=225					
PALK	Pallekele	75.58 279	*i* P	P	17 15 17.0	-0.1
PALK			pmax	pmax		
	comp=Z,18nm,1.2s					
J14K	Nanvaranak Lak	75.60 18	P	P	17 15 17.5	+1.4
	baz=222					
N16K	Nishlik Lake	75.61 22	P	P	17 15 17.7	+1.5
	baz=228					
P17K	Kvichak River	75.65 23	P	P	17 15 17.5	+1.1
	baz=230					
OHAK	Old Harbor	75.73 26		P	17 15 16.6	-0.3
OHAK	Old Harbor	75.73 26	P	P	17 15 18.6	+1.7
OHAK	Old Harbor	75.73 26	P	P	17 15 17.3	+0.4
	baz=233					
O17K	Koliganek Bris	75.77 23	P	P	17 15 17.9	+0.8
	baz=229					
Q18K	Katmai Hardscr	75.87 24	P	P	17 15 18.0	+0.1
	baz=231					
M16K	Timber Creek	75.91 21	IAmb	IAmb	17 15 20.6	
	comp=Z,37nm,0.9s					
M16K	Timber Creek	75.91 21	P	P	17 15 18.2	+0.3
	baz=227					
K15K	Wolf Creek Mou	75.92 19	P	P	17 15 16.9	-1.0
K15K			IAmb	IAmb	17 15 20.7	
	comp=Z,36nm,0.9s					
K15K	Wolf Creek Mou	75.92 19	P	P	17 15 18.5	+0.6
	baz=225					
L16K	Owhat River	76.20 20	P	P	17 15 19.9	+0.3
	baz=227					
N17K	Nushagak Hills	76.23 22	P	P	17 15 20.5	+0.7
	baz=229					
P18K	Big Mountain,	76.25 24	P	P	17 15 20.5	+0.5
	baz=231					
KDAK	Kodiak Island	76.37 26	P	P	17 15 20.6	+0.1
KDAK			IAmb	IAmb	17 15 22.8	
	comp=Z,22nm,1.0s					
KDAK	Kodiak Island	76.37 26	*i* P	P	17 15 20.8	+0.3
KDAK			pmax	pmax		
	comp=Z,28nm,0.9s					
KDAK	Kodiak Island	76.37 26	P	P	17 15 20.8	+0.3
	baz=234					
ANM	Nome	76.43 16	P	P	17 15 21.3	+0.5
	baz=220					
TNA	Tin City	76.52 15	P	P	17 15 21.5	+0.3
	baz=218					
O18K	Koktuh Hills	76.55 23	P	P	17 15 21.9	+0.3
	baz=231					
Q19K	Cape Douglas,	76.61 25	P	P	17 15 22.4	+0.5
	baz=233					
M17K	Holitna River	76.71 21	P	P	17 15 23.1	+0.7
	baz=229					
N18K	Kilae Creek	76.81 22	IAmb	IAmb	17 15 25.8	
	comp=Z,31nm,1.0s					
N18K	Kilae Creek	76.81 22	P	P	17 15 23.8	+0.8
	baz=230					
F14K	Arctic Creek	76.87 15	P	P	17 15 24.4	+1.2
	baz=219					
L17K	Donlin	76.90 20	P	P	17 15 24.5	+1.1
	baz=228					
J16K	Anvik River	76.92 19	P	P	17 15 24.4	+0.8
J16K			IAmb	IAmb	17 15 27.3	
	comp=Z,50nm,1.2s					
J16K	Anvik River	76.92 19	P	P	17 15 24.7	+1.1
	baz=225					
Q20K	Shuyak Island	76.94 25	P	P	17 15 24.5	+0.8
	baz=234					
G15K	Niukluk	77.13 17	P	P	17 15 25.8	+1.1
	baz=222					
P19K	Oil Pt	77.22 24	P	P	17 15 25.2	-0.2
	baz=233					
K17K	Iditarod	77.29 20	IAmb	IAmb	17 15 28.5	
	comp=Z,24nm,1.0s					
K17K	Iditarod	77.29 20	P	P	17 15 27.1	+1.4
	baz=228					
I17K	Unalakleet	77.32 18	P	P	17 15 26.5	+0.8
	baz=225					
M18K	Stony River	77.36 22	P	P	17 15 27.1	+1.1
	baz=230					
H16K	Elim	77.39 17	P	P	17 15 27.2	+1.1
	baz=224					
N19K	Bonanza Creek	77.43 23	P	P	17 15 26.5	-0.1
N19K	Bonanza Creek	77.43 23	P	P	17 15 27.3	+0.7
	baz=232					
J17K	VABM Dome	77.50 19	P	P	17 15 28.2	+1.4
	baz=227,SNR=5.2					
F15K	North Star Dit	77.50 16	P	P	17 15 28.0	+1.3
	baz=221					
L18K	Granite Mounta	77.52 21	IAmb	IAmb	17 15 29.9	
	comp=Z,27nm,0.9s					
L18K	Granite Mounta	77.52 21	P	P	17 15 27.5	+0.6
	baz=229,SNR=9.3					
O20K	Slope Mountain	77.72 24	P	P	17 15 29.1	+0.9
	baz=233					
G16K	Koyuk River	77.91 17	P	P	17 15 29.9	+0.9
	baz=223					
M19K	Big River Lodg	78.15 22	IAmb	IAmb	17 15 33.9	
	comp=Z,31nm,0.9s					
M19K	Big River Lodg	78.15 22	P	P	17 15 31.9	+1.5
	baz=231					
L19K	White Mountain	78.16 22	IAmb	IAmb	17 15 33.1	
	comp=Z,32nm,0.9s					
L19K	White Mountain	78.16 22	P	P	17 15 31.5	+1.0
	baz=231,SNR=12					
BRSE	Bradley Lake S	78.29 25	P	P	17 15 31.9	+0.6
	baz=235					
H17K	Granite Mounta	78.30 18	P	P	17 15 32.1	+0.9
	baz=226					
J18K	Innoko River	78.33 20	P	P	17 15 32.4	+1.0
	baz=229					
G17K	Kiwalik Mounta	78.48 17	P	P	17 15 33.4	+1.2
	baz=225					
M20K	Styx River	78.61 22	P	P	17 15 34.3	+1.2
	baz=233					
L20K	Farewell, AK	78.70 22	P	P	17 15 34.4	+1.0
	baz=232					
H18K	Honhosa River	78.93 18	P	P	17 15 35.4	+0.8
	baz=227					
SEW	Seward	79.03 25	IAmb	IAmb	17 15 37.1	
	comp=Z,21nm,0.9s					
SEW	Seward	79.03 25	P	P	17 15 36.1	+0.8
	baz=236					
J19K	Poorman	79.04 20	IAmb	IAmb	17 15 37.9	
	comp=Z,21nm,1.1s					

J19K	Poorman baz=230,SNR=5.5	79.04	20	P	P	17 15 36.2 +0.9
GCSA	Galena City Sc baz=229	79.12	19	P	P	17 15 36.3 +0.7
O22K	Cooper Landing baz=236	79.13	24	P	P	17 15 36.3 +0.6
K20K	Telida baz=232	79.17	21	P	P	17 15 36.7 +0.6
SKT	Skwentna baz=234	79.27	23	P	P	17 15 37.1 +0.5
SUA	Susitna One baz=235	79.28	23	P	P	17 15 36.8 +0.1
E17K	Hotham Inlet baz=224	79.28	16	P	P	17 15 36.9 +0.4
G18K	Tagagawik comp=Z,30nm,1.4s	79.35	18	IAmb	IAmb	17 15 39.6
G18K	Tagagawik baz=227	79.35	18	P	P	17 15 37.2 +0.3
D17K	Noatak River baz=222	79.41	15	P	P	17 15 37.9 +0.8
RC01	Rabbit Creek A baz=236	79.47	24	P	P	17 15 38.1 +0.5
J20K	Nowinta River comp=Z,20nm,0.9s	79.66	20	IAmb	IAmb	17 15 41.2
J20K	Nowinta River baz=231,SNR=8.1	79.66	20	P	P	17 15 39.3 +0.7
M22K	Willow baz=236	79.69	23	P	P	17 15 39.7 +1.0
RDOG	Red Dog Mine baz=222	79.72	15	P	P	17 15 40.0 +1.1
H19K	Roundabout Mou comp=Z,33nm,0.9s	79.78	18	IAmb	IAmb	17 15 41.6
H19K	Roundabout Mou baz=229,SNR=9.2	79.78	18	P	P	17 15 39.7 +0.6
P23K	Montague Islan comp=Z,24nm,1.1s	79.84	25	IAmb	IAmb	17 15 41.1
P23K	Montague Islan baz=238,SNR=5.0	79.84	25	P	P	17 15 40.5 +0.8
E18K	Tukpahlearik C baz=225	79.86	16	P	P	17 15 40.4 +0.8
PWL	Port Wells	79.91	24	P	P	17 15 40.4 +0.4
PWL	Port Wells baz=237	79.91	24	P	P	17 15 40.8 +0.7
I20K	Naaghedeneel baz=231	79.94	20	P	P	17 15 40.6 +0.6
PMR	Palmer comp=Z,24nm,0.8s	79.99	24	IAmb	IAmb	17 15 41.9
PMR	Palmer	79.99	24	P	P	17 15 41.3 +0.9
PMR	Palmer baz=236	79.99	24	P	P	17 15 40.9 +0.5
CUT	Chulitna comp=Z,34nm,1.0s	80.00	23	IAmb	IAmb	17 15 41.9
CUT	Chulitna baz=235	80.00	23	P	P	17 15 40.5 +0.1
CHUM	Lake Minchumin baz=233,SNR=8.1	80.12	21	P	P	17 15 41.1 +0.1
KNK	Knik Glacier comp=Z,27nm,1.2s	80.16	24	IAmb	IAmb	17 15 43.4
KNK	Knik Glacier baz=237,SNR=6.2	80.16	24	P	P	17 15 41.5 +0.1
GHO	Glory Hole Cre comp=Z,24nm,0.8s	80.17	24	IAmb	IAmb	17 15 43.6
F19K	Shaleruckik Mo baz=228	80.25	17	P	P	17 15 42.3 +0.7
H20K	Anotleneega Mo baz=230,SNR=6.0	80.25	19	P	P	17 15 42.3 +0.5
KTH	Kantishna Hill comp=Z,23nm,1.0s	80.42	22	IAmb	IAmb	17 15 43.6
SML	Sawmill baz=237,SNR=15	80.43	24	P	P	17 15 43.6 +0.8
GLI	Glacier Island comp=Z,28nm,0.9s	80.43	25	IAmb	IAmb	17 15 44.6
GLI	Glacier Island baz=238,SNR=5.7	80.43	25	P	P	17 15 43.2 +0.4
C18K	Utukok River baz=224	80.59	15	P	P	17 15 44.2 +0.6
TRF	Thorofare Moun comp=Z,15nm,0.8s	80.59	22	IAmb	IAmb	17 15 46.0
TRF	Thorofare Moun baz=235,SNR=5.8	80.59	22	P	P	17 15 44.1 +0.2
M23K	Glacier View baz=238	80.66	24	P	P	17 15 44.2 +0.2
BPAW	Bear Paw Mtn. baz=234	80.72	21	P	P	17 15 44.5 +0.2
E19K	Redstone River	80.83	17		P	17 15 45.3 +0.5
E19K	comp=Z,27nm,0.9s			IAmb	IAmb	17 15 47.4
E19K				pP	pP	17 16 22.6 -1.4
E19K	Redstone River baz=228,SNR=8.9	80.83	17	P	P	17 15 46.2 +1.4
EYAK	Cordova Ski Ar baz=240	80.83	25	P	P	17 15 45.6 +0.7
SCM	Sheep Creek Mo baz=238,SNR=9.0	80.84	24	P	P	17 15 45.9 +0.8
WAT1	Susitna Watana baz=237	80.90	23	P	P	17 15 45.8 +0.5
B18K	Kokolik River baz=223	80.96	14	P	P	17 15 46.3 +0.9
F20K	Avaraart Lake baz=229	81.00	17	P	P	17 15 47.1 +1.4
I21K	Tanana baz=233	81.01	20	P	P	17 15 47.2 +1.4
WAT6	Susitna Watana baz=238,SNR=11	81.08	23	P	P	17 15 46.8 +0.4
KAIM	Kayak Island baz=241	81.10	26	P	P	17 15 47.0 +0.6
RND	Reindeer comp=Z,26nm,0.9s	81.10	22	IAmb	IAmb	17 15 47.5
DIV	Divide comp=Z,19nm,0.8s	81.12	25	IAmb	IAmb	17 15 48.6
KLU	Klutina comp=Z,35nm,1.0s	81.24	25	IAmb	IAmb	17 15 49.5
KLU	Klutina baz=239,SNR=17	81.24	25	P	P	17 15 48.2 +1.0
MCK	McKinley baz=236,SNR=24	81.25	22	P	P	17 15 47.2 0.0
D19K	Kuna River baz=227	81.29	16	P	P	17 15 47.9 +0.7
C19K	Lookout Ridge baz=226	81.32	15	P	P	17 15 48.6 +1.2
G21K	Allakaket baz=232,SNR=7.2	81.33	18	P	P	17 15 48.6 +1.1
MLY	Manley baz=234,SNR=5.5	81.35	20	P	P	17 15 48.2 +0.5
HMT	Hamilton	81.37	26	P	P	17 15 48.0 +0.2
HMT	comp=Z,19nm,1.0s			IAmb	IAmb	17 15 49.5
M24K	Tolsona, Glenn baz=239,SNR=9.1	81.45	24	P	P	17 15 48.8 +0.5
DHY	Denali Highway comp=Z,20nm,1.1s	81.49	23	IAmb	IAmb	17 15 50.4
DHY	Denali Highway baz=238,SNR=8.0	81.49	23	P	P	17 15 49.1 +0.5
BMRM	Bremner River comp=Z,17nm,0.9s	81.53	25	IAmb	IAmb	17 15 51.6
BMRM	Bremner River baz=241,SNR=9.1	81.53	25	P	P	17 15 49.1 +0.4
ZSN	Zaisan	81.54	320	eP	P	17 15 48.9 -0.1
ZSN	Zaisan	81.54	320	eP	P	17 15 48.8 -0.1
BERG	Berg Lake comp=Z,47nm,1.2s	81.64	26	IAmb	IAmb	17 15 51.5
H22K	Ishtalitna Cre baz=234	81.64	19	P	P	17 15 49.8 +0.7
E20K	Nigu River baz=229,SNR=7.0	81.66	16	P	P	17 15 49.9 +0.7
NEA2	Nenana comp=Z,16nm,0.9s	81.69	21	IAmb	IAmb	17 15 50.3
NEA2	Nenana baz=236,SNR=11	81.69	21	P	P	17 15 49.4 0.0
F21K	Alatna River baz=232	81.78	18	P	P	17 15 50.6 +0.7
D20K	Etivluk River baz=228	81.84	16	P	P	17 15 50.6 +0.5
N25K	Chitina, Valde comp=Z,18nm,0.9s	81.84	25	IAmb	IAmb	17 15 52.8
N25K	Chitina, Valde baz=241,SNR=10	81.84	25	P	P	17 15 51.2 +0.8
I23K	Minto, Yukon-K	81.90	21	P	P	17 15 50.5 +0.1
I23K	Minto, Yukon-K baz=236	81.90	21	P	P	17 15 51.3 +0.9
SNH	Sunshine Point comp=Z,34nm,1.1s	81.92	26	IAmb	IAmb	17 15 54.0
WRH	Wood River Hil comp=Z,28nm,1.3s	81.97	21	IAmb	IAmb	17 15 51.8
HARP	HAARP baz=240,SNR=5.7	82.01	24	P	P	17 15 52.2 +1.0
WAX	Waxell Ridge comp=Z,28nm,1.0s	82.04	26	IAmb	IAmb	17 15 53.8
CRQE	Cirque baz=242,SNR=7.2	82.07	26	P	P	17 15 52.0 +0.4
GLB	Gilahina Butte comp=Z,33nm,0.9s	82.09	25	IAmb	IAmb	17 15 53.8
VRDI	Verde Repeater comp=Z,19nm,0.9s	82.14	25	IAmb	IAmb	17 15 54.1
PAX	Paxson baz=240,SNR=5.7	82.17	23	P	P	17 15 52.4 +0.3
TGL	Tana Glacier comp=Z,26nm,1.1s	82.19	26	IAmb	IAmb	17 15 54.4
G22K	Bettles baz=234	82.21	19	P	P	17 15 53.1 +1.1
H23K	Yukon River baz=236	82.22	20	P	P	17 15 53.7 +1.6
COLA	College	82.28	21	P	P	17 15 51.6 -0.8
COLA	comp=Z,26nm,0.8s			IAmb	IAmb	17 15 53.2
COLA	College	82.28	21	P	P	17 15 54.2 +1.8
COLA	College	82.28	21	i P	P	17 15 51.9 -0.5
COLA	comp=Z,24nm,0.9s			pmax	pmax	
COLA	College baz=237	82.28	21	P	P	17 15 52.2 -0.2
MESA	MESA baz=243,SNR=5.6	82.31	27	P	P	17 15 53.7 +0.8
ISLE	Juniper Island comp=Z,23nm,1.0s	82.33	26	IAmb	IAmb	17 15 55.0
HDA	Harding Lake	82.36	22	P	P	17 15 51.4 -1.5
HDA	Harding Lake baz=238,SNR=7.5	82.36	22	P	P	17 15 53.5 +0.6
MCARA	McCarthy VSAT comp=Z,32nm,1.0s	82.40	25	IAmb	IAmb	17 15 56.0
MCARA	McCarthy VSAT baz=242,SNR=11	82.40	25	P	P	17 15 53.9 +0.8
E21K	Killik River comp=Z,23nm,1.1s	82.41	17	IAmb	IAmb	17 15 55.4
E21K	Killik River baz=231	82.41	17	P	P	17 15 54.2 +1.1
POKR	Poker Plat Res baz=238	82.56	21	P	P	17 15 54.3 +0.4
G23K	Bananza Creek baz=235,SNR=5.6	82.57	19	P	P	17 15 54.5 +0.5
B20K	Meade River baz=228	82.57	15	P	P	17 15 54.5 +0.7
ILAR	Eielson Array comp=Z,7.8nm,0.8s,baz=251,slow=5.2,SNR=48	82.57	21	P	P	17 15 53.4 -0.6
ILAR				pP	pwP	17 16 35.8 -0.8
	comp=Z,1.3nm,0.8s,baz=238,slow=5.1,SNR=2.3					
ILAR				LR	LR	17 49 41.1
	comp=Z,41nm,19.6s,baz=246,slow=33					
	comp=Z,7.8nm,0.8s					
C21K	Knifeblade Rid baz=230	82.63	16	P	P	17 15 55.5 +1.3
TABL	Table Mountain comp=Z,26nm,0.8s	82.79	27	IAmb	IAmb	17 15 57.6
H24K	Noodor Dome baz=237	82.80	20	P	P	17 15 55.5 +0.3
RIDG	Independent Ri comp=Z,22nm,1.1s	82.81	23	IAmb	IAmb	17 15 57.1
RIDG	Independent Ri baz=240,SNR=6.4	82.81	23	P	P	17 15 56.0 +0.7
COLD	Coldfoot comp=Z,26nm,1.6s	82.81	19	IAmb	IAmb	17 15 57.8
COLD	Coldfoot baz=235	82.81	19	P	P	17 15 56.1 +1.0
BARN	Barnard Glacie comp=Z,30nm,0.9s	82.84	26	IAmb	IAmb	17 15 58.0
E22K	Anaktuvuk Pass baz=233,SNR=5.4	82.85	18	P	P	17 15 56.6 +1.2
MENT	Mentasta	82.85	24	P	P	17 15 56.9 +1.4
M26K	Nabesna, AK baz=242,SNR=8.9	82.89	24	P	P	17 15 56.7 +0.9
CTG	Chitna Glacier baz=244,SNR=21	82.93	26	P	P	17 15 57.2 +1.1
B21K	Ikpikpuk River baz=230	82.98	16	P	P	17 15 57.2 +1.3
MK31	Makanchi Array	83.01	319	ceP	P	17 15 56.9 +0.2
MKAR	Makanchi Array	83.01	319		P	17 15 56.4 -0.3
MKAR	Makanchi Array	83.01	319	P	P	17 15 56.6 -0.1
	comp=Z,14nm,0.8s,baz=105,slow=5.4,SNR=82					
	comp=Z,14nm,0.8s					
LOGN	Logan Glacier comp=Z,20nm,0.9s	83.02	26	IAmb	IAmb	17 15 58.8
PINM	Pinnacle baz=245,SNR=8.0	83.04	27	P	P	17 15 57.8 +1.2
D22K	Ayikyak River comp=Z,25nm,0.9s	83.05	17	IAmb	IAmb	17 15 59.1
D22K	Ayikyak River baz=232,SNR=5.2	83.05	17	P	P	17 15 57.8 +1.4
J25K	Salcha River, comp=Z,24nm,0.9s	83.05	22	IAmb	IAmb	17 15 58.1
J25K	Salcha River, baz=240,SNR=26	83.05	22	P	P	17 15 57.0 +0.5
DOT	Dot Lake comp=Z,24nm,0.8s	83.06	23	IAmb	IAmb	17 15 58.5
MAKZ	Makanchi	83.22	319	P	P	17 15 57.8 +0.1
PNL	Peninsula	83.25	28	P	P	17 15 59.9 +2.3
PNL	Peninsula baz=246	83.25	28	P	P	17 15 58.5 +0.9
SCRK	Sand Creek baz=241,SNR=13	83.25	23	P	P	17 15 58.6 +0.9
M27K	Edge Creek, AK baz=243,SNR=20	83.33	25	P	P	17 15 59.7 +1.6
O28M	Mont Upton comp=Z,27nm,0.8s	83.36	26	IAmb	IAmb	17 16 01.2
O28M	Mount Upton baz=245,SNR=22	83.36	26	P	P	17 15 59.7 +1.2
G24K	Hadweenzic Riv comp=Z,49nm,1.6s	83.40	20	IAmb	IAmb	17 16 00.4
G24K	Hadweenzic Riv baz=237	83.40	20	P	P	17 15 59.4 +1.2
PRP	Porcupine Dome baz=239	83.45	21	P	P	17 16 00.1 +1.4
E23K	Chandalar comp=Z,17nm,1.0s	83.47	18	IAmb	IAmb	17 16 03.6
E23K	Chandalar baz=235,SNR=5.9	83.47	18	P	P	17 16 00.0 +1.4
J26L	Joseph Creek baz=241,SNR=13	83.67	22	P	P	17 16 00.7 +0.9
D23K	Nanushuk River comp=Z,27nm,0.8s	83.68	17	IAmb	IAmb	17 16 02.5
D23K	Nanushuk River baz=234,SNR=7.5	83.68	17	P	P	17 16 01.5 +1.9
ZALV	Zalesovo Beam	83.70	326		P	17 15 58.7 -1.2
ZALV				pP	pP	17 16 39.5 -1.3
ZALV	Zalesovo Beam	83.70	326	P	P	17 15 59.0 -1.0
	comp=Z,5.6nm,0.7s,baz=112,slow=5.5,SNR=26					
ZALV				pP	pP	17 16 41.9 +1.1
	comp=Z,0.6nm,0.5s,baz=111,slow=8.1,SNR=2.1					
	comp=Z,5.6nm,0.7s					
F24K	Squaw Lake comp=Z,13nm,0.8s	83.71	19	IAmb	IAmb	17 16 02.5
F24K	Squaw Lake baz=237,SNR=10	83.71	19	P	P	17 16 01.5 +1.6
QSPA	South Pole Qui	83.74	180		P	17 16 01.5 +1.4
QSPA	comp=Z,15nm,0.7s			IAmb	IAmb	17 16 03.2
QSPA				pP	pP	17 16 39.8 -0.8
QSPA	South Pole Qui	83.74	180	P	P	17 16 02.1 +1.9
	comp=Z,9.2nm,0.5s,baz=341,slow=2.5,SNR=81					
QSPA				pP	pP	17 16 41.9 +1.3
	comp=Z,15nm,1.0s,baz=3.5,slow=3.2,SNR=5.8					
	comp=Z,9.2nm,0.5s					
QSPA	South Pole Qui	83.74	180	P	P	17 16 02.4 +2.2
QSPA				pP	pP	17 16 41.7 +1.1
H25L	Birch Creek baz=239	83.74	20	P	P	17 16 01.0 +1.1
B22K	Teshekpuk Lake baz=231	83.75	15	P	P	17 16 01.3 +1.4
YUK8	Steele Glacier baz=245,SNR=12	83.76	26	P	P	17 16 02.0 +1.6
A22K	Sinclair Lake baz=230	83.78	15	P	P	17 16 01.2 +1.2
TOLK	Toolik Lake Re comp=Z,13nm,0.8s	83.82	18	IAmb	IAmb	17 16 02.2
TOLK	Toolik Lake Re baz=235	83.82	18	P	P	17 16 01.6 +1.3
E24K	Your Creek baz=236	83.83	18	P	P	17 16 01.7 +1.2
O29M	Mount Kennedy	83.89	27	P	P	17 16 00.8 -0.1
O29M	Mount Kennedy baz=246,SNR=9.8	83.89	27	P	P	17 16 02.3 +1.4
G25K	Bearman Lake baz=239,SNR=5.1	83.90	20	P	P	17 16 02.1 +1.4
SHLS	Shalkode	83.98	314	eP	P	17 15 59.7 -2.2
SHLS	Shalkode	83.98	314	eP	P	17 15 59.6 -2.2
P29M	Windy Craggy baz=247	84.00	28	P	P	17 16 02.7 +1.3
K27K	Chicken baz=243	84.02	23	P	P	17 16 03.2 +1.8
S31K	Pelican baz=248	84.09	30	P	P	17 16 03.2 +1.4
I26K	Coal Creek Min baz=242	84.21	22	P	P	17 16 02.9 +0.6
C23K	Itkillik River baz=234	84.21	16	P	P	17 16 04.1 +1.9
SIT	Sitka baz=249	84.22	31	P	P	17 16 03.9 +1.4
YUK6	Outpost Mounta baz=246,SNR=5.6	84.24	27	P	P	17 16 04.3 +1.4
YUK4	Talbot Arm baz=246,SNR=15	84.28	26	P	P	17 16 04.9 +1.9
UZB	Uzynbulak	84.29	314	eP	P	17 16 03.1 -0.4
UZB	Uzynbulak	84.29	314	eP	P	17 16 03.0 -0.4
D24K	Happy Valley comp=Z,18nm,0.8s	84.33	17	IAmb	IAmb	17 16 05.4
D24K	Happy Valley baz=236	84.33	17	P	P	17 16 04.1 +1.2
F25K	Christian Rive baz=239,SNR=5.4	84.48	19	P	P	17 16 05.4 +1.6
P30M	Million Dollar baz=248	84.56	28	P	P	17 16 06.0 +1.7
HYT	Haines Junctio	84.58	27		P	17 16 04.7 +0.2
HYT					pP	17 16 44.4 +0.4
HYT	Haines Junctio baz=247,SNR=27	84.58	27	P	P	17 16 06.0 +1.6
C24K	Franklin Bluff baz=236	84.69	17	P	P	17 16 05.7 +1.1
SATY	Saty	84.70	314	eP	P	17 16 05.2 -0.3
SATY	Saty	84.70	314	eP	P	17 16 05.2 -0.3
EGAK	Eagle comp=Z,19nm,0.9s	84.72	23	IAmb	IAmb	17 16 07.2
EGAK	Eagle baz=243,SNR=17	84.72	23	P	P	17 16 06.3 +1.4
E25K	Arctic Village baz=239	84.78	19	P	P	17 16 06.6 +1.5
G26K	Porcupine Rive baz=241,SNR=22	84.78	20	P	P	17 16 06.8 +1.6
M29M	Somme Creek baz=246,SNR=11	84.81	25	P	P	17 16 07.1 +1.6
I27K	Kandik River baz=243,SNR=12	84.92	22	P	P	17 16 07.4 +1.4
BESE	Bessie Mountai comp=Z,42nm,1.8s	85.00	30	IAmb	IAmb	17 16 10.4
N30M	Aishikik Lake baz=247,SNR=6.3	85.01	26	P	P	17 16 08.3 +1.8
F26K	Sheenjek River comp=Z,36nm,1.4s	85.03	19	IAmb	IAmb	17 16 09.3
F26K	Sheenjek River baz=240,SNR=6.6	85.03	19	P	P	17 16 08.0 +1.6
U33K	Whale Pass baz=251	85.05	32	P	P	17 16 08.1 +1.4
R32K	Eaglecrest baz=250	85.06	30	P	P	17 16 08.3 +1.6
SKAG	Skagway	85.08	29	P	P	17 16 07.2 +0.4
SKAG	Skagway	85.08	29	P	P	17 16 09.1 +2.4
SKAG	Skagway baz=249	85.08	29	P	P	17 16 08.3 +1.5
DAWY	Dawson baz=245,SNR=5.8	85.10	24	P	P	17 16 08.5 +1.6
D25K	Kavik River baz=238	85.16	18	P	P	17 16 07.9 +0.8
TDK	Taldyqorghan	85.16	316	eP	P	17 16 07.4 -0.2
TDK	Taldyqorghan	85.16	316	eP	P	17 16 07.3 -0.2
MAW	Mawson	85.20	203	P	P	17 16 07.2 0.0
	comp=Z,10.0nm,0.8s,baz=81,slow=5.8,SNR=27					
	comp=Z,10.0nm,0.8s					
O30N	Mendenhall comp=Z,28nm,0.8s	85.20	27	IAmb	IAmb	17 19 10.0
O30N	Mendenhall baz=248,SNR=8.4	85.20	27	P	P	17 16 08.9 +1.5
L29M	L29M comp=Z,14nm,0.9s	85.22	25	IAmb	IAmb	17 16 11.2
L29M	L29M baz=246,SNR=13	85.22	25	P	P	17 16 09.2 +1.7
H27K	Steamboat Moun comp=Z,15nm,0.8s	85.24	21	IAmb	IAmb	17 16 10.2
H27K	Steamboat Moun baz=243,SNR=14	85.24	21	P	P	17 16 09.0 +1.5
G27K	Doyon Strip baz=243,SNR=6.1	85.46	21	P	P	17 16 10.2 +1.7
I28M	Miner Creek baz=244,SNR=12	85.48	22	P	P	17 16 09.9 +1.2
WRAK	Wrangell Islan baz=252	85.56	32	P	P	17 16 10.5 +1.3
M30M	Minto, Yukon comp=Z,28nm,1.4s	85.57	25	IAmb	IAmb	17 16 11.8
M30M	Minto, Yukon baz=248,SNR=9.7	85.57	25	P	P	17 16 10.7 +1.4
N31M	Braeburn, Yuko comp=Z,26nm,0.9s	85.60	27	IAmb	IAmb	17 16 12.2
N31M	Braeburn, Yuko baz=248,SNR=14	85.60	27	P	P	17 16 11.0 +1.5
V35K	Ketchikan comp=Z,22nm,1.1s	85.62	33	IAmb	IAmb	17 16 11.8
V35K	Ketchikan baz=253	85.62	33	P	P	17 16 10.7 +1.2
MDOK	Medeo	85.70	314	eP	P	17 16 10.2 -0.2
MDOK	Medeo	85.70	314	eP	P	17 16 10.2 -0.2
WHY	Whitehorse comp=Z,18nm,0.8s	85.71	28	IAmb	IAmb	17 19 28.6
WHY	Whitehorse baz=249,SNR=7.0	85.71	28	P	P	17 16 11.6 +1.6
J29N	Klondike Camp comp=Z,20nm,0.8s	85.72	24	IAmb	IAmb	17 16 13.9
J29N	Klondike Camp baz=246	85.72	24	P	P	17 16 11.7 +1.7
KSH	Kashi	85.72	310	P	P	17 16 12.6 +2.0
KSH	comp=Z,6.0nm,0.9s			pmax	pmax	
TNSS	Tian-Shan	85.74	314	eP	P	17 16 10.4 -0.7
TNSS	Tian-Shan	85.74	314	eP	P	17 16 10.3 -0.7
K29M	Barlow Dome comp=Z,37nm,1.2s	85.76	24	IAmb	IAmb	17 16 13.2
K29M	Barlow Dome baz=247,SNR=23	85.76	24	P	P	17 16 12.0 +1.8
AAA	Alma-Ata	85.80	314	eP	P	17 16 10.5 -0.3
AAA	Alma-Ata	85.80	314	eP	P	17 16 10.5 -0.3
AAA	comp=Z,6.0nm,0.5s			pmax	pmax	
P32M	Atlin baz=250,SNR=6.6	85.89	29	P	P	17 16 12.1 +1.2
C26K	Camden Bay baz=240	85.91	17	P	P	17 16 12.7 +2.0
I29M	Ogilvie Camp, comp=Z,13nm,0.7s	86.06	23	IAmb	IAmb	17 16 13.7
I29M	Ogilvie Camp, baz=246,SNR=7.0	86.06	23	P	P	17 16 12.5 +1.0
E27K	Coleen River comp=Z,25nm,0.8s	86.11	20	IAmb	IAmb	17 16 14.5
E27K	Coleen River baz=243,SNR=13	86.11	20	P	P	17 16 13.5 +1.8
C27K	Jago River comp=Z,15nm,0.8s	86.12	18	IAmb	IAmb	17 16 14.4
C27K	Jago River baz=241,SNR=6.4	86.12	18	P	P	17 16 13.5 +1.7
BOOM	Boomskoye usch	86.35	313	P	P	17 16 12.1 -1.6
BOOM	Boomskoye usch	86.35	313	P	P	17 16 12.1 -1.6
BOOM	comp=Z,4.0nm,0.8s			pmax	pmax	
H29M	Whitestone baz=246	86.39	22	P	P	17 16 14.4 +1.3
Q32M	Nakina River comp=Z,22nm,1.6s	86.39	30	IAmb	IAmb	17 16 17.1
Q32M	Nakina River baz=252	86.39	30	P	P	17 16 15.0 +1.5
KURK	Kurchatov	86.40	322		P	17 16 11.9 -1.6
KURK	Kurchatov	86.40	322	ceP	P	17 16 13.4 -0.1
KURK	comp=Z,5.0nm,1.3s			pmax	pmax	
KURBB	Kurchatov Arra	86.44	322	P	P	17 16 12.6 -1.0
	comp=Z,0.9nm,0.6s,baz=107,slow=3.7,SNR=14					
KURBB				pP	pP	17 16 55.8 +1.1
	comp=Z,0.6nm,0.7s,baz=101,slow=4.3,SNR=2.6					
	comp=Z,0.9nm,0.6s					
F28M	Old Crow comp=Z,18nm,0.9s	86.44	20	IAmb	IAmb	17 16 15.9
F28M	Old Crow baz=244,SNR=8.8	86.44	20	P	P	17 16 14.8 +1.5
M31M	Drury Creek, Y comp=Z,14nm,0.9s	86.47	26	IAmb	IAmb	17 16 15.7
M31M	Drury Creek, Y baz=250,SNR=11	86.47	26	P	P	17 16 14.7 +1.0
J30M	Hart River	86.52	24	P	P	17 16 15.7 +1.7

baz=248,SNR=31
P33M Teslin, Yukon 86.53 28 P P 17 16 15.4 +1.4
baz=251
S34M Telegraph Cree 86.64 31 P 17 16 15.2 +0.7
S34M IAmb IAmb 17 16 17.5
comp=Z,23nm,1.0s
S34M Telegraph Cree 86.64 31 P P 17 16 16.3 +1.8
baz=253,SNR=13
N32M Quiet Lake 86.71 27 IAmb IAmb 17 16 17.3
comp=Z,19nm,0.8s
N32M Quiet Lake 86.71 27 P P 17 16 16.2 +1.3
baz=251
I30M Mount Dempster 86.75 23 IAmb IAmb 17 16 17.4
comp=Z,25nm,0.9s
I30M Mount Dempster 86.75 23 P P 17 16 16.2 +1.1
baz=248,SNR=23
G29M Pine Creek 86.80 21 P P 17 16 16.6 +1.4
baz=246,SNR=12
D27M Malcolm River 86.80 19 IAmb IAmb 17 16 17.9
comp=Z,21nm,0.8s
D27M Malcolm River 86.80 19 P P 17 16 16.7 +1.6
baz=243,SNR=8.5
T35M Bob Quinn 86.83 32 P P 17 16 17.2 +1.7
baz=254,SNR=6.1
E28M Babbage River 86.98 19 P P 17 16 17.6 +1.6
baz=245,SNR=5.1
EPYK Eagle Plains 87.06 22 P P 17 16 17.7 +1.2
baz=247,SNR=20
R33M Jennings River 87.16 29 IAmb IAmb 17 16 20.0
comp=Z,31nm,1.6s
R33M Jennings River 87.16 29 P P 17 16 18.7 +1.6
baz=253,SNR=7.3
DLBC Dease Lake 87.35 31 P P 17 16 19.7 +1.6
baz=254,SNR=8.3
E29M Blow River 87.44 20 P P 17 16 19.2 +1.0
baz=246
G30M tAoh Zraii Nji 87.48 21 P P 17 16 19.4 +1.0
baz=248,SNR=6.5
H31M Peel River 87.75 23 P P 17 16 20.9 +1.1
baz=250,SNR=14
F30M Barrier River 87.87 21 P P 17 16 21.5 +1.3
baz=248,SNR=9.6
MMPY Sheldon Lake, 87.99 26 IAmb IAmb 17 16 23.6
comp=Z,12nm,1.1s
MMPY Sheldon Lake, 87.99 26 P P 17 16 22.5 +1.6
baz=252,SNR=8.1
G31M Satah River 88.17 22 P P 17 16 22.7 +1.1
baz=250,SNR=11
BTLS Baital 88.19 315 *eP* **P 17 16 21.7 -0.5**
BTLS Baital 88.19 315 *eP* **P 17 16 21.7 -0.5**
F31M Tsiigehtchic 88.54 21 IAmb IAmb 17 16 25.3
comp=Z,22nm,1.1s
F31M Tsiigehtchic 88.54 21 P P 17 16 24.1 +0.8
baz=250
INK Inuvik 88.92 21 LR LR 17 54 31.7
comp=Z,22nm,18.6s,baz=28,slow=34
INK Inuvik 88.92 21 P P 17 16 25.8 +0.8
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 88.92 21 P P 17 16 25.9 +0.8
baz=250
TGTN Hyland Airport 89.03 28 P P 17 16 27.4 +1.5
baz=255
DZA Taraz 89.77 313 *eP* **P 17 16 29.5 -0.3**
DZA Taraz 89.77 313 *eP* **P 17 16 29.4 -0.3**
TOAD Toad River Com 89.89 31 P P 17 16 31.1 +1.3
baz=258
MWC Mount Wilson 90.73 56 P P 17 16 33.2 -1.4
MWC Mount Wilson 90.73 56 P P 17 16 33.2 -1.4
MWC pmax pmax
comp=Z,25nm,1.2s
KOTAN Kotaneelee Air 90.73 30 P P 17 16 35.2 +1.4
baz=259
LHV Little Huntoon 90.86 52 IAmb IAmb 17 16 37.8
comp=Z,11nm,1.1s
CHM Chimkent 90.95 312 *eP* **P 17 16 35.1 -0.2**
comp=Z,5.6nm,0.7s
CHM Chimkent 90.95 312 *eP* **P 17 16 35.0 -0.2**
CHM pmax pmax
comp=Z,6.0nm,0.7s
NVAR Mina Array Bea 91.04 52 P 17 16 35.9 -0.1
NVAR pP **pP 17 17 16.0 -0.2**
NVAR Mina Array Bea 91.04 52 P P 17 16 36.9 +0.9
comp=Z,5.8nm,1.0s,baz=256,slow=6.2,SNR=17
NVAR pP **pwP 17 17 19.3 0.0**
comp=Z,1.7nm,0.8s,baz=255,slow=5.1,SNR=3.6
comp=Z,5.8nm,1.0s
NV11 Mina Array Sit 91.16 52 IAmb IAmb 17 16 39.0
comp=Z,8.9nm,1.1s
DSP Deep Springs 91.18 53 IAmb IAmb 17 16 40.0
comp=Z,12nm,1.3s
LRMC Laurel Mtn Rad 91.18 55 P P 17 16 37.0 +0.4
LRMC IAmb IAmb 17 16 39.5
comp=Z,12nm,1.2s
CLC China Lake 91.29 54 IAmb IAmb 17 16 39.7
comp=Z,11nm,1.2s
WSHM Spangler Hills 91.35 55 IAmb IAmb 17 16 40.0
comp=Z,10nm,1.2s
CCCA Chr Cany lake 91.44 55 IAmb IAmb 17 16 40.8
comp=Z,16nm,1.1s
BVAR Borovoye Array 91.85 323 P P 17 16 38.4 -0.7
comp=Z,3.1nm,0.8s,baz=90,slow=4.4,SNR=9.4
BVAR pP **pP 17 17 22.6 +2.1**
comp=Z,1.5nm,0.8s,baz=115,slow=6.8,SNR=2.6
comp=Z,3.1nm,0.8s
QSM Queen of Sheba 91.90 54 IAmb IAmb 17 16 42.8
comp=Z,23nm,1.7s
BORK Borovoye 91.90 323 *i P* **P 17 16 37.4 -1.9**
BORK pmax pmax
comp=Z,3.0nm,0.9s
FURC Furnace Creek, 91.95 54 IAmb IAmb 17 16 42.7
comp=Z,14nm,1.0s
PFO Pinyon Flats O 91.98 57 P P 17 16 41.8 +1.5
comp=Z,4.0nm,0.8s,baz=252,slow=6.9,SNR=5.5
comp=Z,4.0nm,0.8s
PFO Pinyon Flats O 91.98 57 *i P* **P 17 16 39.0 -1.3**
PFO pmax pmax
comp=Z,9.0nm,0.9s
WCT Wildcat Mounta 92.18 53 IAmb IAmb 17 16 43.7
comp=Z,9.0nm,1.1s
BELC Belle Mtn. Jos 92.40 56 P 17 16 42.4 +0.1
BELC IAmb IAmb 17 16 44.8
comp=Z,8.2nm,0.9s
BELC pP **pP 17 17 21.9 -0.8**
TPNV Topopah Spring 92.50 53 IAmb IAmb 17 16 45.3
comp=Z,8.8nm,1.1s
C36M Paulatuk 92.50 21 P P 17 16 43.4 +1.7
baz=259
A36M Sachs Harbour 92.64 18 P P 17 16 44.0 +1.7
baz=258
NEW Newport 93.02 42 LR LR 17 51 32.5
comp=Z,44nm,20.6s,baz=292,slow=31
IRM Iron Mountain 93.12 56 P 17 16 45.4 -0.1
IRM IAmb IAmb 17 16 48.3
comp=Z,13nm,1.1s
IRM **pP 17 17 25.0 -0.9**
SYO Syowa Base 93.13 199⇑ *eP* **P 17 16 44.2 -0.5**
R11B Troy Canyon, C 93.16 52 IAmb IAmb 17 16 48.2
comp=Z,7.3nm,1.2s
PRN Pahroc Range 93.49 53 IAmb IAmb 17 16 50.8
comp=Z,15nm,1.3s
ELK Elko 93.64 50 P P 17 16 48.9 +0.9
comp=Z,0.5nm,0.3s,baz=323,slow=6.0,SNR=4.6
comp=Z,0.5nm,0.3s
SPR3 Spring Creek 3 94.19 51 IAmb IAmb 17 16 53.2
comp=Z,12nm,1.1s
LCMT Little Creek M 94.90 53 IAmb IAmb 17 16 56.5
comp=Z,5.6nm,1.2s
YKA Yellowknife Ar 95.54 28 P 17 16 55.2 -0.6
YKA Yellowknife Ar 95.54 28 P P 17 16 56.5 +0.8
comp=Z,9.3nm,0.9s,baz=276,slow=5.5,SNR=14
comp=Z,9.3nm,0.9s
PDAR Pinedale Array 97.99 48 P 17 17 07.5 -0.1
comp=Z,1.3nm,0.9s,baz=264,slow=1.5,SNR=6.8
PDAR PP **PP 17 21 09.6 +0.9**
comp=Z,0.1nm,0.3s,baz=36,slow=2.8,SNR=3.6
PDAR LR LR 17 59 05.8
comp=Z,14nm,18.1s,baz=5.5,slow=34
comp=Z,1.3nm,0.9s
ARCES ARCESS Array B 108.94 343 PKiKP **PKiKP 17 21 59.2 0.0**
comp=Z,1.7nm,0.8s,baz=47,slow=5.3,SNR=4.6
KIV Kislovodsk 110.50 315 *e*PKiKP **PKiKP 17 22 00.8 -2.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 113.36 336 PKiKP **PKiKP 17 22 07.5 -0.2**
comp=Z,2.0nm,0.8s,baz=254,slow=1.4,SNR=3.3
MNK Minsk 116.08 329 *i* PKiKP **PKPdf 17 22 10.4 -2.7**
MNK *i* 17 22 55.1
MNK *i* 17 23 12.8
MNK *i* 17 23 17.2
MNK *i* PPP PPP 17 25 45.9
MNK *i* 17 29 09.4
MNK *i* SS SS 17 39 03.5 -5.8
MNK *i* SSS SSS 17 43 27.1
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 117.08 325 PKP **PKPdf 17 22 15.0 -0.1**
comp=Z,0.9nm,0.7s,baz=59,slow=1.9,SNR=4.1
NB2 NORSAR Subarra119.07 341 PKPdf **PKPdf 17 22 18.2 -0.6**
comp=Z,0.7nm,0.7s,baz=41,slow=1.9
NOA NORSAR Array B119.07 341 PKP **PKPdf 17 22 18.1 -0.6**
comp=Z,1.1nm,0.8s,baz=41,slow=1.9,SNR=5.4
KOLS Kolonicke sedl 121.88 325 *e*PKiKP **PKiKP 17 22 25.2 +0.5**
KOLS Kolonicke sedl 121.88 325 *e*PKP **PKiKP 17 22 25.2 +0.5**
CLL Collm 125.27 332 *i* PKPdf **PKiKP 17 22 31.2 -0.1**
KHC Kasperske Hory 126.42 330 *ce*PKiKP **PKPdf 17 22 32.3 -0.9**
KHC pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 126.54 329 PKP **PKiKP 17 22 33.9 -0.1**
comp=Z,1.5nm,0.7s,baz=29,slow=3.0,SNR=10.0
EKA Eskdalemuir Ar 128.08 345 PKP **PKPdf 17 22 36.3 +0.2**
comp=Z,2.6nm,1.0s,baz=2.4,slow=3.1,SNR=2.0
MVO Moncorvo 141.79 338 *e*PKP **PKPdf 17 23 01.1 -1.1**
ESDC Sonseca Array 141.81 334 PKP **PKPdf 17 23 00.2 -2.1**
comp=Z,0.2nm,0.4s,baz=33,slow=2.4,SNR=2.4
ESDC PP **PP 17 26 05.2 -2.3**
comp=Z,0.9nm,1.0s,baz=10,slow=9.0,SNR=4.1
POLO Lamas de Olo 141.88 339 *e*PKP **PKPdf 17 22 59.3 -3.2**
MTE Manteigas 142.65 338 *e*PKP **PKPdf 17 23 02.2 -1.6**
PCBR Castelo Branco 143.11 338 *e*PKP PKPbc 17 23 03.0 +1.2
PMRV Marv??o 143.44 337 *e*PKP PKPbc 17 23 03.8 +1.0
PSARD Sardoal 143.58 338 *e*PKP PKPbc 17 23 04.2 +1.1
PMTG Montargil 144.07 338 *e*PKP **PKPdf 17 23 06.2 0.0**
PBAR Barrancos 144.38 336 *e*PKP **PKPdf 17 23 06.7 -0.1**
EVO Evora 144.46 337 *e*PKP **PKPdf 17 23 07.0 +0.1**
PMAFR Mafra 144.55 339 *e*PKP **PKPdf 17 23 07.4 +0.4**
PARRA Arraiolos 144.59 339 *e*PKP **PKPab 17 23 06.0 0.0**
PBEJ Beja 144.84 337 *e*PKP **PKPdf 17 23 08.4 +0.8**
MESJ Messejana 145.14 337 *e*PKP **PKPab 17 23 08.6 +0.5**
MESJ Messejana 145.14 337 PKPbc 17 23 06.0 -1.9
MESJ Messejana 145.14 337 *e*PKP **PKPab 17 23 09.2 +1.1**
MESJ Messejana 145.14 337 PKP2 **PKPbc 17 23 06.0 -1.9**
EDA Edea 145.16 268 PKPbc 17 23 05.8 -3.0
PCVE Castro Verde 145.25 336 *e*PKP **PKPab 17 23 09.7 +1.2**
PVAQ Vaqueiros 145.31 336 PKPdf 17 23 06.9 -1.5
PVAQ Vaqueiros 145.31 336 *e*PKP **PKPab 17 23 09.7 +0.9**
PBDV Barranco-do-Ve 145.54 336 *e*PKP **PKiKP 17 23 11.3 -1.6**
PTEO Sao Teotonio 145.59 337 *e*PKP **PKPab 17 23 11.0 +1.2**
MORF Marmelete 145.77 337 *e*PKP **PKPbc 17 23 09.7 -0.3**
MORF Marmelete 145.77 337 *e*PKP **PKPab 17 23 11.2 +0.7**
MD01 Midelt array s 147.63 328 PKPdf 17 23 13.3 +0.7
PMPS Porto Santo 152.19 345 *e*PKP **PKPdf 17 23 21.8 +2.2**
TORD Torodi Ar. Bea 153.07 287 PKPbc **PKPbc 17 23 28.6 -0.3**
comp=Z,3.7nm,0.8s,baz=63,slow=1.3,SNR=12

IDC 04 17:30:24.3±3.5, 47°.43N×93°.00W, h0km, mbtmp2.9/2, ML0.6/1, Error ellipse: s-maj=37.6km s-min=17.1km az=90.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.40**	**327**	Pn	Pn	17 31 17.1	-1.5
	0.1nm,0.3s,baz=156,slow=10,SNR=1.1						
ULM				Pg	Pb	17 31 25.1	-0.3
	1.1nm,0.3s,baz=147,slow=15,SNR=5.1						
ULM				Lg	Lg	17 32 09.0	
	2.8nm,0.3s,baz=48,slow=17,SNR=8.0						
ULM				Rg	Rg	17 32 23.6	
	29nm,1.1s,baz=69,slow=11,SNR=9.5						
	2.6nm,0.8s						
I10CA	**LAC DU BONNET**	**3.42**	**325**	I	I	17 54 00.0	
	baz=139,slow=318,SNR=7.8						
PDAR	**Pinedale Array**	**12.59**	**254**	Pn	Pn	17 33 22.6	-2.3
	0.3nm,0.6s,baz=78,slow=14,SNR=3.6						
PDAR				Lg	Lg	17 36 50.3	
	0.1nm,0.3s,baz=59,slow=31,SNR=2.1						

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*IDC **04** 17:52:34.6±1.1, 2°.50S×138°.43E, h0km, mb3.7/5, mbtmp3.7/8, ML3.5/3, MS3.3/2, Error ellipse: s-maj=24.6km s-min=16.7km az=166.0*
*DJA **04** 17:52:39.2±1.0, 2°.5S±8°×13°.9E±°, h17km±10km, M3.9/7, mb4.1/1, MLv3.9/7*
ISC 04 17:52:36.0±0.7, 2°.70S±0°.07×138°.52E±0°.06, h10km, n17, σ2958/18, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**15**	P	**Pg**	**17 52 49.2**	**-1.0**
GENI	**Genyem**	**1.65**	**86**	P	**Pg**	**17 53 07.8**	**+0.2**
JAY	**Jayapura**	**2.19**	**85**	Pn	**Pn**	**17 53 13.5**	**+1.0**
	7.0nm,0.3s,baz=264,slow=11,SNR=59						
JAY				Lg	Lg	17 53 47.4	
	2.8nm,0.3s,baz=266,slow=19,SNR=6.5						
	30nm,0.5s						
JAY	**Jayapura**	**2.19**	**85**	P	**Pb**	**17 53 14.3**	**-1.4**
SRPI	**Serui, Papua**	**2.43**	**290**	P	**Pn**	**17 53 16.2**	**+0.4**
BAKI	**Biak**	**2.84**	**302**	P	**Pn**	**17 53 23.2**	**+1.7**
RKPI	**Ransiki, Papua**	**4.50**	**285**	P	**Pn**	**17 53 45.0**	**+0.6**
FAKI	**Fak Fak**	**6.27**	**268**	P	**Pn**	**17 54 10.6**	**+1.9**
SWI	**Sorong**	**7.49**	**284**	P	**Pn**	**17 54 26.9**	**+1.5**
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**17 56 43.3**	**+1.5**
	0.2nm,0.3s,baz=18,slow=12,SNR=12						
WRA				S	Sn	17 59 49.8	-8.4
	0.4nm,0.9s,baz=6.6,slow=22,SNR=4.9						
WRA				LR	LR	18 04 59.7	
	comp=Z,58nm,18.4s,baz=17,slow=42						
	1.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.84**	**219**	P	**P**	**17 57 08.4**	**+1.2**
	0.1nm,0.3s,baz=58,slow=9.5,SNR=1.8						
FITZ				S	**S**	**18 00 43.4**	**-7.5**
	2.2nm,1.1s,baz=188,slow=10,SNR=1.7						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**21.31**	**192**	P	**P**	**17 57 24.0**	**+0.8**
	1.7nm,0.7s,baz=20,slow=10,SNR=25						
ASAR				S	**S**	**18 01 16.3**	**-3.8**
	0.6nm,0.9s,baz=8.3,slow=22,SNR=2.8						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**69.67**	**322**	P	**P**	**18 03 45.3**	**-0.7**
	1.3nm,1.1s,baz=101,slow=7.5,SNR=3.7						
	1.3nm,1.1s						
VNDA	**Vanda**	**75.80**	**175**	P	**P**	**18 04 22.7**	**+0.9**
	0.3nm,0.6s,baz=321,slow=7.3,SNR=2.3						
	0.3nm,0.6s						
MAW	**Mawson**	**82.06**	**202**	LR	LR	18 38 04.7	
	comp=Z,29nm,20.2s,baz=132,slow=33						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**18 05 14.8**	**-1.2**
	0.5nm,0.7s,baz=256,slow=3.9,SNR=5.1						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**87.24**	**180**	P	**P**	**18 05 25.7**	**+3.0**
	0.5nm,0.6s,baz=14,slow=4.2,SNR=1.9						
	0.5nm,0.6s						

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*SNET **04** 17:55:05.1±0.8, 13°.00N×89°.57W, h42km, ML4.7*
*CATAC **04** 17:55:05.2±0.3, 13°.N±2°×9°.0W±°, h31km±3km, M4.7/46, mb4.6/5, mB5.2/1, MLv4.8/46, Mw(mB)4.5/1, Error ellipse: s-maj=4.0km s-min=2.2km az=26.0, confirmed*
*NEIC **04** 17:55:05.5±2.0, 13°.09N±0°.05×89°.49W±0°.06, h74km±4km, mb4.1/39, Error ellipse: s-maj=8.5km s-min=6.1km az=58.0*
*IDC **04** 17:55:06.7±2.1, 13°.23N×89°.28W, h80km±21km, mb3.4/4, mbtmp3.8/6, MS3.0/6, Error ellipse: s-maj=37.5km s-min=14.8km az=46.0*
*GCG **04** 17:55:07.3±1.9, 13°.18N×89°.64W, h47km±19km, MD4.8, ML4.3*
ISC 04 17:55:04.1±0.8, 13°.03N±0°.05×89°.55W±0°.04, h68km±6km, n192, σ1926/217, mb4.1/18, 22C-14D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.51**	**26**	*e*P	**Pn**	**17 55 17.1**	**+0.2**
LALI				*e*S	**Sn**	**17 55 26.0**	**-0.1**
LALI	**Alcalda de L**	**0.51**	**26**	*e*P	**Pn**	**17 55 17.1**	**+0.2**
LALI				*i* S	**Sn**	**17 55 25.6**	**-0.5**
LALI				IAML		17 55 27.2	
	comp=E,12μm,0.4s						
LALI	**Alcalda de L**	**0.51**	**26**	⇑P	**Pn**	**17 55 17.4**	**+0.5**
JAYA	**Jayaque - finc**	**0.63**	**9**	*i* P	**Pn**	**17 55 18.4**	**+0.1**
JAYA				*e*S	**Sn**	**17 55 27.9**	**-0.8**
JAYA	**Jayaque - finc**	**0.63**	**9**	*i* P	**Pn**	**17 55 18.4**	**+0.1**
JAYA				*e*S	**Sn**	**17 55 27.8**	**-0.9**
JAYA	**Jayaque - finc**	**0.63**	**9**	S	**Sn**	**17 55 28.0**	**-0.6**
JAYA	**Jayaque - finc**	**0.63**	**9**	⇓P	**Pn**	**17 55 18.4**	**+0.1**
PANCS	**Alcalda de**	**0.68**	**32**	S	**Sn**	**17 55 30.0**	**+0.5**
PANCS	**Alcalda de**	**0.68**	**32**	P	**Pn**	**17 55 19.1**	**+0.3**
ITCA	**Escuela Especi**	**0.69**	**22**	*e*P	**Pn**	**17 55 19.2**	**+0.3**
ITCA				*e*S	**Sn**	**17 55 30.0**	**+0.2**
ITCA	**Escuela Especi**	**0.69**	**22**	S	**Sn**	**17 55 30.1**	**+0.2**
ITCA	**Escuela Especi**	**0.69**	**22**	P	**Pn**	**17 55 19.1**	**+0.2**
LOMA	**Loma Larga**	**0.71**	**31**	*e*P	**Pn**	**17 55 19.6**	**+0.4**
LOMA				*e*S	**Sn**	**17 55 30.7**	**+0.5**
LOMA	**Loma Larga**	**0.71**	**31**	⇑P	**Pn**	**17 55 19.6**	**+0.4**
PMON	**Piamonte**	**0.71**	**19**	*e*P	**Pn**	**17 55 19.5**	**+0.3**
PMON	**Piamonte**	**0.71**	**19**	S	**Sn**	**17 55 30.5**	**+0.2**
PMON	**Piamonte**	**0.71**	**19**	⇑P	**Pn**	**17 55 19.5**	**+0.3**
SEMO	**Seminario San**	**0.74**	**25**	*e*P	**Pn**	**17 55 19.8**	**+0.3**
SEMO				*e*S	**Sn**	**17 55 31.0**	**+0.3**
UEES	**Universidad Ev**	**0.75**	**24**	*e*P	**Pn**	**17 55 20.0**	**+0.5**
UEES				*e*S	**Sn**	**17 55 31.2**	**+0.3**
UEES	**Universidad Ev**	**0.75**	**24**	P	**Pn**	**17 55 20.6**	**+1.1**
BOQS	**Boqueron**	**0.75**	**20**	⇑*i*P	**Pn**	**17 55 20.2**	**+0.5**
UTEC	**Universidad Te**	**0.75**	**27**	*e*P	**Pn**	**17 55 20.1**	**+0.5**
UTEC				*e*S	**Sn**	**17 55 31.4**	**+0.5**
UTEC	**Universidad Te**	**0.75**	**27**	P	**Pn**	**17 55 20.1**	**+0.5**
LFRS	**El Faro**	**0.76**	**39**	⇓*i*P	**Pn**	**17 55 20.2**	**+0.5**
PIC2	**El Picacho**	**0.77**	**22**	*e*P	**Pn**	**17 55 20.5**	**+0.6**
UESS	**Universidad de**	**0.77**	**26**	*e*P	**Pn**	**17 55 20.4**	**+0.6**
UESS				*e*S	**Sn**	**17 55 32.1**	**+0.8**
IGN	**Direccin Gen**	**0.77**	**28**	*e*P	**Pn**	**17 55 20.4**	**+0.6**
IGN				*e*S	**Sn**	**17 55 32.2**	**+0.8**
IGN	**Direccin Gen**	**0.77**	**28**	S	**Sn**	**17 55 31.8**	**+0.4**
IGN	**Direccin Gen**	**0.77**	**28**	⇓P	**Pn**	**17 55 20.4**	**+0.6**
UDBS	**Universidad Do**	**0.78**	**29**	*e*P	**Pn**	**17 55 20.6**	**+0.6**
UDBS				*e*S	**Sn**	**17 55 32.1**	**+0.6**
UDBS	**Universidad Do**	**0.78**	**29**	P	**Pn**	**17 55 20.5**	**+0.6**
CEDA	**San Andres**	**0.78**	**11**	*e*P	**Pn**	**17 55 20.4**	**+0.5**
CEDA				*e*S	**Sn**	**17 55 32.1**	**+0.6**
CEDA	**San Andres**	**0.78**	**11**	⇓P	**Pn**	**17 55 20.5**	**+0.5**
CEVE	**Cerro Verde**	**0.80**	**355**	*e*P	**Pn**	**17 55 20.7**	**+0.4**
CEVE				*e*S	**Sn**	**17 55 33.6**	**+1.4**
CEVE	**Cerro Verde**	**0.80**	**355**	S	**Sn**	**17 55 32.7**	**+0.5**
CEVE	**Cerro Verde**	**0.80**	**355**	⇓P	**Pn**	**17 55 20.7**	**+0.4**
SBLS	**San Blas**	**0.81**	**355**	*e*P	**Pn**	**17 55 20.7**	**+0.3**
SBLS				*e*S	**Sn**	**17 55 33.0**	**+0.6**
LFU	**La Fuente**	**0.83**	**31**	⇑*i*P	**Pn**	**17 55 21.3**	**+0.8**
LBRS	**Las Brisas**	**0.86**	**35**	⇑*i*P	**Pn**	**17 55 21.8**	**+0.9**
NUBE	**Las Nubes**	**0.90**	**345**	*i* P	**Pn**	**17 55 21.6**	**+0.2**
NUBE				*e*S	**Sn**	**17 55 34.1**	**-0.1**
NUBE	**Las Nubes**	**0.90**	**345**	*i* P	**Pn**	**17 55 21.6**	**+0.2**
NUBE				*e*S	**Sn**	**17 55 33.7**	**-0.5**
NUBE	**Las Nubes**	**0.90**	**345**	⇓P	**Pn**	**17 55 21.7**	**+0.2**
TECO	**Alcaldia de Te**	**0.90**	**56**	*i* P	**Pn**	**17 55 21.5**	**+0.1**
TECO	**Alcaldia de Te**	**0.90**	**56**	S	**Sn**	**17 55 34.7**	**+0.6**
TECO	**Alcaldia de Te**	**0.90**	**56**	⇑P	**Pn**	**17 55 21.5**	**+0.1**
PAVA	**Las Pavas**	**0.90**	**41**	*e*P	**Pn**	**17 55 22.3**	**+0.9**
PAVA				*e*S	**Sn**	**17 55 35.9**	**+1.6**
PAVA	**Las Pavas**	**0.90**	**41**	⇑P	**Pn**	**17 55 22.4**	**+0.9**
FAME	**Alcaldia de Sa**	**0.93**	**331**	⇓P	**Pn**	**17 55 21.8**	**+0.1**
UNIC	**Universidad Ca**	**0.95**	**0**	*e*P	**Pn**	**17 55 22.7**	**+0.7**
UNIC				*e*S	**Sn**	**17 55 36.1**	**+1.0**
UNIC	**Universidad Ca**	**0.95**	**0**	⇓P	**Pn**	**17 55 22.7**	**+0.7**
UESV	**Universidad de**	**0.95**	**51**	⇓P	**Pn**	**17 55 22.6**	**+0.6**
LOAL	**Lomas de Alarc**	**0.99**	**347**	*e*P	**Pn**	**17 55 23.4**	**+0.9**
LOAL	**Lomas de Alarc**	**0.99**	**347**	S	**Sn**	**17 55 37.3**	**+1.3**
LOAL	**Lomas de Alarc**	**0.99**	**347**	P	**Pn**	**17 55 23.4**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.04**	**50**	S	**Sn**	**17 55 38.2**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.04**	**50**	⇑P	**Pn**	**17 55 24.1**	**+1.0**
TECA	**Tecapa**	**1.12**	**66**	⇑*i*P	**Pn**	**17 55 24.7**	**+0.4**
PQSS	**Presa 15 de Se**	**1.13**	**58**	⇑P	**Pn**	**17 55 25.0**	**+0.8**
LLGN	**La Laguna**	**1.27**	**27**	S	**Sn**	**17 55 43.8**	**+1.2**
LLGN	**La Laguna**	**1.27**	**27**	⇑P	**Pn**	**17 55 26.7**	**+0.6**
PACA	**Pacayal**	**1.27**	**70**	*e*P	**Pn**	**17 55 27.5**	**+1.3**
PACA				*e*S	**Sn**	**17 55 44.3**	**+1.7**
PACA	**Pacayal**	**1.27**	**70**	P	**Pn**	**17 55 27.2**	**+1.1**
PACA	**Pacayal**	**1.27**	**70**	S	**Sn**	**17 55 43.7**	**+1.1**
VSM	**San Miguel**	**1.30**	**72**	*i* P	**Pn**	**17 55 27.9**	**+1.2**
BLLM	**Bellamira**	**1.34**	**72**	*i* P	**Pn**	**17 55 28.0**	**+1.0**
MTO3	**Montecristo**	**1.37**	**8**		**Pn**	**17 55 28.2**	**+0.6**
MTO3				Sn	**Sn**	**17 55 44.1**	**-1.1**
MTO3	**Montecristo**	**1.37**	**8**	⇑*i*P	**Pn**	**17 55 28.2**	**+0.6**
MTO3	**Montecristo**	**1.37**	**8**	⇑P	**Pn**	**17 55 28.2**	**+0.6**
CNRM	**Centro Naciona**	**1.41**	**72**	*i* P	**Pn**	**17 55 28.9**	**+1.0**
CAHU	**Cacaucatique**	**1.50**	**60**	⇑*i*P	**Pn**	**17 55 30.1**	**+0.9**
ESQI	**Esquipulas**	**1.53**	**8**		**Pn**	**17 55 30.2**	**+0.6**
ESQI				Sn	**Sn**	**17 55 46.8**	**-2.1**
ESQI	**Esquipulas**	**1.53**	**8**	S	**Sn**	**17 55 50.3**	**+1.5**
ESQI	**Esquipulas**	**1.53**	**8**	⇑P	**Pn**	**17 55 30.6**	**+1.0**
FG16	**Alotenango, Sa**	**1.55**	**323**	*i* P	**Pn**	17 55 35.5	+5.6
FG16				IAML		17 56 01.5	
	comp=E,16μm,0.2s						
FG8	**Yepocapa, Chim**	**1.57**	**321**	*e*P	**Pn**	17 55 35.7	+5.6
FG8				*i* S	**Sn**	**17 55 58.4**	**+8.7**
CNCH	**Conchagua**	**1.69**	**81**	*e*P	**Pn**	**17 55 32.8**	**+1.1**
CNCH				*e*S	**Sn**	**17 55 54.2**	**+1.7**
CNCH	**Conchagua**	**1.69**	**81**	S	**Sn**	**17 55 53.9**	**+1.4**
CNCH	**Conchagua**	**1.69**	**81**	⇑P	**Pn**	**17 55 32.8**	**+1.1**
ESSG	**Sabana Grande**	**1.83**	**317**	*i* P	**Pn**	**17 55 34.2**	**+0.6**
ESSG				*e*S	**Sn**	**17 55 55.4**	**-0.5**
ESSG				IAML		17 55 57.8	
	comp=E,3μm,0.2s						
SARH	**Santa Rosa de**	**1.90**	**24**	*i* P	**Pn**	**17 55 35.9**	**+1.5**
SARH	**Santa Rosa de**	**1.90**	**24**	⇑P	**Pn**	**17 55 36.0**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.44**	**65**		**Pn**	**17 55 42.4**	**+0.5**
TGUH				Sn	**Sn**	**17 56 10.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.44**	**65**	⇑P	**Pn**	**17 55 42.8**	**+1.0**
TGUH				S	**Sn**	**17 56 12.7**	**+2.0**
CRIN	**San Cristobal**	**2.46**	**97**		**Pn**	**17 55 43.4**	**+1.3**
CRIN				Sn	**Sn**	**17 56 10.0**	**-1.1**
CRIN	**San Cristobal**	**2.46**	**97**	S	**Sn**	**17 56 13.4**	**+2.4**
CRIN	**San Cristobal**	**2.46**	**97**	⇑P	**Pn**	**17 55 43.5**	**+1.4**
SOKI	**Kika Raxquin**	**2.53**	**315**	*e*P	**Pn**	**17 55 45.2**	**+1.9**
RTAL	**Retalhuleu**	**2.56**	**306**		**Pn**	**17 55 43.6**	**+0.3**
RTAL				Sn	**Sn**	**17 56 11.8**	**-1.7**
RTAL	**Retalhuleu**	**2.56**	**306**	P	**Pn**	**17 55 44.7**	**+1.4**
HERN

BILN	Bilwi Airport	6.09	80	⇓P		Pn	17 56 33.3 +1.7
SCIG	Sabancuy	6.11	345	P		Pn	17 56 33.9 +2.1
CMIG	Matias Romero	6.55	309	P		Pn	17 56 40.1 +2.2
	comp=E,3.7nm,0.5s,baz=134,slow=11,SNR=10						
CMIG				S		Sn	17 57 52.2 +1.0
	comp=E,8.8nm,0.4s,baz=80,slow=17,SNR=6.3						
CMIG				LR		LR	17 58 26.7
	comp=E,30nm,20.5s,baz=132,slow=30						
OCHAL	Ojochal	6.99	123	P		Pn	17 56 46.3 +2.4
TEIG	Tepich	7.26	9			Pn	17 56 49.5 +1.9
TEIG	Tepich	7.26	9	P		Pn	17 56 48.0 +0.5
	comp=E,0.1nm,0.6s,baz=311,slow=24,SNR=42						
TEIG				S		Sn	17 58 09.8 +1.2
	comp=E,0.1nm,0.7s,baz=128,slow=20,SNR=1.6						
PIRO	Carate, Puerto	7.64	126			Pn	17 56 56.2 +3.4
BRU2	Volcan	7.94	121			Pn	17 56 57.9 +0.8
PRVC	Isla de Provid	7.98	87			Pn	17 56 58.0 +0.6
SOR	Soroa	11.53	32			Pn	17 57 46.4 +0.5
CAMR	Camarioca	12.64	37	Pn		Pn	17 58 01.2 +0.1
MTDJ	Mount Denham	12.67	64	Pn		Pn	17 58 02.0 +0.4
553A	Crawfordville	17.72	15			P	17 59 04.6 -1.8
FLOC	Florencia	17.85	128	P		P	17 59 07.1 -0.9
FLOC				IAmb		IAmb	17 59 17.9
	comp=Z,12nm,0.9s						
SDV	Santo Domingo	19.02	101	LR		LR	18 07 00.6
	comp=Z,36nm,21.0s,baz=232,slow=38						
BRDY	Brady	20.15	336	P		P	17 59 33.3 +0.4
WHTX	Lake Whitney,	20.22	340	P		P	17 59 34.1 +0.4
WHTX				IAmb		IAmb	17 59 51.4
	comp=Z,9.3nm,0.8s						
TXAR	Lajitas Array	20.86	323	P		Pn	17 59 43.5 -0.4
	comp=Z,1.4nm,0.6s,baz=147,slow=12,SNR=17						
	comp=Z,1.4nm,0.6s						
TX31	Lajitas Ar. Si	20.86	323	P		P	17 59 41.3 +0.6
Y49A	Blount Mountai	20.93	7	P		P	17 59 41.2 -0.2
GOGA	Godfrey	21.03	14	P		P	17 59 43.1 +0.6
GOGA				IAmb		IAmb	17 59 48.7
	comp=Z,11nm,1.4s						
X48A	Hartselle	21.45	6	P		P	17 59 46.5 -0.4
BAUV	El Baul	21.50	99	P		P	17 59 46.2 -1.4
FPAL	Fort Paine	21.71	9	P		P	17 59 48.2 -1.5
MIAR	Mount Ida	21.73	351	P		P	17 59 48.0 -1.8
MIAR				IAmb		IAmb	18 00 17.8
	comp=Z,7.6nm,1.1s						
HODGE	Hodges	22.12	16	P		P	17 59 53.0 -1.1
HODGE				IAmb		IAmb	17 59 55.8
	comp=Z,5.3nm,0.8s						
SWET	Sewanee	22.33	8	P		P	17 59 55.5 -0.9
SWET				IAmb		IAmb	17 59 58.0
	comp=Z,4.7nm,0.6s						
CPCT	Cooper Cave	22.78	11	P		P	18 00 01.0 -0.1
CPCT				IAmb		IAmb	18 00 01.4
	comp=Z,4.0nm,0.6s						
DKNS	Dickens	23.01	335	P		P	18 00 03.4 -0.2
DKNS				IAmb		IAmb	18 00 06.2
	comp=Z,3.5nm,0.6s						
SJG	San Juan	23.09	74	LR		LR	18 09 50.2
	comp=Z,36nm,18.2s,baz=160,slow=39						
TKL	Tuckaleechee C	23.12	12	P		P	18 00 03.7 -0.8
TKL				IAmb		IAmb	18 00 28.1
	comp=Z,14nm,1.3s						
TKL	Tuckaleechee C	23.12	12	LR		LR	18 09 12.5
	comp=Z,58nm,18.7s,baz=215,slow=37						
WMOK	Wichita Mounta	23.18	340	P		P	18 00 04.0 -1.1
V53A	Saluda	23.35	14	P		P	18 00 07.1 +0.4
V53A				IAmb		IAmb	18 00 12.0
	comp=Z,4.9nm,0.8s						
MNTX	Cornudas Mount	23.60	324	P		P	18 00 08.7 -0.4
U49A	Red Boiling Sp	23.63	8	P		P	18 00 08.7 -0.5
U49A				IAmb		IAmb	18 00 10.8
	comp=Z,7.2nm,1.0s						
PBMO	Poplar Bluff	23.66	358	P		P	18 00 09.5 0.0
W57A	Gilead	23.66	20	P		P	18 00 09.1 -0.4
W57A				IAmb		IAmb	18 00 10.6
	comp=Z,6.4nm,0.7s						
T47A	Sharon Grove	23.96	5	P		P	18 00 11.9 -0.3
SMWD	Samnorwood	24.01	338	P		P	18 00 12.7 -0.1
SMWD				IAmb		IAmb	18 00 14.0
	comp=Z,7.5nm,0.8s						
U54A	Nelsons Funny	24.40	15	P		P	18 00 16.4 +0.1
V58A	Windy Hill, Pi	24.54	21	P		P	18 00 16.5 -1.0
V58A				IAmb		IAmb	18 00 19.5
	comp=Z,7.5nm,0.8s						
PFO	Pinyon Flats O	31.93	314	LR		LR	18 16 07.0
	comp=Z,46nm,20.5s,baz=210,slow=39						
MPMC	Manual Prospec	34.01	317	P		P	18 01 43.9 +2.1
MPMC				IAmb		IAmb	18 01 44.7
	comp=Z,2.0nm,0.8s						
PDAR	Pinedale Array	34.32	333	P		P	18 01 45.4 +0.9
	comp=Z,0.3nm,0.6s,baz=138,slow=10.0,SNR=3.8						
	comp=Z,0.3nm,0.6s						
EYMN	Ely	34.85	358	P		P	18 01 47.4 -1.3
NVAR	Mina Array Bea	35.93	320	P		P	18 01 58.9 +0.5
	comp=Z,1.2nm,0.8s,baz=134,slow=11,SNR=5.7						
NVAR				LR		LR	18 18 59.7
	comp=Z,48nm,18.1s,baz=88,slow=40						
	comp=Z,1.2nm,0.8s						
EPLO	Experimental L	36.70	355	P		P	18 02 03.4 -1.2
MCMT	McKenzie Canyo	37.41	332	P		P	18 02 11.5 +0.6
LYMT	Lyon Mountain	38.85	335	P		P	18 02 22.6 -0.4
BPMT	Black Pine Rid	38.92	334	P		P	18 02 23.7 +0.1
SCHQ	Schefferville	45.34	18	P		P	18 03 13.7 -1.8
SCHQ	Schefferville	45.34	18	P		P	18 03 13.8 -1.6
	comp=Z,18nm,0.4s,baz=224,slow=6.4,SNR=2.3						
H03N2	Juan Fernandez	47.31	168	T		T	18 54 24.6
	baz=347,slow=76,SNR=9.6						
H03N1	Juan Fernandez	47.31	168	T		T	18 54 28.3
	baz=347,slow=76,SNR=9.1						
H03N3	Juan Fernandez	47.32	168	T		T	18 54 29.9
	baz=347,slow=76,SNR=11						
YKAW1	Yellowknife Wh	52.49	346	P		P	18 04 09.3 -0.7
YKAW1				IAmb		IAmb	18 04 27.1
	comp=Z,15nm,1.2s						
YKA	Yellowknife Ar	52.53	346	P		P	18 04 10.5 +0.2
	comp=Z,0.9nm,0.5s,baz=93,slow=6.9,SNR=10						
	comp=Z,0.9nm,0.5s						
YKAW3	Yellowknife Wh	52.59	346	P		P	18 04 10.2 -0.5
YKAW3				IAmb		IAmb	18 04 42.0
	comp=Z,12nm,1.1s						
PLCA	Paso Flores	56.31	163	P		P	18 04 40.0 +1.9
ILON	Igloolik, Nuna	56.51	3	P		P	18 04 38.6 -0.4
H29M	Whitestone	62.29	340	P		P	18 05 18.4 -0.5
F28M	Old Crow	63.56	341	P		P	18 05 27.6 +0.3
G27K	Doyon Strip	63.72	340	P		P	18 05 28.2 -0.2
G27K				IAmb		IAmb	18 05 31.2
	comp=Z,3.9nm,1.4s						
OHAK	Old Harbor	65.00	327	P		P	18 05 36.3 -0.6
WRA	Warramunga Arr	137.45	255	PKP		PKiKP	18 14 22.7 -0.3
	comp=Z,0.9nm,0.6s,baz=90,slow=2.3,SNR=11						
ASAR	Alice Springs	137.57	249	PKhKP		PKPpre	18 14 17.2
	comp=Z,0.3nm,0.6s,baz=113,slow=3.6,SNR=4.5						
ASAR				PKP		PKiKP	18 14 22.9 -0.3
	comp=Z,0.4nm,0.7s,baz=88,slow=2.4,SNR=3.4						
FITZ	Fitzroy Crossi	145.76	257	PKPbc		PKPab	18 14 38.3 +1.4
	comp=Z,2.0nm,0.5s,baz=146,slow=7.3,SNR=3.6						
CMAR	Chiang Mai Arr	147.61	345	PKPbc		PKPbc	18 14 41.5 -0.3
	comp=Z,1.6nm,0.3s,baz=343,slow=3.8,SNR=12						

*NEIC **04** 18:05:53.8±1.6, 20°.1S±0°.1×173°.39W±0°.10, h10km±1km, mb4.8/18, Error ellipse: s-maj=18.1km s-min=15.3km az=189.0*
*IDC **04** 18:05:55.9±1.1, 20°.26S×174°.07W, h0km, mb4.0/6, mbtmp4.0/6, MS3.4/4, Error ellipse: s-maj=38.7km s-min=29.7km az=167.0*

ISC 04 18:05:53.9±0.6, 20°.09S±0°.09×173°.43W±0°.08, h10km, n36, σ1§67/32, mb4.8/13, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.45	74		Pn	18 06 47.2	-0.6
NIUE				Sn	Sn	18 07 25.9	-2.8
AFI	Afiamalu	6.35	15	Pn	Pn	18 07 27.0	-0.6
AFI				Sn	Sn	18 08 39.6	-0.7
RAR	Rarotonga	12.83	97	LR	LR	18 13 19.2	
	comp=Z,123nm,18.6s,baz=287,slow=33						
BKZ	Black Stump Fm	20.90	202	P	P	18 10 34.0	-2.5
BKZ				IAmb	IAmb	18 10 34.9	
	comp=Z,42nm,1.6s						
PPT	Papeete	22.71	88	LR	LR	18 18 05.1	
	comp=Z,67nm,18.3s,baz=44,slow=31						
PLWZ	Palliser	23.47	202	P	P	18 11 03.4	-0.4
THZ	Tophouse	24.52	205	P	P	18 11 13.8	+0.1
THZ				IAmb	IAmb	18 11 27.7	
	comp=Z,61nm,1.5s						
KHZ	Kahutara	24.83	203	P	P	18 11 15.5	-0.9
DSZ	Denniston Nort	24.96	207	P	P	18 11 17.7	+0.1
EIDS	Eidsvold	33.09	254	P	P	18 12 29.3	-0.8
EIDS				IAmb	IAmb	18 12 43.6	
	comp=Z,20nm,1.8s						
ARMA	Armidale	33.12	245	P	P	18 12 30.4	-0.1
CTAO	Charters Tower	37.80	263	P	P	18 13 09.9	-0.9
CTAO				IAmb	IAmb	18 13 24.1	
	comp=Z,30nm,1.4s						
PMG	Port Moresby	39.47	280	P	P	18 13 23.5	-1.4
TOO	Toolangi	39.62	235	P	P	18 13 24.6	-1.4
INKA	Innaminka	42.39	251	P	P	18 13 48.0	-0.8
BBOO	Buckleboo	46.57	244	P	P	18 14 20.6	-1.6
JAY	Jayapura	48.03	285	P	P	18 14 33.7	-0.1
	comp=Z,9.8nm,0.7s,baz=86,slow=1.4,SNR=6.6						
	comp=Z,9.8nm,0.7s						
WR8	Warramunga Arr	48.75	261	P	P	18 14 38.2	-1.1
WR8				IAmb	IAmb	18 14 52.2	
	comp=Z,7.5nm,1.2s						
AS31	Alice Springs	48.78	256	P	P	18 14 38.4	-1.1
ASAR	Alice Springs	48.78	256	P	P	18 14 37.6	-2.0
	comp=Z,2.2nm,0.8s,baz=88,slow=8.1,SNR=18						
ASAR				PcP	PcP	18 16 06.3	+1.8
	comp=Z,0.7nm,0.6s,baz=102,slow=3.9,SNR=6.5						
	comp=Z,2.2nm,0.8s						
WB0	Warramunga Arr	48.88	261	P	P	18 14 38.9	-1.4
WB0				IAmb	IAmb	18 15 06.9	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	48.91	261	P	P	18 14 38.2	-2.2
	comp=Z,1.6nm,0.8s,baz=97,slow=7.7,SNR=8.3						
WRA				PcP	PcP	18 16 06.7	+1.8
	comp=Z,0.6nm,0.6s,baz=98,slow=3.1,SNR=3.1						
	comp=Z,1.6nm,0.8s						
MTN	Manton Dam	53.46	269	P	P	18 15 14.4	-0.3
KNRA	Kununurra	54.97	265	P	P	18 15 25.4	-0.4
KNRA				IAmb	IAmb	18 15 44.5	
	comp=Z,17nm,1.3s						
DAV	Davao City (W)	65.76	288	LR	LR	18 46 34.3	
	comp=Z,21nm,18.1s,baz=172,slow=37						
QSPA	South Pole Qui	69.98	180	P	P	18 17 08.6	+3.1
QSPA				IAmb	IAmb	18 17 32.0	
	comp=Z,6.0nm,1.2s						
QSPA	South Pole Qui	69.98	180	P	P	18 17 08.7	+3.1
	comp=Z,1.0nm,1.0s,baz=0.4,slow=0.7,SNR=3.9						
	comp=Z,1.0nm,1.0s						
MJAR	Matsushiro Arr	72.52	321	P	P	18 17 23.9	+2.8
	comp=Z,1.3nm,0.9s,baz=157,slow=6.3,SNR=1.6						
	comp=Z,1.3nm,0.9s						
TPUB	Ta-pu	77.41	301	P	P	18 17 49.4	-0.3
TPUB				IAmb	IAmb	18 17 51.6	
	comp=Z,10nm,0.8s						
H03S2	Juan Fernandez	82.65	123	T	T	19 51 09.5	
	baz=243						
H03S1	Juan Fernandez	82.67	123	T	T	19 51 05.8	
	baz=243						
H03S3	Juan Fernandez	82.67	123	T	T	19 51 03.0	
	baz=243						
TXAR	Lajitas Array	83.25	56	P	P	18 18 27.5	+6.3
	comp=Z,0.4nm,0.8s,baz=217,slow=3.9,SNR=4.3						
	comp=Z,0.4nm,0.8s						
CMIG	Matias Romero	85.48	70	LR	LR	18 47 16.3	
	comp=Z,54nm,21.7s,baz=162,slow=29						
AKASG	Malin Array Be	144.60	335	PKP	PKPdf	18 25 32.4	+1.7
	comp=Z,0.7nm,0.4s,baz=37,slow=4.9,SNR=4.8						
GERES	GERESS Array B	150.75	350	PKPbc	PKiKP	18 25 49.5	+2.2
	comp=Z,1.0nm,1.0s,baz=2.5,slow=9.3,SNR=3.4						

*IDC **04** 18:14:24.6±1.5, 2°.67S×138°.34E, h0km, mb3.5/3, mbtmp3.5/5, ML3.3/2, MS2.9/2, Error ellipse: s-maj=31.5km s-min=26.0km az=149.0*
*DJA **04** 18:14:27.0±0.4, 2°.5±5°.5×13°.8E±°, h10km, M3.7/7, mb4.2/1, MLv3.5/7*

ISC 04 18:14:25.3±0.8, 2°.62S±0°.09×138°.53E±0°.06, h10km, n12, σ0§88/12, mb3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.66	16	P	Pb	18 14 38.2	-0.7
GENI	Genyem	1.64	89	P	Pg	18 14 57.3	+0.5
JAY	Jayapura	2.18	87	Pn	Pb	18 15 04.8	-0.1
	4.5nm,0.3s,baz=260,slow=12,SNR=18						
JAY				Sn	Sg	18 15 34.7	-0.7
	2.7nm,0.3s,baz=246,slow=20,SNR=8.5						
	14nm,0.3s						
JAY	Jayapura	2.18	87	P	Pb	18 15 04.4	-0.5
SRPI	Serui, Papua	2.40	288	P	Pn	18 15 03.9	-0.8
BAKI	Biak	2.81	300	P	Pn	18 15 10.9	+0.6
FAKI	Fak Fak	6.28	267	P	Pn	18 15 58.1	+0.1
WRA	Warramunga Arr	17.69	193	P	Pn	18 18 31.0	-1.0
	0.1nm,0.3s,baz=14,slow=12,SNR=8.4						
WRA				LR	LR	18 24 51.7	
	comp=Z,62nm,20.3s,baz=240,slow=36						
	0.7nm,0.6s						
ASAR	Alice Springs	21.39	192	P	P	18 19 12.3	-1.0
	1.0nm,0.8s,baz=16,slow=10,SNR=14						
	1.0nm,0.8s						
JOW	Kunigami	30.91	342	LR	LR	18 34 08.7	
	comp=Z,13nm,18.0s,baz=218,slow=38						
MKAR	Makanchi Array	69.61	322	P	P	18 25 35.3	+0.4
	0.2nm,0.5s,baz=100,slow=6.0,SNR=1.3						
	0.2nm,0.5s						
VNDA	Vanda	75.88	175	P	P	18 26 13.1	+1.5
	0.4nm,0.5s,baz=325,slow=6.6,SNR=2.8						
	0.4nm,0.5s						

*NEIC **04** 18:34:01.6±0.9, 19°.10N±0°.03×155°.51W±0°.04, h52km±5km, ML2.6/42, ML2.3/9(HVO), Error ellipse: s-maj=6.4km s-min=3.8km az=121.0*

HVO 04 18:34:05.3±1.5, 19°.1N±0°.1×155°.5W±0°.1, h33km±7km, Error ellipse: s-maj=22.0km s-min=3.2km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.12	25		Pb	18 34 10.8	-0.3
KHU	Kahuku	0.19	307		Pn	18 34 10.4	-1.3
HLP	Hilina Pali	0.21	39		Pn	18 34 11.4	-0.5
AIN	Ainahou	0.24	358		Pb	18 34 10.8	-1.7
AIN					Sn	18 34 16.9	+0.3
SDHHI	Sand Hill	0.30	30		Pb	18 34 11.8	-1.3
RIM	Rim	0.31	32		Pb	18 34 12.4	-0.9
KKO	Keanakako'i	0.32	33		Pb	18 34 12.1	-1.3
UWE	Uwekahuna	0.33	27		Pb	18 34 11.7	-1.8
OBL	Observatory Le	0.33	29		Pb	18 34 12.5	-1.0
PUH	Pauahi	0.33	42		Pb	18 34 11.8	-1.7
PUH				IAML		18 34 20.0	
	comp=N,361nm,0.9s						
BYL	Byron's Ledge	0.33	33		Pb	18 34 11.6	-2.0
BYL				IAML		18 34 22.2	
	comp=E,412nm,0.7s						
BYL				IAML		18 34 27.1	
	comp=N,305nm,0.6s						
UWB	Uwekahuna Bluf	0.34	29		Pb	18 34 12.4	-1.1
HATHI	Halema'uma'u T	0.34	31		Pb	18 34 11.6	-2.1
HATHI				IAML		18 34 20.9	
	comp=N,354nm,1.2s						
HATHI				IAML		18 34 25.9	
	comp=E,363nm,0.7s						
KNHH	Kane Nui o Ham	0.36	47		Pb	18 34 12.0	-2.0
MLH	Mauna Loa	0.37	9		Pb	18 34 12.0	-2.2
MLH				IAML		18 34 26.5	
	comp=E,281nm,0.4s						
MLH				IAML		18 34 28.2	
	comp=N,317nm,0.6s						
RSD	Rainshed	0.37	26		Pb	18 34 11.6	-2.5
RSD				IAML		18 34 17.5	
	comp=N,336nm,3.3s						
MWH	Mokuaweoweo	0.38	339		Pb	18 34 12.0	-2.5
MWH				IAML		18 34 23.4	
	comp=N,367nm,1.2s						
STCH	Steam Cracks	0.40	50		Pb	18 34 12.4	-2.0
STCH				IAML		18 34 16.2	
	comp=E,328nm,0.1s						
STCH				IAML		18 34 16.5	
	comp=N,230nm,0.1s						
NPOC	North of Pu'u	0.41	51		Pb	18 34 13.4	-1.3
ALEP	Alea Permanent	0.45	336		Pb	18 34 12.8	-2.6
HMH	Humu'ula Sheep	0.47	356		Pb	18 34 13.2	-2.5
HMH				IAML		18 34 35.6	
	comp=N,335nm,0.8s						
JOKA	Jonika Flow	0.52	54		Pb	18 34 13.8	-2.3
JOKA				IAML		18 34 37.2	
	comp=N,362nm,1.1s						
POHA	Pohakuloa	0.63	353		Pn	18 34 14.7	-3.4
POHA				IAML		18 34 24.1	
	comp=N,158nm,0.6s						
HUH	Hualalai	0.66	327		Pn	18 34 15.2	-3.4
HUH				IAML		18 34 41.5	
	comp=E,316nm,0.5s						
MHA	Mahukona	1.14	338	Pn	Pn	18 34 20.5	-4.4

*CATAC **04** 18:38:47.6±0.3, 13°N±2°.×8°1W±°, h4km±1km, M4.7/23, mb5.2/4, mB4.9/1, MLv4.5/23, Mw(mB)4.2/1, Error ellipse: s-maj=4.1km s-min=3.5km az=104.2, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.82; $M_{\theta\theta}$=-5.46; $M_{\phi\phi}$=6.29; $M_{r\theta}$=0.36; $M_{\theta\phi}$=5.24; $M_{\phi r}$=-1.30; Fault plane solution: M_0=8.01785×10^{14} NP1:φs=335.93107°, δ89.93043°, λ-170.35355°. NP2:φs=245.91924°, δ80.35356°, λ-0.07057°. Principal axes: T 8.4113, Plg6.7553°, Azm110.5173°; N -0.8556, Plg80.3533°, Azm336.3404°; P -7.5557, Plg6.8544°, Azm201.3332°; confirmed*
*RSNC **04** 18:38:48.9±0.0, 13°N±4°×8°1W±°, h15km±6km, M3.4, ML3.4, MLv4.2*

ISC 04 18:38:47.0±1.5, 13°.24N±0°.04×81°.05W±0°.04, h1km±11km, n39, σ1§09/49, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.34	294	P	Pg	18 38 53.9	+0.5
PRVC				S	Sg	18 38 58.6	+0.7
PRVC	Isla de Provid	0.34	294	P	Pg	18 38 53.8	+0.4
PRVC				S	Sg	18 38 57.6	-0.2
SAIC	Isla e San And	0.95	223	P	Pg	18 39 05.1	-0.2
SAIC				S	Sb	18 39 18.9	-0.6
SERC	Banco Serrana,	1.23	32	P	Pg	18 39 10.1	-0.5
SERC				S	Sb	18 39 27.4	-0.1
BILN	Bilwi Airport	2.40	290	P	Pn	18 39 26.7	-0.8
BILN				S	Sn	18 39 57.7	+0.1
ESPN	Las Esperanzas	3.34	252	S	Sn	18 40 22.4	+1.6
ESPN	Las Esperanzas	3.34	252	P	Pn	18 39 41.2	+0.8
ESPN	Las Esperanzas	3.34	252	P	Pn	18 39 38.4	-2.0
ESPN				S	Sb	18 40 27.6	-0.7
SIUN	Universidad Ur	3.66	278	P	Pn	18 39 44.6	-0.2
TRT2	Tortugero	3.75	225	P	Pn	18 39 44.5	-1.5
TRT2	Tortugero	3.75	225	S	Sn	18 40 31.9	+1.1
RGM0	Gandoca	3.94	203	P	Pn	18 39 48.4	-0.2
RGM0	Gandoca	3.94	203	S	Sn	18 40 36.2	+0.7
COVE	Coope Vega, Sa	4.13	233	P	Pn	18 39 53.0	+1.7
COVE	Coope Vega, Sa	4.13	233	S	Sn	18 40 40.6	+0.3
BCIP	Isla Barro Col	4.22	164	P	Pn	18 39 53.5	+1.0
BCIP				S	Sn	18 40 43.2	+0.7
ACON	Acoyapa	4.22	253	P	Pn	18 39 53.5	+0.9
ACON	Acoyapa	4.22	253	P	Pn	18 39 57.2	+4.6
ACON				S	Sb	18 40 52.4	-1.3
DRK0	Durika	4.50	209	S	Sn	18 40 48.7	-1.1
DRK0	Durika	4.50	209	P	Pn	18 39 54.9	-1.7
SOCE	Pocosol	4.50	231	P	Pn	18 39 56.2	-0.2
LCR2	La Lucha 2	4.53	220	P	Pn	18 39 56.4	-0.6
BRU2	Volcan	4.71	200	P	Pn	18 39 59.5	+0.1
BRU2	Volcan	4.71	200	S	Sn	18 40 54.6	-0.1
MATN	Matagalpa	4.76	267	P	Pn	18 39 59.9	-0.2
MATN	Matagalpa	4.76	267	S	Sn	18 40 56.0	-0.1
JTS	Las Juntas de	4.82	233	P	Pn	18 40 00.3	-0.5
JTS				S	Sn	18 40 56.3	-1.1
JTS	Las Juntas de	4.82	233	P	Pn	18 39 59.6	-1.2
CARN	Rivas	4.83	245	P	Pn	18 40 01.0	+0.2
OCHAL	Ojochal	4.84	212	P	Pn	18 40 01.7	+0.6
CDITO	Canoas	4.97	201	P	Pn	18 40 03.1	+0.2
CDITO	Canoas	4.97	201	S	Sn	18 41 02.4	+1.3
RCVN	Varillal2	5.02	274	P	Pn	18 40 03.7	+0.1
ELI1	Hacienda Flor	5.11	240	P	Pn	18 40 04.6	-0.1
NANN	Nandasmo	5.12	256	P	Pn	18 40 05.7	+0.8
LIMN	Finca el Limon	5.18	269	P	Pn	18 40 05.7	-0.2
LIMN				S	Sn	18 41 06.8	+0.4
MGAN	Managua	5.19	258	P	Pn	18 40 05.7	-0.2
CNGN	Cerro Negro	5.56	263	P	Pn	18 40 11.4	+0.3
CNGN	Cerro Negro	5.56	263	S	Sn	18 41 16.1	+0.4

AUST 04 18:58:50.9±0.9, 18°S±7°.×12°0E±°, h10km, mb4.0/2, ML2.5/3, Error ellipse: s-maj=15.6km s-min=10.8km az=157.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	Eighty Mile Be	1.73	130	P	Pb	18 59 22.2	-0.6
CAAN				S	Sn	18 59 43.2	-0.1
MBWA	Marble Bar	3.02	187	P	Pn	18 59 39.1	+0.3
PSAC1	Pilbara Seismi	3.38	185	P	Pn	18 59 44.1	+0.4
PSAC1				S	Sn	19 00 21.5	-2.5
MEEK	Meekatharra	8.56	189	P	Pn	19 00 53.8	-1.2
	comp=Z,35nm,2.7s,comp=Z,0.2nm						
KNRA	Kununurra	8.64	75	P	Pn	19 00 55.6	-0.4
	comp=Z,11nm,1.7s,comp=Z,0.0nm						
KNRA				S	Sn	19 02 25.7	-7.9

DJA 04 19:06:04.3±0.3, 0°S±3°.×12°4E±°, h59km±10km, M3.8/15, mB4.8/2, mb4.1/6, MLv3.6/15, Mw(mB)4.0/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.69	352	P	Pn	19 06 18.6	+0.2
KMSI				S	Sn	19 06 31.0	+2.4
LUWI	Luwuk	1.60	235	P	Pn	19 06 30.1	-0.3
MRSI	Marisa	2.22	285	P	Pn	19 06 38.7	0.0
APSI	Ampana	2.56	252	P	Pn	19 06 43.8	+0.4
SANI	Sanana	2.71	135	P	Pn	19 06 46.6	+1.1
TNTI	Ternate	3.40	75	P	Pn	19 06 56.6	+1.7
SPSI	Sidrap Palu	5.76	228	P	Pn	19 07 27.5	+0.2
	654nm24nm,0.4s						
BNSI	Bone	5.82	223

KPKS	**Kokpek**	**4.39 304**	Pg	**Pg**	**19 13 17.3**	**-2.9**
	0.5nm,0.2s					
KPKS			Lg	Lg	19 14 10.4	
	36nm,0.5s					
KNOS	**Konyrlen**	**4.64 316**	Pg	**Pb**	**19 13 20.2**	**+2.6**
	8.0nm,0.5s					
KNOS			Lg	Lg	19 14 15.1	
	19nm,0.8s					
KURS	**Kuram**	**4.73 302**	Pg	**Pg**	**19 13 23.0**	**-3.7**
	6.0nm,0.6s					
KURS			Lg	Lg	19 14 19.8	
	47nm,0.8s					
ARXS	**Arharly**	**5.31 307**	Pg	**Pg**	**19 13 34.3**	**-3.6**
	3.3nm,0.4s					
ARXS			Lg	Lg	19 14 38.9	
	22nm,0.7s					
ARXS	**Arharly**	**5.31 307**	*eP*	**Pg**	**19 13 34.3**	**-3.6**
ARXS			*eS*	**Sb**	**19 14 38.9**	**+6.0**
KOTS	**Kotyrbulak**	**5.32 296**	Pg	**Pg**	**19 13 36.3**	**-1.8**
	6.6nm,0.4s					
KOTS			Lg	Lg	19 14 42.3	
	39nm,0.8s					
KOTS	**Kotyrbulak**	**5.32 296**	*eP*	**Pg**	**19 13 36.2**	**-1.8**
	6.6nm,0.4s					
KOTS			*eS*	**Sg**	**19 14 42.3**	**-4.7**
	39nm,0.8s					
MDOK	**Medeo**	**5.34 295**	Pg	**Pg**	**19 13 37.2**	**-1.2**
	2.6nm,0.4s					
MDOK			Lg	Lg	19 14 43.8	
	18nm,0.7s					
TNSS	**Tian-Shan**	**5.37 293**	Pg	**Pg**	**19 13 36.6**	**-2.4**
	0.2nm,0.0s					
TNSS			Lg	Lg	19 14 43.1	
	8.3nm,0.9s					
TNSS	**Tian-Shan**	**5.37 293**	*eP*	**Pg**	**19 13 36.6**	**-2.4**
	0.2nm,0.0s					
TNSS			*eS*	**Sg**	**19 14 43.1**	**-5.4**
	8.3nm,0.9s					
KNDC	**Almaty**	**5.42 295**	⇊Lg	Lg	19 14 43.1	
	101nm,0.9s					
TDK	**Taldyqorghan**	**5.48 317**	Pg	**Pg**	**19 13 36.6**	**-4.4**
	22nm,0.1s					
TDK			Lg	Lg	19 14 43.3	
	53nm,0.8s					
TDK	**Taldyqorghan**	**5.48 317**	*eP*	**Pg**	**19 13 36.6**	**-4.4**
	22nm,0.1s					
TDK			*eS*	**Sb**	**19 14 43.4**	**+5.7**
	53nm,0.8s					
CHKK	**Chushkaly**	**5.66 301**	Pg	**Pg**	**19 13 40.8**	**-3.7**
	1.0nm,0.2s					
CHKK			Lg	Lg	19 14 50.0	
	19nm,0.6s					
CHKK	**Chushkaly**	**5.66 301**	*eP*	**Pg**	**19 13 40.8**	**-3.7**
	1.0nm,0.2s					
CHKK			*eS*	**Sb**	**19 14 50.0**	**+7.2**
	19nm,0.6s					
MK31	**Makanchi Array**	**5.76 350**	Pn	Pn	19 13 25.8	+4.1
	0.5nm,0.5s,baz=173,slow=14,SNR=17					
MK31			⇑Pg	**Pg**	**19 13 43.0**	**-3.4**
	2.8nm,0.6s,baz=172,slow=15,SNR=9.4					
MK31			⇑Lg	Lg	19 14 53.9	
	13nm,0.8s,baz=182,slow=29,SNR=3.5					
MKAR	**Makanchi Array**	**5.76 350**	Pn	**Pn**	**19 13 25.1**	**+3.4**
	0.2nm,0.3s,baz=172,slow=12,SNR=11					
MKAR			Pg	**Pb**	**19 13 39.1**	**+2.4**
	0.5nm,0.3s,baz=170,slow=15,SNR=11					
MKAR			Sn	**Sn**	**19 14 29.5**	**+1.8**
	0.6nm,0.3s,baz=173,slow=26,SNR=4.0					
MKAR			Lg	Lg	19 14 57.0	
	0.9nm,0.3s,baz=177,slow=27,SNR=4.4					
	0.2nm,0.3s					
MTBS	**Maitube**	**5.76 293**	Pg	**Pg**	**19 13 46.8**	**+0.4**
	1.8nm,0.3s					
MTBS			Lg	Lg	19 15 00.3	
	15nm,0.3s					
MTBS	**Maitube**	**5.76 293**	*eP*	**Pg**	**19 13 46.8**	**+0.4**
	1.8nm,0.3s					
MTBS			*eS*	**Sg**	**19 15 00.3**	**-0.7**
	15nm,0.3s					
KTBS	**Karatobe**	**5.80 299**	Pg	**Pg**	**19 13 45.4**	**-1.7**
	2.8nm,0.4s					
KTBS			Lg	Lg	19 14 58.0	
	41nm,0.7s					
KST	**Kastek**	**6.06 291**	Pg	**Pg**	**19 13 52.5**	**+0.4**
	5.8nm,0.7s					
KST			Lg	Lg	19 15 09.9	
	41nm,0.9s					
KST	**Kastek**	**6.06 291**	*eP*	**Pg**	**19 13 52.5**	**+0.4**
	5.8nm,0.7s					
KST			*eS*	**Sg**	**19 15 09.9**	**-0.7**
	41nm,0.9s					
KUU	**Kurty**	**6.10 299**	Pg	**Pg**	**19 13 49.7**	**-3.1**
	7.0nm,0.1s					
KUU			Lg	Lg	19 15 05.4	
	34nm,0.3s					
KUU	**Kurty**	**6.10 299**	*eP*	**Pg**	**19 13 49.7**	**-3.1**
	7.0nm,0.1s					
KUU			*eS*	**Sg**	**19 15 05.4**	**-6.4**
	34nm,0.3s					
ZSN	**Zaisan**	**6.38 7**	Pg	**Pg**	**19 13 56.4**	**-1.9**
	1.3nm,0.4s					
ZSN			Lg	Lg	19 15 16.7	
	36nm,0.8s					
ZSN	**Zaisan**	**6.38 7**	*eP*	**Pg**	**19 13 56.4**	**-1.9**
	1.3nm,0.4s					
ZSN			*eS*	**Sg**	**19 15 16.7**	**-4.2**
	36nm,0.8s					
KRBS	**Karabastau**	**6.47 296**	Pg	**Pg**	**19 13 56.4**	**-3.5**
	1.9nm,0.4s					
KRBS			Lg	Lg	19 15 16.9	
	3.8nm,0.7s					
AAK	**Ala-Archa**	**7.03 285**	Pn	**Pn**	**19 13 39.8**	**+0.6**
	0.4nm,0.3s,baz=52,slow=22,SNR=1.6					
AAK			Sn	**Sn**	**19 14 56.6**	**-2.6**
	0.4nm,0.3s,baz=53,slow=17,SNR=2.2					
AAK			Lg	Lg	19 15 37.6	
	0.5nm,0.3s,baz=253,slow=14,SNR=5.5					
	1.1nm,0.3s					
AAK	**Ala-Archa**	**7.03 285**	⇑Lg	Lg	19 15 37.8	
	16nm,0.9s					
KK31	**Karatay Array**	**9.99 286**	⇊Lg	Lg	19 17 08.5	
	2.6nm,0.8s,baz=94,slow=24,SNR=5.6					
KURBB	**Kurchatov Arra**	**10.16 341**	Pn	**Pn**	**19 14 21.5**	**-0.3**
	baz=162,slow=12,SNR=3.4					
KURBB			Lg	Lg	19 17 17.9	
	baz=157,slow=24,SNR=1.8					
	0.2nm,0.5s					
KURK	**Kurchatov**	**10.22 342**	⇑Pn	**Pn**	**19 14 25.2**	**+2.4**
	1.0nm,1.4s					
KURK			⇊Lg	Lg	19 17 13.5	
	2.7nm,0.9s					
ZALV	**Zalesovo Beam**	**12.86 3**	Pn	**Pn**	**19 14 57.4**	**-1.4**
	0.1nm,0.3s,baz=186,slow=11,SNR=2.4					
ZALV			Lg	Lg	19 18 44.6	
	0.1nm,0.3s,baz=180,slow=24,SNR=1.3					
	0.4nm,0.5s					
CMAR	**Chiang Mai Arr**	**26.10 145**	P	**P**	**19 17 28.6**	**-1.5**
	0.3nm,0.8s,baz=325,slow=9.2,SNR=5.5					
	0.3nm,0.8s					

RSNC 04 19:27:07.0±0.0, 11°N±1°×7°4W±°, h17km±1km, M2.2, ML2.3, MLv2.8, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.61 252**		P	Pg	19 27 17.8	-1.3
SMRC				S	Sg	19 27 27.2	-0.1
CRJC	**Cerrejon, Guaj**	**0.80 114**		P	Pb	19 27 21.4	-1.2
CRJC				S	Sb	19 27 32.8	-0.4
ARGC	**Ariguani, Magd**	**1.60 202**		P	Pn	19 27 33.5	-1.1
ARGC				S	Sn	19 27 54.4	-0.5
URIC	**Uribia, Colomb**	**1.64 78**		P	Pn	19 27 33.8	-1.3
URIC				S	Sn	19 27 55.4	-0.5
SJCC	**San Jacinto, C**	**2.10 227**		P	Pn	19 27 40.2	-1.3
SJCC				S	Sn	19 28 07.0	-0.2
SDV	**Santo Domingo**	**3.83 129**		P	Pn	19 28 03.8	-1.7

IDC ***04*** *19:27:45.2±2.3, 5°.58N×73°.14W, h128km±16km, mbtmp3.9/1, Error ellipse: s-maj=132.0km s-min=10.5km az=135.0*
RSNC ***04*** *19:27:47.0±0.0, 6°N±1°×7°4W±°, h116km±2km, M3.3, mb4.0, ML3.0, MLv3.7*
ISC 04 19:27:46.5±1.0, 6°.07N±0°.03×73°.71W±0°.03, h118km±7km, n37, σ1§35/69, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.55 221**		P	**Pn**	**19 28 04.6**	**-0.1**
SPBC				S	**Sn**	**19 28 18.3**	**-0.1**
RUSC	**La Rusia**	**0.65 106**		P	**Pn**	**19 28 05.8**	**0.0**
RUSC				S	**Sn**	**19 28 19.9**	**-0.5**
PTBC	**PUERTO BERRIO,**	**0.88 302**		P	**Pn**	**19 28 06.4**	**-0.8**
PTBC				S	**Sn**	**19 28 21.9**	**-0.9**
BRJC	**Barrancabermej**	**0.90 358**		P	**Pn**	**19 28 07.6**	**+0.2**
BRJC				S	**Sn**	**19 28 23.2**	**0.0**
NORC	**Norcasia**	**1.26 246**		P	**Pn**	**19 28 10.5**	**-0.6**
NORC				S	**Sn**	**19 28 29.6**	**-0.2**
ROSC	**El Rosal**	**1.37 206**		P	**Pn**	**19 28 13.4**	**+0.7**
	40nm,0.3s,baz=76,slow=18,SNR=10						
ROSC				S	**Sn**	**19 28 32.7**	**+0.1**
	110nm,0.3s,baz=116,slow=18,SNR=8.1						
ROSC	**El Rosal**	**1.37 206**		P	**Pn**	**19 28 13.9**	**+1.2**
ROSC				S	**Sn**	**19 28 32.6**	**+0.1**
CVER	**Cruz Verde, Cu**	**1.58 193**		P	**Pn**	**19 28 16.2**	**+0.9**
CVER				S	**Sn**	**19 28 37.6**	**+0.5**
PAMC	**Pamplona, Colo**	**1.61 39**		P	**Pn**	**19 28 16.1**	**+0.5**
PAMC				S	**Sn**	**19 28 38.5**	**+0.8**
HELC	**Santa Helena**	**1.81 274**		P	**Pn**	**19 28 18.7**	**+0.8**
HELC				S	**Sn**	**19 28 41.8**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.81 321**		P	**Pn**	**19 28 17.2**	**-0.4**
ZARC				S	**Sn**	**19 28 41.7**	**+0.4**
GUY2C	**Guyana, Caldas**	**1.85 243**		P	**Pn**	**19 28 18.6**	**+0.1**
GUY2C				S	**Sn**	**19 28 43.7**	**+0.9**
OCAC	**Ocana**	**2.19 10**		P	**Pn**	**19 28 22.5**	**+0.1**
OCAC				S	**Sn**	**19 28 50.4**	**+0.6**
CBOC	**Ciudad Bolivar**	**2.30 265**		P	**Pn**	**19 28 24.5**	**+0.7**
CBOC				S	**Sn**	**19 28 53.0**	**+0.6**
ANIL	**Santa Ana**	**2.31 227**		P	**Pn**	**19 28 24.4**	**+0.4**
ANIL				S	**Sn**	**19 28 53.8**	**+1.1**
PTGC	**Puerto Gaitan,**	**2.44 140**		P	**Pn**	**19 28 24.2**	**-1.2**
PTGC				S	**Sn**	**19 28 53.7**	**-1.6**
UREC	**San Jos de Ur**	**2.46 313**		P	**Pn**	**19 28 24.7**	**-1.0**
UREC				S	**Sn**	**19 28 53.7**	**-2.2**
PRAC	**Prado**	**2.62 207**		P	**Pn**	**19 28 27.1**	**-0.7**
PRAC				S	**Sn**	**19 28 58.7**	**-0.9**
ORTC	**Ortega, Tolima**	**2.64 216**		P	**Pn**	**19 28 27.9**	**-0.2**
ORTC				S	**Sn**	**19 29 00.1**	**+0.1**
DBBC	**Dabeiba**	**2.66 291**		P	**Pn**	**19 28 28.4**	**+0.1**
DBBC				S	**Sn**	**19 28 59.5**	**-0.9**
URMC	**La Uribe, Meta**	**2.89 193**		P	**Pn**	**19 28 31.6**	**+0.3**
URMC				S	**Sn**	**19 29 05.9**	**0.0**
YOTC	**Yotoco, Valle**	**3.35 232**		P	**Pn**	**19 28 36.7**	**-0.7**
APAC	**Apartado, Choc**	**3.38 303**		P	**Pn**	**19 28 37.2**	**-0.5**
APAC				S	**Sn**	**19 29 16.2**	**-1.1**
GUVC	**San Jose del G**	**3.67 163**		P	**Pn**	**19 28 40.1**	**-1.5**
GUVC				S	**Sn**	**19 29 22.2**	**-2.1**
ARGC	**Ariguani, Magd**	**3.80 352**		P	**Pn**	**19 28 44.7**	**+1.4**
ARGC				S	**Sn**	**19 29 30.8**	**+3.5**
MACC	**Macarena, Meta**	**3.91 182**		P	**Pn**	**19 28 42.8**	**-2.0**
MACC				S	**Sn**	**19 29 25.6**	**-4.3**
SJCC	**San Jacinto, C**	**4.07 339**		P	**Pn**	**19 28 45.2**	**-1.8**
SJCC				S	**Sn**	**19 29 30.3**	**-3.6**
SDV	**Santo Domingo**	**4.14 47**		P	**Pn**	**19 28 47.2**	**-0.8**
	11nm,0.3s,baz=15,slow=17,SNR=3.2						
SDV				S	**Sn**	**19 29 34.4**	**-1.3**
	19nm,0.4s,baz=57,slow=14,SNR=4.7						
SDV	**Santo Domingo**	**4.14 47**		P	**Pn**	**19 28 48.6**	**+0.6**
SDV				S	**Sn**	**19 29 36.6**	**+0.9**
SDV	**Santo Domingo**	**4.14 47**		S	**Pn**	**19 28 49.1**	**+1.1**
POPC	**Popayan, Colom**	**4.59 220**		P	**Pn**	**19 28 53.8**	**-0.3**
FLOC	**Florencia**	**4.86 204**		P	**Pn**	**19 28 57.0**	**-0.6**
FLOC				S	**Sn**	**19 29 51.4**	**-1.6**
CRJC	**Cerrejon, Guaj**	**4.98 9**		P	**Pn**	**19 28 59.5**	**+0.2**
	0.3nm27nm,0.5s						
CRJC				S	**Sn**	**19 29 53.6**	**-2.3**
	0.3nm27nm,0.5s						
SMRC	**Santa Marta, M**	**5.08 354**		P	**Pn**	**19 29 00.6**	**0.0**
	0.1nm19nm,0.8s						
SMRC				S	**Sn**	**19 29 56.0**	**-2.2**
	0.1nm19nm,0.8s						
URIC	**Uribia, Colomb**	**5.84 17**		P	**Pn**	**19 29 11.0**	**+0.2**
URIC				S	**Sn**	**19 30 13.2**	**-3.4**
ASAR	**Alice Springs**	**148.20 234**		PKPbc	**PKPdf**	**19 47 17.1**	**+1.0**
	0.4nm,0.4s,baz=119,slow=3.7,SNR=8.2						
WRA	**Warramunga Arr**	**149.46 241**		PKPbc	**PKPdf**	**19 47 20.4**	**+2.2**
	0.6nm,0.4s,baz=107,slow=3.1,SNR=18						

RSNC 04 19:32:59.9±0.0, 6°N±1°×7°4W±°, h108km±2km, M2.5, mb3.8, ML2.3, MLv2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.54 221**		P	Pn	19 33 16.6	-0.3
SPBC				S	Sn	19 33 29.3	-0.4
RUSC	**La Rusia**	**0.66 105**		P	Pn	19 33 17.8	-0.4
RUSC				S	Sn	19 33 32.0	0.0
BARC	**Barichara**	**0.75 45**		P	Pn	19 33 18.6	-0.2
BARC				S	Sn	19 33 33.3	+0.3
PTBC	**PUERTO BERRIO,**	**0.87 303**		P	Pn	19 33 18.3	-1.4
PTBC				S	Sn	19 33 33.9	-0.7
BRJC	**Barrancabermej**	**0.91 358**		P	Pn	19 33 19.5	-0.5
BRJC				S	Sn	19 33 34.6	-0.6
NORC	**Norcasia**	**1.25 247**		P	Pn	19 33 22.9	-0.8
NORC				S	Sn	19 33 41.5	-0.2
ROSC	**El Rosal**	**1.35 206**		P	Pn	19 33 25.0	-0.3
ROSC				S	Sn	19 33 47.7	+3.3
PAMC	**Pamplona, Colo**	**1.63 39**		P	Pn	19 33 28.3	-0.3
PAMC				S	Sn	19 33 49.7	-0.7
HELC	**Santa Helena**	**1.80 274**		P	Pn	19 33 30.6	-0.1
HELC				S	Sn	19 33 53.5	-0.6
ZARC	**Zaragoza, Cauc**	**1.82 322**		P	Pn	19 33 29.5	-1.0
ZARC				S	Sn	19 33 53.6	-0.3
GUY2C	**Guyana, Caldas**	**1.84 243**		P	Pn	19 33 31.3	+0.1
GUY2C				S	Sn	19 33 55.9	+0.9
OCAC	**Ocana**	**2.20 10**		P	Pn	19 33 35.2	-0.4
OCAC				S	Sn	19 34 03.8	+1.0
CBOC	**Ciudad Bolivar**	**2.29 265**		P	Pn	19 33 36.6	-0.1
ANIL	**Santa Ana**	**2.29 227**		P	Pn	19 33 37.5	+0.7
ANIL				S	Sn	19 34 06.5	+1.5
PRAC	**Prado**	**2.60 207**		P	Pn	19 33 39.4	-1.3
PRAC				S	Sn	19 34 12.1	+0.1
ORTC	**Ortega, Tolima**	**2.62 216**		P	Pn	19 33 40.0	-0.9
ORTC				S	Sn	19 34 12.8	+0.3
DBBC	**Dabeiba**	**2.65 291**		P	Pn	19 33 40.2	-1.1
DBBC				S	Sn	19 34 11.6	-1.6
URMC	**La Uribe, Meta**	**2.87 193**		P	Pn	19 33 44.0	-0.3
URMC				S	Sn	19 34 19.3	+0.9
APAC	**Apartado, Choc**	**3.38 303**		P	Pn	19 33 50.4	-0.5
CRJC	**Cerrejon, Guaj**	**5.00 9**		P	Pn	19 34 12.4	-0.4
	0.1nm15nm,0.8s						
CRJC				S	Sn	19 35 08.4	-1.1
	0.1nm15nm,0.8s						
URIC	**Uribia, Colomb**	**5.86 17**		P	Pn	19 34 22.6	-1.8

NEIC ***04*** *19:37:58.3±2.4, 49°.26S±0°.07×120°.7E±0°.2, h10km±1km, mb4.4/14, Error ellipse: s-maj=25.5km s-min=9.3km az=70.0*
IDC ***04*** *19:37:58.8±0.8, 49°.25S×120°.61E, h0km, mb4.0/8, mbtmp4.0/9, ML2.3/1, MS3.6/26, Error ellipse: s-maj=35.6km s-min=15.6km az=104.0*
ISC 04 19:37:58.8±0.6, 49°.20S±0°.08×120°.6E±0°.2, h10km, n55, σ1§51/31, mb4.1/14, MS3.7/25, 5C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.08 339**		T	T	19 57 07.3	
	baz=162,slow=74,SNR=139						
H01W2	**Cape Leeuwin H**	**15.08 339**		T	T	19 57 05.7	
	baz=162,slow=74,SNR=165						
H01W3	**Cape Leeuwin H**	**15.09 339**		T	T	19 57 02.7	
	baz=162,slow=74,SNR=157						
NWAO	**Narrogin (SRO)**	**16.46 350**		Pn	**Pn**	**19 41 46.8**	**-3.0**
NWAO				IAmb	IAmb	19 42 22.1	
	comp=Z,62nm,1.4s						
NWAO	**Narrogin (SRO)**	**16.46 350**		Pn	**Pn**	**19 41 51.8**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=158,slow=8.5,SNR=5.7						
NWAO				LR	LR	19 46 46.1	
	comp=Z,415nm,18.7s,baz=138,slow=32						
	comp=Z,8.0nm,0.8s						
CASY	**Casey**	**17.91 193**			**Pn**	**19 42 05.0**	**-2.6**
CASY				IAmb	IAmb	19 42 08.5	
	comp=Z,32nm,1.5s						
MORW	**Morawa**	**20.41 348**		P	**P**	**19 42 34.6**	**-1.3**
MORW				IAmb	IAmb	19 42 40.5	
	comp=Z,46nm,1.4s						
TOO	**Toolangi**	**21.38 66**		P	**P**	**19 42 44.6**	**-1.8**
TOO				IAmb	IAmb	19 43 08.6	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**23.40 50**		P	**P**	**19 43 07.5**	**-0.2**
STKA	**Stephens Creek**	**23.40 50**		P	**P**	**19 43 11.0**	**+3.2**
	comp=Z,2.4nm,0.9s,baz=171,slow=13,SNR=2.9						
STKA				LR	LR	19 50 56.3	
	comp=Z,93nm,20.1s,baz=207,slow=33						
	comp=Z,2.4nm,0.9s						
ASAR	**Alice Springs**	**27.55 27**		P	**P**	**19 43 45.8**	**0.0**
ASAR	**Alice Springs**	**27.55 27**		P	**P**	**19 43 47.4**	**+1.6**
	comp=Z,3.8nm,1.2s,baz=197,slow=8.9,SNR=8.4						
ASAR				LR	LR	19 53 25.3	
	comp=Z,266nm,20.7s,baz=185,slow=34						
	comp=Z,3.8nm,1.2s						
AS31	**Alice Springs**	**27.55 27**		P	**P**	**19 43 45.1**	**-0.8**
WRA	**Warramunga Arr**	**31.20 25**		P	**P**	**19 44 18.0**	**-0.1**
WRA	**Warramunga Arr**	**31.20 25**		P	**P**	**19 44 19.4**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=200,slow=8.1,SNR=7.8						
WRA				LR	LR	19 55 30.2	
	comp=Z,198nm,21.3s,baz=168,slow=34						
	comp=Z,0.7nm,0.8s						
WR8	**Warramunga Arr**	**31.23 26**		P	**P**	**19 44 18.4**	**-0.1**
WR8				IAmb	IAmb	19 44 28.4	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**31.29 9**		P	**P**	**19 44 17.7**	**-1.3**
FITZ				IAmb	IAmb	19 44 30.2	
	comp=Z,2.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**31.29 9**		LR	LR	19 56 17.3	
	comp=Z,174nm,19.0s,baz=198,slow=35						
VNDA	**Vanda**	**32.42 164**		P	**P**	**19 44 27.3**	**-1.2**
VNDA	**Vanda**	**32.42 164**		P	**P**	**19 44 28.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=322,slow=8.1,SNR=7.9						
VNDA				LR	LR	19 56 58.7	
	comp=Z,180nm,18.1s,baz=322,slow=35						
	comp=Z,0.7nm,0.7s						
MAW	**Mawson**	**33.77 216**		P	**P**	**19 44 41.3**	**+1.1**
	comp=Z,3.5nm,1.1s,baz=88,slow=14,SNR=4.3						
MAW				LR	LR	19 55 26.0	
	comp=Z,70nm,20.2s,baz=78,slow=31						
	comp=Z,3.5nm,1.1s						
BATI	**Baumata**	**38.96 5**		LR	LR	20 00 40.7	
	comp=Z,187nm,20.2s,baz=238,slow=35						
QSPA	**South Pole Qui**	**40.92 180**		P	**P**	**19 45 41.2**	**+0.2**
QSPA				IAmb	IAmb	19 45 54.7	
	comp=Z,9.6nm,1.4s						
QSPA	**South Pole Qui**	**40.92 180**		P	**P**	**19 45 42.3**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=336,slow=1.6,SNR=9.0						
QSPA				LR	LR	20 01 31.6	
	comp=Z,109nm,21.0s,baz=340,slow=35						
	comp=Z,1.8nm,0.8s						
KAPI	**Kappang**	**44.04 359**		LR	LR	20 04 36.5	
	comp=Z,108nm,18.1s,baz=180,slow=36						
PMG	**Port Moresby**	**45.44 38**		LR	LR	20 04 56.4	
	comp=Z,64nm,19.6s,baz=207,slow=36						
TROLL	**Troll, Antarti**	**51.58 200**		⇑P	**P**	**19 47 05.8**	**+1.1**
	comp=Z,314nm,0.8s						
BELA	**Belgrano 2**	**52.27 186**		P	P	19 47 07.1	-2.6
SNAA	**Sanae**	**53.01 199**		⇑P	**P**	**19 47 16.5**	**+1.2**
	comp=Z,252nm,0.8s						
SNAA	**Sanae**	**53.01 199**		P	**P**	**19 47 15.5**	**+0.2**
SNAA	**Sanae**	**53.01 199**		P	**P**	**19 47 16.5**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=147,slow=12,SNR=20						
SNAA				LR	LR	20 08 29.5	
	comp=Z,163nm,19.2s,baz=200,slow=35						
	comp=Z,4.2nm,0.8s						
VNA2	**Neumayer--Watz**	**54.55 199**		⇑P	**P**	**19 47 25.9**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=124,slow=7.2						
VNA3	**Neumayer Olymp**	**54.76 198**		⇑P	**P**	**19 47 26.7**	**-1.3**
	comp=Z,4.6nm,0.8s						
VNA1	**Neumayer--Stat**	**54.94 198**		⇑P	**P**	**19 47 27.2**	**-2.0**
	comp=Z,4.0nm,0.8s						
PSI	**Prapat**	**55.11 333**		LR	LR	20 09 58.4	
	comp=Z,85nm,18.1s,baz=144,slow=35						
DAV	**Davao City (W)**	**56.20 6**		LR	LR	20 12 09.3	
	comp=Z,30nm,18.9s,baz=158,slow=36						
H08S2	**Diego Garcia H**	**57.75 299**		T	T	20 50 36.2	
	baz=153						
H08S1	**Diego Garcia H**	**57.76 299**		T	T	20 50 33.0	
	baz=153						
H08S3	**Diego Garcia H**	**57.77 299**		T	T	20 50 24.5	
	baz=153						
GUMO	**Guam**	**66.09 26**		LR	LR	20 18 15.1	
	comp=Z,12nm,18.9s,baz=210,slow=36						
PALK	**Pallekele**	**66.17 316**		LR	LR	20 10 26.4	
	comp=Z,51nm,22.0s,baz=122,slow=29						
PMSA	**Palmer Station**	**66.30 178**		LR	LR	20 16 16.8	
	comp=Z,90nm,21.2s,baz=212,slow=35						
CMAR	**Chiang Mai Arr**	**70.07 338**		P	**P**	**19 49 11.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**70.07 338**		P	**P**	**19 49 13.2**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=184,slow=5.6,SNR=8.7						
CMAR				LR	LR	20 17 13.3	
	comp=Z,11nm,20.9s,baz=170,slow=34						
	comp=Z,0.8nm,0.6s						
BOSA	**Boshof**	**72.20 247**		LR	LR	20 17 00.9	
	comp=Z,29nm,18.3s,baz=39,slow=32						
LBTB	**Lobatse**	**74.62 250**		LR	LR	20 14 25.9	
	comp=Z,50nm,19.8s,baz=132,slow=29						
BRDH	**Bariadhala**	**76.08 333**		LR	LR	20 23 26.2	
	comp=Z,74nm,18.6s,baz=155,slow=36						
JNU	**Nakatsue**	**82.47 9**		LR	LR	20 30 02.8	
	comp=Z,15nm,19.0s,baz=341,slow=38						
EVN	**Everest**	**82.53 330**		P	**P**	**19 50 22.0**	**-0.3**
JHJ	**Hachijo jima 2**	**83.72 16**		LR	LR	20 26 07.0	
	comp=Z,22nm,20.1s,baz=127,slow=34						
MJAR	**Matsushiro Arr**	**86.79 14**		LR	LR	20 25 35.5	
	comp=Z,8.7nm,21.7s,baz=204,slow=33						
PLCA	**Paso Flores**	**89.90 172**		LR	LR	20 30 05.4	
	comp=Z,30nm,18.0s,baz=204,slow=35						
ASAJ	**Asahikawa**	**94.91 16**		LR	LR	20 34 31.7	
	comp=

JTS	Las Juntas de	0.88	57	P		Pn	19 52 50.1	+0.4
JTS				S		Sn	19 53 06.4	+4.2
JTS	Las Juntas de	0.88	57	eP		Pn	19 52 49.5	-0.2
COLC	Colonia	0.98	30	eP		Pg	19 52 51.2	+0.3
LAPC	Finca la Perla	0.99	15	eP		Pn	19 52 51.0	-0.2
CUI	Cuipilapa	1.00	32	eP		Pg	19 52 51.5	+0.3
GPS2	Hotel Rincn d	1.00	20	eP		Pg	19 52 51.5	+0.3
MTEVE	Monteverde	1.00	59	eP		Pg	19 52 51.8	+0.6
CHIK	Chiripa	1.00	51	eP		Pg	19 52 52.0	+0.6
TIMP	Tierras Morena	1.02	41	eP		Pn	19 52 51.7	0.0
VRLE	La Escondida,	1.03	19	eP		Pg	19 52 51.8	0.0
HORNC	Hornillas	1.03	30	eP		Pg	19 52 52.0	+0.1
MESS	Mesas	1.05	28	eP		Pg	19 52 52.3	+0.1
VORI	VORI	1.06	19	eP		Pg	19 52 52.4	-0.1
BUAI	Buenos Aires	1.12	19⇑	eP		Pb	19 52 53.3	+0.3
QUEB	Quebradon, Cot	1.13	44	eP		Pb	19 52 53.6	+0.5
CASO	Castillo	1.14	57	eP		Pg	19 52 54.0	+0.2
TENO	El Achiote	1.14	39	eP		Pn	19 52 52.6	-0.7
PEJA	Penjamo Buenos	1.15	19	eP		Pg	19 52 54.0	0.0
VMAR	Armenia, Volca	1.15	30⇑	eP		Pb	19 52 53.9	+0.4
ARE1	Arenal 1	1.16	56⇑	eP		Pg	19 52 54.7	+0.4
VARE2	V. Arenal	1.16	56	eP		Pg	19 52 54.7	+0.3
CEDE	Laguna Cedeo	1.19	55⇑	eP		Pg	19 52 55.2	+0.3
VACR	Volcan Arenal	1.20	57	eP		Pg	19 52 55.0	-0.1
FORC	Fortuna	1.21	57	eP		Pg	19 52 55.1	-0.1
SOCE	Pocosol	1.21	62			Pb	19 52 54.6	+0.1
SOCE	Pocosol	1.21	62	P		Pg	19 52 55.4	+0.2
REZ	Monterrey de S	1.22	54	eP		Pg	19 52 55.6	+0.2
LCRUZ	La Cruz	1.26	3	eP		Pb	19 52 55.5	+0.1
UPAL	Upala	1.28	32	P		Pg	19 52 56.3	-0.2
UPAL	Upala	1.28	32	S		Sg	19 53 15.0	+1.8
CARN	Rivas	1.38	7	P		Pg	19 52 58.4	-0.1
CARN				S		Sg	19 53 17.4	+0.9
QUEP	Quepos	1.56	104	P		Pg	19 53 01.1	-0.8
COVE	Coope Vega, Sa	1.57	55	S		Sg	19 53 22.7	+0.3
COVE	Coope Vega, Sa	1.57	55	P		Pg	19 53 01.6	-0.4
HDC	Heredia	1.57	83			Pn	19 52 59.7	+0.3
HDC				Sn		Sn	19 53 13.6	-6.0
LCR2	La Lucha 2	1.67	92	S		Sb	19 53 24.7	+1.2
LCR2	La Lucha 2	1.67	92	P		Pb	19 53 02.2	-0.3
OMEN	Al SSO del Vol	1.69	2	S		Sb	19 53 24.3	+0.5
MORN	Al O del Volca	1.73	2	P		Pb	19 53 02.6	-0.7
CONN	Concepcion	1.75	2	P		Pb	19 53 02.8	-0.9
CONN				S		Sb	19 53 25.8	+0.4
VICA	Volcano Irazu	1.84	84	eP		Pb	19 53 04.5	-0.9
CVTV	Tajo	1.93	84	eP		Pb	19 53 06.4	-0.5
TRT2	Tortugero	2.07	69	P		Pb	19 53 07.7	-1.5
TRT2	Tortugero	2.07	69	S		Sb	19 53 35.9	+1.1
LCOCO	El Coco	2.13	82	eP		Pb	19 53 08.4	-1.7
OCHAL	Ojochal	2.15	109	P		Pb	19 53 09.5	-1.0
NANN	Nandasmo	2.16	349	P		Pb	19 53 09.9	-0.8
NANN	Nandasmo	2.16	349	S		Sb	19 53 35.1	-2.1
SABN	Sabanita	2.18	348	P		Pb	19 53 08.9	-2.2
ACON	Acoyapa	2.21	14			Pn	19 53 07.4	-0.6
ACON				Sn		Sn	19 53 30.6	-4.4
ACON	Acoyapa	2.21	14	P		Pn	19 53 08.9	+0.9
ACON	Acoyapa	2.21	14	S		Sb	19 53 37.6	-1.1
MASN	Masaya	2.21	348	P		Pn	19 53 08.8	+0.8
UNAN	Cigeo UNAN	2.36	346	P		Pb	19 53 11.5	-2.5
USIM	UNAN	2.36	346	Sn		Sn	19 53 36.2	-2.6
MGAN	Managua	2.38	347			Pn	19 53 10.8	+0.4
WILN	Americas 2	2.39	348	P		Pn	19 53 11.7	+1.3
WILN				S		Sn	19 53 40.6	+1.2
DRK0	Durika	2.48	102	P		Pn	19 53 13.5	+1.6
DRK0	Durika	2.48	102	S		Sn	19 53 43.1	+1.0
COPN	Copaltepe	2.51	340	P		Pn	19 53 12.9	+0.8
PIRO	Carate, Puerto	2.72	121			Pn	19 53 14.5	-0.5
PIRO				Sn		Sn	19 53 48.5	+0.8
PIRO	Carate, Puerto	2.72	121	P		Pb	19 53 17.1	-3.1
PIRO	Carate, Puerto	2.72	121	S		Sn	19 53 49.0	+1.3
ESPN	Las Esperanzas	2.74	30			Pn	19 53 15.8	+0.4
ESPN	Las Esperanzas	2.74	30	P		Pn	19 53 17.1	+1.8
ESPN	Las Esperanzas	2.74	30	S		Sn	19 53 51.0	+2.8
CNGN	Cerro Negro	2.85	340			Pn	19 53 17.6	+0.8
CNGN	Cerro Negro	2.85	340	P		Pn	19 53 17.2	+0.4
CNGN	Cerro Negro	2.85	340	S		Sn	19 53 51.3	+0.4
PLRN	Geotermica Pol	2.95	339	S		Sn	19 53 54.3	+0.9
CDITO	Canoas	3.05	114	P		Pn	19 53 20.5	+0.9
CDITO	Canoas	3.05	114	S		Sn	19 53 57.4	+1.6
RGM0	Gandoca	3.06	94	Pn		Pn	19 53 19.4	-0.2
RGM0	Gandoca	3.06	94	P		Pn	19 53 21.2	+1.5
MATN	Matagalpa	3.11	356	P		Pn	19 53 20.9	+0.5
BRU2	Volcan	3.14	108			Pn	19 53 21.1	+0.2
BRU2	Volcan	3.14	108	P		Pn	19 53 23.7	+2.8
CRIN	San Cristobal	3.16	335			Pn	19 53 22.8	+1.6
CRIN	San Cristobal	3.16	335	P		Pn	19 53 21.4	+0.2
CRIN	San Cristobal	3.16	335	S		Sn	19 53 58.6	-0.2
LIMN	Finca el Limon	3.30	349	P		Pn	19 53 24.7	+1.7
LIMN				S		Sn	19 54 03.9	+1.8
SIUN	Universidad Ur	3.99	13			Pn	19 53 33.2	+0.7
CNCH	Conchagua	4.03	329	P		Pn	19 53 34.0	+0.8
YUSH	Yuscaran	4.27	345	P		Pn	19 53 38.5	+2.0
TGUH	Tegucigalpa,Un	4.49	340			Pn	19 53 39.3	-0.2
TGUH	Tegucigalpa,Un	4.49	340	P		Pn	19 53 39.6	+0.1
BILN	Bilwi Airport	4.79	28	Pn		Pn	19 53 42.0	-1.4
PRVC	Isla de Provid	5.53	50	Pn		Pn	19 53 52.4	-1.4
MTO3	Montecristo	5.80	322			Pn	19 53 59.4	+1.8
CCIG	Comitan	8.98	316	Pn		Pn	19 54 39.4	-1.8
CMIG	Matias Romero	11.49	310	Pn		Pn	19 55 22.9	+7.4
	0.3nm,0.3s,baz=110,slow=11,SNR=6.3							
CMIG				Sn		Sn	19 57 32.5	+8.8
	0.2nm,0.3s,baz=28,slow=6.8,SNR=1.1							
CMIG				LR		LR	20 00 12.9	
	comp=Z,279nm,19.0s,baz=142,slow=39							
	1.7nm,0.5s							
ROSC	El Rosal	12.32	113	LR		LR	19 59 54.9	
	comp=Z,124nm,19.7s,baz=27,slow=38							
TLIG	Tlapa	14.68	303	Pn		Pn	19 55 58.8	-0.4
ATAH	Atahualpa	18.34	156	LR		LR	20 02 45.5	
	comp=Z,327nm,20.6s,baz=338,slow=32							
SJG	San Juan	20.68	64	LR		LR	20 03 39.2	
	comp=Z,65nm,22.0s,baz=262,slow=35							
152A	Waverly Hall	22.77	2	P		P	19 57 32.7	-1.1
LRAL	Lakeview Retre	23.15	357			P	19 57 37.0	-0.6
Y49A	Blount Mountai	23.95	359			P	19 57 44.0	-1.5
Y49A				IAmb		IAmb	19 57 46.5	
	comp=Z,9.3nm,0.9s							
Y52A	Lilburn	23.99	3	P		P	19 57 43.7	-2.2
Y52A				IAmb		IAmb	19 57 53.8	
	comp=Z,13nm,0.9s							
DRIO	Del Rio	24.00	326			P	19 57 45.6	-0.4
HODGE	Hodges	24.51	7	P		P	19 57 48.5	-2.2
X48A	Hartselle	24.56	357	P		P	19 57 48.9	-2.2
X48A				IAmb		IAmb	19 58 09.4	
	comp=Z,12nm,1.4s							
WHTX	Lake Whitney,	24.61	335	P		P	19 57 50.8	-0.9
WHTX				IAmb		IAmb	19 57 59.2	
	comp=Z,6.6nm,0.6s							
FPAL	Fort Paine	24.62	0	P		P	19 57 50.0	-1.8
X51A	Calhoun	24.65	2	P		P	19 57 50.6	-1.4
BRDY	Brady	24.69	332			P	19 57 51.1	-1.3
JSC	Jenkinsville	24.70	9	P		P	19 57 50.9	-1.5
JSC				IAmb		IAmb	19 57 59.8	
	comp=Z,12nm,1.0s							
OXF	Oxford	24.82	353	P		P	19 57 52.5	-1.0
PAULI	Pauline	25.15	8	P		P	19 57 55.2	-1.3
PLAL	Pickwick Lake	25.15	355	P		P	19 57 55.2	-1.3
BG3	Lake Jocassee	25.20	5	P		P	19 57 55.5	-1.5
W52A	Murphy	25.22	3	P		P	19 57 56.8	-0.3
W52A				IAmb		IAmb	19 57 59.4	
	comp=Z,11nm,1.0s							
W50A	Signal Mountai	25.28	1	P		P	19 57 57.3	-0.4
W50A				IAmb		IAmb	19 58 06.8	
	comp=Z,9.7nm,1.0s							
SWET	Sewanee	25.29	360	P		P	19 57 56.6	-1.2
SWET				IAmb		IAmb	19 57 58.6	
	comp=Z,7.7nm,0.8s							
KMSC	Kings Mountain	25.53	8	P		P	19 57 58.9	-1.1
KMSC				IAmb		IAmb	19 58 01.2	
	comp=Z,5.9nm,0.7s							
CPCT	Cooper Cave	25.55	2	P		P	19 57 59.7	-0.4
CPCT				IAmb		IAmb	19 58 08.7	
	comp=Z,13nm,1.2s							
MIAR	Mount Ida	25.66	345			P	19 58 00.9	-0.2
MIAR				IAmb		IAmb	19 58 03.3	
	comp=Z,5.7nm,0.8s							
TXAR	Lajitas Array	25.70	322	P		P	19 58 01.8	+0.1
TXAR	Lajitas Array	25.70	322	P		P	19 58 03.1	+1.5
	comp=Z,2.6nm,0.8s,baz=146,slow=10,SNR=11							
TXAR				LR		LR	20 09 18.1	
	comp=Z,48nm,19.5s,baz=110,slow=39							
	comp=Z,2.6nm,0.8s							
TX31	Lajitas Ar. Si	25.70	322	P		P	19 58 01.6	0.0
W57A	Gilead	25.76	11	P		P	19 58 01.0	-1.0
W57A				IAmb		IAmb	19 58 42.7	
	comp=Z,15nm,1.5s							
TKL	Tuckaleechee C	25.79	4	P		P	19 58 01.0	-1.3
TKL				IAmb		IAmb	19 58 06.4	
	comp=Z,9.7nm,0.9s							
V48A	Smith Brothers	25.83	358	P		P	19 58 00.9	-1.7
V48A				IAmb		IAmb	19 58 04.4	
	comp=Z,5.8nm,0.5s							
V53A	Saluda	25.88	5	P		P	19 58 01.8	-1.4
V53A				IAmb		IAmb	19 58 07.0	
	comp=Z,9.2nm,0.9s							
MNHN	Monahans	26.65	326	P		P	19 58 09.1	-1.1
MNHN				IAmb		IAmb	19 58 19.2	
	comp=Z,5.3nm,0.8s							
LPIG	La Paz	27.43	304	LR		LR	20 09 36.5	
	comp=Z,92nm,19.3s,baz=70,slow=37							
Q51A	Peebles	29.17	4	P		P	19 58 30.9	-1.7
O53A	New Philadelph	30.58	7	P		P	19 58 44.2	-0.8
LPAZ	La Paz	31.22	146	LR		LR	20 12 14.1	
	comp=Z,119nm,18.7s,baz=340,slow=37							
SSPA	Standing Stone	31.47	11	P		P	19 58 52.8	-0.1
MDP	Montagnes des	33.10	96	LR		LR	20 13 07.3	
	comp=Z,75nm,21.2s,baz=298,slow=39							
SADO	Sadowa	35.29	8	LR		LR	20 11 43.5	
	comp=Z,785nm,20.4s,baz=156,slow=34							
W13A	Hualapai Mount	35.98	319	P		P	19 59 31.9	-0.6
W13A				IAmb		IAmb	19 59 43.4	
	comp=Z,2.7nm,0.8s							
PFO	Pinyon Flats O	36.87	315	LR		LR	20 15 51.4	
	comp=Z,46nm,19.0s,baz=188,slow=38							
P18A	Preston Nutter	36.88	328	P		P	19 59 37.0	-3.2
AC01	Pan de Azucar	38.64	158	P		P	19 59 52.6	-2.2
PDAR	Pinedale Array	38.90	332	P		P	19 59 55.5	-1.6
	comp=Z,0.3nm,0.6s,baz=123,slow=9.7,SNR=3.7							
	comp=Z,0.3nm,0.6s							
ELK	Elko	40.40	325	P		P	20 00 08.2	-1.4
NV11	Mina Array Sit	40.72	320	P		P	20 00 11.8	-0.4
NVAR	Mina Array Bea	40.81	320	P		P	20 00 12.8	-0.3
NVAR	Mina Array Bea	40.81	320	P		P	20 00 16.0	+2.9
	comp=Z,2.6nm,0.8s,baz=135,slow=6.9,SNR=14							
NVAR				LR		LR	20 18 32.7	
	comp=Z,73nm,18.2s,baz=93,slow=38							
	comp=Z,2.6nm,0.8s							
LHV	Little Huntoon	40.84	319	P		P	20 00 12.2	-0.8
LHV				IAmb		IAmb	20 00 23.7	
	comp=Z,5.4nm,1.0s							
WAKR	Walker	41.58	319	P		P	20 00 19.8	+0.4
MCMT	McKenzie Canyo	42.02	331	P		P	20 00 20.6	-2.4
WVOR	Wild Horse Val	43.44	324	P		P	20 00 33.1	-1.3
WVOR				IAmb		IAmb	20 00 37.0	
	comp=Z,5.2nm,1.1s							
YBH	Yreka Blue Hor	45.47	321	LR		LR	20 21 32.9	
	comp=Z,5.2nm,19.5s,baz=144,slow=38							
FRB	Frobisher Bay	55.22	9	LR		LR	20 25 39.0	
	comp=Z,54nm,19.9s,baz=66,slow=37							
SFJD	Kangerlussuaq	61.80	15	LR		LR	20 30 00.7	
	comp=Z,76nm,18.7s,baz=202,slow=37							
ILAR	Eielson Array	69.11	336	P		P	20 03 37.1	0.0
	comp=Z,1.1nm,0.7s,baz=111,slow=4.9,SNR=9.7							
ILAR				LR		LR	20 38 55.3	
	comp=Z,37nm,18.2s,baz=96,slow=41							
	comp=Z,1.1nm,0.7s							
MLR	Muntele Rosu	97.78	41	LR		LR	20 46 08.9	
	comp=Z,42nm,19.0s,baz=330,slow=34							
ASAR	Alice Springs	139.80	245	PKP		PKiKP	20 12 07.8	+5.2
	comp=Z,0.3nm,0.7s,baz=90,slow=1.9,SNR=2.5							
WRA	Warramunga Arr	140.11	251	PKP		PKiKP	20 12 08.1	+4.8
	comp=Z,0.5nm,0.9s,baz=94,slow=2.6,SNR=2.4							
FITZ	Fitzroy Crossi	148.53	251	PKPbc		PKPab	20 12 25.6	+3.2
	comp=Z,1.8nm,0.8s,baz=246,slow=12,SNR=1.6							
CMAR	Chiang Mai Arr	151.54	351	PKPbc		PKiKP	20 12 27.3	+0.5
	comp=Z,1.9nm,0.9s,baz=338,slow=2.8,SNR=14							
CMAR				PKPab		sPKPbc	20 12 33.3	+0.3
	comp=Z,2.1nm,0.8s,baz=339,slow=2.9,SNR=12							

JMA ***04*** *20:06:47.7±0.2, 44°.6N±0°.7×14°.6E±°, h16km±1km, MV3.2/25, NEAR KUNASHIRI ISLAND*
SKHL ***04*** *20:06:48.9±0.3, 44°.60N×145°.80E, h18km±2km, mb4.3/2*
ISC 04 20:06:48.4±2.9, 44°.6N±0°.2×145°.8E±0°.1, h21km±6km, n10, σ0°42/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.52	175	i P	Pb	20 06 58.9	+0.2
YUK				AMB	AMB	20 06 59.8	
	110nm,0.3s						
YUK				i S	Sb	20 07 06.2	+0.4
YUK				A	A	20 07 08.5	
	820nm,0.2s						
YUK				A	A	20 07 08.5	
	600nm,0.2s						
JRA	Rausu	0.78	219	P	Pb	20 07 02.8	-0.4
JRA				S	Sb	20 07 13.4	0.0
GLVR	Golovnino	0.83	194	i P	Pb	20 07 04.5	+0.4
GLVR				AMB	AMB	20 07 05.0	
	350nm,0.4s						
GLVR				i S	Sn	20 07 16.4	0.0
GLVR				A	A	20 07 18.0	
	1μm,0.3s						
GLVR				A	A	20 07 18.0	
	600nm,0.3s						
JNSB	Nemuroshibetsu	0.96	217	P	Pb	20 07 05.8	-0.5
JNSB				eS	Sb	20 07 18.7	+0.2
NMR	Nemuro--Hokkai	1.18	183	i P	Pn	20 07 09.1	-0.5
NMR				i S	Sb	20 07 24.5	-0.3
NEM2	Nemuro 2	1.18	182	P	Pn	20 07 09.3	-0.4
NEM2				S	Sb	20 07 25.3	+0.4
JNK	Nakash	1.24	219	P	Pn	20 07 10.2	-0.2
JTKR	Abashiri--Toko	1.48	248	eP	Pn	20 07 13.9	+0.3
JTKR				eS	Sn	20 07 32.8	+0.5
AKK	Akkeshi	1.68	205	eP	Pn	20 07 16.4	-0.1
AKK				eS	Sn	20 07 38.2	+0.9
JMP	Maruseppu	1.83	254	P	Pn	20 07 18.7	+0.1
JMP				S	Sn	20 07 41.0	-0.1

IDC ***04*** *20:20:16.2±0.7, 36°.00N×27°.45E, h0km, mb3.9/13, mbtmp3.7/23, ML3.4/8, MS3.0/9, Error ellipse: s-maj=16.8km s-min=11.9km az=159.0*
ISK ***04*** *20:20:17.7, 35°.94N×27°.48E, h6km, ML3.7/40*
NIC ***04*** *20:20:18.2, 35°.95N×27°.52E, h14km, MI3.8/13*
THE ***04*** *20:20:18.8, 36°N±2°×2°8E±°, h13km±5km, M3.7/10, MLh3.7/10*
ATH ***04*** *20:20:18.5, 35°.93N×27°.54E, h9km±2km, ML3.8/19, Manual Solution by M.Charalampakis First location: 2019/10/04 20:21:32, This location: 2019/10/04 20:45:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
GII ***04*** *20:20:18.2±0.0, 35°.803N±0°.003×27°.485E±0°.001, h10km, Mws4.1, confirmed*
HLW ***04*** *20:20:19.5, 35°.89N×27°.57E, h6km±1km, Ml3.8*
AFAD ***04*** *20:20:20.6, 36°.05N×27°.54E, h12km±3km, MW4.1*
ISC 04 20:20:18.2±1.0, 35°.95N±0°.02×27°.52E±0°.02, h11km±7km, n182, σ1°27/228, mb3.8/13, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.50	216	Pg	Pg	20 20 27.4	-0.6
KARP	Karpathos	0.50	216	P	Pg	20 20 28.6	+0.6
KARP				S	Sg	20 20 35.6	+1.0
KARP	Karpathos	0.50	216	P	Pg	20 20 28.1	+0.1
KARP				S	Sb	20 20 35.8	-0.5
KARP				AML	AML	20 20 37.9	
	36nm,0.4s						
KARP				AML	AML	20 20 39.2	
	37nm,0.3s						
KARP	Karpathos	0.50	216	P	Pg	20 20 28.3	+0.3
KARP				S	Sg	20 20 35.4	+0.8
ARG	Arkhangelos	0.56	62	Pg	Pg	20 20 29.7	+0.6
ARG				Sg	Sb	20 20 38.3	+0.2
ARG	Arkhangelos	0.56	62	P	Pg	20 20 28.9	-0.2
ARG				S	Sb	20 20 37.6	-0.5
ARG	Arkhangelos	0.56	62	P	Pg	20 20 28.7	-0.4
ARG				S	Sb	20 20 37.8	-0.3
ARG				AML	AML	20 20 38.1	
	15nm,0.6s						
ARG				AML	AML	20 20 38.8	
	14nm,0.5s						
ARG	Arkhangelos	0.56	62	P	Pg	20 20 28.7	-0.4
ARG				S	Sg	20 20 35.8	-0.7
NISR	Nisiros	0.73	335	P	Pg	20 20 33.2	+0.8
NISR				S	Sb	20 20 44.8	+1.8
NISR	Nisiros	0.73	335	P	Pg	20 20 33.1	+0.8
NISR				S	Sb	20 20 43.6	+0.7
YAZI	Mula-Dat§a-	0.73	356	P	Pg	20 20 32.3	0.0
YAZI				S	Sg	20 20 41.4	-0.5
DAT	Datca	0.78	4	Pg	Pg	20 20 33.4	+0.1
DAT				Sg	Sb	20 20 44.9	+0.5
DAT	Datca	0.78	4	P	Pg	20 20 33.0	-0.2
DATC	Datca-Mugla	0.81	8	Pg	Pg	20 20 33.9	0.0
TURN	Turunc	1.01	35	Pg	Pg	20 20 37.4	-0.3
TURN	Turunc	1.01	35	P	Pg	20 20 36.8	-0.9
TURN				S	Sg	20 20 48.4	-2.5
BDRM	Kayabasi	1.11	357	P	Pb	20 20 37.6	-1.9
BDRM				S	Sg	20 20 52.2	-1.9
BODT	Bodrum	1.12	352	Pn	Pb	20 20 39.8	+0.2
BODT	Bodrum	1.12	352	P	Pb	20 20 39.9	+0.2
BODT				S	Sn	20 20 56.3	+1.0
DALY	Dalyan (Mula)	1.26	46	Pn	Pg	20 20 42.6	+0.2
YER	Yerkesik	1.33	27	Pn	Pb	20 20 43.9	+0.6
ZKR	Zakros	1.35	232	Pn	Pn	20 20 43.1	0.0
ZKR	Zakros	1.35	232	P	Pn	20 20 43.3	+0.2
ZKR	Zakros	1.35	232	P	Pn	20 20 42.9	-0.1
ZKR				S	Sb	20 21 00.9	+0.1
ZKR				AML	AML	20 21 04.2	
	4.6nm,0.5s						
ZKR				AML	AML	20 21 04.5	
	11nm,0.8s						
ZKR	Zakros	1.35	232	P	Pn	20 20 43.4	+0.3
ZKR				S	Sn	20 21 01.7	+0.7
MULA	Mugla, Merkez-	1.45	26	P	Pn	20 20 44.9	+0.4
MULA				S	Sn	20 21 03.4	-0.2
SABU	Mula-Dalaman	1.46	53	P	Pn	20 20 45.0	+0.5
SABU				S	Sn	20 21 03.7	0.0
IZZE	Mula-Seydike	1.46	70	P	Pb	20 20 45.8	+0.3
FETI	Fethiye-Mugla	1.47	60	Pn	Pb	20 20 45.8	+0.2
DDIM	Aydin, Didim	1.52	352	P	Pg	20 20 48.3	+0.9
DDIM				S	Sg	20 21 07.2	+0.2
KSL	Kastellorizon	1.69	83	S	Sg	20 21 11.7	-0.7
KSL				AML	AML	20 21 14.3	
	2.5nm,1.1s						
KSL				AML	AML	20 21 22.3	
	2.3nm,1.4s						
KSL	Kastellorizon	1.69	83	P	Pb	20 20 48.9	-0.4
KSL				S	Sn	20 21 09.8	+0.6
NPS	Neapolis	1.70	247	P	Pn	20 20 47.7	-0.1
NPS				S	Sn	20 21 09.8	+0.2
NPS	Neapolis	1.70	247	P	Pn	20 20 47.7	-0.1
NPS				S	Sn	20 21 09.1	-0.5
THERA	Ancient Thera,	1.70	285	P	Pn	20 20 47.3	-0.6
THERA	Ancient Thera,	1.70	285	P	Pn	20 20 47.1	-0.8
AKAS	Kas	1.71	80	Pn	Pb	20 20 49.3	-0.5
AKAS	Kas	1.71	80	P	Pb	20 20 49.5	-0.3
AKAS				S	Sn	20 21 09.4	-0.8
AYDN	Tasoluk	1.73	10	P	Pn	20 20 48.2	-0.2
AYDN				S	Sn	20 21 07.8	-2.6
CAME	Cameli-Denizli	1.75	55	Pn	Pb	20 20 50.2	-0.2
GCAM	G?zelcaml?	1.76	353	Pn	Pn	20 20 49.6	+1.0
GCAM	G?zelcaml?	1.76	353	P	Pb	20 20 50.9	+0.4
THR3	Thira Island,	1.77	285	P	Pn	20 20 48.4	-0.5
DNZT	Denizli-Tavas-	1.79	42	P	Pb	20 20 51.2	0.0
DNZT				S	Sn	20 21 12.4	+0.3
SAP3	Santorini-Thir	1.82	286	P	Pn	20 20 49.7	+0.2
SAP3	Santorini-Thir	1.82	286	P	Pn	20 20 49.7	+0.2
CAEL	Denizli, Camel	1.86	51	P	Pb	20 20 52.9	+0.5
TAVA	DENIZLI_Tavas	1.88	36	P	Pb	20 20 52.3	-0.4
TAVA				S	Sn	20 21 13.8	-0.4
KNIK	Mula-Seydike	1.88	61	P	Pb	20 20 53.2	+0.5
KNIK				S	Sn	20 21 15.5	+1.2
APE	Apeiranthos	1.95	305	Pn	Pn	20 20 52.1	+0.8
APE	Apeiranthos	1.95	305	P	Pn	20 20 51.5	+0.1
ESEN	Aydn-Nazilli	1.96	20	P	Pn	20 20 51.0	-0.4
ESEN				S	Sn	20 21 11.2	-4.7
AYDB	Zeytinkoy-Aydi	2.01	8	Pn	Pn	20 20 53.4	+1.1
DNIZ	Denizli-Tavas-	2.07	36	P	Pn	20 20 54.5	+1.4
DNIZ				S	Sn	20 21 18.7	-0.1
GOLH	Golhisar	2.08	51	P	Pb	20 20 56.0	-0.1
APMY	Acipayam-Deniz	2.09	43	Pn	Pn	20 20 54.8	+1.5
ELL	Elmali	2.09	67	Pn	Pb	20 20 55.3	-0.9
NAZL	Nazilli-Aydin	2.10	17	Pn	Pn	20 20 54.8	+1.4
IDI

TROD AML AML 20 22 26.9
0.5nm,0.8s
TROD AML AML 20 22 30.5
0.4nm,0.8s
LKR Lokris 4.50 308 P **Pn** **20 21 26.6 +0.4**
ATAL Atalanti 4.51 309 P **Pn** **20 21 27.3 +0.9**
APOL The Sanctuary 4.55 105 P **Pn** **20 21 27.4 +0.3**
APOL S **Sn** **20 22 21.3 +1.2**
APOL AML AML 20 22 33.7
0.5nm,0.9s
APOL AML AML 20 22 38.5
0.5nm,0.9s
GUR Goura 4.59 297 P **Pn** **20 21 29.4 +1.7**
MATC Matruh 4.60 183 P **Pn** **20 21 29.2 +1.5**
XYLS Xyliatos 4.61 100 P **Pn** **20 21 28.2 +0.3**
XYLS S **Sn** **20 22 22.7 +1.2**
XYLS AML AML 20 22 30.0
0.5nm,0.9s
XYLS AML AML 20 22 34.5
0.4nm,1.0s
ITM Ithomi 4.66 287 P **Pn** **20 21 31.2 +2.6**
PYL2 Kinigos 4.77 283 P **Pn** **20 21 31.7 +1.7**
AXAR Agios Charalam 4.78 307 P **Pn** **20 21 32.6 +2.4**
ASGA Asgata 4.83 102 P **Pn** **20 21 30.8 0.0**
ASGA S **Sn** **20 22 28.0 +1.3**
ASGA AML AML 20 22 34.7
0.5nm,0.9s
ASGA AML AML 20 22 37.2
0.5nm,1.2s
ASGA Asgata 4.83 102 P **Pn** **20 21 30.9 0.0**
CSS Mathiatis 4.85 100 P **Pn** **20 21 31.2 0.0**
CSS S **Sn** **20 22 28.1 +0.8**
CSS AML AML 20 22 37.3
0.3nm,1.0s
CSS AML AML 20 22 42.1
0.2nm,0.6s
CSS Mathiatis 4.85 100 P **Pn** **20 21 31.4 +0.2**
CSS Mathiatis 4.85 100 S **Sn** **20 22 27.4 +0.1**
CSS Mathiatis 4.85 100 P **Pn** **20 21 31.1 0.0**
SLUM Salum 4.85 204 P **Pn** **20 21 33.2 +2.1**
SLUM S **Sn** **20 22 25.3 -1.9**
MVOU Mavrovouni 5.08 99 P **Pn** **20 21 34.2 -0.1**
MVOU S **Sn** **20 22 33.1 +0.3**
MVOU AML AML 20 22 36.9
0.3nm,1.2s
MVOU AML AML 20 22 45.5
0.1nm,0.9s
MVOU Mavrovouni 5.08 99 P **Pn** **20 21 34.2 -0.1**
EFP Efpalio 5.12 301 P **Pn** **20 21 36.7 +1.9**
ANX Ano Chora 5.18 302 P **Pn** **20 21 37.7 +1.9**
MAKR Makrakomi, Fth 5.26 307 P **Pn** **20 21 39.0 +2.1**
RLS Riolos of Patr 5.28 295 P **Pn** **20 21 40.1 +3.0**
EVR Evrytania 5.42 305 P **Pn** **20 21 40.9 +1.8**
BRTR Keskin Array B 6.13 50 Pn **Pn** **20 21 51.5 +2.6**
0.6nm,0.3s,baz=220,slow=14,SNR=18
3.3nm,0.6s
SWA2 6.91 195 P **Pn** **20 22 01.3 +1.8**
SWA2 S **Sn** **20 23 14.3 -3.9**
HNTI Hanita 6.94 112 P **Pn** **20 21 59.7 -0.2**
HNTI Hanita 6.94 112 S **Sn** **20 23 18.7 -0.1**
MMA0B Mount Meron ar 7.14 112 P **Pn** **20 22 02.2 -0.5**
MMA0B Mount Meron ar 7.14 112 S **Sn** **20 23 23.2 -0.7**
MMAI Mount Meron Ar 7.14 112 Pn **Pn** **20 22 02.2 -0.5**
3.5nm,0.3s,baz=297,slow=13,SNR=22
MMAI Sn **Sn** **20 23 23.8 -0.1**
6.4nm,0.3s,baz=131,slow=23,SNR=8.8
MMAI LR LR 20 26 18.3
comp=Z,80nm,18.7s,baz=296,slow=50
1.7nm,0.3s
RYAN Fayoum 7.24 160 S **Sn** **20 23 22.7 -3.5**
GEM Giv'at Ha'Em 7.25 110 P **Pn** **20 22 04.1 -0.1**
GEM Giv'at Ha'Em 7.25 110 S **Sn** **20 23 26.2 -0.4**
NATI Neve Ativ 7.29 109 P **Pn** **20 22 04.8 +0.1**
KSHT Keshet 7.46 111 P **Pn** **20 22 07.0 -0.1**
AMAZ Amatzia 7.58 123 P **Pn** **20 22 08.5 -0.1**
HMDT Nahal Hemdat 7.60 117 P **Pn** **20 22 09.2 +0.3**
KZIT Kziot 7.64 129 P **Pn** **20 22 09.1 -0.4**
KZIT Kziot 7.64 129 S **Sn** **20 23 33.7 -2.4**
NBNS Bani Suef 7.98 155 P **Pn** **20 22 14.9 +0.7**
KRMI Paran Flat 8.39 132 P **Pn** **20 22 18.8 -1.0**
ASF Jabal al Asfar 8.65 113 Pn **Pn** **20 22 24.3 +0.9**
0.4nm,0.3s,baz=294,slow=1.7,SNR=4.5
ASF Sn **Sn** **20 24 00.0 -1.0**
0.3nm,0.3s,baz=267,slow=22,SNR=1.6
ASF LR LR 20 26 27.5
comp=Z,39nm,19.1s,baz=297,slow=43
1.2nm,0.3s
HFRF Wahat Farafira 8.80 175 P **Pn** **20 22 26.7 +1.2**
EIL Elat 8.85 133 Pn **Pn** **20 22 25.4 -0.7**
0.6nm,0.3s,baz=296,slow=6.2,SNR=15
EIL Sn **Sn** **20 24 01.1 -4.7**
2.2nm,0.3s,baz=77,slow=20,SNR=13
EIL LR LR 20 26 42.8
comp=Z,52nm,21.1s,baz=347,slow=43
1.7nm,0.4s
HKAT Jabal Katrina 9.21 142 P **Pn** **20 22 31.2 -0.1**
MLR Muntele Rosu 9.60 353 Pn **Pn** **20 22 34.9 -1.6**
0.1nm,0.3s,baz=235,slow=17,SNR=1.8
MLR LR LR 20 26 36.3
comp=Z,64nm,18.8s,baz=348,slow=40
0.9nm,0.5s
TR1 Tor 1 9.62 144 P **Pn** **20 22 37.4 +0.7**
HHRG Al Ghardaqah 10.12 148 P **Pn** **20 22 46.3 +2.8**
KBZ Khabaz 14.12 52 Pn **Pn** **20 23 41.3 +3.1**
0.1nm,0.3s,baz=178,slow=7.7,SNR=2.4
KBZ LR LR 20 30 20.5
comp=Z,55nm,18.4s,baz=268,slow=43
1.3nm,0.9s
GNI Garni 14.20 68 LR LR 20 30 11.9
comp=Z,150nm,18.8s,baz=278,slow=42
KEST Kesra 14.74 274 Pn **Pn** **20 23 44.4 -2.4**
0.1nm,0.3s,baz=68,slow=23,SNR=2.2
KEST LR LR 20 30 26.7
comp=Z,72nm,19.6s,baz=240,slow=42
4.7nm,1.0s
AKASG Malin Array Be 14.79 4 Pn **Pn** **20 23 45.6 -1.6**
0.3nm,0.3s,baz=193,slow=10.0,SNR=1.4
AKASG LR LR 20 30 29.1
comp=Z,77nm,19.8s,baz=285,slow=42
0.1nm,0.3s
GERES GERESS Array B 16.40 326 Pn **Pn** **20 24 09.3 +0.9**
0.2nm,0.4s,baz=141,slow=12,SNR=2.5
ESDC Sonseca Array 25.08 288 P **P** **20 25 41.6 -1.2**
1.1nm,0.8s,baz=80,slow=9.4,SNR=10.0
1.1nm,0.8s
FINES FINESS Array B 25.53 358 P **P** **20 25 45.4 -1.1**
2.3nm,0.9s,baz=169,slow=11,SNR=3.8
2.3nm,0.9s
HFS Hagfors 25.79 344 P **P** **20 25 48.0 -1.0**
2.2nm,0.9s,baz=96,slow=8.9,SNR=2.0
2.2nm,0.9s
AKTO Aktyubinsk 26.30 47 P **P** **20 25 53.6 -0.2**
0.9nm,0.5s,baz=212,slow=7.3,SNR=2.3
0.9nm,0.5s
TORD Torodi Ar. Bea 32.48 232 P **P** **20 26 47.7 -1.2**
1.6nm,0.8s,baz=35,slow=8.1,SNR=11
1.6nm,0.8s
ARCES ARCESS Array B 33.66 359 P **P** **20 26 57.8 -0.9**
1.0nm,0.7s,baz=185,slow=8.7,SNR=4.6
1.0nm,0.7s
BVAR Borovoye Array 34.41 47 P **P** **20 27 04.2 -1.2**
0.3nm,0.5s,baz=278,slow=5.4,SNR=2.6
0.3nm,0.5s
KURBB Kurchatov Arra 39.12 52 P **P** **20 27 45.6 +0.1**
2.3nm,0.6s,baz=275,slow=8.7,SNR=26
KURBB PcP **PcP** **20 29 55.4 +0.4**
0.7nm,0.8s,baz=279,slow=4.1,SNR=5.5
2.3nm,0.6s
DBIC Dimbokro 41.57 233 P **P** **20 28 06.2 0.0**
5.7nm,1.0s,baz=67,slow=6.7,SNR=3.7
5.7nm,1.0s
MKAR Makanchi Array 41.73 57 P **P** **20 28 07.6 +0.4**
1.0nm,0.5s,baz=272,slow=7.9,SNR=18
MKAR PcP **PcP** **20 30 03.4 -0.1**
0.7nm,0.8s,baz=266,slow=4.4,SNR=2.8
1.0nm,0.5s
ZALV Zalesovo Beam 43.06 47 P **P** **20 28 17.6 -0.4**
1.3nm,0.5s,baz=272,slow=8.1,SNR=7.9
1.3nm,0.5s
SONM Songino Array 57.49 52 P **P** **20 30 08.1 +0.6**
0.3nm,0.5s,baz=291,slow=8.4,SNR=1.9
0.3nm,0.5s
CMAR Chiang Mai Arr 64.58 85 P **P** **20 30 55.4 -0.5**
0.2nm,0.3s,baz=295,slow=6.4,SNR=4.9
0.2nm,0.3s
XAN Xi'an 64.76 65 ⇓P **P** **20 31 00.1 +3.2**
XAN pmax pmax

comp=Z,4.0nm,0.9s

STR 04 20:33:29.3±0.3, 45°N±3°×°±°, h5km, MLv1.5/11, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGMO	**Fort Saint-Gob**	**0.21**	**36**	Pg	Pg	20 33 33.8	+0.4
OGMO				Sg	Sg	20 33 36.2	0.0
RRL	**Rocca Remolon**	**0.23**	**121**	Pg	Pg	20 33 33.9	0.0
RRL				Sg	Sg	20 33 37.5	+0.5
ORIF	**Oris-en-Rattie**	**0.47**	**255**	Pg	Pg	20 33 38.1	-0.1
ORIF				Sg	Sg	20 33 44.6	+0.2
CREF	**Crivoux**	**0.50**	**171**	Pg	Pg	20 33 38.4	-0.5
CREF				Sg	Sg	20 33 45.6	+0.2
RSP	**Reno Superiore**	**0.55**	**78**	Pg	Pg	20 33 39.5	-0.3
BHB	**Bricherasio**	**0.57**	**110**	Pg	Pg	20 33 39.9	-0.3
BHB				Sg	Sg	20 33 47.6	-0.1
GRN	**Grenoble**	**0.58**	**291**	Pg	Pg	20 33 41.1	+0.7
GRN				Sg	Sb	20 33 49.5	-1.0
SURF	**Saint Ours**	**0.60**	**159**	Pg	Pg	20 33 41.2	+0.4
SURF				Sg	Sg	20 33 49.5	+0.8
JAUF	**Jausiers**	**0.64**	**164**	Pg	Pg	20 33 41.5	0.0
PZZ	**Stroppo**	**0.69**	**141**	Pg	Pg	20 33 42.4	-0.1
PZZ				Sg	Sg	20 33 51.8	+0.4

STR 04 20:34:00.5±0.4, 45°N±3°×°±°, h5km, MLv1.4/10, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGMO	**Fort Saint-Gob**	**0.21**	**38**	Pg	Pg	20 34 04.8	+0.2
OGMO				Sg	Sg	20 34 07.4	+0.1
RRL	**Rocca Remolon**	**0.24**	**122**	Pg	Pg	20 34 05.0	-0.1
RRL				Sg	Sg	20 34 08.6	+0.3
ORIF	**Oris-en-Rattie**	**0.46**	**254**	Pg	Pg	20 34 09.2	-0.2
ORIF				Sg	Sg	20 34 15.4	0.0
CREF	**Crivoux**	**0.50**	**171**	Pg	Pg	20 34 09.9	-0.3
RSP	**Reno Superiore**	**0.55**	**79**	Pg	Pg	20 34 10.8	-0.2
RSP				Sg	Sg	20 34 18.2	+0.1
SURF	**Saint Ours**	**0.60**	**159**	Pg	Pg	20 34 12.3	+0.2

GEN ***04*** *20:34:08.7, 45°.03N×6°.56E, h7km±1km, MI1.8*
ROM ***04*** *20:34:08.6±0.2, 45°.045N±0°.006×6°.53E±0°.01, h8km, ML1.9/20, Error ellipse: s-maj=0.7km s-min=0.7km az=80.0*
LDG ***04*** *20:34:09.4±0.1, 45°.05N×6°.54E, h2km, Md2.2/3, Ml2.3/14, Error ellipse: s-maj=1.3km s-min=1.0km az=61.0*

STR 04 20:34:09.3±0.2, 45°N±1°×°±°, h4km, MLv2.4/43, 3C-3D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.10**	**84**	P	Pg	20 34 11.7	+0.2
BNI				S	Sg	20 34 13.4	+0.5
BNI	**Bardonecchia**	**0.10**	**84**	⇑P	Pg	20 34 11.7	+0.2
BNI				S	Sg	20 34 13.4	+0.5
BNI				AML	AML		
	comp=E,617μm,0.3s						
BNI				AML	AML		
	comp=E,618μm,0.3s						
BNI				AML	AML		
	comp=N,1141μm,0.4s						
OGMO	**Fort Saint-Gob**	**0.20**	**32**	P	Pg	20 34 13.5	+0.3
OGMO				S	Sg	20 34 16.1	+0.3
OGMO	**Fort Saint-Gob**	**0.20**	**32**	Pg	Pg	20 34 13.3	+0.1
OGMO				Sg	Sg	20 34 16.2	+0.4
RRL	**Rocca Remolon**	**0.22**	**124**	P	Pg	20 34 13.8	+0.2
RRL				S	Sg	20 34 17.4	+0.9
RRL	**Rocca Remolon**	**0.22**	**124**	⇑P	Pg	20 34 13.8	+0.2
RRL				S	Sg	20 34 17.5	+1.0
RRL				AML	AML		
	comp=N,876μm,0.4s						
RRL				AML	AML		
	comp=E,808μm,0.3s						
RRL	**Rocca Remolon**	**0.22**	**124**	Pg	Pg	20 34 13.8	+0.2
RRL				Sg	Sg	20 34 17.5	+1.1
MBDF	**Montbardon**	**0.36**	**152**	*e*Pg	Pg	20 34 16.1	-0.1
MBDF				*e*Sg	Sg	20 34 21.1	+0.2
	comp=E,26nm,0.1s						
LPG	**La Plagne**	**0.48**	**18**	*e*Pg	Pg	20 34 18.4	-0.2
LPG				*e*Sg	Sg	20 34 25.2	+0.3
	comp=E,36nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.48**	**255**	*e*Pg	Pg	20 34 18.3	-0.3
ORIF				*e*Sg	Sg	20 34 24.3	-0.6
	comp=E,73nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.48**	**255**	P	Pg	20 34 18.3	-0.3
ORIF				S	Sg	20 34 24.6	-0.3
ORIF	**Oris-en-Rattie**	**0.48**	**255**	Pg	Pg	20 34 18.3	-0.3
ORIF				Sg	Sg	20 34 24.5	-0.3
LPL	**La Plagne**	**0.49**	**16**	*e*Pg	Pg	20 34 18.6	-0.2
LPL				*e*Sg	Sg	20 34 25.1	-0.2
	comp=E,29nm,0.2s						
CREF	**Crivoux**	**0.50**	**173**	Pg	Pg	20 34 18.6	-0.3
CREF				Sg	Sg	20 34 25.8	+0.5
RSP	**Reno Superiore**	**0.53**	**78**	P	Pg	20 34 19.4	0.0
RSP				S	Sg	20 34 26.6	+0.3
RSP	**Reno Superiore**	**0.53**	**78**	⇑P	Pg	20 34 19.5	0.0
RSP				S	Sg	20 34 27.0	+0.7
RSP				AML	AML		
	comp=E,153μm,0.8s						
RSP				AML	AML		
	comp=E,154μm,0.6s						
RSP				AML	AML		
	comp=N,202μm,0.1s						
RSP				AML	AML		
	comp=E,153μm,1.2s						
RSP				AML	AML		
	comp=N,185μm,0.1s						
RSP	**Reno Superiore**	**0.53**	**78**	Pg	Pg	20 34 19.5	0.0
RSP				Sg	Sg	20 34 26.4	+0.1
BHB	**Bricherasio**	**0.55**	**111**	P	Pg	20 34 19.5	-0.5
BHB				S	Sg	20 34 27.5	+0.4
BHB	**Bricherasio**	**0.55**	**111**	⇓P	Pg	20 34 20.1	+0.2
BHB				S	Sg	20 34 27.9	+0.8
BHB				AML	AML		
	comp=N,215μm,0.1s						
BHB				AML	AML		
	comp=E,143μm,0.2s						
BHB	**Bricherasio**	**0.55**	**111**	Pg	Pg	20 34 19.2	-0.7
BHB				Sg	Sg	20 34 27.6	+0.4
OGAG	**Argentiere**	**0.59**	**180**	P	Pg	20 34 14.3	-6.3
OGAG				S	Sg	20 34 18.0	-10
OGAG	**Argentiere**	**0.59**	**180**	Pg	Pg	20 34 14.3	-6.3
OGAG				Sg	Sg	20 34 18.0	-10
LSD	**Lago del Serru**	**0.59**	**45**	P	Pg	20 34 20.6	-0.1
LSD				S	Sg	20 34 28.4	-0.1
GRN	**Grenoble**	**0.59**	**290**	Pg	Pg	20 34 21.0	+0.2
GRN				Sg	Sg	20 34 29.4	+1.0
SURF	**Saint Ours**	**0.59**	**161**	P	Pg	20 34 20.8	0.0
SURF				S	Sg	20 34 29.2	+0.7
SURF	**Saint Ours**	**0.59**	**161**	Pg	Pg	20 34 20.7	0.0
SURF				Sg	Sg	20 34 29.5	+1.0
JAUF	**Jausiers**	**0.63**	**166**	Pg	Pg	20 34 21.4	0.0
JAUF				Sg	Sg	20 34 30.6	+1.0
RSL	**Roselend**	**0.65**	**6**	P	Pg	20 34 21.9	0.0
RSL				S	Sg	20 34 30.8	+0.5
RSL	**Roselend**	**0.65**	**6**	Pg	Pg	20 34 21.7	-0.1
RSL				Sg	Sg	20 34 30.7	+0.4
PZZ	**Stroppo**	**0.68**	**142**	P	Pg	20 34 22.1	-0.2
PZZ				S	Sg	20 34 31.5	+0.4
PZZ	**Stroppo**	**0.68**	**142**	⇓P	Pg	20 34 22.2	-0.1
PZZ				S	Sg	20 34 31.7	+0.6
PZZ				AML	AML		
	comp=E,272μm,0.2s						
PZZ				AML	AML		
	comp=N,180μm,0.2s						
PZZ	**Stroppo**	**0.68**	**142**	Pg	Pg	20 34 22.0	-0.3
PZZ				Sg	Sg	20 34 31.7	+0.7
MRGE	**Morge**	**0.82**	**27**	P	Pg	20 34 24.6	-0.4
MRGE				S	Sg	20 34 36.0	+0.4
OGSM	**Saint Maurice**	**0.82**	**314**	Pg	Pg	20 34 24.9	-0.1
OGSM				Sg	Sg	20 34 36.1	+0.4
REMY	**Saint-Rhmy-en**	**0.91**	**29**	P	Pg	20 34 26.3	-0.5
REMY				AML	AML		
	comp=E,54μm,1.6s						
REMY				AML	AML		
	comp=N,82μm,1.6s						
REMY				AML	AML		
	comp=E,54μm,0.4s						
REMY				AML	AML		
	comp=N,82μm,0.4s						
CIRO	**Champorcher**	**0.92**	**52**	P	Pg	20 34 26.7	-0.2
CIRO				S	Sg	20 34 38.3	-0.5
CIRO	**Champorcher**	**0.92**	**52**	Pg	Pg	20 34 26.6	-0.3
CIRO				Sg	Sg	20 34 38.4	-0.5
ISO	**Isola**	**0.93**	**157**	Pg	Pg	20 34 27.0	-0.3
ISO				Sg	Sg	20 34 39.3	0.0
ENAUX	**Enaux**	**0.95**	**170**	Pg	Pg	20 34 27.4	-0.1
ENAUX				Sg	Sb	20 34 40.9	-0.4
OGDI	**Digne**	**0.95**	**190**	Pg	Pb	20 34 28.5	+0.1
OGMY	**Moye**	**0.95**	**332**	Pg	Pg	20 34 27.8	+0.2
OGMY				Sg	Sb	20 34 40.7	-0.7
TRAV	**Traversella**	**0.97**	**61**	⇓P	Pg	20 34 27.9	-0.1
TRAV				S	Sg	20 34 40.6	-0.1
TRAV				AML	AML		
	comp=E,69μm,1.0s						
TRAV				AML	AML		
	comp=N,72μm,0.3s						
TRAV	**Traversella**	**0.97**	**61**	Pg	Pg	20 34 27.8	-0.2
TRAV				Sg	Sg	20 34 40.6	-0.1
STV	**Sant Anna di V**	**0.98**	**144**	P	Pg	20 34 27.9	-0.1
STV				S	Sg	20 34 40.5	-0.2
STV				AML	AML		
	comp=E,36μm,0.6s						
STV				AML	AML		
	comp=N,28μm,0.7s						
STV	**Sant Anna di V**	**0.98**	**144**	Pg	Pg	20 34 27.9	-0.1
STV				Sg	Sg	20 34 40.7	0.0
ENR	**Entracque**	**1.03**	**142**	P	Pg	20 34 28.7	-0.4
ENR				S	Sg	20 34 42.8	+0.3
ENR				AML	AML		
	comp=E,37μm,0.5s						
ENR				AML	AML		
	comp=N,49μm,1.1s						
ENR	**Entracque**	**1.03**	**142**	Pg	Pg	20 34 28.3	-0.8
ENR				Sg	Sg	20 34 42.8	+0.3
OGSI	**Sixt**	**1.03**	**8**	Pg	Pg	20 34 29.3	+0.2
OGSI				Sg	Sg	20 34 42.9	+0.3
SPIF	**crte de Spivo**	**1.11**	**153**	Pg	Pg	20 34 30.3	-0.2
SALSA	**La sagne**	**1.17**	**175**	Pg	Pn	20 34 32.6	+0.1
MLYF	**Mely**	**1.19**	**208**	Pn	Pn	20 34 33.4	+0.6
DIX	**Grande Dixence**	**1.21**	**30**	Pg	Pg	20 34 31.6	-0.8
OG35	**Corcelles**	**1.21**	**326**	Pn	Pg	20 34 32.4	-0.1
OG35				Sg	Sn	20 34 49.7	-0.3
GBOS	**Grotte di Boss**	**1.23**	**130**	P	Pg	20 34 31.9	-0.9
GBOS				S	Sg	20 34 48.2	-0.5
GBOS				AML	AML		
	comp=E,25μm,2.0s						
GBOS				AML	AML		
	comp=N,196μm,1.6s						
GBOS	**Grotte di Boss**	**1.23**	**130**	Pg	Pg	20 34 32.0	-0.8
GBOS				Sg	Sg	20 34 48.4	-0.3
MVIF	**Mont Vial**	**1.23**	**159**	Pn	Pb	20 34 33.2	0.0
TURF	**col de Turini**	**1.23**	**150**	Pg	Pg	20 34 32.7	-0.2
TURF				Sg	Sb	20 34 49.6	+0.1
SATI	**Passo dei Sala**	**1.25**	**48**	Pg	Pg	20 34 33.2	-0.2
SMRF	**Simiane la Rot**	**1.27**	**213**	*e*Pg	Pg	20 34 33.7	+0.1
SMRF				*e*Sg	Sn	20 34 51.7	+0.3
	comp=N,7.7nm,0.3s						
SAOF	**Saorge**	**1.28**	**145**	Pn	Pg	20 34 33.4	-0.5
TRIGF	**Trigance**	**1.30**	**184**	Pn	Pb	20 34 34.7	+0.3
CALF	**Calern**	**1.32**	**168**	Pn	Pg	20 34 34.4	-0.2
BSTF	**la Bastide-des**	**1.33**	**209**	Pg	Pb	20 34 35.8	+1.1
RUSF	**Rustrel**	**1.33**	**215**	Pn	Pb	20 34 35.2	+0.3
VIVF	**Saint-Julien-l**	**1.34**	**263**	*e*Pg	Pn	20 34 34.8	0.0
VIVF				*e*Sg	Sg	20 34 51.4	-0.9
	comp=N,19nm,0.3s						
SBF	**Sospel**	**1.34**	**151**	*e*Pg	Pn	20 34 34.8	-0.1
SBF				*e*Sg	Sg	20 34 52.1	-0.4
	comp=N,15nm,0.3s						
MGRO	**Montegrosso**	**1.35**	**137**	Pg	Pn	20 34 35.0	-0.1
ESCA	**l'Escarene**	**1.35**	**153**	Pn	Pn	20 34 35.0	0.0
SSB	**Saint Sauveur**	**1.43**	**280**	Pn	Pn	20 34 35.8	-0.3
SSB				Pg	Pg	20 34 36.8	0.0
SSB				Sg	Sn	20 34 55.4	0.0
RORO	**Rocca Rossa**	**1.44**	**130**	Pg	Pn	20 34 35.5	-0.6
CANO	**Canova, Maglio**	**1.47**	**124**	Pg	Pn	20 34 36.4	-0.3
GIMEL	**St. Georges /**	**1.50**	**353**	P	Pg	20 34 38.1	-0.1
GIMEL	**St. Georges /**	**1.50**	**353**	Pg	Pg	20 34 38.6	+0.4
SAUF	**chteau de Sau**	**1.51**	**223**	Pg	Pg	20 34 39.5	+1.3
PCP	**Piancastagn**	**1.52**	**109**	Pg	Pn	20 34 37.4	+0.1
ARTF	**Artigues**	**1.55**	**200**	Pn	Pb	20 34 38.7	+0.2
CABF	**La Chapelle**	**1.60**	**349**	*e*Pg	Pb	20 34 39.2	-0.3
CABF				*e*Sg	Sb	20 35 00.2	+0.1
	comp=N,1.5nm,0.1s						
LMR	**La Mourre**	**1.71**	**181**	*e*Pg	Pb	20 34 40.8	-0.5
LMR				*e*Sg	Sb	20 35 02.8	-0.3
	comp=N,4.4nm,0.2s						
RIVEL	**MONT RIVEL**	**1.77**	**346**	P	Pn	20 34 41.1	+0.3
RIVEL				Sg	Sg	20 35 07.4	+1.2
BRANT	**Les Verrieres**	**1.90**	**359**	Pg	Pg	20 34 45.6	0.0
BRANT				Sg	Sg	20 35 11.9	+1.6
COLF	**Collangettes**	**2.06**	**284**	P	Pn	20 34 44.2	-0.6
COLF				Pg	Pb	20 34 47.9	+0.6
LASF	**Ste Croix**	**2.15**	**244**	*e*Pn	Pn	20 34 43.9	-2.0
LASF	**Ste Croix**	**2.15**	**244**	*e*Pg	Pb	20 34 49.0	+0.3
LASF				*e*Sn	Sn	20 35 10.2	-2.8
PLDF	**La Plantade**	**2.25**	**295**	P	Pn	20 34 47.1	-0.3
PLDF				Pg	Pb	20 34 51.1	+0.5
PLYF	**Puligny Montra**	**2.29**	**328**	Pg	Pg	20 34 52.6	-0.5
LBL	**Lubilhac**	**2.34**	**276**	Pn	Pn	20 34 48.0	-0.6
LBL				Pg	Pg	20 34 53.1	-1.0
SMF	**Signal de Mont**	**2.47**	**311**	*e*Pg	Pb	20 34 54.7	+0.4
SMF				*e*Sg	Sb	20 35 26.9	+1.8
	comp=N,1.7nm,0.2s						
HINF	**Hinteralfeld**	**2.78**	**4**	*e*Sg	Sg	20 35 36.7	-2.0
	comp=N,1.5nm,0.3s						
AVF	**Avril sur Loir**	**2.83**	**309**	*e*Pn	Pn	20 34 56.2	+1.0
AVF	**Avril sur Loir**	**2.83**	**309**	*e*Pg	Pb	20 35 01.9	+1.6
AVF				*e*Sg	Sg	20 35 38.0	-2.1
	comp=N,1.1nm,0.2s						
LOR	**Lormes**	**2.90**	**321**	*e*Pg	Pg	20 35 03.7	-1.2
	baz=136						
LOR				*e*Sg	Sb	20 35 37.9	+0.4
	comp=N,0.8nm,0.2s						
SSF	**Saint Saulge**	**2.92**	**315**	*e*Pg	Pb	20 35 02.9	+1.0
SSF				*e*Sg	Sg	20 35 40.8	-2.3
	comp=N,1.4nm,0.3s						
HAU	**Haudompre**	**2.97**	**358**	*e*Pg	Pb	20 35 04.4	+1.7
HAU				*e*Sg	Sg	20 35 42.3	-2.3
	comp=N,3.7nm,0.3s						
BGF	**Bois d'Agland**	**2.99**	**302**	*e*Pn	Pn	20 34 55.5	-2.0
BGF	**Bois d'Agland**	**2.99**	**302**	*e*Pg	Pb	20 35 04.5	+1.3
BGF				*e*Sg	Sb	20 35 42.7	+2.6
	comp=N,3.2nm,0.3s						
CAF	**Calviac**	**3.18**	**269**	*e*Pn	Pn	20 34 58.0	-2.1
CAF	**Calviac**	**3.18**	**269**	*e*Pg	Pb	20 35 08.0	+1.7
CAF				*e*Sg	Sb	20 35 48.2	+2.8
SLVF	**La Salvetat-Pe**	**3.24**	**256**	P	Pn	20 35 01.2	+0.3
SLVF				Sn	Sn	20 35 38.2	-1.6
RJF	**Les Rejaudoux**	**3.56**	**276**	*e*Pg	Pb	20 35 14.9	+2.1

IPEC ***04*** *20:40:30.7±0.2, 51°.45N×16°.27E, h1km, ML2.5/6, Error ellipse: s-maj=2.5km s-min=1.4km az=73.0*
DNK ***04*** *20:40:31.1±2.4, 51°.61N×15°.56E, h0km±82km, ML3.1*
PRU ***04*** *20:40:32.6, 51°.40N×16°.08E, h0km*
VIE ***04*** *20:40:32.4±0.7, 51°.31N×16°.07E, h0km, mb2.7/11, ml2.7/18, ms3.7/1, Error ellipse: s-maj=6.1km s-min=4.3km az=73.0 70 km WNW of Wroclaw Suspected Mining induced.*
UPP ***04*** *20:40:33.7±2.8, 51°.69N×15°.40E, h0km, ML1.9, Presumed earthquake*

ISC 04 20:40:28.8±0.7, 51°.54N±0°.02×16°.09E±0°.02, h0km, n60, σ1§47/119, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*

comp=Z,134nm,0.8s
DPC Dobruska-Polom 1.20 173 *e*PG **Pg 20 40 51.7 -0.1**
DPC *e*SG **Sg 20 41 05.9 -1.4**
comp=Z,57nm,0.7s
PIVO Bartosovice 1.39 168 *e*Pg **Pg 20 40 55.1 -0.2**
baz=352
PIVO *e*Sg **Sg 20 41 10.9 -2.4**
89nm,0.4s,baz=352
PVCC Panska Ves 1.40 224 *e*PG **Pb 20 40 56.3 +0.6**
PVCC *e*SG **Sb 20 41 14.0 0.0**
comp=Z,237nm,0.5s
BRG Berggiesshubel 1.51 244 Pg **Pg 20 40 58.5 +0.9**
BRG Sg **Sn 20 41 18.7 +1.4**
BRG Amp 20 41 20.0
comp=Z,66nm,0.4s
KRLC Kraliky 1.53 163 *e*PG **Pn 20 40 57.4 0.0**
KRLC *e*SG **Sg 20 41 16.7 -1.2**
comp=Z,38nm,0.6s
RICC Richard 1.60 232 *e*PG **Pg 20 41 00.0 +0.5**
RICC *e*SG **Sg 20 41 21.1 +0.8**
RYBC Ceska Rybna 1.73 180 *e*Pn **Pn 20 41 00.3 +0.1**
baz=4.4
RYBC *e*Sg **Sn 20 41 22.5 -0.5**
comp=Z,58nm,0.2s,baz=4.4
PRU Pruhonice 1.84 213 *e*PG **Pg 20 41 04.1 +0.1**
PRU *e*SG **Sb 20 41 27.2 +0.4**
HSKC Hora Svate Kat 1.92 242 *e*PG **Pb 20 41 04.4 -0.2**
HSKC *e*SG **Sg 20 41 29.8 -0.6**
comp=Z,46nm,0.3s
STEB Steborice 1.93 146 *e*PN **Pn 20 41 02.9 0.0**
STEB *e*PG **Pb 20 41 04.9 +0.1**
STEB *e*SG **Sb 20 41 29.4 -0.1**
comp=Z,40nm,0.4s
CLL Collm 1.95 264 *i* Pn **Pn 20 41 03.8 +0.8**
CLL *i* Pg **Pg 20 41 06.0 0.0**
CLL *ex* x 20 41 08.0
CLL *i* Sg **Sg 20 41 33.8 +2.6**
comp=Z,29nm,0.5s
MORC Moravsky Berou 2.00 152 *e*Pn **Pn 20 41 03.7 -0.1**
baz=335
MORC *e*Sg **Sn 20 41 29.1 -0.3**
comp=Z,30nm,0.6s,baz=335
OKC Ostrava-Krasne 2.15 142 *e*PG **Pb 20 41 08.3 -0.2**
VRAC Vranov 2.26 172 *e*PN **Pn 20 41 07.5 +0.1**
VRAC *e*SG **Sb 20 41 38.1 -0.8**
VRAC Vranov 2.26 172 *e*Pn **Pn 20 41 07.4 +0.1**
baz=355
VRAC *e*Sg **Sb 20 41 38.0 -0.8**
comp=Z,20nm,0.4s,baz=355
TREC Trest 2.28 190 *e*SG **Sb 20 41 39.5 -0.1**
KRUC Moravsky 2.49 175 *e*PN **Pn 20 41 11.0 +0.4**
KRUC *e*SG **Sb 20 41 45.7 +0.2**
KRUC Moravsky 2.49 175 *e*Pn **Pn 20 41 10.9 +0.4**
baz=358
KRUC *e*Sg **Sb 20 41 45.6 +0.1**
comp=Z,25nm,0.6s,baz=358
OJC Ojcow 2.70 118 *e*Pn **Pn 20 41 13.7 +0.3**
OJC *e*Pg **Pg 20 41 22.1 +1.7**
OJC *e*Sg **Sg 20 41 56.6 +1.3**
JAVC Velka Javorina 2.87 159 *e*Pn **Pn 20 41 15.8 0.0**
baz=341
KHC Kasperske Hory 2.90 215 *e*PN **Pn 20 41 17.3 +1.1**
KHC *e*PG **Pb 20 41 22.7 +1.3**
KHC *e*SN **Sn 20 41 50.3 -1.5**
KHC *e*SG **Sg 20 42 00.2 -1.7**
comp=Z,14nm,0.4s
CKRC Cesky Krumlov 2.96 203 *e*PN **Pn 20 41 18.1 +1.2**
CKRC *e*PG **Pb 20 41 23.4 +1.1**
CKRC *e*SG **Sb 20 42 00.6 +1.7**
comp=Z,18nm,0.3s
LANS Liptovska Anna 3.23 137 *e*PN **Pn 20 41 20.8 +0.1**
LANS *e*PG **Pg 20 41 30.8 +0.2**
LANS *e*SG **Sg 20 42 11.6 -0.8**
MODS Modra-Piesok 3.26 166 *e*SG **Sg 20 42 12.3 -1.2**
NIE Niedzica 3.43 127 *e*Pg **Pg 20 41 34.0 -0.4**
NIE *e*Sg **Sg 20 42 19.1 +0.3**
CONA Conrad Observa 3.62 182 *i* Pn **Pn 20 41 26.8 +0.6**
comp=Z,0.3nm,0.4s
CONA *i* Sg **Sg 20 42 22.4 -2.6**
comp=Z,2.9nm,0.2s
RONA Rosalia, Austr 3.85 178 *i* Pn **Pn 20 41 30.1 +0.9**
comp=Z,0.3nm,0.1s
RONA *i* Sg **Sg 20 42 32.8 +0.5**
comp=Z,6.5nm,0.6s
MOA Molin 3.88 198 *i* Pn **Pn 20 41 30.5 +0.9**
comp=Z,0.1nm,0.1s
MOA *i* Sg **Sg 20 42 33.4 +0.1**
comp=Z,1.9nm,0.4s
STHS Stebnicka Huta 3.92 121 *e*PN **Pn 20 41 30.9 +0.7**
STHS *e*PG **Pg 20 41 44.7 +0.9**
STHS *e*SG **Sg 20 42 37.8 +3.2**
BIOA Bad Ischl, Aus 4.17 203 *i* Pn **Pn 20 41 34.7 +1.0**
comp=Z,0.2nm,0.1s
BIOA *i* Sg **Sg 20 42 41.3 -1.4**
comp=Z,5.3nm,0.5s
ARSA Arzberg 4.31 185 *e*Sg **Sg 20 42 47.2 0.0**
comp=Z,2.1nm,0.6s
LUNU Lund 4.39 340 P **Pn 20 41 37.2 +0.6**
LUNU S **Sn 20 42 26.8 -1.6**
LUNU Lund 4.39 340 P **Pn 20 41 37.2 +0.6**
LUNU *i* P **Pn 20 41 37.8 +1.2**
LUNU *e*S **Sn 20 42 25.3 -3.1**
LUNU S **Sn 20 42 26.8 -1.6**
LESA Schwarzleotal 4.68 210 *e*Sg **Sg 20 42 57.0 -2.1**
comp=Z,1.1nm,0.4s
KOLS Kolonicke sedl 4.75 121 *e*PN **Pn 20 41 42.7 +1.1**
KOLS *e*PG **Pg 20 42 01.9 +2.2**
KBA Koelnbreinsper 4.81 203 *e*Sg **Sg 20 43 06.8 +3.4**
comp=Z,0.2nm,0.3s
BJUU Bjuv 4.89 339 P **Pn 20 41 43.8 +0.3**
BJUU Bjuv 4.89 339 P **Pn 20 41 43.8 +0.3**
BJUU *i* P **Pn 20 41 43.8 +0.3**
BJUU *e*S **Sn 20 42 34.2 -6.5**
SOKA Soboth 4.92 189 *e*Sg **Sg 20 43 06.2 -0.4**
comp=Z,0.1nm,0.3s
DEL Delary 5.11 346 P **Pn 20 41 47.2 +0.8**
DEL Delary 5.11 346 *i* P **Pn 20 41 47.0 +0.5**
DEL P **Pn 20 41 47.2 +0.8**
DEL *e*S **Sn 20 42 42.1 -3.9**
WATA Walderalm 5.14 217 *i* Pn **Pn 20 41 48.8 +1.8**
comp=Z,0.5nm,0.2s
WATA *e*Sg **Sg 20 43 12.3 -1.4**
comp=Z,0.7nm,0.5s
OBKA Obir 5.14 192 *e*Sg **Sg 20 43 14.5 +0.8**
comp=Z,1.5nm,0.5s
MYKA Terra Mystica 5.17 199 *e*Sg **Sg 20 43 11.6 -3.3**
comp=Z,2.1nm,0.6s
WTTA Wattenberg 5.17 216 *i* Pn **Pn 20 41 49.7 +2.1**
comp=Z,1.0nm,0.7s
WTTA *e*Sg **Sg 20 43 12.9 -1.9**
comp=Z,2.2nm,0.6s
MOTA Moosalm 5.31 220 *e*Pn **Pn 20 41 50.4 +1.0**
comp=Z,0.3nm,0.1s
MOTA *i* Sn **Sn 20 42 51.0 -0.4**
comp=Z,2.1nm,0.7s
ABTA Abfaltersbach 5.34 207 *i* Pn **Pn 20 41 51.2 +1.4**
comp=Z,0.4nm,0.5s
ABTA *e*Sg **Sg 20 43 19.2 -1.1**
comp=Z,1.9nm,0.6s
SQTA Sankt Quirin 5.37 218 *i* Pn **Pn 20 41 49.9 -0.3**
comp=Z,1.3nm,0.7s
SQTA *i* Sn **Sn 20 42 51.3 -1.5**
comp=Z,0.9nm,0.5s
VXJU Vaexsjoe 5.43 353 P **Pn 20 41 52.2 +1.3**
VXJU S **Sn 20 42 51.8 -2.2**
VXJU Vaexsjoe 5.43 353 P **Pn 20 41 52.2 +1.3**
VXJU S **Sn 20 42 51.8 -2.2**
OSKU Oskarshamn 5.67 0 P **Pn 20 41 55.8 +1.7**
OSKU S **Sn 20 42 57.5 -2.2**
OSKU Oskarshamn 5.67 0 P **Pn 20 41 55.8 +1.7**
OSKU S **Sn 20 42 57.5 -2.2**
FETA Feichten 5.72 220 *e*Sg **Sg 20 43 34.3 +1.8**
comp=Z,1.6nm,1.2s
BYXU Byxelkrok 5.79 5 P **Pn 20 41 58.2 +2.4**
BYXU S **Sn 20 43 01.5 -1.2**
BYXU Byxelkrok 5.79 5 P **Pn 20 41 58.2 +2.4**
BYXU S **Sn 20 43 01.5 -1.2**
FABU Falkenberg 5.81 341 *i* P **Pn 20 41 56.6 +0.4**
FABU *i* S **Sn 20 43 01.4 -2.0**

IDC 04 20:43:38.0±1.9, 0°.25S×127°.63E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=174.3km s-min=23.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.65**	**162**	P	P	20 48 19.6	+0.1
	0.4nm,0.6s,baz=341,slow=11,SNR=3.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**24.07**	**166**	P	P	20 48 55.2	-0.1
	0.3nm,0.4s,baz=348,slow=12,SNR=12						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**61.32**	**326**	P	P	20 53 55.4	-0.2
	0.5nm,0.8s,baz=124,slow=6.4,SNR=4.4						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**65.56**	**328**	P	P	20 54 23.7	+0.2
	0.4nm,0.7s,baz=135,slow=5.4,SNR=4.6						
	0.4nm,0.7s						

*IDC **04** 21:15:58.0±1.7, 2°.61N×127°.00E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=118.7km s-min=20.1km az=70.0*
*DJA **04** 21:16:02.4±0.3, 3°.N±4°×12°.7E±°, h10km, M3.8/12, mB5.0/2, mb4.4/5, MLv3.5/12, Mw(mB)4.3/2*
ISC 04 21:16:04.2±1.2, 2°.7N±0°.1×127°.2E±0°.1, h53km, n14, σ1ᵒ07/11, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.90**	**300**	P	**Pn**	**21 16 33.3**	**-1.0**
TNTI	**Ternate**	**1.96**	**175**	P	**Pn**	**21 16 33.6**	**-1.5**
MRSI	**Marisa**	**5.70**	**247**	P	**Pn**	**21 17 27.3**	**+1.0**
	0.1nm15nm,0.5s						
LUWI	**Luwuk**	**5.79**	**230**	P	**Pn**	**21 17 27.4**	**-0.2**
AAI	**Ambon**	**6.46**	**171**	P	**Pn**	**21 17 36.6**	**-0.2**
	45nm,0.9s						
RKPI	**Ransiki, Papua**	**8.17**	**121**	P	**Pn**	**21 18 00.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**20.76**	**184**	P	**P**	**21 20 39.3**	**-1.5**
	2.9nm,1.1s,baz=354,slow=10,SNR=2.4						
	2.9nm,1.1s						
WRA	**Warramunga Arr**	**23.61**	**163**	P	**P**	**21 21 09.9**	**-0.7**
	1.7nm,0.6s,baz=341,slow=11,SNR=19						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**27.05**	**166**	P	**P**	**21 21 42.2**	**+0.4**
	0.3nm,0.5s,baz=349,slow=6.9,SNR=6.1						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.73**	**65**	T	T	22 08 43.1	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**41.74**	**65**	T	T	22 08 41.8	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**41.74**	**65**	T	T	22 08 39.7	
	baz=252						
MKAR	**Makanchi Array**	**58.62**	**325**	P	**P**	**21 25 56.7**	**+0.7**
	0.3nm,0.5s,baz=117,slow=7.5,SNR=5.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.81**	**327**	P	**P**	**21 26 25.5**	**+1.2**
	0.3nm,0.3s,baz=131,slow=6.3,SNR=5.7						
	0.3nm,0.3s						

*IDC **04** 21:17:14.2±2.1, 26°.95N×128°.46E, h66km±15km, mb3.4/7, mbtmp3.7/8, Error ellipse: s-maj=60.1km s-min=35.7km az=138.0*
*JMA **04** 21:17:15.3±0.1, 27°.3N±0°.5×128°.4E±0°.8, h48km±1km, MV3.5/18, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
ISC 04 21:17:14.5±0.8, 27°.23N±0°.04×128°.49E±0°.05, h54km±6km, n30, σ1ᵒ03/33, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.15**	**31**	*e*P	**Pn**	**21 17 23.1**	**+0.1**
JOKE				S	**Sn**	**21 17 28.4**	**-0.6**
JYRO	**Yoronjima**	**0.21**	**189**	*i* P	**Pn**	**21 17 23.9**	**+0.6**
JYRO				S	**Sn**	**21 17 29.7**	**+0.1**
JOW	**Kunigami**	**0.44**	**205**	P	**Pn**	**21 17 25.7**	**+0.3**
	790nm,0.2s,baz=111,slow=26,SNR=5954						
JOW				S	**Sn**	**21 17 33.5**	**+0.3**
	426nm,0.3s,baz=294,slow=26,SNR=4.4						
JOW	**Kunigami**	**0.44**	**205**	*i* P	**Pn**	**21 17 26.2**	**+0.9**
JOW				S	**Sn**	**21 17 33.8**	**+0.6**
JOW	**Kunigami**	**0.44**	**205**	A	A	21 17 26.2	
	comp=N,5.0nm,0.3s,comp=E,7.0nm,0.2s						
JIH	**Iheya**	**0.50**	**247**	*e*P	**Pn**	**21 17 26.3**	**+0.3**
JIH				*e*S	**Sn**	**21 17 33.8**	**-0.6**
JTK	**Tokunoshima**	**0.69**	**37**	*i* P	**Pn**	**21 17 28.6**	**+0.4**
JTK				S	**Sn**	**21 17 37.7**	**-0.6**
JNTH	**Nagotoyohara**	**0.82**	**210**	*i* P	**Pn**	**21 17 31.0**	**+1.0**
JAMN	**Amaminishikomi**	**1.18**	**31**	P	**Pn**	**21 17 34.8**	**+0.2**
JAMN				*e*S	**Sn**	**21 17 48.6**	**-1.0**
JAGN	**Aguni-jima**	**1.28**	**240**	P	**Pn**	**21 17 36.6**	**+0.5**
JAGN				*e*S	**Sn**	**21 17 52.1**	**-0.1**
JAM	**Amami Oshima**	**1.54**	**40**	*e*P	**Pn**	**21 17 40.4**	**+0.9**
JZK	**Kikaishima**	**1.70**	**50**	*e*P	**Pn**	**21 17 43.9**	**+2.2**
JKE	**Kume jima 2**	**1.77**	**240**	*e*P	**Pn**	**21 17 43.4**	**+0.7**
JTAJ	**Takarajima**	**2.01**	**18**	*e*P	**Pn**	**21 17 46.1**	**+0.1**
JTAJ				*e*S	**Sn**	**21 18 08.9**	**-1.1**
JKDJ	**Kitadaitoujima**	**2.82**	**116**	P	**Pn**	**21 17 57.5**	**+0.4**
JKDJ				*e*S	**Sn**	**21 18 29.6**	**-0.3**
JMZ	**Minamidaito 2**	**2.83**	**119**	P	**Pn**	**21 17 57.2**	**+0.1**
JNU	**Nakatsue**	**6.22**	**19**	P	**Pn**	**21 18 47.0**	**+3.3**
	comp=E,3.0nm,0.7s,baz=12,slow=19,SNR=1.1						
SONM	**Songino Array**	**26.84**	**326**	P	**P**	**21 22 51.6**	**+1.7**
	comp=E,0.3nm,0.5s,baz=128,slow=9.3,SNR=4.3						
	comp=E,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.90**	**94**	T	T	22 02 10.1	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**35.91**	**94**	T	T	22 02 06.5	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**35.92**	**94**	T	T	22 02 17.6	
	baz=290						
H11S3	**WAKE ISLAND Hy**	**36.14**	**96**	T	T	22 02 38.5	
	baz=291						
H11S1	**WAKE ISLAND Hy**	**36.15**	**96**	T	T	22 02 32.5	
	baz=291						
H11S2	**WAKE ISLAND Hy**	**36.16**	**96**	T	T	22 02 22.7	
	baz=291						
MKAR	**Makanchi Array**	**41.05**	**311**	P	**P**	**21 24 52.3**	**-0.3**
	comp=E,0.4nm,0.6s,baz=93,slow=9.5,SNR=5.7						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.29**	**316**	P	**P**	**21 25 18.8**	**+0.1**
	comp=E,0.7nm,0.5s,baz=102,slow=9.0,SNR=11						
	comp=E,0.7nm,0.5s						
BVAR	**Borovoye Array**	**49.68**	**318**	P	**P**	**21 25 60.0**	**-0.8**
	comp=E,0.4nm,0.3s,baz=99,slow=8.0,SNR=4.6						
	comp=E,0.4nm,0.3s						
FINES	**FINESS Array B**	**72.11**	**330**	P	**P**	**21 28 32.3**	**-0.5**
	comp=E,2.3nm,1.0s,baz=46,slow=5.5,SNR=4.8						
	comp=E,2.3nm,1.0s						
BRTR	**Keskin Array B**	**76.60**	**308**	P	**P**	**21 28 59.8**	**+0.2**
	comp=E,0.3nm,0.5s,baz=57,slow=5.3,SNR=2.2						
	comp=E,0.3nm,0.5s						
NOA	**NORSAR Array B**	**78.52**	**334**	P	**P**	**21 29 07.9**	**-1.8**
	comp=E,0.5nm,0.6s,baz=51,slow=5.4,SNR=3.4						
	comp=E,0.5nm,0.6s						

*IDC **04** 21:21:48.5±1.8, 4°.35N×93°.94E, h0km, mb3.8/6, mbtmp3.7/8, ML3.6/2, MS3.5/1, Error ellipse: s-maj=71.7km s-min=19.8km az=53.0*
*NEIC **04** 21:21:56.7±1.5, 4°.65N±0°.05×94°.38E±0°.09, h42km±9km, mb4.3/16, Error ellipse: s-maj=14.1km s-min=4.2km az=65.0*
ISC 04 21:21:55.5±0.7, 4°.63N±0°.08×94°.32E±0°.08, h35km, n46, σ1ᵒ38/37, mb4.1/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.40**	**351**	*e*P	Pn	21 22 39.5	+7.2
CMBY				*e*S	Sn	21 23 10.1	+10
CMBY				IAML		21 23 19.2	
	comp=N,979nm,0.5s						
CMBY				IAML		21 23 21.7	
	comp=E,926nm,0.5s						
LHMI	**Lhok Sumawe**	**2.69**	**77**	Pn	**Pn**	**21 22 36.3**	**0.0**
GSI	**Gunungsitoli**	**4.64**	**135**	Pn	**Pn**	**21 23 03.0**	**-0.1**
PSI	**Prapat**	**4.95**	**111**	Pn	**Pn**	**21 23 09.1**	**+1.6**
	comp=E,1.8nm,0.3s,baz=187,slow=22,SNR=2.6						
PSI				Sn	**Sn**	**21 24 04.2**	**+0.7**
	comp=E,1.6nm,0.3s,baz=178,slow=16,SNR=1.8						
	comp=E,4.1nm,0.3s						
RPSI	**Rantau Prapat**	**4.99**	**113**		**Pn**	**21 23 09.1**	**+1.2**
RPSI					**Sn**	**21 24 04.2**	**-0.1**
KULM	**Kulim**	**6.35**	**84**	Pn	**Pn**	**21 23 25.1**	**-1.5**
IPM	**Ipoh**	**6.69**	**91**	Pn	**Pn**	**21 23 31.2**	**-0.1**
PBA	**Port Blair**	**7.15**	**348**	*e*P	**Pn**	**21 23 41.9**	**+4.3**
PBA				*e*S	**Sn**	**21 24 55.7**	**-2.0**
PBA				IAML		21 29 43.1	
	comp=E,346nm,0.2s						
PBA				IAML		21 29 53.5	
	comp=N,194nm,0.1s						
CMAR	**Chiang Mai Arr**	**14.47**	**18**	Pn	**Pn**	**21 25 19.6**	**+1.8**
	comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=6.2						
	comp=N,0.5nm,0.5s						
SLVN	**Son La**	**19.04**	**28**	Pn	**Pn**	**21 26 16.0**	**+0.3**
IMP	**Imphal**	**20.09**	**359**	*e*P	Pn	21 26 30.0	+1.8
IMP				IAmb	IAmb	21 26 34.8	
	comp=Z,8.4nm,0.8s						
IMP				*e*S	Sn	21 30 14.9	+1.5
KOHI	**KOHIMA**	**20.97**	**359**	IAmb	IAmb	21 21 55.5	
	comp=Z,9.6nm,1.1s						
KOHI				*e*P	Pn	21 26 39.2	+0.6
HMDM	**Hanimaadhoo**	**21.14**	**277**	P	**P**	**21 26 38.6**	**+1.0**
HMDM				IAmb	IAmb	21 26 50.3	
	comp=Z,24nm,0.7s						
KAAM	**Kaadhehdhoo**	**21.69**	**260**	P	**P**	**21 26 44.1**	**+0.6**
EVN	**Everest**	**24.27**	**344**	P	**P**	**21 27 10.6**	**+0.3**
H08S2	**Diego Garcia H**	**24.95**	**241**	T	T	21 53 06.3	
	baz=61,slow=76,SNR=175						
H08S3	**Diego Garcia H**	**24.95**	**241**	T	T	21 53 04.2	
	baz=61,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**24.97**	**241**	T	T	21 53 19.4	
	baz=61,slow=76,SNR=20						
LSA	**Lhasa**	**25.11**	**354**	P	**P**	**21 27 17.8**	**+0.1**
LSA				IAmb	IAmb	21 27 19.8	
	comp=Z,1.9nm,0.5s						
TNTI	**Ternate**	**33.23**	**96**	P	**P**	**21 28 32.2**	**+2.6**
ARSB	**Arslanbob**	**41.23**	**335**	P	**P**	**21 29 37.3**	**0.0**
NWAO	**Narrogin (SRO)**	**43.22**	**151**	P	**P**	**21 29 53.0**	**-0.4**
MKAR	**Makanchi Array**	**43.27**	**348**	P	**P**	**21 29 52.4**	**-1.4**
MKAR	**Makanchi Array**	**43.27**	**348**	P	**P**	**21 29 53.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=165,slow=8.2,SNR=11						
	comp=Z,0.8nm,0.5s						
H01W3	**Cape Leeuwin H**	**43.51**	**156**	T	T	22 16 47.5	
	baz=330						
H01W2	**Cape Leeuwin H**	**43.52**	**156**	T	T	22 16 45.0	
	baz=330						
H01W1	**Cape Leeuwin H**	**43.52**	**156**	T	T	22 16 53.0	
	baz=330						
KKAR	**Karatay Array**	**43.73**	**335**	P	**P**	**21 29 58.1**	**+0.6**
SONM	**Songino Array**	**44.28**	**12**	P	**P**	**21 30 00.3**	**-1.6**
JNU	**Nakatsue**	**44.32**	**46**	P	**P**	**21 30 02.5**	**+0.2**
JNU				IAmb	IAmb	21 30 17.0	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**46.26**	**123**	P	**P**	**21 30 17.0**	**-0.9**
WB0				IAmb	IAmb	21 30 34.8	
	comp=Z,6.2nm,1.4s						
WRA	**Warramunga Arr**	**46.30**	**123**	P	**P**	**21 30 17.2**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=302,slow=9.0,SNR=6.4						
WRA		LR		LR	LR	21 53 56.9	
	comp=Z,51nm,18.4s,baz=126,slow=42						
	comp=Z,0.7nm,0.8s						
WRAB	**Tennant Creek**	**46.30**	**123**	P	**P**	**21 30 15.1**	**-3.2**
WRAB				IAmb	IAmb	21 30 18.6	
	comp=Z,1.4nm,0.8s						
WR8	**Warramunga Arr**	**46.44**	**123**	P	**P**	**21 30 18.1**	**-1.2**
WR8				IAmb	IAmb	21 30 19.6	
	comp=Z,3.8nm,1.0s						
KURBB	**Kurchatov Arra**	**47.72**	**346**	P	**P**	**21 30 28.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=174,slow=7.9,SNR=4.9						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**47.76**	**128**	P	**P**	**21 30 28.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=298,slow=8.1,SNR=4.2						
	comp=Z,0.2nm,0.6s						
ZAA0	**Zalesovo Array**	**49.77**	**353**	P	**P**	**21 30 44.1**	**-0.4**
ZAA0				IAmb	IAmb	21 30 44.6	
	comp=Z,3.7nm,1.3s						
ZALV	**Zalesovo Beam**	**49.77**	**353**	P	**P**	**21 30 43.4**	**-1.1**
ZALV	**Zalesovo Beam**	**49.77**	**353**	P	**P**	**21 30 44.1**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=179,slow=6.7,SNR=7.0						
	comp=Z,1.2nm,0.5s						
JGF	**Kuroka**	**50.20**	**46**	P	**P**	**21 30 46.4**	**-1.7**
AB31	**Akbulak array**	**53.16**	**332**	P	**P**	**21 31 09.7**	**-0.2**
AB31				IAmb	IAmb	21 31 10.4	
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**53.16**	**332**	P	**P**	**21 31 09.6**	**-0.3**
H04N2	**CROZET ISLANDS**	**63.06**	**212**	T	T	22 40 56.2	
	baz=49,slow=75,SNR=5.5						
H04N1	**CROZET ISLANDS**	**63.07**	**212**	T	T	22 40 56.8	
	baz=49,slow=75,SNR=7.1						
H04N3	**CROZET ISLANDS**	**63.08**	**212**	T	T	22 40 55.0	
	baz=49,slow=75,SNR=8.2						
FINES	**FINESS Array B**	**75.65**	**333**	P	**P**	**21 33 35.9**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=116,slow=8.7,SNR=4.7						
	comp=Z,2.2nm,0.9s						

*SNET **04** 21:26:32.8±2.4, 12°.32N×89°.30W, h36km, ML3.5*
*CATAC **04** 21:26:33.9±0.5, 12°.N±2°×.8°.9W±°, h17km±4km, M3.6/24, MLv3.6/24, Error ellipse: s-maj=5.4km s-min=2.6km az=39.8, confirmed*
ISC 04 21:26:35.2±2.7, 12°.48N±0°.07×89°.27W±0°.05, h29km±19km, n64, σ0ᵒ67/71, 4C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.16**	**24**	P	**Pn**	**21 26 54.0**	**-1.5**
TECO	**Alcaldia de Te**	**1.16**	**24**	S	**Sn**	**21 27 10.1**	**-0.2**
LOMA	**Loma Larga**	**1.16**	**5**	P	**Pn**	**21 26 55.0**	**-0.7**
LOMA	**Loma Larga**	**1.16**	**5**	S	**Sn**	**21 27 10.9**	**+0.2**
JAYA	**Jayaque - finc**	**1.18**	**351**	*e*P	**Pn**	**21 26 54.4**	**-1.6**
JAYA				*e*S	**Sn**	**21 27 10.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.18**	**351**	S	**Sn**	**21 27 11.6**	**+0.4**
JAYA	**Jayaque - finc**	**1.18**	**351**	P	**Pn**	**21 26 54.5**	**-1.4**
ITCA	**Escuela Especi**	**1.19**	**360**	P	**Pn**	**21 26 55.3**	**-0.7**
ITCA	**Escuela Especi**	**1.19**	**360**	S	**Sn**	**21 27 11.7**	**+0.4**
UTEC	**Universidad Te**	**1.22**	**3**	P	**Pn**	**21 26 55.9**	**-0.5**
PMON	**Piamonte**	**1.23**	**358**	⇑P	**Pn**	**21 26 56.0**	**-0.6**
PMON	**Piamonte**	**1.23**	**358**	S	**Sn**	**21 27 12.6**	**+0.4**
UEES	**Universidad Ev**	**1.23**	**1**	P	**Pn**	**21 26 56.3**	**-0.3**
UEES	**Universidad Ev**	**1.23**	**1**	S	**Sn**	**21 27 12.8**	**+0.4**
IGN	**Direccin Gen**	**1.23**	**4**	P	**Pn**	**21 26 56.2**	**-0.3**
IGN	**Direccin Gen**	**1.23**	**4**	S	**Sn**	**21 27 12.1**	**-0.2**
UDBS	**Universidad Do**	**1.23**	**5**	P	**Pn**	**21 26 55.1**	**-1.5**
UESV	**Universidad de**	**1.24**	**22**	P	**Pn**	**21 26 56.2**	**-0.5**
UESV	**Universidad de**	**1.24**	**22**	S	**Sn**	**21 27 12.6**	**+0.1**
BOQS	**Boqueron**	**1.25**	**359**	*e*P	**Pn**	**21 26 56.5**	**-0.4**
PAVA	**Las Pavas**	**1.27**	**15**	*e*P	**Pn**	**21 26 56.2**	**-1.0**
PAVA				*e*S	**Sb**	**21 27 14.8**	**+0.2**
PAVA	**Las Pavas**	**1.27**	**15**	P	**Pn**	**21 26 56.6**	**-0.5**
PAVA	**Las Pavas**	**1.27**	**15**	S	**Sn**	**21 27 13.6**	**+0.3**
CEDA	**San Andres**	**1.32**	**355**	P	**Pn**	**21 26 57.8**	**-0.1**
CEDA	**San Andres**	**1.32**	**355**	S	**Sn**	**21 27 15.1**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.33**	**23**	P	**Pn**	**21 26 57.0**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.33**	**23**	S	**Sn**	**21 27 15.1**	**+0.5**
PQSS	**Presa 15 de Se**

CNGN	Cerro Negro	2.51	89	P	Pn	21 27 13.8	-0.3
YUSH	Yuscaran	2.78	58	P	Pn	21 27 17.6	-0.3
YUSH	Yuscaran	2.78	58	S	Sn	21 27 51.1	+0.5
LIMN	Finca el Limon	2.89	78	P	Pn	21 27 19.0	-0.4
LIMN				S	Sn	21 27 53.7	+0.4
NANN	Nandasmo	3.12	100	P	Pn	21 27 21.7	-0.8
CARN	Rivas	3.88	109	P	Pn	21 27 32.6	-0.4

*SDD **04** 21:42:12.2±2.6, 18°.53N×69°.03W, h112km±9km, MD3.7, ML3.7, MW3.9*
*OSPL **04** 21:42:12.9±3.3, 18°.38N×69°.14W, h118km±22km, ML3.5*
ISC 04 21:42:09.5±1.4, 18°.59N±0°.05×69°.10W±0°.03, h122km±11km, n55, σ1°81/71, 27C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPM1	San Pedro UASD	0.24	234	⇑ePg	Pn	21 42 26.3	-0.1
SPM1				⇑eSg	Sn	21 42 38.7	-0.5
SPM1				IAML		21 42 42.0	
	comp=N,2μm,0.3s						
HATOM	Hato Mayor del	0.33	306	⇑ePg	Pn	21 42 26.5	-0.3
HATOM				⇑eSg	Sn	21 42 38.6	-1.3
HATOM				IAML		21 42 39.3	
	comp=N,3μm,0.3s						
HATOM				IAML		21 42 40.7	
	comp=N,2μm,0.5s						
HIDR	Higuey Centro	0.36	90	⇑ePg	Pn	21 42 26.6	-0.3
HIDR				⇓eSg	Sn	21 42 38.8	-1.2
HIDR				IAML		21 42 39.8	
	comp=N,15μm,0.2s						
HIDR				IAML		21 42 40.0	
	comp=N,13μm,0.2s						
MIDR	Miches	0.39	7	⇑ePg	Pn	21 42 27.3	+0.2
MIDR				IAML		21 42 41.3	
	comp=N,3μm,0.6s						
PCDR	Punta Cana, DR	0.68	96	⇑eSg	Sn	21 42 43.3	-0.2
PCDR				IAML		21 42 44.9	
	comp=N,2μm,0.3s						
PCDR				IAML		21 42 47.0	
	comp=Z,826nm,0.3s						
SMDR	Samana, DR	0.70	353	⇑ePg	Pn	21 42 29.4	+0.4
SMDR				⇓eSg	Sn	21 42 44.6	+0.8
SMDR				IAML		21 42 50.9	
	comp=N,3μm,0.6s						
SDD	Santo Domingo	0.79	260	⇑ePg	Pn	21 42 29.7	0.0
SDD				⇑eSg	Sn	21 42 45.0	+0.1
SDD				IAML		21 42 47.3	
	comp=N,206nm,0.4s						
SDD				IAML		21 42 49.7	
	comp=N,109nm,0.4s						
SDD	Santo Domingo	0.79	260	i P	Pn	21 42 30.1	+0.4
SDD				eS	Sn	21 42 44.8	-0.1
DR08	Loma La Naviza	0.95	293	⇑ePg	Pn	21 42 31.5	+0.2
DR08				⇑eSg	Sn	21 42 48.0	+0.3
DR08				IAML		21 42 49.8	
	comp=N,22μm,0.3s						
DR08				IAML		21 42 52.5	
	comp=N,45μm,0.2s						
LOSC1	San Cristbal	0.98	259	i P	Pn	21 42 33.4	+2.0
LOSC1				eS	Sn	21 42 45.5	-2.5
LOSC1				IAML		21 42 52.8	
	comp=Z,1μm,1.3s						
NADR	Nagua	1.04	317	⇑ePg	Pn	21 42 33.0	+0.9
NADR				IAML		21 42 56.4	
	comp=N,6μm,0.3s						
NADR				IAML		21 42 56.5	
	comp=N,6μm,0.3s						
BANI	BANI	1.21	261	⇑ePg	Pn	21 42 35.1	+1.2
BANI				IAML		21 42 59.0	
	comp=N,948nm,0.2s						
BANI				IAML		21 43 01.4	
	comp=N,2μm,0.2s						
SFDR	San Fco. de Ma	1.28	303	⇑ePg	Pn	21 42 36.4	+1.8
SFDR				⇓eSg	Sn	21 42 56.9	+3.3
SFDR				IAML		21 43 01.8	
	comp=E,4μm,0.3s						
CADR	Cabrera	1.33	324	⇑ePg	Pn	21 42 35.6	+0.5
CADR				⇑eSg	Sn	21 42 55.5	+0.9
CADR				IAML		21 42 56.4	
	comp=N,4μm,0.3s						
CADR				IAML		21 42 59.8	
	comp=N,2μm,0.3s						
ABDR	Alto Bandera	1.47	279	⇑ePg	Pn	21 42 37.9	+0.9
ABDR				⇑eSg	Sn	21 42 59.3	+1.4
ABDR				IAML		21 43 01.1	
	comp=E,11nm,0.3s						
ABDR				IAML		21 43 12.9	
	comp=N,0.2nm,0.5s						
SC01	Santiago de lo	1.75	299	⇑ePg	Pn	21 42 42.0	+2.0
SC01				IAML		21 43 08.4	
	comp=N,1μm,0.4s						
SC01				IAML		21 43 11.8	
	comp=N,972nm,0.3s						
SC01				⇑e		21 44 08.5	
SC01	Santiago de lo	1.75	299	i P	Pn	21 42 42.0	+2.0
SC01				eS	Sn	21 43 06.8	+3.5
AGPR	Aguadilla, PR	1.89	93	⇑ePg	Pn	21 42 42.8	+1.1
AGPR				IAML		21 43 13.1	
	comp=N,498nm,0.3s						
AGPR				IAML		21 43 17.8	
	comp=N,698nm,0.4s						
AGPR	Aguadilla, PR	1.89	93	i P	Pn	21 42 43.4	+1.7
AGPR				eS	Sn	21 43 08.4	+2.2
AGPR				IAML		21 43 17.0	
	comp=Z,482nm,0.2s						
CRPR	Cabo Rojo, PR	1.98	107	⇓ePg	Pn	21 42 42.8	+0.1
CRPR				IAML		21 43 18.1	
	comp=N,225nm,0.3s						
CRPR				IAML		21 43 20.6	
	comp=N,316nm,0.3s						
CRPR	Cabo Rojo, PR	1.98	107	i P	Pn	21 42 42.8	+0.1
CRPR				eS	Sn	21 43 08.5	+0.4
CRPR				IAML		21 43 19.8	
	comp=Z,239nm,0.5s						
MLPR	Magueyes Islan	2.05	107	⇓ePg	Pn	21 42 43.4	-0.2
MLPR				IAML		21 43 16.8	
	comp=N,92nm,0.3s						
MLPR				IAML		21 43 17.2	
	comp=N,81nm,0.3s						
SDDR	Presa de Saban	2.11	281	⇑ePg	Pn	21 42 46.9	+2.5
SDDR				IAML		21 43 18.4	
	comp=N,562nm,0.5s						
SDDR				IAML		21 43 18.8	
	comp=N,594nm,0.9s						
SDDR	Presa de Saban	2.11	281	eP	Pn	21 42 46.9	+2.5
SDDR				eS	Sn	21 43 13.7	+2.4
SDDR	Presa de Saban	2.11	281	i P	Pn	21 42 46.9	+2.5
SDDR				IAML		21 43 18.7	
	comp=Z,363nm,0.6s						
PODR	Polo	2.12	259	⇑ePg	Pn	21 42 46.9	+2.2
PODR				⇑eSg	Sn	21 43 12.3	+0.7
PODR				IAML		21 43 17.2	
	comp=N,192nm,0.4s						
PODR				IAML		21 43 20.8	
	comp=N,204nm,0.2s						
PODR	Polo	2.12	259	i P	Pn	21 42 45.8	+1.1
PODR				eS	Sn	21 43 12.1	+0.5
AOPR	Arecibo Observ	2.24	96	⇓ePg	Pn	21 42 47.0	+0.9
AOPR				IAML		21 43 21.2	
	comp=N,1μm,0.2s						
AOPR				IAML		21 43 23.5	
	comp=N,2μm,0.2s						
LONE3	El Aguacate, B	2.24	271	i P	Pn	21 42 47.2	+1.1
LONE3				IAML		21 43 23.9	
	comp=Z,117nm,0.5s						
LODU1	El Espartillar	2.27	264	i P	Pn	21 42 48.0	+1.6
LODU1				IAML		21 43 24.9	
	comp=Z,238nm,0.3s						
LOVI	El Cajuil, Ovi	2.30	250	i P	Pn	21 42 47.0	+0.2
LOVI				eS	Sn	21 43 13.3	-2.0
LOVI				IAML		21 43 19.7	
	comp=Z,173nm,0.6s						
LOPP1	Punta Rusia, P	2.35	303	i P	Pn	21 42 47.9	+0.5
LOPP1				eS	Sn	21 43 18.1	+1.6
LOPP1				IAML		21 43 20.3	
	comp=Z,298nm,0.3s						
CELP	Cerrillos	2.45	102	⇑ePg	Pn	21 42 48.9	+0.3
CELP				IAML		21 43 26.4	
	comp=N,435nm,0.2s						
CELP				IAML		21 43 26.5	
	comp=N,404nm,0.2s						
LODA1	ITESIL, Dajabo	2.64	291	eS	Sn	21 43 23.6	+0.4
MCDR	Montecristi	2.74	299	⇑eSg	Sn	21 43 26.3	+0.7
MCDR				IAML		21 43 34.3	
	comp=N,243nm,0.2s						
MCDR				IAML		21 43 37.4	
	comp=N,470nm,0.4s						
SJG	San Juan	2.84	99	i P	Pn	21 42 55.2	+1.5
SJG				eS	Sn	21 43 27.9	0.0
SJG				IAML		21 43 33.8	
	comp=Z,128nm,0.2s						
PAPH	Port-au-Prince	3.04	269	i P	Pn	21 42 57.9	+1.6
GRTK	Grand Turk	3.48	327	eP	Pn	21 43 01.8	-0.4
GRTK				eS	Sn	21 43 40.7	-2.2
MASC	Masc	5.09	289	eP	Pn	21 43 21.5	-2.2
MASC				eS	Sn	21 44 17.7	-3.9
QMBU	Quimbuelo	5.62	287	eP	Pn	21 43 27.5	-3.4
GTBY	Guantanamo Bay	5.83	284	eP	Pn	21 43 31.8	-1.9
GTBY				eS	Sn	21 44 35.5	-3.9
NMDO	Nuevo Mundo	5.88	290	eP	Pn	21 43 32.4	-2.0
NMDO				eS	Sn	21 44 35.8	-4.8
MARVS	Santiago de Cu	6.58	283	eP	Pn	21 43 40.2	-3.5
MARVS				eS	Sn	21 44 51.8	-5.6
PINC	Pinares de May	6.59	288	eP	Pn	21 43 40.5	-3.4
PINC				eS	Sn	21 44 51.6	-6.0
HLGC	Holguin	6.94	290	eP	Pn	21 43 46.4	-2.3
HLGC				eS	Sn	21 45 04.0	-2.4
ANWB	Willy Bob	7.01	96	eP	Pn	21 43 48.3	-1.3
ANWB	Willy Bob	7.01	96	eS	Sn	21 45 02.3	-5.7
YAR	Yar	7.08	286	eP	Pn	21 43 47.4	-3.1
YAR				eS	Sn	21 45 05.1	-4.4
DHSZ	Broadband at M	7.37	107	eP	Pn	21 43 56.1	+1.6
DHSZ	Broadband at M	7.37	107	eS	Sn	21 45 18.0	+1.4
ATGZ	Broadband at L	7.46	108	eP	Pn	21 43 56.9	+1.2
ATGZ	Broadband at L	7.46	108	eS	Sn	21 45 17.2	-1.7
LMGC	Las Mercedes	7.61	282	eP	Pn	21 43 54.6	-3.1
LMGC				eS	Sn	21 45 16.3	-6.1
DSLB	Salisbury	7.99	112	eP	Pn	21 44 03.5	+0.6
DSLB	Salisbury	7.99	112	eS	Sn	21 45 29.8	-1.8

*OSPL **04** 21:50:15.7±2.7, 19°.42N×69°.81W, h0km±11km, ML3.6*
*SDD **04** 21:50:16.3±2.1, 19°.39N×69°.92W, h21km±7km, MD3.6, ML3.7, MW3.9*
ISC 04 21:50:14.6±0.9, 19°.41N±0°.03×69°.89W±0°.02, h29km±5km, n48, σ1°32/78, 25C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONA1	Toro Cenizo, N	0.04	143	i P	Pb	21 50 19.9	+0.4
LONA1				eS	Sb	21 50 23.1	+0.3
LONA1				IAML		21 50 23.3	
	comp=Z,34μm,0.1s						
NADR	Nagua	0.07	151	⇑ePg	Pb	21 50 19.1	-0.5
NADR				⇑eSg	Sb	21 50 22.4	-0.6
NADR				IAML		21 50 22.5	
	comp=N,89μm,0.3s						
CADR	Cabrera	0.26	350	⇑ePg	Pb	21 50 21.7	+0.3
CADR				⇑eSg	Sb	21 50 26.3	+0.3
CADR				IAML		21 50 28.9	
	comp=N,15μm,0.2s						
CADR				IAML		21 50 29.7	
	comp=E,17μm,0.3s						
SFDR	San Fco. de Ma	0.35	249	⇓ePg	Pb	21 50 22.6	-0.2
SFDR				⇑eSg	Sb	21 50 28.9	+0.7
SFDR				IAML		21 50 33.9	
	comp=E,12μm,0.3s						
DR08	Loma La Naviza	0.47	195	⇓ePg	Pb	21 50 23.7	-0.8
DR08				⇑eSg	Sb	21 50 30.4	-0.8
DR08				IAML		21 50 32.6	
	comp=N,45μm,0.2s						
SMDR	Samana, DR	0.68	100	⇑ePg	Pn	21 50 28.1	-0.1
SMDR				⇑e		21 50 28.1	
SMDR				⇑eSg	Sn	21 50 40.2	+2.4
SMDR				IAML		21 50 40.5	
	comp=N,3μm,0.6s						
HATOM	Hato Mayor del	0.79	142	⇓ePg	Pn	21 50 29.4	-0.4
HATOM				⇑eSg	Sb	21 50 40.3	+0.1
HATOM				IAML		21 50 41.3	
	comp=E,830nm,0.8s						
HATOM				IAML		21 50 47.0	
	comp=N,741nm,0.5s						
SC01	Santiago de lo	0.79	271	⇓ePg	Pb	21 50 30.2	+0.4
SC01				IAML		21 50 44.7	
	comp=N,6μm,0.6s						
SC01				IAML		21 50 46.8	
	comp=E,5μm,0.8s						
SC01	Santiago de lo	0.79	271	i P	Pb	21 50 30.9	+1.2
SC01				eS	Sn	21 50 43.6	+3.0
MIDR	Miches	0.90	118	⇓ePg	Pb	21 50 32.0	+0.3
MIDR				eSg	Sb	21 50 45.0	+1.7
MIDR				IAML		21 50 45.9	
	comp=E,1μm,0.4s						
MIDR				IAML		21 50 46.0	
	comp=N,656nm,0.3s						
MIDR				IAML		21 50 46.0	
	comp=N,619nm,0.3s						
ABDR	Alto Bandera	0.92	229	⇓ePg	Pn	21 50 31.1	-0.7
ABDR				⇑eSg	Sn	21 50 43.9	-0.3
ABDR				IAML		21 50 46.7	
	comp=E,32nm,0.4s						
SDD	Santo Domingo	0.95	181	⇑ePg	Pn	21 50 31.7	-0.3
SDD				⇑eSg	Sn	21 50 44.8	+0.2
SDD				IAML		21 50 51.9	
	comp=N,227nm,0.7s						
SDD	Santo Domingo	0.95	181	i P	Pn	21 50 31.8	-0.1
SDD				eS	Sn	21 50 44.7	+0.2
BANI	BANI	1.11	204	⇓ePg	Pn	21 50 34.5	+0.3
BANI				⇑eSg	Sn	21 50 48.9	+0.3
BANI				IAML		21 50 49.8	
	comp=E,2μm,0.4s						
BANI				IAML		21 50 51.1	
	comp=N,3μm,0.3s						
LOPP1	Punta Rusia, P	1.31	290	i P	Pb	21 50 39.1	+0.6
LOPP1				eS	Sb	21 50 58.6	+3.7
LOPP1				IAML		21 51 07.0	
	comp=Z,2μm,0.4s						
HIDR	Higuey Centro	1.38	126	⇑ePg	Pb	21 50 39.8	+0.1
HIDR				⇑eSg	Sb	21 50 59.8	+2.9
HIDR				IAML		21 51 04.0	
	comp=N,2μm,0.2s						
HIDR				IAML		21 51 06.7	
	comp=E,2μm,0.2s						
SDDR	Presa de Saban	1.39	252	⇑ePg	Pb	21 50 39.9	0.0
SDDR				⇑eSg	Sb	21 50 58.5	+1.2
SDDR				IAML		21 51 04.5	
	comp=N,1μm,0.3s						
SDDR	Presa de Saban	1.39	252	eP	Pb	21 50 39.3	-0.6
SDDR				eS	Sb	21 50 57.8	+0.5
SDDR	Presa de Saban	1.39	252	i P	Pb	21 50 40.2	+0.3
SDDR				eS	Sb	21 51 00.0	+2.7
SDDR				IAML		21 51 02.7	
	comp=Z,813nm,0.8s						
REDR	Restauracion	1.44	260	⇑ePg	Pb	21 50 45.3	+4.6
REDR				⇑eSg	Sb	21 51 08.0	+9.3
REDR				IAML		21 51 08.4	
	comp=N,4μm,0.1s						
PCDR	Punta Cana, DR	1.69	122	⇑ePg	Pb	21 50 45.3	+0.4
LONE3	El Aguacate, B	1.69	242	i P	Pb	21 50 44.6	-0.5
LONE3				IAML		21 51 14.9	
	comp=Z,636nm,0.8s						
LODA1	ITESIL, Dajabo	1.72	275	⇓ePg	Pb	21 50 45.4	0.0
LODA1				⇑eSg	Sb	21 51 08.2	+1.6
LODA1				IAML		21 51 12.1	
	comp=N,3μm,0.3s						
LODA1				IAML		21 51 14.0	
	comp=N,4μm,0.3s						
LODA1	ITESIL, Dajabo	1.72	275	i P	Pb	21 50 45.4	0.0
LODA1				eS	Sb	21 51 08.2	+1.6
LODA1				IAML		21 51 11.9	
	comp=Z,2μm,0.3s						
MCDR	Montecristi	1.73	286	⇑ePg	Pb	21 50 45.0	-0.7
MCDR				IAML		21 51 14.9	
	comp=N,2μm,0.2s						
PODR	Polo	1.81	227	⇑ePg	Pb	21 50 47.2	0.0
PODR				IAML		21 51 17.3	
	comp=N,802nm,0.5s						
PODR	Polo	1.81	227	i P	Pb	21 50 47.1	-0.1
PODR				eS	Sb	21 51 10.3	+0.8
LODU1	El Espartillar	1.83	235	i P	Pb	21 50 47.9	+0.4
LODU1				IAML		21 51 17.1	
	comp=Z,671nm,0.4s						
JIDR	Jimani	2.07	244	⇑ePg	Pb	21 50 51.2	-0.3
JIDR				IAML		21 51 21.8	
	comp=E,2μm,0.5s						
JIDR				IAML		21 51 27.0	
	comp=N,698nm,0.9s						
LOVI	El Cajuil, Ovi	2.13	221	i P	Pb	21 50 52.2	-0.3
LOVI				IAML		21 51 26.3	
	comp=Z,270nm,0.6s						
LOBH	Bahia de las A	2.26	227	i P	Pb	21 50 54.6	-0.2
LOBH				IAML		21 51 38.6	
	comp=Z,338nm,0.5s						
GRTK	Grand Turk	2.39	331	eP	Pn	21 50 53.9	+2.2
GRTK				eS	Sb	21 51 23.1	-2.9
GRTK	Grand Turk	2.39	331	i P	Pn	21 50 54.2	+2.4
GRTK				eS	Sb	21 51 23.4	-2.6
GRTK				IAML		21 51 30.1	
	comp=Z,270nm,0.3s						
PAPH	Port-au-Prince	2.44	249	i P	Pb	21 50 56.9	-1.0
AGPR	Aguadilla, PR	2.79	109	IAML		21 51 49.4	
	comp=E,481nm,0.3s						
AGPR	Aguadilla, PR	2.79	109	i P	Pb	21 51 00.7	-3.1
AGPR				IAML		21 51 49.3	
	comp=Z,265nm,0.4s						
CELP	Cerrillos	3.41	112	IAML		21 51 59.6	
	comp=E,241nm,0.6s						
CELP				IAML		21 52 01.4	
	comp=N,242nm,0.3s						
MASC	Masc	4.16	281	eP	Pn	21 51 16.0	-0.1
MASC				eS	Sn	21 52 03.8	+0.1
QMBU	Quimbuelo	4.70	280	eP	Pn	21 51 22.8	-0.7
QMBU				eS	Sn	21 52 17.3	+0.1
NMDO	Nuevo Mundo	4.92	284	eP	Pn	21 51 25.6	-1.0
NMDO				eS	Sn	21 52 21.4	-1.2
GTBY	Guantanamo Bay	4.95	277	eP	Pn	21 51 27.0	+0.1
GTBY				eS	Sn	21 52 22.8	-0.4
PINC	Pinares de May	5.65	282	eP	Pn	21 51 35.0	-1.6
PINC				eS	Sn	21 52 38.9	-1.7
MARVS	Santiago de Cu	5.69	277	eP	Pn	21 51 36.3	-0.9
MARVS				eS	Sn	21 52 40.1	-1.5
HLGC	Holguin	5.98	285	eP	Pn	21 51 41.2	0.0
HLGC				eS	Sn	21 52 46.6	-2.1
YAR	Yar	6.16	280	eP	Pn	21 51 42.8	-0.9
YAR				eS	Sn	21 52 51.3	-1.9
CHIV	Chivirico	6.17	276	eP	Pn	21 51 43.0	-0.8
CHIV				eS	Sn	21 52 52.5	-0.9
LMGC	Las Mercedes	6.73	277	eP	Pn	21 51 50.4	-1.1
LMGC				eS	Sn	21 53 05.6	-1.6
MTDJ	Mount Denham	7.33	262	eP	Pn	21 52 01.8	+2.0

*TEH **04** 21:58:23.9, 36°.66N×53°.88E, h8km±17km*
*THR **04** 21:58:24.9±0.0, 36°.76N×53°.95E, h16km±21km, ML4.1*
*IDC **04** 21:58:24.2±1.2, 36°.91N×53°.80E, h0km, mb3.7/13, mbtmp3.8/21, ML3.7/8, MS2.9/6, Error ellipse: s-maj=20.6km s-min=12.2km az=3.0*
*NEIC **04** 21:58:25.4±1.0, 36°.9N±0°.1×54°.00E±0°.07, h10km±2km, mb4.3/1, Error ellipse: s-maj=22.5km s-min=8.8km az=183.0*
*NNC **04** 21:58:31.2±5.4, 37°.89N×52°.73E, h0km, mb3.8, Error ellipse: s-maj=80.7km s-min=36.7km az=86.0*
ISC 04 21:58:24.0±0.5, 36°.78N±0°.04×53°.89E±0°.04, h10km, n110, σ2°02/117, mb3.8/14, 4C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	Ghaloghah	0.28	190	Pg	Pg	21 58 27.9	-1.8
IKIA	Kiasar	0.59	197	Pg	Pg	21 58 33.6	-2.0
IALA	Alasht	1.11	232	Pg	Pg	21 58 44.5	-1.0
IALA				Sg	Sg	21 58 59.1	-0.9
IMND	Minoodasht	1.30	68	Pg	Pn	21 58 49.3	+1.0
IANJ	Anjilo	1.31	179	Pg	Pn	21 58 46.7	-1.8
IPRN	Peran	1.36	247	Pg	Pn	21 58 49.4	+0.2
IFIR	Firoozkooh	1.46	219	Pg	Pn	21 58 50.2	-0.5
ILAS	Lasjerd	1.58	209	Pg	Pn	21 58 52.0	-0.4
SHRO	Shahrood	1.88	114	ePn	Pn	21 58 58.7	+2.3
SHRO				IAML		21 59 29.1	
	comp=Z,910nm,1.0s						
IDMV	Damavand	1.92	232	Pn	Pn	21 58 58.4	+1.3
DAMV	Damavand	1.93	234	i P	Pn	21 58 59.0	+1.8
DAMV				IAML		21 59 34.9	
	comp=Z,1μm,1.0s						
MRVT	Maraveh tapeh	1.96	63	ePn	Pn	21 58 58.8	+1.4
MRVT				IAML		21 59 30.4	
	comp=Z,810nm,1.0s						
CHTH	Charan	2.40	250	ePn	Pb	21 59 06.8	-0.6
CHTH				IAML		21 59 47.0	
	comp=Z,1μm,1.0s						
IVRN	Varamin	2.50	225	Pn	Pn	21 59 06.3	+1.4
THKV	Tehran--Karaj	2.58	251	ePn	Pb	21 59 10.6	+0.1
THKV				IAML		21 59 53.1	
	comp=Z,1μm,1.0s						
ISFB	Sefidab	2.77	210	Pn	Pn	21 59 09.5	+0.9
BJRD	Bojnurd	2.95	71	ePn	Pn	21 59 12.7	+1.6
BJRD				IAML		22 00 20.2	
	comp=Z,120nm,1.0s						
IGZV	Ghazvin	2.98	264	Pn	Pn	21 59 13.7	+2.1
IQOM	Qom	3.00	231	Pn	Pn	21 59 13.0	+1.1
SBZV	Sabzevar	3.02	96	Pn	Pn	21 59 14.6	+2.5
QRS1	Rashteghoun_ Q	3.05	263	Pn	Pn	21 59 14.8	+2.3
GHVR	GHOM	3.12	223	ePn	Pn	21 59 16.0	+2.6
GHVR				IAML		22 00 25.6	
	comp=Z,740nm,1.0s						
KRSH	Karshahi	3.15	208	Pn	Pn	21 59 14.7	+0.9
TAPT	Tabas- Tapeh t	3.26	124	Pn	Pn	21 59 17.0	+1.7
JIR1	Jirandeh	3.29	270	Pn	Pn	21 59 18.2	+2.5
ISFR	Sfrayin	3.30	84	Pn	Pn	21 59 18.8	+2.7
TNSJ	Nastanj	3.58	141	Pn	Pn	21 59 20.8	+1.1
ANAR	Anarak	3.58	182	Pn	Pn	21 59 20.5	+0.8
QAMS	Qamsar	3.66	215	Pn	Pn	21 59 22.0	+1.1
ASAO	Ashtian	3.85	236	i P	Pn	21 59 25.8	+2.2
ASAO				IAML		22 00 28.3	
	comp=Z,350nm,1.0s						
IEMG	Emamgholi	3.86	79	Pn	Pn	21 59 26.3	+2.6
CSN1	Caspian	3.91	283	Pn	Pn	21 59 26.4	+2.2
IAKL	Akhelmad	3.91	91	Pn	Pn	21 59 27.1	+2.6
IKLH	Kolahrood	3.94	210	Pn	Pn	21 59 25.6	+0.8
NASN	Na'in	4.07	193	ePn	Pn	21 59 27.4	+0.8
NASN				IAML		22 00 38.2	
	comp=Z,170nm,1.0s						
TABS	Tabas	4.09	139	i P	Pn	21 59 28.8	+2.1
TABS				IAML		22 00 39.6	
	comp=Z,330nm,1.0s						
TKDS	Koohdasht(Taba	4.12	139	Pn	Pn	21 59 28.7	+1.6
IPAY	Payeh	4.12	93	Pn	Pn	21 59 29.7	+2.5
ZNJK	Zanjan	4.18	270	Pn	Pn	21 59 30.2	+2.1
ZNJK	Zanjan	4.18	270	ePn	Pn	21 59 30.9	+2.7
ZNJK				IAML		22 00 24.5	
	comp=Z,270nm,1.0s						
HAGD	Aghdareh	4.33	245	Pn	Pn	21 59 31.7	+1.6
TPRV	Parvadeh(Tabas	4.39	148	Pn	Pn	21 59 32.0	+1.1
YZKH	Yazd	4.41	172	ePn	Pn	21 59 32.2	+1.0
YZKH				IAML		22 01 00.3	
	comp=Z,130nm,1.0s						
KHMZ	Khomeyn	4.42	228	ePn	Pn	21 59 34.1	+2.7
KHMZ				IAML		22 00 58.6	
	comp=Z,140nm,1.0s						
IMOG	Moghan	4.44	97	Pn	Pn	21 59 34.3	+2.6
IKRD	Kardeh	4.51	88	Pn	Pn	21 59 35.5	+2.8
TBHD	Torbat heydari	4.54	106	Pn	Pn	21 59 35.5	+2.6
ICHK	Chekchek	4.54	174	Pn	Pn	21 59 33.9	+

KHGB Koh Gabri 6.74 161 Pn **Pn 22 00 04.3 +1.0**
IMRD Marand 6.77 289 Pn **Pn 22 00 06.5 +2.8**
SRSL SARDASHT 6.84 268 *i* P **Pn 22 00 07.4 +2.8**
SRSL IAML 22 02 02.1
comp=Z,12nm,1.0s
KRM1 Kerman Provinc 6.86 155 Pn **Pn 22 00 06.0 +1.1**
VSHL Vashlovani 7.33 310 P **Pn 22 00 13.2 +2.0**
VSHL S **Sn 22 01 34.0 -0.6**
GNI Garni 7.93 298 Pn **Pn 22 00 22.1 +2.5**
GNI Garni 7.93 298 Pn **Pn 22 00 23.1 +3.6**
comp=Z,1.6nm,0.3s,baz=113,slow=2.5,SNR=9.6
GNI Sn **Sn 22 01 48.5 -0.8**
comp=Z,0.6nm,0.3s,baz=104,slow=9.9,SNR=1.5
GNI LR LR 22 04 08.2
comp=Z,44nm,20.2s,baz=36,slow=44
comp=Z,6.1nm,0.4s
DGRG David-gareji 8.10 308 P **Pn 22 00 23.9 +2.2**
DGRG S **Sn 22 01 55.6 +2.2**
SHTL Shatili 8.93 314 P **Pn 22 00 35.6 +2.4**
SHTL S **Sn 22 02 14.0 0.0**
TRLG Trialeti 8.97 305 P **Pn 22 00 35.8 +2.1**
TRLG S **Sn 22 02 12.8 -2.0**
GARIG Gari 9.92 309 P **Pn 22 00 48.9 +2.3**
TKB Tkibuli 10.09 307 P **Pn 22 00 51.0 +2.1**
KBZ Khabaz 10.89 313 Pn **Pn 22 01 00.2 +0.3**
comp=Z,0.4nm,0.3s,baz=211,slow=2.1,SNR=12
KBZ Sn **Sn 22 02 57.5 -4.3**
comp=Z,0.3nm,0.3s,baz=54,slow=14,SNR=2.2
KBZ LR LR 22 06 49.1
comp=Z,44nm,18.3s,baz=70,slow=47
comp=Z,2.3nm,0.5s
KVAR Kislovodsk Arr 11.15 313 Pn **Pn 22 01 03.8 +0.3**
baz=264,slow=23
KVAR Sn **Sn 22 03 02.1 -6.1**
baz=202,slow=2.7
comp=Z,1.5nm,0.3s
KIV Kislovodsk 11.15 313 Pn 22 01 03.1 -0.5
CHGR Chuyangaron 12.24 77 Pn **Pn 22 01 17.8 -0.7**
GAR Garm 13.16 75 Pn **Pn 22 01 30.6 -0.5**
AB31 Akbulak array 13.23 18 Pn 22 01 30.7 -1.2
AB31 Akbulak array 13.23 18 P **Pn 22 01 32.0 +0.2**
comp=Z,0.7nm,0.5s,baz=204,slow=14,SNR=15
AB31 S **Sn 22 03 51.1 -7.8**
comp=Z,2.1nm,0.6s,baz=197,slow=24,SNR=13
ABKAR Akbulak array 13.23 18 Pn **Pn 22 01 30.4 -1.4**
AKTO Aktyubinsk 13.97 11 Pn **Pn 22 01 39.9 -2.1**
comp=Z,0.5nm,0.3s,baz=163,slow=13,SNR=5.7
AKTO Sn Sn 22 04 09.0 -8.1
comp=Z,0.5nm,0.3s,baz=105,slow=10,SNR=8.1
AKTO LR LR 22 08 52.5
comp=Z,59nm,19.4s,baz=36,slow=45
comp=Z,0.9nm,0.3s
AKTO Aktyubinsk 13.97 11 ⇓P **Pn 22 01 39.1 -2.9**
comp=Z,2.9nm,0.8s
AKTO ⇑S Sn 22 04 05.9 -11
comp=Z,2.6nm,0.6s
KK31 Karatay Array 14.22 59 ⇑P P 22 01 58.8 +5.9
comp=Z,0.5nm,0.5s,baz=259,slow=5.1,SNR=4.5
KKAR Karatay Array 14.22 59 Pn **Pn 22 01 44.7 -0.8**
BRTR Keskin Array B 16.18 287 Pn **P 22 02 15.1 +0.3**
comp=Z,0.1nm,0.3s,baz=101,slow=13,SNR=7.8
comp=Z,0.7nm,0.8s
BELG Belogornoye 16.23 346 Pn **Pn 22 02 10.3 -1.7**
comp=Z,1.1nm,0.3s,baz=150,slow=6.1,SNR=5.4
comp=Z,6.6nm,0.6s
AAK Ala-Archa 16.88 63 LR LR 22 09 52.0
comp=Z,45nm,19.9s,baz=340,slow=41
KSH Kashi 17.58 74 P **Pn 22 02 26.1 -3.1**
KSH pmax pmax
comp=Z,3.0nm,1.0s
ARTI Arti 19.85 7 P **P 22 02 54.5 -0.4**
ARTI IAmb IAmb 22 03 02.4
comp=Z,9.4nm,0.6s
ARTI Arti 19.85 7 P **P 22 02 54.8 -0.1**
comp=Z,0.5nm,0.3s,baz=188,slow=9.4,SNR=14
ARTI LR LR 22 12 20.5
comp=Z,69nm,19.1s,baz=212,slow=42
comp=Z,3.2nm,0.5s
BVA0 Borovoye Array 19.93 30 ⇑P **Pn 22 02 58.3 +0.8**
comp=Z,4.1nm,1.0s
BVAR Borovoye Array 19.93 30 P **P 22 02 55.9 0.0**
comp=Z,0.1nm,0.3s,baz=212,slow=10.0,SNR=11
BVAR LR LR 22 12 09.2
comp=Z,54nm,19.4s,baz=316,slow=42
comp=Z,1.4nm,0.5s
KIRV Kirov 22.02 354 P **P 22 03 18.5 +0.2**
comp=Z,5.7nm,0.4s,baz=254,slow=6.5,SNR=4.3
comp=Z,5.7nm,0.4s
KURBB Kurchatov Arra 22.42 44 P **P 22 03 23.4 +0.6**
comp=Z,0.3nm,0.5s,baz=248,slow=11,SNR=4.5
comp=Z,0.3nm,0.5s
AKASG Malin Array Be 22.48 316 P **P 22 03 23.6 +0.3**
comp=Z,0.2nm,0.3s,baz=132,slow=7.8,SNR=6.5
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 22.69 301 P **P 22 03 26.6 +0.8**
comp=Z,1.8nm,0.9s,baz=97,slow=6.6,SNR=7.8
comp=Z,1.8nm,0.9s
MKAR Makanchi Array 23.31 56 P **P 22 03 33.2 +1.2**
comp=Z,0.2nm,0.5s,baz=251,slow=7.6,SNR=4.0
comp=Z,0.2nm,0.5s
IDI Anoyia 23.47 275 P **P 22 03 35.0 +1.2**
comp=Z,8.2nm,1.0s,baz=241,slow=19,SNR=1.5
comp=Z,8.2nm,1.0s
ZALV Zalesovo Beam 27.38 41 P **P 22 04 10.5 +1.2**
comp=Z,0.5nm,0.4s,baz=264,slow=9.0,SNR=3.5
comp=Z,0.5nm,0.4s
FINES FINESS Array B 30.23 334 P **P 22 04 35.1 +0.5**
comp=Z,1.6nm,0.8s,baz=134,slow=12,SNR=1.1
comp=Z,1.6nm,0.8s
HFS Hagfors 34.61 325 P **P 22 05 13.4 +0.4**
comp=Z,0.8nm,0.6s,baz=128,slow=9.3,SNR=1.2
comp=Z,0.8nm,0.6s
NOA NORSAR Array B 36.10 326 P **P 22 05 27.1 +1.4**
comp=Z,0.8nm,0.9s,baz=108,slow=9.8,SNR=1.0
comp=Z,0.8nm,0.9s
EKA Eskdalemuir Ar 42.38 315 P **P 22 06 18.9 +0.7**
comp=Z,1.7nm,0.7s,baz=100,slow=8.0,SNR=5.3
comp=Z,1.7nm,0.7s
CMAR Chiang Mai Arr 43.45 102 P **P 22 06 28.9 +1.5**
comp=Z,1.1nm,0.4s,baz=305,slow=8.0,SNR=5.9
comp=Z,1.1nm,0.4s
XAN Xi'an 44.41 76 ⇑P **P 22 06 36.8 +1.7**
XAN pmax pmax
comp=Z,6.0nm,1.0s
ESDC Sonseca Array 44.87 292 P **P 22 06 39.6 +1.0**
comp=Z,1.2nm,0.6s,baz=67,slow=8.2,SNR=19
comp=Z,1.2nm,0.6s

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*NEIC **04** 21:59:45.8±1.8, 2°.67N±0°.07×98°.98E±0°.06, h160km±1km, mb4.3/9, Error ellipse: s-maj=10.1km s-min=9.3km az=193.0*
*DJA **04** 21:59:45.5±0.2, 3°N±2°×9°9E±°, h154km±3km, M4.4/18, mB5.2/3, mb4.6/12, MLv4.3/18, Mw(mB)4.6/3*
*IDC **04** 21:59:45.5±0.4, 2°.75N×98°.84E, h155km±3km, mb3.6/18, mbtmp4.0/20, Error ellipse: s-maj=15.4km s-min=9.8km az=48.0*
ISC 04 21:59:45.3±0.6, 2°.69N±0°.04×98°.96E±0°.05, h157km±5km, n64, σ1°.60/80, mb4.0/25, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.04**	**282**				**Pn**	**22 00 06.9**	**+0.6**
RPSI					Sn		**Sn**	**22 00 22.8**	**+0.6**
RPSI	**Rantau Prapat**	**0.04**	**282**				**Pn**	**22 00 07.1**	**+0.8**
RPSI							**Sn**	**22 00 22.9**	**+0.7**
PSI	**Prapat**	**0.12**	**341**	P			**Pn**	**22 00 07.1**	**+0.5**
307nm,0.3s,baz=174,slow=2.8,SNR=238									
PSI					S		**Sn**	**22 00 22.9**	**+0.1**
618nm,0.5s,baz=164,slow=21,SNR=9.0									
KCSI	**Kotacane, Aceh**	**1.45**	**305**	P			**Pn**	**22 00 14.8**	**-0.2**
KCSI					S		**Sn**	**22 00 37.3**	**-0.4**
GSI	**Gunungsitoli**	**1.95**	**225**				**Pn**	**22 00 20.5**	**+0.1**
GSI					Sn		**Sn**	**22 00 46.2**	**-1.1**
GSI	**Gunungsitoli**	**1.95**	**225**	P			**Pn**	**22 00 20.3**	**-0.1**
GSI					S		**Sn**	**22 00 46.4**	**-1.0**
MNSI	**Mandailing Nat**	**1.98**	**162**	P			**Pn**	**22 00 21.2**	**+0.6**
SNSI	**Sinabang, Aceh**	**2.65**	**264**	P			**Pn**	**22 00 29.1**	**+0.5**
IPM	**Ipoh**	**2.72**	**49**				**Pn**	**22 00 30.5**	**+1.0**
PBSI	**Pulau Batu**	**2.81**	**194**	P			**Pn**	**22 00 30.3**	**-0.3**
MLSI	**Meulaboh, Aceh**	**3.00**	**302**	P			**Pn**	**22 00 32.9**	**-0.1**
KULM	**Kulim**	**3.08**	**33**				**Pn**	**22 00 34.5**	**+0.4**
LHMI	**Lhok Sumawe**	**3.23**	**322**				**Pn**	**22 00 36.6**	**+0.7**
LHMI	**Lhok Sumawe**	**3.23**	**322**	P			**Pn**	**22 00 36.7**	**+0.8**
PDSI	**Padang**	**3.88**	**157**	P			**Pn**	**22 00 44.4**	**+0.2**
PDSI					S		**Sn**	**22 01 29.4**	**-0.7**
SISI	**Saibi**	**3.99**	**178**	P			**Pn**	**22 00 46.2**	**+0.5**
SISI					S		**Sn**	**22 01 30.1**	**-2.5**
MYKOM	**Kota Tinggi**	**4.96**	**100**				**Pn**	**22 00 56.8**	**-1.6**
PPSI	**Pulau Pagai**	**5.51**	**169**	P			**Pn**	**22 01 03.5**	**-2.2**
0.7nm199nm,1.4s									
CMBY	**CAMPBELL BAY**	**6.61**	**311**	*e*P			**Pn**	**22 01 24.6**	**+4.4**
CMBY				*e*S			**Sn**	**22 02 33.6**	**-1.0**
CMBY					IAML			22 02 35.0	
comp=N,173nm,0.1s									
CMBY					IAML			22 02 35.2	
comp=E,186nm,0.4s									
MASI	**Maura Aman, Be**	**6.65**	**150**	P			**Pn**	**22 01 21.7**	**+0.9**
comp=E,91nm,1.8s									
KSI	**Kapahiang**	**7.26**	**150**	P			**Pn**	**22 01 30.0**	**+0.9**
comp=E,51nm,0.5s									
LHSI	**Lahat**	**7.91**	**145**	P			**Pn**	**22 01 37.9**	**+0.3**
comp=E,0.2nmcomp=E,2μmcomp=E,27nm,0.5s									
MNAI	**Manna**	**8.06**	**150**	Pn			**Pn**	**22 01 39.1**	**-0.4**
MNAI					Sn		**Sn**	**22 03 05.9**	**-3.6**
MNAI	**Manna**	**8.06**	**150**	P			**Pn**	**22 01 39.5**	**0.0**
MDSI	**Maura Dua**	**8.83**	**144**	P			**Pn**	**22 01 48.9**	**-0.8**
LWLI	**Liwa**	**9.19**	**146**	P			**Pn**	**22 01 52.0**	**-2.7**
comp=E,40nm,1.2s									
PBA	**Port Blair**	**10.84**	**326**	Pn			**Pn**	**22 02 14.2**	**-2.1**
DGPR	**DIGLIPUR**	**12.01**	**331**	*e*P			**P**	**22 02 36.6**	**-1.3**
DGPR				*e*S			**Sn**	**22 04 39.1**	**-5.5**
DGPR					IAML			22 04 44.3	
comp=N,32nm,0.2s									
DGPR					IAML			22 04 51.5	
comp=E,35nm,0.1s									
SBUM	**Sibu**	**13.24**	**91**	P			**P**	**22 02 53.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**15.67**	**360**	P			**Pn**	**22 03 17.2**	**-0.6**
comp=E,1.1nm,0.3s,baz=176,slow=12,SNR=4.7									
PALK	**Pallekele**	**18.75**	**285**	P			**P**	**22 03 52.3**	**-0.2**
comp=E,3.2nm,0.8s,baz=124,slow=15,SNR=1.7									
PALK					S		**S**	**22 07 14.3**	**-3.5**
comp=E,4.7nm,0.7s,baz=189,slow=19,SNR=5.2									
TOLI2	**Tolitoli**	**21.86**	**94**	P			**P**	**22 04 25.9**	**+0.1**
TOLI2					IAmb		IAmb	22 04 27.9	
comp=Z,14nm,0.8s									
BKSI	**Bulukumba**	**22.58**	**111**	P			**P**	**22 04 34.5**	**+1.7**
KOD	**Kodaikanal**	**22.62**	**290**	*e*P			**P**	**22 04 33.8**	**+0.3**
KOD					IAmb		IAmb	22 05 47.1	
comp=Z,9.6nm,1.2s									
KOD				*e*S			**S**	**22 08 33.5**	**+3.7**
VJD	**Vijayawada**	**22.66**	**309**	*e*P			**P**	**22 04 37.0**	**+3.6**
VJD				*e*S			**S**	**22 08 34.5**	**+4.8**
FITZ	**Fitzroy Crossi**	**33.42**	**129**	P			**P**	**22 06 09.1**	**-0.2**
FAKI	**Fak Fak**	**33.73**	**99**	P			**P**	**22 06 11.4**	**-0.8**
KNRA	**Kununurra**	**34.66**	**123**	P			**P**	**22 06 18.8**	**-1.3**
WB0	**Warramunga Arr**	**41.33**	**124**	P			**P**	**22 07 14.9**	**-1.0**
WB0					IAmb		IAmb	22 07 33.3	
comp=Z,11nm,1.4s									
WRA	**Warramunga Arr**	**41.37**	**125**	P			**P**	**22 07 16.1**	**-0.2**
WRA	**Warramunga Arr**	**41.37**	**125**	P			**P**	**22 07 15.9**	**-0.3**
comp=Z,1.6nm,0.4s,baz=303,slow=9.2,SNR=34									
WRA					PcP		**PcP**	**22 09 12.5**	**+0.9**
comp=Z,0.2nm,0.4s,baz=309,slow=3.2,SNR=1.6									
WRA					ScP		**ScP**	**22 12 46.6**	**-0.5**
comp=Z,0.4nm,0.8s,baz=310,slow=3.6,SNR=2.3									
comp=Z,1.6nm,0.4s									
WRAB	**Tennant Creek**	**41.37**	**124**	P			**P**	**22 07 15.1**	**-1.2**
WRAB					IAmb		IAmb	22 07 59.0	
comp=Z,9.2nm,1.2s									
WR8	**Warramunga Arr**	**41.51**	**124**				**P**	**22 07 17.1**	**-0.3**
WR8					IAmb		IAmb	22 07 19.6	
comp=Z,6.0nm,0.8s									
ASAR	**Alice Springs**	**42.93**	**130**	P			**P**	**22 07 29.9**	**+1.0**
ASAR	**Alice Springs**	**42.93**	**130**	P			**P**	**22 07 30.4**	**+1.5**
comp=Z,2.0nm,0.5s,baz=302,slow=8.1,SNR=24									
ASAR					ScP		**ScP**	**22 12 52.3**	**-0.9**
comp=Z,0.2nm,0.5s,baz=314,slow=4.2,SNR=1.6									
comp=Z,2.0nm,0.5s									
FORT	**Forrest**	**43.32**	**142**	P			**P**	**22 07 31.6**	**-0.2**
FORT					IAmb		IAmb	22 07 47.4	
comp=Z,14nm,1.1s									
KSRS	**Korea Array**	**43.64**	**34**	P			**P**	**22 07 33.8**	**-0.5**
comp=Z,1.3nm,0.7s,baz=218,slow=8.7,SNR=4.2									
comp=Z,1.3nm,0.7s									
XLT	**XiLinHaoTe**	**43.76**	**18**	*e*P			P	22 07 40.5	+5.2
XLT					pmax		pmax		
comp=Z,10.0nm,0.8s									
SONM	**Songino Array**	**45.43**	**7**	P			**P**	**22 07 48.4**	**-0.1**
comp=Z,0.3nm,0.4s,baz=193,slow=8.6,SNR=4.6									
comp=Z,0.3nm,0.4s									
MKAR	**Makanchi Array**	**46.27**	**344**	P			**P**	**22 07 55.3**	**+0.3**
comp=Z,0.4nm,0.4s,baz=154,slow=9.4,SNR=13									
comp=Z,0.4nm,0.4s									
USRK	**Ussuriysk Ar.**	**50.60**	**30**	P			**P**	**22 08 28.4**	**+0.3**
comp=Z,2.1nm,0.7s,baz=243,slow=9.5,SNR=2.4									
comp=Z,2.1nm,0.7s									
KURBB	**Kurchatov Arra**	**50.79**	**343**	P			**P**	**22 08 29.1**	**-0.3**
comp=Z,0.4nm,0.4s,baz=157,slow=6.8,SNR=7.1									
comp=Z,0.4nm,0.4s									
ZALV	**Zalesovo Beam**	**52.40**	**349**	P			**P**	**22 08 40.5**	**-0.8**
comp=Z,1.1nm,0.4s,baz=162,slow=7.5,SNR=7.2									
comp=Z,1.1nm,0.4s									
STKA	**Stephens Creek**	**53.07**	**134**	P			**P**	**22 08 48.7**	**+2.1**
comp=Z,1.6nm,0.5s,baz=251,slow=3.4,SNR=6.0									
comp=Z,1.6nm,0.5s									
BVAR	**Borovoye Array**	**55.46**	**339**	P			**P**	**22 09 03.8**	**+0.2**
comp=Z,0.6nm,0.5s,baz=134,slow=8.4,SNR=5.1									
comp=Z,0.6nm,0.5s									
BRTR	**Keskin Array B**	**69.44**	**312**	P			**P**	**22 10 35.7**	**-1.1**
comp=Z,0.6nm,0.6s,baz=104,slow=5.2,SNR=4.7									
comp=Z,0.6nm,0.6s									
MAW	**Mawson**	**74.56**	**194**	P			**P**	**22 11 07.8**	**+1.3**
comp=Z,1.5nm,0.5s,baz=29,slow=5.0,SNR=6.3									
comp=Z,1.5nm,0.5s									
BOSA	**Boshof**	**77.04**	**240**	P			**P**	**22 11 22.0**	**+0.4**
comp=Z,1.3nm,0.4s,baz=110,slow=3.8,SNR=4.7									
comp=Z,1.3nm,0.4s									
FINES	**FINESS Array B**	**79.51**	**332**	P			**P**	**22 11 33.9**	**-0.4**
comp=Z,1.6nm,0.6s,baz=174,slow=5.7,SNR=12									
comp=Z,1.6nm,0.6s									
GERES	**GERESS Array B**	**84.87**	**319**	P			**P**	**22 12 01.3**	**-1.4**
comp=Z,0.2nm,0.3s,baz=97,slow=4.4,SNR=2.3									
comp=Z,0.2nm,0.3s									
HFS	**Hagfors**	**85.32**	**330**	P			**P**	**22 12 05.0**	**+0.5**
comp=Z,2.1nm,0.8s,baz=185,slow=6.7,SNR=7.4									
comp=Z,2.1nm,0.8s									
NOA	**NORSAR Array B**	**86.57**	**331**	P			**P**	**22 12 11.0**	**+0.4**
comp=Z,0.5nm,0.8s,baz=106,slow=5.8,SNR=1.3									
comp=Z,0.5nm,0.8s									
QSPA	**South Pole Qui**	**92.62**	**180**	P			**P**	**22 12 40.6**	**+1.6**
comp=Z,0.9nm,0.7s,baz=270,slow=0.7,SNR=9.7									
comp=Z,0.9nm,0.7s									
TXAR	**Lajitas Array**	**141.48**	**33**	SKPbc			**SKPbc**	**22 22 20.0**	**-1.2**
comp=Z,0.8nm,0.9s,baz=95,slow=0.9,SNR=4.8									

IDC 04 22:25:26.0±1.4, 0°.28N×125°.22E, h0km, mb3.6/4, mbtmp3.6/4, MS4.0/1, Error ellipse: s-maj=72.7km s-min=24.2km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**157**		P		P	22 30 20.9	-1.0
1.3nm,0.7s,baz=338,slow=11,SNR=9.6									
1.3nm,0.7s									
ASAR	**Alice Springs**	**25.25**	**161**		P		P	22 30 54.7	+0.7
0.3nm,0.4s,baz=338,slow=8.0,SNR=5.4									
0.3nm,0.4s									
JOW	**Kunigami**	**26.57**	**6**	LR			LR	22 40 14.0	
comp=Z,312nm,21.6s,baz=188,slow=33									
PETK	**Petropavlovsk-**	**59.18**	**22**	P			P	22 35 29.5	+0.9
2.2nm,0.8s,baz=230,slow=7.5,SNR=4.5									
2.2nm,0.8s									
MKAR	**Makanchi Array**	**59.57**	**327**	P			P	22 35 30.4	-1.1
0.2nm,0.6s,baz=142,slow=5.8,SNR=2.4									
0.2nm,0.6s									

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*IDC **04** 22:34:07.3±7.6, 50°.70N×150°.27E, h524km±93km, mb2.8/10, mbtmp3.7/10, Error ellipse: s-maj=25.9km s-min=21.5km az=89.0*
ISC 04 22:34:05.4±1.2, 50°.7N±0°.2×150°.2E±0°.2, h500km, n10, σ0°.62/10, mb3.2/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**34.78**	**42**	P			**P**	**22 40 13.0**	**+0.2**
0.2nm,0.5s,baz=277,slow=8.6,SNR=2.2									
0.2nm,0.5s									
ZALV	**Zalesovo Beam**	**38.86**	**301**	P			**P**	**22 40 45.6**	**-1.0**
0.5nm,0.6s,baz=72,slow=11,SNR=1.9									
0.5nm,0.6s									
MKAR	**Makanchi Array**	**43.56**	**292**	P			**P**	**22 41 24.9**	**+0.8**
0.3nm,0.8s,baz=53,slow=7.4,SNR=1.5									
0.3nm,0.8s									
KURBB	**Kurchatov Arra**	**43.79**	**299**	P			**P**	**22 41 26.3**	**+0.5**
0.4nm,0.6s,baz=69,slow=8.0,SNR=2.6									
0.4nm,0.6s									
BVAR	**Borovoye Array**	**46.96**	**306**	P			**P**	**22 41 50.6**	**+0.6**
0.6nm,0.4s,baz=61,slow=8.1,SNR=5.8									
0.6nm,0.4s									
FINES	**FINESS Array B**	**59.67**	**333**	P			**P**	**22 43 20.4**	**0.0**
0.7nm,0.3s,baz=30,slow=8.6,SNR=12									
0.7nm,0.3s									
NOA	**NORSAR Array B**	**63.88**	**339**	P			**P**	**22 43 47.5**	**-0.5**
1.0nm,1.0s,baz=26,slow=7.4,SNR=1.5									
1.0nm,1.0s									
HFS	**Hagfors**	**64.10**	**338**	P			**P**	**22 43 49.1**	**-0.2**
3.0nm,0.9s,baz=23,slow=4.8,SNR=7.6									
3.0nm,0.9s									
WRA	**Warramunga Arr**	**71.70**	**196**	P			**P**	**22 44 35.8**	**-0.3**
0.6nm,0.8s,baz=14,slow=6.4,SNR=3.1									
0.6nm,0.8s									
ASAR	**Alice Springs**	**75.41**	**195**	P			**P**	**22 44 57.5**	**+0.2**
0.4nm,0.4s,baz=11,slow=5.5,SNR=7.1									
0.4nm,0.4s									

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*IDC **04** 22:38:13.9±0.9, 24°.68N×127°.85E, h0km, mb4.2/15, mbtmp4.2/18, ML4.1/3, MS3.5/13, Error ellipse: s-maj=28.6km s-min=15.4km az=78.0*
*NEIC **04** 22:38:15.3±2.3, 24°.67N±0°.07×127°.86E±0°.07, h10km±1km, mb4.7/26, Mwr3.9/16, Error ellipse: s-maj=12.8km s-min=10.3km az=153.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=7.54; $M_{\theta\theta}$6.74; $M_{\phi\phi}$0.80; $M_{r\theta}$1.66; $M_{r\phi}$2.54; $M_{\theta\phi}$1.37; Fault plane solution: $M_0$7.91000×10^{14} NP1:ϕ_s74.98000°, δ37.76000°, λ-81.74000°. NP2:ϕ_s244.57000°, δ52.70000°, λ-96.35000°. Principal axes: T 7.9490, Plg7.0000°, Azm339.0000°; N -0.0781, Plg5.0000°, Azm248.0000°; P -7.8709, Plg81.0000°, Azm125.0000°;*
*NEIC **04** 22:38:15.3, 24°.68N×127°.88E, h10km*
*NIED **04** 22:38:17.1, 24°.82N×127°.85E, h88km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.90; $M_{\theta\theta}$0.63; $M_{\phi\phi}$0.27; $M_{r\theta}$1.01; $M_{\theta\phi}$0.17; $M_{r\phi}$0.55; Fault plane solution: $M_0$1.40000×10^{15} NP1:ϕ_s70.00000°, δ17.00000°, λ-83.00000°. NP2:ϕ_s243.00000°, δ73.00000°, λ-92.00000°.*
*JMA **04** 22:38:17.1±0.3, 25°N±1°×12°8E±°, h88km, MV4.0/34, NEAR OKINAWAJIMA ISLAND*
ISC 04 22:38:17.7±0.5, 24°.67N±0°.04×127°.94E±0°.04, h35km, n111, σ2°.42/137, mb4.5/28, MS3.6/12, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.47**	**355**	P			**Pn**	**22 38 41.0**	**-0.7**
JJT3					S		**Sn**	**22 38 58.6**	**-1.1**
JNTH	**Nagotoyohara**	**1.84**	**2**	P			**Pn**	**22 38 45.4**	**-1.4**
JNTH					S		**Sn**	**22 39 06.3**	**-2.5**
JKE	**Kume jima 2**	**1.95**	**328**	P			**Pn**	**22 38 47.3**	**-0.9**
JKE					S		**Sn**	**22 39 09.4**	**-2.1**
JAGN	**Aguni-jima**	**2.01**	**342**	P			**Pn**	**22 38 48.3**	**-0.8**
JAGN					S		**Sn**	**22 39 11.2**	**-1.8**
JOW	**Kunigami**	**2.17**	**8**				**Pn**	**22 38 50.2**	**-1.2**
JOW	**Kunigami**	**2.17**	**8**	Pn			**Pn**	**22 38 50.3**	**-1.2**
161nm,0.3s,baz=168,slow=15,SNR=176									
JOW					Sn		**Sn**	**22 39 13.1**	**-4.0**
77nm,0.3s,baz=92,slow=29,SNR=13									
465nm,0.3s									
JOW	**Kunigami**	**2.17**	**8**	P			**Pn**	**22 38 50.2**	**-1.2**
JOW	**Kunigami**	**2.17**	**8**	P			**Pn**	**22 38 50.2**	**-1.2**
JOW					S		**Sn**	**22 39 13.5**	**-3.5**
JOGS	**Gusukube**	**2.30**	**273**	P			**Pn**	**22 38 52.9**	**-0.2**
JOGS					S		**Sn**	**22 39 18.8**	**-1.5**
JIH	**Iheya**	**2.35**	**1**	P			**Pn**	**22 38 53.1**	**-0.8**
JIH				*e*S			**Sn**	**22 39 19.2**	**-2.3**
JMJ2	**Miyako jima3**	**2.38**	**272**	P			**Pn**	**22 38 53.7**	**-0.5**
JMJ2					S		**Sn**	**22 39 20.1**	**-2.0**
JYRO	**Yoronjima**	**2.39**	**11**	P			**Pn**	**22 38 52.9**	**-1.5**
JYRO					S		**Sn**	**22 39 18.6**	**-3.7**
JMJ	**Miyako jima 2**	**2.41**	**274**	P			**Pn**	**22 38 53.9**	**-0.7**
JIKM	**Ikemajima**	**2.46**	**276**	P			**Pn**	**22 38 54.8**	**-0.5**
JIKM					S		**Sn**	**22 39 22.4**	**-1.7**
JIRB	**Irabujima**	**2.52**	**274**	P			**Pn**	**22 38 55.4**	**-0.7**
JIRB					S		**Sn**	**22 39 22.5**	**-3.1**
JOKE	**Okinoerabujima**	**2.74**	**12**	*e*P			**Pn**	**22 38 57.9**	**-1.3**
JTJ	**Tarama**	**2.94**	**270**	P			**Pn**	**22 39 01.3**	**-0.7**
JTJ					S		**Sn**	**22 39 33.8**	**-2.3**
JMZ	**Minamidaito 2**	**3.19**	**68**				**Pn**	**22 39 06.2**	**+0.9**
JMZ	**Minamidaito 2**	**3.19**	**68**	P			**Pn**	**22 39 02.7**	**-2.6**
JMZ	**Minamidaito 2**	**3.19**	**68**	P			**Pn**	**22 39 02.3**	**-3.0**
JMZ				*e*S			**Sn**	**22 39 36.1**	**-6.0**
JTK	**Tokunoshima**	**3.23**	**16**	P			**Pn**	**22 39 04.4**	**-1.5**
JKDJ	**Kitadaitoujima**	**3.29**	**67**	P			**Pn**	**22 39 04.1**	**-2.7**
JKDJ					S		**Sn**	**22 39 40.2**	**-4.5**
JISG	**Ishigakijimahi**	**3.30**	**269**	P			**Pn**	**22 39 05.9**	**-1.0**
JISG				*e*S			**S

CMAR LR LR 22 56 01.1
comp=Z,28nm,18.5s,baz=200,slow=39
0.3nm,0.3s
SONM Songino Array 28.73 329 P **P 22 44 11.8 0.0**
0.7nm,0.6s,baz=144,slow=11,SNR=10
SONM LR LR 22 57 15.6
comp=Z,49nm,19.1s,baz=154,slow=40
0.7nm,0.6s
EVN Everest 36.88 284 P 22 45 24.3 +0.4
EVN IAmb IAmb 22 45 26.5
comp=Z,7.4nm,0.5s
LEM Lembang 37.05 215 LR LR 23 03 58.4
comp=Z,119nm,18.1s,baz=0.5,slow=42
MKAR Makanchi Array 42.39 313 P 22 46 09.1 +0.4
MKAR Makanchi Array 42.39 313 P **P 22 46 09.4 +0.7**
comp=Z,1.9nm,0.5s,baz=96,slow=9.5,SNR=36
comp=Z,1.9nm,0.5s
ZAA0 Zalesovo Array 43.33 324 P **P 22 46 16.3 +0.1**
ZALV Zalesovo Beam 43.33 324 P 22 46 16.4 +0.2
ZALV Zalesovo Beam 43.33 324 P **P 22 46 16.8 +0.6**
comp=Z,3.0nm,0.6s,baz=110,slow=7.8,SNR=15
ZALV LR LR 23 04 16.2
comp=Z,40nm,20.4s,baz=288,slow=36
comp=Z,3.0nm,0.6s
WB0 Warramunga Arr 44.62 171 P P 22 46 27.6 +0.7
WRAB Tennant Creek 44.78 171 P **P 22 46 28.9 +0.8**
WRAB IAmb IAmb 22 46 30.0
comp=Z,13nm,0.8s
WRA Warramunga Arr 44.78 171 P P 22 46 28.6 +0.4
WRA Warramunga Arr 44.78 171 P P 22 46 29.2 +1.1
comp=Z,11nm,0.6s,baz=352,slow=8.7,SNR=78
WRA LR LR 23 07 02.0
comp=Z,49nm,18.3s,baz=4.5,slow=39
comp=Z,11nm,0.6s
WR8 Warramunga Arr 44.82 171 P 22 46 29.6 +1.2
KURK Kurchatov 45.78 318 P 22 46 36.7 +1.0
KURBB Kurchatov Arra 45.81 318 P **P 22 46 36.5 +0.5**
comp=Z,3.5nm,0.8s,baz=104,slow=8.4,SNR=17
comp=Z,3.5nm,0.8s
MBWA Marble Bar 46.25 191 P P 22 46 38.1 -1.6
MBWA IAmb IAmb 22 46 44.5
comp=Z,5.3nm,1.1s
PSA00 Pilbara Seismi 46.64 190 P P 22 46 43.4 +0.6
PSA00 IAmb IAmb 22 46 57.8
comp=Z,8.0nm,1.1s
AAK Ala-Archa 47.15 306 LR LR 23 07 28.2
comp=Z,49nm,18.6s,baz=349,slow=37
CTAO Charters Tower 47.93 157 P P 22 46 53.0 +0.1
CTAO IAmb IAmb 22 46 55.1
comp=Z,12nm,0.9s
ARSB Arslanbob 48.20 304 P P 22 46 56.9 +1.9
ARSB IAmb IAmb 22 46 57.6
comp=Z,4.0nm,0.7s
AS31 Alice Springs 48.40 173 P P 22 46 57.0 +0.6
ASAR Alice Springs 48.40 173 P P 22 46 57.7 +1.2
ASAR Alice Springs 48.40 173 P P 22 46 58.0 +1.5
comp=Z,2.8nm,0.8s,baz=0.7,slow=7.8,SNR=22
ASAR LR LR 23 07 34.7
comp=Z,36nm,18.8s,baz=306,slow=36
comp=Z,2.8nm,0.8s
GIRL Giralia 48.88 197 P P 22 46 59.4 -0.7
KK31 Karatay Array 50.10 306 P P 22 47 11.0 +1.6
KK31 IAmb IAmb 22 47 12.6
comp=Z,5.2nm,0.8s
KKAR Karatay Array 50.10 306 P P 22 47 11.0 +1.6
GAR Garm 50.22 301 P P 22 47 10.9 +0.4
GAR IAmb IAmb 22 47 15.6
comp=Z,16nm,1.1s
CHGR Chuyangaron 51.14 301 P P 22 47 16.6 -0.8
CHGR IAmb IAmb 22 47 22.3
comp=Z,9.9nm,1.1s
BVAR Borovoye Array 51.27 319 P P 22 47 19.6 +1.6
comp=Z,3.9nm,0.7s,baz=80,slow=8.3,SNR=20
comp=Z,3.9nm,0.7s
KBL Kabul 51.52 295 P P 22 47 19.9 -0.5
KBL IAmb IAmb 22 47 23.4
comp=Z,7.8nm,0.8s
AB31 Akbulak array 57.52 314 P P 22 48 04.2 +0.7
ABKAR Akbulak array 57.52 314 P P 22 48 04.6 +1.1
STKA Stephens Creek 57.73 166 P P 22 48 06.2 +1.2
STKA Stephens Creek 57.73 166 LR LR 23 13 49.8
comp=Z,47nm,18.9s,baz=26,slow=37
ARTI Arti 58.55 322 P P 22 48 11.6 +1.0
ARTI IAmb IAmb 22 48 12.4
comp=Z,5.8nm,0.6s
ARTI Arti 58.55 322 LR LR 23 16 30.7
comp=Z,87nm,19.3s,baz=198,slow=39
DZM Mont Dzumac 59.65 138 P P 22 48 17.8 -0.9
K17K Iditarod 60.94 30 P P 22 48 28.7 +1.7
K17K IAmb IAmb 22 48 32.8
comp=Z,9.9nm,1.1s
G18K Tagagawik 60.97 27 P P 22 48 28.8 +1.7
G18K IAmb IAmb 22 48 41.9
comp=Z,3.9nm,0.9s
E19K Redstone River 61.65 25 P P 22 48 34.6 +3.0
J18K Innoko River 61.69 30 P P 22 48 34.5 +2.5
P18K Big Mountain, 62.44 34 P P 22 48 35.0 -2.1
TOO Toolangi 64.08 165 P P 22 48 49.2 +1.1
KBZ Khabaz 69.94 310 P P 22 49 27.6 +2.1
comp=Z,2.4nm,0.9s,baz=76,slow=4.2,SNR=5.0
comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 71.35 339 P P 22 49 36.0 +2.4
comp=Z,3.7nm,1.0s,baz=74,slow=8.9,SNR=4.2
comp=Z,3.7nm,1.0s
FINES FINESS Array B 74.08 331 P P 22 49 51.5 +1.6
comp=Z,1.9nm,0.8s,baz=58,slow=5.2,SNR=8.6
comp=Z,1.9nm,0.8s
AKASG Malin Array Be 76.54 320 P P 22 50 05.8 +1.5
comp=Z,0.4nm,0.4s,baz=65,slow=6.1,SNR=2.9
comp=Z,0.4nm,0.4s
BRTR Keskin Array B 77.78 308 P P 22 50 12.9 +1.2
comp=Z,0.5nm,0.8s,baz=97,slow=5.0,SNR=3.9
comp=Z,0.5nm,0.8s
HFS Hagfors 80.07 332 LR LR 23 27 49.5
comp=Z,185nm,20.4s,baz=334,slow=37
NOA NORSAR Array B 80.59 334 P P 22 50 27.7 +1.2
comp=Z,0.7nm,0.8s,baz=48,slow=4.8,SNR=3.3
NOA LR LR 23 31 28.5
comp=Z,33nm,18.5s,baz=280,slow=40
comp=Z,0.7nm,0.8s
KMBO Kilima Mbogo 91.09 269 LR LR 23 32 41.1
comp=Z,899nm,21.8s,baz=121,slow=36

*ATH **04** 22:39:14.4, 37°.56N×20°.73E, h13km±1km, ML2.6/7, Manual Solution by S.Liakopoulos First location: 2019/10/04 22:40:15, This location: 2019/10/05 05:42:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **04** 22:39:15.4, 38°.N±1°.×2°.1E±°, h6km±1km, M2.6/15, MLh2.6/15*
ISC 04 22:39:14.5±1.2, 37°.57N±0°.04×20°.76E±0°.04, h10km±6km, n34, σ0°.49/56, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.10**	**26**	P	**Pg**	**22 39 17.4**	**+0.2**
KRI1				S	**Sg**	**22 39 18.6**	**-0.4**
LTHK	**Lithakia**	**0.15**	**23**	P	**Pg**	**22 39 18.0**	**+0.1**
LTHK				S	**Sg**	**22 39 19.5**	**-0.7**
LTHK	**Lithakia**	**0.15**	**23**	P	**Pg**	**22 39 18.0**	**+0.1**
LTHK				S	**Sg**	**22 39 19.9**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.25**	**11**	P	**Pg**	**22 39 20.4**	**+0.7**
KYPS				S	**Sg**	**22 39 24.6**	**+1.5**
ORTH	**Orthonies,Zaky**	**0.28**	**349**	P	**Pg**	**22 39 20.6**	**+0.3**
ORTH				S	**Sg**	**22 39 24.9**	**+0.8**
ORTH	**Orthonies,Zaky**	**0.28**	**349**	P	**Pg**	**22 39 20.6**	**+0.3**
ORTH				S	**Sg**	**22 39 24.3**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.43**	**43**	P	**Pg**	**22 39 23.4**	**+0.4**
CLEM				S	**Sg**	**22 39 29.8**	**+1.0**
RTZL	**Ratzakli, Kefa**	**0.50**	**1**	P	**Pg**	**22 39 24.7**	**+0.3**
RTZL				S	**Sg**	**22 39 31.9**	**+0.8**
VLS	**Valsamata**	**0.62**	**347**	P	**Pg**	**22 39 26.5**	**-0.1**
VLS				S	**Sg**	**22 39 35.6**	**+0.9**
VLS	**Valsamata**	**0.62**	**347**	P	**Pg**	**22 39 26.4**	**-0.1**
VLS				S	**Sg**	**22 39 35.4**	**+0.7**
ARG2	**Argostoli**	**0.64**	**340**	P	**Pg**	**22 39 27.3**	**+0.3**
ARG2				S	**Sb**	**22 39 37.0**	**+0.2**
RLS	**Riolos of Patr**	**0.74**	**49**	P	**Pg**	**22 39 28.6**	**-0.2**
RLS	**Riolos of Patr**	**0.74**	**49**	P	**Pg**	**22 39 28.6**	**-0.2**
RLS				S	**Sg**	**22 39 38.9**	**+0.4**
AXS	**Araxos**	**0.79**	**38**	P	**Pg**	**22 39 29.7**	**-0.1**
AXS				S	**Sb**	**22 39 41.2**	**+0.1**
AXS	**Araxos**	**0.79**	**38**	P	**Pg**	**22 39 29.5**	**-0.2**
AXS				S	**Sb**	**22 39 41.2**	**+0.1**
DRO	**Drossia**	**0.84**	**63**	P	**Pg**	**22 39 30.8**	**+0.1**
DRO	**Drossia**	**0.84**	**63**	P	**Pg**	**22 39 30.9**	**+0.1**
DRO				S	**Sb**	**22 39 42.6**	**0.0**
FSK	**Fiskardo**	**0.90**	**350**	P	**Pg**	**22 39 31.8**	**-0.1**
FSK				S	**Sg**	**22 39 44.1**	**+0.5**
ITM	**Ithomi**	**1.01**	**112**	P	**Pg**	**22 39 34.0**	**+0.1**
ITM	**Ithomi**	**1.01**	**112**	P	**Pg**	**22 39 33.9**	**+0.1**
ITM				S	**Sg**	**22 39 47.6**	**+0.6**
PYL2	**Kinigos**	**1.02**	**131**	P	**Pg**	**22 39 34.1**	**+0.1**
PYL2				S	**Sg**	**22 39 47.7**	**+0.5**
EVGI	**Lefkada island**	**1.05**	**355**	P	**Pg**	**22 39 34.1**	**-0.7**
EVGI	**Lefkada island**	**1.05**	**355**	P	**Pg**	**22 39 34.0**	**-0.7**
EVGI				S	**Sg**	**22 39 48.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.14**	**357**	P	**Pb**	**22 39 35.5**	**-0.8**
PVO	**Paravola**	**1.21**	**30**	P	**Pb**	**22 39 37.2**	**-0.2**
PVO	**Paravola**	**1.21**	**30**	P	**Pb**	**22 39 37.1**	**-0.2**
PVO				S	**Sg**	**22 39 53.6**	**+0.2**
EFP	**Efpalio**	**1.24**	**46**	P	**Pn**	**22 39 37.6**	**-0.4**
EFP	**Efpalio**	**1.24**	**46**	P	**Pn**	**22 39 37.4**	**-0.5**
EFP				S	**Sb**	**22 39 53.7**	**-0.4**
GUR	**Goura**	**1.30**	**73**	P	**Pn**	**22 39 38.7**	**-0.2**
GUR	**Goura**	**1.30**	**73**	P	**Pn**	**22 39 39.0**	**+0.1**
GUR				S	**Sb**	**22 39 56.2**	**+0.2**
KALE	**Kalithea**	**1.36**	**53**	P	**Pn**	**22 39 39.2**	**-0.4**
ANX	**Ano Chora**	**1.37**	**42**	P	**Pn**	**22 39 39.4**	**-0.3**
ANX	**Ano Chora**	**1.37**	**42**	P	**Pn**	**22 39 39.7**	**-0.1**
EVR	**Evrytania**	**1.58**	**31**	P	**Pn**	**22 39 43.5**	**+1.0**

*IDC **04** 22:42:25.4±0.9, 52°.56S×28°.00E, h0km, mb4.0/9, mbtmp4.0/9, MS3.1/5, Error ellipse: s-maj=31.5km s-min=19.5km az=79.0*
*NEIC **04** 22:42:26.8±1.2, 52°.6S±0°.1×28°.2E±0°.3, h10km±2km, mb4.4/17, Error ellipse: s-maj=29.2km s-min=19.4km az=277.0*
ISC 04 22:42:26.7±0.6, 52°.54S±0°.08×28°.1E±0°.1, h10km, n38, σ0°.73/31, mb4.3/16, MS2.9/5, 4C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**16.36**	**79**	T	T	23 03 28.5	
	baz=241,slow=75,SNR=19						
H04S3	**CROZET ISLANDS**	**16.36**	**79**	T	T	23 03 36.2	
	baz=241,slow=75,SNR=18						
H04S1	**CROZET ISLANDS**	**16.38**	**79**	T	T	23 03 34.5	
	baz=241,slow=75,SNR=29						
CRZF	**Crozet Islands**	**16.55**	**78**	Pn	**Pn**	**22 46 18.0**	**-0.7**
GRHM	**Grahamstown, E**	**19.29**	**356**	P	**P**	**22 46 52.1**	**+0.5**
GRHM				IAmb	IAmb	22 47 04.0	
	comp=Z,41nm,1.3s						
SUR	**Sutherland**	**20.83**	**342**		**P**	**22 47 09.4**	**+0.9**
SUR				IAmb	IAmb	22 47 11.2	
	comp=Z,38nm,1.4s						
TROLL	**Troll, Antarti**	**22.52**	**201**	⇑P	**P**	**22 47 24.7**	**-1.6**
	comp=Z,112nm,0.6s						
MAW	**Mawson**	**22.53**	**145**	P	**P**	**22 47 27.1**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=266,slow=7.8,SNR=4.8						
MAW				LR	LR	22 54 04.1	
	comp=Z,31nm,19.9s,baz=304,slow=31						
	comp=Z,1.9nm,0.8s						
SNAA	**Sanae**	**23.54**	**204**	⇑P	**P**	**22 47 35.9**	**-0.8**
	comp=Z,55nm,0.6s						
SNAA	**Sanae**	**23.54**	**204**	P	**P**	**22 47 36.3**	**-0.4**
SNAA	**Sanae**	**23.54**	**204**	P	**P**	**22 47 36.1**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=75,slow=8.1,SNR=16						
SNAA				LR	LR	22 55 16.5	
	comp=Z,39nm,18.5s,baz=22,slow=33						
	comp=Z,3.2nm,0.8s						
BOSA	**Boshof**	**23.99**	**354**	P	**P**	**22 47 41.4**	**-0.1**
BOSA	**Boshof**	**23.99**	**354**	P	**P**	**22 47 41.7**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=190,slow=10.0,SNR=4.2						
BOSA				LR	LR	22 55 42.8	
	comp=Z,32nm,18.7s,baz=197,slow=33						
	comp=Z,2.6nm,0.7s						
VNA2	**Neumayer--Watz**	**24.33**	**208**	⇑P	**P**	**22 47 43.6**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=51,slow=10						
VNA1	**Neumayer--Stat**	**24.44**	**209**	⇑P	**P**	**22 47 44.8**	**-0.3**
	comp=Z,13nm,0.9s						
MAKGR	**Makgori**	**26.81**	**353**	P	**P**	**22 48 07.1**	**0.0**
MAKGR				IAmb	IAmb	22 48 40.2	
	comp=Z,11nm,1.4s						
LBTB	**Lobatse**	**27.55**	**355**	LR	LR	22 57 29.6	
	comp=Z,42nm,19.1s,baz=158,slow=33						
LPHEP	**Lephephe**	**29.18**	**356**	P	**P**	**22 48 26.3**	**-1.9**
LPHEP				IAmb	IAmb	22 48 49.5	
	comp=Z,13nm,1.4s						
MREMI	**Moremi**	**29.92**	**359**	P	**P**	**22 48 34.6**	**-0.2**
MREMI				IAmb	IAmb	22 48 42.5	
	comp=Z,8.1nm,1.2s						
GRTLG	**Ghanzi**	**31.57**	**348**	P	**P**	**22 48 49.3**	**-0.1**
GRTLG				IAmb	IAmb	22 49 32.2	
	comp=Z,6.6nm,1.4s						
PHDHD	**Phuduhudu**	**32.40**	**354**	P	**P**	**22 48 57.0**	**+0.3**
BELA	**Belgrano 2**	**33.59**	**200**	P	**P**	**22 49 05.9**	**-0.6**
BELA				IAmb	IAmb	22 49 39.1	
	comp=Z,5.7nm,1.5s						
VOI	**Vohitsoka**	**33.79**	**32**	P	**P**	**22 49 07.3**	**-1.5**
ABPO	**Ambohimpanom**	**36.63**	**31**	P	**P**	**22 49 33.1**	**-0.3**
QSPA	**South Pole Qui**	**37.68**	**180**	P	**P**	**22 49 42.4**	**+0.5**
QSPA				IAmb	IAmb	22 50 02.6	
	comp=Z,6.3nm,1.2s						
QSPA	**South Pole Qui**	**37.68**	**180**	P	**P**	**22 49 42.4**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=70,slow=1.4,SNR=22						
	comp=Z,3.0nm,0.8s						
CASY	**Casey**	**40.82**	**142**	P	**P**	**22 50 08.1**	**+0.2**
VNDA	**Vanda**	**47.08**	**168**	P	**P**	**22 50 57.8**	**-0.2**
VNDA	**Vanda**	**47.08**	**168**	P	**P**	**22 50 57.7**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=236,slow=6.6,SNR=16						
VNDA				LR	LR	23 10 38.6	
	comp=Z,24nm,19.3s,baz=260,slow=36						
	comp=Z,1.6nm,0.6s						
SBA	**Scott Base**	**47.41**	**169**	P	**P**	**22 51 00.7**	**+0.2**
SBA				IAmb	IAmb	22 51 01.8	
	comp=Z,2.4nm,0.8s						
H01W2	**Cape Leeuwin H**	**60.93**	**110**	T	T	23 59 42.0	
	baz=223						
H01W3	**Cape Leeuwin H**	**60.94**	**110**	T	T	23 59 40.3	
	baz=223						
H01W1	**Cape Leeuwin H**	**60.95**	**110**	T	T	23 59 41.6	
	baz=223						
TORD	**Torodi Ar. Bea**	**69.28**	**332**	P	**P**	**22 53 34.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=162,slow=5.5,SNR=4.5						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**80.30**	**107**	P	**P**	**22 54 38.8**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=222,slow=4.8,SNR=10.0						
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**80.58**	**117**	P	**P**	**22 54 40.1**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=214,slow=5.0,SNR=14						
	comp=Z,1.5nm,0.8s						
WRA	**Warramunga Arr**	**83.80**	**115**	P	**P**	**22 54 56.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=212,slow=3.7,SNR=7.3						
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**150.26**	**268**	PKPbc	**PKPbc**	**23 02 17.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=107,slow=5.1,SNR=4.0						

GII 04 22:43:09.7±0.0, 32°.092N±0°.002×35°.327E±0°.001, h2km, Mws1.5, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEFR	**Maale Efrayim**	**0.07**	**108**	P	Pg	22 43 11.7	+0.6
MEFR	**Maale Efrayim**	**0.07**	**108**	S	Sg	22 43 13.7	+1.7
ARIL	**Ariel Universi**	**0.10**	**277**	P	Pg	22 43 12.3	+0.6
ARIL	**Ariel Universi**	**0.10**	**277**	S	Sg	22 43 14.4	+1.4
PZL	**Pazael**	**0.11**	**117**	P	Pg	22 43 12.5	+0.7
PZL	**Pazael**	**0.11**	**117**	S	Sg	22 43 14.7	+1.4
SALP	**Salfit**	**0.12**	**259**	P	Pg	22 43 12.6	+0.6
SALP	**Salfit**	**0.12**	**259**	S	Sg	22 43 15.1	+1.6
HMRA	**Hamra**	**0.14**	**40**	P	Pg	22 43 13.0	+0.5
HMRA	**Hamra**	**0.14**	**40**	S	Sg	22 43 16.0	+1.6
YITV	**Yitav**	**0.17**	**151**	P	Pg	22 43 13.4	+0.5
YITV	**Yitav**	**0.17**	**151**	S	Sg	22 43 16.2	+1.1
RGMN	**Argaman**	**0.18**	**65**	P	Pg	22 43 13.7	+0.5
UJAP	**Al Uja**	**0.18**	**140**	P	Pg	22 43 14.1	+0.9
UJAP	**Al Uja**	**0.18**	**140**	S	Sg	22 43 17.0	+1.4
ROII	**Roi**	**0.21**	**41**	P	Pg	22 43 14.2	+0.5
ROII	**Roi**	**0.21**	**41**	S	Sg	22 43 17.6	+1.2
HMDT	**Nahal Hemdat**	**0.23**	**46**	P	Pg	22 43 14.8	+0.7
HMDT	**Nahal Hemdat**	**0.23**	**46**	S	Sg	22 43 19.2	+1.9
SLTI	**Sal'it**	**0.28**	**301**	P	Pg	22 43 16.2	+1.1
SLTI	**Sal'it**	**0.28**	**301**	S	Sb	22 43 21.0	-1.8
MEHL	**Mehola**	**0.32**	**30**	P	Pg	22 43 16.1	+0.3
MEHL	**Mehola**	**0.32**	**30**	S	Sb	22 43 22.2	-1.5
MMLI	**Mount Malkishu**	**0.35**	**13**	P	Pg	22 43 17.3	+0.7
MMLI	**Mount Malkishu**	**0.35**	**13**	S	Sb	22 43 23.4	-1.4
MLDT	**Moledet**	**0.50**	**11**	P	Pg	22 43 20.0	+0.6
MLDT	**Moledet**	**0.50**	**11**	S	Sb	22 43 28.5	-0.6
DSI	**Dead Sea**	**0.52**	**175**	P	Pg	22 43 19.9	+0.2
DSI	**Dead Sea**	**0.52**	**175**	S	Sb	22 43 28.7	-0.9
AMAZ	**Amatzia**	**0.66**	**212**	P	Pg	22 43 23.0	+0.7
AMAZ	**Amatzia**	**0.66**	**212**	S	Sb	22 43 33.3	-0.3
YTIR	**Yattir**	**0.75**	**194**	P	Pg	22 43 24.6	+0.6
YTIR	**Yattir**	**0.75**	**194**	S	Sb	22 43 36.5	+0.3
MSBI	**Mazada**	**0.78**	**178**	P	Pg	22 43 24.5	-0.1
MMA0B	**Mount Meron ar**	**0.92**	**4**	P	Pg	22 43 27.8	+0.4
MMA0B	**Mount Meron ar**	**0.92**	**4**	S	Sb	22 43 40.8	-0.5
MMC7	**Mount Meron ar**	**0.93**	**3**	P	Pg	22 43 27.8	+0.3
KSHT	**Keshet**	**0.98**	**25**	P	Pg	22 43 28.8	+0.3
KSHT	**Keshet**	**0.98**	**25**	S	Sb	22 43 43.1	+0.3
NATI	**Neve Ativ**	**1.22**	**16**	P	Pn	22 43 33.6	-0.1
NATI	**Neve Ativ**	**1.22**	**16**	S	Sn	22 43 50.2	-0.5

*DJA **04** 23:22:50.8±1.1, 5°.N±10°.×12°.5E±°, h272km±10km, M4.4/11, mB5.6/3, mb4.3/6, MLv4.4/11, Mw(mB)5.1/3, MwMwp5.3/1, Mwp5.5/1*
*IDC **04** 23:22:55.1±2.8, 5°.13N×125°.21E, h333km±28km, mb3.2/11, mbtmp3.9/11, Error ellipse: s-maj=26.2km s-min=13.4km az=71.0*
ISC 04 23:22:51.5±0.7, 5°.03N±0°.10×125°.2E±0°.2, h300km, n18, σ1°.56/21, mb3.8/13, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.37**	**166**	P	**Pn**	**23 23 31.1**	**-2.8**
TNTI	**Ternate**	**4.75**	**153**	P	**Pn**	**23 24 05.7**	**-1.1**
SANI	**Sanana**	**7.08**	**174**	P	**Pn**	**23 24 31.7**	**-2.1**
NLAI	**Namlea**	**8.43**	**167**	P	**Pn**	**23 24 52.1**	**+1.7**
	2μm33nm,0.6s						
JOW	**Kunigami**	**21.88**	**7**	P	**P**	**23 27 20.7**	**+0.2**
	11nm,0.2s,baz=198,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**26.39**	**160**	P	**P**	**23 28 03.3**	**+2.0**
	0.3nm,0.5s,baz=334,slow=11,SNR=6.3						
WRA				ScP	**ScP**	**23 34 26.1**	**-3.4**
	0.2nm,0.5s,baz=336,slow=2.8,SNR=1.7						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.90**	**300**	P	**P**	**23 28 25.1**	**+1.6**
	0.9nm,0.3s,baz=110,slow=6.4,SNR=4.8						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**29.76**	**164**	P	**P**	**23 28 32.1**	**+1.1**
	0.1nm,0.3s,baz=337,slow=9.0,SNR=1.4						
ASAR				PcP	**PcP**	**23 31 26.3**	**-0.4**
	0.2nm,0.3s,baz=330,slow=2.5,SNR=1.7						
	0.1nm,0.3s						
KSRS	**Korea Array**	**32.37**	**4**	P	**P**	**23 28 53.9**	**+0.4**
	2.5nm,0.7s,baz=180,slow=10,SNR=6.8						
	2.5nm,0.7s						
XAN	**Xi'an**	**32.58**	**334**	⇑P	**P**	**23 28 55.1**	**-0.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MJAR	**Matsushiro Arr**	**33.56**	**19**	P	**P**	**23 29 04.1**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=198,slow=12,SNR=5.7						
	comp=Z,1.9nm,0.3s						
XLT	**XiLinHaoTe**	**39.54**	**350**	*e*P	**P**	**23 29 55.9**	**+1.9**
SONM	**Songino Array**	**45.59**	**342**	P	**P**	**23 30 41.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=160,slow=11,SNR=4.2						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**55.62**	**325**	P	**P**	**23 31 56.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.6,SNR=17						
MKAR				PcP	**PcP**	**23 32 52.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.3,SNR=4.1						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**58.75**	**333**	P	**P**	**23 32 16.7**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.5,SNR=4.2						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**59.83**	**328**	P	**P**	**23 32 25.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=128,slow=6.4,SNR=20						
	comp=Z,1.5nm,0.5s						
BVAR	**Borovoye Array**	**65.40**	**327**	P	**P**	**23 33 02.7**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=128,slow=9.6,SNR=7.8						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**84.60**	**25**	P	**P**	**23 34 51.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=239,slow=5.1,SNR=2.1						
	comp=Z,0.2nm,0.5s						

*NEIC **04** 23:44:14.3±1.3, 38°.130N±0°.009×112°.55W±0°.01, h8km±5km, Error ellipse: s-maj=1.7km s-min=1.1km az=84.0*
UUSS 04 23:44:14.7±1.5, 38°.139N±0°.009×112°.56W±0°.01, h7km±4km, ML2.9/13, ML3.0/108(NEIC), Error ellipse: s-maj=1.7km s-min=0.3km az=137.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUT	**Beaver**	**0.15**	**336**		Pg	23 44 18.4	+0.4
MTPU	**Mount Pierson**	**0.32**	**108**		Pg	23 44 20.7	-0.4
DWU	**Dry Willow Pea**	**0.34**	**264**		Pg	23 44 21.7	+0.2
NMUT	**North Mineral**	**0.44**	**329**		Pg	23 44 23.4	+0.1
TCRU	**Three Creeks R**	**0.48**	**11**		Pg	23 44 24.0	0.0
TCRU					Sg	23 44 31.2	+0.8
BTU	**Barney Top**	**0.67**	**125**		Pg	23 44 27.6	0.0
IMU	**Iron Mountain**	**0.68**	**317**		Pg	23 44 28.0	+0.2
SZCU	**Shurtz Canyon**	**0.68**	**218**		Pg	23 44 27.5	-0.4
SZCU				Sg	Sg	23 44 36.6	-0.2
SZCU				IAML		23 44 38.2	
	comp=N,1μm,0.3s						
PKCU	**Pink Cliffs**	**0.72**	**164**		Pg	23 44 28.6	-0.1
ARUT	**Antelope Range**	**0.78**	**243**		Pg	23 44 29.9	+0.3
CCUT	**Cedar City**	**0.86**	**227**		Pg	23 44 30.8	-0.5
CCUT				Sg	Sg	23 44 42.5	0.0
WCU	**Willow Creek**	**0.90**	**24**		Pg	23 44 32.3	+0.1
EKU	**East Kanab**	**1.06**	**177**		Pg	23 44 34.4	-0.7
PSUT	**Pine Spring**	**1.09**	**292**		Pg	23 44 35.5	-0.2
KNB	**Kanab**	**1.14**	**190**		Pg	23 44 35.4	-1.2
KNB				Sg	Sg	23 44 50.6	-0.7
LCMT	**Little Creek M**	**1.25**	**206**		Pb	23 44 37.5	-1.2
LCMT					Sg	23 44 53.8

TPNV			IAML	23 45 58.4
	comp=E,53nm,0.6s			
TPNV			IAML	23 46 04.9
	comp=E,56nm,0.6s			
MVCO	**Mesa Verde**	**3.36 105**	IAML	23 46 14.0
	comp=E,64nm,0.6s			
WCT	**Wildcat Mounta**	**3.50 249**	IAML	23 46 13.9
	comp=E,20nm,0.6s			
TPH	**Tonopah**	**3.67 270**	IAML	23 46 15.0
	comp=N,37nm,0.4s			
TPH			IAML	23 46 19.0
	comp=E,41nm,0.5s			
GWY	**Greenwater Val**	**3.81 241**	IAML	23 46 18.5
	comp=E,21nm,0.5s			
GWY			IAML	23 46 21.2
	comp=N,21nm,0.8s			
GMN	**Gold Mountain**	**3.82 259**	IAML	23 46 19.4
	comp=E,15nm,0.4s			
GMN			IAML	23 46 23.7
	comp=N,25nm,0.9s			
X16A	**Lo Mia Camp, P**	**3.82 166**	IAML	23 46 20.9
	comp=N,31nm,0.5s			
X16A			IAML	23 46 21.2
	comp=E,27nm,0.8s			
GRAC	**Grapevine Rang**	**3.98 255**	IAML	23 46 29.2
	comp=N,38nm,0.5s			
Y14A	**Wickenburg**	**4.21 185**	IAML	23 46 29.0
	comp=N,19nm,0.7s			
Y14A			IAML	23 46 32.3
	comp=E,19nm,0.7s			
DSP	**Deep Springs**	**4.35 261**	IAML	23 46 33.8
	comp=E,11nm,2.8s			
DSP			IAML	23 46 37.1
	comp=N,13nm,1.3s			
NV11	**Mina Array Sit**	**4.41 276**	IAML	23 46 40.2
	comp=E,9.9nm,0.7s			
NV11			IAML	23 46 48.9
	comp=N,12nm,1.0s			
GSC	**Goldstone, Bar**	**4.43 232**	IAML	23 46 44.9
	comp=N,9.1nm,0.7s			
GSC			IAML	23 46 55.5
	comp=E,18nm,4.4s			
MPMC	**Manual Prospec**	**4.45 244**	IAML	23 46 39.3
	comp=E,9.4nm,0.7s			
IRM	**Iron Mountain**	**4.49 209**	IAML	23 46 39.6
	comp=N,9.0nm,0.4s			
IRM			IAML	23 47 06.5
	comp=E,9.3nm,4.2s			
CCCA	**Chr Cany lake**	**4.65 237**	IAML	23 47 40.9
	comp=N,25nm,0.3s			
CCCA			IAML	23 48 18.4
	comp=E,20nm,1.0s			
LHV	**Little Huntoon**	**4.68 273**	IAML	23 46 52.8
	comp=E,20nm,0.7s			
RYN	**Ryan**	**4.71 278**	IAML	23 46 46.7
	comp=E,22nm,0.8s			
RYN			IAML	23 46 52.0
	comp=N,16nm,0.8s			

*JMA **04** 23:49:16.6±0.1, 38.°7N±0.°2×142.°3E±0.°7, h38km±1km, MV4.1/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
*NIED **04** 23:49:16.6, 38.°70N×142.°27E, h38km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.73; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-4.37; $M_{r\theta}$3.63; $M_{\theta\phi}$-1.76; $M_{\phi r}$2.16; Fault plane solution: $M_0$6.84000×10^{14} NP1: ϕ_s192.00000°, δ30.00000°, λ62.00000°. NP2:ϕ_s43.00000°, δ64.00000°, λ105.00000°.*
*IDC **04** 23:49:18.9±2.4, 38.°78N×142.°26E, h56km±19km, mb3.5/13, mbtmp3.8/16, ML3.4/3, MS2.4/1 Error ellipse: s-maj=23.5km s-min=12.3km az=121.0*
ISC 04 23:49:15.3±1.8, 38.°67N±0.°05×142.°29E±0.°07, h27km±11km, n34, σ1°24/36, mb3.8/13, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.63**	**310**	⇓*iP*	**Pn**	**23 49 28.8**	**+0.3**
OFUJ				⇓*eS*	**Sb**	**23 49 37.4**	**+1.2**
JKMT	**Kesennumamotoy**	**0.65**	**283**	⇓*iP*	**Pn**	**23 49 29.2**	**+0.4**
JKMT				⇓S	**Sn**	**23 49 37.7**	**-0.4**
JIKH	**Ishinomakikobu**	**0.74**	**241**	⇓*iP*	**Pn**	**23 49 30.6**	**+0.6**
JIKH				⇓S	**Sn**	**23 49 40.2**	**-0.1**
JIO	**Ouri**	**0.77**	**254**	⇓*iP*	**Pn**	**23 49 30.8**	**+0.5**
JIO				⇓S	**Sn**	**23 49 40.5**	**-0.5**
JMK	**Ichinoseki**	**0.88**	**289**	⇓*iP*	**Pn**	**23 49 32.5**	**+0.6**
JMK				⇓*eS*	**Sn**	**23 49 44.0**	**+0.2**
JOM	**Ohasama**	**1.11**	**316**	⇓*iP*	**Pb**	**23 49 35.9**	**0.0**
JOM				⇓S	**Sn**	**23 49 49.9**	**+0.3**
JOM	**Ohasama**	**1.11**	**316**	A	A	23 49 35.9	
	comp=N,7.0nm,0.3s,comp=E,7.0nm,0.3s						
JTH	**Tanohata**	**1.31**	**346**	*iP*	**Pn**	**23 49 38.2**	**+0.4**
JOU	**Okura**	**1.31**	**257**	⇓*iP*	**Pb**	**23 49 38.9**	**-0.3**
JMM	**Marumori**	**1.42**	**236**	P	**Pb**	**23 49 40.2**	**-0.9**
JMM				*eS*	**Sb**	**23 49 57.1**	**-1.8**
JRG	**Rokugo**	**1.48**	**300**	⇓*eP*	**Pb**	**23 49 41.2**	**-0.9**
JYK	**Kaneyama**	**1.53**	**280**	*eP*	**Pb**	**23 49 42.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.87**	**238**	P	**Pn**	**23 50 17.1**	**+4.0**
	comp=E,0.5nm,0.3s,baz=38,slow=12,SNR=14						
MJAR				S	**Sn**	**23 51 01.6**	**+3.9**
	comp=E,2.5nm,0.4s,baz=63,slow=13,SNR=4.3						
MJAR				LR	LR	23 52 14.6	
	comp=E,42nm,18.6s,baz=164,slow=45 comp=E,2.8nm,0.3s						
ASAJ	**Asahikawa**	**5.45**	**2**	P	**Pn**	**23 50 36.1**	**+1.5**
	comp=E,1.8nm,0.3s,baz=223,slow=15,SNR=6.3						
ASAJ				S	**Sn**	**23 51 36.0**	**-0.4**
	comp=E,19nm,0.9s,baz=352,slow=15,SNR=2.0 comp=E,5.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.50**	**309**	P	**Pn**	**23 51 31.9**	**+1.7**
	comp=E,0.4nm,0.3s,baz=125,slow=14,SNR=6.6 comp=E,3.6nm,0.6s						
SONM	**Songino Array**	**27.49**	**301**	P	**P**	**23 54 59.7**	**+0.3**
	comp=E,0.3nm,0.4s,baz=93,slow=8.0,SNR=2.4 comp=E,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.45**	**125**		T	T	00 25 28.8	
	baz=317,slow=75,SNR=326						
H11N1	**WAKE ISLAND Hy 28.46**	**125**		T	T	00 25 37.6	
	baz=317,slow=75,SNR=200						
H11N3	**WAKE ISLAND Hy 28.47**	**125**		T	T	00 25 30.0	
	baz=317,slow=75,SNR=285						
H11S1	**WAKE ISLAND Hy 29.22**	**127**		T	T	00 26 29.8	
	baz=318,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy 29.23**	**127**		T	T	00 26 29.6	
	baz=318,slow=76,SNR=100						
H11S2	**WAKE ISLAND Hy 29.24**	**127**		T	T	00 26 27.8	
	baz=318,slow=76,SNR=43						
ZALV	**Zalesovo Beam**	**41.34**	**311**	P	**P**	**23 56 58.6**	**0.0**
	comp=E,1.3nm,0.4s,baz=93,slow=8.0,SNR=8.0 comp=E,1.3nm,0.4s						
MKAR	**Makanchi Array**	**43.85**	**301**	P	**P**	**23 57 19.2**	**+0.1**
	comp=E,0.9nm,0.7s,baz=79,slow=13,SNR=8.0 comp=E,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.56**	**307**	P	**P**	**23 57 31.4**	**-1.2**
	comp=E,2.1nm,0.4s,baz=81,slow=8.1,SNR=17 comp=E,2.1nm,0.4s						
ILAR	**Eielson Array**	**47.74**	**33**	P	**P**	**23 57 49.2**	**-0.3**
	comp=E,0.2nm,0.6s,baz=273,slow=5.6,SNR=4.7 comp=E,0.2nm,0.6s						
BVAR	**Borovoye Array**	**49.99**	**311**	P	**P**	**23 58 05.8**	**-1.2**
	comp=E,0.8nm,0.5s,baz=73,slow=7.5,SNR=6.5 comp=E,0.8nm,0.5s						
WRA	**Warramunga Arr**	**58.78**	**189**	P	**P**	**23 59 10.6**	**-0.5**
	comp=E,0.4nm,0.6s,baz=7.2,slow=6.9,SNR=2.6 comp=E,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**62.71**	**339**	P	**P**	**23 59 36.7**	**-0.6**
	comp=E,4.4nm,1.2s,baz=59,slow=4.4,SNR=4.2 comp=E,4.4nm,1.2s						
KBZ	**Khabaz**	**70.36**	**311**	P	**P**	**00 00 26.7**	**+0.1**
	comp=E,0.6nm,0.5s,baz=278,slow=12,SNR=1.7 comp=E,0.6nm,0.5s						
HFS	**Hagfors**	**72.88**	**336**	P	**P**	**00 00 41.3**	**-0.2**
	comp=E,5.4nm,1.1s,baz=31,slow=8.7,SNR=4.3 comp=E,5.4nm,1.1s						
AKASG	**Malin Array Be**	**73.42**	**322**	P	**P**	**00 00 44.5**	**-0.4**
	comp=E,0.4nm,0.4s,baz=43,slow=7.1,SNR=4.1 comp=E,0.4nm,0.4s						
PDAR	**Pinedale Array**	**76.03**	**46**	P	**P**	**00 01 00.8**	**+0.4**
	comp=E,0.3nm,0.6s,baz=243,slow=0.7,SNR=3.4 comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**88.58**	**53**	P	**P**	**00 02 06.2**	**+0.2**
	comp=E,0.2nm,0.7s,baz=301,slow=5.8,SNR=2.8 comp=E,0.2nm,0.7s						

*NEIC **05** 00:11:51.1±2.4, 19.°07N±0.°03×67.°22W±0.°03, h10km±2km, ML3.4/23, Md3.3/14(RSPR), Error ellipse: s-maj=5.9km s-min=4.3km az=35.0*
*SDD **05** 00:11:53.0±2.4, 19.°08N×67.°14W, h23km±49km, MD3.6, ML3.3, MW3.5*
*RSPR **05** 00:11:56.7, 18.°93N×67.°17W, h30km±31km, MD3.3/14*
ISC 05 00:11:51.3±1.3, 19.°07N±0.°05×67.°20W±0.°03, h10km±10km, n76, σ0°68/94, 16C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.60**	**172**		**Pb**	**00 12 04.8**	**+0.7**
AGPR					**Sb**	**00 12 13.2**	**+0.5**
AGPR	**Aguadilla, PR**	**0.60**	**172**	⇑*iP*	**Pb**	**00 12 04.8**	**+0.7**
AGPR	**Aguadilla, PR**	**0.60**	**172**	*eS*	**Sb**	**00 12 13.2**	**+0.5**
AGPR	**Aguadilla, PR**	**0.60**	**172**	⇑*ePg*	**Pb**	**00 12 04.6**	**+0.6**
AGPR				⇑*eSg*	**Sb**	**00 12 13.2**	**+0.5**
AGPR				IAML		00 12 16.5	
	comp=N,2μm,0.2s						
IDE	**Isla Desecheo**	**0.73**	**201**		**Pb**	**00 12 06.7**	**+0.6**
IDE					**Sb**	**00 12 17.2**	**+1.0**
IDE	**Isla Desecheo**	**0.73**	**201**	⇓*iP*	**Pb**	**00 12 06.7**	**+0.6**
IDE	**Isla Desecheo**	**0.73**	**201**	*eS*	**Sb**	**00 12 17.2**	**+1.0**
AOPR	**Arecibo Observ**	**0.83**	**150**		**Pb**	**00 12 08.2**	**+0.3**
AOPR				IAML		00 12 21.7	
	comp=N,2μm,0.3s						
AOPR	**Arecibo Observ**	**0.83**	**150**	⇑*iP*	**Pb**	**00 12 08.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.83**	**150**	⇑*ePg*	**Pb**	**00 12 08.2**	**+0.3**
AOPR				⇑*eSg*	**Sg**	**00 12 18.0**	**-0.3**
AOPR				IAML		00 12 21.6	
	comp=N,2μm,0.3s						
PRSN	**Puerto Rico Se**	**0.85**	**177**		**Pb**	**00 12 08.5**	**+0.3**
PRSN					**Sn**	**00 12 21.3**	**-0.7**
PRSN	**Puerto Rico Se**	**0.85**	**177**		**Pb**	**00 12 08.3**	**+0.1**
PRSN	**Puerto Rico Se**	**0.85**	**177**	⇑*iP*	**Pb**	**00 12 08.5**	**+0.3**
PRSN	**Puerto Rico Se**	**0.85**	**177**	*eS*	**Sn**	**00 12 21.3**	**-0.7**
EMPR	**Esperanza - Ma**	**0.86**	**133**		**Pn**	**00 12 09.9**	**+0.3**
EMPR					**Sn**	**00 12 22.6**	**+0.3**
EMPR	**Esperanza - Ma**	**0.86**	**133**		**Pb**	**00 12 09.0**	**+0.6**
EMPR	**Esperanza - Ma**	**0.86**	**133**	⇑*eP*	**Pn**	**00 12 09.9**	**+0.3**
EMPR	**Esperanza - Ma**	**0.86**	**133**	*eS*	**Sn**	**00 12 22.6**	**+0.3**
LSP	**Las Mesas**	**0.90**	**173**		**Pb**	**00 12 09.3**	**+0.3**
LSP					**Sb**	**00 12 21.8**	**+0.7**
LSP	**Las Mesas**	**0.90**	**173**	⇓*iP*	**Pb**	**00 12 09.3**	**+0.3**
LSP	**Las Mesas**	**0.90**	**173**	*eS*	**Sb**	**00 12 21.8**	**+0.7**
UUPR	**Utuado, UPR, P**	**0.93**	**151**		**Sb**	**00 12 22.5**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.93**	**151**		**Pg**	**00 12 09.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.93**	**151**	⇑*iP*	**Pb**	**00 12 09.6**	**0.0**
UUPR	**Utuado, UPR, P**	**0.93**	**151**	*eS*	**Sb**	**00 12 22.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.06**	**176**		**Pg**	**00 12 11.3**	**-0.4**
CRPR					**Sg**	**00 12 25.5**	**0.0**
CRPR				IAML		00 12 28.9	
	comp=E,765nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.06**	**176**	⇑*iP*	**Pg**	**00 12 11.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06**	**176**	*eS*	**Sb**	**00 12 26.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.06**	**176**	⇓*ePg*	**Pg**	**00 12 11.6**	**-0.2**
CRPR				⇑*eSg*	**Sg**	**00 12 24.6**	**-0.9**
CRPR				IAML		00 12 27.6	
	comp=N,878nm,0.3s						
ECPR	**Experimental S**	**1.09**	**133**	⇑*eP*	**Pn**	**00 12 13.8**	**+1.1**
ECPR	**Experimental S**	**1.09**	**133**	*eS*	**Sb**	**00 12 27.1**	**+0.5**
MLPR	**Magueyes Islan**	**1.10**	**172**	⇑*iP*	**Pg**	**00 12 12.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.10**	**172**	*eS*	**Sg**	**00 12 26.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.10**	**172**	⇓*ePg*	**Pg**	**00 12 12.3**	**-0.2**
MLPR				⇑*eSg*	**Sg**	**00 12 26.2**	**-0.7**
MLPR				IAML		00 12 36.8	
	comp=N,169nm,0.6s						
GBPR	**Guanica, Bosqu**	**1.13**	**164**		**Pg**	**00 12 13.1**	**0.0**
GBPR	**Guanica, Bosqu**	**1.13**	**164**	⇑*iP*	**Pg**	**00 12 13.1**	**0.0**
CELP	**Cerrillos**	**1.15**	**149**		**Pg**	**00 12 13.2**	**-0.3**
CELP	**Cerrillos**	**1.15**	**149**		**Sg**	**00 12 28.1**	**-0.3**
CELP				IAML		00 12 29.8	
	comp=E,805nm,0.2s						
CELP				IAML		00 12 32.4	
	comp=N,872nm,0.3s						
CELP	**Cerrillos**	**1.15**	**149**	⇑*iP*	**Pg**	**00 12 13.2**	**-0.3**
CELP	**Cerrillos**	**1.15**	**149**	*eS*	**Sg**	**00 12 28.2**	**-0.2**
CELP	**Cerrillos**	**1.15**	**149**	⇑*ePg*	**Pg**	**00 12 13.1**	**-0.4**
CELP				⇑*eSg*	**Sg**	**00 12 29.0**	**+0.6**
CELP				IAML		00 12 32.3	
	comp=N,854nm,0.3s						
OBIP	**Obispado Ponce**	**1.17**	**151**		**Pb**	**00 12 13.4**	**-0.2**
OBIP					**Sg**	**00 12 28.1**	**-0.8**
OBIP				IAML		00 12 29.9	
	comp=N,731nm,0.5s						
OBIP				IAML		00 12 30.6	
	comp=E,794nm,0.4s						
OBIP	**Obispado Ponce**	**1.17**	**151**	⇑*iP*	**Pb**	**00 12 13.6**	**0.0**
OBIP	**Obispado Ponce**	**1.17**	**151**	*eS*	**Sg**	**00 12 28.1**	**-0.8**
PCDR	**Punta Cana, DR**	**1.25**	**244**	⇓*eSg*	**Sb**	**00 12 31.4**	**+0.2**
GCPR	**Guaynabo City**	**1.30**	**125**		**Sn**	**00 12 33.1**	**0.0**
GCPR	**Guaynabo City**	**1.30**	**125**		**Pn**	**00 12 15.2**	**-0.4**
GCPR	**Guaynabo City**	**1.30**	**125**	⇑*eP*	**Pb**	**00 12 15.8**	**0.0**
GCPR	**Guaynabo City**	**1.30**	**125**	*eS*	**Sn**	**00 12 33.1**	**0.0**
SJG	**San Juan**	**1.38**	**134**		**Pn**	**00 12 16.6**	**-0.1**
SJG				IAML		00 12 40.4	
	comp=E,561nm,0.3s						
SJG				IAML		00 12 40.6	
	comp=E,482nm,0.2s						
SJG	**San Juan**	**1.38**	**134**	⇓*iP*	**Pn**	**00 12 16.8**	**+0.2**
SJG	**San Juan**	**1.38**	**134**	*eS*	**Sb**	**00 12 34.7**	**-0.2**
SJG	**San Juan**	**1.38**	**134**	⇑*ePg*	**Pn**	**00 12 16.6**	**-0.1**
IGPR	**InterUniversit**	**1.51**	**137**		**Pg**	**00 12 20.2**	**-0.1**
IGPR					**Sn**	**00 12 38.0**	**-0.2**
IGPR	**InterUniversit**	**1.51**	**137**	⇓*eP*	**Pg**	**00 12 20.2**	**-0.1**
IGPR	**InterUniversit**	**1.51**	**137**	*eS*	**Sn**	**00 12 38.0**	**-0.2**
HIDR	**Higuey Centro**	**1.52**	**252**	⇑*iP*	**Pb**	**00 12 20.0**	**+0.4**
HIDR	**Higuey Centro**	**1.52**	**252**	*eS*	**Sb**	**00 12 39.4**	**+0.5**
HIDR	**Higuey Centro**	**1.52**	**252**	⇑*ePg*	**Pb**	**00 12 20.1**	**+0.4**
HIDR				⇓*eSg*	**Sg**	**00 12 41.6**	**+1.4**
HIDR				IAML		00 12 45.1	
	comp=N,632nm,0.2s						
PDPR	**Patillas Dam,**	**1.53**	**133**		**Pn**	**00 12 18.6**	**-0.1**
PDPR				IAML		00 12 41.7	
	comp=E,501nm,0.2s						
PDPR				IAML		00 12 43.7	
	comp=N,485nm,0.1s						
PDPR	**Patillas Dam,**	**1.53**	**133**	⇑*iP*	**Pn**	**00 12 19.1**	**+0.3**
PDPR	**Patillas Dam,**	**1.53**	**133**	*eS*	**Sb**	**00 12 39.1**	**-0.2**
HUMP	**Col San Antoni**	**1.58**	**126**		**Pn**	**00 12 19.3**	**-0.1**
MIDR	**Miches**	**1.75**	**268**	⇑*iP*	**Pb**	**00 12 23.8**	**+0.2**
MIDR	**Miches**	**1.75**	**268**	*eS*	**Sg**	**00 12 48.7**	**+0.9**
MIDR	**Miches**	**1.75**	**268**	⇑*ePg*	**Pb**	**00 12 23.1**	**-0.6**
MIDR				⇑*eSg*	**Sg**	**00 12 49.1**	**+1.3**
MIDR				IAML		00 12 53.1	
	comp=N,225nm,0.3s						
MIDR				IAML		00 12 53.3	
	comp=N,207nm,0.3s						
SMDR	**Samana, DR**	**1.90**	**277**	⇓*iP*	**Pb**	**00 12 25.5**	**-0.6**
SMDR	**Samana, DR**	**1.90**	**277**	*eS*	**Sg**	**00 12 54.1**	**+1.8**
DR12	**Loma Pena Alta**	**2.09**	**263**		**Pn**	**00 12 26.6**	**+0.1**
HATOM	**Hato Mayor del**	**2.09**	**263**	⇑*ePg*	**Pb**	**00 12 28.9**	**-0.5**
HATOM				IAML		00 13 01.8	
	comp=N,182nm,0.2s						
SDD	**Santo Domingo**	**2.65**	**257**		**Pn**	**00 12 32.3**	**-1.8**
SDD					**Pn**	**00 12 33.0**	**-1.1**
SDD	**Santo Domingo**	**2.65**	**257**	⇑*eP*	**Pb**	**00 12 39.1**	**+0.2**
SC01	**Santiago de lo**	**3.35**	**277**		**Pn**	**00 12 41.2**	**-2.7**
SC01				Pg	**Pb**	**00 12 52.7**	**+1.8**
SDDR	**Presa de Saban**	**3.87**	**269**		**Pn**	**00 12 49.5**	**-1.6**
SDDR					**Pb**	**00 12 59.5**	**-0.3**
SABA	**Saba**	**4.02**	**110**	Pn	**Pn**	**00 12 53.1**	**0.0**
SABA				IAML		00 14 02.9	
	comp=N,70nm,0.7s						
SMRT	**St. Maarten**	**4.04**	**104**	Pn	**Pn**	**00 12 53.4**	**0.0**
SMRT				IAML		00 13 53.0	
	comp=E,98nm,0.3s						
SMRT				IAML		00 13 57.7	
	comp=N,80nm,0.6s						

*IDC **05** 00:12:29.7±2.6, 37.°15N×141.°87E, h0km, mb3.9/5, mbtmp3.9/7, ML3.6/2, MS3.0/2, Error ellipse: s-maj=58.5km s-min=26.3km az=76.0*
*NIED **05** 00:12:40.6, 36.°97N×141.°12E, h60km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.10; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-2.34; $M_{r\theta}$-0.91; $M_{\theta\phi}$-0.11; $M_{\phi r}$-2.44; Fault plane solution: $M_0$3.20000×10^{14} NP1: ϕ_s325.00000°, δ26.00000°, λ34.00000°. NP2: ϕ_s204.00000°, δ76.00000°, λ112.00000°.*

*JMA **05** 00:12:40.6±0.1, 37.°0N±0.°3×141.°1E±0.°6, h60km, MD3.4/40, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 05 00:12:39.5±1.2, 36.°93N±0.°04×141.°25E±0.°07, h56km±8km, n41, σ0°99/37, mb3.7/5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.40**	**295**	P	**Pn**	**00 12 50.6**	**+0.5**
ONAJ				S	**Sn**	**00 12 57.7**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.40**	**295**	A	A	00 12 50.6	
	comp=N,7.0nm,0.3s,comp=E,12nm,0.3s						
JFK	**Kawauchi**	**0.52**	**326**	P	**Pn**	**00 12 51.9**	**+0.4**
JFK				S	**Sn**	**00 13 00.1**	**-0.1**
JFK	**Kawauchi**	**0.52**	**326**	A	A	00 12 51.9	
	comp=N,4.0nm,0.5s,comp=E,3.0nm,0.2s						
JFFD	**Fukushimafurud**	**0.57**	**286**	*iP*	**Pn**	**00 12 52.2**	**+0.3**
JFFD				*eS*	**Sn**	**00 13 00.7**	**-0.3**
JFFD	**Fukushimafurud**	**0.57**	**286**	A	A	00 12 52.2	
	comp=N,6.0nm,0.3s,comp=E,6.0nm,0.4s						
JHO	**Hitachi**	**0.63**	**239**	P	**Pn**	**00 12 53.1**	**+0.4**
JHO				*eS*	**Sn**	**00 13 01.9**	**-0.4**
JHO	**Hitachi**	**0.63**	**239**	A	A	00 12 53.1	
	comp=N,3.0nm,0.2s,comp=E,4.0nm,0.9s						
JMST	**Minamisoumatoc**	**0.84**	**340**	A	A	00 12 55.9	
	comp=N,4.0nm,0.2s,comp=E,4.0nm,0.3s						
JOTO	**OTAMA OYAMA**	**0.96**	**311**	*iP*	**Pn**	**00 12 57.3**	**+0.5**
JOTO				S	**Sn**	**00 13 09.4**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.96**	**311**	A	A	00 12 57.3	
	comp=N,21nm,0.4s,comp=E,42nm,0.3s						
JMM	**Marumori**	**1.00**	**339**	P	**Pn**	**00 12 57.7**	**+0.4**
JMM	**Marumori**	**1.00**	**339**	P	**Pn**	**00 12 57.8**	**+0.4**
JMM				S	**Sn**	**00 13 10.4**	**-0.1**
JMM	**Marumori**	**1.00**	**339**	A	A	00 12 57.8	
	comp=N,4.0nm,0.6s,comp=E,3.0nm,0.3s						
JFY	**Yanaizu**	**1.32**	**291**	⇓P	**Pn**	**00 13 01.6**	**-0.1**
JFY				⇓*eS*	**Sn**	**00 13 17.6**	**-0.6**
JOU	**Okura**	**1.50**	**342**	*eP*	**Pn**	**00 13 04.8**	**+0.6**
JOU				*eS*	**Sn**	**00 13 23.2**	**+0.6**
JIO	**Ouri**	**1.52**	**3**	P	**Pn**	**00 13 05.2**	**+0.9**
JAG	**Ashikaga**	**1.53**	**251**	⇓P	**Pn**	**00 13 04.6**	**+0.1**
JAG				⇓*eS*	**Sn**	**00 13 22.5**	**-0.8**
JYS	**Shiratake**	**1.59**	**324**	⇓P	**Pn**	**00 13 05.9**	**+0.6**
JYS				⇓*eS*	**Sn**	**00 13 25.2**	**+0.4**
JKT	**Katashina**	**1.61**	**265**	*eP*	**Pn**	**00 13 06.0**	**+0.4**
JKT				*eS*	**Sn**	**00 13 24.5**	**-0.9**
MJAR	**Matsushiro Arr**	**2.47**	**262**	Pn	**Pn**	**00 13 18.4**	**+1.0**
	comp=E,3.6nm,0.3s,baz=79,slow=16,SNR=60						
MJAR				Sn	**Sn**	**00 13 48.9**	**+2.6**
	comp=E,2.2nm,0.3s,baz=89,slow=29,SNR=6.4						
MJAR				LR	LR	00 14 49.4	
	comp=E,62nm,18.2s,baz=27,slow=46 comp=E,24nm,0.5s						
MAJO	**Matsushiro**	**2.47**	**262**	P	**Pn**	**00 13 18.6**	**+1.2**
JSD	**Sado**	**2.62**	**296**	P	**Pn**	**00 13 18.7**	**-0.6**
JGF	**Kuroka**	**3.41**	**248**	P	**Pn**	**00 13 32.4**	**+2.1**
JHJ2	**Mitsune**	**3.99**	**198**	P	**Pn**	**00 13 40.9**	**+2.8**
JHJ	**Hachijo jima 2**	**3.99**	**198**	Pn	**Pn**	**00 13 37.0**	**-1.2**
	comp=E,19nm,0.3s,baz=70,slow=15,SNR=5.5						
JHJ				Sn	**Sn**	**00 14 22.3**	**-1.4**
	comp=E,11nm,0.3s,baz=40,slow=18,SNR=1.6 comp=E,30nm,0.3s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**00 18 23.2**	**+0.5**
	comp=E,0.7nm,0.6s,baz=107,slow=8.3,SNR=2.8 comp=E,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy 28.21**	**120**		T	T	00 48 24.0	
	baz=313,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy 28.22**	**120**		T	T	00 48 24.0	
	baz=313,slow=75,SNR=61						
H11N3	**WAKE ISLAND Hy 28.23**	**120**		T	T	00 48 24.0	
	baz=313,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy 28.92**	**122**		T	T	00 49 20.1	
	baz=314,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy 28.92**	**123**		T	T	00 49 20.1	
	baz=314,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy 28.93**	**123**		T	T	00 49 20.1	
	baz=314,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**00 20 23.1**	**-0.9**
	comp=E,0.7nm,0.4s,baz=99,slow=8.2,SNR=4.0 comp=E,0.7nm,0.4s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**00 20 41.2**	**-0.5**
	comp=E,0.4nm,0.6s,baz=81,slow=8.5,SNR=5.6 comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**00 20 56.0**	**-0.7**
	comp=E,2.4nm,0.2s,baz=85,slow=7.8,SNR=2

YATNC	**Mamie plateau,**	14.75 251	P	P	00 41 58.6	+1.0
OUENC	**Ouen Island, N**	14.88 250	P	P	00 41 59.8	+1.0
DZM	**Mont Dzumac**	15.16 252	P	P	00 42 01.4	-0.1
DZM			IAmb	IAmb	00 42 03.7	
	comp=Z,18nm,1.0s					
DZM	**Mont Dzumac**	15.16 252	P	P	00 42 01.1	-0.4
	comp=Z,8.9nm,0.5s,baz=102,slow=20,SNR=15					
DZM	**Mont Dzumac**	15.16 252	P	P	00 42 01.7	+0.2
ONTNC	**Ouen Toro**	15.20 251	P	P	00 42 02.1	+0.4
ONTNC	**Ouen Toro**	15.20 251	P	P	00 42 02.2	+0.4
OUZ	**Omahuta**	18.77 202	P	P	00 42 33.3	-1.0
KUZ	**Kuaotunu**	19.55 195	P	P	00 42 39.5	-1.8
URZ	**Urewera**	20.71 191	P	P	00 42 47.1	-4.7
	comp=Z,14nm,0.3s,baz=260,slow=3.2,SNR=28					
URZ	**Urewera**	20.71 191	P	P	00 42 51.0	-0.8
SAVO	**Savo Central**	23.21 289	P	P	00 43 15.1	+0.7
TATA	**Tatamba Isabel**	23.54 291	P	P	00 43 19.3	+2.0
QRZ	**Quartz Range**	24.23 198	P	P	00 43 21.7	-1.5
QRZ	**Quartz Range**	24.23 198	P	P	00 43 22.0	-1.1
THZ	**Tophouse**	25.00 196	P	P	00 43 27.7	-2.2
KHZ	**Kahutara**	25.45 195	P	P	00 43 33.2	-0.6
JCZ	**Jackson Bay**	28.34 200	P	P	00 43 58.3	-0.9
ODZ	**Otahua Downs**	28.66 197	P	P	00 44 00.9	-0.9
EIDS	**Eidsvold**	29.59 250		P	00 44 09.6	-0.6
EIDS			IAmb	IAmb	00 44 10.7	
	comp=Z,14nm,0.7s					
ARMA	**Armidale**	30.24 240	P	P	00 44 16.6	+0.8
ARMA			IAmb	IAmb	00 44 16.9	
	comp=Z,12nm,0.7s					
CTAO	**Charters Tower**	33.79 261	P	P	00 44 46.0	0.0
CTAO			IAmb	IAmb	00 44 46.8	
	comp=Z,16nm,0.7s					
CTAO	**Charters Tower**	33.79 261	P	P	00 44 47.0	+1.0
CAN	**Canberra**	33.98 233	P	P	00 44 47.4	0.0
PMG	**Port Moresby**	34.81 279		P	00 44 55.5	+1.0
COEN	**Coen**	37.46 270		P	00 45 17.2	+0.9
COEN	**Coen**	37.46 270	P	P	00 45 17.6	+1.4
TAOE	**Nuku Hiva Isla**	37.88 81	P	P	00 45 22.9	+3.1
STKA	**Stephens Creek**	38.94 241		P	00 45 28.6	+0.7
STKA	**Stephens Creek**	38.94 241	P	P	00 45 28.1	+0.1
	comp=Z,12nm,0.5s,baz=92,slow=10,SNR=23					
	comp=Z,12nm,0.5s					
QIS	**Mount Isa**	40.00 259	P	P	00 45 36.4	-0.3
BBOO	**Buckleboo**	43.71 241	P	P	00 46 05.7	+0.1
BBOO			IAmb	IAmb	00 46 11.2	
	comp=Z,63nm,1.5s					
WR8	**Warramunga Arr**	44.83 259		P	00 46 13.9	-0.5
WB0	**Warramunga Arr**	44.94 260		P	00 46 14.7	-0.6
WB0			IAmb	IAmb	00 46 15.6	
	comp=Z,23nm,0.6s					
WRAB	**Tennant Creek**	44.97 260	P	P	00 46 15.9	+0.5
WRA	**Warramunga Arr**	44.98 259	P	P	00 46 14.8	-0.7
	comp=Z,17nm,0.7s,baz=95,slow=7.2,SNR=198					
WRA			PcP	PcP	00 47 44.2	+0.4
	comp=Z,1.5nm,0.3s,baz=95,slow=3.2,SNR=5.6					
WRA			S	S	00 52 09.7	-2.4
	comp=Z,0.1nm,0.3s,baz=128,slow=46,SNR=2.7					
	comp=Z,17nm,0.7s					
AS31	**Alice Springs**	45.13 254		P	00 46 16.7	0.0
AS31			IAmb	IAmb	00 46 17.7	
	comp=Z,17nm,0.5s					
ASAR	**Alice Springs**	45.13 254		P	00 46 16.8	+0.2
ASAR	**Alice Springs**	45.13 254	P	P	00 46 16.6	-0.1
	comp=Z,51nm,0.6s,baz=86,slow=8.9,SNR=556					
ASAR			PcP	PcP	00 47 44.5	+0.1
	comp=Z,3.3nm,0.4s,baz=98,slow=3.6,SNR=8.8					
ASAR			S	S	00 52 11.7	-2.5
	comp=Z,3.0nm,0.9s,baz=86,slow=16,SNR=13					
FORT	**Forrest**	50.32 245	P	P	00 46 54.7	-0.5
FORT			IAmb	IAmb	00 46 55.3	
	comp=Z,10nm,0.7s					
KNRA	**Kununurra**	50.84 264		P	00 46 58.9	-0.2
KNRA			IAmb	IAmb	00 46 59.7	
	comp=Z,21nm,0.8s					
FITZ	**Fitzroy Crossi**	53.37 260	P	P	00 47 17.6	+0.4
SOEI	**Soe**	56.42 270	P	P	00 47 38.9	+0.2
SOEI			IAmb	IAmb	00 47 41.1	
	comp=Z,48nm,0.8s					
TNTI	**Ternate**	56.81 283	P	P	00 47 40.4	-0.7
TNTI			IAmb	IAmb	00 47 42.6	
	comp=Z,38nm,0.6s					
PSA00	**Pilbara Seismi**	58.25 255	P	P	00 47 50.0	-0.8
PSA00	**Pilbara Seismi**	58.25 255	P	P	00 47 49.7	-1.2
PSA00			IAmb	IAmb	00 47 51.4	
	comp=Z,8.5nm,0.9s					
MBWA	**Marble Bar**	58.41 256	P	P	00 47 51.6	-0.4
VNDA	**Vanda**	60.47 185	P	P	00 48 04.2	-0.4
VNDA	**Vanda**	60.47 185	P	P	00 48 05.5	+0.9
	comp=Z,0.6nm,0.5s,baz=0.4,slow=5.4,SNR=13					
	comp=Z,0.6nm,0.5s					
MORW	**Morawa**	60.80 246	P	P	00 48 06.5	-1.1
MORW			IAmb	IAmb	00 48 07.6	
	comp=Z,19nm,1.0s					
TOLI2	**Tolitoli**	63.06 281	P	P	00 48 22.6	+0.1
TOLI2			IAmb	IAmb	00 48 23.5	
	comp=Z,10nm,0.8s					
GIRL	**Giralia**	63.23 253	P	P	00 48 23.9	+0.4
JAGI	**Jajag, Banyuwa**	66.39 268	P	P	00 48 42.6	-0.9
JAGI			IAmb	IAmb	00 48 43.1	
	comp=Z,28nm,0.7s					
MJAR	**Matsushiro Arr**	68.12 323	P	P	00 48 52.6	-1.0
	comp=Z,4.3nm,0.6s,baz=149,slow=5.3,SNR=4.6					
	comp=Z,4.3nm,0.6s					
KKM	**Kota Kinabalu**	69.08 284	P	P	00 48 59.6	-0.4
KKM			IAmb	IAmb	00 49 01.2	
	comp=Z,13nm,0.8s					
ADK	**Adak**	69.51 1	P	P	00 49 01.1	-0.3
UGM	**Wanagama**	70.00 268	P	P	00 49 05.4	+0.1
QSPA	**South Pole Qui**	72.14 180	P	P	00 49 19.4	+2.4
	comp=Z,2.6nm,0.6s,baz=316,slow=0.4,SNR=21					
	comp=Z,2.6nm,0.6s					
SSLB	**Suanglung**	72.53 303	P	P	00 49 19.4	-0.5
SSLB			IAmb	IAmb	00 49 20.5	
	comp=Z,17nm,1.0s					
TPUB	**Ta-pu**	72.56 302		P	00 49 19.5	-0.5
TPUB			IAmb	IAmb	00 49 20.5	
	comp=Z,32nm,0.8s					
KSM	**Kuching**	73.03 277		P	00 49 23.9	+1.0
KSM			IAmb	IAmb	00 49 24.9	
	comp=Z,32nm,0.7s					
PETK	**Petropavlovsk-**	73.78 345	P	P	00 49 26.1	-0.2
	comp=Z,4.2nm,0.7s,baz=119,slow=8.6,SNR=4.9					
	comp=Z,4.2nm,0.7s					
KSRS	**Korea Array**	74.94 318	P	P	00 49 33.8	+0.7
	comp=Z,1.7nm,0.7s,baz=129,slow=5.8,SNR=3.3					
	comp=Z,1.7nm,0.7s					
NVAR	**Mina Array Bea**	79.19 44	P	P	00 49 57.3	+0.9
	comp=Z,0.7nm,0.6s,baz=230,slow=9.5,SNR=6.5					
	comp=Z,0.7nm,0.6s					
BNX	**BinXian**	80.30 325	⇓P	P	00 50 02.0	+0.2
BNX			pmax	pmax		
	comp=Z,11nm,0.9s					
J08A	**Circle Bar Ran**	81.80 39	P	P	00 50 09.8	+0.1
SEY	**Seymchan**	83.86 347	P	P	00 50 18.4	-1.0
	comp=Z,5.1nm,0.7s,baz=132,slow=6.2,SNR=9.9					
	comp=Z,5.1nm,0.7s					
LYN	**LuoYang**	84.11 309	P	P	00 50 23.0	+1.7
LYN			pmax	pmax		
	comp=Z,20nm,0.7s					
RND	**Reindeer**	84.20 13	P	P	00 50 21.0	-0.2
TXAR	**Lajitas Array**	85.70 57	P	P	00 50 30.6	+1.4
	comp=Z,1.4nm,0.9s,baz=218,slow=6.1,SNR=13					
	comp=Z,1.4nm,0.9s					
ILAR	**Eielson Array**	85.81 13	P	P	00 50 28.1	-0.8
	comp=Z,1.2nm,0.7s,baz=222,slow=5.3,SNR=11					
	comp=Z,1.2nm,0.7s					
XAN	**Xi'an**	86.54 307	⇑P	P	00 50 34.8	+1.7
XAN			pmax	pmax		
	comp=Z,16nm,0.9s					
PDAR	**Pinedale Array**	87.11 43	P	P	00 50 34.8	-1.0
	comp=Z,0.6nm,0.7s,baz=318,slow=4.0,SNR=5.3					
	comp=Z,0.6nm,0.7s					
HHC	**Hu-ho-hao-te**	87.53 314	*e*P	P	00 50 37.4	-0.2
HHC			pmax	pmax		
	comp=Z,10.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,100nm,4.4s					
MMPY	**Sheldon Lake,**	88.26 20	P	P	00 50 41.2	+0.8
CMAR	**Chiang Mai Arr**	89.22 290		P	00 50 47.0	+1.2
CMAR	**Chiang Mai Arr**	89.22 290	P	P	00 50 47.8	+2.0
	comp=Z,2.9nm,0.7s,baz=108,slow=2.7,SNR=22					
	comp=Z,2.9nm,0.7s					
CHTO	**Chiang Mai**	89.33 290	P	P	00 50 47.7	+1.4
CHTO			IAmb	IAmb	00 50 48.6	
	comp=Z,6.1nm,0.8s					
PZH	**PanZhiHua**	89.47 298	P	P	00 50 49.2	+2.2
LZH	**Lanzhou**	91.17 308	*e*P	P	00 50 51.7	-3.0
LZH			sP	sP	00 53 59.8	-1.6
LZH			pmax	pmax		
	comp=Z,23nm,0.9s					
INK	**Inuvik**	91.80 15	P	P	00 50 55.4	-1.1
	comp=Z,3.2nm,0.9s,baz=281,slow=3.5,SNR=3.1					
	comp=Z,3.2nm,0.9s					
SONM	**Songino Array**	93.79 319	P	P	00 51 06.9	+0.6
	comp=Z,0.4nm,0.6s,baz=26,slow=44,SNR=2.1					
	comp=Z,0.4nm,0.6s					
MKAR	**Makanchi Array**	109.39 314	PKiKP	PKiKP	00 56 14.9	-0.6
	comp=Z,0.5nm,0.4s,baz=172,slow=1.1,SNR=6.3					
KURBB	**Kurchatov Arra**	112.12 318	PKiKP	PKiKP	00 56 19.6	-0.8
	comp=Z,0.8nm,0.8s,baz=56,slow=1.7,SNR=9.2					
BVAR	**Borovoye Array**	117.07 321	PKP	PKPdf	00 56 29.4	-0.5
	comp=Z,1.4nm,0.5s,baz=124,slow=2.1,SNR=8.3					
ARCES	**ARCESS Array B**	126.38 350	PKP	PKPdf	00 56 47.0	-0.3
	comp=Z,0.8nm,0.4s,baz=46,slow=2.7,SNR=12					
BOSA	**Boshof**	128.55 206	PKP	PKiKP	00 56 53.9	+0.3
	comp=Z,2.8nm,0.9s,baz=229,slow=1.5,SNR=3.0					
FINES	**FINESS Array B**	133.29 344	PKP	PKPdf	00 57 00.5	-0.1
	comp=Z,2.3nm,0.9s,baz=46,slow=4.0,SNR=5.3					
NOA	**NORSAR Array B**	136.42 353	PKP	PKPdf	00 57 07.1	+0.6
	comp=Z,0.3nm,0.8s,baz=38,slow=2.7,SNR=1.3					
HFS	**Hagfors**	136.99 351	PKhKP	PKPpre	00 57 01.4	
	comp=Z,9.1nm,1.3s,baz=20,slow=4.6,SNR=2.0					
AKASG	**Malin Array Be**	140.73 333	PKP	PKPdf	00 57 15.4	+0.8
	comp=Z,0.8nm,0.4s,baz=44,slow=3.6,SNR=4.9					
EKA	**Eskdalemuir Ar**	142.44 5	PKhKP	PKPpre	00 57 14.6	
	comp=Z,0.3nm,0.4s,baz=29,slow=1.8,SNR=1.5					
SORM	**Soroca**	142.97 330	⇓P	PKPdf	00 57 16.8	-1.8
MILM	**Milestii Mici**	143.60 329	⇑P	PKPab	00 57 17.8	-0.9
GAZ	**Gaziantep**	143.61 309	PKPbc	PKPdf	00 57 20.1	-0.2
BNN	**Bunyan**	143.92 312		PKPdf	00 57 20.9	0.0
VASR	**Vaslui**	144.30 329	⇑P	PKPab	00 57 21.9	+0.4
ILGA	**Ilgaz**	144.32 317		PKPab	00 57 22.8	+0.7
VLDR	**Vladesti**	144.71 328	⇑P	PKPab	00 57 23.3	+0.3
BUR08	**Bucovina Ar. S**	144.77 332		PKPab	00 57 23.6	+0.2
BURAR	**Bucovina Array**	144.78 332		PKPab	00 57 23.3	-0.1
BURAR	**Bucovina Array**	144.78 332	⇑P	PKPab	00 57 23.4	-0.1
GHRR	**Gerze Array**	144.89 329	⇓P	PKPab	00 57 24.2	+0.4
TESR	**Tescani**	144.94 330	⇑P	PKPab	00 57 23.5	-0.4
KOLS	**Kolonicke sedl**	144.95 337	*e*PKP	PKPab	00 57 23.7	-0.2
BR131	**Keskin Array S**	145.04 315		PKPbc	00 57 23.7	+0.1
BRTR	**Keskin Array B**	145.04 315	PKPbc	PKPbc	00 57 23.9	+0.3
BRTR	**Keskin Array B**	145.04 315	PKP	PKPbc	00 57 23.8	+0.1
	comp=Z,0.9nm,1.0s,baz=100,slow=2.1,SNR=3.9					
KIRS	**Kirsehir-Merke**	145.13 314	⇑P	PKPbc	00 57 24.4	+0.5
ONER	**Baraj Valea Uz**	145.19 330	⇓P	PKPab	00 57 24.7	-0.2
TPGR	**Topolog**	145.20 326	⇑P	PKPab	00 57 24.7	-0.3
KSP	**Ksiaz**	145.21 344	*e*PKP	PKPbc	00 57 24.2	+0.6
NIE	**Niedzica**	145.26 339	*e*PKP	PKPab	00 57 24.7	-0.4
ODBI	**Odobesti**	145.28 329	⇑P	PKPab	00 57 25.5	+0.2
VRI	**Vrincioaia**	145.37 329	⇓P	PKPab	00 57 25.0	-0.6
OSTC	**Ostas**	145.50 344	*e*PKP	PKPab	00 57 25.7	-0.3
ANTO	**Ankara**	145.53 316		PKPbc	00 57 25.4	+0.4
CLL	**Collm**	145.55 348		PKPbc	00 57 24.7	+0.2
CLL	**Collm**	145.55 348	*i* PKPbc	PKPbc	00 57 24.8	+0.3
	comp=Z,16nm,0.9s					
TURR	**Turia**	145.58 330	⇑P	PKPab	00 57 25.9	-0.6
STEB	**Steborice**	145.62 342	*e*PKP	PKPbc	00 57 25.4	+0.6
DPC	**Dobruska-Polom**	145.66 344	*e*PKP	PKPbc	00 57 25.8	+0.8
OZUR		145.66 330	⇑P	PKiKP	00 57 28.4	+0.6
BRG	**Berggiesshubel**	145.76 346	*e*PKP	PKPbc	00 57 25.8	+0.6
BRG			Amp		00 57 26.5	
	comp=Z,6.4nm,0.8s					
LANS	**Liptovska Anna**	145.77 339	*e*PKP	PKPab	00 57 26.6	-0.6
KRLC	**Kraliky**	145.78 343	*e*PKP	PKPbc	00 57 25.8	+0.5
MORC	**Moravsky Berou**	145.83 342	⇓P	PKPbc	00 57 25.9	+0.5
MORC	**Moravsky Berou**	145.83 342	*e*PKP	PKPbc	00 57 25.1	-0.4
PVCC	**Panska Ves**	145.93 346	*e*PKP	PKPbc	00 57 26.2	+0.5
MLR	**Muntele Rosu**	146.02 329		PKPbc	00 57 26.3	0.0
MLR	**Muntele Rosu**	146.02 329	⇑P	PKPab	00 57 27.5	-0.9
HSKC	**Hora Svate Kat**	146.12 347	*e*PKP	PKPbc	00 57 26.7	+0.5
CJR	**Cluj-Napoca**	146.18 333	⇑P	PKPbc	00 57 27.5	+0.9
MARR	**Marisel-Cluj**	146.42 333	⇑P	PKPbc	00 57 27.8	+0.5
MMAI	**Mount Meron Ar**	146.44 303	PKPbc	PKPbc	00 57 28.4	+0.7
	comp=Z,7.6nm,0.5s,baz=72,slow=5.4,SNR=64					
PRU	**Pruhonice**	146.44 345	*e*PKP	PKPbc	00 57 27.5	+0.4
VOIR		146.49 330	⇑P	PKiKP	00 57 29.8	+0.3
DRGR		146.50 334	⇑P	PKPbc	00 57 27.9	+0.4
VRAC	**Vranov**	146.52 343	⇑P	PKPbc	00 57 28.1	+0.8
VRAC	**Vranov**	146.52 343	*e*PKP	PKPbc	00 57 27.7	+0.3
ARR	**Arges**	146.74 330	⇑P	PKiKP	00 57 29.3	-0.8
KRUC	**Moravsky**	146.80 343	*e*PKP	PKPbc	00 57 28.3	+0.2
MODS	**Mostra-Piesok**	147.16 341	*e*PKP	PKiKP	00 57 30.3	-0.5
SIRR	**Siria**	147.36 334	⇑P	PKiKP	00 57 32.5	+1.2
KHC	**Kasperske Hory**	147.47 346	*e*PKP	PKPbc	00 57 30.0	+0.1
GZR	**Gura Zlata**	147.57 332	⇑P	PKiKP	00 57 31.9	+0.2
SURR	**Surduc**	147.57 333	⇑P	PKPbc	00 57 30.6	+0.4
CKRC	**Cesky Krumlov**	147.58 345	*e*PKP	PKPbc	00 57 30.7	+0.5
GERES	**GERESS Array B**	147.71 345	PKPbc	PKPbc	00 57 31.0	+0.4
	comp=Z,4.4nm,0.7s,baz=359,slow=3.2,SNR=15					
ELND	**Elena**	147.86 326	⇓P	PKPab	00 57 35.7	0.0
BZS	**Buzias**	147.90 334	⇑P	PKPbc	00 57 31.2	+0.2
CONA	**Conrad Observa**	147.98 342	*e*PKiKP	PKiKP	00 57 32.1	-0.4
	comp=Z,4.3nm,0.6s					
RONA	**Rosalia, Austr**	148.06 342	*i* PKiKP	PKiKP	00 57 32.3	-0.4
	comp=Z,4.6nm,0.6s					
HERR	**Herculane**	148.13 332	⇑P	PKPbc	00 57 32.0	+0.4
MOA	**Molln**	148.49 344	*i* PKiKP	PKPbc	00 57 32.9	+0.4
	comp=Z,5.3nm,1.3s					
MORH	**Mrgy, Hungar**	148.57 338	⇓P	PKiKP	00 57 34.6	+0.9
ARSA	**Arzberg**	148.69 342	*i* PKP	PKPbc	00 57 32.6	-0.4
	comp=Z,7.9nm,1.7s					
BIOA	**Bad Ischl, Aus**	148.80 345	*i* PKiKP	PKPbc	00 57 33.3	0.0
	comp=Z,5.3nm,0.9s					
LESA	**Schwarzleotal**	149.28 346	*i* PKiKP	PKPbc	00 57 34.6	+0.1
	comp=Z,3.5nm,0.7s					
SOKA	**Soboth**	149.35 342	*i* PKiKP	PKPbc	00 57 34.6	-0.1
	comp=Z,3.4nm,0.8s					
KBA	**Koelnbreinsper**	149.44 345	*i* PKP	PKPbc	00 57 33.5	-1.5
	comp=Z,4.3nm,0.6s					
WATA	**Walderalm**	149.61 347	*i* PKiKP	PKPbc	00 57 35.3	0.0
	comp=Z,3.7nm,0.5s					
RETA	**Reutte**	149.63 348	*i* PKiKP	PKPbc	00 57 35.5	+0.2
	comp=Z,2.7nm,0.6s					
EZN	**Ezine**	149.65 321	⇓P	PKPbc	00 57 33.3	-2.1
WTTA	**Wattenberg**	149.67 347	*i* PKiKP	PKiKP	00 57 35.9	-0.3
	comp=Z,10nm,0.6s,SNR=7.5					
DOBS	**Dobrina**	149.70 341	*e*PKPbc	PKPbc	00 57 35.2	-0.2
MOTA	**Moosalm**	149.70 348	*e*PKiKP	PKPbc	00 57 35.7	+0.1
	comp=Z,6.3nm,0.8s,SNR=4.4					
MYKA	**Terra Mystica**	149.78 344	*i* PKP	PKPbc	00 57 35.2	-0.5
	comp=Z,5.3nm,0.6s					
SQTA	**Sankt Quirin**	149.80 347	*e*PKiKP	PKPbc	00 57 36.1	+0.3
	comp=Z,6.1nm,0.7s,SNR=4.9					
ABTA	**Abfaltersbach**	149.96 345	*i* PKiKP	PKPbc	00 57 35.8	-0.3
	comp=Z,8.8nm,0.6s					
DAVA	**Damuels**	149.99 349	*i* PKiKP	PKPbc	00 57 36.5	+0.3
	comp=Z,9.6nm,1.1s					
FETA	**Feichten**	150.09 348	*i* PKiKP	PKiKP	00 57 37.0	-0.1
	comp=Z,4.7nm,0.8s					
CRNS	**Crni Vrh**	150.12 343	*i* PKPbc	PKPbc	00 57 36.0	-0.4
GBAS	**Gorenja Brezov**	150.20 342	*i* PKPbc	PKPbc	00 57 36.3	-0.3
FUORN	**Ofenpass-Fuorn**	150.56 348		PKiKP	00 57 38.2	+0.1
ESDC	**Sonseca Array**	157.72 12	PKPab	PKPab	00 58 16.5	-1.2
	comp=Z,0.3nm,0.6s,baz=104,slow=6.3,SNR=3.1					

PRU 05 00:56:42.2, 50.33N×19.01E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	**Steborice**	0.89	244	*e*SG	Sg	00 57 03.6	-0.1
LANS	**Liptovska Anna**	1.22	166	*e*PG	Pg	00 57 03.3	-2.2
LANS				*e*SG	Sg	00 57 17.4	-3.9
MAUC	**Maruska**	1.23	219	*e*PG	Pg	00 57 04.1	-1.7
KRLC	**Kraliky**	1.45	261	*e*SG	Sg	00 57 28.3	-0.6
DPC	**Dobruska-Polom**	1.72	272	*e*SG	Sb	00 57 36.6	-0.3

IDC 05 01:51:07.4±8.9, 20.37S×174.86W, h302km±89km, mb3.4/3, mbtmp4.2/5, Error ellipse: s-maj=51.4km s-min=36.7km az=19.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	17.52	261	P	P	01 54 52.3	+0.4
	7.2nm,0.7s,baz=79,slow=16,SNR=3.7						
URZ	**Urewera**	19.14	200	P	P	01 55 08.8	-0.1
	8.3nm,0.5s,baz=33,slow=13,SNR=7.4						
ASAR	**Alice Springs**	47.42	256	P	P	01 59 12.8	+0.3
	2.6nm,0.5s,baz=93,slow=8.3,SNR=28						
	2.6nm,0.5s						
WRA	**Warramunga Arr**	47.54	261	P	P	01 59 12.8	-0.6
	1.9nm,0.6s,baz=97,slow=8.6,SNR=26						
	1.9nm,0.6s						
ILAR	**Eielson Array**	87.57	12	P	P	02 03 21.0	0.0
	0.3nm,0.8s,baz=207,slow=5.0,SNR=1.9						
	0.3nm,0.8s						

*IDC **05** 02:08:06.3±1.0, 23.84N×125.24E, h0km, mb3.7/8, mbtmp3.8/9, ML3.7/1, MS3.3/1, Error ellipse: s-maj=26.4km s-min=18.8km az=81.0*
*JMA **05** 02:08:06.5±0.2, 23.N±1.×125.4E±0.7, h94km, MV3.4/18, NEAR ISHIGAKIJIMA ISLAND*
ISC 05 02:08:05.8±3.1, 23.3N±0.1×125.47E±0.06, h25km±17km, n24, σ0.94/28, mb3.6/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	1.40	355	P	Pb	02 08 31.4	+0.1
JMJ2				*e*S	Sb	02 08 50.4	+1.6
JOGS	**Gusukube**	1.42	358	P	Pb	02 08 31.7	+0.1
JTJ	**Tarama**	1.47	332	P	Pb	02 08 32.0	-0.6
JTJ				*e*S	Sb	02 08 51.1	+0.2
JIRB	**Irabujima**	1.51	350	P	Pb	02 08 32.9	-0.3
JIJ	**Ishigaki jima**	1.58	310	P	Pn	02 08 32.7	+0.4
JIJ				*e*S	Sn	02 08 51.4	-0.6
JKRS	**Kuro-shima**	1.61	304	*e*P	Pn	02 08 33.0	+0.4
JKRS				*e*S	Sn	02 08 53.0	+0.4
JISG	**Ishigakijimahi**	1.63	320	*e*S	Sb	02 08 54.4	-1.0
HATJ	**Hateruma jima**	1.68	295	*e*P	Pn	02 08 33.9	+0.2
IRIF	**Iriomote-Funau**	1.87	302	P	Pn	02 08 36.5	+0.2
IRIF				*e*S	Sn	02 08 58.7	-0.5
YOJ	**Yonaguni jima**	2.51	297	*e*P	Pn	02 08 45.2	+0.1
YOJ				*e*S	Sn	02 09 13.8	-1.1
JYNG	**Yonagunijimaku**	2.56	296	*e*P	Pn	02 08 45.8	+0.1
JKE	**Kume jima 2**	3.21	22	*e*P	Pn	02 08 55.6	+1.0
JAGN	**Aguni-jima**	3.62	26	*e*P	Pn	02 09 01.8	+1.5
JNTH	**Nagotoyohara**	3.93	36	*e*P	Pn	02 09 04.8	+0.3
JOW	**Kunigami**	4.31	36	Pn	Pn	02 09 08.8	-1.1
	11nm,0.3s,baz=204,slow=13,SNR=12						
JOW				Sn	Sn	02 09 57.9	-1.5
	6.0nm,0.3s,baz=278,slow=30,SNR=6.5						
	33nm,0.3s						
USRK	**Ussuriysk Ar.**	21.49	13	P	P	02 12 50.4	-2.2
	1.5nm,0.6s,baz=172,slow=11,SNR=2.2						
	1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	25.23	264	P	P	02 13 30.9	+0.9
	0.8nm,0.3s,baz=58,slow=7.3,SNR=6.5						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	41.69	315	P	P	02 15 53.4	+0.9
	0.8nm,0.6s,baz=105,slow=8.6,SNR=5.1						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	43.12	326	P	P	02 16 04.9	+1.0
	1.1nm,0.5s,baz=110,slow=8.5,SNR=3.8						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	43.88	168	P	P	02 16 18.4	+8.0
	1.1nm,0.6s,baz=348,slow=8.9,SNR=8.8						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	45.30	319	P	P	02 16 21.6	+0.1
	0.6nm,0.7s,baz=111,slow=7.8,SNR=2.5						
	0.6nm,0.7s						
AAK	**Ala-Archa**	46.14	307	LR	LR	02 35 20.7	
	comp=Z,36nm,19.6s,baz=324,slow=36						
ASAR	**Alice Springs**	47.44	169	P	P	02 16 47.9	+9.3
	0.3nm,0.5s,baz=356,slow=13,SNR=6.8						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	50.82	320	P	P	02 17 05.1	+1.0
	0.3nm,0.4s,baz=89,slow=6.1,SNR=1.9						
	0.3nm,0.4s						

*IGQ **05** 03:00:14.7±0.2, 2.S±2.×7.8W±., h12km±1km, MLv3.5/19*
*RSNC **05** 03:00:18.6±0.3, 2.S±3.×7

ARNL				Pn	Pb	03 01 07.4	-1.5
CRUC	La Cruz	3.16	14	P	Pb	03 01 08.9	-1.3
BBAC	Balboa, Cauca	3.55	8	P	Pb	03 01 16.3	-0.5
MCRA	Macar, Loja	3.61	218	P	Pn	03 01 08.9	+0.3
ZUMB	Zumba	3.61	203	P	Pn	03 01 09.8	+1.0
ZUMB				Pn	Pb	03 01 10.3	-7.5
FLOC	Florencia	3.71	34	P	Pn	03 01 09.6	-0.3
FLOC	Florencia	3.71	34	P	Pn	03 01 09.5	-0.5
POPC	Popayan, Colom	4.17	14	P	Pb	03 01 26.2	-1.1
BETC	Betania	4.75	29	P	Pb	03 01 44.0	+6.8
YOTC	Yotoco, Valle 4.0nm,0.8s	5.64	14	P	Pn	03 01 38.4	+1.9
URMC	La Uribe, Meta 703nm23nm,0.7s	5.79	35	P	Pn	03 01 45.3	+6.6
PRAC	Prado 7.0nm,0.5s	5.92	29	P	Pb	03 01 49.2	-7.9
ORTC	Ortega, Tolima 13nm,0.8s	5.93	25	P	Pb	03 01 56.9	-0.4
GUY2C	Guyana, Caldas 3.0nm,1.5s	7.10	19	P	Pb	03 02 13.7	-3.7

DJA 05 03:24:31.6±0.6, 0°N±4°×12°1E±°, h29km±8km, M4.1/6, mb4.2/1, MLv4.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.64	91	P	Pb	03 24 44.5	+0.2
MRSI				S	Sn	03 24 55.1	+1.2
APSI	Ampana	1.43	166	P	Pn	03 24 56.1	+0.4
LUWI	Luwuk	2.12	136	P	Pn	03 25 05.4	+0.3
LUWI				S	Sn	03 25 31.8	+1.4
KMSI	Cibinong	2.68	88	P	Pn	03 25 12.4	-0.4
SGKI	Sangatta, Kali	3.83	255	P	Pn	03 25 26.6	-2.1

NEIC 05 03:25:49.3±0.8, 38°69N±0°02×97°63W±0°06, h5km±2km, mb_Lg2.3/7, Error ellipse: s-maj=7.5km s-min=3.0km az=254.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	Long Quarter,	0.89	253		Pg	03 26 05.8	-0.6
KAN08	Anthony NE Sta	1.49	191	Pg	Pn	03 26 16.4	-0.3
KAN01	Argonia South	1.54	184		Pn	03 26 16.8	-0.7
CBKS	Cedar Bluff	1.65	275	Pn	Pn	03 26 18.3	-0.8
KAN14	Manchester OK	1.75	189	Pn	Pn	03 26 20.4	0.0
GC02	Grant County #	1.84	186	Pn	Pn	03 26 20.9	-0.7
T35A	Sooner Cattle	1.98	153	Pn	Pn	03 26 22.4	-1.1
T35A	comp=Z,7.6nm,0.7s			IAmb_Lg		03 26 56.8	
NOKA	Waynoka	2.30	207	Pn	Pn	03 26 27.6	-0.3
N35A	Tabor	2.65	35	Pn	Pn	03 26 32.1	-0.7
N35A	comp=Z,18nm,0.8s			IAmb_Lg		03 27 20.5	
TUL3	Leonard	3.14	152	Pn	Pn	03 26 38.0	-1.5
RLO	Rose Lookout comp=Z,10nm,1.1s	3.27	140	IAmb_Lg		03 27 32.1	
P38A	Dawn comp=Z,6.2nm,0.8s	3.32	72	IAmb_Lg		03 27 37.7	
T25A	Trinidad comp=Z,5.6nm,0.9s	5.58	256	IAmb_Lg		03 28 54.4	

*LDG **05** 03:31:23.0±0.1, 43°08N×0°27W, h8km, Md1.8/2, Ml1.8/3, Error ellipse: s-maj=1.4km s-min=0.8km az=167.0*

STR 05 03:31:23.6±0.6, 43°N±3°×±°, h1km, MLv1.6/10, LOCSAT earthModelID pyrenees_taup-2.11 preliminary, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.09	288	Pg	Pg	03 31 25.5	0.0
REYF				Sg	Sg	03 31 27.3	+0.6
PYLO	Lourdes	0.17	71	Pg	Pg	03 31 27.3	+0.3
PYLO				Sg	Sg	03 31 29.7	+0.4
LABF	Labassere	0.25	88	Pg	Pg	03 31 28.2	-0.3
LABF				Sg	Sg	03 31 32.3	+0.5
ETSF	Etsaut	0.25	236	ePg	Pg	03 31 28.6	+0.1
ETSF				eSg	Sg	03 31 32.3	+0.5
VIEF	Viey	0.27	126	Pg	Pg	03 31 29.0	+0.2
VIEF				Sg	Sg	03 31 33.0	+0.8
ATE	Arette	0.32	278	Pg	Pg	03 31 29.2	-0.5
ATE				Sg	Sg	03 31 34.5	+0.6
CANF	Canfranc	0.33	213	Pg	Pg	03 31 30.0	0.0
CANF				Sg	Sg	03 31 35.2	+0.9
EPF	Esparros	0.45	91	ePg	Pg	03 31 31.8	-0.4
EPF				eSg	Sg	03 31 38.1	+0.1
ORDF	Ordiarp	0.52	290	Pg	Pg	03 31 34.0	+0.5
IRAF	Chalets d'Irat	0.56	269	Pg	Pg	03 31 34.4	0.0
IRAF				Sg	Sg	03 31 42.5	+0.8
SJPF	Ste Jean	0.70	276	ePg	Pg	03 31 36.2	-0.9
SJPF				eSg	Sg	03 31 45.6	-0.6
OSSF	Osses	0.76	287	Pg	Pg	03 31 38.2	0.0
OSSF				Sg	Sg	03 31 48.7	+0.8
MELF	Melles	0.78	102	Pg	Pg	03 31 38.6	+0.1
MLZA	Monlezun-d-Arm	0.79	8	Pg	Pg	03 31 38.6	-0.3
MLZA				Sg	Sg	03 31 49.6	+0.4
EALK	Alkurruntz	0.92	282	Pg	Pg	03 31 40.7	-0.6
CRAS	Crastes	1.00	47	Pg	Pg	03 31 42.4	-0.4
SALF	Salau	1.11	104	Pg	Pg	03 31 45.3	+0.4
SALF				Sg	Sg	03 31 59.5	+0.2
MONQ	Montcuq	1.70	38	Pg	Pn	03 31 54.8	+0.4
MONQ				Sg	Sn	03 32 08.7	-8.1
MTLF	Montolieu	1.84	80	ePg	Pn	03 31 57.0	+0.6
LFF	La Frestale	2.03	21	ePg	Pb	03 32 00.2	-1.2
LFF				eSg	Sn	03 32 25.8	+0.8
CAF	Calviac	2.53	41	ePg	Pb	03 32 09.5	-0.3
CAF				eSg	Sb	03 32 41.5	0.0
RJF	Les Rejaudoux	2.60	29	ePg	Pb	03 32 10.6	-0.5
RJF				eSg	Sb	03 32 43.7	+0.1
	0.5nm,0.2s						

*LDG **05** 03:31:36.3±0.1, 43°10N×0°27W, h10km, Md2.5/2, Ml2.3/7, Error ellipse: s-maj=1.5km s-min=1.2km az=162.0*
*STR **05** 03:31:37.4±0.4, 43°N±3°×±°, h5km, MLv1.8/12, LOCSAT earthModelID pyrenees_taup-2.11 preliminary*
*MDD **05** 03:31:37.5±0.3, 43°04N×0°29W, h6km±15km, mb_Lg2.1/20, Error ellipse: s-maj=2.2km s-min=1.2km az=6.0*
*MRB **05** 03:31:37.5±0.5, 43°07N×0°28W, ML1.4/20, Error ellipse: s-maj=5.1km s-min=2.5km az=15.0*

ISC 05 03:31:37.4±0.9, 43°04N±0°02×0°30W±0°02, h5km±7km, n55, σ0°70/98, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.07	292	Pg	Pg	03 31 39.2	-0.1
REYF				Sg	Sg	03 31 41.0	+0.5
PYLO	Lourdes	0.19	73	Pg	Pg	03 31 40.4	-0.8
PYLO				Sg	Sg	03 31 43.4	-0.4
ETSF	Etsaut	0.24	233	ePg	Pg	03 31 42.1	0.0
ETSF				eSg	Sg	03 31 45.1	-0.2
LABF	Labassere	0.27	89	Pg	Pg	03 31 42.1	-0.6
LABF				Sg	Sg	03 31 45.9	-0.5
VIEF	Viey	0.28	124	P	Pg	03 31 43.2	+0.2
VIEF				S	Sg	03 31 47.6	+0.9
VIEF	Viey	0.28	124	Pg	Pg	03 31 42.7	-0.2
VIEF				Sg	Sg	03 31 46.5	-0.2
ATE	Arette	0.30	279	P	Pg	03 31 43.5	+0.3
ATE				S	Sg	03 31 48.6	+1.4
ATE	Arette	0.30	279	Pg	Pg	03 31 43.1	-0.2
ATE				Sg	Sg	03 31 47.8	+0.6
CANF	Canfranc	0.32	210	Pg	Pg	03 31 43.7	0.0
CANF				Sg	Sg	03 31 48.7	+0.8
URDF	Urds	0.45	331	Pg	Pg	03 31 46.0	-0.1
URDF				Sg	Sg	03 31 53.0	+1.0
EPF	Esparros	0.47	91	ePg	Pg	03 31 45.7	-0.7
EPF				eSg	Sg	03 31 51.4	-1.1
	11nm,0.2s						
RESF	Ens	0.52	116	P	Pg	03 31 47.2	-0.3
RESF				S	Sg	03 31 54.7	+0.4
	20nm,0.3s						
IRAF	Chalets d'Irat	0.54	269	Pg	Pg	03 31 48.0	+0.1
SJPF	Ste Jean	0.68	276	ePg	Pg	03 31 50.2	-0.3
SJPF				eSg	Sg	03 31 58.1	-1.3
	7.4nm,0.2s						
EORO	Oroz-Betelu	0.76	259	Pg	Pg	03 31 50.3	-1.7
EORO				Sg	Sg	03 32 02.6	+0.8
EORO				i IVmb_Lg		03 32 25.5	
MLZA	Monlezun-d-Arm	0.80	9	Pg	Pg	03 31 52.1	-0.6
TERF	Tercis-les-Bai	0.87	317	Pg	Pg	03 31 53.4	-0.8
CARA	Val d'Aran	0.89	112	P	Pg	03 31 54.2	-0.2
CARA				S	Sg	03 32 06.7	+0.8
	9.4nm,0.2s						
EALK	Alkurruntz	0.90	282	Pg	Pg	03 31 53.3	-1.4
EALK				Sg	Sg	03 32 06.4	-0.1
EALK				i IVmb_Lg		03 32 10.1	
EALK	Alkurruntz	0.90	282	Pg	Pg	03 31 53.0	-1.8
CRAS	Crastes	1.01	47	Pg	Pg	03 31 56.1	-0.7
CRAS				Sg	Sg	03 32 09.8	-0.1
CRAS	Crastes	1.01	47	Sg	Pg	03 31 56.3	-0.5
MLS	Moulis	1.02	94	P	Pg	03 31 56.9	-0.2
MLS				S	Sb	03 32 10.9	-0.4
CTRE	Tremp	1.07	132	P	Pg	03 31 57.5	-0.3
CTRE				S	Sb	03 32 12.7	0.0
	3.0nm,0.2s						
SALF	Salau	1.13	104	P	Pg	03 31 58.7	-0.3
SALF				S	Sb	03 32 14.3	0.0
	4.4nm,0.1s						
CEST	Esterri de Car	1.22	111	P	Pg	03 32 00.4	-0.4
CEST				S	Sb	03 32 17.2	0.0
	2.2nm,0.1s						
CSOR	Sort	1.25	122	P	Pg	03 32 00.8	-0.5
CSOR				S	Sn	03 32 18.5	-0.3
	7.8nm,0.2s						
ESAC	San Caprasio	1.32	186	Pg	Pn	03 32 01.8	-0.8
ESAC				Sg	Sb	03 32 19.3	-0.8
ESAC	San Caprasio	1.32	186	P	Pg	03 32 03.6	+0.8
ESAC				S	Sn	03 32 22.1	+1.4
	11nm,0.1s						
GENF	Genat	1.39	98	P	Pn	03 32 03.2	-0.3
GENF				S	Sn	03 32 22.4	+0.1
CAVN	Les Avellanes	1.39	146	P	Pn	03 32 03.4	-0.1
CAVN				S	Sg	03 32 23.0	+0.9
	7.0nm,0.1s						
CORG	Organya	1.44	124	P	Pg	03 32 05.0	-0.1
CORG				S	Sg	03 32 24.7	+1.0
	2.2nm,0.3s						
PAND	Andorre	1.45	110	P	Pg	03 32 05.3	0.0
PAND				S	Sg	03 32 24.9	+0.8
	5.1nm,0.2s						
PAND	Andorre	1.45	110	Pg	Pg	03 32 05.3	0.0
ARBS	La Rabassa	1.48	113	P	Pn	03 32 05.0	+0.1
ARBS				S	Sg	03 32 25.8	+0.7
	7.0nm,0.3s						
DUNF	Dun	1.55	90	Pg	Pb	03 32 06.4	-0.1
CLLI	Llivia	1.76	108	P	Pn	03 32 09.3	+0.7
CLLI				S	Sb	03 32 32.7	0.0
	2.4nm,0.5s						
FNEB	Nbias	1.77	94	Pg	Pb	03 32 10.7	+0.4
CARF	Carcanieres	1.80	100	P	Pb	03 32 10.3	-0.5
CARF				S	Sb	03 32 33.2	-0.5
	1.8nm,0.2s						
VALC	Valcebollere	1.85	110	P	Pn	03 32 10.3	+0.5
VALC				S	Sb	03 32 34.8	-0.3
	4.6nm,0.2s						
MTLF	Montolieu	1.86	80	ePg	Pn	03 32 10.4	+0.5
MTLF				eSg	Sn	03 32 34.1	+0.3
	3.0nm,0.2s						
MTLF	Montolieu	1.86	80	Pg	Pb	03 32 11.0	-0.9
EPOB	Poblet	1.97	148	Pg	Pb	03 32 13.6	-0.2
EPOB				i IVmb_Lg		03 32 39.5	
EPOB				Sg	Sg	03 32 40.2	-0.6
EPOB	Poblet	1.97	148	P	Pb	03 32 13.0	-0.8
EPOB				S	Sb	03 32 38.6	-0.1
	3.0nm,0.4s						
CBRU	Bruguera	1.98	112	P	Pn	03 32 12.3	+0.7
CBRU				S	Sn	03 32 37.5	+0.7
	2.4nm,0.4s						
CORI	Orista	2.04	121	P	Pb	03 32 13.8	-1.1
CORI				S	Sb	03 32 39.8	-0.6
	2.6nm,0.3s						
LFF	La Frestale	2.04	21	ePg	Pb	03 32 14.6	-0.3
LFF				eSg	Sn	03 32 38.9	+0.8
	9.7nm,0.3s						
ERTA	Horta de San J	2.14	167	Sg	Sg	03 32 45.6	-0.4
CBEU	Beuda	2.33	109	P	Pn	03 32 17.1	+0.7
CBEU				S	Sn	03 32 46.2	+0.8
	2.2nm,0.4s						
CAF	Calviac	2.54	41	ePg	Pb	03 32 22.3	-1.2
CAF				eSg	Sb	03 32 54.7	-0.3
	2.0nm,0.4s						
ETOR	Torete	2.58	211	Sg	Sg	03 32 59.9	-0.3
RJF	Les Rejaudoux	2.61	29	ePg	Pb	03 32 23.7	-1.0
RJF				eSg	Sb	03 32 56.8	-0.2
	2.8nm,0.2s						
EMOS	Mosqueruela	2.68	183	Sg	Sg	03 33 02.8	-0.7
LASF	Ste Croix	3.19	70	ePg	Pb	03 32 34.5	0.0
LASF				eSg	Sb	03 33 15.4	+1.7
	2.8nm,0.3s						
MFF	Saint Martin d	3.56	2	ePg	Pb	03 32 41.2	+0.4
MFF				eSg	Sb	03 33 26.2	+1.9
	0.7nm,0.2s						

*OSPL **05** 03:40:41.8±2.2, 18°78N×70°28W, h110km±16km, ML2.1*
*SDD **05** 03:40:43.2±1.7, 18°66N×70°33W, h94km±15km, MD2.8, ML2.2, MW2.9*

ISC 05 03:40:41.0±2.4, 18°76N±0°06×70°32W±0°05, h105km±17km, n13, σ1°07/24, 10C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	Loma La Naviza	0.34	54	⇑ePg	Pn	03 40 56.7	+0.2
DR08				⇑eSg	Sn	03 41 06.6	-1.5
DR08				IAML		03 41 10.3	
	comp=N,2μm,0.1s						
SDD	Santo Domingo	0.49	128	i P	Pn	03 40 57.1	-0.2
SDD				eS	Sn	03 41 09.5	+0.1
SFDR	San Fco. de Ma	0.53	8	⇑ePg	Pn	03 40 59.1	+1.6
SFDR				⇓eSg	Sn	03 41 10.1	+0.2
SFDR				IAML		03 41 11.3	
	comp=E,68nm,0.2s						
NADR	Nagua	0.73	36	⇑ePg	Pn	03 40 58.8	-0.4
NADR				⇑eSg	Sn	03 41 13.5	+0.7
NADR				IAML		03 41 15.2	
	comp=N,237nm,0.4s						
SC01	Santiago de lo	0.77	330	i P	Pn	03 40 59.5	-0.1
SC01				eS	Sn	03 41 13.4	-0.1
HATOM	Hato Mayor del	0.89	88	⇓ePg	Pn	03 41 00.9	+0.2
HATOM				⇑eSg	Sn	03 41 14.8	-0.8
HATOM				IAML		03 41 16.8	
	comp=N,24nm,0.1s						
SDDR	Presa de Saban	0.95	284	i P	Pn	03 41 03.5	+2.1
SDDR				eS	Sn	03 41 15.5	-1.2
SDDR				IAML		03 41 16.0	
	comp=Z,11nm,0.9s						
PODR	Polo	1.09	237	⇑ePg	Pn	03 41 03.5	+0.5
PODR				⇑eSg	Sn	03 41 17.0	-2.6
PODR				IAML		03 41 21.1	
	comp=N,3.9nm,0.5s						
PODR	Polo	1.09	237	i P	Pn	03 41 03.6	+0.6
PODR				eS	Sn	03 41 20.9	+1.2
LODU1	El Espartillar	1.17	250	i P	Pn	03 41 04.2	+0.5
LODU1				IAML		03 41 22.2	
	comp=Z,23nm,2.6s						
MIDR	Miches	1.22	79	⇑ePg	Pn	03 41 04.9	+0.7
MIDR				⇑eSg	Sn	03 41 21.9	+0.1
MIDR				IAML		03 41 24.3	
	comp=N,11nm,0.4s						
MIDR				IAML		03 41 24.6	
	comp=N,13nm,0.1s						
LOPP1	Punta Rusia, P	1.37	323	i P	Pn	03 41 05.0	-1.0
LOPP1				eS	Sn	03 41 24.6	-0.4
LOPP1				IAML		03 41 30.3	
	comp=Z,22nm,1.0s						
LOVI	El Cajuil, Ovi	1.39	226	i P	Pn	03 41 06.4	+0.2
LOVI				IAML		03 41 31.6	
	comp=Z,52nm,0.9s						

*NEIC **05** 03:44:01.3±1.7, 19°16N±0°03×67°00W±0°03, h10km±1km, ML2.2/7, Md2.9/11(RSPR), Error ellipse: s-maj=5.7km s-min=5.4km az=346.0*

*RSPR **05** 03:44:03.8, 19°13N×67°10W, h5km±2km, MD2.9/11*
*SDD **05** 03:44:03.0±0.8, 19°16N×67°03W, h23km±33km, MD3.2, ML2.1, MW2.8*
*OSPL **05** 03:44:03.0±0.3, 19°18N×67°18W, h19km±2km, ML2.0*

ISC 05 03:44:03.4±1.4, 19°10N±0°06×67°05W±0°03, h22km±10km, n50, σ0°56/62, 15C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.64	185		Pb	03 44 15.8	0.0
AGPR					Sb	03 44 25.6	+1.3
AGPR	Aguadilla, PR	0.64	185	‖ ePg	Pb	03 44 15.8	0.0
AGPR	Aguadilla, PR	0.64	185	‖ ePg	Pb	03 44 15.8	0.0
AGPR				⇑eSg	Sb	03 44 24.6	+0.3
AGPR				IAML		03 44 27.9	
	comp=N,109nm,0.2s						
AGPR	Aguadilla, PR	0.64	185	i P	Pb	03 44 15.8	0.0
AGPR				eS	Sb	03 44 25.2	+0.9
AGPR				IAML		03 44 29.6	
	comp=Z,71nm,0.2s						
EMPR	Esperanza - Ma	0.80	141	Pn	Pb	03 44 18.5	-0.1
EMPR					Sn	03 44 30.6	+0.1
EMPR	Esperanza - Ma	0.80	141	⇑ ePg	Pb	03 44 19.1	+0.5
EMPR	Esperanza - Ma	0.80	141	eS	Sn	03 44 30.6	+0.1
AOPR	Arecibo Observ	0.81	159		Pb	03 44 18.2	-0.5
AOPR					Sb	03 44 27.2	-2.0
AOPR				IAML		03 44 41.6	
	comp=N,85nm,0.3s						
AOPR	Arecibo Observ	0.81	159	⇑ ePg	Pb	03 44 18.6	-0.1
IDE	Isla Desecheo	0.82	209		Pb	03 44 18.6	-0.3
IDE					Sb	03 44 30.2	+0.7
IDE	Isla Desecheo	0.82	209	‖ ePg	Pb	03 44 18.6	-0.3
IDE	Isla Desecheo	0.82	209	eS	Sb	03 44 30.2	+0.7
PRSN	Puerto Rico Se	0.89	186		Pb	03 44 20.0	-0.1
PRSN	Puerto Rico Se	0.89	186	Sn	Sb	03 44 32.5	+1.0
PRSN	Puerto Rico Se	0.89	186	‖ ePg	Pb	03 44 20.0	-0.1
PRSN	Puerto Rico Se	0.89	186	eS	Sn	03 44 32.7	0.0
UUPR	Utuado, UPR, P	0.90	159		Pb	03 44 20.8	+0.4
LSP	Las Mesas	0.92	182		Pb	03 44 20.4	-0.4
LSP					Sn	03 44 33.9	+0.2
LSP	Las Mesas	0.92	182	‖ ePg	Pb	03 44 20.4	-0.4
LSP	Las Mesas	0.92	182	eS	Sn	03 44 33.9	+0.2
ECPR	Experimental S	1.02	140	⇑ ePg	Pb	03 44 22.1	-0.3
ECPR	Experimental S	1.02	140	eS	Sn	03 44 36.3	+0.3
CRPR	Cabo Rojo, PR	1.09	183		Pn	03 44 22.8	-0.6
CRPR					Sb	03 44 37.2	-0.2
CRPR	Cabo Rojo, PR	1.09	183	IAML		03 44 39.4	
	comp=N,56nm,0.5s						
CRPR	Cabo Rojo, PR	1.09	183	‖ ePg	Pn	03 44 22.8	-0.6
CRPR	Cabo Rojo, PR	1.09	183	⇑ ePg	Pn	03 44 23.4	0.0
CRPR				⇑eSg	Sb	03 44 37.6	+0.2
CRPR				IAML		03 44 39.2	
	comp=N,61nm,0.6s						
CRPR	Cabo Rojo, PR	1.09	183	i P	Pn	03 44 22.7	-0.6
CRPR				eS	Sb	03 44 37.4	0.0
CRPR				IAML		03 44 39.5	
	comp=Z,50nm,0.3s						
CELP	Cerrillos	1.12	156		Pn	03 44 23.5	-0.2
CELP					Sb	03 44 38.8	+0.6
CELP	Cerrillos	1.12	156	IAML		03 44 42.8	
	comp=N,46nm,0.4s						
CELP	Cerrillos	1.12	156	⇑ ePg	Pn	03 44 23.5	-0.2
CELP	Cerrillos	1.12	156	eS	Sb	03 44 38.8	+0.6
CELP	Cerrillos	1.12	156	⇑ ePg	Pn	03 44 23.4	-0.3
CELP				⇑eSg	Sb	03 44 38.2	+0.1
CELP				IAML		03 44 42.2	
	comp=N,36nm,0.2s						
MLPR	Magueyes Islan	1.13	180	‖ ePg	Pn	03 44 23.3	-0.5
MLPR	Magueyes Islan	1.13	180	eS	Sb	03 44 38.9	+0.4
MLPR	Magueyes Islan	1.13	180	⇑ ePg	Pn	03 44 23.4	-0.5
OBIP	Obispado Ponce	1.14	158		Pn	03 44 23.7	-0.3
OBIP					Sb	03 44 39.2	+0.5
OBIP	Obispado Ponce	1.14	158	IAML		03 44 41.6	
	comp=N,42nm,0.5s						
OBIP				IAML		03 44 42.7	
	comp=E,43nm,0.4s						
OBIP	Obispado Ponce	1.14	158	⇑ ePg	Pn	03 44 23.7	-0.3
OBIP	Obispado Ponce	1.14	158	eS	Sb	03 44 39.2	+0.5
GCPR	Guaynabo City	1.21	131		Sb	03 44 41.0	0.0
GCPR	Guaynabo City	1.21	131	eS	Sb	03 44 41.0	0.0
SJG	San Juan	1.31	139	eS	Sn	03 44 43.4	+0.3
SJG	San Juan	1.31	139	i P	Pn	03 44 26.6	+0.3
SJG				IAML		03 44 53.4	
	comp=Z,11nm,0.4s						
IGPR	InterUniversit	1.45	141		Pn	03 44 28.4	+0.2
IGPR					Sn	03 44 46.5	-0.1
IGPR	InterUniversit	1.45	141	⇑ ePg	Pn	03 44 28.4	+0.2
IGPR	InterUniversit	1.45	141	eS	Sn	03 44 46.5	-0.1
PDPR	Patillas Dam,	1.46	138	‖ ePg	Pn	03 44 28.6	+0.2
PDPR	Patillas Dam,	1.46	138	eS	Sb	03 44 47.8	-0.2
MIDR	Miches	1.89	267	⇑ ePg	Pn	03 44 35.7	+1.3
MIDR				⇑eSg	Sb	03 45 00.9	+0.4
MIDR				IAML		03 45 06.1	
	comp=N,6.2nm,0.2s						
MIDR				IAML		03 45 33.0	
	comp=N,18nm,3.1s						
HATOM	Hato Mayor del	2.22	262	⇑ ePg	Pb	03 44 41.4	-1.6

*CATAC **05** 03:47:21.8±0.5, 13°N±2°×9°0W±°, h5km±2km, M3.8/29, MLv3.8/29, Error ellipse: s-maj=5.0km s-min=4.0km az=6.4, confirmed*
*SNET **05** 03:47:21.5±0.8, 13°04N×90°46W, h8km, ML3.8*
*GCG **05** 03:47:24.2±2.1, 13°22N×90°45W, h14km±10km, MD4.3, ML3.7, MW3.4*

ISC 05 03:47:25.5±1.5, 13°10N±0°07×90°34W±0°04, h24km, n85, σ1°46/89, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.49	341	eP	Pn	03 47 40.8	+3.8
FAME	Alcaldia de Sa	0.80	23	P	Pb	03 47 39.2	-1.7
FAME	Alcaldia de Sa	0.80	23	S	Sb	03 47 51.7	+0.4
NUBE	Las Nubes	0.96	34	eP	Pn	03 47 41.6	-2.2
NUBE	Las Nubes	0.96	34	i P	Pn	03 47 41.6	-2.2
NUBE	Las Nubes	0.96	34	P	Pn	03 47 41.8	-1.9
NUBE	Las Nubes	0.96	34	S	Sb	03 47 56.6	+0.4
CEVE	Cerro Verde	1.00	44	i P	Pn	03 47 42.9	-1.4
CEVE	Cerro Verde	1.00	44	P	Pn	03 47 43.1	-1.3
SBLS	San Blas	1.01	43	i P	Pn	03 47 43.1	-1.4
JAYA	Jayaque - finc	1.03	57	eP	Pn	03 47 43.0	-1.6
JAYA	Jayaque - finc	1.03	57	i P	Pn	03 47 43.0	-1.6
JAYA				eS	Sn	03 47 58.8	+0.5
JAYA	Jayaque - finc	1.03	57	P	Pn	03 47 43.2	-1.4
RTR	El Retiro	1.04	40	eP	Pn	03 47 43.3	-1.6
LOAL	Lomas de Alarc	1.04	31	P	Pn	03 47 43.2	-1.6
LOAL	Lomas de Alarc	1.04	31	S	Sn	03 47 59.6	+0.9
SNJE	San Jose	1.04	43	eP	Pn	03 47 43.4	-1.5
SNJE				eP	Pb	03 47 43.5	-1.6
LALI	Alcalda de L	1.06	69	eP	Pn	03 47 43.4	-1.6
LALI	Alcalda de L	1.06	69	i P	Pn

TECO	Alcaldia de Te	1.58	74	eP	Pn	03 47 50.6	-1.5
TECO	Alcaldia de Te	1.58	74	P	Pn	03 47 50.7	-1.3
UESV	Universidad de	1.60	70	P	Pn	03 47 51.7	-0.7
UESV	Universidad de	1.60	70	S	Sn	03 48 13.9	+1.6
MTO3	Montecristo	1.60	36	eP	Pn	03 47 51.7	-0.9
MTO3	Montecristo	1.60	36	eP	Pn	03 47 51.8	-0.9
MTO3	Montecristo	1.60	36	P	Pn	03 47 52.1	-0.6
MTO3	Montecristo	1.60	36	S	Sn	03 48 14.3	+1.7
STG2	El Palmar, Qui	1.67	323	eP	Pb	03 47 55.2	-0.5
STG2				i S	Sb	03 48 20.0	+3.6
SCLA	Alcaldia de Sa	1.68	69	eP	Pn	03 47 52.6	-0.8
SCLA	Alcaldia de Sa	1.68	69	P	Pn	03 47 53.3	-0.2
SCLA	Alcaldia de Sa	1.68	69	S	Sn	03 48 15.8	+1.5
LLGN	La Laguna	1.72	52	P	Pn	03 47 54.0	-0.1
LLGN	La Laguna	1.72	52	S	Sn	03 48 17.7	+2.3
ESQI	Esquipulas	1.75	34	eP	Pn	03 47 54.0	-0.5
ESQI	Esquipulas	1.75	34	P	Pn	03 47 54.1	-0.4
PQSS	Presa 15 de Se	1.81	73	P	Pn	03 47 54.5	-0.7
RTAL	Retalhuleu	1.94	317	P	Pn	03 47 55.6	-1.4
PACA	Pacayal	2.00	79	P	Pn	03 47 58.2	+0.3
SOKI	Kika Raxquin	2.00	329	i S	Sn	03 48 19.9	-2.8
SOKI				IAML		03 48 25.8	
	comp=N,712nm,0.3s						
RANC	El Ranchito	2.02	80	eP	Pn	03 47 57.4	-0.9
RANC	El Ranchito	2.02	80	P	Pn	03 47 57.8	-0.5
SARH	Santa Rosa de	2.26	42	i P	Pn	03 48 01.5	0.0
SARH	Santa Rosa de	2.26	42	P	Pn	03 48 01.7	+0.2
QUIS	Sacapulas	2.30	342	eS	Sn	03 48 29.3	-0.4
QUIS				IAML		03 48 32.3	
	comp=E,574nm,0.4s						
LCND	La Caada	2.39	85	eP	Pn	03 48 01.9	-1.4
LCND	La Caada	2.39	85	P	Pn	03 48 02.5	-0.8
CNCH	Conchagua	2.45	86	eP	Pn	03 48 03.6	-0.5
CNCH	Conchagua	2.45	86	P	Pn	03 48 04.3	+0.2
CNCH	Conchagua	2.45	86	S	Sn	03 48 38.0	+4.7
INTHN	La Esperanza I	2.48	61	P	Pn	03 48 05.1	+0.3
TGUH	Tegucigalpa,Un	3.13	72	P	Pn	03 48 13.6	+0.1
YUSH	Yuscaran	3.50	76	P	Pn	03 48 18.6	0.0
CNGA	Al SSO del Vol	3.60	99	P	Pn	03 48 18.6	-1.3
CNGN	Cerro Negro	3.60	99	P	Pn	03 48 19.3	-0.6
LIMN	Finca el Limon	3.87	90	P	Pn	03 48 22.1	-1.5
RCVN	Varilla!2	4.06	83	P	Pn	03 48 25.1	-1.3

MOS ***05*** *03:48:14.8±1.0, 52°.13N×178°.17E, h137km, mb4.9/40, Error ellipse: s-maj=7.3km s-min=5.4km az=117.3*

AEIC ***05*** *03:48:14.0±2.2, 52°.05N±0°.05×178°.18E±0°.09, h141km±3km, Error ellipse: s-maj=8.5km s-min=6.0km az=126.0*

BJI ***05*** *03:48:14.0, 52°.15N×177°.80E, h127km, mB5.1/16, mb5.3/81*

NEIC ***05*** *03:48:15.8, 52°.03N×178°.08E, h130km*

NEIC ***05*** *03:48:15.8, 51°.63N×177°.92E, h130km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63; $M_{\theta\theta}$-2.42; $M_{\phi\phi}$0.79; $M_{r\theta}$1.93; $M_{\theta\phi}$-0.39; $M_{\phi r}$-2.63; Fault plane solution: $M_0$3.92000×10^{16} NP1: ϕ_s237.58000°, δ31.17000°, λ25.48000°. NP2: ϕ_s125.40000°, δ77.13000°, λ118.64000°. Principal axes: T 4.3246, Plg50.0000°, Azm67.0000°; N -1.0056, Plg28.0000°, Azm298.0000°; P -3.3190, Plg27.0000°, Azm193.0000°;*

IDC ***05*** *03:48:15.9±0.6, 52°.20N×178°.04E, h132km±3km, mb4.6/36, mbtmp5.0/40, MS3.5/32 Error ellipse: s-maj=10.0km s-min=6.3km az=171.0*

NEIC ***05*** *03:48:15.8±1.9, 52°.03N±0°.09×178°.07E±0°.09, h131km±4km, mb5.3/704, ML4.9/10, Mww5.0/45, ML4.5(AEIC), Error ellipse: s-maj=12.9km s-min=7.9km az=180.0*

GCMT ***05*** *03:48:16.9±0.2, 52°.07N±0°.02×178°.11E±0°.02, h133km±2km, MW5.0/128, Moment Tensor Solution. s47,c59; s128,c199; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18±.11; $M_{\theta\theta}$-1.78±.13; $M_{\phi\phi}$1.60±.12; $M_{r\theta}$1.69±.08; $M_{\theta\phi}$1.24±.11; $M_{\phi r}$-3.30±.07; Best double couple: $M_0$4.26200×10^{16} NP1:ϕ_s244.00000°, δ29.00000°, λ3.00000°. NP2:ϕ_s152.00000°, δ89.00000°, λ119.00000°. Principal axes: T 4.2670, Plg39.0000°, Azm89.0000°; N -0.0110, Plg29.0000°, Azm331.0000°; P -4.2570, Plg37.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 03:48:16.2±0.3, 52°.08N±0°.05×178°.10E±0°.03, h137km±2km, h137km:pP-P, n1113, σ1§20/900, mb5.2/450, 18C-21D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	0.28	112		Pn	03 48 34.0	-1.2
LSPA	Little Sitkin	0.32	112		Pn	03 48 34.0	-1.2
LSPA					Sn	03 48 49.2	-0.4
LSSE	Little Sitkin	0.32	116		Pn	03 48 33.9	-1.3
CESW	Semis' Southwe	0.92	100		Pn	03 48 37.8	-1.3
CERB	Semis' Cerberu	0.96	98		Pn	03 48 38.1	-1.2
CERB					Sn	03 48 56.4	-0.6
CEPE	Semis' Perret	0.96	96		Pn	03 48 38.0	-1.4
AMKA	Amchitka	1.02	133		Sn	03 48 55.5	-2.5
AMKA	Amchitka	1.02	133		Pn	03 48 37.9	-2.0
GASW	Gareloi Southw	1.91	98		Pn	03 48 48.1	-1.3
GASW					Sn	03 49 13.4	-1.5
GANO	Gareloi North	1.93	96		Pn	03 48 48.4	-1.4
GANO					Sn	03 49 14.3	-1.2
GANE	Gareloi Northe	1.95	96		Pn	03 48 48.7	-1.2
GALAA	Gareloi Lava P	1.96	98		Sn	03 49 16.4	+0.3
GAEA	Gareloi East	1.98	97		Pn	03 48 49.6	-0.6
GAKI	Gareloi-Kavalg	1.99	104		Pn	03 48 49.0	-1.3
GAKI					Sn	03 49 14.7	-1.8
TANO	Tanaga North	2.34	92		Pn	03 48 53.3	-1.4
TANO					Sn	03 49 23.8	-0.5
TASE	Tanaga Southea	2.40	94		Pn	03 48 54.4	-1.1
TASE					Sn	03 49 25.0	-0.7
SHEM	Shemya Is, Ala	2.54	287	P	Pn	03 48 55.0	-2.0
	2μm,0.4s,baz=137,slow=3.6,SNR=235						
SHEM				S	Sn	03 49 23.5	-5.0
	1μm,0.3s,baz=293,slow=19,SNR=21						
SMY	Shemya	2.54	287		Pn	03 48 55.2	-1.8
SMY				IAML		03 49 27.7	
	comp=N,4μm,0.9s						
SMY				IAML		03 49 27.8	
	comp=E,4μm,1.1s						
SMY	Shemya	2.54	287	P	Pn	03 48 55.2	-1.8
SMY	Shemya	2.54	287	S	Sn	03 49 26.8	-1.7
SMY	Shemya	2.54	287	P	Pn	03 48 55.2	-1.8
KIMD	Kanaga Island	2.91	94		Sn	03 49 35.6	-1.3
KIKV	Kanaga Island	2.93	92		Pn	03 49 00.9	-1.2
KIKV					Sn	03 49 36.5	-1.1
KIWB	Kanaga Island	2.95	92		Sn	03 49 36.8	-1.1
KIWB	Kanaga Island	2.95	92		Pn	03 49 01.0	-1.3
KIWB	Kanaga Island	2.95	92	IAML		03 49 37.8	
	comp=N,4μm,0.7s						
KIWB				IAML		03 49 43.1	
	comp=E,4μm,0.6s						
ADK	Adak	3.23	91		Pn	03 49 04.5	-1.4
ADK				IAML		03 49 44.5	
	comp=E,2μm,1.0s						
ADK				IAML		03 49 45.7	
	comp=E,2μm,0.9s						
ADK	Adak	3.23	91		Sn	03 49 42.6	-1.9
ADK	Adak	3.23	91	P	Pn	03 49 04.9	-1.0
ADK	Adak	3.23	91	S	Sn	03 49 43.2	-1.2
ADK	Adak	3.23	91	P	Pn	03 49 04.2	-1.7
ADK				S	Sn	03 49 42.8	-1.6
ADAG	Mount Adagdak	3.27	90		Sn	03 49 44.7	-0.8
ETKA	Kagalaska Isla	3.41	91		Pn	03 49 07.0	-1.3
ETKA					Sn	03 49 47.8	-0.7
GSTD	Great Sitkin T	3.55	88		Sn	03 49 51.5	-0.5
GSTR	Great Sitkin T	3.60	87		Sn	03 49 51.9	-1.3
GSTR	Great Sitkin T	3.60	87		Pn	03 49 09.5	-1.4
GSTR	Great Sitkin T	3.60	87	IAML		03 49 58.3	
	comp=N,4μm,1.1s						
GSTR				IAML		03 49 58.5	
	comp=E,3μm,0.8s						
GSMY	Great Sitkin M	3.61	88		Sn	03 49 51.9	-1.3
KOWE	Korovin West	4.71	83		Sn	03 50 19.8	+0.4
ATKA	Atka Island	4.75	85		Sn	03 50 19.7	-0.5
ATKA	Atka Island	4.75	85		Pn	03 49 25.5	-0.4
ATKA	Atka Island	4.75	85	IAML		03 50 26.8	
	comp=E,667nm,1.1s						
ATKA				IAML		03 50 46.0	
	comp=N,673nm,1.2s						
ATKA	Atka Island	4.75	85	P	Pn	03 49 25.0	-0.9
ATKA	Atka Island	4.75	85	S	Sn	03 50 19.0	-1.2
CLES	Cleveland East	7.38	79		Pn	03 50 01.9	+0.9
CLCO	Concord Point,	7.48	80		Pn	03 50 02.9	+0.4
NIKH	Nikolski High	8.01	78		Pn	03 50 08.5	-1.0
NIKH	Nikolski High	8.01	78	P	Pn	03 50 09.6	0.0
NIKH	Nikolski High	8.01	78	S	Sn	03 51 37.3	-1.2
NIKH	Nikolski High	8.01	78	P	Pn	03 50 09.3	-0.2
	baz=268,SNR=17						
OKSP	Okmok Steeple	8.36	77		Pn	03 50 14.6	+0.3
OKCE	Okmok Cone E	8.45	75		Pn	03 50 15.7	+0.3
SPIA	Saint Paul Isl	8.47	48		Pn	03 50 17.6	+2.0
SPIA	Saint Paul Isl	8.47	48	P	Pn	03 50 15.6	-0.1
SPIA	Saint Paul Isl	8.47	48	P	Pn	03 50 16.3	+0.7
	baz=238,SNR=12						
P08K	Saint George I	8.52	53		Pn	03 50 18.4	+2.1
P08K	Saint George I	8.52	53	P	Pn	03 50 16.6	+0.3
	baz=243,SNR=6.8						
UNV	Unalaska Valle	9.46	73		Pn	03 50 29.3	+0.3
UNV	Unalaska Valle	9.46	73	P	Pn	03 50 29.1	+0.1
UNV	Unalaska Valle	9.46	73	S	Sn	03 52 12.7	-0.8
UNV	Unalaska Valle	9.46	73	P	Pn	03 50 29.0	+0.1
	baz=265,SNR=13						
LVA	Lava Point	9.77	71		Pn	03 50 33.5	+0.5
AKMO	Akutan Morgan	9.77	72		Pn	03 50 34.3	+1.1
ZRO	Akutan Zero	9.79	72		Pn	03 50 34.6	+1.1
AKUT	Akutan	9.92	72		Pn	03 50 35.8	+0.7
AKUT	Akutan	9.92	72	P	Pn	03 50 35.6	+0.6
FALS	False Pass	11.36	69		Pn	03 50 55.3	+1.2
FALS	False Pass	11.36	69	P	Pn	03 50 54.0	-0.2
FALS	False Pass	11.36	69	P	Pn	03 50 54.6	+0.5
	baz=263						
PET	Petropavlovsk	11.88	282		Pn	03 51 02.0	+1.1
PET	Petropavlovsk	11.88	282	P	Pn	03 51 02.4	+1.4
PET	Petropavlovsk	11.88	282	eP	Pn	03 51 00.9	-0.1
PET				eS	Sn	03 53 03.1	-8.7
PET				pmax	pmax		
	comp=Z,37nm,1.0s						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
PET	Petropavlovsk	11.88	282	P	Pn	03 51 00.7	-0.3
	comp=Z,55nm,0.7s						
M11K	Mekoryuk	12.04	40	P	Pn	03 51 03.8	+0.8
	baz=233,SNR=9.2						
S12K	Black Hills	12.24	65	P	Pn	03 51 06.4	+0.6
	baz=261						
PEA0B	Petropavlovsk-	12.45	283	ceP	Pn	03 51 09.5	+1.1
PETK	Petropavlovsk-	12.45	283		Pn	03 51 08.0	-0.4
PETK	Petropavlovsk-	12.45	283	P	Pn	03 51 08.5	+0.1
	comp=Z,131nm,0.9s,baz=86,slow=16,SNR=109						
PETK				S	Sn	03 53 18.3	-7.3
	comp=Z,33nm,0.7s,baz=82,slow=39,SNR=6.8						
PETK				ScP	ScP	03 59 57.7	+1.5
	comp=Z,4.8nm,0.7s,baz=99,slow=5.5,SNR=6.7						
PETK	Petropavlovsk-	12.45	283	P	Pn	03 51 08.0	-0.4
GAMB	Gambell	12.90	21	P	Pn	03 51 13.7	-0.4
	baz=209						
SDPT	Sand Point	13.09	67	P	Pn	03 51 15.2	-1.5
SDPT	Sand Point	13.09	67	P	Pn	03 51 16.0	-0.7
	baz=264						
M13K	Dall Lake	13.23	44	P	Pn	03 51 18.7	+0.3
	baz=239,SNR=16						
CHNA	Chernabura Isl	13.56	69	P	Pn	03 51 20.8	-2.0
CHNA	Chernabura Isl	13.56	69	P	Pn	03 51 20.4	-2.3
	baz=267						
K13K	Kusilvak Mount	13.58	37	P	Pn	03 51 23.9	+1.0
	baz=231,SNR=9.9						
O14K	Tigyukauivet M	13.64	50	P	Pn	03 51 24.4	+0.7
	baz=247,SNR=7.8						
S14K	Fog Glacier	13.72	63	P	Pn	03 51 25.2	+0.3
	baz=261						
N14K	Kuskokwak Cree	13.73	47		Pn	03 51 26.2	+1.5
N14K	Kuskokwak Cree	13.73	47	P	Pn	03 51 25.7	+0.9
	baz=244,SNR=20						
SKR	Severo-Kuril's	13.79	273	eP	P	03 51 28.1	-1.5
SKR				eS	Sn	03 53 48.3	-10
SKR				pmax	pmax		
	comp=Z,327nm,0.8s						
SKR				pmax	pmax		
	comp=Z,600nm,3.4s						
SKR				smax	smax		
	comp=N,508nm,0.7s						
SKR				smax	smax		
	comp=E,553nm,0.8s						
SKR				MLR	MLR		
	comp=Z,600nm,15.0s						
M14K	Bethel	13.99	44	P	Pn	03 51 29.6	+1.4
	baz=240,SNR=58						
L14K	Kuka Creek	14.00	41	P	Pn	03 51 29.5	+1.3
	baz=237,SNR=29						
O15K	Ungalikthiuk R	14.30	52	P	Pn	03 51 32.8	+0.7
	baz=250,SNR=34						
CHGN	Chignik	14.36	64	P	Pn	03 51 32.8	0.0
	baz=263						
J14K	Nanvaranak Lak	14.50	35	P	Pn	03 51 36.6	+2.1
	baz=231						
M15K	Kasigluk River	14.52	45	P	Pn	03 51 35.5	+0.7
	baz=243,SNR=29						
N15K	Kwethluk River	14.55	48	P	Pn	03 51 36.6	+1.3
	baz=246,SNR=50						
L15K	Ungalak Mounta	14.66	41	P	Pn	03 51 37.5	+0.9
	baz=238,SNR=11						
K15K	Wolf Creek Mou	14.98	39	P	Pn	03 51 41.6	+1.1
	baz=236,SNR=73						
R16K	Pilot Point	15.01	59	P	Pn	03 51 41.2	+0.2
	baz=259						
P16K	Nushagak River	15.16	53	P	Pn	03 51 43.0	+0.2
	baz=253						
ANM	Nome	15.16	28	P	Pn	03 51 43.8	+1.0
	baz=222						
TNA	Tin City	15.28	22	P	Pn	03 51 44.4	+0.2
	baz=214						
N16K	Nishlik Lake	15.28	48	P	Pn	03 51 44.6	+0.2
	baz=247,SNR=16						
O16K	Kokwok River B	15.28	51	P	Pn	03 51 45.1	+0.8
	baz=251,SNR=24						
M16K	Timber Creek	15.42	46	P	Pn	03 51 46.8	+0.7
	baz=245,SNR=13						
L16K	Owhat River	15.51	43	P	Pn	03 51 47.9	+0.7
	baz=242,SNR=29						
F14K	Arctic Creek	15.60	25	P	Pn	03 51 49.3	+1.1
	baz=218						
R17L	Mt. Peulik Vol	15.67	59	P	Pn	03 51 49.4	+0.2
	baz=260						
Q16K	King Salmon	15.73	55	P	Pn	03 51 50.4	+0.6
	baz=256,SNR=28						
O17K	Koliganek Bris	15.82	51	P	Pn	03 51 51.4	+0.5
	baz=252,SNR=38						
G15K	Niukluk	15.87	28	P	Pn	03 51 52.9	+1.4
	baz=224						
J16K	Anvik River	15.89	37	P	Pn	03 51 52.9	+1.0
	baz=235,SNR=9.3						
P17K	Kvichak River	15.97	54	P	P	03 51 54.2	+0.6
	baz=254,SNR=61						
N17K	Nushagak Hills	16.03	48	P	Pn	03 51 54.3	+0.8
	baz=249,SNR=46						
Q17K	Contact Creek	16.03	57	P	Pn	03 51 54.7	+0.9
	baz=258						
H16K	Elim	16.17	31	P	Pn	03 51 56.1	+0.9
	baz=228,SNR=5.8						
L17K	Donlin	16.20	42	P	P	03 51 57.0	+0.8
	baz=242,SNR=26						
I17K	Unalakleet	16.22	35	P	P	03 51 57.4	+1.1
	baz=233						
F15K	North Star Dit	16.22	26	P	P	03 51 58.5	+2.1
F15K	North Star Dit	16.22	26	P	Pn	03 51 56.8	+0.9
	baz=221,SNR=5.4						
M17K	Holitna River	16.25	45	P	P	03 51 57.5	+0.8
	baz=246,SNR=73						
K17K	Iditarod	16.48	41	P	P	03 52 00.3	+1.1
	baz=240,SNR=33						
Q18K	Katmai Hardscr	16.56	56	P	P	03 52 00.5	+0.2
	baz=258,SNR=48						
P18K	Big Mountain,	16.62	53	P	Pn	03 52 01.8	+1.0
	baz=256,SNR=30						
G16K	Koyuk River	16.65	29	P	Pn	03 52 02.7	+1.6
	baz=226,SNR=12						
R18K	Karluk	16.67	60	P	P	03 52 02.1	+0.7
	baz=262						
O18K	Koktuh Hills	16.75	52	P	Pn	03 52 03.8	+1.4
	baz=254,SNR=48						
MA2	Magadan	16.99	307		Pn	03 52 06.1	+0.8
MA2	Magadan	16.99	307	P	P	03 52 04.2	-0.7
	comp=Z,22nm,0.7s,baz=86,slow=11,SNR=10						
MA2				ScP	ScP	04 00 04.4	+0.2
	comp=Z,2.9nm,0.4s,baz=23,slow=7.0,SNR=4.9						
MA2	Magadan	16.99	307	P	Pn	03 52 06.2	+0.9
MA2	Magadan	16.99	307	ceP	Pn	03 52 06.8	+1.5
MA2				pmax	pmax		
	comp=Z,26nm,0.8s						
MA2	Magadan	16.99	307	P	P	03 52 05.3	+0.4
	comp=Z,44nm,0.9s						
M18K	Stony River	17.00	46	P	Pn	03 52 06.3	+1.0
	baz=248,SNR=28						
BILL	Bilibino	17.01	345	ceP	P	03 52 05.4	+0.4
BILL				pmax	pmax		
	comp=Z,44nm,0.8s						
H17K	Granite Mounta	17.13	33	P	Pn	03 52 08.2	+1.3
	baz=232						
G17K	Kiwalik Mounta	17.25	31	P	Pn	03 52 09.1	+0.8
	baz=229,SNR=20						
OHAK	Old Harbor	17.26	61	P	P	03 52 06.1	-1.8
OHAK	Old Harbor	17.26	61	P	P	03 52 05.8	-2.0
	baz=265,SNR=23						
O19K	Port Alsworth	17.27	51	P	Pn	03 52 09.3	+0.7
	baz=254,SNR=153						
Q19K	Cape Douglas,	17.32	56	P	P	03 52 09.1	+0.5
	baz=259,SNR=26						
SEY	Seymchan	17.44	319	P	P	03 52 08.4	-1.4
	comp=Z,3.2nm,0.4s,baz=113,slow=11,SNR=9.9						
SEY				ScP	ScP	04 00 05.0	0.0
	comp=Z,14nm,0.8s,baz=102,slow=3.5,SNR=24						
SEY	Seymchan	17.44	319	eP	P	03 52 10.0	+0.2
SEY				pmax	pmax		
	comp=Z,18nm,1.1s						
J18K	Innoko River	17.48	40	P	Pn	03 52 11.7	+0.6
J18K	Innoko River	17.48	40	P	Pn	03 52 11.6	+0.6
	baz=241,SNR=62						
P19K	Oil Pt	17.67	53	P	P	03 52 13.6	+1.2
	baz=257,SNR=30						
KDAK	Kodiak Island	17.70	60		P	03 52 11.3	-1.3
KDAK	Kodiak Island	17.70	60	P	P	03 52 11.0	-1.7
	comp=Z,138nm,0.5s,baz=261,slow=3.0,SNR=189						
KDAK				S	S	03 55 20.0	-9.3
	comp=Z,12nm,1.1s,baz=317,slow=21,SNR=1.7						
KDAK	Kodiak Island	17.70	60	P	P	03 52 11.3	-1.3
KDAK	Kodiak Island	17.70	60	P	P	03 52 11.4	-1.3
	baz=264						
F17K	Baldwin Pennin	17.71	28	P	P	03 52 13.2	+0.5
	baz=226,SNR=8.3						
H18K	Honhosa River	17.78	34	P	Pn	03 52 15.7	+0.9
H18K	Honhosa River	17.78	34	P	P	03 52 14.5	+0.9
	baz=234,SNR=16						
M19K	Big River Lodg	17.78	46	P	Pn	03 52 15.5	+0.7
	baz=249						
Q20K	Shuyak Island	17.90	57	P	P	03 52 14.2	-0.7
	baz=261,SNR=14						
E17K	Hotham Inlet	18.01	26	P	P	03 52 17.3	+1.3
	baz=223,SNR=13						
O20K	Slope Mountain	18.07	52	P	P	03 52 18.2	+1.5
	baz=257,SNR=15						
GCSA	Galena City Sc	18.07	36	P	P	03 52 17.7	+1.0
	baz=237,SNR=12						
C16K	Lisburne Hills	18.10	20	P	P	03 52 18.5	+1.5
	baz=214,SNR=8.5						
G18K	Tagagawik	18.14	31	P	P	03 52 18.5	+1.1
	baz=231,SNR=24						
D17K	Noatak River	18.15	23	P	Pn	03 52 19.3	+0.3
	baz=220,SNR=12						
F18K	Selawik	18.29	29	P	P	03 52 20.3	+1.3
	baz=228,SNR=14						
M20K	Styx River	18.34	46	P	Pn	03 52 21.6	+0.2
	baz=251						
HOM	Homer	18.46	54	P	P	03 52 22.1	+1.1
	baz=259,SNR=8.1						
RDOG	Red Dog Mine	18.47	23	P	Pn	03 52 23.1	+0.3
	baz=219,SNR=42						
N20K	Mount Spurr	18.55	49	P	Pn	03 52 23.8	-0.1
	baz=254						
SPCR	Spurr Chakacha	18.55	49	P	P	03 52 23.6	+1.5
	baz=254,SNR=14						
E18K	Tukpahlearik C	18.59	26	P	Pn	03 52 24.3	+0.2
	baz=225,SNR=36						
H19K	Roundabout Mou	18.66	34	P	P	03 52 24.0	+1.0
	baz=236,SNR=117						
C17K	DeLong Mountai	18.74	22	P	P	03 52 25.7	+1.7
	baz=218,SNR=12						
BRSE	Bradley Lake S	18.93	54	P	P	03 52 25.5	-0.6
	baz=260,SNR=56						
I20K	Naaghedeneel	18.98	37	P	P	03 52 28.2	+1.7
	baz=241,SNR=24						
F19K	Shaleruckik Mo	19.01	30	P	P	03 52 27.8	+1.0
	baz=231						
SKT	Skwentna	19.09	47	P	P	03 52 29.3	+1.5
	baz=252,SNR=88						
PPLA	Purkeypile	19.10	44	P	P	03 52 29.6	+1.5
	baz=249,SNR=129						
H20K	Anotleneega Mo	19.19	35	P	P	03 52 29.9	+1.1
	baz=238,SNR=68						
SUA	Susitna One	19.30	49	P	P	03 52 31.0	+0.8
	baz=255,SNR=74						
C18K	Utukok River	19.34	23	P	P	03 52 32.0	+1.5
	baz=221,SNR=20						
CHUM	Lake Minchumin	19.42	41	P	P	03 52 33.0	+1.7
	baz=246,SNR=54						
O22K	Cooper Landing	19.57	52	P	P	03 52 33.0	+0.1
	baz=259,SNR=70						
E19K	Redstone River	19.57	29	P	P	03 52 34.2	+1.3
	baz=230,SNR=30						
SEW	Seward	19.63	53	P	P	03 52 32.6	-1.0
	baz=260,SNR=68						
M22K	Willow	19.66	48	P	P	03 52 33.4	-0.5
	baz=255,SNR=50						
RC01	Rabbit Creek A	19.68	50	P	P	03 52 34.3	+0.1
	baz=257,SNR=23						
B18K	Kokolik River	19.75	21	P	P	03 52 35.7	+0.9
	baz=219						
F20K	Avaraart Lake	19.78	31	P	P	03 52 36.0	+0.8
	baz=234						
CUT	Chulitna	19.78	46	P	P	03 52 35.5	+0.3
	baz=253,SNR=48						
IMAR	Indian Mountai	19.84	35	P	P	03 52 37.0	+1.1
D19K	Kuna River	20.01	26	P	P	03 52 38.9	+1.1
	baz=227,SNR=26						
BPAW	Bear Paw Mtn.	20.04	41	P	P	03 52 39.6	+1.5
	baz=248,SNR=140						
C19K	Lookout Ridge	20.07	23	P	P	03 52 39.7	+1.3
	baz=223,SNR=16						
PMR	Palmer	20.08	49	P	P	03 52 37.9	-0.6
PMR	Palmer	20.08	49	P	P	03 52 38.3	-0.2
	baz=256,SNR=

E21K	Killik River	21.15	29	P	P	03 52 50.0	0.0
	baz=233						
F22K	John River	21.18	32	P	P	03 52 50.8	+0.6
	baz=238						
DHY	Denali Highway	21.24	45	P	P	03 52 50.8	-0.3
	baz=255,SNR=512						
H23K	Yukon River	21.30	37	P	P	03 52 52.5	+0.9
	baz=245,SNR=100						
B20K	Meade River	21.31	23	P	P	03 52 52.4	+0.8
	baz=225						
C21K	Knifeblade Rid	21.36	27	P	P	03 52 52.8	+0.7
	baz=230,SNR=19						
G23K	Bananza Creek	21.51	35	P	P	03 52 54.4	+0.6
	baz=243,SNR=201						
EYAK	Cordova Ski Ar	21.52	53	P	P	03 52 53.5	-0.4
EYAK	Cordova Ski Ar	21.52	53	P	P	03 52 53.0	-0.8
	baz=263,SNR=16						
M24K	Tolsona, Glenn	21.56	48	P	P	03 52 55.0	+0.5
	baz=259,SNR=144						
KLU	Klutina	21.57	50	P	P	03 52 53.9	-0.6
	baz=260,SNR=71						
COLA	College	21.59	41	P	P	03 52 55.1	+0.4
COLA	College	21.59	41	P	P	03 52 55.0	+0.4
COLA	College	21.59	41	*i* P	P	03 52 54.7	+0.1
COLA				pmax	pmax		
	comp=Z,217nm,0.6s						
COLA	College	21.59	41	P	P	03 52 55.0	+0.4
	baz=250						
E22K	Anaktuvuk Pass	21.63	31	P	P	03 52 55.6	+0.5
	baz=237						
COLD	Coldfoot	21.69	34	P	P	03 52 56.0	+0.3
	baz=241,SNR=12						
B21K	Ikpikpuk River	21.70	26	P	P	03 52 56.1	+0.4
	baz=230,SNR=19						
D22K	Ayikyak River	21.79	28	P	P	03 52 57.3	+0.6
	baz=234,SNR=33						
HDA	Harding Lake	21.81	42	P	P	03 52 55.8	-1.2
	baz=252,SNR=94						
POKR	Poker Plat Res	21.84	40	P	P	03 52 57.5	+0.2
	baz=250,SNR=71						
ILAR	Eielson Array	21.95	41	P	P	03 52 56.6	-1.7
ILAR	Eielson Array	21.95	41	P	P	03 52 56.4	-2.0
	comp=Z,40nm,0.5s,baz=243,slow=8.8,SNR=267						
ILAR				PcP	PcP	03 56 50.1	-1.1
	comp=Z,1.9nm,0.6s,baz=289,slow=3.6,SNR=4.2						
ILAR				ScP	ScP	04 00 14.8	-0.6
	comp=Z,1.2nm,0.3s,baz=275,slow=3.3,SNR=42						
	comp=Z,40nm,0.5s						
ILAR	Eielson Array	21.95	41	P	P	03 52 56.7	-1.7
TYV	Tymovskoe	21.98	281	*e*P	P	03 52 59.3	+0.5
TYV				*e*S	S	03 56 57.0	+5.1
TYV				pmax	pmax		
	comp=Z,44nm,1.2s						
TYV				pmax	pmax		
	comp=Z,300nm,3.0s						
TYV				smax	smax		
	comp=N,200nm,3.4s						
TYV				smax	smax		
	comp=E,200nm,3.4s						
TYV				smax	smax		
	comp=N,7.0nm,1.7s						
TYV				smax	smax		
	comp=E,13nm,1.7s						
PAX	Paxson	22.06	46	P	P	03 52 59.5	-0.2
	baz=257,SNR=236						
HARP	HAARP	22.09	48	P	P	03 53 00.2	+0.3
	baz=259,SNR=44						
KAIM	Kayak Island	22.12	54	P	P	03 52 59.7	-0.4
	baz=266,SNR=25						
BMRM	Bremner River	22.12	52	P	P	03 52 59.5	-0.8
	baz=263,SNR=41						
K24K	Donnelly Dome	22.13	44	P	P	03 52 59.6	-0.6
	baz=255,SNR=81						
N25K	Chitina, Valde	22.21	50	P	P	03 53 01.3	+0.1
	baz=262,SNR=191						
E23K	Chandalar	22.30	32	P	P	03 53 02.7	+0.8
	baz=240,SNR=66						
G24K	Hadweenzic Riv	22.42	36	P	P	03 53 04.2	+1.1
	baz=246,SNR=146						
D23K	Nanushuk River	22.43	29	P	P	03 53 03.6	+0.4
	baz=237						
B22K	Teshekpuk Lake	22.48	25	P	P	03 53 03.5	-0.1
	baz=230,SNR=12						
RIDG	Independent Ri	22.51	44	P	P	03 53 03.2	-0.9
	baz=256,SNR=125						
A22K	Sinclair Lake	22.54	23	P	P	03 53 04.3	+0.2
	baz=227						
TOLK	Toolik Lake Re	22.61	31	P	P	03 53 05.0	+0.1
	baz=239,SNR=44						
F24K	Squaw Lake	22.62	34	P	P	03 53 06.1	+1.0
	baz=244,SNR=262						
E24K	Your Creek	22.68	32	IAmb	IAmb	03 53 09.3	
	comp=Z,58nm,0.7s						
E24K	Your Creek	22.68	32	P	P	03 53 06.5	+0.9
	baz=242						
BGLC	Bering Glacier	22.70	54	P	P	03 53 06.1	+0.3
	baz=266						
PRP	Porcupine Dome	22.73	40	IAmb	IAmb	03 53 07.2	
	comp=Z,115nm,0.8s						
PRP	Porcupine Dome	22.73	40	P	P	03 53 05.1	-1.2
	baz=251,SNR=29						
CRQE	Cirque	22.84	52	P	P	03 53 07.4	+0.1
	baz=265,SNR=95						
MENT	Mentasta	22.84	47	P	P	03 53 07.9	+0.7
H25L	Birch Creek	22.87	38	P	P	03 53 08.3	+1.0
	baz=249,SNR=42						
UGL	Uglegorsk	22.93	277	*e*P	P	03 53 09.6	+1.6
UGL				*e*		03 53 35.2	
UGL				pmax	pmax		
	comp=Z,200nm,1.0s						
MCARA	McCarthy VSAT	22.93	51	P	P	03 53 08.3	+0.2
	baz=264,SNR=77						
SCRK	Sand Creek	22.94	44	P	P	03 53 07.2	-1.0
	baz=257,SNR=135						
C23K	Itkillik River	22.94	28	IAmb	IAmb	03 53 13.4	
	comp=Z,70nm,0.6s						
C23K	Itkillik River	22.94	28	P	P	03 53 08.3	+0.3
	baz=235,SNR=13						
G25K	Bearman Lake	22.95	37	P	P	03 53 09.1	+1.0
	baz=248,SNR=60						
D24K	Happy Valley	23.10	30	P	P	03 53 10.1	+0.7
	baz=239						
YSS	Yuzhno-Sakhali	23.35	271	P	P	03 53 13.5	+1.5
YSS				IAmb	IAmb	03 53 15.1	
	comp=Z,136nm,0.8s						
YSS	Yuzhno-Sakhali	23.35	271	P	P	03 53 12.8	+0.8
YSS	Yuzhno-Sakhali	23.35	271	*e*P	P	03 53 13.5	+1.5
YSS				*e*S	S	03 57 14.7	+0.5
YSS				pmax	pmax		
	comp=Z,150nm,0.8s						
YSS				pmax	pmax		
	comp=Z,500nm,4.6s						
MESA	MESA	23.37	54	P	P	03 53 12.7	+0.4
	baz=268,SNR=47						
C24K	Franklin Bluff	23.43	29	IAmb	IAmb	03 53 16.3	
	comp=Z,102nm,0.7s						
C24K	Franklin Bluff	23.43	29	P	P	03 53 13.2	+0.7
	baz=238						
F25K	Christian Rive	23.44	35	P	P	03 53 13.5	+0.9
	baz=246,SNR=156						
I26K	Coal Creek Min	23.62	41	IAmb	IAmb	03 53 15.6	
	comp=Z,99nm,0.7s						
I26K	Coal Creek Min	23.62	41	P	P	03 53 13.2	-1.0
	baz=255						
E25K	Arctic Village	23.68	34	P	P	03 53 15.8	+1.0
	baz=246,SNR=87						
CTG	Chitna Glacier	23.71	52	P	P	03 53 15.8	+0.5
	baz=266,SNR=334						
BCAR	Beaver Creek A	23.73	47	P	P	03 53 16.2	+0.9
BMAR	Burnt Mountain	23.75	36	P	P	03 53 16.8	+1.4
K27K	Chicken	23.77	44	P	P	03 53 16.4	+0.7
	baz=259						
G26K	Porcupine Rive	23.87	37	P	P	03 53 17.6	+1.1
	baz=250,SNR=229						
D25K	Kavik River	23.95	31	P	P	03 53 18.1	+0.9
	baz=242,SNR=182						
F26K	Sheenjek River	24.00	35	P	P	03 53 19.0	+1.2
	baz=248,SNR=156						
PINM	Pinnacle	24.22	54	P	P	03 53 19.9	+0.1
	baz=269,SNR=96						
O28M	Mount Upton	24.26	53	P	P	03 53 20.7	+0.2
	baz=268,SNR=683						
EGAK	Eagle	24.32	43	P	P	03 53 21.0	+0.4
	baz=258,SNR=429						
YUK8	Steele Glacier	24.49	51	P	P	03 53 22.7	+0.2
	baz=267,SNR=216						
H27K	Steamboat Moun	24.51	39	IAmb	IAmb	03 53 23.9	
	comp=Z,205nm,1.6s						
H27K	Steamboat Moun	24.51	39	P	P	03 53 21.4	-0.9
	baz=254,SNR=61						
G27K	Doyon Strip	24.62	38	IAmb	IAmb	03 53 25.3	
	comp=Z,92nm,0.8s						
G27K	Doyon Strip	24.62	38	P	P	03 53 23.2	-0.2
	baz=253,SNR=84						
PNL	Peninsula	24.65	55	P	P	03 53 23.4	-0.2
PNL	Peninsula	24.65	55	P	P	03 53 23.5	-0.2
	baz=271,SNR=45						
C26K	Camden Bay	24.68	30	P	P	03 53 25.4	+1.7
	baz=243,SNR=44						
JKA	Kamikawa-asahi	24.81	265	P	P	03 53 26.4	+1.2
JKA				IAmb	IAmb	03 53 28.7	
	comp=Z,125nm,0.9s						
ASAJ	Asahikawa	24.81	265	P	P	03 53 26.0	+0.7
	comp=Z,84nm,0.8s,baz=68,slow=7.7,SNR=24						
ASAJ				LR	LR	04 02 00.1	
	comp=Z,52nm,20.1s,baz=29,slow=33						
	comp=Z,84nm,0.8s						
ASAJ	Asahikawa	24.81	265	P	P	03 53 26.4	+1.2
ASAJ				pmax	pmax		
	comp=Z,125nm,0.9s						
C27K	Jago River	24.92	31	IAmb	IAmb	03 53 28.0	
	comp=Z,149nm,0.8s						
C27K	Jago River	24.92	31	P	P	03 53 26.9	+0.9
	baz=245,SNR=50						
DAWY	Dawson	24.94	45	P	P	03 53 27.2	+0.9
	baz=261,SNR=525						
I28M	Miner Creek	24.96	41	P	P	03 53 26.7	+0.1
	baz=258,SNR=259						
YUK4	Talbot Arm	25.03	51	P	P	03 53 27.9	+0.6
	baz=268,SNR=265						
O29M	Mount Kennedy	25.05	54	P	P	03 53 27.2	-0.2
	baz=270,SNR=94						
E27K	Coleen River	25.08	35	P	P	03 53 29.0	+1.5
	baz=250,SNR=84						
YUK6	Outpost Mounta	25.16	52	P	P	03 53 28.6	+0.1
	baz=269,SNR=126						
M29M	Somme Creek	25.18	49	P	P	03 53 28.9	+0.4
	baz=266,SNR=168						
L29M	L29M	25.39	47	P	P	03 53 31.0	+0.6
	baz=265,SNR=186						
P29M	Windy Craggy	25.49	55	P	P	03 53 31.4	0.0
	baz=272,SNR=128						
J29N	Klondike Camp	25.51	44	P	P	03 53 32.4	+1.0
	baz=262,SNR=24						
F28M	Old Crow	25.52	37	IAmb	IAmb	03 53 35.2	
	comp=Z,151nm,1.1s						
F28M	Old Crow	25.52	37	P	P	03 53 32.8	+1.3
	baz=254,SNR=76						
HYT	Haines Junctio	25.58	53	P	P	03 53 32.6	+0.4
	baz=270,SNR=264						
I29M	Ogilvie Camp,	25.61	42	P	P	03 53 32.2	-0.1
	baz=260,SNR=221						
D27M	Malcolm River	25.66	33	P	P	03 53 34.3	+1.5
	baz=249,SNR=32						
K29M	Barlow Dome	25.73	46	P	P	03 53 34.2	+0.7
	baz=264,SNR=120						
H29M	Whitestone	25.75	40	P	P	03 53 33.7	+0.1
	baz=258,SNR=66						
N30M	Aishikik Lake	25.79	51	P	P	03 53 34.1	+0.1
	baz=269,SNR=323						
P30M	Million Dollar	25.86	54	P	P	03 53 34.8	+0.1
	baz=272						
E28M	Babbage River	25.94	34	IAmb	IAmb	03 53 37.5	
	comp=Z,80nm,0.7s						
E28M	Babbage River	25.94	34	P	P	03 53 36.6	+1.4
	baz=252,SNR=32						
M30M	Minto, Yukon	25.96	49	IAmb	IAmb	03 53 42.1	
	comp=Z,69nm,0.8s						
M30M	Minto, Yukon	25.96	49	P	P	03 53 35.5	0.0
	baz=267,SNR=68						
G29M	Pine Creek	26.04	39	P	P	03 53 37.1	+0.9
	baz=257,SNR=76						
O30N	Mendenhall	26.27	53	P	P	03 53 38.7	+0.3
	baz=271,SNR=22						
J30M	Hart River	26.33	44	P	P	03 53 39.8	+0.9
	baz=264,SNR=151						
I30M	Mount Dempster	26.39	43	IAmb	IAmb	03 53 52.0	
	comp=Z,91nm,0.7s						
I30M	Mount Dempster	26.39	43	P	P	03 53 39.4	-0.1
	baz=262,SNR=74						
S31K	Pelican	26.41	59	P	P	03 53 39.4	-0.1
	baz=277,SNR=5.2						
N31M	Braeburn, Yuko	26.41	51	P	P	03 53 40.0	+0.4
	baz=270,SNR=43						
MAYO	Mayo, Yukon	26.43	46	P	P	03 53 40.3	+0.6
	baz=266,SNR=7.7						
EPYK	Eagle Plains	26.44	40	P	P	03 53 39.9	+0.1
	baz=260,SNR=120						
D28M	Stokes Point	26.44	33	P	P	03 53 40.2	+0.6
	baz=251						
E29M	Blow River	26.45	35	P	P	03 53 41.1	+1.3
	baz=254,SNR=32						
R31K	City Hall, Gus	26.62	58	P	P	03 53 41.6	+0.3
	baz=276						
SKAG	Skagway	26.73	56	IAmb	IAmb	03 53 46.9	
	comp=Z,62nm,0.7s						
SKAG	Skagway	26.73	56	P	P	03 53 43.6	+1.3
SKAG	Skagway	26.73	56	P	P	03 53 42.8	+0.5
	baz=275,SNR=8.3						
G30M	tAoh Zraii Nji	26.75	39	IAmb	IAmb	03 53 44.8	
	comp=Z,195nm,1.5s						
G30M	tAoh Zraii Nji	26.75	39	P	P	03 53 42.9	+0.4
	baz=259,SNR=48						
WHY	Whitehorse	26.87	53	IAmb	IAmb	03 54 08.8	
	comp=Z,48nm,0.7s						
WHY	Whitehorse	26.87	53	P	P	03 53 44.2	+0.4
	baz=273,SNR=12						
SIT	Sitka	27.03	61	IAmb	IAmb	03 53 48.9	
	comp=Z,44nm,0.8s						
SIT	Sitka	27.03	61	P	P	03 53 45.5	+0.5
SIT	Sitka	27.03	61	P	P	03 53 45.5	+0.5
	baz=279,SNR=9.2						
F30M	Barrier River	27.04	37	P	P	03 53 46.3	+1.3
F30M	Barrier River	27.04	37	P	P	03 53 46.6	+1.5
	baz=258,SNR=78						
BESE	Bessie Mountai	27.06	57	P	P	03 53 45.4	-0.1
M31M	Drury Creek, Y	27.07	49	IAmb	IAmb	03 53 52.5	
	comp=Z,52nm,0.7s						
M31M	Drury Creek, Y	27.07	49	P	P	03 53 46.1	+0.7
	baz=270,SNR=68						
R32K	Eaglecrest	27.27	58	P	P	03 53 47.6	+0.3
	baz=278,SNR=11						
H31M	Peel River	27.31	42	P	P	03 53 47.8	+0.2
	baz=263,SNR=58						
JIS	Juneau Island	27.34	58	P	P	03 53 48.1	+0.3
G31M	Satah River	27.49	39	P	P	03 53 49.5	+0.5
G31M	Satah River	27.49	39	P	P	03 53 49.6	+0.5
	baz=261,SNR=124						
YAK	Yakutsk	27.50	310	LR	LR	04 04 05.5	
	comp=Z,50nm,20.4s,baz=95,slow=35						
YAK	Yakutsk	27.50	310	*e*P	P	03 53 48.5	-0.7
YAK				*e**PP	pP	03 54 16.2	-0.9
YAK				*e*		03 54 37.8	
YAK				*e*		03 57 01.6	
YAK				*e*S	S	03 58 20.1	+0.6
YAK				*e*		04 04 20.2	
YAK				pmax	pmax		
	comp=Z,35nm,1.6s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,305nm,5.4s						
YAK				pmax	pmax		
	comp=N,184nm,5.4s						
YAK				pmax	pmax		
	comp=E,196nm,4.6s						
YAK				smax	smax		
	comp=N,279nm,7.3s						
YAK				smax	smax		
	comp=E,125nm,5.8s						
P32M	Atlin	27.53	55	IAmb	IAmb	03 53 51.6	
	comp=Z,63nm,1.1s						
P32M	Atlin	27.53	55	P	P	03 53 50.4	+0.8
	baz=276,SNR=15						
N32M	Quiet Lake	27.73	52	IAmb	IAmb	03 53 53.0	
	comp=Z,68nm,0.9s						
N32M	Quiet Lake	27.73	52	P	P	03 53 52.0	+0.7
	baz=273						
F31M	Tsiigehtchic	27.78	38	P	P	03 53 52.3	+0.7
	baz=260,SNR=48						
P33M	Teslin, Yukon	27.93	54	IAmb	IAmb	03 53 55.2	
	comp=Z,90nm,1.2s						
P33M	Teslin, Yukon	27.93	54	P	P	03 53 54.0	+0.9
	baz=275,SNR=56						
INK	Inuvik	28.01	36	IAmb	IAmb	03 53 55.5	
	comp=Z,83nm,0.8s						
INK	Inuvik	28.01	36	P	P	03 53 54.7	+1.0
	baz=259,SNR=51						
Q32M	Nakina River	28.35	56	IAmb	IAmb	03 53 59.5	
	comp=Z,49nm,0.8s						
Q32M	Nakina River	28.35	56	P	P	03 53 58.4	+1.4
	baz=278,SNR=39						
U33K	Whale Pass	28.40	62	IAmb	IAmb	03 53 59.9	
	comp=Z,163nm,1.9s						
U33K	Whale Pass	28.40	62	P	P	03 53 58.1	+0.8
	baz=283,SNR=6.7						
MMPY	Sheldon Lake,	28.52	48	P	P	03 53 59.6	+1.3
	baz=272,SNR=191						
CRAG	Craig	28.55	64	P	P	03 53 59.5	+0.9
CRAG	Craig	28.55	64	P	P	03 53 59.3	+0.7
	baz=284,SNR=5.1						
WRAK	Wrangell Islan	28.76	62	P	P	03 54 01.3	+0.9
	baz=282,SNR=13						
R33M	Jennings River	28.95	55	IAmb	IAmb	03 54 04.7	
	comp=Z,62nm,0.8s						
R33M	Jennings River	28.95	55	P	P	03 54 03.8	+1.5
	baz=278,SNR=91						
TIXI	Tiksi	29.08	330	*i* P	P	03 54 05.5	+2.4
TIXI				pmax	pmax		
	comp=Z,19nm,1.1s						
S34M	Telegraph Cree	29.11	58	P	P	03 54 04.8	+1.3
	baz=281,SNR=22						
V35K	Ketchikan	29.42	64	IAmb	IAmb	03 54 08.0	
	comp=Z,50nm,1.0s						
V35K	Ketchikan	29.42	64	P	P	03 54 06.8	+0.6
	baz=285,SNR=12						
DLBC	Dease Lake	29.59	57	P	P	03 54 09.1	+1.3
	baz=280,SNR=23						
T35M	Bob Quinn	29.76	60	IAmb	IAmb	03 54 11.9	
	comp=Z,58nm,0.8s						
T35M	Bob Quinn	29.76	60	P	P	03 54 10.8	+1.5
	baz=283,SNR=38						
WTLY	Watson Lake, Y	29.93	53	IAmb	IAmb	03 54 12.8	
	comp=Z,43nm,0.9s						
WTLY	Watson Lake, Y	29.93	53	P	P	03 54 11.8	+0.9
	baz=278,SNR=19						
TGTN	Hyland Airport	30.00	51	P	P	03 54 12.6	+1.1
	baz=276,SNR=48						
U35K	Hyder	30.14	62	P	P	03 54 13.5	+0.9
	baz=285						
ZEA	Zeya	30.18	294	*e*P	P	03 54 12.5	-0.6
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.1s						
RUBB	Prince Rupert	30.45	65	P	P	03 54 15.4	0.0
HG4B	Hotspring	30.57	69	P	P	03 54 16.5	0.0
USRK	Ussuriysk Ar.	31.31	274	P	P	03 54 22.6	-0.5
	comp=Z,34nm,0.8s,baz=57,slow=8.2,SNR=27						
USRK				PcP	PcP	03 57 14.4	+0.7
	comp=Z,4.5nm,0.6s,baz=81,slow=3.9,SNR=5.0						
USRK				ScP	ScP	04 00 45.0	+1.4
	comp=Z,6.1nm,1.0s,baz=119,slow=1.8,SNR=6.6						
	comp=Z,34nm,0.8s						
HEH	HeiHe	31.32	287	*e*P	P	03 54 21.4	-1.6
HEH				pmax	pmax		
	comp=Z,54nm,0.8s						
LIRD	Liard River Hi	31.40	54	P	P	03 54 25.1	+1.4
	baz=282,SNR=9.2						
A36M	Sachs Harbour	31.42	30	P	P	03 54 25.4	+1.6
	baz=261,SNR=28						
C36M	Paulatuk	31.55	35	P	P	03 54 25.6	+0.7
	baz=267,SNR=19						
VLA	Vladivostok	31.94	272	*e*P	P	03 54 28.5	-0.1
VLA				pmax	pmax		
	comp=Z,51nm,0.7s						
TOAD	Toad River Com	31.96	55	P	P	03 54 29.8	+1.2
	baz=283,SNR=36						
MAJO	Matsushiro	32.03	257	P	P	03 54 30.2	+0.7
MAJO				IAmb	IAmb	03 54 31.2	
	comp=Z,65nm,1.0s						
MAJO	Matsushiro	32.03	257	P	P	03 54 30.5	+1.0
MAJO	Matsushiro	32.03	257	*i* P	P	03 54 29.1	-0.4
MAJO				pmax	pmax		
	comp=Z,67nm,1.0s						
MAJO	Matsushiro	32.03	257	P	P	03 54 30.2	+0.7
MJAR	Matsushiro Arr	32.03	257	P	P	03 54 30.4	+1.0
MJAR	Matsushiro Arr	32.03	257	P	P	03 54 29.9	+0.5
	comp=Z,16nm,0.7s,baz=50,slow=7.1,SNR=52						
MJAR				PcP	PcP	03 57 16.1	+0.4
	comp=Z,1.3nm,0.6s,baz=96,slow=1.4,SNR=4.2						
MJAR				ScP	ScP	04 00 46.6	+0.5
	comp=Z,3.2nm,0.9s,baz=96,slow=4.9,SNR=4.5						
MJAR				LR	LR	04 06 17.6	
	comp=Z,57nm,20.8s,baz=32,slow=34						
	comp=Z,16nm,0.7s						
MJAR	Matsushiro Arr	32.03	257	P	P	03 54 30.4	+1.0
MJAR				pmax	pmax		
	comp=Z,54nm,1.7s						
MJB9	Matsu-Tunnel	32.03	257	IAmb	IAmb	03 54 32.2	
	comp=Z,64nm,1.0s						
WRGLY	Wrigley	32.03	47	P	P	03 54 30.6	+1.5
	baz=277,SNR=50						
KOTAN	Kotaneelee Air	32.27	53	P	P	03 54 32.8	+1.5
	baz=282,SNR=84						
MDJ	Mudanjiang	32.57	276	P	P	03 54 33.5	-0.5
MDJ				pmax	pmax		
	comp=Z,26nm,0.9s						
MDJ	Mudanjiang	32.57	276	P	P	03 54 33.6	-0.5
MSHR	Mys Shultsa	32.68	272	*i* P	P	03 54 36.2	+1.1
PSTR	Posyet	32.86	272	*i* P	P	03 54 36.9	+0.3
JGF	Kuroka	33.17	256	IAmb	IAmb	03 54 41.4	
	comp=Z,62nm,0.9s						
JGF	Kuroka	33.17	256	P	P	03 54 40.0	+0.6
BNX	BinXian	33.34	280	⇓P	P	03 54 39.7	-1.0
BNX				pmax	pmax		
	comp=Z,120nm,0.6s						
H11N2	WAKE ISLAND Hy	33.45	199	T	T	04 29 59.4	
	baz=11,slow=76,SNR=61						
H11N3	WAKE ISLAND Hy	33.46	199	T	T	04 30 08.9	
	baz=11,slow=76,SNR=78						
H11N1	WAKE ISLAND Hy	33.47	199	T	T	04 30 11.5	
	baz=11,slow=76,SNR=76						
H11S1	WAKE ISLAND Hy	34.68	199	T	T	04 32 01.7	
	baz=10,slow=76,SNR=51						
H11S3	WAKE ISLAND Hy	34.69	199	T	T	04 31 47.3	
	baz=10,slow=76,SNR=41						
H11S2	WAKE ISLAND Hy	34.70	199	T	T	04 31 40.5	
	baz=10,slow=76,SNR=38						
CBB	Campbell River	34.83	70	IAmb	IAmb	03 54 55.6	
	comp=Z,52nm,1.5s						
OZB	Mount Ozzard	35.23	72	IAmb	IAmb	03 54 58.4	
	comp=Z,48nm,0.8s						
CN2	Changchun	35.53	278	P	P	03 54 58.5	-1.1
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CLRS	Cowichan Lake	36.10	72	IAmb	IAmb	03 55 05.5	
	comp=Z,47nm,0.8s						
YKAW3	Yellowknife Wh	36.13	46	IAmb	IAmb	03 55 06.4	
	comp=Z,164nm,0.8s						
YKA	Yellowknife Ar	36.15	47	P	P	03 55 05.5	+0.9
YKA	Yellowknife Ar	36.15	47	P	P	03 55 05.0	+0.4
	comp=Z,101nm,0.7s,baz=287,slow=9.2,SNR=130						
YKA				ScP	ScP	04 00 59.0	-1.4
	comp=Z,8.1nm,1.1s,baz=287,slow=4.5,SNR=7.0						
YKA				LR	LR	04 10 56.3	
	comp=Z,107nm,18.6s,baz=298,slow=38						
YKAW1	Yellowknife Wh	36.21	47	IAmb	IAmb	03 55 07.1	
	comp=Z,124nm,0.8s						
HIA	Hailar	36.23	289	P	P	03 55 05.5	-0.1
HIA				IAmb	IAmb	03 55 05.9	
	comp=Z,94nm,1.6s						
HIA	Hailar	36.23	289	P	P	03 55 05.2	-0.4
HIA	Hailar	36.23	289	P	P

comp=Z,21µm,22.0s,baz=60,slow=34
comp=Z,24nm,0.9s
KS19 Wonju Array Si 37.72 268 IAmb IAmb 03 56 14.5
comp=Z,149nm,1.8s
KSAR Wonju Array Be 37.75 267 P **P** **03 55 18.6 +0.1**
KSAR Wonju Array Be 37.75 267 P **P** **03 55 18.6 +0.1**
D05A Enumclaw 38.15 73 IAmb IAmb 03 55 23.3
comp=Z,71nm,0.9s
G03D McMinnville, O 38.41 76 IAmb IAmb 03 55 37.8
comp=Z,113nm,1.5s
INCN Inchon 38.50 269 P **P** **03 55 25.5 +0.7**
INCN Inchon 38.50 269 P **P** **03 55 25.5 +0.7**
INCN Inchon 38.50 269 P **P** **03 55 25.5 +0.7**
INCN pmax pmax
comp=Z,72nm,0.8s
COR Corvallis 38.72 77 P **P** **03 55 27.3 +0.8**
COR Corvallis 38.72 77 P **P** **03 55 27.3 +0.8**
COR pmax pmax
comp=Z,64nm,0.6s
COR Corvallis 38.72 77 P **P** **03 55 27.6 +1.1**
TJN Taejon 38.75 267 P **P** **03 55 27.7 +0.8**
TJN Taejon 38.75 267 P **P** **03 55 26.6 -0.3**
JNU Nakatsue 38.77 260 IAmb IAmb 03 55 29.3
comp=Z,54nm,0.9s
JNU Nakatsue 38.77 260 P **P** **03 55 27.8 +0.7**
comp=Z,44nm,0.9s,baz=46,slow=6.7,SNR=25
JNU LR LR 04 10 32.8
comp=Z,49nm,20.9s,baz=39,slow=34
comp=Z,44nm,0.9s
JNU Nakatsue 38.77 260 P **P** **03 55 28.1 +1.0**
G04A Mulino 38.88 76 IAmb IAmb 03 55 29.4
comp=Z,76nm,0.9s
LTY Liberty 38.89 72 IAmb IAmb 03 55 28.5
comp=Z,46nm,1.1s
KEBM Edson Butte 39.04 80 P **P** **03 55 30.4 +1.1**
KEBM IAmb IAmb 03 55 31.9
comp=Z,86nm,1.1s
H04D Lebanon 39.09 77 IAmb IAmb 03 55 31.1
comp=Z,57nm,0.8s
B08A Colville Reser 39.11 70 IAmb IAmb 03 55 30.4
comp=Z,49nm,0.9s
BUCK Buck Mountain 39.12 78 IAmb IAmb 03 55 31.8
comp=Z,38nm,0.9s
I03D Drain, OR 39.18 78 IAmb IAmb 03 55 33.0
comp=Z,30nm,0.7s
HOOD Mount Hood Mea 39.31 75 IAmb IAmb 03 55 32.7
comp=Z,75nm,1.1s
H04A Detroit Lake 39.34 76 IAmb IAmb 03 55 32.8
comp=Z,56nm,0.7s
MXC Moxie City 39.46 73 IAmb IAmb 03 55 33.5
comp=Z,62nm,1.5s
G05A Wamic 39.56 75 IAmb IAmb 03 55 40.0
comp=Z,57nm,0.8s
E07A Sunnyside 39.73 73 IAmb IAmb 03 55 35.8
comp=Z,89nm,1.5s
WIFE Three Sisters- 39.90 77 IAmb IAmb 03 55 37.9
comp=Z,66nm,0.7s
RES Resolute Bay 39.90 24 IAmb IAmb 03 55 37.8
comp=Z,72nm,1.0s
RES Resolute Bay 39.90 24 LR LR 04 15 39.9
comp=Z,48nm,18.1s,baz=316,slow=41
RES Resolute Bay 39.90 24 P **P** **03 55 36.4 +0.5**
RES pmax pmax
comp=Z,76nm,1.2s
KSXB Camp Six Broad 39.91 81 P **P** **03 55 37.8 +1.2**
KSXB IAmb IAmb 03 55 38.8
comp=Z,95nm,1.3s
L02F Cave Junction 39.93 81 P **P** **03 55 37.6 +0.9**
L02F IAmb IAmb 03 55 38.5
comp=Z,93nm,1.4s
HAWA Hanford 40.00 73 IAmb IAmb 03 55 37.9
comp=Z,89nm,0.9s
C09A Chrisman Ranch 40.01 70 IAmb IAmb 03 55 37.4
comp=Z,45nm,0.8s
D08A Wollman Farm, 40.01 71 IAmb IAmb 03 55 37.5
comp=Z,53nm,1.1s
F07A Phinny Hill Vi 40.03 73 P **P** **03 55 37.4 +0.1**
F07A IAmb IAmb 03 55 38.3
comp=Z,58nm,0.7s
I05D Terrebonne, OR 40.03 76 IAmb IAmb 03 55 38.6
comp=Z,36nm,0.8s
KRMB Red Mountain 40.07 82 IAmb IAmb 03 55 40.2
comp=Z,30nm,0.6s
E08A Dider Farm, El 40.23 72 IAmb IAmb 03 55 39.5
comp=Z,46nm,0.8s
NEW Newport 40.44 69 IAmb IAmb 03 55 41.0
comp=Z,54nm,0.8s
NEW Newport 40.44 69 P **P** **03 55 40.1 -0.7**
NEW pmax pmax
comp=Z,86nm,1.5s
YPT Yellepit 40.52 73 IAmb IAmb 03 55 41.9
comp=Z,70nm,1.0s
YBH Yreka Blue Hor 40.68 80 IAmb IAmb 03 55 45.0
comp=Z,130nm,1.5s
J05D Fort Rock, OR 40.68 78 IAmb IAmb 03 55 44.7
comp=Z,47nm,0.9s
DL2 Dalian 40.70 274 P **P** **03 55 42.7 -0.2**
DL2 pmax pmax
comp=Z,31nm,0.5s
K04D Chiloquin, OR 40.74 79 IAmb IAmb 03 55 45.9
comp=Z,62nm,0.7s
E09A Wood Farm, Sta 40.75 72 IAmb IAmb 03 55 44.3
comp=Z,58nm,1.1s
BRIC Briceland Vine 40.91 83 IAmb IAmb 03 55 47.3
comp=Z,82nm,1.3s
KMRM Mail Ridge 40.96 83 IAmb IAmb 03 55 47.8
comp=Z,97nm,1.1s
N02D Trinity Center 41.13 81 IAmb IAmb 03 55 49.0
comp=Z,112nm,1.4s
XLT XiLinHaoTe 41.15 284 *e*P **P** **03 55 47.3 +0.6**
XLT pP pP 03 56 17.7 +1.1
XLT sP sP 03 56 31.5 -0.3
XLT PcP **PcP** **03 57 41.8 -1.5**
XLT pmax pmax
comp=Z,69nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.1s
K05A Summer Lake 41.21 78 IAmb IAmb 03 55 49.0
comp=Z,52nm,0.7s
M03C McCloud 41.30 81 IAmb IAmb 03 55 50.4
comp=Z,46nm,0.7s
KCPM Cahto Peak 41.36 84 IAmb IAmb 03 55 50.7
comp=Z,88nm,1.2s
O02D Mt. Diablo Mer 41.55 82 IAmb IAmb 03 55 52.5
comp=Z,106nm,1.3s
DCMP DeCamp, Califo 41.64 84 IAmb IAmb 03 55 52.2
comp=Z,45nm,0.8s
BMO Blue Mountains 42.15 73 P **P** **03 55 54.5 -0.3**
ALE Alert 42.27 10 P **P** **03 55 55.9 +0.7**
GDXM Geysers 42.38 84 IAmb IAmb 03 55 59.1
comp=Z,76nm,1.0s
MNRC McLaughlin Min 42.55 84 IAmb IAmb 03 56 00.4
comp=Z,72nm,1.0s
ORV Oroville 42.72 82 IAmb IAmb 03 56 00.2
comp=Z,76nm,1.4s
WVOR Wild Horse Val 42.73 77 IAmb IAmb 03 56 00.6
comp=Z,39nm,0.9s
WVOR Wild Horse Val 42.73 77 P **P** **03 55 59.7 +0.1**
WVOR pmax pmax
comp=Z,52nm,0.9s
SUTB Sutter Butte 42.74 83 IAmb IAmb 03 56 00.4
comp=Z,54nm,0.8s
MSO Missoula 43.02 69 IAmb IAmb 03 56 01.9
comp=Z,55nm,1.1s
BLKN Baker Lake 43.33 39 P **P** **03 56 04.2 +0.3**
BLKN IAmb IAmb 03 56 04.8
comp=Z,71nm,0.7s
BJI Beijing 43.35 279 P **P** **03 56 05.0 +0.6**
BJI S **S** **04 02 21.4 -0.2**
BJI sS **sS** **04 03 16.0 +1.0**
BJI pmax pmax
comp=Z,21nm,0.8s
BJI pmax pmax
comp=Z,74nm,3.6s
BJT Baijiatuau 43.37 279 P **P** **03 56 05.4 +0.8**
BJT Baijiatuau 43.37 279 P **P** **03 56 05.5 +1.0**
JRSC Jasper Ridge 43.60 85 IAmb IAmb 03 56 07.8
comp=Z,94nm,0.9s
WELL Weller Preserv 43.88 83 IAmb IAmb 03 56 10.5
comp=Z,44nm,1.0s
PAHR Pah Rah Range 43.91 81 IAmb IAmb 03 56 10.3
comp=Z,159nm,1.6s
MHC Mount Hamilton 44.01 85 IAmb IAmb 03 56 11.5
comp=Z,83nm,1.3s
ULN Ulaanbaatar 44.22 294 P **P** **03 56 11.8 +0.3**
ULN Ulaanbaatar 44.22 294 *ce*P **P** **03 56 12.0 +0.5**
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 44.22 294 P **P** **03 56 11.8 +0.3**
ULN ScP **ScP** **04 01 33.5 +1.1**
CMB Columbia Colle 44.34 83 IAmb IAmb 03 56 14.1
comp=Z,62nm,1.4s
HLID Hailey 44.59 73 IAmb IAmb 03 56 15.7
comp=Z,52nm,1.2s
SONM Songino Array 44.60 294 P **P** **03 56 15.3 +0.8**
SONM Songino Array 44.60 294 P **P** **03 56 15.1 +0.6**
comp=Z,14nm,0.6s,baz=63,slow=8.0,SNR=78
SONM pP **pP** **03 56 45.2 +0.5**
comp=Z,6.3nm,0.6s,baz=63,slow=8.6,SNR=5.6
SONM PcP **PcP** **03 57 54.9 +0.1**
comp=Z,3.1nm,0.6s,baz=70,slow=2.4,SNR=5.1
SONM ScP **ScP** **04 01 34.8 +0.8**
comp=Z,4.5nm,0.8s,baz=49,slow=3.6,SNR=12
SONM LR LR 04 16 09.8
comp=Z,57nm,19.6s,baz=162,slow=38
comp=Z,14nm,0.6s
WAKR Walker 44.63 82 IAmb IAmb 03 56 16.6
comp=Z,38nm,0.7s
JOW Kunigami 44.84 256 P **P** **03 56 17.1 +0.6**
JOW IAmb IAmb 03 56 18.0
comp=Z,81nm,1.0s
JOW Kunigami 44.84 256 P **P** **03 56 16.9 +0.5**
comp=Z,56nm,0.9s,baz=19,slow=2.9,SNR=13
comp=Z,56nm,0.9s
JOW Kunigami 44.84 256 P **P** **03 56 17.1 +0.6**
TULEG Thule 44.91 18 *i* P **P** **03 56 16.8 +0.5**
TULEG IAmb IAmb 03 56 19.2
comp=Z,24nm,0.8s
ZAK Zakamensk 44.93 299 *e*P **P** **03 56 16.9 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.4s
BOZ Bozeman (W) 45.04 69 IAmb IAmb 03 56 18.1
comp=Z,38nm,0.8s
BOZ Bozeman (W) 45.04 69 P **P** **03 56 17.3 -0.7**
RYN Ryan 45.11 81 IAmb IAmb 03 56 19.9
comp=Z,38nm,0.8s
TIA Tai'an 45.17 274 P **P** **03 56 19.5 +0.5**
TIA pP **pP** **03 56 49.1 -0.7**
TIA sP **sP** **03 57 03.2 -1.9**
TIA pmax pmax
comp=Z,110nm,0.8s
PMPB Monarch Peak 45.25 86 IAmb IAmb 03 56 21.2
comp=Z,52nm,0.7s
FFC Flin Flon 45.29 53 P **P** **03 56 19.2 -0.4**
FFC Flin Flon 45.29 53 P **P** **03 56 19.2 -0.4**
FFC pmax pmax
comp=Z,27nm,0.9s
FFC Flin Flon 45.29 53 P **P** **03 56 19.1 -0.5**
FFC ScP **ScP** **04 01 35.5 -1.0**
LHV Little Huntoon 45.35 82 IAmb IAmb 03 56 22.4
comp=Z,105nm,1.5s
NVAR Mina Array Bea 45.37 81 P **P** **03 56 21.2 +0.4**
NVAR Mina Array Bea 45.37 81 P **P** **03 56 20.9 +0.1**
comp=Z,28nm,0.6s,baz=297,slow=7.3,SNR=287
NVAR PcP **PcP** **03 57 58.0 +0.2**
comp=Z,2.8nm,0.8s,baz=309,slow=4.5,SNR=2.2
NVAR ScP **ScP** **04 01 37.3 0.0**
comp=Z,2.0nm,0.6s,baz=296,slow=4.3,SNR=14
NVAR LR LR 04 14 34.4
comp=Z,51nm,18.2s,baz=278,slow=35
comp=Z,28nm,0.6s
MDPB Devils Postpil 45.40 83 IAmb IAmb 03 56 22.8
comp=Z,56nm,0.8s
PKD Bear Valley Ra 45.58 86 IAmb IAmb 03 56 23.7
comp=Z,64nm,0.7s
HHC Hu-ho-hao-te 45.65 283 *e*P **P** **03 56 22.5 -0.3**
HHC pmax pmax
comp=Z,150nm,3.6s
HHC LR LR
comp=Z,130nm,11.4s
HHC LR LR
comp=Z,150nm,11.8s
HHC LR LR
comp=Z,140nm,12.0s
YHL Hebgen Lake 45.73 70 IAmb IAmb 03 56 23.9
comp=Z,60nm,1.1s
ILON Igloolik, Nuna 45.77 29 P **P** **03 56 23.9 +0.7**
YHB Horse Butte 45.78 70 IAmb IAmb 03 56 24.1
comp=Z,58nm,0.8s
ELK Elko 45.79 77 P **P** **03 56 23.9 -0.2**
HNS HongShan 45.89 277 ⇓P **P** **03 56 25.6 +1.0**
HNS pP **pP** **03 56 55.2 +0.1**
HNS pmax pmax
comp=Z,65nm,0.9s
YMR Madison River 45.97 70 IAmb IAmb 03 56 25.7
comp=Z,50nm,1.1s
YNR Norris Junctio 46.10 70 IAmb IAmb 03 56 27.9
comp=Z,56nm,1.2s
YFT Old Faithful 46.17 70 IAmb IAmb 03 56 28.2
comp=Z,34nm,0.7s
TPH Tonopah 46.25 81 IAmb IAmb 03 56 28.8
comp=Z,51nm,0.8s
NOR Nord 46.33 3 *i* P **P** **03 56 26.6 -0.8**
NOR IAmb IAmb 03 56 28.1
comp=Z,7.9nm,0.8s
H17A Grant Village 46.35 70 IAmb IAmb 03 56 30.1
comp=Z,79nm,1.3s
YMP Mirror Lake Pl 46.39 69 IAmb IAmb 03 56 29.2
comp=Z,82nm,1.7s
RLMT Red Lodge 46.68 68 IAmb IAmb 03 56 31.6
comp=Z,45nm,1.0s
GUMO Guam 46.71 227 LR LR 04 13 50.5
comp=Z,31nm,19.7s,baz=61,slow=33
GMN Gold Mountain 46.72 82 P **P** **03 56 31.8 +0.4**
BTO Baotou 46.72 284 *e*P **P** **03 56 32.4 +1.2**
BTO pP **pwP** **03 57 04.3 0.0**
BTO sP **sP** **03 57 20.2 +3.4**
BTO PP **PP** **03 58 24.1 +1.6**
BTO S **S** **04 03 12.1 +1.7**
BTO sS **sS** **04 04 06.2 +1.9**
BTO SS **SS** **04 06 31.9 -6.0**
BTO pmax pmax
comp=Z,190nm,0.9s
BTO pmax pmax
comp=Z,210nm,4.3s
FCC Fort Churchill 46.86 46 IAmb IAmb 03 56 33.0
comp=Z,62nm,0.9s
NJ2 Nanjing 46.88 269 *e*P **P** **03 56 32.2 -0.1**
NJ2 pmax pmax
comp=Z,29nm,0.9s
TIY Taiyuan 47.08 279 *e*P **P** **03 56 35.6 +1.6**
TIY S **S** **04 03 22.5 +7.0**
TIY pmax pmax
comp=Z,60nm,0.7s
NEEM North Greenlan 47.20 13 *i* P **P** **03 56 34.4 -0.2**
NEEM IAmb IAmb 03 56 35.2
comp=Z,50nm,0.7s
S11A Rachel 47.42 80 IAmb IAmb 03 56 38.0
comp=Z,33nm,0.8s
CLC China Lake 47.48 84 IAmb IAmb 03 56 38.2
comp=Z,46nm,0.8s
LAO LASA Array 47.48 65 IAmb IAmb 03 56 37.6
comp=Z,49nm,1.1s
FURC Furnace Creek, 47.50 82 IAmb IAmb 03 56 38.5
comp=Z,79nm,0.9s
TPNV Topopah Spring 47.56 81 IAmb IAmb 03 56 39.5
comp=Z,69nm,0.8s
DGMT Dagmar 47.56 62 IAmb IAmb 03 56 37.7
comp=Z,48nm,1.2s
LRMC Laurel Mtn Rad 47.64 84 IAmb IAmb 03 56 39.1
comp=Z,23nm,0.6s
WSHM Spangler Hills 47.68 84 IAmb IAmb 03 56 39.7
comp=Z,49nm,0.8s
GWY Greenwater Val 47.80 83 IAmb IAmb 03 56 40.7
comp=Z,42nm,0.9s
QSM Queen of Sheba 47.83 83 IAmb IAmb 03 56 40.8
comp=Z,46nm,1.1s
TCUT Toone Canyon 47.84 74 IAmb IAmb 03 56 40.7
comp=Z,74nm,1.5s
CTU Camp Tracy 47.90 75 IAmb IAmb 03 56 41.0
comp=Z,58nm,1.5s
BW06 Boulder Array 47.92 71 IAmb IAmb 03 56 42.8
comp=Z,28nm,0.8s
PD31 Pinedale Array 47.92 71 IAmb IAmb 03 56 42.8
comp=Z,27nm,0.8s
PDAR Pinedale Array 47.92 71 P **P** **03 56 39.8 -0.8**
PDAR Pinedale Array 47.92 71 P **P** **03 56 39.6 -0.9**
comp=Z,21nm,0.7s,baz=305,slow=3.3,SNR=225
PDAR ScP **ScP** **04 01 45.9 -2.1**
comp=Z,1.1nm,0.7s,baz=260,slow=1.3,SNR=7.3
PDAR LR LR 04 15 33.8
comp=Z,28nm,18.4s,baz=347,slow=34
comp=Z,21nm,0.7s
PRN Pahroc Range 48.00 80 IAmb IAmb 03 56 42.4
comp=Z,58nm,1.0s
PASC Pasadena Art C 48.20 86 IAmb IAmb 03 56 43.6
comp=Z,48nm,0.8s
KULLO Kullorsuaq 48.38 17 *i* P **P** **03 56 44.0 +0.6**
KULLO IAmb IAmb 03 56 44.6
comp=Z,37nm,0.7s
BFSC Mount Baldy Ra 48.48 85 IAmb IAmb 03 56 46.0
comp=Z,81nm,1.3s
MTPC Mountain Pass 48.95 82 IAmb IAmb 03 56 49.5
comp=Z,42nm,1.1s
KBS Kingsbay 48.99 356 *e*P **P** **03 56 49.0 +1.0**
KBS Kingsbay 48.99 356 *i* P **P** **03 56 47.3 -0.7**
ELS Elsinore Mount 49.02 86 IAmb IAmb 03 56 50.0
comp=Z,43nm,1.1s
TMUT Trail Mountain 49.11 76 IAmb IAmb 03 56 50.6
comp=Z,34nm,0.8s
LYN LuoYang 49.13 276 ⇓*i* P **P** **03 56 50.4 +0.8**
LYN pP pP 03 57 23.1 +2.1
LYN pmax pmax
comp=Z,130nm,0.7s
P17A Butcher Ranch, 49.27 75 IAmb IAmb 03 56 51.7
comp=Z,60nm,1.5s
LCMT Little Creek M 49.35 79 IAmb IAmb 03 56 52.8
comp=Z,39nm,1.0s
Q16A Castle Valley 49.37 76 IAmb IAmb 03 56 52.6
comp=Z,101nm,1.6s
P18A Preston Nutter 49.47 75 IAmb IAmb 03 56 55.8
comp=Z,25nm,0.7s
SPA0 Spitsbergen Ar 49.53 355 *e*P **P** **03 56 52.2 +0.1**
SPITS Spitsbergen Ar 49.53 355 P **P** **03 56 52.1 +0.1**
comp=Z,30nm,0.6s,baz=48,slow=6.8,SNR=73
comp=Z,30nm,0.6s
SPB2 Spitsbergen Ar 49.53 355 P **P** **03 56 52.2 +0.1**
SPB2 IAmb IAmb 03 56 52.8
comp=Z,48nm,0.7s
KNB Kanab 49.60 79 IAmb IAmb 03 56 54.9
comp=Z,79nm,1.4s
DANC Danby, Needles 49.61 83 IAmb IAmb 03 56 54.6
comp=Z,66nm,1.2s
SRU San Rafael Swe 49.63 75 IAmb IAmb 03 56 54.5
comp=Z,37nm,0.7s
PFO Pinyon Flats O 49.64 85 P **P** **03 56 53.8 +0.1**
PFO Pinyon Flats O 49.64 85 P **P** **03 56 53.8 +0.1**
PFO pmax pmax
comp=Z,14nm,0.8s
PFO Pinyon Flats O 49.64 85 P **P** **03 56 53.7 +0.1**
PFO PcP **PcP** **03 58 13.9 +0.9**
PFO ScP **ScP** **04 01 55.1 -0.3**
BELC Belle Mtn. Jos 49.66 84 IAmb IAmb 03 56 54.3
comp=Z,40nm,0.7s
DPP Dos Picos Cty 49.76 86 IAmb IAmb 03 56 55.7
comp=Z,52nm,1.0s
BORC Borrego Spring 49.90 85 IAmb IAmb 03 56 56.7
comp=Z,43nm,0.9s
UPNV Upernavik 49.93 18 *i* P **P** **03 56 55.7 +0.6**
UPNV IAmb IAmb 03 56 56.6
comp=Z,65nm,0.5s
NEE2 Needles Airpor 49.99 82 IAmb IAmb 03 56 56.8
comp=Z,26nm,0.6s
IRM Iron Mountain 50.08 83 IAmb IAmb 03 56 57.9
comp=Z,56nm,1.1s
BAR Barrett 50.14 86 IAmb IAmb 03 56 58.5
comp=Z,54nm,0.8s
HMU Henry Mountain 50.26 77 IAmb IAmb 03 57 00.4
comp=Z,62nm,0.8s
RSSD Black Hills 50.26 66 P **P** **03 56 57.1 -1.2**
RSSD Black Hills 50.26 66 P **P** **03 56 57.1 -1.2**
RSSD pmax pmax
comp=Z,47nm,1.6s
RSSD Black Hills 50.26 66 P **P** **03 56 57.2 -1.1**
RSSD PcP **PcP** **03 58 14.8 -0.5**
RSSD ScP **ScP** **04 01 56.3 -1.6**
HOPEN Hopen 50.53 352 *e*P **P** **03 56 60.0 +0.3**
E28A Huff 50.60 62 IAmb IAmb 03 57 01.0
comp=Z,54nm,1.2s
WHN Wuhan 50.70 271 ⇓*i* P **P** **03 57 01.4 -0.1**
WHN pP **pP** **03 57 32.6 -0.4**
WHN S **S** **04 04 05.4 -0.6**
WHN pmax pmax
comp=Z,150nm,0.8s
CCX Cicese 50.70 87 IAmb IAmb 03 57 02.7
comp=Z,44nm,0.7s
HSPB Hornsund (broa 50.72 355 *e*P **P** **03 57 00.9 -0.1**
BLYC Blythe 50.73 83 IAmb IAmb 03 57 03.3
comp=Z,41nm,0.9s
NACB Ninganchiao 50.84 259 P **P** **03 57 01.9 -0.7**
NACB IAmb IAmb 03 57 03.3
comp=Z,47nm,1.1s
NACB Ninganchiao 50.84 259 P **P** **03 57 02.4 -0.2**
ULM Lac du Bonnet 50.90 56 P **P** **03 57 02.1 -0.6**
comp=Z,30nm,0.6s,baz=302,slow=7.4,SNR=28
ULM LR LR 04 18 59.5
comp=Z,93nm,19.0s,baz=315,slow=36
comp=Z,30nm,0.6s
DAG Danmarks Havn 50.98 5 *i* P **P** **03 57 02.5 -0.4**
DAG IAmb IAmb 03 57 03.2
comp=Z,5.8nm,0.6s
ESJX Sierra Juarez 51.05 86 IAmb IAmb 03 57 05.6
comp=Z,35nm,0.8s
CPBX Cerro Prieto 51.16 85 IAmb IAmb 03 57 06.2
comp=Z,58nm,1.3s
WUAZ Wupatki 51.47 79 IAmb IAmb 03 57 08.6
comp=Z,62nm,1.3s
SSLB Suanglung 51.52 259 IAmb IAmb 03 57 09.4
comp=Z,48nm,0.8s
SSLB Suanglung 51.52 259 P **P** **03 57 08.0 +0.3**
YULB Yu-li 51.60 259 P **P** **03 57 08.1 -0.2**
YULB Yu-li 51.60 259 P **P** **03 57 08.3 -0.1**
XAN Xi'an 51.64 278 ⇓P **P** **03 57 08.6 0.0**
XAN pP pP 03 57 41.4 +1.5
XAN sP sP 03 57 54.7 -0.2
XAN pmax pmax
comp=Z,32nm,1.0s
NIAQ Niaqornat 51.97 19 *i* P **P** **03 57 10.4 -0.1**
NIAQ IAmb IAmb 03 57 12.9
comp=Z,42nm,0.6s
TPUB Ta-pu 52.08 259 P **P** **03 57 11.9 0.0**
ISCO Idaho Springs 52.09 72 P **P** **03 57 11.9 -0.3**
ISCO pmax pmax
comp=Z,21nm,1.2s
AGMN Agassiz Nation 52.11 58 IAmb IAmb 03 57 11.9
comp=Z,57nm,0.9s
ZALV Zalesovo Beam 52.14 312 P **P** **03 57 11.2 -0.7**
comp=Z,1.7nm,0.4s,baz=79,slow=8.0,SNR=5.1
ZALV PcP **PcP** **03 58 22.2 +0.4**
comp=Z,2.9nm,0.4s,baz=10,slow=3.2,SNR=7.9
ZALV ScP **ScP** **04 02 06.8 +1.3**
comp=Z,4.2nm,0.8s,baz=42,slow=4.8,SNR=9.8
comp=Z,1.7nm,0.4s
X16A Lo Mia Camp, P 52.17 81 IAmb IAmb 03 57 14.1
comp=Z,23nm,0.8s
EPLO Experimental L 52.34 55 IAmb IAmb 03 57 13.8
comp=Z,62nm,0.9s
S22A 4UR Ranch, Cre 52.72 74 IAmb IAmb 03 57 18.1
comp=Z,74nm,1.7s
W18A Petrified Fore 52.73 79 IAmb IAmb 03 57 17.9
comp=Z,37nm,1.0s
SUSD Miller 52.89 63 IAmb IAmb 03 57 17.9
comp=Z,50nm,0.8s
X18A Snowflake 53.00 79 IAmb IAmb 03 57 20.0
comp=Z,27nm,0.6s
214A Organ Pipe Nat 53.01 84 IAmb IAmb 03 57 19.7
comp=Z,42nm,1.1s
SUMG Summit 53.06 13 P **P** **03 57 18.9 -0.1**
SUMG Summit 53.06 13 P **P** **03 57 18.9 -0.1**
SUMG pmax pmax
comp=Z,26nm,1.1s
SUMG Summit 53.06 13 *i* P **P** **03 57 18.0 -1.0**
SUMG IAmb IAmb 03 57 20.0
comp=Z,13nm,0.6s
LZH Lanzhou 53.34 284 ⇓P **P** **03 57 22.1 +0.9**
LZH pP pP 03 57 52.2 -0.7
LZH pmax pmax
comp=Z,59nm,1.1s
LZH LR LR
comp=Z,210nm,16.3s
LZH LR LR
comp=Z,180nm,14.4s
FRB Frobisher Bay 53.42 31 LR LR 04 24 50.3
comp=Z,60nm,18.4s,baz=316,slow=41
SDCO Great Sand Dun 53.51 73 IAmb IAmb 03 57 23.6
comp=Z,34nm,1.2s
GTA Gaotai 53.52 289 P **P** **03 57 22.8 +0.4**
GTA pP pP 03 57 53.0 -0.8
GTA ScP **ScP** **04 02 13.8 +1.8**
GTA S **S** **04 04 45.6 +1.0**

GTA pmax pmax
comp=Z,100nm,0.7s
LZDM Lanzhou Array 53.52 284 P **P** **03 57 23.6 +0.9**
comp=Z,4.6nm,0.5s,baz=354,slow=1.5,SNR=11
LZDM PcP **PcP** **03 58 28.1 +0.4**
comp=Z,4.4nm,0.6s,baz=87,slow=4.9,SNR=1.8
comp=Z,4.6nm,0.5s
ILULI Ilulissat 53.77 20 *i* P **P** **03 57 24.2 +0.6**
ILULI IAmb IAmb 03 57 25.0
comp=Z,16nm,0.7s
ENH Enshi 53.89 274 P **P** **03 57 24.9 -0.2**
TUC Tucson 54.01 82 P **P** **03 57 26.3 +0.3**
TUC IAmb IAmb 03 57 27.2
comp=Z,31nm,1.1s
TUC Tucson 54.01 82 P **P** **03 57 26.3 +0.3**
TUC pmax pmax
comp=Z,31nm,1.2s
TUC Tucson 54.01 82 P **P** **03 57 26.1 +0.1**
TUC pP **pP** **03 57 57.7 -0.2**
T25A Trinidad 54.56 73 IAmb IAmb 03 57 31.2
comp=Z,69nm,1.2s
ANMO Albuquerque 54.82 77 P **P** **03 57 31.9 -0.1**
ANMO Albuquerque 54.82 77 LR LR 04 18 55.7
comp=Z,38nm,20.3s,baz=58,slow=34
ANMO Albuquerque 54.82 77 *ce*P **P** **03 57 32.0 -0.1**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 54.82 77 P **P** **03 57 32.0 -0.1**
DUN6 Lazy B Ranch 54.87 81 IAmb IAmb 03 57 33.7
comp=Z,77nm,1.3s
BGNE Belgrade 55.32 65 IAmb IAmb 03 57 35.0
comp=Z,39nm,0.6s
319A Douglas 55.57 82 IAmb IAmb 03 57 38.6
comp=Z,39nm,1.0s
121A Cookes Peak, D 55.68 80 IAmb IAmb 03 57 39.4
comp=Z,20nm,0.8s
SPMN Marine on St. 55.70 59 IAmb IAmb 03 57 38.4
comp=Z,35nm,0.6s
SFJD Kangerlussuaq 55.70 21 LR LR 04 23 53.2
comp=Z,105nm,18.9s,baz=102,slow=38
VADS Vadso 56.02 348 *eP* **P** **03 57 40.2 +0.4**
RTBA Rita Blanca 56.02 73 IAmb IAmb 03 57 40.9
comp=Z,55nm,1.3s
ZSN Zaisan 56.34 306 *eP* **P** **03 57 42.4 -0.1**
comp=Z,14nm,1.3s
ZSN Zaisan 56.34 306 *eP* **P** **03 57 42.3 -0.1**
ZSN pmax pmax
comp=Z,14nm,1.3s
SZP Santa 56.57 255 P **P** **03 57 45.4 +1.0**
SRIG Santa Rosalia 56.63 87 IAmb IAmb 03 57 45.6
comp=Z,36nm,0.9s
CD2 Chengdu 56.95 279 P **P** **03 57 47.2 +0.2**
CD2 pmax pmax
comp=Z,40nm,0.6s
EPT El Paso 56.99 79 IAmb IAmb 03 57 48.8
comp=Z,52nm,0.9s
R32A Long Quarter, 57.01 68 IAmb IAmb 03 57 47.2
comp=Z,33nm,0.6s
G40A Rib Lake 57.03 57 IAmb IAmb 03 57 47.8
comp=Z,41nm,1.0s
ARA0 ARCESS Array S 57.05 349 *eP* **P** **03 57 47.7 +0.6**
ARCES ARCESS Array B 57.05 349 P **P** **03 57 46.8 -0.4**
ARCES IAmb IAmb 03 58 59.8
comp=Z,80nm,1.9s
ARCES ARCESS Array B 57.05 349 P **P** **03 57 46.9 -0.2**
comp=Z,12nm,1.0s,baz=30,slow=8.2,SNR=28
comp=Z,12nm,1.0s
DY2G Dye2 57.08 20 *i* P **P** **03 57 46.3 -1.3**
DY2G IAmb IAmb 03 57 47.7
comp=Z,61nm,1.2s
KURK Kurchatov 57.13 312 P **P** **03 57 48.0 +0.1**
KURK IAmb IAmb 03 58 25.4
comp=Z,28nm,0.9s
KURK Kurchatov 57.13 312 *i* P **P** **03 57 47.6 -0.3**
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 57.13 312 P **P** **03 57 48.0 +0.1**
KURK pP **pP** **03 58 17.3 -1.5**
KURK ScP **ScP** **04 02 28.5 +1.0**
KURBB Kurchatov Arra 57.23 312 P **P** **03 57 48.6 0.0**
comp=Z,12nm,0.6s,baz=42,slow=6.7,SNR=97
KURBB pP **pP** **03 58 18.6 -1.0**
comp=Z,7.8nm,0.8s,baz=47,slow=7.0,SNR=4.6
KURBB ScP **ScP** **04 02 29.0 +1.0**
comp=Z,4.9nm,0.9s,baz=45,slow=4.2,SNR=11
KURBB S **S** **04 05 26.5 -6.9**
comp=Z,12nm,0.6s
LVZ Lovozero 57.27 344 *ce*P **P** **03 57 48.8 +0.1**
LVZ pmax pmax
comp=Z,80nm,2.5s
WMQ Urumqi 57.33 301 *eP* P 03 57 54.5 +4.9
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,150nm,24.2s
KUQ Kuujjuuaa 57.57 35 IAmb IAmb 03 57 51.5
comp=Z,46nm,0.8s
JETT Jettan, Norway 57.59 351 *eP* **P** **03 57 51.5 +0.7**
TRO Tromso 57.65 352 *eP* **P** **03 57 51.6 +0.4**
MSTX Muleshoe 57.70 75 IAmb IAmb 03 57 53.0
comp=Z,86nm,1.6s
AMTX Amarillo 57.71 73 IAmb IAmb 03 57 52.5
comp=Z,18nm,0.8s
MNTX Cornudas Mount 57.72 79 IAmb IAmb 03 57 53.5
comp=Z,30nm,0.8s
KSU1 Kansas State U 57.75 66 IAmb IAmb 03 57 52.0
comp=Z,26nm,0.8s
I40A Norwalk 57.75 59 IAmb IAmb 03 57 52.8
comp=Z,56nm,1.1s
F42A Maple Grove Fa 57.76 56 IAmb IAmb 03 57 53.2
comp=Z,51nm,0.8s
APA Apatity 57.77 345⇓ *eP* **P** **03 57 52.2 +0.1**
APA *e* 03 58 42.9
APA *e* 04 00 00.0
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,463nm,2.3s
KTK1 Kautokeino 57.81 350 *eP* **P** **03 57 52.8 +0.4**
MK31 Makanchi Array 58.08 306 *i* P **P** **03 57 53.7 -1.0**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 58.08 306 P **P** **03 57 54.3 -0.3**
MKAR Makanchi Array 58.08 306 P **P** **03 57 54.1 -0.5**
comp=Z,11nm,0.8s,baz=51,slow=6.0,SNR=45
MKAR pP **pP** **03 58 25.6 -0.2**
comp=Z,4.2nm,0.9s,baz=43,slow=7.3,SNR=3.0
MKAR ScP **ScP** **04 02 33.6 +1.8**
comp=Z,1.9nm,0.9s,baz=32,slow=3.2,SNR=4.4
MKAR S **S** **04 05 42.7 -1.8**
comp=Z,1.7nm,1.0s,baz=33,slow=24,SNR=3.6
MKAR LR LR 04 22 41.7
comp=Z,41nm,20.1s,baz=0.0,slow=36
comp=Z,11nm,0.8s
KAN08 Anthony NE Sta 58.26 69 IAmb IAmb 03 57 55.5
comp=Z,30nm,0.6s
GYA Guiyang 58.34 273 ⇑P **P** **03 57 57.2 +0.3**
GYA sP PcP 03 58 46.8 +0.4
GYA pmax pmax
comp=Z,36nm,0.7s
SMWD Samnorwood 58.41 72 IAmb IAmb 03 57 57.8
comp=Z,21nm,0.8s
KAN01 Argonia South 58.43 69 IAmb IAmb 03 57 57.0
comp=Z,67nm,1.2s
GOMU GeErMu 58.60 290 P **P** **03 57 58.5 -0.4**
GOMU pmax pmax
comp=Z,24nm,0.8s
VHRN Van Horn 58.60 79 IAmb IAmb 03 57 59.8
comp=Z,20nm,0.8s
JFWS Jewell Farm 58.62 59 IAmb IAmb 03 57 58.1
comp=Z,67nm,1.2s
L40A Anamosa 58.69 61 IAmb IAmb 03 57 58.6
comp=Z,25nm,0.7s
CROK Carrier 58.75 70 IAmb IAmb 03 57 59.3
comp=Z,36nm,0.7s
TGY Tagaytay City 58.99 252 P **P** **03 58 02.3 +0.9**
comp=Z,175nm,0.5s,baz=330,slow=1.5,SNR=12
DKNS Dickens 59.01 74 IAmb IAmb 03 58 02.0
comp=Z,29nm,0.9s
POST Post 59.09 75 IAmb IAmb 03 58 02.4
comp=Z,38nm,0.8s
BVAR Borovoye Array 59.09 318 P **P** **03 58 02.0 +0.5**
comp=Z,13nm,0.5s,baz=44,slow=7.8,SNR=41
BVAR pP **pP** **03 58 32.6 -0.2**
comp=Z,11nm,0.7s,baz=52,slow=7.7,SNR=3.0
BVAR ScP **ScP** **04 02 37.9 +1.7**
comp=Z,5.3nm,0.7s,baz=66,slow=3.9,SNR=7.1
BVAR S **S** **04 05 55.6 -1.9**
comp=Z,3.2nm,1.0s,baz=44,slow=8.5,SNR=7.3
BVAR LR LR 04 24 19.4
comp=Z,78nm,20.2s,baz=34,slow=37
comp=Z,13nm,0.5s
BORK Borovoye 59.11 318 *ce*P **P** **03 58 02.2 +0.6**
BORK pmax pmax
comp=Z,16nm,1.0s
BORK Borovoye 59.11 318 P **P** **03 58 02.4 +0.8**
P38A Dawn 59.11 64 IAmb IAmb 03 58 24.3
comp=Z,25nm,0.7s
ODSA Odessa 59.13 76 IAmb IAmb 03 58 02.5
comp=Z,18nm,0.7s
T35A Sooner Cattle 59.31 68 IAmb IAmb 03 58 03.0
comp=Z,46nm,1.4s
OK048 Pawnee Station 59.41 69 IAmb IAmb 03 58 03.9
comp=Z,20nm,0.8s
OK051 E0350 and S346 59.41 69 IAmb IAmb 03 58 03.8
comp=Z,26nm,1.0s
SN07 Snyder 07 59.43 74 IAmb IAmb 03 58 06.3
comp=Z,17nm,0.6s
WMOK Wichita Mounta 59.52 72 IAmb IAmb 03 58 05.4
comp=Z,20nm,0.7s
L42A Oliver, Polo 59.56 60 IAmb IAmb 03 58 04.5
comp=Z,31nm,1.1s
LOF Lofoten 59.56 353 *eP* **P** **03 58 03.6 -0.8**
STEI Steigen 59.63 353 *eP* **P** **03 58 05.5 +0.6**
QUOK Quay 59.72 69 IAmb IAmb 03 58 05.9
comp=Z,21nm,0.7s
APMT Aspermont 59.73 74 IAmb IAmb 03 58 06.8
comp=Z,48nm,1.1s
SVE Sverdlovsk 59.95 326 *eP* **P** **03 58 08.7 +1.4**
SVE pmax pmax
comp=Z,16nm,1.0s
P40A Paris 60.00 63 IAmb IAmb 03 58 07.2
comp=Z,33nm,0.7s
FAUS Fauske 60.16 352 *eP* **P** **03 58 10.5 +1.9**
X34A Smith Ranch, M 60.17 71 IAmb IAmb 03 58 10.4
comp=Z,23nm,0.8s
BRZS Berezniki 60.33 314 *eP* **P** **03 58 10.0 -0.2**
BRZS Berezniki 60.33 314 *eP* **P** **03 58 09.9 -0.2**
WTFS Witchita Falls 60.39 72 IAmb IAmb 03 58 11.1
comp=Z,29nm,0.7s
TUL3 Leonard 60.43 69 IAmb IAmb 03 58 11.0
comp=Z,36nm,1.1s
TX31 Lajitas Ar. Si 60.44 79 IAmb IAmb 03 58 12.1
comp=Z,26nm,0.8s
TXAR Lajitas Array 60.44 79 P **P** **03 58 11.2 -0.1**
TXAR Lajitas Array 60.44 79 P **P** **03 58 10.9 -0.3**
comp=Z,18nm,0.7s,baz=300,slow=4.8,SNR=250
TXAR ScP **ScP** **04 02 41.4 -1.3**
comp=Z,1.0nm,0.8s,baz=297,slow=2.4,SNR=3.5
comp=Z,18nm,0.7s
SCHQ Schefferville 60.63 37 P **P** **03 58 12.0 0.0**
SCHQ Schefferville 60.63 37 P **P** **03 58 11.7 -0.3**
comp=Z,316nm,0.8s,baz=318,slow=6.2,SNR=31
SCHQ LR LR 04 24 42.1
comp=Z,586nm,18.9s,baz=292,slow=36
SLBS Sierra La Lagu 60.69 88 P **P** **03 58 13.4 +0.4**
SLBS IAmb IAmb 03 58 14.7
comp=Z,40nm,1.1s
SLBS Sierra La Lagu 60.69 88 P **P** **03 58 13.4 +0.4**
RLO Rose Lookout 60.69 68 IAmb IAmb 03 58 12.8
comp=Z,13nm,0.5s
R40A Maddies Statio 60.75 64 IAmb IAmb 03 58 12.0
comp=Z,89nm,2.0s
OZNA Ozona 60.83 76 IAmb IAmb 03 58 15.9
comp=Z,22nm,0.9s
HPIG 60.95 83 P **P** **03 58 14.1 -0.7**
LOOK Love County 60.98 71 IAmb IAmb 03 58 15.6
comp=Z,50nm,0.8s
ARTI Arti 61.07 327 P **P** **03 58 15.6 +0.7**
ARTI Arti 61.07 327 LR LR 04 25 49.7
comp=Z,52nm,19.3s,baz=76,slow=37
ARTI Arti 61.07 327 *d i*P **P** **03 58 15.7 +0.7**
ARTI *PP **pP** **03 58 46.6 +0.3**
ARTI 03 58 59.2
ARTI S **S** **04 06 25.4 +2.8**
ARTI SS **SS** **04 10 21.8 -1.8**
ARTI pmax pmax
comp=Z,23nm,0.7s
ARTI Arti 61.07 327 P **P** **03 58 15.7 +0.7**
ARTI pP **pP** **03 58 47.5 +1.2**
PLPT Palo Pinto 61.16 73 IAmb IAmb 03 58 16.5
comp=Z,34nm,0.8s
IVI Ivigtut 61.19 24 *i* P **P** **03 58 14.8 -0.8**
IVI IAmb IAmb 03 58 15.9
comp=Z,24nm,0.6s
RAUS Rausandaksla 61.19 353 *eP* **P** **03 58 16.5 +0.8**
J47A Sunmer 61.22 56 IAmb IAmb 03 58 17.3
comp=Z,53nm,1.1s
TDK Taldyqorghan 61.26 307 *eP* **P** **03 58 16.6 +0.1**
comp=Z,17nm,1.1s
TDK Taldyqorghan 61.26 307 *eP* **P** **03 58 16.6 +0.1**
TDK pmax pmax
comp=Z,17nm,1.1s
P43A Skaggs, Pawnee 61.30 62 IAmb IAmb 03 58 16.1
comp=Z,24nm,0.5s
PZH PanZhiHua 61.34 277 P **P** **03 58 18.8 +1.5**
Z35A Perchaven, San 61.41 72 IAmb IAmb 03 58 17.8
comp=Z,34nm,0.8s
MOR8 Moi Rana 61.42 353 *eP* **P** **03 58 16.6 -0.6**
CCM Cathedral Cave 61.48 64 P **P** **03 58 16.4 -1.6**
CCM Cathedral Cave 61.48 64 P **P** **03 58 16.4 -1.6**
CCM pmax pmax
comp=Z,9.0nm,0.6s
CCM Cathedral Cave 61.48 64 P **P** **03 58 16.4 -1.6**
FW06 Azle 61.49 72 IAmb IAmb 03 58 18.6
comp=Z,35nm,0.7s
LEIR Leirfjorden 61.58 353 *eP* **P** **03 58 19.1 +0.8**
KMI Kunming 61.73 275 ⇑P **P** **03 58 19.8 -0.3**
KMI pmax pmax
comp=Z,17nm,0.6s
BRDY Brady 61.84 74 IAmb IAmb 03 58 21.2
comp=Z,64nm,1.5s
QIZ Qiongzhong 61.88 265 IAmb IAmb 03 58 22.7
comp=Z,23nm,1.0s
QIZ Qiongzhong 61.88 265 P **P** **03 58 21.3 +0.4**
QIZ S **S** **04 06 34.8 +1.0**
QIZ SS **SS** **04 10 37.2 -0.8**
QIZ pmax pmax
comp=Z,27nm,1.2s
QIZ LR LR
comp=Z,100nm,17.9s
QIZ LR LR
comp=Z,130nm,15.6s
QIZ LR LR
comp=Z,110nm,15.3s
QIZ Qiongzhong 61.88 265 P **P** **03 58 22.2 +1.3**
PDGK Podgornoye 61.93 305 P **P** **03 58 20.6 -0.5**
JCT Junction City 61.94 76 IAmb IAmb 03 58 22.0
comp=Z,30nm,1.0s
FW13 Cleburne 62.01 73 IAmb IAmb 03 58 22.2
comp=Z,43nm,0.8s
SHLS Shalkode 62.07 305 *eP* **P** **03 58 20.8 -1.3**
comp=Z,7.5nm,0.4s
SHLS Shalkode 62.07 305 *eP* **P** **03 58 20.7 -1.3**
SHLS pmax pmax
comp=Z,7.0nm,0.4s
KIRV Kirov 62.08 332 *ce*P **P** **03 58 23.7 +2.1**
TATA Tatamba Isabel 62.24 201 P **P** **03 58 24.0 +0.8**
WHTX Lake Whitney, 62.25 73 IAmb IAmb 03 58 23.9
comp=Z,37nm,0.8s
UZB Uzynbulak 62.30 305 *eP* **P** **03 58 23.4 -0.2**
UZB Uzynbulak 62.30 305 *eP* **P** **03 58 23.3 -0.2**
BUKO Buck Lake 62.31 51 IAmb IAmb 03 58 23.7
comp=Z,58nm,0.9s
ALEG Aligegeo Malai 62.41 199 P **P** **03 58 24.7 +0.4**
FCAR Ozark Folk Cen 62.54 66 IAmb IAmb 03 58 24.3
comp=Z,51nm,0.8s
P46A Rosedale 62.57 60 IAmb IAmb 03 58 24.9
comp=Z,25nm,0.6s
KLMR Klimovskoe 62.64 339 *eP* **P** **03 58 25.2 -0.2**
KLMR *e*PP **pP** **03 58 55.9 -1.1**
KLMR *e* 03 59 04.4
KLMR pmax pmax
comp=Z,20nm,1.3s
MIAR Mount Ida 62.67 68 IAmb IAmb 03 58 26.4
comp=Z,30nm,1.0s
Z38A Mt. Pleasant 62.79 70 IAmb IAmb 03 58 27.1
comp=Z,57nm,0.9s
PBMO Poplar Bluff 62.85 64 IAmb IAmb 03 58 26.6
comp=Z,29nm,0.9s
WHAR Wooly Hollow 62.87 67 IAmb IAmb 03 58 26.9
comp=Z,55nm,1.5s
JAY Jayapura 62.90 223 P **P** **03 58 29.0 +1.3**
comp=Z,543nmcomp=Z,32nm,1.2s
SADO Sadowa 62.92 51 IAmb IAmb 03 58 28.0
comp=Z,31nm,0.9s
SADO Sadowa 62.92 51 LR LR 04 26 17.9
comp=Z,772nm,19.7s,baz=350,slow=36
SAVO Savo Central 62.98 200 P **P** **03 58 28.4 +0.3**
435B Jarrell 63.05 74 IAmb IAmb 03 58 29.5
comp=Z,49nm,0.9s
O48B Farmland 63.19 58 IAmb IAmb 03 58 28.2
comp=Z,21nm,0.6s
237A Washetta, Mont 63.21 72 IAmb IAmb 03 58 30.1
comp=Z,28nm,0.8s
N49A Columbus Grove 63.22 57 IAmb IAmb 03 58 30.2
comp=Z,46nm,1.1s
HNR Honiara 63.22 200 LR LR 04 20 17.7
comp=Z,24nm,21.3s,baz=32,slow=30
NSS Namsos 63.23 353 *eP* **P** **03 58 28.8 -0.4**
MDOK Medeo 63.27 306 *eP* **P** **03 58 30.1 +0.1**
MDOK Medeo 63.27 306 *eP* **P** **03 58 30.1 +0.1**
AAA Alma-Ata 63.30 307 *eP* **P** **03 58 30.4 +0.3**
comp=Z,10nm,0.4s
AAA Alma-Ata 63.30 307 *eP* **P** **03 58 30.4 +0.3**
AAA pmax pmax
comp=Z,10.0nm,0.4s
BTLS Baital 63.34 310 *eP* **P** **03 58 30.2 -0.1**
BTLS Baital 63.34 310 *eP* **P** **03 58 30.1 -0.1**
TNSS Tian-Shan 63.41 306 *eP* **P** **03 58 30.8 -0.5**
TNSS Tian-Shan 63.41 306 *eP* **P** **03 58 30.8 -0.5**
WLAR White Oak Lake 63.56 69 IAmb IAmb 03 58 32.2
comp=Z,33nm,0.8s
O49A Covington 63.67 58 IAmb IAmb 03 58 32.5
comp=Z,48nm,1.4s
SLVN Son La 63.81 271 P **P** **03 58 34.4 +0.6**
TRQ Mont Tremblant 63.99 48 IAmb IAmb 03 58 34.0
comp=Z,38nm,0.9s
NATX Nacogdoches 64.06 71 IAmb IAmb 03 58 35.9
comp=Z,22nm,0.7s
WCI Wyandotte Cave 64.06 61 P **P** **03 58 34.2 -0.9**
WCI Wyandotte Cave 64.06 61 P **P** **03 58 34.2 -0.9**
WCI pmax pmax
comp=Z,29nm,1.2s
MLDN Muldoon 64.08 74 IAmb IAmb 03 58 36.3
comp=Z,47nm,0.7s
LDAQ Lac Daran 64.13 44 IAmb IAmb 03 58 35.6
comp=Z,25nm,0.9s
SGDS Sogindy 64.24 308 *eP* **P** **03 58 36.5 +0.2**
MEDO Medina 64.45 52 IAmb IAmb 03 58 38.2
comp=Z,62nm,0.9s
ERPA Erie 64.47 54 IAmb IAmb 03 58 38.4
comp=Z,40nm,0.8s
T47A Sharon Grove 64.53 62 IAmb IAmb 03 58 38.5
comp=Z,39nm,0.8s
PECO Prince Edward 64.58 51 IAmb IAmb 03 58 38.5
comp=Z,56nm,1.1s
R49A Shelbyville 64.62 60 IAmb IAmb 03 58 39.3
comp=Z,39nm,1.5s
FINES FINESS Array B 64.65 346 P **P** **03 58 37.6 -0.9**
comp=Z,5.0nm,0.7s,baz=26,slow=7.7,SNR=17
FINES LR LR 04 30 46.4
comp=Z,39nm,18.4s,baz=311,slow=40
comp=Z,5.0nm,0.7s
HKT Hockley 64.69 73 P **P** **03 58 39.4 +0.2**
HKT Hockley 64.69 73 *i* P **P** **03 58 39.2 +0.1**
HKT pmax pmax
comp=Z,47nm,1.9s
HKT Hockley 64.69 73 P **P** **03 58 39.3 +0.1**
HKT PcP **PcP** **03 59 09.6 -2.1**
WVT Waverly 64.76 63 P **P** **03 58 38.7 -1.0**
WVT Waverly 64.76 63 P **P** **03 58 38.7 -1.0**
WVT pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 64.76 63 P **P** **03 58 38.7 -1.0**
AAK Ala-Archa 64.92 308 P **P** **03 58 41.6 +0.8**
AAK Ala-Archa 64.92 308 P **P** **03 58 41.6 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 64.92 308 P **P** **03 58 41.5 +0.7**
MNTQ Montreal, Queb 64.96 47 IAmb IAmb 03 58 40.0
comp=Z,26nm,1.0s
N53A Lisbon 65.02 55 IAmb IAmb 03 58 42.2
comp=Z,44nm,1.3s
O52A Adamsville 65.02 56 P **P** **03 58 40.5 -0.8**
O52A IAmb IAmb 03 58 41.4
comp=Z,37nm,0.8s
PAOC Oil Creek Stat 65.07 54 IAmb IAmb 03 58 41.9
comp=Z,47nm,1.3s
R50A Paris 65.08 59 IAmb IAmb 03 58 42.2
comp=Z,33nm,1.3s
PAMR Moraine State 65.29 55 IAmb IAmb 03 58 43.0
comp=Z,58nm,1.7s
LSA Lhasa 65.39 287 IAmb IAmb 03 58 46.8
comp=Z,28nm,0.9s
J57A Williamstown 65.45 50 IAmb IAmb 03 58 44.0
comp=Z,74nm,1.4s
Y45A Yeager Farm, C 65.46 66 IAmb IAmb 03 58 44.3
comp=Z,45nm,0.8s
PLAL Pickwick Lake 65.46 64 IAmb IAmb 03 58 43.4
comp=Z,18nm,0.7s
U49A Red Boiling Sp 65.60 62 IAmb IAmb 03 58 44.7
comp=Z,18nm,0.6s
CLTN Cedars of Leba 65.61 62 IAmb IAmb 03 58 45.5
comp=Z,22nm,0.8s
O54A Avella 65.72 55 IAmb IAmb 03 58 46.7
comp=Z,34nm,1.3s
P53A Whipple 65.72 57 IAmb IAmb 04 00 39.5
comp=Z,40nm,1.5s
T50A Nancy 65.73 61 IAmb IAmb 03 58 46.5
comp=Z,123nm,1.8s
D62A Allapoint, All 65.75 44 IAmb IAmb 03 58 46.2
comp=Z,50nm,1.1s
SWI Sorong 65.77 233 P **P** **03 58 46.5 +0.1**
ZAIG Zacatecas 65.91 84 P **P** **03 58 47.4 -0.2**
E62A Clayton Lake 65.91 44 IAmb IAmb 03 58 46.9
comp=Z,58nm,1.2s
S51A Beattyville 65.94 59 IAmb IAmb 03 58 47.2
comp=Z,67nm,1.9s
AKTO Aktyubinsk 65.98 323 P **P** **03 58 47.8 +0.5**
comp=Z,23nm,0.7s,baz=45,slow=5.6,SNR=56
AKTO LR LR 04 28 43.6
comp=Z,50nm,19.0s,baz=76,slow=37
comp=Z,23nm,0.7s
J59A Piesco 66.11 49 IAmb IAmb 03 58 47.7
comp=Z,40nm,1.1s
AB31 Akbulak array 66.20 321 *i* P **P** **03 58 49.1 +0.4**
ABKAR Akbulak array 66.20 321 P **P** **03 58 49.4 +0.7**
KK31 Karatay Array 66.47 310 *i* P **P** **03 58 50.6 0.0**
KKAR Karatay Array 66.47 310 P **P** **03 58 51.0 +0.4**
KKAR Karatay Array 66.47 310 P **P** **03 58 51.0 +0.4**
SWET Sewanee 66.47 63 IAmb IAmb 03 58 50.2
comp=Z,121nm,1.9s
KSH Kashi 66.52 304 P **P** **03 58 55.2 +4.1**
KSH PcP **pP** **03 59 25.4 +2.4**
KSH pmax pmax
comp=Z,16nm,0.7s
ACCN Adirondack Com 66.56 49 IAmb IAmb 03 58 51.0
comp=Z,53nm,1.1s
G62A West of Eustis 66.57 46 IAmb IAmb 03 58 51.8
comp=Z,38nm,1.0s
SSPA Standing Stone 66.63 54 P **P** **03 58 50.9 -0.6**
SSPA Standing Stone 66.63 54 P **P** **03 58 51.0 -0.6**
NB201 NORSAR Array S 66.73 353 IAmb IAmb 03 59 29.9
comp=Z,48nm,1.2s
NB2 NORSAR Subarra 66.75 353 P **P** **03 58 51.2 -0.8**
comp=Z,7.5nm,0.9s,baz=7.9,slow=6.5
NB2 NORSAR Subarra 66.75 353 P **P** **03 58 52.5 +0.5**
NB2 NORSAR Subarra 66.75 353 P **P** **03 58 51.2 -0.8**
baz=7.9,slow=6.5
NOA NORSAR Array B 66.75 353 P **P** **03 58 51.3 -0.8**
comp=Z,2.4nm,0.7s,baz=8.8,slow=6.3,SNR=18
NOA pP **pP** **03 59 24.6 +0.6**
comp=Z,11nm,0.9s,baz=7.4,slow=6.4,SNR=8.0
comp=Z,2.4nm,0.7s
Z47A Carrollton 66.78 66 IAmb IAmb 03 58 51.9
comp=Z,36nm,0.5s
H62A Milan 66.79 47 IAmb IAmb 03 58 52.6
comp=Z,61nm,0.9s
W50A Signal Mountai 66.83 62 IAmb IAmb 03 58 53.0
comp=Z,87nm,1.8s
L59A Walton 66.83 51 IAmb IAmb 03 58 53.2
comp=Z,25nm,0.9s
BRLS Borolday 66.85 311 *eP* **P** **03 58 54.8 +1.8**
BRLS Borolday 66.85 311 *eP* **P** **03 58 54.8 +1.8**
KSPA Keystone Colle 66.97 52 IAmb IAmb 03 58 54.0
comp=Z,29nm,0.9s
F64A Sherman 67.01 44 IAmb IAmb 03 58 53.9

comp=Z,39nm,0.8s
NORES **NORESS Array B** 67.02 353 P **P** 03 58 53.9 +0.2
N58A **Sunbury** 67.05 53 IAmb IAmb 03 58 54.7
comp=Z,75nm,1.0s
CPCT **Cooper Cave** 67.07 62 IAmb IAmb 03 58 54.5
comp=Z,70nm,1.9s
FAKI **Fak Fak** 67.08 231 P **P** 03 58 54.7 +0.1
FAKI IAmb IAmb 03 58 55.6
comp=Z,48nm,0.8s
FAKI **Fak Fak** 67.08 231 P **P** 03 58 54.8 +0.1
FAKI **Fak Fak** 67.08 231 P **P** 03 58 55.2 +0.5
comp=Z,62nm,0.8s
TKL **Tuckaleechee C** 67.32 61 LR LR 04 27 08.1
comp=Z,70nm,19.9s,baz=340,slow=35
IUG **Iuzhnay** 67.44 310 *e*P **P** 03 58 57.3 +0.5
comp=Z,7.5nm,0.5s
IUG **Iuzhnay** 67.44 310 *e*P **P** 03 58 57.3 +0.5
IUG pmax pmax
comp=Z,7.0nm,0.5s
HFS **Hagfors** 67.44 352 P **P** 03 58 55.3 -1.1
comp=Z,2.0nm,0.4s,baz=11,slow=2.2,SNR=19
comp=Z,2.0nm,0.4s
CHM **Chimkent** 67.51 310 *e*P **P** 03 58 57.3 +0.2
comp=Z,14nm,0.6s
CHM **Chimkent** 67.51 310 *e*P **P** 03 58 57.3 +0.2
CHM pmax pmax
comp=Z,14nm,0.6s
MYLDM **Lahad Datu** 67.57 248 IAmb IAmb 03 59 00.4
comp=Z,45nm,1.1s
MYLDM **Lahad Datu** 67.57 248 P **P** 03 58 59.1 +1.3
W52A **Murphy** 67.66 61 IAmb IAmb 03 58 58.4
comp=Z,44nm,1.5s
MOS **Moscow** 67.69 337 *e*P **P** 03 58 56.9 -1.1
MOS *e* 03 59 30.7
U54A **Nelsons Funny** 67.72 59 IAmb IAmb 03 58 59.3
comp=Z,135nm,2.0s
G65A **Princeton** 67.88 44 IAmb IAmb 03 58 59.1
comp=Z,30nm,0.8s
BELG **Belogornoye** 67.90 330 P **P** 03 58 58.7 -0.6
comp=Z,30nm,0.9s,baz=86,slow=2.1,SNR=9.6
BELG pP **pP** 03 59 32.9 +1.5
comp=Z,35nm,0.9s,baz=116,slow=0.2,SNR=5.7
comp=Z,30nm,0.9s
BELG **Belogornoye** 67.90 330 *i* P **P** 03 58 58.3 -1.0
BELG pmax pmax
comp=Z,5.0nm,0.9s
BLA **Blacksburg** 67.93 58 IAmb IAmb 03 59 00.1
comp=Z,100nm,1.9s
SHL **Shillong** 68.01 284 IAmb IAmb 03 59 01.4
comp=Z,53nm,1.0s
KONO **Kongsberg** 68.24 354 *e*P **P** 03 59 02.6 +1.3
S57A **Dark Hollow, R** 68.27 56 IAmb IAmb 03 59 02.3
comp=Z,92nm,1.9s
OBN **Obninsk** 68.51 337 P **P** 03 59 02.8 -0.2
comp=Z,8.5nm,0.5s,baz=248,slow=7.6,SNR=3.8
comp=Z,8.5nm,0.5s
OBN **Obninsk** 68.51 337 *e*P **P** 03 59 03.3 +0.2
OBN *e* 03 59 27.0
OBN *e**PP **pP** 03 59 35.4 +0.2
OBN *e**SP **sP** 03 59 48.1 -1.4
OBN *e* 04 01 37.6
OBN *e*PPP PPP 04 03 16.2
OBN pmax pmax
comp=Z,17nm,1.0s
LMN **Caledonia Moun** 68.51 42 IAmb IAmb 03 59 03.5
comp=Z,33nm,0.7s
V55A **Taylorsville** 68.54 59 IAmb IAmb 03 59 03.9
comp=Z,91nm,2.0s
250A **Grady** 68.70 65 IAmb IAmb 03 59 04.5
comp=Z,26nm,0.8s
CHTO **Chiang Mai** 68.76 274 P **P** 03 59 05.0 -0.3
CHTO **Chiang Mai** 68.76 274 P **P** 03 59 05.2 -0.1
CHTO **Chiang Mai** 68.76 274 P **P** 03 59 05.0 -0.3
CHTO pmax pmax
comp=Z,18nm,1.0s
KMSC **Kings Mountain** 69.02 60 IAmb IAmb 03 59 07.6
comp=Z,37nm,1.1s
CMAR **Chiang Mai Arr** 69.03 273 P **P** 03 59 07.0 +0.1
CMAR **Chiang Mai Arr** 69.03 273 P **P** 03 59 07.0 +0.1
comp=Z,12nm,0.8s,baz=26,slow=7.1,SNR=59
CMAR LR LR 04 31 06.5
comp=Z,18nm,19.3s,baz=190,slow=37
comp=Z,12nm,0.8s
CMAR **Chiang Mai Arr** 69.03 273 P **P** 03 59 07.0 +0.1
HODGE **Hodges** 69.21 61 IAmb IAmb 03 59 07.5
comp=Z,21nm,0.6s
EVN **Everest** 69.22 289 IAmb IAmb 03 59 10.7
comp=Z,63nm,1.6s
SANI **Sanana** 69.46 237 P **P** 03 59 09.0 -0.6
SANI **Sanana** 69.46 237 P **P** 03 59 08.9 -0.6
comp=Z,42nm,0.8s
MRSI **Marisa** 69.50 242 P **P** 03 59 09.5 -0.3
comp=Z,80nm,1.1s
TOLI2 **Tolitoli** 69.61 244 P **P** 03 59 09.8 -0.6
TOLI2 IAmb IAmb 03 59 10.8
comp=Z,38nm,0.9s
TOLI2 **Tolitoli** 69.61 244 P **P** 03 59 09.9 -0.6
V58A **Windy Hill, Pi** 69.69 58 IAmb IAmb 03 59 11.1
comp=Z,150nm,1.9s
JSC **Jenkinsville** 69.71 60 IAmb IAmb 03 59 10.6
comp=Z,21nm,0.5s
GAR **Garm** 69.74 308 IAmb IAmb 03 59 12.2
comp=Z,30nm,0.6s
154A **Montrose** 69.98 63 IAmb IAmb 03 59 11.7
comp=Z,28nm,0.8s
BRDH **Bariadhala** 70.31 282 LR LR 04 34 01.7
comp=Z,59nm,18.2s,baz=90,slow=39
CHGR **Chuyangaron** 70.57 308 IAmb IAmb 03 59 17.6
comp=Z,39nm,0.8s
SIMJ **Simiganj** 70.64 308 P **P** 03 59 17.2 +0.6
SIMJ pP **pP** 03 59 47.8 -1.3
MNK **Minsk** 70.93 342 *i* P **P** 03 59 18.3 +0.4
MNK *i* 03 59 37.8
MNK *i* *PP **pP** 03 59 50.2 0.0
MNK *i* PPP PPP 04 03 40.6
MNK *i* S **S** 04 08 23.6 +1.7
MNK *i* 04 09 09.6
MNK *i* SS **SS** 04 12 59.7 +3.6
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
456A **Hilliard** 72.01 63 IAmb IAmb 03 59 25.4
comp=Z,39nm,0.7s
NIL **Nilore** 72.42 302 P **P** 03 59 28.6 +1.3
NIL pmax pmax
comp=Z,41nm,1.2s
EKA **Eskdalemuir Ar** 72.95 1 P **P** 03 59 29.8 -0.2
comp=Z,2.9nm,0.8s,baz=358,slow=4.2,SNR=7.0
comp=Z,2.9nm,0.8s
SBUM **Sibu** 73.42 252 P **P** 03 59 33.9 +0.6
KBL **Kabul** 73.87 306 P **P** 03 59 35.6 -0.4
KBL **Kabul** 73.87 306 P **P** 03 59 35.6 -0.4
KBL pmax pmax
comp=Z,18nm,0.8s
AK21 **Malin Array Si** 74.23 340 P **P** 03 59 37.0 -0.5
AK22 **Malin Array Si** 74.23 340 P **P** 03 59 37.2 -0.3
AK03 **Malin Array Si** 74.24 340 P **P** 03 59 37.2 -0.3
AK04 **Malin Array Si** 74.25 340 P **P** 03 59 37.3 -0.3
AKASG **Malin Array Be** 74.26 340 P **P** 03 59 37.4 -0.3
AKASG **Malin Array Be** 74.26 340 P **P** 03 59 37.1 -0.6
comp=Z,7.1nm,0.5s,baz=25,slow=6.0,SNR=33
comp=Z,7.1nm,0.5s
AKASG **Malin Array Be** 74.26 340 P **P** 03 59 37.4 -0.3
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKBB **Malin Array Si** 74.26 340 *ce*P **P** 03 59 37.4 -0.3
AKBB pmax pmax
comp=Z,20nm,0.9s
AKBB **Malin Array Si** 74.26 340 P **P** 03 59 37.1 -0.6
AK20 **Malin Array Si** 74.27 340 P **P** 03 59 37.2 -0.5
KIEV **Kiev** 74.27 340 P **P** 03 59 37.4 -0.3
KIEV **Kiev** 74.27 340 ⇓P **P** 03 59 37.8 0.0
KIEV **Kiev** 74.27 340 P **P** 03 59 37.7 0.0
KIEV **Kiev** 74.27 340 P **P** 03 59 37.1 -0.6
comp=Z,77nm,0.9s
KIEV **Kiev** 74.27 340 P **P** 03 59 37.7 0.0
AK01 **Malin Array Si** 74.27 340 P **P** 03 59 37.2 -0.5
AK18 **Malin Array Si** 74.27 340 P **P** 03 59 37.2 -0.6
AK19 **Malin Array Si** 74.28 340 P **P** 03 59 37.3 -0.5
AK15 **Malin Array Si** 74.29 340 P **P** 03 59 37.3 -0.5
AK11 **Malin Array Si** 74.29 340 P **P** 03 59 37.3 -0.6
AK02 **Malin Array Si** 74.31 340 P **P** 03 59 37.4 -0.5
AK17 **Malin Array Si** 74.31 340 P **P** 03 59 37.4 -0.6
AK16 **Malin Array Si** 74.31 340 P **P** 03 59 37.7 -0.3
AK08 **Malin Array Si** 74.32 340 P **P** 03 59 37.7 -0.3
AK09 **Malin Array Si** 74.33 340 P **P** 03 59 37.7 -0.4
AK12 **Malin Array Si** 74.33 340 P **P** 03 59 37.7 -0.4
AK05 **Malin Array Si** 74.34 340 P **P** 03 59 37.7 -0.5
AK10 **Malin Array Si** 74.35 340 P **P** 03 59 37.7 -0.5
AK14 **Malin Array Si** 74.35 340 P **P** 03 59 37.7 -0.5
MI28 **Mi28,Pidlybu** 74.36 341 P **P** 03 59 38.4 +0.1
AK06 **Malin Array Si** 74.37 340 P **P** 03 59 38.3 0.0
AK13 **Malin Array Si** 74.38 340 P **P** 03 59 38.3 -0.1
AK07 **Malin Array Si** 74.41 340 P **P** 03 59 38.5 0.0
DZM **Mont Dzumac** 74.53 191 *e*LR LR 04 22 37.2
comp=Z,140nm,36.7s
PPT2 **Papeete2** 74.86 148 *e*LR LR 04 22 45.8
comp=Z,26nm,22.0s
KAPI **Kappang** 75.27 241 LR LR 04 38 40.0
comp=Z,27nm,18.1s,baz=2.0,slow=40
LUBAR **Lubar, Ukraine** 75.30 341 P **P** 03 59 43.2 -0.5
KSM **Kuching** 75.33 253 P **P** 03 59 44.8 +0.5
SURA **Surathani** 75.74 267 P **P** 03 59 47.3 +0.6
GOF **Gofitskoye** 75.79 329 *ce*P **P** 03 59 47.4 +0.8
MTSU **Mount Surprise** 75.86 213 P **P** 03 59 47.7 +0.5
comp=Z,16nm,0.9s
MTSU **Mount Surprise** 75.86 213 P **P** 03 59 47.6 +0.5
MTN **Manton Dam** 76.29 227 P **P** 03 59 49.6 -0.1
comp=Z,52nm,0.8s
MTN **Manton Dam** 76.29 227 P **P** 03 59 49.5 -0.1
MTN IAmb IAmb 03 59 50.5
comp=Z,30nm,0.7s
KWP **Kalwaria Pacla** 76.53 344 *e*P **P** 03 59 51.1 +0.4
KWP **Kalwaria Pacla** 76.53 344 P **P** 03 59 50.9 +0.2
comp=Z,26nm,0.9s
DPC **Dobruska-Polom** 76.78 348 *e*P P 04 00 04.0 +12
MORS **Morshin** 76.80 343 P **P** 03 59 52.5 +0.3
SHIU **Shidnytsya** 76.81 343 P **P** 03 59 52.4 +0.1
SORM **Soroca** 76.87 340 ⇓P **P** 03 59 52.7 +0.1
SORM **Soroca** 76.87 340 P **P** 03 59 52.7 +0.1
KVAR **Kislovodsk Arr** 76.89 329 LR LR 04 36 38.1
comp=Z,34nm,21.9s,baz=287,slow=38
KIV **Kislovodsk** 76.89 329 P **P** 03 59 53.0 0.0
KIV **Kislovodsk** 76.89 329 *e*P **P** 03 59 53.9 +1.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV **Kislovodsk** 76.89 329 P **P** 03 59 53.8 +0.9
SOEI **Soe** 76.91 235 P **P** 03 59 53.6 +0.3
SOEI **Soe** 76.91 235 P **P** 03 59 54.0 +0.7
comp=Z,35nm,0.9s
STHS **Stebnicka Huta** 76.98 345 *e*P **P** 03 59 54.3 +1.0
STHS **Stebnicka Huta** 76.98 345 *e*P **P** 03 59 54.3 +1.0
KBZ **Khabaz** 77.03 328 P **P** 03 59 54.5 +1.0
comp=Z,5.3nm,0.8s,baz=45,slow=4.3,SNR=8.0
comp=Z,5.3nm,0.8s
KBZ **Khabaz** 77.03 328 *ce*P **P** 03 59 54.8 +1.3
KBZ pmax pmax
comp=Z,7.0nm,1.1s
CTAO **Charters Tower** 77.05 211 P **P** 03 59 54.2 +0.4
CTAO **Charters Tower** 77.05 211 P **P** 03 59 54.3 +0.4
CTAO **Charters Tower** 77.05 211 P **P** 03 59 54.2 +0.4
CTAO pmax pmax
comp=Z,14nm,0.9s
KOLS **Kolonicke sedl** 77.28 344 *e*P **P** 03 59 55.3 +0.4
KOLS **Kolonicke sedl** 77.28 344 *e*P **P** 03 59 55.3 +0.4
AKT **Akhty** 77.36 324 *e*P **P** 03 59 56.3 +0.7
AKT *e* 04 00 05.1
AKT pmax pmax
comp=Z,9.0nm,0.9s
EDFI **Ende, Flores** 77.37 238 P **P** 03 59 54.5 -1.4
comp=Z,437nmcomp=Z,52nm,0.9s
MEM **Membach** 77.47 355 *d*P **P** 03 59 54.8 -1.1
comp=Z,13nm,0.9s
LANS **Liptovska Anna** 77.52 346 *e*P **P** 03 59 57.7 +1.4
LANS **Liptovska Anna** 77.52 346 *e*P **P** 03 59 57.7 +1.4
BATI **Baumata** 77.59 235 P **P** 03 59 57.6 +0.6
VRAC **Vranov** 77.77 348 P **P** 03 59 57.9 +0.3
comp=Z,1.7nm,0.7s,baz=358,slow=6.6,SNR=3.1
comp=Z,1.7nm,0.7s
VRAC **Vranov** 77.77 348 ⇓P **P** 03 59 58.1 +0.5
KORU **Korolevo** 77.88 343 P **P** 03 59 58.8 +0.6
BERU **Beregovo** 77.89 343 P **P** 03 59 58.9 +0.6
TREC **Trest** 77.92 348 *e*P P 04 00 10.0 +11
ZVC **Zvikov** 77.94 349 *e*P P 04 00 04.2 +5.7
BURAR **Bucovina Array** 78.01 342 P **P** 03 59 59.7 +0.7
BURAR **Bucovina Array** 78.01 342 ⇓P **P** 03 59 59.8 +0.7
BURAR **Bucovina Array** 78.01 342 P **P** 03 59 59.8 +0.7
SOC **Sochi** 78.16 330 *e*P **P** 03 59 56.7 -3.1
SOC *e* 04 02 53.9
SOC *e*PPP PPP 04 04 43.5
SOC *e*S **S** 04 09 37.9 -4.8
SOC *e*SS **SS** 04 14 48.6 +2.6
SOC *e*SSS SSS 04 18 13.2
KHC **Kasperske Hory** 78.31 350 *e*P P 04 00 11.2 +11
KHC *e*pP pwP 04 00 39.7 +1.1
GERES **GERESS Array B** 78.58 350 P **P** 04 00 02.0 -0.2
comp=Z,0.5nm,0.8s,baz=317,slow=5.6,SNR=2.0
ARCR **ARCALIA** 78.68 342 ⇓P **P** 04 00 04.4 +1.7
CONA **Conrad Observa** 79.22 348 *i* P **P** 04 00 06.9 +1.2
comp=Z,4.5nm,1.4s
CONA *i* pP **pwP** 04 00 43.7 +1.2
comp=Z,6.4nm,1.3s
DRGR 79.27 343 ⇓P **P** 04 00 06.6 +0.6
DRGR 79.27 343 P **P** 04 00 06.6 +0.6
MARR **Marisel-Cluj** 79.31 343 ⇓P **P** 04 00 06.8 +0.6
TURR **Turia** 79.34 341 ⇓P **P** 04 00 06.7 +0.4
RONA **Rosalia, Austr** 79.39 348 *i* P **P** 04 00 05.7 -0.8
comp=Z,2.2nm,0.7s
RONA *i* pP **pP** 04 00 42.7 +2.8
comp=Z,3.6nm,1.1s
MOA **Molln** 79.50 349 *i* P **P** 04 00 05.6 -1.5
comp=Z,3.8nm,1.1s
MOA *e*pP **pwP** 04 00 45.2 +1.2
comp=Z,7.1nm,2.0s
BIOA **Bad Ischl, Aus** 79.72 349 *i* P **P** 04 00 07.3 -1.1
comp=Z,1.5nm,0.6s
BIOA *e*pP **pP** 04 00 43.8 +2.0
comp=Z,6.2nm,1.3s
QIS **Mount Isa** 79.75 216 P **P** 04 00 07.7 -1.0
comp=Z,16nm,1.6s
QIS **Mount Isa** 79.75 216 P **P** 04 00 08.2 -0.5
KNRA **Kununurra** 79.86 228 P **P** 04 00 09.4 +0.1
comp=Z,24nm,0.9s
MLR **Muntele Rosu** 79.90 341 P **P** 04 00 10.6 +1.2
comp=Z,6.7nm,0.8s,baz=0.0,slow=7.1,SNR=8.9
comp=Z,6.7nm,0.8s
MLR **Muntele Rosu** 79.90 341 ⇑P **P** 04 00 11.3 +1.8
ARSA **Arzberg** 79.93 348 *e*P **P** 04 00 07.6 -1.9
comp=Z,4.0nm,1.2s
ARSA *i* pP **pP** 04 00 44.4 +1.6
comp=Z,3.0nm,0.9s
LESA **Schwarzleotal** 80.09 350 *e*pP pP 04 00 46.0 +2.2
comp=Z,4.2nm,1.3s
VOIR 80.13 341 ⇓P **P** 04 00 11.9 +1.3
VOIR 80.13 341 P **P** 04 00 11.9 +1.3
RETA **Reutte** 80.22 351 *i* P **P** 04 00 10.1 -1.0
comp=Z,3.1nm,1.4s
RETA *i* pP **pP** 04 00 46.5 +2.0
comp=Z,6.1nm,1.1s
ARR **Arges** 80.28 341 ⇑P **P** 04 00 13.2 +1.7
WATA **Walderalm** 80.29 351 *e*P **P** 04 00 11.6 +0.1
comp=Z,3.5nm,0.8s
WATA *e*pP **pP** 04 00 47.1 +2.1
comp=Z,13nm,1.0s
MOTA **Moosalm** 80.33 351 *e*pP pP 04 00 47.3 +2.2
comp=Z,12nm,1.1s
WTTA **Wattenberg** 80.36 351 *e*pP pP 04 00 47.8 +2.4
comp=Z,9.4nm,0.8s
KBA **Koelnbreinsper** 80.36 349 *i* pP pP 04 00 48.2 +2.8
comp=Z,26nm,0.9s
SURR **Surduc** 80.38 343 ⇑P **P** 04 00 12.4 +0.6
SQTA **Sankt Quirin** 80.44 351 *i* P **P** 04 00 11.3 -1.0
comp=Z,5.5nm,1.0s
SQTA *i* pP **pP** 04 00 48.0 +2.2
comp=Z,11nm,1.2s
LHMI **Lhok Sumawe** 80.46 266 P **P** 04 00 13.7 +1.0
DAVA **Damuels** 80.50 352 *e*P **P** 04 00 11.8 -0.9
comp=Z,5.6nm,1.1s
DAVA *i* pP **pP** 04 00 49.0 +2.9
comp=Z,10.0nm,1.2s
SOKA **Soboth** 80.56 348 *i* P **P** 04 00 11.7 -1.2
comp=Z,5.1nm,1.1s
SOKA *e*pP **pP** 04 00 48.7 +2.4
comp=Z,12nm,1.0s
BZS **Buzias** 80.60 344 ⇑P **P** 04 00 13.3 +0.3
BZS **Buzias** 80.60 344 P **P** 04 00 13.3 +0.3
GZR **Gura Zlata** 80.61 343 ⇑P **P** 04 00 13.5 +0.2
GZR **Gura Zlata** 80.61 343 P **P** 04 00 13.4 +0.2
FETA **Feichten** 80.69 351 *e*P **P** 04 00 13.0 -0.7
comp=Z,8.5nm,1.4s
FETA *i* pP **pP** 04 00 49.4 +2.3
comp=Z,8.5nm,0.9s
MYKA **Terra Mystica** 80.77 349 *i* P **P** 04 00 10.1 -4.0
comp=Z,1.4nm,0.5s
MYKA *e*pP **pP** 04 00 50.5 +3.0
comp=Z,5.3nm,1.1s
ABTA **Abfaltersbach** 80.78 350 *e*P **P** 04 00 12.5 -1.6
comp=Z,6.8nm,1.3s
ABTA *e*pP **pP** 04 00 49.6 +2.1
comp=Z,11nm,1.0s
OBKA **Obir** 80.78 349 *i* P **P** 04 00 10.5 -3.6
comp=Z,4.4nm,1.1s
OBKA *e*pP **pwP** 04 00 50.9 -0.4
comp=Z,8.7nm,0.8s
PSI **Prapat** 81.14 263 LR LR 04 41 25.6
comp=Z,66nm,18.1s,baz=248,slow=39
PSI **Prapat** 81.14 263 P **P** 04 00 16.5 0.0
WR8 **Warramunga Arr** 81.17 221 P **P** 04 00 16.0 -0.3
WRAB **Tennant Creek** 81.21 221 P **P** 04 00 16.0 -0.5
WRA **Warramunga Arr** 81.22 221 P **P** 04 00 15.5 -1.0
WRA **Warramunga Arr** 81.22 221 P **P** 04 00 16.2 -0.4
comp=Z,17nm,0.7s,baz=32,slow=6.1,SNR=157
WRA PKKPbc **PKKPbc** 04 18 50.1 +0.2
comp=Z,0.3nm,0.5s,baz=224,slow=2.6,SNR=7.2
comp=Z,17nm,0.7s
BKNI **Bangkinang** 81.80 260 P **P** 04 00 20.5 +0.7
BKNI **Bangkinang** 81.80 260 P **P** 04 00 23.4 +3.6
HYB **Hyderabad** 82.16 288 *e*P **P** 04 00 22.0 +0.3
HYB *e*PP **PP** 04 03 31.5 +0.1
HYB *e*S **S** 04 10 26.4 +1.1
TEOL **Teolo** 82.24 350 IAmb IAmb 04 01 02.0
comp=Z,36nm,0.8s
BOVS **Bovan** 82.50 343 ⇓P **P** 04 00 23.3 +0.2
FITZ **Fitzroy Crossi** 83.41 229 P **P** 04 00 28.5 +0.5
comp=Z,9.6nm,1.0s
FITZ **Fitzroy Crossi** 83.41 229 P **P** 04 00 28.4 +0.5
BRTR **Keskin Array B** 83.48 333 P **P** 04 00 28.8 +0.4
comp=Z,2.7nm,0.8s,baz=70,slow=3.1,SNR=16
comp=Z,2.7nm,0.8s
SIUN **Universidad Ur** 83.63 76 IAmb IAmb 04 01 04.4
comp=Z,45nm,0.2s
QLP **Quilpie** 83.76 210 P **P** 04 00 30.2 +0.7
comp=Z,72nm,1.3s
QLP **Quilpie** 83.76 210 P **P** 04 00 30.2 +0.7
ASAR **Alice Springs** 84.74 220 P **P** 04 00 34.8 +0.2
comp=Z,10nm,0.8s,baz=24,slow=5.1,SNR=84
comp=Z,10nm,0.8s
ASAR **Alice Springs** 84.74 220 P **P** 04 00 34.9 +0.3
CMSA **Cobar Meteorol** 87.97 207 P **P** 04 00 51.3 +1.2
comp=Z,28nm,1.0s
CMSA **Cobar Meteorol** 87.97 207 P **P** 04 00 51.5 +1.4
WRKA **Warakurna** 88.27 224 P **P** 04 00 52.0 +0.3
comp=Z,16nm,1.2s
ESDC **Sonseca Array** 88.61 2 P **P** 04 00 51.8 -1.6
comp=Z,0.9nm,0.8s,baz=353,slow=4.5,SNR=7.4
ESDC pP **pP** 04 01 27.5 +0.3
comp=Z,2.2nm,0.9s,baz=356,slow=4.7,SNR=6.1
comp=Z,0.9nm,0.8s
PSAC2 **Pilbara Seismi** 89.13 232 P **P** 04 00 55.2 -0.6
comp=Z,27nm,1.0s
PSAB3 **Pilbara Seismi** 89.17 232 P **P** 04 00 55.2 -0.9
comp=Z,25nm,1.1s
MMAI **Mount Meron Ar** 89.19 329 P **P** 04 00 56.3 0.0
comp=Z,0.4nm,0.4s,baz=303,slow=6.7,SNR=2.0
ASF **Jabal al Asfar** 89.48 328 LR LR 04 45 39.9
comp=Z,18nm,18.1s,baz=334,slow=38
STKA **Stephens Creek** 89.51 210 P **P** 04 00 57.8 +0.5
comp=Z,137nm,1.1s
STKA **Stephens Creek** 89.51 210 P **P** 04 00 58.2 +0.9
comp=Z,21nm,1.0s,baz=355,slow=6.7,SNR=20
STKA LR LR 04 36 59.1
comp=Z,28nm,21.8s,baz=21,slow=33
comp=Z,21nm,1.0s
STKA **Stephens Creek** 89.51 210 P **P** 04 00 57.8 +0.5
URZ **Urewera** 89.97 181 P **P** 04 01 00.0 +0.7
SJG **San Juan** 90.68 59 LR LR 04 41 46.2
comp=Z,26nm,21.8s,baz=333,slow=35
SDV **Santo Domingo** 95.77 68 LR LR 04 47 20.9
comp=Z,22nm,18.2s,baz=354,slow=37
ROSC **El Rosal** 96.88 73 LR LR 04 45 43.2
comp=Z,15nm,20.7s,baz=247,slow=36
PCRV **Puerto La Cruz** 98.06 62 LR LR 04 46 20.2
comp=Z,19nm,20.9s,slow=36
TORD **Torodi Ar. Bea** 114.97 356 PKP **PKiKP** 04 06 39.5 -1.3
comp=Z,1.2nm,0.5s,baz=6.5,slow=3.2,SNR=24
LPAZ **La Paz** 117.27 81 PKhKP PKPpre 04 06 42.4
comp=Z,1.1nm,0.6s,baz=293,slow=4.2,SNR=5.9
LPAZ SKP 04 10 09.4
comp=Z,1.6nm,1.0s,baz=51,slow=1.2,SNR=4.4
DBIC **Dimbokro** 121.43 3 PKP **PKPdf** 04 06 52.1 -1.2
comp=Z,5.0nm,0.5s,baz=16,slow=3.0,SNR=14
ZON **Zonda** 128.13 94 **PKiKP** 04 07 06.0 -0.3
ZON **Zonda** 128.13 94 PKIKP **PKiKP** 04 07 06.0 -0.3
VNDA **Vanda** 129.72 185 PKP **PKiKP** 04 07 08.2 +0.3
comp=Z,0.4nm,0.6s,baz=297,slow=4.5,SNR=6.4
VNDA SKPbc SKPbc 04 10 17.7 +1.2
comp=Z,8.8nm,0.9s,baz=346,slow=4.5,SNR=38
CPUP **Villa Florida** 131.41 80 **PKPdf** 04 07 11.5 -0.4
CPUP **Villa Florida** 131.41 80 PKP **PKPdf** 04 07 11.4 -0.5
comp=Z,1.7nm,0.8s,baz=297,slow=2.3,SNR=9.3
CPUP SKPbc **SKPbc** 04 10 23.1 -1.1
comp=Z,4.9nm,0.8s,baz=163,slow=3.6,SNR=26
PLCA **Paso Flores** 133.02 105 PKP **PKPdf** 04 07 14.9 +0.3
comp=Z,5.1nm,0.8s,baz=311,slow=3.2,SNR=10
PLCA SKPbc **SKPab** 04 10 30.4 -1.0
comp=Z,7.8nm,0.8s,baz=290,slow=5.2,SNR=21
QSPA **South Pole Qui** 141.83 180 **PKPdf** 04 07 28.2 -1.8
QSPA **South Pole Qui** 141.83 180 PKP **PKPdf** 04 07 28.4 -1.6
comp=Z,3.0nm,0.6s,baz=37,slow=1.0,SNR=17
QSPA SKPbc **SKiKP** 04 10 56.4 +0.5
comp=Z,9.3nm,0.8s,baz=339,slow=1.5,SNR=15
KHWEE **KHWEE** 143.25 315 PKPbc 04 07 32.0 +0.6
GRTLG **Ghanzi** 144.49 321 **PKPdf** 04 07 36.4 +0.2
KGCAE **Kacgae** 145.44 318 *i* P **PKPab** 04 07 39.0 +0.7
MAW **Mawson** 145.85 218 PKPbc **PKPbc** 04 07 37.7 -0.1
comp=Z,13nm,0.7s,baz=74,slow=3.2,SNR=30
MAW SKPbc **SKPbc** 04 11 01.6 -2.1
comp=Z,2.2nm,0.6s,baz=22,slow=4.1,SNR=3.5
SKOMA **Sekoma** 146.17 315 *i* P **PKPab** 04 07 40.9 -0.2
KOOLE **Kule** 146.36 321 *i* P **PKPab** 04 07 42.1 +0.2
BOSA **Boshof** 149.06 309 PKPbc **PKPbc** 04 07 48.4 +0.4
comp=Z,10nm,0.6s,baz=36,slow=2.7,SNR=52
SYO **Syowa Base** 154.23 213⇓ *e*PKPdf **PKPdf** 04 07 51.0 +1.1
SYO **Syowa Base** 154.23 213⇓ *e*pPKPdf pPKPdf 04 08 25.8 -0.8
SNAA **Sanae** 160.33 179 PKPab **PKPab** 04 08 38.0 -1.3
comp=Z,1.8nm,0.9s,baz=0.0,slow=3.0,SNR=6.3
SNAA **Sanae** 160.33 179 PKP2 **PKPab** 04 08 38.0 -1.3

CATAC 05 04:02:26.1±0.7, 12°N±4°×8°8W±°, h14km±3km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=9.9km s-min=5.4km az=25.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.96	44	P	Pb	04 02 44.4	-0.2
PKGN	Cerro Pekin	0.99	48	P	Pb	04 02 45.2	+0.1
PKGN				S	Sn	04 02 59.2	-0.2
ROCN	Rota Cerro Neg	1.09	62	P	Pn	04 02 47.0	-0.1
ROCN				S	Sn	04 03 02.1	+0.1
PLRN	Geotermica Pol	1.11	59	P	Pb	04 02 46.3	-0.8
PLRN				S	Sb	04 03 00.9	-0.5
CNGA	Al SSO del Vol	1.12	64	P	Pn	04 02 47.4	0.0
CNGN	Cerro Negro	1.13	64	P	Pg	04 02 47.9	0.0
COPN	Copaltepe	1.13	81	P	Pb	04 02 47.3	-0.2
CNCH	Conchagua	1.27	356	P	Pn	04 02 49.5	0.0
CNCH	Conchagua	1.27	356	S	Sb	04 03 05.9	-0.2
LCND	La Caada	1.30	353	P	Pn	04 02 49.8	-0.2
PACA	Pacayal	1.56	339	S	Sn	04 03 13.6	-0.1
LIMN	Finca el Limon	1.70	52	P	Pn	04 02 54.7	-0.8
LIMN				S	Sn	04 03 17.1	0.0
MATN	Matagalpa	1.99	62	P	Pn	04 02 58.4	-1.1
TGUH	Tegucigalpa,Un	2.09	12	P	Pn	04 03 00.9	+0.1
TGUH				S	Sn	04 03 25.9	-0.8
YUSH	Yuscaran	2.12	24	P	Pn	04 03 00.6	-0.6
YUSH	Yuscaran	2.12	24	S	Sb	04 03 29.5	-1.2
RCVN	Varillal2	2.17	44	P	Pn	04 03 02.4	+0.4
RCVN	Varillal2	2.17	44	S	Sn	04 03 30.0	+1.2

*CATAC **05** 04:09:13.3±0.8, 13°N±4°×9°0W±°, h5km±3km, M3.7/18, MLv3.7/18, Error ellipse: s-maj=9.6km s-min=4.3km*

az=28.2, confirmed
*GCG **05** 04:09:15.8±1.3, 13°.21N×90°.50W, h15km±7km, MD4.2, ML3.7*
*SNET **05** 04:09:15.0±1.1, 13°.12N×90°.47W, h16km, ML3.6*
ISC 05 04:09:17.0±1.7, 13°.10N±0°.07×90°.38W±0°.04, h30km±12km, n67, σ0s96/76, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.47**	**345**	*eP*	**Sb**	**04 09 33.3**	**-0.5**
FAME	**Alcaldia de Sa**	**0.82**	**26**	S	**Sn**	**04 09 44.1**	**+0.5**
FAME	**Alcaldia de Sa**	**0.82**	**26**	P	**Pn**	**04 09 31.4**	**-1.1**
NUBE	**Las Nubes**	**0.98**	**36**	*eP*	**Pn**	**04 09 34.2**	**-0.7**
NUBE	**Las Nubes**	**0.98**	**36**	*eP*	**Pn**	**04 09 33.9**	**-1.0**
NUBE				*eS*	**Sn**	**04 09 47.9**	**-0.1**
NUBE	**Las Nubes**	**0.98**	**36**	S	**Sb**	**04 09 48.8**	**+0.5**
NUBE	**Las Nubes**	**0.98**	**36**	P	**Pn**	**04 09 34.0**	**-1.0**
CEVE	**Cerro Verde**	**1.03**	**45**	*eP*	**Pn**	**04 09 35.3**	**-0.3**
CEVE				*eS*	**Sb**	**04 09 50.8**	**+1.2**
CEVE	**Cerro Verde**	**1.03**	**45**	P	**Pn**	**04 09 35.3**	**-0.3**
CEVE	**Cerro Verde**	**1.03**	**45**	S	**Sb**	**04 09 51.1**	**+1.5**
SBLS	**San Blas**	**1.04**	**45**	*eP*	**Pn**	**04 09 35.2**	**-0.5**
SBLS				*iP*	**Pb**	**04 09 35.4**	**-1.1**
JAYA	**Jayaque - finc**	**1.06**	**59**	*eP*	**Pn**	**04 09 35.3**	**-0.6**
JAYA				*eS*	**Sb**	**04 09 50.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.06**	**59**	*eP*	**Pn**	**04 09 35.3**	**-0.6**
JAYA				*eS*	**Sb**	**04 09 50.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.06**	**59**	S	**Sb**	**04 09 51.6**	**+1.2**
JAYA	**Jayaque - finc**	**1.06**	**59**	P	**Pn**	**04 09 35.3**	**-0.6**
LOAL	**Lomas de Alarc**	**1.06**	**33**	S	**Sb**	**04 09 51.3**	**+0.8**
LOAL	**Lomas de Alarc**	**1.06**	**33**	P	**Pn**	**04 09 35.4**	**-0.5**
RTR	**El Retiro**	**1.06**	**42**	*eP*	**Pn**	**04 09 35.7**	**-0.3**
SNJE	**San Jose**	**1.07**	**44**	*eP*	**Pn**	**04 09 35.4**	**-0.7**
SNJE				*eP*	**Pb**	**04 09 35.6**	**-1.4**
LALI	**Alcalda de L**	**1.10**	**69**	*iS*	**Sb**	**04 09 51.5**	**+0.2**
LALI	**Alcalda de L**	**1.10**	**69**	P	**Pn**	**04 09 36.6**	**+0.3**
LALI	**Alcalda de L**	**1.10**	**69**	S	**Sb**	**04 09 51.8**	**+0.5**
FG8	**Yepocapa, Chim**	**1.16**	**351**	*eP*	**Pb**	**04 09 39.1**	**+0.5**
CEDA	**San Andres**	**1.18**	**54**	*eP*	**Pn**	**04 09 37.3**	**-0.2**
CEDA				*eS*	**Sb**	**04 09 54.9**	**+1.1**
UNIC	**Universidad Ca**	**1.19**	**43**	S	**Sb**	**04 09 54.8**	**+0.7**
UNIC	**Universidad Ca**	**1.19**	**43**	P	**Pn**	**04 09 37.2**	**-0.5**
PMON	**Piamonte**	**1.20**	**59**	*eP*	**Pn**	**04 09 37.5**	**-0.3**
PMON	**Piamonte**	**1.20**	**59**	P	**Pn**	**04 09 37.7**	**-0.1**
BOQS	**Boqueron**	**1.24**	**59**	*eP*	**Pn**	**04 09 38.5**	**+0.1**
UEES	**Universidad Ev**	**1.26**	**61**	*eP*	**Pn**	**04 09 38.6**	**-0.1**
UEES	**Universidad Ev**	**1.26**	**61**	S	**Sb**	**04 09 57.0**	**+0.8**
UEES	**Universidad Ev**	**1.26**	**61**	P	**Pn**	**04 09 38.4**	**-0.3**
LOMA	**Loma Larga**	**1.29**	**65**	*eP*	**Pn**	**04 09 38.7**	**-0.4**
LOMA	**Loma Larga**	**1.29**	**65**	S	**Sb**	**04 09 57.9**	**+0.8**
LOMA	**Loma Larga**	**1.29**	**65**	P	**Pn**	**04 09 38.7**	**-0.4**
ESSG	**Sabana Grande**	**1.35**	**341**	*eP*	**Pn**	**04 09 37.7**	**-2.2**
LFRS	**El Faro**	**1.38**	**68**	*eP*	**Pn**	**04 09 40.1**	**-0.2**
LBRS	**Las Brisas**	**1.44**	**64**	*eP*	**Pn**	**04 09 41.5**	**+0.4**
PAVA	**Las Pavas**	**1.53**	**66**	*eP*	**Pn**	**04 09 42.9**	**+0.5**
PAVA	**Las Pavas**	**1.53**	**66**	P	**Pn**	**04 09 42.7**	**+0.3**
TECO	**Alcaldia de Te**	**1.61**	**74**	*eP*	**Pn**	**04 09 42.9**	**-0.5**
TECO	**Alcaldia de Te**	**1.61**	**74**	S	**Sb**	**04 10 06.1**	**0.0**
TECO	**Alcaldia de Te**	**1.61**	**74**	P	**Pn**	**04 09 43.2**	**-0.2**
MTO3	**Montecristo**	**1.62**	**37**	*eP*	**Pn**	**04 09 44.2**	**+0.5**
MTO3	**Montecristo**	**1.62**	**37**	*eP*	**Pn**	**04 09 44.1**	**+0.3**
MTO3	**Montecristo**	**1.62**	**37**	P	**Pn**	**04 09 44.0**	**+0.2**
MTO3	**Montecristo**	**1.62**	**37**	S	**Sb**	**04 10 07.3**	**+0.7**
UESV	**Universidad de**	**1.64**	**71**	S	**Sb**	**04 10 06.5**	**-0.2**
UESV	**Universidad de**	**1.64**	**71**	P	**Pn**	**04 09 43.7**	**-0.1**
STG2	**El Palmar, Qui**	**1.64**	**324**	*eP*	**Pb**	**04 09 46.5**	**-0.2**
STG2				*eS*	**Sb**	**04 10 12.5**	**+5.4**
SCLA	**Alcaldia de Sa**	**1.71**	**69**	S	**Sb**	**04 10 09.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.71**	**69**	P	**Pn**	**04 09 45.2**	**+0.4**
LLGN	**La Laguna**	**1.75**	**53**	P	**Pn**	**04 09 45.7**	**+0.4**
LLGN	**La Laguna**	**1.75**	**53**	S	**Sb**	**04 10 10.8**	**+0.8**
ESQI	**Esquipulas**	**1.76**	**35**	*eP*	**Pn**	**04 09 46.3**	**+0.7**
ESQI	**Esquipulas**	**1.76**	**35**	P	**Pn**	**04 09 46.0**	**+0.4**
TECA	**Tecapa**	**1.87**	**78**	*eP*	**Pn**	**04 09 48.2**	**+1.1**
SOKI	**Kika Raxquin**	**1.98**	**330**	*eP*	**Pn**	**04 09 47.1**	**-1.7**
SOKI				*eS*	**Sn**	**04 10 11.4**	**-1.4**
PACA	**Pacayal**	**2.03**	**79**	P	**Pn**	**04 09 50.2**	**+0.9**
SARH	**Santa Rosa de**	**2.29**	**43**	*eP*	**Pn**	**04 09 53.5**	**+0.7**
SARH	**Santa Rosa de**	**2.29**	**43**	P	**Pn**	**04 09 53.4**	**+0.7**
LCND	**La Caada**	**2.43**	**85**	P	**Pn**	**04 09 54.6**	**0.0**
INTHN	**La Esperanza I**	**2.52**	**61**	P	**Pn**	**04 09 57.0**	**+0.9**
PKGN	**Cerro Pekin**	**3.34**	**97**	P	**Pn**	**04 10 07.2**	**0.0**
YUSH	**Yuscaran**	**3.54**	**76**	P	**Pn**	**04 10 10.2**	**+0.2**
RCVN	**Varilla2**	**4.10**	**83**	P	**Pn**	**04 10 17.5**	**-0.3**
MASN	**Masaya**	**4.27**	**105**	P	**Pn**	**04 10 20.2**	**+0.2**

ASRS 05 04:13:41.2±0.3, 54°.N±1°.9×6E±°, h10km, MLh3.5/15, Error ellipse: s-maj=3.3km s-min=2.7km az=59.8, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINR	**Mina**	**1.00**	**301**	Pg	Pn	04 14 01.4	+0.1
MINR				Sg	Sn	04 14 16.0	+0.5
GZL	**Zheleznogorsk**	**2.24**	**328**	Sg	Sb	04 14 51.0	+1.6
ARDR	**Aradan**	**2.26**	**217**	Pg	Pg	04 14 24.0	-0.5
ARDR				Sg	Sg	04 14 52.7	-1.0
GZLN	**Zheleznogorsk**	**2.27**	**332**	Pg	Pb	04 14 22.1	-0.2
GZLN				Sg	Sb	04 14 52.1	+1.7
SHTK	**Zheleznogorsk-**	**2.28**	**329**	Pg	Pn	04 14 18.6	-0.2
SHTK				Sg	Sn	04 14 48.0	+1.1
KZLR	**Kyzyl**	**2.79**	**196**	Pg	Pn	04 14 26.6	+0.6
KZLR				Sg	Sg	04 15 08.2	-2.6
CERR	**Cheremushki**	**2.97**	**240**	Pg	Pb	04 14 35.2	+1.0
CERR				Sg	Sg	04 15 13.8	-2.8
DJO	**Djoy, Khakassi**	**3.11**	**241**	Pg	Pb	04 14 36.6	0.0
DJO				Sg	Sb	04 15 17.6	+3.0
VEH	**Verkhnyaya Baz**	**3.38**	**252**	Pg	Pb	04 14 41.8	+0.6
VEH				Sg	Sg	04 15 28.1	-1.5
KNGR	**Kungurtug, Tuv**	**3.96**	**163**	Pg	Pg	04 14 55.7	-1.3
KNGR				Sg	Sg	04 15 45.8	-2.4
LUZB	**Luzhba, Kemero**	**4.07**	**262**	Pg	Pb	04 14 54.1	+1.3
LUZB				Sg	Sg	04 15 49.0	-2.7
MOY	**Mondy**	**4.21**	**128**	Pg	Pb	04 14 57.0	+1.6
MOY				Sg	Sb	04 15 50.4	+4.1
BRCR	**Berchikul'**	**4.42**	**289**	Pg	Pb	04 15 00.9	+2.1
BRCR				Sg	Sg	04 16 02.0	-0.9
TEL	**Teeli**	**4.75**	**227**	Pg	Pg	04 15 08.8	-3.3
TEL				Sg	Sg	04 16 10.9	-2.6
YALR	**Yailyu, Altay**	**5.53**	**245**	Sg	Sg	04 16 36.0	-2.6
ARTR	**Artybash**	**5.69**	**246**	Sg	Sg	04 16 39.5	-4.2
ELT	**Eltsovka**	**5.71**	**262**	Sg	Sg	04 16 39.9	-4.3
ULGR	**Ulagan, Altay**	**6.04**	**234**	Pg	Pg	04 15 32.1	-4.7
ULGR				Sg	Sg	04 16 54.9	0.0
CUR	**Chagan-Uzun**	**6.22**	**229**	Sg	Sg	04 16 57.3	-3.5
AKAR	**Aktash**	**6.40**	**234**	Sg	Sg	04 17 05.5	-1.1
CHBI	**Chibit, Altay**	**6.46**	**234**	Pg	Pg	04 15 40.4	-4.5
CHBI				Sg	Sg	04 17 08.4	-0.1
ELDR	**Elanda**	**6.63**	**245**	Pg	Pb	04 15 41.7	+5.2
ELDR				Sg	Sg	04 17 11.8	-2.0

*ISN **05** 04:15:54.5±1.3, 32°.87N×47°.45E, h29km±8km, ML2.6*
*TEH **05** 04:15:55.6, 32°.88N×47°.27E, h11km*
ISC 05 04:15:55.9±1.0, 32°.85N±0°.07×47°.39E±0°.05, h15km, n11, σ1s06/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.14**	**35**	Pg	**Pg**	**04 16 19.7**	**+1.6**
IBDR	**Badra**	**1.25**	**282**	*e*Pg	**Pn**	**04 16 19.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**04 16 35.0**	**-0.2**
IBDR				AML	AML	04 16 46.2	
	comp=E,121nm,0.5s						
IBDR				AML	AML	04 16 57.7	
	comp=N,97nm,0.3s						
RAFI	**Al-Rafai**	**1.56**	**224**	*e*Pn	**Pn**	**04 16 23.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**04 16 44.0**	**+0.9**
IGHG	**Ghaleghazi**	**1.62**	**335**	Pg	**Pg**	**04 16 26.6**	**-0.6**
BDRS	**Dareh Seyedi**	**1.66**	**48**	Pg	**Pg**	**04 16 29.7**	**+1.8**
GLG1	**Gilan-e-Gharb**	**1.77**	**316**	Pg	**Pb**	**04 16 28.4**	**+0.4**
SNQR	**Sonqor, Kerman**	**2.01**	**6**	Pn	**Pg**	**04 16 34.0**	**-0.5**
IDHR	**Dehrash**	**2.02**	**336**	Pn	**Pb**	**04 16 33.2**	**+0.6**
HAGD	**Aghdareh**	**2.44**	**36**	Pn	**Pb**	**04 16 38.4**	**-1.3**
BHD	**Baghdad**	**2.56**	**280**	*e*Pn	**Pn**	**04 16 36.0**	**-0.9**
BHD				*e*Sn	**Sn**	**04 17 08.0**	**+0.2**
IPIR	**Pirpir**	**2.95**	**92**	Pn	**Pb**	**04 16 47.1**	**-1.4**

*IDC **05** 04:38:32.1±0.8, 58°.67S×23°.51W, h0km, mb4.0/7, mbtmp4.1/9, ML4.3/2, MS3.1/4, Error ellipse: s-maj=24.6km s-min=21.2km az=106.0*
*NEIC **05** 04:38:33.7±2.3, 58°.74S±0°.05×23°.4W±0°.2, h10km±1km, mb4.6/14, Error ellipse: s-maj=17.2km s-min=7.7km az=82.0*
ISC 05 04:38:33.6±0.6, 58°.71S±0°.09×23°.48W±0°.09, h10km, n38, σ0s97/31, mb4.2/10, 7C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.45**	**296**	Pn	**Pn**	**04 40 36.0**	**+0.2**
VNA1	**Neumayer--Stat**	**13.58**	**158**	⇑P	**Pn**	**04 41 46.2**	**+0.3**
	comp=Z,17nm,0.2s						
VNA3	**Neumayer Olymp**	**13.82**	**161**	⇑P	**Pn**	**04 41 48.9**	**-0.3**
	comp=Z,15nm,0.2s						
VNA3				⇑S	Sn	04 44 10.8	-12
VNA2	**Neumayer--Watz**	**13.97**	**158**	⇑P	**Pn**	**04 41 50.9**	**-0.3**
	comp=Z,16nm,0.2s,baz=330,slow=16						
VNA2				⇑S	Sn	04 44 13.4	-13
	baz=169,slow=16						
SNAA	**Sanae**	**15.49**	**155**	⇓P	**Pn**	**04 42 11.0**	**-0.8**
	comp=Z,167nm,0.2s						
SNAA				⇑S	Sn	04 44 50.0	-13
SNAA	**Sanae**	**15.49**	**155**		**Pn**	**04 42 11.3**	**-0.5**
SNAA				IAmb	IAmb	04 42 16.3	
	comp=Z,24nm,1.2s						
SNAA	**Sanae**	**15.49**	**155**	Pn	**Pn**	**04 42 10.9**	**-0.9**
	comp=Z,2.9nm,0.3s,baz=47,slow=14,SNR=150						
SNAA				Sn	Sn	04 44 46.8	-16
	comp=Z,0.2nm,0.3s,baz=325,slow=15,SNR=2.0						
SNAA				LR	LR	04 47 15.2	
	comp=Z,26nm,20.3s,baz=20,slow=34						
	comp=Z,8.2nm,0.3s						
TROLL	**Troll, Antarti**	**16.96**	**152**	⇑P	**Pn**	**04 42 31.3**	**+0.6**
	comp=Z,144nm,0.3s						
BELA	**Belgrano 2**	**19.62**	**187**	P	**Pn**	**04 43 03.6**	**+0.6**
PMSA	**Palmer Station**	**19.85**	**235**	Pn	**Pn**	**04 43 06.9**	**+1.1**
PMSA				IAmb	IAmb	04 43 15.7	
	comp=Z,24nm,1.1s						
PMSA	**Palmer Station**	**19.85**	**235**	P	**Pn**	**04 43 05.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=76,slow=9.1,SNR=2.8						
PMSA				LR	LR	04 50 16.2	
	comp=Z,62nm,18.1s,baz=138,slow=36						
	comp=Z,12nm,0.9s						
EFI	**East Falkland**	**20.77**	**275**	P	**P**	**04 43 15.1**	**+0.7**
MG05	**Puerto Natales**	**28.29**	**263**	P	**P**	**04 44 25.8**	**-0.9**
GO09	**Cerro Castillo**	**28.43**	**264**	P	**P**	**04 44 27.0**	**-1.1**
GO09				IAmb	IAmb	04 45 10.0	
	comp=Z,49nm,1.4s						
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**04 44 53.1**	**-2.6**
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**04 44 57.2**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=184,slow=4.6,SNR=15						
	comp=Z,1.3nm,0.7s						
PLTB	**Pedras Altas**	**33.76**	**310**	P	**P**	**04 45 15.3**	**+0.2**
PLTB				IAmb	IAmb	04 45 46.9	
	comp=Z,16nm,1.2s						
PLCA	**Paso Flores**	**34.45**	**280**	P	**P**	**04 45 21.3**	**+0.1**
PLCA				IAmb	IAmb	04 45 56.3	
	comp=Z,8.8nm,1.4s						
PLCA	**Paso Flores**	**34.45**	**280**	P	**P**	**04 45 20.6**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=129,slow=7.8,SNR=4.3						
PLCA				LR	LR	04 59 53.2	
	comp=Z,26nm,18.4s,baz=203,slow=37						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**43.99**	**182**	P	**P**	**04 46 42.9**	**+2.6**
VNDA	**Vanda**	**43.99**	**182**	P	**P**	**04 46 39.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=192,slow=7.6,SNR=6.0						
	comp=Z,0.4nm,0.5s						
H04S2	**CROZET ISLANDS**	**44.70**	**109**	T	T	05 35 11.2	
	baz=225						
H04S3	**CROZET ISLANDS**	**44.71**	**109**	T	T	05 35 13.8	
	baz=225						
H04S1	**CROZET ISLANDS**	**44.72**	**109**	T	T	05 35 19.1	
	baz=225						
BOSA	**Boshof**	**44.84**	**70**	P	**P**	**04 46 48.1**	**+0.3**
BOSA				IAmb	IAmb	04 46 50.2	
	comp=Z,8.5nm,1.4s						
BOSA	**Boshof**	**44.84**	**70**	P	**P**	**04 46 47.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=220,slow=9.9,SNR=5.8						
	comp=Z,1.1nm,0.5s						
H10N1	**ASCENSION HYDR**	**51.21**	**11**	T	T	05 43 28.6	
	baz=188						
H10N3	**ASCENSION HYDR**	**51.21**	**11**	T	T	05 43 07.0	
	baz=188						
H10N2	**ASCENSION HYDR**	**51.23**	**11**	T	T	05 43 08.3	
	baz=188						
LPAZ	**La Paz**	**53.53**	**303**	P	**P**	**04 47 54.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=101,slow=4.9,SNR=2.5						
	comp=Z,0.8nm,0.6s						
DBIC	**Dimbokro**	**66.86**	**20**	P	**P**	**04 49 26.1**	**+0.6**
BOAV	**Boa Vista**	**67.61**	**319**	P	**P**	**04 49 30.7**	**+0.4**
BOAV				IAmb	IAmb	04 50 08.6	
	comp=Z,6.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**74.49**	**25**	P	**P**	**04 50 10.7**	**-1.2**
TORD				IAmb	IAmb	04 50 13.4	
	comp=Z,3.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.49**	**25**	P	**P**	**04 50 12.5**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=200,slow=5.6,SNR=50						
	comp=Z,4.6nm,0.6s						
SDV	**Santo Domingo**	**77.30**	**312**	LR	LR	05 23 34.1	
	comp=Z,20nm,21.9s,baz=268,slow=35						
ASAR	**Alice Springs**	**95.82**	**159**	P	**P**	**04 51 59.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=192,slow=4.7,SNR=2.4						
	comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**148.84**	**88**	PKPbc	**PKPbc**	**04 58 20.4**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=230,slow=3.3,SNR=9.4						
ILAR	**Eielson Array**	**153.36**	**307**	PKPbc	**PKiKP**	**04 58 30.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=152,slow=2.5,SNR=5.5						

*TEH **05** 04:56:14.2, 27°.86N×61°.66E, h9km*
*OMAN **05** 04:56:26.4±0.1, 27°.27N×61°.12E, h10km, ml3.8/5, Error ellipse: s-maj=1.6km s-min=1.3km az=237.0*
ISC 05 04:56:22.9±3.7, 27°.4N±0°.2×61°.3E±0°.1, h10km, n19, σ1s15/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**0.99**	**92**	Pg	Pg	04 56 30.6	-11
SRVN				Sg	Sg	04 56 41.2	-14
CHBR	**Chabahar**	**1.97**	**202**	Pn	**Pn**	**04 56 57.4**	**+1.0**
NGCH	**Negor - Chabah**	**2.07**	**184**	P	**Pn**	**04 56 57.3**	**-0.5**
	SNR=76						
NGCH				S	**Sn**	**04 57 24.5**	**+0.8**
NGCH	**Negor - Chabah**	**2.07**	**184**	Pn	**Pn**	**04 56 56.9**	**-0.8**
ZHSF	**Zahedan**	**2.21**	**348**	Pn	Pn	04 56 49.6	-10
BANOM	**Banah**	**4.71**	**252**	P	**Pn**	**04 57 34.2**	**+0.2**
BANOM				S	**Sn**	**04 58 27.4**	**-1.3**
WSAR	**Wadi Sarin**	**4.82**	**210**	P	**Pn**	**04 57 35.4**	**-0.2**
WSAR				S	**Sn**	**04 58 31.2**	**-0.3**
BSRN	**Basiran**	**4.89**	**338**	Pn	Pn	04 57 26.6	-10
MDH	**Madha**	**4.95**	**246**	P	**Pn**	**04 57 38.9**	**+1.6**
MDH				S	**Sn**	**04 58 32.7**	**-2.0**
UOSS	**Minazif**	**5.19**	**243**	P	**Pn**	**04 57 41.2**	**+0.5**
UOSS				S	**Sn**	**04 58 40.4**	**-0.3**
SMDO	**Samad**	**5.25**	**215**	P	**Pn**	**04 57 43.3**	**+1.8**
SMDO				S	**Sn**	**04 58 41.0**	**-1.3**
HOQ	**Hoqain**	**5.25**	**224**	P	**Pn**	**04 57 41.9**	**+0.3**
HOQ				S	**Sn**	**04 58 43.7**	**+1.5**
IKOO	**Kooshah**	**5.35**	**339**	Pn	Pn	04 57 32.8	-10
SOHO	**SOHO**	**5.40**	**234**	P	**Pn**	**04 57 44.2**	**+0.8**
SOHO				S	**Sn**	**04 58 44.8**	**-0.9**
ASHO	**Ashiyiah**	**5.44**	**241**	P	**Pn**	**04 57 45.1**	**+1.0**
ASHO				S	**Sn**	**04 58 44.5**	**-2.3**
JLN	**Jalan Bani Buh**	**5.53**	**198**	S	**Sn**	**04 58 47.5**	**-1.5**
JMDO	**Jabal Madar**	**5.81**	**210**	P	**Pn**	**04 57 50.1**	**+0.9**
	SNR=15						
JMDO				S	**Sn**	**04 58 54.9**	**-1.1**
ARQ	**Araqi**	**5.93**	**228**	P	**Pn**	**04 57 51.4**	**+0.6**
	SNR=12						
ARQ				S	**Sn**	**04 58 59.2**	**+0.2**
BSY	**Bisya**	**5.96**	**219**	P	**Pn**	**04 57 52.0**	**+0.7**
BSY				S	**Sn**	**04 59 00.1**	**+0.5**

*DNK **05** 05:03:05.6±2.7, 78°.27N×14°.68W, h0km±21km, ML2.3*
*BER **05** 05:03:06.7±3.8, 78°.41N×16°.09W, h0km±46km, Mw4.1, ML2.3(DNK), Confirmed Earthquake*
ISC 05 05:03:04.0±0.9, 78°.41N±0°.04×15°.38W±0°.06, h10km, n12, σ2s14/20, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**1.79**	**205**	*i*P	**Pb**	**05 03 36.3**	**-0.5**
DAG				*i*S	**Sg**	**05 04 00.4**	**-1.1**
DAG				IAML		05 04 03.8	
	comp=Z,141nm,0.3s						
NOR	**Nord**	**3.22**	**357**	*i*P	**Pb**	**05 03 59.3**	**-1.9**
NOR				*i*		05 04 34.8	
NOR				*e*S	**Sb**	**05 04 38.2**	**-2.1**
NOR				IAML		05 04 39.7	
	comp=Z,31nm,0.3s						
NOR	**Nord**	**3.22**	**357**	*i*P	**Pb**	**05 03 59.3**	**-1.9**
NOR				*i*		05 04 34.8	
NOR				IAML		05 04 39.7	
	comp=Z,31nm,0.3s						
DBG	**Daneborg**	**4.28**	**198**	*i*P	**Pn**	**05 04 09.5**	**+0.5**
DBG				*i*S	**Sn**	**05 04 56.4**	**-2.5**
DBG				IAML		05 05 24.2	
	comp=Z,18nm,0.3s						
DBG	**Daneborg**	**4.28**	**198**	*i*P	**Pn**	**05 04 09.5**	**+0.5**
DBG				*i*S	**Sn**	**05 04 56.4**	**-2.5**
DBG				IAML		05 05 24.2	
	comp=Z,18nm,0.3s						
KBS	**Kingsbay**	**5.38**	**71**	*i*P	**Pn**	**05 04 26.2**	**+2.1**
KBS				*e*P	Pb	05 04 26.9	-11
KBS	**Kingsbay**	**5.38**	**71**	*i*P	**Pn**	**05 04 26.2**	**+2.1**
KBS				*e*S	**Sn**	**05 05 22.5**	**-3.4**
SPA0	**Spitsbergen Ar**	**6.41**	**76**	*e*P	**Pn**	**05 04 42.2**	**+4.0**
NEEM	**North Greenlan**	**7.46**	**280**	*i*P	**Pn**	**05 04 55.1**	**+2.3**
NEEM				*i*S	**Sn**	**05 06 17.1**	**-0.4**
NEEM				IAML		05 06 25.5	
	comp=Z,6.0nm,0.4s						
NEEM	**North Greenlan**	**7.46**	**280**	*i*P	**Pn**	**05 04 55.1**	**+2.3**
NEEM				*i*S	**Sn**	**05 06 17.1**	**-0.4**
NEEM				IAML		05 06 25.5	
	comp=Z,6.0nm,0.4s						
SUMG	**Summit**	**8.15**	**236**	*i*P	**Pn**	**05 05 03.7**	**+1.2**
SUMG				IAML		05 07 02.5	
	comp=Z,2.6nm,0.4s						
SUMG	**Summit**	**8.15**	**236**	*i*P	**Pn**	**05 05 03.7**	**+1.2**
SUMG				*i*S	**Sn**	**05 06 33.3**	**-1.4**
SUMG				IAML		05 07 02.5	
	comp=Z,2.6nm,0.4s						

*IDC **05** 05:27:26.6±0.6, 5°.88S×133°.64E, h0km, mb4.0/10, mbtmp4.2/16, ML4.3/5, MS3.4/1, Error ellipse: s-maj=25.4km s-min=14.5km az=74.0*
*NEIC **05** 05:27:27.4±1.7, 5°.80S±0°.07×133°.79E±0°.09, h10km±1km, mb4.6/14, Error ellipse: s-maj=14.4km s-min=11.2km az=80.0*
*DJA **05** 05:27:28.1±0.2, 6°.S±2°.×13°.4E±°, h10km, M4.8/24, mb4.7/24, mB5.3/9, MLv5.0/13, Mw(mB)4.7/9*
ISC 05 05:27:30.5±0.4, 5°.98S±0°.05×133°.62E±0°.05, h33km, n87, σ1s88/86, mb4.4/22, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.30**	**2**	P	**Pn**	**05 28 03.8**	**-2.3**
SAUI	**Saumlaki**	**3.05**	**229**	Pn	**Pn**	**05 28 17.9**	**+1.4**
FAKI	**Fak Fak**	**3.33**	**336**		**Pn**	**05 28 17.7**	**-2.6**
FAKI	**Fak Fak**	**3.33**	**336**	P	**Pn**	**05 28 17.8**	**-2.5**
FAKI	**Fak Fak**	**3.33**	**336**	P	**Pn**	**05 28 17.8**	**-2.5**
BNDI	**Bandanaira**	**3.97**	**291**	P	**Pn**	**05 28 29.8**	**+0.6**
BNDI	**Bandanaira**	**3.97**	**291**	P	**Pn**	**05 28 29.1**	**-0.1**
RKPI	**Ransiki, Papua**	**4.47**	**7**	P	**Pn**	**05 28 35.7**	**-0.3**
MSAI	**Masohi**	**5.36**	**299**	P	**Pn**	**05 28 47.8**	**-0.4**
BAKI	**Biak**	**5.36**	**28**	P	**Pn**	**05 28 48.0**	**-0.3**
	1μm141nm,0.6s						
WAMI	**Wamena**	**5.48**	**68**	P	**Pn**	**05 28 53.3**	**+3.4**
SWI	**Sorong**	**5.60**	**335**	P	**Pn**	**05 28 49.9**	**-1.6**
	2.2nm4μm106nm,0.9s						
AAI	**Ambon**	**5.87**	**293**	P	**Pn**	**05 28 55.3**	**+0.1**
DRS	**Darwin Rock St**	**6.96**	**203**	P	**Pn**	**05 29 14.0**	**+3.8**
NLAI	**Nam

LZH Lanzhou 50.31 328 *e*P P 05 36 29.1 +4.8
LZH sP sP 05 36 36.9 0.0
LZH pmax pmax
comp=Z,21nm,1.0s
HHC Hu-ho-hao-te 50.81 338 *e*P **P 05 36 28.0 +0.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,64nm,4.5s
BKZ Black Stump Fm 50.82 137 P **P 05 36 28.5 +0.4**
BKZ IAmb IAmb 05 36 31.2
comp=Z,13nm,1.0s
GTA Gaotai 54.91 328 *e*P P 05 37 05.0 +6.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 58.70 339 P **P 05 37 25.6 +0.6**
comp=Z,0.4nm,0.4s,baz=162,slow=5.9,SNR=4.7
comp=Z,0.4nm,0.4s
WMQ Urumqi 64.57 325 *e*P **P 05 38 07.4 +2.8**
WMQ pP pP 05 38 11.4 -2.3
WMQ pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 69.40 325 P **P 05 38 35.1 -0.2**
MKAR Makanchi Array 69.40 325 P **P 05 38 36.7 +1.4**
comp=Z,1.0nm,0.5s,baz=116,slow=7.4,SNR=9.4
comp=Z,1.0nm,0.5s
KSH Kashi 69.75 316 P **P 05 38 41.4 +3.7**
KSH pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 72.31 332 P **P 05 38 52.0 -0.7**
ZAA0 IAmb IAmb 05 39 08.2
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 72.31 332 P **P 05 38 52.3 -0.4**
ZALV Zalesovo Beam 72.31 332 P **P 05 38 52.5 -0.2**
comp=Z,0.8nm,0.5s,baz=120,slow=5.2,SNR=4.8
comp=Z,0.8nm,0.5s
VNDA Vanda 73.05 174 P **P 05 38 58.4 +1.6**
comp=Z,1.0nm,0.8s,baz=313,slow=5.1,SNR=8.2
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 73.57 327 P **P 05 39 00.7 +0.4**
comp=Z,0.4nm,0.5s,baz=126,slow=4.8,SNR=5.8
comp=Z,0.4nm,0.5s
KKAR Karatay Array 74.99 317 P **P 05 39 08.9 +0.2**
NIKH Nikolski High 76.08 32 P **P 05 39 13.7 -1.0**
BVAR Borovoye Array 79.15 327 P **P 05 39 33.4 +1.5**
comp=Z,0.7nm,0.5s,baz=106,slow=9.1,SNR=2.2
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 83.97 321 P **P 05 39 57.5 +0.1**
QSPA South Pole Qui 83.99 180 P **P 05 40 00.7 +3.2**
comp=Z,2.8nm,0.7s,baz=298,slow=1.3,SNR=17
comp=Z,2.8nm,0.7s
F20K Avaraart Lake 88.05 22 P **P 05 40 15.8 -1.3**
I23K Minto, Yukon-K 89.96 24 P **P 05 40 26.0 -0.2**
I23K IAmb IAmb 05 40 54.1
comp=Z,6.2nm,1.3s
ILAR Eielson Array 90.90 25 P **P 05 40 29.5 -1.1**
comp=Z,0.3nm,0.7s,baz=282,slow=5.4,SNR=4.3
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 101.86 340 P **Pdif 05 41 21.6 +1.3**
comp=Z,1.1nm,1.3s,baz=74,slow=5.1,SNR=5.1
TXAR Lajitas Array 121.31 59 PKP **PKiKP 05 46 22.1 +0.8**
comp=Z,0.2nm,0.6s,baz=298,slow=2.5,SNR=2.1
ESDC Sonseca Array 129.24 318 PKP **PKiKP 05 46 38.1 +1.5**
comp=Z,0.3nm,0.3s,baz=269,slow=2.0,SNR=3.3
TORD Torodi Ar. Bea 132.13 282 PKP **PKiKP 05 46 43.1 0.0**
comp=Z,0.4nm,0.7s,baz=78,slow=2.4,SNR=2.5
CPUP Villa Florida 146.18 162 PKPbc **PKPdf 05 47 07.7 +0.4**
comp=Z,0.4nm,0.8s,baz=153,slow=6.8,SNR=6.2
LPAZ La Paz 149.13 136 PKPbc **PKiKP 05 47 19.7 +1.1**
comp=Z,1.6nm,0.5s,baz=336,slow=0.8,SNR=10

*SDD **05** 05:32:52.7±2.1, 18°.81N×71°.51W, h30km±14km, MD2.4, ML1.8, MW2.6*
*OSPL **05** 05:32:53.5±1.7, 18°.80N×71°.55W, h7km±8km, ML1.8*
ISC 05 05:32:52.5±1.0, 18°.80N±0°.03×71°.54W±0°.04, h19km±2km, n14, σ0°.78/27, 11C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.20**	**159**	*i* P	**Pb**	**05 32 56.7**	**-0.5**
LONE3				*e*S	**Sb**	**05 33 00.3**	**+0.1**
LONE3				IAML		05 33 00.9	
comp=Z,86nm,0.2s							
SDDR	**Presa de Saban**	**0.30**	**52**	⇑*e*Pg	**Pg**	**05 32 59.3**	**+0.1**
SDDR				⇑*e*Sg	**Sb**	**05 33 04.2**	**+0.4**
SDDR				IAML		05 33 04.5	
comp=N,68nm,0.2s							
SDDR	**Presa de Saban**	**0.30**	**52**	*i* P	**Pg**	**05 32 58.5**	**-0.6**
SDDR				*e*S	**Sg**	**05 33 03.9**	**+0.3**
SDDR				IAML		05 33 06.9	
comp=Z,38nm,0.5s							
JIDR	**Jimani**	**0.43**	**225**	⇑*e*Pg	**Pg**	**05 33 00.6**	**-0.8**
JIDR				⇑*e*Sg	**Sg**	**05 33 07.9**	**+0.6**
JIDR				IAML		05 33 08.4	
comp=N,196nm,0.4s							
LODU1	**El Espartillar**	**0.45**	**173**	*i* P	**Pg**	**05 33 01.1**	**-0.6**
LODU1				*e*S	**Sg**	**05 33 08.3**	**+0.4**
LODU1				IAML		05 33 08.5	
comp=Z,69nm,0.3s							
PODR	**Polo**	**0.67**	**159**	⇑*e*Pg	**Pb**	**05 33 04.9**	**-0.8**
PODR				⇑*e*Sg	**Sb**	**05 33 15.3**	**+0.6**
PODR				IAML		05 33 15.4	
comp=N,114nm,0.2s							
PODR	**Polo**	**0.67**	**159**	*i* P	**Pb**	**05 33 05.0**	**-0.8**
PODR				*e*S	**Sb**	**05 33 15.1**	**+0.4**
PAPH	**Port-au-Prince**	**0.78**	**249**	*i* P	**Pb**	**05 33 06.8**	**-0.6**
PAPH				*e*S	**Sb**	**05 33 18.3**	**+0.7**
MADR	**Mao Valverde**	**0.87**	**28**	⇑*e*Pg	**Pb**	**05 33 08.0**	**-1.0**
MADR				⇑*e*Sg	**Sb**	**05 33 19.2**	**-1.0**
MADR				IAML		05 33 26.0	
comp=N,26nm,1.1s							
LOBH	**Bahia de las A**	**0.94**	**186**	*i* P	**Pb**	**05 33 09.1**	**-1.0**
LOBH				*e*S	**Sb**	**05 33 22.9**	**+0.7**
LOBH				IAML		05 33 25.4	
comp=Z,38nm,3.6s							
LOVI	**El Cajuil, Ovi**	**1.01**	**171**	*i* P	**Pb**	**05 33 11.6**	**+0.2**
LOVI				*e*S	**Sb**	**05 33 24.8**	**+0.6**
LOVI				IAML		05 33 26.7	
comp=Z,44nm,1.4s							
LOPP1	**Punta Rusia, P**	**1.10**	**17**	*i* P	**Pb**	**05 33 13.4**	**+0.5**
LOPP1				IAML		05 33 33.9	
comp=Z,22nm,2.6s							
HATOM	**Hato Mayor del**	**2.04**	**90**	⇑*e*Pg	**Pn**	**05 33 26.4**	**+0.4**
HATOM				⇑*e*Sg	**Sn**	**05 33 50.6**	**-0.3**
HATOM				IAML		05 33 57.5	
comp=N,4.2nm,0.5s							
MIDR	**Miches**	**2.36**	**85**	⇑*e*Pg	**Pn**	**05 33 31.8**	**+1.5**
MIDR				⇑*e*Sg	**Sn**	**05 33 57.3**	**-1.5**
MIDR				IAML		05 34 03.4	
comp=N,2.0nm,1.3s							
MIDR				IAML		05 34 06.0	
comp=N,10nm,2.0s							

*SDD **05** 05:49:18.3±0.8, 19°.24N×67°.14W, h16km±3km, MD2.5, ML1.5, MW2.3*
*RSPR **05** 05:49:19.8, 19°.25N×67°.28W, h32km±14km, MD2.9/7*
ISC 05 05:49:16.9±2.9, 19°.2N±0°.1×67°.17W±0°.08, h17km±11km, n20, σ0°.37/24, 18C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.77**	**176**	⇑*e*P	**Pn**	**05 49 32.8**	**-0.1**
AGPR	**Aguadilla, PR**	**0.77**	**176**	⇑*i*P	**Pg**	**05 49 32.1**	**+0.2**
AGPR				⇑*i*S	**Sg**	**05 49 42.0**	**-0.1**
AGPR				IAML		05 49 46.1	
comp=N,31nm,1.0s							
IDE	**Isla Desecheo**	**0.90**	**199**	⇑*e*P	**Pg**	**05 49 34.3**	**0.0**
IDE	**Isla Desecheo**	**0.90**	**199**	*e*S	**Sg**	**05 49 46.3**	**+0.1**
AOPR	**Arecibo Observ**	**0.97**	**156**	⇑*i*P	**Pb**	**05 49 35.0**	**-0.2**
AOPR				⇑*i*S	**Sb**	**05 49 47.7**	**0.0**
AOPR				IAML		05 50 01.0	
comp=N,21nm,0.3s							
LSP	**Las Mesas**	**1.06**	**176**	⇑*e*P	**Pn**	**05 49 37.1**	**+0.2**
LSP	**Las Mesas**	**1.06**	**176**	*e*S	**Sb**	**05 49 50.7**	**+0.4**
ECPR	**Experimental S**	**1.19**	**140**	⇑*e*P	**Pg**	**05 49 39.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.23**	**177**	⇑*e*P	**Pb**	**05 49 39.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.23**	**177**	⇑*i*P	**Pb**	**05 49 39.7**	**+0.1**
CRPR				⇑*i*S	**Sb**	**05 49 54.2**	**-0.9**
CRPR				IAML		05 49 58.2	
comp=N,6.8nm,0.6s							
MLPR	**Magueyes Islan**	**1.27**	**175**	⇓*e*P	**Pb**	**05 49 40.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.27**	**175**	*e*S	**Sb**	**05 49 56.1**	**-0.2**
MLPR	**Magueyes Islan**	**1.27**	**175**	⇑*i*P	**Pn**	**05 49 39.5**	**-0.3**
MLPR				⇑*i*S	**Sb**	**05 49 55.7**	**-0.5**
MLPR				IAML		05 49 59.5	
comp=N,3.7nm,2.2s							
CELP	**Cerrillos**	**1.28**	**154**	⇑*e*P	**Pb**	**05 49 40.9**	**+0.3**
CELP	**Cerrillos**	**1.28**	**154**	*e*S	**Sn**	**05 49 57.6**	**+0.8**
CELP	**Cerrillos**	**1.28**	**154**	⇑*i*P	**Pn**	**05 49 39.7**	**-0.3**
CELP				⇑*i*S	**Sb**	**05 49 56.1**	**-0.6**
CELP				IAML		05 50 01.1	
comp=N,11nm,0.7s							
OBIP	**Obispado Ponce**	**1.30**	**156**	⇑*e*P	**Pb**	**05 49 41.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.30**	**156**	*e*S	**Sn**	**05 49 57.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.63**	**138**	⇑*e*P	**Pb**	**05 49 46.4**	**0.0**
MIDR	**Miches**	**1.80**	**262**	IAML		05 50 47.5	
comp=N,6.1nm,2.3s							

IDC 05 06:01:47.5±8.6, 21°.73S×148°.37E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=112.1km s-min=64.9km az=176.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.24**	**275**	Pn	Pn	06 04 56.0	-0.9
0.1nm,0.3s,baz=98,slow=14,SNR=1.8							
WRA				Lg	Lg	06 08 50.4	
0.1nm,0.3s,baz=100,slow=26,SNR=4.6							
0.1nm,0.3s							
ASAR	**Alice Springs**	**13.49**	**259**	Pn	Pn	06 05 01.5	+1.1
0.1nm,0.3s,baz=84,slow=12,SNR=1.7							
ASAR				Lg	Lg	06 08 53.2	
0.1nm,0.3s,baz=77,slow=27,SNR=2.6							
0.2nm,0.5s							
I22FR	**PORTLAGUERRE I**	**17.15**	**95**	I	I	07 42 00.0	
baz=270,slow=312,SNR=1.6							

*NOU **05** 06:10:49.6, 12°.87S×167°.35E, h193km, mb4.5/16, Santa Cruz Islands*
*IDC **05** 06:10:51.5±1.5, 13°.25S×167°.13E, h190km±12km, mb4.1/17, mbtmp4.5/19, MS3.1/2, Error ellipse: s-maj=16.9km s-min=10.8km az=91.0*
*NEIC **05** 06:10:52.8±1.6, 13°.27S±0°.10×167°.2E±0°.1, h202km±7km, mb4.7/38, Error ellipse: s-maj=18.0km s-min=14.4km az=97.0*
ISC 05 06:10:52.2±0.3, 13°.26S±0°.06×167°.07E±0°.07, h200km, n167, σ1s40/174, mb4.7/43, 1C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.18**	**177**		**Pn**	**06 11 32.7**	**+0.1**
SANVU	**Saraoutou**	**2.18**	**177**	P	**Pn**	**06 11 34.0**	**+1.4**
HNR	**Honiara**	**7.95**	**298**	LR	LR	06 15 49.5	
comp=Z,96nm,18.6s,baz=44,slow=37							
YATNC	**Mamie plateau,**	**8.76**	**181**	P	**Pn**	**06 12 57.8**	**+2.5**
DZM	**Mont Dzumac**	**8.79**	**184**	Pn	**Pn**	**06 12 54.7**	**-1.0**
DZM	**Mont Dzumac**	**8.79**	**184**	P	**Pn**	**06 12 56.5**	**+0.7**
9.3nm,0.5s,baz=3.6,slow=16,SNR=18							
DZM				S	**Sn**	**06 14 37.0**	**+2.6**
5.6nm,0.6s,baz=294,slow=23,SNR=1.3							
DZM	**Mont Dzumac**	**8.79**	**184**	P	**Pn**	**06 12 58.8**	**+3.0**
ONTNC	**Ouen Toro**	**9.02**	**184**	Pn	**Pn**	**06 12 57.1**	**-1.6**
OUENC	**Ouen Island, N**	**9.12**	**181**	P	**Pn**	**06 13 03.1**	**+3.2**
PINNC	**Pines Island,**	**9.31**	**178**	Pn	**Pn**	**06 13 02.6**	**+0.2**
MSVF	**Nonsavu**	**11.48**	**114**	P	**Pn**	**06 13 27.1**	**-3.5**
EIDS	**Eidsvold**	**19.28**	**229**		**Pn**	**06 15 03.1**	**-2.2**
EIDS				IAmb	IAmb	06 15 24.6	
comp=Z,24nm,0.9s							
PMG	**Port Moresby**	**19.89**	**279**	P	**Pn**	**06 15 09.5**	**-3.3**
comp=Z,9.8nm,0.7s,baz=29,slow=18,SNR=1.5							
AFI	**Afiamalu**	**20.57**	**94**	P	**P**	**06 15 14.6**	**-1.3**
CTAO	**Charters Tower**	**21.05**	**248**	P	**P**	**06 15 20.9**	**+0.1**
ARMA	**Armidale**	**22.25**	**217**	P	**P**	**06 15 33.5**	**+0.6**
ARMA				IAmb	IAmb	06 15 35.7	
comp=Z,28nm,0.8s							
ARMA	**Armidale**	**22.25**	**217**	P	**P**	**06 15 34.7**	**+1.8**
MTSU	**Mount Surprise**	**22.43**	**255**	P	**P**	**06 15 36.4**	**+1.8**
OUZ	**Omahuta**	**22.65**	**166**	P	**P**	**06 15 37.5**	**+1.2**
OUZ	**Omahuta**	**22.65**	**166**	P	**P**	**06 15 38.0**	**+1.7**
WCZ	**Waipu Caves**	**23.52**	**165**	P	**P**	**06 15 46.0**	**+1.8**
MKAZ	**Moumakai**	**24.83**	**164**	P	**P**	**06 15 57.1**	**+1.1**
TOZ	**Tahuroa Road**	**25.51**	**164**	P	**P**	**06 16 02.6**	**+0.4**
HIZ	**Hauiti**	**26.09**	**166**	P	**P**	**06 16 08.5**	**+1.1**
HIZ	**Hauiti**	**26.09**	**166**	P	**P**	**06 16 08.5**	**+1.1**
MXZ	**Matakaoa Point**	**26.20**	**159**	P	**P**	**06 16 09.2**	**+0.8**
MXZ	**Matakaoa Point**	**26.20**	**159**	P	**P**	**06 16 08.7**	**+0.3**
HAZ	**Te Kaha**	**26.20**	**161**	P	**P**	**06 16 09.2**	**+0.8**
RUGZ	**Raukumara Rang**	**26.36**	**161**	P	**P**	**06 16 11.4**	**+1.4**
PKGZ	**Pakihiroa**	**26.40**	**160**	P	**P**	**06 16 10.2**	**0.0**
URZ	**Urewera**	**26.45**	**162**	P	**P**	**06 16 10.7**	**0.0**
URZ	**Urewera**	**26.45**	**162**	P	**P**	**06 16 10.1**	**-0.6**
WMGZ	**Waiomatatini S**	**26.47**	**160**	P	**P**	**06 16 10.0**	**-0.8**
MUGZ	**Murupara**	**26.56**	**163**	P	**P**	**06 16 12.1**	**+0.5**
MWZ	**Matawai**	**26.65**	**161**	P	**P**	**06 16 11.9**	**-0.5**
WTVZ	**West Tongariro**	**26.84**	**165**	P	**P**	**06 16 16.0**	**+1.8**
NGZ	**Ngauruhoe**	**26.90**	**165**	P	**P**	**06 16 17.7**	**+2.8**
SNGZ	**Shannon Statio**	**27.00**	**162**	P	**P**	**06 16 15.2**	**-0.4**
BKZ	**Black Stump Fm**	**27.12**	**164**		**P**	**06 16 16.1**	**-0.6**
BKZ	**Black Stump Fm**	**27.12**	**164**	P	**P**	**06 16 16.9**	**+0.2**
KNZ	**Kokohu**	**27.33**	**162**	P	**P**	**06 16 18.0**	**-0.4**
CAN	**Canberra**	**27.36**	**213**	P	**P**	**06 16 20.0**	**+1.1**
MCHZ	**McNeill Hill**	**27.44**	**164**	P	**P**	**06 16 20.0**	**+0.6**
TSZ	**Takapari Road**	**27.82**	**165**	P	**P**	**06 16 22.5**	**-0.4**
QRZ	**Quartz Range**	**27.88**	**171**	P	**P**	**06 16 25.6**	**+2.3**
PXZ	**Pawanui**	**28.03**	**164**	P	**P**	**06 16 23.7**	**-1.0**
MRZ	**Mangatainoka R**	**28.30**	**166**	P	**P**	**06 16 29.0**	**+1.9**
NNZ	**Nelson**	**28.40**	**170**	P	**P**	**06 16 30.7**	**+2.8**
BFZ	**Birch Farm**	**28.48**	**165**	P	**P**	**06 16 29.4**	**+0.7**
BFZ	**Birch Farm**	**28.48**	**165**	P	**P**	**06 16 27.3**	**-1.4**
MILA	**Mila**	**28.61**	**211**	P	**P**	**06 16 30.8**	**+0.8**
THZ	**Tophouse**	**28.85**	**171**	P	**P**	**06 16 32.3**	**+0.3**
KHZ	**Kahutara**	**29.59**	**170**	P	**P**	**06 16 39.6**	**+1.2**
INZ	**Inchbonnie**	**29.61**	**173**	P	**P**	**06 16 39.4**	**+0.9**
LTZ	**Lake Taylor**	**29.76**	**172**	P	**P**	**06 16 40.0**	**-0.1**
LTZ	**Lake Taylor**	**29.76**	**172**	P	**P**	**06 16 40.4**	**+0.3**
STKA	**Stephens Creek**	**29.82**	**227**		**P**	**06 16 42.0**	**+1.4**
STKA	**Stephens Creek**	**29.82**	**227**	P	**P**	**06 16 41.3**	**+0.7**
comp=Z,12nm,0.5s,baz=51,slow=9.9,SNR=28							
STKA				PcP	**PcP**	**06 19 39.4**	**+0.5**
comp=Z,11nm,0.7s,baz=46,slow=2.2,SNR=14							
comp=Z,12nm,0.5s							
WVZ	**Waiuha Valley**	**29.88**	**175**	P	P	06 16 44.9	+3.9
GVZ	**Greta Valley S**	**30.05**	**171**	P	**P**	**06 16 43.2**	**+0.6**
FOZ	**Fox Glacier**	**30.26**	**176**	P	P	06 16 49.0	+4.6
OXZ	**Oxford**	**30.27**	**173**	P	**P**	**06 16 45.3**	**+0.9**
MQZ	**McQueen's Vall**	**30.72**	**172**	P	**P**	**06 16 48.7**	**+0.3**
TOO	**Toolangi**	**30.93**	**215**	P	**P**	**06 16 51.4**	**+1.0**
EAZ	**Earnscleugh**	**31.93**	**177**	P	**P**	**06 17 00.3**	**+1.4**
WRA	**Warramunga Arr**	**32.02**	**254**	P	**P**	**06 16 59.7**	**-0.4**
comp=Z,4.2nm,0.8s,baz=86,slow=9.0,SNR=17							
WRA				PcP	**PcP**	**06 19 45.2**	**+0.1**
comp=Z,1.0nm,0.5s,baz=76,slow=2.9,SNR=6.3							
WRA				S	**S**	**06 21 52.0**	**-5.2**
comp=Z,0.4nm,0.8s,baz=84,slow=14,SNR=2.1							
WRA				ScP	**ScP**	**06 23 11.1**	**+1.4**
comp=Z,1.5nm,0.8s,baz=86,slow=3.0,SNR=8.7							
comp=Z,4.2nm,0.8s							
AS31	**Alice Springs**	**33.04**	**247**		**P**	**06 17 08.6**	**-0.4**
ASAR	**Alice Springs**	**33.04**	**247**	P	**P**	**06 17 08.9**	**-0.1**
comp=Z,3.1nm,0.5s,baz=74,slow=9.2,SNR=51							
ASAR				PcP	**PcP**	**06 19 47.8**	**-0.1**
comp=Z,3.4nm,0.8s,baz=70,slow=3.0,SNR=12							
ASAR				S	**S**	**06 22 06.8**	**-6.1**
comp=Z,1.8nm,1.0s,baz=77,slow=17,SNR=7.6							
ASAR				ScP	**ScP**	**06 23 14.8**	**+1.5**
comp=Z,1.5nm,0.7s,baz=81,slow=3.3,SNR=10							
comp=Z,3.1nm,0.5s							
KNRA	**Kununurra**	**37.14**	**261**		**P**	**06 17 44.5**	**+0.5**
KNRA				IAmb	IAmb	06 17 45.7	
comp=Z,27nm,1.2s							
PSA00	**Pilbara Seismi**	**45.67**	**253**	P	**P**	**06 18 54.1**	**+0.8**
MBWA	**Marble Bar**	**45.76**	**253**		**P**	**06 18 55.0**	**+1.0**
MBWA				IAmb	IAmb	06 18 56.1	
comp=Z,29nm,1.0s							
UGM	**Wanagama**	**55.74**	**269**	P	**P**	**06 20 08.6**	**-0.1**
JGF	**Kuroka**	**56.14**	**331**	P	**P**	**06 20 10.4**	**-0.7**
JGF				IAmb	IAmb	06 20 53.2	
comp=Z,34nm,1.5s							
JMN	**Monobe**	**56.41**	**327**	P	**P**	**06 20 13.5**	**+0.5**
JMN				IAmb	IAmb	06 20 15.5	
comp=Z,13nm,0.8s							
MJAR	**Matsushiro Arr**	**56.52**	**332**	P	**P**	**06 20 13.8**	**+0.2**
comp=Z,2.5nm,0.5s,baz=168,slow=8.7,SNR=9.6							
comp=Z,2.5nm,0.5s							
MJB9	**Matsu-Tunnel**	**56.52**	**332**	P	**P**	**06 20 13.4**	**-0.3**
MJB9				IAmb	IAmb	06 20 15.0	
comp=Z,18nm,1.4s							
JNU	**Nakatsue**	**57.62**	**324**	P	**P**	**06 20 21.9**	**+0.3**
JNU				IAmb	IAmb	06 20 22.9	
comp=Z,11nm,0.9s							
JKA	**Kamikawa-asahi**	**61.30**	**340**	P	**P**	**06 20 48.2**	**+1.8**
VNDA	**Vanda**	**64.32**	**181**		**P**	**06 21 06.3**	**+0.4**
VNDA	**Vanda**	**64.32**	**181**	P	**P**	**06 21 06.3**	**+0.4**
comp=Z,2.4nm,0.6s,baz=350,slow=6.2,SNR=33							
comp=Z,2.4nm,0.6s							
NJ2	**Nanjing**	**64.49**	**315**	*e*P	P	06 21 11.4	+3.7
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
SBA	**Scott Base**	**64.60**	**180**		**P**	**06 21 08.9**	**+1.2**
SBA				IAmb	IAmb	06 21 10.2	
comp=Z,11nm,0.9s							
CASY	**Casey**	**64.81**	**202**		**P**	**06 21 08.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**65.49**	**333**	P	**P**	**06 21 16.0**	**+2.1**
comp=Z,3.6nm,0.7s,baz=110,slow=7.8,SNR=4.4							
comp=Z,3.6nm,0.7s							
KIWB	**Kanaga Island**	**66.27**	**11**	P	**P**	**06 21 18.9**	**+0.2**
KIWB				IAmb	IAmb	06 21 22.1	
comp=Z,24nm,1.0s							
PEA0B	**Petropavlovsk-**	**66.58**	**354**	P	**P**	**06 21 21.4**	**+0.7**
PEA0B				IAmb	IAmb	06 21 54.1	
comp=Z,26nm,1.2s							
PETK	**Petropavlovsk-**	**66.58**	**354**	P	**P**	**06 21 20.5**	**-0.1**
PETK	**Petropavlovsk-**	**66.58**	**354**	P	**P**	**06 21 21.6**	**+1.0**
comp=Z,3.2nm,0.6s,baz=146,slow=4.9,SNR=7.0							
comp=Z,3.2nm,0.6s							
IPM	**Ipoh**	**67.88**	**280**	P	**P**	**06 21 29.9**	**+0.2**
IPM				IAmb	IAmb	06 21 31.6	
comp=Z,20nm,1.1s							
RPSI	**Rantau Prapat**	**69.42**	**278**	P	**P**	**06 21 39.2**	**0.0**
RPSI				IAmb	IAmb	06 21 40.2	
comp=Z,15nm,1.0s							
LYN	**LuoYang**	**70.31**	**314**	P	**P**	**06 21 46.1**	**+2.0**
LYN				pmax	pmax		
comp=Z,21nm,0.6s							
HNS	**HongShan**	**70.38**	**318**	⇑P	**P**	**06 21 46.9**	**+2.4**
CMAR	**Chiang Mai Arr**	**74.18**	**294**		**P**	**06 22 08.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**74.18**	**294**	P	**P**	**06 22 09.3**	**+1.9**
comp=Z,6.4nm,0.9s,baz=124,slow=4.4,SNR=26							
comp=Z,6.4nm,0.9s							
CHTO	**Chiang Mai**	**74.30**	**294**		**P**	**06 22 08.9**	**+0.8**
HHC	**Hu-ho-hao-te**	**74.34**	**320**	*e*P	**P**	**06 22 10.5**	**+2.5**
HHC				pmax	pmax		
comp=Z,8.0nm,0.7s							
HHC				pmax	pmax		
comp=Z,32nm,5.7s							
PZH	**PanZhiHua**	**74.75**	**302**	P	**P**	**06 22 13.2**	**+2.5**
CD2	**Chengdu**	**74.96**	**307**	P	**P**	**06 22 13.0**	**+1.3**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
QSPA	**South Pole Qui**	**76.76**	**180**	P	**P**	**06 22 23.3**	**+1.9**
comp=Z,21nm,0.8s,baz=334,slow=0.6,SNR=150							
comp=Z,21nm,0.8s							
N14K	**Kuskokwak Cree**	**77.15**	**16**	P	**P**	**06 22 22.7**	**-0.6**
LZH	**Lanzhou**	**77.19**	**312**	*e*P	**P**	**06 22 20.8**	**-3.5**
LZH				pmax	pmax		
comp=Z,13nm,1.1s							
N15K	**Kwethluk River**	**77.78**	**16**	P	**P**	**06 22 26.9**	**+0.1**
N15K				IAmb	IAmb	06 22 33.9	
comp=Z,31nm,1.4s							
M14K	**Bethel**	**77.79**	**15**	P	**P**	**06 22 26.3**	**-0.5**
YAK	**Yakutsk**	**80.57**	**343**	LR	LR	06 56 52.5	
comp=Z,16nm,18.9s,baz=296,slow=34							
SONM	**Songino Array**	**81.20**	**324**	P	**P**	**06 22 46.6**	**+0.8**
comp=Z,1.3nm,0.6s,baz=146,slow=7.3,SNR=6.6							
comp=Z,1.3nm,0.6s							
GTA	**Gaotai**	**81.51**	**314**	P	**P**	**06 22 49.7**	**+2.1**
GTA				sP	pwP	06 23 40.8	+3.0
GTA				pmax	pmax		
comp=Z,7.0nm,1.0s							
PWL	**Port Wells**	**81.91**	**20**	P	**P**	**06 22 49.0**	**-0.1**
PWL				IAmb	IAmb	06 22 50.1	
comp=Z,16nm,1.0s							
SHL	**Shillong**	**82.70**	**298**		**P**	**06 22 54.1**	**0.0**
SHL				IAmb	IAmb	06 22 55.7	
comp=Z,21nm,1.5s							
MAW	**Mawson**	**83.17**	**202**	P	**P**	**06 22 55.3**	**-0.2**
comp=Z,6.5nm,0.9s,baz=112,slow=5.6,SNR=11							
comp=Z,6.5nm,0.9s							
HDA	**Harding Lake**	**84.92**	**18**	P	**P**	**06 23 03.9**	**-0.3**
HDA				IAmb	IAmb	06 23 05.0	
comp=Z,7.6nm,0.7s							
IL31		**85.19**	**18**	P	**P**	**06 23 05.0**	**-0.5**
ILAR	**Eielson Array**	**85.19**	**18**	P	**P**	**06 23 04.9**	**-0.7**
comp=Z,3.4nm,0.6s,baz=242,slow=5.0,SNR=86							
comp=Z,3.4nm,0.6s							
NVAR	**Mina Array Bea**	**86.46**	**49**	P	**P**	**06 23 12.4**	**-0.3**
comp=Z,0.3nm,0.6s,baz=264,slow=4.3,SNR=2.8							
comp=Z,0.3nm,0.6s							
EVN	**Everest**	**87.73**	**299**

comp=Z,0.9nm,0.4s
WTTA Wattenberg 140.35 334 *i* PKP **PKiKP 06 29 57.8 -2.4**
comp=Z,4.2nm,0.7s
ABTA Abfaltersbach 140.36 332 *i* PKP **PKiKP 06 29 57.6 -2.6**
comp=Z,3.5nm,0.9s
FETA Feichten 140.93 334 *i* PKP **PKiKP 06 29 58.0 -3.3**
comp=Z,1.6nm,0.3s
KEST Kesra 149.95 322 PKPbc **PKiKP 06 30 20.1 -0.1**
comp=Z,14nm,0.6s,baz=8.7,slow=2.5,SNR=13
PBRG Braganca 151.05 350 *e*PKPbc **PKiKP 06 30 22.0 -0.2**
PGAV Gavieira, Arco 151.11 353 *e*PKPbc **PKiKP 06 30 21.6 -0.8**
PCAB Cabril 151.33 352 *e*PKPbc **PKiKP 06 30 23.4 +0.6**
POLO Lamas de Olo 151.63 352 *e*PKPbc **PKiKP 06 30 23.9 +0.4**
PVRL Vila Real 151.72 352 *e*PKPbc **PKiKP 06 30 24.5 +0.9**
MVO Moncorvo 151.72 351 *e*PKPbc **PKiKP 06 30 24.0 +0.3**
PVIS Viseu 152.29 352 *e*PKPbc **PKiKP 06 30 25.4 +0.6**
ESDC Sonseca Array 152.52 345 PKPbc **PKiKP 06 30 25.4 0.0**
comp=Z,3.7nm,0.8s,baz=12,slow=2.9,SNR=25
ESDC PKPab **PKPab 06 30 36.8 +0.6**
comp=Z,2.2nm,0.8s,baz=23,slow=3.9,SNR=7.8
MTE Manteigas 152.55 351 *e*PKPbc **PKiKP 06 30 25.9 +0.6**
PCAS Casmilo, Conde 153.02 352 *e*PKPbc **PKiKP 06 30 26.6 +0.3**
PCBR Castelo Branco 153.09 351 *e*PKPbc **PKiKP 06 30 26.5 +0.1**
PSARD Sardoal 153.42 352 *e*PKPbc **PKiKP 06 30 26.7 -0.5**
PMRV Marv??o 153.47 350 *e*PKPbc **PKiKP 06 30 28.7 +1.4**
PMTG Montargil 153.95 352 *e*PKPab **PKPab 06 30 43.9 +1.8**
PBAR Barrancos 154.63 349 *e*PKPab **PKPab 06 30 46.5 +1.4**
PBEJ Beja 154.92 351 *e*PKPab **PKPab 06 30 48.1 +1.8**
MESJ Messejana 155.16 351 *e*PKPab **PKPab 06 30 49.2 +1.9**
TORD Torodi Ar. Bea 165.76 271 PKP **PKPdf 06 30 33.8 -0.1**
comp=Z,1.6nm,0.9s,baz=13,slow=2.3,SNR=6.5
TORD PKPab **PKPab 06 31 34.5 0.0**
comp=Z,1.1nm,0.7s,baz=73,slow=5.1,SNR=4.9

*IDC **05** 06:35:32.1±1.2,3°.48S×128°.87E, h0km, mb4.0/4, mbtmp4.0/7, ML3.7/3, MS3.1/2, Error ellipse: s-maj=49.2km s-min=21.7km az=69.0*
*DJA **05** 06:35:33.9±0.4, 4°.5±5°.5×12°.8E±°, h11km±3km, M3.8/6, MLv3.8/6*
*NEIC **05** 06:35:37.2±2.1, 3°.82S±0°.07×128°.53E±0°.06, h10km±1km, mb4.3/13, Error ellipse: s-maj=15.0km s-min=4.5km az=39.0*
ISC 05 06:35:36.1±0.5,**3°.79S**±0°.06×**128°.59E**±0°.08,**h10**km,**n34,** σ1$59/31,**mb4.2/8,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.41**	**285**	P	Pg	06 35 40.2	-3.9
MSAI	**Masohi**	**0.56**	**37**	P	**Pg**	**06 35 46.6**	**-0.4**
BNDI	**Bandanaira**	**1.50**	**119**	P	**Pn**	**06 36 02.3**	**-0.8**
NLAI	**Namlea**	**1.58**	**290**	P	Pn	06 35 57.1	-7.2
SANI	**Sanana**	**3.12**	**304**	P	Pn	06 36 20.3	-5.1
FAKI	**Fak Fak**	**3.75**	**77**		**Pn**	**06 36 37.1**	**+3.0**
FAKI	**Fak Fak**	**3.75**	**77**	P	**Pn**	**06 36 34.8**	**+0.6**
TNTI	**Ternate**	**4.70**	**345**	Pn	**Pn**	**06 36 48.1**	**+1.0**
SAUI	**Saumlaki**	**4.96**	**147**	Pn	**Pn**	**06 36 52.9**	**+2.2**
LUWI	**Luwuk**	**6.42**	**295**	Pn	**Pn**	**06 37 12.1**	**+1.2**
KAPI	**Kappang**	**8.89**	**262**	Pn	**Pn**	**06 37 45.7**	**+0.9**
KAPI	**Kappang**	**8.89**	**262**	Pn	**Pn**	**06 37 47.1**	**+2.3**
	2.7nm,0.3s,baz=103,slow=4.5,SNR=5.9						
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.51**	**191**	Pn	**Pn**	**06 39 02.1**	**+0.5**
	0.1nm,0.3s,baz=5.4,slow=11,SNR=3.7						
	2.3nm,0.8s						
WB0	**Warramunga Arr**	**16.86**	**161**	Pn	**Pn**	**06 39 30.9**	**-1.5**
WRA	**Warramunga Arr**	**17.00**	**161**	Pn	**Pn**	**06 39 32.1**	**-2.1**
WRA	**Warramunga Arr**	**17.00**	**161**	Pn	**Pn**	**06 39 32.8**	**-1.5**
	0.3nm,0.3s,baz=341,slow=12,SNR=19						
	2.3nm,0.8s						
COEN	**Coen**	**17.58**	**126**		**Pn**	**06 39 42.4**	**+0.9**
AS31	**Alice Springs**	**20.41**	**166**	P	**P**	**06 40 13.3**	**-0.3**
AS31				IAmb	IAmb	06 40 18.2	
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**20.41**	**166**	P	**P**	**06 40 14.5**	**+1.0**
ASAR	**Alice Springs**	**20.41**	**166**	P	**P**	**06 40 15.2**	**+1.6**
	comp=Z,38nm,0.8s,baz=347,slow=9.7,SNR=142						
ASAR				PcP	**PcP**	**06 44 25.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=352,slow=2.3,SNR=4.5						
ASAR				LR	LR	06 47 30.8	
	comp=Z,66nm,18.5s,baz=324,slow=35						
	comp=Z,38nm,0.8s						
GUMO	**Guam**	**23.65**	**43**	LR	LR	06 49 58.2	
	comp=Z,28nm,19.7s,baz=183,slow=37						
SSLB	**Suanglung**	**28.41**	**345**	P	**P**	**06 41 31.9**	**+0.9**
SSLB				IAmb	IAmb	06 42 02.8	
	comp=Z,8.2nm,0.8s						
YOJ	**Yonaguni jima**	**28.60**	**349**	P	**P**	**06 41 33.8**	**+1.1**
EIDS	**Eidsvold**	**30.45**	**137**	P	**P**	**06 41 48.8**	**-0.4**
EIDS				IAmb	IAmb	06 42 10.3	
	comp=Z,14nm,1.5s						
CHTO	**Chiang Mai**	**36.83**	**309**	P	**P**	**06 42 44.1**	**-0.7**
CHTO				IAmb	IAmb	06 43 20.5	
	comp=Z,2.9nm,1.0s						
MKAR	**Makanchi Array**	**64.79**	**327**	P	**P**	**06 46 13.8**	**-1.2**
MKAR	**Makanchi Array**	**64.79**	**327**	P	**P**	**06 46 11.9**	**-3.2**
	comp=Z,1.1nm,0.9s,baz=109,slow=7.9,SNR=5.2						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**69.06**	**328**	P	**P**	**06 46 38.9**	**-3.2**
	comp=Z,0.5nm,0.6s,baz=128,slow=5.8,SNR=7.9						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**69.07**	**329**	P	**P**	**06 46 40.7**	**-1.4**
KURK				IAmb	IAmb	06 46 41.9	
	comp=Z,1.8nm,0.8s						
CHGR	**Chuyangaron**	**69.12**	**314**	P	**P**	**06 46 43.2**	**+0.3**
VNDA	**Vanda**	**75.78**	**173**	P	**P**	**06 47 21.0**	**-0.8**
VNDA				IAmb	IAmb	06 48 04.3	
	comp=Z,3.2nm,1.4s						
VNDA	**Vanda**	**75.78**	**173**	P	**P**	**06 47 19.8**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=332,slow=5.8,SNR=1.8						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**86.16**	**180**	P	**P**	**06 48 18.4**	**+0.9**
QSPA				IAmb	IAmb	06 48 32.4	
	comp=Z,3.5nm,1.4s						
SNAA	**Sanae**	**98.43**	**194**	P	**P**	**06 49 14.9**	**+0.6**

*IDC **05** 06:42:22.3±1.5, 18°.91N×67°.34W, h0km, mb3.5/2, mbtmp3.7/4, ML3.1/2, Error ellipse: s-maj=34.9km s-min=15.2km az=37.0*
*RSPR **05** 06:42:22.4, 19°.32N×67°.50W, h56km±11km, MD3.5/16*
*SDD **05** 06:42:22.7±2.3, 19°.33N×67°.13W, h31km±64km, MD3.8, ML3.8, MW3.9*
*NEIC **05** 06:42:24.7±1.8, 19°.05N±0°.04×67°.23W±0°.04, h15km±8km, mb4.1/10, ML3.7/23, Mwr3.7/13, Md3.5/16(RSPR), Error ellipse: s-maj=6.2km s-min=4.6km az=46.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}1.40; $M_{\theta\theta}$-2.12; $M_{\phi\phi}$0.71; $M_{r\theta}$1.33; $M_{\theta\phi}$2.23; $M_{\phi r}$-2.36; Fault plane solution: $M_0$3.97000×10^14^ NP1: ϕ_s151.59000°, δ76.74000°, λ126.59000°. NP2: ϕ_s258.76000°, δ38.60000°, λ21.57000°. Principal axes: T 3.4872, Plg46.0000°, Azm99.0000°; N 0.8313, Plg35.0000°, Azm322.0000°; P -4.3185, Plg23.0000°, Azm214.0000°;*
*OSPL **05** 06:42:24.5±1.6, 19°.21N×67°.17W, h0km±13km, ML4.0*
*NEIC **05** 06:42:25.9, 19°.06N×67°.23W, h44km*
ISC 05 06:42:22.8±1.2,**19°.20N**±0°.04×**67°.27W**±0°.03,**h15**km±8km, **n103,** σ1$99/119,**mb4.0/7,14C-2D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.75**	**168**		**Pb**	**06 42 37.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.75**	**168**	*e*P	**Pb**	**06 42 37.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.75**	**168**	*e*Pg	**Pb**	**06 42 37.7**	**+0.1**
AGPR				*e*Sg	**Sn**	**06 42 50.0**	**+0.2**
AGPR				IAML		06 42 53.3	
	comp=N,3μm,0.3s						
AGPR	**Aguadilla, PR**	**0.75**	**168**	*i* P	**Pb**	**06 42 37.7**	**+0.1**
AGPR				*e*S	**Sb**	**06 42 47.9**	**+0.4**
AGPR				IAML		06 42 52.6	
	comp=Z,1μm,0.3s						
IDE	**Isla Desecheo**	**0.83**	**193**		**Pg**	**06 42 39.2**	**+0.2**
IDE	**Isla Desecheo**	**0.83**	**193**	*e*P	**Pg**	**06 42 39.2**	**+0.2**
IDE	**Isla Desecheo**	**0.83**	**193**	*e*S	**Sg**	**06 42 51.2**	**+1.2**
AOPR	**Arecibo Observ**	**0.98**	**150**		**Pb**	**06 42 40.8**	**-0.7**
AOPR					**Sb**	**06 42 52.9**	**-1.5**
AOPR				IAML		06 43 00.1	
	comp=N,3μm,0.3s						
AOPR	**Arecibo Observ**	**0.98**	**150**	*e*P	**Pb**	**06 42 41.2**	**-0.3**
AOPR	**Arecibo Observ**	**0.98**	**150**	*e*S	**Sn**	**06 42 57.0**	**+1.3**
AOPR	**Arecibo Observ**	**0.98**	**150**	*e*Pg	**Pg**	**06 42 41.6**	**-0.3**
AOPR				IAML		06 43 04.4	
	comp=N,3μm,0.4s						
PRSN	**Puerto Rico Se**	**0.99**	**173**		**Pb**	**06 42 40.6**	**-1.0**
PRSN	**Puerto Rico Se**	**0.99**	**173**		**Sn**	**06 42 56.0**	**+0.2**
PRSN	**Puerto Rico Se**	**0.99**	**173**	*e*P	**Pg**	**06 42 41.7**	**-0.2**
PRSN	**Puerto Rico Se**	**0.99**	**173**	*e*S	**Sn**	**06 42 56.0**	**+0.2**
EMPR	**Esperanza - Ma**	**1.01**	**136**		**Pb**	**06 42 41.4**	**-0.6**
EMPR	**Esperanza - Ma**	**1.01**	**136**	*e*P	**Pn**	**06 42 42.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.01**	**136**	*e*S	**Sn**	**06 42 59.3**	**+3.1**
LSP	**Las Mesas**	**1.04**	**170**		**Pb**	**06 42 42.3**	**-0.2**
LSP					**Sn**	**06 42 57.6**	**+0.6**
LSP	**Las Mesas**	**1.04**	**170**	*e*P	**Pb**	**06 42 42.3**	**-0.2**
LSP	**Las Mesas**	**1.04**	**170**	*e*S	**Sn**	**06 42 57.6**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.08**	**151**		**Pb**	**06 42 42.5**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.08**	**151**	*e*P	**Pb**	**06 42 42.4**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.20**	**173**		**Pn**	**06 42 44.1**	**-0.9**
CRPR					**Sb**	**06 43 00.6**	**+0.1**
CRPR				IAML		06 43 04.7	
	comp=N,3μm,0.5s						
CRPR				IAML		06 43 04.9	
	comp=E,3μm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.20**	**173**	*e*P	**Pn**	**06 42 44.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.20**	**173**	*e*Pg	**Pn**	**06 42 44.4**	**-0.6**
CRPR				IAML		06 43 04.6	
	comp=N,3μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.20**	**173**	*i* P	**Pn**	**06 42 44.9**	**-0.1**
CRPR				*e*S	**Sg**	**06 43 01.6**	**-0.1**
CRPR				IAML		06 43 04.6	
	comp=Z,3μm,0.4s						
ECPR	**Experimental S**	**1.23**	**135**	*e*P	**Pn**	**06 42 45.1**	**-0.3**
ECPR	**Experimental S**	**1.23**	**135**	*e*S	**Sg**	**06 43 04.0**	**+1.4**
MLPR	**Magueyes Islan**	**1.25**	**170**	*e*P	**Pn**	**06 42 45.2**	**-0.5**
MLPR	**Magueyes Islan**	**1.25**	**170**	*e*Pg	**Pn**	**06 42 44.7**	**-0.9**
MLPR				*e*Sg	**Sb**	**06 43 01.3**	**-0.6**
MLPR				IAML		06 43 06.2	
	comp=N,400nm,0.9s						
CELP	**Cerrillos**	**1.30**	**150**		**Pn**	**06 42 45.7**	**-0.6**
CELP					**Sb**	**06 43 02.8**	**-0.6**
CELP				IAML		06 43 06.8	
	comp=N,2μm,0.6s						
CELP				IAML		06 43 08.9	
	comp=E,2μm,0.6s						
CELP	**Cerrillos**	**1.30**	**150**	*e*P	**Pn**	**06 42 46.1**	**-0.3**
CELP	**Cerrillos**	**1.30**	**150**	*e*S	**Sg**	**06 43 04.2**	**-0.7**
CELP	**Cerrillos**	**1.30**	**150**	*e*Pg	**Pn**	**06 42 45.8**	**-0.6**
CELP				*e*Sg	**Sn**	**06 43 03.0**	**-0.5**
CELP				IAML		06 43 06.6	
	comp=N,1μm,0.8s						
OBIP	**Obispado Ponce**	**1.32**	**151**		**Pn**	**06 42 45.9**	**-0.7**
OBIP				IAML		06 43 06.4	
	comp=N,1μm,0.7s						
OBIP				IAML		06 43 08.6	
	comp=E,1μm,0.4s						
OBIP	**Obispado Ponce**	**1.32**	**151**		**Sg**	**06 43 04.4**	**-0.9**
OBIP	**Obispado Ponce**	**1.32**	**151**	*e*P	**Pn**	**06 42 46.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.32**	**151**	*e*S	**Sg**	**06 43 04.4**	**-0.9**
GCPR	**Guaynabo City**	**1.44**	**128**		**Pb**	**06 42 48.4**	**-0.9**
GCPR					**Sg**	**06 43 07.7**	**-1.4**
GCPR	**Guaynabo City**	**1.44**	**128**	*e*P	**Pn**	**06 42 48.7**	**-0.5**
GCPR	**Guaynabo City**	**1.44**	**128**	*e*S	**Sg**	**06 43 09.4**	**+0.3**
HIDR	**Higuey Centro**	**1.50**	**246**	*e*Pg	**Pn**	**06 42 49.3**	**+0.3**
HIDR				*e*Sg	**Sg**	**06 43 11.2**	**+0.1**
HIDR				IAML		06 43 15.8	
	comp=N,1μm,0.3s						
SJG	**San Juan**	**1.52**	**135**		**Pn**	**06 42 48.9**	**-0.5**
SJG				IAML		06 43 16.1	
	comp=N,692nm,0.4s						
SJG	**San Juan**	**1.52**	**135**	Pg	**Pn**	**06 42 49.0**	**-0.4**
	comp=N,59nm,0.3s,baz=313,slow=13,SNR=104						
SJG				Lg	Lg	06 43 05.0	
	comp=N,147nm,0.3s,baz=270,slow=22,SNR=9.8						
SJG	**San Juan**	**1.52**	**135**	*e*P	**Pb**	**06 42 49.9**	**-0.8**
SJG	**San Juan**	**1.52**	**135**	*e*S	**Sg**	**06 43 10.5**	**-1.4**
SJG	**San Juan**	**1.52**	**135**	*i* P	**Pb**	**06 42 50.2**	**-0.5**
SJG				*e*S	**Sb**	**06 43 09.3**	**-0.5**
SJG				IAML		06 43 12.9	
	comp=Z,371nm,0.5s						
IGPR	**InterUniversit**	**1.66**	**138**		**Pn**	**06 42 51.4**	**+0.1**
IGPR	**InterUniversit**	**1.66**	**138**	*e*P	**Pn**	**06 42 51.4**	**+0.1**
IGPR	**InterUniversit**	**1.66**	**138**	*e*S	**Sg**	**06 43 14.4**	**-1.7**
PDPR	**Patillas Dam,**	**1.67**	**135**		**Pn**	**06 42 51.2**	**-0.3**
PDPR	**Patillas Dam,**	**1.67**	**135**	*e*P	**Pb**	**06 42 52.6**	**-0.6**
PDPR	**Patillas Dam,**	**1.67**	**135**	*e*S	**Sg**	**06 43 14.9**	**-1.7**
MIDR	**Miches**	**1.69**	**263**	*e*Pg	**Pn**	**06 42 52.5**	**+0.7**
MIDR				*e*Sg	**Sg**	**06 43 17.5**	**+0.1**
MIDR				IAML		06 43 17.9	
	comp=N,1μm,0.6s						
MIDR				IAML		06 43 20.2	
	comp=N,388nm,0.7s						
HUMP	**Col San Antoni**	**1.71**	**128**		**Pn**	**06 42 51.6**	**-0.5**
DR12	**Loma Pena Alta**	**2.04**	**259**		**Pb**	**06 42 58.6**	**-0.9**
HATOM	**Hato Mayor del**	**2.04**	**259**	*e*Pg	**Pn**	**06 42 58.1**	**+1.6**
HATOM				*e*Sg	**Sb**	**06 43 26.3**	**+1.6**
HATOM				IAML		06 43 29.8	
	comp=N,532nm,0.5s						
SDD	**Santo Domingo**	**2.61**	**254**		**Pn**	**06 43 06.8**	**+2.5**
SDD				IAML		06 43 48.8	
	comp=N,274nm,0.9s						
SDD				IAML		06 43 49.1	
	comp=E,330nm,0.7s						
SDD	**Santo Domingo**	**2.61**	**254**	*i* P	**Pn**	**06 43 06.9**	**+2.5**
SC01	**Santiago de lo**	**3.27**	**274**		**Pn**	**06 43 15.7**	**+2.2**
SC01	**Santiago de lo**	**3.27**	**274**	*i* P	**Pn**	**06 43 16.3**	**+2.8**
LOPP1	**Punta Rusia, P**	**3.76**	**281**	*i* P	**Pn**	**06 43 22.2**	**+2.0**
LOPP1				IAML		06 44 34.8	
	comp=Z,374nm,0.7s						
SDDR	**Presa de Saban**	**3.80**	**267**		**Pn**	**06 43 23.3**	**+2.4**
SDDR	**Presa de Saban**	**3.80**	**267**	*i* P	**Pn**	**06 43 24.1**	**+3.2**
SDDR				IAML		06 44 29.7	
	comp=Z,284nm,0.6s						
PODR	**Polo**	**3.94**	**255**	*i* P	**Pn**	**06 43 25.9**	**+3.0**
LONE3	**El Aguacate, B**	**4.01**	**262**	*i* P	**Pn**	**06 43 27.2**	**+3.4**
LONE3				IAML		06 44 35.0	
	comp=Z,185nm,0.7s						
LODU1	**El Espartillar**	**4.07**	**259**	*i* P	**Pn**	**06 43 28.3**	**+3.9**
LODU1				IAML		06 44 37.6	
	comp=Z,298nm,0.6s						
LOVI	**El Cajuil, Ovi**	**4.13**	**251**	*i* P	**Pn**	**06 43 27.7**	**+2.4**
LOVI				IAML		06 44 28.7	
	comp=Z,99nm,0.5s						
SABA	**Saba**	**4.14**	**112**	Pn	**Pn**	**06 43 26.0**	**+0.6**
SABA				IAML		06 44 33.7	
	comp=N,126nm,0.5s						
SMRT	**St. Maarten**	**4.14**	**105**		**Pn**	**06 43 24.9**	**-0.6**
SMRT				IAML		06 44 31.1	
	comp=N,94nm,0.5s						
SMRT				IAML		06 44 37.4	
	comp=E,129nm,0.6s						
LOBH	**Bahia de las A**	**4.35**	**253**	*i* P	**Pn**	**06 43 32.4**	**+4.0**
LOBH				IAML		06 44 35.0	
	comp=Z,77nm,0.4s						
GDHS	**Morne Mazeau,**	**6.00**	**118**	Pn	**Pn**	**06 43 49.1**	**-2.0**
CBE	**Ff, Capester**	**6.24**	**119**	Pn	**Pn**	**06 43 53.9**	**-0.4**
MASC	**Masc**	**6.63**	**280**	*e*P	**Pn**	**06 43 58.2**	**-1.4**
MASC				*e*S	**Sn**	**06 45 07.1**	**-7.8**
QMBU	**Quimbuelo**	**7.17**	**279**	*e*P	**Pn**	**06 44 04.6**	**-2.6**
QMBU				*e*S	**Sn**	**06 45 21.5**	**-6.9**
FDF	**Fort de France**	**7.35**	**126**	Pn	**Pn**	**06 44 08.9**	**-0.8**
MOAC	**Moa**	**7.38**	**283**	*e*P	**Pn**	**06 44 07.3**	**-2.6**
MOAC				*e*S	**Sn**	**06 45 25.9**	**-7.5**
NMDO	**Nuevo Mundo**	**7.38**	**282**	Pn	**Pn**	**06 44 10.9**	**+0.9**
GTBY	**Guantanamo Bay**	**7.42**	**277**	*e*P	**Pn**	**06 44 07.4**	**-3.2**
GTBY				*e*S	Sn	06 45 24.0	-11
BIM	**Bigot**	**7.55**	**127**	Pn	**Pn**	**06 44 12.7**	**+0.4**
PINC	**Pinares de May**	**8.12**	**280**	*e*P	Pn	06 44 15.5	-4.6
PINC				*e*S	Sn	06 45 37.3	-14
MARVS	**Santiago de Cu**	**8.17**	**277**	*e*P	**Pn**	**06 44 18.7**	**-2.2**
MARVS				*e*S	Sn	06 45 44.5	-8.5
HLGC	**Holguin**	**8.43**	**283**	*e*P	**Pn**	**06 44 22.4**	**-2.1**
HLGC				*e*S	Sn	06 45 51.0	-8.3
YAR	**Yar**	**8.63**	**279**	*e*P	**Pn**	**06 44 23.4**	**-3.8**
CHIV	**Chivirico**	**8.65**	**277**	Pn	**Pn**	**06 44 27.5**	**0.0**
PCRV	**Puerto La Cruz**	**9.33**	**164**	Pn	**Pn**	**06 44 36.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=348,slow=14,SNR=6.7						
PCRV				Sn	**Sn**	**06 46 17.9**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=88,slow=6.7,SNR=2.4						
	comp=Z,3.9nm,0.9s						
RUSC	**La Rusia**	**14.39**	**204**	Pn	**Pn**	**06 45 46.1**	**-0.4**
ROSC	**El Rosal**	**15.85**	**207**	Pn	**Pn**	**06 46 05.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=109,slow=24,SNR=1.8						
	comp=Z,4.8nm,0.5s						
456A	**Hilliard**	**17.60**	**314**	Pn	**P**	**06 46 29.6**	**+1.1**
456A				IAmb	IAmb	06 46 32.2	
	comp=Z,23nm,0.8s						
BOAV	**Boa Vista**	**17.96**	**158**	P	**Pn**	**06 46 30.3**	**-1.8**
NHSC	**New Hope**	**18.03**	**323**	P	**P**	**06 46 34.5**	**+1.4**
V58A	**Windy Hill, Pi**	**19.55**	**330**	P	**Pn**	**06 46 52.3**	**+1.1**
V58A				IAmb	IAmb	06 47 18.7	
	comp=Z,9.2nm,0.9s						
TEIG	**Tepich**	**19.80**	**276**	P	**P**	**06 46 53.5**	**+0.8**
TEIG				IAmb	IAmb	06 47 10.8	
	comp=Z,6.8nm,1.1s						
HODGE	**Hodges**	**20.04**	**321**	P	Pn	06 46 58.3	+1.2
V53A	**Saluda**	**21.38**	**323**	P	**P**	**06 47 11.2**	**+1.4**
V53A				IAmb	IAmb	06 47 35.5	
	comp=Z,9.0nm,1.2s						
WUPA	**West Chester U**	**21.87**	**343**	P	**P**	**06 47 17.7**	**+2.7**
WUPA				IAmb	IAmb	06 47 43.1	
	comp=Z,5.8nm,0.9s						
TKL	**Tuckaleechee C**	**21.93**	**322**	P	P	06 47 26.5	+11
	comp=Z,2.5nm,0.4s,baz=119,slow=12,SNR=11						
TKL				S	**S**	**06 51 12.6**	**-4.8**
	comp=Z,2.1nm,0.5s,baz=36,slow=23,SNR=6.2						
N58A	**Sunbury**	**23.03**	**341**	P	**P**	**06 47 28.2**	**+0.8**
N58A				IAmb	IAmb	06 47 44.4	
	comp=Z,14nm,1.2s						
ERPA	**Erie**	**25.27**	**337**	P	**P**	**06 47 51.4**	**+3.0**
TXAR	**Lajitas Array**	**34.55**	**294**	P	**P**	**06 49 12.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=100,slow=8.9,SNR=5.7						
	comp=Z,0.4nm,0.8s						
ESDC	**Sonseca Array**	**57.62**	**55**	P	**P**	**06 52 16.8**	**+4.4**
	comp=Z,0.4nm,0.6s,baz=266,slow=6.6,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**68.38**	**333**	P	**P**	**06 53 22.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=89,slow=4.0,SNR=1.6						

*NNC **05** 06:56:56.2±1.4, 51°.86N×74°.29E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=50.8km s-min=8.9km az=26.0, Suspected Mining explosion.*
*IDC **05** 06:56:57.6±0.8, 51°.95N×74°.23E, h0km, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=34.3km s-min=7.0km az=29.0*
ISC 05 06:56:56.5±0.9,**51°.94N**±0°.09×**74°.28E**±0°.05,**h0**km,**n11,** σ1$44/14,**5C-4D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.61**	**296**	⇓Pg	**Pg**	**06 57 45.1**	**-1.5**
	3.7nm,0.5s,baz=133,slow=21,SNR=9.5						
BVA0				⇓Lg	Lg	06 58 18.7	
	14nm,0.5s,baz=112,slow=27,SNR=7.4						
BVAR	**Borovoye Array**	**2.61**	**296**	Pn	**Pn**	**06 57 40.5**	**+0.6**
	0.1nm,0.3s,baz=121,slow=16,SNR=7.3						
BVAR				Pg	**Pb**	**06 57 44.3**	**+0.2**
	0.5nm,0.3s,baz=114,slow=18,SNR=23						
BVAR				Sn	**Sn**	**06 58 12.0**	**-0.4**
	0.4nm,0.3s,baz=99,slow=27,SNR=3.9						
BVAR				Lg	Lg	06 58 19.0	
	1.8nm,0.3s,baz=116,slow=27,SNR=13						
BVAR				Rg	Rg	06 58 36.9	
	6.7nm,0.6s,baz=73,slow=29,SNR=1.9						
	4.9nm,0.3s						
KURBB	**Kurchatov Arra**	**2.98**	**115**	Pn	**Pn**	**06 57 45.5**	**+0.6**
	0.4nm,0.3s,baz=300,slow=14,SNR=13						
KURBB				Sn	**Sn**	**06 58 18.6**	**-2.7**
	0.3nm,0.3s,baz=301,slow=16,SNR=7.1						
KURBB				Lg	Lg	06 58 28.3	
	0.4nm,0.3s,baz=289,slow=29,SNR=5.6						
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**2.98**	**115**	⇑Pg	**Pb**	**06 57 49.9**	**-0.4**
	4.9nm,0.4s						
KURBB				⇑Lg	Lg	06 58 27.8	
	50nm,0.7s						
KURK	**Kurchatov**	**2.99**	**113**	⇑Pg	**Pb**	**06 57 51.5**	**+0.9**
	0.7nm,0.3s						
KURK				⇑Lg	Lg	06 58 27.8	
	13nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.68**	**68**	I	I	07 36 50.0	
	baz=256,slow=319,SNR=5.7						
ZALV	**Zalesovo Beam**	**6.68**	**68**	Pn	**Pn**	**06 58 37.5**	**+1.7**
	0.3nm,0.3s,baz=262,slow=14,SNR=9.4						
ZALV				Sn	**Sn**	**06 59 51.7**	**-0.9**
	0.3n

WSSB				eS	Sn	07 28 16.8	+2.3
HGSD	**Ruisui**	**1.28**	**356**	eP	Pn	07 27 58.5	-0.8
WTP	**Ta-pu**	**1.32**	**321**	i P	Pb	07 28 00.9	-0.2
WTP				S	Sb	07 28 19.1	+1.5
CHN1	**Nanshi**	**1.33**	**317**	eP	Pb	07 28 01.2	0.0
CHN1				S	Sb	07 28 19.3	+1.5
SHHT	**Tainan City**	**1.34**	**307**	eP	Pb	07 28 03.1	+1.7
TPUB	**Ta-pu**	**1.35**	**323**	P	Pb	07 28 01.3	-0.3
TPUB	**Ta-pu**	**1.35**	**323**	S	Sb	07 28 19.1	+0.5
TPUB	**Ta-pu**	**1.35**	**323**	eP	Pb	07 28 01.3	-0.3
TPUB				eS	Sb	07 28 19.6	+1.1
SNST	**Tainan City**	**1.37**	**317**	eP	Pb	07 28 02.0	+0.1
TWK	**Hsinying**	**1.41**	**318**	P	Pb	07 28 02.5	-0.1
TWK				S	Sb	07 28 21.6	+1.3
ALS	**Alishan**	**1.45**	**333**	eP	Pb	07 28 03.1	-0.3
WCKO	**Fanlu**	**1.48**	**326**	eP	Pb	07 28 03.9	+0.1
WCKO				eS	Sb	07 28 24.4	+2.2
WARBT	**Fenglin Townsh**	**1.50**	**356**	eP	Pn	07 28 03.0	+0.7
SHUL	**Shoufeng**	**1.57**	**2**	eP	Pn	07 28 04.2	+1.0
CHN5	**Tsauling**	**1.58**	**331**	P	Pb	07 28 05.6	+0.1
CHN5				S	Sb	07 28 26.3	+1.3
WHYT	**Xinyi Township**	**1.60**	**338**	eP	Pb	07 28 05.9	+0.2
TSCK	**Chigu Township**	**1.61**	**306**	eP	Pn	07 28 04.6	+0.8
TSCK				eS	Sb	07 28 26.3	+0.4
CHY	**Chiayi**	**1.62**	**322**	eP	Pb	07 28 06.2	-0.1
CHY				eS	Sb	07 28 26.5	+0.2
SSLB	**Suanglung**	**1.65**	**342**	P	Pb	07 28 06.5	-0.2
SSLB	**Suanglung**	**1.65**	**342**	S	Sb	07 28 26.3	-0.8
SSLB	**Suanglung**	**1.65**	**342**	eP	Pb	07 28 05.9	-0.8
WDLH	**Douliu**	**1.72**	**329**	eP	Pb	07 28 07.2	-0.7
WDLH				eS	Sb	07 28 28.2	-0.9
ETM	**Tongmen**	**1.75**	**360**	eP	Pb	07 28 07.6	-0.7
SMLT	**Sun Moon Lake**	**1.76**	**341**	eP	Pb	07 28 09.0	+0.4
WSL	**Shuilin Townsh**	**1.76**	**318**	eP	Pn	07 28 06.8	+0.9
OWD	**Renai**	**1.76**	**350**	eP	Pn	07 28 05.8	-0.3
TYC	**Yuchr**	**1.79**	**341**	eP	Pb	07 28 08.7	-0.3
TYC				eS	Sb	07 28 31.9	+0.8
WTK	**Tuku**	**1.80**	**325**	eS	Sb	07 28 30.5	-0.7
LXIB	**Xiulin Townshi**	**1.80**	**357**	eP	Pn	07 28 06.8	+0.2
LXIB				eS	Sn	07 28 29.4	+0.6
WUSB	**Renai**	**1.81**	**349**	eP	Pb	07 28 08.3	-1.2
WUSB				eS	Sn	07 28 28.4	-0.5
WNT	**Mingjian**	**1.82**	**336**	eS	Sb	07 28 32.7	+0.6
WSF	**Szhu**	**1.85**	**320**	eS	Sb	07 28 32.4	-0.4
WCS	**Beigang Elemen**	**1.92**	**343**	eP	Pb	07 28 10.6	-0.6
WCS				eS	Sb	07 28 34.3	-0.4
WHF	**Hehuan Shan**	**1.94**	**353**	eP	Pn	07 28 09.6	+0.8
NACB	**Ninganchiao**	**1.96**	**2**	P	Pn	07 28 09.5	+0.9
NACB	**Ninganchiao**	**1.96**	**2**	S	Sn	07 28 34.1	+1.8
NACB	**Ninganchiao**	**1.96**	**2**	eP	Pn	07 28 09.5	+0.9
NACB				eS	Sn	07 28 32.5	+0.2
WDGT	**Dungji**	**2.00**	**302**	eP	Pn	07 28 09.1	-0.1
EOS4	**EOS4**	**2.04**	**21**	eS	Sn	07 28 33.3	-0.6
WHP	**Taichung City**	**2.12**	**346**	P	Pb	07 28 13.8	-0.9
VCHM	**Qimei**	**2.16**	**298**	P	Pn	07 28 11.1	-0.3
VCHM				eS	Sn	07 28 35.9	-1.6
PHUB	**P'eng-hu**	**2.21**	**306**	eP	Pn	07 28 11.7	-0.3
PNG	**Penghu**	**2.25**	**307**	eP	Pn	07 28 12.4	-0.2
YHNB	**Yeheng**	**2.45**	**357**	P	Pn	07 28 17.7	+2.3
YHNB	**Yeheng**	**2.45**	**357**	S	Sn	07 28 46.0	+1.3
YOJ	**Yonaguni jima**	**2.63**	**31**	P	Pn	07 28 20.4	+2.6
YOJ	**Yonaguni jima**	**2.63**	**31**	S	Sn	07 28 50.9	+1.9
YOJ	**Yonaguni jima**	**2.63**	**31**	eS	Sn	07 28 51.1	+2.1
YOJ	**Yonaguni jima**	**2.63**	**31**	eP	Pb	07 28 21.1	-2.2
HATJ	**Hateruma jima**	**2.80**	**49**	P	Pn	07 28 21.0	+0.8
HATJ				eS	Sn	07 28 52.0	-1.1
IRIF	**Iriomote-Funau**	**2.94**	**44**	P	Pn	07 28 23.1	+1.0
IRIF				eS	Sn	07 28 56.4	-0.2
JKRS	**Kuro-shima**	**3.06**	**48**	P	Pn	07 28 25.0	+1.3
JKRS				eS	Sn	07 28 58.2	-1.4
JIJ	**Ishigaki jima**	**3.23**	**48**	S	Sn	07 29 02.5	-1.4
JISG	**Ishigakijimahi**	**3.50**	**47**	eP	Pn	07 28 30.2	+0.4
JISG				eS	Sn	07 29 09.3	-1.0
JTJ	**Tarama**	**3.80**	**50**	eS	Sn	07 29 16.9	-1.0

IDC 05 07:43:28.9±4.3, 9°.88S×112°.23E, h0^{km}, mb3.3/3, mbtmp3.3/3, MS3.1/1, Error ellipse: s-maj=250.7km s-min=30.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**18.29**	**313**	LR	LR	07 55 25.8	
	comp=Z,62nm,18.6s,baz=232,slow=39						
WRA	**Warramunga Arr**	**23.56**	**118**	P	P	07 48 41.5	+0.1
	0.2nm,0.4s,baz=290,slow=9.7,SNR=2.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**24.82**	**126**	P	P	07 48 53.0	-0.1
	0.7nm,0.7s,baz=304,slow=8.7,SNR=9.8						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**62.43**	**337**	P	P	07 53 53.9	0.0
	0.2nm,0.5s,baz=161,slow=8.0,SNR=1.9						
	0.2nm,0.5s						

*TEH **05** 08:00:20.8, 27°.68N×53°.13E, h11^{km}±21^{km}*
*DSN **05** 08:00:25.6±1.3, 27°.58N×53°.34E, h10^{km}, ML3.1/8, Error ellipse: s-maj=20.5km s-min=12.0km az=39.0*
*IDC **05** 08:00:25.4±3.5, 27°.54N×53°.18E, h43^{km}±41^{km}, mb3.5/10, mbtmp3.7/10, ML1.5/1, Error ellipse: s-maj=25.4km s-min=20.6km az=34.0*
*OMAN **05** 08:00:26.0±0.1, 27°.58N×53°.50E, h10^{km}, ml3.7/13, Error ellipse: s-maj=1.5km s-min=0.7km az=3.0*

ISC 05 08:00:23.1±0.6, 27°.67N±0°.03×53°.19E±0°.04, h20^{km}, n58, σ1^{s}57/72, mb3.7/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.33**	**183**	Pg	Pb	08 00 28.3	-2.1
QIR1	**Qir**	**0.81**	**351**	Pg	Pb	08 00 37.1	-1.4
JHRM	**Jahrom**	**0.90**	**23**	Pg	Pn	08 00 39.3	-1.4
LAR1	**LAR**	**1.05**	**90**	Pg	Pb	08 00 43.3	+0.6
DSBU	**Dashti - Bushe**	**1.84**	**292**	Pg	Pb	08 00 55.0	-1.0
SHI	**Shiraz**	**2.05**	**343**	Pn	Pb	08 00 57.9	-1.9
GENO	**Geno**	**2.67**	**95**	Pn	Pb	08 01 07.9	-2.3
SHMA	**Al-Shehemyia**	**2.69**	**228**	P	Pb	08 01 12.4	+1.9
SHMA				S	Sb	08 01 45.9	+2.9
BANOM	**Banah**	**3.28**	**121**	P	Pn	08 01 13.8	+0.4
BANOM				S	Sn	08 01 50.5	-1.5
NAZ	**Nazwa, Dubai**	**3.48**	**140**	S	Sn	08 01 57.7	+1.0
NAZ	**Nazwa, Dubai**	**3.48**	**140**	P	Pn	08 01 18.5	+2.5
AJN	**Ajban**	**3.50**	**152**	P	Pn	08 01 19.0	+2.7
MASF	**Masafi**	**3.52**	**130**	P	Pn	08 01 17.6	+1.0
MASF				S	Sn	08 01 57.9	+0.2
MSFE	**Esma-Masafi**	**3.52**	**130**	P	Pn	08 01 18.0	+1.2
KLNJ	**Kolanjah**	**3.60**	**338**	Pn	Pn	08 01 18.9	+0.8
SMRA	**Abu-Samra**	**3.61**	**217**	P	Pb	08 01 23.0	-3.2
SMRA				S	Sb	08 02 09.2	-0.3
MDH	**Madha**	**3.66**	**130**	P	Pn	08 01 18.1	-0.5
MDH				S	Sn	08 02 01.0	-0.1
NGRK	**Negar Kerman**	**3.68**	**57**	Pn	Pn	08 01 21.0	+1.7
GHWR	**Ruwais**	**3.71**	**184**	P	Pb	08 01 22.7	-5.2
SLWR	**Sila**	**3.83**	**201**	S	Sb	08 02 13.5	-2.5
UOSS	**Minazif**	**3.84**	**134**	P	Pn	08 01 22.7	+1.7
HATD	**Hatta, Dubai**	**3.88**	**136**	P	Pn	08 01 22.5	+0.9
HATD				S	Sn	08 02 06.9	+0.3
HATD	**Hatta, Dubai**	**3.88**	**136**	P	Pn	08 01 22.7	+1.1
KRBR	**Kerman**	**3.89**	**53**	Pn	Pn	08 01 24.4	+2.4
IMEH	**Mehriz**	**3.91**	**18**	Pn	Pn	08 01 24.2	+2.0
ASHO	**Ashiyiah**	**3.94**	**138**	P	Pn	08 01 24.1	+1.6
ASHO				S	Sn	08 02 09.5	+1.4
ASHO	**Ashiyiah**	**3.94**	**138**	P	Pn	08 01 23.7	+1.3
ASHO				S	Sn	08 02 09.6	+1.4
KHGB	**Koh Gabri**	**3.94**	**46**	Pn	Pn	08 01 24.5	+1.8
MZWR	**Madinat Zayed**	**3.95**	**171**	P	Pn	08 01 24.2	+1.7
IRAM	**Ramesheh**	**4.18**	**351**	Pn	Pn	08 01 27.3	+1.3
ALNE	**Al Ain**	**4.28**	**147**	P	Pn	08 01 29.1	+2.0
ZRDN	**Zarand Kerman**	**4.40**	**41**	Pn	Pn	08 01 31.1	+2.2
CHMN	**Cheshme madani**	**4.40**	**59**	Pn	Pn	08 01 31.7	+2.6
IBAF	**Bafgh**	**4.42**	**27**	Pn	Pn	08 01 31.3	+2.1
SOHO	**SOHO**	**4.64**	**139**	P	Pn	08 01 31.5	-0.5
SOHO				S	Sn	08 02 26.7	+1.4
SOHO	**SOHO**	**4.64**	**139**	P	Pn	08 01 32.8	+0.7
ICHK	**Chekchek**	**4.68**	**13**	Pn	Pn	08 01 34.8	+2.1
KBAM	**BAM**	**4.86**	**71**	Pn	Pn	08 01 37.6	+2.4
UMZA	**Um Al Zommool**	**5.25**	**160**	P	Pn	08 01 41.8	+1.3
UMZA				S	Sn	08 02 40.2	-0.3
IZEF	**Zefreh**	**5.26**	**352**	Pn	Pn	08 01 41.6	+0.8
ARQ	**Araqi**	**5.27**	**144**	P	Pn	08 01 41.2	+0.5
ARQ				S	Sn	08 02 41.9	+1.1
ANAR	**Anarak**	**5.52**	**5**	Pn	Pn	08 01 45.4	+1.2
HOQ	**Hoqain**	**5.52**	**137**	P	Pn	08 01 44.6	+0.4
HOQ				S	Sn	08 02 45.2	-1.9
BSY	**Bisya**	**6.11**	**143**	P	Pn	08 01 53.9	+1.7
BSY				S	Sn	08 02 59.9	-1.7
SMDO	**Samad**	**6.36**	**135**	P	Pn	08 01 56.8	+1.0
SMDO				S	Sn	08 03 08.3	+0.3
WSAR	**Wadi Sarin**	**6.61**	**131**	P	Pn	08 01 59.5	+0.4
	baz=208,slow=24,SNR=6.6						
WSAR				S	Sn	08 03 11.9	-2.1
	0.1nm,0.5s,baz=113,slow=24,SNR=6.9						
WSAR	**Wadi Sarin**	**6.61**	**131**	P	Pn	08 01 59.6	+0.4
WSAR				S	Sn	08 03 11.7	-2.3
SRVN	**Saravan**	**8.18**	**90**	Pn	Pn	08 02 23.4	+2.6
BRTR	**Keskin Array B**	**20.17**	**312**	P	Pn	08 04 58.0	-0.4
	0.8nm,0.7s,baz=120,slow=12,SNR=4.3						
	0.8nm,0.7s						
AKTO	**Aktyubinsk**	**23.03**	**8**	P	**P**	**08 05 28.1**	**+1.4**
	1.7nm,0.6s,baz=188,slow=7.1,SNR=6.0						
	1.7nm,0.6s						
BVAR	**Borovoye Array**	**28.36**	**22**	P	**P**	**08 06 16.4**	**+0.7**
	0.8nm,0.6s,baz=201,slow=7.6,SNR=3.8						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**29.76**	**42**	P	**P**	**08 06 28.5**	**+0.2**
	0.4nm,0.5s,baz=223,slow=9.5,SNR=4.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**35.02**	**33**	P	**P**	**08 07 14.8**	**+0.7**
	0.8nm,0.4s,baz=254,slow=10,SNR=2.6						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**38.33**	**339**	P	**P**	**08 07 41.9**	**-0.3**
	1.1nm,0.6s,baz=140,slow=9.8,SNR=9.2						
	1.1nm,0.6s						
HFS	**Hagfors**	**42.05**	**332**	P	**P**	**08 08 13.4**	**+0.3**
	2.1nm,0.8s,baz=133,slow=10.0,SNR=2.0						
	2.1nm,0.8s						
ESDC	**Sonseca Array**	**48.31**	**300**	P	**P**	**08 09 02.8**	**-0.5**
	0.6nm,0.8s,baz=86,slow=6.0,SNR=4.0						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.03**	**264**	P	**P**	**08 09 15.7**	**-0.9**
	0.3nm,0.5s,baz=58,slow=7.7,SNR=2.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**93.05**	**115**	P	**P**	**08 13 35.2**	**-0.6**
	0.1nm,0.5s,baz=288,slow=3.7,SNR=1.3						
	0.1nm,0.5s						

*IDC **05** 08:08:11.3±2.2, 40°.71N×65°.67E, h0^{km}, mb3.5/1, mbtmp3.4/4, ML3.2/3, MS3.4/1, Error ellipse: s-maj=95.9km s-min=17.4km az=163.0*
*NNC **05** 08:08:14.7±13.0, 36°.73N×70°.27E, h0^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=136.2km s-min=90.1km az=140.0*

ISC 05 08:08:00.1±2.5, 36°.8N±0°.2×70°.7E±0°.1, h10^{km}, n8, σ0^{s}89/9, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.35**	**359**	P	**Pb**	**08 09 52.0**	**+1.4**
	1.0nm,0.3s,baz=184,slow=13,SNR=23						
KK31				⇓S	**Sb**	**08 11 06.1**	**-0.5**
	1.1nm,0.5s,baz=180,slow=18,SNR=6.6						
AAK	**Ala-Archa**	**6.55**	**25**	Pn	**Pb**	**08 09 54.3**	**0.0**
	0.6nm,0.3s,baz=263,slow=8.1,SNR=4.1						
AAK				Sn	**Sb**	**08 11 12.1**	**-0.6**
	0.5nm,0.3s,baz=325,slow=21,SNR=10						
	1.4nm,0.4s						
AAK	**Ala-Archa**	**6.55**	**25**	⇑P	**Pb**	**08 09 55.3**	**+1.0**
	0.5nm,0.5s						
AAK				⇑S	**Sb**	**08 11 12.3**	**-0.5**
	2.9nm,0.7s						
MKAR	**Makanchi Array**	**13.22**	**37**	Pn	**P**	**08 11 18.1**	**+0.4**
	0.1nm,0.3s,baz=249,slow=7.9,SNR=4.2						
	0.3nm,0.4s						
AB31	**Akbulak array**	**14.76**	**331**	⇑P	**P**	**08 11 34.0**	**-0.9**
	0.3nm,0.5s,baz=147,slow=14,SNR=5.5						
ZALV	**Zalesovo Beam**	**19.78**	**25**	P	**P**	**08 12 30.0**	**-0.2**
	0.2nm,0.3s,baz=235,slow=10,SNR=2.2						
	0.6nm,0.5s						
IDI	**Anoyia**	**36.84**	**282**	LR	LR	08 29 38.8	
	comp=Z,66nm,19.3s,baz=282,slow=40						
TORD	**Torodi Ar. Bea**	**65.51**	**268**	P	P	08 18 32.5	-11
	0.4nm,0.6s,baz=41,slow=6.0,SNR=2.2						
	0.4nm,0.6s						

*AEIC **05** 08:17:52.8±3.7, 68°.88N±0°.02×147°.44W±0°.02, h16^{km}±4^{km}, ML2.8, ML3.0/99(NEIC), Error ellipse: s-maj=2.6km s-min=1.1km az=188.0*
*NEIC **05** 08:17:54.1±2.2, 68°.90N±0°.01×147°.53W±0°.04, h10^{km}±1^{km}, Error ellipse: s-maj=2.9km s-min=2.4km az=318.0*
*IDC **05** 08:17:54.6±3.5, 68°.87N×147°.70W, h0^{km}, mb3.2/2, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=43.2km s-min=23.1km az=124.0*

ISC 05 08:17:53.9±0.7, 68°.90N±0°.02×147°.55W±0°.02, h10^{km}, n95, σ1^{s}00/101, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D24K	**Happy Valley**	**0.52**	**299**		**Pg**	**08 18 03.6**	**-0.4**
D24K				Sg	**Sb**	**08 18 11.8**	**-0.9**
D24K				IAML		08 18 13.2	
	comp=E,1μm,0.7s						
D24K				IAML		08 18 16.8	
	comp=N,1μm,0.8s						
D25K	**Kavik River**	**0.60**	**45**		**Pg**	**08 18 03.5**	**-1.9**
D25K				Sg	**Sg**	**08 18 11.0**	**-2.2**
TOLK	**Toolik Lake Re**	**0.78**	**251**		**Pg**	**08 18 07.9**	**-1.0**
TOLK				Sn	**Sb**	**08 18 20.4**	**+0.1**
TOLK				IAML		08 18 23.7	
	comp=E,408nm,0.7s						
E24K	**Your Creek**	**0.90**	**203**		**Pg**	**08 18 09.8**	**-1.4**
E24K				Sn	**Sg**	**08 18 22.3**	**-0.7**
C24K	**Franklin Bluff**	**0.92**	**334**		**Pg**	**08 18 10.7**	**-0.8**
C24K				IAML		08 18 27.8	
	comp=N,310nm,0.5s						
C24K	**Franklin Bluff**	**0.92**	**334**		**Sb**	**08 18 24.7**	**+0.6**
E25K	**Arctic Village**	**1.07**	**136**		**Pg**	**08 18 12.7**	**-1.8**
E25K	**Arctic Village**	**1.07**	**136**		**Sg**	**08 18 26.8**	**-1.6**
D23K	**Nanushuk River**	**1.13**	**275**		**Pg**	**08 18 15.2**	**-0.4**
D23K				IAML		08 18 35.0	
	comp=N,356nm,0.8s						
D23K				IAML		08 18 36.2	
	comp=E,224nm,0.5s						
D23K	**Nanushuk River**	**1.13**	**275**		**Sn**	**08 18 31.9**	**+0.5**
E23K	**Chandalar**	**1.14**	**223**		**Pb**	**08 18 13.9**	**-1.8**
E23K				IAML		08 18 35.9	
	comp=E,343nm,0.4s						
E23K				IAML		08 18 37.5	
	comp=N,233nm,0.4s						
E23K	**Chandalar**	**1.14**	**223**		**Sn**	**08 18 30.9**	**-0.8**
C26K	**Camden Bay**	**1.38**	**41**		**Pg**	**08 18 19.5**	**-0.8**
C26K					**Sg**	**08 18 38.1**	**-0.1**
C26K	**Camden Bay**	**1.38**	**41**	IAML		08 18 42.6	
	comp=E,295nm,0.7s						
C26K				IAML		08 18 44.4	
	comp=N,269nm,0.6s						
F24K	**Squaw Lake**	**1.40**	**185**		**Pn**	**08 18 18.7**	**-0.8**
F24K				IAML		08 18 43.8	
	comp=N,224nm,0.5s						
F24K				IAML		08 18 44.2	
	comp=E,156nm,0.7s						
F24K	**Squaw Lake**	**1.40**	**185**		**Sg**	**08 18 38.9**	**+0.2**
C23K	**Itkillik River**	**1.43**	**312**		**Pn**	**08 18 19.6**	**-0.3**
C23K	**Itkillik River**	**1.43**	**312**		**Sg**	**08 18 41.1**	**+1.2**
F25K	**Christian Rive**	**1.50**	**151**		**Pb**	**08 18 20.8**	**-0.9**
F25K	**Christian Rive**	**1.50**	**151**		**Sg**	**08 18 41.4**	**-0.5**
C27K	**Jago River**	**1.55**	**60**		**Pn**	**08 18 20.9**	**-0.6**
C27K	**Jago River**	**1.55**	**60**		**Sg**	**08 18 43.1**	**-0.5**
E22K	**Anaktuvuk Pass**	**1.75**	**246**		**Pn**	**08 18 24.3**	**0.0**
E22K				IAML		08 18 52.6	
	comp=N,144nm,0.4s						
E22K				IAML		08 18 54.3	
	comp=E,104nm,0.9s						
E22K	**Anaktuvuk Pass**	**1.75**	**246**		**Sg**	**08 18 48.9**	**-1.1**
F26K	**Sheenjek River**	**1.75**	**132**		**Pb**	**08 18 24.8**	**-1.4**
BMAR	**Burnt Mountain**	**1.85**	**142**		**Pb**	**08 18 26.8**	**-1.0**
D22K	**Ayikyak River**	**1.86**	**272**		**Pb**	**08 18 26.7**	**-1.2**
COLD	**Coldfoot**	**1.96**	**212**		**Pn**	**08 18 27.7**	**+0.6**
COLD				IAML		08 18 57.9	
	comp=N,102nm,0.6s						
G24K	**Hadweenzic Riv**	**2.21**	**179**		**Pn**	**08 18 30.8**	**+0.2**
G24K				IAML		08 19 12.1	
	comp=E,80nm,0.7s						
G25K	**Bearman Lake**	**2.22**	**165**		**Pn**	**08 18 30.9**	**+0.3**
F22K	**John River**	**2.23**	**233**		**Pb**	**08 18 32.1**	**-2.0**
E27K	**Coleen River**	**2.31**	**105**		**Pn**	**08 18 31.5**	**-0.4**
D27M	**Malcolm River**	**2.39**	**79**		**Pn**	**08 18 33.9**	**+0.8**
D27M				IAML		08 19 12.8	
	comp=E,66nm,0.9s						
D27M				IAML		08 19 17.4	
	comp=N,68nm,0.9s						
E21K	**Killik River**	**2.39**	**262**		**Pb**	**08 18 35.1**	**-1.9**
E21K				IAML		08 19 12.9	
	comp=E,84nm,0.5s						
E21K				IAML		08 19 17.4	
	comp=N,99nm,0.8s						
G23K	**Bananza Creek**	**2.40**	**204**		**Pn**	**08 18 33.4**	**+0.3**
G23K				IAML		08 19 14.3	
	comp=E,68nm,0.6s						
G26K	**Porcupine Rive**	**2.42**	**142**		**Pn**	**08 18 33.5**	**0.0**
G26K				IAML		08 19 16.5	
	comp=E,69nm,0.8s						
G26K				IAML		08 19 25.5	
	comp=E,82nm,1.1s						
G22K	**Bettles**	**2.49**	**219**		**Pn**	**08 18 35.3**	**+0.9**
FYU	**Fort Yukon**	**2.51**	**158**		**Pn**	**08 18 35.2**	**+0.6**
FYU				IAML		08 19 19.7	
	comp=E,62nm,1.3s						
FYU				IAML		08 19 26.7	
	comp=N,72nm,1.3s						
B22K	**Teshekpuk Lake**	**2.51**	**308**	Pn	**Pn**	**08 18 33.6**	**-1.1**
B21K	**Ikpikpuk River**	**2.62**	**289**	Pn	**Pn**	**08 18 36.0**	**-0.1**
B21K				IAML		08 19 28.1	
	comp=N,81nm,0.8s						
B21K				IAML		08 19 32.3	
	comp=E,81nm,0.9s						
F21K	**Alatna River**	**2.79**	**236**		**Pn**	**08 18 38.7**	**+0.1**
F21K				IAML		08 19 21.7	
	comp=N,58nm,0.7s						
E28M	**Babbage River**	**2.94**	**92**		**Pn**	**08 18 41.6**	**+1.0**
E28M				IAML		08 19 42.9	
	comp=N,38nm,1.0s						
G27K	**Doyon Strip**	**3.07**	**131**		**Pn**	**08 18 42.8**	**+0.5**
F28M	**Old Crow**	**3.14**	**111**		**Pn**	**08 18 43.4**	**+0.1**
F28M				IAML		08 19 41.3	
	comp=E,30nm,1.1s						
F28M				IAML		08 19 42.2	
	comp=N,38nm,1.1s						
H23K	**Yukon River**	**3.19**	**195**		**Pn**	**08 18 44.5**	**+0.5**
H23K				IAML		08 19 39.9	
	comp=N,34nm,0.6s						
H23K				IAML		08 19 41.5	
	comp=E,26nm,1.3s						
PRP	**Porcupine Dome**	**3.49**	**166**		**Pn**	**08 18 48.7**	**+0.4**
H27K	**Steamboat Moun**	**3.54**	**136**	Pn	**Pn**	**08 18 49.3**	**+0.4**
H27K				IAML		08 19 52.4	
	comp=E,25nm,0.9s						
E29M	**Blow River**	**3.57**	**94**		**Pn**	**08 18 50.0**	**+0.8**
E29M				IAML		08 19 55.2	
	comp=E,34nm,1.2s						
E29M				IAML		08 19 55.3	
	comp=N,36nm,1.1s						
F20K	**Avaraart Lake**	**3.60**	**243**		**Pn**	**08 18 50.3**	**+0.7**
F20K				IAML		08 19 55.5	
	comp=N,34nm,1.3s						
F20K				IAML		08 20 00.4	
	comp=E,24nm,0.9s						
IMAR	**Indian Mountai**	**3.78**	**222**		**Pn**	**08 18 52.2**	**0.0**
POKR	**Poker Plat Res**	**3.80**	**179**	Pn	**Pn**	**08 18 52.8**	**+0.3**
POKR				IAML		08 19 43.0	
	comp=N,16nm,0.7s						
POKR				IAML		08 19 58.9	
	comp=E,19nm,1.0s						
I23K	**Minto, Yukon-K**	**3.84**	**191**		**Pn**	**08 18 53.1**	**+0.2**
I23K				IAML		08 19 58.6	
	comp=E,28nm,1.2s						
I23K				IAML		08 19 58.9	
	comp=N,27nm,1.4s						
D19K	**Kuna River**	**3.88**	**269**	Pn	**Pn**	**08 18 53.5**	**0.0**
E19K	**Redstone River**	**3.90**	**253**		**Pn**	**08 18 53.9**	**+0.2**
I26K	**Coal Creek Min**	**4.00**	**153**		**Pn**	**08 18 56.1**	**+0.9**
I26K				IAML		08 20 07.8	
	comp=E,25nm,1.0s						
COLA	**College**	**4.05**	**182**		**Pn**	**08 18 56.8**	**+1.0**
MLY	**Manley**	**4.09**	**199**	Pn	**Pn**	**08 18 57.3**	**+1.0**
G29M	**Pine Creek**	**4.12**	**115**		**Pn**	**08 18 57.2**	**+0.5**
IL31		**4.16**	**176**		**Pn**	**08 18 58.0**	**+0.7**
ILAR	**Eielson Array**	**4.16**	**176**		**Pn**	**08 18 57.5**	**+0.1**
ILAR	**Eielson Array**	**4.16**	**176**	Pn	**Pn**	**08 18 57.9**	**+0.5**
	comp=E,1.1nm,0.3s,baz=358,slow=14,SNR=51						
ILAR				Sn	**Sn**	**08 19 45.6**	**-0.4**
	comp=E,0.7nm,0.3s,baz=357,slow=16,SNR=2.1						
ILAR				Lg		08 20 04.4	
	comp=E,1.6nm,0.3s,baz=352,slow=32,SNR=5.9						
	comp=E,5.6nm,0.6s						

UUPR	Utuado, UPR, P	0.96	150	eS	Sn	08 28 57.4	-0.3
CRPR	Cabo Rojo, PR	1.08	174⇑	eP	Pb	08 28 45.0	-0.5
CRPR	Cabo Rojo, PR	1.08	174	eS	Sb	08 28 59.8	+0.2
CRPR	Cabo Rojo, PR	1.08	174⇑	ePg	Pb	08 28 44.7	-0.8
CRPR			⇑	eSg	Sn	08 29 00.7	0.0
CRPR				IAML		08 29 09.5	
	comp=N,18nm,0.5s						
ECPR	Experimental S	1.12	133⇓	eP	Pn	08 28 46.3	-0.1
ECPR	Experimental S	1.12	133	eS	Sn	08 29 02.0	+0.3
MLPR	Magueyes Islan	1.13	171	eS	Sb	08 29 01.0	+0.1
MLPR	Magueyes Islan	1.13	171⇑	ePg	Pb	08 28 46.5	+0.2
MLPR			⇑	eSg	Sb	08 29 00.6	-0.3
MLPR				IAML		08 29 05.0	
	comp=E,3.3nm,0.3s						
CELP	Cerrillos	1.18	149⇑	eP	Pb	08 28 47.3	+0.1
CELP	Cerrillos	1.18	149	eS	Sg	08 29 03.1	0.0
CELP	Cerrillos	1.18	149⇓	ePg	Pn	08 28 46.5	-0.7
CELP			⇑	eSg	Sb	08 29 02.5	0.0
CELP				IAML		08 29 07.8	
	comp=N,19nm,0.4s						
OBIP	Obispado Ponce	1.20	150⇑	eP	Pb	08 28 47.7	+0.2
OBIP	Obispado Ponce	1.20	150	eS	Sg	08 29 03.7	+0.1
SJG	San Juan	1.41	133	eS	Sb	08 29 09.3	+0.3
IGPR	InterUniversit	1.54	136⇓	eP	Pn	08 28 52.6	+0.5
IGPR	InterUniversit	1.54	136	eS	Sb	08 29 12.6	-0.3
PDPR	Patillas Dam,	1.56	133⇓	eP	Pn	08 28 52.3	-0.1
MIDR	Miches	1.73	267⇑	eP	Pn	08 28 53.1	-1.5
MIDR	Miches	1.73	267⇑	ePg	Pn	08 28 54.4	-0.2
MIDR			⇑	eSg	Sn	08 29 16.9	+0.3
MIDR				IAML		08 29 20.4	
	comp=N,5.3nm,0.4s						
MIDR				IAML		08 29 34.6	
	comp=N,8.3nm,1.3s						
HATOM	Hato Mayor del	2.06	262⇑	ePg	Pn	08 28 59.2	0.0
HATOM			⇑	eSg	Sn	08 29 26.1	+1.2
HATOM				IAML		08 29 30.5	
	comp=N,6.6nm,0.3s						

IDC 05 08:29:47.2±5.0, 9°32S×154°49E, h0km, mb3.6/4, mbtmp3.7/4, MS3.4/15, Error ellipse: s-maj=110.1km s-min=48.6km az=2.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.39	92	LR	LR	08 32 43.0	
	comp=Z,129nm,19.1s,baz=284,slow=33						
CTA	Charters Tower	13.34	216	LR	LR	08 37 12.9	
	comp=Z,4.5nm,19.7s,baz=40,slow=33						
WRA	Warramunga Arr	22.15	239	P	P	08 34 45.5	+0.7
	0.9nm,0.9s,baz=64,slow=9.8,SNR=5.2						
	0.9nm,0.9s						
ASAR	Alice Springs	24.31	232	P	P	08 35 06.6	-0.1
	0.9nm,0.8s,baz=62,slow=9.6,SNR=9.3						
ASAR				LR	LR	08 43 46.4	
	comp=Z,70nm,20.2s,baz=52,slow=34						
	0.9nm,0.8s						
GUMO	Guam	24.68	337	LR	LR	08 43 32.8	
	comp=Z,29nm,21.6s,baz=136,slow=34						
STKA	Stephens Creek	25.44	206	P	P	08 35 15.8	-1.0
	1.5nm,0.7s,baz=59,slow=12,SNR=4.0						
STKA				LR	LR	08 45 04.6	
	comp=Z,118nm,18.7s,baz=24,slow=36						
	1.5nm,0.7s						
DAV	Davao City (W)	33.09	298	LR	LR	08 49 41.9	
	comp=Z,39nm,19.3s,baz=195,slow=36						
URZ	Urewera	35.27	148	LR	LR	08 48 52.6	
	comp=Z,113nm,18.8s,baz=328,slow=32						
RPZ	Rata Peaks	37.18	160	LR	LR	08 51 18.7	
	comp=Z,131nm,18.8s,baz=124,slow=35						
JNU	Nakatsue	47.82	333	LR	LR	08 57 12.2	
	comp=Z,28nm,19.4s,baz=34,slow=34						
MJAR	Matsushiro Arr	48.12	342	LR	LR	08 58 15.5	
	comp=Z,17nm,18.0s,baz=178,slow=36						
ASAJ	Asahikawa	54.27	349	LR	LR	09 00 56.3	
	comp=Z,22nm,19.8s,baz=205,slow=34						
PETK	Petropavlovsk-	62.24	2	LR	LR	09 08 30.1	
	comp=Z,16nm,18.1s,baz=282,slow=37						
SHEM	Shemya Is, Ala	64.04	13	LR	LR	09 02 56.3	
	comp=Z,34nm,21.5s,baz=174,slow=31						
QSPA	South Pole Qui	80.67	180	P	P	08 42 02.3	+0.4
	1.2nm,0.8s,baz=342,slow=3.2,SNR=11						
	1.2nm,0.8s						
ILAR	Eielson Array	85.70	22	LR	LR	09 16 06.8	
	comp=Z,26nm,20.4s,baz=44,slow=32						
AAK	Ala-Archa	88.97	313	LR	LR	09 22 42.6	
	comp=Z,50nm,19.9s,baz=346,slow=36						
INK	Inuvik	92.05	21	LR	LR	09 21 08.9	
	comp=Z,23nm,21.8s,baz=28,slow=34						

*TRN **05** 08:33:08.8, 10°83N×62°18W, h88km, MD3.7, North of the Paria peninsula.*
*FUNV **05** 08:33:09.6, 10°72N×62°40W, h87km, MW3.7*

ISC 05 08:33:04.6±1.8, 10°73N±0°06×62°27W±0°07, h108km±19km, n28, σ1°99/49, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	Guralp CMG5TDE	0.71	92	eP	Pn	08 33 24.3	+1.5
PSMG	Mucurapo Girls	0.73	94	eP	Pn	08 33 24.4	+1.5
PSGH	Port of Spain	0.75	95	eP	Pn	08 33 24.6	+1.5
TRN	Trinidad (W)	0.86	95	eP	Pn	08 33 25.7	+1.6
TRN				eS	Sn	08 33 38.0	-0.8
TPP	Pointe-a-Pierr	0.90	117	eP	Pn	08 33 26.2	+1.6
TPP				eS	Sn	08 33 39.0	-0.6
GRFF	Grenada Fort F	1.41	22	eP	Pn	08 33 30.7	+0.4
GRFF				eS	Sn	08 33 48.2	-1.5
GRGR	Grenville	1.52	23	eP	Pn	08 33 32.0	+0.5
GRGR				eS	Sn	08 33 50.3	-1.7
GRW	Mount Saint Ca	1.54	23	eP	Pn	08 33 33.6	+1.8
GRW				eS	Sn	08 33 51.8	-0.8
GRHS	Sauteurs	1.61	23	eP	Pn	08 33 32.7	+0.1
GRHS				eS	Sn	08 33 52.0	-1.9
GRSS	Sisters	1.69	22	eP	Pn	08 33 34.4	+0.9
GRSS				eS	Sn	08 33 54.8	-0.8
GCMP	Grenada, Carri	1.93	25	eP	Pn	08 33 37.7	+1.0
GCMP				eS	Sn	08 33 59.5	-1.6
PCRV	Puerto La Cruz	2.39	257	eP	Pn	08 33 44.6	+2.1
PCRV				eS	Sn	08 34 09.2	-2.4
PCRV	Puerto La Cruz	2.39	257	eP	Pn	08 33 45.0	+2.4
PCRV				eS	Sn	08 34 12.6	+1.0
SVB	Belmont	2.72	21	eP	Pn	08 33 48.6	+1.8
SVB				eS	Sn	08 34 18.8	-0.5
SLBI	Saint Lucia, B	3.51	21	eP	Pn	08 33 59.5	+2.2
SLBI				eS	Sn	08 34 36.2	-2.0
BIM	Bigot	3.94	17	eP	Pn	08 34 04.9	+1.7
BIM				eS	Sn	08 34 46.5	-2.1
FUNV	FUNVISIS	4.47	267	eP	Pn	08 34 11.7	+1.4
MDN	Morne-Daniel	4.64	11	eP	Pn	08 34 14.8	+2.2
MDN				eS	Sn	08 35 03.2	-2.2
TACV	Tcata	4.71	263	eP	Pn	08 34 15.7	+2.1
TACV				eS	Sn	08 35 04.4	-2.9
TACV	Tcata	4.71	263	eP	Pn	08 34 15.4	+1.8
TACV				eS	Sn	08 35 07.6	+0.3
DSLB	Salisbury	4.75	10	eP	Pn	08 34 15.2	+1.1
DSLB				eS	Sn	08 35 06.0	-2.2
CACV	CAICARA DEL OR	5.26	234	eP	Pn	08 34 17.8	-3.0
CACV				eS	Sn	08 35 08.2	-12
CACV	CAICARA DEL OR	5.26	234	eP	Pn	08 34 17.8	-3.0
CACV				eS	Sn	08 35 10.1	-10
BENV	Beln	5.30	262	eP	Pn	08 34 23.1	+1.6
BENV				eS	Sn	08 35 17.3	-4.1
BENV	Beln	5.30	262	eP	Pn	08 34 23.7	+2.3
BENV				eS	Sn	08 35 21.3	-0.1
ATGZ	Broadband at L	5.36	6	eP	Pn	08 34 25.8	+3.5
BAUV	El Baul	5.96	253	eP	Pn	08 34 31.6	+1.3
BAUV				eS	Sn	08 35 33.2	-4.1
BAUV	El Baul	5.96	253	eP	Pn	08 34 31.7	+1.3
BAUV				eS	Sn	08 35 36.0	-1.3

CATAC 05 08:45:51.1±0.2, 10°N±2°×8°4W±°, h8km±2km, M3.0/9, MLv3.0/9, Error ellipse: s-maj=5.0km s-min=3.1km az=46.5, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.34	120	S	Sg	08 46 03.1	+0.8
QUEP	Quepos	0.50	164	P	Pb	08 46 01.5	-0.5
QUEP	Quepos	0.50	164	S	Sb	08 46 09.2	-0.3
SOCE	Pocosol	0.56	326	S	Sb	08 46 11.4	0.0
SOCE	Pocosol	0.56	326	P	Pb	08 46 02.7	-0.5
JTS	Las Juntas de	0.74	300	P	Pg	08 46 05.5	+0.1
JTS				S	Sg	08 46 15.5	+0.4
COVE	Coope Vega, Sa	0.81	353	P	Pg	08 46 06.5	-0.1
TRT2	Tortugero	0.85	41	P	Pg	08 46 07.7	+0.3
TRT2	Tortugero	0.85	41	S	Sb	08 46 19.2	-0.3
OCHAL	Ojochal	1.04	141	P	Pg	08 46 10.8	-0.2
OCHAL	Ojochal	1.04	141	S	Sb	08 46 24.8	-0.2
CARN	Rivas	1.74	317	P	Pn	08 46 22.1	+0.4
CARN				S	Sb	08 46 45.1	-0.2
OMEN	Al SSO del Vol	2.05	321	P	Pn	08 46 26.2	+0.4
ACON	Acoyapa	2.21	337	P	Pn	08 46 27.7	-0.4

GII 05 08:47:55.1±0.0, 32°844N±0°001×35°211E±0°001, h12km, Mws1.8, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFK	Afek	0.07	265	P	Pg	08 47 58.0	+0.4
AFK	Afek	0.07	265	S	Sg	08 47 59.8	+0.4
KMKB	Kefar Hamakabi	0.10	237	P	Pg	08 47 58.3	+0.4
KMKB	Kefar Hamakabi	0.10	237	S	Sg	08 48 00.8	+0.9
BLGI	Bet Lehem HaGe	0.11	189	P	Pg	08 47 58.1	0.0
BLGI	Bet Lehem HaGe	0.11	189	S	Sg	08 48 00.6	+0.4
ALON	ALONIM	0.14	205	P	Pg	08 47 58.8	+0.4
ALON	ALONIM	0.14	205	S	Sg	08 48 02.1	+1.3
YGR	Yagur	0.15	228	P	Pg	08 47 59.0	+0.4
YGR	Yagur	0.15	228	S	Sg	08 48 02.1	+0.8
HTEC	Technion Haifa	0.17	248	P	Pg	08 47 59.3	+0.3
HTEC	Technion Haifa	0.17	248	S	Sg	08 48 02.7	+1.0
BTOR	Bet Oren	0.21	237	P	Pg	08 47 59.8	+0.2
BTOR	Bet Oren	0.21	237	S	Sg	08 48 03.2	+0.6
HYGV	Hayogev	0.23	182	P	Pg	08 48 00.3	+0.3
HYGV	Hayogev	0.23	182	S	Sg	08 48 04.3	+1.0
MMC7	Mount Meron ar	0.23	41	P	Pg	08 48 00.3	+0.2
MMA0B	Mount Meron ar	0.23	43	P	Pg	08 48 00.2	0.0
MMA0B	Mount Meron ar	0.23	43	S	Sg	08 48 04.3	+0.7
HNTI	Hanita	0.24	353	P	Pg	08 48 00.5	+0.3
HNTI	Hanita	0.24	353	S	Sg	08 48 04.7	+1.1
ZRT	Zar'it	0.27	14	P	Pg	08 48 00.9	+0.3
ZRT	Zar'it	0.27	14	S	Sg	08 48 05.3	+1.0
OFRI	`Ofer	0.29	221	P	Pg	08 48 01.2	+0.1
OFRI	`Ofer	0.29	221	S	Sg	08 48 06.1	+1.0
IZRL	Izrael	0.30	161	P	Pg	08 48 01.7	+0.5
IZRL	Izrael	0.30	161	S	Sg	08 48 06.0	+0.8
MNHA	Menahamia	0.34	122	P	Pg	08 48 02.4	+0.5
GOLA	Golan Heights	0.39	109	P	Pb	08 48 03.6	-0.4
MMLI	Mount Malkishu	0.44	156	P	Pb	08 48 04.5	-0.3
MMLI	Mount Malkishu	0.44	156	S	Sg	08 48 10.3	+0.6
KSHT	Keshet	0.52	75	P	Pg	08 48 05.5	+0.2
KSHT	Keshet	0.52	75	S	Sb	08 48 13.4	-0.4
GEM	Giv'at Ha'Em	0.53	46	P	Pg	08 48 05.7	+0.3
GEM	Giv'at Ha'Em	0.53	46	S	Sb	08 48 13.6	-0.3
HMDT	Nahal Hemdat	0.65	156	P	Pg	08 48 07.7	0.0
HMDT	Nahal Hemdat	0.65	156	S	Sb	08 48 17.0	-0.3

*CATAC **05** 09:01:56.5±0.6, 12°N±3°×8°8W±°, h7km±4km, M3.7/18, MLv3.7/18, Error ellipse: s-maj=6.3km s-min=4.9km az=39.7, confirmed*
*SNET **05** 09:02:00.7±1.2, 12°07N×87°61W, h15km, ML3.4*

ISC 05 09:01:57.8±1.8, 11°87N±0°08×87°59W±0°05, h13km±11km, n35, σ0°81/44, 10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	Leon	0.91	50	S	Sn	09 02 29.7	+0.4
PKGN	Cerro Pekin	0.99	37	⇓P	Pn	09 02 17.3	-0.1
PKGN				S	Sn	09 02 31.4	+0.1
COPN	Copaltepe	1.02	73	⇓P	Pg	09 02 17.7	+0.1
CNGA	Al SSO del Vol	1.06	55	⇓P	Pn	09 02 18.4	-0.1
PLRN	Geotermica Pol	1.07	49	⇓P	Pn	09 02 18.2	-0.4
PLRN				S	Sn	09 02 33.5	+0.3
CNGN	Cerro Negro	1.07	54	S	Sn	09 02 34.7	+1.4
CNGN	Cerro Negro	1.07	54	P	Pn	09 02 18.5	-0.1
UNAN	Cigeo UNAN	1.31	80	P	Pn	09 02 21.8	0.0
UNAN				S	Sg	09 02 40.8	+0.6
TISN	Laguna Tiscapa	1.32	78	P	Pn	09 02 22.0	+0.1
MGAN	Managua	1.34	78	S	Sg	09 02 41.6	+0.4
MGAN	Managua	1.34	78	⇓P	Pn	09 02 22.2	0.0
MAS3	Al N del Volca	1.39	84	P	Pn	09 02 22.3	-0.6
MAS3				S	Sg	09 02 43.4	+0.6
WILN	Americas 2	1.40	78	P	Pn	09 02 22.9	-0.1
WILN				S	Sg	09 02 43.3	+0.3
CNCH	Conchagua	1.41	350	eP	Pb	09 02 23.0	-1.1
CNCH	Conchagua	1.41	350	⇓P	Pb	09 02 23.4	-0.8
CNCH	Conchagua	1.41	350	S	Sg	09 02 43.8	+0.3
NANN	Nandasmo	1.44	87	S	Sb	09 02 42.9	+0.2
NANN	Nandasmo	1.44	87	⇓P	Pn	09 02 24.3	+0.7
LCND	La Caada	1.46	348	eP	Pn	09 02 23.5	-0.4
LCND	La Caada	1.46	348	⇓P	Pb	09 02 23.7	-1.2
LCY	Lacayo	1.69	336	eP	Pn	09 02 27.3	+0.2
RANC	El Ranchito	1.69	336	i P	Pn	09 02 27.2	0.0
PACA	Pacayal	1.74	336	eP	Pn	09 02 28.0	+0.1
TECA	Tecapa	1.84	331	eP	Pn	09 02 29.0	-0.3
MORN	Al O del Volca	1.93	100	⇓P	Pn	09 02 29.6	-0.7
CONN	Concepcion	1.95	99	P	Pn	09 02 29.5	-1.1
CONN				S	Sb	09 02 57.6	+0.2
OMEN	Al SSO del Vol	1.96	100	⇓P	Pn	09 02 28.6	-2.1
OMEN				S	Sn	09 02 57.0	+1.8
TECO	Alcaldia de Te	2.02	325	eP	Pn	09 02 30.9	-0.7
UESV	Universidad de	2.11	326	eP	Pn	09 02 32.7	-0.1
SCLA	Alcaldia de Sa	2.13	329	eP	Pn	09 02 33.3	+0.1
SCLA				eS	Sn	09 02 59.1	-0.4
PAVA	Las Pavas	2.25	324	eP	Pn	09 02 35.9	+1.0
LOMA	Loma Larga	2.34	319	eP	Pn	09 02 37.5	+1.4
LOMA				eS	Sn	09 03 04.1	-0.7
PMON	Piamonte	2.48	318	eP	Pn	09 02 39.1	+1.0
JAYA	Jayaque - finc	2.53	314	eP	Pn	09 02 39.0	+0.2
SBLS	San Blas	2.78	315	eP	Pn	09 02 44.1	+1.8

*SNET **05** 09:14:00.1±4.5, 13°98N×91°96W, h10km, ML3.5*
*CATAC **05** 09:14:05.1±0.7, 14°N±5°×9°2W±°, h38km±8km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=13.0km s-min=7.1km az=39.6, confirmed*
*GCG **05** 09:14:05.9±1.7, 14°18N×91°72W, h41km±16km, MD3.8, ML3.4, MW3.3*

ISC 05 09:14:06.8±2.0, 14°16N±0°08×91°67W±0°09, h48km±13km, n31, σ1°97/45, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.36	357	P	Pn	09 14 15.5	-0.9
RTAL				S	Sn	09 14 24.1	+0.9
STG2	El Palmar, Qui	0.40	47	i P	Pn	09 14 17.4	+0.5
STG2				eS	Sn	09 14 25.9	+1.9
SOKI	Kika Raxquin	0.70	22	eP	Pn	09 14 20.2	-0.7
SOKI				eS	Sn	09 14 31.3	+0.2
SOKI				IAML		09 14 32.1	
	comp=E,785nm,0.4s						
QUEO	Labor Ovalle	0.72	12	eP	Pn	09 14 20.4	-0.6
QUEO				eS	Sn	09 14 31.8	+0.5
QUEO				IAML		09 14 32.9	
	comp=E,2μm,0.1s						
SMCA	Catarina	0.79	331	eP	Pn	09 14 19.0	-2.8
ESSG	Sabana Grande	0.85	75	eP	Pn	09 14 22.0	-0.5
ESSG				eS	Sn	09 14 34.3	+0.4
FG8	Yepocapa, Chim	1.08	85	i P	Pn	09 14 21.2	-4.5
FG16	Alotenango, Sa	1.13	84	eP	Pn	09 14 22.3	-4.1
FG16				eS	Sn	09 14 34.8	-6.2
FG16				IAML		09 14 36.3	
	comp=E,6μm,0.2s						
HUEH	Huehuetenango	1.16	8	eP	Pn	09 14 26.7	-0.2
HUEH				eS	Sn	09 14 41.3	-0.4
QUIS	Sacapulas	1.25	27	eP	Pn	09 14 29.1	+1.1
QUIS				eS	Sn	09 14 46.3	+2.4
QUIS				IAML		09 14 48.7	
	comp=E,443nm,0.5s						
PCG5	San Vicente Pa	1.26	87	eP	Pn	09 14 25.0	-3.2
PCG5				i S	Sn	09 14 39.7	-4.3
FAME	Alcaldia de Sa	1.64	101	P	Pn	09 14 32.5	-0.6
NUBE	Las Nubes	1.85	98	eP	Pn	09 14 36.1	-0.2
NUBE	Las Nubes	1.85	98	eP	Pn	09 14 36.3	0.0
NUBE				eS	Sn	09 14 57.6	-1.0
NUBE	Las Nubes	1.85	98	S	Sn	09 15 00.5	+1.9
NUBE	Las Nubes	1.85	98	P	Pn	09 14 36.3	0.0
RTR	El Retiro	1.98	97	eP	Pn	09 14 39.1	+1.0
SBLS	San Blas	2.02	99	eP	Pn	09 14 39.1	+0.5
SBLS				eS	Sn	09 15 04.3	+1.7
CEVE	Cerro Verde	2.02	99	eP	Pn	09 14 39.3	+0.7
CEVE	Cerro Verde	2.02	99	P	Pn	09 14 39.1	+0.5
SNJE	San Jose	2.03	98	eP	Pn	09 14 39.8	+1.1
SNJE				eP		09 14 39.9	
CCIG	Comitan	2.15	348	eP	Pn	09 14 40.3	-0.1
CCIG				IAML		09 15 16.1	
	comp=N,49nm,0.6s						
JAYA	Jayaque - finc	2.22	103	eP	Pn	09 14 41.3	+0.1
JAYA				eS	Sn	09 15 08.9	+1.3
JAYA	Jayaque - finc	2.22	103	eP	Pn	09 14 41.2	-0.1
JAYA				eS	Sn	09 15 08.2	+0.6
JAYA	Jayaque - finc	2.22	103	P	Pn	09 14 41.4	+0.1
JAYA	Jayaque - finc	2.22	103	S	Sn	09 15 09.4	+1.8
MTO3	Montecristo	2.25	84	P	Pn	09 14 42.0	+0.2
PMON	Piamonte	2.33	101	P	Pn	09 14 43.5	+0.7
LOMA	Loma Larga	2.48	102	eP	Pn	09 14 45.9	+1.1
LOMA				eS	Sn	09 15 17.1	+3.0
TECO	Alcaldia de Te	2.88	102	eP	Pn	09 14 51.1	+1.0

*SNET **05** 09:16:51.6±1.3, 13°26N×89°46W, h77km, ML2.4, ML2.6*
*GCG **05** 09:16:52.2±0.3, 13°17N×89°53W, h59km±8km, MD3.5*

ISC 05 09:16:50.5±4.0, 13°0N±0°2×89°51W±0°09, h32km±14km, n14, σ0°34/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.67	5	eP	Pb	09 17 04.0	+0.1
JAYA				IAML		09 17 16.7	
	comp=Z,243nm,0.1s						
JAYA	Jayaque - finc	0.67	5	eP	Pb	09 17 03.9	0.0
LOMA	Loma Larga	0.73	27	eP	Pn	09 17 05.2	+0.4
LOMA				IAML		09 17 16.9	
	comp=Z,180nm,0.1s						
LFRS	El Faro	0.77	35	eP	Pn	09 17 05.5	+0.2
UESS	Universidad de	0.79	23	eP	Pn	09 17 05.6	0.0
CEVE	Cerro Verde	0.84	353	eP	Pn	09 17 06.8	+0.3
CEVE				eS	Sb	09 17 17.8	-0.3
SBLS	San Blas	0.85	353	eP	Pn	09 17 06.8	+0.3
LBRS	Las Brisas	0.88	31	i P	Pn	09 17 07.3	+0.6
SNJE	San Jose	0.88	354	eP	Pn	09 17 07.1	+0.2
TECO	Alcaldia de Te	0.90	52	eP	Pn	09 17 06.8	-0.2
TECO				eS	Sn	09 17 18.2	-0.7
PAVA	Las Pavas	0.91	38	eP	Pn	09 17 07.5	+0.2
PAVA				eS	Sn	09 17 19.8	+0.4
PAVA				IAML		09 17 21.2	
	comp=Z,90nm,0.2s						
NUBE	Las Nubes	0.95	344	eP	Pn	09 17 07.8	+0.1
NUBE				eS	Sn	09 17 20.2	-0.1
NUBE				IAML		09 17 22.3	
	comp=Z,38nm,0.1s						
NUBE	Las Nubes	0.95	344	eP	Pn	09 17 07.8	+0.1
NUBE				i S	Sn	09 17 19.9	-0.3
MTO3	Montecristo	1.41	6	eP	Pn	09 17 14.1	-0.1

*CATAC **05** 09:31:17.3±0.8, 14°N±4°×9°3W±°, h16km±5km, M3.2/9, MLv3.2/9, Error ellipse: s-maj=8.9km s-min=4.6km az=34.3, confirmed*
*GCG **05** 09:31:18.5±1.8, 14°35N×92°80W, h29km±10km, MD3.9, ML3.4*
*MEX **05** 09:31:19.2±1.0, 14°38N×92°91W, h7km±19km, MD4.1*

ISC 05 09:31:14.3±1.6, 14°37N±0°05×92°91W±0°03, h9km±11km, n36, σ1°83/54, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.82	49	eP	Pn	09 31 33.0	+1.0
THIG				eS	Sn	09 31 44.0	-0.2
THIG		0.82	49	eP	Pb	09 31 31.9	+1.2
SMCA	Catarina	0.94	59	eP	Pn	09 31 34.8	+1.1
PATR	El Naranjo	0.99	41	i P	Pn	09 31 35.3	+0.7
PATR				i S	Sn	09 31 48.2	-0.5
CHUJ	Union Juarez	1.05	47	i P	Pn	09 31 36.0	+0.6
CHUJ				i S	Sn	09 31 49.4	-1.0
PAVE	Pavencul	1.08	41	i P	Pn	09 31 36.8	+1.0
PAVE				i S	Sn	09 31 50.9	-0.2
RTAL	Retalhuleu	1.18	82	eP	Pb	09 31 38.0	+1.1
RTAL				eS	Sn	09 31 53.5	+0.3
RTAL	Retalhuleu	1.18	82	P	Pb	09 31 37.5	+0.5
PCIG		1.36	347	eP	Pn	09 31 40.6	+1.2
PCIG				i S	Sg	09 31 58.4	+0.2
QUEO	Labor Ovalle	1.44	70	eP	Pb	09 31 42.3	+0.8
QUEO				eS	Sg	09 32 00.3	-0.3
STG2	El Palmar, Qui	1.48	87	i P	Pn	09 31 39.3	-2.0
STG2				eS	Sn	09 31 54.9	-6.0
SOKI	Kika Raxquin	1.52	73	eP	Pb	09 31 43.9	+0.9
HUEH	Huehuetenango	1.65	55	eP	Pg	09 31 46.4	+0.3
HUEH				eS	Sg	09 32 06.8	-0.7
HUEH	Huehuetenango	1.65	55	eP	Pg	09 31 46.5	+0.4
HUEH				IAML		09 32 18.1	
	comp=N,490nm,0.5s						
QUIS	Sacapulas	1.98	62	eS	Sg	09 32 16.4	-1.6
CCIG	Comitan	2.04	21	eP	Pb	09 31 51.9	+0.3
CCIG				eS	Sb	09 32 16.3	-0.9
CCIG	Comitan	2.04	21	eP	Pb	09 31 51.3	-0.4
CCIG	Comitan	2.04	21	P	Pg	09 31 53.2	-0.3
CCIG	Comitan	2.04	21	S	Sg	09 32 18.0	-2.0
FG8	Yepocapa, Chim	2.28	92	eP	Pn	09 31 47.9	-4.2
FG8				eS	Sn	09 32 10.7	-10
FG16	Alotenango, Sa	2.32	92	eP	Pn	09 31 49.2	-3.7
FG16				IAML		09 32 17.1	

EDAD				eS	Sg	09 54 19.1	-0.6
MLIR3	Monte Lirio, C	0.35	20	eP	Pb	09 54 17.1	-0.3
VITO	San Vito	0.35	356⇑	eP	Pg	09 54 16.9	+0.3
RSRNO	Rio Sereno	0.36	13	eS	Sb	09 54 23.9	+0.8
RSRNO	Rio Sereno	0.36	13	eP	Pb	09 54 17.1	-0.5
LMNES	Limones	0.37	167⇑	eP	Pb	09 54 18.1	+0.4
JIME	Puerto Jimenez	0.39	281⇓	eP	Pg	09 54 17.1	0.0
JIME				eS	Sb	09 54 23.7	-0.1
SCLRA	Santa Clara, W	0.40	24	eS	Sb	09 54 24.4	0.0
SCLRA	Santa Clara, W	0.40	24⇓	eP	Pb	09 54 17.8	-0.5
BAGA3	Bagala, Chiriq	0.41	90⇓	iP	Pb	09 54 18.2	-0.2
BAGA3				i S	Sg	09 54 23.5	+0.3
BRU2	Volcan	0.41	37⇓	iP	Pg	09 54 17.8	+0.1
BRU2				i S	Sg	09 54 23.7	+0.3
BRU2	Volcan	0.41	37	P	Pg	09 54 17.8	+0.1
BRU2				S	Sb	09 54 24.4	-0.3
BRU2	Volcan	0.41	37⇓	eP	Pg	09 54 17.7	+0.1
TBS2		0.43	41⇓	eP	Pb	09 54 19.1	+0.3
JEFFS	S de V. Baru	0.45	63⇓	eP	Pg	09 54 18.6	+0.2
BC3P	Paso Ancho	0.48	43⇓	iP	Pg	09 54 18.8	-0.1
BC3P				i S	Sg	09 54 25.3	-0.2
BANCO	falda S V. Bar	0.48	58⇓	eP	Pg	09 54 19.0	0.0
DVD	David	0.49	93⇓	iP	Pg	09 54 19.1	+0.1
DVD				i S	Sg	09 54 24.7	-0.9
ALCO	Alturas Coton,	0.49	13⇓	eP	Pg	09 54 18.9	-0.3
ALCO				eS	Sg	09 54 25.9	-0.1
PTAR3	Potrerillos Ar	0.50	63	iP	Pg	09 54 19.2	0.0
LOCO3	Loma Colorada,	0.52	96	iP	Pg	09 54 19.7	0.0
LOCO3				i S	Sb	09 54 27.3	-0.5
PEDE3	Pedregal, Chir	0.52	99	iP	Pg	09 54 19.6	-0.1
PEDE3				i S	Sg	09 54 26.1	-0.6
LOMA3	Las Lomas, Chi	0.55	93	iP	Pg	09 54 20.0	-0.1
BQTLY	Boquete Panama	0.56	58	iP	Pg	09 54 20.2	-0.3
BQTLY	Boquete Panama	0.56	58	eP	Pg	09 54 20.1	-0.3
BQSF3	Alto Boquete,	0.57	61	iP	Pg	09 54 20.3	-0.5
WILLF	Boquete	0.58	60	eP	Pg	09 54 20.3	-0.5
LNBQ3	Los Naranjos,	0.59	57	iP	Pg	09 54 20.4	-0.6
EDP2	Potrero Grande	0.59	337	eP	Pg	09 54 20.9	-0.1
DAP26	falda E V. Bar	0.61	58	eP	Pg	09 54 20.6	-0.7
CHIR3	Chiriqui UPA,	0.61	96	iP	Pg	09 54 21.0	-0.3
CHIR3				i S	Sb	09 54 30.0	-0.3
PSOM3	Paja de Sombre	0.65	70	iP	Pg	09 54 21.4	-0.7
PSOM3				i S	Sg	09 54 29.7	-1.1
PANP	Palmar Norte	0.71	314⇓	eP	Pg	09 54 22.2	-1.0
BURE	Buenos Aires	0.81	331	eP	Pg	09 54 24.3	-0.7
PBNVO	Pueblo Nuevo,	0.85	60⇓	eP	Pg	09 54 24.5	-1.4
RBALA	Bur	0.88	62	iP	Pg	09 54 25.3	-1.3
RBALA	Bur	0.88	62⇓	eP	Pg	09 54 25.2	-1.3
CHGR2	Aguacate	0.92	59	iP	Pg	09 54 25.8	-1.4
CHGR2				i S	Sg	09 54 37.7	-1.5
EDPE	Pejibaye, P	0.93	318	eP	Pg	09 54 25.9	-1.5
OCHAL	Ojochal	0.94	312	P	Pg	09 54 26.0	-1.6
OCHAL	Ojochal	0.94	312	S	Sn	09 54 42.9	+1.6
SAJE	San Jernim	1.04	328	eP	Pg	09 54 27.8	-1.7
BRIBI	Bribri	1.16	6	eP	Pb	09 54 31.2	+0.1
RGM0	Gandoca	1.17	16⇓	eP	Pn	09 54 31.8	+0.6
RGM0	Gandoca	1.17	16	P	Pn	09 54 32.0	+0.8
RGM0	Gandoca	1.17	16	S	Sb	09 54 46.6	+0.3
RGM0	Gandoca	1.17	16	eP	Pb	09 54 31.4	+0.1
KKNTU	Kakint²	1.19	72	iP	Pb	09 54 29.9	-1.8
KKNTU				eS	Sb	09 54 45.1	-1.7
KKNTU	Kakint²	1.19	72⇓	eP	Pb	09 54 29.8	-1.8
LAES	El Progreso Va	1.29	355⇑	eP	Pn	09 54 33.2	+0.1
CVEJO	Cerro Viej	1.37	99	iP	Pn	09 54 32.7	-1.4
VERH	Veragua Rainfo	1.47	350⇑	eP	Pn	09 54 35.5	-0.1
PIEC	Cerro El Cedra	1.53	319	eP	Pn	09 54 35.6	-0.8
PITB	Pirrs, San	1.60	318	eP	Pn	09 54 37.4	+0.1
TURIB	Turrialba	1.61	333	eP	Pn	09 54 37.4	-0.1
VINA	Juan Vinas	1.63	331	eP	Pn	09 54 37.8	0.0
VERB	Verbena	1.65	333	eP	Pn	09 54 38.3	+0.3
RVSTA	Santa Teresita	1.66	335	eP	Pn	09 54 38.8	+0.7
PCAYA	Pacayas	1.68	329	eP	Pn	09 54 38.5	0.0
RESJ	San Isidro (Tu	1.70	336	eP	Pn	09 54 39.4	+0.7
ABRB	Las Abras (San	1.71	334	eP	Pn	09 54 39.4	+0.5
LCOCO	El Coco	1.72	339	eP	Pn	09 54 39.3	+0.5
CVTV	Tajo	1.73	333⇑	eP	Pn	09 54 39.7	+0.5
CVTQ	Turrialba Volc	1.73	332	eP	Pn	09 54 39.8	+0.4
VTR0	Volcan Turrial	1.74	332	eP	Pn	09 54 39.9	+0.4
CVTR	Volcan Turrial	1.74	333	eP	Pn	09 54 39.8	+0.2
VICA	Volcano Irazu	1.75	330	eP	Pn	09 54 39.7	-0.1
MESA3	La Mesa, Verag	1.77	100⇑	eP	Pn	09 54 39.3	-0.2
MESA3				i S	Sn	09 55 02.1	+0.2
ACOS	Acosta	1.79	318	eP	Pn	09 54 39.9	-0.1
RSUS3	Rio de Jesus,	1.83	105⇑	eP	Pn	09 54 40.3	-0.1
GMAL	Guarumal, Vera	1.83	112⇑	eP	Pn	09 54 38.9	-1.5
CVIAO	Finca Echandi	1.84	328	eP	Pn	09 54 41.0	+0.3
PILE	Guapiles	1.93	334	eP	Pn	09 54 42.7	+0.9
STIA3	Santiago, Vera	1.98	100⇑	eP	Pn	09 54 43.0	+0.5
MARI3	Mariato, Verag	2.10	113⇓	eP	Pn	09 54 45.4	+1.4
MARI3				eS	Sb	09 55 13.3	+0.2
TRT2	Tortugero	2.22	339	P	Pn	09 54 47.0	+1.2
TRT2	Tortugero	2.22	339	S	Sb	09 55 15.7	-1.0
TRT2	Tortugero	2.22	339	eP	Pn	09 54 46.6	+0.9
CRIS3	El Cristo, Coc	2.31	95⇓	eP	Pn	09 54 47.5	+0.5
SOCE	Pocosol	2.52	319	S	Sb	09 55 24.0	-1.4
SOCE	Pocosol	2.52	319	P	Pb	09 54 53.0	-1.4
CHIT3	Chitre	2.55	101⇑	eP	Pn	09 54 51.5	+1.2
CHIT3				eS	Sn	09 55 23.0	+1.8
PNME	Penonome	2.59	89	eP	Pb	09 54 54.4	-1.1
COVE	Coope Vega, Sa	2.66	327	S	Sn	09 55 27.1	+3.2
COVE	Coope Vega, Sa	2.66	327	P	Pb	09 54 54.8	-2.1
JTS	Las Juntas de	2.69	313⇓	eP	Pn	09 54 53.6	+1.4
JTS				eS	Sn	09 55 26.3	+1.7
TOSI3	Tonosi	2.69	113	eP	Pn	09 54 52.6	+0.4
ACHO3	Achotines, Los	2.94	111⇓	eP	Pn	09 54 57.3	+1.7
PEDA3	Pedasi	3.04	108	eP	Pn	09 54 58.1	+1.1
ZANG	Zanguenga, Cho	3.08	81⇓	eP	Pn	09 54 58.4	+0.8
BCIP	Isla Barro Col	3.15	77⇓	iP	Pn	09 54 59.0	+0.5
BCIP				eS	Sn	09 55 36.6	+0.7
BCIP	Isla Barro Col	3.15	77⇓	eP	Pn	09 54 59.0	+0.5
CHOR3	La Chorrera	3.17	82⇓	eP	Pn	09 55 00.1	+1.2
GAMB1	Gamboa	3.26	78⇓	eP	Pn	09 55 00.6	+0.5
FRIJ	El Hiral	3.27	76	eP	Pn	09 55 00.6	+0.5
ARRA3	Arraijan, Pana	3.29	81⇓	eP	Pn	09 55 02.8	+2.4
FLAM	Flamenco Islan	3.40	82	eP	Pb	09 55 08.6	-0.8
UPA	Univ. de Panam	3.41	81⇓	eP	Pb	09 55 07.4	-2.2
CARN	Rivas	3.71	317	P	Pn	09 55 08.5	+2.2
ESPN	Las Esperanzas	3.94	340	P	Pn	09 55 12.5	+3.1
OMEN	Al SSO del Vol	4.02	319	P	Pn	09 55 13.3	+2.8
CONN	Concepcion	4.06	320	P	Pn	09 55 14.0	+2.9
ACON	Acoyapa	4.12	328	P	Pn	09 55 14.7	+2.9
TOTI	Torti	4.60	84	eP	Pn	09 55 20.8	+2.2
SJCC	San Jacinto, C	7.80	79	eP	Pn	09 56 02.5	0.0

IDC 05 10:05:57.7±2.6, 9°81S×119°28E, h0km, mb3.6/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=204.2km s-min=27.6km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.29	144	Pn	Pn	10 08 26.2	-0.6
	0.5nm,0.3s,baz=326,slow=12,SNR=19						
FITZ				Sn	Sn	10 10 09.7	-13
	0.2nm,0.3s,baz=190,slow=21,SNR=5.9						
	1.5nm,0.3s						
WRA	Warramunga Arr	17.69	126	P	Pn	10 10 05.2	-0.5
	0.1nm,0.3s,baz=299,slow=13,SNR=5.8						
WRA				S	Sn	10 13 11.2	-12
	0.3nm,0.9s,baz=292,slow=24,SNR=1.9						
	0.2nm,0.7s						
ASAR	Alice Springs	19.62	136	P	Pn	10 10 28.9	-0.4
	0.1nm,0.3s,baz=315,slow=12,SNR=4.5						
	0.6nm,1.0s						
MKAR	Makanchi Array	65.30	333	P	P	10 16 41.4	-0.1
	0.7nm,0.9s,baz=134,slow=7.2,SNR=2.1						
	0.7nm,0.9s						

IDC 05 10:21:24.5±2.5, 22°54S×170°33E, h0km, mb3.3/2, mbtmp3.5/3, ML4.0/1, MS3.3/1, Error ellipse: s-maj=118.8km s-min=34.2km az=170.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.62	277	Pn	Pn	10 22 23.3	+1.3
	12nm,0.3s,baz=102,slow=20,SNR=418						
DZM				Sn	Sn	10 23 04.6	-0.9
	7.2nm,0.3s,baz=114,slow=20,SNR=4.3						
	32nm,0.4s						
ASAR	Alice Springs	33.46	261	P	P	10 28 05.3	-0.2
	0.2nm,0.6s,baz=95,slow=8.9,SNR=1.9						
	0.2nm,0.6s						
WRA	Warramunga Arr	33.59	268	P	P	10 28 06.2	-0.5
	0.7nm,1.0s,baz=97,slow=8.3,SNR=3.2						
WRA				LR	LR	10 40 59.4	
	comp=Z,50nm,18.5s,baz=79,slow=35						
	0.7nm,1.0s						
EKA	Eskdalemuir Ar	146.89	353	PKPbc	PKPdf	10 41 06.5	-0.2
	0.6nm,0.4s,baz=1.6,slow=3.0,SNR=4.9						
GERES	GERESS Array B	147.86	330	PKPbc	PKPbc	10 41 12.5	+0.9
	0.6nm,0.8s,baz=46,slow=4.8,SNR=2.3						

*UCR **05** 10:25:01.2±0.7, 10°67N×85°19W, h4km±2km, MW3.7*
*CATAC **05** 10:25:02.2±0.4, 11°N±2°×8°5W±°, h5km±1km, M2.5/8, MLv2.5/8, Error ellipse: s-maj=4.5km s-min=2.7km az=41.5, confirmed*

ISC 05 10:25:01.8±0.9, 10°67N±0°02×85°19W±0°02, h7km±6km, n45, σ0°75/50, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HORNC	Hornillas	0.04	14	eP	Pg	10 25 03.3	-0.1
HORNC				eS	Sg	10 25 04.0	-0.4
MESS	Mesas	0.07	356	eP	Pg	10 25 04.0	+0.3
MESS				eS	Sg	10 25 05.7	+0.7
MOTZ	Rio Naranjo	0.12	81	eP	Pg	10 25 04.8	+0.4
VMAR	Armenia, Volca	0.16	27	eP	Pg	10 25 05.6	+0.5
GPS2	Hotel Rincn d	0.18	298	eP	Pg	10 25 06.2	+0.7
TIMP	Tierras Morena	0.19	117	eP	Pg	10 25 06.3	+0.7
VRLE	La Escondida,	0.21	305	eP	Pg	10 25 06.7	+0.7
TENO	El Achiote	0.21	80	eP	Pg	10 25 06.0	0.0
INVE	Universidad In	0.23	147	eP	Pg	10 25 07.2	+0.9
ERIA	Liberia	0.25	262	eP	Pg	10 25 07.9	+1.2
BUAI	Buenos Aires	0.25	326	eP	Pg	10 25 08.1	+0.3
PEJA	Penjamo Buenos	0.26	332	eP	Pb	10 25 07.6	-1.2
LAPC	Finca la Perla	0.26	292	eP	Pb	10 25 07.4	-1.4
QUEB	Quebradon, Cot	0.29	99	eP	Pb	10 25 08.1	-1.3
TILA	Tilaran	0.29	133	eP	Pb	10 25 08.3	-1.1
CHIK	Chiripa	0.36	129	eP	Pb	10 25 09.9	-0.6
ALIBA	Liberia Airpor	0.36	258	eP	Pb	10 25 09.7	-0.8
ELI1	Hacienda Flor	0.36	266	P	Pb	10 25 09.6	-0.9
ELI1	Hacienda Flor	0.36	266	S	Sb	10 25 15.5	-0.9
ELI1	Hacienda Flor	0.36	266	eP	Pb	10 25 09.5	-1.0
DELF	Filadelfia	0.42	239	eP	Pb	10 25 10.5	-1.1
JTS	Las Juntas de	0.44	148	P	Pb	10 25 10.9	-1.1
JTS				S	Sg	10 25 17.1	+0.9
JTS	Las Juntas de	0.44	148	eP	Pg	10 25 10.7	+0.3
TABAC	Tabacon	0.45	112	eP	Pb	10 25 11.4	-0.7
MTEVE	Monteverde	0.50	134	eP	Pg	10 25 11.8	+0.4
REZ	Monterrey de S	0.50	106	eP	Pb	10 25 12.5	-0.5
CASO	Castillo	0.50	117	eP	Pb	10 25 12.3	-0.8
VARE2	V. Arenal	0.51	114	eP	Pb	10 25 12.6	-0.5
CEDE	Laguna Cedeo	0.51	111	eP	Pb	10 25 12.6	-0.5
VACR	Volcan Arenal	0.54	111	eP	Pb	10 25 13.0	-0.6
FORC	Fortuna	0.55	111	eP	Pb	10 25 13.3	-0.5
SACU	Santa Cruz	0.56	224	eP	Pb	10 25 13.2	-0.7
JUD3	Juan Diaz 3	0.61	215	eP	Pb	10 25 13.9	-0.8
CARN	Rivas	0.61	328	P	Pb	10 25 14.5	-0.3
CARN				S	Sb	10 25 23.6	-0.1
SOCE	Pocosol	0.63	117	P	Pb	10 25 14.4	-0.8
SOCE	Pocosol	0.63	117	S	Sb	10 25 23.2	-1.1
SOCE	Pocosol	0.63	117	eP	Pb	10 25 14.2	-1.0
COVE	Coope Vega, Sa	0.78	86	P	Pb	10 25 17.7	0.0
COVE	Coope Vega, Sa	0.78	86	S	Sb	10 25 28.1	-0.3
OMEN	Al SSO del Vol	0.94	333	P	Pg	10 25 19.5	-0.4
OMEN				S	Sb	10 25 33.5	+0.4
MORN	Al O del Volca	0.98	333	P	Pb	10 25 21.0	-0.2
ACON	Acoyapa	1.29	1	P	Pb	10 25 26.2	-0.3
ACON	Acoyapa	1.29	1	S	Sn	10 25 44.4	+0.5
ESPN	Las Esperanzas	1.75	30	P	Pn	10 25 32.9	+0.3
ESPN	Las Esperanzas	1.75	30	S	Sb	10 25 56.7	+0.3

*WEL **05** 11:01:06.5±1.0, 30°S±13°×17°8W±3°1, h307km±8km, mB4.8/6, ML5.1/3, MLv4.7/5, Mw(mB)4.1/6, Error ellipse: s-maj=43.3km s-min=7.2km az=110.9, confirmed*
*IDC **05** 11:01:17.7±8.8, 30°59S×179°05W, h490km±110km, mb3.1/2, mbtmp4.1/3, Error ellipse: s-maj=107.3km s-min=39.8km az=8.0*

ISC 05 11:01:01.8±1.5, 29°7S±0°1×178°2W±0°2, h300km, n82, σ1°22/91, mb4.4/5, 4C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	8.34	200	P	Pn	11 02 58.1	-1.4
MXZ				S	S	11 04 35.0	0.0
WMGZ	Waiomatatini S	8.55	198	P	Pn	11 03 04.1	+2.1
WMGZ				S	S	11 04 39.3	-0.4
HAZ	Te Kaha	8.68	202	P	Pn	11 03 05.6	+2.0
HAZ				S	S	11 04 42.6	-0.1
PKGZ	Pakihiroa	8.69	200	P	Pn	11 03 05.5	+1.7
PKGZ				S	S	11 04 42.2	-0.7
WCZ	Waipu Caves	8.82	223	P	P	11 03 10.1	-0.2
PUZ	Puketiti	8.83	199	P	P	11 03 08.4	-2.0
PUZ				S	S	11 04 45.2	-0.9
RUGZ	Raukumara Rang	8.91	202	P	P	11 03 09.0	-2.4
RUGZ				S	S	11 04 46.1	-1.8
TWGZ	Tauwhareparae	9.01	200	P	P	11 03 11.4	-1.1
TWGZ				S	S	11 04 49.6	-0.5
TKGZ	Te Karaka	9.29	200	P	Pn	11 03 11.8	+0.7
MWZ	Matawai	9.29	201	P	Pn	11 03 12.1	+0.9
URZ	Urewera	9.36	203	P	P	11 03 16.4	+0.2
URZ	7.7nm,0.3s,baz=19,slow=4.2,SNR=26			S	S	11 04 55.1	-2.9
URZ				S			
	43nm,0.4s,baz=90,slow=21,SNR=16						
URZ	Urewera	9.36	203	P	Pn	11 03 12.3	+0.3
RAGZ	Rawiri	9.47	201	P	Pn	11 03 14.4	+1.0
RAGZ				S	S	11 05 00.4	-0.3
RIGZ	Rimuhau	9.56	199	P	P	11 03 17.6	-1.0
MUGZ	Murupara	9.68	204	P	Pn	11 03 16.2	+0.4
MUGZ				S	S	11 05 05.0	-0.1
RTZ	Ruatahuna	9.73	203	P	Pn	11 03 17.8	+1.2
PRGZ	Paritu Road	9.73	198	P	P	11 03 20.2	-0.2
SNGZ	Shannon Statio	9.76	201	P	Pn	11 03 17.9	+1.0
ALRZ	Allen Road	9.91	206	P	P	11 03 22.2	-0.2
RAHZ	Arahi	9.96	202	P	P	11 03 22.5	-0.5
MTHZ	Maungataniwha	9.99	203	P	P	11 03 23.4	+0.1
MTHZ				S	S	11 05 13.4	+1.2
TLZ	Tolley Road	10.03	210	P	P	11 03 26.7	+2.9
KUTZ	Kaahu Road	10.05	208	P	P	11 03 25.5	+1.5
MRHZ	Matea Rd	10.12	205	P	P	11 03 24.6	-0.2
NMHZ	Naumai	10.22	202	P	P	11 03 25.3	-0.6
ARHZ	Aropaoanui	10.31	201	P	P	11 03 26.5	-0.3
BKZ	Black Stump Fm	10.39	204	P	P	11 03 25.9	-1.8
HIZ	Hauiti	10.49	211	P	P	11 03 32.2	+3.4
MCHZ	McNeill Hill	10.57	202	P	P	11 03 28.2	-1.5
NTVZ	North Tongarir	10.63	207	P	P	11 03 30.8	+0.3
TMVZ	Te Maari	10.63	207	P	P	11 03 31.2	+0.6
KWHZ	Kaweka Forest	10.64	203	P	P	11 03 30.2	-0.4
NNVZ	North Ngauruho	10.68	207	P	P	11 03 31.5	+0.3
OTVZ	Oturere	10.69	207	P	P	11 03 30.0	-1.3
TWVZ	Taurewa	10.70	208	P	P	11 03 31.5	+0.2
SNVZ	South Ngauruho	10.72	207	P	P	11 03 32.0	+0.4
NGZ	Ngauruhoe	10.73	207	P	P	11 03 32.2	+0.5
TUVZ	Tukino	10.79	206	P	P	11 03 32.0	-0.3
FWVZ	Far West T-bar	10.81	207	P	P	11 03 32.5	-0.2
KAHZ	Kahuranaki	10.83	201	P	P	11 03 33.1	+0.5
KRHZ	Kereru	10.86	203	P	Pn	11 03 30.9	+0.6
WNVZ	Wahianoa	10.86	206	P	P	11 03 32.2	-0.9
MOVZ	Moawhango	10.87	206	P	P	11 03 31.8	-1.4
PKVZ	Pokaka	10.93	207	P	P	11 03 33.6	-0.1
MTVZ	Mangateitei	10.96	207	P	P	11 03 33.9	-0.2
VRZ	Vera Road	11.03	210	P	P	11 03 36.3	+1.4
PXZ	Pawanui	11.05	200	P	P	11 03 33.9	-1.2
PNHZ	Pukenui	11.16	203	P	Pn	11 03 33.3	-0.8
WPHZ	Waipukurau	11.21	202	P	P	11 03 36.9	0.0
PRHZ	Porangahau	11.34	201	P	Pn	11 03 36.2	0.0
TSZ	Takapari Road	11.37	203	P	P	11 03 39.0	+0.4
DVHZ	Dannevirke	11.52	202	P	Pn	11 03 38.7	+0.3
POWZ	Post Office Ro	11.73	203	P	P	11 03 43.6	+1.0
BFZ	Birch Farm	11.84	201	P	Pn	11 03 42.5	+0.3
MRZ	Mangatainoka R	12.04	203	P	Pn	11 03 44.5	-0.2
TIWZ	Tintock	12.04	202	P	Pn	11 03 44.2	-0.5
HOWZ	Holdsworth Sta	12.27	203	P	Pn	11 03 46.9	-0.6
OGWZ	Otaki Gorge	12.32	204	P	Pn	11 03 47.6	-0.5
TMWZ	Te Maipa	12.34	201	P	P	11 03 49.4	+0.1
KIW	Kapiti Island	12.45	205	P	Pn	11 03 48.9	-0.8
MTW	Mount Morrison	12.51	203	P	Pn	11 03 49.9	-0.5
CAW	Cannon Point	12.61	204	P	Pn	11 03 50.2	-1.4
TRWZ	Traveller	12.66	201	P	P	11 03 53.4	+0.5
PAWZ	Paruwai Farm	12.73	202	P	P	11 03 53.6	-0.2
MSWZ	Moikau Station	12.82	203	P	Pn	11 03 53.9	-0.3
PLWZ	Palliser	12.96	202	P	P	11 03 56.6	+0.3
TCW	Tory Channel	12.99	206	P	Pn	11 03 55.7	-0.5
TUWZ	Tuamarina	13.31	207	P	P	11 03 59.4	-0.7
NNZ	Nelson	13.36	209	P	P	11 03 59.2	-1.4
QRZ	Quartz Range	13.41	212	P	P	11 04 00.7	-0.5
MRNZ	Matariki Terra	13.77	210	P	P	11 04 04.1	-1.1
THZ	Tophouse	14.01	209	P	P	11 04 07.3	-0.6
KHZ	Kahutara	14.31	206	P	P	11 04 09.8	-1.3
GVZ	Greta Valley S	14.97	206	P	Pn	11 04 18.9	-0.9
ASAR	Alice Springs	42.98	266	P	P	11 08 27.2	-5.1
	0.9nm,0.4s,baz=105,slow=7.3,SNR=24						
	0.9nm,0.4s						
WRA	Warramunga Arr	43.91	272	P	P	11 08 34.3	-5.4
	0.8nm,0.3s,baz=114,slow=6.5,SNR=28						
	0.8nm,0.3s						
TROLL	Troll, Antarti	78.55	180	⇑P	P	11 12 32.3	+2.3
	comp=Z,169nm,0.8s						
SNAA	Sanae	78.83	179	⇓P	P	11 12 33.4	+2.0
	comp=Z,24nm,0.6s						
VNA3	Neumayer Olymp	78.99	176	⇑P	P	11 12 34.5	+2.3
	comp=Z,9.0nm,0.8s						
VNA2	Neumayer--Watz	79.42	177	⇑P	P	11 12 35.8	+1.2
	comp=Z,3.7nm,0.5s,baz=191,slow=5.3						
VNA1	Neumayer--Stat	79.65	177	⇑P	P	11 12 38.2	+2.4
	comp=Z,5.9nm,0.9s						
FINES	FINESS Array B	144.46	340	PKPbc	PKPab	11 19 57.7	-3.3
	comp=Z,4.6nm,0.4s,baz=52,slow=3.8,SNR=9.4						

*IDC **05** 11:01:08.9±18.0, 16°88S×178°36W, h170km±175km, mb3.7/7, mbtmp4.2/7, Error ellipse: s-maj=82.7km s-min=34.0km az=156.0*

ISC 05 11:01:11.7±1.4, 16°9S±0°6×178°4W±0°4, h200km, n11, σ1°11/11, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.13	240	P	P	11 08 20.1	+0.1
	2.0nm,0.5s,baz=92,slow=10,SNR=5.0						
	2.0nm,0.5s						
WRA	Warramunga Arr	44.82	258	P	P	11 09 06.7	+0.6
	2.7nm,0.7s,baz=98,slow=7.9,SNR=26						
	2.7nm,0.7s						
ASAR	Alice Springs	45.07	253	P	P	11 09 08.6	+0.5
	12nm,0.7s,baz=92,slow=8.1,SNR=101						
	12nm,0.7s						
NVAR	Mina Array Bea	78.68	44	P	P	11 12 53.5	+1.5
	0.7nm,0.7s,baz=235,slow=5.0,SNR=8.5						
	0.7nm,0.7s						
ILAR	Eielson Array	84.86	13	P	P	11 13 23.7	+0.3
	0.3nm,0.4s,baz=226,slow=5.2,SNR=12						
	0.3nm,0.4s						
TXAR	Lajitas Array	85.44	58	P	P	11 13 27.4	+0.1
	1.2nm,0.7s,baz=221,slow=6.2,SNR=19						
	1.2nm,0.7s						
PDAR	Pinedale Array	86.60	43	P	P	11 13 32.5	-0.3
	0.6nm,0.6s,baz=206,slow=3.2,SNR=7.8						
	0.6nm,0.6s						
NB2	NORSAR Subarra	135.33	353	PKP	PKiKP	11 20 08.8	0.0
	comp=Z,0.7nm,0.6s,baz=16,slow=2.9						
NOA	NORSAR Array B	135.33	353	PKP	PKiKP	11 20 08.3	-0.5
	comp=Z,0.8nm,0.6s,baz=14,slow=2.8,SNR=3.9						
HFS	Hagfors	135.89	351	PKP	PKiKP	11 20 09.4	-0.5
	comp=Z,2.2nm,0.7s,baz=20,slow=4.6,SNR=6.7						
AKASG	Malin

comp=Z,40nm,1.0s
TNTI Ternate 21.09 235 P P 11 44 34.1 +0.1
TNTI Ternate 21.09 235 P P 11 44 34.8 +0.8
comp=Z,41nm,0.9s
H11S3 WAKE ISLAND Hy 21.94 74 T T 12 07 28.5
baz=260
H11S1 WAKE ISLAND Hy 21.95 74 T T 12 07 29.1
baz=260,slow=74
H11S2 WAKE ISLAND Hy 21.95 74 T T 12 07 30.0
baz=260,slow=74
H11N1 WAKE ISLAND Hy 22.37 71 T T 12 08 02.2
baz=257,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 22.38 71 T T 12 08 02.5
baz=257,slow=75,SNR=17
H11N3 WAKE ISLAND Hy 22.39 71 T T 12 08 04.9
baz=257,slow=75,SNR=18
INU Inuyama 22.85 344 P 11 44 51.0 -0.5
INU IAmb IAmb 11 44 54.2
comp=Z,35nm,1.0s
INU Inuyama 22.85 344 P **P 11 44 52.6 +1.1**
JGF Kuroka 23.00 345 P 11 44 53.0 0.0
JGF Kuroka 23.00 345 P **P 11 44 54.4 +1.4**
JNU Nakatsue 23.20 330 P 11 44 54.4 -0.5
JNU Nakatsue 23.20 330 P **P 11 44 54.4 -0.5**
comp=Z,45nm,0.9s,baz=118,slow=3.9,SNR=19
comp=Z,45nm,0.9s
JNU Nakatsue 23.20 330 P **P 11 44 55.0 +0.1**
MJAR Matsushiro Arr 23.70 347 P **P 11 44 58.6 -0.8**
MJAR IAmb IAmb 11 45 00.8
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 23.70 347 P **P 11 44 58.2 -1.2**
comp=Z,19nm,0.7s,baz=166,slow=8.2,SNR=66
MJAR PcP **PcP 11 48 39.3 -0.3**
comp=Z,2.2nm,0.8s,baz=159,slow=3.2,SNR=6.3
comp=Z,19nm,0.7s
MAJO Matsushiro 23.70 347 P **P 11 44 58.9 -0.5**
MAJO Matsushiro 23.70 347 P **P 11 44 59.7 +0.3**
MJB9 Matsu-Tunnel 23.71 347 P **P 11 44 59.9 +0.4**
SANI Sanana 23.93 231 P **P 11 45 02.1 +0.5**
SANI Sanana 23.93 231 P **P 11 45 03.6 +2.0**
KMSI Cibinong 23.98 239 P **P 11 45 02.6 +0.5**
TWGBT Beinan 24.09 296 P **P 11 45 03.8 +0.8**
YULB Yu-li 24.09 298 P **P 11 45 02.4 -0.6**
YULB Yu-li 24.09 298 P **P 11 45 03.5 +0.4**
TWG Pinlang 24.09 296 P **P 11 45 02.0 -1.1**
NACB Ninganchiao 24.12 300 P **P 11 45 02.5 -0.8**
NACB IAmb IAmb 11 45 20.8
comp=Z,19nm,1.0s
SSLB Suanglung 24.52 298 P **P 11 45 06.4 -0.6**
SSLB Suanglung 24.52 298 P **P 11 45 07.9 +0.9**
JMM Marumori 24.57 353 P **P 11 45 07.2 +0.1**
TPUB Ta-pu 24.64 297 P **P 11 45 08.9 +0.9**
JSD Sado 25.13 348 P **P 11 45 13.7 +1.4**
MRSI Marisa 25.76 242 P **P 11 45 17.9 -0.3**
comp=Z,88nm,0.8s
LUWI Luwuk 25.87 238 P 11 45 17.9 -1.4
LUWI Luwuk 25.87 238 P **P 11 45 19.5 +0.2**
LUWI Luwuk 25.87 238 P **P 11 45 18.4 -0.9**
TOLI2 Tolitoli 26.45 244 P **P 11 45 23.8 -0.7**
TOLI2 IAmb IAmb 11 45 24.5
comp=Z,13nm,0.8s
TOLI2 Tolitoli 26.45 244 P **P 11 45 25.0 +0.5**
TATA Tatamba Isabel 26.48 144 P **P 11 45 25.1 +0.4**
MYLDM Lahad Datu 26.88 255 P **P 11 45 28.3 -0.1**
MYLDM Lahad Datu 26.88 255 P **P 11 45 29.1 +0.7**
COEN Coen 27.23 183 P **P 11 45 31.5 +0.1**
COEN IAmb IAmb 11 45 32.5
comp=Z,36nm,1.4s
ALEG Aligegeo Malai 27.29 143 P **P 11 45 32.9 +1.0**
KSRS Korea Array 28.12 331 P **P 11 45 38.3 -0.9**
comp=Z,12nm,0.8s,baz=140,slow=9.6,SNR=31
KSRS PcP **PcP 11 48 50.0 +0.3**
comp=Z,4.1nm,1.1s,baz=148,slow=2.4,SNR=4.4
comp=Z,12nm,0.8s
KSAR Wonju Array Be 28.13 331 P **P 11 45 39.4 +0.2**
KS19 Wonju Array Si 28.19 331 P **P 11 45 39.4 -0.4**
KS19 IAmb IAmb 11 45 40.4
comp=Z,24nm,1.1s
KKM Kota Kinabalu 28.78 258 P **P 11 45 45.1 -0.2**
KKM IAmb IAmb 11 45 46.1
comp=Z,8.8nm,0.8s
MTN Manton Dam 29.25 207 P **P 11 45 49.0 -0.4**
MTN IAmb IAmb 11 46 11.5
comp=Z,26nm,1.4s
NJ2 Nanjing 29.91 313 *e*P **P 11 45 55.1 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JKA Kamikawa-asahi 30.63 357 P **P 11 46 00.7 -0.6**
USRK Ussuriysk Ar. 32.48 343 P **P 11 46 17.0 -0.5**
comp=Z,6.9nm,0.7s,baz=165,slow=12,SNR=8.0
comp=Z,6.9nm,0.7s
WHN Wuhan 32.57 306 P **P 11 46 18.6 +0.2**
WHN pmax pmax
comp=Z,42nm,1.0s
MDJ Mudanjiang 33.59 341 P **P 11 46 27.1 0.0**
MDJ pmax pmax
comp=Z,25nm,0.9s
MDJ pmax pmax
comp=Z,470nm,4.8s
MDJ Mudanjiang 33.59 341 P **P 11 46 28.1 +1.0**
SBUM Sibu 33.70 254 P 11 46 28.6 +0.1
SBUM IAmb IAmb 11 46 29.5
comp=Z,11nm,0.7s
SBUM Sibu 33.70 254 P **P 11 46 28.7 +0.3**
QIS Mount Isa 34.10 188 P **P 11 46 32.1 +0.3**
WB0 Warramunga Arr 34.44 197 P 11 46 34.2 -0.5
WRAB Tennant Creek 34.61 197 P **P 11 46 35.8 -0.3**
WRAB IAmb IAmb 11 46 36.7
comp=Z,13nm,0.8s
WRAB Tennant Creek 34.61 197 P **P 11 46 36.1 0.0**
WRA Warramunga Arr 34.62 197 P **P 11 46 36.1 -0.2**
WRA Warramunga Arr 34.62 197 P **P 11 46 35.3 -0.9**
comp=Z,7.9nm,0.8s,baz=16,slow=8.8,SNR=9.8
WRA PcP **PcP 11 49 07.7 +0.2**
comp=Z,1.2nm,0.6s,baz=16,slow=3.9,SNR=5.2
WRA S **S 11 51 51.6 -3.4**
comp=Z,0.9nm,1.0s,baz=21,slow=16,SNR=4.5
WRA ScP **ScP 11 52 38.9 -0.4**
comp=Z,1.9nm,0.8s,baz=20,slow=3.9,SNR=10
comp=Z,7.9nm,0.8s
DLV Lat 35.12 272 P **P 11 46 41.3 +0.4**
BNX BinXian 35.31 339 ⇓P **P 11 46 41.9 +0.1**
BNX pmax pmax
comp=Z,33nm,0.7s
HNS HongShan 35.69 317 ⇑P **P 11 46 45.4 +0.2**
HNS pmax pmax
comp=Z,45nm,0.9s
LYN LuoYang 35.78 312 P **P 11 46 46.0 -0.1**
LYN pmax pmax
comp=Z,60nm,0.8s
KSM Kuching 35.83 254 P **P 11 46 46.4 -0.3**
BJT Baijiatuau 36.33 322 P **P 11 46 50.5 -0.1**
BJI Beijing 36.34 322 P **P 11 46 50.6 -0.1**
BJI pmax pmax
comp=Z,12nm,0.8s
ENH Enshi 36.36 303 P **P 11 46 51.5 +0.4**
FITZ Fitzroy Crossi 36.41 211 P **P 11 46 51.7 +0.2**
JAGI Jajag, Banyuwa 37.14 236 P **P 11 46 57.2 -0.6**
GYA Guiyang 37.69 296 ⇓P **P 11 47 03.6 +1.1**
GYA pmax pmax
comp=Z,22nm,1.0s
XAN Xi'an 38.20 309 ⇑P **P 11 47 06.2 -0.4**
XAN pmax pmax
comp=Z,18nm,0.7s
ASAR Alice Springs 38.28 196 P **P 11 47 06.5 -0.8**
comp=Z,2.5nm,0.6s,baz=20,slow=11,SNR=72
ASAR PcP **PcP 11 49 18.8 +0.3**
comp=Z,1.5nm,0.8s,baz=17,slow=5.1,SNR=4.4
ASAR S **S 11 52 48.5 -2.2**
comp=Z,0.5nm,0.8s,baz=16,slow=14,SNR=4.4
comp=Z,2.5nm,0.6s
XLT XiLinHaoTe 38.91 327 *e*P **P 11 47 12.4 0.0**
XLT pmax pmax
comp=Z,14nm,0.7s
XLT pmax pmax
comp=Z,82nm,3.3s
HEH HeiHe 39.29 343 *e*P **P 11 47 14.9 -0.4**
HEH pmax pmax
comp=Z,37nm,0.8s
SLVN Son La 39.42 287 IAmb IAmb 11 47 18.6
comp=Z,16nm,0.9s
SLVN Son La 39.42 287 P **P 11 47 17.4 +0.5**
HHC Hu-ho-hao-te 39.65 320 *e*P **P 11 47 19.3 +0.7**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,51nm,4.1s
QLP Quilpie 39.76 180 P **P 11 47 19.8 +0.3**
BTO Baotou 40.50 318 *e*P **P 11 47 26.8 +1.2**
BTO sP sP 11 48 25.2 +13
BTO pmax pmax
comp=Z,44nm,0.7s
BTO pmax pmax
comp=Z,240nm,8.0s
KMI Kunming 40.92 293 ⇑P **P 11 47 30.3 +0.8**
KMI pmax pmax
comp=Z,15nm,0.8s
INKA Innaminka 41.08 185 P 11 47 29.6 -0.7
HIA Hailar 41.13 335 P **P 11 47 31.3 +0.7**
DZM Mont Dzumac 41.33 148 *e*LR LR 11 59 09.7
comp=Z,69nm,21.9s
DZM Mont Dzumac 41.33 148 P **P 11 47 33.5 +0.9**
DZM IAmb IAmb 11 47 34.8
comp=Z,19nm,0.9s
MYKOM Kota Tinggi 41.81 257 P **P 11 47 36.2 -0.3**
MYKOM Kota Tinggi 41.81 257 P **P 11 47 37.0 +0.5**
PZH PanZhiHua 42.02 295 P **P 11 47 38.7 +0.4**
MBWA Marble Bar 42.09 216 P **P 11 47 38.0 -0.7**
MBWA IAmb IAmb 11 47 38.9
comp=Z,19nm,0.8s
PSA00 Pilbara Seismi 42.35 215 P **P 11 47 40.3 -0.5**
PSA00 Pilbara Seismi 42.35 215 P 11 47 40.1 -0.7
PSA00 IAmb IAmb 11 47 41.3
comp=Z,17nm,1.1s
PSA00 Pilbara Seismi 42.35 215 P **P 11 47 40.9 +0.1**
LZH Lanzhou 42.83 309 *e*P **P 11 47 45.0 +0.3**
LZH pP pP 11 48 17.5 +1.6
LZH pmax pmax
comp=Z,19nm,1.0s
LZDM Lanzhou Array 42.89 309 P **P 11 47 45.0 -0.4**
comp=Z,5.7nm,0.4s,baz=134,slow=11,SNR=6.5
comp=Z,5.7nm,0.4s
MDSI Maura Dua 43.78 249 P **P 11 47 51.2 -1.2**
comp=Z,34nm,1.0s
KULM Kulim 43.93 264 P **P 11 47 53.9 +0.3**
KULM IAmb IAmb 11 47 54.8
comp=Z,20nm,0.9s
CHTO Chiang Mai 43.98 283 P 11 47 53.9 -0.1
CHTO Chiang Mai 43.98 283 P **P 11 47 53.7 -0.3**
CMAR Chiang Mai Arr 43.98 283 P **P 11 47 54.5 +0.5**
comp=Z,20nm,0.6s,baz=84,slow=6.4,SNR=161
CMAR PcP **PcP 11 49 38.1 +0.8**
comp=Z,5.2nm,0.8s,baz=89,slow=1.8,SNR=16
CMAR LR LR 12 07 24.8
comp=Z,11nm,18.6s,baz=75,slow=37
comp=Z,20nm,0.6s
SURA Surathani 44.13 269 P **P 11 47 56.1 +0.9**
TNCH TengChong 44.70 292 P **P 11 48 00.3 +0.4**
TNCH pmax pmax
comp=Z,62nm,1.0s
STKA Stephens Creek 45.12 183 P 11 48 02.3 -0.4
STKA Stephens Creek 45.12 183 P **P 11 48 02.2 -0.5**
comp=Z,8.4nm,0.5s,baz=10,slow=6.8,SNR=17
comp=Z,8.4nm,0.5s
STKA Stephens Creek 45.12 183 P **P 11 48 03.1 +0.4**
SHEM Shemya Is, Ala 45.78 25 LR LR 12 03 33.9
comp=Z,20nm,20.2s,baz=282,slow=31
PSI Prapat 46.23 261 P **P 11 48 12.0 +0.1**
RPSI Rantau Prapat 46.26 261 P 11 48 11.3 -0.6
ULN Ulaanbaatar 46.30 326 P 11 48 12.3 +0.2
MA2 Magadan 46.31 4 P **P 11 48 11.8 0.0**
MA2 IAmb IAmb 11 48 12.4
comp=Z,11nm,0.7s
MA2 Magadan 46.31 4 P **P 11 48 11.6 -0.2**
comp=Z,9.4nm,0.7s,baz=163,slow=7.0,SNR=10
comp=Z,9.4nm,0.7s
SONM Songino Array 46.65 325 P **P 11 48 14.9 +0.2**
SONM Songino Array 46.65 325 P **P 11 48 14.5 -0.3**
comp=Z,3.9nm,0.7s,baz=145,slow=8.8,SNR=16
SONM ScP **ScP 11 53 24.9 -1.4**
comp=Z,1.1nm,0.6s,baz=122,slow=5.2,SNR=5.1
SONM LR LR 12 09 34.2
comp=Z,54nm,18.0s,baz=45,slow=38
comp=Z,3.9nm,0.7s
HTT Hallett 46.89 186 P **P 11 48 17.0 +0.4**
GTA Gaotai 47.00 312 P **P 11 48 18.1 +0.5**
GTA PcP **PcP 11 49 48.2 +0.6**
GTA pmax pmax
comp=Z,10.0nm,1.2s
KCSI Kotacane, Aceh 47.15 262 P **P 11 48 18.6 -0.4**
comp=Z,19nm,1.2s
SEY Seymchan 49.76 5 P **P 11 48 38.0 -0.1**
comp=Z,7.1nm,0.8s,baz=186,slow=4.9,SNR=14
comp=Z,7.1nm,0.8s
EVN Everest 55.39 295 P **P 11 49 20.7 -0.2**
MKAR Makanchi Array 61.34 316 P **P 11 50 01.4 +0.1**
MKAR Makanchi Array 61.34 316 P **P 11 50 00.8 -0.4**
comp=Z,6.4nm,0.7s,baz=94,slow=8.7,SNR=33
comp=Z,6.4nm,0.7s
ZALV Zalesovo Beam 61.54 325 P **P 11 50 01.5 -0.9**
ZALV Zalesovo Beam 61.54 325 P **P 11 50 01.2 -1.2**
comp=Z,2.6nm,0.6s,baz=102,slow=6.5,SNR=8.3
ZALV PcP **pwP 11 50 41.0 +0.3**
comp=Z,1.3nm,0.4s,baz=124,slow=3.3,SNR=4.4
comp=Z,2.6nm,0.6s
PALK Pallekele 62.89 271 LR LR 12 17 32.1
comp=Z,35nm,18.4s,baz=109,slow=36
KDJ Kajisay 64.31 310 IAmb IAmb 11 50 22.9
comp=Z,6.4nm,0.9s
KDAK Kodiak Island 64.42 32 P **P 11 50 20.0 -1.2**
comp=Z,14nm,1.0s,baz=214,slow=3.6,SNR=7.3
KDAK LR LR 12 16 40.0
comp=Z,19nm,19.8s,baz=252,slow=34
comp=Z,14nm,1.0s
KURK Kurchatov 64.47 320 P **P 11 50 21.4 -0.3**
KURBB Kurchatov Arra 64.50 320 P **P 11 50 21.1 -0.9**
comp=Z,11nm,0.4s,baz=103,slow=6.8,SNR=70
comp=Z,11nm,0.4s
KSH Kashi 65.04 307 P **P 11 50 28.4 +2.5**
KSH pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 67.14 301 P 11 50 39.1 -0.2
PWL Port Wells 67.31 29 P **P 11 50 39.2 -0.6**
I23K Minto, Yukon-K 67.97 25 P **P 11 50 44.0 +0.3**
I23K IAmb IAmb 11 50 44.4
comp=Z,12nm,1.4s
IL31 68.89 25 P **P 11 50 47.6 -1.8**
ILAR Eielson Array 68.89 25 P **P 11 50 47.6 -1.9**
comp=Z,2.2nm,0.6s,baz=252,slow=5.8,SNR=32
comp=Z,2.2nm,0.6s
KK31 Karatay Array 69.27 311 P **P 11 50 51.3 -1.1**
KKAR Karatay Array 69.27 311 P **P 11 50 51.4 -1.0**
BVAR Borovoye Array 69.82 322 P **P 11 50 54.7 -0.8**
comp=Z,5.9nm,0.5s,baz=95,slow=8.0,SNR=26
BVAR LR LR 12 24 21.9
comp=Z,47nm,18.9s,baz=11,slow=38
comp=Z,5.9nm,0.5s
KBL Kabul 70.60 302 P 11 51 00.6 -0.3
KBL IAmb IAmb 11 51 02.7
comp=Z,17nm,1.1s
H27K Steamboat Moun 71.37 24 IAmb IAmb 11 51 06.4
comp=Z,22nm,1.4s
PPT Papeete 72.00 114 LR LR 12 18 49.7
comp=Z,15nm,20.3s,baz=325,slow=32
PPT2 Papeete2 72.00 114 *e*LR LR 12 13 16.8
comp=Z,42nm,23.0s
PPT2 *e*LR LR 12 13 21.2
comp=Z,121nm,27.5s
L29M L29M 72.43 28 IAmb IAmb 11 51 12.7
comp=Z,12nm,1.1s
HYT Haines Junctio 72.54 30 IAmb IAmb 11 51 14.0
comp=Z,13nm,1.1s
K29M Barlow Dome 72.76 27 IAmb IAmb 11 51 14.6
comp=Z,14nm,1.2s
N30M Aishikik Lake 72.79 30 IAmb IAmb 11 51 14.6
comp=Z,20nm,1.4s
N31M Braeburn, Yuko 73.42 30 IAmb IAmb 11 51 18.4
comp=Z,13nm,1.1s
MAYO Mayo, Yukon 73.47 27 IAmb IAmb 11 51 19.1
comp=Z,18nm,1.0s
G30M tAoh Zraii Nji 73.56 24 IAmb IAmb 11 51 18.9
comp=Z,17nm,1.2s
WHY Whitehorse 73.82 30 IAmb IAmb 11 51 20.8
comp=Z,13nm,1.1s
TBI Tubuai 74.22 119 *e*LR LR 12 14 20.1
comp=Z,654nm,35.8s
G31M Satah River 74.32 24 IAmb IAmb 11 51 22.7
comp=Z,16nm,0.9s
DLBC Dease Lake 76.33 33 P **P 11 51 34.3 +0.5**
comp=Z,53nm,0.9s,baz=262,slow=9.2,SNR=7.9
comp=Z,53nm,0.9s
AB31 Akbulak array 76.41 318 P **P 11 51 33.6 -0.6**
ABKAR Akbulak array 76.41 318 P **P 11 51 33.6 -0.6**
WTLY Watson Lake, Y 76.86 31 IAmb IAmb 11 51 38.1
comp=Z,23nm,1.1s
BBB Bella Bella 77.95 39 LR LR 12 21 16.8
comp=Z,16nm,21.4s,baz=9.5,slow=32
G04A Mulino 82.73 45 IAmb IAmb 11 52 11.2
comp=Z,16nm,0.9s
YKA Yellowknife Ar 83.19 27 P **P 11 52 10.0 -0.5**
comp=Z,2.3nm,0.7s,baz=292,slow=6.8,SNR=7.3
comp=Z,2.3nm,0.7s
M02C Callahan 83.24 49 IAmb IAmb 11 52 13.5
comp=Z,9.3nm,0.8s
YBH Yreka Blue Hor 83.27 49 IAmb IAmb 11 52 13.4
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 83.27 49 P **P 11 52 12.1 +0.6**
comp=Z,0.6nm,0.8s,baz=313,slow=2.2,SNR=26
CASY Casey 83.36 193 P **P 11 52 11.3 +0.2**
WIFE Three Sisters- 83.43 46 IAmb IAmb 11 52 14.0
comp=Z,12nm,0.9s
O02D Mt. Diablo Mer 83.54 50 IAmb IAmb 11 52 15.2
comp=Z,14nm,1.1s
J05D Fort Rock, OR 84.01 47 IAmb IAmb 11 52 17.1
comp=Z,12nm,0.8s
MNRC McLaughlin Min 84.07 52 IAmb IAmb 11 52 18.3
comp=Z,13nm,0.9s
B08A Colville Reser 84.16 42 IAmb IAmb 11 52 16.9
comp=Z,7.2nm,0.8s
O03E Paynes Creek 84.25 50 IAmb IAmb 11 52 17.7
comp=Z,9.9nm,0.9s
K05A Summer Lake 84.38 48 IAmb IAmb 11 52 19.0
comp=Z,9.6nm,0.8s
WAH2 Wahluke Slope 84.38 43 IAmb IAmb 11 52 18.2
comp=Z,8.5nm,0.8s
D08A Wollman Farm, 84.74 43 IAmb IAmb 11 52 20.2
comp=Z,12nm,1.2s
C09A Chrisman Ranch 84.98 42 IAmb IAmb 11 52 21.1
comp=Z,12nm,1.1s
E09A Wood Farm, Sta 85.39 43 IAmb IAmb 11 52 23.0
comp=Z,7.2nm,0.9s
BEKR Beckworth 85.42 50 IAmb IAmb 11 52 23.8
comp=Z,10nm,0.9s
WELL Weller Preserv 85.48 52 IAmb IAmb 11 52 25.1
comp=Z,10.0nm,1.0s
NEW Newport 85.61 42 IAmb IAmb 11 52 24.3
comp=Z,14nm,0.8s
NEW Newport 85.61 42 P **P 11 52 23.4 +0.3**
comp=Z,14nm,0.9s,baz=265,slow=4.0,SNR=25
comp=Z,14nm,0.9s
WVOR Wild Horse Val 86.07 47 IAmb IAmb 11 52 27.1
comp=Z,8.4nm,1.1s
BMO Blue Mountains 86.38 45 IAmb IAmb 11 52 28.4
comp=Z,14nm,0.9s
RYN Ryan 87.11 51 IAmb IAmb 11 52 32.6
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 87.13 342 P **P 11 52 30.7 +0.7**
comp=Z,1.2nm,0.8s,baz=66,slow=6.8,SNR=4.2
ARCES LR LR 12 35 06.7
comp=Z,80nm,18.5s,baz=277,slow=38
comp=Z,1.2nm,0.8s
PLID Pearl Lake 87.21 44 P **P 11 52 30.8 -0.4**
PLID IAmb IAmb 11 52 31.8
comp=Z,7.8nm,0.8s
LHV Little Huntoon 87.22 51 IAmb IAmb 11 52 33.4
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 87.33 51 P 11 52 32.5 +0.6
NVAR Mina Array Bea 87.33 51 P **P 11 52 32.7 +0.8**
comp=Z,8.4nm,0.9s,baz=265,slow=5.9,SNR=37
comp=Z,8.4nm,0.9s
NV11 Mina Array Sit 87.44 51 IAmb IAmb 11 52 34.1
comp=Z,9.9nm,1.1s
DSP Deep Springs 87.86 52 IAmb IAmb 11 52 36.4
comp=Z,6.1nm,1.0s
TPH Tonopah 88.24 51 IAmb IAmb 11 52 37.9
comp=Z,10nm,0.9s
GMN Gold Mountain 88.42 52 IAmb IAmb 11 52 38.7
comp=Z,5.3nm,0.9s
CLC China Lake 88.55 54 IAmb IAmb 11 52 39.3
comp=Z,9.4nm,1.1s
MPMC Manual Prospec 88.57 53 IAmb IAmb 11 52 40.1
comp=Z,9.4nm,1.0s
LRMC Laurel Mtn Rad 88.58 54 IAmb IAmb 11 52 39.5
comp=Z,6.3nm,0.9s
HLID Hailey 88.74 46 IAmb IAmb 11 52 40.1
comp=Z,7.8nm,0.9s
CCCA Chr Cany lake 88.81 54 IAmb IAmb 11 52 40.8
comp=Z,8.2nm,0.8s
WCT Wildcat Mounta 89.05 52 IAmb IAmb 11 52 41.6
comp=Z,11nm,1.0s
QSM Queen of Sheba 89.08 53 IAmb IAmb 11 52 41.7
comp=Z,9.5nm,1.0s
GWY Greenwater Val 89.18 53 IAmb IAmb 11 52 42.2
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 89.29 52 IAmb IAmb 11 52 42.9
comp=Z,9.9nm,0.9s
GSC Goldstone, Bar 89.31 54 IAmb IAmb 11 52 43.0
comp=Z,7.5nm,0.9s
S11A Rachel 89.48 51 IAmb IAmb 11 52 44.0
comp=Z,11nm,1.0s
DPP Dos Picos Cty 89.83 56 IAmb IAmb 11 52 45.1
comp=Z,12nm,1.3s
PFO Pinyon Flats O 90.05 55 P **P 11 52 45.5 +0.8**
PFO IAmb IAmb 11 52 46.5
comp=Z,10nm,1.2s
PMD Palm Desert 90.11 55 IAmb IAmb 11 52 47.1
comp=Z,11nm,1.2s
SPR3 Spring Creek 3 90.15 50 IAmb IAmb 11 52 47.9
comp=Z,11nm,1.3s
MTPC Mountain Pass 90.25 53 IAmb IAmb 11 52 47.5
comp=Z,8.5nm,1.2s
BELC Belle Mtn. Jos 90.31 55 IAmb IAmb 11 52 47.5
comp=Z,8.7nm,1.1s
YHL Hebgen Lake 90.54 44 IAmb IAmb 11 52 48.5
comp=Z,5.9nm,0.9s
FINES FINESS Array B 91.15 335 P **P 11 52 48.1 -0.9**
FINES FINESS Array B 91.15 335 P **P 11 52 47.5 -1.5**
comp=Z,1.5nm,0.7s,baz=79,slow=4.8,SNR=10
comp=Z,1.5nm,0.7s
VNDA Vanda 91.32 176 P **P 11 52 50.3 +1.0**
VNDA Vanda 91.32 176 P **P 11 52 49.6 +0.3**
comp=Z,1.6nm,0.8s,baz=307,slow=5.1,SNR=12
VNDA LR LR 12 31 50.7
comp=Z,30nm,18.8s,baz=335,slow=34
comp=Z,1.6nm,0.8s
HWUT Hardware Ranch 91.35 47 IAmb IAmb 11 52 52.0
comp=Z,5.5nm,1.0s
BLYC Blythe 91.56 55 IAmb IAmb 11 52 53.4
comp=Z,7.7nm,0.9s
LCMT Little Creek M 91.57 51 IAmb IAmb 11 52 53.7
comp=Z,5.0nm,1.1s
RLMT Red Lodge 91.72 43 IAmb IAmb 11 52 54.4
comp=Z,8.5nm,1.1s
JLU Jordanelle 91.76 48 IAmb IAmb 11 52 54.0
comp=Z,4.4nm,0.9s
KNB Kanab 91.89 51 IAmb IAmb 11 52 55.5
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 92.36 45 P **P 11 52 55.0 -0.3**
comp=Z,0.7nm,0.8s,baz=249,slow=1.2,SNR=6.6
comp=Z,0.7nm,0.8s
113A Mohawk Valley, 92.46 56 IAmb IAmb 11 52 57.5
comp=Z,8.9nm,1.3s
RDMU Red Mountain 93.12 47 IAmb IAmb 11 53 00.8
comp=Z,5.8nm,1.2s
WUAZ Wupatki 93.48 52 IAmb IAmb 11 53 02.7
comp=Z,5.2nm,1.0s
ESDC Sonseca Array 119.55 332 PKP **PKPdf 11 58 33.8 0.0**
comp=Z,0.8nm,0.8s,baz=36,slow=2.1,SNR=7.2
BOSA Boshof 121.83 245 PKP **PKPdf 11 58 38.2 -0.3**
comp=Z,1.3nm,0.6s,baz=117,slow=1.6,SNR=5.2
MD01 Midelt array s 125.39 328 PKPdf 11 58 45.5 +0.2
MD31 MD31 125.39 328 PKPdf 11 58 45.8 +0.6
TORD Torodi Ar. Bea 134.64 304 PKPdf 11 59 02.8 -0.3
TORD Torodi Ar. Bea 134.64 304 PKP **PKPdf 11 59 03.0 -0.1**
comp=Z,2.3nm,0.7s,baz=34,slow=2.8,SNR=10
DBIC Dimbokro 143.58 301 PKP PKPab 11 59 16.9 +0.7
comp=Z,5.2nm,0.6s,baz=60,slow=3.3,SNR=9.0
LPAZ La Paz 148.38 99 PKPbc **PKPbc 11 59 32.4 +0.5**
comp=Z,7.5nm,0.8s,baz=313,slow=2.4,SNR=21
BOAV Boa Vista 150.64 59 PKPdf 11 59 32.2 +1.1

CATAC 05 11:44:05.9s0.7,11°N25°×8°7W±°,h14km±8km,M3.4/13, MLv3.4/13,7D,Error ellipse: s-maj=13.9km s-min=7.1km az=44.6,confirmed,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.43	40	P	Pn	11 44 31.6	+0.1

COPN	Copaltepe	1.44	26	⇓P	Pn	11 44 30.9	-0.6
NADN	Granada	1.46	54	⇓P	Pn	11 44 31.5	-0.4
NADN				S	Sn	11 44 50.8	0.0
SABN	Sabanita	1.50	44	P	Pn	11 44 31.4	-1.1
NANN	Nandasmo	1.52	46	S	Sb	11 44 52.7	-0.3
NANN	Nandasmo	1.52	46	P	Pn	11 44 32.9	+0.2
UNAN	Cigeo UNAN	1.54	38	⇓P	Pn	11 44 32.5	-0.5
UNAN				S	Sn	11 44 52.7	-0.2
TISN	Laguna Tiscapa	1.57	37	⇓P	Pn	11 44 32.8	-0.6
WILN	Americas 2	1.63	39	P	Pn	11 44 33.7	-0.5
WILN				S	Sb	11 44 55.9	-0.4
CNGA	AI SSO del Vol	1.69	18	P	Pn	11 44 34.2	-0.8
CNGN	Cerro Negro	1.69	18	P	Pn	11 44 35.8	+0.7
CNGN	Cerro Negro	1.69	18	S	Sn	11 44 56.9	+0.3
MORN	AI O del Volca	1.69	67	P	Pn	11 44 35.0	-0.1
MORN				S	Sn	11 44 56.8	+0.3
OMEN	AI SSO del Vol	1.70	68	⇓P	Pn	11 44 34.1	-1.0
CONN	Concepcion	1.72	67	⇓P	Pn	11 44 35.5	0.0
CONN				S	Sb	11 44 58.2	-0.6
PKGN	Cerro Pekin	1.79	8	⇓P	Pn	11 44 36.5	+0.1
PKGN				S	Sn	11 44 59.8	+0.7

*IDC **05** 11:52:11.0±2.9, 7°.54S×126°.71E, h193km±33km, mb3.3/2, mbtmp4.2/5, Error ellipse: s-maj=35.7km s-min=16.0km az=61.0*
*DJA **05** 11:52:12.7±0.5, 8°.5S±5°.×12°.7E±°, h216km±12km, M4.7/11, mB5.5/2, mb4.5/6, MLv4.8/11, Mw(mB)5.0/2*
ISC 05 11:52:11.3±1.0, 7°.69S±0°.07×126.73E±0°.08, h200km, n15, σ2°40/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.18	230	P	Pn	11 53 05.6	+2.3
SOEI				S	Sn	11 53 45.3	+1.4
BATI	Baumata	3.93	230	P	Pn	11 53 14.3	+2.0
	1μm,0.3s,baz=88,slow=1.7,SNR=273						
BATI				S	Sn	11 54 00.9	+0.8
	178nm,0.3s,baz=282,slow=21,SNR=6.8						
BATI	Baumata	3.93	230	P	Pn	11 53 14.3	+2.0
SAUI	Saumlaki	4.54	94	P	Pn	11 53 23.2	+3.2
MMRI	Maumere	4.54	258	P	Pn	11 53 20.9	+0.9
BBSI	Bau Bau	4.67	298	P	Pn	11 53 20.6	-1.0
EDFI	Ende, Flores	5.09	258	P	Pn	11 53 27.5	+0.4
BASI	Baing, Sumba	6.57	247	P	Pn	11 53 46.3	+0.2
	1.0nm171nm,1.0s						
WSI	Waingapu	6.65	252	P	Pn	11 53 45.2	-1.9
	156nm,0.5s						
WBSI	Waikabubak, Su	7.51	254	P	Pn	11 53 58.1	-0.2
	0.3nm22nm,0.7s						
FITZ	Fitzroy Crossi	10.40	186	P	Pn	11 54 36.5	+0.7
	3.8nm,0.3s,baz=8.0,slow=12,SNR=54						
FITZ				S	Sn	11 56 26.2	-5.8
	6.8nm,0.3s,baz=215,slow=23,SNR=4.1						
WRA	Warramunga Arr	14.24	150	P	Pn	11 55 24.8	+0.4
	3.2nm,0.6s,baz=325,slow=13,SNR=32						
WRA				S	S	11 58 00.0	-2.9
	1.3nm,0.3s,baz=331,slow=21,SNR=6.1						
ASAR	Alice Springs	17.32	157	P	Pn	11 56 03.5	+2.1
	9.8nm,0.5s,baz=332,slow=10,SNR=142						
ASAR				S	S	11 59 13.7	+4.0
	1.7nm,0.6s,baz=324,slow=17,SNR=6.7						
CMAR	Chiang Mai Arr	37.77	314	P	P	11 59 07.8	-0.6
	1.3nm,0.8s,baz=142,slow=6.9,SNR=9.0						
	1.3nm,0.8s						
MJAR	Matsushiro Arr	45.30	13	P	P	12 00 07.9	-1.4
	1.2nm,0.7s,baz=191,slow=9.5,SNR=4.8						
	1.2nm,0.7s						

*THE **05** 12:31:54.9, 41°.N±7°.×2°.0E±°, h4km±23km, M2.6/14, MLh2.6/14*
*PDG **05** 12:31:54.5±0.5, 41°.43N×19°.44E, h18km±1km, MD3.0/1, ML2.9/12, Error ellipse: s-maj=0.9km s-min=2.6km az=0.0*
*ATH **05** 12:31:54.7, 41°.51N×19°.49E, h35km±16km, ML2.9/7, Manual Solution by G.Panopoulou First location: 2019/10/05 12:33:26, This location: 2019/10/05 16:23:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*TIR **05** 12:31:54.1, 41°.36N×19°.64E, h25km±1km, Ml2.7/2*
ISC 05 12:31:53.0±1.0, 41°.36N±0°.02×19°.51E±0°.02, h8km±9km, n63, σ0°76/101, 14C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.27	92	Pg	Pg	12 31 58.1	-0.3
TIR				AML	AML	12 32 01.7	
	5.6nm,0.3s						
TIR				Sg	Sg	12 32 02.6	+0.6
ULC	Ulcinj	0.64	342	⇓iPg	Pg	12 32 04.9	-0.5
ULC				i Sg	Sg	12 32 14.4	+0.7
DRME	Dracevica, Mon	0.86	344	⇓iPg	Pg	12 32 09.8	+0.1
DRME				i Sg	Sb	12 32 22.2	+0.2
VLO	Vlora	0.89	181	Pg	Pg	12 32 09.7	-0.4
VLO				Sg	Sb	12 32 23.0	+0.4
OHR	Ohrid	1.00	104	i Pg	Pg	12 32 11.7	-0.7
OHR				i Sg	Sn	12 32 27.5	-0.3
BUM	Brajici-Budva	1.05	334	⇓iPg	Pg	12 32 12.9	-0.3
BUM				i Sg	Sb	12 32 28.0	+0.6
PDG	Podgorica	1.09	350	⇓P	Pn	12 32 14.7	+0.1
PDG				⇑S	Sb	12 32 29.3	+0.9
PDG	Podgorica	1.09	350	⇑iPg	Pg	12 32 13.6	-0.4
PDG				i Sg	Sn	12 32 29.8	0.0
KBN	Korca	1.21	127	P	Pn	12 32 16.9	+0.5
KBN				S	Sn	12 32 33.8	+0.7
PVY	Plav	1.28	15	⇑iPg	Pn	12 32 16.3	-1.1
PVY				i Sg	Sn	12 32 37.1	+2.3
HCY	Herceg Novi	1.33	326	⇓iPg	Pn	12 32 17.2	-0.7
HCY				i Sg	Sn	12 32 36.7	+1.0
LMS2	Laimos Florina	1.34	112	P	Pn	12 32 17.4	-0.7
LMS2				S	Sb	12 32 35.6	-0.2
NKME	Niksic	1.47	344	⇓iPg	Pn	12 32 19.6	-0.3
NKME				i Sg	Sg	12 32 40.9	+0.6
MESG	Mesagne	1.47	239	P	Pn	12 32 20.1	+0.2
MESG				S	Sn	12 32 38.4	-0.9
KOME	Kolasin	1.49	0	⇑iPg	Pb	12 32 21.2	+0.1
KOME				i Sg	Sg	12 32 41.2	+0.1
NEST	Nestorio	1.50	128	P	Pb	12 32 21.1	-0.1
NEST				S	Sg	12 32 42.4	+1.1
NEST	Nestorio	1.50	128	Pn	Pb	12 32 20.9	-0.3
NEST				Sn	Sb	12 32 40.6	+0.2
NEST				AML	AML	12 32 43.3	
	0.4nm,0.5s						
NEST	Nestorio	1.50	128	P	Pb	12 32 20.8	-0.3
NEST				S	Sb	12 32 40.5	0.0
IVA	Berane	1.54	11	⇑iPg	Pb	12 32 22.0	+0.1
IVA				i Sg	Sg	12 32 42.8	+0.2
SKO	Skopje	1.57	66	i Pn	Pn	12 32 21.4	+0.2
SKO				i Sn	Sg	12 32 44.2	+0.6
KEK	Kerkira	1.66	172	P	Pg	12 32 24.6	-0.2
KEK				S	Sg	12 32 47.0	+0.7
KEK	Kerkira	1.66	172	P	Pb	12 32 23.5	-0.3
PENT	Pentalofos	1.70	133	P	Pb	12 32 24.1	-0.5
PENT				S	Sg	12 32 48.0	+0.5
PENT	Pentalofos	1.70	133	P	Pb	12 32 24.1	-0.5
PENT				S	Sb	12 32 46.3	+0.3
BRY	Bratogost	1.70	335	⇑iPn	Pn	12 32 22.9	-0.3
BRY				i Sn	Sn	12 32 45.7	+0.5
UPM	Unac-Piva	1.90	347	⇑iPn	Pn	12 32 25.9	0.0
UPM				i Sn	Sn	12 32 50.7	+0.6
IGT	Igoumenitsa	1.93	161	P	Pb	12 32 27.7	-0.8
IGT				S	Sg	12 32 54.1	-0.9
IGT	Igoumenitsa	1.93	161	P	Pb	12 32 27.9	-0.5
IGT				S	Sb	12 32 53.5	+0.8
IGT	Igoumenitsa	1.93	161	P	Pn	12 32 26.6	+0.5
IGT				S	Sb	12 32 51.8	-0.8
PLE	Pljevlja	1.97	357	⇓iPn	Pn	12 32 27.2	+0.3
PLE				i Sn	Sn	12 32 52.3	+0.4
JAN	Janina	1.98	148	P	Pn	12 32 27.6	+0.7
KZN	Kozani	2.01	121	P	Pb	12 32 29.2	-0.7
KZN	Kozani	2.01	121	P	Pn	12 32 28.2	+0.8
KZN				S	Sb	12 32 54.6	-0.6
PRMD	Pramanda	2.19	146	P	Pb	12 32 32.1	-0.8
KTI	Kastanea	2.20	115	P	Pn	12 32 30.9	+0.9
MATE	Matera	2.24	252	⇑S	Sn	12 32 56.8	-1.3
VAY	Valandovo	2.31	90	i Pn	Pn	12 32 31.4	+0.1
VAY				i Sn	Sn	12 33 00.3	+0.5
TETR	Tetrakomo, Epi	2.42	146	P	Pn	12 32 34.8	+1.8
TETR	Tetrakomo, Epi	2.42	146	P	Pn	12 32 34.8	+1.8
KNT	Kendrikon	2.56	93	P	Pn	12 32 34.6	-0.2
KNT				S	Sn	12 33 05.4	-0.9
LIT	Litokhoron	2.59	118	P	Pn	12 32 35.5	+0.3
THL	Klokotos Trika	2.62	132	P	Pn	12 32 37.4	+1.8
THL				S	Sn	12 33 08.8	+1.3
THE	Thessaloniki	2.71	104	P	Pn	12 32 36.4	-0.5
THE	Thessaloniki	2.71	104	P	Pn	12 32 36.0	-0.9
KKB	Krupnik	2.76	79	P	Pn	12 32 37.9	+0.4
AMPL	Ampelaki	2.76	151	P	Pn	12 32 37.1	-0.4
NYDR	Nydri-Lefkada	2.79	161	P	Pn	12 32 37.0	-1.0
BOVS	Bovan	2.80	35	⇓P	Pn	12 32 38.7	+0.6
BOVS				⇑S	Sn	12 33 10.7	-1.2
HORT	Hortiatis	2.82	104	P	Pn	12 32 38.1	-0.4
HORT	Hortiatis	2.82	104	P	Pn	12 32 38.2	-0.4
SOH	Sokhos	2.96	99	P	Pn	12 32 40.2	-0.1
SOH	Sokhos	2.96	99	P	Pn	12 32 40.0	-0.4
EVR	Evrytania	3.01	143	P	Pn	12 32 42.1	+1.0
MAKR	Makrakomi, Fth	3.08	139	P	Pn	12 32 43.0	+1.0
MAKR				S	Sn	12 33 21.5	+2.3
SRS	Serrai	3.09	93	S	Sn	12 33 18.3	-0.9
PLG	Polygyros	3.14	107	P	Pn	12 32 43.4	+0.5
BLKB	Belogradchik	3.26	45	⇑S	Sn	12 33 23.2	-0.2
MDVR	Moldovita	3.78	25	⇓P	Pn	12 32 51.5	-0.2
MDVR				⇓S	Sn	12 33 35.0	-1.4
HERR	Herculane	4.12	30	⇑P	Pn	12 32 56.3	+0.1
BZS	Buzias	4.53	19	⇑P	Pn	12 33 02.2	+0.4
GZR	Gura Zlata	4.69	29	⇑P	Pn	12 33 04.1	0.0
GZR				⇓S	Sn	12 33 58.3	-0.3
SURR	Surduc	4.79	23	⇓S	Sn	12 34 00.4	-0.7
VOIR		5.74	43	⇑P	Pn	12 33 17.8	-0.8
VOIR				⇓S	Sn	12 34 24.7	+0.1

IDC 05 12:46:26.1±8.6, 7°.13S×129°.44E, h169km±91km, mb3.2/1, mbtmp3.8/5, Error ellipse: s-maj=80.8km s-min=26.0km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.47	241	P	Pn	12 48 00.3	+0.9
	8.3nm,0.3s,baz=117,slow=9.0,SNR=1.6						
BATI				S	Sn	12 49 12.7	0.0
	21nm,0.5s,baz=45,slow=20,SNR=2.0						
FITZ	Fitzroy Crossi	11.51	198	P	Pn	12 49 05.2	-0.5
	1.1nm,0.4s,baz=21,slow=12,SNR=14						
FITZ				S	Sn	12 51 05.0	-8.4
	0.8nm,0.3s,baz=17,slow=15,SNR=1.5						
WRA	Warramunga Arr	13.60	160	P	Pn	12 49 30.6	-1.7
	0.3nm,0.4s,baz=342,slow=12,SNR=26						
WRA				S	Sn	12 51 53.9	-10
	1.0nm,0.4s,baz=335,slow=22,SNR=7.5						
ASAR	Alice Springs	16.99	166	P	Pn	12 50 15.0	+1.0
	1.9nm,0.5s,baz=345,slow=9.7,SNR=56						
ASAR				S	S	12 53 14.7	-7.1
	0.3nm,0.4s,baz=346,slow=25,SNR=4.9						
MKAR	Makanchi Array	68.03	327	P	P	12 57 07.2	-0.1
	0.3nm,0.4s,baz=115,slow=8.1,SNR=4.8						
	0.3nm,0.4s						

*IDC **05** 12:50:29.1±1.4, 29°.69N×56°.49E, h0km, mb3.7/4, mbtmp3.7/4, ML1.9/1, Error ellipse: s-maj=42.0km s-min=25.8km az=126.0*
*TEH **05** 12:50:38.7, 29°.43N×56°.92E, h100km*
*OMAN **05** 12:50:40.3±0.1, 29°.08N×56°.64E, h10km, Error ellipse: s-maj=1.4km s-min=1.0km az=40.0*
*DSN **05** 12:50:43.5±1.5, 28°.92N×56°.74E, h10km, ML3.5/13, Error ellipse: s-maj=22.3km s-min=13.2km az=83.0*
ISC 05 12:50:37.9±0.9, 29°.20N±0°.04×56°.79E±0°.05, h10km, n56, σ2°04/77, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.45	354	Pg	Pn	12 50 54.2	+3.4
KRBR	Kerman	0.78	358	Pg	Pn	12 50 56.4	+1.1
CHMN	Cheshme madani	0.93	45	Pg	Pg	12 50 57.0	+1.0
KHGB	Koh Gabri	1.20	347	Pg	Pb	12 51 00.5	-0.5
KHGB				Sg	Sb	12 51 16.1	-0.6
KRM1	Kerman Provinc	1.37	18	Pg	Pn	12 51 01.4	-2.0
KBAM	BAM	1.46	92	Pg	Pn	12 51 04.2	-0.2
GENO	Geno	1.87	197	Pn	Pg	12 51 14.0	+0.1
IBAF	Bafgh	2.61	336	Pn	Pn	12 51 18.8	-1.5
SHME	Shamm	3.19	190	P	Pn	12 51 30.6	+2.4
SHME				S	Sn	12 52 07.4	+1.2
SHME	Shamm	3.19	190	eP	Pn	12 51 30.5	+2.4
	SNR=65						
BANOM	Banah	3.29	188	P	Pn	12 51 32.1	+2.6
BANOM				S	Sn	12 52 11.0	+2.2
BANOM	Banah	3.29	188	i P	Pn	12 51 32.0	+2.4
	SNR=371						
UMQ	Umm Al-Quwin	3.79	196	P	Pn	12 51 36.7	+0.3
UMQ				S	Sn	12 52 24.9	+3.8
MASF	Masafi	3.85	188	P	Pn	12 51 40.5	+3.2
	SNR=6.2						
MASF				S	Sn	12 52 24.0	+1.3
MSFE	Esma-Masafi	3.86	188	i P	Pn	12 51 39.9	+2.5
	SNR=33						
MDH	Madha	3.91	186	P	Pn	12 51 39.5	+1.5
MDH				S	Sn	12 52 24.1	+0.1
MDH	Madha	3.91	186	P	Pn	12 51 39.9	+1.9
UOSS	Minazif	4.27	187	P	Pn	12 51 45.2	+2.2
UOSS				S	Sn	12 52 33.4	+0.6
UOSS	Minazif	4.27	187	P	Pn	12 51 45.0	+2.0
NAZ	Nazwa, Dubai	4.31	194	P	Pn	12 51 47.0	+3.4
	SNR=12						
NAZ				S	Sn	12 52 34.8	+0.8
NAZ	Nazwa, Dubai	4.31	194	i P	Pn	12 51 46.4	+2.8
	SNR=12						
HATD	Hatta, Dubai	4.39	188	P	Pn	12 51 47.5	+2.8
	SNR=11						
HATD				S	Sn	12 52 36.2	+0.2
HATD	Hatta, Dubai	4.39	188	i P	Pn	12 51 47.1	+2.3
	SNR=11						
ASHO	Ashiyiah	4.54	188	P	Pn	12 51 49.4	+2.5
	SNR=23						
ASHO				S	Sn	12 52 40.8	+1.1
ASHO	Ashiyiah	4.54	188	i P	Pn	12 51 49.3	+2.5
	SNR=23						
ASHO				S	Sn	12 52 39.7	-0.1
FAQ	Al Faqa, Dubai	4.56	194	P	Pn	12 51 49.6	+2.5
	SNR=6.1						
FAQ				S	Sn	12 52 40.8	+0.7
FAQ	Al Faqa, Dubai	4.56	194	i P	Pn	12 51 49.5	+2.5
	SNR=16						
ASUD	Al Ashush, Dub	4.74	196	P	Pn	12 51 52.6	+3.2
	SNR=18						
ASUD				S	Sn	12 52 46.3	+1.9
ASUD	Al Ashush, Dub	4.74	196	i P	Pn	12 51 52.1	+2.7
	SNR=18						
AJN	Ajban	4.89	200	P	Pn	12 51 54.1	+2.6
	SNR=7.2						
AJN				S	Sn	12 52 48.6	+0.4
AJN	Ajban	4.89	200	i P	Pn	12 51 53.8	+2.3
	SNR=7.2						
SOHO	SOHO	5.05	183	P	Pn	12 51 53.6	-0.1
SOHO				S	Sn	12 52 49.0	-3.1
SOHO	SOHO	5.05	183	P	Pn	12 51 53.8	+0.1
ALNE	Al Ain	5.20	190	P	Pn	12 51 58.1	+2.2
ALNE				S	Sn	12 52 55.8	-0.2
HOQ	Hoqain	5.61	175	P	Pn	12 52 02.5	+1.0
HOQ				S	Sn	12 53 03.6	-2.4
ARQ	Araqi	5.84	182	P	Pn	12 52 07.0	+2.3
	SNR=19						
ARQ				S	Sn	12 53 12.0	+0.3
MZWR	Madinat Zayed	6.01	206	P	Pn	12 52 08.5	+1.6
MZWR				S	Sn	12 53 13.9	-1.8
SHMA	Al-Shehemyia	6.15	239	P	Pn	12 52 10.0	+1.2
	SNR=40						
SHMA				S	Sn	12 53 18.1	-1.1
WSAR	Wadi Sarin	6.16	164	Pn	Pn	12 52 09.3	+0.3
	baz=343,slow=23,SNR=15						
WSAR				Sn	Sn	12 53 15.1	-4.5
	0.1nm,0.3s,baz=115,slow=24,SNR=15						
WSAR	Wadi Sarin	6.16	164	P	Pn	12 52 09.5	+0.5
	SNR=19						
SMDO	Samad	6.22	169	P	Pn	12 52 10.6	+0.7
SMDO				S	Sn	12 53 22.5	+1.4
SAKB	Bahrain	6.41	241	P	Pn	12 52 12.7	+0.3
SAKB				S	Sn	12 53 23.2	-2.4
UMZA	Um Al Zommool	6.62	193	P	Pn	12 52 16.3	+1.0
UMZA				S	Sn	12 53 27.1	-3.8
TRNA	Turayna	6.67	230	P	Pn	12 52 17.0	+1.1
	SNR=30						
TRNA				S	Sn	12 53 29.6	-2.4
MZR	Muzera	6.85	206	S	Sn	12 53 32.3	-4.3
MZR	Muzera	6.85	206	P	Pn	12 52 19.7	+1.2
SMRA	Abu-Samra	6.92	232	P	Pn	12 52 20.0	+0.5
MHTO	MHTO	8.25	172	P	Pn	12 52 38.6	+1.0
DOK	Doka	10.81	194	P	Pn	12 53 13.0	+0.2
	SNR=10						
DMTO	DMTO	11.55	189	P	Pn	12 53 23.0	0.0
	SNR=7.9						
WHFO	Wadi Hawf	11.56	194	P	Pn	12 53 22.0	-1.2
	SNR=9.7						
RAYN	Ar Rayn	11.58	243	P	Pn	12 53 20.7	-2.8
BVAR	Borovoye Array	25.83	19	P	P	12 55 59.5	-10
	0.5nm,0.4s,baz=202,slow=11,SNR=4.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	26.52	42	P	P	12 56 06.2	-9.4
	0.7nm,0.6s,baz=223,slow=9.7,SNR=4.0						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	32.04	32	P	P	12 56 54.4	-10
	1.2nm,0.5s,baz=238,slow=10,SNR=7.7						
	1.2nm,0.5s						
TORD	Torodi Ar. Bea	53.34	265	P	P	12 59 48.7	-9.0
	0.2nm,0.4s,baz=62,slow=7.5,SNR=5.2						
	0.2nm,0.4s						

*IDC **05** 12:59:14.3±1.6, 57°.06S×147°.05E, h0km, mb3.8/4, mbtmp3.9/4, MS3.4/9, Error ellipse: s-maj=171.2km s-min=25.2km az=78.0*
*NEIC **05** 12:59:18.2±0.4, 56°.8S±0°.1×147°.1E±0°.3, h10km±1km, mb4.3/15, Error ellipse: s-maj=29.2km s-min=13.8km az=235.0*
ISC 05 12:59:17.2±0.8, 56°.82S±0°.10×147°.3E±0°.3, h10km, n43, σ1°24/25, mb4.3/12, MS3.4/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	Casey	19.62	226	P	P	13 03 44.9	-0.4
CASY				IAmb	IAmb	13 03 49.2	
	comp=Z,5.5nm,0.9s						
VNDA	Vanda	21.40	171	P	P	13 04 05.8	+1.2
VNDA	Vanda	21.40	171	P	P	13 04 01.3	-3.3
	comp=Z,0.5nm,0.9s,baz=340,slow=13,SNR=5.3						
VNDA				LR	LR	13 11 15.7	
	comp=Z,54nm,18.2s,baz=346,slow=34						
	comp=Z,0.5nm,0.9s						
CAN	Canberra	21.53	4	P	P	13 04 06.7	+0.4
CAN				IAmb	IAmb	13 04 07.8	
	comp=Z,26nm,1.3s						
STKA	Stephens Creek	25.26	348	P	P	13 04 43.6	+0.3
STKA	Stephens Creek	25.26	348	P	P	13 04 45.4	+2.1
	comp=Z,4.9nm,0.8s,baz=163,slow=12,SNR=5.9						
	comp=Z,4.9nm,0.8s						
URZ	Urewera	27.02	59	LR	LR	13 14 34.6	
	comp=Z,84nm,19.7s,baz=192,slow=34						
FORT	Forrest	29.31	325	P	P	13 05 19.5	-0.2
H01W1	Cape Leeuwin H	31.36	300	T	T	13 38 50.1	
	baz=144,slow=75,SNR=428						
H01W2	Cape Leeuwin H	31.37	300	T	T	13 38 50.4	
	baz=144,slow=75,SNR=515						
H01W3	Cape Leeuwin H	31.38	300	T	T	13 38 52.9	
	baz=144,slow=75,SNR=492						
NWAO	Narrogin (SRO)	31.58	306	LR	LR	13 15 27.6	
	comp=Z,89nm,19.9s,baz=282,slow=31						
QSPA	South Pole Qui	33.28	180	P	P	13 05 55.3	+0.7
QSPA				IAmb	IAmb	13 06 06.3	
	comp=Z,3.2nm,1.4s						
QSPA	South Pole Qui	33.28	180	LR	LR	13 17 33.4	
	comp=Z,25nm,18.4s,baz=14,slow=33						
ASAR	Alice Springs	34.54	338	P	P	13 06 05.6	-0.1
	comp=Z,1.4nm,0.9s,baz=162,slow=9.5,SNR=19						
ASAR		PcP		PcP	PcP	13 08 38.3	-2.0
	comp=Z,1.1nm,1.1s,baz=160,slow=3.1,SNR=4.9						
	comp=Z,1.4nm,0.9s						
AS31	Alice Springs	34.54	338	P	P	13 06 05.8	+0.1
AS31				IAmb	IAmb	13 06 08.5	
	comp=Z,1.2nm,1.0s						
MAW	Mawson	37.65	219	LR	LR	13 20 13.2	
	comp=Z,92nm,21.6s,baz=105,slow=34						
WR8	Warramunga Arr	38.03	340	P	P	13 06 35.6	+0.1
WR8				IAmb	IAmb	13 07 15.0	
	comp=Z,6.8nm,1.2s						
WRA	Warramunga Arr	38.08	340	P	P	13 06 35.6	-0.2
WRA	Warramunga Arr	38.08	340	P	P	13 06 35.4	-0.5
	comp=Z,2.9nm,0.6s,baz=167,slow=7.6,SNR=48						
WRA		PcP		PcP	PcP	13 08 49.0	-1.9
	comp=Z,0.9nm,1.0s,baz=183,slow=2.6,SNR=3.8						
	comp=Z,2.9nm,0.6s						
WRAB	Tennant Creek	38.08	340	P	P	13 06 35.7	-0.2
WRAB				IAmb	IAmb	13 06 36.2	
	comp=Z,5.5nm,0.8s						
MBWA	Marble Bar	41.02	319	P	P	13 07 00.2	-0.2
MBWA				IAmb	IAmb	13 07 06.6	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	41.94	328	P	P	13 07 08.2	+0.3
KNRA	Kununurra	43.42	333	P	P	13 07 19.1	-0.9
KNRA				IAmb	IAmb	13 07 21.2	
	comp=Z,13nm,1.1s						
PMG	Port Moresby	47.30	360	LR	LR	13 26 10.9	
	comp=Z,72nm,18.4s,baz=148,slow=34						
SNAA	Sanae	50.10	192	P	P	13 08 12.7	+1.0
SNAA				IAmb	IAmb	13 08 29.1	
	comp=Z,7.3nm,1.5s						
MMRI	Maumere	51.91	328	P	P	13 08 25.8	-0.1
H04S2	CROZET ISLANDS	55.13	236	T	T	14 09 19.2	
	baz=140,slow=75,SNR=17						
H04S1	CROZET ISLANDS	55.13	236	T	T	14 09 15.9	
	baz=140,slow=75,SNR=21						
H04S3	CROZET ISLANDS	55.15	236	T	T	14 09 12.1	
	baz=140,slow=75,SNR=19						
H08S2	Diego Garcia H	75.36	279	T	T	14 33 44.2	
	baz=147,slow=76,SNR=109						
H08S1	Diego Garcia H	75.37	279	T	T	14 33 49.0	
	baz=147,slow=76,SNR=96						
H08S3	Diego Garcia H	75.38	279	T	T	14 33 48.2	
	baz=147,slow=76,SNR=85						
PLCA	Paso Flores	77.69	151	LR	LR	13

az=53.0
*IDC **05** 13:33:11.7±2.3, 6°.64S×129°.92E, h149km±22km, mb4.0/9, mbtmp4.5/13, MS2.9/1, Error ellipse: s-maj=20.6km s-min=12.8km az=55.0*
*DJA **05** 13:33:11.9±0.2, 7°S±2°×13°0E±°, h157km±5km, M4.7/36, mb4.8/36, mB5.2/17, MLv5.0/19, Mw(mB)4.5/17*
ISC 05 13:33:11.3±0.4, 6°.84S±0°.04×129°.90E±0°.04, h150km, n124, σ1§93/126, mb4.5/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.79**	**129**		**Pn**	**13 33 46.0**	**+1.9**
SAUI				Sn	**Sn**	13 34 11.2	+1.9
SAUI	**Saumlaki**	**1.79**	**129**	P	**Pn**	**13 33 46.7**	**+2.6**
SAUI	**Saumlaki**	**1.79**	**129**	S	**Sn**	**13 34 11.1**	**+1.9**
SAUI	**Saumlaki**	**1.79**	**129**	P	**Pn**	**13 33 47.3**	**+3.2**
BNDI	**Bandanaira**	**2.30**	**0**	P	**Pn**	**13 33 50.9**	**+0.9**
BNDI	**Bandanaira**	**2.30**	**0**	P	**Pn**	**13 33 50.8**	**+0.8**
AAI	**Ambon**	**3.56**	**331**	P	**Pn**	**13 34 06.7**	**+0.8**
MSAI	**Masohi**	**3.60**	**344**	P	**Pn**	**13 34 07.3**	**+0.9**
NLAI	**Namlea**	**4.54**	**322**	P	**Pn**	**13 34 20.1**	**+1.5**
FAKI	**Fak Fak**	**4.54**	**31**		**Pn**	**13 34 16.6**	**-2.1**
FAKI	**Fak Fak**	**4.54**	**31**	P	**Pn**	**13 34 16.7**	**-2.0**
KMPI	**Kaimana, Papua**	**4.93**	**50**	P	**Pn**	**13 34 24.0**	**+0.2**
DRS	**Darwin Rock St**	**5.64**	**170**	P	**Pn**	**13 34 34.9**	**+1.6**
SWI	**Sorong**	**6.09**	**13**	P	**Pn**	**13 34 36.8**	**-2.4**
	1.1nm3μm89nm,0.5s						
MTN	**Manton Dam**	**6.09**	**169**		**Pn**	**13 34 40.8**	**+1.5**
SANI	**Sanana**	**6.15**	**320**	P	**Pn**	**13 34 41.8**	**+1.7**
SANI	**Sanana**	**6.15**	**320**	P	**Pn**	**13 34 40.5**	**+0.4**
	58nm,0.8s						
SOEI	**Soe**	**6.29**	**242**		**Pn**	**13 34 43.3**	**+1.2**
SOEI	**Soe**	**6.29**	**242**	P	**Pn**	**13 34 43.5**	**+1.5**
SOEI	**Soe**	**6.29**	**242**	S	**Sn**	**13 35 52.6**	**-0.3**
SOEI	**Soe**	**6.29**	**242**	P	**Pn**	**13 34 43.2**	**+1.2**
	1.5nm3μm171nm,0.6s						
RKPI	**Ransiki, Papua**	**6.79**	**39**	P	**Pn**	**13 34 47.8**	**-0.9**
	136nm,0.7s						
BATI	**Baumata**	**7.02**	**241**	P	**Pn**	**13 34 53.0**	**+1.3**
	337nm,0.4s,baz=90,slow=2.4,SNR=36						
BATI				S	**Sn**	**13 36 09.5**	**-0.9**
	213nm,0.4s,baz=77,slow=6.3,SNR=8.8						
BATI	**Baumata**	**7.02**	**241**	P	**Pn**	**13 34 52.5**	**+0.8**
BBSI	**Bau Bau**	**7.41**	**280**	P	**Pn**	**13 34 59.6**	**+2.7**
	0.4nm1μm132nm,1.0s						
MMRI	**Maumere**	**7.80**	**256**		**Pn**	**13 35 03.7**	**+1.5**
MMRI	**Maumere**	**7.80**	**256**	P	**Pn**	**13 35 04.2**	**+2.0**
MMRI	**Maumere**	**7.80**	**256**	P	**Pn**	**13 35 01.9**	**-0.3**
	0.4nm2μm79nm,0.5s						
TNTI	**Ternate**	**7.97**	**341**		**Pn**	**13 35 03.2**	**-1.2**
TNTI	**Ternate**	**7.97**	**341**	P	**Pn**	**13 35 03.4**	**-1.0**
	0.1nm35nm,0.7s						
SRPI	**Serui, Papua**	**8.02**	**52**	P	**Pn**	**13 35 05.0**	**0.0**
	0.6nm48nm,0.7s						
BAKI	**Biak**	**8.35**	**48**	P	**Pn**	**13 35 10.5**	**+1.0**
	2μm201nm,0.9s						
EDFI	**Ende, Flores**	**8.36**	**256**	P	**Pn**	**13 35 10.8**	**+1.2**
	952nm37nm,0.7s						
KNRA	**Kununurra**	**8.86**	**187**		**Pn**	**13 35 16.0**	**-0.2**
BSSI	**Bau Bau, Buton**	**9.38**	**274**	P	**Pn**	**13 35 22.5**	**-0.7**
	67nm,1.4s						
BASI	**Baing, Sumba**	**9.81**	**249**	P	**Pn**	**13 35 28.4**	**-0.5**
	187nm,1.0s						
BKSI	**Bulukumba**	**9.84**	**278**	P	**Pn**	**13 35 28.6**	**-0.7**
	26nm,0.9s						
WSI	**Waingapu**	**9.91**	**253**	P	**Pn**	**13 35 29.5**	**-0.8**
SMPI	**Sarmi**	**10.01**	**62**	P	**Pn**	**13 35 31.2**	**-0.4**
	2μm42nm,1.1s						
BNSI	**Bone**	**10.05**	**283**	P	Pn	13 35 47.0	+15
APSI	**Ampana**	**10.12**	**305**	P	**Pn**	**13 35 35.6**	**+2.6**
	27nm,0.9s						
KAPI	**Kappang**	**10.26**	**280**	P	**Pn**	**13 35 36.2**	**+1.4**
	7.4nm,0.7s,baz=113,slow=15,SNR=2.3						
KAPI				LR	LR	13 39 16.9	
	comp=Z,59nm,18.7s,baz=150,slow=36						
SPSI	**Sidrap Palu**	**10.48**	**285**	P	Pn	13 35 45.3	+7.5
WBSI	**Waikabubak, Su**	**10.77**	**254**	P	**Pn**	**13 35 39.8**	**-1.8**
SGSI	**Sangihe**	**11.33**	**337**	P	**Pn**	**13 35 48.4**	**-0.5**
	66nm,0.8s						
JAY	**Jayapura**	**11.59**	**69**	P	**Pn**	**13 35 51.6**	**-0.8**
	5.5nm,0.4s,baz=253,slow=11,SNR=9.7						
JAY				S	Sn	13 37 48.9	-12
	9.6nm,0.9s,baz=285,slow=20,SNR=1.8						
JAY	**Jayapura**	**11.59**	**69**	P	**Pn**	**13 35 52.4**	**0.0**
FITZ	**Fitzroy Crossi**	**11.94**	**200**	Pn	**Pn**	**13 35 55.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.94**	**200**	P	**Pn**	**13 35 56.0**	**-0.9**
	13nm,0.3s,baz=29,slow=9.4,SNR=101						
FITZ				S	**Sn**	**13 38 02.3**	**-6.6**
	25nm,0.3s,baz=80,slow=7.2,SNR=11						
TOLI2	**Tolitoli**	**12.05**	**311**	P	**Pn**	**13 36 00.4**	**+2.1**
PLAI	**Plampang**	**12.18**	**260**	P	**Pn**	**13 35 59.4**	**-0.6**
PLAI	**Plampang**	**12.18**	**260**	P	**Pn**	**13 35 57.8**	**-2.2**
	86nm,0.7s						
TWSI	**Taliwang, Sumb**	**13.04**	**261**	P	**Pn**	**13 36 11.4**	**+0.3**
	29nm,0.6s						
WB0	**Warramunga Arr**	**13.57**	**162**		**Pn**	**13 36 16.1**	**-1.8**
WRAB	**Tennant Creek**	**13.71**	**162**	Pn	**Pn**	**13 36 18.0**	**-1.7**
WRA	**Warramunga Arr**	**13.72**	**162**		**Pn**	**13 36 17.0**	**-2.8**
WRA	**Warramunga Arr**	**13.72**	**162**	P	**Pn**	**13 36 18.5**	**-1.3**
	25nm,0.6s,baz=343,slow=13,SNR=161						
WRA				S	**Sn**	**13 38 45.3**	**-6.5**
	31nm,0.6s,baz=332,slow=24,SNR=11						
WR8	**Warramunga Arr**	**13.78**	**162**		**Pn**	**13 36 18.8**	**-1.7**
COEN	**Coen**	**14.84**	**120**	P	**P**	**13 36 37.5**	**+1.6**
COEN	**Coen**	**14.84**	**120**	P	**P**	**13 36 35.7**	**-0.2**
BBKI	**Banjar Baru**	**15.37**	**282**	P	**P**	**13 36 42.9**	**+1.1**
	168nm,0.8s						
ABJI	**Asem Bagus**	**15.57**	**266**	P	**P**	**13 36 43.8**	**-0.2**
	51nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.70**	**263**		**Pn**	**13 36 41.1**	**-3.4**
JAGI				IAmb	IAmb	13 36 47.9	
	comp=Z,28nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.70**	**263**	P	**Pn**	**13 36 44.5**	**0.0**
BLJI	**Banyuglugur**	**16.20**	**266**	P	**P**	**13 36 51.8**	**+0.8**
QIS	**Mount Isa**	**16.57**	**146**	P	**Pn**	**13 36 56.8**	**+1.7**
AS31	**Alice Springs**	**17.17**	**167**	P	**Pn**	**13 37 02.5**	**+0.2**
ASAR	**Alice Springs**	**17.17**	**167**	P	**Pn**	**13 37 02.7**	**+0.4**
ASAR	**Alice Springs**	**17.17**	**167**	P	**Pn**	**13 37 03.4**	**+1.0**
	comp=Z,37nm,0.7s,baz=348,slow=11,SNR=625						
ASAR				S	**S**	**13 40 08.8**	**-4.2**
	comp=Z,7.9nm,0.8s,baz=353,slow=23,SNR=9.4						
PMG	**Port Moresby**	**17.27**	**100**	P	**Pn**	**13 37 04.8**	**+1.2**
	comp=Z,12nm,1.0s,baz=292,slow=5.4,SNR=9.3						
PMG				S	**S**	**13 40 05.1**	**-10**
	comp=Z,13nm,0.9s,baz=194,slow=18,SNR=1.7						
MBWA	**Marble Bar**	**17.31**	**214**	P	**P**	**13 37 02.9**	**-0.2**
MBWA	**Marble Bar**	**17.31**	**214**	P	**Pn**	**13 37 05.1**	**+1.1**
PSA00	**Pilbara Seismi**	**17.58**	**213**	P	**Pn**	**13 37 04.7**	**+0.2**
PSA00				IAmb	IAmb	13 37 25.2	
	comp=Z,16nm,0.5s						
PSA00	**Pilbara Seismi**	**17.58**	**213**	P	**Pn**	**13 37 08.3**	**+1.1**
KKM	**Kota Kinabalu**	**18.72**	**313**	P	**P**	**13 37 17.4**	**-1.3**
KKM				IAmb	IAmb	13 37 26.4	
	comp=Z,9.1nm,0.7s						
KKM	**Kota Kinabalu**	**18.72**	**313**	P	**P**	**13 37 18.8**	**+0.1**
SBUM	**Sibu**	**19.92**	**297**	P	**P**	**13 37 32.4**	**+0.8**
SBUM				IAmb	IAmb	13 37 34.4	
	comp=Z,12nm,0.8s						
TV1H	**Townsville Har**	**20.55**	**129**	P	Pn	13 37 41.1	-1.1
CTAO	**Charters Tower**	**20.62**	**131**	P	**P**	**13 37 40.4**	**+1.4**
CTAO				IAmb	IAmb	13 37 44.8	
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**20.62**	**131**	P	Pn	13 37 42.2	-0.9
BBJI	**Bungbulang**	**22.09**	**267**	P	**P**	**13 37 54.7**	**0.0**
LEM	**Lembang**	**22.13**	**269**	P	**P**	**13 37 56.1**	**+0.9**
	comp=Z,46nm,0.8s,baz=71,slow=12,SNR=6.0						
	comp=Z,46nm,0.8s						
MEEK	**Meekatharra**	**22.43**	**207**	P	**P**	**13 37 59.5**	**+1.6**
INKA	**Innaminka**	**23.19**	**155**	P	**P**	**13 38 07.2**	**+2.3**
INKA				IAmb	IAmb	13 38 09.0	
	comp=Z,22nm,1.1s						
FORT	**Forrest**	**23.88**	**184**	P	**P**	**13 38 10.7**	**-0.4**
FORT				IAmb	IAmb	13 38 14.8	
	comp=Z,15nm,0.6s						
QLP	**Quilpie**	**23.91**	**147**	P	**P**	**13 38 13.8**	**+2.3**
BBOO	**Buckleboo**	**26.47**	**168**	P	**P**	**13 38 35.3**	**+0.7**
BBOO				IAmb	IAmb	13 38 39.5	
	comp=Z,14nm,0.7s						
BBOO	**Buckleboo**	**26.47**	**168**	P	**P**	**13 38 36.4**	**+1.9**
BLDU	**Ballidu**	**26.70**	**206**	P	**P**	**13 38 38.7**	**+2.1**
STKA	**Stephens Creek**	**27.20**	**158**	P	**P**	**13 38 41.2**	**+0.2**
STKA	**Stephens Creek**	**27.20**	**158**	P	**P**	**13 38 42.6**	**+1.6**
	comp=Z,4.3nm,0.4s,baz=341,slow=8.5,SNR=9.6						
	comp=Z,4.3nm,0.4s						
STKA	**Stephens Creek**	**27.20**	**158**	P	**P**	**13 38 43.2**	**+2.1**
HTT	**Hallett**	**27.75**	**164**	P	**P**	**13 38 48.1**	**+2.1**
NWAO	**Narrogin (SRO)**	**28.51**	**203**	P	**P**	**13 38 53.5**	**+0.9**
NWAO	**Narrogin (SRO)**	**28.51**	**203**	P	**P**	**13 38 54.3**	**+1.6**
CMSA	**Cobar Meteorol**	**28.66**	**151**	P	**P**	**13 38 56.6**	**+2.5**
ARMA	**Armidale**	**31.08**	**142**	P	**P**	**13 39 16.4**	**+0.8**
ARMA				IAmb	IAmb	13 39 23.8	
	comp=Z,7.2nm,1.1s						
ARMA	**Armidale**	**31.08**	**142**	P	**P**	**13 39 18.5**	**+2.9**
CAN	**Canberra**	**33.34**	**151**	P	**P**	**13 39 36.0**	**+0.8**
CAN				IAmb	IAmb	13 39 53.3	
	comp=Z,6.5nm,1.0s						
CAN	**Canberra**	**33.34**	**151**	P	**P**	**13 39 38.1**	**+2.9**
CMAR	**Chiang Mai Arr**	**39.55**	**310**	P	**P**	**13 40 27.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=138,slow=7.1,SNR=10						
	comp=Z,1.0nm,0.5s						
NJ2	**Nanjing**	**40.08**	**345**	*e*P	**P**	**13 40 32.9**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**42.95**	**322**	P	**P**	**13 40 57.1**	**+1.4**
CD2	**Chengdu**	**45.12**	**328**	*e*P	**P**	**13 41 11.3**	**-1.6**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
HHC	**Hu-ho-hao-te**	**50.36**	**342**	*e*P	**P**	**13 41 53.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,67nm,4.0s						
WHZ	**Wether Hill Ro**	**50.89**	**146**	P	**P**	**13 41 56.7**	**-0.3**
BKZ	**Black Stump Fm**	**52.78**	**135**	P	**P**	**13 42 11.8**	**+0.6**
BKZ				IAmb	IAmb	13 42 13.3	
	comp=Z,6.1nm,0.8s						
GTA	**Gaotai**	**53.78**	**331**	*e*P	**P**	**13 42 18.7**	**+0.1**
GTA				pP	pwP	13 43 00.7	+3.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
CASY	**Casey**	**60.85**	**189**	P	**P**	**13 43 05.9**	**-1.5**
MKAR	**Makanchi Array**	**68.04**	**327**		**P**	**13 43 54.3**	**-0.3**
MKAR	**Makanchi Array**	**68.04**	**327**	P	**P**	**13 43 54.5**	**-0.1**
	comp=Z,12nm,0.5s,baz=126,slow=7.7,SNR=130						
	comp=Z,12nm,0.5s						
ARSB	**Arslanbob**	**70.71**	**318**		**P**	**13 44 10.8**	**-0.5**
ARSB				IAmb	IAmb	13 44 12.3	
	comp=Z,7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**71.40**	**334**	P	**P**	**13 44 11.6**	**-3.3**
ZALV	**Zalesovo Beam**	**71.40**	**334**	P	**P**	**13 44 13.7**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=132,slow=6.0,SNR=5.9						
	comp=Z,1.1nm,0.6s						
GAR	**Garm**	**71.48**	**315**	P	**P**	**13 44 14.7**	**-1.3**
GAR				IAmb	IAmb	13 44 16.9	
	comp=Z,18nm,1.1s						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	**P**	**13 44 20.1**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=127,slow=5.0,SNR=43						
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**13 44 20.0**	**-0.5**
VNDA	**Vanda**	**72.62**	**173**	P	**P**	**13 44 21.0**	**-0.9**
VNDA	**Vanda**	**72.62**	**173**	P	**P**	**13 44 23.1**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=322,slow=7.6,SNR=8.4						
	comp=Z,0.6nm,0.5s						
KKAR	**Karatay Array**	**73.16**	**319**	P	**P**	**13 44 25.2**	**-0.4**
BVAR	**Borovoye Array**	**77.88**	**328**	P	**P**	**13 44 51.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=134,slow=8.3,SNR=8.0						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**13 45 20.3**	**0.0**
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**13 45 22.8**	**+2.5**
	comp=Z,1.3nm,0.6s,baz=13,slow=12,SNR=16						
	comp=Z,1.3nm,0.6s						
RAYN	**Ar Rayn**	**87.59**	**294**		**P**	**13 45 42.6**	**-0.6**

*SNET **05** 13:36:22.4±1.1, 13°.20N×89°.81W, h36km, ML2.8*
CATAC 05 13:36:21.2±0.7, 13°N±4°×9°0W±°, h18km±3km, M2.8/8, MLv2.8/8, Error ellipse: s-maj=8.7km s-min=5.5km az=27.5, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.57**	**58**	P	Pg	13 36 33.5	+0.8
JAYA	**Jayaque - finc**	**0.59**	**37**	*e*P	Pn	13 36 34.0	-0.8
JAYA				*e*S	Sn	13 36 43.1	-1.0
JAYA	**Jayaque - finc**	**0.59**	**37**	P	Pn	13 36 34.1	-0.8
JAYA	**Jayaque - finc**	**0.59**	**37**	S	Sg	13 36 41.7	+0.6
CEVE	**Cerro Verde**	**0.67**	**16**	P	Pg	13 36 35.3	+0.7
FAME	**Alcaldia de Sa**	**0.69**	**344**	P	Pg	13 36 35.0	+0.3
FAME	**Alcaldia de Sa**	**0.69**	**344**	S	Sg	13 36 44.9	+1.0
NUBE	**Las Nubes**	**0.72**	**3**	P	Pg	13 36 35.6	+0.2
NUBE	**Las Nubes**	**0.72**	**3**	S	Sn	13 36 46.4	-0.8
PMON	**Piamonte**	**0.72**	**43**	P	Pg	13 36 35.7	+0.3
PMON	**Piamonte**	**0.72**	**43**	S	Sn	13 36 47.0	-0.2
PANCS	**Alcalda de**	**0.75**	**55**	S	Sg	13 36 46.4	+0.3
LOMA	**Loma Larga**	**0.78**	**54**	*e*P	Pb	13 36 36.2	0.0
LOMA	**Loma Larga**	**0.78**	**54**	S	Sg	13 36 47.7	+0.8
LOMA	**Loma Larga**	**0.78**	**54**	P	Pg	13 36 36.6	0.0
LFRS	**El Faro**	**0.86**	**59**	*e*P	Pn	13 36 38.9	+0.4
PAVA	**Las Pavas**	**1.01**	**58**	S	Sn	13 36 54.9	+0.7
TECO	**Alcaldia de Te**	**1.07**	**71**	S	Sb	13 36 54.8	0.0
UESV	**Universidad de**	**1.10**	**66**	S	Sn	13 36 56.6	+0.2
MTO3	**Montecristo**	**1.29**	**20**	P	Pn	13 36 44.6	+0.1
MTO3	**Montecristo**	**1.29**	**20**	S	Sb	13 37 01.1	-0.3
PACA	**Pacayal**	**1.48**	**79**	P	Pn	13 36 47.3	+0.3
PACA	**Pacayal**	**1.48**	**79**	S	Sb	13 37 07.3	+0.5
SARH	**Santa Rosa de**	**1.89**	**33**	S	Sn	13 37 16.2	+0.2
CNCH	**Conchagua**	**1.93**	**87**	P	Pn	13 36 51.4	-1.9

*SOME **05** 13:53:00.7, 39°.12N×70°.48E, h5km*
*NNC **05** 13:53:01.2±7.1, 39°.16N×68°.95E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=54.0km s-min=42.9km az=10.0*
ISC 05 13:52:51.5±3.4, 38°.7N±0°.2×69°.57E±0°.10, h10km, n8, σ1§60/10, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**3.42**	**6**	Pg	**Pg**	**13 53 58.2**	**+1.1**
	21nm,0.4s						
IUG				Lg	Lg	13 54 38.7	
	46nm,0.4s						
BRLS	**Borolday**	**4.29**	**3**	Pg	**Pb**	**13 54 07.5**	**+0.4**
	9.3nm,0.6s						
BRLS				Lg	Lg	13 54 57.0	
	11nm,0.9s						
BRLS	**Borolday**	**4.29**	**3**	*e*P	**Pb**	**13 54 09.2**	**+2.1**
	5.1nm,0.1s						
BRLS				*e*S	**Sb**	**13 54 57.5**	**-1.4**
	12nm,0.1s						
KK31	**Karatay Array**	**4.42**	**9**	Pn	Pb	13 54 04.7	-4.5
	2.2nm,0.3s,baz=183,slow=12,SNR=33						
KK31				⇑Lg	Lg	13 55 10.3	
	5.3nm,0.3s,baz=191,slow=28,SNR=7.2						
MRKS	**Merke**	**4.87**	**34**	Pg	**Pb**	**13 54 17.9**	**+1.0**
	3.7nm,0.6s						
MRKS				Lg	Lg	13 55 14.2	
	6.5nm,0.7s						
MRKS	**Merke**	**4.87**	**34**	*e*P	**Pb**	**13 54 18.7**	**+1.8**
	1.4nm,0.3s						
MRKS				*e*S	**Sb**	**13 55 13.7**	**-1.9**
	3.7nm,0.2s						
AAK	**Ala-Archa**	**5.40**	**42**	⇑Pn	**Pb**	**13 54 26.0**	**0.0**
	0.7nm,0.5s						
AAK				⇑Sn	**Sb**	**13 55 30.4**	**-0.5**
	2.0nm,0.6s						
AB31	**Akbulak array**	**12.58**	**330**	⇑P	**Pn**	**13 55 49.0**	**-1.4**
	0.3nm,0.3s,baz=172,slow=11,SNR=30						

DJA 05 14:04:27.5±0.3, 3°S±4°×13°8E±°, h10km, M4.1/8, mb4.3/7, MLv4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.10**	**16**	P	Pb	14 04 48.2	-0.5
GENI	**Genyem**	**1.82**	**75**	P	Pn	14 04 59.7	+0.9
JAY	**Jayapura**	**2.35**	**77**	P	Pn	14 05 05.9	-0.4
SRPI	**Serui, Papua**	**2.47**	**299**	P	Pn	14 05 07.4	-0.4
BAKI	**Biak**	**2.96**	**309**	P	Pn	14 05 14.6	0.0
RKPI	**Ransiki, Papua**	**4.50**	**290**	P	Pn	14 05 35.3	-0.5
MMPI	**Merauke**	**5.72**	**160**	P	Pn	14 05 52.9	+0.4
	364nm,1.1s						
FAKI	**Fak Fak**	**6.15**	**271**	P	Pn	14 05 58.0	-0.6
	0.1nm26nm,1.1s						
SWI	**Sorong**	**7.47**	**287**	P	Pn	14 06 16.6	0.0
	0.1nm20nm,0.7s						
BNDI	**Bandanaira**	**8.61**	**260**	P	Pn	14 06 32.4	+0.1
SOEI	**Soe**	**15.54**	**244**	P	Pn	14 08 07.2	+0.2

*JSO **05** 14:10:26.7±1.0, 33°N±6°×3°6E±°, h5km±4km, M2.4/7, Md2.4/7, ML2.6/5, MLv2.2/7, MLv2.2/7*
*GII **05** 14:10:27.7±0.0, 33°.317N±0°.001×35°.583E±0°.001, h2km, Mws2.1, confirmed*
*GRAL **05** 14:10:28.4±0.3, 33°.30N×35°.62E, h7km±1km, MD2.5*
ISC 05 14:10:27.1±0.8, 33°.34N±0°.02×35°.63E±0°.03, h15km±5km, n33, σ0§56/38, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBL	**Chebaa**	**0.09**	**86**	*e*P	**Pg**	**14 10 30.8**	**+0.2**
SHBL				*e*S	**Sg**	**14 10 32.8**	**0.0**
NATI	**Neve Ativ**	**0.12**	**132**	P	**Pb**	**14 10 30.9**	**-0.2**
NATI	**Neve Ativ**	**0.12**	**132**	P	**Pb**	**14 10 30.7**	**-0.4**
NATI	**Neve Ativ**	**0.12**	**132**	S	**Sb**	**14 10 33.1**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.13**	**169**	P	**Pg**	**14 10 30.7**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.13**	**169**	P	**Pg**	**14 10 30.7**	**-0.2**
GEM				S	**Sg**	**14 10 33.0**	**-0.3**
QRWL	**Qaraoun**	**0.21**	**12**	*e*P	**Pb**	**14 10 33.0**	**+0.3**
QRWL				*e*S	**Sb**	**14 10 36.6**	**+0.2**
RCY	**Rachaya**	**0.23**	**48**	*e*P	**Pb**	**14 10 33.3**	**+0.2**
DQRL	**Deir Qamar**	**0.37**	**352**	*e*P	**Pb**	**14 10 35.8**	**+0.4**
MMC7	**Mount Meron ar**	**0.38**	**212**	P	**Pg**	**14 10 34.7**	**-0.1**
MMA0B	**Mount Meron ar**	**0.38**	**211**	P	**Pg**	**14 10 34.8**	**-0.1**
MMA0B	**Mount Meron ar**	**0.38**	**211**	S	**Sg**	**14 10 40.6**	**+0.5**
KSHT	**Keshet**	**0.39**	**157**	P	**Pb**	**14 10 36.1**	**+0.3**
KSHT	**Keshet**	**0.39**	**157**	S	**Sb**	**14 10 41.7**	**+0.2**
HNTI	**Hanita**	**0.46**	**236**	P	**Pb**	**14 10 36.5**	**-0.5**
HNTI				S	**Sb**	**14 10 44.2**	**+0.6**
HNTI	**Hanita**	**0.46**	**236**	P	**Pg**	**14 10 36.3**	**0.0**
HNTI	**Hanita**	**0.46**	**236**	S	**Sb**	**14 10 43.1**	**-0.5**
ZAHL	**Zahle**	**0.56**	**22**	*e*P	**Pn**	**14 10 39.2**	**-1.4**
BHL	**Bhannes**	**0.56**	**2**	*e*P	**Pn**	**14 10 39.2**	**-1.4**
BLGI	**Bet Lehem HaGe**	**0.71**	**211**	P	**Pb**	**14 10 41.2**	**0.0**
OFRI	**`Ofer**	**0.90**	**217**	P	**Pb**	**14 10 44.6**	**+0.2**
OFRI	**`Ofer**	**0.90**	**217**	S	**Sb**	**14 10 56.9**	**+0.6**
MMLI	**Mount Malkishu**	**0.92**	**191**	P	**Pn**	**14 10 45.1**	**-0.4**
MMLI	**Mount Malkishu**	**0.92**	**191**	S	**Sn**	**14 10 58.0**	**-0.4**
HWQ	**Hawqa**	**0.97**	**16**	*e*P	**Pn**	**14 10 46.5**	**+0.2**
HMDT	**Nahal Hemdat**	**1.09**	**185**	P	**Pn**	**14 10 47.8**	**0.0**
HMDT				S	**Sn**	**14 11 04.2**	**+1.6**
HMDT	**Nahal Hemdat**	**1.09**	**185**	P	**Pg**	**14 10 48.0**	**-0.2**
HMDT	**Nahal Hemdat**	**1.09**	**185**	S	**Sn**	**14 11 03.3**	**+0.7**
FKH	**Fakeheh**	**1.11**	**36**	*e*P	**Pn**	**14 10 48.7**	**+0.5**
SLTI	**Sal'it**	**1.21**	**205**	P	**Pg**	**14 10 50.0**	**-0.4**
SLTI	**Sal'it**	**1.21**	**205**	P	**Pg**	**14 10 50.0**	**-0.4**
SLTI	**Sal'it**	**1.21**	**205**	S	**Sg**	**14 11 06.2**	**+0.1**
BEIL	**Beino**	**1.28**	**21**	*e*P	**Pg**	**14 10 51.5**	**-0.3**

*GUC **05** 14:10:44.5±0.6, 24°.20S×67°.18W, h183km±4km, ML3.8*
*IDC **05** 14:10:45.2±2.7, 24°.05S×66°.99W, h197km±30km, mb2.9/1, mbtmp3.5/6, Error ellipse: s-maj=35.0km s-min=23.3km az=72.0*
ISC 05 14:10:43.3±0.9, 24°.20S±0°.05×67°.20W±0°.05, h195km±8km, n17, σ1§32/28, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.78**	**92⇓**	*e*P	**Pn**	**14 11 11.2**	**-0.6**
SALTA				*e*S	**Sn**	**14 11 32.2**	**-1.5**
AF01	**San Pedro de A**	**1.54**	**324**	*e*P	**Pn**	**14 11 19.7**	**+2.4**
AF01				*e*S	**Sn**	**14 11 44.9**	**+1.3**
SLA	**San Lorenzo**	**1.63**	**109**	*e*P	**Pn**	**14 11 17.8**	**-0.1**
SLA				*e*S	**Sn**	**14 11 43.7**	**

I40PG	Keravat	4.85	65	I	I	14 51 20.0
	97nm,0.4s,baz=247,slow=326,SNR=0.6					
RABL	Rabaul	5.04	65		Pn	14 30 00.8 -1.3
MMPI	Merauke	7.45	253	P	Pn	14 30 41.1 +6.0
	1.3nm359nm,0.7s					
JAY	Jayapura	7.88	299	P	Pn	14 30 42.8 +1.8
	27nm,0.4s,baz=115,slow=8.6,SNR=49					
JAY				S	Sn	14 32 05.8 -3.0
	27nm,0.8s,baz=122,slow=13,SNR=1.1					
JAY				LR	LR	14 33 22.6
	comp=Z,1μm,20.2s,baz=109,slow=36					
JAY	Jayapura	7.88	299	P	Pn	14 30 42.2 +1.2
	5μm75nm,0.8s					
GENI	Genyem	8.31	297	P	Pn	14 30 47.6 +0.7
	4μm186nm,0.7s					
COEN	Coen	8.70	210	P	Pn	14 30 51.4 -0.8
	comp=Z,35nm,0.7s					
COEN	Coen	8.70	210	S	Sn	14 32 26.6 -2.1
COEN	Coen	8.70	210		Pn	14 30 51.9 -0.3
COEN	Coen	8.70	210	P	Pn	14 30 52.0 -0.2
SMPI	Sarmi	9.88	296	P	Pn	14 31 08.4 0.0
	comp=Z,4μmcomp=Z,2μmcomp=Z,105nm,0.8s					
MTSU	Mount Surprise	12.11	195	P	Pn	14 31 38.5 -0.4
	comp=Z,25nm,0.7s					
MTSU	Mount Surprise	12.11	195	P	Pn	14 31 39.3 +0.5
SRPI	Serui, Papua	12.19	291	P	Pn	14 31 40.7 +0.9
	comp=Z,2μmcomp=Z,89nm,0.6s					
TATA	Tatamba Isabel	12.26	100	P	Pn	14 31 42.0 +1.1
TATA	Tatamba Isabel	12.26	100	S	Sn	14 33 56.8 +0.8
SAVO	Savo Central	12.41	104	P	Pn	14 31 43.4 +0.5
SAVO	Savo Central	12.41	104	S	Sn	14 34 00.9 +1.4
BAKI	Biak	12.57	294	P	P	14 31 49.8 -4.6
	comp=Z,2μmcomp=Z,93nm,1.3s					
HNR	Honiara	12.60	105		Pn	14 31 46.0 +0.5
HNR	Honiara	12.60	105	P	Pn	14 31 45.7 +0.3
	comp=Z,12nm,0.3s,baz=288,slow=20,SNR=6.6					
HNR				S	Sn	14 34 08.2 +4.1
	comp=Z,89nm,0.9s,baz=306,slow=5.4,SNR=2.3					
	comp=Z,52nm,0.4s					
HNR	Honiara	12.60	105	P	Pn	14 31 45.4 -0.1
HNR	Honiara	12.60	105	S	Sn	14 34 05.9 +1.8
HNR	Honiara	12.60	105	P	Pn	14 31 46.0 +0.5
TV1H	Townsville Har	12.82	183	P	Pn	14 31 49.9 +1.4
ALEG	Aligegeo Malai	13.19	101	P	Pn	14 31 53.6 +0.1
ALEG	Aligegeo Malai	13.19	101	S	Sn	14 34 20.6 +2.0
NGOA	Tingoa Renbel	13.34	114	P	Pn	14 31 55.6 +0.2
NGOA	Tingoa Renbel	13.34	114	S	Sn	14 34 24.0 +1.9
CTA	Charters Tower	13.69	185	LR	LR	14 37 10.8
	comp=Z,32nm,20.6s,baz=2.0,slow=37					
CTAO	Charters Tower	13.69	185		Pn	14 31 59.0 -1.1
CTAO	Charters Tower	13.69	185	P	Pn	14 32 01.2 +1.0
CTAO	Charters Tower	13.69	185	S	Sn	14 34 33.0 +2.4
CTAO	Charters Tower	13.69	185	P	Pn	14 31 59.0 -1.1
RKPI	Ransiki, Papua	14.24	289	P	Pn	14 32 07.1 -0.4
	comp=Z,2μmcomp=Z,80nm,0.7s					
HURO	Huro Makira	14.71	107	P	Pn	14 32 14.4 +0.7
FAKI	Fak Fak	15.68	282		Pn	14 32 24.6 -1.6
FAKI	Fak Fak	15.68	282	P	Pn	14 32 25.3 -0.8
FAKI	Fak Fak	15.68	282	P	P	14 32 28.1 -0.9
	comp=Z,2μmcomp=Z,2μmcomp=Z,134nm,1.8s					
QIS	Mount Isa	16.08	208	P	Pn	14 32 31.2 0.0
	comp=Z,76nm,1.2s					
SWI	Sorong	17.20	288	P	P	14 32 46.2 +0.4
	comp=Z,2μmcomp=Z,108nm,0.8s					
MTN	Manton Dam	17.45	247	P	P	14 32 49.6 +1.0
DRS	Darwin Rock St	17.53	249	P	P	14 32 49.5 +0.1
BNDI	Bandanaira	17.71	275	P	P	14 32 54.9 +3.5
	comp=Z,331nm,1.4s					
WB0	Warramunga Arr	18.49	223		Pn	14 33 00.6 -0.1
WR8	Warramunga Arr	18.55	222		Pn	14 33 01.1 -0.4
WRAB	Tennant Creek	18.63	222	P	P	14 33 01.9 +0.4
WRAB	Tennant Creek	18.63	222	P	Pn	14 33 02.2 -0.3
WRAB	Tennant Creek	18.63	222	S	Sn	14 36 32.4 +2.0
WRAB	Tennant Creek	18.63	222	*d iP*	Pn	14 33 02.4 -0.1
WRAB				pmax	pmax	
	comp=Z,28nm,0.8s					
WRA	Warramunga Arr	18.64	222	P	P	14 33 01.1 -0.5
WRA	Warramunga Arr	18.64	222	P	P	14 33 01.4 -0.2
	comp=Z,3.1nm,0.3s,baz=47,slow=11,SNR=104					
WRA				S	S	14 36 28.3 -2.2
	comp=Z,4.4nm,0.7s,baz=51,slow=19,SNR=6.5					
WRA				PcP	PcP	14 37 29.4 +1.3
	comp=Z,3.2nm,0.6s,baz=45,slow=1.8,SNR=5.0					
WRA				ScP	ScP	14 41 01.3 +3.0
	comp=Z,1.6nm,0.7s,baz=46,slow=2.4,SNR=6.5					
	comp=Z,5.5nm,0.3s					
MSAI	Masohi	18.85	278	P	P	14 33 03.3 -0.6
	comp=Z,2μmcomp=Z,2μmcomp=Z,175nm,0.6s					
EIDS	Eidsvold	19.17	170	P	P	14 33 07.0 -0.3
	comp=Z,78nm,0.8s					
EIDS	Eidsvold	19.17	170		P	14 33 06.4 -0.9
EIDS				IAmb	IAmb	14 33 09.7
	comp=Z,48nm,0.8s					
EIDS	Eidsvold	19.17	170	P	Pn	14 33 08.2 -0.6
EIDS	Eidsvold	19.17	170	S	Sn	14 36 44.8 +1.5
AAI	Ambon	19.52	277	P	Pn	14 33 12.4 -0.6
	comp=Z,3μmcomp=Z,310nm,0.7s					
GUMO	Guam	20.03	352	P	P	14 33 16.6 -0.1
GUMO	Guam	20.03	352		P	14 33 16.9 +0.2
GUMO				IAmb	IAmb	14 33 18.5
	comp=Z,109nm,0.7s					
GUMO	Guam	20.03	352	P	P	14 33 16.9 +0.2
	comp=Z,9.0nm,0.3s,baz=173,slow=12,SNR=29					
GUMO				LR	LR	14 41 07.1
	comp=Z,627nm,18.6s,baz=174,slow=37					
	comp=Z,106nm,0.6s					
GUMO	Guam	20.03	352	P	P	14 33 16.5 -0.2
GUMO	Guam	20.03	352	S	S	14 36 58.9 +0.5
QLP	Quilpie	20.34	189	P	P	14 33 20.3 +0.2
	comp=Z,313nm,0.8s					
QLP	Quilpie	20.34	189	P	P	14 33 21.2 +1.1
QLP	Quilpie	20.34	189	S	S	14 37 07.5 +3.0
KNRA	Kununurra	20.65	242	P	P	14 33 23.0 -0.5
	comp=Z,26nm,0.6s					
KNRA	Kununurra	20.65	242		P	14 33 23.7 +0.2
NLAI	Namlea	20.66	278	P	Pn	14 33 25.3 -1.3
	comp=Z,2μmcomp=Z,2μmcomp=Z,182nm,1.1s					
TNTI	Ternate	21.41	289	P	P	14 33 35.7 +4.0
AS31	Alice Springs	21.65	216	P	P	14 33 34.7 +0.5
AS31				IAmb	IAmb	14 33 38.3
	comp=Z,19nm,0.4s					
ASAR	Alice Springs	21.65	216	P	P	14 33 34.6 +0.4
ASAR	Alice Springs	21.65	216	P	P	14 33 34.5 +0.3
	comp=Z,15nm,0.5s,baz=40,slow=10.0,SNR=321					
ASAR				S	S	14 37 28.2 -2.5
	comp=Z,6.5nm,1.0s,baz=33,slow=22,SNR=4.1					
ASAR				ScP	ScP	14 41 08.8 +3.5
	comp=Z,1.1nm,0.6s,baz=36,slow=2.8,SNR=4.9					
	comp=Z,15nm,0.5s					
SANI	Sanana	21.98	280	P	P	14 33 37.7 0.0
SANI	Sanana	21.98	280	S	S	14 37 38.2 +1.3
SANI	Sanana	21.98	280	P	P	14 33 37.6 -0.1
	comp=Z,2μmcomp=Z,107nm,1.3s					
INKA	Innaminka	22.22	196		P	14 33 39.8 -0.3
INKA				IAmb	IAmb	14 33 55.4
	comp=Z,98nm,1.8s					
SOEI	Soe	23.34	260	P	P	14 33 52.9 +0.9
SOEI				IAmb	IAmb	14 34 21.9
	comp=Z,51nm,0.8s					
SOEI	Soe	23.34	260	P	P	14 33 53.6 +1.6
SOEI	Soe	23.34	260	S	S	14 38 02.1 +2.1
SOEI	Soe	23.34	260	P	P	14 33 53.6 +1.6
	comp=Z,2μmcomp=Z,70nm,0.7s					
DZM	Mont Dzumac	23.97	132	*eP*	P	14 33 54.1 -3.5
	comp=Z,62nm,1.0s					
DZM				*eS*	S	14 38 02.1 -7.9
	comp=Z,982nm,27.3s					
DZM				*eLR*	LR	14 39 47.3
	comp=Z,3μm,23.8s					
DZM	Mont Dzumac	23.97	132	P	P	14 33 56.0 -1.6
DZM				IAmb	IAmb	14 34 01.1
	comp=Z,32nm,1.0s					
DZM	Mont Dzumac	23.97	132	LR	LR	14 42 16.2
	comp=Z,2μm,21.8s,baz=326,slow=34					
DZM	Mont Dzumac	23.97	132	P	P	14 33 58.6 +1.0
DZM	Mont Dzumac	23.97	132	S	S	14 38 13.7 +3.7
BATI	Baumata	23.99	259	P	P	14 33 59.8 +2.0
	comp=Z,2μmcomp=Z,116nm,1.1s					
SGSI	Sangihe	24.20	294	P	P	14 34 01.8 +2.1
	comp=Z,82nm,0.6s					
ARMA	Armidale	24.21	171	P	P	14 33 59.8 +0.1
	comp=Z,54nm,1.0s					
ARMA	Armidale	24.21	171	P	P	14 33 59.6 -0.1
ARMA	Armidale	24.21	171	P	P	14 34 00.2 +0.5
ARMA	Armidale	24.21	171	S	S	14 38 17.5 +3.8

YATNC	Mamie plateau,	24.29	132	P	P	14 34 03.0 +2.6
YATNC	Mamie plateau,	24.29	132	S	S	14 38 18.9 +3.9
FITZ	Fitzroy Crossi	24.38	240	P	P	14 34 01.5 +0.3
	comp=Z,14nm,1.0s					
FITZ	Fitzroy Crossi	24.38	240	P	P	14 34 02.0 +0.7
FITZ	Fitzroy Crossi	24.38	240	LR	LR	14 44 33.2
	comp=Z,302nm,19.9s,baz=64,slow=39					
FITZ	Fitzroy Crossi	24.38	240	P	P	14 34 02.3 +1.0
KMSI	Cibinong	24.57	285	P	P	14 34 03.7 +0.7
KDI	Kendari	25.00	274	P	P	14 34 09.2 +2.3
CMSA	Cobar Meteorol	25.09	184	P	P	14 34 07.9 +0.3
	comp=Z,54nm,0.8s					
CMSA	Cobar Meteorol	25.09	184	P	P	14 34 07.9 +0.3
MMRI	Maumere	25.24	263	P	P	14 34 09.3 +0.1
MMRI	Maumere	25.24	263	P	P	14 34 10.2 +1.0
MMRI	Maumere	25.24	263	P	P	14 34 09.2 0.0
	comp=Z,139nm,1.0s					
LUWI	Luwuk	25.33	281	P	P	14 34 10.9 +0.9
LUWI	Luwuk	25.33	281	P	P	14 34 11.6 +1.6
DAV	Davao City (W)	25.72	301	LR	LR	14 43 47.7
	comp=Z,311nm,21.6s,baz=112,slow=35					
EDFI	Ende, Flores	25.79	263	P	P	14 34 13.6 -0.7
	comp=Z,34nm,0.7s					
STKA	Stephens Creek	25.98	192	P	P	14 34 15.4 -0.2
	comp=Z,145nm,1.7s					
STKA	Stephens Creek	25.98	192	P	P	14 34 15.7 +0.1
STKA	Stephens Creek	25.98	192	P	P	14 34 14.7 -0.9
	comp=Z,14nm,0.4s,baz=19,slow=12,SNR=35					
STKA				LR	LR	14 45 13.0
	comp=Z,448nm,20.8s,baz=9.2,slow=38					
	comp=Z,14nm,0.4s					
STKA	Stephens Creek	25.98	192	P	P	14 34 16.2 +0.6
STKA	Stephens Creek	25.98	192⇑	*eP*	P	14 34 16.1 +0.5
WRKA	Warakurna	26.19	223	P	P	14 34 17.7 0.0
	comp=Z,16nm,0.5s					
APSI	Ampana	26.46	281	P	P	14 34 21.5 +1.3
	comp=Z,1μmcomp=Z,121nm,1.3s					
MRSI	Marisa	26.50	284	P	P	14 34 20.8 +0.2
	comp=Z,620nmcomp=Z,29nm,0.5s					
MGCD	Mangrove Creek	26.89	173	P	P	14 34 22.7 -1.2
	comp=Z,57nm,0.7s					
MGCD	Mangrove Creek	26.89	173	P	P	14 34 26.5 +2.7
WSI	Waingapu	27.23	261	P	P	14 34 27.4 +0.3
	comp=Z,179nm,1.1s					
BKSI	Bulukumba	27.36	271	P	P	14 34 32.7 +4.4
	comp=Z,26nm,1.1s					
KAPI	Kappang	27.75	271	LR	LR	14 47 54.7
	comp=Z,307nm,21.5s,baz=94,slow=42					
KAPI	Kappang	27.75	271⇑	*eP*	P	14 34 32.5 +0.8
KAPI				pmax	pmax	
	comp=Z,54nm,1.5s					
YNG	Young	27.79	179	P	P	14 34 32.3 +0.4
	comp=Z,39nm,0.9s					
TOLI2	Tolitoli	27.79	285	P	P	14 34 32.0 -0.1
TOLI2				IAmb	IAmb	14 34 49.8
	comp=Z,23nm,0.9s					
TOLI2	Tolitoli	27.79	285	P	P	14 34 32.1 -0.1
HTT	Hallett	28.09	196	P	P	14 34 35.4 +0.7
BBOO	Buckleboo	28.41	201	P	P	14 34 37.2 -0.2
BBOO				IAmb	IAmb	14 34 55.7
	comp=Z,65nm,1.4s					
BBOO	Buckleboo	28.41	201	P	P	14 34 38.7 +1.3
CAN	Canberra	28.83	178	P	P	14 34 40.8 -0.4
CAN				IAmb	IAmb	14 35 08.6
	comp=Z,99nm,1.9s					
CAN	Canberra	28.83	178	P	P	14 34 42.7 +1.5
CAN	Canberra	28.83	178	P	P	14 34 40.8 -0.4
CAN				pmax	pmax	
	comp=Z,99nm,1.9s					
CNB	Canberra Magne	28.84	177	P	P	14 34 42.2 +0.9
PLAI	Plampang	29.66	263	P	P	14 34 48.8 0.0
FORT	Forrest	30.42	215	P	P	14 34 55.4 +0.1
MBWA	Marble Bar	30.72	239	P	P	14 34 58.1 +0.1
	comp=Z,20nm,0.7s					
MBWA	Marble Bar	30.72	239	P	P	14 34 58.3 +0.3
MBWA				IAmb	IAmb	14 35 23.8
	comp=Z,14nm,0.7s					
MBWA	Marble Bar	30.72	239	P	P	14 34 58.5 +0.5
MBWA	Marble Bar	30.72	239	P	P	14 34 58.6 +0.6
PSAC2	Pilbara Seismi	30.74	238	P	P	14 34 58.5 +0.3
	comp=Z,23nm,0.7s					
PSA00	Pilbara Seismi	30.79	238	P	P	14 34 58.5 -0.2
PSA00				IAmb	IAmb	14 35 16.9
	comp=Z,88nm,1.9s					
PSA00	Pilbara Seismi	30.79	238	P	P	14 34 59.7 +1.0
JAGI	Jajag, Banyuwa	33.23	264	P	P	14 35 19.2 -1.0
JAGI				IAmb	IAmb	14 35 38.0
	comp=Z,34nm,0.8s					
JAGI	Jajag, Banyuwa	33.23	264	P	P	14 35 20.4 +0.2
TGY	Tagaytay City	33.38	308	LR	LR	14 49 16.4
	comp=Z,250nm,21.3s,baz=158,slow=37					
MEEK	Meekatharra	34.17	231	P	P	14 35 29.0 +0.7
	comp=Z,36nm,0.8s					
MEEK	Meekatharra	34.17	231	P	P	14 35 29.1 +0.9
KMBL	Kambalda	34.60	221	P	P	14 35 32.2 +0.3
	comp=Z,8.0nm,0.7s					
SBUM	Sibu	36.40	283	P	P	14 35 45.5 -2.0
MORW	Morawa	37.37	229	P	P	14 35 55.8 +0.2
MORW	Morawa	37.37	229	P	P	14 35 56.4 +0.8
BLDU	Baliidu	37.70	226	P	P	14 36 00.8 +2.5
JOW	Kunigami	37.96	331	LR	LR	14 48 51.5
	comp=Z,590nm,21.4s,baz=130,slow=32					
JOW	Kunigami	37.96	331	P	P	14 35 59.6 -0.9
KSM	Kuching	38.04	281	IAmb	IAmb	14 36 03.9
	comp=Z,36nm,1.1s					
NWAO	Narrogin (SRO)	38.65	223	P	P	14 36 07.8 +1.5
NWAO	Narrogin (SRO)	38.65	223	LR	LR	14 52 38.8
	comp=Z,393nm,21.8s,baz=58,slow=37					
NWAO	Narrogin (SRO)	38.65	223	P	P	14 36 08.4 +2.1
NWAO	Narrogin (SRO)	38.65	223	P	P	14 36 07.8 +1.5
NWAO				pmax	pmax	
	comp=Z,119nm,1.8s					
MUN	Mundaring	38.81	225	P	P	14 36 09.7 +2.0
BBJI	Bungbulang	39.67	266	P	P	14 36 14.9 -0.2
JHJ	Hachijo jima 2	39.98	350	LR	LR	14 52 48.2
	comp=Z,192nm,18.4s,baz=127,slow=36					
URZ	Urewera	41.49	144	LR	LR	14 51 44.2
	comp=Z,774nm,21.6s,baz=311,slow=33					
JNU	Nakatsue	42.38	339	P	P	14 36 36.0 -1.0
JNU				IAmb	IAmb	14 36 56.3
	comp=Z,58nm,1.5s					
JNU	Nakatsue	42.38	339	LR	LR	14 51 28.1
	comp=Z,291nm,21.4s,baz=166,slow=32					
JNU	Nakatsue	42.38	339	P	P	14 36 37.4 +0.4
RPZ	Rata Peaks	42.51	155	LR	LR	14 52 39.4
	comp=Z,815nm,21.9s,baz=332,slow=34					
RPZ	Rata Peaks	42.51	155	P	P	14 36 38.8 +0.8
KHZ	Kahutara	42.60	151	P	P	14 36 40.9 +2.2
BFZ	Birch Farm	42.69	147	P	P	14 36 41.8 +2.3
JGF	Kuroka	42.86	348	P	P	14 36 39.9 -1.0
MDSI	Maura Dua	43.26	270	P	P	14 36 46.6 +2.1
DSRI	Dabo	43.32	276	P	P	14 36 44.0 -1.0
	comp=Z,68nm,0.9s					
MJAR	Matsushiro Arr	43.60	349	P	P	14 36 44.2 -2.6
MJAR				IAmb	IAmb	14 36 47.2
	comp=Z,18nm,1.3s					
MJAR	Matsushiro Arr	43.60	349	P	P	14 36 45.3 -1.5
	comp=Z,7.3nm,0.9s,baz=173,slow=7.9,SNR=27					
MJAR				PcP	PcP	14 38 33.1 -0.3
	comp=Z,1.3nm,0.8s,baz=153,slow=3.6,SNR=1.9					
MJAR				LR	LR	14 53 28.4
	comp=Z,141nm,19.0s,baz=158,slow=34					
	comp=Z,7.3nm,0.9s					
MAJO	Matsushiro	43.60	349	P	P	14 36 45.8 -1.0
MAJO				IAmb	IAmb	14 36 47.6
	comp=Z,87nm,1.8s					
MAJO	Matsushiro	43.60	349	P	P	14 36 46.2 -0.6
MAJO	Matsushiro	43.60	349⇓	*iP*	P	14 36 46.0 -0.9
MAJO				pmax	pmax	
	comp=Z,17nm,0.7s					
MAJO	Matsushiro	43.60	349	P	P	14 36 45.9 -0.9
MJB9	Matsu-Tunnel	43.60	349	P	P	14 36 46.1 -0.7
MJB9				IAmb	IAmb	14 36 48.6
	comp=Z,85nm,1.8s					
TPRI	Tanjung Pinang	43.60	278	P	P	14 36 48.1 +0.9
MYKOM	Kota Tinggi	44.43	279	P	P	14 36 54.5 +0.7
MYKOM	Kota Tinggi	44.43	279	P	P	14 36 55.5 +1.7
QIZ	Qiongzhong	44.96	305	P	P	14 37 00.4 +2.4
QIZ				S	S	14 43 34.7 +2.8
QIZ				LR	LR	
	comp=Z,170nm,22.6s					
QIZ				LR	LR	
	comp=Z,190nm,22.4s					
QIZ				LR	LR	
	comp=Z,440nm,23.5s					

SSE	Sheshan	45.02	327	P	P	14 36 58.7 +0.4
SSE				S	S	14 43 37.0 +4.7
SSE				pmax	pmax	
	comp=Z,8.0nm,0.7s					
SSE				pmax	pmax	
	comp=Z,83nm,3.6s					
SSE				LR	LR	
	comp=Z,200nm,20.6s					
SSE				LR	LR	
	comp=Z,150nm,21.1s					
TJN	Taejon	46.58	337	*eP*	P	14 37 09.7 -0.7
NJ2	Nanjing	47.03	326	*eP*	P	14 37 16.1 +2.1
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
NJ2				LR	LR	
	comp=Z,580nm,23.5s					
NJ2				LR	LR	
	comp=Z,230nm,22.1s					
NJ2				LR	LR	
	comp=Z,530nm,23.0s					
JTM	Tenmabayashi	47.32	353	P	P	14 37 16.8 +0.7
KSRS	Korea Array	47.32	339	P	P	14 37 15.6 -0.6
	comp=Z,4.8nm,0.7s,baz=155,slow=8.7,SNR=22					
	comp=Z,4.8nm,0.7s					
PPI	Padang Panjang	47.46	275	P	P	14 37 17.8 +0.1
IPM	Ipoh	47.74	282	P	P	14 37 18.7 -1.2
IPM				IAmb	IAmb	14 37 22.2
	comp=Z,36nm,1.1s					
IPM	Ipoh	47.74	282	P	P	14 37 21.3 +1.4
KULM	Kulim	48.28	283	P	P	14 37 24.9 +0.9
KULM				IAmb	IAmb	14 37 26.1
	comp=Z,25nm,0.8s					
KULM	Kulim	48.28	283	P	P	14 37 25.0 +0.9
MNSI	Mandailing Nat	48.46	277	P	P	14 37 25.6 +0.2
	comp=Z,68nm,0.7s					
RPSI	Rantau Prapat	49.43	279	P	P	14 37 32.5 -0.4
PSI	Prapat	49.45	279	LR	LR	15 00 58.0
	comp=Z,213nm,19.3s,baz=124,slow=39					
PSI	Prapat	49.45	279	P	P	14 37 33.9 +0.7
PSI	Prapat	49.45	279	P	P	14 37 32.5 -0.7
PSI				pmax	pmax	
	comp=Z,159nm,1.7s					
ASAJ	Asahikawa	50.47	355	LR	LR	14 55 45.6
	comp=Z,253nm,22.0s,baz=181,slow=32					
GSI	Gunungsitoli	50.52	277	P	P	14 37 40.8 -0.3
GSI	Gunungsitoli	50.52	277	P	P	14 37 41.9 +0.7
GSI	Gunungsitoli	50.52	277	P	P	14 37 41.4 +0.2
KCSI	Kotacane, Aceh	50.72	280	P	P	14 37 41.9 -0.8
	comp=Z,585nmcomp=Z,52nm,0.6s					
TIA	Tai'an	51.12	328	P	P	14 37 44.7 -0.5
TIA				pmax	pmax	
	comp=Z,14nm,0.7s					
TIA				LR	LR	
	comp=Z,400nm,22.6s					
TIA				LR	LR	
	comp=Z,370nm,22.0s					
TIA				LR	LR	
	comp=Z,670nm,25.0s					
PSTR	Posyet	51.14	344⇑	*eP*	P	14 37 45.3 0.0
LHMI	Lhok Sumawe	51.87	282	P	P	14 37 51.5 +0.3
LHMI	Lhok Sumawe	51.87	282	P	P	14 37 52.3 +1.1
LHMI	Lhok Sumawe	51.87	282	P	P	14 37 51.8 +0.6
MLSI	Meulaboh, Aceh	52.20	280	P	P	14 37 53.5 -0.2
USRK	Ussuriysk Ar.	52.28	346	P	P	14 37 53.4 -0.4
	comp=Z,7.0nm,0.5s,baz=170,slow=7.1,SNR=13					
	comp=Z,7.0nm,0.5s					
RAR	Rarotonga	52.94	112	LR	LR	14 58 27.2
	comp=Z,23nm,20.9s,baz=292,slow=34					
HNS	HongShan	53.29	327	⇓P	P	14 38 00.8 -0.5
HNS				S	S	14 45 29.5 +1.5
HNS				pmax	pmax	
	comp=Z,29nm,0.9s					
HNS				LR	LR	
	comp=Z,240nm,20.6s					
HNS				LR	LR	
	comp=Z,370nm,20.6s					
HNS				LR	LR	
	comp=Z,490nm,23.5s					
CMAR	Chiang Mai Arr	53.96	298	P	P	14 38 06.9 +0.4
	comp=Z,3.4nm,0.6s,baz=110,slow=7.0,SNR=36					
CMAR				LR	LR	14 59 31.2
	comp=Z,95nm,20.9s,baz=115,slow=34					
	comp=Z,3.4nm,0.6s					
XAN	Xi'an	54.36	320	⇓P	P	14 38 09.0 -0.3
XAN				sP	sP	14 38 40.9 +6.6
XAN				pmax	pmax	
	comp=Z,19nm,1.1s					
XAN				LR	LR	
	comp=Z,250nm,21.3s					
XAN				LR	LR	
	comp=Z,160nm,18.6s					
XAN				LR	LR	
	comp=Z,280nm,23.4s					
BJT	Baijiatuau	54.51	331	IAmb	IAmb	14 38 57.6
	comp=Z,38nm,2.0s					
BJI	Beijing	54.53	331	P	P	14 38 10.0 -0.3
BJI				pmax	pmax	
	comp=Z,4.0nm,0.8s					
BNX	BinXian	54.94	343	⇓P	P	14 38 12.9 -0.3
BNX				pmax	pmax	
	comp=Z,17nm,1.1s					
PZH	PanZhiHua	55.16	308	P	P	14 38 17.6 +2.3
CD2	Chengdu	55.97	314	*eP*	P	14 38 19.8 -1.1
CD2				pmax	pmax	
	comp=Z,20nm,0.4s					
HHC	Hu-ho-hao-te	57.47	328	*eP*	P	14 38 34.0 +2.5
HHC				pmax	pmax	
	comp=Z,19nm,0.7s					
HHC				pmax	pmax	
	comp=Z,100nm,5.2s					
HHC				LR	LR	
	comp=Z,190nm,16.7s					
HHC				LR	LR	
	comp=Z,280nm,16.9s					
HHC				LR	LR	
	comp=Z,360nm,16.5s					
XLT	XiLinHaoTe	57.58	333	*eP*	P	14 38 32.9 +0.7
XLT				pP	sP	14 38 53.7 -3.8
XLT				sP	pP	14 39 04.8 +15
XLT				pmax	pmax	
	comp=Z,11nm,0.8s					
XLT				LR	LR	
	comp=Z,290nm,22.1s					
XLT				LR	LR	
	comp=Z,500nm,25.1s					
LZH	Lanzhou	58.89	319	sP	sP	14 39 25.6 +19
LZH	Lanzhou	58.89	319	LR	LR	
	comp=Z,450nm,20.3s					
LZH	Lanzhou	58.89	319	LR	LR	
	com

PPT2 *e*LQ LQ 14 54 54.9
comp=Z,206nm,25.0s
PPT2 *e*LR LR 14 57 32.2
comp=Z,378nm,26.0s
PPT2 *e*LR LR 14 57 36.1
comp=Z,306nm,27.5s
ZEA Zeya 62.31 347 *e*P **P 14 39 04.2 0.0**
ZEA *e* 14 47 55.2
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
TBI Tubuai 62.67 113 *e*S **S 14 47 24.1 -7.0**
comp=Z,2μm,39.8s
TBI *e*SS **SS 14 51 37.5 +0.7**
comp=Z,2μm,37.2s
TBI *e*LQ LQ 14 55 08.2
comp=Z,1μm,31.2s
TBI *e*LR LR 14 57 43.4
comp=Z,1μm,27.5s
TBI *e*LR LR 14 57 56.9
comp=Z,1μm,30.2s
SHEM Shemya Is, Ala 63.05 18 LR LR 15 03 14.5
comp=Z,106nm,21.1s,baz=238,slow=33
GTA Gaotai 63.42 320 *e*P **P 14 39 13.5 +1.4**
GTA pP sP 14 39 36.5 -1.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=Z,170nm,18.2s
GTA LR LR
comp=Z,160nm,20.0s
GTA LR LR
comp=Z,230nm,19.6s
ULN Ulaanbaatar 64.73 331 P **P 14 39 19.6 -1.0**
ULN IAmb IAmb 14 39 21.3
comp=Z,8.5nm,0.6s
ULN Ulaanbaatar 64.73 331 *de*P **P 14 39 20.7 +0.1**
ULN pmax pmax
comp=Z,6.0nm,0.5s
SONM Songino Array 65.03 331 P **P 14 39 22.5 0.0**
SONM IAmb IAmb 14 39 23.7
comp=Z,20nm,1.5s
SONM Songino Array 65.03 331 P **P 14 39 22.1 -0.4**
comp=Z,4.1nm,0.5s,baz=140,slow=5.7,SNR=18
SONM LR LR 15 07 17.9
comp=Z,370nm,21.8s,baz=132,slow=36
comp=Z,4.1nm,0.5s
SONM Songino Array 65.03 331 P **P 14 39 22.5 0.0**
SONM pmax pmax
comp=Z,19nm,1.5s
CASY Casey 65.05 196 P **P 14 39 21.5 -0.6**
CASY Casey 65.05 196 P **P 14 39 22.9 +0.8**
MA2 Magadan 65.80 2 LR LR 15 10 08.1
comp=Z,90nm,18.3s,baz=180,slow=38
MA2 Magadan 65.80 2⇓ *e*P **P 14 39 27.2 +0.2**
MA2 pmax pmax
comp=Z,29nm,1.8s
PALK Pallekele 68.10 280 P **P 14 39 42.5 -0.1**
PALK IAmb IAmb 14 40 01.7
comp=Z,42nm,1.6s
PALK Pallekele 68.10 280 LR LR 15 12 52.3
comp=Z,66nm,20.3s,baz=91,slow=39
PALK Pallekele 68.10 280 P **P 14 39 42.5 -0.1**
PALK pmax pmax
comp=Z,42nm,1.6s
ZAK Zakamensk 68.26 331 *e*P **P 14 39 38.7 -4.3**
ZAK pmax pmax
comp=Z,16nm,1.7s
SEY Seymchan 69.21 2 LR LR 15 11 32.0
comp=Z,134nm,18.6s,baz=170,slow=37
SEY Seymchan 69.21 2⇓ *i*P **P 14 39 48.6 +0.1**
SEY pmax pmax
comp=Z,20nm,1.6s
BOD Bodaibo 69.53 342 *e*P **P 14 39 49.6 -0.9**
BOD pmax pmax
comp=Z,23nm,1.3s
YAK Yakutsk 69.61 351 LR LR 15 10 12.7
comp=Z,74nm,18.2s,baz=154,slow=36
YAK Yakutsk 69.61 351 *e*P **P 14 39 50.7 -0.2**
YAK *e**PP **pP 14 40 10.8 +1.9**
YAK *e* 14 42 21.9
YAK *e*PPP PPP 14 44 00.8
YAK *e*S **S 14 48 53.1 -0.8**
YAK *e**SS **sS 14 49 26.8 +3.8**
YAK *e* 14 49 44.3
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,131nm,3.5s
YAK pmax pmax
comp=N,69nm,2.5s
YAK pmax pmax
comp=E,97nm,4.9s
YAK smax smax
comp=N,71nm,4.2s
YAK smax smax
comp=E,52nm,2.5s
CCD Concordia, Ant 70.06 186 P **P 14 39 54.8 +0.7**
KNGR Kungurtug, Tuv 71.26 329⇑ *i*P **P 14 40 02.3 +0.9**
KNGR pmax pmax
comp=Z,10.0nm,1.4s
VNDA Vanda 71.50 177 P **P 14 40 01.0 -1.3**
VNDA IAmb IAmb 14 40 19.6
comp=Z,9.7nm,0.9s
VNDA Vanda 71.50 177 P **P 14 40 01.6 -0.6**
comp=Z,1.8nm,0.6s,baz=331,slow=7.7,SNR=21
VNDA LR LR 15 10 16.4
comp=Z,114nm,18.0s,baz=350,slow=35
comp=Z,1.8nm,0.6s
VNDA Vanda 71.50 177 P **P 14 40 01.8 -0.5**
VNDA pP **pP 14 40 18.3 -1.9**
VNDA sP **sP 14 40 25.2 -2.3**
TAOE Nuku Hiva Isla 71.56 97 *e*LR LR 15 01 54.1
comp=Z,175nm,27.2s
HYB Hyderabad 72.16 291 *e*P **P 14 40 07.3 0.0**
HYB *es*P **sP 14 40 32.4 -1.1**
HYB *e*PP PP 14 43 10.4 +22
WMQ Urumqi 73.47 319 *e*P **P 14 40 15.5 +0.8**
DGAR Diego Garcia 74.53 264⇓ *e*P **P 14 40 22.0 +0.6**
DGAR pmax pmax
comp=Z,269nm,1.3s
BILL Bilibino 75.41 7⇓ *e*P **P 14 40 25.8 +0.4**
BILL pmax pmax
comp=Z,23nm,2.7s
ZSN Zaisan 76.83 322 *e*P **P 14 40 33.3 -0.6**
ZSN Zaisan 76.83 322 *e*P **P 14 40 33.2 -0.6**
MK31 Makanchi Array 78.17 320 *d i*P **P 14 40 40.5 -0.9**
MKAR Makanchi Array 78.17 320 P **P 14 40 40.1 -1.3**
MKAR Makanchi Array 78.17 320 P **P 14 40 40.2 -1.2**
comp=Z,1.9nm,0.5s,baz=103,slow=6.2,SNR=32
MKAR LR LR 15 15 34.1
comp=Z,82nm,20.6s,baz=88,slow=36
comp=Z,1.9nm,0.5s
SHLS Shalkode 78.72 316 *e*P **P 14 40 42.2 -2.4**
SHLS Shalkode 78.72 316 *e*P **P 14 40 42.2 -2.4**
TIXI Tiksi 78.85 354 LR LR 15 13 29.2
comp=Z,94nm,21.8s,baz=187,slow=34
TIXI Tiksi 78.85 354⇓ *e*P **P 14 40 45.5 +1.0**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
UZB Uzynbulak 79.03 316 *e*P **P 14 40 45.5 -0.8**
UZB Uzynbulak 79.03 316 *e*P **P 14 40 45.5 -0.8**
SATY Saty 79.42 316 *e*P **P 14 40 47.6 -0.9**
SATY Saty 79.42 316 *e*P **P 14 40 47.6 -0.9**
ZAA0 Zalesovo Array 79.65 328 P **P 14 40 46.8 -2.5**
ZALV Zalesovo Beam 79.65 328 P **P 14 40 47.1 -2.2**
ZALV Zalesovo Beam 79.65 328 P **P 14 40 46.9 -2.3**
comp=Z,8.3nm,0.7s,baz=113,slow=6.4,SNR=32
ZALV LR LR 15 17 11.2
comp=Z,107nm,19.5s,baz=118,slow=36
comp=Z,8.3nm,0.7s
ZALV Zalesovo Beam 79.65 328 P **P 14 40 47.1 -2.2**
KDAK Kodiak Island 79.95 28 LR LR 15 09 57.2
comp=Z,244nm,21.8s,baz=237,slow=31
TDK Taldyqorghan 80.06 318 *e*P **P 14 40 50.9 -0.8**
TDK Taldyqorghan 80.06 318 *e*P **P 14 40 50.9 -0.8**
KSH Kashi 80.08 312 P **P 14 40 53.3 +1.2**
KSH pmax pmax
comp=Z,4.0nm,0.9s
MDOK Medeo 80.40 316 *e*P **P 14 40 52.8 -1.0**
MDOK Medeo 80.40 316 *e*P **P 14 40 52.8 -1.0**

TNSS Tian-Shan 80.43 315 *e*P **P 14 40 53.0 -1.3**
TNSS Tian-Shan 80.43 315 *e*P **P 14 40 52.9 -1.3**
AAA Alma-Ata 80.50 316 *e*P **P 14 40 53.4 -0.9**
comp=Z,6.1nm,0.5s
AAA Alma-Ata 80.50 316 *e*P **P 14 40 53.3 -0.9**
AAA pmax pmax
comp=Z,6.0nm,0.5s
BOOM Boomskoye usch 80.97 315 P **P 14 40 56.6 -0.3**
BOOM Boomskoye usch 80.97 315 P **P 14 40 56.6 -0.3**
BOOM pmax pmax
comp=Z,5.0nm,0.6s
CNPM China Poot 81.41 27 P **P 14 40 57.3 -1.4**
KURK Kurchatov 81.87 323 P **P 14 40 59.8 -1.4**
KURK Kurchatov 81.87 323 *c i*P **P 14 41 00.0 -1.2**
KURK pmax pmax
comp=Z,13nm,1.6s
KURBB Kurchatov Arra 81.89 323 P **P 14 40 59.9 -1.4**
comp=Z,1.1nm,0.5s,baz=110,slow=4.3,SNR=17
KURBB LR LR 15 19 01.3
comp=Z,90nm,18.9s,baz=165,slow=37
comp=Z,1.1nm,0.5s
AAK Ala-Archa 82.03 315 *c i*P **P 14 41 02.4 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 82.13 203 P **P 14 41 01.6 -0.6**
comp=Z,2.3nm,0.9s,baz=79,slow=16,SNR=8.5
MAW LR LR 15 15 47.2
comp=Z,146nm,22.0s,baz=88,slow=34
comp=Z,2.3nm,0.9s
SGDS Sogindy 82.17 315 *e*P **P 14 41 02.2 -0.9**
ARSB Arslanbob 82.77 313 IAmb IAmb 14 41 08.4
comp=Z,34nm,1.7s
BTLS Baital 83.02 317 *e*P **P 14 41 06.7 -0.6**
BTLS Baital 83.02 317 *e*P **P 14 41 06.7 -0.6**
E19K Redstone River 83.28 19 P **P 14 41 07.4 -0.8**
E19K IAmb IAmb 14 41 40.8
comp=Z,45nm,1.6s
F20K Avaraart Lake 83.54 19 P **P 14 41 08.0 -1.5**
F20K IAmb IAmb 14 42 42.6
comp=Z,57nm,2.0s
QSPA South Pole Qui 83.59 180 P **P 14 41 09.5 -0.5**
QSPA South Pole Qui 83.59 180 P **P 14 41 11.1 +1.1**
comp=Z,4.6nm,0.6s,baz=314,slow=0.8,SNR=37
QSPA LR LR 15 16 21.6
comp=Z,143nm,21.5s,baz=12,slow=34
comp=Z,4.6nm,0.6s
IMAR Indian Mountai 83.63 21 P **P 14 41 08.6 -1.4**
DZA Taraz 84.35 314 *e*P **P 14 41 13.2 -1.0**
comp=Z,5.6nm,0.8s
DZA Taraz 84.35 314 *e*P **P 14 41 13.2 -1.0**
DZA pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 84.98 314 P **P 14 41 15.2 -2.2**
KKAR Karatay Array 84.98 314 P **P 14 41 15.2 -2.2**
BRZS Berezniki 85.27 321 *e*P **P 14 41 17.6 -1.0**
BRZS Berezniki 85.27 321 *e*P **P 14 41 17.6 -1.0**
COLA College 85.27 23⇓ *i*P **P 14 41 16.3 -2.0**
COLA pmax pmax
comp=Z,30nm,2.5s
BRLS Borolday 85.45 314 *e*P **P 14 41 19.0 -0.8**
BRLS Borolday 85.45 314 *e*P **P 14 41 18.9 -0.8**
CHM Chimkent 85.46 313 *e*P **P 14 41 18.9 -1.0**
CHM Chimkent 85.46 313 *e*P **P 14 41 18.8 -1.0**
ILAR Eielson Array 85.60 23 P **P 14 41 16.7 -3.3**
comp=Z,3.0nm,0.6s,baz=252,slow=4.6,SNR=54
ILAR LR LR 15 14 26.4
comp=Z,126nm,21.9s,baz=252,slow=32
K27K Chicken 87.24 25 IAmb IAmb 14 41 28.3
comp=Z,38nm,1.9s
BVAR Borovoye Array 87.43 324 P **P 14 41 26.9 -2.3**
comp=Z,2.7nm,0.5s,baz=104,slow=6.1,SNR=16
BVAR LR LR 15 21 51.7
comp=Z,62nm,19.7s,baz=82,slow=36
comp=Z,2.7nm,0.5s
BORK Borovoye 87.48 324⇑ *i*P **P 14 41 27.7 -1.7**
BORK pmax pmax
comp=Z,8.0nm,1.4s
DAWY Dawson 88.36 25 IAmb IAmb 14 41 35.6
comp=Z,34nm,1.8s
K29M Barlow Dome 89.09 25 IAmb IAmb 14 42 20.4
comp=Z,30nm,1.8s
J30M Hart River 89.79 25 IAmb IAmb 14 42 38.4
comp=Z,26nm,1.9s
DLBC Dease Lake 91.41 31 LR LR 15 15 20.0
comp=Z,1μm,20.9s,baz=257,slow=30
BBB Bella Bella 91.50 38 LR LR 15 15 23.4
comp=Z,133nm,20.6s,baz=246,slow=30
INK Inuvik 91.79 21 LR LR 15 18 52.5
comp=Z,156nm,21.9s,baz=239,slow=33
YBH Yreka Blue Hor 93.97 49 LR LR 15 16 08.1
comp=Z,16nm,21.7s,baz=278,slow=30
AKTO Aktyubinsk 94.61 320 LR LR 15 27 04.9
comp=Z,77nm,19.2s,baz=123,slow=37
ARTI Arti 94.83 326 LR LR 15 24 29.2
comp=Z,115nm,21.8s,baz=87,slow=35
ARTI Arti 94.83 326⇓ *e*P **P 14 42 01.0 -2.5**
ARTI pmax pmax
comp=Z,10.0nm,2.3s
NVAR Mina Array Bea 97.13 52 LR LR 15 22 15.2
comp=Z,47nm,18.6s,baz=269,slow=33
NEW Newport 98.23 42 LR LR 15 22 41.1
comp=Z,60nm,18.2s,baz=270,slow=33
PFO Pinyon Flats O 98.43 57 LR LR 15 21 35.1
comp=Z,87nm,18.9s,baz=206,slow=32
TROLL Troll, Antarti 98.53 190 ⇓P Pdif 14 42 20.3 +0.1
comp=Z,85nm,0.8s
RPN Rapa Nui 98.63 119 LR LR 15 19 02.5
comp=Z,36nm,21.8s,baz=346,slow=30
YKA Yellowknife Ar 99.23 28 LR LR 15 19 48.6
comp=Z,142nm,21.1s,baz=298,slow=31
KIRV Kirov 99.68 328 LR LR 15 27 36.5
comp=Z,323nm,21.2s,baz=77,slow=35
SNAA Sanae 99.72 189 ⇓P **Pdif 14 42 25.9 +0.5**
comp=Z,30nm,1.1s
SNAA Sanae 99.72 189 P **Pdif 14 42 24.6 -0.9**
comp=Z,1.8nm,1.1s,baz=127,slow=5.1,SNR=3.3
SNAA LR LR 15 26 27.3
comp=Z,271nm,21.8s,baz=198,slow=35
comp=Z,1.8nm,1.1s
SNAA Sanae 99.72 189⇓ *e*P **Pdif 14 42 24.2 -1.2**
SNAA pmax pmax
comp=Z,8.0nm,1.6s
VNA3 Neumayer Olymp 101.07 187 ⇓P **Pdif 14 42 19.1 -12**
comp=Z,1.7nm,0.6s
AKT Akhty 101.59 311 *e*P **Pdif 14 42 29.0 -5.4**
AKT pmax pmax
comp=Z,16nm,1.2s
OBN Obninsk 107.18 326 *i*P **Pdif 14 42 57.8 -0.9**
OBN *e* 14 47 26.3
OBN pmax pmax
comp=Z,8.0nm,0.5s
TXAR Lajitas Array 109.42 61 PKiKP **PKiKP 14 47 11.7 -1.1**
comp=Z,0.1nm,0.6s,baz=264,slow=1.4,SNR=3.7
TXAR PKKPbc **PKKPbc 14 58 19.7 +1.2**
comp=Z,0.2nm,0.5s,baz=85,slow=5.0,SNR=5.6
TXAR PKKP **PKKPdf 14 58 33.5 -1.0**
comp=Z,0.4nm,0.6s,baz=97,slow=5.0,SNR=5.9
FINES FINESS Array B 110.28 334 PKiKP **PKiKP 14 47 12.3 -0.9**
comp=Z,1.4nm,0.9s,baz=103,slow=4.4,SNR=4.3
BR131 Keskin Array S 112.43 310 *i*PKiKP **PKiKP 14 47 18.4 +0.2**
AKASG Malin Array Be 112.68 323 PKiKP **PKiKP 14 47 17.5 -0.7**
comp=Z,0.2nm,0.3s,baz=57,slow=3.4,SNR=1.6
AKBB Malin Array Si 112.68 323 *i*PKiKP **PKiKP 14 47 17.4 -0.7**
BOSA Boshof 114.51 235 PKP **PKiKP 14 47 23.0 +0.5**
comp=Z,1.0nm,0.5s,baz=130,slow=3.3,SNR=6.1
LSZ Lusaka 116.24 250 PKP **PKiKP 14 47 26.4 +0.3**
comp=Z,2.0nm,0.4s,baz=67,slow=2.7,SNR=3.8
NOA NORSAR Array B 116.53 338 PKP **PKPdf 14 47 25.2 -0.1**
comp=Z,0.4nm,0.7s,baz=50,slow=2.2,SNR=3.3
KOLS Kolonicke sedl 117.52 323 *e*PKiKP **PKiKP 14 47 29.4 +1.9**
KOLS Kolonicke sedl 117.52 323 *e*PKP **PKiKP 14 47 29.4 +1.9**
STHS Stebnicka Huta 117.93 323 *e*PKiKP **PKiKP 14 47 29.6 +1.2**
STHS Stebnicka Huta 117.93 323 *e*PKP **PKiKP 14 47 29.5 +1.2**
PLCA Paso Flores 121.47 147 PKP **PKiKP 14 47 35.7 0.0**
comp=Z,2.3nm,0.5s,baz=244,slow=2.3,SNR=17
CLL Collm 121.60 328 *i*PKPdf **PKiKP 14 47 35.6 +0.2**
CLL LmV 15 39 00.0
comp=Z,200nm,21.5s
CONA Conrad Observa 121.79 324 *i*PKiKP **PKPdf 14 47 35.2 -0.7**
comp=Z,2.2nm,0.8s
KHC Kasperske Hory 122.48 326 *i*PKiKP **PKPdf 14 47 36.8 -0.3**
GERES GERESS Array B 122.56 326 PKP **PKPdf 14 47 35.9 -1.4**
comp=Z,1.3nm,0.5s,baz=64,slow=2.3,SNR=11
SOKA Soboth 122.89 323 *i*PKP **PKPdf 14 47 36.8 -1.2**
comp=Z,3.0nm,1.0s
LESA Schwarzleotal 123.89 325 *i*PKP **PKPdf 14 47 38.8 -1.2**
comp=Z,3.0nm,0.6s
ABTA Abfaltersbach 124.35 324 *i*PKP **PKPdf 14 47 39.7 -1.1**
comp=Z,2.6nm,0.6s
WATA Walderalm 124.57 325 *i*PKiKP **PKPdf 14 47 40.8 -0.5**
comp=Z,3.1nm,0.6s
WTTA Wattenberg 124.58 325 *i*PKiKP **PKPdf 14 47 40.6 -0.8**
comp=Z,3.7nm,0.6s
MOTA Moosalm 124.84 325 *i*PKiKP **PKPdf 14 47 41.4 -0.5**
comp=Z,3.9nm,0.6s
SQTA Sankt Quirin 124.84 325 *i*PKiKP **PKPdf 14 47 41.6 -0.2**
comp=Z,3.1nm,0.6s
RETA Reutte 124.95 326 *i*PKiKP **PKPdf 14 47 41.4 -0.6**
comp=Z,2.4nm,1.1s
FETA Feichten 125.23 325 *e*PKP **PKPdf 14 47 41.4 -1.2**
comp=Z,3.8nm,0.8s
DAVA Damuels 125.56 326 *i*PKP **PKPdf 14 47 42.0 -1.2**
comp=Z,7.7nm,1.5s
EKA Eskdalemuir Ar 125.89 340 PKP **PKPdf 14 47 42.4 -0.9**
comp=Z,0.5nm,0.5s,baz=39,slow=2.7,SNR=3.7
BMRD Maredsous 126.34 331 *d*PKP **PKPdf 14 47 44.3 -0.1**
LPAZ La Paz 138.07 123 PKP **PKPdf 14 48 08.3 0.0**
comp=Z,2.3nm,0.3s,baz=272,slow=0.9,SNR=4.7
ROSC El Rosal 138.26 90 PKP **PKPdf 14 48 08.4 0.0**
comp=Z,17nm,0.5s,baz=270,slow=20,SNR=4.7
CPUP Villa Florida 139.47 144 PKP **PKPdf 14 48 09.0 -0.8**
comp=Z,0.7nm,0.7s,baz=216,slow=0.4,SNR=5.3
CPUP Villa Florida 139.47 144 PKiKP **PKPdf 14 48 09.0 -0.8**
AOPR Arecibo Observ 144.47 67 **PKPab 14 48 15.1 -2.2**
CELP Cerrillos 144.71 68 **PKPab 14 48 16.7 -1.5**
TORD Torodi Ar. Bea 145.76 284 PKPbc **PKPdf 14 48 20.7 -0.5**
comp=Z,23nm,0.6s,baz=83,slow=3.9,SNR=61
SMRT St. Maarten 147.91 66 PKPbc **PKPbc 14 48 27.0 -0.8**
DBIC Dimbokro 152.64 272 PKPbc **PKiKP 14 48 39.9 +0.3**
comp=Z,10nm,0.6s,baz=113,slow=3.5,SNR=19
BDFB Brasilia 153.20 145 PKPbc **PKPbc 14 48 40.3 -0.3**
comp=Z,8.7nm,0.5s,baz=215,slow=3.8,SNR=12

UCR ***05*** *14:31:01.2±0.7, 11°.05N×86°.44W, h8km, MW3.9*
CATAC ***05*** *14:31:02.0±0.8, 11°.N±4°×.8°6W±°, h29km±9km, M3.1/12, MLv3.1/12, Error ellipse: s-maj=9.4km s-min=4.5km az=41.8, confirmed*
ISC 05 14:31:00.2±1.6, 11°.13N±0°.06×86°.38W±0°.07, h2km±12km, n34, σ0°69/41, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.70**	**29**	*e*P	**Pn**	**14 31 17.5**	**+0.3**
LCRUZ	**La Cruz**	**0.74**	**94**	*e*P	**Pn**	**14 31 16.7**	**-1.0**
MORN	**AI O del Volca**	**0.83**	**60**	P	**Pn**	**14 31 19.1**	**+0.1**
OMEN	**AI SSO del Vol**	**0.83**	**63**	P	**Pn**	**14 31 17.9**	**-1.1**
OMEN				S	**Sn**	**14 31 32.8**	**+1.0**
NANN	**Nandasmo**	**0.84**	**18**	P	**Pn**	**14 31 20.5**	**+1.3**
CARN	**Rivas**	**0.85**	**86**	P	**Pn**	**14 31 19.0**	**-0.2**
CARN				S	**Sn**	**14 31 33.4**	**+1.3**
CARN	**Rivas**	**0.85**	**86**	*e*P	**Pn**	**14 31 18.8**	**-0.4**
CONN	**Concepcion**	**0.86**	**60**	P	**Pn**	**14 31 19.2**	**-0.1**
CONN				S	**Sn**	**14 31 32.5**	**0.0**
MAS3	**AI N del Volca**	**0.91**	**13**	P	**Pn**	**14 31 20.0**	**-0.1**
MAS3				S	**Sn**	**14 31 33.8**	**-0.1**
ELI1	**Hacienda Flor**	**0.95**	**120**	S	**Sn**	**14 31 35.4**	**+0.7**
ELI1	**Hacienda Flor**	**0.95**	**120**	P	**Pn**	**14 31 20.2**	**-0.3**
ELI1	**Hacienda Flor**	**0.95**	**120**	*e*P	**Pn**	**14 31 19.7**	**-0.8**
ALIBA	**Liberia Airpor**	**0.98**	**123**	*e*P	**Pn**	**14 31 20.6**	**-0.4**
UNAN	**Cigeo UNAN**	**0.98**	**6**	P	**Pg**	**14 31 18.5**	**-0.5**
UNAN				S	**Sn**	**14 31 35.9**	**+0.3**
LAPC	**Finca la Perla**	**1.00**	**111**	*e*P	**Pn**	**14 31 20.3**	**-1.0**
WILN	**Americas 2**	**1.04**	**11**	P	**Pn**	**14 31 21.7**	**-0.1**
WILN				S	**Sn**	**14 31 37.9**	**+1.0**
VRLE	**La Escondida,**	**1.06**	**109**	*e*P	**Pn**	**14 31 21.8**	**-0.4**
BUAI	**Buenos Aires**	**1.06**	**104**	*e*P	**Pn**	**14 31 21.7**	**-0.4**
COPN	**Copaltepe**	**1.06**	**349**	P	**Pn**	**14 31 22.0**	**-0.1**
VORI	**VORI**	**1.06**	**107**	*e*P	**Pn**	**14 31 22.2**	**-0.1**
GPS2	**Hotel Rincn d**	**1.08**	**110**	*e*P	**Pn**	**14 31 21.7**	**-0.7**
MESS	**Mesas**	**1.23**	**108**	*e*P	**Pg**	**14 31 24.8**	**+1.0**
CUI	**Cuipilapa**	**1.29**	**111**	*e*P	**Pg**	**14 31 25.1**	**+0.2**
VMAR	**Armenia, Volca**	**1.29**	**104**	*e*P	**Pg**	**14 31 25.4**	**+0.5**
CNGA	**AI SSO del Vol**	**1.39**	**347**	P	**Pg**	**14 31 26.9**	**-0.1**
CNGN	**Cerro Negro**	**1.40**	**347**	S	**Sg**	**14 31 45.8**	**+0.6**
CNGN	**Cerro Negro**	**1.40**	**347**	P	**Pb**	**14 31 26.7**	**-0.3**
TENO	**El Achiote**	**1.45**	**107**	*e*P	**Pg**	**14 31 28.0**	**+0.1**
ACON	**Acoyapa**	**1.45**	**55**	S	**Sb**	**14 31 46.6**	**-0.2**
ACON	**Acoyapa**	**1.45**	**55**	P	**Pn**	**14 31 26.0**	**-1.4**
ACON	**Acoyapa**	**1.45**	**55**	*e*P	**Pn**	**14 31 26.1**	**-1.4**
QUEB	**Quebradon, Cot**	**1.55**	**109**	*e*P	**Pg**	**14 31 29.6**	**-0.2**
MATN	**Matagalpa**	**1.84**	**14**	P	**Pn**	**14 31 32.3**	**-0.7**
LIMN	**Finca el Limon**	**1.92**	**1**	P	**Pn**	**14 31 34.2**	**+0.2**
LIMN				S	**Sn**	**14 31 58.4**	**-0.4**

JMA ***05*** *14:34:23.4±0.1, 24°.3N±0°.4×121°.7E±0°.8, h41km±1km, MV3.7/16, TAIWAN REGION*
TAP ***05*** *14:34:23.9, 24°.33N×121°.71E, h33km, ML4.2, B*
ISC 05 14:34:24.3±0.8, 24°.31N±0°.01×121°.73E±0°.02, h31km±4km, n173, σ0°86/300, 6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.01**	**86**	P	**Pb**	**14 34 29.6**	**+0.1**
EHP				S	**Sb**	**14 34 33.8**	**+0.9**
EAHA	**Aohua**	**0.02**	**25**	*i* P	**Pb**	**14 34 29.5**	**0.0**
EAHA				S	**Sb**	**14 34 33.1**	**+0.2**
ENA	**Nanau**	**0.12**	**5**	*i* P	**Pb**	**14 34 29.7**	**-0.1**
ENA				S	**Sn**	**14 34 34.7**	**+0.6**
EWUT	**Wuta**	**0.14**	**18**	*i* P	**Pb**	**14 34 29.9**	**-0.2**
EWUT				*e*S	**Sb**	**14 34 34.1**	**+0.1**
ETL	**Fush Village**	**0.18**	**213**	P	**Pb**	**14 34 30.3**	**-0.1**
ETL				S	**Sn**	**14 34 35.3**	**+0.3**
NACB	**Ninganchiao**	**0.18**	**222**	P	**Pb**	**14 34 29.8**	**-0.6**
NACB	**Ninganchiao**	**0.18**	**222**	*i*P	**Pb**	**14 34 30.2**	**-0.2**
NACB				*i* S	**Sb**	**14 34 34.6**	**+0.1**
ETLH	**Xiulin Townshi**	**0.25**	**246**	*i*P	**Pb**	**14 34 31.1**	**-0.1**
ETLH				S	**Sb**	**14 34 36.2**	**+0.2**
TWD	**Chiawan**	**0.26**	**208**	*i* P	**Pb**	**14 34 31.2**	**-0.1**
TWD				S	**Sb**	**14 34 36.6**	**+0.7**
ESAO	**Su ao**	**0.28**	**22**	*i* P	**Pb**	**14 34 31.3**	**-0.3**
ESAO				*i* S	**Sb**	**14 34 37.1**	**+0.5**
LATG	**Datong**	**0.29**	**321**	*i*P	**Pb**	**14 34 31.3**	**-0.6**
LATG				*i* S	**Sb**	**14 34 36.9**	**0.0**
TWC	**Suao**	**0.32**	**20**	*i* P	**Pb**	**14 34 31.9**	**-0.2**
TWC				S	**Sb**	**14 34 37.7**	**+0.3**
NDS	**Dongshan**	**0.32**	**358**	*i* P	**Pb**	**14 34 31.8**	**-0.4**
NDS				S	**Sb**	**14 34 37.5**	**0.0**
NNSB	**Datong**	**0.34**	**291**	*i*P	**Pb**	**14 34 31.9**	**-0.5**
NNSB				*i* S	**Sb**	**14 34 37.6**	**-0.4**
HWA	**Hwalien**	**0.35**	**199**	*e*P	**Pb**	**14 34 32.8**	**+0.3**
HWA				*e*S	**Sn**	**14 34 39.5**	**+0.4**
NNS	**Nan Shan**	**0.35**	**292**	*i* P	**Pb**	**14 34 32.1**	**-0.5**
NNS				S	**Sb**	**14 34 38.1**	**-0.2**
ENTT	**Nioudou**	**0.36**	**336**	*i* P	**Pb**	**14 34 32.2**	**-0.5**
ENTT				*i* S	**Sb**	**14 34 38.1**	**-0.3**
ETM	**Tongmen**	**0.41**	**212**	*i* P	**Pb**	**14 34 32.8**	**-0.5**
ETM				*i* S	**Sb**	**14 34 39.8**	**+0.4**
LXIB	**Xiulin Townshi**	**0.41**	**225**	P	**Pb**	**14 34 32.9**	**-0.5**
LXIB				S	**Sb**	**14 34 40.0**	**+0.4**
TWE	**Neicheng**	**0.41**	**352**	*i* P	**Pb**	**14 34 33.0**	**-0.4**
TWE				S	**Sb**	**14 34 39.4**	**-0.3**
FUSS	**Fushou**	**0.45**	**262**	*i* P	**Pb**	**14 34 34.0**	**-0.1**
FUSS				S	**Sb**	**14 34 40.8**	**0.0**
WHF	**Hehuan Shan**	**0.45**	**249**	*i* P	**Pb**	**14 34 34.1**	**-0.2**
WHF				*i* S	**Sb**	**14 34 41.3**	**+0.1**
ILA	**Ilan**	**0.46**	**2**	P	**Pb**	**14 34 34.0**	**0.0**
ILA				S	**Sb**	**14 34 41.2**	**+0.5**
TEYL	**Yanliau Villag**	**0.46**	**195**	P	**Pb**	**14 34 34.2**	**+0.1**
TEYL				S	**Sn**	**14 34 42.5**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.47**	**344**	*i* P	**Pb**	**14 34 33.7**	**-0.6**
FUSB				*e*S	**Sb**	**14 34 40.3**	**-0.8**
EOS2	**EOS2**	**0.47**	**76**	*e*P	**Pn**	**14 34 35.3**	**+0.5**
YHNB	**Yeheng**	**0.48**	**318**	P	**Pb**	**14 34 33.5**	**-1.0**
YHNB	**Yeheng**	**0.48**	**318**	*i*P	**Pb**	**14 34 34.0**	**-0.6**
YHNB				S	**Sb**	**14 34 40.6**	**-1.0**
NSK	**Sanguang**	**0.50**	**317**	*i* P	**Pb**	**14 34 34.1**	**-0.6**
NSK				*i* S	**Sb**	**14 34 41.0**	**-1.0**
TWT	**Tachien**	**0.51**	**264**	*i* P	**Pb**	**14 34 35.2**	**+0.2**
TWT				*i* S	**Sb**	**14 34 42.5**	**+0.2**
NWLT	**Wulai**	**0.51**	**336**	P	**Pb**	**14 34 34.2**	**-0.8**
NWLT				S	**Sb**	**14 34 40.9**	**-1.3**
TDCB	**Techi**	**0.52**	**264**	*i* P	**Pb**	**14 34 35.2**	**0.0**
TDCB				*i* S	**Sb**	**14 34 42.4**	**-0.4**
EOS3	**EOS3**	**0.54**	**92**	*i* P	**Pn**	**14 34 36.4**	**+0.7**
SHUL	**Shoufeng**	**0.54**	**196**	P	**Pb**	**14 34 35.6**	**+0.2**

SHUL			*i* S	Sn	14 34 44.7	+0.7			
NTC	**Toucheng**	0.55	10 P	Pb	14 34 35.4	-0.2			
NTC			*e*S	Sn	14 34 44.3	+0.1			
ESL	**Shilin**	0.56	209 *e*P	Pb	14 34 34.6	-1.1			
ESL			S	Sb	14 34 42.5	-1.1			
EGS		0.56	19 *e*P	Pb	14 34 35.7	-0.1			
EGS			S	Sn	14 34 44.8	+0.3			
EOS4	**EOS4**	0.57	109 *e*P	Pb	14 34 36.0	+0.3			
EOS4			*e*S	Sn	14 34 45.0	+0.9			
OWD	**Renai**	0.62	235 P	Pb	14 34 36.5	-0.3			
OWD			S	Sb	14 34 44.7	-0.6			
TEGC	**Jichi Village**	0.62	196 P	Pb	14 34 36.6	-0.1			
WUSB	**Renai**	0.64	241 *i* P	Pb	14 34 37.0	-0.2			
WUSB			S	Sb	14 34 46.1	+0.2			
NFF	**Wufeng Townshi**	0.64	300 P	Pb	14 34 36.7	-0.5			
NFF			S	Sb	14 34 45.2	-0.7			
TIPB	**Shuangxi**	0.67	8 *i* P	Pb	14 34 37.1	-0.4			
TIPB			S	Sb	14 34 45.7	-0.8			
WARBT	**Fenglin Townsh**	0.67	208 P	Pb	14 34 35.8	-1.7			
WARBT			S	Sb	14 34 44.9	-1.6			
NHDH	**Xindian Distri**	0.68	344 *e*P	Pb	14 34 37.4	-0.3			
NHDH			S	Sb	14 34 46.2	-0.6			
KSHI	**Guanxi Townshi**	0.69	313 *e*P	Pb	14 34 38.0	+0.2			
KSHI			S	Sn	14 34 48.0	+0.5			
EGFH	**Guangfu**	0.69	203 *e*P	Pb	14 34 37.0	-0.9			
EGFH			S	Sb	14 34 46.2	-1.0			
TATO	**Taipei**	0.70	342 P	Pb	14 34 37.3	-0.7			
WHP	**Taichung City**	0.71	268 *i* P	Pb	14 34 38.4	+0.1			
WHP			S	Sb	14 34 48.0	0.0			
LIOB	**Emei**	0.73	297 *i* P	Pb	14 34 38.7	+0.1			
LIOB			S	Sb	14 34 48.3	-0.1			
TWB1	**Santiao Chiao**	0.73	19 *i* P	Pb	14 34 38.2	-0.4			
TWB1			S	Sb	14 34 48.4	0.0			
NSTT	**Nanjuang**	0.74	296 *i* P	Pb	14 34 38.6	0.0			
NSTT			S	Sb	14 34 48.2	-0.2			
NHY	**Taipei**	0.74	349 P	Pb	14 34 38.3	-0.5			
NHY			*e*S	Sb	14 34 48.4	-0.2			
TAP	**Taipei**	0.76	344 P	Pn	14 34 38.7	-0.1			
TAP			S	Sb	14 34 49.0	0.0			
NWF	**Wu-fen Shan**	0.76	4 *e*P	Pn	14 34 39.0	0.0			
NWF			S	Sb	14 34 49.4	+0.2			
WFSB	**Wu-fen Shan**	0.76	4 P	Pn	14 34 39.0	+0.1			
WFSB			S	Sb	14 34 49.4	+0.2			
WCS	**Beigang Elemen**	0.79	252 P	Pn	14 34 39.6	+0.3			
WCS			*e*S	Sn	14 34 50.5	+0.5			
SXI1	**Grass Mountain**	0.79	10 *i* P	Pn	14 34 39.7	+0.2			
SXI1			S	Sn	14 34 50.8	+0.5			
NCUH	**Zhongli**	0.82	323 *e*P	Pb	14 34 40.2	+0.1			
NCUH			*e*S	Sn	14 34 51.5	+0.6			
SBCB	**Hsinchu**	0.83	306 P	Pn	14 34 40.2	+0.3			
SBCB			S	Sn	14 34 52.7	+1.6			
TNOU	**National Taiwa**	0.84	3 *e*P	Pn	14 34 40.1	+0.1			
TNOU			S	Sb	14 34 51.1	-0.2			
YM01	**YM01**	0.85	350 *e*P	Pn	14 34 40.1	-0.1			
YM01			*e*S	Sb	14 34 51.2	-0.4			
HSN	**Hsinchu**	0.85	306 *e*P	Pn	14 34 40.3	+0.2			
HSN			S	Sn	14 34 52.5	+0.9			
HGSD	**Ruisui**	0.86	199 *e*P	Pn	14 34 39.5	-0.8			
ZUZH	**Zhuzihu**	0.87	349 *e*P	Pn	14 34 39.6	-0.8			
ZUZH			S	Sb	14 34 51.4	-0.8			
SMLT	**Sun Moon Lake**	0.87	241 *e*P	Pn	14 34 40.6	+0.1			
TWQ1	**Liyutan**	0.87	273 *i* P	Pb	14 34 41.4	+0.5			
TWQ1			*e*S	Sb	14 34 53.4	+1.1			
SSLB	**Suanglung**	0.88	234 P	Pn	14 34 39.9	-0.7			
SSLB	**Suanglung**	0.88	234 *i* P	Pn	14 34 40.4	-0.2			
SSLB			*e*S	Sn	14 34 51.8	-0.5			
EHY	**Hungye**	0.88	205 *e*P	Pn	14 34 38.6	-2.0			
EHY			*e*S	Sn	14 34 50.3	-2.1			
EHYH	**Wanrong**	0.88	203 *e*P	Pn	14 34 38.8	-1.8			
EHYH			*e*S	Sn	14 34 50.3	-2.1			
YM08	**YM08**	0.88	352 *e*P	Pn	14 34 39.7	-0.9			
NMLH	**Miaoli**	0.89	285 *i* P	Pb	14 34 41.5	+0.4			
NMLH			*e*S	Sn	14 34 52.6	+0.1			
NSY	**Sanyi**	0.89	277 *i* P	Pb	14 34 42.2	+1.0			
NSY			S	Sb	14 34 54.3	+1.5			
NTST	**Danshui**	0.89	343 *e*P	Pn	14 34 40.5	-0.2			
NTST			*e*S	Sb	14 34 53.0	+0.3			
TYC	**Yuchr**	0.89	243 P	Pn	14 34 41.0	+0.2			
TYC			S	Sb	14 34 53.4	+0.5			
ANP	**Anpu**	0.89	348 *e*P	Pn	14 34 40.4	-0.5			
TWY	**Chenhua**	0.97	353 P	Pn	14 34 42.1	+0.3			
TWY			*e*S	Sn	14 34 54.5	-0.1			
TCU	**Taichung**	0.97	261 P	Pb	14 34 42.9	+0.3			
TCU			S	Sb	14 34 56.7	+1.5			
WDJ	**Dajia District**	0.99	272 *e*P	Pb	14 34 43.1	+0.1			
WDJ			S	Sb	14 34 57.4	+1.6			
YULB	**Yu-li**	0.99	204 P	Pn	14 34 40.9	-1.3			
YULB	**Yu-li**	0.99	204 *e*P	Pn	14 34 40.4	-1.8			
WHYT	**Xinyi Township**	1.01	233 P	Pn	14 34 42.9	+0.5			
WHYT			S	Sb	14 34 56.9	+0.8			
ECBN	**Changbin**	1.02	194 P	Pn	14 34 42.3	-0.2			
ECBN			S	Sb	14 34 56.7	+0.2			
EYUL	**Yuli**	1.03	201 P	Pn	14 34 42.5	-0.1			
EYUL			*e*S	Sb	14 34 56.9	+0.2			
TWF1	**Yuli**	1.03	203 *e*P	Pn	14 34 40.8	-1.9			
WJS	**Zhushan**	1.04	242 *e*P	Pb	14 34 44.1	+0.4			
WNT	**Mingjian**	1.05	246 *i* P	Pb	14 34 44.4	+0.6			
WNT			S	Sb	14 34 59.7	+2.5			
WCHH	**Zhanghua**	1.09	258 P	Pb	14 34 44.4	-0.3			
WCHH			S	Sb	14 34 59.8	+1.3			
WCH1	**Changhua City**	1.10	258 *e*P	Pb	14 34 44.5	-0.3			
WCH1			*e*S	Sb	14 35 00.2	+1.3			
JYNG	**Yonagunijimaku**	1.12	82 P	Pn	14 34 43.7	-0.1			
JYNG			*e*S	Sn	14 34 58.9	+0.7			
CHKH	**Chenggong**	1.15	195 P	Pn	14 34 43.7	-0.6			
CHKH			*e*S	Sn	14 34 59.4	+0.4			
ALS	**Alishan**	1.16	227 P	Pn	14 34 45.3	+0.6			
ALS			*e*S	Sb	14 35 01.2	+0.4			
FULB	**Fuli**	1.18	200 *e*P	Pn	14 34 44.0	-0.6			
YOJ	**Yonaguni jima**	1.18	82 P	Pn	14 34 44.6	0.0			
YOJ	**Yonaguni jima**	1.18	82 *e*P	Pn	14 34 44.7	0.0			
YOJ			*e*S	Sn	14 35 00.1	+0.4			
YOJ	**Yonaguni jima**	1.18	82 ‖ *i* P	Pn	14 34 44.6	0.0			
YOJ			S	Sn	14 35 00.6	+0.9			
CHN5	**Tsauling**	1.20	234 *i* P	Pb	14 34 46.3	-0.1			
CHN5			S	Sb	14 35 02.9	+1.4			
WGK	**Gukeng**	1.23	240 *e*P	Pb	14 34 47.3	+0.2			
WGK			S	Sb	14 35 04.1	+1.5			
WDL	**Douliou City**	1.24	242 P	Pb	14 34 47.2	+0.1			
WDL			*e*S	Sb	14 35 04.7	+2.0			
CHKT	**Chengkung**	1.25	196 *e*P	Pn	14 34 45.3	-0.4			
CHKT			*e*S	Sn	14 35 00.9	-0.5			
EHD	**Haiduan**	1.25	203 P	Pn	14 34 45.5	-0.2			
WDLH	**Douliu**	1.25	241 P	Pb	14 34 47.2	-0.1			
WDLH			S	Sb	14 35 04.3	+1.2			
ELDTW	**Lidau**	1.29	210 P	Pn	14 34 45.2	-1.2			
ELDTW			*e*S	Sn	14 35 01.6	-1.1			
ECS	**Chishang**	1.30	201 *e*P	Pn	14 34 46.8	+0.5			
WCKO	**Fanlu**	1.35	230 P	Pb	14 34 48.7	-0.2			
WCKO			S	Sb	14 35 07.5	+1.7			
PCYT	**Pengchaiyu**	1.35	13 P	Pn	14 34 47.2	+0.2			
PCYT			S	Sb	14 35 06.0	+0.1			
WTK	**Tuku**	1.37	243 *i* P	Pb	14 34 48.6	-0.7			
WTK			S	Sb	14 35 07.2	+0.7			
CHN2	**Minshiung**	1.38	236 P	Pb	14 34 49.5	0.0			
CHN2			S	Sb	14 35 08.3	+1.5			
EDH	**Donghe**	1.39	196 *e*P	Pn	14 34 46.5	-1.0			
EDH			S	Sn	14 35 05.7	+0.9			
WTCT	**Ta-ch'eng**	1.40	252 *e*P	Pn	14 34 48.6	+0.9			
WTCT			S	Sb	14 35 07.3	+0.1			
TPUB	**Ta-pu**	1.42	225 P	Pn	14 34 48.9	+0.8			
TPUB	**Ta-pu**	1.42	225 *i* P	Pb	14 34 49.6	-0.6			
TPUB			S	Sb	14 35 09.0	+1.0			
STYH	**Taoyuan**	1.43	218 *i* P	Pn	14 34 48.8	+0.7			
STYH			S	Sb	14 35 08.2	0.0			
CHY	**Chiayi**	1.44	236 *i* P	Pb	14 34 49.9	-0.6			
CHY			S	Sb	14 35 09.6	+1.1			
WTP	**Ta-pu**	1.47	224 P	Pb	14 34 50.2	-0.8			
WTP			*e*S	Sb	14 35 10.6	+1.2			
LONT	**Longtian**	1.50	202 *e*P	Pn	14 34 47.7	-1.5			
WSF	**Szhu**	1.53	244 *e*P	Pn	14 34 50.5	+1.0			
WSF			S	Sb	14 35 11.1	0.0			
TWK	**Hsinying**	1.54	228 P	Pb	14 34 51.2	-1.0			
TWK			S	Sb	14 35 12.4	+1.1			
SNST	**Tainan City**	1.56	226 *i* P	Pb	14 34 51.7	-1.0			
SNST			S	Sb	14 35 12.7	+0.7			
CHN1	**Nanshi**	1.57	225 *i* P	Pb	14 34 51.8	-0.9			
CHN1			*e*S	Sb	14 35 13.9	+1.7			
WSL	**Shuilin Townsh**	1.58	241 *i* P	Pn	14 34 51.5	+1.3			
WSL			*e*S	Sb	14 35 13.1	+0.6			
TWG	**Pinlang**	1.60	202 *e*P	Pb	14 34 52.1	-1.1			
TWGBT	**Beinan**	1.60	202 P	Pn	14 34 49.1	-1.4			
TWGBT	**Beinan**	1.60	202 *e*P	Pn	14 34 51.0	+0.5			
ICHU	**Yijhu**	1.63	235 P	Pb	14 34 52.9	-0.8			
ICHU			S	Sb	14 35 15.3	+1.5			
TTN	**Taitung**	1.64	199 *e*P	Pb	14 34 52.8	-1.1			
LDUT	**Ludao**	1.65	188 *e*P	Pn	14 34 48.8	-2.3			
LDUT			*e*S	Sn	14 35 10.4	-0.8			
CHN8	**Yiju**	1.69	236 *e*P	Pb	14 34 53.5	-1.2			
CHN8			*e*S	Sb	14 35 16.8	+1.2			
CHN3	**Shinhua**	1.75	226 P	Pb	14 34 54.9	-0.9			
CHN3			S	Sb	14 35 18.6	+1.2			
SHHT	**Tainan City**	1.80	225 *e*P	Pb	14 34 55.7	-1.0			
SCST	**Cishan**	1.81	219 *i* P	Pb	14 34 55.5	-1.3			
SCST			*e*S	Sb	14 35 19.5	+0.3			
IRIF	**Iriomote-Funau**	1.83	89 *e*P	Pn	14 34 53.1	-0.5			
IRIF			*e*S	Sn	14 35 15.2	-0.4			
ECL	**Taimali**	1.85	203 P	Pn	14 34 54.5	+0.7			
SSD	**Sandimen**	1.85	213 *e*P	Pn	14 34 55.9	+1.9			
SSD			*e*S	Sb	14 35 19.4	-0.9			
TAI1	**Yung-k'ang**	1.87	228 *e*P	Pb	14 34 56.2	-1.5			
TAI1			*e*S	Sb	14 35 21.8	+1.1			
TSCK	**Chigu Township**	1.90	233 *e*P	Pn	14 34 55.7	+1.2			
TSCK			*e*S	Sb	14 35 20.1	-1.5			
TWM1	**Shoushan**	1.90	219 *e*P	Pb	14 34 57.8	-0.6			
HATJ	**Hateruma jima**	1.91	97 *e*P	Pn	14 34 55.2	+0.5			
HATJ			S	Sn	14 35 18.3	+0.5			
SGLT	**Jiouru**	1.94	216 *e*P	Pb	14 34 58.3	-0.8			
MASBT	**Mashibuluo**	1.97	211 *e*P	Pn	14 34 57.2	+1.7			
EAST	**Anshuo**	2.08	203 *e*P	Pb	14 34 60.0	-1.5			
JKRS	**Kuro-shima**	2.08	91 *e*P	Pn	14 34 57.4	+0.3			
JKRS			S	Sn	14 35 22.2	+0.2			
TAW	**Tawu**	2.09	202 *e*P	Pn	14 34 58.0	+0.8			
TAW			*e*S	Sn	14 35 22.4	+0.2			
TAWH	**Dawu Township**	2.11	202 *e*P	Pn	14 34 58.6	+1.2			
PNG	**Penghu**	2.12	250 P	Pn	14 34 57.4	-0.3			
PNG			S	Sn	14 35 23.7	+0.8			
PHUB	**P'eng-hu**	2.13	249 P	Pn	14 34 57.3	-0.5			
PHUB			S	Sn	14 35 22.8	-0.3			
WSSB	**Gushan**	2.14	219 *e*P	Pn	14 34 59.8	+1.9			
WSSB			*e*S	Sb	14 35 29.5	+1.0			
WDGT	**Dungji**	2.16	242 *i* P	Pn	14 34 58.6	+0.4			
WDGT			*e*S	Sn	14 35 24.3	+0.3			
SCZT	**Fangliau**	2.18	208 *e*P	Pn	14 35 00.3	+1.9			
JIJ	**Ishigaki jima**	2.20	88 *e*P	Pn	14 34 58.1	-0.6			
JIJ			S	Sn	14 35 24.2	-0.8			
LAY	**Lan-yu**	2.27	184 *e*P	Pn	14 34 58.6	-1.0			
LYUB	**Lan-yu**	2.30	183 *e*P	Pn	14 34 58.4	-1.7			
LYUB			*e*S	Sn	14 35 26.4	-1.0			
JISG	**Ishigakijimahi**	2.37	83 *e*P	Pn	14 35 00.4	-0.7			
JISG			S	Sn	14 35 27.7	-1.4			
VCHM	**Qimei**	2.38	243 *e*P	Pn	14 35 01.3	+0.2			
VCHM			S	Sn	14 35 29.4	+0.2			
MATB	**Ma-tsu**	2.44	319 *e*P	Pn	14 35 01.8	-0.3			
MATB			*e*S	Sn	14 35 29.3	-1.7			
HEN	**Hengchun**	2.47	202 *e*P	Pn	14 35 04.1	+1.7			
HEN			*e*S	Sn	14 35 32.8	+1.3			
PTMZ	**Houxiangcun**	2.48	288 *e*P	Pn	14 35 01.9	-0.7			
TWK1	**Hengchun**	2.50	200 *e*P	Pn	14 35 04.8	+1.9			
TWKBT	**Hengchun**	2.50	200 *e*P	Pn	14 35 04.1	+1.2			
JTJ	**Tarama**	2.73	82 *e*P	Pn	14 35 06.3	+0.3			
XPSS	**Dashiqiu**	2.96	332 *e*P	Pn	14 35 08.1	-1.0			
KNM	**Kinmen**	3.01	273 *e*P	Pn	14 35 10.9	+1.1			
MHZQ	**Yeshan**	3.03	307 *e*P	Pn	14 35 09.2	-0.9			
KNMB	**Chin-men Tao**	3.05	274 *e*P	Pn	14 35 09.8	-0.7			
JIRB	**Irabujima**	3.18	80 *e*P	Pn	14 35 12.3	+0.1			
JIRB			S	Sn	14 35 49.7	+0.7			
JIKM	**Ikemajima**	3.26	78 *e*P	Pn	14 35 14.5	+1.2			
JIKM			*e*S	Sn	14 35 52.2	+1.1			
JMJ	**Miyako jima 2**	3.28	80 P	Pn	14 35 14.0	+0.4			
JMJ2	**Miyako jima3**	3.31	82 *e*P	Pn	14 35 14.8	+0.9			
JMJ2			*e*S	Sn	14 35 53.0	+0.8			
JOGS	**Gusukube**	3.38	82 *e*P	Pn	14 35 16.6	+1.7			
JOGS			*e*S	Sn	14 35 55.9	+1.9			
AXDP	**Jialang**	3.47	281 *e*P	Pn	14 35 15.5	-0.7			
DSXP	**Dongshan**	3.98	262 *e*P	Pn	14 35 22.6	-0.7			
SXFK	**Yanhouchang**	4.24	300 *e*P	Pn	14 35 25.8	-1.1			

NAO ***05*** *14:51:31.3, 35°.96N×28°.00E, h33km, mb4.0*
GII ***05*** *14:51:33.5±0.0, 35°.94N×28°.04E, h80km, Mws4.5, confirmed*
BEO ***05*** *14:51:33.4±2.9, 35°.45N×28°.45E, h85km, ML4.2/3*
IDC ***05*** *14:51:36.0±1.0, 35°.96N×28°.01E, h59km±9km, mb4.0/24, mbtmp4.3/35, MS3.1/8, Error ellipse: s-maj=10.6km s-min=6.9km az=169.0*
NEIC ***05*** *14:51:37.9±1.9, 35°.99N±0°.07×27°.98E±0°.07, h76km±5km, mb5.0/56, Error ellipse: s-maj=11.0km s-min=6.9km az=153.0*
ISK ***05*** *14:51:37.3, 36°.05N×27°.98E, h88km, ML4.5/42*
MOS ***05*** *14:51:37.5±1.1, 35°.95N×28°.08E, h75km, mb4.8/15, Error ellipse: s-maj=5.0km s-min=2.6km az=107.1*
ATH ***05*** *14:51:38.9, 35°.99N×28°.02E, h71km±1km, ML4.5/12, Manual Solution by G.Panopoulou First location: 2019/10/05 14:52:51, This location: 2019/10/05 16:03:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
MED_RC ***05*** *14:51:38.0±0.5, 35°.94N×28°.06E, h65km±12km, MW4.4/16, Moment Tensor Solution.Mantle waves: s16,c18; Duration: 1#0 Moment tensor: Scale 10^15Nm; Mrr2.24±.28; Mθθ-2.26±.77; Mφφ0.02±.70; Mrθ3.33±.27; Mrφ2.24±.52; Mθφ-0.49±.16; Best double couple: M0 4.56000×10^15 NP1:φs331.00000°, δ28.00000°, λ138.00000°. NP2:φs100.00000°, δ72.00000°, λ69.00000°. Principal axes: T 4.1200, Plg58.0000°, Azm341.0000°; N 0.8900, Plg20.0000°, Azm107.0000°; P -5.0100, Plg24.0000°, Azm206.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
HLW ***05*** *14:51:39.1, 35°.79N×28°.24E, h56km±5km, Ml4.5*
THE ***05*** *14:51:39.1, 36°.N±4°×2°.8E±°, h70km±6km, M4.3/27, MLh4.3/27*
NIC ***05*** *14:51:39.3, 35°.65N×28°.23E, h48km±9km, Ml4.5/16*
AFAD ***05*** *14:51:40.0, 36°.10N×28°.05E, h66km±11km, MW4.3*
ISC 05 14:51:37.0±0.5, 35°.97N±0°.03×28°.10E±0°.03, h73km±4km, h73km:pP-P, n666, σ1°67/755, mb4.7/70, 39C-37D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.14**	**292**	P	**Pn**	**14 51 49.3**	**+1.5**
RGE1				S	**Sn**	**14 51 56.4**	**+0.8**
ARG	**Arkhangelos**	**0.24**	**6**	Pg	**Pn**	**14 51 49.9**	**+1.6**
ARG	**Arkhangelos**	**0.24**	**6**		**Pn**	**14 51 49.8**	**+1.5**
ARG				Sn	**Sn**	**14 51 57.9**	**+1.4**
ARG	**Arkhangelos**	**0.24**	**6**	P	**Pn**	**14 51 49.8**	**+1.5**
ARG				S	**Sn**	**14 51 57.6**	**+1.2**
ARG	**Arkhangelos**	**0.24**	**6**	P	**Pn**	**14 51 49.8**	**+1.5**
ARG				S	**Sn**	**14 51 57.7**	**+1.2**
ARG	**Arkhangelos**	**0.24**	**6**	P	**Pn**	**14 51 49.8**	**+1.6**
ARG				S	**Sn**	**14 51 57.9**	**+1.4**
ARG				AML	AML	14 51 58.2	
ARG	307nm,0.3s			AML	AML	14 51 59.0	
ARG	202nm,0.3s **Arkhangelos**	**0.24**	**6**	P	**Pn**	**14 51 49.9**	**+1.6**
ARG				S	**Sn**	**14 51 57.5**	**+1.0**
RODB	**Rodos**	**0.48**	**12**	P	**Pn**	**14 51 51.9**	**+1.9**
RODB				S	**Sn**	**14 52 00.8**	**+1.3**
RDI1	**Rhodes Town Ha**	**0.49**	**12**	P	**Pn**	**14 51 51.9**	**+1.9**
RDI1				S	**Sn**	**14 52 01.2**	**+1.6**
TURN	**Turunc**	**0.81**	**9**	Pg	**Pn**	**14 51 55.2**	**+1.8**
TURN				Sg	**Sn**	**14 52 07.4**	**+1.8**
TURN	**Turunc**	**0.81**	**9**	P	**Pn**	**14 51 55.2**	**+1.8**
TURN				*i* IAML		14 52 07.0	
TURN	comp=N,3μm,0.2s			S	**Sn**	**14 52 07.3**	**+1.8**
TURN				*i* IAML		14 52 08.0	
DAT	comp=E,3μm,0.2s **Datca**	**0.86**	**331**	Pg	**Pn**	**14 51 55.0**	**+0.8**
DAT				Sg	**Sn**	**14 52 06.9**	**0.0**
DAT	**Datca**	**0.86**	**331**	P	**Pn**	**14 51 55.7**	**+1.5**
DAT				S	**Sn**	**14 52 06.1**	**-0.8**
DAT				*i* IAML		14 52 07.0	
	comp=E,1μm,0.4s						
DAT	**Datca**	**0.86**	**331**	P	**Pn**	**14 51 55.0**	**+0.8**
DAT				S	**Sn**	**14 52 06.8**	**-0.1**
KARP	**Karpathos**	**0.87**	**241**	Pg	**Pn**	**14 51 55.5**	**+1.4**
KARP	**Karpathos**	**0.87**	**241**		**Pn**	**14 51 54.8**	**+0.7**
KARP	**Karpathos**	**0.87**	**241**	P	**Pn**	**14 51 55.4**	**+1.2**
KARP				S	**Sn**	**14 52 07.7**	**+0.9**
KARP				AML	AML	14 52 07.8	
KARP	118nm,0.4s			AML	AML	14 52 08.2	
KARP	136nm,0.4s **Karpathos**	**0.87**	**241**	S	**Pn**	**14 51 55.5**	**+1.4**
KARP				S	**Sn**	**14 52 07.2**	**+0.4**
YAZI	**Mula-Dat§a-**	**0.88**	**324**	P	**Pn**	**14 51 54.9**	**+0.7**
YAZI				S	**Sn**	**14 52 06.4**	**-0.5**
YAZI				*i* IAML		14 52 08.0	
YAZI	comp=E,6μm,0.5s			*i* IAML		14 52 09.0	
DALY	comp=N,3μm,0.3s **Dalyan (Mula)**	**0.96**	**28**	Pg	**Pn**	**14 51 56.9**	**+1.8**
NISR	**Nisiros**	**1.01**	**310**	P	**Pn**	**14 51 56.3**	**+0.5**
IZZE	**Mula-Seydike**	**1.02**	**63**	P	**Pn**	**14 51 57.7**	**+1.7**
IZZE				S	**Sn**	**14 52 12.0**	**+1.8**
IZZE				*i* IAML		14 52 12.0	
IZZE	comp=N,1μm,0.6s			*i* IAML		14 52 13.0	
FETY	comp=E,2μm,0.5s **Fethiye**	**1.04**	**50**	P	Pn	14 51 48.0	-8.2
FETY				S	**Sn**	**14 52 03.6**	**-6.9**
SABU	**Mula-Dalaman**	**1.10**	**39**	P	**Pn**	**14 51 58.8**	**+1.8**
SABU				S	**Sn**	**14 52 15.0**	**+3.1**
SABU				*i* IAML		14 52 20.0	
SABU	comp=E,3μm,0.6s			*i* IAML		14 52 27.0	
BDRM	comp=N,2μm,0.6s **Kayabasi**	**1.21**	**335**	P	**Pn**	**14 51 58.8**	**+0.5**
BDRM				S	**Sn**	**14 52 13.8**	**-0.5**
BDRM				*i* IAML		14 52 14.0	
BDRM	comp=N,0.4nm,1.0s			*i* IAML		14 52 14.0	
KSL	comp=E,6μm,0.6s **Kastellorizon**	**1.22**	**81**	P	**Pn**	**14 52 00.9**	**+2.5**
KSL				S	**Sn**	**14 52 16.7**	**+2.2**
KSL	**Kastellorizon**	**1.22**	**81**	P	**Pn**	**14 52 00.9**	**+2.5**
KSL				S	**Sn**	**14 52 16.7**	**+2.2**
KSL				AML	AML	14 52 17.4	
KSL	16nm,0.4s			AML	AML	14 52 18.1	
KSL	34nm,0.5s **Kastellorizon**	**1.22**	**81**	P	**Pn**	**14 52 01.0**	**+2.5**
KSL				S	**Sn**	**14 52 16.9**	**+2.5**
AKAS	**Kas**	**1.25**	**78**	Pn	**Pn**	**14 52 01.3**	**+2.3**
AKAS	**Kas**	**1.25**	**78**		**Pn**	**14 52 01.2**	**+2.3**
AKAS	**Kas**	**1.25**	**78**	P	**Pn**	**14 52 01.2**	**+2.2**
AKAS				S	**Sn**	**14 52 15.2**	**-0.2**
AKAS				*i* IAML		14 52 25.0	
BODT	comp=E,7μm,0.6s **Bodrum**	**1.26**	**330**	Pn	**Pn**	**14 52 00.3**	**+1.3**
BODT				Sn	**Sn**	**14 52 15.5**	**+0.1**
BODT	**Bodrum**	**1.26**	**330**	P	**Pn**	**14 52 00.3**	**+1.3**
BODT				S	**Sn**	**14 52 15.5**	**+0.1**
MULA	**Mugla, Merkez-**	**1.29**	**8**	P	**Pn**	**14 52 01.7**	**+2.2**
MULA				S	**Sn**	**14 52 18.9**	**+2.5**
YKAV	**Yalikavak-Bodr**	**1.32**	**331**	Pn	**Pn**	**14 51 59.9**	**+0.1**
YKAV				Sn	**Sn**	**14 52 15.9**	**-1.0**
KLNA	**Kalymnos**	**1.34**	**318**	P	**Pn**	**14 52 00.2**	**+0.3**
CAME	**Cameli-Denizli**	**1.37**	**45**	Pn	**Pn**	**14 52 02.8**	**+2.2**
KNIK	**Mula-Seydike**	**1.48**	**53**	P	**Pn**	**14 52 04.3**	**+2.4**
KNIK				S	**Sn**	**14 52 22

THERA	Ancient Thera,	2.16 281	P	Pn	14 52 11.4 +0.6
THRA	Thira	2.20 282	P	Pn	14 52 12.5 +1.1
SNT5	Nea Kammeni, S	2.23 282	P	Pn	14 52 12.2 +0.5
SNT5			S	Sn	14 52 39.0 +0.7
SNT5	Nea Kammeni, S	2.23 282	P	Pn	14 52 12.2 +0.5
KIRA	zmir-Kiraz	2.23 6	P	Pn	14 52 12.7 +0.7
KIRA			S	Sn	14 52 35.5 -3.2
KIRA			*i* IAML		14 52 39.0
	comp=E,2µm,0.7s				
ANTB	Antalya	2.26 65	Pn	Pn	14 52 16.6 +4.4
SAP3	Santorini-Thir	2.27 283	P	Pn	14 52 13.4 +1.0
SAP3	Santorini-Thir	2.27 283	P	Pn	14 52 12.6 +0.2
ODEM	Odemis-Izmir	2.30 360	Pn	Pn	14 52 13.7 +0.9
GMLD	Gumuldur	2.30 336	Pn	Pn	14 52 13.4 +0.6
BRDR	BURDUR-Merkez	2.33 42	P	Pn	14 52 15.0 +1.7
BASM	Basmaki-Afyon	2.50 38	Pn	Pn	14 52 16.6 +1.1
MANT	Manisa	2.54 8		Pn	14 52 16.8 +0.6
MANT	Manisa	2.54 8	P	Pn	14 52 16.4 +0.2
MANT			S	Sn	14 52 44.4 -1.9
MANT			*i* IAML		14 52 46.0
	comp=E,1µm,0.5s				
BLCB	Balcova	2.55 341	Pn	Pn	14 52 16.6 +0.4
BLCB	Balcova	2.55 341	P	Pn	14 52 16.6 +0.4
IACM	Heraklion	2.55 256	P	Pn	14 52 16.7 +0.6
IACM	Heraklion	2.55 256	P	Pn	14 52 16.9 +0.8
KULA	Kula-Manisa	2.58 10	Pn	Pn	14 52 17.4 +0.8
PASA	Karahalli, USA	2.62 25	P	Pn	14 52 17.9 +0.7
PASA			S	Sn	14 52 46.9 -1.1
PASA			*i* IAML		14 52 48.0
	comp=N,910nm,0.6s				
URLA	Izmir	2.67 334	Pn	Pn	14 52 18.3 +0.5
ISP	Isparta	2.68 46	Pn	Pn	14 52 19.9 +1.9
ISP	Isparta	2.68 46			14 52 19.8 +1.7
ISP	Isparta	2.68 46	*d i* P	Pn	14 52 19.7 +1.7
ISP	Isparta	2.68 46	P	Pn	14 52 18.7 +0.7
ISP	Isparta	2.68 46	P	Pn	14 52 19.8 +1.7
ISP			S	Sn	14 52 51.5 +1.9
IDI	Anoyia	2.70 256	Pn	Pn	14 52 18.8 +0.6
IDI	Anoyia	2.70 256		Pn	14 52 18.6 +0.3
IDI	Anoyia	2.70 256	P	Pn	14 52 18.6 +0.3
IDI			S	Sn	14 52 50.6 +0.8
IDI	Anoyia	2.70 256	P	Pn	14 52 17.8 -0.4
	596nm,0.3s,baz=76,slow=14,SNR=735				
IDI			S	Sn	14 52 47.6 -2.3
	749nm,0.3s,baz=346,slow=17,SNR=11				
IDI			LR	LR	14 53 08.6
	comp=Z,211nm,20.2s,baz=345,slow=35				
IDI	Anoyia	2.70 256	P	Pn	14 52 18.7 +0.4
GOMA	Golmarmara-Man	2.73 357	Pn	Pn	14 52 19.2 +0.6
TMBK	Timbaki Herakl	2.86 253	P	Pn	14 52 21.8 +1.5
CHOS	Chios island	2.91 327	Pn	Pn	14 52 21.6 +0.5
CHOS	Chios island	2.91 327	P	Pn	14 52 21.7 +0.7
CHOS	Chios island	2.91 327	P	Pn	14 52 21.8 +0.7
GORD	Gordes-Manisa	2.93 1	Pn	Pn	14 52 22.2 +0.8
PRNS	Prines Rethymn	2.99 259	P	Pn	14 52 22.9 +0.8
EAG2	Marmaro, Chios	3.02 329	P	Pn	14 52 23.5 +1.1
MHLO	Agia Marina, M	3.07 285	P	Pn	14 52 24.3 +1.2
SHAP	Saphane-Kutahy	3.17 16	Pn	Pn	14 52 25.8 +1.1
SMAA	Simav-Kutahya	3.20 12	Pn	Pn	14 52 26.1 +1.0
SOMA	Soma-Manisa	3.21 352	Pn	Pn	14 52 25.5 +0.4
DKL	Dikili	3.23 343	Pn	Pn	14 52 26.1 +0.7
SHUT	Suhut-Afyon	3.24 37	Pn	Pn	14 52 27.3 +1.7
GEDZ	Gediz	3.24 18	Pn	Pn	14 52 26.9 +1.3
CHAN	Chania	3.33 263	P	Pn	14 52 27.7 +1.0
CHAN	Chania	3.33 263	P	Pn	14 52 26.7 0.0
SEYD	Seydisehir-KON	3.33 63	Pn	Pn	14 52 29.7 +2.8
GVD	Gavdhos	3.46 252	Pn	Pn	14 52 29.9 +1.4
GVD	Gavdhos	3.46 252	P	Pn	14 52 30.0 +1.4
GVD	Gavdhos	3.46 252	P	Pn	14 52 30.0 +1.5
RODP	Rodopos	3.55 265	P	Pn	14 52 30.6 +0.8
PRK	Paraskevi	3.57 337	P	Pn	14 52 30.9 +0.9
PRK	Paraskevi	3.57 337	P	Pn	14 52 30.9 +0.9
PRK	Paraskevi	3.57 337	P	Pn	14 52 30.5 +0.4
KARY	Karystos	3.58 306	P	Pn	14 52 31.5 +1.4
KARY	Karystos	3.58 306	P	Pn	14 52 31.4 +1.3
AKMS	Akamas	3.59 104	P	Pn	14 52 31.2 +0.9
AKMS			S	Sn	14 53 10.9 -0.6
AKMS			AML	AML	14 53 13.3
	13nm,0.6s				
AKMS			AML	AML	14 53 13.7
	6.9nm,0.3s				
TVSB	Tavsanli	3.64 17	Pn	Pn	14 52 32.2 +1.2
DST	Dursunbey	3.65 6	Pn	Pn	14 52 31.9 +0.8
DST	Dursunbey	3.65 6	P	Pn	14 52 31.8 +0.7
HDMB	Hadim	3.67 73	Pn	Pn	14 52 34.2 +2.6
SIGR	SIGRI	3.69 332	Pn	Pn	14 52 32.1 +0.5
SIGR	SIGRI	3.69 332	P	Pn	14 52 32.4 +0.8
SIGR	SIGRI	3.69 332	P	Pn	14 52 32.5 +0.8
YAYO	Edremit-Balk	3.72 348	Pn	Pn	14 52 32.9 +0.5
ALFC	Alefka	3.76 101	P	Pn	14 52 33.6 +0.9
ALFC			S	Sn	14 53 14.9 -0.8
ALFC			AML	AML	14 53 16.8
	3.7nm,0.6s				
ALFC			AML	AML	14 53 17.3
	4.7nm,0.5s				
NATA	Nata	3.85 107	P	Pn	14 52 34.8 +1.0
NATA			S	Sn	14 53 17.0 -0.7
NATA			AML	AML	14 53 20.8
	12nm,0.6s				
NATA			AML	AML	14 53 20.9
	14nm,0.5s				
ANKY	Antikythira Is	3.89 270	P	Pn	14 52 35.3 +1.0
ANKY	Antikythira Is	3.89 270	P	Pn	14 52 35.0 +0.6
VLY	Voula,Athens	3.92 300	P	Pn	14 52 36.5 +1.7
VLY	Voula,Athens	3.92 300	P	Pn	14 52 36.4 +1.6
DION	Dionisos Attik	3.94 303	P	Pn	14 52 36.8 +1.7
DION	Dionisos Attik	3.94 303	P	Pn	14 52 36.7 +1.7
PTL	Penteli	3.97 303	P	Pn	14 52 37.3 +1.8
PTL	Penteli	3.97 303	P	Pn	14 52 37.3 +1.8
ATHU	Athens Univers	3.98 301	P	Pn	14 52 37.4 +1.7
ATHU	Athens Univers	3.98 301	P	Pn	14 52 37.1 +1.4
TROD	Troodos	4.03 103	P	Pn	14 52 36.3 -0.1
TROD			S	Sn	14 53 22.2 -0.3
TROD			AML	AML	14 53 28.9
	2.5nm,0.4s				
TROD			AML	AML	14 53 31.5
	2.2nm,0.3s				
ATH	Athens Observa	4.03 301	P	Pn	14 52 38.3 +2.0
ATH	Athens Observa	4.03 301	P	Pn	14 52 37.0 +0.7
ATH	Athens Observa	4.03 301	P	Pn	14 52 38.0 +1.6
SKY	Skiros Island	4.05 317	P	Pn	14 52 38.4 +1.9
SKY	Skiros Island	4.05 317	P	Pn	14 52 38.2 +1.7
KTHA	Kythira Island	4.08 275	P	Pn	14 52 38.1 +1.1
EZN	Ezine	4.09 341	P	Pn	14 52 38.0 +0.8
EZN	Ezine	4.09 341	⇑P	Pn	14 52 38.2 +1.1
EZN			⇑S	Sn	14 53 22.4 -1.3
EZN	Ezine	4.09 341	P	Pn	14 52 38.2 +1.1
APOL	The Sanctuary	4.11 107	P	Pn	14 52 38.1 +0.7
APOL			S	Sn	14 53 22.8 -1.4
APOL			AML	AML	14 53 29.1
	3.9nm,0.6s				
APOL			AML	AML	14 53 32.4
	2.7nm,0.3s				
MET4	Agioi Theodoro	4.11 295	P	Pn	14 52 39.0 +1.6
KYMI	Kymi, Euboea I	4.15 311	P	Pn	14 52 39.4 +1.5
KYMI	Kymi, Euboea I	4.15 311	P	Pn	14 52 39.1 +1.2
XYLS	Xyliatos	4.15 102	P	Pn	14 52 38.7 +0.6
XYLS			S	Sn	14 53 25.1 -0.3
XYLS			AML	AML	14 53 32.4
	2.1nm,0.2s				
XYLS			AML	AML	14 53 34.6
	2.5nm,0.3s				
MET2	Kameni Chora,	4.16 295	P	Pn	14 52 39.1 +1.0
MAGU	Magoula	4.23 301	P	Pn	14 52 40.8 +1.9
VLI	Veliai	4.23 282	P	Pn	14 52 40.3 +1.3
VLI	Veliai	4.23 282	P	Pn	14 52 40.0 +1.1
STFN	Stefani	4.25 303	P	Pn	14 52 41.4 +2.0
BORA	Eskisehir	4.32 25		Pn	14 52 41.8 +1.5
ASGA	Asgata	4.37 104	P	Pn	14 52 41.8 +0.8
ASGA			S	Sn	14 53 30.7 0.0
ASGA			AML	AML	14 53 37.4
	3.0nm,0.4s				
ASGA			AML	AML	14 53 37.7
	2.8nm,0.4s				
BAND	Balkesir-Ban	4.38 0	⇑P	Pn	14 52 41.9 +0.9
BAND			⇑S	Sn	14 53 31.0 +0.3
CSS	Mathiatis	4.39 102		Pn	14 52 42.2 +1.0
CSS	Mathiatis	4.39 102	P	Pn	14 52 41.9 +0.7
CSS			S	Sn	14 53 30.7 -0.4
CSS			AML	AML	14 53 37.5
	1.5nm,0.6s				
CSS			AML	AML	14 53 39.6
	1.7nm,0.6s				
CSS	Mathiatis	4.39 102	P	Pn	14 52 39.8 -1.4
ATHAL	Athalassa	4.40 99	P	Pn	14 52 42.4 +1.0
ATHAL			S	Sn	14 53 30.9 -0.4
ATHAL			AML	AML	14 53 37.8
	3.0nm,0.5s				
ATHAL			AML	AML	14 53 45.4
	3.4nm,0.7s				
VILL	Villia	4.41 301	P	Pn	14 52 43.5 +2.0
LIA	Limnos Island	4.54 330	P	Pn	14 52 44.5 +1.3
GADA	Gvkgeada	4.55 338	P	Pn	14 52 44.5 +1.1
MVOU	Mavrovouni	4.62 100	P	Pn	14 52 44.7 +0.4
MVOU			AML	AML	14 53 43.1
	2.0nm,0.8s				
MVOU			AML	AML	14 53 46.4
	1.6nm,0.8s				
AOS	Alonnisos	4.63 315	P	Pn	14 52 46.2 +1.8
MATC	Matruh	4.67 189	P	Pn	14 52 45.8 +0.7
LKR	Lokris	4.86 305	P	Pn	14 52 49.4 +1.8
ATAL	Atalanti	4.87 305	P	Pn	14 52 49.5 +1.8
SMTH	Samothraki Isl	4.92 337	P	Pn	14 52 49.6 +1.1
PARAL	Paralimni	4.95 100	P	Pn	14 52 50.4 +1.5
PARAL			S	Sn	14 53 46.1 +1.3
PARAL			AML	AML	14 53 52.9
	3.5nm,0.7s				
PARAL			AML	AML	14 53 54.9
	3.7nm,1.0s				
CAVK	Edirne/Enez-Ca	4.95 343	⇑P	Pn	14 52 50.9 +2.1
CAVK			⇑S	Sn	14 53 43.8 -0.9
NEO	Neokhori	5.10 312	P	Pn	14 52 52.9 +2.0
ITM	Ithomi	5.11 285		Pn	14 52 51.6 +0.6
MDUB	Mudurnu	5.11 28		Pn	14 52 54.0 +2.9
AXAR	Agios Charalam	5.15 304	P	Pn	14 52 53.9 +2.3
ALN	Alexandroupoli	5.17 343		Pn	14 52 53.1 +1.3
ALN	Alexandroupoli	5.17 343	P	Pn	14 52 52.9 +1.0
ALN	Alexandroupoli	5.17 343	P	Pn	14 52 53.1 +1.3
ANTO	Ankara	5.38 42		Pn	14 52 56.5 +1.7
ANTO	Ankara	5.38 42	⇓P	Pn	14 52 57.2 +2.4
ANTO	Ankara	5.38 42	P	Pn	14 52 57.1 +2.4
CTYL	Yalikoy Yolu	5.50 2	⇓P	Pn	14 52 57.4 +1.2
CTYL			⇓S	Sn	14 53 58.1 0.0
AGG	Agios Georgios	5.50 305	P	Pn	14 52 58.9 +2.5
AGG	Agios Georgios	5.50 305	P	Pn	14 52 59.2 +2.8
AGG			pmax	pmax	
	comp=Z,76nm,0.7s				
RDO	Rodhopi	5.54 340		Pn	14 52 58.1 +1.2
RDO	Rodhopi	5.54 340	P	Pn	14 52 58.2 +1.3
KIRS	Kirsehir-Merke	5.60 54	⇑P	Pn	14 53 00.1 +2.3
PHSR	Pinarhisar	5.67 356	⇑P	Pn	14 52 59.4 +0.8
BRTR	Keskin Array B	5.77 48		Pn	14 53 01.6 +1.5
BRTR	Keskin Array B	5.77 48	P	Pn	14 53 01.9 +1.8
	comp=Z,49nm,0.6s,baz=223,slow=14,SNR=228				
BRTR			S	Sn	14 54 05.9 +0.9
	comp=Z,9.2nm,0.6s,baz=213,slow=24,SNR=1.8				
BR131	Keskin Array S	5.77 48		Pn	14 53 01.7 +1.5
BR131	Keskin Array S	5.77 48	*d i* P	Pn	14 53 01.9 +1.8
KDZ	Kurdzhali	6.04 340	*i* P	Pn	14 53 05.2 +1.4
LIT	Litokhoron	6.04 315	P	Pn	14 53 06.2 +2.4
LIT			pmax	pmax	
	comp=Z,115nm,0.7s				
SOH	Sokhos	6.11 324	P	Pn	14 53 07.3 +2.6
SOH			pmax	pmax	
	comp=Z,22nm,0.9s				
THE	Thessaloniki	6.16 321	P	Pn	14 53 08.2 +2.9
THE			pmax	pmax	
	comp=Z,64nm,0.7s				
SRS	Serrai	6.23 327	*e*Pn	Pn	14 53 08.2 +1.9
SRS			*e*Sn	Sn	14 54 17.9 +1.8
SRS	Serrai	6.23 327	P	Pn	14 53 08.5 +2.2
SRS			pmax	pmax	
	comp=Z,30nm,0.6s				
RZN	Rozhen	6.29 336	*i* P	Pn	14 53 08.9 +1.7
DIM	Dimitrovgrad	6.37 343	*i* P	Pn	14 53 09.9 +1.7
HNTI	Hanita	6.51 114	P	Pn	14 53 07.5 -2.7
HNTI	Hanita	6.51 114	S	Sn	14 54 20.5 -2.6
MMB	Musomishta	6.52 330	P	Pn	14 53 12.5 +2.2
DQRL	Deir Qamar	6.55 108	*e*P	Pn	14 53 10.2 -0.6
HMYD	Mayadein	6.57 159	P	Pn	14 53 11.0 0.0
KNT	Kendrikon	6.59 323	P	Pn	14 53 14.1 +2.9
KNT			pmax	pmax	
	comp=Z,51nm,0.9s				
OFRI	`Ofer	6.61 118	P	Pn	14 53 09.1 -2.5
OFRI	`Ofer	6.61 118	S	Sn	14 54 22.7 -2.8
HWQ	Hawqa	6.65 102	*e*P	Pn	14 53 12.5 +0.3
HNAT	Natroun	6.67 161	P	Pn	14 53 12.9 +0.5
PLD	Plovdiv	6.69 338	P	Pn	14 53 17.4 +4.8
PLD			pmax	pmax	
	comp=Z,83nm,0.8s				
QRWL	Qaraoun	6.70 109	*e*P	Pn	14 53 13.5 +0.7
BLGI	Bet Lehem HaGe	6.70 117	P	Pn	14 53 10.1 -2.6
BLGI	Bet Lehem HaGe	6.70 117	S	Sn	14 54 24.9 -2.7
MMA0B	Mount Meron ar	6.72 114	P	Pn	14 53 11.0 -2.1
MMAI	Mount Meron Ar	6.72 114	P	Pn	14 53 12.8 -0.3
	comp=Z,25nm,0.3s,baz=296,slow=14,SNR=55				
MMAI			S	Sn	14 54 24.4 -3.7
	comp=Z,157nm,0.5s,baz=300,slow=26,SNR=17				
ILGA	Ilgaz	6.72 39		Pn	14 53 14.3 +1.1
ZAHL	Zahle	6.74 106	*e*P	Pn	14 53 13.3 -0.1
BEIL	Beino	6.77 100	*e*P	Pn	14 53 14.1 +0.4
KOT	Kottamia	6.79 151	P	Pn	14 53 13.9 -0.2
GEM	Giv'at Ha'Em	6.82 112	P	Pn	14 53 12.2 -2.3
GEM	Giv'at Ha'Em	6.82 112	S	Sn	14 54 28.1 -2.6
SHBL	Chebaa	6.82 110	*e*P	Pn	14 53 15.0 +0.4
RCY	Rachaya	6.83 109	*e*P	Pn	14 53 14.8 +0.1
NATI	Neve Ativ	6.86 111	P	Pn	14 53 12.2 -2.6
NATI	Neve Ativ	6.86 111	S	Sn	14 54 29.0 -2.4
SLTI	Sal'it	6.86 121	P	Pn	14 53 12.1 -2.8
SLTI	Sal'it	6.86 121	S	Sn	14 54 28.3 -3.2
VAY	Valandovo	6.87 323	*i* Pn	Pn	14 53 18.3 +3.3
CIDE	Kastamonu/Cide	7.01 31	⇑P	Pn	14 53 18.7 +1.8
MMLI	Mount Malkishu	7.02 118	P	Pn	14 53 14.8 -2.3
MMLI	Mount Malkishu	7.02 118	S	Sn	14 54 32.4 -3.1
KKB	Krupnik	7.02 328	*i* P	Pn	14 53 19.9 +2.7
FKH	Fakeheh	7.03 102	*e*P	Pn	14 53 18.3 +0.9
IGT	Igoumenitsa	7.10 302	*e*Pn	Pn	14 53 21.0 +2.8
IGT			*e*Sn	Sn	14 54 35.7 -1.7
IGT	Igoumenitsa	7.10 302	P	Pn	14 53 21.8 +3.6
IGT			pmax	pmax	
	comp=Z,29nm,0.8s				
RYAN	Fayoum	7.11 164	P	Pn	14 53 18.7 +0.3
ELND	Elena	7.16 347	⇑P	Pn	14 53 20.8 +1.8
AMAZ	Amatzia	7.20 126	P	Pn	14 53 17.2 -2.4
AMAZ	Amatzia	7.20 126	S	Sn	14 54 36.9 -3.0
KZIT	Kziot	7.30 132	P	Pn	14 53 18.0 -3.0
KZIT	Kziot	7.30 132	S	Sn	14 54 39.0 -3.2
KBN	Korca	7.39 311	P	Pn	14 53 26.5 +4.3
KBN			pmax	pmax	
	comp=Z,81nm,1.2s				
YTIR	Yattir	7.44 126	P	Pn	14 53 20.0 -3.0
YTIR	Yattir	7.44 126	S	Sn	14 54 42.7 -3.2
LOZB	Loznitsa	7.48 352	⇓P	Pn	14 53 24.8 +1.5
BZK	Bozkurt	7.54 36	⇑P	Pn	14 53 27.7 +3.5
VTS	Vitosha	7.63 332	*i* P	Pn	14 53 27.4 +1.8
VTS	Vitosha	7.63 332	*e*Pn	Pn	14 53 28.0 +2.4
VTS			*e*Sn	Sn	14 54 48.5 -2.0
MSBI	Mazada	7.63 125	P	Pn	14 53 22.9 -2.6
OHR	Ohrid	7.68 314	*i* Pn	Pn	14 53 32.0 +5.9
RAZG	Razgrad	7.68 351	⇑P	Pn	14 53 28.7 +2.6
RAZG			⇓S	Sn	14 54 51.4 -0.1
ZNM	Zenema	7.71 147	P	Pn	14 53 27.2 +0.6
GHAJ	Ghor Haditha	7.78 125		Pn	14 53 28.3 +0.8
BOSS	Bosilegrad	7.83 328	*e*Pn	Pn	14 53 31.4 +3.2
PLVB	Pleven	7.87 341	⇑P	Pn	14 53 30.5 +1.7
SKO	Skopje	7.92 321	*i* Pn	Pn	14 53 33.2 +3.8
KRMI	Paran Flat	8.06 135	P	Pn	14 53 29.2 -2.2
MPEP	Malo Peshtene	8.10 337	*i* P	Pn	14 53 34.2 +2.3
ICOR	Ion Corvin	8.14 359	⇓P	Pn	14 53 34.1 +1.8
ASF	Jabal al Asfar	8.23 115	P	Pn	14 53 34.1 +0.4
	comp=Z,8.5nm,0.4s,baz=319,slow=6.6,SNR=18				
ASF			S	Sn	14 55 02.1 -3.0
	comp=Z,22nm,0.4s,baz=243,slow=11,SNR=5.0				
ASF			LR	LR	14 57 38.5
	comp=Z,48nm,18.2s,baz=328,slow=44				
HRFI	Mount Harif	8.31 133	P	Pn	14 53 32.1 -2.6
HRFI	Mount Harif	8.31 133	S	Sn	14 55 03.3 -3.7
BARS	Barje	8.38 327	*e*Pn	Pn	14 53 38.6 +2.9
ZAPS	Zavoj	8.42 332	*e*Pn	Pn	14 53 39.0 +2.8
ZAPS			*e*Sn	Sn	14 55 09.2 -0.5
TIRR	Tirgusor	8.48 2	⇓P	Pn	14 53 38.4 +1.4
TIRR	Tirgusor	8.48 2	P	Pn	14 53 38.3 +1.4
EIL	Elat	8.53 136	P	Pn	14 53 37.1 -0.6
	comp=Z,32nm,0.3s,baz=322,slow=7.3,SNR=56				
EIL			S	Sn	14 55 05.9 -6.5
	comp=Z,122nm,0.5s,baz=312,slow=16,SNR=12				
EIL			LR	LR	14 59 28.6
	comp=Z,78nm,18.2s,baz=352,slow=55				
EIL	Elat	8.53 136	P	Pn	14 53 35.3 -2.5
EIL	Elat	8.53 136	S	Sn	14 55 09.0 -3.5
TAMRE	El Minia	8.61 163	P	Pn	14 53 38.7 -0.2
HARR	Harsova	8.71 359	⇑P	Pn	14 53 42.6 +2.5
HARR	Harsova	8.71 359	P	Pn	14 53 42.6 +2.5
HBST	Basata	8.76 138	P	Pn	14 53 40.9 0.0
TPGR	Topolog	8.88 1	⇓P	Pn	14 53 44.1 +1.7
HKAT	Jabal Katrina	8.95 144	P	Pn	14 53 43.7 0.0
SELS	Selova	9.02 325	*e*Pn	Pn	14 53 47.1 +2.7
ZAGS	Zajecar	9.03 332	*e*Sn	Sn	14 55 23.5 -1.0
ASUT		9.04 160	P	Pn	14 53 45.4 +0.5
BOVS	Bovan	9.09 329	⇑P	Pn	14 53 47.5 +2.1
CFR	Carcaliu	9.20 0	⇓P	Pn	14 53 48.3 +1.5
CFR	Carcaliu	9.20 0	P	Pn	14 53 48.2 +1.5
TLCR		9.22 3	⇓P	Pn	14 53 49.4 +2.2
TLCR		9.22 3	P	Pn	14 53 49.3 +2.2
TR1	Tor 1	9.37 146	P	Pn	14 53 49.3 +0.1
GOCS	Kraljevo Serbi	9.40 326	*e*Pn	Pn	14 53 52.4 +2.8
PDG	Podgorica	9.41 316	Pn	Pn	14 53 51.4 +1.6
PDG	Podgorica	9.41 316	⇓P	Pn	14 53 52.0 +2.2
PDG	Podgorica	9.41 316	*e*Pn	Pn	14 53 51.8 +2.1
PDG			*e*Sn	Sn	14 55 32.9 -0.9
TIP	Timpagrande	9.55 293	Pn	Pn	14 53 50.9 -0.9
SEV	Sevastopol'	9.56 25	*e*P	Pn	14 53 53.5 +1.8
SEV			*e*S	Sn	14 55 32.4 -5.0
SJES	Sjenica	9.60 322	*e*Pn	Pn	14 53 55.1 +2.7
MLR	Muntele Rosu	9.65 351		Pn	14 53 55.6 +2.5
MLR	Muntele Rosu	9.65 351	P	Pn	14 53 54.0 +0.9
	comp=Z,5.0nm,0.7s,baz=156,slow=18,SNR=9.0				
MLR			S	Sn	14 55 40.0 +0.2
	comp=Z,6.8nm,0.7s,baz=198,slow=20,SNR=3.7				
MLR			LR	LR	14 57 55.8
	comp=Z,111nm,21.9s,baz=156,slow=39				
MLR	Muntele Rosu	9.65 351	⇑P	Pn	14 53 54.9 +1.8
MLR	Muntele Rosu	9.65 351	*e*Pn	Pn	14 53 55.8 +2.7
MLR	Muntele Rosu	9.65 351	P	Pn	14 53 55.6 +2.5
YAL	Yalta	9.68 27	*e*P	Pn	14 53 56.4 +3.0
YAL			*e*S	Sn	14 55 37.0 -3.4
GRUS	Gruza	9.72 327	*e*Pn	Pn	14 53 56.5 +2.5
VOIR		9.73 347	⇑P	Pn	14 53 55.7 +1.5
VOIR		9.73 347	P	Pn	14 53 55.7 +1.5
IVAS	Ivanjica	9.74 324	*e*Pn	Pn	14 53 57.0 +2.7
ARR	Arges	9.74 345	⇑P	Pn	14 53 56.4 +2.1
HERR	Herculane	9.89 336	⇑P	Pn	14 53 57.5 +1.2
HHRG	Al Ghardaqah	9.89 150	P	Pn	14 53 58.9 +2.5
PLOR	Plostina	9.93 354	⇑P	Pn	14 53 59.2 +2.4
PLOR	Plostina	9.93 354	P	Pn	14 53 59.2 +2.4
VRI	Vrincioaia	9.94 354	⇑P	Pn	14 53 59.0 +2.1
VRI	Vrincioaia	9.94 354	P	Pn	14 53 59.0 +2.1
ALU	Alushta	9.94 27	*e*P	Pn	14 53 58.6 +1.7
CEL	Celeste	10.01 287	Pn	Pn	14 53 56.7 -1.3
LOT	Lotru	10.02 342	⇓P	Pn	14 53 59.7 +1.6
MDVR	Moldovita	10.05 333	⇓P	Pn	14 53 59.9 +1.4
MDVR	Moldovita	10.05 333	*e*Pn	Pn	14 53 59.6 +1.1
SIM	Simferopol'	10.07 25	*e*P	Pn	14 54 01.2 +2.5
SIM			*e*S	Sn	14 55 46.1 -3.8
TREB	Trebinje	10.11 315	*e*Pn	Pn	14 53 59.8 +0.5
TRUS	Trudelj	10.12 327	*e*Pn	Pn	14 54 02.6 +3.1
RUDO	Rudo	10.16 321	*e*Pn	Pn	14 54 02.8 +2.8
DOPR	Dopca	10.19 349	⇓P	Pn	14 54 02.9 +2.5
TURR	Turia	10.19 352	⇑P	Pn	14 54 02.6 +2.2
DIVS	Divibare	10.21 325	*e*Pn	Pn	14 54 03.6 +2.8
GZR	Gura Zlata	10.24 338	⇓P	Pn	14 54 02.2 +1.2
GZR	Gura Zlata	10.24 338	*e*Pn	Pn	14 54 01.7 +0.6
GZR			*e*Sn	Sn	14 55 50.0 -4.1
GZR	Gura Zlata	10.24 338	P	Pn	14 54 02.2 +1.2
OZUR		10.26 351	⇑P	Pn	14 54 02.3 +0.9
KLINJ	Klinje	10.27 317	*e*Pn	Pn	14 54 02.6 +1.1
MARD	Mardin	10.28 79	Pn	Pn	14 54 02.9 +1.1
BBLS	Lazi&#263i	10.32 322	*e*Pn	Pn	14 54 05.0 +2.8
SUDU	Sudak	10.34 28	*e*P	Pn	14 54 03.5 +1.1
SUDU			*e*S	Sn	14 55 51.0 -5.5
ONER	Baraj Valea Uz	10.43 353	⇑P	Pn	14 54 05.2 +1.6
VRSS	Vrsac	10.49 333	*e*Pn	Pn	14 54 05.7 +1.3
STON	Ston	10.58 314	*e*Pn	Pn	14 54 05.8 +0.1
STON	Ston	10.58 314	*e*Pn	Pn	14 54 05.8 +0.1
STON			*e*Sn	Sn	14 55 58.2 -4.2
TESR	Tescani	10.59 355	⇓P	Pn	14 54 07.9 +2.2
ACER	Acerenza	10.68 300	Pn	Pn	14 54 06.0 -1.1
SURR	Surduc	10.76 337	⇑P	Pn	14 54 09.6 +1.5
TEKS	Tekeris	10.77 325	*e*Pn	Pn	14 54 10.8 +2.5
BZS	Buzias	10.81 335	⇓P	Pn	14 54 10.9 +2.1
BZS	Buzias	10.81 335	P	Pn	14 54 10.8 +2.1
WDD	Wied Dalam	11.01 273	Pn	Pn	14 54 10.2 -1.3
VAE	Valguarnera	11.09 282	P	Pn	14 54 12.5 -0.1
	comp=Z,6.9nm,0.5s,baz=106,slow=19,SNR=1.7				
VAE			S	Sn	14 56 03.7 -11

KIEV **Kiev** 14.74 3 P **P** 14 55 04.1 -1.5
MODS **Modra-Piesok** 14.74 331 *e*P **P** 14 55 06.4 +0.7
MODS **Modra-Piesok** 14.74 331 *e*P **P** 14 55 06.4 +0.7
AKASG **Malin Array Be** 14.75 3 P **P** 14 55 06.0 +0.4
AKASG **Malin Array Be** 14.75 3 P **Pn** 14 55 02.7 +1.3
comp=Z,1.8nm,0.4s,baz=189,slow=10,SNR=44
AKBB **Malin Array Si** 14.75 3 **P** 14 55 06.8 +1.1
AKBB **Malin Array Si** 14.75 3⇑*e*P **P** 14 55 05.1 -0.6
OSSC **Osservatorio P** 14.98 305 P **P** 14 55 08.9 +0.5
JAVC **Velka Javorina** 14.98 332 *e*P **P** 14 55 10.0 +1.6
CONA **Conrad Observa** 14.99 327 *i* Pn **Pn** 14 55 04.8 0.0
comp=Z,9.9nm,1.3s
MYKA **Terra Mystica** 15.18 319 *e*Pn **Pn** 14 55 07.6 +0.3
comp=Z,19nm,0.7s,SNR=6.0
KEST **Kesra** 15.21 275 **P** 14 55 12.9 +1.8
KEST **Kesra** 15.21 275 P **Pn** 14 55 06.2 -1.5
comp=Z,1.9nm,0.5s,baz=92,slow=7.3,SNR=10
KEST S Sn 14 57 43.3 -12
comp=Z,4.4nm,0.6s,baz=114,slow=20,SNR=6.7
MAUC **Maruska** 15.35 334 *e*P **P** 14 55 14.3 +1.9
OJC **Ojcow** 15.46 340 P **P** 14 55 15.0 +1.4
OJC **Ojcow** 15.46 340 P **P** 14 55 14.8 +1.2
OJC pmax pmax
comp=Z,10.0nm,0.7s
PII **Pisa** 15.54 305 P **P** 14 55 14.3 -0.2
PII pmax pmax
comp=Z,77nm,0.6s
KBA **Koelnbreinsper** 15.63 320 *e*Pn **P** 14 55 14.6 -1.1
comp=Z,41nm,0.8s,SNR=5.4
KBA **Koelnbreinsper** 15.63 320 P **P** 14 55 16.3 +0.6
KBA pmax pmax
comp=Z,58nm,0.6s
OKC **Ostrava-Krasne** 15.64 335 P **P** 14 55 15.0 -0.6
OKC pmax pmax
comp=Z,17nm,0.7s
OKC **Ostrava-Krasne** 15.64 335 *e*P **P** 14 55 16.1 +0.5
KRUC **Moravsky** 15.64 330 *e*P **P** 14 55 16.0 +0.3
KRUC **Moravsky** 15.64 330 P **P** 14 55 16.5 +0.8
KRUC pmax pmax
comp=Z,97nm,0.9s
MOA **Molln** 15.68 323 *e*Pn **P** 14 55 14.9 -1.2
comp=Z,19nm,1.4s,SNR=5.4
MOA **Molln** 15.68 323 *e*Pn **P** 14 55 15.9 -0.2
VRAC **Vranov** 15.76 331 P **Pn** 14 55 15.4 +0.9
comp=Z,56nm,0.9s,baz=149,slow=11,SNR=44
VRAC LR LR 15 02 58.7
comp=Z,60nm,19.8s,baz=162,slow=43
VRAC **Vranov** 15.76 331 *e*P **P** 14 55 17.6 +0.6
MORC **Moravsky Berou** 15.79 334 P **Pn** 14 55 15.9 +1.0
MORC **Moravsky Berou** 15.79 334 ⇑P **P** 14 55 17.5 +0.1
MORC **Moravsky Berou** 15.79 334 *e*P **P** 14 55 17.9 +0.5
MORC **Moravsky Berou** 15.79 334 P **Pn** 14 55 15.9 +1.0
STEB **Steborice** 15.85 335 *e*P **P** 14 55 19.4 +1.5
ABTA **Abfaltersbach** 15.87 317 *e*Pn **Pn** 14 55 16.8 +0.9
comp=Z,29nm,0.7s,SNR=18
BIOA **Bad Ischl, Aus** 15.88 322 *e*Pn **Pn** 14 55 17.2 +1.2
comp=Z,21nm,1.0s,SNR=5.2
CTI **Castel Tesino** 15.95 314 **Pn** 14 55 16.2 -0.8
CTI **Castel Tesino** 15.95 314 P **Pn** 14 55 16.2 -0.8
TREC **Trest** 16.20 329 *e*P **P** 14 55 22.1 +0.3
TREC **Trest** 16.20 329 *e*P **P** 14 55 22.1 +0.3
LESA **Schwarzleotal** 16.20 320 *i* P **P** 14 55 22.2 +0.2
comp=Z,26nm,0.6s,SNR=28
KRLC **Kraliky** 16.32 333 *e*P **P** 14 55 23.2 0.0
KRLC **Kraliky** 16.32 333 *e*P **P** 14 55 23.2 0.0
CKRC **Cesky Krumlov** 16.35 326 *e*P **P** 14 55 23.2 -0.3
CKRC **Cesky Krumlov** 16.35 326 *e*P **P** 14 55 23.2 -0.3
GERES **GERESS Array B** 16.65 325 P **P** 14 55 26.4 -0.5
comp=Z,5.1nm,0.7s,baz=133,slow=12,SNR=34
WTTA **Wattenberg** 16.66 318 *e*P **P** 14 55 27.8 +0.8
comp=Z,37nm,0.7s,SNR=16
WTTA **Wattenberg** 16.66 318 P **P** 14 55 27.9 +0.8
WTTA pmax pmax
comp=Z,53nm,1.0s
BOB **Bobbio (Coli)** 16.68 307 P **P** 14 55 28.4 +1.2
BOB pmax pmax
comp=Z,162nm,0.6s
DPC **Dobruska-Polom** 16.71 333 *e*P **P** 14 55 28.0 +0.5
DPC **Dobruska-Polom** 16.71 333 *e*P **P** 14 55 28.0 +0.5
WATA **Walderalm** 16.73 318 *i* P **P** 14 55 28.3 +0.4
comp=Z,52nm,1.1s,SNR=22
ZVC **Zvikov** 16.86 327 *e*P **P** 14 55 29.2 +0.1
SQTA **Sankt Quirin** 16.87 317 *e*P **P** 14 55 30.2 +0.9
comp=Z,18nm,0.5s,SNR=18
KHC **Kasperske Hory** 16.91 326 *e*P **P** 14 55 30.2 +0.5
KHC **Kasperske Hory** 16.91 326 *e*P **P** 14 55 30.2 +0.5
OSTC **Ostas** 16.92 333 *e*P **P** 14 55 30.3 +0.5
OSTC **Ostas** 16.92 333 *e*P **P** 14 55 30.3 +0.5
UPC **Upice** 16.95 333 *e*P **P** 14 55 31.1 +0.9
UPC **Upice** 16.95 333 *e*P **P** 14 55 31.1 +0.9
MOTA **Moosalm** 17.00 317 *e*P **P** 14 55 31.2 +0.4
comp=Z,24nm,0.9s,SNR=10
CHVC **Chvalec** 17.00 333 *e*P **P** 14 55 31.5 +0.8
CHVC **Chvalec** 17.00 333 *e*P **P** 14 55 31.5 +0.8
FETA **Feichten** 17.02 316 *e*P **P** 14 55 31.7 +0.6
comp=Z,57nm,1.0s,SNR=29
PRU **Pruhonice** 17.12 329 *e*P **P** 14 55 32.5 +0.5
PRU **Pruhonice** 17.12 329 *e*P **P** 14 55 32.5 +0.5
PCP **Piancastagn** 17.17 306 P **P** 14 55 33.4 +0.7
PCP pmax pmax
comp=Z,50nm,1.1s
WET **Wettzell** 17.25 324 P **P** 14 55 34.4 +1.0
WET pmax pmax
comp=Z,24nm,0.8s
RETA **Reutte** 17.27 317 *i* P **P** 14 55 34.2 +0.4
comp=Z,12nm,0.5s,SNR=8.1
FUR **Furstenfeldbru** 17.40 320 P **P** 14 55 35.9 +0.8
FUR pmax pmax
comp=Z,103nm,0.8s
PVCC **Panska Ves** 17.53 330 P **P** 14 55 37.3 +0.8
PVCC pmax pmax
comp=Z,79nm,1.3s
SAOF **Saorge** 17.63 303 P **P** 14 55 39.3 +1.6
SAOF pmax pmax
comp=Z,30nm,0.8s
DAVA **Damuels** 17.65 315 *e*Pn **Pn** 14 55 39.0 +1.0
comp=Z,33nm,0.6s,SNR=12
GRC1 **Grafenberg Arr** 17.80 322 P **Pn** 14 55 40.0 +0.3
GRC1 pmax pmax
comp=Z,59nm,0.8s
ISO **Isola** 18.04 303 P **Pn** 14 55 44.6 +1.9
ISO pmax pmax
comp=Z,28nm,0.9s
BRG **Berggiesshubel** 18.05 330 P **Pn** 14 55 43.4 +0.7
BRG pmax pmax
comp=Z,16nm,1.1s
BRG **Berggiesshubel** 18.05 330 *e*P **Pn** 14 55 43.1 +0.5
BRG Amp 14 55 44.6
comp=Z,11nm,0.8s
BRG **Berggiesshubel** 18.05 330 P **Pn** 14 55 46.3 +3.7
BRG Amp 14 55 47.1
comp=Z,10nm,0.8s
BRG pP **pP** 14 56 01.1 +4.2
BRG Amp 14 56 03.5
comp=Z,7.8nm,0.8s
HSKC **Hora Svate Kat** 18.06 329 *e*P **Pn** 14 55 44.0 +1.2
PZZ **Stroppo** 18.11 304 P **Pn** 14 55 44.6 +1.0
PZZ pmax pmax
comp=Z,22nm,0.6s
RSP **Reno Superiore** 18.25 307 P **Pn** 14 55 46.2 +0.9
RSP pmax pmax
comp=Z,15nm,0.9s
GRF **Grafenberg Arr** 18.41 323 P **Pn** 14 55 48.4 +1.3
GRF pmax pmax
comp=Z,40nm,1.2s
GRFO **Grafenberg** 18.41 323 P **Pn** 14 55 48.4 +1.3
GRFO pmax pmax
comp=Z,39nm,1.2s
ZUR **Degenried** 18.44 314 P **Pn** 14 55 47.3 -0.2
ZUR pmax pmax
comp=Z,48nm,0.7s
RRL **Rocca Remolon** 18.47 305 P **Pn** 14 55 48.3 +0.2
RRL pmax pmax
comp=Z,48nm,0.8s
MNK **Minsk** 18.53 360 *i* P **P** 14 55 46.5 -0.9
comp=E,24nm,1.0s
MNK *i* P **P** 14 55 46.5 -0.9
comp=N,21nm,1.1s
MNK *i* P **P** 14 55 46.5 -0.9
comp=Z,43nm,0.8s,baz=180
MNK *i* pP **pP** 14 56 01.1 -1.3
MNK *i* S **S** 14 59 13.2 -1.2
MNK *i* sS **sS** 14 59 32.8 -5.2
MNK *i* LQ LQ 15 01 11.2
MNK *i* LR LR 15 02 59.7
MNK *i* LRM MLR 15 04 38.2
comp=Z,77nm,16.1s
MNK *i* LRM MLR 15 04 41.1
comp=N,125nm,16.5s
MNK *i* LRM MLR 15 05 35.6
comp=E,205nm,18.2s
MNK **Minsk** 18.53 360 *i* P **P** 14 55 46.5 -0.9
MNK *i* S **S** 14 59 13.1 -1.2
MNK pmax pmax
comp=N,21nm,1.1s
MNK pmax pmax
comp=Z,43nm,0.8s
MNK pmax pmax
comp=E,24nm,1.0s
MNK MLR MLR
comp=Z,77nm,16.0s
MNK MLR MLR
comp=N,125nm,16.0s
MNK MLR MLR
comp=E,205nm,18.0s
BNI **Bardonecchia** 18.59 306 P **P** 14 55 48.6 +0.2
BNI **Bardonecchia** 18.59 306 P **P** 14 55 48.6 +0.2
SLE **Schleitheim** 18.70 315 P **P** 14 55 49.7 +0.3
SLE pmax pmax
comp=Z,23nm,1.0s
SENIN **Lac Senin/Sane** 18.73 310 P **P** 14 55 49.8 -0.2
CLL **Collm** 18.76 329 P **P** 14 55 49.4 -0.7
CLL **Collm** 18.76 329 *i* P **P** 14 55 50.3 +0.3
CLL pmax pmax
comp=Z,45nm,1.3s
CLL **Collm** 18.76 329 *i* P **P** 14 55 50.3 +0.3
comp=Z,45nm,1.3s
CLL *e*pP **pP** 14 56 03.0 -1.9
CLL *i* x x 14 56 08.8
STU **Stuttgart** 18.87 319 P **Pn** 14 55 52.5 -0.1
STU pmax pmax
comp=Z,37nm,0.8s
RSL **Roselend** 18.87 308 P **Pn** 14 55 52.8 0.0
RSL pmax pmax
comp=Z,81nm,0.9s
MOX **Moxa** 18.88 326 P **Pn** 14 55 54.5 +1.8
MOX pmax pmax
comp=Z,33nm,1.1s
ORIF **Oris-en-Rattie** 19.08 305 P **Pn** 14 55 54.7 -0.5
BFO **Black Forest** 19.10 316 P **P** 14 55 53.8 0.0
BFO **Black Forest** 19.10 316 P **P** 14 55 53.8 0.0
WLS **Welschbruch** 19.69 316 P **P** 14 56 01.3 +1.0
WLS pmax pmax
comp=Z,15nm,1.0s
ECH **Echery** 19.70 315 **P** 14 56 00.5 +0.1
ECH **Echery** 19.70 315 P **P** 14 56 00.5 +0.1
OBN **Obninsk** 20.01 14 *e*P **P** 14 56 04.4 +0.8
OBN *e**SP **sP** 14 56 29.6 +2.0
OBN pmax pmax
comp=Z,28nm,1.2s
SSB **Saint Sauveur** 20.09 305 **P** 14 56 04.4 -0.2
SSB **Saint Sauveur** 20.09 305 **P** 14 56 04.4 -0.2
TNS **Taunus Mts** 20.13 321 P **P** 14 56 05.8 +0.8
TNS pmax pmax
comp=Z,71nm,1.1s
MOS **Moscow** 20.82 15 *e*P **P** 14 56 12.2 0.0
MOS pmax pmax
comp=Z,28nm,0.7s
LBL **Lubilhac** 20.94 304 P Pn 14 56 17.3 +0.2
LBL pmax pmax
comp=Z,26nm,1.0s
WLF **Walferdange** 21.02 317 *d*P **P** 14 56 19.5 +4.9
comp=Z,9.9nm,0.8s
MTLF **Montolieu** 21.18 298 P **P** 14 56 17.0 +0.6
MTLF pmax pmax
comp=Z,25nm,1.6s
LOR **Lormes** 21.26 310 P **P** 14 56 16.8 -0.3
LOR pmax pmax
comp=Z,20nm,1.0s
BELG **Belogornoye** 21.47 34 P **P** 14 56 21.7 +2.5
comp=Z,22nm,0.7s,baz=288,slow=20,SNR=2.9
comp=Z,22nm,0.7s
BELG **Belogornoye** 21.47 34⇓*e*P **P** 14 56 20.8 +1.6
BELG pmax pmax
comp=Z,3.0nm,0.7s
BHOU **Houvegnez** 21.48 319 *d*P **P** 14 56 21.1 +1.6
BTNL **Ternell** 21.54 320 *d*P **P** 14 56 21.9 +1.8
MEM **Membach** 21.62 319 *d*P **P** 14 56 22.4 +1.5
comp=Z,12nm,0.9s
RCHB **Rochefort** 21.79 318 *d*P **P** 14 56 24.0 +1.3
RCHB *d*pPKP **pP** 14 56 37.5 -0.3
BCLA **Clavier** 21.89 318 *d*P **P** 14 56 27.4 +3.6
comp=Z,6.3nm,0.8s
BGES **Gesves** 21.99 318 *d*P **P** 14 56 25.6 +0.7
BGES *d*pP **pP** 14 56 43.2 +3.2
LUNU **Lund** 22.07 338 *i* P **P** 14 56 23.1 -2.5
DOU **Dourbes** 22.11 317 *d*P **P** 14 56 25.9 -0.3
comp=Z,5.6nm,0.0s
VSU **Vasula** 22.52 358*c* *i*P **P** 14 56 29.9 -0.6
VSU pmax pmax
comp=Z,32nm,1.5s
CLF **Chambon-Foret** 22.55 310 P **P** 14 56 31.2 +0.3
CLF IAmb IAmb 14 56 32.7
comp=Z,121nm,1.9s
BJUU **Bjuv** 22.57 338 *i* P **P** 14 56 29.3 -1.7
DEL **Delary** 22.65 339 *i* P **P** 14 56 30.0 -1.9
FABU **Falkenberg** 23.44 339 *i* P **P** 14 56 38.1 -1.5
BORU **Boraas** 23.96 340 *i* P **P** 14 56 43.5 -0.8
ONAU **Onsala** 24.01 338 *i* P **P** 14 56 43.6 -1.1
TJOU **Tjoern** 24.63 339 *i* P **P** 14 56 50.5 +0.2
ESDC **Sonseca Array** 25.52 288 P **P** 14 56 59.3 +0.6
ESDC **Sonseca Array** 25.52 288 P **P** 14 56 58.5 -0.2
comp=Z,8.9nm,0.6s,baz=89,slow=9.0,SNR=91
comp=Z,8.9nm,0.6s
FINES **FINESS Array B** 25.52 358 P **P** 14 56 57.9 -0.5
FINES **FINESS Array B** 25.52 358 P **P** 14 56 57.8 -0.6
comp=Z,6.6nm,0.4s,baz=175,slow=8.9,SNR=87
FINES PcP **PcP** 15 00 28.7 +0.8
comp=Z,4.0nm,0.5s,baz=179,slow=1.1,SNR=22
comp=Z,6.6nm,0.4s
FIA1 **FINESS Array S** 25.52 358 P **P** 14 56 58.0 -0.4
FIA1 IAmb IAmb 14 56 58.7
comp=Z,23nm,0.6s
PAB **San Pablo** 25.82 288 P **P** 14 57 01.4 -0.1
PAB **San Pablo** 25.82 288 P **P** 14 57 01.4 -0.1
PAB pmax pmax
comp=Z,23nm,1.6s
HFS **Hagfors** 25.90 343 P **P** 14 57 00.8 -1.1
comp=Z,11nm,0.7s,baz=156,slow=11,SNR=15
HFS PcP **PcP** 15 00 29.0 +0.2
comp=Z,0.7nm,0.4s,baz=150,slow=3.2,SNR=4.3
comp=Z,11nm,0.7s
KLMR **Klimovskoe** 25.95 13 *e*P **P** 14 57 01.6 -0.7
KLMR *e**PP **pP** 14 57 17.1 -2.2
KLMR pmax pmax
comp=Z,23nm,0.8s
SNART **Snartemo** 26.29 335 *e*P **P** 14 57 05.0 -0.3
KONO **Kongsberg** 26.56 339 P **P** 14 57 06.3 -1.5
KONO **Kongsberg** 26.56 339⇑*e*P **P** 14 57 07.8 0.0
KONO pmax pmax
comp=Z,35nm,1.7s
KIRV **Kirov** 26.62 25*d* *i*P **P** 14 57 08.8 +0.5
NC602 **NORSAR Array S** 26.95 342 *e*P **P** 14 57 07.9 -3.4
NORES **NORESS Array B** 26.95 342 P **P** 14 57 12.2 +0.9
NC405 **NORSAR Array S** 27.23 343 P **P** 14 57 12.2 -1.7
NC405 IAmb IAmb 14 57 45.7
comp=Z,66nm,1.9s
NB201 **NORSAR Array S** 27.28 342 IAmb IAmb 14 57 18.7
comp=Z,38nm,1.6s
NB2 **NORSAR Subarra** 27.30 342 P **P** 14 57 12.8 -1.6
comp=Z,1.2nm,0.5s,baz=149,slow=9.3
NB2 PCP **PcP** 15 00 32.7 +0.6
comp=Z,1.2nm,0.6s,baz=128,slow=3.1
NB2 **NORSAR Subarra** 27.30 342 P **P** 14 57 12.8 -1.6
baz=149,slow=9.3
NOA **NORSAR Array B** 27.30 342 P **P** 14 57 13.1 -1.4
comp=Z,1.8nm,0.6s,baz=154,slow=9.1,SNR=21
NOA PcP **PcP** 15 00 32.2 +0.1
comp=Z,1.0nm,0.6s,baz=153,slow=3.0,SNR=5.7
comp=Z,1.8nm,0.6s
BLS5 **Blasjo** 27.37 336 *e*P **P** 14 57 14.3 -0.8
NBO00 **NORSAR Array S** 27.40 342 IAmb IAmb 14 57 31.2
comp=Z,56nm,1.9s
NC303 **NORSAR Array S** 27.42 342 **P** 14 57 12.1 -3.4
NC303 IAmb IAmb 14 57 53.8
comp=Z,52nm,2.0s
PBRG **Braganca** 27.61 293 *e*P **P** 14 57 17.4 0.0
NC204 **NORSAR Array S** 27.61 342 P **P** 14 57 15.1 -2.2
NC204 PcP **PcP** 15 00 33.6 +0.6
MVO **Moncorvo** 27.82 291 *e*P **P** 14 57 19.5 +0.1
PBAR **Barrancos** 28.02 285 *e*P **P** 14 57 21.2 +0.1
PMRV **Marv??o** 28.18 288 *e*P **P** 14 57 22.2 -0.3
PCBR **Castelo Branco** 28.21 289 *e*P **P** 14 57 22.8 0.0
PCBR *i* IAmb IAmb 14 57 27.1
comp=Z,23nm,1.4s
MTE **Manteigas** 28.24 290 P **P** 14 57 22.7 -0.4
MTE **Manteigas** 28.24 290 *e*P **P** 14 57 23.2 +0.1
PESTR **Estremoz** 28.38 287 P **P** 14 57 23.9 -0.4
PESTR **Estremoz** 28.38 287 *e*P **P** 14 57 24.3 -0.1
POLO **Lamas de Olo** 28.40 292 *e*P **P** 14 57 24.3 -0.3
PVIS **Viseu** 28.49 291 *e*P **P** 14 57 25.5 +0.1
DOMB **Dombas** 28.70 341 *e*P **P** 14 57 26.9 0.0
EVO **Evora** 28.74 286 *e*P **P** 14 57 27.7 +0.1
PGAV **Gavieira, Arco** 28.75 293 *e*P **P** 14 57 26.8 -0.9
PGAV *i* IAmb IAmb 14 57 44.0
comp=Z,29nm,1.8s
EKA **Eskdalemuir Ar** 28.82 322 P **P** 14 57 26.7 -1.3
comp=Z,1.2nm,0.6s,baz=123,slow=9.2,SNR=4.8
EKA PcP **PcP** 15 00 36.4 +0.5
comp=Z,1.0nm,0.5s,baz=102,slow=3.0,SNR=3.6
comp=Z,1.2nm,0.6s
ARTI **Arti** 28.89 35 P **P** 14 57 29.5 +0.9
ARTI IAmb IAmb 14 57 30.6
comp=Z,10.0nm,0.4s
ARTI **Arti** 28.89 35*c* *i*P **P** 14 57 29.4 +0.8
ARTI 14 58 23.6
ARTI S **S** 15 02 15.2 +1.7
ARTI SS **SnSn** 15 03 40.9 -1.7
ARTI pmax pmax
comp=Z,4.0nm,0.7s
PCAS **Casmilo, Conde** 28.98 289 *e*P **P** 14 57 30.1 +0.4
SUE **Sulen** 29.16 337 *e*P **P** 14 57 30.0 -0.9
AKN **Aaknes** 29.36 340 *e*P **P** 14 57 33.5 +0.7
PARRA **Arraiolos** 29.51 287 *e*P **P** 14 57 30.5 -3.9
PARRA *i* IAmb IAmb 14 57 41.1
comp=Z,17nm,2.0s
MOL **Molde** 29.53 341 *e*P **P** 14 57 34.0 -0.2
LEIR **Leirfjorden** 31.43 348 *e*P **P** 14 57 50.7 -0.2
STOK **Stokkvaagen** 31.66 348 *e*P **P** 14 57 52.8 -0.1
STEI **Steigen** 32.83 351 *e*P **P** 14 58 02.7 -0.5
TORD **Torodi Ar. Bea** 32.87 233 P **P** 14 58 02.5 -1.5
TORD **Torodi Ar. Bea** 32.87 233 P **P** 14 58 02.6 -1.5
comp=Z,5.7nm,0.7s,baz=38,slow=9.5,SNR=35
TORD PcP **PcP** 15 00 48.4 +1.1
comp=Z,0.5nm,0.7s,baz=46,slow=4.2,SNR=2.5
comp=Z,5.7nm,0.7s
KTK1 **Kautokeino** 33.20 357 *e*P **P** 14 58 06.3 -0.1
ARA0 **ARCESS Array S** 33.65 358 *e*P **P** 14 58 10.0 -0.3
ARCES **ARCESS Array B** 33.65 358 P **P** 14 58 09.7 -0.6
ARCES IAmb IAmb 14 59 02.5
comp=Z,59nm,1.8s
ARCES **ARCESS Array B** 33.65 358 P **P** 14 58 09.8 -0.6
comp=Z,1.8nm,0.3s,baz=179,slow=8.5,SNR=63
ARCES PcP **PcP** 15 00 49.1 +0.5
comp=Z,0.6nm,0.4s,baz=190,slow=2.7,SNR=5.6
comp=Z,1.8nm,0.3s
BVAR **Borovoye Array** 34.05 47 P **P** 14 58 15.8 +1.8
comp=Z,0.8nm,0.5s,baz=256,slow=6.2,SNR=4.8
BVAR PcP **PcP** 15 00 51.2 +1.1
comp=Z,0.3nm,0.4s,baz=250,slow=4.3,SNR=1.7
comp=Z,0.8nm,0.5s
TRO **Tromso** 34.09 354 *e*P **P** 14 58 13.7 -0.4
VADS **Vadso** 34.21 1 *e*P **P** 14 58 15.5 +0.3
KURBB **Kurchatov Arra** 38.75 52 P **P** 14 58 55.9 +1.9
comp=Z,1.6nm,0.5s,baz=273,slow=8.9,SNR=16
KURBB PcP **PcP** 15 01 06.0 +1.8
comp=Z,1.6nm,0.6s,baz=268,slow=3.6,SNR=7.1
comp=Z,1.6nm,0.5s
KURK **Kurchatov** 38.81 52 P **P** 14 58 55.9 +1.4
KURK 15 01 06.0
MK31 **Makanchi Array** 41.33 58⇑*e*P **P** 14 59 17.4 +2.0
MKAR **Makanchi Array** 41.33 58 P **P** 14 59 17.3 +1.9
MKAR **Makanchi Array** 41.33 58 P **P** 14 59 17.2 +1.8
comp=Z,1.0nm,0.6s,baz=271,slow=8.4,SNR=13
MKAR PcP **PcP** 15 01 14.5 +1.9
comp=Z,1.0nm,0.6s,baz=282,slow=3.2,SNR=2.5
comp=Z,1.0nm,0.6s
DBIC **Dimbokro** 41.96 234 P **P** 14 59 20.1 -0.8
DBIC IAmb IAmb 15 00 08.2
comp=Z,25nm,1.4s
DBIC **Dimbokro** 41.96 234 P **P** 14 59 21.2 +0.3
comp=Z,4.4nm,0.5s,baz=52,slow=9.5,SNR=9.9
comp=Z,4.4nm,0.5s
SPB2 **Spitsbergen Ar** 42.60 356 P **P** 14 59 25.5 +0.1
SPITS **Spitsbergen Ar** 42.61 356 P **P** 14 59 25.2 -0.2
comp=Z,7.4nm,0.4s,baz=142,slow=10,SNR=27
comp=Z,7.4nm,0.4s
ZALV **Zalesovo Beam** 42.71 47 P **P** 14 59 27.3 +0.7
ZALV **Zalesovo Beam** 42.71 47 P **P** 14 59 27.8 +1.2
comp=Z,2.1nm,0.4s,baz=268,slow=7.6,SNR=16
ZALV PcP **PcP** 15 01 18.3 +1.3
comp=Z,0.4nm,0.4s,baz=266,slow=5.8,SNR=1.3
comp=Z,2.1nm,0.4s
HYB **Hyderabad** 48.16 99 *e*P P 15 00 17.9 +7.8
HYB *es*P sP 15 00 44.2 +9.4
SUMG **Summit** 49.09 339 P **P** 15 00 15.1 -1.8
SUMG **Summit** 49.09 339 P **P** 15 00 15.1 -1.8
SUMG pmax pmax
comp=Z,52nm,1.6s
KNGR **Kungurtug, Tuv** 50.77 50⇓*e*P **P** 15 00 29.6 -0.1
KNGR pmax pmax
comp=Z,3.0nm,0.8s
SFJD **Kangerlussuaq** 53.12 331 P **P** 15 00 45.2 -1.5
SFJD **Kangerlussuaq** 53.12 331 P **P** 15 00 45.2 -1.5
SFJD pmax pmax
comp=Z,93nm,1.7s
GTA **Gaotai** 55.47 63 *e*P **P** 15 01 06.1 +1.7
GTA pP pwP 15 01 27.4 +1.0
GTA pmax pmax
comp=Z,3.0nm,0.9s
SONM **Songino Array** 57.11 52 P **P** 15 01 17.1 +1.1
comp=Z,0.8nm,0.3s,baz=293,slow=7.7,SNR=4.4
comp=Z,0.8nm,0.3s
ULN **Ulaanbaatar** 57.52 52⇓*i*P **P** 15 01 21.3 +2.4
LZH **Lanzhou** 59.69 65 *e*P P 15 01 44.0 +10
LZH pP sP 15 02 02.6 +3.0
LZH pmax pmax
comp=Z,11nm,1.1s
DRLN **Deer Lake** 61.15 312 P **P** 15 01 42.2 -1.4
PZH **PanZhiHua** 62.34 76 P **P** 15 01 54.4 +2.2
HHC **Hu-ho-hao-te** 63.19 58 *e*P **P** 15 01 58.8 +1.2
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.0s
SCHQ **Schefferville** 64.11 320 P **P** 15 02 02.0 -1.2
SCHQ **Schefferville** 64.11 320 P **P** 15 02 02.3 -1.0
comp=Z,38nm,0.4s,baz=63,slow=6.4,SNR=16
CMAR **Chiang Mai Arr** 64.11 85 P **P** 15 02 04.9 +1.1
comp=Z,0.3nm,0.4s,baz=301,slow=7.5,SNR=5.8
comp=Z,0.3nm,0.4s
BOSA **Boshof** 64.30 183 LR LR 15 31 25.9
comp=Z,90nm,18.5s,baz=112,slow=37
XLT **XiLinHaoTe** 64.87 53 *e*P **P** 15 02 05.7 -2.8
XLT pP pP 15 02 25.8 -0.8
XLT PcP **PcP** 15 02 40.6 -0.7
XLT pmax pmax
comp=Z,8.0nm,0.6s
GBN **Guysborough** 65.23 309 P **P** 15 02 09.1 -1.6
BATG **Bathurst New B** 67.15 313 P **P** 15 02 21.7 -1.3
HEH **HeiHe** 68.65 43 *e*P **P** 15 02 34.3 +2.0
D62A **Allapoint, All** 69.02 313 P **P** 15 02 35.0 +0.3
D62A IAmb IAmb 15 02 36.2
comp=Z,20nm,0.8s
G65A **Princeton** 69.08 311 P **P** 15 02 34.8 -0.2
G65A IAmb IAmb 15 03 38.2
comp=Z,38nm,1.2s
E62A **Clayton Lake** 69.54 313 P **P** 15 02 37.9 +0.1
BILL **Bilibino** 71.67 15⇓*e*P **P** 15 02 51.0 +0.5
BILL pmax pmax
comp=Z,35nm,1.9s
NJ2 **Nanjing** 72.56 63 *e*P **P** 15 02 56.9 +0.5
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
C36M **Paulatuk** 73.01 350 P **P** 15 02 57.4 -0.9
C36M IAmb IAmb 15 05 05.1
comp=Z,25nm,1.2s
VLDQ **Val d'Or** 73.24 318 P **P** 15 03 01.1 +1.0
VLDQ IAmb IAmb 15 03 02.0
comp=Z,18nm,0.7s
C27K **Jago River** 74.54 357 P **P** 15 03 06.8 -0.6
C27K IAmb IAmb 15 05 07.5
comp=Z,47nm,1.6s
USRK **Ussuriysk Ar.** 74.56 46 P **P** 15 03 08.3 +0.4

comp=Z,2.9nm,0.7s,baz=317,slow=6.9,SNR=4.8
comp=Z,2.9nm,0.7s
D23K Nanushuk River 75.37 360 P **P** **15 03 12.1 0.0**
C18K Utukok River 75.46 4 P **P** **15 03 12.6 -0.1**
KSRS Korea Array 75.88 54 P **P** **15 03 17.1 +1.6**
comp=Z,0.9nm,0.7s,baz=312,slow=5.2,SNR=1.9
comp=Z,0.9nm,0.7s
SADO Sadowa 76.16 316 LR LR 15 34 27.9
comp=Z,2μm,21.3s,baz=350,slow=34
YKA Yellowknife Ar 77.39 343 P **P** **15 03 23.4 -0.3**
comp=Z,0.7nm,0.7s,baz=44,slow=7.5,SNR=2.5
comp=Z,0.7nm,0.7s
E46A Sault Ste Mari 78.00 319 P **P** **15 03 28.1 +0.7**
E46A IAmb IAmb 15 03 28.7
comp=Z,23nm,0.7s
I30M Mount Dempster 78.41 353 **P** **15 03 29.1 -0.3**
I30M IAmb IAmb 15 03 30.5
comp=Z,7.3nm,0.7s
I29M Ogilvie Camp, 78.44 354 P **P** **15 03 29.4 -0.1**
I29M IAmb IAmb 15 03 30.1
comp=Z,9.7nm,0.6s
J30M Hart River 79.03 353 **P** **15 03 33.1 +0.2**
J30M IAmb IAmb 15 03 34.1
comp=Z,10nm,0.6s
IL31 79.51 358 IAmb IAmb 15 06 32.5
comp=Z,31nm,2.0s
ILAR Eielson Array 79.51 358 P **P** **15 03 35.3 -0.1**
comp=Z,1.1nm,0.5s,baz=348,slow=3.9,SNR=42
comp=Z,1.1nm,0.5s
DAWY Dawson 79.80 354 P **P** **15 03 37.1 +0.1**
HDA Harding Lake 79.88 358 P **P** **15 03 37.4 +0.1**
K24K Donnelly Dome 80.44 357 IAmb IAmb 15 03 41.5
comp=Z,10nm,0.6s
ULM Lac du Bonnet 80.94 327 P **P** **15 03 42.9 -0.3**
comp=Z,8.9nm,0.6s,baz=60,slow=5.8,SNR=8.8
comp=Z,8.9nm,0.6s
DHY Denali Highway 81.22 358 P **P** **15 03 45.2 +0.4**
DHY IAmb IAmb 15 03 46.5
comp=Z,5.7nm,0.6s
M29M Somme Creek 81.33 354 IAmb IAmb 15 03 47.1
comp=Z,11nm,0.7s
SKT Skwentna 82.39 360 IAmb IAmb 15 03 51.1
comp=Z,8.5nm,0.6s
SUA Susitna One 82.90 359 IAmb IAmb 15 04 12.7
comp=Z,39nm,1.6s
MJAR Matsushiro Arr 82.99 50 P **P** **15 03 54.7 +0.4**
comp=Z,0.6nm,0.5s,baz=306,slow=5.3,SNR=2.1
comp=Z,0.6nm,0.5s
T50A Nancy 84.40 312 IAmb IAmb 15 04 03.0
comp=Z,8.4nm,0.7s
U49A Red Boiling Sp 85.30 312 IAmb IAmb 15 04 07.3
comp=Z,10nm,0.7s
W50A Signal Mountai 85.89 311 IAmb IAmb 15 04 10.6
comp=Z,16nm,1.0s
ECSD EROS Data Cent 86.10 323 IAmb IAmb 15 04 10.6
comp=Z,10nm,0.5s
CCM Cathedral Cave 87.41 316 **P** **15 04 15.1 -1.2**
CCM Cathedral Cave 87.41 316 P **P** **15 04 15.1 -1.2**
CCM pmax pmax
comp=Z,25nm,0.7s
CCM Cathedral Cave 87.41 316 P **P** **15 04 16.5 +0.2**
SDV Santo Domingo 91.83 282 LR LR 15 42 39.5
comp=Z,39nm,21.9s,baz=264,slow=33
PDAR Pinedale Array 92.63 330 P **P** **15 04 39.7 -1.2**
comp=Z,0.3nm,0.6s,baz=25,slow=8.0,SNR=3.8
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 99.71 334 P **Pdif** **15 05 13.5 +0.4**
comp=Z,0.2nm,0.4s,baz=40,slow=8.4,SNR=2.4
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 100.76 318 P **Pdif** **15 05 17.6 -0.2**
comp=Z,0.2nm,0.6s,baz=39,slow=6.5,SNR=2.9
SYO Syowa Base 105.02 176⇑*e*Pdiff **Pdif** **15 05 35.9 +0.5**
ASAR Alice Springs 115.85 101 PKP **PKiKP** **15 10 12.3 +0.8**
comp=Z,0.3nm,0.5s,baz=297,slow=1.8,SNR=6.5
QSPA South Pole Qui 125.82 180 PKP **PKiKP** **15 10 31.7 +1.9**
comp=Z,0.6nm,0.6s,baz=277,slow=2.4,SNR=5.6

TAP ***05*** *15:00:05.8,24°.68N×122°.40E,h12km,ML2.7,C*
JMA ***05*** *15:00:06.7±0.1,25°.N±1°×122°.4E±0°.4,h30km±3km,*
MV2.0/8,NW OFF ISHIGAKIJIMA IS
ISC 05 15:00:04.8±1.1,24°.63N±0°.02×122°.45E±0°.02,h6km±10km,
n67,σ0°71/114,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.29**	**223**	*e*P	**Pb**	**15 00 12.7**	**+0.5**
EOS2				*e*S	**Sb**	**15 00 17.9**	**+0.7**
EOS3	**EOS3**	**0.36**	**199**	*e*P	**Pb**	**15 00 14.3**	**+0.8**
EOS3				*e*S	**Sb**	**15 00 20.3**	**+0.9**
JYNG	**Yonagunijimaku**	**0.49**	**111**	P	**Pn**	**15 00 16.8**	**-1.5**
JYNG				*e*S	**Sb**	**15 00 23.9**	**+0.7**
EGS		**0.51**	**295**	*i* P	**Pb**	**15 00 15.3**	**-0.9**
EOS4	**EOS4**	**0.52**	**193**	*e*P	**Pn**	**15 00 17.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.54**	**108**	*e*P	**Pn**	**15 00 17.7**	**-1.4**
YOJ				*e*S	**Sb**	**15 00 26.1**	**+1.4**
YOJ	**Yonaguni jima**	**0.54**	**108**	*e*P	**Pb**	**15 00 17.5**	**+0.8**
YOJ				*e*S	**Sb**	**15 00 26.3**	**+1.5**
TWC	**Suao**	**0.54**	**268**	*i* P	**Pg**	**15 00 15.5**	**+0.2**
TWC				*i* S	**Sb**	**15 00 24.2**	**-0.6**
ESAO	**Su ao**	**0.55**	**264**	*e*P	**Pb**	**15 00 16.0**	**-0.8**
ESAO				*e*S	**Sb**	**15 00 23.7**	**-1.2**
TWB1	**Santiao Chiao**	**0.56**	**312**	*i* P	**Pb**	**15 00 16.2**	**-0.8**
TWB1				*i* S	**Sg**	**15 00 22.6**	**-0.4**
EWUT	**Wuta**	**0.63**	**253**	*e*P	**Pb**	**15 00 17.5**	**-0.8**
EWUT				*e*S	**Sb**	**15 00 26.7**	**-0.7**
TIPB	**Shuangxi**	**0.66**	**301**	P	**Pb**	**15 00 18.2**	**-0.5**
TIPB				*e*S	**Sg**	**15 00 25.8**	**-0.2**
NDS	**Dongshan**	**0.66**	**270**	*e*P	**Pb**	**15 00 18.1**	**-0.7**
NDS				*e*S	**Sb**	**15 00 27.4**	**-0.8**
ENA	**Nanau**	**0.67**	**253**	*e*P	**Pb**	**15 00 18.2**	**-0.8**
ENA				*e*S	**Sb**	**15 00 28.5**	**+0.1**
SXI1	**Grass Mountain**	**0.69**	**312**	*e*P	**Pb**	**15 00 19.5**	**+0.1**
SXI1				*e*S	**Sb**	**15 00 29.0**	**-0.2**
EAHA	**Aohua**	**0.71**	**245**	*e*P	**Pb**	**15 00 19.3**	**-0.3**
EAHA				*e*S	**Sb**	**15 00 29.3**	**-0.2**
TWE	**Neicheng**	**0.71**	**277**	*i* P	**Pg**	**15 00 18.7**	**+0.2**
TWE				*e*S	**Sg**	**15 00 28.2**	**+0.4**
NWF	**Wu-fen Shan**	**0.75**	**306**	P	**Pb**	**15 00 20.6**	**+0.4**
NWF				*i* S	**Sb**	**15 00 30.3**	**-0.4**
WFSB	**Wu-fen Shan**	**0.75**	**306**	*e*P	**Pb**	**15 00 20.7**	**+0.5**
WFSB				*e*S	**Sb**	**15 00 30.2**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.79**	**280**	*e*P	**Pb**	**15 00 20.3**	**-0.7**
FUSB				*e*S	**Sg**	**15 00 30.4**	**+0.2**
ENTT	**Nioudou**	**0.80**	**271**	*e*P	**Pb**	**15 00 20.6**	**-0.5**
ENTT				*e*S	**Sb**	**15 00 31.7**	**-0.5**
TNOU	**National Taiwa**	**0.80**	**310**	*e*P	**Pb**	**15 00 21.2**	**+0.1**
TNOU				*e*S	**Sg**	**15 00 31.1**	**+0.6**
LATG	**Datong**	**0.84**	**264**	*e*P	**Pb**	**15 00 21.1**	**-0.7**
LATG				*e*S	**Sb**	**15 00 32.6**	**-0.8**
NWLT	**Wulai**	**0.87**	**280**	*e*P	**Pb**	**15 00 22.1**	**-0.3**
NWLT				*e*S	**Sg**	**15 00 32.2**	**-0.6**
ETL	**Fush Village**	**0.88**	**238**	*e*P	**Pb**	**15 00 22.7**	**+0.1**
NACB	**Ninganchiao**	**0.90**	**240**	*e*P	**Pb**	**15 00 22.4**	**-0.4**
NACB				*e*S	**Sg**	**15 00 33.9**	**+0.1**
NHDH	**Xindian Distri**	**0.90**	**292**	*e*P	**Pn**	**15 00 23.4**	**-0.6**
NHDH				*e*S	**Sg**	**15 00 34.1**	**+0.3**
YM01	**YM01**	**0.95**	**303**	*e*P	**Pb**	**15 00 23.8**	**+0.1**
YM01				*e*S	**Sb**	**15 00 35.9**	**-0.6**
TWD	**Chiawan**	**0.95**	**235**	*e*P	**Pb**	**15 00 23.8**	**+0.1**
YM08	**YM08**	**0.95**	**306**	*e*P	**Pb**	**15 00 23.6**	**-0.2**
YM08				*e*S	**Sg**	**15 00 35.3**	**-0.2**
ETLH	**Xiulin Townshi**	**0.97**	**245**	*e*P	**Pb**	**15 00 23.8**	**-0.3**
ETLH				*e*S	**Sb**	**15 00 37.6**	**+0.3**
YHNB	**Yeheng**	**0.97**	**273**	*e*P	**Pb**	**15 00 23.6**	**-0.5**
YHNB				*e*S	**Sg**	**15 00 35.9**	**-0.3**
ZUZH	**Zhuzihu**	**0.97**	**303**	*e*P	**Pb**	**15 00 24.2**	**+0.1**
ZUZH				*e*S	**Sg**	**15 00 36.4**	**+0.2**
NNSB	**Datong**	**0.99**	**258**	*e*P	**Pb**	**15 00 23.9**	**-0.5**
NNSB				*e*S	**Sb**	**15 00 37.0**	**-0.7**
NSK	**Sanguang**	**0.99**	**273**	*e*P	**Pb**	**15 00 24.3**	**-0.1**
NSK				S	**Sg**	**15 00 36.2**	**-0.5**
NNS	**Nan Shan**	**0.99**	**259**	*e*P	**Pb**	**15 00 24.0**	**-0.5**
NNS				*e*S	**Sb**	**15 00 37.8**	**-0.2**
NTST	**Danshui**	**1.05**	**301**	*e*S	**Sb**	**15 00 39.7**	**+0.3**
PCYT	**Pengchaiyu**	**1.05**	**341**	*e*P	**Pn**	**15 00 26.5**	**+0.5**
ETM	**Tongmen**	**1.09**	**233**	*e*P	**Pn**	**15 00 26.3**	**-0.3**
LXIB	**Xiulin Townshi**	**1.12**	**237**	*e*P	**Pn**	**15 00 26.9**	**-0.3**
LXIB				*e*S	**Sn**	**15 00 44.4**	**+1.4**
FUSS	**Fushou**	**1.16**	**251**	*e*P	**Pn**	**15 00 27.8**	**+0.1**
FUSS				*e*S	**Sn**	**15 00 43.5**	**-0.6**
KSHI	**Guanxi Townshi**	**1.16**	**277**	*e*P	**Pn**	**15 00 28.2**	**+0.6**
KSHI				*e*S	**Sn**	**15 00 44.4**	**+0.6**
SHUL	**Shoufeng**	**1.16**	**224**	*e*P	**Pn**	**15 00 29.0**	**+1.4**
WHF	**Hehuan Shan**	**1.18**	**246**	*e*P	**Pb**	**15 00 27.7**	**-0.1**
IRIF	**Iriomote-Funau**	**1.21**	**104**	*e*P	**Pb**	**15 00 27.8**	**-0.2**
IRIF				*e*S	**Sn**	**15 00 44.4**	**-0.5**
NFF	**Wufeng Townshi**	**1.21**	**270**	*e*P	**Pn**	**15 00 28.6**	**+0.3**
NFF				*e*S	**Sb**	**15 00 44.2**	**+0.2**
LIOB	**Emei**	**1.30**	**271**	*e*P	**Pb**	**15 00 31.3**	**+1.7**
NSTT	**Nanjuang**	**1.31**	**270**	*e*P	**Pb**	**15 00 30.9**	**+1.0**
NSTT				*e*S	**Sn**	**15 00 48.9**	**+1.4**
WARBT	**Fenglin Townsh**	**1.33**	**227**	*e*P	**Pb**	**15 00 30.9**	**+0.8**
WARBT				*e*S	**Sn**	**15 00 48.4**	**+0.5**
OWD	**Renai**	**1.34**	**240**	*e*P	**Pg**	**15 00 29.5**	**-1.0**
WUSB	**Renai**	**1.37**	**243**	*e*P	**Pb**	**15 00 31.6**	**+0.8**
WUSB				*e*S	**Sn**	**15 00 49.2**	**+0.2**
WHP	**Taichung City**	**1.41**	**256**	*e*P	**Pg**	**15 00 32.6**	**+0.7**
WHP				*e*S	**Sn**	**15 00 50.2**	**+0.2**
HGSD	**Ruisui**	**1.47**	**220**	*e*P	**Pb**	**15 00 31.9**	**-0.5**
HGSD				*e*S	**Sg**	**15 00 52.8**	**+0.8**
JKRS	**Kuro-shima**	**1.48**	**105**	*e*P	**Pb**	**15 00 32.3**	**-0.4**
JKRS				*e*S	**Sg**	**15 00 51.7**	**-0.6**
NMLH	**Miaoli**	**1.51**	**267**	*e*P	**Pg**	**15 00 35.1**	**+1.3**
WCS	**Beigang Elemen**	**1.51**	**248**	*e*P	**Pg**	**15 00 34.2**	**+0.4**
JIJ	**Ishigaki jima**	**1.57**	**99**	*e*P	**Pn**	**15 00 33.3**	**+0.1**
JIJ				*e*S	**Sn**	**15 00 52.6**	**-1.2**
SMLT	**Sun Moon Lake**	**1.59**	**243**	*e*P	**Pg**	**15 00 36.2**	**+0.8**
SSLB	**Suanglung**	**1.60**	**239**	*e*P	**Pg**	**15 00 35.6**	**+0.1**
YULB	**Yu-li**	**1.62**	**221**	*e*P	**Pn**	**15 00 34.2**	**+0.3**
EHD	**Haiduan**	**1.86**	**218**	*e*P	**Pn**	**15 00 37.5**	**+0.3**
CHN5	**Tsauling**	**1.91**	**238**	*e*P	**Pg**	**15 00 41.6**	**+0.1**
CHN4	**Tsaushan**	**2.12**	**233**	*e*P	**Pg**	**15 00 44.6**	**-0.8**
CHN4				*e*S	**Sg**	**15 01 11.5**	**-1.4**
TPUB	**Ta-pu**	**2.12**	**232**	*e*P	**Pb**	**15 00 43.3**	**-0.4**
CHN1	**Nanshi**	**2.27**	**231**	*e*P	**Pb**	**15 00 46.5**	**+0.3**
CHN1				*e*S	**Sb**	**15 01 13.6**	**-0.9**
MASBT	**Mashibuluo**	**2.61**	**220**	*e*P	**Pb**	**15 00 51.0**	**-0.9**
MASBT				*e*S	**Sb**	**15 01 22.7**	**-1.5**
PHUB	**P'eng-hu**	**2.85**	**248**	*e*S	**Sn**	**15 01 26.4**	**+0.9**

IDC ***05*** *15:23:30.7±0.8,35°.25N×72°.97E,h0km,mb4.0/14,*
mbtmp3.9/18,ML3.8/4,Error ellipse: s-maj=21.5km
s-min=14.8km az=54.0
NNC ***05*** *15:23:42.4±4.1,35°.61N×73°.10E,h99km±50km,mb3.7,*
mpv4.1,Error ellipse: s-maj=31.8km s-min=28.2km az=4.0
ISC 05 15:23:36.5±0.8,35°.31N±0°.08×73°.08E±0°.09,h40km,n26,
σ1°68/30,mb4.0/13,3C-4D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.39**	**8**	Pn	**Pn**	**15 25 24.8**	**+2.7**
	1.5nm,0.3s,baz=181,slow=8.2,SNR=11						
AAK				Sn	**Sn**	**15 26 46.5**	**+1.8**
	1.1nm,0.3s,baz=162,slow=20,SNR=4.0						
	4.0nm,0.4s						
AAK	**Ala-Archa**	**7.39**	**8**	⇓P	**Pn**	**15 25 25.1**	**+3.0**
	1.6nm,0.5s						
AAK				⇓S	**Sn**	**15 26 42.7**	**-2.0**
	3.4nm,0.6s						
KK31	**Karatay Array**	**8.03**	**346**	⇑P	**Pn**	**15 25 31.4**	**+0.8**
	19nm,0.4s,baz=164,slow=11,SNR=335						
KK31				⇓S	**Sn**	**15 26 59.9**	**-0.2**
	9.7nm,0.6s,baz=160,slow=21,SNR=5.4						
PDGK	**Podgornoye**	**9.42**	**30**	⇓P	**Pn**	**15 25 51.5**	**+1.8**
	17nm,0.7s						
PDGK				⇑S	**Sn**	**15 27 33.4**	**-0.9**
	6.2nm,0.7s						
MKAR	**Makanchi Array**	**13.40**	**28**	Pn	**Pn**	**15 26 44.3**	**+0.2**
	0.3nm,0.3s,baz=211,slow=13,SNR=11						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**15.80**	**13**	Pn	**Pn**	**15 27 13.1**	**-2.9**
	0.2nm,0.3s,baz=201,slow=11,SNR=8.6						
KURBB				Lg	Lg	15 31 55.5	
	baz=206,slow=25,SNR=1.8						
	0.5nm,0.7s						
AB31	**Akbulak array**	**16.95**	**329**	P	**Pn**	**15 27 28.1**	**-2.4**
	1.5nm,0.4s,baz=154,slow=11,SNR=52						
BVAR	**Borovoye Array**	**17.81**	**355**	P	**Pn**	**15 27 37.4**	**-3.7**
	5.0nm,0.4s,baz=169,slow=11,SNR=23						
AKTO	**Aktyubinsk**	**18.66**	**329**	P	**P**	**15 27 50.0**	**-0.9**
	1.0nm,0.3s,baz=136,slow=8.8,SNR=11						
	2.3nm,0.4s						
AKTO	**Aktyubinsk**	**18.66**	**329**	⇑P	**P**	**15 27 50.6**	**-0.3**
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**20.37**	**20**	P	**P**	**15 28 09.0**	**-0.4**
	8.3nm,0.6s,baz=210,slow=10,SNR=28						
	8.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.41**	**119**	P	**P**	**15 29 25.6**	**-1.7**
	0.6nm,0.5s,baz=309,slow=7.8,SNR=8.0						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**31.41**	**290**	P	**P**	**15 29 56.2**	**+2.2**
	0.3nm,0.4s,baz=84,slow=10,SNR=1.7						
AKASG	**Malin Array Be**	**35.00**	**310**	P	**P**	**15 30 23.9**	**-1.0**
	0.4nm,0.4s,baz=83,slow=7.6,SNR=3.5						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**39.40**	**326**	P	**P**	**15 31 02.4**	**+0.3**
	1.1nm,0.4s,baz=108,slow=7.9,SNR=16						
	1.1nm,0.4s						
ARCES	**ARCESS Array B**	**42.88**	**338**	P	**P**	**15 31 31.2**	**+0.6**
	1.9nm,0.4s,baz=118,slow=7.7,SNR=24						
	1.9nm,0.4s						
HFS	**Hagfors**	**45.03**	**322**	P	**P**	**15 31 47.3**	**-0.7**
	3.1nm,0.7s,baz=91,slow=10,SNR=11						
	3.1nm,0.7s						
NB2	**NORSAR Subarra**	**46.34**	**324**	P	**P**	**15 31 57.9**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**46.34**	**324**	P	**P**	**15 31 57.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=95,slow=7.8,SNR=7.0						
	comp=Z,1.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**49.03**	**347**	P	**P**	**15 32 20.1**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=128,slow=9.3,SNR=1.0						
	comp=Z,4.3nm,0.8s						
ESDC	**Sonseca Array**	**59.50**	**299**	P	**P**	**15 33 34.1**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=69,slow=7.7,SNR=2.4						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.39**	**270**	P	**P**	**15 34 27.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=41,slow=6.6,SNR=7.1						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**75.44**	**17**	P	**P**	**15 35 16.1**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=332,slow=6.6,SNR=6.1						
	comp=Z,0.6nm,1.1s						
WRA	**Warramunga Arr**	**79.93**	**123**	P	**P**	**15 35 42.6**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=316,slow=5.7,SNR=19						
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**82.19**	**126**	P	**P**	**15 35 55.0**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=315,slow=5.2,SNR=14						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**82.33**	**4**	P	**P**	**15 35 54.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=353,slow=15,SNR=4.5						
	comp=Z,0.8nm,0.7s						

JMA 05 15:24:16.2±0.1,27°.2N±0°.5×143°.7E±0°.3,h70km,MV3.8/12,
NEAR CHICHIJIMA ISLAND,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.38**	**266**	*e*P	Pn	15 24 39.9	+0.4
CBIJ				*e*S	Sn	15 24 57.6	+0.6
JHH2	**Haha-jima-NKT2**	**1.50**	**248**	*e*S	Sn	15 25 00.3	+0.4
JOD2	**Odawara 2**	**8.95**	**335**	*e*P	Pn	15 26 25.9	+3.2
JHO	**Hitachi**	**9.75**	**345**	*e*P	Pn	15 26 35.2	+1.7
JHO				*e*S	Sn	15 28 21.1	-0.2

IDC ***05*** *15:27:05.6±4.0,25°.37S×179°.86W,h490km±45km,mb3.4/6,*
mbtmp4.3/8,Error ellipse: s-maj=34.7km s-min=25.9km
az=169.0
NOU ***05*** *15:27:06.0,25°.31S×179°.88W,h454km,mb4.2/10,South*
of Fiji Islands
NEIC ***05*** *15:27:10.8±1.8,25°.3S±0°.2×179°.4E±0°.2,h492km±15km,*
mb4.3/18,Error ellipse: s-maj=41.1km s-min=9.7km
az=219.0
ISC 05 15:27:06.0±0.8,25°.32S±0°.08×179°.9W±0°.1,h500km,n46,
σ1°15/44,mb4.2/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.30**	**156**	P	P	15 28 33.3	+6.5
LKBA	**Tubou, Lakemba**	**7.13**	**9**	P	**P**	**15 28 52.6**	**-1.0**
DGTI	**Dogotuki**	**8.98**	**358**	P	**P**	**15 29 12.1**	**-0.7**
PINNC	**Pines Island,**	**11.85**	**281**		**P**	**15 29 40.8**	**-2.3**
PINNC	**Pines Island,**	**11.85**	**281**	P	**P**	**15 29 43.7**	**+0.6**
YATNC	**Mamie plateau,**	**12.50**	**282**	P	**P**	**15 29 51.2**	**+1.2**
DZM	**Mont Dzumac**	**12.90**	**282**	P	**P**	**15 29 52.2**	**-2.1**
DZM	**Mont Dzumac**	**12.90**	**282**	P	**P**	**15 29 55.0**	**+0.8**
	14nm,0.7s,baz=86,slow=19,SNR=11						
DZM	**Mont Dzumac**	**12.90**	**282**	P	**P**	**15 29 55.3**	**+1.1**
URZ	**Urewera**	**13.14**	**190**	P	**P**	**15 29 56.5**	**0.0**
	6.7nm,0.4s,baz=13,slow=1.0,SNR=11						
URZ				S	**S**	**15 32 16.1**	**-0.9**
	13nm,0.9s,baz=319,slow=19,SNR=2.0						
URZ	**Urewera**	**13.14**	**190**	P	**P**	**15 29 57.3**	**+0.9**
BKZ	**Black Stump Fm**	**14.13**	**191**	P	**P**	**15 30 08.2**	**+1.3**
QRZ	**Quartz Range**	**16.69**	**200**	P	**P**	**15 30 34.4**	**+0.7**
FUNA	**Funafuti**	**16.73**	**357**	P	**P**	**15 30 35.7**	**+1.3**
KHZ	**Kahutara**	**17.88**	**196**	P	**P**	**15 30 47.5**	**+2.5**
ARMA	**Armidale**	**25.61**	**252**	P	**P**	**15 31 55.6**	**+0.5**
ARMA				IAmb	IAmb	15 32 08.8	
	comp=Z,17nm,1.4s						
EIDS	**Eidsvold**	**26.18**	**264**	P	**P**	**15 32 00.5**	**+0.5**
EIDS				IAmb	IAmb	15 32 02.2	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**28.51**	**242**	P	**P**	**15 32 22.1**	**+1.6**
CTAO	**Charters Tower**	**31.57**	**273**	P	**P**	**15 32 48.1**	**+1.0**
TOO	**Toolangi**	**31.75**	**239**	P	**P**	**15 32 47.2**	**-1.2**
TOO				IAmb	IAmb	15 33 11.1	
	comp=Z,9.3nm,1.4s						
STKA	**Stephens Creek**	**34.27**	**250**	P	**P**	**15 33 11.0**	**+1.1**
STKA	**Stephens Creek**	**34.27**	**250**	P	**P**	**15 33 11.0**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=90,slow=11,SNR=10						
	comp=Z,1.8nm,0.4s						
INKA	**Innaminka**	**35.17**	**257**	P	**P**	**15 33 18.9**	**+1.6**
COEN	**Coen**	**36.42**	**281**	P	**P**	**15 33 28.3**	**+0.3**
BBOO	**Buckleboo**	**38.97**	**249**	P	**P**	**15 33 48.8**	**+0.2**
BBOO				IAmb	IAmb	15 33 52.9	
	comp=Z,31nm,1.4s						
AS31	**Alice Springs**	**41.88**	**262**	P	**P**	**15 34 12.0**	**-0.2**
ASAR	**Alice Springs**	**41.88**	**262**	P	**P**	**15 34 12.5**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=100,slow=8.3,SNR=178						
ASAR				S	**S**	**15 39 53.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=97,slow=14,SNR=2.7						
	comp=Z,3.1nm,0.4s						
WR8	**Warramunga Arr**	**42.24**	**268**	P	**P**	**15 34 14.9**	**-0.1**
WR8				IAmb	IAmb	15 34 15.6	
	comp=Z,6.8nm,0.9s						
WRAB	**Tennant Creek**	**42.39**	**268**	P	**P**	**15 34 16.1**	**0.0**
WRAB				IAmb	IAmb	15 34 16.7	
	comp=Z,8.9nm,1.1s						
WB0	**Warramunga Arr**	**42.39**	**268**	P	**P**	**15 34 16.1**	**0.0**
WB0				IAmb	IAmb	15 34 16.8	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**42.39**	**268**	P	**P**	**15 34 15.4**	**-0.8**
WRA	**Warramunga Arr**	**42.39**	**268**	P	**P**	**15 34 16.1**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=104,slow=7.7,SNR=136						
	comp=Z,3.7nm,0.5s						
FORT	**Forrest**	**45.89**	**251**	P	**P**	**15 34 41.8**	**-1.3**
FORT				IAmb	IAmb	15 35 10.4	
	comp=Z,8.4nm,0.9s						
KNRA	**Kununurra**	**48.76**	**271**	P	**P**	**15 35 03.6**	**-1.4**
KNRA				IAmb	IAmb	15 35 31.8	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.80**	**267**	P	**P**	**15 35 19.9**	**-0.1**
QSPA	**South Pole Qui**	**64.77**	**180**	P	P	15 36 59.6	+5.2
BELA	**Belgrano 2**	**75.02**	**173**	P	P	15 38 02.3	+7.0
BELA				IAmb	IAmb	15 38 05.2	
	comp=Z,3.2nm,0.7s						
PETK	**Petropavlovsk-**	**80.49**	**347**	P	**P**	**15 38 26.2**	**+1.2**
	comp=Z,7.4nm,1.0s,baz=165,slow=5.4,SNR=5.9						
	comp=Z,7.4nm,1.0s						
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**15 39 16.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=248,slow=5.0,SNR=6.6						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**93.39**	**14**	P	**P**	**15 39 27.9**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=206,slow=5.6,SNR=6.1						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**133.28**	**348**	PKP	**PKiKP**	**15 45 25.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=50,slow=2.3,SNR=6.0						
FINES	**FINESS Array B**	**139.81**	**341**	PKhKP	PKPpre	15 45 30.8	
	comp=Z,1.5nm,0.8s,baz=64,slow=3.2,SNR=4.5						
NB2	**NORSAR Subarra**	**143.49**	**351**	PKP	**PKPdf**	**15 45 42.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=14,slow=3.3						
NOA	**NORSAR Array B**	**143.49**	**351**	PKP	**PKPdf**	**15 45 41.5**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=16,slow=3.0,SNR=6.0						
HFS	**Hagfors**	**143.95**	**348**	PKP	**PKPdf**	**15 45 43.

TWT				eS	Sg	15 41 31.7	-0.8	BKS	Berkeley--Byer	0.31	46
ELDTW	Lidau	0.86	240	i P	Pb	15 41 20.1	-0.4	C007	Forest Lane Be	0.31	40
ELDTW				i S	Sb	15 41 30.9	-0.7	C056	Diablo Avenue	0.31	94
TDCB	Techi	0.87	316	eP	Pn	15 41 21.2	-0.2	C012	Glenmawr Avenu	0.31	31
SMLT	Sun Moon Lake	0.88	287	i P	Pg	15 41 20.7	-0.8	C024	33rd St Richmo	0.32	27
SMLT				i S	Sn	15 41 32.8	-1.1	CSLM	San Leandro Hi	0.32	78
NNSB	Datong	0.89	333	P	Pn	15 41 21.7	0.0	C055	Cottonwood Ave	0.32	90
NNSB				S	Sn	15 41 33.0	-1.1	JRSC	Jasper Ridge	0.34	139
WHYT	Xinyi Township	0.89	274	i P	Pn	15 41 21.2	-0.4	JRSC			
WHYT				S	Sg	15 41 33.1	-0.4	JRSC			
NNS	Nan Shan	0.91	333	i P	Pn	15 41 21.5	-0.4		comp=N,8μm,0.3s		
NNS				i S	Sn	15 41 33.2	-1.2	CSPM	San Pablo Ridg	0.34	28
WCS	Beigang Elemen	0.94	297	i P	Pn	15 41 21.8	-0.4	CYD1	Coyote D'meter	0.35	106
WCS				S	Sg	15 41 34.0	-0.9	BGH	Bear Gulch	0.35	156
ALS	Alishan	0.94	263	eP	Pn	15 41 22.7	+0.2	C068	Mocine Avenue	0.35	92
ALS				eS	Sn	15 41 36.0	+0.4	C067	Fleetwood El S	0.36	29
ESAO	Su ao	0.94	1	eP	Pn	15 41 22.1	-0.2	C073	Carlos Bee Bl	0.36	90
LATG	Datong	0.94	343	eP	Pn	15 41 22.3	0.0	CLCB	Lake Chabot	0.36	78
LONT	Longtian	0.96	222	P	Pb	15 41 21.1	-1.0	SMCB	Saint Mary's C	0.37	61
LONT				eS	Sb	15 41 34.5	+0.1	C006	Lk Pillsbury D	0.37	100
TWC	Suao	0.98	1	eP	Pn	15 41 22.8	+0.1	JSFB	Stanford Teles	0.37	133
NDS	Dongshan	1.00	354	eP	Pg	15 41 24.2	+0.5	FARB	Farallon Islan	0.39	276
NDS				eS	Sn	15 41 38.1	+1.4	FARB			
LDUT	Ludao	1.01	199	P	Pb	15 41 21.1	-1.8	BGC	Bolinger Road	0.39	66
LDUT				eS	Sb	15 41 34.3	-1.4	C002	Farnham Drive	0.39	105
WHP	Taichung City	1.03	309	i P	Pg	15 41 23.8	-0.4	JFP	Foothills Park	0.40	139
WHP				i S	Sn	15 41 38.1	+0.7	CPIM	Pinole Ridge	0.41	36
ENTT	Nioudou	1.03	347	eP	Pg	15 41 24.3	+0.1	C026	Kell Court Ala	0.42	60
ENTT				S	Sn	15 41 38.9	+1.5	C015	Bright Common	0.43	103
TWGBT	Beinan	1.06	220	eP	Pb	15 41 22.8	-0.9	C047	Rutherford Dri	0.43	67
TWG	Pinlang	1.06	221	eP	Pb	15 41 22.8	-1.0	NOLM	Olema	0.44	330
STYH	Taoyuan	1.07	245	eP	Pn	15 41 24.2	+0.3	CNIC	Niles Canyon	0.44	97
STYH				i S	Sg	15 41 39.1	+0.3	C027	Lawnview Circl	0.45	72
TTN	Taitung	1.07	216	eP	Pb	15 41 23.5	-0.4	JBMM	Black Mountain	0.45	140
WNT	Mingjian	1.07	284	eP	Pg	15 41 25.2	+0.2	C045	Hawkins Drive	0.45	78
WNT				eS	Sn	15 41 39.9	+1.5	C018	Christie Drive	0.45	44
TWE	Neicheng	1.10	352	eP	Pg	15 41 24.8	-0.7	CRHM	Round Hill Res	0.46	64
YHNB	Yeheng	1.11	338	eP	Pg	15 41 25.2	-0.6	JSJM	St Joseph	0.47	134
NSK	Sanguang	1.13	338	eP	Pg	15 41 26.0	0.0	JPSM		0.48	164
NSK				eS	Sg	15 41 40.8	-0.1	C001	Firth Court Fr	0.48	106
WCKO	Fanlu	1.14	261	eP	Pg	15 41 26.4	+0.2	C062	Calle Reynoso	0.48	89
WCKO				eS	Sg	15 41 42.7	+1.6	C050	Festivo Court	0.49	106
TPUB	Ta-pu	1.15	254	i P	Pg	15 41 26.0	-0.3	C010	Sunflower Cour	0.49	54
TPUB				i S	Sg	15 41 41.1	-0.3	C069	Rotal Creek Pl	0.49	91
FUSB	Fushanzhiwuyua	1.15	349	eP	Pg	15 41 25.9	-0.5	C017	S Grimmer Bl F	0.49	108
FUSB				S	Sg	15 41 43.7	+2.2	C039	Semillon Drive	0.52	112
WGK	Gukeng	1.16	273	eP	Pg	15 41 26.2	-0.4	NPRM	Point Reyes	0.52	310
WGK				eS	Sg	15 41 41.9	0.0	SNT	Sears Point	0.52	5
TCU	Taichung	1.17	296	eP	Pg	15 41 26.2	-0.6	CTAM	Taylor	0.54	47
WTP	Ta-pu	1.18	251	i P	Pg	15 41 26.3	-0.7	CVLM	Vallecito	0.54	93
WTP				i S	Sg	15 41 42.1	-0.3	CRPB	Russellman Par	0.54	62
NWLT	Wulai	1.18	346	eP	Pg	15 41 27.3	+0.3	NLHM	Lake Herman	0.54	32
NWLT				i S	Sg	15 41 43.8	+1.3	MCCM	Marconi Confer	0.56	329
WDLH	Douliu	1.18	273	eP	Pg	15 41 27.1	+0.1	C016	Longford Drive	0.58	117
WDLH				S	Sg	15 41 41.9	-0.7	CMOB	Morgan Territo	0.58	75
NFF	Wufeng Townshi	1.19	327	eP	Pg	15 41 27.0	-0.2	C046	N 16th Street	0.59	121
TWQ1	Liyutan	1.20	307	eP	Pg	15 41 27.6	+0.2	BDM	Black Diamond	0.59	60
TWQ1				eS	Sg	15 41 44.3	+1.1	WENL	Wente Vineyard	0.60	93
EGS		1.22	5	eP	Pg	15 41 29.1	+1.4	CALM	Calaveras Res.	0.61	110
WCHH	Zhanghua	1.24	291	eP	Pg	15 41 28.3	+0.1	JBNB	Ben Lomond Mou	0.61	152
NSY	Sanyi	1.25	309	i P	Pg	15 41 29.1	+0.8	C041	El Campo Drive	0.62	117
NSTT	Nanjuang	1.25	323	eP	Pg	15 41 27.9	-0.4	JJOM	Saint Joseph's	0.62	136
WCH1	Changhua City	1.25	291	eP	Pg	15 41 28.7	+0.4	CBZL	Buffer Zone	0.63	87
WCH1				eS	Sg	15 41 45.9	+1.2	CBZL	Buffer Zone	0.63	87
LIOB	Emei	1.25	324	eP	Pg	15 41 28.5	+0.1	SCCB	Santa Clara Co	0.64	126
CHN1	Nanshi	1.27	250	P	Pg	15 41 28.3	-0.4	CSAM	Sandia	0.64	89
CHN1				S	Sg	15 41 45.4	0.0	NGVM		0.66	21
TWK	Hsinying	1.28	254	i P	Pg	15 41 28.3	-0.6	C059	Quail Canyon R	0.67	118
TWK				i S	Sg	15 41 45.7	+0.1	C054	Valleyhaven Wa	0.67	125
KSHI	Guanxi Townshi	1.29	333	P	Pg	15 41 29.6	+0.5	CVS	Carmenet Viney	0.69	4
CHY	Chiayi	1.29	264	eP	Pg	15 41 29.2	+0.1	CVS			
CHY				eS	Sg	15 41 45.9	-0.2	C072	Blauer Lane Sa	0.71	122
WDJ	Dajia District	1.30	304	eS	Sg	15 41 47.0	+0.7	CBSNC	Byron Hot Spri	0.71	77
ECL	Taimali	1.30	218	eP	Pn	15 41 26.4	-0.8	CMLM	Mount Lewis	0.71	105
NMLH	Miaoli	1.31	314	eP	Pg	15 41 29.9	+0.4	NTYM	Taylor	0.74	351
NMLH				S	Sg	15 41 47.1	+0.5	HMR	Hamilton Ranch	0.75	49
JYNG	Yonagunijimaku	1.31	51	P	Pg	15 41 28.6	-0.8	MHC	Mount Hamilton	0.76	114
JYNG				S	Sg	15 41 45.7	-0.9	OAKV	Oakville Exper	0.77	6
WTK	Tuku	1.32	273	eP	Pg	15 41 28.4	-1.2	CCOB	Coe Ranch Numb	0.78	121
WTK				eS	Sg	15 41 46.5	-0.4	TWIT	Twitchell Isla	0.79	56
TIPB	Shuangxi	1.34	0	eP	Pg	15 41 29.6	-0.4	JLAB	Laurel Hill	0.80	129
TIPB				eS	Sg	15 41 47.0	-0.5	NAPC	Atlas Peak	0.81	15
YOJ	Yonaguni jima	1.36	52	eP	Pb	15 41 29.4	+0.4	CSTL	Corral Hollow	0.81	91
YOJ	Yonaguni jima	1.36	52	eP	Pg	15 41 29.6	-0.9	CSTL	Corral Hollow	0.81	91
TWB1	Santiao Chiao	1.38	6	eP	Pg	15 41 31.4	+0.6	JEPS	Jepson Natural	0.81	42
SBCB	Hsinchu	1.39	327	eP	Pg	15 41 31.4	+0.4	CMMM	Mount Mocho	0.84	104
SSD	Sandimen	1.41	232	eP	Pn	15 41 29.2	+0.6	ARN	Arnold Ranch	0.84	111
SCST	Cishan	1.43	239	i P	Pg	15 41 31.1	-0.6	CADM	Anderson Res.	0.86	125
NWF	Wu-fen Shan	1.44	358	eP	Pg	15 41 31.9	0.0	QRDG	Quail Ridge Na	0.87	19
CHN3	Shinhua	1.45	248	eP	Pg	15 41 32.4	+0.3	NADM	Allendale	0.91	28
SXI1	Grass Mountain	1.46	2	eP	Pg	15 41 32.6	+0.3	JELB	Ellicott, Sant	0.91	143
WSL	Shuilin Townsh	1.47	266	i P	Pb	15 41 30.8	+0.1	HLPM	Lions Peak	0.94	131
WSF	Szhu	1.47	271	eS	Sg	15 41 50.2	-1.5	MTOS	Mt Oso, Westle	0.95	99
SHHT	Tainan City	1.49	246	eP	Pg	15 41 32.0	-0.8	HCBM	Chamberlain	1.00	137
MASBT	Mashibuluo	1.49	228	eP	Pn	15 41 30.0	+0.2	FTR	Fort Ross	1.00	330
TWS1	Kuangyinshan	1.51	346	eP	Pg	15 41 33.8	+0.5	HCOM	Corn Cob Canyo	1.00	140
TWM1	Shoushan	1.52	238	P	Pg	15 41 33.4	-0.1	GHS	Gilroy Hot Spr	1.02	123
TWM1				eS	Sg	15 41 56.0	+2.8	RUSS	Russell Ranch	1.02	30
SGLT	Jiouru	1.52	234	eP	Pg	15 41 33.0	-0.4	HCAM	Canada Road	1.04	127
YM01	YM01	1.53	351	eP	Pg	15 41 33.5	-0.1	GAXM	Alexander Vall	1.07	350
EAST	Anshuo	1.53	216	eP	Pn	15 41 30.8	+0.3	HERM	Elkhorn Road	1.07	143
TAWH	Dawu Township	1.55	214	eP	Pn	15 41 30.7	+0.1	HTUM	Tustin Road	1.08	140
ZUZH	Zhuzihu	1.55	351	eP	Pb	15 41 32.2	+0.1	GHCM	House Creek	1.09	331
YM08	YM08	1.57	352	eP	Pg	15 41 33.2	-1.1	HFEM	San Felipe	1.11	127
LAY	Lan-yu	1.60	189	eP	Pn	15 41 31.0	-0.3	FORD	Fort Ord Natur	1.13	149
LYUB	Lan-yu	1.64	188	eP	Pn	15 41 29.8	-1.9	NMTM	Middletown	1.15	3
TSCK	Chigu Township	1.67	254	eP	Pb	15 41 34.6	+0.5	HPCM	Pacheco Lake	1.15	121
SCZT	Fangliau	1.67	222	eP	Pb	15 41 33.6	-0.6	GBGM	Boggs Mountain	1.16	354
SLIU	Shizi	1.69	214	eP	Pn	15 41 32.5	-0.1	HMOM	Monterey	1.16	156
IRIF	Iriomote-Funau	1.88	68	eP	Pb	15 41 36.8	-0.9	GDXM	Geysers	1.17	349
IRIF				eS	Sb	15 42 00.1	-0.7	GDXM	Geysers	1.17	349
TWKBT	Hengchun	1.92	209	eP	Pn	15 41 36.1	+0.4		comp=E,494nm,0.4s		
WDGT	Dungji	2.02	260	eP	Pn	15 41 38.3	+1.2	SLD	San Luis Dam	1.19	119
WDGT				i S	Sn	15 42 02.4	+0.6	GSGM	Seigler Mounta	1.22	353
PHUB	P'eng-hu	2.07	267	i P	Pn	15 41 38.8	+1.0	MNRC	McLaughlin Min	1.22	3
PHUB				eS	Sn	15 42 04.1	+1.1	MNRC			
JIJ	Ishigaki jima	2.24	70	eP	Pn	15 41 41.9	+1.7		comp=N,615nm,1.1s		
JIJ				S	Sn	15 42 08.6	+1.3	MNRC			
JISG	Ishigakijimahi	2.46	67	eP	Pn	15 41 44.4	+1.3		comp=E,504nm,0.7s		
JISG				eS	Sn	15 42 12.9	+0.2	FRP	Fremont Peak	1.22	138
								GPMM	Pine Mountain	1.23	344
								SAO	San Andreas Ge	1.23	136
								SCKWR	San Luis Creek	1.24	112
								BSRM	Salinas Radio	1.27	141
								GRTM	Round Top Moun	1.28	355
								GALB	Galbreath Wild	1.33	334
								SCZ	Santa Cruz	1.38	140
								GSNM	Snow Mountain	1.39	338
								BPRM	Ponciano Ridge	1.40	153
								HOPS	Hopland Field	1.40	342
								HOPS			
									comp=N,414nm,0.5s		
								BMSM	Mercy Hot Spri	1.70	126
								LRV	Little Rabbit	1.72	135
								CMB	Columbia Colle	1.73	77
								CMB			
									comp=E,470nm,0.4s		
								SFRE	Sierra Foothil	1.85	30
								OSTM	Stimpson Lane	1.85	23
								OHCM	Honcut	1.86	25
								BUCR	Buckhorn Ranch	1.88	89
								GCK	Clark Valley	1.88	2
								DCMP	DeCamp, Califo	1.92	341
								GTC	Three Chop Rid	1.92	335
								HULI	Fort Hunter Li	1.93	148
								HULI			

					Pg	15 41 13.4	+0.6		comp=E,558nm,1.1s		
					Pg	15 41 13.4	+0.6	LEGD	La Grand CA	1.93	103
					Pg	15 41 13.6	+0.8	KRKM	Rackout Spring	1.97	345
					Pg	15 41 13.4	+0.5	PAPM	Alder Peak	1.97	152
					Pg	15 41 13.5	+0.6	PMPB	Monarch Peak	1.99	136
					Pg	15 41 13.4	+0.4	ORV	Oroville	2.05	22
					Pg	15 41 13.5	+0.5	INGLE	Inglenook, Smi	2.08	334
					Pg	15 41 13.5	+0.2	PSAM	San Ardo	2.09	141
Sg	Sg	15 41 18.6	+0.8					OGOM	Van Goodin Ran	2.11	19
IAML		15 41 18.9						PPTM	Peach Tree Val	2.11	137
					Pg	15 41 14.1	+0.7	GVV	Valley View	2.12	357
					Pg	15 41 13.9	+0.5	KPK	Kanaka Peak	2.14	26
					Pg	15 41 14.4	+0.6	MHDM	Hidden Dam	2.16	104
					Pg	15 41 14.5	+0.7	KCPM	Cahto Peak	2.19	338
					Pg	15 41 14.4	+0.5	KCPM			
					Pg	15 41 14.4	+0.5		comp=E,298nm,1.2s		
Pg	Pg	15 41 14.3	0.0					KCPM			
Sg	Sg	15 41 20.1	+0.7						comp=N,209nm,1.1s		
	Pg	15 41 15.1	+0.7					MMIM	Miami Mountain	2.21	95
	Pg	15 41 14.9	+0.5					PHPM	Hope Ranch	2.27	137
	Pg	15 41 14.7	+0.3					PANM	San Antonio Re	2.28	145
	Pb	15 41 15.5	-0.7					PKD	Bear Valley Ra	2.33	137
	Pb	15 41 15.9	-0.5					PKD			
	Pb	15 41 15.5	+0.5						comp=N,298nm,0.6s		
	Pb	15 41 16.0	-0.5					PKD			
	Pg	15 41 15.5	+0.3						comp=E,288nm,0.8s		
	Pg	15 41 15.8	+0.5					FRI	Friant	2.33	106
	Pb	15 41 16.5	-0.4					PVCM	Vineyard Canyo	2.35	137
	Pb	15 41 15.6	+0.2					PSTM	Stockdale Moun	2.36	136
	Pb	15 41 16.2	-0.6					DONR	Donner Summit	2.41	45
	Pb	15 41 16.5	-0.4					RAMR	Ramage Ranch	2.41	146
	Pb	15 41 16.9	-0.2					AVNL	Avenal, CA USA	2.42	132
	Pb	15 41 17.0	-0.5					PCBM	Cambria	2.44	151
	Pb	15 41 16.7	+0.6					PWKM	Work Ranch	2.45	138
	Pb	15 41 17.3	-0.3					LCUV	Le Cuvier	2.46	144
	Pb	15 41 17.0	-0.6					O02D	Mt. Diablo Mer	2.52	355
	Pg	15 41 16.8	+0.6					KCC	Kaiser Creek	2.56	97
	Pg	15 41 17.2	+0.5					WAKR	Walker	2.57	70
	Pg	15 41 16.9	+0.1					WAKR			
	Pb	15 41 17.9	-0.4						comp=N,234nm,0.8s		
	Pb	15 41 18.8	+0.2					O03E	Paynes Creek	2.69	12
	Pb	15 41 18.1	-0.4					O03E			
	Pb	15 41 18.3	-0.2						comp=E,98nm,0.9s		
Pg	Pg	15 41 17.5	-0.1					KMRM	Mail Ridge	2.72	340
	Pb	15 41 18.5	-0.6					KMRM			
	Pb	15 41 19.1	-0.1						comp=E,94nm,1.6s		
	Pg	15 41 18.4	+0.3					BEKR	Beckworth	2.77	37
	Pb	15 41 19.0	-0.3					BEKR			
	Pb	15 41 19.2	-0.3						comp=E,179nm,0.8s		
	Pg	15 41 18.7	+0.3					BEKR			
	Pb	15 41 18.2	-0.2						comp=N,100nm,0.7s		
	Pb	15 41 19.2	-0.6					KMPM	Mount Pierce	3.02	336
	Pb	15 41 18.7	0.0					KHBM	Hayfork Bally	3.05	350
	Pb	15 41 20.1	+0.1					PAHR	Pah Rah Range	3.19	49
	Pb	15 41 20.2	-0.4						comp=N,76nm,0.4s		
	Pb	15 41 19.0	-0.3					PAHR			
	Pg	15 41 19.2	-0.3						comp=E,73nm,0.7s		
	Pb	15 41 20.1	+0.1					LHV	Little Huntoon	3.22	78
	Pg	15 41 20.2	-0.2					HATC	Hat Creek Radi	3.26	14
	Pb	15 41 19.2	-0.6						comp=N,59nm,2.3s		
	Pb	15 41 20.1	+0.1					HATC			
	Pb	15 41 20.2	+0.1						comp=E,65nm,2.7s		
	Pg	15 41 20.2	-0.3					RYN	Ryan	3.29	72
	Pb	15 41 20.5	+0.5					RYN			
	Pb	15 41 19.9	+0.3						comp=E,113nm,1.1s		
	Pb	15 41 19.9	0.0					RYN			
Sg	Sg	15 41 29.6	+0.7						comp=N,90nm,0.8s		
	Pb	15 41 20.9	-0.4					VES	Vestal, Richgr	3.30	122
	Pb	15 41 21.3	-0.1					VES			
	Pb	15 41 20.9	+0.5						comp=N,78nm,0.9s		
	Pg	15 41 21.3	+0.4					VES			
	Pb	15 41 22.4	+0.3						comp=E,106nm,1.2s		
	Pb	15 41 21.3	-0.1					KHMM	Horse Mountain	3.35	344
	Pg	15 41 21.5	-0.1					JCC	Jacoby Creek,	3.37	340
	Pb	15 41 22.2	-0.4					NVAR	Mina Array Bea	3.41	76
	Pb	15 41 23.3	+0.6					NV11	Mina Array Sit	3.53	76
	Pb	15 41 22.0	-0.1						comp=N,61nm,0.8s		
	Pg	15 41 22.1	-0.1					DSP	Deep Springs	3.62	93
	Pb	15 41 22.7	-0.3					DSP			
	Pb	15 41 22.7	-0.3						comp=E,53nm,1.0s		
	Pb	15 41 22.8	-0.2					KRPM	Rodgers	3.68	342
	Pb	15 41 23.1	+0.1					KRPM			
	Pg	15 41 23.0	+0.2						comp=N,53nm,1.8s		
	Pb	15 41 22.8	0.0					KRPM			
	Pg	15 41 22.7	-0.6						comp=E,56nm,4.8s		
	Pg	15 41 23.7	+0.2					M02C	Callahan	3.74	356
	Pb	15 41 24.8	0.0					CWC	Cottonwood Cre	3.75	108
	Pb	15 41 23.6	-0.6					CWC			
	Pg	15 41 24.1	-0.6						comp=N,53nm,0.7s		
	Pg	15 41 22.7	-0.6					CWC			
	Pg	15 41 23.7	+0.2						comp=E,55nm,0.6s		
	Pb	15 41 24.8	0.0					ISA	Isabella, Lake	3.81	120
	Pg	15 41 23.6	-0.6					ISA			
	Pg	15 41 24.1	-0.6						comp=N,40nm,0.7s		
	Pg	15 41 24.7	-0.3					ISA			
	Pg	15 41 25.3	-0.5						comp=E,35nm,0.8s		
	Pg	15 41 25.1	-0.8					YBH	Yreka Blue Hor	4.07	358
	Pg	15 41 25.1	-0.9						comp=N,28nm,0.2s		
	Pg	15 41 25.0	-1.3					GMN	Gold Mountain	4.20	93
	Pb	15 41 26.6	-0.1						comp=N,29nm,0.9s		
	Pb	15 41 25.7	-0.9					MPMC	Manual Prospec	4.33	110
	Pg	15 41 25.5	-1.7						comp=N,23nm,1.9s		
	Pg	15 41 26.1	-1.2					MPMC			
	Pg	15 41 25.8	-1.7						comp=E,30nm,1.2s		
	Pg	15 41 26.1	-1.5					CLC	China Lake	4.36	114
	Pg	15 41 26.3	-1.8						comp=E,37nm,0.1s		
Pg	Pg	15 41 27.8	-0.6					CLC			
	Pg	15 41 26.9	-1.8						comp=N,26nm,0.2s		
	Pg	15 41 27.3	-1.6					LRMC	Laurel Mtn Rad	4.46	118
	Pg	15 41 27.2	-1.8						comp=E,22nm,0.9s		
	Pg	15 41 26.9	-2.1					LRMC			
	Pg	15 41 24.6	-4.5						comp=N,26nm,0.9s		
IAML		15 41 47.2						L02F	Cave Junction	4.53	350
								L02F			
	Pg	15 41 27.4	-2.7						comp=E,23nm,4.5s		
	Pb	15 41 27.8	-2.6					WSHM	Spangler Hills	4.53	115
	Pb	15 41 28.0	-2.3					WSHM			
	Pn	15 41 29.7	-0.7						comp=E,21nm,1.1s		
	Pn	15 41 28.6	-2.2					KBO	Bosley Butte	4.73	344
	Pn	15 41 29.7	-1.3					WCT	Wildcat Mounta	4.78	99
	Pn	15 41 29.5	-2.3					WCT			
	Pn	15 41 30.1	-2.2						comp=E,17nm,1.5s		
	Pn	15 41 30.6	-1.9					WCT			
	Pn	15 41 30.2	-2.5						comp=N,18nm,1.9s		
	Pn	15 41 30.6	-2.1					QSM	Queen of Sheba	4.84	109
IAML		15 41 59.4							comp=N,18nm,0.6s		
								QSM			
	Pn	15 41 30.6	-2.3						comp=E,16nm,2.4s		
	Pn	15 41 33.3	-2.1					K02D	Willamette Mer	5.11	350
	Pn	15 41 33.1	-2.3						comp=E,23nm,4.3s		
	Pn	15 41 34.5	-1.1					K02D			
	Pn	15 41 34.3	-2.0						comp=N,14nm,3.4s		
	Pn	15 41 33.9	-2.4					GSC	Goldstone, Bar	5.17	115
IAML		15 41 55.3							comp=N,14nm,0.9s		
								GSC			
	Pn	15 41 34.9	-1.9						comp=E,22nm,2.7s		
	Pn	15 41 35.3	-1.7								
	Pn	15 41 35.8	-1.4								
IAML		15 41 58.5									
	Pn	15 41 36.6	-2.3								
	Pn	15 41 36.3	-2.5								
	Pn	15 41 36.8	-2.1								
	Pn	15 41 37.7	-1.5								
	Pn	15 41 35.8	-1.4								
IAML		15 42 18.0									

					Pn	15 41 37.9	-2.0				
					Pn	15 41 39.4	-1.2				
					Pn	15 41 39.2	-1.4				
					Pn	15 41 39.5	-1.2				
					Pn	15 41 39.6	-2.0				
					Pn	15 41 40.1	-2.0				
					Pn	15 41 40.4	-1.7				
					Pn	15 41 40.5	-1.9				
					Pn	15 41 40.9	-1.5				
					Pn	15 41 42.3	-0.3				
					Pn	15 41 41.8	-1.1				
					Pn	15 41 41.4	-1.5				
					Pn	15 41 41.9	-1.6				
IAML		15 42 27.1									
IAML		15 42 31.9									
					Pn	15 41 43.1	-0.9				
					Pn	15 41 44.0	-1.7				
					Pn	15 41 44.1	-1.8				
					Pn	15 41 46.5	-0.2				
					Pn	15 41 44.9	-1.7				
					Pn	15 41 45.6	-1.0				
					Pn	15 41 45.0	-1.8				
					Pn	15 41 45.0	-2.0				
					Pn	15 41 45.5	-1.7				
					Pn	15 41 48.4	+0.3				
					Pn	15 41 48.9	+0.3				
					Pn	15 41 50.1	+1.2				
IAML		15 42 25.9									
					Pn	15 41 48.9	-1.6				
IAML		15 43 02.2									
					Pn	15 41 50.1	-0.8				
IAML		15 43 03.7									
Pn	Pn	15 41 51.8	+0.1								
IAML		15 42 29.7									
IAML		15 42 38.0									
Pn	Pn	15 41 54.4	-0.6								
Pn	Pn	15 41 55.6	+0.2								
IAML		15 42 44.0									
IAML		15 42 53.4	

0.2nm,0.5s
MKAR Makanchi Array 84.03 319 P **P 15 59 25.4 +0.4**
0.4nm,0.7s,baz=111,slow=6.3,SNR=2.0
0.4nm,0.7s

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*NEIC **05** 15:54:17.5±2.4, 19°.243N±0°.008×67°.13W±0°.03, h10km±2km, ML3.0/14, Md2.8/16(RSPR), Error ellipse: s-maj=5.1km s-min=3.0km az=257.0*
*SDD **05** 15:54:18.1±2.5, 19°.25N×67°.18W, h10km±11km, MD3.5, ML3.1, MW3.0*
*RSPR **05** 15:54:20.5, 19°.24N×67°.19W, h9km±3km, MD2.8/16*
ISC 05 15:54:18.5±1.3, 19°.25N±0°.06×67°.15W±0°.03, h20km±7km, n69, σ0°61/84, 21C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.78**	**177**		**Pb**	**15 54 33.6**	**+0.3**
AGPR					**Sn**	**15 54 44.6**	**-0.8**
AGPR	**Aguadilla, PR**	**0.78**	**177**	⇓*eP*	**Pb**	**15 54 33.6**	**+0.3**
AGPR	**Aguadilla, PR**	**0.78**	**177**	*eS*	**Sn**	**15 54 44.6**	**-0.8**
AGPR	**Aguadilla, PR**	**0.78**	**177**	⇑*iP*	**Pb**	**15 54 33.1**	**-0.2**
AGPR				⇑*iS*	**Sb**	**15 54 42.6**	**-0.8**
AGPR				IAML		15 54 44.6	
	comp=N,1μm,0.2s						
IDE	**Isla Desecheo**	**0.91**	**200**		**Pb**	**15 54 35.4**	**-0.1**
IDE					**Sb**	**15 54 47.8**	**+0.6**
IDE	**Isla Desecheo**	**0.91**	**200**	⇑*iP*	**Pb**	**15 54 35.4**	**-0.1**
IDE	**Isla Desecheo**	**0.91**	**200**	*eS*	**Sb**	**15 54 47.8**	**+0.6**
EMPR	**Esperanza - Ma**	**0.97**	**142**		**Pn**	**15 54 38.1**	**+1.1**
EMPR					**Sn**	**15 54 50.6**	**+0.5**
EMPR	**Esperanza - Ma**	**0.97**	**142**	*Pg*	**Pn**	**15 54 37.0**	**+0.1**
EMPR	**Esperanza - Ma**	**0.97**	**142**	⇓*eP*	**Pn**	**15 54 38.1**	**+1.1**
EMPR	**Esperanza - Ma**	**0.97**	**142**	*eS*	**Sn**	**15 54 50.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.97**	**157**		**Pb**	**15 54 35.6**	**-1.1**
AOPR	**Arecibo Observ**	**0.97**	**157**		**Sb**	**15 54 49.5**	**+0.4**
AOPR	**Arecibo Observ**	**0.97**	**157**	⇓*eP*	**Pn**	**15 54 37.7**	**+0.6**
AOPR	**Arecibo Observ**	**0.97**	**157**	⇑*iP*	**Pb**	**15 54 36.0**	**-0.7**
AOPR				⇑*iS*	**Sb**	**15 54 49.5**	**+0.4**
	comp=N,849nm,0.2s						
AOPR				IAML		15 54 54.1	
	comp=N,849nm,0.2s						
PRSN	**Puerto Rico Se**	**1.02**	**179**		**Pn**	**15 54 38.8**	**+1.1**
PRSN					**Sn**	**15 54 51.7**	**+0.2**
PRSN	**Puerto Rico Se**	**1.02**	**179**	⇑*eP*	**Pn**	**15 54 38.8**	**+1.1**
PRSN	**Puerto Rico Se**	**1.02**	**179**	*eS*	**Sn**	**15 54 51.7**	**+0.2**
PRSN	**Puerto Rico Se**	**1.02**	**179**	⇑*iP*	**Pb**	**15 54 36.8**	**-0.8**
PRSN				⇑*iS*	**Sb**	**15 54 49.7**	**-0.8**
	comp=N,1μm,0.2s						
PRSN				IAML		15 54 57.8	
	comp=N,1μm,0.2s						
LSP	**Las Mesas**	**1.07**	**176**		**Pn**	**15 54 37.7**	**-0.7**
LSP					**Sn**	**15 54 52.7**	**+0.1**
LSP	**Las Mesas**	**1.07**	**176**	⇑*eP*	**Pn**	**15 54 37.7**	**-0.7**
LSP	**Las Mesas**	**1.07**	**176**	*eS*	**Sn**	**15 54 52.7**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.07**	**157**		**Pb**	**15 54 39.6**	**+1.2**
UUPR					**Sb**	**15 54 52.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.07**	**157**	*Pg*	**Pn**	**15 54 37.0**	**-1.3**
UUPR	**Utuado, UPR, P**	**1.07**	**157**	⇑*eP*	**Pb**	**15 54 39.6**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.07**	**157**	*eS*	**Sb**	**15 54 52.1**	**+0.2**
ECPR	**Experimental S**	**1.19**	**141**	⇑*eP*	**Pb**	**15 54 40.4**	**0.0**
ECPR	**Experimental S**	**1.19**	**141**	*eS*	**Sn**	**15 54 55.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.23**	**178**		**Pn**	**15 54 39.7**	**-0.9**
CRPR				IAML		15 54 58.9	
	comp=N,265nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.23**	**178**		**Sn**	**15 54 56.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.23**	**178**	⇓*eP*	**Pn**	**15 54 40.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.23**	**178**	*eS*	**Sn**	**15 54 56.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.23**	**178**	⇑*iP*	**Pn**	**15 54 40.0**	**-0.6**
CRPR				⇑*iS*	**Sn**	**15 54 55.8**	**-0.9**
MLPR	**Magueyes Islan**	**1.27**	**175**	⇑*eP*	**Pn**	**15 54 40.6**	**-0.6**
MLPR	**Magueyes Islan**	**1.27**	**175**	⇓*iP*	**Pn**	**15 54 40.5**	**-0.6**
MLPR				⇑*iS*	**Sn**	**15 54 57.5**	**-0.2**
	comp=N,68nm,0.4s						
MLPR				IAML		15 54 58.9	
	comp=N,68nm,0.4s						
CELP	**Cerrillos**	**1.29**	**155**		**Pn**	**15 54 40.9**	**-0.4**
CELP				IAML		15 54 58.6	
	comp=E,293nm,0.6s						
CELP	**Cerrillos**	**1.29**	**155**		**Sn**	**15 54 57.4**	**-0.6**
CELP	**Cerrillos**	**1.29**	**155**	⇓*eP*	**Pn**	**15 54 41.4**	**+0.1**
CELP	**Cerrillos**	**1.29**	**155**	⇓*iP*	**Pn**	**15 54 41.3**	**0.0**
CELP				⇑*iS*	**Sn**	**15 54 57.9**	**-0.1**
	comp=N,501nm,0.2s						
CELP				IAML		15 54 59.7	
	comp=N,501nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.29**	**168**		**Pb**	**15 54 42.6**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.29**	**168**	⇑*eP*	**Pb**	**15 54 42.6**	**+0.5**
OBIP	**Obispado Ponce**	**1.31**	**156**		**Pn**	**15 54 41.1**	**-0.5**
OBIP				IAML		15 54 59.4	
	comp=N,349nm,0.2s						
OBIP	**Obispado Ponce**	**1.31**	**156**		**Sb**	**15 54 58.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.31**	**156**	⇓*eP*	**Pb**	**15 54 42.3**	**0.0**
OBIP	**Obispado Ponce**	**1.31**	**156**	*eS*	**Sb**	**15 54 58.9**	**+0.2**
GCPR	**Guaynabo City**	**1.38**	**132**		**Pn**	**15 54 42.5**	**0.0**
GCPR	**Guaynabo City**	**1.38**	**132**		**Sn**	**15 54 60.0**	**-0.2**
GCPR	**Guaynabo City**	**1.38**	**132**	⇓*eP*	**Pb**	**15 54 43.3**	**-0.3**
GCPR	**Guaynabo City**	**1.38**	**132**	*eS*	**Sn**	**15 54 60.0**	**-0.2**
SJG	**San Juan**	**1.48**	**140**		**Pb**	**15 54 45.2**	**-0.1**
SJG	**San Juan**	**1.48**	**140**	IAML		15 55 05.9	
	comp=N,191nm,0.4s						
SJG				IAML		15 55 14.3	
	comp=N,141nm,0.3s						
SJG	**San Juan**	**1.48**	**140**	⇓*eP*	**Pb**	**15 54 45.2**	**-0.1**
SJG	**San Juan**	**1.48**	**140**	*eS*	**Sn**	**15 55 02.6**	**0.0**
HIDR	**Higuey Centro**	**1.62**	**246**	⇓*eP*	**Pn**	**15 54 46.3**	**+0.5**
HIDR	**Higuey Centro**	**1.62**	**246**	⇓*iP*	**Pn**	**15 54 45.8**	**0.0**
HIDR				⇑*iS*	**Sn**	**15 55 05.9**	**-0.2**
	comp=N,252nm,0.2s						
HIDR				IAML		15 55 14.1	
	comp=N,252nm,0.2s						
IGPR	**InterUniversit**	**1.62**	**142**		**Pn**	**15 54 46.1**	**+0.3**
IGPR					**Sb**	**15 55 07.0**	**-0.6**
IGPR	**InterUniversit**	**1.62**	**142**	⇓*eP*	**Pn**	**15 54 46.1**	**+0.3**
IGPR	**InterUniversit**	**1.62**	**142**	*eS*	**Sb**	**15 55 07.0**	**-0.6**
PDPR	**Patillas Dam,**	**1.63**	**139**		**Pn**	**15 54 45.8**	**-0.2**
PDPR				IAML		15 55 11.9	
	comp=N,126nm,0.1s						
PDPR	**Patillas Dam,**	**1.63**	**139**	⇓*eP*	**Pn**	**15 54 46.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.63**	**139**	*eS*	**Sb**	**15 55 07.0**	**-0.9**
HUMP	**Col San Antoni**	**1.65**	**131**		**Pn**	**15 54 46.2**	**-0.2**
MIDR	**Miches**	**1.81**	**262**	⇑*iP*	**Pn**	**15 54 48.5**	**0.0**
MIDR				⇑*iS*	**Sn**	**15 55 10.0**	**-0.9**
MIDR				IAML		15 55 18.6	
	comp=N,65nm,0.3s						
MIDR				IAML		15 55 19.7	
	comp=N,58nm,0.2s						
SMDR	**Samana, DR**	**1.92**	**272**	⇓*iP*	**Pn**	**15 54 49.5**	**-0.6**
SMDR	**Samana, DR**	**1.92**	**272**	*eS*	**Sn**	**15 55 12.7**	**-0.9**
SMDR	**Samana, DR**	**1.92**	**272**	⇑*eP*g	**Pn**	**15 54 49.4**	**-0.6**
DR12	**Loma Pena Alta**	**2.15**	**258**		**Pn**	**15 54 53.7**	**+0.4**
HATOM	**Hato Mayor del**	**2.16**	**258**	*iP*	**Pn**	**15 54 54.0**	**+0.6**
HATOM				⇑*iS*	**Sn**	**15 55 20.6**	**+1.1**
BANI	**BANI**	**3.15**	**255**		**Pn**	**15 55 08.2**	**+1.2**

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*NORS **05** 16:08:40.5, 43°.73N×43°.13E, h35km, MPVA4.1*
*MOS **05** 16:08:41.7, 43°.75N×43°.26E, h15km, MPVA3.7*
ISC 05 16:08:41.5±0.8, 43°.70N±0°.03×43°.21E±0°.02, h17km±5km, n45, σ1°01/91, 6C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTC	**Kuba-Taba**	**0.18**	**51**	*iPg*	**Pg**	**16 08 45.6**	**-0.6**
KBTC				*eSg*	**Sg**	**16 08 47.7**	**-1.6**
KBTC	**Kuba-Taba**	**0.18**	**51**	⇑*iPG*	**Pg**	**16 08 45.6**	**-0.6**
KBTC				*eS*	**Sg**	**16 08 47.7**	**-1.6**
KBZ	**Khabaz**	**0.23**	**277**	*iPg*	**Pg**	**16 08 47.6**	**+0.8**
KBZ				*iSg*	**Sg**	**16 08 52.0**	**+1.7**
KBZ	**Khabaz**	**0.23**	**277**	*diPG*	**Pg**	**16 08 47.5**	**+0.7**
NCK	**Nalchik**	**0.35**	**126**	*iPg*	**Pb**	**16 08 49.0**	**-0.3**
NCK				*iSg*	**Sb**	**16 08 54.8**	**+0.3**
NCK	**Nalchik**	**0.35**	**126**	⇑*iPG*	**Pb**	**16 08 49.0**	**-0.3**
NCK				*iS*	**Sb**	**16 08 54.8**	**+0.3**
PYA1	**Pyatigorsk**	**0.37**	**347**	*iPg*	**Pg**	**16 08 48.4**	**-0.8**
PYA1				*iSg*	**Sg**	**16 08 53.5**	**-1.0**
PYA1	**Pyatigorsk**	**0.37**	**347**	⇑*iPG*	**Pg**	**16 08 48.4**	**-0.8**
PYA1				*iS*	**Sg**	**16 08 53.5**	**-1.0**
SHA1	**Shidzhatmaz**	**0.40**	**275**	*iPg*	**Pb**	**16 08 50.6**	**+0.2**
SHA1				*iSg*	**Sb**	**16 08 56.9**	**+0.5**
SHA1	**Shidzhatmaz**	**0.40**	**275**	⇓*iPG*	**Pb**	**16 08 50.6**	**+0.2**
SHA1				*iS*	**Sb**	**16 08 57.2**	**+0.9**
BEYR	**Belyy Ugol+**	**0.42**	**318**	*iPg*	**Pg**	**16 08 50.0**	**-0.2**
BEYR				*iSg*	**Sg**	**16 08 56.3**	**+0.3**
BEYR	**Belyy Ugol+**	**0.42**	**318**	⇑*iPG*	**Pg**	**16 08 50.0**	**-0.2**
BEYR				*iS*	**Sg**	**16 08 56.3**	**+0.3**
KIV0	**Kislovodsk Arr**	**0.45**	**304**	*iPg*	**Pg**	**16 08 50.8**	**0.0**
KIV0				*iSg*	**Sb**	**16 08 57.8**	**+0.1**
KIV	**Kislovodsk**	**0.46**	**304**	*iPg*	**Pg**	**16 08 50.8**	**0.0**
KIV				*iSg*	**Sb**	**16 08 57.6**	**-0.1**
KIV	**Kislovodsk**	**0.46**	**304**	⇑*iPG*	**Pg**	**16 08 50.8**	**0.0**
KIV				*iS*	**Sb**	**16 08 57.8**	**0.0**
NEUR	**Neytrino**	**0.57**	**220**	*iPg*	**Pn**	**16 08 54.0**	**-1.1**
NEUR				*iSg*	**Sn**	**16 09 02.5**	**-1.7**
NEUR	**Neytrino**	**0.57**	**220**	*ePG*	**Pb**	**16 08 53.9**	**+0.7**
NEUR				*eS*	**Sn**	**16 09 02.6**	**-1.6**
NEUR				pmax	pmax		
	comp=Z,62nm,0.4s						
NEUR				smax	smax		
	comp=N,100nm,0.1s						
LSNR	**Lesken**	**0.62**	**133**	*ePg*	**Pb**	**16 08 53.9**	**0.0**
LSNR				*eSg*	**Sb**	**16 09 03.4**	**+1.1**
LSNR	**Lesken**	**0.62**	**133**	*ePG*	**Pb**	**16 08 53.9**	**0.0**
LSNR				*eS*	**Sb**	**16 09 03.4**	**+1.1**
STDR	**Stavd-Durt**	**0.70**	**118**	*ePg*	**Pb**	**16 08 55.7**	**+0.4**
STDR				*eSg*	**Sb**	**16 09 06.9**	**+2.2**
STDR	**Stavd-Durt**	**0.70**	**118**	*ePG*	**Pb**	**16 08 55.7**	**+0.4**
STDR				*eS*	**Sb**	**16 09 06.9**	**+2.2**
PRTR	**Priterechnaya**	**0.78**	**86**	*ePg*	**Pg**	**16 08 56.0**	**-0.7**
PRTR				*eSg*	**Sg**	**16 09 07.7**	**+0.7**
PRTR	**Priterechnaya**	**0.78**	**86**	*ePG*	**Pg**	**16 08 56.0**	**-0.7**
PRTR				*eS*	**Sg**	**16 09 07.7**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.84**	**161**	*ePg*	**Pb**	**16 08 57.7**	**-0.2**
DIGR				*eSg*	**Sb**	**16 09 09.0**	**0.0**
DIGR	**Digorskoe uzhe**	**0.84**	**161**	*ePG*	**Pb**	**16 08 57.6**	**-0.2**
KORR	**Kora**	**0.88**	**134**	*iPg*	**Pb**	**16 08 58.3**	**0.0**
KORR				*eSg*	**Sb**	**16 09 11.1**	**+1.4**
KORR	**Kora**	**0.88**	**134**	⇓*iPG*	**Pb**	**16 08 58.3**	**0.0**
KORR				*eS*	**Sb**	**16 09 11.1**	**+1.4**
ARNR	**Ardon**	**0.94**	**123**	*ePg*	**Pb**	**16 08 59.9**	**+0.5**
ARNR				*eSg*	**Sn**	**16 09 13.3**	**+0.3**
ARNR	**Ardon**	**0.94**	**123**	*ePG*	**Pb**	**16 08 59.9**	**+0.5**
ARNR				*eS*	**Sn**	**16 09 13.3**	**+0.3**
BTKR	**Batakoyurt**	**1.02**	**108**	*ePg*	**Pg**	**16 09 00.6**	**-0.7**
BTKR				*eSg*	**Sb**	**16 09 15.7**	**+1.8**
BTKR	**Batakoyurt**	**1.02**	**108**	*ePG*	**Pg**	**16 09 00.6**	**-0.7**
BTKR				*eS*	**Sb**	**16 09 15.7**	**+1.8**
TRKR	**Terskaya**	**1.10**	**88**	*ePg*	**Pb**	**16 09 01.4**	**-0.7**
TRKR				*eSg*	**Sg**	**16 09 16.8**	**-0.5**
TRKR	**Terskaya**	**1.10**	**88**	*ePG*	**Pb**	**16 09 01.5**	**-0.7**
TRKR				*eS*	**Sg**	**16 09 16.8**	**-0.5**
LACR	**Lac**	**1.18**	**137**	*ePg*	**Pb**	**16 09 03.6**	**+0.1**
LACR				*eSg*	**Sb**	**16 09 19.1**	**+0.6**
LACR	**Lac**	**1.18**	**137**	*ePG*	**Pb**	**16 09 03.6**	**+0.1**
LACR				*eS*	**Sb**	**16 09 19.1**	**+0.6**
GOF	**Gofitskoye**	**1.36**	**355**	*cePG*	**Pn**	**16 09 06.3**	**+0.5**
GOF				*eS*	**Sb**	**16 09 25.0**	**+1.3**
GRYR	**Gornoye**	**1.59**	**286**	*iPg*	**Pb**	**16 09 10.8**	**+0.4**
GRYR				*iSg*	**Sg**	**16 09 31.6**	**-1.1**
GRYR	**Gornoye**	**1.59**	**286**	*iPG*	**Pb**	**16 09 10.8**	**+0.4**
GRYR				*iS*	**Sg**	**16 09 31.6**	**-1.1**
RPOR	**Krasnaya Polya**	**2.14**	**271**	*ePg*	**Pb**	**16 09 18.8**	**-1.0**
RPOR				*eSg*	**Sg**	**16 09 48.2**	**-2.1**
RPOR	**Krasnaya Polya**	**2.14**	**271**	*ePN*	**Pb**	**16 09 18.8**	**-1.0**
RPOR				*eS*	**Sg**	**16 09 48.2**	**-2.1**
GUZR	**Guzeripl'**	**2.26**	**279**	*iPn*	**Pb**	**16 09 22.2**	**+0.4**
GUZR				*iSn*	**Sb**	**16 09 51.1**	**+1.6**
GUZR	**Guzeripl'**	**2.26**	**279**	*iPN*	**Pb**	**16 09 22.2**	**+0.4**
GUZR				*eS*	**Sb**	**16 09 51.1**	**+1.6**
OBN	**Obninsk**	**12.21**	**342**	*ePn*	**Pn**	**16 11 35.1**	**+0.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MNK	**Minsk**	**14.71**	**323**	*iP*	**Pn**	**16 12 09.2**	**+0.5**
	comp=E,19nm,0.8s						
MNK				*iP*	**Pn**	**16 12 09.2**	**+0.5**
	comp=N,4.0nm,0.6s						
MNK				*iP*	**Pn**	**16 12 09.2**	**+0.5**
	comp=Z,10.0nm,0.6s,baz=130						
MNK				*iPP*	**PnPn**	**16 12 17.2**	**+0.7**
MNK				*iPPP*	PPP	16 12 24.9	
MNK				*iS*	**Sn**	**16 14 53.1**	**+1.9**
MNK				*iSS*	**S**	**16 15 07.0**	**-2.9**
MNK				*iSSS*	SSS	16 15 19.6	
MNK				*iLQ*	LQ	16 16 08.3	
MNK				*iLR*	LR	16 18 14.6	
MNK				*iLRM*	MLR	16 19 36.8	
	comp=Z,72nm,17.0s						
MNK				*iLRM*	MLR	16 19 42.5	
	comp=N,194nm,21.4s						
MNK	**Minsk**	**14.71**	**323**	*iP*	**Pn**	**16 12 09.2**	**+0.5**
MNK				*iS*	**Sn**	**16 14 53.1**	**+1.9**
MNK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,4.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,19nm,0.8s						
MNK				MLR	MLR		
	comp=Z,72nm,17.0s						
MNK				MLR	MLR		
	comp=N,194nm,21.0s						
MNK				MLR	MLR		
	comp=E,172nm,15.0s						

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*NEIC **05** 16:13:39.4±1.3, 59°.8N±0°.1×31°.1W±0°.3, h10km±2km, mb4.3/6, Error ellipse: s-maj=24.6km s-min=17.6km az=236.0*
*IDC **05** 16:13:42.2±1.0, 59°.77N×30°.30W, h0km, mb3.6/10, mbtmp3.7/12, ML3.9/2, MS3.5/9, Error ellipse: s-maj=26.1km s-min=18.8km az=13.0*
ISC 05 16:13:43.2±0.8, 59°.8N±0°.1×30°.04W±0°.10, h10km, n29, σ1°19/21, mb3.9/10, MS3.4/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.44**	**35**	Pn	**Pn**	**16 15 18.4**	**+0.5**
BORG	**Borgarnes**	**6.44**	**35**	Pn	**Pn**	**16 15 19.2**	**+1.3**
	5.2nm,0.3s,baz=221,slow=7.2,SNR=13						
BORG				Sn	**Sn**	**16 16 30.3**	**-1.1**
	baz=288,slow=20						
	39nm,0.8s						
SFJD	**Kangerlussuaq**	**11.68**	**317**	Pn	Pn	16 16 20.3	-9.4
SFJD	**Kangerlussuaq**	**11.68**	**317**	LR	LR	16 20 23.2	
	comp=Z,477nm,18.9s,baz=108,slow=35						
EKA	**Eskdalemuir Ar**	**15.04**	**95**	Pn	**P**	**16 17 19.4**	**-1.5**
	baz=307,slow=8.3						
	5.3nm,0.9s						
FRB	**Frobisher Bay**	**18.45**	**299**	LR	LR	16 24 15.0	
	comp=Z,208nm,19.3s,baz=116,slow=34						
NOA	**NORSAR Array B**	**20.18**	**68**	P	Pn	16 18 20.6	+1.2
	0.2nm,0.6s,baz=280,slow=12,SNR=2.0						
NOA				LR	LR	16 24 59.2	
	comp=Z,51nm,18.2s,baz=260,slow=33						
	0.2nm,0.6s						
SCHQ	**Schefferville**	**20.29**	**272**	P	**P**	**16 18 18.5**	**-0.3**
	82nm,1.0s,baz=155,slow=2.6,SNR=2.8						
ESBB	**Sonseca Array**	**25.93**	**129**	P	**P**	**16 19 15.4**	**0.0**
ESBB				IAmb	IAmb	16 19 21.8	
	comp=Z,19nm,1.4s						
ESDC	**Sonseca Array**	**25.94**	**129**	P	**P**	**16 19 15.6**	**+0.1**
ESDC				IAmb	IAmb	16 19 21.9	
	comp=Z,8.5nm,1.4s						
ESDC	**Sonseca Array**	**25.94**	**129**	P	**P**	**16 19 17.2**	**+1.7**
	comp=Z,3.6nm,1.1s,baz=329,slow=9.5,SNR=11						
ESDC				LR	LR	16 27 30.9	
	comp=Z,91nm,19.4s,baz=305,slow=32						
	comp=Z,3.6nm,1.1s						
FIA1	**FINESS Array S**	**26.88**	**62**	P	**P**	**16 19 22.7**	**-1.0**
FINES	**FINESS Array B**	**26.88**	**62**	P	**P**	**16 19 22.6**	**-1.1**
FINES	**FINESS Array B**	**26.88**	**62**	P	**P**	**16 19 25.7**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=303,slow=7.8,SNR=2.0						
	comp=Z,1.8nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**27.01**	**101**	P	**P**	**16 19 23.2**	**-2.2**
RES	**Resolute Bay**	**27.30**	**328**	LR	LR	16 30 37.2	
	comp=Z,97nm,18.2s,baz=14,slow=37						
MDT	**Midelt**	**31.78**	**137**	LR	LR	16 32 02.6	
	comp=Z,92nm,19.9s,baz=38,slow=34						
AKASG	**Malin Array Be**	**33.89**	**79**	P	**P**	**16 20 25.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=323,slow=8.7,SNR=1.7						
	comp=Z,0.4nm,0.4s						
KEST	**Kesra**	**34.94**	**116**	LR	LR	16 33 35.9	
	comp=Z,127nm,19.3s,baz=265,slow=34						
ILAR	**Eielson Array**	**47.06**	**329**	P	**P**	**16 22 14.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=28,slow=7.1,SNR=8.5						
	comp=Z,1.1nm,0.9s						
AB31	**Akbulak array**	**49.33**	**60**	P	**P**	**16 22 32.3**	**+0.2**
AB31				IAmb	IAmb	16 22 34.2	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**49.33**	**60**	P	**P**	**16 22 31.7**	**-0.4**
PDAR	**Pinedale Array**	**49.36**	**287**	P	**P**	**16 22 32.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=6.5,SNR=2.0						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**50.80**	**50**	P	**P**	**16 22 45.0**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=330,slow=8.3,SNR=1.8						
	comp=Z,0.4nm,0.7s						
ASF	**Jabal al Asfar**	**51.30**	**91**	LR	LR	16 49 17.5	
	comp=Z,25nm,18.5s,baz=335,slow=42						
TORD	**Torodi Ar. Bea**	**52.10**	**140**	P	**P**	**16 22 54.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=340,slow=8.6,SNR=4.0						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**55.79**	**47**	P	**P**	**16 23 20.4**	**+0.5**
	comp=Z,0.5nm,0.2s,baz=323,slow=6.4,SNR=1.3						
	comp=Z,0.5nm,0.2s						
DBIC	**Dimbokro**	**56.33**	**149**	LR	LR	16 44 58.7	
	comp=Z,74nm,18.9s,baz=344,slow=33						
MKAR	**Makanchi Array**	**60.36**	**47**	P	**P**	**16 23 52.8**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=352,slow=5.2,SNR=2.4						
	comp=Z,0.6nm,0.7s						

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*JMA **05** 16:14:15.7±0.1, 22°.7N±0°.5×121°.4E±0°.5, h35km, MV3.6/14, TAIWAN REGION*
*TAP **05** 16:14:15.2, 22°.61N×121°.40E, h30km, ML3.6, C*
ISC 05 16:14:14.7±0.9, 22°.56N±0°.02×121°.46E±0°.02, h28km±6km, n147, σ1°03/220, 4C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.11**	**5**	⇑*iP*	**Pb**	**16 14 20.5**	**+0.6**
LDUT				*iS*	**Sb**	**16 14 24.1**	**+0.8**
TTN	**Taitung**	**0.35**	**304**	*iP*	**Pn**	**16 14 23.3**	**-0.6**
TTN				*iS*	**Sn**	**16 14 29.9**	**-0.1**
TWGBT	**Beinan**	**0.43**	**306**	P	**Pb**	**16 14 23.5**	**-0.5**
TWGBT	**Beinan**	**0.43**	**306**	⇑*iP*	**Pb**	**16 14 23.6**	**-0.4**
TWGBT				S	**Sb**	**16 14 28.3**	**-2.0**
EDH	**Donghe**	**0.43**	**341**	*iP*	**Pb**	**16 14 24.0**	**-0.1**
EDH				*iS*	**Sb**	**16 14 29.6**	**-0.8**
TWG	**Pinlang**	**0.44**	**306**	*iP*	**Pb**	**16 14 23.6**	**-0.5**
TWG				*iS*	**Sb**	**16 14 28.8**	**-1.8**
LONT	**Longtian**	**0.46**	**319**	*iP*	**Pb**	**16 14 24.3**	**-0.1**
LONT				*iS*	**Sb**	**16 14 30.4**	**-0.7**
ECL	**Taimali**	**0.47**	**275**	⇓*iP*	**Pb**	**16 14 23.8**	**-0.8**
ECL				*iS*	**Sb**	**16 14 29.5**	**-1.7**
LAY	**Lan-yu**	**0.53**	**171**	⇓*iP*	**Pn**	**16 14 26.6**	**+0.1**
LAY				*iS*	**Sn**	**16 14 34.7**	**+0.3**
CHKT	**Chengkung**	**0.54**	**351**	⇓*iP*	**Pb**	**16 14 25.3**	**-0.6**
CHKT				*iS*	**Sb**	**16 14 32.6**	**-0.7**
TAW	**Tawu**	**0.56**	**249**	⇓*iP*	**Pb**	**16 14 25.5**	**-0.5**
TAW				*iS*	**Sb**	**16 14 32.4**	**-1.2**
LYUB	**Lan-yu**	**0.57**	**168**	⇑*iP*	**Pb**	**16 14 25.9**	**-0.3**
TAWH	**Dawu Township**	**0.57**	**248**	⇑*iP*	**Pb**	**16 14 25.8**	**-0.4**
TAWH				S	**Sb**	**16 14 32.9**	**-1.2**
ECS	**Chishang**	**0.58**	**338**	*iP*	**Pb**	**16 14 26.4**	**0.0**
ECS				S	**Sn**	**16 14 35.7**	**0.0**
EAST	**Anshuo**	**0.59**	**253**	⇓*iP*	**Pb**	**16 14 26.0**	**-0.6**
EAST				*iS*	**Sb**	**16 14 33.3**	**-1.4**
EHD	**Haiduan**	**0.63**	**338**	*iP*	**Pb**	**16 14 26.5**	**-0.8**
EHD				S	**S

WTK	**Tuku**	**1.49**	**319**	*e*P		**Pb**	**16 14 41.0**	**-0.8**
WTK				*i* S		**Sb**	**16 15 00.9**	**+0.5**
TWD	**Chiawan**	**1.52**	**5**	*e*P		**Pn**	**16 14 39.7**	**-0.3**
WSF	**Szhu**	**1.56**	**314**	*e*P		**Pb**	**16 14 42.2**	**-0.8**
WSF				*i* S		**Sb**	**16 15 01.9**	**-0.6**
WCS	**Beigang Elemen**	**1.57**	**341**	*e*P		**Pb**	**16 14 42.8**	**-0.4**
WHF	**Hehuan Shan**	**1.59**	**354**	*e*P		**Pn**	**16 14 41.6**	**+0.2**
ETL	**Fush Village**	**1.60**	**5**	*e*P		**Pn**	**16 14 41.5**	**+0.3**
NACB	**Ninganchiao**	**1.61**	**4**	P		**Pn**	**16 14 41.4**	**+0.1**
NACB	**Ninganchiao**	**1.61**	**4**	S		**Sb**	**16 15 03.5**	**-0.3**
NACB	**Ninganchiao**	**1.61**	**4**	P		**Pn**	**16 14 41.5**	**+0.1**
ETLH	**Xiulin Townshi**	**1.64**	**1**	*e*P		**Pn**	**16 14 42.3**	**+0.5**
FUSS	**Fushou**	**1.69**	**353**	*e*P		**Pb**	**16 14 44.3**	**-1.1**
TWT	**Tachien**	**1.71**	**351**	*e*P		**Pn**	**16 14 43.8**	**+1.0**
TDCB	**Techi**	**1.71**	**351**	*e*P		**Pb**	**16 14 44.0**	**+1.1**
WCHH	**Zhanghua**	**1.73**	**332**	*e*P		**Pb**	**16 14 44.9**	**-0.8**
WCHH				S		**Sb**	**16 15 06.8**	**-0.2**
TCU	**Taichung**	**1.74**	**336**	*e*P		**Pb**	**16 14 44.5**	**-1.5**
TCU				*e*S		**Sb**	**16 15 07.3**	**-0.1**
EOS4	**EOS4**	**1.74**	**27**	P		**Pn**	**16 14 43.6**	**+0.8**
EOS4				S		**Sn**	**16 15 03.7**	**-0.3**
WHP	**Taichung City**	**1.77**	**345**	*i* P		**Pb**	**16 14 46.0**	**-0.6**
WHP				S		**Sb**	**16 15 08.8**	**+0.3**
WDGT	**Dungji**	**1.80**	**293**	*e*P		**Pn**	**16 14 44.2**	**+0.3**
NNSB	**Datong**	**1.86**	**358**	*e*P		**Pb**	**16 14 46.6**	**-1.6**
ENA	**Nanau**	**1.88**	**8**	*e*P		**Pn**	**16 14 45.5**	**+0.5**
TWQ1	**Liyutan**	**1.89**	**341**	*e*P		**Pb**	**16 14 47.8**	**-0.7**
TWQ1				*e*S		**Sb**	**16 15 11.5**	**-0.2**
EOS3	**EOS3**	**1.89**	**24**	*e*P		**Pn**	**16 14 46.6**	**+1.5**
EWUT	**Wuta**	**1.90**	**9**	*e*P		**Pn**	**16 14 45.7**	**+0.4**
NSY	**Sanyi**	**1.96**	**341**	*e*P		**Pb**	**16 14 49.4**	**-0.3**
NSY				*i* S		**Sb**	**16 15 13.7**	**0.0**
LATG	**Datong**	**1.97**	**2**	*e*P		**Pn**	**16 14 47.7**	**+1.3**
VCHM	**Qimei**	**1.98**	**289**	P		**Pn**	**16 14 46.8**	**+0.4**
VCHM				S		**Sn**	**16 15 09.2**	**-1.1**
PHUB	**P'eng-hu**	**1.98**	**299**	*e*P		**Pn**	**16 14 46.6**	**+0.2**
PHUB				*e*S		**Sn**	**16 15 10.1**	**-0.2**
PNG	**Penghu**	**2.02**	**300**	*e*P		**Pn**	**16 14 47.6**	**+0.6**
PNG				S		**Sn**	**16 15 10.7**	**-0.6**
ESAO	**Su ao**	**2.04**	**10**	*e*P		**Pn**	**16 14 47.9**	**+0.7**
NMLH	**Miaoli**	**2.06**	**343**	*e*P		**Pb**	**16 14 50.6**	**-0.9**
NMLH				*e*S		**Sb**	**16 15 15.0**	**-1.8**
TWC	**Suao**	**2.07**	**10**	*e*P		**Pn**	**16 14 49.4**	**+1.7**
TWC				*i* S		**Sn**	**16 15 14.1**	**+1.6**
ENTT	**Nioudou**	**2.07**	**3**	*e*P		**Pn**	**16 14 49.6**	**+1.9**
NDS	**Dongshan**	**2.08**	**6**	*e*P		**Pn**	**16 14 48.9**	**+1.2**
NFF	**Wufeng Townshi**	**2.09**	**351**	*e*P		**Pb**	**16 14 50.4**	**-1.6**
NFF				*e*S		**Sb**	**16 15 15.7**	**-1.8**
YHNB	**Yeheng**	**2.10**	**358**	P		**Pn**	**16 14 49.8**	**+1.6**
YHNB	**Yeheng**	**2.10**	**358**	*e*P		**Pn**	**16 14 49.9**	**+1.8**
NSTT	**Nanjuang**	**2.10**	**349**	*e*P		**Pb**	**16 14 51.0**	**-1.3**
NSTT				*e*S		**Sb**	**16 15 16.9**	**-1.1**
NSK	**Sanguang**	**2.11**	**358**	*e*P		**Pb**	**16 14 50.4**	**-1.9**
LIOB	**Emei**	**2.12**	**349**	*e*P		**Pb**	**16 14 50.9**	**-1.6**
TWE	**Neicheng**	**2.16**	**5**	*e*P		**Pn**	**16 14 50.0**	**+1.1**
FUSB	**Fushanzhiwuyua**	**2.19**	**3**	*e*P		**Pb**	**16 14 52.2**	**-1.6**
FUSB				*e*S		**Sn**	**16 15 16.6**	**+0.9**
KSHI	**Guanxi Townshi**	**2.22**	**353**	*e*P		**Pb**	**16 14 53.2**	**-1.1**
JYNG	**Yonagunijimaku**	**2.33**	**36**	*e*P		**Pn**	**16 14 52.6**	**+1.4**
JYNG				*e*S		**Sn**	**16 15 19.1**	**+0.3**
YOJ	**Yonaguni jima**	**2.37**	**37**	*e*P		**Pn**	**16 14 53.0**	**+1.2**
YOJ				*e*S		**Sn**	**16 15 20.3**	**+0.4**
YOJ	**Yonaguni jima**	**2.37**	**37**	*i* P		**Pn**	**16 14 53.4**	**+1.7**
TIPB	**Shuangxi**	**2.42**	**8**	*e*P		**Pn**	**16 14 54.5**	**+2.0**
TWB1	**Santiao Chiao**	**2.49**	**11**	*e*P		**Pn**	**16 14 55.1**	**+1.7**
SXI1	**Grass Mountain**	**2.55**	**9**	*e*P		**Pn**	**16 14 56.5**	**+2.1**
YM01	**YM01**	**2.58**	**2**	*e*P		**Pn**	**16 14 56.9**	**+2.2**
ZUZH	**Zhuzihu**	**2.59**	**2**	*e*P		**Pn**	**16 14 55.7**	**+0.8**
HATJ	**Hateruma jima**	**2.62**	**55**	*e*P		**Pn**	**16 14 56.4**	**+1.2**
HATJ				*e*S		**Sn**	**16 15 25.9**	**-0.3**
IRIF	**Iriomote-Funau**	**2.73**	**49**	*e*P		**Pn**	**16 14 58.2**	**+1.4**
IRIF				*e*S		**Sn**	**16 15 28.3**	**-0.6**
JKRS	**Kuro-shima**	**2.88**	**54**	*e*P		**Pn**	**16 15 00.2**	**+1.5**
JKRS				*e*S		**Sn**	**16 15 32.5**	**0.0**
JIJ	**Ishigaki jima**	**3.05**	**53**	*e*P		**Pn**	**16 15 02.0**	**+0.9**
JIJ				*e*S		**Sn**	**16 15 36.6**	**-0.1**
PTMZ	**Houxiangcun**	**3.27**	**320**	*e*P		**Pn**	**16 15 04.2**	**+0.1**
JISG	**Ishigakijimahi**	**3.31**	**52**	*e*P		**Pn**	**16 15 05.5**	**+0.9**
JISG				*e*S		**Sn**	**16 15 43.0**	**0.0**
KNM	**Kinmen**	**3.34**	**304**	*e*P		**Pn**	**16 15 06.5**	**+1.5**
KNMB	**Chin-men Tao**	**3.40**	**305**	*i* P		**Pn**	**16 15 06.3**	**+0.4**
KNMB				S		**Sn**	**16 15 44.4**	**-0.8**
JTJ	**Tarama**	**3.63**	**55**	P		**Pn**	**16 15 10.2**	**+1.2**
JTJ				*e*S		**Sn**	**16 15 51.3**	**+0.4**
DSXP	**Dongshan**	**3.88**	**288**	*e*P		**Pn**	**16 15 13.1**	**+0.5**
AXDP	**Jialang**	**3.96**	**307**	*e*P		**Pn**	**16 15 14.2**	**+0.6**
AXDP				*e*S		**Sn**	**16 15 58.1**	**-0.9**
JIRB	**Irabujima**	**4.09**	**56**	*e*P		**Pn**	**16 15 16.5**	**+1.2**
JIRB				*e*S		**Sn**	**16 16 01.7**	**-0.5**
JMJ2	**Miyako jima3**	**4.16**	**58**	*e*P		**Pn**	**16 15 17.8**	**+1.4**
JMJ2				*e*S		**Sn**	**16 16 04.8**	**+0.7**
MHZQ	**Yeshan**	**4.16**	**328**	*e*P		**Pn**	**16 15 17.7**	**+1.2**
MHZQ				*e*S		**Sn**	**16 16 02.9**	**-1.2**

KRSC ***05*** *16:18:36.6±1.3,51°.69N×158°.89E,h63km±18km,Ml5.0*
MOS ***05*** *16:18:37.1±1.1,51°.67N×158°.79E,h63km,mb4.7/15,Error ellipse: s-maj=9.8km s-min=3.6km az=86.7*
NEIC ***05*** *16:18:37.4±1.9,51°.74N±0°.10×158°.78E±0°.09,h60km±8km, mb4.5/54,Error ellipse: s-maj=15.4km s-min=4.5km az=206.0*
IDC ***05*** *16:18:42.0±1.2,51°.89N×158°.48E,h94km±8km,mb3.8/26, mbtmp4.1/31,MS3.2/6,Error ellipse: s-maj=12.4km s-min=10.4km az=133.0*

ISC 05 16:18:38.8±0.6,51°.75N±0°.04×158°.77E±0°.05,h74km±5km, n198,σ1§26/215,mb4.4/60,5C-4D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.70**	**347**	PN	**Pn**		**16 18 53.5**	**-0.4**
RUS				S	**Sn**		**16 19 04.1**	**-1.0**
RUS	**Russkaya**	**0.70**	**347**	*e*P	**Pn**		**16 18 53.6**	**-0.4**
RUS				*e*S	**Sn**		**16 19 04.2**	**-1.0**
MTVR	**Mutnovka**	**0.81**	**334**	PN	**Pn**		**16 18 55.3**	**-0.1**
MTVR	**Mutnovka**	**0.81**	**334**	*e*P	**Pn**		**16 18 55.3**	**-0.1**
ASAK	**Asacha**	**0.83**	**320**	PN	**Pn**		**16 18 55.8**	**+0.3**
ASAK	**Asacha**	**0.83**	**320**	*i* P	**Pn**		**16 18 55.9**	**+0.3**
GRL	**Gorelyy**	**0.91**	**332**	PN	**Pn**		**16 18 56.6**	**+0.1**
GRL	**Gorelyy**	**0.91**	**332**	*i* P	**Pn**		**16 18 56.7**	**+0.1**
PAU	**Pauzhetka**	**1.25**	**257**	PN	**Pn**		**16 19 00.9**	**+0.3**
PAU				S	**Sn**		**16 19 18.2**	**+1.2**
PAU	**Pauzhetka**	**1.25**	**257**	*i* P	**Pn**		**16 19 00.9**	**+0.3**
PAU				*e*S	**Sn**		**16 19 18.3**	**+1.2**
PET	**Petropavlovsk**	**1.27**	**357**		**Pn**		**16 19 00.5**	**-0.4**
PET	**Petropavlovsk**	**1.27**	**357**	‖ *i*PN	**Pn**		**16 19 01.0**	**+0.1**
PET				*e*S	**Sn**		**16 19 17.5**	**0.0**
PET				pmax	pmax			
	comp=Z,2μm,0.3s							
PET				smax	smax			
	comp=N,8μm,0.6s							
PET				smax	smax			
	comp=E,3μm,0.6s							
PET	**Petropavlovsk**	**1.27**	**357**	*i* P	**Pn**		**16 19 01.0**	**+0.1**
PET				*e*S	**Sn**		**16 19 17.3**	**-0.3**
DALK	**Dalny**	**1.28**	**360**	PN	**Pn**		**16 19 01.1**	**+0.1**
DALK				S	**Sn**		**16 19 17.0**	**-0.6**
DALK	**Dalny**	**1.28**	**360**	*e*P	**Pn**		**16 19 01.1**	**+0.1**
DALK				*e*S	**Sn**		**16 19 17.1**	**-0.6**
INSR	**Institute**	**1.32**	**356**	PN	**Pn**		**16 19 01.8**	**+0.3**
INSR				S	**Sn**		**16 19 19.1**	**+0.6**
INSR	**Institute**	**1.32**	**356**	*e*P	**Pn**		**16 19 01.8**	**+0.3**
INSR				*e*S	**Sn**		**16 19 19.2**	**+0.6**
MIPR	**Malaya Ipel'ka**	**1.35**	**294**	PN	**Pn**		**16 19 02.4**	**+0.5**
MIPR	**Malaya Ipel'ka**	**1.35**	**294**	*e*P	**Pn**		**16 19 02.4**	**+0.5**
UGLR	**Uglovaya**	**1.46**	**1**	PN	**Pn**		**16 19 03.7**	**+0.3**
UGLR	**Uglovaya**	**1.46**	**1**	*i* P	**Pn**		**16 19 03.7**	**+0.3**
NLC	**Nalytchevo**	**1.46**	**14**	PN	**Pn**		**16 19 02.4**	**-0.9**
NLC				S	**Sn**		**16 19 20.0**	**-1.9**
NLC	**Nalytchevo**	**1.46**	**14**	*e*P	**Pn**		**16 19 02.5**	**-0.9**
NLC				*e*S	**Sn**		**16 19 20.0**	**-1.9**
PEA0B	**Petropavlovsk-**	**1.51**	**335**		**Pn**		**16 19 04.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.51**	**335**	*d i*PN	**Pn**		**16 19 04.6**	**+0.6**
PETK	**Petropavlovsk-**	**1.51**	**335**		**Pn**		**16 19 03.6**	**-0.4**
PETK	**Petropavlovsk-**	**1.51**	**335**	P	**Pn**		**16 19 03.7**	**-0.3**
	comp=E,500nm,0.4s,baz=133,slow=16,SNR=1827							
PETK				S	**Sn**		**16 19 23.7**	**+0.7**
	comp=E,387nm,0.6s,baz=132,slow=16,SNR=8.8							
PETK				LR	LR		16 19 52.8	
	comp=E,250nm,21.0s,baz=111,slow=54							
SMAR	**Somma**	**1.51**	**1**	PN	**Pn**		**16 19 04.3**	**+0.1**
SMAR	**Somma**	**1.51**	**1**	*i* P	**Pn**		**16 19 04.3**	**+0.1**
AVH	**Avacha**	**1.51**	**359**	PN	**Pn**		**16 19 04.8**	**+0.7**
AVH	**Avacha**	**1.51**	**359**	*e*P	**Pn**		**16 19 04.8**	**+0.7**
SDLR	**Sedlovina**	**1.53**	**3**	PN	**Pn**		**16 19 04.2**	**-0.1**
SDLR	**Sedlovina**	**1.53**	**3**	*e*P	**Pn**		**16 19 04.3**	**-0.1**
KOK	**Koryaka**	**1.54**	**357**	PN	**Pn**		**16 19 05.4**	**+0.9**
KOK	**Koryaka**	**1.54**	**357**	*i* P	**Pn**		**16 19 05.4**	**+0.9**
SPN	**Mys Shipunski**	**1.55**	**29**	PN	**Pn**		**16 19 05.4**	**+0.9**
SPN				S	**Sn**		**16 19 24.1**	**+0.2**
SPN	**Mys Shipunski**	**1.55**	**29**	*e*P	**Pn**		**16 19 05.4**	**+0.9**
SPN				*e*S	**Sn**		**16 19 24.2**	**+0.2**
KRER	**Koryakskii**	**1.55**	**360**	PN	**Pn**		**16 19 05.2**	**+0.4**
KRER	**Koryakskii**	**1.55**	**360**	*e*P	**Pn**		**16 19 05.2**	**+0.4**
KRX	**Arik**	**1.61**	**358**	PN	**Pn**		**16 19 06.0**	**+0.6**
KRX	**Arik**	**1.61**	**358**	*e*P	**Pn**		**16 19 06.1**	**+0.6**
SKR	**Severo-Kuril's**	**1.98**	**238**	*e*PN	**Pn**		**16 19 10.3**	**0.0**
SKR				*e*S	**Sn**		**16 19 33.1**	**-1.1**
SKR				pmax	pmax			
	comp=Z,241nm,0.3s							
SKR				smax	smax			
	comp=E,4μm,0.2s							
SKR				smax	smax			
	comp=N,3μm,0.5s							
SKR	**Severo-Kuril's**	**1.98**	**238**	*e*P	**Pn**		**16 19 10.3**	**0.0**
SKR				*e*S	**Sn**		**16 19 33.1**	**-1.1**
GNL	**Ganaly**	**2.01**	**346**	PN	**Pn**		**16 19 11.8**	**+1.1**
GNL	**Ganaly**	**2.01**	**346**	*e*P	**Pn**		**16 19 11.9**	**+1.1**
KII	**Karymskiy**	**2.32**	**10**	PN	**Pn**		**16 19 16.5**	**+1.6**
KII	**Karymskiy**	**2.32**	**10**	*e*P	**Pn**		**16 19 16.5**	**+1.6**
TUMD	**Tumrok D**	**3.59**	**15**	PN	**Pn**		**16 19 33.6**	**+1.6**
TUMD				S	**Sn**		**16 20 13.7**	**+0.5**
TUMD	**Tumrok D**	**3.59**	**15**	*e*P	**Pn**		**16 19 33.7**	**+1.6**
TUMD				*e*S	**Sn**		**16 20 13.8**	**+0.5**
KMNR	**Kamenistaya**	**4.10**	**12**	PN	**Pn**		**16 19 41.1**	**+2.0**
KMNR	**Kamenistaya**	**4.10**	**12**	*e*P	**Pn**		**16 19 41.1**	**+2.0**
ESO	**Esso**	**4.18**	**359**	PN	**Pn**		**16 19 41.7**	**+1.7**
ESO	**Esso**	**4.18**	**359**	*e*P	**Pn**		**16 19 41.8**	**+1.7**
KPT	**Kopyto**	**4.31**	**11**	PN	**Pn**		**16 19 43.9**	**+2.0**
KPT	**Kopyto**	**4.31**	**11**	*e*P	**Pn**		**16 19 43.9**	**+2.0**
BZMR	**Bezymyannaya**	**4.31**	**13**	PN	**Pn**		**16 19 44.1**	**+2.1**
BZMR	**Bezymyannaya**	**4.31**	**13**	*e*P	**Pn**		**16 19 44.1**	**+2.1**
BZWR	**Bezymyannyi-We**	**4.34**	**13**	PN	**Pn**		**16 19 44.8**	**+2.4**
BZWR	**Bezymyannyi-We**	**4.34**	**13**	*e*P	**Pn**		**16 19 44.8**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**4.35**	**14**	PN	**Pn**		**16 19 44.6**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**4.35**	**14**	*e*P	**Pn**		**16 19 44.6**	**+2.2**
KOZ	**Kozyrevsk**	**4.36**	**8**	PN	**Pn**		**16 19 45.4**	**+2.9**
KOZ	**Kozyrevsk**	**4.36**	**8**	*e*P	**Pn**		**16 19 45.4**	**+2.9**
KLY	**Klyuchi**	**4.70**	**13**	PN	**Pn**		**16 19 49.6**	**+2.5**
KLY	**Klyuchi**	**4.70**	**13**	*e*P	**Pn**		**16 19 49.6**	**+2.5**
KBTR	**Krutoberegovo**	**5.06**	**27**	PN	**Pn**		**16 19 52.9**	**+0.8**
KBTR	**Krutoberegovo**	**5.06**	**27**	*e*P	**Pn**		**16 19 52.9**	**+0.8**
SMKR	**Semkarok**	**5.09**	**17**	PN	**Pn**		**16 19 55.5**	**+3.0**
SMKR	**Semkarok**	**5.09**	**17**	*e*P	**Pn**		**16 19 55.6**	**+3.0**
BKI	**Bering**	**5.52**	**48**	PN	**Pn**		**16 19 57.8**	**-0.4**
BKI	**Bering**	**5.52**	**48**	*e*P	**Pn**		**16 19 57.9**	**-0.4**
MA2	**Magadan**	**9.04**	**333**	P	**Pn**		**16 20 46.9**	**+0.6**
	comp=N,5.9nm,0.9s,baz=159,slow=18,SNR=1.3							
MA2				LR	LR		16 24 18.8	
	comp=N,51nm,21.0s,baz=138,slow=38							
SHEM	**Shemya Is, Ala**	**9.46**	**78**	P	**Pn**		**16 20 52.3**	**+0.2**
	comp=N,32nm,0.5s,baz=292,slow=16,SNR=9.0							
SHEM				S	**Sn**		**16 22 30.0**	**-6.6**
	comp=N,34nm,0.3s,baz=244,slow=19,SNR=14							
SMY	**Shemya**	**9.46**	**78**	Pn	**Pn**		**16 20 52.1**	**0.0**
SMY	**Shemya**	**9.46**	**78**	PN	**Pn**		**16 20 52.1**	**0.0**
YSS	**Yuzhno-Sakhali**	**11.49**	**252**	*e*PN	**Pn**		**16 21 19.4**	**-0.3**
YSS				pmax	pmax			
	comp=Z,20nm,1.2s							
SEY	**Seymchan**	**11.72**	**345**	P	**Pn**		**16 21 24.6**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=146,slow=23,SNR=1.8							
SEY				LR	LR		16 26 19.4	
	comp=Z,76nm,19.3s,baz=150,slow=40							
AMKA	**Amchitka**	**12.78**	**84**	Pn	**Pn**		**16 21 38.3**	**+1.0**
ASAJ	**Asahikawa**	**13.24**	**241**	P	**Pn**		**16 21 44.1**	**+0.5**
	comp=Z,20nm,1.2s,baz=48,slow=18,SNR=1.7							
ASAJ				LR	LR		16 26 12.5	
	comp=Z,32nm,18.6s,baz=344,slow=34							
KIWB	**Kanaga Island**	**14.89**	**80**		**Pn**		**16 22 06.3**	**+1.4**
BILL	**Bilibino**	**16.74**	**10**	P	**P**		**16 22 30.7**	**+1.4**
BILL	**Bilibino**	**16.74**	**10**	‖ *e*P	**P**		**16 22 31.4**	**+2.1**
BILL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
YAK	**Yakutsk**	**18.75**	**315**	P	**P**		**16 22 47.0**	**-4.4**
YAK				IAmb	IAmb		16 22 50.9	
	comp=Z,13nm,0.7s							
YAK	**Yakutsk**	**18.75**	**315**	P	**P**		**16 22 49.4**	**-2.0**
	comp=Z,15nm,0.7s,baz=26,slow=1.7,SNR=8.7							
YAK				S	**S**		**16 26 18.1**	**-2.3**
	comp=Z,2.4nm,0.5s,baz=188,slow=16,SNR=1.4							
YAK	**Yakutsk**	**18.75**	**315**	*e*P	**P**		**16 22 49.6**	**-1.8**
YAK				pmax	pmax			
	comp=Z,19nm,1.3s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.4s							
JMM	**Marumori**	**18.78**	**229**	P	**Pn**		**16 22 53.2**	**0.0**
JMM				IAmb	IAmb		16 23 22.6	
	comp=Z,31nm,1.3s							
USRK	**Ussuriysk Ar.**	**19.38**	**258**	P	**P**		**16 22 57.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=74,slow=15,SNR=1.3							
MJB9	**Matsu-Tunnel**	**21.08**	**232**	P	**P**		**16 23 16.1**	**-0.8**
MAJO	**Matsushiro**	**21.08**	**232**	P	**P**		**16 23 15.2**	**-1.7**
MAJO	**Matsushiro**	**21.08**	**232**	‖ *e*P	**P**		**16 23 17.7**	**+0.8**
MAJO				pmax	pmax			
	comp=Z,19nm,2.0s							
MJAR	**Matsushiro Arr**	**21.08**	**232**	P	**P**		**16 23 15.7**	**-1.2**
MJAR	**Matsushiro Arr**	**21.08**	**232**	P	**P**		**16 23 17.9**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=31,slow=8.9,SNR=18							
	comp=Z,3.6nm,0.8s							
J14K	**Nanvaranak Lak**	**22.80**	**47**	P	**P**		**16 23 33.5**	**-1.4**
C16K	**Lisburne Hills**	**23.86**	**33**	P	**P**		**16 23 45.2**	**+0.4**
TIXI	**Tiksi**	**23.98**	**337**	P	**P**		**16 23 46.1**	**+0.2**
TIXI	**Tiksi**	**23.98**	**337**	LR	LR		16 33 11.6	
	comp=Z,65nm,18.6s,baz=332,slow=37							
TIXI	**Tiksi**	**23.98**	**337**	‖ *i*P	**P**		**16 23 46.7**	**+0.8**
TIXI				pmax	pmax			
	comp=Z,18nm,0.6s							
L16K	**Owhat River**	**24.55**	**50**	P	**P**		**16 23 50.0**	**-1.1**
L16K				IAmb	IAmb		16 23 50.1	
	comp=Z,27nm,1.4s							
K17K	**Iditarod**	**25.19**	**48**	P	**P**		**16 23 56.7**	**-0.3**
K17K				IAmb	IAmb		16 24 33.1	
	comp=Z,21nm,1.2s							
E18K	**Tukpahlearik C**	**25.21**	**36**	P	**P**		**16 23 55.6**	**-1.5**
E18K				IAmb	IAmb		16 24 27.1	
	comp=Z,33nm,1.4s							
C18K	**Utukok River**	**25.42**	**33**	P	**P**		**16 23 59.3**	**+0.2**
M17K	**Holitna River**	**25.50**	**51**	P	**P**		**16 24 00.2**	**+0.4**
M17K				IAmb	IAmb		16 24 02.5	
	comp=Z,12nm,0.8s							
G18K	**Tagagawik**	**25.55**	**40**	P	**P**		**16 23 59.6**	**-0.7**
G18K				IAmb	IAmb		16 24 00.0	
	comp=Z,20nm,1.4s							
N17K	**Nushagak Hills**	**25.61**	**53**	P	**P**		**16 24 00.5**	**-0.3**
KSRS	**Korea Array**	**25.96**	**249**	P	**P**		**16 24 05.2**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=39,slow=8.8,SNR=5.6							
	comp=Z,0.9nm,0.5s							
F19K	**Shaleruckik Mo**	**26.11**	**38**	P	**P**		**16 24 05.7**	**+0.4**
F20K	**Avaraart Lake**	**26.95**	**38**	P	**P**		**16 24 11.5**	**-1.3**
B20K	**Meade River**	**27.23**	**32**	P	**P**		**16 24 14.9**	**-0.4**
B20K				IAmb	IAmb		16 24 38.0	
	comp=Z,18nm,1.3s							
G21K	**Allakaket**	**27.72**	**40**	P	**P**		**16 24 19.2**	**-0.5**
E22K	**Anaktuvuk Pass**	**28.63**	**36**	P	**P**		**16 24 25.8**	**-2.0**
E22K				IAmb	IAmb		16 24 50.5	
	comp=Z,14nm,1.4s							
H23K	**Yukon River**	**29.25**	**41**	P	**P**		**16 24 32.2**	**-1.2**
C23K	**Itkillik River**	**29.37**	**33**	P	**P**		**16 24 33.8**	**-0.5**
C23K				IAmb	IAmb		16 24 36.1	
	comp=Z,12nm,0.8s							
SEW	**Seward**	**29.47**	**53**	P	**P**		**16 24 33.3**	**-2.0**
SEW				IAmb	IAmb		16 24 44.6	
	comp=Z,18nm,1.2s							
RND	**Reindeer**	**29.51**	**46**	P	**P**		**16 24 34.4**	**-1.3**
RND				IAmb	IAmb		16 24 37.0	
	comp=Z,5.3nm,0.9s							
RND	**Reindeer**	**29.51**	**46**	P	**P**		**16 24 34.4**	**-1.3**
RND				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TOLK	**Toolik Lake Re**	**29.53**	**36**	P	**P**		**16 24 35.2**	**-0.6**
SML	**Sawmill**	**29.84**	**50**	P	**P**		**16 24 37.8**	**-0.8**
E24K	**Your Creek**	**29.85**	**37**	P	**P**		**16 24 38.5**	**-0.2**
E24K				IAmb	IAmb		16 25 21.5	
	comp=Z,12nm,1.3s							
COLA	**College**	**29.93**	**43**	‖ *e*P	**P**		**16 24 40.2**	**+0.9**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
PWL	**Port Wells**	**29.93**	**51**	P	**P**		**16 24 38.5**	**-1.0**
CCB	**Clear Creek Bu**	**29.95**	**44**	P	**P**		**16 24 40.1**	**+0.6**
F24K	**Squaw Lake**	**30.03**	**38**	P	**P**		**16 24 39.3**	**-0.9**
F24K				IAmb	IAmb		16 24 52.8	
	comp=Z,13nm,1.4s							
SCM	**Sheep Creek Mo**	**30.31**	**49**	P	**P**		**16 24 41.7**	**-1.1**
SCM	**Sheep Creek Mo**	**30.31**	**49**	P	**P**		**16 24 41.7**	**-1.1**
SCM				pmax	pmax			
	comp=Z,30nm,1.4s							
HDA	**Harding Lake**	**30.32**	**44**	P	**P**		**16 24 42.9**	**+0.1**
HDA				IAmb	IAmb		16 24 44.2	
	comp=Z,6.0nm,0.5s							
IL31		**30.34**	**44**	P	**P**		**16 24 42.5**	**-0.5**
ILAR	**Eielson Array**	**30.34**	**44**	P	**P**		**16 24 42.9**	**-0.1**
ILAR	**Eielson Array**	**30.34**	**44**	P	**P**		**16 24 43.5**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=258,slow=7.3,SNR=31							
ILAR				PcP	**PcP**		**16 27 40.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=284,slow=4.1,SNR=2.5							
	comp=Z,2.6nm,0.7s							
D25K	**Kavik River**	**30.76**	**35**	P	**P**		**16 24 46.0**	**-0.6**
E25K	**Arctic Village**	**30.95**	**37**	P	**P**		**16 24 46.7**	**-1.6**
E25K				IAmb	IAmb		16 24 59.8	
	comp=Z,12nm,1.4s							
RIDG	**Independent Ri**	**31.28**	**46**	P	**P**		**16 24 50.5**	**-0.8**
RIDG				IAmb	IAmb		16 25 10.3	
	comp=Z,11nm,1.4s							
DOT	**Dot Lake**	**31.64**	**46**	P	**P**		**16 24 52.8**	**-1.6**
K27K	**Chicken**	**32.47**	**45**	P	**P**		**16 25 02.2**	**+0.5**
K27K				IAmb	IAmb		16 25 03.7	
	comp=Z,7.4nm,0.9s							
H11N2

comp=N,1.0nm,0.3s,baz=32,slow=6.7,SNR=7.3
comp=N,1.0nm,0.3s

KIV	Kislovodsk	69.85	316	eP	P	16 29 39.8	-1.6
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TXAR	Lajitas Array	71.92	66	P	P	16 29 56.0	+1.9
	comp=Z,2.6nm,0.6s,baz=296,slow=4.8,SNR=19						
	comp=Z,2.6nm,0.6s						
EKA	Eskdalemuir Ar	72.23	349	P	P	16 29 55.3	-0.1
	comp=Z,0.7nm,0.4s,baz=20,slow=5.3,SNR=4.4						
	comp=Z,0.7nm,0.4s						
BUR08	Bucovina Ar. S	73.30	329	IAmb	IAmb	16 30 02.7	
	comp=Z,2.2nm,0.7s						
CLL	Collm	73.31	338	i P	P	16 30 01.8	-0.1
WRA	Warramunga Arr	74.52	204	P	P	16 30 10.1	+0.8
	comp=Z,1.6nm,0.6s,baz=19,slow=6.1,SNR=12						
	comp=Z,1.6nm,0.6s						
FITZ	Fitzroy Crossi	75.33	212	P	P	16 30 15.0	+1.1
	comp=Z,1.3nm,0.6s,baz=34,slow=5.0,SNR=1.8						
	comp=Z,1.3nm,0.6s						
GERES	GERESS Array B	75.44	337	P	P	16 30 14.9	+0.6
	comp=Z,1.4nm,0.5s,baz=32,slow=6.9,SNR=16						
	comp=Z,1.4nm,0.5s						
GERES	GERESS Array B	75.44	337	P	P	16 30 15.0	+0.6
BRTR	Keskin Array B	77.13	320	P	P	16 30 23.7	-0.5
	comp=Z,0.6nm,0.7s,baz=60,slow=2.4,SNR=2.6						
	comp=Z,0.6nm,0.7s						
ASAR	Alice Springs	78.20	203	P	P	16 30 31.6	+1.6
	comp=Z,1.2nm,0.5s,baz=14,slow=5.0,SNR=33						
	comp=Z,1.2nm,0.5s						
FDMO	Fiordimonte	81.01	335	IAmb	IAmb	16 30 47.9	
	comp=Z,5.5nm,0.7s						
MMAI	Mount Meron Ar	82.09	315	P	P	16 30 51.4	+0.3
	comp=Z,1.2nm,0.4s,baz=50,slow=5.8,SNR=5.0						
	comp=Z,1.2nm,0.4s						
RAYN	Ar Rayn	85.09	302	P	P	16 31 05.7	-0.9
RAYN				IAmb	IAmb	16 31 06.8	
	comp=Z,3.3nm,0.6s						
RAYN	Ar Rayn	85.09	302	P	P	16 31 05.7	-0.9
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ESDC	Sonseca Array	87.71	347	P	P	16 31 19.0	-0.1
	comp=Z,0.9nm,0.7s,baz=5.2,slow=4.3,SNR=7.9						
	comp=Z,0.9nm,0.7s						
H03N2	Juan Fernandez	135.02	89	T	T	19 08 19.5	
	baz=314,slow=77,SNR=65						
H03N1	Juan Fernandez	135.04	89	T	T	19 08 21.9	
	baz=314,slow=77,SNR=75						
H03N3	Juan Fernandez	135.04	89	T	T	19 08 20.3	
	baz=314,slow=77,SNR=66						
PLCA	Paso Flores	144.80	92	PKP	PKPdf	16 38 06.6	+0.1
	comp=Z,1.7nm,0.7s,baz=271,slow=5.6,SNR=8.9						
NVL	N'lazarevskaya	155.74	206	i PKP2	PKPab	16 38 47.7	-1.7
NVL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVL				pmax	pmax		
	comp=N,51nm,6.5s						

IDC ***05*** *16:20:06.9±0.7, 16°.84N×99°.45W, h0km, mb4.1/12, mbtmp4.1/17, ML3.7/4, MS4.2/33, Error ellipse: s-maj=20.1km s-min=12.1km az=53.0*
NEIC ***05*** *16:20:09.0±2.6, 16°.81N±0°.05×99°.59W±0°.05, h12km±5km, mb4.9/331, Md5.0/136(MEX), Error ellipse: s-maj=8.1km s-min=5.6km az=222.0*
MEX ***05*** *16:20:10.5±0.9, 16°.67N×99°.65W, h17km±7km, MD5.1*
GCMT ***05*** *16:20:14.0±0.3, 16°.83N±0°.02×99°.48W±0°.02, h29km, MW5.0/103, Moment Tensor Solution. s56,c66; s103,c153; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.92±.14; Mθθ-2.29±.09; Mφφ-0.62±.09; Mrθ2.53±.13; Mrφ1.02±.07; Mθφ-1.43±.13; Best double couple: Ms4.06800×10^16 NP1:φs293.00000°, δ22.00000°, λ85.00000°. NP2:φs118.00000°, δ68.00000°, λ92.00000°. Principal axes: T 4.1440, Plg67.0000°, Azm32.0000°; N -0.1490, Plg2.0000°, Azm297.0000°; P -3.9920, Plg23.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 16:20:07.6±1.0, 16°.76N±0°.03×99°.57W±0°.02, h7km±6km, n365, σ2§08/311, mb4.9/125, MS4.1/32, 14C-3D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.28	343		Pg	16 20 14.8	+1.8
DAIG					Sg	16 20 18.8	+2.1
DAIG	Los Arroyos	0.28	343	⇓iP	Pg	16 20 14.8	+1.8
DAIG				i S	Sg	16 20 18.8	+2.1
VNTA	La Mica	0.29	303		Pg	16 20 14.5	+1.3
VNTA					Sg	16 20 18.4	+1.3
VNTA	La Mica	0.29	303	i P	Pg	16 20 14.5	+1.3
VNTA				i S	Sg	16 20 18.4	+1.3
CRIG	Cruz Grande	0.42	93		Pb	16 20 18.5	+1.2
CRIG					Sb	16 20 25.0	+1.2
CRIG	Cruz Grande	0.42	93	⇓iP	Pb	16 20 18.5	+1.2
CRIG				eS	Sb	16 20 25.0	+1.2
CAIG	El Cayaco	0.73	293		Pg	16 20 21.5	-0.1
CAIG					Sg	16 20 30.5	-0.7
CAIG	El Cayaco	0.73	293	⇑eP	Pg	16 20 21.5	-0.1
CAIG				eS	Sg	16 20 30.5	-0.7
ATYC	Atoyac	0.94	299		Pg	16 20 24.9	-0.9
ATYC					Sg	16 20 36.4	-1.6
ATYC	Atoyac	0.94	299	eP	Pg	16 20 24.9	-0.9
ATYC				eS	Sg	16 20 36.4	-1.6
MEIG	Mezcala	1.16	357		Pg	16 20 29.5	-0.5
MEIG					Sb	16 20 44.6	-0.8
MEIG	Mezcala	1.16	357	⇓iP	Pg	16 20 29.5	-0.5
MEIG				i S	Sb	16 20 44.6	-0.8
TLIG	Tlapa	1.25	50		Pn	16 20 31.6	0.0
TLIG				Sn	Sn	16 20 47.4	-1.3
TLIG	Tlapa	1.25	50	⇑iP	Pn	16 20 31.6	0.0
TLIG				i S	Sn	16 20 48.4	-0.3
HMTT	Tlapaneco	1.41	43		Pg	16 20 34.1	-0.6
HMTT					Sn	16 20 54.2	+1.4
HMTT	Tlapaneco	1.41	43	i P	Pg	16 20 34.1	-0.6
HMTT				eS	Sn	16 20 54.2	+1.4
ARIG	Puente Sto Nin	1.69	334		Pn	16 20 37.2	-0.4
ARIG					Sn	16 20 59.5	0.0
ARIG	Puente Sto Nin	1.69	334	⇑eP	Pn	16 20 37.2	-0.4
ARIG				eS	Sn	16 20 59.5	0.0
FTIG	Fresnillo de T	1.79	50		Pn	16 20 39.3	+0.3
FTIG					Sb	16 21 02.0	-1.4
FTIG	Fresnillo de T	1.79	50	⇑eP	Pn	16 20 39.3	+0.3
FTIG				eS	Sb	16 21 02.0	-1.4
TXIG	Tlaxiaco	1.79	74		Pn	16 20 39.8	+0.6
TXIG					Sn	16 21 02.1	-0.2
TXIG	Tlaxiaco	1.79	74	⇑iP	Pn	16 20 39.8	+0.6
TXIG				eS	Sn	16 21 02.1	-0.2
YOIG	Yosondua	1.94	87		Pn	16 20 41.6	+0.4
YOIG					Sg	16 21 08.5	-1.4
YOIG	Yosondua	1.94	87	⇑eP	Pn	16 20 41.6	+0.4
YOIG				eS	Sg	16 21 08.5	-1.4
HLIG	Huajuapan de L	1.99	57		Pn	16 20 42.3	+0.4
HLIG					Sb	16 21 07.6	-1.8
HLIG	Huajuapan de L	1.99	57	⇑eP	Pn	16 20 42.3	+0.4
HLIG				eS	Sb	16 21 07.6	-1.8
YAIG	Yautepec	2.15	13		Pn	16 20 43.6	-0.4
YAIG					Sn	16 21 11.1	+0.1
YAIG	Yautepec	2.15	13	⇑eP	Pn	16 20 43.6	-0.4
YAIG				eS	Sn	16 21 11.1	+0.1
PPCL	Tochimilco	2.32	23	eP	Pb	16 20 49.0	-1.0
PPCL				eS	Sn	16 21 15.4	-0.2
PPPT	Popocatepetl	2.38	22	eP	Pb	16 20 49.2	-1.9
PPPT				eS	Sn	16 21 15.8	-1.5
PBXN	Popocatepetl	2.40	21	eP	Pb	16 20 50.5	-0.9
PBXN				eS	Sn	16 21 16.7	-1.0
PEIG	Puerto Escondi	2.44	108		Pn	16 20 48.7	+0.7
PEIG					Sn	16 21 15.8	-2.3
PEIG	Puerto Escondi	2.44	108	eP	Pn	16 20 48.7	+0.7
PEIG				eS	Sn	16 21 15.8	-2.3
PPSX	Xalitzintla	2.52	23	eP	Pb	16 20 52.8	-0.7
PPSX				eS	Sn	16 21 18.3	-2.2
CUP5	Mexico City	2.58	8		Pn	16 20 50.9	+0.8
CUP5					Sn	16 21 22.2	+0.3
CUP5	Mexico City	2.58	8	eP	Pn	16 20 50.9	+0.8
CUP5				eS	Sn	16 21 22.2	+0.3
UNM	Universidad Na	2.58	8		Pn	16 20 49.4	-0.8
UNM	Universidad Na	2.58	8	eP	Pn	16 20 50.3	+0.1
UNM				eS	Sn	16 21 22.8	+0.9
PHPU	Puebla	2.63	30		Pn	16 20 52.0	+1.2
PHPU					Sb	16 21 24.5	-3.5
PHPU	Puebla	2.63	30	eP	Pn	16 20 52.0	+1.2
PHPU				eS	Sb	16 21 24.5	-3.5
SCT2	Benito Juarez	2.65	9		Pb	16 20 53.5	-2.1
SCT2					Sb	16 21 26.4	-2.1
SCT2	Benito Juarez	2.65	9	eP	Pb	16 20 53.5	-2.1
SCT2				eS	Sb	16 21 26.4	-2.1
TACY	Mexico City	2.66	8	eP	Pb	16 20 53.2	-2.4
TACY				eS	Sb	16 21 27.1	-1.6
TPIG	Tehuac#an	2.67	51		Pn	16 20 51.5	+0.2
TPIG					Sn	16 21 24.2	+0.2
TPIG	Tehuac#an	2.67	51	⇑eP	Pn	16 20 51.5	+0.2
TPIG				eS	Sn	16 21 24.2	+0.2
OXIG	Oaxaca	2.73	83		Pn	16 20 53.0	+0.9
OXIG					Sn	16 21 23.7	-1.7
VHO	Vista Hermosa	2.73	83	⇑eP	Pn	16 20 53.0	+1.0
VHO				eS	Sn	16 21 23.7	-1.7
TOIG	Toxpalan	2.73	60		Pn	16 20 52.2	+0.1
TOIG					Sn	16 21 26.5	+1.1
TOIG	Toxpalan	2.73	60	⇑eP	Pn	16 20 52.2	+0.1
TOIG				eS	Sn	16 21 26.5	+1.1
OXBJ	Oaxaca	2.74	83		Pn	16 20 53.1	+1.0
OXBJ					Sn	16 21 25.5	-0.1
OXBJ	Oaxaca	2.74	83	eP	Pn	16 20 53.1	+1.0
OXBJ				eS	Sn	16 21 25.5	-0.1
OXLC	Oaxaca	2.76	83		Pb	16 20 55.2	-2.2
OXLC					Sn	16 21 26.4	+0.3
OXLC	Oaxaca	2.76	83	eP	Pb	16 20 55.2	-2.2
OXLC				eS	Sn	16 21 26.4	+0.3
POHV	Veracruz	3.17	43		Pn	16 20 59.0	+0.7
POHV	Veracruz	3.17	43	eP	Pn	16 20 59.0	+0.7
MOIG	Morelia	3.29	332		Pn	16 21 00.0	+0.2
MOIG	Morelia	3.29	332		Sn	16 21 36.0	-3.3
MOIG	Morelia	3.29	332	⇑eP	Pn	16 21 00.8	+1.0
MOIG				eS	Sn	16 21 36.0	-3.3
HUIG	Huatulco	3.46	106		Pn	16 21 02.7	+0.7
HUIG					Sn	16 21 39.1	-4.2
HUIG	Huatulco	3.46	106	eP	Pn	16 21 02.7	+0.7
HUIG				eS	Sn	16 21 39.1	-4.2
URUA	Uruapan	3.56	318		Pn	16 21 01.9	-1.7
URUA					Sn	16 21 42.2	-3.9
URUA	Uruapan	3.56	318	eP	Pn	16 21 01.9	-1.7
URUA				eS	Sn	16 21 42.2	-3.9
JAUV	Jalcomulco	3.69	45		Pn	16 21 07.5	+2.3
JAUV					Sn	16 21 50.8	+1.8
JAUV	Jalcomulco	3.69	45	eP	Pn	16 21 07.5	+2.3
JAUV				eS	Sn	16 21 50.8	+1.8
NEUV	Arroyo Zacate	3.72	75		Pn	16 21 06.2	+0.7
NEUV					Sn	16 21 50.7	+1.1
NEUV	Arroyo Zacate	3.72	75	⇑eP	Pn	16 21 06.2	+0.7
NEUV				eS	Sn	16 21 50.7	+1.1
CXUV	Coxquihui	3.88	29		Pn	16 21 10.8	+3.0
CXUV					Sn	16 21 54.9	+1.3
CXUV	Coxquihui	3.88	29	eP	Pn	16 21 10.8	+3.0
CXUV				eS	Sn	16 21 54.9	+1.3
JRQG	Juriquilla Cam	4.01	348	e	Pb	16 21 14.7	-4.1
JRQG				e		16 22 04.8	
LVIG	Laguna Verde	4.20	45		Pn	16 21 15.4	+3.3
LVIG					Sn	16 22 04.9	+3.4
LVIG	Laguna Verde	4.20	45	eP	Pn	16 21 15.4	+3.3
LVIG				eS	Sn	16 22 04.9	+3.4
IGIG	Irapuato, Guan	4.31	337		Pn	16 21 14.4	+0.5
IGIG					Sn	16 22 08.5	+4.0
IGIG	Irapuato, Guan	4.31	337	eP	Pn	16 21 14.4	+0.5
IGIG				eS	Sn	16 22 08.5	+4.0
CMIG	Matias Romero	4.49	85	Pn	Pn	16 21 15.7	-0.5
	3.0nm,0.3s,baz=265,slow=12,SNR=28						
CMIG				Sn	Sn	16 22 05.6	-3.1
	18nm,0.3s,baz=275,slow=22,SNR=7.4						
CMIG				Lg	Lg	16 22 28.7	
	39nm,0.3s,baz=322,slow=18,SNR=5.0						
CMIG				LR	LR	16 23 17.8	
	comp=Z,4μm,18.3s,baz=240,slow=44						
	5.9nm,0.3s						
CMIG	Matias Romero	4.49	85	⇑eP	Pn	16 21 16.3	+0.1
CMIG				eS	Sn	16 22 12.6	+3.8
PMUV	Sontecomapan	4.59	67		Pn	16 21 17.4	-0.2
PMUV					Sn	16 22 09.0	-2.3
PMUV	Sontecomapan	4.59	67	eP	Pn	16 21 17.4	-0.2
PMUV				eS	Sn	16 22 09.0	-2.3
MNGA	Volcan de Coli	4.70	306	eP	Pn	16 21 21.3	+2.0
INCO	Volcan de Coli	4.72	306	eP	Pn	16 21 20.9	+1.2
COMA	Comala	4.74	303		Pn	16 21 23.4	+3.9
COMA					Sn	16 22 15.8	+0.9
COMA	Comala	4.74	303	eP	Pn	16 21 23.4	+3.9
COMA				eS	Sn	16 22 15.8	+0.9
SOMAC	Volcano de Col	4.74	306	eP	Pn	16 21 22.0	+2.1
NILT	Santiago Nilte	4.75	92		Pn	16 21 20.5	+0.8
NILT					Sn	16 22 13.6	-1.4
NILT	Santiago Nilte	4.75	92	eP	Pn	16 21 20.5	+0.8
NILT				eS	Sn	16 22 13.6	-1.4
CDAR	Ciudad de Arme	4.76	298	eP	Pn	16 21 19.6	-0.2
CTUV	Llano Grande	4.83	14	e	Pb	16 21 31.4	-1.2
CTUV				e		16 22 26.3	
CEGR	Campo Tres	4.85	303	eP	Pn	16 21 22.2	+1.0
MIHL	Minatitlan	4.95	75		Sn	16 22 25.9	+5.9
MIHL	Minatitlan	4.95	75	eS	Sn	16 22 25.9	+5.9
TUIG	Tuzandepetl	5.07	75		Pn	16 21 24.9	+0.8
TUIG					Sn	16 22 26.6	+3.6
TUIG	Tuzandepetl	5.07	75	eP	Pn	16 21 24.9	+0.8
TUIG				eS	Sn	16 22 26.6	+3.6
RPIG	Rio Verde	5.12	356	e	Pb	16 21 39.5	+2.0
RPIG				e		16 22 46.8	
TON2	Tonala	5.19	318		Sn	16 22 24.6	-1.5
TON2	Tonala	5.19	318	eS	Sn	16 22 24.6	-1.5
UXUV	UXUV	5.21	83		Pn	16 21 26.1	0.0
UXUV					Sn	16 22 28.0	+1.4
UXUV	UXUV	5.21	83	eP	Pn	16 21 26.1	0.0
UXUV				eS	Sn	16 22 28.0	+1.4
AAIG	Aguscalientes	5.83	333		Pn	16 21 36.2	+1.6
AAIG					Sn	16 22 44.0	+2.1
AAIG	Aguscalientes	5.83	333	eP	Pn	16 21 36.2	+1.6
AAIG				eS	Sn	16 22 44.0	+2.1
CJM	Chamela	5.88	298	eP	Pn	16 21 35.2	0.0
CJM				eS	Sn	16 22 43.9	+1.0
TGIG		6.17	89		Pn	16 21 43.5	+4.2
TGIG					Sn	16 22 53.8	+3.5
TGIG		6.17	89	eP	Pn	16 21 43.5	+4.2
TGIG				eS	Sn	16 22 53.8	+3.5
PCIG		6.19	99		Pn	16 21 40.5	+1.1
PCIG					Sn	16 22 54.5	+4.0
PCIG		6.19	99	eP	Pn	16 21 40.5	+1.1
PCIG				eS	Sn	16 22 54.5	+4.0
GTIG	Gomez Farias	6.29	3		Pn	16 21 41.7	+0.8
GTIG					Sn	16 23 00.1	+7.1
GTIG	Gomez Farias	6.29	3	eP	Pn	16 21 41.7	+0.8
GTIG				eS	Sn	16 23 00.1	+7.1
ANIG	Ahuacatlan	6.34	313		Pn	16 21 43.6	+1.9
ANIG					Sn	16 22 54.5	0.0
ANIG	Ahuacatlan	6.34	313	eP	Pn	16 21 43.6	+1.9
ANIG				eS	Sn	16 22 54.5	0.0
ZAIG	Zacatecas	6.61	335		Pn	16 21 49.3	+3.8
ZAIG	Zacatecas	6.61	335		Sn	16 23 03.5	+2.0
ZAIG	Zacatecas	6.61	335	eP	Pn	16 21 50.2	+4.6
ZAIG				eS	Sn	16 23 03.5	+2.0
CCIG	Comitan	7.14	93		Pn	16 21 58.8	+6.1
CCIG	Comitan	7.14	93		Sn	16 23 17.2	+2.9
CCIG	Comitan	7.14	93	eP	Pn	16 21 57.3	+4.6
CCIG				eS	Sn	16 23 17.2	+2.9
PATR	El Naranjo	7.24	102		Pn	16 21 55.6	+1.5
PATR					Sn	16 23 18.1	+1.4
PATR	El Naranjo	7.24	102	eP	Pn	16 21 55.6	+1.5
PATR				eS	Sn	16 23 18.1	+1.4
PAVE	Pavencul	7.28	101		Pn	16 21 56.2	+1.6
PAVE					Sn	16 23 19.6	+2.0
PAVE	Pavencul	7.28	101	eP	Pn	16 21 56.2	+1.6
PAVE				eS	Sn	16 23 19.6	+2.0
CHUJ	Union Juarez	7.36	102	eP	Pn	16 21 57.4	+1.6
CHUJ				eS	Sn	16 23 22.7	+2.9
LNIG	Linares	8.10	1		Pn	16 22 08.8	+3.1
LNIG					Sn	16 23 41.3	+3.7
LNIG	Linares	8.10	1	eP	Pn	16 22 08.8	+3.1
LNIG				eS	Sn	16 23 41.3	+3.7
SCIG	Sabancuy	8.28	73		Sn	16 23 37.8	-4.2
SCIG	Sabancuy	8.28	73	eS	Sn	16 23 37.8	-4.2
MAIG	Mazatlaan	9.08	316		Sn	16 24 06.2	+4.4
MAIG	Mazatlaan	9.08	316	eS	Sn	16 24 06.2	+4.4
PDIG	Papasquiaro	9.88	328		Pn	16 22 34.7	+4.5
PDIG					Sn	16 24 26.8	+5.3
PDIG	Papasquiaro	9.88	328	eP	Pn	16 22 34.7	+4.5
PDIG				eS	Sn	16 24 26.8	+5.3
H06E1	SOCORRO T-PHASI	11.01	282	T	T	16 33 46.4	
	SNR=383						
H06S1	SOCORRO T	11.03	282	T	T	16 33 43.0	
	SNR=54						
H06N1	SOCORRO T-PHASI	11.08	283	T	T	16 33 47.6	
	SNR=22						
TEIG	Tepich	11.25	70		Pn	16 22 48.8	-0.2
TEIG	Tepich	11.25	70	Sn	Sn	16 24 49.3	-5.8
	baz=308,slow=20,SNR=1.5						
TEIG				Lg	Lg	16 26 00.3	
	baz=308,slow=20,SNR=1.3						
LPIG	La Paz	12.44	308	Pn	Pn	16 23 07.1	+2.0
	27nm,0.4s,baz=126,slow=8.7,SNR=1.8						
LPIG				LR	LR	16 27 27.6	
	comp=Z,1μm,18.3s,baz=132,slow=35						
TX31	Lajitas Ar. Si	13.07	344		Pn	16 23 15.2	+1.3
TXAR	Lajitas Array	13.07	344		Pn	16 23 15.8	+1.9
TXAR	Lajitas Array	13.07	344	Pn	Pn	16 23 14.8	+1.0
	baz=159,slow=14,SNR=12						
TXAR				Lg	Lg	16 27 00.5	
	baz=153,slow=19,SNR=4.7						
	2.1nm,1.0s						
SAND	Sanderson	13.35	350		Pn	16 23 20.0	+2.4
HKT	Hockley	13.57	14		Pn	16 23 21.4	+0.9
ALPN	Alpine	14.06	345		Pn	16 23 28.2	+0.9
OZNA	Ozona	14.17	355		Pn	16 23 29.8	+0.9
HNVL	Huntsville, TX	14.43	14		Pn	16 23 32.2	-0.2
BRDY	Brady	14.47	2		Pn	16 23 32.7	-0.2
ACON	Acoyapa	14.73	107	P	P	16 23 42.5	-0.2
MNHN	Monahans	14.81	349		Pn	16 23 39.2	+1.7
VHRN	Van Horn	14.82	341		Pn	16 23 38.9	+1.1
SGCY	Sterling City	15.16	355	P	P	16 23 47.6	+0.1
SGCY				IAmb	IAmb	16 23 48.2	
	comp=Z,50nm,1.0s						
WHTX	Lake Whitney,	15.29	7		P	16 23 49.0	+0.2
ODSA	Odessa	15.53	351		Pn	16 23 46.1	-1.1
237A	Washetta, Mont	15.56	12	P	P	16 23 52.0	+0.1
237A				IAmb	IAmb	16 23 53.5	
	comp=Z,104nm,1.2s						
NATX	Nacogdoches	15.59	16		Pn	16 23 46.3	-1.6
NATX				IAmb	IAmb	16 23 52.8	
	comp=Z,136nm,1.5s						
JTS	Las Juntas de	15.59	112		Pn	16 23 46.8	-1.2
JTS	Las Juntas de	15.59	112	Pn	Pn	16 23 48.3	+0.3
	comp=Z,1.2nm,0.3s,baz=214,slow=7.7,SNR=4.4						
	comp=Z,2.9nm,0.4s						
FW13	Cleburne	15.65	7	P	P	16 23 53.0	+0.2
FW13				IAmb	IAmb	16 23 53.9	
	comp=Z,73nm,1.1s						
MNTX	Cornudas Mount	15.79	341		Pn	16 23 50.6	+0.1
ABTX	Abilene, Hawle	15.80	360		Pn	16 23 49.4	-1.3
PLPT	Palo Pinto	16.03	4	P	P	16 23 57.3	+0.3
PLPT				IAmb	IAmb	16 23 58.2	
	comp=Z,119nm,1.0s						
FW06	Azle	16.25	6		Pn	16 23 55.1	-1.3
FW06				IAmb	IAmb	16 24 04.3	
	comp=Z,70nm,1.1s						
Z35A	Perchaven, San	16.64	7		Pn	16 24 00.5	-0.8
Z35A				IAmb	IAmb	16 24 09.9	
	comp=Z,104nm,1.4s						
Z38A	Mt. Pleasant	16.94	13	IAmb	IAmb	16 24 13.1	
	comp=Z,93nm,1.3s						
WTFS	Witchita Falls	16.97	3	IAmb	IAmb	16 24 08.4	
	comp=Z,124nm,1.8s						
VBMS	Vicksburg	17.44	26	IAmb	IAmb	16 24 19.3	
	comp=Z,87nm,1.2s						
X34A	Smith Ranch, M	17.84	5	IAmb	IAmb	16 24 26.4	
	comp=Z,141nm,1.4s						
TUC	Tucson	18.52	329	P	Pn	16 24 25.5	+0.6
X40A	Basin Creek Fa	18.66	18	IAmb	IAmb	16 24 33.3	
	comp=Z,179nm,1.8s						
UALR	University of	19.07	18	IAmb	IAmb	16 24 39.2	
	comp=Z,126nm,1.2s						
ANMO	Albuquerque	19.13	343	P	P	16 24 31.2	-0.3
ANMO	Albuquerque	19.13	343	P	Pn	16 24 32.3	-0.1
	comp=Z,0.3nm,0.3s,baz=244,slow=12,SNR=13						
ANMO				Lg	Lg	16 30 11.0	
	comp=Z,0.1nm,0.3s,baz=221,slow=18,SNR=1.4						
ANMO				LR	LR	16 32 09.9	
	comp=Z,1μm,21.3s,baz=253,slow=38						
	comp=Z,5.9nm,0.9s						
DEOK	Depew	19.20	8	IAmb	IAmb	16 24 42.9	
	comp=Z,53nm,1.0s						
TUL3	Leonard	19.37	9	IAmb	IAmb	16 24 44.5	
	comp=Z,86nm,0.9s						
PIX	Pinacate	19.41	322	P	P	16 24 33.6	-0.8
QUOK	Quay	19.50	7	IAmb	IAmb	16 24 45.8	
	comp=Z,95nm,1.0s						
OK038	West end E0370	19.66	2	IAmb	IAmb	16 24 45.6	
	comp=Z,123nm,1.5s						
CROK	Carrier	19.72	4	IAmb	IAmb	16 24 48.1	
	comp=Z,139nm,1.3s						
RLO	Rose Lookout	19.75	11	IAmb	IAmb	16 24 47.8	
	comp=Z,70nm,1.1s						
LRAL	Lakeview Retre	19.79	33	IAmb	IAmb	16 24 49.1	
	comp=Z,64nm,1.3s						
RTBA	Rita Blanca	19.80	352	IAmb	IAmb	16 24 47.4	
	comp=Z,53nm,1.4s						
X18A	Snowflake	20.00	334	IAmb	IAmb	16 24 53.7	
	comp=Z,49nm,1.1s						
HHAR	Hobbs	20.08	13	IAmb	IAmb	16 24 51

KSU1 **Kansas State U** 22.41 6 IAmb IAmb 16 25 18.5
comp=Z,36nm,1.0s
CCM **Cathedral Cave** 22.45 17 P **P** **16 25 09.8 +2.6**
CPE **Camp Elliot** 22.56 319 IAmb IAmb 16 25 19.3
comp=Z,102nm,1.7s
BELC **Belle Mtn. Jos** 22.64 322 P **P** **16 25 10.3 +0.8**
BELC IAmb IAmb 16 25 21.1
comp=Z,52nm,1.2s
PFO **Pinyon Flats O** 22.65 321 P **P** **16 25 10.8 +1.3**
PFO IAmb IAmb 16 25 28.6
comp=Z,50nm,1.5s
PFO **Pinyon Flats O** 22.65 321 LR LR 16 33 22.7
comp=Z,340nm,19.8s,baz=143,slow=35
DNR **Dunn Ranch,Anz** 22.72 321 IAmb IAmb 16 25 22.3
comp=Z,75nm,1.2s
CPCT **Cooper Cave** 22.95 33 IAmb IAmb 16 25 27.5
comp=Z,42nm,1.1s
T47A **Sharon Grove** 22.97 26 IAmb IAmb 16 25 22.1
comp=Z,24nm,0.9s
ELS **Elsinore Mount** 23.26 320 P **P** **16 25 16.6 +0.8**
ELS IAmb IAmb 16 25 27.9
comp=Z,47nm,1.6s
V12A **Nelson** 23.29 327 IAmb IAmb 16 25 19.1
comp=Z,44nm,1.1s
HODGE **Hodges** 23.32 39 IAmb IAmb 16 25 25.5
comp=Z,42nm,1.2s
MTPC **Mountain Pass** 23.47 326 IAmb IAmb 16 25 28.9
comp=Z,66nm,1.5s
TKL **Tuckaleechee C** 23.50 34 LR LR 16 38 20.6
comp=Z,121nm,18.8s,baz=241,slow=47
LCMT **Little Creek M** 23.52 332 IAmb IAmb 16 25 28.9
comp=Z,46nm,1.8s
ISCO **Idaho Springs** 23.55 348 IAmb IAmb 16 25 29.9
comp=Z,85nm,1.9s
P40A **Paris** 23.62 15 IAmb IAmb 16 25 27.9
comp=Z,49nm,1.3s
Q44A **Meyer Farm, Va** 23.92 21 P **P** **16 25 21.6 -0.6**
Q44A IAmb IAmb 16 25 30.5
comp=Z,36nm,1.0s
SZCU **Shurtz Canyon** 23.94 333 IAmb IAmb 16 25 33.2
comp=Z,65nm,1.6s
PAULI **Pauline** 24.00 38 P **P** **16 25 22.4 -0.6**
T50A **Nancy** 24.02 30 IAmb IAmb 16 25 31.5
comp=Z,51nm,1.2s
SHPR **Sheep Range** 24.04 328 P **P** **16 25 24.1 +0.5**
SHOC **Shoshone, Teco** 24.18 325 IAmb IAmb 16 25 35.1
comp=Z,42nm,1.2s
SRU **San Rafael Swe** 24.24 339 IAmb IAmb 16 25 34.7
comp=Z,20nm,0.9s
WCI **Wyandotte Cave** 24.36 26 P **P** **16 25 24.1 -2.2**
WCI IAmb IAmb 16 25 39.1
comp=Z,66nm,1.4s
P43A **Skaggs, Pawnee** 24.42 19 IAmb IAmb 16 25 36.3
comp=Z,45nm,1.1s
O20A **White River Ci** 24.48 344 IAmb IAmb 16 25 37.5
comp=Z,36nm,1.0s
CCCA **Chr Cany lake** 24.52 323 IAmb IAmb 16 25 38.0
comp=Z,43nm,1.2s
QSM **Queen of Sheba** 24.55 324 IAmb IAmb 16 25 38.6
comp=Z,44nm,1.3s
HAYD **Hayden** 24.60 346 IAmb IAmb 16 25 40.0
comp=Z,84nm,1.8s
GWY **Greenwater Val** 24.60 325 IAmb IAmb 16 25 38.3
comp=Z,29nm,1.2s
P18A **Preston Nutter** 24.61 340 IAmb IAmb 16 25 38.8
comp=Z,32nm,1.0s
LRMC **Laurel Mtn Rad** 24.67 323 IAmb IAmb 16 25 40.2
comp=Z,79nm,1.7s
FURC **Furnace Creek,** 24.91 325 IAmb IAmb 16 25 41.3
comp=Z,22nm,1.2s
TPNV **Topopah Spring** 24.95 327 IAmb IAmb 16 25 43.5
comp=Z,37nm,1.2s
V55A **Taylorsville** 25.06 37 IAmb IAmb 16 25 41.2
comp=Z,37nm,1.0s
S11A **Rachel** 25.22 329 IAmb IAmb 16 25 54.7
comp=Z,34nm,1.3s
RDMU **Red Mountain** 25.26 342 IAmb IAmb 16 25 45.0
comp=Z,48nm,1.4s
R50A **Paris** 25.27 29 IAmb IAmb 16 25 43.0
comp=Z,38nm,1.2s
HDIL **Hopedale** 25.33 19 IAmb IAmb 16 25 43.3
comp=Z,23nm,0.8s
MPU **Maple Canyon** 25.44 338 P **P** **16 25 35.7 -0.5**
CWC **Cottonwood Cre** 25.57 324 IAmb IAmb 16 25 49.5
comp=Z,31nm,1.5s
BSUT **Blindstream Ca** 25.60 340 IAmb IAmb 16 25 48.4
comp=Z,22nm,1.1s
SPR3 **Spring Creek 3** 25.65 333 IAmb IAmb 16 25 48.5
comp=Z,21nm,1.3s
GMN **Gold Mountain** 25.74 326 IAmb IAmb 16 25 50.4
comp=Z,36nm,1.3s
DSP **Deep Springs** 26.18 325 IAmb IAmb 16 25 53.6
comp=Z,25nm,1.3s
L40A **Anamosa** 26.22 14 IAmb IAmb 16 25 46.9
comp=Z,19nm,1.1s
TPH **Tonopah** 26.30 327 IAmb IAmb 16 25 54.3
comp=Z,22nm,1.2s
TCUT **Toone Canyon** 26.34 340 IAmb IAmb 16 25 54.4
comp=Z,23nm,1.1s
K22A **Casper** 26.48 348 P **P** **16 25 44.6 -1.1**
K22A IAmb IAmb 16 25 54.8
comp=Z,61nm,1.7s
O49A **Covington** 26.83 26 IAmb IAmb 16 25 56.6
comp=Z,40nm,1.0s
ECSD **EROS Data Cent** 27.01 5 IAmb IAmb 16 25 59.5
comp=Z,23nm,1.2s
LHV **Little Huntoon** 27.11 326 IAmb IAmb 16 26 02.6
comp=Z,26nm,1.2s
NVAR **Mina Array Bea** 27.13 326 P **P** **16 25 53.0 +1.4**
NVAR **Mina Array Bea** 27.13 326 P **P** **16 25 53.2 +1.5**
comp=Z,13nm,0.9s,baz=150,slow=9.3,SNR=60
NVAR LR LR 16 37 19.3
comp=Z,536nm,19.1s,baz=134,slow=38
comp=Z,13nm,0.9s
BW06 **Boulder Array** 27.29 344 IAmb IAmb 16 25 54.4
comp=Z,27nm,1.2s
PD31 **Pinedale Array** 27.29 344 IAmb IAmb 16 25 54.4
comp=Z,27nm,1.2s
PDAR **Pinedale Array** 27.29 344 P **P** **16 25 52.6 -0.5**
PDAR **Pinedale Array** 27.29 344 P **P** **16 25 53.0 0.0**
comp=Z,11nm,1.0s,baz=147,slow=8.5,SNR=45
PDAR LR LR 16 37 59.0
comp=Z,2μm,18.2s,baz=160,slow=39
comp=Z,11nm,1.0s
RYN **Ryan** 27.39 326 IAmb IAmb 16 26 04.9
comp=Z,27nm,1.3s
N49A **Columbus Grove** 27.51 26 IAmb IAmb 16 26 05.7
comp=Z,33nm,1.3s
RSSD **Black Hills** 27.54 353 P **P** **16 25 51.9 -3.3**
RSSD IAmb IAmb 16 26 04.7
comp=Z,29nm,1.6s
WAKR **Walker** 27.80 325 IAmb IAmb 16 26 08.8
comp=Z,32nm,1.3s
SNOW **Snow King Moun** 28.27 343 IAmb IAmb 16 26 12.8
comp=Z,17nm,1.1s
TPAW **Teton Pass** 28.35 342 IAmb IAmb 16 26 17.2
comp=Z,18nm,1.1s
LOHW **Long Hollow** 28.36 343 IAmb IAmb 16 26 12.1
comp=Z,26nm,1.4s
WELL **Weller Preserv** 28.47 324 IAmb IAmb 16 26 14.3
comp=Z,33nm,1.4s
SDV **Santo Domingo** 29.25 102 LR LR 16 37 32.4
comp=Z,216nm,22.0s,baz=22,slow=36
BEKR **Beckworth** 29.27 326 P **P** **16 26 11.3 +0.6**
BEKR IAmb IAmb 16 26 21.6
comp=Z,27nm,1.2s
RLMT **Red Lodge** 29.43 346 IAmb IAmb 16 26 21.4
comp=Z,32nm,1.4s
YHL **Hebgen Lake** 29.67 343 IAmb IAmb 16 26 17.8
comp=Z,19nm,1.5s
ORV **Oroville** 29.68 324 IAmb IAmb 16 26 25.3
comp=Z,22nm,1.2s
MFID **Camas Ranch** 29.95 336 IAmb IAmb 16 26 32.0
comp=Z,21nm,1.2s
WVOR **Wild Horse Val** 30.35 331 P **P** **16 26 20.9 +0.7**
DLMT **Dillon** 30.54 342 IAmb IAmb 16 26 32.1
comp=Z,35nm,1.3s
MDND **Maddock** 31.00 360 P **P** **16 26 24.8 -0.9**
PLID **Pearl Lake** 31.44 337 IAmb IAmb 16 26 39.4
comp=Z,19nm,1.1s
K05A **Summer Lake** 31.64 329 IAmb IAmb 16 26 45.4
comp=Z,23nm,1.4s
ATAH **Atahualpa** 31.66 137 LR LR 16 36 35.5
comp=Z,319nm,21.6s,baz=314,slow=31
YBH **Yreka Blue Hor** 31.85 326 LR LR 16 39 33.0
comp=Z,22nm,19.9s,baz=132,slow=37
J05D **Fort Rock, OR** 32.23 330 IAmb IAmb 16 26 46.8
comp=Z,26nm,1.8s

MSO **Missoula** 32.27 341 IAmb IAmb 16 26 45.6
comp=Z,15nm,1.2s
F10A **Beach Ranch, E** 32.65 337 IAmb IAmb 16 26 50.9
comp=Z,23nm,1.0s
BBOR **Butler Butte** 32.66 328 IAmb IAmb 16 26 49.3
comp=Z,13nm,1.2s
G08A **Pilot Rock** 32.77 334 IAmb IAmb 16 26 50.7
comp=Z,19nm,1.1s
SADO **Sadowa** 32.79 27 LR LR 16 44 10.4
comp=Z,2μm,18.3s,baz=180,slow=44
ULM **Lac du Bonnet** 33.54 4 P **P** **16 26 47.0 -0.9**
comp=Z,2.2nm,0.6s,baz=185,slow=8.0,SNR=5.2
ULM LR LR 16 40 36.4
comp=Z,270nm,20.2s,baz=158,slow=37
comp=Z,2.2nm,0.6s
PCRV **Puerto La Cruz** 34.56 96 LR LR 16 43 32.9
comp=Z,146nm,18.3s,slow=41
C09A **Chesman Ranch** 34.57 338 IAmb IAmb 16 27 06.7
comp=Z,44nm,1.8s
LTY **Liberty** 35.05 335 IAmb IAmb 16 27 12.4
comp=Z,19nm,1.1s
LON **Longmire** 35.13 333 IAmb IAmb 16 27 11.9
comp=Z,39nm,1.7s
B08A **Colville Reser** 35.43 337 IAmb IAmb 16 27 14.1
comp=Z,37nm,1.6s
TRQ **Mont Tremblant** 36.00 30 IAmb IAmb 16 27 18.1
comp=Z,46nm,1.5s
GNW **Green Mountain** 36.20 333 IAmb IAmb 16 27 20.2
comp=Z,12nm,1.0s
NLWA **Neilton Lookou** 36.53 332 P **P** **16 27 15.1 +1.3**
FFC **Flin Flon** 37.94 358 P **P** **16 27 24.3 -1.3**
FFC IAmb IAmb 16 27 34.1
comp=Z,26nm,0.9s
LLLB **Lillooet** 38.23 337 IAmb IAmb 16 27 38.0
comp=Z,51nm,1.5s
BBB **Bella Bella** 41.93 334 LR LR 16 46 37.7
comp=Z,252nm,20.1s,baz=141,slow=38
RPN **Rapa Nui** 44.64 192 LR LR 16 43 11.0
comp=Z,335nm,18.5s,baz=15,slow=31
LPAZ **La Paz** 45.16 135 P **P** **16 28 26.1 +0.2**
comp=Z,0.9nm,1.0s,baz=354,slow=7.9,SNR=5.6
LPAZ LR LR 16 45 39.6
comp=Z,183nm,18.4s,baz=320,slow=34
comp=Z,0.9nm,1.0s
SCHQ **Scheffervlle** 45.57 26 P **P** **16 28 27.4 -0.8**
comp=Z,37nm,0.5s,baz=130,slow=2.7,SNR=10
SCHQ LR LR 16 49 55.4
comp=Z,2μm,19.0s,baz=278,slow=39
T35M **Bob Quinn** 46.30 337 IAmb IAmb 16 28 44.7
comp=Z,18nm,1.1s
YKA **Yellowknife Ar** 46.89 351 P **P** **16 28 37.8 -0.6**
comp=Z,6.5nm,1.0s,baz=166,slow=6.8,SNR=15
YKA LR LR 16 49 57.1
comp=Z,505nm,19.9s,baz=158,slow=38
comp=Z,6.5nm,1.0s
MDP **Montagnes des** 47.38 99 LR LR 16 49 29.4
comp=Z,114nm,21.2s,baz=282,slow=37
TAOE **Nuku Hiva Isla** 47.53 241 eLR LR 16 42 12.8
comp=Z,558nm,23.4s
SIV **San Ignacio** 50.00 129 LR LR 16 49 30.0
comp=Z,147nm,19.0s,baz=106,slow=35
M31M **Drury Creek, Y** 51.55 340 IAmb IAmb 16 29 26.1
comp=Z,16nm,1.4s
FRB **Frobisher Bay** 51.55 17 LR LR 16 52 39.9
comp=Z,330nm,18.9s,baz=229,slow=38
HYT **Haines Junctio** 51.68 337 IAmb IAmb 16 29 26.6
comp=Z,28nm,1.4s
M29M **Somme Creek** 53.10 339 IAmb IAmb 16 29 36.5
comp=Z,9.4nm,0.8s
H03N2 **Juan Fernandez** 53.66 159 T T 17 27 13.5
baz=338,slow=77,SNR=284
H03N1 **Juan Fernandez** 53.67 159 T T 17 27 14.6
baz=338,slow=77,SNR=344
H03N3 **Juan Fernandez** 53.68 159 T T 17 27 22.6
baz=338,slow=77,SNR=405
K29M **Barlow Dome** 53.72 340 IAmb IAmb 16 29 41.9
comp=Z,12nm,1.1s
BCAR **Beaver Creek A** 54.67 338 P **P** **16 29 37.6 +0.5**
G31M **Satah River** 54.98 344 P **P** **16 29 38.7 -0.5**
G31M IAmb IAmb 16 29 48.7
comp=Z,17nm,0.8s
DOT **Dot Lake** 55.85 338 IAmb IAmb 16 29 56.0
comp=Z,22nm,1.2s
KDAK **Kodiak Island** 56.58 329 LR LR 16 54 20.2
comp=Z,276nm,20.0s,baz=112,slow=36
GHO **Glory Hole Cre** 56.72 334 IAmb IAmb 16 30 03.4
comp=Z,21nm,1.0s
IL31 **57.50 338** IAmb IAmb 16 30 07.5
comp=Z,14nm,1.1s
ILAR **Eielson Array** 57.50 338 P **P** **16 29 56.2 -1.1**
ILAR **Eielson Array** 57.50 338 P **P** **16 29 57.4 +0.1**
comp=Z,2.2nm,1.0s,baz=143,slow=4.9,SNR=15
ILAR LR LR 16 57 28.8
comp=Z,678nm,18.2s,baz=104,slow=39
comp=Z,2.2nm,1.0s
RND **Reindeer** 57.51 336 IAmb IAmb 16 30 07.6
comp=Z,20nm,1.0s
SKT **Skwentna** 57.90 334 IAmb IAmb 16 30 09.8
comp=Z,13nm,0.8s
NEA2 **Nenana** 58.20 337 IAmb IAmb 16 30 11.9
comp=Z,28nm,1.7s
CPUP **Villa Florida** 59.33 135 P **P** **16 30 10.7 +0.2**
comp=Z,0.2nm,0.3s,baz=293,slow=13,SNR=3.6
CPUP LR LR 16 55 32.1
comp=Z,35nm,18.3s,baz=204,slow=36
comp=Z,0.2nm,0.3s
BI02 **San Fabin de** 59.47 154 **P** **16 30 11.8 +0.4**
BI02 IAmb IAmb 16 30 13.7
comp=Z,8.0nm,0.9s
PPT **Papeete** 59.91 238 LR LR 16 48 59.5
comp=Z,169nm,21.3s,baz=12,slow=29
PPT2 **Papeete2** 59.92 238 eS **S** **16 38 30.2 +2.5**
comp=Z,104nm,29.0s
PPT2 eSS **SS** **16 42 20.7 -3.7**
comp=Z,86nm,26.5s
PPT2 eLQ LQ 16 45 26.0
comp=Z,213nm,28.8s
PPT2 eLR LR 16 47 52.3
comp=Z,290nm,25.5s
PPT2 eLR LR 16 47 58.2
comp=Z,376nm,24.2s
BDFB **Brasilia** 60.19 120 P **P** **16 30 16.4 -0.4**
comp=Z,2.0nm,0.4s,baz=239,slow=3.7,SNR=3.6
comp=Z,2.0nm,0.4s
TBI **Tubuai** 62.98 232 eS **S** **16 39 12.7 +6.5**
comp=Z,740nm,27.8s
TBI eLQ LQ 16 46 40.6
comp=Z,2μm,37.0s
TBI eLR LR 16 49 21.7
comp=Z,1μm,26.5s
PLCA **Paso Flores** 63.23 156 P **P** **16 30 37.5 +0.7**
comp=Z,0.7nm,0.7s,baz=338,slow=9.5,SNR=10
PLCA LR LR 16 52 35.1
comp=Z,119nm,18.4s,baz=340,slow=31
comp=Z,0.7nm,0.7s
RCBR **Riachuelo** 66.80 104 LR LR 17 02 42.7
comp=Z,25nm,18.6s,baz=280,slow=38
RAR **Rarotonga** 70.06 239 LR LR 16 53 27.6
comp=Z,225nm,18.1s,baz=81,slow=28
SPITS **Spitsbergen Ar** 78.81 11 LR LR 17 08 48.8
comp=Z,187nm,20.1s,baz=250,slow=37
ESDC **Sonseca Array** 83.68 51 P **P** **16 32 36.8 -0.6**
comp=Z,0.9nm,0.9s,baz=302,slow=5.5,SNR=5.1
comp=Z,0.9nm,0.9s
NOA **NORSAR Array B** 85.13 27 P **P** **16 32 44.3 -0.1**
comp=Z,0.2nm,0.5s,baz=292,slow=5.1,SNR=2.2
comp=Z,0.2nm,0.5s
PMSA **Palmer Station** 85.68 166 LR LR 17 02 01.9
comp=Z,80nm,18.9s,baz=329,slow=29
H11S1 **WAKE ISLAND Hy** 88.21 289 T T 18 11 12.5
baz=77
H11S2 **WAKE ISLAND Hy** 88.21 289 T T 18 11 11.4
baz=77
H11S3 **WAKE ISLAND Hy** 88.23 289 T T 18 11 11.8
baz=77
FINES **FINESS Array B** 90.97 23 LR LR 17 14 59.5
comp=Z,203nm,20.7s,baz=302,slow=36
GERES **GERESS Array B** 92.00 37 P **P** **16 33 16.4 -1.0**
comp=Z,0.5nm,0.7s,baz=295,slow=5.3,SNR=4.2
comp=Z,0.5nm,0.7s
URZ **Urewera** 95.11 232 LR LR 17 06 35.2
comp=Z,108nm,20.7s,baz=40,slow=29
AKASG **Malin Array Be** 99.24 30 LR LR 17 21 51.1
comp=Z,150nm,18.8s,baz=302,slow=37
OBN **Obninsk** 99.34 24 LR LR 17 22 18.5
comp=Z,208nm,18.3s,baz=321,slow=38
DZM **Mont Dzumac** 99.72 250 eSS SS 16 52 26.2 +6.7
comp=Z,58nm,29.5s
DZM **Mont Dzumac** 99.72 250 eLR LR 17 06 27.8
comp=Z,180nm,21.8s
HHC **Hu-ho-hao-te** 115.81 334 eP **PKiKP** **16 38 49.4 -2.1**
NJ2 **Nanjing** 119.08 323 eP **PKPdf** **16 38 58.6 +0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WMQ **Urumqi** 119.35 354 ePKP **PKiKP** **16 38 59.4 +1.2**
WMQ LR LR
comp=E,380nm,13.9s
WMQ LR LR
comp=Z,180nm,21.9s
STKA **Stephens Creek** 122.94 243 PKP **PKiKP** **16 39 07.5 +2.1**
comp=Z,2.1nm,0.3s,baz=58,slow=5.4,SNR=4.6
CD2 **Chengdu** 127.57 335 PKP **PKPdf** **16 39 14.0 -0.2**
MAW **Mawson** 127.93 172 PKP **PKPdf** **16 39 13.7 0.0**
comp=Z,0.7nm,0.7s,baz=115,slow=8.9,SNR=1.9
WRA **Warramunga Arr** 128.91 258 PKP **PKPdf** **16 39 16.9 -0.1**
comp=Z,0.8nm,0.6s,baz=84,slow=2.8,SNR=15
ASAR **Alice Springs** 129.59 253 PKP **PKPdf** **16 39 18.1 -0.1**
comp=Z,1.8nm,0.9s,baz=114,slow=1.1,SNR=4.6
PZH **PanZhiHua** 132.27 334 PKP **PKPdf** **16 39 23.7 +0.3**
CMAR **Chiang Mai Arr** 140.55 332 PKP **PKPdf** **16 39 36.7 -2.1**
comp=Z,0.8nm,0.8s,baz=342,slow=3.4,SNR=6.4

IDC 05 16:24:36.0±6.9, 0°.06S×121°.92E, h270km±78km, mb2.8/3, mbtmp3.5/4, Error ellipse: s-maj=83.3km s-min=17.5km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	18.29	169	P	P	16 28 30.4	-0.2
	1.3nm,0.5s,baz=358,slow=9.7,SNR=2.1						
FITZ				S	S	16 31 46.2	+0.7
	2.5nm,1.0s,baz=74,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	23.20	149	P	P	16 29 19.6	+0.1
	1.1nm,0.7s,baz=326,slow=11,SNR=13						
	1.1nm,0.7s						
ASAR	**Alice Springs**	26.19	154	P	P	16 29 46.4	0.0
	0.3nm,0.5s,baz=344,slow=15,SNR=9.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	58.10	329	P	P	16 34 01.4	-0.1
	0.2nm,0.4s,baz=129,slow=7.8,SNR=1.6						
	0.2nm,0.4s						

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*IDC **05** 16:36:24.5±7.2, 21°.68N×143°.04E, h333km±73km, mb3.0/7, mbtmp3.6/8, Error ellipse: s-maj=45.7km s-min=18.6km az=80.0*

ISC 05 16:36:22.1±1.2, 21°.7N±0°.2×143°.1E±0°.3, h311km, n8, σ0°.98/8, mb3.1/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	15.37	345	P	**Pn**	**16 39 44.5**	**0.0**
	0.7nm,0.6s,baz=166,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	42.29	192	P	**P**	**16 43 46.0**	**-0.1**
	0.2nm,0.8s,baz=9.9,slow=7.9,SNR=11						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	54.15	322	P	**P**	**16 45 13.9**	**-1.8**
	0.5nm,0.6s,baz=112,slow=9.0,SNR=1.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	54.63	313	P	**P**	**16 45 19.5**	**+0.1**
	0.2nm,0.5s,baz=95,slow=8.8,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	57.46	317	P	**P**	**16 45 39.7**	**+0.6**
	0.6nm,0.5s,baz=94,slow=7.6,SNR=7.7						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	78.88	341	P	**P**	**16 47 52.0**	**+1.1**
	1.3nm,0.8s,baz=61,slow=5.3,SNR=5.4						
	1.3nm,0.8s						
FINES	**FINESS Array B**	83.13	334	P	**P**	**16 48 13.4**	**+0.1**
	1.7nm,0.9s,baz=56,slow=6.0,SNR=6.6						
	1.7nm,0.9s						
NVAR	**Mina Array Bea**	83.18	51	P	**P**	**16 48 14.2**	**-0.1**
	0.1nm,0.4s,baz=298,slow=3.9,SNR=2.0						
	0.1nm,0.4s						

GCG 05 16:48:07.6±0.6, 14°.30N×91°.51W, h60km±6km, MD3.2, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	0.19	42	eP	Pn	16 48 19.4	+2.2
STG2				eS	Sn	16 48 28.4	+4.2
SOKI	**Kika Raxquin**	0.53	11	eP	Pn	16 48 21.3	+0.9
SOKI				eS	Sn	16 48 32.5	+2.9
SOKI				IAML		16 48 39.5	
	comp=N,966nm,0.3s						
ESSG	**Sabana Grande**	0.66	83	eP	Pn	16 48 21.4	-0.1
FG8	**Yepocapa, Chim**	0.92	92	eP	Pn	16 48 20.9	-3.8
FG8				eS	Sn	16 48 30.6	-6.7
FG16	**Alotenango, Sa**	0.96	91	eP	Pn	16 48 21.9	-3.5
FG16				eS	Sn	16 48 33.1	-5.4
FG16				IAML		16 48 38.0	
	comp=N,2μm,0.2s						

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*JMA **05** 16:52:53.6±0.2, 33°.7N±0°.4×14°.1E±°, h49km±4km, MV3.4/35, E OFF HACHIJOJIMA ISLAND*
*IDC **05** 16:52:55.0±2.0, 33°.06N×140°.72E, h48km±17km, mb3.3/9, mbtmp3.6/11, ML3.1/2, MS3.7/1, Error ellipse: s-maj=26.3km s-min=13.4km az=89.0*

ISC 05 16:52:54.8±0.8, 33°.09N±0°.06×140°.84E±0°.08, h48km, n32, σ0°.79/32, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	0.86	272	P	**Pn**	**16 53 10.7**	**+0.1**
JHCJ	**Hachijojimakas**	0.88	269	eP	**Pn**	**16 53 10.7**	**0.0**
JHJ	**Hachijo jima 2**	0.89	272	P	**Pn**	**16 53 10.7**	**-0.2**
	344nm,0.3s,baz=69,slow=8.6,SNR=250						
JHJ				S	**Sn**	**16 53 21.0**	**-1.8**
	575nm,0.3s,baz=109,slow=18,SNR=4.0						
JAOM	**Aogashimamukai**	1.10	236	eP	**Pn**	**16 53 14.2**	**+0.4**
JMKN	**Mikurajimanish**	1.32	308	P	**Pn**	**16 53 16.5**	**-0.2**
JMYK	**Miyake Tsubota**	1.45	312	eP	**Pn**	**16 53 18.6**	**0.0**
JMYK				eS	**Sn**	**16 53 36.5**	**0.0**
BSO1	**Boso 1**	1.56	4	eP	**Pn**	**16 53 18.8**	**-0.8**
BSO3	**Boso 3**	1.73	351	eP	**Pn**	**16 53 21.6**	**-0.6**
BSO4	**Boso 4**	1.94	348	eP	**Pn**	**16 53 25.3**	**+0.1**
BSO4				eS	**Sn**	**16 53 48.1**	**-0.2**
JIM2	**Oshima 3**	2.00	325	P	**Pn**	**16 53 26.0**	**-0.1**
JIM2				eS	**Sn**	**16 53 49.6**	**-0.4**
JIZS	**Izushimoda**	2.30	315	P	**Pn**	**16 53 30.8**	**+0.5**
JOD2	**Odawara 2**	2.61	327	P	**Pn**	**16 53 34.4**	**0.0**
SHZ3	**Shizuoka 3**	2.94	313	P	**Pn**	**16 53 40.7**	**+1.7**
JYN	**Shimob**	3.06	322	P	**Pn**	**16 53 42.2**	**+1.5**
JRY	**Ryogami san**	3.33	332	eP	**Pn**	**16 53 45.7**	**+1.3**
MJAR	**Matsushiro Arr**	4.07	329	P	**Pn**	**16 53 56.0**	**+1.5**
	0.5nm,0.3s,baz=150,slow=12,SNR=43						
MJAR				S	**Sn**	**16 54 39.6**	**-1.3**
	3.2nm,0.4s,baz=143,slow=18,SNR=5.8						
	10.0nm,0.6s						
ASAJ	**Asahikawa**	11.10	7	P	**Pn**	**16 55 29.9**	**-0.8**
	0.2nm,0.3s,baz=212,slow=19,SNR=1.3						
	8.4nm,1.0s						
H11N2	**WAKE ISLAND Hy**	26.77	113	T	T	17 27 21.3	
	baz=305,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	26.78	113	T	T	17 27 20.0	
	baz=305,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	26.79	113	T	T	17 27 28.6	
	baz=305,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	27.34	116	T	T	17 28 10.3	
	baz=306						
H11S1	**WAKE ISLAND Hy**	27.34	116	T	T	17 28 12.3	
	baz=306						
H11S2	**WAKE ISLAND Hy**	27.36	116	T	T	17 28 11.6	
	baz=306						
SONM	**Songino Array**	29.78	310	P	**P**	**16 58 56.6**	**-0.3**
	0.2nm,0.5s,baz=98,slow=7.4,SNR=2.0						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	44.31	315	P	**P**	**17 00 59.9**	**+0.2**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=1.6						
ZALV				PcP	**PP**	**17 02 42.9**	**-0.6**
	0.2nm,0.3s,baz=88,slow=4.5,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	45.91	305	P	**P**	**17 01 12.7**	**+0.1**
	0.3nm,0.6s,baz=83,slow=11,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	48.14	311	P	**P**	**17 01 29.7**	**-0.1**
	0.2nm,0.3s,baz=85,slow=6.9,SNR=2.1						
	0.2nm,0.3s						
ILAR	**Eielson Array**	53.10	31	P	**P**	**17 02 07.8**	**+0.8**
	0.3nm,0.7s,baz=251,slow=8.4,SNR=2.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	53.10	188	P	**P**	**17 02 06.9**	**-0.6**

0.9nm,0.4s,baz=4.2,slow=7.5,SNR=49
0.9nm,0.4s
ASAR Alice Springs 56.83 188 P **P 17 02 34.0 -0.3**
0.4nm,0.4s,baz=3.1,slow=6.5,SNR=12
ASAR LR LR 17 27 46.4
comp=Z,67nm,19.0s,baz=105,slow=37
0.4nm,0.4s
FINES FINESS Array B 72.09 333 P **P 17 04 14.1 +0.5**
1.1nm,0.9s,baz=72,slow=6.8,SNR=3.5
1.1nm,0.9s
TXAR Lajitas Array 92.90 52 P **P 17 06 03.5 +0.5**
0.2nm,0.5s,baz=316,slow=4.7,SNR=2.0
0.2nm,0.5s

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*BJI **05** 17:01:36.0, 59°.42N×30°.35W, h10km, mB5.1/9, mb4.6/40, Ms4.9/11, Ms7 4.5/14*
*IDC **05** 17:01:39.2±0.4, 59°.73N×30°.07W, h0km, mb4.3/31, mbtmp4.4/34, ML4.4/3, MS4.2/57, Error ellipse: s-maj=13.7km s-min=10.2km az=2.0*
*MOS **05** 17:01:39.1±1.3, 59°.87N×30°.07W, h11km, mb5.0/55, MS4.1/7, Error ellipse: s-maj=7.5km s-min=6.9km az=81.6*
*NEIC **05** 17:01:40.4±1.6, 59°.85N±0°.09×30°.1W±0°.2, h10km±1km, mb4.9/287, Mww5.0/22, Error ellipse: s-maj=15.8km s-min=12.7km az=188.0*
*NEIC **05** 17:01:40.4, 59°.84N×30°.08W, h18km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16^Nm; Mrr=1.80; Mθθ1.35; Mφφ0.46; Mrθ0.51; Mθφ2.32; Mrφ2.89; Fault plane solution: M0=4.08000×10^16^ NP1:φs=84.73000°, δ35.42000°, λ-28.41000°. NP2:φs=198.52000°, δ73.99000°, λ-122.03000°. Principal axes: T 4.1935, Plg22.0000°, Azm312.0000°; N -0.2422, Plg31.0000°, Azm208.0000°; P -3.9513, Plg50.0000°, Azm72.0000°;*
*NEIC **05** 17:01:40.4, 59°.84N×30°.08W, h18km*
*GCMT **05** 17:01:41.4±0.2, 59°.75N±0°.01×29°.87W±0°.02, h12km±1km, MW4.9/124, Moment Tensor Solution. s35,c45; s124,c203; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.52±.12; Mθθ1.24±.09; Mφφ0.27±.08; Mrθ-0.29±.20; Mθφ2.81±.07; Mφr0.21±.20; Best double couple: M0=2.93200×10^16^ NP1:φs=188.00000°, δ72.00000°, λ-162.00000°. NP2:φs=92.00000°, δ73.00000°, λ-19.00000°. Principal axes: T 3.6120, Plg1.0000°, Azm140.0000°; N -1.3600, Plg65.0000°, Azm232.0000°; P -2.2530, Plg25.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **05** 17:01:44.8±4.2, 60°.36N×30°.04W, h0km±217km, mb4.6*
*REY **05** 17:01:45.3, 59°.76N×28°.24W, h10km*
ISC 05 17:01:40.7±0.3, 59°.85N±0°.05×30°.10W±0°.04, h10km, n718, σ1§43/588, mb4.8/253, MS4.2/68, 23C-41D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGRV	**Grindav??k**	**5.41**	**39**	P	**Pn**	**17 03 01.3**	**0.0**
IVOG	**Vogar**	**5.51**	**38**	P	**Pn**	**17 03 02.6**	**0.0**
IKRI	**Krysuvik**	**5.55**	**40**	P	**Pn**	**17 03 02.4**	**-0.8**
IVOS	**Vogsosar**	**5.65**	**41**	P	**Pn**	**17 03 03.8**	**-0.8**
IVOS				S	**Sn**	**17 04 07.8**	**-1.6**
IKAS	**Kald??rsel**	**5.72**	**39**	P	**Pn**	**17 03 04.1**	**-1.4**
IKAS				S	**Sn**	**17 04 11.1**	**0.0**
ISAN	**Sandskeio**	**5.83**	**40**	P	**Pn**	**17 03 05.4**	**-1.7**
ISAN				S	**Sn**	**17 04 13.0**	**-0.9**
IEDA	**Engidalur**	**5.91**	**40**	P	**Pn**	**17 03 06.0**	**-2.1**
IEDA				S	**Sn**	**17 04 14.6**	**-1.2**
IMOR	**Morastadir**	**5.95**	**38**	P	**Pn**	**17 03 09.1**	**+0.5**
ISOL	**Solvholt**	**5.96**	**43**	P	**Pn**	**17 03 08.1**	**-0.7**
IKRO	**Krokur**	**6.01**	**41**	P	**Pn**	**17 03 07.3**	**-2.1**
IKRO				S	**Sn**	**17 04 17.2**	**-1.0**
BORG	**Borgarnes**	**6.39**	**36**		**Pn**	**17 03 16.1**	**+1.4**
BORG	**Borgarnes**	**6.39**	**36**	Pn	**Pn**	**17 03 16.5**	**+1.7**
	27nm,0.3s,baz=212,slow=6.8,SNR=41						
BORG				Sn	**Sn**	**17 04 27.4**	**-0.3**
	7.1nm,0.3s,baz=172,slow=22,SNR=8.0						
BORG				LR	LR	17 05 07.0	
	comp=Z,2μm,19.4s,baz=241,slow=32						
	323nm,0.7s						
BORG	**Borgarnes**	**6.39**	**36**	P	**Pn**	**17 03 16.1**	**+1.4**
IGYG	**Gygjarholskot**	**6.43**	**42**	P	**Pn**	**17 03 12.4**	**-2.8**
SOEG	**Soedalen**	**8.41**	**357**	*i* P	**Pn**	**17 03 43.9**	**+1.5**
DY2G	**Dye2**	**9.85**	**319**	*i* P	**Pn**	**17 04 04.7**	**+2.4**
NUUK	**Nuuk**	**11.02**	**302**	*i* P	**Pn**	**17 04 21.1**	**+2.9**
SFJD	**Kangerlussuaq**	**11.60**	**317**		**Pn**	**17 04 27.6**	**+1.6**
SFJD	**Kangerlussuaq**	**11.60**	**317**	Pn	**Pn**	**17 04 28.1**	**+2.0**
	1.5nm,0.3s,baz=138,slow=12,SNR=10						
SFJD				Sn	**Sn**	**17 06 35.2**	**-0.3**
	0.7nm,0.3s,baz=202,slow=17,SNR=1.9						
SFJD				LR	LR	17 08 11.4	
	comp=Z,4μm,21.4s,baz=130,slow=34						
	44nm,0.8s						
SFJD	**Kangerlussuaq**	**11.60**	**317**	P	**Pn**	**17 04 27.6**	**+1.6**
SFJD	**Kangerlussuaq**	**11.60**	**317**	*i* P	**Pn**	**17 04 28.6**	**+2.5**
ILULI	**Ilulissat**	**12.95**	**325**		**Pn**	**17 04 43.6**	**-0.8**
ILULI	**Ilulissat**	**12.95**	**325**	P	**Pn**	**17 04 43.6**	**-0.8**
ILULI	**Ilulissat**	**12.95**	**325**	*i* P	**Pn**	**17 04 44.2**	**-0.1**
SUMG	**Summit**	**13.20**	**349**		**Pn**	**17 04 47.6**	**-0.6**
SUMG	**Summit**	**13.20**	**349**	P	**Pn**	**17 04 47.6**	**-0.6**
SUMG	**Summit**	**13.20**	**349**	*i* P	**Pn**	**17 04 48.9**	**+0.7**
SAQQ	**Saqqaq**	**13.66**	**327**	*i* P	**Pn**	**17 04 52.2**	**-1.9**
GDH	**Godhavn**	**13.69**	**323**	*i* P	**Pn**	**17 04 53.3**	**-1.1**
SAATT	**Saattut**	**14.08**	**330**	*i* P	**Pn**	**17 04 57.8**	**-2.1**
ILTH	**Belurgan, Co L**	**14.17**	**104**	P	**P**	**17 05 08.3**	**-0.5**
JMIC	**Jan Mayen**	**14.22**	**29**	LR	LR	17 09 00.4	
	comp=Z,426nm,20.1s,baz=257,slow=31						
NIAQ	**Niaqornat**	**14.60**	**328**	*i* P	**Pn**	**17 05 06.1**	**-0.8**
DSB	**Dublin**	**14.60**	**106**	P	**Pn**	**17 05 09.7**	**+2.6**
NUUG	**Nuugaatsiaq**	**14.95**	**331**	*i* P	**Pn**	**17 05 09.3**	**-2.4**
IWEX	**Carrickbyrne,**	**14.95**	**110**	P	**P**	**17 05 18.6**	**+1.2**
ESK	**Eskdalemuir**	**15.06**	**96**		**Pn**	**17 05 13.6**	**+0.3**
ESK				IAmb	IAmb	17 05 19.2	
	comp=Z,91nm,1.4s						
ESK	**Eskdalemuir**	**15.06**	**96**	P	**Pn**	**17 05 13.6**	**+0.3**
ESK				pmax	pmax		
	comp=Z,91nm,1.4s						
EKA	**Eskdalemuir Ar**	**15.08**	**96**	Pn	**Pn**	**17 05 13.1**	**-0.4**
	baz=302,slow=9.2						
	comp=Z,6.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**15.08**	**96**	P	**Pn**	**17 05 12.5**	**-1.0**
EKA				pmax	pmax		
	comp=Z,65nm,1.6s						
UPNV	**Upernavik**	**16.44**	**332**	*i* P	**Pn**	**17 05 31.3**	**+0.3**
KULLO	**Kullorsuaq**	**17.83**	**337**	P	**P**	**17 05 49.2**	**0.0**
KULLO				pmax	pmax		
	comp=Z,67nm,1.9s						
KULLO	**Kullorsuaq**	**17.83**	**337**	*i* P	**Pn**	**17 05 48.6**	**+0.2**
FRB	**Frobisher Bay**	**18.38**	**299**	LR	LR	17 12 11.7	
	comp=Z,2μm,18.5s,baz=88,slow=34						
NEEM	**North Greenlan**	**19.02**	**346**	*i* P	**Pn**	**17 06 03.8**	**+0.6**
ROSF	**Rostrenen**	**19.34**	**115**	P	**Pn**	**17 06 08.5**	**+1.5**
ROSF				pmax	pmax		
	comp=Z,59nm,1.4s						
KONO	**Kongsberg**	**19.80**	**73**↑	*e*P	**Pn**	**17 06 12.9**	**+0.5**
KONO				pmax	pmax		
	comp=Z,45nm,2.8s						
NC204	**NORSAR Array S**	**19.91**	**68**		**P**	**17 06 09.8**	**-2.2**
NBO00	**NORSAR Array S**	**19.98**	**69**	P	**P**	**17 06 10.7**	**-2.1**
NBO00				IAmb	IAmb	17 06 26.8	
	comp=Z,71nm,1.8s						
NB2	**NORSAR Subarra**	**20.18**	**69**	P	**P**	**17 06 14.6**	**-0.4**
	comp=Z,23nm,1.7s,baz=285,slow=11						
NOA	**NORSAR Array B**	**20.18**	**69**	P	**P**	**17 06 14.8**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=285,slow=9.6,SNR=8.7						
NOA				LR	LR	17 12 46.0	
	comp=Z,236nm,21.7s,baz=285,slow=33						
	comp=Z,2.1nm,0.9s						
NC303	**NORSAR Array S**	**20.20**	**68**		**P**	**17 06 13.7**	**-1.6**
NB201	**NORSAR Array S**	**20.21**	**69**	P	**P**	**17 06 13.6**	**-1.8**
NB201				IAmb	IAmb	17 06 27.5	
	comp=Z,72nm,1.7s						
SCHQ	**Schefferville**	**20.26**	**272**		**P**	**17 06 15.7**	**-0.2**
SCHQ	**Schefferville**	**20.26**	**272**	P	Pn	17 06 16.9	-0.9
	comp=Z,130nm,1.0s,baz=65,slow=10,SNR=7.8						
SCHQ				LR	LR	17 12 48.0	
	comp=Z,3μm,18.1s,baz=120,slow=33						
	comp=Z,130nm,1.0s						
NC405	**NORSAR Array S**	**20.39**	**68**	P	**P**	**17 06 16.1**	**-1.3**
NC602	**NORSAR Array S**	**20.41**	**69**	P	**P**	**17 06 17.2**	**-0.3**
NC602				IAmb	IAmb	17 06 26.7	
	comp=Z,77nm,1.9s						
MUD	**Monsted U'grnd**	**20.78**	**82**	*i* P	Pn	17 06 25.2	+1.3
MUD				IAmb	IAmb	17 06 27.1	
	comp=Z,22nm,1.1s						
UCC	**Uccle**	**21.36**	**100**	P	**P**	**17 06 26.5**	**-1.3**
UCC	**Uccle**	**21.36**	**100**	*d*P	**P**	**17 06 28.5**	**+0.6**
	comp=Z,32nm,1.4s						
UCC	**Uccle**	**21.36**	**100**	P	**P**	**17 06 26.5**	**-1.3**
UCC				pmax	pmax		
	comp=Z,179nm,1.6s						
HFS	**Hagfors**	**21.61**	**70**	P	**P**	**17 06 30.4**	**-0.1**
	comp=Z,10nm,1.0s,baz=284,slow=6.0,SNR=7.3						
HFS				LR	LR	17 13 58.9	
	comp=Z,184nm,18.3s,baz=290,slow=34						
	comp=Z,10nm,1.0s						
BMRD	**Maredsous**	**21.88**	**100**	*d*P	**P**	**17 06 34.8**	**+1.4**
	comp=Z,62nm,1.3s						
DOU	**Dourbes**	**21.93**	**101**	*d*P	**P**	**17 06 33.1**	**-0.8**
	comp=Z,21nm,1.4s						
BGES	**Gesves**	**21.99**	**100**	*d*P	**P**	**17 06 35.8**	**+1.2**
	comp=Z,54nm,1.3s						
BEBN	**Eben Emael**	**22.02**	**98**	*d*P	**P**	**17 06 36.4**	**+1.5**
BCLA	**Clavier**	**22.07**	**100**	*d*P	**P**	**17 06 36.3**	**+0.8**
	comp=Z,34nm,1.4s						
BSTI	**Sart Tilman**	**22.10**	**99**	*d*P	**P**	**17 06 34.8**	**-1.0**
	comp=Z,5.7nm,1.1s						
CLF	**Chambon-Foret**	**22.17**	**108**		**P**	**17 06 35.4**	**-1.1**
NOR	**Nord**	**22.18**	**5**	*i* P	**P**	**17 06 37.6**	**+1.2**
NOR				IAmb	IAmb	17 06 47.2	
	comp=Z,41nm,1.1s						
RCHB	**Rochefort**	**22.20**	**100**	*d*P	**P**	**17 06 35.7**	**-1.1**
	comp=Z,30nm,1.0s						
MEM	**Membach**	**22.31**	**98**	*d*P	**P**	**17 06 37.3**	**-0.6**
	comp=Z,18nm,1.1s						
MEM	**Membach**	**22.31**	**98**	P	**P**	**17 06 39.0**	**+1.0**
MEM				pmax	pmax		
	comp=Z,40nm,1.2s						
BTNL	**Ternell**	**22.38**	**98**	*d*P	**P**	**17 06 38.5**	**-0.3**
	comp=Z,29nm,1.3s						
PGAV	**Gavieira, Arco**	**22.40**	**133**	*e*P	**P**	**17 06 41.2**	**+2.1**
PGAV				*i* IAmb	IAmb	17 06 45.4	
	comp=Z,170nm,1.8s						
PGAV				*e*LR	LR	17 11 59.6	
PGAV				*i* IAMs_20	IAMs_20	17 13 45.3	
	comp=Z,841nm,18.0s						
BUG	**Bochum--Univer**	**22.43**	**95**	P	**P**	**17 06 41.0**	**+1.7**
BUG				pmax	pmax		
	comp=Z,61nm,1.3s						
BHOU	**Houvegnez**	**22.46**	**99**	*d*P	**P**	**17 06 41.4**	**+1.7**
	comp=Z,27nm,1.2s						
BSEG	**Bad Segeberg**	**22.57**	**87**	P	**P**	**17 06 40.2**	**-0.5**
BSEG				pmax	pmax		
	comp=Z,25nm,1.6s						
PCAB	**Cabril**	**22.71**	**133**	*e*P	**P**	**17 06 44.1**	**+1.7**
PCAB				*i* IAmb	IAmb	17 06 58.0	
	comp=Z,99nm,1.5s						
WLF	**Walferdange**	**22.98**	**100**		**P**	**17 06 42.8**	**-2.3**
WLF	**Walferdange**	**22.98**	**100**	*d*P	**P**	**17 06 44.9**	**-0.1**
	comp=Z,13nm,0.0s						
WLF	**Walferdange**	**22.98**	**100**	P	**P**	**17 06 42.8**	**-2.3**
WLF				pmax	pmax		
	comp=Z,144nm,1.9s						
POLO	**Lamas de Olo**	**23.09**	**133**	*e*P	**P**	**17 06 46.6**	**+0.2**
POLO				*i* IAmb	IAmb	17 06 50.2	
	comp=Z,36nm,1.4s						
PBRG	**Braganca**	**23.11**	**131**	*e*P	**P**	**17 06 48.1**	**+1.5**
PBRG				*i* IAmb	IAmb	17 06 57.1	
	comp=Z,86nm,1.6s						
PVRL	**Vila Real**	**23.20**	**133**	*e*P	**P**	**17 06 49.4**	**+2.0**
PVRL				*i* IAmb	IAmb	17 06 52.2	
	comp=Z,103nm,1.7s						
ILON	**Igloolik, Nuna**	**23.36**	**315**	P	**P**	**17 06 48.3**	**-0.5**
LOR	**Lormes**	**23.47**	**107**	P	**P**	**17 06 50.7**	**+0.6**
LOR				pmax	pmax		
	comp=Z,43nm,1.4s						
MVO	**Moncorvo**	**23.55**	**132**	*e*P	**P**	**17 06 51.8**	**+0.8**
MVO				*i* IAmb	IAmb	17 06 55.6	
	comp=Z,129nm,1.5s						
MVO				*e*LR	LR	17 12 41.6	
MVO				*i* IAMs_20	IAMs_20	17 14 29.9	
	comp=Z,765nm,18.0s						
PVIS	**Viseu**	**23.63**	**134**	*e*P	**P**	**17 06 51.8**	**+0.1**
COI	**Coimbra**	**23.89**	**136**	P	**P**	**17 06 52.3**	**-1.9**
COI				IAmb	IAmb	17 06 57.0	
	comp=Z,33nm,0.8s						
COI	**Coimbra**	**23.89**	**136**	*e*P	**P**	**17 06 56.7**	**+2.5**
COI				*i* IAmb	IAmb	17 06 58.5	
	comp=Z,88nm,1.1s						
COI	**Coimbra**	**23.89**	**136**	P	**P**	**17 06 52.3**	**-1.9**
COI				pmax	pmax		
	comp=Z,33nm,0.9s						
PCAS	**Casmilo, Conde**	**24.00**	**136**	*e*P	**P**	**17 06 56.9**	**+1.6**
PCAS				*i* IAmb	IAmb	17 06 59.1	
	comp=Z,94nm,2.0s						
MTE	**Manteigas**	**24.03**	**134**		**P**	**17 06 53.2**	**-2.4**
MTE				IAmb	IAmb	17 06 57.5	
	comp=Z,57nm,1.1s						
MTE	**Manteigas**	**24.03**	**134**	*e*P	**P**	**17 06 55.2**	**-0.4**
MTE				*i* IAmb	IAmb	17 07 00.8	
	comp=Z,68nm,1.3s						
MTE				*e*LR	LR	17 12 31.6	
MTE				*i* IAMs_20	IAMs_20	17 14 31.7	
	comp=Z,622nm,20.0s						
PSBE	**So Bento**	**24.37**	**137**	*e*P	**P**	**17 06 59.5**	**+0.8**
PSBE				*i* IAmb	IAmb	17 07 02.4	
	comp=Z,108nm,1.3s						
ECH	**Echery**	**24.43**	**102**		**P**	**17 06 57.0**	**-2.2**
ECH				IAmb	IAmb	17 07 10.9	
	comp=Z,53nm,1.3s						
ECH	**Echery**	**24.43**	**102**	P	**P**	**17 06 57.0**	**-2.2**
ECH				pmax	pmax		
	comp=Z,53nm,1.3s						
PSARD	**Sardoal**	**24.52**	**136**	*e*P	**P**	**17 07 00.3**	**+0.3**
PSARD				*i* IAmb	IAmb	17 07 04.7	
	comp=Z,123nm,1.0s						
PCBR	**Castelo Branco**	**24.55**	**135**	*e*P	**P**	**17 07 01.4**	**+1.1**
PCBR				*i* IAmb	IAmb	17 07 05.1	
	comp=Z,56nm,1.2s						
PMAFR	**Mafra**	**24.71**	**138**	P	**P**	**17 07 06.9**	**+5.1**
ARCES	**ARCESS Array B**	**24.72**	**44**	P	**P**	**17 06 59.6**	**-2.0**
ARCES				IAmb	IAmb	17 07 09.1	
	comp=Z,42nm,1.2s						
ARCES	**ARCESS Array B**	**24.72**	**44**	P	**P**	**17 07 01.1**	**-0.5**
	comp=Z,12nm,1.0s,baz=297,slow=8.0,SNR=10						
ARCES				LR	LR	17 14 58.7	
	comp=Z,429nm,19.4s,baz=289,slow=32						
	comp=Z,12nm,1.0s						
ARCES	**ARCESS Array B**	**24.72**	**44**	P	**P**	**17 06 59.6**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,42nm,1.3s						
PARRA	**Arraiolos**	**24.92**	**138**	*e*P	**P**	**17 07 05.7**	**+2.0**
PARRA				*i* IAmb	IAmb	17 07 10.7	
	comp=Z,77nm,1.5s						
BFO	**Black Forest**	**24.93**	**100**	P	**P**	**17 07 03.1**	**-0.6**
BFO	**Black Forest**	**24.93**	**100**	P	**P**	**17 07 03.1**	**-0.6**
BFO				pmax	pmax		
	comp=Z,20nm,1.2s						
PMRV	**Marv??o**	**24.94**	**135**	*e*P	**P**	**17 07 06.8**	**+2.9**
PMRV				*i* IAmb	IAmb	17 07 08.8	
	comp=Z,112nm,1.6s						
PMRV				*e*LR	LR	17 13 17.5	
PMRV				*i* IAMs_20	IAMs_20	17 14 58.6	
	comp=Z,653nm,20.0s						
PMTG	**Montargil**	**24.97**	**137**	*e*P	**P**	**17 07 04.6**	**+0.5**
PMTG				*i* IAmb	IAmb	17 07 08.1	
	comp=Z,115nm,1.4s						
STU	**Stuttgart**	**25.07**	**99**		**P**	**17 07 04.6**	**-0.3**
STU				IAmb	IAmb	17 07 11.2	
	comp=Z,31nm,1.1s						
STU	**Stuttgart**	**25.07**	**99**	P	**P**	**17 07 04.6**	**-0.3**
STU				pmax	pmax		
	comp=Z,31nm,1.1s						
KEV	**Kevo**	**25.22**	**43**	P	**P**	**17 07 06.1**	**0.0**
KEV	**Kevo**	**25.22**	**43**	P	**P**	**17 07 06.1**	**0.0**
KEV				pmax	pmax		
	comp=Z,84nm,1.6s						
SSB	**Saint Sauveur**	**25.24**	**110**		**P**	**17 07 05.6**	**-0.9**
SSB				IAmb	IAmb	17 07 10.0	
	comp=Z,26nm,1.2s						
SSB	**Saint Sauveur**	**25.24**	**110**	P	**P**	**17 07 05.6**	**-0.9**
SSB				pmax	pmax		
	comp=Z,26nm,1.2s						
PESTR	**Estremoz**	**25.37**	**136**		**P**	**17 07 06.0**	**-1.8**
PESTR	**Estremoz**	**25.37**	**136**	*e*P	**P**	**17 07 07.7**	**0.0**
PESTR				*i* IAmb	IAmb	17 07 11.7	
	comp=Z,90nm,1.8s						
SLE	**Schleitheim**	**25.39**	**101**	P	**P**	**17 07 09.7**	**+1.8**
SLE				pmax	pmax		
	comp=Z,19nm,1.6s						
CLL	**Collm**	**25.40**	**90**		**P**	**17 07 05.9**	**-2.0**
CLL	**Collm**	**25.40**	**90**	P	**P**	**17 07 05.9**	**-2.0**
CLL				pmax	pmax		
	comp=Z,14nm,1.1s						
CLL	**Collm**	**25.40**	**90**	*i* P	**P**	**17 07 10.1**	**+2.2**
	comp=Z,16nm,1.1s						
CLL				*i* x	x	17 07 22.7	
	comp=Z,17nm,1.2s						
CLL				*e*S	S	17 11 50.0	+16
CLL				LmH		17 16 00.0	
	comp=N,1μm,19.4s						
CLL				LmH		17 16 00.0	
	comp=E,500nm,18.6s						
GRA1	**Grafenberg Arr**	**25.49**	**95**	P	**P**	**17 07 06.8**	**-1.9**
GRA1				IAmb	IAmb	17 07 12.5	
	comp=Z,21nm,1.2s						
GRF	**Grafenberg Arr**	**25.49**	**95**	P	**P**	**17 07 06.9**	**-1.9**
GRF				pmax	pmax		
	comp=Z,21nm,1.2s						
GRFO	**Grafenberg**	**25.49**	**95**	P	**P**	**17 07 07.5**	**-1.3**
GRFO	**Grafenberg**	**25.49**	**95**	P	**P**	**17 07 07.5**	**-1.3**
GRFO				pmax	pmax		
	comp=Z,20nm,1.2s						
EVO	**Evora**	**25.52**	**137**	*e*P	**P**	**17 07 09.8**	**+0.7**
EVO				*i* IAmb	IAmb	17 07 13.1	
	comp=Z,42nm,1.6s						
CEST	**Esterri de Car**	**25.78**	**118**	IAmb	IAmb	17 07 15.6	
	comp=Z,42nm,1.3s						
PAB	**San Pablo**	**25.98**	**130**		**P**	**17 07 13.6**	**+0.3**
PAB				IAmb	IAmb	17 07 18.8	
	comp=Z,48nm,1.3s						
PAB	**San Pablo**	**25.98**	**130**	P	**P**	**17 07 13.6**	**+0.3**
PAB				pmax	pmax		
	comp=Z,48nm,1.3s						
ESDC	**Sonseca Array**	**26.01**	**129**		**P**	**17 07 13.1**	**-0.5**
ESDC				IAmb	IAmb	17 07 19.2	
	comp=Z,53nm,1.4s						
ESDC	**Sonseca Array**	**26.01**	**129**	P	**P**	**17 07 12.7**	**-0.9**
	comp=Z,15nm,1.0s,baz=330,slow=8.7,SNR=39						
ESDC				LR	LR	17 15 28.6	
	comp=Z,483nm,21.4s,baz=324,slow=32						
	comp=Z,15nm,1.0s						
PBEJ	**Beja**	**26.03**	**137**	*e*P	**P**	**17 07 14.6**	**+0.9**
PBEJ				*i* IAmb	IAmb	17 07 18.6	
	comp=Z,55nm,1.4s						
D62A	**Allapoint, All**	**26.04**	**258**		**P**	**17 07 14.6**	**+0.9**
D62A				IAmb	IAmb	17 07 21.5	
	comp=Z,42nm,1.2s						
MESJ	**Messejana**	**26.07**	**138**	*e*P	**P**	**17 07 15.6**	**+1.5**
MESJ				IAMs_20	IAMs_20	17 14 42.0	
	comp=Z,1μm,20.2s						
MESJ	**Messejana**	**26.07**	**138**	IAmb	IAmb	17 07 18.3	
	comp=Z,33nm,1.1s						
MESJ	**Messejana**	**26.07**	**138**	*e*P	**P**	**17 07 16.1**	**+2.0**
MESJ				*i* IAmb	IAmb	17 07 18.2	
	comp=Z,77nm,1.6s						
MESJ	**Messejana**	**26.07**	**138**	*e*P	**P**	**17 07 15.6**	**+1.5**
BRG	**Berggiesshubel**	**26.14**	**90**	P	**P**	**17 07 16.3**	**+1.7**
BRG				pmax	pmax		
	comp=Z,9.0nm,2.0s						
BRG	**Berggiesshubel**	**26.14**	**90**	*e*P	**P**	**17 07 17.1**	**+2.6**
BRG				Amp		17 07 18.8	
	comp=Z,2.8nm,0.8s						
PTEO	**Sao Teotonio**	**26.17**	**139**	*e*P	**P**	**17 07 16.0**	**+1.0**
PTEO				*i* IAmb	IAmb	17 07 21.0	
	comp=Z,240nm,1.6s						
PBAR	**Barrancos**	**26.18**	**136**	*e*P	**P**	**17 07 16.9**	**+1.8**
PBAR				*i* IAmb	IAmb	17 07 20.2	
	comp=Z,68nm,1.4s						
PCVE	**Castro Verde**	**26.32**	**138**	*e*P	**P**	**17 07 19.0**	**+2.6**
PCVE				*i* IAmb	IAmb	17 07 21.4	
	comp=Z,72nm,1.7s						
DAVA	**Damuels**	**26.41**	**100**	*e*P	**P**	**17 07 19.9**	**+2.6**
	comp=Z,21nm,1.5s						
MORF	**Marmelete**	**26.41**	**139**	*e*P	**P**	**17 07 18.5**	**+1.3**
MORF				IAMs_20	IAMs_20	17 15 02.0	
	comp=Z,2μm,24.5s						
MORF	**Marmelete**	**26.41**	**139**	*e*P	**P**	**17 07 18.8**	**+1.5**
MORF				*i* IAmb	IAmb	17 07 24.9	
	comp=Z,104nm,1.6s						
MORF	**Marmelete**	**26.41**	**139**	*e*P	**P**	**17 07 18.5**	**+1.3**
BNI	**Bardonecchia**	**26.43**	**108**		**P**	**17 07 17.5**	**+0.1**
BNI				IAmb	IAmb	17 07 21.4	
	comp=Z,44nm,1.4s						
BNI	**Bardonecchia**	**26.43**	**108**	P	**P**	**17 07 17.5**	**+0.1**
BNI				pmax	pmax		
	comp=Z,44nm,1.4s						
PFVI	**Vila Bisbo**	**26.51**	**139**	P	**P**	**17 07 23.2**	**+5.1**
PVAQ	**Vaqueiros**	**26.64**	**137**	*e*P	**P**	**17 07 20.6**	**+1.4**
PVAQ				*i* IAmb	IAmb	17 07 25.4	
	comp=Z,48nm,1.8s						
PVAQ				*e*LR	LR	17 13 48.4	
PVAQ				*i* IAMs_20	IAMs_20	17 15 59.5	
	comp=Z,1μm,20.0s						
TUE	**Stuetta**	**26.71**	**102**	IAmb	IAmb	17 07 33.4	
	comp=Z,29nm,1.2s						
RETA	**Reutte**	**26.71**	**99**	*e*P	**P**	**17 07 22.6**	**+2.7**
	comp=Z,12nm,1.2s						
FINES	**FINESS Array B**	**26.87**	**62**	P	**P**	**17 07 20.8**	**-0.3**
FINES	**FINESS Array B**	**26.87**	**62**	P	**P**	**17 07 21.2**	**+0.1**
	comp=Z,9.1nm,0.9s,baz=289,slow=8.7,SNR=11						
	comp=Z,9.1nm,0.9s						
FINES	**FINESS Array B**	**26.87**	**62**	P	**P**	**17 07 20.8**	**-0.3**
MOTA	**Moosalm**	**26.98**	**99**	*e*P	**P**	**17 07 24.9**	**+2.5**
	comp=Z,11nm,1.4s						
FETA	**Feichten**	**27.01**	**100**	*e*pP	**P**	**17 07 24.3**	**+1.6**
	comp=Z,16nm,1.3s						
KHC	**Kasperske Hory**	**27.04**	**94**↑	*e*P	**P**

comp=Z,15nm,0.9s
MYKA Terra Mystica 28.73 98 *e*pP **P 17 07 40.1 +2.1**
comp=Z,8.4nm,1.1s
CONA Conrad Observa 28.97 94 *e*pP **P 17 07 41.8 +1.6**
comp=Z,7.9nm,1.0s
ZCCA Zocca 29.03 104 P **P 17 07 40.9 +0.2**
MAUC Maruska 29.03 90 *e*P **P 17 07 41.0 +0.4**
ARSA Arzberg 29.26 95 IAmb IAmb 17 07 46.7
comp=Z,28nm,1.7s
ARSA Arzberg 29.26 95 *e*P **P 17 07 42.9 +0.3**
comp=Z,12nm,1.3s
OBKA Obir 29.27 97 *e*pP **P 17 07 44.4 +1.6**
comp=Z,12nm,1.1s
RONA Rosalia, Austr 29.34 93 *i* P **P 17 07 43.6 +0.2**
comp=Z,9.9nm,1.2s
SOKA Soboth 29.40 96 *i* P **P 17 07 43.6 -0.3**
comp=Z,8.4nm,1.3s
OJC Ojcow 29.49 87 P **P 17 07 42.9 -1.7**
OJC Ojcow 29.49 87 P **P 17 07 42.9 -1.7**
LANS Liptovska Anna 30.00 88 *e*P **P 17 07 52.2 +3.1**
LANS pmax pmax
comp=Z,3.0nm,1.2s
LANS Liptovska Anna 30.00 88 *e*P **P 17 07 52.2 +3.1**
NACGM Naroch 30.23 74 *e*P **P 17 07 51.0 -0.1**
comp=Z,31nm,0.9s,baz=303
SRO Srobarova 30.29 92 *e*P **P 17 07 53.3 +1.7**
SRO pmax pmax
comp=Z,16nm,0.9s
SRO Srobarova 30.29 92 *e*P **P 17 07 53.3 +1.7**
MURB Monte Urbino 30.59 104 IAmb IAmb 17 08 00.8
comp=Z,33nm,1.3s
STHS Stebnicka Huta 30.72 87 *e*P **P 17 07 55.7 +0.2**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 30.72 87 *e*P **P 17 07 55.7 +0.2**
M65A Busby, Falmout 30.86 252 P **P 17 07 57.4 +0.6**
baz=40
MNK Minsk 30.99 74 *i* P **P 17 07 56.7 -1.0**
comp=E,19nm,1.0s
MNK *i* P **P 17 07 56.7 -1.0**
comp=N,23nm,1.0s
MNK *i* P **P 17 07 56.7 -1.0**
comp=Z,20nm,0.8s,baz=304
MNK *i* PP **PP 17 08 57.4 -10**
MNK *i* PPP PPP 17 09 06.2
MNK *i* S **S 17 13 02.0 0.0**
MNK *i* SS **SnSn 17 14 43.1 +1.2**
MNK *i* SSS SSS 17 14 58.2
MNK *i* LQ LQ 17 16 58.7
MNK *i* LR LR 17 19 46.0
MNK *i* LRM MLR 17 21 22.6
comp=N,162nm,15.3s
MNK *i* LRM MLR 17 21 26.4
comp=E,260nm,15.0s
MNK *i* LRM MLR 17 21 45.6
comp=Z,141nm,14.3s
MNK Minsk 30.99 74 *i* P **P 17 07 56.7 -1.0**
MNK *i* 17 08 57.3
MNK *i* S **S 17 13 02.0 0.0**
MNK *i* SS **SnSn 17 14 43.1 +1.2**
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=E,19nm,1.0s
MNK pmax pmax
comp=N,23nm,1.0s
MNK MLR MLR
comp=N,162nm,15.0s
MNK MLR MLR
comp=E,260nm,15.0s
MNK MLR MLR
comp=Z,141nm,14.0s
PSZ Piszkesteto 31.02 90 P **P 17 07 57.0 -1.1**
PSZ IAmb IAmb 17 08 01.3
comp=Z,18nm,1.5s
PSZ Piszkesteto 31.02 90 ⇑P **P 17 07 59.1 +0.9**
PSZ Piszkesteto 31.02 90 P **P 17 07 59.1 +0.9**
FDMO Fiordimonte 31.03 103 IAmb IAmb 17 08 01.8
comp=Z,32nm,1.4s
NRCA Norcia 31.20 103 IAmb IAmb 17 08 11.9
comp=Z,14nm,1.0s
MORH Mrgy, Hungar 31.53 94 ⇑P **P 17 08 03.2 +0.6**
MD01 Midelt array s 31.76 137 P **P 17 08 03.6 -1.3**
MD31 MD31 31.76 137 P **P 17 08 03.5 -1.4**
MD31 IAmb IAmb 17 08 09.3
comp=Z,23nm,1.2s
BLY Banja Luka 31.82 97 ⇓P **P 17 08 07.1 +1.9**
MDT Midelt 31.86 137 LR LR 17 19 49.6
comp=Z,433nm,20.1s,baz=32,slow=34
SADO Sadowa 32.69 265 LR LR 17 19 30.5
comp=Z,1μm,18.4s,baz=351,slow=33
KLMR Klimovskoe 32.99 57 *e*P **P 17 08 14.8 -0.5**
KLMR pmax pmax
comp=Z,81nm,1.4s
KLMR MLR MLR
comp=Z,367nm,19.0s
BZS Buzias 33.45 92 ⇓P **P 17 08 20.0 +0.6**
BZS Buzias 33.45 92 P **P 17 08 20.0 +0.6**
MARR Marisel-Cluj 33.48 89 ⇓P **P 17 08 20.2 +0.4**
SURR Surduc 33.61 91 ⇑P **P 17 08 22.1 +1.3**
KIEV Kiev 33.90 79 P **P 17 08 20.9 -2.4**
KIEV IAmb IAmb 17 08 26.7
comp=Z,21nm,1.1s
KIEV Kiev 33.90 79 ⇓P **P 17 08 23.4 +0.1**
KIEV Kiev 33.90 79 P **P 17 08 23.4 +0.1**
BURAR Bucovina Array 33.90 86 P **P 17 08 22.9 -0.6**
BURAR Bucovina Array 33.90 86 ⇑P **P 17 08 23.8 +0.3**
BURAR Bucovina Array 33.90 86 P **P 17 08 23.8 +0.3**
AKASG Malin Array Be 33.90 79 P **P 17 08 21.3 -2.0**
AKASG Malin Array Be 33.90 79 P **P 17 08 22.4 -0.9**
comp=Z,11nm,0.9s,baz=307,slow=8.5,SNR=16
comp=Z,11nm,0.9s
AKASG Malin Array Be 33.90 79 P **P 17 08 21.3 -2.0**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 33.90 79 IAmb IAmb 17 08 26.7
comp=Z,21nm,1.1s
AKBB Malin Array Si 33.90 79*d i*P **P 17 08 22.2 -1.1**
AKBB pmax pmax
comp=Z,24nm,1.1s
MDVR Moldovita 34.08 93 ⇑P **P 17 08 24.8 -0.2**
GZR Gura Zlata 34.19 91 ⇑P **P 17 08 26.7 +0.7**
GZR Gura Zlata 34.19 91 P **P 17 08 26.6 +0.7**
HERR Herculane 34.37 92 ⇑P **P 17 08 27.3 -0.1**
PDG Podgorica 34.54 98 ⇓P **P 17 08 29.9 +1.0**
LOT Lotru 34.65 90 ⇑P **P 17 08 30.1 +0.1**
OBN Obninsk 34.78 68*d i*P **P 17 08 29.7 -1.1**
OBN *e* 17 09 47.9
OBN *e*PPP PPP 17 10 00.6
OBN *e* 17 11 04.7
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,247nm,16.0s
BOVS Bovan 34.89 94 ⇓P **P 17 08 32.0 0.0**
KEST Kesra 35.01 116 P **P 17 08 31.8 -1.4**
comp=Z,13nm,1.0s,baz=231,slow=3.0,SNR=10
KEST LR LR 17 21 12.4
comp=Z,758nm,21.3s,baz=302,slow=34
comp=Z,13nm,1.0s
DOPR Dopca 35.11 88 ⇓P **P 17 08 34.8 +1.0**
SORM Soroca 35.13 83 ⇑P **P 17 08 33.1 -0.8**
SORM Soroca 35.13 83 P **P 17 08 33.1 -0.8**
ARR Arges 35.14 89 ⇓P **P 17 08 35.4 +1.2**
OZUR 35.22 87 ⇓P **P 17 08 35.6 +0.8**
VOIR 35.30 89 ⇓P **P 17 08 36.2 +0.6**
VOIR 35.30 89 P **P 17 08 36.2 +0.6**
PLOR Plostina 35.82 87 ⇑P **P 17 08 41.4 +1.3**
PLOR Plostina 35.82 87 P **P 17 08 41.3 +1.3**
VRI Vrincioaia 35.85 87 ⇑P **P 17 08 40.3 0.0**
VRI Vrincioaia 35.85 87 P **P 17 08 40.2 0.0**
VAE Valguarnera 35.96 108 LR LR 17 21 47.3
comp=Z,465nm,18.8s,baz=352,slow=34
A36M Sachs Harbour 36.27 328 P **P 17 08 41.9 -1.5**
baz=58
N53A Lisbon 36.44 262 IAmb IAmb 17 08 50.8
comp=Z,32nm,1.2s
CFR Carcaliu 37.04 87 ⇑P **P 17 08 49.8 -0.6**
CFR Carcaliu 37.04 87 P **P 17 08 49.7 -0.6**
IGT Igoumenitsa 37.26 100 P **P 17 08 54.0 +1.8**
IGT pmax pmax
comp=Z,24nm,1.2s
ULM Lac du Bonnet 37.36 285 P **P 17 08 53.3 +0.3**
comp=Z,5.3nm,0.8s,baz=58,slow=14,SNR=3.7
ULM LR LR 17 22 58.0
comp=Z,647nm,19.6s,baz=48,slow=34
comp=Z,5.3nm,0.8s
ULM Lac du Bonnet 37.36 285⇓*e*P **P 17 08 53.1 +0.1**
C36M Paulatuk 37.38 324 P **P 17 08 51.6 -1.3**
baz=56
LPSR Galich'ya Gora 37.41 70 *e*P **P 17 08 51.9 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 37.42 295 **P 17 08 53.4 -0.1**
FFC IAmb IAmb 17 09 01.8
comp=Z,42nm,1.6s
FFC Flin Flon 37.42 295 P **P 17 08 53.4 -0.1**
FFC pmax pmax
comp=Z,42nm,1.6s
YKAW1 Yellowknife Wh 38.06 311 **P 17 08 58.5 -0.3**
YKAW1 IAmb IAmb 17 09 10.4
comp=Z,14nm,1.1s
YKA Yellowknife Ar 38.10 311 P **P 17 08 59.9 +0.9**
comp=Z,4.1nm,0.8s,baz=52,slow=8.6,SNR=11
YKA LR LR 17 24 00.3
comp=Z,1μm,18.7s,baz=52,slow=35
comp=Z,4.1nm,0.8s
VSR Storozhevoye 38.42 71 *e*P **P 17 08 59.9 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
KIRV Kirov 38.42 56⇓*i*P **P 17 09 02.8 +1.0**
VORD Divnogorie 38.64 71 *e*P **P 17 09 02.3 -1.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
RDO Rodhopi 38.65 93 IAmb IAmb 17 09 07.3
comp=Z,23nm,1.2s
ALN Alexandroupoli 39.09 93 IAmb IAmb 17 09 11.3
comp=Z,25nm,1.2s
VRH Novokhopyorsk 39.64 70 *e*P **P 17 09 10.2 -1.9**
VRH pmax pmax
comp=Z,20nm,0.9s
P48A Milroy 39.76 265 **P 17 09 12.2 -1.0**
P48A IAmb IAmb 17 09 18.4
comp=Z,17nm,0.9s
INK Inuvik 40.73 326 LR LR 17 25 42.9
comp=Z,378nm,19.7s,baz=57,slow=35
INK Inuvik 40.73 326 P **P 17 09 19.2 -1.8**
baz=49
WRGLY Wrigley 40.87 316 P **P 17 09 21.1 -1.0**
baz=50
WCI Wyandotte Cave 41.13 264 **P 17 09 25.2 +0.5**
WCI IAmb IAmb 17 09 30.2
comp=Z,17nm,1.1s
WCI Wyandotte Cave 41.13 264 P **P 17 09 25.2 +0.5**
WCI pmax pmax
comp=Z,17nm,1.1s
F31M Tsiigehtchic 41.37 325 P **P 17 09 24.8 -1.4**
baz=48
D28M Stokes Point 41.44 329 P **P 17 09 25.9 -0.9**
baz=46
BELG Belogornoye 41.59 64*d i*P **P 17 09 27.8 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
F30M Barrier River 41.84 326 IAmb IAmb 17 09 41.5
comp=Z,45nm,1.4s
F30M Barrier River 41.84 326 P **P 17 09 29.4 -0.7**
baz=47
E29M Blow River 41.87 328 P **P 17 09 29.0 -1.4**
baz=46
G31M Satah River 41.88 325 **P 17 09 30.2 -0.2**
G31M Satah River 41.88 325 P **P 17 09 30.1 -0.3**
baz=47
TKL Tuckaleechee C 41.88 259 LR LR 17 25 19.4
comp=Z,319nm,19.0s,baz=44,slow=34
D27M Malcolm River 42.06 330 P **P 17 09 31.2 -0.8**
baz=45
E28M Babbage River 42.15 329 P **P 17 09 31.8 -0.8**
baz=45
G30M tAoh Zraii Nji 42.39 326 **P 17 09 34.0 -0.7**
G30M tAoh Zraii Nji 42.39 326 P **P 17 09 33.8 -0.9**
baz=46
C27K Jago River 42.46 332 P **P 17 09 34.8 -0.4**
baz=43
T47A Sharon Grove 42.50 264 IAmb IAmb 17 09 41.0
comp=Z,24nm,1.1s
C26K Camden Bay 42.53 332 P **P 17 09 35.1 -0.6**
baz=43
H31M Peel River 42.67 324 IAmb IAmb 17 09 41.6
comp=Z,32nm,1.1s
H31M Peel River 42.67 324 P **P 17 09 36.9 0.0**
baz=46,SNR=10
IDI Anoyia 42.83 100 LR LR 17 28 15.2
comp=Z,202nm,21.3s,baz=284,slow=37
G29M Pine Creek 42.95 327 IAmb IAmb 17 09 53.3
comp=Z,28nm,1.1s
G29M Pine Creek 42.95 327 P **P 17 09 38.6 -0.5**
baz=45
F28M Old Crow 42.95 328 IAmb IAmb 17 09 45.0
comp=Z,16nm,0.8s
F28M Old Crow 42.95 328 P **P 17 09 39.0 -0.2**
baz=44
EPYK Eagle Plains 42.96 325 P **P 17 09 39.1 -0.2**
baz=45
E27K Coleen River 42.99 329 IAmb IAmb 17 09 41.8
comp=Z,28nm,1.1s
E27K Coleen River 42.99 329 P **P 17 09 39.6 +0.1**
baz=44,SNR=6.2
W50A Signal Mountai 43.01 260 IAmb IAmb 17 09 46.2
comp=Z,14nm,0.9s
SWET Sewanee 43.30 261 **P 17 09 42.5 0.0**
D25K Kavik River 43.32 332 P **P 17 09 42.4 +0.2**
baz=41
V48A Smith Brothers 43.34 262 IAmb IAmb 17 09 47.1
comp=Z,30nm,1.7s
WVT Waverly 43.53 264 **P 17 09 43.4 -0.8**
WVT Waverly 43.53 264 P **P 17 09 43.4 -0.8**
WVT pmax pmax
comp=Z,7.0nm,0.9s
H29M Whitestone 43.54 326 P **P 17 09 44.2 +0.3**
baz=44
ARTI Arti 43.55 54 **P 17 09 43.8 -0.3**
ARTI IAmb IAmb 17 09 45.8
comp=Z,24nm,1.3s
ARTI Arti 43.55 54 LR LR 17 26 42.6
comp=Z,512nm,18.3s,baz=320,slow=34
ARTI Arti 43.55 54*d i*P **P 17 09 44.8 +0.7**
ARTI S **S 17 16 14.5 +1.9**
ARTI pmax pmax
comp=Z,18nm,1.2s
ARTI MLR MLR
comp=Z,424nm,15.0s
C24K Franklin Bluff 43.55 334 P **P 17 09 44.3 +0.4**
baz=40
TGTN Hyland Airport 43.68 317 P **P 17 09 45.4 +0.2**
baz=46
I30M Mount Dempster 43.68 324 IAmb IAmb 17 09 49.8
comp=Z,19nm,0.9s
I30M Mount Dempster 43.68 324 P **P 17 09 45.7 +0.5**
baz=44,SNR=10
CCM Cathedral Cave 43.76 268 **P 17 09 45.9 -0.1**
CCM IAmb IAmb 17 09 50.9
comp=Z,20nm,1.1s
CCM Cathedral Cave 43.76 268 P **P 17 09 45.9 -0.1**
CCM pmax pmax
comp=Z,20nm,1.1s
BR131 Keskin Array S 43.80 88 **P 17 09 45.3 -1.2**
BR131 Keskin Array S 43.80 88⇓*e*P **P 17 09 47.9 +1.4**
BRTR Keskin Array B 43.80 88 P **P 17 09 46.1 -0.3**
BRTR Keskin Array B 43.80 88 P **P 17 09 46.7 +0.2**
comp=Z,4.4nm,0.9s,baz=325,slow=4.1,SNR=12
comp=Z,4.4nm,0.9s
BRTR Keskin Array B 43.80 88 P **P 17 09 46.2 -0.3**
C23K Ikilik River 43.88 334 P **P 17 09 46.5 -0.1**
baz=39
A21K Barrow 43.91 338 P **P 17 09 46.2 -0.6**
baz=36
MMPY Sheldon Lake, 43.93 319 P **P 17 09 46.4 -0.8**
baz=46
F26K Sheenjek River 44.00 330 IAmb IAmb 17 10 24.6
comp=Z,40nm,1.8s
F26K Sheenjek River 44.00 330 P **P 17 09 47.8 +0.1**
baz=42
G27K Doyon Strip 44.01 328 P **P 17 09 48.0 +0.2**
baz=42,SNR=5.5
D24K Happy Valley 44.01 333 P **P 17 09 47.9 +0.3**
baz=40
B22K Teshekpuk Lake 44.08 336 P **P 17 09 48.1 -0.1**
baz=37
J30M Hart River 44.13 323 IAmb IAmb 17 09 52.0
comp=Z,19nm,1.1s
J30M Hart River 44.13 323 P **P 17 09 48.5 -0.3**
baz=44
I29M Ogilvie Camp, 44.15 325 P **P 17 09 48.8 0.0**
baz=44,SNR=14
PBMO Poplar Bluff 44.34 267 IAmb IAmb 17 09 55.5
comp=Z,15nm,0.8s
H27K Steamboat Moun 44.41 327 IAmb IAmb 17 09 57.1
comp=Z,14nm,0.8s
H27K Steamboat Moun 44.41 327 P **P 17 09 50.9 0.0**
baz=42,SNR=10.0
TOAD Toad River Com 44.44 312 P **P 17 09 51.7 +0.4**
baz=46
F25K Christian Rive 44.45 330 IAmb IAmb 17 10 27.1
comp=Z,31nm,1.6s
F25K Christian Rive 44.45 330 P **P 17 09 51.1 -0.2**
baz=40
X48A Hartselle 44.47 261 IAmb IAmb 17 09 56.4
comp=Z,13nm,0.9s
G26K Porcupine Rive 44.47 329 **P 17 09 52.2 +0.9**
G26K Porcupine Rive 44.47 329 P **P 17 09 51.7 +0.4**
baz=41
GOF Gofitskoye 44.55 75*ce*P **P 17 09 53.4 +1.2**
I28M Miner Creek 44.55 326 IAmb IAmb 17 09 58.1
comp=Z,18nm,1.1s
I28M Miner Creek 44.55 326 P **P 17 09 52.3 +0.1**
baz=42
PLAL Pickwick Lake 44.56 263 IAmb IAmb 17 09 57.0
comp=Z,25nm,1.6s
D23K Nanushuk River 44.58 334 P **P 17 09 53.0 +0.8**
baz=38
TOLK Toolik Lake Re 44.59 333 P **P 17 09 53.3 +1.0**
baz=39
Y49A Blount Mountai 44.62 260 IAmb IAmb 17 09 58.8
comp=Z,15nm,1.0s
TAM Tamanrasset 44.67 130 **P 17 09 54.7 +1.1**
TAM Tamanrasset 44.67 130 P **P 17 09 54.7 +1.1**
TAM pmax pmax
comp=Z,59nm,0.2s
E24K Your Creek 44.77 332 P **P 17 09 55.0 +1.2**
baz=39
J29N Klondike Camp 44.78 324 IAmb IAmb 17 10 00.7
comp=Z,19nm,0.9s
J29N Klondike Camp 44.78 324 P **P 17 09 55.1 +1.1**
baz=43
WTLY Watson Lake, Y 44.85 315 P **P 17 09 56.4 +1.9**
baz=45
B21K Ikpikpuk River 44.90 336 P **P 17 09 56.1 +1.4**
baz=36
MGMO Mountain Grove 44.97 269 IAmb IAmb 17 10 00.7
comp=Z,15nm,0.9s
K29M Barlow Dome 45.02 323 IAmb IAmb 17 10 02.8
comp=Z,10nm,0.9s
K29M Barlow Dome 45.02 323 P **P 17 09 57.3 +1.4**
baz=43
E23K Chandalar 45.05 332 P **P 17 09 57.1 +1.0**
baz=38
F24K Squaw Lake 45.06 331 IAmb IAmb 17 10 03.4
comp=Z,15nm,0.9s
F24K Squaw Lake 45.06 331 P **P 17 09 57.5 +1.3**
baz=39
D22K Ayikyak River 45.09 334 P **P 17 09 58.2 +1.9**
baz=37
KIV Kislovodsk 45.17 77 P **P 17 09 56.4 -1.0**
KIV IAmb IAmb 17 10 04.8
comp=Z,13nm,0.9s
KIV Kislovodsk 45.17 77 *e*P **P 17 09 57.5 +0.1**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,144nm,16.0s
G25K Bearman Lake 45.21 330 P **P 17 09 58.9 +1.7**
baz=40
M31M Drury Creek, Y 45.25 320 IAmb IAmb 17 10 04.8
comp=Z,9.3nm,0.8s
M31M Drury Creek, Y 45.25 320 P **P 17 09 59.5 +1.8**
baz=44
LCAR Lake Charles 45.25 267 IAmb IAmb 17 10 02.5
comp=Z,11nm,1.0s
C21K Knifeblade Rid 45.31 336 P **P 17 09 59.2 +1.1**
baz=36
EGAK Eagle 45.39 326 P **P 17 10 00.4 +1.6**
baz=41
DAWY Dawson 45.42 324 IAmb IAmb 17 10 02.1
comp=Z,25nm,1.1s
DAWY Dawson 45.42 324 P **P 17 10 00.3 +1.3**
baz=42,SNR=10
KBZ Khabaz 45.44 77 P **P 17 10 00.1 +0.7**
comp=Z,11nm,0.9s,baz=286,slow=12,SNR=6.0
comp=Z,11nm,0.9s
KBZ Khabaz 45.44 77*de*P **P 17 10 00.6 +1.2**
KBZ pmax pmax
comp=Z,16nm,1.0s
E22K Anaktuvuk Pass 45.50 333 P **P 17 10 01.1 +1.5**
baz=37
H25L Birch Creek 45.52 329 P **P 17 10 01.5 +1.8**
baz=40
I26K Coal Creek Min 45.55 327 IAmb IAmb 17 10 02.9
comp=Z,23nm,1.3s
I26K Coal Creek Min 45.55 327 P **P 17 10 01.9 +2.0**
baz=40
BNN Bunyan 45.58 87 P **P 17 10 00.4 -0.2**
LRAL Lakeview Retre 45.58 260 IAmb IAmb 17 10 05.0
comp=Z,17nm,1.1s
N32M Quiet Lake 45.58 319 P **P 17 10 01.5 +1.1**
baz=44
G24K Hadweenzic Riv 45.60 330 P **P 17 10 02.1 +1.7**
baz=39
E21K Killik River 45.73 335 P **P 17 10 03.0 +1.6**
baz=36
M30M Minto, Yukon 45.74 322 P **P 17 10 03.2 +1.7**
baz=42,SNR=5.1
L29M L29M 45.75 323 IAmb IAmb 17 10 08.1
comp=Z,11nm,0.9s
L29M L29M 45.75 323 P **P 17 10 03.5 +1.9**
baz=42,SNR=6.1
COLD Coldfoot 45.85 332 P **P 17 10 04.6 +2.3**
baz=37
FCAR Ozark Folk Cen 45.88 267 IAmb IAmb 17 10 15.8
comp=Z,36nm,1.9s
NCK Nalchik 45.96 76⇓*e*P **P 17 10 07.0 +3.5**
NCK pmax pmax
comp=Z,30nm,1.3s
Z47A Carrollton 45.98 261 IAmb IAmb 17 10 08.4
comp=Z,17nm,0.9s
PRP Porcupine Dome 46.02 328 P **P 17 10 05.9 +2.0**
baz=39
D20K Etivluk River 46.06 336 P **P 17 10 06.1 +2.1**
baz=34
R33M Jennings River 46.13 316 P **P 17 10 07.0 +2.2**
baz=43,SNR=6.4
P33M Teslin, Yukon 46.18 318 IAmb IAmb 17 10 15.6
comp=Z,11nm,1.1s
P33M Teslin, Yukon 46.18 318 P **P 17 10 06.9 +1.8**
baz=43
Y45A Yeager Farm, C 46.18 263 **P 17 10 04.9 -0.4**
G23K Bananza Creek 46.22 331 IAmb IAmb 17 10 08.4
comp=Z,20nm,1.2s
G23K Bananza Creek 46.22 331 P **P 17 10 07.0 +1.7**
baz=37
N31M Braeburn, Yuko 46.22 320 P **P 17 10 07.5 +2.2**
baz=42,SNR=9.7
K27K Chicken 46.22 326 IAmb IAmb 17 10 18.6
comp=Z,12nm,1.1s
K27K Chicken 46.22 326 P **P 17 10 06.7 +1.4**
baz=40
E20K Nigu River 46.35 335 P **P 17 10 08.5 +2.2**
baz=34
M29M Somme Creek 46.35 322 P **P 17 10 09.0 +2.5**
baz=41,SNR=16
G22K Bettles 46.40 332 P **P 17 10 08.9 +2.3**
baz=36
DLBC Dease Lake 46.50 314 LR LR 17 29 14.0
comp=Z,8μm,19.2s,baz=38,slow=36
DLBC Dease Lake 46.50 314 P **P 17 10 09.7 +2.1**
baz=43
B18K Kokolik River 46.52 339 P **P 17 10 09.7 +2.1**
baz=31
WHY Whitehorse 46.54 319 P **P 17 10 09.6 +1.7**
baz=42
D19K Kuna River 46.55 336 P **P 17 10 09.7 +1.9**
baz=33
U38A Gravette 46.60 270 IAmb IAmb 17 10 12.1
comp=Z,11nm,1.2s
F21K Alatna River 46.61 333 P **P 17 10 10.2 +1.9**
baz=35
SCRK Sand Creek 46.80 326 IAmb IAmb 17 10 18.8
comp=Z,17nm,1.1s
SCRK Sand Creek 46.80 326 P **P 17 10 11.7 +1.7**
baz=39,SNR=9.0
H23K Yukon River 46.81 331 P **P 17 10 11.8 +1.9**

baz=37
POKR Poker Plat Res 46.84 329 IAmb IAmb 17 10 15.4
comp=Z,10nm,0.8s
POKR Poker Plat Res 46.84 329 P P 17 10 11.3 +1.2
baz=38
O30N Mendenhall 46.86 320 IAmb IAmb 17 10 17.5
comp=Z,12nm,1.1s
O30N Mendenhall 46.86 320 P P 17 10 12.0 +1.7
baz=42
BCAR Beaver Creek A 46.88 325 P P 17 10 10.9 +0.4
L27K Beaver Creek, 46.89 325 IAmb IAmb 17 10 14.2
comp=Z,16nm,1.2s
L27K Beaver Creek, 46.89 325 P P 17 10 12.5 +1.9
baz=40
Q32M Nakina River 46.91 316 P P 17 10 12.5 +1.5
baz=42
P32M Atlin 46.94 317 P P 17 10 13.1 +2.0
baz=42
IL31 46.97 328 IAmb IAmb 17 10 13.8
comp=Z,18nm,1.1s
ILAR Eielson Array 46.97 328 P P 17 10 11.0 -0.1
ILAR Eielson Array 46.97 328 P P 17 10 11.6 +0.4
comp=Z,6.9nm,0.9s,baz=31,slow=6.8,SNR=35
ILAR PcP PcP 17 11 43.5 +0.3
comp=Z,3.7nm,1.2s,baz=18,slow=3.2,SNR=4.3
ILAR LR LR 17 29 45.4
comp=Z,244nm,20.9s,baz=60,slow=36
comp=Z,6.9nm,0.9s
ILAR Eielson Array 46.97 328 P P 17 10 11.0 -0.1
C18K Utukok River 47.02 338 P P 17 10 12.9 +1.3
baz=31
DOT Dot Lake 47.08 326 IAmb IAmb 17 10 15.3
comp=Z,16nm,1.0s
COLA College 47.14 329 P P 17 10 11.5 -0.9
COLA College 47.14 329 ⇓ iP P 17 10 14.5 +2.1
COLA pmax pmax
comp=Z,21nm,0.9s
COLA College 47.14 329 P P 17 10 14.6 +2.2
baz=38
G21K Allakaket 47.20 333 P P 17 10 14.3 +1.4
baz=35
RIDG Independent Ri 47.23 327 P P 17 10 15.3 +2.1
baz=39,SNR=11
E19K Redstone River 47.24 335 P P 17 10 15.2 +2.0
baz=33
YUK4 Talbot Arm 47.24 322 P P 17 10 14.0 +0.4
baz=41
F20K Avaraart Lake 47.26 334 P P 17 10 15.2 +1.9
baz=34
HDA Harding Lake 47.27 328 IAmb IAmb 17 10 22.9
comp=Z,6.6nm,0.8s
HDA Harding Lake 47.27 328 P P 17 10 15.0 +1.5
baz=38
HYT Haines Junctio 47.27 320 IAmb IAmb 17 10 20.8
comp=Z,13nm,0.8s
HYT Haines Junctio 47.27 320 P P 17 10 15.4 +1.7
baz=41,SNR=7.1
S34M Telegraph Cree 47.28 315 P P 17 10 15.7 +2.0
baz=42
I23K Minto, Yukon-K 47.31 330 IAmb IAmb 17 10 20.4
comp=Z,7.9nm,0.8s
I23K Minto, Yukon-K 47.31 330 P P 17 10 15.9 +2.1
baz=37
L26K Log Cabin Wild 47.36 325 IAmb IAmb 17 10 28.2
comp=Z,24nm,1.6s
RLMT Red Lodge 47.41 289 P 17 10 14.7 -0.3
K24K Donnelly Dome 47.43 327 P P 17 10 17.2 +2.4
baz=38,SNR=13
YUK6 Outpost Mounta 47.46 321 P P 17 10 17.7 +2.4
baz=40
MENT Mentasta 47.54 325 IAmb IAmb 17 10 24.4
comp=Z,12nm,1.0s
SKAG Skagway 47.59 318 P P 17 10 19.1 +3.1
baz=41
AKTO Aktyubinsk 47.60 60 LR LR 17 28 31.4
comp=Z,192nm,21.5s,baz=208,slow=34
P30M Million Dollar 47.63 320 P P 17 10 19.0 +2.5
baz=41
YUK8 Steele Glacier 47.64 322 P P 17 10 18.5 +1.8
baz=40
T35M Bob Quinn 47.65 313 P P 17 10 18.9 +2.3
baz=42
NEA2 Nenana 47.68 329 P P 17 10 18.3 +1.6
baz=37
OVMT Ovando 47.73 294 P P 17 10 17.1 -0.3
MLY Manley 47.75 330 P P 17 10 18.4 +1.1
baz=36
YNE Yellowstone No 47.84 290 IAmb IAmb 17 10 26.4
comp=Z,6.6nm,0.9s
RDOG Red Dog Mine 47.86 338 P P 17 10 19.5 +1.5
baz=30
F19K Shaleruckik Mo 47.88 335 P P 17 10 19.5 +1.4
baz=32
E18K Tukpahlearik C 47.96 337 P P 17 10 20.5 +1.8
baz=31
TIXI Tiksi 47.97 9 LR LR 17 28 58.3
comp=Z,60nm,19.9s,baz=14,slow=34
TIXI Tiksi 47.97 9 ⇑ eP P 17 10 20.2 +1.4
TIXI pmax pmax
comp=Z,23nm,1.1s
PAX Paxson 48.01 326 P P 17 10 21.5 +2.2
baz=38,SNR=10
O29M Mount Kennedy 48.02 321 IAmb IAmb 17 10 23.0
comp=Z,16nm,1.0s
O29M Mount Kennedy 48.02 321 P P 17 10 22.0 +2.5
baz=40
C16K Lisburne Hills 48.11 339 P P 17 10 22.6 +2.7
baz=28
O28M Mount Upton 48.16 322 P P 17 10 22.7 +1.9
baz=39
BOZ Bozeman (W) 48.17 291 P P 17 10 20.6 -0.2
BOZ IAmb IAmb 17 10 33.5
comp=Z,17nm,1.5s
BOZ Bozeman (W) 48.17 291 P P 17 10 20.7 -0.2
BOZ pmax pmax
comp=Z,17nm,1.5s
D17K Noatak River 48.20 338 P P 17 10 22.5 +1.9
baz=30
R32K Eaglecrest 48.21 317 P P 17 10 22.7 +1.8
baz=41
P29M Windy Craggy 48.26 320 P P 17 10 23.0 +1.8
baz=40
MCK McKinley 48.34 329 P P 17 10 23.1 +1.3
baz=36
H20K Anotleneega Mo 48.36 333 P P 17 10 23.1 +1.2
baz=34
CTG Chitna Glacier 48.37 323 P P 17 10 21.0 -1.2
baz=39
HARP HAARP 48.37 326 P P 17 10 21.2 -0.9
baz=38
DHY Denali Highway 48.45 327 P P 17 10 22.4 -0.5
baz=37
F18K Selawik 48.47 336 P P 17 10 22.2 -0.5
baz=31
E17K Hotham Inlet 48.50 337 P P 17 10 22.7 -0.2
baz=30
YHL Hebgen Lake 48.52 290 IAmb IAmb 17 10 36.4
comp=Z,13nm,1.4s
MCARA McCarthy VSAT 48.55 324 P P 17 10 22.1 -1.4
baz=38
BPAW Bear Paw Mtn. 48.57 330 IAmb IAmb 17 10 29.5
comp=Z,10nm,0.8s
BPAW Bear Paw Mtn. 48.57 330 P P 17 10 23.6 0.0
baz=35
RND Reindeer 48.58 328 IAmb IAmb 17 10 30.0
comp=Z,12nm,1.0s
H19K Roundabout Mou 48.69 333 P P 17 10 24.6 +0.2
baz=33
NEW Newport 48.72 297 LR LR 17 30 30.9
comp=Z,1µm,18.1s,baz=43,slow=36
PNL Peninsula 48.77 320 P P 17 10 24.9 -0.2
baz=39
YPP Pitchstone Pla 48.77 289 IAmb IAmb 17 10 38.8
comp=Z,12nm,1.1s
WRAK Wrangell Islan 48.84 314 P P 17 10 24.7 -0.9
baz=41
N25K Chitina, Valde 48.84 325 P P 17 10 24.9 -0.9
baz=38,SNR=8.3
I20K Naaghedeneel 48.85 332 P P 17 10 24.5 -1.1
baz=34
G18K Tagagawik 48.87 335 P P 17 10 24.6 -1.2
baz=32
M24K Tolsona, Glenn 48.90 326 P P 17 10 25.6 -0.6
baz=37
TRF Thorofare Moun 48.92 329 P P 17 10 26.4 -0.1
TRF Thorofare Moun 48.92 329 P P 17 10 26.1 -0.4
baz=35
F17K Baldwin Pennin 48.94 336 P P 17 10 25.6 -0.7
baz=30
WAT6 Susitna Watana 48.95 327 P P 17 10 25.9 -0.8
baz=36,SNR=8.6
WAT1 Susitna Watana 48.97 328 P P 17 10 26.7 0.0
baz=36
S31K Pelican 49.04 317 P P 17 10 27.1 0.0
baz=40
GNI Garni 49.04 78 P P 17 10 27.7 +0.1
GNI Garni 49.04 78 ⇓ eP P 17 10 28.9 +1.3
GNI pmax pmax
comp=Z,34nm,1.1s
CRQE Cirque 49.07 323 P P 17 10 27.4 -0.2
baz=38
CHUM Lake Minchumin 49.09 330 P P 17 10 27.2 -0.3
baz=34
SJG San Juan 49.09 228 LR LR 17 27 24.3
comp=Z,78nm,21.9s,baz=48,slow=32
MARD Mardin 49.24 84 IAmb IAmb 17 10 34.3
comp=Z,11nm,0.8s
PDAR Pinedale Array 49.30 287 P P 17 10 29.1 -0.7
PDAR Pinedale Array 49.30 287 P P 17 10 29.6 -0.2
comp=Z,2.0nm,0.8s,baz=62,slow=7.0,SNR=12
PDAR LR LR 17 30 22.4
comp=Z,348nm,18.9s,baz=28,slow=35
comp=Z,2.0nm,0.8s
KLU Klutina 49.32 325 P P 17 10 29.1 -0.3
baz=37
ABKAR Akbulak array 49.32 60 P P 17 10 29.4 -0.1
ABKAR PcP PcP 17 11 52.2 +0.2
BMRM Bremner River 49.35 324 P P 17 10 29.0 -0.7
baz=37
U33K Whale Pass 49.35 314 P P 17 10 28.3 -1.3
baz=40
V35K Ketchikan 49.40 312 P P 17 10 30.5 +0.6
baz=41
SCM Sheep Creek Mo 49.44 326 P P 17 10 30.6 +0.3
baz=36
AKT Akhty 49.49 75 eP P 17 10 28.3 -2.7
AKT e 17 12 22.1
AKT ePPP PPP 17 13 26.3
AKT eS S 17 17 39.2 +0.9
AKT pmax pmax
comp=Z,32nm,1.8s
AKT MLR MLR
comp=Z,282nm,18.0s
M23K Glacier View 49.58 326 P P 17 10 31.3 -0.1
baz=36
BGLC Bering Glacier 49.63 323 P P 17 10 31.3 -0.3
baz=38
SML Sawmill 49.74 327 P P 17 10 32.2 -0.4
baz=36
CUT Chulitna 49.78 328 P P 17 10 32.8 +0.1
baz=35
CRAG Craig 49.85 313 P P 17 10 32.9 -0.5
baz=40
PPLA Purkeypile 49.87 330 P P 17 10 32.8 -0.9
baz=34
GHO Glory Hole Cre 49.93 327 P P 17 10 34.4 +0.3
H17K Granite Mounta 49.96 335 P P 17 10 34.3 +0.1
baz=30
EYAK Cordova Ski Ar 50.03 324 P P 17 10 35.3 +0.7
baz=36
G16K Koyuk River 50.08 336 P P 17 10 34.8 -0.2
baz=29
KNK Knik Glacier 50.10 327 P P 17 10 36.2 +0.9
baz=35,SNR=6.8
KAIM Kayak Island 50.13 323 P P 17 10 36.5 +1.0
baz=37
PMR Palmer 50.14 327 P P 17 10 36.7 +1.2
baz=35
GLI Glacier Island 50.15 325 P P 17 10 35.6 -0.1
baz=36
WMOK Wichita Mounta 50.15 272 IAmb IAmb 17 10 40.8
comp=Z,9.9nm,1.0s
F15K North Star Dit 50.26 337 P P 17 10 35.6 -0.8
baz=28
M22K Willow 50.27 328 P P 17 10 36.9 +0.3
baz=35
BBB Bella Bella 50.44 308 LR LR 17 31 45.4
comp=Z,384nm,19.5s,baz=44,slow=36
SKT Skwentna 50.46 329 P P 17 10 38.4 +0.3
baz=34,SNR=11
F10A Beach Ranch, E 50.48 295 IAmb IAmb 17 10 43.0
comp=Z,9.1nm,0.9s
PWL Port Wells 50.52 326 P P 17 10 37.9 -0.5
baz=35
PLID Pearl Lake 50.59 294 IAmb IAmb 17 10 44.2
comp=Z,10.0nm,1.0s
SUA Susitna One 50.68 328 P P 17 10 38.6 -1.2
baz=34,SNR=11
H16K Elim 50.72 336 P P 17 10 39.9 0.0
baz=29
RC01 Rabbit Creek A 50.72 327 P P 17 10 39.2 -0.7
baz=34
BORK Borovoye 50.73 50 ceP P 17 10 41.8 +1.7
BORK pmax pmax
comp=Z,6.0nm,1.7s
WTFS Witchita Falls 50.76 271 P 17 10 40.2 -0.3
BVAR Borovoye Array 50.77 50 P P 17 10 40.8 +0.4
comp=Z,1.2nm,0.7s
BVAR LR LR 17 31 26.3
comp=Z,180nm,19.5s,baz=334,slow=35
comp=Z,1.2nm,0.7s
F14K Arctic Creek 50.78 338 P P 17 10 38.7 -1.7
baz=27
RTBA Rita Blanca 50.80 277 P P 17 10 41.0 -0.1
RTBA IAmb IAmb 17 10 46.0
comp=Z,13nm,1.1s
FW06 Azle 50.93 270 IAmb IAmb 17 10 46.4
comp=Z,28nm,1.2s
STLK Strandline Lak 50.95 328 IAmb IAmb 17 10 50.4
comp=Z,13nm,1.0s
P23K Montague Islan 50.96 325 P P 17 10 40.5 -1.2
baz=35
M20K Styx River 50.96 329 P P 17 10 42.4 +0.5
M20K Styx River 50.96 329 P P 17 10 41.2 -0.7
baz=33
T25A Trinidad 51.09 279 P P 17 10 43.1 -0.2
SPU Mount Spurr 51.27 328 IAmb IAmb 17 10 48.5
comp=Z,20nm,0.9s
SPCR Spurr Chakacha 51.29 328 P P 17 10 43.6 -0.7
baz=33
ASF Jabal al Asfar 51.34 91 LR LR 17 34 50.5
comp=Z,114nm,19.8s,baz=249,slow=39
PLPT Palo Pinto 51.44 270 IAmb IAmb 17 10 50.8
comp=Z,22nm,1.0s
SEW Seward 51.45 326 P P 17 10 44.9 -0.6
baz=34
J16K Anvik River 51.55 334 P P 17 10 46.2 +0.1
baz=29
WHTX Lake Whitney, 51.66 269 IAmb IAmb 17 10 51.7
comp=Z,19nm,1.1s
M18K Stony River 51.98 330 P P 17 10 48.4 -1.0
baz=31
L17K Donlin 52.02 332 P P 17 10 49.0 -0.7
baz=30
P18A Preston Nutter 52.04 285 IAmb IAmb 17 11 01.2
comp=Z,15nm,1.5s
DKNS Dickens 52.08 273 IAmb IAmb 17 10 55.6
comp=Z,22nm,1.0s
BRSE Bradley Lake S 52.12 326 P P 17 10 50.1 -0.3
baz=33
TORD Torodi Ar. Bea 52.19 139 P 17 10 49.5 -1.9
TORD Torodi Ar. Bea 52.19 139 P P 17 10 50.6 -0.8
comp=Z,3.2nm,0.8s,baz=346,slow=9.5,SNR=15
comp=Z,3.2nm,0.8s
ABTX Abilene, Hawle 52.26 271 IAmb IAmb 17 10 56.9
comp=Z,19nm,1.1s
EIL Elat 52.38 95 LR LR 17 35 04.3
comp=Z,35nm,18.4s,baz=340,slow=38
M17K Holitna River 52.45 331 P P 17 10 52.3 -0.6
baz=30
HKT Hockley 52.49 266 P P 17 10 53.1 -0.4
HKT IAmb IAmb 17 10 58.5
comp=Z,16nm,1.1s
HKT Hockley 52.49 266 ⇑ iP P 17 10 54.0 +0.5
HKT pmax pmax
comp=Z,18nm,1.0s
L16K Owhat River 52.67 332 P P 17 10 53.7 -0.8
baz=29
TMUT Trail Mountain 52.77 286 IAmb IAmb 17 11 09.2
comp=Z,23nm,1.9s
P19K Oil Pt 52.88 328 P P 17 10 55.6 -0.5
baz=32
J08A Circle Bar Ran 53.06 294 IAmb IAmb 17 11 02.9
comp=Z,9.8nm,1.0s
N17K Nushagak Hills 53.15 330 P P 17 10 57.3 -0.8
baz=30
M16K Timber Creek 53.15 332 P P 17 10 58.3 +0.2
baz=29
L15K Ungalak Mounta 53.16 333 P P 17 10 57.8 -0.3
baz=28
O18K Koktuh Hills 53.23 329 P P 17 10 58.4 -0.2
baz=31
GAMB Gambell 53.30 340 P P 17 10 59.0 -0.1
baz=23
Q20K Shuyak Island 53.53 327 P P 17 11 01.0 +0.2
baz=32
SGCY Sterling City 53.58 272 IAmb IAmb 17 11 07.0
comp=Z,20nm,1.0s
Q19K Cape Douglas, 53.60 328 P P 17 11 01.1 -0.4
baz=31
K13K Kusilvak Mount 53.63 335 P P 17 11 01.3 -0.2
baz=26
P18K Big Mountain, 53.63 329 P P 17 11 01.3 -0.4
baz=31
H04A Detroit Lake 53.71 298 IAmb IAmb 17 11 07.0
comp=Z,7.5nm,0.9s
L14K Kuka Creek 53.73 334 P P 17 11 01.8 -0.4
baz=27
O17K Koliganek Bris 53.78 330 P P 17 11 02.2 -0.4
baz=30
ANMO Albuquerque 53.84 279 LR LR 17 32 27.3
comp=Z,305nm,18.7s,baz=130,slow=34
ANMO Albuquerque 53.84 279 ⇓ eP P 17 11 05.3 +1.6
ANMO pmax pmax
comp=Z,6.0nm,1.5s
M15K Kasigluk River 53.85 332 P P 17 11 02.1 -1.0
baz=28
JCT Junction City 54.06 270 IAmb IAmb 17 11 09.6
comp=Z,14nm,0.8s
M14K Bethel 54.09 333 P P 17 11 03.7 -1.2
baz=28
N15K Kwethluk River 54.17 332 P P 17 11 04.5 -1.0
baz=28
O16K Kokwok River B 54.19 330 P P 17 11 04.4 -1.2
baz=29
KDAK Kodiak Island 54.29 326 LR LR 17 33 46.4
comp=Z,199nm,18.1s,baz=33,slow=35
KDAK Kodiak Island 54.29 326 P P 17 11 04.9 -1.5
baz=32
OZNA Ozona 54.38 271 IAmb IAmb 17 11 13.2
comp=Z,12nm,1.0s
J05D Fort Rock, OR 54.38 296 IAmb IAmb 17 11 13.5
comp=Z,9.8nm,0.8s
SPR3 Spring Creek 3 54.51 288 P P 17 11 08.2 -0.5
P16K Nushagak River 54.65 330 P P 17 11 07.1 -1.9
baz=29
M13K Dall Lake 54.71 334 P P 17 11 07.5 -1.9
baz=27
N14K Kuskokwak Cree 54.76 333 P P 17 11 07.7 -2.1
baz=28
Q17K Contact Creek 54.78 328 P P 17 11 08.1 -2.1
baz=30
J04A Umpqua Nationa 54.81 297 IAmb IAmb 17 11 15.9
comp=Z,13nm,0.8s
OHAK Old Harbor 54.97 326 P P 17 11 09.9 -1.4
baz=31
O15K Ungalikthiuk R 54.98 331 P P 17 11 09.5 -1.9
baz=28
R18K Karluk 55.00 327 P P 17 11 10.1 -1.4
baz=30
ZALV Zalesovo Beam 55.21 41 P P 17 11 14.2 +1.1
comp=Z,1.1nm,0.8s,baz=347,slow=6.1,SNR=5.6
ZALV PcP PcP 17 12 16.7 +2.7
comp=Z,1.0nm,0.7s,baz=345,slow=5.2,SNR=4.1
ZALV LR LR 17 35 10.4
comp=Z,125nm,19.5s,baz=335,slow=36
comp=Z,1.1nm,0.8s
KNB Kanab 55.34 285 P P 17 11 13.6 -1.0
KNB IAmb IAmb 17 11 25.8
comp=Z,19nm,1.5s
KNB Kanab 55.34 285 P P 17 11 13.6 -1.0
KNB pmax pmax
comp=Z,19nm,1.5s
LCMT Little Creek M 55.55 285 P P 17 11 15.1 -0.9
833A Chaparral WMA, 55.61 268 IAmb IAmb 17 11 21.6
comp=Z,8.9nm,0.8s
SAND Sanderson 55.66 271 IAmb IAmb 17 11 21.9
comp=Z,11nm,0.9s
KURK Kurchatov 55.71 47 P P 17 11 15.9 -0.9
KURK Kurchatov 55.71 47 c iP P 17 11 19.5 +2.7
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 55.76 47 P P 17 11 17.5 +0.4
comp=Z,4.8nm,0.8s,baz=326,slow=6.9,SNR=21
KURBB PP PP 17 13 22.8 +1.7
comp=Z,1.7nm,1.1s,baz=321,slow=8.6,SNR=4.1
KURBB LR LR 17 36 04.4
comp=Z,164nm,18.5s,baz=164,slow=37
comp=Z,4.8nm,0.8s
R16K Pilot Point 55.83 329 P P 17 11 16.0 -1.5
baz=29
PCRV Puerto La Cruz 55.88 222 LR LR 17 31 10.4
comp=Z,76nm,21.6s,slow=32
PRN Pahroc Range 56.11 287 IAmb IAmb 17 11 33.7
comp=Z,10nm,1.3s
YBH Yreka Blue Hor 56.27 296 LR LR 17 35 03.9
comp=Z,57nm,19.2s,baz=48,slow=36
PAHR Pah Rah Range 56.35 292 IAmb IAmb 17 11 36.0
comp=Z,16nm,1.3s
M03C McCloud 56.37 295 IAmb IAmb 17 11 32.9
comp=Z,10nm,1.0s
DBIC Dimbokro 56.41 149 P P 17 11 20.9 -1.3
comp=Z,6.9nm,0.9s,baz=274,slow=1.6,SNR=3.9
DBIC LR LR 17 32 56.2
comp=Z,491nm,19.4s,baz=12,slow=33
comp=Z,6.9nm,0.9s
TPH Tonopah 56.62 289 IAmb IAmb 17 11 36.1
comp=Z,21nm,1.6s
BEKR Beckworth 56.68 293 IAmb IAmb 17 11 38.2
comp=Z,20nm,1.9s
RYN Ryan 56.80 291 IAmb IAmb 17 11 37.7
comp=Z,15nm,1.6s
NVAR Mina Array Bea 56.85 290 P P 17 11 25.9 +0.4
comp=Z,1.2nm,0.8s,baz=60,slow=5.3,SNR=6.2
NVAR LR LR 17 34 04.8
comp=Z,358nm,20.8s,baz=36,slow=34
comp=Z,1.2nm,0.8s
TXAR Lajitas Array 56.95 272 P P 17 11 25.0 -1.0
comp=Z,1.4nm,0.8s,baz=56,slow=7.7,SNR=11
comp=Z,1.4nm,0.8s
O03E Paynes Creek 57.00 294 IAmb IAmb 17 11 39.9
comp=Z,22nm,1.2s
GMN Gold Mountain 57.26 289 P P 17 11 27.3 -1.1
YAK Yakutsk 57.46 11 LR LR 17 35 29.4
comp=Z,65nm,20.1s,baz=352,slow=35
YAK Yakutsk 57.46 11 eP P 17 11 28.9 -0.1
YAK pmax pmax
comp=Z,9.0nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
SEY Seymchan 57.53 359 LR LR 17 36 01.0
comp=E,143nm,20.6s,baz=10.0,slow=36
GRAC Grapevine Rang 57.55 289 IAmb IAmb 17 11 49.3
comp=Z,21nm,1.3s
GWY Greenwater Val 57.87 288 IAmb IAmb 17 11 40.2
comp=Z,9.1nm,1.0s
QSM Queen of Sheba 58.14 288 IAmb IAmb 17 11 37.0
comp=Z,16nm,1.7s
KKAR Karatay Array 58.69 57 P P 17 11 37.8 -0.2
KKAR Karatay Array 58.69 57 P P 17 11 37.8 -0.2
SPIA Saint Paul Isl 59.14 336 P P 17 11 39.8 -1.0
baz=22
ISA Isabella, Lake 59.16 289 IAmb IAmb 17 11 52.6
comp=Z,9.5nm,1.3s
SDV Santo Domingo 59.23 228 LR LR 17 32 40.7
comp=Z,83nm,22.0s,baz=64,slow=32
BELC Belle Mtn. Jos 59.30 285 IAmb IAmb 17 11 59.4
comp=Z,27nm,1.9s
PFO Pinyon Flats O 59.84 286 LR LR 17 37 14.8
comp=Z,464nm,18.1s,baz=31,slow=36
PFO Pinyon Flats O 59.84 286 ⇑ eP P 17 11 47.4 +1.2
PFO pmax pmax
comp=Z,13nm,1.2s
BORC Borrego Spring 60.10 285 P P 17 11 46.5 -1.4
BORC IAmb IAmb 17 12 01.1
comp=Z,7.8nm,1.1s
MK31 Makanchi Array 60.33 47 ⇓ eP P 17 11 51.1 +1.9
MKAR Makanchi Array 60.33 47 P P 17 11 48.4 -0.8
MKAR Makanchi Array 60.33 47 P P 17 11 49.8 +0.6
comp=Z,4.7nm,0.9s,baz=335,slow=4.4,SNR=14
MKAR LR LR 17 38 15.3
comp=Z,144nm,18.4s,baz=331,slow=36

comp=Z,4.7nm,0.9s
MKAR Makanchi Array 60.33 47 P **P 17 11 48.4 -0.8**
AAK Ala-Archa 60.74 55 LR LR 17 38 35.1
comp=Z,215nm,18.3s,baz=352,slow=36
AAK Ala-Archa 60.74 55⇓ *eP* **P 17 11 53.5 +1.2**
AAK pmax pmax
comp=Z,4.0nm,0.9s
MA2 Magadan 60.91 359 LR LR 17 39 59.7
comp=Z,127nm,18.1s,baz=7.0,slow=38
MA2 Magadan 60.91 359⇓ *eP* **P 17 11 55.3 +2.3**
MA2 pmax pmax
comp=Z,24nm,1.2s
ARSB Arslanbob 61.20 57 IAmb IAmb 17 12 08.9
comp=Z,11nm,1.2s
CHGR Chuyangaron 61.74 61 P **P 17 11 58.0 -1.1**
CHGR Chuyangaron 61.74 61 P **P 17 11 58.0 -1.1**
CHGR pmax pmax
comp=Z,14nm,0.9s
ZAIG Zacatecas 61.80 267 P **P 17 11 58.7 -1.1**
ZAIG IAmb IAmb 17 12 05.9
comp=Z,12nm,0.9s
KNGR Kungurtug, Tuv 62.04 35 *de*P **P 17 12 03.4 +2.5**
KNGR pmax pmax
comp=Z,5.0nm,1.1s
CMIG Matias Romero 62.75 257 LR LR 17 40 38.7
comp=Z,74nm,18.5s,baz=18,slow=37
RUSC La Rusia 62.91 230 P **P 17 12 07.2 -0.3**
RUSC IAmb IAmb 17 13 44.4
comp=Z,16nm,1.5s
JTS Las Juntas de 63.95 244 LR LR 17 38 04.9
comp=Z,89nm,19.5s,baz=32,slow=34
KSH Kashi 63.96 56 P **P 17 12 16.6 +2.7**
KSH pP sP 17 12 20.2 +2.5
KSH pmax pmax
comp=Z,9.0nm,1.2s
LPIG La Paz 64.60 274 LR LR 17 40 53.3
comp=Z,51nm,20.6s,baz=39,slow=36
WMQ Urumqi 64.84 45 *eP* **P 17 12 21.2 +1.7**
WMQ LR LR
comp=Z,190nm,23.9s
ZEA Zeya 65.32 15 *eP* **P 17 12 24.4 +2.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
SHEM Shemya Is, Ala 66.10 344 LR LR 17 41 37.5
comp=Z,87nm,20.6s,baz=28,slow=36
SONM Songino Array 66.97 30 P **P 17 12 35.1 +1.9**
comp=Z,1.9nm,1.0s,baz=324,slow=7.3,SNR=5.8
comp=Z,1.9nm,1.0s
HEH HeiHe 68.75 15 *eP* **P 17 12 45.3 +1.1**
HEH pmax pmax
comp=Z,10.0nm,1.0s
GTA Gaotai 72.85 38 P **P 17 13 10.2 +0.7**
GTA pP sP 17 13 14.9 +1.5
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA LR LR
comp=Z,180nm,17.8s
GTA LR LR
comp=Z,150nm,17.5s
GTA LR LR
comp=Z,260nm,17.8s
BNX BinXian 73.17 16 ⇑P **P 17 13 10.4 -0.7**
BNX pmax pmax
comp=Z,11nm,0.8s
GOMU GeErMu 74.11 44 P **P 17 13 15.8 -1.4**
GOMU pP pP 17 13 18.9 -1.2
GOMU sP sP 17 13 23.0 +1.9
GOMU pmax pmax
comp=Z,1.0nm,0.3s
MDJ Mudanjiang 74.57 15 P P 17 13 25.0 +5.7
MDJ pmax pmax
comp=Z,21nm,1.5s
HHC Hu-ho-hao-te 74.81 29 *eP* **P 17 13 19.3 -1.6**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,53nm,4.3s
HHC LR LR
comp=Z,120nm,16.7s
HHC LR LR
comp=Z,130nm,16.1s
HHC LR LR
comp=Z,140nm,16.2s
LODK Lodwar 74.90 110 P **P 17 13 20.9 -0.8**
USRK Ussuriysk Ar. 75.27 13 P **P 17 13 23.4 0.0**
comp=Z,1.8nm,0.7s,baz=356,slow=8.4,SNR=5.6
comp=Z,1.8nm,0.7s
ASAJ Asahikawa 76.22 5 LR LR 17 46 15.0
comp=Z,54nm,19.5s,baz=38,slow=35
BDFB Brasilia 76.61 198 P **P 17 13 30.4 -0.9**
BDFB IAmb IAmb 17 13 34.0
comp=Z,7.2nm,1.0s
BDFB Brasilia 76.61 198 P **P 17 13 30.3 -0.9**
comp=Z,4.4nm,0.7s,baz=28,slow=6.6,SNR=5.4
comp=Z,4.4nm,0.7s
BDFB Brasilia 76.61 198 P **P 17 13 30.4 -0.9**
BDFB pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 77.15 37 *eP* **P 17 13 35.7 +1.3**
LZH pP sP 17 13 40.4 +2.1
LZH pmax pmax
comp=Z,11nm,1.1s
LZH LR LR
comp=Z,130nm,18.9s
LZH LR LR
comp=Z,180nm,19.2s
LZH LR LR
comp=Z,230nm,19.2s
LZDM Lanzhou Array 77.22 37 P **P 17 13 36.0 +1.0**
comp=Z,1.3nm,0.4s,baz=322,slow=6.4,SNR=4.9
comp=Z,1.3nm,0.4s
EVN Everest 78.44 54 IAmb IAmb 17 13 48.8
comp=Z,10nm,0.9s
PTLB Pontes e Lacer 78.63 209 **P 17 13 42.8 +0.4**
HNS HongShan 78.84 28 ⇓P **P 17 13 44.5 +1.0**
XAN Xi'an 80.53 34 ⇑P **P 17 13 53.5 +0.6**
XAN pmax pmax
comp=Z,8.0nm,1.2s
KSRS Korea Array 81.36 18 P **P 17 13 57.5 +0.4**
comp=Z,1.5nm,0.9s,baz=360,slow=5.5,SNR=5.0
comp=Z,1.5nm,0.9s
LPAZ La Paz 81.88 217 P **P 17 14 00.5 -0.2**
comp=Z,0.6nm,0.6s,baz=7.7,slow=12,SNR=3.8
comp=Z,0.6nm,0.6s
MJAR Matsushiro Arr 83.48 9 P **P 17 14 09.5 +1.2**
comp=Z,2.4nm,0.8s,baz=344,slow=5.5,SNR=9.3
comp=Z,2.4nm,0.8s
NJ2 Nanjing 84.92 26 *eP* **P 17 14 14.3 -1.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
PZH PanZhiHua 85.33 42 P **P 17 14 17.2 -0.8**
JNU Nakatsue 86.05 16 LR LR 17 51 42.9
comp=Z,33nm,21.2s,baz=21,slow=35
LSZ Lusaka 88.28 125 LR LR 17 56 37.5
comp=Z,339nm,18.4s,baz=320,slow=37
SLVN Son La 90.85 42 IAmb IAmb 17 14 50.7
comp=Z,4.3nm,1.0s
CMAR Chiang Mai Arr 91.73 48 **P 17 14 47.0 -1.4**
CMAR Chiang Mai Arr 91.73 48 P **P 17 14 48.9 +0.5**
comp=Z,2.3nm,0.8s,baz=321,slow=5.8,SNR=16
comp=Z,2.3nm,0.8s
CMAR Chiang Mai Arr 91.73 48 P **P 17 14 47.0 -1.4**
JOW Kunigami 91.82 19 LR LR 17 58 09.9
comp=Z,43nm,18.5s,baz=98,slow=37
MATP Matopo 93.03 127 LR LR 17 57 16.5
comp=Z,230nm,21.1s,baz=312,slow=36
BOSA Boshof 99.14 133 LR LR 18 00 53.9
comp=Z,139nm,18.2s,baz=335,slow=36
TAOE Nuku Hiva Isla 107.64 283 *e*LR LR 17 51 34.1
comp=Z,378nm,32.5s
PPT2 Papeete2 119.75 287 *e*SS SS 17 38 14.0 -4.5
comp=Z,41nm,29.8s
PPT2 Papeete2 119.75 287 *e*LR LR 17 57 07.2
comp=Z,70nm,21.2s
PPT2 *e*LR LR 17 57 10.4
comp=Z,140nm,34.2s
TBI Tubuai 124.59 283 *e*LR LR 17 59 25.2
comp=Z,651nm,35.2s
SYO Syowa Base 137.91 150⇓ *e*PDiff **Pdif 17 18 12.9 -0.2**
SYO Syowa Base 137.91 150⇑ *es*PDiff **Pdif 17 18 18.0 +4.9**
DZM Mont Dzumac 140.48 335 *e*LR LR 18 06 43.3
comp=Z,144nm,22.9s
ASAR Alice Springs 142.14 24 PKPdf **PKPdf 17 21 09.7 -3.1**
ASAR Alice Springs 142.14 24 PKP **PKPdf 17 21 10.5 -2.3**
comp=Z,2.2nm,1.1s,baz=347,slow=4.0,SNR=6.5
ASAR Alice Springs 142.14 24 PKIKP **PKPdf 17 21 09.7 -3.1**
MAW Mawson 143.84 140 PKP **PKPdf 17 21 13.7 -0.6**
comp=Z,2.0nm,0.9s,baz=287,slow=7.2,SNR=6.1
INKA Innaminka 147.29 15 **PKPdf 17 21 20.9 -0.6**
QSPA South Pole Qui 149.75 180 **PKPdf 17 21 24.5 +0.1**
QSPA South Pole Qui 149.75 180 PKP **PKPdf 17 21 23.9 -0.4**
comp=Z,5.9nm,1.1s,baz=100,slow=3.3,SNR=12
QSPA PKPbc **PKiKP 17 21 30.7 +0.7**
comp=Z,2.1nm,0.7s,baz=242,slow=1.9,SNR=7.1
STKA Stephens Creek 151.48 15 PKPbc **PKiKP 17 21 35.8 +1.1**
comp=Z,3.1nm,0.9s,baz=309,slow=6.5,SNR=2.8
VNDA Vanda 161.80 188 PKPab **PKPab 17 22 26.5 +0.7**
comp=Z,1.4nm,1.0s,baz=234,slow=3.6,SNR=6.9

NEIC ***05*** *17:06:47.6±1.6, 60.°05N±0.°02×140.°70W±0.°02, h5km±2km, Error ellipse: s-maj=3.1km s-min=3.0km az=21.0*
AEIC ***05*** *17:06:48.8±1.6, 60.°04N±0.°02×140.°69W±0.°02, h7km±6km, ML2.3, ML2.5/106(NEIC), Error ellipse: s-maj=2.9km s-min=0.4km az=212.0*
ANF ***05*** *17:06:48.5±0.3, 60.°02N×140.°70W, h13km±1km, ML2.6/18, Error ellipse: s-maj=3.3km s-min=1.6km az=11.0*
PGC 05 17:06:48.4±0.8, 60.00N×140.74W, h4km, ML2.5/17, 73km northwest of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.14**	**352**		Pg	17 06 53.4	+2.3
SAMH	**Samovar Hills**	**0.14**	**352**	P	Pg	17 06 50.5	-0.6
CHX	**Chaix Hills**	**0.20**	**290**		Pg	17 06 56.9	+4.6
PCA	**Pinnacle**	**0.26**	**67**		Pg	17 06 53.5	0.0
PCA				Sg	Sg	17 06 56.8	-0.1
PCA	**Pinnacle**	**0.26**	**67**	P	Pg	17 06 53.6	+0.2
PCA				S	Sg	17 06 58.4	+1.4
PINM	**Pinnacle**	**0.27**	**67**	P	Pg	17 06 53.5	0.0
	baz=258,SNR=461						
PINM				S	Sg	17 06 57.8	+0.8
	baz=258						
RKAV	**Rock Avalanche**	**0.43**	**316**		Pg	17 06 56.7	0.0
RKAV					Sb	17 07 05.1	-0.5
RKAV	**Rock Avalanche**	**0.43**	**316**	P	Pg	17 06 56.7	0.0
RKAV				S	Sb	17 07 04.6	-1.0
TABL	**Table Mountain**	**0.49**	**336**		Pg	17 06 57.1	-0.8
TABL				Sg	Sg	17 07 02.2	-2.0
TABL				IAML		17 07 07.3	
	comp=E,504nm,0.5s						
TABL	**Table Mountain**	**0.49**	**336**	P	Pg	17 06 57.2	-0.6
TABL				S	Sg	17 07 05.8	+1.6
BCPM	**Bancas Point**	**0.56**	**94**		Pg	17 06 58.7	-0.4
BCPM				Sg	Sg	17 07 05.5	-0.8
BCPM				IAML		17 07 11.5	
	comp=N,289nm,0.3s						
BCPM				IAML		17 07 15.9	
	comp=E,292nm,0.6s						
YAH	**Yahtse**	**0.62**	**307**		Pg	17 07 01.0	+0.6
YAH				IAML		17 07 14.6	
	comp=E,192nm,1.1s						
YAH				IAML		17 07 16.4	
	comp=N,243nm,1.2s						
YAH	**Yahtse**	**0.62**	**307**		Sb	17 07 10.8	-0.4
MESA	**MESA**	**0.63**	**287**		Pg	17 07 00.5	-0.1
MESA				Sg	Sg	17 07 07.1	-1.7
MESA				IAML		17 07 17.9	
	comp=E,245nm,0.4s						
MESA				IAML		17 07 17.9	
	comp=N,302nm,0.5s						
MESA	**MESA**	**0.63**	**287**	P	Pg	17 07 00.9	+0.4
MESA				S	Sb	17 07 11.7	+0.3
MESA	**MESA**	**0.63**	**287**	P	Pg	17 07 01.2	+0.6
	baz=102,SNR=33						
MESA				S	Sb	17 07 12.0	+0.5
	baz=102						
YKU2	**Yakutat**	**0.73**	**131**	Pg	Pg	17 07 01.2	-1.1
YKU2				Sg	Sb	17 07 13.0	-0.9
PNL	**Peninsula**	**0.75**	**115**		Pg	17 07 02.3	-0.5
PNL					Sb	17 07 14.1	-0.6
PNL	**Peninsula**	**0.75**	**115**	P	Pg	17 07 02.2	-0.6
PNL	**Peninsula**	**0.75**	**115**	P	Pg	17 07 02.3	-0.6
	baz=300,SNR=116						
PNL				S	Sg	17 07 13.3	+0.8
	baz=300						
O28M	**Mount Upton**	**0.83**	**19**		Pg	17 07 02.6	-1.6
O28M				IAML		17 07 16.0	
	comp=N,185nm,0.8s						
O28M	**Mount Upton**	**0.83**	**19**		Sg	17 07 14.5	-0.5
O28M	**Mount Upton**	**0.83**	**19**	P	Pg	17 07 02.8	-1.5
O28M				S	Sg	17 07 14.3	-0.7
O28M	**Mount Upton**	**0.83**	**19**	P	Pg	17 07 02.8	-1.5
	baz=200,SNR=83						
O28M				S	Sg	17 07 14.0	-1.0
	baz=200						
BAGL	**Bagley Icefiel**	**0.84**	**307**		Pg	17 07 04.2	-0.2
BAGL					Sb	17 07 17.0	-0.1
LOGN	**Logan Glacier**	**0.84**	**351**		Pg	17 07 02.8	-1.8
LOGN				IAML		17 07 16.5	
	comp=N,214nm,0.7s						
LOGN				IAML		17 07 18.4	
	comp=E,255nm,0.8s						
LOGN	**Logan Glacier**	**0.84**	**351**		Sg	17 07 15.4	-0.1
LOGN	**Logan Glacier**	**0.84**	**351**	P	Pg	17 07 03.1	-1.4
LOGN				S	Sg	17 07 15.3	-0.2
GRNC	**Granite Creek**	**0.90**	**326**		Pg	17 07 04.3	-1.3
GRNC				IAML		17 07 20.1	
	comp=N,166nm,0.7s						
GRNC	**Granite Creek**	**0.90**	**326**		Sb	17 07 18.6	-0.4
GRNC	**Granite Creek**	**0.90**	**326**	P	Pg	17 07 04.5	-1.1
GRNC				S	Sb	17 07 18.3	-0.8
BARK	**Barkley Ridge**	**0.97**	**296**		Pg	17 07 06.7	-0.2
BARK					Sb	17 07 20.7	-0.2
ISLE	**Juniper Island**	**1.00**	**308**		Pg	17 07 06.5	-1.1
ISLE				IAML		17 07 23.9	
	comp=N,127nm,0.8s						
ISLE				IAML		17 07 33.2	
	comp=E,122nm,0.7s						
CTGM	**Chitina Glacie**	**1.02**	**343**		Pg	17 07 05.9	-2.0
CTGM				Sg	Sg	17 07 19.9	-1.1
CTGM				IAML		17 07 24.1	
	comp=N,92nm,1.1s						
CTGM	**Chitina Glacie**	**1.02**	**343**	P	Pg	17 07 06.0	-1.9
CTG	**Chitna Glacier**	**1.02**	**343**	P	Pg	17 07 06.2	-1.7
	baz=161,SNR=41						
CTG				S	Sg	17 07 20.7	-0.4
	baz=161						
SNH	**Sunshine Point**	**1.07**	**281**	Pg	Pg	17 07 08.2	-0.6
SNH				IAML		17 07 27.9	
	comp=N,112nm,0.5s						
SNH				IAML		17 07 32.3	
	comp=E,67nm,1.1s						
O29M	**Mount Kennedy**	**1.13**	**73**		Pg	17 07 07.8	-2.1
O29M	**Mount Kennedy**	**1.13**	**73**	P	Pg	17 07 08.1	-1.8
O29M				S	Sg	17 07 23.5	-1.0
O29M	**Mount Kennedy**	**1.13**	**73**	P	Pg	17 07 08.5	-1.5
	baz=257,SNR=22						
O29M				S	Sg	17 07 23.8	-0.7
	baz=257						
WAX	**Waxell Ridge**	**1.15**	**294**		Pg	17 07 09.3	-1.1
BARN	**Barnard Glacie**	**1.16**	**337**		Pg	17 07 08.4	-2.3
BARN				IAML		17 07 26.4	
	comp=E,89nm,0.6s						
KIAG	**Kiagna River**	**1.23**	**320**		Pg	17 07 09.9	-2.0
KIAG	**Kiagna River**	**1.23**	**320**	P	Pg	17 07 09.9	-2.0
TGL	**Tana Glacier**	**1.29**	**307**		Pg	17 07 11.2	-1.9
TGL				IAML		17 07 37.9	
	comp=E,59nm,0.8s						
BALM	**Baldy**	**1.31**	**323**		Pg	17 07 12.1	-1.5
BALM	**Baldy**	**1.31**	**323**	P	Pg	17 07 11.2	-2.4
BALM				S	Sb	17 07 31.0	+0.1
GRIN	**Grindle Hills**	**1.32**	**284**		Pn	17 07 12.6	-1.1
KHIT	**Khitrov Hills**	**1.33**	**291**		Pn	17 07 12.4	-1.5
YUK8	**Steele Glacier**	**1.38**	**20**	P	Pn	17 07 10.8	-3.9
YUK8	**Steele Glacier**	**1.38**	**20**	P	Pn	17 07 12.5	-2.2
	baz=201						
YUK8				S	Sg	17 07 31.4	-1.3
	baz=201						
CRQE	**Cirque**	**1.39**	**304**	P	Pn	17 07 13.4	-1.3
	baz=120						
CRQE				S	Sb	17 07 33.3	+0.1
	baz=120						
CRQM	**Cirque**	**1.42**	**304**		Pn	17 07 13.2	-1.9
CRQM				IAML		17 07 34.7	
	comp=E,96nm,0.5s						
CRQM				IAML		17 07 44.7	
	comp=N,61nm,0.9s						
PTPK	**Patty Peak**	**1.47**	**325**		Pn	17 07 14.2	-1.6
PTPK	**Patty Peak**	**1.47**	**325**	Pn	Pn	17 07 14.1	-1.8
PTPK				Sg	Sn	17 07 36.0	+0.3
YUK6	**Outpost Mounta**	**1.51**	**50**		Pn	17 07 14.5	-2.0
YUK6	**Outpost Mounta**	**1.51**	**50**	Pn	Pn	17 07 15.5	-1.1
YUK6				Sg	Sn	17 07 36.0	-0.8
YUK6	**Outpost Mounta**	**1.51**	**50**	P	Pn	17 07 15.4	-1.1
	baz=233,SNR=56						
YUK6				S	Sn	17 07 35.5	-1.3
	baz=233						
SUCK	**Suckling Hills**	**1.53**	**274**	Pn	Pn	17 07 15.8	-0.7
SUCK				IAML		17 07 39.4	
	comp=E,41nm,0.7s						
BERG	**Berg Lake**	**1.53**	**286**	Pn	Pn	17 07 15.3	-1.3
P29M	**Windy Craggy**	**1.56**	**102**		Pn	17 07 15.4	-1.5
P29M				IAML		17 07 46.6	
	comp=E,88nm,0.5s						
P29M	**Windy Craggy**	**1.56**	**102**	Pn	Pn	17 07 15.3	-1.6
P29M				Sg	Sn	17 07 36.9	-0.7
P29M	**Windy Craggy**	**1.56**	**102**	P	Pn	17 07 15.4	-1.5
	baz=287,SNR=42						
P29M				S	Sn	17 07 36.7	-1.0
	baz=287						
BRWY	**Burwash Landin**	**1.62**	**31**	Pn	Pn	17 07 16.9	-0.9
YUK4	**Talbot Arm**	**1.70**	**36**	Pn	Pb	17 07 20.5	+0.1
YUK4	**Talbot Arm**	**1.70**	**36**	Pb	Pg	17 07 20.9	-0.1
	baz=218						
MCARA	**McCarthy VSAT**	**1.79**	**322**		Pn	17 07 18.9	-1.2
MCARA				IAML		17 07 55.2	
	comp=N,54nm,0.6s						
MCARA				IAML		17 07 59.5	
	comp=E,47nm,0.6s						
MCARA	**McCarthy VSAT**	**1.79**	**322**	Pn	Pn	17 07 19.2	-0.9
MCARA	**McCarthy VSAT**	**1.79**	**322**	P	Pn	17 07 19.2	-0.9
	baz=139,SNR=24						
MCARA				Sb	Sg	17 07 45.3	-0.5
	baz=139						
HMT	**Hamilton**	**1.79**	**283**	Pn	Pn	17 07 18.6	-1.5
HYT	**Haines Junctio**	**1.81**	**61**		Pn	17 07 19.0	-1.4
HYT	**Haines Junctio**	**1.81**	**61**	Pn	Pn	17 07 19.2	-1.3
HYT				Sg	Sn	17 07 43.7	-0.3
HYT	**Haines Junctio**	**1.81**	**61**	P	Pn	17 07 19.1	-1.3
	baz=245,SNR=43						
HYT				Sb	Sn	17 07 44.1	+0.2
	baz=245						
VRDI	**Verde Repeater**	**1.82**	**314**		Pn	17 07 19.2	-1.5
VRDI				IAML		17 07 51.3	
	comp=N,33nm,0.7s						
YUK5	**Granite Creek**	**1.82**	**50**		Pn	17 07 18.3	-2.4
YUK5	**Granite Creek**	**1.82**	**50**	Pn	Pn	17 07 20.2	-0.5
YUK5				Sg	Sb	17 07 45.4	-0.3
KAIM	**Kayak Island**	**1.85**	**269**	Pn	Pn	17 07 20.7	-0.2
KAIM				IAML		17 07 57.9	
	comp=E,51nm,1.1s						
KAIM				IAML		17 08 18.3	
	comp=N,37nm,1.2s						
P30M	**Million Dollar**	**1.90**	**85**	Pn	Pn	17 07 20.6	-1.0
P30M				Sg	Sn	17 07 46.5	+0.4
P30M	**Million Dollar**	**1.90**	**85**	P	Pn	17 07 20.4	-1.2
	baz=269						
P30M				Sb	Sb	17 07 47.2	-0.6
	baz=269						
RAGM	**Ragged Mountai**	**2.00**	**283**	Pn	Pn	17 07 21.7	-1.4
GLB	**Gilahina Butte**	**2.09**	**315**		Pn	17 07 23.0	-1.3
BMRM	**Bremner River**	**2.15**	**299**		Pn	17 07 23.4	-1.7
BMRM				IAML		17 07 57.3	
	comp=N,38nm,0.6s						
BMRM	**Bremner River**	**2.15**	**299**	P	Pn	17 07 24.3	-0.8
	baz=114						
BMRM				S	Sn	17 07 52.0	-0.1
	baz=114						
N30M	**Aishikik Lake**	**2.32**	**49**	Pn	Pn	17 07 25.6	-1.8
N30M	**Aishikik Lake**	**2.32**	**49**	Pn	Pn	17 07 26.5	-1.0
N30M				Pg	Pb	17 07 30.3	-0.5
N30M	**Aishikik Lake**	**2.32**	**49**	P	Pn	17 07 26.3	-1.1
	baz=233,SNR=38						
N30M				S	Sn	17 07 54.2	-2.2
	baz=233						
O30N	**Mendenhall**	**2.44**	**69**		Pn	17 07 27.6	-1.4
O30N	**Mendenhall**	**2.44**	**69**	S	Sn	17 07 58.3	-0.9
	baz=254						
N25K	**Chitina, Valde**	**2.49**	**312**	Pn	Pn	17 07 28.5	-1.2
N25K	**Chitina, Valde**	**2.49**	**312**	Pn	Pn	17 07 28.6	-1.1
N25K	**Chitina, Valde**	**2.49**	**312**	P	Pn	17 07 29.0	-0.7
	baz=128						
N25K				S	Sn	17 08 01.4	+0.8
	baz=128						
EYAK	**Cordova Ski Ar**	**2.56**	**285**	Pn	Pn	17 07 29.1	-1.5
M29M	**Somme Creek**	**2.69**	**23**		Pn	17 07 30.2	-2.4
M29M				IAML		17 08 14.6	
	comp=E,14nm,0.4s						
M29M	**Somme Creek**	**2.69**	**23**	Pn	Pn	17 07 31.8	-0.8
M29M	**Somme Creek**	**2.69**	**23**	P	Pn	17 07 31.5	-1.1
	baz=205						
M29M				Sb	Sb	17 08 11.2	+0.6
	baz=205						
DIV	**Divide**	**2.73**	**297**	Pn	Pn	17 07 31.6	-1.5
DIV				IAML		17 08 11.5	
	comp=N,15nm,0.8s						
N31M	**Braeburn, Yuko**	**2.86**	**56**		Pn	17 07 33.6	-1.2
N31M				IAML		17 08 23.0	
	comp=N,16nm,0.6s						
N31M				IAML		17 08 28.8	
	comp=E,21nm,1.1s						
N31M	**Braeburn, Yuko**	**2.86**	**56**	Pn	Pn	17 07 34.0	-0.8
N31M				Pg	Pb	17 07 40.7	+0.7
N31M	**Braeburn, Yuko**	**2.86**	**56**	P	Pn	17 07 33.9	-0.9
	baz=241,SNR=30						
N31M				Sg	Sg	17 08 19.8	-0.3
	baz=241						
HIN	**Hinchinbrook I**	**2.91**	**280**	Pn	Pn	17 07 34.2	-1.2
FID	**Port Fidalgo**	**2.95**	**287**	Pn	Pn	17 07 35.9	-0.1
FID				IAML		17 08 19.2	
	comp=E,16nm,0.9s						
FID				IAML		17 08 33.5	
	comp=N,20nm,0.9s						
KLU	**Klutina**	**2.96**	**303**		Pn	17 07 35.3	-0.8
KLU				IAML		17 08 17.8	
	comp=E,15nm,0.5s						
KLU				IAML		17 08 29.7	
	comp=N,19nm,0.6s						
KLU	**Klutina**	**2.96**	**303**	P	Pn	17 07 35.8	-0.3
	baz=117						
KLU				S	Sn	17 08 13.2	+1.2
	baz=117						
WHY	**Whitehorse**	**2.99**	**75**	Pn	Pn	17 07 34.8	-1.9
WHY	**Whitehorse**	**2.99**	**75**	Pn	Pn	17 07 35.5	-1.1
WHY				Sn	Sn	17 08 12.1	-0.9
WHY	**Whitehorse**	**2.99**	**75**	P	Pn	17 07 35.7	-1.0
	baz=261,SNR=11						
WHY				S	Sn	17 08 12.3	-0.7
	baz=261						
S31K	**Pelican**	**3.10**	**129**	Pn	Pn	17 07 36.5	-1.6
S31K				IAML		17 08 28.6	
	comp=E,8.3nm,1.1s						
BCAR	**Beaver Creek A**	**3.12**	**351**		Pn	17 07 36.5	-1.9
L27K	**Beaver Creek,**	**3.12**	**351**	Pn	Pn	17 07 38.1	-0.4
L27K				Pg	Pb	17 07 45.5	+1.0
L27K	**Beaver Creek,**	**3.12**	**351**	Pb	Pb	17 07 44.5	0.0
	baz=170						
M30M	**Minto, Yukon**	**3.21**	**35**		Pn	17 07 37.9	-1.8
M30M				IAML		17 08 33.2	
	comp=E,9.8nm,0.8s						
M30M	**Minto, Yukon**	**3.21**	**35**	Pn	Pn	17 07 39.1	-0.6
M30M				Pg	Pb	17 07 46.0	0.0
M30M				Sg	Sb	17 08 28.4	+2.8
M30M	**Minto, Yukon**	**3.21**	**35**	Pb	Pb	17 07 45.8	-0.3
	baz=218						
M30M				Sb	Sb	17 08 27.5	+1.9
	baz=218						
GLI	**Glacier Island**	**3.27**	**288**	Pn	Pn	17 07 38.8	-1.6
MENT	**Mentasta**	**3.28**	**335**	Pn	Pn	17 07 37.7	-2.9
L26K	**Log Cabin Wild**	**3.29**	**339**		Pn	17 07 39.2	-1.5
P23K	**Montague Islan**	**3.35**	**273**	Pn	Pn	17 07 40.6	-0.8
L29M	**L29M**	**3.37**	**21**		Pn	17 07 40.5	-1.2
L29M				IAML		17 08 28.4	
	comp=N,10nm,0.6s						
L29M				IAML		17 08 50.9	
	comp=E,9.1nm,0.7s						
L29M	**L29M**	**3.37**	**21**	Pn	Pn	17 07 41.8	0.0
L29M				Pg	Pb	17 07 49.4	+0.8
L29M	**L29M**	**3.37**	**21**	P	Pn	17 07 41.2	-0.5
	baz=203,SNR=6.4						
M24K	**Tolsona, Glenn**	**3.39**	**311**	Pn	Pn	17 07 41.0	-1.1
M24K				IAML		17 08 41.4	
	comp=E,9.7nm,0.9s						

M24K IAML 17 09 01.9
comp=N,7.1nm,0.9s
R32K Eaglecrest 3.64 116 Pn Pn 17 07 43.5 -2.0
R32K IAML 17 09 23.2
comp=E,14nm,1.1s
R32K IAML 17 09 53.0
comp=N,7.8nm,1.1s
SCM Sheep Creek Mo 3.71 303 Pn Pn 17 07 44.2 -2.2
SCM IAML 17 09 13.9
comp=N,7.8nm,1.1s
SCM IAML 17 09 49.1
comp=E,6.1nm,1.1s
M31M Drury Creek, Y 3.79 52 Pn 17 07 45.0 -2.6
M31M IAML 17 08 51.5
comp=E,7.2nm,0.7s
M31M IAML 17 08 56.1
comp=N,6.8nm,1.1s
P33M Teslin, Yukon 3.97 83 Pn Pn 17 07 47.9 -2.2
P33M IAML 17 09 04.2
comp=N,4.7nm,1.0s
DOT Dot Lake 3.99 338 Pn Pn 17 07 47.9 -2.4
KNK Knik Glacier 4.05 294 Pn Pn 17 07 49.6 -1.6
SIT Sitka 4.09 134 Pn Pn 17 07 51.7 +0.1
K27K Chicken 4.10 352 Pn Pn 17 07 51.4 -0.4
SML Sawmill 4.13 299 Pn Pn 17 07 51.9 -0.4
DAWY Dawson 4.13 8 Pn Pn 17 07 51.0 -1.4
K29M Barlow Dome 4.15 20 Pn Pn 17 07 50.5 -2.1
K29M IAML 17 09 05.5
comp=E,5.4nm,0.8s
SCRK Sand Creek 4.28 340 Pn Pn 17 07 51.4 -3.0
SEW Seward 4.37 275 Pn Pn 17 07 53.6 -1.9
Q32M Nakina River 4.44 100 Pn Pn 17 07 55.4 -1.3
Q32M IAML 17 09 20.0
comp=E,4.1nm,1.2s
Q32M IAML 17 10 35.6
comp=N,3.3nm,0.9s
EGAK Eagle 4.80 358 Pn Pn 17 07 58.9 -2.6
EGAK IAML 17 09 18.9
comp=N,4.9nm,0.8s
R33M Jennings River 4.99 93 Pn Pn 17 08 02.7 -1.4
J30M Hart River 5.04 22 Pn Pn 17 08 03.3 -1.5
SUA Susitna One 5.13 291 Pn Pn 17 08 04.8 -1.3
MMPY Sheldon Lake, 5.27 56 Pn Pn 17 08 07.5 -0.4
MMPY Sheldon Lake, 5.27 56 Pn Pn 17 08 07.5 -0.4
I26K Coal Creek Min 5.45 349 Pn Pn 17 08 09.7 -0.6
I30M Mount Dempster 5.62 19 Pn Pn 17 08 09.9 -2.8
TRF Thorofare Moun 5.71 311 Pn Pn 17 08 12.7 -1.3
H31M Peel River 6.52 24 Pn Pn 17 08 22.3 -2.7
KDAK Kodiak Island 6.53 255 Pn Pn 17 08 24.2 -0.8
Q19K Cape Douglas, 6.66 266 Pn Pn 17 08 26.5 -0.5
G27K Doyon Strip 6.85 357 Pn Pn 17 08 27.6 -2.0
G29M Pine Creek 7.05 9 Pn Pn 17 08 28.3 -4.0

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*BJI **05** 17:11:03.4, 5.″12N×126.″64E, h84km, mB4.9/6, mb4.6/32, Ms4.2/6, Ms7 4.0/6*
*NEIC **05** 17:11:08.0±1.6, 5.″69N±0.″05×126.″55E±0.″08, h75km±6km, mb4.5/65, Error ellipse: s-maj=12.1km s-min=5.9km az=69.0*
*IDC **05** 17:11:09.5±1.2, 5.″70N×126.″50E, h87km±9km, mb4.0/25, mbtmp4.4/28, MS3.3/7, Error ellipse: s-maj=19.4km s-min=9.0km az=72.0*
*DJA **05** 17:11:10.7±0.5, 6.″N±4.″×12.″7E±.″, h59km±7km, M4.8/23, mb4.8/23, mB5.3/8, MLv4.9/13, Mw(mB)4.7/8*
ISC 05 17:11:08.8±0.8,**5.70N**±0.″03×**126.″58E**±0.″06,**h83**km±7**km**, **n174**,σ1⁑**35**/182,**mb4.5**/53,**1C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.69**	**324**		**Pn**	**17 11 35.5**	**-1.2**
DAV				Sn	**Sn**	**17 11 55.6**	**-2.2**
DAV	**Davao City (W)**	**1.69**	**324**	P	**Pn**	**17 11 38.6**	**+2.0**
	516nm,0.4s,baz=90,slow=3.0,SNR=9.4						
DAV				S	**Sn**	**17 11 57.7**	**-0.1**
	532nm,0.3s,baz=120,slow=20,SNR=12						
DAV				LR	LR	17 12 31.5	
	comp=Z,340nm,21.2s,baz=125,slow=50						
SGSI	**Sangihe**	**2.25**	**208**	P	**Pn**	**17 11 45.0**	**+0.8**
TNTI	**Ternate**	**4.96**	**171**		**Pn**	**17 12 20.5**	**-0.3**
TNTI				Sn	**Sn**	**17 13 15.3**	**-1.6**
TNTI	**Ternate**	**4.96**	**171**	P	**Pn**	**17 12 21.1**	**+0.3**
KMSI	**Cibinong**	**5.71**	**207**	P	**Pn**	**17 12 32.1**	**+1.0**
MRSI	**Marisa**	**6.95**	**222**	P	**Pn**	**17 12 49.3**	**+1.3**
MRSI				S	**Sn**	**17 14 04.7**	**-0.9**
TOLI2	**Tolitoli**	**7.36**	**232**		**Pn**	**17 12 52.0**	**-1.6**
TOLI2				Sn	**Sn**	**17 14 12.0**	**-3.7**
TOLI2	**Tolitoli**	**7.36**	**232**	P	**Pn**	**17 12 52.8**	**-0.8**
LUWI	**Luwuk**	**7.70**	**210**		**Pn**	**17 12 55.4**	**-2.9**
LUWI				Sn	**Sn**	**17 14 25.1**	**+1.2**
LUWI	**Luwuk**	**7.70**	**210**	P	**Pn**	**17 13 02.5**	**+4.3**
LUWI	**Luwuk**	**7.70**	**210**	P	**Pn**	**17 13 01.6**	**+3.4**
	2μm184nm,1.0s						
SANI	**Sanana**	**7.72**	**184**	P	**Pn**	**17 12 55.3**	**-3.2**
	0.6nm4μm95nm,0.6s						
SWI	**Sorong**	**8.02**	**144**	P	**Pn**	**17 13 03.6**	**+1.0**
APSI	**Ampana**	**8.20**	**217**	P	Pn	17 13 10.9	+5.8
NLAI	**Namlea**	**8.89**	**177**	P	**Pn**	**17 13 12.8**	**-1.7**
MSAI	**Masohi**	**9.29**	**165**	P	Pn	17 13 25.6	+5.7
AAI	**Ambon**	**9.46**	**170**	P	**Pn**	**17 13 21.7**	**-0.6**
	51nm,0.5s						
FAKI	**Fak Fak**	**10.27**	**146**	Pn	**Pn**	**17 13 33.5**	**+0.2**
FAKI				Sn	**Sn**	**17 15 22.9**	**-3.8**
FAKI	**Fak Fak**	**10.27**	**146**	P	**Pn**	**17 13 34.7**	**+1.4**
FAKI	**Fak Fak**	**10.27**	**146**	P	**Pn**	**17 13 33.9**	**+0.6**
KKM	**Kota Kinabalu**	**10.31**	**272**	Pn	**Pn**	**17 13 35.1**	**+1.1**
KDI	**Kendari**	**10.37**	**202**	P	**Pn**	**17 13 34.4**	**-0.3**
SPSI	**Sidrap Palu**	**11.76**	**215**	P	**Pn**	**17 13 54.1**	**+0.5**
	2μm51nm,0.7s						
BBSI	**Bau Bau**	**11.81**	**200**	P	**Pn**	**17 13 55.3**	**+1.0**
	33nm,0.9s						
BKB	**Balikpapan**	**11.88**	**235**	Pn	Pn	17 13 50.9	-4.4
BNSI	**Bone**	**11.93**	**213**	P	**Pn**	**17 13 58.3**	**+2.4**
	27nm,0.6s						
KAPI	**Kappang**	**12.63**	**213**		**Pn**	**17 14 02.4**	**-3.1**
KAPI	**Kappang**	**12.63**	**213**	P	**Pn**	**17 14 06.3**	**+0.9**
	27nm,0.7s,baz=11,slow=8.7,SNR=8.9						
KAPI				LR	LR	17 19 00.4	
	comp=Z,69nm,21.2s,baz=47,slow=37						
BKSI	**Bulukumba**	**12.70**	**211**	P	**Pn**	**17 14 08.2**	**+1.9**
	15nm,1.1s						
SBUM	**Sibu**	**14.68**	**258**		**Pn**	**17 14 34.0**	**+1.8**
MMRI	**Maumere**	**14.88**	**197**	Pn	**Pn**	**17 14 32.8**	**-2.1**
EDFI	**Ende, Flores**	**15.15**	**199**	P	**Pn**	**17 14 40.5**	**+2.0**
	22nm,0.8s						
SOEI	**Soe**	**15.52**	**189**		**Pn**	**17 14 43.8**	**+0.6**
SOEI				IAmb	IAmb	17 15 03.0	
	comp=Z,34nm,0.8s						
SOEI	**Soe**	**15.52**	**189**	P	**P**	**17 14 49.9**	**+4.1**
SOEI	**Soe**	**15.52**	**189**	P	**P**	**17 14 48.6**	**+2.8**
	comp=Z,45nm,0.8s						
BATI	**Baumata**	**16.06**	**190**	P	**Pn**	**17 14 50.8**	**+0.9**
	comp=Z,45nm,0.5s,baz=347,slow=2.0,SNR=20						
BATI				S	**Sn**	**17 17 50.0**	**+2.4**
	comp=Z,4.4nm,0.4s,baz=0.0,slow=20,SNR=1.5						
BATI	**Baumata**	**16.06**	**190**	P	**P**	**17 14 52.3**	**+0.6**
	comp=Z,57nm,0.7s						
WSI	**Waingapu**	**16.50**	**202**	P	**P**	**17 15 00.2**	**+3.7**
	comp=Z,43nm,0.4s						
KSM	**Kuching**	**16.77**	**256**		**Pn**	**17 14 58.0**	**-0.6**
KSM				IAmb	IAmb	17 15 04.8	
	comp=Z,14nm,0.7s						
WBSI	**Waikabubak, Su**	**16.84**	**205**	P	**Pn**	**17 14 59.4**	**-0.1**
	comp=Z,32nm,0.7s						
PLAI	**Plampang**	**16.89**	**211**	P	**P**	**17 15 02.4**	**+1.6**
PLAI	**Plampang**	**16.89**	**211**	P	**Pn**	**17 15 00.3**	**+0.2**
	comp=Z,63nm,0.8s						
TWSI	**Taliwang, Sumb**	**17.29**	**214**	P	**P**	**17 15 05.3**	**0.0**
	comp=Z,34nm,0.9s						
TWG	**Pinlang**	**17.83**	**343**	P	**P**	**17 15 09.4**	**-1.8**
YULB	**Yu-li**	**18.31**	**344**	P	**P**	**17 15 14.8**	**-1.7**
TPUB	**Ta-pu**	**18.42**	**342**	P	**P**	**17 15 16.3**	**-1.4**
TPUB				IAmb	IAmb	17 15 22.5	
	comp=Z,31nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.75**	**221**	P	**P**	**17 15 21.6**	**+0.3**
JAGI				IAmb	IAmb	17 15 59.0	
	comp=Z,45nm,1.3s						
JAGI	**Jajag, Banyuwa**	**18.75**	**221**	P	**P**	**17 15 22.3**	**+1.0**
SSLB	**Suanglung**	**18.78**	**344**	P	**P**	**17 15 22.3**	**+0.6**
DLV	**Lat**	**18.91**	**290**		**P**	**17 15 23.2**	**-0.1**
DLV				IAmb	IAmb	17 15 26.5	
	comp=Z,15nm,0.7s						
NACB	**Ninganchiao**	**18.98**	**346**	P	**P**	**17 15 23.5**	**-0.3**
NACB				IAmb	IAmb	17 15 47.3	
	comp=Z,34nm,1.5s						
YHNB	**Yeheng**	**19.51**	**346**	P	**P**	**17 15 29.8**	**+0.1**
YHNB				IAmb	IAmb	17 15 57.6	
	comp=Z,25nm,1.2s						
GUMO	**Guam**	**19.65**	**65**	P	**Pn**	**17 15 32.7**	**-0.7**
	comp=Z,8.7nm,0.3s,baz=300,slow=8.8,SNR=4.6						
GUMO				LR	LR	17 22 08.6	
	comp=Z,34nm,20.5s,baz=97,slow=33						
JOW	**Kunigami**	**21.08**	**4**	LR	LR	17 23 13.7	
	comp=Z,24nm,20.6s,baz=136,slow=34						
KNRA	**Kununurra**	**21.35**	**174**		**P**	**17 15 48.7**	**-0.6**
KNRA				IAmb	IAmb	17 15 50.9	
	comp=Z,37nm,0.7s						
MYKOM	**Kota Tinggi**	**23.00**	**261**	P	**P**	**17 16 05.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**23.66**	**182**		**P**	**17 16 11.8**	**-1.2**
PMG	**Port Moresby**	**25.41**	**126**	LR	LR	17 26 55.6	
	comp=Z,38nm,18.1s,baz=311,slow=37						
COEN	**Coen**	**25.55**	**140**	P	**P**	**17 16 27.5**	**-2.6**
COEN				IAmb	IAmb	17 16 40.3	
	comp=Z,10.0nm,0.9s						
COEN	**Coen**	**25.55**	**140**	P	**P**	**17 16 30.1**	**0.0**
WB0	**Warramunga Arr**	**26.45**	**163**	P	**P**	**17 16 36.5**	**-1.7**
WRAB	**Tennant Creek**	**26.59**	**163**	P	**P**	**17 16 38.2**	**-1.3**
WRAB	**Tennant Creek**	**26.59**	**163**	P	**P**	**17 16 39.3**	**-0.2**
WRA	**Warramunga Arr**	**26.60**	**164**	P	**P**	**17 16 38.2**	**-1.3**
WRA	**Warramunga Arr**	**26.60**	**164**	P	**P**	**17 16 39.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=341,slow=10,SNR=38						
WRA				PcP	**PcP**	**17 20 02.4**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=341,slow=2.2,SNR=4.6						
WRA				ScP	**ScP**	**17 23 36.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=347,slow=3.2,SNR=3.0						
	comp=Z,0.8nm,0.4s						
WR8	**Warramunga Arr**	**26.66**	**163**	P	**P**	**17 16 38.7**	**-1.3**
NJ2	**Nanjing**	**27.20**	**346**	*e*P	**P**	**17 16 46.2**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MBWA	**Marble Bar**	**27.52**	**194**	P	**P**	**17 16 46.7**	**-1.1**
MBWA				IAmb	IAmb	17 16 51.8	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**27.89**	**193**	P	**P**	**17 16 49.5**	**-1.6**
PSA00	**Pilbara Seismi**	**27.89**	**193**	P	**P**	**17 16 49.6**	**-1.5**
PSA00				IAmb	IAmb	17 17 12.2	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**27.89**	**193**	P	**P**	**17 16 50.9**	**-0.2**
QIS	**Mount Isa**	**29.06**	**154**	P	**P**	**17 17 02.1**	**+0.6**
GSI	**Gunungsitoli**	**29.27**	**263**	P	**P**	**17 17 01.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**29.79**	**298**	P	**P**	**17 17 08.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=115,slow=7.6,SNR=12						
CMAR				PcP	**PcP**	**17 20 11.3**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=109,slow=3.9,SNR=1.8						
	comp=Z,0.9nm,0.6s						
CHTO	**Chiang Mai**	**29.92**	**298**	P	**P**	**17 17 09.6**	**+0.4**
CHTO				IAmb	IAmb	17 17 10.7	
	comp=Z,3.3nm,0.5s						
AS31	**Alice Springs**	**30.05**	**166**	P	**P**	**17 17 09.3**	**-0.9**
ASAR	**Alice Springs**	**30.05**	**166**	P	**P**	**17 17 09.7**	**-0.5**
ASAR	**Alice Springs**	**30.05**	**166**	P	**P**	**17 17 10.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=348,slow=7.6,SNR=40						
ASAR				PcP	**PcP**	**17 20 11.2**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=348,slow=2.4,SNR=19						
ASAR				ScP	**ScP**	**17 23 46.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=344,slow=3.0,SNR=1.9						
	comp=Z,0.8nm,0.4s						
GIRL	**Giralia**	**30.64**	**203**	P	**P**	**17 17 15.3**	**-0.2**
INU	**Inuyama**	**31.04**	**17**	P	**P**	**17 17 18.8**	**0.0**
INU				IAmb	IAmb	17 17 21.3	
	comp=Z,17nm,1.2s						
PZH	**PanZhiHua**	**31.45**	**314**	P	**P**	**17 17 24.3**	**+1.5**
KSAR	**Wonju Array Be**	**31.62**	**2**	P	**P**	**17 17 23.2**	**-0.7**
KSRS	**Korea Array**	**31.63**	**2**	P	**P**	**17 17 25.4**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=184,slow=9.5,SNR=1.2						
KSRS				LR	LR	17 33 17.3	
	comp=Z,6μm,18.1s,baz=15,slow=42						
	comp=Z,1.2nm,0.9s						
CTAO	**Charters Tower**	**32.11**	**143**	P	**P**	**17 17 27.6**	**-0.9**
CTAO				IAmb	IAmb	17 18 10.2	
	comp=Z,9.6nm,1.1s						
MJAR	**Matsushiro Arr**	**32.50**	**18**	P	**P**	**17 17 31.3**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=190,slow=8.8,SNR=4.9						
	comp=Z,1.8nm,0.9s						
XAN	**Xi'an**	**32.61**	**332**	⇑P	**P**	**17 17 32.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				LR	LR		
	comp=Z,150nm,15.8s						
XAN				LR	LR		
	comp=Z,170nm,16.5s						
XAN				LR	LR		
	comp=Z,120nm,11.0s						
MEEK	**Meekatharra**	**33.06**	**193**	P	**P**	**17 17 36.5**	**-0.1**
HNS	**HongShan**	**33.36**	**343**	⇓P	**P**	**17 17 42.0**	**+2.9**
JMM	**Marumori**	**34.54**	**20**	P	**P**	**17 17 49.5**	**+0.2**
BJT	**Baijiatuau**	**35.43**	**346**	P	**P**	**17 17 56.7**	**-0.3**
BJI	**Beijing**	**35.45**	**346**	P	**P**	**17 17 58.8**	**+1.7**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INKA	**Innaminka**	**35.95**	**158**	P	**P**	**17 18 00.5**	**-1.1**
MORW	**Morawa**	**36.02**	**196**	P	**P**	**17 18 01.2**	**-1.0**
MORW	**Morawa**	**36.02**	**196**	P	**P**	**17 18 02.3**	**+0.1**
FORT	**Forrest**	**36.30**	**178**	P	**P**	**17 18 04.2**	**-0.3**
FORT				IAmb	IAmb	17 18 17.5	
	comp=Z,7.7nm,0.9s						
LZDM	**Lanzhou Array**	**36.73**	**328**	P	**P**	**17 18 09.1**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=141,slow=14,SNR=2.3						
	comp=Z,1.4nm,0.3s						
LZH	**Lanzhou**	**36.75**	**328**	*e*P	**P**	**17 18 09.9**	**+1.4**
LZH				pmax	pmax		
	comp=Z,22nm,1.4s						
BLDU	**Ballidu**	**37.32**	**194**	P	**P**	**17 18 12.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**37.50**	**341**	*e*P	**P**	**17 18 17.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,60nm,3.6s						
HHC				LR	LR		
	comp=Z,88nm,12.9s						
HHC				LR	LR		
	comp=Z,130nm,12.6s						
HHC				LR	LR		
	comp=Z,120nm,12.7s						
USRK	**Ussuriysk Ar.**	**38.64**	**6**	P	**P**	**17 18 25.1**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=189,slow=8.4,SNR=6.6						
	comp=Z,4.2nm,0.6s						
MUN	**Mundaring**	**38.75**	**194**	P	**P**	**17 18 25.3**	**+0.1**
XLT	**XiLinHaoTe**	**39.15**	**348**	*e*P	**P**	**17 18 29.7**	**+1.2**
XLT				pP	pP	17 18 45.4	-2.4
XLT				sP	sP	17 18 57.8	+0.7
XLT				PP	**PnPn**	**17 20 05.8**	**+2.6**
XLT				pmax	pmax		
	comp=Z,15nm,0.9s						
BBOO	**Buckleboo**	**39.34**	**167**	P	**P**	**17 18 29.6**	**-0.5**
BBOO	**Buckleboo**	**39.34**	**167**	P	**P**	**17 18 30.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**39.42**	**192**	P	**P**	**17 18 30.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.42**	**192**	P	**P**	**17 18 31.1**	**+0.3**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**17 18 35.0**	**-0.7**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**17 18 35.9**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=329,slow=11,SNR=7.7						
STKA				PcP	**PcP**	**17 20 39.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=338,slow=5.4,SNR=1.6						
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**17 18 36.1**	**+0.4**
JKA	**Kamikawa-asahi**	**40.77**	**18**	P	**P**	**17 18 43.5**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**41.12**	**68**	T	T	18 02 55.0	
	baz=258,slow=70,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**41.13**	**68**	T	T	18 02 59.4	
	baz=258,slow=70,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**41.14**	**68**	T	T	18 02 47.7	
	baz=258,slow=70,SNR=10						
GTA	**Gaotai**	**41.35**	**328**	P	**P**	**17 18 48.1**	**+1.3**
GTA				pP	pP	17 19 09.9	+3.6
GTA				PcP	**PcP**	**17 20 45.8**	**+2.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**41.59**	**67**	T	T	18 03 33.6	
	baz=254,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**41.60**	**67**	T	T	18 03 29.7	
	baz=254,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**41.61**	**67**	T	T	18 03 36.4	
	baz=254,slow=75,SNR=4.0						
ARMA	**Armidale**	**43.19**	**148**	P	**P**	**17 19 02.1**	**+0.2**
ARMA				IAmb	IAmb	17 19 25.5	
	comp=Z,22nm,1.5s						
EVN	**Everest**	**43.72**	**305**	P	**P**	**17 19 06.2**	**-0.6**
EVN				IAmb	IAmb	17 19 08.6	
	comp=Z,5.8nm,1.0s						
ULN	**Ulaanbaatar**	**45.22**	**342**	P	**P**	**17 19 17.4**	**-0.4**
ULN				IAmb	IAmb	17 19 25.1	
	comp=Z,3.5nm,0.6s						
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**17 19 18.3**	**-0.9**
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**17 19 19.7**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=156,slow=8.8,SNR=6.7						
SONM				PcP	**PcP**	**17 20 58.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=161,slow=4.2,SNR=4.5						
	comp=Z,1.3nm,0.4s						
DZM	**Mont Dzumac**	**47.81**	**127**	P	**P**	**17 19 37.8**	**-0.6**
DZM				IAmb	IAmb	17 19 46.4	
	comp=Z,16nm,1.2s						
WMQ	**Urumqi**	**51.04**	**324**	*e*P	**P**	**17 20 03.0**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				LR	LR		
	comp=Z,380nm,15.9s						
WMQ				LR	LR		
	comp=Z,190nm,23.9s						
PETK	**Petropavlovsk-**	**53.68**	**23**	P	**P**	**17 20 22.7**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=214,slow=7.1,SNR=2.6						
	comp=Z,4.6nm,0.8s						
MKAR	**Makanchi Array**	**55.87**	**325**	P	**P**	**17 20 37.8**	**-0.2**
MKAR				PcP	**PcP**	**17 21 35.8**	**0.0**
MKAR	**Makanchi Array**	**55.87**	**325**	P	**P**	**17 20 38.0**	**+0.1**
	comp=Z,5.0nm,0.4s,baz=119,slow=7.5,SNR=89						
MKAR				PcP	**PcP**	**17 21 36.1**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=114,slow=4.3,SNR=7.1						
	comp=Z,5.0nm,0.4s						
YAK	**Yakutsk**	**56.26**	**2**	P	**P**	**17 20 39.8**	**-0.5**
KSH	**Kashi**	**56.56**	**314**	P	**P**	**17 20 44.2**	**+1.1**
NIL	**Nilore**	**56.62**	**307**		**P**	**17 20 42.5**	**-1.0**
KDJ	**Kajisay**	**56.79**	**318**	P	**P**	**17 20 44.8**	**0.0**
KDJ				IAmb	IAmb	17 20 46.0	
	comp=Z,4.3nm,1.0s						
BOOM	**Boomskoye usch**	**57.78**	**317**	P	**P**	**17 20 51.3**	**-0.4**
BOOM				IAmb	IAmb	17 20 57.4	
	comp=Z,3.3nm,1.2s						
ZAA0	**Zalesovo Array**	**58.78**	**333**	P	**P**	**17 20 57.7**	**-0.5**
ZAA0				IAmb	IAmb	17 21 00.9	
	comp=Z,3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**58.78**	**333**	P	**P**	**17 20 57.1**	**-1.1**
ZALV				PcP	**PcP**	**17 21 45.4**	**-1.7**
ZALV	**Zalesovo Beam**	**58.78**	**333**	P	**P**	**17 20 57.7**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=130,slow=6.7,SNR=14						
ZALV				PcP	**PcP**	**17 21 46.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=120,slow=5.6,SNR=4.4						
	comp=Z,2.3nm,0.3s						
ARSB	**Arslanbob**	**59.35**	**315**	P	**P**	**17 21 01.3**	**-1.4**
ARSB				IAmb	IAmb	17 21 04.9	
	comp=Z,2.4nm,0.5s						
KURBB	**Kurchatov Arra**	**60.01**	**327**	P	**P**	**17 21 06.3**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=124,slow=6.6,SNR=45						
KURBB				PcP	**PcP**	**17 21 52.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=124,slow=3.5,SNR=4.1						
	comp=Z,4.2nm,0.6s						
KURK	**Kurchatov**	**60.01**	**327**	P	**P**	**17 21 06.2**	**-0.6**
GAR	**Garm**	**60.49**	**312**	P	**P**	**17 21 09.6**	**-0.9**
CHGR	**Chuyangaron**	**61.26**	**311**	P	**P**	**17 21 14.4**	**-1.2**
KK31	**Karatay Array**	**61.70**	**316**	P	**P**	**17 21 17.1**	**-1.3**
KK31				IAmb	IAmb	17 21 19.6	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**61.70**	**316**	P	**P**	**17 21 17.4**	**-1.1**
KHZ	**Kahutara**	**64.11**	**143**	P	**P**	**17 21 33.1**	**-1.2**
BKZ	**Black Stump Fm**	**64.14**	**139**	P	**P**	**17 21 33.9**	**-0.8**
KIWB	**Kanaga Island**	**65.16**	**35**	P	**P**	**17 21 40.5**	**-0.5**
BVAR	**Borovoye Array**	**65.60**	**327**	P	**P**	**17 21 42.7**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=98,slow=6.8,SNR=6.3						
	comp=Z,0.9nm,0.3s						
ATKA	**Atka Island**	**66.98**	**35**	P	**P**	**17 21 52.0**	**-0.6**
AB31	**Akbulak array**	**70.54**	**320**	P	**P**	**17 22 13.6**	**-1.3**
ABKAR	**Akbulak array**	**70.54**	**320**	P	**P**	**17 22 14.0**	**-0.9**
CASY	**Casey**	**72.74**	**187**	P	**P**	**17 22 27.0**	**-0.7**
CASY				IAmb	IAmb	17 22 32.3	
	comp=Z,3.3nm,0.8s						
E18K	**Tukpahlearik C**	**78.20**	**22**	P	**P**	**17 22 58.8**	**-0.2**
OHAK	**Old Harbor**	**79.89**	**33**	P	**P**	**17 23 09.1**	**+0.7**
OHAK				IAmb	IAmb	17 23 11.3	
	comp=Z,19nm,1.3s						
KDAK	**Kodiak Island**	**80.32**	**32**	P	**P**	**17 23 11.2**	**+0.5**
KBZ	**Khabaz**	**81.53**	**313**	P	**P**	**17 23 16.6**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=360,slow=10,SNR=2.2						
	comp=Z,1.4nm,0.7s						
I23K	**Minto, Yukon-K**	**82.36**	**25**	P	**P**	**17 23 22.6**	**+1.2**
I23K				IAmb	IAmb	17 23 50.9	
	comp=Z,7.2nm,1.4s						
ILAR	**Eielson Array**	**83.41**	**26**	P	**P**	**17 23 26.1**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=245,slow=5.4,SNR=7.2						
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**85.38**	**173**	P	**P**	**17 23 36.9**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=316,slow=6.5,SNR=10						
	comp=Z,0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**88.53**	**349**	P	**P**	**17 23 52.3**	**+0.4**
	comp=Z,12nm,0.9s,baz=94,slow=8.4,SNR=11	

PMG	**Port Moresby**	**3.09 190**	P	**Pn**	**17 42 19.9**	**-0.6**
MANU	**Manus Island**	**4.28 356**	Pn	**Pn**	**17 42 36.7**	**-0.1**
RABL	**Rabaul**	**4.93 65**		**Pn**	**17 42 45.0**	**-0.7**
JAY	**Jayapura**	**7.94 298**	P	**Pn**	**17 43 25.5**	**-1.4**
	0.4nm,0.3s,baz=102,slow=8.1,SNR=2.2					
	4.3nm,0.8s					
COEN	**Coen**	**8.78 210**	Pn	**Pn**	**17 43 37.4**	**-1.0**
COEN	**Coen**	**8.78 210**	P	**Pn**	**17 43 38.2**	**-0.2**
MTSU	**Mount Surprise**	**12.18 195**	P	**Pn**	**17 44 25.6**	**+0.7**
TATA	**Tatamba Isabel**	**12.18 100**	P	Pn	17 44 14.1	-11
HNR	**Honiara**	**12.52 105**	P	**Pn**	**17 44 29.0**	**-0.4**
	1.4nm,0.3s,baz=360,slow=16,SNR=1.2					
	9.4nm,0.3s					
CTAO	**Charters Tower**	**13.74 186**	Pn	**Pn**	**17 44 45.9**	**-0.1**
QIS	**Mount Isa**	**16.17 208**	P	**Pn**	**17 45 18.6**	**+1.2**
MTN	**Manton Dam**	**17.56 247**		**Pn**	**17 45 33.4**	**-1.3**
MTN			IAmb	IAmb	17 46 16.9	
	comp=Z,17nm,1.4s					
WB0	**Warramunga Arr**	**18.58 223**	P	**P**	**17 45 45.1**	**-1.2**
WB0			IAmb	IAmb	17 45 55.4	
	comp=Z,10nm,1.3s					
WR8	**Warramunga Arr**	**18.64 222**	P	**P**	**17 45 46.7**	**-0.2**
WR8			IAmb	IAmb	17 45 51.3	
	comp=Z,13nm,1.4s					
WRAB	**Tennant Creek**	**18.73 223**	P	**P**	**17 45 47.3**	**-0.5**
WRA	**Warramunga Arr**	**18.74 223**	P	**P**	**17 45 47.6**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=52,slow=11,SNR=39					
WRA			PcP	**PcP**	**17 50 14.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=28,slow=1.5,SNR=5.7					
	comp=Z,1.4nm,0.4s					
EIDS	**Eidsvold**	**19.20 171**	P	**P**	**17 45 53.4**	**+0.5**
QLP	**Quilpie**	**20.40 189**	P	**P**	**17 46 06.6**	**+0.6**
KNRA	**Kununurra**	**20.75 242**	P	**P**	**17 46 09.2**	**-0.7**
KNRA			IAmb	IAmb	17 46 39.5	
	comp=Z,11nm,1.1s					
AS31	**Alice Springs**	**21.74 216**	P	**P**	**17 46 20.6**	**+0.2**
AS31			IAmb	IAmb	17 46 23.9	
	comp=Z,4.4nm,0.4s					
ASAR	**Alice Springs**	**21.74 216**	P	**P**	**17 46 20.1**	**-0.4**
ASAR	**Alice Springs**	**21.74 216**	P	**P**	**17 46 20.6**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=52,slow=9.0,SNR=122					
ASAR			S	**S**	**17 50 19.7**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=26,slow=23,SNR=6.6					
	comp=Z,3.3nm,0.4s					
INKA	**Innaminka**	**22.29 196**	P	**P**	**17 46 25.4**	**-0.8**
SOEI	**Soe**	**23.44 260**	P	**P**	**17 46 37.8**	**-0.5**
DZM	**Mont Dzumac**	**23.93 133**	P	**P**	**17 46 42.2**	**-0.4**
ARMA	**Armidale**	**24.24 172**	P	**P**	**17 46 45.5**	**+0.2**
ARMA			IAmb	IAmb	17 46 50.7	
	comp=Z,7.4nm,1.0s					
ARMA	**Armidale**	**24.24 172**	P	**P**	**17 46 46.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.48 240**	P	**P**	**17 46 48.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.48 240**	P	**P**	**17 46 48.2**	**+0.7**
	comp=Z,6.7nm,0.5s,baz=55,slow=8.6,SNR=26					
	comp=Z,6.7nm,0.5s					
FITZ	**Fitzroy Crossi**	**24.48 240**	P	**P**	**17 46 48.1**	**+0.6**
CMSA	**Cobar Meteorol**	**25.14 184**	P	**P**	**17 46 54.5**	**+1.2**
STKA	**Stephens Creek**	**26.04 192**	P	**P**	**17 47 00.9**	**-0.6**
STKA	**Stephens Creek**	**26.04 192**	P	**P**	**17 47 01.5**	**0.0**
	comp=Z,1.7nm,0.4s,baz=5.0,slow=9.0,SNR=9.8					
	comp=Z,1.7nm,0.4s					
STKA	**Stephens Creek**	**26.04 192**	P	**P**	**17 47 01.9**	**+0.4**
BBOO	**Buckleboo**	**28.48 201**	P	**P**	**17 47 22.7**	**-0.7**
FORT	**Forrest**	**30.51 215**	P	**P**	**17 47 40.8**	**-0.5**
MBWA	**Marble Bar**	**30.82 239**	P	**P**	**17 47 44.3**	**0.0**
PSA00	**Pilbara Seismi**	**30.90 238**	P	**P**	**17 47 44.7**	**-0.2**
PSA00			IAmb	IAmb	17 48 01.5	
	comp=Z,5.9nm,1.5s					
PSA00	**Pilbara Seismi**	**30.90 238**	P	**P**	**17 47 44.1**	**-0.8**
PSA00			IAmb	IAmb	17 48 09.1	
	comp=Z,18nm,1.4s					
MORW	**Morawa**	**37.47 229**	P	**P**	**17 48 41.7**	**0.0**
TUWZ	**Tuamarina**	**42.04 150**	P	**P**	**17 49 18.8**	**-0.7**
KULM	**Kulim**	**48.36 283**	P	**P**	**17 50 09.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**54.02 298**	P	**P**	**17 50 54.4**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=109,slow=6.7,SNR=2.4					
	comp=Z,0.2nm,0.4s					
CASY	**Casey**	**65.12 196**	P	**P**	**17 52 08.0**	**+0.1**
CASY			IAmb	IAmb	17 52 12.7	
	comp=Z,2.3nm,1.1s					
MA2	**Magadan**	**65.75 2**	P	**P**	**17 52 11.4**	**-0.6**
VNDA	**Vanda**	**71.54 177**	P	**P**	**17 52 48.4**	**+0.5**
VNDA	**Vanda**	**71.54 177**	P	**P**	**17 52 48.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=333,slow=7.4,SNR=6.0					
	comp=Z,0.6nm,0.6s					
MAW	**Mawson**	**82.20 203**	P	**P**	**17 53 48.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=26,slow=6.7,SNR=2.1					
	comp=Z,0.4nm,0.3s					
QSPA	**South Pole Qui**	**83.63 180**	P	**P**	**17 53 57.5**	**+1.9**
QSPA			IAmb	IAmb	17 53 59.1	
	comp=Z,2.3nm,0.8s					
QSPA	**South Pole Qui**	**83.63 180**	P	**P**	**17 53 57.7**	**+2.1**
	comp=Z,1.4nm,0.6s,baz=5.8,slow=4.5,SNR=13					
	comp=Z,1.4nm,0.6s					
PLCA	**Paso Flores**	**121.46 147**	PKP	**PKPdf**	**18 00 21.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=256,slow=3.4,SNR=3.5					
TORD	**Torodi Ar. Bea**	**145.84 284**	PKPbc	**PKPdf**	**18 01 06.8**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=63,slow=4.4,SNR=12					
BDFB	**Brasilia**	**153.19 145**	PKPbc	**PKPbc**	**18 01 24.8**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=165,slow=2.4,SNR=4.0					

*TIR **05** 17:54:31.0,41°.48N×19°.42E,h25km±6km,Md2.9/4,Ml2.2/3*
*BEO **05** 17:54:38.9±0.5,41°.37N×19°.75E,h1km±3km,ML1.6/7*
ISC 05 17:54:34.6±1.4,**41°.33N**±0°.03×**19°.50E**±0°.05,**h2**km±11km,
n14,σ1°**23**/26,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**86**	Pg	**Pg**	**17 54 38.6**	**-1.3**
TIR				Sg	**Sg**	**17 54 44.0**	**+0.5**
TIR				AML	AML	17 54 45.2	
	1.2nm,0.5s						
TIR				AMd		17 55 11.3	
PDG	**Podgorica**	**1.11**	**351**	*e*Pg	**Pn**	**17 54 58.4**	**+1.2**
PDG				*e*Sg	**Sn**	**17 55 14.0**	**+0.9**
KBN	**Korca**	**1.20**	**126**	Sn	**Sn**	**17 55 16.9**	**+1.5**
NEST	**Nestorio**	**1.49**	**127**	Pn	**Pn**	**17 55 01.3**	**-1.1**
NEST				Sn	**Sg**	**17 55 22.9**	**+0.5**
NEST				AML	AML	17 55 29.2	
	0.1nm,0.6s						
NEST				AMd		17 56 09.6	
IGT	**Igoumenitsa**	**1.91**	**160**	Pn	**Pn**	**17 55 08.4**	**+0.3**
IGT				Sn	**Sb**	**17 55 34.8**	**+0.5**
IGT				AMd		17 56 23.7	
IGT	**Igoumenitsa**	**1.91**	**160**	*e*Pn	**Pg**	**17 55 11.3**	**+0.2**
IGT				*e*Sn	**Sg**	**17 55 37.4**	**+1.6**
NOCI	**Noci**	**1.92**	**254**	Sn	**Sn**	**17 55 30.5**	**-2.6**
NOCI				AML	AML	17 55 46.2	
	0.1nm,0.3s						
NOCI				AMd		17 56 34.3	
SJES	**Sjenica**	**1.96**	**10**	*e*Pn	**Pg**	**17 55 12.6**	**+0.4**
SJES				*e*Sn	**Sg**	**17 55 37.3**	**-0.3**
SELS	**Selova**	**2.24**	**32**	*e*Pn	**Pb**	**17 55 14.8**	**-0.9**
SELS				*e*Sn	**Sb**	**17 55 42.2**	**-1.7**
BARS	**Barje**	**2.27**	**49**	*e*Pn	**Pb**	**17 55 15.8**	**-0.6**
BARS				*e*Sn	**Sn**	**17 55 42.7**	**+0.9**
IVAS	**Ivanjica**	**2.29**	**12**	*e*Pn	**Pb**	**17 55 16.2**	**-0.6**
IVAS				*e*Sn	**Sb**	**17 55 44.3**	**-1.3**
BOSS	**Bosilegrad**	**2.51**	**61**	*e*Pn	**Pn**	**17 55 17.2**	**+0.8**
BOSS				*e*Sn	**Sn**	**17 55 46.4**	**-1.2**
BBLS	**Lazi&#263i**	**2.53**	**358**	*e*Pn	**Pb**	**17 55 21.3**	**+0.5**
BBLS				*e*Sn	**Sb**	**17 55 52.0**	**-0.5**
ZAPS	**Zavoj**	**3.03**	**49**	*e*Pn	**Pn**	**17 55 26.1**	**+2.5**
ZAPS				*e*Sn	**Sn**	**17 56 00.4**	**0.0**

IDC 05 18:00:15.3±3.5,**5°.69N×126°.89E,h127**km±28km,**mb3.0**/4,
mbtmp3.4/4,Error ellipse: s-maj=100.7km
s-min=21.0km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.89**	**317**	P	Pn	18 00 48.0	+0.3
	78nm,0.3s,baz=138,slow=5.5,SNR=2.1						
DAV				S	Sn	18 01 12.9	+0.4
	69nm,0.3s,baz=90,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**23.67**	**183**	P	P	18 05 15.3	0.0
	1.6nm,0.9s,baz=355,slow=11,SNR=1.8						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**26.51**	**164**	P	P	18 05 40.8	-0.2
	0.2nm,0.4s,baz=344,slow=10,SNR=12						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**29.97**	**167**	P	P	18 06 11.5	-0.4
	0.2nm,0.5s,baz=350,slow=7.7,SNR=7.7						
ASAR				PcP	PcP	18 09 13.0	+1.6
	0.4nm,1.0s,baz=2.3,slow=3.7,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**56.05**	**324**	P	P	18 09 40.0	-1.0
	0.3nm,0.6s,baz=109,slow=6.9,SNR=1.9						
	0.3nm,0.6s						

IDC 05 18:16:29.4±15.0,**17°.18S×177°.31W,h414**km±119km,
mb3.2/2,mbtmp4.1/3,Error ellipse: s-maj=287.9km
s-min=86.4km az=141.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.05**	**250**	P	P	18 19 53.7	+0.8
	5.3nm,0.8s,baz=307,slow=22,SNR=2.4						
WRA	**Warramunga Arr**	**45.80**	**259**	P	P	18 24 11.9	-0.5
	0.4nm,0.4s,baz=94,slow=7.8,SNR=7.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**45.99**	**254**	P	P	18 24 14.0	0.0
	2.2nm,0.4s,baz=90,slow=7.8,SNR=43						
	2.2nm,0.4s						
BRTR	**Keskin Array B**	**145.00**	**316**	PKPbc	PKPdf	18 35 18.2	-0.6
	0.3nm,0.3s,baz=54,slow=1.9,SNR=1.7						
MMAI	**Mount Meron Ar**	**146.61**	**304**	PKPbc	PKPbc	18 35 23.4	-0.5
	3.3nm,0.9s,baz=56,slow=5.9,SNR=2.0						

*NEIC **05** 18:16:40.6±1.4,5°.70S×0°.07×148°.96E±0°.08,h120km±9km,*
mb4.2/14,Error ellipse: s-maj=12.1km s-min=9.9km
az=116.0
*IDC **05** 18:16:41.2±3.7,5°.76S×149°.04E,h129km±29km,mb3.4/4,*
mbtmp3.9/6,Error ellipse: s-maj=34.9km s-min=24.0km
az=70.0
ISC 05 18:16:41.1±1.1,**5°.8S**±0°.1×**148°.86E**±0°.09,**h100**km,**n37,**
σ2°**21**/28,**mb4.1/6,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.64**	**65**	Pn	Pn	18 17 33.5	-2.1
MANU	**Manus Island**	**3.98**	**338**	Pn	Pn	18 17 38.5	-1.6
PMG	**Port Moresby**	**4.00**	**205**		**Pn**	**18 17 42.2**	**+1.7**
PMG				Sn	**Sn**	**18 18 27.1**	**+0.8**
PMG	**Port Moresby**	**4.00**	**205**	P	**Pn**	**18 17 42.1**	**+1.7**
	33nm,0.3s,baz=359,slow=5.0,SNR=55						
PMG				S	**Sn**	**18 18 29.8**	**+3.5**
	322nm,0.6s,baz=156,slow=21,SNR=25						
PMG	**Port Moresby**	**4.00**	**205**	P	**Pn**	**18 17 42.1**	**+1.7**
JAY	**Jayapura**	**8.75**	**291**	P	**Pn**	**18 18 47.0**	**+2.1**
	6.2nm,0.8s,baz=340,slow=20,SNR=2.1						
COEN	**Coen**	**9.89**	**214**	Pn	**Pn**	**18 19 01.2**	**+0.8**
COEN	**Coen**	**9.89**	**214**	P	**Pn**	**18 19 02.0**	**+1.6**
TATA	**Tatamba Isabel**	**11.17**	**104**	P	Pn	18 19 25.9	+8.1
ALEG	**Aligegeo Malai**	**12.11**	**105**	P	**Pn**	**18 19 35.0**	**+4.6**
MTSU	**Mount Surprise**	**13.08**	**199**	P	**Pn**	**18 19 44.3**	**+1.1**
QIS	**Mount Isa**	**17.24**	**211**	P	**Pn**	**18 20 35.0**	**-0.8**
MTN	**Manton Dam**	**18.85**	**247**	P	**P**	**18 20 52.0**	**-1.5**
MTN				IAmb	IAmb	18 21 18.1	
	comp=Z,14nm,1.2s						
DRS	**Darwin Rock St**	**18.93**	**248**	P	**P**	**18 20 54.8**	**+0.5**
EIDS	**Eidsvold**	**19.62**	**174**	P	**P**	**18 20 59.7**	**-2.1**
EIDS	**Eidsvold**	**19.62**	**174**	P	**P**	**18 21 01.1**	**-0.7**
WR8	**Warramunga Arr**	**19.85**	**223**	P	**P**	**18 21 03.6**	**-0.8**
WR8				IAmb	IAmb	18 21 05.2	
	comp=Z,5.1nm,0.9s						
WRAB	**Tennant Creek**	**19.94**	**224**	P	**P**	**18 21 04.6**	**-0.8**
WRA	**Warramunga Arr**	**19.96**	**224**	P	**P**	**18 21 04.4**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=51,slow=11,SNR=54						
	comp=Z,3.2nm,0.5s						
KNRA	**Kununurra**	**22.05**	**242**	P	**P**	**18 21 25.6**	**-2.3**
AS31	**Alice Springs**	**22.90**	**217**	P	**P**	**18 21 35.2**	**-1.5**
ASAR	**Alice Springs**	**22.90**	**217**	P	**P**	**18 21 34.8**	**-1.9**
ASAR	**Alice Springs**	**22.90**	**217**	P	**P**	**18 21 35.2**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=52,slow=8.8,SNR=114						
	comp=Z,2.0nm,0.5s						
INKA	**Innaminka**	**23.19**	**199**	P	**P**	**18 21 36.8**	**-2.5**
INKA				IAmb	IAmb	18 21 39.1	
	comp=Z,8.7nm,1.1s						
DZM	**Mont Dzumac**	**23.50**	**135**	P	**P**	**18 21 38.5**	**-3.8**
DZM				IAmb	IAmb	18 21 39.3	
	comp=Z,17nm,1.3s						
DZM	**Mont Dzumac**	**23.50**	**135**	P	**P**	**18 21 38.5**	**-3.8**
	comp=Z,7.8nm,1.1s,baz=285,slow=5.3,SNR=2.0						
	comp=Z,7.8nm,1.1s						
ARMA	**Armidale**	**24.67**	**174**	P	**P**	**18 21 50.2**	**-2.7**
ARMA				IAmb	IAmb	18 22 12.6	
	comp=Z,15nm,1.4s						
ARMA	**Armidale**	**24.67**	**174**	P	**P**	**18 21 52.2**	**-0.7**
MBWA	**Marble Bar**	**32.11**	**239**	P	P	18 22 56.5	-2.6
NACB	**Ninganchiao**	**39.89**	**319**	P	P	18 24 03.1	-2.3
RTZ	**Ruatahuna**	**41.46**	**146**	P	P	18 24 15.5	-2.8
TUWZ	**Tuamarina**	**41.98**	**152**	P	P	18 24 19.7	-2.7
STCH	**Steam Cracks**	**60.52**	**64**	P	P	18 26 37.1	-4.2
CASY	**Casey**	**65.99**	**196**	P	P	18 27 12.8	-3.8
CASY				IAmb	IAmb	18 27 50.6	
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**72.05**	**177**	P	P	18 27 50.7	-3.2
KURBB	**Kurchatov Arra**	**82.15**	**323**	P	P	18 28 47.9	-3.0
	comp=Z,0.1nm,0.5s,baz=101,slow=4.4,SNR=1.7						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.82**	**285**	PKPbc	**PKPdf**	**18 36 09.3**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=75,slow=3.0,SNR=1.6						

*NEIC **05** 18:28:31.4±2.2,10°.13N±0°.07×126°.0E±0°.1,h72km±7km,*
mb4.3/37,Error ellipse: s-maj=16.1km s-min=9.7km
az=81.0
*IDC **05** 18:28:36.6±2.0,10°.28N×126°.07E,h121km±17km,*
mb3.7/20,mbtmp4.1/22,MS3.6/24,Error ellipse:
s-maj=28.3km s-min=9.7km az=72.0
ISC 05 18:28:36.2±0.4,**10°.12N**±0°.05×**125°.86E**±0°.09,**h121**km,**n95,**
σ1°**48**/74,**mb4.0**/33,**Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.04**	**185**	Pn	Pn	18 29 16.2	-6.9
DAV	**Davao City (W)**	**3.04**	**185**	P	Pn	18 29 26.5	+3.4
	118nm,0.4s,baz=283,slow=12,SNR=7.0						
DAV				S	**Sn**	**18 30 04.6**	**+5.3**
	310nm,0.5s,baz=274,slow=23,SNR=6.9						
TGY	**Tagaytay City**	**6.23**	**310**	P	**Pn**	**18 30 08.2**	**+2.4**
	116nm,0.3s,baz=306,slow=20,SNR=3.7						
TGY				LR	LR	18 32 47.4	
	comp=Z,867nm,19.1s,baz=134,slow=40						
TNTI	**Ternate**	**9.41**	**171**	Pn	**Pn**	**18 30 44.2**	**-4.5**
KKM	**Kota Kinabalu**	**10.37**	**248**	Pn	**Pn**	**18 30 59.1**	**-2.7**
LUWI	**Luwuk**	**11.51**	**196**	Pn	**Pn**	**18 31 13.0**	**-3.9**
TWG	**Pinlang**	**13.44**	**341**	Pn	**Pn**	**18 31 41.7**	**-0.3**
YULB	**Yu-li**	**13.90**	**342**	Pn	**Pn**	**18 31 48.3**	**+0.3**
TPUB	**Ta-pu**	**14.03**	**340**		**Pn**	**18 31 49.4**	**-0.3**
SSLB	**Suanglung**	**14.38**	**342**	Pn	Pn	18 31 47.6	-6.5
FAKI	**Fak Fak**	**14.43**	**154**		Pn	18 31 49.3	-5.6
YHNB	**Yeheng**	**15.09**	**344**	Pn	**Pn**	**18 32 01.0**	**-2.1**
YHNB				IAmb	IAmb	18 32 30.9	
	comp=Z,29nm,1.2s						
SBUM	**Sibu**	**15.54**	**242**	P	**P**	**18 32 10.1**	**-0.5**
KAPI	**Kappang**	**16.22**	**202**	LR	LR	18 38 47.6	
	comp=Z,152nm,20.0s,baz=30,slow=37						
GUMO	**Guam**	**18.92**	**78**	LR	LR	18 39 53.6	
	comp=Z,75nm,18.6s,baz=250,slow=36						
BATI	**Baumata**	**20.31**	**186**	P	Pn	18 33 05.1	-0.9
	comp=Z,24nm,0.9s,baz=243,slow=5.1,SNR=4.4						
BATI				LR	LR	18 41 09.5	
	comp=Z,280nm,19.7s,baz=250,slow=37						
	comp=Z,24nm,0.9s						
JNU	**Nakatsue**	**23.35**	**11**	LR	LR	18 42 16.8	
	comp=Z,53nm,20.6s,baz=186,slow=35						
MTN	**Manton Dam**	**23.41**	**167**	P	**P**	**18 33 33.5**	**-0.9**
MTN				IAmb	IAmb	18 33 47.2	
	comp=Z,25nm,1.4s						
KULM	**Kulim**	**25.43**	**261**	P	**P**	**18 33 54.3**	**+1.4**
KULM				IAmb	IAmb	18 33 57.5	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**25.79**	**174**	P	**P**	**18 33 56.0**	**0.0**
KNRA				IAmb	IAmb	18 34 13.8	
	comp=Z,10nm,0.8s						
JHJ	**Hachijo jima 2**	**26.23**	**27**	LR	LR	18 44 05.4	
	comp=Z,49nm,20.1s,baz=140,slow=36						
KSRS	**Korea Array**	**27.28**	**4**	P	**P**	**18 34 07.8**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=179,slow=9.7,SNR=4.7						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.34**	**291**	P	**P**	**18 34 09.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.34**	**291**	P	**P**	**18 34 11.8**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=98,slow=7.5,SNR=26						
CMAR				LR	LR	18 44 53.0	
	comp=Z,51nm,18.1s,baz=120,slow=36						
	comp=Z,2.3nm,0.7s						
CHTO	**Chiang Mai**	**27.43**	**291**	P	**P**	**18 34 10.8**	**0.0**
JGF	**Kuroka**	**27.44**	**21**	P	**P**	**18 34 08.9**	**-1.9**
JGF				IAmb	IAmb	18 34 15.7	
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**28.04**	**180**	P	**P**	**18 34 14.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**28.04**	**180**	P	**P**	**18 34 17.5**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=346,slow=8.3,SNR=9.5						
	comp=Z,1.4nm,0.5s						
MJAR	**Matsushiro Arr**	**28.58**	**21**	LR	LR	18 45 58.9	
	comp=Z,71nm,18.5s,baz=209,slow=37						
WB0	**Warramunga Arr**	**30.87**	**164**	P	**P**	**18 34 39.5**	**-1.7**
WB0				IAmb	IAmb	18 34 57.8	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**31.02**	**164**	P	**P**	**18 34 42.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=341,slow=8.4,SNR=9.7						
	comp=Z,0.4nm,0.6s						
WR8	**Warramunga Arr**	**31.07**	**164**	P	**P**	**18 34 40.6**	**-2.4**
WR8				IAmb	IAmb	18 35 21.7	
	comp=Z,9.0nm,1.3s						
AS31	**Alice Springs**	**34.49**	**167**	P	**P**	**18 35 11.1**	**-1.7**
ASAR	**Alice Springs**	**34.49**	**167**	P	**P**	**18 35 10.8**	**-2.0**
ASAR	**Alice Springs**	**34.49**	**167**	P	**P**	**18 35 13.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=350,slow=7.6,SNR=34						
ASAR				PcP	**PcP**	**18 37 46.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=341,slow=2.4,SNR=6.6						
ASAR				LR	LR	18 53 05.2	
	comp=Z,94nm,18.1s,baz=280,slow=42						
	comp=Z,0.4nm,0.3s						
BRDH	**Bariadhala**	**35.02**	**295**	LR	LR	18 53 01.2	
	comp=Z,151nm,18.1s,baz=130,slow=42						
HNR	**Honiara**	**39.09**	**119**	LR	LR	18 50 24.6	
	comp=Z,47nm,21.6s,baz=232,slow=34						
H11N1	**WAKE ISLAND Hy**	**40.68**	**72**	T	T	19 19 20.7	
	baz=265,slow=74,SNR=110						
H11N2	**WAKE ISLAND Hy**	**40.69**	**72**	T	T	19 19 21.3	
	baz=265,slow=74,SNR=84						
H11N3	**WAKE ISLAND Hy**	**40.70**	**72**	T	T	19 19 22.1	
	baz=265,slow=74,SNR=137						
FORT	**Forrest**	**40.72**	**177**	P	**P**	**18 36 05.4**	**+0.3**
EVN	**Everest**	**40.72**	**301**	P	**P**	**18 36 05.1**	**-0.8**
EVN				IAmb	IAmb	18 36 16.7	
	comp=Z,4.2nm,1.3s						
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**18 36 08.7**	**+1.2**
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**18 36 07.8**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=162,slow=8.3,SNR=8.1						
SONM				PcP	**PcP**	**18 38 05.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=169,slow=2.9,SNR=3.3						
	comp=Z,1.4nm,0.8s						
EIDS	**Eidsvold**	**42.99**	**146**	P	**P**	**18 36 23.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.59**	**191**	P	**P**	**18 36 30.6**	**+2.3**
BBOO	**Buckleboo**	**43.78**	**168**	P	**P**	**18 36 31.9**	**+2.0**
PALK	**Pallekele**	**44.70**	**270**	LR	LR	18 56 22.7	
	comp=Z,62nm,19.1s,baz=84,slow=37						
PETK	**Petropavlovsk-**	**49.94**	**25**	LR	LR	18 58 06.2	
	comp=Z,34nm,20.2s,baz=203,slow=36						
YAK	**Yakutsk**	**51.89**	**2**	P	**P**	**18 37 31.1**	**-0.8**
YAK	**Yakutsk**	**51.89**	**2**	LR	LR	19 00 22.4	
	comp=Z,37nm,19.4s,baz=222,slow=37						
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**18 37 32.6**	**+0.2**
MKAR				PcP	**PcP**	**18 38 42.6**	**-0.9**
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**18 37 32.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=120,slow=7.8,SNR=21						
MKAR				PcP	**PcP**	**18 38 44.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=90,slow=6.1,SNR=3.8						
MKAR				LR	LR	19 01 47.2	
	comp=Z,68nm,18.5s,baz=121,slow=38						
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**52.79**	**16**	LR	LR	18 59 14.4	
	comp=Z,20nm,20.5s,baz=219,slow=35						
KDJ	**Kajisay**	**53.11**	**316**	P	**P**	**18 37 41.1**	**-0.5**
KDJ				IAmb	IAmb	18 38 03.8	
	comp=Z,3.0nm,0.8s						
BOOM	**Boomskoye usch**	**54.10**	**316**	P	**P**	**18 37 49.0**	**+0.2**
BOOM				IAmb	IAmb	18 37 53.1	
	comp=Z,5.7nm,1.5s				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.32	194	P	P	18 38 09.1	0.0
	11nm,1.0s,baz=301,slow=3.8,SNR=7.4 11nm,1.0s						
JAY	Jayapura	44.61	286	P	P	18 41 41.2	+0.2
	4.2nm,0.5s,baz=166,slow=4.7,SNR=6.5 4.2nm,0.5s						
WRA	Warramunga Arr	46.06	260	P	P	18 41 51.9	-0.5
	0.3nm,0.5s,baz=94,slow=7.8,SNR=11 0.3nm,0.5s						
ASAR	Alice Springs	46.13	255	P	P	18 41 52.9	0.0
	1.5nm,0.5s,baz=89,slow=8.4,SNR=32 1.5nm,0.5s						
GERES	GERESS Array B	148.66	347	PKPbc	PKPbc	18 53 10.7	-0.7
	0.2nm,0.3s,baz=43,slow=3.3,SNR=2.1						

*IDC **05** 18:38:22.2±1.5, 10.°45N×126.°34E, h0km, mb3.5/6, mbtmp3.6/7, MS3.1/2, Error ellipse: s-maj=53.9km s-min=18.4km az=70.0*

ISC 05 18:38:28.1±1.5, 10.°4N±0.°1×126.°4E±0.°3, h44km, n11, σ0§61/8, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.42	193	Pn	Pn	18 39 18.1	-0.8
	88nm,0.4s,baz=270,slow=6.2,SNR=1.2						
DAV				Sn	Sn	18 39 59.0	+0.7
	30nm,0.3s,baz=72,slow=20,SNR=1.5						
DAV				LR	LR	18 40 55.8	
	comp=Z,260nm,19.0s,baz=358,slow=45						
TGY	Tagaytay City	6.43	305	LR	LR	18 42 39.5	
	comp=Z,146nm,18.6s,baz=120,slow=40						
CMAR	Chiang Mai Arr	27.69	290	P	P	18 44 12.6	+0.2
	0.6nm,0.7s,baz=101,slow=9.5,SNR=8.3 0.6nm,0.7s						
WRA	Warramunga Arr	31.18	165	P	P	18 44 43.3	+0.1
	0.2nm,0.6s,baz=342,slow=8.5,SNR=1.7 0.2nm,0.6s						
ASAR	Alice Springs	34.68	168	P	P	18 45 13.9	+0.2
	0.3nm,0.6s,baz=350,slow=7.0,SNR=13 0.3nm,0.6s						
H11N1	WAKE ISLAND Hy	40.13	72	T	T	19 29 17.3	
	baz=265,slow=75,SNR=31						
H11N2	WAKE ISLAND Hy	40.14	72	T	T	19 29 19.0	
	baz=265,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	40.15	72	T	T	19 29 18.6	
	baz=265,slow=75,SNR=30						
MKAR	Makanchi Array	51.96	323	P	P	18 47 32.1	-0.6
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.0 0.2nm,0.3s						
ZALV	Zalesovo Beam	54.53	331	P	P	18 47 51.8	+0.3
	0.3nm,0.3s,baz=129,slow=3.9,SNR=1.7 0.3nm,0.3s						
KURBB	Kurchatov Arra	55.99	325	P	P	18 48 02.5	+0.4
	0.3nm,0.5s,baz=119,slow=6.6,SNR=1.7 0.3nm,0.5s						

*IDC **05** 18:43:15.2±7.4, 36.°46N×71.°66E, h194km±59km, mb2.9/2, mbtmp3.6/7, MS3.2/1, Error ellipse: s-maj=95.0km s-min=44.5km az=79.0*

*NNC **05** 18:43:16.2±7.2, 37.°08N×70.°59E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=72.6km s-min=47.4km az=144.0*

ISC 05 18:43:14.3±1.5, 36.°6N±0.°1×71.°0E±0.°2, h200km, n11, σ1§86/13, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.48	357	P	Pn	18 44 48.2	+0.6
	0.8nm,0.3s,baz=184,slow=13,SNR=32						
KK31				⇑S	Sn	18 45 57.5	-4.2
	8.3nm,0.3s,baz=188,slow=24,SNR=7.6						
AAK	Ala-Archa	6.58	23	P	Pn	18 44 50.6	+1.6
	3.8nm,0.3s,baz=172,slow=4.8,SNR=14						
AAK				S	Sn	18 46 03.6	-0.7
	5.1nm,0.6s,baz=330,slow=23,SNR=7.9						
AAK	Ala-Archa	6.58	23	⇑P	Pn	18 44 50.0	+0.9
	0.4nm,0.3s						
AAK				⇑S	Sn	18 46 04.5	+0.2
	5.2nm,0.8s						
MKAR	Makanchi Array	13.19	36	P	Pn	18 46 13.1	-0.9
	0.5nm,0.4s,baz=215,slow=12,SNR=4.9						
AB31	Akbulak array	14.97	331	⇑P	P	18 46 38.8	+2.3
	0.1nm,0.3s,baz=167,slow=12,SNR=7.9						
KURBB	Kurchatov Arra	15.00	19	P	P	18 46 37.4	+0.4
	0.4nm,0.4s,baz=208,slow=12,SNR=2.1						
BVAR	Borovoye Array	16.40	359	P	Pn	18 46 54.2	+1.1
	0.5nm,0.4s,baz=170,slow=10,SNR=2.9						
ZALV	Zalesovo Beam	19.80	25	P	P	18 47 30.8	+1.6
	1.4nm,0.4s,baz=219,slow=11,SNR=12						
KBZ	Khabaz	22.54	297	LR	LR	18 59 15.9	
	comp=Z,56nm,18.4s,baz=38,slow=42						
WRA	Warramunga Arr	82.06	122	P	P	18 55 11.0	-1.4
	0.1nm,0.4s,baz=313,slow=5.7,SNR=4.5 0.1nm,0.4s						
ASAR	Alice Springs	84.33	125	P	P	18 55 22.9	-1.0
	0.3nm,0.8s,baz=310,slow=5.0,SNR=5.9 0.3nm,0.8s						

*BER **05** 18:46:00.8±3.4, 71.°18N×9.°00W, h8km±20km, ML3.3, Mw4.0, ML2.0(DNK), Confirmed Earthquake*

*DNK **05** 18:46:04.3±2.6, 71.°26N×9.°42W, h36km±104km, ML2.0*

ISC 05 18:45:57.6±0.8, 71.°30N±0.°06×8.°93W±0.°09, h10km, n20, σ2§07/28, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.32	149	⇑iP	Pb	18 46 04.9	-0.3
JNW				eS	Sg	18 46 08.2	+0.2
JMIC	Jan Mayen	0.34	156	⇑iP	Pb	18 46 05.3	-0.5
JMIC				eS	Sg	18 46 08.8	0.0
JMIC				IAML		18 46 09.7	
	comp=Z,6μm,0.4s						
JNE	Jan Mayen East	0.37	146	⇑iP	Pg	18 46 05.4	+0.5
JNE				IAML		18 46 12.3	
	comp=Z,4μm,0.3s						
JMI	Jan Mayen	0.38	170	⇑iP	Pb	18 46 06.4	+0.1
JMI				eS	Sg	18 46 10.7	+0.8
JMI				IAML		18 46 13.7	
	comp=Z,4μm,0.4s						
DBG	Daneborg	4.51	317	eP	Pn	18 47 08.0	+2.2
DBG				eS	Sn	18 47 57.6	-0.6
DBG				IAML		18 48 16.9	
	comp=Z,6.8nm,0.4s						
DBG	Daneborg	4.51	317	iP	Pn	18 47 07.7	+1.9
DBG				iS	Sn	18 47 55.2	-3.0
DBG				IAML		18 48 16.9	
	comp=Z,6.8nm,0.4s						
DAG	Danmarks Havn	6.11	339	eP	Pn	18 47 30.1	+2.4
DAG				eS	Sn	18 48 35.9	-1.6
DAG				IAML		18 48 39.9	
	comp=Z,5.5nm,0.4s						
DAG	Danmarks Havn	6.11	339	e	Pn	18 47 29.2	+1.5
	baz=150,slow=16						
DAG				iP	Pn	18 47 30.1	+2.4
DAG				iS	Sn	18 48 34.2	-3.3
DAG				IAML		18 48 39.9	
	comp=Z,5.5nm,0.4s						
HSPB	Hornsund (broa	8.72	38	eP	Pn	18 48 01.1	-2.4
VAGH	Vaagaholmen	9.14	109	eP	Pn	18 48 08.1	-1.2
KBS	Kingsbay	9.27	25	eP	Pn	18 48 13.0	+2.1
KBS	Kingsbay	9.27	25	iP	Pn	18 48 12.2	+1.3
STOK	Stokkvaagen	9.33	111	eP	Pn	18 48 10.3	-1.5
SPA0	Spitsbergen Ar	9.48	32	eP	Pn	18 48 17.6	+3.7
LEIR	Leirfjorden	9.51	112	eP	Pn	18 48 13.0	-1.3
RAUS	Rausandaksla	9.57	109	eP	Pn	18 48 14.9	-0.2
NSS	Namsos	10.33	121	eP	Pn	18 48 23.7	-1.8
NOR	Nord	10.50	354	eP	Pn	18 48 30.8	+3.0
NOR				i		18 50 22.9	
NOR				IAML		18 50 29.7	
	comp=Z,4.3nm,0.4s						
NOR	Nord	10.50	354	iP	Pn	18 48 30.9	+3.0
NOR				i		18 50 22.9	
NOR				IAML		18 50 29.7	
	comp=Z,4.3nm,0.4s						
HOPEN	Hopen	10.61	45	eP	Pn	18 48 32.2	+2.9

IDC 05 18:49:01.2±22.0, 19.°36S×176.°31W, h347km±195km, mb3.1/3, mbtmp3.8/3, Error ellipse: s-maj=102.0km s-min=41.5km az=50.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.34	255	P	P	18 56 54.5	+0.5
	1.5nm,0.7s,baz=93,slow=7.8,SNR=32						
ASAR				PcP	PcP	18 58 22.6	-0.1
	0.2nm,0.4s,baz=99,slow=3.5,SNR=5.1 1.5nm,0.7s						
WRA	Warramunga Arr	46.35	261	P	P	18 56 53.3	-0.8
	0.4nm,0.4s,baz=95,slow=7.6,SNR=13						
WRA				PcP	PcP	18 58 22.0	-0.8
	0.1nm,0.3s,baz=89,slow=3.3,SNR=1.3 0.4nm,0.4s						
QSPA	South Pole Qui	70.71	180	P	P	18 59 39.8	-0.2
	1.5nm,1.1s,baz=44,slow=5.8,SNR=3.7 1.5nm,1.1s						
GERES	GERESS Array B	149.49	347	PKPbc	PKPbc	19 08 09.7	-0.2
	0.2nm,0.5s,baz=2.0,slow=6.0,SNR=2.4						

IDC 05 18:57:41.3±7.8, 21.°18S×11.°32W, h0km, mb3.4/4, mbtmp3.4/4, MS3.3/8, Error ellipse: s-maj=180.0km s-min=149.0km az=55.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	12.57	345	T	T	19 12 29.3	
	baz=166,slow=74,SNR=19						
H10S3	ASCENSION HYDR	12.58	345	T	T	19 12 30.4	
	baz=54,slow=74,SNR=15						
RCBR	Riachuelo	28.29	299	LR	LR	19 12 35.3	
	comp=Z,24nm,20.1s,baz=274,slow=32						
TORD	Torodi Ar. Bea	36.43	22	P	P	19 04 47.7	-0.3
	0.5nm,0.6s,baz=200,slow=7.9,SNR=3.6 0.5nm,0.6s						
LSZ	Lusaka	37.91	88	LR	LR	19 20 46.3	
	comp=Z,38nm,18.4s,baz=172,slow=36						
CPUP	Villa Florida	42.26	254	LR	LR	19 19 30.2	
	comp=Z,12nm,20.4s,baz=329,slow=31						
SIV	San Ignacio	47.29	267	LR	LR	19 23 34.4	
	comp=Z,70nm,21.9s,baz=193,slow=33						
PLCA	Paso Flores	53.40	234	LR	LR	19 28 13.3	
	comp=Z,24nm,18.1s,baz=102,slow=34						
LPAZ	La Paz	53.79	265	LR	LR	19 29 42.1	
	comp=Z,48nm,18.2s,baz=70,slow=36						
ESDC	Sonseca Array	60.93	6	P	P	19 07 56.4	+0.4
	0.3nm,0.7s,baz=189,slow=6.4,SNR=4.0 0.3nm,0.7s						
SDV	Santo Domingo	65.45	291	LR	LR	19 36 14.3	
	comp=Z,38nm,18.5s,baz=262,slow=35						
ATAH	Atahualpa	66.11	271	LR	LR	19 36 50.7	
	comp=Z,48nm,18.8s,baz=117,slow=36						
GERES	GERESS Array B	73.20	17	P	P	19 09 13.4	-0.6
	0.1nm,0.4s,baz=193,slow=4.0,SNR=3.9 0.1nm,0.4s						
BRTR	Keskin Array B	73.70	35	P	P	19 09 17.6	+0.4
	0.2nm,0.4s,baz=208,slow=7.5,SNR=3.8 0.2nm,0.4s						

*SJA **05** 18:57:57.4±0.7, 32.°51S×71.°63W, h64km±5km, ML4.2, MW4.1*

*NEIC **05** 18:57:58.2±1.3, 32.°50S±0.°04×71.°73W±0.°07, h57km±4km, mb4.4/15, ML4.3(GUC), Error ellipse: s-maj=8.1km s-min=5.6km az=100.0*

*IDC **05** 18:57:58.3±3.1, 32.°38S×71.°42W, h54km±28km, mb3.5/10, mbtmp3.7/14, ML3.7/4, MS3.4/3, Error ellipse: s-maj=28.1km s-min=15.1km az=89.0*

*GUC **05** 18:58:00.2±0.9, 32.°58S×71.°53W, h53km±2km, ML4.3*

ISC 05 18:57:57.3±0.7, 32.°50S±0.°03×71.°70W±0.°04, h53km±6km, n142, σ1§48/173, mb4.1/13, MS3.5/3, 11C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.34	101		Pn	18 58 08.8	+1.9
VA06					Sn	18 58 14.1	+0.1
VA06	Catapilco	0.34	101	⇓iP	Pn	18 58 08.9	+1.9
VA06				eS	Sn	18 58 14.1	+0.1
VA06				IAML		18 58 17.4	
	comp=N,31μm,0.3s						
VA01	Torpederas	0.53	176		Pn	18 58 11.0	+2.0
VA01					Sn	18 58 18.8	+1.4
VA01	Torpederas	0.53	176	⇓eP	Pn	18 58 11.1	+2.0
VA01				eS	Sn	18 58 18.8	+1.4
VA01				IAML		18 58 20.9	
	comp=N,32μm,0.1s						
VA01	Torpederas	0.53	176	eP	Pn	18 58 11.0	+2.0
VA01				eS	Sn	18 58 20.1	+2.7
VA01				IAML		18 58 20.3	
	comp=Z,10μm,0.3s						
ROC1	El Roble	0.74	130	eP	Pn	18 58 07.3	-4.6
ROCH	El Roble	0.74	130	⇓eP	Pn	18 58 13.0	+1.0
ROCH				eS	Sn	18 58 21.5	-1.1
ROCH				IAML		18 58 25.1	
	comp=N,21μm,0.2s						
CO04	Los Peladeros	0.76	54	eS	Sn	18 58 24.8	+1.8
CO04				IAML		18 58 25.5	
	comp=E,26μm,0.3s						
MT02	Curacav	0.89	148		Pn	18 58 14.9	+1.2
MT02					Sn	18 58 25.8	+0.2
MT02	Curacav	0.89	148	⇓eP	Pn	18 58 14.9	+1.2
MT02				eS	Sn	18 58 25.1	-0.5
MT02				IAML		18 58 28.6	
	comp=E,5μm,0.2s						
MT02	Curacav	0.89	148	eP	Pn	18 58 14.8	+1.2
MT02				eS	Sn	18 58 14.9	-11
MT02				IAML		18 58 28.3	
	comp=Z,4μm,0.4s						
VA03	San Esteban	1.00	106		Pn	18 58 15.9	+0.8
VA03					Sn	18 58 28.4	+0.1
VA03	San Esteban	1.00	106	⇓eP	Pn	18 58 16.0	+0.8
VA03				eS	Sn	18 58 28.5	+0.1
VA03				IAML		18 58 29.6	
	comp=E,44μm,0.1s						
VA03	San Esteban	1.00	106	eP	Pn	18 58 15.8	+0.8
VA03				IAML		18 58 30.8	
	comp=Z,12μm,0.3s						
PEL	Peldehue	1.07	127		Pn	18 58 16.7	+0.7
PEL					Sn	18 58 30.2	+0.3
PEL	Peldehue	1.07	127	⇓eP	Pn	18 58 16.8	+0.7
PEL				eS	Sn	18 58 30.1	+0.3
PEL				IAML		18 58 31.0	
	comp=E,21μm,0.2s						
PEL	Peldehue	1.07	127	eP	Pn	18 58 17.2	+1.2
PEL				eS	Sn	18 58 31.1	+1.3
PEL				IAML		18 58 32.5	
	comp=Z,7μm,0.2s						
MT05	Renca	1.20	138		Pn	18 58 19.0	+1.3
MT05				Sn	Sn	18 58 33.6	+0.5
MT05	Renca	1.20	138	eP	Pn	18 58 19.1	+1.3
MT05				eS	Sn	18 58 33.2	+0.1
MT05				IAML		18 58 36.1	
	comp=E,13μm,0.4s						
MT05	Renca	1.20	138	eP	Pn	18 58 19.1	+1.3
MT05				eS	Sn	18 58 34.4	+1.2
MT05				IAML		18 58 38.9	
	comp=Z,4μm,0.1s						
MT10	Hacienda Santa	1.24	129	⇓eP	Pn	18 58 19.9	+1.4
MT10				eS	Sn	18 58 34.1	-0.2
MT10				IAML		18 58 37.2	
	comp=N,36μm,0.3s						
MT14	Cerro Calı̣n	1.32	133	⇓eP	Pn	18 58 20.7	+1.2
MT14				eS	Sn	18 58 36.0	-0.1
MT14				IAML		18 58 38.2	
	comp=N,21μm,0.2s						
MT16	CCHEN	1.35	134	Pn	Pn	18 58 21.2	+1.3
MT16	CCHEN	1.35	134	⇑iP	Pn	18 58 21.2	+1.3
MT16				eS	Sn	18 58 37.5	+0.7
MT16				IAML		18 58 38.6	
	comp=N,7μm,0.2s						
MT09	Talagante	1.41	155		Pn	18 58 22.2	+1.5
MT09	Talagante	1.41	155	eS	Sn	18 58 39.2	+1.0
MT09				IAML		18 58 41.5	
	comp=N,10μm,0.1s						
MT03	Universidad Ad	1.41	135		Pn	18 58 22.0	+1.3
MT03	Universidad Ad	1.41	135	⇑eP	Pn	18 58 21.9	+1.3
MT03				eS	Sn	18 58 38.9	+0.7
MT03				IAML		18 58 41.0	
	comp=E,26μm,0.2s						
MT03	Universidad Ad	1.41	135	eP	Pn	18 58 21.9	+1.3
MT03				eS	Sn	18 58 39.2	+1.1
MT01	Popeta	1.41	165		Pn	18 58 21.9	+1.3
MT01	Popeta	1.41	165	⇓eP	Pn	18 58 22.0	+1.3
MT01				eS	Sn	18 58 39.2	+1.0
MT01				IAML		18 58 42.8	
	comp=E,3μm,0.3s						
MT01	Popeta	1.41	165	eP	Pn	18 58 21.8	+1.2
MT01				IAML		18 58 44.5	
	comp=Z,3μm,0.1s						
CO02	Combarbal	1.42	25		Pn	18 58 22.4	+1.6
CO02	Combarbal	1.42	25	⇑eP	Pn	18 58 22.4	+1.6
CO02				eS	Sn	18 58 40.0	+1.5
CO02				IAML		18 58 43.8	
	comp=N,6μm,0.2s						
CO02	Combarbal	1.42	25	eP	Pn	18 58 22.4	+1.6
CO02				eS	Sn	18 58 40.3	+1.8
CO02				IAML		18 58 42.2	
	comp=Z,2μm,0.2s						
FCH	Farellones	1.44	125	⇑eP	Pn	18 58 22.4	+1.0
FCH				eS	Sn	18 58 39.9	+0.6
FCH				IAML		18 58 41.1	
	comp=E,7μm,0.2s						
MT15	Las Vizcachas	1.48	138	eS	Sn	18 58 40.5	+0.5
MT15				IAML		18 58 43.0	
	comp=N,23μm,0.3s						
MT12	Pirque	1.56	142	eS	Sn	18 58 42.9	+1.0
MT12				IAML		18 58 44.8	
	comp=E,14μm,0.2s						
MT04	Ro Olivares	1.59	125	⇑eP	Pn	18 58 24.5	+1.2
MT04				eS	Sn	18 58 43.1	+0.3
MT04				IAML		18 58 45.1	
	comp=E,6μm,0.3s						
MT04	Ro Olivares	1.59	125	eP	Pn	18 58 24.3	+1.0
MT04				eS	Sn	18 58 44.4	+1.5
MT04				IAML		18 58 45.7	
	comp=Z,3μm,0.1s						
MT08	Bocatoma Ro	1.70	124		Pn	18 58 26.3	+1.5
MT08	Bocatoma Ro	1.70	124	⇑eP	Pn	18 58 26.2	+1.5
MT08				eS	Sn	18 58 46.0	+0.5
MT08				IAML		18 58 51.6	
	comp=N,3μm,0.4s						
MT08	Bocatoma Ro	1.70	124	eP	Pn	18 58 20.9	-3.9
MT08				eP		18 58 26.4	
MT08				eS	Sn	18 58 46.8	+1.4
MT08				IAML		18 58 49.2	
	comp=Z,2μm,0.2s						
MT13	San Alfonso	1.71	137		Pn	18 58 26.3	+1.4
MT13	San Alfonso	1.71	137	⇑eP	Pn	18 58 26.3	+1.4
MT13				eS	Sn	18 58 46.6	+0.8
MT13				IAML		18 58 47.5	
	comp=N,7μm,0.2s						
MT13	San Alfonso	1.71	137	eP	Pn	18 58 26.3	+1.4
MT13				eS	Sn	18 58 47.4	+1.7
MT13				IAML		18 58 49.1	
	comp=Z,3μm,0.1s						
BO04	La Punta	1.74	149		Pn	18 58 26.7	+1.6
BO04	La Punta	1.74	149	⇑eP	Pn	18 58 26.8	+1.6
BO04				eS	Sn	18 58 47.2	+0.9
BO04				IAML		18 58 49.8	
	comp=E,7μm,0.2s						
CO06	Fray Jorge	1.82	2		Pn	18 58 27.4	+1.3
CO06	Fray Jorge	1.82	2	eP	Pn	18 58 27.5	+1.3
CO06				IAML		18 58 50.9	
	comp=E,907nm,0.2s						
LMEL	Las Melosas	1.84	138	Pn	Pn	18 58 28.0	+1.5
LMEL	Las Melosas	1.84	138	⇑eP	Pn	18 58 28.1	+1.5
LMEL				eS	Sn	18 58 49.5	+0.8
LMEL				IAML		18 58 52.1	
	comp=N,18μm,0.2s						
LMEL	Las Melosas	1.84	138	eP	Pn	18 58 28.2	+1.6
LMEL				eS	Sn	18 58 50.2	+1.4
LMEL				IAML		18 58 51.4	
	comp=Z,6μm,0.1s						
CO03	El Pedregal	1.86	28		Pn	18 58 28.5	+1.6
CO03	El Pedregal	1.86	28	eP	Pn	18 58 28.7	+1.8
CO03	El Pedregal	1.86	28	eP	Pn	18 58 28.6	+1.6
CO03				eS	Sn	18 58 51.3	+2.0
CO03				IAML		18 58 53.8	
	comp=Z,908nm,0.3s						
BO01	Tunca	1.96	165		Pn	18 58 29.3	+1.3
BO01	Tunca	1.96	165	⇑eP	Pn	18 58 29.4	+1.3
BO01	Tunca	1.96	165	eP	Pn	18 58 29.4	+1.3
BO01				eS	Sn	18 58 53.4	+2.0
BO01				IAML		18 58 55.4	
	comp=Z,911nm,0.2s						
BO03	Pichilemu	2.00	186	⇓eP	Pn	18 58 29.6	+0.9
RTLS	Leoncito	2.15	72	eP	Pn	18 58 33.2	+2.2
RTLS				eS	Sn	18 58 56.1	-0.6
RTLS				IAML		18 59 09.5	
	comp=Z,3μm,0.8s						
BO02	Sierra Bellavi	2.41	162		Pn	18 58 35.7	+1.4
BO02	Sierra Bellavi	2.41	162	eP	Pn	18 58 35.7	+1.4
BO02	Sierra Bellavi	2.41	162	eP	Pn	18 58 35.8	+1.4
BO02				eS	Sn	18 58 59.0	-3.8
BO02				IAML		18 59 05.7	
	comp=Z,2μm,0.1s						
ASAL	Salagasta	2.42	93	eP	Pn	18 58 38.0	+3.6
ASAL				eS	Sn	18 59 04.7	+1.8
GO04	Tololo Observa	2.44	19		Pn	18 58 36.3	+1.4
GO04	Tololo Observa	2.44	19	eP	Pn	18 58 36.1	+1.2
GO04				eS	Sn	18 58 54.4	-9.3
GO04				IAML		18 59 27.1	
	comp=Z,919nm,0.3s						
GO05	Hualane	2.51	184	eP	Pn	18 58 36.8	+1.1
GO05				eS	Sn	18 58 47.8	-17
CO05	La Serena	2.60	9		Pn	18 58 37.9	+1.0
ZON	Zonda	2.73	70		Pn	18 58 41.2	+2.5
ZON	Zonda	2.73	70	eP	Pn	18 58 41.8	+3.1
ZON				eS	Sn	18 58 54.6	-16
SJA	San Juan	2.83	71	eP	Pn	18 58 26.2	-14
SJA				IAML		18 58 56.2	
	comp=Z,844nm,0.8s						
ACCO	Cerro Coronel	2.94	50	eP	Pn	18 58 45.1	+3.2
RTLL	Cerro Villicun	2.98	68	eS	Sn	18 59 19.9	+3.3
RTLL				IAML		18 59 39.7	
	comp=Z,459nm,0.5s						
CFA	Coronel Fontan	3.07	74	P	Pn	18 58 45.6	+2.3
	comp=Z,23nm,0.3s,baz=244,slow=7.9,SNR=204						
CFA				S	Sn	18 59 21.1	+2.2
	comp=Z,56nm,0.4s,baz=224,slow=9.0,SNR=5.3						
LCO	Las Campanas	3.58	14		Pn	18 58 51.8	+1.2
BI02	San Fabin de	4.17	175		Pn	18 58 59.9	+1.5
AC04	Llanos de Chal	4.31	7	Pn	Pn	18 59 00.7	+0.3
BI05	Punta Hualpn	4.42	196	Pn	Pn	18 59 01.0	-0.7
ACHE	Chepes	4.48	74	eP	Pn	18 59 04.0	+1.1
APLL	PUNTA DE LOS L	4.89	66	eP	Pn	18 59 09.5	+1.2
GO03	Copiapo	5.05	15		Pn	18 59 10.7	+0.2
MRA	San Martin	5.05	91	eP	Pn	18 59 11.4	+0.8
MRA				IAML		19 00 44.9	
	comp=Z,115nm,0.7s						
AC02	Maricunga	6.07	22		Pn	18 59 25.5	+0.6
VA04	Juan Fernndez	6.10	257	Pn	Pn	18 59 24.4	-0.3
H03N1	Juan Fernandez	6.14	259	P	Pn	18 59 27.8	+2.7
	baz=122,slow=20,SNR=30						
H03N1				T	T	19 06 11.3	
	baz=86,slow=73,SNR=241						
H03N3	Juan Fernandez	6.15	259	P	Pn	18 59 28.2	+2.9
	baz=122,slow=20,SNR=35						
H03N3				T	T	19 06 05.5	
	baz=86,slow=73,SNR=233						
H03N2	Juan Fernandez	6.16	259	P	Pn	18 59 28.2	+2.9
	baz=122,slow=20,SNR=22						
H03N2				T	T	19 06 11.1	
	baz=86,slow=73,SNR=343						
H03S1	Juan Fernandez	6.19	256	P	Pn	18 59 27.9	+2.1
	baz=192,slow=74,SNR=6.7						
H03S1				T	T	19 05 55.2	
	baz=84,slow=75,SNR=140						
H03S3	Juan Fernandez

PB01 IPOC Station P 11.58 10 Pn **Pn 19 00 37.4 -2.6**
CPUP Villa Florida 13.94 68 P **Pn 19 01 10.0 -2.1**
comp=Z,0.1nm,0.3s,baz=44,slow=19,SNR=1.8
comp=Z,0.2nm,0.4s
LPAZ La Paz 16.46 12 P **Pn 19 01 44.4 -0.9**
comp=Z,0.1nm,0.3s,baz=212,slow=7.9,SNR=1.5
comp=Z,0.5nm,0.6s
SIV San Ignacio 19.05 33 P **P 19 02 12.8 -2.5**
baz=208,slow=10,SNR=4.9
comp=Z,0.8nm,0.5s
NNA Nana 20.96 346 P **P 19 02 36.6 +0.6**
comp=Z,3.8nm,0.3s,baz=217,slow=21,SNR=1.4
comp=Z,3.8nm,0.3s
EFI East Falkland 21.60 157 P **P 19 02 41.5 -1.0**
BDFB Brasilia 27.27 58 P **P 19 03 35.9 -1.1**
comp=Z,0.9nm,0.3s,baz=243,slow=22,SNR=1.6
BDFB LR LR 19 15 46.6
comp=Z,30nm,19.1s,baz=188,slow=40
comp=Z,0.9nm,0.3s
BOAV Boa Vista 36.28 19 P **P 19 04 55.3 -0.5**
RUSC La Rusia 38.20 358 P **P 19 05 09.8 -2.7**
RUSC IAmb IAmb 19 05 17.0
comp=Z,7.5nm,1.0s
SNAA Sanae 52.87 158 P **P 19 07 08.1 +0.7**
SNAA IAmb IAmb 19 07 24.1
comp=Z,5.8nm,1.3s
SNAA PcP **PcP 19 08 15.1 -0.7**
SNAA Sanae 52.87 158 P **P 19 07 07.9 +0.6**
comp=Z,0.7nm,0.8s,baz=296,slow=9.0,SNR=7.1
SNAA LR LR 19 28 45.4
comp=Z,46nm,20.4s,baz=198,slow=35
comp=Z,0.7nm,0.8s
TEIG Tepich 54.77 341 P **P 19 07 22.1 +0.4**
SOR Soroa 56.03 347 P **P 19 07 30.4 -0.3**
QSPA South Pole Qui 57.73 180 P **P 19 07 45.1 +2.6**
QSPA IAmb IAmb 19 08 03.0
comp=Z,4.4nm,1.1s
QSPA South Pole Qui 57.73 180 P **P 19 07 44.7 +2.2**
comp=Z,2.3nm,1.0s,baz=162,slow=1.7,SNR=8.7
comp=Z,2.3nm,1.0s
VNDA Vanda 65.63 191 P **P 19 08 37.4 +2.1**
comp=Z,0.3nm,0.6s,baz=160,slow=8.0,SNR=1.6
comp=Z,0.3nm,0.6s
TX31 Lajitas Ar. Si 68.57 330 P **P 19 08 54.5 -0.1**
TX31 IAmb IAmb 19 09 07.1
comp=Z,3.2nm,1.4s
TXAR Lajitas Array 68.57 330 P **P 19 08 55.1 +0.5**
TXAR Lajitas Array 68.57 330 P **P 19 08 56.0 +1.4**
comp=Z,0.5nm,0.5s,baz=155,slow=7.8,SNR=12
comp=Z,0.5nm,0.5s
SWET Sewanee 68.67 348 P **P 19 08 55.8 +0.8**
OXF Oxford 68.71 344 P **P 19 08 55.3 +0.1**
WVT Waverly 69.92 346 P **P 19 09 02.1 -0.6**
MNTX Cornudas Mount 71.35 330 P **P 19 09 11.7 +0.2**
CCM Cathedral Cave 72.52 344 P **P 19 09 18.0 -0.4**
CCM IAmb IAmb 19 09 19.4
comp=Z,5.0nm,0.7s
R40A Maddies Statio 72.99 343 P **P 19 09 20.9 -0.2**
R40A IAmb IAmb 19 09 22.4
comp=Z,5.5nm,0.6s
DBIC Dimbokro 74.43 71 LR LR 19 40 21.8
comp=Z,65nm,20.2s,baz=156,slow=34
MAW Mawson 74.53 164 P **P 19 09 30.8 +0.9**
comp=Z,0.5nm,0.4s,baz=74,slow=13,SNR=1.9
comp=Z,0.5nm,0.4s
CASY Casey 81.52 181 P **P 19 10 09.1 +0.4**
CASY IAmb IAmb 19 10 24.5
comp=Z,2.7nm,1.2s
PDAR Pinedale Array 82.56 333 P **P 19 10 15.0 +0.4**
comp=Z,0.2nm,0.5s,baz=96,slow=3.1,SNR=2.0
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 82.82 325 P **P 19 10 16.7 +0.6**
comp=Z,0.4nm,0.6s,baz=183,slow=3.9,SNR=2.2
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 83.43 70 P **P 19 10 19.4 0.0**
comp=Z,0.5nm,1.0s,baz=242,slow=3.1,SNR=2.4
comp=Z,0.5nm,1.0s
H11S2 WAKE ISLAND Hy 26.07 270 T T 21 36 02.0
baz=118,slow=75,SNR=79
H11S1 WAKE ISLAND Hy 26.08 270 T T 21 36 03.4
baz=118,slow=75,SNR=113
H11S3 WAKE ISLAND Hy 26.09 270 T T 21 36 03.9
baz=118,slow=75,SNR=129
H11N3 WAKE ISLAND Hy 26.44 271 T T 21 36 31.7
baz=117,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 26.46 271 T T 21 36 33.5
baz=117,slow=75,SNR=9.9
H11N2 WAKE ISLAND Hy 26.46 272 T T 21 36 31.9
baz=117,slow=75,SNR=27
BVAR Borovoye Array 145.98 42 PKPbc **PKPbc 19 17 29.9 -0.8**
comp=Z,0.6nm,0.4s,baz=224,slow=1.0,SNR=6.3
KURBB Kurchatov Arra 151.57 42 PKPbc **PKiKP 19 17 45.1 -0.4**
comp=Z,1.2nm,0.4s,baz=297,slow=2.9,SNR=12
ZALV Zalesovo Beam 152.80 31 PKPbc **PKiKP 19 17 48.0 0.0**
comp=Z,1.6nm,0.5s,baz=301,slow=3.0,SNR=9.9
MKAR Makanchi Array 155.54 47 PKPab **PKPab 19 18 10.8 -0.1**
comp=Z,0.5nm,0.7s,baz=274,slow=5.5,SNR=2.4

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*NEIC **05** 18:58:06.4±1.4,43°.67N±0°.08×105°.5W±0°.1, h0km±1km, ML3.0/40, Error ellipse: s-maj=18.2km s-min=2.7km az=42.0*
*IDC **05** 18:58:07.1±2.1,43°.70N×105°.52W, h0km, mbtmp3.3/2, ML2.1/1, Error ellipse: s-maj=56.6km s-min=11.6km az=153.0*
ISC 05 18:58:04.4±1.1,**43°.55N**±0°.07×**105°.33W**±0°.06,**h0**km,**n24,**
σ2§**22**/23,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**58**	Pg	**Pn**	**18 58 28.5**	**+1.3**
K22A	**Casper**	**1.25**	**224**	Pg	**Pn**	**18 58 31.4**	**+2.0**
K22A				IAML		18 58 55.0	
196nm,0.3s							
BW06	**Boulder Array**	**3.19**	**257**	Pn	**Pn**	**18 58 58.6**	**+2.6**
PD31	**Pinedale Array**	**3.19**	**257**	Pn	**Pb**	**18 59 00.1**	**-1.9**
PDAR	**Pinedale Array**	**3.19**	**257**		**Pb**	**18 58 59.9**	**-2.1**
PDAR	**Pinedale Array**	**3.19**	**257**	Pn	**Pb**	**18 59 00.2**	**-1.8**
1.4nm,0.3s,baz=76,slow=15,SNR=18							
PDAR				Lg	Lg	18 59 44.1	
5.8nm,0.3s,baz=72,slow=33,SNR=6.6							
RLMT	**Red Lodge**	**3.23**	**300**	Pn	**Pn**	**18 58 59.0**	**+2.5**
RLMT				IAML		19 00 03.7	
43nm,2.1s							
RLMT				IAML		19 00 05.6	
36nm,2.7s							
HAYD	**Hayden**	**3.35**	**206**	Pn	**Pb**	**18 59 02.5**	**-2.4**
HAYD				IAML		19 00 20.0	
comp=N,39nm,2.8s							
HAYD				IAML		19 01 09.0	
comp=E,28nm,4.5s							
OGNE	**Ogallala**	**3.58**	**136**		**Pb**	**18 59 06.4**	**-2.1**
YNE	**Yellowstone No**	**3.66**	**295**	Pn	**Pn**	**18 59 04.7**	**+2.2**
YNE				IAML		19 00 02.3	
comp=E,37nm,1.6s							
YMP	**Mirror Lake Pl**	**3.67**	**291**	Pn	**Pn**	**18 59 04.0**	**+1.4**
LOHW	**Long Hollow**	**3.83**	**273**		**Pn**	**18 59 06.5**	**+1.7**
LOHW				IAML		19 01 02.5	
comp=E,19nm,3.5s							
H17A	**Grant Village**	**3.88**	**284**		**Pn**	**18 59 04.5**	**-0.9**
H17A				IAML		19 00 15.2	
comp=E,30nm,2.4s							
H17A				IAML		19 01 29.8	
comp=N,21nm,0.4s							
SNOW	**Snow King Moun**	**3.95**	**271**		**Pn**	**18 59 07.0**	**+0.6**
SNOW				IAML		19 00 38.3	
comp=N,35nm,2.4s							
SNOW				IAML		19 01 11.9	
comp=N,31nm,2.4s							
YPP	**Pitchstone Pla**	**4.02**	**282**		**Pn**	**18 59 08.0**	**+0.6**
YPP				IAML		18 59 38.6	
comp=E,17nm,2.0s							
YPP				IAML		19 01 33.8	
comp=N,25nm,4.6s							
TPAW	**Teton Pass**	**4.09**	**271**	Pn	**Pn**	**18 59 10.6**	**+2.3**
TPAW				IAML		19 00 41.5	
comp=N,16nm,2.6s							
TPAW				IAML		19 00 41.9	
comp=N,27nm,2.1s							
FXWY	**Fox Creek**	**4.14**	**273**	Pn	**Pn**	**18 59 12.3**	**+3.3**
YHH	**Holmes Hill**	**4.16**	**289**	Pn	**Pn**	**18 59 10.5**	**+1.2**
RDMU	**Red Mountain**	**4.34**	**228**		**Pn**	**18 59 16.0**	**+4.2**
RDMU				IAML		19 00 34.0	
comp=E,19nm,1.7s							
RDMU				IAML		19 01 27.7	
comp=N,20nm,3.2s							

BSUT Blindstream Ca 5.04 235 **Pn 18 59 21.3 -0.3**
BSUT IAML 19 01 31.1
comp=N,12nm,3.7s
P18A Preston Nutter 5.38 225 **Pn 18 59 28.6 +2.5**
SRU San Rafael Swe 5.91 223 **Pn 18 59 35.5 +2.2**
I10CA LAC DU BONNET 9.21 41 I I 19 50 35.0
comp=N,0.1nm,1.8s,baz=224,slow=300,SNR=12
ULM Lac du Bonnet 9.31 41 Pn **Pn 19 00 20.3 +0.6**
comp=N,0.3nm,0.3s,baz=225,slow=11,SNR=1.2
comp=N,1.5nm,0.4s

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*AEIC **05** 19:04:18.1±0.6,53°.24N±0°.09×164°.17W±0°.09, h18km±8km, Error ellipse: s-maj=13.4km s-min=5.8km az=153.0*
NEIC 05 19:04:16.1±0.3,**53°.26N**±0°.07×**164°.2W**±0°.1,**h13**km±15km,
ML2.5/10,**ML2.2**(AEIC),**Error ellipse: s-maj=12.4km**
s-min=5.5km az=135.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.28**	**314**		**Pn**	19 04 39.5	-0.1
AKUT				IAML		19 05 03.5	
comp=N,44nm,1.1s							
AKBBA	**Akutan Broad B**	**1.33**	**310**		**Pn**	19 04 40.3	0.0
AKBBA					Sn	19 04 57.9	0.0
ZRO	**Akutan Zero**	**1.35**	**309**		**Pn**	19 04 40.8	+0.2
ZRO					Sb	19 04 58.1	-0.2
AKMO	**Akutan Morgan**	**1.36**	**309**		**Pn**	19 04 40.7	-0.1
AKMO					Sb	19 04 58.9	+0.2
WEBT	**Westdahl Beart**	**1.38**	**347**		**Pn**	19 04 40.8	-0.2
WEBT					Sg	19 04 59.9	-0.5
LVA	**Lava Point**	**1.42**	**311**	Pn	**Pn**	19 04 41.2	-0.4
LVA				IAML		19 05 34.4	
comp=E,64nm,1.1s							
SSLS	**Shishaldin Sou**	**1.46**	**5**		**Pn**	19 04 41.9	-0.4
UNV	**Unalaska Valle**	**1.49**	**294**		**Pn**	19 04 42.5	-0.1
UNV					Sn	19 05 01.4	-0.5
UNV				IAML		19 05 03.8	
comp=E,21nm,1.2s							
SSBA	**Shishaldin**	**1.52**	**2**		**Pn**	19 04 42.9	-0.2
SSBA					Sb	19 05 03.3	-0.1
MNAT	**Makushin Natee**	**1.61**	**294**		**Pn**	19 04 44.1	0.0
MNAT					Sn	19 05 04.7	-0.1
MREP	**Makushin Rep't**	**1.61**	**291**		**Pn**	19 04 44.3	0.0
MREP					Sn	19 05 04.8	-0.2
MSW	**Makushin Switc**	**1.67**	**294**		**Pn**	19 04 45.3	+0.2
MSW					Sn	19 05 06.4	0.0
DT1	**Dutton Round H**	**2.17**	**31**		**Pn**	19 04 51.9	0.0
DT1					Sn	19 05 18.3	-0.3
NIKH	**Nikolski High**	**2.82**	**266**	Pn	**Pn**	19 05 01.1	+0.3
NIKH				IAML		19 06 02.7	
comp=E,30nm,1.2s							
SDPT	**Sand Point**	**3.03**	**45**	Pn	**Pn**	19 05 03.5	-0.2
SDPT				IAML		19 05 58.7	
comp=N,20nm,1.2s							
SDPT				IAML		19 06 12.0	
comp=E,19nm,0.9s							

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*IDC **05** 19:05:43.6±5.7,32°.63N×140°.34E, h58km±64km, mb3.2/2, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=99.3km s-min=35.6km az=64.0*
*JMA **05** 19:05:43.3±0.2,32°.9N±0°.4×140°.7E±0°.9, h60km, MV3.4/36, E OFF HACHIJOJIMA ISLAND*
ISC 05 19:05:42.3±1.6,**32°.83N**±0°.06×**140°.82E**±0°.09,**h57**km±14km,
n28,σ1§**20**/33,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.89**	**288**	P	**Pn**	**19 05 59.5**	**+0.8**
JHJ2	**Mitsune**	**0.89**	**288**	*i* P	**Pn**	**19 05 59.2**	**+0.4**
JHJ2				*e*S	**Sn**	**19 06 10.3**	**-0.5**
JHCJ	**Hachijojimakas**	**0.89**	**286**	*e*P	**Pn**	**19 05 59.1**	**+0.3**
JHCJ				*e*S	**Sn**	**19 06 09.6**	**-1.3**
JAOM	**Aogashimamukai**	**0.96**	**248**	*e*P	**Pn**	**19 06 00.4**	**+0.7**
JAOM				*e*S	**Sn**	**19 06 12.9**	**+0.3**
JMKN	**Mikurajimanish**	**1.47**	**316**	P	**Pn**	**19 06 06.9**	**+0.3**
JMKN				*e*S	**Sn**	**19 06 23.8**	**-1.0**
JMYK	**Miyake Tsubota**	**1.62**	**319**	*e*P	**Pn**	**19 06 09.2**	**+0.7**
JMYK				*e*S	**Sn**	**19 06 28.0**	**-0.4**
BSO1	**Boso 1**	**1.82**	**4**	P	**Pn**	**19 06 11.4**	**+0.6**
BSO1				*e*S	**Sn**	**19 06 33.5**	**+1.0**
BSO2	**Boso 2**	**1.91**	**358**	*e*S	**Sn**	**19 06 35.9**	**+0.8**
BSO3	**Boso 3**	**1.98**	**353**	*e*P	**Pn**	**19 06 13.8**	**+0.6**
BSO3				*e*S	**Sn**	**19 06 36.7**	**0.0**
JIM2	**Oshima 3**	**2.21**	**329**	*e*P	**Pn**	**19 06 16.8**	**+0.3**
JIM2				*e*S	**Sn**	**19 06 40.7**	**-2.0**
JIZS	**Izushimoda**	**2.48**	**320**	*e*P	**Pn**	**19 06 21.2**	**+1.0**
JIZS				*e*S	**Sn**	**19 06 48.2**	**-1.1**
JOD2	**Odawara 2**	**2.82**	**330**	*e*P	**Pn**	**19 06 25.4**	**+0.5**
JOD2				*e*S	**Sn**	**19 06 55.4**	**-2.3**
SHZ3	**Shizuoka 3**	**3.11**	**316**	*e*P	**Pn**	**19 06 30.8**	**+1.9**
JYN	**Shimob**	**3.26**	**325**	*e*P	**Pn**	**19 06 32.6**	**+1.7**
TTO1	**TONANKAI O.B.S**	**3.47**	**284**	*e*P	**Pn**	**19 06 35.3**	**+1.8**
JRY	**Ryogami san**	**3.55**	**334**	*e*P	**Pn**	**19 06 36.2**	**+1.3**
JGF	**Kuroka**	**3.98**	**315**	P	**Pn**	**19 06 43.1**	**+2.3**
INU	**Inuyama**	**4.03**	**310**	P	**Pn**	**19 06 43.3**	**+1.8**
MJAR	**Matsushiro Arr**	**4.28**	**331**	P	**Pn**	**19 06 45.8**	**+0.9**
0.2nm,0.3s,baz=155,slow=15,SNR=15							
MJAR				S	**Sn**	**19 07 35.0**	**+1.4**
1.9nm,0.4s,baz=155,slow=24,SNR=5.6							
1.9nm,0.4s							
JMM	**Marumori**	**5.02**	**360**	P	**Pn**	**19 06 54.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**26.69**	**113**	T	T	19 40 13.9	
baz=306,slow=75,SNR=8.9							
H11N1	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	19 40 18.8	
baz=306,slow=75,SNR=8.7							
H11N3	**WAKE ISLAND Hy**	**26.71**	**113**	T	T	19 40 21.8	
baz=306,slow=75,SNR=5.7							
H11S3	**WAKE ISLAND Hy**	**27.25**	**115**	T	T	19 40 47.6	
baz=306							
H11S1	**WAKE ISLAND Hy**	**27.25**	**115**	T	T	19 40 46.0	
baz=306							
H11S2	**WAKE ISLAND Hy**	**27.26**	**115**	T	T	19 40 47.5	
baz=306							
MKAR	**Makanchi Array**	**46.05**	**306**	P	**P**	**19 13 59.7**	**-0.5**
0.3nm,0.5s,baz=83,slow=8.8,SNR=2.0							
0.3nm,0.5s							
ASAR	**Alice Springs**	**56.57**	**188**	P	**P**	**19 15 18.6**	**-0.5**
0.4nm,0.5s,baz=5.7,slow=7.1,SNR=2.2							
0.4nm,0.5s							

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*IDC **05** 19:08:30.1±1.6,5°.32S×131°.44E, h0km, mb3.6/4, mbtmp3.9/8, ML4.1/4, Error ellipse: s-maj=51.2km s-min=22.6km az=77.0*
*DJA **05** 19:08:44.1±0.2,6°.5±3°.3×13°.1E±°, h118km±5km, M4.3/14, mB5.0/4, mb4.2/13, MLv4.4/14, Mw(mB)4.4/4*
ISC 05 19:08:41.3±0.8,**5°.90S**±0°.06×**131°.11E**±0°.07,**h86**km,**n25,**
σ2§**47**/29,**mb3.5**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.82**	**319**	P	**Pn**	**19 09 12.5**	**+1.5**
BNDI				S	**Sn**	**19 09 33.5**	**-0.1**
SAUI	**Saumlaki**	**2.08**	**175**	P	Pn	19 09 22.9	+8.5
FAKI	**Fak Fak**	**3.17**	**21**	P	**Pn**	**19 09 28.4**	**-0.7**
MSAI	**Masohi**	**3.34**	**319**	P	**Pn**	**19 09 31.1**	**-0.2**
KMPI	**Kaimana, Papua**	**3.41**	**49**	P	**Pn**	**19 09 33.2**	**+0.9**
AAI	**Ambon**	**3.64**	**307**	P	**Pn**	**19 09 36.8**	**+1.4**
NLAI	**Namlea**	**4.79**	**303**	P	**Pn**	**19 09 52.9**	**+1.9**
SWI	**Sorong**	**5.00**	**2**	P	**Pn**	**19 09 51.8**	**-2.2**
RKPI	**Ransiki, Papua**	**5.33**	**35**	P	**Pn**	**19 09 58.7**	**+0.3**
3μm45nm,0.6s							
SANI	**Sanana**	**6.38**	**307**	P	**Pn**	**19 10 13.8**	**+1.1**
6.6nm,0.6s							
BAKI	**Biak**	**6.84**	**47**	P	**Pn**	**19 10 21.6**	**+2.6**
SOEI	**Soe**	**7.79**	**240**	P	**Pn**	**19 10 35.8**	**+3.8**
0.1nm26nm,1.1s							
BBSI	**Bau Bau**	**8.51**	**272**	P	**Pn**	**19 10 42.9**	**+1.1**
43nm,1.1s							
SMPI	**Sarmi**	**8.52**	**63**	P	**Pn**	**19 10 42.9**	**+1.0**
15nm,1.1s							
BATI	**Baumata**	**8.52**	**239**	Pn	**Pn**	**19 10 43.2**	**+1.2**
4.3nm,0.3s,baz=302,slow=0.5,SNR=12							
BATI				Sn	**Sn**	**19 12 19.9**	**+3.3**
3.1nm,0.3s,baz=44,slow=22,SNR=2.5							
14nm,0.5s							
BATI	**Baumata**	**8.52**	**239**	P	**Pn**	**19 10 45.1**	**+3.1**
15nm,0.8s							
WBSI	**Waikabubak, Su**	**12.19**	**252**	P	**Pn**	**19 11 34.1**	**+2.2**
27nm,1.2s							
FITZ	**Fitzroy Crossi**	**13.25**	**203**	Pn	**Pn**	**19 11 46.5**	**+0.6**
0.5nm,0.3s,baz=19,slow=10,SNR=19							
FITZ				Sn	**Sn**	**19 14 06.8**	**-4.8**
1.4nm,0.3s,baz=332,slow=23,SNR=9.4							
1.4nm,0.3s							
WRA	**Warramunga Arr**	**14.31**	**168**	Pn	**Pn**	**19 12 00.2**	**+0.4**
0.7nm,0.3s,baz=349,slow=14,SNR=46							
WRA				Sn	**Sn**	**19 14 33.5**	**-3.9**
1.0nm,0.3s,baz=352,slow=24,SNR=9.6							
1.4nm,0.4s							
JAGI	**Jajag, Banyuwa**	**17.02**	**260**	P	**Pn**	**19 12 34.1**	**+0.1**
44nm,1.8s							
ASAR	**Alice Springs**	**17.87**	**172**	P	**Pn**	**19 12 48.1**	**+3.8**
1.2nm,0.3s,baz=348,slow=10.0,SNR=92							
ASAR				S	**Sn**	**19 15 59.0**	**-4.4**
0.9nm,0.6s,baz=358,slow=26,SNR=8.2							
3.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**39.90**	**308**	P	**P**	**19 16 05.7**	**-1.4**
0.3nm,0.4s,baz=136,slow=6.2,SNR=6.2							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**67.92**	**326**	P	**P**	**19 19 28.8**	**-2.1**
0.4nm,0.5s,baz=115,slow=8.3,SNR=4.3							
0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**71.10**	**333**	P	**P**	**19 19 47.7**	**-2.4**
0.2nm,0.3s,baz=133,slow=8.1,SNR=1.7							
0.2nm,0.3s							
QSPA	**South Pole Qui**	**84.07**	**180**	P	**P**	**19 21 05.3**	**+2.9**
0.5nm,0.8s,baz=260,slow=10,SNR=1.5							
0.5nm,0.8s							

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*KRSC **05** 19:12:17.9±2.0,48°.85N×156°.39E, h7km±32km, Ml4.0*
*IDC **05** 19:12:23.7±9.8,49°.09N×154°.94E, h113km±131km, mb3.1/4, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=127.4km s-min=41.0km az=46.0*
ISC 05 19:12:18.0±1.2,**48°.8N**±0°.2×**155°.0E**±0°.2,**h55**km,**n26,**
σ1§**60**/22,**mb3.5**/4,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.02**	**21**	*e*P	**Pn**	**19 12 49.5**	**-0.2**
SKR				*e*S	**Sn**	**19 13 13.0**	**-0.8**
ASAK	**Asacha**	**4.04**	**26**	*e*P	**Pn**	**19 13 19.3**	**+2.0**
MTVR	**Mutnovka**	**4.21**	**28**	*e*P	**Pn**	**19 13 21.2**	**+1.4**
MTVR				*e*S	**Sn**	**19 14 08.0**	**+0.3**
GRL	**Gorelyy**	**4.24**	**26**	*e*P	**Pn**	**19 13 21.7**	**+1.6**
RUS	**Russkaya**	**4.28**	**30**	*e*P	**Pn**	**19 13 20.3**	**-0.2**
RUS				*e*S	**Sn**	**19 14 07.1**	**-2.0**
PETK	**Petropavlovsk-**	**4.64**	**21**	P	**Pn**	**19 13 28.1**	**+2.5**
0.7nm,0.3s,baz=202,slow=14,SNR=9.4							
PETK				S	Sn	19 14 31.8	+14
11nm,1.0s,baz=165,slow=15,SNR=2.5							
2.3nm,0.5s							
PET	**Petropavlovsk**	**4.83**	**27**	*e*S	**Sn**	**19 14 23.7**	**+1.2**
DALK	**Dalny**	**4.86**	**28**	*e*P	**Pn**	**19 13 29.5**	**+1.0**
DALK				*e*S	**Sn**	**19 14 23.5**	**+0.1**
KOK	**Koryaka**	**5.05**	**26**	*e*P	**Pn**	**19 13 33.0**	**+1.7**
SDLR	**Sedlovina**	**5.12**	**27**	*e*P	**Pn**	**19 13 33.3**	**+1.2**
KRX	**Arik**	**5.12**	**25**	*e*P	**Pn**	**19 13 35.6**	**+3.5**
SPN	**Mys Shipunski**	**5.35**	**35**	*e*P	**Pn**	**19 13 35.4**	**+0.2**
SPN				*e*S	**Sn**	**19 14 33.1**	**-2.4**
KBTR	**Krutoberegovo**	**8.82**	**30**	*e*P	**Pn**	**19 14 23.1**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**30.55**	**158**	T	T	19 50 18.3	
baz=345,slow=74							
H11N1	**WAKE ISLAND Hy**	**30.56**	**158**	T	T	19 50 19.7	
baz=345							
H11N3	**WAKE ISLAND Hy**	**30.56**	**157**	T	T	19 50 29.9	
baz=345,slow=74							
H11S1	**WAKE ISLAND Hy**	**31.67**	**158**	T	T	19 51 54.4	
baz=345,slow=76							
H11S3	**WAKE ISLAND Hy**	**31.68**	**159**	T	T	19 51 44.2	
baz=345							
H11S2	**WAKE ISLAND Hy**	**31.69**	**158**	T	T	19 52 19.1	
baz=345,slow=76							
MKAR	**Makanchi Array**	**47.14**	**297**	P	**P**	**19 20 42.7**	**-1.9**
0.6nm,0.9s,baz=69,slow=9.4,SNR=1.5							
0.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**54.08**	**256**	P	**P**	**19 21 37.0**	**-0.1**
0.8nm,0.8s,baz=45,slow=7.0,SNR=7.9							
0.8nm,0.8s							
WRA	**Warramunga Arr**	**70.87**	**201**	P	**P**	**19 23 29.5**	**+0.5**
0.5nm,0.9s,baz=15,slow=6.3,SNR=2.1							
0.5nm,0.9s							
ASAR	**Alice Springs**	**74.56**	**200**	P	**P**	**19 23 51.8**	**+1.0**
0.1nm,0.5s,baz=1.6,slow=6.0,SNR=0.9							
0.1nm,0.5s							
H03N2	**Juan Fernandez**	**137.48**	**89**	T	T	22 04 44.0	
baz=311,slow=77,SNR=9.6							
H03N1	**Juan Fernandez**	**137.50**	**89**	T	T	22 04 41.7	
baz=311,slow=77,SNR=14							
H03N3	**Juan Fernandez**	**137.50**	**89**	T	T	22 04 41.0	
baz=311,slow=77,SNR=12							

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*DJA **05** 19:23:03.2±0.3,4°.5±4°.×12°.8E±°, h10km, M3.6/10, MLv3.6/10*
*IDC **05** 19:23:06.2±2.3,3°.94S×128°.82E, h0km, mb3.7/2, mbtmp3.7/4, ML3.2/2, MS3.2/2, Error ellipse: s-maj=113.3km s-min=28.9km az=72.0*
ISC 05 19:23:03.5±1.1,**3°.55S**±0°.07×**128°.34E**±0°.05,**h15**km±9km,
n13,σ1§**48**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.20**	**226**	P	**Pg**	**19 23 06.9**	**-1.4**
AAI				S	**Sg**	**19 23 13.4**	**+2.0**
MSAI	**Masohi**	**0.62**	**71**	P	**Pg**	**19 23 14.6**	**-1.0**
NLAI	**Namlea**	**1.28**	**284**	P	**Pg**	**19 23 26.8**	**-1.4**
SANI	**Sanana**	**2.78**	**302**	P	**Pn**	**19 23 48.7**	**+1.2**
LBMI	**Labuha**	**3.01**	**344**	P	**Pn**	**19 23 52.3**	**+1.7**
SWI	**Sorong**	**3.95**	**48**	P	**Pn**	**19 24 04.7**	**+1.1**
FAKI	**Fak Fak**	**3.95**	**81**	P	**Pn**	**19 24 04.7**	**+1.1**
TNTI	**Ternate**	**4.40**	**347**	P	**Pn**	**19 24 09.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.70**	**190**	Pn	**Pn**	**19 26 31.4**	**+0.3**
baz=12,slow=14,SNR=1.5							
2.0nm,1.0s							
WRA	**Warramunga Arr**	**17.32**	**161**	Pn	**Pn**	**19 27 03.7**	**-1.2**
0.1nm,0.3s,baz=344,slow=12,SNR=7.3							
0.9nm,0.7s							
ASAR	**Alice Springs**	**20.71**	**165**	P	**P**	**19 27 42.7**	**-0.8**
2.9nm,0.7s,baz=347,slow=11,SNR=39							
ASAR				LR	LR	19 35 28.4	
comp=Z,37nm,18.3s,baz=31,slow=37							
2.9nm,0.7s							
LZDM	**Lanzhou Array**	**45.56**	**332**	LR	LR	19 52 44.3	
comp=Z,45nm,19.6s,baz=315,slow=38							
MKAR	**Makanchi Array**	**64.45**	**327**	P	P	19 33 48.5	+9.1

JMKN Mikurajimanish 1.98 337 *eP* **Pn 19 28 23.6 +0.7**
JMKN *eS* **Sn 19 28 46.2 -0.5**
JMKN Mikurajimanish 1.98 337 A A 19 28 23.6
comp=N,7.0nm,1.4s,comp=E,9.0nm,1.6s
JMYK Miyake Tsubota 2.14 338 *eP* **Pn 19 28 26.5 +1.4**
JMYK *eS* **Sn 19 28 51.3 +0.5**
JMYK Miyake Tsubota 2.14 338 A A 19 28 26.5
comp=N,9.0nm,1.2s,comp=E,8.0nm,0.9s
BSO1 Boso 1 2.60 8 P **Pn 19 28 31.0 +0.2**
BSO3 Boso 3 2.72 360 P **Pn 19 28 33.2 +0.5**
BSO3 *eS* **Sn 19 29 03.2 -1.2**
JIM2 Oshima 3 2.79 341 *eP* **Pn 19 28 34.9 +1.0**
JIM2 Oshima 3 2.79 341 A A 19 28 34.9
comp=N,6.0nm,1.1s,comp=E,7.0nm,1.9s
TK02 Tokai 2 2.98 310 *eP* **Pn 19 28 38.3 +2.0**
JSG Sagara 3.25 324 **Pn 19 28 40.7 +0.6**
JSG Sagara 3.25 324 P **Pn 19 28 43.9 +3.8**
JOD2 Odawara 2 3.40 340 *eP* **Pn 19 28 43.7 +1.6**
JOD2 *eS* **Sn 19 29 22.8 +1.4**
TTO1 TONANKAI O.B.S 3.50 297 *eP* **Pn 19 28 44.7 +1.4**
JYN Shimob 3.79 335 *eP* **Pn 19 28 50.8 +3.2**
JIE Ise 3.94 307 P **Pn 19 28 51.3 +1.8**
JRY Ryogami san 4.16 342 *eP* **Pn 19 28 55.5 +3.0**
INU Inuyama 4.38 319 **Pn 19 28 57.0 +1.4**
INU Inuyama 4.38 319 P **Pn 19 28 58.3 +2.8**
JGF Kuroka 4.39 324 **Pn 19 28 57.5 +1.8**
JGF Kuroka 4.39 324 P **Pn 19 28 58.9 +3.1**
JAG Ashikaga 4.43 349 *eP* **Pn 19 28 56.8 +0.6**
JAG *eS* **Sn 19 29 46.1 -0.4**
JTNC Tanabenakahech 4.48 294 P **Pn 19 28 58.4 +1.4**
JTNC *eS* **Sn 19 29 47.3 -0.5**
JWY Kouya 4.66 299 P **Pn 19 29 01.3 +1.9**
JYTA Yamagatataniai 4.72 319 *eP* **Pn 19 29 02.8 +2.7**
MJAR Matsushiro Arr 4.85 337 **Pn 19 29 03.3 +1.3**
MJAR Matsushiro Arr 4.85 337 P **Pn 19 29 04.6 +2.6**
comp=E,4.7nm,0.3s,baz=246,slow=7.8,SNR=47
MJAR S **Sn 19 29 56.8 -0.1**
comp=E,35nm,0.7s,baz=167,slow=14,SNR=6.1
MAJO Matsushiro 4.85 337 **Pn 19 29 04.7 +2.7**
MAJO Matsushiro 4.85 337 P **Pn 19 29 05.3 +3.3**
MAT Matsushiro 4.85 337 *eP* **Pn 19 29 05.2 +3.2**
CBIJ Chichi jima 5.17 163 *eP* **Pn 19 29 05.5 -0.8**
JOTO OTAMA OYAMA 5.48 358 *eP* **Pn 19 29 10.8 +0.2**
JOTO *eS* **Sn 19 30 10.2 -1.9**
JMM Marumori 5.78 2 **Pn 19 29 14.7 0.0**
JMM Marumori 5.78 2 P **Pn 19 29 14.5 -0.2**
JMN Monobe 5.83 288 **Pn 19 29 17.1 +1.8**
JMN Monobe 5.83 288 P **Pn 19 29 17.0 +1.7**
JNU Nakatsue 8.20 280 **Pn 19 29 50.2 +2.4**
JNU Nakatsue 8.20 280 P **Pn 19 29 49.9 +2.1**
comp=E,37nm,0.7s,baz=111,slow=4.7,SNR=26
JNU LR LR 19 32 47.2
comp=E,276nm,21.2s,baz=129,slow=36
JNU Nakatsue 8.20 280 P **Pn 19 29 50.6 +2.8**
JTM Tenmabayashi 8.71 3 Pn **Pn 19 29 53.6 -1.0**
ERM Erimo 10.14 11 Pn **Pn 19 30 13.7 -0.5**
JMZ Minamidaito 2 10.25 235 **Pn 19 30 19.4 +3.7**
JMZ Minamidaito 2 10.25 235 P **Pn 19 30 19.8 +4.1**
KSRS Korea Array 11.66 301 P **Pn 19 30 35.7 +0.7**
comp=E,1.4nm,0.9s,baz=118,slow=14,SNR=12
JOW Kunigami 11.88 247 **Pn 19 30 39.7 +1.8**
JOW Kunigami 11.88 247 P **Pn 19 30 36.5 -1.5**
comp=E,40nm,1.0s,baz=78,slow=12,SNR=9.7
JOW LR LR 19 34 43.1
comp=E,152nm,21.9s,baz=74,slow=35
JOW Kunigami 11.88 247 P **Pn 19 30 41.6 +3.6**
ASAJ Asahikawa 12.13 7 P **Pn 19 30 39.2 -2.2**
comp=E,3.7nm,0.3s,baz=204,slow=10,SNR=8.7
ASAJ LR LR 19 35 24.4
comp=E,94nm,21.7s,baz=174,slow=37
JKA Kamikawa-asahi 12.13 7 Pn **Pn 19 30 39.2 -2.1**
YHNB Yeheng 18.38 251 **P 19 32 00.8 +0.2**
YHNB IAmb IAmb 19 32 03.0
comp=Z,44nm,0.9s
YHNB Yeheng 18.38 251 P **Pn 19 32 01.5 +0.1**
NACB Ninganchiao 18.44 249 P **Pn 19 32 01.9 -0.2**
NACB IAmb IAmb 19 32 04.2
comp=Z,26nm,0.6s
GUMO Guam 18.82 167 P **Pn 19 32 06.9 +0.2**
GUMO Guam 18.82 167 P **P 19 32 05.0 -0.4**
comp=Z,24nm,0.6s,baz=143,slow=2.2,SNR=4.8
GUMO LR LR 19 37 26.6
comp=Z,22nm,20.4s,baz=33,slow=31
YULB Yu-li 19.07 248 P **P 19 32 08.1 0.0**
YULB IAmb IAmb 19 32 12.7
comp=Z,30nm,1.0s
YULB Yu-li 19.07 248 P **P 19 32 09.0 +0.9**
SSLB Suanglung 19.14 249 P **P 19 32 09.1 +0.2**
SSLB IAmb IAmb 19 32 12.8
comp=Z,44nm,1.0s
SSLB Suanglung 19.14 249 P **Pn 19 32 10.3 -0.2**
TWGBT Beinan 19.54 247 P **Pn 19 32 15.6 +0.4**
TWG Pinlang 19.54 247 P **P 19 32 13.7 +0.4**
TWG IAmb IAmb 19 32 16.7
comp=Z,28nm,0.7s
TPUB Ta-pu 19.64 249 **P 19 32 15.1 +0.7**
TPUB IAmb IAmb 19 32 43.8
comp=Z,46nm,1.2s
HIA Hailar 23.19 324 P **P 19 32 52.2 +0.3**
TGY Tagaytay City 25.31 230 LR LR 19 41 23.2
comp=Z,50nm,19.5s,baz=132,slow=32
H11N2 WAKE ISLAND Hy 26.64 111 T T 20 02 19.1
baz=304,slow=75,SNR=66
H11N1 WAKE ISLAND Hy 26.65 111 T T 20 02 19.3
baz=304,slow=75,SNR=83
H11N3 WAKE ISLAND Hy 26.66 111 T T 20 02 23.0
baz=304,slow=75,SNR=104
H11S3 WAKE ISLAND Hy 27.16 114 T T 20 02 40.9
baz=304,slow=74
H11S1 WAKE ISLAND Hy 27.16 114 T T 20 02 02.5
baz=304
H11S2 WAKE ISLAND Hy 27.18 114 T T 20 02 42.1
baz=304,slow=74
MA2 Magadan 28.35 11 LR LR 19 45 38.5
comp=Z,25nm,18.3s,baz=18,slow=38
DAV Davao City (W) 28.51 212 LR LR 19 43 09.5
comp=Z,42nm,21.1s,baz=83,slow=32
SONM Songino Array 30.23 311 P **P 19 33 53.5 -1.8**
comp=Z,0.7nm,0.6s,baz=117,slow=10,SNR=4.8
SONM PcP **PcP 19 36 55.0 +0.5**
comp=Z,0.4nm,0.4s,baz=140,slow=3.1,SNR=5.3
SONM LR LR 19 45 26.6
comp=Z,59nm,22.0s,baz=78,slow=35
comp=Z,0.7nm,0.6s
TOLI2 Tolitoli 35.99 215 P **P 19 34 45.4 -0.1**
CHTO Chiang Mai 39.56 261 **P 19 35 14.8 -0.9**
CMAR Chiang Mai Arr 39.73 260 P **P 19 35 16.0 -1.1**
comp=Z,0.8nm,0.7s,baz=53,slow=7.3,SNR=9.3
CMAR PcP **PcP 19 37 23.3 +0.9**
comp=Z,0.5nm,0.5s,baz=11,slow=2.0,SNR=5.3
CMAR ScP **ScP 19 41 05.5 +0.6**
comp=Z,0.5nm,0.8s,baz=70,slow=3.5,SNR=4.3
CMAR LR LR 19 51 58.8
comp=Z,36nm,18.4s,baz=65,slow=36
comp=Z,0.8nm,0.7s
TIXI Tiksi 40.13 354 P **P 19 35 19.9 +0.2**
TIXI IAmb IAmb 19 35 46.7
comp=Z,9.2nm,1.1s
SOEI Soe 44.40 203 P **P 19 35 56.3 +1.1**
SOEI IAmb IAmb 19 36 05.9
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 44.84 316 P **P 19 35 57.7 -0.6**
ZALV Zalesovo Beam 44.84 316 P **P 19 35 57.5 -0.8**
comp=Z,1.5nm,0.4s,baz=94,slow=8.3,SNR=7.6
ZALV PcP **PcP 19 37 38.5 -0.3**
comp=Z,2.0nm,0.6s,baz=113,slow=2.2,SNR=7.8
ZALV LR LR 19 54 10.5
comp=Z,52nm,19.0s,baz=78,slow=35
comp=Z,1.5nm,0.4s
KULM Kulim 45.80 243 P **P 19 36 05.3 -0.9**
KULM IAmb IAmb 19 36 24.3
comp=Z,11nm,1.2s
MKAR Makanchi Array 46.28 306 P **P 19 36 09.2 -0.5**
MKAR Makanchi Array 46.28 306 P **P 19 36 09.7 0.0**
comp=Z,1.5nm,0.4s,baz=87,slow=9.3,SNR=38
MKAR PcP **PcP 19 37 44.7 +0.6**
comp=Z,0.6nm,0.5s,baz=76,slow=6.1,SNR=2.0
MKAR ScP **ScP 19 41 30.5 -0.4**
comp=Z,0.7nm,0.8s,baz=58,slow=4.3,SNR=2.6
MKAR LR LR 19 56 37.2
comp=Z,34nm,18.1s,baz=12,slow=37
comp=Z,1.5nm,0.4s
EVN Everest 46.29 279 **P 19 36 09.5 -1.3**
K15K Wolf Creek Mou 47.33 33 P **P 19 36 20.3 +2.7**
M16K Timber Creek 48.32 35 P **P 19 36 27.8 +2.5**
M16K IAmb IAmb 19 36 48.1
comp=Z,12nm,1.1s
KURK Kurchatov 48.54 312 **P 19 36 26.8 -0.4**
KURK IAmb IAmb 19 36 27.3
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 48.60 311 P **P 19 36 27.0 -0.6**
comp=Z,3.6nm,0.2s,baz=87,slow=7.2,SNR=13
comp=Z,3.6nm,0.2s
LEM Lembang 49.80 225 LR LR 19 56 39.0
comp=Z,49nm,18.8s,baz=218,slow=35
GSI Gunungsitoli 50.71 242 P **P 19 36 42.5 -1.6**
WB0 Warramunga Arr 51.88 187 **P 19 36 51.2 -1.4**
WB0 IAmb IAmb 19 36 52.1
comp=Z,4.8nm,0.9s
FITZ Fitzroy Crossi 51.88 198 P **P 19 36 51.9 -0.7**
FITZ Fitzroy Crossi 51.88 198 P **P 19 36 52.0 -0.7**
comp=Z,1.6nm,0.5s,baz=21,slow=8.4,SNR=7.2
comp=Z,1.6nm,0.5s
WRA Warramunga Arr 52.06 187 P **P 19 36 52.2 -1.7**
comp=Z,1.8nm,0.4s,baz=3.9,slow=7.7,SNR=34
WRA PcP **PcP 19 38 06.3 +1.1**
comp=Z,1.2nm,0.8s,baz=359,slow=4.0,SNR=4.9
WRA ScP **ScP 19 41 56.0 +0.3**
comp=Z,1.0nm,0.9s,baz=5.5,slow=4.6,SNR=5.1
comp=Z,1.8nm,0.4s
CTAO Charters Tower 52.15 173 P **P 19 36 55.8 +1.2**
CTAO IAmb IAmb 19 37 14.6
comp=Z,9.7nm,1.1s
SUA Susitna One 52.31 34 P **P 19 36 56.9 +1.3**
AAK Ala-Archa 52.33 302 LR LR 20 00 26.3
comp=Z,41nm,18.4s,baz=84,slow=37
GHO Glory Hole Cre 53.18 34 P **P 19 37 03.3 +1.4**
BVAR Borovoye Array 53.46 315 P **P 19 37 03.8 -0.2**
comp=Z,3.2nm,0.5s,baz=122,slow=6.7,SNR=14
BVAR PcP **PcP 19 38 10.9 +0.7**
comp=Z,1.0nm,0.4s,baz=79,slow=3.1,SNR=2.4
comp=Z,3.2nm,0.5s
ARSB Arslanbob 53.71 300 P **P 19 37 06.3 +0.1**
ILAR Eielson Array 54.10 30 P **P 19 37 08.6 +0.1**
comp=Z,0.7nm,0.9s,baz=284,slow=6.0,SNR=5.6
comp=Z,0.7nm,0.9s
KK31 Karatay Array 55.09 303 **P 19 37 15.2 -0.8**
KK31 IAmb IAmb 19 37 16.4
comp=Z,8.6nm,1.4s
KKAR Karatay Array 55.09 303 **P 19 37 15.2 -0.8**
AS31 Alice Springs 55.78 187 P **P 19 37 20.8 -0.3**
ASAR Alice Springs 55.78 187 P **P 19 37 20.8 -0.3**
ASAR Alice Springs 55.78 187 P **P 19 37 19.6 -1.5**
comp=Z,0.8nm,0.5s,baz=4.5,slow=7.6,SNR=30
comp=Z,0.8nm,0.5s
GAR Garm 56.27 298 P **P 19 37 23.5 -1.2**
GAR IAmb IAmb 19 37 25.9
comp=Z,4.0nm,0.8s
MBWA Marble Bar 56.55 203 P **P 19 37 25.5 -1.0**
CHGR Chuyangaron 57.24 298 P **P 19 37 30.8 -0.7**
EIDS Eidsvold 58.00 169 P **P 19 37 37.0 +0.3**
EIDS IAmb IAmb 19 38 02.3
comp=Z,9.8nm,1.4s
ARTI Arti 59.75 320 **P 19 37 48.3 -0.2**
AB31 Akbulak array 60.64 312 **P 19 37 54.1 -0.6**
AB31 IAmb IAmb 19 37 57.4
comp=Z,3.2nm,0.7s
ABKAR Akbulak array 60.64 312 **P 19 37 54.5 -0.3**
PALK Pallekele 60.67 260 LR LR 20 05 46.0
comp=Z,25nm,18.2s,baz=98,slow=38
ARCES ARCESS Array B 68.38 340 P **P 19 38 45.4 +0.5**
comp=Z,1.8nm,0.8s,baz=69,slow=4.0,SNR=7.7
comp=Z,1.8nm,0.8s
FINES FINESS Array B 72.86 333 P **P 19 39 11.9 -0.3**
comp=Z,4.1nm,0.6s,baz=72,slow=5.5,SNR=19
comp=Z,4.1nm,0.6s
KBZ Khabaz 73.60 311 P **P 19 39 16.6 -0.2**
comp=Z,5.5nm,0.8s,baz=85,slow=4.6,SNR=12
comp=Z,5.5nm,0.8s
AKASG Malin Array Be 77.78 323 P **P 19 39 40.5 -0.1**
comp=Z,1.3nm,0.4s,baz=50,slow=6.1,SNR=12
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 77.78 323 **P 19 39 40.5 -0.1**
AKBB IAmb IAmb 19 39 42.7
comp=Z,8.8nm,1.3s
KIEV Kiev 77.79 323 **P 19 39 40.4 -0.3**
KIEV IAmb IAmb 19 39 42.7
comp=Z,7.9nm,1.3s
MARD Mardin 78.20 307 **P 19 39 43.4 -0.1**
NC405 NORSAR Array S 78.25 337 P **P 19 39 43.1 +0.1**
NC405 IAmb IAmb 19 39 43.7
comp=Z,18nm,1.5s
HFS Hagfors 78.30 336 P **P 19 39 43.4 0.0**
comp=Z,2.3nm,0.7s,baz=76,slow=6.3,SNR=9.7
comp=Z,2.3nm,0.7s
NB2 NORSAR Subarra 78.47 337 P **P 19 39 44.8 +0.5**
comp=Z,1.0nm,0.5s,baz=42,slow=5.3
NOA NORSAR Array B 78.47 337 P **P 19 39 44.5 +0.2**
comp=Z,1.5nm,0.6s,baz=42,slow=5.4,SNR=12
comp=Z,1.5nm,0.6s
NVAR Mina Array Bea 78.59 52 P **P 19 39 46.6 +0.9**
comp=Z,0.4nm,0.5s,baz=310,slow=5.8,SNR=3.6
NVAR LR LR 20 10 02.9
comp=Z,17nm,21.7s,baz=350,slow=32
comp=Z,0.4nm,0.5s
BR131 Keskin Array S 81.59 312 **P 19 40 01.6 -0.1**
BRTR Keskin Array B 81.59 312 **P 19 40 01.9 +0.2**
BRTR Keskin Array B 81.59 312 P **P 19 40 02.0 +0.3**
comp=Z,2.6nm,0.8s,baz=120,slow=3.6,SNR=12
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 81.69 44 P **P 19 40 03.6 +1.3**
PDAR Pinedale Array 81.69 44 P **P 19 40 02.8 +0.5**
comp=Z,0.2nm,0.4s,baz=18,slow=1.2,SNR=4.0
comp=Z,0.2nm,0.4s
BURAR Bucovina Array 81.74 322 P **P 19 40 02.9 +0.6**
RAYN Ar Rayn 81.86 293 **P 19 40 02.8 -0.5**
RAYN IAmb IAmb 19 40 04.4
comp=Z,4.6nm,0.6s
MMAI Mount Meron Ar 84.23 305 P **P 19 40 15.7 +0.3**
comp=Z,4.1nm,0.7s,baz=54,slow=4.2,SNR=7.6
comp=Z,4.1nm,0.7s
CLL Collm 85.02 330 *eP* **P 19 40 19.0 +0.1**
comp=Z,4.0nm,0.9s
CLL *ex* x 19 40 27.0
GERES GERESS Array B 86.53 328 P **P 19 40 26.0 -0.5**
comp=Z,0.4nm,0.5s,baz=34,slow=5.6,SNR=3.6
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 87.55 340 P **P 19 40 30.5 -0.7**
comp=Z,0.4nm,0.4s,baz=40,slow=5.4,SNR=4.9
comp=Z,0.4nm,0.4s
FUORN Ofenpass-Fuorn 89.73 328 **P 19 40 41.9 -0.2**
FUORN IAmb IAmb 19 40 44.5
comp=Z,3.3nm,0.6s
TXAR Lajitas Array 93.74 52 P **P 19 41 01.9 +1.2**
comp=Z,0.7nm,0.6s,baz=280,slow=2.7,SNR=8.9
TXAR LR LR 20 18 07.5
comp=Z,20nm,19.9s,baz=350,slow=32
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 120.20 312 PKP **PKPdf 19 46 34.6 -0.2**
comp=Z,0.4nm,0.5s,baz=47,slow=1.9,SNR=7.2
QSPA South Pole Qui 121.83 180 PKP **PKiKP 19 46 37.5 +1.0**
comp=Z,0.8nm,0.8s,baz=90,slow=8.6,SNR=2.0
BOSA Boshof 124.77 255 PKP **PKPdf 19 46 43.2 -0.1**
comp=Z,2.1nm,1.0s,baz=270,slow=8.7,SNR=1.3
LPAZ La Paz 149.63 66 PKPbc **PKPbc 19 47 32.7 -1.4**
comp=Z,0.8nm,0.5s,baz=358,slow=8.0,SNR=4.5

IDC 05 19:49:56.8±1.0, 37°10S×17°28W, h0km, mb4.0/6, mbtmp4.0/6, MS3.7/22, Error ellipse: s-maj=35.1km s-min=22.8km az=116.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.95**	**91**	T	T	19 55 01.0	
SNR=21							
H09N1	**TRISTAN DA CUN**	**3.97**	**91**	T	T	19 54 54.1	
SNR=22							
H10S2	**ASCENSION HYDR**	**28.11**	**6**	T	T	20 25 34.6	
baz=36,slow=74,SNR=50							
H10S3	**ASCENSION HYDR**	**28.12**	**5**	T	T	20 25 27.0	
baz=184,slow=74,SNR=47							
H10N1	**ASCENSION HYDR**	**29.23**	**6**	T	T	20 26 47.2	
baz=191,slow=79,SNR=7.3							
H10N3	**ASCENSION HYDR**	**29.23**	**6**	T	T	20 26 57.0	
baz=191,slow=79,SNR=37							
H10N2	**ASCENSION HYDR**	**29.25**	**6**	T	T	20 26 59.2	
baz=191,slow=79,SNR=12							
BDFB	**Brasilia**	**34.61**	**300**	LR	LR	20 08 24.7	
comp=Z,205nm,19.9s,baz=163,slow=32							
TSUM	**Tsumeb**	**35.28**	**69**	LR	LR	20 08 54.6	
comp=Z,95nm,19.4s,baz=218,slow=32							
SNAA	**Sanae**	**35.44**	**172**	LR	LR	20 07 11.4	
comp=Z,34nm,21.6s,baz=20,slow=29							
CPUP	**Villa Florida**	**35.49**	**276**	LR	LR	20 09 10.6	
comp=Z,41nm,20.5s,baz=8.0,slow=32							
BOSA	**Boshof**	**36.47**	**89**	P	P	19 57 04.1	+0.3
5.7nm,1.0s,baz=251,slow=6.3,SNR=4.8							
BOSA				LR	LR	20 09 33.8	
comp=Z,162nm,18.1s,baz=273,slow=32							
5.7nm,1.0s							
LBTB	**Lobatse**	**38.36**	**84**	LR	LR	20 10 09.8	
comp=Z,175nm,19.0s,baz=234,slow=32							
PMSA	**Palmer Station**	**38.98**	**210**	LR	LR	20 09 22.1	
comp=Z,81nm,20.2s,baz=57,slow=30							
PLCA	**Paso Flores**	**41.08**	**248**	P	P	19 57 42.6	+0.3
1.7nm,0.9s,baz=127,slow=7.5,SNR=4.9							
PLCA				LR	LR	20 13 53.4	
comp=Z,63nm,18.9s,baz=92,slow=35							
1.7nm,0.9s							
MATP	**Matopo**	**43.00**	**80**	LR	LR	20 13 01.6	
comp=Z,192nm,19.4s,baz=226,slow=32							
DBIC	**Dimbokro**	**45.06**	**18**	LR	LR	20 12 23.2	
comp=Z,65nm,18.8s,baz=162,slow=30							
LSZ	**Lusaka**	**45.70**	**74**	LR	LR	20 14 39.6	
comp=Z,202nm,18.7s,baz=208,slow=32							
LPAZ	**La Paz**	**49.29**	**281**	LR	LR	20 19 32.1	
comp=Z,69nm,20.0s,baz=76,slow=36							
H04S2	**CROZET ISLANDS**	**50.81**	**124**	T	T	20 53 50.4	
baz=257,slow=76,SNR=12							
H04S3	**CROZET ISLANDS**	**50.81**	**124**	T	T	20 53 52.1	
baz=257,slow=76,SNR=11							
H04S1	**CROZET ISLANDS**	**50.82**	**124**	T	T	20 53 56.1	
baz=257,slow=76,SNR=9.4							
MAW	**Mawson**	**52.62**	**152**	LR	LR	20 17 11.1	
comp=Z,34nm,20.3s,baz=272,slow=31							
TORD	**Torodi Ar. Bea**	**53.07**	**23**	P	P	19 59 15.8	-0.1
0.8nm,1.1s,baz=209,slow=3.6,SNR=4.8							
0.8nm,1.1s							
QSPA	**South Pole Qui**	**53.16**	**180**	P	P	19 59 16.4	+0.2
5.9nm,0.9s,baz=212,slow=5.4,SNR=14							
5.9nm,0.9s							
MDP	**Montagnes des**	**53.38**	**314**	LR	LR	20 20 15.6	
comp=Z,112nm,20.1s,baz=128,slow=34							
KMBO	**Kilima Mbogo**	**61.60**	**68**	LR	LR	20 24 57.4	
comp=Z,78nm,18.6s,baz=101,slow=34							
ATAH	**Atahualpa**	**62.78**	**282**	LR	LR	20 26 18.5	
comp=Z,54nm,21.9s,baz=131,slow=35							
PCRV	**Puerto La Cruz**	**64.67**	**307**	LR	LR	20 27 09.4	
comp=Z,66nm,18.6s,slow=34							
VNDA	**Vanda**	**65.65**	**180**	P	P	20 00 41.4	-0.8
1.2nm,1.1s,baz=182,slow=5.9,SNR=3.9							
1.2nm,1.1s							
ROSC	**El Rosal**	**67.47**	**295**	LR	LR	20 29 43.9	
comp=Z,149nm,18.4s,baz=215,slow=35							
SDV	**Santo Domingo**	**67.70**	**301**	LR	LR	20 28 50.3	
comp=Z,79nm,20.3s,baz=84,slow=34							
RPN	**Rapa Nui**	**75.71**	**247**	LR	LR	20 31 09.8	
comp=Z,39nm,21.0s,baz=139,slow=33							
KEST	**Kesra**	**76.56**	**22**	LR	LR	20 32 41.6	
comp=Z,116nm,19.0s,baz=317,slow=34							
ESDC	**Sonseca Array**	**77.38**	**10**	P	P	20 01 53.2	-0.1
1.5nm,1.0s,baz=188,slow=5.5,SNR=8.4							
1.5nm,1.0s							
JTS	**Las Juntas de**	**78.91**	**292**	LR	LR	20 36 30.8	
comp=Z,24nm,18.9s,baz=74,slow=35							
H01W2	**Cape Leeuwin H**	**95.32**	**142**	T	T	21 50 05.1	
baz=218,slow=75,SNR=11							
H01W3	**Cape Leeuwin H**	**95.33**	**142**	T	T	21 50 07.7	
baz=218,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	**95.33**	**142**	T	T	21 50 09.8	
baz=218,slow=75,SNR=13							

SDD ***05*** *19:50:32.2±0.9, 18°08N×71°66W, h16km±19km, MD2.8, ML1.9, MW2.5*
OSPL ***05*** *19:50:34.6±1.5, 18°28N×71°59W, h11km±11km, ML2.0*
ISC 05 19:50:32.7±1.1, 18°23N±0°04×71°57W±0°06, h10km, n9, σ0°94/13, 2C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	**El Espartillar**	**0.15**	**37**	*i* P	**Pg**	**19 50 36.6**	**+0.5**
LODU1				*eS*	**Sg**	**19 50 39.9**	**+1.5**
LODU1				IAML		19 50 42.7	
comp=Z,1μm,0.3s							
PODR	**Polo**	**0.28**	**103**	*e*Pg	**Pg**	**19 50 38.7**	**+0.3**
PODR				*e*Sg	**Sb**	**19 50 45.0**	**+0.2**
PODR				IAML		19 50 47.6	
comp=N,226nm,0.4s							
PODR	**Polo**	**0.28**	**103**	*i* P	**Pg**	**19 50 38.8**	**+0.3**
PODR				*eS*	**Sb**	**19 50 43.5**	**-1.4**
JIDR	**Jimani**	**0.37**	**314**	*e*Pg	**Pb**	**19 50 40.7**	**-0.6**
JIDR				IAML		19 50 51.2	
comp=N,85nm,0.3s							
LOBH	**Bahia de las A**	**0.37**	**190**	*i* P	**Pb**	**19 50 41.8**	**+0.3**
LOBH				*eS*	**Sb**	**19 50 48.6**	**+1.3**
LOBH				IAML		19 50 54.8	
comp=Z,214nm,3.6s							
LONE3	**El Aguacate, B**	**0.39**	**16**	*i* P	**Pb**	**19 50 41.9**	**+0.2**
LONE3				IAML		19 50 51.3	
comp=Z,103nm,0.3s							
LOVI	**El Cajuil, Ovi**	**0.47**	**156**	*i* P	**Pn**	**19 50 44.2**	**-1.4**
LOVI				IAML		19 50 58.2	
comp=Z,82nm,0.8s							
SDDR	**Presa de Saban**	**0.79**	**20**	*e*Sg	**Sn**	**19 51 01.6**	**-0.3**
SDDR				IAML		19 51 17.1	
comp=N,14nm,0.5s							
BANI	**BANI**	**1.16**	**82**	*e*Pg	**Pn**	**19 50 54.8**	**-0.3**
BANI				IAML		19 51 24.6	
comp=N,23nm,0.5s							

NEIC ***05*** *20:06:36.4±1.8, 5°78S±0°07×142°39E±0°10, h10km±1km, mb4.4/23, Error ellipse: s-maj=17.8km s-min=10.6km az=64.0*
DJA ***05*** *20:06:39.0±0.5, 5°S±3°×14°3E±°, h218km±7km, M4.5/7, mb4.1/7, MLv4.7/6*
IDC ***05*** *20:06:40.7±1.6, 5°67S×142°49E, h44km±15km, mb3.9/11, mbtmp4.2/14, ML1.9/1, MS3.4/2, Error ellipse: s-maj=22.2km s-min=10.4km az=59.0*
ISC 05 20:06:36.1±0.5, 5°84S±0°04×142°33E±0°06, h10km, n60, σ2°28/63, mb4.4/23, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.24**	**216**	P	**Pg**	**20 07 39.8**	**+1.6**
MMPI				S	**Sg**	**20 08 26.9**	**+6.6**
JAY	**Jayapura**	**3.68**	**334**	P	**Pn**	**20 07 34.3**	**+1.2**
57nm,0.6s,baz=194,slow=15,SNR=76							
JAY				S	**Sn**	**20 08 16.6**	**0.0**
57nm,0.5s,baz=61,slow=13,SNR=4.2							
JAY	**Jayapura**	**3.68**	**334**	P	**Pn**	**20 07 34.7**	**+1.6**
JAY				S	**Sn**	**20 08 18.7**	**+2.1**
GENI	**Genyem**	**3.88**	**326**	P	**Pn**	**20 07 36.9**	**+1.1**
GENI				S	**Sn**	**20 08 24.9**	**+3.4**
PMG	**Port Moresby**	**5.96**	**127**	Pn	**Pn**	**20 08 05.5**	**+1.2**
PMG	**Port Moresby**	**5.96**	**127**	P	**Pn**	**20 08 06.5**	**+2.2**
2.0nm,0.3s,baz=340,slow=3.8,SNR=6.6							
PMG				S	**Sn**	**20 09 12.6**	**-0.1**
15nm,0.4s,baz=219,slow=21,SNR=7.8							
12nm,0.5s							
BAKI	**Biak**	**7.74**	**306**	P	Pn	20 08 25.9	-2.9
0.1nm14nm,1.0s							
COEN	**Coen**	**8.11**	**174**	Pn	**Pn**	**20 08 37.3**	**+3.3**
FAKI	**Fak Fak**	**10.46**	**286**	Pn	**Pn**	**20 09 06.5**	**+0.3**
FAKI	**Fak Fak**	**10.46**	**286**	P	**Pn**	**20 09 05.8**	**-0.4**
28nm,1.4s							
MTN	**Manton Dam**	**13.05**	**237**	Pn	**Pn**	**20 09 41.9**	**+0.3**
WB0	**Warramunga Arr**	**15.85**	**208**		**Pn**	**20 10 20.2**	**+0.8**
WB0				IAmb	IAmb	20 10 34.4	
comp=Z,15nm,0.9s							
WRA	**Warramunga Arr**	**16.02**	**208**		**Pn**	**20 10 21.0**	**-0.7**
WRA	**Warramunga Arr**	**16.02**	**208**	P	**Pn**	**20 10 21.6**	**-0.1**
comp=Z,2.8nm,0.5s,baz=27,slow=13,SNR=50							
WRA				S	**Sn**	**20 13 11.8**	**-7.7**
comp=Z,3.8nm,0.9s,baz=42,slow=24,SNR=5.9							
WRA				Lg	Lg	20 15 07.7	
comp=Z,0.1nm,0.3s,baz=25,slow=29,SNR=1.6							
WRA				LR	LR	20 17 24.6	
comp=Z,131nm,20.3s,baz=40,slow=40							
KNRA	**Kununurra**	**16.51**	**233**		**Pn**	**20 10 26.1**	**-1.8**
KNRA				IAmb	IAmb	20 10 33.7	
comp=Z,23nm,0.8s							
SOEI	**Soe**	**18.30**	**257**		**Pn**	**20 10 50.3**	**-0.2**
SOEI				IAmb	IAmb	20 11 09.1	
comp

ASAR	**Alice Springs**	**19.49 204**	P	**Pn**	**20 11 06.8 +2.2**
	comp=Z,11nm,0.7s,baz=32,slow=10.0,SNR=106				
ASAR			S	**Sn**	**20 14 35.9 -7.6**
	comp=Z,1.9nm,0.7s,baz=40,slow=20,SNR=4.9				
ASAR			Lg	Lg	20 17 04.8
	baz=35,slow=31,SNR=3.2				
ASAR			LR	LR	20 19 33.4
	comp=Z,108nm,21.8s,baz=334,slow=39				
FITZ	**Fitzroy Crossi**	**20.34 232**	P	**P**	**20 11 13.8 +1.1**
FITZ	**Fitzroy Crossi**	**20.34 232**	P	**P**	**20 11 14.3 +1.6**
	comp=Z,8.0nm,1.1s,baz=60,slow=10,SNR=11				
FITZ			S	**S**	**20 14 52.8 -8.1**
	comp=Z,4.2nm,0.7s,baz=29,slow=19,SNR=4.5				
FITZ			Lg	Lg	20 17 29.0
	comp=Z,0.2nm,0.3s,baz=259,slow=2.1,SNR=5.0				
	comp=Z,8.0nm,1.1s				
EIDS	**Eidsvold**	**21.15 158**	P	**P**	**20 11 20.8 -0.7**
TOLI2	**Tolitoli**	**22.59 287**	P	**P**	**20 11 36.7 -0.4**
TOLI2			IAmb	IAmb	20 12 11.2
	comp=Z,7.4nm,0.9s				
KSRS	**Korea Array**	**45.12 344**	P	**P**	**20 14 52.5 -0.2**
	comp=Z,1.1nm,0.6s,baz=157,slow=8.8,SNR=4.9				
	comp=Z,1.1nm,0.6s				
ENH	**Enshi**	**47.74 321**		**P**	**20 15 13.1 -0.5**
CMAR	**Chiang Mai Arr**	**49.12 300**	P	**P**	**20 15 23.7 -0.6**
	comp=Z,0.7nm,0.6s,baz=113,slow=6.4,SNR=6.9				
	comp=Z,0.7nm,0.6s				
USRK	**Ussuriysk Ar.**	**50.68 350**	P	P	20 15 32.8 -2.9
	comp=Z,5.0nm,0.8s,baz=202,slow=9.1,SNR=5.7				
	comp=Z,5.0nm,0.8s				
BNX	**BinXian**	**53.05 347**	⇓P	**P**	**20 15 52.4 -1.0**
BNX			pmax	pmax	
	comp=Z,11nm,0.8s				
LZH	**Lanzhou**	**55.14 322**	*e*P	**P**	**20 16 10.0 +0.9**
LZH			pP	sP	20 16 16.6 +2.9
LZH			sP	pP	20 16 21.6 +9.2
LZH			pmax	pmax	
	comp=Z,18nm,1.4s				
GTA	**Gaotai**	**59.72 323**	*e*P	**P**	**20 16 43.9 +2.6**
GTA			pP	sP	20 16 47.9 +2.0
GTA			pmax	pmax	
	comp=Z,2.0nm,1.2s				
PETK	**Petropavlovsk-**	**60.16 11**	P	**P**	**20 16 42.8 -1.0**
	comp=Z,7.7nm,1.0s,baz=181,slow=6.9,SNR=3.6				
	comp=Z,7.7nm,1.0s				
LSA	**Lhasa**	**60.47 309**	P	**P**	**20 16 46.2 -0.8**
LSA			IAmb	IAmb	20 16 49.4
	comp=Z,2.6nm,0.7s				
EVN	**Everest**	**63.18 305**		**P**	**20 17 05.6 +0.1**
EVN			IAmb	IAmb	20 17 07.5
	comp=Z,4.5nm,0.7s				
CASY	**Casey**	**64.24 194**	P	**P**	**20 17 11.8 +0.7**
CASY			IAmb	IAmb	20 17 20.5
	comp=Z,2.3nm,0.8s				
KIWB	**Kanaga Island**	**67.06 26**	P	**P**	**20 17 28.9 -0.6**
VNDA	**Vanda**	**72.38 176**	P	**P**	**20 18 04.1 +2.2**
	comp=Z,1.1nm,1.0s,baz=311,slow=6.3,SNR=6.7				
	comp=Z,1.1nm,1.0s				
MK31	**Makanchi Array**	**74.46 322**	P	**P**	**20 18 14.4 -0.3**
MK31			IAmb	IAmb	20 18 15.4
	comp=Z,2.6nm,0.8s				
MKAR	**Makanchi Array**	**74.46 322**	P	**P**	**20 18 14.7 0.0**
MKAR	**Makanchi Array**	**74.46 322**	P	**P**	**20 18 14.8 +0.1**
	comp=Z,2.5nm,0.7s,baz=100,slow=7.5,SNR=15				
	comp=Z,2.5nm,0.7s				
ZALV	**Zalesovo Beam**	**76.45 329**	P	**P**	**20 18 24.7 -1.2**
ZALV	**Zalesovo Beam**	**76.45 329**	P	**P**	**20 18 25.0 -0.9**
	comp=Z,1.0nm,0.6s,baz=100,slow=6.2,SNR=5.0				
	comp=Z,1.0nm,0.6s				
BOOM	**Boomskoye usch**	**76.90 316**	P	**P**	**20 18 28.4 -0.5**
BOOM			IAmb	IAmb	20 18 38.3
	comp=Z,3.0nm,0.8s				
KURK	**Kurchatov**	**78.34 324**	P	**P**	**20 18 35.7 -0.8**
KURK			IAmb	IAmb	20 18 37.2
	comp=Z,1.6nm,0.8s				
KURBB	**Kurchatov Arra**	**78.35 324**	P	**P**	**20 18 36.6 0.0**
	comp=Z,0.9nm,0.7s,baz=111,slow=4.9,SNR=7.1				
	comp=Z,0.9nm,0.7s				
ARSB	**Arslanbob**	**78.59 314**	P	**P**	**20 18 38.5 +0.1**
L14K	**Kuka Creek**	**79.25 24**	P	**P**	**20 18 40.6 -0.7**
O16K	**Kokwok River B**	**80.26 26**	P	**P**	**20 18 46.6 -0.2**
CHGR	**Chuyangaron**	**80.64 311**	P	**P**	**20 18 49.2 -0.3**
CHGR			IAmb	IAmb	20 18 58.9
	comp=Z,6.6nm,0.9s				
KKAR	**Karatay Array**	**80.88 315**	P	**P**	**20 18 50.1 -0.5**
BVAR	**Borovoye Array**	**83.93 325**	P	**P**	**20 19 06.6 +0.3**
	comp=Z,3.4nm,0.7s,baz=126,slow=6.3,SNR=16				
	comp=Z,3.4nm,0.7s				
RND	**Reindeer**	**85.90 25**		**P**	**20 19 14.6 -1.5**
DHY	**Denali Highway**	**86.41 25**	P	**P**	**20 19 18.0 -0.7**
DHY			IAmb	IAmb	20 19 20.5
	comp=Z,3.7nm,0.8s				
CCB	**Clear Creek Bu**	**86.78 24**		P	20 19 18.2 -2.1
CCB			IAmb	IAmb	20 19 20.1
	comp=Z,4.3nm,0.8s				
ILAR	**Eielson Array**	**87.19 24**	P	P	20 19 20.4 -2.0
ILAR	**Eielson Array**	**87.19 24**	P	P	20 19 20.1 -2.2
	comp=Z,2.3nm,0.8s,baz=257,slow=4.8,SNR=21				
	comp=Z,2.3nm,0.8s				
BMAR	**Burnt Mountain**	**88.95 22**	P	**P**	**20 19 30.9 +0.2**
ABKAR	**Akbulak array**	**89.43 320**	P	**P**	**20 19 31.6 -1.6**
GERES	**GERESS Array B**	**119.09 324**	PKP	**PKPdf**	**20 25 24.7 -0.8**
	comp=Z,0.3nm,0.5s,baz=64,slow=2.3,SNR=2.6				
PLCA	**Paso Flores**	**124.70 150**	PKP	**PKPdf**	**20 25 36.0 -0.5**
	comp=Z,0.6nm,0.6s,baz=260,slow=3.2,SNR=3.8				
TORD	**Torodi Ar. Bea**	**140.54 284**	PKP	**PKPdf**	**20 26 06.1 -0.7**
	comp=Z,0.3nm,0.6s,baz=94,slow=3.5,SNR=1.9				

NOU 05 20:12:19.6, 10°.87S×165°.01E, h15km, mb5.0/20, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**3.08**	**277**	P	Pn	20 13 07.4	-0.3
HURO	**Huro Makira**	**3.08**	**277**	P	Sn	20 13 46.6	+2.2
ALEG	**Aligegeo Malai**	**4.74**	**296**	P	Pn	20 13 29.8	-0.8
ALEG	**Aligegeo Malai**	**4.74**	**296**	S	Sn	20 14 26.2	+0.8
NGOA	**Tingoa Renbel**	**4.90**	**262**	P	Pn	20 13 32.0	-0.8
NGOA	**Tingoa Renbel**	**4.90**	**262**	S	Sn	20 14 28.5	-0.8
SANVU	**Saraoutou**	**5.03**	**155**	P	Pn	20 13 32.2	-2.3
SAVO	**Savo Central**	**5.40**	**288**	P	Pn	20 13 41.0	+1.4
TATA	**Tatamba Isabel**	**5.70**	**295**	P	Pn	20 13 43.2	-0.5
TATA	**Tatamba Isabel**	**5.70**	**295**	S	Sn	20 14 50.4	+1.5
DVP	**Devils Point**	**7.48**	**156**	P	Pn	20 14 07.4	-0.8
KOUNC	**Koumac, New Ca**	**9.65**	**184**	P	Pn	20 14 39.0	+1.0
DZM	**Mont Dzumac**	**11.22**	**173**	P	Pn	20 14 59.6	-0.1
YATNC	**Mamie plateau,**	**11.27**	**171**	P	Pn	20 14 59.7	-0.6
ONTNC	**Ouen Toro**	**11.46**	**173**	P	Pn	20 15 04.6	+1.8
OUENC	**Ouen Island, N**	**11.62**	**172**	P	Pn	20 15 05.5	+0.5
PINNC	**Pines Island,**	**11.91**	**169**	P	Pn	20 15 09.8	+0.9
FUNA	**Funafuti**	**14.18**	**82**	P	Pn	20 15 40.0	0.0

MOS ***05*** *20:18:17.9±1.0, 28°.06N×128°.08E, h16km, mb5.0/46, MS4.7/10, Error ellipse: s-maj=7.2km s-min=4.7km az=116.5*

IDC ***05*** *20:18:17.6±0.5, 28°.13N×128°.03E, h0km, mb4.3/21, mbtmp4.2/24, ML3.3/3, MS4.4/61, Error ellipse: s-maj=18.4km s-min=10.8km az=74.0*

NIED ***05*** *20:18:18.4, 28°.13N×128°.08E, h12km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}-0.89; $M_{\theta\theta}$0.65; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.49; $M_{\theta\phi}$3.18; $M_{r\phi}$0.40; Fault plane solution: $M_0$3.29000×10^16^ NP1: ϕ_s183.00000°, δ77.00000°, λ-169.00000°. NP2: ϕ_s91.00000°, δ79.00000°, λ-13.00000°.*

JMA ***05*** *20:18:18.4±0.3, 28°.1N±0°.5×128°.1E±0°.7, h12km±2km, MD5.1/24, MW5.0/24, NW OFF OKINAWAJIMA IS*

JMA Felt II J1 at NW OFF OKINAWAJIMA IS .

BJI ***05*** *20:18:18.2, 28°.01N×128°.16E, h16km, mB5.0/40, mb4.6/72, Ms5.1/80, Ms7 4.9/75*

NEIC ***05*** *20:18:19.2, 27°.79N×128°.34E, h18km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16^Nm; M_{rr}-0.10; $M_{\theta\theta}$0.80; $M_{\phi\phi}$-0.71; $M_{r\theta}$-1.90; $M_{\theta\phi}$4.62; $M_{\phi r}$-1.82; Fault plane solution: $M_0$5.37000×10^16^ NP1: ϕ_s277.34000°, δ71.68000°, λ15.56000°. NP2: ϕ_s182.34000°, δ75.25000°, λ161.04000°. Principal axes: T 5.8796, Plg24.0000°, Azm139.0000°; N -1.2450, Plg66.0000°, Azm326.0000°; P -4.6346, Plg2.0000°, Azm230.0000°;*

NEIC ***05*** *20:18:19.2±1.4, 27°.99N±0°.04×128°.12E±0°.07, h10km±1km, mb5.0/70, Mww5.1/33 Error ellipse: s-maj=10.8km s-min=7.1km az=86.0*

NEIC ***05*** *20:18:19.2, 27°.99N×128°.12E, h18km*

GCMT ***05*** *20:18:22.2±0.1, 28°.08N±0°.01×128°.08E±0°.01, h12km, MW5.0/138, Moment Tensor Solution. s66,c93; s138,c239; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.29±.07; $M_{\theta\theta}$0.71±.07; $M_{\phi\phi}$-0.41±.07; $M_{r\theta}$1.05±.19; $M_{\theta\phi}$4.20±.05; $M_{\phi r}$0.96±.18; Best double couple: $M_0$4.43600×10^16^ NP1:ϕ_s95.00000°, δ79.00000°, λ11.00000°. NP2:ϕ_s3.00000°, δ79.00000°, λ168.00000°. Principal axes: T 4.7820, Plg16.0000°, Azm319.0000°; N -0.6920, Plg74.0000°, Azm141.0000°; P -4.0900, Plg0.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 20:18:20.3±0.5, 28°.01N±0°.03×128°.15E±0°.03, h18km±2km, h18km:pP-P, n361, σ2°.12/343, mb4.8/98, MS4.5/74, 17C-5D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.74**	**107**	P	**Pb**	**20 18 34.2**	**-0.5**
JTK				S	**Sb**	**20 18 45.1**	**+0.6**
JTK	**Tokunoshima**	**0.74**	**107**	A	A	20 18 34.2	
	comp=N,132nm,1.4s,comp=E,112nm,0.5s						
JOKE	**Okinoerabujima**	**0.74**	**150**	P	**Pn**	**20 18 35.1**	**-0.8**
JOKE				*e*S	**Sn**	**20 18 47.1**	**+0.3**
JOKE	**Okinoerabujima**	**0.74**	**150**	A	A	20 18 35.1	
	comp=N,46nm,7.7s,comp=E,104nm,3.9s						
JAMN	**Amaminishikomi**	**0.94**	**75**	P	**Pb**	**20 18 36.8**	**-1.2**
JAMN				S	**Sg**	**20 18 49.9**	**-0.9**
JAMN	**Amaminishikomi**	**0.94**	**75**	A	A	20 18 36.8	
	comp=N,117nm,1.6s,comp=E,58nm,1.3s						
JIH	**Iheya**	**0.98**	**190**	P	**Pn**	**20 18 38.7**	**-0.5**
JIH				*e*S	**Sn**	**20 18 53.3**	**+0.7**
JIH	**Iheya**	**0.98**	**190**	A	A	20 18 38.7	
	comp=N,59nm,1.7s,comp=E,114nm,1.6s						
JYRO	**Yoronjima**	**1.01**	**165**	P	**Pn**	**20 18 39.6**	**0.0**
JYRO				*e*S	**Sn**	**20 18 54.9**	**+1.5**
JYRO	**Yoronjima**	**1.01**	**165**	A	A	20 18 39.6	
	comp=N,57nm,3.3s,comp=E,100nm,2.4s						
JOW	**Kunigami**	**1.17**	**175**		**Pg**	**20 18 41.7**	**-1.3**
JOW				Sn	**Sn**	**20 18 57.1**	**-0.3**
JOW	**Kunigami**	**1.17**	**175**	Pn	**Pg**	**20 18 42.5**	**-0.5**
	comp=E,565nm,0.3s,baz=7.8,slow=13,SNR=348						
JOW				Sn	**Sn**	**20 18 58.1**	**+0.7**
	comp=E,465nm,0.3s,baz=112,slow=28,SNR=27						
JOW	**Kunigami**	**1.17**	**175**	P	**Pg**	**20 18 42.3**	**-0.7**
JOW	**Kunigami**	**1.17**	**175**	*i* P	**Pg**	**20 18 42.1**	**-0.9**
JOW				*e*S	**Sn**	**20 18 59.3**	**+1.9**
JOW	**Kunigami**	**1.17**	**175**	A	A	20 18 42.1	
	comp=N,62nm,6.1s,comp=E,66nm,1.9s						
JAM	**Amami Oshima**	**1.35**	**72**	P	**Pn**	**20 18 43.4**	**-0.8**
JAM				S	**Sn**	**20 19 00.8**	**-0.8**
JAM	**Amami Oshima**	**1.35**	**72**	A	A	20 18 43.4	
	comp=N,84nm,2.9s,comp=E,42nm,3.0s						
JTAJ	**Takarajima**	**1.47**	**39**	P	**Pn**	**20 18 44.0**	**-2.0**
JTAJ	**Takarajima**	**1.47**	**39**	A	A	20 18 44.0	
	comp=N,32nm,7.2s,comp=E,27nm,2.2s						
JNTH	**Nagotoyohara**	**1.48**	**184**	P	**Pg**	**20 18 46.6**	**-2.3**
JNTH	**Nagotoyohara**	**1.48**	**184**	A	A	20 18 46.6	
	comp=N,32nm,5.2s,comp=E,41nm,7.5s						
JAGN	**Aguni-jima**	**1.63**	**210**	P	**Pb**	**20 18 47.8**	**-2.0**
JAGN	**Aguni-jima**	**1.63**	**210**	A	A	20 18 47.8	
	comp=N,32nm,8.8s,comp=E,36nm,10.8s						
JZK	**Kikaishima**	**1.64**	**79**	P	**Pb**	**20 18 49.4**	**-0.6**
JZK	**Kikaishima**	**1.64**	**79**	A	A	20 18 49.4	
	comp=N,322nm,3.4s,comp=E,206nm,2.1s						
JJT3	**Tamagusuku3**	**1.88**	**190**	*e*P	**Pb**	**20 18 53.3**	**-0.9**
JJT3	**Tamagusuku3**	**1.88**	**190**	A	A	20 18 53.3	
	comp=N,90nm,2.1s,comp=E,118nm,6.9s						
JKE	**Kume jima 2**	**2.07**	**216**	P	**Pn**	**20 18 53.9**	**-0.3**
JKE	**Kume jima 2**	**2.07**	**216**	A	A	20 18 53.9	
	comp=N,11nm,5.7s,comp=E,11nm,6.7s						
JNN	**Nakanoshima**	**2.37**	**39**	*e*P	**Pn**	**20 18 57.7**	**-0.7**
JNN	**Nakanoshima**	**2.37**	**39**	A	A	20 18 57.7	
	comp=N,20nm,7.6s,comp=E,16nm,2.9s						
JYAK	**Yakushimahirau**	**3.03**	**42**	*e*P	**Pn**	**20 19 06.9**	**-0.5**
JMTN	**Minamitane**	**3.38**	**45**	*e*P	**Pn**	**20 19 11.9**	**-0.4**
JMTN	**Minamitane**	**3.38**	**45**	A	A	20 19 11.9	
	comp=N,8.0nm,6.4s,comp=E,7.0nm,3.9s						
JKDJ	**Kitadaitoujima**	**3.48**	**125**	*e*P	**Pn**	**20 19 14.3**	**+0.8**
JKDJ	**Kitadaitoujima**	**3.48**	**125**	A	A	20 19 14.3	
	comp=N,11nm,3.6s,comp=E,10.0nm,6.0s						
JMZ	**Minamidaito 2**	**3.50**	**128**		**Pn**	**20 19 13.3**	**-0.6**
JMZ	**Minamidaito 2**	**3.50**	**128**	P	**Pn**	**20 19 14.5**	**+0.6**
JMZ	**Minamidaito 2**	**3.50**	**128**	*e*P	**Pn**	**20 19 13.8**	**-0.1**
JMZ	**Minamidaito 2**	**3.50**	**128**	A	A	20 19 13.8	
	comp=N,11nm,10.9s,comp=E,11nm,7.3s						
JTN	**Tanegashima 3**	**3.62**	**42**	*e*P	**Pn**	**20 19 15.5**	**0.0**
JTN	**Tanegashima 3**	**3.62**	**42**	A	A	20 19 15.5	
	comp=N,5.0nm,6.3s,comp=E,5.0nm,5.8s						
JSJ	**Shimokoshiki**	**3.90**	**20**	A	A	20 19 18.7	
	comp=N,4.0nm,9.2s,comp=E,4.0nm,5.7s						
JSU	**Suzuyama**	**4.02**	**29**	A	A	20 19 20.6	
	comp=N,3.0nm,6.0s,comp=E,3.0nm,9.1s						
JOGS	**Gusukube**	**4.06**	**218**	A	A	20 19 22.9	
	comp=N,11nm,10.9s,comp=E,12nm,6.9s						
JMJ	**Miyako jima 2**	**4.08**	**220**	P	**Pn**	**20 19 24.9**	**+3.1**
JMJ2	**Miyako jima3**	**4.12**	**219**	A	A	20 19 23.8	
	comp=N,13nm,5.2s,comp=E,13nm,7.6s						
JIRB	**Irabujima**	**4.14**	**221**	A	A	20 19 24.0	
	comp=N,5.0nm,8.1s,comp=E,6.0nm,5.4s						
JTJ	**Tarama**	**4.56**	**224**	A	A	20 19 29.8	
	comp=N,4.0nm,8.8s,comp=E,6.0nm,4.2s						
JNKG	**Nichinankitago**	**4.60**	**37**	A	A	20 19 28.8	
	comp=N,4.0nm,10.5s,comp=E,3.0nm,4.0s						
JFU	**Fukue jima 2**	**4.66**	**6**	A	A	20 19 29.1	
	comp=N,5.0nm,8.7s,comp=E,8.0nm,10.0s						
JKRS	**Kuro-shima**	**5.29**	**226**	A	A	20 19 39.9	
	comp=N,8.0nm,3.2s,comp=E,7.0nm,2.7s						
JNU	**Nakatsue**	**5.62**	**24**		**Pn**	**20 19 45.8**	**+2.8**
JNU	**Nakatsue**	**5.62**	**24**	Pn	Pn	20 19 47.6	+4.7
	comp=E,6.2nm,0.3s,baz=203,slow=6.3,SNR=76						
JNU	**Nakatsue**	**5.62**	**24**	P	Pn	20 19 48.2	+5.2
YOJ	**Yonaguni jima**	**5.81**	**234**		**Pn**	**20 19 47.1**	**+1.5**
YOJ	**Yonaguni jima**	**5.81**	**234**	P	Pn	20 19 49.5	+3.9
YOJ	**Yonaguni jima**	**5.81**	**234**	P	**Pn**	**20 19 47.1**	**+1.5**
TATO	**Taipei**	**6.69**	**245**		**Pn**	**20 19 58.9**	**+1.2**
TATO	**Taipei**	**6.69**	**245**	P	**Pn**	**20 20 00.8**	**+3.1**
SSE	**Sheshan**	**6.80**	**299**	Pn	**Pn**	**20 20 01.3**	**+2.1**
SSE				Sn	**Sn**	**20 21 17.3**	**+1.1**
SSE				LR	LR		
	comp=E,3μm,9.3s						
SSE				LR	LR		
	comp=E,2μm,9.8s						
YHNB	**Yeheng**	**6.93**	**243**		**Pn**	**20 20 01.5**	**+0.5**
YHNB	**Yeheng**	**6.93**	**243**	P	**Pn**	**20 20 04.2**	**+3.2**
NACB	**Ninganchiao**	**7.02**	**239**		**Pn**	**20 20 02.1**	**-0.1**
NACB	**Ninganchiao**	**7.02**	**239**	P	**Pn**	**20 20 05.3**	**+3.0**
JMN	**Monobe**	**7.53**	**39**		**Pn**	**20 20 09.1**	**-0.3**
YULB	**Yu-li**	**7.70**	**235**	Pn	**Pn**	**20 20 11.1**	**-0.5**
SSLB	**Suanglung**	**7.72**	**239**		**Pn**	**20 20 12.2**	**+0.3**
SSLB	**Suanglung**	**7.72**	**239**	P	**Pn**	**20 20 14.9**	**+3.0**
TWG	**Pinlang**	**8.22**	**233**		**Pn**	**20 20 17.2**	**-1.5**
TPUB	**Ta-pu**	**8.24**	**237**		**Pn**	**20 20 20.2**	**+1.1**
TPUB	**Ta-pu**	**8.24**	**237**	P	**Pn**	**20 20 21.4**	**+2.3**
TJN	**Taejon**	**8.37**	**356**	Pn	**Pn**	**20 20 21.9**	**+1.1**
TJN	**Taejon**	**8.37**	**356**	↑*e*P	**Pn**	**20 20 22.7**	**+1.9**
NJ2	**Nanjing**	**9.01**	**299**	*e*P	**Pn**	**20 20 28.2**	**-1.3**
NJ2				pmax	pmax		
	comp=E,27nm,0.9s						
NJ2				LR	LR		
	comp=E,7μm,11.4s						
NJ2				LR	LR		
	comp=E,3μm,12.3s						
NJ2				LR	LR		
	comp=E,4μm,12.8s						
KSAR	**Wonju Array Be**	**9.41**	**359**	Pn	**Pn**	**20 20 35.3**	**+0.3**
KSAR	**Wonju Array Be**	**9.41**	**359**	P	**Pn**	**20 20 35.3**	**+0.3**
KSRS	**Korea Array**	**9.42**	**359**	Pn	**Pn**	**20 20 33.7**	**-1.4**
	comp=E,0.3nm,0.3s,baz=185,slow=14,SNR=9.6						
	comp=E,2.3nm,0.6s						
KNMB	**Chin-men Tao**	**9.45**	**250**	Pn	**Pn**	**20 20 34.9**	**-0.6**
KS19	**Wonju Array Si**	**9.47**	**359**	Pn	**Pn**	**20 20 36.5**	**+0.6**
INCN	**Inchon**	**9.54**	**353**	P	**Pn**	**20 20 37.5**	**+0.7**
INU	**Inuyama**	**10.51**	**44**		**Pn**	**20 20 50.7**	**+0.5**
INU	**Inuyama**	**10.51**	**44**	P	**Pn**	**20 20 54.1**	**+4.0**
JGF	**Kuroka**	**10.89**	**44**		**Pn**	**20 20 55.1**	**-0.2**
JGF	**Kuroka**	**10.89**	**44**	P	**Pn**	**20 20 58.8**	**+3.5**
JHJ	**Hachijo jima 2**	**11.24**	**60**	LR	LR	20 25 15.1	
	comp=E,1μm,21.2s,baz=284,slow=37						
JHJ2	**Mitsune**	**11.27**	**60**	Pn	**Pn**	**20 20 59.8**	**-0.6**
MAJO	**Matsushiro**	**12.03**	**42**		**Pn**	**20 21 11.4**	**+0.5**
MAJO	**Matsushiro**	**12.03**	**42**	P	**Pn**	**20 21 11.4**	**+0.5**
MJAR	**Matsushiro Arr**	**12.03**	**42**		**Pn**	**20 21 11.8**	**+0.9**
MJAR	**Matsushiro Arr**	**12.03**	**42**	Pn	**Pn**	**20 21 09.9**	**-1.0**
	comp=E,0.1nm,0.3s,baz=241,slow=13,SNR=8.7						
MJAR				LR	LR	20 26 29.4	
	comp=E,1μm,18.9s,baz=219,slow=41						
	comp=E,2.2nm,0.8s						
MJB9	**Matsu-Tunnel**	**12.03**	**42**		**Pn**	**20 21 11.6**	**+0.8**
WHN	**Wuhan**	**12.31**	**285**	P	**Pn**	**20 21 16.0**	**+1.3**
WHN				S	**Sn**	**20 23 32.2**	**+0.7**
WHN				LR	LR		
	comp=E,38μm,13.4s						
WHN				LR	LR		
	comp=E,11μm,11.8s						
WHN				LR	LR		
	comp=E,9μm,13.9s						
TIA	**Tai'an**	**12.41**	**314**	P	**Pn**	**20 21 16.0**	**-0.1**
TIA				S	**Sn**	**20 23 34.4**	**+0.4**
TIA				pmax	pmax		
	comp=E,10.0nm,0.8s						
TIA				pmax	pmax		
	comp=E,330nm,6.9s						
TIA				LR	LR		
	comp=E,3μm,10.6s						
TIA				LR	LR		
	comp=E,4μm,10.8s						
TIA				LR	LR		
	comp=E,4μm,14.9s						
CNSH	**ChangSha**	**13.44**	**274**	P	P	20 21 34.1	-5.3
CNSH				S	Sn	20 24 10.0	+11
CNSH				LR	LR		
	comp=E,8μm,11.2s						
CNSH				LR	LR		
	comp=E,4μm,9.4s						
CNSH				LR	LR		
	comp=E,5μm,10.4s						
GZH	**Guangzhou**	**14.23**	**253**	P	Pn	20 21 34.8	-6.2
GZH				S	Sn	20 24 08.5	-10
GZH				LR	LR		
	comp=E,7μm,13.1s						
GZH				LR	LR		
	comp=E,5μm,14.5s						
GZH				LR	LR		
	comp=E,4μm,9.8s						
SNY	**Shenyang**	**14.29**	**346**	⇑P	**P**	**20 21 52.2**	**+3.4**
SNY				S	**S**	**20 24 34.8**	**-5.2**
SNY				pmax	pmax		
	comp=Z,59nm,1.8s						
SNY				pmax	pmax		
	comp=Z,330nm,5.4s						
SNY				LR	LR		
	comp=N,4μm,11.2s						
SNY				LR	LR		
	comp=E,5μm,10.8s						
SNY				LR	LR		
	comp=Z,4μm,12.5s						
JMM	**Marumori**	**14.46**	**44**	Pn	**Pn**	**20 21 42.7**	**-1.3**
HNS	**HongShan**	**14.68**	**313**	⇑P	**Pn**	**20 21 47.3**	**+0.3**
HNS				S	S	20 24 38.7	-9.3
HNS				pmax	pmax		
	comp=Z,44nm,1.4s						
HNS				LR	LR		
	comp=Z,3μm,11.2s						
HNS				LR	LR		
	comp=Z,4μm,11.4s						
HNS				LR	LR		
	comp=Z,2μm,11.6s						
LYN	**LuoYang**	**14.90**	**300**	P	**Pn**	**20 21 50.2**	**+0.1**
LYN				pP	P	20 21 59.6	+3.9
LYN				PP	**PnPn**	**20 22 01.5**	**+3.3**
LYN				sP		20 22 05.3	
LYN				S	**Sn**	**20 24 34.4**	**-0.4**
LYN				sS	S	20 24 50.8	-1.9
LYN				SS	**SnSn**	**20 24 57.7**	**+10**
LYN				pmax	pmax		
	comp=Z,140nm,1.3s						
LYN				pmax	pmax		
	comp=Z,490nm,3.8s						
LYN				LR	LR		
	comp=Z,5μm,16.8s						
LYN				LR	LR		
	comp=Z,4μm,16.8s						
LYN				LR	LR		
	comp=Z,5μm,15.8s						
TGY	**Tagaytay City**	**15.38**	**207**	LR	LR	20 28 01.3	
	comp=Z,1μm,19.1s,baz=353,slow=38						
BJT	**Baijiatuau**	**15.55**	**323**		**Pn**	**20 21 57.2**	**-1.3**
BJT				IAmb	IAmb	20 22 05.2	
	comp=Z,56nm,0.9s						
BJT	**Baijiatuau**	**15.55**	**323**	P	**P**	**20 22 04.0**	**+1.2**
BJT	**Baijiatuau**	**15.55**	**323**	P	**Pn**	**20 21 57.3**	**-1.3**
BJT				pmax	pmax		
	comp=Z,56nm,0.9s						
BJI	**Beijing**	**15.56**	**324**	P	**Pn**	**20 21 59.2**	**+0.5**
BJI				S	**Sn**	**20 24 56.9**	**+6.3**
BJI				pmax	pmax		
	comp=Z,36nm,1.2s						
BJI				pmax	pmax		
	comp=Z,170nm,4.5s						
BJI				LR	LR		
	comp=Z,2μm,16.8s						
BJI				LR	LR		
	comp=Z,1μm,17.2s						

XLT			PP	PnPn	20 22 53.9	+5.1
XLT			S	Sn	20 26 01.3	-3.1
XLT			sS	sS	20 26 11.9	-3.6
XLT			pmax	pmax		
	comp=Z,42nm,1.4s					
XLT			pmax	pmax		
	comp=Z,210nm,5.7s					
XLT			LR	LR		
	comp=Z,250nm,17.9s					
XLT			LR	LR		
	comp=Z,2μm,17.0s					
XLT			LR	LR		
	comp=Z,2μm,16.2s					
HHC	**Hu-ho-hao-te**	**18.70 318**	*e*P	**Pn**	**20 22 38.6**	**+0.3**
HHC			sP	sP	20 22 44.9	0.0
HHC			PP	**PnPn**	**20 22 54.0**	**+3.6**
HHC			S	**Sn**	**20 26 06.3**	**-0.8**
HHC			sS	S	20 26 11.2	+0.9
HHC			SS	**SnSn**	**20 26 29.9**	**+8.8**
HHC			pmax	pmax		
	comp=Z,18nm,0.8s					
HHC			pmax	pmax		
	comp=Z,470nm,4.5s					
HHC			LR	LR		
	comp=Z,3μm,10.0s					
HHC			LR	LR		
	comp=Z,3μm,10.0s					
HHC			LR	LR		
	comp=Z,3μm,10.7s					
QIZ	**Qiongzhong**	**19.00 246**	P	**Pn**	**20 22 46.4**	**+4.5**
QIZ			S	**S**	**20 26 19.6**	**+3.3**
QIZ			pmax	pmax		
	comp=Z,330nm,8.6s					
QIZ			LR	LR		
	comp=Z,2μm,12.0s					
QIZ			LR	LR		
	comp=Z,2μm,13.7s					
QIZ			LR	LR		
	comp=Z,2μm,11.6s					
GYA	**Guiyang**	**19.17 270**	P	**Pn**	**20 22 46.0**	**+2.0**
GYA			sP	sP	20 22 51.4	+1.3
GYA			S	**Sn**	**20 26 17.9**	**-0.7**
GYA			pmax	pmax		
	comp=Z,15nm,1.0s					
GYA			pmax	pmax		
	comp=Z,790nm,3.4s					
GYA			LR	LR		
	comp=Z,6μm,12.2s					
GYA			LR	LR		
	comp=Z,3μm,14.0s					
GYA			LR	LR		
	comp=Z,3μm,12.3s					
BTO	**Baotou**	**19.50 315**	*e*P	**Pn**	**20 22 49.4**	**+1.5**
BTO			pP	**sP**	**20 22 53.3**	**-0.4**
BTO			sP	**pP**	**20 22 56.7**	**+5.3**
BTO			S	**S**	**20 26 27.0**	**+0.6**
BTO			sS	**pS**	**20 26 36.5**	**-4.9**
BTO			SS	**SnSn**	**20 26 51.0**	**+10**
BTO			pmax	pmax		
	comp=Z,64nm,1.2s					
BTO			pmax	pmax		
	comp=Z,1μm,4.2s					
BTO			LR	LR		
	comp=Z,5μm,11.9s					
BTO			LR	LR		
	comp=Z,3μm,13.3s					
BTO			LR	LR		
	comp=Z,5μm,14.3s					
ASAJ	**Asahikawa**	**19.82 32**	LR	LR	20 30 45.4	
	comp=Z,1μm,18.2s,baz=239,slow=38					
ASAJ	**Asahikawa**	**19.82 32**	P	**P**	**20 22 49.7**	**-0.2**
ASAJ			pmax	pmax		
	comp=Z,98nm,1.6s					
JKA	**Kamikawa-asahi**	**19.82 32**	P	**P**	**20 22 49.7**	**-0.2**
JKA			IAmb	IAmb	20 22 56.4	
	comp=Z,98nm,1.6s					
DAV	**Davao City (W)**	**20.96 187**	LR	LR	20 33 09.6	
	comp=Z,366nm,18.4s,baz=345,slow=42					
GUMO	**Guam**	**21.18 129**	LR	LR	20 29 55.7	
	comp=Z,2μm,19.9s,baz=313,slow=33					
GUMO	**Guam**	**21.18 129**	P	**P**	**20 23 07.3**	**+2.5**
GUMO			pmax	pmax		
	comp=Z,173nm,1.2s					
CD2	**Chengdu**	**21.43 284**	P	**P**	**20 23 06.9**	**-0.6**
CD2			pP	sP	20 23 11.8	-2.7
CD2			S	**S**	**20 27 03.3**	**-1.4**
CD2			pmax	pmax		
	comp=Z,50nm,0.7s					
CD2			pmax	pmax		
	comp=Z,190nm,4.0s					
CD2			LR	LR		
	comp=Z,17μm,13.0s					
CD2			LR	LR		
	comp=Z,6μm,12.5s					
CD2			LR	LR		
	comp=Z,6μm,14.7s					
LZH	**Lanzhou**	**22.08 298**	*e*P	**P**	**20 23 10.4**	**-4.2**
LZH			sP	sP	20 23 20.4	-1.3
LZH			S	**S**	**20 27 19.9**	**+2.3**
LZH			pmax	pmax		
	comp=Z,40nm,1.2s					
LZH			pmax	pmax		
	comp=Z,220nm,4.0s					
LZH			LR	LR		
	comp=Z,6μm,13.4s					
LZH			LR	LR		
	comp=Z,3μm,12.7s					
LZH			LR	LR		
	comp=Z,3μm,15.8s					
YSS	**Yuzhno-Sakhali**	**22.12 27**	*e*P	**P**	**20 23 11.4**	**-3.3**
YSS			pmax	pmax		
	comp=Z,20nm,1.0s					
YSS			MLR	MLR		
	comp=Z,2μm,13.0s					
LZDM	**Lanzhou Array**	**22.17 297**	P	**P**	**20 23 14.3**	**-1.5**
	comp=Z,5.3nm,0.5s,baz=134,slow=8.5,SNR=8.3					
LZDM			LR	LR	20 33 17.6	
	comp=Z,563nm,20.8s,baz=140,slow=41					
	comp=Z,5.3nm,0.5s					
HIA	**Hailar**	**22.20 345**	P	**P**	**20 23 13.0**	**-2.6**
HIA			IAmb	IAmb	20 23 27.6	
	comp=Z,66nm,1.8s					
HIA	**Hailar**	**22.20 345**	P	**P**	**20 23 13.0**	**-2.6**
HIA			pmax	pmax		
	comp=Z,66nm,1.8s					
HEH	**HeiHe**	**22.23 359**	*e*P	**P**	**20 23 16.1**	**+0.3**
HEH			sP	**sP**	**20 23 25.7**	**+2.8**
HEH			S	**S**	**20 27 24.2**	**+4.5**
HEH			pmax	pmax		
	comp=Z,6.0nm,1.1s					
HEH			LR	LR		
	comp=Z,2μm,12.4s					
HEH			LR	LR		
	comp=Z,8μm,11.2s					
HEH			LR	LR		
	comp=Z,3μm,10.5s					
KMI	**Kunming**	**22.90 269**	P	**P**	**20 23 24.9**	**+1.4**
KMI			S	**S**	**20 27 24.5**	**-8.3**
KMI			pmax	pmax		
	comp=Z,20nm,1.3s					
KMI			pmax	pmax		
	comp=Z,210nm,6.0s					
KMI			LR	LR		
	comp=Z,3μm,12.6s					
KMI			LR	LR		
	comp=Z,1μm,11.0s					
KMI			LR	LR		
	comp=Z,1μm,11.6s					
SLVN	**Son La**	**22.99 259**	P	**P**	**20 23 23.3**	**-1.0**
PZH	**PanZhiHua**	**23.51 273**	P	**P**	**20 23 28.0**	**-1.6**
PZH			S	**S**	**20 27 37.8**	**-5.0**
PZH			sS	**pS**	**20 27 47.2**	**-1.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,230nm,7.9s					
PZH			LR	LR		
	comp=Z,4μm,18.8s					
PZH			LR	LR		
	comp=Z,1μm,17.1s					
PZH			LR	LR		
	comp=Z,1μm,17.0s					
TYV	**Tymovskoe**	**25.34 22**	*e*P	**P**	**20 23 40.0**	**-6.0**
TYV			*e*S	S	20 28 01.0	-10
TYV			pmax	pmax		
	comp=Z,100nm,2.4s					
TYV			pmax	pmax		
	comp=Z,7.0nm,1.1s					
TYV			smax	smax		
	comp=N,200nm,3.4s					
TYV			smax	smax		
	comp=E,200nm,3.4s					
ZEA	**Zeya**	**25.72 359**	*e*P	**P**	**20 23 53.8**	**+4.4**
ZEA			*e*S	**S**	**20 28 17.8**	**+0.5**
ZEA			pmax	pmax		
	comp=N,10.0nm,1.2s					
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.1s					
ZEA			smax	smax		
	comp=E,200nm,6.4s					
ZEA			MLR	MLR		
	comp=N,1μm,10.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,10.0s					
ULN	**Ulaanbaatar**	**25.74 326**	P	**P**	**20 23 48.3**	**-1.5**
ULN			IAmb	IAmb	20 23 58.4	
	comp=Z,55nm,1.2s					
ULN	**Ulaanbaatar**	**25.74 326** *c i*	P	**P**	**20 23 49.4**	**-0.5**
ULN			pmax	pmax		
	comp=Z,51nm,1.1s					
SONM	**Songino Array**	**26.04 325**	P	**P**	**20 23 51.6**	**-1.0**
SONM			IAmb	IAmb	20 24 01.4	
	comp=Z,48nm,1.1s					
SONM	**Songino Array**	**26.04 325**	P	**P**	**20 23 51.0**	**-1.6**
	comp=Z,16nm,0.8s,baz=142,slow=8.3,SNR=60					
SONM			LR	LR	20 35 53.8	
	comp=Z,1μm,18.5s,baz=134,slow=41					
	comp=Z,16nm,0.8s					
GTA	**Gaotai**	**26.07 303**	P	**P**	**20 23 52.7**	**-0.3**
GTA			pP	sP	20 24 04.3	+4.1
GTA			S	**S**	**20 28 23.4**	**-0.1**
GTA			sS	sS	20 28 38.7	+6.7
GTA			pmax	pmax		
	comp=Z,14nm,1.1s					
GTA			pmax	pmax		
	comp=Z,180nm,4.5s					
GTA			LR	LR		
	comp=Z,3μm,17.8s					
GTA			LR	LR		
	comp=Z,2μm,16.7s					
GTA			LR	LR		
	comp=Z,3μm,17.8s					
CIT	**Chita**	**26.36 339**	*e*P	**P**	**20 23 54.8**	**-0.6**
CIT			*e*		20 23 59.2	
CIT			*e*		20 24 37.2	
CIT			pmax	pmax		
	comp=Z,94nm,3.0s					
TNCH	**TengChong**	**26.65 270**	P	**P**	**20 23 57.6**	**-0.8**
TNCH			pP	pP	20 24 01.3	-2.2
TNCH			S	**S**	**20 28 29.8**	**-3.2**
TNCH			pmax	pmax		
	comp=Z,14nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,160nm,4.7s					
TNCH			LR	LR		
	comp=Z,3μm,11.9s					
TNCH			LR	LR		
	comp=Z,2μm,13.1s					
TNCH			LR	LR		
	comp=Z,2μm,13.4s					
TNTI	**Ternate**	**27.09 182**	P	**P**	**20 24 00.9**	**-1.2**
TNTI			IAmb	IAmb	20 24 26.3	
	comp=Z,33nm,1.3s					
TNTI	**Ternate**	**27.09 182**	P	**P**	**20 24 04.0**	**+1.9**
	comp=Z,776nmcomp=Z,15nm,0.7s					
TOLI2	**Tolitoli**	**27.66 196**	P	**P**	**20 24 05.8**	**-1.5**
CHTO	**Chiang Mai**	**28.26 257**	P	**P**	**20 24 11.4**	**-1.3**
CHTO	**Chiang Mai**	**28.26 257**	P	**P**	**20 24 11.4**	**-1.3**
CHTO			pmax	pmax		
	comp=Z,17nm,1.7s					
CMAR	**Chiang Mai Arr**	**28.41 257**	P	**P**	**20 24 14.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=70,slow=9.7,SNR=2.3					
CMAR			PcP	**PcP**	**20 27 27.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=47,slow=1.1,SNR=9.5					
	comp=Z,0.4nm,0.6s					
ZAK	**Zakamensk**	**29.26 327**	*e*P	**P**	**20 24 18.8**	**-2.6**
ZAK			pmax	pmax		
	comp=Z,13nm,2.1s					
GOMU	**GeErMu**	**29.29 295**	P	**P**	**20 24 22.4**	**+0.3**
GOMU			pP	pP	20 24 25.9	-1.4
GOMU			sP	sP	20 24 29.8	+0.4
GOMU			S	**S**	**20 29 11.5**	**-3.2**
GOMU			pmax	pmax		
	comp=Z,13nm,0.8s					
GOMU			LR	LR		
	comp=Z,940nm,13.4s					
GOMU			LR	LR		
	comp=Z,800nm,13.6s					
GOMU			LR	LR		
	comp=Z,930nm,13.0s					
KSM	**Kuching**	**31.42 216**	P	**P**	**20 24 40.6**	**-0.1**
KSM			IAmb	IAmb	20 25 31.8	
	comp=Z,16nm,1.2s					
SMPI	**Sarmi**	**31.50 159**	P	**P**	**20 24 43.3**	**+2.0**
LSA	**Lhasa**	**32.37 282**	P	**P**	**20 24 47.9**	**-1.5**
LSA	**Lhasa**	**32.37 282**	P	**P**	**20 24 47.9**	**-1.5**
LSA			pmax	pmax		
	comp=Z,18nm,1.8s					
SHL	**Shillong**	**32.39 274**	P	**P**	**20 24 48.2**	**-1.2**
SHL			IAmb	IAmb	20 24 57.5	
	comp=Z,20nm,1.4s					
SHL	**Shillong**	**32.39 274**	P	**P**	**20 24 48.2**	**-1.2**
SHL			pmax	pmax		
	comp=Z,20nm,1.4s					
JAY	**Jayapura**	**32.66 156**	LR	LR	20 35 11.2	
	comp=Z,564nm,21.5s,baz=318,slow=31					
PETK	**Petropavlovsk-**	**33.24 33**	LR	LR	20 39 21.6	
	comp=Z,443nm,18.1s,baz=224,slow=38					
KAPI	**Kappang**	**33.81 195**	LR	LR	20 39 37.4	
	comp=Z,255nm,19.0s,baz=13,slow=38					
YAK	**Yakutsk**	**34.04 1**	LR	LR	20 38 58.5	
	comp=Z,759nm,18.7s,baz=178,slow=37					
YAK	**Yakutsk**	**34.04 1**	*e*P	**P**	**20 25 03.7**	**+0.6**
YAK			*e**PP	**sP**	**20 25 08.4**	**-2.0**
YAK			*e*		20 26 11.1	
YAK			*e*PPP	PPP	20 26 30.3	
YAK			*e*		20 27 37.5	
YAK			*e*S	**S**	**20 30 29.5**	**+2.0**
YAK			*e*SS	**SnSn**	**20 32 30.5**	**-4.3**
YAK			*e*SSS	SSS	20 32 53.3	
YAK			pmax	pmax		
	comp=Z,4.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,2.0nm,1.4s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.9s					
YAK			pmax	pmax		
	comp=Z,245nm,5.8s					
YAK			pmax	pmax		
	comp=N,271nm,6.5s					
YAK			pmax	pmax		
	comp=E,126nm,6.3s					
YAK			smax	smax		
	comp=N,134nm,5.6s					
YAK			smax	smax		
	comp=E,100nm,6.1s					
YAK			MLR	MLR		
	comp=Z,970nm,18.0s					
YAK			MLR	MLR		
	comp=N,616nm,16.0s					
YAK			MLR	MLR		
	comp=E,345nm,16.0s					
KULM	**Kulim**	**34.53 234**	P	**P**	**20 25 06.7**	**-1.2**
KULM			IAmb	IAmb	20 25 34.6	
	comp=Z,25nm,1.4s					
IPM	**Ipoh**	**34.83 233**		**P**	**20 25 08.6**	**-1.9**
IPM			IAmb	IAmb	20 25 24.9	
	comp=Z,19nm,1.0s					
MA2	**Magadan**	**35.17 20**	LR	LR	20 39 32.3	
	comp=Z,498nm,18.6s,baz=220,slow=36					
WMQ	**Urumqi**	**35.98 307**	*e*P	**P**	**20 25 20.6**	**+0.5**
WMQ			pP	sP	20 25 27.6	+0.1
WMQ			pmax	pmax		
	comp=Z,23nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,170nm,3.9s					
WMQ			LR	LR		
	comp=Z,2μm,14.5s					
WMQ			LR	LR		
	comp=Z,2μm,15.5s					
WMQ			LR	LR		
	comp=Z,710nm,21.7s					
EVN	**Everest**	**36.38 280**	P	**P**	**20 25 22.8**	**-1.7**
PSI	**Prapat**	**37.49 233**	LR	LR	20 43 10.5	
	comp=Z,202nm,18.3s,baz=46,slow=40					
BATI	**Baumata**	**38.23 187**	P	**P**	**20 25 39.6**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=31,slow=21,SNR=2.2					
	comp=Z,8.7nm,0.7s					
SEY	**Seymchan**	**38.35 18**	LR	LR	20 41 24.8	
	comp=Z,484nm,19.8s,baz=218,slow=36					
SEY	**Seymchan**	**38.35 18** *j e*P		**P**	**20 25 40.8**	**+0.9**
SEY			pmax	pmax		
	comp=Z,14nm,1.4s					
ZSN	**Zaisan**	**38.75 312**	*e*P	**P**	**20 25 43.0**	**-0.6**
ZSN	**Zaisan**	**38.75 312**	*e*P	**P**	**20 25 42.9**	**-0.6**
RABL	**Rabaul**	**39.50 140**	P	**P**	**20 25 49.8**	**-0.3**
LEM	**Lembang**	**39.91 213**	LR	LR	20 42 12.2	
	comp=Z,202nm,22.0s,baz=54,slow=36					
MK31	**Makanchi Array**	**40.32 310** *d i*	P	**P**	**20 25 55.7**	**-0.9**
MKAR	**Makanchi Array**	**40.32 310**	P	**P**	**20 25 54.6**	**-2.0**
MKAR	**Makanchi Array**	**40.32 310**	P	**P**	**20 25 55.7**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=99,slow=9.9,SNR=21					
MKAR			PcP	**PcP**	**20 27 58.4**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=90,slow=4.3,SNR=2.5					
MKAR			LR	LR	20 43 46.6	
	comp=Z,661nm,18.3s,baz=98,slow=38					
	comp=Z,3.7nm,0.7s					
MKAR	**Makanchi Array**	**40.32 310**	P	**P**	**20 25 54.6**	**-2.0**
MAKZ	**Makanchi**	**40.53 310**	P	**P**	**20 25 57.6**	**-0.8**
MAKZ			IAmb	IAmb	20 25 58.9	
	comp=Z,37nm,1.4s					
MAKZ	**Makanchi**	**40.53 310**	P	**P**	**20 25 57.6**	**-0.8**
MAKZ			pmax	pmax		
	comp=Z,37nm,1.5s					
MTN	**Manton Dam**	**40.71 176**	P	**P**	**20 25 58.8**	**-1.2**
MTN			IAmb	IAmb	20 26 04.8	
	comp=Z,41nm,1.2s					
ZAA0	**Zalesovo Array**	**40.80 322**	P	**P**	**20 25 58.9**	**-1.6**
ZALV	**Zalesovo Beam**	**40.80 322**		**P**	**20 25 58.8**	**-1.7**
ZALV	**Zalesovo Beam**	**40.80 322**	P	**P**	**20 25 58.4**	**-2.1**
	comp=Z,3.0nm,0.5s,baz=108,slow=8.6,SNR=20					
ZALV			PcP	**PcP**	**20 27 59.9**	**-1.4**
	comp=Z,3.2nm,0.9s,baz=106,slow=5.3,SNR=5.1					
ZALV			LR	LR	20 43 30.0	
	comp=Z,256nm,18.5s,baz=112,slow=37					
	comp=Z,3.0nm,0.5s					
PMG	**Port Moresby**	**41.49 151**	LR	LR	20 41 01.3	
	comp=Z,500nm,19.4s,baz=318,slow=33					
SHLS	**Shalkode**	**41.80 304**	*e*P	**P**	**20 26 05.5**	**-3.6**
SHLS	**Shalkode**	**41.80 304**	*e*P	**P**	**20 26 05.4**	**-3.6**
UZB	**Uzynbulak**	**42.12 304**	*e*P	**P**	**20 26 10.5**	**-1.2**
UZB	**Uzynbulak**	**42.12 304**	*e*P	**P**	**20 26 10.5**	**-1.2**
PRZ	**Przheval'sk**	**42.53 303**		**P**	**20 26 14.6**	**-0.4**
PRZ			IAmb	IAmb	20 26 21.6	
	comp=Z,22nm,1.0s					
PRZ	**Przheval'sk**	**42.53 303**	P	**P**	**20 26 14.6**	**-0.4**
PRZ			pmax	pmax		
	comp=Z,22nm,1.0s					
SATY	**Saty**	**42.56 304**	*e*P	**P**	**20 26 14.2**	**-1.1**
SATY	**Saty**	**42.56 304**	*e*P	**P**	**20 26 14.1**	**-1.1**
TDK	**Taldyqorghan**	**42.73 307**	*e*P	**P**	**20 26 15.8**	**-0.7**
	comp=Z,15nm,0.7s					
TDK	**Taldyqorghan**	**42.73 307**	*e*P	**P**	**20 26 15.7**	**-0.7**
TDK			pmax	pmax		
	comp=Z,15nm,0.7s					
TARG	**Taragay, Kyrgy**	**42.94 302**	P	**P**	**20 26 18.2**	**-0.5**
TARG			IAmb	IAmb	20 26 25.0	
	comp=Z,22nm,1.0s					
TARG	**Taragay, Kyrgy**	**42.94 302**	P	**P**	**20 26 18.2**	**-0.5**
TARG			pmax	pmax		
	comp=Z,22nm,1.0s					
KDJ	**Kajisay**	**43.42 303**		**P**	**20 26 21.3**	**-1.0**
KDJ			IAmb	IAmb	20 26 28.3	
	comp=Z,20nm,1.0s					
KDJ	**Kajisay**	**43.42 303**	P	**P**	**20 26 21.3**	**-1.0**
KDJ			pmax	pmax		
	comp=Z,20nm,1.0s					
KNRA	**Kununurra**	**43.43 179**	P	**P**	**20 26 21.8**	**-0.4**
KNRA			IAmb	IAmb	20 26 28.9	
	comp=Z,79nm,1.8s					
KURK	**Kurchatov**	**43.50 315**	P	**P**	**20 26 21.1**	**-1.5**
KURK	**Kurchatov**	**43.50 315** *c i*	P	**P**	**20 26 21.0**	**-1.5**
KURK			pmax	pmax		
	comp=Z,39nm,1.7s					
KURBB	**Kurchatov Arra**	**43.53 315**	P	**P**	**20 26 22.0**	**-0.8**
	comp=Z,7.2nm,0.6s,baz=103,slow=8.8,SNR=52					
KURBB			LR	LR	20 45 58.7	
	comp=Z,1μm,19.6s,baz=150,slow=38					
	comp=Z,7.2nm,0.6s					
MDOK	**Medeo**	**43.56 304**	*e*P	**P**	**20 26 22.3**	**-1.1**
MDOK	**Medeo**	**43.56 304**	*e*P	**P**	**20 26 22.3**	**-1.1**
TNSS	**Tian-Shan**	**43.63 304**	*e*P	**P**	**20 26 22.9**	**-1.3**
TNSS	**Tian-Shan**	**43.63 304**	*e*P	**P**	**20 26 22.9**	**-1.3**
CHKK	**Chushkaly**	**43.65 305**	*e*P	**P**	**20 26 23.0**	**-0.9**
CHKK	**Chushkaly**	**43.65 305**	*e*P	**P**	**20 26 22.9**	**-0.9**
AAA	**Alma-Ata**	**43.66 304**	*e*P	**P**	**20 26 23.5**	**-0.6**
	comp=Z,11nm,0.6s					
AAA	**Alma-Ata**	**43.66 304**	*e*P	**P**	**20 26 23.4**	**-0.6**
AAA			pmax	pmax		
	comp=Z,11nm,0.6s					
KSH	**Kashi**	**44.32 299**	P	**P**	**20 26 32.1**	**+2.6**
KSH			S	**S**	**20 33 09.4**	**+6.4**
KSH			pmax	pmax		
	comp=Z,10.0nm,1.4s					
KSH			LR	LR		
	comp=Z,2μm,16.1s					
KSH			LR	LR		
	comp=Z,1μm,14.8s					
KSH			LR	LR		
	comp=Z,1μm,14.1s					
BOOM	**Boomskoye usch**	**44.35 303**	P	**P**	**20 26 28.6**	**-1.1**
BOOM	**Boomskoye usch**	**44.35 303**	P	**P**	**20 26 28.6**	**-1.1**
BOOM			pmax	pmax		
	comp=Z,14nm,1.5s					
AMKA	**Amchitka**	**44.64 44**	P	**P**	**20 26 31.2**	**-0.5**
AAK	**Ala-Archa**	**45.42 303**	P	**P**	**20 26 37.4**	**-0.8**
AAK	**Ala-Archa**	**45.42 303**	LR	LR	20 49 02.7	
	comp=Z,636nm,18.2s,baz=88,slow=41					
AAK	**Ala-Archa**	**45.42 303** *c i*	P	**P**	**20 26 37.6**	**-0.6**
AAK			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BTLS	**Baital**	**45.82 307**	*e*P	**P**	**20 26 40.0**	**-1.2**
	comp=Z,7.7nm,1.0s					
BTLS	**Baital**	**45.82 307**	*e*P	**P**	**20 26 39.9**	**-1.2**
BTLS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
FITZ	**Fitzroy Crossi**	**45.90 183**		**P**	**20 26 41.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**45.90 183**	P	**P**	**20 26 43.0**	**+1.1**
	comp=Z,12nm,1.0s,baz=16,slow=10.0,SNR=8.3					
FITZ			LR	LR	20 48 06.7	
	comp=Z,49nm,18.1s,baz=354,slow=39					
	comp=Z,12nm,1.0s					
BILL	**Bilibino**	**46.02 19** *i i*	P	**P**	**20 26 41.8**	**-0.6**
BILL			pmax	pmax		
	comp=Z,37nm,2.1s					
ARSB	**Arslanbob**	**46.56 302**		**P**	**20 26 46.6**	**-0.6**
ARSB			IAmb	IAmb	20 26 57.0	
	comp=Z,35nm,1.6s					
ARSB	**Arslanbob**	**46.56 302**	P	**P**	**20 26 46.6**	**-0.6**
ARSB			pmax	pmax		
	comp=Z,35nm,1.6s					
HYB	**Hyderabad**	**46.68 268**	*e*P	**P**	**20 26 48.6**	**+0.3**
HYB			*e*S	**S**	**20 33 37.5**	**+0.3**
OHH	**Osh**	**46.73 301**	P	**P**	**20 26 46.6**	**-1.9**
KIWB	**Kanaga Island**	**46.90 44**	P	**P**	**20 26 48.2**	**-1.3**
KIWB			IAmb	IAmb	20 26 53.9	
	comp=Z,20nm,1.0s					
NIL	**Nilore**	**47.02 291**		**P**	**20 26 50.2**	**-0.6**
NIL			IAmb	IAmb	20 26 51.5	
	comp=Z,11nm,0.9s					
NIL	**Nilore**	**47.02 291**	P	**P**	**20 26 50.2**	**-0.6**
NIL			pmax	pmax		
	comp=Z,11nm,0.9s					
ADK	**Adak**	**47.19 44**		**P**	**20 26 51.1**	**-0.6**
ADK			IAmb	IAmb	20 27 21.5	
	comp=Z,23nm,1.1s					
ADK	**Adak**	**47.19 44**	P	**P**	**20 26 51.1**	**-0.6**
ADK			pmax	pmax		
	comp=Z,23nm,1.1s					
ARK	**Arkit**	**47.31 302**	P	**P**	**20 26 53.5**	**+0.5**
DRK	**Karamyk**	**47.55 299**	P	**P**	**20 26 53.9**	**-1.2**
DRK			IAmb	IAmb	20 27 04.9	
	comp=Z,19nm,1.3s					
DRK	**Karamyk**	**47.55 299**	P	**P**	**20 26 53.9**	**-1.2**
DRK			pmax	pmax		
	comp=Z,19nm,1.3s					
DZA	**Taraz**	**47.75 304**	*e*P	**P**	**20 26 55.4**	**-1.0**

DZA Taraz 47.75 304 *e*P **P 20 26 55.3 -1.0**
WB0 Warramunga Arr 47.87 172 **P 20 26 56.7 -0.7**
WB0 IAmb IAmb 20 27 02.9
comp=Z,13nm,0.8s
TRKS Terek-Say 47.93 302 P **P 20 26 56.8 -1.2**
WRAB Tennant Creek 48.03 172 P **P 20 26 57.5 -1.1**
WRAB IAmb IAmb 20 27 04.2
comp=Z,12nm,0.8s
WRAB Tennant Creek 48.03 172 P **P 20 26 57.5 -1.1**
WRAB pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 48.04 172 **P 20 26 58.9 +0.2**
WRA Warramunga Arr 48.04 172 P **P 20 26 59.1 +0.5**
comp=Z,6.3nm,0.6s,baz=355,slow=8.6,SNR=29
comp=Z,6.3nm,0.6s
WRA Warramunga Arr 48.04 172 P **P 20 26 58.9 +0.2**
WRA pmax pmax
comp=Z,3.0nm,1.6s
HNR Honiara 48.28 136 LR LR 20 45 03.4
comp=Z,170nm,21.9s,baz=350,slow=33
KK31 Karatay Array 48.34 304 **P 20 27 00.5 -0.4**
KK31 IAmb IAmb 20 27 01.7
comp=Z,20nm,1.4s
KK31 Karatay Array 48.34 304 P **P 20 27 00.5 -0.4**
KK31 pmax pmax
comp=Z,20nm,1.4s
KKAR Karatay Array 48.34 304 P **P 20 27 00.2 -0.7**
KKAR Karatay Array 48.34 304 P **P 20 27 00.3 -0.7**
GAR Garm 48.73 299 **P 20 27 03.5 -0.6**
GAR IAmb IAmb 20 27 04.9
comp=Z,20nm,1.0s
BRLS Borolday 48.84 304 *e*P **P 20 27 05.0 +0.2**
BRLS Borolday 48.84 304 *e*P **P 20 27 04.9 +0.2**
BVAR Borovoye Array 48.92 317 P **P 20 27 03.9 -1.2**
comp=Z,5.1nm,0.8s,baz=69,slow=10.0,SNR=23
BVAR LR LR 20 49 22.5
comp=Z,2μm,18.6s,baz=105,slow=38
comp=Z,5.1nm,0.8s
BORK Borovoye 48.96 317 *ce*P **P 20 27 05.2 -0.3**
BORK pmax pmax
comp=Z,38nm,2.5s
CHM Chimkent 49.04 303 *e*P **P 20 27 05.5 -0.9**
comp=Z,13nm,1.1s
CHM Chimkent 49.04 303 *e*P **P 20 27 05.4 -0.9**
CHM pmax pmax
comp=Z,13nm,1.1s
CHGR Chuyangaron 49.67 298 P **P 20 27 10.3 -0.9**
CHGR IAmb IAmb 20 27 21.1
comp=Z,27nm,1.0s
CHGR Chuyangaron 49.67 298 P **P 20 27 10.3 -0.9**
CHGR pmax pmax
comp=Z,27nm,1.0s
PSA00 Pilbara Seismi 49.94 190 P **P 20 27 12.8 -0.4**
PSA00 IAmb IAmb 20 27 18.2
comp=Z,13nm,1.1s
KBL Kabul 50.33 293 P **P 20 27 15.2 -1.2**
KBL Kabul 50.33 293 P **P 20 27 15.2 -1.2**
KBL pmax pmax
comp=Z,79nm,1.8s
CTA Charters Tower 50.92 158 LR LR 20 48 44.0
comp=Z,5.4nm,20.8s,baz=352,slow=36
AS31 Alice Springs 51.67 173 P **P 20 27 25.0 -1.2**
ASAR Alice Springs 51.67 173 **P 20 27 26.8 +0.5**
ASAR Alice Springs 51.67 173 P **P 20 27 27.3 +1.0**
comp=Z,4.5nm,0.9s,baz=3.3,slow=11,SNR=33
ASAR PcP **PcP 20 28 41.5 +1.7**
comp=Z,1.3nm,0.9s,baz=348,slow=5.2,SNR=1.4
ASAR LR LR 20 49 48.5
comp=Z,123nm,19.6s,baz=346,slow=36
comp=Z,4.5nm,0.9s
ASAR Alice Springs 51.67 173 P **P 20 27 26.8 +0.5**
SVE Sverdlovsk 54.82 322 *e*P **P 20 27 49.3 +0.2**
SVE pmax pmax
comp=Z,20nm,1.5s
SVE MLR MLR
comp=Z,1μm,13.0s
AB31 Akbulak array 55.39 312 **P 20 27 52.1 -1.2**
AB31 IAmb IAmb 20 27 53.8
comp=Z,7.8nm,0.8s
ABKAR Akbulak array 55.39 312 **P 20 27 52.4 -1.0**
HRA Herat 55.87 294 P **P 20 27 57.0 -0.2**
ARTI Arti 56.06 321 P **P 20 27 56.4 -1.7**
ARTI IAmb IAmb 20 27 57.9
comp=Z,9.7nm,0.6s
ARTI Arti 56.06 321 LR LR 20 53 25.8
comp=Z,319nm,18.6s,baz=88,slow=38
ARTI Arti 56.06 321 *c i*P **P 20 27 57.3 -0.8**
ARTI 20 28 52.2
ARTI S **S 20 35 45.0 -0.8**
ARTI SS **SS 20 39 27.5 -4.1**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
ARTI MLR MLR
comp=Z,1μm,14.0s
AKTO Aktyubinsk 56.55 314 LR LR 20 53 24.6
comp=Z,446nm,18.5s,baz=68,slow=37
IMAR Indian Mountai 59.95 28 P **P 20 28 25.2 +0.1**
STKA Stephens Creek 60.91 167 **P 20 28 31.3 -0.7**
STKA Stephens Creek 60.91 167 P **P 20 28 33.2 +1.2**
comp=Z,5.2nm,0.6s,baz=351,slow=11,SNR=7.4
comp=Z,5.2nm,0.6s
STKA Stephens Creek 60.91 167⇑ *e*P **P 20 28 31.5 -0.5**
KDAK Kodiak Island 61.14 37 LR LR 20 55 19.1
comp=Z,221nm,21.9s,baz=242,slow=36
M22K Willow 61.88 32 P **P 20 28 38.8 +0.6**
NEA2 Nenana 62.01 29 P **P 20 28 39.6 +0.5**
DZM Mont Dzumac 62.02 139 *e*LR LR 20 47 00.2
comp=Z,659nm,22.6s
MCK McKinley 62.17 30 **P 20 28 41.2 +0.9**
MCK IAmb IAmb 20 28 47.1
comp=Z,15nm,1.0s
MCK McKinley 62.17 30 P **P 20 28 41.2 +0.9**
MCK pmax pmax
comp=Z,15nm,1.0s
RND Reindeer 62.25 30 **P 20 28 40.1 -0.8**
RND Reindeer 62.25 30 P **P 20 28 40.1 -0.8**
RND pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 62.37 32 P **P 20 28 43.2 +1.7**
PMR IAmb IAmb 20 28 45.8
comp=Z,20nm,1.3s
PMR Palmer 62.37 32 P **P 20 28 43.2 +1.7**
PMR pmax pmax
comp=Z,20nm,1.3s
COLA College 62.49 29⇑ *e*P **P 20 28 45.0 +2.7**
COLA pmax pmax
comp=Z,20nm,2.0s
CCB Clear Creek Bu 62.54 29 P **P 20 28 42.9 +0.2**
CCB IAmb IAmb 20 28 47.0
comp=Z,25nm,1.7s
BELG Belogornoye 62.72 317⇑ *i*P **P 20 28 44.2 +0.1**
BELG pmax pmax
comp=Z,2.0nm,1.4s
ILAR Eielson Array 62.92 29 P **P 20 28 44.9 -0.3**
comp=Z,0.4nm,0.6s,baz=280,slow=5.4,SNR=9.6
ILAR LR LR 20 56 17.2
comp=Z,120nm,20.9s,baz=282,slow=36
comp=Z,0.4nm,0.6s
HDA Harding Lake 62.94 29 P **P 20 28 45.8 +0.3**
SCM Sheep Creek Mo 63.18 32 P **P 20 28 47.3 +0.2**
SCM Sheep Creek Mo 63.18 32 P **P 20 28 47.3 +0.2**
SCM pmax pmax
comp=Z,49nm,1.5s
SCRK Sand Creek 64.30 29 **P 20 28 54.4 -0.1**
DOT Dot Lake 64.33 30 P **P 20 28 54.1 -0.5**
K27K Chicken 65.11 29 P **P 20 28 59.6 0.0**
AKT Akhty 65.24 305 *e*P **P 20 28 59.4 -1.7**
AKT MLR MLR
comp=Z,403nm,15.0s
APA Apatity 66.22 335⇓ *e*P P 20 28 55.4 -11
NCK Nalchik 67.58 308⇑ *e*P **P 20 29 15.7 -0.2**
NCK pmax pmax
comp=Z,8.0nm,0.5s
GNI Garni 67.80 305 LR LR 21 01 06.4
comp=Z,283nm,18.6s,baz=88,slow=38
KBZ Khabaz 67.99 309 P **P 20 29 17.5 -0.9**
comp=Z,3.7nm,0.9s,baz=246,slow=6.1,SNR=3.7
KBZ LR LR 21 02 39.7
comp=Z,429nm,18.2s,baz=70,slow=39
comp=Z,3.7nm,0.9s
KBZ Khabaz 67.99 309⇑ *e*P **P 20 29 19.0 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 68.06 309 *e*P **P 20 29 16.2 -2.8**
KIV pmax pmax
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 68.33 338 LR LR 21 03 06.5
comp=Z,483nm,21.3s,baz=54,slow=39
OBN Obninsk 68.39 322 LR LR 21 01 56.6
comp=Z,1μm,18.1s,baz=12,slow=38
OBN Obninsk 68.39 322 *e*P **P 20 29 21.4 +0.7**
OBN *e* 20 29 46.4
OBN *e* 20 31 51.8
OBN *e*PPP PPP 20 33 32.2
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,1μm,17.0s
SOC Sochi 70.22 309 *e*P **P 20 29 30.0 -2.2**
SOC *e* 20 32 04.4
SOC *e*PPP PPP 20 33 49.9
SOC *e*S **S 20 38 39.0 -4.1**
SOC MLR MLR
comp=Z,286nm,21.0s
FINES FINESS Array B 71.29 330 P **P 20 29 34.5 -3.9**
comp=Z,2.0nm,0.9s,baz=64,slow=4.4,SNR=4.5
FINES LR LR 21 03 56.4
comp=Z,655nm,19.1s,baz=66,slow=38
DLBC Dease Lake 72.42 33 LR LR 21 02 33.6
comp=Z,573nm,20.0s,baz=242,slow=37
MNK Minsk 73.29 323 *i*P **P 20 29 49.0 -1.5**
MNK *i* 20 30 05.0
MNK *i* 20 32 32.3
MNK *i*PPP PPP 20 34 17.3
MNK *i*S **S 20 39 15.9 -2.2**
MNK *i* 20 39 54.8
MNK *i*SS **SS 20 43 59.1 -0.2**
MNK pmax pmax
comp=Z,5.0nm,1.1s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=Z,741nm,15.0s
MNK MLR MLR
comp=E,464nm,15.0s
MNK MLR MLR
comp=N,537nm,15.0s
RES Resolute Bay 73.82 11 LR LR 21 04 06.4
comp=N,141nm,18.9s,baz=14,slow=37
AKASG Malin Array Be 74.14 319 P **P 20 29 51.9 -3.6**
comp=N,0.7nm,0.6s,baz=61,slow=5.2,SNR=4.1
AKASG LR LR 21 05 05.1
comp=N,1μm,18.4s,baz=64,slow=38
BR131 Keskin Array S 75.89 308⇑ *e*P **P 20 30 06.5 +0.4**
BRTR Keskin Array B 75.89 308 P **P 20 30 04.3 -1.8**
comp=N,1.8nm,1.0s,baz=111,slow=3.6,SNR=3.7
comp=N,1.8nm,1.0s
ASF Jabal al Asfar 76.64 299 LR LR 21 09 20.6
comp=N,208nm,18.8s,baz=106,slow=40
YKA Yellowknife Ar 76.95 25 P **P 20 30 10.8 -0.6**
comp=N,2.7nm,1.1s,baz=302,slow=5.7,SNR=4.4
YKA LR LR 21 09 00.7
comp=N,80nm,19.1s,baz=312,slow=40
comp=N,2.7nm,1.1s
HFS Hagfors 77.22 332 LR LR 21 06 03.3
comp=N,319nm,20.3s,baz=46,slow=37
MMAI Mount Meron Ar 77.43 301 LR LR 21 09 59.9
comp=N,153nm,18.9s,baz=70,slow=40
NOA NORSAR Array B 77.70 334 P **P 20 30 14.8 -0.9**
comp=N,0.7nm,0.8s,baz=53,slow=5.8,SNR=2.1
NOA LR LR 21 09 26.3
comp=N,337nm,18.3s,baz=45,slow=40
comp=N,0.7nm,0.8s
MLR Muntele Rosu 78.43 315 LR LR 21 08 05.0
comp=N,564nm,19.2s,baz=50,slow=38
EIL Elat 79.22 298 LR LR 21 12 22.6
comp=N,150nm,18.7s,baz=42,slow=41
URZ Urewera 80.27 143 LR LR 21 02 23.4
comp=N,128nm,20.2s,baz=310,slow=33
RPZ Rata Peaks 81.49 150 LR LR 21 07 17.2
comp=N,75nm,18.6s,baz=326,slow=36
VRAC Vranov 81.92 322 LR LR 21 09 57.4
comp=N,445nm,18.1s,baz=56,slow=38
MODS Modra-Piesok 82.06 321 *e*P **P 20 30 39.1 -0.5**
MODS Modra-Piesok 82.06 321 *e*P **P 20 30 39.1 -0.5**
KHC Kasperske Hory 83.64 323⇑ *e*P **P 20 30 45.1 -2.7**
KHC pmax pmax
comp=Z,7.0nm,2.2s
GERES GERESS Array B 83.75 323 P **P 20 30 48.1 -0.4**
comp=Z,0.4nm,0.6s,baz=31,slow=5.9,SNR=3.5
GERES LR LR 21 09 51.8
comp=Z,491nm,19.5s,baz=58,slow=37
comp=Z,0.4nm,0.6s
IDI Anoyia 84.11 307 LR LR 21 13 23.0
comp=Z,158nm,19.5s,baz=40,slow=39
NEW Newport 84.24 38 LR LR 21 10 12.2
comp=Z,68nm,18.6s,baz=326,slow=37
NEW Newport 84.24 38 P **P 20 30 52.9 +2.0**
NEW pmax pmax
comp=Z,6.0nm,1.5s
BORG Borgarnes 84.54 347 LR LR 21 10 12.4
comp=Z,155nm,20.1s,baz=22,slow=37
PINE Pine Mountain 84.63 43 **P 20 30 54.0 +0.8**
RAR Rarotonga 85.07 117 LR LR 21 09 14.1
comp=Z,92nm,18.1s,baz=292,slow=36
BMO Blue Mountains 86.15 40 **P 20 31 00.6 0.0**
BMO IAmb IAmb 20 31 07.1
comp=Z,14nm,1.3s
BMO Blue Mountains 86.15 40 P **P 20 31 00.6 0.0**
BMO pmax pmax
comp=Z,14nm,1.3s
WVOR Wild Horse Val 86.79 43 P **P 20 31 06.6 +2.8**
WVOR pmax pmax
comp=Z,9.0nm,1.7s
FFC Flin Flon 87.04 26 **P 20 31 06.0 +1.4**
FFC Flin Flon 87.04 26 P **P 20 31 06.0 +1.4**
FFC pmax pmax
comp=Z,20nm,1.3s
FRB Frobisher Bay 87.61 7 LR LR 21 10 41.7
comp=Z,203nm,21.2s,baz=332,slow=36
HLID Hailey 88.59 40 **P 20 31 12.7 +0.2**
HLID IAmb IAmb 20 31 19.7
comp=Z,11nm,1.2s
NVAR Mina Array Bea 89.33 46 P **P 20 31 16.8 +0.7**
comp=Z,0.1nm,0.4s,baz=286,slow=4.6,SNR=11
comp=Z,0.1nm,0.4s
VAE Valguarnera 90.01 313 LR LR 21 14 35.1
comp=Z,187nm,18.9s,baz=100,slow=38
RLMT Red Lodge 90.41 37 P **P 20 31 20.1 -1.0**
PPT Papeete 91.53 109 LR LR 21 09 42.0
comp=Z,109nm,19.0s,baz=354,slow=34
PPT2 Papeete2 91.54 109 *e*LR LR 21 00 32.5
comp=Z,193nm,30.0s
PPT2 *e*LR LR 21 00 40.0
comp=Z,282nm,29.8s
PDAR Pinedale Array 91.82 39 P **P 20 31 27.8 +0.1**
PDAR Pinedale Array 91.82 39 P **P 20 31 28.1 +0.4**
comp=Z,0.6nm,0.8s,baz=294,slow=1.5,SNR=8.7
PDAR LR LR 21 15 32.2
comp=Z,43nm,19.2s,baz=340,slow=37
comp=Z,0.6nm,0.8s
ULM Lac du Bonnet 92.87 27 P **P 20 31 31.1 -0.9**
comp=Z,4.5nm,0.8s,baz=165,slow=5.0,SNR=4.1
ULM LR LR 21 16 45.7
comp=Z,112nm,18.3s,baz=336,slow=38
comp=Z,4.5nm,0.8s
PFO Pinyon Flats O 93.38 49 LR LR 21 08 06.3
comp=Z,74nm,19.6s,baz=298,slow=32
PFO Pinyon Flats O 93.38 49 P **P 20 31 36.0 +1.1**
PFO pmax pmax
comp=Z,11nm,1.4s
RSSD Black Hills 93.81 35 P **P 20 31 39.1 +2.3**
RSSD pmax pmax
comp=Z,12nm,1.7s
KEST Kesra 94.30 314 LR LR 21 18 04.5
comp=Z,240nm,18.2s,baz=4.7,slow=38
SCHQ Schefferville 96.50 9 LR LR 21 17 20.8
comp=Z,1μm,20.9s,baz=316,slow=37
ESDC Sonseca Array 99.24 325 LR LR 21 21 59.1
comp=Z,362nm,18.8s,baz=38,slow=39
SYO Syowa Base 115.32 203⇓ *e*Pdiff **Pdif 20 33 14.0 +2.2**
QSPA South Pole Qui 117.78 180 PKP **PKiKP 20 37 06.4 +1.6**
comp=Z,1.2nm,0.8s,baz=264,slow=0.7,SNR=6.0
NVL N'lazarevskaya 124.79 201 *i*PKIKP **PKiKP 20 37 21.1 +2.7**
NVL *e* 20 39 10.6
NVL *e* 20 44 29.9
NVL *e*SS SS 20 56 04.9 +5.2
NVL *e*SSS SSS 21 00 41.9
NVL pmax pmax
comp=Z,7.0nm,0.8s
NVL pmax pmax
comp=N,341nm,20.0s
LPAZ La Paz 160.96 56 PKP **PKPdf 20 38 22.4 +1.4**
comp=N,3.8nm,1.2s,baz=336,slow=3.0,SNR=5.4
LPAZ PKPab **PKPab 20 39 04.5 +0.9**
comp=N,1.6nm,0.8s,baz=1.8,slow=6.5,SNR=4.3

IDC ***05*** *20:25:01.9±0.6,27°.87N×127°.86E,h0km,mb3.9/15, mbtmp3.9/18,ML2.9/3,Error ellipse: s-maj=21.6km s-min=10.9km az=70.0*
NIED ***05*** *20:25:03.0,28°.05N×127°.99E,h23km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.48; Mθθ3.25; Mφφ-1.77; Mrθ-4.44; Mφθ4.55; Mφr-1.35; Fault plane solution: M0 6.60000×10¹⁵ NP1: φs190.00000°,δ49.00000°,λ-176.00000°. NP2: φs98.00000°,δ87.00000°,λ-42.00000°.*
JMA ***05*** *20:25:03.0±0.2,28°.1N±0°.4×128°.0E±0°.6,h23km±2km, MD4.4/20,MV4.3/20,NW OFF OKINAWAJIMA IS*
NEIC ***05*** *20:25:04.3±1.8,27°.89N±0°.05×128°.26E±0°.08,h10km±1km, mb4.5/26,Error ellipse: s-maj=11.9km s-min=8.2km az=89.0*
ISC 05 20:25:05.6±1.3,**27°.91N**±0°.04×**128°.14E**±0°.04,**h24**km±10km, **n82**,σt=**22**/87,**mb4.3**/28,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.66**	**145**	P		**Pn**		**20 25 18.9**	**-0.6**
JOKE				S		**Sn**		**20 25 30.4**	**+1.2**
JOKE	**Okinoerabujima**	**0.66**	**145**	A		A		20 25 18.9	
comp=N,14nm,3.9s,comp=E,16nm,4.9s									
JTK	**Tokunoshima**	**0.73**	**100**	P		**Pb**		**20 25 19.3**	**-0.2**
JTK				S		**Sn**		**20 25 31.1**	**+0.3**
JTK	**Tokunoshima**	**0.73**	**100**	A		A		20 25 19.3	
comp=N,34nm,3.3s,comp=E,23nm,0.7s									
JIH	**Iheya**	**0.88**	**190**	*e*P		**Pb**		**20 25 21.4**	**-0.8**
JIH				S		**Sn**		**20 25 35.2**	**+0.5**
JIH	**Iheya**	**0.88**	**190**	A		A		20 25 21.4	
comp=N,23nm,0.8s,comp=E,32nm,2.3s									
JYRO	**Yoronjima**	**0.92**	**163**	P		**Pn**		**20 25 22.5**	**-0.5**
JYRO	**Yoronjima**	**0.92**	**163**	A		A		20 25 22.5	
comp=N,18nm,3.6s,comp=E,12nm,1.3s									
JAMN	**Amaminishikomi**	**0.97**	**70**	P		**Pb**		**20 25 22.2**	**-1.5**
JAMN				*e*S		**Sb**		**20 25 36.4**	**+0.3**
JOW	**Kunigami**	**1.08**	**174**			**Pn**		**20 25 24.8**	**-0.5**
JOW				Sn		**Sn**		**20 25 40.1**	**+0.7**
JOW	**Kunigami**	**1.08**	**174**	Pn		**Pb**		**20 25 24.9**	**-0.6**
comp=E,828nm,0.3s,baz=349,slow=13,SNR=203									
JOW				LR		LR		20 25 38.1	
comp=E,923nm,19.1s,baz=298,slow=33									
JOW				Sn		**Sn**		**20 25 39.3**	**-0.2**
comp=E,589nm,0.3s,baz=126,slow=29,SNR=12									
JOW	**Kunigami**	**1.08**	**174**	P		**Pb**		**20 25 24.9**	**-0.6**
JOW				*e*S		**Sn**		**20 25 40.1**	**+0.7**
JOW	**Kunigami**	**1.08**	**174**	A		A		20 25 24.9	
comp=N,14nm,2.3s,comp=E,14nm,6.0s									
JAM	**Amami Oshima**	**1.39**	**68**	P		**Pn**		**20 25 28.7**	**-0.7**
JAM				S		**Sn**		**20 25 47.5**	**+0.5**
JAM	**Amami Oshima**	**1.39**	**68**	A		A		20 25 28.7	
comp=N,9.0nm,3.1s,comp=E,6.0nm,2.6s									
JNTH	**Nagotoyohara**	**1.39**	**184**	P		**Pn**		**20 25 29.5**	**0.0**
JNTH				*e*S		**Sb**		**20 25 48.4**	**+0.8**
JAGN	**Aguni-jima**	**1.54**	**212**	P		**Pn**		**20 25 30.8**	**-0.8**
JTAJ	**Takarajima**	**1.55**	**37**	P		**Pn**		**20 25 29.3**	**-2.4**
JZK	**Kikaishima**	**1.67**	**76**	P		**Pn**		**20 25 34.7**	**+1.4**
JZK	**Kikaishima**	**1.67**	**76**	A		A		20 25 34.7	
comp=N,32nm,3.2s,comp=E,32nm,2.9s									
JJT3	**Tamagusuku3**	**1.79**	**190**	P		**Pb**		**20 25 36.8**	**-0.8**
JKDJ	**Kitadaitoujima**	**3.43**	**124**	P		**Pn**		**20 25 58.0**	**+0.5**
JMZ	**Minamidaito 2**	**3.45**	**126**			**Pn**		**20 25 57.3**	**-0.5**
JMZ	**Minamidaito 2**	**3.45**	**126**	P		**Pn**		**20 25 57.8**	**0.0**
JMTN	**Minamitane**	**3.46**	**44**	*e*P		**Pn**		**20 25 57.2**	**-0.7**
JNU	**Nakatsue**	**5.71**	**24**	Pn		**Pn**		**20 26 33.3**	**+4.4**
comp=E,4.9nm,0.3s,baz=197,slow=7.2,SNR=25									
TATO	**Taipei**	**6.64**	**245**	Pn		**Pn**		**20 26 44.5**	**+2.8**
YHNB	**Yeheng**	**6.88**	**244**			**Pn**		**20 26 47.0**	**+1.9**
NACB	**Ningnanchiao**	**6.96**	**239**			**Pn**		**20 26 46.8**	**+0.6**
JMN	**Monobe**	**7.61**	**39**			**Pn**		**20 26 54.2**	**-0.9**
SSLB	**Suanglung**	**7.67**	**239**			**Pn**		**20 26 56.9**	**+1.0**
TPUB	**Ta-pu**	**8.19**	**238**	Pn		**Pn**		**20 27 04.2**	**+1.3**
KSRS	**Korea Array**	**9.52**	**359**	Pn		**Pn**		**20 27 21.8**	**+0.6**
comp=E,0.1nm,0.3s,baz=178,slow=14,SNR=1.3									
comp=E,0.7nm,0.6s									
INU	**Inuyama**	**10.59**	**43**			**Pn**		**20 27 35.8**	**-0.1**
JGF	**Kuroka**	**10.96**	**43**	Pn		**Pn**		**20 27 42.1**	**+1.0**
MJAR	**Matsushiro Arr**	**12.11**	**42**	Pn		**Pn**		**20 27 56.9**	**+0.2**
MJAR	**Matsushiro Arr**	**12.11**	**42**	Pn		**Pn**		**20 27 57.3**	**+0.7**
baz=243,slow=14,SNR=8.4									
comp=E,1.5nm,0.7s									
MJB9	**Matsu-Tunnel**	**12.11**	**42**	Pn		**Pn**		**20 27 56.4**	**-0.2**
BJT	**Baijiatuau**	**15.62**	**324**			**Pn**		**20 28 46.2**	**+2.0**
USRK	**Ussuriysk Ar.**	**16.55**	**10**	Pn		**Pn**		**20 28 57.0**	**+1.0**
comp=E,0.1nm,0.3s,baz=170,slow=8.8,SNR=2.8									
comp=E,2.1nm,0.6s									
LZDM	**Lanzhou Array**	**22.21**	**297**	P		**P**		**20 29 58.2**	**-2.4**
comp=E,0.7nm,0.3s,baz=140,slow=7.2,SNR=6.2									
comp=E,0.7nm,0.3s									
ULN	**Ulaanbaatar**	**25.81**	**326**	P		**P**		**20 30 36.0**	**+0.9**
ULN				IAmb		IAmb		20 30 54.3	
comp=Z,7.3nm,1.0s									
SONM	**Songino Array**	**26.12**	**325**	P		**P**		**20 30 37.7**	**-0.1**
SONM				IAmb		IAmb		20 30 49.8	
comp=Z,5.5nm,1.0s									
SONM	**Songino Array**	**26.12**	**325**	P		**P**		**20 30 37.1**	**-0.7**
comp=Z,1.6nm,0.7s,baz=132,slow=11,SNR=9.3									
comp=Z,1.6nm,0.7s									
CMAR	**Chiang Mai Arr**	**28.38**	**257**	P		**P**		**20 30 56.1**	**-2.1**
comp=Z,0.2nm,0.3s,baz=60,slow=8.5,SNR=1.3									
comp=Z,0.2nm,0.3s									
SHL	**Shillong**	**32.40**	**274**			**P**		**20 31 33.5**	**-0.4**
SHL				IAmb		IAmb		20 31 36.4	
comp=Z,7.7nm,1.0s									
MKAR	**Makanchi Array**	**40.38**	**310**	P		**P**		**20 32 39.7**	**-1.8**
MKAR	**Makanchi Array**	**40.38**	**310**	P		**P**		**20 32 39.2**	**-2.3**
comp=Z,3.2nm,0.9s,baz=101,slow=9.9,SNR=10									
MKAR				PcP		**PcP**		**20 34 45.2**	**+0.7**
comp=Z,0.9nm,0.9s,baz=72,slow=3.0,SNR=2.6									
comp=Z,3.2nm,0.9s									
ZAA0	**Zalesovo Array**	**40.88**	**322**	P		**P**		**20 32 45.4**	**-0.2**
ZALV	**Zalesovo Beam**	**40.88**	**322**			**P**		**20 32 45.7**	**+0.2**
ZALV	**Zalesovo Beam**	**40.88**	**322**	P		**P**		**20 32 44.5**	**-1.0**
comp=Z,1.9nm,0.8s,baz=106,slow=9.6,SNR=6.8									
comp=Z,1.9nm,0.8s									
PMG	**Port Moresby**	**41.41**	**151**	P		**P**		**20 32 50.8**	**+0.5**
PMG				IAmb		IAmb		20 32 57.9	
comp=Z,26nm,1.1s									
TARG	**Taragay, Kyrgy**	**42.98**	**302**	P		**P**		**20 33 04.9**	**+1.4**
TARG				IAmb		IAmb		20 33 11.7	
comp=Z,6.1nm,1.0s									
KNRA	**Kununurra**	**43.33**	**179**	P		**P**		**20 33 06.0**	**+0.1**
KNRA				IAmb		IAmb		20 33 10.4	
comp=Z,9.7nm,0.9s									
KDJ	**Kajisay**	**43.46**	**303**	P		**P**		**20 33 08.2**	**+1.2**
KDJ				IAmb		IAmb		20 33 14.9	
comp=Z,8.8nm,1.0s									
KURK	**Kurchatov**	**43.56**	**315**			**P**		**20 33 07.6**	**+0.2**
KURK				IAmb		IAmb		20 33 14.5	
comp=Z,5.5nm,1.0s									
KURBB	**Kurchatov Arra**	**43.60**	**315**	P		**P**		**20 33 05.7**	**-2.1**
comp=Z,1.7nm,0.5s,baz=102,slow=8.8,SNR=13									
KURBB				PcP		**PcP**		**20 34 55.3**	**+0.3**
comp=Z,0.3nm,0.7s,baz=116,slow=3.4,SNR=1.7									
comp=Z,1.7nm,0.5s									
FITZ	**Fitzroy Crossi**	**45.80**	**183**	P		**P**		**20 33 25.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**45.80**	**183**	P		**P**		**20 33 25.1**	**-0.5**
comp=Z,4.6nm,0.9s,baz=4.1,slow=8.3,SNR=6.7									
comp=Z,4.6nm,0.9s									
NIL	**Nilore**	**47.05**	**291**	P		**P**		**20 33 36.7**	**+1.2**
NIL				IAmb		IAmb		20 33 39.0	
comp=Z,15nm,1.4s									
WB0	**Warramunga Arr**	**47.78**	**172**	P		**P**		**20 33 40.5**	**-0.6**
WB0				IAmb		IAmb		20 33 50.1	
comp=Z,5.4nm,0.9s									
WRA	**Warramunga Arr**	**47.95**	**172**			**P**		**20 33 42.4**	**0.0**
WRA	**Warramunga Arr**	**47.95**	**172**	P		**P**		**20 33 42.8**	**+0.4**
comp=Z,3.6nm,0.7s,baz=352,slow=8.3,SNR=25									
WRA				PcP		**PcP**		**20 35 12.3**	**+1.8**
comp=Z,0.3nm,0.7s,baz=1.7,slow=4.2,SNR=1.3									
comp=Z,3.6nm,0.7s									
BVAR	**Borovoye Array**	**48.98**	**317**	P		**P**		**20 33 48.5**	**-1.6**
comp=Z,2.3nm,0.8s,baz=86,slow=11,SNR=7.8									
comp=Z,2.3nm,0.8s									
KBL	**Kabul**	**50.36**	**293**			**P**		**20 34 02.0**	**+0.8**
AS31	**Alice Springs**	**51.57**	**173**	P		**P**		**20 34 09.8**	**-0.2**

ASAR	Alice Springs	51.58	173	P	P	20 34 09.4	-0.6
ASAR	Alice Springs	51.58	173	P	P	20 34 09.2	-0.8
	comp=Z,1.5nm,0.8s,baz=358,slow=9.7,SNR=14						
	comp=Z,1.5nm,0.8s						
AB31	Akbulak array	55.45	312		P	20 34 36.0	-2.2
AB31				IAmb	IAmb	20 34 49.7	
	comp=Z,3.1nm,0.8s						
ABKAR	Akbulak array	55.45	312		P	20 34 36.5	-1.7
HRA	Herat	55.90	294	P	P	20 34 42.8	+0.9
HRA				IAmb	IAmb	20 34 45.8	
	comp=Z,2.8nm,1.0s						
E22K	Anaktuvuk Pass	60.72	25	P	P	20 35 13.9	-1.0
STKA	Stephens Creek	60.82	167	P	P	20 35 13.3	-2.5
STKA	Stephens Creek	60.82	167	P	P	20 35 15.5	-0.3
	comp=Z,1.7nm,0.6s,baz=342,slow=7.1,SNR=5.2						
	comp=Z,1.7nm,0.6s						
SUA	Susitna One	61.70	33	P	P	20 35 21.0	-0.7
I23K	Minto, Yukon-K	61.91	28	P	P	20 35 23.5	+0.6
I23K				IAmb	IAmb	20 35 46.0	
	comp=Z,4.1nm,1.2s						
RND	Reindeer	62.34	30	P	P	20 35 25.0	-0.8
RND				IAmb	IAmb	20 35 29.7	
	comp=Z,11nm,1.4s						
ILAR	Eielson Array	63.00	29	P	P	20 35 32.0	+1.8
	comp=Z,0.3nm,0.9s,baz=267,slow=6.0,SNR=2.3						
	comp=Z,0.3nm,0.9s						
YKA	Yellowknife Ar	77.04	25	P	P	20 36 56.9	+0.5
	comp=Z,1.6nm,0.9s,baz=300,slow=6.6,SNR=5.5						
	comp=Z,1.6nm,0.9s						
NVAR	Mina Array Bea	89.40	46	P	P	20 38 01.5	+0.6
	comp=Z,0.2nm,0.5s,baz=301,slow=6.1,SNR=1.6						
	comp=Z,0.2nm,0.5s						
PDAR	Pinedale Array	91.90	39	P	P	20 38 13.7	+1.3
	comp=Z,0.4nm,0.7s,baz=343,slow=1.5,SNR=4.4						
	comp=Z,0.4nm,0.7s						
QSPA	South Pole Qui	117.68	180	PKP	PKPdf	20 43 49.0	0.0
	comp=Z,1.0nm,1.1s,baz=166,slow=9.3,SNR=1.8						

MOS ***05*** *20:32:20.0±0.9, 27.°95N×128.°00E, h12km, mb4.9/43, MS4.7/8, Error ellipse: s-maj=7.7km s-min=5.1km az=122.2*

JMA ***05*** *20:32:20.6±0.2, 28.°1N±0.°4×128.°0E±0.°6, h14km±2km, MD4.8/24, MV4.4/24, NW OFF OKINAWAJIMA IS*

NIED ***05*** *20:32:20.6, 28.°07N×127.°97E, h14km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr=0.59; Mθθ1.19; Mφφ-0.61; Mrθ-1.34; Mθφ1.75; Mφr0.25; Fault plane solution: M0 2.43000×10^16^ NP1: φs196.00000°, δ53.00000°, λ-169.00000°. NP2: φs99.00000°, δ81.00000°, λ-37.00000°.*

IDC ***05*** *20:32:20.3±0.5, 27.°96N×127.°84E, h0km, mb4.1/24, mbtmp4.1/27, ML3.2/3, MS4.2/32 Error ellipse: s-maj=17.6km s-min=10.5km az=76.0*

NEIC ***05*** *20:32:21.2, 27.°87N×128.°24E, h12km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16^Nm; Mrr0.08; Mθθ1.10; Mφφ-1.18; Mrθ-0.95; Mθφ2.08; Mφr0.99; Fault plane solution: M0 2.74000×10^16^ NP1: φs197.24000°, δ66.64000°, λ-169.34000°. NP2: φs102.97000°, δ80.22000°, λ-23.72000°. Principal axes: T 2.3792, Plg9.0000°, Azm152.0000°; N 0.6124, Plg64.0000°, Azm262.0000°; P -2.9915, Plg24.0000°, Azm58.0000°;*

NEIC ***05*** *20:32:21.2±1.2, 27.°97N±0.°05×128.°12E±0.°07, h10km±1km, mb4.9/74, Mww4.9/21 Error ellipse: s-maj=10.3km s-min=7.8km az=92.0*

NEIC ***05*** *20:32:21.2, 27.°97N×128.°12E, h12km*

GCMT ***05*** *20:32:25.2±0.2, 28.°03N±0.°01×127.°99E±0.°01, h12km, MW4.9/118, Moment Tensor Solution. s14, c19; s118, c186; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.18±.06; Mθθ1.45±.06; Mφφ-1.27±.06; Mrθ0.35±.17; Mθφ2.36±.04; Mφr-0.10±.17; Best double couple: M0 2.74800×10^16^ NP1:φs15.00000°, δ82.00000°, λ-179.00000°. NP2:φs285.00000°, δ89.00000°, λ-8.00000°. Principal axes: T 2.8350, Plg5.0000°, Azm330.0000°; N -0.1710, Plg82.0000°, Azm98.0000°; P -2.6610, Plg6.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***05*** *20:32:25.2, 27.°96N×127.°96E, h42km, mB5.2/19, mb4.6/66, ML5.3/1, Ms5.0/63, Ms7 4.8/59*

ISC 05 20:32:22.6±0.9, 27.°94N±0.°02×128.°08E±0.°03, h18km±5km, n311, σ1∀61/290, mb4.7/105, MS4.3/45, 5C-14D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.72	143	P	Pb	20 32 37.2	+0.6
JOKE				eS	Sn	20 32 49.1	+0.7
JOKE	Okinoerabujima	0.72	143	A	A	20 32 37.2	
	comp=N,51nm,9.2s,comp=E,43nm,7.3s						
JTK	Tokunoshima	0.79	101	P	Pg	20 32 37.8	-0.2
JTK				S	Sb	20 32 50.1	+2.1
JTK	Tokunoshima	0.79	101	A	A	20 32 37.8	
	comp=N,71nm,4.6s,comp=E,40nm,2.9s						
JIH	Iheya	0.91	186	P	Pn	20 32 39.9	-0.5
JIH				S	Sn	20 32 53.7	+0.7
JIH	Iheya	0.91	186	A	A	20 32 39.9	
	comp=N,41nm,6.7s,comp=E,90nm,2.1s						
JYRO	Yoronjima	0.97	160	P	Pn	20 32 41.1	-0.1
JYRO				S	Sn	20 32 56.7	+2.2
JYRO	Yoronjima	0.97	160	A	A	20 32 41.1	
	comp=N,40nm,2.7s,comp=E,33nm,2.2s						
JAMN	Amaminishikomi	1.01	72	P	Pb	20 32 40.7	-0.9
JAMN				S	Sb	20 32 55.4	+0.9
JAMN	Amaminishikomi	1.01	72	A	A	20 32 40.7	
	comp=N,47nm,2.0s,comp=E,22nm,1.6s						
JOW	Kunigami	1.12	171	Pn	Pg	20 32 43.5	-0.8
	comp=E,452nm,0.3s,baz=350,slow=15,SNR=337						
JOW				Sn	Sb	20 32 57.7	+0.2
	baz=139,slow=18						
JOW	Kunigami	1.12	171	P	Pg	20 32 43.5	-0.8
JOW				S	Sn	20 32 59.6	+1.4
JOW	Kunigami	1.12	171	A	A	20 32 43.5	
	comp=N,30nm,2.5s,comp=E,37nm,5.9s						
JNTH	Nagotoyohara	1.42	182	P	Pb	20 32 47.9	-0.5
JNTH				eS	Sg	20 33 07.4	-1.0
JNTH	Nagotoyohara	1.42	182	A	A	20 32 47.9	
	comp=N,19nm,6.5s,comp=E,35nm,1.9s						
JAM	Amami Oshima	1.43	70	P	Pn	20 32 47.2	-0.3
JAM				eS	Sn	20 33 06.3	+0.4
JAM	Amami Oshima	1.43	70	A	A	20 32 47.2	
	comp=N,27nm,3.1s,comp=E,15nm,7.9s						
JAGN	Aguni-jima	1.54	209	P	Pb	20 32 48.9	-1.7
JAGN	Aguni-jima	1.54	209	A	A	20 32 48.9	
	comp=N,24nm,1.8s,comp=E,50nm,6.7s						
JTAJ	Takarajima	1.56	39	P	Pn	20 32 48.0	-1.5
JTAJ				eS	Sn	20 33 06.9	-2.3
JTAJ	Takarajima	1.56	39	A	A	20 32 48.0	
	comp=N,22nm,5.0s,comp=E,14nm,9.5s						
JZK	Kikaishima	1.71	77	P	Pb	20 32 53.3	-0.2
JZK	Kikaishima	1.71	77	A	A	20 32 53.3	
	comp=N,113nm,6.1s,comp=E,92nm,1.8s						
JJT3	Tamagusuku3	1.81	188	P	Pb	20 32 55.2	+0.1
JJT3	Tamagusuku3	1.81	188	A	A	20 32 55.2	
	comp=N,72nm,6.1s,comp=E,85nm,3.1s						
JKE	Kume jima 2	1.98	216	P	Pn	20 32 55.0	-0.1
JKE	Kume jima 2	1.98	216	A	A	20 32 55.0	
	comp=N,11nm,5.0s,comp=E,15nm,10.7s						
JNN	Nakanoshima	2.46	39	A	A	20 33 01.0	
	comp=N,15nm,7.1s,comp=E,9.0nm,7.2s						
JKC	Kuchinoerabu	3.12	36	P	Pb	20 33 15.2	-2.4
JYAK	Yakushimahirau	3.12	42	P	Pn	20 33 11.2	+0.2
JMTN	Minamitane	3.48	45	P	Pn	20 33 18.1	+2.3
JMTN	Minamitane	3.48	45	A	A	20 33 18.1	
	comp=N,5.0nm,3.5s,comp=E,4.0nm,22.4s						
JKDJ	Kitadaitoujima	3.49	124	P	Pn	20 33 16.4	+0.4
JKDJ	Kitadaitoujima	3.49	124	A	A	20 33 16.4	
	comp=N,11nm,3.5s,comp=E,7.0nm,2.6s						
JMZ	Minamidaito 2	3.51	126		Pn	20 33 14.4	-1.8
JMZ				Sn	Sn	20 33 54.7	-2.6
JMZ	Minamidaito 2	3.51	126	P	Pn	20 33 16.9	+0.6
JMZ	Minamidaito 2	3.51	126	P	Pn	20 33 16.5	+0.2
JMZ	Minamidaito 2	3.51	126	A	A	20 33 16.5	
	comp=N,7.0nm,4.7s,comp=E,7.0nm,8.8s						
JOGS	Gusukube	3.97	218	A	A	20 33 23.5	
	comp=N,11nm,5.6s,comp=E,20nm,10.6s						
JMJ	Miyako jima 2	3.99	219	P	Pn	20 33 25.8	+2.9
JIRB	Irabujima	4.05	221	A	A	20 33 24.5	
	comp=N,7.0nm,6.0s,comp=E,8.0nm,7.9s						
JSU	Suzuyama	4.11	30	A	A	20 33 24.0	
	comp=N,2.0nm,8.2s,comp=E,2.0nm,9.3s						
JKRS	Kuro-shima	5.20	226	A	A	20 33 40.4	
	comp=N,7.0nm,8.7s,comp=E,6.0nm,3.0s						
HATJ	Hateruma jima	5.45	226	A	A	20 33 44.0	
	comp=N,6.0nm,7.8s,comp=E,6.0nm,3.4s						
JNU	Nakatsue	5.70	24	Pn	Pn	20 33 51.6	+5.2
	comp=E,5.0nm,0.3s,baz=197,slow=7.2,SNR=67						
JNU	Nakatsue	5.70	24	P	Pn	20 33 51.6	+5.2
YOJ	Yonaguni jima	5.72	234		Pn	20 33 48.1	+1.4
YOJ	Yonaguni jima	5.72	234	P	Pn	20 33 49.9	+3.3
YOJ	Yonaguni jima	5.72	234	P	Pn	20 33 48.1	+1.4
TATO	Taipei	6.60	245		Pn	20 33 59.4	+0.6
TATO	Taipei	6.60	245	P	Pn	20 34 02.4	+3.6
SSE	Sheshan	6.78	299	P	Pn	20 34 03.2	+2.0
SSE				S	Sn	20 35 20.6	+2.7
SSE				LR	LR		
	comp=E,3μm,9.1s						
SSE				LR	LR		
	comp=E,2μm,9.6s						
YHNB	Yeheng	6.84	243		Pn	20 34 02.6	+0.5
YHNB	Yeheng	6.84	243	P	Pn	20 34 04.8	+2.7
NACB	Ninganchiao	6.93	239	P	Pn	20 34 05.2	+1.9
YULB	Yu-li	7.61	235		Pn	20 34 12.6	-0.1
YULB	Yu-li	7.61	235	P	Pn	20 34 13.3	+0.7
JMN	Monobe	7.62	39		Pn	20 34 12.9	+0.1
JMN	Monobe	7.62	39	P	Pn	20 34 14.5	+1.7
SSLB	Suanglung	7.63	239		Pn	20 34 13.8	+0.9
SSLB	Suanglung	7.63	239	P	Pn	20 34 17.3	+4.3
TWGBT	Beinan	8.13	233	P	Pn	20 34 19.0	-0.7
TPUB	Ta-pu	8.16	237		Pn	20 34 21.1	+1.0
TPUB	Ta-pu	8.16	237	P	Pn	20 34 23.1	+3.0
NJ2	Nanjing	8.99	299	⇓iP	Pn	20 34 29.8	-1.7
NJ2				pmax	pmax		
	comp=E,41nm,0.8s						
NJ2				LR	LR		
	comp=E,6μm,13.7s						
NJ2				LR	LR		
	comp=E,5μm,10.0s						
NJ2				LR	LR		
	comp=E,4μm,9.5s						
KNMB	Chin-men Tao	9.37	251	Pn	Pn	20 34 36.1	-0.6
KSRS	Korea Array	9.49	359	Pn	Pn	20 34 39.1	+0.8
	comp=E,0.1nm,0.3s,baz=184,slow=15,SNR=9.8						
	comp=E,2.1nm,0.9s						
INU	Inuyama	10.61	44		Pn	20 34 53.1	-0.5
JGF	Kuroka	10.98	44	Pn	Pn	20 34 58.1	-0.7
JHJ	Hachijo jima 2	11.33	60	LR	LR	20 39 20.2	
	comp=E,1μm,20.5s,baz=260,slow=36						
MAJO	Matsushiro	12.12	42	Pn	Pn	20 35 13.3	-1.1
MAJO	Matsushiro	12.12	42	⇓eP	Pn	20 35 16.5	+2.1
MJAR	Matsushiro Arr	12.12	42	Pn	Pn	20 35 14.2	-0.2
MJAR	Matsushiro Arr	12.12	42	Pn	Pn	20 35 15.3	+0.9
	comp=E,0.1nm,0.3s,baz=243,slow=13,SNR=9.6						
MJAR				LR	LR	20 40 34.4	
	comp=E,663nm,18.8s,baz=225,slow=40						
	comp=E,2.9nm,0.8s						
MJB9	Matsu-Tunnel	12.12	42	Pn	Pn	20 35 13.6	-0.8
WHN	Wuhan	12.27	285	P	Pn	20 35 17.5	+1.1
WHN				S	Sn	20 37 37.1	+4.4
WHN				LR	LR		
	comp=E,17μm,8.3s						
WHN				LR	LR		
	comp=E,12μm,17.7s						
WHN				LR	LR		
	comp=E,7μm,9.4s						
TIA	Tai'an	12.42	314	P	Pn	20 35 17.7	-0.7
TIA				S	Sn	20 37 36.9	+0.6
TIA				pmax	pmax		
	comp=E,6.0nm,0.6s						
TIA				LR	LR		
	comp=E,5μm,16.1s						
TIA				LR	LR		
	comp=E,3μm,16.7s						
TIA				LR	LR		
	comp=E,3μm,15.1s						
SNY	Shenyang	14.34	346	⇓P	P	20 35 58.5	+6.9
SNY				S	S	20 38 46.3	+3.1
SNY				pmax	pmax		
	comp=Z,45nm,1.7s						
SNY				pmax	pmax		
	comp=Z,550nm,6.5s						
SNY				LR	LR		
	comp=N,3μm,10.8s						
SNY				LR	LR		
	comp=E,3μm,10.4s						
SNY				LR	LR		
	comp=Z,3μm,14.3s						
HNS	HongShan	14.68	313	⇑P	Pn	20 35 49.8	+0.5
HNS				pmax	pmax		
	comp=Z,37nm,1.4s						
LYN	LuoYang	14.88	300	P	P	20 35 58.7	+1.0
LYN				pP	Pn	20 36 06.5	+14
LYN				sP		20 36 14.7	
LYN				sS	S	20 38 58.9	+4.4
LYN				pmax	pmax		
	comp=Z,62nm,1.2s						
LYN				LR	LR		
	comp=N,5μm,14.1s						
LYN				LR	LR		
	comp=E,3μm,17.5s						
LYN				LR	LR		
	comp=Z,4μm,15.1s						
BJT	Baijiatuau	15.56	324		Pn	20 36 00.2	-0.9
BJT	Baijiatuau	15.56	324	P	Pn	20 36 00.2	-0.9
BJT				pmax	pmax		
	comp=Z,32nm,0.8s						
BJI	Beijing	15.57	324	P	Pn	20 36 01.8	+0.6
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJI				LR	LR		
	comp=Z,800nm,11.6s						
BJI				LR	LR		
	comp=Z,710nm,10.8s						
BJI				LR	LR		
	comp=Z,1μm,11.4s						
CN2	Changchun	15.97	353	P	P	20 36 11.9	+2.2
CN2				PP	PnPn	20 36 25.6	+11
CN2				pmax	pmax		
	comp=Z,20nm,1.6s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,3μm,14.0s						
ENH	Enshi	16.42	283		P	20 36 12.7	-2.1
USRK	Ussuriysk Ar.	16.53	10	Pn	Pn	20 36 13.6	+0.2
	comp=Z,0.3nm,0.3s,baz=187,slow=9.6,SNR=13						
	comp=Z,2.5nm,0.9s						
MDJ	Mudanjiang	16.69	4		Pn	20 36 14.3	-1.2
MDJ	Mudanjiang	16.69	4	P	P	20 36 19.2	+1.5
MDJ				pmax	pmax		
	comp=Z,13nm,1.7s						
MDJ				LR	LR		
	comp=Z,2μm,15.1s						
MDJ				LR	LR		
	comp=Z,2μm,10.3s						
MDJ				LR	LR		
	comp=Z,2μm,16.5s						
XAN	Xi'an	17.51	295	⇓P	P	20 36 27.4	+0.5
XAN				pP	sP	20 36 35.9	+1.8
XAN				sP	pP	20 36 40.5	+8.6
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				LR	LR		
	comp=Z,7μm,13.5s						
XAN				LR	LR		
	comp=Z,3μm,14.4s						
XAN				LR	LR		
	comp=Z,3μm,13.1s						
BNX	BinXian	17.77	358	⇓P	P	20 36 31.4	+1.7
BNX				S	S	20 39 50.3	-3.1
BNX				pmax	pmax		
	comp=Z,50nm,1.2s						
BNX				pmax	pmax		
	comp=Z,970nm,7.6s						
BNX				LR	LR		
	comp=Z,3μm,12.5s						
BNX				LR	LR		
	comp=Z,9μm,14.6s						
BNX				LR	LR		
	comp=Z,3μm,14.6s						
XLT	XiLinHaoTe	18.62	332	eP	Pn	20 36 40.3	+0.8
XLT				pP	sP	20 36 48.0	+1.6
XLT				sP	pP	20 36 52.2	+8.1
XLT				PP	PnPn	20 36 58.9	+7.4
XLT				S	S	20 40 10.0	-0.8
XLT				pmax	pmax		
	comp=Z,20nm,1.0s						
XLT				pmax	pmax		
	comp=Z,300nm,6.9s						
XLT				LR	LR		
	comp=Z,2μm,13.2s						
XLT				LR	LR		
	comp=Z,2μm,14.9s						
HHC	Hu-ho-hao-te	18.71	318	eP	Pn	20 36 41.2	+0.6
HHC				pP	sP	20 36 47.6	+0.2
HHC				PP	PnPn	20 36 58.2	+5.5
HHC				S	Sn	20 40 05.8	-3.7
HHC				sS	sS	20 40 18.9	-1.5
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,440nm,5.1s						
HHC				LR	LR		
	comp=Z,3μm,11.3s						
HHC				LR	LR		
	comp=Z,2μm,11.9s						
HHC				LR	LR		
	comp=Z,2μm,11.5s						
QIZ	Qiongzhong	18.91	246	P	Pn	20 36 42.1	-1.0
QIZ				LR	LR		
	comp=Z,1μm,13.5s						
QIZ				LR	LR		
	comp=Z,880nm,13.7s						
QIZ				LR	LR		
	comp=Z,1μm,13.5s						
GYA	Guiyang	19.11	271	P	Pn	20 36 48.2	+2.7
GYA				sP	sP	20 37 03.2	+11
GYA				pmax	pmax		
	comp=Z,13nm,1.1s						
BTO	Baotou	19.51	315	eP	Pn	20 36 51.2	+1.0
BTO				pP	sP	20 37 01.8	+5.7
BTO				sP	pP	20 37 08.4	+15
BTO				S	Sn	20 40 26.7	-2.0
BTO				sS	pS	20 40 42.6	-1.2
BTO				SS	SnSn	20 40 48.7	+5.7
BTO				pmax	pmax		
	comp=Z,32nm,1.4s						
BTO				pmax	pmax		
	comp=Z,2μm,10.3s						
BTO				LR	LR		
	comp=Z,5μm,13.7s						
BTO				LR	LR		
	comp=Z,4μm,12.9s						
BTO				LR	LR		
	comp=Z,4μm,16.7s						
DAV	Davao City (W)	20.89	187	LR	LR	20 46 57.4	
	comp=Z,346nm,18.6s,baz=347,slow=42						
GUMO	Guam	21.18	129	P	P	20 37 07.3	+0.2
GUMO	Guam	21.18	129	LR	LR	20 44 08.0	
	comp=Z,946nm,19.7s,baz=318,slow=33						
GUMO	Guam	21.18	129	P	P	20 37 07.3	+0.2
GUMO				pmax	pmax		
	comp=Z,154nm,1.6s						
CD2	Chengdu	21.38	284	P	P	20 37 09.8	+0.5
CD2				S	S	20 41 06.0	0.0
CD2				pmax	pmax		
	comp=Z,70nm,0.9s						
CD2				LR	LR		
	comp=Z,9μm,14.0s						
CD2				LR	LR		
	comp=Z,4μm,11.0s						
CD2				LR	LR		
	comp=Z,4μm,11.4s						
LZH	Lanzhou	22.06	298	eP	P	20 37 20.3	+3.7
LZH				pP	sP	20 37 24.2	+0.3
LZH				pmax	pmax		
	comp=Z,33nm,1.2s						
LZH				LR	LR		
	comp=Z,6μm,13.9s						
LZH				LR	LR		
	comp=Z,2μm,13.4s						
LZH				LR	LR		
	comp=Z,2μm,14.6s						
LZDM	Lanzhou Array	22.14	297	P	P	20 37 16.8	-0.9
	comp=Z,2.6nm,0.4s,baz=120,slow=8.8,SNR=4.2						
LZDM				LR	LR	20 45 33.6	
	comp=Z,536nm,20.8s,baz=140,slow=36						
	comp=Z,2.6nm,0.4s						
YSS	Yuzhno-Sakhali	22.20	27	eP	P	20 37 18.7	+0.9
YSS				eS	S	20 41 20.4	-1.1
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
HIA	Hailar	22.24	345	P	P	20 37 17.6	-0.7
HIA	Hailar	22.24	345	P	P	20 37 17.6	-0.7
HIA				pmax	pmax		
	comp=Z,17nm,1.2s						
KMI	Kunming	22.83	269	P	P	20 37 25.9	+0.8
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
SLVN	Son La	22.92	259		P	20 37 25.4	-0.3
PZH	PanZhiHua	23.45	273	P	P	20 37 30.9	-0.3
SGSI	Sangihe	24.24	186	P	P	20 37 38.0	-0.6
	comp=Z,90nm,0.9s						
DLV	Lat	24.28	233		P	20 37 38.6	-0.6
DLV				IAmb	IAmb	20 37 44.0	
	comp=Z,21nm,1.1s						
MYLDM	Lahad Datu	24.40	204	P	P	20 37 39.0	-1.1
MYLDM				IAmb	IAmb	20 38 07.4	
	comp=Z,73nm,1.4s						
KKM	Kota Kinabalu	24.52	210	P	P	20 37 38.8	-2.4
KKM				IAmb	IAmb	20 38 07.3	
	comp=Z,51nm,1.3s						
TYV	Tymovskoe	25.42	22	eP	P	20 37 52.7	+3.7
TYV				eS	S	20 42 23.0	+8.1
TYV				pmax	pmax		
	comp=Z,200nm,4.1s						
TYV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TYV				smax	smax		
	comp=N,300nm,3.6s						
TYV				smax	smax		
	comp=E,200nm,3.6s						
ULN	Ulaanbaatar	25.76	326		P	20 37 50.3	-2.0
ULN				IAmb	IAmb	20 38 04.3	
	comp=Z,24nm,1.0s						
ULN	Ulaanbaatar	25.76	326	deP	P	20 37 52.3	0.0
ULN				pmax	pmax		
	comp=Z,13nm,0.9s						
ZEA	Zeya	25.78	359	eP	P	20 37 55.4	+3.1
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				MLR	MLR		
	comp=N,600nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,14.0s						
GTA	Gaotai	26.05	303	eP	P	20 37 54.9	-0.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
GTA				LR	LR		
	comp=Z,3μm,17.4s						
GTA				LR	LR		
	comp=Z,2μm,16.7s						
GTA				LR	LR		
	comp=Z,1μm,17.8s						
SONM	Songino Array	26.06	325		P	20 37 53.9	-1.2
SONM				IAmb	IAmb	20 38 08.3	
	comp=Z,19nm,1.1s						
SONM	Songino Array	26.06	325	P	P	20 37 55.0	-0.1
	comp=Z,7.2nm,0.9s,baz=142,slow=9.6,SNR=25						
SONM				LR	LR	20 49 05.8	
	comp=Z,820nm,19.6s,baz=148,slow=39						
	comp=Z,7.2nm,0.9s						
SONM	Songino Array	26.06	325	P	P	20 37 55.0	-0.1
TNCH	TengChong	26.59	271	P	P	20 38 02.2	+2.1
TNCH				pmax	pmax		
	comp=Z,18nm,1.0s						
TNTI	Ternate	27.02	182	P	P	20 38 02.0	-1.7
TNTI				IAmb	IAmb	20 38 26.7	
	comp=Z,43nm,1.4s						
TNTI	Ternate	27.02	182	P	P	20 38 05.2	+1.4
	comp=Z,18nm,1.4s						
TOLI2	Tolitoli	27.58	196	P	P	20 38 07.6	-1.1
TOLI2				IAmb	IAmb	20 38 43.5	
	comp=Z,38nm,1.6s						

MRSI	**Marisa**	**27.93 193**	P	**P**	**20 38 13.9**	**+2.0**
	comp=Z,12nm,1.0s					
CHTO	**Chiang Mai**	**28.19 258**	P	**P**	**20 38 13.1**	**-1.2**
CHTO	**Chiang Mai**	**28.19 258**	P	**P**	**20 38 13.1**	**-1.2**
CHTO			pmax	pmax		
	comp=Z,6.0nm,1.2s					
CMAR	**Chiang Mai Arr**	**28.34 257**	P	**P**	**20 38 14.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.34 257**	P	**P**	**20 38 14.0**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=47,slow=9.0,SNR=8.7					
CMAR			LR	LR	20 50 39.6	
	comp=Z,578nm,18.6s,baz=55,slow=39					
	comp=Z,0.2nm,0.8s					
CMAR	**Chiang Mai Arr**	**28.34 257**	P	**P**	**20 38 14.9**	**-0.7**
GOMU	**GeErMu**	**29.26 295**	P	**P**	**20 38 24.3**	**+0.2**
GOMU			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GOMU			LR	LR		
	comp=Z,540nm,12.2s					
GOMU			LR	LR		
	comp=Z,600nm,12.9s					
GOMU			LR	LR		
	comp=Z,500nm,12.7s					
ZAK	**Zakamensk**	**29.28 327**	*e*P	**P**	**20 38 24.5**	**+0.7**
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.6s					
SBUM	**Sibu**	**29.53 214**	P	**P**	**20 38 25.5**	**-0.7**
LSA	**Lhasa**	**32.32 282**	P	**P**	**20 38 50.7**	**-0.6**
LSA			IAmb	IAmb	20 39 00.8	
	comp=Z,32nm,1.7s					
LSA	**Lhasa**	**32.32 282**	P	**P**	**20 38 50.7**	**-0.6**
LSA			pmax	pmax		
	comp=Z,32nm,1.7s					
SHL	**Shillong**	**32.34 274**		**P**	**20 38 50.1**	**-1.0**
SHL			IAmb	IAmb	20 38 54.9	
	comp=Z,25nm,1.0s					
SHL	**Shillong**	**32.34 274**	P	**P**	**20 38 50.1**	**-1.0**
SHL			pmax	pmax		
	comp=Z,25nm,1.0s					
KNGR	**Kungurtug, Tuv**	**32.37 323**⇓	*e*P	**P**	**20 38 52.1**	**+1.0**
KNGR			pmax	pmax		
	comp=Z,8.0nm,2.0s					
JAY	**Jayapura**	**32.62 156**	LR	LR	20 49 13.5	
	comp=Z,394nm,20.7s,baz=316,slow=31					
BRDH	**Bariadhala**	**33.27 269**	LR	LR	20 52 38.9	
	comp=Z,638nm,19.2s,baz=101,slow=37					
PETK	**Petropavlovsk-**	**33.33 33**	P	**P**	**20 39 01.1**	**+1.8**
	comp=Z,3.2nm,0.9s,baz=236,slow=10,SNR=1.6					
PETK			LR	LR	20 53 29.1	
	comp=Z,214nm,18.6s,baz=226,slow=38					
	comp=Z,3.2nm,0.9s					
KAPI	**Kappang**	**33.73 195**	LR	LR	20 53 25.0	
	comp=Z,227nm,19.2s,baz=7.0,slow=38					
YAK	**Yakutsk**	**34.11 1**	LR	LR	20 52 52.4	
	comp=Z,472nm,20.3s,baz=178,slow=36					
YAK	**Yakutsk**	**34.11 1**	*e*P	**P**	**20 39 06.4**	**+0.5**
YAK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,3.0nm,1.3s					
YAK			pmax	pmax		
	comp=E,2.0nm,1.7s					
KULM	**Kulim**	**34.45 234**		**P**	**20 39 09.3**	**-0.1**
IPM	**Ipoh**	**34.74 233**		**P**	**20 39 11.6**	**-0.4**
MYKOM	**Kota Tinggi**	**34.83 226**	P	**P**	**20 39 12.5**	**-0.2**
MYKOM			IAmb	IAmb	20 39 19.5	
	comp=Z,44nm,1.5s					
MA2	**Magadan**	**35.25 20**	LR	LR	20 53 37.7	
	comp=Z,293nm,18.5s,baz=210,slow=36					
WMQ	**Urumqi**	**35.97 307**	*e*P	P	20 39 27.3	+5.0
WMQ			pP	sP	20 39 35.0	+5.2
WMQ			PP	**PP**	**20 40 46.1**	**+2.0**
WMQ			pmax	pmax		
	comp=Z,13nm,0.8s					
WMQ			LR	LR		
	comp=Z,1μm,14.1s					
WMQ			LR	LR		
	comp=Z,1μm,15.9s					
WMQ			LR	LR		
	comp=Z,560nm,16.3s					
EVN	**Everest**	**36.33 280**		**P**	**20 39 25.6**	**-0.7**
LHMI	**Lhok Sumawe**	**37.21 238**	P	P	20 39 37.5	+4.4
PSI	**Prapat**	**37.41 233**	LR	LR	20 54 35.5	
	comp=Z,236nm,19.7s,baz=37,slow=36					
PSI	**Prapat**	**37.41 233**	P	**P**	**20 39 33.8**	**-1.1**
PSI			pmax	pmax		
	comp=Z,18nm,1.2s					
BKNI	**Bangkinang**	**37.75 228**	P	**P**	**20 39 37.0**	**-0.6**
BATI	**Baumata**	**38.16 187**	P	**P**	**20 39 41.0**	**0.0**
	comp=Z,18nm,0.8s,baz=292,slow=3.7,SNR=5.7					
BATI			LR	LR	20 59 00.1	
	comp=Z,174nm,18.1s,baz=26,slow=42					
	comp=Z,18nm,0.8s					
SEY	**Seymchan**	**38.43 18**	LR	LR	20 56 03.6	
	comp=Z,398nm,18.5s,baz=211,slow=37					
ZSN	**Zaisan**	**38.75 312**	*e*P	**P**	**20 39 45.8**	**0.0**
ZSN	**Zaisan**	**38.75 312**	*e*P	**P**	**20 39 45.8**	**0.0**
PPI	**Padang Panjang**	**38.76 228**	P	**P**	**20 39 49.5**	**+3.3**
	comp=Z,23nm,0.9s					
RABL	**Rabaul**	**39.49 140**	P	**P**	**20 39 51.8**	**-0.5**
MDSI	**Maura Dua**	**39.63 219**	P	P	20 39 58.2	+4.8
	comp=Z,20nm,1.6s					
LEM	**Lembang**	**39.82 213**	P	**P**	**20 39 55.6**	**+0.5**
	comp=Z,5.2nm,0.5s,baz=357,slow=12,SNR=3.6					
	comp=Z,5.2nm,0.5s					
DBJI	**Dramaga**	**40.01 214**	P	P	20 40 00.7	+4.1
	comp=Z,69nm,1.4s					
MK31	**Makanchi Array**	**40.31 310**⇓	*e*P	**P**	**20 39 58.6**	**-0.3**
MKAR	**Makanchi Array**	**40.31 310**		**P**	**20 39 57.7**	**-1.1**
MKAR	**Makanchi Array**	**40.31 310**	P	**P**	**20 39 58.0**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=103,slow=10,SNR=14					
MKAR			LR	LR	20 57 08.3	
	comp=Z,377nm,18.3s,baz=103,slow=37					
	comp=Z,2.5nm,0.7s					
MKAR	**Makanchi Array**	**40.31 310**	P	**P**	**20 39 58.0**	**-0.9**
MAKZ	**Makanchi**	**40.53 310**	P	**P**	**20 39 59.5**	**-1.2**
MAKZ			IAmb	IAmb	20 40 06.3	
	comp=Z,34nm,1.4s					
MAKZ	**Makanchi**	**40.53 310**	P	**P**	**20 39 59.5**	**-1.2**
MAKZ			pmax	pmax		
	comp=Z,34nm,1.4s					
MTN	**Manton Dam**	**40.65 175**	P	**P**	**20 40 00.7**	**-1.1**
MTN			IAmb	IAmb	20 40 14.0	
	comp=Z,15nm,0.9s					
ZAA0	**Zalesovo Array**	**40.82 322**		**P**	**20 40 01.2**	**-1.7**
ZALV	**Zalesovo Beam**	**40.82 322**		**P**	**20 40 00.8**	**-2.1**
ZALV	**Zalesovo Beam**	**40.82 322**	P	**P**	**20 40 01.6**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=108,slow=8.1,SNR=10					
ZALV			LR	LR	20 58 48.1	
	comp=Z,832nm,18.2s,baz=118,slow=39					
	comp=Z,1.5nm,0.6s					
PMG	**Port Moresby**	**41.46 151**	LR	LR	20 55 13.6	
	comp=Z,425nm,20.4s,baz=312,slow=33					
SHLS	**Shalkode**	**41.78 305**	*e*P	**P**	**20 40 07.8**	**-3.4**
SHLS	**Shalkode**	**41.78 305**	*e*P	**P**	**20 40 07.7**	**-3.4**
SHEM	**Shemya Is, Ala**	**41.96 41**	LR	LR	20 58 24.9	
	comp=Z,84nm,20.1s,baz=280,slow=37					
UZB	**Uzynbulak**	**42.10 304**	*e*P	**P**	**20 40 12.8**	**-1.1**
	comp=Z,15nm,1.2s					
UZB	**Uzynbulak**	**42.10 304**	*e*P	**P**	**20 40 12.7**	**-1.1**
UZB			pmax	pmax		
	comp=Z,15nm,1.2s					
PRZ	**Przheval'sk**	**42.52 303**		**P**	**20 40 16.6**	**-0.6**
PRZ			IAmb	IAmb	20 40 24.1	
	comp=Z,38nm,1.3s					
PRZ	**Przheval'sk**	**42.52 303**	P	**P**	**20 40 16.6**	**-0.6**
PRZ			pmax	pmax		
	comp=Z,38nm,1.3s					
SATY	**Saty**	**42.55 304**	*e*P	**P**	**20 40 16.4**	**-1.0**
SATY	**Saty**	**42.55 304**	*e*P	**P**	**20 40 16.4**	**-1.0**
TARG	**Taragay, Kyrgy**	**42.92 302**	P	**P**	**20 40 20.2**	**-0.5**
TARG			IAmb	IAmb	20 40 29.7	
	comp=Z,17nm,0.9s					
TARG	**Taragay, Kyrgy**	**42.92 302**	P	**P**	**20 40 20.2**	**-0.5**
TARG			pmax	pmax		
	comp=Z,17nm,0.9s					
KNRA	**Kununurra**	**43.36 179**	P	**P**	**20 40 23.0**	**-1.0**
KDJ	**Kajisay**	**43.40 303**	P	**P**	**20 40 23.4**	**-1.0**
KDJ			IAmb	IAmb	20 40 30.6	
	comp=Z,30nm,1.3s					
KDJ	**Kajisay**	**43.40 303**	P	**P**	**20 40 23.4**	**-1.0**
KDJ			pmax	pmax		
	comp=Z,30nm,1.3s					
KURK	**Kurchatov**	**43.50 315**		**P**	**20 40 23.2**	**-1.6**
KURK			IAmb	IAmb	20 40 30.1	
	comp=Z,24nm,1.1s					
KURK	**Kurchatov**	**43.50 315***d i*P		**P**	**20 40 24.0**	**-0.8**
KURK			pmax	pmax		
	comp=Z,34nm,1.3s					
KURBB	**Kurchatov Arra**	**43.54 315**	P	**P**	**20 40 24.1**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=103,slow=8.8,SNR=20					
KURBB			PcP	**PcP**	**20 42 12.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=122,slow=3.1,SNR=1.9					
KURBB			LR	LR	20 59 59.8	
	comp=Z,622nm,18.3s,baz=154,slow=38					
	comp=Z,4.3nm,0.6s					
MDOK	**Medeo**	**43.55 304**	*e*P	**P**	**20 40 24.5**	**-1.1**
MDOK	**Medeo**	**43.55 304**	*e*P	**P**	**20 40 24.4**	**-1.1**
TNSS	**Tian-Shan**	**43.61 304**	*e*P	**P**	**20 40 25.1**	**-1.2**
TNSS	**Tian-Shan**	**43.61 304**	*e*P	**P**	**20 40 25.1**	**-1.2**
CHKK	**Chushkaly**	**43.63 305**	*e*P	**P**	**20 40 25.1**	**-0.9**
CHKK	**Chushkaly**	**43.63 305**	*e*P	**P**	**20 40 25.1**	**-0.9**
AAA	**Alma-Ata**	**43.65 304**	*e*P	**P**	**20 40 25.5**	**-0.8**
	comp=Z,19nm,1.4s					
AAA	**Alma-Ata**	**43.65 304**	*e*P	**P**	**20 40 25.4**	**-0.8**
AAA			pmax	pmax		
	comp=Z,19nm,1.4s					
TIXI	**Tiksi**	**43.76 0**	LR	LR	20 58 34.1	
	comp=Z,927nm,18.6s,baz=195,slow=36					
TIXI	**Tiksi**	**43.76 0**⇓	*e*P	**P**	**20 40 28.9**	**+2.4**
TIXI			pmax	pmax		
	comp=Z,19nm,1.4s					
KSH	**Kashi**	**44.30 299**	P	**P**	**20 40 34.3**	**+2.8**
KSH			pP	sP	20 40 48.2	+9.0
KSH			pmax	pmax		
	comp=Z,14nm,1.5s					
KSH			LR	LR		
	comp=Z,1μm,15.5s					
KSH			LR	LR		
	comp=Z,940nm,14.1s					
KSH			LR	LR		
	comp=Z,990nm,13.7s					
BOOM	**Boomskoye usch**	**44.33 303**	P	**P**	**20 40 30.3**	**-1.5**
BOOM	**Boomskoye usch**	**44.33 303**	P	**P**	**20 40 30.3**	**-1.5**
BOOM			pmax	pmax		
	comp=Z,11nm,1.3s					
SGDS	**Sogindy**	**45.32 305**	*e*P	**P**	**20 40 38.8**	**-0.8**
AAK	**Ala-Archa**	**45.40 303**	P	**P**	**20 40 39.3**	**-1.0**
AAK			IAmb	IAmb	20 40 46.2	
	comp=Z,26nm,1.8s					
AAK	**Ala-Archa**	**45.40 303**⇑	*e*P	**P**	**20 40 42.0**	**+1.6**
AAK			pmax	pmax		
	comp=Z,15nm,1.7s					
BTLS	**Baital**	**45.81 307**	*e*P	**P**	**20 40 42.3**	**-1.0**
	comp=Z,7.4nm,1.0s					
BTLS	**Baital**	**45.81 307**	*e*P	**P**	**20 40 42.3**	**-1.0**
BTLS			pmax	pmax		
	comp=Z,7.0nm,1.0s					
FITZ	**Fitzroy Crossi**	**45.83 183**		**P**	**20 40 43.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**45.83 183**	P	**P**	**20 40 44.7**	**+1.1**
	comp=Z,7.6nm,1.1s,baz=14,slow=10.0,SNR=9.1					
	comp=Z,7.6nm,1.1s					
BILL	**Bilibino**	**46.10 19**⇑	*e*P	**P**	**20 40 44.2**	**-1.1**
BILL			pmax	pmax		
	comp=Z,27nm,1.8s					
ARSB	**Arslanbob**	**46.54 302**		**P**	**20 40 48.8**	**-0.5**
ARSB	**Arslanbob**	**46.54 302**	P	**P**	**20 40 48.8**	**-0.5**
ARSB			pmax	pmax		
	comp=Z,42nm,1.6s					
OHH	**Osh**	**46.71 301**	P	**P**	**20 40 52.9**	**+2.3**
OHH			pmax	pmax		
	comp=Z,18nm,1.4s					
KIWB	**Kanaga Island**	**46.99 44**	P	**P**	**20 40 51.2**	**-1.3**
NIL	**Nilore**	**46.99 291**	P	**P**	**20 40 51.9**	**-0.9**
NIL			IAmb	IAmb	20 40 57.6	
	comp=Z,19nm,1.0s					
NIL	**Nilore**	**46.99 291**	P	**P**	**20 40 51.9**	**-0.9**
NIL			pmax	pmax		
	comp=Z,19nm,1.0s					
ARK	**Arkit**	**47.29 302**	P	**P**	**20 40 55.6**	**+0.5**
DRK	**Karamyk**	**47.52 299**	P	**P**	**20 40 56.7**	**-0.5**
DRK	**Karamyk**	**47.52 299**	P	**P**	**20 40 56.7**	**-0.5**
DRK			pmax	pmax		
	comp=Z,52nm,0.4s					
WB0	**Warramunga Arr**	**47.82 172**	P	**P**	**20 40 58.2**	**-1.0**
WB0			IAmb	IAmb	20 41 11.0	
	comp=Z,14nm,1.1s					
TRKS	**Terek-Say**	**47.92 302**	P	**P**	**20 41 01.1**	**+1.0**
TRKS			pmax	pmax		
	comp=Z,7.0nm,1.0s					
WRAB	**Tennant Creek**	**47.98 172**	P	**P**	**20 40 59.8**	**-0.7**
WRAB			IAmb	IAmb	20 41 12.3	
	comp=Z,10nm,1.0s					
WRAB	**Tennant Creek**	**47.98 172**⇓	*i*P	**P**	**20 41 01.6**	**+1.2**
WRAB			pmax	pmax		
	comp=Z,13nm,1.0s					
WRA	**Warramunga Arr**	**47.98 172**		**P**	**20 40 58.9**	**-1.5**
WRA	**Warramunga Arr**	**47.98 172**	P	**P**	**20 41 01.3**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=353,slow=8.3,SNR=26					
WRA			LR	LR	20 59 46.6	
	comp=Z,127nm,21.3s,baz=0.0,slow=34					
	comp=Z,4.6nm,0.8s					
HNR	**Honiara**	**48.28 136**	LR	LR	21 00 32.3	
	comp=Z,134nm,20.6s,baz=341,slow=35					
KK31	**Karatay Array**	**48.33 304**		**P**	**20 41 02.3**	**-0.8**
KK31			IAmb	IAmb	20 41 08.2	
	comp=Z,22nm,1.3s					
KK31	**Karatay Array**	**48.33 304**	P	**P**	**20 41 02.3**	**-0.8**
KK31			pmax	pmax		
	comp=Z,22nm,1.3s					
KKAR	**Karatay Array**	**48.33 304**		**P**	**20 41 02.5**	**-0.6**
KKAR	**Karatay Array**	**48.33 304**	P	**P**	**20 41 02.5**	**-0.6**
GAR	**Garm**	**48.71 299**		**P**	**20 41 05.5**	**-0.7**
IUG	**Iuzhnay**	**48.72 303**	*e*P	**P**	**20 41 05.3**	**-0.9**
	comp=Z,11nm,1.2s					
IUG	**Iuzhnay**	**48.72 303**	*e*P	**P**	**20 41 05.2**	**-0.9**
IUG			pmax	pmax		
	comp=Z,11nm,1.2s					
BRLS	**Borolday**	**48.83 304**	*e*P	**P**	**20 41 06.8**	**-0.1**
BRLS	**Borolday**	**48.83 304**	*e*P	**P**	**20 41 06.8**	**-0.1**
BVAR	**Borovoye Array**	**48.92 317**	P	**P**	**20 41 07.4**	**0.0**
	comp=Z,4.2nm,0.8s,baz=138,slow=11,SNR=18					
	comp=Z,4.2nm,0.8s					
CHGR	**Chuyangaron**	**49.65 298**	P	**P**	**20 41 12.1**	**-1.2**
CHGR	**Chuyangaron**	**49.65 298**	P	**P**	**20 41 12.1**	**-1.2**
CHGR			pmax	pmax		
	comp=Z,49nm,1.4s					
PSA00	**Pilbara Seismi**	**49.86 190**		**P**	**20 41 14.2**	**-0.6**
KBL	**Kabul**	**50.30 293**		**P**	**20 41 18.2**	**-0.3**
KBL	**Kabul**	**50.30 293**	P	**P**	**20 41 18.2**	**-0.3**
KBL			pmax	pmax		
	comp=Z,65nm,1.4s					
CTA	**Charters Tower**	**50.88 158**	LR	LR	21 02 56.3	
	comp=Z,5.1nm,20.0s,baz=24,slow=36					
AS31	**Alice Springs**	**51.61 173**		**P**	**20 41 27.2**	**-0.8**
ASAR	**Alice Springs**	**51.61 173**	P	**P**	**20 41 27.8**	**-0.3**
ASAR	**Alice Springs**	**51.61 173**	P	**P**	**20 41 29.3**	**+1.2**
	comp=Z,2.8nm,1.0s,baz=0.2,slow=7.2,SNR=16					
ASAR			LR	LR	21 02 15.4	
	comp=Z,122nm,21.7s,baz=338,slow=35					
	comp=Z,2.8nm,1.0s					
SVE	**Sverdlovsk**	**54.84 322**	*e*P	**P**	**20 41 51.5**	**0.0**
SVE			pmax	pmax		
	comp=Z,17nm,1.4s					
SVE			MLR	MLR		
	comp=Z,864nm,13.0s					
AB31	**Akbulak array**	**55.39 312**		**P**	**20 41 54.8**	**-0.8**
AB31			IAmb	IAmb	20 42 01.1	
	comp=Z,14nm,0.9s					
ABKAR	**Akbulak array**	**55.39 312**		**P**	**20 41 54.8**	**-0.8**
HRA	**Herat**	**55.84 294**		**P**	**20 41 58.8**	**-0.5**
HRA			IAmb	IAmb	20 42 05.0	
	comp=Z,12nm,1.3s					
ARTI	**Arti**	**56.08 321**	P	**P**	**20 41 59.4**	**-1.0**
ARTI			IAmb	IAmb	20 42 11.4	
	comp=Z,7.9nm,0.5s					
ARTI	**Arti**	**56.08 321***c i*P		**P**	**20 41 59.6**	**-0.8**
ARTI					20 42 55.6	
ARTI			S	**S**	**20 49 50.1**	**+2.0**
ARTI			SS	**SS**	**20 53 33.8**	**-0.2**
ARTI			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ARTI			MLR	MLR		
	comp=Z,844nm,14.0s					
G21K	**Allakaket**	**60.12 27**	P	**P**	**20 42 28.2**	**-0.3**
E22K	**Anaktuvuk Pass**	**60.72 25**	P	**P**	**20 42 32.5**	**-0.2**
KIRV	**Kirov**	**60.78 324**	LR	LR	21 11 05.8	
	comp=Z,684nm,18.1s,baz=90,slow=38					
KIRV	**Kirov**	**60.78 324**⇓	*e*P	**P**	**20 42 32.4**	**-0.8**
STKA	**Stephens Creek**	**60.86 167**	P	**P**	**20 42 33.9**	**-0.1**
STKA	**Stephens Creek**	**60.86 167**	P	**P**	**20 42 34.9**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=282,slow=6.4,SNR=3.5					
	comp=Z,3.2nm,0.8s					
SUA	**Susitna One**	**61.70 33**	P	**P**	**20 42 38.4**	**-1.2**
SUA			IAmb	IAmb	20 42 45.7	
	comp=Z,11nm,0.9s					
DZM	**Mont Dzumac**	**62.01 139**	*e*LR	LR	21 01 01.0	
	comp=Z,525nm,22.9s					
NEA2	**Nenana**	**62.10 29**	P	**P**	**20 42 41.3**	**-0.7**
NEA2			IAmb	IAmb	20 42 47.9	
	comp=Z,16nm,1.1s					
MCK	**McKinley**	**62.26 30**		**P**	**20 42 42.5**	**-0.6**
MCK			IAmb	IAmb	20 42 58.2	
	comp=Z,14nm,1.2s					
MCK	**McKinley**	**62.26 30**	P	**P**	**20 42 42.5**	**-0.6**
MCK			pmax	pmax		
	comp=Z,14nm,1.2s					
RND	**Reindeer**	**62.34 30**		**P**	**20 42 42.9**	**-0.8**
RND			IAmb	IAmb	20 42 54.0	
	comp=Z,14nm,1.0s					
RND	**Reindeer**	**62.34 30**	P	**P**	**20 42 42.9**	**-0.8**
RND			pmax	pmax		
	comp=Z,15nm,1.0s					
ILAR	**Eielson Array**	**63.00 29**	P	**P**	**20 42 46.8**	**-1.2**
ILAR	**Eielson Array**	**63.00 29**	P	**P**	**20 42 48.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=291,slow=6.0,SNR=8.2					
ILAR			LR	LR	21 10 35.6	
	comp=Z,136nm,20.4s,baz=280,slow=36					
	comp=Z,0.7nm,0.8s					
HDA	**Harding Lake**	**63.03 29**	P	**P**	**20 42 46.9**	**-1.4**
HDA			IAmb	IAmb	20 43 10.2	
	comp=Z,13nm,1.1s					
SCRK	**Sand Creek**	**64.38 29**		**P**	**20 42 56.6**	**-0.7**
SCRK			IAmb	IAmb	20 43 20.6	
	comp=Z,14nm,1.3s					
AKT	**Akhty**	**65.23 305**	*e*P	**P**	**20 43 03.6**	**+0.4**
AKT			*e*PPP	PPP	20 47 01.8	
AKT			pmax	pmax		
	comp=Z,10.0nm,0.7s					
AKT			MLR	MLR		
	comp=Z,377nm,13.0s					
APA	**Apatity**	**66.25 335**⇓	*e*P	**P**	**20 43 05.6**	**-3.6**
L29M	**L29M**	**67.14 29**	P	**P**	**20 43 13.8**	**-1.2**
L29M			IAmb	IAmb	20 43 30.7	
	comp=Z,12nm,1.2s					
KBZ	**Khabaz**	**67.98 309**	P	**P**	**20 43 19.6**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=159,slow=8.0,SNR=4.1					
	comp=Z,1.6nm,0.9s					
KBZ	**Khabaz**	**67.98 309**⇑	*e*P	**P**	**20 43 20.0**	**-0.6**
KBZ			pmax	pmax		
	comp=Z,7.0nm,1.1s					
KIV	**Kislovodsk**	**68.06 309**	*e*P	**P**	**20 43 18.1**	**-3.1**
KIV			pmax	pmax		
	comp=Z,6.0nm,1.1s					
KIV			MLR	MLR		
	comp=Z,189nm,17.0s					
OBN	**Obninsk**	**68.40 322**	*e*P	**P**	**20 43 24.4**	**+1.4**
OBN			*e*		20 43 48.0	
OBN			*e*		20 45 53.3	
OBN			pmax	pmax		
	comp=Z,4.0nm,0.8s					
OBN			MLR	MLR		
	comp=Z,740nm,17.0s					
FINES	**FINESS Array B**	**71.32 330**	P	**P**	**20 43 40.8**	**0.0**
	comp=Z,1.3nm,0.8s,baz=78,slow=10,SNR=4.3					
	comp=Z,1.3nm,0.8s					
ANN	**Anapa**	**71.33 311**	*e*P	**P**	**20 43 38.3**	**-2.9**
ANN			*e*S	**S**	**20 52 52.5**	**-5.6**
ANN			pmax	pmax		
	comp=Z,162nm,1.7s					
RAYN	**Ar Rayn**	**73.15 288**		**P**	**20 43 51.5**	**-1.0**
RAYN	**Ar Rayn**	**73.15 288**	P	**P**	**20 43 51.5**	**-1.0**
RAYN			pmax	pmax		
	comp=Z,5.0nm,1.2s					
MNK	**Minsk**	**73.31 323**	*i* P	**P**	**20 43 50.0**	**-2.8**
MNK			*i*		20 44 05.9	
MNK			*i*		20 46 33.6	
MNK			*i* PPP	PPP	20 48 18.7	
MNK			*i* S	**S**	**20 53 17.5**	**-3.0**
MNK			*i*		20 53 56.1	
MNK			*i* SS	**SS**	**20 58 01.1**	**-0.6**
MNK			pmax	pmax		
	comp=Z,6.0nm,0.9s					
MNK			pmax	pmax		
	comp=N,10.0nm,1.1s					
MNK			pmax	pmax		
	comp=E,4.0nm,0.8s					
MNK			MLR	MLR		
	comp=N,364nm,17.0s					
MNK			MLR	MLR		
	comp=Z,565nm,16.0s					
MNK			MLR	MLR		
	comp=E,205nm,13.0s					
NACGM	**Naroch**	**73.72 324**	*e*P	**P**	**20 43 54.1**	**-1.1**
	comp=Z,10.0nm,0.8s,baz=65					
AKASG	**Malin Array Be**	**74.15 319**	P	**P**	**20 43 56.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=60,slow=6.6,SNR=6.3					
	comp=Z,0.5nm,0.5s					
AKBB	**Malin Array Si**	**74.15 319**⇓	*e*P	**P**	**20 43 57.6**	**-0.3**
AKBB			pmax	pmax		
	comp=Z,15nm,2.3s					
BRTR	**Keskin Array B**	**75.89 308**		**P**	**20 44 07.5**	**-0.7**
BRTR	**Keskin Array B**	**75.89 308**	P	**P**	**20 44 06.4**	**-1.9**
	comp=Z,0.8nm,1.0s,baz=92,slow=4.1,SNR=10					
	comp=Z,0.8nm,1.0s					
BRTR	**Keskin Array B**	**75.89 308**	P	**P**	**20 44 07.6**	**-0.7**
BBB	**Bella Bella**	**76.28 38**	LR	LR	21 16 03.3	
	comp=Z,54nm,21.9s,baz=328,slow=34					
YKA	**Yellowknife Ar**	**77.04 25**	P	**P**	**20 44 15.5**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=303,slow=6.4,SNR=9.5					
	comp=Z,2.8nm,0.9s					
NOA	**NORSAR Array B**	**77.73 334**	P	**P**	**20 44 18.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=56,slow=6.8,SNR=1.7					
	comp=Z,0.2nm,0.6s					
RPZ	**Rata Peaks**	**81.46 150**	LR	LR	21 16 05.0	
	comp=Z,57nm,21.1s,baz=325,slow=32					
MODS	**Modra-Piesok**	**82.08 321**	*e*P	**P**	**20 44 42.9**	**+1.0**
MODS	**Modra-Piesok**	**82.08 321**	*e*P	**P**	**20 44 42.8**	**+0.9**
B08A	**Colville Reser**	**83.07 38**		**P**	**20 44 46.7**	**-0.4**
B08A			IAmb	IAmb	20 44 55.0	
	comp=Z,6.6nm,1.1s					
GERES	**GERESS Array B**	**83.76 323**	P	**P**	**20 44 51.2**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=52,slow=6.4,SNR=1.3					
	comp=Z,0.1nm,0.4s					
SFJD	**Kangerlussuaq**	**85.36 359**	LR	LR	21 24 17.7	
	comp=Z,187nm,19.2s,baz=356,slow=36					
J08A	**Circle Bar Ran**	**86.44 42**		**P**	**20 45 03.7**	**-0.6**
J08A			IAmb	IAmb	20 45 17.1	
	comp=Z,7.1nm,1.1s					
FFC	**Flin Flon**	**87.12 26**	P	**P**	**20 45 07.5**	**+0.2**
FFC			IAmb	IAmb	20 45 14.3	
	comp=Z,15nm,1.2s

SKHL 05 20:49:06.2±0.7, 45°.30N×150°.80E, h45km±3km, mb4.2/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.07**	**269**	*eP*	Pn	20 49 38.0	-0.4
KUR				AMB	AMB	20 49 39.8	
	60nm,0.4s						
KUR				*e*S	Sn	20 50 01.9	-1.1
KUR				A	A	20 50 04.7	
	460nm,0.5s						
KUR				A	A	20 50 04.7	
	130nm,0.5s						
NEM2	**Nemuro 2**	**4.11**	**244**	P	Pn	20 50 06.6	+0.2
NEM2				*e*S	Sn	20 50 52.9	-0.3
NMR	**Nemuro--Hokkai**	**4.12**	**244**	*eP*	Pn	20 50 06.7	+0.2
NMR				AMB	AMB	20 50 07.6	
	10.0nm,0.3s						
NMR				*e*S	Sn	20 50 52.3	-1.1
NMR				A	A	20 51 00.0	
	20nm,0.4s						
NMR				A	A	20 51 00.0	
	40nm,0.4s						
JRA	**Rausu**	**4.28**	**253**	*eP*	Pn	20 50 11.6	+2.9
JNK	**Nakash**	**4.68**	**251**	P	Pn	20 50 15.9	+1.7
AKK	**Akkeshi**	**4.86**	**244**	*eP*	Pn	20 50 16.8	+0.1
AKK				*e*S	Sn	20 51 10.9	-0.7
JAK	**Akkeshi**	**4.96**	**244**	P	Pn	20 50 17.9	-0.1
JAK				S	Sn	20 51 14.8	+0.7
JTKR	**Abashiri--Toko**	**5.09**	**257**	*eP*	Pn	20 50 22.5	+2.5
JAR	**Ashorobuto**	**5.43**	**251**	P	Pn	20 50 26.1	+1.5
JAR				*e*S	Sn	20 51 28.4	+2.7
JOB	**Onbets**	**5.56**	**247**	*eP*	Pn	20 50 26.9	+0.6
JKK2	**Kamakawa 2**	**5.92**	**259**	*eP*	Pn	20 50 34.4	+3.0
JCH	**Churui**	**6.00**	**246**	P	Pn	20 50 33.2	+0.8
JCH				*e*S	Sn	20 51 41.0	+1.2
JNBK	**Urakawa-nobuka**	**6.56**	**245**	P	Pn	20 50 40.1	+0.1

*IDC **05** 20:53:01.4±7.3, 17°.00S×179°.89W, h603km±74km, mb3.1/6, mbtmp4.1/7, Error ellipse: s-maj=54.7km s-min=31.8km az=73.0*

ISC 05 20:53:01.2±1.4, 17°.0S±0°.2×179°.9W±0°.2, h600km, n10, σ0§61/11, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.85**	**246**	P	**P**	**20 55 59.6**	**+0.9**
	3.4nm,0.6s,baz=329,slow=23,SNR=5.7						
STKA	**Stephens Creek**	**37.86**	**240**	P	**P**	**20 59 27.7**	**-0.9**
	2.7nm,0.6s,baz=94,slow=11,SNR=5.8						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**43.43**	**259**	P	**P**	**21 00 12.4**	**-0.4**
	0.9nm,0.3s,baz=91,slow=7.7,SNR=38						
WRA				PcP	**PcP**	**21 01 47.1**	**-0.2**
	0.4nm,0.8s,baz=87,slow=3.2,SNR=2.0						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**43.70**	**253**	P	**P**	**21 00 14.9**	**0.0**
	11nm,0.5s,baz=89,slow=7.9,SNR=190						
ASAR				PcP	**PcP**	**21 01 47.5**	**-0.7**
	0.4nm,0.4s,baz=102,slow=3.2,SNR=2.8						
	11nm,0.5s						
VNDA	**Vanda**	**61.23**	**184**	P	**P**	**21 02 18.8**	**+0.1**
	0.6nm,1.0s,baz=166,slow=4.1,SNR=2.4						
	0.6nm,1.0s						
MJAR	**Matsushiro Arr**	**66.35**	**324**	P	**P**	**21 02 51.7**	**-0.1**
	0.9nm,0.7s,baz=153,slow=5.7,SNR=2.1						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**87.26**	**290**	P	**P**	**21 04 46.0**	**+0.3**
	0.4nm,0.4s,baz=126,slow=1.9,SNR=4.5						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**143.15**	**315**	PKP	**PKPdf**	**21 11 28.2**	**-0.1**
	0.4nm,0.7s,baz=38,slow=7.3,SNR=2.1						
MMAI	**Mount Meron Ar**	**144.48**	**303**	PKP	PKPbc	21 11 31.2	+0.2
	0.9nm,0.5s,baz=76,slow=7.0,SNR=4.1						
GERES	**GERESS Array B**	**146.37**	**344**	PKPbc	**PKPdf**	**21 11 34.1**	**+0.7**
	0.3nm,0.4s,baz=35,slow=3.6,SNR=4.2						

*NNC **05** 20:54:59.2±0.9, 45°.83N×81°.58E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=17.4km s-min=5.7km az=118.0*
*SOME **05** 20:55:01.8, 45°.87N×81°.48E, h25km*

ISC 05 20:54:57.0±1.1, 45°.72N±0°.07×81°.60E±0°.06, h9km, n12, σ1§10/19, 4C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.17**	**24**	⇓P	**Pn**	**20 55 20.4**	**+0.7**
	1.5nm,0.2s,baz=202,slow=18,SNR=116						
MK31				⇑S	**Sn**	**20 55 34.8**	**-1.0**
	2.3nm,0.2s,baz=208,slow=30,SNR=16						
TDK	**Taldyqorghan**	**2.36**	**253**	*eP*	**Pg**	**20 55 43.4**	**+1.1**
	23nm,0.2s						
TDK				*e*S	**Sg**	**20 56 13.3**	**+0.3**
	80nm,0.2s						
PDGK	**Podgornoye**	**2.83**	**213**	⇑Pg	**Pg**	**20 55 52.8**	**+1.6**
	1.0nm,0.2s						
PDGK				⇑Lg	Lg	20 56 30.3	
	21nm,0.6s						
ZSN	**Zaisan**	**2.84**	**51**	*eP*	**Pg**	**20 55 51.8**	**+0.4**
	1.6nm,0.2s						
ZSN				*e*S	**Sg**	**20 56 27.5**	**-0.7**
	13nm,0.4s						
SHLS	**Shalkode**	**2.99**	**212**	*eP*	**Pg**	**20 55 53.7**	**-0.6**
	4.1nm,0.1s						
SHLS				*e*S	**Sg**	**20 56 30.9**	**-2.1**
	42nm,0.5s						
ARXS	**Arharly**	**3.07**	**242**	*eP*	**Pg**	**20 55 56.6**	**+0.7**
ARXS				*e*S	**Sg**	**20 56 36.2**	**+0.4**
UZB	**Uzynbulak**	**3.17**	**217**	*eP*	**Pg**	**20 55 59.0**	**+1.3**
	1.2nm,0.1s						
UZB				*e*S	**Sg**	**20 56 40.1**	**+1.3**
	17nm,0.2s						
CHKK	**Chushkaly**	**3.78**	**242**	*eP*	**Pg**	**20 56 09.1**	**-0.3**
	0.2nm,0.1s						
CHKK				*e*S	**Sg**	**20 56 57.3**	**-1.0**
	12nm,0.1s						
KOTS	**Kotyrbulak**	**4.06**	**234**	*eP*	**Pg**	**20 56 14.6**	**-0.3**
	0.8nm,0.1s						
KOTS				*e*S	**Sg**	**20 57 06.9**	**-0.6**
	15nm,0.3s						
MTBS	**Maitube**	**4.52**	**237**	*eP*	**Pg**	**20 56 22.6**	**-1.0**
	0.4nm,0.1s						
MTBS				*e*S	**Sg**	**20 57 20.6**	**-1.5**
	6.5nm,0.1s						
KURBB	**Kurchatov Arra**	**5.32**	**338**	⇓Lg	Lg	20 57 44.9	
	11nm,0.6s						
KURK	**Kurchatov**	**5.38**	**339**	⇑Lg	Lg	20 57 44.9	
	2.8nm,0.7s						

*UCR **05** 21:07:38.7±0.8, 7°.78N×82°.93W, h12km±5km, MW4.2*
*CATAC **05** 21:07:39.7±0.7, 8°.N±4°.×8°.3W×°, h4km±2km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=9.3km s-min=3.6km az=17.1, confirmed*
*UPA **05** 21:07:40.7±1.1, 7°.93N×82°.92W, h13km±3km, MW3.9, Fault plane solution: NP1:φs113.00000°, δ63.00000°, λ18.00000°.*

ISC 05 21:07:38.5±1.4, 7°.83N±0°.05×82°.89W±0°.03, h16km±9km, n87, σ0§90/111, 9C-12D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	**Limones**	**0.28**	**6**	*eP*	**Pg**	**21 07 46.3**	**+1.8**
LESP3	**La Esperanza,**	**0.59**	**10**	⇓*eP*	**Pb**	**21 07 50.7**	**+0.3**
LESP3				*e*S	**Sb**	**21 07 58.8**	**+0.3**
LPPC	**Paso Canoas**	**0.70**	**4**	*eP*	**Pb**	**21 07 52.7**	**+0.2**
LPPC				*e*S	**Sb**	**21 08 02.9**	**+0.9**
PEDE3	**Pedregal, Chir**	**0.72**	**40**	⇓*iP*	**Pn**	**21 07 53.5**	**-0.6**
PEDE3				*i* S	**Sb**	**21 08 01.7**	**-0.7**
PIRO	**Carate, Puerto**	**0.73**	**323**	⇑*iP*	**Pg**	**21 07 52.1**	**-0.6**
PIRO				*e*S	**Sb**	**21 08 02.6**	**+0.1**
PIRO	**Carate, Puerto**	**0.73**	**323**	P	**Pg**	**21 07 52.1**	**-0.6**
PIRO	**Carate, Puerto**	**0.73**	**323**	S	**Sg**	**21 08 00.8**	**-1.6**
PIRO	**Carate, Puerto**	**0.73**	**323**	*eP*	**Pg**	**21 07 52.3**	**-0.4**
BAGA3	**Bagala, Chiriq**	**0.73**	**29**	⇑*iP*	**Pn**	**21 07 54.0**	**-0.2**
BAGA3				*i* S	**Sb**	**21 08 03.7**	**+1.0**
CDITO	**Canoas**	**0.74**	**1**	P	**Pb**	**21 07 53.2**	**+0.1**
CDITO	**Canoas**	**0.74**	**1**	S	**Sb**	**21 08 03.6**	**+0.5**
LOCO3	**Loma Colorada,**	**0.75**	**39**	⇓*iP*	**Pn**	**21 07 54.0**	**-0.4**
LOCO3				*e*P	**Pn**	**21 07 54.0**	**-0.4**
LOCO3				*e*S	**Sn**	**21 08 04.3**	**-1.1**
DVD	**David**	**0.75**	**36**	⇓*iP*	**Pn**	**21 07 54.0**	**-0.5**
DVD				*e*S	**Sb**	**21 08 04.0**	**+0.8**
LOMA3	**Las Lomas, Chi**	**0.78**	**39**	⇓*iP*	**Pn**	**21 07 54.6**	**-0.3**
LOMA3				*i* S	**Sb**	**21 08 04.7**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.79**	**44**	⇑*eP*	**Pn**	**21 07 54.9**	**-0.1**
CHIR3				*e*S	**Sn**	**21 08 05.6**	**-1.0**
NELY	**Ciudad Neily**	**0.82**	**356**	*eP*	**Pb**	**21 07 54.2**	**-0.2**
NELY				*e*S	**Sb**	**21 08 06.0**	**+0.7**
JIME	**Puerto Jimenez**	**0.83**	**329**	*eP*	**Pg**	**21 07 54.1**	**-0.6**
JIME				*e*S	**Sb**	**21 08 06.2**	**+0.7**
DMCAL	**E. de Neily**	**0.84**	**7**	*eP*	**Pb**	**21 07 55.3**	**+0.4**
JEFFS	**S de V. Baru**	**0.91**	**23**	*eP*	**Pn**	**21 07 56.7**	**-0.1**
GUAL3	**Gualaca, Chiri**	**0.92**	**40**	*eP*	**Pn**	**21 07 56.9**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.95**	**24**	⇓*iP*	**Pn**	**21 07 57.1**	**-0.2**
PTAR3				*e*S	**Sn**	**21 08 10.2**	**-0.4**
CLLRA	**Cordillera,**	**0.95**	**17**	⇑*iP*	**Pn**	**21 07 57.2**	**-0.2**
BANCO	**falda S V. Bar**	**0.96**	**22**	*eP*	**Pn**	**21 07 57.3**	**-0.2**
BRU2	**Volcan**	**0.98**	**12**	⇑*eP*	**Pb**	**21 07 57.5**	**+0.2**
BRU2				*i* S	**Sn**	**21 08 11.0**	**-0.5**
BRU2	**Volcan**	**0.98**	**12**	P	**Pn**	**21 07 57.7**	**-0.1**
BRU2	**Volcan**	**0.98**	**12**	S	**Sn**	**21 08 11.9**	**+0.3**
BRU2	**Volcan**	**0.98**	**12**	*eP*	**Pb**	**21 07 57.5**	**+0.2**
TBS2		**0.99**	**13**	*eP*	**Pn**	**21 07 58.5**	**+0.6**
SCLRA	**Santa Clara, W**	**1.01**	**6**	⇑*eP*	**Pn**	**21 07 58.2**	**+0.1**
SCLRA	**Santa Clara, W**	**1.01**	**6**	*eP*	**Pn**	**21 07 58.2**	**+0.1**
BQSF3	**Alto Boquete,**	**1.02**	**26**	⇓*eP*	**Pn**	**21 07 58.0**	**-0.2**
BQSF3				*e*S	**Sb**	**21 08 10.2**	**-0.9**
BQTLY	**Boquete Panama**	**1.02**	**25**	⇑*eP*	**Pn**	**21 07 58.1**	**-0.2**
BQTLY	**Boquete Panama**	**1.02**	**25**	*eP*	**Pn**	**21 07 58.1**	**-0.2**
BC3P	**Paso Ancho**	**1.02**	**16**	⇓*iP*	**Pb**	**21 07 58.2**	**+0.2**
BC3P				*e*S	**Sb**	**21 08 11.8**	**+0.5**
PSOM3	**Paja de Sombre**	**1.02**	**33**	⇓*eP*	**Pn**	**21 07 58.0**	**-0.2**
PSOM3				*e*S	**Sb**	**21 08 11.4**	**+0.2**
WILLF	**Boquete**	**1.02**	**26**	*eP*	**Pb**	**21 07 58.0**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.06**	**25**	⇓*iP*	**Pb**	**21 07 58.5**	**-0.1**
LNBQ3				*e*S	**Sb**	**21 08 12.5**	**+0.1**
DAP26	**falda E V. Bar**	**1.06**	**26**	*eP*	**Pb**	**21 07 58.5**	**-0.1**
ALCO	**Alturas Coton,**	**1.12**	**3**	*eP*	**Pb**	**21 07 59.4**	**-0.2**
PBNVO	**Pueblo Nuevo,**	**1.27**	**33**	*eP*	**Pn**	**21 08 01.7**	**+0.2**
RBALA	**Bur**	**1.28**	**35**	⇑*eP*	**Pn**	**21 08 02.1**	**+0.4**
RBALA	**Bur**	**1.28**	**35**	*eP*	**Pn**	**21 08 01.9**	**+0.1**
CHGR2	**Aguacate**	**1.33**	**34**	⇑*eP*	**Pg**	**21 08 03.2**	**-1.0**
CHGR2				*i* S	**Sb**	**21 08 19.5**	**-0.4**
CVEJO	**Cerro Viej**	**1.37**	**72**	*e*S	**Sn**	**21 08 22.1**	**+1.3**
OCHAL	**Ojochal**	**1.47**	**329**	P	**Pn**	**21 08 04.1**	**-0.3**
OCHAL	**Ojochal**	**1.47**	**329**	S	**Sn**	**21 08 22.8**	**-0.5**
DRK0	**Durika**	**1.47**	**346**	⇓*iP*	**Pn**	**21 08 04.5**	**-0.1**
DRK0				*i* S	**Sb**	**21 08 24.0**	**-0.2**
DRK0	**Durika**	**1.47**	**346**	P	**Pn**	**21 08 04.8**	**+0.2**
DRK0	**Durika**	**1.47**	**346**	S	**Sn**	**21 08 24.5**	**+0.9**
DRK0	**Durika**	**1.47**	**346**	*eP*	**Pn**	**21 08 04.3**	**-0.3**
KKNTU	**Kakint^e**	**1.47**	**47**	⇓*eP*	**Pb**	**21 08 04.9**	**-0.7**
KKNTU	**Kakint^e**	**1.47**	**47**	*eP*	**Pn**	**21 08 04.7**	**+0.3**
EDPE	**Pejibaye, P**	**1.49**	**333**	*eP*	**Pn**	**21 08 04.4**	**-0.3**
GMAL	**Guarumal, Vera**	**1.64**	**92**	*eP*	**Pb**	**21 08 08.2**	**-0.2**
RSUS3	**Rio de Jesus,**	**1.72**	**85**	*i* P	**Pb**	**21 08 09.7**	**-0.1**
RGM0	**Gandoca**	**1.78**	**9**	*eP*	**Pb**	**21 08 10.5**	**-0.2**
RGM0				*e*S	**Sn**	**21 08 31.8**	**+0.9**
RGM0	**Gandoca**	**1.78**	**9**	P	**Pb**	**21 08 10.7**	**0.0**
RGM0	**Gandoca**	**1.78**	**9**	S	**Sg**	**21 08 35.5**	**-0.3**
BRIBI	**Bribri**	**1.79**	**2**	*eP*	**Pb**	**21 08 10.9**	**0.0**
MARI3	**Mariato, Verag**	**1.89**	**95**	*eP*	**Pb**	**21 08 12.6**	**-0.1**
LAES	**El Progreso Va**	**1.93**	**355**	*eP*	**Pb**	**21 08 12.3**	**-1.1**
QUEP	**Quepos**	**2.03**	**322**	S	**Sn**	**21 08 38.7**	**+1.5**
PIEC	**Cerro El Cedra**	**2.08**	**330**	*eP*	**Pn**	**21 08 13.5**	**+0.6**
LCR2	**La Lucha 2**	**2.20**	**330**	P	**Pn**	**21 08 15.3**	**+0.7**
LCR2	**La Lucha 2**	**2.20**	**330**	S	**Sn**	**21 08 42.0**	**+0.3**
PICV	**PH. Pirrs**	**2.21**	**324**	*eP*	**Pn**	**21 08 14.4**	**-0.2**
RVSTA	**Santa Teresita**	**2.27**	**341**	*eP*	**Pn**	**21 08 16.8**	**+1.4**
ABRB	**Las Abras (San**	**2.32**	**339**	*eP*	**Pn**	**21 08 17.6**	**+1.4**
CVTV	**Tajo**	**2.33**	**339**	*eP*	**Pn**	**21 08 17.7**	**+1.2**
CVTQ	**Turrialba Volc**	**2.33**	**338**	*eP*	**Pn**	**21 08 17.7**	**+1.1**
VTR0	**Volcan Turrial**	**2.34**	**339**	*eP*	**Pn**	**21 08 17.7**	**+0.9**
CVTR	**Volcan Turrial**	**2.34**	**339**	*eP*	**Pn**	**21 08 17.8**	**+1.0**
VICA	**Volcano Irazu**	**2.34**	**336**	*eP*	**Pn**	**21 08 17.7**	**+0.9**
CHIT3	**Chitre**	**2.45**	**87**	*eP*	**Pb**	**21 08 22.3**	**+0.1**
TOSI3	**Tonosi**	**2.46**	**100**	*eP*	**Pb**	**21 08 21.9**	**-0.6**
TRT2	**Tortugero**	**2.84**	**343**	P	**Pn**	**21 08 24.2**	**+0.9**
TRT2	**Tortugero**	**2.84**	**343**	S	**Sn**	**21 08 59.9**	**+2.7**
SOCE	**Pocosol**	**3.06**	**326**	P	**Pn**	**21 08 26.8**	**+0.5**
JTS	**Las Juntas de**	**3.19**	**320**	*eP*	**Pn**	**21 08 29.1**	**+1.1**
JTS				*e*S	**Sn**	**21 09 04.7**	**-1.1**
JTS	**Las Juntas de**	**3.19**	**320**	P	**Pn**	**21 08 29.1**	**+1.1**
JTS				S	**Sn**	**21 09 04.6**	**-1.2**
ZANG	**Zanguenga, Cho**	**3.20**	**69**	*eP*	**Pn**	**21 08 29.4**	**+1.3**
COVE	**Coope Vega, Sa**	**3.24**	**333**	P	**Pn**	**21 08 30.7**	**+1.9**
BCIP	**Isla Barro Col**	**3.30**	**66**	*eP*	**Pn**	**21 08 32.4**	**+2.8**
BCIP	**Isla Barro Col**	**3.30**	**66**	P	**Pb**	**21 08 33.5**	**-3.2**
BCIP				S	**Sb**	**21 09 15.6**	**-1.1**
FRIJ	**El Hiral**	**3.42**	**66**	*eP*	**Pn**	**21 08 34.6**	**+3.4**
JUD3	**Juan Diaz 3**	**3.50**	**312**	*eP*	**Pn**	**21 08 32.5**	**0.0**
OMEN	**Al SSO del Vol**	**4.55**	**324**	P	**Pn**	**21 08 47.0**	**+0.2**

*SJA **05** 21:12:30.7±0.8, 31°.24S×72°.44W, h41km±14km, ML3.3, MW3.5*
*GUC **05** 21:12:34.6±0.8, 31°.47S×71°.71W, h41km±3km, ML2.9*

ISC 05 21:12:33.6±1.5, 31°.49S±0°.03×71°.77W±0°.06, h8km±10km, n21, σ1§69/36, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.72**	**66**	⇓*iP*	**Pg**	**21 12 48.0**	**+0.6**
CO02				*e*S	**Sb**	**21 12 57.0**	**-1.5**
CO02				IAML		21 13 03.6	
	comp=N,2μm,0.3s						
CO06	**Fray Jorge**	**0.83**	**8**	*eP*	**Pg**	**21 12 49.7**	**+0.2**
CO06				*e*S	**Sg**	**21 13 00.8**	**+0.6**
CO06				IAML		21 13 02.6	
	comp=E,1μm,0.2s						
CO04	**Los Peladeros**	**0.87**	**129**	⇓*iP*	**Pg**	**21 12 50.7**	**+0.3**
CO04				*e*S	**Sb**	**21 13 01.7**	**-1.3**
CO04				IAML		21 13 05.4	
	comp=N,732nm,0.4s						
CO03	**El Pedregal**	**1.13**	**55**	*eP*	**Pb**	**21 12 54.8**	**-0.6**
CO03				*e*S	**Sb**	**21 13 09.3**	**-1.1**
CO03				IAML		21 13 12.1	
	comp=E,345nm,0.2s						
VA06	**Catapilco**	**1.14**	**159**	*eP*	**Pb**	**21 12 54.8**	**-0.7**
VA06				IAML		21 13 12.0	
	comp=N,368nm,0.2s						
GO04	**Tololo Observa**	**1.56**	**33**	*eP*	**Pn**	**21 13 01.3**	**-0.5**
GO04				*e*S	**Sn**	**21 13 21.0**	**-1.3**
GO04	**Tololo Observa**	**1.56**	**33**	*eP*	**Pn**	**21 13 01.4**	**-0.4**
GO04				*e*S	**Sb**	**21 13 22.9**	**+0.1**
GO04				IAML		21 13 25.2	
	comp=Z,354nm,0.2s						
VA03	**San Esteban**	**1.64**	**141**	⇓*eP*	**Pn**	**21 13 03.1**	**+0.4**
VA03				*e*S	**Sb**	**21 13 24.1**	**-0.8**
VA03				IAML		21 13 27.1	
	comp=E,259nm,0.3s						
CO05	**La Serena**	**1.64**	**16**	*eP*	**Pn**	**21 13 02.8**	**+0.2**
CO05				*e*S	**Sn**	**21 13 23.7**	**-0.1**
CO05				IAML		21 13 27.9	
	comp=N,241nm,0.3s						
RTLS	**Leoncito**	**2.13**	**99**	*eP*	**Pg**	**21 13 14.3**	**-0.2**
RTLS				*e*S	**Sn**	**21 13 35.4**	**-1.2**
RTLS				IAML		21 13 45.8	
	comp=Z,115nm,0.4s						
FCH	**Farellones**	**2.22**	**146**	*eP*	**Pn**	**21 13 12.2**	**+1.3**
AROD	**Rodeo**	**2.38**	**57**	*eP*	**Pb**	**21 13 15.8**	**-1.1**
AROD				*e*S	**Sg**	**21 13 48.5**	**-1.5**
ACCO	**Cerro Coronel**	**2.49**	**69**	*eP*	**Pb**	**21 13 18.8**	**0.0**
ACCO				*e*S	**Sg**	**21 13 53.4**	**-0.3**
ZON	**Zonda**	**2.64**	**92**	*eP*	**Pb**	**21 13 21.4**	**+0.2**
ZON				*e*S	**Sg**	**21 13 58.9**	**+0.4**
ZON				IAML		21 14 04.8	
	comp=Z,42nm,0.8s						
AGUA	**GUANDACOL**	**3.47**	**56**	*eP*	**Pn**	**21 13 31.6**	**+3.7**
AGUA				*e*S	**Sb**	**21 14 15.3**	**-2.2**
AGUA				IAML		21 14 27.2	
	comp=Z,40nm,0.7s						
AVFE	**Valle Fertil**	**3.79**	**78**	*eP*	**Pn**	**21 13 35.1**	**+2.8**
AVFE				*e*S	**Sb**	**21 14 26.8**	**-0.2**
AVFE				IAML		21 14 36.4	
	comp=Z,28nm,0.8s						
VCA	**Vinchina**	**4.13**	**49**	*eP*	**Pn**	**21 13 37.9**	**+0.7**
VCA				*e*S	**Sb**	**21 14 37.2**	**+0.4**
VCA				*e*S		21 14 37.9	
VCA				*e*S		21 14 39.1	
VCA				IAML		21 14 44.5	
	comp=Z,42nm,0.5s						
ACHE	**Chepes**	**4.38**	**87**	*eP*	Pn	21 13 45.4	+4.9
ACHE				*e*S	**Sb**	**21 14 40.5**	**-3.4**
APLL	**PUNTA DE LOS L**	**4.63**	**78**	*eP*	Pn	21 13 37.2	-6.7
APLL				*e*S	**Sb**	**21 14 47.5**	**-3.7**
ACLC	**CERRO LA CRUZ**	**4.64**	**65**	*eP*	**Pn**	**21 13 46.7**	**+2.5**
ACLC				*e*S	**Sn**	**21 14 42.4**	**+4.0**
ACLC				IAML		21 14 49.1	
	comp=Z,21nm,1.0s						
AC02	**Maricunga**	**5.18**	**27**	*e*S	Sn	21 14 43.2	-8.9
AC02				IAML		21 15 17.1	
	comp=Z,18nm,2.6s						

*JMA **05** 21:35:52.6±0.3, 28°.1N±0°.6×128°.0E±0°.8, h14km±3km, MD4.1/16, MV4.1/16, NW OFF OKINAWAJIMA IS*
*NIED **05** 21:35:52.6, 28°.05N×128°.01E, h14km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.45; $M_{\theta\theta}$=1.32; $M_{\phi\phi}$=-0.87; $M_{r\theta}$=-1.36; $M_{\phi r}$=2.15; $M_{\phi r}$=0.11; Fault plane solution: M_0=2.77000×10^{15} NP1: φs193.00000°, δ60.00000°, λ-176.00000°. NP2: φs101.00000°, δ87.00000°, λ-30.00000°.*
*IDC **05** 21:35:56.6±3.1, 27°.85N×128°.09E, h35km±29km, mb3.5/9, mbtmp3.7/13, ML3.4/3, MS3.5/29 Error ellipse: s-maj=26.3km s-min=14.0km az=80.0*

ISC 05 21:35:53.7±1.6, 27°.96N±0°.04×128°.13E±0°.05, h12km±11km, n56, σ0§94/35, mb3.6/9, MS3.5/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.71**	**147**	P	**Pb**	**21 36 08.5**	**+0.5**
JOKE				S	**Sn**	**21 36 20.0**	**-0.5**
JTK	**Tokunoshima**	**0.74**	**103**	P	**Pb**	**21 36 09.2**	**+0.6**
JTK				S	**Sn**	**21 36 20.7**	**-0.7**
JTK	**Tokunoshima**	**0.74**	**103**	A	A	21 36 09.2	
	comp=N,14nm,0.8s,comp=E,12nm,3.0s						
JIH	**Iheya**	**0.93**	**189**	P	**Pg**	**21 36 11.4**	**-0.3**
JIH				S	**Sb**	**21 36 25.0**	**+0.9**
JIH	**Iheya**	**0.93**	**189**	A	A	21 36 11.4	
	comp=N,10.0nm,0.5s,comp=E,11nm,2.5s						
JAMN	**Amaminishikomi**	**0.96**	**73**	P	**Pg**	**21 36 11.9**	**-0.4**
JAMN				*e*S	**Sn**	**21 36 25.9**	**-0.9**
JYRO	**Yoronjima**	**0.97**	**163**	P	**Pb**	**21 36 13.1**	**+0.6**
JYRO				S	**Sn**	**21 36 26.9**	**0.0**
JYRO	**Yoronjima**	**0.97**	**163**	A	A	21 36 13.1	
	comp=N,8.0nm,2.5s,comp=E,6.0nm,2.0s						
JOW	**Kunigami**	**1.13**	**173**	Pn	**Pg**	**21 36 14.6**	**-0.8**
	comp=E,43nm,0.3s,baz=97,slow=22,SNR=69						
JOW				Sn	**Sn**	**21 36 31.5**	**+0.7**
	comp=E,617nm,0.3s,baz=125,slow=26,SNR=14						
JOW	**Kunigami**	**1.13**	**173**	P	**Pg**	**21 36 15.1**	**-0.3**
JOW				*e*S	**Sn**	**21 36 31.5**	**+0.7**
JOW	**Kunigami**	**1.13**	**173**	A	A	21 36 15.1	
	comp=N,7.0nm,2.2s,comp=E,6.0nm,5.0s						
JAM	**Amami Oshima**	**1.38**	**70**	P	**Pn**	**21 36 18.9**	**+0.1**
JAM				S	**Sb**	**21 36 36.7**	**-0.3**
JNTH	**Nagotoyohara**	**1.44**	**184**	*e*S	**Sn**	**21 36 38.6**	**+0.2**
JTAJ	**Takarajima**	**1.52**	**38**	P	**Pn**	**21 36 19.6**	**-1.2**
JAGN	**Aguni-jima**	**1.57**	**210**	P	**Pn**	**21 36 20.3**	**-1.2**
JZK	**Kikaishima**	**1.66**	**77**	*eP*	**Pb**	**21 36 24.4**	**+0.1**
JJT3	**Tamagusuku3**	**1.83**	**190**	P	**Pn**	**21 36 26.5**	**+1.4**
JJT3	**Tamagusuku3**	**1.83**	**190**	A	A	21 36 26.5	
	comp=N,8.0nm,8.5s,comp=E,12nm,4.0s						
JKE	**Kume jima 2**	**2.02**	**217**	*eP*	**Pn**	**21 36 26.4**	**-1.2**
JNU	**Nakatsue**	**5.67**	**24**	Pn	**Pn**	**21 37 19.7**	**+1.9**
	comp=E,3.1nm,0.3s,baz=166,slow=6.5,SNR=16						
JNU				LR	LR	21 39 12.1	
	comp=E,50nm,20.7s,baz=206,slow=34						
	comp=E,47nm,0.9s						
KSRS	**Korea Array**	**9.47**	**359**	Pn	**Pn**	**21 38

*SOME **05** 21:55:01.5, 39°.23N×71°.78E, h10km*
*KRNET **05** 21:55:03.6±0.1, 39°.25N×71°.24E, h14km, mb3.3*
*NNC **05** 21:55:06.4±8.4, 39°.15N×70°.33E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=65.2km s-min=47.8km az=20.0
ISC 05 21:55:05.3±0.8, 39°.29N±0°.04×71°.24E±0°.03, h10km, n33, σ2§16/52, 33C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.47**	**67**	⇑*iP*	**Pg**	**21 55 13.3**	**-1.4**
DRK				⇑*iS*	**Sg**	**21 55 20.1**	**-0.9**
GAR	**Garm**	**0.77**	**248**	⇑*iP*	**Pg**	**21 55 18.1**	**-2.2**
GAR				⇑*iS*	**Sg**	**21 55 28.4**	**-2.0**
OHH	**Osh**	**1.71**	**44**	⇑*iP*	**Pb**	**21 55 35.8**	**-1.1**
OHH				⇑*iS*	**Sg**	**21 55 59.4**	**-1.0**
CHGR	**Chuyangaron**	**1.74**	**249**	⇑*iP*	**Pb**	**21 55 35.6**	**-1.8**
CHGR				⇑*iS*	**Sb**	**21 55 58.8**	**-0.6**
SFK	**Sufi-Kurgan**	**1.89**	**67**	⇑*iP*	**Pb**	**21 55 38.8**	**-1.3**
SFK				⇑*iS*	**Sg**	**21 56 04.6**	**-1.5**
TRKS	**Terek-Say**	**2.24**	**358**	⇑*iP*	**Pb**	**21 55 43.3**	**-2.6**
TRKS				⇑*iS*	**Sb**	**21 56 12.2**	**-1.5**
ARSB	**Arslanbob**	**2.43**	**33**	⇑*eP*	**Pb**	**21 55 46.5**	**-2.7**
ARSB				⇑*iS*	**Sb**	**21 56 18.0**	**-1.2**
SALK	**Salom-Alik**	**2.54**	**50**	⇓*iP*	**Pb**	**21 55 48.0**	**-3.1**
SALK				⇓*iS*	**Sb**	**21 56 20.5**	**-1.9**
ARK	**Arkit**	**2.56**	**12**	⇑*iP*	**Pb**	**21 55 48.7**	**-2.8**
ARK				⇑*iS*	**Sb**	**21 56 21.5**	**-1.6**
IUG	**Iuzhnay**	**3.00**	**343**	Pg	**Pg**	**21 56 00.0**	**-2.7**
	12nm,0.3s						
IUG				Lg	Lg	21 56 38.6	
	48nm,0.5s						
MRKS	**Merke**	**3.76**	**23**	Pg	**Pb**	**21 56 09.5**	**-2.4**
	3.6nm,0.3s						
MRKS				Lg	Lg	21 56 55.2	
	11nm,0.3s						
MRKS	**Merke**	**3.76**	**23**	*e*P	**Pb**	**21 56 09.5**	**-2.4**
	3.6nm,0.3s						
MRKS				*e*S	**Sb**	**21 56 55.2**	**-2.3**
	11nm,0.3s						
JNKS	**Jany-Kuch**	**3.81**	**61**	⇑*iP*	**Pn**	**21 56 05.8**	**+1.5**
JNKS				⇑*iS*	**Sn**	**21 56 51.1**	**+1.7**
UCH	**Uchtor**	**3.84**	**39**	P	**Pb**	**21 56 09.9**	**-3.6**
	SNR=14						
UCH	**Uchtor**	**3.84**	**39**	⇓*iP*	**Pn**	**21 56 06.7**	**+1.8**
UCH				⇓*iS*	**Sn**	**21 56 52.4**	**+2.0**
KK31	**Karatay Array**	**3.85**	**352**	P	**Pb**	**21 56 10.9**	**-2.3**
	1.2nm,0.2s,baz=178,slow=14,SNR=44						
KK31				⇑S	**Sb**	**21 57 01.5**	**+1.6**
	9.8nm,0.5s,baz=249,slow=75,SNR=5.9						
EKS2	**Erkin-Say**	**3.88**	**29**	P	**Pb**	**21 56 11.5**	**-2.3**
	SNR=11						
EKS2	**Erkin-Say**	**3.88**	**29**	⇑*iP*	**Pn**	**21 56 06.8**	**+1.7**
EKS2				⇑*iS*	**Sn**	**21 56 53.0**	**+2.3**
BRLS	**Borolday**	**3.88**	**345**	Pg	**Pb**	**21 56 12.8**	**-1.0**
	2.6nm,0.3s						
BRLS				Lg	Lg	21 57 00.5	
	8.7nm,0.3s						
BRLS	**Borolday**	**3.88**	**345**	*e*P	**Pb**	**21 56 12.8**	**-1.0**
	2.6nm,0.3s						
BRLS				*e*S	**Sb**	**21 57 00.5**	**-0.4**
	8.7nm,0.3s						
AAK	**Ala-Archa**	**4.15**	**35**	P	**Pb**	**21 56 14.3**	**-4.3**
	SNR=7.7						
AAK	**Ala-Archa**	**4.15**	**35**	⇓P	**Pb**	**21 56 14.2**	**-4.3**
	3.4nm,0.6s						
AAK				⇑S	**Sg**	**21 57 17.1**	**-1.5**
	3.1nm,0.5s						
AAK	**Ala-Archa**	**4.15**	**35**	⇑*e*P	**Pn**	**21 56 10.6**	**+1.7**
AAK				⇑*iS*	**Sn**	**21 56 59.4**	**+1.8**
KBK	**Karagaybulak**	**4.38**	**39**	P	**Pb**	**21 56 18.0**	**-4.4**
	SNR=5.2						
KBK	**Karagaybulak**	**4.38**	**39**	⇓*e*P	**Pn**	**21 56 13.8**	**+1.8**
KBK				⇓*iS*	**Sn**	**21 57 04.8**	**+1.6**
CHMS	**Chumysh**	**4.55**	**34**	P	Pb	21 56 19.6	-5.7
	SNR=6.2						
CHMS	**Chumysh**	**4.55**	**34**	⇑*iP*	**Pn**	**21 56 16.2**	**+1.9**
CHMS				⇑*iS*	**Sn**	**21 57 08.9**	**+1.6**
USP	**Ospenovka**	**4.67**	**31**	P	Pb	21 56 21.5	-5.8
	SNR=6.7						
USP	**Ospenovka**	**4.67**	**31**	⇑*iP*	**Pn**	**21 56 17.6**	**+1.7**
USP				⇑*iS*	**Sn**	**21 57 11.8**	**+1.6**
BOOM	**Boomskoye usch**	**4.79**	**47**	⇑*iP*	**Pn**	**21 56 19.3**	**+1.7**
BOOM				⇑*iS*	**Sn**	**21 57 14.6**	**+1.4**
ULHL	**Ulahol**	**4.81**	**51**	⇑*iP*	**Pn**	**21 56 19.7**	**+1.7**
ULHL				⇑*iS*	**Sn**	**21 57 15.2**	**+1.3**
TKM2	**Tokmak 2**	**4.90**	**41**	P	Pb	21 56 24.5	-6.7
	SNR=8.6						
AB31	**Akbulak array**	**12.82**	**325**	⇑P	**Pn**	**21 58 09.1**	**+1.6**
	0.6nm,0.6s,baz=301,slow=12,SNR=16						

*IDC **05** 22:09:19.0±0.9, 5°.77S×142°.71E, h0km, mb4.1/9,*
mbtmp4.1/13, ML3.9/3, MS3.3/7, Error ellipse:
s-maj=28.6km s-min=17.9km az=89.0
ISC 05 22:09:22.8±0.7, 5°.91S±0°.08×142°.6E±0°.1, h28km, n18, σ1§40/15, mb4.3/8, MS3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.87**	**330**	Pn	**Pn**	**22 10 20.3**	**-0.3**
	11nm,0.3s,baz=180,slow=12,SNR=55						
JAY				Sn	**Sn**	**22 11 04.3**	**-1.0**
	13nm,0.3s,baz=247,slow=23,SNR=7.6						
	23nm,0.3s						
PMG	**Port Moresby**	**5.68**	**128**	Pn	**Pn**	**22 10 44.7**	**-0.8**
	14nm,0.8s,baz=227,slow=5.3,SNR=2.7						
PMG				Sn	Sn	22 11 58.5	+8.6
	1.5nm,0.3s,baz=321,slow=18,SNR=1.4						
WRA	**Warramunga Arr**	**16.11**	**209**	Pn	**Pn**	**22 13 07.3**	**-0.2**
	0.4nm,0.3s,baz=22,slow=13,SNR=22						
WRA				Sn	Sn	22 15 55.4	-10
	0.2nm,0.3s,baz=28,slow=22,SNR=3.0						
WRA				Lg	Lg	22 17 45.6	
	0.1nm,0.3s,baz=29,slow=28,SNR=1.9						
WRA				LR	LR	22 20 20.3	
	comp=Z,42nm,19.2s,baz=2.0,slow=41						
	0.8nm,0.5s						
GUMO	**Guam**	**19.50**	**7**	LR	LR	22 21 12.1	
	comp=Z,44nm,19.6s,baz=325,slow=37						
ASAR	**Alice Springs**	**19.55**	**205**	P	**Pn**	**22 13 52.0**	**+2.1**
	0.4nm,0.3s,baz=32,slow=10,SNR=38						
ASAR				S	**S**	**22 17 24.2**	**-3.7**
	0.4nm,0.6s,baz=23,slow=26,SNR=1.8						
ASAR				Lg	Lg	22 19 45.7	
	0.1nm,0.3s,baz=17,slow=28,SNR=4.1						
	4.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.53**	**232**	P	**P**	**22 14 00.5**	**+1.3**
	2.6nm,0.8s,baz=63,slow=9.0,SNR=6.5						
FITZ				S	S	22 17 35.2	-13
	2.1nm,0.8s,baz=100,slow=12,SNR=1.3						
FITZ				Lg	Lg	22 20 11.8	
	0.1nm,0.3s,baz=57,slow=19,SNR=2.1						
	2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.41**	**300**	P	**P**	**22 18 11.0**	**+0.4**
	1.2nm,0.3s,baz=111,slow=7.6,SNR=1.3						
	1.2nm,0.3s						
PETK	**Petropavlovsk-**	**60.16**	**10**	P	**P**	**22 19 28.1**	**+0.2**
	3.3nm,0.8s,baz=223,slow=5.9,SNR=2.3						
	3.3nm,0.8s						
SONM	**Songino Array**	**62.28**	**333**	P	**P**	**22 19 42.0**	**-0.5**
	0.4nm,0.8s,baz=120,slow=8.5,SNR=3.5						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**74.69**	**322**	P	**P**	**22 21 00.0**	**0.0**
	0.7nm,0.5s,baz=97,slow=9.7,SNR=7.7						
	0.7nm,0.5s						
TIXI	**Tiksi**	**77.93**	**356**	LR	LR	22 58 26.9	
	comp=Z,19nm,18.1s,baz=20,slow=38						
KURBB	**Kurchatov Arra**	**78.58**	**324**	P	**P**	**22 21 21.7**	**-0.1**
	1.8nm,0.3s,baz=128,slow=5.7,SNR=2.4						
	1.8nm,0.3s						
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**22 21 52.0**	**+1.1**
	1.1nm,1.1s,baz=30,slow=9.7,SNR=1.7						
	1.1nm,1.1s						
BVAR	**Borovoye Array**	**84.15**	**325**	P	**P**	**22 21 52.0**	**+0.6**
	1.2nm,0.6s,baz=104,slow=6.3,SNR=8.3						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**87.13**	**24**	P	**P**	**22 22 05.7**	**-0.2**
	1.2nm,0.8s,baz=255,slow=5.1,SNR=12						
ILAR				LR	LR	22 59 22.2	
	comp=Z,16nm,18.9s,baz=4.0,slow=34						
	1.2nm,0.8s						
ARTI	**Arti**	**91.69**	**326**	LR	LR	23 05 27.5	
	comp=Z,25nm,19.3s,baz=323,slow=37						
BBB	**Bella Bella**	**94.17**	**38**	LR	LR	22 56 28.4	
	comp=Z,24nm,20.0s,baz=164,slow=30						
GNI	**Garni**	**99.80**	**310**	LR	LR	23 12 42.4	
	comp=Z,18nm,20.1s,baz=356,slow=38						

*NIED **05** 22:09:36.2, 28°.05N×128°.00E, h16km, MW4.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 1015Nm;
Mrr-0.21; Mθθ0.56; Mφφ-0.35; Mrθ-0.62; Mrφ0.67; Mθφ0.00;
Fault plane solution: M0 1.01000×10^15 NP1:
φs196.00000°, δ51.00000°, λ-174.00000°. NP2:
φs102.00000°, δ85.00000°, λ-39.00000°.
JMA 05 22:09:36.2±0.2, 28°.1N±0°.3×128°.0E±0°.5, h16km±2km, MD3.7/14, MV3.6/14, NW OFF OKINAWAJIMA IS, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.85**	**143**	P	Pb	22 09 52.2	-0.5
JOKE				S	Sb	22 10 03.6	-0.4
JTK	**Tokunoshima**	**0.88**	**107**	P	Pb	22 09 52.8	-0.5
JTK				S	Sb	22 10 04.6	-0.2
JTK	**Tokunoshima**	**0.88**	**107**	A	A	22 09 52.8	
	comp=N,5.0nm,0.9s,comp=E,4.0nm,3.1s						
JIH	**Iheya**	**1.01**	**182**	P	Pb	22 09 55.1	-0.3
JIH				S	Sb	22 10 08.7	+0.2
JIH	**Iheya**	**1.01**	**182**	A	A	22 09 55.1	
	comp=N,5.0nm,0.5s,comp=E,4.0nm,3.1s						
JAMN	**Amaminishikomi**	**1.06**	**79**	P	Pb	22 09 55.8	-0.4
JAMN				*e*S	Sg	22 10 10.4	-0.2
JYRO	**Yoronjima**	**1.20**	**158**	P	Pb	22 09 56.3	-0.5
JYRO				S	Sb	22 10 11.0	0.0
JOW	**Kunigami**	**1.24**	**168**	P	Pn	22 09 58.6	-0.4
JOW				*e*S	Sn	22 10 15.2	-0.1
JOW	**Kunigami**	**1.24**	**168**	A	A	22 09 58.6	
	comp=N,2.0nm,2.2s,comp=E,2.0nm,1.7s						
JAM	**Amami Oshima**	**1.46**	**75**	P	Pn	22 10 02.3	+0.3
JAM				*e*S	Sn	22 10 20.7	-0.2
JTAJ	**Takarajima**	**1.53**	**44**	*e*P	Pn	22 10 03.3	+0.4
JNTH	**Nagotoyohara**	**1.53**	**179**	P	Pn	22 10 03.3	+0.4
JAGN	**Aguni-jima**	**1.60**	**205**	*e*P	Pn	22 10 04.1	+0.2
JZK	**Kikaishima**	**1.76**	**81**	*e*P	Pb	22 10 08.4	+0.2

*IDC **05** 22:25:40.7±2.1, 4°.40S×127°.68E, h0km, mb3.3/2,*
mbtmp3.6/4, ML3.4/2, MS2.6/1, Error ellipse: s-maj=57.4km
s-min=29.4km az=56.0
*DJA **05** 22:25:45.0±1.6, 4°.S±3°.×12°.7E±°, h28km±18km, M4.0/13,*
mB5.3/1, mb4.2/8, MLv3.9/13, Mw(mB)4.7/1
ISC 05 22:25:45.2±1.0, 4°.33S±0°.07×127°.45E±0°.05, h35km, n15, σ1§56/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.98**	**50**	P	**Pn**	**22 26 02.8**	**+0.3**
AAI				S	**Sn**	**22 26 16.3**	**+1.1**
NLAI	**Namlea**	**1.13**	**342**	P	**Pn**	**22 26 03.8**	**-0.8**
NLAI				S	**Sn**	**22 26 18.6**	**-0.3**
MSAI	**Masohi**	**1.77**	**57**	P	**Pn**	**22 26 11.1**	**-2.3**
SANI	**Sanana**	**2.69**	**327**	P	**Pn**	**22 26 25.4**	**-0.6**
SANI				S	**Sn**	**22 26 56.8**	**-0.6**
FAKI	**Fak Fak**	**4.99**	**74**	P	**Pn**	**22 26 59.5**	**+1.8**
	0.1nm25nm,1.1s						
SWI	**Sorong**	**5.13**	**48**	P	**Pn**	**22 26 59.7**	**+0.1**
	0.1nm17nm,0.6s						
LUWI	**Luwuk**	**5.69**	**305**	P	**Pn**	**22 27 06.6**	**-0.8**
	0.2nm3μm16nm,0.5s						
APSI	**Ampana**	**6.71**	**300**	P	**Pn**	**22 27 19.5**	**-1.8**
	18nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.16**	**255**	P	**Pn**	**22 27 27.5**	**0.0**
EDFI	**Ende, Flores**	**7.21**	**232**	P	**Pn**	**22 27 28.1**	**-0.2**
BKSI	**Bulukumba**	**7.36**	**262**	P	**Pn**	**22 27 30.0**	**-0.3**
	0.1nm13nm,0.6s						
KAPI	**Kappang**	**7.70**	**265**	Pn	**Pn**	**22 27 35.8**	**+0.9**
	3.4nm,0.3s,baz=130,slow=4.8,SNR=8.6						
KAPI				Sn	**Sn**	**22 29 03.0**	**+2.0**
	1.0nm,0.3s,baz=63,slow=16,SNR=1.7						
KAPI				LR	LR	22 30 48.0	
	comp=Z,36nm,18.5s,baz=100,slow=39						
	17nm,0.5s						
WRA	**Warramunga Arr**	**16.91**	**157**	Pn	**Pn**	**22 29 35.8**	**-3.5**
	0.1nm,0.3s,baz=339,slow=13,SNR=5.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**20.21**	**163**	P	**P**	**22 30 16.6**	**-0.7**
	1.0nm,0.7s,baz=344,slow=10,SNR=10						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**64.61**	**327**	P	**P**	**22 36 21.7**	**+2.5**
	0.4nm,0.7s,baz=127,slow=8.4,SNR=1.6						
	0.4nm,0.7s						

*GEN **05** 22:36:37.2, 44°.76N×6°.72E, h3km±1km, MI0.4*
*LDG **05** 22:36:38.0±0.1, 44°.76N×6°.71E, h2km, Md1.7/4, Ml1.5/4,*
Error ellipse: s-maj=1.3km s-min=1.0km az=74.0
STR 05 22:36:38.2±0.3, 45°N±2°×°±°, h7km, MLv1.8/19, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.06**	**128**	*e*Pg	Pg	22 36 39.5	-0.6
MBDF				*e*Sg	Sg	22 36 40.5	-0.9
	41nm,0.2s						
RRL	**Rocca Remolon**	**0.17**	**22**	P	Pg	22 36 41.9	+0.2
RRL				S	Sg	22 36 44.4	+0.2
RRL	**Rocca Remolon**	**0.17**	**22**	Pg	Pg	22 36 41.8	+0.1
RRL				Sg	Sg	22 36 44.6	+0.4
CREF	**Crivoux**	**0.22**	**195**	Pg	Pg	22 36 42.6	-0.1
CREF				Sg	Sg	22 36 46.1	+0.4
BNI	**Bardonecchia**	**0.29**	**357**	P	Pg	22 36 44.4	+0.4
BNI				S	Sg	22 36 48.4	+0.6
SURF	**Saint Ours**	**0.29**	**165**	P	Pg	22 36 44.1	0.0
SURF				S	Sg	22 36 48.5	+0.5
SURF	**Saint Ours**	**0.29**	**165**	Pg	Pg	22 36 44.0	-0.1
SURF				Sg	Sg	22 36 48.5	+0.5
OGAG	**Argentiere**	**0.33**	**201**	P	Pg	22 36 41.0	-3.8
OGAG				S	Sg	22 36 42.8	-6.3
OGAG	**Argentiere**	**0.33**	**201**	Pg	Pg	22 36 40.9	-3.8
OGAG				Sg	Sg	22 36 42.9	-6.3
JAUF	**Jausiers**	**0.34**	**174**	Pg	Pg	22 36 44.8	-0.1
JAUF				Sg	Sg	22 36 50.2	+0.8
PZZ	**Stroppo**	**0.39**	**131**	P	Pg	22 36 45.4	-0.5
PZZ				S	Sg	22 36 51.2	+0.2
PZZ	**Stroppo**	**0.39**	**131**	Pg	Pg	22 36 45.4	-0.5
PZZ				Sg	Sg	22 36 51.3	+0.2
BHB	**Bricherasio**	**0.41**	**79**	P	Pg	22 36 46.0	-0.1
BHB				S	Sg	22 36 51.0	-0.5
BHB	**Bricherasio**	**0.41**	**79**	Pg	Pg	22 36 46.0	-0.1
OGMO	**Fort Saint-Gob**	**0.44**	**358**	P	Pg	22 36 47.2	+0.4
OGMO				S	Sg	22 36 53.0	+0.3
OGMO	**Fort Saint-Gob**	**0.44**	**358**	Pg	Pg	22 36 46.7	-0.2
OGMO				Sg	Sg	22 36 53.4	+0.7
RSP	**Reno Superiore**	**0.55**	**46**	P	Pg	22 36 48.6	-0.3
RSP	**Reno Superiore**	**0.55**	**46**	Pg	Pg	22 36 48.4	-0.5
ORIF	**Oris-en-Rattie**	**0.60**	**285**	*e*Pg	Pg	22 36 49.4	-0.5
ORIF				*e*Sg	Sg	22 36 57.1	-0.7
	2.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.60**	**285**	Pg	Pg	22 36 49.7	-0.2
ORIF				Sg	Sg	22 36 57.8	0.0
ISO	**Isola**	**0.63**	**157**	Pg	Pg	22 36 49.8	-0.7
ISO				Sg	Sg	22 36 58.7	0.0
ENAUX	**Enaux**	**0.66**	**175**	Pg	Pg	22 36 50.6	-0.3
ENAUX				Sg	Sg	22 36 59.9	+0.5
STV	**Sant Anna di V**	**0.69**	**139**	Sg	Sg	22 37 00.6	+0.3
LPL	**La Plagne**	**0.75**	**2**	*e*Pg	Pg	22 36 52.1	-0.6
LPL				*e*Sg	Sg	22 37 02.6	+0.1
	1.3nm,0.3s						
SPIF	**crte de Spivo**	**0.81**	**151**	Pg	Pg	22 36 53.7	0.0
GRN	**Grenoble**	**0.83**	**305**	Pg	Pb	22 36 54.6	-0.4
GRN				Sg	Sb	22 37 05.8	-0.6
TURF	**col de Turini**	**0.93**	**148**	Pg	Pg	22 36 56.2	0.0
TURF				Sg	Sb	22 37 09.2	-0.2
GBOS	**Grotte di Boss**	**0.97**	**122**	Pg	Pg	22 36 56.1	-0.7
GBOS				Sg	Sg	22 37 09.2	-0.1
SAOF	**Saorge**	**0.99**	**142**	Pg	Pb	22 36 57.5	-0.2
SAOF				Sg	Sg	22 37 10.2	+0.2
CALF	**Calern**	**1.02**	**171**	Pg	Pb	22 36 58.1	-0.2
SBF	**Sospel**	**1.04**	**150**	*e*Pg	Pg	22 36 56.6	-1.7
SBF				*e*Sg	Sg	22 37 10.3	-1.5
	4.6nm,0.4s						
SMRF	**Simiane la Rot**	**1.13**	**226**	*e*Pg	Pg	22 36 59.7	-0.2
SMRF				*e*Sg	Sg	22 37 14.7	+0.1
	0.4nm,0.2s						
LMR	**La Mourre**	**1.44**	**186**	*e*Pg	Pn	22 37 04.7	0.0
LMR				*e*Sg	Sn	22 37 22.4	-1.4
	0.9nm,0.2s						

IDC 05 22:48:51.1±1.9, 5°.65N×124°.49E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=234.2km s-min=23.0km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.21**	**159**	P	P	22 54 37.6	+0.7
	0.1nm,0.3s,baz=337,slow=11,SNR=4.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**30.55**	**163**	P	P	22 55 06.7	+0.1
	0.2nm,0.3s,baz=340,slow=8.6,SNR=1.8						
ASAR				PcP	PcP	22 58 03.8	-1.9
	0.1nm,0.3s,baz=347,slow=2.3,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.72**	**326**	P	P	22 58 23.1	+0.8
	0.5nm,0.5s,baz=111,slow=7.6,SNR=7.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**58.94**	**328**	P	P	22 58 51.4	-0.7
	0.4nm,0.6s,baz=126,slow=6.3,SNR=4.2						
	0.4nm,0.6s						

IDC 05 22:49:12.7±3.3, 32°.29S×178°.25W, h0km, mb3.5/2, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=78.7km s-min=48.9km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.06**	**211**	Pn	Pn	22 50 55.9	-1.4
	0.3nm,0.3s,baz=300,slow=2.0,SNR=1.7						
URZ				Sn	Sn	22 52 12.5	-5.7
	0.3nm,0.3s,baz=348,slow=22,SNR=1.7						
	3.3nm,0.4s						
ASAR	**Alice Springs**	**42.83**	**269**	P	P	22 57 12.7	0.0
	0.2nm,0.3s,baz=124,slow=8.2,SNR=2.3						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	22 57 22.1	0.0
	0.4nm,0.4s,baz=113,slow=8.1,SNR=5.1						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	PKPbc	23 08 55.5	-0.7
	1.8nm,0.9s,baz=46,slow=6.0,SNR=3.6						

GCG 05 22:52:52.2±1.0, 13°.88N×90°.52W, h75km±26km, MD3.6, ML3.5, MW3.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.38**	**353**	*e*P	Pn	22 53 07.8	+3.1
FG16	**Alotenango, Sa**	**0.39**	**1**	*e*P	Pn	22 53 07.9	+3.0
ESSG	**Sabana Grande**	**0.59**	**329**	*e*P	Pn	22 53 06.3	-0.1
NUBE	**Las Nubes**	**0.71**	**88**	*e*P	Pn	22 53 09.0	+1.2
JAYA	**Jayaque - finc**	**1.06**	**102**	*e*S	Sn	22 53 26.0	-0.5
SOKI	**Kika Raxquin**	**1.27**	**318**	*e*P	Pn	22 53 15.7	+0.9

*THE **05** 22:55:19.6, 38°.3N±0°.6×22°.5E±0°.4, h0km±1km, M3.3/36,*
MLh3.3/36
*ATH **05** 22:55:19.0, 38°.29N×22°.47E, h13km, ML3.4/19, Manual*
Solution by A.Papageorgiou First location: 2019/10/05
22:56:10, This location: 2019/10/06 04:51:41 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 0 km
*IDC **05** 22:55:23.3±1.4, 38°.24N×22°.60E, h49km±19km, mb3.5/10,*
mbtmp3.6/15, ML1.9/3, Error ellipse: s-maj=15.9km
s-min=12.0km az=19.0
*BEO **05** 22:55:25.1±0.8, 38°.67N×22°.66E, h13km±5km, ML2.7/9*
ISC 05 22:55:19.3±0.8, 38°.31N±0°.02×22°.52E±0°.02, h15km±5km, n116, σ1§54/174, mb3.7/8, 4C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.17**	**353**	P	**Pg**	**22 55 23.3**	**-0.3**
DLFA				S	**Sg**	**22 55 26.5**	**+0.1**
KALE	**Kalithea**	**0.31**	**286**	P	**Pg**	**22 55 25.3**	**-0.6**
KALE				S	**Sg**	**22 55 30.0**	**-0.4**
KALE	**Kalithea**	**0.31**	**286**	P	**Pg**	**22 55 25.1**	**-0.8**
KALE				S	**Sg**	**22 55 29.6**	**-0.8**
KIAA	**Kiato**	**0.34**	**148**	P	**Pg**	**22 55 26.6**	**+0.4**
KIAA				S	**Sb**	**22 55 32.3**	**0.0**
SERG	**Sergoula**	**0.38**	**287**	P	**Pg**	**22 55 26.3**	**-0.7**
SERG	**Sergoula**	**0.38**	**287**	P	**Pg**	**22 55 26.1**	**-1.0**
SERG				S	**Sg**	**22 55 31.3**	**-1.1**
GUR	**Goura**	**0.40**	**201**	P	**Pg**	**22 55 26.9**	**-0.4**
GUR	**Goura**	**0.40**	**201**	P	**Pg**	**22 55 26.6**	**-0.7**
GUR				S	**Sg**	**22 55 31.9**	**-0.9**
KLV1	**Kalavrita**	**0.43**	**231**	P	**Pg**	**22 55 26.9**	**-1.0**
KLV1				S	**Sg**	**22 55 32.3**	**-1.3**
LTK	**Loutraki**	**0.45**	**129**	P	**Pb**	**22 55 28.7**	**-0.3**
LTK				S	**Sb**	**22 55 36.0**	**+0.6**
LTK	**Loutraki**	**0.45**	**129**	P	**Pb**	**22 55 28.5**	**-0.5**
LTK				S	**Sb**	**22 55 35.9**	**+0.4**
AXAR	**Agios Charalam**	**0.47**	**13**	P	**Pb**	**22 55 29.1**	**-0.3**
AXAR				S	**Sb**	**22 55 36.2**	**0.0**
AXAR	**Agios Charalam**	**0.47**	**13**	P	**Pb**	**22 55 29.0**	**-0.4**
AXAR				S	**Sb**	**22 55 36.4**	**+0.2**
**LOUT

MET2	Kameni Chora,	0.94 137	P	Pb	22 55 37.4 +0.1
VLX	Vlachokerasia	0.94 187	P	Pg	22 55 36.8 -0.7
VLX			S	Sb	22 55 51.8 +2.1
VLX	Vlachokerasia	0.94 187	P	Pg	22 55 36.4 -1.1
YRMI	Loutra Irminis	0.95 258	P	Pg	22 55 37.0 -0.6
MET5	Makryloggos,Me	0.95 136	P	Pb	22 55 37.7 +0.2
MET6	Megalochori,Me	0.97 137	P	Pb	22 55 38.1 +0.3
MET4	Agioi Theodoro	0.97 134	P	Pb	22 55 38.1 +0.2
ATH	Athens Observa	1.00 109	P	Pn	22 55 39.7 +0.9
ATH			S	Sn	22 55 53.7 +1.1
ATHU	Athens Univers	1.05 108	P	Pn	22 55 40.1 +0.5
ATHU	Athens Univers	1.05 108	P	Pn	22 55 39.9 +0.4
ATHU			S	Sn	22 55 54.0 +0.1
PTL	Penteli	1.09 103	P	Pn	22 55 40.8 +0.7
VLY	Voula,Athens	1.10 114	P	Pn	22 55 40.9 +0.7
VLY	Voula,Athens	1.10 114	P	Pn	22 55 40.4 +0.2
VLY			S	Sn	22 55 55.4 +0.3
DION	Dionisos Attik	1.13 101	P	Pn	22 55 41.6 +0.9
NEO	Neokhori	1.14 28	P	Pn	22 55 41.3 +0.5
NEO			S	Sn	22 55 58.8 +2.5
AMPL	Ampelaki	1.20 301	P	Pn	22 55 42.4 +0.8
AMPL			S	Sg	22 55 59.5 +1.5
ITM	Ithomi	1.22 203	P	Pn	22 55 41.5 -0.4
KYMI	Kymi, Euboea I	1.28 75	P	Pg	22 55 43.3 -0.7
THL	Klokotos Trika	1.32 343	P	Pn	22 55 44.1 +0.8
AOS	Alonnisos	1.37 50	P	Pn	22 55 44.0 0.0
RTZL	Ratzakli, Kefa	1.40 261	P	Pn	22 55 45.6 +1.3
TETR	Tetrakomo, Epi	1.43 317	P	Pb	22 55 46.4 +0.7
NYDR	Nydri-Lefkada	1.49 286	P	Pn	22 55 46.4 +0.8
EVGI	Lefkada island	1.50 283	P	Pn	22 55 46.6 +0.9
IGT	Igoumenitsa	2.10 306	*e*Pn	Pb	22 55 57.3 +0.1
IGT			*e*Sn	Sb	22 56 24.4 +1.2
SRS	Serrai	2.93 16	*e*Pn	Pn	22 56 05.2 -0.2
SRS			*e*Sn	Sn	22 56 35.8 -4.5
VAY	Valandovo	3.01 1	*i* Pn	Pn	22 56 07.7 +1.2
OHR	Ohrid	3.10 335	*i* Pn	Pn	22 56 11.6 +3.8
IDI	Anoyia	3.56 147	P	Pn	22 56 15.3 +1.2
	1.6nm,0.3s,baz=324,slow=4.1,SNR=14				
IDI			S	Sn	22 56 54.4 -1.6
	15nm,0.5s,baz=317,slow=16,SNR=2.1				
	9.7nm,0.6s				
BOSS	Bosilegrad	4.19 360	*e*Pn	Pn	22 56 23.9 +1.2
PLD	Plovdiv	4.20 23	*e*Pn	Pn	22 56 22.6 -0.2
PLD			*e*Sn	Sn	22 57 06.3 -5.3
VTS	Vitosha	4.34 7	*e*Pn	Pn	22 56 26.6 +1.6
VTS			*e*Sn	Sn	22 57 11.0 -4.4
BARS	Barje	4.54 353	*e*Pn	Pn	22 56 28.6 +1.1
BARS			*e*Sn	Sn	22 57 16.3 -3.7
TIP	Timpagrande	4.59 283	⇊P	Pn	22 56 30.9 +2.6
PDG	Podgorica	4.82 330	⇊P	Pn	22 56 33.3 +2.0
ZAPS	Zavoj	4.96 1	*e*Pn	Pn	22 56 34.9 +1.5
SELS	Selova	5.02 348	*e*Pn	Pn	22 56 34.6 +0.4
SELS			*e*Sn	Sn	22 57 26.9 -5.1
BLKB	Belogradchik	5.31 1	⇑S	Sn	22 57 38.8 -0.4
BLKB	Belogradchik	5.31 1	*e*Pn	Pn	22 56 39.5 +1.3
BLKB			*e*Sn	Sn	22 57 33.4 -5.8
SJES	Sjenica	5.32 339	*e*Pn	Pn	22 56 40.0 +1.7
SJES			*e*Sn	Sn	22 57 36.2 -3.1
BOVS	Bovan	5.36 354	⇊P	Pn	22 56 40.4 +1.6
BOVS	Bovan	5.36 354	*e*Pn	Pn	22 56 39.0 +0.2
ZAGS	Zajecar	5.51 358	*e*Pn	Pn	22 56 42.0 +1.2
ZAGS			*e*Sn	Sn	22 57 39.1 -4.8
IVAS	Ivanjica	5.56 342	*e*Pn	Pn	22 56 42.0 +0.3
GRUS	Gruza	5.74 347	*e*Pn	Pn	22 56 44.8 +0.8
TRUS	Trudelj	6.12 346	*e*Pn	Pn	22 56 50.4 +1.1
VAE	Valguarnera	6.47 265	P	Pn	22 56 59.3 +5.2
	0.5nm,0.3s,baz=4.4,slow=21,SNR=1.1				
VAE			S	Sn	22 58 11.0 +3.3
	4.3nm,0.6s,baz=143,slow=14,SNR=1.3				
	2.6nm,0.5s				
TEKS	Tekeris	6.63 341	*e*Pn	Pn	22 56 56.7 +0.4
GZR	Gura Zlata	7.09 1	⇑P	Pn	22 57 04.3 +1.7
LOT	Lotru	7.20 7	⇑P	Pn	22 57 05.2 +1.1
ARR	Arges	7.23 12	⇊P	Pn	22 57 06.4 +1.9
MLR	Muntele Rosu	7.62 18	P	Pn	22 57 12.3 +2.4
	4.9nm,0.6s,baz=262,slow=1.2,SNR=19				
MLR			S	Sn	22 58 41.3 +5.3
	1.1nm,0.6s,baz=201,slow=10.0,SNR=1.1				
MLR	Muntele Rosu	7.62 18	⇊P	Pn	22 57 13.2 +3.3
NEHR	Nehoiu	7.65 20	⇊P	Pn	22 57 14.0 +3.7
PLOR	Plostina	8.14 21	⇊P	Pn	22 57 20.2 +3.3
VRI	Vrincioaia	8.18 21	⇑P	Pn	22 57 20.7 +3.3
BRTR	Keskin Array B	8.77 77	P	Pn	22 57 27.7 +2.0
	0.1nm,0.3s,baz=259,slow=12,SNR=7.7				
	0.6nm,0.5s				
MMAI	Mount Meron Ar	11.73 113	P	Pn	22 58 06.5 +0.3
	0.2nm,0.3s,baz=306,slow=10,SNR=1.6				
ESDC	Sonseca Array	20.61 282	P	P	22 59 58.7 +0.7
	1.1nm,0.6s,baz=76,slow=11,SNR=24				
	1.1nm,0.6s				
HFS	Hagfors	22.56 348	P	P	23 00 20.4 +1.7
	2.3nm,1.0s,baz=181,slow=10,SNR=1.7				
	2.3nm,1.0s				
FINES	FINESS Array B	23.27 4	P	P	23 00 27.1 +1.1
	1.1nm,0.7s,baz=188,slow=12,SNR=3.7				
	1.1nm,0.7s				
EKA	Eskdalemuir Ar	24.26 323	P	P	23 00 35.6 0.0
	1.4nm,0.7s,baz=122,slow=10.0,SNR=2.6				
	1.4nm,0.7s				
TORD	Torodi Ar. Bea	31.15 222	P	P	23 01 38.2 +0.5
	0.4nm,0.5s,baz=32,slow=9.9,SNR=6.3				
	0.4nm,0.5s				
ARCES	ARCESS Array B	31.33 2	P	P	23 01 37.7 -1.1
	2.3nm,1.0s,baz=186,slow=8.6,SNR=2.0				
	2.3nm,1.0s				
KURBB	Kurchatov Arra	40.88 54	P	P	23 03 00.5 -0.1
	0.4nm,0.5s,baz=279,slow=8.7,SNR=4.8				
	0.4nm,0.5s				
MKAR	Makanchi Array	43.89 59	P	P	23 03 25.3 +0.1
	0.6nm,0.5s,baz=271,slow=7.6,SNR=14				
	0.6nm,0.5s				
ZALV	Zalesovo Beam	44.43 48	P	P	23 03 29.0 -0.4
	1.3nm,0.4s,baz=273,slow=8.9,SNR=9.1				
	1.3nm,0.4s				
SONM	Songino Array	59.15 51	P	P	23 05 17.9 -1.7
	0.5nm,0.7s,baz=274,slow=7.1,SNR=3.1				
	0.5nm,0.7s				

DJA 05 23:18:08.4±1.5, 4°N±12°×12°8E±°, h10km, M3.8/6, mb4.0/2, MLv3.7/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.88	265	P	Pn	23 18 54.8	+0.4
SWI	Sorong	5.58	149	P	Pn	23 19 31.6	+0.1
	0.1nm8.7nm,0.6s						
SANI	Sanana	6.44	202	P	Pn	23 19 42.4	-0.9

IDC 05 23:42:13.3±21.0, 19°78S×173°68W, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/2, Error ellipse: s-maj=532.2km s-min=45.6km az=38.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	22.94	88	LR	LR	23 54 26.8	
	comp=Z,14nm,18.2s,baz=242,slow=32						
ASAR	Alice Springs	48.63	256	P	P	23 50 59.4	0.0
	0.8nm,0.7s,baz=93,slow=8.2,SNR=10.0						
	0.8nm,0.7s						
WRA	Warramunga Arr	48.72	260	P	P	23 50 59.7	-0.3
	0.3nm,0.5s,baz=98,slow=8.0,SNR=2.5						
	0.3nm,0.5s						
VNDA	Vanda	59.01	186	P	P	23 52 14.4	-0.1
	0.4nm,0.4s,baz=27,slow=8.2,SNR=9.4						
	0.4nm,0.4s						
JTS	Las Juntas de	92.24	80	LR	LR	00 26 43.8	
	comp=Z,105nm,20.5s,baz=136,slow=29						

*TIR **05** 23:55:48.0, 41°.48N×19°.43E, h37km±1km, MI3.2/3*
*PDG **05** 23:55:49.9±0.6, 41°.35N×19°.44E, h28km±1km, ML2.9/10, Error ellipse: s-maj=0.7km s-min=1.4km az=0.0*
*BEO **05** 23:55:50.0±0.4, 41°.35N×19°.69E, h5km±2km, ML2.5/18*
*THE **05** 23:55:53.9, 41°N±10°×2°0E±1°, h9km±30km, M2.4/10, MLh2.4/10*

ISC 05 23:55:49.3±1.1, 41°38N±0°.02×19°53E±0°.03, h6km±9km, n82, σ1§09/123, 14C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.25	97	Pg	Pg	23 55 54.1	-0.1
TIR				Sg	Sg	23 55 57.0	-0.6
TIR				AML	AML	23 55 58.8	
	5.6nm,0.2s						
ULC	Ulcinj	0.62 340	⇑*i* Pg	Pg	Pg	23 56 01.6	+0.3
ULC			*i* Sg	Sb	Sb	23 56 13.0	+1.4
DRME	Dracevica, Mon	0.85 342	⇓*i* Pg	Pg	Pg	23 56 06.1	+0.5
DRME			*i* Sg	Sb	Sb	23 56 20.2	+2.1
VLO	Vlora	0.91 182	Pg	Pb	Pb	23 56 08.2	+0.8
VLO			S	Sb	Sb	23 56 21.1	+1.3
VLO			AML	AML	AML	23 56 24.3	
	3.0nm,0.4s						
OHR	Ohrid	0.99 105	*i* Pg	Pg	Pg	23 56 07.7	-0.7
OHR			*i* Sg	Sn	Sn	23 56 24.2	0.0
BUM	Brajici-Budva	1.04 333	⇑*i* Pg	Pg	Pg	23 56 09.2	0.0
BUM			*i* Sg	Sn	Sn	23 56 26.0	+0.7
PDG	Podgorica	1.07 349	⇑P	Pn	Pn	23 56 11.3	+0.5
PDG			⇑S	Sn	Sn	23 56 27.4	+1.4
PDG	Podgorica	1.07 349	*e*Pg	Pg	Pg	23 56 10.1	+0.2
PDG			*e*Sg	Sb	Sb	23 56 25.9	+1.4
PDG	Podgorica	1.07 349	⇑*i* Pg	Pg	Pg	23 56 10.0	+0.2
PDG			*i* Sg	Sn	Sn	23 56 26.9	+0.9
KBN	Korca	1.21 128	P	Pb	Pb	23 56 12.4	-0.3
KBN	Korca	1.21 128	Pg	Pb	Pb	23 56 12.5	-0.1
KBN			Sg	Sn	Sn	23 56 29.8	+0.2
HCY	Herceg Novi	1.32 324	⇑*i* Pg	Pg	Pg	23 56 14.1	-0.5
HCY			*i* Sg	Sb	Sb	23 56 32.9	+1.2
NKME	Niksic	1.45 343	⇓*i* Pg	Pn	Pn	23 56 16.0	-0.2
NKME			*i* Sg	Sg	Sg	23 56 35.9	-0.1
KOME	Kolasin	1.47 360	⇑*i* Pg	Pn	Pn	23 56 16.1	-0.3
KOME			*i* Sg	Sn	Sn	23 56 36.8	+0.7
NEST	Nestorio	1.50 129	P	Pn	Pn	23 56 17.1	+0.3
NEST			S	Sg	Sg	23 56 35.4	-2.1
IVA	Berane	1.52 10	⇑*i* Pg	Pn	Pn	23 56 17.3	+0.2
IVA			*i* Sg	Sn	Sn	23 56 38.1	+0.9
SKO	Skopje	1.55 67	*i* Pn	Pn	Pn	23 56 17.5	+0.1
TREB	Trebinje	1.60 327	*e*Pn	Pn	Pn	23 56 17.5	-0.6
DBRK	Dubrovnik	1.65 322	*e*Pg	Pn	Pn	23 56 18.3	-0.5
KEK	Kerkira	1.68 173	P	Pg	Pg	23 56 22.0	+0.6
KEK			S	Sg	Sg	23 56 44.7	+1.6
BRY	Bratogost	1.69 334	⇓*i* Pn	Pn	Pn	23 56 19.4	-0.1
BRY			*i* Sn	Sn	Sn	23 56 41.3	-0.3
SJES	Sjenica	1.91 10	*e*Pn	Pb	Pn	23 56 23.9	-0.7
SJES			*e*Sn	Sb	Sb	23 56 48.9	+0.1
KLINJ	Klinje	1.92 339	*e*Pn	Pn	Pn	23 56 23.9	+1.2
IGT	Igoumenitsa	1.94 161	Pn	Pn	Pn	23 56 23.1	+0.3
IGT			S	Sb	Sb	23 56 49.9	+0.4
IGT	Igoumenitsa	1.94 161	*e*Pn	Pn	Pn	23 56 22.4	-0.4
IGT			*e*Sn	Sn	Sn	23 56 48.1	+0.6
PLE	Pljevlja	1.95 357	⇑*i*Pn	Pn	Pn	23 56 23.1	0.0
PLE			*i* Sn	Sn	Sn	23 56 47.8	-0.2
NOCI	Noci	1.96 253	P	Pn	Pn	23 56 21.0	-2.0
NOCI			AML	AML	AML	23 56 55.2	
	0.4nm,0.4s						
LFKM	Lefkimmi	1.97 168	P	Pb	Pb	23 56 26.1	+0.6
LFKM			S	Sb	Sb	23 56 50.6	+0.2
STON	Ston	2.02 318	*e*Pn	Pn	Pn	23 56 23.1	-0.8
STON	Ston	2.02 318	*e*Pn	Pn	Pn	23 56 22.9	-0.9
SELS	Selova	2.19 32	*e*Pn	Pn	Pn	23 56 26.4	+0.2
SELS			*e*Sn	Sn	Sn	23 56 54.9	+1.3
PRMD	Pramanda	2.20 147	P	Pn	Pn	23 56 27.5	+1.1
BARS	Barje	2.23 49	*e*Pn	Pn	Pn	23 56 26.9	+0.2
BARS			*e*Sn	Sn	Sn	23 56 53.8	-0.8
RUDO	Rudo	2.24 357	*e*Pn	Pn	Pn	23 56 27.0	0.0
IVAS	Ivanjica	2.24 12	*e*Pn	Pn	Pn	23 56 27.8	0.0
IVAS			*e*Sn	Sn	Sn	23 56 56.9	+1.8
VAY	Valandovo	2.29 90	*i* Pn	Pn	Pn	23 56 27.4	-0.1
GOCS	Kraljevo Serbi	2.40 24	*e*Pn	Pn	Pn	23 56 30.6	+1.4
GOCS			*e*Sn	Sn	Sn	23 56 58.6	-0.3
LSTV	Lastovo	2.41 306	*e*Pn	Pn	Pn	23 56 28.1	-1.1
TETR	Tetrakomo, Epi	2.43 146	P	Pn	Pn	23 56 30.6	+1.0
BOSS	Bosilegrad	2.47 62	*e*Pn	Pn	Pn	23 56 29.6	-0.5
BOSS			*e*Sn	Sn	Sn	23 56 59.0	-1.5
BBLS	Lazi&#263i	2.49 358	*e*Pn	Pn	Pn	23 56 31.3	+0.9
BBLS			*e*Sn	Sn	Sn	23 57 02.3	+1.2
KNT	Kendrikon	2.55 94	P	Pn	Pn	23 56 30.8	-0.3
LIT	Litokhoron	2.58 119	P	Pn	Pn	23 56 31.9	+0.2
GRUS	Gruza	2.66 19	*e*Pn	Pn	Pn	23 56 33.4	+0.8
GRUS			*e*Sn	Sn	Sn	23 57 06.1	+0.9
MAKA	Makarska	2.67 317	*e*Pn	Pn	Pn	23 56 32.1	-0.7
THE	Thessaloniki	2.70 105	P	Pn	Pn	23 56 32.6	-0.6
KKB	Krupnik	2.74 79	P	Pn	Pn	23 56 33.8	+0.1
DIVS	Divibare	2.74 7	*e*Pn	Pn	Pn	23 56 35.6	+1.7
DIVS			*e*Sn	Sn	Sn	23 57 07.9	+0.6
RICI	Ricice	2.76 321	*e*Pn	Pn	Pn	23 56 33.5	-0.6
BOVS	Bovan	2.77 35	⇊P	Pn	Pn	23 56 34.5	+0.3
BOVS	Bovan	2.77 35	*e*Pn	Pn	Pn	23 56 33.9	-0.3
BOVS			*e*Sn	Sn	Sn	23 57 06.2	-1.7
SGRT	San Giovanni R	2.87 279	Pn	Pn	Pn	23 56 33.9	-1.7
HVAR	Hvar	2.91 309	*e*Pn	Pn	Pn	23 56 34.9	-1.2
TRUS	Trudelj	2.92 12	*e*Pn	Pn	Pn	23 56 36.5	+0.3
TRUS			*e*Sn	Sn	Sn	23 57 12.3	+0.7
ZAPS	Zavoj	2.98 49	*e*Pn	Pn	Pn	23 56 37.6	+0.5
ZAPS			*e*Sn	Sn	Sn	23 57 12.4	-0.8
SRS	Serrai	3.07 94	*e*Pn	Pn	Pn	23 56 37.8	-0.6
SRS			*e*Sn	Sn	Sn	23 57 13.0	-2.4
ZAGS	Zajecar	3.15 38	*e*Pn	Pn	Pn	23 56 39.6	+0.2
ZAGS			*e*Sn	Sn	Sn	23 57 16.7	-0.5
TEKS	Tekeris	3.17 360	*e*Pn	Pn	Pn	23 56 39.3	-0.4
TEKS			*e*Sn	Sn	Sn	23 57 18.5	+0.6
BLKB	Belogradchik	3.23 45	⇑S	Sn	Sn	23 57 18.4	-0.9
AVAS	Avala Beograd	3.39 12	*e*Pn	Pn	Pn	23 56 42.4	-0.4
AVAS			*e*Sn	Sn	Sn	23 57 23.1	-0.3
KUBS	Kucevo	3.42 27	*e*Pn	Pn	Pn	23 56 41.6	-1.5
KUBS			*e*Sn	Sn	Sn	23 57 23.3	-0.6
KIJV	Kijevo	3.49 320	*e*Pn	Pn	Pn	23 56 43.5	-0.7
KIJV	Kijevo	3.49 320	*e*Pn	Pn	Pn	23 56 44.0	-0.2
ZIRJ	Zirje	3.67 310	*e*Pn	Pn	Pn	23 56 46.1	-0.4
MDVR	Moldovita	3.76 24	⇊P	Pn	Pn	23 56 47.6	-0.2
BLY	Banja Luka	3.78 334	*e*Pn	Pn	Pn	23 56 47.9	-0.2
BLY	Banja Luka	3.78 334	⇊P	Pn	Pn	23 56 51.6	+3.5
FRGS	Fruska Gora	3.78 3	*e*Pn	Pn	Pn	23 56 47.6	-0.6
VRSS	Vrsac	3.96 19	*e*Pn	Pn	Pn	23 56 51.5	+0.9
HERR	Herculane	4.09 30	⇑P	Pn	Pn	23 56 52.4	+0.1
HERR			⇑S	Sn	Sn	23 57 39.3	-1.2
DUGI	Dugi Otok	4.21 310	*e*Pn	Pn	Pn	23 56 53.6	-0.4
VIRC	Vir	4.40 313	*e*Pn	Pn	Pn	23 56 56.5	-0.1
BZS	Buzias	4.50 19	⇑P	Pn	Pn	23 56 57.9	-0.1
GZR	Gura Zlata	4.66 29	⇊P	Pn	Pn	23 57 01.4	+1.2
NVLJ	Novalja	4.67 315	*e*Pn	Pn	Pn	23 56 59.9	-0.4
MOSL	Moslavina	4.69 335	*e*Pn	Pn	Pn	23 56 59.5	-1.1
MORH	Mrgy, Hungar	4.88 353	*e*Pn	Pn	Pn	23 57 02.4	-0.7
OZLJ	Ozalj	5.17 326	*e*Pn	Pn	Pn	23 57 06.0	-1.1
BRJN	Brijuni	5.51 312	*e*Pn	Pn	Pn	23 57 11.4	-0.4
MLR	Muntele Rosu	6.22 46	⇑P	Pn	Pn	23 57 21.5	-0.2
OBKA	Obir	6.26 327	*i* Pn	Pn	Pn	23 57 23.2	+0.9
	0.2nm,0.1s						
OBKA			*i* Sn	Sn	Sn	23 58 30.7	-3.5
	1.4nm,0.3s						
ABTA	Abfaltersbach	7.37 319	*i* Pn	Pn	Pn	23 57 38.0	+0.6
	0.1nm,0.1s						
ABTA			*i* Sn	Sn	Sn	23 58 55.9	-5.5
	0.4nm,0.2s						

*NEIC **05** 23:56:03.6±1.8, 4°.94N±0°.06×127°.0E±0°.1, h97km±8km, mb4.3/13, Error ellipse: s-maj=18.9km s-min=7.1km az=70.0*
*DJA **05** 23:56:03.8±0.6, 5°N±5°×12°7E±°, h77km±7km, M4.3/13, mB5.1/4, mb4.3/7, MLv4.3/13, Mw(mB)4.5/4*
*IDC **05** 23:56:03.1±2.8, 4°.99N×127°.05E, h98km±25km, mb3.9/16, mbtmp4.2/17, MS3.0/1, Error ellipse: s-maj=49.1km s-min=10.9km az=70.0*

ISC 05 23:56:01.2±0.5, 4°94N±0°.05×126°98E±0°.09, h76km, n51, σ1§53/53, mb4.3/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.90	229	P	Pn	23 56 32.7	+1.0
SGSI				S	Sn	23 56 56.2	+1.2
DAV	Davao City (W)	2.54	327	Pn	Pn	23 56 41.9	+1.6
DAV				Sn	Sn	23 57 14.6	+4.5
DAV	Davao City (W)	2.54	327	P	Pn	23 56 43.2	+2.9
	121nm,0.4s,baz=57,slow=14,SNR=1.6						
DAV				S	Sn	23 57 11.5	+1.4
	165nm,0.4s,baz=119,slow=8.6,SNR=5.5						
TNTI	Ternate	4.15	175		Pn	23 57 03.7	+1.4
TNTI				Sn	Sn	23 57 52.0	+2.4
TNTI	Ternate	4.15	175	P	Pn	23 57 03.5	+1.2
MRSI	Marisa	6.70	229	P	Pn	23 57 38.5	+1.5
SANI	Sanana	7.01	188	P	Pn	23 57 38.5	-2.8
	0.1nm15nm,0.4s						
SWI	Sorong	7.18	143	P	Pn	23 57 45.2	+1.7
	0.1nm15nm,0.7s						
TOLI2	Tolitoli	7.26	239		Pn	23 57 45.4	+0.7
LUWI	Luwuk	7.27	215		Pn	23 57 47.4	+2.5
LUWI	Luwuk	7.27	215	P	Pn	23 57 46.7	+1.8
	6μm64nm,0.9s						
MYLDM	Lahad Datu	8.45	272		Pn	23 58 04.3	+3.4
FAKI	Fak Fak	9.41	146	Pn	Pn	23 58 15.3	+1.1
KAPI	Kappang	12.24	216	LR	LR	00 03 21.7	
	comp=Z,72nm,18.8s,baz=62,slow=36						
FITZ	Fitzroy Crossi	22.93	183	P	P	00 00 59.3	+0.2
FITZ	Fitzroy Crossi	22.93	183	P	P	00 00 58.9	-0.2
	6.3nm,0.9s,baz=0.0,slow=8.1,SNR=7.3						
	6.3nm,0.9s						
WB0	Warramunga Arr	25.61	164		P	00 01 23.5	-0.2
WRA	Warramunga Arr	25.76	164	P	P	00 01 25.2	+0.1
WRA	Warramunga Arr	25.76	164	P	P	00 01 24.8	-0.3
	3.8nm,0.6s,baz=344,slow=10,SNR=35						
	3.8nm,0.6s						
MBWA	Marble Bar	26.89	195	P	P	00 01 35.5	+0.4
MBWA				IAmb	IAmb	00 02 08.7	
	comp=Z,21nm,1.2s						
ASAR	Alice Springs	29.22	167	P	P	00 01 55.9	-0.1
	comp=Z,0.8nm,0.6s,baz=356,slow=7.8,SNR=17						
ASAR				PcP	PcP	00 05 01.6	-0.1
	comp=Z,0.4nm,0.4s,baz=351,slow=2.4,SNR=5.3						
	comp=Z,0.8nm,0.6s						
LZDM	Lanzhou Array	37.58	328	P	P	00 03 08.8	0.0
	comp=Z,0.6nm,0.3s,baz=148,slow=8.5,SNR=1.5						
	comp=Z,0.6nm,0.3s						
STKA	Stephens Creek	39.17	160	P	P	00 03 21.9	+0.1
	comp=Z,5.8nm,0.7s,baz=335,slow=7.9,SNR=6.5						
	comp=Z,5.8nm,0.7s						
H11N1	WAKE ISLAND Hy	41.53	66	T	T	00 48 46.5	
	baz=253						
H11N2	WAKE ISLAND Hy	41.54	66	T	T	00 48 42.2	
	baz=253						
H11N3	WAKE ISLAND Hy	41.55	66	T	T	00 48 47.2	
	baz=253						
ARMA	Armidale	42.34	148	P	P	00 03 48.9	+0.8
ARMA				IAmb	IAmb	00 03 57.5	
	comp=Z,7.9nm,1.0s						
EVN	Everest	44.48	305	P	P	00 04 05.4	-0.7
EVN				IAmb	IAmb	00 04 06.5	
	comp=Z,2.5nm,0.8s						
ULN	Ulaanbaatar	46.06	341	P	P	00 04 18.1	+0.5
ULN				IAmb	IAmb	00 04 19.5	
	comp=Z,5.6nm,0.9s						
SONM	Songino Array	46.24	341	P	P	00 04 19.5	+0.4
SONM				IAmb	IAmb	00 04 20.8	
	comp=Z,1.7nm,0.8s						
SONM	Songino Array	46.24	341	P	P	00 04 18.8	-0.2
	comp=Z,2.3nm,0.8s,baz=154,slow=8.7,SNR=8.5						
SONM				PcP	PcP	00 05 52.9	-0.5
	comp=Z,0.4nm,0.5s,baz=151,slow=3.3,SNR=2.3						
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	56.72	325	P	P	00 05 36.6	-0.5
MKAR	Makanchi Array	56.72	325	P	P	00 05 36.8	-0.3
	comp=Z,1.3nm,0.4s,baz=115,slow=7.8,SNR=17						
	comp=Z,1.3nm,0.4s						
ZALV	Zalesovo Beam	59.63	333	P	P	00 05 55.4	-1.8
	comp=Z,0.6nm,0.3s,baz=131,slow=4.5,SNR=4.1						
	comp=Z,0.6nm,0.3s						
KURBB	Kurchatov Arra	60.87	327	P	P	00 06 05.3	-0.4
	comp=Z,2.8nm,0.8s,baz=124,slow=6.1,SNR=20						
	comp=Z,2.8nm,0.8s						
KURK	Kurchatov	60.87	327	P	P	00 06 05.3	-0.4
KURK				IAmb	IAmb	00 06 09.8	
	comp=Z,3.3nm,0.8s						
KKAR	Karatay Array	62.53	317	P	P	00 06 15.5	-1.7
BVAR	Borovoye Array	66.45	327	P	P	00 06 41.6	-0.9
	comp=Z,2.7nm,0.7s,baz=133,slow=11,SNR=10						
	comp=Z,2.7nm,0.7s						
AB31	Akbulak array	71.38	320	P	P	00 07 10.6	-2.5
ABKAR	Akbulak array	71.38	320	P	P	00 07 10.4	-2.8
KDAK	Kodiak Island	80.75	32	P	P	00 08 06.1	-0.1
IMAR	Indian Mountai	81.15	24	P	P	00 08 07.9	-0.3
G21K	Allakaket	81.32	23	P	P	00 08 09.2	+0.1
G21K				IAmb	IAmb	00 08 13.4	
	comp=Z,9.3nm,1.4s						
ILAR	Eielson Array	83.92	25	P	P	00 08 21.2	-1.4
	comp=Z,0.3nm,0.5s,baz=240,slow=5.5,SNR=9.6						
	comp=Z,0.3nm,0.5s						
VNDA	Vanda	84.

JMZ *eS* **Sn** **00 02 02.1 -1.5**
JNU Nakatsue 5.70 25 Pn **00 01 54.7 +4.1**
JNU Nakatsue 5.70 25 Pn Pn 00 01 56.1 +5.5
comp=E,5.0nm,0.3s,baz=194,slow=5.4,SNR=20
comp=E,135nm,0.9s
YHNB Yeheng 6.81 243 Pn **Pn** **00 02 05.7 -0.2**
SSLB Suanglung 7.60 238 Pn **Pn** **00 02 16.6 -0.2**
JMN Monobe 7.64 40 Pn **00 02 18.6 +1.4**
KSRS Korea Array 9.47 360 Pn **Pn** **00 02 45.2 +3.0**
comp=E,0.2nm,0.3s,baz=184,slow=15,SNR=2.3
comp=E,1.2nm,0.8s
INU Inuyama 10.62 44 Pn **Pn** **00 03 00.7 +2.6**
JGF Kuroka 11.00 44 Pn **Pn** **00 03 06.0 +2.7**
JHJ Hachijo jima 2 11.36 60 LR LR 00 07 32.5
comp=E,92nm,18.1s,baz=240,slow=36
MJAR Matsushiro Arr 12.14 43 Pn Pn 00 03 24.9 +6.0
baz=242,slow=14,SNR=6.0
MJAR LR LR 00 07 35.5
comp=E,160nm,21.8s,baz=226,slow=34
comp=E,1.0nm,0.5s
BJT Baijiatuau 15.52 324 Pn **Pn** **00 04 04.0 -0.7**
USRK Ussuriysk Ar. 16.52 10 Pn **P** **00 04 21.6 +1.4**
comp=E,0.5nm,0.3s,baz=208,slow=12,SNR=5.7
comp=E,4.8nm,0.8s
DAV Davao City (W) 20.91 187 LR LR 00 13 22.9
comp=E,50nm,20.5s,baz=68,slow=38
GUMO Guam 21.23 129 LR LR 00 12 01.1
comp=E,88nm,20.8s,baz=319,slow=32
LZDM Lanzhou Array 22.09 297 P **P** **00 05 20.3 -1.3**
comp=E,0.5nm,0.3s,baz=127,slow=9.8,SNR=4.0
comp=E,0.5nm,0.3s
ULN Ulaanbaatar 25.71 326 P **P** **00 05 56.4 -0.1**
ULN IAmb IAmb 00 06 11.1
comp=Z,3.1nm,0.8s
SONM Songino Array 26.02 326 P **P** **00 05 59.0 -0.2**
SONM IAmb IAmb 00 06 26.4
comp=Z,5.5nm,1.4s
SONM Songino Array 26.02 326 P **P** **00 06 00.3 +1.1**
comp=Z,2.4nm,0.8s,baz=146,slow=9.0,SNR=6.0
SONM LR LR 00 17 36.9
comp=Z,67nm,18.1s,baz=150,slow=40
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 28.29 257 LR LR 00 19 02.6
comp=Z,55nm,18.6s,baz=60,slow=40
SHL Shillong 32.29 274 P **P** **00 06 52.8 -2.5**
PETK Petropavlovsk- 33.34 33 LR LR 00 20 51.1
comp=Z,44nm,19.0s,baz=209,slow=36
KAPI Kappang 33.74 195 LR LR 00 20 30.1
comp=Z,45nm,20.5s,baz=322,slow=36
YAK Yakutsk 34.09 1 LR LR 00 21 06.5
comp=Z,88nm,19.2s,baz=152,slow=36
MA2 Magadan 35.25 20 LR LR 00 22 24.0
comp=Z,57nm,18.3s,baz=285,slow=37
PSI Prapat 37.38 233 LR LR 00 22 07.2
comp=Z,72nm,19.7s,baz=48,slow=35
MKAR Makanchi Array 40.26 310 P **P** **00 08 01.7 -1.4**
MKAR Makanchi Array 40.26 310 P **P** **00 08 02.3 -0.7**
comp=Z,1.6nm,0.9s,baz=104,slow=10,SNR=4.0
MKAR LR LR 00 25 21.3
comp=Z,87nm,18.3s,baz=88,slow=37
comp=Z,1.6nm,0.9s
ZALV Zalesovo Beam 40.77 322 P **P** **00 08 05.9 -1.2**
ZALV Zalesovo Beam 40.77 322 P **P** **00 08 06.8 -0.2**
comp=Z,0.9nm,0.5s,baz=125,slow=7.2,SNR=4.3
ZALV LR LR 00 26 08.0
comp=Z,45nm,18.8s,baz=126,slow=38
comp=Z,0.9nm,0.5s
PMG Port Moresby 41.51 151 LR LR 00 23 27.5
comp=Z,65nm,18.7s,baz=328,slow=33
KURK Kurchatov 43.45 315 P **P** **00 08 29.0 0.0**
KURK IAmb IAmb 00 08 43.2
comp=Z,7.4nm,1.4s
KURBB Kurchatov Arra 43.49 315 P **P** **00 08 28.4 -0.9**
comp=Z,0.7nm,0.6s,baz=102,slow=9.0,SNR=4.1
KURBB LR LR 00 28 23.0
comp=Z,84nm,18.3s,baz=179,slow=39
comp=Z,0.7nm,0.6s
TIXI Tiksi 43.73 0 LR LR 00 26 39.5
comp=Z,109nm,18.8s,baz=202,slow=36
AAK Ala-Archa 45.35 303 LR LR 00 27 29.6
comp=Z,76nm,18.1s,baz=70,slow=36
FITZ Fitzroy Crossi 45.84 183 **P** **00 08 49.5 +1.1**
WB0 Warramunga Arr 47.85 172 P **P** **00 09 03.5 -0.5**
WB0 IAmb IAmb 00 09 15.6
comp=Z,10nm,1.4s
WRA Warramunga Arr 48.01 172 P **P** **00 09 05.6 +0.3**
comp=Z,1.5nm,0.8s,baz=352,slow=8.4,SNR=4.7
comp=Z,1.5nm,0.8s
KKAR Karatay Array 48.28 304 P **P** **00 09 07.4 +0.1**
BVAR Borovoye Array 48.87 317 P **P** **00 09 11.8 +0.1**
comp=Z,1.2nm,0.7s,baz=72,slow=9.3,SNR=6.6
BVAR LR LR 00 31 19.6
comp=Z,166nm,18.4s,baz=95,slow=38
comp=Z,1.2nm,0.7s
PALK Pallekele 49.19 254 LR LR 00 33 39.9
comp=Z,33nm,18.0s,baz=56,slow=41
KBL Kabul 50.24 293 P **P** **00 09 21.8 -0.8**
KBL IAmb IAmb 00 09 27.5
comp=Z,5.9nm,1.2s
ASAR Alice Springs 51.64 173 P **P** **00 09 34.2 +1.3**
comp=Z,0.8nm,0.8s,baz=358,slow=7.3,SNR=3.5
ASAR LR LR 00 30 19.9
comp=Z,28nm,21.3s,baz=91,slow=35
comp=Z,0.8nm,0.8s
AB31 Abkulak array 55.34 312 P **P** **00 10 00.4 +0.5**
AB31 IAmb IAmb 00 10 06.7
comp=Z,2.9nm,1.1s
ABKAR Abkulak array 55.34 312 P **P** **00 10 00.5 +0.6**
ARTI Arti 56.03 321 LR LR 00 34 49.0
comp=Z,74nm,18.1s,baz=71,slow=37
STKA Stephens Creek 60.89 167 LR LR 00 40 18.6
comp=Z,21nm,18.0s,baz=24,slow=39
SUA Susitna One 61.71 33 P **P** **00 10 44.5 +0.2**
ILAR Eielson Array 63.01 29 P P 00 10 58.4 +5.6
comp=Z,0.5nm,0.9s,baz=282,slow=6.3,SNR=4.3
comp=Z,0.5nm,0.9s
GNI Garni 67.74 305 LR LR 00 45 15.7
comp=Z,47nm,18.5s,baz=24,slow=40
ARCES ARCESS Array B 68.33 338 LR LR 00 46 36.3
comp=Z,73nm,18.8s,baz=22,slow=40
FINES FINESS Array B 71.27 330 LR LR 00 47 03.4
comp=Z,101nm,18.4s,baz=37,slow=39
AKASG Malin Array Be 74.10 319 LR LR 00 47 20.2
comp=Z,87nm,19.0s,baz=52,slow=38
ASF Jabal al Asfar 76.56 299 LR LR 00 52 42.3
comp=Z,26nm,19.5s,baz=146,slow=41
HFS Hagfors 77.21 332 LR LR 00 49 35.7
comp=Z,106nm,18.7s,baz=58,slow=38
NOA NORSAR Array B 77.69 334 LR LR 00 49 48.9
comp=Z,50nm,19.2s,baz=5.0,slow=38
SFJD Kangerlussuaq 85.33 359 LR LR 00 54 24.2
comp=Z,60nm,18.2s,baz=127,slow=38
ELK Elko 89.95 43 LR LR 00 59 18.9
comp=Z,15nm,18.0s,baz=54,slow=39
PDAR Pinedale Array 91.93 38 P **P** **00 13 38.9 +3.8**
comp=Z,0.3nm,0.6s,baz=286,slow=9.0,SNR=2.6
comp=Z,0.3nm,0.6s

*IDC **06** 00:00:46.8±1.0, 1°.48N×126°.84E, h0km, mb3.9/8, mbtmp4.0/10, ML4.0/2, Error ellipse: s-maj=54.1km s-min=15.5km az=71.0*
*DJA **06** 00:00:55.6±0.8, 1°.N±2°×12°.7E±°, h28km±7km, M4.4/19, mB5.1/6, mb4.4/8, MLv4.3/19, Mw(mB)4.5/6*
*NEIC **06** 00:00:56.0±0.7, 1°.4N±0°.1×126°.69E±0°.09, h75km±7km, mb4.2/13, Error ellipse: s-maj=17.6km s-min=9.3km az=218.0*
ISC 06 00:00:57.1±0.6,**1°.39N**±0°.05×**126°.73E**±0°.06,**h100**km,**n48,**
σ**2**§**24/56,mb4.1/14,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.88**	**134**		**Pn**	**00 01 13.1**	**-3.1**
TNTI					**Sn**	**00 01 26.6**	**-4.0**
TNTI	**Ternate**	**0.88**	**134**	P	**Pn**	**00 01 13.0**	**-3.3**
TNTI				S	**Sn**	**00 01 26.9**	**-3.8**
SGSI	**Sangihe**	**2.58**	**332**	P	**Pn**	**00 01 34.0**	**-3.3**
SGSI				S	**Sn**	**00 02 03.3**	**-4.8**
KMSI	**Cibinong**	**2.87**	**254**	P	**Pn**	**00 01 39.9**	**-1.2**
KMSI				S	**Sn**	**00 02 12.9**	**-2.1**
SANI	**Sanana**	**3.50**	**192**	P	**Pn**	**00 01 46.0**	**-3.5**
NLAI	**Namlea**	**4.61**	**175**	P	**Pn**	**00 02 03.2**	**-1.4**
LUWI	**Luwuk**	**4.64**	**239**	Pn	**Pn**	**00 02 03.5**	**-1.5**
LUWI	**Luwuk**	**4.64**	**239**	P	**Pn**	**00 02 05.8**	**+0.9**
LUWI				S	**Sn**	**00 02 58.6**	**+0.9**
MRSI	**Marisa**	**4.88**	**259**	P	**Pn**	**00 02 06.8**	**-1.3**
SWI	**Sorong**	**5.05**	**116**	P	**Pn**	**00 02 09.1**	**-1.4**
	878nm23nm,0.8s						
MSAI	**Masohi**	**5.19**	**155**	P	**Pn**	**00 02 13.9**	**+1.5**
	0.4nm4μm36nm,0.8s						
APSI	**Ampana**	**5.57**	**246**	P	**Pn**	**00 02 18.2**	**+0.6**
	1μm47nm,0.7s						
TOLI2	**Tolitoli**	**5.96**	**267**		**Pn**	**00 02 20.4**	**-2.4**
KDI	**Kendari**	**6.72**	**218**	P	**Pn**	**00 02 31.1**	**-2.1**
FAKI	**Fak Fak**	**6.98**	**128**	Pn	**Pn**	**00 02 37.2**	**+0.5**
FAKI	**Fak Fak**	**6.98**	**128**	P	**Pn**	**00 02 39.1**	**+2.4**
SPSI	**Sidrap Palu**	**8.76**	**233**	P	**Pn**	**00 03 00.3**	**-0.7**
	2μm21nm,0.7s						
MYLDM	**Lahad Datu**	**9.04**	**295**		**Pn**	**00 03 03.4**	**-1.4**
BKSI	**Bulukumba**	**9.38**	**225**	P	**Pn**	**00 03 09.7**	**+0.3**
KAPI	**Kappang**	**9.44**	**228**	Pn	**Pn**	**00 03 08.3**	**-2.0**
KAPI	**Kappang**	**9.44**	**228**	Pn	**Pn**	**00 03 07.5**	**-2.7**
	1.2nm,0.3s,baz=41,slow=6.7,SNR=4.1						
KAPI				Sn	**Sn**	**00 04 47.7**	**-6.9**
	0.9nm,0.3s,baz=90,slow=12,SNR=2.2						
SBUM	**Sibu**	**14.54**	**274**		**Pn**	**00 04 16.8**	**-1.3**
MTN	**Manton Dam**	**14.80**	**163**	Pn	**Pn**	**00 04 21.5**	**+0.1**
KNRA	**Kununurra**	**17.07**	**173**		**P**	**00 04 49.0**	**-0.9**
KNRA				IAmb	IAmb	00 04 50.2	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.39**	**183**	P	**Pn**	**00 05 15.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**19.39**	**183**	P	**P**	**00 05 14.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=18,slow=12,SNR=10						
FITZ				S	**S**	**00 08 48.2**	**-1.2**
	comp=Z,3.2nm,1.1s,baz=320,slow=15,SNR=2.2						
	comp=Z,1.1nm,0.3s						
WB0	**Warramunga Arr**	**22.33**	**161**	P	**P**	**00 05 46.6**	**-0.2**
WB0				IAmb	IAmb	00 05 48.5	
	comp=Z,11nm,0.6s						
PMBI	**Palembang**	**22.37**	**259**	P	**P**	**00 05 47.5**	**+0.3**
WRA	**Warramunga Arr**	**22.47**	**161**	P	**P**	**00 05 46.5**	**-1.8**
WRA	**Warramunga Arr**	**22.47**	**161**	P	**P**	**00 05 48.1**	**-0.1**
	comp=Z,6.6nm,0.4s,baz=337,slow=10,SNR=42						
WRA				S	**S**	**00 09 43.9**	**-4.1**
	comp=Z,0.6nm,0.8s,baz=118,slow=39,SNR=1.0						
	comp=Z,6.6nm,0.4s						
AS31	**Alice Springs**	**25.86**	**165**	P	**P**	**00 06 20.8**	**+1.2**
AS31				IAmb	IAmb	00 06 23.9	
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**25.86**	**165**	P	**P**	**00 06 20.3**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=343,slow=11,SNR=45						
ASAR				S	**S**	**00 10 45.5**	**+3.3**
	comp=Z,0.6nm,0.5s,baz=347,slow=20,SNR=5.6						
	comp=Z,1.8nm,0.3s						
BBOO	**Buckleboo**	**35.14**	**166**	P	**P**	**00 07 41.5**	**+0.3**
STKA	**Stephens Creek**	**35.96**	**158**	P	**P**	**00 07 49.4**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=335,slow=17,SNR=1.2						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**49.51**	**342**	P	**P**	**00 09 40.1**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=147,slow=10,SNR=3.1						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**00 10 50.7**	**+1.1**
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**00 10 50.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=123,slow=7.1,SNR=12						
	comp=Z,0.4nm,0.3s						
KDJ	**Kajisay**	**60.10**	**319**	P	**P**	**00 10 54.9**	**+0.7**
KDJ				IAmb	IAmb	00 11 25.0	
	comp=Z,2.2nm,0.8s						
GAR	**Garm**	**63.51**	**314**	P	**P**	**00 11 18.1**	**+1.0**
GAR				IAmb	IAmb	00 11 36.2	
	comp=Z,4.4nm,1.0s						
KURBB	**Kurchatov Arra**	**63.71**	**328**	P	**P**	**00 11 19.5**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=127,slow=6.2,SNR=6.5						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**63.71**	**328**	P	**P**	**00 11 19.3**	**+1.4**
KURK				IAmb	IAmb	00 11 20.0	
	comp=Z,1.8nm,0.5s						
KKAR	**Karatay Array**	**64.95**	**318**	P	**P**	**00 11 26.7**	**+0.4**
CASY	**Casey**	**68.51**	**187**	P	**P**	**00 11 49.5**	**+1.2**
BVAR	**Borovoye Array**	**69.28**	**327**	P	**P**	**00 11 56.2**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=119,slow=8.4,SNR=3.6						
	comp=Z,0.8nm,0.6s						
AB31	**Akbulak array**	**73.96**	**321**	P	**P**	**00 12 22.6**	**+1.1**
AB31				IAmb	IAmb	00 12 24.1	
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**73.96**	**321**	P	**P**	**00 12 22.4**	**+0.9**
VNDA	**Vanda**	**81.12**	**173**	P	**P**	**00 13 02.6**	**+1.8**
VNDA	**Vanda**	**81.12**	**173**	P	P	00 13 05.9	+5.0
	comp=Z,0.2nm,0.4s,baz=314,slow=4.5,SNR=4.4						
	comp=Z,0.2nm,0.4s						

*IDC **06** 00:07:44.3±10.0, 7°.06S×130°.05E, h110km±110km, mb3.6/1, mbtmp4.3/5, ML4.4/4, MS3.1/1, Error ellipse: s-maj=114.1km s-min=32.9km az=45.0*
*DJA **06** 00:07:46.7±0.3, 7°.5S±3°×13°.0E±°, h166km±9km, M4.4/10, mb4.2/9, mB5.3/3, MLv4.5/10, Mw(mB)4.7/3*
*NEIC **06** 00:07:47.5±1.9, 7°.01S±0°.08×129°.87E±0°.09, h133km±14km, mb4.1/5, Error ellipse: s-maj=12.8km s-min=10.5km az=56.0.*
ISC 06 00:07:47.2±0.7,**7°.05S**±0°.07×**129°.84E**±0°.06,**h150**km,**n36,**
σ**1**§**61/38,mb4.0/4,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.72**	**123**	Pn	**Pn**	**00 08 20.1**	**+0.9**
SAUI				Sn	**Sn**	**00 08 41.6**	**-2.1**
SAUI	**Saumlaki**	**1.72**	**123**	P	**Pn**	**00 08 20.0**	**+0.9**
SAUI				S	**Sn**	**00 08 44.0**	**+0.3**
MSAI	**Masohi**	**3.79**	**346**	P	**Pn**	**00 08 44.5**	**-0.2**
FAKI	**Fak Fak**	**4.75**	**30**	Pn	**Pn**	**00 08 55.5**	**-2.0**
FAKI	**Fak Fak**	**4.75**	**30**	P	**Pn**	**00 08 56.0**	**-1.4**
KMPI	**Kaimana, Papua**	**5.11**	**49**	P	**Pn**	**00 09 01.4**	**-0.8**
MTN	**Manton Dam**	**5.90**	**168**		**Pn**	**00 09 12.7**	**+0.1**
SOEI	**Soe**	**6.13**	**244**		**Pn**	**00 09 16.3**	**+0.5**
SOEI	**Soe**	**6.13**	**244**	P	**Pn**	**00 09 16.3**	**+0.5**
	0.4nm28nm,0.9s						
SWI	**Sorong**	**6.31**	**13**	P	**Pn**	**00 09 16.6**	**-1.4**
	0.1nm13nm,0.7s						
BATI	**Baumata**	**6.86**	**242**	P	**Pn**	**00 09 25.8**	**+0.3**
	8.6nm,0.3s,baz=67,slow=7.7,SNR=8.8						
BATI				S	**Sn**	**00 10 39.6**	**-3.0**
	64nm,0.5s,baz=10.0,slow=4.5,SNR=10						
	24nm,0.4s						
BATI	**Baumata**	**6.86**	**242**	P	**Pn**	**00 09 25.8**	**+0.3**
	0.3nm30nm,0.5s						
RKPI	**Ransiki, Papua**	**7.00**	**38**	P	**Pn**	**00 09 27.3**	**0.0**
	8μm37nm,0.6s						
EDFI	**Ende, Flores**	**8.25**	**258**	P	**Pn**	**00 09 45.3**	**+1.3**
BAKI	**Biak**	**8.54**	**47**	P	**Pn**	**00 09 47.5**	**-0.4**
	50nm,0.9s						
KNRA	**Kununurra**	**8.64**	**187**		**Pn**	**00 09 47.5**	**-1.7**
LUWI	**Luwuk**	**9.23**	**310**		**Pn**	**00 09 58.8**	**+1.7**
LUWI	**Luwuk**	**9.23**	**310**	P	**Pn**	**00 09 57.9**	**+0.8**
WSI	**Waingapu**	**9.79**	**254**	P	**Pn**	**00 10 04.4**	**-0.1**
WBSI	**Waikabubak, Su**	**10.65**	**255**	P	**Pn**	**00 10 15.6**	**-0.4**
	34nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.72**	**200**		**Pn**	**00 10 27.6**	**-2.3**
FITZ	**Fitzroy Crossi**	**11.72**	**200**	P	**Pn**	**00 10 27.1**	**-2.8**
	3.6nm,0.3s,baz=30,slow=12,SNR=55						
FITZ				S	Sn	00 12 26.4	-13
	3.5nm,0.3s,baz=15,slow=12,SNR=4.3						
	6.6nm,0.3s						
WB0	**Warramunga Arr**	**13.39**	**161**		**Pn**	**00 10 48.6**	**-2.9**
WRA	**Warramunga Arr**	**13.54**	**162**	Pn	**Pn**	**00 10 49.8**	**-3.6**
WRA	**Warramunga Arr**	**13.54**	**162**	P	**Pn**	**00 10 50.9**	**-2.5**
	1.7nm,0.3s,baz=345,slow=13,SNR=13						
WRA				S	Sn	00 13 08.6	-15
	3.8nm,0.5s,baz=330,slow=22,SNR=7.4						
	3.0nm,0.5s						
COEN	**Coen**	**14.80**	**119**		**P**	**00 11 10.8**	**-0.5**
AS31	**Alice Springs**	**16.98**	**167**		**P**	**00 11 36.0**	**+0.6**
ASAR	**Alice Springs**	**16.98**	**167**	P	**P**	**00 11 35.8**	**+0.4**
	1.1nm,0.3s,baz=349,slow=11,SNR=29						
ASAR				S	S	00 14 34.7	-10
	1.3nm,0.6s,baz=349,slow=26,SNR=6.0						
	2.5nm,0.4s						
MBWA	**Marble Bar**	**17.10**	**214**		**Pn**	**00 11 39.3**	**+2.0**
MBWA				IAmb	IAmb	00 11 47.2	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**17.37**	**213**		**Pn**	**00 11 42.0**	**+1.4**
HNR	**Honiara**	**29.89**	**97**	LR	LR	00 25 42.7	
	comp=Z,34nm,19.6s,baz=262,slow=36						
XLT	**XiLinHaoTe**	**52.22**	**347**	*eP*	**P**	**00 16 42.6**	**-0.2**
XLT				pP	pwP	00 17 24.0	+3.1
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
EVN	**Everest**	**54.19**	**312**	P	**P**	**00 16 59.5**	**+1.3**
EVN				IAmb	IAmb	00 17 11.3	
	comp=Z,2.6nm,1.2s						
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**00 18 32.3**	**+0.9**
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**00 18 33.6**	**+2.3**
	comp=Z,0.7nm,0.4s,baz=116,slow=8.0,SNR=13						
	comp=Z,0.7nm,0.4s						
ARSB	**Arslanbob**	**70.82**	**318**	P	**P**	**00 18 49.7**	**+1.9**
ARSB				IAmb	IAmb	00 18 57.2	
	comp=Z,3.4nm,1.2s						

*UCR **06** 00:22:41.9±0.7, 10°.29N×86°.60W, h2km±31km, MW4.4*
*CATAC **06** 00:22:44.3±1.3, 10°.N±5°×8°.6W±°, h5km±8km, M4.0/13, MLv4.0/13, Error ellipse: s-maj=13.6km s-min=9.5km az=59.9, confirmed*
ISC 06 00:22:46.1±1.6,**10°.24N**±0°.07×**86°.32W**±0°.07,**h17**km,**n52,**
σ**0**§**66/56,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.72**	**88**	*eP*	**Pn**	**00 23 01.5**	**-0.1**
JUD3	**Juan Diaz 3**	**0.77**	**95**	*eP*	**Pn**	**00 23 02.4**	**+0.1**
DELF	**Filadelfia**	**0.78**	**74**	*eP*	**Pn**	**00 23 02.3**	**-0.1**
ALIBA	**Liberia Airpor**	**0.84**	**65**	*eP*	**Pn**	**00 23 03.6**	**+0.4**
ELI1	**Hacienda Flor**	**0.85**	**62**	*eP*	**Pn**	**00 23 04.1**	**+0.7**
LAPC	**Finca la Perla**	**1.02**	**59**	*eP*	**Pn**	**00 23 05.4**	**-0.2**
GPS3	**Bodega del ICE**	**1.07**	**61**	*eP*	**Pg**	**00 23 07.0**	**+0.2**
LCRUZ	**La Cruz**	**1.08**	**39**	*eP*	**Pb**	**00 23 06.3**	**+0.1**
GPS2	**Hotel Rincn d**	**1.08**	**62**	*eP*	**Pb**	**00 23 06.6**	**+0.2**
VRLE	**La Escondida,**	**1.09**	**60**	*eP*	**Pb**	**00 23 06.5**	**0.0**
GPS1	**Guardaparques**	**1.09**	**61**	*eP*	**Pb**	**00 23 06.8**	**+0.2**
BUAI	**Buenos Aires**	**1.16**	**57**	*eP*	**Pb**	**00 23 07.9**	**+0.2**
COLC	**Colonia**	**1.18**	**69**	*eP*	**Pb**	**00 23 08.1**	**+0.1**
CUI	**Cuipilapa**	**1.21**	**70**	*eP*	**Pb**	**00 23 08.8**	**+0.2**
MESS	**Mesas**	**1.21**	**66**	*eP*	**Pb**	**00 23 08.6**	**-0.1**
HORNC	**Hornillas**	**1.22**	**67**	*eP*	**Pb**	**00 23 08.7**	**0.0**
CNAS	**Canas**	**1.22**	**81**	*eP*	**Pg**	**00 23 09.6**	**-0.1**
CARN	**Rivas**	**1.23**	**40**	P	**Pb**	**00 23 08.8**	**0.0**
JCR1	**Jicaral**	**1.25**	**108**	*eP*	**Pg**	**00 23 09.6**	**-0.7**
MOTZ	**Rio Naranjo**	**1.30**	**70**	*eP*	**Pb**	**00 23 10.3**	**+0.1**
VMAR	**Armenia, Volca**	**1.31**	**64**	*eP*	**Pb**	**00 23 10.4**	**0.0**
TIMP	**Tierras Morena**	**1.32**	**75**	*eP*	**Pb**	**00 23 10.5**	**-0.1**
JTS	**Las Juntas de**	**1.35**	**88**	*eP*	**Pb**	**00 23 10.8**	**-0.1**
TENO	**El Achiote**	**1.40**	**71**	*eP*	**Pn**	**00 23 10.9**	**0.0**
OMEN	**AI SSO del Vol**	**1.44**	**28**	P	**Pn**	**00 23 10.3**	**-1.1**
OMEN				S	**Sg**	**00 23 33.4**	**+0.9**
QUEB	**Quebradon, Cot**	**1.45**	**75**	*eP*	**Pb**	**00 23 12.6**	**-0.1**
MORN	**AI O del Volca**	**1.46**	**27**	P	**Pn**	**00 23 11.7**	**0.0**
CONN	**Concepcion**	**1.48**	**27**	P	**Pn**	**00 23 12.2**	**+0.2**
NADN	**Granada**	**1.53**	**11**	P	**Pb**	**00 23 13.7**	**-0.3**
NADN				S	**Sg**	**00 23 35.3**	**-0.2**
CASO	**Castillo**	**1.57**	**83**	*eP*	**Pb**	**00 23 14.6**	**-0.1**
ARE1	**Arenal 1**	**1.59**	**82**	*eP*	**Pb**	**00 23 15.3**	**+0.2**
VARE2	**V. Arenal**	**1.59**	**82**	*eP*	**Pb**	**00 23 15.2**	**+0.1**
CEDE	**Laguna Cedeo**	**1.61**	**81**	*eP*	**Pb**	**00 23 15.6**	**+0.2**
SOCE	**Pocosol**	**1.68**	**85**	P	**Pb**	**00 23 16.6**	**0.0**
NANN	**Nandasmo**	**1.70**	**7**	P	**Pb**	**00 23 16.9**	**-0.1**
NANN	**Nandasmo**	**1.70**	**7**	S	**Sg**	**00 23 41.0**	**-0.1**
SABN	**Sabanita**	**1.71**	**5**	P	**Pb**	**00 23 15.9**	**-1.3**
CRUN	**El Crucero**	**1.73**	**1**	P	**Pb**	**00 23 17.8**	**+0.2**
MAS3	**AI N del Volca**	**1.78**	**5**	P	**Pn**	**00 23 16.1**	**0.0**
UNAN	**Cigeo UNAN**	**1.86**	**1**	P	**Pb**	**00 23 20.0**	**+0.3**
UNAN				S	**Sg**	**00 23 44.5**	**-1.7**
TISN	**Laguna Tiscapa**	**1.89**	**1**	P	**Pn**	**00 23 17.6**	**-0.1**
MGAN	**Managua**	**1.90**	**2**	P	**Pb**	**00 23 19.9**	**-0.4**
ALLN	**Telcor Managua**	**1.91**	**1**	S	**Sg**	**00 23 46.0**	**-1.5**
WILN	**Americas 2**	**1.92**	**4**	P	**Pb**	**00 23 19.9**	**-0.7**
WILN				S	**Sg**	**00 23 47.4**	**-0.5**
VPL1	**V. Platanar**	**1.92**	**89**	*eP*	**Pb**	**00 23 20.2**	**-0.7**
APQ2	**Apoyeque**	**1.95**	**360**	P	**Pb**	**00 23 20.8**	**-0.4**
ACON	**Acoyapa**	**2.05**	**33**	P	**Pn**	**00 23 19.0**	**-0.9**
ACON	**Acoyapa**	**2.05**	**33**	*eP*	**Pn**	**00 23 18.9**	**-1.0**
ABRB	**Las Abras (San**	**2.57**	**95**	*eP*	**Pb**	**00 23 32.1**	**+0.1**
CNCH	**Conchagua**	**3.37**	**334**	P	**Pn**	**00 23 37.6**	**-0.4**
CNCH	**Conchagua**	**3.37**	**334**	S	**Sn**	**00 24 19.3**	**+1.6**
YUSH	**Yuscaran**	**3.73**	**352**	P	**Pn**	**00 23 45.6**	**+2.5**

*IDC **06** 00:25:55.2±11.0, 10°.68N×84°.23W, h0km, mb3.7/4, mbtmp3.7/4, MS3.5/6, Error ellipse: s-maj=299.6km s-min=116.9km az=13.0*
*CATAC **06** 00:26:03.9±0.6, 10°.N±3°×8°.6W±°, h19km±5km, M4.2/21, MLv4.2/21, Error ellipse: s-maj=8.5km s-min=3.3km az=38.8, confirmed*
*UCR **06** 00:26:03.5±1.1, 10°.35N×86°.36W, h5km±11km, MW4.6*
*NEIC **06** 00:26:04.6±1.4, 10°.34N±0°.08×86°.28W±0°.05, h16km±6km, mb4.6/34, Mwr4.1/22, Error ellipse: s-maj=12.3km s-min=5.4km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}-0.89; $M_{\theta\theta}$0.24; $M_{\phi\phi}$0.65; $M_{r\theta}$-1.21; $M_{\theta\phi}$-1.44; $M_{\phi r}$-0.14; Fault plane solution: $M_0$2.04000×10^15^ NP1:φ$_b$355.46000°, δ47.70000°, λ-25.52000°. NP2:φ$_b$103.27000°, δ71.42000°, λ-134.76000°. Principal axes: T 2.0714, Plg15.0000°, Azm224.0000°; N -0.0580, Plg42.0000°, Azm121.0000°; P -2.0134, Plg45.0000°, Azm329.0000°;*
*NEIC **06** 00:26:04.3, 10°.42N×86°.21W, h10km*
ISC 06 00:26:03.2±1.6,**10°.31N**±0°.05×**86°.31W**±0°.04,**h12**km±9km,
n147,σ**0**§**92/148,mb4.6/22,MS3.3/4,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.71**	**93**	*eP*	**Pn**	**00 26 19.0**	**

TISN	Laguna Tiscapa	1.83	1	P	Pb	00 26 36.1	-0.4
MGAN	Managua	1.83	2		Pn	00 26 35.0	+0.6
WILN	Americas 2	1.85	4	P	Pn	00 26 35.6	+0.9
WILN				S	Sb	00 26 60.0	0.0
COPN	Copaltepe	1.88	352	P	Pn	00 26 35.7	+0.5
COPN	Copaltepe	1.88	352	*eP*	Pn	00 26 35.7	+0.5
VPL2	V. Platanar	1.90	90	*eP*	Pb	00 26 37.3	-0.5
VPL1	V. Platanar	1.91	91	*eP*	Pb	00 26 37.3	-0.8
COVE	Coope Vega, Sa	1.92	77	P	Pg	00 26 39.2	-0.8
COVE	Coope Vega, Sa	1.92	77	S	Sb	00 27 02.8	+0.7
ATEO	Atenas	1.92	100	*eP*	Pn	00 26 36.9	+1.1
ACON	Acoyapa	1.99	34		Pn	00 26 36.4	-0.3
ACON	Acoyapa	1.99	34	P	Pn	00 26 37.0	+0.4
ACON	Acoyapa	1.99	34	S	Sg	00 27 05.6	-1.7
ACON	Acoyapa	1.99	34	*eP*	Pn	00 26 36.4	-0.3
PAR1A	Puntarenas Pro	2.14	109	*eP*	Pb	00 26 42.0	+0.1
HDC	Heredia	2.18	98		Pn	00 26 40.3	+0.9
PICV	PH. Pirrs	2.19	108	*eP*	Pb	00 26 41.6	-1.1
CNGN	Cerro Negro	2.21	350		Pn	00 26 40.7	+0.9
CNGN	Cerro Negro	2.21	350	P	Pb	00 26 42.5	-0.7
LCR2	La Lucha 2	2.34	104	S	Sn	00 27 11.9	+1.6
HERN	Volcan Telica	2.35	347	Pn	Pn	00 26 42.5	+0.8
POLN	Al Sur del Vol	2.38	348	P	Pn	00 26 41.8	-0.3
VICA	Volcano Irazu	2.45	97	*eP*	Pb	00 26 45.4	-1.9
CRIN	San Cristobal	2.49	343	Pn	Pn	00 26 44.3	+0.8
CRIN	San Cristobal	2.49	343	P	Pn	00 26 45.1	+1.5
CRIN	San Cristobal	2.49	343	S	Sn	00 27 13.3	-0.6
CVTQ	Turrialba Volc	2.52	97	*eP*	Pb	00 26 46.7	-1.9
CVTR	Volcan Turrial	2.52	96	*eP*	Pb	00 26 47.4	-1.3
TRT2	Tortugero	2.54	84	P	Pb	00 26 46.9	-1.8
ABRB	Las Abras (San	2.57	96	*eP*	Pb	00 26 49.1	-0.2
MATN	Matagalpa	2.63	8	P	Pn	00 26 45.1	-0.5
MATN	Matagalpa	2.63	8	S	Sn	00 27 18.1	+0.6
ESPN	Las Esperanzas	2.72	46	Pn	Pn	00 26 47.4	+0.7
LIMN	Finca el Limon	2.74	359	P	Pn	00 26 47.6	+0.6
VERH	Veragua Rainfo	3.09	97	*eP*	Pn	00 26 53.8	+1.9
DRK0	Durika	3.19	109	P	Pn	00 26 54.5	+1.1
DRK0	Durika	3.19	109	S	Sn	00 27 31.2	-0.2
RCVN	Varillal2	3.26	2	P	Pn	00 26 55.7	+1.4
CNCH	Conchagua	3.31	333	P	Pn	00 26 55.9	+1.0
PIRO	Carate, Puerto	3.49	123		Pn	00 26 59.1	+1.9
YUSH	Yuscaran	3.66	352	P	Pn	00 27 01.2	+1.4
SIUN	Universidad Ur	3.71	24	Pn	Pn	00 27 01.1	+0.8
RGM0	Gandoca	3.71	101	Pn	Pn	00 27 01.3	+1.0
TGUH	Tegucigalpa,Un	3.85	346		Pn	00 27 03.2	+0.9
TGUH	Tegucigalpa,Un	3.85	346	P	Pn	00 27 03.1	+0.9
TGUH				S	Sn	00 27 49.8	+2.2
BRU2	Volcan	3.87	113		Pn	00 27 02.8	+0.2
MTO3	Montecristo	5.04	324	Pn	Pn	00 27 18.4	-0.5
ESQI	Esquipulas	5.16	325	Pn	Pn	00 27 20.6	+0.2
PRVC	Isla de Provid	5.72	57		Pn	00 27 26.8	-1.2
CCIG	Comitan	8.21	317	Pn	Pn	00 28 03.5	+1.2
CMIG	Matias Romero	10.72	310	LR	LR	00 34 05.4	
	comp=Z,158nm,21.8s,baz=126,slow=40						
ATAH	Atahualpa	19.03	155	LR	LR	00 36 59.0	
	comp=Z,113nm,18.6s,baz=342,slow=36						
553A	Crawfordville	19.86	5	P	P	00 30 33.7	-0.5
833A	Chaparral WMA,	21.73	327		P	00 30 54.1	-0.3
HNVL	Huntsville, TX	22.06	339	P	P	00 30 58.9	+1.0
HNVL				IAmb	IAmb	00 31 10.8	
	comp=Z,11nm,0.9s						
152A	Waverly Hall	22.30	4	P	P	00 31 00.8	+0.2
152A				IAmb	IAmb	00 31 03.8	
	comp=Z,26nm,0.8s						
LRAL	Lakeview Retre	22.63	358	P	P	00 31 03.8	-0.2
GOGA	Godfrey	23.14	6	P	P	00 31 10.0	+0.6
GOGA				IAmb	IAmb	00 31 11.3	
	comp=Z,14nm,1.0s						
DRIO	Del Rio	23.25	327		P	00 31 10.2	-0.4
Y49A	Blount Mountai	23.44	360		P	00 31 12.4	0.0
Y49A				IAmb	IAmb	00 31 14.3	
	comp=Z,12nm,0.8s						
Y52A	Lilburn	23.54	5		P	00 31 13.3	0.0
Y52A				IAmb	IAmb	00 31 14.8	
	comp=Z,16nm,0.9s						
WHTX	Lake Whitney,	23.92	336	P	P	00 31 16.8	-0.2
BRDY	Brady	23.97	332		P	00 31 17.7	+0.1
TREL	Terrell	24.07	339	P	P	00 31 18.7	+0.2
TREL				IAmb	IAmb	00 31 21.7	
	comp=Z,16nm,0.8s						
HODGE	Hodges	24.10	8	P	P	00 31 18.0	-0.7
HODGE				IAmb	IAmb	00 31 20.4	
	comp=Z,20nm,1.0s						
OXF	Oxford	24.26	354	P	P	00 31 19.2	-1.0
OXF				IAmb	IAmb	00 31 21.1	
	comp=Z,21nm,1.1s						
JSC	Jenkinsville	24.31	10	P	P	00 31 20.1	-0.6
JSC				IAmb	IAmb	00 31 22.1	
	comp=Z,17nm,0.8s						
GDHS	Morne Mazeau,	24.60	73	P	P	00 31 22.2	-1.3
PAULI	Pauline	24.75	9	P	P	00 31 23.3	-1.3
PAULI				IAmb	IAmb	00 31 26.5	
	comp=Z,21nm,1.0s						
W52A	Murphy	24.77	5	P	P	00 31 24.7	-0.1
W50A	Signal Mountai	24.80	2	P	P	00 31 24.2	-0.9
W50A				IAmb	IAmb	00 31 32.3	
	comp=Z,18nm,1.2s						
SWET	Sewanee	24.80	1	P	P	00 31 24.2	-1.0
SWET				IAmb	IAmb	00 31 27.1	
	comp=Z,13nm,0.9s						
TX31	Lajitas Ar. Si	24.94	322	P	P	00 31 27.7	+1.2
TXAR	Lajitas Array	24.94	322	P	P	00 31 27.7	+1.2
TXAR	Lajitas Array	24.94	322	P	P	00 31 29.0	+2.5
	comp=Z,1.7nm,0.8s,baz=137,slow=10,SNR=18						
	comp=Z,1.7nm,0.8s						
MIAR	Mount Ida	25.03	346		P	00 31 27.0	-0.1
MIAR				IAmb	IAmb	00 31 35.8	
	comp=Z,7.3nm,0.9s						
TKL	Tuckaleechee C	25.34	5	P	P	00 31 29.4	-0.6
TKL				IAmb	IAmb	00 31 52.6	
	comp=Z,21nm,1.3s						
V53A	Saluda	25.45	7	P	P	00 31 30.7	-0.3
V53A				IAmb	IAmb	00 31 36.0	
	comp=Z,11nm,1.0s						
HICK	Hickman	26.25	355	P	P	00 31 37.8	-0.4
BOAV	Boa Vista	26.79	105	P	P	00 31 44.1	+0.8
WMOK	Wichita Mounta	26.86	337	P	P	00 31 44.4	+0.6
WMOK				IAmb	IAmb	00 31 56.4	
	comp=Z,11nm,1.1s						
S51A	Beattyville	27.32	5	P	P	00 31 47.0	-0.9
S51A				IAmb	IAmb	00 31 48.6	
	comp=Z,9.8nm,0.8s						
Q51A	Peebles	28.72	5	P	P	00 32 00.4	0.0
Q52A	Bidwell	28.76	7	P	P	00 32 00.4	-0.3
P52A	Corning	29.44	7	P	P	00 32 06.0	-0.8
O52A	Adamsville	29.95	7	P	P	00 32 10.7	-0.5
SSPA	Standing Stone	31.11	12	P	P	00 32 21.5	0.0
SSPA				IAmb	IAmb	00 32 22.4	
	comp=Z,9.0nm,0.8s						
LPAZ	La Paz	31.96	146	LR	LR	00 45 50.9	
	comp=Z,37nm,18.1s,baz=317,slow=38						
PDAR	Pinedale Array	38.18	332	P	P	00 33 22.7	-0.1
	comp=Z,0.5nm,0.7s,baz=134,slow=7.8,SNR=5.6						
	comp=Z,0.5nm,0.7s						
NVAR	Mina Array Bea	40.05	320	P	P	00 33 42.0	+3.4
	comp=Z,1.4nm,0.8s,baz=109,slow=6.6,SNR=8.1						
	comp=Z,1.4nm,0.8s						
RPN	Rapa Nui	43.40	210	LR	LR	00 47 38.0	
	comp=Z,26nm,18.2s,baz=5.5,slow=29						
BDFB	Brasilia	45.85	124	LR	LR	00 54 07.5	
	comp=Z,44nm,19.9s,baz=223,slow=38						
DLBC	Dease Lake	58.31	335	LR	LR	01 03 58.5	
	comp=Z,324nm,18.0s,baz=62,slow=39						
ILAR	Eielson Array	68.42	336	P	P	00 37 01.4	-3.2
	comp=Z,0.7nm,1.0s,baz=95,slow=6.8,SNR=5.4						
	comp=Z,0.7nm,1.0s						

*CATAC **06** 00:48:04.9±1.3, 10°N±5°×8°7W±°, h1km±6km, M3.2/7, MLv3.2/7, Error ellipse: s-maj=13.6km s-min=8.0km az=51.1, confirmed*
*UCR **06** 00:48:08.3±0.6, 10°37N×86°46W, h18km±6km, MW4.0*
ISC 06 00:48:06.6±2.8, 10°31N±0°08×86°5W±0°1, h10km, n33, σ0s52/36, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.92	93	*eP*	Pg	00 48 24.5	+0.2
DELF	Filadelfia	0.96	82	*eP*	Pg	00 48 25.3	+0.2
JUD3	Juan Diaz 3	0.97	99	*eP*	Pg	00 48 25.3	-0.1
ALIBA	Liberia Airpor	0.99	74	*eP*	Pb	00 48 26.4	+0.5
ELI1	Hacienda Flor	1.00	71	P	Pb	00 48 27.0	+0.9
ELI1	Hacienda Flor	1.00	71	S	Sn	00 48 40.4	-0.5
LAPC	Finca la Perla	1.16	67	*eP*	Pg	00 48 28.3	-0.6
LCRUZ	La Cruz	1.16	49	*eP*	Pg	00 48 29.0	+0.2
GPS2	Hotel Rincn d	1.22	69	*eP*	Pb	00 48 29.5	-0.4
VRLE	La Escondida,	1.23	67	*eP*	Pb	00 48 29.4	-0.6
GPS1	Guardaparques	1.23	68	*eP*	Pb	00 48 29.6	-0.5
VORI	VORI	1.25	66	*eP*	Pb	00 48 29.7	-0.8
BUAI	Buenos Aires	1.29	64	*eP*	Pn	00 48 30.8	0.0
MESS	Mesas	1.37	72	*eP*	Pn	00 48 31.7	-0.2
CUI	Cuipilapa	1.37	75	*eP*	Pn	00 48 31.7	-0.2
HORNC	Hornillas	1.37	73	*eP*	Pn	00 48 31.6	-0.4
VMAR	Armenia, Volca	1.46	70	*eP*	Pn	00 48 33.3	+0.1
MOTZ	Rio Naranjo	1.47	75	*eP*	Pn	00 48 33.2	0.0
OMEN	AI SSO del Vol	1.48	36	P	Pn	00 48 32.8	-0.5
OMEN				S	Sg	00 48 54.0	-0.1
MORN	AI O del Volca	1.49	35	P	Pb	00 48 34.6	+0.1
TIMP	Tierras Morena	1.50	80	*eP*	Pn	00 48 33.4	-0.3
CONN	Concepcion	1.52	35	P	Pb	00 48 35.0	+0.1
CONN				S	Sg	00 48 56.9	+1.3
JTS	Las Juntas de	1.54	91	P	Pn	00 48 33.7	-0.5
JTS				S	Sg	00 48 55.8	-0.3
JTS	Las Juntas de	1.54	91	*eP*	Pn	00 48 33.5	-0.6
TENO	El Achiote	1.56	75	*eP*	Pn	00 48 33.8	-0.7
QUEB	Quebradon, Cot	1.62	79	*eP*	Pn	00 48 35.5	+0.2
ARE1	Arenal 1	1.77	85	*eP*	Pn	00 48 38.2	+0.8
VARE2	V. Arenal	1.77	85	*eP*	Pn	00 48 38.2	+0.8
CEDE	Laguna Cedeo	1.79	84	*eP*	Pn	00 48 38.4	+0.7
SOCE	Pocosol	1.87	88	P	Pn	00 48 39.3	+0.6
SOCE	Pocosol	1.87	88	S	Sb	00 49 04.6	+0.3
ACON	Acoyapa	2.11	39	P	Pn	00 48 42.0	0.0
ACON	Acoyapa	2.11	39	*eP*	Pn	00 48 41.7	-0.3

WEL 06 01:00:24.7±0.6, 33°S±13°×18°0W±3°1, h12km, mB4.6/4, ML4.5/13, MLv4.2/7, Mw(mB)3.8/4, Error ellipse: s-maj=43.3km s-min=3.9km az=111.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.96	24	P	Pn	01 01 25.0	-0.2
GLKZ				S	Sn	01 02 09.7	-1.9
MXZ	Matakaoa Point	4.91	199	P	Pn	01 01 40.1	+1.8
MXZ				S	Sn	01 02 36.5	+1.5
WMGZ	Waiomatatini S	5.12	197	P	Pn	01 01 43.0	+1.8
WMGZ				S	Sn	01 02 40.8	+0.5
HAZ	Te Kaha	5.24	202	P	Pn	01 01 45.2	+2.4
HAZ				S	Sn	01 02 44.9	+1.7
PKGZ	Pakihiroa	5.25	199	P	Pn	01 01 44.4	+1.3
PKGZ				S	Sn	01 02 43.1	-0.5
PUZ	Puketiti	5.40	197	P	Pn	01 01 46.8	+1.7
PUZ				S	Sn	01 02 46.8	-0.4
RUGZ	Raukumara Rang	5.46	202	P	Pn	01 01 48.1	+2.1
RUGZ				S	Sn	01 02 51.6	+2.7
TWGZ	Tauwhareparae	5.57	199	P	Pn	01 01 46.5	-1.0
TWGZ				S	Sn	01 02 53.4	+1.9
CNGZ	Carnagh Statio	5.80	196	P	Pn	01 01 52.0	+1.4
MWZ	Matawai	5.85	202	P	Pn	01 01 52.4	+1.1
MWZ				S	Sn	01 02 58.9	+0.6
TKGZ	Te Karaka	5.85	199	S	Sn	01 02 58.7	+0.4
URZ	Urewera	5.92	205	P	Pn	01 01 53.4	+1.2
URZ				S	Sn	01 02 59.2	-0.7
RAGZ	Rawiri	6.03	202	P	Pn	01 01 55.0	+1.2
RAGZ				S	Sn	01 03 02.9	0.0
RIGZ	Rimuhau	6.13	199	P	Pn	01 01 54.0	-1.1
RIGZ				S	Sn	01 03 04.4	-0.7
MUGZ	Murupara	6.24	206	S	Sn	01 03 09.4	+1.6
PRGZ	Paritu Road	6.30	197	S	Sn	01 03 08.6	-0.7
SNGZ	Shannon Statio	6.32	201	P	Pn	01 01 58.3	+0.6
SNGZ				S	Sn	01 03 08.4	-1.4
BKZ	Black Stump Fm	6.95	205	P	Pn	01 02 05.0	-1.4
BKZ				S	Sn	01 03 23.1	-2.3
CTZ	Chatham Island	11.07	168	S	Sn	01 04 59.4	-7.2

GCG 06 01:04:46.4±0.4, 14°31N×91°71W, h63km±4km, MD3.5, ML2.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.34	69	*i* P	Pn	01 04 58.3	+1.0
STG2				*eS*	Sn	01 05 07.7	+2.5
SOKI	Kika Raxquin	0.58	30	*eP*	Pn	01 05 01.0	+1.0
SOKI				*eS*	Sn	01 05 12.1	+2.3
ESSG	Sabana Grande	0.85	85	*eP*	Pn	01 05 02.7	0.0
ESSG				*eS*	Sn	01 05 15.8	+1.0
FG16	Alotenango, Sa	1.16	92	*eP*	Pn	01 05 03.4	-3.4
FG16				IAML		01 05 17.3	
	comp=N,1μm,0.2s						

*IDC **06** 01:31:00.4±0.9, 54°12S×7°86E, h0km, mb4.0/8, mbtmp4.1/9, ML3.6/1, MS3.5/18, Error ellipse: s-maj=36.2km s-min=19.1km az=71.0*
ISC 06 01:31:01.8±0.8, 54°1S±0°1×7°8E±0°2, h10km, n31, σ0s70/13, mb4.1/7, MS3.6/17, 3C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	Troll, Antarti	18.09	185	⇑P	P	01 35 13.4	0.0
	comp=Z,464nm,0.6s						
SNAA	Sanae	18.20	191	⇑P	P	01 35 15.1	+0.6
	comp=Z,248nm,0.8s						
SNAA	Sanae	18.20	191	P	Pn	01 35 13.4	-0.9
	comp=Z,0.2nm,0.3s,baz=15,slow=11,SNR=40						
SNAA				S	Sn	01 38 21.0	-16
	comp=Z,0.3nm,0.4s,baz=201,slow=22,SNR=7.1						
SNAA				LR	LR	01 40 54.0	
	comp=Z,145nm,18.6s,baz=18,slow=33						
	comp=Z,13nm,0.9s						
VNA3	Neumayer Olymp	18.80	198	⇑P	P	01 35 20.5	-0.6
	comp=Z,9.0nm,0.7s						
BOSA	Boshof	28.50	34	LR	LR	01 46 28.3	
	comp=Z,114nm,18.8s,baz=202,slow=33						
H04S2	CROZET ISLANDS	28.58	94	T	T	02 07 08.4	
	baz=239,slow=75,SNR=18						
H04S3	CROZET ISLANDS	28.59	93	T	T	02 07 08.4	
	baz=239,slow=75,SNR=24						
H04S1	CROZET ISLANDS	28.60	94	T	T	02 07 08.4	
	baz=239,slow=75,SNR=23						
MAW	Mawson	28.84	139	P	P	01 36 59.9	0.0
	comp=Z,1.3nm,0.8s,baz=259,slow=6.0,SNR=3.5						
MAW				LR	LR	01 46 42.9	
	comp=Z,27nm,19.7s,baz=314,slow=33						
	comp=Z,1.3nm,0.8s						
LBTB	Lobatse	31.96	32	LR	LR	01 47 50.9	
	comp=Z,91nm,21.0s,baz=190,slow=32						
PMSA	Palmer Station	36.00	224	LR	LR	01 48 42.9	
	comp=Z,92nm,20.0s,baz=68,slow=30						
QSPA	South Pole Qui	36.10	180	P	P	01 38 04.2	+0.6
	comp=Z,1.7nm,0.7s,baz=238,slow=2.9,SNR=5.8						
QSPA				LR	LR	01 51 47.4	
	comp=Z,60nm,21.0s,baz=224,slow=34						
	comp=Z,1.7nm,0.7s						
MATP	Matopo	37.17	33	LR	LR	01 51 18.3	
	comp=Z,102nm,20.0s,baz=204,slow=33						
LSZ	Lusaka	41.92	30	LR	LR	01 54 30.1	
	comp=Z,79nm,18.2s,baz=186,slow=34						
VNDA	Vanda	47.62	173	P	P	01 39 38.3	+1.0
	comp=Z,2.2nm,0.8s,baz=222,slow=8.3,SNR=14						
VNDA				LR	LR	01 59 06.6	
	comp=Z,64nm,18.6s,baz=202,slow=35						
	comp=Z,2.2nm,0.8s						
CPUP	Villa Florida	54.64	273	P	P	01 40 30.4	-0.3
	comp=Z,0.8nm,1.0s,baz=250,slow=2.0,SNR=3.0						
CPUP				LR	LR	02 00 20.8	
	comp=Z,5.3nm,20.6s,baz=13,slow=32						
	comp=Z,0.8nm,1.0s						
KMBO	Kilima Mbogo	58.12	35	LR	LR	02 04 44.8	
	comp=Z,80nm,18.5s,baz=102,slow=35						
DBIC	Dimbokro	61.51	346	P	P	01 41 19.0	+0.3
	comp=Z,3.1nm,0.8s,baz=130,slow=16,SNR=1.6						
	comp=Z,3.1nm,0.8s						
TORD	Torodi Ar. Bea	67.22	354	P	P	01 41 56.4	+0.3
	comp=Z,1.1nm,0.7s,baz=177,slow=6.0,SNR=7.2						
	comp=Z,1.1nm,0.7s						
LPAZ	La Paz	68.74	272	P	P	01 42 06.8	+0.3
	comp=Z,1.0nm,0.7s,baz=198,slow=20,SNR=2.2						
LPAZ				LR	LR	02 10 00.5	
	comp=Z,22nm,21.0s,baz=76,slow=34						
	comp=Z,1.0nm,0.7s						
H01W2	Cape Leeuwin H	71.06	123	T	T	03 00 41.5	
	baz=217,slow=75,SNR=23						
H01W3	Cape Leeuwin H	71.08	123	T	T	03 00 41.5	
	baz=217,slow=75,SNR=19						
H01W1	Cape Leeuwin H	71.08	124	T	T	03 00 41.5	
	baz=217,slow=75,SNR=29						
NNA	Nana	77.26	267	LR	LR	02 14 32.1	
	comp=Z,28nm,22.0s,baz=143,slow=34						
ATAH	Atahualpa	82.04	269	LR	LR	02 19 02.6	
	comp=Z,25nm,19.3s,baz=173,slow=35						
EIL	Elat	86.70	23	LR	LR	02 20 19.5	
	comp=Z,34nm,20.6s,baz=152,slow=34						
ROSC	El Rosal	89.28	279	LR	LR	02 21 27.2	
	comp=Z,48nm,18.9s,baz=200,slow=34						
ASAR	Alice Springs	89.72	132	P	P	01 43 59.3	-1.1
	comp=Z,1.2nm,0.9s,baz=213,slow=4.2,SNR=6.2						
	comp=Z,1.2nm,0.9s						
SDV	Santo Domingo	90.43	285	LR	LR	02 22 01.2	
	comp=Z,24nm,18.4s,baz=252,slow=34						
GNI	Garni	99.13	28	LR	LR	02 28 44.7	
	comp=Z,21nm,20.5s,baz=323,slow=35						
YKA	Yellowknife Ar	149.60	309	PKPbc	PKiKP	01 50 50.3	-0.8
	comp=Z,2.0nm,0.9s,baz=77,slow=1.8,SNR=6.0						

*DRS **06** 01:33:47.5, 42°19N×48°81E, h69km*
MOS 06 01:33:47.7, 42°24N×48°61E, h16km, MPVA3.9, 4C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	Derbent	0.30	225	*i* Pg	Pn	01 33 59.3	+1.9
DRN				*eSg*	Sn	01 34 08.4	+4.9
DRN	Derbent	0.30	225	*ceP*	Pn	01 33 59.1	+1.7
DRN				*i* S	Sn	01 34 08.3	+4.8
DRN				pmax	pmax		
	comp=Z,307nm,0.1s						
URKR	Urkarakh	0.73	264	⇑*i* P	Pn	01 34 04.9	+1.4
URKR				*eS*	Sn	01 34 17.4	+3.0
KSMR	Kasumkent	0.73	210	*i* Pg	Pn	01 34 03.8	+0.3
KSMR				*eSg*	Sn	01 34 15.8	+1.4
KSMR	Kasumkent	0.73	210	⇑*i* P	Pn	01 34 03.8	+0.3
KSMR				*eS*	Sn	01 34 15.8	+1.4
SGKR	Sergokala	0.74	288	*i* P	Pn	01 34 04.9	+1.3
SGKR				*i* S	Sn	01 34 17.6	+3.1
AKT	Akhty	1.01	221	*i* Pg	Pn	01 34 07.8	+0.5
AKT				*eSg*	Sn	01 34 21.6	+0.4
AKT	Akhty	1.01	221	*deP*	Pn	01 34 07.8	+0.5
AKT				*i* S	Sn	01 34 23.3	+2.1
AKT				pmax	pmax		
	comp=Z,119nm,0.3s						
MAK	Makhachkala	1.09	312	*e*Pg	Pg	01 34 10.4	+1.7
MAK				*i* Sg	Sn	01 34 25.9	+2.8
MAK	Makhachkala	1.09	312	*e*P	Pg	01 34 10.1	+1.3
MAK				*e*S	Sn	01 34 25.2	+2.1
MAK				pmax	pmax		
	comp=Z,115nm,0.2s						
MAK				smax	smax		
	comp=N,205nm,0.4s						
MAK				smax	smax		
	comp=N,243nm,0.4s						
KMKR	Kumukh	1.13	265	*i* P	Pg	01 34 10.7	+1.1
KMKR				*e*S	Sn	01 34 27.4	+3.0
ARKR	Arakani	1.25	287	*e*Pg	Pg	01 34 13.0	+1.2
ARKR				*e*Sg	Sg	01 34 31.5	+3.3
ARKR	Arakani	1.25	287	*e*P	Pg	01 34 13.0	+1.1
ARKR				*e*S	Sg	01 34 31.5	+3.3
BUJR	Buynaksk	1.26	298	*e*Pg	Pg	01 34 12.3	+0.4
BUJR				*e*Sg	Sg	01 34 30.3	+2.0
BUJR	Buynaksk	1.26	298	*e*P	Pg	01 34 12.3	+0.4
BUJR				*e*S	Sg	01 34 30.3	+2.0
KRNR	Karanay	1.39	296	*e*P	Pg	01 34 14.7	+0.2
KRNR				*e*S	Sg	01 34 34.9	+2.3
UNCR	Uncukul	1.43	290	*e*P	Pg	01 34 15.1	-0.1
UNCR				*e*S	Sg	01 34 34.5	+0.8
HNZR	Khunzah	1.44	283	*e*P	Pg	01 34 16.3	+0.9
HNZR				*e*S	Sg	01 34 36.2	+2.0
XNZR	Khunzakh	1.45	283	*e*Pg	Pg	01 34 16.3	+0.8
XNZR				*e*Sg	Sg	01 34 36.2	+1.8
DLMR	Dylym	1.68	300	*e*Pg	Pg	01 34 19.9	-0.1
DLMR				*e*Sg	Sg	01 34 42.6	+0.7
DLMR	Dylym	1.68	300	*e*P	Pg	01 34 19.9	-0.1
DLMR				*e*S	Sg	01 34 42.6	+0.7
TLTR	Tlyarata	1.69	266	*e*Pg	Pg	01 34 19.6	-0.5
TLTR				*i* Sg	Sg	01 34 42.9	+0.9
TLTR	Tlyarata	1.69	266	*e*P	Pg	01 34 19.6	-0.5
TLTR				*i* S	Sg	01 34 42.9	+0.9
BTLR	Botlikh	1.82	284	*e*Pg	Pg	01 34 22.6	-0.1
BTLR				*e*Sg	Sg	01 34 46.9	+0.6
BTLR	Botlikh	1.82	284	⇓*e*P	Pb	01 34 20.4	-0.3
BTLR				*e*S	Sg	01 34 46.8	+0.5
BTLR				*e*S	Sb	01 34 48.8	+5.6
BTLR				pmax	pmax		
	comp=Z,19nm,1.2s						
BTLR				smax	smax		
	comp=Z,68nm,1.0s						
DVE	Vedeno	1.97	292	*e*Pg	Pb	01 34 23.5	+0.2
DVE				*e*Sg	Sg	01 34 49.9	-1.2
DVE	Vedeno	1.97	292	*e*P	Pb	01 34 23.4	+0.2
DVE				*e*S	Sg	01 34 49.8	-

comp=Z,32nm,19.6s,baz=88,slow=35
comp=Z,1.3nm,0.5s
FITZ Fitzroy Crossi 49.44 201 P P 01 48 33.6 -1.4
C19K Lookout Ridge 52.03 23 P P 01 48 55.5 +1.4
KURK Kurchatov 52.05 314 P P 01 48 54.0 -0.3
KURK IAmb IAmb 01 48 56.5
comp=Z,7.9nm,1.4s
KURBB Kurchatov Arra 52.10 313 P P 01 48 55.7 +0.9
comp=Z,1.3nm,0.6s,baz=89,slow=7.4,SNR=14
comp=Z,1.3nm,0.6s
OHAK Old Harbor 52.36 38 P P 01 48 56.2 -0.4
KDAK Kodiak Island 52.78 38 P P 01 48 58.2 -1.4
ASAR Alice Springs 52.85 190 P P 01 48 58.2 -2.4
comp=Z,0.1nm,0.3s,baz=14,slow=5.4,SNR=1.9
comp=Z,0.1nm,0.3s
B20K Meade River 53.13 22 P P 01 49 03.1 +1.0
BOOM Boomskoye usch 54.55 304 P P 01 49 13.8 +0.7
BVAR Borovoye Array 57.03 317 P P 01 49 31.8 +1.3
comp=Z,1.3nm,0.6s,baz=81,slow=8.9,SNR=7.8
comp=Z,1.3nm,0.6s
INK Inuvik 61.32 25 P P 01 50 00.3 +0.3
AB31 Akbulak array 64.16 314 P P 01 50 20.5 +1.3
AB31 IAmb IAmb 01 50 20.7
comp=Z,1.2nm,0.7s
NOA NORSAR Array B 82.14 338 P P 01 52 05.3 -0.1
comp=Z,0.4nm,0.6s,baz=47,slow=4.5,SNR=1.2
comp=Z,0.4nm,0.6s
RAYN Ar Rayn 84.78 294 P P 01 52 20.9 +1.2
RAYN IAmb IAmb 01 52 21.3
comp=Z,1.5nm,0.6s

NIED ***06*** *02:14:05.4, 28.°07N×127.°95E, h12km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.78; $M_{\theta\theta}$2.80; $M_{\phi\phi}$-2.02; $M_{r\theta}$-2.92; $M_{\theta\phi}$0.80; $M_{\phi r}$-2.55; Fault plane solution: $M_0$4.64000×10^{15} NP1: ϕ_s305.00000°, δ31.00000°, λ-12.00000°. NP2:ϕ_s45.00000°, δ84.00000°, λ-121.00000°.*
IDC ***06*** *02:14:05.9±0.7, 27.°78N×127.°52E, h0km, mb3.9/11, mbtmp3.9/15, ML3.4/4, MS3.5/32 Error ellipse: s-maj=23.2km s-min=13.4km az=65.0*
JMA ***06*** *02:14:05.4±0.3, 28.°1N±0.°5×128.°0E±0.°6, h12km±2km, MV4.0/17, NW OFF OKINAWAJIMA IS*
NEIC ***06*** *02:14:09.2±2.0, 27.°77N±0.°06×128.°18E±0.°09, h10km±1km, mb4.6/16, Error ellipse: s-maj=13.2km s-min=9.6km az=88.0*

ISC 06 02:14:07.8±1.6, 27.°86N±0.°04×128.°12E±0.°04, h3km±11km, n78, σ1§56/54, mb4.2/19, MS3.4/29, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.63**	**141**	*eP*	**Pn**	**02 14 22.2**	**-1.5**
JOKE				*eS*	**Sn**	**02 14 34.1**	**-0.2**
JTK	**Tokunoshima**	**0.74**	**95**	P	**Pb**	**02 14 22.9**	**-0.4**
JTK				*eS*	**Sn**	**02 14 35.2**	**-1.6**
JIH	**Iheya**	**0.83**	**190**	P	**Pb**	**02 14 24.8**	**0.0**
JIH				*eS*	**Sn**	**02 14 38.8**	**-0.3**
JYRO	**Yoronjima**	**0.88**	**161**	P	**Pn**	**02 14 26.2**	**-0.8**
JYRO				*eS*	**Sn**	**02 14 41.4**	**+1.1**
JAMN	**Amaminishikomi**	**1.01**	**67**	P	**Pg**	**02 14 25.7**	**-1.4**
JAMN				*eS*	**Sg**	**02 14 40.7**	**+0.5**
JOW	**Kunigami**	**1.03**	**172**		**Pn**	**02 14 28.4**	**-0.7**
JOW	**Kunigami**	**1.03**	**172**	Pn	**Pn**	**02 14 28.5**	**-0.6**
	441nm,0.3s,baz=349,slow=16,SNR=546						
JOW				Sn	**Sn**	**02 14 42.4**	**-1.6**
	244nm,0.3s,baz=117,slow=28,SNR=9.9						
JOW	**Kunigami**	**1.03**	**172**	*eP*	**Pn**	**02 14 28.4**	**-0.7**
JOW				*eS*	**Sn**	**02 14 45.3**	**+1.2**
JNTH	**Nagotoyohara**	**1.33**	**184**	P	**Pn**	**02 14 32.9**	**-0.5**
JNTH				*eS*	**Sn**	**02 14 53.2**	**+1.7**
JAM	**Amami Oshima**	**1.42**	**67**	*eP*	**Pn**	**02 14 32.2**	**-2.3**
JAM				*eS*	**Sn**	**02 14 50.9**	**-2.9**
JAGN	**Aguni-jima**	**1.49**	**212**	*eP*	**Pn**	**02 14 33.5**	**-1.9**
JTAJ	**Takarajima**	**1.60**	**36**	*eP*	Pn	02 14 33.1	-4.0
JZK	**Kikaishima**	**1.70**	**74**	*eP*	**Pn**	**02 14 37.9**	**-0.4**
JJT3	**Tamagusuku3**	**1.73**	**190**	*eP*	**Pb**	**02 14 39.2**	**-1.1**
JKE	**Kume jima 2**	**1.94**	**218**	*eP*	**Pn**	**02 14 39.5**	**-2.0**
JMZ	**Minamidaito 2**	**3.43**	**125**		**Pn**	**02 15 01.0**	**-1.2**
JNU	**Nakatsue**	**5.76**	**24**		**Pn**	**02 15 36.4**	**+2.1**
JNU	**Nakatsue**	**5.76**	**24**	Pn	**Pn**	**02 15 36.7**	**+2.4**
	4.5nm,0.3s,baz=201,slow=9.8,SNR=14						
	49nm,0.8s						
YHNB	**Yeheng**	**6.84**	**244**		**Pn**	**02 15 50.1**	**+1.1**
SSLB	**Suanglung**	**7.62**	**240**	Pn	**Pn**	**02 16 00.3**	**+0.5**
TPUB	**Ta-pu**	**8.14**	**238**	Pn	**Pn**	**02 16 07.6**	**+0.7**
KSRS	**Korea Array**	**9.57**	**359**	Pn	**Pn**	**02 16 26.7**	**+0.3**
	0.1nm,0.3s,baz=179,slow=15,SNR=4.6						
	1.9nm,0.8s						
INU	**Inuyama**	**10.64**	**43**	Pn	**Pn**	**02 16 43.8**	**+2.6**
JHJ	**Hachijo jima 2**	**11.34**	**60**	LR	LR	02 21 37.0	
	comp=Z,119nm,18.0s,baz=236,slow=38						
MJAR	**Matsushiro Arr**	**12.16**	**42**	Pn	**Pn**	**02 17 06.6**	**+4.7**
	baz=230,slow=13,SNR=4.6						
MJAR				LR	LR	02 22 11.1	
	comp=Z,158nm,20.6s,baz=224,slow=39						
	1.0nm,0.6s						
BJT	**Baijiatuau**	**15.65**	**324**	Pn	**Pn**	**02 17 51.7**	**+2.4**
USRK	**Ussuriysk Ar.**	**16.60**	**10**	Pn	**Pn**	**02 18 03.6**	**+2.1**
	0.1nm,0.3s,baz=187,slow=11,SNR=5.2						
	3.9nm,0.9s						
ASAJ	**Asahikawa**	**19.96**	**32**	LR	LR	02 26 59.2	
	comp=Z,125nm,18.0s,baz=198,slow=38						
DAV	**Davao City (W)**	**20.81**	**187**	LR	LR	02 27 24.5	
	comp=Z,93nm,19.6s,baz=8.0,slow=39						
GUMO	**Guam**	**21.10**	**129**	LR	LR	02 26 02.0	
	comp=Z,67nm,18.9s,baz=345,slow=33						
LZDM	**Lanzhou Array**	**22.21**	**297**	P	P	02 18 59.9	-5.9
	1.0nm,0.3s,baz=128,slow=9.6,SNR=4.3						
	1.0nm,0.3s						
ULN	**Ulaanbaatar**	**25.85**	**326**		**P**	**02 19 40.4**	**-0.2**
SONM	**Songino Array**	**26.15**	**326**	P	**P**	**02 19 40.7**	**-2.7**
	2.7nm,0.8s,baz=144,slow=12,SNR=5.0						
SONM				LR	LR	02 31 00.0	
	comp=Z,95nm,20.3s,baz=121,slow=39						
	2.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.35**	**257**	LR	LR	02 30 46.0	
	comp=Z,57nm,19.4s,baz=70,slow=36						
JAY	**Jayapura**	**32.53**	**156**	LR	LR	02 32 45.2	
	comp=Z,35nm,18.6s,baz=65,slow=34						
BRDH	**Bariadhala**	**33.31**	**269**	LR	LR	02 36 20.3	
	comp=Z,115nm,18.8s,baz=164,slow=41						
PETK	**Petropavlovsk-**	**33.38**	**33**	LR	LR	02 33 14.2	
	comp=Z,58nm,21.1s,baz=232,slow=34						
KAPI	**Kappang**	**33.62**	**195**	LR	LR	02 35 17.1	
	comp=Z,39nm,19.1s,baz=17,slow=38						
YAK	**Yakutsk**	**34.19**	**1**	LR	LR	02 34 56.3	
	comp=Z,72nm,18.7s,baz=160,slow=36						
MA2	**Magadan**	**35.31**	**20**	LR	LR	02 34 59.7	
	comp=Z,37nm,21.9s,baz=181,slow=35						
PSI	**Prapat**	**37.39**	**233**	LR	LR	02 35 38.0	
	comp=Z,80nm,18.2s,baz=42,slow=35						
MKAR	**Makanchi Array**	**40.40**	**310**	P	P	02 21 41.5	-5.6
	0.9nm,0.7s,baz=96,slow=8.7,SNR=5.0						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**40.91**	**322**	P	P	02 21 46.4	-4.8
	0.7nm,0.6s,baz=91,slow=8.9,SNR=5.1						
	0.7nm,0.6s						
SHEM	**Shemya Is, Ala**	**42.00**	**41**	LR	LR	02 41 55.9	
	comp=Z,14nm,19.7s,baz=127,slow=39						
TARG	**Taragay, Kyrgy**	**43.00**	**302**	P	**P**	**02 22 09.0**	**0.0**
TARG				IAmb	IAmb	02 22 11.8	
	comp=Z,7.8nm,1.1s						
KURK	**Kurchatov**	**43.59**	**315**		**P**	**02 22 11.0**	**-2.1**
KURK				IAmb	IAmb	02 22 14.6	
	comp=Z,5.0nm,0.9s						
KURBB	**Kurchatov Arra**	**43.62**	**315**	P	P	02 22 09.4	-4.0
	comp=Z,3.1nm,0.7s,baz=102,slow=8.9,SNR=15						
	comp=Z,3.1nm,0.7s						
TIXI	**Tiksi**	**43.84**	**0**	LR	LR	02 40 55.2	
	comp=Z,134nm,19.6s,baz=196,slow=37						
FITZ	**Fitzroy Crossi**	**45.74**	**183**	P	**P**	**02 22 29.5**	**-1.0**
ARSB	**Arslanbob**	**46.61**	**302**	P	**P**	**02 22 39.4**	**+1.9**
WB0	**Warramunga Arr**	**47.73**	**172**	P	**P**	**02 22 44.9**	**-1.1**
WB0				IAmb	IAmb	02 23 27.7	
	comp=Z,8.6nm,1.2s						
WRA	**Warramunga Arr**	**47.90**	**172**	P	**P**	**02 22 46.0**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=353,slow=8.3,SNR=16						
WRA				LR	LR	02 41 32.3	
	comp=Z,30nm,21.9s,baz=108,slow=34						
	comp=Z,2.1nm,0.7s						
WR8	**Warramunga Arr**	**47.93**	**172**	P	**P**	**02 22 46.5**	**-1.1**
WR8				IAmb	IAmb	02 22 54.8	
	comp=Z,9.0nm,1.4s						
GAR	**Garm**	**48.78**	**299**	P	**P**	**02 22 54.9**	**+0.6**
GAR				IAmb	IAmb	02 23 21.9	
	comp=Z,6.9nm,1.3s						
BVAR	**Borovoye Array**	**49.01**	**317**	P	P	02 22 51.8	-3.9
	comp=Z,2.5nm,1.0s,baz=96,slow=8.8,SNR=17						
BVAR				LR	LR	02 45 28.8	
	comp=Z,86nm,19.7s,baz=86,slow=39						
	comp=Z,2.5nm,1.0s						
PALK	**Pallekele**	**49.25**	**255**	LR	LR	02 44 44.0	
	comp=Z,35nm,18.1s,baz=40,slow=38						
PSA00	**Pilbara Seismi**	**49.79**	**190**	P	**P**	**02 23 00.8**	**-1.1**
PSA00				IAmb	IAmb	02 23 16.4	
	comp=Z,13nm,1.4s						
KBL	**Kabul**	**50.36**	**293**	P	**P**	**02 23 05.6**	**-1.0**
ASAR	**Alice Springs**	**51.52**	**173**	P	**P**	**02 23 14.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=352,slow=8.7,SNR=14						
ASAR				LR	LR	02 47 16.0	
	comp=Z,19nm,18.4s,baz=320,slow=39						
	comp=Z,0.8nm,0.6s						
AB31	**Akbulak array**	**55.48**	**312**	P	**P**	**02 23 43.6**	**-0.2**
AB31				IAmb	IAmb	02 23 45.6	
	comp=Z,6.7nm,1.0s						
KIRV	**Kirov**	**60.87**	**324**	LR	LR	02 55 25.7	
	comp=Z,37nm,18.5s,baz=100,slow=41						
KDAK	**Kodiak Island**	**61.28**	**37**	LR	LR	02 54 32.2	
	comp=Z,23nm,18.1s,baz=92,slow=39						
ILAR	**Eielson Array**	**63.06**	**29**	P	**P**	**02 24 35.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=282,slow=7.5,SNR=3.5						
	comp=Z,0.3nm,0.6s						
SCRK	**Sand Creek**	**64.44**	**29**	P	**P**	**02 24 44.6**	**-0.7**
SCRK				IAmb	IAmb	02 25 07.1	
	comp=Z,5.8nm,1.4s						
DOT	**Dot Lake**	**64.47**	**30**	P	**P**	**02 24 45.9**	**+0.5**
TABL	**Table Mountain**	**66.55**	**33**	P	**P**	**02 24 57.1**	**-2.0**
GNI	**Garni**	**67.87**	**305**	LR	LR	02 59 35.9	
	comp=Z,22nm,19.6s,baz=348,slow=40						
ARCES	**ARCESS Array B**	**68.46**	**338**	LR	LR	03 01 05.2	
	comp=Z,95nm,19.5s,baz=71,slow=41						
FINES	**FINESS Array B**	**71.41**	**330**	LR	LR	03 00 15.4	
	comp=Z,124nm,18.1s,baz=46,slow=39						
AKASG	**Malin Array Be**	**74.24**	**319**	LR	LR	03 00 06.2	
	comp=Z,74nm,18.6s,baz=40,slow=37						
YKA	**Yellowknife Ar**	**77.10**	**25**	P	**P**	**02 26 02.9**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=303,slow=6.0,SNR=4.9						
	comp=Z,1.1nm,0.9s						
MMAI	**Mount Meron Ar**	**77.48**	**301**	LR	LR	03 08 23.8	
	comp=Z,77nm,18.6s,baz=3.0,slow=42						
NOA	**NORSAR Array B**	**77.82**	**334**	LR	LR	03 05 49.9	
	comp=Z,30nm,20.4s,baz=355,slow=40						
MLR	**Muntele Rosu**	**78.52**	**315**	LR	LR	03 03 48.5	
	comp=Z,88nm,18.5s,baz=14,slow=38						
EIL	**Elat**	**79.27**	**298**	LR	LR	03 05 19.7	
	comp=Z,35nm,19.5s,baz=154,slow=39						
RAR	**Rarotonga**	**85.03**	**117**	LR	LR	02 59 23.8	
	comp=Z,40nm,19.5s,baz=180,slow=32						
NVAR	**Mina Array Bea**	**89.45**	**46**	P	**P**	**02 27 07.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=287,slow=7.4,SNR=2.2						
	comp=Z,0.3nm,0.6s						
VAE	**Valguarnera**	**90.09**	**313**	LR	LR	03 12 00.5	
	comp=Z,77nm,19.6s,baz=243,slow=39						

DJA 06 02:24:58.4±0.6, 9.°S±3.°×11.°0E±.°, h10km±4km, M3.9/17, mb4.0/1, MLv3.8/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.16**	**41**	P	Pb	02 25 20.1	-0.5
PCJI				S	Sb	02 25 34.7	-1.0
UGM	**Wanagama**	**1.17**	**6**	P	Pg	02 25 21.0	+0.2
UGM				S	Sg	02 25 36.4	+0.4
YOGI	**Yogyakarta**	**1.26**	**355**	P	Pn	02 25 22.1	0.0
YOGI				S	Sb	02 25 38.3	-0.3
WOJI	**Wonogiri, Jawa**	**1.33**	**22**	P	Pn	02 25 23.3	+0.2
WOJI				S	Sb	02 25 39.0	-1.7
NGJI	**Ngawi**	**1.99**	**32**	S	Sb	02 25 59.2	-0.5
SMRI	**Semarang**	**2.02**	**1**	P	Pn	02 25 33.1	+0.6
SMRI				S	Sn	02 25 58.9	+1.0
KPJI	**Karang Pucung**	**2.27**	**320**	P	Pn	02 25 37.5	+1.5
KPJI				S	Sn	02 26 04.8	+0.7
TBJI	**Tambak Boyo**	**2.66**	**32**	S	Sb	02 26 16.4	-2.5
GRJI	**Gresik**	**2.97**	**44**	P	Pn	02 25 45.4	-0.2
BLJI	**Banyuglugur**	**3.42**	**67**	P	Pn	02 25 51.9	+0.1
CNJI	**Cibinong**	**3.69**	**298**	P	Pn	02 25 53.9	-1.7
JAGI	**Jajag, Banyuwa**	**3.75**	**81**	P	Pn	02 25 55.6	-0.8
ABJI	**Asem Bagus**	**3.99**	**72**	P	Pn	02 26 00.6	+0.9
KMMI	**Kalianget**	**4.06**	**60**	P	Pn	02 26 00.7	+0.1
TWSI	**Taliwang, Sumb**	**6.40**	**87**	P	Pn	02 26 32.9	0.0

IDC ***06*** *02:57:32.0±0.8, 25.°67N×94.°91E, h0km, mb3.7/12, mbtmp3.7/13, ML4.6/1, Error ellipse: s-maj=46.7km s-min=15.3km az=55.0*

ISC 06 02:57:44.6±1.0, 25.°8N±0.°2×94.°74E±0.°09, h100km, n21, σ1§95/26, mb3.7/12, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMN	**Ramite**	**7.39**	**281**	Pn	**Pn**	**02 59 32.4**	**+2.4**
	baz=267,slow=0.0						
RAMN				Sn	**Sn**	**03 00 55.2**	**+2.8**
	13nm,0.3s,baz=267,slow=0.0						
GUN	**Gumba**	**8.19**	**287**	Pn	**Pn**	**02 59 40.9**	**-0.1**
	baz=274,slow=0.0						
GUN				Sn	**Sn**	**03 01 09.8**	**-2.2**
	17nm,0.3s,baz=274,slow=0.0						
CMAR	**Chiang Mai Arr**	**8.28**	**151**	Pn	Pn	02 59 31.5	-10
	1.9nm,0.3s,baz=340,slow=12,SNR=5.2						
	2.3nm,0.3s						
PKI	**Pulchoki**	**8.53**	**284**	Pn	**Pn**	**02 59 46.9**	**+1.3**
	baz=272,slow=0.0						
PKI				Sn	**Sn**	**03 01 19.8**	**-0.5**
	10nm,0.4s,baz=272,slow=0.0						
PKIN	**Phulchoki**	**8.54**	**284**	Pn	**Pn**	**02 59 46.9**	**+1.2**
	baz=272,slow=0.0						
PKIN				Sn	**Sn**	**03 01 20.1**	**-0.4**
	11nm,0.3s,baz=272,slow=0.0						
DMN	**Daman**	**8.80**	**284**	Pn	**Pn**	**02 59 50.1**	**+0.9**
	baz=272,slow=0.0						
DMN				Sn	**Sn**	**03 01 24.7**	**-2.1**
	12nm,0.4s,baz=272,slow=0.0						
GKN	**Gorkha**	**9.28**	**286**	Sn	**Sn**	**03 01 35.3**	**-3.0**
	18nm,0.4s,baz=274,slow=0.0						
DANN	**Dangsing**	**10.11**	**287**	Pn	**Pn**	**03 00 05.8**	**-1.3**
	baz=276,slow=0.0						
DANN				Sn	**Sn**	**03 01 52.9**	**-5.8**
	14nm,0.4s,baz=276,slow=0.0						
MKAR	**Makanchi Array**	**23.18**	**338**	P	**P**	**03 02 43.3**	**+0.8**
	0.5nm,0.4s,baz=141,slow=9.6,SNR=5.7						
	0.5nm,0.4s						
SONM	**Songino Array**	**23.84**	**20**	P	**P**	**03 02 46.8**	**-1.9**
	0.4nm,0.6s,baz=211,slow=8.2,SNR=2.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**27.75**	**338**	P	**P**	**03 03 24.0**	**+0.4**
	0.8nm,0.2s,baz=146,slow=9.1,SNR=4.4						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**32.75**	**333**	P	**P**	**03 04 08.5**	**+0.7**
	0.9nm,0.7s,baz=115,slow=9.7,SNR=4.6						
	0.9nm,0.7s						
BRTR	**Keskin Array B**	**52.30**	**301**	P	**P**	**03 06 46.4**	**+0.2**
	0.6nm,0.8s,baz=101,slow=7.6,SNR=3.7						
	0.6nm,0.8s						
AKASG	**Malin Array Be**	**55.14**	**315**	P	**P**	**03 07 07.5**	**+1.0**
	0.3nm,0.3s,baz=80,slow=7.3,SNR=4.4						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**57.51**	**328**	P	**P**	**03 07 24.9**	**+1.7**
	1.5nm,1.0s,baz=108,slow=11,SNR=3.5						
	1.5nm,1.0s						
WRA	**Warramunga Arr**	**59.55**	**136**	P	**P**	**03 07 36.3**	**-1.6**
	0.6nm,0.4s,baz=323,slow=7.3,SNR=17						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**62.09**	**139**	P	**P**	**03 07 53.9**	**-1.2**
	0.4nm,0.4s,baz=322,slow=6.9,SNR=6.9						
	0.4nm,0.4s						
HFS	**Hagfors**	**63.58**	**326**	P	**P**	**03 08 06.0**	**+1.6**
	1.1nm,0.6s,baz=94,slow=8.9,SNR=5.7						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**64.69**	**328**	P	**P**	**03 08 12.1**	**+0.4**
	0.3nm,0.5s,baz=66,slow=4.4,SNR=2.1						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**65.31**	**314**	P	**P**	**03 08 16.5**	**+0.5**
	0.4nm,0.6s,baz=72,slow=5.7,SNR=5.2						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**122.41**	**19**	PKP	**PKiKP**	**03 16 28.3**	**-0.7**
	0.1nm,0.8s,baz=344,slow=5.0,SNR=1.1						

NEIC 06 03:02:38.3±1.0, 39.°58N±0.°04×97.°98W±0.°08, h5km±2km, mb_Lg2.9/100, Error ellipse: s-maj=9.9km s-min=7.1km az=92.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**1.17**	**114**		Pg	03 02 59.3	-1.4
R32A	**Long Quarter,**	**1.29**	**206**		Pn	03 03 01.8	-1.3
R32A				IAmb_Lg		03 03 21.4	
	comp=Z,69nm,0.7s						
CBKS	**Cedar Bluff**	**1.56**	**241**		Pn	03 03 06.1	-0.8
CBKS				IAmb_Lg		03 03 27.6	
	comp=Z,78nm,0.7s						
BGNE	**Belgrade**	**1.83**	**356**		Pn	03 03 09.0	-1.5
N35A	**Tabor**	**2.20**	**54**		Pn	03 03 15.0	-0.5
L34A	**Svendsen Farm,**	**2.67**	**27**		Pn	03 03 19.9	-2.2
T35A	**Sooner Cattle**	**2.91**	**156**		Pn	03 03 25.5	+0.2
OK038	**West end E0370**	**3.16**	**191**		Pn	03 03 28.5	-0.3
OK038				IAmb_Lg		03 04 25.2	
	comp=Z,56nm,0.8s						
OK048	**Pawnee Station**	**3.27**	**165**	IAmb_Lg		03 04 28.2	
	comp=Z,26nm,1.1s						
K30B	**Basset**	**3.32**	**339**		Pn	03 03 32.7	+1.7
K30B				IAmb_Lg		03 04 26.7	
	comp=Z,54nm,0.8s						
OGNE	**Ogallala**	**3.38**	**295**		Pn	03 03 30.5	-1.4
P38A	**Dawn**	**3.44**	**88**		Pn	03 03 32.6	0.0
QUOK	**Quay**	**3.55**	**163**		Pn	03 03 33.6	-0.6
KSCO	**Kaye Shedlock'**	**3.65**	**262**	IAmb_Lg		03 04 41.3	
	comp=Z,44nm,0.8s						
OK052	**Battle Ridge R**	**3.70**	**165**		Pn	03 03 35.1	-1.1
N38A	**Joes South For**	**3.83**	**70**		Pn	03 03 38.6	+0.6
TUL3	**Leonard**	**4.06**	**154**		Pn	03 03 40.5	-0.6
TUL3				IAmb_Lg		03 04 48.8	
	comp=Z,43nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**4.19**	**174**	IAmb_Lg		03 04 53.7	
	comp=Z,32nm,0.7s						
U38A	**Gravette**	**4.23**	**137**		Pn	03 03 43.3	-0.2
U38A				IAmb_Lg		03 05 03.1	
	comp=Z,16nm,0.8s						
ECSD	**EROS Data Cent**	**4.27**	**13**		Pn	03 03 42.9	-1.1
SCIA	**State Center**	**4.30**	**56**	IAmb_Lg		03 04 55.3	
	comp=Z,38nm,0.8s						
P40A	**Paris**	**4.59**	**89**		Pn	03 03 47.2	-1.2
HHAR	**Hobbs**	**4.59**	**135**		Pn	03 03 47.4	-1.1
R40A	**Maddies Statio**	**4.64**	**104**	IAmb_Lg		03 05 16.6	
	comp=Z,34nm,0.8s						
SMWD	**Samnorwood**	**4.82**	**203**		Pn	03 03 50.4	-1.2
SMWD				IAmb_Lg		03 05 12.8	
	comp=Z,36nm,1.0s						
RTBA	**Rita Blanca**	**4.89**	**232**		Pn	03 03 51.5	-1.2
RTBA				IAmb_Lg		03 05 26.6	
	comp=Z,28nm,1.1s						
SUSD	**Miller**	**4.91**	**352**	IAmb_Lg		03 05 14.7	
	comp=Z,28nm,0.8s						
X34A	**Smith Ranch, M**	**4.97**	**179**	IAmb_Lg		03 05 25.9	
	comp=Z,26nm,1.0s						
MGMO	**Mountain Grove**	**5.11**	**117**		Pn	03 03 55.0	-0.5
MGMO				IAmb_Lg		03 05 28.6	
	comp=Z,29nm,0.7s						
CCM	**Cathedral Cave**	**5.48**	**104**		Pn	03 03 59.8	-0.8
CCM				IAmb_Lg		03 05 35.1	
	comp=Z,27nm,0.9s						
AMTX	**Amarillo**	**5.54**	**213**	Pn	Pn	03 04 01.1	-0.4
Q24A	**Divide**	**5.59**	**266**	IAmb_Lg		03 05 42.4	
	comp=Z,16nm,0.9s						
I37A	**Lemond, Waseca**	**5.60**	**36**	IAmb_Lg		03 05 43.2	
	comp=Z,31nm,0.8s						
L40A	**Anamosa**	**5.70**	**62**	IAmb_Lg		03 05 47.9	
	comp=Z,29nm,0.8s						
ISCO	**Idaho Springs**	**5.89**	**275**		Pn	03 04 06.2	-0.3
ISCO				IAmb_Lg		03 05 57.0	
	comp=Z,12nm,0.7s						
FVM	**French Village**	**6.12**	**103**	IAmb_Lg		03 05 52.4	
	comp=Z,17nm,0.8s						
MIAR	**Mount Ida**	**6.14**	**144**	IAmb_Lg		03 06 04.5	
	comp=Z,17nm,0.8s						
SDCO	**Great Sand Dun**	**6.16**	**255**	IAmb_Lg		03 05 51.7	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**6.24**	**132**	IAmb_Lg		03 06 03.9	
	comp=Z,28nm,0.9s						
DKNS	**Dickens**	**6.36**	**203**	IAmb_Lg		03 06 11.8	
	comp=Z,11nm,0.7s						
F33A	**5 Mile Ranch,**	**6.38**	**11**	IAmb_Lg		03 06 00.9	
	comp=Z,17nm,1.0s						
RSSD	**Black Hills**	**6.40**	**317**	IAmb_Lg		03 06 02.4	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**6.44**	**121**	IAmb_Lg		03 06 08.2	
	comp=Z,13nm,0.8s						
X40A	**Basin Creek Fa**	**6.54**	**139**	IAmb_Lg		03 06 16.3	
	comp=Z,17nm,0.8s						
Z38A	**Mt. Pleasant**	**6.76**	**158**	IAmb_Lg		03 06 17.2	
	comp=Z,21nm,1.0s						
MSTX	**Muleshoe**	**6.79**	**216**	IAmb_Lg		03 06 22.5	
	comp=Z,9.8nm,0.8s						
SPMN	**Marine on St.**	**6.82**	**

s-min=2.5km az=170.7, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.15**	**24**	P	Pb	03 10 14.7	+0.7
VRZ				S	Sb	03 10 19.3	+1.3
LREZ	**Lake Rotokare**	**0.29**	**227**	P	Pn	03 10 16.4	-1.1
LREZ				S	Sn	03 10 22.3	-0.9
MHEZ	**Mangahewa**	**0.33**	**304**	P	Pn	03 10 16.8	-1.2
MHEZ				S	Sn	03 10 23.1	-1.1
DREZ	**Durham Road**	**0.38**	**281**	P	Pn	03 10 17.7	-1.0
DREZ				S	Sn	03 10 24.2	-1.1
INHS	**Inglewood High**	**0.39**	**285**	P	Pb	03 10 17.7	+1.1
INHS				S	Sn	03 10 25.0	-0.7
PREZ	**Palmer Road**	**0.41**	**258**	P	Pn	03 10 18.2	-1.0
PREZ				S	Sn	03 10 24.7	-1.5
NEZ	**North Egmont**	**0.45**	**269**	P	Pb	03 10 18.6	+0.9
NPCS	**New Plymouth C**	**0.51**	**293**	P	Pb	03 10 19.4	+0.7
KHEZ	**Kahui Hut**	**0.52**	**266**	P	Pn	03 10 20.0	-0.7
PKVZ	**Pokaka**	**0.52**	**93**	P	Pb	03 10 19.5	+0.6
PKVZ	**Pokaka**	**0.52**	**93**	P	Pb	03 10 19.4	+0.5
PKVZ				S	Sn	03 10 27.7	-1.2
PKE	**Pukeiti**	**0.54**	**277**	P	Pn	03 10 20.1	-0.8
PKE				S	Sn	03 10 28.4	-1.0
WAZ	**Wanganui**	**0.55**	**154**	P	Pb	03 10 20.1	+0.8
ORCS	**Ohakune Ruapeh**	**0.59**	**106**	P	Pb	03 10 20.5	+0.4
TUHS	**Taumarunui Hig**	**0.59**	**48**	P	Pb	03 10 20.8	+0.7
TWVZ	**Taurewa**	**0.62**	**72**	P	Pb	03 10 20.9	+0.2
TWVZ	**Taurewa**	**0.62**	**72**	P	Pb	03 10 20.8	+0.2
TWVZ				S	Sb	03 10 29.6	+0.6
MTVZ	**Mangateitei**	**0.63**	**102**	P	Pb	03 10 21.3	+0.5
MTVZ	**Mangateitei**	**0.63**	**102**	P	Pn	03 10 21.7	-0.5
NBEZ	**Newall Road No**	**0.63**	**269**	P	Pb	03 10 21.4	+0.6
NBEZ				S	Sn	03 10 31.0	-0.6
NMEZ	**Namu Road**	**0.64**	**256**	P	Pb	03 10 21.5	+0.6
COVZ	**Chateau Observ**	**0.67**	**85**	P	Pb	03 10 21.8	+0.3
COVZ	**Chateau Observ**	**0.67**	**85**	P	Pb	03 10 22.0	+0.4
TRVZ	**Turoa**	**0.68**	**93**	P	Pb	03 10 22.1	+0.4
FWVZ	**Far West T-bar**	**0.68**	**90**	P	Pb	03 10 22.0	+0.3
FWVZ	**Far West T-bar**	**0.68**	**90**	P	Pb	03 10 22.0	+0.3
MAVZ	**Matarangi**	**0.69**	**91**	P	Pb	03 10 22.2	+0.4
MAVZ	**Matarangi**	**0.69**	**91**	P	Pb	03 10 22.2	+0.3
WHVZ	**Whangaehu Hut**	**0.71**	**92**	P	Pb	03 10 22.4	+0.2
WHVZ	**Whangaehu Hut**	**0.71**	**92**	P	Pb	03 10 22.6	+0.5
WNVZ	**Wahianoa**	**0.72**	**96**	P	Pb	03 10 22.6	+0.4
NGZ	**Ngauruhoe**	**0.72**	**83**	P	Pb	03 10 22.7	+0.3
NGZ	**Ngauruhoe**	**0.72**	**83**	P	Pb	03 10 22.6	+0.3
WTVZ	**West Tongariro**	**0.72**	**79**	P	Pb	03 10 22.6	+0.3
WTVZ	**West Tongariro**	**0.72**	**79**	P	Pb	03 10 22.6	+0.2
TUVZ	**Tukino**	**0.76**	**91**	P	Pb	03 10 23.6	-0.5
HIZ	**Hauiti**	**0.76**	**11**	P	Pb	03 10 23.2	+0.3
HIZ				S	Sn	03 10 34.0	-0.8
RATZ	**Rangitukua**	**0.94**	**66**	P	Pn	03 10 26.4	0.0
RATZ				S	Sn	03 10 39.1	-0.1
RITZ	**Rihia Road**	**0.96**	**73**	P	Pn	03 10 26.9	+0.2
WATZ	**Wairara**	**0.99**	**56**	P	Pb	03 10 26.9	+0.1
OHWZ	**Ohakea**	**1.06**	**153**	P	Pn	03 10 28.5	+0.4
TLZ	**Tolley Road**	**1.15**	**36**	P	Pn	03 10 29.3	0.0
PNHZ	**Pukenui**	**1.34**	**119**	P	Pb	03 10 34.2	+1.3
KWHZ	**Kaweka Forest**	**1.36**	**97**	P	Pb	03 10 34.5	+1.3
KRHZ	**Kereru**	**1.36**	**107**	P	Pb	03 10 33.9	+0.6
POWZ	**Post Office Ro**	**1.41**	**144**	P	Pb	03 10 34.4	+0.5
BKZ	**Black Stump Fm**	**1.41**	**87**	P	Pb	03 10 35.1	+1.0
DVHZ	**Dannevirke**	**1.55**	**133**	P	Pb	03 10 36.8	+0.5
MRZ	**Mangatainoka R**	**1.56**	**154**	P	Pb	03 10 36.0	-0.6
OGWZ	**Otaki Gorge**	**1.60**	**167**	P	Pn	03 10 36.2	+0.8
KIW	**Kapiti Island**	**1.61**	**174**	P	Pn	03 10 36.1	+0.4
DUWZ	**D'Urville Isla**	**1.65**	**200**	P	Pn	03 10 36.7	+0.5
TOZ	**Tahuroa Road**	**1.66**	**23**	P	Pn	03 10 36.3	0.0
TCW	**Tory Channel**	**1.97**	**189**	P	Pn	03 10 40.9	+0.4
MTW	**Mount Morrison**	**2.00**	**162**	P	Pb	03 10 43.0	-1.0
NNZ	**Nelson**	**2.19**	**207**	P	Pn	03 10 43.9	+0.3
TUWZ	**Tuamarina**	**2.24**	**194**	P	Pn	03 10 45.7	+1.5
QRZ	**Quartz Range**	**2.27**	**226**	P	Pn	03 10 43.7	-1.0
THZ	**Tophouse**	**2.84**	**208**	P	Pn	03 10 53.9	+1.3

*SJA **06** 03:13:01.1±0.5, 38.°12S×74.°92W, h147km±18km, ML3.3, MW3.7*
*GUC **06** 03:13:11.0±0.7, 38.°13S×73.°98W, h25km±4km, ML3.0*
ISC 06 03:13:09.2±3.2, 38.°12S±0.°03×74.°0W±0.°1, h16km±21km, n15, σ1°06/21, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.31**	**162**	⇓*i*P	**Pb**	**03 13 16.5**	**+0.2**
BI04				*e*S	**Sb**	**03 13 20.6**	**-0.5**
LC02	**Puerto Saavedr**	**0.83**	**144**	*e*P	**Pb**	**03 13 25.4**	**+0.1**
LC02				*e*S	**Sb**	**03 13 35.8**	**-0.4**
BI05	**Punta Hualpn**	**1.52**	**26**	*e*P	**Pb**	**03 13 36.2**	**-0.7**
BI05				*e*S	**Sn**	**03 13 54.6**	**-0.5**
BI05				IAML		03 14 06.3	
	comp=E,435nm,0.4s						
BI05	**Punta Hualpn**	**1.52**	**26**	*e*P	**Pn**	**03 13 36.1**	**+0.5**
BI05				*e*S	**Sb**	**03 13 55.9**	**0.0**
BI05				IAML		03 14 06.5	
	comp=Z,289nm,0.5s						
LC01	**Cunco**	**1.84**	**116**	*e*P	**Pb**	**03 13 40.9**	**-1.6**
LC01				IAML		03 14 10.7	
	comp=E,290nm,0.7s						
LR03	**Panguipulli**	**1.99**	**140**	*e*P	**Pn**	**03 13 42.9**	**+0.7**
CANA	**Caviahue**	**2.34**	**85**	*e*P	**Pb**	**03 13 50.5**	**-0.6**
CANA				*e*S	**Sg**	**03 14 26.5**	**+2.1**
CANA				IAML		03 14 31.2	
	comp=Z,59nm,0.8s						
GO06	**Curarrehue**	**2.46**	**127**	*e*P	**Pn**	**03 13 49.5**	**+0.7**
GO06				IAML		03 14 29.4	
	comp=N,86nm,0.1s						
GO06	**Curarrehue**	**2.46**	**127**	*e*P	**Pn**	**03 13 50.1**	**+1.3**
GO06				*e*S	**Sg**	**03 14 26.5**	**-1.8**
GO06				IAML		03 14 31.1	
	comp=Z,63nm,0.7s						
BI02	**San Fabin de**	**2.62**	**57**	*e*P	**Pn**	**03 13 51.8**	**+0.9**
BI02				IAML		03 14 41.5	
	comp=E,65nm,0.6s						
BI02	**San Fabin de**	**2.62**	**57**	*e*P	**Pn**	**03 13 52.4**	**+1.4**
BI02				IAML		03 14 39.4	
	comp=Z,63nm,0.7s						
GO05	**Hualane**	**3.53**	**29**	*i* P	**Pn**	**03 14 04.3**	**+0.9**
BO03	**Pichilemu**	**3.98**	**25**	*e*P	**Pn**	**03 14 09.6**	**+0.1**
BO02	**Sierra Bellavi**	**4.22**	**39**	*e*P	**Pn**	**03 14 13.6**	**+0.7**
BO01	**Tunca**	**4.41**	**33**	*e*P	**Pn**	**03 14 15.8**	**+0.3**

*NEIC **06** 03:34:45.3±1.7, 63.°46N±0.°01×148.°53W±0.°04, h8km±8km, Error ellipse: s-maj=3.0km s-min=1.9km az=63.0*
*AEIC **06** 03:34:45.4±1.5, 63.°463N±0.°004×148.°57W±0.°09, h7km±6km, ML3.5, ML3.6/228(NEIC), Error ellipse: s-maj=5.7km s-min=0.7km az=90.0*
*IDC **06** 03:34:46.3±1.0, 63.°59N×148.°38W, h0km, mb3.5/3, mbtmp3.7/6, ML3.6/3, MS3.5/1, Error ellipse: s-maj=14.3km s-min=11.8km az=94.0*
ISC 06 03:34:45.2±1.1, 63.°47N±0.°02×148.°54W±0.°03, h5km±8km, n119, σ1°05/87, mb3.7/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.15**	**246**		**Pg**	**03 34 48.9**	**+0.6**
MCK	**McKinley**	**0.32**	**327**		**Pg**	**03 34 52.0**	**+0.6**
MCK				IAML		03 34 57.1	
	comp=E,10μm,0.6s						
MCK				IAML		03 34 57.1	
	comp=N,10μm,0.6s						
WAT1	**Susitna Watana**	**0.64**	**180**		**Pg**	**03 34 57.2**	**-0.3**
WAT1					**Sg**	**03 35 05.7**	**-0.1**
WAT7	**Susitna Watana**	**0.65**	**192**		**Pg**	**03 34 57.3**	**-0.4**
WAT7					**Sg**	**03 35 06.1**	**-0.1**
DHY	**Denali Highway**	**0.66**	**126**		**Pg**	**03 34 57.8**	**-0.1**
DHY				IAML		03 35 07.7	
	comp=E,2μm,0.4s						
DHY				IAML		03 35 07.7	
	comp=N,3μm,0.6s						
DHY	**Denali Highway**	**0.66**	**126**		**Sg**	**03 35 05.7**	**-0.7**
TRF	**Thorofare Moun**	**0.78**	**269**		**Pg**	**03 34 59.8**	**-0.4**
TRF				IAML		03 35 11.8	
	comp=N,3μm,0.5s						
TRF	**Thorofare Moun**	**0.78**	**269**		**Sg**	**03 35 10.5**	**+0.1**
BWN	**Browne**	**0.82**	**330**		**Pg**	**03 35 00.5**	**-0.3**
BWN				IAML		03 35 15.0	
	comp=E,2μm,0.6s						
BWN				IAML		03 35 16.3	
	comp=N,2μm,0.6s						
WAT6	**Susitna Watana**	**0.96**	**157**		**Pg**	**03 35 02.8**	**-0.8**
WAT6					**Sb**	**03 35 17.6**	**0.0**
WRH	**Wood River Hil**	**1.03**	**11**		**Pg**	**03 35 04.8**	**-0.1**
WRH				IAML		03 35 20.2	
	comp=E,2μm,0.4s						
WRH	**Wood River Hil**	**1.03**	**11**		**Sg**	**03 35 18.5**	**+0.3**
KTH	**Kantishna Hill**	**1.07**	**276**		**Pg**	**03 35 05.2**	**-0.5**
KTH				IAML		03 35 22.6	
	comp=N,1μm,0.4s						
KTH				IAML		03 35 22.9	
	comp=E,1μm,0.5s						
NEA2	**Nenana**	**1.15**	**349**		**Pg**	**03 35 06.7**	**-0.6**
NEA2				IAML		03 35 23.3	
	comp=E,1μm,0.4s						
NEA2				IAML		03 35 24.3	
	comp=N,1μm,0.6s						
NEA2	**Nenana**	**1.15**	**349**		**Sg**	**03 35 22.1**	**-0.1**
HDA	**Harding Lake**	**1.18**	**36**		**Pg**	**03 35 07.5**	**-0.3**
CCB	**Clear Creek Bu**	**1.23**	**15**		**Pb**	**03 35 07.9**	**-1.0**
CCB				IAML		03 35 24.7	
	comp=E,2μm,0.6s						
CCB				IAML		03 35 25.9	
	comp=N,1μm,0.3s						
CCB	**Clear Creek Bu**	**1.23**	**15**		**Sg**	**03 35 23.5**	**-1.1**
BPAW	**Bear Paw Mtn.**	**1.26**	**301**		**Pn**	**03 35 08.0**	**-1.5**
K24K	**Donnelly Dome**	**1.28**	**73**		**Pn**	**03 35 09.3**	**-0.5**
K24K				IAML		03 35 33.4	
	comp=N,2μm,0.2s						
K24K				IAML		03 35 33.8	
	comp=E,1μm,0.3s						
CUT	**Chulitna**	**1.33**	**217**		**Pn**	**03 35 09.4**	**-1.0**
CUT	**Chulitna**	**1.33**	**217**		**Sb**	**03 35 27.0**	**-0.8**
COLA	**College**	**1.44**	**12**		**Pn**	**03 35 11.2**	**-0.8**
PAX	**Paxson**	**1.48**	**108**		**Pn**	**03 35 11.6**	**-1.0**
PAX				IAML		03 35 32.7	
	comp=N,1μm,0.3s						
PAX				IAML		03 35 32.9	
	comp=E,794nm,0.5s						
PAX	**Paxson**	**1.48**	**108**		**Sn**	**03 35 31.4**	**-0.9**
ILAR	**Eielson Array**	**1.50**	**28**	Pg	**Pn**	**03 35 11.8**	**-1.0**
	comp=E,26nm,0.3s,baz=213,slow=18,SNR=668						
ILAR				LR	LR	03 35 24.5	
	comp=E,174nm,20.2s,baz=236,slow=28						
ILAR				Lg	Lg	03 35 30.9	
	comp=E,157nm,0.3s,baz=211,slow=27,SNR=37						
SML	**Sawmill**	**1.67**	**177**		**Pn**	**03 35 13.8**	**-1.3**
SML				IAML		03 35 36.8	
	comp=E,1μm,0.6s						
RIDG	**Independent Ri**	**1.68**	**79**		**Pn**	**03 35 15.7**	**+0.4**
RIDG				IAML		03 35 40.1	
	comp=N,882nm,0.5s						
RIDG				IAML		03 35 41.2	
	comp=E,688nm,0.4s						
GHO	**Glory Hole Cre**	**1.71**	**186**		**Pn**	**03 35 14.6**	**-1.1**
GHO				IAML		03 35 42.5	
	comp=E,946nm,0.7s						
GHO				IAML		03 35 43.2	
	comp=N,950nm,0.8s						
I23K	**Minto, Yukon-K**	**1.72**	**348**		**Pn**	**03 35 15.0**	**-0.8**
I23K				IAML		03 35 40.9	
	comp=E,924nm,0.4s						
POKR	**Poker Plat Res**	**1.73**	**16**	IAML		03 35 40.3	
	comp=N,724nm,0.4s						
POKR				IAML		03 35 41.1	
	comp=E,734nm,0.4s						
SCM	**Sheep Creek Mo**	**1.73**	**161**		**Pn**	**03 35 15.4**	**-0.7**
M24K	**Tolsona, Glenn**	**1.75**	**140**		**Pn**	**03 35 16.6**	**+0.4**
PPLA	**Purkeypile**	**1.75**	**252**		**Pn**	**03 35 16.8**	**+0.5**
PPLA				IAML		03 35 44.7	
	comp=E,965nm,0.7s						
PPLA				IAML		03 35 45.1	
	comp=N,1μm,0.8s						
MLY	**Manley**	**1.84**	**330**		**Pn**	**03 35 16.5**	**-1.0**
M22K	**Willow**	**1.87**	**204**		**Pn**	**03 35 17.5**	**-0.3**
HARP	**HAARP**	**1.88**	**123**		**Pn**	**03 35 18.9**	**+0.8**
PMR	**Palmer**	**1.90**	**188**		**Pn**	**03 35 17.6**	**-0.7**
PMR				IAML		03 35 45.5	
	comp=N,810nm,0.4s						
PMR				IAML		03 35 46.5	
	comp=E,735nm,0.5s						
DOT	**Dot Lake**	**2.01**	**83**		**Pn**	**03 35 20.0**	**+0.1**
DOT				IAML		03 35 50.8	
	comp=E,471nm,0.4s						
DOT				IAML		03 35 51.9	
	comp=N,507nm,0.4s						
SKT	**Skwentna**	**2.03**	**224**		**Pn**	**03 35 19.6**	**-0.5**
SKT				IAML		03 35 52.6	
	comp=N,594nm,0.6s						
SKT				IAML		03 35 52.7	
	comp=E,634nm,0.7s						
KNK	**Knik Glacier**	**2.06**	**179**	IAML		03 35 52.5	
	comp=N,650nm,0.4s						
SCRK	**Sand Creek**	**2.09**	**74**		**Pn**	**03 35 20.8**	**-0.3**
SUA	**Susitna One**	**2.26**	**208**	IAML		03 35 56.5	
	comp=E,526nm,0.6s						
SUA				IAML		03 35 56.7	
	comp=N,368nm,0.6s						
KLU	**Klutina**	**2.33**	**147**		**Pn**	**03 35 24.6**	**+0.4**
L26K	**Log Cabin Wild**	**2.39**	**98**		**Pn**	**03 35 26.3**	**+1.2**
PRP	**Porcupine Dome**	**2.44**	**31**		**Pn**	**03 35 25.6**	**-0.2**
PRP				IAML		03 36 03.0	
	comp=E,251nm,0.3s						
PRP				IAML		03 36 03.9	
	comp=N,246nm,0.5s						
RC01	**Rabbit Creek A**	**2.45**	**194**		**Pn**	**03 35 26.5**	**+0.7**
STLK	**Strandline Lak**	**2.50**	**219**		**Pn**	**03 35 26.0**	**-0.5**
STLK				IAML		03 36 08.5	
	comp=E,256nm,0.3s						
STLK				IAML		03 36 09.8	
	comp=N,321nm,0.4s						
N25K	**Chitina, Valde**	**2.61**	**134**		**Pn**	**03 35 29.2**	**+1.1**
N25K	**Chitina, Valde**	**2.61**	**134**	IAML		03 36 06.2	
	comp=E,284nm,0.5s						
N25K				IAML		03 36 10.5	
	comp=N,229nm,0.6s						
PWL	**Port Wells**	**2.62**	**178**		**Pn**	**03 35 29.3**	**+1.1**
PWL				IAML		03 36 08.1	
	comp=N,409nm,0.6s						
PWL				IAML		03 36 09.6	
	comp=E,374nm,0.7s						
M20K	**Styx River**	**2.65**	**235**	IAML		03 36 11.0	
	comp=N,204nm,0.6s						
M20K				IAML		03 36 12.9	
	comp=E,312nm,0.4s						
DIV	**Divide**	**2.68**	**150**		**Pn**	**03 35 29.3**	**+0.3**
DIV				IAML		03 36 07.8	
	comp=E,360nm,0.5s						
GLI	**Glacier Island**	**2.69**	**165**		**Pn**	**03 35 30.1**	**+1.1**
GLI				IAML		03 36 12.2	
	comp=N,351nm,0.7s						
SPCN	**Chakachatna No**	**2.82**	**219**		**Pn**	**03 35 32.0**	**+1.0**
SPU	**Mount Spurr**	**2.82**	**217**		**Pn**	**03 35 31.5**	**+0.6**
FID	**Port Fidalgo**	**2.90**	**159**	IAML		03 36 16.4	
	comp=E,286nm,0.4s						
FID				IAML		03 36 16.5	
	comp=N,273nm,0.6s						
K27K	**Chicken**	**2.93**	**76**		**Pn**	**03 35 32.4**	**-0.1**
I26K	**Coal Creek Min**	**2.98**	**49**	IAML		03 36 24.6	
	comp=E,268nm,0.8s						
I26K				IAML		03 36 25.4	
	comp=N,219nm,0.6s						
GLB	**Gilahina Butte**	**3.00**	**131**		**Pn**	**03 35 35.1**	**+1.8**
GLB				IAML		03 36 19.5	
	comp=E,151nm,0.5s						
GLB				IAML		03 36 22.7	
	comp=N,217nm,0.6s						
L27K	**Beaver Creek,**	**3.06**	**95**	IAML		03 36 25.5	
	comp=N,122nm,0.5s						
SLKM	**Skilak Lake**	**3.07**	**196**	IAML		03 36 25.9	
	comp=N,179nm,0.4s						
BMRM	**Bremner River**	**3.11**	**142**	IAML		03 36 29.9	
	comp=E,222nm,0.6s						
M19K	**Big River Lodg**	**3.12**	**242**	IAML		03 36 25.1	
	comp=N,181nm,0.5s						
M19K				IAML		03 36 25.7	
	comp=E,150nm,0.7s						
EYAK	**Cordova Ski Ar**	**3.21**	**155**	IAML		03 36 32.5	
	comp=N,123nm,0.6s						
HIN	**Hinchinbrook I**	**3.23**	**162**	IAML		03 36 29.4	
	comp=N,168nm,0.7s						
VRDI	**Verde Repeater**	**3.27**	**131**	IAML		03 36 26.1	
	comp=N,122nm,0.6s						
G24K	**Hadweenzic Riv**	**3.28**	**7**	IAML		03 36 32.3	
	comp=E,126nm,1.0s						
G24K				IAML		03 36 32.8	
	comp=N,163nm,0.8s						
MCARA	**McCarthy VSAT**	**3.31**	**127**	IAML		03 36 41.3	
	comp=N,231nm,0.9s						
SEW	**Seward**	**3.40**	**188**	IAML		03 36 35.0	
	comp=E,117nm,0.7s						
EGAK	**Eagle**	**3.50**	**65**		**Pn**	**03 35 40.5**	**+0.3**
EGAK				IAML		03 36 36.6	
	comp=E,146nm,0.7s						
EGAK				IAML		03 36 40.3	
	comp=E,174nm,1.0s						
P23K	**Montague Islan**	**3.52**	**171**	IAML		03 36 39.7	
	comp=N,122nm,1.0s						
P23K				IAML		03 36 40.1	
	comp=E,161nm,0.8s						
J18K	**Innoko River**	**3.67**	**274**		**Pn**	**03 35 42.0**	**-0.6**
J18K				IAML		03 36 48.1	
	comp=N,90nm,0.9s						
HMT	**Hamilton**	**3.74**	**145**		**Pn**	**03 35 44.6**	**+1.0**
TGL	**Tana Glacier**	**3.82**	**133**	IAML		03 36 46.4	
	comp=N,124nm,1.0s						
TGL				IAML		03 36 54.5	
	comp=E,114nm,0.6s						
KIAG	**Kiagna River**	**3.86**	**129**		**Pn**	**03 35 46.2**	**+0.8**
BRLK	**Bradley Lake**	**3.88**	**198**	IAML		03 36 49.5	
	comp=E,71nm,0.4s						
BRLK				IAML		03 36 54.8	
	comp=N,68nm,0.2s						
H19K	**Roundabout Mou**	**4.00**	**305**		**Pn**	**03 35 46.6**	**-0.4**
H19K				IAML		03 36 52.5	
	comp=E,63nm,0.6s						
H19K				IAML		03 36 55.2	
	comp=N,59nm,0.8s						
BARN	**Barnard Glacie**	**4.02**	**124**		**Pn**	**03 35 49.8**	**+2.2**
BARN	**Barnard Glacie**	**4.02**	**124**	IAML		03 36 54.3	
	comp=N,57nm,0.6s						
G26K	**Porcupine Rive**	**4.03**	**28**		**Pn**	**03 35 47.2**	**-0.3**
G26K				IAML		03 36 58.5	
	comp=E,119nm,0.8s						
WAX	**Waxell Ridge**	**4.05**	**136**	IAML		03 36 59.2	
	comp=E,129nm,1.0s						
F24K	**Squaw Lake**	**4.08**	**4**		**Pn**	**03 35 48.5**	**+0.3**
F24K				IAML		03 37 00.5	
	comp=E,55nm,0.8s						
H27K	**Steamboat Moun**	**4.08**	**44**	IAML		03 37 03.0	
	comp=E,73nm,1.1s						
ISLE	**Juniper Island**	**4.10**	**132**	IAML		03 36 56.0	
	comp=N,116nm,1.0s						
ISLE				IAML		03 36 57.1	
	comp=E,108nm,0.9s						
DAWY	**Dawson**	**4.11**	**78**		**Pn**	**03 35 48.8**	**+0.2**
DAWY				IAML		03 36 58.8	
	comp=N,78nm,0.6s						
DAWY				IAML		03 37 03.1	
	comp=E,75nm,0.7s						
ILSW	**Iliamna Southw**	**4.12**	**214**	IAML		03 36 59.9	
	comp=E,60nm,1.0s						
CNPM	**China Poot**	**4.16**	**199**	IAML		03 36 54.1	
	comp=N,62nm,0.6s						
CNPM				IAML		03 36 56.4	
	comp=E,75nm,0.8s						
CTGM	**Chitina Glacie**	**4.21**	**123**		**Pn**	**03 35 51.9**	**+1.9**
GRNC	**Granite Creek**	**4.21**	**128**	IAML		03 36 56.5	
	comp=N,65nm,0.7s						
I28M	**Miner Creek**	**4.22**	**58**	IAML		03 37 00.9	
	comp=N,52nm,0.7s						
I28M				IAML		03 37 01.1	
	comp=E,66nm,0.7s						
LOGN	**Logan Glacier**	**4.42**	**123**		**Pn**	**03 35 54.3**	**+1.3**
YAH	**Yahtse**	**4.47**	**131**	IAML		03 37 12.8	
	comp=N,65nm,1.2s						
YAH				IAML		03 37 13.7	
	comp=E,45nm,1.1s						
K17K	**Iditarod**	**4.50**	**265**		**Pn**	**03 35 54.2**	**+0.2**
K17K				IAML		03 37 11.8	
	comp=N,57nm,0.9s						
K17K				IAML		03 37 18.4	
	comp=E,54nm,0.9s						
M17K	**Holitna River**	**4.62**	**247**		**Pn**	**03 35 55.6**	**0.0**
E24K	**Your Creek**	**4.63**	**0**	IAML		03 36 50.5	
	comp=N,37nm,0.6s						
E23K	**Chandalar**	**4.63**	**355**		**Pn**	**03 35 56.4**	**+0.5**
E23K				IAML		03 37 16.8	
	comp=E,42nm,0.8s						
YUK8	**Steele Glacier**	**4.64**	**114**		**Pn**	**03 35 58.1**	**+2.0**
M29M	**Somme Creek**	**4.72**	**98**	IAML		03 37 20.9	
	comp=E,58nm,0.6s						
M29M				IAML		03 37 25.5	
	comp=N,38nm,0.8s						
O28M	**Mount Upton**	**4.76**	**121**		**Pn**	**03 35 58.8**	**+1.0**
I29M	**Ogilvie Camp,**	**4.83**	**62**	IAML		03 37 24.9	
	comp=N,38nm,1.1s						
I29M				IAML		03 37 33.0	
	comp=E,39nm,0.8s						
E25K	**Arctic Village**	**4.83**	**13**	IAML		03 36 54.6	
	comp=E,37nm,0.5s						
E25K				IAML		03 37 23.1	
	comp=N,35nm,0.9s						
E22K	**Anaktuvuk Pass**	**4.88**	**345**		**Pn**	**03 36 00.2**	**+1.1**
K29M	**Barlow Dome**	**4.93**	**81**		**Pn**	**03 35 59.8**	**-0.1**
K29M				IAML		03 37 23.5	
	comp=N,48nm,0.9s						
K29M				IAML		03 37 30.2	
	comp=E,42nm,0.9s						
G18K	**Tagagawik**	**4.98**	**304**		**Pn**	**03 36 00.4**	**-0.1**
N17K	**Nushagak Hills**	**5.03**	**238**		**Pn**	**03 36 01.1**	**-0.1**
N17K				IAML		03 37 27.9	
	comp=N,56nm,1.0s						
N17K				IAML		03 37 32.0	
	comp=E,43nm,1.1s						
H29M	**Whitestone**	**5.14**	**53**	IAML		03 37 33.9	
	comp=E,41nm,0.9s						
H29M				IAML		03 37 39.1	
	comp=N,30nm,0.9s						
H17K	**Granite Mounta**	**5.18**	**292**		**Pn**	**03 36 03.1**	**-0.2**
TOLK	**Toolik Lake Re**	**5.21**	**356**	IAML		03 37 05.5	
	comp=N,34nm,0.6s						
TOLK				IAML		03 37 46.5	
	comp=E,28nm,1.1s						
E19K	**Redstone River**	**5.40**	**322**	IAML		03 37 36.8	
	comp=N,26nm,0.7s						
M30M	**Minto, Yukon**	**5.42**	**94**		**Pn**	**03 36 06.7**	**0.0**
KDAK	**Kodiak Island**	**6.04**	**201**	Pn	**Pn**	**03 36 14.5**	**-0.6**

1.2nm,0.6s,baz=96,slow=7.6,SNR=29
1.2nm,0.6s
QSPA South Pole Qui 69.80 180 P P 03 48 29.1 +0.1
1.0nm,0.9s,baz=348,slow=0.8,SNR=5.6
1.0nm,0.9s
BRTR Keskin Array B 146.78 313 PKPbc PKPbc 03 56 54.9 -0.8
0.3nm,0.6s,baz=126,slow=4.4,SNR=1.6

*SJA **06** 03:44:13.5±0.7, 33°.79S×72°.58W, h25km±3km, ML3.6, MW4.0*
*GUC **06** 03:44:16.3±0.8, 33°.79S×72°.46W, h35km±7km, ML3.5*
ISC 06 03:44:14.7±1.9, 33°.83S±0°.03×72°.57W±0°.06, h16km±11km, n43, σ1§16/80, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT01	**Popeta**	**1.10**	**92**	*i* P	**Pb**	**03 44 34.3**	**-1.0**
MT01				*e*S	**Sb**	**03 44 47.7**	**-1.7**
MT01				IAML		03 44 51.2	
	comp=N,2μm,0.5s						
MT01	**Popeta**	**1.10**	**92**	*e*P	**Pb**	**03 44 34.4**	**-1.0**
MT01				*e*S	Sb	03 44 34.4	-15
MT01				IAML		03 44 35.0	
	comp=Z,2μm,0.3s						
VA01	**Torpederas**	**1.12**	**44**	*e*P	**Pb**	**03 44 34.9**	**-0.8**
VA01				*e*S	**Sb**	**03 44 49.4**	**-0.6**
VA01				IAML		03 44 56.1	
	comp=N,3μm,0.1s						
VA01	**Torpederas**	**1.12**	**44**	*e*P	**Pb**	**03 44 34.8**	**-0.8**
VA01				IAML		03 44 54.0	
	comp=Z,832nm,0.7s						
GO05	**Hualane**	**1.29**	**156**	*e*P	**Pn**	**03 44 38.3**	**+0.2**
GO05				*e*S	**Sg**	**03 44 57.4**	**+0.9**
GO05				IAML		03 45 02.5	
	comp=Z,711nm,0.9s						
MT09	**Talagante**	**1.32**	**88⇑**	*i* P	**Pn**	**03 44 37.6**	**-1.0**
MT09				*e*S	**Sn**	**03 44 53.7**	**-2.3**
MT09				IAML		03 44 58.6	
	comp=N,2μm,0.3s						
MT02	**Curacav**	**1.33**	**65**	*e*P	**Pn**	**03 44 37.7**	**-0.9**
MT02				*e*S	**Sg**	**03 44 58.0**	**+0.5**
MT02				IAML		03 45 00.3	
	comp=Z,829nm,0.5s						
BO01	**Tunca**	**1.35**	**115**	*e*P	**Pn**	**03 44 38.0**	**-0.9**
BO01				*e*S	**Sn**	**03 44 57.2**	**+0.6**
BO01				IAML		03 45 00.1	
	comp=Z,404nm,0.6s						
ROC1	**El Roble**	**1.56**	**57**	*e*P	**Pn**	**03 44 41.4**	**-0.5**
ROC1				*e*S	**Sg**	**03 45 06.6**	**+1.6**
ROCH	**El Roble**	**1.56**	**57**	*e*P	**Pn**	**03 44 41.7**	**-0.4**
ROCH				*e*P	**Pn**	**03 44 41.6**	**-0.4**
ROCH				*e*S	**Sg**	**03 45 04.4**	**-0.7**
ROCH				*e*S	**Sb**	**03 45 06.0**	**+3.0**
ROCH				IAML		03 45 11.6	
	comp=N,2μm,0.4s						
ROCH				IAML		03 45 11.7	
	comp=N,944nm,0.5s						
MT05	**Renca**	**1.59**	**75**	*e*P	**Pn**	**03 44 42.5**	**+0.2**
MT05				*e*S	**Sn**	**03 45 02.5**	**-0.1**
MT05				IAML		03 45 10.7	
	comp=N,899nm,0.3s						
MT05	**Renca**	**1.59**	**75**	*e*P	**Pn**	**03 44 42.2**	**0.0**
MT05				*e*S	**Sg**	**03 45 07.0**	**+0.9**
MT05				IAML		03 45 08.2	
	comp=Z,505nm,1.9s						
VA06	**Catapilco**	**1.66**	**41**	*e*P	**Pn**	**03 44 42.5**	**-0.6**
VA06				*e*S	**Sn**	**03 45 02.2**	**-1.8**
VA06				IAML		03 45 12.9	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.72**	**67⇑**	*i* P	**Pn**	**03 44 44.2**	**+0.2**
PEL				*e*S	**Sn**	**03 45 04.7**	**-1.0**
PEL				IAML		03 45 16.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.72**	**67**	*e*P	**Pn**	**03 44 44.3**	**+0.2**
PEL				*e*S	**Sn**	**03 45 04.4**	**-1.3**
PEL				IAML		03 45 12.9	
	comp=Z,575nm,1.1s						
MT15	**Las Vizcachas**	**1.74**	**83**	*e*P	**Pn**	**03 44 43.9**	**-0.4**
MT15				*e*S	**Sn**	**03 45 07.4**	**+1.2**
MT15				IAML		03 45 14.0	
	comp=N,1μm,0.7s						
MT03	**Universidad Ad**	**1.75**	**80**	*e*P	**Pn**	**03 44 44.4**	**-0.1**
MT03				*e*S	**Sn**	**03 45 06.2**	**-0.4**
MT03				IAML		03 45 15.7	
	comp=N,1μm,0.7s						
MT03	**Universidad Ad**	**1.75**	**80**	*e*P	**Pn**	**03 44 44.8**	**+0.3**
MT03				*e*S	**Sn**	**03 45 07.2**	**+0.6**
MT03				IAML		03 45 12.2	
	comp=Z,746nm,0.8s						
MT14	**Cerro Calı́n**	**1.75**	**76**	*e*P	**Pn**	**03 44 44.5**	**0.0**
MT14				*e*S	**Sb**	**03 45 09.1**	**+0.7**
MT14				IAML		03 45 19.4	
	comp=E,1μm,0.5s						
BO02	**Sierra Bellavi**	**1.77**	**123**	*e*P	**Pn**	**03 44 45.1**	**+0.4**
BO02				IAML		03 45 16.6	
	comp=Z,762nm,0.6s						
MT10	**Hacienda Santa**	**1.79**	**72⇑**	*i* P	**Pn**	**03 44 45.4**	**+0.3**
MT10				*e*S	**Sg**	**03 45 11.4**	**-1.0**
MT13	**San Alfonso**	**1.91**	**88⇑**	*i* P	**Pn**	**03 44 46.5**	**-0.1**
MT13				*e*S	**Sn**	**03 45 09.2**	**-1.2**
MT13				IAML		03 45 16.6	
	comp=E,798nm,0.3s						
MT13	**San Alfonso**	**1.91**	**88**	*e*P	**Pn**	**03 44 46.9**	**+0.2**
MT13				*e*S	**Sn**	**03 45 12.2**	**+1.8**
MT13				IAML		03 45 13.7	
	comp=Z,339nm,0.8s						
LMEL	**Las Melosas**	**1.97**	**91⇑**	*i* P	**Pn**	**03 44 47.6**	**0.0**
LMEL				*e*S	**Sn**	**03 45 13.5**	**+1.4**
LMEL				IAML		03 45 17.5	
	comp=N,596nm,0.2s						
LMEL	**Las Melosas**	**1.97**	**91**	*e*P	**Pn**	**03 44 47.9**	**+0.3**
LMEL				*e*S	**Sn**	**03 45 13.5**	**+1.4**
LMEL				IAML		03 45 17.0	
	comp=Z,536nm,0.6s						
VA03	**San Esteban**	**2.00**	**58**	*e*P	**Pn**	**03 44 48.0**	**+0.1**
VA03				*e*S	**Sg**	**03 45 21.5**	**+2.4**
VA03	**San Esteban**	**2.00**	**58**	*e*P	**Pn**	**03 44 48.0**	**+0.1**
VA03				*e*S	**Sb**	**03 45 15.5**	**+0.1**
VA03				IAML		03 45 31.5	
	comp=Z,769nm,0.7s						
MT04	**Ro Olivares**	**2.08**	**79⇑**	*i* P	**Pn**	**03 44 49.1**	**0.0**
MT04				*e*S	**Sn**	**03 45 14.2**	**-0.5**
MT04				IAML		03 45 26.4	
	comp=N,414nm,0.6s						
MT04	**Ro Olivares**	**2.08**	**79**	*e*P	**Pn**	**03 44 49.2**	**+0.2**
MT04				*e*S	**Sn**	**03 45 14.8**	**+0.1**
MT04				IAML		03 45 28.2	
	comp=Z,243nm,0.5s						
MT08	**Bocatoma Ro**	**2.17**	**80**	*e*P	**Pn**	**03 44 51.2**	**+0.9**
MT08				*e*S	**Sn**	**03 45 18.7**	**+1.8**
MT08	**Bocatoma Ro**	**2.17**	**80**	*e*P	**Pn**	**03 44 50.9**	**+0.5**
MT08				*e*S	**Sn**	**03 45 16.9**	**0.0**
MT08				IAML		03 45 37.2	
	comp=Z,207nm,0.5s						
CO02	**Combarbal**	**2.94**	**27**	*e*P	**Pn**	**03 45 01.0**	**+0.2**
CO02				*e*S	**Sn**	**03 45 35.8**	**0.0**
CO02				IAML		03 45 52.3	
	comp=Z,291nm,0.8s						
BI05	**Punta Hualpn**	**2.95**	**190**	*e*P	**Pn**	**03 45 01.2**	**+0.3**
BI05				IAML		03 45 57.2	
	comp=Z,82nm,1.1s						
BI02	**San Fabin de**	**3.02**	**160**	*e*P	**Pn**	**03 45 03.1**	**+1.2**
BI02				IAML		03 45 55.1	
	comp=Z,139nm,0.6s						
EDS3	**Malargue**	**3.25**	**127**	*e*P	**Pn**	**03 45 05.8**	**+0.7**
EDS3				*e*S	**Sg**	**03 45 56.8**	**-2.3**
ASAL	**Salagasta**	**3.37**	**69**	*e*P	**Pn**	**03 45 08.6**	**+1.8**
ASAL				*e*S	**Sg**	**03 46 00.1**	**-2.9**
CO03	**El Pedregal**	**3.38**	**29**	*e*P	**Pn**	**03 45 07.2**	**+0.3**
CO03				*e*S	**Sn**	**03 45 47.0**	**+0.3**
CO03				IAML		03 46 09.3	
	comp=Z,122nm,1.2s						
RTLS	**Leoncito**	**3.42**	**55**	*e*P	**Pn**	**03 45 10.4**	**+2.7**
RTLS				*e*S	**Sb**	**03 45 57.6**	**+1.0**
RTLS				IAML		03 46 06.5	
	comp=Z,416nm,0.7s						
GO04	**Tololo Observa**	**3.95**	**23**	*e*S	**Sn**	**03 46 00.4**	**-0.5**
GO04				IAML		03 46 23.0	
	comp=Z,114nm,0.8s						
CFA	**Coronel Fontan**	**4.28**	**60**	*e*P	**Pn**	**03 45 20.6**	**+1.5**
CFA				*e*S	**Sb**	**03 46 23.0**	**+2.1**
ACCO	**Cerro Coronel**	**4.39**	**44**	*e*P	**Pn**	**03 45 23.5**	**+2.5**
ACCO				*e*S	**Sb**	**03 46 24.2**	**-0.4**
LCO	**Las Campanas**	**5.06**	**19**	*e*P	**Pn**	**03 45 30.2**	**0.0**
LCO				*e*S	**Sn**	**03 46 27.2**	**-1.3**
LCO				IAML		03 47 04.9	
	comp=Z,72nm,0.6s						
TCA	**Tanti**	**7.18**	**72**	*e*P	Pn	03 46 05.0	+5.9

*DJA **06** 03:44:56.3±1.1, 9°.N±4°×12°.6E±°, h10km±8km, M4.9/12, mb4.9/12, mB5.4/6, MLv5.0/6, Mw(mB)4.8/6*
*IDC **06** 03:45:04.1±1.6, 9°.00N×126°.19E, h93km±15km, mb3.9/18, mbtmp4.3/22, MS2.9/9, Error ellipse: s-maj=22.0km s-min=10.1km az=80.0*
*NEIC **06** 03:45:04.2±2.0, 8°.98N±0°.07×126°.1E±0°.2, h81km±3km, mb4.5/21, Error ellipse: s-maj=24.8km s-min=9.6km az=85.0*
ISC 06 03:45:02.1±0.4, 9°.08N±0°.05×126°.2E±0°.1, h66km, n57, σ1§56/54, mb4.3/28, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.10**	**198**		**Pn**	**03 45 34.5**	**-0.5**
DAV	**Davao City (W)**	**2.10**	**198**	P	**Pn**	**03 45 37.7**	**+2.6**
	242nm,0.4s,baz=35,slow=4.7,SNR=7.4						
DAV				S	**Sn**	**03 46 01.0**	**+0.8**
	362nm,0.4s,baz=160,slow=22,SNR=5.8						
DAV				LR	LR	03 46 08.2	
	comp=Z,85nm,21.2s,baz=55,slow=32						
SGSI	**Sangihe**	**5.40**	**188**	P	**Pn**	**03 46 20.3**	**+0.1**
SGSI				S	**Sn**	**03 47 26.6**	**+5.5**
TGY	**Tagaytay City**	**7.21**	**314**	P	**Pn**	**03 46 48.1**	**+3.2**
	68nm,0.3s,baz=272,slow=7.4,SNR=3.5						
TNTI	**Ternate**	**8.33**	**172**	Pn	**Pn**	**03 47 01.1**	**+0.9**
MRSI	**Marisa**	**9.56**	**207**	P	**Pn**	**03 47 15.9**	**-1.1**
	20nm,0.6s						
KAPI	**Kappang**	**15.42**	**205**	LR	LR	03 54 51.2	
	comp=Z,63nm,18.5s,baz=56,slow=38						
JOW	**Kunigami**	**17.76**	**6**		**Pn**	**03 49 07.7**	**+2.7**
JOW				IAmb	IAmb	03 49 09.8	
	comp=Z,20nm,1.0s						
JOW	**Kunigami**	**17.76**	**6**	P	**Pn**	**03 49 07.3**	**+2.4**
	comp=Z,9.0nm,0.7s,baz=184,slow=13,SNR=2.7						
JOW				LR	LR	03 55 12.9	
	comp=Z,38nm,19.6s,baz=123,slow=34						
SOEI	**Soe**	**18.81**	**186**	P	**Pn**	**03 49 19.1**	**+1.3**
	comp=Z,35nm,0.9s						
BATI	**Baumata**	**19.33**	**188**	P	**Pn**	**03 49 22.9**	**-1.0**
	comp=Z,47nm,0.4s,baz=34,slow=0.5,SNR=5.2						
MTN	**Manton Dam**	**22.31**	**167**	P	**P**	**03 49 53.5**	**-0.9**
MTN				IAmb	IAmb	03 50 14.3	
	comp=Z,29nm,1.5s						
JNU	**Nakatsue**	**24.31**	**9**	LR	LR	04 00 57.1	
	comp=Z,23nm,18.7s,baz=226,slow=39						
KNRA	**Kununurra**	**24.72**	**174**		**P**	**03 50 17.0**	**-0.4**
KNRA				IAmb	IAmb	03 50 21.5	
	comp=Z,8.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.01**	**181**	P	**P**	**03 50 38.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.07**	**292**	P	**P**	**03 50 48.4**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=112,slow=7.1,SNR=9.4						
CMAR				LR	LR	04 01 22.4	
	comp=Z,18nm,19.5s,baz=215,slow=35						
	comp=Z,1.8nm,0.3s						
KSRS	**Korea Array**	**28.29**	**3**	P	**P**	**03 50 50.3**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=172,slow=8.3,SNR=2.7						
	comp=Z,1.6nm,0.8s						
MJAR	**Matsushiro Arr**	**29.42**	**20**	P	**P**	**03 50 58.2**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=200,slow=10,SNR=4.0						
MJAR				LR	LR	04 03 16.6	
	comp=Z,22nm,18.8s,baz=189,slow=37						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**29.77**	**164**	P	**P**	**03 51 00.9**	**-1.7**
WB0				IAmb	IAmb	03 51 14.0	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**29.92**	**165**	P	**P**	**03 51 02.4**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=348,slow=9.4,SNR=8.4						
WRA				LR	LR	04 04 17.4	
	comp=Z,32nm,19.0s,baz=110,slow=39						
	comp=Z,0.5nm,0.5s						
WR8	**Warramunga Arr**	**29.98**	**164**	P	**P**	**03 51 02.7**	**-1.8**
WR8				IAmb	IAmb	03 51 30.3	
	comp=Z,8.0nm,1.3s						
JMM	**Marumori**	**31.53**	**22**	P	**P**	**03 51 18.3**	**+0.3**
AS31	**Alice Springs**	**33.39**	**167**	P	**P**	**03 51 33.5**	**-1.0**
ASAR	**Alice Springs**	**33.40**	**167**	P	**P**	**03 51 33.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=347,slow=7.0,SNR=37						
ASAR				PcP	**PcP**	**03 54 12.9**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=335,slow=2.5,SNR=1.9						
	comp=Z,0.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.34**	**7**	P	**P**	**03 51 51.7**	**+0.6**
	comp=Z,10nm,0.6s,baz=198,slow=7.5,SNR=19						
	comp=Z,10nm,0.6s						
MORW	**Morawa**	**39.18**	**194**	P	**P**	**03 52 23.8**	**+0.1**
MORW				IAmb	IAmb	03 53 00.1	
	comp=Z,20nm,1.3s						
FORT	**Forrest**	**39.67**	**178**	P	**P**	**03 52 28.0**	**+0.2**
FORT				IAmb	IAmb	03 52 29.0	
	comp=Z,11nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.30**	**72**	T	T	04 35 37.9	
	baz=262,slow=75,SNR=286						
H11S1	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	04 35 35.3	
	baz=262,slow=75,SNR=318						
H11S2	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	04 35 36.3	
	baz=262,slow=75,SNR=294						
BBOO	**Buckleboo**	**42.69**	**168**	P	**P**	**03 52 52.4**	**-0.2**
STKA	**Stephens Creek**	**43.29**	**161**	P	**P**	**03 52 57.0**	**-0.5**
STKA	**Stephens Creek**	**43.29**	**161**	P	**P**	**03 52 56.9**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=313,slow=7.9,SNR=5.1						
	comp=Z,1.3nm,0.4s						
PETK	**Petropavlovsk-**	**50.73**	**24**	P	**P**	**03 53 55.8**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=229,slow=7.6,SNR=6.5						
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**52.96**	**323**	P	**P**	**03 54 11.4**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=122,slow=8.4,SNR=14						
MKAR				PcP	**PcP**	**03 55 18.7**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=112,slow=5.6,SNR=2.0						
	comp=Z,3.3nm,0.7s						
MA2	**Magadan**	**53.69**	**15**	LR	LR	04 18 50.8	
	comp=Z,9.0nm,18.0s,baz=116,slow=38						
ZALV	**Zalesovo Beam**	**55.65**	**332**	P	**P**	**03 54 29.6**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=123,slow=7.4,SNR=4.9						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**56.15**	**316**	LR	LR	04 20 28.2	
	comp=Z,39nm,20.6s,baz=52,slow=38						
KURK	**Kurchatov**	**57.03**	**326**	P	**P**	**03 54 40.5**	**-0.6**
KURK				IAmb	IAmb	03 54 40.9	
	comp=Z,3.7nm,0.6s						
KURBB	**Kurchatov Arra**	**57.03**	**326**	P	**P**	**03 54 40.5**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=124,slow=6.9,SNR=27						
	comp=Z,2.4nm,0.4s						
TIXI	**Tiksi**	**62.54**	**1**	P	**P**	**03 55 18.7**	**+0.2**
TIXI				IAmb	IAmb	03 55 19.3	
	comp=Z,9.3nm,0.8s						
KIWB	**Kanaga Island**	**62.61**	**36**	P	**P**	**03 55 20.3**	**+0.9**
BVAR	**Borovoye Array**	**62.63**	**326**	P	**P**	**03 55 19.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.8,SNR=6.9						
	comp=Z,1.0nm,0.5s						
ADK	**Adak**	**62.89**	**36**	P	**P**	**03 55 22.3**	**+1.1**
ATKA	**Atka Island**	**64.44**	**36**	P	**P**	**03 55 32.5**	**+1.0**
ATKA				IAmb	IAmb	03 55 33.1	
	comp=Z,12nm,0.8s						
AB31	**Akbulak array**	**67.76**	**320**	P	**P**	**03 55 52.0**	**-0.9**
I23K	**Minto, Yukon-K**	**79.47**	**25**	P	**P**	**03 57 02.1**	**+1.0**
ILAR	**Eielson Array**	**80.52**	**26**	P	**P**	**03 57 06.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=244,slow=4.5,SNR=13						
	comp=Z,0.5nm,0.7s						
SCRK	**Sand Creek**	**81.81**	**26**	P	**P**	**03 57 15.1**	**+1.2**
I28M	**Miner Creek**	**83.40**	**25**	P	**P**	**03 57 24.1**	**+1.9**
I28M				IAmb	IAmb	03 57 56.9	
	comp=Z,4.4nm,1.2s						
ARCES	**ARCESS Array B**	**85.30**	**340**	P	**P**	**03 57 29.6**	**-1.9**
	comp=Z,1.5nm,0.6s,baz=79,slow=6.3,SNR=21						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**86.92**	**332**	P	**P**	**03 57 38.0**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=83,slow=4.3,SNR=23						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**88.76**	**173**	P	**P**	**03 57 47.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=320,slow=6.7,SNR=7.2						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**93.09**	**332**	P	**P**	**03 58 06.7**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=134,slow=10,SNR=4.3						
	comp=Z,0.9nm,0.6s						
NOA	**NORSAR Array B**	**93.81**	**334**	P	**P**	**03 58 10.1**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=64,slow=4.6,SNR=1.8						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.67**	**291**	PKP	**PKPdf**	**04 03 46.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=46,slow=2.5,SNR=6.2						
PLCA	**Paso Flores**	**145.13**	**157**	PKPbc	**PKPbc**	**04 04 29.9**	**-2.3**
	comp=Z,1.9nm,0.9s,baz=204,slow=10.0,SNR=3.2						

*RSPR **06** 03:56:52.3, 19°.37N×67°.26W, h34km±23km, MD3.0/8*
*SDD **06** 03:56:54.6±5.9, 18°.85N×67°.20W, h110km±71km, MD2.8, ML1.7, MW2.7*
ISC 06 03:56:53.7±2.3, 19°.2N±0°.1×67°.22W±0°.06, h30km±13km, n22, σ0§99/29, 16C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.69**	**172⇑**	*e*P	**Pb**	**03 57 06.7**	**-0.6**
AGPR	**Aguadilla, PR**	**0.69**	**172⇓**	*e*Pg	**Pb**	**03 57 06.6**	**-0.7**
AGPR				*e*Pg	**Sb**	**03 57 16.7**	**+0.2**
AGPR				IAML		03 57 20.6	
	comp=N,56nm,0.3s						
IDE	**Isla Desecheo**	**0.80**	**198⇓**	*e*P	**Pb**	**03 57 08.6**	**-0.5**
IDE	**Isla Desecheo**	**0.80**	**198**	*e*S	**Sn**	**03 57 21.6**	**+1.7**
AOPR	**Arecibo Observ**	**0.91**	**151⇑**	*e*Pg	**Pn**	**03 57 10.9**	**+0.3**
AOPR				*e*Sg	**Sn**	**03 57 23.7**	**+1.1**
AOPR				IAML		03 57 26.1	
	comp=N,31nm,0.6s						
PRSN	**Puerto Rico Se**	**0.93**	**176⇑**	*e*Pg	**Pn**	**03 57 09.1**	**-1.7**
PRSN				*e*Sg	**Sb**	**03 57 23.5**	**+0.1**
PRSN				IAML		03 57 24.4	
	comp=N,54nm,0.3s						
LSP	**Las Mesas**	**0.98**	**173⇑**	*e*P	**Pn**	**03 57 11.0**	**-0.5**
LSP	**Las Mesas**	**0.98**	**173**	*e*S	**Sb**	**03 57 26.4**	**+1.7**
CRPR	**Cabo Rojo, PR**	**1.14**	**175⇑**	*e*P	**Pn**	**03 57 13.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.14**	**175**	*e*S	**Sb**	**03 57 31.0**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.14**	**175⇓**	*e*Pg	**Pn**	**03 57 13.5**	**-0.1**
CRPR				*e*Sg	**Sn**	**03 57 27.9**	**-0.3**
CRPR				IAML		03 57 36.2	
	comp=N,7.6nm,0.6s						
MLPR	**Magueyes Islan**	**1.19**	**172⇑**	*e*P	**Pn**	**03 57 14.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.19**	**172**	*e*S	**Sb**	**03 57 31.2**	**+0.6**
MLPR	**Magueyes Islan**	**1.19**	**172⇓**	*e*Pg	**Pn**	**03 57 14.2**	**-0.1**
MLPR				*e*Sg	**Sn**	**03 57 28.6**	**-0.8**
MLPR				IAML		03 57 35.1	
	comp=N,2.2nm,0.4s						
CELP	**Cerrillos**	**1.23**	**150⇑**	*e*P	**Pn**	**03 57 14.6**	**-0.3**
CELP	**Cerrillos**	**1.23**	**150**	*e*S	**Sb**	**03 57 31.9**	**+0.1**
CELP	**Cerrillos**	**1.23**	**150⇑**	*e*Pg	**Pn**	**03 57 14.5**	**-0.3**
CELP				*e*Sg	**Sn**	**03 57 28.5**	**-2.0**
CELP				IAML		03 57 33.1	
	comp=N,17nm,0.2s						
OBIP	**Obispado Ponce**	**1.24**	**152⇑**	*e*P	**Pn**	**03 57 15.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.24**	**152**	*e*S	**Sb**	**03 57 32.2**	**-0.1**
PDPR	**Patillas Dam,**	**1.60**	**135⇑**	*e*P	**Pn**	**03 57 20.0**	**+0.1**
PDPR	**Patillas Dam,**	**1.60**	**135**	*e*S	**Sn**	**03 57 41.1**	**+1.6**
HATOM	**Hato Mayor del**	**2.08**	**260⇑**	*e*Pg	**Pn**	**03 57 27.5**	**+0.9**
HATOM				*e*Sg	**Sn**	**03 57 50.2**	**-1.3**
HATOM				IAML		03 58 02.7	
	comp=N,1.7nm,0.4s						

IDC 06 04:27:56.5±8.0, 31°.66S×179°.80W, h150km±61km, mb3.6/3, mbtmp4.0/4, Error ellipse: s-maj=74.2km s-min=31.2km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.06**	**200**	P	Pn	04 29 37.3	+0.1
	7.6nm,0.9s,baz=25,slow=13,SNR=8.0						
URZ				S	Sn	04 30 45.8	-10
	12nm,0.5s,baz=37,slow=20,SNR=18						
ASAR	**Alice Springs**	**41.52**	**269**	P	P	04 35 28.9	-0.3
	1.1nm,0.5s,baz=105,slow=7.6,SNR=21						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**42.62**	**274**	P	P	04 35 38.2	0.0
	1.5nm,0.4s,baz=114,slow=7.9,SNR=24						
	1.5nm,0.4s						
QSPA	**South Pole Qui**	**58.46**	**180**	P	P	04 37 36.2	-0.2
	1.9nm,1.2s,baz=5.7,slow=3.1,SNR=1.6						
	1.9nm,1.2s						
FINES	**FINESS Array B**	**145.76**	**338**	PKPbc	PKPdf	04 47 16.4	0.0
	2.5nm,1.0s,baz=58,slow=4.7,SNR=4.0						

*PLV **06** 04:34:39.6±0.9, 21°.91N×102°.78E, h13km±3km, ML3.4*
*BKK **06** 04:34:47.4±0.8, 22°.N±5°×10°.2E±°, h9km, M3.9/9, MLv3.9/9*
ISC 06 04:34:38.4±1.2, 21°.88N±0°.08×102°.82E±0°.05, h8km, n10, σ1§23/14, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**0.34**	**63**	*i* Pg	**Pn**	**04 34 47.1**	**-2.7**
DBV	**Dienbien**	**0.53**	**159**	*i* Pg	**Pn**	**04 34 50.8**	**-1.5**
DBV				*e*Sg	**Sb**	**04 34 57.9**	**+0.2**
DBV				IAML		04 35 02.8	
	comp=N,3μm,0.6s						
DBV				IAML		04 35 02.9	
	comp=E,3μm,0.5s						
MCVV	**Moc Chau**	**2.02**	**122**	*e*Pn	**Pn**	**04 35 12.3**	**-0.5**
HGVB	**Ha Giang**	**2.22**	**64**	*e*Pg	**Pg**	**04 35 22.2**	**+1.1**
HGVB				*e*Sg	**Sg**	**04 35 51.4**	**+1.6**
HGVB				IAML		04 35 51.9	
	comp=E,182nm,0.

SBLS	San Blas	2.11	97	eP		Pn		04 48 03.4	+1.0
SBLS				eS		Sn		04 48 30.3	+2.4
UNIC	Universidad Ca	2.17	93	P		Pn		04 48 04.4	+1.4
CCIG	Comitan	2.21	351	i P		Pn		04 48 04.7	+1.0
JAYA	Jayaque - finc	2.30	101	eP		Pn		04 48 05.7	+0.6
JAYA				eS		Sn		04 48 34.1	+1.4
JAYA	Jayaque - finc	2.30	101	eP		Pn		04 48 05.4	+0.4
JAYA				eS		Sn		04 48 32.2	-0.5
CEDA	San Andres	2.33	97	eP		Pn		04 48 07.0	+1.7
CEDA				eS		Sn		04 48 34.2	+1.0
CEDA	San Andres	2.33	97	P		Pn		04 48 07.4	+2.1
MTO3	Montecristo	2.36	82	eP		Pn		04 48 06.1	+0.2
MTO3	Montecristo	2.36	82	P		Pn		04 48 07.8	+1.9
ESQI	Esquipulas	2.41	79	P		Pb		04 48 10.0	-1.3
PMON	Piamonte	2.42	99	P		Pn		04 48 08.0	+1.3
BOQS	Boqueron	2.45	98	eP		Pn		04 48 08.6	+1.5
LALI	Alcalda de L	2.46	104	eP		Pn		04 48 07.9	+0.9
LALI	Alcalda de L	2.46	104	eP		Pn		04 48 07.6	+0.6
UEES	Universidad Ev	2.49	98	P		Pn		04 48 10.1	+2.5
LOMA	Loma Larga	2.57	100	eP		Pn		04 48 10.1	+1.4
LOMA	Loma Larga	2.57	100	P		Pn		04 48 10.9	+2.2
UDBS	Universidad Do	2.57	98	P		Pn		04 48 10.8	+2.1
PAVA	Las Pavas	2.78	97	P		Pn		04 48 13.2	+1.6

*CATAC **06** 04:54:06.0±0.3, 12°N±2°×8°3W±°, h1km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=3.8km s-min=3.5km az=132.9, confirmed*
*RSNC **06** 04:54:05.0±0.3, 12°N±3°×83°3W±°, h0km, M2.7, mb3.8, ML2.7*
*UCR **06** 04:54:09.1±1.1, 12.°01N×83.°29W, h35km±26km, MW3.7*
ISC 06 04:54:04.8±1.2, 12.°00N±0.°02×83.°37W±0.°02, h5km±10km, n117, σ1°17/134, 2C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORNA	Casa Canada	0.36	61	eP	Pn	04 54 16.3	-0.3
CORNA				eS	Sb	04 54 22.9	+3.4
ESPN	Las Esperanzas	0.94	282	P	Pb	04 54 23.4	-0.1
ESPN	Las Esperanzas	0.94	282	S	Sg	04 54 35.0	+0.1
ESPN	Las Esperanzas	0.94	282	eP	Pb	04 54 22.8	-0.7
ESPN	Las Esperanzas	0.94	282	P	Pb	04 54 22.8	-0.7
ESPN				S	Sg	04 54 34.5	-0.4
TRT2	Tortugero	1.48	194	S	Sg	04 54 52.4	0.0
TRT2	Tortugero	1.48	194	⇓P	Pg	04 54 32.6	-0.6
TRT2	Tortugero	1.48	194	eP	Pg	04 54 32.5	-0.6
COVE	Coope Vega, Sa	1.63	219	S	Sb	04 54 56.4	+0.2
COVE	Coope Vega, Sa	1.63	219	⇓P	Pb	04 54 35.3	-0.1
LCHIL	Los Chiles	1.63	234	eP	Pb	04 54 35.2	-0.2
LCHIL				eS	Sb	04 54 56.6	+0.2
CARI	Cariari	1.67	193	eP	Pg	04 54 36.1	-0.7
SARA	Sarapiqu	1.67	203	eP	Pg	04 54 36.0	-0.8
SAIC	Isla e San And	1.70	72	P	Pg	04 54 36.8	-0.6
SAIC				S	Sg	04 55 01.3	+1.8
ACON	Acoyapa	1.77	269	S	Sn	04 54 58.4	-0.7
ACON	Acoyapa	1.77	269	eP	Pn	04 54 35.1	-1.0
ACON	Acoyapa	1.77	269	P	Pn	04 54 35.1	-1.0
ACON				S	Sn	04 54 57.6	-1.5
ITAL	Pital	1.78	210	eP	Pb	04 54 37.9	0.0
PILE	Guapiles	1.82	193	eP	Pb	04 54 38.6	-0.1
ARTO	Ro Cuarto	1.85	207	eP	Pb	04 54 38.9	-0.2
LCOCO	El Coco	1.91	186	eP	Pb	04 54 39.0	-1.2
VPL2	V. Platanar	1.96	211	eP	Pb	04 54 39.8	-1.3
REZ	Monterrey de S	1.96	222	eP	Pb	04 54 41.3	+0.2
QUEU	Ciudad Quesada	1.97	212	eP	Pb	04 54 40.8	-0.5
RESJ	San Isidro (Tu	1.98	188	eP	Pb	04 54 40.1	-1.2
VACR	Volcan Arenal	1.99	220	eP	Pb	04 54 41.4	-0.1
VPL1	V. Platanar	1.99	210	eP	Pb	04 54 41.4	-0.3
CEDE	Laguna Cedeo	2.00	221	eP	Pb	04 54 42.0	+0.3
VPB	V Poas	2.00	206	eP	Pb	04 54 41.6	0.0
CVTR	Volcan Turrial	2.00	191	eP	Pb	04 54 41.0	-1.1
VTR0	Volcan Turrial	2.01	191	eP	Pg	04 54 42.3	-1.1
ABRB	Las Abras (San	2.01	190	eP	Pb	04 54 40.9	-1.1
CVTV	Tajo	2.02	191	eP	Pb	04 54 42.0	-0.2
CVTQ	Turrialba Volc	2.02	191	eP	Pb	04 54 42.3	+0.1
SOCE	Pocosol	2.02	218	P	Pb	04 54 41.7	-0.4
SOCE	Pocosol	2.02	218	S	Sb	04 55 07.6	-0.1
SOCE	Pocosol	2.02	218	eP	Pb	04 54 41.8	-0.4
ARE1	Arenal 1	2.03	221	eP	Pb	04 54 41.9	-0.2
VARE2	V. Arenal	2.03	221	eP	Pb	04 54 41.9	-0.3
RVSTA	Santa Teresita	2.03	188	eP	Pn	04 54 40.6	+0.9
TABAC	Tabacon	2.03	223	eP	Pb	04 54 41.3	-1.0
QUEB	Quebradon, Cot	2.03	228	eP	Pb	04 54 42.1	-0.1
BILN	Bilwi Airport	2.04	360	S	Sb	04 55 07.6	-0.3
BILN	Bilwi Airport	2.04	360	eP	Pb	04 54 41.5	-0.9
TENO	El Achiote	2.04	231	eP	Pg	04 54 43.1	-0.8
CVIMO	Finca Echandi	2.04	196	eP	Pb	04 54 42.0	-0.6
CASO	Castillo	2.06	221	eP	Pb	04 54 42.4	-0.3
VICA	Volcano Irazu	2.06	193	eP	Pb	04 54 42.4	-0.6
VERH	Veragua Rainfo	2.07	175	eP	Pb	04 54 40.5	+0.2
VERB	Verbena	2.07	189	eP	Pn	04 54 41.3	+1.0
VMAR	Armenia, Volca	2.08	236	eP	Pb	04 54 42.2	-0.9
CORON	Coronado	2.11	197	eP	Pb	04 54 43.6	0.0
HDC	Heredia	2.12	200	eP	Pb	04 54 43.8	0.0
MOTZ	Rio Naranjo	2.12	232	eP	Pb	04 54 43.6	-0.3
HEME	Heredia, Merce	2.13	201	eP	Pg	04 54 45.5	-0.1
TIMP	Tierras Morena	2.15	229	eP	Pb	04 54 43.3	-0.9
LUPE	Guadalupe	2.15	198	eP	Pb	04 54 44.3	0.0
CHIK	Chiripa	2.17	225	eP	Pb	04 54 44.0	-0.6
BELE	Belen	2.17	202	eP	Pb	04 54 44.4	-0.2
TRIO	Tres Rios	2.17	197	eP	Pb	04 54 44.2	-0.5
CENT	San Jose	2.17	199	eP	Pg	04 54 45.4	-1.0
LUJA	Lujan	2.17	199	eP	Pb	04 54 44.4	-0.4
MESS	Mesas	2.19	235	eP	Pb	04 54 45.2	+0.3
HORNC	Hornillas	2.19	234	eP	Pg	04 54 47.1	+0.3
SIUN	Universidad Ur	2.19	321	S	Sn	04 55 09.4	0.0
AMPA	Desamparados	2.20	198	eP	Pb	04 54 44.6	-0.6
PEJA	Penjamo Buenos	2.20	240	eP	Pb	04 54 44.4	-0.8
CUI	Cuipilapa	2.21	233	eP	Pb	04 54 44.7	-0.6
REPA	Paraso	2.21	193	eP	Pb	04 54 45.3	-0.2
BUAI	Buenos Aires	2.23	240	eP	Pb	04 54 44.7	-0.9
COLC	Colonia	2.24	234	eP	Pb	04 54 45.8	+0.1
LAES	El Progreso Va	2.25	172	eP	Pn	04 54 43.4	+0.7
CONN	Concepcion	2.26	259	⇑P	Pb	04 54 44.5	-1.6
CONN				S	Sb	04 55 13.3	-1.0
CARN	Rivas	2.26	249	P	Pb	04 54 45.7	-0.5
CARN				S	Sb	04 55 14.1	-0.4
CARN	Rivas	2.26	249	eP	Pb	04 54 45.5	-0.7
OMEN	AI SSO del Vol	2.27	258	⇑P	Pn	04 54 43.5	+0.5
OMEN				S	Sn	04 55 12.4	+1.1
VORI	VORI	2.27	239	eP	Pg	04 54 48.5	+0.1
MORN	AI O del Volca	2.28	259	P	Pb	04 54 45.3	-1.2
MORN				S	Sb	04 55 14.6	-0.4
GPS1	Guardaparques	2.30	238	eP	Pg	04 54 49.4	+0.6
VRLE	La Escondida,	2.30	239	eP	Pb	04 54 46.3	-0.6
JTS	Las Juntas de	2.31	223	P	Pb	04 54 45.7	-1.2
JTS				S	Sb	04 55 14.5	-1.3
JTS	Las Juntas de	2.31	223	eP	Pb	04 54 45.6	-1.3
JTS	Las Juntas de	2.31	223	P	Pn	04 54 44.1	+0.6
JTS				S	Sn	04 55 11.7	-0.6
ACOS	Acosta	2.33	200	eP	Pb	04 54 46.5	-0.8
LAPC	Finca la Perla	2.37	239	eP	Pb	04 54 47.2	-0.8
PRVC	Isla de Provid	2.38	55	P	Pb	04 54 46.3	-1.9
PRVC	Isla de Provid	2.38	55	P	Pn	04 54 46.3	-1.9
PRVC				S	Sn	04 55 14.9	+0.7
LCRUZ	La Cruz	2.40	248	eP	Pb	04 54 47.3	-1.3
PITB	Pirrs, San	2.41	196	eP	Pb	04 54 47.9	-1.0
BRIBI	Bribri	2.42	167	eP	Pg	04 54 55.0	+3.7
PIEC	Cerro El Cedra	2.43	194	eP	Pn	04 54 47.1	+1.6
PICV	PH. Pirrs	2.50	199	eP	Pb	04 54 49.0	-1.2
ELI1	Hacienda Flor	2.53	238	eP	Pb	04 54 47.9	+1.3
PAR1A	Puntarenas Pro	2.54	200	eP	Pb	04 54 50.8	-0.2
ALIBA	Liberia Airpor	2.56	237	eP	Pb	04 54 49.0	-2.2
NADN	Granada	2.62	265	P	Pn	04 54 49.1	+1.2
MATN	Matagalpa	2.67	291	P	Pn	04 54 48.3	-0.3
MATN	Matagalpa	2.67	291	S	Sn	04 55 22.4	+1.0
DRK0	Durika	2.72	178	eP	Pn	04 54 50.3	+0.9
JCR1	Jicaral	2.74	219	eP	Pn	04 54 50.9	+1.4
WILN	Americas 2	2.77	274	S	Sb	04 55 28.8	-0.1
JUD3	Juan Diaz 3	2.81	230	eP	Pb	04 54 52.9	-2.6
MGAN	Managua	2.82	273	S	Sb	04 55 30.5	-0.2
MGAN	Managua	2.82	273	P	Pn	04 54 51.4	+0.8
MGAN				S	Sb	04 55 30.1	-0.5
EDPE	Pejibaye, P	2.83	184	eP	Pn	04 54 52.6	+1.8
ALCO	Alturas Coton,	3.08	170	eP	Pn	04 54 55.5	+1.2
CNGN	Cerro Negro	3.30	279	eP	Pn	04 54 58.5	+1.4
CNGN	Cerro Negro	3.30	279	P	Pn	04 54 57.9	+0.7
CNGN				S	Sb	04 55 44.3	0.0
RBALA	Bur	3.32	159	eP	Pn	04 54 57.5	0.0
BQTLY	Boquete Panama	3.34	164	eP	Pn	04 54 59.8	+1.9
BANCO	falda S V. Bar	3.36	166	eP	Pn	04 54 59.4	+1.2
SERC	Banco Serrana,	3.70	52	P	Pn	04 55 04.3	+1.6
SERC				S	Sn	04 55 44.5	-2.2
TGUH	Tegucigalpa,Un	4.32	299	P	Pn	04 55 12.3	+0.9
TGUH				S	Sn	04 56 07.1	+4.8
BCIP	Isla Barro Col	4.47	129	eP	Pn	04 55 14.4	+1.2
BCIP	Isla Barro Col	4.47	129	P	Pn	04 55 14.1	+0.9
BCIP				S	Sn	04 56 00.6	-5.0
CAZU	Cerro Azul, Pa	4.76	125	eP	Pn	04 55 18.5	+1.1
SJCC	San Jacinto, C	8.30	104	P	Pn	04 56 06.6	+0.6

IDC 06 04:57:32.9±23.0, 17.°89S×177.°75W, h330km±202km, mb3.3/3, mbtmp4.0/3, Error ellipse: s-maj=278.1km s-min=68.0km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.25	259	P	P	05 05 18.2	-0.7
	0.3nm,0.2s,baz=97,slow=8.0,SNR=4.9						
	0.3nm,0.2s						
ASAR	Alice Springs	45.40	254	P	P	05 05 20.1	+0.2
	2.9nm,0.5s,baz=84,slow=8.3,SNR=17						
	2.9nm,0.5s						
ILAR	Eielson Array	85.73	13	P	P	05 09 34.7	-0.1
	0.6nm,1.1s,baz=208,slow=5.0,SNR=2.6						
	0.6nm,1.1s						
BRTR	Keskin Array B	145.21	315	PKPbc	PKPdf	05 16 31.3	-0.6
	0.8nm,0.7s,baz=19,slow=1.6,SNR=4.4						
GERES	GERESS Array B	147.75	346	PKPbc	PKPbc	05 16 38.7	-0.5
	0.4nm,0.5s,baz=5.7,slow=4.0,SNR=4.2						

*GII **06** 05:14:59.7±0.0, 33.°031N±0.°001×35.°615E±0.°001, h15km, Mws2.2, confirmed*
*JSO **06** 05:14:59.8±0.4, 33°N±2°×3°6E±°, h0km±4km, M2.6/9, ML3.0/7, MLv2.4/9, MLv2.4/9*
*GRAL **06** 05:15:00.6±0.2, 33.°05N×35.°63E, h4km±2km, MD2.6*
ISC 06 05:14:59.2±0.9, 33.°03N±0.°02×35.°63E±0.°03, h18km±3km, n51, σ0°51/55, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDNS	Had-Ness	0.10	173	P	Pg	05 15 03.0	+0.1
HDNS	Had-Ness	0.10	173	S	Sg	05 15 05.9	+0.6
AMID	Amiad	0.12	216	P	Pg	05 15 03.0	-0.2
AMID	Amiad	0.12	216	S	Sg	05 15 05.5	-0.3
KNHM	Kefar Nahum	0.15	195	P	Pg	05 15 03.3	-0.2
KNHM	Kefar Nahum	0.15	195	S	Sg	05 15 06.6	+0.2
KSHT	Keshet	0.16	107	P	Pg	05 15 03.9	+0.2
KSHT	Keshet	0.16	107	S	Sg	05 15 07.5	+0.8
RMOT	Ramot	0.18	170	P	Pg	05 15 04.0	+0.1
RMOT	Ramot	0.18	170	S	Sg	05 15 07.6	+0.6
SPIR	Sapir Facility	0.18	204	P	Pb	05 15 03.7	0.0
SPIR	Sapir Facility	0.18	204	S	Sg	05 15 07.0	0.0
GEM	Giv'at Ha'Em	0.18	10	P	Pg	05 15 04.0	0.0
GEM	Giv'at Ha'Em	0.18	10	P	Sg	05 15 04.1	+0.1
GEM	Giv'at Ha'Em	0.18	10	S	Sg	05 15 07.8	+0.6
MMA0B	Mount Meron ar	0.19	266	P	Pb	05 15 04.0	+0.1
MMA0B	Mount Meron ar	0.19	266	S	Sg	05 15 07.8	+0.4
MMC7	Mount Meron ar	0.20	268	P	Pb	05 15 04.2	+0.1
MGDL	Migdal	0.21	208	P	Pb	05 15 04.2	-0.2
MGDL	Migdal	0.21	208	S	Sg	05 15 08.2	+0.4
NATI	Neve Ativ	0.25	22	P	Pg	05 15 05.1	+0.1
NATI	Neve Ativ	0.25	22	P	Pg	05 15 05.1	+0.1
NATI	Neve Ativ	0.25	22	S	Sg	05 15 09.4	+0.6
TVER	Teveria	0.26	197	P	Pg	05 15 04.9	-0.2
TVER	Teveria	0.26	197	S	Sb	05 15 09.3	0.0
GOLA	Golan Heights	0.32	176	P	Pg	05 15 06.1	+0.1
GOLA	Golan Heights	0.32	176	S	Sb	05 15 11.3	+0.2
SHBL	Chebaa	0.33	17	eP	Pg	05 15 06.4	-0.1
SHBL				eS	Sg	05 15 10.6	-0.8
MNHA	Menahamia	0.37	190	P	Pg	05 15 06.7	-0.2
HNTI	Hanita	0.38	278	P	Pg	05 15 07.1	-0.1
BLGI	Bet Lehem HaGe	0.47	231	P	Pb	05 15 09.3	+0.3
BLGI	Bet Lehem HaGe	0.47	231	S	Sg	05 15 15.9	+0.8
RCY	Rachaya	0.50	21	eP	Pg	05 15 09.2	-0.1
QRWL	Qaraoun	0.52	5	eP	Pg	05 15 09.7	-0.1
QRWL				eS	Sg	05 15 16.4	-0.4
MMLI	Mount Malkishu	0.61	196	P	Pb	05 15 10.9	-0.5
MMLI	Mount Malkishu	0.61	196	S	Sg	05 15 20.4	+0.8
DQRL	Deir Qamar	0.68	356	eP	Pb	05 15 12.4	-0.2
HMDT	Nahal Hemdat	0.78	186	P	Pb	05 15 13.9	-0.3
HMDT	Nahal Hemdat	0.78	186	P	Pb	05 15 13.8	-0.5
HMDT	Nahal Hemdat	0.78	186	S	Sg	05 15 25.2	+0.4
ZAHL	Zahle	0.85	15	eP	Pg	05 15 15.7	-0.3
BHL	Bhannes	0.87	1	eP	Pb	05 15 15.9	0.0
SLTI	Sal'it	0.93	212	P	Pn	05 15 17.4	0.0
SLTI				S	Sb	05 15 29.6	+0.8
SLTI	Sal'it	0.93	212	P	Pb	05 15 16.4	-0.4
SALP	Salfit	1.02	201	P	Pb	05 15 18.5	0.0
SALP				S	Sn	05 15 32.5	-0.2
HWQ	Hawqa	1.27	12	eP	Pb	05 15 22.9	+0.1
ASF	Jabal al Asfar	1.37	128	P	Pb	05 15 24.4	0.0
DSI	Dead Sea	1.47	188	P	Pn	05 15 25.0	+0.2
BEIL	Beino	1.58	17	eP	Pb	05 15 27.7	-0.2
GHAJ	Ghor Haditha	1.72	182	P	Pb	05 15 30.5	+0.2
PRNI	Paran	2.72	191	P	Pb	05 15 44.9	-2.5

*NDI **06** 05:25:44.5±1.6, 32.°94N×73.°62E, h10km, ML3.6, MW3.6*
*NEIC **06** 05:25:54.7±0.8, 32.°91N±0.°05×73.°69E±0.°08, h10km±2km, mb3.6/4, Error ellipse: s-maj=12.4km s-min=6.7km az=247.0*
*IDC **06** 05:25:55.4±1.1, 33.°19N×73.°97E, h0km, mb3.7/9, mbtmp3.7/13, ML3.4/4, Error ellipse: s-maj=30.0km s-min=17.5km az=53.0*
ISC 06 05:25:55.7±0.8, 32.°95N±0.°08×73.°70E±0.°06, h15km, n39, σ2°29/44, mb3.7/9, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	Nilore	0.79	332		Pb	05 26 10.6	-0.6
NIL				Sg	Sb	05 26 21.0	-0.8
JMU	Jammu	1.04	103	eP	Sn	05 26 33.7	+3.8
TSSA	Tissa	2.06	92	eP	Pg	05 26 39.5	+4.2
TSSA				IAML		05 27 05.8	
	comp=E,186nm,0.4s						
TSSA				eS	Sg	05 27 20.3	+18
TSSA				IAML		05 27 23.1	
	comp=N,273nm,0.1s						
DHRM	DHARAMSHALA	2.30	107	eP	Pb	05 26 35.4	-1.7
DHRM				IAML		05 27 10.7	
	comp=N,267nm,0.4s						
DHRM				IAML		05 27 11.1	
	comp=E,307nm,0.6s						
DHRM				eS	Sg	05 27 12.7	+2.9
BHK	Bhakra	2.76	123	eP	Pn	05 26 35.2	-4.3
BHK				eS	Sn	05 27 13.7	+1.1
BHK				IAML		05 27 25.4	
	comp=N,438nm,0.5s						
BHK				IAML		05 27 25.7	
	comp=E,620nm,0.1s						
KLP	Kalpa	4.11	109	eP	Pn	05 26 49.1	-9.0
KLP				eS	Sn	05 27 38.0	-8.2
KLP				IAML		05 27 51.1	
	comp=N,108nm,0.4s						
KLP				IAML		05 27 55.7	
	comp=E,107nm,0.8s						
KBL	Kabul	4.19	294		Pn	05 26 58.9	-0.4
HNLY	HANLEY	4.44	91	eP	Pn	05 27 05.2	+2.2
HNLY				eS	Sb	05 28 03.4	-3.9
HNLY				IAML		05 28 17.3	
	comp=N,121nm,0.5s						
HNLY				IAML		05 28 22.0	
	comp=E,111nm,0.5s						
GAR	Garm	6.63	337	Pn	Pn	05 27 32.6	-0.1
TARG	Taragay, Kyrgy	9.35	19		Pn	05 28 10.6	+0.3
KDJ	Kajisay	9.57	16	Pn	Pn	05 28 12.9	-0.1
BOOM	Boomskoye usch	9.69	10		Pn	05 28 15.6	+0.9
AAK	Ala-Archa	9.69	3		Pn	05 28 14.4	-0.4
AAK	Ala-Archa	9.69	3	Pn	Pn	05 28 16.2	+1.5
	comp=E,1.1nm,0.3s,baz=175,slow=11,SNR=11						
AAK				Sn	Sn	05 29 50.6	-13
	comp=E,0.3nm,0.3s,baz=54,slow=19,SNR=1.2						
	comp=E,4.2nm,0.4s						
AAK	Ala-Archa	9.69	3	⇓P	Pn	05 28 16.5	+1.7
	comp=E,1.5nm,0.5s						
AAK				⇑S	Sn	05 30 05.2	+1.8
	comp=E,2.6nm,0.8s						
KK31	Karatay Array	10.44	347		Pn	05 28 25.2	+0.4
KK31	Karatay Array	10.44	347	⇓P	Pn	05 28 25.1	+0.2
	comp=E,4.0nm,0.4s,baz=175,slow=12,SNR=49						
KK31				⇓S	Sn	05 30 16.9	-4.7
	comp=E,13nm,0.9s,baz=174,slow=22,SNR=12						
KKAR	Karatay Array	10.44	347		Pn	05 28 24.7	-0.1
EVN	Everest	12.36	110	Pn	Pn	05 28 50.9	-0.8
MAKZ	Makanchi	15.22	22	Pn	Pn	05 29 29.5	-0.5
MKAR	Makanchi Array	15.30	23	Pn	Pn	05 29 30.0	-1.2
MKAR	Makanchi Array	15.30	23	Pn	Pn	05 29 29.9	-1.3
	comp=E,0.3nm,0.3s,baz=191,slow=13,SNR=5.9						
	comp=E,0.4nm,0.5s						
KURBB	Kurchatov Arra	18.02	10	P	Pn	05 30 02.8	-2.6
	baz=195,slow=11,SNR=8.1						
	comp=E,1.3nm,0.8s						
KURK	Kurchatov	18.12	10	P	Pn	05 30 04.7	-1.9
AB31	Akbulak array	19.26	332	P	P	05 30 19.0	-0.5
AB31				IAmb	IAmb	05 30 46.2	
	comp=Z,4.7nm,1.4s						
ABKAR	Akbulak array	19.26	332	P	P	05 30 18.9	-0.6
BVAR	Borovoye Array	20.21	354	P	P	05 30 29.7	-0.1
	comp=Z,0.1nm,0.3s,baz=155,slow=11,SNR=6.1						
	comp=Z,1.5nm,0.6s						
AKTO	Aktyubinsk	20.96	331	P	P	05 30 38.1	+0.1
	comp=Z,5.3nm,0.6s,baz=145,slow=9.3,SNR=16						
	comp=Z,5.3nm,0.6s						
ZAA0	Zalesovo Array	22.44	17	P	P	05 30 52.7	-1.1
ZAA0				IAmb	IAmb	05 30 55.9	
	comp=Z,2.6nm,0.8s						
ZALV	Zalesovo Beam	22.44	17		P	05 30 52.8	-1.0
ZALV	Zalesovo Beam	22.44	17	P	P	05 30 53.1	-0.7
	comp=Z,1.6nm,0.5s,baz=210,slow=9.4,SNR=8.5						
	comp=Z,1.6nm,0.5s						
CMAR	Chiang Mai Arr	26.84	116	P	P	05 31 37.7	+1.9
	comp=Z,0.7nm,0.3s,baz=300,slow=8.8,SNR=7.9						
	comp=Z,0.7nm,0.3s						
BRTR	Keskin Array B	32.77	293	P	P	05 32 33.3	+5.0
	comp=Z,0.8nm,0.8s,baz=60,slow=8.5,SNR=3.6						
	comp=Z,0.8nm,0.8s						
ARCES	ARCESS Array B	45.26	338	P	P	05 34 12.0	-0.2
	comp=Z,2.0nm,0.9s,baz=113,slow=7.8,SNR=3.7						
	comp=Z,2.0nm,0.9s						
GERES	GERESS Array B	46.83	308	P	P	05 34 27.7	+2.8
	comp=Z,0.1nm,0.4s,baz=56,slow=7.2,SNR=3.6						
	comp=Z,0.1nm,0.4s						
NB2	NORSAR Subarra	48.55	325	P	P	05 34 37.5	-0.5
	comp=Z,0.5nm,0.6s,baz=97,slow=7.9						
NOA	NORSAR Array B	48.55	325	P	P	05 34 38.0	-0.1
	comp=Z,0.5nm,0.6s,baz=96,slow=7.5,SNR=3.8						
	comp=Z,0.5nm,0.6s						
WRA	Warramunga Arr	78.21	123	P	P	05 37 56.2	+1.3
	comp=Z,0.2nm,0.5s,baz=311,slow=5.7,SNR=1.7						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	80.39	126	P	P	05 38 08.3	+1.6
	comp=Z,0.4nm,1.0s,baz=324,slow=6.0,SNR=2.1						
	comp=Z,0.4nm,1.0s						

*CATAC **06** 05:34:42.4±0.5, 13°N±3°×8°9W±°, h30km±2km, M2.9/18, MLv2.9/18, Error ellipse: s-maj=6.8km s-min=4.2km az=24.6, confirmed*
*SNET **06** 05:34:43.5±1.7, 13°15N×89°45W, h54km, ML3.1*
ISC 06 05:34:42.8±2.2, 13.°0N±0.°1×89.°45W±0.°06, h45km±18km, n53, σ0°61/64, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.46	15	eP	Pn	05 34 53.3	-0.1
LALI	Alcalda de L	0.46	15	P	Pn	05 34 53.1	-0.2
LALI	Alcalda de L	0.46	15	S	Sn	05 35 00.5	-0.3
JAYA	Jayaque - finc	0.61	360	eP	Pn	05 34 54.9	-0.5
JAYA				eS	Sn	05 35 04.9	+0.5
JAYA	Jayaque - finc	0.61	360	P	Pn	05 34 55.0	-0.4
PANCS	Alcalda de	0.63	24	S	Sn	05 35 04.4	-0.2
PANCS	Alcalda de	0.63	24	P	Pn	05 34 55.0	-0.5
ITCA	Escuela Especi	0.65	15	P	Pn	05 34 56.4	+0.5
ITCA	Escuela Especi	0.65	15	S	Sn	05 35 05.2	0.0
LOMA	Loma Larga	0.66	24	eP	Pn	05 34 55.8	-0.2
LOMA				eS	Sn	05 35 06.0

ML3.3
ISC 06 05:41:40.3±1.5, **13°.16N**±0°.06×**89°.94W**±0°.04, **h25**km±12km, **n65**, σ0°.67/77, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.68**	**354**	P	**Pb**	**05 41 53.4**	**-0.2**
JAYA	**Jayaque - finc**	**0.69**	**44**	*eP*	**Pb**	**05 41 53.9**	**+0.2**
JAYA				*eS*	**Sn**	**05 42 04.0**	**-0.5**
JAYA	**Jayaque - finc**	**0.69**	**44**	*eP*	**Pb**	**05 41 53.8**	**0.0**
JAYA				*eS*	**Sb**	**05 42 03.6**	**+0.6**
JAYA	**Jayaque - finc**	**0.69**	**44**	P	**Pb**	**05 41 53.9**	**+0.2**
LALI	**Alcalda de L**	**0.69**	**61**	*eP*	**Pb**	**05 41 53.5**	**-0.1**
LALI				*eS*	**Sb**	**05 42 02.6**	**-0.2**
LALI	**Alcalda de L**	**0.69**	**61**	*eP*	**Pb**	**05 41 52.8**	**-0.8**
LALI				*eS*	**Sb**	**05 42 02.4**	**-0.4**
LALI	**Alcalda de L**	**0.69**	**61**	P	**Pb**	**05 41 53.0**	**-0.7**
CEVE	**Cerro Verde**	**0.73**	**25**	*eP*	**Pb**	**05 41 54.8**	**+0.2**
CEVE				*eS*	**Sn**	**05 42 06.2**	**+0.5**
CEVE	**Cerro Verde**	**0.73**	**25**	P	**Pb**	**05 41 54.8**	**+0.2**
CEVE	**Cerro Verde**	**0.73**	**25**	S	**Sn**	**05 42 05.9**	**+0.2**
SBLS	**San Blas**	**0.74**	**24**	*eP*	**Pb**	**05 41 54.8**	**0.0**
SBLS				*eS*	**Sn**	**05 42 05.4**	**-0.6**
NUBE	**Las Nubes**	**0.76**	**12**	*eP*	**Pb**	**05 41 54.8**	**-0.2**
NUBE				*eS*	**Sn**	**05 42 05.2**	**-1.0**
NUBE	**Las Nubes**	**0.76**	**12**	P	**Pb**	**05 41 54.8**	**-0.2**
ITCA	**Escuela Especi**	**0.82**	**51**	P	**Pn**	**05 41 55.3**	**-1.1**
ITCA	**Escuela Especi**	**0.82**	**51**	S	**Sb**	**05 42 07.2**	**+0.4**
CEDA	**San Andres**	**0.83**	**40**	*eP*	**Pn**	**05 41 56.1**	**-0.3**
CEDA				*eS*	**Sn**	**05 42 08.6**	**+0.6**
CEDA	**San Andres**	**0.83**	**40**	P	**Pn**	**05 41 56.1**	**-0.3**
CEDA	**San Andres**	**0.83**	**40**	S	**Sn**	**05 42 07.8**	**-0.1**
LOAL	**Lomas de Alarc**	**0.85**	**11**	P	**Pb**	**05 41 56.5**	**+0.1**
LOAL	**Lomas de Alarc**	**0.85**	**11**	S	**Sn**	**05 42 08.3**	**0.0**
BOQS	**Boqueron**	**0.86**	**48**	*eP*	**Pn**	**05 41 56.8**	**-0.2**
BOQS				*eS*	**Sn**	**05 42 08.9**	**0.0**
PANCS	**Alcalda de**	**0.87**	**59**	S	**Sb**	**05 42 07.7**	**-0.2**
UEES	**Universidad Ev**	**0.88**	**51**	P	**Pn**	**05 41 56.8**	**-0.3**
UEES	**Universidad Ev**	**0.88**	**51**	S	**Sn**	**05 42 09.0**	**-0.1**
LOMA	**Loma Larga**	**0.89**	**57**	S	**Sb**	**05 42 08.9**	**+0.1**
LOMA	**Loma Larga**	**0.89**	**57**	P	**Pn**	**05 41 56.4**	**-0.9**
UTEC	**Universidad Te**	**0.90**	**53**	S	**Sn**	**05 42 09.4**	**-0.2**
UNIC	**Universidad Ca**	**0.90**	**25**	P	**Pn**	**05 41 56.9**	**-0.5**
UNIC	**Universidad Ca**	**0.90**	**25**	S	**Sn**	**05 42 09.8**	**+0.1**
IGN	**Direccin Gen**	**0.93**	**54**	P	**Pn**	**05 41 57.4**	**-0.4**
IGN	**Direccin Gen**	**0.93**	**54**	S	**Sn**	**05 42 09.9**	**-0.5**
UDBS	**Universidad Do**	**0.94**	**54**	S	**Sn**	**05 42 10.2**	**-0.5**
RBDL	**Robledal**	**0.98**	**15**	*eP*	**Pn**	**05 41 58.5**	**-0.1**
RBDL				*eS*	**Sb**	**05 42 12.5**	**+1.1**
LBRS	**Las Brisas**	**1.05**	**56**	*eP*	**Pn**	**05 41 59.1**	**-0.3**
PAVA	**Las Pavas**	**1.12**	**60**	S	**Sb**	**05 42 16.0**	**+0.6**
PAVA	**Las Pavas**	**1.12**	**60**	P	**Pn**	**05 41 59.8**	**-0.6**
TECO	**Alcaldia de Te**	**1.19**	**71**	P	**Pn**	**05 42 00.2**	**-1.1**
TECO	**Alcaldia de Te**	**1.19**	**71**	S	**Sn**	**05 42 16.2**	**-0.6**
UESV	**Universidad de**	**1.22**	**67**	P	**Pn**	**05 42 01.3**	**-0.4**
UESV	**Universidad de**	**1.22**	**67**	S	**Sn**	**05 42 17.6**	**+0.2**
FG16	**Alotenango, Sa**	**1.24**	**333**	*eP*	**Pb**	**05 42 06.0**	**+2.8**
SCLA	**Alcaldia de Sa**	**1.30**	**65**	P	**Pn**	**05 42 03.2**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.30**	**65**	S	**Sb**	**05 42 20.3**	**0.0**
MTO3	**Montecristo**	**1.35**	**24**	*eP*	**Pn**	**05 42 03.8**	**+0.1**
MTO3	**Montecristo**	**1.35**	**24**	P	**Pn**	**05 42 03.9**	**+0.1**
MTO3	**Montecristo**	**1.35**	**24**	S	**Sb**	**05 42 22.3**	**+0.2**
LLGN	**La Laguna**	**1.39**	**44**	P	**Pn**	**05 42 04.2**	**0.0**
LLGN	**La Laguna**	**1.39**	**44**	S	**Sb**	**05 42 23.0**	**-0.1**
PQSS	**Presa 15 de Se**	**1.42**	**71**	S	**Sb**	**05 42 23.2**	**-0.6**
ESSG	**Sabana Grande**	**1.49**	**325**	*eP*	**Pn**	**05 42 04.2**	**-1.4**
ESQI	**Esquipulas**	**1.51**	**23**	P	**Pn**	**05 42 06.2**	**+0.4**
ESQI	**Esquipulas**	**1.51**	**23**	S	**Sb**	**05 42 25.6**	**-0.9**
PACA	**Pacayal**	**1.60**	**79**	*eP*	**Pn**	**05 42 08.1**	**+0.9**
PACA				*eS*	**Sb**	**05 42 29.9**	**+0.6**
PACA	**Pacayal**	**1.60**	**79**	P	**Pn**	**05 42 08.0**	**+0.8**
PACA	**Pacayal**	**1.60**	**79**	S	**Sn**	**05 42 27.5**	**+0.4**
STG2	**El Palmar, Qui**	**1.89**	**313**	*eP*	**Pb**	**05 42 15.0**	**+0.8**
SARH	**Santa Rosa de**	**1.97**	**35**	P	**Pn**	**05 42 13.0**	**+0.9**
LCND	**La Caada**	**2.00**	**85**	P	**Pn**	**05 42 12.7**	**-0.2**
CNCH	**Conchagua**	**2.06**	**87**	P	**Pn**	**05 42 13.4**	**0.0**
CNCH	**Conchagua**	**2.06**	**87**	S	**Sn**	**05 42 38.4**	**+0.2**
RTAL	**Retalhuleu**	**2.18**	**309**	S	**Sb**	**05 42 43.3**	**-2.4**
YUSH	**Yuscaran**	**3.11**	**75**	P	**Pn**	**05 42 27.7**	**-0.1**
CNGA	**Al SSO del Vol**	**3.23**	**101**	P	**Pn**	**05 42 30.0**	**+0.6**
CNGN	**Cerro Negro**	**3.23**	**101**	P	**Pn**	**05 42 29.2**	**-0.2**
LIMN	**Finca el Limon**	**3.48**	**91**	P	**Pn**	**05 42 33.0**	**0.0**
LIMN				S	**Sn**	**05 43 13.3**	**-0.1**

*AEIC **06** 05:49:17.9±0.6, 54°.4N±0°.2×166°.0W±0°.2, h156km±6km, Error ellipse: s-maj=39.7km s-min=7.9km az=153.0*
NEIC 06 05:49:18.3±0.6, **54°.4N**±0°.2×**166°.0W**±0°.2, **h158**km±6km, **ML2.8**/16, **ML2.4**(AEIC), **Error ellipse: s-maj=34.7km s-min=7.1km az=156.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKGG	**Akutan Green G**	**0.16**	**179**		Pn	05 49 39.5	0.0
AKLV	**Akutan Long Va**	**0.20**	**173**		Pn	05 49 39.4	-0.2
LVA	**Lava Point**	**0.20**	**187**	Pn	Pn	05 49 39.5	-0.1
LVA				IAML		05 49 56.8	
	comp=E,80nm,1.2s						
LVA				IAML		05 50 01.4	
	comp=N,131nm,0.9s						
AKRB	**Akutan Reef Bi**	**0.24**	**191**		Pn	05 49 39.7	0.0
AKUT	**Akutan**	**0.26**	**150**		Pn	05 49 39.5	-0.1
AKBBA	**Akutan Broad B**	**0.27**	**172**		Pn	05 49 39.8	+0.1
AKBBA					Sn	05 49 55.6	-0.4
AHB	**Akutan Harbor**	**0.27**	**157**		Pn	05 49 39.8	0.0
AKMO	**Akutan Morgan**	**0.27**	**182**		Pn	05 49 39.9	+0.2
AKMO					Sn	05 49 56.0	0.0
ZRO	**Akutan Zero**	**0.27**	**178**		Pn	05 49 39.5	-0.3
ZRO					Sn	05 49 55.6	-0.4
AKSA	**Akutan Strait**	**0.29**	**142**		Pn	05 49 39.7	0.0
UNV	**Unalaska Valle**	**0.60**	**210**		Pn	05 49 40.8	-0.2
UNV					Sn	05 49 58.2	-0.1
MNAT	**Makushin Natee**	**0.63**	**220**		Pn	05 49 41.2	-0.1
MSW	**Makushin Switc**	**0.65**	**226**		Pn	05 49 41.2	-0.1
MSW					Sn	05 49 59.3	+0.4
MREP	**Makushin Rep't**	**0.71**	**219**		Pn	05 49 41.9	+0.1
MGOD	**Makushin Gods**	**0.77**	**223**		Pn	05 49 42.3	+0.1
SSBA	**Shishaldin**	**1.16**	**69**		Pn	05 49 45.2	-0.1
OKFG	**Magazine Ridge**	**1.48**	**231**		Pn	05 49 48.2	-0.1
OKFG					Sn	05 50 10.6	-0.7
OKTU	**Okmok Mt. Tuli**	**1.56**	**232**		Pn	05 49 49.2	+0.1
OKTU					Sn	05 50 12.0	-0.7
FALS	**False Pass**	**1.58**	**71**	Pn	Pn	05 49 49.6	+0.4
OKSP	**Okmok Steeple**	**1.76**	**232**		Pn	05 49 51.2	0.0
NIKH	**Nikolski High**	**2.20**	**232**	Pn	Pn	05 49 56.2	0.0
NIKH				IAML		05 50 29.6	
	comp=N,27nm,1.1s						
NIKH				IAML		05 51 25.5	
	comp=E,30nm,1.1s						
DOL	**Dolgoi Island**	**2.52**	**70**		Pn	05 50 00.5	+0.5
S12K	**Black Hills**	**2.63**	**58**	Pn	Pn	05 50 01.6	+0.2
S12K				IAML		05 51 58.4	
	comp=N,46nm,1.2s						
CLCO	**Concord Point,**	**2.73**	**236**		Pn	05 50 03.0	+0.5
SDPT	**Sand Point**	**3.34**	**71**	Pn	Pn	05 50 09.7	-0.4
SDPT				IAML		05 50 49.8	
	comp=N,20nm,0.9s						
SDPT				IAML		05 50 53.3	
	comp=E,26nm,1.2s						
ATKA	**Atka Island**	**5.38**	**250**	Pn	Pn	05 50 37.0	+0.3
ATKA				IAML		05 53 23.7	
	comp=E,5.8nm,1.1s						
ADK	**Adak**	**6.90**	**253**	Pn	Pn	05 50 56.4	-0.5
KIWB	**Kanaga Island**	**7.17**	**254**	Pn	Pn	05 51 01.0	+0.5
OHAK	**Old Harbor**	**7.71**	**63**	Pn	Pn	05 51 04.8	-2.9
SYI	**Shuyak Island**	**8.64**	**55**	Pn	Pn	05 51 18.3	-1.7
AMKA	**Amchitka**	**9.38**	**257**	Pn	Pn	05 51 29.1	-0.8
CNPM	**China Poot**	**9.57**	**51**	Pn	Pn	05 51 30.9	-1.4

*HLW **06** 05:57:09.0, 36°.49N×26°.88E, h0km±2km, Ml3.5*
*GII **06** 05:57:10.7±0.0, 36°.40N×26°.55E, h122km, Mws3.6, confirmed*
*IDC **06** 05:57:13.6±0.7, 36°.32N×26°.59E, h136km±10km, mb3.5/8, mbtmp3.9/15, Error ellipse: s-maj=18.2km s-min=9.3km az=163.0*
*ISK **06** 05:57:14.2, 36°.48N×26°.52E, h126km±1km, ML3.1/33*
*THE **06** 05:57:14.5, 36°.N±3°.×2°.7E±°., h133km±7km, M3.4/13, MLh3.4/13*
*ATH **06** 05:57:15.0, 36°.40N×26°.54E, h125km±2km, ML3.8/7,*

Manual Solution by A.Papageorgiou First location: 2019/10/06 05:58:31, This location: 2019/10/06 06:07:22
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*AFAD **06** 05:57:17.0, 36°.63N×26°.87E, h117km±8km, ML3.1*
ISC 06 05:57:13.1±0.6, **36°.39N**±0°.04×**26°.61E**±0°.04, **h135**km±5km, **n183**, σ1°.40/210, **mb3.8**/7, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTA	**Astypalaia**	**0.26**	**307**	P	**Pn**	**05 57 32.3**	**+0.6**
ASTA				S	**Sn**	**05 57 45.6**	**-0.2**
KLNA	**Kalymnos**	**0.64**	**27**	P	**Pn**	**05 57 34.1**	**+0.6**
KLNA				S	**Sn**	**05 57 49.1**	**0.0**
DAT	**Datca**	**0.85**	**66**	Pg	**Pn**	**05 57 36.3**	**+1.0**
DAT	**Datca**	**0.85**	**66**	P	**Pn**	**05 57 36.4**	**+1.0**
DAT	**Datca**	**0.85**	**66**	P	**Pn**	**05 57 36.8**	**+1.5**
BODT	**Bodrum**	**0.88**	**40**	Pg	**Pn**	**05 57 36.5**	**+1.1**
BODT	**Bodrum**	**0.88**	**40**	P	**Pn**	**05 57 37.2**	**+1.8**
YKAV	**Yalikavak-Bodr**	**0.91**	**36**	Pg	**Pn**	**05 57 36.0**	**+0.3**
THERA	**Ancient Thera,**	**0.91**	**269**	P	**Pn**	**05 57 36.5**	**+0.7**
THERA	**Ancient Thera,**	**0.91**	**269**	P	**Pn**	**05 57 36.2**	**+0.5**
THRA	**Thira**	**0.95**	**272**	P	**Pn**	**05 57 36.9**	**+0.9**
BDRM	**Kayabasi**	**0.95**	**45**	P	**Pn**	**05 57 37.4**	**+1.3**
KARP	**Karpathos**	**0.95**	**152**	Pg	**Pn**	**05 57 37.9**	**+1.8**
KARP	**Karpathos**	**0.95**	**152**	P	**Pn**	**05 57 37.7**	**+1.6**
KARP				S	**Sn**	**05 57 54.0**	**+0.4**
THR3	**Thira Island,**	**0.97**	**271**	P	**Pn**	**05 57 37.0**	**+0.7**
THR3	**Thira Island,**	**0.97**	**271**	P	**Pn**	**05 57 36.9**	**+0.7**
SNT5	**Nea Kammeni, S**	**0.98**	**271**	P	**Pn**	**05 57 36.8**	**+0.5**
SNT5	**Nea Kammeni, S**	**0.98**	**271**	P	**Pn**	**05 57 36.6**	**+0.4**
SAP3	**Santorini-Thir**	**1.02**	**273**	P	**Pn**	**05 57 37.5**	**+0.8**
SAP3	**Santorini-Thir**	**1.02**	**273**	P	**Pn**	**05 57 37.0**	**+0.4**
RGE1	**Gennadi, Rhode**	**1.13**	**108**	P	**Pn**	**05 57 39.3**	**+1.6**
RGE1				S	**Sn**	**05 57 57.6**	**+1.2**
DDIM	**Aydin, Didim**	**1.18**	**25**	P	**Pn**	**05 57 39.6**	**+1.4**
DDIM				S	**Sn**	**05 57 55.3**	**-2.0**
ARG	**Arkhangelos**	**1.24**	**98**	Pn	**Pn**	**05 57 40.9**	**+2.1**
ARG	**Arkhangelos**	**1.24**	**98**	P	**Pn**	**05 57 40.8**	**+2.0**
ARG				S	**Sn**	**05 57 59.7**	**+1.4**
ARG	**Arkhangelos**	**1.24**	**98**	P	**Pn**	**05 57 40.5**	**+1.7**
ARG				S	**Sn**	**05 57 59.5**	**+1.2**
SIT2	**Siteia**	**1.25**	**199**	P	**Pn**	**05 57 39.9**	**+1.0**
SIT2				S	**Sn**	**05 57 59.3**	**+0.8**
MLSB	**Milas**	**1.30**	**46**	Pn	**Pn**	**05 57 40.9**	**+1.4**
MLSB				Sn	**Sn**	**05 57 59.4**	**-0.2**
RDI1	**Rhodes Town Ha**	**1.30**	**87**	P	**Pn**	**05 57 41.3**	**+1.9**
ZKR	**Zakros**	**1.31**	**194**	Pn	**Pn**	**05 57 41.6**	**+2.0**
ZKR	**Zakros**	**1.31**	**194**	P	**Pn**	**05 57 41.2**	**+1.7**
ZKR				S	**Sn**	**05 58 01.0**	**+1.3**
TURN	**Turunc**	**1.37**	**73**	Pn	**Pn**	**05 57 41.8**	**+1.7**
TURN				Sn	**Sn**	**05 58 01.4**	**+0.7**
TURN	**Turunc**	**1.37**	**73**	P	**Pn**	**05 57 41.8**	**+1.7**
TURN				S	**Sn**	**05 57 60.0**	**-0.8**
TURN				*i* IAML		05 58 02.0	
	comp=N,206nm,0.3s						
TURN				*i* IAML		05 58 03.0	
	comp=E,305nm,0.4s						
NPS	**Neapolis**	**1.39**	**216**	P	**Pn**	**05 57 41.4**	**+1.0**
NPS				S	**Sn**	**05 58 01.2**	**+0.1**
NPS	**Neapolis**	**1.39**	**216**	P	**Pn**	**05 57 41.2**	**+0.9**
NPS				S	**Sn**	**05 58 00.8**	**-0.3**
GCAM	**G?zelcaml?**	**1.40**	**21**	Pn	**Pn**	**05 57 40.9**	**+0.5**
GCAM	**G?zelcaml?**	**1.40**	**21**	P	**Pn**	**05 57 41.6**	**+1.2**
YER	**Yerkesik**	**1.54**	**61**	Pn	**Pn**	**05 57 44.4**	**+2.4**
MULA	**Mugla, Merkez-**	**1.62**	**57**	P	**Pn**	**05 57 45.1**	**+2.1**
MULA				S	**Sn**	**05 58 04.9**	**-1.0**
MULA				*i* IAML		05 58 08.0	
	comp=E,196nm,0.5s						
AYDN	**Tasoluk**	**1.63**	**38**	P	**Pn**	**05 57 44.8**	**+1.7**
IACM	**Heraklion**	**1.65**	**230**	P	**Pn**	**05 57 44.4**	**+1.1**
IACM	**Heraklion**	**1.65**	**230**	P	**Pn**	**05 57 44.2**	**+0.9**
IACM				S	**Sn**	**05 58 06.2**	**0.0**
DGB	**zmir**	**1.67**	**7**	P	**Pn**	**05 57 44.1**	**+0.6**
DALY	**Dalyan (Mula)**	**1.70**	**75**	Pn	**Pn**	**05 57 46.1**	**+2.3**
IDI	**Anoyia**	**1.78**	**232**	Pn	**Pn**	**05 57 45.5**	**+0.7**
IDI	**Anoyia**	**1.78**	**232**	P	**Pn**	**05 57 45.4**	**+0.7**
IDI				S	**Sn**	**05 58 08.0**	**-1.0**
IDI	**Anoyia**	**1.78**	**232**	P	**Pn**	**05 57 45.5**	**+0.7**
	200nm,0.3s,baz=58,slow=5.5,SNR=717						
IDI				S	**Sn**	**05 58 08.2**	**-0.8**
	190nm,0.4s,baz=309,slow=21,SNR=26						
IDI	**Anoyia**	**1.78**	**232**	P	**Pn**	**05 57 45.1**	**+0.4**
MHLO	**Agia Marina, M**	**1.80**	**280**	P	**Pn**	**05 57 45.8**	**+0.8**
MHLO				S	**Sn**	**05 58 11.1**	**+1.8**
MHLO	**Agia Marina, M**	**1.80**	**280**	P	**Pn**	**05 57 46.1**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**33**	Pn	**Pn**	**05 57 46.6**	**+0.8**
SABU	**Mula-Dalaman**	**1.95**	**76**	P	**Pn**	**05 57 49.0**	**+2.3**
SABU				S	**Sn**	**05 58 12.0**	**-0.5**
SABU				*i* IAML		05 58 15.0	
	comp=E,371nm,0.4s						
URLA	**Izmir**	**1.97**	**360**	Pn	**Pn**	**05 57 47.3**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.98**	**44**	P	**Pn**	**05 57 48.9**	**+1.9**
ESEN				S	**Sn**	**05 58 11.5**	**-1.6**
PRNS	**Prines Rethymn**	**1.99**	**240**	P	**Pn**	**05 57 48.3**	**+1.0**
PRNS	**Prines Rethymn**	**1.99**	**240**	P	**Pn**	**05 57 48.1**	**+0.8**
TMBK	**Timbaki Herakl**	**1.99**	**229**	P	**Pn**	**05 57 48.9**	**+1.6**
TMBK	**Timbaki Herakl**	**1.99**	**229**	P	**Pn**	**05 57 48.4**	**+1.2**
FETY	**Fethiye**	**2.01**	**82**	P	Pn	05 57 40.7	-6.8
FETY				S	Sn	05 58 02.9	-11
BLCB	**Balcova**	**2.02**	**10**	Pn	**Pn**	**05 57 48.3**	**+0.7**
CHOS	**Chios island**	**2.04**	**348**	Pn	**Pn**	**05 57 47.9**	**0.0**
CHOS	**Chios island**	**2.04**	**348**	P	**Pn**	**05 57 48.1**	**+0.2**
IZMR	**zmir-demi**	**2.05**	**31**	P	**Pn**	**05 57 49.2**	**+1.4**
NAZL	**Nazilli-Aydin**	**2.07**	**40**	Pn	**Pn**	**05 57 49.3**	**+1.1**
IZZE	**Mula-Seydike**	**2.11**	**88**	P	**Pn**	**05 57 50.3**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.13**	**65**	P	**Pn**	**05 57 51.1**	**+2.1**
TAVA	**DENIZLI_Tavas**	**2.14**	**59**	P	**Pn**	**05 57 50.7**	**+1.6**
ODEM	**Odemis-Izmir**	**2.22**	**31**	Pn	**Pn**	**05 57 51.1**	**+1.1**
CAME	**Cameli-Denizli**	**2.23**	**75**	Pn	**Pn**	**05 57 52.5**	**+2.2**
CHAN	**Chania**	**2.26**	**248**	P	**Pn**	**05 57 51.2**	**+0.8**
CHAN				S	**Sn**	**05 58 17.5**	**-1.6**
CHAN	**Chania**	**2.26**	**248**	P	**Pn**	**05 57 51.1**	**+0.7**
CAEL	**Denizli, Camel**	**2.30**	**71**	P	**Pn**	**05 57 53.6**	**+2.5**
KIRA	**zmir-Kiraz**	**2.30**	**38**	P	**Pn**	**05 57 52.5**	**+1.4**
KARY	**Karystos**	**2.38**	**314**	P	**Pn**	**05 57 52.6**	**+0.5**
APMY	**Acipayam-Deniz**	**2.41**	**63**	Pn	**Pn**	**05 57 54.3**	**+1.8**
KSL	**Kastellorizon**	**2.42**	**95**	P	**Pn**	**05 57 54.6**	**+2.1**
AKAS	**Kas**	**2.43**	**93**	Pn	**Pn**	**05 57 55.2**	**+2.5**
AKAS	**Kas**	**2.43**	**93**	P	**Pn**	**05 57 54.9**	**+2.2**
KNIK	**Mula-Seydike**	**2.43**	**78**	P	**Pn**	**05 57 54.6**	**+1.9**
GOLH	**Golhisar**	**2.52**	**69**	P	**Pn**	**05 57 56.1**	**+2.3**
GVD	**Gavdhos**	**2.57**	**234**	P	**Pn**	**05 57 55.8**	**+1.4**
DEMR	**Demre-Antalya**	**2.67**	**92**	Pn	**Pn**	**05 57 57.5**	**+1.9**
KULA	**Kula-Manisa**	**2.68**	**37**	Pn	**Pn**	**05 57 57.0**	**+1.2**
ELL	**Elmali**	**2.68**	**81**	Pn	**Pn**	**05 57 57.9**	**+2.0**
VLY	**Voula,Athens**	**2.68**	**304**	P	**Pn**	**05 57 56.3**	**+0.5**
DKL	**Dikili**	**2.69**	**5**	Pn	**Pn**	**05 57 56.5**	**+0.7**
INCE	**Denizli-Bozkur**	**2.71**	**60**	P	**Pn**	**05 57 58.2**	**+1.9**
INCE				S	**Sn**	**05 58 28.5**	**-1.1**
INCE				*i* IAML		05 58 31.0	
	comp=N,132nm,0.3s						
INCE				*i* IAML		05 58 31.0	
	comp=E,73nm,0.6s						
DION	**Dionisos Attik**	**2.72**	**309**	P	**Pn**	**05 57 56.8**	**+0.5**
ANKY	**Antikythira Is**	**2.73**	**260**	P	**Pn**	**05 57 56.9**	**+0.5**
PTL	**Penteli**	**2.75**	**308**	P	**Pn**	**05 57 57.2**	**+0.6**
ATHU	**Athens Univers**	**2.75**	**306**	P	**Pn**	**05 57 57.4**	**+0.7**
ATH	**Athens Observa**	**2.80**	**305**	P	**Pn**	**05 57 58.2**	**+1.0**
GORD	**Gordes-Manisa**	**2.81**	**26**	Pn	**Pn**	**05 57 57.9**	**+0.5**
USAK	**Uak-Merkez**	**3.01**	**39**	P	**Pn**	**05 58 01.5**	**+1.5**
PASA	**Karahalli, USA**	**3.01**	**49**	P	**Pn**	**05 58 01.8**	**+1.6**
AKUM	**Antalya-Kumluc**	**3.02**	**90**	P	**Pn**	**05 58 02.5**	**+2.4**
BRDR	**BURDUR-Merkez**	**3.06**	**64**	P	**Pn**	**05 58 02.8**	**+2.1**
KORT	**Korkueli**	**3.07**	**77**	Pn	**Pn**	**05 58 03.2**	**+2.3**
KORT	**Korkueli**	**3.07**	**77**	P	**Pn**	**05 58 03.3**	**+2.4**
BUHA	**Balikesir, Bur**	**3.13**	**7**	P	**Pn**	**05 58 02.4**	**+0.9**
BASM	**Basmaki-Afyon**	**3.15**	**60**	Pn	**Pn**	**05 58 03.6**	**+1.8**
KEMT	**Kemer-ANTALYA**	**3.19**	**85**	Pn	**Pn**	**05 58 05.1**	**+2.8**
YAYO	**Edremit-Balk**	**3.24**	**6**	Pn	**Pn**	**05 58 03.7**	**+0.8**
ANTB	**Antalya**	**3.29**	**80**	Pn	**Pn**	**05 58 06.1**	**+2.5**
BUCA	**Burdur, Bucak-**	**3.30**	**72**	P	**Pn**	**05 58 06.3**	**+2.4**
BAYC	**CANAKKALE_Bayr**	**3.35**	**359**	P	**Pn**	**05 58 03.7**	**-0.6**
BCK	**Bucak**	**3.36**	**70**	Pn	**Pn**	**05 58 06.8**	**+2.1**
BALY	**Balya**	**3.44**	**13**	P	**Pn**	**05 58 06.4**	**+0.8**
ISP	**Isparta**	**3.44**	**64**	Pn	**Pn**	**05 58 07.1**	**+1.4**
GDZ	**Gediz**	**3.53**	**39**	P	**Pn**	**05 58 08.4**	**+1.6**
DURS	**Dursunbey**	**3.53**	**24**	P	**Pn**	**05 58 07.3**	**+0.5**
EMET	**Ktahya-Emet**	**3.67**	**35**	P	**Pn**	**05 58 10.2**	**+1.5**
TVSB	**Tavsanli**	**3.80**	**36**	Pn	**Pn**	**05 58 11.5**	**+1.2**
SHUT	**Suhut-Afyon**	**3.81**	**54**	Pn	**Pn**	**05 58 12.3**	**+1.8**
SLUM	**Salum**	**5.02**	**194**	P	**Pn**	**05 58 27.4**	**+0.8**
CSS	**Mathiatis**	**5.65**	**103**	P	**Pn**	**05 58 33.3**	**-1.7**
CSS	**Mathiatis**	**5.65**	**103**	S	**Sn**	**05 59 37.9**	**-1.0**
BRTR	**Keskin Array B**	**6.47**	**57**	P	**Pn**	**05 58 48.3**	**+2.3**
	1.1nm,0.6s,baz=230,slow=12,SNR=6.1						
BRTR				S	**Sn**	**06 00 01.8**	**+3.1**
	1.5nm,0.7s,baz=225,slow=28,SNR=5.8						
RYAN	**Fayoum**	**7.92**	**156**	P	**Pn**	**05 59 05.6**	**+0.2**
RYAN				S	**Sn**	**06 00 31.4**	**-2.1**
MMC7	**Mount Meron ar**	**7.97**	**112**	P	**Pn**	**05 59 04.6**	**-1.6**
MMA0B	**Mount Meron ar**	**7.99**	**112**	P	**Pn**	**05 59 05.1**	**-1.3**
MMA0B	**Mount Meron ar**	**7.99**	**112**	S	**Sn**	**06 00 34.7**	**-0.5**
MMAI	**Mount Meron Ar**	**7.99**	**112**	P	**Pn**	**05 59 06.8**	**+0.4**
	2.9nm,0.3s,baz=302,slow=12,SNR=14						
MMAI				S	**Sn**	**06 00 31.9**	**-3.3**
	1.8nm,0.3s,baz=186,slow=22,SNR=5.2						
GEM	**Giv'at Ha'Em**	**8.09**	**110**	P	**Pn**	**05 59 06.4**	**-1.4**
GEM	**Giv'at Ha'Em**	**8.09**	**110**	S	**Sn**	**06 00 36.9**	**-0.8**
NATI	**Neve Ativ**	**8.13**	**110**	P	**Pn**	**05 59 06.9**	**-1.3**
NATI	**Neve Ativ**	**8.13**	**110**	S	**Sn**	**06 00 37.9**	**-0.6**
MMLI	**Mount Malkishu**	**8.28**	**116**	P	**Pn**	**05 59 08.9**	**-1.4**
MMLI	**Mount Malkishu**	**8.28**	**116**	S	**Sn**	**06 00 41.2**	**-1.1**
KSHT	**Keshet**	**8.31**	**111**	P	**Pn**	**05 59 09.4**	**-1.3**
KSHT	**Keshet**	**8.31**	**111**	S	**Sn**	**06 00 42.4**	**-0.5**
SALP	**Salfit**	**8.31**	**119**	P	**Pn**	**05 59 09.4**	**-1.4**
SALP	**Salfit**	**8.31**	**119**	S	**Sn**	**06 00 42.2**	**-0.8**
HMDT	**Nahal Hemdat**	**8.45**	**117**	P	**Pn**	**05 59 10.9**	**-1.7**
HMDT	**Nahal Hemdat**	**8.45**	**117**	S	**Sn**	**06 00 45.9**	**-0.4**
KZIT	**Kziot**	**8.49**	**128**	P	**Pn**	**05 59 11.4**	**-1.7**

ECPR	Experimental S	0.60 129	⇑eP	Pb	05 58 28.7	+0.7
ECPR	Experimental S	0.60 129	eS	Sb	05 58 36.5	+0.1
IDE	Isla Desecheo	0.67 242		Pn	05 58 30.2	-0.5
IDE				Sb	05 58 38.8	+0.5
IDE	Isla Desecheo	0.67 242	⇑eP	Pn	05 58 30.2	-0.5
IDE	Isla Desecheo	0.67 242	eS	Sb	05 58 38.8	+0.5
CELP	Cerrillos	0.67 157		Pb	05 58 29.2	0.0
CELP				Sg	05 58 36.7	-1.1
CELP			IAML		05 58 37.5	
	comp=E,331nm,0.5s					
CELP			IAML		05 58 38.2	
	comp=N,332nm,0.2s					
CELP	Cerrillos	0.67 157	⇑eP	Pb	05 58 29.2	0.0
CELP	Cerrillos	0.67 157	eS	Sg	05 58 37.3	-0.5
CELP	Cerrillos	0.67 157	⇑ePg	Pb	05 58 29.4	+0.1
CELP			⇓eSg	Sg	05 58 37.6	-0.1
CELP			IAML		05 58 39.5	
	comp=N,276nm,0.4s					
OBIP	Obispado Ponce	0.69 160		Pb	05 58 29.5	-0.1
OBIP				Sg	05 58 37.8	-0.5
OBIP			IAML		05 58 39.5	
	comp=N,252nm,0.2s					
OBIP	Obispado Ponce	0.69 160	⇑eP	Pb	05 58 29.6	0.0
OBIP	Obispado Ponce	0.69 160	eS	Sg	05 58 37.9	-0.5
CRPR	Cabo Rojo, PR	0.73 199		Pg	05 58 30.0	0.0
CRPR				Sg	05 58 37.4	-2.1
CRPR			IAML		05 58 38.8	
	comp=E,169nm,0.3s					
CRPR	Cabo Rojo, PR	0.73 199	⇑eP	Pg	05 58 29.9	0.0
CRPR	Cabo Rojo, PR	0.73 199	eS	Sg	05 58 38.6	-0.9
CRPR	Cabo Rojo, PR	0.73 199	⇓ePg	Pg	05 58 30.1	+0.2
CRPR			⇑eSg	Sg	05 58 37.9	-1.7
CRPR			IAML		05 58 40.7	
	comp=N,158nm,0.1s					
MLPR	Magueyes Islan	0.75 194	⇑eP	Pg	05 58 30.1	-0.1
MLPR	Magueyes Islan	0.75 194	eS	Sg	05 58 39.3	-0.8
MLPR	Magueyes Islan	0.75 194	⇓ePg	Pg	05 58 30.3	0.0
MLPR			⇓eSg	Sg	05 58 38.5	-1.6
MLPR			IAML		05 58 39.5	
	comp=N,43nm,0.1s					
GCPR	Guaynabo City	0.83 118		Pn	05 58 32.5	-0.5
GCPR				Sb	05 58 43.0	+0.1
GCPR	Guaynabo City	0.83 118	⇑eP	Pn	05 58 32.7	-0.2
GCPR	Guaynabo City	0.83 118	eS	Sb	05 58 43.5	+0.6
SJG	San Juan	0.89 131		Pb	05 58 33.0	+0.1
SJG			IAML		05 58 45.7	
	comp=N,235nm,0.2s					
SJG			IAML		05 58 47.0	
	comp=N,249nm,0.2s					
SJG	San Juan	0.89 131	⇑eP	Pb	05 58 33.1	+0.1
SJG	San Juan	0.89 131	eS	Sg	05 58 44.6	+0.1
SJG	San Juan	0.89 131	⇑ePg	Pn	05 58 33.4	-0.4
SJG			⇓eSg	Sb	05 58 45.3	+0.6
IGPR	InterUniversit	1.02 136		Pb	05 58 35.2	+0.1
IGPR				Sg	05 58 47.7	-1.0
IGPR	InterUniversit	1.02 136	⇑eP	Pb	05 58 35.2	+0.1
IGPR	InterUniversit	1.02 136	eS	Sg	05 58 47.7	-1.0
PDPR	Patillas Dam,	1.04 131		Pg	05 58 35.2	-0.6
PDPR			IAML		05 58 51.1	
	comp=E,130nm,0.1s					
PDPR	Patillas Dam,	1.04 131	⇓eP	Pb	05 58 35.4	-0.1
PDPR	Patillas Dam,	1.04 131	eS	Sg	05 58 48.9	-0.5
HUMP	Col San Antoni	1.10 120		Pn	05 58 36.6	-0.2
HIDR	Higuey Centro	1.77 267	⇓ePg	Pb	05 58 47.8	-0.1
HIDR			⇓eSg	Sn	05 59 08.1	-0.3
HIDR			IAML		05 59 15.9	
	comp=N,46nm,0.2s					
MIDR	Miches	2.10 278	⇑ePg	Pb	05 58 53.7	+0.1
MIDR			IAML		05 59 26.6	
	comp=N,3.9nm,0.3s					
MIDR			IAML		05 59 38.6	
	comp=N,8.2nm,2.7s					
HATOM	Hato Mayor del	2.40 273	ePg	Pb	05 58 58.5	-0.2
HATOM			⇑eSg	Sn	05 59 25.1	+1.3
HATOM			IAML		05 59 37.7	
	comp=N,7.6nm,0.7s					

*JMA **06** 05:59:31.8±0.1,23°.2N±0°.6×12°.2E±°, h34km±2km, MV3.3/11, TAIWAN REGION*
*TAP **06** 05:59:33.0,23°.18N×121°.50E, h30km, ML3.2, C*
ISC 06 05:59:32.3±0.9,**23°.17N**±0°.02×**121°.55E**±0°.02,**h30**km±5km, **n101**,σ0§85/178,**3C-2D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	Chenggong	0.15	278	⇑iP	Pn	05 59 38.2	-0.4
CHKH				iS	Sb	05 59 42.0	+0.2
ECBN	Changbin	0.17	327	⇑iP	Pn	05 59 38.7	-0.2
ECBN				S	Sb	05 59 42.9	+0.7
CHKT	Chengkung	0.19	248	⇑iP	Pb	05 59 38.6	+0.3
CHKT				iS	Sb	05 59 42.7	+0.2
FULB	Fuli	0.24	277	iP	Pb	05 59 39.1	+0.1
FULB				S	Sb	05 59 43.7	+0.1
EYUL	Yuli	0.28	309	P	Pn	05 59 40.0	-0.4
EYUL				S	Sn	05 59 45.7	0.0
TWF1	Yuli	0.30	307	iP	Pb	05 59 40.0	+0.3
TWF1				S	Sn	05 59 45.4	-0.8
EDH	Donghe	0.30	229	iP	Pb	05 59 40.2	+0.4
EDH				S	Sb	05 59 45.5	+0.6
ECS	Chishang	0.32	256	P	Pn	05 59 40.8	-0.2
ECS				S	Sn	05 59 47.1	+0.5
EHD	Haiduan	0.32	266	iP	Pb	05 59 39.7	-0.4
EHD				S	Sb	05 59 45.0	-0.3
YULB	Yu-li	0.32	313	⇓iP	Pb	05 59 40.2	+0.1
YULB				S	Sb	05 59 45.6	+0.3
HGSD	Ruisui	0.34	340	iP	Pb	05 59 40.1	-0.2
EHYH	Wanrong	0.37	329	eP	Pb	05 59 41.1	+0.3
EHYH				S	Sn	05 59 47.2	-0.8
EHY	Hungye	0.40	327	eP	Pb	05 59 41.1	-0.1
EHY				S	Sb	05 59 47.0	-0.1
LONT	Longtian	0.47	236	P	Pb	05 59 42.0	-0.2
LONT				S	Sb	05 59 48.9	-0.2
ELDTW	Lidau	0.49	272	⇓iP	Pb	05 59 42.1	-0.6
ELDTW				S	Sb	05 59 48.5	-1.4
LDUT	Ludao	0.50	189	P	Pb	05 59 42.7	0.0
LDUT				S	Sb	05 59 49.9	0.0
EGFH	Guangfu	0.51	347	P	Pb	05 59 43.0	+0.1
EGFH				S	Sb	05 59 50.2	+0.1
TEGC	Jichi Village	0.54	359	P	Pb	05 59 43.2	-0.1
TEGC				eS	Sn	05 59 51.4	-0.6
TWGBT	Beinan	0.56	231	P	Pb	05 59 43.2	-0.6
TWGBT				S	Sb	05 59 51.3	-0.2
TWG	Pinlang	0.56	232	eP	Pb	05 59 43.4	-0.4
TWG				S	Sb	05 59 51.3	-0.3
WARBT	Fenglin Townsh	0.57	344	P	Pb	05 59 43.2	-0.6
WARBT				S	Sb	05 59 50.5	-1.2
SHUL	Shoufeng	0.61	1	P	Pb	05 59 44.6	0.0
SHUL				S	Sn	05 59 53.6	-0.3
ESL	Shilin	0.65	350	eP	Pb	05 59 44.8	-0.4
ESL				S	Sb	05 59 52.6	-1.4
TEYL	Yanliau Villag	0.69	3	P	Pb	05 59 46.2	+0.3
TEYL				S	Sn	05 59 56.7	+0.8
STYH	Taoyuan	0.72	270	eP	Pn	05 59 46.0	-0.4
STYH				S	Sb	05 59 55.2	-0.6
ALS	Alishan	0.77	296	iP	Pb	05 59 47.3	0.0
ALS				S	Sn	05 59 57.8	-0.3
ETM	Tongmen	0.79	356	eP	Pn	05 59 46.6	-0.9
ECL	Taimali	0.80	224	P	Pn	05 59 46.3	-1.2
ECL				eS	Sn	05 59 55.1	-3.3
SSLB	Suanglung	0.82	318	P	Pn	05 59 47.5	-0.5
SSLB				S	Sn	05 59 57.7	-1.5
WHYT	Xinyi Township	0.83	309	P	Pb	05 59 48.2	0.0
WHYT				S	Sb	05 59 58.7	-0.4
OWD	Renai	0.85	336	P	Pb	05 59 48.0	-0.4
OWD				eS	Sn	05 59 57.5	-2.5
LXIB	Xiulin Townshi	0.86	351	P	Pn	05 59 47.5	-1.0
LXIB				eS	Sn	05 59 57.5	-2.6
TPUB	Ta-pu	0.86	279	P	Pb	05 59 48.9	+0.1
TPUB				S	Sb	06 00 00.7	+0.7
WTP	Ta-pu	0.87	275	iP	Pb	05 59 49.0	+0.1
WTP				S	Sb	06 00 00.9	+0.7
CHN4	Tsaushan	0.90	282	eP	Pb	05 59 49.8	+0.4
CHN4				eS	Sb	06 00 01.7	+0.6
TWD	Chiawan	0.91	2	P	Pn	05 59 48.4	-0.6
TWD				S	Sn	05 59 60.0	-1.2
CHN5	Tsauling	0.91	298	P	Pb	05 59 50.1	+0.5
CHN5				S	Sb	06 00 02.3	+0.9
WUSB	Renai	0.91	334	P	Pn	05 59 49.0	-0.2
WUSB				S	Sn	06 00 00.4	-1.1
WCKO	Fanlu	0.91	287	eP	Pb	05 59 49.8	+0.2
WCKO				eS	Sb	06 00 02.3	+0.9
SMLT	Sun Moon Lake	0.93	320	eP	Pb	05 59 49.6	-0.4
SMLT				eS	Sn	06 00 00.8	-1.1
CHN1	Nanshi	0.94	271	eP	Pb	05 59 50.6	+0.4
CHN1				eS	Sb	06 00 03.5	+1.1
SSD	Sandimen	0.95	244	eP	Pb	05 59 50.0	-0.2
TYC	Yuchr	0.97	319	eP	Pb	05 59 50.6	0.0
TYC				eS	Sb	06 00 03.2	+0.2
TWK	Hsinying	0.98	276	iP	Pb	05 59 51.0	+0.1
TWK				eS	Sb	06 00 04.2	+0.7
NACB	Ninganchiao	1.00	2	eP	Pn	05 59 49.8	-0.6
NACB				eS	Sn	06 00 01.6	-1.8
WHF	Hehuan Shan	1.00	345	eP	Pn	05 59 50.4	-0.4
WHF				eS	Sn	06 00 03.7	-0.5
MASBT	Mashibuluo	1.01	237	eP	Pn	05 59 50.4	-0.2
SCST	Cishan	1.02	254	eP	Pb	05 59 52.5	+1.2
EAST	Anshuo	1.02	220	eP	Pn	05 59 49.9	-0.8
ETLH	Xiulin Townshi	1.03	356	eP	Pn	05 59 50.0	-0.9
WGK	Gukeng	1.05	300	eP	Pn	05 59 50.9	0.0
CHN2	Minshiung	1.05	290	P	Pb	05 59 52.8	+0.8
CHN2				eS	Sb	06 00 06.9	+1.5
WNT	Mingjian	1.06	312	iP	Pb	05 59 52.6	+0.4
WNT				eS	Sb	06 00 06.5	+0.7
WDLH	Douliu	1.07	299	P	Pb	05 59 52.6	+0.4
WDLH				eS	Sb	06 00 07.7	+1.9
SGLT	Jiouru	1.08	246	eP	Pb	05 59 55.1	+2.8
CHY	Chiayi	1.09	288	eP	Pb	05 59 53.1	+0.5
TWM1	Shoushan	1.10	252	eP	Pb	05 59 53.9	+1.2
CHN3	Shinhua	1.10	265	eP	Pb	05 59 53.3	+0.6
CHN3				eS	Sb	06 00 10.3	+3.6
FUSS	Fushou	1.11	345	eP	Pn	05 59 52.2	+0.1
FUSS				eS	Sn	06 00 05.8	-0.7
LAY	Lan-yu	1.13	180	P	Pn	05 59 51.6	-0.5
LAY				eS	Sn	06 00 05.2	-1.4
TWT	Tachien	1.13	342	eP	Pb	05 59 52.8	-0.6
TWT				eS	Sn	06 00 06.0	-1.0
TDCB	Techi	1.14	341	P	Pb	05 59 52.8	-0.7
TDCB				eS	Sn	06 00 05.1	-1.9
LYUB	Lan-yu	1.16	179	P	Pn	05 59 51.1	-1.5
SCZT	Fangliau	1.17	227	eP	Pb	05 59 53.6	-0.4
EOS4	EOS4	1.18	36	eP	Pn	05 59 52.7	+0.3
EOS4				eS	Sn	06 00 07.0	-0.3
WTK	Tuku	1.19	296	P	Pb	05 59 54.4	+0.1
WTK				eS	Sb	06 00 10.1	+0.9
WHP	Taichung City	1.23	333	eP	Pb	05 59 54.9	-0.2
WHP				eS	Sb	06 00 10.8	+0.1
CHN8	Yiju	1.25	278	P	Pb	05 59 54.9	-0.3
CHN8				S	Sb	06 00 11.6	+0.6
NNSB	Datong	1.26	353	eP	Pn	05 59 54.0	-0.1
NNSB				eS	Sn	06 00 08.8	-1.3
WSL	Shuilin Townsh	1.27	286	eP	Pb	05 59 55.4	-0.2
WSL				eS	Sb	06 00 11.3	-0.2
NNS	Nan Shan	1.27	353	eP	Pb	05 59 55.3	-0.5
NNS				eS	Sn	06 00 09.5	-0.9
WCHH	Zhanghua	1.28	315	eP	Pb	05 59 55.8	-0.1
WCHH				eS	Sb	06 00 12.7	+0.7
WSF	Szhu	1.31	291	eS	Sb	06 00 13.1	+0.4
EOS3	EOS3	1.31	32	eP	Pn	05 59 55.0	+0.5
EOS3				iS	Sn	06 00 11.3	+0.4
LATG	Datong	1.36	359	eP	Pn	05 59 55.6	+0.2
TWQ1	Liyutan	1.37	329	eP	Pb	05 59 57.5	+0.1
TWQ1				eS	Sb	06 00 15.5	+0.9
EOS2	EOS2	1.39	26	eP	Pb	05 59 56.7	-0.9
EOS2				eS	Sn	06 00 13.8	+0.9
TWKBT	Hengchun	1.40	209	P	Sn	05 59 56.0	+0.1
TWKBT				S	Sn	06 00 13.6	+0.2
NSY	Sanyi	1.44	330	eP	Pb	05 59 59.0	+0.5
NSY				eS	Sb	06 00 17.8	+1.4
TWC	Suao	1.46	11	eP	Pb	05 59 57.6	-1.2
TWC				eS	Sn	06 00 15.2	+0.5
ENTT	Nioudou	1.46	0	eP	Pn	05 59 56.8	+0.1
YHNB	Yeheng	1.50	354	P	Pn	05 59 58.1	+0.8
YHNB				eS	Sn	06 00 15.8	-0.1
NFF	Wufeng Townshi	1.51	345	eP	Pb	05 59 59.4	-0.3
NFF				S	Sb	06 00 18.7	+0.2
NSK	Sanguang	1.51	353	P	Pn	05 59 58.1	+0.7
NSK				eS	Sn	06 00 16.2	0.0
NMLH	Miaoli	1.53	333	eP	Pn	05 59 58.0	+0.3
NMLH				eS	Sb	06 00 19.5	+0.4
NSTT	Nanjuang	1.54	341	eP	Pb	05 59 59.7	-0.5
NSTT				eS	Sb	06 00 19.7	+0.4
TWE	Neicheng	1.55	4	eP	Pb	05 59 59.1	-1.2
FUSB	Fushanzhiwuyua	1.58	1	eP	Pn	05 59 58.9	+0.5
KSHI	Guanxi Townshi	1.64	348	eP	Pb	06 00 01.7	-0.1
KSHI				eS	Sb	06 00 22.0	-0.1
WDGT	Dungji	1.75	273	eP	Pn	06 00 01.1	+0.5
WDGT				eS	Sn	06 00 21.0	-0.8
JYNG	Yonagunijimaku	1.80	45	eS	Sn	06 00 22.8	-0.4
TIPB	Shuangxi	1.81	8	eP	Pn	06 00 03.0	+1.5
PHUB	P'eng-hu	1.85	281	eP	Pn	06 00 02.4	+0.3
PHUB				eS	Sn	06 00 24.6	+0.1
PNG	Penghu	1.88	283	P	Pn	06 00 03.1	+0.7
PNG				eS	Sn	06 00 25.0	-0.1
SXI1	Grass Mountain	1.94	9	eP	Pn	06 00 04.3	+1.0
HATJ	Hateruma jima	2.25	66	eS	Sn	06 00 34.2	0.0
IRIF	Iriomote-Funau	2.31	59	eP	Pn	06 00 09.6	+1.3
IRIF				eS	Sn	06 00 36.8	+1.1
JIJ	Ishigaki jima	2.65	63	eS	Sn	06 00 43.6	-0.6
JISG	Ishigakijimahi	2.89	60	eP	Pn	06 00 17.1	+0.7
JISG				eS	Sn	06 00 50.1	0.0
JTJ	Tarama	3.23	62	eP	Pn	06 00 21.9	+0.9
JTJ				eS	Sn	06 00 58.5	0.0
JMJ2	Miyako jima3	3.79	65	eS	Sn	06 01 13.3	+1.0

*IDC **06** 06:03:08.5±0.6,37°.20N×142°.27E, h0km, mb4.2/18, mbtmp4.2/22, ML4.0/4, MS3.4/20, Error ellipse: s-maj=16.6km s-min=14.7km az=132.0*
*NIED **06** 06:03:10.8,37°.23N×142°.19E, h30km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.33; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$0.39; $M_{r\theta}$-0.28; $M_{\phi\phi}$0.50; $M_{\phi r}$1.67; Fault plane solution: $M_0$1.80000×10^{15} NP1:ϕ_s68.00000°, δ18.00000°, λ-16.00000°. NP2:ϕ_s173.00000°, δ85.00000°, λ-108.00000°.*
*JMA **06** 06:03:10.8±0.3,37°.2N±0°.7×14°.2E±°, h30km, MD4.4/32, MV4.6/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*BJI **06** 06:03:12.3,37°.33N×141°.79E, h11km, mB4.7/8, mb4.5/42, Ms4.1/14, Ms7 3.9/16*
*MOS **06** 06:03:12.5±1.0,37°.47N×142°.07E, h26km, mb4.6/17, Error ellipse: s-maj=9.2km s-min=6.9km az=115.4*
*NEIC **06** 06:03:15.5±1.3,37°.41N±0°.07×142°.01E±0°.08, h34km±6km, mb4.6/52, Error ellipse: s-maj=10.8km s-min=9.1km az=154.0*
ISC 06 06:03:13.8±1.0,**37°.28N**±0°.04×**142°.04E**±0°.05,**h31**km±6km, **n205**,σ1§48/179,**mb4.6**/68,**MS3.6**/21,**7C-4D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.94	276	⇓eP	Pn	06 03 29.7	-1.2
JFK	Kawauchi	0.94	276	A	A	06 03 29.7	
	comp=N,8.0nm,0.6s,comp=E,9.0nm,0.7s						
ONAJ	Iwakimizuishiy	1.01	261	⇓P	Pn	06 03 30.3	-1.6
ONAJ				⇓eS	Sn	06 03 45.1	0.0
ONAJ	Iwakimizuishiy	1.01	261	A	A	06 03 30.3	
	comp=N,30nm,0.3s,comp=E,42nm,0.3s						
JMST	Minamisoumatoc	1.02	296	eP	Pn	06 03 31.0	-1.1
JMST				eS	Sn	06 03 45.0	-0.3
JMST	Minamisoumatoc	1.02	296	A	A	06 03 31.0	
	comp=N,11nm,0.4s,comp=E,6.0nm,0.8s						
JIKH	Ishinomakikobu	1.13	336	eP	Pn	06 03 32.0	-1.5
JMM	Marumori	1.16	301		Pn	06 03 33.1	-0.8
JMM				Sn	Sn	06 03 45.3	-3.3
JMM	Marumori	1.16	301	P	Pn	06 03 33.2	-0.7
JMM	Marumori	1.16	301	S	Sb	06 03 51.9	+2.0
JMM	Marumori	1.16	301	eP	Pn	06 03 33.0	-0.8
JMM	Marumori	1.16	301	A	A	06 03 33.0	
	comp=N,15nm,0.4s,comp=E,6.0nm,0.4s						
JFFD	Fukushimafurud	1.20	262	A	A	06 03 33.5	
	comp=N,8.0nm,0.5s,comp=E,9.0nm,0.4s						
JIO	Ouri	1.30	335	eP	Pn	06 03 34.6	-1.2
JIO				eS	Sb	06 03 53.5	-0.5
JOTO	OTAMA OYAMA	1.39	282	P	Pn	06 03 37.3	+0.2
JOTO	OTAMA OYAMA	1.39	282	A	A	06 03 37.3	
	comp=N,18nm,0.5s,comp=E,16nm,0.4s						
JHYU	Hitachinakayam	1.50	232	A	A	06 03 37.3	
	comp=N,9.0nm,0.4s,comp=E,9.0nm,0.6s						
JOU	Okura	1.54	315	P	Pn	06 03 39.1	-0.1
JOU				eS	Sb	06 03 59.8	-1.2
JOU	Okura	1.54	315	A	A	06 03 39.1	
	comp=N,19nm,0.7s,comp=E,11nm,0.7s						
JYAR	Yonezawaarcadi	1.64	293	A	A	06 03 40.2	
	comp=N,28nm,0.7s,comp=E,23nm,1.3s						
JSB	Shiboa	1.73	260	A	A	06 03 41.2	
	comp=N,14nm,1.1s,comp=E,14nm,0.8s						
JMK	Ichinoseki	1.80	339	eP	Pn	06 03 42.7	0.0
JYS	Shiratake	1.83	302	eP	Pn	06 03 43.8	+0.6
JYS				eS	Sb	06 04 08.6	-0.6
JFY	Yanaizu	1.87	275	eS	Sb	06 04 08.7	-1.6
JSD	Sado	3.10	285	P	Pn	06 04 01.7	+1.1
MJAR	Matsushiro Arr	3.16	258		Pn	06 04 03.0	+1.5
MJAR	Matsushiro Arr	3.16	258	Pn	Pn	06 04 03.2	+1.8
	comp=E,7.7nm,0.3s,baz=84,slow=14,SNR=241						
MJAR				Sn	Sb	06 04 46.4	-1.0
	comp=E,5.2nm,0.3s,baz=97,slow=30,SNR=3.1						
MJAR				LR	LR	06 05 35.5	
	comp=E,1μm,18.1s,baz=14,slow=44 comp=E,46nm,0.3s						
MJAR	Matsushiro Arr	3.16	258	P	Pn	06 04 03.0	+1.5
MAJO	Matsushiro	3.16	258		Pn	06 04 03.2	+1.8
MAJO	Matsushiro	3.16	258	P	Pn	06 04 03.4	+1.9
MAJO	Matsushiro	3.16	258	iP	Pn	06 04 03.6	+2.1
MJB9	Matsu-Tunnel	3.16	258		Pn	06 04 04.3	+2.8
JTM	Tenmabayashi	3.59	348		Pn	06 04 09.5	+2.2
JTM	Tenmabayashi	3.59	348	P	Pn	06 04 09.2	+1.9
JTM	Tenmabayashi	3.59	348	S	Sn	06 04 50.4	+1.8
JSG	Sagara	4.07	231		Pn	06 04 19.1	+5.2
JSG	Sagara	4.07	231	P	Pn	06 04 17.1	+3.2
JGF	Kuroka	4.13	248		Pn	06 04 17.8	+3.0
JGF	Kuroka	4.13	248	P	Pn	06 04 17.6	+2.8
INU	Inuyama	4.49	246		Pn	06 04 22.2	+2.5
INU	Inuyama	4.49	246	P	Pn	06 04 22.6	+2.9
JHJ2	Mitsune	4.54	204	Pn	Pn	06 04 19.2	-1.1
JHJ2	Mitsune	4.54	204	P	Pn	06 04 19.7	-0.7
JHJ2	Mitsune	4.54	204	S	Sn	06 05 08.6	-3.4
JHJ	Hachijo jima 2	4.54	205	Pn	Pn	06 04 18.9	-1.6
	comp=E,71nm,0.3s,baz=83,slow=21,SNR=13						
JHJ				Sn	Sn	06 05 07.9	-4.2
	comp=E,127nm,0.3s,baz=91,slow=23,SNR=7.7						
JHJ				LR	LR	06 06 25.2	
	comp=E,306nm,20.2s,baz=108,slow=43 comp=E,125nm,0.3s						
ERM	Erimo	4.81	10	Pn	Pn	06 04 22.5	-1.6
ERM	Erimo	4.81	10	P	Pn	06 04 22.5	-1.6
ERM	Erimo	4.81	10	S	Sn	06 05 18.3	-0.5
ERM	Erimo	4.81	10	P	Pn	06 04 22.5	-1.6
JEM	Erimo	4.81	10	P	Pn	06 04 22.8	-1.3
JEM	Erimo	4.81	10	S	Sn	06 05 17.2	-1.6
JKA	Kamikawa-asahi	6.85	3	Pn	Pn	06 04 51.3	-0.8
ASAJ	Asahikawa	6.85	3	Pn	Pn	06 04 51.5	-0.6
	comp=E,2.5nm,0.3s,baz=206,slow=17,SNR=14						
ASAJ				Sn	Sn	06 06 05.8	-3.1
	comp=E,0.3nm,0.3s,baz=359,slow=17,SNR=1.5 comp=E,8.4nm,0.4s						
JMN	Monobe	7.54	244		Pn	06 05 03.5	+1.8
JMN	Monobe	7.54	244	P	Pn	06 05 04.0	+2.3
YSS	Yuzhno-Sakhali	9.69	3	eP	Pn	06 05 30.1	-0.9
YSS				eS	Sn	06 07 15.2	-3.4
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
VLA	Vladivostok	9.72	310	iP	Pn	06 05 32.2	+0.8
MSHR	Mys Shultsa	9.89	306	iP	Pn	06 05 34.7	+0.8
MSHR				pmax	pmax		
	comp=Z,12nm,1.1s						
JNU	Nakatsue	10.03	249		Pn	06 05 36.9	+1.1
JNU	Nakatsue	10.03	249	Pn	Pn	06 05 37.0	+1.2
	comp=Z,0.8nm,0.3s,baz=62,slow=11,SNR=8.0						
JNU				LR	LR	06 09 20.0	
	comp=Z,105nm,21.5s,baz=88,slow=36 comp=Z,25nm,0.9s						
JNU	Nakatsue	10.03	249	P	Pn	06 05 38.6	+2.8
USRK	Ussuriysk Ar.	10.29	315	Pn	Pn	06 05 44.4	+5.1
	comp=Z,0.7nm,0.3s,baz=134,slow=13,SNR=11						
KSRS	Korea Array	11.24	275	Pn	Pn	06 05 57.0	+4.7
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=15						
MDJ	Mudanjiang	11.93	312	P	Pn	06 05 59.3	-2.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
JOW	Kunigami	15.62	232	LR	LR	06 12 42.7	
	comp=Z,104nm,21.2s,baz=130,slow=36						
PETK	Petropavlovsk-	19.23	30	LR	LR	06 14 43.9	
	comp=Z,48nm,21.0s,baz=233,slow=36						
NJ2	Nanjing	19.76	262	eP	P	06 07 41.5	+0.3
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
TIA	Tai'an	19.99	275	P	Pn	06 07 46.4	+0.8
TIA				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI	Beijing	20.37	286	P	Pn	06 07 49.6	-0.4
BJI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BJT	Baijiatuau	20.37	286	P	P	06 07 47.4	-0.5
BJT				pmax	pmax		

SONM	Songino Array	28.07	303	P	P	06 09 03.1	+0.5
	comp=Z,4.3nm,0.8s,baz=102,slow=9.2,SNR=17						
SONM				LR	LR	06 19 58.4	
	comp=Z,48nm,21.1s,baz=80,slow=36						
	comp=Z,4.3nm,0.8s						
SONM	Songino Array	28.07	303	P	P	06 09 02.2	-0.4
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H11S1	WAKE ISLAND Hy	28.57	124	T	T	06 38 51.5	
	baz=316,slow=76,SNR=173						
H11S3	WAKE ISLAND Hy	28.57	124	T	T	06 38 48.2	
	baz=316,slow=76,SNR=178						
H11S2	WAKE ISLAND Hy	28.59	124	T	T	06 38 52.7	
	baz=316,slow=76,SNR=130						
LZH	Lanzhou	30.52	280	eP	P	06 09 29.9	+5.4
LZH				pmax	pmax		
	comp=Z,26nm,0.7s						
CD2	Chengdu	32.18	270	eP	P	06 09 39.0	0.0
ADK	Adak	32.34	50	P	P	06 09 39.3	-0.8
ADK				IAmb	IAmb	06 10 04.4	
	comp=Z,17nm,1.2s						
ADK	Adak	32.34	50	P	P	06 09 39.3	-0.8
ADK				pmax	pmax		
	comp=Z,17nm,1.2s						
DAV	Davao City (W)	33.59	211	LR	LR	06 23 23.1	
	comp=Z,42nm,19.9s,baz=180,slow=36						
BILL	Bilibino	33.66	16	i P	P	06 09 53.9	+2.5
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMI	Kunming	35.49	261	P	P	06 10 09.4	+1.4
KMI				pmax	pmax		
	comp=Z,21nm,0.8s						
KMI				LR	LR		
	comp=Z,93nm,18.5s						
KMI				LR	LR		
	comp=Z,110nm,17.1s						
KMI				LR	LR		
	comp=Z,150nm,21.2s						
PZH	PanZhiHua	35.63	264	P	P	06 10 11.0	+1.9
GOMU	GeErMu	37.56	283	P	P	06 10 25.7	0.0
GOMU				pP	pP	06 10 34.8	+0.2
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ	Urumqi	41.18	297	eP	P	06 10 58.1	+2.6
WMQ				LR	LR		
	comp=Z,89nm,21.3s						
CMAR	Chiang Mai Arr	42.04	256	P	P	06 11 03.9	+1.2
	comp=Z,6.9nm,0.3s,baz=44,slow=7.9,SNR=1.6						
CMAR				LR	LR	06 30 30.3	
	comp=Z,61nm,18.8s,baz=60,slow=39						
	comp=Z,6.9nm,0.3s						
ZAA0	Zalesovo Array	42.12	312	P	P	06 11 03.0	+0.1
ZALV	Zalesovo Beam	42.12	312		P	06 11 02.5	-0.5
ZALV	Zalesovo Beam	42.12	312	P	P	06 11 03.8	+0.8
	comp=Z,2.9nm,0.8s,baz=91,slow=7.4,SNR=9.3						
ZALV				LR	LR	06 29 16.7	
	comp=Z,53nm,19.4s,baz=340,slow=37						
	comp=Z,2.9nm,0.8s						
ZALV	Zalesovo Beam	42.12	312	P	P	06 11 02.5	-0.5
N15K	Kwethluk River	42.74	39	P	P	06 11 08.5	+0.6
O15K	Ungalikthiuk R	42.79	40	P	P	06 11 09.0	+0.6
O15K				IAmb	IAmb	06 11 22.4	
	comp=Z,17nm,1.1s						
M16K	Timber Creek	43.38	37	P	P	06 11 13.4	+0.3
M16K				IAmb	IAmb	06 11 19.8	
	comp=Z,33nm,1.5s						
C18K	Utukok River	43.84	26	P	P	06 11 17.6	+0.8
C18K				IAmb	IAmb	06 11 17.8	
	comp=Z,11nm,1.0s						
M17K	Holitna River	44.15	37	P	P	06 11 20.1	+0.9
G18K	Tagagawik	44.18	30	P	P	06 11 19.1	-0.4
G18K				IAmb	IAmb	06 11 37.8	
	comp=Z,24nm,1.4s						
N17K	Nushagak Hills	44.21	38	P	P	06 11 20.8	+1.0
N17K				IAmb	IAmb	06 11 38.7	
	comp=Z,14nm,1.2s						
MK31	Makanchi Array	44.42	302	ceP	P	06 11 23.4	+1.8
MKAR	Makanchi Array	44.42	302	P	P	06 11 21.8	+0.1
	comp=Z,3.1nm,0.8s,baz=87,slow=8.2,SNR=17						
	comp=Z,3.1nm,0.8s						
BRDH	Bariadhala	45.51	266	LR	LR	06 31 51.1	
	comp=Z,133nm,19.2s,baz=100,slow=38						
B20K	Meade River	45.56	25	P	P	06 11 31.3	+0.9
KURK	Kurchatov	46.18	308		P	06 11 35.8	+0.3
KURK	Kurchatov	46.18	308	ceP	P	06 11 35.4	-0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OHAK	Old Harbor	46.24	43	P	P	06 11 35.2	-0.6
KURBB	Kurchatov Arra	46.25	308	P	P	06 11 36.2	+0.2
	comp=Z,7.1nm,0.6s,baz=83,slow=8.3,SNR=25						
KURBB				LR	LR	06 31 48.4	
	comp=Z,52nm,19.6s,baz=170,slow=37						
	comp=Z,7.1nm,0.6s						
KDAK	Kodiak Island	46.58	42	P	P	06 11 37.8	-0.8
KDAK	Kodiak Island	46.58	42	LR	LR	06 31 02.2	
	comp=Z,41nm,20.5s,baz=221,slow=36						
KDAK	Kodiak Island	46.58	42	P	P	06 11 37.8	-0.8
KDAK				pmax	pmax		
	comp=Z,49nm,1.5s						
EVN	Everest	46.87	275		P	06 11 41.8	-0.2
EVN				IAmb	IAmb	06 11 48.3	
	comp=Z,4.7nm,0.7s						
RND	Reindeer	48.20	34	P	P	06 11 50.8	-0.4
RND				IAmb	IAmb	06 11 52.2	
	comp=Z,4.2nm,0.9s						
RND	Reindeer	48.20	34	P	P	06 11 50.8	-0.4
RND				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GHO	Glory Hole Cre	48.22	37	P	P	06 11 51.2	-0.2
GHO				IAmb	IAmb	06 11 53.0	
	comp=Z,8.0nm,0.8s						
KNK	Knik Glacier	48.46	37	P	P	06 11 53.9	+0.7
SML	Sawmill	48.50	36	P	P	06 11 53.7	+0.2
SML				IAmb	IAmb	06 11 54.1	
	comp=Z,5.5nm,0.7s						
SML	Sawmill	48.50	36	P	P	06 11 53.7	+0.2
SML				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DHY	Denali Highway	48.88	35	P	P	06 11 56.3	-0.2
SCM	Sheep Creek Mo	48.97	36	P	P	06 11 57.2	+0.1
SCM	Sheep Creek Mo	48.97	36	P	P	06 11 57.2	+0.1
SCM				pmax	pmax		
	comp=Z,20nm,1.4s						
HDA	Harding Lake	49.01	33	P	P	06 11 57.0	-0.3
HDA				IAmb	IAmb	06 11 57.7	
	comp=Z,5.4nm,1.0s						
IL31		49.02	32	P	P	06 11 57.1	-0.2
IL31				IAmb	IAmb	06 11 57.6	
	comp=Z,4.9nm,0.8s						
ILAR	Eielson Array	49.02	32	P	P	06 11 57.0	-0.4
	comp=Z,3.7nm,0.7s,baz=266,slow=6.4,SNR=47						
	comp=Z,3.7nm,0.7s						
ILAR	Eielson Array	49.02	32	P	P	06 11 57.0	-0.4
KLU	Klutina	49.67	37	P	P	06 12 02.7	+0.2
KLU				IAmb	IAmb	06 12 03.0	
	comp=Z,3.4nm,0.6s						
BOOM	Boomskoye usch	49.84	298	P	P	06 12 04.5	+0.3
BOOM	Boomskoye usch	49.84	298	P	P	06 12 04.5	+0.3
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RIDG	Independent Ri	49.97	34	P	P	06 12 04.0	-0.7
RIDG				IAmb	IAmb	06 12 04.7	
	comp=Z,8.3nm,1.2s						
DOT	Dot Lake	50.33	34	P	P	06 12 07.0	-0.3
SCRK	Sand Creek	50.33	33		P	06 12 07.6	+0.1
SCRK				IAmb	IAmb	06 12 08.3	
	comp=Z,4.3nm,0.9s						
L26K	Log Cabin Wild	50.71	35	IAmb	IAmb	06 12 11.7	
	comp=Z,5.5nm,0.7s						
BVAR	Borovoye Array	50.78	312	P	P	06 12 11.5	+0.6
	comp=Z,0.9nm,0.4s,baz=60,slow=7.9,SNR=5.8						
	comp=Z,0.9nm,0.4s						
AAK	Ala-Archa	50.82	298	P	P	06 12 11.9	+0.3
AAK	Ala-Archa	50.82	298	LR	LR	06 35 11.5	
	comp=Z,74nm,18.7s,baz=66,slow=38						
AAK	Ala-Archa	50.82	298	ceP	P	06 12 13.1	+1.6
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BORK	Borovoye	50.82	312	i P	P	06 12 11.9	+0.7
BORK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BCAR	Beaver Creek A	51.41	34	P	P	06 12 16.2	+0.7
DAWY	Dawson	52.33	33	P	P	06 12 22.2	-0.1
DAWY				IAmb	IAmb	06 12 26.2	
	comp=Z,9.5nm,1.5s						
EPYK	Eagle Plains	53.07	30	IAmb	IAmb	06 12 29.0	
	comp=Z,11nm,0.9s						
G30M	tAoh Zraii Nji	53.16	29	IAmb	IAmb	06 12 31.7	
	comp=Z,6.4nm,0.8s						
I30M	Mount Dempster	53.41	31	IAmb	IAmb	06 12 31.9	
	comp=Z,9.0nm,0.8s						
KK31	Karatay Array	53.44	300		P	06 12 31.1	+0.2
KK31	Karatay Array	53.44	300	P	P	06 12 31.1	+0.2
KK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KKAR	Karatay Array	53.44	300		P	06 12 31.0	+0.1
KKAR	Karatay Array	53.44	300	P	P	06 12 31.0	+0.1
TRKS	Terek-Say	53.54	298	P	P	06 12 32.3	+0.5
TRKS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
J30M	Hart River	53.55	32	P	P	06 12 31.9	+0.4
HYT	Haines Junctio	53.80	37	P	P	06 12 33.1	-0.3
HYT				IAmb	IAmb	06 12 45.0	
	comp=Z,6.2nm,1.0s						
G31M	Satah River	53.93	29	P	P	06 12 34.5	+0.5
G31M				IAmb	IAmb	06 12 36.4	
	comp=Z,12nm,1.2s						
CHGR	Chuyangaron	56.02	296	P	P	06 12 49.2	-0.5
CHGR				pmax	pmax		
	comp=Z,21nm,0.8s						
ARTI	Arti	56.62	319	P	P	06 12 54.1	+0.6
ARTI	Arti	56.62	319	LR	LR	06 39 46.4	
	comp=Z,72nm,18.2s,baz=58,slow=39						
ARTI	Arti	56.62	319	c iP	P	06 12 53.9	+0.3
ARTI						06 14 58.7	
ARTI				S	S	06 20 44.4	+1.0
ARTI				SS	SS	06 24 26.9	-3.7
ARTI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA	Warramunga Arr	57.37	189	P	P	06 12 57.7	-1.5
	comp=Z,1.5nm,0.7s,baz=6.7,slow=7.4,SNR=18						
	comp=Z,1.5nm,0.7s						
AB31	Akbulak array	58.17	310		P	06 13 04.2	-0.4
AB31				IAmb	IAmb	06 13 06.5	
	comp=Z,2.7nm,0.6s						
KIRV	Kirov	60.36	323	i P	P	06 13 20.4	+0.9
ASAR	Alice Springs	61.10	189	P	P	06 13 23.6	-1.4
	comp=Z,1.0nm,0.8s,baz=15,slow=8.0,SNR=9.5						
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	63.35	30	P	P	06 13 38.0	-1.6
	comp=Z,1.3nm,0.7s,baz=304,slow=7.3,SNR=5.3						
	comp=Z,1.3nm,0.7s						
YKA	Yellowknife Ar	63.35	30	P	P	06 13 38.0	-1.6
DZM	Mont Dzumac	63.35	155	eLR	LR	06 32 42.5	
	comp=Z,91nm,26.6s						
OBN	Obninsk	68.20	323	ceP	P	06 14 11.6	+0.6
OBN				e		06 16 45.2	
OBN				eS	SKiKP	06 23 47.5	-16
OBN				pmax	pmax		
	comp=Z,11nm,0.6s						
OBN				MLR	MLR		
	comp=Z,61nm,14.0s						
FINES	FINESS Array B	68.83	332	P	P	06 14 14.9	+0.1
	comp=Z,3.1nm,0.8s,baz=39,slow=7.3,SNR=7.1						
	comp=Z,3.1nm,0.8s						
KBZ	Khabaz	71.13	311	LR	LR	06 50 23.7	
	comp=Z,37nm,18.9s,baz=352,slow=40						
KIV	Kislovodsk	71.13	311	eP	P	06 14 29.4	0.0
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HFS	Hagfors	74.08	336	P	P	06 14 47.1	+0.6
	comp=Z,0.7nm,0.4s,baz=32,slow=5.9,SNR=6.9						
	comp=Z,0.7nm,0.4s						
NB2	NORSAR Subarra	74.16	337	P	P	06 14 48.0	+1.0
	comp=Z,3.3nm,1.2s,baz=39,slow=6.2						
NOA	NORSAR Array B	74.16	337	P	P	06 14 47.7	+0.7
	comp=Z,1.2nm,0.9s,baz=43,slow=5.5,SNR=2.8						
NOA				LR	LR	06 51 26.3	
	comp=Z,30nm,18.3s,baz=280,slow=39						
	comp=Z,1.2nm,0.9s						
MDPB	Devils Postpil	74.40	55	IAmb	IAmb	06 14 52.6	
	comp=Z,4.5nm,0.5s						
AKASG	Malin Array Be	74.41	323	P	P	06 14 48.5	-0.1
	comp=Z,1.2nm,0.3s,baz=47,slow=6.0,SNR=16						
	comp=Z,1.2nm,0.3s						
NVAR	Mina Array Bea	74.44	53	P	P	06 14 48.4	-0.9
	comp=Z,1.2nm,0.7s,baz=311,slow=4.9,SNR=12						
	comp=Z,1.2nm,0.7s						
SFJD	Kangerlussuaq	75.60	5	LR	LR	06 52 23.5	
	comp=Z,38nm,19.6s,baz=94,slow=39						
PDAR	Pinedale Array	77.14	46	P	P	06 15 04.1	-0.6
	comp=Z,0.7nm,0.6s,baz=260,slow=1.8,SNR=10						
	comp=Z,0.7nm,0.6s						
BUR08	Bucovina Ar. S	78.42	322	P	P	06 15 11.6	0.0
BUR08				IAmb	IAmb	06 15 38.1	
	comp=Z,6.9nm,1.4s						
LCMT	Little Creek M	78.50	52	P	P	06 15 12.5	+0.2
KOLS	Kolonicke sedl	78.92	324	eP	P	06 15 14.1	0.0
KOLS	Kolonicke sedl	78.92	324	eP	P	06 15 14.1	0.0
HMU	Henry Mountain	79.48	50	P	P	06 15 17.8	0.0
HMU				IAmb	IAmb	06 15 18.4	
	comp=Z,3.9nm,0.7s						
ESJX	Sierra Juarez	79.80	58	P	P	06 15 19.5	0.0
CLL	Collm	81.14	330	i P	P	06 15 26.9	+0.9
CLL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CLL	Collm	81.14	330	i P	P	06 15 26.9	+0.9
	comp=Z,4.0nm,1.2s						
X16A	Lo Mia Camp, P	81.27	53	P	P	06 15 27.9	+0.5
GERES	GERESS Array B	82.77	329	P	P	06 15 35.3	+0.5
	comp=Z,0.3nm,0.5s,baz=29,slow=3.0,SNR=5.0						
	comp=Z,0.3nm,0.5s						
ANMO	Albuquerque	84.05	50	ceP	P	06 15 42.6	+0.8
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PPT2	Papeete2	84.31	117	eLR	LR	06 42 16.0	
	comp=Z,27nm,23.0s						
TAOE	Nuku Hiva Isla	85.74	104	eLR	LR	06 42 55.9	
	comp=Z,50nm,23.7s						
N41A	Harden Midland	88.51	37		P	06 16 06.0	+2.7
TXAR	Lajitas Array	89.58	53	P	P	06 16 07.8	-0.9
	comp=Z,0.4nm,0.7s,baz=320,slow=2.5,SNR=5.5						
	comp=Z,0.4nm,0.7s						
LPAZ	La Paz	146.14	60	PKPbc	PKPdf	06 22 51.5	+0.4
	comp=Z,2.2nm,0.8s,baz=359,slow=5.1,SNR=7.5						
H03N2	Juan Fernandez	146.55	96	T	T	09 06 27.1	
	baz=291,slow=76,SNR=8.8						
H03N3	Juan Fernandez	146.56	96	T	T	09 06 28.1	
	baz=291,slow=76,SNR=7.2						
H03N1	Juan Fernandez	146.56	96	T	T	09 06 30.5	
	baz=291,slow=76,SNR=8.8						

*SJA **06** 06:07:32.0±0.7, 23°.29S×66°.81W, h230km, ML3.7, MW3.5*
*IDC **06** 06:07:34.2±3.4, 23°.22S×66°.66W, h199km±45km, mb3.3/3, mbtmp3.9/6, Error ellipse: s-maj=42.3km s-min=22.9km az=121.0*

ISC 06 06:07:34.1±0.8,**23°.28S**±0°.04×**66°.94W**±0°.04,**h200**km,**n28,**
σ1§50/44,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		1.08	150	eP	Pn	06 08 06.1	+1.0
SALTA				eP		06 08 06.2	
AF01	San Pedro de A	1.19	286	eP	Pn	06 08 08.2	+2.6
AF01				eS	Sn	06 08 14.4	-15
HJA	Humahuaca	1.41	87	eP	Pn	06 08 07.9	+0.4
YJA	Yavi	1.72	50	eP	Pn	06 08 10.9	+0.6
SLA	San Lorenzo	1.94	138	eP	Pn	06 08 13.3	+1.1
SLA				eS	Sn	06 08 45.2	+3.3
PB06	IPOC Station P	2.49	283	eP	Pn	06 08 19.5	+1.4
PB06				eS	Sn	06 08 54.3	+2.0
PB06				IAML		06 08 55.3	
	comp=Z,119nm,0.3s						
PB09	IPOC Station P	2.59	304	eP	Pn	06 08 20.5	+1.3
PB09				eS	Sn	06 08 57.1	+2.7
PB09				IAML		06 09 03.4	
	comp=Z,96nm,0.2s						
PB03	IPOC Station P	2.88	295	eP	Pn	06 08 23.6	+1.1
PB03				eS	Sn	06 09 00.9	+0.7
PB03				IAML		06 09 01.8	
	comp=Z,368nm,0.5s						
FSA	Cafayete	2.95	163	eP	Pn	06 08 23.3	+0.1
FSA				eS	Sn	06 09 02.6	+0.8
GO02	Mina Guanaco	3.06	232	eP	Pn	06 08 25.8	+1.1
GO02				eS	Sn	06 09 05.5	+1.1
GO02				IAML		06 09 06.9	
	comp=Z,354nm,0.2s						
PB01	IPOC Station P	3.25	313	eP	Pn	06 08 27.7	+0.9
PB01				eS	Sn	06 09 08.9	+0.8
PB01				IAML		06 09 09.8	
	comp=Z,148nm,0.2s						
PB10	IPOC Station P	3.33	265	eP	Pn	06 08 28.8	+1.1
PB10				eS	Sn	06 09 11.2	+1.7
PB10				IAML		06 09 13.2	
	comp=Z,50nm,0.3s						
PB02	IPOC Station P	3.37	305	eP	Pn	06 08 22.6	-5.7
PB02				eS	Sn	06 09 10.5	-0.1
PB02				IAML		06 09 12.9	
	comp=Z,244nm,0.2s						
PB14	IPOC Station P	3.44	246	eP	Pn	06 08 29.9	+0.6
PB14				eS	Sn	06 09 12.4	-0.1
PB14				IAML		06 09 15.3	
	comp=Z,102nm,0.4s						
PB08	IPOC Station P	3.74	326	eP	Pn	06 08 34.8	+1.7
PB08				eS	Sn	06 09 21.0	+1.6
PB08				IAML		06 09 23.9	
	comp=Z,64nm,0.2s						
PATCX	Punta Patache	3.86	309	eP	Pn	06 08 34.6	+0.3
PATCX				eS	Sn	06 09 21.5	0.0
PATCX				IAML		06 09 24.3	
	comp=Z,74nm,0.6s						
TA01	Diego Aracena	4.05	311	eP	Pn	06 08 36.4	-0.1
TA01				eS	Sn	06 09 25.6	+0.2
TA01				IAML		06 09 27.9	
	comp=Z,45nm,0.2s						
AC02	Maricunga	4.06	209	eP	Pn	06 08 37.5	+0.5
AC02				eS	Sn	06 09 29.7	+3.2
AC02				IAML		06 09 39.4	
	comp=Z,23nm,0.2s						
GO01	Chusmiza	4.17	329	eP	Pn	06 08 39.9	+1.4
GO01				eS	Sn	06 09 30.1	+1.1
GO01				IAML		06 09 31.6	
	comp=Z,52nm,0.3s						
PB11	IPOC Station P	4.32	324	eP	Pn	06 08 21.0	-19
PB11				IAML		06 09 33.4	
	comp=Z,82nm,0.2s						
AC01	Pan de Azucar	4.38	229	eP	Pn	06 08 39.9	-0.8
AC01				eS	Sn	06 09 31.3	-1.8
AC01				IAML		06 09 31.5	
	comp=Z,54nm,0.1s						
GO03	Copiapo	5.22	214	eP	Pn	06 08 50.3	-1.1
GO03				eS	Sn	06 09 49.8	-2.6
GO03				IAML		06 09 51.6	
	comp=Z,62nm,0.3s						
LPAZ	La Paz	7.05	351	P	Pn	06 09 16.1	+0.4
	comp=Z,2.8nm,0.3s,baz=160,slow=4.1,SNR=30						
LPAZ				S	Sn	06 10 35.5	-0.6
	comp=Z,1.1nm,0.8s,baz=0.0,slow=17,SNR=1.8						
PLCA	Paso Flores	17.66	189	P	P	06 11 25.8	-0.5
	comp=Z,1.8nm,0.9s,baz=12,slow=11,SNR=6.9						
BDFB	Brasilia	19.38	70	P	P	06 11 43.4	-1.7
	comp=Z,4.6nm,0.6s,baz=246,slow=12,SNR=8.7						
SNAA	Sanae	60.01	161	P	P	06 17 18.2	-1.1
	comp=Z,1.8nm,1.1s,baz=354,slow=17,SNR=2.3						
	comp=Z,1.8nm,1.1s						
QSPA	South Pole Qui	66.92	180	P	P	06 18 06.8	+2.0
	comp=Z,0.8nm,0.8s,baz=255,slow=0.7,SNR=6.9						
	comp=Z,0.8nm,0.8s						
TORD	Torodi Ar. Bea	76.26	69	P	P	06 18 58.7	-2.4
	comp=Z,0.3nm,0.4s,baz=248,slow=6.7,SNR=2.8						
	comp=Z,0.3nm,0.4s						

*ISK **06** 06:09:20.9, 36°.06N×25°.98E, h113km±1km, ML2.7/14*
*ATH **06** 06:09:21.7, 36°.03N×26°.07E, h117km±2km, ML3.1/6, Manual Solution by A.Papageorgiou First location: 2019/10/06 06:11:05, This location: 2019/10/06 07:34:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **06** 06:09:22.4, 36°N±52°×2°6E±4°7, h122km±36km, MLh3.0/3*
*AFAD **06** 06:09:25.0, 36°.09N×26°.44E, h107km±14km, ML2.7*

ISC 06 06:09:20.2±1.7,**36°.00N**±0°.05×**26°.05E**±0°.04,**h129**km±10km,
n47,σ1§35/65,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTA	Astypalaia	0.59	24	P	Pn	06 09 39.8	+0.1
ASTA				S	Sn	06 09 53.7	-0.8
SNT5	Nea Kammeni, S	0.67	307	P	Pn	06 09 40.3	+0.2
SNT5				S	Sn	06 09 56.4	+1.1
SNT5	Nea Kammeni, S	0.67	307	P	Pn	06 09 40.3	+0.2
SAP3	Santorini-Thir	0.72	307	P	Pn	06 09 40.8	+0.2
SAP3				S	Sn	06 09 55.6	-0.5
STIA	Sitia Lasithi	0.80	178	P	Pn	06 09 42.0	+0.8
STIA				S	Sn	06 09 57.4	+0.2
NPS	Neapolis	0.82	206	P	Pn	06 09 41.8	+0.3
NPS				S	Sn	06 09 56.9	-0.7
NPS	Neapolis	0.82	206	P	Pn	06 09 41.6	+0.1
NPS				S	Sn	06 09 56.9	-0.7
ZKR	Zakros	0.90	171	Pg	Pn	06 09 43.0	+0.9
ZKR				Sg	Sn	06 09 58.7	0.0
ZKR	Zakros	0.90	171	P	Pn	06 09 43.3	+1.2
ZKR	Zakros	0.90	171	P	Pn	06 09 43.1	+0.9
ZKR				S	Sn	06 09 59.0	+0.3
KARP	Karpathos	1.01	117	Pn	Pn	06 09 43.9	+0.8
KARP				Sn	Sn	06 10 00.5	0.0
KARP	Karpathos	1.01	117	P	Pn	06 09 43.9	+0.8
KARP				S	Sn	06 10 00.1	-0.5
IACM	Heraklion	1.06	229	P	Pn	06 09 43.2	-0.4
IDI	Anoyia	1.19	233	Pn	Pn	06 09 44.9	0.0
IDI				Sn	Sn	06 10 02.1	-1.6
IDI	Anoyia	1.19	233	P	Pn	06 09 44.8	-0.1
YAZI	Mula-Dat§a-	1.32	59	P	Pn	06 09 46.6	+0.4
DAT	Datca	1.43	59	Pn	Pn	06 09 48.3	+0.8
DAT				Sn	Sn	06 10 07.9	-0.4
DAT	Datca	1.43	59	P	Pn	06 09 48.7	+1.2
BODT	Bodrum	1.46	43	Pn	Pn	06 09 49.1	+1.3
BODT				Sn	Sn	06 10 08.0	-0.9
MHLO	Agia Marina, M	1.50	298	P	Pn	06 09 49.3	+1.2
RGE1	Gennadi, Rhode	1.52	89	P	Pn	06 09 49.0	+0.6
RGE1				S	Sn	06 10 09.7	-0.2
BDRM	Kayabasi	1.54	46	P	Pn	06 09 49.7	+1.0
ARG	Arkhangelos	1.69	82	Pn	Pn	06 09 51.6	+1.2
ARG	Arkhangelos	1.69	82	P	Pn	06 09 51.3	+0.9
ARG				S	Sn	06 10 12.3	-1.1
RODP	Rodopos	1.92	257	P	Pn	06 09 54.6	+1.5
TURN	Turunc	1.93	66	Pn	Pn	06 09 54.2	+1.1
TURN	Turunc	1.93	66	P	Pn	06 09 54.3	+1.1
TURN				S	Sn	06 10 16.5	-1.9
YER	Yerkesik	2.12	57	Pn	Pn	06 09 56.9	+1.3
AYDN	Tasoluk	2.21	41	P	Pn	06 09 58.6	+1.9
MULA	Mugla, Merkez-	2.21	55	P	Pn	06 09 58.5	+1.7
DALY	Dalyan (Mula)	2.25	68	Pn	Pn	06 09 58.6	+1.5
ZEYE	Izmir, Urla-Ze	2

LZH				Sg	Sb	06 17 58.3	+0.5
LZH				smax	smax		
	comp=N,970nm,1.6s						
LZH				smax	smax		
	comp=E,980nm,1.5s						
GTA	**Gaotai**	**3.99**	**322**	Pn	**Pn**	**06 18 35.7**	**+1.2**
GTA				Pg	**Pb**	**06 18 45.7**	**+2.1**
GTA				Sn	**Sn**	**06 19 20.7**	**-0.7**
GTA				Sg	**Sg**	**06 19 38.5**	**-2.8**
GTA				smax	smax		
	comp=N,31nm,1.2s						
GTA				smax	smax		
	comp=E,30nm,1.3s						
GOMU	**GeErMu**	**6.62**	**271**	P	**Pn**	**06 19 11.3**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,17nm,0.8s						
SONM	**Songino Array**	**11.78**	**11**	Pn	**Pn**	**06 20 21.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=14,SNR=5.4						
SONM				Lg	Lg	06 24 01.5	
	comp=Z,0.2nm,0.3s,baz=205,slow=27,SNR=2.5						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**18.65**	**311**	LR	LR	06 30 05.0	
	comp=Z,53nm,18.0s,baz=70,slow=41						
ZALV	**Zalesovo Beam**	**21.69**	**330**	P	**P**	**06 22 23.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=119,slow=12,SNR=2.5						
	comp=Z,0.5nm,0.4s						
WRA	**Warramunga Arr**	**63.32**	**147**	P	**P**	**06 28 02.3**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=328,slow=6.1,SNR=2.8						
	comp=Z,0.7nm,1.0s						
ILAR	**Eielson Array**	**65.56**	**26**	P	**P**	**06 28 16.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=300,slow=6.3,SNR=5.8						
	comp=Z,0.7nm,0.9s						

*NEIC **06** 06:26:27.0±1.9, 16°.70S±0°.04×174°.0W±0°.1, h87km±9km, mb4.8/28, Error ellipse: s-maj=17.3km s-min=2.8km az=73.0*

*NOU **06** 06:26:31.2, 16°.83S×173°.58W, h124km, mb4.6/11, Tonga Islands*

*IDC **06** 06:26:32.1±0.5, 16°.61S×174°.07W, h138km±4km, mb4.1/18, mbtmp4.5/19, Error ellipse: s-maj=15.4km s-min=11.4km az=137.0*

ISC 06 06:26:26.7±0.4, **16°.73S**±0°.05×**173°.90W**±0°.06, **h96**km±3km, **n142**, σ1**33**/155, **mb4.6**/31, **15C-5D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.47**	**36**		**Pn**	**06 27 20.0**	**+1.3**
AFI				Sn	**Sn**	**06 27 56.5**	**-2.5**
AFI	**Afiamalu**	**3.47**	**36**	P	**Pn**	**06 27 20.1**	**+1.3**
AFI				S	**Sn**	**06 27 56.9**	**-2.1**
NIUE	**Niue**	**4.44**	**122**		**Pn**	**06 27 33.5**	**+1.7**
NIUE	**Niue**	**4.44**	**122**	P	**Pn**	**06 27 33.7**	**+1.9**
NIUE	**Niue**	**4.44**	**122**	S	**Sn**	**06 28 19.7**	**-2.6**
NIUE	**Niue**	**4.44**	**122**	P	**Pn**	**06 27 33.6**	**+1.9**
NIUE				S	**Sn**	**06 28 19.8**	**-2.6**
TAVE	**Taveuni**	**5.76**	**269**	P	Pn	06 27 58.6	+8.9
DGTI	**Dogotuki**	**6.12**	**273**	P	Pn	06 28 02.9	+8.2
MSVF	**Nonsavu**	**7.76**	**261**	P	Pn	06 28 25.8	+8.8
GLKZ	**Green Lake**	**13.01**	**196**	P	**Pn**	**06 29 25.1**	**-2.7**
GLKZ				S	**Sn**	**06 31 45.6**	**-5.2**
DZM	**Mont Dzumac**	**19.28**	**251**	P	**P**	**06 30 44.6**	**+0.5**
DZM	**Mont Dzumac**	**19.28**	**251**	P	**P**	**06 30 44.4**	**+0.3**
	7.4nm,0.9s,baz=120,slow=16,SNR=3.4						
DZM	**Mont Dzumac**	**19.28**	**251**	P	**Pn**	**06 30 48.4**	**+2.3**
GRZ	**Great Barrier**	**21.62**	**204**	P	**P**	**06 31 12.0**	**+3.0**
WCZ	**Waipu Caves**	**21.80**	**206**	P	**P**	**06 31 13.4**	**+2.4**
MXZ	**Matakaoa Point**	**21.86**	**197**	P	**P**	**06 31 14.9**	**+3.4**
MXZ	**Matakaoa Point**	**21.86**	**197**	P	**P**	**06 31 14.0**	**+2.5**
KUZ	**Kuaotunu**	**21.95**	**203**	P	**P**	**06 31 14.9**	**+2.4**
KUZ	**Kuaotunu**	**21.95**	**203**	P	**P**	**06 31 13.7**	**+1.2**
WMGZ	**Waiomatatini S**	**22.07**	**196**	P	**P**	**06 31 17.2**	**+3.4**
HAZ	**Te Kaha**	**22.19**	**198**	P	**P**	**06 31 16.4**	**+1.4**
WIAZ	**Waiheke Island**	**22.22**	**204**	P	**P**	**06 31 16.8**	**+1.5**
RUGZ	**Raukumara Rang**	**22.41**	**198**	P	**P**	**06 31 18.9**	**+1.3**
TWGZ	**Tauwhareparae**	**22.53**	**197**	P	**P**	**06 31 22.1**	**+3.5**
MWZ	**Matawai**	**22.80**	**198**	P	**P**	**06 31 23.8**	**+2.4**
URZ	**Urewera**	**22.86**	**198**	P	**P**	**06 31 22.4**	**+0.5**
URZ	**Urewera**	**22.86**	**198**	P	**P**	**06 31 21.6**	**-0.2**
TOZ	**Tahuroa Road**	**22.91**	**202**	P	**P**	**06 31 25.4**	**+3.0**
HIZ	**Hauiti**	**23.84**	**202**	P	**P**	**06 31 33.8**	**+2.8**
OTVZ	**Oturere**	**24.14**	**200**	P	**P**	**06 31 33.0**	**-0.8**
NGZ	**Ngauruhoe**	**24.17**	**200**	P	**P**	**06 31 32.1**	**-2.1**
QRZ	**Quartz Range**	**26.73**	**203**	P	**P**	**06 31 59.4**	**+2.3**
EIDS	**Eidsvold**	**33.72**	**249**	P	**P**	**06 32 58.4**	**-0.6**
ARMA	**Armidale**	**34.26**	**240**	P	**P**	**06 33 03.9**	**+0.1**
ARMA				IAmb	IAmb	06 33 04.1	
	comp=Z,7.7nm,0.8s						
CTAO	**Charters Tower**	**37.90**	**259**	P	**P**	**06 33 35.4**	**+0.5**
CTAO				IAmb	IAmb	06 33 42.5	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**41.26**	**232**	P	**P**	**06 34 02.3**	**-0.3**
COEN	**Coen**	**41.43**	**268**	P	**P**	**06 34 04.3**	**+0.1**
COEN				IAmb	IAmb	06 34 26.1	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**42.97**	**241**	P	**P**	**06 34 16.4**	**-0.1**
STKA	**Stephens Creek**	**42.97**	**241**	P	**P**	**06 34 16.2**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=74,slow=10,SNR=9.6						
	comp=Z,8.4nm,0.8s						
INKA	**Innaminka**	**43.18**	**247**	P	**P**	**06 34 18.4**	**+0.2**
JAY	**Jayapura**	**46.79**	**283**	P	**P**	**06 34 47.7**	**+0.7**
	comp=Z,9.5nm,0.7s,baz=147,slow=10,SNR=4.3						
	comp=Z,9.5nm,0.7s						
BBOO	**Buckleboo**	**47.74**	**241**	P	**P**	**06 34 53.4**	**-0.7**
BBOO				IAmb	IAmb	06 35 08.2	
	comp=Z,15nm,1.1s						
WR8	**Warramunga Arr**	**48.94**	**258**	P	**P**	**06 35 02.3**	**-1.2**
WB0	**Warramunga Arr**	**49.05**	**258**	P	**P**	**06 35 03.3**	**-1.1**
WB0				IAmb	IAmb	06 35 04.8	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**49.09**	**258**		**P**	**06 35 03.2**	**-1.5**
WRA	**Warramunga Arr**	**49.09**	**258**	P	**P**	**06 35 03.5**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=94,slow=7.3,SNR=35						
WRA				PcP	**PcP**	**06 36 26.7**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=93,slow=3.6,SNR=7.6						
	comp=Z,2.0nm,0.6s						
AS31	**Alice Springs**	**49.26**	**253**		**P**	**06 35 05.1**	**-0.9**
AS31				IAmb	IAmb	06 35 05.9	
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**49.26**	**253**		**P**	**06 35 05.2**	**-0.8**
ASAR	**Alice Springs**	**49.26**	**253**	P	**P**	**06 35 04.9**	**-1.1**
	comp=Z,33nm,0.6s,baz=89,slow=8.4,SNR=558						
ASAR				pP	**sP**	**06 35 38.6**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=85,slow=8.8,SNR=2.7						
ASAR				PcP	**PcP**	**06 36 27.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=109,slow=3.7,SNR=5.6						
	comp=Z,33nm,0.6s						
GUMO	**Guam**	**50.66**	**304**	P	**P**	**06 35 15.9**	**-0.7**
MTN	**Manton Dam**	**53.16**	**266**	P	**P**	**06 35 35.3**	**+0.1**
MTN				IAmb	IAmb	06 35 49.0	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**54.40**	**244**	P	**P**	**06 35 43.0**	**-1.1**
FORT				IAmb	IAmb	06 35 45.1	
	comp=Z,8.7nm,0.9s						
KNRA	**Kununurra**	**54.91**	**262**	P	**P**	**06 35 48.0**	**+0.1**
KNRA				IAmb	IAmb	06 35 48.8	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**57.48**	**259**	P	**P**	**06 36 06.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**57.48**	**259**	P	**P**	**06 36 05.7**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=100,slow=6.1,SNR=8.5						
	comp=Z,1.0nm,0.5s						
SOEI	**Soe**	**60.40**	**268**		**P**	**06 36 27.2**	**+0.6**
SBA	**Scott Base**	**61.89**	**185**		**P**	**06 36 38.3**	**+2.8**
VNDA	**Vanda**	**62.01**	**186**	P	**P**	**06 36 38.1**	**+1.8**
VNDA				IAmb	IAmb	06 36 38.9	
	comp=Z,8.2nm,0.8s						
VNDA	**Vanda**	**62.01**	**186**	P	**P**	**06 36 38.1**	**+1.8**
	comp=Z,8.7nm,0.9s,baz=7.0,slow=6.3,SNR=7.9						
	comp=Z,8.7nm,0.9s						
VNDA	**Vanda**	**62.01**	**186**	P	**P**	**06 36 38.0**	**+1.7**
VNDA				PcP	**PcP**	**06 37 16.7**	**+0.8**
PSA00	**Pilbara Seismi**	**62.38**	**254**	P	**P**	**06 36 39.0**	**-0.7**
MBWA	**Marble Bar**	**62.54**	**255**	P	**P**	**06 36 39.7**	**-1.1**
MORW	**Morawa**	**64.89**	**245**	P	**P**	**06 36 55.5**	**-0.6**
MORW				IAmb	IAmb	06 36 58.9	
	comp=Z,13nm,1.3s						
KIWB	**Kanaga Island**	**68.35**	**358**	P	**P**	**06 37 18.6**	**+1.1**
KIWB				IAmb	IAmb	06 37 44.5	
	comp=Z,14nm,1.4s						
CASY	**Casey**	**69.01**	**205**		**P**	**06 37 21.7**	**+0.2**
CASY				IAmb	IAmb	06 37 22.0	
	comp=Z,6.0nm,0.8s						
CASY	**Casey**	**69.01**	**205**	P	**P**	**06 37 21.6**	**+0.1**
CASY				pP	**PcP**	**06 37 44.0**	**-1.1**
MJAR	**Matsushiro Arr**	**69.65**	**320**	P	**P**	**06 37 24.3**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=154,slow=6.2,SNR=5.5						
MJAR				PcP	**PcP**	**06 37 49.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=72,slow=7.8,SNR=4.2						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**06 37 50.7**	**+3.0**
QSPA				IAmb	IAmb	06 37 51.6	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**06 37 50.6**	**+2.8**
	comp=Z,13nm,0.9s,baz=14,slow=0.3,SNR=55						
	comp=Z,13nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.75**	**343**	P	**P**	**06 37 50.9**	**+0.8**
PETK	**Petropavlovsk-**	**73.75**	**343**	P	**P**	**06 37 50.2**	**+0.1**
PETK	**Petropavlovsk-**	**73.75**	**343**	P	**P**	**06 37 49.9**	**-0.2**
	comp=Z,6.1nm,0.7s,baz=108,slow=8.7,SNR=9.0						
	comp=Z,6.1nm,0.7s						
NVAR	**Mina Array Bea**	**75.63**	**42**	P	**P**	**06 38 02.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=225,slow=9.6,SNR=28						
NVAR				pP	**sP**	**06 38 37.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=228,slow=10.0,SNR=6.5						
	comp=Z,2.9nm,0.8s						
KSRS	**Korea Array**	**76.77**	**316**	P	**P**	**06 38 09.2**	**+1.4**
	comp=Z,2.2nm,1.0s,baz=108,slow=4.1,SNR=4.6						
	comp=Z,2.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**78.16**	**323**	P	**P**	**06 38 14.2**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=91,slow=10,SNR=5.0						
	comp=Z,3.6nm,0.7s						
TXAR	**Lajitas Array**	**81.75**	**56**	P	**P**	**06 38 36.1**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=224,slow=8.8,SNR=5.8						
TXAR				pP	**sP**	**06 39 10.9**	**+0.9**
	comp=Z,1.9nm,1.1s,baz=224,slow=5.2,SNR=4.8						
	comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**83.57**	**42**	P	**P**	**06 38 44.5**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=212,slow=3.3,SNR=27						
PDAR				pP	**sP**	**06 39 19.4**	**0.0**
	comp=Z,2.2nm,0.7s,baz=218,slow=3.6,SNR=9.7						
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**83.84**	**11**	P	**P**	**06 38 44.6**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=226,slow=6.4,SNR=19						
ILAR				pP	**sP**	**06 39 19.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=230,slow=6.3,SNR=4.1						
	comp=Z,0.7nm,0.5s						
MAW	**Mawson**	**86.39**	**199**	P	**P**	**06 38 58.5**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=147,slow=5.9,SNR=17						
	comp=Z,3.7nm,0.6s						
SYO	**Syowa Base**	**91.21**	**191**	⇓*e*P	**P**	**06 39 21.0**	**+0.3**
TROLL	**Troll, Antarti**	**91.45**	**179**	⇑P	**P**	**06 39 21.7**	**-0.3**
	comp=Z,148nm,0.6s						
SNAA	**Sanae**	**91.61**	**177**	⇑P	**P**	**06 39 21.5**	**-1.1**
	comp=Z,57nm,0.9s						
SNAA	**Sanae**	**91.61**	**177**	P	**P**	**06 39 22.5**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=233,slow=1.8,SNR=9.8						
	comp=Z,2.9nm,1.0s						
VNA1	**Neumayer--Stat**	**92.27**	**175**	⇑P	**P**	**06 39 24.8**	**-0.8**
	comp=Z,8.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.58**	**288**	P	**P**	**06 39 29.2**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=108,slow=2.7,SNR=14						
	comp=Z,2.1nm,0.7s						
MKAR	**Makanchi Array**	**111.41**	**314**	PKiKP	**PKiKP**	**06 44 48.3**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=45,slow=1.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**113.88**	**318**	PKiKP	**PKiKP**	**06 44 53.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=104,slow=1.9,SNR=4.6						
BVAR	**Borovoye Array**	**118.63**	**322**	PKP	**PKPdf**	**06 45 03.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=56,slow=5.6,SNR=5.5						
ARCES	**ARCESS Array B**	**125.85**	**352**	PKP	**PKPdf**	**06 45 16.4**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=64,slow=2.1,SNR=5.5						
ARCES				pPKP	**sPKPdf**	**06 45 54.0**	**+1.3**
	comp=Z,4.2nm,1.1s,baz=3.5,slow=2.4,SNR=1.4						
BOSA	**Boshof**	**131.26**	**203**	PKP	**PKPdf**	**06 45 28.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=172,slow=1.5,SNR=5.6						
FINES	**FINESS Array B**	**133.13**	**347**	PKP	**PKPdf**	**06 45 30.4**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=336,slow=4.2,SNR=4.4						
AKASG	**Malin Array Be**	**141.37**	**336**	PKhKP	PKPpre	06 45 39.1	
	comp=Z,0.4nm,0.5s,baz=43,slow=3.5,SNR=4.2						
KMBO	**Kilima Mbogo**	**144.52**	**243**	PKP	**PKPdf**	**06 45 53.1**	**-0.2**
	comp=Z,6.3nm,0.5s,baz=185,slow=2.2,SNR=8.6						
CLL	**Collm**	**145.07**	**352**	*i* PKPbc	**PKPbc**	**06 45 51.9**	**-0.4**
	comp=Z,9.0nm,0.9s						
STHS	**Stebnicka Huta**	**145.16**	**343**	*e*PKP	**PKPdf**	**06 45 53.1**	**+0.1**
KOLS	**Kolonicke sedl**	**145.28**	**341**	*e*PKP	**PKPab**	**06 45 53.8**	**+0.5**
OSTC	**Ostas**	**145.29**	**349**	*e*PKP	**PKPab**	**06 45 53.6**	**+0.3**
BRG	**Berggiesshubel**	**145.37**	**351**	*e*P	**PKPab**	**06 45 53.4**	**-0.1**
BRG				Amp		06 45 54.2	
	comp=Z,5.4nm,0.9s						
BRG	**Berggiesshubel**	**145.37**	**351**	P	**PKiKP**	**06 45 57.1**	**-0.1**
BRG				Amp		06 45 58.3	
	comp=Z,3.8nm,0.9s						
UPC	**Upice**	**145.38**	**349**	*e*PKP	**PKPab**	**06 45 53.7**	**+0.1**
BURAR	**Bucovina Array**	**145.41**	**337**	⇑P	**PKPab**	**06 45 54.2**	**+0.3**
DPC	**Dobruska-Polom**	**145.47**	**348**	*e*PKP	**PKPab**	**06 45 54.1**	**+0.1**
STEB	**Steborice**	**145.56**	**347**	*e*PKP	**PKPab**	**06 45 54.1**	**-0.2**
PVCC	**Panska Ves**	**145.60**	**350**	*e*PKP	**PKPab**	**06 45 54.7**	**+0.3**
KRLC	**Kraliky**	**145.64**	**348**	*e*PKP	**PKPbc**	**06 45 54.3**	**+0.1**
MORC	**Moravsky Berou**	**145.76**	**347**	*e*P	**PKPab**	**06 45 54.8**	**-0.3**
TLCR		**145.83**	**331**	⇑P	**PKPab**	**06 45 55.3**	**-0.1**
ONER	**Baraj Valea Uz**	**146.00**	**335**	⇑P	**PKPdf**	**06 45 52.9**	**-1.6**
MAUC	**Maruska**	**146.08**	**346**	*e*PKP	**PKPab**	**06 45 56.0**	**-0.3**
CFR	**Carcaliu**	**146.15**	**332**	⇑P	**PKPdf**	**06 45 55.0**	**+0.2**
TPGR	**Topolog**	**146.26**	**331**	⇑P	**PKPab**	**06 45 56.7**	**-0.5**
TURR	**Turia**	**146.38**	**335**	⇓P	**PKPdf**	**06 45 55.1**	**-0.1**
VRAC	**Vranov**	**146.41**	**348**	*e*P	**PKPbc**	**06 45 56.7**	**+0.2**
KRUC	**Moravsky**	**146.68**	**348**	*e*P	**PKPbc**	**06 45 57.0**	**-0.3**
ZVC	**Zvikov**	**146.72**	**350**	*e*PKP	**PKPab**	**06 45 58.1**	**-0.6**
MLR	**Muntele Rosu**	**146.86**	**334**	⇑P	**PKPbc**	**06 45 57.9**	**-0.2**
BRTR	**Keskin Array B**	**146.87**	**319**	PKPbc	**PKPbc**	**06 45 58.4**	**0.0**
	comp=Z,6.9nm,0.7s,baz=134,slow=2.3,SNR=27						
BRTR				pPKPbc	sPKPbc	06 46 34.7	+0.8
	comp=Z,2.4nm,0.9s,baz=121,slow=2.2,SNR=2.9						
PSZ	**Piszkesteto**	**146.90**	**343**	⇓P	**PKPab**	**06 45 58.8**	**-0.7**
MARR	**Marisel-Cluj**	**146.97**	**338**	⇑P	**PKPbc**	**06 45 58.2**	**-0.2**
DRGR		**147.01**	**339**	⇑P	**PKPbc**	**06 45 58.2**	**-0.2**
KIRS	**Kirsehir-Merke**	**147.03**	**318**	⇑P	**PKPbc**	**06 45 58.9**	**+0.2**
KHC	**Kasperske Hory**	**147.12**	**351**	*e*PKP	**PKPbc**	**06 45 58.0**	**-0.6**
MODS	**Modra-Piesok**	**147.14**	**346**	*e*PKP	**PKPab**	**06 46 00.1**	**-0.3**
CKRC	**Cesky Krumlov**	**147.30**	**350**	*e*PKP	**PKPbc**	**06 45 58.2**	**-0.9**
GERES	**GERESS Array B**	**147.38**	**351**	PKPbc	**PKPbc**	**06 45 59.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=341,slow=2.3,SNR=9.8						
GERES				pPKPbc	**sPKPbc**	**06 46 34.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=4.8,slow=1.6,SNR=3.3						
ARR	**Arges**	**147.50**	**335**	⇑P	**PKiKP**	**06 46 00.8**	**-1.1**
CONA	**Conrad Observa**	**147.87**	**348**	*e*PKP	**PKPbc**	**06 46 01.0**	**+0.2**
	comp=Z,1.8nm,0.6s						
RONA	**Rosalia, Austr**	**148.00**	**347**	*e*PKP	**PKPbc**	**06 46 01.1**	**+0.1**
	comp=Z,1.2nm,0.4s						
SURR	**Surduc**	**148.11**	**339**	⇑P	**PKPbc**	**06 46 00.8**	**-0.6**
MOA	**Molln**	**148.25**	**350**	*e*PKP	**PKPbc**	**06 46 01.1**	**-0.5**
	comp=Z,3.1nm,1.0s						
BZS	**Buzias**	**148.41**	**339**	⇑P	**PKPbc**	**06 46 01.8**	**-0.4**
HERR	**Herculane**	**148.76**	**337**	⇓P	**PKPbc**	**06 46 02.7**	**-0.3**
MMAI	**Mount Meron Ar**	**149.01**	**307**	PKPbc	**PKiKP**	**06 46 05.0**	**-0.5**
	comp=Z,6.8nm,0.6s,baz=90,slow=1.7,SNR=7.1						
MOTA	**Moosalm**	**149.19**	**353**	*e*PKP	**PKPbc**	**06 46 03.4**	**-0.9**
	comp=Z,0.6nm,0.4s						
WTTA	**Wattenberg**	**149.21**	**353**	*e*PKP	**PKPbc**	**06 46 04.0**	**-0.3**
	comp=Z,1.9nm,0.5s						
SOKA	**Soboth**	**149.23**	**348**	*e*PKP	**PKPbc**	**06 46 04.3**	**0.0**
	comp=Z,1.1nm,0.6s						
DAVA	**Damuels**	**149.37**	**355**	*e*PKP	**PKPbc**	**06 46 04.0**	**-0.7**
	comp=Z,2.2nm,0.5s						
OBKA	**Obir**	**149.49**	**348**	*e*PKP	**PKPbc**	**06 46 04.2**	**-0.7**
	comp=Z,0.4nm,0.3s						
FETA	**Feichten**	**149.55**	**354**	*e*PKP	**PKPbc**	**06 46 04.7**	**-0.5**
	comp=Z,2.5nm,0.7s						
ABTA	**Abfaltersbach**	**149.60**	**351**	*i* PKP	**PKPbc**	**06 46 04.6**	**-0.6**
	comp=Z,5.9nm,0.8s						
BOVS	**Bovan**	**150.09**	**337**	⇓P	**PKPbc**	**06 46 06.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**174.45**	**129**	PKP	**PKPdf**	**06 46 24.8**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=5.0,slow=4.1,SNR=4.7						
TORD				PKPab	**PKPab**	**06 47 59.7**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=278,slow=3.7,SNR=6.9						

IDC 06 06:26:37.4±1.9, **0°.98N×126°.88E, h0**km, **mb3.5**/4, **mbtmp3.5**/4, **MS3.2**/1, **Error ellipse: s-maj=177.2km s-min=23.1km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.00**	**184**	LR	LR	06 39 01.9	
	comp=Z,77nm,21.0s,baz=340,slow=39						
WRA	**Warramunga Arr**	**22.05**	**161**	P	P	06 31 33.3	-0.5
	1.1nm,0.4s,baz=340,slow=11,SNR=14						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**25.44**	**165**	P	P	06 32 07.5	+0.4
	0.5nm,0.5s,baz=342,slow=11,SNR=8.2						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	06 36 43.9	-1.3
	0.2nm,0.4s,baz=122,slow=7.8,SNR=2.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	P	06 37 14.6	+1.1
	0.3nm,0.6s,baz=124,slow=6.0,SNR=2.3						
	0.3nm,0.6s						

*TEH **06** 06:30:01.3, 29°.42N×56°.98E, h90km*

*OMAN **06** 06:30:04.3±0.1, 29°.03N×56°.54E, h10km, ml3.5/10, Error ellipse: s-maj=2.1km s-min=1.6km az=225.0*

ISC 06 06:30:00.3±1.3, **29°.38N**±0°.04×**56°.88E**±0°.06, **h100**km, **n28,** σ1**50**/41, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.30**	**334**	Pg	**Pn**	**06 30 16.0**	**+0.6**
NGRK				Sg	**Sn**	**06 30 27.2**	**+0.6**
CHMN	**Cheshme madani**	**0.75**	**50**	Pg	**Pn**	**06 30 18.8**	**+0.2**
KRM1	**Kerman Provinc**	**1.17**	**17**	Pg	**Pn**	**06 30 23.2**	**+0.3**
KBAM	**BAM**	**1.39**	**100**	Pg	**Pn**	**06 30 26.0**	**+0.6**
ZRDN	**Zarand Kerman**	**1.61**	**349**	Pg	**Pn**	**06 30 29.3**	**+1.1**
GENO	**Geno**	**2.07**	**198**	Pn	**Pn**	**06 30 35.9**	**+2.0**
IBAF	**Bafgh**	**2.48**	**333**	Pn	**Pn**	**06 30 41.1**	**+1.8**
IMEH	**Mehriz**	**2.81**	**316**	Pn	**Pn**	**06 30 45.9**	**+2.2**
SHME	**Shamm**	**3.38**	**191**	P	**Pn**	**06 30 52.4**	**+1.2**
	SNR=35						
SHME				S	**Sn**	**06 31 29.0**	**-1.4**
BANOM	**Banah**	**3.48**	**189**	P	**Pn**	**06 30 53.9**	**+1.4**
BANOM				S	**Sn**	**06 31 33.2**	**+0.3**
IKOO	**Kooshah**	**3.54**	**30**	Pn	**Pn**	**06 30 53.8**	**+0.2**
MASF	**Masafi**	**4.04**	**189**	P	**Pn**	**06 31 02.1**	**+2.0**
	SNR=11						
MASF				S	**Sn**	**06 31 46.5**	**+0.1**
MDH	**Madha**	**4.09**	**187**	P	**Pn**	**06 31 01.3**	**+0.6**
UOSS	**Minazif**	**4.46**	**188**	P	**Pn**	**06 31 06.9**	**+1.3**
UOSS				S	**Sn**	**06 31 55.4**	**-1.0**
NAZ	**Nazwa, Dubai**	**4.50**	**194**	P	**Pn**	**06 31 08.5**	**+2.2**
	SNR=9.9						
HATD	**Hatta, Dubai**	**4.58**	**189**	P	**Pn**	**06 31 09.2**	**+1.8**
HATD				S	**Sn**	**06 31 58.9**	**-0.6**
ASHO	**Ashiyiah**	**4.73**	**189**	P	**Pn**	**06 31 11.1**	**+1.7**
	SNR=20						
ASHO				S	**Sn**	**06 32 02.7**	**-0.5**
FAQ	**Al Faqa, Dubai**	**4.75**	**194**	P	**Pn**	**06 31 11.5**	**+1.8**
AJN	**Ajban**	**5.08**	**200**	P	**Pn**	**06 31 15.9**	**+1.8**
ALNE	**Al Ain**	**5.39**	**191**	P	**Pn**	**06 31 19.8**	**+1.4**
HOQ	**Hoqain**	**5.78**	**176**	P	**Pn**	**06 31 23.7**	**0.0**
	SNR=6.2						
HOQ				S

JHJ				Sn	Sn	06 51 26.3	-7.5
	82nm,0.3s,baz=263,slow=22,SNR=6.5						
	52nm,0.3s						
ASAJ	**Asahikawa**	**6.19**	**353**	Pn	**Pn**	**06 50 35.0**	**+1.0**
	10nm,0.3s,baz=201,slow=10,SNR=105						
ASAJ				Sn	**Sn**	**06 51 42.5**	**-0.9**
	baz=270,slow=20						
ASAJ				LR	LR	06 53 39.0	
	comp=Z,86nm,18.3s,baz=308,slow=44						
	32nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.15**	**126**	T	T	07 21 52.5	
	baz=317,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.16**	**126**	T	T	07 21 55.2	
	baz=317,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.16**	**126**	T	T	07 21 54.6	
	baz=317,slow=75,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**27.92**	**128**	T	T	07 22 55.0	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**27.93**	**128**	T	T	07 22 57.9	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**27.94**	**128**	T	T	07 22 51.3	
	baz=318						
KURBB	**Kurchatov Arra**	**46.86**	**308**	P	**P**	**06 57 30.8**	**+0.1**
	0.5nm,0.5s,baz=81,slow=7.9,SNR=2.9						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**47.73**	**33**	P	**P**	**06 57 38.0**	**+0.8**
	0.7nm,0.8s,baz=267,slow=6.8,SNR=6.2						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**58.28**	**190**	P	**P**	**06 58 54.4**	**-1.0**
	0.3nm,0.7s,baz=9.6,slow=6.3,SNR=1.9						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**75.71**	**47**	P	**P**	**07 00 46.0**	**-0.3**
	0.2nm,0.5s,baz=320,slow=7.3,SNR=1.7						
	0.2nm,0.5s						

*JMA **06** 06:49:09.4±0.3,37.°9N±0.°8×14.°4E±.°, h52km, MV4.3/24, FAR E OFF MIYAGI PREF*
*IDC **06** 06:49:22.4±1.2,36.°91N×143.°96E, h0km, mb3.7/6, mbtmp3.7/6, MS3.0/1, Error ellipse: s-maj=52.4km s-min=24.6km az=88.0*
ISC 06 06:49:10.2±4.5,37.°9N±0.°1×143.°6E±0.°3, h35km, n17, σ0§40/13, mb4.0/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.72**	**283**	*e*P	**Pn**	**06 49 37.4**	**-0.3**
JIO	**Ouri**	**1.85**	**287**	*e*P	**Pn**	**06 49 39.3**	**-0.1**
JIO				*e*S	**Sn**	**06 50 01.2**	**-0.3**
JKMT	**Kesennumamotoy**	**1.89**	**298**	*e*P	**Pn**	**06 49 39.7**	**-0.2**
JKMT				*e*S	**Sn**	**06 50 02.4**	**-0.1**
OFUJ	**Ofunato**	**1.90**	**308**	*e*P	**Pn**	**06 49 40.0**	**-0.1**
OFUJ				*e*S	**Sn**	**06 50 02.4**	**-0.3**
JMK	**Ichinoseki**	**2.13**	**299**	*e*P	**Pn**	**06 49 43.4**	**+0.2**
JOM	**Ohasama**	**2.37**	**311**	*e*S	**Sn**	**06 50 14.5**	**+0.1**
JOTO	**OTAMA OYAMA**	**2.61**	**263**	*e*P	**Pn**	**06 49 50.6**	**+0.7**
JYK	**Kaneyama**	**2.73**	**292**	*e*P	**Pn**	**06 49 52.3**	**+0.8**
JAG	**Ashikaga**	**3.64**	**247**	*e*P	**Pn**	**06 50 04.2**	**+0.2**
JRY	**Ryogami san**	**4.22**	**244**	*e*P	**Pn**	**06 50 11.7**	**-0.4**
YAK	**Yakutsk**	**25.61**	**345**	LR	LR	07 06 47.4	
	comp=Z,37nm,20.6s,baz=140,slow=39						
KURBB	**Kurchatov Arra**	**46.82**	**308**	P	P	06 58 00.2	+24
	0.9nm,0.6s,baz=80,slow=8.3,SNR=4.1						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**47.80**	**33**	P	P	06 58 06.5	+23
	0.2nm,0.9s,baz=266,slow=7.4,SNR=1.1						
	0.2nm,0.9s						
WRA	**Warramunga Arr**	**58.22**	**190**	P	P	06 59 12.7	+12
	0.8nm,0.5s,baz=7.7,slow=7.2,SNR=5.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**61.95**	**190**	P	P	06 59 36.5	+10
	0.4nm,0.8s,baz=15,slow=6.8,SNR=3.3						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**68.82**	**333**	P	P	07 00 34.2	+24
	0.9nm,0.6s,baz=43,slow=6.4,SNR=5.6						
	0.9nm,0.6s						
HFS	**Hagfors**	**73.97**	**336**	P	P	07 01 06.2	+25
	1.0nm,0.6s,baz=20,slow=4.7,SNR=5.1						
	1.0nm,0.6s						

*CATAC **06** 07:12:03.2±0.5, 14.°N±3.°×9.°2W±.°, h32km±4km, M3.2/13, MLv3.2/13, Error ellipse: s-maj=7.1km s-min=3.2km az=38.8, confirmed*
*GCG **06** 07:12:04.1±1.5, 14.°16N×91.°74W, h43km±16km, MD3.9, ML3.4, MW3.0*
ISC 06 07:12:00.1±2.2, 13.°92N±0.°09×91.°75W±0.°09, h23km±15km, n29, σ1§85/36, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.60**	**5**	P	**Pn**	**07 12 14.3**	**+1.1**
RTAL				S	**Sn**	**07 12 22.9**	**+0.7**
STG2	**El Palmar, Qui**	**0.63**	**35**	*i*P	**Pn**	**07 12 16.2**	**+2.5**
STG2				*e*S	**Sn**	**07 12 25.4**	**+2.4**
SOKI	**Kika Raxquin**	**0.95**	**21**	*e*P	**Pn**	**07 12 18.9**	**+0.5**
SOKI				*e*S	**Sb**	**07 12 29.8**	**-0.8**
QUEO	**Labor Ovalle**	**0.97**	**14**	*e*P	**Pn**	**07 12 19.1**	**+0.6**
QUEO				*e*S	**Sb**	**07 12 30.5**	**-0.4**
QUEO				IAML		07 12 31.7	
	comp=E,1μm,0.2s						
SMCA	**Catarina**	**0.98**	**341**	*e*P	**Pb**	**07 12 17.8**	**-0.6**
ESSG	**Sabana Grande**	**1.00**	**63**	*e*P	**Pn**	**07 12 20.8**	**+2.0**
ESSG				*e*S	**Sn**	**07 12 33.6**	**+1.3**
ESSG				IAML		07 12 33.9	
	comp=E,426nm,0.4s						
FG8	**Yepocapa, Chim**	**1.20**	**74**	*i*P	**Pn**	**07 12 19.9**	**-1.6**
FG8				*e*S	**Sb**	**07 12 32.0**	**-5.4**
FG16	**Alotenango, Sa**	**1.25**	**74**	*i*P	**Pn**	**07 12 21.1**	**-1.2**
FG16				*e*S	**Sn**	**07 12 33.4**	**-5.1**
FG16				IAML		07 12 34.9	
	comp=E,4μm,0.2s						
PCG5	**San Vicente Pa**	**1.36**	**77**	*i*S	**Sn**	**07 12 38.7**	**-2.5**
HUEH	**Huehuetenango**	**1.41**	**10**	*e*S	**Sn**	**07 12 41.9**	**-0.5**
HUEH	**Huehuetenango**	**1.41**	**10**	S	**Sn**	**07 12 42.1**	**-0.3**
HUEH	**Huehuetenango**	**1.41**	**10**	P	**Pb**	**07 12 25.5**	**-0.3**
QUIS	**Sacapulas**	**1.50**	**25**	*i*S	**Sn**	**07 12 45.7**	**+1.1**
FAME	**Alcaldia de Sa**	**1.69**	**92**	P	**Pb**	**07 12 31.6**	**+1.1**
FAME	**Alcaldia de Sa**	**1.69**	**92**	S	**Sb**	**07 12 53.8**	**+2.5**
NUBE	**Las Nubes**	**1.91**	**90**	*e*P	**Pb**	**07 12 35.0**	**+0.6**
NUBE	**Las Nubes**	**1.91**	**90**	P	**Pb**	**07 12 35.3**	**+0.9**
NUBE	**Las Nubes**	**1.91**	**90**	S	**Sb**	**07 12 59.4**	**+1.5**
CEVE	**Cerro Verde**	**2.07**	**92**	P	**Pb**	**07 12 38.2**	**+1.1**
CEVE	**Cerro Verde**	**2.07**	**92**	S	**Sb**	**07 13 04.1**	**+1.7**
JAYA	**Jayaquе - finc**	**2.25**	**97**	*e*P	**Pb**	**07 12 39.8**	**-0.4**
JAYA	**Jayaque - finc**	**2.25**	**97**	P	**Pb**	**07 12 40.1**	**0.0**
JAYA	**Jayaque - finc**	**2.25**	**97**	S	**Sb**	**07 13 08.8**	**+1.1**
CCIG	**Comitan**	**2.38**	**351**	S	**Sn**	**07 13 04.4**	**-1.8**
CCIG	**Comitan**	**2.38**	**351**	P	**Pn**	**07 12 37.9**	**+0.1**
PMON	**Piamonte**	**2.38**	**95**	P	**Pb**	**07 12 42.5**	**+0.2**
PMON	**Piamonte**	**2.38**	**95**	S	**Sb**	**07 13 11.8**	**+0.5**
LOMA	**Loma Larga**	**2.52**	**96**	S	**Sb**	**07 13 14.8**	**-0.6**
LOMA	**Loma Larga**	**2.52**	**96**	P	**Pb**	**07 12 44.1**	**-0.7**

*NNC **06** 07:14:03.8±1.0, 49.°98N×78.°21E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=11.2km s-min=4.8km az=96.0, Suspected Mining explosion.*
*IDC **06** 07:14:06.5±1.2, 50.°07N×78.°72E, h0km, mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=13.5km s-min=7.1km az=64.0*
ISC 06 07:14:04.8±1.1, 49.°97N±0.°04×78.°36E±0.°06, h0km, n18, σ0§68/28, 10C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.62**	**9**	⇓P	**Pg**	**07 14 16.6**	**-0.1**
KUR07				⇑S	**Sg**	**07 14 25.4**	**+0.7**
KUR06	**Kurchatov Arra**	**0.64**	**9**	⇓P	**Pg**	**07 14 17.1**	**0.0**
KUR06				⇑S	**Sg**	**07 14 25.7**	**+0.3**
KUR15	**Kurchatov Arra**	**0.66**	**11**	⇑P	**Pg**	**07 14 17.1**	**-0.4**
KUR15				⇑S	**Sg**	**07 14 25.8**	**-0.2**
KUR14	**Kurchatov Arra**	**0.66**	**13**	⇑P	**Pg**	**07 14 16.9**	**-0.5**
KUR14				⇑S	**Sg**	**07 14 25.8**	**-0.2**
KURBB	**Kurchatov Arra**	**0.66**	**9**	Pg	**Pg**	**07 14 17.4**	**-0.1**
	0.6nm,0.3s,baz=167,slow=17,SNR=26						
KURBB				Lg	Lg	07 14 25.8	
	0.8nm,0.3s,baz=167,slow=33,SNR=20						
KURBB	**Kurchatov Arra**	**0.66**	**9**	⇓P	**Pg**	**07 14 17.4**	**-0.1**
	6.3nm,0.4s						
KURBB				⇓S	**Sg**	**07 14 27.0**	**+0.9**
	35nm,0.6s						
KUR16	**Kurchatov Arra**	**0.66**	**8**	⇓P	**Pg**	**07 14 17.9**	**+0.4**
KUR16				⇓S	**Sg**	**07 14 26.5**	**+0.3**
KUR17	**Kurchatov Arra**	**0.67**	**6**	⇓P	**Pg**	**07 14 17.8**	**+0.3**
KUR17				⇑S	**Sb**	**07 14 27.9**	**-1.2**
KUR05	**Kurchatov Arra**	**0.68**	**9**	⇓P	**Pg**	**07 14 17.9**	**0.0**
KUR05				⇓S	**Sg**	**07 14 27.2**	**+0.5**
KUR04	**Kurchatov Arra**	**0.70**	**9**	⇑P	**Pg**	**07 14 17.8**	**-0.4**
KUR04				⇑S	**Sg**	**07 14 27.1**	**-0.3**
KURK	**Kurchatov**	**0.76**	**12**	⇓P	**Pg**	**07 14 18.4**	**-1.0**
	1.5nm,0.5s						
KURK				⇓S	**Sg**	**07 14 29.6**	**+0.2**
	10nm,0.8s						
SEM	**Semipalatinsk**	**1.29**	**69**	P	**Pg**	**07 14 28.8**	**-0.7**
	7.1nm,0.2s						
SEM				S	**Sn**	**07 14 50.6**	**+2.2**
	8.2nm,0.1s						
BRZS	**Berezniki**	**3.67**	**272**	Pg	**Pg**	**07 15 14.9**	**-0.2**
	0.7nm,0.1s						
BRZS				Lg	Lg	07 16 09.3	
	2.9nm,0.6s						
MK31	**Makanchi Array**	**4.12**	**139**	⇓Pg	**Pb**	**07 15 17.4**	**-0.8**
	1.0nm,0.6s,baz=324,slow=14,SNR=5.2						
MK31				⇑Lg	Lg	07 16 11.0	
	2.7nm,0.6s,baz=334,slow=24,SNR=11						
MKAR	**Makanchi Array**	**4.12**	**139**	Pn	**Pn**	**07 15 09.6**	**+0.6**
	0.1nm,0.3s,baz=322,slow=11,SNR=2.4						
MKAR				Pg	**Pb**	**07 15 17.8**	**-0.3**
	0.2nm,0.3s,baz=336,slow=15,SNR=5.3						
MKAR				Lg	Lg	07 16 13.1	
	0.5nm,0.3s,baz=338,slow=21,SNR=13						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**5.64**	**43**	Pn	**Pn**	**07 15 29.7**	**-0.1**
	0.1nm,0.3s,baz=231,slow=15,SNR=3.7						
	0.8nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.64**	**43**	I	I	07 47 40.0	
	baz=225,slow=320,SNR=3.9						
KRBS	**Karabastau**	**6.54**	**197**	Pg	Pg	07 16 05.4	-4.7
	1.4nm,0.7s						
KRBS				Lg	Lg	07 17 35.7	
	1.5nm,0.6s						

IDC 06 07:32:01.3±2.1, 0.°58N×126.°03E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=174.0km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**159**	P	P	07 36 56.9	0.0
	0.8nm,0.6s,baz=337,slow=11,SNR=8.1						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.29**	**163**	P	P	07 37 29.6	0.0
	0.8nm,0.9s,baz=346,slow=11,SNR=8.7						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**59.76**	**327**	P	P	07 42 08.1	-0.1
	0.3nm,0.6s,baz=118,slow=8.3,SNR=2.1						
	0.3nm,0.6s						

CATAC 06 07:32:25.2±0.7, 12.°N±3.°×8.°7W±.°, h30km±6km, M3.0/13, MLv3.0/13, Error ellipse: s-maj=9.1km s-min=5.0km az=48.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.77**	**31**	P	Pn	07 32 39.5	-0.4
UNAN	**Cigeo UNAN**	**0.92**	**50**	P	Pb	07 32 42.8	+0.2
UNAN				S	Sb	07 32 54.7	+0.2
SABN	**Sabanita**	**0.92**	**62**	P	Pn	07 32 41.4	-0.7
APQ2	**Apoyeque**	**0.94**	**44**	P	Pn	07 32 41.8	-0.6
APQ2				S	Sn	07 32 54.9	+0.1
TISN	**Laguna Tiscapa**	**0.94**	**49**	P	Pn	07 32 40.2	-2.2
MAS3	**AI N del Volca**	**0.94**	**58**	P	Pn	07 32 42.4	0.0
MAS3				S	Sn	07 32 53.7	-1.2
ALLN	**Telcor Managua**	**0.94**	**48**	S	Sb	07 32 55.6	+0.4
NANN	**Nandasmo**	**0.95**	**64**	P	Pb	07 32 44.8	+1.7
NANN	**Nandasmo**	**0.95**	**64**	S	Sb	07 32 56.6	+1.3
MGAN	**Managua**	**0.96**	**49**	P	Pn	07 32 42.6	-0.1
MGAN	**Managua**	**0.96**	**49**	S	Sb	07 32 56.3	+0.6
NADN	**Granada**	**0.97**	**76**	P	Pn	07 32 42.4	-0.3
NADN				S	Sb	07 32 55.9	0.0
CNGA	**AI SSO del Vol**	**1.01**	**16**	P	Pn	07 32 43.2	-0.2
WILN	**Americas 2**	**1.01**	**51**	P	Pb	07 32 44.6	+0.4
WILN				S	Sn	07 32 56.6	0.0
CNGN	**Cerro Negro**	**1.02**	**16**	P	Pn	07 32 43.2	-0.3
CNGN	**Cerro Negro**	**1.02**	**16**	S	Sb	07 32 57.2	-0.1
PLRN	**Geotermica Pol**	**1.08**	**12**	P	Pn	07 32 43.4	-0.9
PLRN				S	Sn	07 32 58.0	-0.4
PKGN	**Cerro Pekin**	**1.14**	**1**	P	Pn	07 32 45.5	+0.2
PKGN				S	Sb	07 33 01.0	+0.1
MORN	**AI O del Volca**	**1.32**	**89**	P	Pn	07 32 47.6	0.0
CONN	**Concepcion**	**1.34**	**88**	P	Pn	07 32 47.8	-0.1
CONN				S	Sb	07 33 05.9	-0.6
LIMN	**Finca el Limon**	**1.65**	**22**	P	Pn	07 32 52.3	0.0
LIMN				S	Sn	07 33 13.4	+0.8
MATN	**Matagalpa**	**1.75**	**36**	P	Pn	07 32 52.2	-1.4
MATN	**Matagalpa**	**1.75**	**36**	S	Sn	07 33 14.5	-0.5
RCVN	**Varillal2**	**2.19**	**21**	P	Pn	07 33 00.4	+0.6
RCVN	**Varillal2**	**2.19**	**21**	S	Sn	07 33 26.6	+0.5

IDC 06 07:39:48.8±2.2, 0.°97N×126.°64E, h0km, mb3.4/3, mbtmp3.4/3, MS2.9/1, Error ellipse: s-maj=173.6km s-min=28.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.11**	**160**	P	P	07 44 45.4	-0.7
	0.9nm,0.6s,baz=339,slow=11,SNR=8.9						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.49**	**164**	P	P	07 45 19.5	+0.5
	0.2nm,0.3s,baz=343,slow=12,SNR=7.0						
	0.2nm,0.3s						
PETK	**Petropavlovsk-**	**58.01**	**22**	LR	LR	08 12 44.4	
	comp=Z,12nm,21.7s,baz=92,slow=34						
MKAR	**Makanchi Array**	**59.77**	**326**	P	P	07 49 55.7	-0.1
	0.4nm,0.7s,baz=139,slow=7.3,SNR=2.1						
	0.4nm,0.7s						

*NOU **06** 07:43:22.3, 42.°63S×173.°19E, h8km, MLv3.5/12, South Island, New Zealand*
*WEL **06** 07:43:23.6±0.3, 43.°S±2.°×17.°3E±.°, h5km, M3.0/25, ML3.2/12, MLv3.0/25, Error ellipse: s-maj=4.0km s-min=2.0km az=126.4, confirmed*
ISC 06 07:43:22.7±0.9, 42.°56S±0.°02×173.°20E±0.°03, h15km±6km, n78, σ1§26/91, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTMC	**Te Mara Farm W**	**0.13**	**239**	P	**Pg**	**07 43 26.6**	**+0.3**
WTMC				S	**Sg**	**07 43 29.3**	**+0.5**
CECS	**Cheviot Emerge**	**0.26**	**168**	P	**Pb**	**07 43 30.2**	**+1.0**
HSES	**Hanmer Springs**	**0.28**	**276**	P	**Pb**	**07 43 28.4**	**-0.9**
HSES				S	**Sg**	**07 43 32.5**	**-0.2**
KHZ	**Kahutara**	**0.29**	**61**	P	**Pb**	**07 43 29.5**	**0.0**
KHZ	**Kahutara**	**0.29**	**61**	P	**Pn**	**07 43 34.7**	**+2.4**
KHZ	**Kahutara**	**0.29**	**61**	P	**Pb**	**07 43 29.8**	**+0.3**
KHZ				S	**Sb**	**07 43 34.1**	**+0.1**
WIGC	**Waiau Gorge**	**0.33**	**244**	P	**Pb**	**07 43 30.1**	**-0.2**
WIGC				S	**Sb**	**07 43 35.1**	**-0.3**
CULC	**Culverden Airl**	**0.36**	**235**	P	**Pb**	**07 43 31.1**	**+0.3**
KIKS	**Kaikoura**	**0.38**	**70**	P	**Pb**	**07 43 32.2**	**+1.1**
GVZ	**Greta Valley S**	**0.43**	**197**	P	**Pb**	**07 43 33.0**	**+1.0**
GVZ				S	**Sb**	**07 43 40.2**	**+1.9**
SCAC	**Scargill**	**0.43**	**208**	P	**Pb**	**07 43 32.8**	**+0.7**
SCAC				S	**Sb**	**07 43 40.1**	**+1.7**
MOLW	**Molesworth Sta**	**0.47**	**5**	P	**Pb**	**07 43 32.1**	**-0.6**
MOLW				S	**Sb**	**07 43 38.7**	**-0.8**
WAKC	**Waikari**	**0.55**	**222**	P	**Pb**	**07 43 34.5**	**+0.5**
WAKC				S	**Sb**	**07 43 42.9**	**+1.2**
LOKS	**Mount Lookout**	**0.58**	**21**	P	**Pb**	**07 43 34.9**	**+0.2**
LOKS				S	**Sb**	**07 43 43.3**	**+0.5**
AMBC	**Amberley HDC**	**0.69**	**210**	P	**Pn**	**07 43 37.9**	**0.0**
LTZ	**Lake Taylor**	**0.72**	**251**	P	**Pb**	**07 43 37.1**	**+0.1**
LTZ				S	**Sb**	**07 43 46.8**	**+0.1**
AMCZ	**Amberley**	**0.74**	**213**	P	**Pn**	**07 43 38.7**	**+0.1**
THZ	**Tophouse**	**0.82**	**344**	P	**Pb**	**07 43 38.5**	**-0.2**
KEKS	**Kekerengu Vall**	**0.83**	**44**	P	**Pn**	**07 43 40.7**	**+0.8**
GLOS	**29 km south-we**	**0.84**	**34**	P	**Pn**	**07 43 39.6**	**-0.3**
SMHS	**Summerhill**	**0.95**	**222**	P	**Pn**	**07 43 42.3**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.98**	**31**	P	**Pn**	**07 43 42.4**	**+0.5**
CMWZ	**Cape Campbell**	**1.10**	**43**	P	**Pn**	**07 43 45.3**	**+1.7**
OXZ	**Oxford**	**1.15**	**228**	P	**Pb**	**07 43 44.1**	**-0.2**
OXZ				S	**Sb**	**07 43 59.8**	**+0.8**
OKCZ	**Okains Bay**	**1.17**	**185**	P	**Pn**	**07 43 44.7**	**+0.1**
MRNZ	**Matariki Terra**	**1.20**	**344**	P	**Pn**	**07 43 45.4**	**+0.5**
MQZ	**McQueen's Vall**	**1.22**	**199**	P	**Pg**	**07 43 44.6**	**-1.6**
MQZ				S	**Sg**	**07 44 00.4**	**-1.7**
TUWZ	**Tuamarina**	**1.25**	**26**	P	**Pn**	**07 43 47.4**	**+1.7**
INZ	**Inchbonnie**	**1.31**	**262**	P	**Pb**	**07 43 46.9**	**-0.1**
DSZ	**Denniston Nort**	**1.32**	**307**	P	**Pb**	**07 43 47.2**	**0.0**
DSZ				S	**Sn**	**07 44 05.0**	**+1.1**
AKCZ	**Akaroa Harbour**	**1.33**	**189**	P	**Pb**	**07 43 47.0**	**-0.4**
NNZ	**Nelson**	**1.34**	**6**	P	**Pg**	**07 43 47.6**	**-1.0**
RACZ	**Rakaia**	**1.41**	**213**	P	**Pn**	**07 43 47.6**	**-0.1**
TKNZ	**Takaka Hill**	**1.53**	**353**	P	**Pb**	**07 43 50.9**	**+0.1**
MHCZ	**Mount Hutt**	**1.54**	**230**	P	**Pn**	**07 43 49.5**	**-0.3**
TCW	**Tory Channel**	**1.56**	**31**	P	**Pb**	**07 43 51.0**	**-0.3**
SNZO	**South Karori**	**1.68**	**43**	P	**Pn**	**07 43 52.1**	**+0.7**
BHW	**Baring Head**	**1.69**	**48**	P	**Pn**	**07 43 52.2**	**+0.5**
WACZ	**Wakanui South**	**1.71**	**215**	P	**Pn**	**07 43 51.8**	**-0.1**
QRZ	**Quartz Range**	**1.80**	**344**	P	**Pb**	**07 43 54.9**	**-0.4**
QRZ	**Quartz Range**	**1.80**	**344**	S	**Sb**	**07 44 18.6**	**+0.9**
QRZ	**Quartz Range**	**1.80**	**344**	P	**Pb**	**07 43 55.2**	**-0.2**
PLWZ	**Palliser**	**1.82**	**58**	P	**Pn**	**07 43 53.5**	**0.0**
DUWZ	**D'Urville Isla**	**1.83**	**17**	P	**Pb**	**07 43 55.6**	**-0.3**
WVZ	**Waitaha Valley**	**1.89**	**253**	P	**Pn**	**07 43 55.2**	**+0.8**
MSWZ	**Moikau Station**	**1.90**	**54**	P	**Pn**	**07 43 54.7**	**+0.1**
RPZ	**Rata Peaks**	**1.95**	**233**	P	**Pn**	**07 43 55.4**	**+0.1**
RPZ	**Rata Peaks**	**1.95**	**233**	S	**Sn**	**07 44 19.3**	**-0.2**
RPZ	**Rata Peaks**	**1.95**	**233**	P	**Pn**	**07 43 55.3**	**0.0**
CAW	**Cannon Point**	**2.01**	**45**	P	**Pn**	**07 43 56.5**	**+0.5**
ARCZ	**Arundel**	**2.03**	**226**	P	**Pn**	**07 43 56.3**	**-0.1**
PAWZ	**Paruwai Farm**	**2.03**	**55**	P	**Pn**	**07 43 56.1**	**-0.2**
KIW	**Kapiti Island**	**2.12**	**38**	P	**Pn**	**07 43 58.7**	**+1.1**
OGWZ	**Otaki Gorge**	**2.28**	**41**	P	**Pn**	**07 44 00.2**	**+0.5**
TMZ	**Timaru**	**2.43**	**220**	P	**Pn**	**07 44 01.7**	**-0.1**
MRZ	**Mangatainoka R**	**2.60**	**44**	P	**Pn**	**07 44 04.1**	**-0.1**
FOZ	**Fox Glacier**	**2.67**	**247**	P	**Pn**	**07 44 06.3**	**+1.2**
LBZ	**Lake Benmore**	**2.86**	**229**	P	**Pn**	**07 44 07.9**	**+0.1**
BFZ	**Birch Farm**	**2.95**	**52**	P	**Pn**	**07 44 08.3**	**-0.8**
ODZ	**Otahua Downs**	**3.10**	**216**	P	**Pn**	**07 44 10.7**	**-0.4**
ODZ	**Otahua Downs**	**3.10**	**216**	P	**Pn**	**07 44 10.6**	**-0.4**
KHEZ	**Kahui Hut**	**3.31**	**11**	P	**Pn**	**07 44 15.3**	**+1.2**
KHEZ	**Kahui Hut**	**3.31**	**11**	P	**Pb**	**07 44 17.8**	**-3.4**
NBEZ	**Newall Road No**	**3.32**	**9**	P	**Pn**	**07 44 17.8**	**+3.7**
NEZ	**North Egmont**	**3.35**	**12**	P	**Pb**	**07 44 19.6**	**-2.3**
PKE	**Pukeiti**	**3.41**	**10**	P	**Pn**	**07 44 18.4**	**+3.1**
PNHZ	**Pukenui**	**3.48**	**42**	P	**Pn**	**07 44 14.7**	**-1.6**
JCZ	**Jackson Bay**	**3.56**	**243**	P	**Pn**	**07 44 18.0**	**+0.5**
JCZ	**Jackson Bay**	**3.56**	**243**	S	**Sn**	**07 44 59.7**	**+0.4**
JCZ	**Jackson Bay**	**3.56**	**243**	P	**Pn**	**07 44 17.8**	**+0.3**
VRZ	**Vera Road**	**3.62**	**20**	P	**Pn**	**07 44 22.0**	**+3.8**
WNVZ	**Wahianoa**	**3.70**	**30**	P	**Pn**	**07 44 21.5**	**+2.1**
TRVZ	**Turoa**	**3.71**	**29**	P	**Pb**	**07 44 26.6**	**-1.4**
TUVZ	**Tukino**	**3.77**	**30**	P	**Pb**	**07 44 25.8**	**-3.3**
OTVZ	**Oturere**	**3.87**	**30**	P	**Pn**	**07 44 23.7**	**+1.9**
EAZ	**Earnscleugh**	**3.88**	**225**	P	**Pn**	**07 44 21.5**	**-0.3**
HIZ	**Hauiti**	**4.23**	**18**	P	**Pn**	**07 44 28.5**	**+1.9**
TLZ	**Tolley Road**	**4.58**	**24**	P	**Pn**	**07 44 34.9**	**+3.5**

*IDC **06** 08:01:42.4±1.3, 34.°67S×70.°62W, h0km, mb3.7/3, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=59.2km s-min=26.2km az=77.0*
*SJA **06** 08:01:50.7±0.7, 35.°05S×71.°10W, h101km±3km, ML3.8, MW3.8*
*GUC **06** 08:01:52.5±0.7, 35.°06S×71.°01W, h89km±2km, ML3.9*
ISC 06 08:01:52.1±0.9, 35.°05S±0.°04×71.°02W±0.°04, h91km±6km, n55, σ1§65/81, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.32**	**37**	*e*P	**Pn**	**08 02 05.3**	**-0.7**
BO02				*e*S	**Sn**	**08 02 15.9**	**-0.4**
BO02				IAML		08 02 17.0	
	comp=E,10μm,0.2s				

PEL				*e*S	Sn	08 02 46.9	-0.4
PEL				IAML		08 02 49.6	
	comp=E,943nm,0.5s						
PEL	**Peldehue**	**1.92**	**8**	*e*P	Pn	08 02 23.9	+0.4
PEL				*e*S	Sn	08 02 48.1	+0.9
PEL				IAML		08 02 51.4	
	comp=Z,598nm,0.4s						
ROC1	**El Roble**	**2.07**	**0**	*e*P	Pn	08 02 25.7	+0.1
ROC1				*e*S	Sn	08 02 51.0	-0.1
ROCH	**El Roble**	**2.08**	**0**	*e*P	Pn	08 02 25.7	+0.1
ROCH				*e*S	Sn	08 02 51.6	+0.5
ROCH				IAML		08 02 56.6	
	comp=N,1μm,0.3s						
VA01	**Torpederas**	**2.09**	**345**	*e*P	Pn	08 02 25.7	+0.1
VA01				*e*S	Sn	08 02 51.1	0.0
VA01				IAML		08 02 52.5	
	comp=E,2μm,0.1s						
VA01	**Torpederas**	**2.09**	**345**	*e*P	Pn	08 02 25.2	-0.4
VA01				IAML		08 02 56.8	
	comp=Z,454nm,0.2s						
VA03	**San Esteban**	**2.31**	**10**	*e*P	Pn	08 02 28.7	0.0
VA03				IAML		08 03 00.6	
	comp=E,1μm,0.1s						
VA03	**San Esteban**	**2.31**	**10**	*e*P	Pn	08 02 28.8	0.0
VA03				*e*S	Sn	08 02 57.5	+0.9
VA03				IAML		08 03 01.2	
	comp=Z,446nm,0.3s						
BI05	**Punta Hualpn**	**2.44**	**226**	*e*P	Pn	08 02 30.1	-0.2
VA06	**Catapilco**	**2.50**	**355**	*e*P	Pn	08 02 30.9	0.0
VA06				IAML		08 03 11.4	
	comp=E,965nm,0.4s						
CANA	**Caviahue**	**2.83**	**181**	*e*P	Pn	08 02 19.6	-16
ASAL	**Salagasta**	**3.05**	**37**	*e*P	Pn	08 02 40.3	+1.8
ASAL				*e*S	Sn	08 02 56.1	-18
RTLS	**Leoncito**	**3.55**	**24**	*e*P	Pn	08 02 46.5	+1.1
RTLS				*e*S	Sn	08 03 30.3	+3.8
RTLS				IAML		08 03 44.8	
	comp=Z,138nm,1.0s						
CO02	**Combarbal**	**3.84**	**0**	*e*P	Pn	08 02 48.6	-0.5
CO02				*e*S	Sn	08 03 32.6	-0.7
CO02				IAML		08 03 36.8	
	comp=Z,276nm,0.4s						
CFA	**Coronel Fontan**	**4.15**	**35**	*e*P	Pn	08 02 53.3	0.0
CFA				*e*S	Sn	08 03 35.5	-5.3
CO03	**El Pedregal**	**4.21**	**4**	*e*P	Pn	08 02 53.6	-0.6
CO03				*e*S	Sn	08 03 41.0	-1.2
CO03				IAML		08 03 44.3	
	comp=Z,176nm,0.4s						
ACAN	**Cantantal**	**4.23**	**50**	*e*P	Pn	08 02 54.4	+0.1
ACAN				IAML		08 04 02.6	
	comp=Z,54nm,0.7s						
ACCO	**Cerro Coronel**	**4.75**	**21**	*e*P	Pn	08 03 01.0	-0.6
ACCO				*e*S	Sn	08 03 50.9	-4.7
PLCA	**Paso Flores**	**5.68**	**176**	Pn	Pn	08 03 13.0	-1.1
	comp=Z,0.1nm,0.3s,baz=347,slow=16,SNR=2.9 comp=Z,1.3nm,0.7s						
H03S1	**Juan Fernandez**	**6.63**	**278**	T	T	08 09 38.7	
	baz=95,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**6.64**	**278**	T	T	08 09 37.3	
	baz=95,slow=74,SNR=15						
H03S2	**Juan Fernandez**	**6.65**	**278**	T	T	08 09 41.6	
	baz=95,slow=74,SNR=14						
LPAZ	**La Paz**	**18.86**	**9**	P	P	08 06 01.7	-4.1
	comp=Z,0.1nm,0.3s,baz=256,slow=4.2,SNR=1.2 comp=Z,0.4nm,0.4s						
SNAA	**Sanae**	**50.29**	**158**	P	P	08 10 42.7	+3.7
	comp=Z,0.7nm,0.9s,baz=229,slow=11,SNR=1.7 comp=Z,0.7nm,0.9s						
TXAR	**Lajitas Array**	**71.06**	**330**	P	P	08 13 01.2	+0.7
	comp=Z,0.5nm,0.6s,baz=155,slow=9.1,SNR=11 comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.78**	**69**	P	P	08 14 10.8	-0.8
	comp=Z,0.8nm,0.9s,baz=229,slow=5.5,SNR=3.6 comp=Z,0.8nm,0.9s						

IDC 06 08:02:49.5±2.1, 20°.10S×168°.18E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, MS2.9/3, Error ellipse: s-maj=71.4km s-min=32.2km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.54**	**219**	Pn	Pn	08 03 31.1	-1.0
	7.7nm,0.3s,baz=79,slow=7.9,SNR=263						
DZM				Sn	Sn	08 03 60.0	-3.8
	42nm,0.3s,baz=335,slow=21,SNR=9.0						
DZM				LR	LR	08 04 18.9	
	comp=Z,78nm,19.9s,baz=336,slow=35 23nm,0.3s						
STKA	**Stephens Creek**	**26.54**	**238**	LR	LR	08 18 14.4	
	comp=Z,43nm,18.0s,baz=21,slow=35						
WRA	**Warramunga Arr**	**31.76**	**264**	P	P	08 09 15.5	-0.2
	0.2nm,0.4s,baz=90,slow=8.5,SNR=6.3 0.2nm,0.4s						
ASAR	**Alice Springs**	**31.95**	**257**	P	P	08 09 17.9	+0.5
	0.9nm,0.7s,baz=86,slow=9.2,SNR=16						
ASAR				LR	LR	08 21 37.4	
	comp=Z,26nm,19.5s,baz=99,slow=35 0.9nm,0.7s						
NVAR	**Mina Array Bea**	**90.12**	**49**	P	P	08 15 51.9	-0.1
	0.4nm,0.8s,baz=244,slow=6.8,SNR=3.2 0.4nm,0.8s						

*AEIC **06** 08:18:54.9±1.6, 57°.98N±0°.06×137°.70W±0°.06, h12km±6km, ML3.3, ML3.6/68(NEIC), Error ellipse: s-maj=8.3km s-min=4.1km az=191.0*
*NEIC **06** 08:18:55.2±1.2, 57°.99N±0°.05×137°.67W±0°.04, h10km±2km, Error ellipse: s-maj=8.2km s-min=3.3km az=176.0*
*ANF **06** 08:18:55.6±0.3, 58°.14N×137°.67W, h0km, ML3.8/35, Error ellipse: s-maj=2.8km s-min=1.3km az=27.0*
ISC 06 08:18:54.3±1.3, 57°.96N±0°.04×137°.72W±0°.03, h6km±11km, n101, σ1§23/138, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.79**	**90**		**Pg**	**08 19 09.9**	**+0.4**
S31K	**Pelican**	**0.79**	**90**	P	**Pg**	**08 19 09.6**	**+0.1**
	baz=282						
S31K				S	**Sg**	**08 19 20.2**	**+0.5**
	baz=282						
R31K	**City Hall, Gus**	**1.14**	**66**		**Pb**	**08 19 16.0**	**-0.4**
R31K					**Sb**	**08 19 30.8**	**-0.6**
R31K	**City Hall, Gus**	**1.14**	**66**	P	**Pb**	**08 19 15.5**	**-0.9**
	baz=253						
R31K				S	**Sg**	**08 19 30.5**	**-0.4**
	baz=253						
SIT	**Sitka**	**1.58**	**124**		**Pn**	**08 19 21.1**	**-1.6**
BESE	**Bessie Mountai**	**1.64**	**67**		**Pn**	**08 19 23.5**	**0.0**
BESE					**Sn**	**08 19 44.2**	**-0.7**
BESE				IAML		08 19 45.8	
	comp=E,614nm,0.6s						
BESE				IAML		08 19 46.0	
	comp=N,827nm,0.7s						
P29M	**Windy Craggy**	**1.67**	**360**		**Pn**	**08 19 23.4**	**-0.6**
P29M					**Sn**	**08 19 44.5**	**-1.3**
P29M				IAML		08 19 45.4	
	comp=N,1μm,0.6s						
P29M	**Windy Craggy**	**1.67**	**360**	P	**Pn**	**08 19 22.9**	**-1.2**
	baz=177,SNR=92						
P29M				S	**Sn**	**08 19 44.2**	**-1.6**
	baz=177						
R32K	**Eaglecrest**	**1.73**	**78**		**Pb**	**08 19 25.9**	**-0.4**
R32K				IAML		08 19 48.4	
	comp=N,493nm,0.5s						
R32K				IAML		08 19 50.1	
	comp=E,386nm,0.5s						
R32K	**Eaglecrest**	**1.73**	**78**	P	**Pb**	**08 19 25.9**	**-0.4**
	baz=266						
R32K				S	**Sb**	**08 19 47.9**	**-0.4**
	baz=266						
JIS	**Juneau Island**	**1.80**	**79**		**Pn**	**08 19 26.6**	**+0.9**
JIS					**Sn**	**08 19 48.4**	**-0.4**
PNL	**Peninsula**	**1.92**	**334**		**Pn**	**08 19 27.1**	**-0.4**
PNL	**Peninsula**	**1.92**	**334**	P	**Pn**	**08 19 26.9**	**-0.5**
	baz=148,SNR=131						
PNL				S	**Sn**	**08 19 51.7**	**-0.2**
	baz=148						
SKAG	**Skagway**	**1.95**	**39**		**Pb**	**08 19 29.3**	**-0.8**
SKAG				IAML		08 19 54.4	
	comp=N,279nm,0.7s						
SKAG				IAML		08 19 54.8	
	comp=E,336nm,0.7s						
SKAG	**Skagway**	**1.95**	**39**	Pb	**Pb**	**08 19 29.4**	**-0.8**
	baz=222						
SKAG				Sb	**Sb**	**08 19 54.1**	**-0.6**
	baz=222						
P30M	**Million Dollar**	**2.20**	**10**	P	**Pn**	**08 19 31.2**	**-0.1**
	baz=189						
P30M				Sb	**Sb**	**08 20 00.5**	**-1.4**
	baz=189						
BCPM	**Bancas Point**	**2.23**	**334**		**Pn**	**08 19 31.8**	**+0.1**
BCPM				IAML		08 20 10.6	
	comp=N,542nm,0.5s						
BCPM				IAML		08 20 11.6	
	comp=E,337nm,0.3s						
O29M	**Mount Kennedy**	**2.39**	**350**		**Pn**	**08 19 34.0**	**+0.1**
O29M				IAML		08 20 07.2	
	comp=N,303nm,0.5s						
O29M				IAML		08 20 15.4	
	comp=E,506nm,0.8s						
O29M	**Mount Kennedy**	**2.39**	**350**	P	**Pn**	**08 19 33.6**	**-0.4**
	baz=167,SNR=64						
O29M				Sb	**Sb**	**08 20 06.3**	**-1.0**
	baz=167						
PINM	**Pinnacle**	**2.51**	**330**	P	**Pn**	**08 19 35.5**	**0.0**
	baz=144,SNR=31						
PINM				Sb	**Sb**	**08 20 11.0**	**+0.3**
	baz=144						
PCA	**Pinnacle**	**2.51**	**330**		**Pn**	**08 19 35.6**	**+0.1**
P32M	**Atlin**	**2.65**	**50**		**Pn**	**08 19 37.4**	**-0.1**
P32M	**Atlin**	**2.65**	**50**	P	**Pn**	**08 19 37.4**	**-0.1**
	baz=235						
P32M				Sb	**Sb**	**08 20 15.2**	**+0.4**
	baz=235						
SAMH	**Samovar Hills**	**2.69**	**325**		**Pn**	**08 19 39.0**	**+0.9**
CHX	**Chaix Hills**	**2.74**	**322**		**Pn**	**08 19 40.1**	**+1.3**
HYT	**Haines Junctio**	**2.87**	**2**		**Pn**	**08 19 40.8**	**+0.2**
HYT				IAML		08 20 25.6	
	comp=E,180nm,1.0s						
HYT				IAML		08 20 28.4	
	comp=N,131nm,1.0s						
HYT	**Haines Junctio**	**2.87**	**2**	P	**Pn**	**08 19 40.4**	**-0.2**
	baz=181,SNR=38						
HYT				S	**Sn**	**08 20 14.8**	**-0.7**
	baz=181						
O30N	**Mendenhall**	**2.94**	**16**		**Pn**	**08 19 42.1**	**+0.7**
O30N				IAML		08 20 24.2	
	comp=E,264nm,0.5s						
O30N				IAML		08 20 24.2	
	comp=N,204nm,0.8s						
O30N	**Mendenhall**	**2.94**	**16**	P	**Pn**	**08 19 41.5**	**+0.1**
	baz=197,SNR=22						
O30N				Sb	**Sb**	**08 20 22.9**	**-0.2**
	baz=197						
RKAV	**Rock Avalanche**	**3.00**	**323**		**Pn**	**08 19 43.2**	**+0.8**
YUK6	**Outpost Mounta**	**3.01**	**354**	P	**Pn**	**08 19 42.5**	**-0.1**
	baz=172,SNR=24						
YUK6				Sb	**Sb**	**08 20 25.1**	**-0.2**
	baz=172						
Q32M	**Nakina River**	**3.03**	**68**	P	**Pn**	**08 19 43.8**	**+0.9**
	baz=255						
Q32M				Sb	**Sb**	**08 20 27.8**	**+1.8**
	baz=255						
WHY	**Whitehorse**	**3.07**	**27**		**Pn**	**08 19 44.0**	**+0.7**
WHY	**Whitehorse**	**3.07**	**27**	P	**Pn**	**08 19 43.0**	**-0.4**
	baz=210,SNR=15						
WHY				Sb	**Sb**	**08 20 27.3**	**+0.3**
	baz=210						
O28M	**Mount Upton**	**3.09**	**337**		**Pn**	**08 19 43.8**	**+0.1**
O28M				IAML		08 20 36.6	
	comp=E,109nm,0.7s						
O28M				IAML		08 20 41.0	
	comp=N,132nm,0.8s						
O28M	**Mount Upton**	**3.09**	**337**	P	**Pn**	**08 19 43.9**	**+0.2**
	baz=152,SNR=47						
O28M				Sb	**Sb**	**08 20 27.6**	**0.0**
	baz=152						
MESA	**MESA**	**3.12**	**317**		**Pn**	**08 19 42.7**	**-1.3**
MESA	**MESA**	**3.12**	**317**	P	**Pn**	**08 19 44.9**	**+0.9**
	baz=131,SNR=15						
MESA				Sb	**Sb**	**08 20 29.0**	**+0.7**
	baz=131						
U33K	**Whale Pass**	**3.12**	**124**	Pn	**Pn**	**08 19 42.9**	**-1.1**
U33K	**Whale Pass**	**3.12**	**124**	Pb	**Pg**	**08 19 53.4**	**-0.6**
	baz=311						
U33K				S	**Sb**	**08 20 26.5**	**-1.9**
	baz=311						
WRAK	**Wrangell Islan**	**3.31**	**116**	Sb	**Sg**	**08 20 39.2**	**-1.3**
	baz=303						
BAGL	**Bagley Icefiel**	**3.38**	**320**		**Pn**	**08 19 48.8**	**+1.3**
P33M	**Teslin, Yukon**	**3.39**	**46**		**Pn**	**08 19 48.4**	**+0.7**
P33M	**Teslin, Yukon**	**3.39**	**46**	Pb	**Pb**	**08 19 54.2**	**-0.4**
	baz=231,SNR=17						
P33M				Sb	**Sb**	**08 20 36.6**	**+0.5**
	baz=231						
YUK4	**Talbot Arm**	**3.42**	**353**	P	**Pn**	**08 19 49.8**	**+1.5**
	baz=171						
YUK4				S	**Sn**	**08 20 31.5**	**+2.2**
	baz=171						
SNH	**Sunshine Point**	**3.45**	**312**	Pn	**Pn**	**08 19 48.0**	**-0.5**
GRNC	**Granite Creek**	**3.46**	**325**		**Pn**	**08 19 48.9**	**+0.1**
GRNC				IAML		08 20 53.4	
	comp=N,79nm,0.7s						
YUK8	**Steele Glacier**	**3.49**	**344**	P	**Pn**	**08 19 49.6**	**+0.4**
	baz=160						
YUK8				Sb	**Sb**	**08 20 39.6**	**+0.4**
	baz=160						
S34M	**Telegraph Cree**	**3.51**	**88**	Sb	**Sb**	**08 20 43.1**	**+3.5**
	baz=276						
N30M	**Aishikik Lake**	**3.52**	**5**		**Pn**	**08 19 49.3**	**-0.1**
N30M				IAML		08 20 42.1	
	comp=E,88nm,1.0s						
N30M	**Aishikik Lake**	**3.52**	**5**	P	**Pn**	**08 19 49.4**	**-0.1**
	baz=184,SNR=24						
N30M				Sb	**Sb**	**08 20 40.9**	**+1.0**
	baz=184						
CTGM	**Chitina Glacie**	**3.53**	**330**		**Pn**	**08 19 50.4**	**+0.7**
CTG	**Chitna Glacier**	**3.53**	**330**	P	**Pn**	**08 19 50.3**	**+0.6**
	baz=145,SNR=25						
CTG				S	**Sn**	**08 20 31.7**	**-0.1**
	baz=145						
ISLE	**Juniper Island**	**3.55**	**320**		**Pn**	**08 19 49.0**	**-1.0**
ISLE				IAML		08 20 53.0	
	comp=E,146nm,0.9s						
CRAG	**Craig**	**3.56**	**133**	Sg	**Sg**	**08 20 55.7**	**+7.2**
	baz=319						
WAX	**Waxell Ridge**	**3.63**	**316**	Pn	**Pn**	**08 19 49.9**	**-1.1**
N31M	**Braeburn, Yuko**	**3.67**	**15**		**Pn**	**08 19 51.6**	**+0.1**
N31M	**Braeburn, Yuko**	**3.67**	**15**	P	**Pn**	**08 19 51.5**	**0.0**
	baz=196,SNR=21						
N31M				Sb	**Sb**	**08 20 45.5**	**+1.4**
	baz=196						
R33M	**Jennings River**	**3.81**	**65**		**Pn**	**08 19 53.7**	**+0.2**
R33M				IAML		08 21 01.9	
	comp=N,53nm,0.8s						
R33M	**Jennings River**	**3.81**	**65**	P	**Pn**	**08 19 53.7**	**+0.2**
	baz=252						
R33M				S	**Sn**	**08 20 37.0**	**-1.5**
	baz=252						
TGL	**Tana Glacier**	**3.83**	**319**		**Pn**	**08 19 52.4**	**-1.4**
TGL				IAML		08 21 04.2	
	comp=E,75nm,0.7s						
TGL				IAML		08 21 13.7	
	comp=N,76nm,1.1s						
CRQE	**Cirque**	**3.92**	**318**	Sb	**Sb**	**08 20 52.4**	**+1.0**
	baz=131						
N32M	**Quiet Lake**	**3.97**	**34**	Sb	**Sb**	**08 20 55.8**	**+2.9**
	baz=219						
DLBC	**Dease Lake**	**4.10**	**80**	P	**Pn**	**08 19 58.8**	**+1.4**
	baz=268						
DLBC				Sb	**Sb**	**08 21 00.5**	**+3.9**
	baz=268						
HMT	**Hamilton**	**4.12**	**308**		**Pn**	**08 19 57.0**	**-0.7**
T35M	**Bob Quinn**	**4.15**	**101**	Sb	**Sg**	**08 21 04.2**	**-3.3**
	baz=289						
V35K	**Ketchikan**	**4.28**	**126**	Sb	**Sg**	**08 21 09.1**	**-2.6**
	baz=313						
MCARA	**McCarthy VSAT**	**4.36**	**324**		**Pn**	**08 20 01.8**	**+0.9**
MCARA				IAML		08 21 22.8	
	comp=E,92nm,0.9s						
MCARA				IAML		08 21 29.7	
	comp=N,80nm,1.2s						
MCARA	**McCarthy VSAT**	**4.36**	**324**	P	**Pn**	**08 20 01.8**	**+0.9**
	baz=138,SNR=8.2						
MCARA				S	**Sn**	**08 20 53.4**	**+1.5**
	baz=138						
VRDI	**Verde Repeater**	**4.38**	**321**		**Pn**	**08 20 02.0**	**+0.6**
M29M	**Somme Creek**	**4.51**	**356**		**Pn**	**08 20 03.7**	**+0.6**
M29M				IAML		08 21 17.6	
	comp=N,34nm,0.8s						
M29M				IAML		08 21 19.0	
	comp=E,51nm,0.6s						
M29M	**Somme Creek**	**4.51**	**356**	P	**Pn**	**08 20 03.5**	**+0.4**
	baz=174,SNR=22						
M29M				S	**Sn**	**08 20 55.3**	**-0.5**
	baz=174						
M31M	**Drury Creek, Y**	**4.57**	**20**		**Pn**	**08 20 04.7**	**+0.9**
M31M				IAML		08 21 21.2	
	comp=N,36nm,0.8s						
M31M				IAML		08 21 23.5	
	comp=E,74nm,0.8s						
M31M	**Drury Creek, Y**	**4.57**	**20**	Sb	**Sb**	**08 21 11.8**	**+1.9**
	baz=203						
BMRM	**Bremner River**	**4.63**	**314**		**Pn**	**08 20 04.9**	**+0.2**
BMRM				IAML		08 21 19.5	
	comp=E,39nm,0.7s						
BMRM				IAML		08 21 30.1	
	comp=N,69nm,0.7s						
BMRM	**Bremner River**	**4.63**	**314**	P	**Pn**	**08 20 05.1**	**+0.5**
	baz=126						
BMRM				S	**Sn**	**08 20 58.3**	**-0.3**
	baz=126						
M30M	**Minto, Yukon**	**4.65**	**5**		**Pn**	**08 20 05.5**	**+0.6**
M30M				IAML		08 21 23.2	
	comp=E,39nm,1.1s						
M30M				IAML		08 21 25.1	
	comp=N,38nm,0.8s						
M30M	**Minto, Yukon**	**4.65**	**5**	P	**Pn**	**08 20 04.8**	**-0.2**
	baz=185,SNR=14						
M30M				Sb	**Sb**	**08 21 14.6**	**+2.3**
	baz=185						
M27K	**Edge Creek, AK**	**4.87**	**337**		**Pn**	**08 20 08.7**	**+0.6**
N25K	**Chitina, Valde**	**5.04**	**319**	P	**Pn**	**08 20 11.5**	**+1.2**
	baz=132						
N25K				S	**Sn**	**08 21 10.5**	**+1.6**
	baz=132						
L29M	**L29M**	**5.17**	**358**		**Pn**	**08 20 12.8**	**+0.7**
L29M				IAML		08 21 41.2	
	comp=N,52nm,0.8s						
L29M	**L29M**	**5.17**	**358**	P	**Pn**	**08 20 12.5**	**+0.4**
	baz=177,SNR=28						
L29M				S	**Sn**	**08 21 11.7**	**-0.2**
	baz=177						
KLU	**Klutina**	**5.45**	**314**	P	**Pn**	**08 20 16.1**	**+0.1**
	baz=125						
BCAR	**Beaver Creek A**	**5.50**	**340**	Pn	**Pn**	**08 20 16.4**	**-0.2**
DIB	**Dawson Inlet,**	**5.62**	**146**	Pn	**Pn**	**08 20 16.9**	**-1.4**
MMPY	**Sheldon Lake,**	**5.67**	**32**		**Pn**	**08 20 20.4**	**+1.5**
MMPY	**Sheldon Lake,**	**5.67**	**32**	P	**Pn**	**08 20 19.4**	**+0.5**
	baz=218,SNR=18						
K29M	**Barlow Dome**	**5.90**	**1**		**Pn**	**08 20 23.2**	**+1.0**
K29M	**Barlow Dome**	**5.90**	**1**	P	**Pn**	**08 20 22.8**	**+0.6**
	baz=180,SNR=16						
K29M				S	**Sn**	**08 21 27.5**	**-2.6**
	baz=180						
PWL	**Port Wells**	**6.15**	**303**	Pn	**Pn**	**08 20 25.1**	**-0.4**
DAWY	**Dawson**	**6.18**	**353**		**Pn**	**08 20 26.3**	**+0.4**
DAWY	**Dawson**	**6.18**	**353**	P	**Pn**	**08 20 26.3**	**+0.4**
	baz=171,SNR=25						
SCM	**Sheep Creek Mo**	**6.20**	**313**	P	**Pn**	**08 20 27.2**	**+1.0**
	baz=123						
K27K	**Chicken**	**6.44**	**343**	P	**Pn**	**08 20 29.5**	**0.0**
	baz=158						
DOT	**Dot Lake**	**6.49**	**334**	Pn	**Pn**	**08 20 30.4**	**+0.2**
J30M	**Hart River**	**6.67**	**5**	P	**Pn**	**08 20 33.2**	**+0.4**
	baz=186,SNR=8.7						
WAT6	**Susitna Watana**	**6.80**	**317**	P	**Pn**	**08 20 34.8**	**+0.3**
	baz=127						
DHY	**Denali Highway**	**6.99**	**321**	Pn	**Pn**	**08 20 36.7**	**-0.5**
EGAK	**Eagle**	**7.03**	**348**	Pn	**Pn**	**08 20 37.8**	**+0.2**
I30M	**Mount Dempster**	**7.31**	**4**	P	**Pn**	**08 20 42.1**	**+0.6**
	baz=185						
RND	**Reindeer**	**7.72**	**320**	Pn	**Pn**	**08 20 47.4**	**+0.3**

*IDC **06** 08:27:40.0±85.0, 12°.89S×169°.98E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1448.0km s-min=134.4km az=64.0*
*NOU **06** 08:28:13.0, 15°.36S×167°.72E, h0km, MLv4.0/6, Vanuatu Islands*
ISC 06 08:28:06.6±5.4, 14°.8S±0°.4×167°.6E±0°.5, h10km, n6, σ1§23/6, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.75**	**208**	P	**Pn**	**08 28 22.8**	**-0.5**
YATNC	**Mamie plateau,**	**7.26**	**185**	P	**Pn**	**08 29 51.9**	**-1.0**
DZM	**Mont Dzumac**	**7.33**	**188**	P	**Pn**	**08 29 54.4**	**+0.6**
STKA	**Stephens Creek**	**29.18**	**230**	P	**P**	**08 34 09.8**	**+1.4**
	1.8nm,0.5s,baz=85,slow=11,SNR=5.4 1.8nm,0.5s						
WRA	**Warramunga Arr**	**32.09**	**256**	P	**P**	**08 34 33.4**	**-0.8**
	0.4nm,0.8s,baz=81,slow=9.5,SNR=2.5 0.4nm,0.8s						
ASAR	**Alice Springs**	**32.92**	**249**	P	**P**	**08 34 41.0**	**-0.6**
	0.7nm,0.7s,baz=83,slow=9.2,SNR=6.4 0.7nm,0.7s						

*CATAC **06** 08:30:34.4±1.0, 13°.N±6°.×8°.9W±°., h29km±12km, M2.7/8, MLv2.7/8, Error ellipse: s-maj=12.7km s-min=9.2km az=8.1, confirmed*
*SNET **06** 08:30:34.5±0.6, 12°.96N×89°.04W, h33km, ML2.8*
ISC 06 08:30:34.3±2.6, 12°.9N±0°.1×89°.07W±0°.07, h35km, n25, σ0§32/30, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.68**	**24**	*e*P	**Pn**	**08 30 47.0**	**-0.5**
TECO				*e*S	**Sn**	**08 30 56.6**	**-0.3**
TECO	**Alcaldia de Te**	**0.68**	**24**	P	**Pn**	**08 30 47.0**	**-0.5**
LOMA	**Loma Larga**	**0.74**	**352**	*e*P	**Pn**	**08 30 48.1**	**-0.2**
LOMA				*e*S	**Sn**	**08 30 59.0**	**+0.6**
LOMA	**Loma Larga**	**0.74**	**352**	P	**Pn**	**08 30 48.2**	**-0.2**
LOMA	**Loma Larga**	**0.74**	**352**	S	**Sn**	**08 30 58.9**	**+0.4**
UESV	**Universidad de**	**0.77**	**20**	P	**Pn**	**08 30 48.4**	**-0.4**
UESV	**Universidad de**	**0.77**	**20**	S	**Sn**	**08 30 59.1**	**-0.1**
TECA	**Tecapa**	**0.80**	**43**	*e*P	**Pn**	**08 30 49.4**	**+0.2**
IGN	**Direccin Gen**	**0.81**	**353**	S	**Sn**	**08 31 00.3**	**+0.2**
UDBS	**Universidad Do**	**0.81**	**354**	P	**Pn**	**08 30 49.2**	**-0.1**
UDBS	**Universidad Do**	**0.81**	**354**	S	**Sn**	**08 31 00.2**	**+0.2**
PAVA	**Las Pavas**	**0.81**	**9**	P	**Pn**	**08 30 49.1**	**-0.2**
PAVA	**Las Pavas**	**0.81**	**9**	S	**Sn**	**08 31 00.4**	**+0.2**
UEES	**Universidad Ev**	**0.82**	**348**	S	**Sn**	**08 31 00.8**	**+0.3**
JAYA	**Jayaque - finc**	**0.83**	**333**	*e*P	**Pn**	**08 30 49.7**	**+0.1**
JAYA				*e*S	**Sn**	**08 31 00.3**	**-0.5**
PMON	**Piamonte**	**0.83**	**343**	*e*P	**Pn**	**08 30 49.6**	**-0.1**
PMON				*e*S	**Sn**	**08 31 01.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.85**	**23**	*e*P	**Pn**	**08 30 49.9**	**0.0**
SCLA				*e*S	**Sn**	**08 31 01.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.85**	**23**	P	**Pn**	**08 30 49.9**	**0.0**
PQSS	**Presa 15 de Se**	**0.86**	**35**	S	**Sn**	**08 31 01.0**	**-0.4**
PQSS	**Presa 15 de Se**	**0.86**	**35**	P	**Pn**	**08 30 50.1**	**+0.1**
PACA	**Pacayal**	**0.91**	**52**	P	**Pn**	**08 30 51.1**	**+0.4**
PACA	**Pacayal**	**0.91**	**52**	S	**Sn**	**08 31 03.0**

1.0nm,0.6s,baz=130,slow=8.7,SNR=4.0
1.0nm,0.6s
ZALV Zalesovo Beam 46.72 318 P **P 08 42 34.6 -0.8**
0.7nm,0.5s,baz=59,slow=17,SNR=3.8
0.7nm,0.5s
MKAR Makanchi Array 47.62 309 P **P 08 42 42.3 -0.2**
0.6nm,0.5s,baz=86,slow=9.7,SNR=6.3
0.6nm,0.5s
KURBB Kurchatov Arra 50.22 314 P **P 08 43 01.6 -0.1**
2.0nm,0.4s,baz=91,slow=8.3,SNR=10
2.0nm,0.4s
BVAR Borovoye Array 55.25 317 P **P 08 43 37.8 -0.1**
1.3nm,0.4s,baz=81,slow=7.8,SNR=9.0
1.3nm,0.4s
ARCES ARCESS Array B 71.22 340 P **P 08 45 21.5 +0.8**
6.8nm,1.1s,baz=78,slow=9.1,SNR=6.5
6.8nm,1.1s
FINES FINESS Array B 75.44 333 P **P 08 45 45.1 +0.1**
1.1nm,0.4s,baz=64,slow=4.7,SNR=20
1.1nm,0.4s
HFS Hagfors 80.99 336 P **P 08 46 14.4 -0.6**
1.7nm,0.9s,baz=42,slow=3.7,SNR=5.0
1.7nm,0.9s
NOA NORSAR Array B 81.22 337 P **P 08 46 16.1 -0.2**
0.5nm,0.8s,baz=39,slow=5.2,SNR=1.9
0.5nm,0.8s

IDC 06 08:35:53.1±3.8, 5°.05S×129°.31E, h263km±38km, mb3.4/2, mbtmp4.1/5, Error ellipse: s-maj=72.6km s-min=12.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.46**	**195**	P	Pn	08 38 53.1	-1.2
1.3nm,0.6s,baz=356,slow=16,SNR=1.6							
FITZ				S	S	08 41 16.6	-7.0
1.3nm,0.7s,baz=90,slow=20,SNR=1.3							
WRA	**Warramunga Arr**	**15.60**	**162**	P	P	08 39 17.1	-1.7
1.3nm,0.2s,baz=342,slow=11,SNR=103							
WRA				S	S	08 42 06.2	-3.7
0.7nm,0.5s,baz=353,slow=21,SNR=7.2							
ASAR	**Alice Springs**	**19.04**	**167**	P	P	08 39 56.8	+0.6
5.2nm,0.4s,baz=350,slow=12,SNR=104							
ASAR				S	S	08 43 18.6	+0.6
1.1nm,0.7s,baz=350,slow=21,SNR=8.2							
MKAR	**Makanchi Array**	**66.22**	**327**	P	P	08 46 12.9	-0.2
0.9nm,0.5s,baz=115,slow=8.3,SNR=11							
0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**70.50**	**328**	P	P	08 46 39.6	+0.3
0.8nm,0.4s,baz=144,slow=5.6,SNR=4.2							
0.8nm,0.4s							

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*IDC **06** 08:46:59.6±1.4, 14°.72S×166°.83E, h0km, mb3.5/5, mbtmp3.6/6, ML3.7/1, MS2.4/1, Error ellipse: s-maj=38.3km s-min=31.1km az=100.0*
*NOU **06** 08:47:02.1, 14°.94S×166°.87E, h1km, MLv4.7/12, Vanuatu Islands*
ISC 06 08:47:02.2±1.1, 15°.05S±0°.1×166°.8E±0°.1, h10km, n14, σ1§42/14, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.59**	**143**	P	**Pg**	**08 47 14.0**	**+0.3**
SANVU	**Saraoutou**	**0.59**	**143**	S	**Sg**	**08 47 21.2**	**-0.3**
DVP	**Devils Point**	**3.03**	**155**	P	**Pn**	**08 47 52.0**	**+1.7**
YATNC	**Mamie plateau,**	**7.05**	**180**	P	**Pn**	**08 48 46.6**	**+1.1**
DZM	**Mont Dzumac**	**7.07**	**183**	Pn	**Pn**	**08 48 46.0**	**0.0**
1.3nm,0.3s,baz=7.3,slow=5.5,SNR=66							
DZM				Sn	**Sn**	**08 50 04.1**	**-2.4**
0.9nm,0.3s,baz=162,slow=19,SNR=1.5							
2.6nm,0.3s							
DZM	**Mont Dzumac**	**7.07**	**183**	P	**Pn**	**08 48 46.7**	**+0.8**
OUENC	**Ouen Island, N**	**7.41**	**180**	P	**Pn**	**08 48 51.8**	**+1.4**
NGOA	**Tingoa Renbel**	**7.42**	**296**	P	**Pn**	**08 48 51.7**	**+1.1**
HNR	**Honiara**	**8.70**	**308**	LR	LR	08 51 46.1	
comp=Z,22nm,18.4s,baz=94,slow=34							
WRA	**Warramunga Arr**	**31.36**	**256**	P	**P**	**08 53 22.8**	**-0.5**
0.3nm,1.0s,baz=84,slow=8.9,SNR=1.9							
0.3nm,1.0s							
ASAR	**Alice Springs**	**32.19**	**249**	P	**P**	**08 53 30.4**	**-0.4**
0.2nm,0.5s,baz=71,slow=9.8,SNR=4.7							
0.2nm,0.5s							
VNDA	**Vanda**	**62.61**	**181**	P	**P**	**08 57 26.0**	**-0.2**
0.4nm,0.8s,baz=357,slow=6.0,SNR=1.5							
0.4nm,0.8s							
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**08 58 45.6**	**+1.5**
0.8nm,0.5s,baz=241,slow=0.6,SNR=14							
0.8nm,0.5s							
ILAR	**Eielson Array**	**86.88**	**18**	P	**P**	**08 59 44.4**	**-2.4**
0.3nm,0.6s,baz=226,slow=5.1,SNR=7.1							
0.3nm,0.6s							

NNC 06 08:58:08.8±3.8, 38°.73N×69°.19E, h0km, mb4.2, mpv4.1, 7C-3D, Error ellipse: s-maj=29.4km s-min=19.1km az=1.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.48**	**10**	Pg	Pb	08 59 11.4	+0.1
133nm,0.3s							
IUG				Lg	Lg	08 59 58.3	
128nm,0.8s							
BRLS	**Borolday**	**4.33**	**6**	Pg	Pb	08 59 22.4	-3.4
6.4nm,0.4s							
BRLS				Lg	Lg	09 00 16.7	
35nm,0.5s							
KK31	**Karatay Array**	**4.48**	**12**	⇑Pn	Pn	08 59 18.0	-0.1
3.1nm,0.5s,baz=194,slow=12,SNR=43							
KK31				⇑Pg	Pb	08 59 29.0	+0.6
12nm,0.4s,baz=187,slow=17,SNR=33							
KK31				⇑Lg	Lg	09 00 32.0	
48nm,0.9s,baz=189,slow=26,SNR=5.8							
MRKS	**Merke**	**5.05**	**36**	Pg	Pb	08 59 36.0	-2.2
16nm,0.5s							
MRKS				Lg	Lg	09 00 40.6	
7.7nm,0.4s							
AAK	**Ala-Archa**	**5.61**	**44**	⇑Pn	Pn	08 59 32.7	-1.0
3.4nm,0.8s							
AAK				⇓Sn	Sn	09 00 42.8	+3.9
2.7nm,0.6s							
AAK				⇑Lg	Lg	09 01 06.5	
9.3nm,0.8s							
CHMS	**Chumysh**	**6.00**	**43**	Pg	Pn	08 59 17.4	-21
91nm,0.1s							
CHMS				Lg	Lg	09 00 08.2	
119nm,0.2s							
AB31	**Akbulak array**	**12.44**	**331**	⇑Pn	Pn	09 01 07.1	0.0
0.5nm,0.3s,baz=158,slow=12,SNR=4.3							
AB31				⇓Sn	Sn	09 03 25.6	-0.8
1.3nm,0.5s,baz=155,slow=22,SNR=5.0							
AKTO	**Aktyubinsk**	**14.14**	**330**	⇑Pn	Pn	09 01 33.7	+3.5
1.1nm,0.6s							
AKTO				⇓Sn	Sn	09 04 10.0	+2.3
2.2nm,0.9s							

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*IDC **06** 08:50:50.2±1.1, 43°.25S×42°.68E, h0km, mb3.8/8, mbtmp3.8/8, MS3.2/6, Error ellipse: s-maj=29.8km s-min=28.2km az=64.0*
ISC 06 08:58:52.6±1.1, 43°.3S±0°.2×42°.8E±0°.2, h10km, n15, σ1§22/9, mb3.9/7, MS3.1/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.37**	**310**	LR	LR	09 09 31.4	
comp=Z,65nm,18.6s,baz=44,slow=32							
LBTB	**Lobatse**	**23.09**	**317**	LR	LR	09 11 35.3	
comp=Z,68nm,18.3s,baz=152,slow=33							
MAW	**Mawson**	**26.59**	**163**	P	**P**	**09 04 32.2**	**+1.7**
0.7nm,0.7s,baz=343,slow=13,SNR=1.7							
MAW				LR	LR	09 13 49.6	
comp=Z,39nm,19.1s,baz=314,slow=34							
0.7nm,0.7s							
LSZ	**Lusaka**	**30.63**	**331**	LR	LR	09 16 08.9	
comp=Z,52nm,18.2s,baz=167,slow=34							
SNAA	**Sanae**	**35.90**	**203**	P	**P**	**09 05 52.0**	**-0.5**
1.4nm,0.9s,baz=201,slow=19,SNR=7.5							
SNAA				LR	LR	09 18 05.3	
comp=Z,30nm,19.2s,baz=48,slow=32							
1.4nm,0.9s							
QSPA	**South Pole Qui**	**46.88**	**180**	P	**P**	**09 07 22.6**	**-0.1**
0.7nm,0.6s,baz=259,slow=2.6,SNR=5.5							
0.7nm,0.6s							
VNDA	**Vanda**	**53.82**	**166**	P	**P**	**09 08 14.2**	**-0.7**
0.6nm,0.5s,baz=262,slow=5.9,SNR=8.3							
VNDA				LR	LR	09 30 22.7	
comp=Z,23nm,18.3s,baz=271,slow=35							
0.6nm,0.5s							
H01W2	**Cape Leeuwin H**	**54.44**	**107**	T	T	10 07 60.0	
baz=239,slow=75,SNR=291							
H01W3	**Cape Leeuwin H**	**54.45**	**107**	T	T	10 08 01.3	
baz=239,slow=75,SNR=262							
H01W1	**Cape Leeuwin H**	**54.46**	**107**	T	T	10 08 02.7	
baz=239,slow=75,SNR=258							
TORD	**Torodi Ar. Bea**	**67.61**	**316**	P	**P**	**09 09 49.1**	**-0.4**
0.5nm,0.8s,baz=131,slow=6.1,SNR=3.0							
0.5nm,0.8s							
STKA	**Stephens Creek**	**74.66**	**119**	P	**P**	**09 10 31.2**	**-1.0**
2.0nm,0.7s,baz=349,slow=3.5,SNR=5.9							
2.0nm,0.7s							
ASAR	**Alice Springs**	**74.92**	**108**	P	**P**	**09 10 34.0**	**+0.1**
1.2nm,0.9s,baz=222,slow=5.5,SNR=9.2							
1.2nm,0.9s							
WRA	**Warramunga Arr**	**77.67**	**106**	P	**P**	**09 10 50.0**	**+0.4**
1.7nm,0.9s,baz=224,slow=4.7,SNR=17							
1.7nm,0.9s							
TXAR	**Lajitas Array**	**149.82**	**254**	PKPbc	**PKPdf**	**09 18 40.2**	**+2.0**
1.3nm,1.0s,baz=144,slow=4.5,SNR=7.2							

RSNC 06 09:11:27.1±0.0, 12°N±1°×7°3W±°, h27km±1km, M2.6, mB6.2, mb3.5, ML2.3, Mw(mB)5.9, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.69**	**165**	P	Pb	09 11 39.7	-0.9
CRJC				S	Sb	09 11 49.7	-0.1
URIC	**Uribia, Colomb**	**1.05**	**89**	P	Pn	09 11 44.8	-1.2
URIC				S	Sn	09 11 58.9	-0.8
SMRC	**Santa Marta, M**	**1.26**	**246**	P	Pn	09 11 48.2	-0.7
SMRC				S	Sn	09 12 04.1	-0.8
ARGC	**Ariguani, Magd**	**2.16**	**213**	P	Pn	09 12 00.8	-0.6
ARGC				S	Sn	09 12 26.2	-1.1
SJCC	**San Jacinto, C**	**2.74**	**230**	P	Pn	09 12 08.3	-1.1
SJCC				S	Sn	09 12 41.7	0.0
OCAC	**Ocana**	**3.44**	**184**	P	Pn	09 12 18.0	-1.1
OCAC				S	Sn	09 12 58.3	-0.8
SDV	**Santo Domingo**	**3.67**	**139**	P	Pn	09 12 21.9	-0.4
SDV				S	Sn	09 13 03.5	-1.3
PAMC	**Pamplona, Colo**	**4.34**	**175**	P	Pn	09 12 32.2	+0.4
PAMC				S	Sn	09 13 19.9	-1.8
UREC	**San Jos de Ur**	**4.61**	**212**	P	Pn	09 12 35.7	+0.6
UREC				S	Sn	09 13 28.5	+0.7
BARC	**Barichara**	**5.07**	**181**	P	Pn	09 12 42.4	+0.8
25μm26nm,2.0s							
BARC				S	Sn	09 13 35.0	-4.4
25μm26nm,2.0s							
RUSC	**La Rusia**	**5.76**	**180**	P	Pn	09 12 52.1	+0.8
2.9nm,1.1s							
RUSC				S	Sn	09 13 55.5	-1.3
2.9nm,1.1s							
HELC	**Santa Helena**	**5.98**	**204**	P	Pn	09 12 56.5	+2.2
HELC				S	Sn	09 14 02.4	+0.2
SPBC	**San Pablo de B**	**6.08**	**190**	P	Pn	09 12 56.1	+0.7
2.9nm,0.4s							
SPBC				S	Sn	09 14 03.9	-0.3
2.9nm,0.4s							
CBOC	**Ciudad Bolivar**	**6.48**	**207**	P	Pn	09 12 58.6	-2.4

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*IDC **06** 09:28:05.3±2.7, 35°.16N×140°.85E, h38km±22km, mb3.8/12, mbtmp4.0/18, ML3.8/5, MS2.6/1, Error ellipse: s-maj=26.5km s-min=13.5km az=80.0*
*NEIC **06** 09:28:06.3±1.5, 35°.17N±0°.03×140°.75E±0°.09, h35km±8km, mb4.3/14, Error ellipse: s-maj=11.6km s-min=3.1km az=108.0*
*NIED **06** 09:28:07.1, 35°.20N×140°.55E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.12; $M_{\theta\theta}$0.90; $M_{\phi\phi}$-1.02; $M_{r\theta}$-0.06; $M_{\phi\phi}$-0.52; $M_{\phi r}$0.12; Fault plane solution: $M_0$1.10000×10^{15} NP1: ϕ_s239.00000°, δ83.00000°, λ179.00000°. NP2: ϕ_s329.00000°, δ89.00000°, λ7.00000°.*
*JMA **06** 09:28:07.1±0.2, 35°.2N±0°.6×14°1E±°, h59km±1km, MV3.9/38, KUJUKURI COAST BOSO PEN*
JMA Felt II J1 at KUJUKURI COAST BOSO PEN .
ISC 06 09:28:07.7±0.8, 35°.20N±0°.04×140°.63E±0°.05, h53km±6km, n85, σ1§41/87, mb4.2/21, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.27**	**259**	⇓*i*P	**Pn**	**09 28 16.4**	**-0.5**
KTR				⇓S	**Sn**	**09 28 23.2**	**-0.2**
BSO4	**Boso 4**	**0.32**	**229**	⇓*i*P	**Pn**	**09 28 17.2**	**0.0**
JKUC	**kamogawauchiur**	**0.36**	**264**	⇓*i*P	**Pn**	**09 28 17.1**	**-0.6**
JKUC				⇓S	**Sn**	**09 28 24.6**	**-0.3**
BSO3	**Boso 3**	**0.41**	**194**	*i* P	**Pn**	**09 28 18.0**	**0.0**
JSMT	**Sammumatsuo**	**0.47**	**341**	*i* P	**Pn**	**09 28 19.0**	**+0.2**
BSO1	**Boso 1**	**0.61**	**152**	P	**Pn**	**09 28 20.4**	**+0.4**
JIM2	**Oshima 3**	**1.10**	**244**	⇓P	**Pn**	**09 28 25.1**	**-1.8**
JIM2				⇓S	**Sn**	**09 28 38.4**	**-2.7**
JOD2	**Odawara 2**	**1.27**	**273**	⇓P	**Pn**	**09 28 27.6**	**-1.5**
JOD2				⇓S	**Sn**	**09 28 43.0**	**-2.2**
JMYK	**Miyake Tsubota**	**1.45**	**219**	*e*P	**Pn**	**09 28 30.3**	**-1.2**
JIZS	**Izushimoda**	**1.52**	**252**	⇓P	**Pn**	**09 28 30.9**	**-1.6**
JIZS				⇓S	**Sn**	**09 28 49.5**	**-1.8**
JAG	**Ashikaga**	**1.55**	**322**	P	**Pn**	**09 28 32.5**	**-0.5**
JMKN	**Mikurajimanish**	**1.56**	**214**	P	**Pn**	**09 28 31.8**	**-1.4**
JSG	**Sagara**	**2.08**	**256**		**Pn**	**09 28 39.7**	**-0.5**
JSG	**Sagara**	**2.08**	**256**	P	**Pn**	**09 28 40.0**	**-0.1**
JSG	**Sagara**	**2.08**	**256**	S	**Sn**	**09 29 08.7**	**+3.8**
JHJ2	**Mitsune**	**2.19**	**198**		**Pn**	**09 28 40.7**	**-1.0**
JHJ2	**Mitsune**	**2.19**	**198**	P	**Pn**	**09 28 40.9**	**-0.8**
JHJ	**Hachijo jima 2**	**2.19**	**199**	Pn	**Pn**	**09 28 40.8**	**-0.9**
353nm,0.3s,baz=310,slow=21,SNR=48							
JHJ				Sn	**Sn**	**09 29 05.8**	**-1.9**
572nm,0.3s,baz=97,slow=22,SNR=6.3							
773nm,0.3s							
MJAR	**Matsushiro Arr**	**2.38**	**305**		**Pn**	**09 28 44.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.38**	**305**	Pn	**Pn**	**09 28 42.8**	**-1.5**
13nm,0.3s,baz=198,slow=18,SNR=358							
MJAR				Sn	**Sn**	**09 29 15.1**	**+2.8**
8.6nm,0.3s,baz=171,slow=25,SNR=5.2							
MJAR				LR	LR	09 29 49.9	
comp=Z,118nm,19.7s,baz=99,slow=41							
43nm,0.3s							
MAJO	**Matsushiro**	**2.38**	**305**		**Pn**	**09 28 43.8**	**-0.5**
MAJO	**Matsushiro**	**2.38**	**305**	P	**Pn**	**09 28 44.0**	**-0.3**
MAJO	**Matsushiro**	**2.38**	**305**	S	**Sn**	**09 29 13.8**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.39**	**305**		**Pn**	**09 28 44.4**	**-0.1**
JMM	**Marumori**	**2.66**	**3**		**Pn**	**09 28 47.4**	**-0.8**
JMM	**Marumori**	**2.66**	**3**	P	**Pn**	**09 28 47.7**	**-0.5**
JMM	**Marumori**	**2.66**	**3**	S	**Sn**	**09 29 17.8**	**-1.4**
JGF	**Kuroka**	**2.71**	**279**		**Pn**	**09 28 48.8**	**0.0**
JGF	**Kuroka**	**2.71**	**279**	P	**Pn**	**09 28 49.1**	**+0.3**
JGF	**Kuroka**	**2.71**	**279**	S	**Sn**	**09 29 22.9**	**+2.5**
INU	**Inuyama**	**2.96**	**274**		**Pn**	**09 28 51.5**	**-0.7**
INU	**Inuyama**	**2.96**	**274**	P	**Pn**	**09 28 51.6**	**-0.7**
JSD	**Sado**	**3.41**	**327**	Pn	**Pn**	**09 28 58.1**	**-0.4**
JSD	**Sado**	**3.41**	**327**	P	**Pn**	**09 28 58.5**	**+0.1**
JTM	**Tenmabayashi**	**5.59**	**3**		**Pn**	**09 29 27.6**	**-0.6**
JTM	**Tenmabayashi**	**5.59**	**3**	P	**Pn**	**09 29 27.7**	**-0.6**
JMN	**Monobe**	**5.77**	**257**	Pn	**Pn**	**09 29 29.9**	**-0.9**
JMN	**Monobe**	**5.77**	**257**	P	**Pn**	**09 29 31.1**	**+0.3**
ERM	**Erimo**	**7.08**	**15**	Pn	**Pn**	**09 29 47.5**	**-1.2**
ERM	**Erimo**	**7.08**	**15**	P	**Pn**	**09 29 46.7**	**-2.0**
JEM	**Erimo**	**7.09**	**15**	P	**Pn**	**09 29 46.6**	**-2.1**
JNU	**Nakatsue**	**8.35**	**258**	Pn	**Pn**	**09 30 06.3**	**+0.2**
JNU	**Nakatsue**	**8.35**	**258**	Pn	**Pn**	**09 30 06.7**	**+0.6**
0.5nm,0.3s,baz=72,slow=5.3,SNR=5.6							
11nm,1.1s							
JNU	**Nakatsue**	**8.35**	**258**	P	**Pn**	**09 30 07.5**	**+1.4**
ASAJ	**Asahikawa**	**9.03**	**9**	Pn	**Pn**	**09 30 12.2**	**-3.2**
1.8nm,0.3s,baz=214,slow=15,SNR=21							
ASAJ				Sn	**Sn**	**09 31 50.8**	**-4.8**
0.7nm,0.3s,baz=286,slow=7.4,SNR=2.2							
4.3nm,0.3s							
JKA	**Kamikawa-asahi**	**9.03**	**9**	Pn	**Pn**	**09 30 12.5**	**-2.9**
KSRS	**Korea Array**	**10.50**	**286**	Pn	**Pn**	**09 30 35.7**	**+0.2**
0.2nm,0.3s,baz=105,slow=13,SNR=12							
3.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**11.18**	**326**	Pn	**Pn**	**09 30 44.2**	**-0.5**
1.2nm,0.6s,baz=130,slow=15,SNR=1.7							
TWG	**Pinlang**	**21.04**	**239**	P	**P**	**09 32 45.7**	**-1.6**
TWG				IAmb	IAmb	09 32 53.6	
comp=Z,17nm,1.0s							
GUMO	**Guam**	**21.86**	**169**	P	**P**	**09 32 55.5**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**27.82**	**117**	T	T	10 03 07.3	
baz=308,slow=75,SNR=82							
H11N1	**WAKE ISLAND Hy**	**27.83**	**117**	T	T	10 03 11.3	
baz=308,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**27.84**	**117**	T	T	10 03 14.7	
baz=308,slow=75,SNR=92							
SONM	**Songino Array**	**28.33**	**307**	P	**P**	**09 33 56.7**	**+0.2**
comp=Z,0.7nm,0.4s,baz=116,slow=9.8,SNR=4.4							
comp=Z,0.7nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	10 03 51.8	
baz=312,slow=76,SNR=64							
H11S3	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	10 03 52.9	
baz=312,slow=76,SNR=49							
H11S2	**WAKE ISLAND Hy**	**28.48**	**119**	T	T	10 03 50.2	
baz=312,slow=76,SNR=58							
ZAA0	**Zalesovo Array**	**42.70**	**314**	P	**P**	**09 36 00.1**	**+0.9**
ZALV	**Zalesovo Beam**	**42.70**	**314**	P	**P**	**09 35 59.4**	**+0.2**
ZALV	**Zalesovo Beam**	**42.70**	**314**	P	**P**	**09 36 00.6**	**+1.4**
comp=Z,1.0nm,0.3s,baz=101,slow=6.8,SNR=4.9							
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**44.58**	**304**	P	**P**	**09 36 14.1**	**-0.3**
MKAR	**Makanchi Array**	**44.58**	**304**	P	**P**	**09 36 14.8**	**+0.4**
comp=Z,1.3nm,0.5s,baz=84,slow=9.5,SNR=14							
comp=Z,1.3nm,0.5s							
KURK	**Kurchatov**	**46.58**	**309**		**P**	**09 36 29.7**	**-0.5**
KURBB	**Kurchatov Arra**	**46.65**	**309**	P	**P**	**09 36 30.0**	**-0.7**
comp=Z,2.7nm,0.4s,baz=82,slow=7.6,SNR=32							
comp=Z,2.7nm,0.4s							
H19K	**Roundabout Mou**	**47.39**	**30**	P	**P**	**09 36 37.3**	**+1.1**
H19K				IAmb	IAmb	09 36 57.7	
comp=Z,5.8nm,1.1s							
MTN	**Manton Dam**	**48.62**	**192**	P	**P**	**09 36 45.4**	**-0.8**
TARG	**Taragay, Kyrgy**	**48.66**	**298**	P	**P**	**09 36 46.3**	**-0.6**
TARG				IAmb	IAmb	09 37 15.3	
comp=Z,2.4nm,0.8s							
E22K	**Anaktuvuk Pass**	**49.52**	**27**	P	**P**	**09 36 53.4**	**+0.8**
E22K				IAmb	IAmb	09 37 02.9	
comp=Z,3.5nm,1.1s							
I23K	**Minto, Yukon-K**	**50.33**	**31**	P	**P**	**09 37 00.3**	**+1.6**
BVAR	**Borovoye Array**	**51.35**	**313**	P	**P**	**09 37 07.2**	**+0.5**
comp=Z,0.9nm,0.3s,baz=105,slow=8.5,SNR=9.8							
comp=Z,0.9nm,0.3s							
ILAR	**Eielson Array**	**51.38**	**32**	P	**P**	**09 37 05.7**	**-1.0**
comp=Z,0.3nm,0.7s,baz=271,slow=6.0,SNR=5.7							
comp=Z,0.3nm,0.7s							
KNRA	**Kununurra**	**51.84**	**195**	P	**P**	**09 37 09.9**	**-0.6**
KNRA				IAmb	IAmb	09 37 10.2	
comp=Z,5.9nm,0.9s							
F26K	**Sheenjek River**	**52.40**	**28**	P	**P**	**09 37 16.6**	**+2.3**
F26K				IAmb	IAmb	09 37 27.0	
comp=Z,2.6nm,1.1s							
C27K	**Jago River**	**52.51**	**25**	P	**P**	**09 37 15.2**	**+0.2**
C27K				IAmb	IAmb	09 37 15.7	
comp=Z,4.0nm,1.1s							
KK31	**Karatay Array**	**53.51**	**301**	P	**P**	**09 37 23.0**	**+0.2**
KK31				IAmb	IAmb	09 37 29.1	
comp=Z,2.8nm,1.1s							
KKAR	**Karatay Array**	**53.51**	**301**	P	**P**	**09 37 23.5**	**+0.7**
BCAR	**Beaver Creek A**	**53.77**	**33**	P	**P**	**09 37 25.9**	**+1.5**
I28M	**Miner Creek**	**54.26**	**30**	P	**P**	**09 37 29.9**	**+1.9**
WRA	**Warramunga Arr**	**55.16**	**187**	P	**P**	**09 37 33.5**	**-1.4**
comp=Z,3.1nm,0.8s,baz=3.1,slow=8.0,SNR=58							
comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**58.89**	**187**	P	**P**	**09 38 00.0**	**-1.2**
comp=Z,0.7nm,0.5s,baz=359,slow=6.3,SNR=24							
comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**70.14**	**332**	P	**P**	**09 39 13.8**	**-0.4**
comp=Z,1.0nm,0.4s,baz=57,slow=6.7,SNR=16							
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**75.36**	**322**	P	**P**	**09 39 45.8**	**+0.5**
comp=Z,0.3nm,0.3s,baz=51,slow=5.7,SNR=2.6							
comp=Z,0.3nm,0.3s							
HFS	**Hagfors**	**75.49**	**336**	P	**P**	**09 39 46.5**	**+0.5**
comp=Z,3.2nm,1.1s,baz=83,slow=4.5,SNR=4.4							
comp=Z,3.2nm,1.1s							
NOA	**NORSAR Array B**	**75.63**	**337**	P	**P**	**09 39 47.3**	**+0.5**
comp=Z,0.3nm,0.5s,baz=41,slow=8.2,SNR=2.3							
comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**76.60**	**52**	P	**P**	**09 39 55.4**	**+2.5**
comp=Z,0.2nm,0.6s,baz=313,slow=6.0,SNR=1.9							

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*MDD **06** 09:33:33.5±1.1, 35°.51N×3°.79W, h9km±7km, mb_Lg2.0/7, Error ellipse: s-maj=9.7km s-min=4.3km az=43.0*
*SFS **06** 09:33:34.4, 35°.43N×3°.64W, h22km, ML2.6/7, ML2.5/7, MLv2.5/7*
*CNRM **06** 09:33:35.0, 35°.50N×3°.59W, h7km, ML1.9*
ISC 06 09:33:34.0±1.1, 35°.57N±0°.02×3°.60W±0°.03, h14km±10km, n22, σ0§97/38, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.45**	**219**	P	**Pb**	**09 33 42.7**	**-1.0**
PALE	**Palemas**	**0.45**	**219**	S	**Sb**	**09 33 48.6**	**-1.5**
WMELI	**Melilla**	**0.58**	**115**	P	**Pb**	**09 33 45.3**	**-0.6**
WMELI				S	**Sg**	**09 33 53.0**	**-0.1**
EMEL	**Melilla**	**0.59**	**117**	Pg	**Pb**	**09 33 46.1**	**+0.1**
EMEL				Sg	**Sb**	**09 33 53.4**	**-0.8**
EALB	**Alboran**	**0.59**	**51**	P	**Pn**	**09 33 47.4**	**-0.5**
EALB				S	**Sn**	**09 33 57.3**	**-0.1**
EALB	**Alboran**	**0.59**	**51**	Pg	**Pn**	**09 33 47.6**	**-0

26nm,0.3s
DZM Mont Dzumac 2.45 267 P Pn 09 57 08.1 +0.6
DZM Mont Dzumac 2.45 267 P Pn 09 57 07.9 +0.4
ONTNC Ouen Toro 2.46 261 Pn 09 57 07.2 -0.4
ONTNC Ouen Toro 2.46 261 P Pn 09 57 07.8 +0.3
ONTNC Ouen Toro 2.46 261 P Pn 09 57 08.2 +0.7
RTV Rentapao 4.19 351 P Pn 09 57 31.6 +0.3
DVP Devils Point 4.29 348 P Pn 09 57 31.0 -1.7
SANVU Saraoutou 6.72 344 Pn 09 58 05.6 -0.4
FUNA Funafuti 16.52 38 Pn **Pn 10 00 19.2 +0.2**
FUNA IAmb IAmb 10 00 37.4
comp=Z,90nm,1.1s
URZ Urewera 17.65 159 P P 10 00 34.8 +1.1
comp=Z,9.8nm,0.9s,baz=328,slow=9.5,SNR=3.9
URZ LR LR 10 06 08.4
comp=Z,157nm,18.4s,baz=12,slow=33
CTAO Charters Tower 21.39 271 P P 10 01 15.3 +0.5
TOO Toolangi 25.62 227 P P 10 01 55.5 -0.7
TOO IAmb IAmb 10 02 40.1
comp=Z,10nm,1.3s
COEN Coen 25.87 284 P P 10 01 56.7 -2.0
COEN IAmb IAmb 10 02 30.0
comp=Z,12nm,1.1s
STKA Stephens Creek 26.36 242 P P 10 02 01.6 -1.3
STKA IAmb IAmb 10 02 18.3
comp=Z,36nm,1.0s
STKA Stephens Creek 26.36 242 P P 10 02 04.5 +1.6
comp=Z,1.7nm,0.6s,baz=94,slow=14,SNR=4.2
STKA LR LR 10 12 06.9
comp=Z,104nm,18.3s,baz=32,slow=36
comp=Z,1.7nm,0.6s
WR8 Warramunga Arr 32.32 267 P P 10 02 55.0 -1.1
WR8 IAmb IAmb 10 03 23.5
comp=Z,6.6nm,1.2s
AS31 Alice Springs 32.43 260 P 10 02 55.9 -1.1
ASAR Alice Springs 32.43 260 P P 10 02 55.0 -1.9
ASAR Alice Springs 32.43 260 P P 10 02 57.4 +0.4
comp=Z,2.6nm,0.7s,baz=85,slow=8.9,SNR=51
ASAR PcP **PcP 10 05 43.6 -0.4**
comp=Z,0.7nm,0.9s,baz=88,slow=3.5,SNR=3.9
ASAR LR LR 10 15 09.6
comp=Z,14nm,18.4s,baz=53,slow=35
comp=Z,2.6nm,0.7s
WRA Warramunga Arr 32.47 267 P P 10 02 56.1 -1.2
WRA Warramunga Arr 32.47 267 P P 10 02 56.9 -0.4
comp=Z,2.0nm,0.9s,baz=96,slow=8.1,SNR=27
WRA PcP **PcP 10 05 43.6 -0.5**
comp=Z,0.3nm,0.6s,baz=279,slow=1.6,SNR=5.1
comp=Z,2.0nm,0.9s
KNRA Kununurra 38.59 272 P 10 03 49.7 -0.2
KNRA IAmb IAmb 10 03 50.3
comp=Z,6.2nm,0.7s
FITZ Fitzroy Crossi 40.90 267 P 10 04 09.4 +0.3
VNDA Vanda 55.72 182 P P 10 06 02.5 -0.1
VNDA Vanda 55.72 182 P P 10 06 02.4 -0.2
comp=Z,0.8nm,1.0s,baz=3.6,slow=6.9,SNR=3.6
VNDA PcP **PcP 10 06 59.9 -1.7**
comp=Z,0.6nm,0.9s,baz=19,slow=2.7,SNR=1.9
VNDA LR LR 10 25 34.3
comp=Z,17nm,20.9s,baz=348,slow=31
comp=Z,0.8nm,1.0s
SBA Scott Base 55.96 181 P P 10 06 04.7 +0.4
SBA IAmb IAmb 10 06 05.8
comp=Z,4.4nm,1.1s
CASY Casey 57.59 204 P P 10 06 14.9 -1.1
CASY IAmb IAmb 10 06 15.9
comp=Z,2.9nm,0.8s
KSM Kuching 61.86 284 P P 10 06 45.5 -0.7
KSM IAmb IAmb 10 06 47.5
comp=Z,7.2nm,0.7s
MJAR Matsushiro Arr 65.09 333 P P 10 07 07.9 +0.8
MJAR Matsushiro Arr 65.09 333 P P 10 07 08.4 +1.4
comp=Z,1.3nm,0.8s,baz=172,slow=10.0,SNR=3.1
comp=Z,1.3nm,0.8s
MAJO Matsushiro 65.09 333 P P 10 07 07.5 +0.4
JNU Nakatsue 65.80 325 P P 10 07 11.8 0.0
QSPA South Pole Qui 68.11 180 P 10 07 27.6 +1.4
QSPA South Pole Qui 68.11 180 P P 10 07 28.1 +1.9
comp=Z,8.2nm,0.8s,baz=29,slow=1.8,SNR=34
comp=Z,8.2nm,0.8s
MAW Mawson 75.87 202 P P 10 08 13.1 +0.6
comp=Z,3.4nm,0.9s,baz=126,slow=8.6,SNR=8.7
comp=Z,3.4nm,0.9s
CMAR Chiang Mai Arr 79.50 295 P P 10 08 34.5 +0.9
comp=Z,0.7nm,0.4s,baz=139,slow=4.0,SNR=6.7
comp=Z,0.7nm,0.4s
SMAI San Martin Ant 81.31 162 P P 10 08 42.0 -0.4
SMAI IAmb IAmb 10 08 42.6
comp=Z,11nm,1.2s
TROLL Troll, Antarti 85.83 184 ⇑P **P 10 09 04.6 -1.2**
comp=Z,619nm,0.6s
Q19K Cape Douglas, 86.26 18 P P 10 09 08.0 +0.3
SNAA Sanae 86.45 183 ⇑P **P 10 09 07.9 -0.9**
comp=Z,102nm,0.7s
SNAA Sanae 86.45 183 P 10 09 07.8 -0.9
SNAA IAmb IAmb 10 09 08.6
comp=Z,6.4nm,0.9s
SNAA Sanae 86.45 183 P P 10 09 07.9 -0.9
comp=Z,6.1nm,0.9s,baz=208,slow=8.8,SNR=30
comp=Z,6.1nm,0.9s
M16K Timber Creek 86.63 15 P P 10 09 10.5 +1.1
GAMB Gambell 86.77 8 P P 10 09 11.3 +1.3
VNA3 Neumayer Olymp 87.05 180 ⇑P **P 10 09 10.1 -1.5**
comp=Z,14nm,0.8s
ESPZ Base Esperanza 87.59 161 P P 10 09 13.5 -0.8
ESPZ IAmb IAmb 10 09 14.5
comp=Z,7.2nm,0.9s
SONM Songino Array 89.30 323 P P 10 09 23.6 +0.9
comp=Z,1.3nm,0.8s,baz=131,slow=5.2,SNR=7.5
comp=Z,1.3nm,0.8s
NVAR Mina Array Bea 90.70 49 P P 10 09 29.2 -0.4
comp=Z,0.5nm,0.7s,baz=224,slow=4.1,SNR=4.2
comp=Z,0.5nm,0.7s
ILAR Eielson Array 92.86 17 P P 10 09 40.1 +1.5
comp=Z,0.2nm,0.7s,baz=221,slow=4.6,SNR=4.4
comp=Z,0.2nm,0.7s
EKA Eskdalemuir Ar 146.17 352 PKPbc **PKPdf 10 16 05.5 +0.2**
comp=Z,6.5nm,1.1s,baz=10,slow=2.8,SNR=2.2
GERES GERESS Array B 146.78 330 PKPbc **PKPbc 10 16 08.8 +0.4**
comp=Z,1.4nm,0.7s,baz=26,slow=3.4,SNR=14

*IDC **06** 10:00:35.9±0.8, 38°.90S×175°.06E, h230km±9km, mb3.7/8, mbtmp4.3/9, Error ellipse: s-maj=18.8km s-min=11.9km az=63.0*
*NEIC **06** 10:00:36.5±1.4, 39°.11S±0°.06×174°.78E±0°.06, h229km±6km, mb4.3/19, Error ellipse: s-maj=9.5km s-min=7.0km az=195.0*
*NOU **06** 10:00:36.4, 39°.14S×174°.83E, h222km, MLv4.6/38, North Island, New Zealand*
*WEL **06** 10:00:38.6±0.8, 39°S±9°×17°5E±°, h213km±5km, M4.4/124, ML4.0/19, MLv4.4/124, Error ellipse: s-maj=11.4km s-min=8.9km az=177.8, confirmed*
ISC 06 10:00:36.8±0.5, 39°.11S±0°.04×174°.84E±0°.04, h235km±4km, n293, σ1§36/314, mb4.3/22, 3C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.06 260**		P	**Pn**	10 01 06.5	-0.7
VRZ				S	**S**	10 01 29.0	-1.9
MHEZ	**Mangahewa**	**0.40 275**		P	**Pn**	10 01 07.8	+0.1
MHEZ				S	**S**	10 01 32.1	+0.3
TUHS	**Taumarunui Hig**	**0.41 52**		P	**Pn**	10 01 07.0	-0.7
TUHS				S	**S**	10 01 30.8	-1.1
PKVZ	**Pokaka**	**0.43 114**		P	**Pn**	10 01 07.5	-0.4
PKVZ				S	**S**	10 01 30.1	-2.1
TWVZ	**Taurewa**	**0.47 85**		P	**Pn**	10 01 07.5	-0.6
TWVZ				S	**S**	10 01 29.8	-2.6
LREZ	**Lake Rotokare**	**0.48 224**		P	**Pn**	10 01 08.0	+0.1
DREZ	**Durham Road**	**0.50 261**		P	**Pn**	10 01 08.0	0.0
INHS	**Inglewood High**	**0.51 265**		P	**Pn**	10 01 07.8	-0.2
ORCS	**Ohakune Ruapeh**	**0.54 124**		P	**Pn**	10 01 07.8	-0.3
COVZ	**Chateau Observ**	**0.56 99**		P	**Pn**	10 01 07.8	-0.5
COVZ				S	**S**	10 01 30.0	-3.0
MTVZ	**Mangateitei**	**0.56 119**		P	**Pn**	10 01 07.9	-0.4
FWVZ	**Far West T-bar**	**0.57 105**		P	**Pn**	10 01 08.1	-0.5
PREZ	**Palmer Road**	**0.57 246**		P	**Pn**	10 01 08.3	0.0
PREZ				S	**S**	10 01 33.3	+0.4
TRVZ	**Turoa**	**0.58 109**		P	**Pn**	10 01 08.2	-0.4
TRVZ				S	**S**	10 01 30.7	-2.7
MAVZ	**Matarangi**	**0.58 106**		P	**Pn**	10 01 08.2	-0.5
MAVZ				S	**S**	10 01 31.5	-2.0
WTVZ	**West Tongariro**	**0.58 90**		P	**Pn**	10 01 07.8	-0.6
NGZ	**Ngauruhoe**	**0.60 96**		P	**Pn**	10 01 07.8	-0.7
NPCS	**New Plymouth C**	**0.60 275**		P	**Pn**	10 01 08.4	+0.1
NEZ	**North Egmont**	**0.60 255**		P	**Pn**	10 01 08.5	0.0
HIZ	**Hauiti**	**0.60 1**			**Pn**	10 01 07.5	-0.9
HIZ	**Hauiti**	**0.60 1**		P	**Pn**	10 01 07.5	-0.9
HIZ	**Hauiti**	**0.60 1**		S	**S**	10 01 31.1	-2.0
HIZ	**Hauiti**	**0.60 1**		P	**Pn**	10 01 07.6	-0.8
HIZ				S	**S**	10 01 31.0	-2.0
NNVZ	**North Ngauruho**	**0.60 92**		P	**Pn**	10 01 07.9	-0.7
WHVZ	**Whangaehu Hut**	**0.61 106**		P	**Pn**	10 01 08.2	-0.5
KRVZ	**Karewarewa**	**0.63 89**		P	**Pn**	10 01 07.8	-0.8
SNVZ	**South Ngauruho**	**0.63 97**		P	**Pn**	10 01 08.0	-0.7
WNVZ	**Wahianoa**	**0.63 110**		P	**Pn**	10 01 08.1	-0.6
OTVZ	**Oturere**	**0.65 95**		P	**Pn**	10 01 07.9	-0.8
WAZ	**Wanganui**	**0.65 179**		P	**Pn**	10 01 08.8	+0.3
NTVZ	**North Tongarir**	**0.65 89**		P	**Pn**	10 01 08.0	-0.7
TUVZ	**Tukino**	**0.65 104**		P	**Pn**	10 01 08.3	-0.4
KHEZ	**Kahui Hut**	**0.67 254**		P	**Pn**	10 01 08.5	-0.2
KHEZ	**Kahui Hut**	**0.67 254**		S	**S**	10 01 33.7	+0.1
KHEZ	**Kahui Hut**	**0.67 254**		P	**Pn**	10 01 08.6	-0.2
KHEZ				S	**S**	10 01 33.1	-0.6
PKE	**Pukeiti**	**0.67 263**		P	**Pn**	10 01 08.6	-0.1
PKE				S	**S**	10 01 33.5	0.0
TMVZ	**Te Maari**	**0.67 90**		P	**Pn**	10 01 08.5	-0.2
TMVZ				S	**S**	10 01 31.6	-2.2
ETVZ	**East Tongariro**	**0.68 92**		P	**Pn**	10 01 08.0	-0.8
KATZ	**Kakaramea**	**0.68 79**		P	**Pn**	10 01 08.0	-0.8
MOVZ	**Moawhango**	**0.77 113**		P	**Pn**	10 01 08.4	-0.7
MOVZ				S	**S**	10 01 30.8	-3.6
RATZ	**Rangitukua**	**0.77 72**		P	**Pn**	10 01 08.3	-0.8
NBEZ	**Newall Road No**	**0.77 258**		P	**Pn**	10 01 09.2	+0.2
TTHS	**Turangi Tongar**	**0.77 81**		P	**Pn**	10 01 08.8	-0.3
NMEZ	**Namu Road**	**0.80 248**		P	**Pn**	10 01 09.4	+0.2
RITZ	**Rihia Road**	**0.81 81**		P	**Pn**	10 01 08.7	-0.5
RITZ				S	**S**	10 01 32.5	-2.2
WATZ	**Wairara**	**0.81 60**		P	**Pn**	10 01 08.8	-0.5
WCDS	**Wanganui Civil**	**0.83 169**		P	**Pn**	10 01 09.9	+0.6
THHS	**Taihape Hospit**	**0.93 128**		P	**Pn**	10 01 09.6	-0.3
TLZ	**Tolley Road**	**0.95 35**		P	**Pn**	10 01 09.1	-1.0
WHTZ	**Whakaora**	**0.98 63**		P	**Pn**	10 01 09.6	-0.7
KUTZ	**Kaahu Road**	**0.99 51**		P	**Pn**	10 01 09.7	-0.6
HATZ	**Hinemaiaia**	**1.00 78**		P	**Pn**	10 01 09.3	-1.1
HATZ				S	**S**	10 01 32.6	-3.9
OHWZ	**Ohakea**	**1.15 161**		P	**Pn**	10 01 11.7	+0.5
OHWZ				S	**S**	10 01 37.4	-0.8
WPRZ	**Whakapapatarin**	**1.19 61**		P	**Pn**	10 01 10.4	-1.1
GRRZ	**Galatos Road**	**1.25 53**		P	**Pn**	10 01 11.1	-0.9
MRHZ	**Matea Rd**	**1.26 78**		P	**Pn**	10 01 10.7	-1.4
KWHZ	**Kaweka Forest**	**1.27 105**		P	**Pn**	10 01 11.9	-0.2
TSZ	**Takapari Road**	**1.28 138**		P	**Pn**	10 01 12.1	0.0
BKZ	**Black Stump Fm**	**1.29 93**			**Pn**	10 01 11.1	-1.1
BKZ	**Black Stump Fm**	**1.29 93**		P	**Pn**	10 01 11.3	-0.9
BKZ	**Black Stump Fm**	**1.29 93**		S	**S**	10 01 36.5	-3.3
BKZ	**Black Stump Fm**	**1.29 93**		P	**Pn**	10 01 11.4	-0.9
ALRZ	**Allen Road**	**1.30 65**		P	**Pn**	10 01 10.9	-1.3
KRHZ	**Kereru**	**1.30 114**		P	**Pn**	10 01 11.9	-0.3
PNHZ	**Pukenui**	**1.32 128**		P	**Pn**	10 01 12.2	-0.2
HRRZ	**Handcock Road**	**1.34 58**		P	**Pn**	10 01 11.5	-1.1
HSRZ	**Hossack Road**	**1.36 54**		P	**Pn**	10 01 11.9	-0.9
PRRZ	**Plateau Road**	**1.36 64**		P	**Pn**	10 01 11.3	-1.4
UTU	**Utuhina**	**1.42 49**		P	**Pn**	10 01 12.3	-0.8
NGRZ	**Ngongotaha**	**1.46 47**		P	**Pn**	10 01 12.6	-0.9
HLRZ	**Highlands Stat**	**1.46 55**		P	**Pn**	10 01 13.2	-0.4
POWZ	**Post Office Ro**	**1.47 151**		P	**Pn**	10 01 13.2	-0.2
TOZ	**Tahuroa Road**	**1.48 21**			**Pn**	10 01 12.2	-1.4
TOZ	**Tahuroa Road**	**1.48 21**		P	**Pn**	10 01 12.6	-0.9
MCHZ	**McNeill Hill**	**1.48 103**		P	**Pn**	10 01 13.8	+0.2
RRRZ	**Republican Roa**	**1.52 60**		P	**Pn**	10 01 12.6	-1.3
NMHZ	**Naumai**	**1.53 90**		P	**Pn**	10 01 14.0	-0.1
KMRZ	**Kaimai**	**1.53 35**		P	**Pn**	10 01 13.2	-0.9
KARZ	**Kakaroa**	**1.55 46**		P	**Pn**	10 01 13.3	-0.9
WPHZ	**Waipukurau**	**1.56 128**		P	**Pn**	10 01 14.1	0.0
DVHZ	**Dannevirke**	**1.57 140**		P	**Pn**	10 01 13.9	-0.3
OMRZ	**Omania**	**1.57 51**		P	**Pn**	10 01 13.2	-1.1
TARZ	**Mount Tarawera**	**1.57 57**		P	**Pn**	10 01 13.3	-1.2
MTHZ	**Maungataniwha**	**1.58 81**		P	**Pn**	10 01 13.4	-1.1
MKRZ	**Makatiti**	**1.60 53**		P	**Pn**	10 01 14.1	-0.6
MUGZ	**Murupara**	**1.64 68**		P	**Pn**	10 01 13.1	-1.7
LIRZ	**Lichensteins R**	**1.64 48**		P	**Pn**	10 01 14.0	-0.9
MRZ	**Mangatainoka R**	**1.65 160**			**Pn**	10 01 14.2	-0.7
MRZ	**Mangatainoka R**	**1.65 160**		P	**Pn**	10 01 14.5	-0.4
ARHZ	**Aropaoanui**	**1.68 96**		P	**Pn**	10 01 15.0	-0.2
PRWZ	**Pori Road**	**1.68 149**		P	**Pn**	10 01 15.1	-0.1
KAHZ	**Kahuranaki**	**1.72 114**		P	**Pn**	10 01 15.7	+0.1
OGWZ	**Otaki Gorge**	**1.72 172**		P	**Pn**	10 01 15.4	0.0
RTZ	**Ruatahuna**	**1.75 74**			**Pn**	10 01 14.3	-1.5
RTZ	**Ruatahuna**	**1.75 74**		P	**Pn**	10 01 14.5	-1.4
KIW	**Kapiti Island**	**1.75 178**		P	**Pn**	10 01 15.4	-0.3
RAHZ	**Arahi**	**1.76 84**		P	**Pn**	10 01 15.4	-0.6
TGRZ	**Tauranga**	**1.78 39**		P	**Pn**	10 01 14.9	-1.2
EDRZ	**Edgecumbe**	**1.80 57**		P	**Pn**	10 01 14.7	-1.6
PRHZ	**Porangahau**	**1.80 130**		P	**Pn**	10 01 16.1	-0.2
PXZ	**Pawanui**	**1.81 121**		P	**Pn**	10 01 16.1	-0.2
CKHZ	**Cape Kidnapper**	**1.82 108**		P	**Pn**	10 01 16.4	0.0
DUWZ	**D'Urville Isla**	**1.83 202**		P	**Pn**	10 01 16.3	-0.1
MARZ	**Manawahe**	**1.83 53**		P	**Pn**	10 01 15.2	-1.4
ANWZ	**Angora Road**	**1.84 137**		P	**Pn**	10 01 16.5	-0.1
TIWZ	**Tintock**	**1.85 154**		P	**Pn**	10 01 16.3	-0.4
OPRZ	**Ohinepanea**	**1.85 47**		P	**Pn**	10 01 15.4	-1.3
WHHZ	**Waihua**	**1.86 90**		P	**Pn**	10 01 16.3	-0.5
BFZ	**Birch Farm**	**1.91 146**			**Pn**	10 01 16.4	-0.7
BFZ	**Birch Farm**	**1.91 146**		P	**Pn**	10 01 16.6	-0.5
BFZ	**Birch Farm**	**1.91 146**		S	**S**	10 01 46.7	-2.1
BFZ	**Birch Farm**	**1.91 146**		P	**Pn**	10 01 16.6	-0.5
URZ	**Urewera**	**1.97 65**		P	**Pn**	10 01 15.8	-2.0
456nm,0.3s,baz=236,slow=3.4,SNR=2233
URZ S **S 10 01 44.2 -5.6**
3μm,0.5s,baz=225,slow=7.6,SNR=103
URZ Urewera 1.97 65 P Pn 10 01 15.8 -2.0
URZ Urewera 1.97 65 P Pn 10 01 15.8 -2.0
SNGZ Shannon Statio 1.98 81 P Pn 10 01 17.0 -0.9
CAW Cannon Point 2.00 175 P Pn 10 01 17.7 -0.3
KBAZ Karaka Road Bo 2.02 1 P Pn 10 01 17.7 -0.5
MKAZ Moumakai 2.02 7 P Pn 10 01 17.5 -0.9
AWAZ Awhitu Peninsu 2.05 356 P Pn 10 01 17.9 -0.7
CPWZ Castlepoint 2.08 150 P Pn 10 01 18.8 +0.1
WHRZ Whale Island 2.10 54 P Pn 10 01 19.6 +0.6
MTW Mount Morrison 2.10 166 P Pn 10 01 18.4 -0.6
RAGZ Rawiri 2.11 74 P Pn 10 01 17.8 -1.4
MYRZ Mayor Island 2.14 32 P Pn 10 01 18.5 -0.9
TCW Tory Channel 2.14 191 Pn 10 01 18.7 -0.6
TCW Tory Channel 2.14 191 P Pn 10 01 19.2 -0.1
TMWZ Te Maipa 2.15 158 P Pn 10 01 18.9 -0.6
ETAZ East Tamaki Re 2.16 2 P Pn 10 01 18.8 -0.9
WEL Wellington 2.17 181 P Pn 10 01 19.1 -0.5
WTAZ Waiatarua 2.19 354 P Pn 10 01 19.4 -0.5
SNZO South Karori 2.20 183 Pn 10 01 19.1 -0.7
SNZO South Karori 2.20 183 P Pn 10 01 19.3 -0.5
SNZO South Karori 2.20 183 P S 10 01 51.1 -2.6
KNZ Kokohu 2.21 89 P Pn 10 01 19.2 -0.8
EPAZ Eden Park BICE 2.23 358 P Pn 10 01 19.5 -0.8
MWZ Matawai 2.24 71 P Pn 10 01 18.8 -1.6
HBAZ Herne Bay Bore 2.26 358 P Pn 10 01 19.8 -0.8
BHW Baring Head 2.29 179 Pn 10 01 20.1 -0.7
BHW Baring Head 2.29 179 P Pn 10 01 20.2 -0.7
PAWZ Paruwai Farm 2.31 169 P Pn 10 01 20.5 -0.6
RIGZ Rimuhau 2.32 81 P Pn 10 01 20.2 -1.0
MSWZ Moikau Station 2.32 172 Pn 10 01 20.3 -0.9
MSWZ Moikau Station 2.32 172 P Pn 10 01 20.6 -0.6
WIAZ Waiheke Island 2.33 6 P Pn 10 01 20.4 -0.9
MBAZ Motutapu North 2.34 1 P Pn 10 01 20.6 -0.8
RVAZ Riverhead Bore 2.35 355 P Pn 10 01 20.7 -0.8
TRWZ Traveller 2.37 164 P Pn 10 01 21.1 -0.6
NNZ Nelson 2.38 208 Pn 10 01 21.0 -0.7
NNZ Nelson 2.38 208 P Pn 10 01 21.4 -0.3
PRGZ Paritu Road 2.38 86 P Pn 10 01 20.9 -0.9
MHGZ Mahia Peninsul 2.39 92 P Pn 10 01 21.2 -0.7
TKNZ Takaka Hill 2.40 216 Pn 10 01 21.0 -0.9
TKNZ Takaka Hill 2.40 216 P Pn 10 01 21.0 -0.9
TUWZ Tuamarina 2.41 196 Pn 10 01 21.7 -0.3
TUWZ Tuamarina 2.41 196 P Pn 10 01 22.1 +0.1
TKGZ Te Karaka 2.45 75 P Pn 10 01 21.4 -1.1
QRZ Quartz Range 2.46 225 Pn 10 01 21.3 -1.3
QRZ Quartz Range 2.46 225 P Pn 10 01 21.5 -1.1
QRZ Quartz Range 2.46 225 S S 10 01 55.4 -3.2
QRZ Quartz Range 2.46 225 P Pn 10 01 21.4 -1.1
KUZ Kuaotunu 2.46 17 P Pn 10 01 21.5 -1.2
KUZ Kuaotunu 2.46 17 P S 10 01 57.1 -1.6
KUZ Kuaotunu 2.46 17 P Pn 10 01 21.5 -1.2
PLWZ Palliser 2.47 173 Pn 10 01 21.9 -0.8
PLWZ Palliser 2.47 173 P Pn 10 01 22.0 -0.8
RUGZ Raukumara Rang 2.50 64 P Pn 10 01 20.5 -2.7
ABAZ Army Bay 2.51 360 P Pn 10 01 22.5 -0.6
TWGZ Tauwhareparae 2.63 70 P Pn 10 01 23.1 -1.4
CMWZ Cape Campbell 2.68 190 Pn 10 01 24.5 -0.3
CMWZ Cape Campbell 2.68 190 P Pn 10 01 24.9 +0.1
HAZ Te Kaha 2.68 61 P Pn 10 01 22.3 -2.6
BSWZ Blackbirch Sta 2.70 195 Pn 10 01 24.5 -0.6
BSWZ Blackbirch Sta 2.70 195 P Pn 10 01 24.7 -0.4
CNGZ Carnagh Statio 2.71 78 P Pn 10 01 24.4 -0.8
MRNZ Matariki Terra 2.78 214 Pn 10 01 25.0 -0.9
MRNZ Matariki Terra 2.78 214 P Pn 10 01 25.0 -0.9
PKGZ Pakihiroa 2.83 65 P Pn 10 01 24.6 -2.0
PUZ Puketiti 2.87 70 P Pn 10 01 25.1 -2.0
GRZ Great Barrier 2.90 10 P Pn 10 01 26.4 -1.0
THZ Tophouse 3.03 209 Pn 10 01 27.8 -0.9
THZ Tophouse 3.03 209 P Pn 10 01 28.0 -0.8
WMGZ Waiomatatini S 3.09 66 P Pn 10 01 27.4 -2.0
MXZ Matakaoa Point 3.14 62 Pn 10 01 28.8 -1.1
MXZ Matakaoa Point 3.14 62 P Pn 10 01 29.1 -0.8
MXZ Matakaoa Point 3.14 62 P Pn 10 01 28.0 -1.9
WCZ Waipu Caves 3.19 353 P Pn 10 01 29.8 -0.8
KHZ Kahutara 3.44 196 Pn 10 01 32.6 -0.7
KHZ Kahutara 3.44 196 P Pn 10 01 33.0 -0.3
KHZ Kahutara 3.44 196 P S 10 02 15.2 -2.7
KHZ Kahutara 3.44 196 P Pn 10 01 32.7 -0.6
DSZ Denniston Nort 3.50 220 Pn 10 01 32.6 -1.5
DSZ Denniston Nort 3.50 220 P Pn 10 01 32.8 -1.3
OUZ Omahuta 4.01 345 P Pn 10 01 39.1 -1.0
OUZ Omahuta 4.01 345 P Pn 10 01 39.4 -0.7
GVZ Greta Valley S 4.08 199 Pn 10 01 39.7 -1.2
GVZ Greta Valley S 4.08 199 P Pn 10 01 39.8 -1.2
LTZ Lake Taylor 4.15 207 Pn 10 01 40.5 -1.1
LTZ Lake Taylor 4.15 207 P Pn 10 01 40.5 -1.2
AMCZ Amberley 4.38 201 Pn 10 01 43.1 -1.3
AMCZ Amberley 4.38 201 P Pn 10 01 43.1 -1.3
INZ Inchbonnie 4.43 214 Pn 10 01 43.3 -1.8
INZ Inchbonnie 4.43 214 P Pn 10 01 43.2 -1.8
OXZ Oxford 4.71 206 Pn 10 01 46.4 -2.0
OXZ Oxford 4.71 206 P Pn 10 01 46.5 -2.0
OKCZ Okains Bay 4.80 196 P Pn 10 01 48.0 -1.5
MQZ McQueen's Vall 4.87 199 P Pn 10 01 48.3 -2.1
AKCZ Akaroa Harbour 4.97 196 P Pn 10 01 50.0 -1.7
WVZ Waitaha Valley 5.03 217 P Pn 10 01 50.7 -1.6
RACZ Rakaia 5.04 203 P Pn 10 01 50.6 -1.9
MHCZ Mount Hutt 5.05 208 P Pn 10 01 50.9 -1.9
WACZ Wakanui South 5.32 204 P Pn 10 01 54.4 -1.7
RPZ Rata Peaks 5.41 211 P Pn 10 01 55.5 -1.7
96nm,0.3s,baz=349,slow=2.7,SNR=142
RPZ S **S 10 02 54.4 -6.6**
247nm,0.4s,baz=128,slow=23,SNR=21
RPZ Rata Peaks 5.41 211 P Pn 10 01 55.4 -1.7
RPZ Rata Peaks 5.41 211 P Pn 10 01 55.0 -2.1
ARCZ Arundel 5.56 208 P Pn 10 01 57.1 -1.9
FOZ Fox Glacier 5.81 219 P Pn 10 01 59.5 -2.6
TMZ Timaru 5.99 207 P Pn 10 02 09.9 -1.6
LBZ Lake Benmore 6.31 212 P Pn 10 02 06.3 -2.2
ODZ Otahua Downs 6.70 206 P Pn 10 02 12.3 -1.0
ODZ Otahua Downs 6.70 206 P Pn 10 02 12.1 -1.3
JCZ Jackson Bay 6.72 221 P Pn 10 02 11.8 -1.9
JCZ Jackson Bay 6.72 221 P Pn 10 02 11.4 -2.3
WKZ Wanaka 7.17 215 P Pn 10 02 17.0 -2.4
EAZ Earnscleugh 7.36 212 P Pn 10 02 19.7 -2.1
HHSZ Highcliff Hill 7.46 203 P Pn 10 02 23.3 +0.2
MSZ Milford Sound 7.58 221 P Pn 10 02 22.1 -2.4
TUZ Tuapeka 7.84 208 P Pn 10 02 27.4 -0.5
CTZ Chatham Island 7.91 128 P Pn 10 02 28.7 -0.1
CTZ Chatham Island 7.91 128 P Pn 10 02 32.2 +3.5
MLZ Mavora Lakes 7.99 216 P Pn 10 02 28.5 -1.3
WHZ Wether Hill Ro 8.47 215 P Pn 10 02 33.2 -2.8
SYZ Scrubby Hill 8.52 208 P Pn 10 02 35.7 -0.8
SYZ Scrubby Hill 8.52 208 P Pn 10 02 36.1 -0.4
APZ The Paps 9.20 211 P Pn 10 02 44.0 -1.3
PINNC Pines Island, 17.62 337 P P 10 04 26.3 +0.1
DZM Mont Dzumac 18.44 335 P P 10 04 33.9 -1.4
DZM IAmb IAmb 10 04 37.6
comp=Z,8.4nm,1.0s
DZM Mont Dzumac 18.44 335 P P 10 04 35.0 -0.3
comp=Z,4.0nm,0.5s,baz=143,slow=15,SNR=2.9
DZM S **S 10 07 50.7 -2.7**
comp=Z,6.6nm,1.0s,baz=99,slow=0.7,SNR=3.2
MSVF Nonsavu 21.49 8 P P 10 05 05.7 -1.7
MSVF IAmb IAmb 10 05 07.8
comp=Z,15nm,1.1s
MSVF Nonsavu 21.49 8 P P 10 05 06.3 -1.1
NIUE Niue 23.93 38 P P 10 05 28.1 -1.5
EIDS Eidsvold 24.23 297 P P 10 05 32.6 +0.2
STKA Stephens Creek 27.90 275 P P 10 06 06.4 +1.3
comp=Z,2.1nm,0.7s,baz=82,slow=12,SNR=3.5
comp=Z,2.1nm,0.7s
HTT Hallett 29.38 270 P P 10 06 19.9 +1.7
CTAO Charters Tower 31.06 299 P P 10 06 32.4 -0.7
CTAO IAmb IAmb 10 06 33.1
comp=Z,6.9nm,1.2s
BBOO Buckleboo 31.84 269 P P 10 06 39.7 -0.1
BBOO IAmb IAmb 10 06 40.1
comp=Z,12nm,1.3s
BBOO Buckleboo 31.84 269 P P 10 06 39.9 +0.1
TATA Tatamba Isabel 33.44 332 P P 10 06 56.4 +2.6
QIS Mount Isa 35.43 291 P P 10 07 11.9 +1.1
COEN Coen 37.49 303 P P 10 07 28.8 +0.5
COEN Coen 37.49 303 P P 10 07 29.3 +1.1
AS31 Alice Springs 37.84 282 P P 10 07 31.4 +0.2
AS31 IAmb IAmb 10 07 32.8
comp=Z,5.9nm,0.3s
ASAR Alice Springs 37.84 282 P 10 07 31.0 -0.2
**ASAR Alice Spring

KSRS	**Korea Array**	**87.57 324**	P	**P**	**10 12 58.7 +0.8**
	comp=Z,1.5nm,0.7s,baz=134,slow=4.7,SNR=6.1				
	comp=Z,1.5nm,0.7s				
JKA	**Kamikawa-asahi**	**87.82 337**	P	**P**	**10 12 59.9 +0.9**
WHN	**Wuhan**	**89.26 311**	P	P	10 13 18.4 +12
CMAR	**Chiang Mai Arr**	**91.02 293**	P	**P**	**10 13 15.0 +0.4**
	comp=Z,1.1nm,0.3s,baz=158,slow=3.3,SNR=6.0				
	comp=Z,1.1nm,0.3s				
XLT	**XiLinHaoTe**	**98.19 321**	*e*P	Pdif	10 13 51.6 +4.8
XLT			pmax	pmax	
	comp=Z,8.0nm,0.7s				
HHC	**Hu-ho-hao-te**	**98.28 317**	*e*P	Pdif	10 13 49.5 +2.2
HHC			pmax	pmax	
	comp=Z,15nm,0.8s				
HHC			pmax	pmax	
	comp=Z,44nm,5.0s				
PNL	**Peninsula**	**105.42 22**	P	**Pdif**	**10 14 20.0 +1.5**
KBZ	**Khabaz**	**144.07 293**	PKP	**PKPab**	**10 19 41.1 -1.0**
	comp=Z,1.4nm,0.6s,baz=182,slow=4.8,SNR=5.0				
ARCES	**ARCESS Array B**	**145.44 342**	PKPbc	**PKPdf**	**10 19 45.0 -0.5**
	comp=Z,3.2nm,0.4s,baz=62,slow=3.3,SNR=53				
BRTR	**Keskin Array B**	**150.17 284**	PKPab	**PKPab**	**10 20 06.3 -0.4**
	comp=Z,2.4nm,0.5s,baz=135,slow=5.2,SNR=11				
FINES	**FINESS Array B**	**150.53 330**	PKPbc	**PKPbc**	**10 19 58.0 -1.7**
	comp=Z,0.7nm,0.3s,baz=33,slow=3.6,SNR=18				
FINES			PKPab	**PKPab**	**10 20 05.8 -1.5**
	comp=Z,5.3nm,0.4s,baz=61,slow=4.5,SNR=42				
TORD	**Torodi Ar. Bea**	**153.44 195**	PKPab	**PKPab**	**10 20 20.2 -0.5**
	comp=Z,0.2nm,0.3s,baz=150,slow=3.5,SNR=5.1				
NB2	**NORSAR Subarra**	**155.80 340**	PKP	**PKPab**	**10 20 28.2 -1.5**
	comp=Z,2.6nm,0.9s,baz=28,slow=3.2				
NOA	**NORSAR Array B**	**155.80 340**	PKPab	**PKPab**	**10 20 28.7 -1.0**
	comp=Z,1.0nm,0.8s,baz=30,slow=3.1,SNR=4.4				
HFS	**Hagfors**	**155.84 337**	PKPab	**PKPab**	**10 20 28.9 -1.0**
	comp=Z,3.4nm,0.5s,baz=72,slow=4.8,SNR=23				

RSNC 06 10:00:59.6±0.0, 7°N±1°×7°3W±°, h146km±1km, M3.1, mb3.5, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	10 01 19.3	-0.5
BARC				S	Sn	10 01 34.6	-0.5
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	10 01 21.0	0.0
BRJC				S	Sn	10 01 37.8	+0.5
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	10 01 22.1	-0.1
PAMC				S	Sn	10 01 39.1	-0.2
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	10 01 23.2	-0.8
RUSC				S	Sn	10 01 41.7	-0.8
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	10 01 25.8	-1.2
PTBC				S	Sn	10 01 47.2	-0.7
OCAC	**Ocana**	**1.42**	**354**	P	Pn	10 01 27.3	-0.9
OCAC				S	Sn	10 01 49.1	-1.0
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	10 01 28.3	-0.4
SPBC				S	Sn	10 01 50.6	-0.3
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	10 01 39.0	+0.7
ROSC				S	Sn	10 02 08.0	+0.1
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	10 01 39.9	-0.2
HELC				S	Sn	10 02 11.1	-0.1
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	10 01 40.9	+0.4
CVER				S	Sn	10 02 11.5	-0.4
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	10 01 39.4	-1.5
UREC				S	Sn	10 02 10.0	-2.7
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	10 01 43.4	-0.2
GUY2C				S	Sn	10 02 16.8	-0.6
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	10 01 46.9	0.0
CBOC				S	Sn	10 02 23.6	+0.3
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	10 01 46.7	-0.6
DBBC				S	Sn	10 02 22.6	-1.6
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	10 01 49.5	0.0
ARGC				S	Sn	10 02 28.2	+0.1
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	10 01 50.4	+0.5
ANIL				S	Sn	10 02 28.9	+0.2
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	10 01 48.8	-1.3
PRAC	**Prado**	**3.53**	**209**	P	Pn	10 01 52.7	-1.0
PRAC				S	Sn	10 02 34.2	-1.5
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	10 01 53.2	-0.8
APAC				S	Sn	10 02 34.4	-1.8
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	10 01 53.6	-0.5
ORTC				S	Sn	10 02 35.7	-0.6
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	10 01 53.5	-1.8
SJCC				S	Sn	10 02 34.5	-4.0
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	10 01 56.1	-0.5
URMC				S	Sn	10 02 40.1	-0.8
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	10 01 59.7	-2.6
CRJC				S	Sn	10 02 47.8	-3.2
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	10 02 02.0	-1.1
YOTC				S	Sn	10 02 52.2	-0.2
SMRC	**Santa Marta, M**	**4.44**	**346**	P	Pn	10 02 04.3	-1.3
SMRC				S	Sn	10 02 52.8	-4.2
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	10 02 06.3	-2.7
MACC				S	Sn	10 02 56.8	-6.2
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	10 02 09.8	-3.0
URIC				S	Sn	10 03 07.4	-2.5
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	10 02 19.0	-1.0
	2.7nm,0.6s						
POPC				S	Sn	10 03 20.6	-2.1
	2.7nm,0.6s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	10 02 22.3	-0.9
	5.1nm,0.8s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	P	Pn	10 02 30.0	-0.1

*TAP **06** 10:04:21.7, 24°.68N×122°.39E, h12km, ML2.8, D*
*JMA **06** 10:04:22.4±0.1, 25°N±1°×122°.4E±0°.3, h31km±2km, MV2.3/10, NW OFF ISHIGAKIJIMA IS*

ISC 06 10:04:20.0±1.0, 24°.67N±0°.02×122°.49E±0°.02, h10km±9km, n77, σ0°78/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**223**	*e*P	**Pb**	**10 04 28.4**	**+0.4**
EOS2				*e*S	**Sb**	**10 04 33.6**	**+0.1**
EOS3	**EOS3**	**0.41**	**202**	*e*P	**Pb**	**10 04 30.1**	**+0.8**
JYNG	**Yonagunijimaku**	**0.47**	**118**	P	**Pn**	**10 04 32.5**	**-0.2**
JYNG				S	**Sb**	**10 04 39.5**	**+2.2**
YOJ	**Yonaguni jima**	**0.52**	**114**	P	**Pn**	**10 04 33.5**	**0.0**
YOJ				S	**Sn**	**10 04 41.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.52**	**114**	P	**Pn**	**10 04 33.4**	**0.0**
YOJ				*e*S	**Sn**	**10 04 42.1**	**-0.2**
EGS		**0.53**	**289**	*i* P	**Pb**	**10 04 31.0**	**-0.4**
EGS				*e*S	**Sb**	**10 04 39.3**	**+0.1**
TWB1	**Santiao Chiao**	**0.56**	**307**	P	**Pb**	**10 04 32.0**	**0.0**
TWB1				*i* S	**Sg**	**10 04 38.3**	**-0.1**
EOS4	**EOS4**	**0.57**	**196**	*e*P	**Pn**	**10 04 33.0**	**-0.8**
EOS4				*e*S	**Sb**	**10 04 40.6**	**+0.8**
TWC	**Suao**	**0.58**	**264**	*i* P	**Pg**	**10 04 31.2**	**-0.1**
TWC				*e*S	**Sb**	**10 04 40.4**	**-0.2**
ESAO	**Su ao**	**0.59**	**261**	*e*P	**Pg**	**10 04 31.6**	**+0.1**
ESAO				*e*S	**Sg**	**10 04 40.1**	**+0.8**
TIPB	**Shuangxi**	**0.67**	**297**	*e*P	**Pb**	**10 04 34.2**	**+0.4**
TIPB				S	**Sb**	**10 04 44.1**	**+0.9**
EWUT	**Wuta**	**0.68**	**251**	*e*P	**Pg**	**10 04 33.3**	**+0.1**
EWUT				*e*S	**Sg**	**10 04 41.1**	**-1.1**
SXI1	**Grass Mountain**	**0.70**	**307**	*e*P	**Pn**	**10 04 35.1**	**-0.9**
SXI1				*e*S	**Sb**	**10 04 44.2**	**+0.2**
NDS	**Dongshan**	**0.70**	**267**	*e*P	**Pb**	**10 04 33.9**	**-0.5**
NDS				*e*S	**Sg**	**10 04 43.5**	**+0.7**
ENA	**Nanau**	**0.72**	**251**	*e*P	**Pg**	**10 04 34.1**	**+0.2**
ENA				*e*S	**Sb**	**10 04 45.1**	**+0.5**
TWE	**Neicheng**	**0.75**	**274**	P	**Pg**	**10 04 34.5**	**0.0**
TWE				S	**Sg**	**10 04 44.1**	**-0.2**
NWF	**Wu-fen Shan**	**0.76**	**302**	P	**Pn**	**10 04 36.2**	**-0.5**
NWF				*i* S	**Sb**	**10 04 45.8**	**+0.2**
WFSB	**Wu-fen Shan**	**0.76**	**302**	*i* P	**Pn**	**10 04 36.3**	**-0.4**
WFSB				S	**Sb**	**10 04 46.0**	**+0.5**
EAHA	**Aohua**	**0.76**	**244**	*e*P	**Pb**	**10 04 35.0**	**-0.4**
EAHA				*e*S	**Sg**	**10 04 45.1**	**+0.5**
TNOU	**National Taiwa**	**0.81**	**306**	*e*P	**Pn**	**10 04 36.8**	**-0.6**
TNOU				*e*S	**Sb**	**10 04 46.9**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.82**	**276**	*e*P	**Pb**	**10 04 36.1**	**-0.3**
FUSB				*e*S	**Sg**	**10 04 46.6**	**0.0**
ENTT	**Nioudou**	**0.84**	**268**	*e*P	**Pg**	**10 04 36.2**	**0.0**
ENTT				*e*S	**Sb**	**10 04 47.7**	**-0.3**
LATG	**Datong**	**0.89**	**261**	*e*P	**Pg**	**10 04 36.9**	**-0.1**
LATG				*e*S	**Sb**	**10 04 49.2**	**-0.2**
NWLT	**Wulai**	**0.90**	**277**	*e*P	**Pb**	**10 04 37.5**	**-0.2**
NWLT				*e*S	**Sg**	**10 04 48.3**	**-0.8**
NHDH	**Xindian Distri**	**0.92**	**289**	*e*P	**Pn**	**10 04 39.1**	**+0.1**
NHDH				*e*S	**Sg**	**10 04 49.6**	**-0.2**
ETL	**Fush Village**	**0.94**	**237**	*e*P	**Pb**	**10 04 38.5**	**+0.1**
ETL				*e*S	**Sg**	**10 04 50.7**	**+0.4**
NACB	**Ninganchiao**	**0.95**	**239**	*e*P	**Pg**	**10 04 38.2**	**-0.1**
NACB				*e*S	**Sg**	**10 04 49.2**	**-1.5**
YM01	**YM01**	**0.96**	**300**	*e*P	**Pn**	**10 04 39.4**	**-0.1**
YM01				S	**Sb**	**10 04 51.8**	**+0.3**
YM08	**YM08**	**0.96**	**302**	*e*P	**Pn**	**10 04 39.9**	**+0.3**
YM08				*e*S	**Sb**	**10 04 51.0**	**-0.6**
ZUZH	**Zhuzihu**	**0.99**	**300**	*e*P	**Pn**	**10 04 39.6**	**-0.3**
ZUZH				*e*S	**Sb**	**10 04 52.0**	**-0.3**
TWD	**Chiawan**	**1.00**	**234**	*e*P	**Pb**	**10 04 39.5**	**+0.1**
TWD				*e*S	**Sb**	**10 04 52.8**	**+0.1**
TWY	**Chenhua**	**1.01**	**307**	*e*S	**Sn**	**10 04 53.5**	**-0.8**
YHNB	**Yeheng**	**1.01**	**270**	*e*P	**Pb**	**10 04 39.4**	**-0.2**
YHNB				*e*S	**Sg**	**10 04 51.3**	**-1.4**
PCYT	**Pengchaiyu**	**1.03**	**338**	*e*P	**Pn**	**10 04 42.2**	**+1.7**
ETLH	**Xiulin Townshi**	**1.03**	**243**	*e*P	**Pg**	**10 04 39.5**	**-0.3**
NSK	**Sanguang**	**1.03**	**270**	*e*P	**Pb**	**10 04 39.9**	**0.0**
NSK				S	**Sg**	**10 04 51.7**	**-1.4**
NNSB	**Datong**	**1.03**	**257**	*e*P	**Pg**	**10 04 39.7**	**-0.2**
NNSB				*e*S	**Sg**	**10 04 51.9**	**-1.5**
NNS	**Nan Shan**	**1.04**	**257**	*e*P	**Pn**	**10 04 40.5**	**-0.2**
NNS				*e*S	**Sg**	**10 04 53.5**	**-0.1**
TWS1	**Kuangyinshan**	**1.06**	**294**	*e*S	**Sn**	**10 04 55.3**	**-0.5**
NTST	**Danshui**	**1.06**	**298**	*e*P	**Pn**	**10 04 41.5**	**+0.6**
NTST				*e*S	**Sg**	**10 04 53.8**	**-0.5**
ETM	**Tongmen**	**1.15**	**232**	*e*P	**Pg**	**10 04 42.3**	**+0.2**
ETM				*e*S	**Sn**	**10 04 59.9**	**+2.1**
LXIB	**Xiulin Townshi**	**1.18**	**237**	*e*P	**Pg**	**10 04 42.7**	**+0.1**
IRIF	**Iriomote-Funau**	**1.18**	**106**	P	**Pg**	**10 04 43.5**	**+0.8**
KSHI	**Guanxi Townshi**	**1.20**	**275**	*e*P	**Pg**	**10 04 44.2**	**+1.2**
KSHI				*e*S	**Sn**	**10 05 00.1**	**+1.0**
FUSS	**Fushou**	**1.21**	**250**	*e*P	**Pg**	**10 04 43.5**	**+0.3**
NCUH	**Zhongli**	**1.22**	**284**	*e*P	**Pg**	**10 04 43.7**	**+0.3**
NCUH				*e*S	**Sb**	**10 04 58.9**	**-0.1**
WHF	**Hehuan Shan**	**1.23**	**245**	*e*P	**Pg**	**10 04 43.6**	**-0.1**
WHF				*e*S	**Sg**	**10 05 00.0**	**+0.3**
NFF	**Wufeng Townshi**	**1.25**	**268**	*e*P	**Pg**	**10 04 44.2**	**+0.3**
NFF				*e*S	**Sb**	**10 04 59.7**	**-0.1**
ESL	**Shilin**	**1.29**	**229**	*e*P	**Pg**	**10 04 45.0**	**+0.3**
ESL				*e*S	**Sg**	**10 05 02.3**	**+0.9**
LIOB	**Emei**	**1.34**	**269**	*e*P	**Pg**	**10 04 46.7**	**+0.9**
LIOB				*e*S	**Sg**	**10 05 04.4**	**+1.3**
HATJ	**Hateruma jima**	**1.35**	**117**	S	**Sg**	**10 05 03.7**	**+0.4**
NSTT	**Nanjuang**	**1.35**	**269**	*e*P	**Pg**	**10 04 47.3**	**+1.3**
NSTT				S	**Sg**	**10 05 04.7**	**+1.1**
WARBT	**Fenglin Townsh**	**1.38**	**227**	*e*P	**Pg**	**10 04 46.6**	**+0.1**
WARBT				*e*S	**Sn**	**10 05 03.3**	**-0.4**
EGFH	**Guangfu**	**1.39**	**224**	*e*S	**Sg**	**10 05 05.2**	**+0.5**
OWD	**Renai**	**1.39**	**239**	*e*P	**Pn**	**10 04 45.3**	**-0.3**
OWD				*e*S	**Sn**	**10 05 04.0**	**-0.1**
WUSB	**Renai**	**1.42**	**242**	*e*P	**Pg**	**10 04 48.0**	**+0.7**
WUSB				*e*S	**Sg**	**10 05 07.4**	**+1.6**
JKRS	**Kuro-shima**	**1.45**	**107**	P	**Pg**	**10 04 47.9**	**0.0**
JKRS				S	**Sg**	**10 05 06.9**	**+0.2**
WHP	**Taichung City**	**1.46**	**255**	*e*P	**Pg**	**10 04 48.4**	**+0.4**
WHP				*e*S	**Sg**	**10 05 08.3**	**+1.4**
HGSD	**Ruisui**	**1.52**	**220**	*e*P	**Pg**	**10 04 49.4**	**+0.2**
JIJ	**Ishigaki jima**	**1.54**	**101**	P	**Pg**	**10 04 48.8**	**-0.7**
NMLH	**Miaoli**	**1.55**	**265**	*e*P	**Pg**	**10 04 50.5**	**+0.7**
NMLH				*e*S	**Sg**	**10 05 11.9**	**+2.0**
WCS	**Beigang Elemen**	**1.56**	**247**	*e*P	**Pg**	**10 04 50.4**	**+0.5**
SSLB	**Suanglung**	**1.65**	**238**	*e*P	**Pg**	**10 04 51.4**	**-0.3**
JISG	**Ishigakijimahi**	**1.66**	**93**	P	**Pg**	**10 04 50.5**	**-1.3**
TYC	**Yuchr**	**1.67**	**243**	*e*P	**Pg**	**10 04 52.3**	**+0.2**
TYC				*e*S	**Sg**	**10 05 14.7**	**+0.9**
YULB	**Yu-li**	**1.68**	**221**	*e*P	**Pb**	**10 04 50.8**	**-0.2**
YULB				*e*S	**Sn**	**10 05 10.4**	**-0.5**
WHYT	**Xinyi Township**	**1.78**	**237**	*e*P	**Pg**	**10 04 54.2**	**+0.1**
ALS	**Alishan**	**1.92**	**233**	*e*P	**Pg**	**10 04 56.8**	**-0.1**
ALS				*e*S	**Sb**	**10 05 19.2**	**-0.3**
CHN5	**Tsauling**	**1.97**	**237**	*e*P	**Pg**	**10 04 57.4**	**-0.4**
EDH	**Donghe**	**2.01**	**213**	*e*S	**Sn**	**10 05 16.8**	**-2.3**
STYH	**Taoyuan**	**2.17**	**227**	*e*S	**Sb**	**10 05 26.8**	**+0.7**
CHN4	**Tsaushan**	**2.17**	**233**	*e*P	**Pg**	**10 05 00.9**	**-0.8**
CHN4				*e*S	**Sb**	**10 05 27.9**	**+1.5**
TPUB	**Ta-pu**	**2.18**	**232**	*e*P	**Pg**	**10 05 01.4**	**-0.4**
WTP	**Ta-pu**	**2.23**	**231**	*e*P	**Pg**	**10 05 02.3**	**-0.3**
WTP				*e*S	**Sb**	**10 05 29.3**	**+1.3**
TWK	**Hsinying**	**2.30**	**233**	*e*S	**Sb**	**10 05 31.1**	**+0.9**
CHN1	**Nanshi**	**2.33**	**231**	*e*S	**Sb**	**10 05 32.7**	**+1.9**
MASBT	**Mashibuluo**	**2.66**	**220**	*e*P	**Pb**	**10 05 05.8**	**-1.9**
MASBT				*e*S	**Sb**	**10 05 39.2**	**-1.3**

*AEIC **06** 10:04:44.9±0.4, 53°.0N±0°.1×161°.9W±0°.1, h7km±9km, Error ellipse: s-maj=17.6km s-min=9.4km az=154.0*

NEIC 06 10:04:40.7±0.8, 53°.01N±0°.07×161°.89W±0°.06, h10km±2km, ML2.9/16, ML2.7(AEIC), Error ellipse: s-maj=12.7km s-min=5.7km az=174.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**2.06**	**335**		Pn	10 05 15.2	-0.1
FALS					Sn	10 05 38.9	-2.3
DT1	**Dutton Round H**	**2.12**	**354**		Pn	10 05 15.8	-0.3
DT1					Sn	10 05 41.2	-1.4
ISNN	**Isanotski Nort**	**2.15**	**329**		Pn	10 05 16.9	+0.4
ISNN					Sn	10 05 41.7	-1.5
DOL	**Dolgoi Island**	**2.15**	**0**		Pn	10 05 16.6	0.0
DOL					Sn	10 05 41.5	-1.8
SSBA	**Shishaldin**	**2.21**	**324**		Pn	10 05 17.7	+0.2
CNBA	**Chernabura Isl**	**2.27**	**36**		Pn	10 05 17.9	-0.3
CNBA					Sn	10 05 43.8	-2.4
PS1A	**Pavlof South-1**	**2.42**	**2**		Pn	10 05 21.2	+0.8
SDPT	**Sand Point**	**2.49**	**19**		Pn	10 05 21.3	0.0
SDPT	**Sand Point**	**2.49**	**19**	IAML		10 05 53.5	
	comp=N,40nm,1.5s						
SDPT				IAML		10 06 19.7	
	comp=E,37nm,1.5s						
AKSA	**Akutan Strait**	**2.54**	**298**		Pn	10 05 21.9	0.0
AKSA					Sn	10 05 51.0	-1.8
AKUT	**Akutan**	**2.58**	**298**	Pn	Pn	10 05 22.1	-0.3
AKUT				IAML		10 05 56.2	
	comp=N,31nm,1.1s						
AKUT				IAML		10 06 34.5	
	comp=E,27nm,1.5s						
AHB	**Akutan Harbor**	**2.59**	**297**		Pn	10 05 23.0	+0.3
AHB					Sn	10 05 51.8	-2.5
AKBBA	**Akutan Broad B**	**2.65**	**296**		Pn	10 05 23.6	+0.1
AKBBA					Sn	10 05 53.6	-2.0
AKMO	**Akutan Morgan**	**2.69**	**296**		Pn	10 05 24.1	+0.1
S12K	**Black Hills**	**2.71**	**358**		Pn	10 05 25.5	+1.3
S12K	**Black Hills**	**2.71**	**358**	IAML		10 05 58.2	
	comp=N,74nm,0.9s						
S12K				IAML		10 05 59.0	
	comp=E,62nm,0.5s						
AKGG	**Akutan Green G**	**2.72**	**298**		Pn	10 05 24.5	0.0
LVA	**Lava Point**	**2.73**	**297**	Pn	Pn	10 05 24.5	-0.1
LVA				IAML		10 05 59.0	
	comp=E,74nm,1.4s						
UNV	**Unalaska Valle**	**2.89**	**289**		Pn	10 05 26.5	-0.2
MNAT	**Makushin Natee**	**3.00**	**289**		Pn	10 05 28.2	-0.1
MREP	**Makushin Rep't**	**3.02**	**287**		Pn	10 05 28.8	+0.2
MSW	**Makushin Switc**	**3.07**	**289**		Pn	10 05 29.1	-0.1
MGOD	**Makushin Gods**	**3.09**	**287**		Pn	10 05 29.7	+0.2
OKTU	**Okmok Mt. Tuli**	**3.72**	**278**		Pn	10 05 38.4	+0.2
OKSP	**Okmok Steeple**	**3.87**	**276**		Pn	10 05 40.1	-0.1
NIKH	**Nikolski High**	**4.21**	**272**		Pn	10 05 44.8	-0.1
NIKH	**Nikolski High**	**4.21**	**272**	IAML		10 07 15.8	
	comp=N,22nm,1.4s						

*CNRM **06** 10:15:20.6, 34°.41N×5°.35W, h10km, ML2.0*
*SFS **06** 10:15:21.2, 34°.53N×5°.59W, h3km, ML3.3/9, ML3.3/9, MLv3.4/9*
*IGIL **06** 10:15:22.0, 34°.52N×5°.64W, h8km*
*MDD **06** 10:15:22.0±1.1, 34°.54N×5°.57W, h5km±7km, mb_Lg2.4/8, Error ellipse: s-maj=6.5km s-min=5.1km az=128.0*
*INMG **06** 10:15:23.3±1.2, 34°.72N×5°.51W, h0km, ML1.9, Error ellipse: s-maj=5.4km s-min=3.3km az=94.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Fez (Marr)*

ISC 06 10:15:18.9±0.8, 34°.49N±0°.02×5°.53W±0°.04, h10km, n55, σ1°59/80, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRM	**LCR**	**0.97**	**145**	P	**Pg**	**10 15 38.3**	**+0.6**
LCRM	**LCR**	**0.97**	**145**	S	**Sg**	**10 15 51.2**	**+0.8**
SMIR	**Smir Dam**	**1.20**	**6**	P	**Pg**	**10 15 43.7**	**+1.7**
SMIR	**Smir Dam**	**1.20**	**6**	S	**Sn**	**10 16 02.0**	**+3.9**
PALE	**Palemas**	**1.49**	**60**	P	**Pb**	**10 15 47.0**	**+0.3**
PALE	**Palemas**	**1.49**	**60**	S	**Sn**	**10 16 05.8**	**+0.4**
CZD	**Col de Zad**	**1.51**	**164**	P	**Pn**	**10 15 47.0**	**+0.7**
CZD	**Col de Zad**	**1.51**	**164**	S	**Sn**	**10 16 05.6**	**-0.6**
MD31	**MD31**	**1.74**	**158**	P	**Pn**	**10 15 49.4**	**+0.1**
MD31	**MD31**	**1.74**	**158**	S	**Sn**	**10 16 11.3**	**-0.2**
MDT	**Midelt**	**1.84**	**155**	P	**Pn**	**10 15 50.7**	**+0.1**
MDT	**Midelt**	**1.84**	**155**	S	**Sn**	**10 16 13.1**	**-0.9**
GOG	**Mont Gurugu**	**2.20**	**70**	P	**Pn**	**10 15 56.1**	**+0.5**
GOG	**Mont Gurugu**	**2.20**	**70**	S	**Sn**	**10 16 23.4**	**+0.4**
ESPR	**Espera**	**2.39**	**354**	Sn	**Sb**	**10 16 30.5**	**-1.1**
ESPR				*i* IVmb_Lg		10 16 32.0	
JBK	**JBK**	**2.45**	**93**	P	**Pn**	**10 15 57.3**	**-1.8**
JBK	**JBK**	**2.45**	**93**	S	**Sn**	**10 16 25.4**	**-3.9**
E1302	**La Puebla de C**	**2.65**	**5**	Pn	**Pn**	**10 16 03.7**	**+1.9**
E1302				Sn	**Sn**	**10 16 36.1**	**+2.2**
ELGU	**Los Guajares,**	**2.83**	**33**	Sn	**Sn**	**10 16 38.0**	**-0.6**
ELGU				Pn	**Pn**	**10 16 05.3**	**+1.0**
ELGU	**Los Guajares,**	**2.83**	**33**	Pn	**Pn**	**10 16 05.8**	**+1.5**
ELGU				Sn	**Sn**	**10 16 39.6**	**+1.1**
EGOR	**Sierra Gorda,**	**2.86**	**23**	Pn	**Pb**	**10 16 07.9**	**-2.2**
EGOR	**Sierra Gorda,**	**2.86**	**23**	Pn	**Pb**	**10 16 08.7**	**-1.4**
EGOR				Sn	**Sn**	**10 16 41.9**	**+2.7**
TISM	**Timmit**	**2.87**	**196**	P	**Pn**	**10 16 05.4**	**+0.7**
TISM	**Timmit**	**2.87**	**196**	S	**Sn**	**10 16 42.3**	**+3.1**
PBDV	**Barranco-do-Ve**	**3.37**	**325**	Sn	**Sn**	**10 16 50.5**	**-1.3**
PBDV				Pn	**Pn**	**10 16 12.1**	**+0.5**
PBDV	**Barranco-do-Ve**	**3.37**	**325**	*e*P	**Pn**	**10 16 12.8**	**+1.1**
PBDV				*e*S	**Sn**	**10 16 51.2**	**-0.6**
PBDV				*i* IAML		10 16 54.0	
PBDV				*i* IAML		10 16 54.6	
PBDV				*i* IAML		10 16 56.8	
EMIN	**Mina Concepcio**	**3.40**	**344**	Pn	**Pn**	**10 16 13.3**	**+1.2**
EMIN				Sn	**Sn**	**10 16 51.1**	**-1.3**
EMIN	**Mina Concepcio**	**3.40**	**344**	Pn	**Pn**	**10 16 14.5**	**+2.5**
EMIN				Sn	**Sn**	**10 16 52.3**	**-0.1**
EMIN				*i* IVmb_Lg		10 16 56.6	
PVAQ	**Vaqueiros**	**3.41**	**329**	*e*P	**Pn**	**10 16 13.4**	**+1.3**
PVAQ				*e*S	**Sn**	**10 16 51.9**	**-0.8**
PVAQ				*i* IAML		10 16 53.2	
PVAQ				*i* IAML		10 16 53.2	
PVAQ				*i* IAML		10 16 54.0	
EGRO	**El Granado**	**3.43**	**333**	Pn	**Pn**	**10 16 12.6**	**+0.2**
EGRO				Sn	**Sn**	**10 16 52.1**	**-1.0**
EGRO	**El Granado**	**3.43**	**333**	Pn	**Pn**	**10 16 12.9**	**+0.4**
EGRO				Sn	**Sn**	**10 16 52.2**	**-0.9**
EGRO				*i* IVmb_Lg		10 16 56.9	
ECAB	**El Cabril**	**3.58**	**1**	Pn	**Pn**	**10 16 15.6**	**+1.0**
ECAB				Sn	**Sn**	**10 16 56.9**	**0.0**
ECAB	**El Cabril**	**3.58**	**1**	Pn	**Pn**	**10 16 15.7**	**+1.1**
ECAB				Sn	**Sn**	**10 16 54.4**	**-2.5**
PCVE	**Castro Verde**	**3.74**	**328**	Pn	**Pn**	**10 16 18.3**	**+1.6**
PCVE				Sn	**Sn**	**10 16 59.4**	**-1.4**
PCVE	**Castro Verde**	**3.74**	**328**	*e*S	**Sn**	**10 16 59.8**	**-1.0**
PCVE				*i* IAML		10 17 02.7	
PCVE				*i* IAML		10 17 04.8	
PCVE				*i* IAML		10 17 05.8	
EADA	**Adamuz**	**3.75**	**11**

EAHA			S	Sb	10 16 56.7	-1.4
YM01	**YM01**	**0.69 297**	P	Pb	10 16 48.5	-0.4
YM01			eS	Sb	10 16 57.9	-0.6
YM08	**YM08**	**0.69 301**	eP	Pb	10 16 48.2	-0.7
YM08			eS	Sb	10 16 58.0	-0.7
TATO	**Taipei**	**0.70 282**	P	Pb	10 16 48.6	-0.5
TATO	**Taipei**	**0.70 282**	S	Sb	10 16 58.6	-0.2
TATO	**Taipei**	**0.70 282**	P	Pb	10 16 48.6	-0.5
TATO			S	Sb	10 16 58.7	-0.2
EOS4	**EOS4**	**0.71 175**	eP	Pb	10 16 48.9	-0.1
LATG	**Datong**	**0.72 246**	P	Pb	10 16 48.2	-1.2
LATG			eS	Sb	10 16 57.8	-1.5
ZUZH	**Zhuzihu**	**0.72 298**	P	Pb	10 16 48.9	-0.4
ZUZH			eS	Sb	10 16 59.1	-0.2
TWY	**Chenhua**	**0.73 307**	eP	Pb	10 16 49.3	-0.3
TWY			i S	Sb	10 16 59.8	+0.1
JYNG	**Yonagunijimaku**	**0.74 120**	P	Pb	10 16 49.1	-0.6
ANP	**Anpu**	**0.75 299**	eP	Pb	10 16 49.4	-0.5
YOJ	**Yonaguni jima**	**0.79 118**	P	Pb	10 16 49.4	-1.1
YOJ	**Yonaguni jima**	**0.79 118**	S	Sb	10 17 01.1	-0.1
YOJ	**Yonaguni jima**	**0.79 118**	P	Pb	10 16 49.9	-0.6
YOJ			S	Sb	10 17 00.9	-0.4
YOJ	**Yonaguni jima**	**0.79 118**	eP	Pb	10 16 50.0	-0.5
NTST	**Danshui**	**0.80 295**	eP	Pg	10 16 51.3	+1.2
TWS1	**Kuangyinshan**	**0.80 290**	eP	Pg	10 16 51.2	+1.2
TWS1			eS	Sg	10 17 01.9	+1.4
YHNB	**Yeheng**	**0.81 259**	P	Pb	10 16 49.7	-1.2
YHNB	**Yeheng**	**0.81 259**	S	Sg	10 17 03.2	+2.4
YHNB	**Yeheng**	**0.81 259**	eP	Pb	10 16 49.9	-1.0
YHNB			eS	Sb	10 17 00.1	-1.8
PCYT	**Pengchaiyu**	**0.81 349**	eP	Pb	10 16 51.3	+0.3
NSK	**Sanguang**	**0.82 259**	eP	Pb	10 16 50.1	-1.1
NSK			eS	Sb	10 17 01.6	-0.7
ETL	**Fush Village**	**0.88 220**	eP	Pb	10 16 51.0	-1.0
ETL			eS	Sb	10 17 02.9	-0.9
NNSB	**Datong**	**0.88 243**	eP	Pb	10 16 51.2	-1.0
NNSB			eS	Sb	10 17 03.0	-1.1
NACB	**Ninganchiao**	**0.88 222**	P	Pb	10 16 50.6	-1.5
NACB	**Ninganchiao**	**0.88 222**	S	Sb	10 17 02.3	-1.7
NACB	**Ninganchiao**	**0.88 222**	eP	Pb	10 16 50.8	-1.3
NACB			S	Sb	10 17 02.0	-2.0
NNS	**Nan Shan**	**0.88 244**	i P	Pb	10 16 51.4	-0.9
NNS			S	Sb	10 17 03.4	-0.8
ETLH	**Xiulin Townshi**	**0.93 228**	P	Pb	10 16 52.0	-1.1
ETLH			i S	Sb	10 17 04.8	-0.7
TWD	**Chiawan**	**0.95 219**	i P	Pb	10 16 52.2	-1.2
TWD			S	Sb	10 17 06.0	0.0
NCUH	**Zhongli**	**0.97 278**	eP	Pb	10 16 53.8	+0.1
KSHI	**Guanxi Townshi**	**0.97 267**	eP	Pb	10 16 54.1	+0.4
KSHI			eS	Sb	10 17 06.4	-0.3
NFF	**Wufeng Townshi**	**1.04 259**	eP	Pb	10 16 55.0	+0.1
NFF			eS	Sb	10 17 08.5	-0.2
FUSS	**Fushou**	**1.08 238**	eP	Pb	10 16 55.0	-0.6
FUSS			S	Sb	10 17 09.2	-0.7
ETM	**Tongmen**	**1.10 219**	eP	Pn	10 16 55.0	-1.2
LXIB	**Xiulin Townshi**	**1.11 223**	eP	Pb	10 16 54.9	-1.2
LXIB			S	Sb	10 17 10.8	+0.2
WHF	**Hehuan Shan**	**1.12 233**	i P	Pb	10 16 55.8	-0.8
WHF			i S	Sb	10 17 10.7	-0.6
TEYL	**Yanliau Villag**	**1.12 212**	eP	Pn	10 16 56.2	-0.3
TWT	**Tachien**	**1.13 240**	eP	Pn	10 16 56.9	+0.1
TWT			eS	Sn	10 17 11.9	-0.6
LIOB	**Emei**	**1.13 261**	eP	Pn	10 16 56.7	0.0
LIOB			eS	Sn	10 17 11.9	-0.4
TDCB	**Techi**	**1.15 240**	eP	Pn	10 16 57.0	+0.1
TDCB			eS	Sb	10 17 11.7	0.0
NSTT	**Nanjuang**	**1.15 260**	eP	Pn	10 16 56.6	-0.3
NSTT			eS	Sn	10 17 12.7	0.0
SHUL	**Shoufeng**	**1.21 211**	P	Pb	10 16 58.6	+0.9
SHUL			eS	Sg	10 17 16.6	+3.0
ESL	**Shilin**	**1.25 216**	eP	Pn	10 16 57.9	-0.4
ESL			eS	Sb	10 17 14.7	0.0
WHP	**Taichung City**	**1.30 245**	P	Pb	10 16 59.7	+0.3
WHP			S	Sn	10 17 16.2	-0.4
OWD	**Renai**	**1.31 228**	eP	Pn	10 16 58.9	-0.3
OWD			eS	Sn	10 17 15.8	-1.0
WUSB	**Renai**	**1.32 231**	i P	Pn	10 16 59.5	+0.1
WUSB			S	Sg	10 17 17.9	+0.6
NMLH	**Miaoli**	**1.35 258**	eP	Pb	10 17 01.3	+1.1
WARBT	**Fenglin Townsh**	**1.36 216**	eP	Pn	10 16 59.4	-0.4
EGFH	**Guangfu**	**1.38 213**	eP	Pn	10 17 00.0	0.0
EGFH			eS	Sb	10 17 19.1	+0.9
TWQ1	**Liyutan**	**1.42 251**	eP	Pg	10 17 02.9	+0.9
TWQ1			eS	Sg	10 17 21.5	+0.9
WPL	**Puli Township**	**1.43 236**	eP	Pn	10 17 00.4	-0.3
WPL			eS	Sb	10 17 20.2	+0.5
WCS	**Beigang Elemen**	**1.44 238**	eP	Pb	10 17 02.3	+0.7
WCS			eS	Sb	10 17 21.0	+1.0
DPDB	**Guoxing**	**1.44 237**	eP	Pn	10 17 01.1	+0.1
DPDB			eS	Sb	10 17 20.2	+0.1
HGSD	**Ruisui**	**1.53 210**	eP	Pn	10 17 02.2	+0.1
HGSD			eS	Sb	10 17 23.5	+0.9
SMLT	**Sun Moon Lake**	**1.55 233**	eP	Pb	10 17 03.9	+0.3
EHYH	**Wanrong**	**1.56 212**	eP	Pn	10 17 02.7	+0.1
EHY	**Hungye**	**1.56 213**	eP	Pn	10 17 03.0	+0.4
TYC	**Yuchr**	**1.57 234**	eP	Pn	10 17 02.8	+0.2
SSLB	**Suanglung**	**1.57 229**	P	Pn	10 17 03.3	+0.6
SSLB	**Suanglung**	**1.57 229**	S	Sb	10 17 24.9	+1.1
SSLB	**Suanglung**	**1.57 229**	eP	Pb	10 17 03.7	-0.2
SSLB			eS	Sb	10 17 24.5	+0.7
YULB	**Yu-li**	**1.67 211**	P	Pn	10 17 03.3	-0.8
YULB	**Yu-li**	**1.67 211**	eP	Pn	10 17 03.4	-0.7
YULB			eS	Sn	10 17 25.9	+0.2
WHYT	**Xinyi Township**	**1.70 229**	eP	Pb	10 17 06.5	+0.4
WHYT			eS	Sg	10 17 29.9	+0.6
TWF1	**Yuli**	**1.71 211**	eP	Pn	10 17 03.3	-1.3
TWF1			eS	Sn	10 17 26.8	+0.3
JKRS	**Kuro-shima**	**1.71 110**	P	Pn	10 17 04.5	-0.1
WNT	**Mingjian**	**1.71 237**	eP	Pb	10 17 07.4	+1.2
YUS	**Yu-Shan**	**1.78 222**	eP	Pn	10 17 06.8	+0.8
JIJ	**Ishigaki jima**	**1.79 105**	P	Pn	10 17 05.4	-0.2
CHKH	**Chenggong**	**1.81 206**	eP	Pn	10 17 05.9	0.0
CHKH			eS	Sn	10 17 29.2	+0.3
FULB	**Fuli**	**1.84 208**	eP	Pn	10 17 07.1	+0.6
ALS	**Alishan**	**1.86 225**	eP	Pb	10 17 08.8	-0.2
ALS			eS	Sg	10 17 34.7	+0.2
CHN5	**Tsauling**	**1.89 230**	eP	Pb	10 17 09.8	+0.5
CHN5			eS	Sg	10 17 35.5	+0.1
CHKT	**Chengkung**	**1.90 205**	eP	Pn	10 17 06.9	-0.3
EHD	**Haiduan**	**1.92 210**	eP	Pn	10 17 08.3	+0.8
EHD			eS	Sb	10 17 33.1	-0.9
WDLH	**Douliu**	**1.93 234**	eP	Pb	10 17 10.0	0.0
WDLH			eS	Sg	10 17 36.6	-0.1
RLNB	**Erlin**	**1.96 242**	eP	Pn	10 17 08.3	+0.3
ELDTW	**Lidau**	**1.98 215**	eP	Pn	10 17 08.8	+0.3
ELDTW			eS	Sb	10 17 34.8	-1.0
EDH	**Donghe**	**2.04 205**	eP	Pn	10 17 09.1	0.0
EDH			eS	Sn	10 17 33.7	-0.9
WCKO	**Fanlu**	**2.04 228**	eP	Pb	10 17 11.8	-0.1
WCKO			eS	Sb	10 17 39.1	+1.7
WTK	**Tuku**	**2.04 237**	eS	Sb	10 17 38.6	+1.2
CHN4	**Tsaushan**	**2.11 226**	eP	Pb	10 17 12.5	-0.5
CHN4			eS	Sb	10 17 41.4	+2.0
TPUB	**Ta-pu**	**2.12 224**	P	Pb	10 17 12.1	-1.2
TPUB	**Ta-pu**	**2.12 224**	S	Sb	10 17 39.9	+0.2
TPUB	**Ta-pu**	**2.12 224**	eP	Pb	10 17 12.8	-0.5
TPUB			eS	Sb	10 17 40.1	+0.4
CHY	**Chiayi**	**2.13 232**	eP	Pn	10 17 11.6	+1.2
STYH	**Taoyuan**	**2.13 219**	eP	Pn	10 17 11.6	+1.3
STYH			eS	Sb	10 17 39.9	0.0
STYT	**Tauyuan**	**2.15 220**	eP	Pn	10 17 11.8	+1.1
LONT	**Longtian**	**2.17 208**	eP	Pn	10 17 11.2	+0.2
LONT			eS	Sn	10 17 38.9	+0.9
TWK	**Hsinying**	**2.24 226**	eP	Pb	10 17 14.8	-0.5
TWK			eS	Sb	10 17 44.5	+1.4
WSL	**Shuilin Townsh**	**2.26 235**	eP	Pn	10 17 13.5	+1.4
CHN1	**Nanshi**	**2.27 224**	eP	Pn	10 17 13.9	+1.6
TWG	**Pinlang**	**2.27 208**	eP	Pn	10 17 13.2	+0.8
TWG			eS	Sn	10 17 40.4	0.0
TWGBT	**Beinan**	**2.27 208**	P	Pn	10 17 13.7	+1.4
TWGBT	**Beinan**	**2.27 208**	eP	Pn	10 17 12.8	+0.5
TWGBT			eS	Sn	10 17 40.5	+0.1
SGST	**Jiashian**	**2.31 222**	eP	Pn	10 17 14.7	+1.8
MATB	**Ma-tsu**	**2.46 303**	eP	Pn	10 17 14.2	-0.8
SCST	**Cishan**	**2.51 220**	eP	Pb	10 17 18.3	-1.6
ECL	**Taimali**	**2.52 208**	eP	Pn	10 17 16.0	+0.3
SSD	**Sandimen**	**2.55 216**	eP	Pb	10 17 18.8	-1.8
SSD			eS	Sb	10 17 51.5	-0.4
MASBT	**Mashibuluo**	**2.66 214**	eP	Pn	10 17 19.5	+1.9
MASBT			eS	Sb	10 17 53.8	-1.3
EAST	**Anshuo**	**2.75 208**	eP	Pn	10 17 19.7	+0.7
PNG	**Penghu**	**2.76 243**	eP	Pn	10 17 19.8	+0.7
PHUB	**P'eng-hu**	**2.77 242**	eP	Pn	10 17 19.8	+0.6
PHUB			eS	Sn	10 17 53.0	+0.2
TAWH	**Dawu Township**	**2.77 207**	eP	Pn	10 17 19.6	+0.4
XPSS	**Dashiqiu**	**2.79 319**	eP	Pn	10 17 18.4	-1.1
SCZT	**Fangliau**	**2.87 212**	eP	Pn	10 17 22.1	+1.6
LYUB	**Lan-yu**	**2.88 192**	eP	Pn	10 17 20.0	-0.7
LYUB			eS	Sn	10 17 53.8	-1.7

IDC 06 10:32:55.4±5.5, 1°.51N×99°.07E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=282.6km s-min=24.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.02**	**251**	T	T	11 07 49.9	
	baz=72,slow=76,SNR=4.5						
H08S3	**Diego Garcia H**	**28.03**	**251**	T	T	11 07 51.1	
	baz=72,slow=76,SNR=4.1						
H08S1	**Diego Garcia H**	**28.04**	**251**	T	T	11 07 51.1	
	baz=72,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**40.63**	**123**	P	P	10 40 37.5	0.0
	0.6nm,0.4s,baz=302,slow=9.1,SNR=12						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**42.11**	**129**	P	P	10 40 49.5	-0.2
	0.2nm,0.5s,baz=304,slow=8.1,SNR=8.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**47.42**	**344**	P	P	10 41 31.3	-0.4
	0.5nm,0.5s,baz=148,slow=8.5,SNR=4.3						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**53.57**	**350**	P	P	10 42 18.2	+0.2
	0.7nm,0.4s,baz=156,slow=11,SNR=2.4						
	0.7nm,0.4s						

*JMA **06** 10:40:13.3±0.2, 43°.2N±0°.5×145°.8E±0°.7, h50km±1km, MV3.3/39, OFF NEMURO PENINSULA*
*SKHL **06** 10:40:14.1±0.1, 43°.20N×145°.80E, h44km±1km, mb4.4/2*

ISC 06 10:40:13.8±1.8, 43°.19N±0°.07×145°.72E±0°.06, h46km±9km, n14, σ0°39/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.18**	**4**	i P	**Pn**	**10 40 21.5**	**0.0**
NEM2				S	**Sn**	**10 40 27.1**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.18**	**1**	eP	**Pn**	**10 40 21.5**	**0.0**
NMR				eS	**Sn**	**10 40 27.0**	**0.0**
JKHN	**Kushirohamanak**	**0.42**	**256**	i P	**Pn**	**10 40 24.1**	**+0.3**
GLVR	**Golovnino**	**0.57**	**345**	eP	**Pn**	**10 40 25.7**	**0.0**
GLVR				AMB	AMB	10 40 25.8	
	2μm,0.2s						
GLVR				eS	**Sn**	**10 40 34.5**	**+0.3**
GLVR				A	A	10 40 35.2	
	5μm,0.5s						
GLVR				A	A	10 40 35.2	
	3μm,0.5s						
AKK	**Akkeshi**	**0.67**	**256**	eP	**Pn**	**10 40 26.6**	**-0.3**
AKK				eS	**Sn**	**10 40 36.1**	**-0.3**
JAK	**Akkeshi**	**0.78**	**256**	i P	**Pn**	**10 40 28.1**	**-0.3**
JAK				S	**Sn**	**10 40 39.0**	**0.0**
JNSB	**Nemuroshibetsu**	**0.79**	**319**	i P	**Pn**	**10 40 28.3**	**-0.2**
JNK	**Nakash**	**0.83**	**299**	i P	**Pn**	**10 40 28.8**	**-0.4**
JNK				S	**Sn**	**10 40 39.5**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**0.85**	**7**	i P	**Pn**	**10 40 29.0**	**-0.4**
YUK				AMB	AMB	10 40 29.7	
	490nm,0.3s						
YUK				eS	**Sn**	**10 40 40.2**	**-0.6**
YUK				A	A	10 40 41.6	
	3μm,0.6s						
YUK				A	A	10 40 41.6	
	2μm,0.6s						
JRA	**Rausu**	**0.87**	**330**	i P	**Pn**	**10 40 29.6**	**0.0**
JRA				S	**Sn**	**10 40 41.4**	**+0.2**
JOB	**Onbets**	**1.41**	**259**	P	**Pn**	**10 40 36.9**	**-0.1**
JOB				S	**Sn**	**10 40 54.7**	**+0.3**
JAR	**Ashorobuto**	**1.43**	**275**	i P	**Pn**	**10 40 37.4**	**+0.1**
JAR				eS	**Sn**	**10 40 55.1**	**+0.1**
JTKR	**Abashiri--Toko**	**1.54**	**301**	P	**Pn**	**10 40 39.4**	**+0.7**
JTKR				S	**Sn**	**10 40 58.1**	**+0.6**
KUR	**Kuril'sk**	**2.56**	**36**	eP	**Pn**	**10 40 53.2**	**+0.4**
KUR				AMB	AMB	10 40 58.2	
	30nm,0.4s						
KUR				eS	**Sn**	**10 41 22.4**	**-0.3**
KUR				A	A	10 41 27.2	
	80nm,0.4s						
KUR				A	A	10 41 27.2	
	60nm,0.4s						

*MOS **06** 10:40:52.1±1.2, 21°.76S×68°.37W, h83km, mb5.4/23, Error ellipse: s-maj=11.8km s-min=6.2km az=109.0*
*CATAC **06** 10:40:53.3±0.4, 22°.S±2°.×6°.8W±°, h95km±3km, M5.6/19, mb5.5/19, mB5.8/16, MLv6.4/3, Mw(mB)5.4/16, MwMwp5.2/8, Mwp5.5/8, Error ellipse: s-maj=8.5km s-min=3.6km az=74.3, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.61; $M_{\theta\theta}$-2.39; $M_{\phi\phi}$6.00; $M_{r\theta}$-1.03; $M_{\theta\phi}$0.77; $M_{\phi r}$~1.77; Fault plane solution: $M_0$5.67083×10^{17} NP1:ϕ_S159.61453°, δ40.16245°, λ-128.54372°. NP2:ϕ_S25.80600°, δ59.70568°, λ-62.26144°. Principal axes: T 6.4167, Plg10.5848°, Azm96.2449°; N -2.0777, Plg23.6958°, Azm190.9493°; P -4.3389, Plg63.7767°, Azm343.9497°; confirmed*
*VAO **06** 10:40:54.2±0.5, 21°.86S×68°.38W, h99km±4km, mb5.9*
*SJA **06** 10:40:54.6±0.9, 21°.97S×68°.69W, h130km, ML5.7, MW5.3*
*GUC **06** 10:40:55.5±0.9, 21°.90S×68°.62W, h114km±4km, ML5.7*
*IPGP **06** 10:40:55.0, 21°.90S×68°.57W, h124km, Mw5.8, Fault plane solution: NP1:ϕ_S267.00000°, δ40.00000°, λ-1.00000°. NP2:ϕ_S358.00000°, δ89.00000°, λ-130.00000°.*
*ISC-PP **06** 10:40:56, 21°.93S×68°.59W, h141km, Mwppsm6.2, Moment Tensor Solution. s28 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.02±.14; $M_{\theta\theta}$-0.60±.17; $M_{\phi\phi}$0.64±.17; $M_{r\theta}$-0.32±.31; $M_{\theta\phi}$-0.04±.14; $M_{\phi r}$0.14±.14; Fault plane solution: $M_0$2.40000×10^{18} NP1:ϕ_S49.30000°, δ78.90000°, λ338.30000°. NP2:ϕ_S143.70000°, δ68.70000°, λ-168.00000°.*
*NEIC **06** 10:40:56, 21°.90S×68°.56W, h110km*
*NEIC **06** 10:40:56.4±1.9, 21°.93S±0°.05×68°.59W±0°.07, h119km±1km, mb5.6/75, Mww5.7/35, Mww5.7(GUC), Error ellipse: s-maj=10.9km s-min=7.8km az=250.0*
*NEIC **06** 10:40:56, 22°.00S×68°.56W, h110km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.36; $M_{\theta\theta}$-1.43; $M_{\phi\phi}$2.79; $M_{r\theta}$0.03; $M_{\theta\phi}$1.73; $M_{\phi r}$-2.98; Fault plane solution: $M_0$4.21000×10^{17} NP1: ϕ_S241.26000°, δ34.18000°, λ-23.67000°. NP2: ϕ_S351.19000°, δ76.96000°, λ-121.87000°. Principal axes: T 4.7312, Plg25.0000°, Azm106.0000°; N -1.3853, Plg31.0000°, Azm359.0000°; P -3.3459, Plg48.0000°, Azm227.0000°;*
*IDC **06** 10:40:57.4±0.3, 21°.76S×68°.35W, h120km±2km, mb5.0/25, mbtmp5.4/29, MS4.7/37 Error ellipse: s-maj=11.1km s-min=8.2km az=60.0*
*BJI **06** 10:40:57.3, 22°.00S×68°.50W, h118km, mB5.5/30*
*GCMT **06** 10:40:59.4±0.1, 21°.87S±0°.01×68°.50W±0°.01, h130km, MW5.7/157, Moment Tensor Solution. s148, c277; s157, c317; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.25±.05; $M_{\theta\theta}$-2.90±.06; $M_{\phi\phi}$4.15±.06; $M_{r\theta}$-0.35±.04; $M_{\theta\phi}$1.33±.05; $M_{\phi r}$~4.22±.04; Best double couple: $M_0$5.18700×10^{17} NP1:ϕ_S236.00000°, δ30.00000°, λ-23.00000°. NP2:ϕ_S347.00000°, δ79.00000°, λ-118.00000°. Principal axes: T 6.6470, Plg28.0000°, Azm99.0000°; N -2.9210, Plg27.0000°, Azm353.0000°; P -3.7260, Plg49.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 10:40:55.9±0.2, 21°.93S±0°.03×68°.60W±0°.03, h117km±1km, h117km: pP-P, n617, σ1°76/786, mb5.4/137, 32C-8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.61**	**282**		**Pn**	**10 41 14.5**	**0.0**
PB09	**IPOC Station P**	**0.61**	**282**	⇑i P	**Pn**	**10 41 14.6**	**0.0**
PB09				eS	**Sn**	**10 41 28.6**	**+0.2**
PB09	**IPOC Station P**	**0.61**	**282**	eP	**Pn**	**10 41 14.5**	**0.0**
PB09				eS	**Sn**	**10 41 30.4**	**+1.9**
PB09				IAML		10 41 32.3	
	comp=Z,133μm,1.2s						
PB03	**IPOC Station P**	**1.08**	**263**		**Pn**	**10 41 18.4**	**-0.3**
PB03	**IPOC Station P**	**1.08**	**263**	⇑i P	**Pn**	**10 41 18.4**	**-0.3**
PB03				eS	**Sn**	**10 41 35.5**	**-0.4**
PB03				IAML		10 41 39.0	
	comp=N,98μm,0.2s						
PB03	**IPOC Station P**	**1.08**	**263**	eP	**Pn**	**10 41 18.4**	**-0.3**
PB03				eS	**Sn**	**10 41 36.3**	**+0.4**
PB03				IAML		10 41 40.1	
	comp=Z,86μm,0.3s						
AF01	**San Pedro de A**	**1.09**	**159**		**Pn**	**10 41 19.2**	**+0.3**
AF01	**San Pedro de A**	**1.09**	**159**	⇓eP	**Pn**	**10 41 19.4**	**+0.5**
AF01				eS	**Sn**	**10 41 36.9**	**+0.6**
AF01				IAML		10 41 52.3	
	comp=N,107μm,0.4s						
AF01	**San Pedro de A**	**1.09**	**159**	eP	**Pn**	**10 41 19.6**	**+0.7**
AF01				eS	**Sn**	**10 41 39.4**	**+3.1**
AF01				IAML		10 42 01.7	
	comp=Z,160μm,0.8s						
PB06	**IPOC Station P**	**1.19**	**229**		**Pn**	**10 41 19.8**	**-0.1**
PB06	**IPOC Station P**	**1.19**	**229**	⇑eP	**Pn**	**10 41 20.0**	**+0.1**
PB06				eS	**Sn**	**10 41 38.1**	**+0.2**
PB06				IAML		10 41 39.5	
	comp=E,148μm,0.5s						
PB06	**IPOC Station P**	**1.19**	**229**	eP	**Pn**	**10 41 20.1**	**+0.3**
PB06				eS	**Sn**	**10 41 39.8**	**+1.9**
PB06				IAML		10 41 41.4	
	comp=Z,117μm,0.4s						
PB01	**IPOC Station P**	**1.21**	**316**		**Pn**	**10 41 19.7**	**-0.3**
PB01	**IPOC Station P**	**1.21**	**316**	⇑eP	**Pn**	**10 41 19.6**	**-0.4**
PB01				eS	**Sn**	**10 41 37.6**	**-0.5**
PB01				IAML		10 41 41.5	
	comp=E,125μm,0.2s						
PB01	**IPOC Station P**	**1.21**	**316**	eP	**Pn**	**10 41 19.6**	**-0.4**
PB01				eS	**Sn**	**10 41 39.3**	**+1.1**
PB01				IAML		10 41 41.5	
	comp=Z,54μm,0.6s						
PB02	**IPOC Station P**	**1.35**	**296**		**Pn**	**10 41 21.2**	**-0.4**
PB02	**IPOC Station P**	**1.35**	**296**	⇑eP	**Pn**	**10 41 21.2**	**-0.4**
PB02				eS	**Sn**	**10 41 40.6**	**-0.4**
PB02				IAML		10 41 42.6	
	comp=E,109μm,0.4s						
PB02	**IPOC Station P**	**1.35**	**296**	eP	**Pn**	**10 41 21.2**	**-0.4**
PB02				eS	**Sn**	**10 41 41.9**	**+0.9**
PB02				IAML		10 41 46.3	
	comp=Z,92μm,0.5s						
PX03	**IPOC Station P**	**1.80**	**327**	⇑eP	**Pn**	**10 41 26.0**	**-0.8**
PX03				eS	**Sn**	**10 41 49.8**	**-0.6**
PATCX	**Punta Patache**	**1.82**	**307**		**Pn**	**10 41 26.7**	**-0.4**
PATCX	**Punta Patache**	**1.82**	**307**	⇑eP	**Pn**	**10 41 26.7**	**-0.4**
PATCX				eS	**Sn**	**10 41 50.8**	**-0.1**
PATCX				IAML		10 41 56.1	
	comp=E,148μm,0.4s						
PATCX	**Punta Patache**	**1.82**	**307**	eP	**Pn**	**10 41 26.7**	**-0.4**
PATCX				eS	**Sn**	**10 41 52.2**	**+1.3**
PATCX				IAML		10 41 55.2	
	comp=Z,85μm,0.6s						
PB08	**IPOC Station P**	**1.85**	**344**		**Pn**	**10 41 28.4**	**+0.6**
PB08	**IPOC Station P**	**1.85**	**344**	⇓eP	**Pn**	**10 41 28.5**	**+0.8**
PB08				eS	**Sn**	**10 41 52.4**	**+0.3**
PB08				IAML		10 41 54.6	
	comp=E,121μm,0.5s						
PB08	**IPOC Station P**	**1.85**	**344**	eP	**Pn**	**10 41 28.6**	**+0.8**
PB08				eS	**Sn**	**10 41 53.5**	**+1.4**
PB08				IAML		10 41 55.5	
	comp=Z,70μm,0.5s						
TA01	**Diego Aracena**	**2.01**	**312**		**Pn**	**10 41 28.3**	**-1.0**
TA01	**Diego Aracena**	**2.01**	**312**	⇑i P	**Pn**	**10 41 28.5**	**-0.7**
TA01	**Diego Aracena**	**2.01**	**312**	eP	**Pn**	**10 41 28.6**	**-0.7**
TA01				eS	**Sn**	**10 41 55.5**	**+0.8**
TA01				IAML		10 41 59.5	
	comp=Z,42μm,0.6s						
TA01	**Diego Aracena**	**2.01**	**312**	P	**Pn**	**10 41 28.7**	**-0.6**
TA01				S	**Sn**	**10 41 54.1**	**-0.7**
TA02	**Huaiquique**	**2.19**	**319**	⇑eP	**Pn**	**10 41 30.6**	**-1.0**
TA02				IAML		10 42 05.0	
	comp=E,71μm,0.2s						
TA02	**Huaiquique**	**2.19**	**319**	eP	**Pn**	**10 41 30.9**	**-0.6**
TA02				eS	**Sn**	**10 41 58.7**	**-0.1**
TA02				IAML		10 42 04.2	
	comp=Z,55μm,0.1s						
GO01	**Chusmiza**	**2.32**	**346**		**Pn**	**10 41 33.8**	**+0.2**
GO01	**Chusmiza**	**2.32**	**346**	⇓eP	**Pn**	**10 41 33.9**	**+0.2**
GO01				eP	**Pn**	**10 41 34.0**	**+0.3**
GO01				IAML		10 42 06.0	
	comp=N,103μm,0.2s						
GO01				IAML		10 42 06.0	
	comp=N,101μm,0.2s						
GO01	**Chusmiza**	**2.32**	**346**	eP	**Pn**	**10 41 34.0**	**+0.3**
GO01				eS	**Sn**	**10 42 04.0**	**+1.4**
GO01				IAML		10 42 05.3	
	comp=Z,25μm,0.6s						
PB11	**IPOC Station P**	**2.37**	**335**		**Pn**	**10 41 33.7**	**-0.4**
PB11	**IPOC Station P**	**2.37**	**335**	⇓eP	**Pn**	**10 41 33.5**	**-0.7**
PB11	**IPOC Station P**	**2.37**	**335**	eP	**Pn**	**10 41 33.3**	**-0.9**
PB11				e

comp=Z,408nm,0.5s,baz=237,slow=9.5,SNR=1241
SIV S Sn 10 44 31.0 -18
comp=Z,105nm,0.8s,baz=247,slow=17,SNR=1.1
ZON Zonda 9.58 180 P Pn 10 43 07.5 -3.3
ZON pmax pmax
comp=Z,164nm,0.8s
CFA Coronel Fontan 9.64 178 P Pn 10 43 08.2 -3.5
comp=Z,115nm,0.8s,baz=357,slow=14,SNR=243
CFA LR LR 10 47 30.0
comp=Z,774nm,21.7s,baz=0.5,slow=40
PTLB Pontes e Lacer 11.04 56 *eP* Pn 10 43 25.9 -4.6
BDQN Bodoquena, MS 11.15 85 *eP* Pn 10 43 27.3 -4.6
CPUP Villa Florida 11.18 115 P Pn 10 43 28.9 -3.5
comp=Z,40nm,0.8s,baz=151,slow=15,SNR=118
CPUP LR LR 10 48 50.2
comp=Z,2µm,18.9s,baz=160,slow=43
CPUP Villa Florida 11.18 115 P Pn 10 43 29.2 -3.1
CPUP pmax pmax
comp=Z,61nm,0.8s
CPUP Villa Florida 11.18 115 *eP* Pn 10 43 28.8 -3.5
PEL Peldehue 11.33 189 P Pn 10 43 34.1 -0.2
PEL pmax pmax
comp=Z,273nm,0.9s
PEL Peldehue 11.33 189 P Pn 10 43 31.0 -3.3
PEL S Sn 10 45 36.0 -3.0
VILB Vilhena 11.99 43 *eP* Pn 10 43 40.0 -3.1
AQDB Aquidauana 12.12 86 *eP* Pn 10 43 40.4 -4.3
AMBA Amambai (Brazi 12.62 97 *eP* Pn 10 43 48.6 -2.8
NNA Nana 12.64 320 P Pn 10 43 53.0 +1.3
comp=Z,25nm,0.6s,baz=157,slow=11,SNR=9.1
NNA S **Sn 10 46 06.4 -4.6**
comp=Z,41nm,0.4s,baz=287,slow=2.4,SNR=6.4
NNA LR LR 10 49 09.8
comp=Z,2µm,19.6s,baz=156,slow=39
NNA Nana 12.64 320 *i* P **Pn 10 43 51.7 0.0**
NNA Nana 12.64 320 P Pn 10 43 52.0 +0.3
comp=Z,229nm,0.8s
PSAL Palomas, Salto 13.40 135 *eP* Pn 10 43 59.1 -2.3
SALV Santo Antonio 13.60 66 *eP* Pn 10 43 59.7 -4.4
PP1B Ponte de Pedra 13.61 74 *eP* Pn 10 43 59.6 -4.6
H03N1 Juan Fernandez 14.65 216 P Pn 10 44 17.8 +0.6
baz=110,slow=14,SNR=193
H03N2 Juan Fernandez 14.66 216 P Pn 10 44 17.8 +0.5
baz=110,slow=14,SNR=118
H03N3 Juan Fernandez 14.67 216 P Pn 10 44 17.0 -0.5
baz=110,slow=14,SNR=226
H03S3 Juan Fernandez 14.94 215 P Pn 10 44 19.4 -1.5
baz=35,slow=20,SNR=233
H03S1 Juan Fernandez 14.95 215 P Pn 10 44 19.3 -1.7
baz=35,slow=20,SNR=170
H03S2 Juan Fernandez 14.96 215 P Pn 10 44 19.5 -1.5
baz=35,slow=20,SNR=206
C2SB Chapadao do Su 15.11 81 *eP* Pn 10 44 20.8 -2.5
PDRB Porto dos Gac 15.29 50 *eP* Pn 10 44 22.2 -3.5
PTGB Pitanga 15.44 104 *eP* Pn 10 44 25.3 -2.2
ITAB Concordia 15.88 113 *eP* Pn 10 44 30.8 -2.0
CPSB Cacapava Do Su 16.00 125 *eP* Pn 10 44 31.6 -2.8
LDASE Londrina, Braz 16.20 98 *eP* Pn 10 44 34.4 -2.5
CLDB Colider 16.46 50 *eP* Pn 10 44 36.9 -3.3
PLTB Pedras Altas 16.56 129 *eP* Pn 10 44 38.0 -3.3
ARAG Araguaiana, MT 17.04 72 *eP* P 10 44 44.4 -2.8
TRQA Tornquist 17.06 162 P P 10 44 45.0 -2.2
ITRB Iturama 17.19 86 *eP* P 10 44 47.0 -1.8
ATAH Atahualpa 17.48 326 P Pn 10 44 54.6 +1.6
comp=Z,69nm,0.8s,baz=180,slow=10,SNR=45
CNLB Canela 17.60 118 *eP* P 10 44 51.4 -1.8
FRTB Fartura 17.63 98 *eP* P 10 44 52.5 -1.1
LR03 Panguipulli 17.94 189 P P 10 44 56.2 -0.6
LR05 Currie 18.48 188 P P 10 45 02.6 0.0
BB19B Bebedouro 18.70 91 *eP* P 10 45 04.1 -1.2
TEFE Tefe 18.71 12 *eP* P 10 45 03.9 -1.5
PLCA Paso Flores 18.82 185 P P 10 45 06.3 -0.2
PLCA Paso Flores 18.82 185 P P 10 45 07.2 +0.6
comp=Z,45nm,0.8s,baz=352,slow=11,SNR=116
PLCA PcP **PcP 10 49 29.9 +1.2**
comp=Z,10nm,0.7s,baz=347,slow=3.0,SNR=3.1
PLCA LR LR 10 52 39.4
comp=Z,2µm,20.7s,baz=358,slow=37
PLCA Paso Flores 18.82 185 P P 10 45 06.4 -0.2
PLCA Paso Flores 18.82 185 *eP* P 10 45 06.8 +0.3
SNDB Serra Nova Dou 19.26 62 *eP* P 10 45 09.3 -2.2
LL03 Petrohue 19.42 189 P P 10 45 13.2 +0.3
RCLB Rio Claro- Sao 19.52 95 *eP* P 10 45 12.3 -2.0
NPGB Novo Progresso 19.55 43 *eP* P 10 45 11.8 -2.8
IPMB Ipameri, GO 19.55 82 *eP* P 10 45 12.7 -2.0
SPB Sao Paulo 19.59 99 P P 10 45 13.2 -1.8
SPB S **S 10 48 47.2 -2.6**
SPB Sao Paulo 19.59 99 *eP* P 10 45 13.1 -1.8
PET01 Itanhaem-SP 19.75 101 *eP* P 10 45 15.0 -1.7
VAO Valinhos 20.02 97 P P 10 45 17.3 -2.4
VAO Valinhos 20.02 97 *eP* P 10 45 17.3 -2.4
MACA Manacapuru-AM 20.18 23 P P 10 45 18.5 -2.8
MACA Manacapuru-AM 20.18 23 *eP* P 10 45 18.7 -2.6
BDFB Brasilia 20.45 76 P P 10 45 22.2 -2.3
comp=Z,75nm,0.4s,baz=242,slow=12,SNR=71
comp=Z,75nm,0.4s
MCRA Macar, Loja 20.64 326 P P 10 45 27.1 +0.7
comp=Z,8µmcomp=Z,4µmcomp=Z,402nm,0.9s
LL01 San Ignacio de 20.64 188 P P 10 45 25.8 -0.3
PMNB Patos De Minas 21.06 85 *eP* P 10 45 27.9 -3.0
PARB Paraibuna 21.25 98 *eP* P 10 45 30.4 -2.5
LL02 Futaleuf 21.38 187 P P 10 45 33.5 -0.5
ITTB Itaituba 21.45 37 *eP* P 10 45 32.3 -2.7
GO07 Milladeo Hill, 21.55 190 P P 10 45 36.1 +0.3
SGC2 Sao Gabriel da 21.70 4 P P 10 45 35.7 -2.0
comp=Z,5µmcomp=Z,14µmcomp=Z,993nm,0.8s
COHC Cochancay 21.95 330 P P 10 45 41.8 +1.5
comp=Z,6µmcomp=Z,359nm,0.6s
BSCB Bom Sucesso 22.19 92 *eP* P 10 45 40.4 -2.5
PIAT Ana Tenorio 22.84 334 P P 10 45 51.0 +1.3
comp=Z,7µmcomp=Z,6µmcomp=Z,376nm,0.7s
VAS01 Vassouras-RJ 23.30 96 *eP* P 10 45 51.3 -2.3
DIAM Diamantina, MG 23.67 86 *eP* P 10 45 54.8 -2.4
COYC Coyhaique 23.76 186 P P 10 45 57.1 -0.3
BONI La Bonita 23.89 337 P P 10 46 00.6 +1.3
comp=Z,6µmcomp=Z,5µmcomp=Z,347nm,0.8s
PRPB Parauapebas 23.98 52 *eP* P 10 45 56.9 -2.8
JANB Januaria 24.00 78 *eP* P 10 45 57.5 -2.6
SMTB Santa Maria do 24.02 61 *eP* P 10 45 58.0 -2.2
OTAV Otavalo 24.04 335 P P 10 46 02.4 +1.6
OTAV pmax pmax
comp=Z,135nm,1.2s
OTAV Otavalo 24.04 335 P P 10 46 00.8 +0.1
OTAV Otavalo 24.04 335 *eP* P 10 46 02.2 +1.5
OTAV Otavalo 24.04 335 P P 10 46 02.3 +1.5
comp=Z,6µmcomp=Z,3µmcomp=Z,132nm,1.2s
CUSE Cuicocha Este 24.08 335 P P 10 46 02.9 +1.8
comp=Z,5µmcomp=Z,183nm,0.8s
PAC1 Pacto, Paraso 24.20 334 P P 10 46 03.4 +1.5
comp=Z,3µmcomp=Z,217nm,0.7s
TULM Tulcn-Chalpat 24.23 337 P P 10 46 04.5 +2.0
comp=Z,5µmcomp=Z,332nm,0.8s
MAL2 Monte Alegre, 24.25 37 P P 10 46 01.1 -1.2
DUB01 Friburgo-RJ 24.30 95 *eP* P 10 46 01.5 -1.2
FLOC Florencia 24.36 343 P P 10 46 03.3 +0.1
FLOC Florencia 24.36 343 P P 10 46 03.5 +0.2
FLOC S **S 10 50 18.2 +3.7**
FLOC Florencia 24.36 343 P P 10 46 02.7 -0.6
comp=Z,5µmcomp=Z,5µmcomp=Z,316nm,1.2s
CMBC Cumbal 24.45 337 P P 10 46 07.2 +2.7
MACC Macarena, Meta 24.47 347 P P 10 46 02.4 -1.8
SDBA SAO DESIDERIO 24.50 71 *eP* P 10 46 01.5 -3.1
GCUF Volcan Galeras 24.55 339 P P 10 46 07.6 +2.1
comp=Z,5µmcomp=Z,253nm,1.1s
CRUC La Cruz 24.74 340 P P 10 46 11.2 +4.2
CAM01 Campos-RJ 24.99 95 *eP* P 10 46 05.4 -3.5
BBAC Balboa, Cauca 25.26 339 P P 10 46 12.9 +1.3
comp=Z,4µmcomp=Z,339nm,0.8s
BETC Betania 25.36 344 P P 10 46 13.8 +1.5
BOAV Boa Vista 25.43 19 P P 10 46 12.4 -0.5
BOAV IAmb IAmb 10 46 13.7
comp=Z,152nm,0.7s
BOAV Boa Vista 25.43 19 *eP* P 10 46 12.8 -0.1
BOAV Boa Vista 25.43 19 P P 10 46 12.1 -0.8
AY03 Cochrane 25.47 186 P P 10 46 13.6 +0.6
AY03 IAmb IAmb 10 46 17.5
comp=Z,89nm,0.8s
POPC Popayan, Colom 25.57 341 P P 10 46 15.7 +1.3
comp=Z,4µmcomp=Z,4µmcomp=Z,117nm,0.8s
URMC La Uribe, Meta 25.65 347 P P 10 46 14.6 -0.4
comp=Z,1µmcomp=Z,70nm,1.3s
SJMB Sao Joao De Ma 25.89 88 *eP* P 10 46 14.1 -3.0
PRAC Prado 26.22 346 P P 10 46 20.3 +0.3
PRAC S **S 10 50 47.3 +3.5**

PRAC Prado 26.22 346 P P 10 46 20.2 +0.1
comp=Z,4µmcomp=Z,2µmcomp=Z,76nm,1.4s
ORTC Ortega, Tolima 26.49 345 P P 10 46 23.1 +0.6
comp=Z,4µmcomp=Z,4µmcomp=Z,365nm,0.9s
RIB01 Linhares ES 26.51 90 *eP* P 10 46 19.4 -3.2
CVER Cruz Verde, Cu 26.83 348 P P 10 46 26.7 +0.7
YOTC Yotoco, Valle 26.85 343 P P 10 46 25.7 -0.1
comp=Z,1µmcomp=Z,87nm,1.1s
ANIL Santa Ana 27.09 345 P P 10 46 27.7 -0.5
comp=Z,2µmcomp=Z,78nm,0.4s
ROSC El Rosal 27.19 347 P P 10 46 29.7 +0.5
ROSC IAmb IAmb 10 46 33.4
comp=Z,66nm,0.8s
ROSC El Rosal 27.19 347 P P 10 46 30.6 +1.4
comp=Z,56nm,0.7s,baz=141,slow=5.9,SNR=19
ROSC LR LR 10 58 44.7
comp=Z,2µm,21.4s,baz=195,slow=39
comp=Z,56nm,0.7s
ROSC El Rosal 27.19 347 P P 10 46 30.0 +0.8
comp=Z,5µmcomp=Z,2µmcomp=Z,79nm,0.6s
GUA01 Guaratinga, BA 27.67 84 *eP* P 10 46 30.7 -2.4
GUY2C Guyana, Caldas 27.79 345 P P 10 46 34.8 +0.2
comp=Z,3µmcomp=Z,1µmcomp=Z,109nm,0.7s
TMAB Tom-Au,PA,Br 27.84 49 *eP* P 10 46 33.4 -1.2
SPBC San Pablo de B 27.93 348 P P 10 46 34.5 -0.9
comp=Z,3µmcomp=Z,1µmcomp=Z,78nm,0.7s
RUSC La Rusia 28.00 350 P P 10 46 35.8 -0.7
RUSC La Rusia 28.00 350 P P 10 46 36.7 +0.2
RUSC S **S 10 51 15.0 +2.3**
RUSC La Rusia 28.00 350 P P 10 46 36.6 +0.2
comp=Z,3µmcomp=Z,3µmcomp=Z,337nm,0.8s
CMC01 Camacan, BA 28.28 82 *eP* P 10 46 35.7 -2.8
CBOC Ciudad Bolivar 28.56 344 P P 10 46 40.6 -0.5
comp=Z,1µmcomp=Z,92nm,0.6s
BARC Barichara 28.70 350 P P 10 46 41.6 -0.8
HELC Santa Helena 28.76 346 P P 10 46 43.4 +0.3
HELC Santa Helena 28.76 346 P P 10 46 41.9 -1.2
comp=Z,3µmcomp=Z,2µmcomp=Z,194nm,0.8s
PTBC PUERTO BERRIO, 28.87 348 P P 10 46 41.3 -2.4
BRJC Barrancabermej 29.16 349 P P 10 46 43.4 -2.9
PAMC Pamplona, Colo 29.36 352 P P 10 46 46.7 -1.9
GO09 Cerro Castillo 29.43 185 P P 10 46 48.7 +0.3
DBBC Dabeiba 29.72 345 P P 10 46 51.1 -0.2
MG05 Puerto Natales 29.85 185 P P 10 46 52.0 0.0
UREC San Jos de Ur 30.27 346 P P 10 46 54.3 -1.8
OCAC Ocana 30.34 351 P P 10 46 53.4 -3.4
APAC Apartado, Choc 30.66 344 P P 10 46 59.6 +0.1
comp=Z,3µmcomp=Z,1µmcomp=Z,85nm,1.1s
BAUV El Baul 30.68 1 P P 10 46 57.9 -1.8
SDV Santo Domingo 30.69 356 P P 10 46 58.1 -1.9
SDV IAmb IAmb 10 47 01.4
comp=Z,73nm,0.8s
SDV Santo Domingo 30.69 356 LR LR 11 01 01.3
comp=Z,2µm,20.0s,baz=174,slow=39
SDV Santo Domingo 30.69 356 *eP* P 10 46 58.4 -1.5
SDV Santo Domingo 30.69 356 P P 10 46 58.5 -1.5
comp=Z,2µmcomp=Z,1µmcomp=Z,88nm,0.7s
EFI East Falkland 30.80 167 *ceP* **P 10 46 58.4 -2.0**
EFI pmax pmax
comp=Z,176nm,2.5s
EFI East Falkland 30.80 167 S **S 10 51 55.9 +0.8**
MG02 Cerro Sombrero 30.80 181 P **P 10 47 01.8 +1.4**
MDP Montagnes des 31.08 32 LR LR 11 00 46.8
comp=Z,3µm,18.5s,baz=206,slow=39
MPGF Montagnes des 31.08 32 P **P 10 47 02.3 -0.9**
ARGC Ariguani, Magd 32.07 349 P P 10 47 10.0 -1.9
comp=Z,2µmcomp=Z,3µmcomp=Z,349nm,0.7s
PCRV Puerto La Cruz 32.14 7 LR LR 11 01 19.6
comp=Z,1µm,18.6s,slow=38
SJCC San Jacinto, C 32.28 348 P **P 10 47 14.1 +0.3**
SJCC S **S 10 52 21.9 +3.0**
SJCC San Jacinto, C 32.28 348 P **P 10 47 12.1 -1.7**
comp=Z,2µmcomp=Z,137nm,0.8s
BCIP Isla Barro Col 32.81 339 P **P 10 47 19.6 +1.3**
BCIP IAmb IAmb 10 47 20.8
comp=Z,65nm,0.8s
BCIP Isla Barro Col 32.81 339 P **P 10 47 19.6 +1.3**
BCIP pmax pmax
comp=Z,65nm,0.8s
BCIP Isla Barro Col 32.81 339 P **P 10 47 18.8 +0.5**
BCIP Isla Barro Col 32.81 339 P **P 10 47 19.9 +1.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,109nm,1.2s
NBAN Anadia - AL 33.32 74 *eP* P 10 47 20.0 -2.9
SMRC Santa Marta, M 33.35 350 P P 10 47 20.0 -3.0
CDITO Canoas 33.39 334 P P 10 47 23.9 +0.5
BRU2 Volcan 33.52 334 P P 10 47 23.9 -0.8
BRU2 IAmb IAmb 10 47 35.4
comp=Z,119nm,1.1s
BRU2 Volcan 33.52 334 P P 10 47 24.9 +0.2
OCHAL Ojochal 34.19 333 P P 10 47 30.8 +0.5
GRGR Grenville 34.53 12 P P 10 47 31.5 -1.7
GRGR Grenville 34.53 12 *eP* P 10 47 32.0 -1.2
GRGR Grenville 34.53 12 P P 10 47 29.4 -3.8
comp=Z,3µmcomp=Z,246nm,0.9s
GRHS Sauteurs 34.62 12 *eP* P 10 47 35.6 +1.6
GCMP Grenada, Carri 34.91 12 *eP* P 10 47 35.5 -1.0
HDC Heredia 35.20 333 *eP* P 10 47 39.2 +0.1
RCBR Riachuelo 35.42 68 P P 10 47 39.5 -1.6
RCBR IAmb IAmb 10 47 41.1
comp=Z,107nm,0.8s
RCBR Riachuelo 35.42 68 LR LR 11 04 21.8
comp=Z,334nm,18.1s,baz=242,slow=40
RCBR Riachuelo 35.42 68 P P 10 47 39.5 -1.6
RCBR pmax pmax
comp=Z,107nm,0.9s
RCBR Riachuelo 35.42 68 *eP* P 10 47 39.6 -1.5
RCBR Riachuelo 35.42 68 P P 10 47 39.5 -1.6
SVB Belmont 35.72 12 *eP* P 10 47 41.4 -2.0
JTS Las Juntas de 35.82 332 P P 10 47 46.1 +1.8
JTS Las Juntas de 35.82 332 *i* P **P 10 47 44.5 +0.2**
JTS pmax pmax
comp=Z,35nm,1.1s
JTS Las Juntas de 35.82 332 P P 10 47 46.9 +2.6
JTS sP **sP 10 48 24.3 -0.8**
SLBI Saint Lucia, B 36.50 12 *eP* P 10 47 48.6 -1.5
SAIC Isla e San And 36.59 338 P P 10 47 53.1 +2.3
comp=Z,3µmcomp=Z,271nm,1.1s
H05S1 Guadeloupe/Mar 36.92 13 P P 10 47 53.0 -0.6
SNR=18
MPOM Morne Pois Mar 36.93 13 P P 10 47 52.2 -1.5
BIM Bigot 36.96 12 P P 10 47 51.9 -2.1
BIM Bigot 36.96 12 *eP* P 10 47 54.4 +0.4
FDF Fort de France 37.16 12 P P 10 47 53.7 -2.0
FDF Fort de France 37.16 12 P P 10 47 53.7 -2.0
FDF pmax pmax
comp=Z,163nm,0.9s
ESPN Las Esperanzas 37.25 334 P P 10 47 57.5 +1.0
ESPN Las Esperanzas 37.25 334 P P 10 47 57.6 +1.2
comp=Z,1µmcomp=Z,39nm,0.9s
PRVC Isla de Provid 37.25 339 P P 10 47 57.9 +1.4
PRVC IAmb IAmb 10 47 59.0
comp=Z,113nm,0.7s
PRVC Isla de Provid 37.25 339 P P 10 47 58.0 +1.5
comp=Z,3µmcomp=Z,3µmcomp=Z,184nm,1.3s
RPN Rapa Nui 37.31 254 LR LR 11 00 00.8
comp=Z,861nm,18.2s,baz=132,slow=30
DWS Wesley 37.94 11 *eP* P 10 48 06.1 +3.9
MMLZ Guadeloupe Bro 38.34 11 *eP* P 10 48 06.8 +1.2
DHSZ Broadband at M 38.55 11 *eP* P 10 48 10.6 +3.3
H05N1 Guadeloupe/Mar 38.72 12 P P 10 48 07.2 -1.6
SNR=23
SJG San Juan 39.87 4 P P 10 48 16.2 -2.0
SJG IAmb IAmb 10 48 46.8
comp=Z,148nm,0.8s
SJG San Juan 39.87 4 P P 10 48 16.2 -2.0
SJG pmax pmax
comp=Z,148nm,0.8s
SJG San Juan 39.87 4 P P 10 48 15.6 -2.6
SJG pP **pP 10 48 44.3 -1.8**
SJG San Juan 39.87 4 P P 10 48 15.4 -2.8
ANWB Willy Bob 39.91 10 *eP* P 10 48 18.7 +0.1
EMPR Esperanza - Ma 40.21 3 P P 10 48 18.2 -2.8
HOPE Hope Point 40.37 151 P P 10 48 22.8 +0.8
HOPE Hope Point 40.37 151 P P 10 48 22.8 +0.8
HOPE pmax pmax
comp=Z,207nm,0.8s
MTDJ Mount Denham 40.85 347 *i* P **P 10 48 26.1 -0.4**
GTBY Guantanamo Bay 42.08 351 *i* P **P 10 48 37.9 +1.5**
ESPZ Base Esperanza 42.18 172 P **P 10 48 37.1 +0.4**
ESPZ IAmb IAmb 10 48 52.1
comp=Z,56nm,0.6s
MASC Masc 42.21 352 *i* P **P 10 48 36.1 -1.3**
QMBU Quimbuelo 42.31 351 *i* P **P 10 48 36.0 -2.3**
PINC Pinares de May 42.74 350 *i* P **P 10 48 40.2 -1.5**

CBCY The Bluff, Cay 42.82 344 *i* P **P 10 48 42.9 +0.5**
PMSA Palmer Station 42.94 177 LR LR 11 08 18.9
comp=Z,718nm,18.1s,baz=339,slow=38
PMSA Palmer Station 42.94 177 P P 10 48 44.4 +1.6
HLGC Holguin 43.18 350 *i* P **P 10 48 45.5 +0.2**
CCCC Cccc 43.79 348 *i* P **P 10 48 48.8 -1.3**
MGV Manicaragua 45.16 345 *i* P **P 10 49 00.8 -0.2**
TEIG Tepich 46.10 334 P P 10 49 07.8 -0.7
TEIG pP **pP 10 49 36.0 -0.8**
TEIG sP **sP 10 49 49.9 -0.4**
SMAI San Martin Ant 46.21 179 P P 10 49 09.5 +0.7
CAMR Camarioca 46.41 344 *i* P **P 10 49 11.2 +0.3**
CMIG Matias Romero 46.55 324 LR LR 11 07 11.2
comp=Z,300nm,20.3s,baz=152,slow=34
SOR Soroa 46.61 342 P P 10 49 12.1 -0.4
SOR pmax pmax
comp=Z,125nm,1.0s
DWPF Disney Wildern 51.27 345 P P 10 49 48.1 +0.3
DWPF pP **pP 10 50 16.6 0.0**
H10N3 ASCENSION HYDR 53.85 84 P P 10 50 05.9 -1.1
baz=312,slow=78,SNR=5.3
H10N1 ASCENSION HYDR 53.87 84 P P 10 50 05.5 -1.6
baz=312,slow=78,SNR=14
H10N2 ASCENSION HYDR 53.87 84 P P 10 50 05.8 -1.3
baz=312,slow=78,SNR=3.6
456A Hilliard 53.92 346 P P 10 50 08.1 +0.7
ASCN Ascension 53.95 84 P P 10 50 07.3 -0.7
GOGA Godfrey 56.83 345 P P 10 50 27.9 -0.3
GOGA pmax pmax
comp=Z,38nm,1.2s
HKT Hockley 57.85 332 *i* P **P 10 50 36.3 +0.9**
HKT pmax pmax
comp=Z,29nm,1.1s
HKT Hockley 57.85 332 P P 10 50 36.2 +0.9
HKT pP **pP 10 51 04.8 +0.1**
BELA Belgrano 2 58.29 172 P P 10 50 38.1 +0.2
BELA IAmb IAmb 10 50 41.8
comp=Z,41nm,1.0s
FPAL Fort Paine 58.44 344 P P 10 50 38.6 -0.9
SNAG San Augustine 58.53 334 P P 10 50 40.2 +0.1
W52A Murphy 58.55 345 P P 10 50 40.2 -0.1
W52A IAmb IAmb 10 51 10.6
comp=Z,50nm,0.8s
V53A Saluda 58.84 346 P P 10 50 42.0 -0.4
V53A IAmb IAmb 10 51 12.4
comp=Z,45nm,0.7s
TKL Tuckaleechee C 59.05 346 LR LR 11 19 28.7
comp=Z,354nm,18.0s,baz=161,slow=39
SHEL Horse Pasture 59.40 96 P P 10 50 47.1 +0.5
VNA3 Neumayer Olymp 59.58 161 ⇑P **P 10 50 47.6 +0.7**
comp=Z,41nm,0.5s
VNA3 ⇑S **S 10 58 50.7 +3.1**
comp=N,201µm,0.0s
VNA1 Neumayer--Stat 59.79 160 ⇑P **P 10 50 49.5 +1.2**
comp=Z,52nm,0.8s
V48A Smith Brothers 59.90 343 P P 10 50 48.7 -0.8
JCT Junction City 60.12 329 P P 10 50 51.8 +0.6
JCT IAmb IAmb 10 51 21.7
comp=Z,69nm,0.8s
JCT Junction City 60.12 329 P P 10 50 51.8 +0.6
JCT pmax pmax
comp=Z,69nm,0.8s
VNA2 Neumayer--Watz 60.15 161 ⇑P **P 10 50 51.7 +0.8**
comp=Z,77nm,0.6s,baz=272,slow=6.8
WVT Waverly 60.54 342 P P 10 50 52.7 -1.2
WVT AP **pP 10 51 20.8 -2.7**
WVT Waverly 60.54 342 P P 10 50 53.1 -0.8
WVT pP **pP 10 51 22.0 -1.5**
MIAR Mount Ida 60.98 337 P P 10 50 57.2 +0.3
MIAR pmax pmax
comp=Z,69nm,0.9s
TXAR Lajitas Array 61.15 325 P P 10 50 58.9 +0.6
comp=Z,3.8nm,0.6s,baz=152,slow=8.6,SNR=70
TXAR pP **pP 10 51 27.4 -0.1**
comp=Z,14nm,0.8s,baz=151,slow=8.3,SNR=15
TXAR PKP2bc **P'P'bc 11 20 19.7 -1.2**
comp=Z,0.7nm,1.1s,baz=174,slow=2.4,SNR=4.0
comp=Z,3.8nm,0.6s
SNAA Sanae 61.78 161 ⇑P **P 10 51 02.5 +0.6**
comp=Z,2µm,0.7s
SNAA ⇑S **S 10 59 15.6 -0.1**
SNAA Sanae 61.78 161 P P 10 51 02.5 +0.6
comp=Z,56nm,0.6s,baz=284,slow=7.9,SNR=646
comp=Z,56nm,0.6s
SNAA Sanae 61.78 161 *ceP* **P 10 51 02.4 +0.5**
SNAA pmax pmax
comp=Z,83nm,1.0s
WUPA West Chester U 61.88 354 P P 10 51 02.8 0.0
WCI Wyandotte Cave 62.10 344 P P 10 51 03.7 -0.6
WCI pmax pmax
comp=Z,116nm,0.8s
WCI Wyandotte Cave 62.10 344 P P 10 51 03.4 -1.0
WCI pP **pP 10 51 32.8 -1.3**
WCI sP **sP 10 51 47.2 -0.1**
MBO M'Bour 62.18 59 P P 10 51 04.6 -0.7
PAGS Pennsylvania G 62.30 353 P P 10 51 05.8 +0.2
PAGS IAmb IAmb 10 51 37.9
comp=Z,60nm,0.9s
BBTS Babate 62.67 59 P P 10 51 07.8 -0.7
comp=Z,80nm,0.9s,baz=260,slow=0.0
comp=Z,80nm,0.9s
SSPA Standing Stone 62.84 352 P P 10 51 09.7 +0.5
SSPA pP **pP 10 51 39.2 +0.3**
RLO Rose Lookout 62.95 336 P P 10 51 09.8 -0.2
RLO IAmb IAmb 10 51 40.8
comp=Z,62nm,0.7s
WMOK Wichita Mounta 63.23 332 P P 10 51 11.7 -0.3
WMOK pmax pmax
comp=Z,11nm,0.7s
CCM Cathedral Cave 63.35 340 P P 10 51 12.2 -0.4
CCM pP **pP 10 51 41.3 -1.1**
CCM PcP **PcP 10 51 47.7 -1.0**
Q44A Meyer Farm, Va 63.47 342 P P 10 51 12.3 -1.0
TROLL Troll, Antarti 63.50 161 ⇑P **P 10 51 14.3 +0.9**
comp=Z,5µm,0.5s
TROLL ⇑S **S 10 59 37.6 +0.4**
HRV Adam Dziewonsk 64.17 358 P P 10 51 18.4 +0.5
HRV pmax pmax
comp=Z,47nm,0.8s
HRV Adam Dziewonsk 64.17 358 P P 10 51 18.1 +0.3
HRV pP **pP 10 51 48.0 +0.3**
HDIL Hopedale 65.08 343 P P 10 51 22.9 -1.0
HDIL IAmb IAmb 10 51 53.4
comp=Z,107nm,0.8s
NVL N'lazarevskaya 66.33 159 *eP* **P 10 51 27.9 -3.6**
NVL *e* 10 51 56.9
NVL *eS* **S 11 00 08.9 -2.7**
NVL *e* 11 01 13.6
NVL pmax pmax
comp=Z,6.0nm,0.8s
NVL smax smax
comp=N,829nm,11.8s
ANMO Albuquerque 67.02 327 P P 10 51 37.8 +1.1
comp=N,27nm,0.8s,baz=231,slow=7.9,SNR=69
ANMO pP **pP 10 52 05.8 -0.9**
comp=N,41nm,0.8s,baz=228,slow=7.9,SNR=10.0
comp=N,27nm,0.8s
ANMO Albuquerque 67.02 327 *deP* **P 10 51 37.9 +1.3**
ANMO pmax pmax
comp=Z,54nm,1.3s
ANMO Albuquerque 67.02 327 P P 10 51 38.1 +1.5
ANMO pP **pP 10 52 07.4 +0.6**
SADO Sadowa 67.07 352 LR LR 11 22 11.3
comp=Z,4µm,21.1s,baz=185,slow=37
OTT Ottawa 67.31 355 P P 10 51 37.9 -0.1
TUC Tucson 67.35 322 P P 10 51 40.4 +1.7
TUC pmax pmax
comp=Z,51nm,1.4s
TUC Tucson 67.35 322 P P 10 51 40.4 +1.7
QSPA South Pole Qui 68.27 180 P P 10 51 47.7 +3.6
comp=Z,68nm,0.6s,baz=188,slow=0.5,SNR=796
QSPA PKPPKP **P'P'df 11 19 59.1 -2.7**
comp=Z,1.7nm,1.0s,baz=220,slow=0.4,SNR=5.2
QSPA LR LR 11 22 24.2
comp=Z,353nm,20.8s,baz=159,slow=36
comp=Z,68nm,0.6s
QSPA South Pole Qui 68.27 180 ⇑P **P 10 51 48.2 +4.2**
DBIC Dimbokro 68.58 73 P P 10 51 45.9 -0.8
DBIC Dimbokro 68.58 73 P P 10 51 46.0 -0.6
comp=Z,102nm,0.5s,baz=260,slow=6.7,SNR=198
DBIC LR LR 11 22 24.9
comp=Z,560nm,18.8s,baz=260,slow=36
comp=Z,102nm,0.5s
DBIC Dimbokro 68.58 73 P P 10 51 46.0 -0.6
TAOE Nuku Hiva Isla 69.69 268 *eP* P 10 51 45.9 -7.8

comp=Z,566nm,26.0s
TAOE eS S 11 00 45.0 -8.5
comp=Z,572nm,25.6s
TAOE eSS SS 11 05 16.2 -7.9
comp=Z,4µm,38.3s
TAOE eLQ LQ 11 10 15.7
comp=Z,3µm,33.3s
TAOE eLR LR 11 12 52.6
comp=Z,1µm,39.2s
ISCO Idaho Springs 70.46 331 P **P 10 51 59.5 +1.4**
ISCO pmax pmax
comp=Z,28nm,1.8s
PFO Pinyon Flats O 71.62 319 P **P 10 52 06.8 +1.8**
comp=Z,16nm,0.7s,baz=127,slow=5.4,SNR=59
PFO pP **pP 10 52 35.9 +0.7**
comp=Z,18nm,0.8s,baz=124,slow=6.5,SNR=7.9
PFO LR LR 11 20 16.3
comp=Z,262nm,20.6s,baz=130,slow=33
comp=Z,16nm,0.7s
PFO Pinyon Flats O 71.62 319 *i* P **P 10 52 05.4 +0.4**
PFO pmax pmax
comp=Z,42nm,1.1s
PFO Pinyon Flats O 71.62 319 P **P 10 52 07.1 +2.2**
PFO pP **pP 10 52 36.7 +1.6**
ELS Elsinore Mount 72.24 319 P **P 10 52 10.1 +1.5**
ACRG Accra 72.30 76 P **P 10 52 08.1 -1.2**
ACRG IAmb IAmb 10 52 09.0
comp=Z,67nm,1.0s
PMOZ Porto Moniz, M 73.29 43 eS **SKiKP 11 01 39.5 +4.6**
RSSD Black Hills 73.31 334 P **P 10 52 16.2 +1.3**
RSSD pmax pmax
comp=Z,39nm,0.9s
RSSD Black Hills 73.31 334 P **P 10 52 16.0 +1.1**
RSSD pP **pP 10 52 46.0 +0.7**
RSSD sP **sP 10 52 58.4 +0.1**
TBI Tubuai 73.63 251 eP **P 10 52 12.8 -4.2**
comp=Z,802nm,33.2s
TBI eS **S 11 01 40.1 +1.7**
comp=Z,2µm,32.2s
TBI eSS **SS 11 06 20.4 -3.4**
comp=Z,706nm,28.0s
TBI eLQ LQ 11 11 51.6
comp=Z,3µm,32.8s
TBI eLR LR 11 14 55.1
comp=Z,4µm,39.0s
TBI eLR LR 11 14 56.7
comp=Z,1µm,31.2s
LRMC Laurel Mtn Rad 73.63 320 P **P 10 52 17.8 +0.9**
PDAR Pinedale Array 74.62 330 P **P 10 52 23.3 +0.7**
comp=Z,13nm,0.7s,baz=127,slow=7.5,SNR=61
PDAR pP **pP 10 52 52.5 -0.6**
comp=Z,6.3nm,0.6s,baz=129,slow=9.0,SNR=4.7
comp=Z,13nm,0.7s
MDND Maddock 74.83 339 P **P 10 52 23.9 +0.5**
MDND IAmb IAmb 10 52 56.8
comp=Z,140nm,0.9s
SBA Scott Base 75.46 190 P **P 10 52 28.3 +1.7**
SBA Scott Base 75.46 190 P **P 10 52 28.3 +1.7**
SBA pmax pmax
comp=Z,51nm,1.4s
SBA Scott Base 75.46 190 P **P 10 52 29.4 +2.8**
PPT2 Papeete2 75.50 257 eP P 10 52 21.1 -6.9
comp=Z,557nm,26.2s
PPT2 Papeete2 75.50 257 ePP PP 10 55 16.5 -2.2
comp=Z,160nm,27.0s
PPT2 eS **S 11 01 57.0 -2.5**
comp=Z,925nm,28.0s
PPT2 eSS **SS 11 06 54.7 +2.1**
comp=Z,373nm,24.8s
PPT2 eLQ LQ 11 12 38.2
comp=Z,2µm,30.8s
PPT2 eLR LR 11 15 44.2
comp=Z,1µm,40.2s
PPT2 eLR LR 11 15 45.9
comp=Z,2µm,37.5s
ULM Lac du Bonnet 75.81 342 P **P 10 52 28.9 +0.1**
comp=Z,17nm,0.4s,baz=152,slow=7.7,SNR=26
ULM pP **pP 10 52 58.9 -0.6**
comp=Z,29nm,0.7s,baz=147,slow=6.4,SNR=6.5
ULM LR LR 11 30 02.3
comp=Z,228nm,18.4s,baz=142,slow=39
comp=Z,17nm,0.4s
ULM Lac du Bonnet 75.81 342 *i* P **P 10 52 29.8 +0.9**
ELK Elko 75.94 325 P **P 10 52 31.7 +1.6**
comp=Z,18nm,0.8s,baz=132,slow=4.1,SNR=108
ELK pP **pP 10 53 02.1 +1.3**
comp=Z,18nm,0.9s,baz=107,slow=2.0,SNR=7.1
comp=Z,18nm,0.8s
SYO Syowa Base 76.00 159 ⇑ *i*P **P 10 52 30.8 +1.0**
SYO Syowa Base 76.00 159 ⇑ *i*PP PP 10 55 18.2 -3.2
NVAR Mina Array Bea 76.01 322 P **P 10 52 32.4 +1.8**
comp=Z,13nm,0.7s,baz=154,slow=6.7,SNR=91
NVAR pP **pP 10 53 02.6 +1.4**
comp=Z,25nm,0.8s,baz=156,slow=6.2,SNR=12
NVAR LR LR 11 23 25.1
comp=Z,158nm,19.9s,baz=124,slow=34
comp=Z,13nm,0.7s
SCHQ Schefferville 76.46 1 P **P 10 52 32.0 -0.5**
SCHQ Schefferville 76.46 1 P **P 10 52 32.8 +0.4**
comp=Z,206nm,0.8s,baz=183,slow=4.2,SNR=13
SCHQ pP **pP 10 53 03.2 +0.1**
comp=Z,296nm,0.9s,baz=174,slow=6.0,SNR=5.9
SCHQ LR LR 11 27 59.7
comp=Z,2µm,20.8s,baz=183,slow=37
comp=Z,206nm,0.8s
VNDA Vanda 76.48 190 P **P 10 52 34.3 +1.9**
VNDA Vanda 76.48 190 P **P 10 52 35.0 +2.6**
comp=Z,13nm,0.8s,baz=128,slow=5.2,SNR=35
VNDA pP **pP 10 53 04.5 +1.8**
comp=Z,7.0nm,0.8s,baz=142,slow=3.2,SNR=4.2
VNDA PKPPKP **P'P'df 11 19 43.1 -4.0**
comp=Z,0.4nm,0.4s,baz=277,slow=12,SNR=9.7
VNDA LR LR 11 26 18.1
comp=Z,169nm,18.5s,baz=142,slow=36
comp=Z,13nm,0.8s
VNDA Vanda 76.48 190 P **P 10 52 34.9 +2.5**
VNDA pP **pP 10 53 05.7 +3.0**
VNDA sP **sP 10 53 19.5 +3.9**
SAO San Andreas Ge 76.76 319 P **P 10 52 35.9 +1.3**
CMB Columbia Colle 76.96 320 P **P 10 52 37.1 +1.4**
TORD Torodi Ar. Bea 77.22 70 P **P 10 52 34.5 -3.1**
TORD IAmb IAmb 10 52 40.9
comp=Z,52nm,0.6s
TORD Torodi Ar. Bea 77.22 70 P **P 10 52 36.8 -0.8**
comp=Z,38nm,0.3s,baz=133,slow=28,SNR=115
TORD pP **pP 10 53 08.7 0.0**
comp=Z,31nm,0.8s,baz=276,slow=4.6,SNR=2.7
TORD S **S 11 02 15.1 -3.0**
comp=Z,9.7nm,1.1s,baz=259,slow=8.7,SNR=9.4
TORD LR LR 11 25 38.1
comp=Z,593nm,20.6s,baz=204,slow=35
comp=Z,38nm,0.3s
WIN Windhoek 78.11 110 P **P 10 52 42.4 -0.4**
WIN IAmb IAmb 10 52 43.6
comp=Z,52nm,0.8s
WIN Windhoek 78.11 110 P **P 10 52 42.4 -0.4**
WIN pmax pmax
comp=Z,52nm,0.8s
SUR Sutherland 78.11 120 P **P 10 52 42.7 0.0**
SUR IAmb IAmb 10 52 44.4
comp=Z,53nm,0.8s
SUR Sutherland 78.11 120 P **P 10 52 43.7 +1.1**
TIO Tiouine 78.88 50 P **P 10 52 47.2 +0.5**
TIO S **S 11 02 36.2 +0.5**
WVOR Wild Horse Val 78.94 325 P **P 10 52 48.2 +1.5**
WVOR pmax pmax
comp=Z,19nm,1.3s
TSUM Tsumeb 79.64 107 P **P 10 52 50.7 -0.4**
TSUM IAmb IAmb 10 52 52.8
comp=Z,159nm,1.1s
TSUM Tsumeb 79.64 107 P **P 10 52 51.5 +0.4**
KMRM Mail Ridge 80.34 320 P **P 10 52 55.1 +0.9**
KMRM IAmb IAmb 10 52 58.8
comp=Z,90nm,1.0s
YBH Yreka Blue Hor 80.73 322 P **P 10 52 56.6 +0.3**
comp=Z,0.7nm,0.7s,baz=127,slow=1.9,SNR=29
YBH pP **pP 10 53 26.4 -0.8**
comp=Z,0.8nm,0.9s,baz=48,slow=4.3,SNR=5.2
YBH LR LR 11 28 44.0
comp=Z,13nm,19.7s,baz=116,slow=36
FFC Flin Flon 81.53 341 P **P 10 53 00.0 -0.1**
MORF Marmelete 81.56 44 eP **P 10 53 01.4 +0.6**
MORF IAmb IAmb 10 53 02.6
comp=Z,46nm,1.2s
MORF Marmelete 81.56 44 eP **P 10 53 01.9 +1.1**
MORF *i* IAmb IAmb 10 53 04.1
comp=Z,49nm,1.4s
MORF epP **pP 10 53 35.5 +3.6**
MORF Marmelete 81.56 44 eP **P 10 53 01.4 +0.6**
PTEO Sao Teotonio 81.65 44 eP **P 10 52 59.2 -1.9**
PTEO *i* IAmb IAmb 10 53 03.7
comp=Z,99nm,1.3s
PTEO epP **pP 10 53 35.8 +3.6**
MD01 Midelt array s 81.72 50 P **P 10 53 01.7 -0.2**
MD31 MD31 81.72 50 P **P 10 53 01.7 0.0**
MDT Midelt 81.80 50 P **P 10 53 02.8 +0.6**
comp=Z,10nm,0.7s,baz=257,slow=4.9,SNR=17
MDT pP **pP 10 53 34.2 +0.9**
comp=Z,13nm,0.8s,baz=249,slow=4.4,SNR=4.5
MDT LR LR 11 30 48.3
comp=Z,490nm,18.2s,baz=254,slow=37
comp=Z,10nm,0.7s
PBDV Barranco-do-Ve 81.99 45 P **P 10 53 03.3 +0.3**
PBDV S **S 11 03 09.5 +1.8**
PBDV Barranco-do-Ve 81.99 45 eP **P 10 53 03.9 +0.8**
PBDV *i* IAmb IAmb 10 53 12.0
comp=Z,41nm,3.0s
PBDV epP **pP 10 53 37.7 +3.6**
PHPEN Phepeng 82.09 114 P **P 10 53 03.5 -0.6**
PHPEN IAmb IAmb 10 53 05.8
comp=Z,128nm,1.4s
PHPEN Phepeng 82.09 114 *i* P **P 10 53 04.2 +0.2**
GRTLG Ghanzi 82.11 110 P **P 10 53 03.0 -1.3**
GRTLG IAmb IAmb 10 53 05.0
comp=Z,83nm,1.1s
GRTLG Ghanzi 82.11 110 *i* P **P 10 53 04.3 +0.1**
PMAFR Mafra 82.12 43 P **P 10 53 03.9 +0.3**
PMAFR Mafra 82.12 43 eP **P 10 53 04.7 +1.0**
PMAFR *i* IAmb IAmb 10 53 18.5
comp=Z,100nm,1.5s
PCVE Castro Verde 82.15 44 P **P 10 53 04.6 +0.8**
PCVE S **S 11 03 08.9 -0.2**
PCVE Castro Verde 82.15 44 eP **P 10 53 04.3 +0.6**
PCVE *i* IAmb IAmb 10 53 05.9
comp=Z,40nm,1.0s
PCVE epP **pP 10 53 36.9 +2.0**
MESJ Messejana 82.15 44 eP **P 10 53 04.1 +0.3**
MESJ IAmb IAmb 10 53 05.9
comp=Z,21nm,0.7s
MESJ epP **pP 10 53 34.2 -0.7**
MESJ Messejana 82.15 44 eP **P 10 53 04.6 +0.9**
MESJ *i* IAmb IAmb 10 53 05.9
comp=Z,37nm,1.0s
MESJ epP **pP 10 53 36.1 +1.2**
MESJ Messejana 82.15 44 eP **P 10 53 04.1 +0.3**
MESJ e*PP **pP 10 53 34.2 -0.7**
PARRA Arraiolos 82.20 43 eP **P 10 53 08.7 +4.8**
PARRA *i* IAmb IAmb 10 53 10.0
comp=Z,30nm,2.3s
PARRA epP **sP 10 53 41.6 -6.4**
GRHM Grahamstown, E 82.22 123 P **P 10 53 04.2 -0.3**
GRHM IAmb IAmb 10 53 06.9
comp=Z,79nm,0.9s
PVAQ Vaqueiros 82.22 45 eP **P 10 53 04.8 +0.6**
PVAQ *i* IAmb IAmb 10 53 06.2
comp=Z,33nm,2.1s
PVAQ eS **SKSac 11 03 14.0 -0.1**
NEW Newport 82.26 330 P **P 10 53 04.7 +0.5**
comp=Z,7.4nm,0.7s,baz=140,slow=5.8,SNR=10
comp=Z,7.4nm,0.7s
KGCAE Kacgae 82.45 112 P **P 10 53 05.6 -0.4**
KGCAE IAmb IAmb 10 53 08.2
comp=Z,321nm,1.9s
KGCAE Kacgae 82.45 112 *i* P **P 10 53 06.7 +0.7**
EGRO El Granado 82.45 45 P **P 10 53 05.9 +0.5**
EGRO S **S 11 03 13.8 +1.6**
PBEJ Beja 82.49 44 eP **P 10 53 06.3 +0.8**
PBEJ *i* IAmb IAmb 10 53 07.6
comp=Z,33nm,1.0s
PBEJ epP **pP 10 53 40.1 +3.4**
PSBE So Bento 82.76 42 eP **P 10 53 08.1 +1.1**
PSBE *i* IAmb IAmb 10 53 11.0
comp=Z,65nm,1.9s
PSBE epP **pP 10 53 41.2 +3.1**
G04A Mulino 82.86 325 P **P 10 53 08.0 +0.8**
G04A IAmb IAmb 10 53 57.3
comp=Z,63nm,0.9s
PMTG Montargil 82.86 43 eP **P 10 53 08.0 +0.6**
PMTG *i* IAmb IAmb 10 53 09.4
comp=Z,48nm,1.0s
PMTG epP **pP 10 53 40.9 +2.3**
CCD Concordia, Ant 82.90 183 P **P 10 53 09.0 +1.4**
COR Corvallis 82.90 324 P **P 10 53 09.6 +2.1**
COR pmax pmax
comp=Z,92nm,1.2s
COR Corvallis 82.90 324 P **P 10 53 09.4 +1.9**
COR pP **pP 10 53 39.6 +1.1**
ECEU Ceuta 82.94 47 P **P 10 53 08.3 +0.4**
BOSA Boshof 82.99 118 P **P 10 53 08.1 -0.6**
BOSA IAmb IAmb 10 53 09.1
comp=Z,53nm,0.9s
BOSA Boshof 82.99 118 P **P 10 53 08.5 -0.1**
comp=Z,35nm,0.8s,baz=253,slow=3.7,SNR=60
BOSA pP **pP 10 53 39.3 -0.6**
comp=Z,36nm,0.9s,baz=259,slow=3.6,SNR=3.4
BOSA LR LR 11 26 07.1
comp=Z,359nm,20.5s,baz=232,slow=33
comp=Z,35nm,0.8s
BOSA Boshof 82.99 118 P **P 10 53 08.5 -0.1**
BOSA pP **pP 10 53 40.2 +0.4**
BOSA sP **sP 10 53 52.0 -0.8**
PBAR Barrancos 83.11 44 P **P 10 53 08.1 -0.6**
PBAR S **S 11 03 18.7 -0.1**
PBAR Barrancos 83.11 44 eP **P 10 53 09.0 +0.3**
PBAR epP **pP 10 53 42.8 +2.9**
PBAR *i* IAmb IAmb 10 53 43.5
comp=Z,25nm,0.9s
EMIN Mina Concepcio 83.11 45 P **P 10 53 08.9 +0.2**
EMIN S **SKSac 11 03 20.9 +0.9**
PESTR Estremoz 83.15 43 P **P 10 53 09.3 +0.3**
PESTR Estremoz 83.15 43 eP **P 10 53 09.5 +0.5**
PESTR *i* IAmb IAmb 10 53 11.0
comp=Z,40nm,1.3s
PESTR epP **pP 10 53 41.2 +1.1**
ESPR Espera 83.15 46 P **P 10 53 09.9 +1.0**
ESPR S **SKSac 11 03 22.0 +1.8**
XAUDM Khaudum 83.20 107 P **P 10 53 10.1 +0.2**
XAUDM IAmb IAmb 10 53 12.3
comp=Z,160nm,1.8s
PSARD Sardoal 83.21 43 eP **P 10 53 09.9 +0.7**
PSARD epP **pP 10 53 43.1 +2.7**
PSARD *i* IAmb IAmb 10 53 43.6
comp=Z,49nm,0.9s
PCAS Casmilo, Conde 83.26 42 eP **P 10 53 10.4 +0.9**
PCAS *i* IAmb IAmb 10 53 11.3
comp=Z,35nm,1.4s
PCAS epP **pP 10 53 43.5 +2.9**
SKOMA Sekoma 83.34 114 *i* P **P 10 53 10.7 +0.2**
RAR Rarotonga 83.35 250 LR LR 11 22 59.1
comp=Z,117nm,19.9s,baz=111,slow=30
COI Coimbra 83.41 42 P **P 10 53 10.4 +0.2**
COI Coimbra 83.41 42 eP **P 10 53 11.0 +0.8**
COI *i* IAmb IAmb 10 53 11.7
comp=Z,50nm,1.1s
COI Coimbra 83.41 42 P **P 10 53 10.4 +0.2**
COI pmax pmax
comp=Z,36nm,1.0s
EBAD Badajoz 83.45 44 P **P 10 53 10.9 +0.4**
EBAD S **S 11 03 25.3 +3.0**
PMRV Marv??o 83.59 43 eP **P 10 53 11.7 +0.5**
PMRV epP **pP 10 53 43.4 +1.0**
PMRV *i* IAmb IAmb 10 53 47.6
comp=Z,20nm,1.0s
PMRV eS **S 11 03 27.6 +3.8**
MAKGR Makgori 83.61 115 P **P 10 53 11.3 -0.6**
MAKGR IAmb IAmb 10 53 12.6
comp=Z,55nm,1.0s
PCBR Castelo Branco 83.78 43 eP **P 10 53 12.8 +0.7**
PCBR *i* IAmb IAmb 10 53 14.6
comp=Z,36nm,1.5s
PCBR epP **pP 10 53 45.9 +2.5**
MAW Mawson 83.84 163 P **P 10 53 13.1 +1.0**
comp=Z,35nm,0.6s,baz=212,slow=6.4,SNR=147
MAW pP **pP 10 53 45.1 +2.2**
comp=Z,17nm,0.8s,baz=218,slow=3.6,SNR=4.1
MAW LR LR 11 30 25.1
comp=Z,204nm,20.9s,baz=233,slow=35
comp=Z,35nm,0.6s
PVIS Viseu 84.02 42 eP **P 10 53 13.9 +0.5**
PVIS epP **pP 10 53 47.1 +2.4**
EMAL Malaga-Limoner 84.05 47 P **P 10 53 13.8 +0.3**
EMAL S **SKSac 11 03 26.9 +0.8**
MTE Manteigas 84.06 42 P **P 10 53 13.8 +0.1**
MTE Manteigas 84.06 42 eP **P 10 53 14.6 +1.0**
MTE epP **pP 10 53 47.4 +2.5**
MTE *i* IAmb IAmb 10 53 49.5
comp=Z,40nm,1.0s
MTE eS **S 11 03 33.8 +5.3**
ECAB El Cabril 84.11 45 P **P 10 53 14.5 +0.6**
EGOR Sierra Gorda, 84.45 46 P **P 10 53 15.8 0.0**
EGOR S **SKSac 11 03 30.7 +1.7**
PVRL Vila Real 84.46 41 eP **P 10 53 15.8 +0.2**
PVRL *i* IAmb IAmb 10 53 18.8
comp=Z,46nm,1.6s
PVRL epP **pP 10 53 49.5 +2.7**
POLO Lamas de Olo 84.47 41 eP **P 10 53 15.9 +0.2**
POLO *i* IAmb IAmb 10 53 19.0
comp=Z,23nm,1.6s
POLO epP **pP 10 53 49.6 +2.6**
PCAB Cabril 84.52 41 eP **P 10 53 16.1 +0.2**
PCAB epP **pP 10 53 49.7 +2.6**
PCAB *i* IAmb IAmb 10 53 50.6
comp=Z,61nm,0.9s
PGAV Gavieira, Arco 84.52 41 eP **P 10 53 16.4 +0.4**
PGAV *i* IAmb IAmb 10 53 19.3
comp=Z,66nm,1.5s
PGAV epP **pP 10 53 49.7 +2.5**
PGAV eS **S 11 03 35.2 +2.1**
LBTB Lobatse 84.58 115 LR LR 11 27 48.0
comp=Z,531nm,19.2s,baz=242,slow=33
LBTB Lobatse 84.58 115 P **P 10 53 16.9 +0.1**
LBTB pP **pP 10 53 49.2 +1.2**
LBTB sP **sP 10 54 00.8 -0.1**
GNW Green Mountain 84.58 326 P **P 10 53 16.4 +0.4**
ELGU Los Guajares, 84.65 47 P **P 10 53 17.6 +0.9**
ELGU S **S 11 03 38.9 +4.4**
EADA Adamuz 84.71 45 P **P 10 53 16.3 -0.7**
EADA S **S 11 03 36.2 +1.2**
TAM Tamanrasset 84.75 63 P **P 10 53 17.0 -0.6**
TAM IAmb IAmb 10 53 19.2
comp=Z,50nm,0.6s
TAM Tamanrasset 84.75 63 P **P 10 53 17.0 -0.6**
TAM pmax pmax
comp=Z,51nm,0.6s
MVO Moncorvo 84.82 42 eP **P 10 53 17.4 0.0**
MVO *i* IAmb IAmb 10 53 20.9
comp=Z,42nm,1.6s
MVO epP **pP 10 53 49.4 +0.7**
MVO eS **S 11 03 39.8 +3.8**
EQTA Presa de Quent 84.95 47 P **P 10 53 18.0 -0.2**
EQTA S **S 11 03 40.6 +3.0**
B04A Port Angeles 85.25 327 P **P 10 53 20.4 +1.1**
PBRG Braganca 85.36 41 eP **P 10 53 19.4 -0.7**
PBRG *i* IAmb IAmb 10 53 23.4
comp=Z,55nm,1.8s
PBRG epP **pP 10 53 53.7 +2.3**
FRB Frobisher Bay 85.39 0 LR LR 11 34 02.2
comp=Z,144nm,19.9s,baz=177,slow=37
LPHEP Lephephe 85.40 113 *i* P **P 10 53 21.3 +0.4**
PHDHD Phuduhudu 85.42 110 P **P 10 53 21.1 0.0**
PHDHD IAmb IAmb 10 53 24.0
comp=Z,198nm,1.6s
PHDHD Phuduhudu 85.42 110 *i* P **P 10 53 21.7 +0.7**
KHWEE KHWEE 85.57 112 P **P 10 53 21.1 -0.7**
PAB San Pablo 85.61 44 P **P 10 53 21.8 +0.3**
PAB pmax pmax
comp=Z,46nm,1.2s
ESDC Sonseca Array 85.93 44 P **P 10 53 22.8 -0.2**
ESDC Sonseca Array 85.93 44 P **P 10 53 23.2 +0.2**
comp=Z,8.6nm,0.9s,baz=246,slow=4.5,SNR=47
ESDC pP **pP 10 53 54.7 +0.4**
comp=Z,17nm,0.9s,baz=243,slow=4.8,SNR=11
ESDC LR LR 11 32 18.5
comp=Z,345nm,18.1s,baz=232,slow=36
comp=Z,8.6nm,0.9s
GUD Guadarrama 86.33 43 P **P 10 53 25.4 +0.3**
KSANE Kasane 86.86 108 *i* P **P 10 53 29.0 +0.9**
MREMI Moremi 87.06 113 *i* P **P 10 53 29.7 +0.7**
BROLN Tlhalogang 87.52 112 *i* P **P 10 53 31.4 +0.1**
MATP Matopo 88.78 111 LR LR 11 30 52.5
comp=Z,2µm,18.8s,baz=228,slow=34
DRV Dumont d'Urvil 89.09 191 P **P 10 53 38.9 +1.3**
DRV pP **pP 10 54 09.2 +0.4**
BBB Bella Bella 90.15 328 P **P 10 53 43.4 +0.8**
comp=Z,6.9nm,0.8s,baz=233,slow=1.9,SNR=3.1
comp=Z,6.9nm,0.8s
LSZ Lusaka 90.49 107 LR LR 11 32 33.0
comp=Z,957nm,18.9s,baz=250,slow=34
LSZ Lusaka 90.49 107 P **P 10 53 46.7 +1.3**
YKA Yellowknife Ar 91.69 340 P **P 10 53 50.2 +0.7**
comp=Z,18nm,0.7s,baz=139,slow=3.5,SNR=87
YKA pP **pP 10 54 21.1 +0.2**
comp=Z,48nm,0.8s,baz=141,slow=3.7,SNR=14
YKA LR LR 11 38 17.9
comp=Z,238nm,20.2s,baz=128,slow=38
comp=Z,18nm,0.7s
KEST Kesra 93.33 53 P **P 10 53 58.1 +0.2**
comp=Z,7.0nm,0.9s,baz=282,slow=5.7,SNR=5.7
comp=Z,7.0nm,0.9s
BORG Borgarnes 93.73 18 LR LR 11 32 33.1
comp=Z,218nm,19.9s,baz=232,slow=33
URZ Urewera 94.12 226 LR LR 11 28 14.6
comp=Z,221nm,20.5s,baz=118,slow=30
DLBC Dease Lake 94.72 332 P **P 10 54 04.0 +0.3**
comp=Z,70nm,1.0s,baz=219,slow=2.7,SNR=6.4
DLBC pP **pP 10 54 35.8 +0.4**
comp=Z,187nm,0.9s,baz=108,slow=5.3,SNR=13
DLBC LR LR 11 41 39.4
comp=Z,2µm,19.2s,baz=82,slow=38
EKA Eskdalemuir Ar 94.83 31 P **P 10 54 03.5 -0.6**
comp=Z,0.7nm,0.5s,baz=235,slow=6.2,SNR=4.8
EKA pP **pP 10 54 36.2 +0.3**
comp=Z,4.7nm,0.8s,baz=237,slow=5.9,SNR=5.1
comp=Z,0.7nm,0.5s
VAE Valguarnera 97.76 53 LR LR 11 41 15.3
comp=Z,572nm,18.1s,baz=288,slow=37
RES Resolute Bay 97.86 353 LR LR 11 42 14.6
comp=Z,243nm,19.5s,baz=184,slow=38
FETA Feichten 98.81 43 ePdiff Pdif 10 54 22.9 +0.3
comp=Z,3.4nm,1.2s
FETA epPdiff pP 10 54 56.0 +1.6
comp=Z,4.5nm,1.0s
RETA Reutte 99.01 42 ePdiff **Pdif 10 54 23.6 +0.2**
comp=Z,3.4nm,1.1s
MOTA Moosalm 99.17 43 ePdiff **Pdif 10 54 24.4 +0.2**
comp=Z,9.1nm,1.7s
MOTA epPdiff **pP 10 54 56.8 +0.8**
comp=Z,6.4nm,1.3s
SQTA Sankt Quirin 99.19 43 ePdiff **Pdif 10 54 24.0 -0.2**
comp=Z,6.7nm,0.9s
SQTA epPdiff **pP 10 54 56.3 +0.3**
comp=Z,11nm,0.8s
WATA Walderalm 99.46 43 ePdiff **Pdif 10 54 25.3 -0.2**
comp=Z,8.4nm,1.5s
WATA epPdiff **pP 10 54 57.5 +0.2**
comp=Z,5.8nm,0.9s
WTTA Wattenberg 99.47 43 ePdiff **Pdif 10 54 25.5 -0.1**
comp=Z,7.3nm,1.0s
WTTA epPdiff **pP 10 54 57.7 +0.3**
comp=Z,11nm,0.8s
WTTA Wattenberg 99.47 43 P **Pdif 10 54 26.1 +0.5**
WTTA pmax pmax
comp=Z,10.0nm,0.9s
ABTA Abfaltersbach 99.84 44 ePdiff **Pdif 10 54 27.3 +0.2**
comp=Z,4.7nm,1.0s
ABTA epPdiff **pP 10 54 59.2 +0.3**
comp=Z,7.8nm,1.0s
LESA Schwarzleotal 100.19 43 Pdiff **Pdif 10 54 28.9 +0.2**
comp=Z,1.8nm,0.8s
LESA epPdiff pP 10 55 01.1 +0.6
comp=Z,3.6nm,1.0s
KBA Koelnbreinsper 100.49 43 ePdiff **Pdif 10 54 30.3 +0.2**
comp=Z,6.3nm,1.4s
KBA epPdiff pP 10 55 02.7 +0.8
comp=Z,6.1nm,1.2s
MYKA Terra Mystica 100.52 44 ePdiff pPdif 10 55 02.5 +0.6
comp=Z,4.0nm,0.9s
OBKA Obir 101.07 44 ePdiff **Pdif 10 54 33.0 +0.4**
comp=Z,7.6nm,1.2s
OBKA epPdiff pP 10 55 05.6 +1.1
comp=Z,8.5nm,0.9s
MOA Molln 101.34 43 ePdiff **Pdif 10 54 34.4 +0.7**
comp=Z,7.7nm,1.8s
MOA epPdiff **pPdif 10 55 04.9 -0.5**
comp=Z,1.4nm,0.8s
KHC Kasperske Hory 101.36 42 eSDIF 11 06 02.7
CKRC Cesky Krumlov 101.70 42 eSDIF 11 06 04.0

CLL	**Collm**	**101.76**	**39**	*e*Sdif	Sdif	11 06 11.0	+4.3
CLL				*e*SP	SP	11 07 48.0	+8.1
CLL				*e*PS		11 08 24.0	
CLL				*e*SS	**SS**	**11 13 12.0**	**-0.8**
CLL				Lm	MLR	11 35 00.0	
	comp=Z,300nm,22.0s						
ARSA	**Arzberg**	**101.94**	**44**	*e*pPdiff	pPdif	10 55 07.4	-0.8
	comp=Z,6.9nm,1.6s						
PRU	**Pruhonice**	**102.24**	**41**	*e*SDIF		11 06 13.3	
UPC	**Upice**	**103.30**	**41**	*e*SDIF		11 06 13.1	
ILAR	**Eielson Array**	**104.76**	**334**	Pdiff	**Pdif**	**10 54 48.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=147,slow=2.4,SNR=5.5						
ILAR				pPdiff	**pPdif**	**10 55 19.8**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=152,slow=3.3,SNR=7.1						
ILAR				PP	**PP**	**10 59 10.9**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=111,slow=7.7,SNR=7.1						
ILAR				PKKPbc	**PKKPbc**	**11 10 31.8**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=312,slow=4.8,SNR=8.0						
HFS	**Hagfors**	**105.02**	**31**	PP	**PP**	**10 59 09.0**	**-2.8**
	comp=Z,5.3nm,1.0s,baz=235,slow=17,SNR=4.3						
HFS				PKKP	**PKKPab**	**11 10 49.5**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=133,slow=6.1,SNR=5.3						
DZM	**Mont Dzumac**	**110.78**	**234**	*e*P	**Pdif**	**10 55 12.0**	**-4.5**
	comp=Z,83nm,26.5s						
DZM	**Mont Dzumac**	**110.78**	**234**	*e*PP	PP	10 59 41.7	-13
	comp=Z,195nm,25.4s						
DZM	**Mont Dzumac**	**110.78**	**234**	*e*SS	SS	11 15 06.8	-8.7
	comp=Z,116nm,29.4s						
FINES	**FINESS Array B**	**111.22**	**31**	PKKPbc	PKKPbc	11 10 12.7	-1.0
	comp=Z,0.8nm,0.8s,baz=93,slow=5.7,SNR=4.1						
FINES				PKKPab	**PKKPab**	**11 10 22.5**	**+2.3**
	comp=Z,2.1nm,0.9s,baz=48,slow=4.5,SNR=4.4						
MNK	**Minsk**	**111.27**	**38**	*i* PKiKP	**PKiKP**	**10 59 15.6**	**0.0**
	comp=E,11nm,0.8s						
MNK				*i* PKiKP	**PKiKP**	**10 59 15.6**	**0.0**
	comp=N,12nm,0.9s						
MNK				*i* PKiKP	**PKiKP**	**10 59 15.6**	**0.0**
	comp=Z,6.0nm,0.7s,baz=262						
MNK				*i* pPKiKP	**pPKiKP**	**10 59 46.5**	**-1.9**
MNK				*i* PP	**PP**	**10 59 57.4**	**-0.1**
MNK				*i* PPP	PPP	11 02 19.4	
MNK				*i* SKS	**SKSdf**	**11 06 17.4**	**+0.6**
MNK				*i* SS	**SS**	**11 15 24.7**	**+3.1**
MNK				*i* SKKS	**SKKSdf**	**11 17 29.1**	**-4.7**
MNK				*i* SSS	SSS	11 19 35.5	
MNK				*i* SSS	SSS	11 19 35.5	
MNK	**Minsk**	**111.27**	**38**	*i* PKiKP	**PKiKP**	**10 59 15.6**	**0.0**
MNK				*i*		10 59 46.5	
MNK				*i*		10 59 57.3	
MNK				*i* PPP	PPP	11 02 19.4	
MNK				*i*		11 06 17.4	
MNK				*i* SS	SS	11 15 24.6	+3.0
MNK				*i* SSS	SSS	11 19 35.4	
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,214nm,20.0s						
MNK				MLR	MLR		
	comp=N,464nm,25.0s						
MNK				MLR	MLR		
	comp=E,584nm,24.0s						
AKASG	**Malin Array Be**	**111.52**	**43**	PKiKP	**PKiKP**	**10 59 15.8**	**-0.5**
	comp=E,0.5nm,0.4s,baz=264,slow=2.6,SNR=6.0						
AKBB	**Malin Array Si**	**111.52**	**43**	*c* *i* PKiKP	**PKiKP**	**10 59 17.2**	**+1.0**
ARCES	**ARCESS Array B**	**111.77**	**22**	PKKPbc	PKKPbc	11 10 09.9	-2.3
	comp=E,5.2nm,1.1s,baz=335,slow=8.1,SNR=5.9						
ARCES				PKKPab	**PKKPab**	**11 10 19.2**	**+1.7**
	comp=E,3.2nm,0.9s,baz=93,slow=6.3,SNR=4.8						
BRTR	**Keskin Array B**	**112.83**	**55**	PKiKP	**PKiKP**	**10 59 19.3**	**0.0**
	comp=E,1.9nm,0.8s,baz=183,slow=4.5,SNR=6.9						
OBN	**Obninsk**	**116.32**	**38**	*d* *i* PKiKP	**PKiKP**	**10 59 27.3**	**+2.0**
OBN				*e*		10 59 58.2	
OBN				*e*		11 00 33.6	
OBN				*e*PPP	PPP	11 03 02.3	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLMR	**Klimovskoe**	**117.71**	**32**	*e*PKIKP	**PKPdf**	**10 59 25.3**	**-2.5**
KLMR				*e*		10 59 56.0	
KLMR				pmax	pmax		
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**119.19**	**209**	PKP	**PKiKP**	**10 59 32.3**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=102,slow=3.3,SNR=4.2						
STKA				PKKPab	**PKKPbc**	**11 09 45.3**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=0.2,slow=10,SNR=3.1						
STKA				PKKP	**PKKPdf**	**11 10 18.1**	**+3.0**
	comp=Z,2.7nm,0.8s,baz=1.0,slow=2.5,SNR=4.6						
KIV	**Kislovodsk**	**120.01**	**51**	*i* PKiKP	**PKiKP**	**10 59 33.3**	**+0.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBZ	**Khabaz**	**120.16**	**51**	PKP	**PKiKP**	**10 59 33.3**	**+0.2**
	comp=Z,13nm,0.9s,baz=140,slow=2.3,SNR=14						
KBZ				pPKP	**pPKPdf**	**11 00 06.1**	**+0.1**
	comp=Z,12nm,0.9s,baz=175,slow=2.0,SNR=5.4						
KBZ	**Khabaz**	**120.16**	**51**	*c* *i* PKiKP	**PKiKP**	**10 59 35.0**	**+1.9**
BILL	**Bilibino**	**123.03**	**338**	*i* PKiKP	**PKiKP**	**10 59 38.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAK	**Makhachkala**	**123.50**	**52**	*e*P	**Pdif**	**10 56 12.0**	**-0.3**
MAK				*i*		10 59 39.2	
MAK				*e*		11 00 08.7	
MAK				*e*		11 01 24.4	
MAK				*e*		11 06 33.7	
MAK				*e*PS	**PS**	**11 11 22.8**	**+1.4**
MAK				*e*SS	SS	11 18 02.4	+1.4
MAK				*e*SSS	SSS	11 22 37.1	
MAK				pmax	pmax		
	comp=Z,266nm,1.5s						
ARTI	**Arti**	**128.26**	**34**	*i* PKiKP	**PKiKP**	**10 59 49.4**	**+0.6**
ARTI						11 01 58.3	
TIXI	**Tiksi**	**129.25**	**353**	*c* *i* PKiKP	**PKiKP**	**10 59 50.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SVE	**Sverdlovsk**	**129.27**	**33**	*e*PKIKP	**PKiKP**	**10 59 52.0**	**+1.2**
SVE				pmax	pmax		
	comp=Z,16nm,1.1s						
ASAR	**Alice Springs**	**129.67**	**207**	PKhKP	PKPpre	10 59 38.1	
	comp=Z,0.4nm,0.6s,baz=121,slow=1.7,SNR=7.3						
ASAR				PKP	**PKiKP**	**10 59 52.6**	**-0.2**
	comp=Z,19nm,1.0s,baz=144,slow=2.1,SNR=42						
ASAR				pPKP	pPKPdf	11 00 24.2	-0.5
	comp=Z,9.0nm,0.8s,baz=136,slow=2.0,SNR=6.2						
ASAR				SKP		11 03 17.6	
	comp=Z,0.5nm,0.6s,baz=329,slow=10,SNR=4.8						
ASAR				PKKP	**PKKPdf**	**11 09 54.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=349,slow=1.5,SNR=5.5						
SEY	**Seymchan**	**130.60**	**337**	*i* PKiKP	**PKiKP**	**10 59 53.0**	**-0.3**
SEY				*e*		11 00 25.4	
SEY				pmax	pmax		
	comp=Z,22nm,1.1s						
PET	**Petropavlovsk**	**132.58**	**323**	*i* PKiKP	**PKiKP**	**10 59 58.4**	**+0.8**
PET				pmax	pmax		
	comp=Z,114nm,1.8s						
WRA	**Warramunga Arr**	**132.73**	**210**	PKhKP	PKPpre	10 59 44.4	
	comp=Z,0.3nm,0.3s,baz=169,slow=1.3,SNR=12						
WRA				PKP	**PKiKP**	**10 59 58.8**	**-0.2**
	comp=Z,7.1nm,0.6s,baz=149,slow=1.8,SNR=38						
WRA				pPKP	pPKPdf	11 00 29.9	-0.8
	comp=Z,7.0nm,0.7s,baz=159,slow=1.7,SNR=6.0						
WRA				SKPbc	**SKPab**	**11 03 16.0**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=156,slow=3.2,SNR=7.2						
PETK	**Petropavlovsk-**	**133.08**	**323**	PKP	**PKiKP**	**10 59 59.8**	**+1.1**
	comp=Z,6.0nm,1.0s,baz=58,slow=4.7,SNR=5.0						
BORK	**Borovoye**	**135.93**	**35**	*c* *i* PKiKP	**PKiKP**	**11 00 04.4**	**0.0**
BORK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BVAR	**Borovoye Array**	**135.98**	**35**	PKP	**PKPdf**	**11 00 03.3**	**+0.4**
	comp=Z,12nm,0.8s,baz=323,slow=2.2,SNR=26						
BVAR				pPKP	**pPKPdf**	**11 00 35.5**	**-0.1**
	comp=Z,12nm,0.8s,baz=270,slow=1.5,SNR=3.8						
FITZ	**Fitzroy Crossi**	**137.85**	**200**	PKhKP	PKPpre	10 59 57.5	
	comp=Z,2.8nm,0.7s,baz=177,slow=5.8,SNR=9.4						
FITZ				PKP	**PKiKP**	**11 00 08.6**	**-0.8**
	comp=Z,14nm,0.8s,baz=204,slow=4.4,SNR=18						
FITZ				pPKP	pPKPdf	11 00 42.0	+1.9
	comp=Z,8.2nm,0.7s,baz=183,slow=9.0,SNR=4.1						
YAK	**Yakutsk**	**138.00**	**347**	*e*PKIKP	**PKiKP**	**11 00 08.5**	**+0.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.9s						
KURK	**Kurchatov**	**141.52**	**34**	*c* *i* PKIKP	**PKiKP**	**11 00 15.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**141.53**	**34**	PKhKP	PKPpre	11 00 08.9	
	comp=Z,4.0nm,0.7s,baz=303,slow=3.3,SNR=9.9						
KURBB				PKP	**PKPdf**	**11 00 14.3**	**+1.2**
	comp=Z,9.1nm,0.8s,baz=303,slow=2.8,SNR=23						
KURBB				pPKP	pPKPdf	11 00 44.5	-1.4
	comp=Z,4.9nm,0.8s,baz=300,slow=2.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**142.21**	**26**	PKhKP	PKPpre	11 00 09.6	
	comp=Z,6.5nm,0.4s,baz=324,slow=3.3,SNR=26						
ZALV				PKP	**PKPdf**	**11 00 15.3**	**+1.1**
	comp=Z,11nm,0.4s,baz=304,slow=2.3,SNR=20						
ZALV				pPKP	pPKPdf	11 00 44.2	-2.8
	comp=Z,10nm,0.8s,baz=287,slow=2.2,SNR=2.8						
ZALV				SKPbc	**SKiKP**	**11 03 43.9**	**+1.2**
	comp=Z,5.7nm,0.8s,baz=318,slow=1.9,SNR=4.3						
SGDS	**Sogindy**	**142.76**	**46**	*e*PKP	**PKPdf**	**11 00 15.7**	**+0.1**
AAK	**Ala-Archa**	**142.98**	**47**	*i* PKIKP	**PKPdf**	**11 00 15.0**	**-1.2**
BOD	**Bodaibo**	**144.10**	**358**	*e*PKIKP	**PKPab**	**11 00 15.5**	**+0.3**
BOD				pmax	pmax		
	comp=Z,59nm,1.0s						
SMPI	**Sarmi**	**144.27**	**232**	PKP	**PKiKP**	**11 00 22.8**	**+0.1**
YSS	**Yuzhno-Sakhali**	**144.46**	**322**	*i* PKIKP	**PKPdf**	**11 00 18.1**	**-0.2**
YSS				*e*		11 00 50.0	
YSS				*e*		11 03 35.3	
YSS				*e*SS	SS	11 22 15.1	+2.8
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
TNSS	**Tian-Shan**	**144.47**	**46**	*e*PKP	**PKPdf**	**11 00 18.7**	**-0.4**
TNSS	**Tian-Shan**	**144.47**	**46**	*e*PKIKP	**PKPdf**	**11 00 18.6**	**-0.4**
MDOK	**Medeo**	**144.48**	**45**	*e*PKP	**PKPdf**	**11 00 18.7**	**-0.1**
MDOK	**Medeo**	**144.48**	**45**	*e*PKIKP	**PKPdf**	**11 00 18.6**	**-0.1**
KSH	**Kashi**	**145.14**	**52**	PKP	**PKPdf**	**11 00 20.0**	**0.0**
GRNR	**Gornyy**	**145.20**	**332**	*c* *i* PKIKP	**PKPab**	**11 00 21.2**	**+1.6**
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
SATY	**Saty**	**145.42**	**45**	*e*PKP	**PKPdf**	**11 00 20.3**	**-0.1**
SATY	**Saty**	**145.42**	**45**	*e*PKIKP	**PKPdf**	**11 00 20.3**	**-0.1**
UZB	**Uzynbulak**	**145.78**	**44**	*e*PKP	**PKPdf**	**11 00 21.0**	**-0.1**
UZB	**Uzynbulak**	**145.78**	**44**	*e*PKIKP	**PKPdf**	**11 00 20.9**	**-0.1**
MK31	**Makanchi Array**	**145.80**	**36**	*i* PKIKP	**PKPdf**	**11 00 20.8**	**0.0**
MKAR	**Makanchi Array**	**145.80**	**36**	PKPbc	**PKPbc**	**11 00 21.5**	**0.0**
	comp=Z,33nm,0.7s,baz=328,slow=2.7,SNR=128						
MKAR				pPKPbc	pPKPab	11 00 55.8	+1.6
	comp=Z,47nm,0.7s,baz=328,slow=3.9,SNR=11						
BATI	**Baumata**	**145.88**	**202**	PKPbc	**PKiKP**	**11 00 25.4**	**-0.7**
	comp=Z,23nm,0.4s,baz=194,slow=4.2,SNR=1.8						
ZEA	**Zeya**	**146.03**	**343**	*e*PKP2	**PKPab**	**11 00 23.0**	**+0.4**
ZEA				pmax	pmax		
	comp=N,100nm,6.6s						
ZEA				pmax	pmax		
	comp=Z,400nm,4.1s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,20nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.8s						
SHLS	**Shalkode**	**146.06**	**44**	*e*PKP	**PKPdf**	**11 00 21.8**	**+0.4**
SHLS	**Shalkode**	**146.06**	**44**	*e*PKIKP	**PKPdf**	**11 00 21.8**	**+0.4**
SOEI	**Soe**	**146.08**	**203**	PKP	**PKPab**	**11 00 25.3**	**+1.3**
ZSN	**Zaisan**	**146.77**	**34**	*e*PKP	**PKPdf**	**11 00 22.6**	**+0.3**
ZSN	**Zaisan**	**146.77**	**34**	*e*PKIKP	**PKPdf**	**11 00 22.6**	**+0.3**
WBSI	**Waikabubak, Su**	**147.66**	**195**	PKP	**PKPbc**	**11 00 28.6**	**+0.9**
RKPI	**Ransiki, Papua**	**147.79**	**227**	PKP	**PKPbc**	**11 00 28.6**	**+0.5**
MMRI	**Maumere**	**147.82**	**200**	PKP	**PKPbc**	**11 00 28.8**	**+0.7**
EDFI	**Ende, Flores**	**147.89**	**199**	PKP	**PKPbc**	**11 00 29.0**	**+0.6**
HYB	**Hyderabad**	**148.78**	**92**	*e*PKiKP	**PKPbc**	**11 00 31.2**	**+0.7**
PLAI	**Plampang**	**148.80**	**192**	PKP	**PKPbc**	**11 00 31.2**	**+0.5**
TEY	**Ternei**	**149.04**	**324**	*e*PKP2	**PKiKP**	**11 00 31.0**	**-0.5**
HEH	**HeiHe**	**149.05**	**340**	PKPbc	**PKPdf**	**11 00 27.9**	**+1.9**
HEH				AMB	AMB		
	comp=Z,210nm,6.7s						
JAGI	**Jajag, Banyuwa**	**149.67**	**185**	PKP	**PKPbc**	**11 00 32.8**	**0.0**
WMQ	**Urumqi**	**150.64**	**36**	*e*PKPbc	**PKiKP**	**11 00 35.6**	**+0.6**
WMQ				PKPab	**PKPab**	**11 00 48.7**	**+7.1**
WMQ				sPKP		11 01 10.1	
WMQ				LR	LR		
	comp=Z,290nm,23.9s						
ZAK	**Zakamensk**	**150.89**	**11**	*e*PKIKP	**PKPdf**	**11 00 29.3**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,26nm,1.7s						
LEM	**Lembang**	**151.18**	**172**	PKPbc	**PKiKP**	**11 00 38.3**	**+1.2**
	comp=Z,108nm,0.7s,baz=1.5,slow=2.1,SNR=20						
LEM				pPKPbc	**pPKPbc**	**11 01 09.7**	**+0.6**
	comp=Z,128nm,0.8s,baz=92,slow=4.9,SNR=3.8						
KAPI	**Kappang**	**152.00**	**198**	PKPbc	**PKiKP**	**11 00 39.8**	**+1.2**
	comp=Z,31nm,0.8s,baz=234,slow=3.8,SNR=9.3						
KAPI				pPKPbc	**pPKPbc**	**11 01 12.8**	**+2.0**
	comp=Z,44nm,0.9s,baz=101,slow=2.3,SNR=4.4						
USRK	**Ussuriysk Ar.**	**152.03**	**327**	PKP	**PKPdf**	**11 00 33.5**	**+2.7**
	comp=Z,6.8nm,0.7s,baz=180,slow=1.0,SNR=5.1						
USRK				PKPbc	**PKiKP**	**11 00 38.7**	**+1.0**
	comp=Z,17nm,0.8s,baz=296,slow=0.2,SNR=19						
USRK				pPKPbc	**pPKPbc**	**11 01 10.5**	**+0.4**
	comp=Z,41nm,0.9s,baz=336,slow=1.7,SNR=11						
BNSI	**Bone**	**152.48**	**199**	PKP	**PKPdf**	**11 00 35.4**	**+3.0**
MJAR	**Matsushiro Arr**	**152.56**	**308**	PKPbc	**PKiKP**	**11 00 39.8**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=83,slow=1.4,SNR=7.6						
MJAR				pPKPbc	**pPKPbc**	**11 01 11.6**	**0.0**
	comp=Z,33nm,0.9s,baz=86,slow=1.5,SNR=11						
MDSI	**Maura Dua**	**152.81**	**164**	PKP	**PKPdf**	**11 00 34.2**	**+1.3**
MDJ	**Mudanjiang**	**152.86**	**331**	PKPbc	**PKPdf**	**11 00 32.2**	**+0.2**
BNX	**BinXian**	**152.89**	**335**	*c* PKPbc	**PKPdf**	**11 00 32.4**	**+0.4**
BNX				PP	**PP**	**11 04 23.8**	**+0.1**
BNX				SS	SS	11 23 50.0	+4.2
BNX				AMB	AMB		
	comp=Z,280nm,4.9s						
SONM	**Songino Array**	**153.84**	**8**	PKP	**PKPdf**	**11 00 34.9**	**+1.4**
	comp=Z,7.0nm,0.9s,baz=311,slow=1.9,SNR=22						
SONM				PKPbc	**PKiKP**	**11 00 42.1**	**+0.5**
	comp=Z,7.3nm,0.9s,baz=314,slow=1.0,SNR=11						
SONM				PKPab	**PKPab**	**11 00 56.1**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=323,slow=3.8,SNR=6.7						
CN2	**Changchun**	**155.27**	**335**	*e*PKP	**PKPdf**	**11 00 37.1**	**+1.7**
PSI	**Prapat**	**157.45**	**146**	PKPab	**PKPab**	**11 01 09.8**	**-1.4**
	comp=Z,19nm,0.9s,baz=172,slow=3.7,SNR=6.7						
XLT	**XiLinHaoTe**	**157.75**	**351**	*e*PKP	**PKPdf**	**11 00 41.7**	**+2.9**
XLT				SKKS		11 11 31.0	
XLT				SS	**SS**	**11 24 37.8**	**-0.1**
XLT				AMB	AMB		
	comp=Z,140nm,6.8s						
KSRS	**Korea Array**	**158.95**	**321**	PKP	**PKPdf**	**11 00 42.0**	**+1.7**
	comp=Z,6.5nm,1.0s,baz=66,slow=1.3,SNR=16						
KSRS				PKPab	**PKPab**	**11 01 15.5**	**-1.5**
	comp=Z,7.1nm,0.9s,baz=80,slow=0.8,SNR=10						
KSRS				pPKPab	**pPKPab**	**11 01 49.2**	**+0.5**
	comp=Z,16nm,0.8s,baz=52,slow=4.0,SNR=10						
GOMU	**GeErMu**	**159.73**	**42**	PKP	**PKPdf**	**11 00 42.5**	**+0.8**
GOMU				SKKS		11 11 41.2	
GOMU				SS	**SS**	**11 24 58.7**	**-2.5**
GOMU				LR	LR		
	comp=Z,200nm,20.0s						
GOMU				LR	LR		
	comp=Z,110nm,21.3s						
GOMU				LR	LR		
	comp=Z,320nm,20.7s						
GTA	**Gaotai**	**159.96**	**27**	*e*PKP	**PKPdf**	**11 00 42.4**	**+0.8**
GTA				PKPab	**PKPab**	**11 01 23.4**	**+1.9**
GTA				LR	LR		
	comp=Z,220nm,17.1s						
GTA				LR	LR		
	comp=Z,210nm,18.2s						
GTA				LR	LR		
	comp=Z,220nm,17.5s						
DL2	**Dalian**	**160.94**	**335**	PKP	**PKPdf**	**11 00 42.9**	**+0.4**
DL2				SS	SS	11 25 11.7	-0.3
DL2				AMB	AMB		
	comp=Z,340nm,9.3s						
HHC	**Hu-ho-hao-te**	**161.13**	**360**	*e*PKP	**PKPdf**	**11 00 43.3**	**+0.5**
HHC				SS	SS	11 25 11.9	-1.7
HHC				LR	LR		
	comp=Z,170nm,13.0s						
HHC				LR	LR		
	comp=Z,110nm,13.1s						
HHC				LR	LR		
	comp=Z,280nm,13.0s						
BTO	**Baotou**	**161.34**	**3**	*e*PKP	**PKPdf**	**11 00 45.1**	**+2.1**
BTO				PP	**PP**	**11 05 16.1**	**+6.1**
BTO				LR	LR		
	comp=Z,370nm,20.7s						
BTO				LR	LR		
	comp=Z,410nm,21.6s						
BTO				LR	LR		
	comp=Z,660nm,24.9s						
BJI	**Beijing**	**161.49**	**348**	PKP	**PKPdf**	**11 00 46.0**	**+3.0**
BJI				pPKP	**pPKPdf**	**11 01 18.3**	**+2.4**
BJI				sPKP		11 01 30.2	
BJI				PP	**PP**	**11 05 10.5**	**-0.2**
BJI				SS	SS	11 25 15.9	-1.3
BJI				AMB	AMB		
	comp=Z,95nm,8.4s						
HNS	**HongShan**	**164.32**	**350**	⇑PKP	**PKPdf**	**11 00 49.0**	**+3.2**
HNS				PKPab	**PKPab**	**11 01 41.0**	**+0.6**
HNS				PP	**PP**	**11 05 25.7**	**+0.1**
HNS				AMB	AMB		
	comp=Z,250nm,9.0s						
LZH	**Lanzhou**	**164.43**	**23**	*e*PKP	**PKPdf**	**11 00 49.4**	**+3.2**
LZH				SS	SS	11 25 45.9	-2.5
LZH				LR	LR		
	comp=Z,270nm,17.5s						
LZH				LR	LR		
	comp=Z,240nm,15.6s						
LZH				LR	LR		
	comp=Z,350nm,18.7s						
LZDM	**Lanzhou Array**	**164.49**	**24**	PKP	**PKPdf**	**11 00 49.7**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=236,slow=2.7,SNR=3.9						
LZDM				PKPab	**PKPab**	**11 01 42.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=17,slow=1.5,SNR=4.3						
LZDM				pPKPab	**pPKPab**	**11 02 14.1**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=289,slow=4.5,SNR=2.5						
TIA	**Tai'an**	**164.92**	**342**	PKP	**PKPdf**	**11 00 48.5**	**+2.1**
LYN	**LuoYang**	**167.39**	**356**	PKP	**PKPdf**	**11 00 51.3**	**+2.9**
LYN				PKPab	**PKPab**	**11 01 55.8**	**+1.8**
LYN				SS	SS	11 26 15.8	-1.6
LYN				AMB	AMB		
	comp=Z,390nm,9.4s						
XAN	**Xi'an**	**167.74**	**10**	PKP	**PKPdf**	**11 00 50.1**	**+1.4**
XAN				PP	**PP**	**11 05 44.2**	**+0.9**
XAN				SS	SS	11 26 23.3	+2.2
XAN				AMB	AMB		
	comp=Z,350nm,5.7s						
TNCH	**TengChong**	**167.78**	**73**	*e*PKP	**PKPdf**	**11 00 47.5**	**-1.7**
TNCH				PKPab	**PKPab**	**11 01 56.6**	**0.0**
TNCH				PP	**PP**	**11 05 46.4**	**+0.6**
TNCH				SKKS		11 12 21.0	
TNCH				SS	**SS**	**11 26 22.5**	**-3.1**
TNCH				AMB	AMB		
	comp=Z,430nm,8.0s						
TNCH				LR	LR		
	comp=Z,430nm,20.4s						
CMAR	**Chiang Mai Arr**	**167.80**	**104**	PKP	**PKPdf**	**11 00 50.2**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=264,slow=1.6,SNR=20						
CMAR				pPKP	**pPKPdf**	**11 01 23.4**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=267,slow=1.9,SNR=5.2						
CMAR				PKPab	**PKPab**	**11 01 56.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=257,slow=5.0,SNR=6.2						
CMAR				PP	**PP**	**11 05 44.1**	**-1.6**
	comp=Z,2.4nm,1.0s,baz=257,slow=3.6,SNR=5.7						
NJ2	**Nanjing**	**167.93**	**328**	*e*PKP	**PKPdf**	**11 00 48.4**	**-0.4**
CD2	**Chengdu**	**168.74**	**36**	PKP	**PKPdf**	**11 00 48.3**	**-1.2**
CD2				SKKS		11 12 24.0	
CD2				SS	**SS**	**11 26 31.6**	**-0.8**
CD2				LR	LR		
	comp=Z,250nm,9.5s						
CD2				LR	LR		
	comp=Z,350nm,13.9s						
CD2				LR	LR		
	comp=Z,240nm,17.8s						
PZH	**PanZhiHua**	**170.08**	**61**	PKP	**PKPdf**	**11 00 48.7**	**-1.9**
PZH				PP	**PP**	**11 05 56.8**	**-0.1**
PZH				SKKS		11 12 31.3	
PZH				SS	**SS**	**11 26 45.0**	**-2.7**
PZH				AMB	AMB		
	comp=Z,160nm,9.0s						
WHN	**Wuhan**	**171.02**	**344**	PKP	**PKPdf**	**11 00 52.6**	**+1.9**
KMI	**Kunming**	**171.44**	**67**	PKP	**PKPdf**	**11 00 53.0**	**+1.6**
KMI				pPKP	pPKPdf	11 01 22.8	-1.7
GYA	**Guiyang**	**173.75**	**43**	PKP	**PKPdf**	**11 00 49.2**	**-3.1**
GYA				pPKP	pPKPdf	11 01 23.0	-2.3
GYA				PKPab	**PKPab**	**11 02 23.0**	**+0.3**
GYA				PP	**PP**	**11 06 14.7**	**+0.3**
GYA				SKKS		11 12 52.3	
GYA				SS	**SS**	**11 27 16.1**	**-6.2**
GYA				AMB	AMB		
	comp=Z,120nm,8.8s						
QIZ	**Qiongzhong**	**176.77**	**153**	PKP	**PKPdf**	**11 00 52.0**	**-1.1**
QIZ				PP

CMAR	**Chiang Mai Arr**	**14.44**	**7**	Pn	**P**	**10 44 46.0**	**-2.6**
	comp=N,0.3nm,0.3s,baz=198,slow=12,SNR=19						
CMAR				LR	LR	10 50 15.7	
	comp=N,91nm,19.8s,baz=210,slow=36						
	comp=N,0.5nm,0.6s						
CHTO	**Chiang Mai**	**14.79**	**7**	Pn	**Pn**	**10 44 46.0**	**-0.4**
LEM	**Lembang**	**15.01 136**		LR	LR	10 51 36.3	
	comp=N,210nm,21.5s,baz=298,slow=41						
SAIH	**SAIHA**	**18.78 348**		IAmb	IAmb	10 45 40.2	
	comp=Z,594nm,2.1s						
SAIH				*e*P	Pn	10 45 44.6	+7.4
SAIH				*e*S	**S**	**10 49 15.9**	**+4.8**
BRDH	**Bariadhala**	**19.29 344**		LR	LR	10 55 10.1	
	comp=Z,217nm,18.4s,baz=148,slow=43						
TNCH	**TengChong**	**20.91**	**3**	*e*P	Pn	10 46 03.2	+0.6
TNCH				pmax	pmax		
	comp=Z,37nm,0.4s						
KOHI	**KOHIMA**	**21.76 353**		*e*P	P	10 46 16.3	+7.2
KOHI				IAmb	IAmb	10 46 26.1	
	comp=Z,6.3nm,0.6s						
KOHI				*e*S	Sn	10 50 18.3	-1.1
SHL	**Shillong**	**22.00 347**			**P**	**10 46 10.6**	**-1.2**
SHL				IAmb	IAmb	10 46 21.3	
	comp=Z,17nm,0.9s						
PZH	**PanZhiHua**	**22.76**	**11**	P	**P**	**10 46 21.2**	**+1.3**
EVN	**Everest**	**25.75 339**			**P**	**10 46 47.5**	**-1.3**
EVN				IAmb	IAmb	10 46 54.2	
	comp=Z,3.8nm,0.5s						
H08S2	**Diego Garcia H**	**27.22 245**		T	T	11 14 24.6	
	baz=66,slow=74,SNR=3.5						
H08S3	**Diego Garcia H**	**27.22 245**		T	T	11 14 27.4	
	baz=66,slow=74,SNR=7.2						
H08S1	**Diego Carcia H**	**27.24 245**		T	T	11 14 26.8	
	baz=66,SNR=3.6						
BATI	**Baumata**	**29.94 118**		LR	LR	11 01 20.0	
	comp=Z,295nm,19.3s,baz=182,slow=40						
PSA00	**Pilbara Seismi**	**33.78 140**		P	**P**	**10 47 59.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**35.66 129**		P	**P**	**10 48 15.2**	**-0.5**
HHC	**Hu-ho-hao-te**	**38.87**	**17**	*e*P	**P**	**10 48 44.7**	**+1.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,5.3s						
HHC				LR	LR		
	comp=N,100nm,11.5s						
HHC				LR	LR		
	comp=E,190nm,13.0s						
HHC				LR	LR		
	comp=Z,210nm,12.6s						
ARSB	**Arslanbob**	**43.00 333**		P	**P**	**10 49 17.7**	**+0.7**
ARSB				IAmb	IAmb	10 49 48.1	
	comp=Z,11nm,1.5s						
XLT	**XiLinHaoTe**	**43.07**	**20**	*e*P	**P**	**10 49 20.3**	**+2.9**
XLT				sP	sP	10 49 28.8	+8.2
XLT				pmax	pmax		
	comp=Z,13nm,1.0s						
KSRS	**Korea Array**	**43.56**	**36**	P	P	10 49 26.2	+4.8
	comp=Z,0.4nm,0.7s,baz=234,slow=5.5,SNR=1.9						
	comp=Z,0.4nm,0.7s						
WB0	**Warramunga Arr**	**43.57 124**			**P**	**10 49 21.4**	**-0.3**
WB0				IAmb	IAmb	10 49 26.7	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**43.61 125**		P	**P**	**10 49 21.7**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=302,slow=9.2,SNR=89						
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**44.35**	**9**	P	**P**	**10 49 28.5**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=186,slow=8.7,SNR=3.0						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.50 345**		P	**P**	**10 49 27.1**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=155,slow=8.9,SNR=6.2						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**45.16 129**		P	**P**	**10 49 33.7**	**-0.8**
ASAR	**Alice Springs**	**45.16 129**		P	**P**	**10 49 34.3**	**-0.2**
ASAR	**Alice Springs**	**45.16 129**		P	**P**	**10 49 34.1**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=300,slow=8.0,SNR=57						
	comp=Z,1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**49.00 344**		P	**P**	**10 50 03.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=163,slow=6.9,SNR=6.4						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**50.77 351**		P	**P**	**10 50 17.4**	**+0.1**
ZALV	**Zalesovo Beam**	**50.77 351**		P	**P**	**10 50 16.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=198,slow=5.6,SNR=3.7						
	comp=Z,0.7nm,0.5s						
STKA	**Stephens Creek**	**55.30 134**		P	**P**	**10 50 52.1**	**+0.9**
STKA	**Stephens Creek**	**55.30 134**		P	**P**	**10 50 52.7**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=283,slow=5.6,SNR=6.6						
	comp=Z,3.2nm,0.7s						
BRTR	**Keskin Array B**	**67.20 312**		P	**P**	**10 52 11.1**	**-0.9**
BRTR	**Keskin Array B**	**67.20 312**		P	**P**	**10 52 09.0**	**-3.0**
	comp=Z,0.9nm,0.6s,baz=116,slow=8.4,SNR=5.0						
	comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**79.87 340**		P	**P**	**10 53 26.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=127,slow=3.2,SNR=3.8						
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**82.68 319**		P	**P**	**10 53 38.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=260,slow=0.8,SNR=4.1						
	comp=Z,0.2nm,0.3s						
SBA	**Scott Base**	**89.69 169**		P	**P**	**10 54 16.1**	**+1.0**
SBA				IAmb	IAmb	10 54 17.1	
	comp=Z,5.7nm,0.9s						
JMIC	**Jan Mayen**	**91.27 342**		LR	LR	11 38 22.2	
	comp=Z,115nm,20.2s,baz=26,slow=38						
QSPA	**South Pole Qui**	**93.96 180**		P	**P**	**10 54 34.9**	**-0.3**

*CATAC **06** 10:54:54.6±0.9, 12°N±3°×8°9W±°, h3km±6km, M3.5/26, MLv3.5/26, Error ellipse: s-maj=8.0km s-min=2.9km az=29.6, confirmed*
*SNET **06** 10:54:55.8±0.9, 12°.05N×89°.19W, h36km, ML3.4*
*GCG **06** 10:54:57.9±0.7, 12°.16N×89°.67W, h35km±999km, MD4.1*

ISC 06 10:54:53.0±3.2, 12°.03N±0°.09×89°.21W±0°.07, h12km±24km, n65, σ0°80/77, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.45**	**356**	P	**Pb**	**10 55 19.8**	**-0.1**
LALI	**Alcalda de L**	**1.45**	**356**	S	**Sn**	**10 55 37.0**	**-1.0**
TECO	**Alcaldia de Te**	**1.55**	**15**	P	**Pn**	**10 55 20.9**	**+0.4**
LFRS	**El Faro**	**1.59**	**5**	*e*P	**Pn**	**10 55 21.8**	**+0.7**
LOMA	**Loma Larga**	**1.60**	**1**	P	**Pb**	**10 55 22.1**	**-0.5**
LOMA	**Loma Larga**	**1.60**	**1**	S	**Sn**	**10 55 42.2**	**+0.2**
TECA	**Tecapa**	**1.61**	**25**	*e*P	**Pn**	**10 55 21.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.63**	**352**	*e*P	**Pn**	**10 55 22.1**	**+0.5**
JAYA				*e*S	**Sn**	**10 55 41.6**	**-1.0**
JAYA	**Jayaque - finc**	**1.63**	**352**	*e*P	**Pn**	**10 55 22.1**	**+0.5**
JAYA				*i* S	**Sn**	**10 55 41.4**	**-1.2**
JAYA	**Jayaque - finc**	**1.63**	**352**	P	**Pn**	**10 55 22.3**	**+0.6**
JAYA	**Jayaque - finc**	**1.63**	**352**	S	**Sn**	**10 55 42.1**	**-0.6**
ITCA	**Escuela Especi**	**1.63**	**358**	P	**Pn**	**10 55 22.5**	**+0.8**
ITCA	**Escuela Especi**	**1.63**	**358**	S	**Sn**	**10 55 42.6**	**0.0**
UESV	**Universidad de**	**1.65**	**14**	P	**Pn**	**10 55 22.1**	**+0.3**
PACA	**Pacayal**	**1.67**	**31**	P	**Pn**	**10 55 22.9**	**+0.8**
PACA	**Pacayal**	**1.67**	**31**	S	**Sn**	**10 55 42.3**	**-1.2**
PMON	**Piamonte**	**1.67**	**356**	P	**Pn**	**10 55 23.1**	**+0.9**
PMON	**Piamonte**	**1.67**	**356**	S	**Sn**	**10 55 43.7**	**0.0**
UDBS	**Universidad Do**	**1.67**	**2**	P	**Pn**	**10 55 23.0**	**+0.9**
UDBS	**Universidad Do**	**1.67**	**2**	S	**Sn**	**10 55 43.8**	**+0.2**
UEES	**Universidad Ev**	**1.67**	**359**	P	**Pn**	**10 55 23.1**	**+0.9**
UEES	**Universidad Ev**	**1.67**	**359**	S	**Sn**	**10 55 43.4**	**-0.3**
PAVA	**Las Pavas**	**1.69**	**9**	*e*P	**Pn**	**10 55 23.2**	**+0.7**
PAVA				*e*S	**Sn**	**10 55 44.4**	**+0.3**
PAVA	**Las Pavas**	**1.69**	**9**	P	**Pn**	**10 55 23.1**	**+0.7**
BOQS	**Boqueron**	**1.69**	**358**	*e*P	**Pb**	**10 55 23.6**	**-0.6**
BOQS				*e*S	**Sn**	**10 55 44.7**	**+0.3**
LFU	**La Fuente**	**1.71**	**3**	*e*P	**Pb**	**10 55 23.7**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.72**	**16**	P	**Pn**	**10 55 23.6**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.72**	**16**	S	**Sn**	**10 55 44.4**	**-0.5**
CNRM	**Centro Naciona**	**1.75**	**35**	P	**Pn**	**10 55 24.0**	**+0.8**
CEDA	**San Andres**	**1.77**	**354**	S	**Sn**	**10 55 46.0**	**+0.1**
LCND	**La Caada**	**1.80**	**45**	*e*P	**Pn**	**10 55 24.2**	**+0.3**
LCND	**La Caada**	**1.80**	**45**	P	**Pn**	**10 55 24.2**	**+0.3**
CNCH	**Conchagua**	**1.82**	**47**	P	**Pn**	**10 55 25.0**	**+0.7**
CEVE	**Cerro Verde**	**1.83**	**347**	P	**Pb**	**10 55 25.7**	**-0.9**
CEVE	**Cerro Verde**	**1.83**	**347**	S	**Sn**	**10 55 47.6**	**-0.2**
NUBE	**Las Nubes**	**1.94**	**343**	*e*P	**Pn**	**10 55 26.6**	**+0.6**
NUBE				*e*S	**Sn**	**10 55 49.3**	**-1.0**
NUBE	**Las Nubes**	**1.94**	**343**	*i* P	**Pn**	**10 55 26.4**	**+0.5**
NUBE				*e*S	**Sn**	**10 55 48.0**	**-2.3**
NUBE	**Las Nubes**	**1.94**	**343**	P	**Pn**	**10 55 26.6**	**+0.6**
FAME	**Alcaldia de Sa**	**1.96**	**336**	P	**Pn**	**10 55 26.7**	**+0.6**
UNIC	**Universidad Ca**	**1.96**	**350**	P	**Pn**	**10 55 27.4**	**+1.1**
LLGN	**La Laguna**	**2.13**	**7**	S	**Sn**	**10 55 54.9**	**-0.1**
PKGN	**Cerro Pekin**	**2.27**	**74**	P	**Pn**	**10 55 30.7**	**+0.4**
PKGN				S	**Sn**	**10 55 58.5**	**+0.3**
MTO3	**Montecristo**	**2.36**	**356**	*e*P	**Pn**	**10 55 33.2**	**+1.4**
MTO3	**Montecristo**	**2.36**	**356**	S	**Sn**	**10 56 00.9**	**+0.2**
MTO3	**Montecristo**	**2.36**	**356**	P	**Pn**	**10 55 33.1**	**+1.4**
PLRN	**Geotermica Pol**	**2.44**	**77**	P	**Pn**	**10 55 32.3**	**-0.4**
PLRN				S	**Sn**	**10 56 02.5**	**-0.1**
CNGA	**Al SSO del Vol**	**2.49**	**79**	P	**Pn**	**10 55 33.6**	**+0.2**
CNGN	**Cerro Negro**	**2.49**	**79**	P	**Pn**	**10 55 33.9**	**+0.4**
INTHN	**La Esperanza I**	**2.51**	**25**	P	**Pn**	**10 55 34.5**	**+0.7**
ESQI	**Esquipulas**	**2.52**	**357**	S	**Sn**	**10 56 05.9**	**+1.5**
COPN	**Copaltepe**	**2.56**	**86**	P	**Pn**	**10 55 34.6**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.76**	**43**	P	**Pn**	**10 55 38.2**	**+1.1**
SARH	**Santa Rosa de**	**2.76**	**9**	P	**Pn**	**10 55 38.4**	**+1.3**
UNAN	**Cigeo UNAN**	**2.87**	**88**	P	**Pn**	**10 55 39.6**	**+1.0**
UNAN				S	**Sn**	**10 56 12.6**	**-0.5**
MGAN	**Managua**	**2.90**	**87**	P	**Pn**	**10 55 39.7**	**+0.8**
MGAN	**Managua**	**2.90**	**87**	S	**Sn**	**10 56 13.1**	**-0.6**
LIMN	**Finca el Limon**	**2.96**	**69**	P	**Pn**	**10 55 39.6**	**-0.3**
LIMN				S	**Sn**	**10 56 15.5**	**+0.2**
WILN	**Americas 2**	**2.96**	**87**	P	**Pn**	**10 55 40.7**	**+0.9**
WILN				S	**Sn**	**10 56 14.7**	**-0.5**
MAS3	**Al N del Volca**	**2.96**	**90**	P	**Pn**	**10 55 40.6**	**+0.7**
MAS3				S	**Sn**	**10 56 14.2**	**-1.2**
YUSH	**Yuscaran**	**2.99**	**50**	S	**Sn**	**10 56 15.8**	**-0.5**
YUSH	**Yuscaran**	**2.99**	**50**	P	**Pn**	**10 55 41.3**	**+0.9**
NANN	**Nandasmo**	**3.02**	**91**	P	**Pn**	**10 55 42.8**	**+2.1**
NANN	**Nandasmo**	**3.02**	**91**	S	**Sn**	**10 56 16.8**	**0.0**
RCVN	**Varillal2**	**3.32**	**62**	P	**Pn**	**10 55 45.9**	**+1.0**
RCVN	**Varillal2**	**3.32**	**62**	S	**Sn**	**10 56 24.1**	**-0.2**

*IDC **06** 11:08:21.9±1.8, 7°.06S×129°.71E, h0km, mb3.7/2, mbtmp4.3/6, ML4.6/4, Error ellipse: s-maj=51.4km s-min=25.4km az=84.0*
*NEIC **06** 11:08:30.9±1.8, 7°.15S±0°.06×129°.35E±0°.09, h170km±8km, mb4.4/13, Error ellipse: s-maj=13.3km s-min=8.0km az=101.0*

ISC 06 11:08:28.4±0.6, 7°.10S±0°.08×129°.27E±0°.08, h139km, n28, σ1°78/27, mb4.3/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.20**	**114**	Pn	**Pn**	**11 09 08.3**	**+3.1**
FAKI	**Fak Fak**	**5.10**	**36**	Pn	**Pn**	**11 09 46.2**	**+3.2**
SOEI	**Soe**	**5.61**	**242**	Pn	**Pn**	**11 09 52.6**	**+2.7**
MTN	**Manton Dam**	**6.00**	**162**		**Pn**	**11 09 56.6**	**+1.6**
BATI	**Baumata**	**6.35**	**240**	Pn	**Pn**	**11 10 03.8**	**+4.0**
	24nm,0.3s,baz=96,slow=1.6,SNR=19						
BATI				Sn	**Sn**	**11 11 11.1**	**-0.1**
	13nm,0.3s,baz=105,slow=20,SNR=2.4						
	44nm,0.3s						
KNRA	**Kununurra**	**8.54**	**183**		**Pn**	**11 10 29.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.49**	**198**	Pn	**Pn**	**11 11 08.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.49**	**198**	Pn	**Pn**	**11 11 07.9**	**-0.5**
	1.4nm,0.3s,baz=25,slow=10,SNR=38						
FITZ				Sn	Sn	11 13 04.3	-11
	6.0nm,0.3s,baz=142,slow=18,SNR=13						
	4.4nm,0.3s						
WRA	**Warramunga Arr**	**13.69**	**159**		**Pn**	**11 11 35.3**	**-1.6**
WRA	**Warramunga Arr**	**13.69**	**159**	Pn	**Pn**	**11 11 36.5**	**-0.4**
	4.3nm,0.3s,baz=332,slow=14,SNR=152						
WRA				Sn	Sn	11 13 55.9	-12
	3.0nm,0.3s,baz=351,slow=19,SNR=13						
	5.7nm,0.3s						
WR8	**Warramunga Arr**	**13.75**	**159**		**Pn**	**11 11 37.2**	**-0.5**
COEN	**Coen**	**15.27**	**118**		**P**	**11 11 58.1**	**-0.4**
COEN				IAmb	IAmb	11 12 30.5	
	comp=Z,31nm,1.5s						
PSA00	**Pilbara Seismi**	**17.03**	**211**	P	**P**	**11 12 18.4**	**+0.5**
AS31	**Alice Springs**	**17.07**	**165**	P	**Pn**	**11 12 18.8**	**+0.1**
ASAR	**Alice Springs**	**17.07**	**165**	P	**P**	**11 12 18.3**	**0.0**
ASAR	**Alice Springs**	**17.07**	**165**	Pn	**Pn**	**11 12 21.8**	**+3.0**
	comp=Z,1.3nm,0.3s,baz=348,slow=10,SNR=63						
ASAR				Sn	S	11 15 19.0	-10
	comp=Z,0.8nm,0.3s,baz=350,slow=28,SNR=6.9						
	comp=Z,4.6nm,0.6s						
KKM	**Kota Kinabalu**	**18.44**	**315**	P	**Pn**	**11 12 34.1**	**-1.1**
KKM				IAmb	IAmb	11 13 11.2	
	comp=Z,20nm,1.1s						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**11 19 11.6**	**-0.5**
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	11 19 23.7	+12
	comp=Z,0.3nm,0.5s,baz=125,slow=7.6,SNR=4.7						
	comp=Z,0.3nm,0.5s						
MA2	**Magadan**	**68.63**	**12**	P	**P**	**11 19 16.2**	**0.0**
ARSB	**Arslanbob**	**70.48**	**318**	P	**P**	**11 19 25.9**	**-2.3**
CHGR	**Chuyangaron**	**71.89**	**314**	P	**P**	**11 19 36.4**	**-0.2**
CHGR				IAmb	IAmb	11 19 55.6	
	comp=Z,5.6nm,1.0s						
KURBB	**Kurchatov Arra**	**72.21**	**329**	P	P	11 19 49.8	+12
	comp=Z,0.5nm,0.5s,baz=125,slow=5.3,SNR=5.4						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**72.44**	**173**	P	**P**	**11 19 39.2**	**+0.1**
SBA	**Scott Base**	**73.34**	**172**	P	**P**	**11 19 42.6**	**-1.8**
SBA				IAmb	IAmb	11 19 52.6	
	comp=Z,9.4nm,1.5s						
QSPA	**South Pole Qui**	**82.88**	**180**	P	**P**	**11 20 34.9**	**-2.4**
QSPA				IAmb	IAmb	11 20 37.9	
	comp=Z,4.6nm,1.1s						
J16K	**Anvik River**	**87.53**	**25**	P	**P**	**11 20 59.2**	**-1.0**
J18K	**Innoko River**	**89.25**	**26**	P	**P**	**11 21 07.4**	**-0.9**
J18K				IAmb	IAmb	11 21 13.6	
	comp=Z,12nm,1.1s						

*NEIC **06** 11:22:18.7±0.6, 56°.35N±0°.06×158°.7W±0°.1, h98km±3km, Error ellipse: s-maj=11.4km s-min=4.2km az=131.0*

AEIC 06 11:22:19.7±0.8, 56°.36N±0°.06×158°.8W±0°.1, h93km±3km, ML2.9, MLv3.1/54(NEIC), Error ellipse: s-maj=10.4km s-min=5.7km az=138.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.19**	**108**		Pn	11 22 32.5	-0.4
CHGN	**Chignik**	**0.19**	**108**		Sn	11 22 43.0	+0.2
VNHG	**Veniaminof 1**	**0.27**	**239**		Pn	11 22 33.1	-0.2
VNHG					Sn	11 22 43.5	0.0
VNSG	**Veniaminof 6**	**0.30**	**219**		Pn	11 22 33.0	-0.5
VNNF	**Veniaminof 3**	**0.33**	**257**		Pn	11 22 33.3	-0.4
VNNF					Sn	11 22 43.9	-0.2
VNFG	**Fog Glacier, M**	**0.46**	**261**		Pn	11 22 33.9	-0.6
VNFG					Sn	11 22 46.0	+0.5
VNFG	**Fog Glacier, M**	**0.46**	**261**		Pn	11 22 34.0	-0.5
VNKR	**Veniaminof 5**	**0.48**	**227**		Pn	11 22 34.1	-0.5
VNKR					Sn	11 22 45.8	+0.1
ANPB	**Aniakchak Plen**	**0.51**	**30**		Pn	11 22 34.0	-0.8
ANPK	**Aniakchak Peak**	**0.59**	**35**		Pn	11 22 34.8	-0.7
ANNE	**Aniakchak Nort**	**0.67**	**34**		Pn	11 22 35.3	-0.9
R16K	**Pilot Point**	**1.37**	**27**	Pn	Pn	11 22 42.8	-1.0
R16K				IAML		11 23 17.9	
	comp=N,210nm,1.1s						
R16K				IAML		11 23 30.6	
	comp=E,232nm,1.1s						
SDPT	**Sand Point**	**1.41**	**225**		Pn	11 22 43.3	-1.0
SDPT				IAML		11 23 04.0	
	comp=E,260nm,0.3s						
SDPT				IAML		11 23 05.7	
	comp=N,193nm,0.5s						
SDPT	**Sand Point**	**1.41**	**225**		Sn	11 23 02.5	-0.5
CNBA	**Chernabura Isl**	**1.62**	**198**		Pn	11 22 45.8	-1.2
CNBA				IAML		11 23 14.1	
	comp=E,272nm,0.2s						
CNBA				IAML		11 23 15.9	
	comp=N,277nm,0.3s						
CNBA	**Chernabura Isl**	**1.62**	**198**		Sn	11 23 06.5	-1.1
PLK4	**Peulik 4**	**1.82**	**45**	Pn	Pn	11 22 49.2	-0.5
PLK4				IAML		11 23 20.3	
	comp=N,79nm,1.0s						
PLK1	**Peulik 1**	**1.86**	**38**		Pn	11 22 49.4	-0.6
PLK5	**Peulik 5**	**1.93**	**31**		Pn	11 22 50.8	-0.2
PS1A	**Pavlof South-1**	**1.93**	**242**		Pn	11 22 50.5	-0.5
S12K	**Black Hills**	**1.97**	**252**	Pn	Pn	11 22 50.0	-1.5
S12K				IAML		11 23 15.0	
	comp=E,217nm,0.7s						
S12K				IAML		11 23 41.5	
	comp=N,94nm,0.7s						
S12K	**Black Hills**	**1.97**	**252**		Sn	11 23 14.7	-1.2
PS4A	**Pavlof South-4**	**2.03**	**241**		Pn	11 22 51.5	-0.8
PN7A	**Pavlof North-7**	**2.06**	**244**		Pn	11 22 52.1	-0.5
DOL	**Dolgoi Island**	**2.14**	**237**		Pn	11 22 52.6	-1.2
DT1	**Dutton Round H**	**2.36**	**239**		Pn	11 22 56.2	-0.4
CNTC	**Contact Creek**	**2.46**	**38**		Pn	11 22 57.2	-0.9
ANCK	**Angle Creek**	**2.55**	**42**		Pn	11 22 59.0	-0.3
Q16K	**King Salmon**	**2.58**	**25**		Pn	11 22 59.1	-0.5
ACHA	**Angle Creek He**	**2.62**	**44**	Pn	Pn	11 22 59.6	-0.6
P16K	**Nushagak River**	**2.71**	**8**	Pn	Pn	11 23 00.4	-0.8
P16K				IAML		11 23 33.4	
	comp=N,78nm,0.8s						
P16K				IAML		11 23 33.5	
	comp=E,97nm,1.1s						
KAKN	**Katmai Knife C**	**2.79**	**44**		Pn	11 23 01.4	-1.0
O15K	**Ungalikthiuk R**	**2.88**	**349**		Pn	11 23 01.9	-1.7
O15K				IAML		11 23 35.5	
	comp=E,40nm,0.8s						
KAWH	**Katmai**	**2.95**	**45**		Pn	11 23 03.6	-0.9
FALS	**False Pass**	**3.05**	**242**	Pn	Pn	11 23 04.0	-1.8
OHAK	**Old Harbor**	**3.12**	**72**	Pn	Pn	11 23 05.2	-1.6
OHAK				IAML		11 23 55.8	
	comp=E,74nm,1.0s						
OHAK				IAML		11 24 12.0	
	comp=N,56nm,1.0s						
O14K	**Tigyukauivet M**	**3.20**	**336**	Pn	Pn	11 23 05.8	-2.0
O14K				IAML		11 23 43.4	
	comp=E,34nm,0.9s						
O14K				IAML		11 23 43.5	
	comp=N,56nm,0.8s						
O16K	**Kokwok River B**	**3.26**	**6**		Pn	11 23 07.2	-1.4
P18K	**Big Mountain,**	**3.57**	**30**	Pn	Pn	11 23 12.0	-0.9
KDAK	**Kodiak Island**	**3.65**	**64**	Pn	Pn	11 23 12.4	-1.5
KDAK				IAML		11 24 10.1	
	comp=N,49nm,0.5s						
Q19K	**Cape Douglas,**	**3.76**	**45**		Pn	11 23 14.0	-1.4
N15K	**Kwethluk River**	**3.88**	**350**	Pn	Pn	11 23 15.3	-1.8
N15K				IAML		11 24 16.2	
	comp=N,17nm,1.0s						
N15K				IAML		11 24 18.0	
	comp=E,15nm,1.1s						
N14K	**Kuskokwak Cree**	**3.90**	**338**	Pn	Pn	11 23 14.8	-2.4
N14K				IAML		11 23 47.8	
	comp=N,27nm,1.1s						
N14K				IAML		11 25 36.5	
	comp=E,30nm,1.1s						
SYI	**Shuyak Island**	**4.10**	**54**	Pn	Pn	11 23 18.9	-1.1
N17K	**Nushagak Hills**	**4.26**	**10**	Pn	Pn	11 23 20.7	-1.4
M16K	**Timber Creek**	**4.68**	**359**	Pn	Pn	11 23 26.4	-1.4
M14K	**Bethel**	**4.71**	**340**	Pn	Pn	11 23 25.9	-2.3
M14K				IAML		11 25 30.4	
	comp=N,24nm,1.0s						
M14K				IAML		11 25 34.6	
	comp=E,15nm,1.0s						
M17K	**Holitna River**	**5.10**	**7**	Pn	Pn	11 23 32.1	-1.4
M17K				IAML		11 24 37.3	
	comp=N,9.2nm,1.0s						
M17K				IAML		11 25 54.9	
	comp=E,8.7nm,1.2s						
CNPM	**China Poot**	**5.11**	**48**	Pn	Pn	11 23 31.9	-1.7
CNPM				IAML		11 24 36.7	
	comp=N,10nm,1.1s						
CNPM				IAML		11 24 38.5	
	comp=E,15nm,0.8s						
UNV	**Unalaska Valle**	**5.12**	**244**	Pn	Pn	11 23 33.2	-0.6
UNV				IAML		11 24 29.9	
	comp=N,8.4nm,1.1s						
BRLK	**Bradley Lake**	**5.39**	**47**	Pn	Pn	11 23 35.7	-1.8
SLKM	**Skilak Lake**	**6.11**	**44**	Pn	Pn	11 23 44.5	-2.8

*IDC **06** 11:34:38.5±3.3, 36°.25N×136°.63E, h273km±28km, mb2.8/2, mbtmp3.5/3, Error ellipse: s-maj=121.7km s-min=37.0km az=103.0*
*JMA **06** 11:34:39.2±0.3, 36°N±2°×13°7E±°, h277km±2km, MV2.1/15, NORTHERN GIFU PREF*

ISC 06 11:34:38.3±1.2, 36°.2N±0°.2×137°.0E±0°.2, h300km, n10, σ2°77/11, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.60**	**201**	P	**Pn**	**11 35 15.5**	**-1.8**
JYTA				S	**S**	**11 35 43.0**	**-5.3**
MAT	**Matsushiro**	**1.05**	**68**	P	**Pn**	**11 35 17.5**	**-1.4**
MJAR	**Matsushiro Arr**	**1.05**	**68**	P	**Pn**	**11 35 17.8**	**-1.1**
	3.8nm,0.3s,baz=250,slow=5.8,SNR=25						
JWT	**Wachi**	**1.56**	**237**	P	**Pn**	**11 35 20.4**	**-1.6**
JAG	**Ashikaga**	**2.00**	**81**	P	**Pn**	**11 35 23.7**	**-1.4**
JSD	**Sado**	**2.13**	**28**	P

EVN IAmb IAmb 11 56 09.8
comp=Z,5.6nm,0.9s
SHL Shillong 45.29 34 P **P 11 55 53.7 -0.7**
SHL IAmb IAmb 11 56 06.7
comp=Z,7.8nm,0.8s
KBL Kabul 46.49 4 P **P 11 56 04.6 +0.8**
H01W3 Cape Leeuwin H 49.27 126 T T 12 49 21.2
baz=285,slow=75,SNR=110
H01W2 Cape Leeuwin H 49.28 126 T T 12 49 21.4
baz=285,slow=75,SNR=117
H01W1 Cape Leeuwin H 49.29 126 T T 12 49 22.5
baz=285,slow=75,SNR=109
CHGR Chuyangaron 50.60 3 P **P 11 56 35.2 0.0**
GAR Garm 51.02 5 P **P 11 56 39.5 +1.0**
KKAR Karatay Array 55.11 4 P **P 11 57 07.7 -0.7**
MAW Mawson 55.47 181 P **P 11 57 11.4 +0.7**
comp=Z,3.2nm,0.9s,baz=334,slow=7.4,SNR=8.2
comp=Z,3.2nm,0.9s
GNI Garni 55.52 341 P **P 11 57 12.9 +1.3**
ARPR Arapgir-MALATY 56.98 335 P **P 11 57 21.8 -0.3**
ARPR IAmb IAmb 11 57 45.9
comp=Z,14nm,1.3s
BRTR Keskin Array B 59.58 332 P **P 11 57 39.5 -0.7**
comp=Z,1.1nm,0.9s,baz=129,slow=9.7,SNR=5.4
comp=Z,1.1nm,0.9s
MKAR Makanchi Array 60.48 13 P **P 11 57 46.0 -0.1**
MKAR Makanchi Array 60.48 13 P **P 11 57 48.1 +2.0**
comp=Z,0.3nm,0.5s,baz=207,slow=7.6,SNR=3.0
comp=Z,0.3nm,0.5s
AB31 Akbulak array 61.30 356 **P 11 57 51.4 -0.2**
AB31 IAmb IAmb 11 58 02.1
comp=Z,4.6nm,0.8s
ABKAR Akbulak array 61.30 356 **P 11 57 51.2 -0.4**
KURBB Kurchatov Arra 63.46 9 P **P 11 58 08.1 +2.1**
comp=Z,1.2nm,0.2s,baz=206,slow=6.9,SNR=4.6
comp=Z,1.2nm,0.2s
KURK Kurchatov 63.56 9 P **P 11 58 06.3 -0.3**
KURK IAmb IAmb 11 58 16.7
comp=Z,2.5nm,0.7s
BVAR Borovoye Array 64.99 3 P **P 11 58 17.5 +1.5**
comp=Z,0.9nm,0.7s,baz=180,slow=2.9,SNR=5.6
comp=Z,0.9nm,0.7s
ASAR Alice Springs 65.38 111 P **P 11 58 17.7 -1.6**
ASAR Alice Springs 65.38 111 P **P 11 58 19.9 +0.6**
comp=Z,2.1nm,0.9s,baz=273,slow=5.5,SNR=14
comp=Z,2.1nm,0.9s
AS31 Alice Springs 65.38 111 P **P 11 58 17.8 -1.5**
WRA Warramunga Arr 66.03 107 P **P 11 58 21.9 -1.7**
WRA Warramunga Arr 66.03 107 P **P 11 58 24.6 +1.1**
comp=Z,2.1nm,0.7s,baz=273,slow=5.7,SNR=20
comp=Z,2.1nm,0.7s
WRAB Tennant Creek 66.04 107 P **P 11 58 22.5 -1.0**
WRAB IAmb IAmb 11 58 35.3
comp=Z,4.1nm,0.8s
ZAA0 Zalesovo Array 67.77 12 P **P 11 58 34.6 +0.8**
ZAA0 IAmb IAmb 11 58 43.5
comp=Z,3.2nm,1.1s
ZALV Zalesovo Beam 67.77 12 P **P 11 58 33.5 -0.3**
ZALV Zalesovo Beam 67.77 12 P **P 11 58 34.9 +1.1**
comp=Z,1.5nm,0.8s,baz=216,slow=4.8,SNR=6.1
comp=Z,1.5nm,0.8s
ARTI Arti 68.51 356 P **P 11 58 39.3 +0.9**
ARTI IAmb IAmb 11 58 49.9
comp=Z,5.4nm,0.8s
BURAR Bucovina Array 69.53 332 P **P 11 58 45.2 +0.1**
BUR08 Bucovina Ar. S 69.56 332 P **P 11 58 46.1 +0.8**
BUR08 IAmb IAmb 11 59 02.5
comp=Z,5.6nm,1.4s
SONM Songino Array 69.76 28 P **P 11 58 47.3 +0.8**
SONM IAmb IAmb 11 58 58.5
comp=Z,3.8nm,0.9s
SONM Songino Array 69.76 28 P **P 11 58 48.7 +2.1**
comp=Z,1.5nm,0.8s,baz=218,slow=6.7,SNR=7.2
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 70.18 336 P **P 11 58 47.8 -1.1**
comp=Z,0.4nm,0.4s,baz=144,slow=5.3,SNR=7.9
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 70.18 336 P **P 11 58 48.5 -0.4**
AKBB IAmb IAmb 11 58 49.2
comp=Z,11nm,1.4s
KIEV Kiev 70.18 336 P **P 11 58 48.5 -0.4**
KIEV IAmb IAmb 11 58 49.1
comp=Z,9.5nm,1.4s
SNAA Sanae 71.90 198 P **P 11 58 58.6 -0.5**
comp=Z,1.5nm,1.0s,baz=12,slow=2.4,SNR=3.6
comp=Z,1.5nm,1.0s
RONA Rosalia, Austr 73.98 328 PKiKP PKiKP 12 04 56.3 -11
comp=Z,4.7nm,1.2s
ARSA Arzberg 74.10 327 P **P 11 59 12.3 -0.2**
ARSA IAmb IAmb 11 59 13.9
comp=Z,5.8nm,1.1s
ARSA Arzberg 74.10 327 *eP* **P 11 59 12.8 +0.3**
comp=Z,3.2nm,0.9s
CONA Conrad Observa 74.35 328 *eP* **P 11 59 14.0 +0.1**
comp=Z,4.1nm,1.1s
CONA PKiKP **PKiKP 12 05 01.7 -5.8**
comp=Z,8.0nm,1.5s
MOA Molln 75.14 327 *eP* **P 11 59 18.7 +0.1**
comp=Z,7.1nm,1.4s
LESA Schwarzleotal 75.75 326 *eP* **P 11 59 21.6 -0.5**
comp=Z,4.3nm,1.0s
GERES GERESS Array B 76.05 328 P **P 11 59 22.8 -1.0**
comp=Z,0.7nm,0.7s,baz=119,slow=4.7,SNR=5.9
comp=Z,0.7nm,0.7s
WTTA Wattenberg 76.23 325 *eP* **P 11 59 24.5 -0.4**
comp=Z,4.8nm,0.9s
WTTA *e*PKiKP **PKiKP 12 05 08.0 -2.4**
comp=Z,1.2nm,0.6s
WATA Walderalm 76.30 325 *eP* **P 11 59 25.1 -0.2**
comp=Z,4.8nm,1.2s
WATA *e*PKiKP **PKiKP 12 05 09.2 -1.3**
comp=Z,7.2nm,1.4s
SQTA Sankt Quirin 76.44 325 *eP* **P 11 59 25.9 -0.1**
comp=Z,6.5nm,1.3s
MOTA Moosalm 76.57 325 *eP* **P 11 59 26.5 -0.3**
comp=Z,3.5nm,0.9s
MOTA PKiKP **PKiKP 12 05 10.6 -0.3**
comp=Z,8.6nm,1.5s
FETA Feichten 76.60 325 *eP* **P 11 59 27.0 0.0**
comp=Z,4.5nm,1.0s
FETA *e*PKiKP **PKiKP 12 05 10.3 -0.7**
comp=Z,8.3nm,2.0s
BRG Berggiesshubel 77.17 329 *eP* P 11 59 35.5 +5.5
BRG Amp 11 59 41.7
comp=Z,4.6nm,1.1s
CLL Collm 77.90 329 *e*Px Px 11 59 38.0
QSPA South Pole Qui 77.96 180 P **P 11 59 36.7 +2.4**
comp=Z,3.5nm,1.1s,baz=282,slow=4.2,SNR=6.7
comp=Z,3.5nm,1.1s
FINES FINESS Array B 79.68 342 P **P 11 59 44.0 +0.5**
comp=Z,2.9nm,1.0s,baz=206,slow=15,SNR=3.5
comp=Z,2.9nm,1.0s
ESDC Sonseca Array 82.56 313 P **P 11 59 59.7 +0.2**
comp=Z,1.4nm,0.9s,baz=101,slow=4.5,SNR=10
comp=Z,1.4nm,0.9s
HFS Hagfors 83.07 337 P **P 12 00 01.9 +0.4**
comp=Z,3.4nm,0.7s,baz=142,slow=7.5,SNR=5.9
comp=Z,3.4nm,0.7s
NOA NORSAR Array B 84.59 337 P **P 12 00 10.2 +0.8**
comp=Z,0.6nm,0.8s,baz=117,slow=5.0,SNR=4.5
comp=Z,0.6nm,0.8s
ARCES ARCESS Array B 86.12 347 P **P 12 00 15.4 -1.5**
comp=Z,3.0nm,0.8s,baz=129,slow=1.3,SNR=5.1
comp=Z,3.0nm,0.8s
ILAR Eielson Array 122.77 16 PKP **PKPdf 12 06 29.9 -2.0**
comp=Z,0.2nm,0.6s,baz=298,slow=1.9,SNR=2.1
PDAR Pinedale Array 149.18 353 PKPbc **PKPbc 12 07 25.8 +0.4**
comp=Z,1.8nm,0.7s,baz=276,slow=0.2,SNR=16
NVAR Mina Array Bea 153.54 7 PKPbc **PKPbc 12 07 35.6 0.0**
comp=Z,1.0nm,0.8s,baz=273,slow=2.7,SNR=6.9
TXAR Lajitas Array 160.22 332 PKPab **PKPab 12 08 17.0 +0.3**
comp=Z,0.5nm,0.8s,baz=46,slow=4.4,SNR=6.4

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*IDC **06** 11:53:19.1±0.9, 12°.15S×65°.58E, h0km, mb3.8/10, mbtmp3.8/10, MS4.0/40, Error ellipse: s-maj=32.7km s-min=21.8km az=59.0*
*NEIC **06** 11:53:20.9±1.6, 12°.0S±0°.1×65°.82E±0°.03, h10km±1km, mb4.6/17, Error ellipse: s-maj=19.0km s-min=5.3km az=185.0*
*GCMT **06** 11:53:22.9±0.3, 12°.04S±0°.02×65°.56E±0°.02, h12km, MW4.9/86, Moment Tensor Solution. s7,c7; s86,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.30±.12; Mθθ-2.53±.10; Mφφ2.84±.11; Mrθ1.03±.36; Mθφ0.84±.12; Mφr1.29±.36; Best double couple: M0=3.23600×10^16 NP1:φs=322.00000°, δ61.00000°, λ179.00000°. NP2:*

φs=53.00000°, δ89.00000°, λ29.00000°. Principal axes: T 3.5190, Plg21.0000°, Azm282.0000°; N -0.5570, Plg61.0000°, Azm55.0000°; P -2.9520, Plg20.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 06 11:53:21.7±0.6, 11°.9S±0°.1×65°.78E±0°.09, h16km, n83, σ1°36/40, mb4.3/18, MS4.1/41, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.86**	**58**	Pn	**Pn**	**11 55 15.3**	**+0.2**
H08S1				T	T	12 03 02.4	
baz=237,slow=75,SNR=34							
H08S2	**Diego Garcia H**	**7.87**	**58**	Pn	**Pn**	**11 55 14.5**	**-0.9**
H08S2				T	T	12 03 04.4	
baz=237,slow=75,SNR=29							
H08S3	**Diego Garcia H**	**7.88**	**58**	Pn	**Pn**	**11 55 14.3**	**-1.1**
H08S3				T	T	12 03 04.9	
baz=237,slow=75,SNR=110							
DGAR	**Diego Garcia**	**7.97**	**56**	Pn	**Pn**	**11 55 13.8**	**-3.1**
MSEY	**Mahe Island**	**12.48**	**304**	Pn	**Pn**	**11 56 18.6**	**-0.2**
ABPO	**Ambohimpanom**	**19.20**	**246**	P	**P**	**11 57 46.0**	**+0.8**
PALK	**Pallekele**	**24.18**	**39**	LR	LR	12 06 05.8	
comp=Z,242nm,19.2s,baz=214,slow=31							
KMBO	**Kilima Mbogo**	**30.26**	**289**	LR	LR	12 09 38.4	
comp=Z,524nm,20.0s,baz=102,slow=32							
ATD	**Arta Tunnel**	**32.59**	**315**	LR	LR	12 11 37.6	
comp=Z,5.8nm,19.6s,baz=100,slow=34							
PSI	**Prapat**	**36.06**	**68**	LR	LR	12 13 09.2	
comp=Z,419nm,19.4s,baz=244,slow=33							
H04N2	**CROZET ISLANDS**	**36.12**	**197**	T	T	12 38 55.2	
baz=25,slow=75,SNR=13							
H04N1	**CROZET ISLANDS**	**36.12**	**197**	T	T	12 38 55.6	
baz=25,slow=75,SNR=16							
H04N3	**CROZET ISLANDS**	**36.14**	**197**	T	T	12 38 56.0	
baz=25,slow=75,SNR=16							
LSZ	**Lusaka**	**36.65**	**260**	P	**P**	**12 00 27.2**	**-0.8**
LSZ	**Lusaka**	**36.65**	**260**	LR	LR	12 13 21.0	
comp=Z,466nm,21.3s,baz=129,slow=33							
MATP	**Matopo**	**36.71**	**252**	LR	LR	12 14 23.8	
comp=Z,210nm,18.3s,baz=64,slow=35							
LBTB	**Lobatse**	**40.11**	**245**	LR	LR	12 15 27.3	
comp=Z,257nm,18.1s,baz=70,slow=33							
RAYN	**Ar Rayn**	**40.44**	**331**	P	**P**	**12 00 59.1**	**-0.6**
BOSA	**Boshof**	**41.24**	**240**	LR	LR	12 16 03.0	
comp=Z,169nm,18.2s,baz=34,slow=33							
CMAR	**Chiang Mai Arr**	**44.53**	**48**	P	**P**	**12 01 35.8**	**+2.9**
0.3nm,0.3s,baz=219,slow=7.3,SNR=1.1							
0.3nm,0.3s							
EVN	**Everest**	**44.59**	**27**	P	**P**	**12 01 34.4**	**+0.4**
EVN				IAmb	IAmb	12 01 47.4	
comp=Z,4.9nm,0.8s							
SHL	**Shillong**	**45.13**	**34**	P	**P**	**12 01 36.3**	**-1.5**
SHL				IAmb	IAmb	12 01 57.5	
comp=Z,9.8nm,0.9s							
KBL	**Kabul**	**46.32**	**4**	P	**P**	**12 01 47.3**	**+0.2**
KBL				IAmb	IAmb	12 01 53.6	
comp=Z,9.4nm,1.3s							
H01W3	**Cape Leeuwin H**	**49.34**	**126**	T	T	12 55 07.5	
baz=285,slow=75,SNR=270							
H01W2	**Cape Leeuwin H**	**49.34**	**126**	T	T	12 55 09.8	
baz=285,slow=75,SNR=216							
H01W1	**Cape Leeuwin H**	**49.36**	**126**	T	T	12 55 10.4	
baz=285,slow=75,SNR=344							
SLVN	**Son La**	**49.95**	**49**	P	**P**	**12 02 14.4**	**-0.9**
SLVN				IAmb	IAmb	12 02 23.4	
comp=Z,4.8nm,1.1s							
GAR	**Garm**	**50.85**	**5**	P	**P**	**12 02 23.1**	**+1.3**
EIL	**Elat**	**50.93**	**325**	LR	LR	12 22 05.7	
comp=Z,200nm,18.0s,baz=172,slow=34							
NWAO	**Narrogin (SRO)**	**51.39**	**123**	LR	LR	12 20 54.1	
comp=Z,139nm,19.6s,baz=311,slow=32							
ASF	**Jabal al Asfar**	**51.84**	**329**	LR	LR	12 22 39.1	
comp=Z,107nm,18.9s,baz=179,slow=34							
MMAI	**Mount Meron Ar**	**53.27**	**328**	LR	LR	12 23 51.6	
comp=Z,187nm,18.2s,baz=144,slow=34							
ARSB	**Arslanbob**	**53.41**	**7**	P	**P**	**12 02 41.2**	**+0.3**
ARSB				IAmb	IAmb	12 03 11.4	
comp=Z,13nm,1.5s							
KAPI	**Kappang**	**53.76**	**87**	LR	LR	12 23 30.7	
comp=Z,148nm,19.6s,baz=269,slow=34							
AAK	**Ala-Archa**	**54.89**	**8**	LR	LR	12 24 24.4	
comp=Z,115nm,18.6s,baz=176,slow=34							
KK31	**Karatay Array**	**54.94**	**4**	P	**P**	**12 02 53.4**	**+1.5**
KKAR	**Karatay Array**	**54.94**	**4**	P	**P**	**12 02 52.8**	**+0.9**
GNI	**Garni**	**55.38**	**340**	LR	LR	12 25 27.5	
comp=Z,79nm,18.7s,baz=148,slow=35							
MAW	**Mawson**	**55.64**	**181**	LR	LR	12 20 39.6	
comp=Z,76nm,21.4s,baz=16,slow=30							
BATI	**Baumata**	**56.75**	**94**	LR	LR	12 23 55.5	
comp=Z,229nm,21.1s,baz=260,slow=32							
KOPT	**Kop Dagi**	**56.77**	**337**	P	**P**	**12 03 05.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**57.94**	**104**	LR	LR	12 23 55.6	
comp=Z,249nm,20.8s,baz=276,slow=32							
MKAR	**Makanchi Array**	**60.31**	**13**	P	**P**	**12 03 30.6**	**+1.0**
MKAR	**Makanchi Array**	**60.31**	**13**	P	**P**	**12 03 30.8**	**+1.2**
comp=Z,0.5nm,0.6s,baz=208,slow=8.2,SNR=2.8							
comp=Z,0.5nm,0.6s							
BORA	**Eskisehir**	**61.10**	**329**	P	**P**	**12 03 34.7**	**-0.6**
AB31	**Akbulak array**	**61.14**	**356**		**P**	**12 03 35.0**	**-0.1**
AB31				IAmb	IAmb	12 03 45.1	
comp=Z,8.1nm,1.1s							
ABKAR	**Akbulak array**	**61.14**	**356**		**P**	**12 03 34.8**	**-0.4**
CASY	**Casey**	**62.03**	**161**	P	**P**	**12 03 40.4**	**-0.6**
CASY				IAmb	IAmb	12 03 45.8	
comp=Z,5.3nm,0.9s							
DAV	**Davao City (W)**	**62.39**	**75**	LR	LR	12 28 34.5	
comp=Z,86nm,20.1s,baz=314,slow=34							
AKTO	**Aktyubinsk**	**62.47**	**354**	LR	LR	12 30 48.5	
comp=Z,103nm,19.0s,baz=125,slow=36							
KURBB	**Kurchatov Arra**	**63.28**	**9**	LR	LR	12 29 58.3	
comp=Z,136nm,18.6s,baz=178,slow=35							
KURK	**Kurchatov**	**63.39**	**9**	P	**P**	**12 03 50.6**	**+0.4**
KURK				IAmb	IAmb	12 04 34.3	
comp=Z,1.9nm,0.6s							
BVAR	**Borovoye Array**	**64.82**	**3**	P	**P**	**12 04 01.7**	**+2.1**
comp=Z,1.0nm,0.7s,baz=164,slow=6.9,SNR=4.4							
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**65.40**	**111**	P	**P**	**12 04 03.4**	**-0.8**
ASAR	**Alice Springs**	**65.40**	**111**	P	**P**	**12 04 04.0**	**-0.2**
comp=Z,0.9nm,0.8s,baz=274,slow=5.8,SNR=9.4							
ASAR				LR	LR	12 29 56.1	
comp=Z,160nm,18.9s,baz=281,slow=34							
comp=Z,0.9nm,0.8s							
WRA	**Warramunga Arr**	**66.04**	**107**	P	**P**	**12 04 08.2**	**0.0**
comp=Z,0.9nm,0.8s,baz=274,slow=5.8,SNR=9.1							
WRA				LR	LR	12 31 48.0	
comp=Z,169nm,18.6s,baz=230,slow=35							
comp=Z,0.9nm,0.8s							
MLR	**Muntele Rosu**	**67.50**	**331**	LR	LR	12 33 15.3	
comp=Z,97nm,18.7s,baz=110,slow=35							
ZALV	**Zalesovo Beam**	**67.60**	**12**	P	**P**	**12 04 16.4**	**-0.9**
ZALV	**Zalesovo Beam**	**67.60**	**12**	P	**P**	**12 04 19.7**	**+2.3**
comp=Z,0.7nm,0.6s,baz=193,slow=5.9,SNR=4.0							
ZALV				LR	LR	12 33 14.1	
comp=Z,114nm,18.1s,baz=192,slow=35							
comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**68.27**	**289**	LR	LR	12 34 18.0	
comp=Z,145nm,18.2s,baz=137,slow=36							
SONM	**Songino Array**	**69.60**	**28**	P	**P**	**12 04 29.9**	**-0.3**
SONM				IAmb	IAmb	12 04 44.3	
comp=Z,7.5nm,1.4s							
SONM	**Songino Array**	**69.60**	**28**	P	**P**	**12 04 33.2**	**+3.0**
comp=Z,1.5nm,0.6s,baz=213,slow=6.6,SNR=7.3							
SONM				LR	LR	12 34 00.8	
comp=Z,221nm,20.0s,baz=182,slow=35							
comp=Z,1.5nm,0.6s							
AKASG	**Malin Array Be**	**70.04**	**336**	P	**P**	**12 04 32.0**	**-0.6**
comp=Z,0.1nm,0.3s,baz=130,slow=4.8,SNR=5.0							
comp=Z,0.1nm,0.3s							
KEST	**Kesra**	**71.29**	**314**	LR	LR	12 35 59.9	
comp=Z,96nm,18.6s,baz=3.7,slow=36							
STKA	**Stephens Creek**	**71.82**	**120**	LR	LR	12 31 50.4	
comp=Z,166nm,20.6s,baz=229,slow=32							
DBIC	**Dimbokro**	**72.62**	**281**	LR	LR	12 35 14.4	
comp=Z,89nm,20.7s,baz=184,slow=35							
VRAC	**Vranov**	**74.73**	**329**	LR	LR	12 39 28.6	
comp=Z,38nm,18.2s,baz=90,slow=37							
BRG	**Berggiesshubel**	**77.04**	**329**	*eP*	P	12 05 19.0	+5.2
BRG				Amp		12 05 20.3	
comp=Z,6.5nm,1.2s							
QSPA	**South Pole Qui**	**78.13**	**180**	P	**P**	**12 05 20.5**	**+0.5**
comp=Z,2.1nm,1.0s,baz=274,slow=2.3,SNR=5.4							
comp=Z,2.1nm,1.0s							
FINES	**FINESS Array B**	**79.54**	**342**	LR	LR	12 39 17.6	
comp=Z,85nm,18.3s,baz=146,slow=35							
PMG	**Port Moresby**	**79.75**	**98**	LR	LR	12 36 15.9	
comp=Z,111nm,21.7s,baz=194,slow=32							
VNDA	**Vanda**	**79.75**	**167**	LR	LR	12 36 35.1	
comp=Z,105nm,19.3s,baz=280,slow=33							
MDT	**Midelt**	**80.45**	**306**	LR	LR	12 40 46.5	
comp=Z,167nm,20.8s,baz=116,slow=35							
ESDC	**Sonseca Array**	**82.48**	**313**	P	**P**	**12 05 42.9**	**-0.8**
comp=Z,1.2nm,0.9s,baz=86,slow=4.1,SNR=7.1							
ESDC				LR	LR	12 41 25.1	
comp=Z,38nm,21.9s,baz=101,slow=35							
comp=Z,1.2nm,0.9s							
NOA	**NORSAR Array B**	**84.45**	**337**	LR	LR	12 44 15.9	
comp=Z,34nm,18.9s,baz=330,slow=36							
ESK	**Eskdalemuir**	**88.16**	**328**	P	**P**	**12 06 11.1**	**-0.6**
HNR	**Honiara**	**92.11**	**100**	LR	LR	12 40 59.0	
comp=Z,51nm,20.9s,baz=279,slow=31							
TIXI	**Tiksi**	**93.13**	**16**	LR	LR	12 47 51.4	
comp=Z,131nm,21.0s,baz=250,slow=35							
PMSA	**Palmer Station**	**94.76**	**199**	LR	LR	12 41 27.9	
comp=Z,29nm,19.4s,baz=139,slow=31							
SEY	**Seymchan**	**98.99**	**28**	LR	LR	12 52 18.1	
comp=Z,120nm,19.8s,baz=275,slow=36							
PDAR	**Pinedale Array**	**149.02**	**353**	PKPbc	**PKPbc**	**12 13 07.7**	**-1.9**
comp=Z,1.2nm,0.9s,baz=52,slow=2.6,SNR=7.3							
NVAR	**Mina Array Bea**	**153.37**	**7**	PKPbc	**PKiKP**	**12 13 22.6**	**+2.5**
comp=Z,0.8nm,0.8s,baz=325,slow=0.8,SNR=5.2							
TXAR	**Lajitas Array**	**160.09**	**332**	PKPab	**PKPab**	**12 14 02.5**	**+1.8**
comp=Z,0.4nm,0.9s,baz=46,slow=5.7,SNR=3.8							

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*JMA **06** 12:03:31.5±0.4, 32°.2N×3°.3×13°.8E±°, h470km, MV3.6/57, NEAR TORISHIMA IS*
*IDC **06** 12:03:40.7±1.3, 32°.26N×137°.72E, h396km±17km, mb2.8/6, mbtmp3.6/8, Error ellipse: s-maj=30.1km s-min=17.3km az=74.0*
ISC 06 12:03:39.7±1.0, 32°.2N±0°.1×137°.79E±0°.09, h380km, n32, σ2°29/36, mb3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.64**	**329**	P	**Pn**	**12 04 35.1**	**+3.9**
TTO2	**TONANKAI O.B.S**	**1.65**	**337**	P	**Pn**	**12 04 35.3**	**+4.1**
JWKM	**Wakayamakushim**	**2.11**	**306**	P	**Pn**	**12 04 37.0**	**+2.5**
JMMH	**Miemihama**	**2.19**	**318**	P	**Pn**	**12 04 37.5**	**+2.5**
JIE	**Ise**	**2.36**	**338**	P	**Pn**	**12 04 39.1**	**+2.9**
JKN2	**Miekihoku**	**2.39**	**328**	P	**Pn**	**12 04 39.0**	**+2.7**
JTNC	**Tanabenakahech**	**2.44**	**312**	P	**Pn**	**12 04 39.0**	**+2.3**
JWM	**Minabe**	**2.62**	**309**	P	**Pn**	**12 04 40.5**	**+2.3**
JWY	**Kouya**	**2.72**	**318**	P	**Pn**	**12 04 41.6**	**+2.6**
TSUJ	**Tsu 2**	**2.75**	**336**	P	**Pn**	**12 04 41.9**	**+2.7**
JHE	**Heguri**	**3.01**	**325**	P	**Pn**	**12 04 43.8**	**+2.4**
JEG	**Eigenji**	**3.14**	**339**	*eP*	**Pn**	**12 04 45.5**	**+3.0**
INU	**Inuyama**	**3.20**	**349**	P	**Pn**	**12 04 45.7**	**+2.8**
JAI	**Aioi**	**3.22**	**300**	P	**Pn**	**12 04 45.2**	**+2.1**
JGF	**Kuroka**	**3.40**	**354**	P	**Pn**	**12 04 47.5**	**+2.7**
BSO3	**Boso 3**	**3.44**	**41**	*eP*	**Pn**	**12 04 46.3**	**+1.5**
BSO3				*eS*	**S**	**12 05 39.2**	**+1.6**
BSO4	**Boso 4**	**3.49**	**37**	*eS*	**S**	**12 05 41.2**	**+2.4**
JMN	**Monobe**	**3.62**	**296**	P	**Pn**	**12 04 48.9**	**+2.0**
JMN	**Monobe**	**3.62**	**296**	P	**Pn**	**12 04 49.0**	**+2.0**
JWT	**Wachi**	**3.66**	**328**	*eP*	**Pn**	**12 04 49.2**	**+2.1**
MAJO	**Matsushiro**	**4.34**	**4**	P	**Pn**	**12 04 55.6**	**+1.8**
MJAR	**Matsushiro Arr**	**4.34**	**4**	P	**Pn**	**12 04 55.5**	**+1.7**
5.6nm,0.4s,baz=177,slow=9.9,SNR=33							
MJAR				S	**S**	**12 05 55.7**	**+1.8**
4.6nm,0.9s,baz=224,slow=43,SNR=3.7							
JAG	**Ashikaga**	**4.42**	**18**	P	**Pn**	**12 04 55.6**	**+1.0**
JAG				S	**S**	**12 05 53.6**	**-1.8**
JYT	**Yasato**	**4.47**	**26**	P	**Pn**	**12 04 55.8**	**+0.7**
JYT				S	**S**	**12 05 53.3**	**-3.0**
JNU	**Nakatsue**	**5.90**	**281**	P	**Pn**	**12 05 11.7**	**+1.2**
13nm,0.8s,baz=225,slow=4.3,SNR=6.4							
JNU	**Nakatsue**	**5.90**	**281**	P	**Pn**	**12 05 12.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**37.48**	**258**	P	**P**	**12 10 17.6**	**-1.1**
0.3nm,0.3s,baz=51,slow=7.2,SNR=4.4							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**44.33**	**306**	P	**P**	**12 11 12.7**	**-1.0**
0.7nm,0.6s,baz=97,slow=7.1,SNR=4.8							
0.7nm,0.6s							
BVAR	**Borovoye Array**	**51.72**	**315**	P	**P**	**12 12 08.3**	**-1.0**
0.3nm,0.3s,baz=91,slow=8.5,SNR=2.1							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**51.96**	**184**	P	**P**	**12 12 11.2**	**-0.3**
0.2nm,0.3s,baz=0.2,slow=7.7,SNR=20							
0.2nm,0.3s							
ASAR	**Alice Springs**	**55.69**	**184**	P	**P**	**12 12 38.3**	**+0.2**
0.3nm,0.8s,baz=352,slow=8.1,SNR=2.3							
0.3nm,0.8s							
FINES	**FINESS Array B**	**71.67**	**332**	P	**P**	**12 14 20.0**	**-0.9**
0.8nm,0.7s,baz=18,slow=15,SNR=1.4							
0.8nm,0.7s							

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*UCR **06** 12:15:43.5±0.7, 8°.24N×82°.86W, h3km±8km, MW3.7*
*CATAC **06** 12:15:44.8±0.5, 8°.N±3°.×8°.3W±°, h10km±1km, M3.7/12, MLv3.7/12, Error ellipse: s-maj=7.5km s-min=4.1km az=6.1, confirmed*
*UPA **06** 12:15:45.7±1.3, 8°.32N×82°.86W, h22km±4km, MW3.6*
ISC 06 12:15:44.8±1.1, 8°.26N±0°.04×82°.84W±0°.02, h18km±4km, n102, σ1°11/124, 2C-17D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.15**	**19**	⇓*iP*	**Pg**	**12 15 50.6**	**+1.5**
LESP3				*i* S	**Sg**	**12 15 54.2**	**+2.3**
CDITO	**Canoas**	**0.31**	**354**	P	**Pb**	**12 15 52.4**	**+0.5**
CDITO	**Canoas**	**0.31**	**354**	S	**Sb**	**12 15 58.0**	**+1.4**
BAGA3	**Bagala, Chiriq**	**0.37**	**57**	⇓*iP*	**Pb**	**12 15 53.9**	**+1.0**
BAGA3				*i* S	**Sb**	**12 15 59.6**	**+1.2**
DVD	**David**	**0.42**	**66**	⇓*iP*	**Pb**	**12 15 54.3**	**+0.6**
DVD				*i* S	**Sb**	**12 16 00.3**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.43**	**74**	⇓*iP*	**Pb**	**12 15 54.3**	**+0.4**
PEDE3				*i* S	**Sb**	**12 16 01.4**	**+1.3**
LOCO3	**Loma Colorada,**	**0.44**	**71**	⇓*iP*	**Pb**	**12 15 54.7**	**+0.6**
LOCO3				*i* S	**Sb**	**12 16 01.1**	**+0.7**
LOMA3	**Las Lomas, Chi**

QUEP	Quepos	1.75	312	eP	Pn	12 16 14.3	+0.1
RAZU	San Marcos de	1.81	320	eP	Pn	12 16 16.2	+0.9
PITB	Pirrs, San	1.82	320	eP	Pn	12 16 16.4	+1.1
TURIB	Turrialba	1.84	333	eP	Pn	12 16 15.5	0.0
REPA	Paraso	1.86	327	eP	Pn	12 16 16.5	+0.6
LCR2	La Lucha 2	1.87	322	S	Sn	12 16 40.2	+0.9
VERB	Verbena	1.87	333	eP	Pn	12 16 16.7	+0.6
RVSTA	Santa Teresita	1.88	335	eP	Pn	12 16 16.9	+0.8
PCAYA	Pacayas	1.90	330	eP	Pn	12 16 17.0	+0.4
PICV	PH. Pirrs	1.91	316	eP	Pn	12 16 16.5	+0.1
PAR1A	Puntarenas Pro	1.93	314	eP	Pn	12 16 16.9	+0.3
RESJ	San Isidro (Tu	1.93	336	eP	Pn	12 16 17.5	+0.7
MARI3	Mariato, Verag	1.93	108	‖iP	Pn	12 16 17.5	+0.7
MARI3				i S	Sn	12 16 42.1	+1.5
ABRB	Las Abras (San	1.94	334	eP	Pn	12 16 17.6	+0.5
IRES	Siquirres	1.94	340	eP	Pn	12 16 17.5	+0.7
LCOCO	El Coco	1.94	339	eP	Pn	12 16 18.0	+1.0
CVTV	Tajo	1.95	333	eP	Pn	12 16 17.8	+0.5
CVTQ	Turrialba Volc	1.96	332	eP	Pn	12 16 17.8	+0.3
VTR0	Volcan Turrial	1.97	333	eP	Pn	12 16 18.0	+0.4
CVTR	Volcan Turrial	1.97	333	eP	Pn	12 16 17.9	+0.2
VICA	Volcano Irazu	1.98	330	eP	Pn	12 16 17.9	+0.2
RVLA	Villa Bonita	1.98	338	eP	Pn	12 16 18.4	+1.0
ACOS	Acosta	2.01	320	eP	Pn	12 16 18.5	+0.6
LUJA	Lujan	2.05	324	eP	Pn	12 16 18.8	+0.3
CRIS3	El Cristo, Coc	2.20	90	eP	Pn	12 16 20.9	+0.5
UELA	Alajuela	2.21	322	eP	Pn	12 16 21.7	+1.0
ATEO	Atenas	2.29	318	eP	Pn	12 16 22.6	+0.9
OROT	Orotina	2.34	315	eP	Pn	12 16 23.0	+0.7
CHIT3	Chitre	2.42	97	‖iP	Pn	12 16 24.3	+0.9
TRT2	Tortugero	2.45	339	P	Pn	12 16 24.8	+0.9
TRT2	Tortugero	2.45	339	eP	Pn	12 16 24.8	+0.9
SARA	Sarapiqu	2.47	332	eP	Pn	12 16 25.7	+1.6
ARTO	Ro Cuarto	2.47	327	eP	Pn	12 16 24.9	+0.7
PNME	Penonome	2.50	85	eP	Pn	12 16 25.1	+0.5
VPL2	V. Platanar	2.54	323	eP	Pn	12 16 26.8	+1.6
CBL1	Cabuya	2.58	301	eP	Pn	12 16 25.0	-0.8
ITAL	Pital	2.59	327	eP	Pn	12 16 26.9	+1.1
SOCE	Pocosol	2.74	320	P	Pn	12 16 29.7	+1.7
SOCE	Pocosol	2.74	320	S	Sn	12 17 04.4	+3.7
ACHO3	Achotines, Los	2.77	107	eP	Pn	12 16 29.0	+0.7
VACR	Volcan Arenal	2.85	321	eP	Pn	12 16 31.2	+1.8
ARE1	Arenal 1	2.87	320	eP	Pn	12 16 31.4	+1.8
VARE2	V. Arenal	2.87	320	eP	Pn	12 16 31.5	+1.8
PEDA3	Pedasi	2.88	104	eP	Pn	12 16 30.9	+1.0
COVE	Coope Vega, Sa	2.89	328	P	Pn	12 16 30.2	+0.3
JTS	Las Juntas de	2.90	314	‖eP	Pn	12 16 30.9	+0.8
JTS				eS	Sn	12 17 03.3	-1.2
JTS	Las Juntas de	2.90	314	P	Pn	12 16 31.6	+1.5
JTS				S	Sn	12 17 03.2	-1.4
ZANG	Zanguenga, Cho	3.02	77	eP	Pn	12 16 31.5	-0.3
BCIP	Isla Barro Col	3.10	73	eP	Pn	12 16 33.5	+0.7
BCIP				eS	Sn	12 17 09.3	-0.2
BCIP	Isla Barro Col	3.10	73	P	Pn	12 16 33.4	+0.5
BCIP				S	Sn	12 17 13.0	+3.5
BCIP	Isla Barro Col	3.10	73	eP	Pn	12 16 33.6	+0.7
FRIJ	El Hiral	3.22	73	eP	Pn	12 16 35.4	+0.9
JUD3	Juan Diaz 3	3.27	306	eP	Pn	12 16 35.3	+0.1
UPA	Univ. de Panam	3.35	77	eP	Pn	12 16 35.9	-0.4
ALIBA	Liberia Airpor	3.53	311	eP	Pn	12 16 40.1	+1.3
ELI1	Hacienda Flor	3.57	312	P	Pn	12 16 41.8	+2.4
ESPN	Las Esperanzas	4.16	340	P	Pn	12 16 47.7	+0.2
ESPN	Las Esperanzas	4.16	340	eP	Pn	12 16 48.0	+0.5
OMEN	Al SSO del Vol	4.24	320	P	Pn	12 16 49.0	+0.5
ACON	Acoyapa	4.34	328	P	Pn	12 16 50.0	+0.1
ACON	Acoyapa	4.34	328	eP	Pn	12 16 49.7	-0.2

*IDC **06** 12:22:13.3±1.9, 12°.96N×86°.65W, h0km, mb3.6/3, mbtmp3.5/5, ML3.0/2, MS3.1/3, Error ellipse: s-maj=108.6km s-min=26.8km az=52.0*
*CATAC **06** 12:22:14.1±0.3, 12°N±2°×8°8W±°, h13km±1km, M3.9/27, MLv3.9/27, Error ellipse: s-maj=3.8km s-min=1.6km az=28.5, confirmed*
*SNET **06** 12:22:16.0±0.7, 12°.13N×87°.64W, h24km±8km, ML3.8*
ISC 06 12:22:13.5±1.4, 12°.11N±0°.04×87°.62W±0°.03, h9km±9km, n85, σ0\$90/97, mb3.5/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	Cerro Pekin	0.84	48	P	Pb	12 22 30.8	+0.6
PKGN				S	Sn	12 22 43.3	-0.6
POLN	Al Sur del Vol	0.95	55	P	Pg	12 22 29.6	-2.3
POLN				S	Sn	12 22 46.0	-0.8
PLRN	Geotermica Pol	0.96	60	P	Pg	12 22 32.3	+0.4
PLRN				S	Sn	12 22 46.3	-0.6
CNGA	Al SSO del Vol	0.97	67	P	Pg	12 22 32.9	+0.7
CNGN	Cerro Negro	0.98	66	P	Pb	12 22 32.5	-0.2
CNGN	Cerro Negro	0.98	66	S	Sn	12 22 46.9	-0.6
COPN	Copaltepe	1.01	86	P	Pb	12 22 33.0	-0.1
AMTN	Mateare	1.17	84	P	Pg	12 22 36.6	+0.7
AMTN	Mateare	1.17	84	S	Sn	12 22 52.5	+0.4
CNCH	Conchagua	1.18	350	eP	Pg	12 22 36.6	+0.4
CNCH				eS	Sn	12 22 53.6	+1.0
LCND	La Caada	1.22	347	eP	Pg	12 22 37.4	+0.3
LCND	La Caada	1.22	347	P	Pg	12 22 37.4	+0.3
APQ2	Apoyeque	1.27	86	P	Pn	12 22 37.3	0.0
APQ2				S	Sb	12 22 53.8	-0.2
ABCN	Banco Central	1.28	89	S	Sn	12 22 55.1	+0.3
ALLN	Telcor Managua	1.31	88	S	Sn	12 22 56.1	+0.4
UNAN	Cigeo UNAN	1.32	90	P	Pn	12 22 38.1	+0.1
UNAN				S	Sn	12 22 55.9	+0.1
TISN	Laguna Tiscapa	1.32	88	P	Pn	12 22 36.4	-1.7
MGAN	Managua	1.34	88	P	Pn	12 22 38.1	-0.2
MGAN	Managua	1.34	88	S	Sb	12 22 55.9	-0.1
WILN	Americas 2	1.40	88	P	Pn	12 22 38.8	-0.4
WILN				S	Sb	12 22 58.3	+0.5
MAS3	Al N del Volca	1.41	93	P	Sn	12 22 38.8	-0.6
MAS3				S	Sn	12 22 58.0	-0.2
AERN	Aeropuerto Man	1.42	88	S	Sb	12 22 58.6	+0.3
SABN	Sabanita	1.43	96	P	Pn	12 22 40.2	+0.5
BLLM	Bellamira	1.46	336	eP	Pn	12 22 40.1	+0.1
CNRM	Centro Naciona	1.46	338	P	Pb	12 22 40.7	-0.2
CNRM	Centro Naciona	1.46	338	S	Sg	12 23 01.2	+0.6
LCY	Lacayo	1.47	333	eP	Pn	12 22 40.4	+0.2
RANC	El Ranchito	1.47	334	eP	Pn	12 22 40.4	+0.1
NANN	Nandasmo	1.47	96	P	Pn	12 22 40.4	+0.2
NANN	Nandasmo	1.47	96	S	Sg	12 23 01.9	+1.0
PACA	Pacayal	1.52	333	eP	Pb	12 22 41.5	-0.4
PACA	Pacayal	1.52	333	S	Sg	12 23 02.2	-0.2
LIMN	Finca el Limon	1.55	52	P	Pn	12 22 40.9	-0.4
LIMN				S	Sg	12 23 03.3	0.0
NADN	Granada	1.59	103	P	Pn	12 22 40.1	-1.8
NADN				S	Sn	12 23 02.2	-0.3
TECA	Tecapa	1.63	328	eP	Pn	12 22 42.9	+0.4
TECO	Alcaldia de Te	1.82	322	eP	Pn	12 22 45.1	+0.1
TECO	Alcaldia de Te	1.82	322	P	Pn	12 22 44.8	-0.2
MATN	Matagalpa	1.84	63	S	Sn	12 23 09.2	+0.3
MATN	Matagalpa	1.84	63	P	Pn	12 22 44.0	-1.4
UESV	Universidad de	1.90	323	P	Pn	12 22 46.9	+0.8
UESV	Universidad de	1.90	323	S	Sn	12 23 10.5	+0.3
SCLA	Alcaldia de Sa	1.92	326	eP	Pn	12 22 47.1	+0.7
SCLA	Alcaldia de Sa	1.92	326	P	Pn	12 22 46.8	+0.4
SCLA	Alcaldia de Sa	1.92	326	S	Sb	12 23 12.2	-0.6
TGUH	Tegucigalpa,Un	1.97	10	P	Pb	12 22 48.6	-0.9
TGUH				S	Sb	12 23 14.2	0.0
YUSH	Yuscaran	1.99	22	S	Sb	12 23 14.8	0.0
YUSH	Yuscaran	1.99	22	P	Pn	12 22 48.6	+1.3
MORN	Al O del Volca	2.01	106	P	Pn	12 22 46.4	-1.2
MORN				S	Sn	12 23 13.9	+1.0
RCVN	Varilla2	2.02	43	P	Pn	12 22 48.6	+0.7
RCVN	Varilla2	2.02	43	S	Sb	12 23 15.1	-0.7
CONN	Concepcion	2.02	105	P	Pn	12 22 46.6	-1.2
CONN				S	Sn	12 23 14.4	+1.2
OMEN	Al SSO del Vol	2.04	107	P	Pn	12 22 45.1	-2.9
OMEN				S	Sn	12 23 13.8	+0.3
RCPN	Sur Rio San Ju	2.05	46	P	Pn	12 22 49.5	+1.2
PAVA	Las Pavas	2.05	321	P	Pn	12 22 49.7	+1.4
PAVA	Las Pavas	2.05	321	S	Sb	12 23 15.9	-0.7
LFRS	El Faro	2.06	317	eP	Pn	12 22 49.1	+0.7
LOMA	Loma Larga	2.15	315	eP	Pn	12 22 50.0	+0.4
LOMA	Loma Larga	2.15	315	P	Pn	12 22 50.4	+0.7
LOMA	Loma Larga	2.15	315	S	Sn	12 23 17.3	+0.7
INTHN	La Esperanza I	2.24	348	P	Pn	12 22 52.0	+0.9
INTHN	La Esperanza I	2.24	348	S	Sb	12 23 20.3	-2.0
UEES	Universidad Ev	2.25	316	S	Sb	12 23 20.8	-1.6
PMON	Piamonte	2.30	314	P	Pn	12 22 52.3	+0.6
PMON	Piamonte	2.30	314	S	Sn	12 23 20.6	+0.5
JAYA	Jayaque - finc	2.36	311	eP	Pn	12 22 52.9	+0.4
JAYA	Jayaque - finc	2.36	311	P	Pn	12 22 52.9	+0.4
JAYA	Jayaque - finc	2.36	311	S	Sn	12 23 21.7	0.0
ACON	Acoyapa	2.40	93	P	Pn	12 22 52.9	0.0
ACON	Acoyapa	2.40	93	S	Sn	12 23 23.2	+0.8
NUBE	Las Nubes	2.76	311	P	Pn	12 22 58.7	+0.6
NUBE	Las Nubes	2.76	311	S	Sn	12 23 30.6	-1.1
MTO3	Montecristo	2.84	324	P	Pn	12 23 00.2	+1.0
SARH	Santa Rosa de	2.88	337	P	Pb	12 23 02.4	-2.7
FAME	Alcaldia de Sa	2.91	307	P	Pn	12 23 02.0	+2.1
ESQI	Esquipulas	2.96	326	P	Pn	12 23 02.2	+1.4
JTS	Las Juntas de	3.18	124	Pn	Pn	12 23 03.8	+0.1
JTS	1.4nm,0.3s,baz=340,slow=11,SNR=7.3			Sn	Sb	12 23 48.6	-0.4
JTS	3.1nm,0.3s,baz=58,slow=22,SNR=4.7			LR	LR	12 24 41.7	
JTS	comp=Z,138nm,19.9s,baz=254,slow=47 3.7nm,0.4s						
JTS	Las Juntas de	3.18	124	P	Pn	12 23 03.5	-0.2
SIUN	Universidad Ur	3.20	60	P	Pb	12 23 10.9	+0.3
ESPN	Las Esperanzas	3.25	88	P	Pn	12 23 05.1	+0.5
CMIG	Matias Romero	8.60	306	Pn	Pn	12 24 23.2	+4.9
SJG	0.2nm,0.3s,baz=140,slow=16,SNR=6.2 1.4nm,0.6s San Juan	21.56	71	LR	LR	12 34 08.9	
TXAR	comp=Z,24nm,21.3s,baz=262,slow=35 Lajitas Array	22.74	321	P	P	12 27 16.4	+0.4
PDAR	2.9nm,0.8s,baz=125,slow=10,SNR=28 2.9nm,0.8s Pinedale Array	36.00	332	P	P	12 29 14.1	-1.1
NVAR	0.6nm,0.8s,baz=133,slow=6.9,SNR=6.4 0.6nm,0.8s Mina Array Bea	37.85	319	P	P	12 29 32.2	+1.3
BDFB	0.4nm,0.7s,baz=121,slow=8.7,SNR=4.2 0.4nm,0.7s Brasilia	47.92	124	LR	LR	12 50 46.4	
	comp=Z,75nm,19.2s,baz=140,slow=36						

*IDC **06** 12:44:52.7±1.6, 5°.73S×130°.91E, h0km, mb4.4/5, mbtmp4.5/8, ML4.4/3, MS3.2/2, Error ellipse: s-maj=77.3km s-min=23.4km az=76.0*
*NEIC **06** 12:45:05.8±1.6, 5°.92S±0°.05×130°.53E±0°.10, h98km±10km, mb4.3/13, Error ellipse: s-maj=15.5km s-min=2.5km az=65.0*
*DJA **06** 12:45:07.2±0.2, 6°S±3°×13°1E±°, h111km±8km, M4.4/13, mB5.0/4, mb4.4/13, MLv4.4/13, Mw(mB)4.2/4*
ISC 06 12:45:07.2±0.6, 6°04S±0°.06×130°.51E±0°.07, h124km, n63, σ1\$88/59, mb4.3/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.62	338	P	Pn	12 45 34.1	-2.2
SAUI	Saumlaki	2.09	158		Pn	12 45 41.4	-0.5
SAUI	Saumlaki	2.09	158	P	Pn	12 45 42.6	+0.6
SAUI	Saumlaki	2.09	158	P	Pn	12 45 42.5	+0.6
MSAI	Masohi	3.10	329	P	Pn	12 45 52.8	-2.2
FAKI	Fak Fak	3.55	29		Pn	12 45 57.1	-3.7
FAKI	Fak Fak	3.55	29	P	Pn	12 45 57.6	-3.3
FAKI	Fak Fak	3.55	29	P	Pn	12 45 57.6	-3.3
KMPI	Kaimana, Papua	3.96	54	P	Pn	12 46 04.5	-1.8
NLAI	Namlea	4.39	309	P	Pn	12 46 11.9	-0.1
SWI	Sorong	5.19	8	P	Pn	12 46 19.5	-3.4
	0.4nm3µm71nm,0.8s						
RKPI	Ransiki, Papua	5.80	39	P	Pn	12 46 28.7	-2.3
SANI	Sanana	6.00	311	P	Pn	12 46 33.7	0.0
SANI	Sanana	6.00	311	P	Pn	12 46 33.9	+0.2
	0.2nm27nm,0.8s						
DRS	Darwin Rock St	6.37	177	P	Pn	12 46 37.2	-1.4
MTN	Manton Dam	6.79	175		Pn	12 46 43.1	-1.3
SOEI	Soe	7.20	239		Pn	12 46 48.5	-1.5
SOEI	Soe	7.20	239	P	Pn	12 46 51.4	+1.4
BAKI	Biak	7.37	49	P	Pn	12 46 52.7	+0.4
	0.3nm76nm,1.1s						
BATI	Baumata	7.94	238	Pn	Pn	12 46 59.7	-0.3
	9.3nm,0.3s,baz=115,slow=5.0,SNR=7.2						
BATI				Sn	Sn	12 48 24.3	-4.0
	5.2nm,0.3s,baz=124,slow=3.6,SNR=1.6						
BATI	Baumata	7.94	238	P	Pn	12 47 01.2	+1.2
	47nm,0.9s						
MMRI	Maumere	8.60	252	P	Pn	12 47 12.3	+3.5
	38nm,1.2s						
EDFI	Ende, Flores	9.15	252	P	Pn	12 47 18.9	+2.5
LUWI	Luwuk	9.18	302	Pn	Pn	12 47 13.7	-2.9
KNRA	Kununurra	9.73	190		Pn	12 47 21.0	-3.0
WBSI	Waikabubak, Su	11.58	251	P	Pn	12 47 50.0	+1.1
	36nm,1.0s						
FITZ	Fitzroy Crossi	12.90	201	Pn	Pn	12 48 02.2	-3.8
	2.1nm,0.3s,baz=30,slow=9.8,SNR=98						
FITZ				Sn	Sn	12 50 15.8	-12
	3.0nm,0.3s,baz=128,slow=20,SNR=7.8						
	12nm,0.4s						
FITZ	Fitzroy Crossi	12.90	201	P	Pn	12 48 03.2	-2.8
PLAI	Plampang	12.93	257	P	Pn	12 48 08.7	+2.3
	30nm,1.1s						
WB0	Warramunga Arr	14.16	165		Pn	12 48 18.7	-3.6
WRAB	Tennant Creek	14.31	165	P	Pn	12 48 19.1	-5.1
WRA	Warramunga Arr	14.31	165		Pn	12 48 19.8	-4.5
WRA	Warramunga Arr	14.31	165	Pn	Pn	12 48 19.6	-4.6
	1.0nm,0.3s,baz=344,slow=13,SNR=48						
WRA				Sn	Sn	12 50 51.0	-12
	3.6nm,0.3s,baz=347,slow=22,SNR=12						
	7.1nm,0.7s						
MYLDM	Lahad Datu	16.37	313	P	P	12 48 50.5	0.0
MYLDM				IAmb	IAmb	12 49 02.5	
	comp=Z,20nm,1.0s						
PMG	Port Moresby	16.83	103	LR	LR	12 56 31.1	
	comp=Z,94nm,18.3s,baz=136,slow=42						
AS31	Alice Springs	17.83	170	P	P	12 49 06.8	+0.3
ASAR	Alice Springs	17.83	170	P	P	12 49 06.9	+0.3
ASAR	Alice Springs	17.83	170	P	P	12 49 07.0	+0.5
	comp=Z,1.7nm,0.3s,baz=339,slow=8.2,SNR=125						
ASAR				S	S	12 52 14.4	-11
	comp=Z,4.1nm,0.6s,baz=355,slow=27,SNR=8.4						
ASAR				LR	LR	12 57 04.4	
	comp=Z,69nm,19.3s,baz=324,slow=40						
	comp=Z,1.11nm,0.6s						
PSA00	Pilbara Seismi	18.57	213	P	P	12 49 15.5	+0.8
PSA00				IAmb	IAmb	12 49 20.5	
	comp=Z,8.5nm,0.8s						
KKM	Kota Kinabalu	18.64	310	P	P	12 49 15.1	-0.5
KKM				IAmb	IAmb	12 49 18.1	
	comp=Z,50nm,1.1s						
SBUM	Sibu	20.11	294	P	P	12 49 31.5	0.0
INKA	Innaminka	23.68	157	P	P	12 50 09.0	+1.5
INKA				IAmb	IAmb	12 50 12.2	
	comp=Z,5.3nm,0.7s						
FORT	Forrest	24.72	185	P	P	12 50 20.1	+3.2
FORT				IAmb	IAmb	12 50 34.5	
	comp=Z,9.3nm,0.8s						
STKA	Stephens Creek	27.72	159	P	P	12 50 43.1	-0.9
CM31	Chiang Mai Arr	39.52	309	P	P	12 52 25.9	-0.3
CM31				IAmb	IAmb	12 52 28.2	
	comp=Z,7.5nm,0.9s						
CMAR	Chiang Mai Arr	39.52	309	P	P	12 52 24.6	-1.5
CMAR	Chiang Mai Arr	39.52	309	P	P	12 52 26.7	+0.6
	comp=Z,2.6nm,0.4s,baz=139,slow=7.6,SNR=29						
	comp=Z,2.6nm,0.4s						
CHTO	Chiang Mai	39.72	309	P	P	12 52 27.5	-0.3
PZH	PanZhiHua	42.71	321	P	P	12 52 53.8	+1.5
HHC	Hu-ho-hao-te	49.80	341	eP	P	12 53 51.6	+4.1
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.8s						
WMQ	Urumqi	62.87	326	eP	P	12 55 21.7	+1.5
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
MKAR	Makanchi Array	67.70	326		P	12 55 51.8	+0.6
MKAR	Makanchi Array	67.70	326	P	P	12 55 52.5	+1.3
	comp=Z,3.3nm,0.7s,baz=123,slow=8.1,SNR=26						
	comp=Z,3.3nm,0.7s						
ZALV	Zalesovo Beam	70.95	333	P	P	12 56 11.6	+0.6
ZALV	Zalesovo Beam	70.95	333	P	P	12 56 11.1	+0.1
	comp=Z,1.1nm,0.5s,baz=99,slow=4.7,SNR=6.3						
	comp=Z,1.1nm,0.5s						
KURBB	Kurchatov Arra	71.96	328	P	P	12 56 18.1	+1.0
	comp=Z,2.2nm,0.6s,baz=128,slow=4.9,SNR=28						
	comp=Z,2.2nm,0.6s						
KURK	Kurchatov	71.97	328	P	P	12 56 17.7	+0.6
KURK				IAmb	IAmb	12 56 19.0	
	comp=Z,6.9nm,1.2s						
KKAR	Karatay Array	72.96	318	P	P	12 56 23.7	+0.5
BVAR	Borovoye Array	77.53	328	P	P	12 56 49.4	+0.2
	comp=Z,2.1nm,0.6s,baz=120,slow=5.7,SNR=8.3						
	comp=Z,2.1nm,0.6s						
AB31	Akbulak array	82.08	321	P	P	12 57 13.9	+0.2
ABKAR	Akbulak array	82.08	321	P	P	12 57 14.1	+0.3
PPLA	Purkeypile	89.58	27	P	P	12 57 50.9	+0.2
TORD	Torodi Ar. Bea	129.11	282	PKP	PKiKP	13 04 02.4	0.0
	comp=Z,0.5nm,0.9s,baz=63,slow=2.4,SNR=2.3						

IDC 06 12:53:10.6±9.0, 5°.47S×151°.19E, h90km±63km, mb3.1/2, mbtmp3.5/3, ML1.7/1, MS3.5/1, Error ellipse: s-maj=136.7km s-min=59.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.60	225	P	Pn	12 54 30.9	-0.4
	1.6nm,0.3s,baz=41,slow=15,SNR=6.0						
PMG				S	Sn	12 55 35.3	+1.0
	6.7nm,0.3s,baz=125,slow=21,SNR=5.8						
	4.6nm,0.3s						
WRA	Warramunga Arr	21.81	227	P	P	12 57 56.4	+0.8
	0.9nm,0.6s,baz=52,slow=10,SNR=5.6						
	0.9nm,0.6s						
ASAR	Alice Springs	24.59	221	P	P	12 58 21.6	-0.8
	0.6nm,0.7s,baz=56,slow=9.1,SNR=5.3						
	0.6nm,0.7s						
TGY	Tagaytay City	35.77	303	LR	LR	13 16 13.9	
	comp=Z,61nm,18.1s,baz=206,slow=39						
TORD	Torodi Ar. Bea	148.97	286	PKPbc	PKPbc	13 12 48.9	-0.3
	0.2nm,0.4s,baz=59,slow=3.6,SNR=2.6						

*MOS **06** 12:55:30.0±0.9, 51°.88N×157°.06E, h135km, mb4.1/8, Error ellipse: s-maj=13.5km s-min=5.5km az=71.7*
*NEIC **06** 12:55:31.0±1.0, 51°.95N±0°.08×157°.0E±0°.1, h130km±6km, mb4.4/24, Error ellipse: s-maj=14.7km s-min=9.3km az=130.0*
*KRSC **06** 12:55:30.1±1.1, 51°.71N×157°.50E, h124km±11km, Ml4.3*
*IDC **06** 12:55:32.4±0.7, 51°.97N×156°.96E, h141km±5km, mb3.5/18, mbtmp4.0/21, Error ellipse: s-maj=15.0km s-min=8.9km az=146.0*
ISC 06 12:55:30.7±0.6, 51°.81N±0°.05×157°.24E±0°.05, h133km±4km, n123, σ1\$23/144, mb4.1/28, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.43	218	PN	Pn	12 55 49.5	-0.2
PAU	Pauzhetka	0.43	218	eP	Pn	12 55 49.5	-0.2
MIPR	Malaya Ipel'ka	0.56	328	PN	Pn	12 55 50.5	+0.2
MIPR				S	Sn	12 56 05.3	0.0
MIPR	Malaya Ipel'ka	0.56	328	eP	Pn	12 55 50.6	+0.2
MIPR				eS	Sn	12 56 05.4	0.0
ASAK	Asacha	0.71	35	PN	Pn	12 55 51.4	0.0
ASAK	Asacha	0.71	35	eP	Pn	12 55 51.4	0.0
MTVR	Mutnovka	0.89	40	PN	Pn	12 55 52.8	-0.2
MTVR				S	Sn	12 56 09.9	0.0
MTVR	Mutnovka	0.89	40	eP	Pn	12 55 52.9	-0.2
MTVR				eS	Sn	12 56 09.9	0.0
GRL	Gorelyy	0.91	34	PN	Pn	12 55 53.3	+0.3
GRL	Gorelyy	0.91	34	eP	Pn	12 55 53.4	+0.3
RUS	Russkaya	1.00	51	PN	Pn	12 55 53.1	-0.7
RUS				S	Sn	12 56 10.1	-1.2
RUS	Russkaya	1.00	51	eP	Pn	12 55 53.2	-0.7
RUS				eS	Sn	12 56 10.2	-1.2
KRMR	Karymshinskiy	1.16	28	PN	Pn	12 55 55.3	0.0
KRMR				S	Sn	12 56 14.6	+0.6
KRMR	Karymshinskiy	1.16	28	eP	Pn	12 55 55.3	0.0
KRMR				eS	Sn	12 56 14.7	+0.6
SKR	Severo-Kuril's	1.33	213	PN	Pn	12 55 57.2	+0.2
SKR				S	Sn	12 56 17.1	+0.1
SKR	Severo-Kuril's	1.33	213	eP	Pn	12 55 57.2	+0.2
SKR				eS	Sn	12 56 17.2	+0.1
PEA0B	Petropavlovsk-	1.33	12	Pn	Pn	12 55 57.5	+0.4
PEA0B	Petropavlovsk-	1.33	12	PN	Pn	12 55 57.5	+0.4
PEA0B				S	Sn	12 56 18.2	+0.9
PETK	Petropavlovsk-	1.33	12	Pn	Pn	12 55 56.4	-0.7
PETK	Petropavlovsk-	1.33	12	P	Pn	12 55 56.8	-0.3
	146nm,0.5s,baz=205,slow=13,SNR=219						
PETK				S	Sn	12 56 18.5	+1.2
	56nm,0.7s,baz=198,slow=23,SNR=11						
PET	Petropavlovsk	1.50	35	Pn	Pn	12 55 57.1	-1.7
PET	Petropavlovsk	1.50	35	iPN	Pn	12 55 56.7	-2.1
PET	Petropavlovsk	1.50	35

JGF	**Kuroka**	**21.55**	**229**	P		**P**		**13 00 09.4**	**0.0**
UNV	**Unalaska Valle**	**21.85**	**70**	P		**P**		**13 00 13.1**	**+0.7**
UNV				IAmb		IAmb		13 00 26.8	
	comp=Z,31nm,1.3s								
INU	**Inuyama**	**21.91**	**229**	P		**P**		**13 00 13.2**	**0.0**
TIXI	**Tiksi**	**23.57**	**338**	*i* P		**P**		**13 00 27.8**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.1s								
F15K	**North Star Dit**	**23.68**	**39**	P		**P**		**13 00 30.0**	**+0.2**
C16K	**Lisburne Hills**	**24.34**	**33**	P		**P**		**13 00 35.5**	**-0.1**
H17K	**Granite Mounta**	**25.43**	**42**	P		**P**		**13 00 46.5**	**+0.9**
H17K				IAmb		IAmb		13 01 20.3	
	comp=Z,24nm,1.3s								
M16K	**Timber Creek**	**25.46**	**52**	P		**P**		**13 00 47.2**	**+1.3**
D19K	**Kuna River**	**26.93**	**35**	P		**P**		**13 00 58.9**	**-0.2**
D19K				IAmb		IAmb		13 01 22.3	
	comp=Z,14nm,1.4s								
E22K	**Anaktuvuk Pass**	**29.15**	**37**	P		**P**		**13 01 18.9**	**+0.1**
E22K				IAmb		IAmb		13 01 41.6	
	comp=Z,12nm,1.4s								
G24K	**Hadweenzic Riv**	**30.70**	**40**	P		**P**		**13 01 33.4**	**+0.9**
G24K				IAmb		IAmb		13 01 34.8	
	comp=Z,8.7nm,0.8s								
ILAR	**Eielson Array**	**30.96**	**44**	P		**P**		**13 01 35.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=264,slow=8.1,SNR=18								
	comp=Z,1.6nm,0.8s								
ILAR	**Eielson Array**	**30.96**	**44**	*eP*		**P**		**13 01 34.8**	**+0.1**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**32.90**	**163**	T		T		13 37 29.7	
	baz=351,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**32.91**	**163**	T		T		13 37 29.6	
	baz=351,slow=76,SNR=2.0								
H11N1	**WAKE ISLAND Hy**	**32.91**	**163**	T		T		13 37 29.6	
	baz=351,slow=76,SNR=18								
L27K	**Beaver Creek,**	**33.36**	**46**	P		**P**		**13 01 56.1**	**+0.4**
L27K				IAmb		IAmb		13 01 57.8	
	comp=Z,4.9nm,0.8s								
F28M	**Old Crow**	**33.64**	**38**	P		**P**		**13 01 58.6**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**34.05**	**164**	T		T		13 38 59.4	
	baz=350								
H11S3	**WAKE ISLAND Hy**	**34.07**	**164**	T		T		13 38 59.8	
	baz=350,SNR=8.6								
H11S2	**WAKE ISLAND Hy**	**34.07**	**164**	T		T		13 39 00.9	
	baz=350								
ZALV	**Zalesovo Beam**	**42.00**	**303**	P		**P**		**13 03 06.7**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=74,slow=9.0,SNR=2.4								
ZALV				pP		**pP**		**13 03 37.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=60,slow=8.5,SNR=2.7								
ZALV				PcP		**PcP**		**13 05 00.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=100,slow=2.8,SNR=4.8								
	comp=Z,0.4nm,0.3s								
YKA	**Yellowknife Ar**	**45.29**	**41**	P		**P**		**13 03 35.5**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=303,slow=9.8,SNR=8.2								
	comp=Z,1.5nm,0.7s								
KURK	**Kurchatov**	**46.92**	**301**	P		**P**		**13 03 46.5**	**-1.0**
KURK				IAmb		IAmb		13 04 19.3	
	comp=Z,4.7nm,0.7s								
KURK	**Kurchatov**	**46.92**	**301**	*i* P		**P**		**13 03 46.1**	**-1.4**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KURBB	**Kurchatov Arra**	**47.02**	**301**	P		**P**		**13 03 47.1**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=52,slow=9.0,SNR=14								
KURBB				pP		**pP**		**13 04 19.3**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=64,slow=8.1,SNR=10								
KURBB				PcP		**PcP**		**13 05 17.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=65,slow=3.3,SNR=5.3								
	comp=Z,1.1nm,0.5s								
MKAR	**Makanchi Array**	**47.13**	**295**	P		**P**		**13 03 47.5**	**-1.6**
MKAR	**Makanchi Array**	**47.13**	**295**	P		**P**		**13 03 48.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=59,slow=6.4,SNR=9.1								
MKAR				pP		**pP**		**13 04 20.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=54,slow=7.0,SNR=2.4								
	comp=Z,0.6nm,0.5s								
SPITS	**Spitsbergen Ar**	**48.11**	**350**	P		**P**		**13 03 56.2**	**-0.1**
	comp=Z,16nm,1.1s,baz=26,slow=11,SNR=8.1								
	comp=Z,16nm,1.1s								
NLWA	**Neilton Lookou**	**48.97**	**62**	P		**P**		**13 04 04.1**	**+0.8**
NLWA				IAmb		IAmb		13 04 22.1	
	comp=Z,9.1nm,1.3s								
BVAR	**Borovoye Array**	**49.81**	**308**	P		**P**		**13 04 07.8**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=55,slow=7.8,SNR=6.0								
BVAR				pP		**pP**		**13 04 40.5**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=56,slow=9.1,SNR=4.6								
BVAR				PcP		**PcP**		**13 05 27.2**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=67,slow=3.3,SNR=8.4								
	comp=Z,0.7nm,0.4s								
BORK	**Borovoye**	**49.83**	**308**	*i* P		**P**		**13 04 08.3**	**-1.4**
LTY	**Liberty**	**50.79**	**61**	P		**P**		**13 04 16.7**	**-0.4**
CHTO	**Chiang Mai**	**55.92**	**257**	P		**P**		**13 04 55.3**	**+0.5**
CHTO				IAmb		IAmb		13 04 57.8	
	comp=Z,2.8nm,0.7s								
CHTO	**Chiang Mai**	**55.92**	**257**	P		**P**		**13 04 55.3**	**+0.5**
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**56.19**	**256**	P		**P**		**13 04 57.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=29,slow=7.3,SNR=9.3								
	comp=Z,1.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**56.19**	**256**	*eP*		**P**		**13 04 57.6**	**+0.8**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
NVAR	**Mina Array Bea**	**57.84**	**67**	P		**P**		**13 05 10.1**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=296,slow=7.7,SNR=7.6								
	comp=Z,0.7nm,0.6s								
PDAR	**Pinedale Array**	**59.68**	**58**	P		**P**		**13 05 22.5**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=318,slow=2.8,SNR=16								
	comp=Z,1.5nm,0.8s								
BELG	**Belogornoye**	**60.55**	**318**	*i* P		**P**		**13 05 25.6**	**-0.9**
BELG				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**60.59**	**335**	P		**P**		**13 05 26.1**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=91,slow=9.7,SNR=3.6								
	comp=Z,2.5nm,0.9s								
FINES	**FINESS Array B**	**60.59**	**335**	*eP*		**P**		**13 05 26.9**	**+0.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**64.27**	**342**	P		**P**		**13 05 50.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=28,slow=6.0,SNR=4.1								
	comp=Z,0.2nm,0.4s								
EKA	**Eskdalemuir Ar**	**71.99**	**348**	P		**P**		**13 06 39.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=18,slow=6.0,SNR=6.2								
	comp=Z,0.4nm,0.3s								
TXAR	**Lajitas Array**	**72.76**	**65**	P		**P**		**13 06 45.8**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=299,slow=5.2,SNR=33								
	comp=Z,1.7nm,0.5s								
WRA	**Warramunga Arr**	**74.20**	**202**	P		**P**		**13 06 53.3**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=17,slow=6.2,SNR=5.9								
	comp=Z,0.4nm,0.8s								
WRA	**Warramunga Arr**	**74.20**	**202**	*eP*		**P**		**13 06 54.4**	**+1.7**
AS31	**Alice Springs**	**77.89**	**202**	P		**P**		**13 07 14.4**	**+0.9**
ASAR	**Alice Springs**	**77.89**	**202**	P		**P**		**13 07 14.4**	**+0.9**
ASAR	**Alice Springs**	**77.89**	**202**	P		**P**		**13 07 15.1**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=16,slow=5.1,SNR=29								
	comp=Z,0.4nm,0.4s								
ESDC	**Sonseca Array**	**87.43**	**346**	P		**P**		**13 08 02.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=3.0,slow=4.2,SNR=8.9								
	comp=Z,0.6nm,0.6s								
H03N2	**Juan Fernandez**	**135.97**	**88**	T		T		15 45 26.1	
	baz=314,slow=77,SNR=45								
H03N1	**Juan Fernandez**	**135.98**	**88**	T		T		15 45 27.2	
	baz=314,slow=77,SNR=48								
H03N3	**Juan Fernandez**	**135.99**	**88**	T		T		15 45 25.9	
	baz=314,slow=77,SNR=39								
MAW	**Mawson**	**137.92**	**215**	PKP		**PKPdf**		**13 14 39.0**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=302,slow=4.7,SNR=4.0								

*CATAC **06** 13:33:35.7±0.3, 13°N±2°×8°1W±°, h5km±2km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=5.5km s-min=4.1km az=105.1, confirmed*

*RSNC **06** 13:33:38.3±0.0, 13°N±2°×8°1W±°, h9km±2km, M2.6, ML2.6*

ISC 06 13:33:36.1±1.0, 13°09'N±0'.04×81°20'W±0'.05, h10km, n12, σ1§43/20, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.33**	**331**	P	**Pg**	**13 33 43.0**	**+0.4**
PRVC				S	**Sg**	**13 33 46.9**	**0.0**
PRVC	**Isla de Provid**	**0.33**	**331**	P	**Pg**	**13 33 43.0**	**+0.4**
PRVC				S	**Sg**	**13 33 46.6**	**-0.4**
SAIC	**Isla e San And**	**0.74**	**222**	P	**Pg**	**13 33 51.9**	**+1.5**
SAIC				S	**Sg**	**13 34 03.0**	**+1.7**
SERC	**Banco Serrana,**	**1.44**	**34**	P	**Pn**	**13 34 03.0**	**+0.8**
SERC				S	**Sn**	**13 34 21.0**	**-0.2**
BILN	**Bilwi Airport**	**2.32**	**295**	P	**Pn**	**13 34 13.7**	**-0.6**
ESPN	**Las Esperanzas**	**3.15**	**254**	P	**Pn**	**13 34 26.0**	**+0.2**
ESPN				S	**Sn**	**13 35 00.8**	**-2.7**
SIUN	**Universidad Ur**	**3.53**	**281**	P	**Pn**	**13 34 30.7**	**-0.4**
TRT2	**Tortugero**	**3.53**	**225**	P	**Pn**	**13 34 33.1**	**+2.0**
ACON	**Acoyapa**	**4.04**	**254**	P	**Pn**	**13 34 36.3**	**-1.7**
ACON				S	**Sn**	**13 35 24.0**	**-1.4**
BCIP	**Isla Barro Col**	**4.12**	**161**	P	**Pn**	**13 34 38.5**	**-0.7**
BCIP				S	**Sn**	**13 35 24.7**	**-2.8**
BCIP	**Isla Barro Col**	**4.12**	**161**	P	**Pn**	**13 34 38.5**	**-0.7**
BCIP				S	**Sn**	**13 35 26.5**	**-1.0**
YUSH	**Yuscaran**	**5.55**	**280**	P	**Pn**	**13 35 00.3**	**+1.3**

*IDC **06** 13:37:24.6±1.4, 16°.28N×99°.19W, h0km, mb4.5/6, mbtmp4.2/8, ML3.4/2, MS3.5/27, Error ellipse: s-maj=30.8km s-min=25.4km az=41.0*

*MEX **06** 13:37:26.5±0.9, 16°.26N×99°.39W, h11km±26km, MD4.7*

*NEIC **06** 13:37:26.8±1.6, 16°.37N±0'.04×99°.36W±0'.06, h10km±2km, mb4.3/146, Md4.7/111(MEX), Error ellipse: s-maj=9.7km s-min=5.7km az=246.0*

ISC 06 13:37:23.8±1.3, 16°23N±0'.04×99°41W±0'.02, h5km±7km, n222, σ2§35/225, mb4.3/56, MS3.5/24, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.57**	**28**		**Pg**	**13 37 35.2**	**+0.4**
CRIG					**Sg**	**13 37 43.3**	**+1.2**
CRIG	**Cruz Grande**	**0.57**	**28**	*eP*	**Pg**	**13 37 35.2**	**+0.4**
CRIG				*eS*	**Sg**	**13 37 43.3**	**+1.2**
VNTA	**La Mica**	**0.79**	**330**		**Pg**	**13 37 39.0**	**+0.1**
VNTA					**Sg**	**13 37 47.6**	**-1.6**
VNTA	**La Mica**	**0.79**	**330**	*eP*	**Pg**	**13 37 39.0**	**+0.1**
VNTA				*eS*	**Sg**	**13 37 47.6**	**-1.6**
DAIG	**Los Arroyos**	**0.82**	**343**		**Pg**	**13 37 39.2**	**-0.4**
DAIG					**Sg**	**13 37 50.1**	**-0.1**
DAIG	**Los Arroyos**	**0.82**	**343**	*eP*	**Pg**	**13 37 39.2**	**-0.4**
DAIG				*eS*	**Sg**	**13 37 50.1**	**-0.1**
CAIG	**El Cayaco**	**1.16**	**315**		**Pb**	**13 37 44.6**	**-1.8**
CAIG					**Sb**	**13 37 59.1**	**-2.5**
CAIG	**El Cayaco**	**1.16**	**315**	*eP*	**Pb**	**13 37 44.6**	**-1.8**
CAIG				*eS*	**Sb**	**13 37 59.1**	**-2.5**
ATYC	**Atoyac**	**1.39**	**315**		**Pn**	**13 37 47.8**	**-2.0**
ATYC					**Sn**	**13 38 05.1**	**-3.4**
ATYC	**Atoyac**	**1.39**	**315**	*eP*	**Pn**	**13 37 47.8**	**-2.0**
ATYC				*eS*	**Sn**	**13 38 05.1**	**-3.4**
TLIG	**Tlapa**	**1.55**	**31**		**Pn**	**13 37 50.6**	**-1.5**
MEIG	**Mezcala**	**1.70**	**353**		**Pn**	**13 37 53.1**	**-1.1**
MEIG					**Sn**	**13 38 15.8**	**-0.5**
MEIG	**Mezcala**	**1.70**	**353**	*eP*	**Pn**	**13 37 53.1**	**-1.1**
MEIG				*eS*	**Sn**	**13 38 15.8**	**-0.5**
TXIG	**Tlaxiaco**	**1.87**	**57**		**Pn**	**13 37 55.2**	**-1.5**
TXIG					**Sn**	**13 38 20.1**	**-0.8**
TXIG	**Tlaxiaco**	**1.87**	**57**	*eP*	**Pn**	**13 37 55.2**	**-1.5**
TXIG				*eS*	**Sn**	**13 38 20.1**	**-0.8**
FTIG	**Fresnillo de T**	**2.06**	**36**		**Pn**	**13 37 58.3**	**-1.0**
FTIG					**Sb**	**13 38 28.1**	**+0.2**
FTIG	**Fresnillo de T**	**2.06**	**36**	*eP*	**Pn**	**13 37 58.3**	**-1.0**
FTIG				*eS*	**Sb**	**13 38 28.1**	**+0.2**
PEIG	**Puerto Escondi**	**2.18**	**96**		**Pn**	**13 37 59.7**	**-1.1**
PEIG					**Sn**	**13 38 22.0**	**-6.2**
PEIG	**Puerto Escondi**	**2.18**	**96**	*eP*	**Pn**	**13 37 59.7**	**-1.1**
PEIG				*eS*	**Sn**	**13 38 22.0**	**-6.2**
HLIG	**Huajuapan de L**	**2.21**	**44**		**Pn**	**13 38 00.1**	**-1.2**
HLIG					**Sb**	**13 38 30.9**	**-1.2**
HLIG	**Huajuapan de L**	**2.21**	**44**	*eP*	**Pn**	**13 38 00.1**	**-1.2**
HLIG				*eS*	**Sb**	**13 38 30.9**	**-1.2**
ARIG	**Puente Sto Nin**	**2.23**	**336**		**Pn**	**13 37 59.1**	**-2.3**
ARIG					**Sn**	**13 38 27.7**	**-1.6**
ARIG	**Puente Sto Nin**	**2.23**	**336**	*eP*	**Pn**	**13 37 59.1**	**-2.3**
ARIG				*eS*	**Sn**	**13 38 27.7**	**-1.6**
YAIG	**Yautepec**	**2.64**	**7**		**Pn**	**13 38 07.4**	**+0.3**
YAIG					**Sn**	**13 38 39.8**	**+0.2**
YAIG	**Yautepec**	**2.64**	**7**	*eP*	**Pn**	**13 38 07.4**	**+0.3**
YAIG				*eS*	**Sn**	**13 38 39.8**	**+0.2**
VHO	**Vista Hermosa**	**2.69**	**72**	*eP*	**Pn**	**13 38 07.8**	**-0.2**
VHO				*eS*	**Sn**	**13 38 41.1**	**+0.1**
OXIG	**Oaxaca**	**2.69**	**72**		**Pn**	**13 38 07.8**	**-0.2**
OXIG					**Sn**	**13 38 41.1**	**+0.1**
OXBJ	**Oaxaca**	**2.70**	**72**		**Pn**	**13 38 08.4**	**+0.3**
OXBJ					**Sn**	**13 38 38.3**	**-2.9**
OXBJ	**Oaxaca**	**2.70**	**72**	*eP*	**Pn**	**13 38 08.4**	**+0.3**
OXBJ				*eS*	**Sn**	**13 38 38.3**	**-2.9**
OXLC	**Oaxaca**	**2.72**	**72**		**Pn**	**13 38 10.6**	**+2.3**
OXLC					**Sn**	**13 38 42.2**	**+0.5**
OXLC	**Oaxaca**	**2.72**	**72**	*eP*	**Pn**	**13 38 10.6**	**+2.3**
OXLC				*eS*	**Sn**	**13 38 42.2**	**+0.5**
PPCL	**Tochimilco**	**2.77**	**16**	*eP*	**Pn**	**13 38 06.9**	**-2.2**
PPCL				*eS*	**Sn**	**13 38 42.3**	**-0.7**
PPPT	**Popocatepetl**	**2.83**	**15**	*eP*	Pn	13 38 04.1	-6.0
PPPT				*eS*	**Sn**	**13 38 41.1**	**-3.8**
TOIG	**Toxpalan**	**2.91**	**50**		**Pn**	**13 38 07.0**	**-3.9**
TOIG					**Sn**	**13 38 38.6**	**-7.6**
TOIG	**Toxpalan**	**2.91**	**50**	*eP*	**Pn**	**13 38 07.0**	**-3.9**
TOIG				*eS*	**Sn**	**13 38 38.6**	**-7.6**
TPIG	**Tehuac#an**	**2.92**	**42**		**Pn**	**13 38 10.1**	**-1.0**
TPIG					**Sn**	**13 38 46.6**	**-0.1**
TPIG	**Tehuac#an**	**2.92**	**42**	*eP*	**Pn**	**13 38 10.1**	**-1.0**
TPIG				*eS*	**Sn**	**13 38 46.6**	**-0.1**
PPSX	**Xalitzintla**	**2.96**	**17**	*eP*	**Pn**	**13 38 10.8**	**-1.0**
PPSX				*eS*	**Sn**	**13 38 49.9**	**+2.0**
PHPU	**Puebla**	**3.04**	**23**		**Sn**	**13 38 48.3**	**-1.3**
PHPU	**Puebla**	**3.04**	**23**	*eS*	**Sn**	**13 38 48.3**	**-1.3**
UNM	**Universidad Na**	**3.09**	**4**		**Pn**	**13 38 13.5**	**0.0**
UNM	**Universidad Na**	**3.09**	**4**	*eP*	**Pn**	**13 38 12.7**	**-0.8**
UNM				*eS*	**Sn**	**13 38 46.9**	**-4.1**
CUP5	**Mexico City**	**3.09**	**4**		**Pn**	**13 38 14.2**	**+0.7**
CUP5					**Sn**	**13 38 50.7**	**-0.2**
CUP5	**Mexico City**	**3.09**	**4**	*eP*	**Pn**	**13 38 14.2**	**+0.7**
CUP5				*eS*	**Sn**	**13 38 50.7**	**-0.2**
SCT2	**Benito Juarez**	**3.16**	**4**		**Sn**	**13 38 54.4**	**+1.8**
SCT2	**Benito Juarez**	**3.16**	**4**	*eS*	**Sn**	**13 38 54.4**	**+1.8**
HUIG	**Huatulco**	**3.20**	**98**		**Pn**	**13 38 15.0**	**+0.2**
HUIG					**Sn**	**13 38 48.5**	**-4.9**
HUIG	**Huatulco**	**3.20**	**98**	*eP*	**Pn**	**13 38 15.0**	**+0.2**
HUIG				*eS*	**Sn**	**13 38 48.5**	**-4.9**
POHV	**Veracruz**	**3.47**	**35**		**Pn**	**13 38 15.2**	**-3.8**
POHV					**Sn**	**13 39 00.4**	**-0.3**
POHV	**Veracruz**	**3.47**	**35**	*eP*	**Pn**	**13 38 15.2**	**-3.8**
POHV				*eS*	**Sn**	**13 39 00.4**	**-0.3**
NEUV	**Arroyo Zacate**	**3.75**	**66**		**Pn**	**13 38 22.0**	**-0.3**
NEUV					Sn	13 38 57.5	-9.3
NEUV	**Arroyo Zacate**	**3.75**	**66**	*eP*	**Pn**	**13 38 22.0**	**-0.3**
NEUV				*eS*	Sn	13 38 57.5	-9.3
MOIG	**Morelia**	**3.83**	**334**		**Sn**	**13 39 07.3**	**-1.8**
MOIG	**Morelia**	**3.83**	**334**		**Pn**	**13 38 23.9**	**+0.4**
MOIG	**Morelia**	**3.83**	**334**	*eP*	**Pn**	**13 38 27.9**	**+4.3**
MOIG				*eS*	**Sn**	**13 39 07.3**	**-1.8**
JAUV	**Jalcomulco**	**3.98**	**38**		**Pn**	**13 38 23.9**	**-1.7**
JAUV					**Sn**	**13 39 12.2**	**-0.5**
JAUV	**Jalcomulco**	**3.98**	**38**	*eP*	**Pn**	**13 38 23.9**	**-1.7**
JAUV				*eS*	**Sn**	**13 39 12.2**	**-0.5**
CXUV	**Coxquihui**	**4.28**	**23**		**Pn**	**13 38 28.1**	**-1.6**
CXUV					**Sn**	**13 39 15.7**	**-4.4**
CXUV	**Coxquihui**	**4.28**	**23**	*eP*	**Pn**	**13 38 28.1**	**-1.6**
CXUV				*eS*	**Sn**	**13 39 15.7**	**-4.4**
CMIG	**Matias Romero**	**4.42**	**78**		**Pn**	**13 38 28.8**	**-2.7**
CMIG					**Sn**	**13 39 21.5**	**-1.8**
CMIG	**Matias Romero**	**4.42**	**78**	Pn	**Pn**	**13 38 31.1**	**-0.4**
	1.9nm,0.3s,baz=247,slow=6.7,SNR=17						
CMIG				Sn	**Sn**	**13 39 21.3**	**-2.0**
	3.6nm,0.3s,baz=271,slow=19,SNR=3.9						
CMIG				Lg	Lg	13 39 45.9	
	7.7nm,0.3s,baz=0.0,slow=8.4,SNR=4.6						
CMIG				LR	LR	13 40 04.2	
	comp=Z,112nm,18.2s,baz=292,slow=38						
CMIG	**Matias Romero**	**4.42**	**78**	*eP*	**Pn**	**13 38 28.8**	**-2.7**
CMIG				*eS*	**Sn**	**13 39 21.5**	**-1.8**
LVIG	**Laguna Verde**	**4.49**	**39**		Pn	13 38 25.1	-7.4
LVIG					**Sn**	**13 39 26.2**	**+1.1**
LVIG	**Laguna Verde**	**4.49**	**39**	*eP*	Pn	13 38 25.1	-7.4
LVIG				*eS*	**Sn**	**13 39 26.2**	**+1.1**
JRQG	**Juriquilla Cam**	**4.56**	**348**		**Sn**	**13 39 27.2**	**+0.1**
JRQG	**Juriquilla Cam**	**4.56**	**348**		**Pn**	**13 38 34.4**	**+0.7**
JRQG	**Juriquilla Cam**	**4.56**	**348**	*eP*	**Pn**	**13 38 37.7**	**+4.1**
JRQG				*eS*	**Sn**	**13 39 27.2**	**+0.1**
PMUV	**Sontecomapan**	**4.69**	**60**		**Pn**	**13 38 34.1**	**-1.3**
PMUV					**Sn**	**13 39 31.2**	**+1.0**
PMUV	**Sontecomapan**	**4.69**	**60**	*eP*	**Pn**	**13 38 34.1**	**-1.3**
PMUV				*eS*	**Sn**	**13 39 31.2**	**+1.0**
IGIG	**Irapuato, Guan**	**4.85**	**338**		Pn	13 38 42.8	+5.0
IGIG					**Sn**	**13 39 35.3**	**+0.9**
IGIG	**Irapuato, Guan**	**4.85**	**338**	*eP*	Pn	13 38 42.8	+5.0
IGIG				*eS*	**Sn**	**13 39 35.3**	**+0.9**
MNGA	**Volcan de Coli**	**5.14**	**309**	*eP*	**Pn**	**13 38 42.3**	**+0.6**
MNGA				*eS*	**Sn**	**13 39 40.6**	**-1.0**
UXUV	**UXUV**	**5.15**	**77**		**Pn**	**13 38 37.0**	**-4.6**
UXUV					**Sn**	**13 39 36.2**	**-5.2**
UXUV	**UXUV**	**5.15**	**77**	*eP*	**Pn**	**13 38 37.0**	**-4.6**
UXUV				*eS*	**Sn**	**13 39 36.2**	**-5.2**
CDAR	**Ciudad de Arme**	**5.15**	**302**	*eP*	**Pn**	**13 38 42.3**	**+0.7**
CDAR				*eS*	**Sn**	**13 39 43.5**	**+2.0**
INCO	**Volcan de Coli**	**5.17**	**310**	*eP*	**Pn**	**13 38 45.0**	**+2.8**
INCO				*eS*	**Sn**	**13 39 39.6**	**-2.8**
SOMAC	**Volcano de Col**	**5.19**	**310**	*eP*	**Pn**	**13 38 44.3**	**+1.9**
SOMAC				*eS*	**Sn**	**13 39 41.1**	**-1.7**
CEGR	**Campo Tres**	**5.28**	**307**	*eP*	**Pn**	**13 38 45.6**	**+2.1**
CEGR				*eS*	**Sn**	**13 39 46.1**	**+1.3**
CTUV	**Llano Grande**	**5.31**	**11**		Pn	13 38 48.7	+5.0
CTUV					**Sn**	**13 39 43.1**	**-2.1**
CTUV	**Llano Grande**	**5.31**	**11**	*eP*	Pn	13 38 48.7	+5.0
CTUV				*eS*	**Sn**	**13 39 43.1**	**-2.1**
RPIG	**Rio Verde**	**5.65**	**355**		**Pn**	**13 38 48.7**	**+0.1**
RPIG					**Sn**	**13 39 56.6**	**+2.7**
RPIG	**Rio Verde**	**5.65**	**355**	*eP*	**Pn**	**13 38 48.7**	**+0.1**
RPIG				*eS*	**Sn**	**13 39 56.6**	**+2.7**
PCIG		**5.97**	**94**		**Pn**	**13 38 52.4**	**-0.5**
PCIG					**Sn**	**13 39 58.9**	**-2.8**
PCIG		**5.97**	**94**	*eP*	**Pn**	**13 38 52.4**	**-0.5**
PCIG				*eS*	**Sn**	**13 39 58.9**	**-2.8**
TGIG		**6.05**	**84**		**Pn**	**13 38 52.0**	**-2.0**
TGIG					**Sn**	**13 40 02.2**	**-1.5**
TGIG		**6.05**	**84**	*eP*	**Pn**	**13 38 52.0**	**-2.0**
TGIG				*eS*	**Sn**	**13 40 02.2**	**-1.5**
CJM	**Chamela**	**6.28**	**302**	*eP*	**Pn**	**13 38 57.5**	**+0.4**
CJM				*eS*	**Sn**	**13 40 11.6**	**+2.4**
AAIG	**Aguscalientes**	**6.36**	**334**		**Pn**	**13 39 01.7**	**+3.3**
AAIG					**Sn**	**13 40 10.7**	**-1.0**
AAIG	**Aguscalientes**	**6.36**	**334**	*eP*	**Pn**	**13 39 01.7**	**+3.3**
AAIG				*eS*	**Sn**	**13 40 10.7**	**-1.0**
GTIG	**Gomez Farias**	**6.80**	**2**		**Pn**	**13 39 08.8**	**+4.5**
GTIG					**Sn**	**13 40 19.1**	**-3.1**
GTIG	**Gomez Farias**	**6.80**	**2**	*eP*	**Pn**	**13 39 08.8**	**+4.5**
GTIG				*eS*	**Sn**	**13 40 19.1**	**-3.1**
ANIG	**Ahuacatlan**	**6.82**	**315**		Pn	13 39 11.4	+6.8
ANIG					**Sn**	**13 40 24.0**	**+1.2**
ANIG	**Ahuacatlan**	**6.82**	**315**	*eP*	Pn	13 39 11.4	+6.8
ANIG				*eS*	**Sn**	**13 40 24.0**	**+1.2**
CCIG	**Comitan**	**6.98**	**89**		**Pn**	**13 39 07.8**	**+0.9**
CCIG					**Sn**	**13 40 22.7**	**-4.1

W13A	Hualapai Mount	22.83 328	IAmb	IAmb	13 42 33.2
	comp=Z,14nm,1.3s				
R40A	Maddies Static	22.86 15	IAmb	IAmb	13 42 31.6
	comp=Z,6.1nm,0.8s				
BORC	Borrego Spring	22.89 321	IAmb	IAmb	13 42 44.6
	comp=Z,16nm,1.3s				
FVM	French Village	23.07 18		P	13 42 30.1 -0.1
FVM			IAmb	IAmb	13 42 36.4
	comp=Z,7.7nm,0.7s				
PMD	Palm Desert	23.13 322	IAmb	IAmb	13 42 39.5
	comp=Z,8.0nm,1.1s				
PFO	Pinyon Flats O	23.15 321	P	P	13 42 30.8 -0.4
PFO	Pinyon Flats O	23.15 321	LR	LR	13 51 48.5
	comp=Z,83nm,18.8s,baz=134,slow=37				
BELC	Belle Mtn. Jos	23.15 323	IAmb	IAmb	13 42 40.5
	comp=Z,13nm,1.2s				
S44A	Carbondale	23.18 21	IAmb	IAmb	13 42 37.7
	comp=Z,9.8nm,0.7s				
SIUC	Southern Illin	23.21 21	IAmb	IAmb	13 42 33.0
	comp=Z,11nm,0.8s				
DNR	Dunn Ranch,Anz	23.22 321	IAmb	IAmb	13 42 37.1
	comp=Z,14nm,1.0s				
V12A	Nelson	23.81 328		P	13 42 39.7 +2.0
V12A			IAmb	IAmb	13 42 48.0
	comp=Z,10nm,1.1s				
HMU	Henry Mountain	23.82 337	IAmb	IAmb	13 42 50.5
	comp=Z,13nm,1.0s				
TKL	Tuckaleechee C	23.85 33	LR	LR	13 53 39.5
	comp=Z,21nm,18.1s,baz=213,slow=41				
KNB	Kanab	23.88 333	IAmb	IAmb	13 42 43.5
	comp=Z,11nm,1.1s				
ISCO	Idaho Springs	24.10 348	IAmb	IAmb	13 42 49.2
	comp=Z,16nm,1.4s				
SHPR	Sheep Range	24.57 328	IAmb	IAmb	13 42 54.1
	comp=Z,7.1nm,1.3s				
P17A	Butcher Ranch,	25.19 339	IAmb	IAmb	13 43 06.6
	comp=Z,6.3nm,1.0s				
TMUT	Trail Mountain	25.19 338	IAmb	IAmb	13 42 59.0
	comp=Z,13nm,1.3s				
MPMC	Manual Prospec	25.48 324	IAmb	IAmb	13 42 58.6
	comp=Z,8.6nm,1.0s				
WCT	Wildcat Mounta	25.55 327	IAmb	IAmb	13 42 59.6
	comp=Z,8.6nm,1.0s				
ISA	Isabella, Lake	25.77 322	IAmb	IAmb	13 43 01.8
	comp=Z,10nm,1.0s				
BSUT	Blindstream Ca	26.15 340	IAmb	IAmb	13 43 02.8
	comp=Z,9.3nm,0.9s				
SPR3	Spring Creek 3	26.18 333	IAmb	IAmb	13 43 14.2
	comp=Z,10nm,1.4s				
R11B	Troy Canyon, C	26.23 330	IAmb	IAmb	13 43 06.0
	comp=Z,5.7nm,0.9s				
DSP	Deep Springs	26.70 326	IAmb	IAmb	13 43 15.3
	comp=Z,6.9nm,1.2s				
TPH	Tonopah	26.83 328	IAmb	IAmb	13 43 11.7
	comp=Z,7.6nm,1.0s				
O48B	Farmland	26.96 25		P	13 43 05.9 -0.4
NV11	Mina Array Sit	27.58 327	IAmb	IAmb	13 43 22.1
	comp=Z,5.7nm,1.1s				
NVAR	Mina Array Bea	27.66 327	P	P	13 43 16.3 +3.5
	comp=Z,3.1nm,0.8s,baz=134,slow=8.6,SNR=18				
NVAR			LR	LR	13 54 59.8
	comp=Z,94nm,19.4s,baz=132,slow=38				
	comp=Z,3.1nm,0.8s				
PDAR	Pinedale Array	27.84 344	P	P	13 43 16.2 +1.8
	comp=Z,6.4nm,1.0s,baz=147,slow=8.9,SNR=24				
PDAR			LR	LR	13 55 27.4
	comp=Z,234nm,19.9s,baz=146,slow=39				
	comp=Z,6.4nm,1.0s				
ELK	Elko	28.02 334	LR	LR	13 55 03.2
	comp=Z,136nm,21.1s,baz=163,slow=38				
TPAW	Teton Pass	28.89 342	IAmb	IAmb	13 43 41.0
	comp=Z,5.2nm,1.1s				
LOHW	Long Hollow	28.91 343	IAmb	IAmb	13 43 27.0
	comp=Z,4.5nm,0.9s				
FXWY	Fox Creek	29.05 342	IAmb	IAmb	13 43 34.1
	comp=Z,3.5nm,0.9s				
RLMT	Red Lodge	29.98 346	IAmb	IAmb	13 43 40.7
	comp=Z,8.2nm,1.1s				
YHL	Hebgen Lake	30.21 343	IAmb	IAmb	13 43 46.1
	comp=Z,8.1nm,1.3s				
MFID	Camas Ranch	30.49 336	IAmb	IAmb	13 43 45.3
	comp=Z,3.6nm,0.9s				
BOZ	Bozeman (W)	31.02 343	IAmb	IAmb	13 43 46.0
	comp=Z,5.2nm,1.2s				
ATAH	Atahualpa	31.17 137	LR	LR	13 53 30.5
	comp=Z,82nm,21.8s,baz=343,slow=31				
PLID	Pearl Lake	31.98 338	IAmb	IAmb	13 43 58.1
	comp=Z,6.7nm,1.2s				
YBH	Yreka Blue Hor	32.37 326	LR	LR	13 58 17.9
	comp=Z,4.7nm,20.2s,baz=119,slow=39				
SADO	Sadowa	33.19 27	LR	LR	13 58 33.4
	comp=Z,452nm,20.2s,baz=199,slow=38				
G08A	Pilot Rock	33.30 335	IAmb	IAmb	13 44 05.3
	comp=Z,4.8nm,1.0s				
ULM	Lac du Bonnet	34.05 4	P	P	13 44 08.7 -0.1
	comp=Z,5.5nm,0.7s,baz=179,slow=6.5,SNR=4.0				
ULM			LR	LR	14 00 16.3
	comp=Z,57nm,18.2s,baz=160,slow=40				
	comp=Z,5.5nm,0.7s				
NEW	Newport	35.10 339	LR	LR	14 00 26.3
	comp=Z,75nm,18.0s,baz=125,slow=39				
C09A	Chrisman Ranch	35.12 338	IAmb	IAmb	13 44 21.4
	comp=Z,4.5nm,0.8s				
LTY	Liberty	35.59 335	IAmb	IAmb	13 44 31.4
	comp=Z,7.8nm,1.3s				
B08A	Colville Reser	35.97 337	IAmb	IAmb	13 44 32.6
	comp=Z,6.4nm,1.3s				
LLLB	Lillooet	38.77 337	IAmb	IAmb	13 45 00.5
	comp=Z,12nm,1.3s				
BBB	Bella Bella	42.47 334	LR	LR	14 04 33.7
	comp=Z,46nm,19.7s,baz=242,slow=38				
LPAZ	La Paz	44.68 135	LR	LR	14 02 44.5
	comp=Z,60nm,19.0s,baz=2.5,slow=34				
SCHQ	Schefferville	45.98 26	P	P	13 45 48.2 +0.4
	comp=Z,37nm,0.9s,baz=264,slow=9.2,SNR=2.1				
	comp=Z,37nm,0.9s				
YKA	Yellowknife Ar	47.43 350	P	P	13 46 00.1 +1.0
	comp=Z,2.4nm,0.8s,baz=167,slow=6.8,SNR=8.4				
YKA			LR	LR	14 07 07.1
	comp=Z,108nm,18.4s,baz=137,slow=38				
	comp=Z,2.4nm,0.8s				
DLBC	Dease Lake	47.85 339	LR	LR	14 07 12.8
	comp=Z,1μm,18.4s,baz=161,slow=37				
FRB	Frobisher Bay	52.01 17	LR	LR	14 12 30.8
	comp=Z,43nm,21.3s,baz=112,slow=41				
H03N2	Juan Fernandez	53.12 159	T	T	14 44 00.1
	baz=338,slow=77,SNR=11				
H03N1	Juan Fernandez	53.13 159	T	T	14 44 03.8
	baz=338,slow=77,SNR=12				
H03N3	Juan Fernandez	53.13 159	T	T	14 44 00.5
	baz=338,slow=77,SNR=16				
L29M	L29M	53.97 339		pP	13 46 50.4 +1.6
KDAK	Kodiak Island	57.11 329	LR	LR	14 10 30.4
	comp=Z,33nm,20.3s,baz=94,slow=35				
ILAR	Eielson Array	58.05 338	P	P	13 47 19.5 +1.9
	comp=Z,2.2nm,1.0s,baz=138,slow=5.4,SNR=13				
ILAR			LR	LR	14 15 14.2
	comp=Z,86nm,18.1s,baz=93,slow=39				
	comp=Z,2.2nm,1.0s				
RES	Resolute Bay	58.51 1	LR	LR	14 14 45.6
	comp=Z,36nm,18.3s,baz=278,slow=38				
SFJD	Kangerlussuaq	59.72 20	LR	LR	14 14 30.9
	comp=Z,59nm,19.1s,baz=216,slow=37				
PLCA	Paso Flores	62.69 156	LR	LR	14 09 51.1
	comp=Z,27nm,19.4s,baz=262,slow=31				
NOA	NORSAR Array B	85.53 27	LR	LR	14 29 07.7
	comp=Z,14nm,19.2s,baz=355,slow=36				
MA2	Magadan	85.80 331	LR	LR	14 29 26.6
	comp=Z,18nm,18.3s,baz=60,slow=36				
ARCES	ARCESS Array B	86.18 17	LR	LR	14 28 55.2
	comp=Z,40nm,19.2s,baz=289,slow=36				
YAK	Yakutsk	92.96 339	LR	LR	14 34 55.4
	comp=Z,42nm,19.8s,baz=359,slow=37				
WRA	Warramunga Arr	126.95 257	PKP	PKiKP	13 56 35.2 +1.0
	comp=Z,0.9nm,0.8s,baz=91,slow=2.8,SNR=10				
ASAR	Alice Springs	129.58 253	PKP	PKiKP	13 56 36.0 +0.6
	comp=Z,0.5nm,0.8s,baz=119,slow=3.4,SNR=4.9				
CMAR	Chiang Mai Arr	141.08 332	PKP	PKPdf	13 56 56.5 +0.3
	comp=Z,0.5nm,0.5s,baz=346,slow=2.1,SNR=5.0				

*IGIL **06** 13:56:57.8, 35°.92N×15°.78W, h11km, ML2.6*
*INMG **06** 13:57:04.7±1.1, 35°.52N×15°.38W, h22km, ML2.7, Error ellipse: s-maj=18.9km s-min=2.3km az=124.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Madeira-Tore*
*CNRM **06** 13:57:07.0, 35°.88N×15°.05W, h55km*

ISC 06 13:57:01.6±2.5, 35°.97N±0°.06×15°.1W±0°.1, h10km, n44, σ1§40/54, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	Porto Santo, M	3.05	199	eS	Sn	13 58 06.7	-20
PMPST				i IAML		13 58 09.4	
PMPST				i IAML		13 58 10.0	
PMPST				i IAML		13 58 10.0	
PMPS	Porto Santo	3.07	199	eP	Pn	13 57 46.9	-3.3
PMPS				i IAML		13 58 12.5	
PMAR	Madeira	3.56	205	eS	Sn	13 58 20.0	-19
PMAR				i IAML		13 58 22.0	
PMAR				i IAML		13 58 22.4	
PMAR				i IAML		13 58 22.6	
FUL	Funchal	3.62	204	eS	Sn	13 58 21.1	-19
FUL				i IAML		13 58 21.5	
FUL				i IAML		13 58 22.9	
FUL				i IAML		13 58 23.7	
PFVI	Vila Bisbo	5.21	75	eP	Pn	13 58 20.7	+1.0
PFVI				eS	Sn	13 59 19.4	-0.5
PFVI				i IAML		13 59 24.2	
PFVI				i IAML		13 59 24.9	
PFVI				i IAML		13 59 25.5	
MORF	Marmelete	5.39	74	eP	Pn	13 58 22.8	+0.7
MORF				eS	Sn	13 59 25.0	+0.8
MORF				IAML		13 59 28.3	
	comp=N,11nm,0.2s						
MORF	Marmelete	5.39	74	eP	Pn	13 58 23.5	+1.4
MORF				eS	Sn	13 59 23.5	-0.7
MORF				i IAML		13 59 28.5	
MORF				i IAML		13 59 29.7	
MORF				i IAML		13 59 30.6	
PTEO	Sao Teotonio	5.39	71	eP	Pn	13 58 23.3	+1.2
PTEO				eS	Sn	13 59 23.0	-1.2
PTEO				i IAML		13 59 30.2	
PTEO				i IAML		13 59 32.0	
PTEO				i IAML		13 59 33.8	
PMAFR	Mafra	5.53	56	eS	Sn	13 59 28.5	+0.7
PMAFR				i IAML		13 59 31.7	
PMAFR				i IAML		13 59 36.8	
PMAFR				i IAML		13 59 37.9	
PARRA	Arraiolos	5.63	58	eS	Sb	13 59 46.1	-1.3
PARRA				i IAML		13 59 47.1	
PARRA				i IAML		13 59 47.9	
PARRA				i IAML		13 59 48.4	
MESJ	Messejana	5.85	69	eP	Pn	13 58 29.1	+0.6
MESJ				eS	Sn	13 59 35.6	0.0
MESJ				IAML		13 59 39.2	
	comp=N,3.0nm,0.2s						
MESJ	Messejana	5.85	69	eP	Pn	13 58 30.2	+1.7
MESJ				eS	Sn	13 59 34.5	-1.1
MESJ				i IAML		13 59 38.0	
MESJ				i IAML		13 59 39.1	
MESJ				i IAML		13 59 41.7	
PCVE	Castro Verde	5.94	72	eP	Pn	13 58 31.0	+1.4
PCVE				eS	Sn	13 59 37.2	-0.4
PCVE				i IAML		13 59 40.1	
PCVE				i IAML		13 59 42.4	
PCVE				i IAML		13 59 43.2	
PBDV	Barranco-do-Ve	5.94	76	eP	Pn	13 58 30.8	+1.2
PBDV				eS	Sn	13 59 38.6	+0.8
PBDV				i IAML		13 59 42.9	
PBDV				i IAML		13 59 54.0	
PBDV				i IAML		13 59 55.0	
PVAQ	Vaqueiros	6.14	74	eP	Pn	13 58 33.6	+1.3
PVAQ				eS	Sn	13 59 40.4	-2.1
PVAQ				i IAML		13 59 47.2	
PVAQ				i IAML		13 59 49.1	
PVAQ				i IAML		13 59 51.1	
PVAQ	Vaqueiros	6.14	74	P	Pn	13 58 34.0	+1.6
PVAQ	Vaqueiros	6.14	74	S	Sn	13 59 43.7	+1.1
PSBE	So Bento	6.15	53	eS	Sn	13 59 43.6	+0.6
PSBE				i IAML		13 59 46.0	
PSBE				i IAML		13 59 47.1	
PSBE				i IAML		13 59 47.7	
PBEJ	Beja	6.17	68	eS	Sn	13 59 42.5	-1.1
PBEJ				i IAML		13 59 46.4	
PBEJ				i IAML		13 59 46.8	
PBEJ				i IAML		13 59 52.2	
PMTG	Montargil	6.31	59	eP	Pn	13 58 37.0	+2.3
PMTG				eS	Sn	13 59 46.4	-0.4
PMTG				i IAML		13 59 48.5	
PMTG				i IAML		13 59 49.1	
PMTG				i IAML		13 59 51.8	
PSARD	Sardoal	6.61	55	eP	Pn	13 58 40.2	+1.4
PSARD				eS	Sn	13 59 53.7	-0.6
PSARD				i IAML		13 59 55.8	
PSARD				i IAML		13 59 59.7	
PSARD				i IAML		14 00 00.7	
PCAS	Casmilo, Conde	6.64	50	eS	Sn	13 59 55.6	+0.5
PCAS				i IAML		13 59 56.3	
PCAS				i IAML		13 59 57.2	
PCAS				i IAML		14 00 00.5	
PESTR	Estremoz	6.67	62	eS	Sn	13 59 54.4	-1.4
PESTR				i IAML		13 59 56.4	
PESTR				i IAML		13 59 56.6	
PESTR				i IAML		14 00 01.5	
PESTR	Estremoz	6.67	62	P	Pn	13 58 41.4	+1.7
PESTR	Estremoz	6.67	62	S	Sn	13 59 56.4	+0.7
PBAR	Barrancos	6.84	69	eS	Sn	13 59 58.8	-1.2
PBAR				i IAML		14 00 00.6	
PBAR				i IAML		14 00 03.2	
PBAR				i IAML		14 00 04.0	
SRHM	Skhour des Reh	6.94	118	P	Pn	13 58 46.4	+3.0
SRHM	Skhour des Reh	6.94	118	S	Sn	14 00 02.5	0.0
PMRV	Marv??o	7.05	58	eP	Pn	13 58 45.4	+0.5
PMRV				eS	Sn	14 00 03.7	-1.4
PMRV				i IAML		14 00 06.3	
PMRV				i IAML		14 00 07.2	
PMRV				i IAML		14 00 07.2	
PCBR	Castelo Branco	7.18	55	eS	Sn	14 00 08.1	-0.3
PCBR				i IAML		14 00 10.7	
PCBR				i IAML		14 00 10.9	
PCBR				i IAML		14 00 11.1	
OUK	Oukaimeden	7.71	126	P	Pn	13 58 55.0	+0.8
OUK	Oukaimeden	7.71	126	S	Sn	14 00 19.5	-2.3
PGAV	Gavieira, Arco	8.03	40	eP	Pn	13 58 58.5	+0.1
PGAV				eS	Sn	14 00 26.4	-2.9
PGAV				i IAML		14 00 31.6	
PGAV				i IAML		14 00 32.2	
MVO	Moncorvo	8.20	48	eS	Sn	14 00 30.0	-2.6
MVO				i IAML		14 00 33.6	
MVO				i IAML		14 00 33.6	
MVO				i IAML		14 00 35.6	
TIO	Tiouine	8.29	125	P	Pn	13 59 03.0	+1.0
TIO	Tiouine	8.29	125	S	Sn	14 00 35.7	0.0
TISM	Timmit	8.39	118	P	Pn	13 59 02.6	-0.6
TISM	Timmit	8.39	118	S	Sn	14 00 36.4	-1.6
OUZM	OUZ	8.63	123	P	Pn	13 59 08.2	+1.4
OUZM	OUZ	8.63	123	S	Sn	14 00 42.3	-2.0
MD31	MD31	9.12	107	P	Pn	13 59 14.3	+0.9
MD31	MD31	9.12	107	S	Sn	14 00 55.1	-1.0
MDT	Midelt	9.26	107	P	Pn	13 59 16.3	+1.0
MDT	Midelt	9.26	107	S	Sn	14 00 59.9	+0.3

RSNC 06 15:05:36.0±0.0, 7°N±1°×7°3W±°, h151km±2km, M2.6, mb3.6, ML2.4, MLv3.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	196	P	Pn	15 05 56.5	-0.4
BARC				S	Sn	15 06 11.7	-1.0
PAMC	Pamplona, Colo	0.64	39	P	Pn	15 05 59.3	+0.5
PAMC				S	Sn	15 06 16.4	+0.2
BRJC	Barrancabermej	0.64	282	P	Pn	15 05 58.2	0.0
BRJC				S	Sn	15 06 15.2	0.0
RUSC	La Rusia	0.94	178	P	Pn	15 06 00.6	-0.4
RUSC				S	Sn	15 06 18.9	-1.1
PTBC	PUERTO BERRIO,	1.37	257	P	Pn	15 06 03.0	-1.3
PTBC				S	Sn	15 06 24.3	-1.7
OCAC	Ocana	1.41	352	P	Pn	15 06 04.8	-0.1
OCAC				S	Sn	15 06 26.4	-0.6
SPBC	San Pablo de B	1.52	219	P	Pn	15 06 05.4	-0.6
SPBC				S	Sn	15 06 27.4	-1.5
NORC	Norcasia	2.16	234	P	Pn	15 06 12.3	-0.9
NORC				S	Sn	15 06 40.1	-1.6
ROSC	El Rosal	2.32	211	P	Pn	15 06 16.4	+1.0
ROSC				S	Sn	15 06 47.8	+2.0
HELC	Santa Helena	2.49	255	P	Pn	15 06 18.5	+1.1
HELC				S	Sn	15 06 48.7	-0.5
CVER	Cruz Verde, Cu	2.50	203	P	Pn	15 06 17.9	+0.3
CVER				S	Sn	15 06 50.5	+0.9
UREC	San Jos de Ur	2.57	291	P	Pn	15 06 16.3	-1.7
UREC				S	Sn	15 06 47.7	-2.8
GUY2C	Guyana, Caldas	2.76	235	P	Pn	15 06 20.8	-0.1
GUY2C				S	Sn	15 06 57.8	+2.4
PTGC	Puerto Gaitan,	2.80	160	P	Pn	15 06 19.8	-1.1
PTGC				S	Sn	15 06 53.2	-2.4
SDV	Santo Domingo	3.19	50	P	Pn	15 06 25.9	-0.1
SDV				S	Sn	15 07 03.8	-0.9
ARGC	Ariguani, Magd	3.20	340	P	Pn	15 06 25.4	-0.6
ARGC				S	Sn	15 07 11.5	+6.7
ANIL	Santa Ana	3.26	224	P	Pn	15 06 26.5	-0.6
ANIL				S	Sn	15 07 09.0	+2.4
PRAC	Prado	3.57	210	P	Pn	15 06 30.2	-0.6
PRAC				S	Sn	15 07 12.2	-1.2
ORTC	Ortega, Tolima	3.61	216	P	Pn	15 06 31.0	-0.2
ORTC				S	Sn	15 07 14.4	+0.3
SJCC	San Jacinto, C	3.66	326	P	Pn	15 06 30.6	-1.4
SJCC				S	Sn	15 07 12.9	-2.6
URMC	La Uribe, Meta	3.79	200	P	Pn	15 06 33.6	0.0
URMC				S	Sn	15 07 18.1	-0.3
CRJC	Cerrejon, Guaj	4.16	3	P	Pn	15 06 37.3	-1.2
CRJC				S	Sn	15 07 26.0	-1.1
YOTC	Yotoco, Valle	4.29	229	P	Pn	15 06 39.3	-1.0
YOTC				S	Sn	15 07 27.0	-3.2
SMRC	Santa Marta, M	4.43	346	P	Pn	15 06 41.5	-0.5
SMRC				S	Sn	15 07 30.3	-3.2
URIC	Uribia, Colomb	4.96	13	P	Pn	15 06 46.8	-2.1
URIC				S	Sn	15 07 42.9	-2.8
FLOC	Florencia	5.80	206	P	Pn	15 06 58.9	-1.3

*NEIC **06** 15:05:36.7±1.6, 20°.5S±0°.1×178°.9W±0°.1, h628km±9km, mb4.2/35, Error ellipse: s-maj=19.2km s-min=17.3km az=122.0*
*IDC **06** 15:05:37.2±2.8, 20°.43S×179°.07W, h628km±34km, mb2.9/12, mbtmp3.9/13, Error ellipse: s-maj=20.3km s-min=13.5km az=155.0*

ISC 06 15:05:37.8±0.5, 20°.51S±0°.09×178°.95W±0°.08, h645km, n57, σ1§12/58, mb4.0/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.96	314	P	P	15 07 03.1	-3.4
NIUE	Niue	8.61	82	P	P	15 07 42.0	-2.4
PINNC	Pines Island,	12.83	258	P	P	15 08 23.8	-0.4
DZM	Mont Dzumac	13.70	261	P	P	15 08 32.0	-0.4
	4.5nm,0.9s,baz=85,slow=19,SNR=2.3						
BKZ	Black Stump Fm	19.00	191	P	P	15 09 16.6	-3.9
BKZ				IAmb	IAmb	15 09 34.7	
	comp=Z,25nm,1.4s						
WHZ	Wether Hill Ro	27.51	200	P	P	15 10 35.4	-0.2
CTAO	Charters Tower	32.60	265	P	P	15 11 19.9	+0.5
CTAO				IAmb	IAmb	15 12 00.2	
	comp=Z,9.6nm,1.3s						
WR8	Warramunga Arr	43.56	262	P	P	15 12 48.0	+0.4
WR8				IAmb	IAmb	15 12 49.6	
	comp=Z,9.1nm,1.5s						
AS31	Alice Springs	43.65	257	P	P	15 12 48.4	+0.2
ASAR	Alice Springs	43.65	257	P	P	15 12 48.6	+0.4
	comp=Z,0.9nm,0.6s,baz=98,slow=8.2,SNR=27						
ASAR				PcP	PcP	15 14 21.3	+0.8
	comp=Z,0.3nm,0.5s,baz=95,slow=3.5,SNR=7.2						
ASAR				S	S	15 18 35.1	+1.6
	comp=Z,0.3nm,0.8s,baz=97,slow=14,SNR=3.1						
	comp=Z,0.9nm,0.6s						
WB0	Warramunga Arr	43.70	263	P	P	15 12 48.9	+0.3
WB0				IAmb	IAmb	15 13 03.2	
	comp=Z,6.2nm,1.3s						
WRAB	Tennant Creek	43.71	262	P	P	15 12 49.1	+0.4
WRA	Warramunga Arr	43.72	262	P	P	15 12 47.1	-1.7
	comp=Z,0.9nm,0.3s,baz=99,slow=8.0,SNR=53						
WRA				S	S	15 18 32.4	-2.1
	comp=Z,0.3nm,0.9s,baz=95,slow=13,SNR=2.1						
	comp=Z,0.9nm,0.3s						
MTN	Manton Dam	48.27	271	P	P	15 13 23.6	+0.5
MTN				IAmb	IAmb	15 14 07.3	
	comp=Z,7.3nm,1.1s						
GUMO	Guam	49.13	311	P	P	15 13 28.2	-1.1
KNRA	Kununurra	49.77	267	P	P	15 13 34.6	+0.6
KNRA				IAmb	IAmb	15 14 14.9	
	comp=Z,19nm,1.4s						
FITZ	Fitzroy Crossi	52.14	263	P	P	15 13 51.0	-0.1
NWAO	Narrogin (SRO)	57.57	243	P	P	15 14 28.5	+0.1
VNDA	Vanda	57.82	185	P	P	15 14 30.3	+1.0
VNDA	Vanda	57.82	185	P	P	15 14 30.2	+0.9
	comp=Z,0.2nm,0.5s,baz=349,slow=6.2,SNR=2.1						
	comp=Z,0.2nm,0.5s						
CASY	Casey	63.58	205	P	P	15 15 07.1	+0.1
QSPA	South Pole Qui	69.56	180	P	P	15 15 45.4	+1.5
QSPA	South Pole Qui	69.56	180	P	P	15 15 45.7	+1.8
	comp=Z,1.3nm,0.8s,baz=35,slow=1.2,SNR=5.8						
	comp=Z,1.3nm,0.8s						
MJAR	Matsushiro Arr	69.69	324	P	P	15 15 45.3	+0.3
MJAR				IAmb	IAmb	15 15 56.1	
	comp=Z,7.1nm,1.4s						
MJAR	Matsushiro Arr	69.69	324	P	P	15 15 45.7	+0.8
	comp=Z,0.6nm,0.5s,baz=153,slow=6.5,SNR=5.7						
	comp=Z,0.6nm,0.5s						
KIWB	Kanaga Island	72.07	1	P	P	15 15 58.4	0.0
ADK	Adak	72.11	1	P	P	15 15 58.5	-0.1
UNV	Unalaska Valle	74.82	8	P	P	15 16 13.3	-0.5
PETK	Petropavlovsk-	76.06	346	P	P	15 16 20.8	+0.1
	comp=Z,4.0nm,1.0s,baz=162,slow=5.2,SNR=1.3						
	comp=Z,4.0nm,1.0s						
KSRS	Korea Array	76.31	319	P	P	15 16 24.0	+1.6
	comp=Z,0.9nm,0.7s,baz=130,slow=4.7,SNR=4.4						
	comp=Z,0.9nm,0.7s						
BELA	Belgrano 2	79.66	173	P	P	15 16 39.4	-0.4
O02D	Mt. Diablo Mer	79.86	40	P	P	15 16 42.3	+0.9
O02D				IAmb	IAmb	15 16 43.9	
	comp=Z,13nm,1.5s						
M02C	Callahan	80.56	39	P	P	15 16 46.7	+1.6
M02C				IAmb	IAmb	15 16 58.8	
	comp=Z,8.9nm,1.4s						
NVAR	Mina Array Bea	81.64	44	P	P	15 16 51.0	+0.2
	comp=Z,0.4nm,0.7s,baz=235,slow=4.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						
K05A	Summer Lake	82.53	39	P	P	15 16 55.9	+0.8
J05D	Fort Rock, OR	82.67	38	P	P	15 16 56.5	+0.8
J05D				IAmb	IAmb	15 16 57.8	
	comp=Z,3.2nm,0.6s						
GHO	Glory Hole Cre	85.44	14	P	P	15 17 09.0	+0.2
SCM	Sheep Creek Mo	85.86	14	P	P	15 17 11.0	+0.3
N25K	Chitina, Valde	86.33	16	P	P	15 17 12.9	-0.1
N25K				IAmb	IAmb	15 17 36.1	
	comp=Z,7.5nm,1.2s						
GLB	Gilahina Butte	86.39	16	P	P	15 17 13.6	+0.4
GLB				IAmb	IAmb	15 17 15.5	
	comp=Z,10nm,1.3s

comp=Z,0.4nm,0.6s,baz=243,slow=4.8,SNR=5.3
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 118.51 320 PKP **PKPdf 15 23 13.6 -0.1**
comp=Z,0.8nm,0.4s,baz=91,slow=3.2,SNR=5.9
HFS Hagfors 139.40 350 PKhKP PKPpre 15 23 44.9
comp=Z,2.1nm,0.9s,baz=54,slow=2.5,SNR=5.4
AKASG Malin Array Be 142.59 330 PKhKP PKPpre 15 23 56.2
comp=Z,1.4nm,0.3s,baz=46,slow=4.4,SNR=14
MMAI Mount Meron Ar 147.04 299 PKPbc **PKPbc 15 24 11.8 +1.4**
comp=Z,1.2nm,0.4s,baz=83,slow=4.5,SNR=2.0
GERES GERESS Array B 149.96 343 PKPbc **PKPbc 15 24 17.7 +0.6**
comp=Z,0.6nm,0.7s,baz=11,slow=5.0,SNR=2.6

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*AEIC **06** 15:08:19.3±1.0, 52.8°N±0.1×168.5°W±0.10, h41km±6km, Error ellipse: s-maj=21.2km s-min=3.2km az=157.0*
NEIC 06 15:08:20.0±0.9, 52.9°N±0.1×168.5°W±0.1, h38km±8km, ML3.3/12, ML2.9(AEIC), Error ellipse: s-maj=22.1km s-min=3.4km az=157.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.24**	**302**		Pn	15 08 27.2	-1.2
NIKH					Sn	15 08 32.8	-3.1
NIKH				IAML		15 08 34.1	
comp=E,4μm,0.6s							
OKSP	**Okmok Steeple**	**0.43**	**19**		Pn	15 08 29.4	-0.1
OKTU	**Okmok Mt. Tuli**	**0.61**	**28**		Pn	15 08 31.9	-0.4
OKCE	**Okmok Cone E**	**0.62**	**20**		Pn	15 08 32.2	-0.2
OKWE	**Okmok W'ng Wal**	**0.65**	**15**		Pn	15 08 32.6	-0.1
OKNC	**Okmok New Cone**	**0.66**	**21**		Pn	15 08 33.0	+0.2
OKFG	**Magazine Ridge**	**0.67**	**33**		Pn	15 08 32.7	-0.3
CLCO	**Concord Point,**	**0.73**	**266**		Pn	15 08 33.2	-0.5
CLCO					Sn	15 08 44.1	+0.5
CLES	**Cleveland East**	**0.83**	**269**		Pn	15 08 34.8	-0.3
CLES					Sn	15 08 46.4	+0.2
CLES	**Cleveland East**	**0.83**	**269**	IAML		15 08 48.3	
comp=E,2μm,0.2s							
CLES				IAML		15 08 49.5	
comp=N,1μm,0.2s							
MAPS	**Pakushin South**	**1.35**	**44**		Pn	15 08 41.7	-0.5
MAPS					Sn	15 08 58.8	-0.2
UNV	**Unalaska Valle**	**1.57**	**50**		Pn	15 08 45.2	0.0
UNV					Sn	15 09 03.8	-0.5
UNV	**Unalaska Valle**	**1.57**	**50**	IAML		15 09 05.2	
comp=E,173nm,0.4s							
UNV				IAML		15 09 05.2	
comp=N,277nm,0.5s							
AKRB	**Akutan Reef Bi**	**1.95**	**48**		Pn	15 08 51.5	+1.0
AKMO	**Akutan Morgan**	**1.95**	**49**		Sn	15 09 14.9	+1.2
ZRO	**Akutan Zero**	**1.97**	**50**		Pn	15 08 51.4	+0.7
AKV	**Akutan Volcano**	**2.00**	**49**		Pn	15 08 52.1	+1.0
AKGG	**Akutan Green G**	**2.03**	**47**		Pn	15 08 52.8	+1.2
AKUT	**Akutan**	**2.09**	**51**	Pn	Pn	15 08 52.7	+0.3
AKUT				IAML		15 09 31.6	
comp=E,83nm,0.8s							
KOFP	**Korovin Flat P**	**3.45**	**263**		Pn	15 09 11.7	+0.6
ATKA	**Atka Island**	**3.52**	**262**	Pn	Pn	15 09 11.3	-0.8
SPIA	**Saint Paul Isl**	**4.45**	**348**	Pn	Pn	15 09 25.1	+0.3

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*CATAC **06** 15:10:39.7±0.5, 20°N±5°×6°5W±°, h10km, M5.5/7, mb5.8/7, mB5.8/7, MLv5.4/5, Mw(mB)5.4/7, MwMwp5.1/3, Mwp5.3/3, Error ellipse: s-maj=11.1km s-min=4.1km az=23.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=4.03; $M_{\theta\theta}$=-4.20; $M_{\phi\phi}$=0.17; $M_{r\theta}$=-1.78; $M_{\theta\phi}$=6.11; $M_{r\phi}$=3.14; Fault plane solution: M_0=8.19774×10^{16} NP1:ϕ_s=86.86416°, δ=46.71709°, λ=28.32814°. NP2:ϕ_s=336.58021°, δ=69.79133°, λ=133.06539°. Principal axes: T 6.1546, Plg46.8073°, Azm291.4447°; N 3.1512, Plg39.8513°, Azm138.6867°; P -9.3058, Plg13.9178°, Azm36.7495°; confirmed*
*MOS **06** 15:10:40.6±1.1, 19.52°N×64.60°W, h10km, mb5.1/19, MS5.0/5 Error ellipse: s-maj=8.3km s-min=6.8km az=91.9*
*IDC **06** 15:10:40.5±0.4, 19.50°N×64.55°W, h0km, mb4.5/26, mbtmp4.5/31, ML4.4/5, MS4.8/68, Error ellipse: s-maj=12.4km s-min=9.7km az=120.0*
*SDD **06** 15:10:42.7±2.5, 19.63°N×64.42°W, h12km±79km, MD4.4, ML5.0, MW4.7*
*NEIC **06** 15:10:43.7±1.4, 19.47°N±0.03°×64.58°W±0.04, h20km±3km, mb5.1/372, ML4.9/31, Mww5.0/18, Md5.0/23(RSPR), Error ellipse: s-maj=6.5km s-min=3.8km az=125.0*
*RSPR **06** 15:10:44.2, 19.70°N×64.57°W, h15km±5km, MD5.0/23*
*INMG **06** 15:10:45.0±4.8, 19.20°N×64.73°W, h10km, mb4.9, Ms4.8, MW4.9, #DIST_RANGE: DISTANT*
*GCMT **06** 15:10:46.7±0.1, 19.69°N±0.01°×64.58°W±0.01, h18km, MW5.3/134, Moment Tensor Solution. s94, c146; s134, c222; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.51±.02; $M_{\theta\theta}$=-0.47±.01; $M_{\phi\phi}$=-0.03±.01; $M_{r\theta}$=0.54±.04; $M_{\theta\phi}$=0.45±.01; $M_{r\phi}$=0.79±.05; Best double couple: M_0=1.16300×10^{17} NP1:ϕ_s=94.00000°, δ=22.00000°, λ=43.00000°. NP2:ϕ_s=324.00000°, δ=75.00000°, λ=107.00000°. Principal axes: T 1.0990, Plg57.0000°, Azm256.0000°; N 0.1290, Plg16.0000°, Azm139.0000°; P -1.2270, Plg28.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 15:10:44.7±1.1, 19.51N±0.03°×64.73W±0.03, h31km±7km, n686, σ2.19/552, mb5.1/232, MS4.8/70, 53C-15D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.73**	**218**		Pn	15 11 13.7	+1.1
GCPR	**Guaynabo City**	**1.75**	**227**		Sb	15 11 37.2	-0.6
GCPR	**Guaynabo City**	**1.75**	**227**		Pn	15 11 14.0	+1.0
GCPR	**Guaynabo City**	**1.75**	**227**	⇑*iP*	Pn	15 11 14.2	+1.3
GCPR	**Guaynabo City**	**1.75**	**227**	*eS*	Sb	15 11 37.2	-0.6
PDPR	**Patillas Dam,**	**1.92**	**220**		Pn	15 11 16.8	+1.4
PDPR				IAML		15 12 03.2	
comp=N,6μm,1.6s							
PDPR	**Patillas Dam,**	**1.92**	**220**	⇑*iP*	Pn	15 11 16.9	+1.6
PDPR	**Patillas Dam,**	**1.92**	**220**	*eS*	Sb	15 11 42.7	0.0
SJG	**San Juan**	**1.94**	**224**		Pn	15 11 16.8	+1.3
SJG				IAML		15 11 48.6	
comp=N,6μm,0.9s							
SJG	**San Juan**	**1.94**	**224**	Pn	Pn	15 11 16.1	+0.6
comp=N,252nm,0.3s,baz=51,slow=14,SNR=651							
SJG				Sn	Sb	15 11 43.4	+0.4
comp=N,1μm,0.3s,baz=63,slow=16,SNR=7.8							
SJG				LR	LR	15 12 17.6	
comp=N,21μm,20.2s,baz=355,slow=47							
comp=N,998nm,0.4s							
SJG	**San Juan**	**1.94**	**224**	⇑*iP*	Pn	15 11 17.0	+1.5
SJG	**San Juan**	**1.94**	**224**	*eS*	Sb	15 11 41.8	-1.2
SJG	**San Juan**	**1.94**	**224**	*eP*	Pn	15 11 16.8	+1.3
SJG				*eS*	Sb	15 11 44.4	+1.3
SJG	**San Juan**	**1.94**	**224**	⇓*iP*	Pn	15 11 17.1	+1.7
SJG	**San Juan**	**1.94**	**224**	P	Pn	15 11 16.4	+0.9
SJG				S	Sb	15 11 41.4	-1.6
ECPR	**Experimental S**	**1.95**	**233**	⇑*iP*	Pn	15 11 17.4	+1.7
ECPR	**Experimental S**	**1.95**	**233**	*eS*	Sb	15 11 43.4	-0.1
EMPR	**Esperanza - Ma**	**1.99**	**239**		Sb	15 11 45.6	+1.0
EMPR	**Esperanza - Ma**	**1.99**	**239**		Pn	15 11 17.7	+1.5
EMPR	**Esperanza - Ma**	**1.99**	**239**	⇑*iP*	Pn	15 11 18.1	+1.9
EMPR	**Esperanza - Ma**	**1.99**	**239**	*eS*	Sb	15 11 45.6	+1.0
IGPR	**InterUniversit**	**2.02**	**221**		Pn	15 11 18.2	+1.6
IGPR					Sb	15 11 44.9	-0.5
IGPR	**InterUniversit**	**2.02**	**221**	⇑*eP*	Pn	15 11 18.2	+1.6
IGPR	**InterUniversit**	**2.02**	**221**	*eS*	Sb	15 11 44.9	-0.5
IGPR	**InterUniversit**	**2.02**	**221**	P	Pn	15 11 17.9	+1.3
IGPR	**InterUniversit**	**2.02**	**221**	S	Sb	15 11 44.8	-0.5
SMRT	**St. Maarten**	**2.14**	**133**		Sn	15 11 42.7	-1.1
SMRT	**St. Maarten**	**2.14**	**133**		Pn	15 11 16.9	-1.4
SMRT				IAML		15 11 56.9	
comp=N,11μm,1.6s							
SMRT				IAML		15 11 57.0	
comp=E,9μm,1.1s							
SMRT	**St. Maarten**	**2.14**	**133**	⇓*eP*	Pn	15 11 16.7	-1.6
SMRT	**St. Maarten**	**2.14**	**133**	*eS*	Sn	15 11 42.7	-1.1
AOPR	**Arecibo Observ**	**2.24**	**239**		Pn	15 11 21.0	+1.3
AOPR				IAML		15 12 00.1	
comp=N,10μm,0.5s							
AOPR	**Arecibo Observ**	**2.24**	**239**	⇑*iP*	Pn	15 11 21.4	+1.7
AOPR	**Arecibo Observ**	**2.24**	**239**	*eP*	Pn	15 11 21.3	+1.7
AOPR				*eS*	Sb	15 11 51.8	0.0
AOPR	**Arecibo Observ**	**2.24**	**239**	⇑*iP*	Pn	15 11 22.1	+2.4
AOPR				⇑*iS*	Sb	15 11 50.5	-1.4
AOPR				IAML		15 12 00.0	
comp=N,9μm,0.3s							
CELP	**Cerrillos**	**2.26**	**231**		Sb	15 11 50.0	-2.5
CELP	**Cerrillos**	**2.26**	**231**		Pn	15 11 21.5	+1.5
CELP	**Cerrillos**	**2.26**	**231**	⇑*iP*	Pn	15 11 21.9	+2.0
CELP	**Cerrillos**	**2.26**	**231**	*eS*	Sb	15 11 50.0	-2.5
CELP	**Cerrillos**	**2.26**	**231**	⇑*iP*	Pn	15 11 22.0	+2.0
CELP				⇑*iS*	Sb	15 11 51.1	-1.3
CELP				IAML		15 12 01.5	
comp=N,3μm,0.8s							
UUPR	**Utuado, UPR, P**	**2.26**	**237**		Pn	15 11 20.6	+0.6
UUPR	**Utuado, UPR, P**	**2.26**	**237**	⇑*eP*	Pn	15 11 22.0	+2.0
OBIP	**Obispado Ponce**	**2.30**	**231**		Sb	15 11 52.1	-1.5
OBIP	**Obispado Ponce**	**2.30**	**231**		Pn	15 11 21.7	+1.2
OBIP				IAML		15 12 04.0	
comp=N,6μm,1.0s							
OBIP				IAML		15 12 05.9	
comp=E,6μm,1.0s							
OBIP	**Obispado Ponce**	**2.30**	**231**	⇑*iP*	Pn	15 11 22.6	+2.1
OBIP	**Obispado Ponce**	**2.30**	**231**	*eS*	Sb	15 11 52.1	-1.5
SABA	**Saba**	**2.35**	**143**		Sn	15 11 49.8	+0.8
SABA	**Saba**	**2.35**	**143**		Pn	15 11 20.5	-0.7
SABA				IAML		15 12 17.4	
comp=N,10μm,0.8s							
SABA	**Saba**	**2.35**	**143**	⇓*eP*	Pn	15 11 21.1	-0.1
SABA	**Saba**	**2.35**	**143**	*eS*	Sn	15 11 49.8	+0.8
SABA	**Saba**	**2.35**	**143**	P	Pn	15 11 20.7	-0.5
AGPR	**Aguadilla, PR**	**2.48**	**246**		Pn	15 11 24.9	+1.9
AGPR	**Aguadilla, PR**	**2.48**	**246**	⇑*iP*	Pn	15 11 24.9	+1.9
AGPR	**Aguadilla, PR**	**2.48**	**246**	⇑*iP*	Pn	15 11 24.8	+1.8
AGPR				⇑*iS*	Sb	15 11 56.9	-1.9
AGPR				IAML		15 12 16.4	
comp=N,3μm,0.6s							
AGPR	**Aguadilla, PR**	**2.48**	**246**	P	Pn	15 11 24.1	+1.1
GBPR	**Guanica, Bosqu**	**2.55**	**233**		Pn	15 11 26.4	+2.5
GBPR	**Guanica, Bosqu**	**2.55**	**233**	⇑*eP*	Pn	15 11 26.4	+2.5
LSP	**Las Mesas**	**2.60**	**240**		Pn	15 11 26.4	+1.7
LSP					Sb	15 12 01.1	-1.0
LSP	**Las Mesas**	**2.60**	**240**	⇓*eP*	Pn	15 11 26.4	+1.7
LSP	**Las Mesas**	**2.60**	**240**	*eS*	Sb	15 12 01.1	-1.0
PRSN	**Puerto Rico Se**	**2.62**	**241**		Sb	15 12 01.1	-1.7
PRSN	**Puerto Rico Se**	**2.62**	**241**		Pn	15 11 26.1	+1.2
PRSN	**Puerto Rico Se**	**2.62**	**241**	⇑*eP*	Pn	15 11 27.0	+2.0
PRSN	**Puerto Rico Se**	**2.62**	**241**	*eS*	Sb	15 12 01.1	-1.7
PRSN	**Puerto Rico Se**	**2.62**	**241**	⇓*iP*	Pn	15 11 26.8	+1.8
PRSN				⇑*iS*	Sb	15 12 00.0	-2.8
PRSN				IAML		15 12 11.5	
comp=N,5μm,0.3s							
MLPR	**Magueyes Islan**	**2.68**	**235**	⇑*iP*	Pn	15 11 27.8	+2.1
MLPR	**Magueyes Islan**	**2.68**	**235**	*eS*	Sb	15 12 02.6	-1.7
MLPR	**Magueyes Islan**	**2.68**	**235**	⇑*iP*	Pn	15 11 28.1	+2.4
MLPR				⇑*iS*	Sb	15 12 03.1	-1.2
MLPR				IAML		15 12 24.9	
comp=N,980nm,1.0s							
CRPR	**Cabo Rojo, PR**	**2.71**	**237**		Sb	15 12 02.4	-2.8
CRPR	**Cabo Rojo, PR**	**2.71**	**237**		Pn	15 11 27.6	+1.5
CRPR				IAML		15 12 15.6	
comp=N,5μm,0.9s							
CRPR				IAML		15 12 20.4	
comp=E,5μm,1.0s							
CRPR	**Cabo Rojo, PR**	**2.71**	**237**	⇑*iP*	Pn	15 11 28.1	+2.0
CRPR	**Cabo Rojo, PR**	**2.71**	**237**	*eS*	Sb	15 12 02.4	-2.8
CRPR	**Cabo Rojo, PR**	**2.71**	**237**	⇑*iP*	Pn	15 11 28.5	+2.4
CRPR				IAML		15 12 15.4	
comp=N,5μm,0.8s							
IDE	**Isla Desecheo**	**2.83**	**247**		Pn	15 11 29.4	+1.6
IDE					Sb	15 12 05.5	-3.2
IDE	**Isla Desecheo**	**2.83**	**247**	⇓*eP*	Pn	15 11 29.4	+1.6
IDE	**Isla Desecheo**	**2.83**	**247**	*eS*	Sb	15 12 05.5	-3.2
SKI	**Saint Kitts**	**2.87**	**139**	*eP*	Pn	15 11 28.4	0.0
SKI				*eS*	Sn	15 12 01.3	-0.7
ANWB	**Willy Bob**	**3.34**	**123**		Pn	15 11 30.9	-3.8
ANWB				IAML		15 12 42.7	
comp=N,2μm,1.7s							
ANWB	**Willy Bob**	**3.34**	**123**	*eP*	Pn	15 11 31.3	-3.5
ANWB				*eS*	Sn	15 12 08.6	-4.8
ANWB	**Willy Bob**	**3.34**	**123**	P	Pn	15 11 31.0	-3.8
ANWB	**Willy Bob**	**3.34**	**123**	P	Pn	15 11 30.5	-4.3
ANWB				S	Sn	15 12 05.5	-8.0
PCDR	**Punta Cana, DR**	**3.59**	**255**	⇑*iP*	Pn	15 11 40.7	+2.4
PCDR				⇑*iS*	Sn	15 12 23.9	+4.1
PCDR				IAML		15 12 36.3	
comp=N,1μm,0.6s							
PCDR				IAML		15 13 04.4	
comp=N,2μm,1.2s							
HIDR	**Higuey Centro**	**3.88**	**257**	⇑*iP*	Pn	15 11 43.7	+1.4
HIDR	**Higuey Centro**	**3.88**	**257**	*eS*	Sn	15 12 28.2	+1.4
HIDR	**Higuey Centro**	**3.88**	**257**	⇑*iP*	Pn	15 11 43.6	+1.4
HIDR				⇑*iS*	Sn	15 12 30.7	+3.9
HIDR				IAML		15 12 42.4	
comp=N,1μm,0.6s							
MIDR	**Miches**	**4.12**	**263**	⇑*iP*	Pn	15 11 46.5	+1.0
MIDR	**Miches**	**4.12**	**263**	*eS*	Sn	15 12 34.6	+2.0
MIDR	**Miches**	**4.12**	**263**	⇑*iP*	Pn	15 11 46.6	+1.1
MIDR				IAML		15 12 46.7	
comp=N,514nm,0.7s							
MIDR				IAML		15 12 48.6	
comp=N,607nm,0.5s							
SMDR	**Samana, DR**	**4.21**	**268**	⇓*eP*	Pn	15 11 47.6	+0.7
SMDR	**Samana, DR**	**4.21**	**268**	*eS*	Sn	15 12 35.2	+0.2
SMDR	**Samana, DR**	**4.21**	**268**	⇑*iP*	Pn	15 11 47.3	+0.5
SMDR				*i* S	Sn	15 12 37.9	+2.9
SMDR				IAML		15 13 21.7	
comp=N,813nm,0.7s							
DHSZ	**Broadband at M**	**4.28**	**138**	*eP*	Pn	15 11 46.4	-1.4
GDHS	**Morne Mazeau,**	**4.28**	**138**		Pn	15 11 45.8	-2.1
GDHS				IAML		15 12 53.8	
comp=N,3μm,0.6s							
ABD	**La Joyeuse, An**	**4.32**	**134**	IAML		15 13 13.0	
comp=N,3μm,2.2s							
ABD	**La Joyeuse, An**	**4.32**	**134**	⇓*eP*	Pn	15 11 46.6	-1.6
ABD	**La Joyeuse, An**	**4.32**	**134**	*eS*	Sn	15 12 34.0	-3.6
ATGZ	**Broadband at L**	**4.44**	**139**	*eP*	Pn	15 11 49.2	-0.8
ATGZ	**Broadband at L**	**4.44**	**139**	*eS*	Sn	15 12 36.2	-4.5
DR12	**Loma Pena Alta**	**4.46**	**261**		Pn	15 11 50.8	+0.6
HATOM	**Hato Mayor del**	**4.46**	**261**	⇑*iP*	Pn	15 11 51.8	+1.6
HATOM				⇑*iS*	Sn	15 12 42.8	+1.7
MMLZ	**Guadeloupe Bro**	**4.51**	**139**	*eP*	Pn	15 11 49.8	-1.2
MMLZ	**Guadeloupe Bro**	**4.51**	**139**	*eS*	Sn	15 12 40.5	-1.9
CBE	**Ff, Capester**	**4.53**	**139**		Sn	15 12 40.7	-2.3
CBE	**Ff, Capester**	**4.53**	**139**		Pn	15 11 48.7	-2.6
CBE	**Ff, Capester**	**4.53**	**139**	⇑*eP*	Pn	15 11 50.8	-0.5
CBE	**Ff, Capester**	**4.53**	**139**	P	Pn	15 11 49.9	-1.4
CBE				S	Sn	15 12 40.7	-2.3
TBG	**Guadaloupe-3**	**4.68**	**141**	*eP*	Pn	15 11 52.2	-1.0
TBG	**Guadaloupe-3**	**4.68**	**141**	*eS*	Sn	15 12 47.1	+0.6
DSDZ	**La Diserade, G**	**4.72**	**132**	*eP*	Pn	15 11 51.7	-2.1
DSDZ	**La Diserade, G**	**4.72**	**132**	*eS*	Sn	15 12 41.7	-5.8
GDSD	**La Dsirade Is**	**4.72**	**132**		Pn	15 11 51.0	-2.8
GDSD				IAML		15 13 09.4	
comp=E,1μm,2.1s							
GDSD				IAML		15 13 13.0	
comp=N,1μm,1.4s							
H05N1	**Guadeloupe/Mar**	**4.72**	**132**	Pn	Pn	15 11 50.8	-3.1
H05N1				Sn	Sn	15 12 43.8	-3.9
NADR	**Nagua**	**4.84**	**269**	⇑*iP*	Pn	15 11 57.4	+1.9
NADR				⇑*iS*	Sn	15 12 52.3	+1.8
NADR				IAML		15 13 26.2	
comp=N,4μm,0.5s							
CADR	**Cabrera**	**4.92**	**273**	⇑*iP*	Pn	15 11 57.6	+1.1
CADR				⇑*iS*	Sn	15 12 53.8	+1.5
CADR				IAML		15 12 58.3	
comp=N,2μm,0.5s							
SDD	**Santo Domingo**	**5.01**	**259**		Sn	15 12 58.6	+3.8
SDD	**Santo Domingo**	**5.01**	**259**		Pn	15 11 58.0	+0.2
SDD				IAML		15 13 15.4	
comp=N,803nm,0.8s							
SDD				IAML		15 13 30.3	
comp=E,694nm,1.5s							
SDD	**Santo Domingo**	**5.01**	**259**	⇑*iP*	Pn	15 12 00.1	+2.2
SDD	**Santo Domingo**	**5.01**	**259**	⇑*iP*	Pn	15 12 00.4	+2.5
SDD				⇑*iS*	Sn	15 12 58.1	+3.3
SDD				IAML		15 13 02.4	
comp=N,218nm,1.2s							
DR08	**Loma La Naviza**	**5.03**	**265**	⇑*iP*	Pn	15 12 00.3	+2.2
DR08				IAML		15 13 04.3	
comp=N,15μm,0.4s							
DSLB	**Salisbury**	**5.13**	**142**	*eP*	Pn	15 11 58.4	-1.1
SFDR	**San Fco. de Ma**	**5.21**	**268**	⇑*iP*	Pn	15 12 02.8	+2.2
MDN	**Morne-Daniel**	**5.25**	**142**	*eP*	Pn	15 11 59.8	-1.3
BANI	**BANI**	**5.44**	**259**	⇑*iP*	Pn	15 12 06.6	+2.8
BANI				⇑*iP*	Pn	15 12 07.1	+3.3
BANI				IAML		15 13 17.0	
comp=N,173nm,0.5s							
BANI				IAML		15 13 17.4	
comp=N,2μm,0.5s							
ABDR	**Alto Bandera**	**5.62**	**264**	*i* P	Pn	15 12 09.0	+2.5
ABDR				IAML		15 14 20.5	
comp=N,0.3nm,0.4s							
SC01	**Santiago de Io**	**5.66**	**270**		Pn	15 12 09.1	+2.3
SC01					Sn	15 13 17.5	+6.7
SC01	**Santiago de Io**	**5.66**	**270**	⇑*eP*	Pn	15 12 09.1	+2.3
SC01	**Santiago de Io**	**5.66**	**270**	*eS*	Sn	15 13 17.5	+6.7
SC01	**Santiago de Io**	**5.66**	**270**	⇑*iP*	Pn	15 12 09.5	+2.7
SC01				IAML		15 13 57.3	
comp=N,2μm,2.0s							
FDF	**Fort de France**	**5.85**	**144**	P	Pn	15 12 10.3	+0.8
FDF				pmax	pmax		
comp=Z,271nm,1.1s							
FDF	**Fort de France**	**5.85**	**144**	P	Pn	15 12 09.0	-0.5
ILAM	**Ilet Lapin Mar**	**5.98**	**141**	*eP*	Pn	15 12 07.8	-3.3
ILAM	**Ilet Lapin Mar**	**5.98**	**141**	*eS*	Sn	15 13 14.3	-4.3
MADR	**Mao Valverde**	**6.01**	**272**	⇑*iP*	Pn	15 12 14.1	+2.6
MADR				⇑*iS*	Sn	15 13 21.4	+2.0
MADR				IAML		15 13 35.7	
comp=N,3μm,0.6s							
BIM	**Bigot**	**6.07**	**144**	*eP*	Pn	15 12 11.6	-0.9
BIM	**Bigot**	**6.07**	**144**	*eS*	Sn	15 13 23.6	+2.6
SDDR	**Presa de Saban**	**6.22**	**266**		Pn	15 12 16.4	+1.9
SDDR	**Presa de Saban**	**6.22**	**266**	⇑*iP*	Pn	15 12 17.2	+2.7
SDDR	**Presa de Saban**	**6.22**	**266**	*eS*	Sn	15 13 29.5	+4.9
SDDR	**Presa de Saban**	**6.22**	**266**	*eP*	Pn	15 12 17.1	+2.7
SDDR	**Presa de Saban**	**6.22**	**266**	*eS*	Sn	15 13 29.6	+5.0
SDDR	**Presa de Saban**	**6.22**	**266**	⇑*iP*	Pn	15 12 17.9	+3.5
SDDR				IAML		15 13 43.9	
comp=N,502nm,0.6s							
SDDR	**Presa de Saban**	**6.22**	**266**	P	Pn	15 12 17.2	+2.7
SDDR				Sn	Sn	15 13 28.4	+3.8
SDDR	**Presa de Saban**	**6.22**	**266**	*i* P	Pn	15 12 17.1	+2.6
SDDR				*i* S	Sn	15 13 28.9	+4.3
SDDR	**Presa de Saban**	**6.22**	**266**	P	Pn	15 12 16.3	+1.9
comp=N,9μmcomp=N,28μmcomp=N,3μm,0.7s							
SDDR				S	Sn	15 13 27.4	+2.8
comp=N,9μmcomp=N,28μmcomp=N,3μm,0.7s							
H05S1	**Guadeloupe/Mar**	**6.28**	**143**	Pn	Pn	15 12 12.9	-2.3
H05S1				Sn	Sn	15 13 24.2	-1.8
GRTK	**Grand Turk**	**6.32**	**289**		Pn	15 12 14.2	-1.6
GRTK	**Grand Turk**	**6.32**	**289**	⇑*iP*	Pn	15 12 14.9	-1.0
GRTK				*i* P	Pn	15 12 14.9	-1.0
GRTK				IAML		15 13 36.8	
comp=N,695nm,1.3s							
GRTK	**Grand Turk**	**6.32**	**289**	P	Pn	15 12 14.4	-1.4
GRTK	**Grand Turk**	**6.32**	**289**	*eP*	Pn	15 12 15.0	-0.8
GRTK				*eS*	Sn	15 13 21.9	-5.2
GRTK	**Grand Turk**	**6.32**	**289**	*i* P	Pn	15 12 15.0	-0.8
GRTK				*i* S	Sn	15 13 22.9	-4.2
GRTK	**Grand Turk**	**6.32**	**289**	P	Pn	15 12 14.2	-1.6
comp=N,6μmcomp=N,499nm,0.6s							
GRTK				S	Sn	15 13 20.5	-6.5
comp=N,6μmcomp=N,499nm,0.6s							
PODR	**Polo**	**6.35**	**259**	⇑*iP*	Pn	15 12 19.1	+2.8
PODR				⇑*iS*	Sn	15 13 27.8	-0.2
PODR				IAML		15 13 46.0	
comp=N,523nm,0.5s							
SLBI	**Saint Lucia, B**	**6.54**	**146**	*eP*	Pn	15 12 18.5	-0.2
MCDR	**Montecristi**	**6.54**	**274**	⇑*iP*	Pn	15 12 20.2	+1.4
MCDR				IAML		15 13 40.9	
comp=N,456nm,0.9s							
JIDR	**Jimani**	**6.81**	**263**	⇑*iP*	Pn	15 12 25.5	+3.0
JIDR				IAML		15 13 59.4	
comp=N,682nm,0.8s							
SVB	**Belmont**	**7.04**	**151**	*eP*	Pn	15 12 26.2	+0.4
PAPH	**Port-au-Prince**	**7.23**	**263**	P	Pn	15 12 30.3	+2.0
LGNH	**Logne**	**7.52**	**264**	P	Pn	15 12 34.2	+1.9
LGNH				S	Sn	15 14 00.0	+3.6
GCMP	**Grenada, Carri**	**7.67**	**155**	*eP*	Pn	15 12 38.2	+3.9
GRHS	**

SJCC San Jacinto, C 13.90 228 P **Pn 15 14 00.0 +0.2**
comp=E,5µmcomp=E,3µmcomp=E,214nm,1.3s
OCAC Ocana 13.96 218 P **Pn 15 14 00.0 -0.7**
comp=E,6µmcomp=E,5µmcomp=E,617nm,0.8s
PAMC Pamplona, Colo 14.36 214 P **Pn 15 14 06.6 +0.2**
BRJC Barrancabermej 15.23 216 P **Pn 15 14 17.0 -0.7**
comp=E,5µmcomp=E,282nm,0.9s
BARC Barichara 15.24 214 P **Pn 15 14 19.4 +1.3**
ZARC Zaragoza, Cauc 15.47 221 P **P 15 14 23.0 -2.0**
comp=E,38µmcomp=E,102nm,1.5s
UREC San Jos de Ur 15.70 223 P **Pn 15 14 23.2 -0.6**
comp=E,4µmcomp=E,159nm,1.3s
RUSC La Rusia 15.79 212 Pn 15 14 25.8 +0.4
RUSC La Rusia 15.79 212 P **Pn 15 14 24.4 -1.0**
comp=E,5µmcomp=E,4µmcomp=E,263nm,1.0s
SERC Banco Serrana, 15.84 253 P **Pn 15 14 24.4 -1.1**
comp=E,6µmcomp=E,291nm,2.2s
CAMR Camarioca 15.91 286 Pn **Pn 15 14 24.4 -2.0**
CAMR IAmb IAmb 15 14 34.3
comp=Z,1µm,1.9s
CAMR Camarioca 15.91 286 *i* P **Pn 15 14 25.6 -0.8**
PTBC PUERTO BERRIO, 15.99 218 P **Pn 15 14 26.3 -1.2**
comp=Z,689nmcomp=Z,52nm,0.6s
060A Indiantown 16.19 300 Pn **Pn 15 14 31.0 +1.0**
061Z Ochoppi 16.21 296 Pn **Pn 15 14 30.6 +0.4**
APAC Apartado, Choc 16.29 226 P **Pn 15 14 31.5 +0.2**
comp=Z,6µmcomp=Z,4µmcomp=Z,181nm,0.6s
SPBC San Pablo de B 16.51 215 P **Pn 15 14 33.8 -0.4**
comp=Z,3µmcomp=Z,161nm,2.2s
DBBC Dabeiba 16.69 223 P **P 15 14 38.2 -0.4**
PTGC Puerto Gaitan, 16.85 206 P **Pn 15 14 38.6 +0.2**
comp=Z,5µmcomp=Z,232nm,1.1s
HELC Santa Helena 16.90 220 P **Pn 15 14 39.3 -0.1**
comp=Z,5µmcomp=Z,5µmcomp=Z,179nm,1.3s
NORC Norcasia 17.02 217 P **Pn 15 14 40.0 -0.6**
comp=Z,4µmcomp=Z,3µmcomp=Z,153nm,1.4s
PRVC Isla de Provid 17.07 252 Pn 15 14 41.3 0.0
PRVC Isla de Provid 17.07 252 P **Pn 15 14 40.5 -0.8**
comp=Z,4µmcomp=Z,2µmcomp=Z,58nm,0.8s
ROSC El Rosal 17.32 214 Pn **Pn 15 14 44.2 -0.5**
ROSC El Rosal 17.32 214 P **P 15 14 46.6 +0.7**
comp=Z,22nm,0.3s,baz=55,slow=8.5,SNR=45
ROSC S **Sn 15 17 58.9 +2.1**
comp=Z,7.5nm,0.3s,baz=90,slow=19,SNR=1.4
ROSC LR LR 15 22 07.6
comp=Z,5µm,18.7s,baz=353,slow=40
comp=Z,158nm,0.7s
ROSC El Rosal 17.32 214 P **Pn 15 14 44.2 -0.5**
ROSC pmax pmax
comp=Z,205nm,0.6s
ROSC El Rosal 17.32 214 P **P 15 14 46.8 +0.9**
comp=Z,9µmcomp=Z,6µmcomp=Z,302nm,0.7s
CBOC Ciudad Bolivar 17.45 220 P **Pn 15 14 45.9 -0.2**
comp=Z,4µmcomp=Z,160nm,0.9s
CVER Cruz Verde, Cu 17.46 213 P **P 15 14 48.5 +0.9**
comp=Z,8µmcomp=Z,309nm,1.2s
BOAV Boa Vista 17.50 166 Pn 15 14 44.7 -1.8
BOAV Boa Vista 17.50 166 *eP* **Pn 15 14 44.8 -1.8**
BOAV Boa Vista 17.50 166 P **Pn 15 14 43.8 -2.8**
comp=Z,1µmcomp=Z,52nm,1.1s
DWPF Disney Wildern 17.50 302 Pn **P 15 14 47.0 -0.5**
GUY2C Guyana, Caldas 17.58 217 P **Pn 15 14 48.0 0.0**
comp=Z,5µmcomp=Z,5µmcomp=Z,245nm,0.6s
PTAC Punta Ardita, 17.67 228 P **P 15 14 50.4 +1.0**
comp=Z,5µmcomp=Z,123nm,1.6s
SAIC Isla e San And 17.73 250 P **P 15 14 49.7 -0.3**
comp=Z,6µmcomp=Z,4µmcomp=Z,126nm,1.1s
BCIP Isla Barro Col 17.87 237 P **P 15 14 53.0 +1.4**
BCIP pmax pmax
comp=Z,155nm,1.8s
BCIP Isla Barro Col 17.87 237 P **P 15 14 52.3 +0.7**
comp=Z,5µmcomp=Z,153nm,1.8s
ANIL Santa Ana 18.20 216 P **Pn 15 14 55.4 0.0**
comp=Z,4µmcomp=Z,158nm,0.5s
MDP Montagnes des 18.54 139 P **P 15 14 56.7 -2.3**
comp=Z,2.6nm,0.3s,baz=325,slow=15,SNR=12
MDP S Sn 15 18 07.5 -18
comp=Z,6.8nm,0.5s,baz=263,slow=17,SNR=4.6
comp=Z,9.7nm,0.5s
GUVC San Jose del G 18.55 206 P **Pn 15 14 59.4 0.0**
PRAC Prado 18.57 214 P **P 15 14 59.1 -0.2**
comp=Z,4µmcomp=Z,3µmcomp=Z,140nm,1.5s
ORTC Ortega, Tolima 18.60 215 P **Pn 15 14 59.9 -0.1**
comp=Z,5µmcomp=Z,3µmcomp=Z,230nm,1.2s
URMC La Uribe, Meta 18.71 211 P **Pn 15 15 02.2 +0.7**
comp=Z,4µmcomp=Z,140nm,2.3s
YOTC Yotoco, Valle 19.15 218 P **P 15 15 04.3 -1.5**
comp=Z,2µmcomp=Z,80nm,1.1s
MACC Macarena, Meta 19.43 208 P **P 15 15 07.4 -1.3**
comp=Z,7µmcomp=Z,3µmcomp=Z,129nm,1.6s
SGC2 Sao Gabriel da 19.66 187 P **P 15 15 09.8 -1.5**
comp=Z,4µmcomp=Z,1µmcomp=Z,47nm,1.0s
X58A Rowland 19.81 322 P **Pn 15 15 13.7 -0.7**
SIUN Universidad Ur 20.05 256 IAmb IAmb 15 15 20.0
comp=Z,159nm,1.9s
ESPN Las Esperanzas 20.17 252 P **P 15 15 17.8 +1.0**
comp=Z,2µmcomp=Z,91nm,1.0s
POPC Popayan, Colom 20.52 216 P **P 15 15 20.4 -0.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,69nm,1.0s
POPC S Sn 15 19 13.4 -0.4
comp=Z,5µmcomp=Z,2µmcomp=Z,69nm,1.0s
BIRD Birdtown, Kers 20.54 320 P **P 15 15 21.5 +0.9**
W57A Gilead 20.61 322 P Pn 15 15 23.3 -0.6
FLOC Florencia 20.78 212 P **P 15 15 22.9 -0.5**
FLOC IAmb IAmb 15 15 41.0
comp=Z,71nm,0.9s
FLOC Florencia 20.78 212 P **P 15 15 22.1 -1.3**
comp=Z,5µmcomp=Z,2µmcomp=Z,85nm,1.3s
FLOC S Sn 15 19 17.7 -2.2
comp=Z,5µmcomp=Z,2µmcomp=Z,85nm,1.3s
GR1C Gorgona, Isla 21.01 220 P **P 15 15 27.1 +1.2**
ACON Acoyapa 21.04 252 P **P 15 15 26.6 +0.3**
ACON Acoyapa 21.04 252 P **P 15 15 26.8 +0.5**
comp=Z,2µmcomp=Z,67nm,1.1s
SOCE Pocosol 21.23 248 IAmb IAmb 15 15 39.4
comp=Z,82nm,0.9s
BBAC Balboa, Cauca 21.26 217 P **P 15 15 28.0 -0.8**
comp=Z,5µmcomp=Z,3µmcomp=Z,178nm,0.9s
CRUC La Cruz 21.47 215 P **P 15 15 33.9 +2.6**
PAULI Pauline 21.48 319 P **P 15 15 32.3 +1.5**
JTS Las Juntas de 21.56 248 P **P 15 15 33.4 +1.5**
JTS IAmb IAmb 15 15 41.6
comp=Z,63nm,0.8s
JTS Las Juntas de 21.56 248 P **P 15 15 33.8 +1.9**
comp=Z,16nm,0.5s,baz=61,slow=9.7,SNR=18
comp=Z,16nm,0.5s
JTS Las Juntas de 21.56 248 P **P 15 15 33.4 +1.5**
JTS pmax pmax
comp=Z,63nm,0.8s
T57A Hurt 21.57 327 IAmb IAmb 15 15 53.6
comp=Z,42nm,0.6s
GOGA Godfrey 21.70 313 IAmb IAmb 15 15 53.4
comp=Z,36nm,0.5s
GOGA Godfrey 21.70 313 P **P 15 15 35.5 +2.3**
GCUF Volcan Galeras 21.97 216 P **P 15 15 36.5 -0.3**
comp=Z,3µmcomp=Z,190nm,1.5s
S57A Dark Hollow, R 22.01 329 P **P 15 15 37.2 +0.7**
S57A IAmb IAmb 15 15 59.2
comp=Z,63nm,0.5s
TEIG Tepich 22.16 276 P **P 15 15 38.8 +0.6**
TEIG IAmb IAmb 15 15 48.6
comp=Z,74nm,1.0s
TEIG Tepich 22.16 276 P **P 15 15 40.3 +2.1**
comp=Z,11µmcomp=Z,17µmcomp=Z,198nm,0.9s
152A Waverly Hall 22.18 310 IAmb IAmb 15 15 46.6
comp=Z,83nm,1.4s
CNGN Cerro Negro 22.22 255 P **P 15 15 40.8 +1.8**
comp=Z,27µmcomp=Z,1µm,2.2s
TGUH Tegucigalpa,Un 22.24 259 IAmb IAmb 15 15 50.4
comp=Z,92nm,1.0s
TGUH Tegucigalpa,Un 22.24 259 P **P 15 15 40.8 +1.5**
comp=Z,5µmcomp=Z,3µmcomp=Z,143nm,1.2s
Y52A Lilburn 22.37 314 P **P 15 15 41.7 +1.4**
CMBC Cumbal 22.48 216 P **P 15 15 45.0 +2.9**
TULM Tulcn-Chalpat 22.64 216 P **P 15 15 45.6 +1.7**
comp=Z,4µmcomp=Z,345nm,1.2s
BONI La Bonita 22.72 215 P **P 15 15 45.5 +1.0**
comp=Z,5µmcomp=Z,100nm,1.1s
MVL Millersville 22.73 336 IAmb IAmb 15 16 09.1
comp=Z,72nm,1.2s
TEFE Tefe 22.88 180 *eP* **P 15 15 45.5 -0.3**
MACA Manacapuru-AM 22.88 170 P **P 15 15 45.9 0.0**
MACA IAmb IAmb 15 15 54.3
comp=Z,133nm,1.6s
MACA Manacapuru-AM 22.88 170 *eP* **P 15 15 46.6 +0.8**
250A Grady 22.98 307 IAmb IAmb 15 16 09.2
comp=Z,49nm,0.6s

CUSE Cuicocha Este 23.32 217 P **P 15 15 52.7 +1.9**
comp=Z,7µmcomp=Z,109nm,1.6s
OTAV Otavalo 23.40 217 P **P 15 15 52.6 +0.9**
OTAV pmax pmax
comp=Z,118nm,2.1s
OTAV Otavalo 23.40 217 *eP* **P 15 15 52.4 +0.7**
OTAV Otavalo 23.40 217 P **P 15 15 52.5 +0.9**
comp=Z,3µmcomp=Z,3µmcomp=Z,114nm,2.1s
WES Weston 23.48 348 IAmb IAmb 15 16 15.4
comp=Z,109nm,1.7s
HRV Adam Dziewonsk 23.64 347 P **P 15 15 54.1 +0.9**
HRV IAmb IAmb 15 16 18.4
comp=Z,39nm,0.7s
HRV Adam Dziewonsk 23.64 347 P **P 15 15 54.2 +0.9**
HRV pmax pmax
comp=Z,39nm,0.7s
TZTN Tazewell 23.67 320 IAmb IAmb 15 16 18.1
comp=Z,43nm,0.6s
MAL2 Monte Alegre, 23.77 153 P **P 15 15 54.3 -0.5**
FPAL Fort Paine 23.81 313 IAmb IAmb 15 16 20.6
comp=Z,30nm,0.5s
SSPA Standing Stone 23.88 335 P **P 15 15 57.3 +1.7**
Q54A Coxs Mills 23.89 328 IAmb IAmb 15 16 24.7
comp=Z,49nm,1.1s
PETF Flores 24.01 268 IAmb IAmb 15 16 06.6
comp=Z,72nm,0.8s
LRAL Lakeview Retre 24.02 309 IAmb IAmb 15 16 21.9
comp=Z,156nm,1.9s
MTO3 Montecristo 24.09 262 IAmb IAmb 15 16 19.3
comp=Z,62nm,0.9s
SLOR San Lorenzo - 24.23 215 P **P 15 16 00.1 +0.6**
PIAT Ana Tenorio 24.32 215 P **P 15 16 00.8 +0.5**
comp=Z,3µmcomp=Z,1µmcomp=Z,69nm,1.2s
P53A Whipple 24.55 328 IAmb IAmb 15 16 31.4
comp=Z,38nm,0.6s
J61A Chester 24.66 346 IAmb IAmb 15 16 31.3
comp=Z,36nm,0.5s
T50A Nancy 24.77 319 IAmb IAmb 15 16 34.6
comp=Z,37nm,0.6s
Z47A Carrollton 24.89 308 IAmb IAmb 15 16 37.0
comp=Z,49nm,1.0s
P52A Corning 25.04 327 IAmb IAmb 15 16 40.1
comp=Z,53nm,0.7s
O53A New Philadelph 25.05 329 IAmb IAmb 15 16 16.4
comp=Z,64nm,0.9s
U49A Red Boiling Sp 25.05 317 IAmb IAmb 15 16 39.2
comp=Z,46nm,0.6s
O52A Adamsville 25.25 328 IAmb IAmb 15 16 40.3
comp=Z,34nm,0.8s
V48A Smith Brothers 25.30 314 IAmb IAmb 15 16 43.9
comp=Z,129nm,1.8s
ITTB Itaituba 25.32 159 *eP* **P 15 16 09.7 +0.8**
ACSO Alum Creek Sta 25.92 327 IAmb IAmb 15 16 52.8
comp=Z,63nm,0.8s
COHC Cochancay 26.09 215 P **P 15 16 15.0 -0.9**
WVT Waverly 26.19 314 P **P 15 16 17.8 +1.1**
WVT IAmb IAmb 15 16 55.9
comp=Z,24nm,0.5s
WVT Waverly 26.19 314 P **P 15 16 17.8 +1.1**
WVT pmax pmax
comp=Z,25nm,0.5s
CCIG Comitan 26.27 267 IAmb IAmb 15 16 41.6
comp=Z,93nm,1.2s
WCI Wyandotte Cave 26.43 319 P **P 15 16 24.5 +5.7**
TMAB Tom-Au,PA,Br 27.20 141 *eP* **P 15 16 28.6 +2.7**
SADO Sadowa 27.90 338 LR LR 15 28 27.7
comp=Z,18µm,18.4s,baz=166,slow=38
NPGB Novo Progresso 27.96 160 *eP* **P 15 16 34.1 +1.4**
SIUC Southern Illin 27.99 316 IAmb IAmb 15 17 20.6
comp=Z,33nm,0.7s
MCRA Macar, Loja 28.06 214 P **P 15 16 34.4 +0.7**
CZSB Cruzeiro do Su 28.18 197 *eP* **P 15 16 34.4 -0.3**
PBMO Poplar Bluff 28.32 313 IAmb IAmb 15 17 34.0
comp=Z,22nm,0.6s
WHAR Wooly Hollow 28.95 309 IAmb IAmb 15 17 39.4
comp=Z,76nm,1.6s
FCAR Ozark Folk Cen 29.09 310 IAmb IAmb 15 17 30.2
comp=Z,112nm,2.0s
PRPB Parauapebas 29.44 149 *eP* **P 15 16 47.6 +1.6**
NATX Nacogdoches 29.51 300 IAmb IAmb 15 16 53.8
comp=Z,40nm,0.9s
CCM Cathedral Cave 29.53 314 P **P 15 16 47.6 +1.1**
CCM IAmb IAmb 15 17 38.7
comp=Z,25nm,0.5s
CCM Cathedral Cave 29.53 314 P **P 15 16 47.6 +1.1**
CCM pmax pmax
comp=Z,25nm,0.5s
ATAH Atahualpa 29.70 208 LR LR 15 30 01.6
comp=Z,2µm,21.3s,baz=26,slow=39
MGMO Mountain Grove 29.78 312 IAmb IAmb 15 17 56.5
comp=Z,47nm,1.6s
HKT Hockley 30.02 296 *i* P **P 15 16 52.1 +1.3**
HKT pmax pmax
comp=Z,7.0nm,1.2s
CLDB Colider 31.45 163 *eP* **P 15 17 03.4 -0.2**
TUL3 Leonard 31.81 307 IAmb IAmb 15 17 33.0
comp=Z,65nm,1.6s
PDRB Porto dos Gac 31.91 165 *eP* **P 15 17 08.4 +0.7**
FW13 Cleburne 31.93 300 IAmb IAmb 15 17 11.9
comp=Z,43nm,1.1s
Z35A Perchaven, San 32.07 302 IAmb IAmb 15 17 34.2
comp=Z,33nm,0.9s
DEOK Depew 32.31 307 IAmb IAmb 15 17 27.1
comp=Z,46nm,1.3s
VILB Vilhena 32.56 172 P **P 15 17 12.7 -0.7**
VILB Vilhena 32.56 172 *eP* **P 15 17 13.9 +0.5**
OK052 Battle Ridge R 32.60 307 IAmb IAmb 15 17 42.1
comp=Z,58nm,1.5s
T35A Sooner Cattle 32.73 309 IAmb IAmb 15 18 01.5
comp=Z,20nm,0.9s
PLPT Palo Pinto 32.78 301 IAmb IAmb 15 17 19.2
comp=Z,26nm,0.9s
833A Chaparral WMA, 32.79 292 IAmb IAmb 15 17 60.0
comp=Z,21nm,1.1s
SMTB Santa Maria do 32.86 148 *eP* **P 15 17 17.4 +1.4**
HNDO Hondo 32.87 294 IAmb IAmb 15 17 19.6
comp=Z,20nm,0.9s
X34A Smith Ranch, M 32.91 304 IAmb IAmb 15 17 44.0
comp=Z,24nm,1.0s
BRDY Brady 32.97 298 IAmb IAmb 15 17 19.9
comp=Z,16nm,0.9s
OK029 Liberty Lake 33.02 306 IAmb IAmb 15 17 53.2
comp=Z,22nm,0.9s
WTFS Witchita Falls 33.16 302 IAmb IAmb 15 17 34.5
comp=Z,24nm,0.8s
JCT Junction City 33.49 296 IAmb IAmb 15 17 24.7
comp=Z,38nm,1.4s
NNA Nana 33.50 202 LR LR 15 33 07.5
comp=Z,1µm,19.8s,baz=357,slow=40
WMOK Wichita Mounta 33.70 304 IAmb IAmb 15 17 26.5
comp=Z,28nm,1.6s
WMOK Wichita Mounta 33.70 304 P **P 15 17 24.9 +1.7**
SNDB Serra Nova Dou 33.97 156 *eP* **P 15 17 28.7 +3.0**
SN07 Snyder 07 34.94 300 IAmb IAmb 15 17 37.2
comp=Z,26nm,1.0s
SMWD Samnorwood 34.95 304 IAmb IAmb 15 17 47.7
comp=Z,17nm,0.9s
DKNS Dickens 35.11 301 IAmb IAmb 15 17 42.7
comp=Z,14nm,0.8s
PTLB Pontes e Lacer 35.17 171 *eP* **P 15 17 36.8 +0.8**
SCHQ Scheffervilla 35.30 358 P **P 15 17 35.8 -1.0**
comp=Z,17nm,0.6s,baz=180,slow=11,SNR=1.3
SCHQ LR LR 15 31 39.5
comp=Z,9µm,18.6s,baz=174,slow=36
comp=Z,17nm,0.6s
ZAIG Zacatecas 35.38 282 IAmb IAmb 15 17 42.9
comp=Z,59nm,1.7s
POST Post 35.44 300 IAmb IAmb 15 17 41.5
comp=Z,26nm,0.8s
SIV San Ignacio 35.46 174 LR LR 15 33 44.2
comp=Z,2µm,18.2s,baz=5.0,slow=39
LPAZ La Paz 35.73 186 IAmb IAmb 15 18 20.5
comp=Z,29nm,1.2s
LPAZ La Paz 35.73 186 P **P 15 17 37.7 -3.8**
comp=Z,2.9nm,0.4s,baz=4.1,slow=3.8,SNR=7.5
LPAZ S **S 15 23 11.8 -5.3**
comp=Z,1.2nm,0.7s,baz=16,slow=19,SNR=1.7
LPAZ LR LR 15 33 17.4
comp=Z,2µm,18.2s,baz=360,slow=38
LPAZ La Paz 35.73 186 *eP* **P 15 17 41.2 -0.3**
ECSD EROS Data Cent 35.97 319 IAmb IAmb 15 19 01.2
comp=Z,29nm,1.2s
ODSA Odessa 36.10 298 IAmb IAmb 15 17 46.8
comp=Z,36nm,0.8s
SALV Santo Antonio 36.29 165 *eP* **P 15 17 45.7 0.0**
TXAR Lajitas Array 36.63 293 P **P 15 17 50.3 +1.6**
TXAR Lajitas Array 36.63 293 P **P 15 17 51.1 +2.4**
comp=Z,9.5nm,0.7s,baz=93,slow=8.9,SNR=99
TXAR PcP **PcP 15 20 13.8 +2.4**
comp=Z,1.6nm,0.9s,baz=74,slow=4.2,SNR=1.9
TXAR ScP **ScP 15 24 00.1 +4.1**
comp=Z,0.8nm,1.0s,baz=97,slow=5.0,SNR=3.7
comp=Z,9.5nm,0.7s
TXAR Lajitas Array 36.63 293 P **P 15 17 50.3 +1.6**
TX31 Lajitas Ar. Si 36.63 293 IAmb IAmb 15 17 52.9
comp=Z,35nm,1.3s
MSTX Muleshoe 36.68 301 IAmb IAmb 15 17 52.1
comp=Z,25nm,0.9s
PB18 Visviri 37.16 188 P **P 15 17 52.8 -0.9**
ARAG Araguaiana, MT 37.23 159 *eP* **P 15 17 54.0 +0.3**
SDBA SAO DESIDERIO 37.25 147 *eP* **P 15 17 55.1 +1.2**
RTBA Rita Blanca 37.28 305 IAmb IAmb 15 17 58.4
comp=Z,29nm,1.2s
PB16 IPOC Station P 37.90 187 IAmb IAmb 15 18 14.5
comp=Z,35nm,1.2s
VHRN Van Horn 37.95 295 IAmb IAmb 15 18 03.9
comp=Z,43nm,1.2s
HPIG 38.21 289 IAmb IAmb 15 18 06.0
comp=Z,77nm,1.7s
BDFB Brasilia 38.61 154 P **P 15 18 05.3 -0.1**
BDFB IAmb IAmb 15 18 22.4
comp=Z,81nm,1.9s
BDFB Brasilia 38.61 154 P **P 15 18 05.8 +0.4**
comp=Z,11nm,0.6s,baz=331,slow=9.4,SNR=12
BDFB LR LR 15 35 08.9
comp=Z,2µm,18.0s,baz=326,slow=38
comp=Z,11nm,0.6s
BDFB Brasilia 38.61 154 P **P 15 18 05.3 -0.1**
BDFB pmax pmax
comp=Z,81nm,1.9s
T25A Trinidad 38.77 305 IAmb IAmb 15 18 23.0
comp=Z,36nm,1.2s
GO01 Chusmiza 39.18 187 IAmb IAmb 15 18 43.3
comp=Z,35nm,1.1s
PB11 IPOC Station P 39.33 187 IAmb IAmb 15 18 19.9
comp=Z,49nm,0.8s
ULM Lac du Bonnet 39.39 328 P **P 15 18 12.6 +1.1**
comp=Z,7.5nm,0.7s,baz=131,slow=14,SNR=5.4
ULM LR LR 15 34 31.6
comp=Z,868nm,20.3s,baz=137,slow=36
comp=Z,7.5nm,0.7s
ULM Lac du Bonnet 39.39 328 *i* P **P 15 18 12.3 +0.8**
PB08 IPOC Station P 39.64 187 IAmb IAmb 15 18 22.9
comp=Z,32nm,0.8s
ANMO Albuquerque 39.86 301 P **P 15 18 17.7 +1.8**
ANMO Albuquerque 39.86 301 LR LR 15 36 02.4
comp=Z,2µm,21.3s,baz=196,slow=38
ANMO Albuquerque 39.86 301 *eP* **P 15 18 17.0 +1.1**
ANMO pmax pmax
comp=Z,12nm,1.0s
HMBC Humberstone 39.86 188 P **P 15 18 12.8 -3.1**
HMBC IAmb IAmb 15 18 36.0
comp=Z,34nm,0.7s
NBAN Anadia - AL 40.33 133 *eP* **P 15 18 20.5 +0.8**
ISCO Idaho Springs 40.44 309 P **P 15 18 23.7 +2.9**
BDQN Bodoquena, MS 40.47 168 *eP* **P 15 18 20.3 -0.4**
PB01 IPOC Station P 40.57 187 P **P 15 18 18.9 -2.7**
PB01 IAmb IAmb 15 18 54.6
comp=Z,48nm,1.0s
IPMB Ipameri, GO 40.64 155 *eP* **P 15 18 23.9 +1.7**
AQDB Aquidauana 40.71 167 *eP* **P 15 18 24.4 +1.7**
PB02 IPOC Station P 40.89 187 IAmb IAmb 15 18 47.1
comp=Z,30nm,0.7s
DUN6 Lazy B Ranch 41.64 297 IAmb IAmb 15 18 35.4
comp=Z,90nm,1.3s
PMNB Patos De Minas 41.86 153 *eP* **P 15 18 33.2 +0.9**
LPIG La Paz 42.42 285 LR LR 15 38 09.4
comp=Z,393nm,21.3s,baz=96,slow=39
O20A White River Ci 42.47 309 IAmb IAmb 15 19 29.5
comp=Z,52nm,1.9s
CMC01 Camacan, BA 42.61 143 *eP* **P 15 18 40.7 +2.4**
DIAM Diamantina, MG 42.88 150 *eP* **P 15 18 41.8 +1.0**
TUC Tucson 43.04 297 P **P 15 18 42.9 +1.0**
TUC Tucson 43.04 297 P **P 15 18 42.9 +1.0**
TUC pmax pmax
comp=Z,33nm,1.4s
AMBA Amambai (Brazi 43.24 167 *eP* **P 15 18 43.4 +0.1**
BB19B Bebedouro 43.33 158 *eP* **P 15 18 45.5 +1.3**
GUA01 Guaratinga, BA 43.44 144 *eP* **P 15 18 47.1 +2.1**
WUAZ Wupatki 43.92 301 IAmb IAmb 15 18 53.6
comp=Z,34nm,1.2s
BW06 Boulder Array 44.17 312 P **P 15 18 52.3 +1.3**
PDAR Pinedale Array 44.17 312 P **P 15 18 51.9 +0.9**
PDAR Pinedale Array 44.17 312 P **P 15 18 52.4 +1.3**
comp=Z,2.5nm,0.4s,baz=111,slow=7.4,SNR=36
PDAR PcP **PcP 15 20 36.8 +1.2**
comp=Z,1.2nm,0.7s,baz=102,slow=4.1,SNR=1.1
PDAR LR LR 15 37 24.5
comp=Z,634nm,20.4s,baz=106,slow=36
comp=Z,2.5nm,0.4s
FRB Frobisher Bay 44.28 358 LR LR 15 36 52.9
comp=Z,1µm,19.2s,baz=180,slow=36
PMOZ Porto Moniz, M 44.33 63 *e*LR LR 15 31 09.5
PMOZ *i* IAMs_20 IAMs_20 15 32 58.3
comp=Z,670nm,20.0s
BSUT Blindstream Ca 44.44 308 IAmb IAmb 15 19 15.7
comp=Z,25nm,1.3s
SJMB Sao Joao De Ma 44.45 147 *eP* **P 15 18 55.6 +2.5**
LDASE Londrina, Braz 44.66 162 *eP* **P 15 18 54.9 +0.1**
214A Organ Pipe Nat 44.72 296 IAmb IAmb 15 19 00.4
comp=Z,74nm,1.9s
BSCB Bom Sucesso 44.75 153 *eP* **P 15 18 58.1 +2.5**
JLU Jordanelle 44.96 308 IAmb IAmb 15 19 37.8
comp=Z,25nm,1.5s
Y14A Wickenburg 45.05 299 IAmb IAmb 15 19 02.6
comp=Z,18nm,1.0s
FRTB Fartura 45.09 160 *eP* **P 15 18 60.0 +1.7**
LOHW Long Hollow 45.15 313 IAmb IAmb 15 19 28.6
comp=Z,40nm,1.6s
YNE Yellowstone No 45.18 315 IAmb IAmb 15 19 22.8
comp=Z,44nm,1.9s
SNOW Snow King Moun 45.22 312 IAmb IAmb 15 19 40.2
comp=Z,25nm,1.3s
PIX Pinacate 45.25 295 IAmb IAmb 15 19 21.9
comp=Z,32nm,1.0s
TPAW Teton Pass 45.36 312 IAmb IAmb 15 19 28.7
comp=Z,45nm,1.6s
113A Mohawk Valley, 45.59 297 IAmb IAmb 15 19 06.8
comp=Z,42nm,1.9s
CCUT Cedar City 45.82 304 IAmb IAmb 15 19 08.4
comp=Z,31nm,1.7s
YHB Horse Butte 45.90 314 IAmb IAmb 15 19 34.7
comp=Z,70nm,1.8s
EGMT Eagleton 46.08 319 IAmb IAmb 15 19 51.3
comp=Z,30nm,1.3s
CPUP Villa Florida 46.13 171 P **P 15 19 04.5 -1.9**
CPUP Villa Florida 46.13 171 P **P 15 19 05.2 -1.1**
comp=Z,3.9nm,0.8s,baz=257,slow=18,SNR=13
CPUP LR LR 15 39 22.0
comp=Z,423nm,18.7s,baz=209,slow=37
comp=Z,3.9nm,0.8s
AC02 Maricunga 46.27 185 IAmb IAmb 15 19 35.3
comp=Z,28nm,1.1s
BLYC Blythe 46.30 298 IAmb IAmb 15 19 53.5
comp=Z,44nm,1.9s
V12A Nelson 46.76 301 IAmb IAmb 15 19 16.1
comp=Z,24nm,1.3s
IRM Iron Mountain 46.84 299 IAmb IAmb 15 19 17.1
comp=Z,18nm,0.9s
DLMT Dillon 47.03 314 IAmb IAmb 15 20 05.2
comp=Z,15nm,1.1s
DANC Danby, Needles 47.08 299 IAmb IAmb 15 19 30.6
comp=Z,26nm,1.0s
VTX Valle De La Tr 47.22 295 IAmb IAmb 15 19 20.5
comp=Z,33nm,1.1s
YUH Yuha Desert 47.39 297 IAmb IAmb 15 19 44.4
comp=Z,48nm,1.5s
R11B Troy Canyon, C 47.68 304 IAmb IAmb 15 19 23.2
comp=Z,22nm,1.7s
S11A Rachel 47.70 303 IAmb IAmb 15 19 56.6
comp=Z,25nm,1.0s
ELK Elko 47.81 308 LR LR 15 40 28.2
comp=Z,1µm,19.6s,slow=37
ELK Elko 47.81 308 P **P 15 19 22.6 +2.9**
HLID Hailey 47.81 312 IAmb IAmb 15 19 42.7
comp=Z,59nm,2.0s
PMD Palm Desert 47.83 298 IAmb IAmb 15 19 47.6
comp=Z,21nm,1.4s
PFO Pinyon Flats O 47.90 298 LR LR 15 44 01.0
comp=Z,530nm,18.0s,baz=100,slow=42
PFO Pinyon Flats O 47.90 298 *i* P **P 15 19 21.1 +0.7**
PFO pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 48.02 302 IAmb IAmb 15 19 46.2

comp=Z,16nm,1.1s
BAR Barrett 48.03 297 IAmb IAmb 15 19 48.8
comp=Z,49nm,1.7s
WCT Wildcat Mounta 48.30 302 IAmb IAmb 15 19 28.2
comp=Z,36nm,1.6s
ELS Elsinore Mount 48.70 298 IAmb IAmb 15 19 54.2
comp=Z,50nm,1.9s
CCCA Chr Cany lake 48.78 300 IAmb IAmb 15 20 13.8
comp=Z,17nm,1.0s
GRAC Grapevine Rang 48.91 302 IAmb IAmb 15 19 32.8
comp=Z,52nm,1.6s
MPMC Manual Prospec 48.92 301 IAmb IAmb 15 19 54.6
comp=Z,30nm,2.0s
DSP Deep Springs 49.43 303 IAmb IAmb 15 19 36.9
comp=Z,28nm,1.5s
TPO Tropico Hills 49.44 300 IAmb IAmb 15 19 36.6
comp=Z,67nm,1.9s
ISA Isabella, Lake 49.69 301 IAmb IAmb 15 20 32.3
comp=Z,44nm,2.0s
NV11 Mina Array Sit 49.69 304 IAmb IAmb 15 19 58.4
comp=Z,29nm,1.1s
NVAR Mina Array Bea 49.80 304 P **P** **15 19 36.1 +1.0**
NVAR Mina Array Bea 49.80 304 P **P** **15 19 37.4 +2.3**
comp=Z,2.1nm,0.6s,baz=74,slow=8.8,SNR=17
NVAR LR LR 15 41 29.8
comp=Z,1μm,21.2s,baz=100,slow=37
comp=Z,2.1nm,0.6s
RYN Ryan 50.00 304 IAmb IAmb 15 19 59.6
comp=Z,43nm,1.8s
WVOR Wild Horse Val 50.61 309 P **P** **15 19 43.5 +2.5**
J08A Circle Bar Ran 50.66 310 IAmb IAmb 15 20 08.6
comp=Z,40nm,1.6s
WAKR Walker 50.70 304 IAmb IAmb 15 19 46.5
comp=Z,73nm,1.9s
PSAL Palomas, Salto 50.77 172 *e*P **P** **15 19 41.4 -0.6**
CPSB Cacapava Do Su 50.80 167 *e*P **P** **15 19 41.7 -0.6**
NEW Newport 50.83 317 P **P** **15 19 43.7 +1.2**
ZON Zonda 50.91 184 IAmb IAmb 15 20 08.4
comp=Z,24nm,0.9s
G08A Pilot Rock 51.36 313 IAmb IAmb 15 20 41.3
comp=Z,36nm,2.0s
PARRA Arraiolos 51.49 56 *e*P P 15 19 55.3 +7.8
PARRA *i* IAmb IAmb 15 20 03.6
comp=Z,26nm,1.8s
I07A Izee 51.52 311 IAmb IAmb 15 20 15.3
comp=Z,30nm,1.6s
PSBE So Bento 51.75 55 *e*P **P** **15 19 54.1 +4.6**
PSBE *i* IAmb IAmb 15 19 57.3
comp=Z,46nm,1.9s
PCAS Casmilo, Conde 52.03 54 *e*P P 15 19 56.5 +4.9
PCAS *i* IAmb IAmb 15 19 58.4
comp=Z,40nm,1.4s
PLTB Pedras Altas 52.09 168 *e*P **P** **15 19 52.4 +0.5**
PMTG Montargil 52.15 55 *e*P **P** **15 19 56.9 +4.5**
PMTG *i* IAmb IAmb 15 20 07.5
comp=Z,33nm,1.9s
PSARD Sardoal 52.24 55 *e*P **P** **15 19 57.5 +4.3**
PSARD *i* IAmb IAmb 15 19 59.4
comp=Z,30nm,1.5s
PBDV Barranco-do-Ve 52.25 58 *e*P **P** **15 19 57.9 +4.7**
PGAV Gavieira, Arco 52.42 52 *e*S S 15 27 30.1 +11
PGAV *e*LR LR 15 36 09.4
PGAV *i* IAMs_20 IAMs_20 15 39 30.2
comp=Z,1μm,18.0s
PVAQ Vaqueiros 52.43 57 *e*S S 15 27 28.6 +10
PVAQ *e*LR LR 15 34 47.5
PVAQ *i* IAMs_20 IAMs_20 15 37 04.6
comp=Z,1μm,20.0s
PESTR Estremoz 52.62 56 *e*P P 15 20 01.9 +6.0
PESTR *i* IAmb IAmb 15 20 11.4
comp=Z,35nm,1.7s
J05D Fort Rock, OR 52.63 310 IAmb IAmb 15 20 19.2
comp=Z,60nm,2.0s
MTE Manteigas 52.79 54 *e*S S 15 27 33.9 +10
MTE *e*LR LR 15 34 53.4
MTE *i* IAMs_20 IAMs_20 15 37 30.2
comp=Z,1μm,20.0s
PMRV Marv??o 52.82 55 *e*P **P** **15 20 02.1 +4.7**
PMRV *i* IAmb IAmb 15 20 18.0
comp=Z,26nm,1.7s
PMRV *e*S S 15 27 33.9 +10
PMRV *e*LR LR 15 35 11.7
PMRV *i* IAMs_20 IAMs_20 15 37 08.6
comp=Z,630nm,22.0s
PBAR Barrancos 53.01 57 *e*P **P** **15 20 03.4 +4.6**
PBAR *i* IAmb IAmb 15 21 00.3
comp=Z,24nm,1.9s
MVO Moncorvo 53.26 53 *e*P **P** **15 20 05.2 +4.6**
MVO *i* IAmb IAmb 15 20 16.9
comp=Z,36nm,1.9s
MVO *e*S S 15 27 40.3 +10
MVO *e*LR LR 15 35 36.5
MVO *i* IAMs_20 IAMs_20 15 38 04.4
comp=Z,988nm,20.0s
J04A Umpqua Nationa 53.26 310 IAmb IAmb 15 20 22.9
comp=Z,20nm,0.8s
LMEL Las Melosas 53.31 186 P **P** **15 20 00.6 -0.5**
MT09 Talagante 53.32 187 P **P** **15 20 00.4 -0.8**
MT09 IAmb IAmb 15 20 25.7
comp=Z,49nm,1.2s
BO04 La Punta 53.49 186 IAmb IAmb 15 20 42.9
comp=Z,34nm,1.0s
YBH Yreka Blue Hor 53.52 308 IAmb IAmb 15 20 29.4
comp=Z,21nm,1.4s
BORG Borgarnes 53.57 21 LR LR 15 40 19.7
comp=Z,409nm,19.3s,baz=231,slow=33
BO02 Sierra Bellavi 54.31 186 IAmb IAmb 15 20 34.2
comp=Z,20nm,0.8s
LLLB Lillooet 54.42 319 IAmb IAmb 15 20 25.9
comp=Z,63nm,1.9s
YKA Yellowknife Ar 54.81 334 P **P** **15 20 12.2 +0.6**
YKA Yellowknife Ar 54.81 334 P **P** **15 20 11.8 +0.3**
comp=Z,5.4nm,0.7s,baz=116,slow=6.1,SNR=15
YKA LR LR 15 44 01.0
comp=Z,1μm,19.2s,baz=116,slow=36
comp=Z,5.4nm,0.7s
YKA Yellowknife Ar 54.81 334 P **P** **15 20 12.2 +0.6**
MDT Midelt 54.92 63 LR LR 15 38 50.4
comp=Z,823nm,20.8s,baz=262,slow=31
SUMG Summit 55.15 9 P **P** **15 20 14.8 +0.4**
SUMG IAmb IAmb 15 20 27.6
comp=Z,31nm,1.0s
SUMG Summit 55.15 9 P **P** **15 20 14.8 +0.4**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 55.15 9 *i* P **P** **15 20 19.0 +4.6**
ESDC Sonseca Array 55.48 55 P **P** **15 20 17.7 +0.8**
ESDC Sonseca Array 55.48 55 P **P** **15 20 15.9 -1.0**
comp=Z,2.7nm,1.1s,baz=266,slow=6.1,SNR=12
ESDC LR LR 15 38 29.1
comp=Z,673nm,21.4s,baz=254,slow=30
comp=Z,2.7nm,1.1s
CBB Campbell River 56.49 318 IAmb IAmb 15 20 57.5
comp=Z,29nm,1.3s
RES Resolute Bay 57.54 351 LR LR 15 43 20.9
comp=Z,806nm,21.1s,baz=156,slow=34
EKA Eskdalemuir Ar 58.06 36 P **P** **15 20 33.7 -1.1**
comp=Z,0.7nm,0.4s,baz=271,slow=9.2,SNR=10.0
comp=Z,0.7nm,0.4s
DBIC Dimbokro 59.43 94 P **P** **15 20 44.7 -0.3**
comp=Z,6.0nm,0.5s,baz=280,slow=11,SNR=14
DBIC LR LR 15 44 08.6
comp=Z,603nm,18.9s,baz=310,slow=34
comp=Z,6.0nm,0.5s
PLCA Paso Flores 60.18 185 P **P** **15 20 50.2 +0.6**
comp=Z,1.5nm,0.5s,baz=2.9,slow=9.0,SNR=5.8
PLCA LR LR 15 49 53.3
comp=Z,871nm,18.8s,baz=22,slow=39
comp=Z,1.5nm,0.5s
PLCA Paso Flores 60.18 185 *e*P **P** **15 20 49.6 0.0**
DLBC Dease Lake 60.68 327 LR LR 15 47 02.0
comp=Z,7μm,20.5s,baz=88,slow=36
JMIC Jan Mayen 60.95 18 LR LR 15 42 30.6
comp=Z,682nm,21.3s,baz=234,slow=31
DAG Danmarks Havn 61.72 11 *i* P **P** **15 21 01.0 +1.4**
RPN Rapa Nui 63.39 224 LR LR 15 45 12.2
comp=Z,218nm,20.0s,baz=44,slow=33
M31M Drury Creek, Y 63.45 331 IAmb IAmb 15 21 28.5
comp=Z,19nm,1.1s
TORD Torodi Ar. Bea 63.73 85 **P** **15 21 12.5 -1.5**
TORD IAmb IAmb 15 21 26.0
comp=Z,28nm,1.9s
TORD Torodi Ar. Bea 63.73 85 P **P** **15 21 12.4 -1.6**
TORD LR LR 15 47 36.4
comp=Z,1μm,18.1s,baz=297,slow=35
comp=Z,3.8nm,0.6s

H31M Peel River 64.03 335 IAmb IAmb 15 21 24.2
comp=Z,26nm,1.3s
INK Inuvik 64.21 337 P **P** **15 21 16.7 +0.4**
INK IAmb IAmb 15 21 24.2
comp=Z,26nm,1.2s
INK Inuvik 64.21 337 P **P** **15 21 16.7 +0.4**
INK pmax pmax
comp=Z,26nm,1.3s
M30M Minto, Yukon 64.61 331 IAmb IAmb 15 21 26.5
comp=Z,31nm,1.6s
K29M Barlow Dome 65.08 332 IAmb IAmb 15 21 26.8
comp=Z,29nm,1.6s
L29M L29M 65.28 331 IAmb IAmb 15 21 39.1
comp=Z,16nm,1.2s
KONO Kongsberg 65.46 33 *i* P **P** **15 21 22.3 -2.2**
KONO pmax pmax
comp=Z,6.0nm,1.0s
DAVA Damuels 65.57 46 *e*pP **P** **15 21 25.8 +0.1**
comp=Z,2.5nm,0.7s
G29M Pine Creek 65.67 336 IAmb IAmb 15 21 45.6
comp=Z,13nm,1.1s
E29M Blow River 65.82 337 IAmb IAmb 15 21 39.5
comp=Z,17nm,1.1s
FUORN Ofenpass-Fuorn 65.87 47 P **P** **15 21 27.5 -0.3**
DAWY Dawson 65.93 332 P **P** **15 21 28.8 +1.2**
DAWY IAmb IAmb 15 21 57.6
comp=Z,25nm,1.4s
RETA Reutte 66.16 46 *e*pP **P** **15 21 30.3 +0.9**
comp=Z,4.9nm,0.9s
FETA Feichten 66.16 46 pP **P** **15 21 30.4 +0.8**
comp=Z,10nm,1.3s
KEST Kesra 66.20 59 P **P** **15 21 31.4 +1.5**
comp=Z,3.1nm,0.9s,baz=227,slow=19,SNR=3.6
KEST LR LR 15 46 32.9
comp=Z,437nm,20.8s,baz=253,slow=33
comp=Z,3.1nm,0.9s
NB2 NORSAR Subarra 66.33 31 P **P** **15 21 31.8 +1.6**
comp=Z,110nm,2.5s,baz=267,slow=6.5
NB2 NORSAR Subarra 66.33 31 P **P** **15 21 31.8 +1.6**
baz=267,slow=6.5
NOA NORSAR Array B 66.33 31 P **P** **15 21 31.5 +1.3**
comp=Z,2.7nm,0.9s,baz=269,slow=6.4,SNR=7.3
NOA LR LR 15 49 16.7
comp=Z,767nm,18.2s,baz=270,slow=35
comp=Z,2.7nm,0.9s
MOTA Moosalm 66.40 46 *e*pP **P** **15 21 31.8 +0.7**
comp=Z,9.3nm,1.2s
F28M Old Crow 66.47 336 IAmb IAmb 15 22 01.7
comp=Z,17nm,1.2s
SQTA Sankt Quirin 66.48 46 *e*pP **P** **15 21 32.0 +0.5**
comp=Z,1.4nm,0.5s
EGAK Eagle 66.75 333 P **P** **15 21 33.6 +0.9**
EGAK IAmb IAmb 15 21 50.2
comp=Z,38nm,1.8s
WTTA Wattenberg 66.76 46 pP **P** **15 21 34.4 +1.0**
comp=Z,3.2nm,0.8s
BCAR Beaver Creek A 66.93 331 P **P** **15 21 35.2 +1.2**
ABTA Abfaltersbach 67.40 47 *e*pP **P** **15 21 38.8 +1.5**
comp=Z,2.3nm,0.9s
LESA Schwarzleotal 67.46 46 *e*pP **P** **15 21 38.7 +1.0**
comp=Z,5.4nm,1.2s
MCARA McCarthy VSAT 67.47 329 IAmb IAmb 15 21 54.6
comp=Z,25nm,1.0s
HFS Hagfors 67.53 32 P **P** **15 21 38.5 +0.7**
comp=Z,1.4nm,0.7s,baz=276,slow=14,SNR=2.1
HFS LR LR 15 49 44.6
comp=Z,1μm,18.4s,baz=264,slow=35
comp=Z,1.4nm,0.7s
L26K Log Cabin Wild 67.64 331 IAmb IAmb 15 22 08.9
comp=Z,29nm,1.3s
MENT Mentasta 67.81 331 IAmb IAmb 15 22 03.7
comp=Z,19nm,1.1s
KHC Kasperske Hory 67.92 44 *e*P **P** **15 21 41.0 +0.5**
KHC Kasperske Hory 67.92 44 *e*P **P** **15 21 41.9 +1.4**
G26K Porcupine Rive 67.93 335 IAmb IAmb 15 21 42.5
comp=Z,33nm,1.8s
KBA Koelnbreinsper 67.94 46 *e*pP **P** **15 21 41.0 +0.1**
comp=Z,4.5nm,1.1s
SCRK Sand Creek 67.94 332 IAmb IAmb 15 22 17.1
comp=Z,12nm,1.1s
DOT Dot Lake 67.97 332 IAmb IAmb 15 21 55.3
comp=Z,20nm,1.2s
BRG Berggiesshubel 68.02 42 *e*P **P** **15 21 43.1 +2.0**
BRG Amp 15 21 44.5
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 68.02 42 S **S** **15 30 43.0 +4.6**
GERES GERESS Array B 68.03 44 P **P** **15 21 41.0 -0.2**
comp=Z,1.3nm,0.6s,baz=282,slow=4.9,SNR=14
GERES LR LR 15 49 19.0
comp=Z,523nm,18.7s,baz=249,slow=34
comp=Z,1.3nm,0.6s
C27K Jago River 68.03 338 IAmb IAmb 15 21 54.8
comp=Z,18nm,1.1s
BIOA Bad Ischl, Aus 68.08 46 pP **P** **15 21 40.9 -0.7**
comp=Z,6.3nm,1.4s
MYKA Terra Mystica 68.19 47 *e*pP **P** **15 21 43.6 +1.3**
comp=Z,6.0nm,1.0s
RIDG Independent Ri 68.32 332 IAmb IAmb 15 21 57.3
comp=Z,26nm,1.2s
CKRC Cesky Krumlov 68.43 44 *e*P **P** **15 21 45.2 +1.5**
PRU Pruhonice 68.47 43 *e*P **P** **15 21 46.2 +2.3**
PRP Porcupine Dome 68.61 334 IAmb IAmb 15 21 58.6
comp=Z,19nm,1.2s
OBKA Obir 68.82 47 *e*pP **P** **15 21 45.4 -0.9**
comp=Z,4.8nm,1.4s
SOKA Soboth 69.13 46 *e*pP **P** **15 21 47.8 -0.4**
comp=Z,7.1nm,1.3s
IL31 69.20 333 IAmb IAmb 15 22 01.8
comp=Z,10nm,0.8s
ILAR Eielson Array 69.20 333 P **P** **15 21 48.3 +0.1**
ILAR Eielson Array 69.20 333 P **P** **15 21 48.6 +0.4**
comp=Z,2.0nm,0.5s,baz=94,slow=5.5,SNR=66
ILAR LR LR 15 53 58.2
comp=Z,932nm,19.1s,baz=84,slow=38
comp=Z,2.0nm,0.5s
SPITS Spitsbergen Ar 69.21 13 P **P** **15 21 47.6 -0.5**
comp=Z,19nm,1.2s,baz=262,slow=2.9,SNR=1.4
SPITS LR LR 15 51 18.4
comp=Z,615nm,19.1s,baz=255,slow=35
comp=Z,19nm,1.2s
HDA Harding Lake 69.24 333 IAmb IAmb 15 22 18.2
comp=Z,32nm,1.9s
CHVC Chvatec 69.39 42 *e*P **P** **15 21 51.6 +2.0**
POKR Poker Plat Res 69.42 333 IAmb IAmb 15 22 03.5
comp=Z,20nm,1.1s
F24K Squaw Lake 69.53 336 IAmb IAmb 15 22 31.2
comp=Z,13nm,1.2s
CONA Conrad Observa 69.55 45 pP **P** **15 21 52.4 +1.7**
comp=Z,5.1nm,1.6s
DPC Dobruska-Polom 69.58 42 *e*P **P** **15 21 52.2 +1.3**
CCB Clear Creek Bu 69.60 333 IAmb IAmb 15 21 58.3
comp=Z,16nm,1.4s
COLA College 69.61 333 *i* P **P** **15 21 51.8 +1.2**
COLA pmax pmax
comp=Z,3.0nm,0.9s
KRUC Moravsky 69.77 44 *e*P **P** **15 21 55.2 +3.2**
RONA Rosalia, Austr 69.87 45 pP **P** **15 21 54.8 +2.1**
comp=Z,5.2nm,1.1s
VRAC Vranov 69.87 44 LR LR 15 49 49.5
comp=Z,346nm,19.2s,baz=284,slow=34
VRAC Vranov 69.87 44 *e*P **P** **15 21 55.8 +3.2**
VRAC *e* 15 22 05.5
VAE Valguarnera 69.97 56 LR LR 15 50 25.7
comp=Z,840nm,18.8s,baz=243,slow=34
NEA2 Nenana 70.14 333 IAmb IAmb 15 22 07.6
comp=Z,15nm,1.0s
I23K Minto, Yukon-K 70.23 333 IAmb IAmb 15 22 12.1
comp=Z,12nm,1.0s
MORC Moravsky Berou 70.43 43 ⇑P **P** **15 21 56.8 +0.7**
MORC Moravsky Berou 70.43 43 *e*P **P** **15 21 57.3 +1.2**
MORC Moravsky Berou 70.43 43 ⇑P **P** **15 21 56.8 +0.7**
MODS Modra-Piesok 70.44 44 *e*P P 15 22 01.3 +5.2
MODS Modra-Piesok 70.44 44 *e*P P 15 22 01.3 +5.2
STEB Steborice 70.56 43 *e*P **P** **15 21 58.9 +2.1**
MLY Manley 70.83 333 IAmb IAmb 15 22 11.8
comp=Z,14nm,1.2s
E22K Anaktuvuk Pass 70.99 337 IAmb IAmb 15 22 12.7
comp=Z,21nm,1.2s
EFI East Falkland 71.12 176 *i* P **P** **15 22 01.2 +1.3**
EFI pmax pmax
comp=Z,47nm,1.2s
MORH Mrgy, Hungar 71.67 47 ⇑P **P** **15 22 04.3 +0.7**
G21K Allakaket 71.81 335 IAmb IAmb 15 22 18.2
comp=Z,20nm,1.1s
IMAR Indian Mountai 71.97 335 P **P** **15 22 05.8 +0.7**
ARCES ARCESS Array B 71.98 22 P **P** **15 22 04.6 -0.4**
comp=Z,6.3nm,0.7s,baz=283,slow=4.3,SNR=10

ARCES LR LR 15 48 40.3
comp=Z,310nm,21.2s,baz=273,slow=32
comp=Z,6.3nm,0.7s
KDAK Kodiak Island 72.59 326 LR LR 15 54 02.8
comp=Z,596nm,20.4s,baz=69,slow=36
FINES FINESS Array B 73.45 30 P **P** **15 22 13.9 0.0**
comp=Z,2.6nm,0.7s,baz=273,slow=5.1,SNR=11
FINES LR LR 15 52 35.6
comp=Z,652nm,18.9s,baz=273,slow=34
comp=Z,2.6nm,0.7s
DRGR 74.33 45 ⇑P **P** **15 22 20.7 +1.3**
DRGR 74.33 45 ⇑P **P** **15 22 20.7 +1.3**
VSU Vasula 74.35 33 *i* P **P** **15 22 19.4 +0.2**
VSU pmax pmax
comp=Z,11nm,1.0s
BURAR Bucovina Array 75.81 44 ⇓P **P** **15 22 29.3 +1.3**
BURAR Bucovina Array 75.81 44 ⇓P **P** **15 22 29.3 +1.3**
ARR Arges 75.94 47 ⇑P **P** **15 22 27.7 -1.0**
MLR Muntele Rosu 76.81 46 LR LR 15 56 12.6
comp=Z,332nm,18.7s,baz=271,slow=36
MLR Muntele Rosu 76.81 46 ⇑P **P** **15 22 35.9 +2.1**
MLR Muntele Rosu 76.81 46 ⇑P **P** **15 22 35.9 +2.1**
NEHR Nehoiu 77.07 46 ⇓P **P** **15 22 36.9 +1.8**
AKASG Malin Array Be 77.59 41 P **P** **15 22 38.3 +0.5**
comp=Z,1.2nm,0.8s,baz=285,slow=4.6,SNR=5.3
AKASG LR LR 15 52 30.5
comp=Z,665nm,21.8s,baz=279,slow=32
comp=Z,1.2nm,0.8s
IDI Anoyia 78.69 57 LR LR 15 54 32.7
comp=Z,118nm,20.9s,baz=303,slow=34
TAOE Nuku Hiva Isla 79.40 257 *e*P **P** **15 22 45.9 -2.7**
comp=Z,112nm,24.2s
TAOE Nuku Hiva Isla 79.40 257 *e*PP **PP** **15 25 48.7 -0.4**
comp=Z,52nm,22.8s
KLMR Klimovskoe 79.87 29 *e*P **P** **15 22 48.8 -1.4**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR MLR MLR
comp=Z,885nm,18.0s
OBN Obninsk 80.47 35 LR LR 15 55 21.3
comp=Z,534nm,20.8s,baz=216,slow=33
OBN Obninsk 80.47 35 ⇑*e*P **P** **15 22 53.7 +0.2**
OBN *e* 15 25 51.6
OBN *e*PPP PPP 15 27 44.3
OBN pmax pmax
comp=Z,8.0nm,1.1s
MOS Moscow 80.81 34 *e*P **P** **15 22 58.1 +2.8**
MOS pmax pmax
comp=Z,28nm,0.7s
MOS MLR MLR
comp=Z,700nm,19.0s
ESPZ Base Esperanza 82.86 176 P **P** **15 23 07.2 +1.5**
BRTR Keskin Array B 83.95 50 P **P** **15 23 11.6 -0.7**
BRTR Keskin Array B 83.95 50 P **P** **15 23 12.8 +0.5**
comp=Z,2.2nm,0.9s,baz=298,slow=4.0,SNR=7.3
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 83.95 50 P **P** **15 23 11.6 -0.7**
PMSA Palmer Station 84.02 180 LR LR 16 02 33.2
comp=Z,605nm,19.5s,baz=337,slow=37
ANN Anapa 84.74 44 *e*P **P** **15 23 12.9 -3.1**
ANN *e**PP **PcP** **15 23 16.0 -3.4**
ANN *e*S **SKSac** **15 33 34.1 -4.0**
ANN *e*SS **SS** **15 39 09.7 -3.6**
ANN pmax pmax
comp=Z,67nm,1.1s
ANN MLR MLR
comp=N,2μm,21.0s
ANN MLR MLR
comp=Z,904nm,22.0s
ANN MLR MLR
comp=E,1μm,23.0s
BILL Bilibino 85.16 343 *i* P **P** **15 23 17.7 +0.1**
BILL pmax pmax
comp=Z,8.0nm,1.1s
KIRV Kirov 85.37 29 LR LR 16 01 16.5
comp=Z,340nm,18.0s,baz=298,slow=36
KIRV Kirov 85.37 29 *i* P **P** **15 23 20.1 +1.3**
ERBR Yeremizino-Bor 86.36 43 *e*P **P** **15 23 20.0 -4.0**
ERBR *e**PP **PcP** **15 23 22.4 -4.1**
ERBR *e*S **SKSac** **15 33 44.2 -4.2**
ERBR pmax pmax
comp=Z,4.0nm,0.6s
SOC Sochi 86.73 45 *e*P P 15 23 18.2 -7.7
SOC *e*SS SS 15 39 43.1 +0.5
LABN Labinsk 86.96 44 *e*P P 15 23 21.7 -5.3
LABN *e**PP **PcP** **15 23 25.0 -4.2**
LABN *e*S **SKSac** **15 33 46.4 -5.7**
LABN pmax pmax
comp=Z,26nm,0.7s
SMAI San Martin Ant 87.40 181 P **P** **15 23 28.6 +0.3**
BELG Belogornoye 87.56 35 LR LR 16 01 26.9
comp=Z,666nm,18.9s,baz=281,slow=35
BELG Belogornoye 87.56 35 *i* P **P** **15 23 30.3 +0.6**
BELG pmax pmax
comp=Z,2.0nm,0.9s
MMAI Mount Meron Ar 87.67 56 LR LR 16 00 01.2
comp=Z,94nm,20.7s,baz=287,slow=34
EIL Elat 88.54 59 LR LR 16 01 50.5
comp=Z,356nm,20.8s,baz=332,slow=35
TIXI Tiksi 88.60 356 P **P** **15 23 35.4 +1.1**
TIXI Tiksi 88.60 356 LR LR 16 06 34.5
comp=Z,455nm,18.0s,baz=32,slow=38
TIXI Tiksi 88.60 356 *e*P **P** **15 23 34.6 +0.3**
KBZ Khabaz 88.76 44 LR LR 16 05 23.2
comp=Z,303nm,18.1s,baz=319,slow=37
ASF Jabal al Asfar 89.16 56 LR LR 16 01 48.9
comp=Z,68nm,19.2s,baz=244,slow=34
TSUM Tsumeb 89.39 111 LR LR 15 57 50.5
comp=Z,719nm,19.2s,baz=333,slow=32
ARTI Arti 90.61 28 LR LR 16 00 34.0
comp=Z,318nm,21.5s,baz=309,slow=33
PPT Papeete 91.08 252 LR LR 15 58 32.1
comp=Z,185nm,19.4s,baz=82,slow=32
PPT2 Papeete2 91.08 252 *e*P P 15 23 39.8 -7.1
comp=Z,87nm,24.8s
PPT2 Papeete2 91.08 252 *e*PP **PP** **15 27 23.7 -0.3**
comp=Z,56nm,25.5s
PPT2 *e*S **S** **15 34 39.1 -4.2**
comp=Z,209nm,25.0s
PPT2 *e*SS **SS** **15 40 45.4 -2.6**
comp=Z,128nm,26.5s
PPT2 Papeete2 91.08 252 *e*LR LR 15 52 50.5
comp=Z,293nm,26.8s
PPT2 *e*LR LR 15 52 54.0
comp=Z,220nm,28.0s
GNI Garni 91.59 46 LR LR 16 07 31.9
comp=Z,221nm,18.0s,baz=321,slow=37
MAK Makhachkala 92.10 43 *d* *i* P P 15 23 44.7 -6.4
MAK *e*SSS SSS 15 44 35.5
MAK MLR MLR
comp=Z,773nm,17.0s
SEY Seymchan 92.80 344 LR LR 16 06 07.5
comp=Z,503nm,20.7s,baz=45,slow=36
TBI Tubuai 92.94 246 *e*PP **PP** **15 27 33.8 -4.6**
comp=Z,449nm,35.8s
TBI *e*S **S** **15 35 00.3 +0.8**
comp=Z,896nm,37.5s
TBI *e*SS **SS** **15 41 17.7 +3.4**
comp=Z,496nm,26.2s
TBI Tubuai 92.94 246 *e*LR LR 15 53 40.7
comp=Z,1μm,27.5s
TBI *e*LR LR 15 53 42.2
comp=Z,964nm,33.5s
AKT Akhty 92.96 44 *e*P **P** **15 23 53.1 -2.3**
AKT *e* 15 27 34.7
AKT *e*S **SKSac** **15 34 24.7 -2.8**
AKT pmax pmax
comp=Z,3.0nm,0.8s
AKT MLR MLR
comp=Z,420nm,17.0s
AKTO Aktyubinsk 94.08 33 LR LR 16 06 31.6
comp=Z,779nm,18.1s,baz=269,slow=36
MA2 Magadan 96.03 343 LR LR 16 12 54.5
comp=Z,351nm,18.3s,baz=48,slow=39
LSZ Lusaka 97.66 103 LR LR 16 01 38.1
comp=Z,354nm,20.6s,baz=300,slow=31
YAK Yakutsk 97.93 353 LR LR 16 11 09.8
comp=Z,353nm,19.3s,baz=26,slow=37
YAK Yakutsk 97.93 353 *e*P **P** **15 24 16.4 -1.0**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=N,1.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,1.3s
BORK Borovoye 97.95 26 *i* P **P** **15 24 17.4 -0.3**

BORK pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 98.00 25 P Pdif 15 24 19.3 +1.3
comp=Z,0.4nm,0.7s,baz=305,slow=5.1,SNR=2.0
BVAR LR LR 16 04 18.6
comp=Z,341nm,21.8s,baz=318,slow=33
comp=Z,0.4nm,0.7s
LBTB Lobatse 98.31 114 LR LR 16 02 34.0
comp=Z,306nm,19.8s,baz=292,slow=32
PETK Petropavlovsk- 98.91 336 LR LR 16 10 54.3
comp=Z,301nm,20.9s,baz=54,slow=36
BOSA Boshof 99.09 117 LR LR 16 04 04.2
comp=Z,216nm,19.0s,baz=290,slow=32
MATP Matopo 99.50 108 LR LR 16 03 46.9
comp=Z,515nm,19.6s,baz=268,slow=32
SNAA Sanae 100.04 164 P **Pdif 15 24 27.3 +0.8**
comp=Z,1.5nm,1.0s,baz=322,slow=7.6,SNR=3.7
comp=Z,1.5nm,1.0s
SNAA Sanae 100.04 164 *i* P **Pdif 15 24 27.0 +0.5**
SNAA pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 112.09 21 *e*PKP **PKiKP 15 29 18.5 +1.1**
WMQ LR LR
comp=N,370nm,19.5s
WMQ LR LR
comp=E,300nm,23.9s
WMQ LR LR
comp=Z,260nm,17.3s
SYO Syowa Base 113.19 158‖ *e*PP **PP 15 30 09.2 +0.5**
HHC Hu-ho-hao-te 119.85 3 *e*P **PKPdf 15 29 30.4 -2.0**
MJAR Matsushiro Arr 120.18 339 PKP **PKiKP 15 29 34.4 +1.2**
comp=Z,0.7nm,0.5s,baz=55,slow=1.3,SNR=4.1
MAW Mawson 121.82 159 PKP **PKiKP 15 29 35.8 +0.6**
comp=Z,1.9nm,0.7s,baz=252,slow=3.2,SNR=8.0
NJ2 Nanjing 128.62 356 *e*P **PKiKP 15 29 50.3 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PZH PanZhiHua 132.41 16 PKP **PKiKP 15 29 58.1 +0.2**
CMAR Chiang Mai Arr 139.01 24 PKP **PKPdf 15 30 08.7 -0.5**
comp=Z,0.9nm,0.7s,baz=350,slow=2.0,SNR=6.0
QIZ Qiongzhong 141.33 8 PKP **PKiKP 15 30 14.9 -1.2**
QIZ PP **PP 15 33 16.6 +2.6**
ARMA Armidale 145.43 244 P **PKPab 15 30 20.8 +0.2**
ARMA P **PKPdf 15 30 21.9 +1.6**
EIDS Eidsvold 146.46 253 P **PKPbc PKiKP 15 30 23.0 -0.5**
EIDS P **PKPab 15 30 25.1 +0.6**
STKA Stephens Creek 153.35 237 PKPbc **PKiKP 15 30 41.5 +1.1**
comp=Z,2.8nm,0.5s,baz=108,slow=3.2,SNR=10
QIS Mount Isa 157.12 263 P **PKPdf 15 30 38.8 +0.6**
WRA Warramunga Arr 162.04 265 PKP **PKPdf 15 30 44.3 +0.4**
comp=Z,2.1nm,0.9s,baz=100,slow=0.6,SNR=17
WRA PKPab **PKPab 15 31 31.1 +0.7**
comp=Z,2.0nm,0.5s,baz=85,slow=3.5,SNR=20
ASAR Alice Springs 162.19 253 PKP **PKPdf 15 30 44.0 0.0**
comp=Z,1.9nm,1.0s,baz=96,slow=1.2,SNR=14
ASAR PKPab **PKPab 15 31 31.9 +1.0**
comp=Z,3.1nm,0.7s,baz=100,slow=4.1,SNR=19

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*NEIC **06** 15:30:16.8±1.6, 3°.8N±0°.1×124°.1E±0°.1, h414km±10km, mb4.0/18, Error ellipse: s-maj=21.7km s-min=14.3km az=49.0*
*IDC **06** 15:30:17.2±1.6, 3°.72N×124°.03E, h429km±18km, mb3.2/10, mbtmp4.1/12, Error ellipse: s-maj=30.8km s-min=9.3km az=64.0*
ISC 06 15:30:15.1±0.5, **3°.83N**±0°.07×**124°.09E**±0°.10, **h400**km, **n41**, σ1§**35**/46, **mb3.9**/20, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**4.27**	**231**	P	**Pn**	**15 31 31.1**	**+1.2**
TNTI	**Ternate**	**4.46**	**133**	P	**Pn**	**15 31 32.6**	**+0.9**
LUWI	**Luwuk**	**5.02**	**195**	P	**Pn**	**15 31 38.6**	**+1.2**
MYLDM	**Lahad Datu**	**5.74**	**284**	P	**Pn**	**15 31 47.9**	**+3.0**
KKM	**Kota Kinabalu**	**8.15**	**286**	P	**Pn**	**15 32 13.1**	**+1.0**
FAKI	**Fak Fak**	**10.55**	**129**	P	**P**	**15 32 41.1**	**+2.1**
BATI	**Baumata**	**13.95**	**182**	P	**P**	**15 33 17.4**	**+1.1**
	12nm,0.4s,baz=66,slow=3.5,SNR=5.8						
JAY	**Jayapura**	**17.76**	**111**	P	**P**	**15 34 00.2**	**+3.0**
	2.7nm,0.5s,baz=17,slow=5.6,SNR=1.7						
TPUB	**Ta-pu**	**19.64**	**350**	P	**P**	**15 34 16.8**	**+0.4**
KNRA	**Kununurra**	**19.93**	**167**	P	**P**	**15 34 19.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.84**	**176**	P	**P**	**15 34 36.5**	**+0.1**
WB0	**Warramunga Arr**	**25.54**	**157**	P	**P**	**15 35 08.9**	**-0.8**
WB0				IAmb	IAmb	15 35 22.4	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**25.68**	**157**	P	**P**	**15 35 10.2**	**-0.7**
WRAB				IAmb	IAmb	15 35 29.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**25.68**	**157**	P	**P**	**15 35 10.0**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=342,slow=7.9,SNR=21						
WRA				S	**S**	**15 39 05.7**	**-4.1**
	comp=Z,0.5nm,0.9s,baz=336,slow=16,SNR=3.4						
WRA				ScP	**ScP**	**15 41 27.6**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=323,slow=2.7,SNR=2.7						
	comp=Z,1.0nm,0.4s						
WR8	**Warramunga Arr**	**25.75**	**157**	P	**P**	**15 35 10.8**	**-0.8**
WR8				IAmb	IAmb	15 35 20.5	
	comp=Z,6.3nm,1.4s						
GSI	**Gunungsitoli**	**26.61**	**265**	P	**P**	**15 35 19.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**28.57**	**302**	P	**P**	**15 35 37.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=111,slow=5.9,SNR=2.0						
	comp=Z,0.3nm,0.3s						
AS31	**Alice Springs**	**28.95**	**161**	P	**P**	**15 35 39.6**	**-0.3**
ASAR	**Alice Springs**	**28.95**	**161**	P	**P**	**15 35 39.8**	**-0.1**
ASAR	**Alice Springs**	**28.95**	**161**	P	**P**	**15 35 39.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=341,slow=8.9,SNR=52						
ASAR				PcP	**PcP**	**15 38 36.5**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=335,slow=2.9,SNR=1.7						
ASAR				ScP	**ScP**	**15 41 37.4**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=341,slow=3.5,SNR=4.2						
	comp=Z,1.2nm,0.4s						
MJAR	**Matsushiro Arr**	**35.05**	**20**	P	**P**	**15 36 32.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=196,slow=9.3,SNR=2.5						
	comp=Z,0.9nm,0.7s						
INKA	**Innaminka**	**35.26**	**154**	P	**P**	**15 36 35.4**	**+1.4**
BBOO	**Buckleboo**	**38.17**	**164**	P	**P**	**15 36 58.6**	**+0.4**
BBOO				IAmb	IAmb	15 37 15.9	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**39.22**	**156**	P	**P**	**15 37 07.7**	**+0.8**
STKA	**Stephens Creek**	**39.22**	**156**	P	**P**	**15 37 06.1**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=318,slow=10.0,SNR=4.8						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**46.41**	**344**	P	**P**	**15 38 04.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=157,slow=7.7,SNR=1.6						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**56.00**	**326**	P	**P**	**15 39 13.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=122,slow=7.5,SNR=26						
MKAR				PcP	**PcP**	**15 40 05.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=117,slow=3.3,SNR=2.9						
	comp=Z,1.6nm,0.5s						
MAKZ	**Makanchi**	**56.18**	**326**	P	**P**	**15 39 15.2**	**0.0**
MAKZ				IAmb	IAmb	15 39 15.8	
	comp=Z,4.2nm,0.8s						
KDJ	**Kajisay**	**56.54**	**319**	P	**P**	**15 39 18.2**	**+0.3**
KDJ				IAmb	IAmb	15 39 19.0	
	comp=Z,2.7nm,0.4s						
GAR	**Garm**	**59.93**	**313**	P	**P**	**15 39 40.2**	**-0.9**
GAR				IAmb	IAmb	15 39 41.3	
	comp=Z,4.1nm,0.6s						
KURBB	**Kurchatov Arra**	**60.26**	**328**	P	**P**	**15 39 42.4**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=127,slow=6.1,SNR=17						
	comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**60.26**	**329**	P	**P**	**15 39 42.4**	**-0.5**
KURK				IAmb	IAmb	15 39 43.7	
	comp=Z,6.1nm,1.0s						
KKAR	**Karatay Array**	**61.38**	**318**	P	**P**	**15 39 50.4**	**-0.2**
BVAR	**Borovoye Array**	**65.82**	**328**	P	**P**	**15 40 19.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=126,slow=7.4,SNR=4.3						
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**67.80**	**2**	P	**P**	**15 40 30.5**	**-0.4**
TIXI				IAmb	IAmb	15 40 52.0	
	comp=Z,5.8nm,1.4s						
AB31	**Akbulak array**	**70.42**	**321**	P	**P**	**15 40 46.5**	**-0.8**
ABKAR	**Akbulak array**	**70.42**	**321**	P	**P**	**15 40 46.5**	**-0.8**
I23K	**Minto, Yukon-K**	**85.09**	**25**	P	**P**	**15 42 07.2**	**+0.3**
I23K				IAmb	IAmb	15 42 21.8	
	comp=Z,3.3nm,1.3s						
BMAR	**Burnt Mountain**	**87.00**	**23**	P	**P**	**15 42 16.7**	**+0.5**
FINES	**FINESS Array B**	**90.50**	**332**	P	**P**	**15 42 30.7**	**-1.8**
	comp=Z,2.5nm,1.0s,baz=66,slow=3.4,SNR=5.4						
	comp=Z,2.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**120.39**	**288**	PKP	**PKPdf**	**15 48 18.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=75,slow=1.3,SNR=1.8						

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*NOU **06** 15:36:53.3, 39°.29S×178°.02E, h0km, MLv3.5/7, Off E. Coast of N. Island, N.Z.*
*WEL **06** 15:36:57.6±0.7, 39°.5±5°.×17°.8E±°, h20km±5km, M2.7/26, ML3.3/12, MLv2.7/26, Error ellipse: s-maj=6.4km s-min=4.2km az=155.5, confirmed*
ISC 06 15:36:57.0±1.2, **39°.20S**±0°.04×**177°.87E**±0°.05, **h30**km±7km, **n49**, σ0§**73**/55, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.05**	**34**	P	**Pb**	**15 37 03.0**	**+0.8**
KNZ	**Kokohu**	**0.23**	**319**	P	**Pb**	**15 37 02.6**	**-1.1**
KNZ				S	**Sb**	**15 37 06.9**	**-1.2**
PRGZ	**Paritu Road**	**0.27**	**2**	P	**Pn**	**15 37 04.2**	**-0.8**
WFSS	**Wairoa Fire St**	**0.38**	**295**	P	**Pb**	**15 37 05.0**	**-0.6**
RIGZ	**Rimuhau**	**0.50**	**350**	P	**Pb**	**15 37 07.3**	**-0.1**
WHHZ	**Waihua**	**0.51**	**283**	P	**Pb**	**15 37 07.2**	**-0.4**
WHHZ				S	**Sb**	**15 37 15.1**	**+0.2**
GKBS	**Kaiti Beach**	**0.53**	**14**	P	**Pn**	**15 37 09.1**	**+0.7**
SNGZ	**Shannon Statio**	**0.58**	**315**	P	**Pb**	**15 37 08.1**	**-0.7**
RAHZ	**Arahi**	**0.67**	**294**	P	**Pb**	**15 37 09.6**	**-0.7**
RAHZ				S	**Sb**	**15 37 19.3**	**-0.1**
ARHZ	**Aropaoanui**	**0.68**	**264**	P	**Pb**	**15 37 10.4**	**-0.1**
ARHZ				S	**Sn**	**15 37 20.8**	**+0.6**
TKGZ	**Te Karaka**	**0.76**	**359**	P	**Pn**	**15 37 11.7**	**+0.1**
CNGZ	**Carnagh Statio**	**0.76**	**21**	P	**Pn**	**15 37 12.5**	**+0.8**
CKHZ	**Cape Kidnapper**	**0.77**	**233**	P	**Pn**	**15 37 12.1**	**+0.3**
RAGZ	**Rawiri**	**0.78**	**333**	P	**Pb**	**15 37 11.4**	**-0.8**
RAGZ				S	**Sb**	**15 37 22.6**	**0.0**
NMHZ	**Naumai**	**0.83**	**276**	P	**Pb**	**15 37 12.6**	**-0.5**
NMHZ				S	**Sb**	**15 37 24.5**	**+0.5**
MTHZ	**Maungataniwha**	**0.87**	**293**	P	**Pb**	**15 37 12.6**	**-1.1**
MWZ	**Matawai**	**0.90**	**343**	P	**Pb**	**15 37 13.2**	**-1.0**
RTZ	**Ruatahuna**	**0.90**	**310**	P	**Pb**	**15 37 13.1**	**-1.2**
MCHZ	**McNeill Hill**	**0.94**	**254**	P	**Pn**	**15 37 14.4**	**+0.2**
KAHZ	**Kahuranaki**	**0.97**	**232**	P	**Pb**	**15 37 15.1**	**-0.3**
TWGZ	**Tauwhareparae**	**1.02**	**5**	P	**Pb**	**15 37 15.7**	**-0.5**
BKZ	**Black Stump Fm**	**1.07**	**271**	P	**Pn**	**15 37 15.6**	**-0.4**
BKZ	**Black Stump Fm**	**1.07**	**271**	S	**Sn**	**15 37 31.4**	**+1.5**
BKZ	**Black Stump Fm**	**1.07**	**271**	P	**Pn**	**15 37 15.6**	**-0.4**
URZ	**Urewera**	**1.11**	**327**	P	**Pn**	**15 37 16.3**	**-0.2**
URZ	**Urewera**	**1.11**	**327**	P	**Pn**	**15 37 16.2**	**-0.2**
MUGZ	**Murupara**	**1.12**	**310**	P	**Pn**	**15 37 16.4**	**-0.2**
PXZ	**Pawanui**	**1.14**	**223**	P	**Pn**	**15 37 16.7**	**-0.2**
KWHZ	**Kaweka Forest**	**1.15**	**258**	P	**Pn**	**15 37 16.9**	**-0.1**
PUZ	**Puketiti**	**1.16**	**15**	P	**Pb**	**15 37 17.8**	**-0.7**
MRHZ	**Matea Rd**	**1.19**	**287**	P	**Pn**	**15 37 17.4**	**-0.2**
RUGZ	**Raukumara Rang**	**1.24**	**353**	P	**Pn**	**15 37 18.2**	**-0.2**
KRHZ	**Kereru**	**1.24**	**248**	P	**Pn**	**15 37 18.3**	**-0.1**
PKGZ	**Pakihiroa**	**1.34**	**7**	P	**Pn**	**15 37 19.6**	**0.0**
WPHZ	**Waipukurau**	**1.40**	**231**	P	**Pn**	**15 37 20.4**	**-0.1**
PRHZ	**Porangahau**	**1.43**	**221**	P	**Pn**	**15 37 20.5**	**-0.4**
TARZ	**Mount Tarawera**	**1.43**	**312**	P	**Pn**	**15 37 22.1**	**+1.0**
WMGZ	**Waiomatatini S**	**1.44**	**17**	P	**Pn**	**15 37 21.1**	**+0.1**
PNHZ	**Pukenui**	**1.48**	**240**	P	**Pn**	**15 37 21.0**	**-0.5**
MOVZ	**Moawhango**	**1.66**	**262**	P	**Pn**	**15 37 24.5**	**+0.5**
ANWZ	**Angora Road**	**1.66**	**220**	P	**Pn**	**15 37 23.8**	**-0.2**
TSZ	**Takapari Road**	**1.71**	**239**	P	**Pn**	**15 37 24.0**	**-0.7**
OTVZ	**Oturere**	**1.71**	**270**	P	**Pb**	**15 37 27.1**	**-0.9**
WNVZ	**Wahianoa**	**1.77**	**265**	P	**Pn**	**15 37 27.0**	**+1.3**
BFZ	**Birch Farm**	**1.94**	**220**	P	**Pn**	**15 37 27.1**	**-0.8**
BFZ	**Birch Farm**	**1.94**	**220**	P	**Pn**	**15 37 26.8**	**-1.1**
HIZ	**Hauiti**	**2.45**	**285**	P	**Pn**	**15 37 36.5**	**+1.6**
KHEZ	**Kahui Hut**	**2.99**	**267**	P	**Pn**	**15 37 44.1**	**+1.6**
KHZ	**Kahutara**	**4.60**	**224**	P	**Pn**	**15 38 04.1**	**-0.3**

DNK 06 15:38:04.2±3.9, **71°.31N**×**52°.63W**, **h0**km±26km, **ML2.2**, **Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUUG	**Nuugaatsiaq**	**0.30**	**322**	*i* P	Pg	15 38 09.0	-0.9
SAATT	**Saattut**	**0.59**	**146**	*i* P	Pg	15 38 12.6	-2.9
NIAQ	**Niaqornat**	**0.62**	**214**	*i* P	Pg	15 38 16.7	+0.7
SAQQ	**Saqqaq**	**1.32**	**170**	*i* P	Pg	15 38 26.8	-2.7
UPNV	**Upernavik**	**1.84**	**325**	*i* P	Pn	15 38 34.5	-2.5
UPNV				IAML		15 39 12.5	
	comp=Z,36nm,0.4s						
GDH	**Godhavn**	**2.09**	**189**	*i* P	Pn	15 38 40.2	-0.2
GDH				IAML		15 39 21.4	
	comp=Z,69nm,0.4s						
SFJD	**Kangerlussuaq**	**4.39**	**170**	*i* P	Pn	15 39 11.5	-0.5
SFJD				IAML		15 40 36.3	
	comp=Z,5.2nm,0.5s						
SUMG	**Summit**	**4.59**	**67**	*i* P	Pn	15 39 14.4	-0.6
SUMG				*i* S	Sn	15 40 05.4	-3.8
SUMG				IAML		15 40 25.1	
	comp=Z,4.9nm,0.4s						
DY2G	**Dye2**	**5.37**	**152**	*e*P	Pn	15 39 26.4	+0.8
NEEM	**North Greenlan**	**6.19**	**3**	*e*P	Pn	15 39 37.9	+1.0

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*BJI **06** 15:50:27.8, 0°.20N×126°.61E, h45km, mB4.9/4, mb4.5/31, Ms4.6/12, Ms7 4.4/13*
*IDC **06** 15:50:28.4±0.5, 0°.91N×126°.36E, h0km, mb4.3/18, mbtmp4.2/19, ML4.0/1, MS3.4/2, Error ellipse: s-maj=32.1km s-min=12.3km az=73.0*
*DJA **06** 15:50:32.1±0.2, 1°.N±3°.×12°.6E±°, h10km, M4.4/13, mB5.2/1, mb4.6/2, MLv4.3/13, Mw(mB)4.7/1*
*NEIC **06** 15:50:34.8±1.3, 0°.97N±0°.09×126°.64E±0°.06, h47km±8km, mb4.6/31, Error ellipse: s-maj=13.3km s-min=8.3km az=197.0*
ISC 06 15:50:34.0±0.4, **0°.94N**±0°.05×**126°.57E**±0°.05, **h39**km, **n87**, σ1§**38**/89, **mb4.5**/44, **MS4.3**/10, **2C**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**102**	Pn	**Pn**	**15 50 49.1**	**+0.1**
TNTI	**Ternate**	**0.81**	**102**	P	**Pn**	**15 50 49.5**	**+0.5**
TNTI				S	**Sn**	**15 51 01.5**	**+1.6**
KMSI	**Cibinong**	**2.62**	**262**	P	**Pn**	**15 51 13.4**	**-0.3**
SGSI	**Sangihe**	**2.92**	**339**	P	**Pn**	**15 51 18.0**	**+0.1**
SANI	**Sanana**	**3.03**	**191**	P	**Pn**	**15 51 18.8**	**-0.6**
LUWI	**Luwuk**	**4.28**	**243**		**Pn**	**15 51 38.8**	**+2.2**
LUWI	**Luwuk**	**4.28**	**243**	P	**Pn**	**15 51 40.0**	**+3.4**
APSI	**Ampana**	**5.25**	**250**	P	**Pn**	**15 51 52.9**	**+2.9**
	3μm226nm,1.4s						
TOLI2	**Tolitoli**	**5.79**	**272**		**Pn**	**15 51 57.6**	**+0.2**
FAKI	**Fak Fak**	**6.85**	**124**	P	Pn	15 52 02.9	-9.1
MYLDM	**Lahad Datu**	**9.09**	**298**		**Pn**	**15 52 44.4**	**+1.7**
SBUM	**Sibu**	**14.42**	**276**	P	**P**	**15 54 02.9**	**+1.0**
MTN	**Manton Dam**	**14.42**	**162**	Pn	**Pn**	**15 53 54.8**	**-0.9**
KSM	**Kuching**	**16.27**	**272**	P	**P**	**15 54 24.0**	**+1.6**
KSM				IAmb	IAmb	15 54 33.0	
	comp=Z,41nm,1.3s						
KNRA	**Kununurra**	**16.65**	**173**	Pn	**Pn**	**15 54 23.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.94**	**183**	P	**Pn**	**15 54 51.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**18.94**	**183**	P	**P**	**15 54 50.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=6.2,slow=12,SNR=9.5						
	comp=Z,1.6nm,0.4s						
WB0	**Warramunga Arr**	**21.96**	**160**	P	**P**	**15 55 24.0**	**-0.6**
WB0				IAmb	IAmb	15 55 27.4	
	comp=Z,26nm,0.9s						
WRAB	**Tennant Creek**	**22.10**	**160**	P	**P**	**15 55 25.6**	**-0.5**
WRAB				IAmb	IAmb	15 55 28.3	
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**15 55 24.6**	**-1.6**
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**15 55 25.8**	**-0.4**
	comp=Z,23nm,0.9s,baz=336,slow=10,SNR=78						
WRA				PcP	**PcP**	**15 59 23.3**	**+0.5**
	comp=Z,3.1nm,1.2s,baz=333,slow=1.9,SNR=5.2						
WRA				ScP	**ScP**	**16 02 59.0**	**+1.6**
	comp=Z,1.1nm,1.1s,baz=342,slow=3.3,SNR=3.0						
	comp=Z,23nm,0.9s						
WR8	**Warramunga Arr**	**22.18**	**160**		**P**	**15 55 26.4**	**-0.5**
WR8				IAmb	IAmb	15 55 28.7	
	comp=Z,16nm,0.8s						
PMG	**Port Moresby**	**22.94**	**117**	LR	LR	16 06 06.1	
	comp=Z,266nm,19.6s,baz=288,slow=41						
TPUB	**Ta-pu**	**22.96**	**346**	P	**P**	**15 55 33.8**	**-1.5**
TPUB				IAmb	IAmb	15 55 52.5	
	comp=Z,44nm,1.2s						
PSA00	**Pilbara Seismi**	**23.32**	**196**	P	**P**	**15 55 38.0**	**-0.8**
SSLB	**Suanglung**	**23.36**	**347**	P	**P**	**15 55 38.1**	**-1.0**
SSLB				IAmb	IAmb	15 55 41.6	
	comp=Z,24nm,1.1s						
AS31	**Alice Springs**	**25.48**	**164**	P	**P**	**15 55 58.9**	**+0.2**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**15 55 58.7**	**0.0**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**15 55 59.4**	**+0.7**
	comp=Z,12nm,0.8s,baz=345,slow=10,SNR=43						

ASAR PcP **PcP 15 59 30.3 +0.3**
comp=Z,0.5nm,0.4s,baz=344,slow=2.3,SNR=5.5
ASAR S **S 16 00 23.9 +0.4**
comp=Z,1.8nm,1.0s,baz=347,slow=20,SNR=4.6
comp=Z,12nm,0.8s
JOW Kunigami 25.80 4 P **P 15 56 00.3 -1.2**
JOW IAmb IAmb 15 56 04.8
comp=Z,28nm,0.9s
RPSI Rantau Prapat 27.69 274 P **P 15 56 17.3 -1.4**
RPSI IAmb IAmb 15 56 20.3
comp=Z,9.1nm,1.1s
FORT Forrest 31.58 178 P **P 15 56 52.9 0.0**
FORT IAmb IAmb 15 57 07.5
comp=Z,9.2nm,0.8s
INKA Innaminka 31.60 156 P **P 15 56 52.6 -0.6**
NJ2 Nanjing 31.79 348 *e*P **P 15 56 55.8 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,380nm,20.8s
NJ2 LR LR
comp=Z,230nm,19.9s
NJ2 LR LR
comp=Z,240nm,17.1s
CMAR Chiang Mai Arr 32.22 304 P **P 15 56 57.7 -1.2**
comp=Z,0.9nm,0.8s,baz=120,slow=8.5,SNR=9.4
CMAR LR LR 16 12 14.8
comp=Z,26nm,18.4s,baz=335,slow=41
comp=Z,0.9nm,0.8s
JNU Nakatsue 32.27 7 P **P 15 56 58.2 -0.8**
BBOO Buckleboo 34.74 166 P **P 15 57 20.4 -0.2**
PZH PanZhiHua 34.88 319 P **P 15 57 24.4 +2.4**
STKA Stephens Creek 35.61 158 P **P 15 57 28.3 +0.2**
STKA Stephens Creek 35.61 158 P **P 15 57 28.1 0.0**
comp=Z,4.5nm,0.8s,baz=337,slow=10.0,SNR=7.6
comp=Z,4.5nm,0.8s
KSRS Korea Array 36.35 2 P **P 15 57 34.4 +0.1**
comp=Z,1.2nm,0.8s,baz=182,slow=9.7,SNR=4.4
comp=Z,1.2nm,0.8s
XAN Xi'an 36.84 335 ⇑P **P 15 57 39.3 +0.7**
XAN pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 37.03 16 P **P 15 57 41.5 +1.3**
comp=Z,4.4nm,1.1s,baz=182,slow=9.4,SNR=5.1
comp=Z,4.4nm,1.1s
MJB9 Matsu-Tunnel 37.03 16 P **P 15 57 39.2 -0.9**
MJB9 IAmb IAmb 15 57 44.6
comp=Z,9.0nm,1.2s
BJI Beijing 40.05 348 P **P 15 58 07.4 +2.0**
BJI sP **sP 15 58 21.3 +0.6**
BJI pmax pmax
comp=Z,2.0nm,0.8s
BJI LR LR
comp=Z,140nm,17.7s
BJI LR LR
comp=Z,88nm,19.3s
BJI LR LR
comp=Z,160nm,16.8s
LZH Lanzhou 40.84 331 *e*P **P 15 58 07.6 -4.6**
LZH pP pwP 15 58 22.1 -3.7
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=N,500nm,15.9s
LZH LR LR
comp=E,290nm,14.0s
LZH LR LR
comp=Z,400nm,13.6s
HHC Hu-ho-hao-te 41.99 343 *e*P P 15 58 24.5 +3.0
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,74nm,4.4s
HHC LR LR
comp=Z,170nm,18.3s
HHC LR LR
comp=Z,280nm,18.3s
HHC LR LR
comp=Z,140nm,18.3s
MDJ Mudanjiang 43.57 3 P **P 15 58 35.9 +1.7**
MDJ sP sP 15 58 52.7 +3.6
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ LR LR
comp=Z,390nm,16.4s
MDJ LR LR
comp=Z,480nm,16.8s
MDJ LR LR
comp=Z,680nm,17.2s
XLT XiLinHaoTe 43.78 349 *e*P **P 15 58 37.3 +1.3**
XLT pmax pmax
comp=Z,13nm,0.8s
BNX BinXian 44.62 1 ⇑P **P 15 58 43.8 +1.3**
BNX pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 45.41 331 P **P 15 58 49.3 +0.1**
GTA pP pP 15 58 57.4 -2.2
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=Z,340nm,21.8s
GTA LR LR
comp=Z,290nm,21.1s
GTA LR LR
comp=Z,640nm,20.0s
EVN Everest 46.56 309 **P 15 58 57.9 -1.1**
HEH HeiHe 49.13 1 *e*P **P 15 59 18.6 +0.9**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH LR LR
comp=Z,330nm,15.5s
HEH LR LR
comp=Z,330nm,14.9s
HEH LR LR
comp=Z,520nm,17.0s
SONM Songino Array 49.88 342 P **P 15 59 23.8 +0.2**
comp=Z,0.6nm,0.4s,baz=153,slow=9.7,SNR=5.4
comp=Z,0.6nm,0.4s
WMQ Urumqi 54.92 326 *e*P **P 16 00 03.3 +2.2**
WMQ LR LR
comp=Z,360nm,14.5s
WMQ LR LR
comp=Z,270nm,20.1s
WMQ LR LR
comp=Z,250nm,17.3s
PETK Petropavlovsk- 58.06 22 P **P 16 00 24.6 +1.5**
comp=Z,4.7nm,1.0s,baz=229,slow=6.9,SNR=2.0
comp=Z,4.7nm,1.0s
HIZ Hauiti 59.21 137 P **P 16 00 30.2 -1.2**
MKAR Makanchi Array 59.76 326 **P 16 00 34.5 -0.6**
MKAR Makanchi Array 59.76 326 P **P 16 00 34.4 -0.7**
comp=Z,4.6nm,0.6s,baz=123,slow=8.6,SNR=35
comp=Z,4.6nm,0.6s
KDJ Kajisay 60.33 319 P **P 16 00 38.5 -0.8**
KDJ IAmb IAmb 16 00 40.8
comp=Z,4.6nm,0.9s
CMWZ Cape Campbell 60.44 141 P **P 16 00 39.0 -0.9**
ZAA0 Zalesovo Array 62.99 334 **P 16 00 55.9 -0.9**
ZAA0 IAmb IAmb 16 00 58.5
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 62.99 334 P **P 16 00 54.9 -1.9**
ZALV Zalesovo Beam 62.99 334 P **P 16 00 55.3 -1.5**
comp=Z,5.0nm,1.0s,baz=137,slow=8.1,SNR=8.2
comp=Z,5.0nm,1.0s
GAR Garm 63.70 314 **P 16 01 00.3 -1.7**
GAR IAmb IAmb 16 01 26.8
comp=Z,9.1nm,0.9s
**KURBB Kur

RAYN IAmb IAmb 16 02 48.1
comp=Z,3.0nm,0.9s
C23K Itkillik River 86.64 20 P **P 16 03 13.0 -0.1**
CCB Clear Creek Bu 87.27 25 P **P 16 03 16.1 -0.2**
CCB IAmb IAmb 16 03 18.6
comp=Z,8.8nm,1.5s
ILAR Eielson Array 87.67 25 P **P 16 03 17.6 -0.6**
comp=Z,0.4nm,0.7s,baz=257,slow=5.0,SNR=6.7
comp=Z,0.4nm,0.7s
RIDG Independent Ri 88.53 26 P **P 16 03 22.5 0.0**
QSPA South Pole Qui 90.87 180 P **P 16 03 33.8 +0.4**
comp=Z,1.0nm,1.0s,baz=340,slow=3.5,SNR=3.2
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 91.67 310 P **P 16 03 36.8 -0.9**
comp=Z,0.9nm,1.0s,baz=90,slow=4.3,SNR=3.1
comp=Z,0.9nm,1.0s
ARCES ARCESS Array B 92.99 340 P **P 16 03 43.9 +0.9**
comp=Z,3.3nm,1.0s,baz=79,slow=4.9,SNR=1.5
comp=Z,3.3nm,1.0s
FINES FINESS Array B 94.20 332 P **P 16 03 49.1 +0.4**
comp=Z,1.2nm,0.9s,baz=81,slow=8.6,SNR=1.9
comp=Z,1.2nm,0.9s
KOLS Kolonicke sedl 98.66 320 *e*PDIFF Pdif 16 04 11.6 +2.3
MODS Modra-Piesok 102.01 320 *e*PDIFF **Pdif 16 04 30.3 +6.1**
TXAR Lajitas Array 123.40 54 P **PKiKP 16 09 28.1 0.0**
comp=Z,0.5nm,0.8s,baz=302,slow=2.3,SNR=7.1
TORD Torodi Ar. Bea 123.59 286 PKP **PKiKP 16 09 28.0 -0.6**
comp=Z,0.8nm,0.8s,baz=83,slow=4.9,SNR=5.2

*SJA **06** 15:51:11.6±2.5, 22°.92S×69°.36W, h98km±15km, ML3.6, MW3.8*
*NEIC **06** 15:51:13.7±1.6, 22°.93S±0°.05×69°.25W±0°.03, h69km±13km, mb4.0/1, ML4.0(GUC), Error ellipse: s-maj=7.2km s-min=4.2km az=188.0*
*GUC **06** 15:51:13.8±0.9, 22°.92S×69°.24W, h83km±4km, ML4.0*
ISC 06 15:51:14.4±1.0, 22°.92S±0°.03×69°.32W±0°.04, h78km±8km, n63, σ1§33/75, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.31**	**312**		**Pn**	**15 51 26.1**	**-0.8**
PB06	**IPOC Station P**	**0.31**	**312⇑**	*e*P	**Pn**	**15 51 26.5**	**-0.3**
PB06				*e*S	**Sn**	**15 51 36.8**	**+0.8**
PB06	**IPOC Station P**	**0.31**	**312**	*i* P	**Pn**	**15 51 25.8**	**-1.1**
PB06				IAML		15 51 37.2	
comp=Z,13μm,0.1s
PB05 IPOC Station P 0.81 274 **Pn 15 51 31.0 -0.4**
PB05 IPOC Station P 0.81 274⇑ *e*P **Pn 15 51 31.3 -0.1**
PB05 *e*S **Sn 15 51 45.1 +1.2**
PB05 IPOC Station P 0.81 274 *i* P **Pn 15 51 30.6 -0.8**
PB05 *e*S **Sn 15 51 45.2 +1.2**
PB05 IAML 15 51 46.2
comp=Z,2μm,0.4s
PB03 IPOC Station P 0.95 335 **Pn 15 51 32.5 -0.5**
PB03 IPOC Station P 0.95 335⇑ *e*P **Pn 15 51 32.8 -0.2**
PB03 *e*S **Sn 15 51 47.4 +0.6**
PB03 IAML 15 51 48.3
comp=E,3μm,0.6s
PB03 IPOC Station P 0.95 335 *i* P **Pn 15 51 32.0 -1.0**
PB03 *e*S **Sn 15 51 47.5 +0.7**
PB03 IAML 15 51 48.6
comp=Z,4μm,0.1s
AF01 San Pedro de A 1.05 92 **Pn 15 51 32.6 -1.8**
AF01 San Pedro de A 1.05 92⇓ *e*P **Pn 15 51 32.8 -1.6**
AF01 San Pedro de A 1.05 92 *i* P **Pn 15 51 32.2 -2.2**
AF01 IAML 15 51 52.0
comp=Z,2μm,0.1s
PB09 IPOC Station P 1.12 4 **Pn 15 51 34.5 -0.5**
PB09 IPOC Station P 1.12 4 *e*P **Pn 15 51 34.8 -0.2**
PB09 *e*S **Sn 15 51 50.5 +0.1**
PB09 IPOC Station P 1.12 4 *i* P **Pn 15 51 34.2 -0.8**
PB09 IAML 15 51 52.8
comp=Z,805nm,0.4s
PB10 IPOC Station P 1.28 242 **Pn 15 51 36.6 -0.3**
PB10 IPOC Station P 1.28 242 *e*P **Pn 15 51 36.5 -0.3**
PB10 *e*S **Sn 15 51 53.7 -0.1**
PB10 IPOC Station P 1.28 242 *i* P **Pn 15 51 36.3 -0.6**
PB10 IAML 15 52 00.7
comp=Z,586nm,0.3s
PB02 IPOC Station P 1.68 341 **Pn 15 51 42.0 -0.1**
PB02 IPOC Station P 1.68 341⇑ *e*P **Pn 15 51 41.9 -0.2**
PB02 *e*S **Sn 15 52 03.9 +0.8**
PB02 IAML 15 52 05.6
comp=E,3μm,0.2s
PB02 IPOC Station P 1.68 341 *i* P **Pn 15 51 41.4 -0.8**
PB02 *e*S **Sn 15 52 04.5 +1.4**
PB02 IAML 15 52 05.0
comp=Z,2μm,0.3s
PB01 IPOC Station P 1.87 355 **Pn 15 51 44.4 -0.3**
PB01 IPOC Station P 1.87 355 *e*P **Pn 15 51 44.4 -0.3**
PB01 *e*S **Sn 15 52 08.7 +1.1**
PB01 IAML 15 52 12.5
comp=N,2μm,0.2s
PB01 IPOC Station P 1.87 355 *i* P **Pn 15 51 43.7 -1.0**
PB01 *e*S **Sn 15 52 09.0 +1.4**
PB01 IAML 15 52 11.6
comp=Z,722nm,0.2s
PB14 IPOC Station P 1.97 210 **Pn 15 51 45.4 -0.8**
PB14 IPOC Station P 1.97 210 *e*P **Pn 15 51 45.4 -0.8**
PB14 IPOC Station P 1.97 210 *i* P **Pn 15 51 45.0 -1.2**
PB14 IAML 15 52 16.8
comp=Z,394nm,0.4s
PATCX Punta Patache 2.22 340 **Pn 15 51 48.2 -1.2**
PATCX Punta Patache 2.22 340 *e*P **Pn 15 51 48.2 -1.2**
PATCX *e*S **Sn 15 52 16.2 +0.2**
PATCX IAML 15 52 24.6
comp=E,966nm,0.3s
PATCX Punta Patache 2.22 340 *i* P **Pn 15 51 47.8 -1.6**
PATCX IAML 15 52 27.7
comp=Z,334nm,0.4s
GO02 Mina Guanaco 2.25 186 **Pn 15 51 48.4 -1.5**
GO02 Mina Guanaco 2.25 186 *e*P **Pn 15 51 49.0 -1.0**
GO02 Mina Guanaco 2.25 186 *i* P **Pn 15 51 48.6 -1.3**
GO02 IAML 15 52 22.9
comp=Z,377nm,0.1s
TA01 Diego Aracena 2.47 341 **Pn 15 51 51.6 -1.0**
TA01 Diego Aracena 2.47 341 *e*P **Pn 15 51 51.0 -1.6**
TA01 *e*S **Sn 15 52 24.8 +2.9**
TA01 IAML 15 52 31.5
comp=N,442nm,0.4s
TA01 Diego Aracena 2.47 341 *i* P **Pn 15 51 50.5 -2.1**
TA01 IAML 15 52 30.8
comp=Z,254nm,0.7s
PX03 IPOC Station P 2.52 353 IAML 15 52 29.4
comp=N,678nm,0.3s
HMBC Humberstone 2.68 349 **Pn 15 51 54.0 -1.6**
HMBC Humberstone 2.68 349 *e*P **Pn 15 51 53.9 -1.7**
HMBC IAML 15 52 36.3
comp=E,691nm,0.7s
HMBC Humberstone 2.68 349 *i* P **Pn 15 51 53.4 -2.1**
HMBC IAML 15 52 39.9
comp=Z,576nm,0.3s
TA02 Huaiquique 2.74 344 *e*P **Pn 15 51 54.5 -1.7**
TA02 *e*S **Sn 15 52 31.2 +2.9**
TA02 IAML 15 52 39.4
comp=N,696nm,0.2s
SALTA 3.03 116 *i* P **Pn 15 52 02.2 +1.5**
SALTA IAML 15 52 57.7
comp=Z,21nm,2.3s
PB11 IPOC Station P 3.15 354 **Pn 15 52 00.0 -2.0**
PB11 IPOC Station P 3.15 354 *e*P **Pn 15 52 00.3 -1.7**
PB11 IPOC Station P 3.15 354 *i* P **Pn 15 51 59.6 -2.4**
PB11 IAML 15 52 47.5
comp=Z,191nm,0.3s
GO01 Chusmiza 3.23 2 **Pn 15 52 01.7 -1.7**
GO01 Chusmiza 3.23 2 *e*P **Pn 15 52 01.9 -1.5**
GO01 Chusmiza 3.23 2 *i* P **Pn 15 52 02.4 -1.0**
GO01 IAML 15 52 60.0
comp=Z,148nm,0.8s
AC01 Pan de Azucar 3.42 200 **Pn 15 52 03.1 -2.4**
AC01 Pan de Azucar 3.42 200 *e*P **Pn 15 52 02.5 -3.0**
HJA Humahuaca 3.62 95 *i* P **Pn 15 52 09.2 +0.7**
HJA IAML 15 53 06.0
comp=Z,6.0nm,3.2s
AC02 Maricunga 3.91 177 **Pn 15 52 11.2 -1.3**
AC02 Maricunga 3.91 177 *e*P **Pn 15 52 11.6 -0.9**
AC02 Maricunga 3.91 177 *i* P **Pn 15 52 11.0 -1.6**
AC02 IAML 15 53 15.1
comp=Z,70nm,0.2s
AZAP Zapla 4.12 109 *i* P **Pn 15 52 15.0 -0.1**
AZAP IAML 15 53 06.4
comp=Z,10nm,1.9s
PB16 IPOC Station P 4.56 358 *i* P **Pn 15 52 20.3 -1.2**
PB16 IPOC Station P 4.56 358 *i* P **Pn 15 52 21.1 -0.5**
PB16 IAML 15 53 33.2
comp=Z,51nm,0.4s
GO03 Copiapo 4.73 190 Pn **Pn 15 52 22.3 -1.1**
GO03 Copiapo 4.73 190 *e*P Pn 15 52 17.7 -5.7
LPAZ La Paz 6.69 10 Pn **Pn 15 52 49.5 -1.1**
VA01 Torpederas 10.28 191 Pn **Pn 15 53 38.6 -0.4**
BI05 Punta Hualpn 14.19 193 Pn **Pn 15 54 31.8 +0.3**
TRQA Tornquist 16.36 159 **P 15 55 00.3 -0.4**
TRQA IAmb IAmb 15 55 03.8
comp=Z,16nm,1.4s

*CATAC **06** 15:57:20.8±0.6, 14°.N±5°.×9°.2W±°., h39km±6km, M3.1/9, MLv3.1/9, Error ellipse: s-maj=11.5km s-min=4.5km az=29.6, confirmed*
*GCG **06** 15:57:22.3±1.0, 14°.26N×91°.71W, h56km±12km, MD3.6, ML3.4*
ISC 06 15:57:21.6±2.5, 14°.1N±0°.1×91°.8W±0°.1, h54km, n15, σ1§62/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.39**	**8**	P	**Pn**	**15 57 31.9**	**-0.1**
RTAL				S	**Sn**	**15 57 40.3**	**+0.8**
STG2	**El Palmar, Qui**	**0.47**	**51**	*i* P	**Pn**	**15 57 34.0**	**+1.0**
STG2				*e*S	**Sn**	**15 57 42.3**	**+1.1**
SOKI	**Kika Raxquin**	**0.76**	**27**	*e*S	**Sn**	**15 57 48.0**	**+0.3**
SMCA	**Catarina**	**0.78**	**337**	*i* S	**Sn**	**15 57 46.5**	**-1.0**
ESSG	**Sabana Grande**	**0.93**	**75**	*e*P	**Pn**	**15 57 38.7**	**0.0**
FG8	**Yopecapa, Chim**	**1.16**	**84**	*i* P	**Pn**	**15 57 37.8**	**-4.0**
FG16	**Alotenango, Sa**	**1.21**	**83**	*i* P	**Pn**	**15 57 39.0**	**-3.6**
FG16				IAML		15 57 59.9	
comp=N,2μm,0.2s
FAME Alcaldia de Sa 1.71 100 P **Pn 15 57 49.0 -0.2**
FAME Alcaldia de Sa 1.71 100 S **Sn 15 58 09.3 -0.7**
NUBE Las Nubes 1.93 97 *e*S **Sn 15 58 16.3 +0.8**
NUBE Las Nubes 1.93 97 P **Pn 15 57 52.9 +0.7**
NUBE Las Nubes 1.93 97 S **Sn 15 58 16.1 +0.6**
JAYA Jayaque - finc 2.29 102 P **Pn 15 57 57.6 +0.5**
MTO3 Montecristo 2.33 83 P **Pn 15 57 58.7 +0.8**
PMON Piamonte 2.41 100 P **Pn 15 57 59.8 +1.1**

*NEIC **06** 16:09:01.1±1.5, 20°.4S±0°.1×178°.40W±0°.08, h533km±8km, mb4.4/26, Error ellipse: s-maj=21.1km s-min=9.8km az=167.0*
*IDC **06** 16:09:04.3±2.8, 20°.29S×178°.57W, h582km±29km, mb3.2/8, mbtmp4.2/9, Error ellipse: s-maj=29.1km s-min=17.0km az=163.0*
ISC 06 16:09:01.2±0.5, 20°.5S±0°.1×178°.39W±0°.08, h550km, n51, σ1§30/54, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**309**	P	**P**	**16 10 27.0**	**+1.0**
NIUE	**Niue**	**8.10**	**81**	P	**P**	**16 10 57.0**	**-2.9**
PINNC	**Pines Island,**	**13.34**	**258**	P	**P**	**16 11 51.3**	**-2.4**
DZM	**Mont Dzumac**	**14.22**	**261**	P	**P**	**16 12 02.6**	**-0.3**
DZM	**Mont Dzumac**	**14.22**	**261**	P	**P**	**16 12 03.2**	**+0.4**
2.2nm,0.4s,baz=90,slow=20,SNR=10
URZ Urewera 18.12 191 P **P 16 12 38.1 -1.9**
17nm,1.2s,baz=343,slow=14,SNR=3.1
CTZ Chatham Island 23.22 177 P **P 16 13 28.6 +2.6**
EIDS Eidsvold 28.49 254 P **P 16 14 12.9 +0.1**
EIDS IAmb IAmb 16 14 13.9
comp=Z,3.2nm,0.5s
ARMA Armidale 28.74 244 P **P 16 14 15.8 +0.9**
ARMA IAmb IAmb 16 14 57.7
comp=Z,26nm,1.5s
CTAO Charters Tower 33.12 264 P **P 16 14 53.0 +0.5**
CTAO IAmb IAmb 16 14 54.1
comp=Z,8.9nm,0.8s
PMG Port Moresby 34.98 283 P **P 16 15 07.9 -0.2**
PMG Port Moresby 34.98 283 P **P 16 15 08.5 +0.4**
comp=Z,9.8nm,0.7s,baz=167,slow=14,SNR=1.6
comp=Z,9.8nm,0.7s
COEN Coen 37.22 274 P **P 16 15 27.1 +0.5**
COEN IAmb IAmb 16 15 30.5
comp=Z,24nm,1.4s
STKA Stephens Creek 37.46 244 P **P 16 15 29.2 +0.9**
STKA IAmb IAmb 16 15 29.5
comp=Z,12nm,0.8s
STKA Stephens Creek 37.46 244 P **P 16 15 28.2 -0.1**
comp=Z,2.2nm,0.7s,baz=81,slow=13,SNR=3.3
comp=Z,2.2nm,0.7s
INKA Innaminka 37.85 251 P **P 16 15 32.6 +1.0**
BBOO Buckleboo 42.22 243 P **P 16 16 06.6 +0.2**
BBOO IAmb IAmb 16 16 07.4
comp=Z,28nm,1.4s
WR8 Warramunga Arr 44.08 262 **P 16 16 20.7 -0.5**
WR8 IAmb IAmb 16 16 22.0
comp=Z,10nm,1.3s
AS31 Alice Springs 44.16 257 P **P 16 16 21.9 +0.1**
ASAR Alice Springs 44.16 257 P **P 16 16 21.7 -0.1**
ASAR Alice Springs 44.16 257 P **P 16 16 22.1 +0.3**
comp=Z,9.1nm,0.5s,baz=96,slow=8.3,SNR=262
ASAR PcP **PcP 16 17 54.1 -0.5**
comp=Z,1.1nm,0.5s,baz=96,slow=3.5,SNR=7.9
ASAR S **S 16 22 13.3 -2.0**
comp=Z,0.7nm,0.9s,baz=91,slow=13,SNR=5.9
comp=Z,9.1nm,0.5s
WB0 Warramunga Arr 44.21 262 **P 16 16 21.9 -0.3**
WRAB Tennant Creek 44.23 262 P **P 16 16 22.4 +0.1**
WRAB IAmb IAmb 16 16 22.4
comp=Z,4.2nm,0.8s
WRA Warramunga Arr 44.24 262 **P 16 16 21.9 -0.5**
WRA Warramunga Arr 44.24 262 P **P 16 16 21.7 -0.7**
comp=Z,3.3nm,0.3s,baz=98,slow=4.9,SNR=223
WRA PcP **PcP 16 17 55.1 +0.2**
comp=Z,0.4nm,0.6s,baz=102,slow=2.8,SNR=2.8
comp=Z,3.3nm,0.3s
MTN Manton Dam 48.79 271 P **P 16 16 56.7 -0.2**
MTN IAmb IAmb 16 16 57.7
comp=Z,8.4nm,0.9s
KNRA Kununurra 50.29 266 P **P 16 17 08.1 +0.2**
KNRA IAmb IAmb 16 17 11.3
comp=Z,20nm,1.4s
FITZ Fitzroy Crossi 52.66 262 P **P 16 17 25.4 +0.5**
PSA00 Pilbara Seismi 57.31 257 P **P 16 17 57.7 +0.3**
PSA00 IAmb IAmb 16 17 58.3
comp=Z,9.6nm,0.9s
MORW Morawa 59.49 248 P **P 16 18 11.6 -0.3**
MORW IAmb IAmb 16 18 54.2
comp=Z,27nm,1.4s
TOLI2 Tolitoli 63.24 282 P **P 16 18 38.2 +1.5**
TOLI2 IAmb IAmb 16 18 56.8
comp=Z,7.2nm,0.9s
KKM Kota Kinabalu 69.40 285 P **P 16 19 15.8 +0.8**
KKM IAmb IAmb 16 19 21.3
comp=Z,22nm,1.3s
QSPA South Pole Qui 69.57 180 P **P 16 19 17.6 +2.5**
QSPA South Pole Qui 69.57 180 P **P 16 19 17.0 +1.9**
comp=Z,0.8nm,0.6s,baz=27,slow=4.5,SNR=6.3
comp=Z,0.8nm,0.6s
SSLB Suanglung 73.67 304 P **P 16 19 39.4 -0.2**
O02D Mt. Diablo Mer 79.51 40 P **P 16 20 12.2 +1.0**
V35K Ketchikan 85.34 25 P **P 16 20 42.3 +2.2**
TXAR Lajitas Array 87.37 57 P **P 16 20 51.5 +1.0**
comp=Z,0.2nm,0.6s,baz=268,slow=6.5,SNR=2.2
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 89.22 43 P **P 16 20 58.9 -0.1**
comp=Z,0.2nm,0.5s,baz=267,slow=2.4,SNR=2.0
comp=Z,0.2nm,0.5s
CMAR Chiang Mai Arr 89.77 290 P **P 16 21 00.5 -1.3**
comp=Z,0.4nm,0.5s,baz=108,slow=4.4,SNR=5.2
comp=Z,0.4nm,0.5s
D22K Ayikyak River 91.05 9 P **P 16 21 08.4 +1.8**
ZALV Zalesovo Beam 110.26 321 PKiKP **PKiKP 16 26 28.8 -1.8**
comp=Z,0.4nm,0.5s,baz=76,slow=0.6,SNR=2.0
MKAR Makanchi Array 110.93 313 PKiKP **PKiKP 16 26 30.1 -2.1**
comp=Z,0.3nm,0.6s,baz=66,slow=1.7,SNR=2.4
KURBB Kurchatov Arra 113.80 317 PKiKP **PKiKP 16 26 35.6 -1.8**
comp=Z,0.5nm,0.3s,baz=89,slow=2.2,SNR=1.6
BVAR Borovoye Array 118.84 320 PKP **PKPdf 16 26 46.2 -0.9**
comp=Z,0.6nm,0.4s,baz=78,slow=3.9,SNR=4.1
FINES FINESS Array B 135.67 343 PKP **PKPdf 16 27 17.7 -1.1**
comp=Z,1.2nm,0.9s,baz=45,slow=2.6,SNR=4.1
AKASG Malin Array Be 142.84 331 PKP **PKPdf 16 27 28.7 -3.4**
comp=Z,2.8nm,0.5s,baz=44,slow=4.3,SNR=20
BRTR Keskin Array B 146.57 312 PKPbc **PKPdf 16 27 39.3 +0.2**
comp=Z,1.0nm,0.6s,baz=78,slow=2.1,SNR=6.1
BUR08 Bucovina Ar. S 146.87 330 **PKiKP 16 27 42.9 -1.2**
MMAI Mount Meron Ar 147.49 300 PKPbc **PKPbc 16 27 44.7 +0.5**
comp=Z,2.4nm,0.5s,baz=81,slow=4.5,SNR=4.3
GERES GERESS Array B 150.10 344 PKPbc **PKPbc 16 27 50.0 -0.1**
comp=Z,0.1nm,0.3s,baz=56,slow=4.5,SNR=4.7

*SJA **06** 16:19:11.9±0.7, 22°.74S×71°.08W, h10km, ML3.8, MW3.7*
*NEIC **06** 16:19:16.4±1.9, 22°.78S±0°.04×70°.88W±0°.07, h15km±2km, mb4.3/3, ML3.8(GUC), Error ellipse: s-maj=9.8km s-min=6.2km az=81.0*
*GUC **06** 16:19:19.2±0.9, 22°.76S×70°.69W, h30km±4km, ML3.8*
*IDC **06** 16:19:22.1±2.8, 22°.52S×70°.53W, h49km±25km, mb3.7/3, mbtmp3.7/6, ML3.3/3, MS3.1/3, Error ellipse: s-maj=38.9km s-min=21.2km az=93.0*
ISC 06 16:19:14.9±1.7, 22°.80S±0°.02×70°.78W±0°.06, h4km±11km, n71, σ1§45/72, mb4.3/4, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.53**	**96**	Pg	**Pb**	**16 19 28.3**	**+1.4**
PB05	**IPOC Station P**	**0.53**	**96**	*i* P	**Pb**	**16 19 28.4**	**+1.4**
PB05				*e*S	**Sb**	**16 19 35.0**	**-0.1**
PB05	**IPOC Station P**	**0.53**	**96**	*e*P	**Pb**	**16 19 27.6**	**+0.7**
PB05				IAML		16 19 41.8	
comp=Z,2μm,0.5s
PB10 IPOC Station P 0.74 164 **Pn 16 19 32.4 +0.1**
PB10 IPOC Station P 0.74 164⇑ *e*P **Pn 16 19 32.4 +0.1**
PB10 *e*S **Sb 16 19 41.7 +0.6**
PB10 IPOC Station P 0.74 164 *e*P **Pg 16 19 26.9 -2.3**
PB10 IAML 16 19 44.0
comp=Z,2μm,0.8s
PB06 IPOC Station P 1.12 86 Pn **Pb 16 19 37.0 +0.1**
PB06 IPOC Station P 1.12 86⇓ *i* P **Pb 16 19 37.2 +0.3**
PB06 *e*S **Sb 16 19 50.9 -1.0**
PB06 IPOC Station P 1.12 86 *e*P **Pb 16 19 36.6 -0.4**
PB06 IAML 16 19 57.5
comp=Z,3μm,0.7s
PB03 IPOC Station P 1.20 52 Pn **Pb 16 19 38.4 0.0**
PB03 IPOC Station P 1.20 52⇓ *e*P **Pb 16 19 38.6 +0.1**
PB03 *e*S **Sb 16 19 51.2 -3.2**
PB03 IAML 16 19 54.2
comp=N,2μm,0.5s
PB03 IPOC Station P 1.20 52 *e*P **Pb 16 19 37.9 -0.6**
PB03 IAML 16 20 02.0
comp=Z,2μm,0.5s
PB02 IPOC Station P 1.68 29 *e*P **Pn 16 19 45.0 -0.2**
PB02 IAML 16 20 22.1
comp=E,2μm,0.4s
PB02 IPOC Station P 1.68 29 *e*P **Pn 16 19 44.8 -0.5**
PB02 IAML 16 20 15.3
comp=Z,2μm,0.4s
PB09 IPOC Station P 1.73 55 Pn **Pb 16 19 48.2 +0.7**
PB09 IPOC Station P 1.73 55 *e*P **Pb 16 19 48.1 +0.7**
PB09 *e*S **Sn 16 20 08.1 -0.6**
PB09 IAML 16 20 12.2
comp=E,2μm,0.5s
PB09 IPOC Station P 1.73 55 *e*P **Pn 16 19 46.8 +0.7**
PB09 IAML 16 20 14.9
comp=Z,2μm,0.7s
PB14 IPOC Station P 1.85 169 **Pn 16 19 47.9 +0.1**
PB14 IPOC Station P 1.85 169⇑ *i* P **Pn 16 19 48.1 +0.2**
PB14 IPOC Station P 1.85 169 *e*P **Pn 16 19 47.5 -0.3**
PB14 IAML 16 20 19.3
comp=Z,630nm,1.0s
PATCX Punta Patache 2.05 17 **Pn 16 19 49.9 -0.4**
PB01 IPOC Station P 2.12 35 Pn **Pn 16 19 51.7 +0.5**
PB01 IPOC Station P 2.12 35 *e*P **Pn 16 19 52.5 +1.3**
PB01 IAML 16 20 29.6
comp=E,793nm,0.4s
PB01 IPOC Station P 2.12 35 *e*P **Pn 16 19 51.9 +0.6**
PB01 IAML 16 20 29.1
comp=Z,329nm,0.5s
TA01 Diego Aracena 2.29 14 Pn **Pn 16 19 52.9 -0.7**
TA01 Diego Aracena 2.29 14 *e*P **Pn 16 19 53.5 0.0**
TA01 Diego Aracena 2.29 14 *e*P **Pn 16 19 52.4 -1.1**
TA01 *e*S **Sn 16 20 21.0 -1.1**
TA01 IAML 16 20 36.5
comp=Z,451nm,0.9s
AF01 San Pedro de A 2.40 94 *e*P **Pb 16 19 58.0 -0.9**
AF01 *e*S **Sg 16 20 32.7 +0.6**
TA02 Huaiquique 2.58 14 *e*P **Pn 16 19 55.0 -2.6**
TA02 IAML 16 20 50.6
comp=Z,251nm,0.6s
GO02 Mina Guanaco 2.59 156 **Pn 16 19 58.7 +0.7**
GO02 Mina Guanaco 2.59 156⇓ *e*P **Pn 16 19 59.9 +1.8**
GO02 IAML 16 20 40.7
comp=E,560nm,0.4s
GO02 Mina Guanaco 2.59 156 *e*P **Pn 16 19 59.8 +1.8**
GO02 *e*S **Sb 16 20 34.4 -0.2**
GO02 IAML 16 20 45.3
comp=Z,583nm,0.6s
HMBC Humberstone 2.64 18 Pn **Pn 16 19 58.8 +0.3**
HMBC Humberstone 2.64 18 *e*P **Pn 16 19 58.9 +0.5**
HMBC IAML 16 20 50.1
comp=N,556nm,0.6s
HMBC Humberstone 2.64 18 *e*P **Pn 16 19 58.6 +0.2**
HMBC *e*S **Sb 16 20 36.2 +0.5**
HMBC IAML 16 20 45.5
comp=Z,390nm,0.5s
PB11 IPOC Station P 3.19 19 Pn **Pn 16 20 06.7 +0.6**
PB11 IPOC Station P 3.19 19 *e*P **Pn 16 20 05.9 -0.3**
PB11 *e*S **Sg 16 21 02.2 +4.6**
PB11 IAML 16 21 12.5
comp=Z,215nm,1.3s
AC01 Pan de Azucar 3.34 177 Pn **Pn 16 20 07.0 -1.1**
AC01 Pan de Azucar 3.34 177 *e*P **Pn 16 20 07.9 -0.1**
AC01 *e*S **Sb 16 20 58.5 +2.7**
AC01 IAML 16 21 08.5
comp=Z,134nm,0.9s
GO01 Chusmiza 3.44 26 Pn **Pn 16 20 11.7 +1.9**
GO01 Chusmiza 3.44 26 *e*P **Pn 16 20 11.4 +1.6**
GO01 *e*S **Sb 16 20 60.0 +0.7**
GO01 IAML 16 21 14.8
comp=Z,155nm,0.7s
AC02 Maricunga 4.29 160 **Pn 16 20 23.1 +1.5**
AC02 Maricunga 4.29 160 *e*P **Pn 16 20 23.6 +2.1**
AC02 *e*S **Sb 16 21 20.1 -3.5**
AC02 IAML 16 21 38.0
comp=Z,106nm,0.7s
PB16 IPOC Station P 4.59 15 Pn **Pn 16 20 26.3 +0.5**
PB16 IPOC Station P 4.59 15 *e*P **Pn 16 20 26.3 +0.5**
PB16 *e*S **Sn 16 21 22.3 +2.4**
PB16 IAML 16 22 00.4
comp=Z,50nm,1.7s
LPAZ La Paz 6.94 22 Pn **Pn 16 21 02.0 +4.0**
LPAZ La Paz 6.94 22 P **Pn 16 20 57.0 -1.1**
comp=Z,0.3nm,0.3s,baz=186,slow=19,SNR=7.0
LPAZ LR LR 16 23 06.7
comp=Z,48nm,20.6s,baz=236,slow=34
comp=Z,0.5nm,0.4s
CFA Coronel Fontan 9.06 166 P Pn 16 21 32.5 +5.8
comp=Z,0.3nm,0.3s,baz=351,slow=14,SNR=11
CFA S Sn 16 23 18.5 +9.3
comp=Z,7.7nm,1.2s,baz=306,slow=11,SNR=6.2
comp=Z,0.8nm,0.5s
SIV San Ignacio 11.38 55 P **Pn 16 21 57.8 -0.7**
baz=238,slow=13,SNR=12
comp=Z,2.0nm,0.7s
H03N1 Juan Fernandez 12.80 212 T T 16 35 41.6
baz=38,slow=72
H03N2 Juan Fernandez 12.81 212 T T 16 35 42.9
baz=38,slow=72
H03N3 Juan Fernandez 12.82 212 T T 16 35 40.7
baz=38,slow=72
BDFB Brasilia 22.62 76 LR LR 16 33 03.0
comp=Z,55nm,18.6s,baz=71,slow=37
BOAV Boa Vista 26.96 23 P **P 16 24 56.2 -1.7**
BOAV IAmb IAmb 16 24 59.6
comp=Z,4.7nm,1.2s
TXAR Lajitas Array 60.73 327 P **P 16 29 28.3 +0.3**
comp=Z,0.4nm,0.6s,baz=147,slow=6.8,SNR=6.4
comp=Z,0.4nm,0.6s
WVT Waverly 60.78 344 P **P 16 29 27.0 -1.1**
SNAA Sanae 61.63 161 P **P 16 29 33.1 -0.5**
SNAA IAmb IAmb 16 29 42.8
comp=Z,5.9nm,1.3s
QSPA South Pole Qui 67.40 180 P **P 16 30 14.7 +3.3**
comp=Z,1.8nm,0.6s,baz=190,slow=5.8,SNR=19
comp=Z,1.8nm,0.6s
DBIC Dimbokro 70.76 74 LR LR 17 01 37.3
comp=Z,23nm,18.2s,baz=182,slow=36
TORD Torodi Ar. Bea 79.42 71 P **P 16 31 21.5 -1.5**
comp=Z,1.0nm,0.7s,baz=264,slow=4.5,SNR=6.1
comp=Z,1.0nm,0.7s

H11S2 WAKE ISLAND Hyl 26.31 277 T T 18 57 42.9
baz=106,slow=75
H11S1 WAKE ISLAND Hyl 26.32 277 T T 18 57 34.9
baz=106,slow=75
H11S3 WAKE ISLAND Hyl 26.33 277 T T 18 57 30.5
baz=106,slow=75,SNR=16
H11N3 WAKE ISLAND Hyl 26.44 278 T T 18 57 52.8
baz=104,slow=74
H11N2 WAKE ISLAND Hyl 26.45 278 T T 18 57 53.1
baz=104,slow=74
H11N1 WAKE ISLAND Hyl 26.45 278 T T 18 57 52.4
baz=104,slow=74
ASAR Alice Springs 127.96 209 PKP **PKPdf 16 38 22.0 -1.0**
comp=Z,0.5nm,0.9s,baz=122,slow=1.9,SNR=7.7
WRA Warramunga Arr 130.95 212 PKP **PKPdf 16 38 28.7 0.0**
comp=Z,0.3nm,0.5s,baz=146,slow=1.7,SNR=5.1
ZALV Zalesovo Beam 143.85 24 PKP PKPbc 16 38 49.3 +0.4
comp=Z,0.5nm,0.5s,baz=357,slow=2.9,SNR=4.0
MKAR Makanchi Array 147.69 36 PKPbc **PKPbc 16 39 00.8 -0.1**
comp=Z,1.2nm,0.6s,baz=302,slow=3.7,SNR=7.7
MJAR Matsushiro Arr 151.46 305 PKPbc **PKPbc 16 39 10.7 +0.1**
comp=Z,1.4nm,0.9s,baz=126,slow=2.4,SNR=3.4

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*NOU **06** 16:21:22.2, 31°.14S×178°.63W, h455km, mb4.0/9, Kermadec Islands Region*
*IDC **06** 16:21:38.2±3.1, 32°.15S×179°.61E, h342km±27km, mb3.1/6, mbtmp3.9/7, Error ellipse: s-maj=30.8km s-min=19.0km az=58.0*
*WEL **06** 16:21:46.3±0.9, 33°.5S±6°.×18°.0E±1°.5, h296km±15km, M4.1/13, mB4.3/7, ML4.5/12, MLv4.7/13, Mw(mB)3.5/7, Error ellipse: s-maj=20.3km s-min=4.5km az=109.9, confirmed*

ISC 06 16:21:41.1±0.8, 32°.54S±0°.08×179°.9W±0°.1, h350km, n42, σ2°.14/54, mb3.5/6, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.68**	**28**	P	**Pn**	**16 22 49.2**	**+2.2**
GLKZ				S	**S**	**16 23 41.3**	**+1.3**
MXZ	**Matakaoa Point**	**5.22**	**196**	P	**Pn**	**16 23 06.3**	**+3.2**
MXZ	**Matakaoa Point**	**5.22**	**196**	P	**Pn**	**16 23 06.2**	**+3.1**
MXZ				S	**S**	**16 24 09.4**	**-0.1**
WMGZ	**Waiomatatini S**	**5.45**	**194**	P	**Pn**	**16 23 09.6**	**+4.0**
WMGZ				S	**S**	**16 24 15.6**	**+1.7**
HAZ	**Te Kaha**	**5.54**	**200**	P	**Pn**	**16 23 09.1**	**+2.5**
HAZ				S	**S**	**16 24 16.7**	**+0.8**
PUZ	**Puketiti**	**5.72**	**195**	P	**Pn**	**16 23 11.7**	**+3.0**
PUZ				S	**S**	**16 24 19.2**	**-0.5**
RUGZ	**Raukumara Rang**	**5.77**	**200**	P	**Pn**	**16 23 12.0**	**+2.7**
RUGZ				S	**S**	**16 24 19.8**	**-0.9**
WCZ	**Waipu Caves**	**5.86**	**233**	P	**Pn**	**16 23 13.1**	**+2.9**
TWGZ	**Tauwhareparae**	**5.89**	**197**	P	**Pn**	**16 23 12.7**	**+2.2**
TWGZ				S	**S**	**16 24 23.4**	**+0.3**
OUZ	**Omahuta**	**6.05**	**242**	P	**Pn**	**16 23 14.3**	**+1.9**
OUZ	**Omahuta**	**6.05**	**242**	P	**Pn**	**16 23 14.3**	**+1.9**
CNGZ	**Carnagh Statio**	**6.13**	**194**	P	**Pn**	**16 23 16.4**	**+3.1**
MWZ	**Matawai**	**6.15**	**199**	P	**Pn**	**16 23 15.4**	**+1.7**
MWZ				S	**S**	**16 24 28.6**	**-0.1**
TKGZ	**Te Karaka**	**6.17**	**197**	P	**Pn**	**16 23 16.3**	**+2.6**
TKGZ				S	**S**	**16 24 29.3**	**+0.4**
URZ	**Urewera**	**6.21**	**202**	P	**Pn**	**16 23 15.1**	**+0.8**
13nm,0.3s,baz=41,slow=1.8,SNR=79							
URZ				S	**S**	**16 24 28.1**	**-1.7**
26nm,0.3s,baz=0.0,slow=17,SNR=18							
URZ	**Urewera**	**6.21**	**202**	P	**Pn**	**16 23 16.2**	**+2.0**
URZ	**Urewera**	**6.21**	**202**	P	**Pn**	**16 23 15.8**	**+1.6**
URZ				S	**S**	**16 24 29.4**	**-0.4**
RAGZ	**Rawiri**	**6.34**	**200**	P	**Pn**	**16 23 17.9**	**+2.2**
RAGZ				S	**S**	**16 24 32.8**	**+0.2**
MUGZ	**Murupara**	**6.52**	**204**	P	**Pn**	**16 23 20.2**	**+2.4**
MUGZ				S	**S**	**16 24 37.7**	**+1.3**
RTZ	**Ruatahuna**	**6.58**	**202**	P	**Pn**	**16 23 20.3**	**+1.7**
SNGZ	**Shannon Statio**	**6.62**	**199**	P	**Pn**	**16 23 22.7**	**+3.7**
SNGZ				S	**S**	**16 24 39.1**	**+0.6**
TLZ	**Tolley Road**	**6.88**	**212**	P	**Pn**	**16 23 25.7**	**+3.7**
BKZ	**Black Stump Fm**	**7.23**	**203**	P	**Pn**	**16 23 27.4**	**+1.2**
HIZ	**Hauiti**	**7.34**	**214**	P	**Pn**	**16 23 30.8**	**+3.4**
HIZ	**Hauiti**	**7.34**	**214**	P	**Pn**	**16 23 30.6**	**+3.3**
BFZ	**Birch Farm**	**8.70**	**200**	P	**Pn**	**16 23 44.0**	**+0.6**
SNZO	**South Karori**	**9.76**	**205**	P	**Pn**	**16 23 55.7**	**-0.4**
QRZ	**Quartz Range**	**10.27**	**214**	P	**Pn**	**16 24 00.9**	**-1.2**
KHZ	**Kahutara**	**11.15**	**206**	P	**Pn**	**16 24 09.9**	**-2.7**
ASAR	**Alice Springs**	**41.45**	**270**	P	P	16 28 49.4	-5.7
0.2nm,0.5s,baz=114,slow=8.3,SNR=6.5							
0.2nm,0.5s							
WRA	**Warramunga Arr**	**42.64**	**275**	P	P	16 28 59.0	-5.6
0.3nm,0.6s,baz=116,slow=8.0,SNR=8.4							
0.3nm,0.6s							
QSPA	**South Pole Qui**	**57.57**	**180**	P	**P**	**16 30 57.2**	**+2.2**
2.9nm,0.5s,baz=65,slow=2.5,SNR=22							
2.9nm,0.5s							
MAW	**Mawson**	**69.74**	**201**	P	**P**	**16 32 11.3**	**-2.2**
0.9nm,0.8s,baz=135,slow=1.4,SNR=1.7							
0.9nm,0.8s							
TROLL	**Troll, Antarti**	**75.72**	**181**	⇑P	**P**	**16 32 47.3**	**-1.3**
comp=Z,54nm,0.4s							
SNAA	**Sanae**	**76.06**	**179**	⇑P	**P**	**16 32 49.1**	**-1.3**
comp=Z,23nm,0.3s							
SNAA	**Sanae**	**76.06**	**179**	P	**P**	**16 32 49.1**	**-1.3**
comp=Z,0.8nm,0.3s,baz=184,slow=14,SNR=4.4							
comp=Z,0.8nm,0.3s							
NVAR	**Mina Array Bea**	**90.89**	**44**	P	**P**	**16 34 04.5**	**-1.3**
comp=Z,0.4nm,0.7s,baz=234,slow=4.4,SNR=2.0							
comp=Z,0.4nm,0.7s							
FINES	**FINESS Array B**	**146.56**	**338**	PKPbc	**PKPdf**	**16 40 36.8**	**-2.1**
comp=Z,1.5nm,0.5s,baz=45,slow=4.3,SNR=19							
NB2	**NORSAR Subarra**	**150.58**	**349**	PKP	**PKPdf**	**16 40 47.4**	**+1.9**
comp=Z,0.4nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**150.58**	**349**	PKPbc	**PKPdf**	**16 40 47.0**	**+1.6**
comp=Z,0.4nm,0.5s,baz=18,slow=2.5,SNR=4.4							
HFS	**Hagfors**	**150.97**	**346**	PKPbc	**PKPdf**	**16 40 47.3**	**+1.3**
comp=Z,2.5nm,1.0s,baz=46,slow=6.2,SNR=6.9							
TORD	**Torodi Ar. Bea**	**160.64**	**185**	PKPab	**PKPab**	**16 41 41.0**	**-2.7**
comp=Z,0.4nm,0.7s,baz=174,slow=2.9,SNR=2.0							

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*IDC **06** 17:13:35.0±0.4, 58°.99S×26°.13W, h86km±3km, mb4.6/12, mbtmp4.9/14, MS3.6/31, Error ellipse: s-maj=14.2km s-min=11.1km az=67.0*
*GCMT **06** 17:13:35.4±0.3, 59°.22S±0°.02×25°.52W±0°.05, h103km±3km, MW5.0/86, Moment Tensor Solution. s40,c46; s86,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.12±.12; $M_{\theta\theta}$-3.09±.17; $M_{\phi\phi}$0.96±.16; $M_{r\theta}$-1.14±.11; $M_{\theta\phi}$2.11±.14; $M_{\phi r}$-0.82±.09; Best double couple: $M_0$3.66000×10^{16} NP1:ϕ_s148.00000°, δ52.00000°, λ145.00000°. NP2: ϕ_s261.00000°, δ64.00000°, λ44.00000°. Principal axes: T 3.2420, Plg49.0000°, Azm120.0000°; N 0.8290, Plg40.0000°, Azm286.0000°; P -4.0780, Plg7.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **06** 17:13:36.5±0.9, 59°.18S×26°.33W, h107km, mb5.1/7 Error ellipse: s-maj=25.0km s-min=11.0km az=108.5*
*NEIC **06** 17:13:39.4±1.4, 59°.13S±0°.06×26°.2W±0°.2, h125km±5km, mb5.0/56, Error ellipse: s-maj=15.4km s-min=7.8km az=74.0*

ISC 06 17:13:36.3±0.5, 59°.10S±0°.06×26°.05W±0°.06, h101km±4km, h100km: pP-P, n206, σ1°.53/186, mb5.0/44, 12C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.50**	**306**		**Pn**	**17 15 25.6**	**+2.8**
HOPE	**Hope Point**	**7.50**	**306**	P	**Pn**	**17 15 25.6**	**+2.8**
VNA1	**Neumayer--Stat**	**13.75**	**155**	⇑P	**Pn**	**17 16 45.1**	**-1.6**
comp=Z,154nm,0.4s							
VNA3	**Neumayer Olymp**	**13.92**	**158**	⇑P	**Pn**	**17 16 46.8**	**-2.0**
comp=Z,167nm,0.3s							
VNA3				⇑S	Sn	17 19 05.4	-16
comp=E,139nm,0.5s							
VNA2	**Neumayer--Watz**	**14.15**	**155**	⇑P	**Pn**	**17 16 50.4**	**-1.4**
comp=Z,63nm,0.3s,baz=314,slow=15							
VNA2				⇑S	Sn	17 19 11.5	-16
comp=E,39nm,0.5s,baz=331,slow=23							
ESPZ	**Base Esperanza**	**15.40**	**241**		**Pn**	**17 17 07.8**	**+0.2**
SNAA	**Sanae**	**15.72**	**153**	⇑P	**Pn**	**17 17 11.3**	**-0.5**
comp=Z,1μm,0.3s							
SNAA				⇑S	Sn	17 19 51.0	-14
comp=N,728nm,0.6s							
SNAA	**Sanae**	**15.72**	**153**	Pn	**Pn**	**17 17 11.6**	**-0.2**
SNAA	**Sanae**	**15.72**	**153**	P	**Pn**	**17 17 12.0**	**+0.2**
comp=N,61nm,0.3s,baz=310,slow=13,SNR=350							
SNAA				S	Sn	17 19 51.4	-14
comp=N,32nm,0.7s,baz=312,slow=21,SNR=6.4							
SNAA				LR	LR	17 22 07.6	
comp=N,201nm,18.9s,baz=358,slow=32							
TROLL	**Troll, Antarti**	**17.27**	**150**	⇑P	**P**	**17 17 29.8**	**-1.0**
comp=Z,2μm,0.7s							
TROLL				⇑S	Sn	17 20 25.1	-18
comp=E,509nm,0.3s							
PMSA	**Palmer Station**	**18.53**	**236**	P	**P**	**17 17 45.4**	**+1.0**
comp=E,13nm,0.8s,baz=79,slow=8.0,SNR=6.2							
PMSA				LR	LR	17 23 44.3	
comp=E,167nm,21.2s,baz=94,slow=33							
BELA	**Belgrano 2**	**19.09**	**186**		**P**	**17 17 49.5**	**-1.1**
NVL	**N'lazarevskaya**	**19.42**	**142**	*eP*	**Pn**	**17 17 59.4**	**+3.0**
NVL				*eS*	**Sn**	**17 21 33.8**	**-0.3**
NVL				pmax	pmax		
comp=Z,9.0nm,0.9s							
NVL				smax	smax		
comp=N,158nm,8.8s							
EFI	**East Falkland**	**19.49**	**278**		**P**	**17 17 55.7**	**+0.6**
EFI	**East Falkland**	**19.49**	**278**	*i* P	**P**	**17 17 55.7**	**+0.6**
EFI				pmax	pmax		
comp=Z,61nm,1.0s							
SMAI	**San Martin Ant**	**19.96**	**226**	P	**P**	**17 18 00.4**	**+0.4**
SYO	**Syowa Base**	**28.88**	**137**	⇑*eP*	**P**	**17 19 23.8**	**-1.1**
SYO	**Syowa Base**	**28.88**	**137**	⇑*ep*P	pP	17 19 52.0	+5.9
QSPA	**South Pole Qui**	**31.15**	**180**		**P**	**17 19 47.3**	**+2.0**
QSPA	**South Pole Qui**	**31.15**	**180**	P	**P**	**17 19 47.1**	**+1.9**
comp=Z,21nm,0.8s,baz=193,slow=5.6,SNR=213							
QSPA				PcP	**PcP**	**17 22 39.5**	**+1.9**
comp=Z,3.6nm,0.5s,baz=295,slow=8.1,SNR=2.2							
QSPA				LR	LR	17 31 33.2	
comp=Z,188nm,21.9s,baz=208,slow=34							
comp=Z,21nm,0.8s							
QSPA	**South Pole Qui**	**31.15**	**180**	P	**P**	**17 19 48.0**	**+2.8**
QSPA				PcP	**PcP**	**17 22 38.4**	**+0.8**
TRQA	**Tornquist**	**31.16**	**296**	P	**P**	**17 19 45.8**	**+0.4**
TRQA				IAmb	IAmb	17 19 46.7	
comp=Z,67nm,1.4s							
TRQA	**Tornquist**	**31.16**	**296**	P	**P**	**17 19 45.8**	**+0.4**
TRQA				pmax	pmax		
comp=Z,67nm,1.5s							
PLCA	**Paso Flores**	**33.23**	**284**		**P**	**17 20 03.0**	**-0.6**
PLCA	**Paso Flores**	**33.23**	**284**	P	**P**	**17 20 03.1**	**-0.4**
comp=Z,9.1nm,0.8s,baz=132,slow=8.5,SNR=10							
PLCA				pP	**pP**	**17 20 22.6**	**-2.7**
comp=Z,3.8nm,0.7s,baz=166,slow=12,SNR=2.2							
PLCA				LR	LR	17 32 52.1	
comp=Z,67nm,19.5s,baz=108,slow=35							
comp=Z,9.1nm,0.8s							
PLCA	**Paso Flores**	**33.23**	**284**	P	**P**	**17 20 02.8**	**-0.8**
BI02	**San Fabin de**	**36.72**	**287**		**P**	**17 20 32.8**	**-0.8**
MAW	**Mawson**	**37.36**	**141**	P	**P**	**17 20 38.5**	**0.0**
comp=Z,6.1nm,1.1s							
MAW	**Mawson**	**37.36**	**141**	P	**P**	**17 20 39.0**	**+0.5**
comp=Z,23nm,0.9s,baz=234,slow=8.0,SNR=37							
MAW				PcP	**PcP**	**17 22 56.5**	**+1.3**
comp=Z,4.8nm,0.8s,baz=203,slow=6.0,SNR=4.7							
MAW				LR	LR	17 33 50.4	
comp=Z,109nm,21.1s,baz=224,slow=32							
comp=Z,23nm,0.9s							
BI05	**Punta Hualpn**	**37.60**	**285**	P	**P**	**17 20 40.8**	**-0.1**
BO01	**Tunca**	**38.44**	**290**		**P**	**17 20 47.2**	**-0.8**
BO01				IAmb	IAmb	17 20 48.4	
comp=Z,18nm,0.9s							
LMEL	**Las Melosas**	**38.46**	**291**	P	**P**	**17 20 48.8**	**+0.4**
BO04	**La Punta**	**38.54**	**291**	P	**P**	**17 20 47.9**	**-1.0**
BO04				IAmb	IAmb	17 20 49.6	
comp=Z,23nm,0.9s							
MT13	**San Alfonso**	**38.58**	**291**	P	**P**	**17 20 49.0**	**-0.3**
MT08	**Bocatoma Ro**	**38.70**	**292**	IAmb	IAmb	17 20 53.2	
comp=Z,24nm,0.9s							
MT03	**Universidad Ad**	**38.89**	**291**		**P**	**17 20 51.7**	**-0.2**
MT09	**Talagante**	**38.89**	**290**	P	**P**	**17 20 51.3**	**-0.6**
MT01	**Popeta**	**38.95**	**290**	P	**P**	**17 20 51.4**	**-0.9**
MT01				IAmb	IAmb	17 20 52.4	
comp=Z,27nm,0.8s							
MT16	**CCHEN**	**38.95**	**291**	P	**P**	**17 20 52.5**	**+0.1**
ACHE	**Chepes**	**39.02**	**298**	*eP*	**P**	**17 20 51.9**	**-1.2**
CPUP	**Villa Florida**	**39.31**	**313**	P	**P**	**17 20 55.0**	**-0.2**
comp=Z,0.8nm,0.8s,baz=17,slow=6.6,SNR=6.4							
CPUP				LR	LR	17 36 28.0	
comp=Z,11nm,19.5s,baz=17,slow=35							
MT02	**Curacav**	**39.39**	**291**	IAmb	IAmb	17 20 57.1	
comp=Z,35nm,0.8s							
APLL	**PUNTA DE LOS L**	**39.61**	**298**	*eP*	**P**	**17 20 57.5**	**-0.4**
ZON	**Zonda**	**39.63**	**295**		**P**	**17 20 57.5**	**-0.5**
ZON				IAmb	IAmb	17 20 58.7	
comp=Z,18nm,0.7s							
ZON	**Zonda**	**39.63**	**295**	P	**P**	**17 20 57.5**	**-0.5**
ZON				pmax	pmax		
comp=Z,18nm,0.7s							
AVFE	**Valle Fertil**	**39.81**	**297**	*eP*	**P**	**17 20 59.1**	**-0.4**
ACCO	**Cerro Coronel**	**40.61**	**295**	*eP*	**P**	**17 21 07.2**	**+0.7**
ACLC	**CERRO LA CRUZ**	**40.62**	**299**	*eP*	**P**	**17 21 05.9**	**-0.4**
CYA	**Choya**	**40.95**	**301**	*eP*	**P**	**17 21 07.1**	**-1.8**
AROD	**Rodeo**	**41.16**	**295**	*eP*	**P**	**17 21 11.8**	**+0.9**
CO03	**El Pedregal**	**41.17**	**293**		**P**	**17 21 10.5**	**-0.2**
CO03				IAmb	IAmb	17 21 22.6	
comp=Z,41nm,1.4s							
AGUA	**GUANDACOL**	**41.27**	**297**	*eP*	**P**	**17 21 12.1**	**+0.5**
GO04	**Tololo Observa**	**41.77**	**294**	IAmb	IAmb	17 22 20.0	
comp=Z,25nm,0.9s							
VCA	**Vinchina**	**41.78**	**298**	*eP*	**P**	**17 21 16.1**	**+0.3**
LCO	**Las Campanas**	**42.70**	**295**	P	**P**	**17 21 22.7**	**-0.7**
LCO				IAmb	IAmb	17 21 44.2	
comp=Z,76nm,1.6s							
LCO	**Las Campanas**	**42.70**	**295**	P	**P**	**17 21 22.7**	**-0.7**
LCO				pmax	pmax		
comp=Z,76nm,1.6s							
FSA	**Cafayete**	**43.05**	**302**	*eP*	**P**	**17 21 24.8**	**-1.3**
SBA	**Scott Base**	**43.08**	**184**		**P**	**17 21 26.4**	**+0.9**
SBA				IAmb	IAmb	17 21 28.2	
comp=Z,19nm,0.8s							
SBA	**Scott Base**	**43.08**	**184**	P	**P**	**17 21 26.4**	**+0.9**
SBA				pmax	pmax		
comp=Z,19nm,0.9s							
SBA	**Scott Base**	**43.08**	**184**	P	**P**	**17 21 27.0**	**+1.4**
VNDA	**Vanda**	**43.55**	**182**	P	**P**	**17 21 30.2**	**+0.9**
VNDA				IAmb	IAmb	17 21 31.4	
comp=Z,22nm,0.8s							
VNDA	**Vanda**	**43.55**	**182**	P	**P**	**17 21 30.5**	**+1.1**
comp=Z,19nm,0.7s,baz=188,slow=6.7,SNR=122							
VNDA				pP	**pP**	**17 21 52.2**	**0.0**
comp=Z,7.8nm,0.7s,baz=188,slow=7.2,SNR=5.1							
VNDA				PcP	**PcP**	**17 23 16.6**	**+1.5**
comp=Z,2.9nm,0.7s,baz=194,slow=4.3,SNR=3.3							
VNDA				LR	LR	17 38 52.7	
comp=Z,47nm,18.2s,baz=182,slow=35							
comp=Z,19nm,0.7s							
VNDA	**Vanda**	**43.55**	**182**	P	**P**	**17 21 30.3**	**+1.0**
VNDA				pP	**pP**	**17 21 56.5**	**+4.2**
GO03	**Copiapo**	**43.68**	**296**	P	**P**	**17 21 31.4**	**+0.4**
AC02	**Maricunga**	**43.82**	**298**	IAmb	IAmb	17 21 55.0	
comp=Z,43nm,1.0s							
H04S2	**CROZET ISLANDS**	**45.82**	**111**	T	T	18 12 05.0	
baz=224,slow=75,SNR=170							
H04S3	**CROZET ISLANDS**	**45.83**	**111**	T	T	18 12 07.6	
baz=224,slow=75,SNR=188							
H04S1	**CROZET ISLANDS**	**45.84**	**111**	T	T	18 12 06.3	
baz=224,slow=75,SNR=185							
BOSA	**Boshof**	**46.23**	**72**	IAmb	IAmb	17 21 53.5	
comp=Z,32nm,1.4s							
BOSA	**Boshof**	**46.23**	**72**	P	**P**	**17 21 52.1**	**+0.8**
comp=Z,5.4nm,0.5s,baz=211,slow=7.3,SNR=16							
BOSA				pP	**pP**	**17 22 12.6**	**-1.5**
comp=Z,3.4nm,0.6s,baz=200,slow=8.7,SNR=2.6							
BOSA				PcP	**PcP**	**17 23 26.7**	**+1.4**
comp=Z,7.4nm,1.0s,baz=217,slow=3.9,SNR=4.1							
BOSA				LR	LR	17 36 32.0	
comp=Z,100nm,20.9s,baz=205,slow=30							
comp=Z,5.4nm,0.5s							
BOSA	**Boshof**	**46.23**	**72**	P	**P**	**17 21 52.4**	**+1.1**
BOSA				PcP	**PcP**	**17 23 27.0**	**+1.7**
PB14	**IPOC Station P**	**46.30**	**298**	IAmb	IAmb	17 21 53.4	
comp=Z,20nm,0.9s							
BDFB	**Brasília**	**46.31**	**330**	P	**P**	**17 21 52.6**	**+0.6**
comp=Z,2.8nm,0.5s,baz=134,slow=5.4,SNR=4.9							
BDFB				LR	LR	17 37 41.6	
comp=Z,95nm,21.3s,baz=149,slow=31							
comp=Z,2.8nm,0.5s							
PB03	**IPOC Station P**	**48.25**	**301**	IAmb	IAmb	17 22 28.0	
comp=Z,28nm,1.1s							
KOOLE	**Kule**	**48.58**	**63**	*i* P	**P**	**17 22 11.1**	**+1.6**
PB02	**IPOC Station P**	**48.95**	**301**	IAmb	IAmb	17 22 33.7	
comp=Z,38nm,1.1s							
PB01	**IPOC Station P**	**49.01**	**302**	IAmb	IAmb	17 22 34.1	
comp=Z,31nm,1.0s							
LBTB	**Lobatse**	**49.40**	**70**	LR	LR	17 39 10.9	
comp=Z,114nm,21.0s,baz=184,slow=31							
LBTB	**Lobatse**	**49.40**	**70**	P	**P**	**17 22 16.9**	**+1.1**
KGCAE	**Kacgae**	**49.63**	**65**		**P**	**17 22 19.0**	**+1.5**
KGCAE				IAmb	IAmb	17 22 20.6	
comp=Z,37nm,1.1s							
KGCAE	**Kacgae**	**49.63**	**65**	*i* P	**P**	**17 22 19.1**	**+1.6**
GO01	**Chusmiza**	**50.10**	**303**	IAmb	IAmb	17 22 43.0	
comp=Z,14nm,0.9s							
SIV	**San Ignacio**	**50.13**	**314**	LR	LR	17 42 56.5	
comp=Z,32nm,20.1s,baz=224,slow=35							
TSUM	**Tsumeb**	**50.73**	**57**	LR	LR	17 39 05.0	
comp=Z,102nm,21.7s,baz=150,slow=30							
H10S2	**ASCENSION HYDR**	**50.77**	**15**	T	T	18 17 03.1	
baz=32,slow=74,SNR=10							
H10S3	**ASCENSION HYDR**	**50.78**	**15**	T	T	18 17 03.0	
baz=188,slow=74,SNR=16							
CASY	**Casey**	**50.83**	**159**		**P**	**17 22 26.6**	**+0.6**
CASY				IAmb	IAmb	17 22 27.8	
comp=Z,20nm,0.8s							
CASY	**Casey**	**50.83**	**159**	P	**P**	**17 22 26.7**	**+0.8**
LPHEP	**Lephephe**	**50.93**	**69**		**P**	**17 22 28.7**	**+1.4**
LPHEP				IAmb	IAmb	17 22 29.7	
comp=Z,29nm,1.2s							
LPHEP	**Lephephe**	**50.93**	**69**	*i* P	**P**	**17 22 29.0**	**+1.7**
H10N1	**ASCENSION HYDR**	**51.89**	**15**	T	T	18 18 29.9	
baz=188,slow=75,SNR=6.6							
H10N3	**ASCENSION HYDR**	**51.89**	**15**	T	T	18 18 32.5	
baz=188,slow=75,SNR=16							
H10N2	**ASCENSION HYDR**	**51.91**	**15**	T	T	18 18 30.4	
baz=188,slow=75,SNR=15							
KHWEE	**KHWEE**	**51.93**	**67**	IAmb	IAmb	17 22 36.9	
comp=Z,37nm,1.2s							
MREMI	**Moremi**	**52.37**	**70**	IAmb	IAmb	17 22 40.1	
comp=Z,22nm,0.8s							
MREMI	**Moremi**	**52.37**	**70**	*i* P	**P**	**17 22 39.4**	**+1.4**
LPAZ	**La Paz**	**52.65**	**306**	P	**P**	**17 22 40.5**	**-0.3**
comp=Z,5.5nm,0.4s,baz=87,slow=7.2,SNR=30							
LPAZ				pP	pP	17 23 00.2	-4.0
comp=Z,5.3nm,0.5s,baz=93,slow=9.8,SNR=5.6							
LPAZ				LR	LR	17 45 49.6	
comp=Z,12nm,20.7s,baz=174,slow=37							
comp=Z,5.5nm,0.4s							
LPAZ	**La Paz**	**52.65**	**306**	P	**P**	**17 22 40.5**	**-0.3**
BROLN	**Tihalogang**	**53.56**	**69**	*i* P	**P**	**17 22 47.8**	**+1.0**
RCBR	**Riachuelo**	**53.68**	**348**	LR	LR	17 41 02.1	
comp=Z,16nm,19.9s,baz=130,slow=31							
DRV	**Dumont d'Urvil**	**54.12**	**173**	P	**P**	**17 22 50.2**	**0.0**
MATP	**Matopo**	**54.70**	**69**	LR	LR	17 42 07.6	
comp=Z,66nm,21.6s,baz=200,slow=31							
KSANE	**Kasane**	**55.37**	**64**	IAmb	IAmb	17 23 25.2	
comp=Z,53nm,1.9s							
LSZ	**Lusaka**	**58.98**	**66**		**P**	**17 23 26.4**	**+1.0**
LSZ	**Lusaka**	**58.98**	**66**	LR	LR	17 45 53.1	
comp=Z,85nm,19.5s,baz=180,slow=33							
LSZ	**Lusaka**	**58.98**	**66**	P	**P**	**17 23 26.4**	**+1.0**
LSZ				pmax	pmax		
comp=Z,8.0nm,1.0s							
ATAH	**Atahualpa**	**65.25**	**300**	LR	LR	17 52 33.3	
comp=Z,17nm,21.3s,baz=153,slow=36							
BOAV	**Boa Vista**	**67.07**	**322**	P	**P**	**17 24 16.8**	**-1.9**
MDP	**Montagnes des**	**67.41**	**331**	LR	LR	17 53 59.4	
comp=Z,31nm,18.6s,baz=157,slow=36							
DBIC	**Dimbokro**	**67.72**	**23**	P	**P**	**17 24 23.8**	**+1.1**
comp=Z,1.7nm,0.3s,baz=198,slow=5.7,SNR=5.5							
DBIC				pP	**PcP**	**17 24 42.8**	**-6.0**
comp=Z,3.0nm,0.4s,baz=202,slow=4.2,SNR=2.2							
DBIC				LR	LR	17 47 00.2	
comp=Z,49nm,19.6s,baz=202,slow=30							
comp=Z,1.7nm,0.3s							
COHC	**Cochancay**	**69.79**	**302**		**P**	**17 24 35.5**	**-0.2**
OTAV	**Otavalo**	**71.86**	**304**	P	**P**	**17 24 48.9**	**+0.2**
OTAV				pmax	pmax		
comp=Z,10.0nm,1.2s							
MBAR	**Mbarara**	**73.05**	**61**	*i* P	**P**	**17 24 57.7**	**+2.2**
MBAR				pmax	pmax		
comp=Z,4.0nm,1.2s							
ROSC	**El Rosal**	**74.30**	**309**	LR	LR	17 58 15.2	
comp=Z,30nm,21.1s,baz=224,slow=36							
TORD	**Torodi Ar. Bea**	**75.44**	**28**	P	**P**	**17 25 08.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.44**	**28**	P	**P**	**17 25 08.2**	**-0.8**
com

EKA	Eskdalemuir Ar	115.55	14	PKP	PKPdf	17 32 05.0	0.0
	comp=Z,12nm,1.4s,baz=212,slow=2.5,SNR=1.5						
KBZ	Khabaz	117.10	49	*i* PKIKP	PKiKP	17 32 09.1	+0.7
AKT	Akhty	117.18	54	*i* PKIKP	PKiKP	17 32 10.5	+1.6
AKT				pmax	pmax		
	comp=Z,12nm,1.0s						
AKT				MLR	MLR		
	comp=Z,160nm,17.0s						
KIV	Kislovodsk	117.21	49	*e*PKIKP	PKPdf	17 32 08.4	-0.4
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SCHQ	Schefferville	118.19	335	PKP	PKPdf	17 32 10.2	0.0
	comp=Z,26nm,0.5s,baz=226,slow=4.8,SNR=6.6						
AKASG	Malin Array Be	118.30	36	PKP	PKPdf	17 32 10.7	+0.2
	comp=Z,1.2nm,0.7s,baz=240,slow=2.1,SNR=5.7						
HFS	Hagfors	122.88	22	PKP	PKPdf	17 32 18.1	-0.9
	comp=Z,1.2nm,0.5s,baz=184,slow=5.9,SNR=8.0						
NVAR	Mina Array Bea	123.10	290	PKP	PKiKP	17 32 20.6	-0.1
	comp=Z,0.4nm,0.5s,baz=110,slow=0.9,SNR=3.1						
NB2	NORSAR Subarra	123.25	21	PKPdf	PKPdf	17 32 19.6	-0.2
	comp=Z,3.6nm,1.0s,baz=202,slow=1.9						
NOA	NORSAR Array B	123.25	21	PKP	PKiKP	17 32 20.1	+0.1
	comp=Z,1.7nm,0.8s,baz=198,slow=1.7,SNR=7.3						
CMAR	Chiang Mai Arr	123.40	111	PKP	PKiKP	17 32 21.9	+0.3
	comp=Z,4.7nm,0.7s,baz=231,slow=3.8,SNR=35						
CMAR				pPKP	pPKPdf	17 32 45.8	-2.3
	comp=Z,0.9nm,0.6s,baz=225,slow=3.6,SNR=2.8						
CMAR				PP	PP	17 34 02.8	-0.8
	comp=Z,0.3nm,0.7s,baz=226,slow=6.5,SNR=4.3						
OBN	Obninsk	124.38	38	*ce*PKIKP	PKiKP	17 32 22.8	+0.5
OBN				*e*		17 32 59.2	
OBN				*e*		17 34 12.6	
OBN				*e*		17 39 22.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EVN	Everest	125.23	94		PKPdf	17 32 25.8	+0.4
BELG	Belogornoye	126.01	47	*i* PKIKP	PKiKP	17 32 26.4	+0.8
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	126.79	28	PKP	PKPdf	17 32 26.5	0.0
	comp=Z,2.4nm,0.6s,baz=169,slow=0.7,SNR=19						
FINES				pPKP	pPKPdf	17 32 51.2	-2.1
	comp=Z,1.2nm,0.5s,baz=148,slow=2.1,SNR=2.3						
FINES				SKPbc	SKPbc	17 35 34.3	
	comp=Z,2.7nm,1.1s,baz=189,slow=3.7,SNR=4.4						
ABKAR	Akbulak array	128.57	57		PKPdf	17 32 30.1	-0.1
TNCH	TengChong	128.76	107	*e*P	PKPdf	17 32 31.8	+0.1
TNCH				pmax	pmax		
	comp=Z,57nm,2.8s						
KLMR	Klimovskoe	129.97	36	*e*PKIKP	PKPdf	17 32 30.2	-2.3
KLMR				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI	Kunming	130.90	111	PKP	PKPdf	17 32 35.3	-0.5
KIRV	Kirov	131.44	43	*i* PKIKP	PKiKP	17 32 36.4	+0.1
PZH	PanZhiHua	131.58	109	PKP	PKiKP	17 32 37.6	-0.3
ARTI	Arti	133.16	49	*i* PKIKP	PKiKP	17 32 40.0	+0.1
ARTI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	133.54	22	PKP	PKPdf	17 32 39.2	+0.1
	comp=Z,1.7nm,0.4s,baz=209,slow=1.7,SNR=18						
ARCES				pPKP	pPKPdf	17 33 02.0	-4.0
	comp=Z,5.9nm,1.1s,baz=254,slow=0.9,SNR=1.5						
ARCES				SKPbc	SKPab	17 35 57.8	-2.9
	comp=Z,1.3nm,0.5s,baz=222,slow=1.6,SNR=9.4						
DAG	Danmarks Havn	135.69	2	*i* P	PKPdf	17 32 43.0	+0.1
DAG	Danmarks Havn	135.69	2	*i* P	PKPdf	17 32 43.0	+0.1
BORK	Borovoye	135.84	59	*i* PKIKP	PKPdf	17 32 44.7	+0.9
BVAR	Borovoye Array	135.85	60	PKP	PKPdf	17 32 43.8	-0.1
	comp=Z,2.9nm,0.6s,baz=234,slow=2.1,SNR=10						
GOMU	GeErMu	135.88	94	PKP	PKPdf	17 32 44.0	-1.0
MKAR	Makanchi Array	137.22	74	PKhKP	PKPpre	17 32 36.6	
	comp=Z,1.6nm,0.8s,baz=244,slow=3.5,SNR=5.8						
MKAR				PKP	PKPdf	17 32 45.5	-1.1
	comp=Z,1.6nm,0.8s,baz=242,slow=2.5,SNR=6.3						
MKAR				SKPbc	SKiKP	17 36 11.6	-3.5
	comp=Z,1.4nm,1.0s,baz=325,slow=1.9,SNR=3.8						
WMQ	Urumqi	137.85	81	*e*PKP	PKPdf	17 32 46.5	-1.5
KURBB	Kurchatov Arra	137.99	67	PKhKP	PKPpre	17 32 39.2	
	comp=Z,1.1nm,0.8s,baz=235,slow=3.8,SNR=10						
KURBB				PKP	PKPdf	17 32 48.0	+0.1
	comp=Z,1.3nm,0.6s,baz=234,slow=2.5,SNR=9.5						
KURBB				pPKP	pPKPdf	17 33 11.9	-2.9
	comp=Z,0.4nm,0.5s,baz=231,slow=3.0,SNR=2.5						
KURK	Kurchatov	138.10	67	*i* PKIKP	PKPdf	17 32 47.7	-0.4
YKA	Yellowknife Ar	138.81	315	PKP	PKPdf	17 32 48.6	-0.4
	comp=Z,2.3nm,0.7s,baz=125,slow=1.5,SNR=6.4						
SPITS	Spitsbergen Ar	139.42	12	PKhKP	PKPpre	17 32 41.6	
	comp=Z,6.5nm,0.9s,baz=204,slow=3.2,SNR=6.2						
SPITS				PKP	PKPdf	17 32 48.6	-1.2
	comp=Z,3.9nm,0.6s,baz=53,slow=5.6,SNR=4.5						
NOR	Nord	140.56	2	*i* P	PKPdf	17 32 51.9	+0.1
NOR	Nord	140.56	2	*i* S	PKPdf	17 32 52.3	+0.5
NOR				IAML		17 33 27.0	
	comp=Z,15nm,2.9s						
GTA	Gaotai	140.88	96	*e*PKP	PKPdf	17 32 47.7	-6.1
GTA				pPKP	PKiKP	17 32 53.1	-3.3
GTA				sPKP		17 32 57.4	
ZALV	Zalesovo Beam	143.09	67	PKhKP	PKPpre	17 32 53.7	
	comp=Z,2.8nm,0.5s,baz=236,slow=4.0,SNR=13						
NJ2	Nanjing	144.19	123	*e*P	PKPbc	17 32 58.7	+0.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIA	Tai'an	146.92	117	PKPbc	PKPbc	17 33 06.6	+0.3
BTO	Baotou	146.96	104	*e*PKPbc	PKPbc	17 33 07.2	+0.8
BTO				PP	PP	17 36 39.0	+6.7
HHC	Hu-ho-hao-te	147.92	106	*e*P	PKPdf	17 33 02.9	-3.0
I30M	Mount Dempster	148.46	311		PKPbc	17 33 08.9	-0.8
BJI	Beijing	149.55	112	P	PKPbc	17 33 13.6	+0.6
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOY	Mondy	149.74	81	*e*PKP2	PKiKP	17 33 14.2	0.0
MOY				pmax	pmax		
	comp=Z,34nm,1.5s						
ZAK	Zakamensk	150.16	84	*e*PKIKP	PKPbc	17 33 14.5	+0.2
ZAK				pmax	pmax		
	comp=Z,24nm,1.4s						
SONM	Songino Array	150.18	91	PKPbc	PKPbc	17 33 15.1	+0.6
	comp=Z,19nm,0.8s,baz=220,slow=2.6,SNR=44						
SONM				pPKPbc	pPKPdf	17 33 38.4	+2.3
	comp=Z,4.3nm,0.5s,baz=231,slow=3.5,SNR=3.6						
ULN	Ulaanbaatar	150.54	91	*i* PKIKP	PKPbc	17 33 13.0	-2.4
DOT	Dot Lake	151.00	306		PKPbc	17 33 15.7	-0.2
DL2	Dalian	151.17	120	PKPbc	PKPbc	17 33 16.7	-0.2
IL31		152.53	307		PKPbc	17 33 18.5	-0.6
ILAR	Eielson Array	152.53	307		PKPbc	17 33 18.2	-1.0
ILAR	Eielson Array	152.53	307	PKPbc	PKPbc	17 33 18.5	-0.7
	comp=Z,4.1nm,0.8s,baz=154,slow=4.6,SNR=42						
ILAR				pPKPbc	pPKPdf	17 33 42.0	+2.7
	comp=Z,1.6nm,0.8s,baz=145,slow=2.2,SNR=2.3						
ILAR	Eielson Array	152.53	307	PKIKP	PKPbc	17 33 18.2	-1.0
KSRS	Korea Array	152.59	131	PKPbc	PKPbc	17 33 20.4	+0.2
	comp=Z,2.8nm,0.7s,baz=188,slow=2.1,SNR=13						
KSRS				PKPab	PKPab	17 33 31.8	+0.7
	comp=Z,3.7nm,0.8s,baz=212,slow=4.2,SNR=9.8						
COLA	College	152.95	307	*i* PKIKP	PKPdf	17 33 14.9	+2.2
MJAR	Matsushiro Arr	155.21	149	PKP	PKPdf	17 33 16.6	-0.3
	comp=Z,1.8nm,0.8s,baz=158,slow=2.9,SNR=4.1						
MJAR				pPKP	PKPab	17 33 42.2	-0.1
	comp=Z,2.0nm,0.8s,baz=171,slow=6.9,SNR=3.9						
CN2	Changchun	156.81	119	*e*P	PKPdf	17 33 22.7	+4.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HEH	HeiHe	162.40	109	*e*P	PKPab	17 34 12.9	-0.3
ZEA	Zeya	164.35	98	*e*PKP2	PKPab	17 34 22.1	+0.4

*DJA **06** 17:19:34.6±0.5, 8°S±3°×10°8E±°, h15km±3km, M4.7/26, mB5.2/5, mb4.8/8, MLv4.6/26, Mw(mB)4.6/5*
*IDC **06** 17:19:39.1±0.9, 7°77S×108°39E, h95km±7km, mb3.8/20, mbtmp4.2/22, MS3.5/5, Error ellipse: s-maj=20.1km s-min=10.0km az=53.0*

ISC 06 17:19:37.6±0.9, 8°00S±0°08×108°28E±0°04, h85km±8km, n57, σ1§25/67, mb4.1/20, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	Karang Pucung	0.93	44	P	Pn	17 19 55.3	-0.8
KPJI				S	Sn	17 20 10.3	+0.4
CNJI	Cibinong	1.33	301	P	Pn	17 19 58.8	-2.2
CNJI				S	Sn	17 20 18.2	-0.5
LEM	Lembang	1.34	331	P	Pn	17 20 01.3	0.0
	2μm,0.4s,baz=136,slow=6.5,SNR=294						
LEM				S	Sn	17 20 19.0	-0.1
	1μm,0.4s,baz=156,slow=20,SNR=6.1						
LEM				LR	LR	17 20 49.5	
	comp=Z,464nm,21.2s,baz=200,slow=58						
LEM	Lembang	1.34	331	P	Pn	17 20 01.0	-0.3
LEM				S	Sn	17 20 20.6	+1.5
SKJI	Sukabumi	1.98	300	P	Pn	17 20 09.1	-0.2
SKJI				S	Sn	17 20 34.6	+1.0
YOGI	Yogyakarta	2.00	85	P	Pn	17 20 08.0	-1.7
YOGI				S	Sn	17 20 35.5	+1.4
DBJI	Dramaga	2.09	313	P	Pn	17 20 11.3	+0.4
DBJI				S	Sn	17 20 38.8	+2.5
UGM	Wanagama	2.22	88	P	Pn	17 20 10.7	-1.9
SMRI	Semarang	2.34	66	P	Pn	17 20 14.6	+0.4
SMRI				S	Sn	17 20 44.6	+2.4
WOJI	Wonogiri, Jawa	2.62	87	P	Pn	17 20 16.1	-1.8
WOJI				S	Sn	17 20 50.7	+1.8
SBJI	Serang	2.84	311	P	Pn	17 20 21.6	+0.7
SBJI				S	Sn	17 20 56.3	+2.1
PCJI	Pacitan	2.87	94	P	Pn	17 20 19.9	-1.4
CGJI	Cibinong	2.92	298	P	Pn	17 20 20.3	-1.6
NGJI	Ngawi	3.21	79	P	Pn	17 20 27.5	+1.6
TBJI	Tambak Boyo	3.73	72	P	Pn	17 20 32.6	-0.3
BLSI	Bandar Lampung	4.00	311	P	Pn	17 20 37.4	+0.9
GRJI	Gresik	4.30	76	P	Pn	17 20 41.0	+0.4
KASI	Kota Agung	4.50	303	P	Pn	17 20 43.4	+0.1
LWLI	Liwa	5.14	305	P	Pn	17 20 52.0	-0.2
	1.0nm3μm210nm,1.0s						
LWLI				S	Sn	17 21 52.9	+2.6
	1.0nm3μm210nm,1.0s						
TPI	Tanjungpandan	5.25	353	P	Pn	17 20 54.4	+0.8
	54nm,0.7s						
BLJI	Banyuglugur	5.27	88	P	Pn	17 20 54.4	+0.5
	0.5nm67nm,0.5s						
MDSI	Maura Dua	5.37	310	P	Pn	17 20 56.0	+0.7
	37nm,0.7s						
JAGI	Jajag, Banyuwa	5.83	95	P	Pn	17 21 01.9	+0.4
	0.5nm58nm,0.8s						
PPBI	Pangkal Pinang	6.18	340	P	Pn	17 21 07.5	+1.1
LHSI	Lahat	6.29	311	P	Pn	17 21 09.0	+1.2
	0.2nm45nm,0.8s						
KSI	Kapahiang	7.12	307	P	Pn	17 21 19.7	+0.5
KAPI	Kappang	11.78	76	LR	LR	17 26 54.6	
	comp=Z,70nm,19.1s,baz=276,slow=38						
BATI	Baumata	15.35	99	P	Pn	17 23 09.6	+0.1
	10nm,0.4s,baz=306,slow=15,SNR=6.3						
FITZ	Fitzroy Crossi	19.64	122	P	P	17 24 00.8	+1.2
	3.9nm,1.0s,baz=299,slow=5.6,SNR=8.3						
CMAR	Chiang Mai Arr	27.86	341	P	P	17 25 18.1	-1.2
	0.6nm,0.4s,baz=176,slow=9.4,SNR=9.5						
CMAR				LR	LR	17 36 59.2	
	comp=Z,44nm,18.0s,baz=170,slow=38						
	0.6nm,0.4s						
WRA	Warramunga Arr	27.88	118	P	P	17 25 19.4	-0.2
	0.5nm,0.4s,baz=291,slow=10,SNR=20						
WRA				PcP	PcP	17 28 34.0	+0.4
	0.4nm,0.5s,baz=301,slow=2.5,SNR=2.2						
	0.5nm,0.4s						
ASAR	Alice Springs	29.07	125	P	P	17 25 30.7	+0.5
	0.9nm,0.6s,baz=299,slow=8.4,SNR=26						
ASAR				PcP	PcP	17 28 37.4	+0.8
	0.5nm,0.4s,baz=305,slow=2.2,SNR=4.6						
	0.9nm,0.6s						
PALK	Pallekele	31.41	298	P	P	17 25 50.4	-0.5
	4.1nm,0.9s,baz=104,slow=8.0,SNR=2.0						
	4.1nm,0.9s						
H08S2	Diego Garcia H	35.45	268	T	T	18 03 41.2	
	baz=93,slow=76,SNR=105						
H08S3	Diego Garcia H	35.46	268	T	T	18 03 40.0	
	baz=93,slow=76,SNR=247						
H08S1	Diego Carcia H	35.47	268	T	T	18 03 40.9	
	baz=93,slow=76,SNR=68						
STKA	Stephens Creek	39.03	132	P	P	17 26 57.4	+1.3
	4.1nm,0.4s,baz=311,slow=7.7,SNR=9.4						
STKA				PcP	PcP	17 29 05.7	+0.9
	1.2nm,0.5s,baz=333,slow=3.2,SNR=2.0						
	4.1nm,0.4s						
GUMO	Guam	42.19	60	LR	LR	17 44 07.4	
	comp=Z,78nm,20.9s,baz=162,slow=35						
LZDM	Lanzhou Array	43.94	355	P	P	17 27 35.6	-0.9
	1.0nm,0.3s,baz=163,slow=10,SNR=1.5						
	1.0nm,0.3s						
KSRS	Korea Array	48.81	21	P	P	17 28 13.4	-0.8
	0.7nm,0.8s,baz=199,slow=8.8,SNR=4.0						
	0.7nm,0.8s						
MJAR	Matsushiro Arr	52.47	30	P	P	17 28 39.8	-2.0
	1.9nm,0.8s,baz=161,slow=8.0,SNR=7.0						
MJAR				PcP	PcP	17 29 51.7	+0.3
	0.9nm,0.6s,baz=181,slow=4.0,SNR=4.3						
	1.9nm,0.8s						
SONM	Songino Array	55.62	358	P	P	17 29 04.3	-0.4
	1.1nm,0.5s,baz=192,slow=8.2,SNR=4.1						
SONM				PcP	PcP	17 30 03.2	-0.1
	0.6nm,0.3s,baz=204,slow=3.1,SNR=4.3						
	1.1nm,0.5s						
MKAR	Makanchi Array	59.26	339	P	P	17 29 28.9	-1.3
	1.1nm,0.5s,baz=151,slow=7.8,SNR=10						
	1.1nm,0.5s						
KURBB	Kurchatov Arra	63.83	339	P	P	17 29 59.2	-1.5
	0.6nm,0.4s,baz=153,slow=6.3,SNR=8.8						
KURBB				PcP	PcP	17 30 36.4	+0.5
	0.9nm,0.5s,baz=150,slow=3.2,SNR=9.8						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	64.82	345	P	P	17 30 05.0	-2.2
	0.5nm,0.3s,baz=100,slow=6.2,SNR=3.8						
	0.5nm,0.3s						
MAW	Mawson	66.78	197	P	P	17 30 21.0	+1.4
	0.8nm,0.4s,baz=108,slow=9.4,SNR=6.6						
	0.8nm,0.4s						
BVAR	Borovoye Array	68.78	337	P	P	17 30 31.2	-1.2
	1.0nm,0.4s,baz=141,slow=10,SNR=6.5						
	1.0nm,0.4s						
PETK	Petropavlovsk-	73.85	28	P	P	17 31 02.0	-0.9
	17nm,1.2s,baz=203,slow=2.2,SNR=5.5						
	17nm,1.2s						
MMAI	Mount Meron Ar	80.22	305	P	P	17 31 40.3	+1.1
	1.7nm,0.5s,baz=111,slow=4.6,SNR=5.3						
	1.7nm,0.5s						
QSPA	South Pole Qui	81.99	180	P	P	17 31 50.7	+2.6
	0.7nm,0.7s,baz=315,slow=1.4,SNR=7.1						
	0.7nm,0.7s						
BRTR	Keskin Array B	83.44	312	P	P	17 31 56.1	+0.1
	1.4nm,0.7s,baz=139,slow=7.3,SNR=10.0						
	1.4nm,0.7s						
AKASG	Malin Array Be	89.27	321	P	P	17 32 23.4	-0.7
	0.8nm,0.3s,baz=82,slow=4.9,SNR=4.2						
	0.8nm,0.3s						
MLR	Muntele Rosu	90.31	316	LR	LR	18 21 55.7	
	comp=Z,41nm,18.2s,baz=244,slow=41						
FINES	FINESS Array B	93.25	332	P	P	17 32 41.5	-0.9
	2.2nm,0.8s,baz=100,slow=4.7,SNR=2.9						
	2.2nm,0.8s						
HFS	Hagfors	99.17	330	LR	LR	18 27 17.8	
	comp=Z,71nm,18.2s,baz=257,slow=41						
NVAR	Mina Array Bea	128.33	47	PKP	PKiKP	17 38 35.6	-0.1
	0.3nm,0.5s,baz=293,slow=2.0,SNR=2.6						
TXAR	Lajitas Array	143.25	51	PKP	PKPdf	17 39 01.3	-1.5
	0.3nm,0.5s,baz=344,slow=3.1,SNR=7.9						

*AEIC **06** 17:31:48.7±1.5, 51°7N±0°1×176°49W±0°08, h62km±5km, Error ellipse: s-maj=18.8km s-min=4.0km az=160.0*
*NEIC **06** 17:31:48.4±0.8, 51°7N±0°1×176°44W±0°09, h67km±8km, mb3.6/10, ML3.3(AEIC), Error ellipse: s-maj=22.0km s-min=4.6km az=162.0*

ISC 06 17:31:48.0±1.4, 51°6N±0°1×176°44W±0°05, h65km±7km, n47, σ1§19/55, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	Kagalaska Isla	0.24	5		Pn	17 31 58.6	+0.3
ETKA					Sn	17 32 05.9	+0.2
ADK	Adak	0.30	330		Pn	17 31 58.8	+0.2
ADK					Sn	17 32 06.3	0.0
ADAG	Mount Adagdak	0.37	344		Pn	17 31 59.7	+0.5
ADAG					Sn	17 32 07.8	+0.5
GSCK	Great Sitkin C	0.43	23		Pn	17 31 59.8	+0.1
GSCK					Sn	17 32 08.3	+0.1
GSTD	Great Sitkin T	0.47	23		Pn	17 32 00.1	0.0
GSTD					Sn	17 32 08.8	-0.2
GSMY	Great Sitkin M	0.48	29		Pn	17 32 00.3	+0.1
KIRH	Kanaga Island	0.49	304		Pn	17 32 00.7	+0.4
KIRH					Sn	17 32 09.7	+0.4
GSSP	Great Sitkin S	0.50	19		Pn	17 32 00.4	+0.1
GSSP					Sn	17 32 09.6	+0.3
KIWB	Kanaga Island	0.50	298		Pn	17 32 00.6	+0.2
KIMD	Kanaga Island	0.52	286		Pn	17 32 00.7	+0.2
KIKV	Kanaga Island	0.52	300		Pn	17 32 00.8	+0.2
GSTR	Great Sitkin T	0.53	26		Pn	17 32 01.0	+0.3
GSTR	Great Sitkin T	0.53	26		Sn	17 32 10.9	+1.0
TAFL	Tanaga Flats	0.92	279		Sn	17 32 19.1	+1.1
TANO	Tanaga North	1.09	286		Sn	17 32 22.1	+0.3
GALAA	Gareloi Lava P	1.46	276		Pn	17 32 13.0	+0.7
GANE	Gareloi Northe	1.47	279		Pn	17 32 12.9	+0.6
GAKI	Gareloi-Kavalg	1.48	268		Pn	17 32 13.1	+0.5
GAKI					Sn	17 32 32.0	+1.0
GANO	Gareloi North	1.49	279		Pn	17 32 13.0	+0.4
ATKA	Atka Island	1.50	66		Pn	17 32 13.8	+0.9
KOKL	Mount Kliuchef	1.55	62		Pn	17 32 14.7	+1.1
KOFP	Korovin Flat P	1.59	65		Pn	17 32 15.3	+1.3
CEPE	Semis' Perret	2.46	280		Pn	17 32 26.3	+0.6
CESW	Semis' Southwe	2.50	278		Pn	17 32 26.7	+0.3
AMKA	Amchitka	2.67	266		Pn	17 32 29.4	+0.7
NIKH	Nikolski High	4.85	71		Pn	17 32 58.9	+0.6
UNV	Unalaska Valle	6.43	66	Pn	Pn	17 33 22.6	+2.6
O14K	Tigyukauivet M	11.50	42	Pn	Pn	17 34 32.3	+3.2
CHGN	Chignik	11.59	59	Pn	Pn	17 34 29.2	-1.2
O15K	Ungalikthiuk R	12.07	45	Pn	Pn	17 34 40.3	+3.3
O16K	Kokwok River B	13.05	45	Pn	Pn	17 34 53.7	+3.5
L16K	Owhat River	13.70	36	Pn	Pn	17 34 59.0	0.0
ACHA	Angle Creek He	13.78	53	Pn	Pn	17 34 59.4	-0.7
Q19K	Cape Douglas,	14.85	52	P	P	17 35 19.4	+0.9
KDAK	Kodiak Island	15.05	57	Pn	Pn	17 35 16.4	-0.3
CNPM	China Poot	16.22	51	Pn	Pn	17 35 30.9	-0.6
CNPM				IAmb	IAmb	17 35 50.6	
	comp=Z,9.7nm,0.9s						
PPLA	Purkeypile	17.18	40	Pn	Pn	17 35 42.2	-1.3
RND	Reindeer	18.75	40	P	P	17 36 00.0	-1.5
RND				IAmb	IAmb	17 36 04.4	
	comp=Z,2.4nm,0.9s						
FID	Port Fidalgo	18.85	49	P	P	17 36 00.9	-1.6
DHY	Denali Highway	19.22	42	P	P	17 36 05.7	-1.0
DHY				IAmb	IAmb	17 36 09.3	
	comp=Z,2.1nm,0.9s						
NEA2	Nenana	19.22	37	P	P	17 36 06.1	-0.5
I23K	Minto, Yukon-K	19.40	35	P	P	17 36 08.1	-0.3
HDA	Harding Lake	19.95	39	P	P	17 36 14.0	-0.5
HDA				IAmb	IAmb	17 36 18.8	
	comp=Z,1.6nm,0.6s						
VRDI	Verde Repeater	20.40	49	P	P	17 36 16.8	-2.7
VRDI				IAmb	IAmb	17 36 35.0	
	comp=Z,3.6nm,0.9s						
SCRK	Sand Creek	20.97	41	P	P	17 36 24.2	-1.4
SCRK				IAmb	IAmb	17 36 28.5	
	comp=Z,1.3nm,0.5s						
D23K	Nanushuk River	21.27	26	P	P	17 36 27.8	-0.8
WATA	Walderalm	81.18	354	*e*Sg	S	17 54 00.8	-0.5
	comp=Z,1.1nm,0.1s						

*PDG **06** 17:34:17.8±0.2, 42°46N×16°90E, h20km, MD3.5/1, ML3.4/11, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*BEO **06** 17:34:18.9±0.6, 42°55N×16°94E, h13km±2km, ML3.0/14*
*RHSSO **06** 17:34:18.3±0.6, 42°59N×16°87E, h8km±2km, ML3.3/9*
*PRU **06** 17:34:21.8, 42°84N×16°74E, h1km*
*VIE **06** 17:34:21.5±0.5, 42°82N×16°69E, h8km, mb2.7/14, ml2.7/11, ms3.6/2, Error ellipse: s-maj=7.4km s-min=3.8km az=49.0 79 km SSE of Split*

ISC 06 17:34:17.1±3.0, 42°51N±0°04×16°83E±0°03, h15km±22km, n88, σ1§39/133, 12C-13D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSTV	Lastovo	0.27	10	*i* Pg	Pb	17 34 24.1	+0.5
LSTV				Sg	Sb	17 34 28.1	+0.2
HVAR	Hvar	0.73	338	*i* Pg	Pb	17 34 31.7	+0.2
STON	Ston	0.74	60	⇑*i* Pg	Pb	17 34 31.1	-0.5
STON				*e*Sg	Sb	17 34 40.6	-0.9
STON	Ston	0.74	60	*e*Pg	Pb	17 34 31.3	-0.3
STON				Sg	Sb	17 34 41.0	-0.5
STON	Ston	0.74	60	*e*Pg	Pb	17 34 31.1	-0.5
STON				*e*Sg	Sb	17 34 40.0	-1.5
MAKA	Makarska	0.79	10	*i* Pg	Pb	17 34 32.3	-0.3
MAKA				Sg	Sb	17 34 42.3	-0.8
DBRK	Dubrovnik	0.99	80	*i* Pg	Pb	17 34 35.9	0.0
RICI	Ricice	1.01	13	*i* Pg	Pb	17 34 35.7	-0.6
RICI				Sg	Sb	17 34 48.7	-0.8
TREB	Trebinje	1.14	79	⇑*i* Pg	Pn	17 34 38.1	-0.4
TREB				*e*Sg	Sb	17 34 52.9	-0.3
HCY	Herceg Novi	1.23	92	⇑

MORH	**Mrgy, Hungar**	**3.93**	**19**	*e*Pn	**Pn**	**17 35 17.9**	**+1.1**
MORH				*e*Sn	**Sn**	**17 36 01.6**	**-1.0**
MORH	**Mrgy, Hungar**	**3.93**	**19**	⇓P	**Pn**	**17 35 21.2**	**+4.4**
BEHE	**Becsehely**	**3.96**	**359**	*e*Pn	**Pn**	**17 35 17.4**	**+0.1**
BEHE				*e*Sn	**Sn**	**17 36 03.0**	**-0.5**
ZAGS	**Zajecar**	**4.16**	**70**	*e*Sn	**Sn**	**17 36 06.6**	**-1.8**
VRSS	**Vrsac**	**4.17**	**50**	*e*Pn	**Pn**	**17 35 21.9**	**+1.7**
MDVR	**Moldovita**	**4.21**	**56**	⇓P	Pn	17 35 25.9	+5.2
OBKA	**Obir**	**4.32**	**339**	*i* Pn	**Pn**	**17 35 23.3**	**+1.0**
	1.1nm,0.2s,SNR=6.7						
ZAPS	**Zavoj**	**4.33**	**78**	*e*Pn	**Pn**	**17 35 23.1**	**+0.7**
ZAPS				*e*Sn	**Sn**	**17 36 10.0**	**-2.7**
SOKA	**Soboth**	**4.36**	**344**	*i* Pn	**Pn**	**17 35 23.4**	**+0.5**
	2.7nm,0.2s,SNR=14						
BZS	**Buzias**	**4.64**	**46**	⇓P	**Pn**	**17 35 30.3**	**+3.7**
MYKA	**Terra Mystica**	**4.71**	**332**	*i* Pn	**Pn**	**17 35 28.0**	**+0.4**
	0.4nm,0.1s						
ARSA	**Arzberg**	**4.83**	**349**	*i* Pn	**Pn**	**17 35 30.1**	**+0.8**
	2.4nm,0.2s,SNR=9.1						
SURR	**Surduc**	**5.01**	**48**	⇑P	**Pn**	**17 35 35.8**	**+4.2**
GZR	**Gura Zlata**	**5.17**	**54**	⇑P	Pn	17 35 40.0	+6.0
KBA	**Koelnbreinsper**	**5.20**	**333**	*e*Pn	**Pn**	**17 35 35.4**	**+0.9**
	0.5nm,0.2s						
KBA				*e*Sn	**Sn**	**17 36 31.7**	**-2.5**
	2.3nm,0.4s						
RONA	**Rosalia, Austr**	**5.21**	**356**	*e*Pn	**Pn**	**17 35 35.5**	**+1.1**
	0.3nm,0.1s						
ABTA	**Abfaltersbach**	**5.24**	**325**	*i* Pn	**Pn**	**17 35 35.4**	**+0.5**
	0.3nm,0.1s						
ABTA				*e*Sn	**Sn**	**17 36 33.2**	**-1.9**
	3.1nm,0.4s						
CONA	**Conrad Observa**	**5.46**	**353**	*i* Pn	**Pn**	**17 35 39.0**	**+1.0**
	0.4nm,0.1s,SNR=4.9						
MOA	**Molln**	**5.64**	**342**	*i* P	**Pn**	**17 35 41.7**	**+1.3**
	2.0nm,0.2s,SNR=16						
MOA				*i* Sn	**Sn**	**17 36 43.4**	**-1.5**
	1.7nm,0.3s						
BIOA	**Bad Ischl, Aus**	**5.66**	**338**	*i* Pn	**Pn**	**17 35 41.7**	**+1.2**
	1.2nm,0.2s						
BIOA				*e*Sn	**Sn**	**17 36 44.1**	**-1.1**
	2.1nm,0.3s						
LESA	**Schwarzleotal**	**5.73**	**331**	*i* Pn	**Pn**	**17 35 43.0**	**+1.3**
	1.0nm,0.2s,SNR=8.6						
LESA				*e*Sn	**Sn**	**17 36 46.4**	**-0.8**
	1.1nm,0.2s						
PSZ	**Piszkesteto**	**5.83**	**21**	⇓P	**Pn**	**17 35 46.7**	**+3.7**
MODS	**Modra-Piesok**	**5.88**	**3**	*e*PN	Pn	17 35 50.4	+6.8
MODS				*e*SN	**Sn**	**17 36 52.6**	**+2.0**
DRGR		**6.00**	**42**	⇓P	Pn	17 35 51.4	+6.1
WTTA	**Wattenberg**	**6.02**	**324**	*e*Pn	**Pn**	**17 35 46.4**	**+0.7**
	0.9nm,0.2s						
WTTA				*e*Sn	**Sn**	**17 36 54.3**	**-0.1**
	1.3nm,0.3s						
SQTA	**Sankt Quirin**	**6.18**	**322**	*e*Pn	**Pn**	**17 35 49.3**	**+1.5**
	0.6nm,0.2s						
SQTA				*e*Sn	**Sn**	**17 36 57.6**	**-0.6**
	4.0nm,0.4s						
MOTA	**Moosalm**	**6.32**	**322**	*e*Pn	**Pn**	**17 35 51.0**	**+1.2**
	0.8nm,0.3s						
MOTA				*e*Sn	**Sn**	**17 37 01.9**	**+0.2**
	1.5nm,0.5s						
KHC	**Kasperske Hory**	**7.00**	**342**	*e*PN	**Pn**	**17 36 00.7**	**+1.6**
KHC				*e*SN	**Sn**	**17 37 13.4**	**-5.0**

CATAC 06 17:39:52.1±0.6, 12°N±4'×8°8W±', h25km, M3.2/9, MLv3.2/9, Error ellipse: s-maj=9.4km s-min=3.9km az=29.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.76**	**70**	P	Pn	17 40 08.2	+0.9
PKGN	**Cerro Pekin**	**0.82**	**74**	P	Pn	17 40 08.5	+0.4
PKGN				S	Sn	17 40 20.2	+0.8
CNCH	**Conchagua**	**0.83**	**357**	P	Pb	17 40 08.1	+0.1
LCND	**La Caada**	**0.87**	**353**	P	Pn	17 40 08.6	-0.1
PLRN	**Geotermica Pol**	**1.00**	**82**	P	Pn	17 40 10.3	-0.3
PLRN				S	Sb	17 40 23.1	-0.6
CNGA	**Al SSO del Vol**	**1.06**	**87**	P	Pn	17 40 11.2	-0.2
CNGA				S	Sb	17 40 25.2	-0.1
CNGN	**Cerro Negro**	**1.07**	**87**	P	Pn	17 40 11.6	+0.2
PACA	**Pacayal**	**1.15**	**333**	S	Sn	17 40 27.4	-0.2
COPN	**Copaltepe**	**1.20**	**103**	P	Pn	17 40 12.5	-0.8
LIMN	**Finca el Limon**	**1.52**	**66**	P	Pn	17 40 17.6	-0.2
LIMN				S	Sn	17 40 35.9	-0.9
SCLA	**Alcaldia de Sa**	**1.55**	**324**	P	Pn	17 40 18.6	+0.4
SCLA	**Alcaldia de Sa**	**1.55**	**324**	S	Sn	17 40 37.0	-0.5
TGUH	**Tegucigalpa,Un**	**1.68**	**17**	P	Pn	17 40 20.1	0.0
TGUH				S	Sn	17 40 41.1	+0.3
YUSH	**Yuscaran**	**1.76**	**31**	P	Pn	17 40 21.5	+0.4

*BJI **06** 17:40:44.4, 12°.97N×143°.48E, h220km, mB4.6/13, mb4.6/53*
*IDC **06** 17:40:46.1±0.6, 13°.06N×143°.44E, h211km±6km, mb4.3/30, mbtmp4.8/32, Error ellipse: s-maj=12.1km s-min=6.7km az=79.0*
*NEIC **06** 17:40:46.3±1.9, 13°.10N±0°.08×143°.32E±0°.09, h210km±4km, mb4.8/287, Error ellipse: s-maj=14.0km s-min=9.5km az=122.0*
*DJA **06** 17:40:46.0±0.5, 13°N±10'×14'4E±', h230km±6km, M4.0/16, mb4.8/16, mB5.0/7, MLv3.5/1, Mw(mB)4.3/7, MwMwp4.6/1, Mwp5.0/1*
ISC 06 17:40:46.2±0.4, 13°.06N±0°.04×143°.39E±0°.07, h212km±3km, h213km; pP-P, n515, o0°88/425, mb4.8/188, 1C-2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**70**	P	**Pn**	**17 41 21.3**	**+0.1**
	462nm,0.6s,baz=216,slow=3.6,SNR=73						
GUMO				S	**S**	**17 41 47.3**	**-0.8**
	507nm,0.3s,baz=337,slow=22,SNR=7.6						
GUMO	**Guam**	**1.53**	**70**	P	**Pn**	**17 41 21.2**	**+0.1**
MANU	**Manus Island**	**15.52**	**165**		**Pn**	**17 44 15.9**	**+1.6**
SMPI	**Sarmi**	**15.66**	**198**	P	**Pn**	**17 44 17.5**	**+1.5**
	56nm,1.3s						
JAY	**Jayapura**	**15.70**	**190**	P	**P**	**17 44 15.3**	**-0.9**
	40nm,0.8s,baz=336,slow=7.4,SNR=18						
JAY	**Jayapura**	**15.70**	**190**	P	**Pn**	**17 44 16.5**	**-0.1**
	51nm,0.9s						
GENI	**Genyem**	**15.88**	**192**	P	**Pn**	**17 44 20.6**	**+2.0**
GENI	**Genyem**	**15.88**	**192**	P	**Pn**	**17 44 18.5**	**-0.1**
	1μm92nm,0.9s						
BAKI	**Biak**	**15.90**	**208**	P	**Pn**	**17 44 20.5**	**+1.6**
SWI	**Sorong**	**18.34**	**222**	P	**Pn**	**17 44 48.1**	**+0.4**
	889nm640nm59nm,0.7s						
RABL	**Rabaul**	**19.23**	**152**		**Pn**	**17 44 56.7**	**-1.5**
FAKI	**Fak Fak**	**19.35**	**216**		**P**	**17 44 57.4**	**+1.5**
FAKI	**Fak Fak**	**19.35**	**216**	P	**P**	**17 44 57.0**	**+1.0**
FAKI	**Fak Fak**	**19.35**	**216**	P	**P**	**17 44 57.6**	**+1.6**
	1μm95nm,0.8s						
JOW	**Kunigami**	**19.71**	**316**	P	**P**	**17 45 00.8**	**+1.1**
	17nm,0.5s,baz=138,slow=13,SNR=9.6						
PMG	**Port Moresby**	**22.63**	**170**		**P**	**17 45 26.5**	**-2.8**
INU	**Inuyama**	**22.93**	**347**		**P**	**17 45 27.9**	**-3.9**
INU	**Inuyama**	**22.93**	**347**	P	**P**	**17 45 33.0**	**+1.2**
JNU	**Nakatsue**	**23.01**	**332**		**P**	**17 45 29.7**	**-3.0**
JNU	**Nakatsue**	**23.01**	**332**	P	**P**	**17 45 33.8**	**+1.2**
JGF	**Kuroka**	**23.09**	**347**	P	**P**	**17 45 32.5**	**-0.9**
SSLB	**Suanglung**	**23.78**	**300**	P	**P**	**17 45 38.0**	**-1.7**
SSLB	**Suanglung**	**23.78**	**300**	P	**P**	**17 45 42.0**	**+2.3**
MJAR	**Matsushiro Arr**	**23.84**	**350**		**P**	**17 45 38.3**	**-1.8**
MJAR	**Matsushiro Arr**	**23.84**	**350**	P	**P**	**17 45 38.7**	**-1.4**
	14nm,0.7s,baz=159,slow=10,SNR=52						
MJAR				PcP	**PcP**	**17 49 17.9**	**+0.6**
	2.6nm,0.7s,baz=168,slow=3.4,SNR=6.8						
MJAR				ScP	**ScP**	**17 52 35.4**	**-0.1**
	3.3nm,0.7s,baz=164,slow=3.6,SNR=11						
	14nm,0.7s						
MAJO	**Matsushiro**	**23.84**	**350**	P	**P**	**17 45 39.2**	**-0.9**
MAJO	**Matsushiro**	**23.84**	**350**	P	**P**	**17 45 41.6**	**+1.5**
MJB9	**Matsu-Tunnel**	**23.85**	**350**	P	**P**	**17 45 39.3**	**-0.9**
JMM	**Marumori**	**24.81**	**355**	P	**P**	**17 45 47.9**	**-0.9**
JMM	**Marumori**	**24.81**	**355**	P	**P**	**17 45 50.8**	**+1.9**
COEN	**Coen**	**26.84**	**180**	P	**P**	**17 46 07.2**	**-0.1**
COEN				IAmb	IAmb	17 46 12.5	
	comp=Z,16nm,0.6s						
TJN	**Taejon**	**27.32**	**331**	P	**P**	**17 46 11.7**	**+0.3**
JTM	**Tenmabayashi**	**27.70**	**356**	P	**P**	**17 46 14.6**	**-0.1**
KSRS	**Korea Array**	**27.95**	**333**	P	**P**	**17 46 16.6**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=142,slow=8.9,SNR=21						
KSRS				PcP	**PcP**	**17 49 26.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=149,slow=2.3,SNR=4.0						
	comp=Z,3.8nm,0.7s						
MTN	**Manton Dam**	**28.46**	**206**	P	**P**	**17 46 19.1**	**-2.7**
MTN				IAmb	IAmb	17 46 22.9	
	comp=Z,51nm,1.8s						
NJ2	**Nanjing**	**29.39**	**314**	*e*P	**P**	**17 46 30.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JKA	**Kamikawa-asahi**	**30.95**	**359**	P	**P**	**17 46 42.4**	**-1.0**
JKA				IAmb	IAmb	17 46 46.3	
	comp=Z,49nm,1.5s						
KNRA	**Kununurra**	**32.01**	**207**	P	**P**	**17 46 51.4**	**-1.5**
KNRA				IAmb	IAmb	17 46 53.8	
	comp=Z,14nm,0.7s						
DL2	**Dalian**	**32.16**	**327**	P	P	17 46 48.5	-5.5
DL2				pmax	pmax		
	comp=Z,36nm,0.8s						
TV1H	**Townsville Har**	**32.29**	**174**	P	**P**	**17 46 56.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**32.54**	**345**	P	**P**	**17 46 58.1**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=164,slow=8.9,SNR=12						
	comp=Z,9.2nm,0.7s						
CTAO	**Charters Tower**	**33.06**	**175**		**P**	**17 47 02.9**	**+0.9**
CTAO				IAmb	IAmb	17 47 03.8	
	comp=Z,27nm,1.1s						
CTAO	**Charters Tower**	**33.06**	**175**	P	**P**	**17 47 02.9**	**+0.9**
MDJ	**Mudanjiang**	**33.59**	**342**	P	**P**	**17 47 06.7**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ	**Mudanjiang**	**33.59**	**342**	P	**P**	**17 47 07.5**	**+1.2**
QIS	**Mount Isa**	**33.62**	**186**	P	**P**	**17 47 07.7**	**+0.9**
WRAB	**Tennant Creek**	**33.97**	**195**	P	**P**	**17 47 09.9**	**+0.1**
WRAB	**Tennant Creek**	**33.97**	**195**	P	**P**	**17 47 10.0**	**+0.1**
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**17 47 08.2**	**-1.7**
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**17 47 10.2**	**+0.2**
	comp=Z,57nm,0.7s,baz=16,slow=9.4,SNR=258						
WRA				S	**S**	**17 52 18.5**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=14,slow=15,SNR=4.6						
WRA				ScP	**ScP**	**17 53 08.3**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=5.5,slow=3.5,SNR=8.6						
	comp=Z,57nm,0.7s						
CN2	**Changchun**	**34.30**	**337**	*e*P	**P**	**17 47 13.0**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN	**LuoYang**	**35.24**	**313**	*e*P	**P**	**17 47 21.5**	**+0.9**
LYN				pmax	pmax		
	comp=Z,33nm,0.5s						
HNS	**HongShan**	**35.25**	**319**	⇓P	**P**	**17 47 21.8**	**+1.1**
HNS				pmax	pmax		
	comp=Z,22nm,1.1s						
BNX	**BinXian**	**35.28**	**340**	⇓P	**P**	**17 47 21.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,39nm,1.0s						
FITZ	**Fitzroy Crossi**	**35.57**	**210**		**P**	**17 47 23.6**	**+0.1**
BJT	**Baijiatuau**	**35.98**	**323**	IAmb	IAmb	17 47 28.1	
	comp=Z,14nm,0.6s						
BJT	**Baijiatuau**	**35.98**	**323**	P	**P**	**17 47 27.9**	**+1.1**
BJT	**Baijiatuau**	**35.98**	**323**	P	**P**	**17 47 27.6**	**+0.8**
BJI	**Beijing**	**35.99**	**323**	P	**P**	**17 47 27.3**	**+0.5**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN	**Xi'an**	**37.61**	**310**	⇑P	**P**	**17 47 37.8**	**-2.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AS31	**Alice Springs**	**37.66**	**194**	P	**P**	**17 47 41.3**	**+0.1**
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**17 47 40.9**	**-0.3**
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**17 47 41.4**	**+0.1**
	comp=Z,15nm,0.7s,baz=24,slow=9.0,SNR=248						
ASAR				S	**S**	**17 53 15.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=18,slow=16,SNR=5.3						
ASAR				ScP	**ScP**	**17 53 21.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=15,slow=3.9,SNR=4.2						
	comp=Z,15nm,0.7s						
XLT	**XiLinHaoTe**	**38.64**	**328**	*e*P	**P**	**17 47 49.2**	**0.0**
XLT				pP	pwP	17 48 37.1	+0.2
XLT				pmax	pmax		
	comp=Z,40nm,0.6s						
EIDS	**Eidsvold**	**38.92**	**169**		**P**	**17 47 51.4**	**-0.3**
EIDS				IAmb	IAmb	17 47 52.9	
	comp=Z,22nm,1.1s						
EIDS	**Eidsvold**	**38.92**	**169**	P	**P**	**17 47 52.1**	**+0.5**
HHC	**Hu-ho-hao-te**	**39.25**	**321**	*e*P	**P**	**17 47 55.6**	**+1.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,66nm,4.2s						
HEH	**HeiHe**	**39.33**	**344**	*e*P	**P**	**17 47 55.0**	**+0.3**
HEH				pP	**pP**	**17 48 38.8**	**+0.3**
HEH				PcP	**PcP**	**17 49 59.0**	**+0.2**
HEH				ScP	**ScP**	**17 53 26.8**	**-0.4**
HEH				S	**S**	**17 53 39.8**	**+0.2**
HEH				pmax	pmax		
	comp=Z,86nm,0.7s						
QLP	**Quilpie**	**39.41**	**179**	P	**P**	**17 47 56.4**	**+0.7**
BTO	**Baotou**	**40.08**	**319**	*e*P	**P**	**17 48 03.3**	**+2.1**
BTO				pP	**pwP**	**17 48 47.3**	**-2.5**
BTO				sP	**sP**	**17 49 10.4**	**+2.0**
BTO				pmax	pmax		
	comp=Z,36nm,0.6s						
BTO				pmax	pmax		
	comp=Z,140nm,7.1s						
CD2	**Chengdu**	**40.55**	**303**	P	**P**	**17 48 05.5**	**+0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
INKA	**Innaminka**	**40.64**	**184**		**P**	**17 48 05.1**	**-0.6**
MBWA	**Marble Bar**	**41.19**	**215**	P	**P**	**17 48 10.4**	**+0.1**
MBWA				IAmb	IAmb	17 48 11.1	
	comp=Z,22nm,0.7s						
MBWA	**Marble Bar**	**41.19**	**215**	P	**P**	**17 48 10.6**	**+0.3**
TW1H	**Toowoomba 1 Ha**	**41.21**	**168**	P	**P**	**17 48 11.3**	**+0.8**
PZH	**PanZhiHua**	**41.22**	**295**	P	**P**	**17 48 12.2**	**+1.4**
PZH	**PanZhiHua**	**41.22**	**295**	P	**P**	**17 48 11.2**	**+0.4**
PSA00	**Pilbara Seismi**	**41.46**	**214**	P	**P**	**17 48 12.3**	**-0.2**
PSA00				IAmb	IAmb	17 48 13.6	
	comp=Z,38nm,0.9s						
PSA00	**Pilbara Seismi**	**41.46**	**214**	P	**P**	**17 48 13.1**	**+0.6**
NOUC	**Port Laguerre**	**41.55**	**147**	P	**P**	**17 48 15.5**	**+2.3**
PETK	**Petropavlovsk-**	**41.55**	**13**	P	**P**	**17 48 13.0**	**+0.2**
PETK	**Petropavlovsk-**	**41.55**	**13**	P	**P**	**17 48 13.5**	**+0.7**
	comp=Z,3.4nm,0.5s,baz=186,slow=7.1,SNR=8.8						
	comp=Z,3.4nm,0.5s						
DZM	**Mont Dzumac**	**41.60**	**147**	P	**P**	**17 48 14.7**	**+1.0**
DZM				IAmb	IAmb	17 48 17.3	
	comp=Z,23nm,0.8s						
DZM	**Mont Dzumac**	**41.60**	**147**	P	**P**	**17 48 15.7**	**+1.9**
DZM	**Mont Dzumac**	**41.60**	**147**	P	**P**	**17 48 15.6**	**+1.9**
DZM				sP	sP	17 49 28.7	+10
LZH	**Lanzhou**	**42.24**	**310**	*e*P	**P**	**17 48 20.5**	**+1.6**
LZH				pP	pP	17 49 04.0	+1.1
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZDM	**Lanzhou Array**	**42.30**	**310**	P	**P**	**17 48 20.7**	**+1.1**
	comp=Z,3.1nm,0.4s,baz=143,slow=11,SNR=4.5						
	comp=Z,3.1nm,0.4s						
LWLI	**Liwa**	**43.00**	**248**	P	**P**	**17 48 27.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**43.03**	**283**	P	**P**	**17 48 26.4**	**+1.1**
	comp=Z,2.7nm,0.5s,baz=78,slow=6.7,SNR=31						
	comp=Z,2.7nm,0.5s						
ARMA	**Armidale**	**43.95**	**170**	P	**P**	**17 48 31.6**	**-0.9**
ARMA				IAmb	IAmb	17 48 34.0	
	comp=Z,25nm,0.9s						
ARMA	**Armidale**	**43.95**	**170**	P	**P**	**17 48 33.3**	**+0.8**
CMSA	**Cobar Meteorol**	**44.40**	**177**	P	**P**	**17 48 36.7**	**+0.8**
STKA	**Stephens Creek**	**44.71**	**182**	P	**P**	**17 48 37.0**	**-1.3**
STKA	**Stephens Creek**	**44.71**	**182**	P	**P**	**17 48 38.0**	**-0.4**
	comp=Z,9.9nm,0.5s,baz=358,slow=7.4,SNR=25						
STKA				ScP	**ScP**	**17 53 49.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=318,slow=2.3,SNR=3.3						
	comp=Z,9.9nm,0.5s						
STKA	**Stephens Creek**	**44.71**	**182**	P	**P**	**17 48 38.2**	**-0.2**
FORT	**Forrest**	**46.01**	**198**	P	**P**	**17 48 48.9**	**+0.3**
FORT				IAmb	IAmb	17 48 50.5	
	comp=Z,44nm,0.7s						
BBOO	**Buckleboo**	**46.15**	**189**	P	**P**	**17 48 48.8**	**-0.8**
BBOO				IAmb	IAmb	17 48 50.0	
	comp=Z,23nm,0.7s						
BBOO	**Buckleboo**	**46.15**	**189**	P	**P**	**17 48 49.7**	**+0.1**
SONM	**Songino Array**	**46.35**	**326**	P	**P**	**17 48 50.2**	**-1.0**
SONM	**Songino Array**	**46.35**	**326**	P	**P**	**17 48 52.1**	**+0.9**
	comp=Z,7.1nm,0.5s,baz=148,slow=7.2,SNR=22						
SONM				PcP	**PcP**	**17 50 22.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=148,slow=3.3,SNR=4.1						
SONM				ScP	**ScP**	**17 53 54.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=145,slow=5.4,SNR=4.1						
	comp=Z,7.1nm,0.5s						
GTA	**Gaotai**	**46.46**	**313**	P	**P**	**17 48 53.6**	**+1.4**
GTA				pP	pwP	17 49 43.1	+1.9
GTA				sP	sP	17 50 07.5	+7.0
GTA				PcP	**PcP**	**17 50 24.5**	**+1.3**
GTA				ScP	**ScP**	**17 53 57.2**	**+0.7**
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
MA2	**Magadan**	**46.75**	**5**	P	**P**	**17 48 53.8**	**-0.2**
MA2				IAmb	IAmb	17 48 55.1	
	comp=Z,28nm,0.8s						
GSI	**Gunungsitoli**	**46.84**	**259**	P	**P**	**17 48 54.2**	**-1.2**
GSI				IAmb	IAmb	17 48 55.5	
	comp=Z,32nm,1.1s						
CAN	**Canberra**	**48.41**	**174**	P	**P**	**17 49 07.8**	**+0.8**
CAN				IAmb	IAmb	17 50 03.6	
	comp=Z,102nm,1.7s						
CAN	**Canberra**	**48.41**	**174**	P	**P**	**17 49 08.2**	**+1.1**
MORW	**Morawa**	**49.52**	**212**	P	**P**	**17 49 15.5**	**-0.1**
MORW				IAmb	IAmb	17 49 16.3	
	comp=Z,36nm,0.7s						
MORW	**Morawa**	**49.52**	**212**	P	**P**	**17 49 15.7**	**+0.1**
YAK	**Yakutsk**	**49.88**	**352**	P	**P**	**17 49 17.6**	**-0.2**
YAK	**Yakutsk**	**49.88**	**352**	P	**P**	**17 49 17.6**	**-0.2**
	comp=Z,52nm,0.8s,baz=8.9,slow=2.0,SNR=35						
	comp=Z,52nm,0.8s						
YAK	**Yakutsk**	**49.88**	**352**	P	**P**	**17 49 17.8**	**0.0**
YAK				pP	**pP**	**17 50 02.8**	**-0.3**
BRAT	**Ballarat**	**50.34**	**179**	P	**P**	**17 49 23.2**	**+1.7**
TOO	**Toolangi**	**50.40**	**178**	P	**P**	**17 49 22.9**	**+0.8**
BLDU	**Ballidu**	**50.44**	**210**	P	**P**	**17 49 22.6**	**+0.1**
EVN	**Everest**	**54.58**	**295**	P	**P**	**17 49 53.1**	**-0.7**
TAU	**Tasmania Unive**	**55.81**	**177**	P	**P**	**17 50 00.1**	**-1.2**
SPIA	**Saint Paul Isl**	**56.32**	**28**	P	**P**	**17 50 05.4**	**+0.6**
	baz=238						
WMQ	**Urumqi**	**56.47**	**314**	*e*P	**P**	**17 50 03.4**	**-2.8**
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				LR	LR		
	comp=Z,81nm,24.3s						
UNV	**Unalaska Valle**	**56.55**	**33**	P	**P**	**17 50 05.4**	**-1.0**
UNV				IAmb	IAmb	17 50 31.8	
	comp=Z,30nm,1.3s						
MLH	**Mauna Loa**	**58.86**	**75**	P	**P**	**17 50 23.9**	**+0.4**
TIXI	**Tiksi**	**59.22**	**355**	P	**P**	**17 50 24.4**	**-0.4**
TIXI				IAmb	IAmb	17 50 27.1	
	comp=Z,15nm,0.9s						
TIXI	**Tiksi**	**59.22**	**355**	P	**P**	**17 50 24.3**	**-0.4**
S12K	**Black Hills**	**59.66**	**32**	P	**P**	**17 50 27.7**	**-0.3**
	baz=247						
M11K	**Mekoryuk**	**59.78**	**26**	P	**P**	**17 50 28.9**	**+0.3**
	baz=240						
QRZ	**Quartz Range**	**60.02**	**155**	P	**P**	**17 50 31.6**	**+1.0**
URZ	**Urewera**	**60.02**	**150**	P	**P**	**17 50 31.7**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=303,slow=2.9,SNR=6.3						
	comp=Z,3.3nm,0.3s						
SDPT	**Sand Point**	**60.36**	**33**	P	**P**	**17 50 32.9**	**+0.2**
	baz=249						
NNZ	**Nelson**	**60.70**	**154**	P	**P**	**17 50 35.1**	**-0.1**
MKAR	**Makanchi Array**	**60.88**	**316**	P	**P**	**17 50 36.8**	**+0.3**
MKAR	**Makanchi Array**	**60.88**	**316**	P	**P**	**17 50 37.2**	**+0.7**
	comp=Z,6.4nm,0.5s,baz=92,slow=8.0,SNR=73						
MKAR				PcP	**PcP**	**17 51 17.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=93,slow=5.9,SNR=1.6						
	comp=Z,6.4nm,0.5s						
M13K	**Dall Lake**	**61.04**	**27**	P	**P**	**17 50 37.6**	**+0.4**
	baz=243						
TCW	**Tory Channel**	**61.08**	**154**	P	**P**	**17 50 37.8**	**0.0**
MAKZ	**Makanchi**	**61.09**	**316**	P	**P**	**17 50 38.8**	**+0.8**
MAKZ				pP	**pP**	**17 51 25.7**	**+0.2**
ZAA0	**Zalesovo Array**	**61.22**	**325**	P	**P**	**17 50 38.5**	**0.0**
ZALV	**Zalesovo Beam**	**61.22**	**325**	P	**P**	**17 50 38.5**	**-0.1**
	comp=Z,8.3nm,0.6s,baz=108,slow=7.5,SNR=40						
ZALV				PcP	**PcP**	**17 51 18.3**	**-0.8**
	comp=Z,6.6nm,0.5s,baz=121,slow=3.6,SNR=14						
	comp=Z,8.3nm,0.6s						
O14K	**Tigyukauivet M**	**61.49**	**29**	P	**P**	**17 50 40.2**	**0.0**
	baz=246						
BFZ	**Birch Farm**	**61.53**	**152**	P	**P**	**17 50 40.0**	**-0.8**
N14K	**Kuskokwak Cree**	**61.57**	**28**	P	**P**	**17 50 41.6**	**+0.8**
	baz=245						
L14K	**Kuka Creek**	**61.75**	**26**	P	**P**	**17 50 42.5**	**+0.5**
L14K	**Kuka Creek**	**61.75

D17K	Noatak River baz=240	64.62	20	P	P	17 51 01.5	+0.8
F17K	Baldwin Pennin baz=243	64.64	21	P	P	17 51 01.2	+0.4
E17K	Hotham Inlet baz=242	64.74	21	P	P	17 51 01.7	+0.2
OHAK	Old Harbor baz=254	64.76	33	P	P	17 51 02.1	+0.3
M18K	Stony River baz=250	64.83	28	P	P	17 51 02.1	-0.1
C17K	DeLong Mountai baz=240	64.98	19	P	P	17 51 02.5	-0.6
Q19K	Cape Douglas, baz=253	65.06	31	P	P	17 51 03.1	-0.6
O19K	Port Alsworth baz=252	65.11	29	P	P	17 51 03.8	-0.2
H18K	Honhosa River	65.15	23	P	P	17 51 04.3	+0.1
H18K	comp=Z,36nm,1.4s			IAmb	IAmb	17 51 05.7	
H18K	Honhosa River baz=246	65.15	23	P	P	17 51 04.3	+0.1
J18K	Innoko River baz=248	65.15	25	P	P	17 51 03.7	-0.6
KDAK	Kodiak Island baz=255	65.28	32	P	P	17 51 05.2	+0.1
F18K	Selawik baz=244	65.29	22	P	P	17 51 05.0	0.0
E18K	Tukpahlearik C baz=243	65.32	21	P	P	17 51 05.2	0.0
G18K	Tagagawik	65.35	23	P	P	17 51 05.6	+0.1
G18K	comp=Z,26nm,1.3s			IAmb	IAmb	17 51 07.0	
G18K	Tagagawik baz=245	65.35	23	P	P	17 51 05.8	+0.3
P19K	Oil Pt baz=253	65.47	30	P	P	17 51 06.0	-0.4
GCSA	Galena City Sc baz=248	65.57	24	P	P	17 51 06.1	-0.8
Q20K	Shuyak Island baz=254	65.59	31	P	P	17 51 06.7	-0.5
M19K	Big River Lodg baz=251	65.62	27	P	P	17 51 07.2	-0.1
C18K	Utukok River baz=242	65.70	19	P	P	17 51 07.4	-0.3
AAK	Ala-Archa	65.77	311		P	17 51 08.7	-0.1
B18K	Kokolik River baz=241	65.85	19	P	P	17 51 08.6	0.0
O20K	Slope Mountain baz=254	65.89	30	P	P	17 51 08.4	-0.7
H19K	Roundabout Mou comp=Z,20nm,1.1s	66.04	23	IAmb	IAmb	17 51 11.7	
H19K	Roundabout Mou baz=248	66.04	23	P	P	17 51 09.2	-0.6
F19K	Shaleruckik Mo baz=246	66.06	22	P	P	17 51 10.0	0.0
M20K	Styx River comp=Z,21nm,1.1s	66.18	28	IAmb	IAmb	17 51 14.5	
M20K	Styx River baz=252,SNR=6.7	66.18	28	P	P	17 51 10.7	-0.2
HOM	Homer baz=255	66.25	30	P	P	17 51 10.9	-0.3
N20K	Mount Spurr baz=254	66.40	28	P	P	17 51 12.1	-0.2
SPCR	Spurr Chakacha baz=254	66.40	28	P	P	17 51 11.7	-0.6
NIL	Nilore	66.42	301		P	17 51 12.7	-0.3
NIL	comp=Z,18nm,0.7s			IAmb	IAmb	17 51 14.3	
C19K	Lookout Ridge baz=243	66.43	19	P	P	17 51 12.4	0.0
E19K	Redstone River comp=Z,15nm,0.9s	66.51	21	IAmb	IAmb	17 51 14.7	
E19K	Redstone River baz=246,SNR=6.2	66.51	21	P	P	17 51 13.0	+0.1
I20K	Naaghedeneel baz=250	66.55	24	P	P	17 51 13.6	+0.5
H20K	Anotleneega Mo baz=249	66.63	24	P	P	17 51 14.1	+0.5
D19K	Kuna River baz=245	66.64	20	P	P	17 51 14.2	+0.5
BRLK	Bradley Lake	66.64	30	P	P	17 51 13.1	-0.8
BRLK	comp=Z,22nm,0.7s			IAmb	IAmb	17 51 13.8	
BRSE	Bradley Lake S baz=256	66.71	30	P	P	17 51 14.6	+0.4
F20K	Avaraart Lake baz=248	66.89	22	P	P	17 51 15.4	+0.2
PPLA	Purkeypile baz=253	66.90	27	P	P	17 51 15.2	-0.3
SKT	Skwentna comp=Z,15nm,1.0s	66.93	28	IAmb	IAmb	17 51 16.1	
SKT	Skwentna baz=254	66.93	28	P	P	17 51 14.9	-0.7
CHUM	Lake Minchumin baz=252	67.14	26	P	P	17 51 16.6	-0.2
SUA	Susitna One comp=Z,31nm,1.4s	67.15	28	IAmb	IAmb	17 51 19.1	
SUA	Susitna One baz=255	67.15	28	P	P	17 51 16.6	-0.5
E20K	Nigu River baz=247,SNR=5.7	67.19	21	P	P	17 51 18.1	+0.9
D20K	Etivluk River comp=Z,19nm,0.8s	67.23	20	IAmb	IAmb	17 51 19.1	
D20K	Etivluk River baz=246,SNR=7.3	67.23	20	P	P	17 51 17.1	-0.3
O22K	Cooper Landing baz=256	67.38	30	P	P	17 51 18.3	-0.1
SEW	Seward baz=257	67.43	30	P	P	17 51 18.2	-0.5
M22K	Willow baz=255	67.51	28	P	P	17 51 18.7	-0.4
G21K	Allakaket baz=250	67.52	23	P	P	17 51 19.3	+0.1
RC01	Rabbit Creek A baz=256,SNR=8.2	67.53	29	P	P	17 51 18.8	-0.5
B20K	Meade River baz=245	67.59	19	P	P	17 51 19.5	0.0
CUT	Chulitna baz=255	67.61	27	P	P	17 51 19.2	-0.7
I21K	Tanana comp=Z,12nm,0.8s	67.68	24	IAmb	IAmb	17 51 22.6	
I21K	Tanana baz=252	67.68	24	P	P	17 51 20.5	+0.4
BPAW	Bear Paw Mtn. comp=Z,22nm,1.1s	67.77	26	IAmb	IAmb	17 51 22.2	
BPAW	Bear Paw Mtn. baz=254,SNR=6.5	67.77	26	P	P	17 51 21.1	+0.3
F21K	Alatna River baz=250	67.77	22	P	P	17 51 20.9	+0.1
TRF	Thorofare Moun baz=254	67.88	26	P	P	17 51 22.0	+0.3
PMR	Palmer comp=Z,19nm,1.0s	67.93	28	IAmb	IAmb	17 51 22.3	
PMR	Palmer	67.93	28	P	P	17 51 23.0	+1.2
PMR	Palmer baz=256	67.93	28	P	P	17 51 21.9	+0.1
C21K	Knifeblade Rid baz=248	68.02	20	P	P	17 51 22.3	0.0
E21K	Killik River baz=249	68.03	21	P	P	17 51 22.2	-0.1
GHO	Glory Hole Cre comp=Z,38nm,1.5s	68.07	28	IAmb	IAmb	17 51 25.6	
MLY	Manley comp=Z,20nm,1.1s	68.14	25	IAmb	IAmb	17 51 24.7	
MLY	Manley baz=253,SNR=12	68.14	25	P	P	17 51 23.3	+0.1
PWL	Port Wells baz=257,SNR=7.1	68.14	29	P	P	17 51 23.2	0.0
KNK	Knik Glacier comp=Z,29nm,1.1s	68.20	29	IAmb	IAmb	17 51 24.6	
KNK	Knik Glacier baz=257,SNR=6.7	68.20	29	P	P	17 51 23.7	+0.2
F22K	John River baz=251,SNR=8.8	68.34	22	P	P	17 51 24.6	+0.3
SML	Sawmill baz=257,SNR=7.0	68.35	28	P	P	17 51 24.9	+0.3
G22K	Bettles baz=252	68.40	23	P	P	17 51 25.1	+0.5
WAT1	Susitna Watana baz=256	68.49	27	P	P	17 51 25.0	-0.4
MCK	McKinley baz=256	68.54	26	P	P	17 51 25.5	-0.2
D22K	Ayikyak River comp=Z,19nm,0.7s	68.62	20	IAmb	IAmb	17 51 28.2	
D22K	Ayikyak River baz=250	68.62	20	P	P	17 51 26.6	+0.6
M23K	Glacier View baz=258	68.63	28	P	P	17 51 26.5	+0.2
E22K	Anaktuvuk Pass comp=Z,17nm,0.8s	68.67	21	IAmb	IAmb	17 51 28.4	
NEA2	Nenana baz=255	68.70	25	P	P	17 51 27.1	+0.5
KKAR	Karatay Array	68.72	311		P	17 51 27.1	0.0
I23K	Minto, Yukon-K comp=Z,21nm,1.1s	68.73	25	IAmb	IAmb	17 51 28.4	
I23K	Minto, Yukon-K baz=255,SNR=6.9	68.73	25	P	P	17 51 27.2	+0.5
GLI	Glacier Island baz=258	68.73	29	P	P	17 51 26.7	-0.2
WAT6	Susitna Watana baz=257,SNR=7.1	68.80	28	P	P	17 51 26.8	-0.6
SCM	Sheep Creek Mo baz=258,SNR=7.1	68.82	28	P	P	17 51 28.1	+0.6
H23K	Yukon River comp=Z,12nm,0.9s	68.84	24	IAmb	IAmb	17 51 29.3	
H23K	Yukon River baz=254	68.84	24	P	P	17 51 27.8	+0.4
B22K	Teshekpuk Lake baz=249	68.90	19	P	P	17 51 28.3	+0.6
G23K	Bananza Creek comp=Z,15nm,0.8s	68.90	23	IAmb	IAmb	17 51 29.9	
G23K	Bananza Creek baz=254,SNR=10.0	68.90	23	P	P	17 51 28.2	+0.4
COLD	Coldfoot comp=Z,20nm,0.8s	68.98	22	IAmb	IAmb	17 51 30.3	
COLD	Coldfoot baz=253	68.98	22	P	P	17 51 28.9	+0.7
DHY	Denali Highway baz=257,SNR=5.1	69.07	27	P	P	17 51 29.0	0.0
WRH	Wood River Hil comp=Z,19nm,1.0s	69.08	26	IAmb	IAmb	17 51 29.4	
COLA	College	69.28	25	P	P	17 51 28.4	-1.7
COLA	comp=Z,41nm,1.9s			IAmb	IAmb	17 51 30.7	
COLA	College	69.28	25	P	P	17 51 31.6	+1.5
COLA	College baz=256	69.28	25	P	P	17 51 30.2	+0.1
EYAK	Cordova Ski Ar baz=260	69.32	30	P	P	17 51 30.5	+0.1
D23K	Nanushuk River baz=252	69.33	21	P	P	17 51 31.1	+0.7
KLU	Klutina comp=Z,26nm,1.0s	69.41	29	IAmb	IAmb	17 51 32.7	
KLU	Klutina baz=259,SNR=8.9	69.41	29	P	P	17 51 30.8	-0.3
M24K	Tolsona, Glenn comp=Z,28nm,1.1s	69.41	28	IAmb	IAmb	17 51 32.8	
M24K	Tolsona, Glenn baz=259	69.41	28	P	P	17 51 30.8	-0.3
DIV	Divide comp=Z,40nm,1.2s	69.42	29	IAmb	IAmb	17 51 32.8	
E23K	Chandalar baz=253	69.44	22	P	P	17 51 31.3	+0.1
BVAR	Borovoye Array comp=Z,44nm,0.5s,baz=104,slow=7.8,SNR=250	69.45	322	P	P	17 51 31.8	+0.4
	comp=Z,44nm,0.5s						
BORK	Borovoye	69.50	322	P	P	17 51 32.2	+0.5
POKR	Poker Plat Res baz=257	69.51	25	P	P	17 51 31.6	0.0
HDA	Harding Lake baz=257,SNR=6.4	69.55	26	P	P	17 51 31.3	-0.5
TOLK	Toolik Lake Re baz=253	69.62	21	P	P	17 51 32.0	-0.2
C23K	Itkillik River baz=252	69.63	20	P	P	17 51 32.1	-0.1
ILAR	Eielson Array	69.66	25	P	P	17 51 31.0	-1.4
ILAR	Eielson Array comp=Z,6.7nm,0.5s,baz=248,slow=5.9,SNR=96	69.66	25	P	P	17 51 31.2	-1.2
	comp=Z,6.7nm,0.5s						
CHGR	Chuyangaron comp=Z,12nm,0.7s	69.70	307	IAmb	IAmb	17 51 34.0	
E24K	Your Creek baz=254	69.85	22	P	P	17 51 33.8	+0.2
KAIM	Kayak Island baz=261	69.87	31	P	P	17 51 33.8	0.0
G24K	Hadweenzic Riv comp=Z,9.7nm,0.7s	69.87	23	IAmb	IAmb	17 51 35.6	
G24K	Hadweenzic Riv baz=256	69.87	23	P	P	17 51 33.9	+0.2
PAX	Paxson comp=Z,15nm,1.1s	69.90	27	IAmb	IAmb	17 51 35.4	
PAX	Paxson baz=259,SNR=10	69.90	27	P	P	17 51 33.7	-0.3
F24K	Squaw Lake baz=255	69.92	22	P	P	17 51 34.0	-0.1
K24K	Donnelly Dome comp=Z,30nm,1.0s	69.92	27	IAmb	IAmb	17 51 35.1	
K24K	Donnelly Dome baz=259,SNR=8.1	69.92	27	P	P	17 51 33.6	-0.6
HARP	HAARP baz=260,SNR=9.8	69.93	28	P	P	17 51 34.1	-0.1
BMRM	Bremner River baz=261	69.95	30	P	P	17 51 33.9	-0.4
D24K	Happy Valley baz=254	70.03	21	P	P	17 51 34.1	-0.5
N25K	Chitina, Valde comp=Z,23nm,1.4s	70.06	29	IAmb	IAmb	17 51 36.8	
N25K	Chitina, Valde baz=260	70.06	29	P	P	17 51 34.7	-0.3
RIDG	Independent Ri comp=Z,32nm,1.2s	70.32	27	IAmb	IAmb	17 51 37.7	
RIDG	Independent Ri baz=260,SNR=9.6	70.32	27	P	P	17 51 36.1	-0.5
GLB	Gilahina Butte comp=Z,31nm,1.1s	70.40	29	IAmb	IAmb	17 51 38.7	
G25K	Bearman Lake baz=257	70.42	23	P	P	17 51 36.7	-0.3
H25L	Birch Creek baz=258	70.42	24	P	P	17 51 37.1	+0.1
VRDI	Verde Repeater comp=Z,38nm,1.3s	70.54	29	IAmb	IAmb	17 51 39.5	
CRQE	Cirque baz=262,SNR=5.3	70.65	30	P	P	17 51 38.4	-0.3
DOT	Dot Lake comp=Z,21nm,0.8s	70.65	27	IAmb	IAmb	17 51 39.5	
MENT	Mentasta	70.68	28	P	P	17 51 40.1	+1.4
WAX	Waxell Ridge comp=Z,28nm,0.9s	70.72	30	IAmb	IAmb	17 51 40.9	
SCRK	Sand Creek baz=260,SNR=12	70.74	26	P	P	17 51 38.8	-0.4
MCARA	McCarthy VSAT comp=Z,28nm,1.0s	70.77	29	IAmb	IAmb	17 51 40.8	
MCARA	McCarthy VSAT baz=262,SNR=6.2	70.77	29	P	P	17 51 39.1	-0.1
F25K	Christian Rive baz=257	70.78	23	P	P	17 51 39.1	-0.1
L26K	Log Cabin Wild comp=Z,13nm,0.9s	70.86	28	IAmb	IAmb	17 51 41.4	
MESA	MESA baz=263	71.13	31	P	P	17 51 41.4	-0.3
GRNC	Granite Creek comp=Z,21nm,0.8s	71.30	30	IAmb	IAmb	17 51 44.3	
I26K	Coal Creek Min comp=Z,23nm,1.6s	71.31	25	IAmb	IAmb	17 53 03.5	
CTG	Chitna Glacier baz=264,SNR=6.5	71.52	30	P	P	17 51 43.2	-0.8
BCAR	Beaver Creek A	71.57	28		P	17 51 43.2	-0.9
K27K	Chicken baz=262	71.58	27	P	P	17 51 43.9	-0.1
PINM	Pinnacle baz=265	71.97	31	P	P	17 51 46.2	-0.4
O28M	Mount Upton comp=Z,28nm,0.8s	72.06	30	IAmb	IAmb	17 51 49.3	
O28M	Mount Upton baz=265,SNR=11	72.06	30	P	P	17 51 48.1	+0.7
EGAK	Eagle comp=Z,41nm,1.6s	72.07	26	IAmb	IAmb	17 51 50.0	
EGAK	Eagle baz=262	72.07	26	P	P	17 51 47.8	+0.8
H27K	Steamboat Moun baz=262,SNR=17	72.12	24	P	P	17 51 48.1	+0.7
G27K	Doyon Strip baz=261	72.16	24	P	P	17 51 48.2	+0.8
PNL	Peninsula baz=266	72.36	31	P	P	17 51 49.5	+0.7
I28M	Miner Creek comp=Z,13nm,0.7s	72.67	25	IAmb	IAmb	17 51 52.2	
I28M	Miner Creek baz=263,SNR=15	72.67	25	P	P	17 51 50.8	+0.2
DAWY	Dawson comp=Z,14nm,0.8s	72.75	27	IAmb	IAmb	17 51 52.9	
DAWY	Dawson baz=264,SNR=7.2	72.75	27	P	P	17 51 51.0	-0.1
O29M	Mount Kennedy comp=Z,25nm,0.9s	72.82	31	IAmb	IAmb	17 51 54.0	
O29M	Mount Kennedy baz=266,SNR=6.1	72.82	31	P	P	17 51 52.0	+0.3
YUK4	Talbot Arm baz=266,SNR=9.3	72.86	30	P	P	17 51 52.6	+0.7
F28M	Old Crow baz=263	72.96	23	P	P	17 51 52.8	+0.7
YUK6	Outpost Mounta baz=266	72.97	30	P	P	17 51 52.6	0.0
M29M	Somme Creek comp=Z,23nm,0.8s	73.03	28	IAmb	IAmb	17 51 55.0	
M29M	Somme Creek baz=266,SNR=16	73.03	28	P	P	17 51 53.9	+1.1
P29M	Windy Craggy baz=267	73.20	31	P	P	17 51 54.3	+0.6
E28M	Babbage River baz=263	73.21	22	P	P	17 51 54.6	+1.0
L29M	L29M comp=Z,27nm,0.8s	73.23	28	IAmb	IAmb	17 51 56.3	
L29M	L29M baz=266,SNR=15	73.23	28	P	P	17 51 54.8	+0.9
J29N	Klondike Camp baz=265	73.30	26	P	P	17 51 55.0	+0.7
I29M	Ogilvie Camp, comp=Z,39nm,1.6s	73.34	25	IAmb	IAmb	17 51 56.2	
I29M	Ogilvie Camp, baz=265	73.34	25	P	P	17 51 55.2	+0.7
HYT	Haines Junctio baz=267,SNR=11	73.38	30	P	P	17 51 55.5	+0.6
H29M	Whitestone comp=Z,12nm,0.8s	73.39	24	IAmb	IAmb	17 51 56.1	
H29M	Whitestone baz=265	73.39	24	P	P	17 51 55.3	+0.5
K29M	Barlow Dome comp=Z,22nm,0.8s	73.56	27	IAmb	IAmb	17 51 58.0	
K29M	Barlow Dome baz=266,SNR=15	73.56	27	P	P	17 51 56.5	+0.6
G29M	Pine Creek comp=Z,22nm,0.8s	73.60	24	IAmb	IAmb	17 51 58.1	
G29M	Pine Creek baz=265,SNR=5.6	73.60	24	P	P	17 51 56.3	+0.4
N30M	Aishikik Lake comp=Z,22nm,1.0s	73.61	29	IAmb	IAmb	17 51 58.4	
N30M	Aishikik Lake baz=267,SNR=9.4	73.61	29	P	P	17 51 56.7	+0.5
P30M	Million Dollar baz=268,SNR=5.2	73.62	31	P	P	17 51 57.0	+0.7
M30M	Minto, Yukon comp=Z,16nm,1.0s	73.81	28	IAmb	IAmb	17 51 59.4	
M30M	Minto, Yukon baz=267,SNR=7.1	73.81	28	P	P	17 51 58.3	+1.0
EPYK	Eagle Plains comp=Z,14nm,0.8s	74.07	24	IAmb	IAmb	17 51 59.9	
EPYK	Eagle Plains baz=266	74.07	24	P	P	17 51 59.8	+1.1
O30N	Mendenhall baz=268	74.07	30	P	P	17 51 59.8	+1.0
J30M	Hart River comp=Z,60nm,1.8s	74.12	26	IAmb	IAmb	17 52 01.2	
J30M	Hart River baz=267,SNR=9.5	74.12	26	P	P	17 52 00.3	+1.2
I30M	Mount Dempster baz=267	74.14	26	P	P	17 52 00.2	+1.0
R31K	City Hall, Gus baz=269	74.20	33	P	P	17 52 00.5	+1.1
N31M	Braeburn, Yuko baz=268	74.24	29	P	P	17 52 01.1	+1.3
MAYO	Mayo, Yukon baz=268	74.27	27	P	P	17 52 00.8	+0.9
G30M	tAoh Zraii Nji comp=Z,22nm,0.9s	74.31	24	IAmb	IAmb	17 52 01.5	
G30M	tAoh Zraii Nji baz=266,SNR=7.4	74.31	24	P	P	17 52 00.6	+0.5
F30M	Barrier River baz=267,SNR=6.5	74.52	23	P	P	17 52 01.8	+0.7
WHY	Whitehorse comp=Z,34nm,1.0s	74.66	30	IAmb	IAmb	17 52 04.5	
WHY	Whitehorse baz=269	74.66	30	P	P	17 52 02.9	+0.5
R32K	Eaglecrest baz=270	74.84	33	P	P	17 52 04.0	+0.8
M31M	Drury Creek, Y baz=269,SNR=6.6	74.92	29	P	P	17 52 04.5	+0.8
H31M	Peel River comp=Z,11nm,0.8s	75.01	25	IAmb	IAmb	17 52 05.8	
H31M	Peel River baz=268	75.01	25	P	P	17 52 04.7	+0.6
G31M	Satah River baz=268,SNR=8.4	75.07	24	P	P	17 52 04.6	+0.2
P32M	Atlin comp=Z,26nm,1.1s	75.25	31	IAmb	IAmb	17 52 07.6	
P32M	Atlin baz=271	75.25	31	P	P	17 52 06.3	+0.7
F31M	Tsiigehtchic comp=Z,56nm,1.7s	75.29	23	IAmb	IAmb	17 52 40.8	
F31M	Tsiigehtchic baz=269	75.29	23	P	P	17 52 05.8	+0.2
INK	Inuvik comp=Z,19nm,0.8s	75.40	22	IAmb	IAmb	17 52 07.1	
INK	Inuvik baz=269,SNR=7.1	75.40	22	P	P	17 52 06.6	+0.4
N32M	Quiet Lake baz=271	75.54	30	P	P	17 52 08.0	+0.8
U33K	Whale Pass baz=272	75.64	35	P	P	17 52 08.7	+0.9
P33M	Teslin, Yukon baz=271	75.69	31	P	P	17 52 09.0	+0.9
AB31	Akbulak array comp=Z,11nm,0.8s	75.97	318	IAmb	IAmb	17 52 10.5	
ABKAR	Akbulak array	75.97	318		P	17 52 09.4	-0.4
Q32M	Nakina River comp=Z,44nm,1.5s	76.00	32	IAmb	IAmb	17 52 12.5	
Q32M	Nakina River baz=272	76.00	32	P	P	17 52 10.8	+0.7
WRAK	Wrangell Islan baz=273	76.06	35	P	P	17 52 11.2	+1.0
DIB	Dawson Inlet, comp=Z,31nm,1.1s	76.15	38	IAmb	IAmb	17 52 12.6	
ARTI	Arti	76.48	325		P	17 52 11.4	-1.2
ARTI	Arti	76.48	325	P	P	17 52 12.6	0.0
S34M	Telegraph Cree comp=Z,16nm,0.8s	76.65	33	IAmb	IAmb	17 52 15.4	
S34M	Telegraph Cree baz=273	76.65	33	P	P	17 52 14.7	+1.2
R33M	Jennings River comp=Z,29nm,1.1s	76.65	32	IAmb	IAmb	17 52 15.9	
R33M	Jennings River baz=273,SNR=5.7	76.65	32	P	P	17 52 14.5	+0.8
T35M	Bob Quinn comp=Z,17nm,0.9s	77.19	34	IAmb	IAmb	17 52 18.8	
T35M	Bob Quinn baz=274	77.19	34	P	P	17 52 17.3	+0.8
DLBC	Dease Lake baz=274,SNR=6.5	77.20	33	P	P	17 52 17.6	+1.0
WTLY	Watson Lake, Y baz=275	77.70	31	P	P	17 52 20.5	+1.1
TGTN	Hyland Airport baz=275	77.84	29	P	P	17 52 20.8	+0.7
A36M	Sachs Harbour baz=276	78.10	19	P	P	17 52 21.8	+0.6
C36M	Paulatuk baz=277	78.78	21	P	P	17 52 24.9	-0.1
LIRD	Liard River Hi baz=277,SNR=6.1	79.13	31	P	P	17 52 28.0	+0.9
DRV	Dumont d'Urvil	79.54	181	P	P	17 52 29.1	+0.1
DRV				pP	pP	17 53 17.5	-1.2
TOAD	Toad River Com baz=278	79.65	32	P	P	17 52 30.7	+0.7
KOTAN	Kotaneelee Air baz=279	80.06	31	P	P	17 52 32.8	+0.7
CBB	Campbell River comp=Z,16nm,0.8s	80.91	41	IAmb	IAmb	17 52 39.0	
NLWA	Neilton Lookou comp=Z,23nm,1.1s	82.35	43	IAmb	IAmb	17 52 47.0	
PGC	Sidney comp=Z,13nm,0.8s	82.39	42	IAmb	IAmb	17 52 46.5	
B04A	Port Angeles comp=Z,22nm,0.9s	82.47	43	IAmb	IAmb	17 52 47.4	
E03A	Lebam comp=Z,28nm,0.9s	82.72	44	IAmb	IAmb	17 52 48.6	
GNW	Green Mountain comp=Z,22nm,0.8s	83.01	43	IAmb	IAmb	17 52 50.1	
I03D	Drain, OR comp=Z,15nm,0.9s	83.43	47	IAmb	IAmb	17 52 52.2	
KRMB	Red Mountain comp=Z,44nm,1.4s	83.46	49	IAmb	IAmb	17 52 55.2	
BUCK	Buck Mountain comp=Z,29nm,0.9s	83.58	46	IAmb	IAmb	17 52 53.4	
D05A	Emumclaw comp=Z,18nm,0.7s	83.64	43	IAmb	IAmb	17 52 53.0	

H04D Lebanon 83.69 46 IAmb IAmb 17 52 53.7
comp=Z,16nm,1.0s
ALE Alert 83.84 3 P **P 17 52 52.0 +0.6**
YKA Yellowknife Ar 83.98 27 P **P 17 52 52.3 -0.1**
comp=Z,6.3nm,0.7s,baz=293,slow=6.3,SNR=9.5
comp=Z,6.3nm,0.7s
H04A Detroit Lake 84.04 46 IAmb IAmb 17 52 54.7
comp=Z,11nm,0.8s
HOOD Mount Hood Mea 84.27 45 IAmb IAmb 17 53 04.2
comp=Z,11nm,0.6s
SPA0 Spitsbergen Ar 84.33 350 *e*P **P 17 52 54.3 +0.4**
SPITS Spitsbergen Ar 84.33 350 P **P 17 52 53.9 0.0**
comp=Z,3.1nm,0.5s,baz=112,slow=6.4,SNR=10
comp=Z,3.1nm,0.5s
WIFE Three Sisters- 84.44 46 **P 17 52 56.8 +1.4**
WIFE IAmb IAmb 17 52 57.4
comp=Z,19nm,0.8s
N02D Trinity Center 84.46 49 P **P 17 52 57.1 +1.6**
KBS Kingsbay 84.51 352 *e*P **P 17 52 55.6 +0.8**
KBS Kingsbay 84.51 352 *i*P **P 17 52 55.6 +0.8**
KBS Kingsbay 84.51 352 P **P 17 52 55.6 +0.8**
G05A Wamic 84.52 45 IAmb IAmb 17 52 57.4
comp=Z,11nm,0.7s
I05D Terrebonne, OR 84.71 46 IAmb IAmb 17 52 58.5
comp=Z,17nm,1.2s
M03C McCloud 84.83 49 IAmb IAmb 17 52 59.1
comp=Z,16nm,0.8s
LVZ Lovozero 84.87 339 P **P 17 52 56.6 -0.2**
MXC Moxie City 84.91 43 IAmb IAmb 17 52 59.4
comp=Z,21nm,1.2s
NOR Nord 84.99 357 *i*P **P 17 52 56.5 -0.6**
J05D Fort Rock, OR 85.02 47 IAmb IAmb 17 53 00.5
comp=Z,22nm,1.1s
E07A Sunnyside 85.21 43 IAmb IAmb 17 53 01.0
comp=Z,19nm,0.8s
K05A Summer Lake 85.39 47 IAmb IAmb 17 53 02.5
comp=Z,35nm,1.4s
HAWA Hanford 85.47 44 IAmb IAmb 17 53 02.1
comp=Z,18nm,0.8s
D08A Wollman Farm, 85.71 43 IAmb IAmb 17 53 03.2
comp=Z,26nm,1.1s
YPT Yellepit 85.94 44 IAmb IAmb 17 53 04.7
comp=Z,19nm,0.9s
BEKR Beckworth 86.46 50 IAmb IAmb 17 53 07.0
comp=Z,9.8nm,0.8s
NEW Newport 86.57 41 IAmb IAmb 17 53 07.2
comp=Z,21nm,1.0s
J08A Circle Bar Ran 86.96 46 IAmb IAmb 17 53 09.6
comp=Z,16nm,0.9s
WVOR Wild Horse Val 87.08 47 IAmb IAmb 17 53 10.2
comp=Z,12nm,0.9s
ARA0 ARCESS Array S 87.14 342 *e*P **P 17 53 08.1 +0.2**
ARCES ARCESS Array B 87.14 342 P **P 17 53 07.7 -0.2**
comp=Z,7.8nm,0.6s,baz=72,slow=6.9,SNR=60
comp=Z,7.8nm,0.6s
PKD Bear Valley Ra 87.27 54 IAmb IAmb 17 53 11.3
comp=Z,12nm,1.0s
BMO Blue Mountains 87.37 45 IAmb IAmb 17 53 11.3
comp=Z,20nm,0.8s
NVAR Mina Array Bea 88.37 51 **P 17 53 13.5 -1.1**
NVAR Mina Array Bea 88.37 51 P **P 17 53 16.0 +1.4**
comp=Z,9.2nm,0.7s,baz=261,slow=6.2,SNR=62
comp=Z,9.2nm,0.7s
NV11 Mina Array Sit 88.48 51 IAmb IAmb 17 53 17.1
comp=Z,9.0nm,0.9s
KBZ Khabaz 88.51 315 P **P 17 53 15.3 +0.5**
comp=Z,2.8nm,0.8s,baz=42,slow=9.8,SNR=4.8
comp=Z,2.8nm,0.8s
CCD Concordia, Ant 88.87 185 P **P 17 53 17.2 +1.0**
TRO Tromso 89.01 343 *e*P **P 17 53 16.0 -0.6**
TPH Tonopah 89.28 51 IAmb IAmb 17 53 20.8
comp=Z,9.1nm,0.9s
DAG Danmarks Havn 89.71 356 *i*P **P 17 53 19.0 -0.8**
DAG IAmb IAmb 17 53 20.2
comp=Z,7.2nm,0.8s
HLID Hailey 89.74 45 IAmb IAmb 17 53 22.9
comp=Z,9.2nm,0.9s
CCCA Chr Cany lake 89.87 54 IAmb IAmb 17 53 23.7
comp=Z,7.8nm,0.9s
FURC Furnace Creek, 90.00 53 IAmb IAmb 17 53 24.1
comp=Z,12nm,0.8s
TPNV Topopah Spring 90.34 52 IAmb IAmb 17 53 25.8
comp=Z,6.9nm,0.8s
GSC Goldstone, Bar 90.37 54 IAmb IAmb 17 53 25.9
comp=Z,8.0nm,0.9s
CPE Camp Elliot 90.80 56 IAmb IAmb 17 53 27.5
comp=Z,14nm,1.0s
FINES FINESS Array B 91.03 335 P **P 17 53 24.8 -1.4**
comp=Z,9.0nm,0.4s,baz=64,slow=4.7,SNR=199
comp=Z,9.0nm,0.4s
VNDA Vanda 91.04 176 **P 17 53 24.9 -0.8**
VNDA Vanda 91.04 176 P **P 17 53 26.1 +0.4**
comp=Z,2.2nm,0.9s,baz=318,slow=5.8,SNR=14
comp=Z,2.2nm,0.9s
STEI Steigen 91.12 343 *e*P **P 17 53 26.2 -0.3**
FAUS Fauske 91.46 342 *e*P **P 17 53 27.6 -0.5**
YHB Horse Butte 91.55 43 IAmb IAmb 17 53 31.7
comp=Z,14nm,0.8s
DANC Danby, Needles 91.68 54 IAmb IAmb 17 53 32.1
comp=Z,9.6nm,0.9s
YUH Yuha Desert 91.83 56 IAmb IAmb 17 53 32.4
comp=Z,8.8nm,1.1s
BC3 Big Chuckawall 91.91 55 IAmb IAmb 17 53 33.0
comp=Z,8.5nm,1.2s
ESJX Sierra Juarez 91.99 57 IAmb IAmb 17 56 26.4
comp=Z,7.3nm,0.7s
FXWY Fox Creek 92.04 44 IAmb IAmb 17 53 33.6
comp=Z,5.4nm,0.7s
H17A Grant Village 92.08 44 IAmb IAmb 17 53 36.0
comp=Z,10nm,0.9s
TPAW Teton Pass 92.14 45 IAmb IAmb 17 53 34.1
comp=Z,4.4nm,0.7s
DBG Daneborg 92.20 356 *i*P P 17 53 25.1 -6.2
LOHW Long Hollow 92.34 44 IAmb IAmb 17 53 34.7
comp=Z,18nm,1.7s
HWUT Hardware Ranch 92.36 46 IAmb IAmb 17 53 34.6
comp=Z,7.7nm,1.0s
CCUT Cedar City 92.36 51 IAmb IAmb 17 56 28.1
comp=Z,14nm,2.0s
RAUS Rausandaksla 92.45 342 *e*P **P 17 53 31.8 -0.9**
MOR8 Moi Rana 92.50 342 *e*P **P 17 53 31.3 -1.6**
GLA Glamis 92.59 55 IAmb IAmb 17 53 36.2
comp=Z,7.7nm,0.8s
PD31 Pinedale Array 93.35 45 IAmb IAmb 17 53 38.7
comp=Z,10nm,1.9s
PDAR Pinedale Array 93.35 45 P **P 17 53 37.9 +0.2**
comp=Z,1.0nm,0.7s,baz=258,slow=1.4,SNR=11
comp=Z,1.0nm,0.7s
NSS Namsos 94.38 341 *e*P **P 17 53 40.7 -0.8**
AKASG Malin Array Be 94.61 324 P **P 17 53 41.4 -1.6**
comp=Z,0.3nm,0.3s,baz=55,slow=5.0,SNR=7.2
comp=Z,0.3nm,0.3s
BRTR Keskin Array B 96.38 313 P **P 17 53 49.5 -2.0**
comp=Z,1.0nm,0.8s,baz=114,slow=3.5,SNR=4.5
comp=Z,1.0nm,0.8s
HFS Hagfors 96.73 337 P **P 17 53 50.7 -1.6**
comp=Z,1.9nm,0.5s,baz=92,slow=4.9,SNR=18
comp=Z,1.9nm,0.5s
NB2 NORSAR Subarra 97.02 339 P **P 17 53 51.9 -1.8**
comp=Z,2.2nm,0.7s,baz=49,slow=4.4
NB2 NORSAR Subarra 97.02 339 P **P 17 53 51.9 -1.8**
baz=49,slow=4.4
NOA NORSAR Array B 97.02 339 P **P 17 53 52.2 -1.5**
comp=Z,1.6nm,0.6s,baz=50,slow=4.8,SNR=11
NOA PP **PP 17 57 49.5 -2.2**
comp=Z,0.6nm,0.7s,baz=46,slow=7.9,SNR=4.1
comp=Z,1.6nm,0.6s
KOLS Kolonicke sedl 99.40 325 *e*PDIFF **Pdif 17 54 03.1 -1.5**
LANS Liptovska Anna 100.82 326 *e*PDIFF **Pdif 17 54 11.0 +0.1**
MODS Modra-Piesok 102.45 327 *e*PDIFF **Pdif 17 54 18.8 +0.6**
BOSA Boshof 120.73 244 PKP **PKPdf 17 59 12.2 -1.5**
comp=Z,4.1nm,1.1s,baz=135,slow=2.9,SNR=2.3
TORD Torodi Ar. Bea 133.96 303 PKP **PKPdf 17 59 39.0 -0.1**
comp=Z,0.7nm,0.8s,baz=35,slow=3.5,SNR=3.5
LPAZ La Paz 149.35 100 PKPbc **PKiKP 18 00 12.8 +0.1**
comp=Z,6.4nm,0.8s,baz=287,slow=2.9,SNR=4.8

*NEIC **06** 17:50:39.7±1.3, 69°.66N±0°.03×144°.13W±0°.04, h10km±2km, Error ellipse: s-maj=6.0km s-min=3.0km az=344.0*
AEIC 06 17:50:38.8±1.8, 69°.62N±0°.04×144°.14W±0°.08, h16km±6km, ML2.3, ML2.4/44(NEIC), Error ellipse: s-maj=5.7km s-min=3.8km az=204.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.15**	**87**	Pg	Pg	17 50 42.9	+0.1
C26K	**Camden Bay**	**0.40 318**			Pg	17 50 46.8	-0.1
C26K					Sg	17 50 52.7	+0.2
C26K	**Camden Bay**	**0.40 318**		IAML		17 50 55.0	
C26K	comp=N,276nm,0.6s			IAML		17 50 59.6	
D25K	**Kavik River**	**0.84 250**			Pb	17 50 53.2	-1.9
D27M	**Malcolm River**	**1.18 107**			Pb	17 51 01.0	+0.2
D27M				IAML		17 51 24.4	
D27M	comp=N,79nm,0.7s			IAML		17 51 25.2	
D27M	**Malcolm River**	**1.18 107**			Sg	17 51 19.1	+2.1
E25K	**Arctic Village**	**1.59 200**			Pb	17 51 08.3	+0.5
E25K				IAML		17 51 34.5	
E25K	comp=E,40nm,0.9s			IAML		17 51 35.0	
E25K	**Arctic Village**	**1.59 200**			Sg	17 51 30.3	+0.3
C24K	**Franklin Bluff**	**1.60 276**	Pn		Pb	17 51 07.9	+0.1
C24K	**Franklin Bluff**	**1.60 276**			Sg	17 51 29.0	-1.2
E27K	**Coleen River**	**1.71 146**			Pb	17 51 10.0	+0.3
E27K				IAML		17 51 35.6	
E27K	**Coleen River**	**1.71 146**			Sg	17 51 32.8	-0.9
D24K	**Happy Valley**	**1.72 256**			Pb	17 51 09.9	-0.1
F26K	**Sheenjek River**	**1.93 180**			Pb	17 51 13.0	-0.6
F26K				IAML		17 51 43.3	
F26K	**Sheenjek River**	**1.93 180**			Sb	17 51 38.7	+1.3
E28M	**Babbage River**	**1.94 120**			Pb	17 51 14.4	+0.7
F25K	**Christian Rive**	**2.11 196**			Pb	17 51 15.6	-1.0
F25K				IAML		17 51 48.6	
F25K	comp=N,37nm,1.0s			IAML		17 51 48.9	
TOLK	**Toolik Lake Re**	**2.18 246**			Pb	17 51 17.1	-0.7
TOLK				IAML		17 51 51.1	
BMAR	**Burnt Mountain**	**2.21 184**			Pb	17 51 17.2	-1.0
E24K	**Your Creek**	**2.21 228**			Pb	17 51 17.2	-1.1
E24K				IAML		17 51 50.4	
F24K	**Squaw Lake**	**2.52 215**			Pn	17 51 20.9	+1.9
F24K				IAML		17 52 04.8	
E23K	**Chandalar**	**2.53 234**			Pb	17 51 21.7	-2.1
E23K				IAML		17 52 06.0	
E23K	comp=N,17nm,0.7s			IAML		17 52 06.3	
F28M	**Old Crow**	**2.55 140**			Pn	17 51 21.5	+2.1
F28M				IAML		17 52 05.7	
F28M	comp=N,14nm,0.5s			IAML		17 52 06.7	
E29M	**Blow River**	**2.56 116**			Pn	17 51 21.3	+1.8
E29M	**Blow River**	**2.56 116**		IAML		17 52 05.5	
E29M	comp=N,19nm,0.8s			IAML		17 52 08.9	
G26K	**Porcupine Rive**	**2.69 177**			Pb	17 51 24.2	-2.2
G26K				IAML		17 52 04.4	
D22K	**Ayikyak River**	**3.13 260**			Pn	17 51 27.6	+0.2
D22K				IAML		17 52 26.9	
D22K	comp=N,29nm,3.2s			IAML		17 53 22.6	
E22K	**Anaktuvuk Pass**	**3.15 245**			Pn	17 51 27.3	-0.5
E22K				IAML		17 52 28.0	
E22K	comp=E,9.1nm,2.1s			IAML		17 52 29.2	
G24K	**Hadweenzic Riv**	**3.19 205**	Pn		Pn	17 51 29.9	+1.8
G24K				IAML		17 52 23.9	
G24K	comp=N,21nm,2.0s			IAML		17 52 24.3	
COLD	**Coldfoot**	**3.29 226**		IAML		17 52 25.3	
	comp=E,10nm,1.0s						

ISC 06 17:57:26.5±1.2, 45°.06N±0°.03×14°.93E±0°.05, h15km±13km, n11, σ0s34/16, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABC	**Rab**	**0.32 199**		*e*Pg	**Pg**	**17 57 33.3**	**+0.2**
GBRS	**Gornja Briga**	**0.48 350**		*i*Pg	**Pg**	**17 57 35.9**	**-0.2**
GBRS				*e*Sg	**Sb**	**17 57 43.2**	**-0.4**
GBRS	comp=Z,2.8nm,0.1s			IAML		17 57 44.6	
NVLJ	**Novalja**	**0.49 185**		*e*Pg	**Pg**	**17 57 36.4**	**+0.1**
BOJS	**Bojanci**	**0.50 27**		*i*Pg	**Pg**	**17 57 36.4**	**0.0**
BOJS				*e*Sg	**Sg**	**17 57 42.9**	**-0.3**
BOJS	comp=Z,2.4nm,0.1s			IAML		17 57 46.6	
PLIT	**Plitvice**	**0.52 110**		*e*Pg	**Pg**	**17 57 36.9**	**+0.1**
KNDS	**Knezji Dol**	**0.61 321**		*i*Pg	**Pg**	**17 57 38.2**	**-0.3**
KNDS				*i*Sg	**Sb**	**17 57 48.1**	**+0.7**
KNDS	comp=Z,1.9nm,0.1s			IAML		17 57 50.7	
OZLJ	**Ozalj**	**0.68 34**		*e*Pg	**Pb**	**17 57 40.0**	**+0.1**
OZLJ				Sg	**Sg**	**17 57 48.9**	**+0.3**
VISS	**Visnje**	**0.75 355**		*i*Pg	**Pg**	**17 57 41.0**	**0.0**
VISS				*i*Sg	**Sg**	**17 57 50.9**	**0.0**
VISS	comp=Z,2.6nm,0.2s			IAML		17 57 54.5	
VIRC	**Vir**	**0.77 173**		*e*Pg	**Pg**	**17 57 41.1**	**-0.3**
CRES	**Cresnjevec Ost**	**0.85 26**		*e*Sg	**Sg**	**17 57 54.0**	**-0.2**
CRES				IAML		17 57 59.8	
DUGI	**Dugi Otok**	**1.07 175**		*e*Pg	**Pg**	**17 57 46.6**	**-0.5**

JMA 06 17:59:31.2±0.2, 30°.4N±0°.7×130°.9E±0°.8, h12km±1km, MV0.7/6, NEAR TANEGASHIMA ISLAND, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.01**	**34**	*i*P	Pg	17 59 33.3	-0.1
JMTN				S	Sg	17 59 35.0	+0.2
JTN	**Tanegashima 3**	**0.28**	**16**	P	Pg	17 59 36.9	0.0
JYAK	**Yakushimahirau**	**0.36**	**246**	*e*P	Pg	17 59 38.5	0.0
JKC	**Kuchinoerabu**	**0.61**	**277**	*i*S	Sb	17 59 52.0	-0.1
JTSR	**Tashiro 2**	**0.78**	**2**	*e*P	Pg	17 59 45.9	-0.3

*IDC **06** 18:00:37.7±0.8, 38°.42N×142°.16E, h0km, mb3.9/15, mbtmp3.9/20, ML3.4/5, MS2.8/3, Error ellipse: s-maj=21.7km s-min=15.5km az=92.0*
*JMA **06** 18:00:45.9±0.1, 38°.3N±0°.3×141°.8E±0°.6, h49km, MD3.7/40, MV4.0/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
*NEIC **06** 18:00:45.7±2.7, 38°.33N±0°.09×141°.70E±0°.09, h35km±2km, mb4.4/4, Error ellipse: s-maj=17.9km s-min=7.0km az=142.0*
*NIED **06** 18:00:45.9, 38°.32N×141°.75E, h49km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.74; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-5.24; $M_{r\theta}$1.12; $M_{\theta\phi}$-0.45; $M_{\phi r}$4.78; Fault plane solution: $M_0$7.38000×10^{14} NP1: ϕ_s181.00000°, δ24.00000°, λ82.00000°. NP2:ϕ_s10.00000°, δ66.00000°, λ94.00000°.*
ISC 06 18:00:45.8±0.9, 38°.35N±0°.04×141°.73E±0°.08, h50km±6km, n80, σ1s84/80, mb4.0/18, 3C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.21 259**		⇓*i*P	**Pn**	**18 00 54.4**	**+0.2**
JIKH				⇓S	**Sn**	**18 01 00.1**	**0.0**
JIKH	**Ishinomakikobu**	**0.21 259**		A	A	18 00 54.4
JIO	**Ouri**	**0.32 289**		⇓*i*P	**Pn**	**18 00 55.5**	**+0.5**
JIO				⇓S	**Sn**	**18 01 02.0**	**+0.4**
JKMT	**Kesennumamotoy**	**0.50 337**		⇓*i*P	**Pn**	**18 00 57.6**	**+0.6**
JKMT				⇓S	**Sn**	**18 01 05.7**	**+0.6**
JMK	**Ichinoseki**	**0.72 327**		⇓*i*P	**Pn**	**18 01 00.6**	**+0.8**
JMK				⇓S	**Sn**	**18 01 10.6**	**+0.7**
JMK	**Ichinoseki**	**0.72 327**		A	A	18 01 00.6
	comp=N,7.0nm,1.0s,comp=E,5.0nm,1.1s						
OFUJ	**Ofunato**	**0.73 356**		⇓*i*P	**Pn**	**18 01 00.3**	**+0.4**
OFUJ				⇓S	**Sn**	**18 01 10.5**	**+0.3**
OFUJ	**Ofunato**	**0.73 356**		A	A	18 01 00.3
	comp=N,3.0nm,1.9s,comp=E,5.0nm,2.1s						
JOU	**Okura**	**0.84 271**		⇓*i*P	**Pn**	**18 01 01.8**	**+0.5**
JOU				⇓S	**Sn**	**18 01 13.5**	**+0.8**
JOU	**Okura**	**0.84 271**		A	A	18 01 01.8
	comp=N,7.0nm,0.3s,comp=E,5.0nm,0.5s						
JMM	**Marumori**	**0.88 237**		Pn	**Pn**	**18 01 01.5**	**-0.4**
JMM				Sn	**Sn**	**18 01 12.4**	**-1.3**
JMM	**Marumori**	**0.88 237**		P	**Pn**	**18 01 01.5**	**-0.4**
JMM	**Marumori**	**0.88 237**		S	**Sn**	**18 01 12.9**	**-0.8**
JMM	**Marumori**	**0.88 237**		⇓*i*P	**Pn**	**18 01 01.5**	**-0.4**
JMM				⇓S	**Sn**	**18 01 12.5**	**-1.2**
JMM	**Marumori**	**0.88 237**		A	A	18 01 01.5
	comp=N,4.0nm,0.3s,comp=E,5.0nm,0.4s						
JMST	**Minamisoumatoc**	**0.91 227**		A	A	18 01 02.5
	comp=N,8.0nm,0.3s,comp=E,4.0nm,0.2s						
JOM	**Ohasama**	**1.17 343**		⇓*i*P	**Pn**	**18 01 06.7**	**+0.9**
JOM				⇓S	**Sn**	**18 01 22.2**	**+1.5**
JFK	**Kawauchi**	**1.19 215**		⇓*i*P	**Pn**	**18 01 05.6**	**-0.5**
JFK				⇓S	**Sn**	**18 01 20.0**	**-1.2**
JFK	**Kawauchi**	**1.19 215**		A	A	18 01 05.6
	comp=N,3.0nm,0.3s,comp=E,4.0nm,0.5s						
JYK	**Kaneyama**	**1.21 298**		⇓*i*P	**Pn**	**18 01 07.1**	**+0.8**
JYS	**Shirataka**	**1.31 265**		⇓*i*P	**Pn**	**18 01 08.3**	**+0.6**
JRG	**Rokugo**	**1.35 321**		⇓*i*P	**Pn**	**18 01 09.3**	**+1.1**
JRG				⇓S	**Sn**	**18 01 22.6**	**-2.4**
JOTO	**OTAMA OYAMA**	**1.35 235**		*i*P	**Pn**	**18 01 08.5**	**+0.2**
JTM	**Tenmabayashi**	**2.49 348**			**Pn**	**18 01 24.8**	**+1.0**
JTM	**Tenmabayashi**	**2.49 348**		P	**Pn**	**18 01 24.8**	**+1.0**
JSD	**Sado**	**2.75 265**		Pn	**Pn**	**18 01 27.8**	**+0.4**
JSD	**Sado**	**2.75 265**		P	**Pn**	**18 01 27.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.33 238**			**Pn**	**18 01 36.7**	**+1.3**
MJAR	**Matsushiro Arr**	**3.33 238**		Pn	**Pn**	**18 01 37.0**	**+1.7**
	comp=E,1.1nm,0.3s,baz=45,slow=11,SNR=56						
MJAR				Sn	**Sn**	**18 02 21.5**	**+7.8**
	comp=E,0.5nm,0.3s,baz=192,slow=13,SNR=5.1						
MJAR				LR	LR	18 03 09.1
	comp=E,92nm,21.2s,baz=53,slow=41						
	comp=E,4.9nm,0.3s						
MAJO	**Matsushiro**	**3.33 238**			**Pn**	**18 01 37.1**	**+1.7**
MAJO	**Matsushiro**	**3.33 238**		P	**Pn**	**18 01 37.1**	**+1.7**
MJB9	**Matsu-Tunnel**	**3.33 238**			**Pn**	**18 01 37.1**	**+1.7**
ERM	**Erimo**	**3.82 16**		Pn	**Pn**	**18 01 42.7**	**+0.7**
ERM	**Erimo**	**3.82 16**		P	**Pn**	**18 01 45.0**	**+3.0**
JEM	**Erimo**	**3.82 16**		P	**Pn**	**18 01 45.5**	**+3.5**
JGF	**Kuroka**	**4.45 233**			**Pn**	**18 01 54.1**	**+3.4**
JGF	**Kuroka**	**4.45 233**		P	**Pn**	**18 01 53.4**	**+2.7**
INU	**Inuyama**	**4.82 233**			**Pn**	**18 01 56.5**	**+0.7**
INU	**Inuyama**	**4.82 233**		P	**Pn**	**18 01 59.3**	**+3.5**
JHJ	**Hachijo jima 2**	**5.45 197**		Pn	**Pn**	**18 02 03.3**	**-1.2**
	comp=E,10nm,0.3s,baz=63,slow=18,SNR=1.6						
JHJ				Sn	**Sn**	**18 03 03.5**	**-2.4**
	comp=E,23nm,0.3s,baz=92,slow=21,SNR=1.8						
JHJ				LR	LR	18 03 59.5
	comp=E,124nm,18.3s,baz=158,slow=36						
	comp=E,186nm,0.7s						
ASAJ	**Asahikawa**	**5.80 6**		Pn	Pn	18 02 03.6	-5.5
	comp=E,0.8nm,0.3s,baz=188,slow=14,SNR=1.2						
ASAJ				Sn	**Sn**	**18 03 07.3**	**-7.0**
	comp=E,0.2nm,0.3s,baz=322,slow=28,SNR=1.2						
	comp=E,2.3nm,0.3s						
JMN	**Monobe**	**7.85 236**		Pn	**Pn**	**18 02 36.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**9.37 312**		Pn	**Pn**	**18 02 58.8**	**+0.7**
	comp=E,0.5nm,0.3s,baz=125,slow=14,SNR=6.7						
	comp=E,4.3nm,0.8s						
JNU	**Nakatsue**	**10.24 243**		LR	LR	18 07 47.8
	comp=E,43nm,19.9s,baz=26,slow=41						
KSRS	**Korea Array**	**10.95 270**		Pn	**Pn**	**18 03 22.1**	**+2.5**
	comp=E,0.3nm,0.3s,baz=78,slow=14,SNR=6.0						
	comp=E,0.8nm,0.4s						
NACB	**Ninganchiao**	**22.20 236**		P	**P**	**18 05 36.8**	**-1.2**
NACB				IAmb	IAmb	18 06 16.0
	comp=Z,17nm,1.0s						
ULN	**Ulaanbaatar**	**26.84 302**		P	**P**	**18 06 19.4**	**-2.2**
ENH	**Enshi**	**27.72 263**		P	**P**	**18 06 29.2**	**-0.2**
ENH				IAmb	IAmb	18 06 37.3
	comp=Z,6.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.63 123**		T	T	18 36 48.7
	baz=316,slow=75,SNR=350						
H11N1	**WAKE ISLAND Hy**	**28.64 123**		T	T	18 36 50.2
	baz=316,slow=75,SNR=348						
H11N3	**WAKE ISLAND Hy**	**28.65 123**		T	T	18 36 50.9
	baz=316,slow=75,SNR=315						
H11S1	**WAKE ISLAND Hy**	**29.39 125**		T	T	18 37 49.9
	baz=318,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**29.39 125**		T	T	18 37 50.1
	baz=318,slow=76,SNR=132						
H11S2	**WAKE ISLAND Hy**	**29.41 125**		T	T	18 37 53.1
	baz=318,slow=76,SNR=104						
ZALV	**Zalesovo Beam**	**41.22 311**		P	**P**	**18 08 25.1**	**-0.4**
ZALV	**Zalesovo Beam**	**41.22 311**		P	**P**	**18 08 25.8**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=85,slow=8.1,SNR=8.6						
	comp=Z,1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.08 254**		P	**P**	**18 08 32.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=54,slow=9.0,SNR=2.3						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.64 301**		P	**P**	**18 08 43.8**	**-1.5**
MKAR	**Makanchi Array**	**43.64 301**		P	**P**	**18 08 45.5**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=92,slow=9.4,SNR=12						
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**45.33 307**			**P**	**18 08 58.0**	**-0.6**
IMAR	**Indian Mountai**	**45.40 31**		P	**P**	**18 09 02.0**	**+3.0**
KURBB	**Kurchatov Arra**	**45.40 307**		P	**P**	**18 08 59.1**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=82,slow=8.2,SNR=42						
	comp=Z,5.4nm,0.8s						
ILAR	**Eielson Array**	**48.25 33**		P	**P**	**18 09 22.5**	**+1.2**
ILAR	**Eielson Array**	**48.25 33**		P	**P**	**18 09 19.5**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=267,slow=6.7,SNR=2.6						
	comp=Z,0.3nm,0.8s						
BMAR	**Burnt Mountain**	**49.06 29**		P	**P**	**18 09 29.6**	**+2.1**
BVAR	**Borovoye Array**	**49.88 312**		P	**P**	**18 09 34.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=66,slow=7.5,SNR=5.6						
BVAR				PcP	**PcP**	**18 10 53.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=60,slow=4.5,SNR=4.2						
	comp=Z,0.8nm,0.5s						
KK31	**Karatay Array**	**52.69 299**		⇑Pn	**P**	**18 09 57.3**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=106,slow=10,SNR=14						
KK31				⇑Pg	**pP**	**18 10 09.4**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=190,slow=18,SNR=12						
KK31				⇑Lg	Lg	18 11 09.0
	comp=Z,5.3nm,0.5s,baz=185,slow=29,SNR=6.0						
DLBC	**Dease Lake**	**57.44 39**		LR	LR	18 38 33.4
	comp=Z,285nm,18.1s,baz=72,slow=40						
WRA	**Warramunga Arr**	**58.40 188**		P	**P**	**18 10 35.2**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=7.8,slow=7.7,SNR=21						
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**62.12 188**		P	**P**	**18 11 01.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=346,slow=3.3,SNR=10						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**67.77 332**		P	**P**	**18 11 37.3**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=45,slow=6.7,SNR=1.7						
	comp=Z,1.3nm,0.8s						
KBZ	**Khabaz**	**70.24 310**		P	**P**	**18 11 53.8**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=34,slow=11,SNR=4.5						
	comp=Z,3.6nm,0.9s						
HFS	**Hagfors**	**72.99 336**		P	**P**	**18 12 09.0**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=35,slow=5.4,SNR=5.5						
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**73.07 337**		P	**P**	**18 12 09.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.07 337**		P	**P**	**18 12 09.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=39,slow=5.9,SNR=4.

n74,σ0°33/78, 6C-12D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.45**	**35**	⇓*e*P	**Pn**	**18 53 26.1**	**-0.1**
LALI				*e*S	**Sn**	**18 53 34.1**	**+0.7**
LALI	**Alcalda de L**	**0.45**	**35**	*i* P	**Pn**	**18 53 26.0**	**-0.1**
LALI	**Alcalda de L**	**0.45**	**35**	P	**Pn**	**18 53 26.0**	**-0.1**
JAYA	**Jayaque - finc**	**0.55**	**14**	⇓*i*P	**Pn**	**18 53 27.3**	**-0.3**
JAYA				*e*S	**Sn**	**18 53 35.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.55**	**14**	*i* P	**Pn**	**18 53 27.3**	**-0.3**
JAYA				*i* S	**Sn**	**18 53 35.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.55**	**14**	P	**Pn**	**18 53 27.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.55**	**14**	S	**Sn**	**18 53 36.1**	**+0.2**
ITCA	**Escuela Especi**	**0.63**	**28**	P	**Pn**	**18 53 28.3**	**-0.3**
ITCA	**Escuela Especi**	**0.63**	**28**	S	**Sn**	**18 53 37.8**	**+0.2**
PANCS	**Alcalda de**	**0.63**	**39**	*e*P	**Pn**	**18 53 28.0**	**-0.5**
PANCS	**Alcalda de**	**0.63**	**39**	P	**Pn**	**18 53 27.9**	**-0.5**
PMON	**Piamonte**	**0.65**	**24**	⇓*e*P	**Pn**	**18 53 28.5**	**-0.3**
PMON	**Piamonte**	**0.65**	**24**	P	**Pn**	**18 53 28.5**	**-0.3**
LOMA	**Loma Larga**	**0.66**	**38**	⇓*i*P	**Pn**	**18 53 28.6**	**-0.4**
LOMA				*e*S	**Sn**	**18 53 38.6**	**+0.2**
LOMA	**Loma Larga**	**0.66**	**38**	P	**Pn**	**18 53 28.6**	**-0.4**
BOQS	**Boqueron**	**0.68**	**26**	⇓*e*P	**Pn**	**18 53 29.2**	**-0.2**
UEES	**Universidad Ev**	**0.68**	**30**	⇓*e*P	**Pn**	**18 53 29.0**	**-0.3**
UEES	**Universidad Ev**	**0.68**	**30**	P	**Pn**	**18 53 28.9**	**-0.3**
UTEC	**Universidad Te**	**0.69**	**33**	P	**Pn**	**18 53 29.0**	**-0.3**
UTEC	**Universidad Te**	**0.69**	**33**	S	**Sn**	**18 53 39.1**	**+0.1**
PIC2	**El Picacho**	**0.70**	**27**	*e*P	**Pn**	**18 53 29.5**	**-0.1**
CEDA	**San Andres**	**0.70**	**15**	⇓*e*P	**Pn**	**18 53 29.4**	**-0.1**
CEDA	**San Andres**	**0.70**	**15**	P	**Pn**	**18 53 29.3**	**-0.1**
CEDA	**San Andres**	**0.70**	**15**	S	**Sn**	**18 53 39.8**	**+0.4**
CEVE	**Cerro Verde**	**0.70**	**357**	⇑*e*P	**Pn**	**18 53 29.7**	**0.0**
CEVE	**Cerro Verde**	**0.70**	**357**	P	**Pn**	**18 53 29.6**	**0.0**
LFRS	**El Faro**	**0.71**	**45**	⇓*e*P	**Pn**	**18 53 29.4**	**-0.3**
IGN	**Direccin Gen**	**0.71**	**34**	*e*P	**Pn**	**18 53 29.4**	**-0.2**
IGN	**Direccin Gen**	**0.71**	**34**	P	**Pn**	**18 53 29.4**	**-0.2**
IGN	**Direccin Gen**	**0.71**	**34**	S	**Sn**	**18 53 39.7**	**+0.1**
SBLS	**San Blas**	**0.72**	**357**	*e*P	**Pn**	**18 53 29.8**	**-0.1**
SNJE	**San Jose**	**0.74**	**358**	*e*P	**Pn**	**18 53 30.0**	**-0.2**
LFU	**La Fuente**	**0.78**	**36**	⇓*e*P	**Pn**	**18 53 30.5**	**0.0**
RTR	**El Retiro**	**0.78**	**356**	*e*P	**Pn**	**18 53 30.7**	**+0.1**
NUBE	**Las Nubes**	**0.80**	**346**	⇑*e*P	**Pn**	**18 53 30.6**	**-0.3**
NUBE	**Las Nubes**	**0.80**	**346**	*i* P	**Pn**	**18 53 30.6**	**-0.3**
NUBE				*e*S	**Sn**	**18 53 41.7**	**-0.1**
NUBE	**Las Nubes**	**0.80**	**346**	P	**Pn**	**18 53 30.5**	**-0.3**
LBRS	**Las Brisas**	**0.81**	**41**	*e*P	**Pn**	**18 53 30.9**	**0.0**
FAME	**Alcaldia de Sa**	**0.83**	**330**	P	**Pn**	**18 53 30.9**	**-0.3**
FAME	**Alcaldia de Sa**	**0.83**	**330**	S	**Sn**	**18 53 42.1**	**-0.2**
UNIC	**Universidad Ca**	**0.86**	**2**	P	**Pn**	**18 53 31.6**	**0.0**
UNIC	**Universidad Ca**	**0.86**	**2**	S	**Sn**	**18 53 44.0**	**+0.9**
PAVA	**Las Pavas**	**0.86**	**47**	⇓*e*P	**Pn**	**18 53 31.8**	**0.0**
PAVA	**Las Pavas**	**0.86**	**47**	P	**Pn**	**18 53 31.7**	**0.0**
PAVA	**Las Pavas**	**0.86**	**47**	S	**Sn**	**18 53 44.1**	**+0.8**
SNVI	**San Vicente**	**0.88**	**56**	*e*P	**Pn**	**18 53 31.5**	**-0.4**
TECO	**Alcaldia de Te**	**0.89**	**62**	⇓*e*P	**Pn**	**18 53 31.2**	**-0.8**
TECO	**Alcaldia de Te**	**0.89**	**62**	P	**Pn**	**18 53 31.1**	**-0.8**
LOAL	**Lomas de Alarc**	**0.89**	**348**	P	**Pn**	**18 53 32.3**	**+0.2**
UESV	**Universidad de**	**0.93**	**56**	P	**Pn**	**18 53 32.2**	**-0.4**
UESV	**Universidad de**	**0.93**	**56**	S	**Sn**	**18 53 44.7**	**-0.1**
RBDL	**Robledal**	**0.99**	**354**	⇑*e*P	**Pn**	**18 53 33.5**	**0.0**
SCLA	**Alcaldia de Sa**	**1.01**	**55**	⇓*e*P	**Pn**	**18 53 33.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.01**	**55**	P	**Pn**	**18 53 33.6**	**-0.1**
TECA	**Tecapa**	**1.12**	**70**	⇓*e*P	**Pn**	**18 53 34.5**	**-0.7**
LLGN	**La Laguna**	**1.21**	**31**	*e*P	**Pn**	**18 53 36.0**	**-0.4**
LLGN	**La Laguna**	**1.21**	**31**	P	**Pn**	**18 53 36.0**	**-0.4**
PACA	**Pacayal**	**1.28**	**74**	*e*P	**Pn**	**18 53 37.5**	**+0.1**
PACA	**Pacayal**	**1.28**	**74**	P	**Pn**	**18 53 37.5**	**+0.1**
PACA	**Pacayal**	**1.28**	**74**	S	**Sn**	**18 53 54.0**	**+0.6**
MTO3	**Montecristo**	**1.29**	**10**	⇑*i*P	**Pn**	**18 53 37.4**	**-0.3**
MTO3	**Montecristo**	**1.29**	**10**	*i* P	**Pn**	**18 53 37.4**	**-0.3**
MTO3	**Montecristo**	**1.29**	**10**	P	**Pn**	**18 53 37.3**	**-0.3**
MTO3	**Montecristo**	**1.29**	**10**	S	**Sn**	**18 53 53.5**	**-0.3**
LCY	**Lacayo**	**1.29**	**76**	*e*P	**Pn**	**18 53 37.6**	**0.0**
RANC	**El Ranchito**	**1.30**	**76**	*e*P	**Pn**	**18 53 37.6**	**-0.1**
ESQI	**Esquipulas**	**1.45**	**9**	⇑*i*P	**Pn**	**18 53 39.8**	**+0.1**
ESQI	**Esquipulas**	**1.45**	**9**	P	**Pn**	**18 53 39.8**	**+0.1**
FG16	**Alotenango, Sa**	**1.46**	**322**	*e*P	Pn	18 53 44.7	+4.8
FG16				*e*S	Sn	18 54 06.9	+9.0
FG16				IAML		18 54 14.7	
	comp=N,2μm,0.3s						
FG8	**Yepocapa, Chim**	**1.48**	**320**	*e*P	Pn	18 53 45.0	+4.9
LCND	**La Caada**	**1.66**	**83**	*e*P	**Pn**	**18 53 42.4**	**-0.1**
CNCH	**Conchagua**	**1.71**	**85**	*e*P	**Pn**	**18 53 43.1**	**-0.2**
ESSG	**Sabana Grande**	**1.75**	**316**	*e*P	**Pn**	**18 53 43.8**	**+0.1**
SARH	**Santa Rosa de**	**1.83**	**26**	*i* P	**Pn**	**18 53 45.2**	**+0.3**
SARH				*e*S	**Sn**	**18 54 06.6**	**-0.4**

*IDC **06** 19:16:26.7±2.1,2°.67N×127°.12E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=128.4km s-min=25.1km az=70.0*
*DJA **06** 19:16:32.3±0.3,2°N±4°×12°7E±°, h10km, M3.7/10, mb4.0/3, MLv3.6/10*

ISC 06 19:16:33.7±1.3, 2°.54N±0°.10×126°.9E±0°.1, h53km, n9, σ1°04/9, mb3.3/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.76**	**310**	P	**Pn**	**19 17 01.0**	**-0.9**
TNTI	**Ternate**	**1.82**	**164**	P	**Pn**	**19 17 02.3**	**-0.4**
KMSI	**Cibinong**	**3.49**	**236**	P	**Pn**	**19 17 24.0**	**-1.6**
SANI	**Sanana**	**4.65**	**191**	P	**Pn**	**19 17 40.6**	**-0.8**
MRSI	**Marisa**	**5.34**	**248**	P	**Pn**	**19 17 51.9**	**+0.9**
	19nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.55**	**183**	P	**P**	**19 21 08.4**	**+0.4**
	0.9nm,0.6s,baz=2.8,slow=12,SNR=1.3						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**23.51**	**162**	P	**P**	**19 21 38.5**	**-0.7**
	0.3nm,0.3s,baz=342,slow=10,SNR=5.5						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.93**	**166**	P	**P**	**19 22 11.1**	**+0.9**
	0.2nm,0.5s,baz=343,slow=8.4,SNR=4.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.61**	**326**	P	**P**	**19 26 25.7**	**+0.4**
	0.3nm,0.5s,baz=112,slow=6.9,SNR=5.7						
	0.3nm,0.5s						

RSNC 06 19:20:59.6±0.0, 7°N±1°×7°3W±°, h152km±2km, M2.6, mB4.6, mb3.2, ML2.4, MLv3.0, Mw(mB)3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**192**	P	Pn	19 21 20.1	-0.5
BARC				S	Sn	19 21 35.3	-1.2
BRJC	**Barrancabermej**	**0.63**	**283**	P	Pn	19 21 21.7	-0.2
BRJC				S	Sn	19 21 39.0	+0.2
PAMC	**Pamplona, Colo**	**0.66**	**40**	P	Pn	19 21 22.9	+0.2
PAMC				S	Sn	19 21 40.2	0.0
RUSC	**La Rusia**	**0.93**	**177**	P	Pn	19 21 23.9	-0.7
RUSC				S	Sn	19 21 42.8	-0.9
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	Pn	19 21 26.5	-1.3
PTBC				S	Sn	19 21 47.7	-1.6
OCAC	**Ocana**	**1.41**	**352**	P	Pn	19 21 28.1	-0.5
OCAC				S	Sn	19 21 50.1	-0.8
SPBC	**San Pablo de B**	**1.50**	**219**	P	Pn	19 21 29.0	-0.4
SPBC				S	Sn	19 21 51.3	-1.0
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	19 21 32.7	-0.3
ZARC				S	Sn	19 21 57.6	-1.0
NORC	**Norcasia**	**2.14**	**234**	P	Pn	19 21 36.0	-0.6
NORC				S	Sn	19 22 03.4	-1.6
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	19 21 40.0	+1.1
ROSC				S	Sn	19 22 10.6	+1.5
HELC	**Santa Helena**	**2.47**	**255**	P	Pn	19 21 41.2	+0.4
HELC				S	Sn	19 22 13.0	+0.5
CVER	**Cruz Verde, Cu**	**2.48**	**202**	P	Pn	19 21 41.7	+0.6
CVER				S	Sn	19 22 13.8	+0.8
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	Pn	19 21 44.1	-0.1
GUY2C				S	Sn	19 22 17.5	-1.1
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	19 21 43.1	-1.4
PTGC				S	Sn	19 22 16.8	-2.5
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	19 21 46.0	-1.5
CBOC				S	Sn	19 22 24.2	-0.3
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	19 21 48.2	+0.3
ANIL	**Santa Ana**	**3.24**	**224**	P	Pn	19 21 52.4	+2.0
ANIL				S	Sn	19 22 30.6	+0.8
PRAC	**Prado**	**3.56**	**210**	P	Pn	19 21 53.0	-1.2
PRAC				S	Sn	19 22 35.2	-1.4
APAC	**Apartado, Choc**	**3.58**	**287**	P	Pn	19 21 49.0	-5.5
APAC				S	Sn	19 22 35.4	-1.7
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	19 21 54.0	-0.6
ORTC				S	Sn	19 22 37.6	+0.3
SJCC	**San Jacinto, C**	**3.66**	**326**	P	Pn	19 21 54.2	-1.4
SJCC				S	Sn	19 22 36.3	-2.8
URMC	**La Uribe, Meta**	**3.77**	**199**	P	Pn	19 21 57.2	+0.1
URMC				S	Sn	19 22 40.6	-1.1
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	Pn	19 22 00.4	-1.9
CRJC				S	Sn	19 22 49.1	-1.9
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	19 22 03.2	-0.4
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	19 22 10.0	-2.7
URIC				S	Sn	19 23 04.3	-5.4

*LDG **06** 19:24:17.6±0.1, 43°.06N×0°.41W, h2km, Md2.9/1, Ml3.0/16, Error ellipse: s-maj=1.4km s-min=1.1km az=175.0*
*STR **06** 19:24:17.6±0.5, 43°N±3°×°±°, h1km, MLv2.5/19, LOCSAT earthModelID pyrenees_taup-2.11 preliminary*

ISC 06 19:24:16.4±0.8, 43°.08N±0°.02×0°.42W±0°.02, h14km±5km, n53, σ1°43/91, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.02**	**122**	Pg	**Pg**	**19 24 18.8**	**-0.2**
REYF				Sg	**Sg**	**19 24 19.7**	**-1.1**
ATE	**Arette**	**0.20**	**271**	Pg	**Pb**	**19 24 21.8**	**-0.1**
ATE				Sg	**Sg**	**19 24 25.3**	**+1.1**
ETSF	**Etsaut**	**0.21**	**209**	*e*Pg	**Pb**	**19 24 21.5**	**-0.5**
ETSF				*e*Sg	**Sg**	**19 24 24.7**	**+0.3**
	226nm,0.3s						
PYLO	**Lourdes**	**0.27**	**86**	Pg	**Pb**	**19 24 23.0**	**-0.1**
PYLO				Sg	**Sb**	**19 24 26.7**	**-0.8**
CANF	**Canfranc**	**0.33**	**193**	Pg	**Pb**	**19 24 23.9**	**-0.1**
LABF	**Labassere**	**0.36**	**95**	Pg	**Pb**	**19 24 23.9**	**-0.7**
LABF				Sg	**Sb**	**19 24 29.9**	**-0.3**
URDF	**Urds**	**0.38**	**341**	Pg	**Pb**	**19 24 25.9**	**+1.1**
URDF				Sg	**Sb**	**19 24 33.1**	**+2.6**
VIEF	**Viey**	**0.38**	**121**	Pg	**Pb**	**19 24 24.6**	**-0.3**
VIEF				Sg	**Sb**	**19 24 29.4**	**-1.3**
IRAF	**Chalets d'Irat**	**0.46**	**264**	Pg	**Pb**	**19 24 26.7**	**+0.5**
EPF	**Esparros**	**0.56**	**95**	*e*Pg	**Pb**	**19 24 28.1**	**+0.1**
EPF				*e*Sg	**Sb**	**19 24 35.0**	**-0.8**
	74nm,0.2s						
SJPF	**Ste Jean**	**0.59**	**273**	*e*Pg	**Pn**	**19 24 29.2**	**-1.1**
SJPF				*e*Sg	**Sb**	**19 24 36.7**	**0.0**
	46nm,0.3s						
OSSF	**Osses**	**0.64**	**286**	Pg	**Pb**	**19 24 29.2**	**-0.1**
MLZA	**Monlezun-d-Arm**	**0.78**	**16**	Pg	**Pn**	**19 24 33.0**	**+0.2**
MLZA				Sg	**Sn**	**19 24 45.2**	**+0.9**
TERF	**Tercis-les-Bai**	**0.78**	**320**	Pg	**Pn**	**19 24 33.6**	**+0.7**
EALK	**Alkurruntz**	**0.81**	**280**	Pg	**Pb**	**19 24 32.3**	**+0.1**
EALK				Sg	**Sn**	**19 24 44.3**	**-0.9**
MELF	**Melles**	**0.89**	**103**	Pg	**Pn**	**19 24 33.5**	**-1.0**
MELF				Sg	**Sn**	**19 24 46.4**	**-0.8**
CRAS	**Crastes**	**1.05**	**52**	Pg	**Pn**	**19 24 38.0**	**+1.4**
CRAS				Sg	**Sn**	**19 24 53.2**	**+2.0**
MLS	**Moulis**	**1.12**	**96**	Pg	**Pn**	**19 24 38.3**	**+0.8**
SALF	**Salau**	**1.23**	**105**	Pg	**Pg**	**19 24 40.0**	**+0.1**
SALF				Sg	**Sn**	**19 24 57.2**	**+1.7**
PAND	**Andorre**	**1.55**	**110**	Pn	**Pg**	**19 24 47.7**	**+1.5**
PAND				Sg	**Sg**	**19 25 08.6**	**+2.2**
DUNF	**Dun**	**1.64**	**91**	Pg	**Pg**	**19 24 49.2**	**+1.4**
MONQ	**Montcuq**	**1.74**	**42**	Pn	**Pn**	**19 24 46.3**	**+0.3**
MONQ				Pg	**Pg**	**19 24 50.1**	**+0.4**
MONQ				Sg	**Sg**	**19 25 13.2**	**+0.8**
LRVF	**chteau la Riv**	**1.87**	**2**	Pn	**Pb**	**19 24 49.3**	**-0.9**
LRVF				Pg	**Pg**	**19 24 53.3**	**+1.1**
LRVF				Sg	**Sg**	**19 25 18.5**	**+2.1**
CARF	**Carcanieres**	**1.89**	**100**	Pg	**Pg**	**19 24 52.7**	**+0.1**
CARF				Sg	**Sg**	**19 25 18.2**	**+1.0**
MTLF	**Montolieu**	**1.95**	**81**	*e*Pn	**Pb**	**19 24 50.2**	**-1.4**
MTLF	**Montolieu**	**1.95**	**81**	*e*Pg	**Pg**	**19 24 53.9**	**+0.2**
MTLF				*e*Sg	**Sg**	**19 25 18.3**	**-0.6**
	28nm,0.3s						
LFF	**La Frestale**	**2.04**	**24**	*e*Pn	**Pn**	**19 24 51.2**	**+1.0**
LFF	**La Frestale**	**2.04**	**24**	*e*Pg	**Pg**	**19 24 55.1**	**-0.3**
LFF				*e*Sg	**Sg**	**19 25 21.6**	**-0.3**
	62nm,0.3s						
FILF	**Fillols**	**2.25**	**102**	Pn	**Pb**	**19 24 56.9**	**+0.1**
FILF				Sg	**Sg**	**19 25 28.6**	**-0.2**
CAF	**Calviac**	**2.57**	**43**	*e*Pn	**Pn**	**19 24 58.3**	**+0.7**
CAF	**Calviac**	**2.57**	**43**	*e*Pg	**Pg**	**19 25 04.0**	**-1.6**
CAF				*e*Sn	**Sn**	**19 25 28.7**	**+0.1**
CAF				*e*Sg	**Sg**	**19 25 38.6**	**-0.4**
	13nm,0.2s						
RJF	**Les Rejaudoux**	**2.62**	**31**	*e*Pn	**Pn**	**19 24 58.0**	**-0.3**
RJF	**Les Rejaudoux**	**2.62**	**31**	*e*Pg	**Pg**	**19 25 06.2**	**-0.4**
RJF				*e*Sg	**Sg**	**19 25 39.8**	**-0.8**
	12nm,0.2s						
FRNF	**Fournols**	**3.15**	**42**	Pn	**Pn**	**19 25 05.5**	**0.0**
LASF	**Ste Croix**	**3.26**	**71**	*e*Pn	**Pn**	**19 25 07.9**	**+0.8**
LASF	**Ste Croix**	**3.26**	**71**	*e*Pg	**Pg**	**19 25 18.7**	**-0.2**
LASF				*e*Sg	**Sg**	**19 25 59.2**	**-1.9**
	14nm,0.6s						
MFF	**Saint Martin d**	**3.52**	**3**	*e*Pn	**Pn**	**19 25 11.2**	**+0.6**
MFF	**Saint Martin d**	**3.52**	**3**	*e*Pn	**Pn**	**19 25 11.4**	**+0.8**
MFF	**Saint Martin d**	**3.52**	**3**	*e*Pg	**Pg**	**19 25 22.9**	**-1.0**
MFF				*e*Sg	**Sg**	**19 26 07.4**	**-2.1**
	3.8nm,0.2s						
MFF				*e*Sg	**Sb**	**19 26 08.4**	**+7.3**
	2.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.71**	**29**	*e*Pg	**Pg**	**19 25 26.3**	**-1.2**
TCF				*e*Sg	**Sg**	**19 26 14.2**	**-1.4**
	13nm,0.4s						
COLF	**Collangettes**	**3.83**	**49**	Pn	**Pn**	**19 25 16.0**	**+1.1**
VIVF	**Saint-Julien-l**	**4.08**	**63**	*e*Pg	**Pg**	**19 25 35.3**	**+0.8**
VIVF				*e*Sg	**Sg**	**19 26 25.1**	**-2.3**
	7.3nm,0.4s						
BGF	**Bois d'Agland**	**4.18**	**33**	*e*Pn	**Pn**	**19 25 20.3**	**+0.6**
BGF	**Bois d'Agland**	**4.18**	**33**	*e*Pg	**Pg**	**19 25 35.5**	**-0.9**
BGF				*e*Sg	**Sg**	**19 26 28.9**	**-1.6**
	23nm,0.3s						
AVF	**Avril sur Loir**	**4.57**	**35**	*e*Pn	**Pn**	**19 25 25.6**	**+0.6**
AVF	**Avril sur Loir**	**4.57**	**35**	*e*Pg	**Pg**	**19 25 44.1**	**+0.2**
AVF				*e*Sg	**Sg**	**19 26 40.5**	**-2.6**
	12nm,0.7s						
SMF	**Signal de Mont**	**4.68**	**39**	*e*Sg	**Sg**	**19 26 44.9**	**-1.5**
	2.2nm,0.3s						
SSF	**Saint Saulge**	**4.85**	**34**	*e*Pn	**Pn**	**19 25 29.1**	**+0.2**
SSF				*e*Sg	**Sg**	**19 26 50.4**	**-1.7**
	4.3nm,0.4s						
LOR	**Lormes**	**5.16**	**34**	*e*Sg	**Sg**	**19 26 59.7**	**-2.3**
	3.8nm,0.3s						
QUIF	**Quistinic**	**5.21**	**339**	*e*Pg	**Pg**	**19 25 55.5**	**-0.5**
QUIF				*e*Sn	**Sn**	**19 26 31.4**	**-2.1**
QUIF				*e*Sg	**Sg**	**19 27 01.0**	**-2.4**
GRR	**Gorron**	**5.32**	**357**	*e*Pn	**Pn**	**19 25 36.1**	**+0.9**
GRR				*e*Sn	**Sn**	**19 26 34.1**	**-2.1**
SGMF	**Saint Gilles**	**5.38**	**345**	*e*Pg	**Pg**	**19 25 56.3**	**-3.1**
SGMF				*e*Sn	**Sn**	**19 26 37.5**	**-0.4**
ROSF	**Rostrenen**	**5.62**	**340**	*e*Pn	**Pn**	**19 25 41.1**	**+1.7**

*IDC **06** 19:55:15.1±7.8, 5°.57S×151°.33E, h84km±56km, mb3.8/4, mbtmp4.2/5, ML2.2/1, MS2.9/1, Error ellipse: s-maj=53.7km s-min=52.5km az=122.0*

ISC 06 19:55:11.0±1.8, 5°.4S±0°.4×151°.5E±0°.3, h57km, n6, σ0°90/7, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**227**	P	**Pn**	**19 56 36.1**	**+0.8**
	5.0nm,0.3s,baz=45,slow=9.6,SNR=15						
PMG				S	**Sn**	**19 57 41.2**	**+0.1**
	23nm,0.6s,baz=254,slow=14,SNR=5.8						
	17nm,0.4s						
WRA	**Warramunga Arr**	**22.08**	**228**	P	**P**	**20 00 00.3**	**-1.2**
	3.4nm,0.7s,baz=53,slow=10,SNR=38						
	3.4nm,0.7s						
ASAR	**Alice Springs**	**24.84**	**221**	P	**P**	**20 00 27.2**	**-1.0**
	3.4nm,0.8s,baz=58,slow=8.9,SNR=36						
ASAR				LR	LR	20 10 26.9	
	comp=Z,25nm,18.5s,baz=144,slow=37						
	3.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.23**	**241**	P	**P**	**20 00 58.7**	**-0.1**
	4.8nm,0.8s,baz=65,slow=7.1,SNR=17						
	4.8nm,0.8s						
QSPA	**South Pole Qui**	**84.57**	**180**	P	**P**	**20 07 38.4**	**+0.4**
	0.9nm,0.8s,baz=330,slow=5.7,SNR=6.9						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.24**	**287**	PKPbc	**PKPbc**	**20 14 54.5**	**+0.2**
	0.6nm,0.4s,baz=79,slow=2.8,SNR=14						

*IDC **06** 20:17:22.9±0.8, 30°.28S×177°.62W, h0km, mb4.1/7, mbtmp4.1/8, ML3.7/1, MS3.5/4, Error ellipse: s-maj=26.9km s-min=24.5km az=86.0*
*NEIC **06** 20:17:26.0±1.6, 30°.41S±0°.07×177°.9W±0°.2, h10km±2km, mb4.5/12, Error ellipse: s-maj=29.0km s-min=11.2km az=99.0*

ISC 06 20:17:25.4±0.8, 30°.41S±0°.08×177°.9W±0°.1, h10km, n53, σ1°50/38, mb4.5/17, MS3.5/3, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.15**	**358**		**Pn**	**20 17 48.3**	**+0.8**
MXZ	**Matakaoa Point**	**7.81**	**203**	Pn	**Pn**	**20 19 19.8**	**+0.7**
URZ	**Urewera**	**8.86**	**207**	Pn	**Pn**	**20 19 33.2**	**-0.3**
	0.8nm,0.3s,baz=52,slow=19,SNR=14						
URZ				Sn	**Sn**	**20 21 12.5**	**-0.9**
	2.2nm,0.3s,baz=100,slow=17,SNR=11						
	1.9nm,0.3s						
RTZ	**Ruatahuna**	**9.22**	**206**	Pn	**Pn**	**20 19 37.1**	**-1.4**
BKZ	**Black Stump Fm**	**9.89**	**206**	Pn	**Pn**	**20 19 47.6**	**0.0**
THZ	**Tophouse**	**13.56**	**211**	Pn	**Pn**	**20 20 39.4**	**+1.6**
DZM	**Mont Dzumac**	**16.33**	**297**	*e*LR	LR	20 25 04.7	
	190nm,24.9s						
DZM	**Mont Dzumac**	**16.33**	**297**	Pn	**P**	**20 21 21.9**	**+3.9**
	0.5nm,0.3s,baz=96,slow=13,SNR=8.7						
DZM				LR	LR	20 26 22.1	
	comp=Z,105nm,18.3s,baz=162,slow=33						
PPT2	**Papeete2**	**28.73**	**70**	*e*LR	LR	20 30 33.3	
	83nm,25.8s						
CTAO	**Charters Tower**	**33.92**	**279**	P	**P**	**20 24 07.1**	**-1.7**
STKA	**Stephens Creek**	**34.59**	**257**		**P**	**20 24 12.9**	**-1.7**
STKA	**Stephens Creek**	**34.59**	**257**	P	**P**	**20 24 17.1**	**+2.6**
	13nm,0.8s,baz=95,slow=9.5,SNR=23						
STKA				LR	LR	20 36 50.5	
	comp=Z,51nm,18.1s,baz=26,slow=34						
	13nm,0.8s						
BBOO	**Buckleboo**	**39.08**	**254**	P	**P**	**20 24 53.1**	**+0.3**
BBOO				IAmb	IAmb	20 25 04.1	
	comp=Z,26nm,1.4s						
AS31	**Alice Springs**	**43.23**	**267**		**P**	**20 25 25.6**	**-1.5**
AS31				IAmb	IAmb	20 25 28.6	
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**20 25 26.0**	**-1.0**
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**20 25 27.6**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=105,slow=7.8,SNR=46						
	comp=Z,2.0nm,0.6s						
WR8	**Warramunga Arr**	**44.07**	**272**	P	**P**	**20 25 34.1**	**+0.3**
WR8				IAmb	IAmb	20 25 36.4	
	comp=Z,3.7nm,0.8s						
WRAB	**Tennant Creek**	**44.21**	**272**	P	**P**	**20 25 33.5**	**-1.5**
WRAB				IAmb	IAmb	20 25 36.3	
	comp=Z,3.5nm,0.6s						
WRA	**Warramunga Arr**	**44.22**	**272**		**P**	**20 25 34.7**	**-0.3**
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**20 25 34.9**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=112,slow=8.0,SNR=71						
WRA				LR	LR	20 42 44.9	
	comp=Z,53nm,18.0s,baz=25,slow=34						
	comp=Z,3.9nm,0.5s						
WB0

RAJF	Raja-Jooseppi	3.07	74	PN	Pn	20 25 45.8	-1.8
RAJF	Raja-Jooseppi	3.07	74	PB	Pn	20 25 45.8	-1.8
KEV	Kevo	3.11	49	SG	Sb	20 26 31.6	-0.8
VRF	Varrio	3.55	87	PB	Pn	20 25 57.3	+3.1
VRF	Varrio	3.55	87	SG	Pn	20 25 57.3	+3.1

HEL 06 20:25:07.0±0.1, 67°.63N×33°.87E, h0km, ML1.2,
Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.40	47	PG	Pg	20 25 14.3	-0.4
	baz=225						
LVZ				SG	Sg	20 25 19.4	-0.4
VRF	Varrio	1.63	276	PG	Pn	20 25 36.3	-0.7
VRF				MSG		20 25 55.7	
	comp=Z,1.5nm,0.2s						
OLKF	Oulanka, Finla	2.19	235	PG	Pb	20 25 46.5	-1.0
OLKF				MSG		20 26 12.1	
	comp=Z,1.0nm,0.2s						
OLKF				SG	Sb	20 26 14.8	-0.4
KU6	Riekki	2.25	226	PG	Pb	20 25 47.2	-1.3
KU6				MSG		20 26 13.6	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	20 26 15.8	-1.1
RAJF	Raja-Jooseppi	2.25	295	SB	Sn	20 26 14.6	+0.7
MSF	Maaselka	2.58	230	PG	Pb	20 25 52.6	-1.5
MSF				SG	Sb	20 26 27.6	+1.4
KEV	Kevo	3.29	314	PN	Pn	20 25 59.8	+0.1
ARA0	ARCESS Array S	3.62	306	PN	Pn	20 26 03.5	-0.7
HEF	Hetta	3.92	286	SN	Sn	20 26 55.4	+0.5

*JMA **06** 20:56:54.4±0.1, 23°.9N±0°.3×121°.7E±0°.7, h41km±1km, MV3.1/16, TAIWAN REGION*
*TAP **06** 20:56:54.9, 23°.93N×121°.65E, h42km, ML3.6, B*
ISC 06 20:56:55.4±0.9, 23°.92N±0°.01×121°.68E±0°.02, h34km±1km, n176, σ0°88/288, 4C-37D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliu Villag	0.09	239	P	Pb	20 57 01.9	+0.7
TEYL				eS	Sb	20 57 08.0	+2.8
HWA	Hwalien	0.09	311	⇑P	Pb	20 57 01.9	+0.7
HWA				eS	Sb	20 57 07.6	+2.4
SHUL	Shoufeng	0.17	221	⇑iP	Pb	20 57 02.4	+0.7
SHUL				eS	Sb	20 57 08.1	+2.0
ETM	Tongmen	0.18	286	⇓P	Pb	20 57 01.9	0.0
ETM				eS	Sb	20 57 06.7	+0.4
TWD	Chiawan	0.18	334	⇑iP	Pb	20 57 02.1	+0.2
TWD				eS	Sb	20 57 07.2	+0.9
TEGC	Jichi Village	0.24	212	eP	Pb	20 57 03.3	+0.8
TEGC				eS	Sb	20 57 10.2	+2.8
ETL	Fush Village	0.25	347	P	Pn	20 57 02.7	+0.4
ETL				S	Sb	20 57 08.6	+1.0
ESL	Shilin	0.25	246	⇓iP	Pn	20 57 02.4	+0.2
ESL				eS	Sb	20 57 07.6	+0.1
LXIB	Xiulin Townshi	0.27	293	⇓iP	Pn	20 57 02.6	-0.2
LXIB				eS	Sn	20 57 07.9	+1.0
NACB	Ninganchiao	0.27	343	P	Pn	20 57 02.6	-0.1
NACB	Ninganchiao	0.27	343	⇓iP	Pn	20 57 02.6	-0.1
NACB				S	Sn	20 57 07.9	+1.3
WARBT	Fenglin Townsh	0.34	234	⇓iP	Pb	20 57 03.1	-0.5
WARBT				eS	Sn	20 57 08.9	-0.3
EGFH	Guangfu	0.34	224	eP	Pb	20 57 03.5	-0.2
EGFH				eS	Sn	20 57 09.3	0.0
ETLH	Xiulin Townshi	0.34	328	⇓iP	Pb	20 57 03.4	-0.5
ETLH				eS	Sn	20 57 09.1	-0.4
EAHA	Aohua	0.41	7	eP	Pb	20 57 04.7	-0.1
EAHA				eS	Sn	20 57 12.2	+0.7
WHF	Hehuan Shan	0.45	301	⇓iP	Pb	20 57 04.9	-0.7
WHF				eS	Sb	20 57 11.9	-0.6
OWD	Renai	0.47	275	⇓iP	Pb	20 57 05.2	-0.4
OWD				eS	Sb	20 57 12.2	-0.5
HGSD	Ruisui	0.48	209	⇓iP	Pb	20 57 05.9	+0.1
HGSD				eS	Sn	20 57 14.3	+1.1
ENA	Nanau	0.51	6	eP	Pb	20 57 05.7	-0.5
ENA				eS	Sb	20 57 14.2	+0.5
FUSS	Fushou	0.52	310	⇓iP	Pb	20 57 06.1	-0.5
FUSS				eS	Sb	20 57 13.7	-0.5
EHYH	Wanrong	0.52	216	eP	Pb	20 57 05.2	-1.2
WUSB	Renai	0.52	279	⇓iP	Pb	20 57 06.2	-0.3
WUSB				S	Sb	20 57 13.6	-0.5
EHY	Hungye	0.53	219	⇓iP	Pb	20 57 05.2	-1.3
EHY				eS	Sb	20 57 12.5	-1.5
EWUT	Wuta	0.54	9	P	Pb	20 57 06.0	-0.6
EWUT				eS	Sb	20 57 14.7	+0.5
TWT	Tachien	0.57	306	⇓iP	Pn	20 57 06.9	-0.3
TWT				eS	Sb	20 57 14.8	-0.7
NNSB	Datong	0.58	332	⇓iP	Pn	20 57 06.5	-0.8
NNSB				eS	Sb	20 57 14.2	-1.4
TDCB	Techi	0.58	305	⇓iP	Pn	20 57 07.0	-0.4
TDCB				S	Sb	20 57 14.8	-1.0
NNS	Nan Shan	0.59	332	⇓iP	Pn	20 57 06.7	-0.8
NNS				eS	Sb	20 57 14.9	-1.1
EOS4	EOS4	0.62	70	P	Pn	20 57 07.3	0.0
EOS4				S	Sn	20 57 16.3	+0.4
YULB	Yu-li	0.63	214	P	Pn	20 57 06.5	-1.4
YULB	Yu-li	0.63	214	⇓iP	Pn	20 57 06.5	-1.4
YULB				eS	Sb	20 57 14.9	-1.9
ECBN	Changbin	0.63	200	eP	Pn	20 57 08.0	+0.1
ECBN				eS	Sn	20 57 17.5	+0.7
LATG	Datong	0.63	347	⇓P	Pn	20 57 07.0	-1.0
LATG				eS	Sb	20 57 15.5	-1.6
EYUL	Yuli	0.66	211	eP	Pn	20 57 07.2	-1.1
TWF1	Yuli	0.66	212	⇓iP	Pn	20 57 07.0	-1.4
WPL	Puli Township	0.67	278	P	Pn	20 57 07.9	-0.6
ESAO	Su ao	0.67	13	eP	Pn	20 57 08.5	0.0
ESAO				eS	Sn	20 57 18.1	+0.2
SSLB	Suanglung	0.68	259	P	Pn	20 57 07.9	-0.7
SSLB	Suanglung	0.68	259	⇓iP	Pn	20 57 08.0	-0.6
EOS3	EOS3	0.69	57	eP	Pn	20 57 08.8	+0.3
DPDB	Guoxing	0.70	280	⇓P	Pn	20 57 08.6	-0.3
DPDB				eS	Sn	20 57 18.6	-0.1
TWC	Suao	0.71	12	P	Pn	20 57 09.0	0.0
TWC				S	Sn	20 57 19.3	+0.6
EOS2	EOS2	0.71	45	⇑eP	Pn	20 57 09.5	+0.6
NDS	Dongshan	0.72	2	eP	Pn	20 57 08.4	-0.7
SMLT	Sun Moon Lake	0.72	268	⇓iP	Pn	20 57 08.7	-0.6
WCS	Beigang Elemen	0.72	281	P	Pn	20 57 08.8	-0.3
ENTT	Nioudou	0.73	352	⇓iP	Pn	20 57 08.6	-0.8
TYC	Yuchr	0.76	269	eP	Pn	20 57 09.1	-0.6
WHP	Taichung City	0.76	298	eP	Pn	20 57 09.7	-0.2
WHP				eS	Sn	20 57 19.7	-0.6
CHKH	Chenggong	0.77	200	eP	Pn	20 57 09.4	-0.4
CHKH				eS	Sn	20 57 20.4	+0.2
WHYT	Xinyi Township	0.79	254	⇓P	Pn	20 57 10.2	0.0
WHYT				eS	Sb	20 57 22.0	+0.8
YUS	Yu-Shan	0.79	238	⇓iP	Pn	20 57 10.2	-0.4
YUS				S	Sn	20 57 20.1	-1.4
FULB	Fuli	0.80	207	eP	Pn	20 57 09.9	-0.4
FULB				eS	Sn	20 57 21.6	+0.6
TWE	Neicheng	0.80	359	eP	Pn	20 57 09.7	-0.6
TWE				eS	Sn	20 57 21.0	-0.1
YHNB	Yeheng	0.80	340	P	Pn	20 57 09.8	-0.6
YHNB	Yeheng	0.80	340	⇓iP	Pn	20 57 09.8	-0.6
YHNB				eS	Sn	20 57 19.7	-1.5
NSK	Sanguang	0.81	339	⇓P	Pn	20 57 10.0	-0.6
NSK				eS	Sn	20 57 20.1	-1.3
FUSB	Fushanzhiwuyua	0.84	354	⇓iP	Pn	20 57 10.2	-0.8
CHKT	Chengkung	0.86	200	eP	Pn	20 57 10.7	-0.5
CHKT				eS	Sn	20 57 23.3	+0.7
NWLT	Wulai	0.87	349	eP	Pn	20 57 10.7	-0.7
NWLT				eS	Sn	20 57 21.0	-1.9
EHD	Haiduan	0.88	210	eP	Pn	20 57 09.6	-1.8
WJS	Zhushan	0.88	264	eP	Pn	20 57 12.1	+0.7
NFF	Wufeng Townshi	0.88	324	eP	Pn	20 57 12.4	+1.0
NFF				eS	Sn	20 57 23.3	+0.2
ALS	Alishan	0.90	244	⇓iP	Pn	20 57 11.8	-0.1
ALS				eS	Sn	20 57 24.2	+0.4
WNT	Mingjian	0.92	268	⇓P	Pn	20 57 12.4	+0.5
WNT				eS	Sb	20 57 25.0	+0.3
WNT1	Nantou City	0.92	270	eP	Pn	20 57 12.6	+0.7
WNT1				eS	Sb	20 57 25.6	+0.7
ECS	Chishang	0.92	208	eP	Pn	20 57 11.0	-1.0
TWQ1	Liyutan	0.94	298	⇓iP	Pn	20 57 12.6	+0.4
TWQ1				eS	Sn	20 57 25.5	+1.1
ELDTW	Lidau	0.95	220	eP	Pn	20 57 11.1	-1.3
NSTT	Nanjuang	0.95	319	⇓P	Pn	20 57 12.8	+0.5
NSTT				eS	Sn	20 57 24.5	-0.1
LIOB	Emei	0.95	320	⇓iP	Pn	20 57 12.9	+0.6
LIOB				eS	Sn	20 57 24.8	0.0
TCU	Taichung	0.95	284	eP	Pn	20 57 13.1	+0.8
TCU				eS	Sn	20 57 25.4	+0.7
EGS		0.95	14	eP	Pn	20 57 13.5	+1.1
CHN5	Tsauling	0.97	251	eP	Pn	20 57 13.0	+0.2
CHN5				eS	Sn	20 57 26.5	+1.1
KSHI	Guanxi Townshi	0.97	332	eP	Pn	20 57 13.5	+0.8
KSHI				eS	Sn	20 57 26.2	+0.8
NSY	Sanyi	0.98	301	⇓P	Pn	20 57 13.5	+0.7
NSY				eS	Sn	20 57 26.5	+1.0
NJD	Zhudong	0.98	327	eP	Pn	20 57 13.0	+0.2
EDH	Donghe	1.00	200	eP	Pn	20 57 12.1	-1.0
EDH				eS	Sn	20 57 25.9	-0.1
WYL	Yuanlin Townsh	1.01	273	eP	Pn	20 57 13.8	+0.6
WYL				eS	Sb	20 57 28.1	+0.7
NMLH	Miaoli	1.02	307	eP	Pn	20 57 13.6	+0.3
NMLH				eS	Sn	20 57 27.1	+0.5
WCHH	Zhanghua	1.04	279	eP	Pn	20 57 14.3	+0.7
WCHH				eS	Sb	20 57 29.1	+0.8
WDJ	Dajia District	1.04	295	⇓P	Pn	20 57 14.0	+0.4
WDJ				eS	Sn	20 57 28.1	+1.0
WCH1	Changhua City	1.05	279	eP	Pn	20 57 14.0	+0.3
WCH1				eS	Sb	20 57 29.0	+0.4
HSN1	Hsinchu	1.05	325	eP	Pn	20 57 13.9	+0.1
HSN1				eS	Sb	20 57 28.8	+0.2
WGK	Gukeng	1.05	258	eP	Pn	20 57 14.3	+0.6
TIPB	Shuangxi	1.06	7	eP	Pn	20 57 14.3	+0.4
TIPB				eS	Sn	20 57 27.6	0.0
NJN	Zhunan	1.06	316	eP	Pn	20 57 14.2	+0.3
NJN				eS	Sn	20 57 28.5	+1.0
WDL	Douliou City	1.07	259	eP	Pn	20 57 14.7	+0.7
WDL				eS	Sb	20 57 29.1	+0.1
TATO	Taipei	1.07	350	P	Pb	20 57 15.9	+0.4
TATO	Taipei	1.07	350	eP	Pn	20 57 14.3	+0.2
TATO				eS	Sn	20 57 27.9	+0.2
WDLH	Douliu	1.07	258	eP	Pn	20 57 14.8	+0.7
WDLH				eS	Sn	20 57 29.0	+1.2
SBCB	Hsinchu	1.08	324	eP	Pn	20 57 13.7	-0.5
WCKO	Fanlu	1.10	245	eP	Pn	20 57 15.2	+0.8
WCKO				eS	Sn	20 57 29.8	+1.4
HSN	Hsinchu	1.10	324	eP	Pn	20 57 14.2	-0.2
STYH	Taoyuan	1.11	228	eP	Pn	20 57 14.8	+0.2
STYH				eS	Sn	20 57 29.5	+0.7
TWB1	Santiao Chiao	1.12	14	eP	Pn	20 57 15.3	+0.6
TWB1				eS	Sb	20 57 30.9	+0.2
LONT	Longtian	1.12	207	eP	Pn	20 57 13.2	-1.6
LONT				eS	Sn	20 57 27.8	-1.3
STYT	Tauyuan	1.13	229	eP	Pn	20 57 15.0	+0.1
STYT				eS	Sn	20 57 30.1	+0.7
NTY	Taoyuan	1.14	342	eP	Pn	20 57 15.3	+0.4
NTY				eS	Sn	20 57 30.1	+0.8
NCUH	Zhongli	1.14	337	eP	Pn	20 57 15.0	-0.1
TPUB	Ta-pu	1.14	238	P	Pn	20 57 15.6	+0.5
TPUB	Ta-pu	1.14	238	S	Sb	20 57 31.3	0.0
TPUB	Ta-pu	1.14	238	eP	Pn	20 57 15.5	+0.5
TPUB				S	Sn	20 57 30.5	+0.9
CHN4	Tsaushan	1.15	241	eP	Pn	20 57 15.6	+0.6
CHN4				eS	Sn	20 57 30.6	+1.0
NWF	Wu-fen Shan	1.15	4	eP	Pn	20 57 15.7	+0.4
WFSB	Wu-fen Shan	1.15	4	eP	Pn	20 57 15.4	+0.2
WFSB				eS	Sn	20 57 31.0	+1.2
CHN2	Minshiung	1.17	251	eP	Pn	20 57 16.5	+1.1
CHN2				eS	Sn	20 57 31.4	+1.3
WTP	Ta-pu	1.19	236	P	Pn	20 57 16.2	+0.5
WTP				eS	Sn	20 57 31.5	+0.8
SXI1	Grass Mountain	1.19	8	P	Pn	20 57 16.5	+0.8
SXI1				S	Sb	20 57 32.3	-0.3
TWS1	Kuangyinshan	1.21	348	eP	Pn	20 57 16.6	+0.8
TWS1				eS	Sn	20 57 31.5	+0.5
WTK	Tuku	1.21	259	eP	Pn	20 57 16.2	+0.3
WTK				eS	Sb	20 57 33.3	+0.3
RLNB	Erlin	1.21	269	eP	Pn	20 57 16.5	+0.5
RLNB				eS	Sn	20 57 32.6	+1.5
TWGBT	Beinan	1.23	207	P	Pn	20 57 14.3	-1.9
TWGBT	Beinan	1.23	207	eP	Pn	20 57 14.3	-1.9
TWGBT				eS	Sn	20 57 29.4	-2.2
CHY	Chiayi	1.23	250	eP	Pn	20 57 16.9	+0.7
CHY				eS	Sb	20 57 33.3	-0.3
TWG	Pinlang	1.23	207	eP	Pn	20 57 14.4	-1.8
YM01	YM01	1.23	355	eP	Pn	20 57 16.4	+0.1
YM01				eS	Sn	20 57 31.3	-0.5
NHW	Xinwu Township	1.23	332	eP	Pn	20 57 15.9	-0.3
TNOU	National Taiwa	1.23	4	eP	Pn	20 57 16.1	-0.2
ZUZH	Zhuzihu	1.25	354	eP	Pn	20 57 16.0	-0.5
ZUZH				eS	Sn	20 57 31.4	-0.8
LDUT	Ludao	1.25	189	eP	Pn	20 57 15.1	-1.4
TTN	Taitung	1.26	203	eP	Pn	20 57 17.1	+0.5
TTN				eS	Sn	20 57 32.1	-0.1
NTST	Danshui	1.26	350	eP	Pn	20 57 16.7	+0.1
NTST				eS	Sn	20 57 33.0	+0.6
JYNG	Yonagunijimaku	1.27	65	P	Pn	20 57 16.7	-0.1
JYNG				eS	Sn	20 57 32.6	0.0
YM08	YM08	1.27	356	eP	Pn	20 57 16.5	-0.3
TWK	Hsinying	1.27	240	P	Pn	20 57 17.4	+0.5
TWK				eS	Sn	20 57 34.2	+1.4
ANP	Anpu	1.27	353	eP	Pn	20 57 17.1	+0.2
WTCT	Ta-ch'eng	1.28	268	P	Pn	20 57 17.6	+0.7
WTCT				S	Sb	20 57 34.8	-0.4
CHN1	Nanshi	1.28	236	P	Pn	20 57 17.6	+0.6
CHN1				eS	Sn	20 57 34.6	+1.6
SNST	Tainan City	1.29	238	P	Pn	20 57 17.6	+0.5
SNST				S	Sn	20 57 34.4	+1.2
SGST	Jiashian	1.31	231	⇓iP	Pn	20 57 17.2	0.0
SGST				eS	Sn	20 57 34.9	+1.3
YOJ	Yonaguni jima	1.33	66	P	Pn	20 57 17.6	0.0
YOJ	Yonaguni jima	1.33	66	P	Pn	20 57 17.5	0.0
YOJ				eS	Sn	20 57 34.2	+0.1
YOJ	Yonaguni jima	1.33	66	P	Pn	20 57 17.5	0.0
YOJ				eS	Sn	20 57 34.2	+0.1
WSF	Szhu	1.37	259	P	Pn	20 57 18.9	+0.9
WSF				S	Sb	20 57 37.0	-0.6
WSL	Shuilin Townsh	1.39	254	P	Pn	20 57 19.0	+0.6
WSL				S	Sn	20 57 37.5	+1.9
CHN8	Yiju	1.46	248	eS	Sn	20 57 38.6	+1.2
ECL	Taimali	1.47	207	eP	Pn	20 57 19.0	-0.5
SCST	Cishan	1.50	227	eP	Pn	20 57 21.6	+1.8
SCST				eS	Sb	20 57 41.5	+0.2
SSD	Sandimen	1.51	220	eP	Pn	20 57 21.4	+1.3
SSD				eS	Sn	20 57 40.2	+1.6
SCLT	Jiali	1.55	242	eP	Pn	20 57 20.9	+0.2
SCLT				eS	Sn	20 57 40.7	+1.1
TWM1	Shoushan	1.59	227	eP	Pn	20 57 21.9	+0.7
TWM1				eS	Sb	20 57 44.1	+0.1
MASBT	Mashibuluo	1.62	217	eP	Pn	20 57 21.8	+0.2
MASBT				eS	Sn	20 57 43.0	+1.7
EAST	Anshuo	1.71	207	eP	Pn	20 57 23.8	+1.0
TAWH	Dawu Township	1.73	205	eP	Pn	20 57 22.9	-0.2
PCYT	Pengchaiyu	1.74	12	eP	Pn	20 57 23.7	+0.4
SCZT	Fangliau	1.82	213	eP	Pn	20 57 24.9	+0.5
SCZT				eS	Sn	20 57 48.4	+2.2
LAY	Lan-yu	1.87	184	eP	Pn	20 57 24.1	-1.0
LYUB	Lan-yu	1.91	183	eP	Pn	20 57 23.0	-2.5
LYUB				eS	Sn	20 57 46.2	-2.2
IRIF	Iriomote-Funau	1.92	77	P	Pn	20 57 25.7	+0.1
HATJ	Hateruma jima	1.95	85	P	Pn	20 57 26.4	+0.3
HATJ				eS	Sn	20 57 49.5	+0.2
WDGT	Dungji	1.97	251	eP	Pn	20 57 26.1	-0.2
WDGT				eS	Sn	20 57 49.0	-0.9
PHUB	P'eng-hu	1.98	259	eP	Pn	20 57 26.0	-0.4
PHUB				S	Sn	20 57 49.9	-0.2
PNG	Penghu	1.98	260	eP	Pn	20 57 26.1	-0.4
PNG				eS	Sn	20 57 49.4	-0.8
HEN	Hengchun	2.09	205	eP	Pn	20 57 30.4	+2.3
TWK1	Hengchun	2.12	203	P	Pn	20 57 29.0	+0.5
TWKBT	Hengchun	2.12	202	eP	Pn	20 57 28.9	+0.4
TWKBT				eS	Sn	20 57 54.0	+0.3
TSEB	Hengchuen, Pin	2.13	200	eP	Pn	20 57 29.9	+1.3
JKRS	Kuro-shima	2.15	81	P	Pn	20 57 29.4	+0.5
JKRS				eS	Sn	20 57 54.9	+0.5
VCHM	Qimei	2.18	252	eP	Pn	20 57 29.2	-0.1
VCHM				eS	Sn	20 57 54.7	-0.6
JIJ	Ishigaki jima	2.29	78	P	Pn	20 57 30.7	-0.2
JISG	Ishigakijimahi	2.49	74	P	Pn	20 57 33.4	-0.2
JISG				eS	Sn	20 58 01.7	-1.1
PTMZ	Houxiangcun	2.59	296	eP	Pn	20 57 33.6	-1.3
MATB	Ma-tsu	2.73	325	eP	Pn	20 57 35.6	-1.2
JTJ	Tarama	2.85	75	P	Pn	20 57 38.7	+0.2
KNM	Kinmen	3.01	280	eP	Pn	20 57 41.4	+0.7
KNMB	Chin-men Tao	3.06	281	⇓eP	Pn	20 57 40.2	-1.1
XPSS	Dashiqiu	3.29	336	eP	Pn	20 57 43.8	-0.8
JIRB	Irabujima	3.31	73	eP	Pn	20 57 44.6	-0.2
JMJ	Miyako jima 2	3.41	74	P	Pn	20 57 47.2	+1.0
JMJ	Miyako jima 2	3.41	74	eP	Pn	20 57 47.0	+0.7
JMJ2	Miyako jima3	3.42	75	eP	Pn	20 57 46.7	+0.3
AXDP	Jialang	3.52	287	eP	Pn	20 57 46.7	-1.1
DSXP	Dongshan	3.90	268	eP	Pn	20 57 52.2	-0.8
SXFK	Yanhouchang	4.42	305	eP	Pn	20 57 58.6	-1.5
JOW	Kunigami	6.63	63	P	Pn	20 58 30.4	-0.1

*NEIC **06** 21:04:05.1±0.8, 19°.53N±0°.10×64°.56W±0°.04, h10km±2km, ML2.7/18, Md3.7/12(RSPR), Error ellipse: s-maj=16.2km s-min=5.8km az=2.0*
*RSPR **06** 21:04:07.2, 19°.72N×64°.58W, h47km±29km, MD3.6/12*
ISC 06 21:04:04.4±1.9, 19°.6N±0°.1×64°.56W±0°.06, h27km, n54, σ1°96/57, 4C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.93	220		Pn	21 04 36.5	+1.0
GCPR	Guaynabo City	1.96	228		Pb	21 04 37.6	-1.9
GCPR					Sb	21 05 01.9	-1.6
GCPR	Guaynabo City	1.96	228	⇓eP	Pb	21 04 37.6	-1.9
GCPR	Guaynabo City	1.96	228	eS	Sb	21 05 01.9	-1.6
SMRT	St. Maarten	2.12	138	Pn	Pn	21 04 39.3	+1.2
SMRT				IAML		21 05 01.1	
	comp=E,157nm,0.1s						
SMRT				IAML		21 05 07.4	
	comp=N,137nm,0.2s						
PDPR	Patillas Dam,	2.13	221		Pn	21 04 39.5	+1.2
PDPR				IAML		21 05 07.6	
	comp=N,42nm,0.4s						
PDPR	Patillas Dam,	2.13	221	⇓iP	Pb	21 04 40.2	-2.1
PDPR	Patillas Dam,	2.13	221	eS	Sb	21 05 06.8	-1.5
SJG	San Juan	2.14	225		Pb	21 04 40.3	-2.3
SJG	San Juan	2.14	225	IAML		21 05 12.7	
	comp=N,40nm,0.3s						
SJG				IAML		21 05 16.6	
	comp=N,44nm,0.2s						
SJG	San Juan	2.14	225	⇓eP	Pb	21 04 40.3	-2.3
SJG	San Juan	2.14	225	eS	Sn	21 05 05.5	+1.3
ECPR	Experimental S	2.16	233	⇓eP	Pn	21 04 39.4	+0.8
EMPR	Esperanza - Ma	2.20	238		Pn	21 04 40.6	+1.5
EMPR	Esperanza - Ma	2.20	238		Sn	21 05 06.9	+1.5
EMPR	Esperanza - Ma	2.20	238		Pb	21 04 41.3	-2.2
EMPR	Esperanza - Ma	2.20	238	⇓iP	Pn	21 04 40.6	+1.5
EMPR	Esperanza - Ma	2.20	238	eS	Sn	21 05 06.9	+1.5
IGPR	InterUniversit	2.22	222		Pn	21 04 40.8	+1.3
IGPR					Sn	21 05 07.3	+1.2
IGPR	InterUniversit	2.22	222	⇑eP	Pn	21 04 40.8	+1.3
IGPR	InterUniversit	2.22	222	eS	Sn	21 05 07.3	+1.2
SABA	Saba	2.37	148	Pn	Pn	21 04 42.4	+0.9
CELP	Cerrillos	2.47	231		Pn	21 04 44.2	+1.2
CELP				IAML		21 05 23.6	
	comp=N,28nm,0.5s						
CELP	Cerrillos	2.47	231		Sn	21 05 14.4	+2.2
CELP	Cerrillos	2.47	231	⇓eP	Pn	21 04 44.6	+1.7
CELP	Cerrillos	2.47	231	eS	Sn	21 05 14.4	+2.2
UUPR	Utuado, UPR, P	2.47	236		Pn	21 04 44.6	+1.6
UUPR	Utuado, UPR, P	2.47	236		Sn	21 05 13.7	+1.4
UUPR	Utuado, UPR, P	2.47	236		Pn	21 04 45.0	+2.1
UUPR	Utuado, UPR, P	2.47	236	⇓eP	Pn	21 04 44.6	+1.6
UUPR	Utuado, UPR, P	2.47	236	eS	Sn	21 05 13.7	+1.4
OBIP	Obispado Ponce	2.51	231		Pn	21 04 44.6	+1.1
OBIP				IAML		21 05 23.8	
	comp=N,28nm,0.8s						
OBIP				IAML		21 05 30.7	
	comp=E,39nm,0.8s						
OBIP	Obispado Ponce	2.51	231		Sn	21 05 14.2	+1.0
OBIP	Obispado Ponce	2.51	231	⇑eP	Pn	21 04 45.5	+2.0
OBIP	Obispado Ponce	2.51	231	eS	Sn	21 05 14.2	+1.0
AGPR	Aguadilla, PR	2.68	245		Pn	21 04 44.6	-1.2
AGPR					Sn	21 05 19.7	+2.2
AGPR	Aguadilla, PR	2.68	245	⇓eP	Pn	21 04 44.6	-1.2
AGPR	Aguadilla, PR	2.68	245	eS	Sn	21 05 19.7	+2.2
LSP	Las Mesas	2.80	239		Pn	21 04 51.0	-2.8
LSP					Sn	21 05 24.0	+3.5
LSP	Las Mesas	2.80

EHY	Hungye	0.73 258	⇓P	Pb	21 08 47.3	-0.3
EHY			eS	Sb	21 08 57.6	+0.4
EAHA	Aohua	0.74 334	⇑P	Pb	21 08 47.3	-0.4
EAHA			S	Sb	21 08 57.0	-0.4
EOS2	EOS2	0.76 9	eP	Pb	21 08 48.0	0.0
ETLH	Xiulin Townshi	0.78 314	⇑iP	Pb	21 08 47.6	-0.9
ETLH			eS	Sb	21 08 57.4	-1.3
EYUL	Yuli	0.78 246	⇑iP	Pb	21 08 48.6	+0.2
EYUL			S	Sb	21 08 59.1	+0.4
YULB	Yu-li	0.78 250	P	Pb	21 08 48.3	-0.2
YULB	Yu-li	0.78 250	S	Sb	21 08 59.6	+0.8
YULB	Yu-li	0.78 250	⇓iP	Pb	21 08 48.1	-0.4
YULB			S	Sb	21 08 58.0	-0.8
TWF1	Yuli	0.80 247	⇓iP	Pb	21 08 48.4	-0.3
TWF1			S	Sb	21 08 59.3	+0.1
CHKH	Chenggong	0.80 234	P	Pb	21 08 48.1	-0.7
CHKH			S	Sb	21 08 58.0	-1.2
ENA	Nanau	0.82 337	⇑iP	Pb	21 08 48.6	-0.6
ENA			eS	Sb	21 08 59.8	-0.2
EWUT	Wuta	0.83 340	⇑iP	Pb	21 08 48.9	-0.4
EWUT			S	Sb	21 08 59.8	-0.3
FULB	Fuli	0.87 238	P	Pn	21 08 49.3	-0.4
FULB			eS	Sb	21 09 00.0	-1.3
CHKT	Chengkung	0.88 230	⇑iP	Pn	21 08 49.1	-0.6
CHKT			S	Sb	21 08 59.7	-1.7
OWD	Renai	0.89 289	⇓P	Pn	21 08 49.6	-0.4
OWD			S	Sb	21 09 01.2	-0.7
WHF	Hehuan Shan	0.90 302	⇓iP	Pn	21 08 49.7	-0.8
WHF			S	Sb	21 09 01.2	-1.3
ESAO	Su ao	0.94 346	⇑iP	Pn	21 08 50.6	+0.1
ESAO			S	Sb	21 09 02.4	-0.7
WUSB	Renai	0.95 290	⇓iP	Pn	21 08 50.9	-0.1
WUSB			S	Sb	21 09 03.0	-0.7
EHD	Haiduan	0.97 238	P	Pn	21 08 50.5	-0.5
EHD			eS	Sn	21 09 03.1	-0.6
TWC	Suao	0.97 347	⇑iP	Pn	21 08 51.0	+0.1
TWC			S	Sb	21 09 03.1	-0.9
FUSS	Fushou	0.97 307	⇓iP	Pn	21 08 51.2	-0.1
FUSS			S	Sb	21 09 03.5	-0.9
ECS	Chishang	0.99 235	eP	Pn	21 08 51.6	+0.3
ECS			S	Sn	21 09 04.5	+0.2
NNSB	Datong	1.00 319	⇑iP	Pn	21 08 51.5	-0.1
NNSB			i S	Sn	21 09 04.2	-0.6
EDH	Donghe	1.00 227	P	Pn	21 08 51.1	-0.4
EDH			S	Sn	21 09 03.3	-1.3
LATG	Datong	1.01 329	⇑iP	Pn	21 08 51.5	-0.2
LATG			S	Sn	21 09 04.3	-0.7
NNS	Nan Shan	1.01 320	⇑iP	Pn	21 08 51.6	-0.2
NNS			S	Sn	21 09 04.6	-0.5
NDS	Dongshan	1.02 340	P	Pn	21 08 52.3	+0.5
NDS			S	Sn	21 09 05.1	-0.1
TWT	Tachien	1.02 305	⇓iP	Pn	21 08 52.3	+0.3
TWT			eS	Sn	21 09 05.2	-0.2
TDCB	Techi	1.04 304	⇓iP	Pn	21 08 52.3	+0.1
TDCB			S	Sn	21 09 04.8	-0.9
SSLB	Suanglung	1.05 277	P	Pn	21 08 52.1	-0.1
SSLB	Suanglung	1.05 277	S	Sb	21 09 06.9	+0.4
SSLB	Suanglung	1.05 277	⇓iP	Pn	21 08 52.2	-0.1
SSLB			eS	Sn	21 09 05.0	-1.0
ENTT	Nioudou	1.08 334	⇑iP	Pn	21 08 52.7	+0.1
ENTT			i S	Sn	21 09 06.3	-0.4
WPL	Puli Township	1.10 289	eP	Pn	21 08 53.3	+0.5
WPL			eS	Sn	21 09 06.7	-0.4
ELDTW	Lidau	1.10 245	⇓iP	Pn	21 08 52.8	-0.2
ELDTW			eS	Sn	21 09 06.0	-1.2
JYNG	Yonagunijimaku	1.10 45	P	Pn	21 08 53.3	+0.5
JYNG			eS	Sn	21 09 07.2	+0.1
SMLT	Sun Moon Lake	1.12 281	⇓iP	Pn	21 08 53.5	+0.4
SMLT			eS	Sn	21 09 07.3	-0.3
TWE	Neicheng	1.12 340	⇑iP	Pn	21 08 53.5	+0.4
TWE			S	Sn	21 09 07.5	-0.1
DPDB	Guoxing	1.13 289	P	Pn	21 08 54.0	+0.7
DPDB			eS	Sn	21 09 07.8	-0.2
ILA	Ilan	1.14 344	eP	Pb	21 08 54.6	+0.1
ILA			eS	Sb	21 09 09.2	+0.3
WHYT	Xinyi Township	1.14 272	eP	Pn	21 08 54.2	+0.8
WHYT			S	Sn	21 09 08.4	+0.3
LDUT	Ludao	1.14 210	⇑iP	Pn	21 08 52.9	-0.5
LDUT			S	Sn	21 09 06.6	-1.5
WCS	Beigang Elemen	1.15 290	eP	Pn	21 08 54.2	+0.7
YOJ	Yonaguni jima	1.15 46	P	Pn	21 08 54.4	+0.9
YOJ	Yonaguni jima	1.15 46	S	Sb	21 09 09.7	+0.4
YOJ	Yonaguni jima	1.15 46	P	Pn	21 08 54.1	+0.6
YOJ			S	Sn	21 09 08.2	-0.1
YOJ	Yonaguni jima	1.15 46	⇑iP	Pn	21 08 54.0	+0.5
YOJ			S	Sn	21 09 08.7	-0.4
TYC	Yuchr	1.16 282	⇓iP	Pn	21 08 54.1	+0.5
TYC			S	Sn	21 09 08.3	-0.2
LONT	Longtian	1.17 230	P	Pn	21 08 53.9	+0.1
LONT			S	Sn	21 09 08.4	-0.3
EGS		1.18 353	⇑iP	Pn	21 08 54.8	+0.8
FUSB	Fushanzhiwuyua	1.18 337	⇑iP	Pn	21 08 54.4	+0.4
ALS	Alishan	1.19 263	⇓iP	Pn	21 08 55.3	+0.9
ALS			S	Sn	21 09 09.3	-0.5
YHNB	Yeheng	1.20 327	P	Pn	21 08 55.0	+0.8
YHNB	Yeheng	1.20 327	S	Sn	21 09 10.0	+0.4
YHNB	Yeheng	1.20 327	⇑iP	Pn	21 08 54.6	+0.3
YHNB			i S	Sn	21 09 09.2	-0.4
NSK	Sanguang	1.21 326	i P	Pn	21 08 54.7	+0.3
NSK			S	Sn	21 09 09.5	-0.4
WHP	Taichung City	1.22 300	P	Pn	21 08 55.5	+1.0
WHP			S	Sn	21 09 10.2	+0.2
NWLT	Wulai	1.23 334	⇑iP	Pn	21 08 55.2	+0.5
NWLT			eS	Sn	21 09 09.1	-1.2
TTN	Taitung	1.26 224	eP	Pn	21 08 55.0	0.0
TTN			S	Sn	21 09 10.7	-0.3
TWGBT	Beinan	1.26 228	P	Pn	21 08 55.2	+0.2
TWGBT	Beinan	1.26 228	S	Sn	21 09 11.1	+0.1
TWGBT	Beinan	1.26 228	eP	Pn	21 08 54.9	-0.1
TWGBT			eS	Sn	21 09 09.9	-1.1
TWG	Pinlang	1.26 228	eP	Pn	21 08 55.0	-0.1
TWG			eS	Sn	21 09 10.3	-0.8
CHN5	Tsauling	1.30 267	⇓P	Pb	21 08 57.2	-0.1
CHN5			eS	Sb	21 09 14.0	+0.4
STYH	Taoyuan	1.31 248	eP	Pn	21 08 56.6	+1.0
STYH			eS	Sn	21 09 12.8	+0.6
WNT	Mingjian	1.31 280	⇓iP	Pb	21 08 57.6	+0.3
WNT			S	Sb	21 09 14.8	+1.0
NFF	Wufeng Townshi	1.31 317	eP	Pb	21 08 57.0	-0.5
NFF			eS	Sb	21 09 13.6	-0.3
WNT1	Nantou City	1.32 281	eP	Pb	21 08 57.3	+0.3
TIPB	Shuangxi	1.32 349	⇑iP	Pn	21 08 57.1	+1.2
TIPB			S	Sn	21 09 12.6	0.0
STYT	Tauyuan	1.33 248	eP	Pn	21 08 56.7	+0.7
STYT			eS	Sn	21 09 13.0	+0.2
WWF	Wufeng	1.33 287	eP	Pb	21 08 57.7	-0.1
TWB1	Santiao Chiao	1.34 356	P	Pn	21 08 56.8	+0.6
TCU	Taichung	1.39 291	eP	Pb	21 08 58.9	+0.3
TCU			eS	Sb	21 09 17.5	+1.5
LIOB	Emei	1.39 315	eP	Pb	21 08 58.8	+0.1
LIOB			eS	Sb	21 09 15.4	-0.7
NSTT	Nanjuang	1.39 314	eP	Pb	21 08 58.7	0.0
NSTT			S	Sb	21 09 15.2	-0.8
TWQ1	Liyutan	1.39 300	eP	Pb	21 08 58.9	+0.2
TWQ1			eS	Sn	21 09 14.9	+0.7
WCKO	Fanlu	1.39 261	P	Pb	21 08 58.9	+0.2
WCKO			eS	Sb	21 09 16.8	+0.8
KSHI	Guanxi Townshi	1.39 323	eP	Pb	21 08 58.3	-0.4
KSHI			eS	Sb	21 09 16.6	+0.5
NHDH	Xindian Distri	1.39 338	eP	Pb	21 08 58.4	-0.4
NHDH			eS	Sb	21 09 15.9	-0.2
TPUB	Ta-pu	1.39 255	P	Pb	21 08 58.9	+0.1
TPUB	Ta-pu	1.39 255	⇓iP	Pb	21 08 58.6	-0.2
TPUB			S	Sb	21 09 16.2	0.0
WGK	Gukeng	1.41 271	P	Pb	21 08 58.9	-0.1
WGK			eS	Sb	21 09 17.1	+0.5
NJD	Zhudong	1.41 319	eP	Pb	21 08 58.8	-0.3
CHN4	Tsaushan	1.42 257	⇓P	Pn	21 08 58.8	+1.6
CHN4			eS	Sb	21 09 17.4	+0.6
TATO	Taipei	1.42 337	P	Pb	21 08 58.6	-0.6
TATO	Taipei	1.42 337	S	Sb	21 09 17.0	+0.1
TATO	Taipei	1.42 337	⇑P	Pn	21 08 58.5	+1.3
TATO			S	Sn	21 09 14.9	0.0
WYL	Yuanlin Townsh	1.42 282	eP	Pb	21 08 59.0	-0.2
WYL			eS	Sb	21 09 17.6	+0.7
WTP	Ta-pu	1.42 253	⇓P	Pb	21 08 59.0	-0.3
WTP			eS	Sb	21 09 16.9	-0.3
NWF	Wu-fen Shan	1.43 348	⇑P	Pn	21 08 58.8	+1.3
NWF			S	Sb	21 09 16.5	-0.8
WDL	Douliou City	1.43 272	eP	Pb	21 08 59.0	-0.3
WDL			eS	Sb	21 09 17.7	+0.5
WDLH	Douliu	1.43 271	eP	Pb	21 08 59.2	-0.1
WDLH			eS	Sb	21 09 17.5	+0.3
WFSB	Wu-fen Shan	1.43 348	⇑iP	Pn	21 08 58.7	+1.4
WFSB			S	Sb	21 09 16.2	-1.0
NSY	Sanyi	1.43 302	eP	Pb	21 08 59.7	+0.3
NSY			eS	Sb	21 09 17.5	+0.2
SXI1	Grass Mountain	1.44 352	⇑iP	Pn	21 08 58.4	+0.9
SXI1			eS	Sn	21 09 16.2	+0.7
NHY	Taipei	1.45 341	eP	Pb	21 08 59.8	0.0
NHY			eS	Sb	21 09 17.9	+0.1
WCHH	Zhanghua	1.47 287	eP	Pb	21 09 00.1	+0.1
TAP	Taipei	1.47 339	eP	Pb	21 08 59.5	-0.6
TAP			eS	Sb	21 09 17.3	-1.0
NMLH	Miaoli	1.47 306	eP	Pb	21 09 00.1	0.0
NMLH			eS	Sb	21 09 18.3	-0.2
WCH1	Changhua City	1.48 286	eP	Pb	21 09 00.0	-0.1
WCH1			eS	Sb	21 09 18.8	+0.3
HSN1	Hsinchu	1.48 319	eP	Pb	21 08 59.6	-0.7
CHN2	Minshiung	1.49 265	eP	Pb	21 09 00.8	+0.3
CHN2			eS	Sb	21 09 20.2	+1.2
WDJ	Dajia District	1.49 297	eP	Pb	21 09 00.1	-0.4
WDJ			eS	Sb	21 09 19.0	-0.1
ECL	Taimali	1.50 225	⇓P	Pn	21 08 58.0	-0.3
ECL			eS	Sn	21 09 15.1	-1.8
SGST	Jiashian	1.51 248	eP	Pn	21 08 59.4	+1.0
SGST			eS	Sb	21 09 19.4	-0.1
TNOU	National Taiwa	1.51 349	eP	Pn	21 08 59.4	+1.0
TNOU			eS	Sn	21 09 17.0	-0.1
SBCB	Hsinchu	1.51 318	eP	Pb	21 09 00.5	-0.3
SBCB			eS	Sb	21 09 19.6	0.0
NTY	Taoyuan	1.51 331	eP	Pn	21 09 00.2	+1.1
CHN1	Nanshi	1.52 252	⇓iP	Pb	21 09 00.7	-0.2
CHN1			eS	Sb	21 09 20.7	+0.9
HSN	Hsinchu	1.53 318	eP	Pb	21 09 00.9	-0.2
HSN			eS	Sb	21 09 20.1	+0.1
TWK	Hsinying	1.53 255	⇓P	Pn	21 09 00.6	+1.8
TWK			eS	Sb	21 09 20.6	+0.5
SNST	Tainan City	1.53 253	⇓iP	Pb	21 09 00.9	-0.3
SNST			eS	Sb	21 09 21.2	+0.9
NCUH	Zhongli	1.54 328	eP	Pb	21 09 00.8	-0.5
NCUH			eS	Sb	21 09 20.1	-0.3
CHY	Chiayi	1.54 264	eP	Pb	21 09 01.2	-0.1
CHY			eS	Sb	21 09 21.2	+0.8
YM01	YM01	1.55 342	eP	Pn	21 09 00.3	+1.2
YM01			eS	Sb	21 09 19.9	-0.9
TWS1	Kuangyinshan	1.56 337	eP	Pb	21 09 00.8	-0.8
TWS1			eS	Sb	21 09 20.8	-0.1
WTK	Tuku	1.56 271	eP	Pb	21 09 01.5	-0.2
WTK			eS	Sb	21 09 21.6	+0.5
ZUZH	Zhuzihu	1.57 341	eP	Pn	21 09 00.5	+1.1
ZUZH			eS	Sn	21 09 19.8	+1.0
YM08	YM08	1.58 343	P	Pn	21 09 00.4	+0.9
YM08			eS	Sn	21 09 18.6	-0.4
ANP	Anpu	1.60 341	eP	Pn	21 09 00.7	+0.9
ANP			eS	Sn	21 09 20.1	+0.5
NTST	Danshui	1.60 339	eP	Pn	21 09 01.3	+1.5
NTST			eS	Sb	21 09 20.8	-1.4
RLNB	Erlin	1.61 278	eP	Pb	21 09 01.7	-0.7
RLNB			eS	Sb	21 09 22.3	0.0
HATJ	Hateruma jima	1.61 76	P	Pn	21 09 00.6	+0.8
HATJ			eS	Sn	21 09 19.6	-0.1
SSD	Sandimen	1.63 236	eP	Pn	21 09 01.6	+1.5
IRIF	Iriomote-Funau	1.64 66	P	Pn	21 09 00.9	+0.7
IRIF			S	Sn	21 09 21.3	+1.0
NHW	Xinwu Township	1.64 325	eP	Pn	21 09 01.7	+1.4
NHW			eS	Sb	21 09 21.9	-1.4
SCST	Cishan	1.67 243	eP	Pb	21 09 03.5	+0.1
SCST			eS	Sb	21 09 25.8	+1.8
TWY	Chenhua	1.67 344	eP	Pn	21 09 02.2	+1.6
WTCT	Ta-ch'eng	1.67 277	eP	Pb	21 09 02.9	-0.6
WTCT			eS	Sb	21 09 24.3	+0.1
CHN3	Shinhua	1.69 250	eP	Pb	21 09 04.3	+0.4
CHN3			eS	Sb	21 09 25.5	+0.6
LAY	Lan-yu	1.70 197	eP	Pn	21 09 00.2	-0.9
LAY			eS	Sn	21 09 20.1	-1.7
MASBT	Mashibuluo	1.71 232	eP	Pn	21 09 02.1	+0.9
EAST	Anshuo	1.72 222	eP	Pn	21 09 01.6	+0.2
WSF	Szhu	1.72 269	eP	Pn	21 09 03.1	+1.8
WSF			eS	Sb	21 09 24.9	-0.5
WSL	Shuilin Townsh	1.72 266	eP	Pb	21 09 03.5	-0.8
WSL			eS	Sb	21 09 24.6	-0.9
LYUB	Lan-yu	1.72 196	⇑iP	Pn	21 09 00.1	-1.3
LYUB			eS	Sn	21 09 19.2	-3.2
TAWH	Dawu Township	1.73 220	eP	Pn	21 09 03.7	+0.4
SGLT	Jiouru	1.75 238	eP	Pb	21 09 04.4	-0.4
SGLT			eS	Sb	21 09 26.9	+0.6
TWM1	Shoushan	1.75 242	eP	Pb	21 09 05.6	+0.7
CHN8	Yiju	1.76 260	eP	Pb	21 09 04.4	-0.6
CHN8			eS	Sb	21 09 26.7	0.0
SCLT	Jiali	1.81 255	eP	Pb	21 09 05.2	-0.7
SCLT			eS	Sb	21 09 27.8	-0.5
JKRS	Kuro-shima	1.84 72	P	Pn	21 09 04.1	+1.1
JKRS			eS	Sn	21 09 26.6	+1.3
SCZT	Fangliau	1.87 227	eP	Pn	21 09 04.7	+1.2
SLIU	Shizi	1.87 220	eP	Pn	21 09 04.0	+0.5
TSCK	Chigu Township	1.92 255	eP	Pn	21 09 06.4	+2.3
TSCK			eS	Sb	21 09 30.2	-1.0
PCYT	Pengchaiyu	1.96 359	eP	Pn	21 09 05.3	+0.7
WSSB	Gushan	1.97 239	eP	Pn	21 09 07.5	+2.7
WSSB			eS	Sb	21 09 32.6	-0.2
JIJ	Ishigaki jima	2.00 69	eP	Pn	21 09 05.5	+0.4
JIJ			eS	Sn	21 09 28.6	-0.1
SMST	Manzhou Townsh	2.01 216	eP	Pn	21 09 06.5	+1.2
SMST			eS	Sn	21 09 28.9	-0.6
TWP	Hsiaoliuchiu	2.07 231	eP	Pb	21 09 09.9	-0.3
HEN	Hengchun	2.07 217	eP	Pn	21 09 08.5	+2.2
HEN			eS	Sn	21 09 32.0	+0.9
TSEB	Hengchuen, Pin	2.08 212	eP	Pn	21 09 08.0	+1.8
TSEB			eS	Sn	21 09 32.8	+1.6
TWKBT	Hengchun	2.09 215	eP	Pn	21 09 07.4	+1.0
TWKBT			eS	Sn	21 09 32.0	+0.7
TWK1	Hengchun	2.09 215	eP	Pn	21 09 07.4	+1.0
TWK1			eS	Sn	21 09 32.3	+0.8
JISG	Ishigakijimahi	2.22 65	P	Pn	21 09 08.5	+0.2
JISG			S	Sn	21 09 34.0	-0.8
WDGT	Dungji	2.27 260	eP	Pn	21 09 10.4	+1.5
WDGT			eS	Sn	21 09 37.5	+1.5
PHUB	P'eng-hu	2.32 267	⇓P	Pn	21 09 11.1	+1.5
PHUB			eS	Sn	21 09 38.2	+1.1
PNG	Penghu	2.33 268	⇑iP	Pn	21 09 11.4	+1.6
PNG			eS	Sn	21 09 38.8	+1.3
VCHM	Qimei	2.49 260	eP	Pn	21 09 13.4	+1.4
VCHM			eS	Sn	21 09 42.4	+1.0
JTJ	Tarama	2.57 67	eP	Pn	21 09 13.7	+0.7
JIRB	Irabujima	3.04 67	eP	Pn	21 09 20.1	+0.7
JIRB			eS	Sn	21 09 55.5	+0.6
PTMZ	Houxiangcun	3.04 297	eP	Pn	21 09 20.0	+0.5
PTMZ			eS	Sn	21 09 53.6	-1.3
JMJ	Miyako jima 2	3.13 68	eP	Pn	21 09 22.4	+1.5
JMJ2	Miyako jima3	3.14 69	eP	Pn	21 09 22.1	+1.2
JMJ2			eS	Sn	21 09 58.2	+0.8
MATB	Ma-tsu	3.15 322	eP	Pn	21 09 21.6	+0.5
KNM	Kinmen	3.43 283	eP	Pn	21 09 27.5	+2.6
KNM			eS	Sn	21 10 07.6	+3.0
KNMB	Chin-men Tao	3.48 284	⇓eP	Pn	21 09 26.2	+0.7
KNMB			eS	Sn	21 10 04.4	-1.4
XPSS	Dashiqiu	3.68 332	eP	Pn	21 09 28.5	+0.2
AXDP	Jialang	3.96 289	⇓eP	Pn	21 09 33.0	+0.9
AXDP			eS	Sn	21 10 16.2	-1.5
DSXP	Dongshan	4.28 271	eP	Pn	21 09 38.3	+1.7
DSXP			eS	Sn	21 10 25.4	-0.2
SXFK	Yanhouchang	4.87 305	eP	Pn	21 09 45.3	+0.6
SXFK			eS	Sn	21 10 38.2	-1.9
JOW	Kunigami	6.42 59	P	Pn	21 10 04.3	-1.7
	2.7nm,0.3s,baz=226,slow=17,SNR=12					
JOW			S	Sn	21 11 15.5	-2.9
	2.9nm,0.3s,baz=322,slow=19,SNR=1.6					
	5.1nm,0.3s					
KSRS	Korea Array	14.62 19	P	P	21 12 02.9	-1.4
	1.7nm,0.6s,baz=198,slow=11,SNR=7.3					
CMAR	Chiang Mai Arr	22.21 261	P	P	21 13 30.8	+3.2
	0.2nm,0.3s,baz=63,slow=8.0,SNR=6.3					
	0.2nm,0.3s					
SONM	Songino Array	27.17 336	P	P	21 14 14.9	+0.5
	0.5nm,0.5s,baz=155,slow=11,SNR=2.9					
	0.5nm,0.5s					
MKAR	Makanchi Array	39.29 316	P	P	21 15 60.0	+0.3
	0.3nm,0.5s,baz=90,slow=7.2,SNR=4.6					
	0.3nm,0.5s					
ZALV	Zalesovo Beam	41.13 327	P	P	21 16 14.2	-0.5
	0.8nm,0.5s,baz=106,slow=9.2,SNR=4.3					
	0.8nm,0.5s					
H11N1	WAKE ISLAND Hy	41.68 86	T	T	22 01 56.6	
	baz=283					
H11N2	WAKE ISLAND Hy	41.69 86	T	T	22 01 59.3	
	baz=283					
H11N3	WAKE ISLAND Hy	41.70 86	T	T	22 02 01.3	
	baz=283					
H11S3	WAKE ISLAND Hy	41.80 88	T	T	22 02 09.2	
	baz=282,slow=76					
H11S1	WAKE ISLAND Hy	41.81 88	T	T	22 02 08.2	
	baz=282					
H11S2	WAKE ISLAND Hy	41.82 88	T	T	22 02 09.4	
	baz=282,slow=76					
AAK	Ala-Archa	43.48 308	LR	LR	21 38 22.9	
	comp=Z,38nm,19.3s,baz=134,slow=41					
WRA	Warramunga Arr	44.96 164	P	P	21 16 44.6	-1.4
	0.2nm,0.7s,baz=344,slow=8.1,SNR=2.6					
	0.2nm,0.7s					
ASAR	Alice Springs	48.43 165	P	P	21 17 12.3	-0.9
	0.1nm,0.6s,baz=344,slow=8.2,SNR=1.8					
	0.1nm,0.6s					
BVAR	Borovoye Array	48.60 321	P	P	21 17 14.3	0.0
	0.3nm,0.4s,baz=91,slow=9.1,SNR=2.4					
	0.3nm,0.4s					

*NEIC **06** 21:14:39.4±1.3, 19°.4N±0°.1×64°.5W±0°.1, h10km±2km, ML2.3/12, Md3.3/8(RSPR), Error ellipse: s-maj=22.3km s-min=12.9km az=325.0*
*RSPR **06** 21:14:40.8, 19°.49N×64°.46W, h47km±24km, MD3.3/8*

ISC 06 21:14:35.5±3.6, 19°.5N±0°.1×64°.41W±0°.05, h7km±26km, n40, σ1§62/46, 9C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.89 226			Pn	21 15 09.2	+1.0
HUMP				Sn	Sn	21 15 31.9	-0.5
GCPR	Guaynabo City	1.96 234			Pn	21 15 09.7	+0.6
GCPR					Sn	21 15 32.6	-1.4
GCPR	Guaynabo City	1.96 234	⇑eP		Pn	21 15 09.7	+0.6
GCPR	Guaynabo City	1.96 234	eS		Sn	21 15 32.6	-1.4
PDPR	Patillas Dam,	2.10 227	Pn		Pn	21 15 12.2	+1.2
PDPR				IAML		21 15 43.1	
	comp=N,24nm,0.1s						
PDPR	Patillas Dam,	2.10 227	⇓eP		Pn	21 15 13.0	+1.9
PDPR	Patillas Dam,	2.10 227	eS		Sn	21 15 37.5	+0.1
SJG	San Juan	2.13 231			Pn	21 15 13.2	+1.7
SJG	San Juan	2.13 231		IAML		21 15 45.4	
	comp=N,22nm,0.2s						
SJG				IAML		21 15 45.6	
	comp=N,28nm,0.2s						
SJG	San Juan	2.13 231	⇑eP		Pn	21 15 13.2	+1.7
ECPR	Experimental S	2.17 239	⇓eP		Pn	21 15 13.1	+1.0
ECPR	Experimental S	2.17 239	eS		Sn	21 15 39.2	-0.1
IGPR	InterUniversit	2.19 228			Pn	21 15 13.8	+1.4
IGPR					Sn	21 15 39.2	-0.6
IGPR	InterUniversit	2.19 228	⇓eP		Pn	21 15 13.8	+1.4
IGPR	InterUniversit	2.19 228	eS		Sn	21 15 39.2	-0.6
EMPR	Esperanza - Ma	2.23 244	Pn		Pn	21 15 13.7	+0.8
EMPR					Pb	21 15 14.4	-1.8
EMPR	Esperanza - Ma	2.23 244			Sn	21 15 39.8	-1.0
EMPR	Esperanza - Ma	2.23 244	⇑eP		Pn	21 15 13.7	+0.8
EMPR	Esperanza - Ma	2.23 244	eS		Sn	21 15 39.8	-1.0
CELP	Cerrillos	2.48 237			Pn	21 15 17.6	+1.2
CELP					Sn	21 15 47.7	+0.9
CELP	Cerrillos	2.48 237		IAML		21 15 58.6	
	comp=E,15nm,0.8s						
CELP	Cerrillos	2.48 237	⇑eP		Pn	21 15 17.6	+1.2
CELP	Cerrillos	2.48 237	eS		Sn	21 15 47.7	+0.9
OBIP	Obispado Ponce	2.51 236			Pn	21 15 18.6	+1.7
OBIP					Sn	21 15 48.5	+0.8
OBIP	Obispado Ponce	2.51 236		IAML		21 15 52.4	
	comp=N,19nm,0.6s						
OBIP				IAML		21 15 53.9	
	comp=E,20nm,1.9s						
OBIP	Obispado Ponce	2.51 236	⇑eP		Pn	21 15 18.6	+1.7
OBIP	Obispado Ponce	2.51 236	eS		Sn	21 15 48.5	+0.8
AGPR	Aguadilla, PR	2.74 249			Pn	21 15 22.4	+2.4
AGPR	Aguadilla, PR	2.74 249	⇑eP		Pn	21 15 22.4	+2.4
MLPR	Magueyes Islan	2.90 240	⇑eP		Pn	21 15 25.1	+3.0
MLPR	Magueyes Islan	2.90 240	eS		Sn	21 15 55.9	-1.5
CRPR	Cabo Rojo, PR	2.94 241			Pn	21 15 25.7	+3.0
CRPR					Sn	21 15 57.3	-0.9
CRPR	Cabo Rojo, PR	2.94 241	⇓eP		Pn	21 15 25.7	+3.0
CRPR	Cabo Rojo, PR	2.94 241	eS		Sn	21 15 57.3	-0.9
ANWB	Willy Bob	3.06 125	eP		Pn	21 15 25.4	+1.0
ANWB			eS		Sn	21 16 00.6	-0.7
IDE	Isla Desecheo	3.09 250			Pn	21 15 26.4	+1.6
IDE					Sn	21 16 01.6	-0.4
IDE	Isla Desecheo	3.09 250	⇑eP		Pn	21 15 26.4	+1.6
IDE	Isla Desecheo	3.09 250	eS		Sn	21 16 01.6	-0.4
MIDR	Miches	4.41 265

INU IAmb IAmb 21 24 46.4
comp=Z,29nm,1.3s
JMN Monobe 16.42 325 Pn 21 24 43.7 0.0
JMN IAmb IAmb 21 24 47.5
comp=Z,35nm,0.9s
JMN Monobe 16.42 325 P P 21 24 46.5 +2.4
JGF Kuroka 16.43 337 P 21 24 44.5 +0.3
JGF IAmb IAmb 21 24 48.4
comp=Z,16nm,0.8s
JGF Kuroka 16.43 337 P P 21 24 45.5 +1.3
JOW Kunigami 16.56 295 LR LR 21 29 57.0
comp=Z,44nm,20.6s,baz=104,slow=32
MJAR Matsushiro Arr 17.00 341 Pn 21 24 50.9 +0.3
MJAR Matsushiro Arr 17.00 341 P P 21 24 50.4 0.0
comp=Z,4.6nm,0.8s,baz=165,slow=9.4,SNR=12
JNU Nakatsue 17.75 318 P P 21 24 57.8 -0.9
JNU IAmb IAmb 21 25 07.4
comp=Z,21nm,0.8s
JNU Nakatsue 17.75 318 P Pn 21 25 00.2 +0.5
comp=Z,14nm,0.7s,baz=108,slow=4.0,SNR=11
JNU Nakatsue 17.75 318 P Pn 21 25 01.1 +1.4
H11S3 WAKE ISLAND Hy 20.52 92 T T 21 46 53.0
baz=275,slow=75,SNR=4.0
H11S1 WAKE ISLAND Hy 20.53 92 T T 21 46 36.4
baz=275,slow=75,SNR=3.0
H11S2 WAKE ISLAND Hy 20.54 92 T T 21 46 40.3
baz=275,slow=75,SNR=3.5
H11N1 WAKE ISLAND Hy 20.55 89 T T 21 46 45.7
baz=275,slow=74
H11N2 WAKE ISLAND Hy 20.55 89 T T 21 46 46.4
baz=275,slow=74
H11N3 WAKE ISLAND Hy 20.56 89 T T 21 46 52.9
baz=275
YHNB Yeheng 22.20 285 P P 21 25 46.0 -0.8
YHNB Yeheng 22.20 285 P P 21 25 47.2 +0.4
KSRS Korea Array 22.45 322 P P 21 25 49.5 +0.5
comp=Z,17nm,0.8s,baz=144,slow=9.0,SNR=59
KSRS LR LR 21 33 51.1
comp=Z,7μm,19.1s,baz=160,slow=34
comp=Z,17nm,0.8s
KSAR Wonju Array Be 22.47 322 P 21 25 48.5 -0.7
SSLB Suanglung 22.52 283 P P 21 25 50.5 +0.6
SSLB IAmb IAmb 21 25 51.3
comp=Z,37nm,0.8s
SSLB Suanglung 22.52 283 P P 21 25 50.4 +0.6
KS19 Wonju Array Si 22.52 322 P P 21 25 50.1 +0.4
KS19 IAmb IAmb 21 25 51.0
comp=Z,25nm,0.9s
TPUB Ta-pu 22.79 281 P P 21 25 51.1 -1.4
TPUB IAmb IAmb 21 26 09.9
comp=Z,65nm,1.5s
ASAJ Asahikawa 23.57 356 P P 21 26 00.4 +0.9
comp=Z,6.1nm,0.7s,baz=203,slow=13,SNR=6.5
comp=Z,6.1nm,0.7s
USRK Ussuriysk Ar. 25.95 338 P P 21 26 21.5 +0.5
comp=Z,2.8nm,0.6s,baz=156,slow=9.6,SNR=4.1
comp=Z,2.8nm,0.6s
NJ2 Nanjing 26.03 301 *eP* P 21 26 22.7 +0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
MYLDM Lahad Datu 29.96 243 P 21 26 56.2 -0.9
MYLDM Lahad Datu 29.96 243 P P 21 26 59.2 +2.1
TOLI2 Tolitoli 30.58 234 P 21 27 02.4 -0.1
TOLI2 Tolitoli 30.58 234 P P 21 27 03.0 +0.5
HNS HongShan 31.20 309 ⇓P P 21 27 07.7 0.0
HEH HeiHe 32.74 339 *eP* P 21 27 20.8 -0.3
HEH pmax pmax
comp=Z,13nm,1.1s
SPSI Sidrap Palu 34.77 228 P P 21 27 39.5 +0.5
HHC Hu-ho-hao-te 34.86 313 *eP* P 21 27 40.1 +0.4
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,42nm,4.7s
SBUM Sibu 36.71 245 P 21 27 56.9 +1.4
SBUM Sibu 36.71 245 P P 21 27 57.0 +1.4
BATI Baumata 37.10 216 P P 21 27 56.9 -2.0
comp=Z,16nm,0.5s,baz=104,slow=19,SNR=3.0
comp=Z,16nm,0.5s
LZH Lanzhou 39.10 302 *eP* P 21 28 16.6 +0.9
LZH sP sP 21 28 58.1 +0.3
LZH pmax pmax
comp=Z,17nm,1.2s
KMI Kunming 39.12 285 P P 21 28 17.2 +1.2
KMI pmax pmax
comp=Z,8.0nm,0.7s
LZDM Lanzhou Array 39.19 302 P P 21 28 15.7 -0.9
comp=Z,8.3nm,0.7s,baz=145,slow=8.5,SNR=7.7
comp=Z,8.3nm,0.7s
KNRA Kununurra 39.40 205 P 21 28 18.2 +0.2
KNRA IAmb IAmb 21 28 19.1
comp=Z,16nm,0.8s
PZH PanZhiHua 39.98 287 P P 21 28 24.9 +1.9
PZH pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 41.30 320 P 21 28 33.2 -0.4
SONM Songino Array 41.30 320 P P 21 28 33.2 -0.4
comp=Z,4.0nm,0.8s,baz=131,slow=7.8,SNR=12
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 41.59 195 P P 21 28 36.7 +0.7
WRAB IAmb IAmb 21 28 37.1
comp=Z,6.8nm,0.8s
WRAB Tennant Creek 41.59 195 P P 21 28 36.1 +0.1
WRA Warramunga Arr 41.60 195 P 21 28 36.0 -0.1
WRA Warramunga Arr 41.60 195 P P 21 28 36.0 -0.1
comp=Z,3.5nm,0.6s,baz=14,slow=8.7,SNR=34
comp=Z,3.5nm,0.6s
YAK Yakutsk 42.78 349 P 21 28 45.6 +0.5
FITZ Fitzroy Crossi 42.87 208 P 21 28 46.8 +0.3
FITZ IAmb IAmb 21 28 47.3
comp=Z,6.4nm,0.7s
FITZ Fitzroy Crossi 42.87 208 P P 21 28 46.6 +0.2
comp=Z,34nm,0.5s,baz=25,slow=9.9,SNR=89
GTA Gaotai 42.93 306 *eP* P 21 28 47.4 +0.5
GTA sP sP 21 29 26.5 -3.0
GTA pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 43.38 275 P P 21 28 51.2 +0.6
comp=Z,0.8nm,0.7s,baz=68,slow=7.2,SNR=10
comp=Z,0.8nm,0.7s
SURA Surathani 45.17 262 P P 21 29 06.7 +1.7
AS31 Alice Springs 45.28 194 P P 21 29 07.4 +1.8
ASAR Alice Springs 45.28 194 P P 21 29 05.7 0.0
comp=Z,2.2nm,0.7s,baz=16,slow=7.7,SNR=15
comp=Z,2.2nm,0.7s
LEM Lembang 45.74 237 P P 21 29 09.2 -0.5
comp=Z,15nm,0.5s,baz=321,slow=15,SNR=5.1
comp=Z,15nm,0.5s
GOMU GeErMu 46.34 301 P P 21 29 15.2 +0.9
GOMU pmax pmax
comp=Z,7.0nm,0.8s
PSA00 Pilbara Seismi 48.58 212 P 21 29 30.9 -0.4
PSA00 IAmb IAmb 21 29 32.0
comp=Z,8.3nm,1.1s
SHL Shillong 48.89 286 P 21 29 33.5 -0.5
SHL IAmb IAmb 21 29 34.5
comp=Z,5.5nm,0.7s
LSA Lhasa 49.25 292 P P 21 29 35.1 -1.9
LSA pmax pmax
comp=Z,8.0nm,0.7s
STKA Stephens Creek 52.25 184 P P 21 29 58.5 -0.2
comp=Z,1.1nm,0.5s,baz=35,slow=5.6,SNR=3.6
comp=Z,1.1nm,0.5s
WMQ Urumqi 52.62 310 *eP* P 21 30 02.5 +1.0
WMQ pmax pmax
comp=Z,27nm,0.9s
EVN Everest 53.16 290 P 21 30 06.6 +0.2
EVN IAmb IAmb 21 30 07.5
comp=Z,8.0nm,0.6s
EVN PcP PcP 21 31 12.9 -0.1
ZAA0 Zalesovo Array 56.16 322 P 21 30 26.6 -0.3
ZAA0 IAmb IAmb 21 30 26.9
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 56.16 322 P 21 30 26.4 -0.4
ZALV PcP PcP 21 31 22.4 -0.8
ZALV Zalesovo Beam 56.16 322 P P 21 30 26.3 -0.5
comp=Z,6.2nm,0.6s,baz=108,slow=7.8,SNR=27
ZALV PcP PcP 21 31 22.0 -1.1
comp=Z,2.5nm,0.6s,baz=124,slow=4.4,SNR=5.1
comp=Z,6.2nm,0.6s
MKAR Makanchi Array 56.73 313 P P 21 30 30.8 -0.2
comp=Z,5.6nm,0.9s,baz=92,slow=9.5,SNR=26
MKAR PcP PcP 21 31 25.0 -0.5
comp=Z,1.0nm,0.7s,baz=76,slow=5.1,SNR=4.1
comp=Z,5.6nm,0.9s
PRZ Przheval'sk 59.34 308 P 21 30 50.8 +1.3

KURK Kurchatov 59.47 317 P 21 30 49.8 -0.2
KURK IAmb IAmb 21 30 50.3
comp=Z,6.7nm,0.8s
KURBB Kurchatov Arra 59.52 317 P P 21 30 49.7 -0.6
comp=Z,9.2nm,0.6s,baz=93,slow=7.5,SNR=107
comp=Z,9.2nm,0.6s
KDJ Kajisay 60.25 307 P 21 30 56.5 +0.7
ULHL Ulahol 60.94 308 P P 21 31 01.4 +0.9
SNR=5.9
KSH Kashi 61.29 305 P P 21 31 06.1 +3.4
KSH pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 61.39 308 P P 21 31 04.4 +0.9
SNR=12
KBK Karagaybulak 61.88 308 P P 21 31 07.5 +0.8
SNR=6.6
USP Ospenovka 62.18 309 P P 21 31 08.8 +0.2
SNR=6.1
AAK Ala-Archa 62.22 308 P 21 31 08.7 -0.3
AAK IAmb IAmb 21 31 10.4
comp=Z,5.8nm,1.1s
UCH Uchtor 62.23 308 P P 21 31 10.3 +0.9
SNR=18
ILAR Eielson Array 62.26 27 P P 21 31 07.8 -0.8
comp=Z,1.7nm,0.9s,baz=253,slow=5.3,SNR=11
comp=Z,1.7nm,0.9s
EKS2 Erkin-Say 62.74 308 P P 21 31 13.0 +0.6
SNR=7.3
SCRK Sand Creek 63.38 28 P 21 31 17.1 +0.9
SCRK IAmb IAmb 21 31 18.3
comp=Z,4.6nm,1.0s
NIL Nilore 64.08 298 P 21 31 21.9 +0.6
BVAR Borovoye Array 64.64 320 P P 21 31 24.3 -0.2
comp=Z,18nm,0.6s,baz=90,slow=7.5,SNR=112
comp=Z,18nm,0.6s
KK31 Karatay Array 65.10 309 P 21 31 27.6 -0.1
KK31 IAmb IAmb 21 31 29.6
comp=Z,11nm,0.9s
KKAR Karatay Array 65.10 309 P 21 31 27.8 0.0
GAR Garm 65.71 304 P 21 31 31.4 -0.4
KBL Kabul 67.39 300 P 21 31 42.3 -0.4
ARTI Arti 71.29 324 P 21 32 05.6 -0.4
ARTI IAmb IAmb 21 32 05.9
comp=Z,6.0nm,0.8s
AB31 Akbulak array 71.55 317 P 21 32 07.0 -0.7
AB31 IAmb IAmb 21 32 08.4
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 71.55 317 P 21 32 07.2 -0.5
HRA Herat 72.92 301 P 21 32 16.1 -0.4
HRA IAmb IAmb 21 32 17.7
comp=Z,8.3nm,0.7s
J05D Fort Rock, OR 78.81 48 P 21 32 51.5 +1.8
PINE Pine Mountain 78.86 47 P 21 32 52.0 +2.1
PINE IAmb IAmb 21 32 53.8
comp=Z,6.1nm,0.9s
BEKR Beckworth 80.50 51 P 21 33 00.2 +1.3
ARCES ARCESS Array B 80.53 342 P P 21 32 58.0 -0.3
comp=Z,1.8nm,0.6s,baz=70,slow=8.1,SNR=11
comp=Z,1.8nm,0.6s
BMO Blue Mountains 80.99 46 P 21 33 02.9 +1.6
CMB Columbia Colle 81.08 53 P 21 33 03.1 +1.3
NVAR Mina Array Bea 82.49 52 P P 21 33 11.0 +1.5
comp=Z,2.6nm,0.8s,baz=270,slow=6.2,SNR=14
comp=Z,2.6nm,0.8s
ELK Elko 83.88 49 P 21 33 16.5 0.0
KBZ Khabaz 84.39 315 P P 21 33 17.9 -0.8
comp=Z,2.8nm,0.8s,baz=64,slow=3.0,SNR=4.5
comp=Z,2.8nm,0.8s
FINES FINESS Array B 84.93 335 P 21 33 19.3 -1.7
comp=Z,5.3nm,0.6s,baz=69,slow=5.4,SNR=45
comp=Z,5.3nm,0.6s
YHL Hebgen Lake 85.03 44 P 21 33 24.4 +2.0
RLMT Red Lodge 86.15 43 P P 21 33 29.7 +1.9
PDAR Pinedale Array 86.97 45 P P 21 33 32.1 +0.3
comp=Z,0.2nm,0.5s,baz=79,slow=3.2,SNR=2.6
comp=Z,0.2nm,0.5s
KNB Kanab 87.05 52 P 21 33 34.5 +2.3
KNB IAmb IAmb 21 34 14.5
comp=Z,5.5nm,1.2s
NACGM Naroch 88.34 329 *eP* P 21 33 36.9 -0.8
comp=Z,12nm,1.0s,baz=56
RAYN Ar Rayn 90.21 295 P 21 33 45.3 -1.9
RAYN IAmb IAmb 21 33 46.9
comp=Z,8.7nm,1.5s
HFS Hagfors 90.42 338 P P 21 33 45.2 -2.2
comp=Z,1.8nm,0.9s,baz=104,slow=6.3,SNR=6.5
comp=Z,1.8nm,0.9s
NOA NORSAR Array B 90.61 339 P P 21 33 46.4 -1.9
comp=Z,0.3nm,0.6s,baz=55,slow=6.5,SNR=2.0
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 92.36 314 P P 21 33 55.3 -1.7
comp=Z,1.5nm,0.9s,baz=90,slow=4.3,SNR=4.6
comp=Z,1.5nm,0.9s
TORD Torodi Ar. Bea 130.78 310 PKP **PKPdf 21 39 56.4 -1.2**
comp=Z,0.5nm,0.5s,baz=30,slow=2.2,SNR=8.6
PLCA Paso Flores 143.72 132 PKP PKPab 21 40 17.9 +0.1
comp=Z,2.2nm,0.9s,baz=307,slow=4.9,SNR=4.2
LPAZ La Paz 148.29 88 PKPbc **PKPbc 21 40 33.6 +0.3**
comp=Z,3.0nm,0.5s,baz=263,slow=2.2,SNR=13

*NEIC **06** 21:23:24.3±1.9, 7°.02S±0°.08×124°.8E±0°.2, h556km±14km, mb4.2/9, Error ellipse: s-maj=29.2km s-min=4.7km az=68.0*
*IDC **06** 21:23:25.4±2.2, 7°.21S×124°.52E, h572km±35km, mb2.8/5, mbtmp3.9/10, Error ellipse: s-maj=116.2km s-min=14.8km az=58.0*
*DJA **06** 21:23:26.8±0.7, 7°S±5°×12°5E±°, h496km±7km, M4.0/10, mb3.7/6, MLv4.1/10*
ISC 06 21:23:23.4±0.6, **6°.93S**±0°.07×**124°.94E**±0°.08, **h543**km, **n36,** σ1§**46**/44, **mb3.2/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.88**	**193**		**P**	**21 24 38.3**	**+1.0**
SOEI					**S**	**21 25 36.4**	**-1.1**
SOEI	**Soe**	**2.88**	**193**	P	**P**	**21 24 38.7**	**+1.3**
SOEI				S	**S**	**21 25 34.1**	**-3.4**
MMRI	**Maumere**	**3.17**	**237**	S	**S**	**21 25 37.7**	**-2.8**
BATI	**Baumata**	**3.49**	**201**	P	**P**	**21 24 42.7**	**+1.5**
36nm,0.5s,baz=111,slow=2.9,SNR=9.9							
BATI				S	**S**	**21 25 46.0**	**+1.5**
35nm,0.5s,baz=311,slow=18,SNR=4.7							
BATI	**Baumata**	**3.49**	**201**	P	**P**	**21 24 42.7**	**+1.5**
BATI				S	**S**	**21 25 42.4**	**-2.1**
EDFI	**Ende, Flores**	**3.69**	**240**	P	**P**	**21 24 43.2**	**+0.5**
EDFI				S	**S**	**21 25 45.5**	**-1.7**
NLAI	**Namlea**	**4.25**	**31**	P	**P**	**21 24 46.7**	**-0.1**
NLAI				S	**S**	**21 25 51.0**	**-3.7**
BSSI	**Bau Bau, Buton**	**4.49**	**280**	P	**P**	**21 24 50.1**	**+1.4**
BKSI	**Bulukumba**	**5.05**	**288**	P	**P**	**21 24 54.8**	**+1.5**
0.1nm27nm,0.8s							
BASI	**Baing, Sumba**	**5.41**	**233**	P	**P**	**21 24 57.7**	**+1.3**
BASI				S	**S**	**21 26 12.4**	**0.0**
BNSI	**Bone**	**5.43**	**297**	P	**P**	**21 24 58.6**	**+2.0**
0.1nm28nm,0.6s							
KAPI	**Kappang**	**5.50**	**290**	P	**P**	**21 24 59.6**	**+2.4**
14nm,0.4s,baz=139,slow=8.9,SNR=4.3							
WBSI	**Waikabubak, Su**	**6.12**	**243**	P	**P**	**21 25 02.2**	**-0.7**
0.2nm22nm,0.8s							
FAKI	**Fak Fak**	**8.30**	**62**	P	**P**	**21 25 25.0**	**+0.9**
MTN	**Manton Dam**	**8.47**	**134**	P	**P**	**21 25 26.3**	**+0.6**
TOLI2	**Tolitoli**	**9.00**	**332**	P	**P**	**21 25 31.6**	**+0.4**
KNRA	**Kununurra**	**9.47**	**157**	P	**P**	**21 25 36.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.12**	**177**	P	**P**	**21 25 53.4**	**+0.5**
4.6nm,0.3s,baz=358,slow=9.1,SNR=75							
MBWA	**Marble Bar**	**15.02**	**199**	P	**P**	**21 26 30.8**	**-2.4**
PSA00	**Pilbara Seismi**	**15.37**	**198**	P	**P**	**21 26 35.5**	**-1.3**
PSA00				IAmb	IAmb	21 26 49.4	
comp=Z,19nm,1.3s							
WB0	**Warramunga Arr**	**15.72**	**145**	P	**P**	**21 26 40.5**	**+0.1**
WB0				IAmb	IAmb	21 27 05.9	
comp=Z,6.9nm,1.4s							
WRA	**Warramunga Arr**	**15.83**	**146**	P	**P**	**21 26 41.1**	**-0.4**
WRA	**Warramunga Arr**	**15.83**	**146**	P	**P**	**21 26 40.4**	**-1.2**
comp=Z,1.0nm,0.4s,baz=330,slow=9.3,SNR=44							
WRA				S	**S**	**21 29 24.2**	**+0.4**
comp=Z,0.7nm,0.9s,baz=318,slow=16,SNR=1.8							
WR8	**Warramunga Arr**	**15.93**	**145**	P	**P**	**21 26 42.1**	**-0.5**
WR8				IAmb	IAmb	21 26 43.8	
comp=Z,4.0nm,0.6s							
AS31	**Alice Springs**	**18.74**	**154**	P	**P**	**21 27 07.2**	**-1.3**
AS31				IAmb	IAmb	21 27 11.2	
comp=Z,1.5nm,0.3s							
ASAR	**Alice Springs**	**18.74**	**154**	P	**P**	**21 27 08.2**	**-0.3**
ASAR	**Alice Springs**	**18.74**	**154**	P	**P**	**21 27 09.1**	**+0.6**
comp=Z,0.9nm,0.4s,baz=337,slow=9.1,SNR=29							
COEN	**Coen**	**19.24**	**113**	P	**P**	**21 27 13.1**	**0.0**
STKA	**Stephens Creek**	**29.29**	**150**	P	**P**	**21 28 42.5**	**+0.3**
STKA				IAmb	IAmb	21 28 45.3	
comp=Z,9.8nm,0.8s							
STKA	**Stephens Creek**	**29.29**	**150**	P	**P**	**21 28 42.5**	**+0.3**
comp=Z,1.4nm,0.5s,baz=331,slow=10,SNR=4.8							
comp=Z,1.4nm,0.5s							
CAN	**Canberra**	**35.87**	**145**	P	**P**	**21 29 38.8**	**+0.8**
EVN	**Everest**	**50.58**	**315**	P	**P**	**21 31 33.1**	**-0.1**
SONM	**Songino Array**	**56.94**	**345**	P	**P**	**21 32 19.1**	**+1.9**
comp=Z,0.4nm,0.5s,baz=175,slow=5.6,SNR=2.1							
comp=Z,0.4nm,0.5s							
MKAR	**Makanchi Array**	**65.50**	**329**	P	**P**	**21 33 12.7**	**-0.6**
comp=Z,0.4nm,0.5s,baz=117,slow=7.2,SNR=4.9							
comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**69.39**	**336**	P	**P**	**21 33 35.6**	**-1.2**
comp=Z,0.6nm,0.4s,baz=134,slow=4.2,SNR=2.4							
comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**69.90**	**331**	P	**P**	**21 33 39.6**	**-0.3**
comp=Z,0.4nm,0.7s,baz=132,slow=7.6,SNR=3.1							
comp=Z,0.4nm,0.7s							

*NEIC **06** 21:30:19.1±1.1, 19°.5N±0°.1×64°.5W±0°.1, h10km±2km, ML2.5/12, Md3.5/11(RSPR), Error ellipse: s-maj=22.5km s-min=14.9km az=131.0*
*RSPR **06** 21:30:20.6, 19°.73N×64°.49W, h25km±31km, MD3.5/11*
ISC 06 21:30:19.8±7.1, **19°.6N**±0°.2×**64°.41W**±0°.05, **h36**km±18km, **n37,** σ0§**78**/41, **5C-6D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.99**	**223**		**Pn**	**21 30 50.5**	**-0.5**
GCPR	**Guaynabo City**	**2.04**	**231**		**Pn**	**21 30 51.8**	**+0.1**
GCPR					**Sn**	**21 31 15.3**	**-0.6**
GCPR	**Guaynabo City**	**2.04**	**231**	⇑*eP*	**Pn**	**21 30 51.8**	**+0.1**
GCPR	**Guaynabo City**	**2.04**	**231**	*eS*	**Sn**	**21 31 15.3**	**-0.6**
PDPR	**Patillas Dam,**	**2.20**	**224**		**Pn**	**21 30 53.3**	**-0.5**
PDPR	**Patillas Dam,**	**2.20**	**224**	⇓*eP*	**Pn**	**21 30 54.0**	**+0.2**
PDPR	**Patillas Dam,**	**2.20**	**224**	*eS*	**Sn**	**21 31 20.5**	**+0.8**
SJG	**San Juan**	**2.22**	**228**	Pn	**Pn**	**21 30 52.9**	**-1.2**
SJG				IAML		21 31 26.8	
34nm,0.2s							
SJG				IAML		21 31 27.5	
35nm,0.3s							
SJG	**San Juan**	**2.22**	**228**	⇑*eP*	**Pn**	**21 30 53.3**	**-0.8**
SJG	**San Juan**	**2.22**	**228**	*eS*	**Sn**	**21 31 21.5**	**+1.2**
SJG	**San Juan**	**2.22**	**228**	*eP*	**Pn**	**21 30 53.1**	**-1.0**
ECPR	**Experimental S**	**2.25**	**236**	⇓*eP*	**Pn**	**21 30 54.0**	**-0.5**
ECPR	**Experimental S**	**2.25**	**236**	*eS*	**Sn**	**21 31 20.8**	**-0.3**
IGPR	**InterUniversit**	**2.29**	**225**		**Pn**	**21 30 54.9**	**-0.2**
IGPR					**Sn**	**21 31 20.5**	**-1.5**
IGPR	**InterUniversit**	**2.29**	**225**	⇑*iP*	**Pn**	**21 30 54.9**	**-0.2**
IGPR	**InterUniversit**	**2.29**	**225**	*eS*	**Sn**	**21 31 20.5**	**-1.5**
CELP	**Cerrillos**	**2.56**	**234**		**Pn**	**21 30 58.8**	**0.0**
CELP					**Sn**	**21 31 28.6**	**-0.1**
CELP	**Cerrillos**	**2.56**	**234**	IAML		21 31 36.3	
comp=N,25nm,0.5s							
CELP				IAML		21 31 39.2	
comp=E,20nm,0.4s							
CELP	**Cerrillos**	**2.56**	**234**	⇑*eP*	**Pn**	**21 30 58.8**	**0.0**
CELP	**Cerrillos**	**2.56**	**234**	*eS*	**Sn**	**21 31 28.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.57**	**239**		**Pn**	**21 31 00.4**	**+1.5**
UUPR	**Utuado, UPR, P**	**2.57**	**239**	⇓*eP*	**Pn**	**21 31 00.4**	**+1.5**
OBIP	**Obispado Ponce**	**2.59**	**233**		**Pn**	**21 30 59.5**	**+0.2**
OBIP					**Sn**	**21 31 30.5**	**+0.9**
OBIP	**Obispado Ponce**	**2.59**	**233**	IAML		21 31 33.8	
comp=N,21nm,0.6s							
OBIP				IAML		21 31 35.3	
comp=E,24nm,0.5s							
OBIP	**Obispado Ponce**	**2.59**	**233**	⇑*eP*	**Pn**	**21 30 59.5**	**+0.2**
OBIP	**Obispado Ponce**	**2.59**	**233**	*eS*	**Sn**	**21 31 30.5**	**+0.9**
AGPR	**Aguadilla, PR**	**2.79**	**246**		**Pn**	**21 31 02.1**	**+0.1**
AGPR					**Sn**	**21 31 33.8**	**-0.7**
AGPR	**Aguadilla, PR**	**2.79**	**246**	⇓*eP*	**Pn**	**21 31 02.1**	**+0.1**
AGPR	**Aguadilla, PR**	**2.79**	**246**	*eS*	**Sn**	**21 31 33.8**	**-0.7**
MLPR	**Magueyes Islan**	**2.98**	**237**	⇓*eP*	**Pn**	**21 31 04.9**	**+0.3**
MLPR	**Magueyes Islan**	**2.98**	**237**	*eS*	**Sn**	**21 31 38.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**3.01**	**238**		**Pn**	**21 31 04.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**3.01**	**238**	⇓*eP*	**Pn**	**21 31 06.2**	**+1.2**
IDE	**Isla Desecheo**	**3.14**	**248**		**Pn**	**21 31 07.5**	**+0.7**
IDE	**Isla Desecheo**	**3.14**	**248**	⇑*eP*	**Pn**	**21 31 07.5**	**+0.7**
ANWB	**Willy Bob**	**3.15**	**127**	*eP*	**Pn**	**21 31 06.9**	**0.0**
ANWB				*eS*	**Sn**	**21 31 43.2**	**-0.1**
DR12	**Loma Pena Alta**	**4.76**	**261**	Pn	**Pn**	**21 31 27.9**	**-1.3**

*RSNC **06** 21:33:47.6±0.4, 1°S±2°×7°9W±°, h112km±5km, M3.5, mb3.4, ML2.9, MLv3.7*
*IGQ **06** 21:33:49.8±0.2, 1°S±2°×7°9W±°, h92km±4km, MLv3.5/30*
ISC 06 21:33:48.7±1.3, **0°.91S**±0°.03×**79°.25W**±0°.04, **h105**km±9km, **n86,** σ0§**99**/98, **32C-8D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILLI	**Illinizas Sur**	**0.55**	**69**	⇑P	**Pn**	**21 34 05.7**	**-0.2**
PAST	**Pastocalle**	**0.64**	**70**	P	**Pn**	**21 34 08.0**	**+1.4**
ASDO	**Santo Domingo**	**0.66**	**11**	P	**Pn**	**21 34 05.4**	**-0.8**
ASDO				S	**Sn**	**21 34 18.4**	**-1.1**
ASLC	**Ecuador-Salced**	**0.67**	**101**	P	**Pn**	**21 34 06.7**	**+0.1**
CHSH	**Refugio Sur-Vo**	**0.69**	**147**	S	**Sn**	**21 34 22.8**	**+1.9**
CHSH				⇓P	**Pn**	**21 34 07.9**	**+0.8**
SLOR	**San Lorenzo -**	**0.77**	**76**	⇑P	**Pn**	**21 34 07.9**	**+0.3**
CAMI	**Rancho Maria**	**0.78**	**72**	⇑P	**Pn**	**21 34 08.3**	**+0.6**
SUCR	**Mariscal Sucre**	**0.80**	**70**	⇑P	**Pn**	**21 34 08.5**	**+0.5**
BMOR	**Cotopaxi Volca**	**0.81**	**77**	⇑P	**Pn**	**21 34 08.2**	**0.0**
PECV	**Mancha de Ca P**	**0.81**	**279**	P	Pn	21 34 12.3	+4.6
BREF	**Cotopaxi Volca**	**0.84**	**73**	⇑P	**Pn**	**21 34 08.8**	**+0.3**
BVC2	**Cotopaxi Volca**	**0.87**	**73**	⇑P	**Pn**	**21 34 09.0**	**+0.3**
BTAM	**Cotopaxi Volca**	**0.88**	**75**	⇑P	**Pn**	**21 34 09.0**	**+0.1**
VC1	**Cotopaxi 1**	**0.88**	**72**	⇑P	**Pn**	**21 34 09.2**	**+0.4**
PITA	**Cotopaxi Volc**	**0.89**	**67**	⇑P	**Pn**	**21 34 09.0**	**+0.2**
TAMB	**Tambo**	**0.90**	**76**	⇑P	**Pn**	**21 34 09.3**	**+0.3**
TOMA	**Boca Toma-Volc**	**0.91**	**63**	⇑P	**Pn**	**21 34 09.4**	**+0.4**
GGPT	**Toaza - Volcan**	**0.93**	**42**	⇑P	**Pn**	**21 34 09.2**	**+0.1**
JUA2	**San Juan 2**	**0.94**	**43**	⇑P	**Pn**	**21 34 09.9**	**+0.5**
TERV	**Terraza Guagua**	**0.97**	**41**	⇑P	**Pn**	**21 34 10.1**	**+0.3**
TERV				S	**Sn**	**21 34 28.2**	**+2.6**
GGPC	**Guagua Pichinc**	**0.97**	**42**	⇑P	**Pn**	**21 34 10.2**	**+0.4**
PINO	**Pino**	**0.98**	**40**	⇑P	**Pn**	**21 34 10.1**	**+0.2**
PIAT	**Ana Tenorio**	**0.99**	**95**	P	**Pn**	**21 34 09.3**	**-0.4**
PIAT	**Ana Tenorio**	**0.99**	**95**	P	**Pn**	**21 34 09.4**	**-0.4**
PIAT				S	**Sn**	**21 34 24.6**	**-1.0**
TING	**Casa Alexandra**	**1.01**	**52**	P	**Pn**	**21 34 10.6**	**+0.6**
YANA	**Yana**	**1.04**	**41**	⇑P	**Pn**	**21 34 10.5**	**+0.1**
BV15	**Puerto Quito-O**	**1.06**	**1**	⇑P	**Pn**	**21 34 09.4**	**-0.7**
ANTG	**Antisana-Guama**	**1.07**	**68**	⇑P	**Pn**	**21 34 10.8**	**0.0**
ANTM	**Antisana-La Mi**	**1.09**	**70**	⇑P	**Pn**	**21 34 11.2**	**+0.3**
ANTS	**Antisana-Sarah**	**1.15**	**69**	P	**Pn**	**21 34 11.9**	**+0.2**
ANTI	**Antisana**	**1.18**	**67**	P	**Pn**	**21 34 12.5**	**+0.4**
PULU	**Pululahua**	**1.19**	**39**	P	**Pn**	**21 34 12.2**	**+0.2**
ABH3	**Manabi, Bahia**	**1.22**	**285**	P	**Pn**	**21 34 13.5**	**+1.7**
PAC1	**Pacto, Paraso**	**1.25**	**21**	P	**Pn**	**21 34 12.6**	**+0.1**
PAC1	**Pacto, Paraso**	**1.25**	**21**	P	**Pn**	**21 34 12.2**	**-0.3**
PAC1				S	**Sn**	**21 34 30.7**	**+0.3**
CAB1	**Cabo Pasado-Ma**	**1.29**	**294**	P	**Pn**	**21 34 14.6**	**+1.9**
AGUAY	**Guayaquil**	**1.34**	**212**	P	**Pn**	**21 34 12.2**	**-1.1**
OTAV	**Otavalo**	**1.39**	**35**	⇑P	**Pn**	**21 34 14

YAHU	Yahuarcocha	1.73	43	P		Pn	21 34 19.0 +0.6
PKYU	Pakayacu	1.80	114	⇓P		Pn	21 34 19.4 +0.4
ISPT	Isla de la Pla	1.86	259	⇓P		Pn	21 34 19.4 -0.3
AMA1	Acelerografo,	1.90	345	P		Pn	21 34 21.3 +1.1
LITE1	Lita	1.91	28	⇓P		Pn	21 34 21.1 +0.6
RVRD	Rio Verde	1.97	356	⇓P		Pn	21 34 21.6 +0.5
ACUE	Ecuador-Cuenca	2.00	172	P		Pn	21 34 23.8 +1.9
MORR	Playas El Morr	2.04	212	P		Pn	21 34 22.8 +0.9
LNGL	El Angel-Carch	2.06	37	P		Pn	21 34 23.0 +0.3
CHMA	Chilma	2.12	34	P		Pn	21 34 24.3 +0.9
CHL1	Volcɲn Chiles	2.13	38	⇑P		Pn	21 34 24.1 +0.4
ECEN	Cerro Negro	2.14	36	⇓P		Pn	21 34 24.5 +0.7
SALI	Salinas	2.16	234	P		Pn	21 34 23.9 +0.4
CHL2	Volcɲn Chiles	2.16	38	P		Pn	21 34 24.8 +0.8
CASC	Dorado de Casc	2.17	61	P		Pn	21 34 24.1 +0.3
TULM	Tulcn-Chalpat	2.18	42	P		Pn	21 34 25.1 +0.9
SNLR	San Lorenzo-Es	2.23	10	P		Pn	21 34 24.7 +0.3
ISPG	Isla Puna-Puer	2.24	204	P		Pn	21 34 26.2 +1.5
PCRA	Pucara 2	2.29	186	⇓P		Pn	21 34 25.7 -0.1
BOSC	San Juan Bosco	2.35	161	P		Pn	21 34 27.5 +1.3
ARNL	Arenillas	2.74	197	P		Pn	21 34 30.4 -0.8
GCUF	Volcan Galeras	2.85	42	P		Pn	21 34 33.6 +0.6
GONZ	Gonzanam	3.31	183	P		Pn	21 34 41.0 +1.9
MCRA	Macar, Loja	3.51	192	P		Pn	21 34 41.0 -0.4
MCRA	Macar, Loja	3.51	192	P		Pn	21 34 40.2 -1.2
MCRA				S		Sn	21 35 19.9 -2.3
BBAC	Balboa, Cauca	3.53	34	P		Pn	21 34 42.7 +0.8
BBAC	Balboa, Cauca	3.53	34	P		Pn	21 34 42.0 +0.1
BBAC				S		Sn	21 35 23.9 +0.9
ZUMB	Zumba	3.93	179	P		Pn	21 34 48.5 +1.4
GR1C	Gorgona, Isla	4.04	15	P		Pn	21 34 48.4 -0.1
GR1C				S		Sn	21 35 35.4 +0.6
POPC	Popayan, Colom	4.28	37	P		Pn	21 34 51.4 -0.6
POPC				S		Sn	21 35 40.0 -1.1
YOTC	Yotoco, Valle	5.66	31	P		Pn	21 35 07.7 -2.9
YOTC				S		Sn	21 36 09.9 -4.5

IDC 06 21:42:45.5±1.6, 2°66S×138°38E, h0km, mb3.3/2, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=30.5km s-min=18.3km az=172.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.33**	**87**	Pn	Pn	21 43 26.0	+0.9
	3.4nm,0.3s,baz=274,slow=15,SNR=7.1						
JAY				Lg	Lg	21 43 59.0	
	2.1nm,0.3s,baz=320,slow=18,SNR=4.5						
	5.1nm,0.3s						
WRA	**Warramunga Arr**	**17.63**	**193**	P	Pn	21 46 53.2	+0.5
	0.1nm,0.3s,baz=16,slow=12,SNR=8.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.33**	**191**	P	P	21 47 33.3	-0.9
	0.4nm,0.5s,baz=19,slow=11,SNR=5.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**69.55**	**323**	P	P	21 53 56.4	+0.1
	0.4nm,0.6s,baz=122,slow=7.7,SNR=4.4						
	0.4nm,0.6s						

*NEIC **06** 21:59:47.7±0.8, 18°.1S±0°.1×178°.1W±0°.2, h585km±10km, mb4.3/29, Error ellipse: s-maj=27.5km s-min=5.5km az=129.0*
*IDC **06** 21:59:50.8±8.1, 17°.87S×178°.49W, h604km±103km, mb2.9/5, mbtmp3.9/6, Error ellipse: s-maj=95.0km s-min=40.8km az=155.0*

ISC 06 21:59:49.2±0.8, 18°.1S±0°.1×178°.3W±0°.2, h600km, n38, σ0°66/38, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.48**	**275**	P	**P**	**22 01 09.9**	**-1.5**
DZM	**Mont Dzumac**	**14.85**	**252**	P	**P**	**22 02 56.3**	**+0.1**
DZM				IAmb	IAmb	22 03 05.3	
	comp=Z,7.5nm,1.3s						
DZM	**Mont Dzumac**	**14.85**	**252**	P	**P**	**22 02 57.9**	**+1.7**
	comp=Z,1.3nm,0.4s,baz=80,slow=18,SNR=1.7						
QRZ	**Quartz Range**	**23.98**	**197**	P	**P**	**22 04 17.2**	**-1.1**
FOZ	**Fox Glacier**	**27.27**	**199**	P	**P**	**22 04 46.5**	**-0.6**
MLZ	**Mavora Lakes**	**29.45**	**200**	P	**P**	**22 05 05.6**	**-0.5**
ARMA	**Armidale**	**29.92**	**240**	P	**P**	**22 05 11.4**	**+0.9**
WHZ	**Wether Hill Ro**	**29.97**	**199**	P	**P**	**22 05 09.8**	**-0.7**
CAN	**Canberra**	**33.66**	**233**	P	**P**	**22 05 42.6**	**+0.6**
CAN				IAmb	IAmb	22 05 49.7	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**22 06 10.9**	**+0.4**
TAU	**Tasmania Unive**	**38.16**	**222**	P	**P**	**22 06 19.5**	**+0.8**
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**22 06 23.0**	**+0.3**
STKA				IAmb	IAmb	22 06 26.1	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**22 06 23.2**	**+0.5**
	comp=Z,1.5nm,1.5s,baz=85,slow=7.9,SNR=5.6						
	comp=Z,1.5nm,0.5s						
MGBR	**Mount Gambier**	**40.86**	**233**	P	**P**	**22 06 40.7**	**+0.2**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**22 07 00.4**	**0.0**
BBOO				IAmb	IAmb	22 07 08.2	
	comp=Z,29nm,1.5s						
WR8	**Warramunga Arr**	**44.53**	**260**	P	**P**	**22 07 09.5**	**+0.1**
WR8				IAmb	IAmb	22 07 11.8	
	comp=Z,5.5nm,1.3s						
WB0	**Warramunga Arr**	**44.65**	**260**	P	**P**	**22 07 10.2**	**0.0**
WB2	**Warramunga Arr**	**44.67**	**260**	P	**P**	**22 07 10.2**	**-0.2**
WRA	**Warramunga Arr**	**44.69**	**260**	P	**P**	**22 07 10.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.6,SNR=11						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**22 07 11.7**	**+0.2**
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**22 07 12.1**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=88,slow=8.8,SNR=44						
	comp=Z,3.1nm,0.5s						
FORT	**Forrest**	**50.01**	**245**	P	**P**	**22 07 50.1**	**+0.1**
FORT				IAmb	IAmb	22 07 52.7	
	comp=Z,5.9nm,1.0s						
HKPS	**Hong Kong Po S**	**77.28**	**299**	P	**P**	**22 10 43.4**	**+0.1**
K15K	**Wolf Creek Mou**	**81.22**	**8**	P	**P**	**22 11 02.7**	**-0.4**
K15K				IAmb	IAmb	22 11 10.8	
	comp=Z,19nm,1.4s						
BELA	**Belgrano 2**	**81.97**	**173**	P	**P**	**22 11 06.7**	**-0.2**
GHO	**Glory Hole Cre**	**82.97**	**14**	P	**P**	**22 11 11.9**	**-0.1**
GHO				IAmb	IAmb	22 11 12.7	
	comp=Z,12nm,1.4s						
SCM	**Sheep Creek Mo**	**83.39**	**14**	P	**P**	**22 11 13.9**	**-0.2**
SCM				IAmb	IAmb	22 11 20.6	
	comp=Z,21nm,1.4s						
R32K	**Eaglecrest**	**84.22**	**22**	P	**P**	**22 11 18.4**	**+0.1**
R32K				IAmb	IAmb	22 11 24.0	
	comp=Z,18nm,1.3s						
O28M	**Mount Upton**	**84.36**	**18**	P	**P**	**22 11 19.8**	**+0.5**
O28M				IAmb	IAmb	22 11 20.4	
	comp=Z,4.1nm,0.9s						
RND	**Reindeer**	**84.43**	**13**	P	**P**	**22 11 19.1**	**-0.2**
RND				IAmb	IAmb	22 11 20.5	
	comp=Z,3.0nm,0.9s						
CCB	**Clear Creek Bu**	**85.75**	**13**	P	**P**	**22 11 25.0**	**-0.5**
CCB				IAmb	IAmb	22 11 29.8	
	comp=Z,3.7nm,1.3s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**22 11 29.0**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=240,slow=4.6,SNR=3.8						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**22 11 26.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=224,slow=4.9,SNR=6.3						
	comp=Z,0.2nm,0.4s						
G21K	**Allakaket**	**86.38**	**10**	P	**P**	**22 11 27.9**	**-0.5**
M30M	**Minto, Yukon**	**86.79**	**18**	P	**P**	**22 11 31.0**	**+0.5**
L29M	**L29M**	**86.82**	**17**	P	**P**	**22 11 29.7**	**-1.0**
L29M				IAmb	IAmb	22 11 31.9	
	comp=Z,13nm,1.5s						
F30M	**Barrier River**	**90.95**	**15**	P	**P**	**22 11 50.1**	**+0.4**
F30M				IAmb	IAmb	22 11 58.1	
	comp=Z,7.7nm,1.3s						
GERES	**GERESS Array B**	**147.81**	**345**	PKPbc	**PKiKP**	**22 18 28.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=90,slow=2.9,SNR=3.1						

*NIED **06** 23:02:30.7, 33°.84N×132°.36E, h50km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.83; $M_{\theta\theta}$0.33; $M_{\phi\phi}$2.50; $M_{r\theta}$-0.98; $M_{\theta\phi}$-0.76; $M_{\phi r}$1.94; Fault plane solution: $M_0$3.53000×10^{15} NP1: ϕ_s348.00000°, δ26.00000°, λ-80.00000°. NP2: ϕ_s157.00000°, δ64.00000°, λ-95.00000°.*
*JMA **06** 23:02:30.7±0.1, 33°.8N±0°.1×132°.4E±0°.2, h50km, MD4.3/40, MW4.3/40, AKINADA SETONAIKAI*
JMA Felt III J1 at AKINADA SETONAIKAI .

*NEIC **06** 23:02:31.4±1.3, 33°.82N±0°.07×132°.27E±0°.05, h50km±6km, mb4.6/136, Error ellipse: s-maj=10.5km s-min=5.4km az=167.0*
*BJI **06** 23:02:31.1, 33°.73N×132°.13E, h52km, mB4.6/7, mb4.4/23, Ms3.7/8, Ms7 3.5/9*
*IDC **06** 23:02:32.1±1.3, 33°.82N×132°.16E, h64km±11km, mb3.9/26, mbtmp4.1/28, MS3.4/21, Error ellipse: s-maj=13.2km s-min=9.6km az=93.0*

ISC 06 23:02:31.0±0.6, 33°.80N±0°.03×132°.33E±0°.03, h55km±5km, n267, σ1°28/233, mb4.6/96, MS3.5/18, 1C-9D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.27**	**153**	⇓*i*P	**Pn**	**23 02 39.5**	**-0.8**
JNA				⇓S	**Sn**	**23 02 45.9**	**-1.2**
JNA	**Nagahama**	**0.27**	**153**	A	A	23 02 39.5	
	comp=N,22nm,0.7s,comp=E,18nm,3.5s						
JKD	**Kudamatsu**	**0.46**	**304**	⇓*i*P	**Pn**	**23 02 41.6**	**-0.5**
JKD				⇓S	**Sn**	**23 02 49.5**	**-0.7**
JKD	**Kudamatsu**	**0.46**	**304**	A	A	23 02 41.6	
	comp=N,58nm,0.6s,comp=E,77nm,0.8s						
JET	**Tanbara**	**0.60**	**92**	*i* P	**Pn**	**23 02 42.9**	**-0.8**
JET				S	**Sn**	**23 02 52.1**	**-0.9**
JET	**Tanbara**	**0.60**	**92**	A	A	23 02 42.9	
	comp=N,120nm,0.3s,comp=E,107nm,0.3s						
UWA2	**Uwa jima 2**	**0.63**	**157**	⇓*i*P	**Pn**	**23 02 44.1**	**-0.1**
UWA2				⇓S	**Sn**	**23 02 54.1**	**+0.4**
UWA2	**Uwa jima 2**	**0.63**	**157**	A	A	23 02 44.1	
	comp=N,16nm,0.6s,comp=E,16nm,0.6s						
JKI	**Kumimi**	**0.66**	**256**	A	A	23 02 44.3	
	comp=N,82nm,1.0s,comp=E,83nm,0.9s						
JKU	**Kubokawa**	**0.78**	**128**	*i* P	**Pn**	**23 02 45.5**	**-0.5**
JKU				S	**Sn**	**23 02 56.6**	**-0.4**
JKU	**Kubokawa**	**0.78**	**128**	A	A	23 02 45.5	
	comp=N,33nm,1.5s,comp=E,22nm,1.1s						
JHIK	**Hikimi**	**0.80**	**336**	A	A	23 02 45.6	
	comp=N,33nm,0.8s,comp=E,21nm,0.9s						
JHT	**Toyohira**	**0.87**	**5**	*i* P	**Pn**	**23 02 46.2**	**-0.9**
JHT				S	**Sn**	**23 02 57.7**	**-1.3**
JHT	**Toyohira**	**0.87**	**5**	A	A	23 02 46.2	
	comp=N,32nm,0.4s,comp=E,25nm,0.7s						
JUS	**Usuki**	**0.88**	**214**	A	A	23 02 47.5	
	comp=N,15nm,0.5s,comp=E,13nm,1.8s						
JBEP	**Beppuamama**	**0.90**	**239**	A	A	23 02 47.7	
	comp=N,42nm,1.0s,comp=E,46nm,0.5s						
JTO	**Tosashimizu**	**1.01**	**157**	*i* P	**Pn**	**23 02 49.1**	**0.0**
JTO				S	**Sn**	**23 03 02.8**	**+0.4**
JTO	**Tosashimizu**	**1.01**	**157**	A	A	23 02 49.1	
	comp=N,9.0nm,1.0s,comp=E,9.0nm,1.2s						
JKHR	**Kochiharuno**	**1.02**	**106**	A	A	23 02 48.7	
	comp=N,25nm,0.6s,comp=E,24nm,0.3s						
JSKE	**Saikikamae**	**1.06**	**200**	A	A	23 02 50.1	
	comp=N,5.0nm,0.6s,comp=E,6.0nm,0.8s						
JJG	**Jouge**	**1.08**	**39**	A	A	23 02 49.2	
	comp=N,18nm,2.3s,comp=E,12nm,0.6s						
JTY	**Toyota**	**1.15**	**294**	A	A	23 02 50.9	
	comp=N,23nm,0.3s,comp=E,12nm,1.1s						
JGT2	**ShimaneMisato**	**1.27**	**7**	*i* P	**Pn**	**23 02 51.6**	**-0.9**
JGT2				S	**Sn**	**23 03 07.5**	**-1.0**
JGT2	**ShimaneMisato**	**1.27**	**7**	A	A	23 02 51.6	
	comp=N,10.0nm,1.2s,comp=E,18nm,1.1s						
JMN	**Monobe**	**1.29**	**93**	Pn	**Pn**	**23 02 51.8**	**-1.0**
JMN				Sn	**Sn**	**23 03 06.5**	**-2.6**
JMN	**Monobe**	**1.29**	**93**	*i* P	**Pn**	**23 02 51.6**	**-1.2**
JMN				S	**Sn**	**23 03 07.3**	**-1.8**
JMN	**Monobe**	**1.29**	**93**	A	A	23 02 51.6	
	comp=N,8.0nm,0.9s,comp=E,11nm,1.2s						
JHS	**Saijyo**	**1.36**	**28**	*i* P	**Pn**	**23 02 53.0**	**-0.8**
JHS				S	**Sn**	**23 03 09.8**	**-1.1**
JHS	**Saijyo**	**1.36**	**28**	A	A	23 02 53.0	
	comp=N,19nm,0.7s,comp=E,15nm,2.0s						
JNU	**Nakatsue**	**1.39**	**241**		**Pn**	**23 02 54.3**	**+0.2**
JNU				Sn	**Sn**	**23 03 06.3**	**-5.1**
JNU	**Nakatsue**	**1.39**	**241**	P	**Pn**	**23 02 54.5**	**+0.4**
	comp=E,1μm,0.6s,baz=55,slow=4.5,SNR=804						
JNU				S	**Sn**	**23 03 10.1**	**-1.4**
	comp=E,967nm,0.4s,baz=248,slow=23,SNR=6.1						
JHGM	**Hagimishima**	**1.39**	**315**	*i* P	**Pn**	**23 02 54.4**	**+0.3**
JHGM				S	**Sn**	**23 03 12.5**	**+1.1**
JHGM	**Hagimishima**	**1.39**	**315**	A	A	23 02 54.4	
	comp=N,16nm,1.5s,comp=E,14nm,0.8s						
JJS	**Sakaide**	**1.45**	**66**	*i* P	**Pn**	**23 02 53.5**	**-1.4**
JJS				S	**Sn**	**23 03 10.3**	**-2.5**
JJS	**Sakaide**	**1.45**	**66**	A	A	23 02 53.5	
	comp=N,7.0nm,1.2s,comp=E,9.0nm,0.5s						
JHHC	**Hyugahichiya**	**1.47**	**203**	A	A	23 02 56.0	
	comp=N,5.0nm,2.5s,comp=E,6.0nm,2.0s						
JMAF	**Mimaanabuki**	**1.54**	**80**	A	A	23 02 55.8	
	comp=N,4.0nm,0.9s,comp=E,10.0nm,3.4s						
JFI	**Itaya**	**1.66**	**258**	A	A	23 02 58.5	
	comp=N,4.0nm,1.3s,comp=E,5.0nm,0.4s						
JTSN	**Tsuno**	**1.70**	**204**	A	A	23 02 59.2	
	comp=N,6.0nm,0.9s,comp=E,11nm,0.8s						
JTA	**Tamana**	**1.72**	**242**	A	A	23 02 59.4	
	comp=N,4.0nm,0.4s,comp=E,6.0nm,4.6s						
JISK	**Izumosakaura**	**1.75**	**14**	A	A	23 02 58.7	
	comp=N,11nm,0.6s,comp=E,7.0nm,0.7s						
JIU3	**Izumi3**	**1.78**	**226**	A	A	23 03 00.4	
	comp=N,4.0nm,1.4s,comp=E,3.0nm,1.8s						
JNM	**Ikuma**	**1.79**	**19**	A	A	23 02 59.3	
	comp=N,10.0nm,2.6s,comp=E,11nm,1.6s						
JKR	**Kurayoshi**	**2.00**	**38**	A	A	23 03 02.3	
	comp=N,4.0nm,1.4s,comp=E,3.0nm,2.4s						
JHD	**Hondo**	**2.27**	**235**	A	A	23 03 07.3	
	comp=N,3.0nm,1.1s,comp=E,2.0nm,3.3s						
JNKG	**Nichinankitago**	**2.28**	**201**	A	A	23 03 07.5	
	comp=N,6.0nm,1.1s,comp=E,4.0nm,1.2s						
JNAR	**Kushima--Naru**	**2.43**	**202**	A	A	23 03 09.7	
	comp=N,5.0nm,1.7s,comp=E,4.0nm,4.6s						
JMIK	**Miki**	**2.47**	**65**	A	A	23 03 09.0	
	comp=N,6.0nm,3.3s,comp=E,4.0nm,1.0s						
JKSM	**Kasumi**	**2.62**	**46**	A	A	23 03 11.2	
	comp=N,3.0nm,2.3s,comp=E,6.0nm,1.3s						
INU	**Inuyama**	**4.17**	**67**	Pn	**Pn**	**23 03 32.2**	**+0.2**
JGF	**Kuroka**	**4.51**	**65**		**Pn**	**23 03 37.0**	**+0.1**
TJN	**Taejon**	**4.82**	**304**		**Pn**	**23 03 40.7**	**-0.2**
JSG	**Sagara**	**4.93**	**78**	Pn	**Pn**	**23 03 44.4**	**+1.9**
KSRS	**Korea Array**	**5.12**	**317**	P	**Pn**	**23 03 45.1**	**+0.1**
	comp=E,5.4nm,0.4s,baz=131,slow=14,SNR=18						
KSRS				S	**Sn**	**23 04 42.5**	**-0.3**
	comp=E,11nm,0.3s,baz=142,slow=17,SNR=5.0						
KSAR	**Wonju Array Be**	**5.13**	**316**		**Pn**	**23 03 45.0**	**-0.3**
KS19	**Wonju Array Si**	**5.18**	**317**		**Pn**	**23 03 45.0**	**-1.0**
MJB9	**Matsu-Tunnel**	**5.54**	**59**	Pn	**Pn**	**23 03 51.8**	**+0.9**
MAJO	**Matsushiro**	**5.54**	**59**	Pn	**Pn**	**23 03 51.2**	**+0.3**
MJAR	**Matsushiro Arr**	**5.54**	**59**	Pn	**Pn**	**23 03 51.7**	**+0.8**
MJAR	**Matsushiro Arr**	**5.54**	**59**	P	**Pn**	**23 03 52.0**	**+1.1**
	comp=E,28nm,0.4s,baz=242,slow=14,SNR=6.1						
MJAR				LR	LR	23 06 10.7	
	comp=E,371nm,20.4s,baz=248,slow=39						
INCN	**Inchon**	**5.92**	**310**	Pn	**Pn**	**23 03 56.1**	**0.0**
JHJ	**Hachijo jima 2**	**6.27**	**94**	LR	LR	23 06 29.2	
	comp=E,312nm,19.9s,baz=304,slow=37						
JOW	**Kunigami**	**7.78**	**208**	LR	LR	23 07 53.6	
	comp=E,95nm,18.0s,baz=60,slow=42						
JTM	**Tenmabayashi**	**9.85**	**42**	Pn	**Pn**	**23 04 53.4**	**+3.5**
USRK	**Ussuriysk Ar.**	**10.39**	**359**	P	**Pn**	**23 04 59.7**	**+2.4**
	comp=E,2.3nm,0.6s,baz=173,slow=13,SNR=3.3						
CN2	**Changchun**	**11.34**	**334**	*e*P	**Pn**	**23 05 11.2**	**+1.1**
CN2				pmax	pmax		
	comp=E,10.0nm,0.5s						
NJ2	**Nanjing**	**11.46**	**265**	*e*P	**Pn**	**23 05 11.5**	**-0.4**
NJ2				pmax	pmax		
	comp=E,11nm,0.6s						
ERM	**Erimo**	**11.84**	**43**	Pn	Pn	23 05 22.2	+5.2
TIA	**Tai'an**	**12.70**	**285**	P	**Pn**	**23 05 29.7**	**+0.9**
TIA				pmax	pmax		
	comp=E,4.0nm,0.6s						
ASAJ	**Asahikawa**	**13.03**	**35**	LR	LR	23 10 14.6	
	comp=E,123nm,19.8s,baz=262,slow=35						
BJI	**Beijing**	**14.34**	**300**	P	**Pn**	**23 05 53.2**	**+2.2**
BJI				pP	**P**	**23 05 58.9**	**+2.3**
BJI				LR	LR		
	comp=E,74nm,9.7s						
BJI				LR	LR		
	comp=E,89nm,8.8s						
BJI				LR	LR		
	comp=E,73nm,5.5s						
HNS	**HongShan**	**14.78**	**289**	⇑P	**Pn**	**23 05 55.2**	**-1.5**
HNS				*e*S	**Sn**	**23 08 39.2**	**0.0**
HNS				LR	LR		
	comp=E,250nm,15.9s						
HNS				LR	LR		
	comp=E,190nm,14.3s						
HEH	**HeiHe**	**16.84**	**349**	*e*P	**P**	**23 06 27.0**	**+2.8**
HHC	**Hu-ho-hao-te**	**17.93**	**299**	*e*P	**P**	**23 06 36.7**	**+2.0**
HHC				pmax	pmax		
	comp=E,14nm,0.7s						
BTO	**Baotou**	**19.00**	**297**	*e*P	**P**	**23 06 47.3**	**-0.9**
BTO				pP	**pP**	**23 06 59.0**	**-1.4**
BTO				S	**S**	**23 10 14.5**	**-6.6**
BTO				sS	sS	23 10 31.5	-9.2
BTO				SS	**SnSn**	**23 10 43.2**	**+7.2**
BTO				pmax	pmax		
	comp=E,15nm,0.5s						
BTO				pmax	pmax		
	comp=E,250nm,8.2s						
BTO				LR	LR		
	comp=E,290nm,19.2s						
BTO				LR	LR		
	comp=E,450nm,19.3s						
BTO				LR	LR		
	comp=E,350nm,15.6s						
GUMO	**Guam**	**23.12**	**147**	LR	LR	23 15 54.7	
	comp=E,28nm,19.4s,baz=332,slow=35						
LZH	**Lanzhou**	**23.43**	**284**	*e*P	**P**	**23 07 38.9**	**+3.4**
LZH				pP	pP	23 07 48.1	-0.4
LZH				pmax	pmax		
	comp=E,13nm,0.7s						
LZDM	**Lanzhou Array**	**23.56**	**283**	P	**P**	**23 07 36.2**	**-0.7**
	comp=E,1.4nm,0.4s,baz=46,slow=6.2,SNR=5.5						
	comp=E,1.4nm,0.4s						
SONM	**Songino Array**	**23.98**	**314**	P	**P**	**23 07 40.3**	**-0.2**
	comp=E,2.2nm,0.5s,baz=132,slow=10.0,SNR=15						
SONM				PcP	**PcP**	**23 11 19.5**	**-1.7**
	comp=E,0.4nm,0.6s,baz=123,slow=5.3,SNR=2.5						
SONM				LR	LR	23 17 35.9	
	comp=E,77nm,20.8s,baz=111,slow=38						
	comp=E,2.2nm,0.5s						
GTA	**Gaotai**	**26.61**	**292**	*e*P	**P**	**23 08 04.6**	**+0.2**
GTA				pP	pP	23 08 18.9	+0.8
GTA				sP	sP	23 08 26.2	+1.6
GTA				pmax	pmax		
	comp=E,2.0nm,1.0s						
DAV	**Davao City (W)**	**27.32**	**195**	LR	LR	23 20 13.7	
	comp=E,20nm,19.3s,baz=350,slow=39						
PZH	**PanZhiHua**	**27.36**	**263**	P	**P**	**23 08 12.6**	**+1.4**
MA2	**Magadan**	**28.52**	**20**	LR	LR	23 20 34.6	
	comp=E,34nm,18.2s,baz=214,slow=38						
SEY	**Seymchan**	**31.77**	**17**	P	**P**	**23 08 50.1**	**+0.4**
	comp=E,2.9nm,0.6s,baz=219,slow=12,SNR=4.2						
	comp=E,2.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**33.47**	**251**	P	**P**	**23 09 04.3**	**-0.7**
	comp=E,0.7nm,0.3s,baz=72,slow=11,SNR=1.5						
CMAR				LR	LR	23 23 10.3	
	comp=E,39nm,20.8s,baz=55,slow=37						
	comp=E,0.7nm,0.3s						
WMQ	**Urumqi**	**35.81**	**300**	*e*P	**P**	**23 09 27.4**	**+2.2**
WMQ				LR	LR		
	comp=E,68nm,15.7s						
TIXI	**Tiksi**	**37.96**	**358**	LR	LR	23 25 44.6	
	comp=E,63nm,19.3s,baz=200,slow=37						
ZALV	**Zalesovo Beam**	**38.83**	**316**	P	**P**	**23 09 49.0**	**-1.4**
	comp=E,0.3nm,0.3s,baz=91,slow=5.8,SNR=2.1						
ZALV				PcP	**PcP**	**23 11 59.9**	**-0.7**
	comp=E,2.1nm,0.8s,baz=90,slow=4.3,SNR=7.1						
ZALV				LR	LR	23 26 44.2	
	comp=E,63nm,18.2s,baz=92,slow=38						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**39.67**	**304**	P	**P**	**23 09 56.1**	**-1.5**
	comp=E,0.3nm,0.6s,baz=89,slow=9.1,SNR=2.0						
MKAR				LR	LR	23 29 20.1	
	comp=E,24nm,19.3s,baz=99,slow=41						
	comp=E,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**42.26**	**310**	P	**P**	**23 10 17.8**	**-1.0**
	comp=E,0.7nm,0.5s,baz=98,slow=8.7,SNR=5.6						
KURBB				PcP	**PcP**	**23 12 10.3**	**-1.5**
	comp=E,0.4nm,0.2s,baz=75,slow=5.1,SNR=1.9						
	comp=E,0.7nm,0.5s						
PSI	**Prapat**	**43.84**	**233**	LR	LR	23 29 45.2	
	comp=E,50nm,19.6s,baz=50,slow=37						
AAK	**Ala-Archa**	**45.51**	**299**	LR	LR	23 30 01.1	
	comp=E,63nm,19.0s,baz=52,slow=36						
MTN	**Manton Dam**	**46.39**	**182**	P	**P**	**23 10 51.7**	**-0.4**
MTN				IAmb	IAmb	23 11 06.3	
	comp=Z,8.5nm,0.7s						
UNV	**Unalaska Valle**	**46.84**	**45**	P	**P**	**23 10 55.5**	**+0.2**
UNV				IAmb	IAmb	23 10 56.3	
	comp=Z,11nm,1.1s						
BVAR	**Borovoye Array**	**47.32**	**314**	P	**P**	**23 10 58.7**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=103,slow=8.9,SNR=9.

F24K	**Squaw Lake**	55.40	27	P	P	23 12 00.0	+0.7
F24K				IAmb	IAmb	23 12 16.9	
comp=Z,5.6nm,1.1s							
RND	**Reindeer**	55.45	32	P	P	23 12 00.4	+0.6
PMR	**Palmer**	55.57	35		pP	23 12 17.8	+2.6
G24K	**Hadweenzic Riv**	55.64	28	P	P	23 12 02.0	+1.0
G24K				IAmb	IAmb	23 12 03.0	
comp=Z,4.5nm,0.7s							
GHO	**Glory Hole Cre**	55.64	34	P	P	23 12 01.9	+0.7
CCB	**Clear Creek Bu**	55.75	31	P	P	23 12 02.9	+1.1
KNK	**Knik Glacier**	55.92	35	P	P	23 12 03.8	+0.7
KNK				IAmb	IAmb	23 12 04.4	
comp=Z,7.3nm,0.8s							
IL31		56.12	31	IAmb	IAmb	23 12 07.0	
comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	56.12	31	P	P	23 12 04.6	+0.1
comp=Z,2.0nm,0.7s,baz=267,slow=6.6,SNR=26							
comp=Z,2.0nm,0.7s							
HDA	**Harding Lake**	56.15	31		sP	23 12 24.0	-1.7
DHY	**Denali Highway**	56.16	33	P	P	23 12 05.8	+0.9
DHY				IAmb	IAmb	23 12 06.5	
comp=Z,6.2nm,1.0s							
E25K	**Arctic Village**	56.21	27	P	P	23 12 06.0	+0.9
F25K	**Christian Rive**	56.24	27	P	P	23 12 06.8	+1.4
F25K				IAmb	IAmb	23 12 07.5	
comp=Z,2.8nm,0.7s							
PSA00	**Pilbara Seismi**	56.33	194		P	23 12 06.7	+0.3
PSA00	**Pilbara Seismi**	56.33	194	P	P	23 12 06.3	-0.1
PSA00				IAmb	IAmb	23 12 07.8	
comp=Z,8.0nm,0.7s							
SCM	**Sheep Creek Mo**	56.38	34	P	P	23 12 07.4	+0.9
SCM				IAmb	IAmb	23 12 26.4	
comp=Z,8.0nm,1.1s							
BMAR	**Burnt Mountain**	56.67	27	P	P	23 12 09.7	+1.3
C27K	**Jago River**	56.68	25	P	P	23 12 08.8	+0.4
C27K				IAmb	IAmb	23 12 18.1	
comp=Z,9.0nm,1.1s							
F26K	**Sheenjek River**	56.80	27	IAmb	IAmb	23 12 11.5	
comp=Z,3.8nm,0.7s							
M24K	**Tolsona, Glenn**	56.87	34	P	P	23 12 10.7	+0.8
M24K				IAmb	IAmb	23 12 22.6	
comp=Z,8.7nm,0.9s							
G26K	**Porcupine Rive**	57.05	28	P	P	23 12 12.5	+1.5
G26K				IAmb	IAmb	23 12 32.2	
comp=Z,3.5nm,0.9s							
AS31	**Alice Springs**	57.16	178		P	23 12 11.3	-1.0
ASAR	**Alice Springs**	57.16	178	P	P	23 12 12.2	-0.2
ASAR	**Alice Springs**	57.16	178	P	P	23 12 12.4	+0.1
comp=Z,2.6nm,0.7s,baz=10,slow=13,SNR=34							
comp=Z,2.6nm,0.7s							
SCRK	**Sand Creek**	57.50	31		P	23 12 14.8	+0.4
SCRK				IAmb	IAmb	23 12 15.5	
comp=Z,8.0nm,0.9s							
DOT	**Dot Lake**	57.53	32	IAmb	IAmb	23 12 15.5	
comp=Z,3.9nm,0.7s							
I26K	**Coal Creek Min**	57.60	30	IAmb	IAmb	23 12 15.7	
comp=Z,2.7nm,0.8s							
E27K	**Coleen River**	57.67	26	P	P	23 12 17.0	+1.6
N25K	**Chitina, Valde**	57.70	34	P	P	23 12 17.0	+1.2
N25K				IAmb	IAmb	23 12 27.3	
comp=Z,8.8nm,1.1s							
BMRM	**Bremner River**	57.83	35	P	P	23 12 17.4	+0.7
G27K	**Doyon Strip**	57.91	28	P	P	23 12 18.7	+1.6
H27K	**Steamboat Moun**	58.07	28	P	P	23 12 19.9	+1.6
E28M	**Babbage River**	58.33	26	P	P	23 12 20.8	+0.8
F28M	**Old Crow**	58.42	27	P	P	23 12 21.7	+1.1
F28M				IAmb	IAmb	23 12 23.3	
comp=Z,2.6nm,0.8s							
EGAK	**Eagle**	58.53	30	P	P	23 12 21.8	+0.4
EGAK				IAmb	IAmb	23 12 23.5	
comp=Z,2.1nm,0.6s							
BCAR	**Beaver Creek A**	58.66	32	P	P	23 12 23.4	+1.0
I28M	**Miner Creek**	58.88	29	P	P	23 12 25.6	+1.6
I28M				IAmb	IAmb	23 12 26.0	
comp=Z,6.4nm,0.8s							
E29M	**Blow River**	58.97	26	P	P	23 12 25.0	+0.6
E29M				IAmb	IAmb	23 12 26.0	
comp=Z,3.2nm,0.8s							
G29M	**Pine Creek**	59.28	27	P	P	23 12 26.9	+0.2
G29M				IAmb	IAmb	23 12 28.3	
comp=Z,3.1nm,0.9s							
H29M	**Whitestone**	59.32	28	P	P	23 12 27.7	+0.8
H29M				IAmb	IAmb	23 12 44.7	
comp=Z,7.7nm,1.1s							
CTGM	**Chitina Glacie**	59.38	34	P	P	23 12 27.2	-0.4
CTGM				IAmb	IAmb	23 12 33.1	
comp=Z,6.1nm,1.0s							
I29M	**Ogilvie Camp,**	59.57	29	P	P	23 12 29.5	+0.9
I29M				IAmb	IAmb	23 12 30.6	
comp=Z,6.8nm,1.1s							
EPYK	**Eagle Plains**	59.92	28	P	P	23 12 31.9	+0.8
F30M	**Barrier River**	59.94	26	P	P	23 12 32.3	+1.2
F30M				IAmb	IAmb	23 12 37.7	
comp=Z,6.4nm,1.1s							
L29M	**L29M**	60.25	32	P	P	23 12 34.9	+1.5
L29M				IAmb	IAmb	23 12 36.1	
comp=Z,4.6nm,0.8s							
M29M	**Somme Creek**	60.30	32	P	P	23 12 35.2	+1.4
K29M	**Barlow Dome**	60.31	31	P	P	23 12 35.4	+1.6
K29M				IAmb	IAmb	23 12 36.1	
comp=Z,2.8nm,0.8s							
I30M	**Mount Dempster**	60.38	29	P	P	23 12 35.5	+1.1
I30M				IAmb	IAmb	23 12 35.9	
comp=Z,6.0nm,0.7s							
J30M	**Hart River**	60.59	30	P	P	23 12 36.4	+0.6
G31M	**Satah River**	60.70	27	P	P	23 12 36.5	+0.2
O29M	**Mount Kennedy**	60.88	35	P	P	23 12 39.5	+1.7
O29M				IAmb	IAmb	23 12 43.1	
comp=Z,8.4nm,1.1s							
M30M	**Minto, Yukon**	61.00	32	P	P	23 12 39.6	+1.1
H31M	**Peel River**	61.02	28	P	P	23 12 39.1	+0.6
H31M				IAmb	IAmb	23 12 39.8	
comp=Z,5.4nm,0.7s							
EIDS	**Eidsvold**	61.48	161	P	P	23 12 42.0	0.0
EIDS				IAmb	IAmb	23 12 43.2	
comp=Z,6.0nm,0.8s							
SPITS	**Spitsbergen Ar**	62.19	348	P	P	23 12 46.0	-0.3
comp=Z,4.0nm,0.7s,baz=92,slow=12,SNR=5.7							
comp=Z,4.0nm,0.7s							
C36M	**Paulatuk**	63.37	23	P	P	23 12 54.3	+0.2
MMPY	**Sheldon Lake,**	63.39	31	P	P	23 12 55.5	+1.0
MMPY				IAmb	IAmb	23 12 58.8	
comp=Z,6.5nm,1.2s							
NOR	**Nord**	63.73	355	*i* P	P	23 12 55.6	-0.7
NOR				IAmb	IAmb	23 12 56.8	
comp=Z,4.0nm,0.6s							
ARCES	**ARCESS Array B**	64.31	338	P	P	23 12 59.1	-1.2
ARCES				IAmb	IAmb	23 13 17.3	
comp=Z,3.9nm,1.1s							
ARCES	**ARCESS Array B**	64.31	338	P	P	23 12 59.3	-1.1
comp=Z,2.0nm,0.5s,baz=62,slow=8.0,SNR=24							
comp=Z,2.0nm,0.5s							
DZM	**Mont Dzumac**	64.36	145	P	P	23 13 02.1	+0.8
DZM				IAmb	IAmb	23 13 03.6	
comp=Z,7.0nm,0.7s							
STKA	**Stephens Creek**	65.91	171	P	P	23 13 11.7	+0.7
STKA	**Stephens Creek**	65.91	171	P	P	23 13 11.5	+0.5
comp=Z,2.4nm,0.6s,baz=350,slow=4.0,SNR=7.2							
comp=Z,2.4nm,0.6s							
ARMA	**Armidale**	66.42	162	P	P	23 13 15.1	+0.5
ARMA				IAmb	IAmb	23 13 16.3	
comp=Z,5.6nm,0.8s							
RES	**Resolute Bay**	67.45	12	P	P	23 13 20.4	-0.1
RES				IAmb	IAmb	23 13 21.4	
comp=Z,7.0nm,0.7s							
FIA1	**FINESS Array S**	68.06	330	P	P	23 13 23.2	-1.3
FINES	**FINESS Array B**	68.06	330	P	P	23 13 23.6	-0.9
FINES	**FINESS Array B**	68.06	330	P	P	23 13 23.5	-1.0
comp=Z,2.6nm,0.4s,baz=71,slow=5.9,SNR=54							
comp=Z,2.6nm,0.4s							
DAG	**Danmarks Havn**	68.22	353	*i* P	P	23 13 25.0	-0.2
DAG				IAmb	IAmb	23 13 26.0	
comp=Z,6.9nm,0.8s							
NEEM	**North Greenlan**	69.00	1	*i* P	P	23 13 30.9	+0.4
NEEM				IAmb	IAmb	23 13 31.3	
comp=Z,9.2nm,0.6s							
YKA	**Yellowknife Ar**	70.19	27	P	P	23 13 38.2	+0.6
comp=Z,1.9nm,0.9s,baz=320,slow=4.6,SNR=1.6							
comp=Z,1.9nm,0.9s							
AKASG	**Malin Array Be**	72.11	319	P	P	23 13 48.9	-0.6
comp=Z,1.2nm,0.5s,baz=55,slow=6.1,SNR=12							
comp=Z,1.2nm,0.5s							
SUMG	**Summit**	73.72	357	*i* P	P	23 13 59.9	+0.8
HFS	**Hagfors**	73.76	333	P	P	23 13 58.1	-1.0
comp=Z,3.7nm,0.4s,baz=51,slow=4.7,SNR=35							
comp=Z,3.7nm,0.4s							
NC405	**NORSAR Array S**	73.85	334	P	P	23 13 59.3	-0.3
NC405				IAmb	IAmb	23 13 59.6	
comp=Z,11nm,0.9s							
NB2	**NORSAR Subarra**	74.08	334	P	P	23 14 00.2	-0.8
comp=Z,1.1nm,0.5s,baz=46,slow=5.9							
NOA	**NORSAR Array B**	74.08	334	P	P	23 14 00.0	-1.0
comp=Z,3.1nm,0.9s,baz=48,slow=5.8,SNR=15							
NOA				LR	LR	23 49 06.5	
comp=Z,30nm,18.4s,baz=5.0,slow=38							
comp=Z,3.1nm,0.9s							
BRTR	**Keskin Array B**	75.20	308	P	P	23 14 07.2	-0.8
comp=Z,0.5nm,0.8s,baz=60,slow=8.5,SNR=2.4							
comp=Z,0.5nm,0.8s							
BUR08	**Bucovina Ar. S**	75.99	318		P	23 14 12.8	+0.5
BURAR	**Bucovina Array**	76.00	318	P	P	23 14 12.7	+0.3
LTY	**Liberty**	76.14	42	P	P	23 14 13.7	+0.6
I03D	**Drain, OR**	76.60	46	P	P	23 14 17.1	+1.4
I03D				IAmb	IAmb	23 14 21.0	
comp=Z,5.6nm,0.9s							
KBO	**Bosley Butte**	76.89	48	P	P	23 14 15.6	-1.9
NEW	**Newport**	77.49	40	LR	LR	23 51 19.6	
comp=Z,23nm,18.1s,baz=334,slow=38							
PINE	**Pine Mountain**	77.98	45		P	23 14 25.2	+1.5
PINE				IAmb	IAmb	23 14 26.2	
comp=Z,6.1nm,0.9s							
L04D	**Klamath Falls**	78.07	47	P	P	23 14 24.7	+0.5
J05D	**Fort Rock, OR**	78.10	46		P	23 14 25.0	+0.7
J05D				IAmb	IAmb	23 14 26.4	
comp=Z,4.3nm,0.7s							
BMO	**Blue Mountains**	79.45	43		P	23 14 32.7	+1.0
J08A	**Circle Bar Ran**	79.68	44	P	P	23 14 34.2	+1.3
J08A				IAmb	IAmb	23 14 34.8	
comp=Z,3.1nm,0.7s							
CLL	**Collm**	79.92	326	*i* P	P	23 14 33.5	-0.4
PLID	**Pearl Lake**	80.04	42	P	P	23 14 35.0	0.0
OVMT	**Ovando**	80.42	39	P	P	23 14 36.8	-0.1
MFID	**Camas Ranch**	81.17	43		P	23 14 41.8	+0.8
GERES	**GERESS Array B**	81.25	324	P	P	23 14 40.3	-0.9
comp=Z,0.5nm,0.7s,baz=54,slow=5.6,SNR=3.8							
comp=Z,0.5nm,0.7s							
FRB	**Frobisher Bay**	81.38	9	LR	LR	23 53 58.9	
comp=Z,36nm,18.3s,baz=66,slow=38							
LRM	**Limekiln Ridge**	81.51	40	P	P	23 14 44.2	+1.3
HLID	**Hailey**	81.88	42		P	23 14 46.0	+1.2
MCMT	**McKenzie Canyo**	81.94	41	P	P	23 14 46.4	+1.2
BOZ	**Bozeman (W)**	82.09	40	P	P	23 14 46.9	+1.1
BOZ				IAmb	IAmb	23 14 47.2	
comp=Z,3.7nm,0.8s							
NVAR	**Mina Array Bea**	82.77	48	P	P	23 14 50.2	+0.7
comp=Z,1.6nm,0.6s,baz=307,slow=5.1,SNR=9.0							
comp=Z,1.6nm,0.6s							
EKA	**Eskdalemuir Ar**	83.39	336	P	P	23 14 51.3	-0.8
comp=Z,1.8nm,0.8s,baz=36,slow=6.1,SNR=2.2							
comp=Z,1.8nm,0.8s							
CIMO	**Cimolais**	83.60	323	P	P	23 14 52.0	-1.4
RLMT	**Red Lodge**	83.65	39	P	P	23 14 54.8	+0.8
FXWY	**Fox Creek**	83.71	41	P	P	23 14 56.1	+1.8
TPAW	**Teton Pass**	83.84	41	P	P	23 14 56.7	+1.7
UCC	**Uccle**	84.10	330	*d*P	P	23 14 55.1	-0.7
GMN	**Gold Mountain**	84.12	49	P	P	23 14 57.8	+1.3
BFO	**Black Forest**	84.17	326	P	P	23 14 56.3	0.0
BFO				IAmb	IAmb	23 14 57.1	
comp=Z,6.7nm,0.7s							
WLF	**Walferdange**	84.18	328	*d*P	P	23 14 55.4	-0.9
comp=Z,5.8nm,1.1s							
ITM	**Ithomi**	84.19	311	P	P	23 14 55.4	-1.2
BMRD	**Maredsous**	84.30	329	*d*P	P	23 14 56.4	-0.4
FUORN	**Ofenpass-Fuorn**	84.47	324	IAmb	IAmb	23 14 58.5	
comp=Z,4.3nm,0.8s							
R11B	**Troy Canyon, C**	84.50	47		P	23 14 59.5	+1.2
SPR3	**Spring Creek 3**	84.84	46		P	23 15 02.0	+1.8
SGRT	**San Giovanni R**	84.92	318	P	P	23 14 59.8	-0.5
TPNV	**Topopah Spring**	84.97	48	IAmb	IAmb	23 15 17.4	
comp=Z,5.2nm,1.1s							
TUE	**Stuetta**	85.02	324		P	23 15 00.3	-0.5
TUE				IAmb	IAmb	23 15 02.5	
comp=Z,3.6nm,0.8s							
PDAR	**Pinedale Array**	85.09	41	P	P	23 15 01.4	+0.1
comp=Z,1.4nm,0.9s,baz=355,slow=0.7,SNR=8.4							
comp=Z,1.4nm,0.9s							
GWY	**Greenwater Val**	85.18	49	IAmb	IAmb	23 15 18.3	
comp=Z,3.8nm,1.1s							
FDMO	**Fiordimonte**	85.51	320	P	P	23 15 02.0	-1.1
FDMO				IAmb	IAmb	23 15 04.2	
comp=Z,5.1nm,0.9s							
MDND	**Maddock**	86.37	32	P	P	23 15 08.8	+1.6
Q16A	**Castle Valley**	86.76	44	P	P	23 15 10.4	+0.8
Q16A				IAmb	IAmb	23 15 11.6	
comp=Z,2.3nm,0.8s							
KUQ	**Kuujjuuaa**	86.80	11	P	P	23 15 08.4	-0.7
P18A	**Preston Nutter**	86.82	43	P	P	23 15 11.3	+1.3
SRU	**San Rafael Swe**	87.00	44	P	P	23 15 11.7	+0.9
SRU				IAmb	IAmb	23 15 12.7	
comp=Z,5.1nm,0.8s							
BNI	**Bardonecchia**	87.33	325	P	P	23 15 12.1	-0.1
BNI				IAmb	IAmb	23 15 17.7	
comp=Z,5.0nm,1.1s							
HMU	**Henry Mountain**	87.66	45	P	P	23 15 15.3	+1.2
EYMN	**Ely**	89.66	28	P	P	23 15 23.4	+0.4
ESDC	**Sonseca Array**	96.46	328	LR	LR	00 04 30.9	
comp=Z,62nm,18.2s,baz=20,slow=39							
TXAR	**Lajitas Array**	97.86	47	P	Pdif	23 16 02.0	+0.8
comp=Z,0.2nm,0.5s,baz=289,slow=2.2,SNR=6.5							
comp=Z,0.2nm,0.5s							
QSPA	**South Pole Qui**	123.55	180	PKP	PKiKP	23 21 22.8	+1.1
comp=Z,1.1nm,0.6s,baz=346,slow=4.2,SNR=11							

*IDC **06** 23:07:09.8±0.8, 33°.53S×56°.55E, h0km, mb4.0/8, mbtmp4.0/8, MS3.3/10, Error ellipse: s-maj=30.1km s-min=24.2km az=98.0*

ISC 06 23:07:11.6±0.8, 33°.6S±0°.1×56°.6E±0°.2, h10km, n27, σ0:91/10, mb4.1/7, MS3.3/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	13.08	195	T	T	23 23 06.7	
baz=17,slow=75,SNR=2808							
H04N1	**CROZET ISLANDS**	13.08	195	T	T	23 23 07.3	
baz=17,slow=75,SNR=3686							
H04N3	**CROZET ISLANDS**	13.09	195	T	T	23 23 06.2	
baz=17,slow=75,SNR=3269							
OPO	**Ambohidratompo**	17.18	328	P	P	23 11 14.9	+1.3
3.6nm,0.8s,baz=130,slow=11,SNR=2.8							
BOSA	**Boshof**	27.25	272	LR	LR	23 22 42.5	
comp=Z,31nm,18.2s,baz=212,slow=34							
MATP	**Matopo**	28.17	291	LR	LR	23 23 20.6	
comp=Z,50nm,19.7s,baz=68,slow=34							
LBTB	**Lobatse**	28.29	279	LR	LR	23 22 02.3	
comp=Z,17nm,21.1s,baz=126,slow=32							
H08S1	**Diego Carcia H**	29.70	33	T	T	23 44 35.0	
baz=207,slow=76,SNR=85							
H08S2	**Diego Garcia H**	29.71	33	T	T	23 44 35.8	
baz=207,slow=76,SNR=33							
H08S3	**Diego Garcia H**	29.72	33	T	T	23 44 36.3	
baz=207,slow=76,SNR=65							
LSZ	**Lusaka**	31.50	298	LR	LR	23 24 06.5	
comp=Z,39nm,18.5s,baz=171,slow=32							
MAW	**Mawson**	34.24	176	LR	LR	23 23 42.2	
comp=Z,76nm,21.6s,baz=348,slow=29							
H01W2	**Cape Leeuwin H**	46.99	109	T	T	00 06 21.0	
baz=254,slow=75,SNR=8.3							
H01W3	**Cape Leeuwin H**	47.00	108	T	T	00 06 20.2	
baz=254,slow=75,SNR=9.2							
H01W1	**Cape Leeuwin H**	47.01	109	T	T	00 06 24.1	
baz=254,slow=75,SNR=7.4							
SNAA	**Sanae**	48.95	201	P	P	23 15 57.4	-0.2
1.7nm,0.9s,baz=27,slow=12,SNR=3.6							
1.7nm,0.9s							
QSPA	**South Pole Qui**	56.57	180	P	P	23 16 54.9	+0.7
3.1nm,1.0s,baz=263,slow=1.2,SNR=12							
QSPA				LR	LR	23 39 12.4	
comp=Z,32nm,18.5s,baz=268,slow=34							
3.1nm,1.0s							
VNDA	**Vanda**	60.66	166	LR	LR	23 42 04.5	
comp=Z,48nm,18.4s,baz=254,slow=34							
CMAR	**Chiang Mai Arr**	65.65	45	P	P	23 17 56.5	+0.3
0.9nm,0.3s,baz=227,slow=7.0,SNR=6.3							
CMAR				LR	LR	23 43 47.1	
comp=Z,12nm,18.0s,baz=175,slow=34							
0.9nm,0.3s							
ASAR	**Alice Springs**	67.16	104	P	P	23 18 06.3	+0.4
0.5nm,0.8s,baz=238,slow=6.8,SNR=5.3							
0.5nm,0.8s							
MMAI	**Mount Meron Ar**	69.20	341	LR	LR	23 45 14.8	
comp=Z,25nm,19.2s,baz=177,slow=33							
WRA	**Warramunga Arr**	69.29	101	P	P	23 18 19.2	-0.2
1.1nm,0.8s,baz=237,slow=5.4,SNR=5.9							
1.1nm,0.8s							
TORD	**Torodi Ar. Bea**	69.95	302	P	P	23 18 22.9	-0.5
0.9nm,0.9s,baz=120,slow=4.1,SNR=5.0							
0.9nm,0.9s							
GNI	**Garni**	74.20	351	LR	LR	23 48 40.6	
comp=Z,23nm,20.7s,baz=162,slow=34							
KURBB	**Kurchatov Arra**	86.07	14	P	P	23 19 52.3	+0.3
0.3nm,0.4s,baz=212,slow=5.3,SNR=4.4							
0.3nm,0.4s							
BVAR	**Borovoye Array**	87.10	8	P	P	23 19 55.4	-1.6
1.6nm,0.7s,baz=180,slow=7.4,SNR=4.1							
1.6nm,0.7s							
ILAR	**Eielson Array**	145.66	18	PKPbc	PKPdf	23 26 48.9	-0.4
0.9nm,0.6s,baz=310,slow=3.8,SNR=13							

*IDC **06** 23:10:39.6±5.5, 38°.26N×73°.17E, h94km±49km, mb3.4/7, mbtmp3.7/11, Error ellipse: s-maj=43.6km s-min=23.3km az=36.0*

*SOME **06** 23:10:40.6, 39°.28N×72°.60E, h5km*

*NNC **06** 23:10:46.3±4.7, 38°.84N×72°.87E, h200km±49km, mb2.6, mpv3.6, Error ellipse: s-maj=47.1km s-min=27.4km az=10.0*

ISC 06 23:10:42.7±1.4, 38°.5N±0°.1×72°.66E±0°.09, h100km, n30, σ1:80/33, mb3.7/6, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	3.95	20	P	Pn	23 11 42.0	+0.4
SNR=84							
EKS2	**Erkin-Say**	4.21	11	P	Pn	23 11 46.3	+1.5
SNR=64							
MRKS	**Merke**	4.22	6	*e*P	Pn	23 11 46.4	+1.4
14nm,0.2s							
MRKS				*e*S	Sn	23 12 33.4	+0.1
152nm,0.4s							
AAK	**Ala-Archa**	4.33	18	P	Pn	23 11 47.3	+0.9
29nm,0.4s,baz=174,slow=5.8,SNR=83							
AAK				S	Sn	23 12 37.0	+1.1
28nm,0.5s,baz=336,slow=23,SNR=21							
AAK	**Ala-Archa**	4.33	18	P	Pn	23 11 47.0	+0.5
SNR=51							
AAK	**Ala-Archa**	4.33	18	⇓P	Pn	23 11 47.2	+0.7
11nm,0.5s							
AAK				⇓S	Sn	23 12 37.9	+2.0
16nm,0.5s							
DZA	**Taraz**	4.47	347	*e*P	Pn	23 11 50.3	+2.1
14nm,0.1s							
DZA				*e*S	Sn	23 12 40.0	+1.0
120nm,0.3s							
KBK	**Karagaybulak**	4.47	22	P	Pn	23 11 49.1	+0.7
SNR=17							
ULHL	**Ulahol**	4.60	35	P	Pn	23 11 49.2	-1.0
SNR=50							
CHMS	**Chumysh**	4.73	19	P	Pn	23 11 52.6	+0.8
SNR=20							
KK31	**Karatay Array**	4.84	341	⇓P	Pn	23 11 56.0	+2.6
2.2nm,0.3s,baz=159,slow=13,SNR=29							
KK31				⇑S	Sn	23 12 50.4	+2.2
28nm,0.4s,baz=152,slow=23,SNR=16							
TKM2	**Tokmak 2**	4.91	26	P	Pn	23 11 54.5	+0.1
SNR=14							
USP	**Ospenovka**	4.92	16	P	Pn	23 11 55.2	+0.8
SNR=21							
BRLS	**Borolday**	4.97	335	*e*P	Pn	23 11 55.1	0.0
8.0nm,0.1s							
BRLS				*e*S	Sn	23 12 48.8	-2.6
24nm,0.1s							
KST	**Kastek**	5.15	28	*e*P	Pn	23 12 05.1	+7.5
3.4nm,0.7s							
KST				*e*S	Sn	23 13 05.6	+10
4.4nm,0.6s							
TNSS	**Tian-Shan**	5.55	35	*e*P	Pn	23 12 12.9	+10
1.6nm,0.3s							
TNSS				*e*S	Sn	23 13 19.2	+13
2.8nm,0.6s							
KOTS	**Kotyrbulak**	5.78	34	*e*P	Pn	23 12 16.3	+10
4.7nm,0.5s							
KOTS				*e*S	Sn	23 13 24.6	+14
11nm,0.7s							
MKAR	**Makanchi Array**	10.87	38	P	Pn	23 13 10.1	-5.0
0.4nm,0.6s,baz=216,slow=7.4,SNR=1.8							
KURBB	**Kurchatov Arra**	12.78	17	P	Pn	23 13 38.1	-2.4
0.3nm,0.2s,baz=208,slow=10,SNR=4.0							
AB31	**Akbulak array**	14.08	324	⇑P	Pn	23 13 57.0	-0.5
1.5nm,0.7s,baz=259,slow=37,SNR=20							
AB31				⇑S	Sn	23 16 32.2	-0.3
4.3nm,0.7s,baz=138,slow=25,SNR=13							
BVAR	**Borovoye Array**	14.57	355	P	P	23 14 07.2	-0.4
4.4nm,0.8s,baz=163,slow=10,SNR=11							
AKTO	**Aktyubinsk**	15.80	324	⇑P	Pn	23 14 16.0	-3.4
1.5nm,0.9s							
AKTO				⇑S	Sn	23 17 08.6	-5.3
2.0nm,0.8s							
ZALV	**Zalesovo Beam**	17.52	24	P	P	23 14 37.9	-2.2
10nm,0.6s,baz=214,slow=10,SNR=39							
AKASG	**Malin Array Be**	32.76	306	P	P	23 17 07.6	+1.7
0.2nm,0.3s,baz=82,slow=8.2,SNR=4.0							
0.2nm,0.3s							
FINES	**FINESS Array B**	36.57	324	P	P	23 17 40.0	+1.5
0.7nm,0.4s,baz=112,slow=9.3,SNR=9.4							
0.7nm,0.4s							
ARCES	**ARCESS Array B**	39.79	336

KBNM	Bluenose Ridge	1.14	111		Pn	23 17 52.7	-1.5
MNDO	Woodland Fire	1.18	147		Pn	23 17 52.4	-2.2
GTC	Three Chop Rid	1.20	139		Pn	23 17 53.0	-2.0
DCMP	DeCamp, Califo	1.27	131		Pn	23 17 53.8	-2.1
WEAV	Weaverville	1.29	70		Pn	23 17 54.2	-2.1
KOMM	Orleans Mounta	1.30	41		Pn	23 17 54.3	-2.0
LBPM	Beegum Peak	1.30	89		Pn	23 17 54.7	-1.7
KRMB	Red Mountain	1.32	22		Pn	23 17 54.3	-2.4
KRMB				IAML		23 18 10.4	
comp=N,294nm,0.3s							
O02D	Mt. Diablo Mer	1.38	95		Pn	23 17 56.2	-1.2
O02D	Mt. Diablo Mer	1.38	95		Pn	23 17 56.4	-1.0
O02D				IAML		23 18 29.0	
comp=N,323nm,0.9s							
O02D				IAML		23 18 36.8	
comp=E,113nm,1.2s							
GWRM	Wonder Ranch	1.47	138		Pn	23 17 56.8	-1.9
GHOM	Hamilton Openi	1.49	147		Pn	23 17 56.9	-2.1
GROM	Round Mountain	1.51	104		Pn	23 17 57.9	-1.4
GVV	Valley View	1.55	109		Pn	23 17 58.3	-1.6
N02D	Trinity Center	1.58	64		Pn	23 17 58.4	-1.7
N02D	Trinity Center	1.58	64		Pn	23 17 58.6	-1.5
N02D				IAML		23 18 19.9	
comp=N,220nm,0.3s							
N02D				IAML		23 18 23.4	
comp=E,284nm,0.3s							
KSXB	Camp Six Broad	1.61	19		Pn	23 17 58.4	-2.4
KSXB				IAML		23 18 19.4	
comp=N,202nm,0.5s							
SIGP	Signal Peak, C	1.61	14		Pn	23 17 58.0	-2.7
BONV	Boonville, CA	1.62	144		Pn	23 17 57.3	-3.4
LBKM	Bonanza King	1.65	61		Pn	23 17 59.5	-1.7
M02C	Callahan	1.70	50		Pn	23 18 00.0	-1.9
M02C	Callahan	1.70	50		Pn	23 18 00.3	-1.6
M02C				IAML		23 18 20.9	
comp=E,78nm,0.9s							
M02C				IAML		23 18 21.9	
comp=N,54nm,0.4s							
GSNM	Snow Mountain	1.73	141		Pn	23 18 00.5	-1.8
HOPS	Hopland Field	1.75	138		Pn	23 18 00.6	-1.8
HOPS	Hopland Field	1.75	138		Pn	23 18 00.8	-1.7
HOPS				IAML		23 18 55.0	
comp=N,37nm,1.0s							
HOPS				IAML		23 18 59.8	
comp=E,58nm,1.3s							
GALB	Galbreath Wild	1.77	144		Pn	23 18 00.5	-2.2
GHGM	Hogback Ridge	1.79	130		Pn	23 18 01.3	-1.8
GCK	Clark Valley	1.81	114		Pn	23 18 02.6	-0.8
LTCM	Tuscan Springs	1.88	92		Pn	23 18 03.5	-0.7
GPMM	Pine Mountain	1.93	139		Pn	23 18 03.3	-1.6
KBO	Bosley Butte	1.93	8	Pn	Pn	23 18 02.2	-2.7
L02F	Cave Junction	1.97	22	Pn	Pn	23 18 03.7	-1.8
L02F				IAML		23 18 26.8	
comp=E,155nm,0.4s							
LCSM	College of the	2.00	55		Pn	23 18 04.9	-1.0
LSHM	Sage Hen Hill	2.00	75		Pn	23 18 04.7	-1.2
GHCM	House Creek	2.00	147		Pn	23 18 04.0	-2.1
YBH	Yreka Blue Hor	2.01	44		Pn	23 18 04.5	-1.6
YBH	Yreka Blue Hor	2.01	44		Pn	23 18 04.7	-1.5
YBH				IAML		23 18 32.1	
comp=N,78nm,0.4s							
YBH				IAML		23 18 58.8	
comp=E,2.0nm,1.3s							
GDXM	Geysers	2.03	137		Pn	23 18 05.1	-1.3
LGBM	Gray Butte	2.09	59		Pn	23 18 06.7	-0.7
FTR	Fort Ross	2.09	148		Pn	23 18 05.2	-1.9
M03C	McCloud	2.10	62		Pn	23 18 06.5	-0.9
M03C				IAML		23 18 35.9	
comp=N,102nm,0.6s							
O03E	Paynes Creek	2.12	89		Pn	23 18 06.0	-1.7
O03E	Paynes Creek	2.12	89		Pn	23 18 06.3	-1.4
O03E				IAML		23 18 45.9	
comp=E,77nm,0.7s							
O03E				IAML		23 18 52.5	
comp=N,55nm,1.1s							
LDBM	Digger Butte	2.14	86		Pn	23 18 06.2	-1.7
MNRC	McLaughlin Min	2.18	130		Pn	23 18 07.1	-1.3
LMPM	Military Pass	2.18	56		Pn	23 18 08.4	-0.2
LHEM	Herd Peak	2.22	53		Pn	23 18 08.4	-0.8
B040	Montague	2.23	46		Pn	23 18 08.0	-1.2
B040	Montague	2.23	46		Pn	23 18 08.2	-1.0
LBFM	Black Fox Moun	2.29	62		Pn	23 18 09.4	-0.7
OSUM	Sutter Buttes	2.34	115		Pn	23 18 08.6	-2.0
LRDM	Redding Peak	2.39	85		Pn	23 18 10.7	-0.6
SUTB	Sutter Butte	2.41	116	Pn	Pn	23 18 10.1	-1.4
SUTB				IAML		23 18 44.2	
comp=E,62nm,0.5s							
SUTB				IAML		23 18 46.0	
comp=N,43nm,0.6s							
NTYM	Taylor	2.42	142		Pn	23 18 10.2	-1.5
HATC	Hat Creek Radi	2.43	77	Pn	Pn	23 18 10.7	-1.2
HATC					Pb	23 18 11.3	-5.0
HATC				IAML		23 19 16.9	
comp=N,96nm,1.3s							
HATC				IAML		23 19 19.7	
comp=E,90nm,2.0s							
LGMM	Garner Mountai	2.45	57		Pn	23 18 11.5	-0.8
ORV	Oroville	2.48	107		Pn	23 18 11.4	-1.1
K02D	Willamette Mer	2.49	16	Pn	Pn	23 18 11.1	-1.6
LTIM	Timbered Crate	2.50	69		Pn	23 18 11.9	-1.0
OAKV	Oakville Exper	2.52	137		Pn	23 18 11.5	-1.5
LBCM	Butte Creek Ri	2.52	77		Pn	23 18 12.3	-0.9
MCCM	Marconi Confer	2.53	148	Pn	Pn	23 18 11.4	-1.7
MCCM				IAML		23 18 43.1	
comp=E,41nm,0.8s							
MCCM				IAML		23 19 30.1	
comp=N,43nm,2.5s							
M04C	Macdoel	2.54	54		Pn	23 18 12.6	-0.9
LMHM	Little Mount H	2.55	59		Pn	23 18 12.7	-1.1
CVS	Carmenet Viney	2.56	139	Pn	Pn	23 18 11.2	-2.4
L04D	Klamath Falls	2.57	41		Pn	23 18 13.6	-0.3
L04D				IAML		23 18 46.3	
comp=E,101nm,0.7s							
L04D				IAML		23 18 46.4	
comp=N,86nm,0.5s							
KEBM	Edson Butte	2.57	4	Pn	Pn	23 18 09.5	-4.3
KEBM				IAML		23 18 52.3	
comp=E,72nm,2.1s							
KEBM				IAML		23 19 17.0	
comp=N,51nm,1.7s							
LASM	Arnica Sink	2.62	59		Pn	23 18 13.4	-1.2
FARB	Farallon Islan	2.88	154	Pn	Pn	23 18 16.1	-1.9
FARB				IAML		23 18 49.1	
comp=N,41nm,0.3s							
FARB				IAML		23 18 49.5	
comp=E,42nm,0.5s							
J01E	Myrtle Point	2.90	9	Pn	Pn	23 18 13.5	-4.7
J01E				IAML		23 18 53.6	
comp=E,47nm,0.3s							
J01E				IAML		23 18 55.0	
comp=N,38nm,0.3s							
BBOR	Butler Butte	2.95	28		Pn	23 18 18.9	-0.2
BBOR				IAML		23 18 56.2	
comp=E,37nm,0.5s							
BBOR				IAML		23 18 57.1	
comp=N,43nm,0.5s							
K04D	Chiloquin, OR	3.14	42	Pn	Pn	23 18 20.9	-0.8
BEKR	Beckworth	3.27	96	IAML		23 19 04.9	
comp=E,24nm,0.5s							
BEKR				IAML		23 19 06.8	
comp=N,25nm,0.9s							
JRSC	Jasper Ridge	3.42	147	Pn	Pn	23 18 22.9	-2.5
JRSC				IAML		23 20 19.7	
comp=N,35nm,2.8s							
JRSC				IAML		23 20 28.3	
comp=E,38nm,4.0s							
I03D	Drain, OR	3.51	15	Pn	Pn	23 18 25.6	-1.1
I03D				IAML		23 20 33.4	
comp=N,18nm,4.0s							
MOD	Modoc Plateau	3.60	62	Pn	Pn	23 18 27.1	-1.1
MOD				IAML		23 20 45.5	
comp=E,21nm,1.0s							
MOD				IAML		23 20 45.5	
comp=N,22nm,1.0s							
K05A	Summer Lake	3.68	48	IAML		23 19 49.2	
comp=N,21nm,3.7s							
K05A				IAML		23 20 11.4	
comp=E,15nm,4.9s							
MHC	Mount Hamilton	3.74	141		Pn	23 18 28.5	-1.5
MHC				IAML		23 19 19.5	
comp=N,17nm,3.9s							
MHC				IAML		23 19 37.1	
comp=E,15nm,3.6s							
I02E	Swisshome, OR	3.84	8	Pn	Pn	23 18 30.5	-0.7
I02E				IAML		23 19 45.1	
comp=N,26nm,2.7s							
I02E				IAML		23 20 43.5	
comp=E,26nm,4.5s							
J05D	Fort Rock, OR	3.89	39	IAML		23 19 13.6	
comp=N,16nm,4.9s							
J05D				IAML		23 20 34.1	
comp=E,18nm,4.3s							
PAHR	Pah Rah Range	4.04	97		Pn	23 18 32.8	-1.2
BUCK	Buck Mountain	4.07	16	Pn	Pn	23 18 33.5	-0.9
BUCK				IAML		23 20 05.6	
comp=E,25nm,3.0s							
BUCK				IAML		23 20 38.8	
comp=N,27nm,4.5s							
FORD	Fort Ord Natur	4.23	148	Pn	Pn	23 18 34.3	-2.2
WIFE	Three Sisters-	4.28	28	IAML		23 19 29.7	
comp=N,14nm,4.5s							
WIFE				IAML		23 20 23.8	
comp=E,15nm,4.6s							
SAO	San Andreas Ge	4.30	144	Pn	Pn	23 18 35.2	-2.4
WAKR	Walker	4.37	113	Pn	Pn	23 18 39.4	+0.7
COR	Corvallis	4.38	12	Pn	Pn	23 18 38.8	+0.2
COR				IAML		23 19 56.6	
comp=E,20nm,4.1s							
COR				IAML		23 20 31.8	
comp=E,22nm,2.5s							
PINE	Pine Mountain	4.42	37	IAML		23 19 15.6	
comp=N,13nm,4.4s							
PINE				IAML		23 19 20.9	
comp=E,10.0nm,4.4s							
H04D	Lebanon	4.43	17	Pn	Pn	23 18 38.0	-1.3
H04D				IAML		23 19 30.2	
comp=N,23nm,3.9s							
BBGB	Big Mountain B	4.64	142	Pn	Pn	23 18 40.0	-2.4

*NEIC **06** 23:19:08.7±0.7, 6°43S±0°08×148°89E±0°09, h73km±15km, mb4.1/11, Error ellipse: s-maj=13.5km s-min=11.3km az=105.0*

*IDC **06** 23:19:09.4±2.4, 6°30S×148°50E, h77km±18km, mb3.9/8, mbtmp4.2/10, MS3.3/11, Error ellipse: s-maj=32.2km s-min=15.2km az=108.0*

ISC 06 23:19:06.4±0.7, **6°48S**±0°07×**148°98E**±0°09, **h50**km, **n35**, σ1.9**77**/30, **mb4.1**/12, **MS3.4**/9, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.42	212		Pn	23 19 59.1	+1.8
PMG				Sn	Sn	23 20 38.8	+2.2
PMG	Port Moresby	3.42	212	P	Pn	23 19 58.4	+1.1
76nm,0.7s,baz=14,slow=6.1,SNR=14							
PMG				S	Sn	23 20 39.4	+2.8
577nm,0.6s,baz=96,slow=23,SNR=28							
PMG				LR	LR	23 21 18.2	
comp=Z,191nm,21.7s,baz=2.0,slow=38							
RABL	Rabaul	3.90	55	Pn	Pn	23 20 04.7	+0.9
MANU	Manus Island	4.69	340	Pn	Pn	23 20 18.4	+3.8
COEN	Coen	9.37	217	Pn	Pn	23 21 18.6	-0.3
HNR	Honiara	11.25	106	LR	LR	23 24 59.9	
comp=Z,94nm,20.6s,baz=338,slow=30							
MTN	Manton Dam	18.69	249		P	23 23 19.8	-0.8
EIDS	Eidsvold	18.89	174	P	P	23 23 23.5	+0.7
EIDS				IAmb	IAmb	23 23 32.7	
comp=Z,5.0nm,0.8s							
WB0	Warramunga Arr	19.37	226		P	23 23 27.7	-0.5
WR8	Warramunga Arr	19.42	225		P	23 23 28.3	-0.4
WR8				IAmb	IAmb	23 23 29.6	
comp=Z,10.0nm,0.9s							
WRAB	Tennant Creek	19.51	225	P	P	23 23 29.1	-0.5
WRAB				IAmb	IAmb	23 23 30.6	
comp=Z,9.8nm,0.8s							
WRA	Warramunga Arr	19.53	225	P	P	23 23 27.2	-2.6
WRA	Warramunga Arr	19.53	225	P	P	23 23 28.9	-1.0
comp=Z,8.8nm,0.6s,baz=51,slow=11,SNR=88							
WRA				S	S	23 26 57.1	-11
comp=Z,3.6nm,1.0s,baz=47,slow=22,SNR=8.6							
GUMO	Guam	20.35	348	LR	LR	23 31 16.4	
comp=Z,52nm,18.4s,baz=204,slow=36							
KNRA	Kununurra	21.82	244	P	P	23 23 52.1	-2.5
KNRA				IAmb	IAmb	23 23 54.0	
comp=Z,6.9nm,0.7s							
AS31	Alice Springs	22.41	219	P	P	23 23 59.0	-1.9
AS31				IAmb	IAmb	23 24 12.7	
comp=Z,3.8nm,0.6s							
ASAR	Alice Springs	22.41	219	P	P	23 24 00.1	-0.8
comp=Z,6.6nm,0.8s,baz=47,slow=9.7,SNR=46							
ASAR				S	S	23 28 01.2	-2.8
comp=Z,3.7nm,0.9s,baz=30,slow=24,SNR=8.9							
ASAR				LR	LR	23 33 09.4	
comp=Z,108nm,18.1s,baz=58,slow=38							
comp=Z,6.6nm,0.8s							
DZM	Mont Dzumac	22.91	134	P	P	23 24 07.2	+0.9
DZM				IAmb	IAmb	23 24 24.1	
comp=Z,9.7nm,1.0s							
BATI	Baumata	25.32	260	LR	LR	23 35 45.2	
comp=Z,109nm,19.1s,baz=103,slow=40							
FITZ	Fitzroy Crossi	25.52	241	P	P	23 24 29.0	-1.5
FITZ				IAmb	IAmb	23 24 31.5	
comp=Z,3.7nm,0.8s							
STKA	Stephens Creek	26.20	194	P	P	23 24 36.0	-0.4
STKA	Stephens Creek	26.20	194	P	P	23 24 36.8	+0.3
comp=Z,2.5nm,0.6s,baz=346,slow=12,SNR=6.6							
comp=Z,2.5nm,0.6s							
KAPI	Kappang	29.11	271	LR	LR	23 38 14.8	
comp=Z,38nm,18.1s,baz=81,slow=40							
MJAR	Matsushiro Arr	43.97	347	LR	LR	23 44 55.4	
comp=Z,46nm,18.3s,baz=166,slow=35							
SONM	Songino Array	65.79	330	LR	LR	23 56 13.4	
comp=Z,30nm,21.9s,baz=128,slow=34							
MA2	Magadan	65.86	1	LR	LR	00 01 32.6	
comp=Z,15nm,18.0s,baz=2.0,slow=39							
VNDA	Vanda	71.33	177	P	P	23 30 21.4	+1.0
comp=Z,3.9nm,0.7s,baz=330,slow=6.6,SNR=23							
comp=Z,3.9nm,0.7s							
MKAR	Makanchi Array	79.12	320	P	P	23 31 03.1	-2.7
comp=Z,0.2nm,0.4s,baz=100,slow=6.8,SNR=2.1							
comp=Z,0.2nm,0.4s							
ZALV	Zalesovo Beam	80.47	327	P	P	23 31 12.3	-0.5
comp=Z,0.5nm,0.4s,baz=126,slow=5.3,SNR=2.6							
ZALV				LR	LR	00 05 10.6	
comp=Z,24nm,21.8s,baz=94,slow=34							
comp=Z,0.5nm,0.4s							
MAW	Mawson	82.57	203	P	P	23 31 23.4	-0.3
comp=Z,1.6nm,0.8s,baz=82,slow=7.1,SNR=4.1							
comp=Z,1.6nm,0.8s							
KURBB	Kurchatov Arra	82.80	323	P	P	23 31 22.5	-2.7
comp=Z,0.6nm,0.2s,baz=111,slow=5.1,SNR=1.8							
comp=Z,0.6nm,0.2s							
QSPA	South Pole Qui	83.49	180	P	P	23 31 30.5	+1.8
comp=Z,4.1nm,0.7s,baz=2.7,slow=1.5,SNR=18							
comp=Z,4.1nm,0.7s							
PFO	Pinyon Flats O	97.34	57	LR	LR	00 09 19.5	
comp=Z,24nm,19.7s,baz=218,slow=31							
LPAZ	La Paz	136.87	122	PKP	PKPdf	23 38 25.5	+0.2
comp=Z,0.7nm,0.6s,baz=290,slow=4.6,SNR=3.6							
TORD	Torodi Ar. Bea	147.12	284	PKPbc	PKPdf	23 38 41.5	-1.3
comp=Z,2.3nm,0.5s,baz=65,slow=3.9,SNR=41							

*IDC **06** 23:28:17.1±0.9, 61°10N×147°32W, h0km, mb3.6/4, mbtmp3.5/6, ML3.3/2, MS3.8/1, Error ellipse: s-maj=24.2km s-min=11.6km az=98.0*

*NEIC **06** 23:28:19.2±1.5, 61°212N±0°009×147°73W±0°04, h21km±10km, Error ellipse: s-maj=3.0km s-min=0.5km az=67.0*

*AEIC **06** 23:28:19.8±1.6, 61°21N±0°02×147°74W±0°03, h12km±6km, ML3.4, ML3.6/196(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=210.0*

ISC 06 23:28:17.5±1.2, **61°18N**±0°02×**147°72W**±0°02, **h9**km±9km, **n128**, σ0.9**97**/118, **mb3.8**/5, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GLI	Glacier Island	0.42	134		Pn	23 28 28.7	-1.0
GLI				Sg	Sb	23 28 35.8	+2.2
GLI				IAML		23 28 36.6	
comp=E,6μm,0.6s							
GLI				IAML		23 28 37.3	
comp=N,8μm,0.6s							
KNK	Knik Glacier	0.43	304		Pb	23 28 28.2	+1.0
KNK				Sg	Sb	23 28 34.8	+1.0
PWL	Port Wells	0.44	224		Pb	23 28 28.0	+0.6
PWL				Sg	Sb	23 28 35.5	+1.5
PWL				IAML		23 28 36.4	
comp=E,5μm,0.3s							
M23K	Glacier View	0.62	360		Pb	23 28 30.9	+0.4
M23K					Sb	23 28 39.7	+0.4
SCM	Sheep Creek Mo	0.69	16		Pb	23 28 31.7	0.0
SCM				Sg	Sb	23 28 41.1	-0.1
SCM				IAML		23 28 48.3	
comp=E,2μm,0.8s							
SML	Sawmill	0.70	335		Pb	23 28 31.9	0.0
SML				Sg	Sb	23 28 41.1	-0.5
FID	Port Fidalgo	0.74	125		Pb	23 28 32.7	+0.2
FID				IAML		23 28 47.5	
comp=E,3μm,0.4s							
FID				IAML		23 28 47.7	
comp=N,2μm,0.4s							
FID	Port Fidalgo	0.74	125		Sn	23 28 44.5	-1.0
PMR	Palmer	0.80	302		Pg	23 28 33.4	+0.5
PMR				Sg	Sg	23 28 42.6	-0.7
PMR				IAML		23 28 44.5	
comp=E,3μm,0.5s							
PMR				IAML		23 28 44.5	
comp=N,2μm,0.7s							
GHO	Glory Hole Cre	0.83	317		Pb	23 28 34.0	-0.2
GHO				Sg	Sg	23 28 44.6	+0.2
KLU	Klutina	0.92	69		Pb	23 28 35.4	-0.3
KLU				IAML		23 28 52.2	
comp=N,1μm,0.6s							
KLU	Klutina	0.92	69		Sb	23 28 47.6	-0.4
DIV	Divide	0.94	92		Pb	23 28 35.5	-0.6
DIV				IAML		23 28 52.8	
comp=E,1μm,0.5s							
DIV				IAML		23 28 53.1	
comp=N,2μm,0.5s							
HIN	Hinchinbrook I	0.98	142		Pn	23 28 37.6	+0.2
HIN	Hinchinbrook I	0.98	142		Sn	23 28 52.6	+1.2
RC01	Rabbit Creek A	0.98	266		Pg	23 28 36.8	+0.4
RC01				IAML		23 28 52.8	
comp=N,2μm,0.4s							
RC01				IAML		23 28 53.4	
comp=E,2μm,0.4s							
EYAK	Cordova Ski Ar	1.15	122		Pn	23 28 40.2	+0.5
EYAK				IAML		23 28 58.4	
comp=N,1μm,0.9s							
M24K	Tolsona, Glenn	1.19	38		Pb	23 28 39.7	-0.5
M24K				IAML		23 28 57.2	
comp=E,777nm,0.8s							
M24K				IAML		23 29 08.9	
comp=N,853nm,0.7s							
P23K	Montague Islan	1.19	172		Pn	23 28 40.9	+0.6
O22K	Cooper Landing	1.20	236		Pg	23 28 39.9	-0.7
O22K	Cooper Landing	1.20	236		Sg	23 28 55.4	-0.9
FIS	Fire Island	1.21	270		Pg	23 28 41.1	+0.3
M22K	Willow	1.29	298		Sb	23 28 59.7	+1.2
M22K	Willow	1.29	298	Pn	Pn	23 28 41.1	-0.5
SEW	Seward	1.37	219		Pn	23 28 42.3	-0.5
SEW	Seward	1.37	219		Sb	23 29 01.7	+0.8
SEW				IAML		23 29 02.2	
comp=N,998nm,0.4s							
SEW				IAML		23 29 02.4	
comp=E,842nm,0.5s							
SLKM	Skilak Lake	1.40	242		Pn	23 28 43.2	0.0
SLKM					Sb	23 29 01.6	0.0
SUA	Susitna One	1.49	283	IAML		23 29 05.0	
comp=E,634nm,0.8s							
SUA				IAML		23 29 05.0	
comp=N,857nm,0.8s							
BMRM	Bremner River	1.53	96		Pn	23 28 44.8	-0.1
BMRM				IAML		23 29 06.0	
comp=E,926nm,1.0s							
BMRM				IAML		23 29 06.5	
comp=N,1μm,0.9s							
N25K	Chitina, Valde	1.56	73		Pn	23 28 45.3	-0.2
N25K				IAML		23 29 07.0	
comp=E,577nm,0.6s							
N25K				IAML		23 29 07.2	
comp=N,766nm,0.5s							
WAT1	Susitna Watana	1.71	347		Pn	23 28 46.9	-0.6
HARP	HAARP	1.73	44		Pn	23 28 48.2	+0.5
WAT7	Susitna Watana	1.75	343		Pn	23 28 47.4	-0.6
WACK	Wrangell Chich	1.81	62		Pn	23 28 49.4	+0.3
MID	Middleton Isla	1.88	158	Pn	Pb	23 28 51.4	-0.6
MID				IAML		23 29 24.6	
comp=N,580nm,1.0s							
MID				IAML		23 29 42.4	
comp=E,439nm,1.0s							
GLB	Gilahina Butte	1.91	80		Pn	23 28 50.3	+0.1
GLB				IAML		23 29 15.6	
comp=N,646nm,0.9s							
GLB				IAML		23 29 16.3	
comp=E,639nm,0.8s							
DHY	Denali Highway	1.91	5		Pn	23 28 50.2	-0.1
SKT	Skwentna	2.00	296		Pn	23 28 51.1	-0.2
SKT				IAML		23 29 22.0	
comp=E,570nm,0.3s							
STLK	Strandline Lak	2.01	281		Pn	23 28 52.0	+0.4
STLK				IAML		23 29 18.2	
comp=E,650nm,0.7s							
STLK				IAML		23 29 18.2	
comp=N,618nm,0.5s							
KAIM	Kayak Island	2.06	126		Pn	23 28 52.6	+0.5
VRDI	Verde Repeater	2.07	87		Pn	23 28 52.6	+0.1
VRDI				IAML		23 29 24.5	
comp=N,332nm,1.0s							
PAX	Paxson	2.09	29		Pn	23 28 53.4	+0.7
SPU	Mount Spurr	2.10	272		Pn	23 28 52.9	+0.1
BRLK	Bradley Lake	2.11	229		Pn	23 28 53.3	+0.3
BRLK				IAML		23 29 26.3	
comp=N,308nm,0.7s							
SUCK	Suckling Hills	2.24	118		Pn	23 28 54.6	-0.1
SUCK				IAML		23 29 41.4	
comp=N,276nm,0.9s							
MCARA	McCarthy VSAT	2.28	83		Pn	23 28 56.0	+0.8
MCARA				IAML		23 29 35.1	
comp=N,525nm,0.8s							
RND	Reindeer	2.30	347		Pn	23 28 55.8	+0.2
RND				IAML		23 29 28.7	
comp=N,281nm,0.8s							
CNPM	China Poot	2.41	228		Pn	23 28 58.0	+1.0
CNPM				IAML		23 29 34.6	
comp=N,190nm,0.6s							
CNPM				IAML		23 29 38.3	
comp=E,288nm,1.0s							
TGL	Tana Glacier	2.42	98	IAML		23 29 34.4	
comp=E,405nm,0.6s							
TGL				IAML		23 29 40.6	
comp=N,403nm,0.8s							
HOM	Homer	2.47	234	Pn	Pn	23 28 58.5	+0.7
WAX	Waxell Ridge	2.49	105	IAML		23 29 43.7	
comp=E,256nm,0.6s							
RDJH	Redoubt Jeurge	2.56	259		Pn	23 28 59.1	-0.1
TRF	Thorofare Moun	2.58	333	IAML		23 29 37.1	
comp=N,206nm,0.6s							
TRF				IAML		23 29 42.8	
comp=E,234nm,0.8s							
MENT	Mentasta	2.58	45		Pb	23 29 01.7	-2.3
MENT				IAML		23 29 48.1	
comp=E,260nm,1.0s							
MENT				IAML		23 29 49.1	
comp=N,355nm,0.7s							
MCK	McKinley	2.63	348		Pn	23 29 00.7	+0.6
MCK				IAML		23 29 39.6	
comp=E,231nm,0.5s							
MCK				IAML		23 29 40.9	
comp=N,308nm,0.9s							
O20K	Slope Mountain	2.66	248		Pn	23 29 00.9	+0.4
ISLE	Juniper Island	2.69	100		Pn	23 29 01.2	+0.2
ISLE				IAML		23 29 55.2	
comp=E,277nm,0.8s							
P

BARN				IAML		23 29 54.4	
	comp=N,121nm,0.7s						
BARN				IAML		23 29 57.6	
	comp=E,132nm,0.9s						
GRNC	**Granite Creek**	**2.94**	**96**	IAML		23 29 59.5	
	comp=N,205nm,0.8s						
DOT	**Dot Lake**	**3.01**	**33**		**Pn**	**23 29 07.5**	**+2.1**
MESA	**MESA**	**3.01**	**107**		**Pn**	**23 29 06.0**	**+0.6**
MESA				IAML		23 29 57.7	
	comp=E,214nm,0.7s						
MESA				IAML		23 30 01.2	
	comp=N,202nm,0.7s						
YAH	**Yahtse**	**3.04**	**103**		**Pn**	**23 29 06.3**	**+0.4**
YAH				IAML		23 29 56.9	
	comp=E,147nm,0.7s						
YAH				IAML		23 30 00.3	
	comp=N,177nm,0.8s						
CTGM	**Chitina Glacie**	**3.11**	**91**		**Pn**	**23 29 07.5**	**+0.7**
BWN	**Browne**	**3.11**	**346**	Pn	**Pn**	**23 29 06.9**	**+0.2**
P19K	**Oil Pt**	**3.13**	**243**	Pn	**Pn**	**23 29 07.9**	**+0.9**
P19K				IAML		23 29 58.8	
	comp=E,262nm,0.7s						
RKAV	**Rock Avalanche**	**3.25**	**103**		**Pn**	**23 29 09.4**	**+0.6**
HDA	**Harding Lake**	**3.27**	**6**		**Pn**	**23 29 09.3**	**+0.5**
HDA	**Harding Lake**	**3.27**	**6**	IAML		23 29 57.5	
	comp=N,131nm,0.5s						
HDA				IAML		23 30 02.7	
	comp=E,133nm,0.6s						
LOGN	**Logan Glacier**	**3.29**	**93**		**Pn**	**23 29 09.6**	**+0.4**
LOGN	**Logan Glacier**	**3.29**	**93**	IAML		23 30 02.1	
	comp=E,108nm,1.2s						
LOGN				IAML		23 30 05.6	
	comp=N,106nm,0.9s						
BPAW	**Bear Paw Mtn.**	**3.30**	**334**	IAML		23 30 03.3	
	comp=N,98nm,0.9s						
TABL	**Table Mountain**	**3.31**	**100**		**Pn**	**23 29 10.1**	**+0.6**
TABL				IAML		23 30 01.9	
	comp=N,115nm,0.9s						
TABL				IAML		23 30 16.1	
	comp=E,101nm,1.0s						
WRH	**Wood River Hil**	**3.31**	**357**	IAML		23 30 02.4	
	comp=N,103nm,0.7s						
WRH				IAML		23 30 05.5	
	comp=E,102nm,0.6s						
BCAR	**Beaver Creek A**	**3.37**	**53**		**Pn**	**23 29 11.0**	**+0.7**
O19K	**Port Alsworth**	**3.39**	**256**		**Pn**	**23 29 11.6**	**+1.1**
CHX	**Chaix Hills**	**3.44**	**106**		**Pn**	**23 29 12.9**	**+1.6**
CCB	**Clear Creek Bu**	**3.48**	**359**	IAML		23 29 59.2	
	comp=E,83nm,0.5s						
NEA2	**Nenana**	**3.49**	**350**	IAML		23 29 58.2	
	comp=E,183nm,0.7s						
NEA2				IAML		23 30 06.7	
	comp=N,107nm,0.9s						
SYI	**Shuyak Island**	**3.49**	**224**	Pn	**Pn**	**23 29 12.4**	**+0.5**
SYI				IAML		23 30 12.9	
	comp=E,92nm,1.0s						
SYI				IAML		23 30 15.1	
	comp=N,76nm,0.9s						
SAMH	**Samovar Hills**	**3.57**	**104**		**Pn**	**23 29 14.0**	**+0.9**
ILAR	**Eielson Array**	**3.63**	**6**	Pn	**Pn**	**23 29 13.4**	**-0.4**
	comp=N,1.6nm,0.3s,baz=186,slow=13,SNR=47						
ILAR				Sn	**Sn**	**23 29 56.4**	**-0.3**
	comp=N,5.1nm,0.3s,baz=198,slow=23,SNR=6.3						
	comp=N,2.8nm,0.4s						
O28M	**Mount Upton**	**3.69**	**93**		**Pn**	**23 29 15.4**	**+0.5**
O28M	**Mount Upton**	**3.69**	**93**	IAML		23 30 22.6	
	comp=N,110nm,0.8s						
COLA	**College**	**3.71**	**359**		**Pn**	**23 29 15.1**	**+0.2**
Q19K	**Cape Douglas,**	**3.73**	**235**		**Pn**	**23 29 15.9**	**+0.7**
PCA	**Pinnacle**	**3.83**	**103**	Pn	**Pn**	**23 29 17.6**	**+1.0**
POKR	**Poker Plat Res**	**3.96**	**2**		**Pn**	**23 29 18.0**	**-0.3**
POKR				IAML		23 30 27.2	
	comp=E,56nm,1.1s						
I23K	**Minto, Yukon-K**	**4.06**	**350**	IAML		23 30 27.4	
	comp=N,95nm,0.9s						
I23K				IAML		23 30 29.3	
	comp=E,57nm,0.9s						
P18K	**Big Mountain,**	**4.14**	**248**	Pn	**Pn**	**23 29 21.6**	**+0.7**
BCPM	**Bancas Point**	**4.17**	**104**		**Pn**	**23 29 21.5**	**+0.2**
BCPM				IAML		23 30 36.9	
	comp=E,67nm,1.1s						
BCPM				IAML		23 30 43.7	
	comp=N,70nm,1.2s						
KDAK	**Kodiak Island**	**4.21**	**218**	Pn	**Pn**	**23 29 20.4**	**-1.4**
KDAK				IAML		23 30 35.7	
	comp=N,70nm,0.9s						
KDAK				IAML		23 30 47.0	
	comp=N,44nm,0.8s						
KDAK	**Kodiak Island**	**4.21**	**218**	Pn	**Pn**	**23 29 21.0**	**-0.7**
	comp=N,2.4nm,0.3s,baz=30,slow=6.6,SNR=35						
KDAK				Sn	**Sn**	**23 30 07.3**	**-3.7**
	comp=N,5.4nm,0.3s,baz=3.2,slow=5.5,SNR=11						
	comp=N,8.2nm,0.4s						
PRP	**Porcupine Dome**	**4.47**	**12**		**Pn**	**23 29 27.8**	**+2.3**
PRP				IAML		23 30 21.5	
	comp=E,83nm,0.8s						
PRP				IAML		23 30 41.0	
	comp=N,58nm,0.7s						
O29M	**Mount Kennedy**	**4.57**	**97**	IAML		23 30 40.1	
	comp=N,42nm,0.7s						
O29M				IAML		23 30 41.4	
	comp=E,53nm,1.0s						
N17K	**Nushagak Hills**	**4.68**	**266**		**Pn**	**23 29 27.1**	**-1.0**
N17K				IAML		23 30 42.0	
	comp=N,41nm,0.7s						
EGAK	**Eagle**	**4.69**	**37**		**Pn**	**23 29 29.1**	**+0.7**
EGAK				IAML		23 30 59.0	
	comp=N,38nm,0.9s						
EGAK				IAML		23 32 29.8	
	comp=N,70nm,0.1s						
M17K	**Holitna River**	**4.69**	**277**	IAML		23 30 46.5	
	comp=N,70nm,0.8s						
I20K	**Naaghedeneel**	**4.76**	**323**		**Pn**	**23 29 28.8**	**-0.6**
J18K	**Innoko River**	**4.78**	**303**		**Pn**	**23 29 28.5**	**-1.1**
DAWY	**Dawson**	**4.81**	**49**		**Pn**	**23 29 32.9**	**+2.8**
ACHA	**Angle Creek He**	**4.87**	**236**	Pn	**Pn**	**23 29 30.7**	**-0.1**
L29M	**L29M**	**4.90**	**63**	IAML		23 30 58.5	
	comp=N,27nm,0.8s						
L29M				IAML		23 31 00.1	
	comp=E,26nm,1.0s						
HYT	**Haines Junctio**	**4.99**	**90**		**Pn**	**23 29 33.2**	**+0.7**
HYT	**Haines Junctio**	**4.99**	**90**	IAML		23 31 02.6	
	comp=N,32nm,1.1s						
N30M	**Aishkik Lake**	**5.13**	**82**		**Pn**	**23 29 34.0**	**-0.4**
L17K	**Donlin**	**5.13**	**285**		**Pn**	**23 29 33.1**	**-1.3**
P29M	**Windy Craggy**	**5.18**	**103**		**Pn**	**23 29 34.7**	**-0.5**
P29M	**Windy Craggy**	**5.18**	**103**	IAML		23 31 03.2	
	comp=N,31nm,0.7s						
K17K	**Iditarod**	**5.23**	**292**	IAML		23 31 12.7	
	comp=N,28nm,1.2s						
K17K				IAML		23 31 21.0	
	comp=E,32nm,0.9s						
G25K	**Bearman Lake**	**5.66**	**7**		**Pn**	**23 29 40.9**	**-0.6**
G21K	**Allakaket**	**5.94**	**337**		**Pn**	**23 29 45.6**	**+0.1**
F25K	**Christian Rive**	**6.51**	**7**		**Pn**	**23 29 54.4**	**+1.1**
F26K	**Sheenjek River**	**6.72**	**12**		**Pn**	**23 29 56.0**	**-0.3**
F19K	**Shaleruckik Mo**	**7.19**	**326**		**Pn**	**23 30 02.3**	**-0.2**
DLBC	**Dease Lake**	**9.32**	**99**	LR	LR	23 34 35.3	
	comp=E,612nm,20.9s,baz=208,slow=42						
NVAR	**Mina Array Bea**	**29.19**	**128**	P	**P**	**23 34 19.8**	**+0.6**
	comp=E,0.6nm,0.6s,baz=333,slow=12,SNR=5.0						
	comp=E,0.6nm,0.6s						
TXAR	**Lajitas Array**	**43.07**	**117**	P	**P**	**23 36 16.2**	**-1.4**
	comp=E,0.2nm,0.6s,baz=335,slow=8.6,SNR=3.5						
	comp=E,0.2nm,0.6s						
FINES	**FINESS Array B**	**57.61**	**4**	P	**P**	**23 38 04.4**	**-2.6**
	comp=E,0.6nm,0.6s,baz=359,slow=8.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**62.56**	**329**	P	**P**	**23 38 44.0**	**+2.9**
	comp=E,0.2nm,0.2s,baz=8.0,slow=8.7,SNR=4.5						
	comp=E,0.2nm,0.2s						
GERES	**GERESS Array B**	**69.31**	**13**	P	**P**	**23 39 25.9**	**+1.2**
	comp=E,0.5nm,0.6s,baz=327,slow=7.0,SNR=3.4						
	comp=E,0.5nm,0.6s						
QSPA	**South Pole Qui**	**150.99**	**180**	PKPbc	**PKPbc**	**23 48 08.4**	**-0.5**
	comp=E,1.6nm,0.7s,baz=26,slow=3.0,SNR=14						

*NEIC **07** 00:09:59.1±2.0, 40°.24N±0°.02×124°.91W±0°.04, h10km±2km, Error ellipse: s-maj=5.3km s-min=3.7km az=84.0*

NCEDC 07 00:10:03.1±2.7, 40°.31N±0°.03×124°.61W±0°.06, h19km±3km, ML2.9/58, ML2.7/77(NEIC), Error ellipse: s-maj=6.1km s-min=4.5km az=79.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**0.21**	**96**		Pg	00 10 08.6	+0.4
PETL					Sg	00 10 13.2	+1.5
KCTM	**Capetown**	**0.27**	**52**		Pb	00 10 10.0	+0.7
KCTM					Sb	00 10 15.4	+2.1
FER	**Ferndale**	**0.38**	**45**		Pb	00 10 11.7	+0.4
FER					Sn	00 10 18.8	-1.6
KMPM	**Mount Pierce**	**0.39**	**74**		Pb	00 10 11.6	0.0
KMPM				Sg	Sb	00 10 18.0	+0.7
BRIC	**Briceland Vine**	**0.58**	**110**		Pb	00 10 14.7	0.0
BRIC				Sg	Sg	00 10 23.6	+1.1
JCC	**Jacoby Creek,**	**0.67**	**41**		Pb	00 10 15.3	-1.0
KMRM	**Mail Ridge**	**0.70**	**97**		Pb	00 10 16.6	-0.1
KMRM					Sn	00 10 27.3	-1.1
DMOR	**Dinsmores, CA**	**0.80**	**60**		Pb	00 10 17.7	-0.8
KBSM	**Bell Springs**	**0.87**	**116**		Pb	00 10 18.8	-1.0
KHMM	**Horse Mountain**	**0.88**	**50**		Pb	00 10 18.7	-1.1
KHMM				IAML		00 10 30.7	
	comp=N,379nm,0.3s						
KHMM				IAML		00 10 44.4	
	comp=E,283nm,0.9s						
KRPM	**Rodgers**	**0.96**	**28**		Pb	00 10 19.5	-1.7
KRPM				IAML		00 10 46.1	
	comp=N,233nm,0.6s						
KRPM				IAML		00 10 50.8	
	comp=E,205nm,1.4s						
KIPM	**Iron Peak**	**1.00**	**120**		Pb	00 10 20.6	-1.3
KCPM	**Cahto Peak**	**1.01**	**128**		Pb	00 10 20.6	-1.5
KHBM	**Hayfork Bally**	**1.12**	**71**		Pb	00 10 22.1	-1.8
KHBM				IAML		00 10 42.2	
	comp=N,229nm,0.5s						
KHBM				IAML		00 10 43.6	
	comp=E,174nm,0.5s						
DCMP	**DeCamp, Califo**	**1.29**	**130**	Pn	Pn	00 10 24.4	-1.8
KOMM	**Orleans Mounta**	**1.31**	**42**		Pn	00 10 24.7	-1.8
WEAV	**Weaverville**	**1.31**	**70**		Pn	00 10 24.6	-1.9
KRMB	**Red Mountain**	**1.32**	**24**		Pn	00 10 24.7	-2.1
KRMB				IAML		00 10 40.7	
	comp=N,144nm,0.3s						
LBPM	**Beegum Peak**	**1.32**	**89**		Pn	00 10 25.2	-1.5
O02D	**Mt. Diablo Mer**	**1.40**	**95**		Pn	00 10 26.7	-1.1
O02D	**Mt. Diablo Mer**	**1.40**	**95**	Pn	Pn	00 10 26.5	-1.3
O02D				IAML		00 10 59.4	
	comp=N,152nm,0.9s						
O02D				IAML		00 11 07.2	
	comp=E,56nm,1.1s						
GWRM	**Wonder Ranch**	**1.50**	**137**		Pn	00 10 27.2	-1.8
GHOM	**Hamilton Openi**	**1.51**	**146**		Pn	00 10 27.2	-2.1
GROM	**Round Mountain**	**1.54**	**104**		Pn	00 10 28.6	-1.1
GVV	**Valley View**	**1.58**	**109**		Pn	00 10 28.7	-1.6
N02D	**Trinity Center**	**1.59**	**65**		Pn	00 10 28.8	-1.6
N02D				IAML		00 10 50.5	
	comp=N,103nm,0.4s						
N02D				IAML		00 10 53.8	
	comp=E,145nm,0.3s						
SIGP	**Signal Peak, C**	**1.61**	**15**		Pn	00 10 28.3	-2.3
KSXB	**Camp Six Broad**	**1.62**	**20**		Pn	00 10 28.6	-2.1
KSXB				IAML		00 10 49.8	
	comp=N,95nm,0.5s						
BONV	**Boonville, CA**	**1.64**	**143**		Pn	00 10 29.1	-1.9
M02C	**Callahan**	**1.72**	**50**		Pn	00 10 30.5	-1.6
HOPS	**Hopland Field**	**1.77**	**137**		Pn	00 10 31.0	-1.8
HOPS	**Hopland Field**	**1.77**	**137**		Pn	00 10 31.1	-1.7
HOPS				IAML		00 11 13.3	
	comp=N,33nm,2.0s						
HOPS				IAML		00 11 18.3	
	comp=E,26nm,2.1s						
GALB	**Galbreath Wild**	**1.79**	**144**		Pn	00 10 30.9	-2.1
GHGM	**Hogback Ridge**	**1.81**	**130**		Pn	00 10 31.9	-1.5
KBO	**Bosley Butte**	**1.92**	**9**	Pn	Pn	00 10 33.8	-1.1
GPMM	**Pine Mountain**	**1.95**	**138**		Pn	00 10 33.6	-1.6
L02F	**Cave Junction**	**1.97**	**23**	Pn	Pn	00 10 34.1	-1.5
L02F				IAML		00 10 57.2	
	comp=E,75nm,0.4s						
LCSM	**College of the**	**2.01**	**56**		Pn	00 10 35.1	-1.1
YBH	**Yreka Blue Hor**	**2.02**	**45**		Pn	00 10 34.9	-1.5
YBH	**Yreka Blue Hor**	**2.02**	**45**		Pn	00 10 35.0	-1.4
YBH				IAML		00 10 58.2	
	comp=E,2.2nm,1.2s						
YBH				IAML		00 11 02.5	
	comp=N,50nm,0.4s						
GHCM	**House Creek**	**2.02**	**147**		Pn	00 10 34.5	-1.8
LGBM	**Gray Butte**	**2.11**	**60**		Pn	00 10 37.0	-0.6
FTR	**Fort Ross**	**2.11**	**147**		Pn	00 10 35.6	-1.9
M03C	**McCloud**	**2.12**	**62**		Pn	00 10 37.1	-0.6
M03C				IAML		00 11 06.3	
	comp=N,51nm,0.6s						
M03C				IAML		00 11 06.5	
	comp=E,82nm,0.7s						
O03E	**Paynes Creek**	**2.15**	**90**		Pn	00 10 36.5	-1.5
O03E	**Paynes Creek**	**2.15**	**90**		Pn	00 10 36.8	-1.3
O03E				IAML		00 11 16.3	
	comp=E,33nm,0.7s						
O03E				IAML		00 11 31.1	
	comp=N,25nm,1.2s						
LDBM	**Digger Butte**	**2.16**	**86**		Pn	00 10 36.8	-1.5
LMPM	**Military Pass**	**2.20**	**57**		Pn	00 10 38.8	-0.1
MNRC	**McLaughlin Min**	**2.20**	**130**	Pn	Pn	00 10 36.9	-1.9
LHEM	**Herd Peak**	**2.24**	**53**		Pn	00 10 38.8	-0.6
B040	**Montague**	**2.25**	**47**		Pn	00 10 38.5	-0.9
B040	**Montague**	**2.25**	**47**		Pn	00 10 38.4	-1.0
LBFM	**Black Fox Moun**	**2.31**	**62**		Pn	00 10 40.0	-0.4
LCMM	**Colby Mountain**	**2.37**	**93**		Pn	00 10 40.2	-1.0
LRDM	**Redding Peak**	**2.41**	**85**		Pn	00 10 41.1	-0.6
HATC	**Hat Creek Radi**	**2.45**	**77**	Pn	Pn	00 10 41.4	-0.9
HATC				IAML		00 11 48.1	
	comp=N,47nm,1.5s						
HATC				IAML		00 11 50.0	
	comp=E,42nm,1.6s						
K02D	**Willamette Mer**	**2.49**	**16**		Pn	00 10 41.5	-1.2
ORV	**Oroville**	**2.51**	**107**		Pn	00 10 42.3	-0.6
MCCM	**Marconi Confer**	**2.55**	**148**	Pn	Pn	00 10 41.7	-1.7
MCCM				IAML		00 11 27.7	
	comp=N,39nm,2.6s						
MCCM				IAML		00 11 56.5	
	comp=E,35nm,2.7s						
KEBM	**Edson Butte**	**2.57**	**5**	Pn	Pn	00 10 43.7	-0.1
KEBM				IAML		00 11 28.8	
	comp=N,46nm,3.0s						
KEBM				IAML		00 11 36.1	
	comp=E,53nm,2.4s						
CVS	**Carmenet Viney**	**2.58**	**139**	Pn	Pn	00 10 42.9	-1.0
CVS				IAML		00 11 23.8	
	comp=N,25nm,2.4s						
L04D	**Klamath Falls**	**2.58**	**42**		Pn	00 10 44.1	0.0
L04D				IAML		00 11 16.7	
	comp=E,48nm,0.7s						
L04D				IAML		00 11 16.8	
	comp=N,45nm,0.5s						
NPRM	**Point Reyes**	**2.62**	**151**		Pn	00 10 42.3	-2.2
LASM	**Arnica Sink**	**2.63**	**60**		Pn	00 10 43.7	-1.1
KPK	**Kanaka Peak**	**2.64**	**105**		Pn	00 10 43.7	-1.1
FARB	**Farallon Islan**	**2.90**	**154**	Pn	Pn	00 10 46.6	-1.6
FARB				IAML		00 11 29.9	
	comp=N,27nm,3.0s						
FARB				IAML		00 11 32.7	
	comp=E,26nm,2.3s						
BBOR	**Butler Butte**	**2.95**	**29**		Pn	00 10 49.2	0.0
BBOR				IAML		00 11 26.6	
	comp=E,18nm,0.5s						
BBOR				IAML		00 11 27.8	
	comp=N,18nm,0.5s						
K04D	**Chiloquin, OR**	**3.15**	**42**	Pn	Pn	00 10 50.9	-1.0
K04D				IAML		00 11 58.2	
	comp=E,30nm,1.3s						
BEKR	**Beckworth**	**3.29**	**96**		Pn	00 10 54.0	+0.1
J04A	**Umpqua Nationa**	**3.48**	**32**		Pn	00 10 55.5	-0.9
K05A	**Summer Lake**	**3.69**	**48**	IAML		00 11 26.4	
	comp=N,15nm,4.3s						
K05A				IAML		00 12 46.6	
	comp=E,13nm,4.7s						
J05D	**Fort Rock, OR**	**3.90**	**39**	IAML		00 11 31.2	
	comp=E,11nm,4.9s						
J05D				IAML		00 11 48.7	
	comp=N,14nm,4.9s						
WIFE	**Three Sisters-**	**4.28**	**28**	Pn	Pn	00 11 07.5	0.0
WIFE				IAML		00 13 57.7	
	comp=N,11nm,3.0s						

*IDC **07** 00:11:41.5±3.5, 24°.74S×179°.69E, h490km±35km, mb3.0/5, mbtmp3.9/5, Error ellipse: s-maj=31.3km s-min=22.2km az=34.0*

ISC 07 00:11:42.1±1.0, 24°.8S±0°.2×179°.9E±0°.2, h500km, n10, σ1§96/11, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.63**	**280**	P	**P**	**00 14 29.6**	**+2.0**
	4.7nm,0.7s,baz=148,slow=15,SNR=6.3						
ASAR	**Alice Springs**	**41.78**	**262**	P	**P**	**00 18 46.1**	**-1.4**
	1.0nm,0.6s,baz=93,slow=8.1,SNR=9.7						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**00 18 49.9**	**-1.2**
	2.2nm,0.6s,baz=103,slow=8.0,SNR=19						
WRA				ScP	**ScP**	**00 23 36.9**	**+0.3**
	0.6nm,0.8s,baz=106,slow=3.4,SNR=5.3						
	2.2nm,0.6s						
VNDA	**Vanda**	**53.44**	**185**	P	**P**	**00 20 13.6**	**-0.6**
	0.3nm,0.7s,baz=8.2,slow=7.6,SNR=1.9						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**65.25**	**180**	P	**P**	**00 21 35.0**	**+1.4**
	1.6nm,0.7s,baz=19,slow=5.6,SNR=12						
	1.6nm,0.7s						
TXAR	**Lajitas Array**	**91.02**	**58**	P	**P**	**00 23 54.7**	**+1.7**
	0.4nm,0.7s,baz=202,slow=6.2,SNR=5.4						
	0.4nm,0.7s						
NB2	**NORSAR Subarra**	**142.98**	**351**	PKP	**PKPdf**	**00 30 15.1**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=21,slow=3.8						
NOA	**NORSAR Array B**	**142.98**	**351**	PKP	**PKPdf**	**00 30 15.8**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=359,slow=2.9,SNR=3.8						
HFS	**Hagfors**	**143.43**	**348**	PKP	**PKPdf**	**00 30 16.7**	**-2.1**
	comp=Z,2.8nm,0.6s,baz=57,slow=5.3,SNR=15						
MMAI	**Mount Meron Ar**	**147.97**	**293**	PKPbc	**PKiKP**	**00 30 32.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=65,slow=11,SNR=1.5						

*IDC **07** 00:16:52.4±0.3, 59°.60S×25°.95W, h0km, mb4.9/18, mbtmp4.9/20, ML5.1/2, MS4.4/32, Error ellipse: s-maj=15.8km s-min=11.7km az=50.0*

*MOS **07** 00:16:55.6±1.0, 59°.72S×26°.22W, h26km, mb5.4/21, Error ellipse: s-maj=20.5km s-min=9.4km az=107.3*

*NEIC **07** 00:16:58.5±1.6, 59°.78S±0°.08×26°.3W±0°.2, h35km±1km, mb5.3/136, Error ellipse: s-maj=14.9km s-min=12.5km az=222.0*

*BJI **07** 00:16:59.0, 59°.80S×26°.10W, h40km, Ms5.0/2, Ms7 4.7/4*

*GCMT **07** 00:17:00.5±0.2, 60°.01S±0°.01×25°.58W±0°.02, h34km, MW5.2/122, Moment Tensor Solution. s89, c123; s122, c185; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}4.74±.17; $M_{\theta\theta}$-3.98±.12; $M_{\phi\phi}$-0.75±.13; $M_{r\theta}$3.83±.16; $M_{\theta\phi}$3.22±.08; $M_{\phi r}$0.39±.16; Best double couple: $M_0$6.67500×10^16 NP1:ϕ_s325.00000°, δ35.00000°, λ129.00000°. NP2:ϕ_s100.00000°, δ64.00000°, λ66.00000°. Principal axes: T 6.5240, Plg63.0000°, Azm331.0000°; N 0.3050, Plg21.0000°, Azm111.0000°; P -6.8260, Plg16.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 00:16:58.8±0.5, 59°.76S±0°.05×26°.23W±0°.05, h43km±3km, n705, σ1§03/668, mb5.2/109, MS4.5/35, 4C-10D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.83**	**310**	Pn	**Pn**	**00 18 50.3**	**+0.3**
HOPE	**Hope Point**	**7.83**	**310**	P	**Pn**	**00 18 50.3**	**+0.3**
VNA1	**Neumayer--Stat**	**13.20**	**153**	⇓P	**Pn**	**00 19 60.0**	**-3.2**
	comp=Z,486nm,0.5s						
VNA1				⇓S	Sn	00 22 12.0	-16
VNA3	**Neumayer Olymp**	**13.35**	**156**	⇓P	**Pn**	**00 20 01.3**	**-4.0**
	comp=Z,201nm,0.2s						
VNA3				⇓S	Sn	00 22 12.4	-20
VNA2	**Neumayer--Watz**	**13.60**	**153**	⇓P	**Pn**	**00 20 05.1**	**-3.6**
	comp=Z,126nm,0.6s,baz=311,slow=15						
VNA2				⇓S	Sn	00 22 17.6	-20
	baz=312,slow=20						
ESPZ	**Base Esperanza**	**15.01**	**243**	Pn	**Pn**	**00 20 27.4**	**-0.2**
SNAA	**Sanae**	**15.18**	**151**	⇓P	**Pn**	**00 20 26.6**	**-3.4**
	comp=Z,597nm,0.2s						
SNAA				⇓S	Sn	00 22 53.1	-24
SNAA	**Sanae**	**15.18**	**151**	Pn	**Pn**	**00 20 26.9**	**-3.0**
SNAA	**Sanae**	**15.18**	**151**	Pn	**Pn**	**00 20 26.9**	**-3.0**
	comp=Z,14nm,0.3s,baz=326,slow=15,SNR=108						
SNAA				Sn	Sn	00 22 58.5	-18
	comp=Z,1.8nm,0.3s,baz=3.5,slow=20,SNR=1.7						
SNAA				LR	LR	00 25 06.9	
	comp=Z,2μm,20.3s,baz=16,slow=32						
	comp=Z,59nm,0.5s						
SNAA	**Sanae**	**15.18**	**151**	*i* P	**Pn**	**00 20 26.5**	**-3.4**
SNAA				pmax	pmax		
	comp=Z,66nm,0.9s						
TROLL	**Troll, Antarti**	**16.74**	**149**	⇓P	**Pn**	**00 20 47.1**	**-2.8**
	comp=Z,2μm,0.3s						
TROLL				⇓S	Sn	00 23 35.0	-20
PMSA	**Palmer Station**	**18.09**	**238**		**Pn**	**00 21 03.8**	**-2.6**
PMSA	**Palmer Station**	**18.09**	**238**	P	**P**	**00 21 08.9**	**+2.5**
	comp=Z,3.7nm,0.3s,baz=94,slow=9.9,SNR=39						
PMSA				S	**S**	**00 24 29.8**	**-1.4**
	comp=Z,16nm,1.0s,baz=180,slow=19,SNR=2.7						
PMSA				PcP	**PcP**	**00 25 39.0**	**+0.8**
	comp=Z,13nm,1.1s,baz=67,slow=2.4,SNR=1.5						
PMSA				LR	LR	00 27 34.6	
	comp=Z,3μm,18.5s,baz=86,slow=35						
	comp=Z,7.2nm,0.8s						
PMSA	**Palmer Station**	**18.09**	**238**	*e*P	**P**	**00 21 11.2**	**+4.8**
BELA	**Belgrano 2**	**18.42**	**186**	P	**P**	**00 21 09.9**	**-0.1**
NVL	**N'lazarevskaya**	**18.96**	**141**	*e*P	**P**	**00 21 15.7**	**-0.2**
NVL				*e*S	**Sn**	**00 24 48.2**	**+0.3**
NVL				smax	smax		
	comp=N,456nm,9.4s						
SMAI	**San Martin Ant**	**19.44**	**227**		**Pn**	**00 21 22.9**	**+0.2**
SMAI				IAmb	IAmb	00 21 35.6	
	comp=Z,245nm,1.0s						
EFI	**East Falkland**	**19.50**	**280**		**Pn**	**00 21 24.2**	**+0.7**
EFI				IAmb	IAmb	00 21 25.9	
	comp=Z,69nm,0.6s						
**

LC02	Puerto Saavedr	36.19	284	P	P	00 23 57.3 +0.4
BI02	San Fabin de	36.84	288	P	P	00 24 02.2 -0.5
MAW	Mawson	36.91	140	P	P	00 24 02.4 -0.4
	comp=Z,4.1nm,1.1s					
MAW	Mawson	36.91	140	P	P	00 24 02.3 -0.4
	comp=Z,6.9nm,1.0s,baz=233,slow=9.2,SNR=10					
MAW				PcP	PcP	00 26 23.8 +0.6
	comp=Z,5.0nm,1.0s,baz=204,slow=4.2,SNR=3.3					
MAW				LR	LR	00 37 43.7
	comp=Z,758nm,19.5s,baz=252,slow=34					
	comp=Z,6.9nm,1.0s					
ITAB	Concordia	37.06	320	P	P	00 24 04.6 +0.2
ITAB	Concordia	37.06	320	eP	P	00 24 03.9 -0.6
BI05	Punta Hualpn	37.70	286	P	P	00 24 10.4 +0.6
BO02	Sierra Bellavi	38.12	291	P	P	00 24 13.9 +0.4
BO02				IAmb	IAmb	00 24 20.7
	comp=Z,18nm,0.6s					
BO01	Tunca	38.59	291		P	00 24 17.9 +0.6
BO01				IAmb	IAmb	00 24 19.2
	comp=Z,31nm,0.6s					
LMEL	Las Melosas	38.62	292	P	P	00 24 19.2 +1.4
BO04	La Punta	38.69	292	P	P	00 24 18.3 0.0
BO04				IAmb	IAmb	00 24 19.9
	comp=Z,36nm,0.5s					
MT13	San Alfonso	38.74	292	P	P	00 24 19.1 +0.3
MT13				IAmb	IAmb	00 24 32.4
	comp=Z,18nm,0.5s					
MT08	Bocatoma Ro	38.86	293	P	P	00 24 20.9 +1.0
MT08				IAmb	IAmb	00 24 22.8
	comp=Z,30nm,0.6s					
PARB	Paraibuna	38.87	331	eP	P	00 24 20.4 +0.5
MT09	Talagante	39.05	291	P	P	00 24 21.7 +0.3
MT03	Universidad Ad	39.05	292		P	00 24 22.0 +0.6
MT01	Popeta	39.10	291	P	P	00 24 21.8 +0.1
MT16	CCHEN	39.12	292	P	P	00 24 22.9 +1.1
MT16				IAmb	IAmb	00 24 23.7
	comp=Z,65nm,0.8s					
MT05	Renca	39.24	292		P	00 24 23.8 +0.9
DUB01	Friburgo-RJ	39.34	336	eP	P	00 24 24.6 +0.8
PTGB	Pitanga	39.38	321	eP	P	00 24 23.1 -1.0
PEL	Peldehue	39.43	292	P	P	00 24 25.5 +1.1
PEL	Peldehue	39.43	292	P	P	00 24 25.5 +1.1
PEL				pmax	pmax	
	comp=Z,118nm,0.5s					
PEL	Peldehue	39.43	292	P	P	00 24 25.4 +1.1
CAM01	Campos-RJ	39.45	337	eP	P	00 24 25.4 +0.8
VAO	Valinhos	39.53	329	P	P	00 24 25.8 +0.5
VAO	Valinhos	39.53	329	eP	P	00 24 25.4 0.0
MT02	Curacav	39.54	292	P	P	00 24 26.0 +0.7
MT02				IAmb	IAmb	00 24 30.1
	comp=Z,55nm,1.1s					
CFA	Coronel Fontan	39.58	296	P	P	00 24 25.8 +0.1
	comp=Z,18nm,0.5s,baz=169,slow=7.2,SNR=101					
CFA				PcP	PcP	00 26 31.7 -0.5
	comp=Z,5.5nm,0.4s,baz=131,slow=2.8,SNR=9.7					
CFA				S	S	00 30 22.5 -2.9
	comp=Z,0.5nm,0.5s,baz=189,slow=19,SNR=1.7					
CFA				LR	LR	00 42 06.8
	comp=Z,310nm,19.2s,baz=143,slow=38					
	comp=Z,18nm,0.5s					
CPUP	Villa Florida	39.69	313		P	00 24 26.7 +0.1
CPUP	Villa Florida	39.69	313	P	P	00 24 25.6 -1.0
	comp=Z,1.7nm,0.4s,baz=236,slow=7.6,SNR=28					
CPUP				LR	LR	00 39 43.5
	comp=Z,102nm,21.7s,baz=18,slow=34					
	comp=Z,1.7nm,0.4s					
CPUP	Villa Florida	39.69	313	eP	P	00 24 26.4 -0.2
CPUP	Villa Florida	39.69	313	P	P	00 24 26.3 -0.3
CPUP				pP	pP	00 24 37.9 +0.3
CPUP				sP	sP	00 24 41.9 -0.4
ZON	Zonda	39.83	296		P	00 24 28.2 +0.4
ZON				IAmb	IAmb	00 24 29.3
	comp=Z,27nm,0.5s					
ZON	Zonda	39.83	296	P	P	00 24 28.2 +0.4
ZON				pmax	pmax	
	comp=Z,27nm,0.5s					
VA01	Torpederas	39.98	291	P	P	00 24 30.1 +1.2
VA01				IAmb	IAmb	00 24 41.6
	comp=Z,47nm,1.1s					
VA06	Catapilco	40.20	292		P	00 24 31.9 +1.2
LDASE	Londrina, Braz	40.33	323	eP	P	00 24 32.0 0.0
BSCB	Bom Sucesso	40.92	333	eP	P	00 24 37.1 +0.2
CO02	Combarbal	41.19	294	IAmb	IAmb	00 24 41.4
	comp=Z,31nm,0.5s					
SUR	Sutherland	41.28	70	P	P	00 24 40.3 +0.4
CO03	El Pedregal	41.35	294	IAmb	IAmb	00 24 46.8
	comp=Z,22nm,0.5s					
BB19B	Bebedouro	41.79	328	eP	P	00 24 43.6 -0.3
CO06	Fray Jorge	41.93	293	P	P	00 24 45.5 +0.5
CO06				IAmb	IAmb	00 24 50.8
	comp=Z,56nm,1.2s					
GO04	Tololo Observa	41.96	295	IAmb	IAmb	00 24 51.8
	comp=Z,27nm,0.6s					
AMBA	Amambai (Brazi	42.00	318	eP	P	00 24 44.6 -1.1
CO05	La Serena	42.38	294	P	P	00 24 48.9 +0.3
CO05				IAmb	IAmb	00 24 49.7
	comp=Z,46nm,0.6s					
SJMB	Sao Joao De Ma	42.40	339	eP	P	00 24 48.7 -0.2
SBA	Scott Base	42.41	184		P	00 24 50.9 +2.5
SBA	Scott Base	42.41	184	P	P	00 24 50.9 +2.5
SBA				pmax	pmax	
	comp=Z,37nm,1.4s					
SBA	Scott Base	42.41	184	P	P	00 24 50.7 +2.3
VNDA	Vanda	42.88	183		P	00 24 54.0 +1.8
VNDA	Vanda	42.88	183	P	P	00 24 53.8 +1.5
	comp=Z,6.7nm,0.9s,baz=186,slow=7.0,SNR=32					
VNDA				PcP	PcP	00 26 44.1 +1.9
	comp=Z,7.0nm,0.8s,baz=161,slow=2.8,SNR=3.6					
VNDA				LR	LR	00 41 26.3
	comp=Z,424nm,22.0s,baz=164,slow=34					
	comp=Z,6.7nm,0.9s					
VNDA	Vanda	42.88	183	P	P	00 24 53.7 +1.5
LCO	Las Campanas	42.90	296		P	00 24 54.0 +0.7
LCO	Las Campanas	42.90	296	P	P	00 24 54.0 +0.7
LCO				pmax	pmax	
	comp=Z,16nm,0.6s					
GRHM	Grahamstown, E	43.24	76	P	P	00 24 55.1 -0.6
DIAM	Diamantina, MG	43.29	335	eP	P	00 24 55.8 -0.4
PMNB	Patos De Minas	43.68	332	eP	P	00 24 59.2 -0.1
AC04	Llanos de Chal	43.76	296		P	00 25 00.8 +1.0
GO03	Copiapo	43.90	297	P	P	00 25 00.9 -0.2
AC02	Maricunga	44.06	299		P	00 25 04.0 +1.2
MURT	Porto Murtinho	44.07	316	eP	P	00 25 01.1 -1.2
GUA01	Guaratinga, BA	44.23	341	eP	P	00 25 03.6 -0.1
AQDB	Aquidauana	44.51	319		P	00 25 04.5 -1.4
AQDB	Aquidauana	44.51	319	eP	P	00 25 04.5 -1.4
IPMB	Ipameri, GO	44.65	330	eP	P	00 25 06.5 -0.7
BDQN	Bodoquena, MS	44.89	318	eP	P	00 25 07.4 -1.5
AC01	Pan de Azucar	45.31	298	P	P	00 25 12.3 0.0
AC01				IAmb	IAmb	00 25 28.9
	comp=Z,42nm,1.2s					
CMC01	Camacan, BA	45.39	342	eP	P	00 25 12.8 -0.1
H04S2	CROZET ISLANDS	45.67	110	T	T	01 14 47.9
	baz=225					
H04S3	CROZET ISLANDS	45.68	110	T	T	01 14 41.6
	baz=225,slow=74					
H04S1	CROZET ISLANDS	45.69	110	T	T	01 14 40.9
	baz=225,slow=74					
GO02	Mina Guanaco	45.72	300		P	00 25 16.5 +0.7
BOSA	Boshof	46.53	71		P	00 25 21.9 0.0
BOSA	Boshof	46.53	71	P	P	00 25 21.0 -0.9
	comp=Z,5.3nm,0.6s,baz=224,slow=6.9,SNR=16					
BOSA				LR	LR	00 41 03.2
	comp=Z,512nm,18.6s,baz=216,slow=31					
	comp=Z,5.3nm,0.6s					
BOSA	Boshof	46.53	71	iP	P	00 25 21.1 -0.8
PB14	IPOC Station P	46.54	299	IAmb	IAmb	00 25 23.4
	comp=Z,51nm,1.4s					
JANB	Januaria	46.56	336	eP	P	00 25 21.9 -0.3
BDFB	Brasilia	46.85	331		P	00 25 24.6 +0.1
BDFB				IAmb	IAmb	00 25 26.2
	comp=Z,20nm,0.6s					
BDFB	Brasilia	46.85	331	P	P	00 25 24.4 -0.1
	comp=Z,15nm,0.5s,baz=156,slow=7.4,SNR=39					
BDFB				LR	LR	00 42 27.4
	comp=Z,558nm,20.8s,baz=151,slow=33					
	comp=Z,15nm,0.5s					
PP1B	Ponte de Pedra	46.93	321	eP	P	00 25 24.2 -0.8
PB10	IPOC Station P	47.58	300		P	00 25 30.3 +0.3
ARAG	Araguaiana, MT	47.80	326	eP	P	00 25 31.5 -0.3
PB06	IPOC Station P	47.86	301	P	P	00 25 33.0 +0.6
PB06				IAmb	IAmb	00 25 33.2
	comp=Z,20nm,0.9s					
WIN	Windhoek	47.98	59		P	00 25 34.5 +1.1
WIN				IAmb	IAmb	00 25 35.5
	comp=Z,37nm,1.4s					
WIN	Windhoek	47.98	59	P	P	00 25 34.5 +1.1
WIN				pmax	pmax	
	comp=Z,37nm,1.4s					
PB05	IPOC Station P	48.00	300	IAmb	IAmb	00 25 34.1
	comp=Z,26nm,0.9s					
PB03	IPOC Station P	48.52	301	IAmb	IAmb	00 25 39.9
	comp=Z,23nm,0.6s					
SALV	Santo Antonio	48.78	321	eP	P	00 25 38.8 -0.6
KOOLE	Kule	48.97	62	iP	P	00 25 40.8 -0.1
SDBA	SAO DESIDERIO	49.26	336	eP	P	00 25 42.4 -0.7
PB01	IPOC Station P	49.29	302	IAmb	IAmb	00 25 44.7
	comp=Z,30nm,0.7s					
LBTB	Lobatse	49.72	69	IAmb	IAmb	00 25 47.6
	comp=Z,23nm,1.0s					
LBTB	Lobatse	49.72	69	LR	LR	00 42 29.7
	comp=Z,574nm,20.6s,baz=210,slow=31					
LBTB	Lobatse	49.72	69	iP	P	00 25 45.9 -0.7
LBTB	Lobatse	49.72	69	P	P	00 25 46.5 -0.1
LBTB				PcP	PcP	00 27 06.7 -0.5
PATCX	Punta Patache	49.77	302	P	P	00 25 47.4 +0.4
PATCX				IAmb	IAmb	00 26 04.0
	comp=Z,21nm,0.7s					
PB08	IPOC Station P	49.95	303	IAmb	IAmb	00 25 54.3
	comp=Z,33nm,1.3s					
KGCAE	Kacgae	50.00	64	iP	P	00 25 48.9 +0.2
TA01	Diego Aracena	50.01	302	P	P	00 25 48.8 +0.2
TA01				IAmb	IAmb	00 25 57.4
	comp=Z,21nm,1.0s					
HMBC	Humberstone	50.14	302	IAmb	IAmb	00 26 00.5
	comp=Z,53nm,1.3s					
CASY	Casey	50.25	159		P	00 25 50.7 +0.8
PTLB	Pontes e Lacer	50.35	317	IAmb	IAmb	00 25 51.4
	comp=Z,21nm,0.6s					
PTLB	Pontes e Lacer	50.35	317	eP	P	00 25 50.4 -0.8
GO01	Chusmiza	50.38	304	IAmb	IAmb	00 25 53.2
	comp=Z,19nm,0.6s					
PB11	IPOC Station P	50.50	303	IAmb	IAmb	00 25 58.0
	comp=Z,35nm,1.1s					
SIV	San Ignacio	50.53	315	P	P	00 25 51.7 -1.0
	comp=Z,21nm,0.4s,baz=160,slow=7.2,SNR=264					
SIV				LR	LR	00 47 31.8
	comp=Z,236nm,19.6s,baz=128,slow=36					
	comp=Z,21nm,0.4s					
NBAN	Anadia - AL	50.55	347	eP	P	00 25 52.2 -0.6
POGA	Pongola	50.72	77	P	P	00 25 53.8 -0.3
POGA				IAmb	IAmb	00 26 03.5
	comp=Z,38nm,1.4s					
GRTLG	Ghanzi	50.84	62		P	00 25 55.3 +0.1
GRTLG				IAmb	IAmb	00 25 56.4
	comp=Z,44nm,1.2s					
GRTLG	Ghanzi	50.84	62	iP	P	00 25 55.0 -0.2
TSUM	Tsumeb	51.16	57		P	00 25 57.5 0.0
TSUM	Tsumeb	51.16	57	LR	LR	00 42 40.2
	comp=Z,687nm,21.8s,baz=180,slow=30					
TSUM	Tsumeb	51.16	57	iP	P	00 25 54.7 -2.8
SNDB	Serra Nova Dou	51.21	328	eP	P	00 25 57.1 -0.6
LPHEP	Lephephe	51.25	68	IAmb	IAmb	00 26 00.1
	comp=Z,46nm,1.3s					
LPHEP	Lephephe	51.25	68	iP	P	00 25 58.6 +0.4
H10S2	ASCENSION HYDR	51.44	15	T	T	01 21 41.7
	baz=33,slow=74,SNR=6.4					
H10S3	ASCENSION HYDR	51.44	15	T	T	01 21 39.7
	baz=187,slow=74,SNR=30					
KHWEE	KHWEE	52.27	67	IAmb	IAmb	00 26 07.5
	comp=Z,42nm,1.0s					
KHWEE	KHWEE	52.27	67	iP	P	00 26 06.1 +0.3
PB18	Visviri	52.36	304		P	00 26 07.5 +0.6
PB18				IAmb	IAmb	00 26 22.6
	comp=Z,27nm,1.1s					
H10N1	ASCENSION HYDR	52.56	15	T	T	01 23 05.7
	baz=181,slow=71,SNR=6.0					
H10N3	ASCENSION HYDR	52.56	15	T	T	01 23 03.9
	baz=181,slow=71,SNR=6.9					
H10N2	ASCENSION HYDR	52.57	15	T	T	01 23 07.5
	baz=181,slow=71,SNR=8.6					
MREMI	Moremi	52.68	69	IAmb	IAmb	00 26 09.9
	comp=Z,52nm,1.2s					
MREMI	Moremi	52.68	69	iP	P	00 26 09.1 +0.3
LPAZ	La Paz	52.97	307		P	00 26 11.5 -0.1
LPAZ	La Paz	52.97	307	P	P	00 26 11.8 +0.3
	comp=Z,19nm,0.4s,baz=78,slow=6.6,SNR=144					
LPAZ				PcP	PcP	00 27 19.6 -0.3
	comp=Z,2.7nm,0.4s,baz=81,slow=2.2,SNR=1.1					
LPAZ				LR	LR	00 50 47.3
	comp=Z,201nm,20.4s,baz=148,slow=38					
	comp=Z,19nm,0.4s					
LPAZ	La Paz	52.97	307	P	P	00 26 11.5 -0.1
LPAZ				pmax	pmax	
	comp=Z,21nm,0.4s					
LPAZ	La Paz	52.97	307	eP	P	00 26 12.0 +0.3
LPAZ	La Paz	52.97	307	P	P	00 26 11.9 +0.3
LPAZ				PcP	PcP	00 27 19.2 -0.7
GMARE	Gumare	52.99	62	P	P	00 26 11.1 0.0
GMARE	Gumare	52.99	62	iP	P	00 26 12.1 +0.9
VILB	Vilhena	53.03	317	eP	P	00 26 10.7 -0.7
PDRB	Porto dos Gac	53.14	322	eP	P	00 26 10.7 -1.4
SMTB	Santa Maria do	53.28	333	eP	P	00 26 12.8 -0.4
PHDHD	Phuduhudu	53.37	65	iP	P	00 26 14.0 +0.1
XAUDM	Khaudum	53.37	61	IAmb	IAmb	00 26 16.8
	comp=Z,50nm,1.1s					
DRV	Dumont d'Urvil	53.48	173	P	P	00 26 14.3 +0.4
DRV				sP	sP	00 26 30.4 +0.5
CLDB	Colider	53.55	323	eP	P	00 26 13.4 -1.7
MOPA	Mopani	53.77	74	iP	P	00 26 17.2 +0.5
BROLN	Tlhalogang	53.89	68	iP	P	00 26 17.2 -0.5
MUSN	Musina, Limpop	54.07	72	iP	P	00 26 19.5 +0.5
RCBR	Riachuelo	54.30	348	P	P	00 26 21.3 +0.6
RCBR				IAmb	IAmb	00 26 37.1
	comp=Z,29nm,1.2s					
RCBR	Riachuelo	54.30	348	P	P	00 26 20.7 0.0
	comp=Z,2.0nm,0.5s,baz=212,slow=17,SNR=5.0					
RCBR				LR	LR	00 44 49.8
	comp=Z,141nm,21.9s,baz=200,slow=31					
	comp=Z,2.0nm,0.5s					
MATP	Matopo	55.02	69	LR	LR	00 45 38.3
	comp=Z,575nm,21.7s,baz=198,slow=32					
BLWY	Bulawayo	55.31	69	iP	P	00 26 28.1 +0.1
KSANE	Kasane	55.74	64	IAmb	IAmb	00 26 32.9
	comp=Z,15nm,0.7s					
KSANE	Kasane	55.74	64	iP	P	00 26 31.2 +0.2
PRPB	Parauapebas	56.40	331	eP	P	00 26 35.6 -0.1
NPGB	Novo Progresso	57.04	325	eP	P	00 26 38.9 -1.4
LSZ	Lusaka	59.33	66		P	00 26 56.5 +0.1
LSZ				IAmb	IAmb	00 26 58.2
	comp=Z,20nm,0.8s					
LSZ	Lusaka	59.33	66	LR	LR	00 48 27.3
	comp=Z,853nm,22.0s,baz=210,slow=32					
LSZ	Lusaka	59.33	66	P	P	00 26 56.5 +0.1
LSZ				pmax	pmax	
	comp=Z,20nm,0.8s					
LSZ	Lusaka	59.33	66	iP	P	00 26 56.9 +0.5
ITTB	Itaituba	59.70	325	eP	P	00 26 57.3 -1.4
NNA	Nana	60.51	300	P	P	00 27 04.7 +0.2
NNA	Nana	60.51	300	LR	LR	00 52 23.1
	comp=Z,137nm,21.4s,baz=148,slow=35					
NNA	Nana	60.51	300	iP	P	00 27 04.1 -0.3
NNA				pmax	pmax	
	comp=Z,27nm,1.1s					
MAL2	Monte Alegre,	61.51	328		P	00 27 10.6 -0.5
MAL2				IAmb	IAmb	00 27 11.2
	comp=Z,27nm,0.8s					
VOI	Vohitsoka	62.80	87	P	P	00 27 20.3 +0.4
RPN	Rapa Nui	63.56	261	LR	LR	00 48 58.3
	comp=Z,142nm,21.4s,baz=150,slow=30					
OPO	Ambohidratompo	65.79	85	LR	LR	00 51 18.4
	comp=Z,298nm,18.3s,baz=4.5,slow=32					
SGC2	Sao Gabriel da	67.31	315	P	P	00 27 46.4 -2.6
	comp=Z,12nm,1.5s					
BOAV	Boa Vista	67.54	322		P	00 27 49.0 -1.5
BOAV				IAmb	IAmb	00 27 49.0
	comp=Z,11nm,0.6s					
BOAV	Boa Vista	67.54	322	P	P	00 27 48.0 -2.5
	comp=Z,19nm,0.6s					
MDP	Montagnes des	67.95	331	LR	LR	00 55 10.8
	comp=Z,395nm,20.8s,baz=156,slow=34					
DBIC	Dimbokro	68.36	23	P	P	00 27 54.9 -0.7
	comp=Z,4.4nm,0.4s,baz=217,slow=5.9,SNR=21					
DBIC				LR	LR	00 52 36.8
	comp=Z,230nm,18.1s,baz=192,slow=32					
	comp=Z,4.4nm,0.4s					
DBIC	Dimbokro	68.36	23	P	P	00 27 56.0 +0.4
MCRA	Macar, Loja	68.66	300	P	P	00 27 56.7 -0.9
	comp=Z,20nm,1.4s					
COHC	Cochancay	70.06	302	P	P	00 28 06.2 0.0
	comp=Z,405nmcomp=Z,27nm,0.5s					
PTLC	Puerto Leguiza	70.58	307	P	P	00 28 06.4 -3.0
	comp=Z,540nmcomp=Z,47nm,1.1s					
PIAT	Ana Tenorio	70.95	304	P	P	00 28 12.4 +0.3
	comp=Z,16nm,1.2s					
PPLP	Puerto Lpez	71.54	301	P	P	00 28 14.8 -0.4
	comp=Z,34nm,1.3s					
MACC	Macarena, Meta	72.00	309	P	P	00 28 16.3 -1.7
	comp=Z,15nm,1.5s					
OTAV	Otavalo	72.15	304	P	P	00 28 20.3 +0.9
OTAV				pmax	pmax	
	comp=Z,25nm,1.6s					
OTAV	Otavalo	72.15	304	eP	P	00 28 20.4 +1.1
OTAV	Otavalo	72.15	304	P	P	00 28 20.1 +0.8
OTAV	Otavalo	72.15	304	P	P	00 28 19.3 -0.1
	comp=Z,24nm,1.6s					
FLOC	Florencia	72.21	307		P	00 28 18.1 -1.1
FLOC	Florencia	72.21	307	P	P	00 28 17.4 -1.8
	comp=Z,16nm,1.4s					
URMC	La Uribe, Meta	73.22	309	P	P	00 28 24.1 -1.2
	comp=Z,928nmcomp=Z,31nm,1.2s					
PTGC	Puerto Gaitan,	73.23	312	P	P	00 28 22.5 -2.7
	comp=Z,4µmcomp=Z,32nm,0.5s					
MBAR	Mbarara	73.44	61	iP	P	00 28 27.1 +0.4
MBAR				pmax	pmax	
	comp=Z,16nm,1.3s					
POPC	Popayan, Colom	73.50	307	P	P	00 28 26.6 -0.5
	comp=Z,24nm,1.4s					
PRAC	Prado	73.85	309	P	P	00 28 27.6 -1.3
	comp=Z,35nm,1.4s					
ORTC	Ortega, Tolima	74.17	308	P	P	00 28 29.4 -1.4
	comp=Z,48nm,1.2s					
SACV	Santiago Islan	74.49	3	P	P	00 28 33.4 +0.9
SACV				IAmb	IAmb	00 28 40.4
	comp=Z,31nm,1.0s					
ROSC	El Rosal	74.65	310		P	00 28 34.0 0.0
ROSC	El Rosal	74.65	310	P	P	00 28 33.2 -0.8
	comp=Z,5.0nm,0.4s,baz=100,slow=12,SNR=4.6					
	comp=Z,5.0nm,0.4s					
ROSC	El Rosal	74.65	310	P	P	00 28 33.2 -0.8
	comp=Z,16nm,0.9s					
YOTC	Yotoco, Valle	74.67	307	P	P	00 28 31.8 -2.0
	comp=Z,7.5nm,0.6s					
RUSC	La Rusia	75.14	311		P	00 28 35.5 -1.4
RUSC				IAmb	IAmb	00 28 37.1
	comp=Z,56nm,1.4s					
RUSC	La Rusia	75.14	311	P	P	00 28 35.0 -1.9
	comp=Z,26nm,1.4s					
KIBK	Kibwezi	75.25	69	P	P	00 28 40.6 +3.5
KIBK				IAmb	IAmb	00 28 42.4
	comp=Z,43nm,1.3s					
SPBC	San Pablo de B	75.30	310	P	P	00 28 34.7 -2.7
	comp=Z,42nm,0.4s					
GUY2C	Guyana, Caldas	75.41	309	P	P	00 28 36.2 -2.3
	comp=Z,11nm,1.0s					
KMBO	Kilima Mbogo	75.95	67	P	P	00 28 37.2 -4.1
	comp=Z,9.9nm,0.4s,baz=209,slow=15,SNR=4.2					
KMBO				LR	LR	00 58 50.6
	comp=Z,812nm,19.9s,baz=268,slow=33					
TORD	Torodi Ar. Bea	76.07	28		P	00 28 41.0 -0.6
TORD	Torodi Ar. Bea	76.07	28	P	P	00 28 40.2 -1.3
	comp=Z,31nm,0.5s,baz=192,slow=5.0,SNR=68					
	comp=Z,31nm,0.5s					
BAUV	El Baul	76.14	317		P	00 28 40.8 -1.2
BAUV				IAmb	IAmb	00 28 42.2
	comp=Z,70nm,1.5s					
CBOC	Ciudad Bolivar	76.25	309	P	P	00 28 40.6 -2.3
	comp=Z,9.1nm,1.0s					
PTBC	PUERTO BERRIO,	76.26	310	P	P	00 28 39.4 -3.3
	comp=Z,707nmcomp=Z,48nm,0.4s					
SDV	Santo Domingo	77.00	315	P	P	00 28 46.6 -0.5
SDV				IAmb	IAmb	00 28 46.7
	comp=Z,15nm,0.7s					
SDV	Santo Domingo	77.00	315	eP	P	00 28 46.6 -0.5
ZARC	Zaragoza, Cauc	77.29	310	P	P	00 28 45.6 -2.9
DSZ	Denniston Nort	77.77	194	P	P	00 28 51.4 +0.3
DSZ				IAmb	IAmb	00 29 04.9
	comp=Z,48nm,1.1s					
NNZ	Nelson	78.09	195		P	00 28 52.7 0.0
NNZ				IAmb	IAmb	00 29 14.3
	comp=Z,38nm,1.2s					
MRZ	Mangatainoka R	78.33	197	P	P	00 28 55.3 +1.2
MRZ				IAmb	IAmb	00 29 05.9
	comp=Z,20nm,0.8s					
QRZ	Quartz Range	78.59	194	P	P	00 28 54.4 -1.1
QRZ				IAmb	IAmb	00 29 18.9
	comp=Z,29nm,1.2s					
BIM	Bigot	79.19	326	P	P	00 28 58.5 -0.5
FDF	Fort de France	79.42	326	P	P	00 29 00.9 +0.7
FDF				IAmb	IAmb	00 29 13.0
	comp=Z,58nm,1.2s					
FDF	Fort de France	79.42	326	P	P	00 29 00.9 +0.7
FDF				pmax	pmax	
	comp=Z,58nm,1.2s					
BKZ	Black Stump Fm	79.66	198	P	P	00 29 02.9 +1.4
BKZ				IAmb	IAmb	00 29 20.9
	comp=Z,29nm,1.3s					
RTZ	Ruatahuna	80.12	198	P	P	00 29 05.3 +1.3
RTZ				IAmb	IAmb	00 29 16.4
	comp=Z,52nm,1.4s					
SMRC	Santa Marta, M	80.41	312	P	P	00 29 04.5 -1.2
URZ	Urewera	80.45	198	LR	LR	01 03 43.7
	comp=Z,153nm,18.3s,baz=170,slow=35					
HIZ	Hauiti	80.55	197	P	P	00 29 06.5 +0.3
HIZ				IAmb	IAmb	00 29 15.7
	comp=Z,42nm,1.1s					
MAGL	Barre de l'ile	80.61	326	P	P	00 29 06.0 -0.5
GDSD	La Dsirade Is	80.89	326	P	P	00 29 08.2 0.0
GDSD				IAmb	IAmb	00 29 12.8
	comp=Z,48nm,1.2s					
GDHS	Morne Mazeau,	81.06	326	P	P	00 29 08.5 -0.6
TOO	Toolangi	82.78	173	P	P	00 29 17.8 -0.2
	comp=Z,10nm,1.0s					
TOO	Toolangi	82.78	173	P	P	00 29 17.8 -0.2
NWAO	Narrogin (SRO)	82.85	150	P	P	00 29 16.4 -2.0
NWAO				IAmb	IAmb	00 29 22.0
	comp=Z,27nm,1.4s					
NWAO	Narrogin (SRO)	82.85	150	LR	LR	01 04 44.8
	comp=Z,129nm,18.2s,baz=292,slow=35					
NWAO	Narrogin (SRO)	82.85	150	P	P	00 29

comp=Z,27nm,1.1s
NMDO Nuevo Mundo 89.33 315 P P 00 29 49.9 -0.3
NMDO IAmb IAmb 00 29 52.1
comp=Z,22nm,1.5s
ATD Arta Tunnel 89.66 66 LR LR 01 08 32.1
comp=Z,21nm,18.3s,baz=183,slow=35
ARMA Armidale 90.14 178 P P 00 29 55.1 +0.8
comp=Z,17nm,1.4s
PPT2 Papeete2 90.37 233 *e*P **P 00 29 52.3 -3.1**
comp=Z,44nm,24.5s
PPT2 Papeete2 90.37 233 *e*S **S 00 40 48.5 +1.7**
comp=Z,89nm,29.5s
PPT2 Papeete2 90.37 233 *e*LR LR 00 58 45.6
comp=Z,445nm,22.8s
PPT2 *e*LR LR 00 58 51.2
comp=Z,397nm,24.5s
PPT Papeete 90.39 233 LR LR 01 03 23.2
comp=Z,408nm,18.2s,baz=149,slow=31
RAR Rarotonga 90.87 223 LR LR 01 04 25.6
comp=Z,102nm,19.0s,baz=196,slow=31
MDT Midelt 93.95 18 LR LR 01 06 21.3
comp=Z,241nm,21.5s,baz=218,slow=32
MD31 MD31 93.98 18 P P 00 30 14.0 +2.4
MD01 Midelt array s 93.98 18 P P 00 30 13.9 +2.2
TAOE Nuku Hiva Isla 94.07 245 *e*LR LR 01 00 30.8
comp=Z,454nm,22.3s
TEIG Tepich 94.22 304 P P 00 30 12.4 -0.5
ASAR Alice Springs 95.30 162 P 00 30 17.8 -0.3
ASAR Alice Springs 95.30 162 P P 00 30 17.6 -0.5
comp=Z,1.6nm,0.5s,baz=182,slow=4.0,SNR=17
ASAR PKKPbc **PKKPbc 00 47 07.7 -0.2**
comp=Z,0.5nm,0.4s,baz=26,slow=2.5,SNR=4.9
comp=Z,1.6nm,0.5s
DZM Mont Dzumac 97.81 192 *e*LR LR 01 02 14.4
comp=Z,373nm,22.2s
WRA Warramunga Arr 99.02 162 P Pdif 00 30 34.2 -0.7
comp=Z,1.1nm,1.0s,baz=193,slow=4.4,SNR=5.0
WRA PKKP **PKKPbc 00 46 58.9 +1.2**
comp=Z,0.9nm,0.4s,baz=358,slow=2.9,SNR=19
comp=Z,1.1nm,1.0s
WRAB Tennant Creek 99.03 162 *i* P **Pdif 00 30 35.0 +0.1**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
FITZ Fitzroy Crossi 99.11 153 LR LR 01 13 09.9
comp=Z,167nm,19.3s,baz=194,slow=34
KEST Kesra 99.58 29 LR LR 01 11 53.5
comp=Z,208nm,18.9s,baz=263,slow=33
ESDC Sonseca Array 100.77 17 P Pdif 00 30 42.5 +0.4
comp=Z,0.3nm,0.5s,baz=186,slow=4.1,SNR=7.4
TXAR Lajitas Array 108.92 296 PKiKP PKiKP 00 35 22.7 -0.3
comp=Z,0.3nm,0.5s,baz=165,slow=2.8,SNR=8.2
BRTR Keskin Array B 110.67 45 PKiKP PKiKP 00 35 25.6 -0.4
comp=Z,0.2nm,0.3s,baz=192,slow=4.0,SNR=2.2
BRTR PP **PP 00 36 03.1 -0.8**
comp=Z,0.3nm,0.3s,baz=237,slow=6.8,SNR=3.7
GERES GERESS Array B 113.02 27 PKiKP PKiKP 00 35 29.3 -0.8
comp=Z,0.6nm,0.8s,baz=129,slow=1.5,SNR=4.4
EKA Eskdalemuir Ar 116.21 14 PKP PKPdf 00 35 35.1 -0.7
comp=Z,0.8nm,0.6s,baz=225,slow=2.2,SNR=6.8
ESJX Sierra Juarez 116.92 288 PKPdf PKPdf 00 35 38.1 -0.2
G40A Rib Lake 116.98 315 PKPdf PKPdf 00 35 37.2 -0.5
Y14A Wickenburg 117.10 291 PKPdf PKPdf 00 35 38.2 -0.2
SHA1 Shidzhatmaz 117.51 50 *i* **PKiKP PKiKP 00 35 41.3 +2.2**
CBX Cerro Bola 117.52 287 PKPdf PKiKP 00 35 40.1 +0.8
BEL Belsk 117.53 31 PKiKP PKiKP 00 35 41.6 +3.1
KBZ Khabaz 117.60 50 PKP PKPdf 00 35 38.5 -0.3
comp=Z,1.0nm,0.6s,baz=200,slow=5.9,SNR=1.2
KIV Kislovodsk 117.71 50 *i* PKiKP **PKiKP 00 35 40.6 +1.3**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,147nm,22.0s
BAR Barrett 117.82 288 PKPdf PKiKP 00 35 40.0 +0.2
BC3 Big Chuckawall 118.03 289 PKPdf PKiKP 00 35 40.6 +0.3
ECSD EROS Data Cent 118.09 309 PKPdf PKPdf 00 35 39.2 -0.7
BORC Borrego Spring 118.18 288 PKPdf PKiKP 00 35 40.7 +0.3
DPP Dos Picos Cty 118.21 288 PKPdf PKPdf 00 35 40.4 -0.2
ISCO Idaho Springs 118.55 300 PKPdf PKiKP 00 35 41.6 +0.2
ISCO Idaho Springs 118.55 300 PKIKP PKiKP 00 35 41.6 +0.2
BELC Belle Mtn. Jos 118.58 289 PKPdf PKiKP 00 35 41.6 +0.2
SCHQ Schefferville 118.75 335 PKPdf PKPdf 00 35 40.3 -0.5
SCHQ Schefferville 118.75 335 PKP PKPdf 00 35 39.8 -1.0
comp=Z,40nm,0.4s,baz=207,slow=14,SNR=16
AKASG Malin Array Be 118.88 37 PKPdf 00 35 40.8 -0.4
AKASG Malin Array Be 118.88 37 PKP PKPdf 00 35 40.3 -0.9
comp=Z,0.7nm,0.4s,baz=218,slow=0.9,SNR=6.7
AKBB Malin Array Si 118.88 37 *i* PKIKP **PKPdf 00 35 40.4 -0.7**
V12A Nelson 119.44 291 PKPdf PKPdf 00 35 42.9 0.0
KNB Kanab 119.53 293 PKPdf PKiKP 00 35 43.6 +0.4
KNB Kanab 119.53 293 PKIKP PKiKP 00 35 43.6 +0.4
TBO Thunder Bay 119.60 317 PKPdf PKPdf 00 35 42.1 -0.6
EYMN Ely 119.74 315 PKPdf PKPdf 00 35 41.9 -1.0
CCUT Cedar City 120.22 293 PKPdf PKiKP 00 35 45.0 +0.5
TPO Tropico Hills 120.36 288 PKPdf PKiKP 00 35 45.0 +0.3
CCCA Chr Cany lake 120.47 289 PKiKP 00 35 46.0 +1.0
WSHM Spangler Hills 120.59 289 PKPdf PKiKP 00 35 45.5 +0.3
CLC China Lake 120.81 289 PKPdf PKiKP 00 35 45.9 +0.3
CLC China Lake 120.81 289 PKIKP PKiKP 00 35 45.9 +0.3
HOMB Homborsund 120.82 21 *e*P **PKiKP 00 35 44.9 +0.2**
ISA Isabella, Lake 121.11 288 PKPdf PKiKP 00 35 46.7 +0.5
ISA Isabella, Lake 121.11 288 PKIKP PKiKP 00 35 46.7 +0.5
WCT Wildcat Mounta 121.14 290 PKPdf PKiKP 00 35 47.1 +0.8
KMY Karmoy 121.16 18 *e*P **PKiKP 00 35 45.5 +0.2**
K22A Casper 121.28 302 PKPdf PKPdf 00 35 45.8 -0.5
RSSD Black Hills 121.42 304 PKPdf 00 35 46.0 -0.6
RSSD Black Hills 121.42 304 PKIKP PKPdf 00 35 46.0 -0.6
BLS5 Blasjo 121.56 19 *e*P **PKiKP 00 35 46.9 +0.7**
MNK Minsk 121.83 34 *i* PKIKP **PKPdf 00 35 46.3 -0.4**
MNK *i* 00 37 20.4
MNK *i* PPP PPP 00 39 56.0
MNK *i* SP SP 00 47 14.8 +5.4
MNK *i* PS **PS 00 47 16.9 +2.5**
MNK *i* SS SS 00 53 57.3 +1.9
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=N,232nm,17.0s
GMN Gold Mountain 121.85 290 PKPdf PKiKP 00 35 48.0 +0.2
EPLO Experimental L 121.99 315 PKPdf PKPdf 00 35 46.4 -0.8
ODD1 Odda 122.05 19 *e*P **PKiKP 00 35 47.5 +0.3**
DSP Deep Springs 122.24 290 PKPdf PKiKP 00 35 49.2 +1.0
KONO Kongsberg 122.31 21 PKPdf PKPdf 00 35 46.6 -0.9
KONO Kongsberg 122.31 21 PKIKP PKPdf 00 35 46.6 -0.9
KONO Kongsberg 122.31 21 *e*P **PKPdf 00 35 47.6 +0.2**
ASK Askoy 122.37 18 *e*P **PKiKP 00 35 48.3 +0.6**
TPH Tonopah 122.45 291 PKPdf PKiKP 00 35 49.6 +0.7
TPH Tonopah 122.45 291 PKIKP PKiKP 00 35 49.6 +0.7
HWUT Hardware Ranch 122.66 297 PKPdf 00 35 48.9 -0.1
PDAR Pinedale Array 122.69 300 PKPdf 00 35 48.6 -0.5
PDAR Pinedale Array 122.69 300 PKP PKPdf 00 35 48.0 -1.1
comp=N,2.3nm,0.4s,baz=128,slow=5.2,SNR=50
HULI Fort Hunter Li 122.73 286 PKPdf PKiKP 00 35 49.7 +0.4
SUE Sulen 122.85 17 *e*P **PKiKP 00 35 49.2 +0.6**
NIL Nilore 123.04 79 PKiKP 00 35 50.1 +0.1
NIL Nilore 123.04 79 PKIKP PKiKP 00 35 50.1 +0.1
SKAR Skarslia 123.06 19 *e*P **PKiKP 00 35 49.2 0.0**
HYA Hoyanger 123.17 18 *e*P **PKiKP 00 35 49.7 +0.4**
CMAR Chiang Mai Arr 123.24 112 PKP PKPdf 00 35 50.5 -0.1
comp=N,1.5nm,0.4s,baz=235,slow=3.6,SNR=16
ULM Lac du Bonnet 123.24 314 PKP PKPdf 00 35 48.5 -1.1
comp=N,8.3nm,0.5s,baz=149,slow=5.2,SNR=12
NVAR Mina Array Bea 123.24 290 PKP PKiKP 00 35 51.1 +0.6
comp=N,1.7nm,0.5s,baz=120,slow=2.9,SNR=17
RYN Ryan 123.51 290 PKPdf PKiKP 00 35 51.7 +0.8
HFS Hagfors 123.53 23 PKP PKPdf 00 35 48.4 -1.4
comp=N,3.5nm,0.5s,baz=159,slow=4.5,SNR=36
ELK Elko 123.65 294 PKPdf PKiKP 00 35 51.9 +0.6
ELK Elko 123.65 294 PKIKP PKiKP 00 35 51.9 +0.6
NC602 NORSAR Array S 123.68 21 PKPdf PKPdf 00 35 49.7 -0.3
NC602 NORSAR Array S 123.68 21 *e*P **PKPdf 00 35 50.1 +0.1**
SNOW Snow King Moun 123.78 299 PKPdf PKiKP 00 35 51.7 +0.2
NBO00 NORSAR Array S 123.81 21 PKPdf PKiKP 00 35 50.8 +0.2
LOHW Long Hollow 123.83 300 PKPdf PKPdf 00 35 50.4 -0.8
WAKR Walker 123.84 289 PKPdf PKiKP 00 35 52.4 +0.7
NB2 NORSAR Subarra 123.90 21 PKPdf PKPdf 00 35 50.2 -0.3
comp=Z,1.1nm,0.5s,baz=202,slow=1.9
NB2 NORSAR Subarra 123.90 21 PKIKP PKPdf 00 35 48.2 -2.3
NB2 NORSAR Subarra 123.90 21 PKPdf PKPdf 00 35 50.2 -0.3
baz=202,slow=1.9
NOA NORSAR Array B 123.90 21 PKP PKPdf 00 35 50.4 -0.2
comp=Z,0.8nm,0.5s,baz=150,slow=2.4,SNR=49
MHC Mount Hamilton 123.98 287 PKPdf PKiKP 00 35 52.6 +0.8
MHC Mount Hamilton 123.98 287 PKIKP PKiKP 00 35 52.7 +0.8
NC204 NORSAR Array S 124.04 21 PKiKP 00 35 51.1 0.0
NC405 NORSAR Array S 124.06 21 PKPdf PKPdf 00 35 50.9 +0.1
NC303 NORSAR Array S 124.10 21 PKPdf PKPdf 00 35 50.7 -0.2
AKN Aaknes 124.26 18 *e*P **PKiKP 00 35 51.9 +0.5**
YPP Pitchstone Pla 124.44 300 PKPdf PKiKP 00 35 53.4 +0.6
RLMT Red Lodge 124.44 302 PKPdf PKPdf 00 35 52.0 -0.3
DOMB Dombas 124.47 19 *e*P **PKiKP 00 35 51.9 0.0**
MOL Molde 124.71 18 *e*P **PKiKP 00 35 52.5 +0.3**
OBN Obninsk 124.95 39 *i* PKIKP **PKPdf 00 35 51.9 -0.7**
OBN *i* 00 36 06.0
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,183nm,19.0s
DGMT Dagmar 124.99 307 PKPdf PKPdf 00 35 53.2 +0.2
YHL Hebgen Lake 125.06 300 PKPdf PKiKP 00 35 55.4 +1.4
CVS Carmenet Viney 125.17 287 PKPdf PKiKP 00 35 54.0 -0.1
EVN Everest 125.27 94 PKPdf PKPdf 00 35 54.7 -0.3
HLID Hailey 125.49 297 PKPdf PKiKP 00 35 55.0 +0.2
BELG Belogornoye 126.53 47 *i* PKIKP **PKPdf 00 35 55.9 +0.2**
BELG pmax pmax
comp=Z,4.0nm,1.2s
PLID Pearl Lake 127.39 297 PKPdf 00 35 58.3 +0.3
FINES FINESS Array B 127.42 29 PKP PKPdf 00 35 57.0 -0.2
comp=Z,9.3nm,0.5s,baz=170,slow=1.4,SNR=84
FIA1 FINESS Array S 127.42 29 PKPdf 00 35 57.4 +0.2
KSH Kashi 129.00 77 PKP PKPdf 00 36 00.7 -0.4
KSH sPKP 00 36 16.9
ABKAR Akbulak array 129.00 57 PKPdf 00 36 00.2 -0.4
KKAR Karatay Array 129.10 70 PKPdf 00 36 00.6 -0.5
KKAR Karatay Array 129.10 70 PKIKP PKPdf 00 36 00.6 -0.5
MOR8 Moi Rana 129.20 20 *e*P **PKiKP 00 36 02.2 +1.0**
RAUS Rausandaksla 129.37 20 *e*P **PKPdf 00 36 00.9 +0.1**
FAUS Fauske 130.44 20 *e*P **PKPdf 00 36 03.0 +0.2**
KLMR Klimovskoe 130.56 36 *e*PKIKP **PKPdf 00 36 02.2 -1.0**
KLMR *e* 00 36 15.5
KLMR *e* 00 38 19.5
KLMR pmax pmax
comp=Z,33nm,1.3s
AAK Ala-Archa 130.66 73 PKPdf 00 36 04.5 +0.3
AAK Ala-Archa 130.66 73 *i* PKIKP **PKPdf 00 36 04.2 0.0**
KMI Kunming 130.75 112 PKP PKiKP 00 36 06.7 +0.8
KMI LR LR
comp=Z,75nm,24.8s
STEI Steigen 130.93 19 *e*P **PKPdf 00 36 03.9 +0.2**
PZH PanZhiHua 131.44 110 PKP PKiKP 00 36 07.9 +0.8
KIRV Kirov 131.98 43 *i* PKIKP **PKPdf 00 36 06.5 +0.6**
TRO Tromso 133.07 20 *e*P **PKPdf 00 36 07.3 -0.3**
KTK1 Kautokeino 133.31 22 *e*P **PKPdf 00 36 08.3 +0.1**
ARTI Arti 133.65 50 *i* PKIKP **PKPdf 00 36 08.9 -0.3**
ARA0 ARCESS Array S 134.19 23 *e*P **PKPdf 00 36 10.3 +0.5**
ARCES ARCESS Array B 134.19 23 PKhKP PKPpre 00 35 53.6
comp=Z,1.3nm,0.5s,baz=216,slow=1.9,SNR=11
ARCES PKP **PKPdf 00 36 09.9 +0.1**
comp=Z,8.4nm,0.4s,baz=186,slow=1.6,SNR=41
ARCES SKPbc **SKPab 00 39 39.0 +0.4**
comp=Z,1.0nm,0.6s,baz=225,slow=0.7,SNR=4.5
SVE Sverdlovsk 134.84 51 *e*PKIKP **PKPdf 00 36 11.7 +0.3**
SVE pmax pmax
comp=Z,8.0nm,1.1s
BORK Borovoye 136.25 60 *i* PKIKP **PKiKP 00 36 15.1 -0.7**
BVAR Borovoye Array 136.26 60 PKhKP PKPpre 00 36 02.0
comp=Z,0.7nm,0.4s,baz=210,slow=4.2,SNR=6.7
BVAR PKP **PKPdf 00 36 13.9 -0.3**
comp=Z,5.6nm,0.4s,baz=184,slow=2.5,SNR=23
MK31 Makanchi Array 137.48 75 *i* PKIKP **PKPdf 00 36 17.6 +0.9**
MKAR Makanchi Array 137.48 75 PKPpre 00 36 07.8
MKAR Makanchi Array 137.48 75 PKhKP PKPpre 00 36 06.3
comp=Z,0.4nm,0.4s,baz=237,slow=4.6,SNR=8.6
MKAR PKP **PKPdf 00 36 15.7 -1.0**
comp=Z,4.1nm,1.0s,baz=242,slow=5.1,SNR=9.4
MKAR Makanchi Array 137.48 75 PKHKP PKPpre 00 36 07.8
WMQ Urumqi 138.04 82 *e*PKP **PKiKP 00 36 19.4 -0.5**
WMQ LR LR
comp=Z,150nm,21.3s
KURBB Kurchatov Arra 138.33 68 PKhKP PKPpre 00 36 08.6
comp=Z,1.0nm,0.5s,baz=235,slow=3.7,SNR=10
KURBB PKP **PKPdf 00 36 15.8 -2.3**
comp=Z,1.4nm,0.5s,baz=233,slow=3.3,SNR=16
KURK Kurchatov 138.43 68 PKPpre 00 36 11.2
KURK Kurchatov 138.43 68 PKHKP PKPpre 00 36 11.2
YKA Yellowknife Ar 139.21 315 PKP **PKPdf 00 36 18.3 -1.0**
comp=Z,4.3nm,0.5s,baz=128,slow=1.0,SNR=25
SPA0 Spitsbergen Ar 140.09 13 *e*P PKPpre 00 36 13.3
SPITS Spitsbergen Ar 140.09 13 PKhKP PKPpre 00 36 12.9
comp=Z,3.4nm,0.4s,baz=154,slow=4.4,SNR=25
LZDM Lanzhou Array 140.15 104 PKP PKPdf 00 36 20.3 -2.1
comp=Z,1.1nm,0.4s,baz=201,slow=7.6,SNR=1.4
KBS Kingsbay 140.28 11 *e*P PKPpre 00 36 15.0
GTA Gaotai 140.90 97 *e*PKP **PKiKP 00 36 26.2 +0.2**
GTA sPKP 00 36 40.6
XAN Xi'an 141.13 111 PKP PKPdf 00 36 23.8 0.0
XAN sPKP 00 36 40.1
T35M Bob Quinn 142.07 300 P PKPdf 00 36 25.3 +0.6
baz=127
CRAG Craig 142.44 297 P PKPdf 00 36 26.1 +0.8
baz=127
WRAK Wrangell Islan 142.66 298 P PKPdf 00 36 26.8 +1.2
baz=127
U33K Whale Pass 142.83 298 P PKPdf 00 36 27.0 +1.0
baz=127
S34M Telegraph Cree 143.01 301 P PKPdf 00 36 27.9 +1.6
baz=126
WTLY Watson Lake, Y 143.28 305 P PKPdf 00 36 28.1 +1.4
baz=124
ZALV Zalesovo Beam 143.43 68 PKhKP PKPpre 00 36 23.5
comp=Z,8.0nm,0.5s,baz=222,slow=3.8,SNR=45
R33M Jennings River 143.79 303 P PKiKP 00 36 29.7 -1.6
baz=124
NJ2 Nanjing 143.90 124 *e*PKP **PKPdf 00 36 30.4 +1.7**
Q32M Nakina River 144.10 302 P PKPdf 00 36 29.9 +1.4
baz=124
SIT Sitka 144.37 298 P PKPdf 00 36 29.9 +1.2
baz=125
R32K Eaglecrest 144.70 300 P PKPdf 00 36 29.6 +0.4
baz=124
P33M Teslin, Yukon 145.02 303 P PKPdf 00 36 30.4 +0.5
baz=122,SNR=9.6
P32M Atlin 145.07 302 P PKPdf 00 36 30.7 +0.8
baz=122
S31K Pelican 145.28 298 P PKPab 00 36 31.4 +1.1
baz=123
R31K City Hall, Gus 145.31 299 P PKPab 00 36 31.5 +1.1
baz=123
N32M Quiet Lake 145.62 305 P PKPab 00 36 32.3 +0.8
baz=121
MMPY Sheldon Lake, 145.63 308 P PKPab 00 36 32.2 +0.7
baz=120
SKAG Skagway 145.70 301 P PKPab 00 36 32.1 +0.3
baz=122
TIY Taiyuan 145.77 111 PKPbc **PKPbc 00 36 32.4 0.0**
WHY Whitehorse 146.13 303 P PKPab 00 36 33.5 -0.1
baz=121
HNS HongShan 146.57 114 ⇑PKPbc **PKPbc 00 36 35.1 +0.4**
TIA Tai'an 146.69 118 PKPbc **PKPdf 00 36 34.0 +0.6**
M31M Drury Creek, Y 146.69 306 P PKPbc 00 36 34.2 -0.1
baz=119,SNR=8.7
O30N Mendenhall 146.70 303 P PKPbc 00 36 34.4 -0.1
baz=120
P30M Million Dollar 146.75 301 P PKPbc 00 36 34.3 -0.3
baz=120
P29M Windy Craggy 146.83 300 P PKPbc 00 36 34.6 -0.2
baz=121
BTO Baotou 146.88 106 *e*PKPbc **PKPbc 00 36 36.0 +0.3**
BTO PP PP 00 40 09.1 +8.4
BTO SS SS 00 59 01.7 +4.4
N31M Braeburn, Yuko 146.92 304 P PKPbc 00 36 35.1 0.0
baz=119
HYT Haines Junctio 147.33 302 P PKPbc 00 36 36.2 -0.1
baz=119
N30M Aishikik Lake 147.46 303 P PKPbc 00 36 36.2 -0.4
baz=118,SNR=5.9
O29M Mount Kennedy 147.53 301 P PKPbc 00 36 36.1 -0.8
baz=119
PNL Peninsula 147.58 300 P PKPdf 00 36 35.6 +1.5
baz=120
A36M Sachs Harbour 147.60 325 P PKPbc 00 36 36.5 0.0
baz=111
HHC Hu-ho-hao-te 147.82 107 *e*PKPbc **PKPdf 00 36 36.5 +1.2**
M30M Minto, Yukon 147.86 305 P PKPbc 00 36 37.0 -0.6
baz=117,SNR=6.5
YUK4 Talbot Arm 148.06 303 P PKPdf 00 36 36.7 +1.6
baz=118
PINM Pinnacle 148.17 300 P PKPdf 00 36 36.6 +1.5
baz=119
H31M Peel River 148.28 312 P PKPbc 00 36 36.9 -1.6
baz=114,SNR=17
O28M Mount Upton 148.46 301 P PKPbc 00 36 37.9 -1.6
baz=118
M29M Somme Creek 148.49 305 P PKPbc 00 36 38.3 -1.0
baz=116,SNR=7.7
YUK8 Steele Glacier 148.52 302 P PKPbc 00 36 38.4 -1.2
baz=117
J30M Hart River 148.54 309 P PKPbc 00 36 38.0 -1.4
baz=114,SNR=16
L29M L29M 148.64 306 P PKPbc 00 36 38.7 -1.0
baz=116,SNR=9.6
G31M Satah River 148.69 314 P PKPbc 00 36 38.9 -0.6
baz=112,SNR=44
F31M Tsiigehtchic 148.69 315 P PKPbc 00 36 39.0 -0.4
baz=112,SNR=8.1
K29M Barlow Dome 148.71 307 P PKPbc 00 36 39.1 -0.7
baz=115
I30M Mount Dempster 148.82 310 P PKPbc 00 36 38.9 -1.2
baz=113
INK Inuvik 148.93 317 P PKPbc 00 36 39.0 -1.1
baz=110,SNR=7.6
MESA MESA 148.96 299 P PKPbc 00 36 39.4 -1.3
baz=118
CTG Chitna Glacier 149.05 301 P PKPbc 00 36 39.6 -1.2
baz=117
J29N Klondike Camp 149.24 308 P PKPbc 00 36 40.2 -0.9
baz=113
BJI Beijing 149.38 113 PKPbc **PKiKP 00 36 42.8 -0.4**
BJI sPKP 00 36 56.4
EPYK Eagle Plains 149.39 312 P PKPbc 00 36 40.3 -1.1
baz=111,SNR=12
G30M tAoh Zrail Nji 149.43 313 P PKPbc 00 36 40.9 -0.5
baz=111,SNR=10
F30M Barrier River 149.49 315 P PKPbc 00 36 40.9 -0.6
baz=110,SNR=33
DAWY Dawson 149.55 307 P PKPbc 00 36 41.1 -0.7
baz=113,SNR=9.8
I29M Ogilvie Camp, 149.62 310 P PKPbc 00 36 41.3 -0.6
baz=112
CRQE Cirque 149.72 300 P PKPbc 00 36 41.6 -0.8
baz=116
MOY Mondy 149.93 82 *e*PKP2 **PKPbc 00 36 43.8 +0.6**
MOY pmax pmax
comp=Z,109nm,2.0s
KAIM Kayak Island 149.94 298 P PKPbc 00 36 42.2 -0.7
baz=117
H29M Whitestone 149.96 311 P PKPbc 00 36 41.9 -0.9
baz=110,SNR=22
MCARA McCarthy VSAT 149.97 301 P PKPbc 00 36 42.1 -0.8
baz=116
G29M Pine Creek 150.07 313 P PKPbc 00 36 41.8 -1.2
baz=110,SNR=18
SONM Songino Array 150.26 92 PKPbc 00 36 43.0 -1.2
SONM Songino Array 150.26 92 PKP **PKPdf 00 36 38.7 -0.3**
comp=Z,0.5nm,0.4s,baz=141,slow=0.9,SNR=5.9
SONM PKPbc **PKPbc 00 36 44.2 +0.1**
comp=Z,11nm,0.5s,baz=214,slow=3.1,SNR=62
I28M Miner Creek 150.29 309 P PKPbc 00 36 43.1 -0.6
baz=111
ZAK Zakamensk 150.31 86 *e*PKIKP **PKPdf 00 36 38.4 -0.5**
ZAK pmax pmax
comp=Z,64nm,1.6s
BMRM Bremner River 150.48 299 P PKPbc 00 36 43.1 -1.1
baz=115
E29M Blow River 150.49 316 P PKPbc 00 36 42.8 -1.1
baz=107,SNR=31
EGAK Eagle 150.53 308 P PKPbc 00 36 43.5 -0.6
baz=111
ULN Ulaanbaatar 150.61 93 PKPbc 00 36 45.1 +0.1
ULN Ulaanbaatar 150.61 93 PKIKP **PKPbc 00 36 45.1 +0.1**
K27K Chicken 150.63 306 P PKPbc 00 36 43.6 -0.8
baz=112
N25K Chitina, Valde 150.75 301 P PKPbc 00 36 44.3 -0.5
baz=114
EYAK Cordova Ski Ar 150.81 298 P PKPbc 00 36 44.4 -0.4
baz=115,SNR=6.0
F28M Old Crow 150.97 314 P PKPbc 00 36 44.3 -0.8
baz=107,SNR=12
E28M Babbage River 151.13 316 P PKPbc 00 36 44.5 -0.9
baz=106,SNR=6.0
H27K Steamboat Moun 151.17 311 P PKPbc 00 36 45.0 -0.7
baz=108,SNR=35
KLU Klutina 151.28 300 P PKPbc 00 36 45.2 -0.8
baz=114
HARP HAARP 151.31 302 P PKPbc 00 36 45.7 -0.3
baz=113
P23K Montague Islan 151.31 296 P PKPbc 00 36 45.6 -0.4
baz=116
G27K Doyon Strip 151.40 312 P PKPbc 00 36 46.2 +0.1
baz=107
SCRK Sand Creek 151.40 305 PKPdf 00 36 39.2 -1.0
SCRK Sand Creek 151.40 305 P PKPbc 00 36 45.9 -0.4
baz=111,SNR=18
I26K Coal Creek Min 151.51 308 P PKPbc 00 36 46.1 -0.3
baz=109
GLI Glacier Island 151.55 298 P PKPbc 00 36 46.7 +0.1
baz=114
M24K Tolsona, Glenn 151.63 301 P PKiKP 00 36 47.1 -0.1
baz=113,SNR=10
PAX Paxson 151.66 303 P PKPbc 00 36 46.5 -0.4
baz=112,SNR=7.9
RIDG Independent Ri 151.67 305 P PKPbc 00 36 46.7 -0.1
baz=110,SNR=7.4
E27K Coleen River 151.76 314 P PKPbc 00 36 46.8 -0.1
baz=105,SNR=15
D27M Malcolm River 151.79 317 P PKPbc 00 36 46.9 -0.1
baz=103
SCM Sheep Creek Mo 152.03 300 P PKPbc 00 36 47.7 0.0
baz=112,SNR=5.5
PWL Port Wells 152.09 298 P PKPbc 00 36 47.1 -0.7
baz=114,SNR=5.4
M23K Glacier View 152.19 300 P PKPbc 00 36 48.0 0.0
baz=112,SNR=7.0
KSAR Wonju Array Be 152.20 132 PKPbc 00 36 48.6 -0.2
KSAR Wonju Array Be 152.20 132 PKIKP **PKPbc 00 36 48.6 -0.2**
KSRS Korea Array 152.22 132 PKP **PKPdf 00 36 42.3 +0.2**
comp=Z,0.6nm,0.4s,baz=237,slow=4.1,SNR=1.6
KSRS PKPbc **PKiKP 00 36 49.1 0.0**
comp=Z,2.1nm,0.9s,baz=210,slow=4.0,SNR=7.4
KSRS PKPab **PKPab 00 36 58.7 -0.1**
comp=Z,2.0nm,0.8s,baz=207,slow=2.4,SNR=8.2
G26K Porcupine Rive 152.24 311 P PKPbc 00 36 47.5 -0.5
baz=106,SNR=18
SEW Seward 152.29 296 P PKPbc 00 36 47.7 -0.6
baz=114
XLT XiLinHaoTe 152.31 108 *e*PKPbc **PKPbc 00 36 48.9 -0.1**
XLT pPKP PKPab 00 36 59.5 +0.3
XLT sPKP 00 37 03.2
KNK Knik Glacier 152.37 299 P PKPbc 00 36 48.0 -0.5
baz=113
SML Sawmill 152.46 300 P PKPbc 00 36 48.1 -0.6
baz=112,SNR=7.1
WAT6 Susitna Watana 152.49 301 P PKPbc 00 36 48.3 -0.6
baz=111,SNR=6.6
DHY Denali Highway 152.50 302 P PKPbc 00 36 48.0 -0.9
baz=110
PRP Porcupine Dome 152.52 308 P PKPbc 00 36 48.1 -0.7
baz=107
F26K Sheenjek River 152.57 313 P PKPbc 00 36 48.4 -0.3
baz=104,SNR=11
BMAR Burnt Mountain 152.67 312 PKPbc 00 36 48.6 -0.4
BRSE Bradley Lake S 152.73 294 P PKPbc 00 36 48.5 -0.8
baz=114
PMR Palmer 152.74 299 P PKPbc 00 36 49.0 -0.2
baz=112
KDAK Kodiak Island 152.74 290 PKPbc 00 36 49.4 0.0
KDAK Kodiak Island 152.74 290 PKIKP **PKPbc 00 36 49.3 0.0**
KDAK Kodiak Island 152.74 290 P PKPbc 00 36 48.6 -0.8
baz=117
HDA Harding Lake 152.76 305 P PKPbc 00 36 49.4 +0.2
baz=108,SNR=6.2
RC01 Rabbit Creek A 152.81 298 P PKPbc 00 36 49.1 -0.3
baz=112,SNR=5.2
OHAK Old Harbor 152.82 288 P PKPbc 00 36 49.1 -0.4
baz=118
C27K Jago River 152.82 317 P PKPbc 00 36 48.7 -0.6
baz=100,SNR=28
H25L Birch Creek 152.84 310 P PKPbc 00 36 49.2 -0.2
baz=105
ILAR Eielson Array 152.85 306 PKPbc 00 36 48.7 -0.7
ILAR Eielson Array 152.85 306 PKPbc **PKPbc 00 36 48.9 -0.6**
comp=Z,5.1nm,0.5s,baz=113,slow=3.4,SNR=90
ILAR Eielson Array 152.85 306 PKIKP **PKPbc 00 36 48.7 -0.7**

WAT1	Susitna Watana	152.93 302	P		PKPbc	00 36 49.3	-0.4
	baz=110						
SII	Sitkinak Islan	152.94 286	P		PKPbc	00 36 49.5	-0.4
	baz=119						
Q20K	Shuyak Island	153.02 291	P		PKPbc	00 36 50.0	0.0
	baz=116						
G25K	Bearman Lake	153.08 311	P		PKPbc	00 36 50.0	+0.1
	baz=104,SNR=6.5						
F25K	Christian Rive	153.10 312	P		PKPbc	00 36 49.4	-0.6
	baz=103,SNR=14						
HOM	Homer	153.12 294	P		PKPbc	00 36 49.6	-0.6
	baz=114						
POKR	Poker Plat Res	153.17 307	P		PKPbc	00 36 49.7	-0.4
	baz=106						
CCB	Clear Creek Bu	153.19 306			PKPbc	00 36 50.0	-0.1
E25K	Arctic Village	153.19 314	P		PKPbc	00 36 49.8	-0.3
	baz=102,SNR=6.4						
COLA	College	153.27 306	P		PKiKP	00 36 50.6	+0.2
	baz=107						
C26K	Camden Bay	153.28 318	P		PKPbc	00 36 50.1	-0.1
	baz=99,SNR=6.8						
CHIR	Chirikof Islan	153.28 284	P		PKPbc	00 36 49.8	-0.8
	baz=120						
MCK	McKinley	153.38 303			PKPbc	00 36 50.7	+0.1
MCK	McKinley	153.38 303		PKIKP	PKPbc	00 36 50.7	+0.1
MCK	McKinley	153.38 303	P		PKPbc	00 36 50.5	-0.1
	baz=108						
SUA	Susitna One	153.41 298	P		PKPbc	00 36 50.5	-0.4
	baz=111						
CUT	Chulitna	153.53 300	P		PKPbc	00 36 50.5	-0.4
	baz=110						
R18K	Karluk	153.54 288	P		PKPbc	00 36 50.6	-0.5
	baz=117						
G24K	Hadweenzic Riv	153.60 310	P		PKiKP	00 36 51.2	+0.1
	baz=103						
NEA2	Nenana	153.70 305	P		PKPbc	00 36 51.4	+0.1
	baz=106						
O20K	Slope Mountain	153.74 294	P		PKPbc	00 36 51.1	-0.5
	baz=113						
Q19K	Cape Douglas,	153.75 291	P		PKPbc	00 36 51.2	-0.3
	baz=115						
P19K	Oil Pt	153.85 293	P		PKPbc	00 36 51.6	-0.2
	baz=114						
TRF	Thorofare Moun	153.87 302	P		PKPbc	00 36 51.7	-0.3
	baz=108						
F24K	Squaw Lake	153.93 312	P		PKPbc	00 36 51.4	-0.4
	baz=101						
SKT	Skwentna	153.94 299	P		PKPbc	00 36 51.3	-0.6
	baz=110						
I23K	Minto, Yukon-K	153.97 306	P		PKPbc	00 36 51.9	+0.1
	baz=105						
SPCR	Spurr Chakacha	153.97 297	P		PKPbc	00 36 51.6	-0.5
	baz=111						
H23K	Yukon River	154.21 308	P		PKPbc	00 36 52.2	-0.1
	baz=104						
E24K	Your Creek	154.26 313	P		PKPbc	00 36 52.5	+0.1
	baz=100						
Q18K	Katmai Hardscr	154.28 290	P		PKPbc	00 36 52.4	-0.4
	baz=115						
BPAW	Bear Paw Mtn.	154.36 304	P		PKPbc	00 36 52.4	-0.3
	baz=106						
MLY	Manley	154.50 306	P		PKPbc	00 36 52.5	-0.5
	baz=104						
PPLA	Purkeypile	154.53 300	P		PKPbc	00 36 52.7	-0.6
	baz=108						
Q17K	Contact Creek	154.53 289	P		PKPbc	00 36 52.8	-0.6
	baz=115						
D24K	Happy Valley	154.54 315	P		PKPbc	00 36 52.9	0.0
	baz=97						
O19K	Port Alsworth	154.57 294	P		PKPbc	00 36 53.0	-0.2
	baz=112						
G23K	Bananza Creek	154.59 310	P		PKPbc	00 36 53.2	0.0
	baz=101						
M20K	Styx River	154.62 298	P		PKPbc	00 36 53.0	-0.4
	baz=109						
E23K	Chandalar	154.67 313	P		PKPbc	00 36 53.1	-0.3
	baz=99						
P18K	Big Mountain,	154.68 292	P		PKPbc	00 36 52.5	-1.0
	baz=113						
MJAR	Matsushiro Arr	154.69 150	PKPab		PKPab	00 37 07.8	-1.5
	comp=Z,8.2nm,1.1s,baz=194,slow=4.9,SNR=7.5						
TOLK	Toolik Lake Re	154.74 314	P		PKPbc	00 36 53.1	-0.4
	baz=98,SNR=11						
CHNA	Chernabura Isl	154.75 279	P		PKPbc	00 36 53.1	-0.7
	baz=120						
COLD	Coldfoot	154.75 311	P		PKiKP	00 36 53.9	+0.4
	baz=100						
O18K	Koktuh Hills	154.85 293	P		PKPbc	00 36 53.9	0.0
	baz=112						
CHUM	Lake Minchumin	154.86 303	P		PKiKP	00 36 53.9	+0.2
	baz=106						
CHGN	Chignik	154.89 283	P		PKiKP	00 36 54.3	+0.3
	baz=118						
I21K	Tanana	155.05 306	P		PKPdf	00 36 54.6	+9.4
	baz=103						
R16K	Pilot Point	155.05 286	P		PKPdf	00 36 54.6	+9.2
	baz=116						
Q16K	King Salmon	155.07 289	P		PKPdf	00 36 54.6	+9.1
	baz=114						
P17K	Kvichak River	155.18 291	P		PKPdf	00 36 55.0	+9.5
	baz=113						
G22K	Bettles	155.21 310	P		PKPdf	00 36 55.2	+10
	baz=100						
C23K	Itkillik River	155.23 317	P		PKPdf	00 36 55.7	+10
	baz=94						
S14K	Fog Glacier	155.44 283	P		PKPab	00 37 11.7	-0.5
	baz=118						
SDPT	Sand Point	155.46 280	P		PKPab	00 37 12.4	+0.3
	baz=119						
E22K	Anaktuvuk Pass	155.50 313	P		PKPab	00 37 12.7	+0.6
	baz=97						
F22K	John River	155.56 311	P		PKPab	00 37 13.2	+0.9
	baz=98						
O17K	Koliganek Bris	155.71 292	P		PKPab	00 37 13.8	+0.8
	baz=112						
M18K	Stony River	155.71 296	P		PKPab	00 37 14.3	+1.3
	baz=108						
P16K	Nushagak River	155.85 289	P		PKPab	00 37 14.9	+1.3
	baz=113						
D22K	Ayikyak River	155.89 314	P		PKPab	00 37 15.3	+1.6
	baz=94						
G21K	Allakaket	155.92 309	P		PKPab	00 37 14.9	+1.1
	baz=99						
I20K	Naaghedeneel	156.00 304	P		PKPab	00 37 15.0	+0.9
	baz=102						
F21K	Alatna River	156.02 310	P		PKPab	00 37 14.8	+0.6
	baz=98						
N17K	Nushagak Hills	156.02 293	P		PKPab	00 37 14.6	+0.2
	baz=110						
O16K	Kokwok River B	156.11 291	P		PKPab	00 37 15.5	+0.7
	baz=111						
B22K	Teshekpuk Lake	156.22 318	P		PKPab	00 37 15.7	+0.7
	baz=91						
H20K	Anotleneega Mo	156.30 306	P		PKPab	00 37 15.4	-0.1
	baz=100						
E21K	Killik River	156.33 313	P		PKPab	00 37 16.2	+0.7
	baz=94						
M17K	Holitna River	156.42 295	P		PKPab	00 37 16.7	+0.6
	baz=108						
S12K	Black Hills	156.42 280	P		PKPab	00 37 16.5	+0.2
	baz=118						
CN2	Changchun	156.56 120	PKP		PKPdf	00 36 53.2	+5.2
B21K	Ikpikpuk River	156.62 316	P		PKPab	00 37 17.2	+0.5
	baz=91						
J18K	Innoko River	156.66 300	P		PKPab	00 37 17.8	+0.7
	baz=104						
C21K	Knifeblade Rid	156.66 315	P		PKPab	00 37 17.6	+0.6
	baz=92						
A22K	Sinclair Lake	156.72 320	P		PKPab	00 37 17.4	+0.3
	baz=88						
N16K	Nishlik Lake	156.74 292	P		PKPab	00 37 17.2	-0.3
	baz=109						
O15K	Ungalikthiuk R	156.78 289	P		PKPab	00 37 18.1	+0.4
	baz=112						
H19K	Roundabout Mou	156.95 306	P		PKPab	00 37 18.4	+0.2
	baz=99						
GCSA	Galena City Sc	157.00 304	P		PKPab	00 37 18.1	-0.3
	baz=101						
M16K	Timber Creek	157.00 294	P		PKPab	00 37 19.2	+0.5
	baz=108						
L17K	Donlin	157.02 297	P		PKPab	00 37 19.6	+1.0
	baz=106						
E20K	Nigu River	157.14 313	P		PKPab	00 37 19.7	+0.6
	baz=93						
K17K	Iditarod	157.17 298	P		PKPab	00 37 19.8	+0.5
	baz=104						
N15K	Kwethluk River	157.26 291	P		PKPab	00 37 20.6	+0.9
	baz=109						
D20K	Etivluk River	157.31 314	P		PKPab	00 37 20.1	+0.3
	baz=91						
L16K	Owhat River	157.44 295	P		PKPab	00 37 20.5	0.0
	baz=106						
E19K	Redstone River	157.49 311	P		PKPab	00 37 20.4	-0.1
	baz=94						
O14K	Tigyukauivet M	157.50 288	P		PKPab	00 37 21.3	+0.5
	baz=111						
F19K	Shaleruckik Mo	157.65 309	P		PKPab	00 37 22.0	+0.8
	baz=95						
H18K	Honhosa River	157.69 304	P		PKPab	00 37 21.8	+0.3
	baz=99						
M15K	Kasigluk River	157.71 292	P		PKPab	00 37 22.0	+0.3
	baz=108						
UNV	Unalaska Valle	157.73 272	P		PKPab	00 37 22.1	+0.2
	baz=121						
D19K	Kuna River	157.86 313	P		PKPab	00 37 22.4	+0.2
	baz=91						
G18K	Tagagawik	157.91 306	P		PKPab	00 37 22.5	0.0
	baz=96						
N14K	Kuskokwak Cree	157.93 290	P		PKPab	00 37 22.8	+0.2
	baz=109						
H17K	Granite Mounta	158.31 304	P		PKPab	00 37 23.8	-0.4
	baz=98						
M14K	Bethel	158.32 292	P		PKPab	00 37 24.1	-0.2
	baz=107						
J16K	Anvik River	158.32 299	P		PKPab	00 37 24.2	-0.1
	baz=102						
L15K	Ungalak Mounta	158.35 294	P		PKPab	00 37 24.4	-0.1
	baz=105						
F18K	Selawik	158.37 308	P		PKPab	00 37 24.5	+0.2
	baz=94						
C19K	Lookout Ridge	158.38 315	P		PKPab	00 37 24.5	0.0
	baz=88						
NIKH	Nikolski High	158.45 268	P		PKPab	00 37 24.9	-0.2
	baz=123						
I17K	Unalakleet	158.48 301	P		PKPab	00 37 25.2	+0.3
	baz=100						
K15K	Wolf Creek Mou	158.53 296	P		PKPab	00 37 25.7	+0.5
	baz=103						
G17K	Kiwalik Mounta	158.69 305	P		PKPab	00 37 25.8	0.0
	baz=96						
E18K	Tukpahlearik C	158.78 310	P		PKPab	00 37 26.4	+0.2
	baz=91						
A19K	Wainwright	158.82 318	P		PKPab	00 37 26.6	+0.4
	baz=83						
L14K	Kuka Creek	158.82 293	P		PKPab	00 37 26.3	-0.1
	baz=105						
M13K	Dall Lake	158.88 290	P		PKPab	00 37 27.5	+0.8
	baz=107						
C18K	Utukok River	158.99 314	P		PKPab	00 37 27.4	+0.3
	baz=87						
F17K	Baldwin Pennin	159.00 308	P		PKPab	00 37 28.0	+0.9
	baz=93						
B18K	Kokolik River	159.16 316	P		PKPab	00 37 28.2	+0.5
	baz=85						
E17K	Hotham Inlet	159.25 309	P		PKPab	00 37 28.7	+0.5
	baz=91						
H16K	Elim	159.26 302	P		PKPab	00 37 29.0	+0.7
	baz=97						
G16K	Koyuk River	159.38 304	P		PKPab	00 37 29.8	+1.0
	baz=95						
J14K	Nanvaranak Lak	159.54 297	P		PKPab	00 37 30.6	+1.0
	baz=101						
C17K	DeLong Mountai	159.72 313	P		PKPab	00 37 31.0	+0.7
	baz=86						
D17K	Noatak River	159.73 311	P		PKPab	00 37 31.2	+0.9
	baz=88						
K13K	Kusilvak Mount	159.88 294	P		PKPab	00 37 31.5	+0.4
	baz=102						
G15K	Niukluk	160.06 303	P		PKPab	00 37 32.6	+0.8
	baz=94						
M11K	Mekoryuk	160.23 289	P		PKPab	00 37 33.9	+1.3
	baz=106						
C16K	Lisburne Hills	160.54 313	P		PKPab	00 37 34.9	+1.2
	baz=84						
P08K	Saint George I	160.57 277	P		PKPab	00 37 35.5	+1.3
	baz=115						
ANM	Nome	160.59 302	P		PKPab	00 37 35.9	+1.8
	baz=95						
F14K	Arctic Creek	161.05 304	P		PKPab	00 37 37.0	+0.9
	baz=91						
SPIA	Saint Paul Isl	161.15 278	P		PKPab	00 37 38.4	+1.6
	baz=113						
TNA	Tin City	161.71 305	P		PKPab	00 37 40.8	+1.8
	baz=90						
GAMB	Gambell	163.32 299	P		PKPab	00 37 44.0	-2.1
	baz=92						
TIXI	Tiksi	164.46 30			PKPab	00 37 52.1	+1.3
TIXI	Tiksi	164.46 30		PKP2	PKPab	00 37 52.1	+1.3

SOME ***07*** *00:47:02.6, 40°.25N×70°.87E, h15km*
KRNET ***07*** *00:47:03.3±0.1, 40°.19N×70°.00E, h17km, mb2.3*
ISU ***07*** *00:47:05, 40°.17N×70°.05E, h12km*
NNC ***07*** *00:47:08.7±3.2, 40°.40N×69°.82E, h0km, mb2.5, mpv2.8,*
Error ellipse: s-maj=24.1km s-min=20.7km az=49.0

ISC 07 00:47:05.2±1.2, **40°.13N**±0°.04×**69°.93E**±0°.04, **h12**km±11km, **n22**, σ1°.69/32, **12C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	1.17	165	↑eP	Pg	00 47 26.4	-1.2
GAR				↑eS	Sn	00 47 43.4	+0.2
CHMI	Chimion	1.23	83	P	Pn	00 47 28.4	+0.3
CHMI				S	Sb	00 47 44.6	+0.6
NZBK	Nazarbek	1.26	331	S	Sg	00 47 48.3	+2.6
TGS	TashGRES	1.33	346	S	Sn	00 47 46.8	-0.4
CHMG	Chimgan	1.42	2	S	Sb	00 47 51.2	+1.4
FRG	Fergana	1.44	80	S	Sg	00 47 52.4	+0.9
CHRV	Charvak	1.51	1	S	Sn	00 47 51.6	-0.1
BXML	Bakhmal	1.53	254	P	Pg	00 47 38.4	+3.9
BXML				S	Sg	00 48 02.9	+8.5
DRK	Karamyk	1.58	114	↑eP	Pn	00 47 32.6	-0.6
DRK				↑eS	Sn	00 47 54.1	+0.4
CHGR	Chuyangaron	1.59	202	↑eP	Pg	00 47 34.4	-1.2
CHGR				↑eS	Sg	00 47 57.1	+0.8
TRKS	Terek-Say	1.67	33	↓eP	Pn	00 47 32.5	-1.9
TRKS				↓eS	Sn	00 47 53.9	-2.0
TSTA	Tashata	2.00	76	S	Sb	00 48 06.3	+0.1
IUG	Iuzhnay	2.02	2	Pg	Pn	00 47 39.8	+0.7
	12nm,0.2s						
IUG				Lg	Lg	00 48 05.3	
	20nm,0.2s						
OHH	Osh	2.22	79	↓eP	Pn	00 47 42.5	+0.7
OHH				↓eS	Sn	00 48 11.1	+2.0
ARK	Arkit	2.27	42	↑eP	Pn	00 47 43.0	+0.5
ARK				↑eS	Sn	00 48 12.1	+1.6
ARSB	Arslanbob	2.61	62	↓eP	Pn	00 47 47.9	+0.7
ARSB				↓eS	Sn	00 48 20.1	+1.2
SFK	Sufi-Kurgan	2.74	91	↑eP	Pn	00 47 50.1	+0.9
SFK				↑eS	Sn	00 48 24.2	+1.9
BRLS	Borolday	2.90	359	Pg	Pn	00 47 51.2	+0.1
	0.9nm,0.3s						
BRLS				Lg	Lg	00 48 25.1	
	7.3nm,0.2s						
BRLS	Borolday	2.90	359	eP	Pn	00 47 51.2	+0.1
	0.9nm,0.3s						
BRLS				eS	Sn	00 48 25.1	-0.8
	7.3nm,0.2s						
KK31	Karatay Array	3.00	8	↑Pn	Pn	00 47 55.0	+2.4
	0.3nm,0.2s,baz=192,slow=16,SNR=11						
KK31				↑Lg	Lg	00 48 35.7	
	2.9nm,0.5s,baz=191,slow=29						
MRKS	Merke	3.60	42	Pg	Pb	00 48 08.3	-0.5
	0.5nm,0.2s						
MRKS				Lg	Lg	00 48 54.3	
	4.2nm,0.3s						
MRKS	Merke	3.60	42	eP	Pn	00 47 58.2	-2.6
	0.4nm,0.1s						
MRKS				eS	Sn	00 48 37.8	-5.5
	1.1nm,0.1s						

RSNC ***07*** *01:02:12.6±0.5, 20°.N±4°.×6°.4W±°., h45km±8km, M4.5, mB5.1, mb4.7, ML3.5, Mw(mB)4.5*
IDC ***07*** *01:02:13.3±0.4, 19°.42N×64°.62W, h0km, mb4.1/22, mbtmp4.2/26, ML3.8/4, MS4.0/46, Error ellipse: s-maj=12.4km s-min=9.8km az=101.0*
NEIC ***07*** *01:02:14.5±1.7, 19°.57N±0°.06×64°.57W±0°.05, h10km±1km, mb4.6/62, ML4.2/30, Error ellipse: s-maj=10.5km s-min=8.5km az=6.0*
RSPR ***07*** *01:02:17.4, 19°.73N×64°.64W, h15km±31km, MD4.6/17*
GCMT ***07*** *01:02:20.4±0.3, 19°.68N±0°.02×64°.55W±0°.02, h21km±1km,*
MW4.8/89, Moment Tensor Solution. s24,c28; s89,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.08±.11; $M_{\theta\theta}$-1.21±.08; $M_{\phi\phi}$0.12±.06; $M_{r\theta}$-1.13±.14; $M_{\theta\phi}$0.99±.05; $M_{r\phi}$1.13±.14; Best double couple: $M_0$2.15700×10^{16} NP1:ϕs92.00000°, δ25.00000°, λ50.00000°. NP2: ϕs315.00000°, δ71.00000°, λ107.00000°. Principal axes: T 1.8980, Plg61.0000°, Azm250.0000°; N 0.5140, Plg16.0000°, Azm129.0000°; P -2.4170, Plg24.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 07 01:02:16.5±0.3, **19°.54N**±0°.04×**64°.68W**±0°.03, **h27**km, **n256**, σ2°.24/243, **mb4.5**/47, **MS4.1**/45, **11C-11D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.78	219	Pn	Pn	01 02 46.2	+0.7
GCPR	Guaynabo City	1.81	228	Pn	Pn	01 02 46.5	+0.7
GCPR	Guaynabo City	1.81	228	↓iP	Pn	01 02 46.6	+0.8
GCPR	Guaynabo City	1.81	228	eS	Sb	01 03 11.4	+0.2
PDPR	Patillas Dam,	1.98	220	Pn	Pn	01 02 49.1	+0.9
PDPR				IAML		01 03 33.4	
	comp=E,1μm,0.9s						
PDPR	Patillas Dam,	1.98	220	↓iP	Pn	01 02 49.4	+1.2
PDPR	Patillas Dam,	1.98	220	eS	Sb	01 03 15.7	-0.4
SJG	San Juan	1.99	225	Pn	Pn	01 02 49.1	+0.7
SJG				IAML		01 03 30.2	
	comp=E,1μm,0.9s						
SJG	San Juan	1.99	225	Pn	Pn	01 02 49.1	+0.7
	comp=E,34nm,0.3s,baz=62,slow=12,SNR=96						
SJG				Sn	Sn	01 03 12.0	-0.4
	comp=E,78nm,0.3s,baz=61,slow=19,SNR=8.2						
SJG				LR	LR	01 03 49.9	
	comp=E,4μm,20.4s,baz=345,slow=50						
SJG	San Juan	1.99	225	↑iP	Pn	01 02 49.8	+1.4
SJG	San Juan	1.99	225	eS	Sb	01 03 15.2	-1.2
SJG	San Juan	1.99	225	eP	Pn	01 02 47.8	-0.6
SJG	San Juan	1.99	225	P	Pn	01 02 49.0	+0.6
SJG				S	Sb	01 03 18.7	+2.3
ECPR	Experimental S	2.01	233	↓iP	Pn	01 02 49.8	+1.3
ECPR	Experimental S	2.01	233	eS	Sn	01 03 13.8	+0.9
EMPR	Esperanza - Ma	2.05	239	Pn	Pn	01 02 50.1	+1.0
EMPR	Esperanza - Ma	2.05	239	↑eP	Pn	01 02 50.8	+1.7
EMPR	Esperanza - Ma	2.05	239	eS	Sb	01 03 16.8	-1.2
IGPR	InterUniversit	2.07	221	↑iP	Pn	01 02 50.9	+1.4
IGPR	InterUniversit	2.07	221	eS	Sn	01 03 16.7	+2.3
SMRT	St. Maarten	2.12	134	Pn	Pn	01 02 49.2	-0.9
SMRT				IAML		01 03 21.2	
	comp=E,3μm,0.4s						
SMRT				IAML		01 03 28.9	
	comp=N,2μm,0.8s						
SMRT	St. Maarten	2.12	134	↑eP	Pb	01 02 52.2	-2.0
SMRT	St. Maarten	2.12	134	eS	Sn	01 03 15.0	-0.6
CELP	Cerrillos	2.32	231	Pn	Pn	01 02 53.9	+1.0
CELP				IAML		01 03 36.0	
	comp=N,740nm,0.8s						
CELP	Cerrillos	2.32	231	↓iP	Pn	01 02 54.3	+1.4
CELP	Cerrillos	2.32	231	eS	Sb	01 03 25.1	-0.7
UUPR	Utuado, UPR, P	2.32	237	Pn	Pn	01 02 53.9	+1.0
UUPR	Utuado, UPR, P	2.32	237	↑eP	Pn	01 02 54.7	+1.8
SABA	Saba	2.34	144	Pn	Pn	01 02 53.0	-0.2
SABA				IAML		01 03 47.7	
	comp=N,2μm,0.7s						
SABA	Saba	2.34	144	↑eP	Pn	01 02 54.5	+1.2
SABA	Saba	2.34	144	eS	Sb	01 03 23.5	-3.0
OBIP	Obispado Ponce	2.36	231	Pn	Pn	01 02 54.6	+1.2
OBIP				IAML		01 03 36.0	
	comp=E,1μm,0.9s						
OBIP				IAML		01 03 39.5	
	comp=N,765nm,1.1s						
OBIP	Obispado Ponce	2.36	231	↓iP	Pn	01 02 55.0	+1.6
OBIP	Obispado Ponce	2.36	231	eS	Sn	01 03 24.9	+3.5
AGPR	Aguadilla, PR	2.54	246	↑eP	Pn	01 02 57.3	+1.4
AGPR	Aguadilla, PR	2.54	246	eS	Sn	01 03 29.1	+3.2
SEUS	St. Eustatius	2.59	141	Pn	Pn	01 02 56.5	-0.2
SEUS				IAML		01 03 48.4	
	comp=N,1μm,0.8s						
SEUS				IAML		01 04 04.6	
	comp=E,866nm,0.9s						
GBPR	Guanica, Bosqu	2.60	234	↑iP	Pn	01 02 59.5	+2.7
LSP	Las Mesas	2.66	240	↑eP	Pn	01 02 59.1	+1.5
LSP	Las Mesas	2.66	240	eS	Sn	01 03 32.4	+3.5
PRSN	Puerto Rico Se	2.68	241	Pn	Pn	01 02 58.6	+0.7
PRSN	Puerto Rico Se	2.68	241	↑eP	Pn	01 03 01.0	+3.1
PRSN	Puerto Rico Se	2.68	241	eS	Sn	01 03 33.0	+3.5
MLPR	Magueyes Islan	2.73	236	↓eP	Pn	01 03 00.2	+1.7
MLPR	Magueyes Islan	2.73	236	eS	Sb	01 03 35.4	-2.3
CRPR	Cabo Rojo, PR	2.76	237	Pn	Pn	01 02 59.9	+0.9
CRPR				IAML		01 03 59.0	
	comp=E,809nm,0.8s						
CRPR				IAML		01 03 59.5	
	comp=N,637nm,0.9s						
CRPR	Cabo Rojo, PR	2.76	237	↑eP	Pn	01 03 00.2	+1.2
CRPR	Cabo Rojo, PR	2.76	237	eS	Sb	01 03 37.2	-1.5
IDE	Isla Desecheo	2.89	247	↓eP	Pn	01 03 02.1	+1.4
IDE	Isla Desecheo	2.89	247	eS	Sn	01 03 37.3	+2.7
ANWB	Willy Bob	3.31	124	Pn	Pn	01 03 03.8	-2.7
ANWB	Willy Bob	3.31	124	eP	Pn	01 03 00.6	-5.9
ANWB	Willy Bob	3.31	124	P	Pn	01 03 04.1	-2.5
ANWB				S	Sn	01 03 40.3	-4.8
HIDR	Higuey Centro	3.94	257	↑eP	Pn	01 03 15.8	+0.7
HIDR	Higuey Centro	3.94	257	eS	Sn	01 04 01.9	+1.4
MIDR	Miches	4.17	263	↑eP	Pn	01 03 18.8	+0.5
MIDR	Miches	4.17	263	eS	Sn	01 04 06.3	+0.1
SMDR	Samana, DR	4.27	267	↓eP	Pn	01 03 19.8	+0.1
SMDR	Samana, DR	4.27	267	eS	Sn	01 04 08.3	-0.3
DHSZ	Broadband at M	4.27	139	eP	Pn	01 03 18.6	-1.1
GDHS	Morne Mazeau,	4.27	139	Pn	Pn	01 03 18.7	-1.1
ABD	La Joyeuse, An	4.30	135	Pn	Pn	01 03 16.5	-3.7
ABD	La Joyeuse, An	4.30	135	↓eP	Pn	01 03 22.6	+2.5
ATGZ	Broadband at L	4.43	140	eP	Pn	01 03 21.9	-0.1
MMLZ	Guadeloupe Bro	4.50	140	eP	Pn	01 03 22.2	-0.7
DR12	Loma Pena Alta	4.51	261	Pn	Pn	01 03 24.1	+1.0
CBE	Ff, Capester	4.52	139	Pn	Pn	01 03 21.6	-1.7
CBE	Ff, Capester	4.52	139	↑iP	Pn	01 03 25.7	+2.5
TBG	Guadaloupe-3	4.67	141	eP	Pn	01 03 24.9	-0.3
DSDZ	La Diserade, G	4.70	132	eP	Pn	01 03 22.6	-3.0
GDSD	La Dsirade Is	4.70	132	Pn	Pn	01 03 22.4	-3.2
GDSD				IAML		01 04 43.7	
	comp=N,193nm,2.5s						
GDSD				IAML		01 04 51.5	
	comp=E,122nm,2.3s						
H05N1	Guadeloupe/Mar	4.71	132	Pn	Pn	01 03 22.1	-3.6
H05N1				Sn	Sn	01 04 14.7	-4.8
MAGL	Barre de l'ile	4.82	137	Pn	Pn	01 03 26.2	-1.1
SDD	Santo Domingo	5.07	259	Pn	Pn	01 03 33.2	+2.5
SDD				IAML		01 04 48.6	
	comp=E,155nm,0.8s						
SDD				IAML		01 04 52.0	
	comp=N,136nm,0.8s						
SDD	Santo Domingo	5.07	259	↓eP	Pn	01 03 34.5	+3.8
SDD	Santo

PCRV Puerto La Cruz 9.31 180 Pn **Pn 01 04 28.9 -0.1**
comp=N,2.1nm,0.3s,baz=359,slow=5.4,SNR=12
PCRV Sn **Sn 01 06 13.7 +0.8**
comp=N,0.7nm,0.3s,baz=30,slow=20,SNR=1.4
PCRV LR LR 01 08 06.0
comp=N,2μm,18.0s,slow=38
comp=N,7.6nm,0.6s
QMBU Quimbuelo 9.56 276 *eP* **Pn 01 04 30.4 -2.0**
QMBU *eS* **Sn 01 06 11.1 -7.9**
NMDO Nuevo Mundo 9.74 278 Pn **Pn 01 04 32.1 -2.7**
NMDO Nuevo Mundo 9.74 278 *eP* **Pn 01 04 31.6 -3.2**
NMDO *eS* **Sn 01 06 16.5 -6.9**
GTBY Guantanamo Bay 9.84 274 *eP* **Pn 01 04 34.7 -1.5**
GTBY *eS* **Sn 01 06 20.9 -4.9**
GTBY Guantanamo Bay 9.84 274 P **Pn 01 04 33.4 -2.8**
comp=N,33nm,0.5s
GTBY S **Sn 01 06 21.6 -4.2**
comp=N,33nm,0.5s
PINC Pinares de May 10.49 277 *eP* **Pn 01 04 42.5 -2.6**
PINC *eS* **Sn 01 06 34.3 -7.5**
MARVS Santiago de Cu 10.58 274 *eP* **Pn 01 04 43.5 -2.8**
MARVS *eS* **Sn 01 06 36.6 -7.4**
HLGC Holguin 10.77 279 *eP* **Pn 01 04 48.6 -0.4**
HLGC *eS* **Sn 01 06 46.4 -2.4**
YAR Yar 11.02 276 *eP* **Pn 01 04 49.3 -3.1**
YAR *eS* **Sn 01 06 48.6 -6.2**
BAUV El Baul 11.03 198 Pn **Pn 01 04 53.2 +0.7**
CHIV Chivirico 11.06 274 Pn **Pn 01 04 49.7 -3.3**
CHIV Chivirico 11.06 274 *eP* **Pn 01 04 50.3 -2.7**
CHIV *eS* **Sn 01 06 49.6 -6.2**
CRJC Cerrejon, Guaj 11.59 224 P **Pn 01 05 00.7 +0.4**
comp=N,950nmcomp=N,20nm,1.0s
SDV Santo Domingo 12.06 209 Pn **Pn 01 05 07.4 +0.5**
comp=N,1.7nm,0.3s,baz=37,slow=7.9,SNR=11
SDV Sn **Sn 01 07 22.5 +1.9**
comp=N,1.6nm,0.3s,baz=311,slow=18,SNR=1.4
comp=N,7.3nm,0.4s
SDV Santo Domingo 12.06 209 P Pn 01 05 11.7 +4.9
comp=N,62nm,1.0s
SDV S **Sn 01 07 26.9 +6.3**
comp=N,62nm,1.0s
MTDJ Mount Denham 12.24 266 *eP* **Pn 01 05 10.4 +1.2**
CCCC Cccc 12.39 280 *eP* Pn 01 05 02.2 -8.9
CCCC *eS* Sn 01 07 11.3 -17
BBSR BB Station 12.78 360 Pn **Pn 01 05 12.8 -3.6**
SJCC San Jacinto, C 13.96 228 P **Pn 01 05 35.7 +3.0**
comp=N,39nm,0.9s
OCAC Ocana 14.01 218 P **Pn 01 05 33.5 0.0**
comp=N,1μmcomp=N,117nm,0.8s
OCAC S **Sn 01 08 06.7 -1.6**
comp=N,1μmcomp=N,117nm,0.8s
CBCY The Bluff, Cay 14.21 273 *eP* **Pn 01 05 33.5 -2.5**
PAMC Pamplona, Colo 14.41 214 P **Pn 01 05 40.4 +1.1**
PAMC S **S 01 08 33.4 -4.7**
ZARC Zaragoza, Cauc 15.53 221 P **Pn 01 05 52.8 -0.9**
comp=N,24nm,0.8s
UREC San Jos de Ur 15.76 223 P **P 01 05 59.1 -1.3**
comp=N,713nmcomp=N,26nm,0.7s
RUSC La Rusia 15.84 212 Pn **Pn 01 05 57.8 -0.4**
RUSC IAmb IAmb 01 06 10.8
comp=Z,45nm,1.0s
RUSC La Rusia 15.84 212 P **Pn 01 05 58.3 +0.1**
comp=Z,620nmcomp=Z,39nm,1.0s
PTBC PUERTO BERRIO, 16.04 218 P **Pn 01 05 58.9 -1.5**
comp=Z,245nmcomp=Z,17nm,0.8s
061Z Ochoppi 16.24 296 Pn **Pn 01 06 02.7 0.0**
APAC Apartado, Choc 16.34 227 P **Pn 01 06 03.7 -0.5**
comp=Z,48nm,0.9s
HELC Santa Helena 16.95 220 P **Pn 01 06 13.1 +0.8**
comp=Z,910nmcomp=Z,28nm,2.4s
ROSC El Rosal 17.37 214 **P 01 06 18.4 -0.3**
ROSC IAmb IAmb 01 06 24.6
comp=Z,52nm,0.7s
ROSC El Rosal 17.37 214 P **P 01 06 18.4 -0.3**
comp=Z,5.5nm,0.3s,baz=78,slow=9.3,SNR=23
ROSC S **Sn 01 09 31.8 +1.4**
comp=Z,1.6nm,0.4s,baz=18,slow=20,SNR=1.0
ROSC LR LR 01 13 40.6
comp=Z,777nm,18.2s,baz=6.1,slow=40
comp=Z,36nm,0.5s
CBOC Ciudad Bolivar 17.51 221 P **Pn 01 06 18.7 -0.3**
comp=Z,630nmcomp=Z,27nm,1.1s
BOAV Boa Vista 17.52 166 Pn **Pn 01 06 16.7 -2.2**
BOAV Boa Vista 17.52 166 P **Pn 01 06 16.4 -2.5**
comp=Z,13nm,0.7s
GUY2C Guyana, Caldas 17.63 218 P **Pn 01 06 20.6 -0.2**
comp=Z,794nmcomp=Z,61nm,0.6s
MDP Montagnes des 18.53 139 P **Pn 01 06 30.3 -1.1**
comp=Z,1.1nm,0.3s,baz=305,slow=13,SNR=12
MDP S Sn 01 09 38.5 -19
comp=Z,7.4nm,1.0s,baz=270,slow=20,SNR=2.1
MDP LR LR 01 14 28.8
comp=Z,306nm,21.7s,baz=312,slow=40
comp=Z,3.1nm,0.4s
MACC Macarena, Meta 19.48 209 P **P 01 06 41.1 -0.4**
POPC Popayan, Colom 20.57 216 P **P 01 06 53.8 +0.2**
FLOC Florencia 20.83 212 P **P 01 06 55.9 -0.3**
FLOC IAmb IAmb 01 07 13.0
comp=Z,19nm,1.1s
ACON Acoyapa 21.10 252 P **P 01 07 00.2 +1.1**
BBAC Balboa, Cauca 21.32 217 P **P 01 07 02.1 +0.5**
JTS Las Juntas de 21.62 248 P **P 01 07 04.7 -0.1**
comp=Z,3.2nm,0.2s,baz=71,slow=6.3,SNR=4.3
comp=Z,3.2nm,0.2s
GOGA Godfrey 21.72 313 P **P 01 07 05.6 +0.1**
GOGA IAmb IAmb 01 07 44.9
comp=Z,16nm,1.1s
CMBC Cumbal 22.53 216 P **P 01 07 17.4 +2.5**
MVL Millersville 22.73 336 P **P 01 07 17.8 +1.5**
MVL IAmb IAmb 01 07 52.2
comp=Z,12nm,0.6s
MACA Manacapuru-AM 22.90 170 P **P 01 07 17.2 -1.0**
MACA IAmb IAmb 01 07 37.7
comp=Z,12nm,0.7s
PAC1 Pacto, Paraso 23.63 217 P **P 01 07 28.7 +2.9**
MAL2 Monte Alegre, 23.77 153 P **P 01 07 26.9 -0.1**
L59A Walton 24.23 341 P **P 01 07 31.6 +0.6**
L59A IAmb IAmb 01 08 06.1
comp=Z,34nm,1.4s
PIAT Ana Tenorio 24.38 215 P **P 01 07 33.5 +0.5**
J61A Chester 24.64 346 P **P 01 07 33.1 -1.7**
R49A Shelbyville 25.80 321 P **P 01 07 45.2 -0.2**
CCIG Comitan 26.32 267 P **P 01 07 51.5 +1.1**
CCIG IAmb IAmb 01 08 12.9
comp=Z,18nm,1.0s
WCI Wyandotte Cave 26.44 319 P **P 01 07 52.4 +1.3**
WCI IAmb IAmb 01 08 35.7
comp=Z,8.3nm,0.6s
ATAH Atahualpa 29.75 208 LR LR 01 21 34.2
comp=Z,357nm,21.6s,baz=21,slow=39
K43A Burlington 30.52 324 P **P 01 08 27.1 -0.3**
N41A Harden Midland 30.75 319 P **P 01 08 29.0 -0.5**
VILB Vilhena 32.59 172 P **P 01 08 44.9 -0.9**
VILB IAmb IAmb 01 08 59.3
comp=Z,8.8nm,0.8s
BRDY Brady 33.00 298 P **P 01 08 50.3 +0.9**
NNA Nana 33.54 202 LR LR 01 23 44.9
comp=Z,216nm,21.6s,baz=360,slow=39
DRIO Del Rio 34.04 294 P **P 01 08 59.0 +0.4**
OZNA Ozona 34.72 296 P **P 01 09 05.5 +1.1**
PTLB Pontes e Lacer 35.19 171 P **P 01 09 09.1 +0.7**
PTLB IAmb IAmb 01 09 15.3
comp=Z,8.3nm,1.4s
SAND Sanderson 35.41 294 P **P 01 09 10.9 +0.5**
SIV San Ignacio 35.48 174 P **P 01 09 09.9 -1.1**
comp=Z,3.7nm,0.7s,baz=352,slow=9.5,SNR=16
SIV LR LR 01 25 16.8
comp=Z,319nm,18.3s,baz=282,slow=39
comp=Z,3.7nm,0.7s
LPAZ La Paz 35.76 186 P **P 01 09 15.4 +1.4**
comp=Z,0.8nm,0.4s,baz=19,slow=6.4,SNR=6.4
LPAZ LR LR 01 24 50.0
comp=Z,438nm,18.2s,baz=0.5,slow=38
comp=Z,0.8nm,0.4s
TXAR Lajitas Array 36.67 293 **P 01 09 22.1 +0.9**
TXAR Lajitas Array 36.67 293 P **P 01 09 23.2 +2.0**
comp=Z,3.6nm,0.8s,baz=110,slow=9.3,SNR=37
comp=Z,3.6nm,0.8s
ALPN Alpine 36.77 295 P **P 01 09 21.3 -0.9**
RCBR Riachuelo 37.92 129 LR LR 01 25 34.9
comp=Z,40nm,18.5s,baz=298,slow=37
PB16 IPOC Station P 37.94 187 P **P 01 09 29.6 -2.9**
PB16 IAmb IAmb 01 10 11.1
comp=Z,11nm,1.4s
MNTX Cornudas Mount 38.44 297 P **P 01 09 36.0 -0.2**

BDFB Brasilia 38.61 154 P **P 01 09 38.5 +0.9**
BDFB IAmb IAmb 01 09 58.6
comp=Z,22nm,1.5s
BDFB Brasilia 38.61 154 P **P 01 09 38.6 +0.9**
comp=Z,2.4nm,0.6s,baz=346,slow=12,SNR=4.6
BDFB LR LR 01 26 32.4
comp=Z,399nm,18.4s,baz=327,slow=38
comp=Z,2.4nm,0.6s
GO01 Chusmiza 39.22 187 P **P 01 09 40.3 -2.8**
GO01 IAmb IAmb 01 09 47.6
comp=Z,6.5nm,0.7s
PB11 IPOC Station P 39.36 187 P **P 01 09 41.4 -2.5**
PB11 IAmb IAmb 01 09 45.4
comp=Z,12nm,0.8s
ULM Lac du Bonnet 39.39 328 P **P 01 09 46.5 +2.7**
comp=Z,1.4nm,0.4s,baz=95,slow=3.2,SNR=3.5
ULM LR LR 01 26 22.9
comp=Z,194nm,19.6s,baz=136,slow=37
comp=Z,1.4nm,0.4s
SDCO Great Sand Dun 39.79 306 P **P 01 09 49.1 +1.4**
ANMO Albuquerque 39.89 301 P **P 01 09 50.8 +2.4**
ANMO Albuquerque 39.89 301 LR LR 01 27 24.6
comp=Z,347nm,21.8s,baz=198,slow=38
HMBC Humberstone 39.90 188 P **P 01 09 43.9 -4.5**
HMBC IAmb IAmb 01 09 57.7
comp=Z,23nm,1.3s
LENM Lemitar 40.16 300 P **P 01 09 50.5 -0.1**
LPIG La Paz 42.47 285 LR LR 01 35 07.4
comp=Z,78nm,18.1s,baz=93,slow=46
X18A Snowflake 42.65 300 P **P 01 10 11.7 +0.7**
PDAR Pinedale Array 44.19 312 P **P 01 10 25.3 +1.8**
comp=Z,0.6nm,0.5s,baz=115,slow=9.5,SNR=7.7
comp=Z,0.6nm,0.5s
Y14A Wickenburg 45.09 299 P **P 01 10 30.9 +0.4**
CPUP Villa Florida 46.15 171 P **P 01 10 36.9 -1.8**
comp=Z,0.9nm,0.8s,baz=0.0,slow=3.0,SNR=7.6
CPUP LR LR 01 30 54.7
comp=Z,74nm,18.9s,baz=210,slow=37
comp=Z,0.9nm,0.8s
IRM Iron Mountain 46.88 299 P **P 01 10 44.0 -0.6**
IRM IAmb IAmb 01 10 49.7
comp=Z,6.0nm,1.2s
JTMT Jette 48.87 317 P **P 01 11 00.2 +0.2**
NVAR Mina Array Bea 49.83 304 P **P 01 11 08.8 +1.3**
comp=Z,0.4nm,0.6s,baz=85,slow=7.9,SNR=6.2
NVAR LR LR 01 32 51.3
comp=Z,338nm,22.0s,baz=101,slow=37
comp=Z,0.4nm,0.6s
NEW Newport 50.84 317 P **P 01 11 13.9 -0.9**
PLTB Pedras Altas 52.10 168 P **P 01 11 23.2 -1.1**
PLTB IAmb IAmb 01 11 46.3
comp=Z,16nm,1.5s
VA03 San Esteban 52.31 186 P **P 01 11 27.1 +1.1**
L04D Klamath Falls 53.30 309 P **P 01 11 35.5 +2.1**
L04D IAmb IAmb 01 12 00.4
comp=Z,9.2nm,1.0s
BO04 La Punta 53.53 186 P **P 01 11 35.7 +0.9**
YBH Yreka Blue Hor 53.55 308 LR LR 01 35 55.9
comp=Z,9.4nm,20.1s,baz=104,slow=38
M02C Callahan 53.62 307 P **P 01 11 35.8 +0.1**
M02C IAmb IAmb 01 12 00.1
comp=Z,8.6nm,1.4s
YKA Yellowknife Ar 54.81 334 P **P 01 11 46.3 +2.5**
comp=Z,2.6nm,0.8s,baz=49,slow=8.5,SNR=7.2
YKA LR LR 01 36 19.2
comp=Z,294nm,18.1s,baz=117,slow=37
comp=Z,2.6nm,0.8s
MDT Midelt 54.86 63 LR LR 01 30 13.1
comp=Z,162nm,21.6s,baz=283,slow=31
ESDC Sonseca Array 55.42 55 P **P 01 11 51.4 +2.7**
comp=Z,0.8nm,1.0s,baz=275,slow=6.5,SNR=7.2
ESDC LR LR 01 30 12.4
comp=Z,136nm,21.8s,baz=262,slow=30
comp=Z,0.8nm,1.0s
H10N3 ASCENSION HYDR 56.40 114 T T 02 12 45.2
baz=301
H10N2 ASCENSION HYDR 56.41 114 T T 02 12 43.1
baz=301
H10N1 ASCENSION HYDR 56.42 114 T T 02 12 46.8
baz=301
H10S3 ASCENSION HYDR 56.81 115 T T 02 13 15.8
baz=280
H10S2 ASCENSION HYDR 56.83 115 T T 02 13 20.5
baz=300
EKA Eskdalemuir Ar 58.01 36 P **P 01 12 07.5 +0.8**
comp=Z,2.5nm,0.8s,baz=266,slow=5.9,SNR=4.7
comp=Z,2.5nm,0.8s
BBB Bella Bella 58.56 320 LR LR 01 39 27.2
comp=Z,146nm,18.3s,baz=93,slow=38
DBIC Dimbokro 59.38 94 P **P 01 12 17.2 +0.3**
comp=Z,2.2nm,0.5s,baz=303,slow=3.9,SNR=5.3
DBIC LR LR 01 35 32.8
comp=Z,104nm,18.9s,baz=352,slow=34
comp=Z,2.2nm,0.5s
PLCA Paso Flores 60.21 185 P **P 01 12 22.1 -0.1**
comp=Z,2.3nm,1.0s,baz=355,slow=11,SNR=2.2
PLCA LR LR 01 40 43.8
comp=Z,153nm,18.7s,baz=24,slow=38
comp=Z,2.3nm,1.0s
DLBC Dease Lake 60.68 327 LR LR 01 38 34.1
comp=Z,2μm,20.6s,baz=74,slow=36
JMIC Jan Mayen 60.91 18 LR LR 01 33 41.3
comp=Z,142nm,21.0s,baz=200,slow=31
RPN Rapa Nui 63.44 224 LR LR 01 36 34.1
comp=Z,54nm,20.2s,baz=262,slow=32
TORD Torodi Ar. Bea 63.68 85 P **P 01 12 45.2 -0.8**
TORD Torodi Ar. Bea 63.68 85 P **P 01 12 46.5 +0.6**
comp=Z,2.2nm,0.8s,baz=310,slow=6.5,SNR=9.3
comp=Z,2.2nm,0.8s
INK Inuvik 64.20 337 LR LR 01 41 32.5
comp=Z,106nm,20.9s,baz=70,slow=37
M30M Minto, Yukon 64.61 331 P **P 01 12 52.9 +1.6**
G30M tAoh Zraii Nji 64.97 336 P **P 01 12 53.2 -0.4**
G29M Pine Creek 65.66 336 P **P 01 12 58.3 +0.2**
G29M IAmb IAmb 01 13 14.4
comp=Z,7.6nm,1.2s
H29M Whitestone 65.72 335 P **P 01 12 58.5 +0.1**
E29M Blow River 65.82 337 P **P 01 12 59.2 +0.2**
E29M IAmb IAmb 01 13 33.1
comp=Z,9.0nm,1.4s
DAWY Dawson 65.93 332 P **P 01 13 00.3 +0.4**
DAWY IAmb IAmb 01 13 21.2
comp=Z,5.4nm,1.1s
KEST Kesra 66.14 59 LR LR 01 38 16.7
comp=Z,96nm,21.0s,baz=318,slow=33
NB2 NORSAR Subarra 66.28 31 P P 01 13 06.3 +4.1
comp=Z,3.2nm,0.9s,baz=268,slow=6.5
NOA NORSAR Array B 66.28 31 P **P 01 13 05.6 +3.5**
comp=Z,0.9nm,0.7s,baz=269,slow=6.5,SNR=7.7
NOA LR LR 01 40 31.8
comp=Z,153nm,18.4s,baz=270,slow=35
comp=Z,0.9nm,0.7s
F28M Old Crow 66.46 336 P **P 01 13 03.2 0.0**
F28M IAmb IAmb 01 13 34.7
comp=Z,6.9nm,1.3s
G27K Doyon Strip 67.08 335 P **P 01 13 07.9 +0.7**
G27K IAmb IAmb 01 13 37.8
comp=Z,5.5nm,1.4s
HFS Hagfors 67.48 32 LR LR 01 42 03.4
comp=Z,224nm,18.0s,baz=254,slow=35
GERES GERESS Array B 67.97 44 P **P 01 13 14.1 +0.9**
comp=Z,0.6nm,0.6s,baz=268,slow=6.1,SNR=5.4
comp=Z,0.6nm,0.6s
BMRM Bremner River 68.24 329 P **P 01 13 14.7 0.0**
E25K Arctic Village 68.64 337 P **P 01 13 17.4 +0.4**
F25K Christian River 68.67 336 P **P 01 13 18.5 +1.3**
F25K IAmb IAmb 01 13 51.7
comp=Z,3.5nm,0.9s
SPITS Spitsbergen Ar 69.17 13 P **P 01 13 21.2 +1.1**
comp=Z,13nm,1.1s,baz=226,slow=7.7,SNR=1.8
SPITS LR LR 01 41 23.5
comp=Z,102nm,19.9s,baz=225,slow=34
comp=Z,13nm,1.1s
IL31 69.20 333 P **P 01 13 21.1 +0.8**
IL31 IAmb IAmb 01 13 39.1
comp=Z,6.3nm,1.3s
ILAR Eielson Array 69.20 333 P **P 01 13 20.8 +0.4**
comp=Z,1.1nm,0.7s,baz=105,slow=4.2,SNR=17
ILAR LR LR 01 45 48.9
comp=Z,176nm,18.3s,baz=80,slow=38
comp=Z,1.1nm,0.7s
G24K Hadweenzic Riv 69.39 335 P **P 01 13 22.2 +0.6**
G24K IAmb IAmb 01 13 26.1
comp=Z,5.7nm,1.1s
VRAC Vranov 69.81 44 LR LR 01 41 31.7
comp=Z,68nm,19.1s,baz=292,slow=34
VAE Valguarnera 69.91 56 LR LR 01 42 08.4
comp=Z,140nm,18.7s,baz=300,slow=34

I23K Minto, Yukon-K 70.23 333 P **P 01 13 26.6 -0.2**
I23K IAmb IAmb 01 13 33.4
comp=Z,3.7nm,0.7s
G21K Allakaket 71.80 335 P **P 01 13 37.4 +1.0**
G21K IAmb IAmb 01 14 14.1
comp=Z,7.3nm,1.2s
ARCES ARCESS Array B 71.93 22 P **P 01 13 39.1 +2.0**
comp=Z,2.0nm,0.7s,baz=267,slow=4.5,SNR=8.1
comp=Z,2.0nm,0.7s
KDAK Kodiak Island 72.59 326 LR LR 01 45 38.0
comp=Z,146nm,22.0s,baz=82,slow=36
D19K Kuna River 73.25 337 P **P 01 13 45.2 +0.3**
FINES FINESS Array B 73.41 30 P **P 01 13 47.3 +1.4**
comp=Z,1.7nm,0.7s,baz=222,slow=2.6,SNR=7.1
FINES LR LR 01 44 18.7
comp=Z,142nm,18.8s,baz=276,slow=34
comp=Z,1.7nm,0.7s
MLR Muntele Rosu 76.75 46 LR LR 01 44 15.2
comp=Z,78nm,21.1s,baz=264,slow=33
AKASG Malin Array Be 77.54 41 LR LR 01 43 52.6
comp=Z,126nm,22.0s,baz=280,slow=32
BRTR Keskin Array B 83.89 50 P **P 01 14 46.8 +2.5**
comp=Z,0.8nm,0.8s,baz=266,slow=5.5,SNR=2.8
comp=Z,0.8nm,0.8s
PMSA Palmer Station 84.05 180 LR LR 01 54 05.7
comp=Z,129nm,18.9s,baz=332,slow=37
KIRV Kirov 85.32 29 LR LR 01 51 55.4
comp=Z,56nm,18.2s,baz=353,slow=35
EIL Elat 88.48 59 LR LR 01 53 24.3
comp=Z,72nm,20.2s,baz=328,slow=35
KBZ Khabaz 88.71 44 LR LR 01 57 05.7
comp=Z,53nm,18.1s,baz=14,slow=37
ASF Jabal al Asfar 89.10 56 LR LR 01 57 18.4
comp=Z,22nm,18.4s,baz=73,slow=37
ARTI Arti 90.56 28 LR LR 01 52 06.5
comp=Z,65nm,21.9s,baz=341,slow=33
GNI Garni 91.54 46 LR LR 01 59 14.0
comp=Z,34nm,18.0s,baz=328,slow=37
AKTO Aktyubinsk 94.02 33 LR LR 01 58 13.8
comp=Z,153nm,18.0s,baz=263,slow=36
LBTB Lobatse 98.27 114 LR LR 01 53 58.2
comp=Z,58nm,19.7s,baz=293,slow=32
BOSA Boshof 99.06 117 LR LR 01 55 57.0
comp=Z,49nm,18.5s,baz=240,slow=33
MATP Matopo 99.46 108 LR LR 01 55 39.8
comp=Z,99nm,19.3s,baz=296,slow=32
SNAA Sanae 100.05 164 LR LR 02 04 08.3
comp=Z,59nm,18.7s,baz=18,slow=37
WRA Warramunga Arr 162.09 266 PKP **PKPdf 01 22 16.3 0.0**
comp=Z,0.5nm,0.9s,baz=49,slow=1.3,SNR=4.6
WRA PKPab **PKPab 01 23 03.4 +0.6**
comp=Z,0.5nm,0.7s,baz=86,slow=3.8,SNR=6.0
ASAR Alice Springs 162.24 253 PKPab **PKPab 01 23 04.0 +0.5**
comp=Z,1.3nm,1.0s,baz=98,slow=4.2,SNR=4.5

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*GII **07** 01:18:32.0±0.0, 36°.03N×27°.29E, h13km, Mws3.6, confirmed*
*IDC **07** 01:18:34.9±0.8, 36°.05N×27°.28E, h0km, mb3.8/9, mbtmp3.8/16, ML3.1/5, Error ellipse: s-maj=17.8km s-min=13.1km az=155.0*
*ATH **07** 01:18:37.6, 36°.03N×27°.29E, h13km±2km, ML3.7/16, Manual Solution by E.Daskalaki First location: 2019/10/07 01:19:52, This location: 2019/10/07 06:40:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*ISK **07** 01:18:37.1, 36°.07N×27°.26E, h11km, ML3.7/40*
*NIC **07** 01:18:38.9, 35°.89N×27°.47E, h13km±1km, Ml3.6/15*
*HLW **07** 01:18:38.3, 35°.92N×27°.47E, h8km±20km, Ml3.5*
*THE **07** 01:18:38.1, 36°N±2°×2°7E±°, h14km±3km, M3.5/31, mb3.7/1, MLh3.5/31*
*AFAD **07** 01:18:39.6, 36°.09N×27°.30E, h26km±1km, MW3.7*
ISC 07 01:18:37.7±1.0, **36°.01N**±0°.02×**27°.32E**±0°.02, **h23**km±8km, **n225**, σ1$63/286, **mb3.6**/8, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KARP	**Karpathos**	**0.48**	**195**	Pg	**Pb**	**01 18 47.8**		**+0.3**
KARP				Sg	**Sn**	**01 18 55.8**		**-1.0**
KARP	**Karpathos**	**0.48**	**195**	P	**Pb**	**01 18 47.8**		**+0.3**
KARP				S	**Sb**	**01 18 54.9**		**+0.8**
KARP	**Karpathos**	**0.48**	**195**	*eP*	**Pb**	**01 18 46.6**		**-0.9**
KARP	**Karpathos**	**0.48**	**195**	P	**Pb**	**01 18 47.8**		**+0.3**
KARP				S	**Sb**	**01 18 54.0**		**0.0**
KARP				AML	AML	01 18 56.2		
	12nm,0.2s							
KARP				AML	AML	01 18 56.6		
	11nm,0.2s							
KARP	**Karpathos**	**0.48**	**195**	P	**Pb**	**01 18 47.7**		**+0.3**
KARP				S	**Sb**	**01 18 54.6**		**+0.5**
RGE1	**Gennadi, Rhode**	**0.50**	**88**	P	**Pb**	**01 18 47.7**		**-0.1**
RGE1				S	**Sb**	**01 18 54.8**		**+0.2**
NISR	**Nisiros**	**0.62**	**346**	P	**Pb**	**01 18 50.0**		**+0.1**
NISR				S	**Sn**	**01 18 59.2**		**-1.1**
NISR	**Nisiros**	**0.62**	**346**	P	**Pb**	**01 18 49.9**		**0.0**
YAZI	**Mula-Dat§a-**	**0.68**	**9**	P	**Pb**	**01 18 50.1**		**-0.8**
YAZI				S	**Sb**	**01 18 58.9**		**-1.1**
ARG	**Arkhangelos**	**0.69**	**72**	Pg	**Pb**	**01 18 51.1**		**0.0**
ARG				Sg	**Sn**	**01 19 01.9**		**0.0**
ARG	**Arkhangelos**	**0.69**	**72**	P	**Pb**	**01 18 51.0**		**0.0**
ARG				S	**Sb**	**01 19 00.2**		**+0.1**
ARG	**Arkhangelos**	**0.69**	**72**	P	**Pb**	**01 18 51.0**		**0.0**
ARG				S	**Sb**	**01 19 00.3**		**+0.1**
ARG				AML	AML	01 19 03.4		
	60nm,0.3s							
ARG				AML	AML	01 19 04.0		
	51nm,0.3s							
ARG	**Arkhangelos**	**0.69**	**72**	P	**Pb**	**01 18 51.0**		**-0.1**
ARG				S	**Sb**	**01 19 00.2**		**+0.1**
DAT	**Datca**	**0.75**	**16**	Pg	**Pb**	**01 18 51.4**		**-0.8**
DAT	**Datca**	**0.75**	**16**	P	**Pb**	**01 18 52.4**		**+0.2**
DAT				S	**Sb**	**01 19 01.8**		**-0.2**
DAT	**Datca**	**0.75**	**16**	P	**Pb**	**01 18 51.8**		**-0.4**
DAT				S	**Sb**	**01 19 02.4**		**+0.3**
DATC	**Datca-Mugla**	**0.80**	**20**	Pg	**Pb**	**01 18 52.6**		**-0.3**
RODB	**Rodos**	**0.85**	**59**	P	**Pn**	**01 18 54.2**		**-0.1**
RODB				S	**Sn**	**01 19 05.4**		**-0.6**
RDI1	**Rhodes Town Ha**	**0.86**	**59**	P	**Pn**	**01 18 54.4**		**+0.1**
RDI1				S	**Sb**	**01 19 05.4**		**+0.5**
ASTA	**Astypalaia**	**0.95**	**305**	P	**Pb**	**01 18 54.9**		**-0.6**
ASTA				S	**Sb**	**01 19 07.2**		**-0.3**
KLNA	**Kalymnos**	**0.99**	**344**	P	**Pb**	**01 18 55.6**		**-0.5**
KLNA				S	**Sb**	**01 19 08.8**		**+0.1**
BODT	**Bodrum**	**1.05**	**360**	Pg	**Pn**	**01 18 56.8**		**-0.2**
BODT	**Bodrum**	**1.05**	**360**	P	**Pb**	**01 18 57.4**		**+0.1**
BODT				S	**Sn**	**01 19 12.2**		**+1.2**
BDRM	**Kayabasi**	**1.06**	**6**	P	**Pn**	**01 18 56.9**		**-0.3**
BDRM				S	**Sb**	**01 19 09.7**		**-1.2**
TURN	**Turunc**	**1.07**	**44**	Pg	**Pb**	**01 18 57.6**		**0.0**
TURN				Sg	**Sn**	**01 19 12.6**		**+1.2**
TURN	**Turunc**	**1.07**	**44**	P	**Pb**	**01 18 57.5**		**0.0**
TURN				S	**Sb**	**01 19 10.7**		**-0.4**
YKAV	**Yalikavak-Bodr**	**1.12**	**358**	Pg	**Pb**	**01 18 58.0**		**-0.3**
ZKR	**Zakros**	**1.26**	**226**	Pn	**Pb**	**01 19 01.4**		**+0.6**
ZKR				Sn	**Sb**	**01 19 18.9**		**+2.3**
ZKR	**Zakros**	**1.26**	**226**	P	**Pb**	**01 19 01.4**		**+0.6**
ZKR	**Zakros**	**1.26**	**226**	P	**Pb**	**01 19 01.8**		**+1.0**
ZKR				AML	AML	01 19 20.3		
	10nm,0.7s							
ZKR				S	**Sb**	**01 19 20.4**		**+3.7**
ZKR				AML	AML	01 19 20.7		
	6.9nm,0.5s							
ZKR	**Zakros**	**1.26**	**226**	P	**Pb**	**01 19 01.1**		**+0.3**
ZKR				S	**Sb**	**01 19 17.9**		**+1.3**
SIT2	**Siteia**	**1.27**	**231**	P	**Pb**	**01 19 01.1**		**+0.2**
SIT2				S	**Sb**	**01 19 17.1**		**+0.3**
STIA	**Sitia Lasithi**	**1.28**	**232**	P	**Pb**	**01 19 01.1**		**0.0**
STIA				S	**Sb**	**01 19 17.4**		**+0.3**
DALY	**Dalyan (Mula)**	**1.35**	**53**	Pn	**Pb**	**01 19 02.3**		**+0.1**
DALY				Sn	**Sb**	**01 19 20.9**		**+1.9**
YER	**Yerkesik**	**1.37**	**34**	Pn	**Pb**	**01 19 02.6**		**0.0**
DDIM	**Aydin, Didim**	**1.45**	**358**	P	**Pb**	**01 19 05.5**		**+1.5**
MULA	**Mugla, Merkez-**	**1.48**	**33**	P	**Pb**	**01 19 04.2**		**-0.5**
MULA				S	**Sn**	**01 19 21.9**		**+0.1**
THERA	**Ancient Thera,**	**1.53**	**284**	P	**Pn**	**01 19 04.0**		**+0.4**
SABU	**Mula-Dalaman**	**1.56**	**58**	P	**Pb**	**01 19 06.2**		**+0.3**
SABU				S	**Sn**	**01 19 23.6**		**0.0**
NPS	**Neapolis**	**1.57**	**242**	P	**Pn**	**01 19 05.0**		**+0.8**
NPS				S	**Sb**	**01 19 25.6**		**0.0**
NPS	**Neapolis**	**1.57**	**242**	P	**Pn**	**01 19 04.8**		**+0.6**

THRA	Thira	1.58	286	P	Pb	01 19 05.3 -0.9
THR6	Thira Island,	1.59	283	P	Pn	01 19 05.2 +0.7
THR3	Thira Island,	1.60	285	P	Pn	01 19 05.0 +0.4
IZZE	Mula-Seydike	1.60	74	P	Pb	01 19 06.8 +0.3
IZZE				S	Sb	01 19 26.3 -0.1
SNT5	Nea Kammeni, S	1.60	285	S	Sb	01 19 26.0 -0.4
SNT5	Nea Kammeni, S	1.60	285	P	Pn	01 19 04.7 +0.1
SNT5				S	Sb	01 19 26.0 -0.4
THR5	Thira Island,	1.64	285	P	Pb	01 19 06.2 -1.1
SAP3	Santorini-Thir	1.65	286	P	Pn	01 19 06.0 +0.8
SAP3	Santorini-Thir	1.65	286	P	Pn	01 19 05.9 +0.8
GCAM	G?zelcaml?	1.69	358	Pn	Pn	01 19 06.6 +0.8
GCAM	G?zelcaml?	1.69	358	P	Pn	01 19 06.4 +0.6
AYDN	Tasoluk	1.71	15	P	Pn	01 19 07.0 +0.8
KSL	Kastellorizon	1.84	85	S	Sn	01 19 31.1 +0.7
KSL				AML	AML	01 19 49.0
	1.2nm,0.8s					
KSL				AML	AML	01 19 50.9
	1.1nm,0.6s					
KSL	Kastellorizon	1.84	85	P	Pb	01 19 10.2 -0.5
CAME	Cameli-Denizli	1.85	59	Pn	Pb	01 19 09.9 -1.0
AKAS	Kas	1.87	82	Pn	Pb	01 19 10.7 -0.5
AKAS	Kas	1.87	82	P	Pb	01 19 09.9 -1.3
DNZT	Denizli-Tavas-	1.87	47	P	Pb	01 19 11.8 +0.6
DNZT				S	Sn	01 19 32.3 +1.0
TAVA	DENIZLI_Tavas	1.94	41	P	Pb	01 19 11.8 -0.6
TAVA				S	Sn	01 19 34.1 +1.1
IACM	Heraklion	1.96	250	P	Pn	01 19 10.7 +1.3
CAEL	Denizli, Camel	1.96	55	P	Pb	01 19 13.1 +0.4
CAEL				S	Sb	01 19 38.4 +1.6
ESEN	Aydn-Nazilli	1.97	25	P	Pb	01 19 11.5 -1.4
ESEN				S	Sn	01 19 32.8 -0.8
AYDB	Zeytinkoy-Aydi	1.99	13	Pn	Pn	01 19 10.8 +0.8
KNIK	Mula-Seydike	2.00	65	P	Pb	01 19 12.9 -0.6
KNIK				S	Sn	01 19 35.9 +1.3
DGB	zmir	2.07	350	P	Pn	01 19 11.2 +0.2
IDI	Anoyia	2.10	251	Pn	Pn	01 19 12.3 +0.8
IDI	Anoyia	2.10	251	P	Pn	01 19 12.1 +0.5
IDI				S	Sb	01 19 40.6 -0.3
IDI	Anoyia	2.10	251	Pn	Pn	01 19 12.4 +0.9
	34nm,0.3s,baz=36,slow=14,SNR=114					
IDI				Sn	Sn	01 19 37.2 +0.3
	27nm,0.3s,baz=343,slow=18,SNR=4.7					
IDI	Anoyia	2.10	251	P	Pn	01 19 12.0 +0.5
NAZL	Nazilli-Aydin	2.10	21	Pn	Pn	01 19 12.5 +1.0
DNIZ	Denizli-Tavas-	2.12	40	P	Pb	01 19 13.7 -1.9
DNIZ				S	Sn	01 19 37.5 -0.1
APMY	Acipayam-Deniz	2.16	47	Pn	Pb	01 19 14.4 -1.8
GOLH	Golhisar	2.18	55	P	Pb	01 19 15.6 -0.9
GOLH				S	Sb	01 19 43.6 +0.3
IZMR	zmir-demi	2.19	13	P	Pn	01 19 13.8 +1.2
ELL	Elmali	2.22	70	Pn	Pb	01 19 15.6 -1.6
ELL	Elmali	2.22	70	S	Sb	01 19 42.6 -1.6
ELL				AML	AML	01 19 58.1
	3.2nm,0.6s					
ELL				AML	AML	01 20 04.5
	2.8nm,0.6s					
ELL	Elmali	2.22	70	P	Pb	01 19 16.3 -0.9
TMBK	Timbaki Herakl	2.28	247	P	Pn	01 19 15.7 +1.8
TMBK				S	Sb	01 19 44.9 -1.0
TMBK	Timbaki Herakl	2.28	247	P	Pn	01 19 15.8 +2.0
ZEYE	Izmir, Urla-Ze	2.32	344	P	Pn	01 19 14.0 -0.4
ODEM	Odemis-Izmir	2.34	15	Pn	Pn	01 19 15.9 +1.1
KIRA	zmir-Kiraz	2.35	21	P	Pn	01 19 16.2 +1.2
PRNS	Prines Rethymn	2.38	255	P	Pn	01 19 16.9 +1.7
PRNS	Prines Rethymn	2.38	255	P	Pn	01 19 16.6 +1.4
BLCB	Balcova	2.38	355	Pn	Pn	01 19 16.5 +1.2
URLA	Izmir	2.42	346	Pn	Pn	01 19 16.7 +0.9
URLA	Izmir	2.42	346	P	Pn	01 19 15.7 -0.1
URLA				S	Sb	01 19 54.2 +4.3
MHLO	Agia Marina, M	2.45	287	P	Pb	01 19 18.8 -2.2
INCE	Denizli-Bozkur	2.48	46	P	Pb	01 19 19.4 -2.2
INCE				S	Sn	01 19 48.4 +2.0
CHOS	Chios island	2.58	337	Pn	Pn	01 19 18.9 +0.8
CHOS	Chios island	2.58	337	P	Pn	01 19 18.3 +0.2
CHOS	Chios island	2.58	337	P	Pn	01 19 18.1 0.0
KORT	Korkueli	2.64	67	Pn	Pn	01 19 21.4 +2.5
MANT	Manisa	2.67	21	P	Pn	01 19 20.7 +1.2
CHNB	Souda	2.69	260	P	Pn	01 19 21.6 +2.1
CHAN	Chania	2.71	261	P	Pn	01 19 21.3 +1.6
CHAN				S	Sb	01 19 55.3 -2.9
CHAN	Chania	2.71	261	P	Pn	01 19 20.3 +0.6
EAG2	Marmaro, Chios	2.71	340	P	Pn	01 19 20.3 +0.5
KULA	Kula-Manisa	2.72	23	Pn	Pn	01 19 21.5 +1.4
KARB	zmir-Karabur	2.75	345	P	Pn	01 19 20.0 -0.3
BRDR	BURDUR-Merkez	2.77	52	P	Pn	01 19 23.5 +2.7
ANTB	Antalya	2.83	71	Pn	Pn	01 19 24.1 +2.6
GVD	Gavdhos	2.88	247	Pn	Pn	01 19 24.4 +2.2
AKHS	Akhisar	2.89	8	P	Pn	01 19 24.5 +2.1
BASM	Basmaki-Afyon	2.90	48	Pn	Pn	01 19 24.6 +2.1
PASA	Karahalli, USA	2.91	36	P	Pn	01 19 23.4 +0.7
RODP	Rodopos	2.93	262	Pn	Pn	01 19 24.6 +1.8
ZEDA	zmir-Bergama	2.96	356	P	Pn	01 19 24.0 +0.8
GORD	Gordes-Manisa	2.98	13	Pn	Pn	01 19 24.9 +1.4
BCK	Bucak	3.00	60	Pn	Pn	01 19 26.2 +2.3
KARY	Karystos	3.06	312	P	Pn	01 19 26.0 +1.3
KARY	Karystos	3.06	312	P	Pn	01 19 25.7 +1.0
DKL	Dikili	3.08	354	Pn	Pn	01 19 26.3 +1.5
DKL	Dikili	3.08	354	P	Pn	01 19 26.3 +1.5
LVRA	Laurium	3.12	304	P	Pn	01 19 27.4 +2.0
ISP	Isparta	3.14	54	Pn	Pn	01 19 28.2 +2.3
ISP	Isparta	3.14	54	*e*P	Pn	01 19 25.6 -0.3
ISP	Isparta	3.14	54	P	Pn	01 19 27.4 +1.6
ANKY	Antikythira Is	3.26	269	P	Pn	01 19 28.9 +1.5
ANKY	Antikythira Is	3.26	269	P	Pn	01 19 29.1 +1.7
PRK	Paraskevi	3.34	346	P	Pn	01 19 29.0 +0.6
VLY	Voula,Athens	3.37	304	P	Pn	01 19 30.3 +1.4
VLY	Voula,Athens	3.37	304	P	Pn	01 19 30.3 +1.4
SIGR	SIGRI	3.40	340	Pn	Pn	01 19 29.7 +0.4
SIGR	SIGRI	3.40	340	P	Pn	01 19 29.8 +0.4
SIGR	SIGRI	3.40	340	P	Pn	01 19 29.7 +0.4
DION	Dionisos Attik	3.41	308	P	Pn	01 19 31.0 +1.6
DION	Dionisos Attik	3.41	308	P	Pn	01 19 30.3 +0.9
PTL	Penteli	3.43	307	P	Pn	01 19 31.2 +1.4
PTL	Penteli	3.43	307	P	Pn	01 19 31.1 +1.4
ATHU	Athens Univers	3.44	306	P	Pn	01 19 31.5 +1.7
ATHU	Athens Univers	3.44	306	P	Pn	01 19 31.3 +1.5
KTHA	Kythira Island	3.45	275	Pn	Pn	01 19 31.7 +1.7
KTHA	Kythira Island	3.45	275	P	Pn	01 19 31.7 +1.7
MET2	Kameni Chora,	3.58	298	P	Pn	01 19 33.5 +1.8
YAYO	Edremit-Balk	3.60	357	Pn	Pn	01 19 33.9 +1.8
VLI	Veliai	3.61	283	P	Pn	01 19 33.6 +1.4
VLI				S	Sn	01 20 16.9 +2.9
VLI	Veliai	3.61	283	P	Pn	01 19 33.9 +1.8
SHUT	Suhut-Afyon	3.62	44	Pn	Pn	01 19 34.9 +2.5
KYMI	Kymi, Euboea I	3.67	317	P	Pn	01 19 34.2 +1.2
KYMI	Kymi, Euboea I	3.67	317	P	Pn	01 19 33.7 +0.8
STFN	Stefani	3.71	307	P	Pn	01 19 35.4 +1.8
STFN	Stefani	3.71	307	P	Pn	01 19 34.7 +1.1
TVSB	Tavsanli	3.83	26	Pn	Pn	01 19 37.3 +2.0
VILL	Villia	3.86	305	P	Pn	01 19 37.6 +1.9
SEYD	Seydisehir-KON	3.89	68	Pn	Pn	01 19 39.1 +2.9
VIL2	Platees	3.91	305	P	Pn	01 19 38.6 +2.2
BOZC	Bozcaada	3.96	346	Pn	Pn	01 19 38.6 +1.7
LTK	Loutraki	4.02	301	P	Pn	01 19 40.0 +2.2
LTK	Loutraki	4.02	301	P	Pn	01 19 39.0 +1.1
GAZI	Gazipasa	4.05	85	Pn	Pn	01 19 40.3 +2.0
AKMS	Akamas	4.21	102	P	Pn	01 19 41.6 +1.1
AKMS				S	Sn	01 20 29.4 +0.5
AKMS				AML	AML	01 20 31.0
	0.7nm,0.8s					
AKMS				AML	AML	01 20 32.2
	0.5nm,0.5s					
AKMS	Akamas	4.21	102	P	Pn	01 19 41.7 +1.3
LIA	Limnos Island	4.24	337	P	Pn	01 19 41.8 +1.1
GADA	Gvkgeada	4.32	345	P	Pn	01 19 43.0 +1.0
LKR	Lokris	4.34	309	P	Pn	01 19 43.8 +1.7
LKR	Lokris	4.34	309	P	Pn	01 19 43.8 +1.7
ATAL	Atalanti	4.35	309	P	Pn	01 19 44.1 +1.8
ATAL	Atalanti	4.35	309	P	Pn	01 19 43.8 +1.4
ALFC	Alefka	4.39	100	P	Pn	01 19 44.0 +1.1
ALFC				S	Sn	01 20 34.4 +1.1
ALFC				AML	AML	01 20 36.0
	0.5nm,0.3s					
ALFC				AML	AML	01 20 39.2
	0.4nm,0.7s					
GUR	Goura	4.42	297	P	Pn	01 19 44.6 +1.1
NATA	Nata	4.46	104	P	Pn	01 19 45.3 +1.4
NATA				S	Sn	01 20 35.6 +0.5
NATA				AML	AML	01 20 41.4
	0.8nm,0.4s					
NATA				AML	AML	01 20 43.8
	1.4nm,0.6s					
AXAR	Agios Charalam	4.62	308	P	Pn	01 19 48.4 +2.3
MATC	Matruh	4.65	181	P	Pn	01 19 46.9 +0.5
TROD	Troodos	4.65	102	P	Pn	01 19 47.4 +0.7
TROD				S	Sn	01 20 41.6 +1.6
TROD				AML	AML	01 20 47.8
	0.4nm,0.6s					
TROD				AML	AML	01 20 48.4
	0.3nm,0.6s					
SMTH	Samothraki Isl	4.67	343	P	Pn	01 19 47.7 +0.9
APOL	The Sanctuary	4.72	105	P	Pn	01 19 48.8 +1.3
APOL				S	Sn	01 20 43.2 +1.7
APOL				AML	AML	01 20 52.3
	0.3nm,0.4s					
APOL				AML	AML	01 20 53.5
	0.2nm,0.3s					
XYLS	Xyliatos	4.78	100	P	Pn	01 19 49.3 +1.0
XYLS				S	Sn	01 20 44.0 +1.0
XYLS				AML	AML	01 20 49.4
	0.3nm,0.8s					
XYLS				AML	AML	01 20 52.0
	0.3nm,0.6s					
SLUM	Salum	4.83	202	P	Pn	01 19 50.2 +1.2
AGG	Agios Georgios	4.98	309	P	Pn	01 19 53.3 +2.3
ASGA	Asgata	5.00	102	P	Pn	01 19 52.3 +1.1
ASGA				S	Sn	01 20 49.3 +1.1
ASGA				AML	AML	01 20 52.4
	0.4nm,0.4s					
ASGA				AML	AML	01 20 57.2
	0.3nm,0.5s					
CSS	Mathiatis	5.02	100	P	Pn	01 19 52.5 +1.0
CSS				S	Sn	01 20 50.2 +1.4
CSS				AML	AML	01 20 59.8
	0.1nm,0.7s					
CSS				AML	AML	01 21 00.4
	0.1nm,0.4s					
CSS	Mathiatis	5.02	100	P	Pn	01 19 50.5 -1.1
MVOU	Mavrovouni	5.25	99	P	Pn	01 19 55.1 +0.5
MVOU				S	Sn	01 20 56.1 +1.8
MVOU				AML	AML	01 21 02.0
	0.1nm,0.8s					
MVOU				AML	AML	01 21 03.8
	0.1nm,0.4s					
RDO	Rodhopi	5.32	345	P	Pn	01 19 57.0 +1.4
PARAL	Paralimni	5.58	98	P	Pn	01 20 01.5 +2.3
PARAL				S	Sn	01 21 05.4 +2.8
PARAL				AML	AML	01 21 13.9
	0.2nm,1.2s					
PARAL				AML	AML	01 21 19.1
	0.3nm,1.6s					
BRTR	Keskin Array B	6.23	52	Pn	Pn	01 20 11.1 +2.8
	0.4nm,0.3s,baz=235,slow=16,SNR=12					
BRTR				Sn	Sn	01 21 20.4 +1.7
	baz=202,slow=19					
	1.1nm,0.4s					
SWA2		6.92	194	P	Pn	01 20 19.2 +1.4
HNTI	Hanita	7.11	112	P	Pn	01 20 17.1 -3.2
HNTI	Hanita	7.11	112	S	Sn	01 21 37.7 -2.6
OFRI	`Ofer	7.19	116	P	Pn	01 20 17.3 -4.1
OFRI	`Ofer	7.19	116	S	Sn	01 21 39.4 -2.9
MMA0B	Mount Meron ar	7.31	112	P	Pn	01 20 19.6 -3.5
MMA0B	Mount Meron ar	7.31	112	S	Sn	01 21 43.1 -2.3
MMAI	Mount Meron Ar	7.31	112	Pn	Pn	01 20 22.8 -0.3
	4.1nm,0.3s,baz=312,slow=12,SNR=35					
MMAI				Sn	Sn	01 21 40.3 -5.1
	7.5nm,0.3s,baz=7.8,slow=6.7,SNR=7.3					
RYAN	Fayoum	7.34	159	P	Pn	01 20 23.8 +0.3
RYAN				S	Sn	01 21 42.9 -3.2
SLTI	Sal'it	7.42	118	P	Pn	01 20 20.7 -3.9
GEM	Giv'at Ha'Em	7.42	110	P	Pn	01 20 20.6 -4.0
GEM	Giv'at Ha'Em	7.42	110	S	Sn	01 21 45.4 -2.7
NATI	Neve Ativ	7.46	109	P	Pn	01 20 21.0 -4.1
NATI	Neve Ativ	7.46	109	S	Sn	01 21 46.2 -2.7
MMLI	Mount Malkishu	7.60	116	P	Pn	01 20 22.7 -4.2
MMLI	Mount Malkishu	7.60	116	S	Sn	01 21 49.4 -3.0
SALP	Salfit	7.62	119	P	Pn	01 20 23.1 -4.3
AMAZ	Amatzia	7.74	123	P	Pn	01 20 25.8 -3.2
AMAZ	Amatzia	7.74	123	S	Sn	01 21 53.0 -2.9
KZIT	Kziot	7.80	129	P	Pn	01 20 26.9 -2.9
KZIT	Kziot	7.80	129	S	Sn	01 21 54.2 -3.2
DSI	Dead Sea	8.04	121	P	Pn	01 20 29.0 -4.0
DSI	Dead Sea	8.04	121	S	Sn	01 22 00.8 -2.4
GHAJ	Ghor Haditha	8.32	122	P	Pn	01 20 33.7 -3.2
PRNI	Paran	8.56	129	P	Pn	01 20 36.5 -3.7
HRFI	Mount Harif	8.80	130	P	Pn	01 20 40.2 -3.3
HRFI	Mount Harif	8.80	130	S	Sn	01 22 18.5 -3.4
ASF	Jabal al Asfar	8.82	113	Pn	Pn	01 20 44.0 +0.2
	0.6nm,0.3s,baz=320,slow=8.2,SNR=5.9					
ASF				Sn	Sn	01 22 19.9 -2.6
	0.5nm,0.3s,baz=342,slow=15,SNR=3.4					
	1.8nm,0.5s					
HFRF	Wahat Farafira	8.87	174	P	Pn	01 20 45.7 +1.2
EIL	Elat	9.01	132	Pn	Pn	01 20 46.0 -0.4
	1.2nm,0.3s,baz=322,slow=5.1,SNR=12					
EIL				Sn	Sn	01 22 18.0 -9.0
	2.1nm,0.3s,baz=345,slow=20,SNR=9.6					
	3.2nm,0.4s					
HKAT	Jabal Katrina	9.36	141	P	Pn	01 20 52.0 +0.7
MATE	Matera	9.54	302	*e*P	Pn	01 20 56.9 +3.4
VAE	Valguarnera	10.46	282	Pn	Pn	01 21 02.6 -3.7
	0.3nm,0.3s,baz=18,slow=20,SNR=1.7					
VAE				Sn	Sn	01 23 01.8 -1.0
	0.8nm,0.3s,baz=128,slow=23,SNR=2.4					
KEST	Kesra	14.58	274	Pn	Pn	01 22 02.2 -0.4
	0.2nm,0.3s,baz=118,slow=6.2,SNR=7.3					
	2.3nm,0.9s					
GERES	GERESS Array B	16.26	326	Pn	Pn	01 22 25.5 +0.9
	baz=142,slow=11,SNR=5.0					
	0.7nm,0.7s					
LUNU	Lund	21.80	339	*i*P	P	01 23 27.5 -0.3
DEL	Delary	22.40	340	*i*P	P	01 23 33.6 -0.7
ESDC	Sonseca Array	24.91	288	P	P	01 23 58.7 -0.2
	0.9nm,0.7s,baz=83,slow=9.9,SNR=16					
	0.9nm,0.7s					
FINES	FINESS Array B	25.47	359	P	P	01 24 03.3 -0.4
	1.0nm,0.6s,baz=166,slow=11,SNR=4.7					
	1.0nm,0.6s					
HFS	Hagfors	25.70	344	P	P	01 24 05.8 0.0
	0.8nm,0.4s,baz=158,slow=12,SNR=9.9					
	0.8nm,0.4s					
NOA	NORSAR Array B	27.07	343	P	P	01 24 18.4 +0.2
	0.2nm,0.5s,baz=140,slow=10,SNR=3.6					
	0.2nm,0.5s					
TORD	Torodi Ar. Bea	32.39	232	P	P	01 25 06.4 +0.7
	1.7nm,0.5s,baz=37,slow=9.9,SNR=22					
	1.7nm,0.5s					
ARCES	ARCESS Array B	33.60	359	P	P	01 25 15.7 0.0
	2.8nm,1.1s,baz=172,slow=8.8,SNR=1.2					
	2.8nm,1.1s					
KURBB	Kurchatov Arra	39.22	52	P	P	01 26 04.6 +0.7
	0.5nm,0.5s,baz=272,slow=8.7,SNR=7.3					
	0.5nm,0.5s					
DBIC	Dimbokro	41.47	233	P	P	01 26 23.3 +0.3
	13nm,1.3s,baz=59,slow=8.4,SNR=6.0					
	13nm,1.3s					
MKAR	Makanchi Array	41.84	58	P	P	01 26 26.8 +1.1
	0.5nm,0.8s,baz=282,slow=7.3,SNR=4.9					
	0.5nm,0.8s					
QSPA	South Pole Qui	125.86	180	PKP	PKiKP	01 37 38.7 +1.7
	0.6nm,0.6s,baz=300,slow=2.5,SNR=2.2					

*IDC **07** 01:21:28.8±2.6, 4°.00S×126°.96E, h0km, mb3.9/3, mbtmp3.9/4, ML3.6/1, MS3.6/7, Error ellipse: s-maj=384.4km s-min=26.2km az=65.0*
*DJA **07** 01:21:30.4±0.3, 3°.5±2°×12°.8E±°, h10km, M4.2/8, MLv4.2/8*
ISC 07 01:21:29.6±0.8, 3°.45±0°.07×128°.36E±0°.04, h10km, n18, σ0°.99/14, MS3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.28	214	P	Pb	01 21 37.5	+0.7
AAI				S	Sb	01 21 42.3	+0.7
MSAI	Masohi	0.58	80	P	Pb	01 21 41.9	0.0
MSAI				S	Sg	01 21 49.0	+0.4
NLAI	Namlea	1.27	280	P	Pn	01 21 53.2	-0.2
BNDI	Bandanaira	1.88	125	P	Pb	01 22 03.6	-0.4
SANI	Sanana	2.74	300	P	Pn	01 22 14.9	+1.2
SANI				S	Sn	01 22 47.5	+0.5
SWI	Sorong	3.88	49	P	Pn	01 22 30.4	+1.0
FAKI	Fak Fak	3.92	82	P	Pn	01 22 31.3	+1.3
DAV	Davao City (W)	10.81	345	LR	LR	01 28 24.7	
	comp=Z,78nm,18.5s,baz=124,slow=38						
FITZ	Fitzroy Crossi	14.80	190	LR	LR	01 31 24.1	
	comp=Z,100nm,18.4s,baz=32,slow=42						
WRA	Warramunga Arr	17.40	161	P	Pn	01 25 31.4	-1.3
	0.2nm,0.3s,baz=331,slow=13,SNR=8.7						
	1.9nm,0.8s						
ASAR	Alice Springs	20.80	166	P	P	01 26 11.4	+0.2
	9.2nm,0.3s,baz=359,slow=10.0,SNR=5.2						
	9.2nm,0.3s						
MKAR	Makanchi Array	64.38	327	P	P	01 32 04.1	-1.8
	0.3nm,0.6s,baz=115,slow=8.4,SNR=1.9						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	68.65	328	P	P	01 32 32.7	-0.4
	0.4nm,0.5s,baz=127,slow=6.5,SNR=5.1						
	0.4nm,0.5s						
VNDA	Vanda	76.14	173	LR	LR	02 08 06.9	
	comp=Z,29nm,18.6s,baz=138,slow=37						
ARTI	Arti	81.93	328	LR	LR	02 13 25.5	
	comp=Z,41nm,20.5s,baz=34,slow=38						
KIRV	Kirov	87.17	329	LR	LR	02 15 23.0	
	comp=Z,78nm,21.9s,baz=28,slow=37						
OBN	Obninsk	93.83	325	LR	LR	02 22 11.0	
	comp=Z,41nm,18.0s,baz=216,slow=39						
AKASG	Malin Array Be	98.45	321	LR	LR	02 26 43.9	
	comp=Z,27nm,19.0s,baz=3.0,slow=40						

IDC 07 01:44:05.9±1.4, 31°.11S×178°.43W, h0km, mb3.4/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=43.0km s-min=32.2km az=172.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.02	206	Sn	Sn	01 47 19.6	-15
	1.1nm,0.3s,baz=47,slow=19,SNR=6.4						
RAR	Rarotonga	19.41	64	P	Pn	01 48 34.3	-0.4
	2.0nm,0.3s,baz=243,slow=6.8,SNR=3.1						
	15nm,0.6s						
ASAR	Alice Springs	42.71	268	P	P	01 52 05.2	+0.3
	0.3nm,0.6s,baz=101,slow=7.9,SNR=1.3						
	0.3nm,0.6s						
WRA	Warramunga Arr	43.76	273	P	P	01 52 13.3	0.0
	0.2nm,0.4s,baz=114,slow=8.2,SNR=2.7						
	0.2nm,0.4s						
QSPA	South Pole Qui	59.00	180	P	P	01 54 07.0	-0.1
	0.6nm,0.8s,baz=11,slow=5.2,SNR=5.6						
	0.6nm,0.8s						
FINES	FINESS Array B	145.68	339	PKPbc	PKPdf	02 03 44.3	-1.2
	1.6nm,0.9s,baz=29,slow=4.4,SNR=1.5						

IDC 07 01:53:36.9±5.5, 24°.06S×179°.47E, h605km±63km, mb2.8/3, mbtmp3.9/4, Error ellipse: s-maj=44.9km s-min=39.4km az=45.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.16	277	P	P	01 56 16.6	-0.8
	8.3nm,0.8s,baz=87,slow=18,SNR=9.3						
WRA	Warramunga Arr	41.92	266	P	P	02 00 36.7	+0.3
	0.4nm,0.4s,baz=104,slow=8.3,SNR=6.6						
	0.4nm,0.4s						
QSPA	South Pole Qui	66.02	180	P	P	02 03 24.5	-0.2
	1.1nm,1.0s,baz=45,slow=4.3,SNR=2.1						
	1.1nm,1.0s						
TXAR	Lajitas Array	90.92	58	P	P	02 05 38.2	+0.5
	0.3nm,0.8s,baz=229,slow=4.6,SNR=3.9						
	0.3nm,0.8s						
HFS	Hagfors	142.61	348	PKP	PKPdf	02 12 00.6	-1.0
	1.8nm,0.4s,baz=28,slow=3.7,SNR=18						
BRTR	Keskin Array B	147.29	307	PKPbc	PKPbc	02 12 12.9	-0.9
	0.5nm,0.7s,baz=83,slow=4.9,SNR=2.7						

*IDC **07** 02:14:12.7±5.7, 36°.27N×70°.46E, h180km±51km, mb3.4/4, mbtmp3.8/9, MS3.2/1, Error ellipse: s-maj=56.9km s-min=40.3km az=138.0*
*NNC **07** 02:14:19.4±2.1, 37°.03N×70°.32E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=17.1km s-min=14.5km az=166.0*
ISC 07 02:14:16.9±1.8, 36°.6N±0°.2×70°.4E±0°.2, h204km, n16, σ1°.35/16, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.54	358	Pg	Pn	02 15 39.5	+1.2
	38nm,0.1s						
IUG				Lg	Lg	02 16 41.4	
	130nm,0.5s						
KK31	Karatay Array	6.49	1	Pn	Pn	02 15 51.0	+0.5
	4.4nm,0.4s,baz=184,slow=12,SNR=101						
KK31				⇑Sn	S	02 17 02.0	-2.6
	4.8nm,0.4s,baz=182,slow=22						
MRKS	Merke	6.52	19	Pg	Pn	02 15 51.6	+0.7
	10nm,0.3s						
MRKS				Lg	Lg	02 17 03.3	
	23nm,0.5s						
AAK	Ala-Archa	6.82	27	P	Pn	02 15 55.5	+0.6
	4.4nm,0.4s,baz=204,slow=6.8,SNR=14						
AAK				S	S	02 17 11.7	-0.8
	7.5nm,0.5s,baz=294,slow=19,SNR=20						
AAK	Ala-Archa	6.82	27	⇓Pn	Pn	02 15 55.7	+0.8
	1.7nm,0.5s						
AAK				⇓Sn	S	02 17 11.0	-1.6
	8.8nm,0.7s						
MK31	Makanchi Array	13.52	37	P	P	02 17 28.0	+5.0
	3.5nm,0.9s,baz=213,slow=9.4,SNR=4.2						
MKAR	Makanchi Array	13.52	37	P	Pn	02 17 20.2	-0.4
	0.9nm,0.8s,baz=220,slow=11,SNR=4.4						
AB

*NEIC **07** 02:31:41.3±0.9, 31°.694N±0°.009×104°.31W±0°.01, h5km±1km, mb_Lg2.8/42, ML2.7/28, Error ellipse: s-maj=2.9km s-min=2.1km az=6.0*

TXNET 07 02:31:41.4, 31°.7N±0°.8×104°.3W±0°.9, h6km±2km, ML3.0/12, Error ellipse: s-maj=1.5km s-min=1.0km az=57.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.09**	**357**	P	Pg	02 31 44.4	+0.8
TPB09				S	Sg	02 31 45.8	+0.7
TPB11	**China Draw**	**0.34**	**41**	P	Pg	02 31 48.7	+0.7
TPB11				S	Sg	02 31 53.5	+1.0
TPB13	**Reeves - Culbe**	**0.40**	**108**	P	Pb	02 31 50.5	-0.4
TPB13				S	Sb	02 31 56.0	-1.4
PECS	**Pecos**	**0.48**	**130**	Pg	Pb	02 31 51.6	-0.6
PECS				Sg	Sg	02 31 58.0	+1.1
PECS				IAML		02 31 58.5	
	626nm,0.4s						
PECS				IAML		02 31 58.6	
	735nm,0.4s						
PECS	**Pecos**	**0.48**	**130**	P	Pb	02 31 51.6	-0.6
PECS				S	Sb	02 31 58.4	-1.2
TPB12	**Southwest of T**	**0.55**	**148**	P	Pg	02 31 52.6	+0.7
TPB12				S	Sb	02 32 00.3	-1.2
TPB10	**Southeast of T**	**0.61**	**130**	P	Pb	02 31 54.1	-0.3
TPB10				S	Sb	02 32 02.7	-0.5
CLNB	**Carlsbad**	**0.68**	**31**	Pg	Pg	02 31 54.5	0.0
CLNB	**Carlsbad**	**0.68**	**31**	P	Pg	02 31 55.0	+0.5
CLNB	**Carlsbad**	**0.68**	**31**	S	Sb	02 32 05.0	-0.4
PCOS	**Crockett Middl**	**0.72**	**112**		Sb	02 32 06.6	+0.1
PCOS	**Crockett Middl**	**0.72**	**112**	S	Sb	02 32 06.6	+0.1
LWM1	**Layne Water Mi**	**0.72**	**128**	P	Pb	02 31 56.0	-0.4
LWM1				S	Sb	02 32 06.6	0.0
LWM2	**Layne Water Mi**	**0.73**	**124**	P	Pb	02 31 56.6	+0.1
LWM2				S	Sb	02 32 06.8	-0.1
CBET	**Carlsbad E Tow**	**0.78**	**19**	P	Pg	02 31 56.5	0.0
CLN7	**Carlsbad 7**	**0.84**	**29**	Pg	Pg	02 31 57.5	0.0
CLN7	**Carlsbad 7**	**0.84**	**29**	P	Pg	02 31 57.8	+0.2
TPB01	**Permian Basin**	**0.86**	**149**	P	Pg	02 31 58.0	+0.2
TPB01				S	Sg	02 32 09.4	+0.5
TPB03	**Saragosa**	**0.90**	**131**	P	Pb	02 31 59.3	0.0
TPB03				S	Sb	02 32 11.5	+0.1
TPB06	**Permian Basin**	**0.92**	**92**	S	Sb	02 32 12.7	+0.5
MNTX	**Cornudas Mount**	**0.93**	**271**	Pg	Pg	02 31 59.2	+0.1
MNTX				Sg	Sg	02 32 11.2	0.0
MNTX	**Cornudas Mount**	**0.93**	**271**	P	Pg	02 31 59.4	+0.2
MNTX				S	Sg	02 32 11.7	+0.5
HTMS	**Hat Mesa**	**0.97**	**35**	Pg	Pg	02 31 59.5	-0.5
HTMS	**Hat Mesa**	**0.97**	**35**	S	Sb	02 32 13.9	+0.2
HTMS	**Hat Mesa**	**0.97**	**35**	P	Pg	02 32 00.2	+0.2
TPB04	**Verhalen**	**1.00**	**119**	P	Pb	02 32 01.3	+0.1
TPB04				S	Sb	02 32 15.1	+0.4
NM01	**Eunice**	**1.02**	**48**	P	Pb	02 32 01.3	-0.1
NM01				S	Sb	02 32 15.1	0.0
TPB16	**Coyonosa**	**1.05**	**122**	P	Pb	02 32 02.2	+0.2
TPB16				S	Sn	02 32 16.8	-0.8
VHRN	**Van Horn**	**1.07**	**214**	Pg	Pg	02 32 01.8	-0.1
VHRN				Sg	Sb	02 32 16.2	-0.3
VHRN				IAML		02 32 24.7	
	193nm,0.4s						
VHRN				IAML		02 32 24.9	
	218nm,0.5s						
VHRN	**Van Horn**	**1.07**	**214**	P	Pg	02 32 01.9	0.0
VHRN				S	Sb	02 32 16.9	+0.3
TPB05	**Hovey Rd**	**1.12**	**132**	P	Pb	02 32 03.3	0.0
TPB05				S	Sn	02 32 18.9	-0.6
TPB15	**Southwest of C**	**1.14**	**114**	P	Pn	02 32 03.8	-0.1
TPB15				S	Sn	02 32 20.2	+0.4
MNHN	**Monahans**	**1.35**	**104**		Pb	02 32 07.2	0.0
MNHN				Sg	Sn	02 32 25.2	+0.1
MNHN	**Monahans**	**1.35**	**104**	P	Pb	02 32 07.2	0.0
MNHN				S	Sn	02 32 26.2	+1.1
CPRX	**Cap Rock**	**1.40**	**15**		Pn	02 32 07.4	-0.1
CPRX	**Cap Rock**	**1.40**	**15**	P	Pb	02 32 07.8	-0.1
ALPN	**Alpine**	**1.42**	**156**		Pn	02 32 07.6	-0.2
ALPN				Sg	Sb	02 32 26.5	-0.1
ALPN	**Alpine**	**1.42**	**156**	P	Pn	02 32 07.6	-0.2
ALPN				S	Sg	02 32 27.2	+0.2
TPB08	**Permian Basin**	**1.43**	**123**	P	Pg	02 32 08.7	0.0
TPB08				S	Sg	02 32 28.8	+1.7
ODSA	**Odessa**	**1.55**	**73**	Pg	Pn	02 32 09.9	+0.4
ODSA	**Odessa**	**1.55**	**73**	P	Pb	02 32 10.4	-0.1
ODSA				S	Sb	02 32 30.4	0.0
TMB04	**Seminole**	**1.80**	**58**	S	Sg	02 32 39.9	+0.7
EPT	**El Paso**	**1.89**	**273**	Pn	Pn	02 32 14.1	-0.1
EPT				IAML		02 32 45.1	
	comp=E,57nm,0.6s						
EPT				IAML		02 32 45.6	
	comp=N,68nm,0.2s						
TX31	**Lajitas Ar. Si**	**2.40**	**167**	Pn	Pn	02 32 22.5	+1.3
TX31	**Lajitas Ar. Si**	**2.40**	**167**	P	Pb	02 32 23.2	-1.8
TX31				S	Sg	02 32 58.7	+0.2
TXAR	**Lajitas Array**	**2.40**	**167**	Pn	Pn	02 32 22.3	+1.0
SAND	**Sanderson**	**2.54**	**132**	Pn	Pn	02 32 23.8	+0.7
SAND				IAmb_Lg		02 33 09.3	
	comp=Z,32nm,0.8s						
MSTX	**Muleshoe**	**2.62**	**29**	Pn	Pn	02 32 25.1	+0.8
SGCY	**Sterling City**	**2.71**	**84**	IAmb_Lg		02 33 11.9	
	comp=Z,43nm,1.0s						
POST	**Post**	**2.74**	**59**	Pn	Pn	02 32 26.7	+0.9
OZNA	**Ozona**	**2.81**	**105**	Pn	Pn	02 32 28.4	+1.4
OZNA				IAmb_Lg		02 33 18.3	
	comp=Z,24nm,1.2s						
CRNM	**Carthage**	**3.06**	**318**	Pn	Pn	02 32 31.4	+1.0
121A	**Cookes Peak, D**	**3.08**	**287**	Pn	Pn	02 32 31.5	+0.8
Y22A	**Socorro**	**3.18**	**316**	IAmb_Lg		02 33 23.2	
	comp=Z,22nm,0.8s						
SN07	**Snyder 07**	**3.21**	**63**	IAmb_Lg		02 33 26.1	
	comp=Z,29nm,0.8s						
LENM	**Lemitar**	**3.35**	**318**	Pn	Pn	02 32 35.8	+1.4
DKNS	**Dickens**	**3.46**	**54**	IAmb_Lg		02 33 34.0	
	comp=Z,24nm,1.0s						
AMTX	**Amarillo**	**3.87**	**34**	Pn	Pn	02 32 42.8	+1.3
AMTX				IAmb_Lg		02 33 44.6	
	comp=Z,20nm,0.7s						
APMT	**Aspermont**	**3.89**	**64**	Pn	Pn	02 32 43.4	+1.7
APMT				IAmb_Lg		02 33 49.0	
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**4.04**	**106**	IAmb_Lg		02 33 58.3	
	comp=Z,15nm,0.7s						
ABTX	**Abilene, Hawle**	**4.06**	**75**	Pn	Pn	02 32 46.1	+2.1
ABTX				IAmb_Lg		02 33 59.1	
	comp=Z,17nm,0.8s						
DUN6	**Lazy B Ranch**	**4.16**	**283**	Pn	Pn	02 32 44.5	-0.9
BRDY	**Brady**	**4.54**	**94**	Pn	Pn	02 32 50.6	0.0
SMWD	**Samnorwood**	**4.81**	**44**	Pn	Pn	02 32 52.1	-2.3
HNDO	**Hondo**	**4.83**	**115**	Pn	Pn	02 32 54.9	+0.3
RTBA	**Rita Blanca**	**4.92**	**15**	Pn	Pn	02 32 57.0	+1.1
RTBA				IAmb_Lg		02 34 31.0	
	comp=Z,19nm,1.0s						
PLPT	**Palo Pinto**	**5.19**	**76**	Pn	Pn	02 33 00.0	+0.5
PLPT				IAmb_Lg		02 34 34.3	
	comp=Z,13nm,1.0s						
T25A	**Trinidad**	**5.45**	**359**	IAmb_Lg		02 34 41.1	
	comp=Z,12nm,0.8s						
WMOK	**Wichita Mounta**	**5.54**	**55**	Pn	Pn	02 33 05.2	+0.9
435B	**Jarrell**	**5.82**	**97**	IAmb_Lg		02 35 01.7	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**7.44**	**10**	IAmb_Lg		02 35 41.0	
	comp=Z,9.7nm,1.0s						
CBKS	**Cedar Bluff**	**8.03**	**26**	IAmb_Lg		02 36 09.3	
	comp=Z,8.8nm,0.7s						

*NEIC **07** 02:35:05.4±0.7, 31°.69N±0°.01×104°.31W±0°.01, h5km±1km, mb_Lg2.8/32, ML2.7/52, Error ellipse: s-maj=2.9km s-min=1.8km az=7.0*

TXNET 07 02:35:05.4, 32°N±1°×10°4W±°, h6km±2km, ML2.9/11, 8C, Error ellipse: s-maj=2.0km s-min=1.4km az=58.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.09**	**359**	⇑P	Pg	02 35 08.1	+0.5
TPB09				S	Sg	02 35 09.5	+0.5
TPB11	**China Draw**	**0.34**	**42**	⇑P	Pg	02 35 12.4	+0.4
TPB11				S	Sg	02 35 17.0	+0.5
PECS	**Pecos**	**0.48**	**130**	Pg	Pg	02 35 15.2	+0.5
PECS				Sg	Sg	02 35 21.9	+0.8
PECS				IAML		02 35 22.3	
	685nm,0.4s						
PECS	**Pecos**	**0.48**	**130**	P	Pg	02 35 15.3	+0.6
PECS				S	Sg	02 35 22.1	+1.0
TPB07	**Mentone**	**0.55**	**101**	S	Sb	02 35 24.6	-1.0
TPB12	**Southwest of T**	**0.55**	**148**	⇑P	Pg	02 35 16.5	+0.5
TPB12				S	Sg	02 35 24.2	+0.9
TPB10	**Southeast of T**	**0.61**	**131**	⇑P	Pg	02 35 17.8	+0.5
TPB10				S	Sg	02 35 26.3	+1.1
CLNB	**Carlsbad**	**0.68**	**32**	Pg	Pg	02 35 18.5	0.0
CLNB	**Carlsbad**	**0.68**	**32**	P	Pg	02 35 18.9	+0.4
PCOS	**Crockett Middl**	**0.73**	**112**		Sb	02 35 30.0	-0.7
PCOS	**Crockett Middl**	**0.73**	**112**	S	Sb	02 35 30.0	-0.7
LWM1	**Layne Water Mi**	**0.73**	**128**	P	Pg	02 35 19.9	+0.5
LWM1				S	Sb	02 35 30.3	-0.5
LWM2	**Layne Water Mi**	**0.74**	**124**	P	Pb	02 35 20.3	-0.3
LWM2				S	Sb	02 35 30.8	-0.2
CLN7	**Carlsbad 7**	**0.84**	**30**	Pg	Pg	02 35 21.2	-0.3
CLN7	**Carlsbad 7**	**0.84**	**30**	P	Pg	02 35 21.5	0.0
TPB01	**Permian Basin**	**0.86**	**149**	⇑P	Pg	02 35 21.7	-0.3
TPB03	**Saragosa**	**0.90**	**132**	⇑P	Pg	02 35 23.0	+0.3
TPB03				S	Sb	02 35 35.2	-0.5
MNTX	**Cornudas Mount**	**0.92**	**271**	Pg	Pg	02 35 23.0	-0.1
MNTX				Sg	Sg	02 35 34.8	-0.3
MNTX	**Cornudas Mount**	**0.92**	**271**	P	Pg	02 35 23.0	-0.1
MNTX				S	Sg	02 35 35.4	+0.3
HTMS	**Hat Mesa**	**0.97**	**36**	Pg	Pg	02 35 23.6	-0.3
HTMS	**Hat Mesa**	**0.97**	**36**	S	Sb	02 35 37.2	-0.5
TPB04	**Verhalen**	**1.01**	**119**	P	Pg	02 35 24.9	+0.1
TPB16	**Coyonosa**	**1.05**	**122**	P	Pg	02 35 25.7	+0.1
TPB16				S	Sb	02 35 40.4	+0.3
VHRN	**Van Horn**	**1.07**	**213**	Pg	Pg	02 35 25.5	-0.4
VHRN				Sg	Sg	02 35 39.7	-0.1
VHRN				IAML		02 35 45.5	
	176nm,0.5s						
VHRN				IAML		02 35 48.4	
	164nm,0.4s						
VHRN	**Van Horn**	**1.07**	**213**	P	Pg	02 35 25.6	-0.3
VHRN				S	Sg	02 35 40.1	+0.3
TPB05	**Hovey Rd**	**1.13**	**132**	⇑P	Pg	02 35 26.9	-0.2
TPB05				S	Sb	02 35 42.1	-0.2
MNHN	**Monahans**	**1.36**	**104**		Pn	02 35 30.5	-0.4
CPRX	**Cap Rock**	**1.39**	**15**		Pn	02 35 31.3	-0.2
CPRX	**Cap Rock**	**1.39**	**15**	P	Pn	02 35 31.5	+0.1
ALPN	**Alpine**	**1.42**	**156**		Pn	02 35 31.0	-0.8
ALPN				Sg	Sb	02 35 50.4	-0.5
ALPN	**Alpine**	**1.42**	**156**	⇑P	Pn	02 35 31.2	-0.7
ALPN				S	Sb	02 35 50.8	-0.1
ODSA	**Odessa**	**1.55**	**73**		Pn	02 35 33.8	+0.3
ODSA				Sg	Sn	02 35 54.0	0.0
ODSA	**Odessa**	**1.55**	**73**	S	Sb	02 35 54.5	0.0
EPT	**El Paso**	**1.88**	**273**	Pn	Pb	02 35 39.4	-0.8
TX31	**Lajitas Ar. Si**	**2.41**	**167**	Pn	Pn	02 35 45.9	+0.6
TX31	**Lajitas Ar. Si**	**2.41**	**167**	P	Pn	02 35 46.9	+1.5
TXAR	**Lajitas Array**	**2.41**	**167**	Pn	Pn	02 35 46.3	+1.0
SAND	**Sanderson**	**2.54**	**132**	Pn	Pn	02 35 48.0	+0.8
SAND				IAmb_Lg		02 36 33.0	
	comp=Z,34nm,0.8s						
MSTX	**Muleshoe**	**2.62**	**29**	Pn	Pn	02 35 49.6	+1.4
SGCY	**Sterling City**	**2.71**	**84**	Pn	Pn	02 35 50.3	+0.8
POST	**Post**	**2.74**	**59**	Pn	Pn	02 35 51.0	+1.1
POST				IAmb_Lg		02 36 31.3	
	comp=Z,36nm,0.9s						
OZNA	**Ozona**	**2.82**	**105**	Pn	Pn	02 35 52.1	+1.1
OZNA				IAmb_Lg		02 36 37.1	
	comp=Z,25nm,1.2s						
CRNM	**Carthage**	**3.05**	**318**	Pn	Pn	02 35 55.0	+0.7
121A	**Cookes Peak, D**	**3.08**	**287**	Pn	Pn	02 35 55.5	+0.9
121A				IAML		02 36 53.5	
	comp=E,25nm,0.9s						
121A				IAML		02 36 59.0	
	comp=N,27nm,0.7s						
BNM	**Barren Site**	**3.14**	**322**	Pn	Pn	02 35 57.3	+1.7
Y22A	**Socorro**	**3.17**	**316**	Pn	Pn	02 35 57.8	+1.8
SN07	**Snyder 07**	**3.21**	**63**	Pn	Pn	02 35 57.9	+1.6
SN07				IAmb_Lg		02 36 47.6	
	comp=Z,24nm,0.8s						
SBM	**South Baldy**	**3.33**	**314**	Pn	Pn	02 35 59.9	+1.5
LENM	**Lemitar**	**3.34**	**318**	Pn	Pn	02 36 00.4	+2.1
DKNS	**Dickens**	**3.47**	**54**	IAmb_Lg		02 36 57.7	
	comp=Z,24nm,1.0s						
AMTX	**Amarillo**	**3.87**	**34**	Pn	Pn	02 36 07.3	+1.9
APMT	**Aspermont**	**3.89**	**64**	Pn	Pn	02 36 07.2	+1.5
DRIO	**Del Rio**	**3.89**	**124**	Pn	Pn	02 36 05.7	0.0
DRIO				IAmb_Lg		02 37 12.4	
	comp=Z,22nm,0.8s						
JCT	**Junction City**	**4.04**	**106**	Pn	Pn	02 36 08.1	+0.4
JCT				IAmb_Lg		02 37 15.6	
	comp=Z,16nm,0.7s						
ABTX	**Abilene, Hawle**	**4.06**	**75**	Pn	Pn	02 36 08.2	+0.2
ABTX				IAmb_Lg		02 37 22.7	
	comp=Z,16nm,0.8s						
319A	**Douglas**	**4.26**	**267**	Pn	Pn	02 36 12.2	+1.3
BRDY	**Brady**	**4.54**	**94**	Pn	Pn	02 36 15.9	+1.3
SMWD	**Samnorwood**	**4.81**	**44**	Pn	Pn	02 36 19.4	+1.1
RTBA	**Rita Blanca**	**4.92**	**15**	Pn	Pn	02 36 20.8	+0.9
RTBA				IAmb_Lg		02 37 54.7	
	comp=Z,18nm,1.0s						
PLPT	**Palo Pinto**	**5.19**	**76**	Pn	Pn	02 36 24.8	+1.2
EF04	**Eagle Ford 04**	**6.14**	**112**	IAmb_Lg		02 38 37.9	
	comp=Z,12nm,0.8s						
X34A	**Smith Ranch, M**	**6.15**	**60**	IAmb_Lg		02 38 36.4	
	comp=Z,13nm,0.7s						

*GUC **07** 02:36:26.3±0.7, 23°.34S×66°.91W, h200km±9km, ML3.9*
*IDC **07** 02:36:30.4±2.6, 22°.97S×66°.79W, h239km±36km, mb3.1/1, mbtmp3.6/4, Error ellipse: s-maj=42.3km s-min=21.6km az=107.0*

ISC 07 02:36:26.3±1.0, 23°.30S±0°.06×66°.90W±0°.06, h200km, n17, σ1§10/20, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.05**	**151**	⇑*i*P	**Pn**	**02 36 56.9**	**-0.1**
YJA	**Yavi**	**1.70**	**49**	*e*P	**Pn**	**02 37 02.4**	**+0.1**
PB06	**IPOC Station P**	**2.54**	**283**	⇑*i*P	**Pn**	**02 37 11.1**	**+0.3**
PB06				*i* S	**Sn**	**02 37 44.0**	**-1.4**
PB06				IAML		02 37 45.0	
	comp=N,308nm,0.4s						
PB09	**IPOC Station P**	**2.64**	**304**	*e*P	**Pn**	**02 37 12.8**	**+0.9**
PB09				*i* S	**Sn**	**02 37 47.0**	**-0.5**
PB03	**IPOC Station P**	**2.92**	**295**	*i* P	**Pn**	**02 37 15.2**	**0.0**
PB03				IAML		02 37 52.1	
	comp=N,242nm,0.4s						
GO02	**Mina Guanaco**	**3.08**	**232**	⇑*i*P	**Pn**	**02 37 16.8**	**-0.3**
GO02				IAML		02 37 56.9	
	comp=N,227nm,0.2s						
PB05	**IPOC Station P**	**3.08**	**278**	⇑*i*P	**Pn**	**02 37 16.7**	**-0.3**
PB05				IAML		02 37 55.0	
	comp=N,117nm,0.2s						
PB01	**IPOC Station P**	**3.29**	**313**	*e*P	**Pn**	**02 37 19.8**	**+0.2**
PB10	**IPOC Station P**	**3.37**	**266**	⇑*i*P	**Pn**	**02 37 20.1**	**-0.2**
PB02	**IPOC Station P**	**3.41**	**305**	*e*P	**Pn**	**02 37 21.2**	**+0.2**
PB14	**IPOC Station P**	**3.47**	**247**	*e*P	**Pn**	**02 37 21.2**	**-0.6**
PB08	**IPOC Station P**	**3.78**	**326**	*e*P	**Pn**	**02 37 27.0**	**+1.2**
PATCX	**Punta Patache**	**3.90**	**309**	*e*P	**Pn**	**02 37 27.6**	**+0.6**
LPAZ	**La Paz**	**7.08**	**350**	P	**Pn**	**02 38 08.5**	**+0.3**
	comp=N,0.5nm,0.3s,baz=168,slow=4.2,SNR=6.8						
LPAZ				S	**Sn**	**02 39 27.8**	**-1.1**
	comp=N,1.0nm,0.9s,baz=155,slow=17,SNR=1.7						
PLCA	**Paso Flores**	**17.65**	**189**	P	**Pn**	**02 40 23.6**	**+3.4**
	comp=N,1.1nm,0.7s,baz=13,slow=12,SNR=5.7						
BDFB	**Brasilia**	**19.35**	**70**	P	**P**	**02 40 36.4**	**-0.6**
	comp=N,2.1nm,0.5s,baz=238,slow=13,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.23**	**69**	P	**P**	**02 47 51.9**	**-1.3**
	comp=N,0.3nm,0.4s,baz=260,slow=5.3,SNR=13						
	comp=N,0.3nm,0.4s						

*SJA **07** 02:45:36.7±0.8, 21°.91S×68°.48W, h121km±5km, ML3.6, MW3.7*
*GUC **07** 02:45:39.5±0.8, 21°.91S×68°.60W, h116km±4km, ML3.5*
*IDC **07** 02:45:40.1±2.9, 21°.81S×68°.03W, h122km±33km, mb3.3/2, mbtmp3.8/5, Error ellipse: s-maj=36.8km s-min=23.4km az=114.0*

ISC 07 02:45:38.6±0.9, 21°.89S±0°.03×68°.45W±0°.04, h110km±8km, n38, σ1§72/64, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**277**	*e*P	**Pn**	**02 45 57.7**	**+0.1**
PB09				*e*S	**Sn**	**02 46 12.2**	**+0.3**
PB09				IAML		02 46 13.9	
	comp=N,704nm,0.2s						
PB09	**IPOC Station P**	**0.74**	**277**	*e*P	**Pn**	**02 45 57.5**	**-0.1**
PB09				*e*S	**Sn**	**02 46 11.9**	**0.0**
PB09				IAML		02 46 14.4	
	comp=Z,591nm,0.7s						
AF01	**San Pedro de A**	**1.09**	**167**	*e*P	**Pn**	**02 46 02.5**	**+1.4**
AF01				*e*S	**Sn**	**02 46 20.1**	**+1.9**
AF01				IAML		02 46 37.9	
	comp=E,1μm,0.6s						
AF01	**San Pedro de A**	**1.09**	**167**	*e*P	**Pn**	**02 46 00.3**	**-0.8**
AF01				*e*S	**Sn**	**02 46 15.0**	**-3.1**
AF01				IAML		02 46 37.7	
	comp=Z,1μm,0.8s						
PB03	**IPOC Station P**	**1.22**	**262**	*e*P	**Pn**	**02 46 01.5**	**-0.9**
PB03				*e*S	**Sn**	**02 46 18.5**	**-1.9**
PB03				IAML		02 46 19.4	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**1.22**	**262**	*e*P	**Pn**	**02 46 01.4**	**-1.1**
PB03				*e*S	**Sn**	**02 46 18.7**	**-1.7**
PB03				IAML		02 46 20.1	
	comp=Z,814nm,0.2s						
PB01	**IPOC Station P**	**1.28**	**311**	*e*P	**Pn**	**02 46 02.5**	**-0.5**
PB01				*e*S	**Sn**	**02 46 20.9**	**-0.6**
PB01				IAML		02 46 23.6	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**1.28**	**311**	*e*P	**Pn**	**02 46 02.6**	**-0.4**
PB01				*e*S	**Sn**	**02 46 22.0**	**+0.5**
PB01				IAML		02 46 23.7	
	comp=Z,701nm,0.2s						
PB06	**IPOC Station P**	**1.32**	**232**	⇑*i*P	**Pn**	**02 46 03.2**	**-0.4**
PB06				*e*S	**Sn**	**02 46 21.5**	**-1.0**
PB06				IAML		02 46 22.7	
	comp=E,977nm,0.3s						
PB06	**IPOC Station P**	**1.32**	**232**	*e*P	**Pn**	**02 46 03.2**	**-0.4**
PB06				*e*S	**Sn**	**02 46 22.2**	**-0.3**
PB06				IAML		02 46 22.9	
	comp=Z,1μm,0.6s						
PB02	**IPOC Station P**	**1.46**	**292**	*e*P	**Pn**	**02 46 04.5**	**-0.7**
PB02				*e*S	**Sn**	**02 46 23.4**	**-1.8**
PB02				IAML		02 46 28.1	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**1.46**	**292**	*e*P	**Pn**	**02 46 04.1**	**-1.1**
PB02				*e*S	**Sn**	**02 46 24.2**	**-1.1**
PB02				IAML		02 46 25.7	
	comp=Z,880nm,0.4s						
PB08	**IPOC Station P**	**1.86**	**339**	*e*P	**Pn**	**02 46 11.3**	**+1.1**
PB08				*e*S	**Sn**	**02 46 35.4**	**+1.2**
PB08	**IPOC Station P**	**1.86**	**339**	*e*P	Pn	02 45 52.6	-18
PB08				*e*S	**Sn**	**02 46 36.2**	**+2.0**
PB08				IAML		02 46 36.9	
	comp=Z,536nm,0.4s						
PB05	**IPOC Station P**	**1.89**	**239**	⇑*i*P	**Pn**	**02 46 09.0**	**-1.3**
PB05				*e*S	**Sn**	**02 46 31.8**	**-2.8**
PB05				IAML		02 46 36.5	
	comp=N,373nm,0.5s						
PB05	**IPOC Station P**	**1.89**	**239**	*e*P	**Pn**	**02 46 09.3**	**-1.1**
PB05				*e*S	**Sn**	**02 46 34.3**	**-0.3**
PATCX	**Punta Patache**	**1.91**	**303**	*e*P	**Pn**	**02 46 09.6**	**-1.0**
PATCX				*e*S	**Sn**	**02 46 33.2**	**-1.8**
TA01	**Diego Aracena**	**2.08**	**309**	*e*P	**Pn**	**02 46 11.4**	**-1.2**
TA01				*e*S	**Sn**	**02 46 37.0**	**-1.8**
TA01	**Diego Aracena**	**2.08**	**309**	*e*P	**Pn**	**02 46 11.5**	**-1.2**
TA01				*e*S	**Sn**	**02 46 37.4**	**-1.4**
TA01				IAML		02 46 39.6	
	comp=Z,435nm,0.5s						
TA02	**Huaiquique**	**2.25**	**315**	*e*P	**Pn**	**02 46 14.9**	**0.0**
TA02				*e*S	**Sn**	**02 46 41.4**	**-1.2**
TA02				IAML		02 46 43.3	
	comp=Z,298nm,0.1s						
GO01	**Chusmiza**	**2.31**	**342**	*e*P	**Pn**	**02 46 16.9**	**+0.7**
GO01				*e*S	**Sn**	**02 46 46.3**	**+1.5**
GO01	**Chusmiza**	**2.31**	**342**	*e*P	**Pn**	**02 46 16.9**	**+0.7**
GO01				IAML		02 46 53.6	
	comp=Z,198nm,0.2s						
PB11	**IPOC Station P**	**2.40**	**332**	*e*P	**Pn**	**02 46 16.3**	**-0.6**
PB11				*e*S	**Sn**	**02 46 45.4**	**-0.9**
PB11	**IPOC Station P**	**2.40**	**332**	*e*S	**Sn**	**02 46 45.1**	**-1.2**
PB11				IAML		02 46 46.8	
	comp=Z,643nm,0.4s						
PB10	**IPOC Station P**	**2.53**	**230**	*e*P	**Pn**	**02 46 17.3**	**-1.2**
PB10	**IPOC Station P**	**2.53**	**230**	*e*P	**Pn**	**02 46 17.2**	**-1.2**
PB10				*e*S	Sn	02 46 38.8	-10
PB10				IAML		02 46 56.6	
	comp=Z,110nm,0.4s						
YJA	**Yavi**	**2.74**	**97**	*e*P	**Pn**	**02 46 22.4**	**+0.9**
YJA				*e*S	**Sn**	**02 46 55.5**	**+0.9**
SALTA		**3.03**	**141**	*e*P	**Pn**	**02 46 23.0**	**-2.5**
SALTA				*e*P		02 46 23.8	
SALTA				*e*P		02 46 28.5	
HJA

NUBE	Las Nubes	0.81	345	P	Pn	02 53 57.8	-0.3
NUBE	Las Nubes	0.81	345	S	Sn	02 54 09.1	+0.1
FAME	Alcaldia de Sa	0.85	329	P	Pn	02 53 58.3	-0.1
PAVA	Las Pavas	0.85	45	P	Pn	02 53 58.5	0.0
PAVA	Las Pavas	0.85	45	S	Sn	02 54 10.7	+0.8
UNIC	Universidad Ca	0.86	1	P	Pn	02 53 58.6	-0.1
UNIC	Universidad Ca	0.86	1	S	Sn	02 54 10.6	+0.5
TECO	Alcaldia de Te	0.87	61	P	Pn	02 53 57.9	-0.8
TECO	Alcaldia de Te	0.87	61	S	Sn	02 54 09.9	-0.3
LOAL	Lomas de Alarc	0.90	346	S	Sn	02 54 11.4	+0.2
LOAL	Lomas de Alarc	0.90	346	P	Pn	02 53 59.0	-0.3
UESV	Universidad de	0.91	55	S	Sn	02 54 11.4	+0.1
UESV	Universidad de	0.91	55	P	Pn	02 53 59.0	-0.3
SCLA	Alcaldia de Sa	1.00	54	P	Pn	02 54 00.4	0.0
SCLA	Alcaldia de Sa	1.00	54	S	Sn	02 54 13.8	+0.4
LLGN	La Laguna	1.20	30	S	Sn	02 54 18.3	-0.2
LLGN	La Laguna	1.20	30	P	Pn	02 54 02.9	-0.5
PACA	Pacayal	1.25	74	S	Sn	02 54 20.5	+0.6
MTO3	Montecristo	1.29	9	P	Pn	02 54 03.9	-0.7
MTO3	Montecristo	1.29	9	S	Sn	02 54 20.2	-0.7
ESQI	Esquipulas	1.45	8	S	Sn	02 54 24.4	-0.2
ESQI	Esquipulas	1.45	8	P	Pn	02 54 06.5	-0.3
LCND	La Caada	1.64	83	S	Sn	02 54 29.6	+0.5
SARH	Santa Rosa de	1.82	25	P	Pn	02 54 11.1	-0.7
SARH	Santa Rosa de	1.82	25	S	Sn	02 54 33.6	-0.2
INTHN	La Esperanza I	1.85	50	S	Sn	02 54 34.6	-0.1
INTHN	La Esperanza I	1.85	50	P	Pn	02 54 12.1	-0.3

NNC 07 03:03:24.8±6.0, 37°.05N×69°.86E, h0km, mb4.0, mpv3.7, 1C-3D, Error ellipse: s-maj=49.3km s-min=37.2km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	5.97	360	Pg	Pn	03 04 54.3	-0.1
	2.4nm,0.2s						
BRLS				Lg	Lg	03 06 00.9	
	12nm,0.6s						
KK31	Karatay Array	6.07	5	⇓Pn	Pn	03 04 56.5	+0.7
	1.1nm,0.2s,baz=190,slow=14,SNR=32						
KK31				⇑Sn	Sn	03 06 07.7	+1.7
	10nm,0.5s,baz=187,slow=25						
MRKS	Merke	6.25	23	Pg	Pn	03 04 57.0	-1.3
	9.4nm,0.4s						
MRKS				Lg	Lg	03 06 05.4	
	5.3nm,0.5s						
AAK	Ala-Archa	6.62	31	⇓Pn	Pn	03 05 02.5	-1.0
	2.0nm,0.6s						
AAK				⇓Sn	Sn	03 06 20.0	+0.2
	1.4nm,0.6s						
AB31	Akbulak array	14.17	333	P	Pn	03 06 47.8	+1.2
	1.2nm,0.9s,baz=156,slow=13,SNR=6.1						

PRE ***07*** *03:13:58.1±0.9, 26°.83S×26°.70E, h2km, ML2.6*
BGSI ***07*** *03:14:01.5±1.1, 27°.26S×26°.95E, h35km±35km, ML2.8*
BUL ***07*** *03:14:02.2±0.6, 26°.89S×26°.82E, h10km, MD3.0*
ISC 07 03:13:59.5±1.2, 26°.89S±0°.03×26°.73E±0°.03, h11km±10km, n32, σ1§79/62, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.57	94	eP	Pg	03 14 10.4	-0.2
PRYS				eS	Sg	03 14 18.1	0.0
PRYS				IAML		03 14 19.8	
	comp=Z,238nm,0.4s						
WDLM	Western Deep L	0.78	53	eP	Pg	03 14 13.4	-1.2
WDLM				eS	Sg	03 14 23.5	-1.3
WDLM				IAML		03 14 26.0	
	comp=Z,417nm,0.2s						
SWZ	Schweizer	1.28	257	eP	Pn	03 14 23.1	-0.3
SWZ				eS	Sb	03 14 40.3	+0.2
SWZ				IAML		03 14 46.2	
	comp=Z,300nm,0.2s						
SNKL	Senekal, Frees	1.66	146	eP	Pb	03 14 30.3	+0.1
SNKL				eS	Sg	03 14 52.6	-0.4
SNKL				IAML		03 14 55.7	
	comp=Z,145nm,0.8s						
LBTB	Lobatse	2.13	331	i P	Pn	03 14 37.6	+2.5
LBTB				i S	Sb	03 15 04.6	+0.1
BOSA	Boshof	2.15	217	eP	Pn	03 14 36.6	+1.1
BOSA				eS	Sb	03 15 04.4	-1.0
BOSA				IAML		03 15 08.7	
	comp=Z,41nm,1.0s						
BOSA	Boshof	2.15	217	i P	Pb	03 14 38.6	0.0
BOSA				i S	Sb	03 15 05.4	+0.1
NWCL	Newcastle	2.94	107	eP	Pn	03 14 46.9	+0.6
NWCL				eS	Sn	03 15 22.8	+1.2
NWCL				IAML		03 15 36.3	
	comp=Z,40nm,0.3s						
CRLN	Carolina, Mapu	3.09	74	eP	Pn	03 14 49.0	+0.7
CRLN				eS	Sn	03 15 25.4	+0.1
CRLN				IAML		03 15 39.3	
	comp=Z,13nm,0.3s						
LEPH	Lephalale, Lim	3.17	18	eP	Pn	03 14 49.4	0.0
LEPH				eS	Sn	03 15 25.8	-1.5
LEPH				IAML		03 16 07.8	
	comp=Z,30nm,0.3s						
SKOMA	Sekoma	3.46	313	i P	Pn	03 14 56.6	+3.3
SKOMA				IAML		03 15 53.4	
	comp=E,24nm,0.4s						
LPHEP	Lephephe	3.60	347	i P	Pn	03 14 59.1	+3.8
LPHEP				i S	Sn	03 15 42.7	+4.8
LPHEP				IAML		03 15 59.7	
	comp=E,23nm,0.3s						
PILG	Pilgrimsrest,	4.08	62	eP	Pn	03 15 02.4	+0.4
PILG				eS	Sn	03 15 49.9	-0.1
PILG				IAML		03 16 10.4	
	comp=Z,32nm,0.4s						
PMBG	Pietermaritzbu	4.24	129	eP	Pn	03 15 05.5	+1.5
PMBG				eS	Sn	03 15 55.3	+1.8
PMBG				IAML		03 16 15.4	
	comp=Z,20nm,0.4s						
KSTD	Kokstad	4.35	149	eP	Pn	03 15 07.3	+1.7
KSTD				eS	Sn	03 15 58.0	+1.6
KSTD				IAML		03 16 24.6	
	comp=Z,9.3nm,0.3s						
MREMI	Moremi	4.35	9	i P	Pn	03 15 09.2	+3.5
MREMI				i S	Sn	03 15 58.4	+2.0
MREMI				IAML		03 16 20.4	
	comp=N,128nm,0.2s						
ALKP	Alkanpan, Nort	4.98	231	eP	Pn	03 15 15.7	+1.5
ALKP				eS	Sn	03 16 11.1	-0.8
ALKP				IAML		03 16 35.9	
	comp=Z,21nm,0.4s						
UPI	Upington	5.07	252	eP	Pn	03 15 16.7	+1.2
UPI				eS	Sn	03 16 13.1	-1.0
UPI				IAML		03 16 46.1	
	comp=Z,12nm,0.4s						
MUSN	Musina, Limpop	5.40	33	eP	Pn	03 15 19.6	-0.4
MUSN				eS	Sn	03 16 19.7	-2.5
MUSN				IAML		03 16 59.6	
	comp=Z,9.8nm,0.5s						
MUSN	Musina, Limpop	5.40	33	i P	Pn	03 15 21.3	+1.3
MUSN				i S	Sn	03 16 19.7	-2.5
KEIM	Keimoes	5.41	249	eP	Pn	03 15 20.9	+0.8
KEIM				eS	Sn	03 16 20.7	-1.8
KEIM				IAML		03 16 52.8	
	comp=Z,14nm,0.3s						
BFON	Badsfontein, M	5.56	208	eP	Pn	03 15 23.8	+1.5
BFON				eS	Sn	03 16 25.6	-0.7
BFON				IAML		03 16 55.0	
	comp=Z,17nm,0.4s						
GRAF	Camdeboo Natio	5.71	199	eP	Pn	03 15 25.5	+1.3
GRAF				eS	Sn	03 16 29.7	-0.2
GRAF				IAML		03 17 02.7	
	comp=Z,9.8nm,0.5s						
KGCAE	Kacgae	5.75	313	i P	Pn	03 15 28.5	+3.6
KGCAE				i S	Sn	03 16 32.6	+1.8
KGCAE				IAML		03 17 07.1	
	comp=E,25nm,1.2s						
BROLN	Tlhalogang	5.79	6	i P	Pn	03 15 28.4	+3.0
BROLN				i S	Sn	03 16 31.8	-0.2
BROLN				IAML		03 17 01.9	
	comp=E,17nm,1.3s						
BRAK	Brakfontein	5.91	214	eP	Pn	03 15 28.7	+1.6
BRAK				eS	Sn	03 16 33.6	-1.1
BRAK				IAML		03 17 13.9	
	comp=Z,11nm,0.4s						
ARMS	Ukamas	6.31	258	eP	Pn	03 15 32.8	+0.2
ARMS				eS	Sn	03 16 42.0	-2.6
GRHM	Grahamstown, E	6.37	183	eP	Pn	03 15 34.7	+1.3
GRHM				eS	Sn	03 16 46.1	0.0
GRHM				IAML		03 17 24.1	
	comp=Z,4.0nm,0.6s						
GRAN	Grantham	6.69	215	eP	Pn	03 15 38.6	+0.8
GRAN				eS	Sn	03 16 52.9	-1.2
GRAN				IAML		03 17 39.6	
	comp=Z,9.0nm,0.5s						
FRAZ	Fraserburg	6.83	221	eP	Pn	03 15 41.1	+1.3
FRAZ				eS	Sn	03 16 56.2	-1.4
FRAZ				IAML		03 17 33.4	
	comp=Z,7.8nm,0.5s						
BLWY	Bulawayo	6.94	15	i P	Pn	03 15 42.1	+0.8
BLWY				i S	Sn	03 16 55.9	-4.4
KSANE	Kasane	9.16	351	i P	Pn	03 16 13.2	+1.4

CATAC 07 03:21:53.3±0.5, 11°.N±3°.×8°.5W±°, h184km±3km, M3.2/13, MLv3.2/13, Error ellipse: s-maj=9.7km s-min=3.4km az=51.2, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	Rivas	0.08	209	P	Pn	03 22 17.6	0.0
CARN				S	Sn	03 22 37.5	+1.2
ELI1	Hacienda Flor	0.61	186	S	Sn	03 22 40.2	+1.2
NANN	Nandasmo	0.92	317	S	Sn	03 22 43.8	+1.5
NANN	Nandasmo	0.92	317	P	Pn	03 22 21.7	+0.8
JTS	Las Juntas de	1.09	151	P	Pn	03 22 22.0	-0.2
JTS				S	Sn	03 22 43.7	-0.8
WILN	Americas 2	1.13	323	S	Sn	03 22 46.1	+1.0
UNAN	Cigeo UNAN	1.15	318	P	Pn	03 22 22.5	-0.1
UNAN				S	Sn	03 22 46.8	+1.5
MGAN	Managua	1.16	320	S	Sn	03 22 46.7	+1.3
MGAN	Managua	1.16	320	P	Pn	03 22 22.3	-0.3
SOCE	Pocosol	1.21	136	S	Sn	03 22 46.8	+0.5
SOCE	Pocosol	1.21	136	P	Pn	03 22 24.1	+0.9
AMTN	Mateare	1.35	316	S	Sn	03 22 49.8	+1.6
COPN	Copaltepe	1.42	310	P	Pn	03 22 23.8	-1.1
PKGN	Cerro Pekin	2.03	314	P	Pn	03 22 30.2	-0.7
PKGN				S	Sn	03 23 00.2	-0.1
LCR2	La Lucha 2	2.09	136	S	Sn	03 23 01.7	-0.1
SIUN	Universidad Ur	2.54	16	P	Pn	03 22 37.0	+0.3
SIUN				S	Sn	03 23 10.7	0.0
OCHAL	Ojochal	2.81	140	S	Sn	03 23 16.0	-0.1
OCHAL	Ojochal	2.81	140	P	Pn	03 22 41.1	+1.3
DRK0	Durika	2.96	132	P	Pn	03 22 42.7	+0.8
DRK0	Durika	2.96	132	S	Sn	03 23 20.1	+0.3

PRE ***07*** *03:29:09.5±1.0, 26°.47S×27°.52E, h2km, ML2.7*
BGSI ***07*** *03:29:19.3±1.9, 26°.16S×27°.29E, h0km±53km, ML2.8*
ISC 07 03:29:11.2±1.5, 26°.49S±0°.04×27°.51E±0°.04, h12km±10km, n24, σ1§63/45, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.45	197	eP	Pg	03 29 19.5	-0.7
PRYS				eS	Sg	03 29 26.1	-0.1
PRYS				IAML		03 29 33.0	
	comp=Z,234nm,0.3s						
SNKL	Senekal, Frees	1.79	172	eP	Pn	03 29 43.2	+1.0
SNKL				eS	Sn	03 30 06.7	+1.8
SNKL				IAML		03 30 11.1	
	comp=Z,165nm,0.2s						
SWZ	Schweizer	2.06	250	eP	Pn	03 29 46.8	+1.0
SWZ				eS	Sn	03 30 13.1	+1.5
SWZ				IAML		03 30 20.5	
	comp=Z,132nm,0.3s						
LBTB	Lobatse	2.27	310	eP	Pn	03 29 49.5	+0.9
LBTB				eS	Sn	03 30 16.4	-0.1
LBTB				IAML		03 30 24.6	
	comp=Z,101nm,0.3s						
CRLN	Carolina, Mapu	2.31	78	eP	Pn	03 29 49.9	+0.5
CRLN				eS	Sn	03 30 18.5	+0.7
CRLN				IAML		03 30 21.7	
	comp=Z,26nm,0.6s						
NWCL	Newcastle	2.46	121	eP	Pn	03 29 51.2	-0.1
NWCL				eS	Sn	03 30 21.9	+0.5
NWCL				IAML		03 30 32.9	
	comp=Z,42nm,0.3s						
LEPH	Lephalale, Lim	2.64	6	eP	Pn	03 29 53.8	+0.1
LEPH				eS	Sn	03 30 25.6	-0.1
LEPH				IAML		03 30 35.5	
	comp=Z,41nm,0.3s						
BOSA	Boshof	2.91	223	eP	Pn	03 29 58.4	+0.9
BOSA				eS	Sn	03 30 32.9	+0.5
BOSA				IAML		03 30 45.9	
	comp=Z,31nm,0.3s						
PILG	Pilgrimsrest,	3.28	62	eP	Pn	03 30 03.4	+0.7
PILG				eS	Sn	03 30 41.5	-0.3
PILG				IAML		03 30 57.3	
	comp=Z,52nm,0.5s						
LPHEP	Lephephe	3.46	334	i P	Pn	03 30 08.1	+3.1
LPHEP				i S	Sn	03 30 41.7	-4.3
LPHEP				IAML		03 31 04.4	
	comp=E,39nm,0.4s						
SKOMA	Sekoma	3.78	301	i P	Pn	03 30 11.9	+2.4
SKOMA				i S	Sn	03 30 52.9	-1.0
SKOMA				IAML		03 31 13.2	
	comp=N,51nm,0.7s						
POGA	Pongola	3.85	104	eP	Pn	03 30 10.1	-0.2
POGA				eS	Sn	03 30 54.3	-1.1
POGA				IAML		03 31 12.9	
	comp=Z,35nm,0.5s						
MREMI	Moremi	3.91	359	i P	Pn	03 30 13.6	+2.5
MREMI				IAML		03 31 17.0	
	comp=N,97nm,0.4s						
KSTD	Kokstad	4.40	159	eP	Pn	03 30 18.4	+0.3
KSTD				eS	Sn	03 31 08.7	-0.7
KSTD				IAML		03 31 35.7	
	comp=Z,6.4nm,0.4s						
MUSN	Musina, Limpop	4.71	28	eP	Pn	03 30 21.9	-0.2
MUSN				eS	Sn	03 31 14.6	-2.1
MUSN				IAML		03 31 38.5	
	comp=Z,20nm,0.3s						
BROLN	Tlhalogang	5.37	358	i P	Pn	03 30 33.6	+2.3
BROLN				i S	Sn	03 31 30.4	-2.9
BROLN				IAML		03 31 59.7	
	comp=E,21nm,0.8s						
ALKP	Alkanpan, Nort	5.77	232	eP	Pn	03 30 38.1	+1.3
ALKP				eS	Sn	03 31 42.1	-1.0
ALKP				IAML		03 32 17.3	
	comp=Z,17nm,0.6s						
KGCAE	Kacgae	6.03	306	i P	Pn	03 30 42.9	+2.5
KGCAE				i S	Sn	03 31 44.2	-5.3
KGCAE				IAML		03 32 22.4	
	comp=N,46nm,0.9s						
BFON	Badsfontein, M	6.25	211	eP	Pn	03 30 44.5	+1.0
BFON				eS	Sn	03 31 53.1	-1.8
BFON				IAML		03 32 31.0	
	comp=Z,13nm,0.6s						
GRAF	Camdeboo Natio	6.34	204	eP	Pn	03 30 45.4	+0.8
GRAF				eS	Sn	03 31 55.2	-1.7
GRAF				IAML		03 32 33.1	
	comp=Z,7.8nm,0.8s						
BRAK	Brakfontein	6.63	216	eP	Pn	03 30 49.3	+0.7
BRAK				eS	Sn	03 32 02.7	-1.5
BRAK				IAML		03 32 47.7	
	comp=Z,8.0nm,0.6s						
GRAN	Grantham	7.42	218	eP	Pn	03 31 00.6	+1.1
GRAN				eS	Sn	03 32 20.7	-3.0
GRAN				IAML		03 33 15.1	
	comp=Z,9.7nm,0.7s						
FRAZ	Fraserburg	7.60	223	eP	Pn	03 31 02.8	+0.9
FRAZ				eS	Sn	03 32 26.0	-2.0
FRAZ				IAML		03 33 15.3	
	comp=Z,4.4nm,0.6s						
GRTLG	Ghanzi	7.69	310	i P	Pn	03 31 04.7	+1.4
GRTLG				i S	Sn	03 32 22.0	-8.5
GRTLG				IAML		03 33 13.7	
	comp=N,24nm,1.3s						

NOU ***07*** *03:29:47.7, 38°.56S×177°.38E, h44km, mb5.1/46, North Island, New Zealand*
WEL ***07*** *03:29:47.9, 38°.26S×177°.32E, h38km, ML5.2, Mw5.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^16Nm; Mrr-0.30; Mθθ0.75; Mφφ-0.46; Mrθ-0.23; Mθφ4.53; Mφr0.88; Fault plane solution: M0 4.67000×10^16 NP1: φs184.00000°, δ86.00000°, λ-169.00000°. NP2: φs93.00000°, δ79.00000°, λ-4.00000°. Principal axes: T 4.7549, Plg5.0000°, Azm318.0000°; N -4.5830, Plg78.0000°, Azm203.0000°; P -0.1720, Plg11.0000°, Azm49.0000°; Stations used: HAZ OPRZ PUZ WIZ KNZ MXZ BKZ RATZ TLZ HIZ KUZ MKAZ VRZ GRZ KHEZ STRIKE-SLIP FAULTING*
IDC ***07*** *03:29:47.6±0.8, 38°.13S×177°.18E, h52km±6km, mb4.2/12, mbtmp4.5/12, MS3.9/35 Error ellipse: s-maj=19.5km s-min=15.0km az=33.0*
WEL ***07*** *03:29:48.4±0.2, 38°.3S±2°.×17°.7E±°, h38km±3km, M5.3/48, ML5.6/48, MLv5.3/48, Error ellipse: s-maj=3.1km s-min=2.7km az=28.6, confirmed*
NEIC ***07*** *03:29:48.8±1.5, 38°.27S±0°.08×177°.1E±0°.1, h48km±5km, mb5.0/47, Mww4.9/19, Error ellipse: s-maj=17.4km s-min=10.6km az=109.0*
GCMT ***07*** *03:29:51.4±0.2, 38°.30S±0°.01×177°.51E±0°.02, h43km±1km, MW5.2/112, Moment Tensor Solution. s75,c99; s112,c163; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr-0.78±.18; Mθθ3.77±.20; Mφφ-2.99±.19; Mrθ0.23±.23; Mθφ7.08±.15; Mφr2.12±.21; Best double couple: M0 8.14300×10^16 NP1: φs102.00000°, δ74.00000°, λ-4.00000°. NP2: φs193.00000°, δ86.00000°, λ-164.00000°. Principal axes: T 8.4290, Plg8.0000°, Azm327.0000°; N -0.5740, Plg74.0000°, Azm206.0000°; P -7.8570, Plg14.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 03:29:48.1±0.4, 38°.35S±0°.02×177°.32E±0°.02, h55km±3km, n350, σ1§97/361, mb4.9/41, MS4.0/37, 7D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	0.16	85	P	Pn	03 29 56.7	-0.1
MWZ				S	Sn	03 30 03.7	+0.6
RAGZ	Rawiri	0.17	154	P	Pn	03 29 57.2	+0.3
RAGZ				S	Sn	03 30 04.5	+1.2
URZ	Urewera	0.19	298	P	Pn	03 29 56.5	-0.4
	24μm,0.4s,baz=56,slow=7.3						
URZ	Urewera	0.19	298	P	Pn	03 29 56.6	-0.4
URZ				S	Sn	03 30 02.9	-0.3
OPCS	Opotiki Colleg	0.33	355	P	Pn	03 29 57.4	-0.6
OPCS				S	Sn	03 30 04.5	-0.5
RTZ	Ruatahuna	0.38	225			03 29 58.7	+0.2
RTZ				Sn	Sn	03 30 04.2	-1.9
RTZ	Ruatahuna	0.38	225	P	Pn	03 29 58.8	+0.2
TKGZ	Te Karaka	0.42	103	P	Pn	03 29 59.2	+0.3
SNGZ	Shannon Statio	0.43	178	P	Pn	03 29 59.9	+0.8
MUGZ	Murupara	0.45	253	P	Pn	03 29 59.5	+0.3
MUGZ				S	Sn	03 30 08.3	+1.1
WKHS	Whakatane High	0.47	325	P	Pn	03 29 58.9	-0.4
WKHS				S	Sn	03 30 07.0	-0.4
RUGZ	Raukumara Rang	0.47	36	P	Pn	03 29 58.9	-0.7
RUGZ				S	Sn	03 30 07.0	-0.8
RIGZ	Rimuhau	0.50	136	P	Pn	03 30 00.5	+0.8
EDRZ	Edgecumbe	0.52	297	P	Pn	03 30 00.2	+0.2
TWGZ	Tauwhareparae	0.55	72	P	Pn	03 30 00.6	+0.3
TWGZ				S	Sn	03 30 11.9	+2.8
GWTS	Gisborne Waipa	0.55	121	P	Pn	03 30 01.3	+1.1
KAFS	Kawerau Fire S	0.55	298	P	Pn	03 30 00.5	+0.2
KAFS				S	Sn	03 30 09.5	+0.5
WHRZ	Whale Island	0.56	331	P	Pn	03 30 00.3	-0.1
RAHZ	Arahi	0.60	198	P	Pn	03 30 02.1	+1.3
RAHZ				S	Sn	03 30 12.9	+2.7
GHHS	Gisborne Hospi	0.62	119	P	Pn	03 30 01.8	+0.7
MARZ	Manawahe	0.63	305	P	Pn	03 30 01.2	-0.1
MTHZ	Mangataniwha	0.63	217	P	Pn	03 30 01.9	+0.6
GISS	Gisborne 2ZG	0.64	120	P	Pn	03 30 01.9	+0.6
RRRZ	Republican Roa	0.64	270	P	Pn	03 30 01.8	+0.5
RRRZ				S	Sn	03 30 11.7	+0.7
GKBS	Kaiti Beach	0.65	121	P	Pn	03 30 02.0	+0.6
TARZ	Mount Tarawera	0.65	280	P	Pn	03 30 02.3	+0.7
TARZ				S	Sn	03 30 12.4	+1.0
HAZ	Te Kaha	0.69	32	P	Pn	03 30 01.0	-0.9
MKRZ	Makatiti	0.70	287	P	Pn	03 30 03.1	+0.9
CNGZ	Carnagh Statio	0.71	101	P	Pn	03 30 02.6	+0.5
CNGZ				S	Sn	03 30 15.6	+3.2
MWFS	Matata Watchor	0.71	313	P	Pn	03 30 01.9	-0.3
PRGZ	Paritu Road	0.72	143	P	Pn	03 30 02.6	+0.2
KNZ	Kokohu	0.73	158	P	Pn	03 30 02.6	+0.1
KNZ				S	Sn	03 30 14.0	+1.2
WHHZ	Waihua	0.73	185	P	Pn	03 30 03.6	+1.1
WHHZ				S	Sn	03 30 16.4	+3.4
PRRZ	Plateau Road	0.75	258	P	Pn	03 30 03.1	+0.5
PRRZ				S	Sn	03 30 15.2	+1.9
PKGZ	Pakihiroa	0.77	51	P	Pn	03 30 02.9	0.0
HLRZ	Highlands Stat	0.77	277	P	Pn	03 30 03.5	+0.5
PUZ	Puketiti	0.79	70	P	Pn	03 30 03.0	-0.2
PUZ				S	Sn	03 30 16.6	+2.3
OMRZ	Omania	0.79	287	P	Pn	03 30 03.5	+0.3
OPRZ	Ohinepanea	0.79	309	P	Pn	03 30 02.9	-0.3
OPRZ				S	Sn	03 30 13.2	-1.0
ALRZ	Allen Road	0.80	254	P	Pn	03 30 03.9	+0.5
LIRZ	Lichensteins R	0.82	295	P	Pn	03 30 03.9	+0.3
HRRZ	Handcock Road	0.82	267	P	Pn	03 30 04.1	+0.5
WIZ	White Island	0.83	353	P	Pn	03 30 02.9	-0.8
WIZ				S	Sn	03 30 13.5	-1.6
WSRZ	White Island S	0.84	352	P	Pn	03 30 03.4	-0.4
HSRZ	Hossack Road	0.85	272	P	Pn	03 30 04.7	+0.7
NMHZ	Naumai	0.85	208	P	Pn	03 30 05.8	+1.7
NMHZ				S	Sn	03 30 19.8	+3.9
MRHZ	Matea Rd	0.86	235	P	Pn	03 30 04.8	+0.6
MRHZ				S	Sn	03 30 17.9	+1.9
UTU	Utuhina	0.91	280	P	Pn	03 30 05.6	+0.9
KARZ	Kaharoa	0.91	291	P	Pn	03 30 05.0	+0.1
KARZ				S	Sn	03 30 16.0	-1.1
MHGZ	Mahia Peninsul	0.93	151	P	Pn	03 30 05.2	+0.2
NGRZ	Ngongotaha	0.93	285	P	Pn	03 30 06.0	+0.9
NGRZ				S	Sn	03 30 19.7	+2.2
WPRZ	Whakapapatarin	0.93	259	P	Pn	03 30 05.6	+0.6
ARHZ	Aropaoanui	0.95	196	P	Pn	03 30 06.4	+1.1
GRRZ	Galatos Road	0.95	269	P	Pn	03 30 06.2	+0.8
WMGZ	Waiomatatini S	1.01	59	P	Pn	03 30 06.0	-0.1
TGRZ	Tauranga	1.04	306	P	Pn	03 30 06.1	-0.4
BKZ	Black Stump Fm	1.04	218	Pn	Pn	03 30 07.4	+0.8
BKZ				Sn	Sn	03 30 22.1	+1.8
BKZ	Black Stump Fm	1.04	218	P	Pn	03 30 06.8	+0.2
BKZ	Black Stump Fm	1.04	218	P	Pn	03 30 07.5	+0.8
MXZ	Matakaoa Point	1.10	45	Pn	Pn	03 30 07.6	+0.2
MXZ	Matakaoa Point	1.10	45	P	Pn	03 30 08.3	+1.0
MXZ	Matakaoa Point	1.10	45	P	Pn	03 30 07.5	+0.2
HATZ	Hinemaiaia	1.11	240	P	Pn	03 30 08.0	+0.5
WHTZ	Whakaora	1.12	253	P	Pn	03 30 08.7	+1.1
KUTZ	Kaahu Road	1.19	263	P	Pn	03 30 09.2	+0.7
KMRZ	Kaimai	1.20	294	P	Pn	03 30 08.6	-0.1
MCHZ	McNeill

WPHZ Waipukurau 1.85 202 P **Pn 03 30 16.9 -0.5**
HIZ Hauiti 1.94 264 Pn **Pn 03 30 19.6 +0.9**
HIZ Hauiti 1.94 264 P Pn **03 30 20.2 +1.4**
HIZ Hauiti 1.94 264 P **Pn 03 30 20.1 +1.4**
PRHZ Porangahau 1.99 195 P Pn **03 30 18.4 -1.0**
TSZ Takapari Road 2.01 211 P **Pn 03 30 18.9 -0.8**
KUZ Kuaotunu 2.04 321 P **Pn 03 30 19.5 -0.6**
KUZ Kuaotunu 2.04 321 P **Pn 03 30 19.4 -0.7**
MKAZ Moumakai 2.12 305 P **Pn 03 30 21.0 0.0**
DVHZ Dannevirke 2.15 204 P **Pn 03 30 20.0 -1.5**
VRZ Vera Road 2.15 248 P **Pn 03 30 23.1 +1.5**
ANWZ Angora Road 2.21 197 P **Pn 03 30 21.3 -1.0**
KBAZ Karaka Road Bo 2.30 302 P **Pn 03 30 24.9 +1.4**
WAZ Wanganui 2.30 232 P **Pn 03 30 25.0 +1.4**
WIAZ Waiheke Island 2.33 311 P **Pn 03 30 24.0 0.0**
ETAZ East Tamaki Re 2.36 305 P **Pn 03 30 25.0 +0.7**
POWZ Post Office Ro 2.37 210 P **Pn 03 30 23.4 -1.2**
OHWZ Ohakea 2.42 219 P **Pn 03 30 25.9 +0.6**
PRWZ Pori Road 2.44 205 P **Pn 03 30 24.3 -1.2**
MHEZ Mangahewa 2.46 252 P **Pn 03 30 29.0 +3.2**
BFZ Birch Farm 2.48 199 Pn **Pn 03 30 24.2 -1.8**
BFZ Birch Farm 2.48 199 P **Pn 03 30 24.8 -1.2**
BFZ Birch Farm 2.48 199 P **Pn 03 30 24.3 -1.7**
AWAZ Awhitu Peninsu 2.48 300 P **Pn 03 30 26.9 +0.8**
MBAZ Motutapu North 2.49 309 P **Pn 03 30 26.7 +0.5**
EPAZ Eden Park BICE 2.52 305 P **Pn 03 30 27.7 +1.1**
LREZ Lake Rotokare 2.54 243 P **Pn 03 30 28.8 +2.0**
HBAZ Herne Bay Bore 2.54 305 P **Pn 03 30 27.9 +1.0**
GRZ Great Barrier 2.57 324 P **Pn 03 30 26.9 -0.4**
DREZ Durham Road 2.58 250 P **Pn 03 30 30.3 +2.8**
WTAZ Waiatarua 2.60 302 P **Pn 03 30 28.7 +1.0**
ABAZ Army Bay 2.64 311 P **Pn 03 30 28.9 +0.7**
PREZ Palmer Road 2.66 247 P **Pn 03 30 31.4 +2.8**
TIWZ Tintock 2.67 204 P **Pn 03 30 27.1 -1.6**
MRZ Mangatainoka R 2.68 210 Pn **Pn 03 30 26.6 -2.2**
MRZ Mangatainoka R 2.68 210 P **Pn 03 30 26.8 -1.9**
NEZ North Egmont 2.69 249 P **Pn 03 30 31.6 +2.6**
RVAZ Riverhead Bore 2.69 305 P **Pn 03 30 29.8 +0.9**
CPWZ Castlepoint 2.70 198 P **Pn 03 30 27.9 -1.1**
PKE Pukeiti 2.74 251 P **Pn 03 30 32.1 +2.5**
KHEZ Kahui Hut 2.75 249 P **Pn 03 30 30.8 +0.9**
KHEZ Kahui Hut 2.75 249 P **Pn 03 30 32.6 +2.8**
NBEZ Newall Road No 2.85 250 P **Pn 03 30 33.6 +2.5**
NMEZ Namu Road 2.89 247 P **Pn 03 30 34.7 +3.0**
TMWZ Te Maipa 2.97 201 P **Pn 03 30 30.5 -2.3**
OGWZ Otaki Gorge 2.98 213 P **Pn 03 30 30.9 -2.0**
KIW Kapiti Island 3.13 216 P **Pn 03 30 33.0 -1.9**
WCZ Waipu Caves 3.38 314 P **Pn 03 30 39.0 +0.6**
SNZO South Karori 3.58 213 P **Pn 03 30 41.0 -0.1**
SNZO South Karori 3.58 213 S **Sn 03 31 19.2 -2.9**
BHW Baring Head 3.59 211 Pn **Pn 03 30 37.4 -3.8**
DUWZ D'Urville Isla 3.59 226 P **Pn 03 30 39.9 -1.5**
TCW Tory Channel 3.70 218 Pn **Pn 03 30 39.9 -2.9**
TUWZ Tuamarina 4.03 219 Pn **Pn 03 30 44.8 -2.5**
TUWZ Tuamarina 4.03 219 P **Pn 03 30 45.2 -2.0**
CMWZ Cape Campbell 4.15 214 Pn **Pn 03 30 46.9 -2.0**
CMWZ Cape Campbell 4.15 214 P **Pn 03 30 47.1 -1.8**
TKNZ Takaka Hill 4.30 230 Pn **Pn 03 30 48.4 -2.7**
OUZ Omahuta 4.32 315 P **Pn 03 30 51.9 +0.6**
OUZ Omahuta 4.32 315 S **Sn 03 31 44.3 +3.9**
OUZ Omahuta 4.32 315 P **Pn 03 30 52.3 +1.0**
MRNZ Matariki Terra 4.65 228 **Pn 03 30 53.2 -2.6**
THZ Tophouse 4.81 223 Pn **Pn 03 30 55.3 -2.7**
KHZ Kahutara 4.99 214 P **Pn 03 30 58.5 -1.8**
KHZ Kahutara 4.99 214 S **Sn 03 31 51.3 -5.3**
GVZ Greta Valley S 5.65 214 **Pn 03 31 05.9 -3.6**
CTZ Chatham Island 7.07 142 Pn **Pn 03 31 26.9 -1.9**
CTZ Chatham Island 7.07 142 P **Pn 03 31 27.5 -1.3**
CTZ Chatham Island 7.07 142 S **Sn 03 32 41.5 -6.2**
CTZ Chatham Island 7.07 142 P **Pn 03 31 27.3 -1.5**
RPZ Rata Peaks 7.16 219 P **Pn 03 31 26.7 -3.4**
82nm,0.3s,baz=83,slow=18,SNR=102
RPZ S **Sn 03 32 41.0 -8.9**
178nm,0.4s,baz=12,slow=19,SNR=12
RPZ Rata Peaks 7.16 219 P **Pn 03 31 27.0 -3.1**
FOZ Fox Glacier 7.69 225 Pn **Pn 03 31 32.6 -4.8**
ODZ Otahua Downs 8.35 215 P **Pn 03 31 41.7 -4.7**
JCZ Jackson Bay 8.61 226 P **Pn 03 31 46.2 -3.8**
MSZ Milford Sound 9.46 225 P **Pn 03 32 00.2 -1.4**
MLZ Mavora Lakes 9.81 221 **Pn 03 32 02.9 -3.5**
SYZ Scrubby Hill 10.17 214 P **Pn 03 32 08.4 -2.9**
PYZ Puysegur Point 11.09 222 Pn **Pn 03 32 19.9 -4.0**
OUENC Ouen Island, N 18.25 327 P **Pn 03 34 00.0 +2.6**
ONTNC Ouen Toro 18.51 327 P **P 03 33 59.0 -0.9**
ONTNC Ouen Toro 18.51 327 P **Pn 03 34 03.1 +2.5**
YATNC Mamie plateau, 18.55 328 P **Pn 03 34 04.2 +3.2**
DZM Mont Dzumac 18.72 327 *e*P **Pn 03 34 04.9 +1.6**
153nm,1.4s
DZM *e*S **Sn 03 37 24.5 -7.5**
515nm,25.2s
DZM *e*LR LR 03 38 27.3
1μm,28.2s
DZM Mont Dzumac 18.72 327 **P 03 34 01.8 -0.5**
DZM Mont Dzumac 18.72 327 P **Pn 03 34 04.0 +0.7**
11nm,0.6s,baz=144,slow=10,SNR=16
DZM Mont Dzumac 18.72 327 P **Pn 03 34 05.2 +1.9**
LKBA Tubou, Lakemba 20.32 11 P Pn 03 34 22.6 +0.5
MSVF Nonsavu 20.55 2 P Pn 03 34 24.7 -0.2
TAU Tasmania Unive 23.16 249 **P 03 34 50.7 +1.0**
MOO Moorlands 23.25 250 P **P 03 34 51.7 +1.1**
TW1H Toowoomba 1 Ha 23.77 289 P **P 03 34 58.3 +2.6**
SANVU Saraoutou 24.50 336 P **P 03 35 01.4 -0.8**
SANVU Saraoutou 24.50 336 P **P 03 35 05.2 +3.0**
TOO Toolangi 25.05 262 P **P 03 35 08.0 +0.8**
EIDS Eidsvold 25.67 293 P **P 03 35 13.1 +0.2**
EIDS Eidsvold 25.67 293 P **P 03 35 15.5 +2.6**
RAR Rarotonga 26.09 56 LR LR 03 43 39.7
comp=Z,494nm,20.9s,baz=248,slow=32
BRAT Ballarat 26.27 261 P **P 03 35 20.2 +2.0**
STKA Stephens Creek 29.80 272 P **P 03 35 51.1 +1.3**
STKA IAmb IAmb 03 36 43.3
comp=Z,41nm,1.1s
STKA Stephens Creek 29.80 272 P **P 03 35 50.3 +0.5**
comp=Z,5.1nm,0.6s,baz=106,slow=10,SNR=16
STKA LR LR 03 46 59.0
comp=Z,290nm,21.5s,baz=102,slow=35
comp=Z,5.1nm,0.6s
STKA Stephens Creek 29.80 272 P **P 03 35 51.8 +2.0**
QLP Quilpie 30.13 283 P **P 03 35 54.8 +2.1**
TBI Tubuai 32.00 72 *e*P **P 03 36 10.4 +1.2**
comp=Z,414nm,42.5s
TBI *e*S **S 03 41 13.1 -3.9**
comp=Z,351nm,29.5s
TBI *e*SS **SS 03 43 25.6 -10**
comp=Z,3μm,30.5s
TBI *e*LR LR 03 44 38.2
comp=Z,896nm,26.2s
INKA Innaminka 32.25 278 P **P 03 36 10.8 -0.6**
CTA Charters Tower 32.44 295 LR LR 03 47 57.9
comp=Z,5.6nm,21.5s,baz=98,slow=34
CTAO Charters Tower 32.44 295 P **P 03 36 13.9 +0.8**
CTAO IAmb IAmb 03 36 31.5
comp=Z,22nm,1.2s
CTAO Charters Tower 32.44 295 P **P 03 36 14.4 +1.3**
HNR Honiara 32.76 327 LR LR 03 47 54.2
comp=Z,147nm,19.5s,baz=160,slow=33
TATA Tatamba Isabel 33.75 328 P **P 03 36 28.3 +3.8**
BBOO Buckleboo 33.81 267 P **P 03 36 24.5 -0.5**
BBOO IAmb IAmb 03 36 55.5
comp=Z,28nm,1.2s
MTSU Mount Surprise 35.10 296 P **P 03 36 38.3 +2.1**
DRV Dumont d'Urvil 35.33 205 P **P 03 36 38.8 +1.2**
DRV sP **sP 03 36 56.9 -1.6**
PPT2 Papeete2 35.53 64 *e*P **P 03 36 39.7 -0.3**
comp=Z,63nm,29.5s
PPT2 *e*S **S 03 42 06.6 -5.2**
comp=Z,134nm,28.8s
PPT2 *e*SS **SS 03 44 47.2 -0.9**
comp=Z,342nm,25.0s
PPT2 *e*LR LR 03 46 10.7
comp=Z,473nm,26.0s
PPT2 *e*LR LR 03 46 13.5
comp=Z,689nm,25.2s
PPT Papeete 35.54 64 LR LR 03 48 05.1
comp=Z,202nm,21.7s,baz=230,slow=31
QIS Mount Isa 37.01 288 P **P 03 36 53.2 +0.6**
COEN Coen 38.75 299 P **P 03 37 07.9 +0.6**
COEN IAmb IAmb 03 37 23.7
comp=Z,24nm,1.1s
COEN Coen 38.75 299 P **P 03 37 08.2 +0.9**
PMG Port Moresby 39.55 309 LR LR 03 51 41.5
comp=Z,398nm,21.7s,baz=134,slow=33

AS31 Alice Springs 39.62 279 P **P 03 37 14.1 -0.4**
ASAR Alice Springs 39.62 279 P **P 03 37 14.3 -0.2**
ASAR Alice Springs 39.62 279 P **P 03 37 14.2 -0.3**
comp=Z,6.0nm,0.4s,baz=134,slow=8.7,SNR=132
ASAR PcP **PcP 03 39 19.1 -1.7**
comp=Z,1.1nm,0.5s,baz=125,slow=3.8,SNR=1.3
ASAR ScP **ScP 03 42 58.4 -6.4**
comp=Z,1.4nm,0.5s,baz=111,slow=3.7,SNR=11
ASAR S **S 03 43 10.2 -3.6**
comp=Z,2.3nm,1.0s,baz=121,slow=14,SNR=13
ASAR LR LR 03 55 21.4
comp=Z,269nm,18.6s,baz=122,slow=39
comp=Z,6.0nm,0.4s
VNDA Vanda 39.83 185 P **P 03 37 17.2 +1.6**
VNDA Vanda 39.83 185 P **P 03 37 18.2 +2.7**
comp=Z,2.2nm,1.0s,baz=356,slow=8.4,SNR=11
VNDA LR LR 03 52 12.3
comp=Z,83nm,19.1s,baz=26,slow=34
comp=Z,2.2nm,1.0s
VNDA Vanda 39.83 185 P **P 03 37 17.9 +2.4**
VNDA ScP **ScP 03 43 04.0 -0.5**
FORT Forrest 40.87 265 **P 03 37 24.2 -0.5**
WR8 Warramunga Arr 41.23 284 P **P 03 37 27.0 -0.7**
WR8 IAmb IAmb 03 37 44.3
comp=Z,18nm,1.0s
WRAB Tennant Creek 41.35 284 P **P 03 37 29.5 +0.7**
WRAB Tennant Creek 41.35 284 P **P 03 37 28.1 -0.7**
WRAB pP **pP 03 37 43.7 +0.5**
WRA Warramunga Arr 41.36 284 P **P 03 37 28.0 -0.8**
WRA Warramunga Arr 41.36 284 P **P 03 37 28.2 -0.7**
comp=Z,3.8nm,0.5s,baz=123,slow=7.1,SNR=66
WRA ScP **ScP 03 43 04.5 -7.1**
comp=Z,1.3nm,0.8s,baz=122,slow=4.0,SNR=6.3
WRA S **S 03 43 34.3 -5.3**
comp=Z,0.8nm,0.9s,baz=132,slow=14,SNR=4.9
WRA LR LR 03 53 57.6
comp=Z,328nm,20.7s,baz=140,slow=35
comp=Z,3.8nm,0.5s
WB0 Warramunga Arr 41.42 284 P **P 03 37 28.6 -0.7**
CCD Concordia, Ant 44.25 197 P **P 03 37 53.8 +1.7**
CCD pP **sP 03 38 08.1 -5.1**
CCD sP pP 03 38 14.2 +7.6
CCD PcP **PcP 03 39 37.5 +1.9**
CCD ScP **ScP 03 43 21.6 -1.2**
CASY Casey 46.34 211 P **P 03 38 08.6 +0.5**
CASY Casey 46.34 211 P **P 03 38 08.9 +0.8**
CASY sP **sP 03 38 26.6 -2.8**
MTN Manton Dam 48.14 289 P **P 03 38 22.2 -0.6**
MTN IAmb IAmb 03 38 23.1
comp=Z,12nm,0.6s
KNRA Kununurra 48.15 284 P **P 03 38 22.1 -0.7**
KNRA IAmb IAmb 03 38 33.8
comp=Z,44nm,1.6s
TAOE Nuku Hiva Isla 48.16 64 *e*LR LR 03 52 05.9
comp=Z,505nm,27.6s
NWAO Narrogin (SRO) 48.39 257 P **P 03 38 23.8 -0.9**
NWAO Narrogin (SRO) 48.39 257 LR LR 03 55 25.4
comp=Z,150nm,21.9s,baz=54,slow=32
JAY Jayapura 48.90 308 LR LR 03 57 38.1
comp=Z,119nm,21.8s,baz=312,slow=34
JAY Jayapura 48.90 308 P **P 03 38 28.1 -0.6**
comp=Z,24nm,1.1s
FITZ Fitzroy Crossi 49.12 279 P **P 03 38 29.9 -0.4**
FITZ IAmb IAmb 03 38 31.2
comp=Z,13nm,1.4s
FITZ Fitzroy Crossi 49.12 279 LR LR 04 00 23.7
comp=Z,172nm,18.1s,baz=122,slow=38
FITZ Fitzroy Crossi 49.12 279 P **P 03 38 30.2 -0.2**
BLDU Ballidu 49.78 260 P **P 03 38 35.6 +0.3**
MEEK Meekatharra 50.13 265 P **P 03 38 37.6 -0.4**
MORW Morawa 50.99 261 P **P 03 38 43.7 -0.7**
MORW IAmb IAmb 03 38 44.9
comp=Z,22nm,0.8s
MORW Morawa 50.99 261 P **P 03 38 44.8 +0.3**
PSA00 Pilbara Seismi 51.73 272 P **P 03 38 48.6 -1.5**
PSA00 IAmb IAmb 03 38 50.4
comp=Z,19nm,0.8s
PSA00 Pilbara Seismi 51.73 272 P **P 03 38 48.3 -1.7**
PSA00 IAmb IAmb 03 38 49.9
comp=Z,21nm,1.4s
PSA00 Pilbara Seismi 51.73 272 P **P 03 38 49.2 -0.9**
QSPA South Pole Qui 51.78 180 P **P 03 38 54.5 +4.5**
QSPA IAmb IAmb 03 39 15.2
comp=Z,26nm,1.0s
QSPA South Pole Qui 51.78 180 P **P 03 38 54.0 +4.0**
comp=Z,13nm,1.0s,baz=39,slow=3.2,SNR=27
QSPA LR LR 03 59 18.5
comp=Z,130nm,18.4s,baz=40,slow=34
MBWA Marble Bar 52.04 272 P **P 03 38 50.9 -1.5**
MBWA IAmb IAmb 03 38 52.7
comp=Z,26nm,0.8s
MBWA Marble Bar 52.04 272 P **P 03 38 51.7 -0.7**
FAKI Fak Fak 54.14 299 P **P 03 39 06.8 -1.1**
SOEI Soe 55.26 287 P **P 03 39 16.6 +0.4**
SOEI Soe 55.26 287 P **P 03 39 18.4 +2.3**
SOEI Soe 55.26 287 P **P 03 39 16.2 +0.1**
comp=Z,45nm,1.1s
GIRL Giralia 55.58 267 P **P 03 39 18.5 +0.3**
SANI Sanana 59.14 295 P **P 03 39 45.7 +2.3**
RPN Rapa Nui 61.24 103 LR LR 04 02 13.7
comp=Z,28nm,19.1s,baz=240,slow=32
KAPI Kappang 61.73 287 LR LR 04 07 40.6
comp=Z,152nm,19.2s,baz=140,slow=37
BELA Belgrano 2 62.43 173 P **P 03 40 05.8 +1.0**
BELA IAmb IAmb 03 40 27.9
comp=Z,8.2nm,0.8s
MLH Mauna Loa 62.98 29 P **P 03 40 10.1 +0.6**
MAW Mawson 63.51 203 P **P 03 40 13.4 +1.3**
comp=Z,12nm,1.1s,baz=138,slow=8.2,SNR=23
MAW LR LR 04 07 46.0
comp=Z,215nm,19.2s,baz=118,slow=36
comp=Z,12nm,1.1s
DAV Davao City (W) 65.94 301 LR LR 04 08 13.3
comp=Z,47nm,21.8s,baz=160,slow=35
SYO Syowa Base 68.49 195‖ *e*P **P 03 40 44.9 +0.9**
SYO Syowa Base 68.49 195‖ *e*pP pP 03 40 58.2 -1.3
MYLDM Lahad Datu 69.51 295 P **P 03 40 51.3 +0.2**
TROLL Troll, Antarti 69.88 182 ‖P **P 03 40 54.1 +1.3**
comp=Z,222nm,1.1s
LEM Lembang 69.89 277 LR LR 04 11 29.4
comp=Z,211nm,21.0s,baz=154,slow=36
SNAA Sanae 70.28 180 ‖P **P 03 40 56.4 +1.2**
comp=Z,15nm,0.6s
SNAA Sanae 70.28 180 P **P 03 40 58.0 +2.9**
SNAA IAmb IAmb 03 41 21.4
comp=Z,11nm,0.9s
SNAA Sanae 70.28 180 P **P 03 40 55.9 +0.7**
comp=Z,2.1nm,0.8s,baz=168,slow=9.6,SNR=6.0
SNAA LR LR 04 10 48.0
comp=Z,52nm,18.8s,baz=196,slow=35
comp=Z,2.1nm,0.8s
VNA3 Neumayer Olymp 70.60 178 ‖P **P 03 40 58.1 +1.1**
comp=Z,3.8nm,0.5s
VNA2 Neumayer--Watz 70.98 178 ‖P **P 03 40 58.7 -0.6**
comp=Z,11nm,0.6s,baz=147,slow=4.9
VNA1 Neumayer--Stat 71.23 178 ‖P **P 03 41 01.8 +1.0**
comp=Z,5.2nm,0.6s
KKM Kota Kinabalu 71.75 294 P **P 03 41 03.5 -1.4**
KKM IAmb IAmb 03 42 23.9
comp=Z,34nm,1.1s
JHJ Hachijo jima 2 79.21 329 LR LR 04 12 42.8
comp=Z,61nm,21.6s,baz=284,slow=33
H03S2 Juan Fernandez 79.23 125 T T 05 08 08.5
baz=229,slow=74,SNR=17
H03S1 Juan Fernandez 79.24 125 T T 05 08 09.7
baz=229,slow=74,SNR=20
H03S3 Juan Fernandez 79.25 125 T T 05 08 08.6
baz=229,slow=74,SNR=32
H03N3 Juan Fernandez 79.47 124 T T 05 08 23.7
baz=233,slow=72,SNR=3.9
H03N2 Juan Fernandez 79.47 124 T T 05 08 19.4
baz=233,slow=72,SNR=2.7
H03N1 Juan Fernandez 79.49 124 T T 05 08 18.7
baz=233,slow=72,SNR=3.7
PLCA Paso Flores 79.83 134 P **P 03 41 52.9 +2.2**
PLCA IAmb IAmb 03 42 30.4
comp=Z,33nm,1.6s
PLCA Paso Flores 79.83 134 P **P 03 41 52.4 +1.7**
comp=Z,2.5nm,0.9s,baz=262,slow=8.2,SNR=4.0
PLCA LR LR 04 08 32.1
comp=Z,61nm,18.5s,baz=232,slow=29
comp=Z,2.5nm,0.9s
RPSI Rantau Prapat 82.58 279 P **P 03 42 03.0 -2.5**
RPSI IAmb IAmb 03 42 05.2
comp=Z,11nm,0.9s
PSI Prapat 82.65 279 LR LR 04 19 53.6
comp=Z,117nm,20.2s,baz=132,slow=36
GSI Gunungsitoli 82.77 277 P **P 03 42 06.3 -0.2**
MJAR Matsushiro Arr 82.82 329 P **P 03 42 04.8 -1.4**
comp=Z,1.6nm,0.8s,baz=177,slow=7.3,SNR=2.8
MJAR LR LR 04 15 50.9
comp=Z,37nm,21.7s,baz=150,slow=34
comp=Z,1.6nm,0.8s
JNU Nakatsue 83.19 322 LR LR 04 11 41.8
comp=Z,30nm,20.1s,baz=133,slow=30
BO02 Sierra Bellavi 83.71 130 P **P 03 42 13.5 +2.3**
BO02 IAmb IAmb 03 42 44.5
comp=Z,22nm,1.3s
ASAJ Asahikawa 87.89 336 LR LR 04 15 48.0
comp=Z,88nm,20.7s,baz=168,slow=32
KSRS Korea Array 88.11 323 P **P 03 42 32.8 +0.3**
comp=Z,3.8nm,0.8s,baz=142,slow=5.7,SNR=14
comp=Z,3.8nm,0.8s
KSAR Wonju Array Be 88.11 323 P **P 03 42 32.6 +0.1**
NJ2 Nanjing 88.69 314 *e*P **P 03 42 39.2 +3.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WHN Wuhan 90.24 310 P **P 03 42 42.4 -0.2**
WHN pmax pmax
comp=Z,150nm,1.9s
SHEM Shemya Is, Ala 90.75 358 LR LR 04 17 41.1
comp=Z,114nm,21.9s,baz=147,slow=32
LPIG La Paz 91.91 61 LR LR 04 15 12.4
comp=Z,159nm,21.3s,baz=208,slow=30
CMAR Chiang Mai Arr 92.53 291 P **P 03 42 52.5 -1.0**
CMAR Chiang Mai Arr 92.53 291 P **P 03 42 53.1 -0.5**
comp=Z,3.1nm,0.6s,baz=147,slow=3.6,SNR=14
CMAR LR LR 04 25 36.3
comp=Z,30nm,22.0s,baz=140,slow=36
comp=Z,3.1nm,0.6s
PETK Petropavlovsk- 92.66 348 P **P 03 42 53.7 +0.4**
comp=Z,2.3nm,0.7s,baz=159,slow=5.5,SNR=2.0
comp=Z,2.3nm,0.7s
CHTO Chiang Mai 92.75 292 P **P 03 42 54.1 -0.5**
CHTO IAmb IAmb 03 43 32.6
comp=Z,3.9nm,0.7s
CBX Cerro Bola 93.33 51 P **P 03 42 59.5 +2.4**
ESJX Sierra Juarez 93.55 51 P **P 03 42 59.9 +1.6**
ESJX IAmb IAmb 03 43 02.8
comp=Z,4.0nm,0.9s
BFSC Mount Baldy Ra 94.07 49 P **P 03 43 02.4 +1.9**
BFSC IAmb IAmb 03 43 15.8
comp=Z,4.2nm,1.0s
BORC Borrego Spring 94.14 50 P **P 03 43 01.5 +0.8**
BORC IAmb IAmb 03 43 03.9
comp=Z,3.8nm,0.9s
PFO Pinyon Flats O 94.35 50 LR LR 04 17 05.6
comp=Z,158nm,20.9s,baz=236,slow=30
BELC Belle Mtn. Jos 94.89 50 P **P 03 43 05.9 +1.6**
BELC IAmb IAmb 03 43 28.8
comp=Z,11nm,1.6s
GLA Glamis 94.96 51 P **P 03 43 06.0 +1.5**
GLA IAmb IAmb 03 46 11.4
comp=Z,8.5nm,0.8s
PZH PanZhiHua 95.67 299 P **P 03 43 10.4 +2.4**
YBH Yreka Blue Hor 96.61 41 LR LR 04 18 06.9
comp=Z,8.0nm,22.0s,baz=249,slow=30
NVAR Mina Array Bea 96.62 45 P **P 03 43 12.4 +0.2**
comp=Z,0.4nm,0.7s,baz=209,slow=5.4,SNR=4.0
NVAR LR LR 04 18 11.5
comp=Z,107nm,21.4s,baz=220,slow=30
comp=Z,0.4nm,0.7s
CMIG Matias Romero 98.71 75 LR LR 04 20 02.4
comp=Z,24nm,18.6s,baz=207,slow=30
KDAK Kodiak Island 99.05 16 LR LR 04 22 30.4
comp=Z,88nm,20.1s,baz=195,slow=32
HHC Hu-ho-hao-te 99.07 316 *e*P **Pdif 03 43 26.4 +3.4**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.1s
PALK Pallekele 99.65 272 LR LR 04 25 08.5
comp=Z,115nm,21.9s,baz=134,slow=33
TXAR Lajitas Array 99.80 60 LR LR 04 20 21.3
comp=Z,77nm,20.3s,baz=236,slow=30
MA2 Magadan 100.02 347 LR LR 04 23 15.9
comp=Z,57nm,20.2s,baz=166,slow=32
ILAR Eielson Array 106.55 15 PKiKP **PKiKP 03 48 05.4 -0.4**
comp=Z,0.5nm,0.6s,baz=293,slow=2.7,SNR=4.8
WMQ Urumqi 115.00 307 *e*PKP **PKiKP 03 48 24.2 +1.6**
WMQ LR LR
comp=Z,97nm,21.1s
MKAR Makanchi Array 119.76 308 PKP **PKPdf 03 48 29.1 -2.4**
comp=Z,0.5nm,0.8s,baz=159,slow=1.8,SNR=5.2
ZALV Zalesovo Beam 121.24 316 PKP **PKPdf 03 48 32.6 -1.5**
comp=Z,0.5nm,0.4s,baz=187,slow=5.8,SNR=1.8
KURBB Kurchatov Arra 123.56 311 PKP **PKPdf 03 48 36.2 -2.4**
comp=Z,2.4nm,0.7s,baz=116,slow=1.8,SNR=13
BVAR Borovoye Array 129.10 312 PKP **PKPdf 03 48 47.7 -1.5**
comp=Z,1.2nm,0.5s,baz=129,slow=0.5,SNR=6.9
SPITS Spitsbergen Ar 139.27 354 PKP **PKPdf 03 49 07.2 -0.4**
comp=Z,4.1nm,0.7s,baz=76,slow=7.0,SNR=6.8
ARCES ARCESS Array B 145.30 343 PKPbc **PKPbc 03 49 16.6 -1.9**
comp=Z,4.7nm,0.6s,baz=53,slow=4.7,SNR=45
KBZ Khabaz 145.55 294 PKPbc **PKPdf 03 49 18.1 -1.6**
comp=Z,2.7nm,0.9s,baz=66,slow=12,SNR=2.2
MARD Mardin 145.90 282 PKPdf **PKPdf 03 49 19.7 -1.0**
ARPR Arapgir-MALATY 148.18 284 PKPbc **PKPdf 03 49 27.2 +2.8**
DBIC Dimbokro 148.40 176 PKPbc **PKPbc 03 49 29.5 +0.6**
comp=Z,2.2nm,0.4s,baz=174,slow=3.2,SNR=13
MMAI Mount Meron Ar 148.77 272 PKPbc **PKPbc 03 49 29.0 -0.5**
comp=Z,3.3nm,0.6s,baz=175,slow=2.1,SNR=3.9
OBN Obninsk 148.82 315 PKPdf **PKPdf 03 49 26.2 +1.4**
FINES FINESS Array B 150.82 332 PKPdf **PKPdf 03 49 30.9 +3.1**
FINES FINESS Array B 150.82 332 PKPbc **PKPdf 03 49 31.5 +3.8**
comp=Z,6.3nm,0.5s,baz=59,slow=3.1,SNR=31
BRTR Keskin Array B 151.88 284 PKPbc **PKPdf 03 49 34.5 +4.2**
BRTR Keskin Array B 151.88 284 PKPbc **PKPbc 03 49 34.9 -1.9**
comp=Z,1.6nm,0.6s,baz=155,slow=5.7,SNR=9.6
AKASG Malin Array Be 154.33 309 PKPbc **PKPbc 03 49 39.2 -2.3**
comp=Z,1.2nm,0.4s,baz=69,slow=2.4,SNR=8.1
AKASG PKPab **PKPab 03 49 54.2 -1.7**
comp=Z,1.9nm,0.5s,baz=62,slow=3.6,SNR=8.7
TORD Torodi Ar. Bea 154.60 190 PKP **PKPdf 03 49 33.7 -1.0**
comp=Z,1.0nm,0.8s,baz=155,slow=2.5,SNR=4.9
TORD PKPbc **PKPbc 03 49 43.5 +0.2**
comp=Z,1.0nm,0.5s,baz=153,slow=3.5,SNR=11
TORD PKPab **PKPab 03 49 57.8 -0.1**
comp=Z,1.0nm,0.5s,baz=142,slow=3.0,SNR=5.2
NB2 NORSAR Subarra155.68 344 PKPdf PKPdf 03 49 43.3 +8.5
comp=Z,1.4nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 155.68 344 PKP **PKPdf 03 49 34.1 -0.7**
comp=Z,0.4nm,0.5s,baz=34,slow=2.2,SNR=4.4
NOA PKPab **PKPab 03 50 00.1 -1.3**
comp=Z,0.7nm,0.7s,baz=26,slow=3.2,SNR=4.0
HFS Hagfors 155.85 340 PKP **PKPdf 03 49 34.7 -0.3**
comp=Z,3.3nm,1.0s,baz=92,slow=12,SNR=3.1
BRG Berggiesshubel 162.82 322 *e*P **PKPab 03 50 31.8 -0.9**
BRG Amp 03 50 34.0
comp=Z,23nm,1.8s
CLL Collm 162.97 325 *i*PKPab **PKPab 03 50 33.4 +0.1**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 164.19 317 PKPab **PKPab 03 50 37.8 -1.1**
comp=Z,0.3nm,0.6s,baz=29,slow=3.0,SNR=3.7
ESDC Sonseca Array 178.34 37 PKP **PKPdf 03 49 51.5 -0.7**
comp=Z,0.8nm,1.1s,baz=21,slow=5.8,SNR=4.1

NOU ***07*** *03:46:47.8, 20.04S×169.48E, h96km, MLv5.5/15, Vanuatu Islands*
NEIC ***07*** *03:46:47.7±2.3, 19.97S±0.07×169.5E±0.1, h111km±5km, mb4.7/54, Error ellipse: s-maj=15.7km s-min=10.3km az=98.0*
IDC ***07*** *03:46:47.1±2.0, 19.94S×169.35E, h113km±16km, mb4.0/14, mbtmp4.4/16, MS3.1/2, Error ellipse: s-maj=15.9km s-min=14.3km az=129.0*
ISC 07 03:46:45.7±0.4, 19.98S±0.05×169.50E±0.07, h100km±5km, n139, σ1.920/143, mb4.7/46, 5C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.56**	**331**	P	**Pn**	**03 47 28.8**	**+3.1**
YATNC	**Mamie plateau,**	**3.19**	**229**	P	**Pn**	**03 47 34.7**	**+0.7**
PINNC	**Pines Island,**	**3.24**	**216**		**Pn**	**03 47 36.0**	**+1.3**
PINNC	**Pines Island,**	**3.24**	**216**	P	**Pn**	**03 47 36.1**	**+1.4**
PINNC	**Pines Island,**	**3.24**	**216**	S	**Sn**	**03 48 12.9**	**+0.5**
OUENC	**Ouen Island, N**	**3.46**	**225**	P	**Pn**	**03 47 39.7**	**+2.0**
OUENC	**Ouen Island, N**	**3.46**	**225**	S	**Sn**	**03 48 19.5**	**+1.6**
DZM	**Mont Dzumac**	**3.53**	**233**	P	**Pn**	**03 47 40.3**	**+1.6**
	594nm,0.5s,baz=50,slow=20,SNR=1113						
DZM				S	**Sn**	**03 48 18.8**	**-0.7**
	330nm,0.3s,baz=343,slow=19,SNR=12						

DZM			LR	LR	03 48 59.4	
	comp=Z,246nm,18.1s,baz=32,slow=38					
DZM	**Mont Dzumac**	**3.53 233**	P	**Pn**	**03 47 40.2**	**+1.6**
DZM	**Mont Dzumac**	**3.53 233**	S	**Sn**	**03 48 20.3**	**+0.8**
ONTNC	**Ouen Toro**	**3.66 230**	Pn	**Pn**	**03 47 42.4**	**+2.1**
ONTNC	**Ouen Toro**	**3.66 230**	P	**Pn**	**03 47 42.3**	**+2.0**
ONTNC	**Ouen Toro**	**3.66 230**	S	**Sn**	**03 48 24.3**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.92 263**	P	**Pn**	**03 47 59.8**	**+2.4**
SANVU	**Saraoutou**	**5.01 334**	Pn	**Pn**	**03 48 00.1**	**+1.5**
SANVU	**Saraoutou**	**5.01 334**	P	**Pn**	**03 48 00.7**	**+2.1**
EIDS	**Eidsvold**	**17.81 249**	P	**Pn**	**03 50 49.8**	**+2.5**
ARMA	**Armidale**	**19.19 234**	P	**Pn**	**03 51 04.3**	**+0.6**
URZ	**Urewera**	**19.38 162**	P	**P**	**03 51 04.4**	**+0.9**
	2.5nm,0.6s,baz=18,slow=18,SNR=1.7					
RTZ	**Ruatahuna**	**19.67 162**	P	**Pn**	**03 51 10.1**	**+0.9**
PLWZ	**Palliser**	**22.07 168**	P	**P**	**03 51 34.2**	**+1.7**
CAN	**Canberra**	**23.66 226**	P	**P**	**03 51 49.8**	**+1.7**
COEN	**Coen**	**25.86 279**	P	**P**	**03 52 06.9**	**-1.3**
STKA	**Stephens Creek**	**27.66 239**	P	**P**	**03 52 24.6**	**+0.3**
STKA			IAmb	IAmb	03 52 48.7	
	comp=Z,32nm,1.4s					
STKA	**Stephens Creek**	**27.66 239**	P	**P**	**03 52 24.4**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=65,slow=9.9,SNR=6.2					
	comp=Z,1.5nm,0.5s					
BBOO	**Buckleboo**	**32.42 240**	P	**P**	**03 53 07.0**	**+0.7**
BBOO			IAmb	IAmb	03 53 07.5	
	comp=Z,18nm,1.3s					
WR8	**Warramunga Arr**	**32.86 264**	P	**P**	**03 53 09.2**	**-1.1**
WR8			IAmb	IAmb	03 53 11.1	
	comp=Z,8.5nm,1.1s					
WB0	**Warramunga Arr**	**32.98 264**	P	**P**	**03 53 10.3**	**-0.9**
WRA	**Warramunga Arr**	**33.01 264**	P	**P**	**03 53 10.4**	**-1.1**
WRA	**Warramunga Arr**	**33.01 264**	P	**P**	**03 53 10.6**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=93,slow=8.2,SNR=28					
WRA			PcP	**PcP**	**03 55 52.5**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=91,slow=3.0,SNR=6.0					
	comp=Z,2.1nm,0.6s					
AS31	**Alice Springs**	**33.19 257**	P	**P**	**03 53 13.0**	**-0.1**
AS31			IAmb	IAmb	03 53 13.7	
	comp=Z,11nm,0.6s					
ASAR	**Alice Springs**	**33.19 257**	P	**P**	**03 53 12.7**	**-0.4**
ASAR	**Alice Springs**	**33.19 257**	P	**P**	**03 53 13.1**	**-0.1**
	comp=Z,23nm,0.6s,baz=86,slow=9.2,SNR=280					
ASAR			PcP	**PcP**	**03 55 52.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=117,slow=2.9,SNR=4.4					
ASAR			S	**S**	**03 58 22.0**	**-3.8**
	comp=Z,0.3nm,0.7s,baz=82,slow=17,SNR=2.2					
	comp=Z,23nm,0.6s					
MTN	**Manton Dam**	**37.41 275**	P	**P**	**03 53 49.0**	**-0.3**
FORT	**Forrest**	**38.76 245**	P	**P**	**03 53 59.4**	**-1.1**
FORT			IAmb	IAmb	03 54 01.1	
	comp=Z,8.4nm,0.8s					
KNRA	**Kununurra**	**38.95 270**	P	**P**	**03 54 01.4**	**-0.8**
KNRA			IAmb	IAmb	03 54 02.9	
	comp=Z,11nm,1.0s					
FAKI	**Fak Fak**	**40.10 290**	P	**P**	**03 54 11.3**	**-0.5**
FAKI			IAmb	IAmb	03 54 12.3	
	comp=Z,21nm,0.9s					
FITZ	**Fitzroy Crossi**	**41.41 265**	P	**P**	**03 54 23.0**	**+0.4**
PSA00	**Pilbara Seismi**	**46.29 259**	P	**P**	**03 55 01.1**	**-0.5**
MBWA	**Marble Bar**	**46.45 259**	P	**P**	**03 55 02.1**	**-0.8**
MBWA			IAmb	IAmb	03 55 04.0	
	comp=Z,13nm,1.1s					
TOLI2	**Tolitoli**	**52.13 288**	P	**P**	**03 55 46.1**	**-0.1**
TOLI2			IAmb	IAmb	03 55 46.8	
	comp=Z,12nm,0.8s					
VNDA	**Vanda**	**57.70 182**	P	**P**	**03 56 25.1**	**-0.2**
VNDA	**Vanda**	**57.70 182**	P	**P**	**03 56 25.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=3.5,slow=6.7,SNR=9.5					
VNDA			LR	LR	04 17 32.3	
	comp=Z,17nm,19.0s,baz=342,slow=32					
	comp=Z,0.7nm,0.5s					
SBA	**Scott Base**	**57.93 181**	P	**P**	**03 56 28.2**	**+1.3**
SBA			IAmb	IAmb	03 56 29.4	
	comp=Z,7.6nm,0.8s					
MJAR	**Matsushiro Arr**	**63.52 332**	P	**P**	**03 57 03.5**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=177,slow=7.9,SNR=4.4					
	comp=Z,1.0nm,0.6s					
JKA	**Kamikawa-asahi**	**68.38 339**	P	**P**	**03 57 37.8**	**+1.4**
QSPA	**South Pole Qui**	**70.08 180**	P	**P**	**03 57 48.3**	**+1.5**
	comp=Z,5.4nm,0.7s,baz=336,slow=0.6,SNR=40					
	comp=Z,5.4nm,0.7s					
NJ2	**Nanjing**	**70.91 316**	*e*P	**P**	**03 57 53.6**	**+1.4**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KIWB	**Kanaga Island**	**72.47 9**	P	**P**	**03 58 01.6**	**+0.4**
PETK	**Petropavlovsk-**	**73.50 353**	P	**P**	**03 58 07.1**	**0.0**
	comp=Z,2.5nm,0.7s,baz=159,slow=5.1,SNR=4.5					
	comp=Z,2.5nm,0.7s					
NIKH	**Nikolski High**	**75.04 13**	P	**P**	**03 58 16.1**	**0.0**
MAW	**Mawson**	**77.84 202**	P	**P**	**03 58 32.5**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=142,slow=6.9,SNR=5.0					
	comp=Z,1.9nm,0.7s					
CMAR	**Chiang Mai Arr**	**79.03 294**	P	**P**	**03 58 39.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**79.03 294**	P	**P**	**03 58 40.0**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=133,slow=4.1,SNR=16					
	comp=Z,2.5nm,0.5s					
CHTO	**Chiang Mai**	**79.18 295**	P	**P**	**03 58 40.2**	**+0.1**
PZH	**PanZhiHua**	**80.31 303**	P	**P**	**03 58 47.8**	**+1.6**
HHC	**Hu-ho-hao-te**	**80.94 319**	*e*P	**P**	**03 58 50.4**	**+1.2**
HHC			pmax	pmax		
	comp=Z,9.0nm,0.7s					
HHC			pmax	pmax		
	comp=Z,66nm,5.0s					
BELA	**Belgrano 2**	**81.34 175**	P	**P**	**03 58 49.9**	**-0.8**
BELA			IAmb	IAmb	03 58 50.3	
	comp=Z,9.5nm,0.4s					
SMAI	**San Martin Ant**	**83.05 162**	P	**P**	**03 58 59.7**	**0.0**
SMAI			IAmb	IAmb	03 59 00.8	
	comp=Z,8.3nm,1.0s					
LZDM	**Lanzhou Array**	**83.44 312**	P	**P**	**03 59 03.3**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=104,slow=11,SNR=2.0					
	comp=Z,1.1nm,0.3s					
N15K	**Kwethluk River**	**83.61 15**	P	**P**	**03 59 02.9**	**+0.4**
N15K			IAmb	IAmb	03 59 05.0	
	comp=Z,9.9nm,0.8s					
K13K	**Kusilvak Mount**	**84.20 12**	P	**P**	**03 59 05.8**	**+0.3**
M16K	**Timber Creek**	**84.63 15**	P	**P**	**03 59 08.7**	**+1.1**
M16K			IAmb	IAmb	03 59 10.7	
	comp=Z,17nm,1.1s					
L16K	**Owhat River**	**85.11 14**	P	**P**	**03 59 10.6**	**+0.5**
L16K			IAmb	IAmb	03 59 20.4	
	comp=Z,16nm,1.4s					
KCPM	**Cahto Peak**	**86.08 45**	P	**P**	**03 59 18.0**	**+2.5**
KCPM			IAmb	IAmb	03 59 46.8	
	comp=Z,15nm,1.1s					
O02D	**Mt. Diablo Mer**	**86.85 45**	P	**P**	**03 59 21.7**	**+2.4**
O02D			IAmb	IAmb	03 59 21.9	
	comp=Z,5.4nm,1.0s					
M02C	**Callahan**	**87.40 44**	P	**P**	**03 59 23.3**	**+1.4**
M02C			IAmb	IAmb	03 59 24.4	
	comp=Z,12nm,1.3s					
YBH	**Yreka Blue Hor**	**87.66 44**	P	**P**	**03 59 24.5**	**+1.4**
YBH			IAmb	IAmb	03 59 25.7	
	comp=Z,5.8nm,1.2s					
GTA	**Gaotai**	**87.81 313**	*e*P	**P**	**03 59 25.1**	**+1.1**
GTA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TROLL	**Troll, Antarti**	**87.81 184**	⇑P	**P**	**03 59 22.5**	**-1.0**
	comp=Z,508nm,0.7s					
SONM	**Songino Array**	**87.96 323**	P	**P**	**03 59 24.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=138,slow=5.4,SNR=6.3					
	comp=Z,2.0nm,0.8s					
BEKR	**Beckworth**	**88.34 46**	P	**P**	**03 59 27.9**	**+1.3**
SNAA	**Sanae**	**88.43 182**	⇑P	**P**	**03 59 25.2**	**-1.2**
	comp=Z,104nm,0.5s					
SNAA	**Sanae**	**88.43 182**	P	**P**	**03 59 25.2**	**-1.2**
SNAA			IAmb	IAmb	03 59 26.3	
	comp=Z,4.8nm,0.7s					
SNAA	**Sanae**	**88.43 182**	P	**P**	**03 59 25.6**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=204,slow=8.3,SNR=30					
	comp=Z,4.1nm,0.5s					
BERG	**Berg Lake**	**88.58 21**	P	**P**	**03 59 25.0**	**-1.9**
DSP	**Deep Springs**	**88.88 49**	P	**P**	**03 59 29.9**	**+1.1**
VNA3	**Neumayer Olymp**	**89.01 180**	⇑P	**P**	**03 59 28.0**	**-1.0**
	comp=Z,20nm,0.7s					
NVAR	**Mina Array Bea**	**89.11 48**	P	**P**	**03 59 30.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=227,slow=7.8,SNR=7.3					
	comp=Z,1.2nm,0.9s					
RND	**Reindeer**	**89.26 17**	P	**P**	**03 59 28.8**	**-1.3**
RND			IAmb	IAmb	03 59 39.2	
	comp=Z,4.6nm,1.0s					
VNA2	**Neumayer--Watz**	**89.31 181**	⇑P	**P**	**03 59 29.6**	**-0.8**
	comp=Z,16nm,0.6s,baz=174,slow=4.4					
ESPZ	**Base Esperanza**	**89.32 161**	P	**P**	**03 59 30.5**	**0.0**
K05A	**Summer Lake**	**89.32 44**	P	**P**	**03 59 31.9**	**+0.8**
K05A			IAmb	IAmb	03 59 33.7	
	comp=Z,6.9nm,1.2s					
J05D	**Fort Rock, OR**	**89.37 43**	P	**P**	**03 59 31.7**	**+0.5**
J05D			IAmb	IAmb	03 59 33.7	
	comp=Z,8.6nm,1.3s					
VNA1	**Neumayer--Stat**	**89.60 181**	⇑P	**P**	**03 59 29.0**	**-2.7**
	comp=Z,6.7nm,0.6s					
PINE	**Pine Mountain**	**89.80 43**	P	**P**	**03 59 34.5**	**+1.2**
PINE			IAmb	IAmb	03 59 35.8	
	comp=Z,5.7nm,0.9s					
O29M	**Mount Kennedy**	**90.33 23**	P	**P**	**03 59 35.6**	**+0.3**
GNW	**Green Mountain**	**90.46 39**	P	**P**	**03 59 37.8**	**+1.8**
GNW			IAmb	IAmb	03 59 38.2	
	comp=Z,3.6nm,0.9s					
ILAR	**Eielson Array**	**90.86 17**	P	**P**	**03 59 36.9**	**-0.6**
ILAR	**Eielson Array**	**90.86 17**	P	**P**	**03 59 35.8**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=239,slow=4.3,SNR=26					
	comp=Z,0.8nm,0.6s					
PRN	**Pahroc Range**	**91.00 50**	P	**P**	**03 59 39.7**	**+0.7**
PRN			IAmb	IAmb	04 00 13.7	
	comp=Z,4.6nm,1.0s					
D19K	**Kuna River**	**91.31 11**	P	**P**	**03 59 39.7**	**+0.1**
WHY	**Whitehorse**	**91.95 24**	P	**P**	**03 59 42.3**	**-0.5**
EGAK	**Eagle**	**92.54 19**	P	**P**	**03 59 44.4**	**-0.9**
EGAK			IAmb	IAmb	03 59 54.2	
	comp=Z,8.3nm,1.4s					
I28M	**Miner Creek**	**93.38 19**	P	**P**	**03 59 48.6**	**-0.6**
I28M			IAmb	IAmb	04 00 02.9	
	comp=Z,7.8nm,1.5s					
EPYK	**Eagle Plains**	**94.98 19**	P	**P**	**03 59 56.2**	**-0.3**
H31M	**Peel River**	**95.37 20**	P	**P**	**03 59 58.1**	**-0.2**
MKAR	**Makanchi Array**	**102.43 315**	P	**Pdif**	**04 00 30.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=86,slow=3.7,SNR=2.7					
SPITS	**Spitsbergen Ar**	**120.36 354**	PKP	**PKPdf**	**04 05 22.4**	**-2.1**
	comp=Z,17nm,1.2s,baz=91,slow=7.6,SNR=7.1					
ARCES	**ARCESS Array B**	**125.84 345**	PKPdif	**PKPdf**	**04 05 33.9**	**-1.2**
ARCES	**ARCESS Array B**	**125.84 345**	PKP	**PKPdf**	**04 05 34.1**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=35,slow=1.5,SNR=14					
FINES	**FINESS Array B**	**131.36 338**	PKP	**PKPdf**	**04 05 45.0**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=117,slow=2.6,SNR=4.7					
NOA	**NORSAR Array B**	**136.22 345**	PKP	**PKPdf**	**04 05 53.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=37,slow=4.4,SNR=3.6					
DPC	**Dobruska-Polom**	**142.99 331**	*e*PKP	**PKPdf**	**04 06 04.5**	**-3.2**
EKA	**Eskdalemuir Ar**	**144.27 353**	PKP	**PKPab**	**04 06 07.0**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=357,slow=2.8,SNR=7.5					
ZVC	**Zvikov**	**144.60 332**	*e*PKP	**PKPdf**	**04 06 09.6**	**-0.8**
RONA	**Rosalia, Austr**	**144.84 328**	*i* PKP	**PKPdf**	**04 06 11.1**	**+0.2**
	comp=Z,3.6nm,0.7s,SNR=8.5					
CONA	**Conrad Observa**	**144.90 329**	*i* PKP	**PKPdf**	**04 06 11.2**	**+0.1**
	comp=Z,5.1nm,0.6s					
CKRC	**Cesky Krumlov**	**145.00 331**	*e*PKP	**PKPdf**	**04 06 10.9**	**-0.3**
KHC	**Kasperske Hory**	**145.10 332**	*e*PKP	**PKPdf**	**04 06 11.2**	**-0.2**
GEC2	**GERESS Array S**	**145.26 332**		**PKPbc**	**04 06 11.3**	**-0.3**
GERES	**GERESS Array B**	**145.26 332**	PKPbc	**PKPbc**	**04 06 11.3**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=16,slow=3.1,SNR=32					
IDI	**Anoyia**	**145.34 304**	PKPdf	**PKPdf**	**04 06 11.1**	**-1.2**
LIT	**Litokhoron**	**145.39 313**	PKPdf	**PKPdf**	**04 06 10.5**	**-1.7**
MOA	**Molln**	**145.72 330**	*i* PKP	**PKPab**	**04 06 13.4**	**-0.1**
	comp=Z,2.4nm,0.6s,SNR=7.9					
BIOA	**Bad Ischl, Aus**	**146.13 330**	*i* PKP	**PKPbc**	**04 06 14.1**	**-0.2**
	comp=Z,1.4nm,0.5s					
SOKA	**Soboth**	**146.17 328**	*i* PKP	**PKPbc**	**04 06 14.1**	**-0.4**
	comp=Z,1.7nm,0.5s,SNR=6.1					
OBKA	**Obir**	**146.53 328**	*i* PKP	**PKPab**	**04 06 16.0**	**-0.7**
	comp=Z,1.1nm,0.6s					
KBA	**Koelnbreinsper**	**146.71 330**	*i* PKP	**PKPdf**	**04 06 14.5**	**+0.1**
	comp=Z,3.4nm,0.7s					
LESA	**Schwarzleotal**	**146.77 331**	*i* PKP	**PKPbc**	**04 06 16.0**	**-0.3**
	comp=Z,2.7nm,0.5s,SNR=6.9					
LESA	**Schwarzleotal**	**146.77 331**	*e*P	**PKPbc**	**04 06 16.0**	**-0.3**
	comp=Z,2.8nm,0.6s					
MYKA	**Terra Mystica**	**146.89 329**	*i* PKP	**PKPbc**	**04 06 15.6**	**-0.9**
	comp=Z,2.8nm,0.6s					
WATA	**Walderalm**	**147.33 332**	*i* PKP	**PKPbc**	**04 06 17.2**	**-0.6**
	comp=Z,1.1nm,0.5s					
ABTA	**Abfaltersbach**	**147.34 330**	*e*PKP	**PKPbc**	**04 06 16.5**	**-1.3**
	comp=Z,4.1nm,0.6s,SNR=6.4					
WTTA	**Wattenberg**	**147.36 332**	*i* PKP	**PKPbc**	**04 06 17.0**	**-1.0**
	comp=Z,4.0nm,0.8s					
MOTA	**Moosalm**	**147.53 332**	*i* PKP	**PKPbc**	**04 06 17.9**	**-0.5**
	comp=Z,5.5nm,0.7s,SNR=6.3					
MOTA	**Moosalm**	**147.53 332**	*e*P	**PKPbc**	**04 06 17.9**	**-0.5**
	comp=Z,5.5nm,0.7s,SNR=6.3					
WLF	**Walferdange**	**147.53 340**	*d*PKP	**PKPbc**	**04 06 17.9**	**-0.2**
RETA	**Reutte**	**147.57 333**	*i* PKP	**PKPbc**	**04 06 18.0**	**-0.5**
	comp=Z,1.9nm,0.6s,SNR=4.6					
RETA	**Reutte**	**147.57 333**	*e*P	**PKPbc**	**04 06 18.0**	**-0.5**
	comp=Z,1.9nm,0.6s,SNR=4.6					
SQTA	**Sankt Quirin**	**147.58 332**	*i* PKP	**PKPbc**	**04 06 18.1**	**-0.4**
	comp=Z,5.8nm,0.5s,SNR=7.7					
SQTA	**Sankt Quirin**	**147.58 332**	*e*P	**PKPbc**	**04 06 18.1**	**-0.4**
	comp=Z,5.8nm,0.5s,SNR=7.7					
STAL	**STALIGIAL**	**147.60 329**		**PKPbc**	**04 06 17.1**	**-1.4**
DOU	**Dourbes**	**147.64 342**	*d*PKP	**PKPbc**	**04 06 18.2**	**-0.2**
FETA	**Feichten**	**147.95 332**	*i* PKP	**PKPbc**	**04 06 19.2**	**-0.3**
	comp=Z,5.0nm,0.7s,SNR=11					
DAVA	**Damuels**	**148.11 333**	*i* PKP	**PKPbc**	**04 06 19.4**	**-0.6**
	comp=Z,3.8nm,0.7s					
TUE	**Stuetta**	**148.97 333**	PKPbc	**PKPbc**	**04 06 22.0**	**-0.3**
BNI	**Bardonecchia**	**151.23 334**	PKPbc	**PKPbc**	**04 06 27.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**166.48 242**	PKPab	**PKPab**	**04 07 40.3**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=89,slow=4.5,SNR=4.4					

*IDC **07** 04:14:22.0±8.0, 31°.34S×179°.81E, h461km±99km, mb2.7/2, mbtmp4.0/3, Error ellipse: s-maj=102.8km s-min=40.7km az=9.0*
*WEL **07** 04:14:22.9±0.6, 31°.S±6°.×18°.0E±1°.3, h336km±10km, M4.1/17, mB4.6/13, ML5.0/12, MLv4.7/17, Mw(mB)3.8/13, Error ellipse: s-maj=18.2km s-min=4.1km az=110.6, confirmed*

ISC 07 04:14:18.2±1.0, 30°.81S±0°.09×179°.3E±0°.1, h350km, n41, σ1°91/62, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.87**	**58**	P	**Pn**	**04 15 16.1**		**-0.2**
GLKZ				S	**S**	**04 16 04.5**		**+1.4**
RIZ	**Raoul Island**	**2.87**	**58**	P	**Pn**	**04 15 15.9**		**-0.5**
RIZ				S	**S**	**04 16 03.5**		**+0.3**
WCZ	**Waipu Caves**	**6.58**	**218**	P	Pn	04 16 01.1		+5.6
KUZ	**Kuaotunu**	**6.62**	**206**	P	Pn	04 16 04.0		+7.9
MXZ	**Matakaoa Point**	**6.78**	**187**	P	**Pn**	**04 15 59.0**		**+1.8**
MXZ				S	**S**	**04 17 19.4**		**+0.5**
WMGZ	**Waiomatatini S**	**7.03**	**186**	P	**Pn**	**04 16 04.1**		**+3.4**
WMGZ				S	**S**	**04 17 22.5**		**-1.7**
HAZ	**Te Kaha**	**7.04**	**190**	P	**Pn**	**04 16 03.9**		**+3.1**
HAZ				S	**S**	**04 17 22.3**		**-2.1**
PKGZ	**Pakihiroa**	**7.11**	**188**	P	**Pn**	**04 16 02.9**		**+1.2**
RVAZ	**Riverhead Bore**	**7.12**	**212**	S	**S**	**04 17 29.5**		**+3.4**
RUGZ	**Raukumara Rang**	**7.26**	**190**	P	**Pn**	**04 16 05.1**		**+1.5**
RUGZ				S	**S**	**04 17 28.5**		**-0.8**
PUZ	**Puketiti**	**7.29**	**186**	P	**Pn**	**04 16 08.1**		**+4.2**
PUZ				S	**S**	**04 17 29.7**		**-0.1**
TWGZ	**Tauwhareparae**	**7.43**	**188**	P	**Pn**	**04 16 09.1**		**+3.7**
TWGZ				S	**S**	**04 17 32.9**		**0.0**
MWZ	**Matawai**	**7.64**	**191**	P	**Pn**	**04 16 11.6**		**+3.6**
MWZ				S	**S**	**04 17 37.4**		**-0.1**
URZ	**Urewera**	**7.64**	**193**	P	**Pn**	**04 16 10.4**		**+2.5**
	34nm,0.3s,baz=335,slow=5.6,SNR=51							
URZ				S	**S**	**04 17 36.6**		**-0.8**
	25nm,0.6s,baz=58,slow=19,SNR=12							
URZ	**Urewera**	**7.64**	**193**	P	**Pn**	**04 16 10.1**		**+2.1**
URZ				S	**S**	**04 17 36.8**		**-0.6**
TKGZ	**Te Karaka**	**7.70**	**189**	P	**Pn**	**04 16 08.5**		**-0.1**
CNGZ	**Carnagh Statio**	**7.71**	**186**	P	**Pn**	**04 16 11.7**		**+3.1**
RAGZ	**Rawiri**	**7.82**	**191**	P	**Pn**	**04 16 13.4**		**+3.3**
MUGZ	**Murupara**	**7.92**	**195**	P	**Pn**	**04 16 10.1**		**-1.2**
MUGZ				S	**S**	**04 17 45.7**		**+2.1**
RIGZ	**Rimuhau**	**7.97**	**189**	P	**Pn**	**04 16 14.6**		**+2.7**
RIGZ				S	**S**	**04 17 41.0**		**-3.7**
SNGZ	**Shannon Statio**	**8.11**	**191**	P	**P**	**04 16 16.8**		**+0.3**
SNGZ				S	**S**	**04 17 47.0**		**-0.6**
PRGZ	**Paritu Road**	**8.17**	**188**	P	**P**	**04 16 15.9**		**-1.3**
PRGZ				S	**S**	**04 17 47.1**		**-1.9**
MTHZ	**Maungataniwha**	**8.27**	**193**	P	**P**	**04 16 19.1**		**+0.8**
MTHZ				S	**S**	**04 17 52.3**		**+1.1**
KNZ	**Kokohu**	**8.30**	**189**	P	**P**	**04 16 18.0**		**-0.5**
KNZ				S	**S**	**04 17 50.9**		**-0.7**
MHGZ	**Mahia Peninsul**	**8.40**	**187**	P	**P**	**04 16 18.8**		**-0.8**
NMHZ	**Naumai**	**8.51**	**193**	P	**P**	**04 16 21.1**		**+0.1**
NMHZ				S	**S**	**04 17 57.6**		**+1.1**
KRVZ	**Karewarewa**	**8.79**	**199**	P	**P**	**04 16 23.3**		**-0.9**
ETVZ	**East Tongariro**	**8.81**	**199**	P	**P**	**04 16 24.1**		**-0.2**
ETVZ				S	**S**	**04 18 05.3**		**+2.3**
OTVZ	**Oturere**	**8.85**	**199**	P	**Pn**	**04 16 23.6**		**+1.2**
NGZ	**Ngauruhoe**	**8.88**	**199**	P	**P**	**04 16 25.4**		**+0.2**
KWHZ	**Kaweka Forest**	**8.91**	**195**	P	**Pn**	**04 16 24.2**		**+1.1**
KWHZ				S	**S**	**04 18 03.3**		**-1.8**
FWVZ	**Far West T-bar**	**8.96**	**199**	P	**P**	**04 16 26.9**		**+0.7**
WNVZ	**Wahianoa**	**9.02**	**199**	P	**P**	**04 16 26.8**		**0.0**
WNVZ				S	**S**	**04 18 07.0**		**-0.6**
PKVZ	**Pokaka**	**9.05**	**200**	P	**P**	**04 16 27.4**		**+0.4**
KRHZ	**Kereru**	**9.13**	**194**	P	**Pn**	**04 16 25.4**		**-0.3**
KRHZ				S	**S**	**04 18 06.2**		**-3.7**
KAHZ	**Kahuranaki**	**9.18**	**192**	P	**P**	**04 16 28.4**		**0.0**
KAHZ				S	**S**	**04 18 11.0**		**+0.1**
PXZ	**Pawanui**	**9.41**	**192**	P	**P**	**04 16 29.9**		**-0.9**
PXZ				S	**S**	**04 18 11.4**		**-4.5**
PNHZ	**Pukenui**	**9.43**	**195**	P	**Pn**	**04 16 28.9**		**-0.3**
ASAR	**Alice Springs**	**40.77**	**269**	P	**P**	**04 21 25.0**		**-1.7**
	0.2nm,0.4s,baz=110,slow=7.6,SNR=1.8							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**41.79**	**274**	P	**P**	**04 21 33.9**		**-1.0**
	0.6nm,0.3s,baz=112,slow=7.8,SNR=11							
	0.6nm,0.3s							
FINES	**FINESS Array B**	**144.69**	**338**	PKPbc	PKPbc	04 33 05.7		-6.9
	0.6nm,0.4s,baz=59,slow=4.4,SNR=11							

*IDC **07** 04:20:00.4±1.7, 1°.12N×126°.78E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=169.7km s-min=20.0km az=67.0*
*DJA **07** 04:20:03.6±0.8, 1°N±4°×12°6E±°, h10km±7km, M3.3/7, MLv3.3/7*

ISC 07 04:20:06.3±1.0, 0°.9N±0°.1×126°.52E±0°.07, h39km, n8, σ0°95/9, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.86**	**100**	P	**Pn**	**04 20 21.5**		**-0.4**
TNTI				S	**Sn**	**04 20 34.1**		**+0.7**
KMSI	**Cibinong**	**2.56**	**262**	S	**Sn**	**04 21 15.5**		**+0.3**
SGSI	**Sangihe**	**2.91**	**340**	P	**Pn**	**04 20 50.0**		**-0.2**
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**04 24 57.2**		**-1.3**
	3.2nm,0.8s,baz=339,slow=11,SNR=20							
	3.2nm,0.8s							
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**04 25 32.6**		**+1.6**
	2.3nm,0.8s,baz=346,slow=11,SNR=20							
	2.3nm,0.8s							
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**04 30 07.2**		**0.0**
	0.5nm,0.5s,baz=127,slow=7.3,SNR=5.9							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**63.98**	**328**	P	**P**	**04 30 35.0**		**-0.6**
	1.0nm,0.5s,baz=129,slow=6.0,SNR=5.0							
	1.0nm,0.5s							
BVAR	**Borovoye Array**	**69.55**	**328**	P	**P**	**04 31 11.0**		**-0.1**
	0.5nm,0.4s,baz=132,slow=4.3,SNR=2.3							
	0.5nm,0.4s							

*GCG **07** 04:39:31.8±1.7, 14°.41N×92°.01W, h63km±9km, MD4.8, ML5.1*
*MEX **07** 04:39:32.6±0.8, 14°.42N×91°.99W, h71km±6km, MD4.7*
*NEIC **07** 04:39:32.1±2.4, 14°.42N±0°.07×92°.07W±0°.06, h65km±5km, mb4.2/35, Md4.7/98(MEX), Error ellipse: s-maj=10.6km s-min=6.1km az=213.0*
*IDC **07** 04:39:32.6±1.8, 14°.57N×91°.87

TGIG Sn 04 40 40.0 -0.6
TGIG 2.50 336 *eP* Pn 04 40 10.5 -0.4
TGIG *i* S Sn 04 40 40.0 -0.6
TGIG 2.50 336 *eP* Pn 04 40 10.6 -0.4
MTO3 Montecristo 2.63 91 Pn Pn 04 40 11.4 -1.5
MTO3 Montecristo 2.63 91 *eP* Pn 04 40 11.4 -1.5
MTO3 Montecristo 2.63 91 P Pn 04 40 12.0 -0.9
MTO3 Montecristo 2.63 91 S Sn 04 40 43.6 -0.4
ESQI Esquipulas 2.65 88 Pn Pn 04 40 11.1 -1.9
ESQI Esquipulas 2.65 88 *eP* Pn 04 40 12.9 -0.1
ESQI Esquipulas 2.65 88 S Sn 04 40 44.6 +0.4
ESQI Esquipulas 2.65 88 ⇑P Pn 04 40 12.1 -0.9
JAYA Jayaque - finc 2.68 107 *eP* Pn 04 40 12.9 -0.5
JAYA *eS* Sn 04 40 42.1 -2.8
JAYA Jayaque - finc 2.68 107 *eP* Pn 04 40 12.3 -1.1
JAYA *eS* Sn 04 40 42.2 -2.7
JAYA Jayaque - finc 2.68 107 S Sn 04 40 43.5 -1.4
JAYA Jayaque - finc 2.68 107 ⇓P Pn 04 40 12.3 -1.1
CEDA San Andres 2.69 104 S Sn 04 40 44.4 -0.6
CEDA San Andres 2.69 104 ⇑P Pn 04 40 12.6 -0.8
PMON Piamonte 2.79 105 S Sn 04 40 47.4 0.0
PMON Piamonte 2.79 105 ⇑P Pn 04 40 14.7 -0.1
BOQS Boqueron 2.81 105 *eP* Pn 04 40 15.1 -0.2
ITCA Escuela Especi 2.83 106 P Pn 04 40 15.4 0.0
ITCA Escuela Especi 2.83 106 S Sn 04 40 47.2 -1.3
LALI Alcalda de L 2.85 110 *eP* Pn 04 40 15.0 -0.6
LALI Alcalda de L 2.85 110 S Sn 04 40 48.0 -0.8
LALI Alcalda de L 2.85 110 ⇓P Pn 04 40 15.0 -0.6
UEES Universidad Ev 2.86 105 P Pn 04 40 16.2 +0.4
UEES Universidad Ev 2.86 105 S Sn 04 40 49.1 0.0
UTEC Universidad Te 2.90 105 S Sn 04 40 49.3 -0.7
UTEC Universidad Te 2.90 105 ⇑P Pn 04 40 16.5 +0.2
IGN Direccin Gen 2.92 105 S Sn 04 40 51.3 +0.6
IGN Direccin Gen 2.92 105 ⇑P Pn 04 40 16.7 +0.1
UDBS Universidad Do 2.94 104 P Pn 04 40 16.2 -0.6
UDBS Universidad Do 2.94 104 S Sn 04 40 51.6 +0.6
LOMA Loma Larga 2.94 106 S Sn 04 40 50.8 -0.4
LOMA Loma Larga 2.94 106 P Pn 04 40 16.6 -0.4
PANCS Alcalda de 2.94 107 P Pn 04 40 16.5 -0.4
PANCS Alcalda de 2.94 107 S Sn 04 40 49.9 -1.2
LBRS Las Brisas 3.03 104 *eP* Pn 04 40 17.6 -0.6
LLGN La Laguna 3.05 95 P Pn 04 40 18.0 -0.5
PAVA Las Pavas 3.14 103 P Pn 04 40 19.3 -0.3
PAVA Las Pavas 3.14 103 S Sn 04 40 56.7 +0.6
NILT Santiago Nilte 3.21 311 Pn 04 40 21.7 +1.2
NILT Sn 04 40 58.7 +1.0
NILT Santiago Nilte 3.21 311 *eP* Pn 04 40 21.7 +1.2
NILT *eS* Sn 04 40 58.7 +1.0
SARH Santa Rosa de 3.23 84 *eP* Pn 04 40 19.3 -1.5
PETF Flores 3.23 41 Pn 04 40 20.3 -0.5
PETF Sn 04 40 54.8 -3.4
PETF Flores 3.23 41 *eP* Pn 04 40 20.3 -0.5
PETF *eS* Sn 04 40 54.8 -3.4
PETF Flores 3.23 41 *eP* Pn 04 40 20.8 0.0
PETF Flores 3.23 41 ⇓P Pn 04 40 21.6 +0.8
UESV Universidad de 3.30 104 P Pn 04 40 21.4 -0.4
UESV Universidad de 3.30 104 S Sn 04 41 00.3 +0.4
TECO Alcaldia de Te 3.33 106 S Sn 04 41 01.1 +0.4
TECO Alcaldia de Te 3.33 106 ⇑P Pn 04 40 21.5 -0.7
SCLA Alcaldia de Sa 3.34 103 S Sn 04 41 00.5 -0.4
SCLA Alcaldia de Sa 3.34 103 ⇑P Pn 04 40 21.5 -0.8
UXUV UXUV 3.46 325 Pn 04 40 24.6 +0.7
UXUV Sn 04 41 02.5 -1.3
UXUV UXUV 3.46 325 *eP* Pn 04 40 24.6 +0.7
UXUV *eS* Sn 04 41 02.5 -1.3
PQSS Presa 15 de Se 3.52 103 S Sn 04 41 05.5 +0.3
PQSS Presa 15 de Se 3.52 103 P Pn 04 40 24.6 0.0
IZABA Izabal, Puerto 3.60 69 *i* P Pn 04 40 23.4 -2.4
IZABA *i* S Sn 04 41 03.7 -3.4
IZABA Izabal, Puerto 3.60 69 S Sn 04 41 08.0 +0.9
CMIG Matias Romero 3.75 314 Pn 04 40 28.7 +0.8
CMIG Matias Romero 3.75 314 P Pn 04 40 28.3 +0.4
comp=E,49nm,0.3s,baz=138,slow=9.0,SNR=159
CMIG S Sn 04 41 13.0 +2.1
comp=E,232nm,0.4s,baz=37,slow=20,SNR=10
CMIG Matias Romero 3.75 314 *eP* Pn 04 40 28.7 +0.8
CMIG *i* S Sn 04 41 07.8 -3.1
PACA Pacayal 3.78 105 P Pn 04 40 27.5 -0.9
PACA Pacayal 3.78 105 S Sn 04 41 11.2 -0.5
CNRM Centro Naciona 3.92 104 P Pn 04 40 30.1 0.0
CNRM Centro Naciona 3.92 104 S Sn 04 41 15.3 +0.3
HUIG Huatulco 4.10 289 Pn 04 40 32.3 -0.4
HUIG Sn 04 41 13.4 -6.0
HUIG Huatulco 4.10 289 *eP* Pn 04 40 32.3 -0.4
HUIG *eS* Sn 04 41 13.4 -6.0
HUIG Huatulco 4.10 289 *eP* Pn 04 40 32.2 -0.4
TUIG Tuzandepetl 4.20 328 Pn 04 40 26.9 -7.0
TUIG Sn 04 41 18.6 -3.2
TUIG Tuzandepetl 4.20 328 *eP* Pn 04 40 26.9 -7.0
TUIG *eS* Sn 04 41 18.6 -3.2
LCND La Caada 4.23 105 S Sn 04 41 22.3 -0.3
LCND La Caada 4.23 105 ⇑P Pn 04 40 33.7 -0.7
CNCH Conchagua 4.29 106 P Pn 04 40 34.9 -0.4
CNCH Conchagua 4.29 106 S Sn 04 41 24.3 0.0
SCIG Sabancuy 4.55 11 Pn 04 40 38.2 -0.5
SCIG Sn 04 41 25.5 -5.0
SCIG Sabancuy 4.55 11 *eP* Pn 04 40 38.2 -0.5
SCIG *eS* Sn 04 41 25.5 -5.0
SCIG Sabancuy 4.55 11 *i* P Pn 04 40 38.3 -0.5
TGUH Tegucigalpa,Un 4.68 94 Pn Pn 04 40 38.6 -1.8
TGUH Tegucigalpa,Un 4.68 94 *eP* Pn 04 40 38.4 -2.2
NEUV Arroyo Zacate 4.82 313 Pn 04 40 42.7 +0.2
NEUV Sn 04 41 32.4 -4.5
NEUV Arroyo Zacate 4.82 313 *eP* Pn 04 40 42.7 +0.2
NEUV *eS* Sn 04 41 32.4 -4.5
PMUV Sontecomapan 4.99 325 Pn 04 40 46.5 +1.6
PMUV Sn 04 41 39.4 -2.0
PMUV Sontecomapan 4.99 325 *eP* Pn 04 40 46.5 +1.6
PMUV *eS* Sn 04 41 39.4 -2.0
PEIG Puerto Escondi 5.12 288 Pn 04 40 46.7 +0.1
PEIG Sn 04 41 39.0 -5.4
PEIG Puerto Escondi 5.12 288 *eP* Pn 04 40 46.7 +0.1
PEIG *eS* Sn 04 41 39.0 -5.4
OXLC Oaxaca 5.14 301 Sn 04 41 41.9 -3.4
OXLC Oaxaca 5.14 301 *eS* Sn 04 41 41.9 -3.4
OXIG Oaxaca 5.17 301 Pn 04 40 47.9 +0.4
OXIG Sn 04 41 41.1 -4.9
VHO Vista Hermosa 5.17 301 *eP* Pn 04 40 47.9 +0.4
VHO *eS* Sn 04 41 41.1 -4.9
YOIG Yosondua 5.78 295 Pn 04 40 58.0 +2.2
YOIG Sn 04 41 57.6 -3.2
YOIG Yosondua 5.78 295 *eP* Pn 04 40 58.0 +2.2
YOIG *eS* Sn 04 41 57.6 -3.2
TOIG Toxpalan 5.99 308 Pn 04 40 58.9 +0.3
TOIG Sn 04 42 04.7 -1.2
TOIG Toxpalan 5.99 308 *eP* Pn 04 40 58.9 +0.3
TOIG *eS* Sn 04 42 04.7 -1.2
MGAN Managua 6.13 111 Pn Pn 04 40 59.3 -1.1
TXIG Tlaxiaco 6.13 298 Pn 04 41 02.7 +2.0
TXIG Sn 04 42 11.1 +1.5
TXIG Tlaxiaco 6.13 298 *eP* Pn 04 41 02.7 +2.0
TXIG *eS* Sn 04 42 11.1 +1.5
TPIG Tehuac#an 6.41 308 Pn 04 41 04.1 -0.3
TPIG Sn 04 42 15.7 -0.6
TPIG Tehuac#an 6.41 308 *eP* Pn 04 41 04.1 -0.3
TPIG *eS* Sn 04 42 15.7 -0.6
HLIG Huajuapan de L 6.43 302 Pn 04 41 07.6 +2.8
HLIG Sn 04 42 16.9 0.0
HLIG Huajuapan de L 6.43 302 *eP* Pn 04 41 07.6 +2.8
HLIG *eS* Sn 04 42 16.9 0.0
JAUV Jalcomulco 6.64 318 Pn 04 41 05.8 -1.7
JAUV Sn 04 42 18.1 -3.7
JAUV Jalcomulco 6.64 318 *eP* Pn 04 41 05.8 -1.7
JAUV *eS* Sn 04 42 18.1 -3.7
LVIG Laguna Verde 6.67 322 Sn 04 42 17.4 -4.9
LVIG Laguna Verde 6.67 322 *eS* Sn 04 42 17.4 -4.9
FTIG Fresnillo de T 6.75 301 Pn 04 41 11.5 +2.6
FTIG Sn 04 42 18.7 -5.7
FTIG Fresnillo de T 6.75 301 *eP* Pn 04 41 11.5 +2.6
FTIG *eS* Sn 04 42 18.7 -5.7
POHV Veracruz 6.76 313 Pn 04 41 10.0 +0.5
POHV Sn 04 42 22.9 -2.4
POHV Veracruz 6.76 313 *eP* Pn 04 41 10.0 +0.5
POHV *eS* Sn 04 42 22.9 -2.4
TEIG Tepich 6.78 32 Pn Pn 04 41 07.9 -1.3
TEIG Tepich 6.78 32 Sn 04 42 19.3 -5.7
TEIG Tepich 6.78 32 P Pn 04 41 08.7 -0.5
comp=E,0.1nm,0.9s,baz=127,slow=24,SNR=72
TEIG S Sn 04 42 19.6 -5.4
baz=132,slow=24,SNR=16

TEIG Tepich 6.78 32 *eP* Pn 04 41 08.2 -1.1
TEIG *eS* Sn 04 42 19.3 -5.7
MYIG Merida 6.83 19 Pn 04 41 09.4 -0.5
MYIG Sn 04 42 20.8 -5.4
MYIG Merida 6.83 19 *eP* Pn 04 41 09.4 -0.5
MYIG *eS* Sn 04 42 20.8 -5.4
TLIG Tlapa 6.95 297 Pn Pn 04 41 13.8 +2.0
TLIG Tlapa 6.95 297 Sn 04 42 24.9 -4.7
TLIG Tlapa 6.95 297 *eP* Pn 04 41 14.2 +2.4
TLIG *eS* Sn 04 42 24.9 -4.7
SIUN Universidad Ur 7.13 95 Pn Pn 04 41 13.2 -0.8
CRIG Cruz Grande 7.16 289 Pn 04 41 15.6 +1.1
CRIG Sn 04 42 30.5 -3.8
CRIG Cruz Grande 7.16 289 *eP* Pn 04 41 15.6 +1.1
CRIG *eS* Sn 04 42 30.5 -3.8
PPCL Tochimilco 7.67 306 *eP* Pn 04 41 24.7 +3.1
PPCL *eS* Sn 04 42 44.3 -2.8
PPSX Xalitzintla 7.68 308 *eP* Pn 04 41 26.1 +4.2
PPSX *eS* Sn 04 42 45.8 -1.7
PPPT Popocatepetl 7.70 306 *eP* Pn 04 41 24.9 +2.5
PPPT *eS* Sn 04 42 53.1 +4.6
DAIG Los Arroyos 7.72 290 Pn 04 41 23.7 +1.6
DAIG Los Arroyos 7.72 290 *i* P Pn 04 41 23.7 +1.6
CXUV Coxquihui 7.74 318 Pn 04 41 21.0 -1.4
CXUV Sn 04 42 44.4 -4.1
CXUV Coxquihui 7.74 318 *eP* Pn 04 41 21.0 -1.4
CXUV *eS* Sn 04 42 44.4 -4.1
YAIG Yautepec 7.99 304 Pn 04 41 29.2 +3.2
YAIG Sn 04 42 50.4 -4.6
YAIG Yautepec 7.99 304 *eP* Pn 04 41 29.2 +3.2
YAIG *eS* Sn 04 42 50.4 -4.6
MEIG Mezcala 8.02 296 Pn 04 41 26.7 +0.4
MEIG Sn 04 42 52.5 -3.0
MEIG Mezcala 8.02 296 *eP* Pn 04 41 26.7 +0.4
MEIG *eS* Sn 04 42 52.5 -3.0
JTS Las Juntas de 8.11 120 Pn Pn 04 41 27.2 -0.3
JTS Las Juntas de 8.11 120 P Pn 04 41 27.4 -0.1
comp=E,8.0nm,0.3s,baz=322,slow=17,SNR=14
JTS S Sn 04 42 55.2 -2.4
comp=E,14nm,0.5s,baz=288,slow=20,SNR=4.6
CAIG El Cayaco 8.29 289 Pn 04 41 31.7 +1.8
CAIG El Cayaco 8.29 289 *i* P Pn 04 41 31.7 +1.8
VTVM Tizayuca 8.29 310 Pn 04 41 32.5 +2.3
VTVM Tizayuca 8.29 310 *eP* Pn 04 41 32.5 +2.3
SOCE Pocosol 8.34 118 Pn Pn 04 41 31.6 +0.9
MAVM Malinalco, Edo 8.39 303 Pn 04 41 35.0 +3.6
MAVM Sn 04 43 06.0 +1.3
MAVM Malinalco, Edo 8.39 303 *eP* Pn 04 41 35.0 +3.6
MAVM *eS* Sn 04 43 06.0 +1.3
AOVM Tlapan 8.41 306 Pn 04 41 36.0 +4.0
AOVM Sn 04 43 06.8 +1.1
AOVM Tlapan 8.41 306 *eP* Pn 04 41 36.0 +4.0
AOVM *eS* Sn 04 43 06.8 +1.1
ARIG Puente Sto Nin 8.79 297 Pn 04 41 40.2 +3.4
ARIG Sn 04 43 09.9 -4.5
ARIG Puente Sto Nin 8.79 297 *i* P Pn 04 41 40.2 +3.4
ARIG *eS* Sn 04 43 09.9 -4.5
PIRO Carate, Puerto 10.47 124 Pn Pn 04 42 01.9 +2.1
BRU2 Volcan 10.79 121 Pn Pn 04 42 05.8 +1.6
SAND Sanderson 17.98 331 P Pn 04 43 39.6 +2.1
TXAR Lajitas Array 18.27 326 P Pn 04 43 43.0 +1.9
TXAR Lajitas Array 18.27 326 P Pn 04 43 42.5 +1.5
comp=E,1.5nm,0.9s,baz=155,slow=11,SNR=14
TX31 Lajitas Ar. Si 18.27 326 P **P** 04 43 43.3 +2.3
LRAL Lakeview Retre 19.05 13 P **P** 04 43 48.8 0.0
LRAL IAmb IAmb 04 43 52.9
comp=Z,12nm,1.1s
LPIG La Paz 19.67 302 P **P** 04 43 57.7 +2.1
comp=Z,11nm,0.4s,baz=124,slow=4.4,SNR=4.5
Y49A Blount Mountai 19.97 14 P **P** 04 43 57.2 -1.7
Y49A IAmb IAmb 04 44 25.3
comp=Z,14nm,1.3s
MIAR Mount Ida 20.03 356 P **P** 04 43 59.0 -0.5
MIAR IAmb IAmb 04 44 19.2
comp=Z,16nm,1.4s
VHRN Van Horn 20.11 326 P Pn 04 44 03.1 +0.2
GOGA Godfrey 20.41 21 P **P** 04 44 05.0 +1.4
GOGA IAmb IAmb 04 44 36.0
comp=Z,10.0nm,1.0s
RUSC La Rusia 20.53 113 P **P** 04 44 03.0 -2.6
FLOC Florencia 20.67 127 P Pn 04 44 08.2 -1.4
FLOC IAmb IAmb 04 44 27.9
comp=Z,9.8nm,1.1s
MNTX Cornudas Mount 21.03 327 P **P** 04 44 11.2 +0.9
HODGE Hodges 21.59 23 P **P** 04 44 16.4 +0.2
HODGE IAmb IAmb 04 44 28.4
comp=Z,21nm,1.5s
SMWD Samnorwood 21.82 342 P **P** 04 44 19.4 +0.6
SMWD IAmb IAmb 04 44 45.3
comp=Z,8.8nm,0.7s
CPCT Cooper Cave 21.97 17 P **P** 04 44 19.4 -0.9
CPCT IAmb IAmb 04 44 28.2
comp=Z,18nm,1.4s
TKL Tuckaleechee C 22.38 18 P **P** 04 44 24.1 -0.6
TKL IAmb IAmb 04 44 30.4
comp=Z,17nm,1.4s
TKL Tuckaleechee C 22.38 18 P **P** 04 44 23.8 -1.0
comp=Z,3.7nm,0.8s,baz=197,slow=8.8,SNR=4.2
TKL LR LR 04 53 33.3
comp=Z,49nm,20.5s,baz=186,slow=38
comp=Z,3.7nm,0.8s
V53A Saluda 22.69 20 P **P** 04 44 26.9 -1.2
V53A IAmb IAmb 04 44 58.1
comp=Z,7.9nm,0.9s
S44A Carbondale 23.27 6 P **P** 04 44 32.5 -1.2
S44A IAmb IAmb 04 44 51.8
comp=Z,15nm,1.1s
SIUC Southern Illin 23.29 6 P **P** 04 44 32.1 -1.8
SIUC IAmb IAmb 04 44 33.6
comp=Z,11nm,0.8s
LENM Lemitar 23.79 328 P **P** 04 44 41.4 +2.7
RTBA Rita Blanca 23.86 338 P **P** 04 44 39.8 +0.5
OLIL Olney 24.42 8 P **P** 04 44 43.3 -0.9
OLIL IAmb IAmb 04 45 03.1
comp=Z,9.5nm,0.8s
SJG San Juan 25.14 78 LR LR 04 53 45.1
comp=Z,16nm,19.5s,baz=236,slow=34
SADO Sadowa 32.14 17 LR LR 04 59 29.7
comp=Z,590nm,18.1s,baz=240,slow=37
NVAR Mina Array Bea 33.26 321 P **P** 04 46 06.2 +3.1
NVAR Mina Array Bea 33.26 321 P **P** 04 46 05.1 +2.0
comp=Z,2.7nm,0.9s,baz=137,slow=8.1,SNR=19
comp=Z,2.7nm,0.9s
LHV Little Huntoon 33.27 320 P **P** 04 46 05.7 +2.8
ULM Lac du Bonnet 35.82 356 LR LR 05 02 31.6
comp=Z,17nm,18.7s,baz=298,slow=39
J08A Circle Bar Ran 36.61 327 P **P** 04 46 33.0 +1.3
J08A IAmb IAmb 04 46 34.4
comp=Z,4.6nm,1.0s
F10A Beach Ranch, E 37.86 331 P **P** 04 46 43.1 +0.8
F10A IAmb IAmb 04 46 44.7
comp=Z,6.3nm,1.2s
LPAZ La Paz 38.65 141 P **P** 04 46 48.7 -1.1
LPAZ La Paz 38.65 141 P **P** 04 46 48.9 -0.9
comp=Z,1.4nm,0.8s,baz=313,slow=9.2,SNR=5.3
comp=Z,1.4nm,0.8s
PB16 IPOC Station P 39.47 145 P **P** 04 46 56.9 +0.3
PB16 IAmb IAmb 04 47 32.5
comp=Z,5.7nm,1.2s
I02E Swisshome, OR 40.05 324 P **P** 04 47 01.8 +1.3
GO01 Chusmiza 40.72 146 P **P** 04 47 07.4 +0.6
GO01 IAmb IAmb 04 47 08.1
comp=Z,3.4nm,0.8s
SCHQ Schefferville 44.81 20 LR LR 05 09 51.7
comp=Z,283nm,18.2s,baz=118,slow=41
FRB Frobisher Bay 51.88 13 LR LR 05 11 48.5
comp=Z,40nm,18.7s,baz=120,slow=37
M29M Somme Creek 57.95 337 P **P** 04 49 18.0 +0.8
BCAR Beaver Creek A 59.58 336 P **P** 04 49 28.0 -0.4
ILAR Eielson Array 62.38 337 P **P** 04 49 47.0 -0.3
comp=Z,1.1nm,1.0s,baz=118,slow=4.3,SNR=5.8
comp=Z,1.1nm,1.0s
RND Reindeer 62.57 335 P **P** 04 49 49.6 +0.9
BMAR Burnt Mountain 62.83 340 P **P** 04 49 49.1 -1.1
I23K Minto, Yukon-K 63.49 337 P **P** 04 49 55.0 +0.4
PPLA Purkeypile 63.78 334 P **P** 04 49 56.4 -0.3
G21K Allakaket 65.60 337 P **P** 04 50 08.9 +0.6
K17K Iditarod 66.40 333 P **P** 04 50 13.7 +0.1
HHC Hu-ho-hao-te 120.75 339 *eP* **PKPdf** 04 58 13.5 -3.2
PZH PanZhiHua 137.11 342 PKP **PKPdf** 04 58 46.2 -1.9
CMAR Chiang Mai Arr 145.52 341 PKPbc **PKPdf** 04 59 01.8 -1.5
comp=Z,2.9nm,0.3s,baz=13,slow=3.9,SNR=5.9

*OSPL **07** 04:42:43.3±1.2, 19°.00N×70°.30W, h108km±8km, ML2.2*
*SDD **07** 04:42:44.8±2.1, 18°.88N×70°.44W, h92km±9km, MD2.9, ML2.1, MW2.8*

ISC 07 04:42:45.2±1.6, 18°.93N±0°.04×70°.38W±0°.03, h82km±10km, n21, σ1°33/38, 22C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABDR	**Alto Bandera**	**0.26**	**243**	⇑*eP*g		**Pn**	**Pn**	**04 42 55.7**	**-2.3**
ABDR				⇑*eS*g		**Sn**	**Sn**	**04 43 08.3**	**+0.9**
ABDR				IAML				04 43 42.1	
comp=N,0.3nm,0.5s									
DR08	**Loma La Naviza**	**0.34**	**85**	⇑*eP*g		**Pn**	**Pn**	**04 42 57.3**	**-0.8**
DR08				⇑*eS*g		**Sn**	**Sn**	**04 43 07.5**	**-0.1**
DR08				IAML				04 43 08.8	
comp=N,4μm,0.1s									
SFDR	**San Fco. de Ma**	**0.38**	**21**	⇑*eP*g		**Pn**	**Pn**	**04 42 57.8**	**-0.4**
SFDR				⇑*eS*g		**Sn**	**Sn**	**04 43 08.9**	**+1.1**
SFDR				IAML				04 43 10.2	
comp=E,71nm,0.2s									
SC01	**Santiago de Io**	**0.59**	**326**	⇑*eP*g		**Pn**	**Pn**	**04 42 59.8**	**-0.2**
SC01				⇑*eS*g		**Sn**	**Sn**	**04 43 10.6**	**-0.3**
SC01				IAML				04 43 12.7	
comp=N,103nm,0.3s									
SC01	**Santiago de Io**	**0.59**	**326**	*i* P		**Pn**	**Pn**	**04 42 59.9**	**-0.1**
SC01				*eS*		**Sn**	**Sn**	**04 43 12.0**	**+1.1**
SDD	**Santo Domingo**	**0.65**	**137**	⇑*eS*g		**Sn**	**Sn**	**04 43 11.9**	**0.0**
SDD				IAML				04 43 14.2	
comp=N,13nm,1.0s									
SDD	**Santo Domingo**	**0.65**	**137**	*i* P		**Pn**	**Pn**	**04 43 00.3**	**-0.2**
SDD				*eS*		**Sn**	**Sn**	**04 43 12.2**	**+0.3**
NADR	**Nagua**	**0.65**	**50**	⇑*eP*g		**Pn**	**Pn**	**04 42 60.0**	**-0.5**
NADR				⇑*eS*g		**Sn**	**Sn**	**04 43 13.1**	**+1.2**
NADR				IAML				04 43 15.8	
comp=N,208nm,0.2s									
SDDR	**Presa de Saban**	**0.86**	**273**	⇑*eP*g		**Pn**	**Pn**	**04 43 02.2**	**-0.6**
SDDR				IAML				04 43 19.9	
comp=N,46nm,0.5s									
SDDR	**Presa de Saban**	**0.86**	**273**	*i* P		**Pn**	**Pn**	**04 43 02.6**	**-0.2**
SDDR				*eS*		**Sn**	**Sn**	**04 43 16.7**	**+0.7**
SDDR				IAML				04 43 21.3	
comp=Z,22nm,0.8s									
HATOM	**Hato Mayor del**	**0.96**	**99**	⇑*eP*g		**Pn**	**Pn**	**04 43 03.2**	**-0.7**
HATOM				⇑*eS*g		**Sn**	**Sn**	**04 43 17.6**	**-0.3**
HATOM				IAML				04 43 18.4	
comp=N,23nm,0.2s									
REDR	**Restauracion**	**0.98**	**284**	⇑*eP*g		**Pn**	**Pn**	**04 43 06.5**	**+2.3**
REDR				⇑*eS*g		**Sn**	**Sn**	**04 43 23.9**	**+5.5**
REDR				IAML				04 43 26.5	
comp=N,73nm,0.1s									
LONE3	**El Aguacate, B**	**1.07**	**252**	*i* P		**Pn**	**Pn**	**04 43 04.2**	**-1.2**
LONE3				*eS*		**Sn**	**Sn**	**04 43 21.0**	**+0.5**
LONE3				IAML				04 43 26.3	
comp=Z,10nm,1.1s									
SMDR	**Samana, DR**	**1.18**	**72**	⇑*eP*g		**Pn**	**Pn**	**04 43 06.6**	**0.0**
SMDR				*eS*g		**Sn**	**Sn**	**04 43 23.1**	**+0.5**
SMDR				IAML				04 43 26.2	
comp=N,50nm,1.1s									
LODU1	**El Espartillar**	**1.19**	**241**	*i* P		**Pn**	**Pn**	**04 43 06.2**	**-0.5**
LODU1				IAML				04 43 29.5	
comp=Z,20nm,1.2s									
LOPP1	**Punta Rusia, P**	**1.20**	**320**	*i* P		**Pn**	**Pn**	**04 43 05.4**	**-1.4**
LOPP1				*eS*		**Sn**	**Sn**	**04 43 22.0**	**-1.0**
LOPP1				IAML				04 43 31.1	
comp=Z,44nm,1.3s									
MIDR	**Miches**	**1.26**	**88**	⇑*eP*g		**Pn**	**Pn**	**04 43 08.0**	**+0.4**
MIDR				⇑*eS*g		**Sn**	**Sn**	**04 43 25.1**	**+0.7**
MIDR				IAML				04 43 25.7	
comp=N,4.1nm,0.3s									
MIDR				IAML				04 43 27.5	
comp=N,17nm,0.3s									
LOVI	**El Cajuil, Ovi**	**1.47**	**220**	*i* P		**Pn**	**Pn**	**04 43 09.6**	**-0.6**
LOVI				*eS*		**Sn**	**Sn**	**04 43 29.0**	**0.0**
LOVI				IAML				04 43 32.8	
comp=Z,45nm,0.7s									
MCDR	**Montecristi**	**1.54**	**309**	⇑*eP*g		**Pn**	**Pn**	**04 43 09.1**	**-2.0**
MCDR				⇑*eS*g		**Sn**	**Sn**	**04 43 29.3**	**-1.3**
MCDR				IAML				04 43 42.1	
comp=N,42nm,0.9s									
LOBH	**Bahia de las A**	**1.60**	**228**	*i* P		**Pn**	**Pn**	**04 43 11.3**	**-0.6**
LOBH				*eS*		**Sn**	**Sn**	**04 43 32.9**	**+0.8**
LOBH				IAML				04 43 36.3	
comp=Z,22nm,1.3s									
HIDR	**Higuey Centro**	**1.61**	**102**	⇑*eP*g		**Pn**	**Pn**	**04 43 12.2**	**+0.1**
HIDR				IAML				04 43 36.5	
comp=N,22nm,0.2s									

*SJA **07** 04:50:46.8±0.7, 23°.16S×66°.76W, h210km±6km, ML4.6, MW4.3*
*NEIC **07** 04:50:47.0±2.1, 23°.03S±0°.10×66°.5W±0°.1, h194km±6km, mb4.8/368, Error ellipse: s-maj=16.3km s-min=13.2km az=60.0*
*VAO **07** 04:50:47.0±0.5, 23°.07S×66°.66W, h207km±4km, mb4.9*
*IDC **07** 04:50:47.0±1.4, 23°.01S×66°.49W, h199km±12km, mb4.1/21, mbtmp4.7/28, MS3.3/1, Error ellipse: s-maj=12.5km s-min=8.1km az=54.0*

ISC 07 04:50:46.5±0.5, 23°.05S±0°.03×66°.68W±0°.04, h199km±4km, n415, σ1°62/297, mb4.8/185, 15C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.18**	**98**	*eP*		**Pn**	**Pn**	**04 51 20.7**	**+2.7**
SALTA		**1.21**	**165**	⇓*i*P		**Pn**	**Pn**	**04 51 20.1**	**+1.8**
SALTA				*i* S		**Sn**	**Sn**	**04 51 45.3**	**+2.3**
SALTA		**1.21**	**165**	*eP*		Pn	Pn	04 51 00.3	-18
SALTA				*eP*		**Pn**	**Pn**	**04 51 19.4**	**+1.2**
SALTA				IAML				04 51 20.7	
comp=Z,3μm,0.6s									
AF01	**San Pedro de A**	**1.38**	**274**			**Pn**	**Pn**	**04 51 21.6**	**+2.2**
AF01	**San Pedro de A**	**1.38**	**274**	⇑*i*P		**Pn**	**Pn**	**04 51 21.9**	**+2.4**
AF01				*i* S		**Sn**	**Sn**	**04 51 52.2**	**+7.3**
AF01				IAML				04 51 53.5	
comp=E,2μm,0.6s									
AF01	**San Pedro de A**	**1.38**	**274**	*eP*		**Pn**	**Pn**	**04 51 22.2**	**+2.8**
AF01				*eS*		Sn	Sn	04 51 31.8	-13
AF01				IAML				04 51 48.6	
comp=Z,2μm,0.8s									
YJA	**Yavi**	**1.39**	**51**	*eP*		**Pn**	**Pn**	**04 51 22.9**	**+3.2**
YJA				*eP*				04 51 23.0	
YJA				*eS*		**Sn**	**Sn**	**04 51 49.8**	**+4.5**
SLA	**San Lorenzo**	**1.98**	**147**	*eP*		**Pn**	**Pn**	**04 51 27.2**	**+2.3**
PB09	**IPOC Station P**	**2.68**	**297**	Pn		**Pn**	**Pn**	**04 51 34.4**	**+1.9**
PB09	**IPOC Station P**	**2.68**	**297**	⇑*i*P		**Pn**	**Pn**	**04 51 34.5**	**+1.9**
PB09	**IPOC Station P**	**2.68**	**297**	*eP*		**Pn**	**Pn**	**04 51 34.4**	**+1.9**
PB09				*eS*		**Sn**	**Sn**	**04 52 10.7**	**+2.3**
PB09				IAML				04 52 11.5	
comp=Z,2μm,0.6s									
PB06	**IPOC Station P**	**2.69**	**277**	Pn		**Pn**	**Pn**	**04 51 33.2**	**+0.6**
PB06	**IPOC Station P**	**2.69**	**277**	⇑*i*P		**Pn**	**Pn**	**04 51 33.5**	**+0.8**
PB06				*i* S		**Sn**	**Sn**	**04 52 08.5**	**0.0**
PB06	**IPOC Station P**	**2.69**	**277**	*eP*		**Pn**	**Pn**	**04 51 33.4**	**+0.8**
PB06				*eS*		**Sn**	**Sn**	**04 52 10.3**	**+1.7**
PB03	**IPOC Station P**	**3.01**	**289**	Pn		**Pn**	**Pn**	**04 51 37.0**	**+0.6**
PB03	**IPOC Station P**	**3.01**	**289**	*i* P		**Pn**	**Pn**	**04 51 37.1**	**+0.8**
PB03	**IPOC Station P**	**3.01**	**289**	*eP*		**Pn**	**Pn**	**04 51 36.4**	**+0.1**
PB03				*eS*		**Sn**	**Sn**	**04 52 15.0**	**-0.3**
PB03				IAML				04 52 17.1	
comp=Z,2μm,0.4s									
FSA	**Cafayete**	**3.11**	**168**	*eP*		**Pn**	**Pn**	**04 51 38.4**	**+0.9**
PB05	**IPOC Station P**	**3.25**	**273**	Pn		**Pn**	**Pn**

PB02 eS Sn 04 52 24.5 0.0
PB10 IPOC Station P 3.59 262 Pn Pn 04 51 43.1 -0.1
PB10 IPOC Station P 3.59 262⇑ iP Pn 04 51 43.4 +0.2
PB10 IPOC Station P 3.59 262 eP Pn 04 51 42.7 -0.5
PB10 eS Sn 04 52 25.7 -1.9
PB08 IPOC Station P 3.70 321 Pn Pn 04 51 46.6 +1.7
PB08 IPOC Station P 3.70 321⇑ iP Pn 04 51 47.2 +2.3
PB08 IPOC Station P 3.70 321 eP Pn 04 51 47.2 +2.3
PB08 eS Sn 04 52 32.7 +2.0
PB08 IAML 04 52 37.3
comp=Z,1µm,0.4s
PB14 IPOC Station P 3.75 245 Pn Pn 04 51 44.9 -0.6
PB14 IPOC Station P 3.75 245⇑ iP Pn 04 51 45.0 -0.4
PB14 IPOC Station P 3.75 245 eS Sn 04 52 28.9 -2.7
PB14 IAML 04 52 31.8
comp=Z,639nm,0.7s
PATCX Punta Patache 3.91 304 Pn Pn 04 51 47.2 -0.1
PATCX Punta Patache 3.91 304⇑ iP Pn 04 51 47.4 +0.1
TA01 Diego Aracena 4.09 307 eP Pn 04 51 48.6 -0.7
TA01 eS Sn 04 52 38.1 -0.6
TA01 IAML 04 52 39.3
comp=Z,705nm,0.5s
GO01 Chusmiza 4.10 325 Pn Pn 04 51 51.4 +1.4
GO01 Chusmiza 4.10 325 eP Pn 04 51 51.9 +1.8
GO01 eS Sn 04 52 42.4 +2.6
GO01 IAML 04 52 46.0
comp=Z,592nm,0.5s
TA02 Huaiquique 4.24 310 eP Pn 04 51 53.1 +1.9
TA02 eS Sn 04 52 41.3 -0.8
TA02 IAML 04 52 46.8
comp=Z,946nm,0.3s
PB11 IPOC Station P 4.29 319 Pn Pn 04 51 52.3 +0.2
PB11 IPOC Station P 4.29 319 eP Pn 04 51 52.5 +0.5
PB11 eS Sn 04 52 41.5 -2.0
AC02 Maricunga 4.37 210 Pn Pn 04 51 52.9 -0.4
AC01 Pan de Azucar 4.71 228 Pn Pn 04 51 55.4 -1.8
PB16 IPOC Station P 5.39 330 Pn Pn 04 52 07.6 +1.2
CYA Choya 5.42 172 eP Pn 04 52 01.4 -4.9
CYA eS Sn 04 53 02.5 -7.0
GO03 Copiapo 5.55 215 Pn Pn 04 52 05.5 -2.5
GO03 Copiapo 5.55 215 eP Pn 04 52 06.0 -1.9
GO03 eS Sn 04 53 02.4 -10
GO03 IAML 04 53 09.2
comp=Z,246nm,0.7s
PB18 Visviri 6.04 334 Pn Pn 04 52 16.8 +2.1
AC04 Llanos de Chal 6.48 217 Pn Pn 04 52 16.5 -3.5
LPAZ La Paz 6.87 348 P Pn 04 52 27.6 +2.0
comp=Z,28nm,0.4s,baz=152,slow=5.0,SNR=259
LPAZ S Sn 04 53 43.5 -0.7
comp=Z,34nm,0.6s,baz=252,slow=20,SNR=6.8
LPAZ La Paz 6.87 348 eP Pn 04 52 27.8 +2.2
LCO Las Campanas 6.95 210 Pn Pn 04 52 23.1 -3.2
CO05 La Serena 7.96 210 Pn Pn 04 52 34.9 -4.3
GO04 Tololo Observa 7.99 207 Pn Pn 04 52 36.1 -3.6
MURT Porto Murtinho 8.51 82 eP Pn 04 52 46.4 0.0
CO03 El Pedregal 8.54 204 Pn Pn 04 52 43.5 -3.3
CFA Coronel Fontan 8.63 189 P Pn 04 52 45.9 -2.0
comp=Z,2.3nm,0.2s,baz=39,slow=16,SNR=76
CFA S Sn 04 54 14.9 -10
comp=Z,6.9nm,0.3s,baz=96,slow=19,SNR=11
CO06 Fray Jorge 8.78 209 Pn Pn 04 52 44.6 -5.3
SIV San Ignacio 8.79 38 P Pn 04 52 49.8 -0.4
comp=Z,51nm,0.5s,baz=217,slow=11,SNR=509
SIV S Sn 04 54 21.9 -7.1
comp=Z,15nm,0.7s,baz=196,slow=23,SNR=4.1
CO02 Combarbal 8.98 204 Pn Pn 04 52 48.4 -4.2
CPUP Villa Florida 9.11 113 Pn Pn 04 52 53.0 -1.1
CPUP Villa Florida 9.11 113 P Pn 04 52 52.4 -1.8
comp=Z,4.9nm,0.9s,baz=211,slow=5.9,SNR=26
CPUP Villa Florida 9.11 113 eP Pn 04 52 53.0 -1.1
BDQN Bodoquena, MS 9.59 76 eP Pn 04 53 00.3 -0.2
VA03 San Esteban 10.26 199 Pn Pn 04 53 08.2 -0.9
VA06 Catapilco 10.31 202 Pn Pn 04 53 05.7 -4.0
PTLB Pontes e Lacer 10.39 45 eP Pn 04 53 11.0 +0.2
AQDB Aquidauana 10.52 78 Pn Pn 04 53 11.8 -0.8
AQDB Aquidauana 10.52 78 eP Pn 04 53 12.7 +0.1
AMBA Amambai (Brazi 10.77 92 eP Pn 04 53 14.4 -1.3
MT02 Curacav 10.90 200 Pn Pn 04 53 12.8 -4.5
PSAL Palomas, Salto 11.37 137 eP Pn 04 53 22.9 -0.4
VILB Vilhena 11.78 33 Pn Pn 04 53 28.8 0.0
VILB Vilhena 11.78 33 eP Pn 04 53 29.1 +0.3
BO01 Tunca 11.94 198 Pn Pn 04 53 28.6 -1.9
BO02 Sierra Bellavi 12.23 196 Pn Pn 04 53 32.8 -1.5
PP1B Ponte de Pedra 12.33 66 eP Pn 04 53 34.8 -0.8
SALV Santo Antonio 12.56 57 eP Pn 04 53 38.5 -0.1
PTGB Pitanga 13.48 100 eP P 04 53 50.7 -1.9
C2SB Chapadao do Su 13.62 74 eP P 04 53 53.7 -0.5
ITAB Concordia 13.82 111 Pn Pn 04 53 53.5 -0.7
ITAB Concordia 13.82 111 eP Pn 04 53 54.3 +0.1
CPSB Cacapava Do Su 13.91 125 eP Pn 04 53 54.8 -0.5
BI02 San Fabin de 14.13 195 Pn Pn 04 53 55.5 -2.6
LDASE Londrina, Braz 14.31 94 eP Pn 04 53 59.8 -0.6
PLTB Pedras Altas 14.49 130 Pn Pn 04 54 00.9 -1.6
PLTB Pedras Altas 14.49 130 eP Pn 04 54 01.2 -1.3
NNA Nana 14.65 317 P P 04 54 06.2 +0.5
NNA Nana 14.65 317 P P 04 54 06.0 +0.3
comp=Z,29nm,0.6s,baz=158,slow=10,SNR=12
NNA S S 04 56 41.4 -6.3
comp=Z,2.8nm,0.3s,baz=199,slow=14,SNR=1.6
PDRB Porto dos Gac 14.81 41 eP Pn 04 54 06.5 0.0
H03N1 Juan Fernandez 14.93 223 P P 04 54 10.4 +2.1
baz=107,slow=14,SNR=5.8
H03N2 Juan Fernandez 14.94 223 P P 04 54 10.4 +2.0
baz=107,slow=14,SNR=5.8
H03N3 Juan Fernandez 14.95 223 P P 04 54 10.2 +1.7
baz=107,slow=14,SNR=9.6
H03S3 Juan Fernandez 15.18 222 P P 04 54 13.1 +2.1
baz=38,slow=19,SNR=7.6
H03S1 Juan Fernandez 15.19 222 P P 04 54 12.4 +1.2
baz=38,slow=19,SNR=5.1
H03S2 Juan Fernandez 15.20 222 P P 04 54 13.2 +1.9
baz=38,slow=19,SNR=8.2
TRQA Tornquist 15.49 166 Pn Pn 04 54 12.6 -2.1
CNLB Canela 15.51 117 eP Pn 04 54 13.9 -1.1
ITRB Iturama 15.56 81 eP P 04 54 16.4 +0.7
FRTB Fartura 15.74 94 eP Pn 04 54 18.1 +0.2
ARAG Araguaiana, MT 15.81 65 eP Pn 04 54 19.2 +0.5
CLDB Colider 15.96 42 eP Pn 04 54 20.3 -0.2
BB19B Bebedouro 16.95 87 eP Pn 04 54 31.7 -0.6
RCLB Rio Claro- Sao 17.68 92 eP P 04 54 39.3 +0.3
SPB Sao Paulo 17.69 96 P P 04 54 39.2 +0.2
SPB Sao Paulo 17.69 96 eP Pn 04 54 39.7 -1.3
LR05 Currie 17.71 194 P 04 54 39.0 0.0
PET01 Itanhaem-SP 17.82 98 eP P 04 54 40.1 -0.4
PLCA Paso Flores 17.93 190 P P 04 54 40.6 -1.0
PLCA Paso Flores 17.93 190 P P 04 54 41.1 -0.5
comp=Z,4.9nm,0.7s,baz=3.0,slow=11,SNR=17
PLCA PcP PcP 04 59 08.1 +0.4
comp=Z,1.6nm,0.9s,baz=14,slow=0.7,SNR=5.3
PLCA Paso Flores 17.93 190 eP P 04 54 41.9 +0.4
IPMB Ipameri, GO 18.02 77 eP Pn 04 54 43.4 -1.5
VAO Valinhos 18.15 94 P P 04 54 44.0 -0.2
VAO Valinhos 18.15 94 eP P 04 54 44.2 +0.1
SNDB Serra Nova Dou 18.33 56 eP P 04 54 45.9 -0.2
LL03 Petrohue 18.66 194 P P 04 54 48.6 -0.8
BDFB Brasilia 19.08 71 P P 04 54 53.8 -0.5
BDFB Brasilia 19.08 71 P P 04 54 54.9 +0.5
comp=Z,134nm,0.7s,baz=247,slow=11,SNR=204
NPGB Novo Progresso 19.29 36 eP P 04 54 55.0 -1.5
PARB Paraibuna 19.36 95 eP P 04 54 56.8 -0.5
ATAH Atahualpa 19.43 323 P Pn 04 55 01.1 -0.8
comp=Z,16nm,0.7s,baz=166,slow=15,SNR=8.7
PMNB Patos De Minas 19.45 80 eP P 04 54 58.3 +0.1
TEFE Tefe 19.53 6 eP P 04 54 58.6 -0.4
BSCB Bom Sucesso 20.41 88 eP P 04 54 08.3 -0.2
LL02 Futaleuf 20.54 191 P P 04 55 09.0 -0.5
MACA Manacapuru-AM 20.61 17 P P 04 55 09.0 -1.5
MACA Manacapuru-AM 20.61 17 eP P 04 55 09.3 -1.3
ITTB Itaituba 21.38 31 eP P 04 55 17.4 -1.2
VAS01 Vassouras-RJ 21.46 92 eP P 04 55 19.8 +0.3
DIAM Diamantina, MG 22.03 82 eP P 04 55 24.2 -1.2
DUB01 Friburgo-RJ 22.46 92 eP P 04 55 29.2 0.0
JANB Januaria 22.57 73 eP P 04 55 29.4 -0.8
SMTB Santa Maria do 23.11 55 eP P 04 55 34.3 -0.7
CAM01 Campos-RJ 23.16 92 eP P 04 55 35.0 -0.4
SDBA SAO DESIDERIO 23.26 67 eP P 04 55 35.7 -0.7
PRPB Parauapebas 23.36 47 eP P 04 55 36.1 -1.2
MAL2 Monte Alegre, 24.17 32 P P 04 55 43.6 -1.1
SJMB Sao Joao De Ma 24.20 84 eP P 04 55 44.4 -0.6
RIB01 Linhares ES 24.78 86 eP P 04 55 49.3 -0.9
BOAV Boa Vista 26.00 14 P P 04 56 01.2 0.0
BOAV Boa Vista 26.00 14 eP P 04 56 01.4 +0.3

FLOC Florencia 26.00 339 P P 04 56 01.1 -0.1
GUA01 Guaratinga, BA 26.07 81 eP P 04 56 01.2 -0.6
CMC01 Camacan, BA 26.74 78 eP P 04 56 06.5 -1.3
ROSC El Rosal 28.71 344 P P 04 56 26.4 +0.7
comp=Z,5.0nm,0.5s,baz=126,slow=19,SNR=2.0
comp=Z,5.0nm,0.5s
RUSC La Rusia 29.44 347 P P 04 56 32.0 -0.3
MPGF Montagnes des 31.17 28 P P 04 56 47.3 +0.3
MPGF sP sP 04 57 47.9 -4.2
SDV Santo Domingo 31.98 353 P P 04 56 53.5 -0.7
comp=Z,6.5nm,0.4s,baz=211,slow=3.9,SNR=4.7
SDV LR LR 05 11 47.1
comp=Z,58nm,20.8s,baz=243,slow=39
comp=Z,6.5nm,0.4s
NBAN Anadia - AL 31.98 70 eP P 04 56 52.9 -1.2
RCBR Riachuelo 34.25 65 P P 04 57 13.8 -0.1
RCBR Riachuelo 34.25 65 P P 04 57 13.9 0.0
comp=Z,9.5nm,0.6s,baz=242,slow=18,SNR=20
comp=Z,9.5nm,0.6s
RCBR Riachuelo 34.25 65 eP P 04 57 14.5 +0.7
SMRC Santa Marta, M 34.80 347 P P 04 57 16.0 -2.4
SMRC IAmb IAmb 04 58 37.1
comp=Z,29nm,1.4s
GRGR Grenville 35.31 9 P P 04 57 23.5 +0.7
HDC Heredia 37.02 331 P P 04 57 39.5 +2.1
SOCE Pocosol 37.59 330 P P 04 57 42.6 +0.5
JTS Las Juntas de 37.66 330 P P 04 57 45.9 +3.2
MPOM Morne Pois Mar 37.70 9 P P 04 57 42.5 -0.4
FDF Fort de France 37.94 9 P P 04 57 44.1 -0.9
GDHS Morne Mazeau, 39.38 7 P P 04 57 58.0 +1.1
SIUN Universidad Ur 40.61 332 P P 04 58 08.2 +1.1
SIUN IAmb IAmb 04 58 08.9
comp=Z,7.1nm,0.6s
DR12 Loma Pena Alta 41.67 356 P P 04 58 13.4 -2.2
TGUH Tegucigalpa,Un 42.03 329 P P 04 58 20.2 +1.4
TGUH IAmb IAmb 04 58 21.2
comp=Z,38nm,0.8s
MTO3 Montecristo 43.34 327 P 04 58 30.8 +1.4
MTO3 IAmb IAmb 04 58 31.9
comp=Z,31nm,0.7s
ESQI Esquipulas 43.47 327 P P 04 58 32.4 +2.1
HUEH Huehuetenango 45.21 325 P P 04 58 45.8 +1.6
PETF Flores 45.74 328 P P 04 58 49.0 +0.9
PETF IAmb IAmb 04 58 50.4
comp=Z,34nm,1.0s
CCIG Comitan 46.35 325 P P 04 58 53.4 +0.3
CCIG IAmb IAmb 04 58 55.1
comp=Z,35nm,1.1s
TEIG Tepich 47.90 332 P P 04 59 04.9 +0.1
TEIG Tepich 47.90 332 P P 04 59 05.0 +0.3
TEIG PcP PcP 05 00 28.9 -1.2
TLIG Tlapa 51.00 320 P P 04 59 29.2 +0.8
553A Crawfordville 55.62 341 P P 05 00 02.6 +1.0
BELA Belgrano 2 56.94 172 P P 05 00 11.0 +0.6
ZAIG Zacatecas 57.39 320 P P 05 00 16.3 +1.6
ZAIG IAmb IAmb 05 00 17.9
comp=Z,16nm,0.9s
VNA3 Neumayer Olymp 57.95 161⇑ P P 05 00 18.5 +0.9
comp=Z,9.4nm,0.7s
152A Waverly Hall 58.02 342 IAmb IAmb 05 00 19.3
comp=Z,13nm,0.8s
VNA1 Neumayer--Stat 58.14 160⇓ P P 05 00 21.3 +2.4
comp=Z,12nm,0.8s
VNA2 Neumayer--Watz 58.51 161⇑ P P 05 00 22.5 +1.1
comp=Z,12nm,0.6s,baz=278,slow=8.7
HBVL Hebbronville 58.64 326 IAmb IAmb 05 00 25.1
comp=Z,14nm,1.1s
JSC Jenkinsville 58.68 346 IAmb IAmb 05 00 24.6
comp=Z,27nm,0.9s
HODGE Hodges 58.86 345 IAmb IAmb 05 00 25.8
comp=Z,20nm,1.1s
Y52A Lilburn 58.97 343 IAmb IAmb 05 00 25.9
comp=Z,19nm,0.8s
LRAL Lakeview Retre 59.05 340 IAmb IAmb 05 00 26.5
comp=Z,21nm,1.1s
PAULI Pauline 59.32 346 IAmb IAmb 05 00 29.1
comp=Z,22nm,0.7s
Z47A Carrollton 59.54 339 IAmb IAmb 05 00 29.7
comp=Z,22nm,0.7s
Y49A Blount Mountai 59.63 341 IAmb IAmb 05 00 30.7
comp=Z,16nm,0.7s
HKT Hockley 59.69 331 P P 05 00 30.7 +0.8
HKT IAmb IAmb 05 00 32.3
comp=Z,16nm,1.1s
HKT Hockley 59.69 331 P P 05 00 31.3 +1.3
EF04 Eagle Ford 04 59.97 329 IAmb IAmb 05 00 33.5
comp=Z,24nm,0.9s
W52A Murphy 60.10 344 IAmb IAmb 05 00 34.1
comp=Z,19nm,0.9s
SNAA Sanae 60.14 161⇑ P P 05 00 32.8 +0.1
comp=Z,105nm,0.7s
SNAA Sanae 60.14 161 P P 05 00 32.8 +0.1
SNAA Sanae 60.14 161 P P 05 00 32.5 -0.2
comp=Z,5.3nm,0.8s,baz=284,slow=7.9,SNR=20
comp=Z,5.3nm,0.8s
V53A Saluda 60.37 345 P P 05 00 34.8 +0.2
V53A IAmb IAmb 05 00 35.9
comp=Z,12nm,0.8s
U56A King 60.48 347 IAmb IAmb 05 00 37.3
comp=Z,19nm,0.9s
W50A Signal Mountai 60.57 343 P P 05 00 36.0 +0.1
W50A IAmb IAmb 05 00 37.0
comp=Z,26nm,0.9s
CPCT Cooper Cave 60.59 343 IAmb IAmb 05 00 37.1
comp=Z,10.0nm,0.8s
TKL Tuckaleechee C 60.59 344 IAmb IAmb 05 00 37.0
comp=Z,27nm,1.1s
TKL Tuckaleechee C 60.59 344 P P 05 00 36.0 0.0
comp=Z,15nm,0.8s,baz=165,slow=8.7,SNR=8.7
comp=Z,15nm,0.8s
Y45A Yeager Farm, C 60.64 338 P P 05 00 36.8 +0.4
HNDO Hondo 60.96 328 IAmb IAmb 05 00 40.5
comp=Z,21nm,0.7s
PLAL Pickwick Lake 61.18 340 IAmb IAmb 05 00 40.5
comp=Z,18nm,1.1s
435B Jarrell 61.19 330 IAmb IAmb 05 00 41.9
comp=Z,13nm,0.8s
V48A Smith Brothers 61.50 341 IAmb IAmb 05 00 43.0
comp=Z,17nm,0.8s
DRIO Del Rio 61.55 326 IAmb IAmb 05 00 44.1
comp=Z,16nm,1.1s
CLTN Cedars of Leba 61.69 342 IAmb IAmb 05 00 44.3
comp=Z,8.3nm,0.8s
TROLL Troll, Antarti 61.86 161⇑ P P 05 00 45.4 +1.1
comp=Z,292nm,0.6s
U49A Red Boiling Sp 61.93 343 IAmb IAmb 05 00 45.1
comp=Z,9.0nm,0.6s
JCT Junction City 62.00 328 P P 05 00 46.1 +0.4
T50A Nancy 62.16 344 IAmb IAmb 05 00 47.0
comp=Z,9.0nm,0.8s
WVT Waverly 62.17 341 P 05 00 46.3 -0.3
WVT Waverly 62.17 341 P P 05 00 46.1 -0.5
BRDY Brady 62.28 329 IAmb IAmb 05 00 48.8
comp=Z,19nm,1.1s
HPIG 62.37 321 IAmb IAmb 05 00 50.3
comp=Z,8.1nm,0.7s
MIAR Mount Ida 62.72 335 IAmb IAmb 05 00 51.6
comp=Z,25nm,1.2s
SAND Sanderson 62.75 326 IAmb IAmb 05 00 52.7
comp=Z,20nm,1.0s
OZNA Ozona 63.02 327 IAmb IAmb 05 00 53.8
comp=Z,22nm,1.0s
TXAR Lajitas Array 63.08 324 P P 05 00 53.0 0.0
TXAR Lajitas Array 63.08 324 P P 05 00 53.7 +0.8
comp=Z,2.6nm,0.7s,baz=151,slow=8.6,SNR=40
comp=Z,2.6nm,0.7s
LPIG La Paz 63.18 315 P P 05 00 54.2 +0.7
comp=Z,12nm,0.7s,baz=172,slow=6.7,SNR=3.7
comp=Z,12nm,0.7s
LCAR Lake Charles 63.19 338 IAmb IAmb 05 00 54.2
comp=Z,17nm,1.4s
PLPT Palo Pinto 63.23 330 IAmb IAmb 05 00 55.3
comp=Z,19nm,0.7s
WCI Wyandotte Cave 63.68 343 P P 05 00 55.4 -1.1
WCI Wyandotte Cave 63.68 343 P P 05 00 55.9 -0.6
ABTX Abilene, Hawle 63.69 329 IAmb IAmb 05 00 58.9
comp=Z,13nm,0.9s
CGM3 Cape Girardeau 63.81 340 IAmb IAmb 05 00 57.5
comp=Z,9.3nm,0.6s
P52A Corning 64.01 347 IAmb IAmb 05 00 59.2
comp=Z,15nm,0.8s
S44A Carbondale 64.05 340 IAmb IAmb 05 00 59.3
comp=Z,22nm,1.3s
SIUC Southern Illin 64.06 340 IAmb IAmb 05 00 59.4
comp=Z,32nm,1.4s
HHAR Hobbs 64.39 336 IAmb IAmb 05 01 02.4

comp=Z,15nm,0.8s
O52A Adamsville 64.41 347 IAmb IAmb 05 01 02.2
comp=Z,18nm,0.8s
X34A Smith Ranch, M 64.52 332 IAmb IAmb 05 01 03.8
comp=Z,17nm,0.8s
MGMO Mountain Grove 64.56 338 IAmb IAmb 05 01 03.4
comp=Z,12nm,0.8s
FVM French Village 64.69 339 IAmb IAmb 05 01 03.8
comp=Z,24nm,1.0s
U38A Gravette 64.70 336 P P 05 01 03.0 -0.2
U38A IAmb IAmb 05 01 05.7
comp=Z,25nm,1.6s
ACSO Alum Creek Sta 64.77 346 IAmb IAmb 05 01 04.4
comp=Z,21nm,0.8s
PECS Pecos 64.79 325 IAmb IAmb 05 02 40.6
comp=Z,12nm,0.4s
TUL3 Leonard 64.79 334 IAmb IAmb 05 01 05.8
comp=Z,12nm,0.8s
VHRN Van Horn 64.93 324 IAmb IAmb 05 01 06.8
comp=Z,17nm,0.7s
POST Post 64.94 328 IAmb IAmb 05 01 07.3
comp=Z,12nm,0.9s
CCM Cathedral Cave 65.02 339 P P 05 01 04.8 -0.4
CCM Cathedral Cave 65.02 339⇓ P P 05 01 05.2 -0.1
DKNS Dickens 65.15 329 IAmb IAmb 05 01 07.4
comp=Z,10nm,0.7s
O48B Farmland 65.30 345 IAmb IAmb 05 01 07.3
comp=Z,23nm,1.0s
PAOC Oil Creek Stat 65.36 349 IAmb IAmb 05 01 08.8
comp=Z,28nm,1.0s
L59A Walton 65.37 353 IAmb IAmb 05 01 10.0
comp=Z,22nm,0.9s
BINY Binghamton 65.49 352 P P 05 01 09.2 +1.0
R40A Maddies Statio 65.58 338 IAmb IAmb 05 01 09.6
comp=Z,14nm,0.6s
TRY Troy 65.77 354 IAmb IAmb 05 01 12.6
comp=Z,19nm,0.9s
P43A Skaggs, Pawnee 65.92 341 IAmb IAmb 05 01 11.1
comp=Z,17nm,0.9s
T35A Sooner Cattle 65.95 334 IAmb IAmb 05 01 13.3
comp=Z,18nm,1.1s
N47A Urbana 66.02 344 IAmb IAmb 05 01 11.9
comp=Z,19nm,1.0s
ELIS Ellis County 66.45 331 IAmb IAmb 05 01 17.3
comp=Z,15nm,0.5s
OK038 West end E0370 66.50 332 IAmb IAmb 05 01 16.6
comp=Z,14nm,0.5s
AMTX Amarillo 66.51 329 IAmb IAmb 05 01 16.3
comp=Z,22nm,1.3s
P40A Paris 66.62 339 IAmb IAmb 05 01 16.2
comp=Z,17nm,1.0s
KAN01 Argonia South 66.66 333 IAmb IAmb 05 01 17.4
comp=Z,21nm,0.8s
J57A Williamstown 66.69 353 IAmb IAmb 05 01 17.3
comp=Z,17nm,0.9s
KAN08 Anthony NE Sta 66.81 333 IAmb IAmb 05 01 18.4
comp=Z,25nm,0.8s
QSPA South Pole Qui 67.15 180 P P 05 01 21.4 +2.7
QSPA South Pole Qui 67.15 180 P P 05 01 21.2 +2.6
comp=Z,4.6nm,0.6s,baz=197,slow=0.9,SNR=42
comp=Z,4.6nm,0.6s
QSPA South Pole Qui 67.15 180 P P 05 01 22.2 +3.5
DBIC Dimbokro 67.23 72 P P 05 01 18.1 -1.7
comp=Z,8.1nm,0.5s,baz=252,slow=7.3,SNR=18
comp=Z,8.1nm,0.5s
DBIC Dimbokro 67.23 72 P P 05 01 19.1 -0.8
N41A Harden Midland 67.30 340 IAmb IAmb 05 01 20.0
comp=Z,22nm,1.0s
319A Douglas 67.78 321 IAmb IAmb 05 01 25.8
comp=Z,19nm,0.8s
121A Cookes Peak, D 67.80 323 IAmb IAmb 05 01 26.3
comp=Z,22nm,1.0s
R32A Long Quarter, 68.14 333 P P 05 01 25.2 +0.2
R32A IAmb IAmb 05 01 26.7
comp=Z,25nm,0.9s
N38A Joes South For 68.15 339 IAmb IAmb 05 01 25.6
comp=Z,16nm,0.8s
WBO Williamsburg 68.18 353 IAmb IAmb 05 01 26.7
comp=Z,14nm,0.7s
RTBA Rita Blanca 68.27 329 IAmb IAmb 05 01 28.8
comp=Z,13nm,0.7s
L40A Anamosa 68.65 341 IAmb IAmb 05 01 29.3
comp=Z,22nm,0.9s
ANMO Albuquerque 68.93 326 P P 05 01 30.2 +0.1
ANMO IAmb IAmb 05 01 32.8
comp=Z,15nm,0.9s
ANMO Albuquerque 68.93 326 P P 05 01 31.5 +1.3
comp=Z,14nm,0.8s,baz=224,slow=6.9,SNR=36
comp=Z,14nm,0.8s
ANMO Albuquerque 68.93 326 P P 05 01 31.8 +1.6
JFWS Jewell Farm 69.14 342 IAmb IAmb 05 01 32.0
comp=Z,16nm,0.7s
TUC Tucson 69.33 321 P P 05 01 33.5 +0.9
TUC Tucson 69.33 321 P P 05 01 34.5 +2.0
T25A Trinidad 69.63 329 IAmb IAmb 05 01 37.1
comp=Z,12nm,0.9s
L34A Svendsen Farm, 70.29 337 IAmb IAmb 05 01 38.9
comp=Z,27nm,0.8s
SDCO Great Sand Dun 70.64 328 IAmb IAmb 05 01 43.3
comp=Z,11nm,0.8s
SFX San Felipe 70.88 317 IAmb IAmb 05 01 44.6
comp=Z,20nm,0.8s
I37A Lemond, Waseca 71.09 340 IAmb IAmb 05 01 43.9
comp=Z,15nm,0.7s
X16A Lo Mia Camp, P 71.24 322 IAmb IAmb 05 01 47.4
comp=Z,13nm,1.0s
VTX Valle De La Tr 71.71 317 IAmb IAmb 05 01 50.1
comp=Z,23nm,1.3s
MVCO Mesa Verde 71.72 326 IAmb IAmb 05 01 49.4
comp=Z,12nm,0.8s
ECSD EROS Data Cent 71.92 338 IAmb IAmb 05 01 49.1
comp=Z,20nm,1.3s
K30B Basset 72.11 335 P P 05 01 49.7 +0.6
BLYC Blythe 72.56 320 IAmb IAmb 05 01 55.0
comp=Z,14nm,1.1s
CCX Cicese 72.58 317 IAmb IAmb 05 01 54.4
comp=Z,17nm,0.9s
CBX Cerro Bola 72.88 317 IAmb IAmb 05 01 57.0
comp=Z,12nm,0.8s
BC3 Big Chuckawall 73.05 319 P P 05 01 56.4 +1.5
BAR Barrett 73.13 318 IAmb IAmb 05 01 58.1
comp=Z,14nm,1.0s
HMU Henry Mountain 73.44 325 IAmb IAmb 05 02 00.6
comp=Z,18nm,1.1s
PFO Pinyon Flats O 73.63 318 P P 05 02 00.1 +1.7
PFO Pinyon Flats O 73.63 318 P P 05 01 60.0 +1.7
comp=Z,6.1nm,1.0s,baz=131,slow=6.2,SNR=12
comp=Z,6.1nm,1.0s
PFO Pinyon Flats O 73.63 318 P P 05 02 00.5 +2.2
DANC Danby, Needles 73.68 320 IAmb IAmb 05 02 01.7
comp=Z,24nm,0.8s
DNR Dunn Ranch,Anz 73.70 318 IAmb IAmb 05 02 02.0
comp=Z,14nm,0.8s
O20A White River Ci 73.83 328 IAmb IAmb 05 02 02.3
comp=Z,22nm,0.8s
SRU San Rafael Swe 74.20 326 P P 05 02 01.9 +0.4
SRU IAmb IAmb 05 02 04.1
comp=Z,18nm,0.7s
P18A Preston Nutter 74.45 326 IAmb IAmb 05 02 06.1
comp=Z,19nm,0.7s
SZCU Shurtz Canyon 74.46 323 IAmb IAmb 05 02 06.3
comp=Z,22nm,1.7s
CCUT Cedar City 74.58 323 IAmb IAmb 05 02 07.5
comp=Z,20nm,0.8s
P17A Butcher Ranch, 74.58 326 IAmb IAmb 05 02 06.5
comp=Z,24nm,1.0s
RDMU Red Mountain 74.82 328 IAmb IAmb 05 02 07.6
comp=Z,13nm,0.8s
SHPR Sheep Range 74.85 321 P P 05 02 06.4 +1.0
K22A Casper 74.99 331 IAmb IAmb 05 02 08.6
comp=Z,14nm,1.1s
MWC Mount Wilson 75.02 318 IAmb IAmb 05 02 09.3
comp=Z,29nm,1.4s
RSSD Black Hills 75.10 333 P P 05 02 07.5 +0.8
RSSD IAmb IAmb 05 02 08.9
comp=Z,13nm,0.9s
RSSD Black Hills 75.10 333 P P 05 02 08.2 +1.5
BSUT Blindstream Ca 75.39 327 IAmb IAmb 05 02 11.5
comp=Z,20nm,0.8s
MPU Maple Canyon 75.45 326 IAmb IAmb 05 02 11.6
comp=Z,14nm,1.0s
GWY Greenwater Val 75.51 320 IAmb IAmb 05 02 11.8
comp=Z,15nm,0.9s
VNDA Vanda 75.68 190 P P 05 02 10.9 +1.7
comp=Z,1.3nm,0.9s,baz=141,slow=3.9,SNR=7.7
comp=Z,1.3nm,0.9s
VNDA Vanda 75.68 190 P P 05 02 11.1 +1.8
TPNV Topopah Spring 75.79 321 IAmb IAmb 05 02 14.1

comp=Z,16nm,1.0s
JLU Jordanelle 75.79 326 IAmb IAmb 05 02 13.5
comp=Z,30nm,1.3s
CLC China Lake 75.81 319 P **P** **05 02 12.0 +1.3**
FURC Furnace Creek, 75.81 320 IAmb IAmb 05 02 13.9
comp=Z,19nm,0.9s
WCT Wildcat Mounta 75.90 321 IAmb IAmb 05 02 14.6
comp=Z,13nm,0.9s
MPMC Manual Prospec 75.91 320 IAmb IAmb 05 05 00.1
comp=Z,11nm,0.5s
TORD Torodi Ar. Bea 75.96 69 P **P** **05 02 10.2 -1.7**
TORD Torodi Ar. Bea 75.96 69 P **P** **05 02 10.6 -1.3**
comp=Z,5.5nm,0.5s,baz=259,slow=4.9,SNR=63
comp=Z,5.5nm,0.5s
TCUT Toone Canyon 76.15 327 IAmb IAmb 05 02 17.1
comp=Z,9.4nm,0.6s
ISA Isabella, Lake 76.24 319 IAmb IAmb 05 02 16.3
comp=Z,11nm,0.8s
PDAR Pinedale Array 76.49 329 P **P** **05 02 15.3 +0.7**
PDAR Pinedale Array 76.49 329 P **P** **05 02 15.6 +1.0**
comp=Z,4.3nm,0.7s,baz=131,slow=7.7,SNR=39
comp=Z,4.3nm,0.7s
HWUT Hardware Ranch 76.59 327 IAmb IAmb 05 02 17.5
comp=Z,11nm,0.8s
VES Vestal, Richgr 76.72 319 P **P** **05 02 17.2 +1.4**
VES IAmb IAmb 05 02 18.6
comp=Z,23nm,0.9s
ULM Lac du Bonnet 77.43 341 P **P** **05 02 19.2 -0.1**
comp=Z,3.1nm,0.5s,baz=168,slow=6.7,SNR=2.5
comp=Z,3.1nm,0.5s
SCHQ Schefferville 77.56 360 P **P** **05 02 19.8 -0.2**
comp=Z,85nm,0.7s,baz=186,slow=3.7,SNR=9.3
SNOW Snow King Moun 77.59 329 IAmb IAmb 05 02 23.4
comp=Z,13nm,0.9s
LOHW Long Hollow 77.63 329 IAmb IAmb 05 02 23.4
comp=Z,13nm,0.7s
PKD Bear Valley Ra 77.69 318 IAmb IAmb 05 02 23.9
comp=Z,17nm,1.1s
TPAW Teton Pass 77.70 329 IAmb IAmb 05 02 24.1
comp=Z,11nm,0.8s
ELK Elko 77.88 324 P **P** **05 02 23.1 +0.7**
comp=Z,6.3nm,0.8s,baz=145,slow=3.5,SNR=5.2
comp=Z,6.3nm,0.8s
LHV Little Huntoon 77.98 321 IAmb IAmb 05 02 26.0
comp=Z,45nm,2.0s
NVAR Mina Array Bea 77.99 321 P **P** **05 02 24.4 +1.4**
comp=Z,2.9nm,0.8s,baz=153,slow=6.5,SNR=26
comp=Z,2.9nm,0.8s
LAO LASA Array 78.08 333 IAmb IAmb 05 02 25.2
comp=Z,22nm,1.1s
LEGD La Grand CA 78.27 319 IAmb IAmb 05 02 27.0
comp=Z,30nm,1.1s
YMP Mirror Lake Pl 78.27 330 IAmb IAmb 05 02 35.6
comp=Z,11nm,0.9s
BBGB Big Mountain B 78.40 318 IAmb IAmb 05 02 31.8
comp=Z,16nm,0.9s
YMR Madison River 78.60 329 IAmb IAmb 05 02 29.5
comp=Z,21nm,0.8s
KOOLE Kule 78.61 110 P **P** **05 02 26.2 -0.6**
KOOLE IAmb IAmb 05 02 27.1
comp=Z,13nm,0.7s
YHB Horse Butte 78.77 329 IAmb IAmb 05 02 30.1
comp=Z,19nm,0.8s
YHL Hebgen Lake 78.83 329 IAmb IAmb 05 02 30.7
comp=Z,16nm,0.6s
HLID Hailey 79.46 327 IAmb IAmb 05 02 34.0
comp=Z,23nm,0.8s
PAHR Pah Rah Range 79.47 321 P **P** **05 02 31.8 +0.9**
PAHR IAmb IAmb 05 02 34.0
comp=Z,26nm,0.9s
DLMT Dillon 79.88 329 IAmb IAmb 05 02 35.8
comp=Z,29nm,1.4s
ORV Oroville 80.60 320 IAmb IAmb 05 02 39.7
comp=Z,14nm,1.0s
EGMT Eagleton 80.61 332 IAmb IAmb 05 02 38.6
comp=Z,18nm,0.8s
BOSA Boshof 80.90 117 P **P** **05 02 38.2 -0.8**
comp=Z,4.1nm,0.6s,baz=262,slow=3.9,SNR=16
comp=Z,4.1nm,0.6s
BOSA Boshof 80.90 117 P **P** **05 02 38.5 -0.5**
MD01 Midelt array s 81.11 49 P **P** **05 02 40.1 +0.3**
MD31 MD31 81.11 49 P **P** **05 02 40.3 +0.6**
HATC Hat Creek Radi 81.39 321 IAmb IAmb 05 02 43.3
comp=Z,12nm,0.8s
J08A Circle Bar Ran 81.42 325 IAmb IAmb 05 02 43.9
comp=Z,14nm,0.7s
PVAQ Vaqueiros 81.80 44 *eP* **P** **05 02 44.7 +1.5**
PVAQ *i* IAmb IAmb 05 03 00.2
comp=Z,28nm,2.0s
BMO Blue Mountains 81.84 326 IAmb IAmb 05 02 45.8
comp=Z,35nm,1.6s
CCD Concordia, Ant 81.87 183 P **P** **05 02 44.5 +1.0**
M03C McCloud 82.07 321 IAmb IAmb 05 02 46.3
comp=Z,11nm,0.8s
K05A Summer Lake 82.32 323 P **P** **05 02 47.9 +1.9**
PSBE So Bento 82.41 41 *eP* **P** **05 02 46.3 -0.1**
PSBE *i* IAmb IAmb 05 02 50.2
comp=Z,48nm,1.9s
PMTG Montargil 82.49 42 *eP* **P** **05 02 47.7 +1.0**
LBTB Lobatse 82.50 114 P **P** **05 02 47.2 -0.2**
F10A Beach Ranch, E 82.58 327 IAmb IAmb 05 02 50.7
comp=Z,14nm,0.7s
PBAR Barrancos 82.69 43 *eP* **P** **05 02 48.7 +0.9**
PESTR Estremoz 82.76 42 *eP* **P** **05 02 48.7 +0.5**
PESTR *i* IAmb IAmb 05 02 50.1
comp=Z,17nm,1.5s
J05D Fort Rock, OR 82.87 323 IAmb IAmb 05 02 51.2
comp=Z,19nm,1.2s
G08A Pilot Rock 82.99 326 IAmb IAmb 05 02 51.4
comp=Z,23nm,1.8s
PINE Pine Mountain 83.04 324 IAmb IAmb 05 02 52.5
comp=Z,16nm,0.8s
PMRV Marv??o 83.22 42 *eP* **P** **05 02 50.7 +0.1**
J04A Umpqua Nationa 83.33 323 IAmb IAmb 05 02 53.3
comp=Z,18nm,0.7s
I05D Terrebonne, OR 83.62 324 IAmb IAmb 05 02 55.1
comp=Z,13nm,0.7s
TAM Tamanrasset 83.70 62 P **P** **05 02 53.7 +0.2**
TAM IAmb IAmb 05 02 54.8
comp=Z,12nm,0.6s
K02D Willamette Mer 83.86 322 IAmb IAmb 05 02 56.4
comp=Z,16nm,1.0s
HAWA Hanford 84.03 326 IAmb IAmb 05 02 56.8
comp=Z,13nm,0.8s
NEW Newport 84.13 329 P **P** **05 02 54.7 -0.2**
comp=Z,2.8nm,0.6s,baz=175,slow=4.4,SNR=11
comp=Z,2.8nm,0.6s
PGAV Gavieira, Arco 84.24 40 *eP* **P** **05 02 58.0 +2.3**
PGAV *i* IAmb IAmb 05 03 00.8
comp=Z,27nm,1.8s
WAH2 Wahluke Slope 84.29 327 IAmb IAmb 05 02 58.0
comp=Z,14nm,0.7s
LTY Liberty 85.19 326 IAmb IAmb 05 03 02.1
comp=Z,12nm,0.7s
B08A Colville Reser 85.26 328 IAmb IAmb 05 03 02.7
comp=Z,25nm,1.7s
LON Longmire 85.44 326 P **P** **05 03 01.9 +0.3**
ESDC Sonseca Array 85.51 43 P **P** **05 03 02.8 +0.7**
comp=Z,1.4nm,0.7s,baz=233,slow=5.6,SNR=12
comp=Z,1.4nm,0.7s
D05A Enumclaw 85.82 326 IAmb IAmb 05 03 05.0
comp=Z,14nm,0.9s
E03A Lebam 86.24 325 IAmb IAmb 05 03 08.5
comp=Z,15nm,1.0s
GNW Green Mountain 86.50 326 IAmb IAmb 05 03 08.0
comp=Z,27nm,1.6s
NLWA Neilton Lookou 86.94 325 IAmb IAmb 05 03 11.1
comp=Z,9.1nm,0.9s
A04D Lummi Island 87.18 327 IAmb IAmb 05 03 11.8
comp=Z,16nm,0.8s
PGC Sidney 87.52 326 IAmb IAmb 05 03 13.6
comp=Z,14nm,0.8s
LLLB Lilooet 88.00 328 IAmb IAmb 05 03 15.1
comp=Z,11nm,1.0s
LSZ Lusaka 88.48 106 P **P** **05 03 17.9 +0.8**
YKA Yellowknife Ar 93.34 340 P **P** **05 03 38.6 +0.4**
comp=Z,2.0nm,0.7s,baz=125,slow=3.9,SNR=5.1
comp=Z,2.0nm,0.7s
ASAR Alice Springs 129.43 205 PKP **PKPdf** **05 09 31.9 -0.2**
comp=Z,2.0nm,0.8s,baz=154,slow=1.8,SNR=15
ASAR SKPbc SKPab 05 12 33.4 -1.4
comp=Z,0.7nm,0.7s,baz=140,slow=3.2,SNR=5.4
WR8 Warramunga Arr 132.52 207 PKPdf **PKPdf** **05 09 37.9 -0.1**
WRA Warramunga Arr 132.60 207 PKhKP PKPpre 05 09 23.4
comp=Z,0.2nm,0.3s,baz=152,slow=1.5,SNR=5.1
WRA PKP **PKPdf** **05 09 38.0 -0.1**
comp=Z,1.0nm,0.5s,baz=161,slow=1.6,SNR=22
WRA SKPbc **SKPbc** **05 12 45.2 -1.4**
comp=Z,1.3nm,0.7s,baz=151,slow=3.3,SNR=8.4
WB0 Warramunga Arr 132.73 207 PKPdf **PKPdf** **05 09 38.4 0.0**
BVAR Borovoye Array 135.86 36 PKP **PKiKP** **05 09 44.2 -0.6**
comp=Z,0.4nm,0.3s,baz=289,slow=4.5,SNR=3.8
FITZ Fitzroy Crossi 137.37 197 PKP **PKPdf** **05 09 46.4 -0.7**
comp=Z,1.2nm,0.6s,baz=216,slow=6.0,SNR=5.6
KURBB Kurchatov Arra 141.44 36 PKhKP PKPpre 05 09 45.3
comp=Z,0.1nm,0.3s,baz=303,slow=2.7,SNR=1.4
KURBB PKP **PKPdf** **05 09 54.5 +1.1**
comp=Z,0.9nm,0.7s,baz=293,slow=2.3,SNR=10.0
ZALV Zalesovo Beam 142.42 28 PKP **PKPdf** **05 09 52.4 -2.7**
comp=Z,1.8nm,0.6s,baz=314,slow=5.9,SNR=6.3
KDJ Kajisay 144.44 49 PKPdf **PKPdf** **05 09 59.7 +0.4**
MKAR Makanchi Array 145.61 39 PKPdf **PKPbc** **05 10 01.8 +0.2**
MKAR Makanchi Array 145.61 39 PKPbc **PKPab** **05 10 01.9 -0.2**
comp=Z,4.2nm,0.6s,baz=311,slow=3.3,SNR=26
MJAR Matsushiro Arr 154.65 308 PKP **PKPdf** **05 10 15.5 +0.2**
comp=Z,0.6nm,0.3s,baz=96,slow=3.1,SNR=1.2
MJAR PKPab **PKPab** **05 10 40.1 +0.5**
comp=Z,2.9nm,0.7s,baz=88,slow=1.2,SNR=5.5
SONM Songino Array 154.66 11 PKP **PKPdf** **05 10 16.1 +1.0**
comp=Z,0.4nm,0.3s,baz=0.0,slow=0.7,SNR=3.9
SONM PKPab **PKPab** **05 10 40.3 +1.0**
comp=Z,0.6nm,0.3s,baz=296,slow=2.8,SNR=3.7
KSRS Korea Array 160.93 322 PKPab **PKPab** **05 11 07.3 +0.7**
comp=Z,1.5nm,0.7s,baz=35,slow=4.6,SNR=7.1
CMAR Chiang Mai Arr 165.80 106 PKPab **PKPab** **05 11 27.5 -1.2**
comp=Z,3.0nm,0.7s,baz=258,slow=5.1,SNR=15

*IDC **07** 04:59:17.5±2.2, 2°.39N×127°.35E, h0km, mb3.3/4, mbtmp3.4/4, MS3.5/1, Error ellipse: s-maj=124.4km s-min=27.0km az=70.0*
*DJA **07** 04:59:23.9±0.3, 2°N±4°×12°7E±°, h10km, M3.5/7, MLv3.5/7*
ISC 07 04:59:25.3±2.0, 2°.3N±0°.3×126°.9E±0°.5, h53km, n8, σ1§79/7, mb3.2/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**164**	P	**Pn**	**04 59 52.5**	**+1.2**
SGSI	**Sangihe**	**1.94**	**314**	P	**Pn**	**04 59 56.0**	**+0.2**
LBMI	**Labuha**	**3.00**	**169**	P	**Pn**	**05 00 10.8**	**+0.4**
TGY	**Tagaytay City**	**13.11**	**334**	LR	LR	05 08 05.5	
	comp=Z,197nm,19.7s,baz=84,slow=40						
FITZ	**Fitzroy Crossi**	**20.33**	**183**	P	**P**	**05 03 56.5**	**-0.7**
	1.6nm,0.8s,baz=346,slow=8.3,SNR=6.3						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**05 04 25.6**	**-3.0**
	0.5nm,0.5s,baz=341,slow=10,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.71**	**166**	P	**P**	**05 04 59.1**	**-0.7**
	0.2nm,0.4s,baz=354,slow=10,SNR=4.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**05 09 19.2**	**+0.9**
	0.1nm,0.3s,baz=125,slow=6.4,SNR=2.2						
	0.1nm,0.3s						

*DJA **07** 05:51:51.8±0.3, 2°S±5°×13°8E±°, h10km, M3.7/6, MLv3.7/6*
*IDC **07** 05:52:06.0±18.0, 3°.08S×137°.98E, h142km±205km, mb3.4/2, mbtmp3.8/3, ML3.7/1, MS2.5/1, Error ellipse: s-maj=169.3km s-min=46.4km az=98.0*
ISC 07 05:51:49.6±0.8, 2°.70S±0°.07×138°.44E±0°.05, h10km, n10, σ1§29/12, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.75**	**21**	P	**Pg**	**05 52 03.1**	**-1.0**
GENI	**Genyem**	**1.73**	**87**	P	**Pg**	**05 52 23.0**	**+0.3**
GENI				S	**Sg**	**05 52 45.7**	**+0.6**
JAY	**Jayapura**	**2.27**	**86**	LR	LR	05 53 52.5	
	comp=Z,100nm,21.8s,baz=234,slow=38						
JAY	**Jayapura**	**2.27**	**86**	P	**Pb**	**05 52 29.9**	**-0.7**
SRPI	**Serui, Papua**	**2.35**	**290**	P	**Pn**	**05 52 28.8**	**+0.5**
SRPI				S	**Sn**	**05 52 57.4**	**+0.2**
BAKI	**Biak**	**2.77**	**303**	P	**Pn**	**05 52 34.1**	**0.0**
RKPI	**Ransiki, Papua**	**4.42**	**285**	P	**Pn**	**05 52 57.3**	**+0.5**
WRA	**Warramunga Arr**	**17.60**	**193**	P	**Pn**	**05 55 56.2**	**+1.0**
	0.3nm,0.3s,baz=15,slow=13,SNR=13						
WRA				S	**Sn**	**05 59 08.2**	**-3.3**
	0.2nm,0.5s,baz=10,slow=20,SNR=2.2						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**21.30**	**192**	P	**P**	**05 56 37.0**	**+0.3**
	1.5nm,0.6s,baz=20,slow=10,SNR=20						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**69.62**	**323**	P	**P**	**06 02 60.0**	**+0.8**
	0.9nm,0.6s,baz=112,slow=7.6,SNR=8.7						
	0.9nm,0.6s						

*IDC **07** 06:02:31.4±6.2, 17°.63S×178°.78W, h593km±69km, mb3.0/6, mbtmp4.0/7, Error ellipse: s-maj=41.6km s-min=34.6km az=24.0*
ISC 07 06:02:27.6±1.2, 17°.7S±0°.3×178°.6W±0°.2, h550km, n7, σ1§17/9, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.75**	**250**	P	**P**	**06 05 35.6**	**+1.0**
	2.3nm,0.6s,baz=122,slow=18,SNR=1.7						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**06 09 04.3**	**+0.4**
	1.7nm,0.3s,baz=106,slow=7.4,SNR=3.3						
	1.7nm,0.3s						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**06 09 50.5**	**-0.4**
	0.4nm,0.6s,baz=96,slow=6.7,SNR=7.5						
WRA				PcP	**PcP**	**06 11 21.8**	**-0.4**
	0.2nm,0.8s,baz=92,slow=3.3,SNR=1.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**06 09 51.3**	**-0.9**
	5.3nm,0.6s,baz=89,slow=8.4,SNR=6.1						
ASAR				PcP	**PcP**	**06 11 21.5**	**-1.3**
	0.2nm,0.4s,baz=102,slow=3.6,SNR=2.3						
	5.3nm,0.6s						
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**06 12 59.0**	**+1.2**
	0.9nm,0.7s,baz=1.8,slow=0.4,SNR=7.9						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**06 14 11.2**	**+0.7**
	0.2nm,0.6s,baz=205,slow=2.4,SNR=3.4						
	0.2nm,0.6s						
SNAA	**Sanae**	**90.83**	**179**	P	**P**	**06 14 30.7**	**-1.5**
	0.7nm,1.0s,baz=194,slow=8.3,SNR=2.1						
	0.7nm,1.0s						

*CATAC **07** 06:02:58.9±0.4, 14°N±3°×9°2W±°, h31km±3km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=6.5km s-min=2.7km az=32.8, confirmed*
*GCG **07** 06:02:59.0±1.5, 14°.22N×91°.74W, h56km±14km, MD3.8, ML3.2, MW2.6*
*SNET **07** 06:03:02.2±3.5, 14°.39N×91°.53W, h80km, ML3.1*
ISC 07 06:02:58.1±2.2, 14°.10N±0°.08×91°.79W±0°.09, h23km±15km, n32, σ1§28/38, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.43**	**12**	P	**Pn**	**06 03 09.2**	**+0.2**
RTAL				S	**Sn**	**06 03 17.6**	**+1.4**
STG2	**El Palmar, Qui**	**0.53**	**50**	*i* P	**Pn**	**06 03 11.1**	**+0.8**
STG2				*eS*	**Sn**	**06 03 19.5**	**+0.8**
SMCA	**Catarina**	**0.80**	**340**	*eP*	**Pb**	**06 03 13.1**	**-0.4**
SOKI	**Kika Raxquin**	**0.81**	**27**	*eP*	**Pb**	**06 03 13.5**	**-0.3**
SOKI				*eS*	**Sb**	**06 03 25.3**	**+0.8**
SOKI				IAML		06 03 34.0	
	comp=N,405nm,0.7s						
ESSG	**Sabana Grande**	**0.97**	**73**	*eP*	**Pn**	**06 03 15.7**	**-0.7**
FG8	**Yepocapa, Chim**	**1.20**	**82**	*i* P	**Pn**	**06 03 14.9**	**-4.7**
HUEH	**Huehuetenango**	**1.25**	**13**	*eS*	**Sb**	**06 03 37.2**	**+0.4**
HUEH	**Huehuetenango**	**1.25**	**13**	*eS*	**Sb**	**06 03 36.9**	**+0.1**
HUEH				IAML		06 03 46.8	
	comp=N,366nm,0.8s						
HUEH	**Huehuetenango**	**1.25**	**13**	S	**Sn**	**06 03 35.7**	**-0.9**
HUEH	**Huehuetenango**	**1.25**	**13**	P	**Pn**	**06 03 20.1**	**-0.3**
FG16	**Alotenango, Sa**	**1.25**	**82**	*i* P	**Pn**	**06 03 16.1**	**-4.3**
FAME	**Alcaldia de Sa**	**1.74**	**98**	P	**Pn**	**06 03 26.4**	**-0.6**
FAME	**Alcaldia de Sa**	**1.74**	**98**	S	**Sn**	**06 03 48.9**	**+0.4**
NUBE	**Las Nubes**	**1.96**	**95**	*eP*	**Pn**	**06 03 30.1**	**0.0**
NUBE	**Las Nubes**	**1.96**	**95**	*eP*	**Pn**	**06 03 30.1**	**0.0**
NUBE	**Las Nubes**	**1.96**	**95**	S	**Sn**	**06 03 54.4**	**+0.3**
NUBE	**Las Nubes**	**1.96**	**95**	P	**Pn**	**06 03 30.1**	**0.0**
CEVE	**Cerro Verde**	**2.12**	**97**	*eP*	**Pn**	**06 03 33.1**	**+0.7**
CEVE				*eS*	**Sb**	**06 04 02.8**	**+0.8**
CEVE	**Cerro Verde**	**2.12**	**97**	P	**Pn**	**06 03 33.3**	**+0.9**
CEVE	**Cerro Verde**	**2.12**	**97**	S	**Sn**	**06 03 58.7**	**+0.6**
CCIG	**Comitan**	**2.20**	**351**	S	**Sn**	**06 03 58.8**	**-1.2**
CCIG	**Comitan**	**2.20**	**351**	P	**Pn**	**06 03 33.5**	**0.0**
JAYA	**Jayaque - finc**	**2.32**	**101**	*eP*	**Pn**	**06 03 34.9**	**-0.1**
JAYA				*eS*	**Sn**	**06 04 03.0**	**+0.1**
JAYA	**Jayaque - finc**	**2.32**	**101**	*eP*	**Pn**	**06 03 35.0**	**0.0**
JAYA				*eS*	**Sn**	**06 04 01.9**	**-1.0**
JAYA	**Jayaque - finc**	**2.32**	**101**	S	**Sn**	**06 04 03.6**	**+0.7**
JAYA	**Jayaque - finc**	**2.32**	**101**	P	**Pn**	**06 03 35.0**	**0.0**
PMON	**Piamonte**	**2.44**	**99**	S	**Sn**	**06 04 06.6**	**+0.8**
PMON	**Piamonte**	**2.44**	**99**	P	**Pn**	**06 03 37.2**	**+0.6**
UEES	**Universidad Ev**	**2.51**	**98**	P	**Pn**	**06 03 37.7**	**+0.1**
UEES	**Universidad Ev**	**2.51**	**98**	S	**Sn**	**06 04 08.7**	**+1.2**
LOMA	**Loma Larga**	**2.58**	**100**	S	**Sn**	**06 04 10.5**	**+1.0**
LOMA	**Loma Larga**	**2.58**	**100**	P	**Pn**	**06 03 39.2**	**+0.6**

*ASRS **07** 06:05:53.0±0.5, 54°.18N×86°.39E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 06:05:56.6±2.6, 54°.17N×86°.32E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.6km s-min=12.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	I	I	06 12 10.0	
	baz=75,slow=320,SNR=2.4						
ZALV	**Zalesovo Beam**	**0.91**	**256**	Pg	Pg	06 06 13.0	-1.0
	1.7nm,0.3s,baz=72,slow=17,SNR=10						
ZALV				Lg	Lg	06 06 27.3	
	4.8nm,0.3s,baz=77,slow=31,SNR=18						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	06 07 26.7	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=3.0						
KURBB				Lg	Lg	06 09 04.2	
	baz=50,slow=30,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 07 52.6	+1.1
	0.2nm,0.3s,baz=21,slow=19,SNR=7.8						
	0.3nm,0.3s						

*IDC **07** 06:11:30.1±0.7, 38°.95N×16°.44E, h0km, mb3.9/18, mbtmp3.9/28, ML3.9/7, MS3.4/12, Error ellipse: s-maj=13.4km s-min=12.0km az=106.0*
*MOS **07** 06:11:32.1±1.2, 38°.98N×16°.45E, h28km, mb4.6/12, Error ellipse: s-maj=7.0km s-min=4.5km az=66.0*
*ROM **07** 06:11:32.7±0.1, 38°.893N±0°.003×16°.449E±0°.008, h25km, ML4.0/124, Mw4.0, Error ellipse: s-maj=0.7km s-min=0.1km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.03; $M_{\theta\theta}$0.08; $M_{\phi\phi}$0.95; $M_{r\theta}$0.01; $M_{\theta\phi}$0.37; $M_{\phi r}$0.10; Fault plane solution: $M_0$1.05898×10^{15} NP1:ϕ_s199.00000°, δ48.00000°, λ-92.00000°. NP2:ϕ_s21.00000°, δ42.00000°, λ-88.00000°.*
*MCSM **07** 06:11:32.2±0.5, 39°N±4°×1°7E±°, h25km±4km, mb4.2, mB6.0, MLv4.1, Mw(mB)5.6*
*PDG **07** 06:11:32.1±0.7, 38°.94N×16°.56E, h14km±1km, ML4.0/12, Error ellipse: s-maj=0.7km s-min=1.6km az=0.0*
*MED_RC **07** 06:11:33.0±0.7, 38°.97N×16°.57E, h28km±1km, MW4.2/11, Moment Tensor Solution. Mantle waves: s11, c14; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.48±.44; $M_{\theta\theta}$-0.34±.20; $M_{\phi\phi}$2.82±.28; $M_{r\theta}$0.39±.29; $M_{\theta\phi}$0.67±.22; $M_{\phi r}$-0.18±.38; Best double couple: $M_0$2.76000×10^{15} NP1:ϕ_s203.00000°, δ45.00000°, λ-74.00000°. NP2:ϕ_s0.00000°, δ47.00000°, λ-105.00000°. Principal axes: T 2.9600, Plg1.0000°, Azm101.0000°; N -0.4000, Plg11.0000°, Azm11.0000°; P -2.5600, Plg79.0000°, Azm197.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **07** 06:11:34.1±1.9, 38°.95N±0°.05×16°.45E±0°.03, h35km±2km, mb4.5/15 Error ellipse: s-maj=8.4km s-min=3.0km az=203.0*
*NAO **07** 06:11:40.6, 39°.72N×16°.60E, h10km, mb3.8*
*BEO **07** 06:11:44.3±0.7, 39°.68N×17°.38E, h0km, ML3.7/20*
ISC 07 06:11:32.2±0.7, 38°.92N±0°.02×16°.47E±0°.03, h18km±2km, n388, σ1§27/419, mb4.4/36, MS3.2/9, 42C-27D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.10**	**203**	P	**Pg**	**06 11 37.2**	**+1.2**
GRI				S	**Sg**	**06 11 40.4**	**+1.8**
GRI	**Girifalco**	**0.10**	**203**	P	**Pg**	**06 11 37.2**	**+1.2**
GRI				S	**Sg**	**06 11 40.4**	**+1.8**
GRI				AML	AML		
GRI				AML	AML		
GRI				AML	AML		
GRI				AML	AML		
TIP	**Timpagrande**	**0.34**	**40**	⇑P	**Pb**	**06 11 40.9**	**+1.0**
TIP				⇑S	**Sn**	**06 11 46.9**	**-2.0**
TIP	**Timpagrande**	**0.34**	**40**	⇑P	**Pb**	**06 11 40.9**	**+1.0**
TIP				S	**Sn**	**06 11 46.5**	**-2.3**
TIP				AML	AML		
	comp=E,63100μm,0.8s						
TIP				AML	AML		
	comp=N,91800μm,0.2s						
TIP				AML	AML		
	comp=N,90000μm,0.2s						
TIP				AML	AML		
	comp=E,62950μm,0.8s						
TIP	**Timpagrande**	**0.34**	**40**	P	**Pb**	**06 11 40.9**	**+1.0**
SPS2	**Spezzano della**	**0.39**	**345**	⇑P	**Pb**	**06 11 41.6**	**+0.9**
SPS2				S	**Sb**	**06 11 48.2**	**+1.7**
SPS2				AML	AML		
	comp=E,19550μm,1.6s						
SPS2				AML	AML		
	comp=N,17800μm,0.4s						
SPS2				AML	AML		
	comp=N,17800μm,1.6s						
PLAC	**Placanica**	**0.47**	**183**	⇑P	**Pb**	**06 11 42.1**	**+0.2**
PLAC				S	**Sb**	**06 11 49.4**	**+0.9**
PLAC				AML	AML		
	comp=E,32550μm,0.7s						
PLAC				AML	AML		
	comp=N,14200μm,0.8s						
PLAC				AML	AML		
	comp=N,33200μm,0.7s						
PLAC				AML	AML		
	comp=E,15450μm,0.8s						
PLAC				AML	AML		
	comp=E,32550μm,0.7s						
CELI	**Celico**	**0.49**	**3**	⇑P	**Pn**	**06 11 43.4**	**-1.0**
CELI				S	**Sn**	**06 11 51.0**	**-1.5**
CELI				AML	AML		
	comp=E,50350μm,0.3s						
CELI				AML	AML		
	comp=E,20200μm,0.3s						
CELI				AML	AML		
	comp=N,17500μm,0.4s						
CELI				AML	AML		
	comp=N,43550μm,0.4s						
LADO	**San Nicola del**	**0.54**	**47**	⇑P	**Pg**	**06 11 43.8**	**+0.7**
LADO				S	**Sn**	**06 11 52.9**	**-0.7**
LADO				AML	AML		
	comp=N,1765μm,0.7s						
LADO				AML	AML		
	comp=E,3610μm,0.6s						
CET2	**Cetraro**	**0.73**	**327**	⇑P	**Pg**	**06 11 47.3**	**+0.6**
CET2				S	**Sg**	**06 11 57.8**	**+1.3**
CET2				AML	AML		
	comp=E,56150μm,0.7s						
CET2				AML	AML		
	comp=N,56650μm,0.6s						
TDS	**Terranova Siba**	**0.75**	**352**	P	**Pg**	**06 11 47.2**	**+0.3**
TDS				S	**Sn**	**06 11 58.6**	**-0.2**
TDS	**Terranova Siba**	**0.75**	**352**	⇑P	**Pg**	**06 11 47.2**	**+0.3**
TDS				S	**Sn**	**06 11 58.5**	**-0.2**
TDS				AML	AML		
	comp=N,6255μm,1.2s						
TDS				AML	AML		
	comp=E,12050μm,0.5s						
TDS				AML	AML		
	comp=E,12050μm,1.5s						
TDS				AML	AML		
	comp=N,6255μm,0.8s						
CEL	**Celeste**	**0.80**	**215**		**Pb**	**06 11 47.7**	**+0.1**
CEL	**Celeste**	**0.80**	**215**	⇑P	**Pb**	**06 11 47.6**	**+0.1**
CEL				AML	AML		
	comp=N,6865μm,1.2s						
CEL				AML	AML		
	comp=E,6790μm,1.2s						
CEL				AML	AML		
	comp=N,7065μm,1.1s						

CEL			AML	AML	
	comp=E,6900µm,1.2s				
CEL			AML	AML	
	comp=E,6900µm,0.8s				
CEL			AML	AML	
	comp=E,6790µm,0.8s				
CEL			AML	AML	
	comp=N,6865µm,0.8s				
CEL			AML	AML	
	comp=N,7065µm,0.9s				
CEL	**Celeste**	**0.80 215**	P	**Pb**	**06 11 47.8 +0.3**
SICLA	**Scilla**	**0.89 222**	P	**Pb**	**06 11 49.3 +0.3**
SICLA			AML	AML	
	comp=E,13650µm,1.6s				
SICLA			AML	AML	
	comp=N,8475µm,0.9s				
SICLA			AML	AML	
	comp=E,13650µm,0.4s				
GMB	**Gambarie**	**0.90 214**	P	**Pb**	**06 11 49.3 0.0**
GMB			S	**Sb**	**06 12 01.3 +0.3**
SOI	**Samo**	**0.90 201**	P	**Pb**	**06 11 49.4 +0.1**
SOI	**Samo**	**0.90 201**	P	**Pb**	**06 11 49.4 +0.1**
SOI			AML	AML	
	comp=E,3900µm,1.4s				
SOI			AML	AML	
	comp=N,5950µm,0.7s				
SOI			AML	AML	
	comp=N,5950µm,1.3s				
SALB	**San Lorenzo Be**	**0.97 354**	P	**Pn**	**06 11 50.9 -0.1**
SALB			AML	AML	
	comp=E,8055µm,1.1s				
SALB			AML	AML	
	comp=N,5535µm,0.7s				
SALB			AML	AML	
	comp=E,8055µm,0.9s				
SALB			AML	AML	
	comp=N,5535µm,1.3s				
IST3	**Stromboli F**	**0.98 264**	⇑P	**Pb**	**06 11 50.3 -0.3**
IST3			AML	AML	
	comp=E,13500µm,1.1s				
IST3			AML	AML	
	comp=N,14050µm,0.6s				
MSRU	**Castanea**	**1.00 229**	⇑P	**Pb**	**06 11 50.8 -0.1**
MSRU			AML	AML	
	comp=E,10550µm,0.9s				
MSRU			AML	AML	
	comp=E,10550µm,1.1s				
MSRU			AML	AML	
	comp=N,8390µm,0.9s				
ISTR	**Stromboli Gino**	**1.01 263**	P	**Pb**	**06 11 51.1 +0.1**
MMN	**Mormanno**	**1.04 339**	⇑P	**Pg**	**06 11 52.5 0.0**
MMN			AML	AML	
	comp=N,18600µm,0.2s				
MMN			AML	AML	
	comp=E,12750µm,0.3s				
MTTG	**Motta San Giov**	**1.10 214**	P	**Pn**	**06 11 52.8 +0.1**
MTTG			AML	AML	
	comp=E,7780µm,0.8s				
MTTG			AML	AML	
	comp=N,8315µm,0.6s				
ORI	**Oriolo Calabro**	**1.15 359**	P	**Pg**	**06 11 55.0 +0.5**
ORI			AML	AML	
	comp=N,16500µm,0.6s				
ORI			AML	AML	
	comp=E,13850µm,0.5s				
ORI			AML	AML	
	comp=N,16500µm,1.4s				
MPNC	**Port Mandanici**	**1.17 229**	⇑P	**Pn**	**06 11 53.1 -0.5**
MPNC			AML	AML	
	comp=N,11600µm,0.5s				
MPNC			AML	AML	
	comp=E,16700µm,0.5s				
CUC	**Castrocucco**	**1.19 335**		**Pn**	**06 11 53.7 -0.3**
CUC	**Castrocucco**	**1.19 335**	P	**Pn**	**06 11 54.1 +0.2**
CUC			AML	AML	
	comp=E,13800µm,0.5s				
CUC			AML	AML	
	comp=E,13600µm,0.5s				
CUC			AML	AML	
	comp=N,9075µm,0.5s				
CUC			AML	AML	
	comp=E,13600µm,1.5s				
CUC			AML	AML	
	comp=E,13800µm,1.5s				
CUC			AML	AML	
	comp=N,9020µm,0.5s				
LLI	**Lipari**	**1.28 249**	P	**Pn**	**06 11 55.1 0.0**
LLI			AML	AML	
	comp=E,73600µm,0.6s				
LLI			AML	AML	
	comp=N,89850µm,0.5s				
VPL	**Vulcano Piano**	**1.28 246**	⇑P	**Pn**	**06 11 54.9 -0.4**
VPL			AML	AML	
	comp=N,8450µm,0.6s				
VPL			AML	AML	
	comp=E,8995µm,0.9s				
VPL			AML	AML	
	comp=N,8450µm,1.4s				
VPL			AML	AML	
	comp=E,8995µm,1.1s				
IVGP	**Vulcano Grotta**	**1.29 247**	P	**Pn**	**06 11 54.8 -0.5**
SIRI	**Monte Sirino -**	**1.35 340**	⇑P	**Pn**	**06 11 56.6 +0.4**
SIRI			AML	AML	
	comp=E,6365µm,0.5s				
SIRI			AML	AML	
	comp=N,7025µm,0.4s				
SIRI			AML	AML	
	comp=E,6545µm,0.5s				
SIRI			AML	AML	
	comp=N,6880µm,0.4s				
AIO	**Antillo**	**1.35 226**	⇑P	**Pn**	**06 11 56.2 -0.1**
AIO			AML	AML	
	comp=N,2860µm,0.6s				
AIO			AML	AML	
	comp=E,2460µm,1.3s				
AIO			AML	AML	
	comp=E,2460µm,0.7s				
AIO			AML	AML	
	comp=N,2860µm,1.4s				
MGR	**Morigerati**	**1.41 330**	P	**Pn**	**06 11 57.3 +0.3**
MGR			AML	AML	
	comp=N,5290µm,0.3s				
MGR			AML	AML	
	comp=E,5200µm,0.8s				
MGR			AML	AML	
	comp=E,5925µm,0.7s				
MGR			AML	AML	
	comp=N,5255µm,0.7s				
MGR			AML	AML	
	comp=N,5290µm,0.3s				
BULG	**Bulgheria - Ca**	**1.44 324**	⇑P	**Pn**	**06 11 57.8 +0.4**
ECTS	**Castiglione**	**1.48 226**	P	**Pn**	**06 11 58.6 +0.6**
MCEL	**Monticello**	**1.50 340**	P	**Pn**	**06 11 58.8 +0.5**
MCEL			AML	AML	
	comp=E,3920µm,1.1s				
MCEL			AML	AML	
	comp=E,4065µm,1.2s				
MCEL			AML	AML	
	comp=E,4065µm,0.8s				
MCEL			AML	AML	
	comp=E,3920µm,0.9s				
MCEL			AML	AML	
	comp=N,4045µm,0.5s				
MCEL			AML	AML	
	comp=N,3990µm,0.5s				
MUCR	**Ucria**	**1.53 236**	⇑P	**Pn**	**06 11 58.5 -0.1**
IFIL	**Filicudi I Eol**	**1.53 257**	P	**Pn**	**06 11 58.3 -0.3**
IFIL			AML	AML	
	comp=E,13750µm,0.8s				
IFIL			AML	AML	
	comp=N,3680µm,0.7s				
IFIL			AML	AML	
	comp=N,3680µm,1.3s				
IFIL			AML	AML	
	comp=E,13750µm,1.2s				
EPIT	**Pozzo Pitarron**	**1.57 226**	P	**Pn**	**06 11 59.4 +0.2**
SLCN	**Sala Consilina**	**1.61 337**	P	**Pb**	**06 12 00.8 -0.6**
SLCN			AML	AML	
	comp=N,5380µm,0.8s				
SLCN			AML	AML	
	comp=N,5755µm,0.8s				
SLCN			AML	AML	
	comp=E,5640µm,0.5s				
SLCN			AML	AML	
	comp=E,6365µm,0.5s				
EMSG	**Monte Spagnolo**	**1.62 228**	P	**Pn**	**06 11 60.0 0.0**
PTRP	**Pietrapertosa**	**1.64 349**	P	**Pb**	**06 12 02.4 +0.5**
PTRP			AML	AML	
	comp=E,3330µm,1.2s				
PTRP			AML	AML	
	comp=E,3330µm,0.8s				
PTRP			AML	AML	
	comp=N,5665µm,0.6s				
CMPR	**Campora**	**1.67 328**	⇑P	**Pn**	**06 12 00.8 +0.3**
CMPR			AML	AML	
	comp=E,2940µm,0.5s				
CMPR			AML	AML	
	comp=N,2590µm,0.4s				
CMPR			AML	AML	
	comp=E,2940µm,1.5s				
CMPR			AML	AML	
	comp=N,2590µm,1.6s				
EPZF	**Pizzo Felice**	**1.67 230**	P	**Pn**	**06 12 00.5 -0.1**
MIGL	**Miglionico**	**1.69 359**	P	**Pb**	**06 12 02.0 -0.7**
MIGL			AML	AML	
	comp=E,9150µm,1.1s				
MIGL			AML	AML	
	comp=N,11095µm,0.9s				
MIGL			AML	AML	
	comp=N,11095µm,1.1s				
MIGL			AML	AML	
	comp=E,9150µm,0.9s				
IACL	**Alicudi**	**1.70 258**	P	**Pn**	**06 12 00.5 -0.4**
IACL			AML	AML	
	comp=E,2140µm,0.8s				
IACL			AML	AML	
	comp=E,2140µm,1.2s				
IACL			AML	AML	
	comp=N,2380µm,1.0s				
MNO	**Monte Soro**	**1.71 235**	P	**Pn**	**06 12 01.2 0.0**
TAR1	**Taranto**	**1.73 21**	P	**Pn**	**06 12 02.0 +0.7**
TAR1			AML	AML	
	comp=E,2495µm,1.0s				
TAR1			AML	AML	
	comp=N,2550µm,0.9s				
TAR1			AML	AML	
	comp=E,2495µm,1.0s				
TAR1			AML	AML	
	comp=N,2550µm,1.1s				
ECHR	**Santa Chiara**	**1.73 225**	P	**Pn**	**06 12 02.0 +0.5**
MATE	**Matera**	**1.74 6**	⇓P	**Pb**	**06 12 02.7 -0.9**
MATE			AML	AML	
	comp=E,2195µm,0.5s				
MATE			AML	AML	
	comp=N,2785µm,0.8s				
MATE			AML	AML	
	comp=N,2785µm,1.2s				
ESML	**S. M. di Licod**	**1.80 225**	P	**Pb**	**06 12 04.9 +0.2**
PZUN	**Potenza**	**1.80 344**	P	**Pb**	**06 12 05.5 +0.8**
CDRU	**Civita di Ruta**	**1.81 331**	P	**Pn**	**06 12 03.1 +0.5**
ACER	**Acerenza**	**1.91 348**		**Pn**	**06 12 04.4 +0.5**
ACER	**Acerenza**	**1.91 348**	P	**Pb**	**06 12 06.0 -0.6**
ACER			AML	AML	
	comp=E,4480µm,0.5s				
ACER			AML	AML	
	comp=N,4110µm,0.7s				
ACER			AML	AML	
	comp=E,4645µm,0.5s				
ACER			AML	AML	
	comp=N,4315µm,0.6s				
ACER			AML	AML	
	comp=E,4645µm,1.5s				
ACER			AML	AML	
	comp=E,4480µm,1.5s				
ACER			AML	AML	
	comp=N,4315µm,1.4s				
ACER			AML	AML	
	comp=N,4110µm,1.3s				
GALF	**Gagliano Caste**	**1.92 232**	P	**Pb**	**06 12 05.7 -1.0**
GALF			AML	AML	
	comp=N,514µm,0.8s				
GALF			AML	AML	
	comp=E,4345µm,0.8s				
GALF			AML	AML	
	comp=E,4345µm,1.2s				
GALF			AML	AML	
	comp=E,579µm,0.8s				
GALF			AML	AML	
	comp=N,5130µm,0.8s				
GALF			AML	AML	
	comp=N,514µm,1.2s				
NOCI	**Noci**	**1.93 14**	⇓P	**Pn**	**06 12 04.7 +0.7**
NOCI			AML	AML	
	comp=E,1770µm,1.2s				
NOCI			AML	AML	
	comp=N,2695µm,1.3s				
NOCI			AML	AML	
	comp=E,1770µm,0.8s				
HAGA	**Augusta**	**1.93 213**	P	**Pn**	**06 12 04.9 +0.8**
HAGA			AML	AML	
	comp=E,916µm,0.7s				
HAGA			AML	AML	
	comp=N,1125µm,0.8s				
MESG	**Mesagne**	**1.98 32**	P	**Pn**	**06 12 05.5 +0.8**
MRLC	**Muro Lucano**	**1.99 338**	P	**Pb**	**06 12 06.7 -1.2**
AMUR	**Altamura**	**1.99 3**	⇓P	**Pn**	**06 12 05.8 +0.9**
AMUR			AML	AML	
	comp=N,1465µm,1.0s				
AMUR			AML	AML	
	comp=E,1655µm,0.9s				
HLNI	**Lentini**	**2.01 219**	P	**Pn**	**06 12 06.0 +0.8**
HLNI			AML	AML	
	comp=E,791µm,0.7s				
HLNI			AML	AML	
	comp=N,1250µm,0.8s				
HLNI			AML	AML	
	comp=N,1250µm,1.2s				
PLLN	**Pollina**	**2.05 244**	P	**Pn**	**06 12 06.1 +0.3**
PALZ	**Palazzo San Ge**	**2.06 349**	P	**Pn**	**06 12 06.8 +0.8**
SSY	**Sortino**	**2.08 213**	P	**Pn**	**06 12 06.2 +0.1**
MCRV	**Calabrutti - M**	**2.12 332**	P	**Pn**	**06 12 08.0 +1.2**
GIB	**Gibilmanna**	**2.13 245**	P	**Pn**	**06 12 07.3 +0.4**
VULT	**Monte Vulture**	**2.14 342**	P	**Pn**	**06 12 08.1 +1.0**
PETRA	**Petralia Sopra**	**2.14 240**	P	**Pn**	**06 12 07.2 +0.1**
VAE	**Valguarnera**	**2.17 229**	Pn	**Pn**	**06 12 09.3 +1.9**
	comp=N,36nm,0.3s,baz=74,slow=6.1,SNR=9.0				
VAE			Sn	**Sb**	**06 12 37.6 +0.2**
	comp=N,16nm,0.3s,baz=30,slow=20,SNR=5.6				
HVZN	**Vizzini**	**2.22 219**	P	**Pn**	**06 12 08.7 +0.5**
SNAL	**S. Angelo Dei**	**2.23 335**	P	**Pn**	**06 12 09.4 +1.1**
CAPA	**Cerignola FG**	**2.30 348**	P	**Pn**	**06 12 10.3 +1.2**
MTMR	**Montemarano**	**2.30 331**	P	**Pn**	**06 12 10.5 +1.3**
MTMR			AML	AML	
	comp=N,1330µm,0.5s				
MTMR			AML	AML	
	comp=N,1360µm,0.6s				
MTMR			AML	AML	
	comp=E,1280µm,0.8s				
MTMR			AML	AML	
	comp=N,1360µm,1.4s				
MTMR			AML	AML	
	comp=E,1205µm,0.8s				
MTMR			AML	AML	
	comp=N,1330µm,1.5s				
CAFE	**Carife**	**2.31 336**	P	**Pn**	**06 12 10.5 +1.0**
RAFF	**Raffo Rosso**	**2.37 225**		**Pn**	**06 12 11.1 +0.9**
RAFF	**Raffo Rosso**	**2.37 225**	P	**Pn**	**06 12 10.8 +0.6**
RAFF			AML	AML	
	comp=N,738µm,0.7s				
RAFF			AML	AML	
	comp=E,856µm,0.6s				
SGTA	**Sant Agata di**	**2.37 339**	P	**Pn**	**06 12 11.6 +1.3**
ALJA	**Alia**	**2.43 242**	P	**Pn**	**06 12 12.0 +0.9**
HPAC	**Pachino**	**2.46 206**	P	**Pn**	**06 12 12.3 +0.9**
MRB1	**Monte Rocchett**	**2.49 333**	P	**Pb**	**06 12 14.3 -2.1**
PAOL	**Paolisi**	**2.57 326**	Pn	**Pn**	**06 12 12.9 0.0**
PAOL	**Paolisi**	**2.57 326**	P	**Pn**	**06 12 13.5 +0.5**
USI	**Ustica**	**2.58 266**	P	**Pn**	**06 12 12.5 -0.5**
PSB1	**Pescosannita**	**2.63 332**	P	**Pn**	**06 12 15.2 +1.4**
CLTA	**Licata**	**2.65 229**	P	**Pn**	**06 12 15.8 +1.8**
MOCO	**Biccari - m.te**	**2.65 338**	P	**Pn**	**06 12 16.8 +2.7**
VITU	**Vitulano (BN)**	**2.67 329**	P	**Pn**	**06 12 15.7 +1.3**
KEK	**Kerkira**	**2.70 72**	Pn	**Pn**	**06 12 15.3 +0.6**
KEK	**Kerkira**	**2.70 72**	P	**Pb**	**06 12 19.0 -1.0**
SACR	**S. Croce Del S**	**2.83 332**	P	**Pn**	**06 12 17.7 +1.3**
MSAG	**Monte S. Angel**	**2.83 351**	P	**Pn**	**06 12 17.9 +1.4**
MSAG			AML	AML	
	comp=N,1183µm,0.4s				
MSAG			AML	AML	
	comp=N,495µm,0.4s				
MSAG			AML	AML	
	comp=E,732µm,0.7s				
MSAG			AML	AML	
	comp=E,306µm,0.7s				
LFKM	**Lefkimmi**	**2.84 78**	P	**Pn**	**06 12 17.9 +1.3**
GATE	**Gambatesa**	**2.86 336**	P	**Pn**	**06 12 19.5 +2.6**
PTRJ	**Pietraroja**	**2.86 329**	P	**Pn**	**06 12 18.6 +1.5**
PIGN	**Pignataro Magg**	**2.88 323**	P	**Pn**	**06 12 18.2 +1.0**
SGRT	**San Giovanni R**	**2.89 349**		**Pn**	**06 12 17.0 -0.4**
SGRT	**San Giovanni R**	**2.89 349**	P	**Pn**	**06 12 18.6 +1.2**
SGRT			AML	AML	
	comp=N,630µm,0.8s				
SGRT			AML	AML	
	comp=E,656µm,0.7s				
SGRT			AML	AML	
	comp=N,630µm,1.2s				
APRC	**Apricena**	**2.93 346**	P	**Pn**	**06 12 18.9 +1.1**
APRC			AML	AML	
	comp=E,620µm,0.7s				
APRC			AML	AML	
	comp=N,730µm,0.5s				
APRC			AML	AML	
	comp=E,620µm,1.3s				
APRC			AML	AML	
	comp=N,730µm,1.5s				
MBFT	**Monte Bonifato**	**2.93 252**	P	**Pn**	**06 12 18.3 +0.5**
CRJA	**Costa Raja**	**2.94 249**	P	**Pn**	**06 12 18.7 +0.7**
SGG	**Gregorio Mates**	**2.94 328**	P	**Pn**	**06 12 20.0 +1.9**
MELA	**Melanico ??? S**	**2.97 340**	P	**Pn**	**06 12 19.8 +1.4**
MELA			AML	AML	
	comp=E,1014µm,1.6s				
MELA			AML	AML	
	comp=E,1016µm,0.6s				
MELA			AML	AML	
	comp=N,1150µm,0.6s				
MELA			AML	AML	
	comp=N,1250µm,0.6s				
MELA			AML	AML	
	comp=E,1014µm,0.4s				
CIGN	**Sant'Elia a Pi**	**2.99 337**	P	**Pn**	**06 12 20.0 +1.4**
MODR	**Mondragone**	**2.99 319**	P	**Pn**	**06 12 19.6 +0.9**
BSSO	**Busso**	**3.00 332**	P	**Pn**	**06 12 19.7 +0.9**
VAGA	**Valle Agricola**	**3.03 326**	P	**Pn**	**06 12 20.0 +0.7**
IGT	**Igoumenitsa**	**3.06 77**	P	**Pn**	**06 12 20.4 +0.7**
IGT	**Igoumenitsa**	**3.06 77**	*e*Pn	**Pn**	**06 12 21.1 +1.4**
IGT			*e*Sg	**Sn**	**06 12 56.4 +0.6**
IGT	**Igoumenitsa**	**3.06 77**	P	**Pn**	**06 12 20.6 +0.9**
TRIV	**Trivento**	**3.20 333**	P	**Pn**	**06 12 22.5 +0.9**
MIDA	**Miranda**	**3.21 329**	P	**Pn**	**06 12 23.2 +1.5**
FSK	**Fiskardo**	**3.23 97**	P	**Pn**	**06 12 22.5 +0.5**
ARG2	**Argostoli**	**3.23 102**	P	**Pn**	**06 12 22.7 +0.7**
TSLK	**Tsoukalades, L**	**3.27 90**	P	**Pn**	**06 12 23.7 +1.2**
LKD2	**Lefkada island**	**3.27 91**	P	**Pn**	**06 12 23.8 +1.2**
CERA	**Filignano**	**3.27 326**	P	**Pn**	**06 12 23.2 +0.6**
CERA			AML	AML	
	comp=E,402µm,1.0s				
CERA			AML	AML	
	comp=N,463µm,0.8s				
CERA			AML	AML	
	comp=E,410µm,1.0s				
CERA			AML	AML	
	comp=N,495µm,0.8s				
CERA			AML	AML	
	comp=N,495µm,1.2s				
CERA			AML	AML	
	comp=E,410µm,1.0s				
CERA			AML	AML	
	comp=N,463µm,1.2s				
CERA			AML	AML	
	comp=E,402µm,1.0s				
EVGI	**Lefkada island**	**3.28 94**	P	**Pn**	**06 12 24.1 +1.3**
RNI2	**Rionero Sannit**	**3.30 328**	P	**Pn**	**06 12 24.4 +1.4**
NYDR	**Nydri-Lefkada**	**3.31 92**	P	**Pn**	**06 12 23.8 +0.8**
VLS	**Valsamata**	**3.31 102**	P	**Pn**	**06 12 23.7 +0.5**
VLS	**Valsamata**	**3.31 102**	P	**Pn**	**06 12 23.6 +0.5**
WDD	**Wied Dalam**	**3.44 207**	Pn	**Pn**	**06 12 25.0 +0.1**
RTZL	**Ratzakli, Kefa**	**3.48 103**	P	**Pn**	**06 12 25.8 +0.4**
ORTH	**Orthonies,Zaky**	**3.49 106**	P	**Pn**	**06 12 25.9 +0.4**
POFI	**Posta Fibreno**	**3.50 324**	P	**Pn**	**06 12 27.4 +1.6**
TIR	**Tirane**	**3.56 46**	P	**Pn**	**06 12 27.5 +1.0**
AST1	**Astakos**	**3.63 94**	P	**Pn**	**06 12 29.2 +1.8**
LTHK	**Lithakia**	**3.64 108**	P	**Pn**	**06 12 27.9 +0.4**
INTR	**Introdacqua**	**3.66 328**		**Pn**	**06 12 28.0 +0.1**
ULC	**Ulcinj**	**3.71 34**	⇓*i*Pn	**Pn**	**06 12 28.3 -0.3**
ULC			*i* Sn	**Sn**	**06 13 12.0 +0.2**
HCY	**Herceg Novi**	**3.85 23**	⇑*i*Pn	**Pn**	**06 12 30.1 -0.4**
HCY			*i* Sn	**Sn**	**06 13 15.5 +0.3**
BUM	**Brajici-Budva**	**3.85 28**	⇓*i*Pn	**Pn**	**06 12 30.1 -0.5**
BUM			*i* Sn	**Sn**	**06 13 15.8 +0.4**
DRME	**Dracevica, Mon**	**3.87 31**	⇓*i*Pn	**Pn**	**06 12 30.8 +0.1**
DRME			*e*Sn	**Sn**	**06 13 16.0 +0.4**
AXS	**Araxos**	**3.91 99**	P	**Pn**	**06 12 32.9 +1.6**
PVO	**Paravola**	**3.96 93**	P	**Pn**	**06 12 34.0 +2.0**
OHR	**Ohrid**	**3.98 55**	*i* Pn	**Pn**	**06 12 34.5 +2.1**
TREB	**Trebinje**	**4.06 20**	*e*Pn	**Pn**	**06 12 32.9 -0.4**
TREB	**Trebinje**	**4.06 20**	*e*Pn	**Pn**	**06 12 32.9 -0.4**
STON	**Ston**	**4.06 13**	*e*Pn	**Pn**	**06 12 33.1 -0.2**
STON	**Ston**	**4.06 13**	*e*Pn	**Pn**	**06 12 34.0 +0.7**
PDG	**Podgorica**	**4.10 30**		**Pn**	**06 12 34.4 +0.5**
PDG	**Podgorica**	**4.10 30**	⇓P	**Pn**	**06 12 34.6 +0.7**
PDG	**Podgorica**	**4.10 30**	*e*Pn	**Pn**	**06 12 34.2 +0.3**
PDG			*e*Sg	**Sn**	**06 13 21.6 +0.2**
PDG	**Podgorica**	**4.10 30**	⇑*i*Pn	**Pn**	**06 12 34.0 +0.1**
PDG			*i* Sn	**Sn**	**06 13 21.6 +0.2**
AQU	**L'Aquila**	**4.15 327**	*e*Pn	**Pn**	**06 12 38.3 +3.6**
AQU	**L'Aquila**	**4.15 327**	P	**Pn**	**06 12 38.0 +3.3**
BRY	**Bratogost**	**4.28 21**	⇓*i*Pn	**Pn**	**06 12 36.5 0.0**
BRY			*i* Sn	**Sn**	**06 13 26.4 +0.4**
NKME	**Niksic**	**4.28 25**	⇓*i*Pn	**Pn**	**06 12 36.7 +0.2**
NKME			*e*Sn	**Sn**	**06 13 26.2 +0.2**
CAMP	**Campotosto**	**4.30 328**		**Pn**	**06 12 37.9 +1.1**
PVY	**Plav**	**4.53 35**	⇓*i*Pn	**Pn**	**06 12 41.3 +1.3**
PVY			*i* Sn	**Sn**	**06 13 32.1 -0.1**
KLINJ	**Klinje**	**4.54 20**	*e*Pn	**Pn**	**06 12 39.1 -1.0**
KOME	**Kolasin**	**4.56 29**	⇓*i*Pn	**Pn**	**06 12 40.5 +0.2**
KOME			*e*Sn	**Sn**	**06 13 33.5 +0.7**
ITM	**Ithomi**	**4.64 110**		**Pn**	**06 12 41.9 +0.5**
UPM	**Unac-Piva**	**4.66 22**	⇓*i*Pn	**Pn**	**06 12 41.8 0.0**
UPM			*i* Sn	**Sn**	**06 13 35.9 +0.4**
MF5	**Montefalcone A**	**4.66 332**	P	**Pn**	**06 12 44.2 +2.5**
NRCA	**Norcia**	**4.67 328**	Pn	**Pn**	**06 12 41.2 -0.6**
IVA	**Berane**	**4.73 32**	⇑*i*Pn	**Pn**	**06 12 44.1 +1.5**
IVA			*i* Sn	**Sn**	**06 13 37.5 +0.5**
CESX	**Cesi**	**4.73 323**		**Pn**	**06 12 42.0 -0.6**
GUMA	**Gualdo di Mace**	**4.78 331**	Pn	**Pn**	**06 12 42.8 -0.4**
LIT	**Litokhoron**	**4.80 74**		**Pn**	**06 12 43.6 0.0**
LIT	**Litokhoron**	**4.80 74**	P	**Pn**	**06 12 43.6 0.0**
FDMO	**Fiordimonte**	**4.85 329**		**Pn**	**06 12 44.2 -0.1**
PLE	**Pljevlja**	**4.93 26**	⇓*i*Pn	**Pn**	**06 12 47.2 +1.8**
PLE			*i* Sn	**Sn**	**06 13 42.4 +0.4**
SJES	**Sjenica**	**5.08 30**	*e*Pn	**Pn**	**06 12 49.0 +1.5**
KIJV	**Kijevo**	**5.09 359**	*e*Pn	**Pn**	**06 12 48.7 +1.2**
RUDO	**Rudo**	**5.18 24**	*e*Pn	**Pn**	**06 12 48.5 -0.3**
VAY	**Valandovo**	**5.26 61**	*i* Pn	**Pn**	**06 12 52.0 +2.3**
MURB	**Monte Urbino**	**5.27 327**	Pn	**Pn**	**06 12 48.9 -1.2**
BBLS	**Lazi&#263i**	**5.42 23**	*e*Pn	**Pn**	**06 12 52.8 +0.7**
IVAS	**Ivanjica**	**5.42 30**	*e*Pn	**Pn**	**06 12 52.2 +0.1**
VSL	**Villasalto**	**5.54 278**	Pn	**Pn**	**06 12 53.0 -0.7**
SELS	**Selova**	**5.55 38**	*e*Pn	**Pn**	**06 12 54.6 +0.7**
GOCS	**Kraljevo Serbi**	**5.71 34**	*e*Pn	**Pn**	**06 12 56.7 +0.6**
CASP	**Castiglione de**	**5.75 314**	Pn	**Pn**	**06 12 57.0 +0.4**
BOSS	**Bosilegrad**	**5.80 50**	*e*Pn	**Pn**	**06 12 56.0 -1.3**
DIVS	**Divibare**	**5.81 26**	*e*Pn	**Pn**	**06 12 57.5 0.0**
BLY	**Banja Luka**	**5.85 5**	*e*Pn	**Pn**	**06 12 56.4 -1.6**
BLY	**Banja Luka**	**5.85 5**	⇑P	**Pn**	**06 12 59.2 +1.2**
BLY	**Banja Luka**	**5.85 5**	*e*Pn	**Pn**	**06 13 00.6 +2.6**
KKB	**Krupnik**	**5.86 58**	*e*P	**Pn**	**06 12 56.5 -1.7**
SRS	**Serrai**	**5.89 66**	*e*Pn	**Pn**	**06 12 59.4 +0.8**
SRS	**Serrai**	**5.89 66**	P	**Pn**	**06 13 01.6 +3.0**
SRS			pmax	pmax	
	comp=Z,18nm,0.6s				
GRUS	**Gruza**	**5.90 31**	*e*Pn	**Pn**	**06 12 58.4 -0.3**
TRUS	**Trudelj**	**6.07 28**	*e*Pn	**Pn**	**06 13 01.0 0.0**
TEKS	**Tekeris**	**6.08 21**	*e*Pn	**Pn**	**06 13 00.6 -0.5**
BOVS	**Bovan**	**6.15 38**	⇓P	**Pn**	**06 13 03.0 +1.0**
BOVS	**Bovan**	**6.15 38**	*e*Pn	**Pn**	**06 13 02.7 +0.7**
MMB	**Musomishta**	**6.16 62**	*e*P	**Pn**	**06 13 04.1 +1.9**
BRJN	**Brijuni**	**6.32 342**	*e*Pn	**Pn**	**06 13 04.8 +0.4**
VTS	**Vitosha**	**6.33 52**	*e*P	**Pn**	**06 13 05.4 +0.7**
VTS	**Vitosha**	**6.33 52**	*e*Pn	**Pn**	**06 13 05.1 +0.4**
PLNA	**Plana**	**6.37 54**	*e*P	**Pn**	**06 13 08.8 +3.6**
ZAPS	**Zavoj**	**6.37 45**	*e*Pn	**Pn**	**06 13 04.5 -0.7**
KEST	**Kesra**	**6.51 243**	Pn	**Pn**	**06 13 10.4 +3.3**
	comp=Z,0.7nm,0.3s,baz=354,slow=7.0,SNR=5.2				
KEST			LR	LR	06 16 09.4

comp=Z,260nm,18.6s,baz=349,slow=43
ZAGS Zajecar 6.54 40 *e*Pn **Pn 06 13 08.5 +1.1**
BORS2 Bor- Borsko je 6.64 37 *e*Pn **Pn 06 13 07.6 -1.2**
MOSL Moslavina 6.70 2 *e*Pn **Pn 06 13 10.0 +0.4**
FRGS Fruska Gora 6.71 21 *e*Pn **Pn 06 13 09.2 -0.6**
OZLJ Ozalj 6.74 354 *e*Pn **Pn 06 13 11.9 +1.8**
ZCCA Zocca 6.81 325 Pn **Pn 06 13 11.0 -0.2**
RZN Rozhen 6.90 64 *e*P **Pn 06 13 14.7 +2.1**
MDVR Moldovita 7.05 32 ⇓P **Pn 06 13 14.7 +0.3**
MDVR Moldovita 7.05 32 *e*Pn **Pn 06 13 14.1 -0.3**
TRI Trieste 7.08 344 Pn **Pn 06 13 14.7 -0.1**
TRI Trieste 7.08 344 P **Pn 06 13 14.7 -0.1**
VRSS Vrsac 7.18 29 *e*Pn **Pn 06 13 15.5 -0.7**
KDZ Kurdzhali 7.30 65 *e*P **Pn 06 13 19.7 +1.8**
RDO Rodhopi 7.30 69 **Pn 06 13 18.2 +0.3**
TEOL Teolo 7.36 333 Pn **Pn 06 13 18.0 -0.7**
APE Apeiranthos 7.39 102 ⇓P **Pn 06 13 20.2 +1.1**
APE Apeiranthos 7.39 102*c i*P **Pn 06 13 20.0 +0.9**
HERR Herculane 7.43 35 ⇑P **Pn 06 13 20.3 +0.7**
MORH Mrgy, Hungar 7.47 12 *e*Pn **Pn 06 13 18.4 -1.8**
MORH Mrgy, Hungar 7.47 12 ⇓P **Pn 06 13 20.2 +0.1**
MORH Mrgy, Hungar 7.47 12 P **Pn 06 13 20.9 +0.7**
comp=Z,0.0nmcomp=Z,5.1nm,1.5s
MSSA Maissana 7.50 318 Pn **Pn 06 13 18.7 -1.9**
BEHE Becsehely 7.55 2 Pn **Pn 06 13 20.3 -1.0**
BEHE Becsehely 7.55 2 *e*Pn **Pn 06 13 16.7 -4.6**
PLVB Pleven 7.60 51 ⇓P **Pn 06 13 22.8 +0.8**
ALN Alexandroupoli 7.62 72 **Pn 06 13 22.1 -0.2**
ALN Alexandroupoli 7.62 72 P **Pn 06 13 22.1 -0.2**
IDI Anoyia 7.64 116 Pn **Pn 06 13 22.0 -0.6**
IDI Anoyia 7.64 116 Pn **Pn 06 13 23.1 +0.5**
comp=Z,5.1nm,0.3s,baz=299,slow=17,SNR=13
IDI Sn **Sn 06 14 44.2 -4.5**
comp=Z,8.2nm,0.3s,baz=329,slow=21,SNR=12
EZN Ezine 7.69 80 ⇓P **Pn 06 13 24.0 +0.8**
EZN Ezine 7.69 80 P **Pn 06 13 24.0 +0.8**
BZS Buzias 7.71 28 *e*Pn **Pn 06 13 22.8 -0.6**
BZS Buzias 7.71 28 P **Pn 06 13 23.7 +0.3**
BZS pmax pmax
comp=Z,15nm,1.3s
OBKA Obir 7.72 350 *e*Pn **Pn 06 13 25.2 +1.4**
comp=Z,5.1nm,0.6s
OBKA *e*Sn **Sn 06 14 51.4 +0.7**
comp=Z,26nm,1.2s
SOKA Soboth 7.83 353 *e*Pn **Pn 06 13 26.9 +1.7**
comp=Z,1.1nm,0.5s
STAL STALIGIAL 7.85 341 Pn **Pn 06 13 24.9 -0.5**
CIMO Cimolais 7.96 339 **Pn 06 13 26.8 -0.2**
CTI Castel Tesino 7.97 335 **Pn 06 13 26.4 -0.6**
CTI Castel Tesino 7.97 335 P **Pn 06 13 26.5 -0.6**
MYKA Terra Mystica 7.99 346 *e*Pn **Pn 06 13 28.0 +0.6**
comp=Z,2.4nm,0.5s
MYKA *i* Sn **Sn 06 15 00.6 +3.5**
comp=Z,1.0nm,0.6s
GZR Gura Zlata 7.99 34 ⇓P **Pn 06 13 28.9 +1.6**
GZR Gura Zlata 7.99 34 *e*Pn **Pn 06 13 27.0 -0.4**
GZR Gura Zlata 7.99 34 P **Pn 06 13 28.9 +1.6**
ABTA Abfaltersbach 8.35 341 *e*Pn **Pn 06 13 33.1 +0.8**
comp=Z,3.1nm,0.6s
ABTA *e*Sn **Sn 06 15 04.8 -1.3**
comp=Z,6.1nm,0.7s
ARSA Arzberg 8.36 356 Pn **Pn 06 13 32.1 -0.3**
ARSA Arzberg 8.36 356 *e*Pn **Pn 06 13 33.1 +0.7**
comp=Z,1.7nm,0.4s
ARSA *i* Sn **Sn 06 15 03.5 -2.8**
comp=Z,6.5nm,1.3s
LOT Lotru 8.48 37 ⇑P **Pn 06 13 35.6 +1.5**
RONA Rosalia, Austr 8.78 359 *e*Pn **Pn 06 13 37.3 -0.9**
comp=Z,0.8nm,0.3s
RONA *e*Sn **Sn 06 15 13.2 -3.5**
comp=Z,1.1nm,0.4s
ARR Arges 8.85 41 ⇓P **Pn 06 13 40.9 +1.7**
LESA Schwarzleotal 8.94 343 *e*Pn **Pn 06 13 41.8 +1.3**
comp=Z,2.0nm,0.4s
BIOA Bad Ischl, Aus 9.01 348 *e*Pn **Pn 06 13 41.2 -0.1**
comp=Z,2.9nm,0.5s
BIOA *e*Sn **Sn 06 15 23.8 +1.5**
comp=Z,6.1nm,0.7s
CONA Conrad Observa 9.02 357 *e*Pn **Pn 06 13 43.0 +1.4**
comp=Z,0.6nm,0.4s
MOA Molln 9.07 351 *e*Pn **Pn 06 13 41.7 -0.5**
comp=Z,5.2nm,0.5s
MOA *e*Sn **Sn 06 15 26.4 +2.6**
comp=Z,8.1nm,1.2s
DRGR 9.11 28 ⇑P **Pn 06 13 43.3 +0.6**
DRGR 9.11 28 P **Pn 06 13 43.3 +0.6**
KARP Karpathos 9.16 108 **Pn 06 13 43.8 +0.3**
MARR Marisel-Cluj 9.16 30 ⇑P **Pn 06 13 44.3 +0.8**
TUE Stuetta 9.19 328 Pn **Pn 06 13 42.4 -1.6**
MOTA Moosalm 9.29 337 *i* Pn **Pn 06 13 46.2 +0.9**
comp=Z,5.6nm,0.7s
PSZ Piszkesteto 9.34 14 Pn **Pn 06 13 44.8 -1.0**
PSZ Piszkesteto 9.34 14 P **Pn 06 13 44.8 -1.0**
MANT Manisa 9.46 89 Pn **Pn 06 13 47.3 -0.4**
BNI Bardonecchia 9.52 313 Pn **Pn 06 13 47.0 -1.5**
BNI Bardonecchia 9.52 313 P **Pn 06 13 47.0 -1.5**
MLR Muntele Rosu 9.62 44 **Pn 06 13 48.2 -1.5**
MLR Muntele Rosu 9.62 44 Pn **Pn 06 13 51.0 +1.3**
comp=Z,0.7nm,0.3s,baz=152,slow=8.3,SNR=6.6
MLR LR LR 06 19 07.4
comp=Z,179nm,18.6s,baz=243,slow=48
comp=Z,1.9nm,0.5s
MLR Muntele Rosu 9.62 44 ⇑P **Pn 06 13 51.6 +1.8**
MLR Muntele Rosu 9.62 44 P **Pn 06 13 51.5 +1.8**
MLR Muntele Rosu 9.62 44 P **Pn 06 13 48.4 -1.4**
comp=Z,9.8nm,0.7s
ARG Arkhangelos 9.64 103 Pn **Pn 06 13 49.8 -0.2**
ARG Arkhangelos 9.64 103 P **Pn 06 13 49.8 -0.2**
DOPR Dopca 9.64 40 ⇑P **Pn 06 13 51.9 +1.9**
SENIN Lac Senin/Sane 10.05 321 Pn **Pn 06 13 54.4 -1.3**
BISRR Bisoca 10.07 46 P **Pn 06 13 54.5 -1.4**
comp=Z,379nm,1.3s
GERES GERESS Array B 10.12 350 Pn **Pn 06 13 57.7 +1.0**
comp=Z,0.7nm,0.3s,baz=177,slow=12,SNR=5.7
GERES Sn **Sn 06 15 46.7 -3.0**
baz=173,slow=27,SNR=2.4
PLOR Plostina 10.23 44 ⇑P **Pn 06 13 59.5 +1.4**
PLOR Plostina 10.23 44 P **Pn 06 13 59.4 +1.4**
PLOR5 Plostina Array 10.23 44 P **Pn 06 13 56.7 -1.4**
comp=Z,12nm,1.3s
VRI Vrincioaia 10.28 44 ⇑P **Pn 06 14 00.2 +1.4**
VRI Vrincioaia 10.28 44 P **Pn 06 14 00.1 +1.4**
VRI Vrincioaia 10.28 44 P **Pn 06 13 57.3 -1.4**
comp=Z,8.7nm,0.8s
VRAC Vranov 10.39 0 LR LR 06 18 35.6
comp=Z,175nm,18.2s,baz=200,slow=41
KHC Kasperske Hory 10.42 349 *e*P **Pn 06 14 01.4 +0.7**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 10.42 349 *e*PN **Pn 06 14 02.5 +1.8**
KHC x x 06 14 10.5
KORU Korolevo 10.42 25 P **Pn 06 14 00.6 0.0**
HOLU Holmets 10.51 22 P **Pn 06 14 02.1 +0.2**
BRIU Brid 10.54 25 P **Pn 06 14 02.3 0.0**
AKAS Kas 10.76 100 **Pn 06 14 06.0 +0.5**
BURAR Bucovina Array 10.78 33 Pn **Pn 06 14 04.3 -1.3**
BUR08 Bucovina Ar. S 10.79 33 Pn **Pn 06 14 04.4 -1.4**
BORA Eskisehir 10.87 81 Pn **Pn 06 14 06.4 -0.4**
STNU Starunia 11.37 28 P **Pn 06 14 13.6 -0.1**
DPC Dobruska-Polom 11.43 360 P **Pn 06 14 16.4 +1.9**
comp=Z,3.1nm,1.7s
MORS Morshin 11.52 25 P **Pn 06 14 15.6 0.0**
KWP Kalwaria Pacla 11.60 21 P **Pn 06 14 17.2 +0.4**
comp=Z,1.1nm,1.5s
BR131 Keskin Array S 13.32 81 ⇑*i*P **Pn 06 14 43.4 +3.0**
BRTR Keskin Array B 13.32 81 Pn **Pn 06 14 38.9 -1.6**
BRTR Keskin Array B 13.32 81 Pn **Pn 06 14 43.1 +2.7**
comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=4.8
comp=Z,1.0nm,0.8s
BR104 Keskin Array S 13.32 81 P **Pn 06 14 36.7 -3.8**
ILGA Ilgaz 13.40 75 Pn **Pn 06 14 41.6 0.0**
CLF Chambon-Foret 13.74 316 Pn **Pn 06 14 44.6 -1.4**
CART Cartagena 13.80 270 Pn **Pn 06 14 45.1 -1.8**
RNPP5 Staryi Chortor 13.98 25 P **Pn 06 14 49.5 +0.3**
CSS Mathiatis 14.05 101 P **Pn 06 14 46.1 -4.2**
comp=Z,15nm,1.3s
AK07 Malin Array Si 14.71 34 P **Pn 06 14 58.9 -0.3**
AK14 Malin Array Si 14.73 33 P **Pn 06 14 59.1 -0.4**
KIEV Kiev 14.82 33 Pn **Pn 06 14 57.4 -3.3**
KIEV Kiev 14.82 33 P **Pn 06 14 57.4 -3.3**
KIEV Kiev 14.82 33 P **Pn 06 15 00.4 -0.3**
comp=Z,22nm,0.8s
AKASG Malin Array Be 14.83 33 Pn **P 06 15 05.9 -0.7**
comp=Z,0.6nm,0.3s,baz=228,slow=11,SNR=9.0
AKBB Malin Array Si 14.83 33 Pn **Pn 06 14 57.4 -3.4**
AKBB Malin Array Si 14.83 33 P **Pn 06 14 57.4 -3.4**
AKBB Malin Array Si 14.83 33 P **Pn 06 15 00.3 -0.5**
AKBB pP P 06 15 15.1 +8.5
ESDC Sonseca Array 15.84 279 Pn **Pn 06 15 15.9 +1.6**
comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=7.3
ESDC LR LR 06 20 44.2
comp=Z,142nm,18.1s,baz=98,slow=35
comp=Z,1.0nm,0.9s
KLNR Kaliningrad 15.90 8 *e*P **Pn 06 15 14.9 +0.1**
MMAI Mount Meron Ar 16.41 105 **Pn 06 15 21.0 -0.6**
MMAI Mount Meron Ar 16.41 105 Pn **Pn 06 15 21.0 -0.6**
comp=Z,1.6nm,0.3s,baz=290,slow=15,SNR=2.4
comp=Z,0.8nm,0.3s
EIL Elat 17.81 116 P **Pn 06 15 38.5 -0.6**
comp=Z,0.6nm,0.3s,baz=337,slow=7.7,SNR=4.1
comp=Z,2.8nm,0.4s
ASF Jabal al Asfar 17.91 106 P **P 06 15 42.2 +1.3**
comp=Z,0.3nm,0.3s,baz=305,slow=12,SNR=1.3
comp=Z,2.3nm,0.6s
MDT Midelt 18.12 257 P **P 06 15 43.7 +0.5**
comp=Z,0.2nm,0.3s,baz=94,slow=15,SNR=4.7
comp=Z,2.5nm,0.9s
MD01 Midelt array s 18.21 257 **Pn 06 15 42.2 -2.0**
MD31 MD31 18.21 257 **Pn 06 15 42.8 -1.3**
SHA1 Shidzhatmaz 20.21 68 ⇓*i*P **P 06 16 05.0 -1.2**
KIV Kislovodsk 20.25 67 *e*P **P 06 16 05.1 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 20.38 68 P Pn 06 16 09.2 -0.7
comp=Z,2.7nm,0.9s,baz=207,slow=2.3,SNR=2.3
comp=Z,2.7nm,0.9s
KBZ Khabaz 20.38 68 ⇑*i*P Pn 06 16 09.5 -0.4
KBZ pmax pmax
comp=Z,6.0nm,1.8s
VSU Vasula 20.66 15 ⇓*i*P **P 06 16 10.8 +0.2**
VSU pmax pmax
comp=Z,42nm,0.9s
NCK Nalchik 20.87 69 ⇑*i*P **P 06 16 12.4 -0.8**
NCK pmax pmax
comp=Z,37nm,0.5s
EKA Eskdalemuir Ar 21.05 328 P **P 06 16 15.8 +0.9**
comp=Z,1.3nm,0.5s,baz=143,slow=13,SNR=5.3
comp=Z,1.3nm,0.5s
OBN Obninsk 21.10 33 ⇑*i*P **P 06 16 15.8 +0.4**
OBN *i* 06 16 32.8
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,97nm,17.0s
HFS Hagfors 21.31 356 P **P 06 16 18.5 +0.8**
comp=Z,2.3nm,0.6s,baz=152,slow=9.6,SNR=5.5
HFS LR LR 06 25 33.8
comp=Z,130nm,18.9s,baz=238,slow=40
comp=Z,2.3nm,0.6s
NC602 NORSAR Array S 22.06 354 P **P 06 16 26.0 +0.3**
NC602 IAmb IAmb 06 16 27.6
comp=Z,7.8nm,1.0s
NB2 NORSAR Subarra 22.39 353 P **P 06 16 30.0 +0.7**
comp=Z,3.2nm,0.6s,baz=169,slow=11
NOA NORSAR Array B 22.39 353 P **P 06 16 29.1 -0.2**
comp=Z,1.0nm,0.7s,baz=168,slow=12,SNR=4.0
NOA LR LR 06 26 27.4
comp=Z,81nm,20.0s,baz=170,slow=40
comp=Z,1.0nm,0.7s
NB201 NORSAR Array S 22.39 353 P **P 06 16 28.9 -0.5**
NB201 IAmb IAmb 06 16 43.8
comp=Z,12nm,1.1s
NC303 NORSAR Array S 22.56 354 P **P 06 16 30.4 -0.6**
NC303 IAmb IAmb 06 16 43.5
comp=Z,22nm,1.5s
FINES FINESS Array B 23.33 12 P **P 06 16 38.8 -0.2**
comp=Z,8.5nm,0.6s,baz=188,slow=9.1,SNR=32
FINES LR LR 06 26 30.6
comp=Z,73nm,21.1s,baz=217,slow=39
comp=Z,8.5nm,0.6s
FIA1 FINESS Array S 23.33 12 P **P 06 16 39.0 0.0**
VALR Valaam 24.18 17 *e*P **P 06 16 46.2 -1.0**
BELG Belogornoye 25.38 48*d i*P **P 06 16 59.2 +1.1**
BELG pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 26.24 26 *e*P **P 06 17 04.6 -1.2**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 28.81 211 P **P 06 17 29.1 -0.2**
comp=Z,0.7nm,0.9s,baz=25,slow=11,SNR=2.5
comp=Z,0.7nm,0.9s
ARCES ARCESS Array B 31.06 6 P **P 06 17 48.0 -0.7**
ARCES IAmb IAmb 06 18 06.4
comp=Z,16nm,1.4s
ARCES ARCESS Array B 31.06 6 P **P 06 17 47.7 -1.0**
comp=Z,0.8nm,0.5s,baz=189,slow=7.2,SNR=11
ARCES LR LR 06 31 56.9
comp=Z,126nm,20.4s,baz=194,slow=40
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 31.06 6 P **P 06 17 48.0 -0.7**
ARCES pmax pmax
comp=Z,16nm,1.4s
AKTO Aktyubinsk 31.31 55 P **P 06 17 51.5 +0.4**
comp=Z,1.0nm,0.4s,baz=254,slow=8.5,SNR=4.1
comp=Z,1.0nm,0.4s
AB31 Akbulak array 32.48 57 P **P 06 18 01.6 +0.1**
ABKAR Akbulak array 32.48 57 P **P 06 18 01.3 -0.1**
ARTI Arti 32.56 44 P **P 06 18 02.6 +0.6**
comp=Z,3.1nm,0.5s,baz=274,slow=3.3,SNR=5.2
comp=Z,3.1nm,0.5s
ARTI Arti 32.56 44*c i*P **P 06 18 03.1 +1.1**
ARTI 06 19 07.2
ARTI S **S 06 23 21.7 +5.3**
ARTI SS **SnSn 06 25 13.9 +3.3**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
BORG Borgarnes 33.95 332 LR LR 06 32 30.5
comp=Z,72nm,22.0s,baz=86,slow=37
DBIC Dimbokro 37.44 216 LR LR 06 34 17.7
comp=Z,20nm,19.6s,baz=41,slow=36
BORK Borovoye 39.05 51 ⇑*i*P **P 06 18 59.5 +1.8**
BORK pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 39.09 51 P **P 06 18 59.0 +0.9**
comp=Z,1.2nm,0.6s,baz=260,slow=5.9,SNR=4.8
comp=Z,1.2nm,0.6s
BVAR Borovoye Array 39.09 51 P **P 06 18 59.0 +0.9**
AAK Ala-Archa 43.36 66 ⇓*i*P **P 06 19 35.0 +1.6**
AAK pmax pmax
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 44.35 54 P **P 06 19 42.1 +1.1**
comp=Z,0.4nm,0.3s,baz=284,slow=8.3,SNR=4.4
comp=Z,0.4nm,0.3s
KURK Kurchatov 44.39 53 ⇓*i*P **P 06 19 42.7 +1.3**
KURK pmax pmax
comp=Z,5.0nm,1.6s
ZALV Zalesovo Beam 47.56 48 P **P 06 20 07.3 +0.9**
comp=Z,1.5nm,0.3s,baz=281,slow=9.2,SNR=4.2
comp=Z,1.5nm,0.3s
MK31 Makanchi Array 47.61 58 ⇑*i*P **P 06 20 08.0 +1.1**
MKAR Makanchi Array 47.61 58 P **P 06 20 07.4 +0.5**
MKAR Makanchi Array 47.61 58 P **P 06 20 07.9 +0.9**
comp=Z,1.7nm,0.6s,baz=281,slow=6.6,SNR=16
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 47.61 58 P **P 06 20 07.4 +0.5**
SCHQ Schefferville 55.74 316 LR LR 06 44 44.5
comp=Z,302nm,18.9s,baz=134,slow=36
SONM Songino Array 62.42 49 P **P 06 21 53.9 -0.1**
SONM Songino Array 62.42 49 P **P 06 21 55.1 +1.1**
comp=Z,1.6nm,0.6s,baz=298,slow=9.5,SNR=5.0
comp=Z,1.6nm,0.6s
LPHEP Lephephe 62.57 170 P **P 06 21 55.3 +0.2**
BOSA Boshof 67.68 172 P **P 06 22 29.0 +0.8**
comp=Z,1.4nm,0.6s,baz=0.3,slow=3.1,SNR=3.3
comp=Z,1.4nm,0.6s
BOSA Boshof 67.68 172 P **P 06 22 29.0 +0.8**
HHC Hu-ho-hao-te 69.20 54 *e*P **P 06 22 36.3 -1.5**
HHC pmax pmax
comp=Z,14nm,0.6s
PZH PanZhiHua 70.41 71 P **P 06 22 44.5 -1.0**
PZH pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 70.97 12 ⇑*i*P **P 06 22 50.1 +2.0**
BILL pmax pmax
comp=Z,7.0nm,2.0s
E29M Blow River 71.30 350 P **P 06 22 50.0 -0.1**
C19K Lookout Ridge 72.26 359 P **P 06 22 57.0 +1.2**
C19K IAmb IAmb 06 23 22.2
comp=Z,13nm,1.4s
E25K Arctic Village 72.43 353 P **P 06 22 56.0 -0.8**
E25K IAmb IAmb 06 23 07.5
comp=Z,13nm,1.5s
SEY Seymchan 72.54 19 *e*P **P 06 22 58.0 +0.4**
SEY pmax pmax
comp=Z,6.0nm,1.1s
G29M Pine Creek 72.71 350 P **P 06 22 58.2 -0.4**
G29M IAmb IAmb 06 23 01.6
comp=Z,7.3nm,1.1s
CMAR Chiang Mai Arr 72.91 80 P **P 06 23 01.1 +0.6**
comp=Z,1.4nm,0.3s,baz=287,slow=5.5,SNR=2.0
comp=Z,1.4nm,0.3s
BMAR Burnt Mountain 73.00 352 P **P 06 22 58.8 -1.6**
IMAR Indian Mountai 75.16 356 P **P 06 23 12.4 -0.5**
DAWY Dawson 75.59 349 P **P 06 23 15.4 0.0**
DAWY IAmb IAmb 06 23 27.0
comp=Z,6.7nm,1.4s
ILAR Eielson Array 75.82 353 P **P 06 23 17.2 +0.5**
comp=Z,0.5nm,0.9s,baz=360,slow=5.5,SNR=4.1
comp=Z,0.5nm,0.9s
BCAR Beaver Creek A 76.88 350 P **P 06 23 23.1 +0.3**
ECSD EROS Data Cent 77.92 317 P **P 06 23 28.6 -0.4**
ECSD IAmb IAmb 06 23 47.0
comp=Z,11nm,1.5s
NJ2 Nanjing 79.14 58 *e*P **P 06 23 33.3 -2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
MSHR Mys Shultsa 79.56 43 ⇑*i*P **P 06 23 37.8 -0.1**
MSHR pmax pmax
comp=Z,56nm,1.5s
PEA0B Petropavlovsk- 82.39 22 ⇓*i*P **P 06 23 50.9 -1.9**
TXAR Lajitas Array 92.13 311 P **P 06 24 41.5 +0.7**
comp=Z,0.2nm,0.5s,baz=46,slow=5.4,SNR=4.0
comp=Z,0.2nm,0.5s
CPUP Villa Florida 94.63 240 LR LR 07 07 57.0
comp=Z,8.4nm,19.3s,baz=286,slow=36
WRA Warramunga Arr 123.72 89 PKP **PKPdf 06 30 28.7 -0.4**
comp=Z,0.3nm,0.7s,baz=331,slow=1.8,SNR=4.6
ASAR Alice Springs 125.40 93 PKP **PKiKP 06 30 33.2 +0.6**
comp=Z,0.5nm,0.8s,baz=323,slow=1.8,SNR=5.5

ROM 07 06:13:41.2±0.1, 38°.888N±0°.003×16°.480E±0°.007, h21km, ML2.0/12, Error ellipse: s-maj=0.4km s-min=0.4km az=91.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.08**	**215**	P	Pb	06 13 45.1	-0.1
GRI				S	Sb	06 13 48.3	+0.4
GRI				AML	AML		
comp=N,1560μm,0.2s							
GRI				AML	AML		
comp=E,2495μm,0.4s							
GRI				AML	AML		
comp=N,1306μm,0.2s							
GRI				AML	AML		
comp=E,1857μm,0.0s							
TIP	**Timpagrande**	**0.36**	**37**	P	Pb	06 13 48.9	0.0
TIP				S	Sb	06 13 54.8	+0.7
TIP				AML	AML		
comp=E,192μm,0.2s							
TIP				AML	AML		
comp=E,188μm,0.2s							
TIP				AML	AML		
comp=N,446μm,0.5s							
TIP				AML	AML		
comp=E,192μm,1.8s							
TIP				AML	AML		
comp=E,188μm,1.8s							
TIP				AML	AML		
comp=N,427μm,0.5s							
SPS2	**Spezzano della**	**0.42**	**345**	P	Pb	06 13 50.0	+0.1
SPS2				S	Sb	06 13 56.6	+0.9
SPS2				AML	AML		
comp=N,137μm,0.2s							
SPS2				AML	AML		
comp=E,148μm,0.4s							
PLAC	**Placanica**	**0.44**	**184**	P	Pb	06 13 50.2	+0.1
PLAC				S	Sb	06 13 57.3	+1.1
CELI	**Celico**	**0.51**	**3**	P	Pb	06 13 51.8	+0.1
CELI				S	Sb	06 13 59.1	+0.4
CELI				AML	AML		
comp=E,280μm,0.4s							
CELI				AML	AML		
comp=E,117μm,0.4s							
CELI				AML	AML		
comp=N,305μm,0.3s							
CELI				AML	AML		
comp=N,123μm,0.3s							
LADO	**San Nicola del**	**0.56**	**44**	P	Pb	06 13 52.2	-0.1
LADO				S	Sb	06 14 00.4	+0.5
CET2	**Cetraro**	**0.76**	**328**	P	Pb	06 13 55.5	-0.3
CET2				S	Sb	06 14 06.2	+0.6
TDS	**Terranova Siba**	**0.78**	**352**	P	Pb	06 13 55.8	-0.2
SALB	**San Lorenzo Be**	**0.99**	**354**	P	Pn	06 14 00.0	0.0
MMN	**Mormanno**	**1.07**	**339**	P	Pb	06 14 01.3	+0.3

ROM 07 06:13:58.7±0.1, 38°.884N±0°.009×16°.49E±0°.02, h19km±1km, ML2.0/6, Error ellipse: s-maj=1.6km s-min=0.7km az=288.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.08**	**221**	P	Pg	06 14 02.5	0.0
GRI				S	Sg	06 14 05.5	+0.5
GRI				AML	AML		
comp=N,1560μm,0.2s							
GRI				AML	AML		
comp=E,2495μm,0.4s							
TIP	**Timpagrande**	**0.36**	**35**	P	Pg	06 14 06.3	-0.2
TIP				S	Sb	06 14 12.1	+0.1
TIP				AML	AML		
comp=E,153μm,0.2s							
TIP				AML	AML		
comp=E,147μm,0.2s							
TIP				AML	AML		
comp=N,235μm,0.3s							
TIP				AML	AML		
comp=N,325μm,0.4s							
SPS2	**Spezzano della**	**0.43**	**344**	P	Pg	06 14 07.4	-0.2
PLAC	**Placanica**	**0.43**	**185**	P	Pg	06 14 07.8	0.0
CELI	**Celico**	**0.52**	**2**	P	Pb	06 14 09.1	-0.2
CELI				S	Sb	06 14 17.0	+0.6
LADO	**San Nicola del**	**0.55**	**44**	P	Pg	06 14 10.4	+0.5

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*IDC **07** 06:16:19.4±4.0, 31°.87N×140°.03E, h47km±78km, mb3.1/3, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=170.8km s-min=26.8km az=71.0*
*JMA **07** 06:16:22.7±0.3, 32°.2N±0°.9×14°.1E±°, h35km, MV3.7/37, E OFF HACHIJOJIMA ISLAND*

ISC 07 06:16:19.5±2.2, 32°.0N±0°.1×140°.6E±0°.1, h65km±18km, n24, σ1§44/24, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.86**	**301**	*e*P	**Pn**	**06 16 37.1**	**+1.1**
JHCJ	**Hachijojimakas**	**1.27**	**326**	*e*P	**Pn**	**06 16 41.9**	**+0.7**
JHCJ				S	**Sn**	**06 16 55.9**	**-1.5**
JHJ2	**Mitsune**	**1.29**	**328**	P	**Pn**	**06 16 42.5**	**+1.0**
JHJ2				S	**Sn**	**06 16 57.2**	**-0.7**
JHJ	**Hachijo jima 2**	**1.31**	**327**	P	**Pn**	**06 16 42.2**	**+0.4**
104nm,0.3s,baz=92,slow=21,SNR=5.1							
JHJ				S	**Sn**	**06 16 56.1**	**-2.4**
288nm,0.3s,baz=68,slow=22,SNR=16							
JMKN	**Mikurajimanish**	**2.06**	**335**	*e*S	**Sn**	**06 17 15.4**	**-1.1**
JMYK	**Miyake Tsubota**	**2.23**	**336**	*e*S	**Sn**	**06 17 20.8**	**+0.2**
BSO1	**Boso 1**	**2.64**	**6**	*e*P	**Pn**	**06 17 00.6**	**+1.4**
BSO1				*e*S	**Sn**	**06 17 29.1**	**-0.8**
BSO3	**Boso 3**	**2.78**	**358**	P	**Pn**	**06 17 02.8**	**+1.5**
BSO3				*e*S	**Sn**	**06 17 33.2**	**-0.4**
JIM2	**Oshima 3**	**2.87**	**340**	*e*S	**Sn**	**06 17 35.6**	**-0.8**
BSO4	**Boso 4**	**2.97**	**355**	P	**Pn**	**06 17 06.2**	**+2.0**
BSO4				*e*S	**Sn**	**06 17 39.2**	**+0.6**
TK02	**Tokai 2**	**3.09**	**309**	P	**Pn**	**06 17 07.9**	**+2.3**
HMMJ	**Hamamatsu 2**	**3.73**	**320**	*e*P	**Pn**	**06 17 17.2**	**+2.6**
JIE	**Ise**	**4.05**	**307**	P	**Pn**	**06 17 20.9**	**+1.9**
JTNC	**Tanabenakahech**	**4.59**	**294**	P	**Pn**	**06 17 28.0**	**+1.6**
MJAR	**Matsushiro Arr**	**4.94**	**337**	P	**Pn**	**06 17 31.0**	**-0.1**
0.1nm,0.3s,baz=184,slow=12,SNR=1.3							
1.3nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**26.53**	**111**	T	T	06 50 52.6	
baz=304,slow=75,SNR=7.8							
H11N1	**WAKE ISLAND Hy**	**26.54**	**111**	T	T	06 50 50.5	
baz=304,slow=75,SNR=4.3							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N3	**WAKE ISLAND Hy**	**26.55**	**111**	T	T	06 50 46.9	
	baz=304,slow=75,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.05**	**114**	T	T	06 50 35.0	
	baz=304,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**27.05**	**114**	T	T	06 50 36.9	
	baz=304,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.07**	**114**	T	T	06 50 49.2	
	baz=304,slow=75,SNR=14						
MKAR	**Makanchi Array**	**46.39**	**306**	P	**P**	**06 24 39.1**	**-0.3**
	0.2nm,0.6s,baz=90,slow=8.5,SNR=1.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**48.71**	**311**	P	**P**	**06 24 56.6**	**-0.6**
	0.2nm,0.3s,baz=91,slow=7.7,SNR=4.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**52.02**	**188**	P	**P**	**06 25 21.8**	**-0.7**
	0.2nm,0.4s,baz=3.2,slow=7.7,SNR=5.2						
	0.2nm,0.4s						

*SDD **07** 06:43:02.4±2.0, 19°.18N×67°.09W, h23km±72km, MD3.1, ML1.8, MW2.7*
*RSPR **07** 06:43:04.1, 19°.13N×67°.21W, h6km±3km, MD2.8/9*
ISC 07 06:43:01.7±1.8, 19.13N±0.07×67.17W±0.05, h13km±10km, n23, σ0.49/30, 19C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.66**	**175**	⇑*eP*	**Pn**	**06 43 16.1**	**-0.6**
AGPR	**Aguadilla, PR**	**0.66**	**175**	*eS*	**Sn**	**06 43 26.7**	**-0.2**
AGPR	**Aguadilla, PR**	**0.66**	**175**	⇑*ePg*	**Pb**	**06 43 15.9**	**+0.8**
AGPR				*eSg*	**Sb**	**06 43 24.7**	**+0.7**
AGPR				IAML		06 43 26.8	
	comp=N,61nm,0.4s						
IDE	**Isla Desecheo**	**0.79**	**202**	⇓*eP*	**Pn**	**06 43 18.5**	**0.0**
IDE	**Isla Desecheo**	**0.79**	**202**	*eS*	**Sn**	**06 43 29.6**	**-0.6**
LSP	**Las Mesas**	**0.95**	**175**	⇓*eP*	**Pn**	**06 43 20.6**	**-0.1**
LSP	**Las Mesas**	**0.95**	**175**	*eS*	**Sn**	**06 43 33.9**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.97**	**154**	⇑*eP*	**Pn**	**06 43 21.1**	**+0.1**
ECPR	**Experimental S**	**1.11**	**136**	⇑*eP*	**Pn**	**06 43 23.5**	**+0.6**
ECPR	**Experimental S**	**1.11**	**136**	*eS*	**Sn**	**06 43 37.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.11**	**177**	⇑*eP*	**Pg**	**06 43 23.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.11**	**177**	*eS*	**Sg**	**06 43 38.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.11**	**177**	⇑*ePg*	**Pn**	**06 43 23.2**	**+0.2**
CRPR				⇑*eSg*	**Sg**	**06 43 37.9**	**+0.1**
CRPR				IAML		06 43 39.6	
	comp=N,25nm,0.3s						
MLPR	**Magueyes Islan**	**1.16**	**174**	⇑*eP*	**Pn**	**06 43 23.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.16**	**174**	*eS*	**Sb**	**06 43 38.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.16**	**174**	⇑*ePg*	**Pb**	**06 43 23.5**	**-0.1**
MLPR				⇑*eSg*	**Sb**	**06 43 38.0**	**-0.4**
MLPR				IAML		06 43 43.9	
	comp=N,6.2nm,1.0s						
CELP	**Cerrillos**	**1.19**	**152**	⇑*eP*	**Pg**	**06 43 24.4**	**-0.1**
CELP	**Cerrillos**	**1.19**	**152**	*eS*	**Sn**	**06 43 40.5**	**+0.6**
CELP	**Cerrillos**	**1.19**	**152**	⇑*ePg*	**Pb**	**06 43 23.1**	**-0.9**
CELP				⇑*eSg*	**Sb**	**06 43 39.0**	**-0.3**
CELP				IAML		06 43 40.6	
	comp=N,25nm,0.2s						
PDPR	**Patillas Dam,**	**1.55**	**135**	⇑*eP*	**Pb**	**06 43 30.1**	**-0.2**
HIDR	**Higuey Centro**	**1.56**	**250**	*ePg*	**Pg**	**06 43 31.0**	**-0.7**
HIDR				⇑*eSg*	**Sg**	**06 43 52.1**	**+0.2**
HIDR				IAML		06 44 05.8	
	comp=N,16nm,0.8s						
MIDR	**Miches**	**1.79**	**266**	⇑*ePg*	**Pb**	**06 43 34.2**	**-0.1**
MIDR				⇑*eSg*	**Sg**	**06 44 00.2**	**+1.0**
MIDR				IAML		06 44 03.2	
	comp=N,4.1nm,0.3s						
MIDR				IAML		06 44 15.6	
	comp=N,13nm,2.1s						
HATOM	**Hato Mayor del**	**2.12**	**261**	⇑*ePg*	**Pb**	**06 43 39.7**	**-0.4**
HATOM				⇑*eSg*	**Sb**	**06 44 07.0**	**+0.7**
HATOM				IAML		06 44 14.9	
	comp=N,8.1nm,0.6s						

*JMA **07** 06:57:19.7±0.4, 44°N±1°×14°7E±°, h22km, MV3.5/20, E OFF HOKKAIDO*
*SKHL **07** 06:57:20.8±0.2, 43°.80N×147°.50E, h47km±7km, mb4.4/2*
ISC 07 06:57:15.6±2.2, 43.78N±0.10×147.5E±0.1, h9km±13km, n12, σ1.9±11/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.23**	**283**	*eP*	**Pg**	**06 57 39.4**	**+0.3**
YUK				AMB	AMB	06 57 39.5	
	350nm,0.4s						
YUK				*eS*	**Sb**	**06 57 53.3**	**-1.5**
YUK				A	A	06 57 57.4	
	310nm,0.2s						
YUK				A	A	06 57 57.4	
	780nm,0.2s						
NEM2	**Nemuro 2**	**1.35**	**253**	P	**Pg**	**06 57 41.7**	**+0.1**
NEM2				S	**Sb**	**06 57 57.4**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.36**	**253**	*eP*	**Pg**	**06 57 41.7**	**-0.1**
NMR				*eS*	**Sb**	**06 57 57.4**	**-1.4**
KUR	**Kuril'sk**	**1.47**	**10**	*eP*	**Pg**	**06 57 43.8**	**-0.1**
KUR				AMB	AMB	06 57 46.4	
	50nm,0.3s						
KUR				*i* S	**Sn**	**06 58 00.8**	**-0.9**
KUR				A	A	06 58 04.6	
	250nm,0.2s						
KUR				A	A	06 58 04.6	
	130nm,0.2s						
JRA	**Rausu**	**1.74**	**276**	P	**Pb**	**06 57 48.1**	**+0.4**
JKHN	**Kushirohamanak**	**1.85**	**249**	P	**Pb**	**06 57 49.1**	**-0.5**
JKHN				S	**Sn**	**06 58 09.9**	**-1.0**
JNK	**Nakash**	**2.04**	**265**	*eP*	**Pb**	**06 57 52.2**	**-0.6**
AKK	**Akkeshi**	**2.09**	**250**	*eP*	**Pb**	**06 57 52.6**	**-1.1**
AKK				*eS*	**Sn**	**06 58 16.5**	**-0.4**
JAK	**Akkeshi**	**2.20**	**250**	*eP*	**Pb**	**06 57 53.9**	**-1.6**
JAR	**Ashorobuto**	**2.77**	**261**	*eS*	**Sn**	**06 58 34.3**	**+0.7**
JOB	**Onbets**	**2.83**	**253**	*eP*	**Pn**	**06 58 03.3**	**+2.4**
JOB				*eS*	**Sn**	**06 58 35.1**	**+0.1**
JCH	**Churui**	**3.25**	**250**	*eS*	**Sn**	**06 58 46.1**	**+0.5**

*IDC **07** 07:07:27.9±6.0, 31°.78S×179°.08W, h47km±47km, mb3.6/5, mbtmp4.0/8, ML3.8/3, Error ellipse: s-maj=53.5km s-min=21.2km az=59.0*
*WEL **07** 07:07:29.4±0.8, 32°S±6°×17°8W±1°5, h131km±24km, M4.4/14, mB4.7/12, ML4.7/6, MLv5.1/14, Mw(mB)4.0/12, Error ellipse: s-maj=20.8km s-min=4.5km az=109.3, confirmed*
*NOU **07** 07:08:28.1, 36°.52S×179°.70E, h129km, MLv3.9/6, Off E. Coast of N. Island, N.Z.*
ISC 07 07:07:28.5±1.2, 32°.33S±0°.06×178°.1W±0°.2, h150km, n53, σ2.9±94/67, mb3.6/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.06**	**3**	P	**Pn**	**07 08 17.1**	**+0.5**
GLKZ				S	**Sn**	**07 08 50.9**	**-2.9**
RIZ	**Raoul Island**	**3.08**	**3**	P	**Pn**	**07 08 16.0**	**-0.8**
RIZ				S	**Sn**	**07 08 52.0**	**-2.2**
MXZ	**Matakaoa Point**	**6.00**	**208**	P	**Pn**	**07 08 56.6**	**+1.6**
WMGZ	**Waiomatatini S**	**6.18**	**207**	P	**Pn**	**07 08 59.6**	**+2.2**
WMGZ				S	**Sn**	**07 10 11.2**	**+4.1**
PKGZ	**Pakihiroa**	**6.35**	**208**	P	**Pn**	**07 09 02.2**	**+2.5**
PKGZ				S	**Sn**	**07 10 14.3**	**+3.0**
RUGZ	**Raukumara Rang**	**6.60**	**210**	P	**Pn**	**07 09 04.3**	**+1.1**
RUGZ				S	**Sn**	**07 10 19.0**	**+1.6**
TWGZ	**Tauwhareparae**	**6.66**	**208**	P	**Pn**	**07 09 05.4**	**+1.5**
TWGZ				S	**Sn**	**07 10 20.3**	**+1.6**
KUZ	**Kuaotunu**	**6.73**	**227**	P	**Pn**	**07 09 07.5**	**+2.7**
CNGZ	**Carnagh Statio**	**6.84**	**205**	P	**Pn**	**07 09 08.6**	**+2.4**
TKGZ	**Te Karaka**	**6.94**	**207**	P	**Pn**	**07 09 08.5**	**+0.9**
TKGZ				S	**Sn**	**07 10 27.1**	**+1.8**
URZ	**Urewera**	**7.09**	**212**	P	**Pn**	**07 09 10.3**	**+0.7**
	1.7nm,0.3s,baz=46,slow=14,SNR=28						
URZ				S	**Sn**	**07 10 30.4**	**+1.4**
	42nm,0.3s,baz=177,slow=15,SNR=25						
	5.8nm,0.2s						
URZ	**Urewera**	**7.09**	**212**	P	**Pn**	**07 09 10.4**	**+0.7**
RIGZ	**Rimuhau**	**7.20**	**207**	P	**Pn**	**07 09 12.3**	**+1.1**
RIGZ				S	**Sn**	**07 10 30.0**	**-1.7**
WCZ	**Waipu Caves**	**7.22**	**238**	P	**Pn**	**07 09 13.5**	**+2.2**
MUGZ	**Murupara**	**7.42**	**213**	P	**Pn**	**07 09 13.4**	**-0.7**
MUGZ				S	**Sn**	**07 10 35.9**	**-1.2**
SNGZ	**Shannon Statio**	**7.43**	**209**	P	**Pn**	**07 09 15.7**	**+1.5**
SNGZ				S	**Sn**	**07 10 38.2**	**+0.9**
OUZ	**Omahuta**	**7.49**	**245**	P	**Pn**	**07 09 16.0**	**+1.0**
MTHZ	**Maungataniwha**	**7.70**	**211**	P	**Pn**	**07 09 19.4**	**+1.6**
MTHZ				S	**Sn**	**07 10 45.2**	**+1.4**
BKZ	**Black Stump Fm**	**8.11**	**211**	P	**Pn**	**07 09 23.8**	**+0.5**
BKZ	**Black Stump Fm**	**8.11**	**211**	P	**Pn**	**07 09 22.7**	**-0.6**
BKZ				S	**Sn**	**07 10 52.6**	**-1.1**
KWHZ	**Kaweka Forest**	**8.36**	**211**	P	**Pn**	**07 09 25.5**	**-1.1**
KWHZ				S	**Sn**	**07 10 57.7**	**-1.8**
HIZ	**Hauiti**	**8.43**	**221**	P	**Pn**	**07 09 32.2**	**+4.7**
HIZ	**Hauiti**	**8.43**	**221**	P	**Pn**	**07 09 31.4**	**+3.9**
NTVZ	**North Tongarir**	**8.44**	**215**	P	**Pn**	**07 09 27.3**	**-0.4**
KAHZ	**Kahuranaki**	**8.48**	**207**	P	**Pn**	**07 09 28.3**	**+0.1**
KAHZ				S	**Sn**	**07 11 03.6**	**+1.0**
OTVZ	**Oturere**	**8.49**	**215**	P	**Pn**	**07 09 27.9**	**-0.6**
OTVZ				S	**Sn**	**07 11 02.1**	**-0.8**
SNVZ	**South Ngauruho**	**8.52**	**215**	P	**Pn**	**07 09 29.3**	**+0.4**
KRHZ	**Kereru**	**8.56**	**210**	P	**Pn**	**07 09 30.8**	**+1.5**
KRHZ				S	**Sn**	**07 11 01.7**	**-2.7**
WNVZ	**Wahianoa**	**8.65**	**214**	P	**Pn**	**07 09 30.8**	**+0.1**
PNHZ	**Pukenui**	**8.86**	**210**	P	**Pn**	**07 09 31.9**	**-1.4**
PNHZ				S	**Sn**	**07 11 07.9**	**-3.7**
BFZ	**Birch Farm**	**9.49**	**207**	P	**Pn**	**07 09 40.4**	**-1.2**
BFZ	**Birch Farm**	**9.49**	**207**	P	**Pn**	**07 09 39.4**	**-2.2**
BFZ				S	**Sn**	**07 11 21.9**	**-4.9**
MRZ	**Mangatainoka R**	**9.74**	**210**	P	**Pn**	**07 09 42.8**	**-2.2**
MRZ				S	**Sn**	**07 11 27.0**	**-5.8**
OGWZ	**Otaki Gorge**	**10.05**	**211**	P	**Pn**	**07 09 45.8**	**-3.2**
OGWZ				S	**Sn**	**07 11 33.5**	**-6.6**
KIW	**Kapiti Island**	**10.20**	**211**	P	**Pn**	**07 09 48.2**	**-2.8**
KIW				S	**Sn**	**07 11 36.8**	**-7.0**
CAW	**Cannon Point**	**10.33**	**210**	P	**Pn**	**07 09 49.8**	**-2.9**
CAW				S	**Sn**	**07 11 40.8**	**-6.2**
TCW	**Tory Channel**	**10.76**	**212**	P	**Pn**	**07 09 55.6**	**-2.8**
TCW				S	**Sn**	**07 11 50.3**	**-7.0**
TUWZ	**Tuamarina**	**11.09**	**213**	P	**Pn**	**07 10 00.2**	**-2.5**
RPZ	**Rata Peaks**	**14.21**	**214**	P	**P**	**07 10 46.5**	**+0.8**
	0.9nm,0.3s,baz=51,slow=6.5,SNR=1.5						
RPZ				S	Sn	07 13 05.8	-14
	4.6nm,0.4s,baz=25,slow=14,SNR=8.9						
	2.8nm,0.4s						
DZM	**Mont Dzumac**	**17.11**	**303**	P	**P**	**07 11 12.6**	**-5.4**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.5						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**07 15 15.6**	**+2.8**
	0.9nm,0.8s,baz=110,slow=7.4,SNR=9.9						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	**P**	**07 15 24.7**	**+2.7**
	0.5nm,0.3s,baz=112,slow=7.9,SNR=8.1						
	0.5nm,0.3s						
VNDA	**Vanda**	**46.17**	**186**	P	P	07 15 51.1	+14
	0.5nm,0.7s,baz=14,slow=7.7,SNR=5.6						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**57.79**	**180**	P	P	07 17 19.7	+16
	2.7nm,0.6s,baz=297,slow=0.5,SNR=32						
	2.7nm,0.6s						
SNAA	**Sanae**	**76.24**	**178**	P	P	07 19 12.7	+13
	1.0nm,0.6s,baz=180,slow=4.0,SNR=7.7						
	1.0nm,0.6s						
H03S2	**Juan Fernandez**	**79.48**	**123**	T	T	08 48 24.2	
	baz=236,slow=74,SNR=4.8						
H03S1	**Juan Fernandez**	**79.49**	**123**	T	T	08 48 19.7	
	baz=236,slow=74,SNR=4.3						
H03S3	**Juan Fernandez**	**79.50**	**123**	T	T	08 48 20.7	
	baz=236,slow=74,SNR=4.8						
H03N3	**Juan Fernandez**	**79.68**	**123**	T	T	08 48 40.6	
	baz=240,slow=74						
H03N2	**Juan Fernandez**	**79.69**	**123**	T	T	08 48 31.7	
	baz=240						
H03N1	**Juan Fernandez**	**79.70**	**123**	T	T	08 48 31.8	
	baz=240,slow=74						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	**PKiKP**	**07 27 01.7**	**+6.8**
	0.8nm,0.5s,baz=59,slow=4.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**160.91**	**179**	PKPab	PKPab	07 28 06.1	+12
	0.7nm,0.7s,baz=158,slow=3.7,SNR=3.9						

*NNC **07** 07:23:03.1±2.3, 50°.49N×77°.36E, h0km, mb3.7, mpv2.9, Error ellipse: s-maj=27.6km s-min=11.2km az=157.0, Suspected Mining explosion.*
*IDC **07** 07:23:06.8±1.0, 50°.04N×78°.76E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=10.4km s-min=6.4km az=60.0*
ISC 07 07:23:05.4±1.0, 50.41N±0.06×79.46E±0.06, h0km, n7, σ1.9±00/11, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.62**	**300**	⇑P	**Pb**	**07 23 19.4**	**+0.3**
	2.8nm,0.5s						
KURK				⇓S	**Sn**	**07 23 30.5**	**-1.5**
	9.3nm,0.8s						
KURBB	**Kurchatov Arra**	**0.63**	**290**	Pg	**Pb**	**07 23 18.2**	**-1.0**
	1.2nm,0.3s,baz=166,slow=18,SNR=37						
KURBB				Lg	Lg	07 23 27.1	
	0.9nm,0.3s,baz=166,slow=30,SNR=7.8						
KURBB	**Kurchatov Arra**	**0.63**	**290**	⇓P	**Pg**	**07 23 18.0**	**+0.5**
	23nm,0.5s						
KURBB				⇑S	**Sb**	**07 23 28.9**	**+0.3**
	90nm,0.7s						
MK31	**Makanchi Array**	**4.08**	**152**	⇑Pn	**Pb**	**07 24 18.2**	**+0.1**
	4.1nm,1.0s,baz=322,slow=15,SNR=9.2						
MK31				⇓Sn	**Sg**	**07 25 15.8**	**-0.6**
	6.6nm,0.6s,baz=324,slow=29						
MKAR	**Makanchi Array**	**4.08**	**152**	Pn	**Pn**	**07 24 10.4**	**+1.4**
	0.1nm,0.3s,baz=320,slow=10,SNR=5.3						
MKAR				Pg	**Pb**	**07 24 17.0**	**-1.1**
	0.3nm,0.3s,baz=324,slow=16,SNR=9.9						
MKAR				Sn	**Sn**	**07 24 56.6**	**-0.8**
	0.3nm,0.3s,baz=331,slow=16,SNR=4.7						
MKAR				Lg	Lg	07 25 11.4	
	1.1nm,0.3s,baz=330,slow=29,SNR=13						
	0.1nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.84**	**41**	I	I	07 56 20.0	
	baz=225,slow=320,SNR=6.3						
ZALV	**Zalesovo Beam**	**4.84**	**41**	Pn	**Pb**	**07 24 30.5**	**-0.5**
	0.3nm,0.3s,baz=229,slow=17,SNR=2.5						
	0.6nm,0.3s						

*NIED **07** 07:25:07.1, 41°.74N×142°.29E, h66km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.86; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-0.13; $M_{r\theta}$0.40; $M_{\theta\phi}$0.43; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.01000×10^{15} NP1: ϕ_s317.00000°, δ40.00000°, λ122.00000°. NP2: ϕ_s97.00000°, δ57.00000°, λ66.00000°.*
*NEIC **07** 07:25:07.8±1.3, 41°.76N±0.06×142°.27E±0°.04, h54km±7km, mb4.5/34 Error ellipse: s-maj=10.2km s-min=1.9km az=155.0*
*JMA **07** 07:25:07.1±0.2, 41°.7N±0°.7×142°.3E±0°.8, h66km±3km, MD4.0/40, MV3.9/40, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF.
*IDC **07** 07:25:09.4±1.8, 41°.82N×142°.14E, h70km±15km, mb3.8/17, mbtmp4.1/20, MS2.9/3, Error ellipse: s-maj=17.8km s-min=13.1km az=108.0*
ISC 07 07:25:07.7±0.8, 41.74N±0.03×142.27E±0.03, h58km±7km, n114, σ0.9±71/110, mb4.4/35, 19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.65**	**34**	⇓P	**Pn**	**07 25 20.4**	**-0.8**
JNBK	**Urakawa-nobuka**	**0.65**	**34**	A	A	07 25 20.4	
	comp=N,9.0nm,0.6s,comp=E,10.0nm,0.6s						
JSHD	**Hidakashinhida**	**0.68**	**12**	⇓*iP*	**Pn**	**07 25 21.7**	**0.0**
JSHD				⇓S	**Sn**	**07 25 33.2**	**+1.4**
JSHD	**Hidakashinhida**	**0.68**	**12**	A	A	07 25 21.7	
	comp=N,9.0nm,0.7s,comp=E,9.0nm,2.0s						
ERM	**Erimo**	**0.72**	**67**		**Pn**	**07 25 21.8**	**-0.3**
ERM				Sn	**Sn**	**07 25 32.3**	**-0.2**
JEM	**Erimo**	**0.72**	**67**	*i* P	**Pn**	**07 25 21.8**	**-0.2**
JEM				S	**Sn**	**07 25 31.8**	**-0.7**
JAHD	**Aomorihigashid**	**0.85**	**236**	⇓*iP*	**Pn**	**07 25 24.1**	**+0.4**
JAHD				⇓S	**Sn**	**07 25 36.3**	**+1.0**
JAHD	**Aomorihigashid**	**0.85**	**236**	A	A	07 25 24.1	
	comp=N,22nm,0.9s,comp=E,32nm,0.4s						
JIAM	**Iburiatsuma**	**0.92**	**344**	⇓P	**Pn**	**07 25 25.3**	**+0.7**
JIAM	**Iburiatsuma**	**0.92**	**344**	A	A	07 25 25.3	
	comp=N,14nm,0.4s,comp=E,22nm,1.2s						
JKB	**Kayabe**	**0.94**	**279**	⇓*iP*	**Pn**	**07 25 24.5**	**-0.3**
JKB				⇓S	**Sn**	**07 25 36.9**	**-0.5**
JKB	**Kayabe**	**0.94**	**279**	A	A	07 25 24.5	
	comp=N,5.0nm,0.3s,comp=E,5.0nm,0.4s						
JTHR	**Tokachihiroo**	**0.94**	**54**	A	A	07 25 24.7	
	comp=N,7.0nm,2.5s,comp=E,6.0nm,3.9s						
JOT	**Ohata**	**0.98**	**249**	⇓*iP*	**Pn**	**07 25 25.3**	**-0.1**
JOT				⇓S	**Sn**	**07 25 38.8**	**+0.2**
JBT2	**Biratori 2**	**1.04**	**4**	⇓*iP*	**Pn**	**07 25 25.8**	**-0.4**
JNB	**Noboribetsu**	**1.17**	**309**	*i* P	**Pn**	**07 25 27.4**	**-0.5**
JNB				S	**Sn**	**07 25 42.3**	**-0.6**
JCH	**Churui**	**1.19**	**43**	⇓*iP*	**Pn**	**07 25 28.3**	**+0.1**
JEW	**Eniwo**	**1.25**	**331**	P	**Pn**	**07 25 29.6**	**+0.5**
JEW				S	**Sn**	**07 25 45.4**	**+0.5**
JEW	**Eniwo**	**1.25**	**331**	A	A	07 25 29.6	
	comp=N,10.0nm,0.9s,comp=E,11nm,1.1s						
JTM	**Tenmabayashi**	**1.32**	**224**		**Pn**	**07 25 30.4**	**+0.5**
JTM				Sn	**Sn**	**07 25 47.0**	**+0.6**
JTM	**Tenmabayashi**	**1.32**	**224**	⇓*iP*	**Pn**	**07 25 30.2**	**+0.4**
JTM				⇓S	**Sn**	**07 25 47.0**	**+0.6**
JSR	**Shiriuchi**	**1.40**	**262**	P	**Pn**	**07 25 31.1**	**+0.1**
JSR				S	**Sn**	**07 25 48.8**	**+0.3**
JFR	**Furan**	**1.44**	**9**	⇓P	**Pn**	**07 25 31.2**	**-0.3**
JYM2	**Yakumo 2**	**1.47**	**285**	P	**Pn**	**07 25 32.0**	**+0.1**
JYM2				S	**Sn**	**07 25 50.7**	**+0.7**
JANG	**Nango**	**1.48**	**203**	⇓*iP*	**Pn**	**07 25 32.3**	**+0.2**
JANG				⇓S	**Sn**	**07 25 51.3**	**+0.8**
JSI2	**Shiura 2**	**1.56**	**245**	A	A	07 25 33.3	
	comp=N,4.0nm,0.8s,comp=E,3.0nm,1.1s						
JOMM	**Oshimamatsumae**	**1.71**	**263**	P	**Pn**	**07 25 35.1**	**-0.1**
JOMM				S	**Sn**	**07 25 55.8**	**-0.2**
JAB	**Ashibetsu**	**1.76**	**359**	A	A	07 25 36.0	
	comp=N,5.0nm,2.4s,comp=E,3.0nm,1.1s						
JAR	**Ashorobuto**	**1.91**	**35**	*eP*	**Pn**	**07 25 38.1**	**+0.2**
JHR	**Hokuryu**	**2.04**	**349**	⇓*eP*	**Pn**	**07 25 40.6**	**+1.0**
JHR				⇓*eS*	**Sn**	**07 26 06.0**	**+2.0**
JHR	**Hokuryu**	**2.04**	**349**	A	A	07 25 40.6	
	comp=N,4.0nm,0.7s,comp=E,5.0nm,1.8s						
ASAJ	**Asahikawa**	**2.38**	**6**	P	**Pn**	**07 25 45.4**	**+1.0**
	comp=E,86nm,0.4s,baz=222,slow=10,SNR=44						
ASAJ				S	**Sn**	**07 26 13.5**	**+1.0**
	comp=E,221nm,0.6s,baz=198,slow=20,SNR=14						
JKA	**Kamikawa-asahi**	**2.38**	**6**		**Pn**	**07 25 44.2**	**-0.1**
JMM	**Marumori**	**4.04**	**197**		**Pn**	**07 26 07.0**	**0.0**
JMM				Sn	**Sn**	**07 26 54.0**	**+1.0**
JSD	**Sado**	**4.82**	**221**	Pn	**Pn**	**07 26 18.6**	**+1.0**
MJB9	**Matsu-Tunnel**	**6.08**	**213**		**Pn**	**07 26 33.9**	**-1.0**
MAJO	**Matsushiro**	**6.08**	**213**		**Pn**	**07 26 34.5**	**-0.4**
MJAR	**Matsushiro Arr**	**6.08**	**213**		**Pn**	**07 26 36.4**	**+1.4**
MJAR	**Matsushiro Arr**	**6.08**	**213**	P	**Pn**	**07 26 37.3**	**+2.3**
	comp=E,14nm,0.7s,baz=28,slow=14,SNR=22						
MJAR				LR	LR	07 29 17.6	
	comp=E,104nm,19.2s,baz=19,slow=41						
JGF	**Kuroka**	**7.24**	**214**	Pn	**Pn**	**07 26 49.6**	**-1.3**
INU	**Inuyama**	**7.59**	**214**		**Pn**	**07 26 54.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**7.93**	**291**	P	Pn	07 27 04.4	+4.1
	comp=E,7.0nm,0.9s,baz=102,slow=14,SNR=6.9						
JHJ2	**Mitsune**	**8.83**	**194**	Pn	**Pn**	**07 27 11.6**	**-1.1**
KSRS	**Korea Array**	**11.87**	**254**	P	Pn	07 27 59.9	+5.8
	comp=E,1.3nm,0.3s,baz=68,slow=14,SNR=4.7						
PETK	**Petropavlovsk-**	**15.40**	**37**	P	**Pn**	**07 28 42.5**	**+1.3**
	comp=E,4.6nm,1.0s,baz=232,slow=11,SNR=2.2						
MA2	**Magadan**	**18.62**	**14**	LR	LR	07 36 04.4	
	comp=E,29nm,18.2s,baz=120,slow=35						
JOW	**Kunigami**	**18.80**	**222**	LR	LR	07 36 43.9	
	comp=E,52nm,19.2s,baz=248,slow=37						
SONM	**Songino Array**	**26.01**	**296**	P	**P**	**07 30 34.9**	**-0.4**
SONM	**Songino Array**	**26.01**	**296**	P	**P**	**07 30 33.8**	**-1.5**
	comp=E,1.0nm,0.5s,baz=100,slow=9.9,SNR=5.4						
	comp=E,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	08 03 47.8	
	baz=321,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	08 03 51.0	
	baz=321,slow=75,SNR=83						
H11N3	**WAKE ISLAND Hy**	**30.31**	**129**	T	T	08 03 49.7	
	baz=321,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**31.15**	**131**	T	T	08 04 49.2	
	baz=322,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**31.15**	**131**	T	T	08 04 51.8	
	baz=322,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**31.16**	**131**	T	T	08 04 52.9	
	baz=322,slow=76,SNR=22						
**

comp=Z,3.2nm,0.8s,baz=52,slow=3.9,SNR=5.0
comp=Z,3.2nm,0.8s
NC405 NORSAR Array S 69.91 337 P **P** **07 36 11.6 -0.7**
NC405 IAmb IAmb 07 36 12.4
comp=Z,9.6nm,1.1s
NC303 NORSAR Array S 69.92 337 P **P** **07 36 12.1 -0.2**
NC303 IAmb IAmb 07 36 29.0
comp=Z,5.8nm,1.2s
HMDM Hanimaadhoo 69.94 261 P **P** **07 36 12.9 -0.2**
NC204 NORSAR Array S 70.05 337 P **P** **07 36 12.5 -0.7**
NB201 NORSAR Array S 70.08 337 P **P** **07 36 12.8 -0.6**
NB201 IAmb IAmb 07 36 25.9
comp=Z,14nm,1.2s
HFS Hagfors 70.08 335 P **P** **07 36 12.9 -0.4**
comp=Z,2.3nm,0.5s,baz=40,slow=5.2,SNR=12
comp=Z,2.3nm,0.5s
NB2 NORSAR Subarra 70.11 337 P **P** **07 36 13.0 -0.5**
comp=Z,1.0nm,0.4s,baz=35,slow=6.5
NOA NORSAR Array B 70.11 337 P **P** **07 36 12.8 -0.8**
comp=Z,1.5nm,0.7s,baz=37,slow=6.1,SNR=7.1
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 71.00 322 P **P** **07 36 18.4 -0.7**
comp=Z,1.3nm,0.5s,baz=44,slow=6.4,SNR=7.5
comp=Z,1.3nm,0.5s
NVAR Mina Array Bea 71.68 55 P **P** **07 36 24.9 +1.2**
comp=Z,0.4nm,0.5s,baz=288,slow=6.5,SNR=4.9
comp=Z,0.4nm,0.5s
PDAR Pinedale Array 73.93 47 P **P** **07 36 36.7 -0.3**
PDAR Pinedale Array 73.93 47 P **P** **07 36 37.2 +0.3**
comp=Z,0.3nm,0.6s,baz=234,slow=3.1,SNR=5.0
comp=Z,0.3nm,0.6s
BUR08 Bucovina Ar. S 75.03 321 P **P** **07 36 43.0 0.0**
BURAR Bucovina Array 75.04 321 P **P** **07 36 43.3 +0.2**
OJC Ojcow 75.51 326 P **P** **07 36 45.9 +0.3**
BRTR Keskin Array B 76.24 311 P **P** **07 36 50.7 +0.5**
comp=Z,0.4nm,0.4s,baz=44,slow=4.4,SNR=2.5
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 86.74 53 P **P** **07 37 44.4 -1.4**
H03N2 Juan Fernandez 146.58 89 T T 10 29 36.9
baz=299,slow=76,SNR=4.5
H03N3 Juan Fernandez 146.59 89 T T 10 29 42.4
baz=299,slow=76,SNR=5.2
H03N1 Juan Fernandez 146.59 89 T T 10 29 37.6
baz=299,slow=76,SNR=4.8

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*CRAAG **07** 07:36:52.8, 36.°09N×3.°59E, MI3.5, Algerie 04km SE Dechmia*
*IDC **07** 07:36:53.2±2.1, 36.°16N×3.°71E, h0km, mb3.3/1, mbtmp3.7/4, ML3.8/3, MS2.6/2, Error ellipse: s-maj=34.0km s-min=19.9km az=1.0*
*MDD **07** 07:36:53.4±0.7, 36.°04N×3.°83E, h0km, Mb4.5/25, M_mb3.9/25, Error ellipse: s-maj=6.3km s-min=3.9km az=140.0*
ISC 07 07:36:54.7±0.8, 36.°17N±0.°04×3.°66E±0.°03, h10km, n52, σ1°58/72, 14C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.18**	**266**	P	**Pg**	**07 36 56.6**	**-2.0**
AKET	**Djebel Ketaf**	**0.22**	**124**	P	**Pg**	**07 36 58.9**	**-0.4**
AKED	**El Kharrouba**	**0.52**	**338**	P	**Pg**	**07 37 05.1**	**+0.4**
ATAF	**Djebel Tarf**	**0.58**	**120**	P	**Pg**	**07 37 05.9**	**-0.1**
ABA	**Alger-Bouzarea**	**0.81**	**322**	P	**Pg**	**07 37 10.6**	**+0.4**
CAZD	**Ain Tagrout**	**1.21**	**89**	P	**Pb**	**07 37 17.0**	**-0.7**
SET	**Setif**	**1.41**	**88**	P	**Pn**	**07 37 20.0**	**-0.5**
CKHR	**Kef el Ahmar**	**1.51**	**95**	P	**Pg**	**07 37 24.5**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.83**	**78**	P	**Pg**	**07 37 26.2**	**-0.1**
CKTS	**El Kantara**	**1.90**	**119**	P	**Pg**	**07 37 30.8**	**-0.3**
ADJF	**Tadmit**	**2.00**	**193**	P	**Pn**	**07 37 30.4**	**+1.7**
CTEI	**Djebel Teioual**	**2.23**	**92**	P	**Pn**	**07 37 31.8**	**0.0**
CASM	**Ain Smara**	**2.29**	**87**	P	**Pb**	**07 37 36.2**	**+0.1**
OJGS	**Djebel Guires**	**2.46**	**255**	P	**Pn**	**07 37 34.2**	**-0.7**
CKFL	**Kef-Lekhel**	**2.48**	**84**	P	**Pg**	**07 37 43.6**	**+1.3**
CAEH	**'Ain El Ouahch**	**2.64**	**76**	P	**Pn**	**07 37 36.5**	**-0.9**
CMAH	**Djebel Manchou**	**3.07**	**80**	P	**Pn**	**07 37 42.7**	**-0.6**
EIBI	**Ibiza**	**3.39**	**328**	S	**Sn**	**07 38 27.5**	**-0.5**
EIBI				P	**Pn**	**07 37 47.4**	**-0.2**
EIBI	**Ibiza**	**3.39**	**328**	Pn	**Pn**	**07 37 48.5**	**+0.8**
EIBI				⇑*i*IVmb_VC		07 37 49.0	
EIBI				Sn	**Sn**	**07 38 28.3**	**+0.4**
ETOS	**Mallorca**	**3.65**	**350**	P	**Pn**	**07 37 50.6**	**-0.6**
ETOS				S	**Sn**	**07 38 31.9**	**-2.5**
ETOS	**Mallorca**	**3.65**	**350**	Pn	**Pn**	**07 37 51.3**	**+0.1**
ETOS				Sn	**Sn**	**07 38 30.5**	**-3.9**
EBEN2	**Beniarda presa**	**3.95**	**310**	Sn	**Sn**	**07 38 42.4**	**+0.5**
CART	**Cartagena**	**3.99**	**292**	P	**Pn**	**07 37 55.6**	**-0.3**
CART				S	**Sn**	**07 38 41.4**	**-1.4**
AFON	**Font Roja**	**4.17**	**308**	Pn	**Pn**	**07 37 59.3**	**+0.9**
AFON				⇑*i*IVmb_VC		07 38 02.8	
EMUR	**La Murta**	**4.26**	**294**	P	**Pn**	**07 37 59.9**	**+0.2**
EMUR				S	**Sn**	**07 38 49.5**	**+0.1**
EMUR	**La Murta**	**4.26**	**294**	Pn	**Pn**	**07 38 00.1**	**+0.4**
EMUR				Sn	**Sn**	**07 38 50.4**	**+1.0**
ECOL	**Islas Columbre**	**4.40**	**329**	Pn	**Pn**	**07 38 01.9**	**+0.4**
TLOR	**Lorca, Murcia**	**4.53**	**291**	P	**Pn**	**07 38 02.3**	**-1.1**
KEST	**Kesra**	**4.63**	**94**	Pn	**Pn**	**07 38 05.1**	**+0.3**
	3.7nm,0.3s,baz=276,slow=5.7,SNR=25						
KEST				Sn	**Sn**	**07 38 57.2**	**-1.5**
	baz=270,slow=20						
KEST				LR	LR	07 40 13.3	
	comp=Z,79nm,18.8s,baz=355,slow=44						
	14nm,0.4s						
ENIJ	**Nijar**	**4.79**	**281**	Pn	**Pn**	**07 38 06.5**	**-0.4**
ENIJ				⇑*i*IVmb_VC		07 38 10.5	
	206nm,SNR=2.6						
ETOB	**Tobarra**	**4.82**	**302**	P	**Pn**	**07 38 08.3**	**+0.9**
ETOB				S	**Sn**	**07 39 02.6**	**-0.7**
ETOB	**Tobarra**	**4.82**	**302**	Pn	**Pn**	**07 38 08.7**	**+1.3**
ETOB				⇑*i*IVmb_VC		07 38 09.4	
	334nm,SNR=3.5						
ETOB				Sn	**Sn**	**07 39 08.7**	**+5.3**
EVIV	**Cofrentes, Val**	**4.89**	**311**	Pn	**Pn**	**07 38 08.3**	**+0.1**
EVIV				⇑*i*IVmb_VC		07 38 11.1	
	401nm,SNR=4.0						
EVIV				Sn	**Sn**	**07 39 05.6**	**+0.7**
ECHE	**Chera**	**5.00**	**314**	Pn	**Pn**	**07 38 11.3**	**+1.4**
ECHE				⇑*i*IVmb_VC		07 38 12.3	
	313nm,SNR=1.5						
EMOS	**Mosqueruela**	**5.30**	**323**	Pn	**Pn**	**07 38 14.8**	**+0.8**
EMOS				⇑*i*IVmb_VC		07 38 19.2	
	365nm,SNR=2.0						
EMOS				Sn	**Sn**	**07 39 15.2**	**0.0**
EALB	**Alboran**	**5.43**	**270**	P	**Pn**	**07 38 15.3**	**-0.3**
EALB				S	**Sn**	**07 39 14.7**	**-3.4**
EALB	**Alboran**	**5.43**	**270**	Pn	**Pn**	**07 38 16.2**	**+0.6**
EALB				⇑*i*IVmb_VC		07 38 25.3	
	211nm,SNR=1.7						
EALB				Sn	**Sn**	**07 39 16.2**	**-1.9**
ERTA	**Horta de San J**	**5.44**	**332**	Pn	Pn	07 38 23.1	+7.3
ERTA				Sn	**Sn**	**07 39 17.0**	**-1.5**
VSL	**Villasalto**	**5.61**	**52**	Pn	**Pn**	**07 38 19.6**	**+1.4**
VSL				Sn	**Sn**	**07 39 17.8**	**-4.9**
EQES	**Quesada**	**5.63**	**289**	Pn	**Pn**	**07 38 20.6**	**+2.1**
EQES				⇑*i*IVmb_VC		07 38 23.0	
	338nm,SNR=5.2						
EQES				Sn	**Sn**	**07 39 26.7**	**+3.5**
ELGU	**Los Guajares,**	**5.91**	**279**	P	**Pn**	**07 38 21.9**	**-0.4**
ELGU				S	**Sn**	**07 39 28.9**	**-1.2**
EJON	**La Jonquera**	**6.30**	**355**	P	**Pn**	**07 38 28.1**	**+0.5**
EJON				S	**Sn**	**07 39 36.9**	**-2.7**
EGOR	**Sierra Gorda,**	**6.32**	**281**	P	**Pn**	**07 38 29.2**	**+1.3**
ETOR	**Torete**	**6.45**	**318**	Pn	**Pn**	**07 38 32.4**	**+2.7**
ETOR				⇑*i*IVmb_VC		07 38 41.6	
	162nm,SNR=1.2						
ESDC	**Sonseca Array**	**6.96**	**302**	Pn	**Pn**	**07 38 37.4**	**+0.6**
	0.9nm,0.3s,baz=117,slow=13,SNR=26						
ESDC				Sn	**Sn**	**07 39 56.9**	**+0.8**
	0.3nm,0.3s,baz=119,slow=24,SNR=4.1						
ESDC				LR	LR	07 41 05.8	
	comp=Z,44nm,19.9s,baz=231,slow=36						
	2.8nm,0.4s						
PAB	**San Pablo**	**7.17**	**300**	Pn	**Pn**	**07 38 39.8**	**+0.1**
PAB				⇑*i*IVmb_VC		07 38 40.8	
	115nm,SNR=1.8						
ECAB	**El Cabril**	**7.50**	**287**	Pn	**Pn**	**07 38 44.1**	**0.0**
GUD	**Guadarrama**	**7.58**	**308**	Pn	**Pn**	**07 38 46.0**	**+0.6**
GUD				⇑*i*IVmb_VC		07 38 47.0	
	93nm,SNR=2.1						
MDT	**Midelt**	**7.60**	**246**	Pn	**Pn**	**07 38 45.7**	**+0.2**
	0.5nm,0.3s,baz=112,slow=19,SNR=1.7						
MDT				Sn	**Sn**	**07 40 15.7**	**+3.9**
	0.2nm,0.3s,baz=55,slow=12,SNR=1.0						
MDT				Lg	Lg	07 40 57.0	
	1.2nm,0.3s,baz=41,slow=20,SNR=3.8						
	2.1nm,0.5s						
EARI	**Arriondas**	**9.86**	**319**	Pn	**Pn**	**07 39 17.0**	**+0.5**
EARI				⇑*i*IVmb_VC		07 39 23.1	
	181nm,SNR=1.2						
ECAL	**Calabor**	**9.92**	**309**	Pn	**Pn**	**07 39 17.9**	**+0.6**
ECAL				⇑*i*IVmb_VC		07 39 18.9	
	238nm,SNR=2.9						
TORD	**Torodi Ar. Bea**	**22.99**	**185**	P	**P**	**07 41 59.1**	**-0.5**
	0.5nm,0.5s,baz=357,slow=11,SNR=4.5						
	0.5nm,0.5s						

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*ASRS **07** 08:06:52.0±0.7, 53.°80N×91.°13E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 08:06:57.9±4.1, 53.°69N×90.°77E, h0km, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=36.9km s-min=23.7km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**277**	I	I	08 34 20.0	
	baz=91,slow=318,SNR=3.0						
ZALV	**Zalesovo Beam**	**3.54**	**277**	Pn	Pn	08 07 54.5	+0.6
	0.3nm,0.3s,baz=112,slow=14,SNR=2.2						
ZALV				Pg	Pb	08 08 00.5	-0.7
	0.5nm,0.3s,baz=93,slow=15,SNR=13						
ZALV				Lg	Lg	08 08 51.0	
	1.4nm,0.3s,baz=92,slow=25,SNR=10						
KURBB	**Kurchatov Arra**	**8.12**	**253**	Pn	Pn	08 08 57.0	+0.1
	0.3nm,0.3s,baz=65,slow=14,SNR=5.0						
	1.3nm,0.3s						
MKAR	**Makanchi Array**	**8.77**	**222**	Pn	Pn	08 09 06.6	+0.7
	0.1nm,0.3s,baz=45,slow=13,SNR=3.8						
MKAR				Sn	Sn	08 10 44.6	-0.9
	0.1nm,0.3s,baz=38,slow=26,SNR=2.3						
MKAR				Lg	Lg	08 11 34.8	
	0.1nm,0.3s,baz=32,slow=24,SNR=7.1						
	0.5nm,0.6s						
SONM	**Songino Array**	**11.49**	**114**	Lg	Lg	08 12 52.6	
	0.3nm,0.3s,baz=293,slow=26,SNR=3.9						

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*IDC **07** 08:25:11.3±1.2, 18.°43S×172.°76W, h0km, mb3.9/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=57.4km s-min=21.8km az=143.0*
ISC 07 08:25:14.4±1.2, 18.°4S±0.°3×172.°9W±0.°2, h19km, n13, σ0°61/7, mb3.9/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.75**	**256**	P	**Pn**	**08 29 44.2**	**-0.7**
	0.3nm,0.3s,baz=74,slow=19,SNR=1.9						
	4.3nm,0.9s						
URZ	**Urewera**	**21.63**	**202**	P	**P**	**08 30 03.5**	**+0.1**
	4.3nm,0.6s,baz=22,slow=16,SNR=2.1						
	4.3nm,0.6s						
WRA	**Warramunga Arr**	**49.72**	**259**	P	**P**	**08 34 06.3**	**+0.5**
	1.1nm,0.4s,baz=97,slow=8.5,SNR=43						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**49.73**	**254**	P	**P**	**08 34 06.2**	**+0.4**
	2.3nm,0.6s,baz=92,slow=8.4,SNR=32						
	2.3nm,0.6s						
NVAR	**Mina Array Bea**	**76.23**	**41**	P	**P**	**08 37 01.9**	**-0.1**
	0.5nm,0.8s,baz=220,slow=8.1,SNR=4.9						
	0.5nm,0.8s						
H03S2	**Juan Fernandez**	**83.13**	**123**	T	T	10 08 33.2	
	baz=250,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**83.14**	**123**	T	T	10 08 33.6	
	baz=250,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**83.14**	**123**	T	T	10 08 31.7	
	baz=250,slow=74,SNR=28						
H03N2	**Juan Fernandez**	**83.24**	**123**	T	T	10 08 34.8	
	baz=257,slow=72,SNR=11						
H03N3	**Juan Fernandez**	**83.24**	**123**	T	T	10 08 36.3	
	baz=257,slow=72,SNR=7.7						
H03N1	**Juan Fernandez**	**83.26**	**123**	T	T	10 08 35.4	
	baz=257,slow=72,SNR=7.9						
PDAR	**Pinedale Array**	**84.16**	**41**	P	**P**	**08 37 44.1**	**-0.7**
	0.4nm,0.7s,baz=199,slow=3.1,SNR=4.8						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.28**	**11**	P	**P**	**08 37 49.9**	**+0.4**
	0.5nm,1.1s,baz=201,slow=4.8,SNR=2.2						
	0.5nm,1.1s						

IDC 07 08:26:27.8±8.7, 16.°96S×170.°50W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=179.6km s-min=156.3km az=154.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**22.31**	**253**	P	P	08 31 27.5	+0.3
	2.5nm,0.8s,baz=57,slow=7.7,SNR=1.4						
	2.5nm,0.8s						
STKA	**Stephens Creek**	**45.72**	**242**	P	P	08 34 51.3	+0.4
	1.8nm,0.7s,baz=97,slow=7.0,SNR=6.0						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**52.22**	**258**	P	P	08 35 40.6	-0.4
	1.1nm,0.4s,baz=98,slow=7.2,SNR=33						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**52.30**	**253**	P	P	08 35 41.2	-0.3
	1.7nm,0.5s,baz=87,slow=8.4,SNR=17						
	1.7nm,0.5s						

WEL 07 08:56:09.5±0.5, 40.°S±3.°×17.°7E±.°, h20km±4km, M3.5/11, ML3.9/11, MLv3.5/11, Error ellipse: s-maj=5.1km s-min=3.1km az=114.6, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.16**	**287**	P	Pg	08 56 14.3	+0.2
CKHZ				S	Sg	08 56 17.8	+0.6
KAHZ	**Kahuranaki**	**0.32**	**254**	P	Pb	08 56 17.7	+1.1
KAHZ				S	Sn	08 56 24.6	-0.6
HCDS	**Hastings Civil**	**0.34**	**280**	P	Pb	08 56 17.2	+0.3
HCDS				S	Sb	08 56 23.4	+1.6
NSPS	**Napier St Paul**	**0.35**	**308**	P	Pb	08 56 17.5	+0.4
NSPS				S	Sb	08 56 23.9	+1.7
NCHS	**Napier Colenso**	**0.35**	**304**	P	Pb	08 56 17.5	+0.4
NGHS	**Napier Girls H**	**0.35**	**308**	P	Pb	08 56 17.5	+0.4
NGHS				S	Sn	08 56 24.4	-1.5
NCDS	**Napier Civil D**	**0.37**	**304**	P	Pb	08 56 17.9	+0.5
NAAS	**Napier Airport**	**0.39**	**307**	P	Pb	08 56 18.3	+0.5
PWZ	**Pawanui**	**0.45**	**224**	P	Pn	08 56 20.4	-0.5
PWZ				S	Sn	08 56 29.1	+0.7
PXZ	**Pawanui**	**0.45**	**224**	P	Pn	08 56 20.4	-0.5
PXZ				S	Sn	08 56 28.9	+0.4
ARHZ	**Aropaoanui**	**0.49**	**334**	P	Pn	08 56 20.6	-0.9
ARHZ				S	Sn	08 56 29.0	-0.4
MCHZ	**McNeill Hill**	**0.52**	**300**	P	Pg	08 56 20.6	+0.6
MCHZ				S	Sn	08 56 29.0	-1.0
WPWS	**Waipawa Distri**	**0.58**	**246**	P	Pn	08 56 22.0	-0.7
WPWS				S	Sn	08 56 31.9	+0.3
WHHZ	**Waihua**	**0.63**	**357**	P	Pn	08 56 23.1	-0.2
KFHS	**Kaweka Forest**	**0.68**	**293**	P	Pg	08 56 23.4	+0.4
KRHZ	**Kereru**	**0.70**	**275**	P	Pg	08 56 23.7	+0.3
KRHZ				S	Sn	08 56 33.9	-0.7
WPHZ	**Waipukurau**	**0.73**	**241**	P	Pg	08 56 24.3	+0.3
WPHZ				S	Sn	08 56 35.5	+0.1
MHGZ	**Mahia Peninsul**	**0.74**	**42**	P	Pn	08 56 25.0	+0.1
MHGZ				S	Sn	08 56 37.9	+2.4
RAHZ	**Arahi**	**0.80**	**350**	P	Pn	08 56 25.7	0.0
RAHZ				S	Sn	08 56 38.0	+0.9
BKZ	**Black Stump Fm**	**0.81**	**312**	P	Pg	08 56 25.4	-0.1
BKZ				S	Sn	08 56 37.1	-0.3
PNHZ	**Pukenui**	**0.85**	**256**	P	Pg	08 56 26.0	-0.3
PNHZ				S	Sn	08 56 38.8	+0.4
CTZ	**Chatham Island**	**6.09**	**133**	P	Pn	08 57 33.1	-5.3
CTZ				S	Sn	08 58 42.7	-4.7

WEL 07 08:57:33.0±0.5, 40.°S±3.°×17.°7E±.°, h24km±4km, M3.3/17, ML3.7/17, MLv3.3/17, Error ellipse: s-maj=6.0km s-min=3.1km az=108.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.15**	**293**	P	Pb	08 57 37.4	-0.6
CKHZ				S	Sb	08 57 40.6	-0.7
KAHZ	**Kahuranaki**	**0.30**	**255**	P	Pb	08 57 40.8	+0.8
KAHZ				S	Sn	08 57 47.4	-0.4
PWZ	**Pawanui**	**0.44**	**224**	P	Pn	08 57 43.4	-0.5
PWZ				S	Sn	08 57 52.0	+1.0
PXZ	**Pawanui**	**0.44**	**224**	P	Pn	08 57 43.5	-0.3
PXZ				S	Sn	08 57 52.0	+0.9
ARHZ	**Aropaoanui**	**0.50**	**336**	P	Pb	08 57 43.7	+0.6
ARHZ				S	Sn	08 57 52.5	0.0
MCHZ	**McNeill Hill**	**0.51**	**302**	P	Pb	08 57 43.7	+0.3
WHHZ	**Waihua**	**0.64**	**358**	P	Pn	08 57 46.4	-0.2
WHHZ				S	Sn	08 57 57.3	+1.2
KRHZ	**Kereru**	**0.69**	**276**	P	Pb	08 57 46.8	+0.4
KRHZ				S	Sn	08 57 57.1	-0.2
WFSS	**Wairoa Fire St**	**0.69**	**11**	P	Pn	08 57 47.4	0.0
KWHZ	**Kaweka Forest**	**0.71**	**294**	P	Pb	08 57 47.0	+0.3
KWHZ				S	Sn	08 57 57.5	-0.3
NMHZ	**Naumai**	**0.71**	**330**	P	Pn	08 57 47.4	-0.3
NMHZ				S	Sn	08 57 58.2	+0.3
WPHZ	**Waipukurau**	**0.72**	**241**	P	Pn	08 57 47.4	-0.3
PRHZ	**Porangahau**	**0.73**	**221**	P	Pb	08 57 47.4	+0.3
MHGZ	**Mahia Peninsul**	**0.76**	**42**	P	Pn	08 57 48.3	+0.1
KNZ	**Kokohu**	**0.77**	**25**	P	Pb	08 57 47.6	0.0
BKZ	**Black Stump Fm**	**0.81**	**313**	P	Pb	08 57 48.3	-0.1
BKZ				S	Sn	08 57 60.0	-0.3
RAHZ	**Arahi**	**0.81**	**351**	P	Pb	08 57 48.9	-0.1
RAHZ				S	Sn	08 58 00.8	+0.5
PNHZ	**Pukenui**	**0.84**	**256**	P	Pb	08 57 49.0	+0.1
PNHZ				S	Sn	08 58 01.8	+0.8
MTHZ	**Maungataniwha**	**0.92**	**339**	P	Pb	08 57 50.3	-0.1
MTHZ				S	Sn	08 58 03.4	+0.3
PRGZ	**Paritu Road**	**0.93**	**32**	P	Pb	08 57 50.5	0.0
SNGZ	**Shannon Statio**	**0.94**	**4**	P	Pn	08 57 50.9	+0.2
ANWZ	**Angora Road**	**0.95**	**219**	P	Pb	08 57 50.5	-0.4
DVHZ	**Dannevirke**	**1.02**	**235**	P	Pn	08 57 51.3	-0.6
TSZ	**Takapari Road**	**1.05**	**251**	P	Pn	08 57 51.7	-0.6
MRHZ	**Matea Rd**	**1.10**	**323**	P	Pn	08 57 53.1	+0.1
RTZ	**Ruatahuna**	**1.12**	**349**	P	Pn	08 57 53.1	-0.2
MOVZ	**Moawhango**	**1.20**	**284**	P	Pb	08 57 54.9	-0.3
HATZ	**Hinemaiaia**	**1.22**	**312**	P	Pb	08 57 55.4	-0.1
RAGZ	**Rawiri**	**1.23**	**6**	P	Pn	08 57 54.7	-0.1
BFZ	**Birch Farm**	**1.24**	**218**	P	Pn	08 57 53.9	-0.9
PRWZ	**Pori Road**	**1.29**	**229**	P	Pn	08 57 55.3	-0.4
MUGZ	**Murupara**	**1.29**	**343**	P	Pn	08 57 55.5	-0.1
RITZ	**Rihia Road**	**1.31**	**304**	P	Pb	08 57 57.7	+0.7
TUVZ	**Tukino**	**1.32**	**289**	P	Pb	08 57 57.7	+0.5
POWZ	**Post Office Ro**	**1.33**	**239**	P	Pn	08 57 55.9	-0.2
ETVZ	**East Tongariro**	**1.33**	**295**	P	Pb	08 57 57.4	+0.1
WNVZ	**Wahianoa**	**1.34**	**286**	P	Pb	08 57 58.4	+0.8
TMVZ	**Te Maari**	**1.34**	**296**	P	Pb	08 57 57.4	-0.2
OTVZ	**Oturere**	**1.35**	**294**	P	Pb	08 57 58.0	+0.3
ALRZ	**Allen Road**	**1.35**	**328**	P	Pb	08 57 57.7	0.0
TKGZ	**Te Karaka**	**1.36**	**20**	P	Pn	08 57 55.9	-0.6
SNVZ	**South Ngauruho**	**1.36**	**292**	P	Pb	08 57 58.1	+0.2
WHVZ	**Whangaehu Hut**	**1.36**	**288**	P	Pb	08 57 57.7	-0.3
NTVZ	**North Tongarir**	**1.37**	**296**	P	Pb	08 57 57.7	-0.3
MAVZ	**Matarangi**	**1.39**	**288**	P	Pb	08 57 58.7	+0.3
TRVZ	**Turoa**	**1.39**	**287**	P	Pb	08 57 58.4	0.0
PRRZ	**Plateau Road**	**1.39**	**331**	P	Pb	08 57 59.4	+1.1
NGZ	**Ngauruhoe**	**1.39**	**292**	P	Pb	08 57 58.5	+0.1
FWVZ	**Far West T-bar**	**1.40**	**289**	P	Pb	08 57 58.1	-0.5
KRVZ	**Karewarewa**	**1.40**	**296**	P	Pb	08 57 58.1	-0.4
MWZ	**Matawai**	**1.40**	**9**	P	Pn	08 57 56.4	-0.7
NNVZ	**North Ngauruho**	**1.40**	**294**	P	Pn	08 57 57.9	+0.7
KATZ	**Kakaramea**	**1.42**	**301**	P	Pb	08 57 59.1	+0.2
MTVZ	**Mangateitei**	**1.42**	**283**	P	Pb	08 57 59.4	+0.5
COVZ	**Chateau Observ**	**1.42**	**291**	P	Pb	08 57 59.2	+0.3
WTVZ	**West Tongariro**	**1.42**	**294**	P	Pb	08 57 59.2	+0.3
RATZ	**Rangitukua**	**1.43**	**306**	P	Pb	08 57 59.7	+0.7
CNGZ	**Carnagh Statio**	**1.44**	**31**	P	Pn	08 57 57.4	-0.2
WHTZ	**Whakaora**	**1.46**	**316**	P	Pb	08 58 00.1	+0.6
URZ	**Urewera**	**1.46**	**355**	P	Pn	08 57 57.9	0.0
WPRZ	**Whakapapatarin**	**1.47**	**324**	P	Pb	08 58 00.2	+0.5
RRRZ	**Republican Roa**	**1.49**	**337**	P	Pb	08 58 00.7	+0.7
HRRZ	**Handcock Road**	**1.53**	**330**	P	Pb	08 58 01.9	+1.3
PKVZ	**Pokaka**	**1.54**	**285**	P	Pb	08 58 01.2	+0.4
TWVZ	**Taurewa**	**1.55**	**294**	P	Pb	08 58 01.2	+0.1
WATZ	**Wairara**	**1.55**	**310**	P	Pb	08 58 02.4	+1.3
OHWZ	**Ohakea**	**1.57**	**251**	P	Pb	08 58 03.4	+2.1
TARZ	**Mount Tarawera**	**1.59**	**338**	P	Pb	08 58 03.4	+1.7
MRZ	**Mangatainoka R**	**1.59**	**233**	P	Pn	08 57 58.9	-0.9
HSRZ	**Hossack Road**	**1.61**	**330**	P	Pb	08 58 03.7	+1.6
HLRZ	**Highlands Stat**	**1.62**	**334**	P	Pb	08 58 04.0	+1.7
KUTZ	**Kaahu Road**	**1.66**	**317**	P	Pb	08 58 02.6	-0.2
UTU	**Utuhina**	**1.75**	**331**	P	Pb	08 58 07.2	+2.8
WAZ	**Wanganui**	**1.75**	**268**	P	Pb	08 58 06.1	+1.6
RUGZ	**Raukumara Rang**	**1.78**	**11**	P	Pn	08 58 01.7	-0.7
NGRZ	**Ngongotaha**	**1.81**	**332**	P	Pb	08 58 11.3	+5.7
**KAR

MJAR S **S** **09 11 38.2 -3.3**
comp=Z,0.9nm,0.6s,baz=134,slow=12,SNR=2.1
MJAR LR LR 09 14 55.1
comp=Z,98nm,19.9s,baz=146,slow=34
MJAR Matsushiro Arr 19.73 342 P **P** **09 08 10.2 +0.4**
MAJO Matsushiro 19.73 342 P **P** **09 08 10.5 +0.7**
MAJO Matsushiro 19.73 342 P **P** **09 08 11.4 +1.6**
MAJO Matsushiro 19.73 342 P **P** **09 08 10.5 +0.7**
MJB9 Matsu-Tunnel 19.73 342 P **P** **09 08 10.4 +0.5**
MANU Manus Island 19.88 175 **P** **09 08 12.0 +0.4**
H11S3 WAKE ISLAND Hy 19.93 85 T T 09 29 06.9
baz=273,slow=74,SNR=5.1
H11S1 WAKE ISLAND Hy 19.94 85 T T 09 29 07.9
baz=273,slow=74,SNR=5.3
H11S2 WAKE ISLAND Hy 19.94 85 T T 09 29 08.5
baz=273,slow=74,SNR=9.1
H11N1 WAKE ISLAND Hy 20.12 81 T T 09 29 27.5
baz=266,slow=74,SNR=5.4
H11N2 WAKE ISLAND Hy 20.12 81 T T 09 29 27.9
baz=266,slow=74,SNR=4.9
H11N3 WAKE ISLAND Hy 20.14 81 T T 09 29 28.9
baz=266,slow=74,SNR=7.4
JNU Nakatsue 20.20 321 P **P** **09 08 14.2 -0.7**
comp=Z,8.0nm,0.9s,baz=84,slow=16,SNR=4.4
JMM Marumori 20.36 349 P **P** **09 08 16.2 -0.3**
JAY Jayapura 20.88 194 P **P** **09 08 21.9 -0.5**
comp=Z,76nm,1.0s,baz=348,slow=6.0,SNR=18
comp=Z,76nm,1.0s
JAY Jayapura 20.88 194 P **P** **09 08 22.0 -0.3**
SMPI Sarmi 20.93 200 P **P** **09 08 23.5 +0.6**
GENI Genyem 21.08 196 P **P** **09 08 24.7 +0.3**
GENI Genyem 21.08 196 P **P** **09 08 25.0 +0.6**
comp=Z,121nm,0.8s
BAKI Biak 21.20 208 P **P** **09 08 26.7 +1.0**
comp=Z,161nm,0.9s
SRPI Serui, Papua 21.75 206 P **P** **09 08 32.3 +0.9**
YOJ Yonaguni jima 22.15 291 P **P** **09 08 35.5 +0.3**
YOJ Yonaguni jima 22.15 291 P **P** **09 08 36.3 +1.1**
YOJ Yonaguni jima 22.15 291 P **P** **09 08 35.5 +0.3**
RABL Rabaul 22.85 163 **P** **09 08 39.2 -2.5**
JTM Tenmabayashi 23.16 351 P **P** **09 08 44.7 +0.5**
NACB Ninganchiao 23.35 290 **P** **09 08 46.6 +0.4**
NACB Ninganchiao 23.35 290 P **P** **09 08 47.9 +1.7**
SWI Sorong 23.46 219 P **P** **09 08 47.3 +0.2**
comp=Z,2μmcomp=Z,168nm,1.0s
SWI Sorong 23.46 219 P **P** **09 08 48.0 +0.9**
YULB Yu-li 23.49 288 P **P** **09 08 47.9 +0.5**
YULB IAmb IAmb 09 08 53.4
comp=Z,42nm,0.7s
YULB Yu-li 23.49 288 P **P** **09 08 49.3 +1.9**
TWGBT Beinan 23.61 286 P **P** **09 08 49.7 +1.2**
TWG Pinlang 23.61 286 P **P** **09 08 49.0 +0.4**
YHNB Yeheng 23.65 291 P **P** **09 08 49.1 +0.2**
YHNB Yeheng 23.65 291 P **P** **09 08 50.0 +1.1**
SSLB Suanglung 23.86 288 **P** **09 08 51.3 +0.5**
SSLB Suanglung 23.86 288 P **P** **09 08 52.5 +1.6**
TPUB Ta-pu 24.08 287 **P** **09 08 52.6 -0.2**
TPUB Ta-pu 24.08 287 P **P** **09 08 53.3 +0.5**
ERM Erimo 24.14 355 P **P** **09 08 53.5 +0.5**
ERM IAmb IAmb 09 08 57.2
comp=Z,41nm,0.8s
ERM Erimo 24.14 355 P **P** **09 08 53.6 +0.5**
ERM pmax pmax
comp=Z,41nm,0.8s
FAKI Fak Fak 24.58 214 **P** **09 08 56.6 -0.8**
FAKI Fak Fak 24.58 214 P **P** **09 08 57.7 +0.3**
FAKI Fak Fak 24.58 214 P **P** **09 08 57.0 -0.4**
comp=Z,66nm,0.9s
KSRS Korea Array 24.98 325 P **P** **09 08 59.0 -1.8**
comp=Z,2.0nm,0.6s,baz=149,slow=8.6,SNR=14
comp=Z,2.0nm,0.6s
KSAR Wonju Array Be 24.99 325 P **P** **09 09 00.2 -0.7**
KSAR Wonju Array Be 24.99 325 P **P** **09 09 00.2 -0.7**
JKA Kamikawa-asahi 26.27 355 **P** **09 09 12.7 +0.4**
JKA IAmb IAmb 09 09 14.2
comp=Z,36nm,0.9s
ASAJ Asahikawa 26.27 355 P **P** **09 09 12.7 +0.4**
ASAJ pmax pmax
comp=Z,36nm,0.9s
PMG Port Moresby 27.16 177 **P** **09 09 20.0 -0.6**
PMG IAmb IAmb 09 09 21.5
comp=Z,38nm,0.8s
PMG Port Moresby 27.16 177*de*P **P** **09 09 20.3 -0.2**
PMG pmax pmax
comp=Z,48nm,1.3s
AAI Ambon 27.55 221 P **P** **09 09 23.5 -0.5**
comp=Z,3μmcomp=Z,84nm,0.7s
SANI Sanana 27.77 226 P **P** **09 09 24.6 -1.3**
NJ2 Nanjing 28.04 305 *e*P **P** **09 09 28.9 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
YSS Yuzhno-Sakhali 29.08 356 *e*P **P** **09 09 38.8 +1.6**
YSS pmax pmax
comp=Z,10.0nm,1.1s
MRSI Marisa 29.09 236 P **P** **09 09 38.1 +0.4**
comp=Z,894nmcomp=Z,74nm,1.1s
MISM Misima Island 29.26 166 P **P** **09 09 39.9 +0.8**
LUWI Luwuk 29.41 233 P **P** **09 09 40.3 -0.2**
LUWI Luwuk 29.41 233 P **P** **09 09 39.3 -1.2**
comp=Z,2μmcomp=Z,181nm,1.1s
MYLDM Lahad Datu 29.46 248 **P** **09 09 42.8 +1.9**
MYLDM Lahad Datu 29.46 248 P **P** **09 09 43.0 +2.0**
DL2 Dalian 29.63 320 P **P** **09 09 39.9 -2.3**
DL2 pmax pmax
comp=Z,59nm,1.5s
TOLI2 Tolitoli 29.64 238 **P** **09 09 43.2 +0.5**
TOLI2 Tolitoli 29.64 238 P **P** **09 09 43.1 +0.5**
HNR Honiara 30.57 152 LR LR 09 21 39.7
comp=Z,30nm,18.2s,baz=360,slow=35
KKM Kota Kinabalu 31.12 251 **P** **09 09 56.5 +0.8**
KKM Kota Kinabalu 31.12 251 P **P** **09 09 56.7 +1.0**
COEN Coen 31.75 185 P **P** **09 10 00.1 -0.9**
comp=Z,34nm,0.7s
COEN Coen 31.75 185 **P** **09 10 00.7 -0.3**
COEN IAmb IAmb 09 10 02.4
comp=Z,25nm,0.7s
COEN Coen 31.75 185 P **P** **09 10 00.8 -0.2**
TYV Tymovskoe 32.98 356 *e*P **P** **09 10 13.5 +2.1**
TYV *e*S **S** **09 15 19.7 +4.8**
TYV pmax pmax
comp=Z,200nm,2.7s
TYV pmax pmax
comp=Z,13nm,1.2s
TYV smax smax
comp=N,200nm,3.4s
TYV smax smax
comp=E,200nm,3.4s
HNS HongShan 33.42 312 ⇑P **P** **09 10 16.0 +0.6**
HNS pP **pwP** **09 10 58.3 -1.5**
HNS S **S** **09 15 26.8 +4.7**
HNS pmax pmax
comp=E,8.0nm,0.8s
SPSI Sidrap Palu 33.57 232 P **P** **09 10 16.9 0.0**
comp=E,1μcomp=E,109nm,1.0s
BNSI Bone 33.61 231 P **P** **09 10 17.1 -0.1**
comp=E,1μcomp=E,127nm,0.8s
SKR Severo-Kuril's 33.75 12 *e*P P 09 10 35.5 +18
SKR pmax pmax
comp=Z,400nm,3.8s
SKR MLR MLR
comp=Z,600nm,14.0s
MTN Manton Dam 33.77 206 P **P** **09 10 18.0 -0.6**
comp=Z,53nm,1.2s
MTN Manton Dam 33.77 206 **P** **09 10 18.4 -0.2**
MTN IAmb IAmb 09 10 19.1
comp=Z,45nm,0.9s
QIZ Qiongzhong 34.02 278 P **P** **09 10 21.8 +1.0**
QIZ pP **pP** **09 10 58.2 -1.8**
QIZ S **S** **09 15 34.1 +2.4**
QIZ pmax pmax
comp=Z,53nm,0.9s
QIZ pmax pmax
comp=Z,300nm,3.8s
QIZ Qiongzhong 34.02 278 P **P** **09 10 22.5 +1.7**
BKSI Bulukumba 34.22 230 P **P** **09 10 22.4 0.0**
comp=Z,844nmcomp=Z,76nm,0.8s
KAPI Kappang 34.28 231 **P** **09 10 22.4 -0.6**
KAPI Kappang 34.28 231 P **P** **09 10 23.9 +0.9**
KAPI Kappang 34.28 231*c i*P **P** **09 10 23.4 +0.4**
KAPI pmax pmax
comp=Z,54nm,0.9s
BSSI Bau Bau, Buton 34.51 228 P **P** **09 10 24.8 -0.2**
comp=Z,1μcomp=Z,179nm,0.7s
SOEI Soe 34.70 219 **P** **09 10 25.2 -1.5**
SOEI Soe 34.70 219 P **P** **09 10 25.5 -1.2**
SOEI Soe 34.70 219 P **P** **09 10 25.9 -0.8**
comp=Z,70nm,0.7s
BATI Baumata 35.42 220 P **P** **09 10 31.6 -1.2**
comp=Z,81nm,0.6s
HEH HeiHe 35.46 340 *e*P **P** **09 10 31.0 -1.7**
HEH pmax pmax
comp=Z,14nm,0.8s
EDFI Ende, Flores 35.56 224 P **P** **09 10 33.6 -0.5**
comp=Z,33nm,0.9s
MTSU Mount Surprise 35.83 182 P **P** **09 10 36.1 -0.1**
comp=Z,27nm,1.0s
MTSU Mount Surprise 35.83 182 P **P** **09 10 36.3 +0.1**
SBUM Sibu 36.27 249 P **P** **09 10 41.3 +1.2**
SBUM IAmb IAmb 09 10 42.3
comp=Z,22nm,0.8s
SBUM Sibu 36.27 249 P **P** **09 10 40.8 +0.8**
PEA0B Petropavlovsk- 36.37 12 P **P** **09 10 41.4 +1.0**
PEA0B Petropavlovsk- 36.37 12 P **P** **09 10 41.4 +1.0**
PEA0B pmax pmax
comp=Z,155nm,1.7s
PETK Petropavlovsk- 36.37 12 P **P** **09 10 41.5 +1.2**
PETK Petropavlovsk- 36.37 12 P **P** **09 10 40.5 +0.1**
comp=Z,9.0nm,0.7s,baz=218,slow=6.7,SNR=10
PETK LR LR 09 24 00.7
comp=Z,38nm,19.9s,baz=116,slow=33
comp=Z,9.0nm,0.7s
PETK Petropavlovsk- 36.37 12 P **P** **09 10 41.6 +1.2**
XAN Xi'an 36.55 303 P **P** **09 10 41.1 -1.2**
XAN pmax pmax
comp=Z,5.0nm,0.6s
TV1H Townsville Har 36.94 178 P **P** **09 10 45.4 -0.1**
HHC Hu-ho-hao-te 37.18 315 *e*P **P** **09 10 48.8 +1.2**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,97nm,4.3s
KNRA Kununurra 37.31 208 P **P** **09 10 48.5 -0.2**
comp=Z,125nm,0.8s
BASI Baing, Sumba 37.38 224 P **P** **09 10 47.4 -1.9**
comp=Z,147nm,0.8s
CTAO Charters Tower 37.75 179 P **P** **09 10 52.3 -0.1**
CTAO Charters Tower 37.75 179 P **P** **09 10 52.1 -0.3**
CTAO Charters Tower 37.75 179 P **P** **09 10 52.3 -0.1**
CTAO pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 37.75 179 P **P** **09 10 52.1 -0.3**
BTO Baotou 38.12 314 *e*P **P** **09 10 55.4 0.0**
BTO pmax pmax
comp=Z,14nm,0.8s
BTO pmax pmax
comp=Z,120nm,4.1s
PLAI Plampang 38.30 228 P **P** **09 10 57.3 +0.2**
KSM Kuching 38.41 249 P **P** **09 10 58.4 +0.4**
QIS Mount Isa 38.68 189 P **P** **09 10 59.6 -0.6**
comp=Z,23nm,0.9s
QIS Mount Isa 38.68 189 P **P** **09 10 59.9 -0.3**
TWSI Taliwang, Sumb 38.88 229 P **P** **09 11 01.3 -0.6**
WB0 Warramunga Arr 39.05 197 P **P** **09 11 02.9 -0.3**
WRAB Tennant Creek 39.22 197 P **P** **09 11 03.6 -1.0**
WRAB Tennant Creek 39.22 197 P **P** **09 11 04.3 -0.3**
WRAB Tennant Creek 39.22 197*d i*P **P** **09 11 04.6 0.0**
WRAB pmax pmax
comp=Z,79nm,1.0s
WRA Warramunga Arr 39.23 197 P **P** **09 11 03.7 -1.0**
WRA Warramunga Arr 39.23 197 P **P** **09 11 04.2 -0.5**
comp=Z,50nm,0.9s,baz=19,slow=8.1,SNR=130
WRA PcP **PcP** **09 13 09.4 -0.4**
comp=Z,6.1nm,0.7s,baz=17,slow=3.5,SNR=8.7
comp=Z,50nm,0.9s
SLVN Son La 39.46 282 IAmb IAmb 09 11 09.5
comp=Z,23nm,0.7s
SLVN Son La 39.46 282 P **P** **09 11 08.4 +1.6**
SRBI Singaraja 39.68 232 P **P** **09 11 09.1 +0.6**
comp=Z,71nm,0.7s
JAGI Jajag, Banyuwa 40.73 233 IAmb IAmb 09 11 17.4
comp=Z,45nm,0.8s
FITZ Fitzroy Crossi 40.86 210 P **P** **09 11 18.3 +0.2**
comp=Z,24nm,0.9s
FITZ Fitzroy Crossi 40.86 210 **P** **09 11 18.6 +0.4**
FITZ Fitzroy Crossi 40.86 210 P **P** **09 11 18.5 +0.4**
LZDM Lanzhou Array 41.20 304 P **P** **09 11 21.2 0.0**
comp=Z,4.3nm,0.5s,baz=148,slow=6.5,SNR=7.8
comp=Z,4.3nm,0.5s
PZH PanZhiHua 41.45 290 P **P** **09 11 24.8 +1.7**
PZH pmax pmax
comp=Z,20nm,0.6s
AS31 Alice Springs 42.89 196 P **P** **09 11 34.0 -0.5**
comp=Z,13nm,0.7s
ASAR Alice Springs 42.89 196 **P** **09 11 34.6 +0.1**
ASAR Alice Springs 42.89 196 P **P** **09 11 34.2 -0.3**
comp=Z,20nm,0.7s,baz=17,slow=6.9,SNR=139
ASAR PcP **PcP** **09 13 21.6 -0.2**
comp=Z,4.1nm,0.6s,baz=30,slow=2.7,SNR=6.6
comp=Z,20nm,0.7s
ASAR Alice Springs 42.89 196 P **P** **09 11 34.6 +0.1**
EIDS Eidsvold 43.32 173 P **P** **09 11 36.0 -1.9**
comp=Z,13nm,0.8s
ULN Ulaanbaatar 43.41 322*ce*P **P** **09 11 38.8 +0.2**
SONM Songino Array 43.78 322 **P** **09 11 41.6 0.0**
SONM Songino Array 43.78 322 P **P** **09 11 40.7 -0.9**
comp=Z,3.0nm,0.6s,baz=139,slow=7.7,SNR=14
comp=Z,3.0nm,0.6s
SONM Songino Array 43.78 322 P **P** **09 11 41.6 0.0**
MYKOM Kota Tinggi 44.10 253 P **P** **09 11 45.5 +1.2**
QLP Quilpie 44.24 182 P **P** **09 11 43.7 -1.5**
comp=Z,75nm,0.8s
QLP Quilpie 44.24 182 P **P** **09 11 44.0 -1.2**
CHTO Chiang Mai 44.31 279 **P** **09 11 46.9 +0.9**
CHTO Chiang Mai 44.31 279 P **P** **09 11 46.9 +0.9**
CHTO Chiang Mai 44.31 279 P **P** **09 11 46.9 +0.9**
CHTO pmax pmax
comp=Z,19nm,0.7s
CHTO Chiang Mai 44.31 279 P **P** **09 11 46.9 +0.9**
BTDF Bukit Timah Da 44.34 253 P **P** **09 11 47.4 +1.1**
CMAR Chiang Mai Arr 44.35 278 **P** **09 11 47.6 +1.2**
CMAR Chiang Mai Arr 44.35 278 P **P** **09 11 46.6 +0.2**
comp=Z,36nm,0.7s,baz=70,slow=6.6,SNR=136
CMAR LR LR 09 30 05.0
comp=Z,12nm,20.7s,baz=75,slow=36
comp=Z,36nm,0.7s
CMAR Chiang Mai Arr 44.35 278 P **P** **09 11 47.6 +1.2**
DZM Mont Dzumac 44.60 152 *e*S **S** **09 18 14.2 +4.7**
comp=Z,52nm,23.9s
DZM *e*LR LR 09 24 27.0
comp=Z,92nm,22.9s
DZM Mont Dzumac 44.60 152 **P** **09 11 48.5 +0.2**
DZM Mont Dzumac 44.60 152 P **P** **09 11 49.4 +1.2**
DZM Mont Dzumac 44.60 152 P **P** **09 11 49.1 +0.9**
DZM PcP **PcP** **09 13 29.3 +1.6**
KIWB Kanaga Island 44.73 32 P **P** **09 11 50.1 +1.4**
KIWB IAmb IAmb 09 11 51.2
comp=Z,52nm,0.9s
ADK Adak 44.98 32 P **P** **09 11 52.2 +1.4**
ADK Adak 44.98 32 P **P** **09 11 52.2 +1.4**
ADK pmax pmax
comp=Z,112nm,1.4s
GTA Gaotai 45.06 308 *e*P **P** **09 11 51.2 -0.6**
GTA pP pwP 09 12 35.3 -2.7
SEY Seymchan 45.23 4⇑ *e*P **P** **09 11 51.9 -0.7**
SEY pmax pmax
comp=Z,12nm,1.3s
YAK Yakutsk 45.51 349 LR LR 09 38 28.3
comp=Z,7.9nm,18.0s,baz=130,slow=46
YAK Yakutsk 45.51 349 *e*P **P** **09 11 52.7 -2.0**
YAK *e**PP **pP** **09 12 36.8 +0.7**
YAK *e* 09 13 26.9
YAK *e* 09 13 41.3
YAK *e*S **S** **09 18 20.1 -1.3**
YAK *e**SS **sS** **09 19 35.9 +1.7**
YAK *e* 09 21 26.5
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,132nm,3.0s
YAK pmax pmax
comp=N,86nm,3.2s
YAK pmax pmax
comp=E,76nm,2.6s
YAK smax smax
comp=E,67nm,2.9s
YAK smax smax
comp=N,59nm,2.7s
IPM Ipoh 45.69 259 P **P** **09 11 57.1 +0.1**
IPM IAmb IAmb 09 11 59.8
comp=Z,50nm,1.1s
IPM Ipoh 45.69 259 P **P** **09 11 58.9 +1.9**
KULM Kulim 45.77 260 IAmb IAmb 09 12 00.7
comp=Z,71nm,1.1s
KULM Kulim 45.77 260 P **P** **09 11 59.0 +1.5**
WRKA Warakurna 45.93 202 P **P** **09 11 58.3 -0.3**
comp=Z,64nm,0.8s
MBWA Marble Bar 46.43 214 P **P** **09 12 02.4 -0.1**
comp=Z,77nm,0.8s
MBWA Marble Bar 46.43 214 **P** **09 12 02.1 -0.3**
MBWA IAmb IAmb 09 12 03.7
comp=Z,60nm,0.9s
MBWA Marble Bar 46.43 214 P **P** **09 12 02.5 0.0**
MBWA Marble Bar 46.43 214 P **P** **09 12 02.8 +0.3**
MBWA sP **sP** **09 13 08.8 +3.5**
ATKA Atka Island 46.44 33 P **P** **09 12 02.4 +0.2**
PSAC2 Pilbara Seismi 46.66 214 P **P** **09 12 04.2 -0.1**
comp=Z,89nm,0.9s
PSAC1 Pilbara Seismi 46.69 214 P **P** **09 12 04.7 +0.1**
comp=Z,73nm,1.0s
PSA00 Pilbara Seismi 46.70 214 P **P** **09 12 04.6 0.0**
comp=Z,71nm,1.0s
PSA00 Pilbara Seismi 46.70 214 **P** **09 12 04.5 0.0**
PSA00 IAmb IAmb 09 12 06.0
comp=Z,44nm,1.1s
PSA00 Pilbara Seismi 46.70 214 P **P** **09 12 04.7 0.0**
PSA00 IAmb IAmb 09 12 06.0
comp=Z,76nm,1.1s
PSA00 Pilbara Seismi 46.70 214 P **P** **09 12 04.8 +0.2**
PSAB3 Pilbara Seismi 46.71 214 P **P** **09 12 04.9 +0.2**
comp=Z,77nm,1.3s
PSI Prapat 48.25 257 LR LR 09 34 21.2
comp=Z,30nm,20.2s,baz=80,slow=38
PSI Prapat 48.25 257 P **P** **09 12 18.2 +1.3**
PSI Prapat 48.25 257 P **P** **09 12 18.5 +1.6**
PSI pmax pmax
comp=Z,42nm,1.1s
RPSI Rantau Prapat 48.29 257 IAmb IAmb 09 12 19.6
comp=Z,42nm,1.0s
GOMU GeErMu 48.30 303 P **P** **09 12 18.6 +1.3**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
ARMA Armidale 48.37 173 P **P** **09 12 16.7 -0.7**
CMSA Cobar Meteorol 49.15 180 P **P** **09 12 22.6 -0.6**
comp=Z,29nm,0.8s
CMSA Cobar Meteorol 49.15 180 P **P** **09 12 22.8 -0.4**
STKA Stephens Creek 49.65 185 P **P** **09 12 26.0 -1.0**
comp=Z,116nm,0.9s
STKA Stephens Creek 49.65 185 P **P** **09 12 25.7 -1.3**
comp=Z,14nm,0.5s,baz=7.2,slow=8.4,SNR=25
comp=Z,14nm,0.5s
STKA Stephens Creek 49.65 185 P **P** **09 12 26.5 -0.5**
STKA Stephens Creek 49.65 185*de*P **P** **09 12 26.8 -0.2**
NIKH Nikolski High 49.65 34 P **P** **09 12 27.0 +0.2**
baz=243
GSI Gunungsitoli 50.05 256 **P** **09 12 30.5 +0.1**
GSI Gunungsitoli 50.05 256 P **P** **09 12 31.4 +1.0**
GIRL Giralia 50.71 219 P **P** **09 12 36.7 +1.6**
comp=Z,87nm,1.0s
SPIA Saint Paul Isl 51.02 29 P **P** **09 12 37.2 +0.3**
baz=238
P08K Saint George I 51.05 30 P **P** **09 12 37.2 0.0**
baz=239
WHYH Whyalla 51.24 189 P **P** **09 12 39.6 +0.8**
BBOO Buckleboo 51.26 190 P **P** **09 12 38.7 -0.3**
comp=Z,44nm,0.6s
BBOO Buckleboo 51.26 190 P **P** **09 12 38.6 -0.4**
BBOO IAmb IAmb 09 12 41.3
comp=Z,46nm,1.0s
BBOO Buckleboo 51.26 190 P **P** **09 12 39.1 +0.1**
FORT Forrest 51.29 200 P **P** **09 12 39.6 +0.3**
comp=Z,28nm,0.8s
FORT Forrest 51.29 200 P **P** **09 12 38.8 -0.5**
FORT IAmb IAmb 09 12 41.5
comp=Z,19nm,0.7s
UNV Unalaska Valle 51.30 34 **P** **09 12 38.6 -0.4**
UNV IAmb IAmb 09 12 40.8
comp=Z,31nm,0.8s
UNV Unalaska Valle 51.30 34 P **P** **09 12 39.2 +0.1**
baz=244,SNR=7.9
HTT Hallett 51.45 187 P **P** **09 12 40.1 -0.4**
comp=Z,10nm,1.0s
HTT Hallett 51.45 187 P **P** **09 12 41.9 +1.4**
HTT Hallett 51.45 187 P **P** **09 12 41.0 +0.5**
MEEK Meekatharra 51.51 211 P **P** **09 12 40.0 -1.0**
comp=Z,54nm,0.9s
MEEK Meekatharra 51.51 211 P **P** **09 12 40.8 -0.2**
BILL Bilibino 51.80 10 P **P** **09 12 42.4 -0.2**
BILL IAmb IAmb 09 12 43.5
comp=Z,42nm,1.1s
BILL Bilibino 51.80 10*de*P **P** **09 12 42.7 +0.1**
BILL *i* *PP **pP** **09 13 23.9 -1.2**
BILL pmax pmax
comp=Z,34nm,1.0s
YNG Young 51.97 177 P **P** **09 12 44.2 -0.1**
comp=Z,15nm,0.9s
FALS False Pass 53.36 34 P **P** **09 12 54.6 +0.4**
baz=247,SNR=9.7
KMBL Kambalda 54.07 205 P **P** **09 12 58.7 -1.0**
comp=Z,9.1nm,1.1s
GAMB Gambell 54.19 22 P **P** **09 13 00.8 +0.8**
baz=232
S12K Black Hills 54.41 33 P **P** **09 13 02.1 +0.2**
baz=248
M11K Mekoryuk 54.47 27 P **P** **09 13 02.8 +0.7**
baz=240
ARPS Mount Arapiles 54.49 184 P **P** **09 13 02.1 -0.5**
comp=Z,10nm,2.3s
MORW Morawa 54.79 212 P **P** **09 13 04.5 -0.4**
comp=Z,97nm,1.3s
MORW Morawa 54.79 212 P **P** **09 13 04.7 -0.2**
WMQ Urumqi 54.85 311 *e*P **P** **09 13 07.8 +2.5**
SDPT Sand Point 55.12 34 P **P** **09 13 07.5 +0.6**
SDPT Sand Point 55.12 34 P **P** **09 13 07.2 +0.4**
baz=249,SNR=7.8
CNBA Chernabura Isl 55.41 35 IAmb IAmb 09 13 10.4
comp=Z,23nm,0.8s
CHNA Chernabura Isl 55.42 35 P **P** **09 13 09.5 +0.5**
baz=251
BLDU Ballidu 55.73 210 P **P** **09 13 11.2 -0.4**
comp=Z,99nm,1.2s
BLDU Ballidu 55.73 210 P **P** **09 13 11.4 -0.2**
M13K Dall Lake 55.74 28 P **P** **09 13 12.1 +0.9**
baz=243
K13K Kusilvak Mount 55.88 26 IAmb IAmb 09 13 14.5
comp=Z,25nm,0.7s
K13K Kusilvak Mount 55.88 26 P **P** **09 13 13.2 +0.9**
baz=241,SNR=5.2
S14K Fog Glacier 55.93 33 P **P** **09 13 13.3 +0.5**
baz=250
O14K Tigyukauivet M 56.20 30 P **P** **09 13 15.3 +0.8**
O14K Tigyukauivet M 56.20 30 P **P** **09 13 15.1 +0.7**
baz=246
N14K Kuskokwak Cree 56.27 29 P **P** **09 13 15.7 +0.7**
baz=245
L14K Kuka Creek 56.44 27 IAmb IAmb 09 13 18.4
comp=Z,30nm,1.2s
L14K Kuka Creek 56.44 27 P **P** **09 13 17.2 +1.0**
baz=244
M14K Bethel 56.50 28 IAmb IAmb 09 13 18.8
comp=Z,26nm,0.8s
M14K Bethel 56.50 28 P **P** **09 13 17.9 +1.3**
baz=244,SNR=9.8
CHGN Chignik 56.53 34 P **P** **09 13 17.4 +0.5**
CHGN IAmb IAmb 09 14 00.9
comp=Z,27nm,0.9s
CHGN Chignik 56.53 34 P **P** **09 13 18.0 +1.1**
baz=251
TNA Tin City 56.55 21 P **P** **09 13 17.7 +0.8**
baz=236
J14K Nanvaranak Lak 56.73 25 P **P** **09 13 19.3 +1.1**
baz=242
O15K Ungalikthiuk R 56.85 30 P **P** **09 13 19.9 +0.8**
baz=248,SNR=7.4
M15K Kasigluk River 57.05 28 P **P** **09 13 21.1 +0.7**
baz=246
F14K Arctic Creek 57.06 22 P **P** **09 13 21.5 +1.0**
baz=237
MUN Mundaring 57.10 210 P **P** **09 13 20.6 -0.6**
comp=Z,67nm,1.2s
MUN Mundaring 57.10 210 P **P** **09 13 21.1 -0.1**
MUN Mundaring 57.10 210 P **P** **09 13 21.5 +0.3**
N15K Kwethluk River 57.10 29 P **P** **09 13 21.9 +0.9**

baz=247,SNR=8.5
L15K **Ungalak Mounta** 57.11 27 P P 09 13 21.5 +0.6
baz=244
K15K **Wolf Creek Mou** 57.35 26 IAmb IAmb 09 13 24.6
comp=Z,21nm,1.1s
K15K **Wolf Creek Mou** 57.35 26 P P 09 13 23.6 +1.0
baz=244,SNR=5.7
ZSN **Zaisan** 57.38 315 *e*P P 09 13 23.0 -0.2
ZSN **Zaisan** 57.38 315 *e*P P 09 13 22.9 -0.2
R16K **Pilot Point** 57.38 32 P P 09 13 23.7 +0.8
baz=251
NWAO **Narrogin (SRO)** 57.41 208 P P 09 13 23.1 -0.3
comp=Z,54nm,1.1s
NWAO **Narrogin (SRO)** 57.41 208 P P 09 13 23.7 +0.3
NWAO **Narrogin (SRO)** 57.41 208 P P 09 13 23.7 +0.3
NWAO **Narrogin (SRO)** 57.41 208 P P 09 13 23.7 +0.3
NWAO pmax pmax
comp=Z,36nm,0.7s
G15K **Niukluk** 57.63 23 P P 09 13 25.4 +0.9
baz=240
P16K **Nushagak River** 57.67 31 P P 09 13 26.4 +1.5
P16K **Nushagak River** 57.67 31 P P 09 13 25.6 +0.8
baz=250
F15K **North Star Dit** 57.78 22 P P 09 13 26.1 +0.6
baz=239
O16K **Kokwok River B** 57.82 30 IAmb IAmb 09 13 27.4
comp=Z,18nm,0.8s
O16K **Kokwok River B** 57.82 30 P P 09 13 26.7 +0.8
baz=249,SNR=8.1
N16K **Nishlik Lake** 57.83 29 P P 09 13 26.9 +0.9
baz=248,SNR=8.6
M16K **Timber Creek** 57.95 28 IAmb IAmb 09 14 11.4
comp=Z,14nm,0.9s
M16K **Timber Creek** 57.95 28 P P 09 13 27.7 +0.9
baz=247
L16K **Owhat River** 57.99 27 P P 09 13 27.7 +0.7
baz=246
R17L **Mt. Peulik Vol** 58.02 32 P P 09 13 28.0 +0.6
baz=252
H16K **Elim** 58.13 24 P P 09 13 28.9 +0.9
baz=242
J16K **Anvik River** 58.17 25 P P 09 13 29.5 +1.3
J16K IAmb IAmb 09 13 30.4
comp=Z,16nm,0.8s
J16K **Anvik River** 58.17 25 P P 09 13 29.1 +0.8
baz=244,SNR=5.1
Q16K **King Salmon** 58.21 31 P P 09 13 29.0 +0.4
baz=251
O17K **Koliganek Bris** 58.36 30 P P 09 13 30.6 +0.9
baz=250,SNR=9.9
I17K **Unalakleet** 58.40 25 P P 09 13 30.7 +0.9
baz=244
G16K **Koyuk River** 58.45 23 P P 09 13 30.7 +0.6
baz=242
Q17K **Contact Creek** 58.46 32 P P 09 13 31.0 +0.5
baz=252
P17K **Kvichak River** 58.48 31 P P 09 13 30.6 +0.1
baz=251
N17K **Nushagak Hills** 58.58 29 IAmb IAmb 09 13 33.0
comp=Z,17nm,0.8s
N17K **Nushagak Hills** 58.58 29 P P 09 13 31.9 +0.8
baz=249,SNR=9.1
ZALV **Zalesovo Beam** 58.66 323 P P 09 13 29.5 -2.3
ZALV **Zalesovo Beam** 58.66 323 P P 09 13 29.9 -2.0
comp=Z,1.6nm,0.5s,baz=111,slow=7.4,SNR=7.0
comp=Z,1.6nm,0.5s
L17K **Donlin** 58.67 27 P P 09 13 32.7 +0.9
baz=247,SNR=5.1
M17K **Holitna River** 58.78 28 IAmb IAmb 09 13 34.8
comp=Z,15nm,0.8s
M17K **Holitna River** 58.78 28 P P 09 13 33.6 +1.1
baz=249
K17K **Iditarod** 58.90 26 IAmb IAmb 09 13 35.6
comp=Z,30nm,0.8s
K17K **Iditarod** 58.90 26 P P 09 13 34.4 +1.1
baz=247
C16K **Lisburne Hills** 58.91 19 P P 09 13 34.0 +0.8
baz=237
R18K **Karluk** 58.99 33 P P 09 13 34.6 +0.6
baz=254
Q18K **Katmai Hardscr** 59.02 32 P P 09 13 34.2 -0.2
baz=253
MK31 **Makanchi Array** 59.03 314 *ce*P P 09 13 35.1 +0.5
MKAR **Makanchi Array** 59.03 314 P 09 13 34.0 -0.6
MKAR **Makanchi Array** 59.03 314 P P 09 13 34.1 -0.5
comp=Z,3.3nm,0.5s,baz=91,slow=7.9,SNR=27
comp=Z,3.3nm,0.5s
G17K **Kiwalik Mounta** 59.13 23 P P 09 13 35.5 +0.6
baz=243
P18K **Big Mountain,** 59.13 31 P P 09 13 35.3 +0.2
baz=252
H17K **Granite Mounta** 59.16 24 IAmb IAmb 09 13 36.9
comp=Z,20nm,0.8s
H17K **Granite Mounta** 59.16 24 P P 09 13 35.8 +0.7
baz=244,SNR=8.3
O18K **Koktuh Hills** 59.29 30 P P 09 13 36.7 +0.6
baz=252
D17K **Noatak River** 59.33 20 P P 09 13 37.0 +0.9
baz=240
F17K **Baldwin Pennin** 59.34 22 IAmb IAmb 09 13 37.9
comp=Z,19nm,0.7s
F17K **Baldwin Pennin** 59.34 22 P P 09 13 37.2 +0.9
baz=242,SNR=7.0
E17K **Hotham Inlet** 59.45 21 P P 09 13 37.6 +0.6
baz=241,SNR=5.9
OHAK **Old Harbor** 59.50 34 P P 09 13 38.0 +0.5
baz=255
M18K **Stony River** 59.53 28 P P 09 13 38.7 +1.0
baz=250,SNR=5.2
RDOG **Red Dog Mine** 59.57 20 IAmb IAmb 09 13 39.4
comp=Z,16nm,0.9s
RDOG **Red Dog Mine** 59.57 20 P P 09 13 38.6 +0.8
baz=240
C17K **DeLong Mountai** 59.70 19 P P 09 13 39.4 +0.7
baz=239
Q19K **Cape Douglas,** 59.78 32 P P 09 13 39.0 -0.4
baz=254
O19K **Port Alsworth** 59.82 30 P P 09 13 40.2 +0.6
baz=252,SNR=6.0
H18K **Honhosa River** 59.85 24 IAmb IAmb 09 14 24.7
comp=Z,14nm,0.8s
H18K **Honhosa River** 59.85 24 P P 09 13 40.2 +0.5
baz=246
J18K **Innoko River** 59.85 26 P P 09 13 40.1 +0.3
baz=248
F18K **Selawik** 59.99 22 P P 09 13 41.3 +0.7
baz=244
KDAK **Kodiak Island** 60.01 33 LR LR 09 38 03.0
comp=Z,26nm,20.1s,baz=232,slow=34
KDAK **Kodiak Island** 60.01 33 P P 09 13 41.4 +0.4
baz=255
E18K **Tukpahlearik C** 60.03 21 P P 09 13 41.5 +0.6
baz=242
G18K **Tagagawik** 60.05 23 IAmb IAmb 09 13 42.5
comp=Z,19nm,0.9s
G18K **Tagagawik** 60.05 23 P P 09 13 41.7 +0.6
baz=245,SNR=6.6
P19K **Oil Pt** 60.19 31 P P 09 13 42.4 +0.2
baz=254
M19K **Big River Lodg** 60.32 28 P P 09 13 43.5 +0.5
baz=251
Q20K **Shuyak Island** 60.32 32 P P 09 13 43.2 +0.2
baz=255
C18K **Utukok River** 60.42 20 P P 09 13 43.9 +0.3
baz=241
B18K **Kokolik River** 60.58 19 P P 09 13 45.4 +0.7
baz=240
O20K **Slope Mountain** 60.60 30 P P 09 13 45.4 +0.3
baz=254
H19K **Roundabout Mou** 60.73 24 IAmb IAmb 09 13 47.5
comp=Z,15nm,0.8s
H19K **Roundabout Mou** 60.73 24 P P 09 13 46.4 +0.6
baz=247,SNR=12
SHLS **Shalkode** 60.75 310 *e*P P 09 13 44.0 -2.4
SHLS **Shalkode** 60.75 310 *e*P P 09 13 44.0 -2.4
F19K **Shaleruckik Mo** 60.76 22 P P 09 13 46.8 +0.9
baz=245
M20K **Styx River** 60.88 28 IAmb IAmb 09 13 49.1
comp=Z,12nm,0.8s
M20K **Styx River** 60.88 28 P P 09 13 47.5 +0.6
baz=253,SNR=8.2
HOM **Homer** 60.96 31 P P 09 13 48.1 +0.7
baz=255
UZB **Uzynbulak** 61.07 310 *e*P P 09 13 48.3 -0.4
UZB **Uzynbulak** 61.07 310 *e*P P 09 13 48.2 -0.4
SPCR **Spurr Chakacha** 61.10 29 P P 09 13 49.0 +0.5
baz=254
C19K **Lookout Ridge** 61.15 20 P P 09 13 49.4 +0.9
baz=242
E19K **Redstone River** 61.21 22 IAmb IAmb 09 13 51.3
comp=Z,36nm,1.3s
E19K **Redstone River** 61.21 22 P P 09 13 49.8 +0.8
baz=246
A19K **Wainwright** 61.22 18 P P 09 13 49.9 +1.0
baz=240
I20K **Naaghedeneel** 61.24 25 IAmb IAmb 09 13 51.3
comp=Z,27nm,0.8s
I20K **Naaghedeneel** 61.24 25 P P 09 13 50.2 +1.1
baz=250
H20K **Anotleneega Mo** 61.33 24 P P 09 13 50.8 +1.0
baz=249,SNR=9.2
D19K **Kuna River** 61.35 20 IAmb IAmb 09 13 51.4
comp=Z,41nm,1.3s
D19K **Kuna River** 61.35 20 P P 09 13 50.7 +0.7
baz=244
BRLK **Bradley Lake** 61.36 31 IAmb IAmb 09 13 50.6
comp=Z,24nm,0.8s
BRSE **Bradley Lake S** 61.43 31 P P 09 13 50.7 +0.1
baz=256
SATY **Saty** 61.52 310 *e*P P 09 13 51.3 -0.3
SATY **Saty** 61.52 310 *e*P P 09 13 51.3 -0.3
F20K **Avaraart Lake** 61.59 22 P P 09 13 52.4 +0.9
baz=247,SNR=9.3
TDK **Taldyqorghan** 61.59 312 *e*P P 09 13 51.9 -0.1
comp=Z,6.4nm,0.4s
TDK **Taldyqorghan** 61.59 312 *e*P P 09 13 51.8 -0.1
TDK pmax pmax
comp=Z,6.0nm,0.4s
PPLA **Purkeypile** 61.60 27 IAmb IAmb 09 14 37.9
comp=Z,25nm,1.2s
PPLA **Purkeypile** 61.60 27 P P 09 13 52.1 +0.3
baz=253,SNR=6.4
SKT **Skwentna** 61.63 28 IAmb IAmb 09 13 52.5
comp=Z,16nm,0.8s
SKT **Skwentna** 61.63 28 P P 09 13 52.1 +0.3
baz=254,SNR=7.1
CHUM **Lake Minchumin** 61.84 26 P P 09 13 53.9 +0.8
baz=252,SNR=6.9
SUA **Susitna One** 61.85 29 P P 09 13 53.7 +0.2
baz=255
SLKM **Skilak Lake** 61.87 30 IAmb IAmb 09 14 18.2
comp=Z,35nm,1.4s
KURK **Kurchatov** 61.88 318 P 09 13 52.6 -1.1
KURK **Kurchatov** 61.88 318 *de*P P 09 13 52.8 -0.9
KURK pmax pmax
comp=Z,19nm,1.7s
E20K **Nigu River** 61.90 21 P P 09 13 54.2 +0.6
baz=246
KURBB **Kurchatov Arra** 61.93 318 P P 09 13 52.5 -1.5
comp=Z,12nm,0.6s,baz=97,slow=7.1,SNR=70
comp=Z,12nm,0.6s
TARG **Taragay, Kyrgy** 61.94 308 P P 09 13 56.1 +1.3
IMAR **Indian Mountai** 61.94 24 P P 09 13 53.8 -0.1
D20K **Etivluk River** 61.95 20 P P 09 13 54.4 +0.5
baz=246
O22K **Cooper Landing** 62.10 30 P P 09 13 55.1 +0.2
baz=257,SNR=6.0
SEW **Seward** 62.14 31 P P 09 13 55.2 0.0
baz=257
G21K **Allakaket** 62.21 23 P P 09 13 56.1 +0.4
baz=250
M22K **Willow** 62.22 29 P P 09 13 55.8 0.0
baz=256,SNR=6.9
RC01 **Rabbit Creek A** 62.23 30 P P 09 13 55.8 -0.1
baz=256,SNR=7.0
CUT **Chulitna** 62.31 28 IAmb IAmb 09 13 56.8
comp=Z,25nm,0.9s
CUT **Chulitna** 62.31 28 P P 09 13 56.4 +0.1
baz=255
B20K **Meade River** 62.32 19 P P 09 13 56.7 +0.5
baz=244
I21K **Tanana** 62.37 25 IAmb IAmb 09 13 58.6
comp=Z,15nm,0.7s
I21K **Tanana** 62.37 25 P P 09 13 57.3 +0.6
baz=252,SNR=14
KDJ **Kajisay** 62.41 309 P P 09 13 58.2 +0.6
KDJ pmax pmax
comp=Z,11nm,1.1s
BPAW **Bear Paw Mtn.** 62.46 26 P P 09 13 57.2 -0.1
BPAW IAmb IAmb 09 13 58.8
comp=Z,25nm,0.9s
BPAW **Bear Paw Mtn.** 62.46 26 P P 09 13 57.7 +0.3
baz=254,SNR=6.5
F21K **Alatna River** 62.47 23 IAmb IAmb 09 14 00.5
comp=Z,18nm,1.4s
F21K **Alatna River** 62.47 23 P P 09 13 58.0 +0.7
baz=250
MDOK **Medeo** 62.51 310 *e*P P 09 13 58.0 -0.3
MDOK **Medeo** 62.51 310 *e*P P 09 13 58.0 -0.3
TRF **Thorofare Moun** 62.58 27 IAmb IAmb 09 14 42.9
comp=Z,17nm,0.8s
TRF **Thorofare Moun** 62.58 27 P P 09 13 58.2 -0.1
baz=254,SNR=5.3
TNSS **Tian-Shan** 62.59 310 *e*P P 09 13 58.5 -0.6
TNSS **Tian-Shan** 62.59 310 *e*P P 09 13 58.4 -0.6
AAA **Alma-Ata** 62.61 310 *e*P P 09 13 58.5 -0.3
comp=Z,10nm,0.6s
AAA **Alma-Ata** 62.61 310 *e*P P 09 13 58.5 -0.3
AAA pmax pmax
comp=Z,11nm,0.6s
PMR **Palmer** 62.64 29 IAmb IAmb 09 13 58.7
comp=Z,14nm,0.8s
PMR **Palmer** 62.64 29 P P 09 13 58.4 -0.1
baz=256,SNR=5.2
C21K **Knifeblade Rid** 62.73 20 P P 09 13 59.7 +0.6
baz=247
E21K **Killik River** 62.73 21 P P 09 13 59.5 +0.4
baz=248
MLY **Manley** 62.83 25 IAmb IAmb 09 14 00.9
comp=Z,16nm,0.7s
MLY **Manley** 62.83 25 P P 09 14 00.2 +0.4
baz=253,SNR=13
PWL **Port Wells** 62.85 30 P P 09 14 00.1 +0.2
baz=258
KNK **Knik Glacier** 62.91 30 P P 09 14 00.6 +0.3
baz=257,SNR=9.4
B21K **Ikpikpuk River** 62.97 20 P P 09 14 01.3 +0.7
baz=247
F22K **John River** 63.04 22 P P 09 14 01.8 +0.7
baz=251,SNR=12
A21K **Barrow** 63.05 18 P P 09 14 01.8 +0.8
baz=244
SML **Sawmill** 63.06 29 P P 09 14 01.6 +0.2
baz=257,SNR=13
G22K **Bettles** 63.10 23 P P 09 14 01.9 +0.4
baz=252,SNR=6.3
P23K **Montague Islan** 63.13 31 P P 09 14 01.8 0.0
baz=259
WAT1 **Susitna Watana** 63.19 28 P P 09 14 02.1 -0.1
baz=256
RND **Reindeer** 63.19 27 IAmb IAmb 09 14 03.0
comp=Z,12nm,0.8s
MCK **McKinley** 63.24 27 IAmb IAmb 09 14 03.3
comp=Z,24nm,1.4s
MCK **McKinley** 63.24 27 P P 09 14 02.2 -0.3
baz=256
D22K **Ayikyak River** 63.33 21 IAmb IAmb 09 14 04.5
comp=Z,17nm,0.7s
D22K **Ayikyak River** 63.33 21 P P 09 14 03.5 +0.5
baz=250,SNR=5.8
M23K **Glacier View** 63.33 29 P P 09 14 03.3 +0.1
baz=258,SNR=5.8
KSH **Kashi** 63.35 306 P P 09 14 07.2 +3.4
KSH pmax pmax
comp=Z,10.0nm,0.6s
E22K **Anaktuvuk Pass** 63.38 22 IAmb IAmb 09 14 05.1
comp=Z,17nm,0.9s
E22K **Anaktuvuk Pass** 63.38 22 P P 09 14 04.0 +0.6
baz=251
RTZ **Ruatahuna** 63.39 153 P 09 14 02.7 -1.1
NEA2 **Nenana** 63.40 26 IAmb IAmb 09 14 48.9
comp=Z,15nm,1.1s
NEA2 **Nenana** 63.40 26 P P 09 14 03.8 +0.3
baz=255,SNR=6.2
A22K **Sinclair Lake** 63.40 18 P P 09 14 04.1 +0.7
baz=246
I23K **Minto, Yukon-K** 63.42 25 IAmb IAmb 09 14 05.3
comp=Z,15nm,0.7s
I23K **Minto, Yukon-K** 63.42 25 P P 09 14 04.2 +0.6
baz=255,SNR=11
GLI **Glacier Island** 63.45 30 P P 09 14 03.9 0.0
baz=259
WAT6 **Susitna Watana** 63.50 28 P P 09 14 04.3 -0.1
baz=257,SNR=7.4
SCM **Sheep Creek Mo** 63.53 29 P P 09 14 04.9 +0.4
baz=258,SNR=10
H23K **Yukon River** 63.53 25 IAmb IAmb 09 14 06.1
comp=Z,13nm,0.8s
H23K **Yukon River** 63.53 25 P P 09 14 04.9 +0.5
baz=254
G23K **Bananza Creek** 63.59 24 P P 09 14 05.4 +0.6
baz=253,SNR=8.1
B22K **Teshekpuk Lake** 63.62 19 P P 09 14 06.2 +1.4
baz=248
BKZ **Black Stump Fm** 63.65 154 IAmb IAmb 09 14 05.7
comp=Z,18nm,0.8s
COLD **Coldfoot** 63.68 23 IAmb IAmb 09 14 07.2
comp=Z,15nm,1.1s
COLD **Coldfoot** 63.68 23 P P 09 14 06.1 +0.8
baz=253,SNR=8.4
DHY **Denali Highway** 63.77 28 P P 09 14 06.7 +0.6
baz=258
WRH **Wood River Hil** 63.78 26 IAmb IAmb 09 14 06.4
comp=Z,8.8nm,0.6s
COLA **College** 63.97 26 P P 09 14 07.6 +0.4
COLA **College** 63.97 26 *ce*P P 09 14 07.8 +0.6
COLA pmax pmax
comp=Z,8.0nm,0.7s
COLA **College** 63.97 26 P P 09 14 07.7 +0.6
baz=256
EYAK **Cordova Ski Ar** 64.04 31 P P 09 14 08.3 +0.5
baz=260
D23K **Nanushuk River** 64.04 21 P P 09 14 08.6 +0.9
baz=252
PALK **Pallekele** 64.07 269 *ce*P P 09 14 08.7 -0.1
PALK pmax pmax
comp=Z,23nm,1.5s
M24K **Tolsona, Glenn** 64.11 29 P P 09 14 09.0 +0.7
baz=259
KLU **Klutina** 64.12 30 IAmb IAmb 09 14 10.0
comp=Z,17nm,0.8s
KLU **Klutina** 64.12 30 P P 09 14 09.1 +0.7
baz=260,SNR=6.8
DIV **Divide** 64.13 30 IAmb IAmb 09 14 09.6
comp=Z,17nm,0.8s
E23K **Chandalar** 64.14 22 P P 09 14 09.6 +1.2
baz=253,SNR=14
POKR **Poker Plat Res** 64.20 26 P P 09 14 08.6 -0.1
baz=256
HDA **Harding Lake** 64.25 26 P P 09 14 08.7 -0.4
baz=257,SNR=6.2
SGDS **Sogindy** 64.28 310 *e*P P 09 14 09.5 -0.3
TOLK **Toolik Lake Re** 64.33 22 IAmb IAmb 09 14 11.4
comp=Z,35nm,1.1s
TOLK **Toolik Lake Re** 64.33 22 P P 09 14 10.3 +0.8
baz=253,SNR=6.8
C23K **Itkillik River** 64.34 20 P P 09 14 10.7 +1.1
baz=251
IL31 **** 64.35 26 IAmb IAmb 09 14 09.6
comp=Z,25nm,1.2s
ILAR **Eielson Array** 64.35 26 P P 09 14 08.6 -1.1
ILAR **Eielson Array** 64.35 26 P P 09 14 08.5 -1.2
comp=Z,11nm,0.9s,baz=250,slow=5.4,SNR=63
ILAR LR LR 09 43 55.2
comp=Z,19nm,18.3s,baz=320,slow=37
comp=Z,11nm,0.9s
AAK **Ala-Archa** 64.39 309 *de*P P 09 14 10.6 0.0
THZ **Tophouse** 64.47 158 P 09 14 10.5 -0.3
E24K **Your Creek** 64.55 22 IAmb IAmb 09 14 12.9
comp=Z,22nm,1.1s
E24K **Your Creek** 64.55 22 P P 09 14 12.0 +0.9
baz=254,SNR=9.1
G24K **Hadweenzic Riv** 64.57 24 IAmb IAmb 09 14 12.9
comp=Z,14nm,1.0s
G24K **Hadweenzic Riv** 64.57 24 P P 09 14 11.7 +0.6
baz=256,SNR=7.9
KAIM **Kayak Island** 64.60 32 P P 09 14 11.8 +0.5
baz=262
PAX **Paxson** 64.60 28 IAmb IAmb 09 14 18.4
comp=Z,13nm,0.7s
PAX **Paxson** 64.60 28 P P 09 14 11.7 +0.2
baz=259,SNR=6.8
F24K **Squaw Lake** 64.62 23 IAmb IAmb 09 14 13.6
comp=Z,14nm,1.0s
F24K **Squaw Lake** 64.62 23 P P 09 14 12.0 +0.5
baz=255,SNR=7.2
K24K **Donnelly Dome** 64.62 27 IAmb IAmb 09 14 37.9
comp=Z,13nm,0.8s
K24K **Donnelly Dome** 64.62 27 P P 09 14 11.4 -0.2
baz=259
HARP **HAARP** 64.64 29 P P 09 14 12.1 +0.5
baz=260,SNR=6.5
BMRM **Bremner River** 64.66 30 P P 09 14 12.4 +0.5
baz=261,SNR=5.1
BTLS **Baital** 64.68 312 *e*P P 09 14 12.1 -0.1
BTLS **Baital** 64.68 312 *e*P P 09 14 12.1 -0.1
D24K **Happy Valley** 64.74 21 P P 09 14 13.2 +1.1
baz=253
N25K **Chitina, Valde** 64.76 30 IAmb IAmb 09 14 13.9
comp=Z,12nm,0.8s
N25K **Chitina, Valde** 64.76 30 P P 09 14 13.1 +0.5
baz=261
C24K **Franklin Bluff** 64.94 21 P P 09 14 14.3 +0.9
baz=253
PRP **Porcupine Dome** 65.07 25 P P 09 14 15.0 +0.5
baz=258
GLB **Gilahina Butte** 65.11 30 IAmb IAmb 09 15 00.1
comp=Z,33nm,1.2s
G25K **Bearman Lake** 65.11 24 P P 09 14 15.3 +0.8
baz=257
H25L **Birch Creek** 65.11 25 P P 09 14 15.2 +0.6
baz=257,SNR=11
LTZ **Lake Taylor** 65.14 159 P P 09 14 14.1 -0.9
CRQE **Cirque** 65.36 31 P P 09 14 16.7 +0.3
baz=262
MENT **Mentasta** 65.38 28 IAmb IAmb 09 14 23.1
comp=Z,40nm,1.8s
MENT **Mentasta** 65.38 28 P P 09 14 17.6 +1.2
SCRK **Sand Creek** 65.43 27 IAmb IAmb 09 14 18.0
comp=Z,18nm,1.1s
SCRK **Sand Creek** 65.43 27 P P 09 14 16.7 -0.1
baz=260,SNR=8.6
F25K **Christian Rive** 65.47 23 IAmb IAmb 09 14 19.2
comp=Z,25nm,1.0s
F25K **Christian Rive** 65.47 23 P P 09 14 17.9 +0.9
baz=257,SNR=14
MCARA **McCarthy VSAT** 65.48 30 IAmb IAmb 09 14 18.7
comp=Z,25nm,0.8s
MCARA **McCarthy VSAT** 65.48 30 P P 09 14 17.6 +0.6
baz=262,SNR=7.7
RPZ **Rata Peaks** 65.56 160 P P 09 14 16.9 -0.8
D25K **Kavik River** 65.62 21 P P 09 14 18.8 +0.9
baz=256,SNR=9.2
E25K **Arctic Village** 65.62 23 IAmb IAmb 09 14 20.1
comp=Z,21nm,1.1s
E25K **Arctic Village** 65.62 23 P P 09 14 18.7 +0.8
baz=257,SNR=7.6
BMAR **Burnt Mountain** 65.84 23 P P 09 14 19.8 +0.5
MESA **MESA** 65.86 31 P P 09 14 20.0 +0.3
baz=264
NIL **Nilore** 65.94 299 P 09 14 21.3 +0.7
NIL **Nilore** 65.94 299 P P 09 14 21.3 +0.7
NIL pmax pmax
comp=Z,47nm,1.2s
I26K **Coal Creek Min** 66.01 26 P P 09 14 20.5 +0.1
baz=260
G26K **Porcupine Rive** 66.05 24 IAmb IAmb 09 14 22.7
comp=Z,17nm,1.0s
G26K **Porcupine Rive** 66.05 24 P P 09 14 20.8 +0.3
baz=259,SNR=8.9
F26K **Sheenjek River** 66.06 23 IAmb IAmb 09 14 22.9
comp=Z,30nm,1.0s
F26K **Sheenjek River** 66.06 23 P P 09 14 21.4 +0.7
baz=258,SNR=15
CTG **Chitna Glacier** 66.24 31 P P 09 14 22.9 +0.9
baz=264,SNR=7.7
CTGM **Chitina Glacie** 66.24 31 IAmb IAmb 09 14 24.4
comp=Z,22nm,0.7s
C26K **Camden Bay** 66.26 21 P P 09 14 22.7 +0.8
baz=257
K27K **Chicken** 66.27 27 P P 09 14 22.7 +0.6
baz=262
BCAR **Beaver Creek A** 66.27 28 P P 09 14 21.8 -0.4
ARK **Arkit** 66.30 308 P P 09 14 23.1 +0.3
ARK pmax pmax
comp=Z,14nm,1.1s
LOGN **Logan Glacier** 66.39 31 IAmb IAmb 09 14 24.9
comp=Z,20nm,0.8s
C27K **Jago River** 66.61 21 P P 09 14 25.0 +0.9
baz=258
PINM **Pinnacle** 66.69 32 P P 09 14 25.4 +0.5
baz=265
DZA **Taraz** 66.71 310 *e*P P 09 14 24.9 -0.4
comp=Z,6.8nm,0.5s

DZA	Taraz	66.71	310	eP	P	09 14 24.9	-0.4
DZA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
EGAK	Eagle	66.77	26	IAmb	IAmb	09 14 27.6	
	comp=Z,26nm,1.5s						
EGAK	Eagle	66.77	26	P	P	09 14 25.5	+0.3
	baz=262,SNR=7.6						
O28M	Mount Upton	66.78	31	P	P	09 14 25.8	+0.1
	baz=265,SNR=11						
H27K	Steamboat Moun	66.82	25	IAmb	IAmb	09 14 27.3	
	comp=Z,32nm,1.1s						
H27K	Steamboat Moun	66.82	25	P	P	09 14 26.0	+0.5
	baz=262,SNR=16						
G27K	Doyon Strip	66.85	24	P	P	09 14 26.4	+0.6
	baz=261,SNR=7.0						
TRKS	Terek-Say	66.94	308	P	P	09 14 26.7	-0.2
TRKS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YUK8	Steele Glacier	67.03	30	P	P	09 14 28.7	+1.5
	baz=265						
E27K	Coleen River	67.09	23	P	P	09 14 27.6	+0.4
	baz=261						
PNL	Peninsula	67.09	32	P	P	09 14 27.6	+0.2
	baz=266						
BVAR	Borovoye Array	67.11	321	P	P	09 14 26.4	-1.2
	comp=Z,19nm,0.6s,baz=91,slow=7.9,SNR=65						
	comp=Z,19nm,0.6s						
BORK	Borovoye	67.15	321	P	P	09 14 26.8	-1.0
BORK				pP	PcP	09 15 01.2	+6.8
KKAR	Karatay Array	67.30	310		P	09 14 28.5	-0.5
KKAR	Karatay Array	67.30	310	P	P	09 14 28.5	-0.5
I28M	Miner Creek	67.36	26	P	P	09 14 29.5	+0.5
	baz=263,SNR=6.4						
DAWY	Dawson	67.45	27	P	P	09 14 30.3	+0.8
	baz=264,SNR=8.2						
D27M	Malcolm River	67.49	22	IAmb	IAmb	09 14 31.9	
	comp=Z,22nm,0.8s						
D27M	Malcolm River	67.49	22	P	P	09 14 30.7	+1.0
	baz=261						
O29M	Mount Kennedy	67.54	31	IAmb	IAmb	09 14 32.8	
	comp=Z,23nm,0.8s						
O29M	Mount Kennedy	67.54	31	P	P	09 14 31.5	+1.2
	baz=267,SNR=7.6						
YUK4	Talbot Arm	67.57	30	P	P	09 14 31.7	+1.1
	baz=266,SNR=12						
F28M	Old Crow	67.66	24	IAmb	IAmb	09 14 32.6	
	comp=Z,16nm,0.8s						
F28M	Old Crow	67.66	24	P	P	09 14 31.5	+0.7
	baz=262,SNR=6.6						
YUK6	Outpost Mounta	67.69	31	P	P	09 14 31.8	+0.5
	baz=267						
IUG	luzhnay	67.72	309	eP	P	09 14 31.3	-0.5
IUG	luzhnay	67.72	309	eP	P	09 14 31.2	-0.5
M29M	Somme Creek	67.73	29	IAmb	IAmb	09 14 33.6	
	comp=Z,18nm,0.8s						
M29M	Somme Creek	67.73	29	P	P	09 14 32.4	+1.0
	baz=266,SNR=16						
GAR	Garm	67.77	305	P	P	09 14 30.5	-1.6
BRLS	Borolday	67.80	310	eP	P	09 14 32.5	+0.3
BRLS	Borolday	67.80	310	eP	P	09 14 32.4	+0.3
E28M	Babbage River	67.91	22	IAmb	IAmb	09 14 34.6	
	comp=Z,22nm,1.1s						
E28M	Babbage River	67.91	22	P	P	09 14 33.2	+0.9
	baz=262,SNR=6.5						
L29M	L29M	67.93	28	IAmb	IAmb	09 14 34.9	
	comp=Z,31nm,0.9s						
L29M	L29M	67.93	28	P	P	09 14 33.4	+0.8
	baz=266,SNR=19						
P29M	Windy Craggy	67.93	32	P	P	09 14 33.4	+0.8
	baz=268,SNR=6.3						
CHM	Chimkent	68.02	309	eP	P	09 14 33.3	-0.3
	comp=Z,7.3nm,0.4s						
CHM	Chimkent	68.02	309	eP	P	09 14 33.2	-0.3
CHM				pmax	pmax		
	comp=Z,7.0nm,0.4s						
I29M	Ogilvie Camp,	68.03	26	P	P	09 14 33.3	+0.2
	baz=265,SNR=6.7						
H29M	Whitestone	68.09	25	P	P	09 14 33.8	+0.4
	baz=264,SNR=5.5						
HYT	Haines Junctio	68.10	31	P	P	09 14 34.7	+0.9
	baz=267,SNR=16						
K29M	Barlow Dome	68.25	28	IAmb	IAmb	09 14 36.7	
	comp=Z,26nm,1.1s						
K29M	Barlow Dome	68.25	28	P	P	09 14 35.5	+0.8
	baz=266,SNR=12						
G29M	Pine Creek	68.29	24	IAmb	IAmb	09 14 36.8	
	comp=Z,23nm,0.9s						
G29M	Pine Creek	68.29	24	P	P	09 14 35.6	+0.9
	baz=264,SNR=7.6						
N30M	Aishikik Lake	68.33	30	IAmb	IAmb	09 14 37.2	
	comp=Z,21nm,0.8s						
N30M	Aishikik Lake	68.33	30	P	P	09 14 35.8	+0.7
	baz=268,SNR=12						
P30M	Million Dollar	68.34	32	P	P	09 14 36.4	+1.2
	baz=268						
E29M	Blow River	68.48	23	P	P	09 14 36.7	+0.8
	baz=264						
M30M	Minto, Yukon	68.51	29	IAmb	IAmb	09 14 38.3	
	comp=Z,30nm,1.6s						
M30M	Minto, Yukon	68.51	29	P	P	09 14 37.0	+0.8
	baz=267,SNR=6.9						
S31K	Pelican	68.68	34	P	P	09 14 37.8	+0.6
	baz=270						
CHGR	Chuyangaron	68.70	305	IAmb	IAmb	09 14 38.4	
	comp=Z,19nm,0.7s						
CHGR	Chuyangaron	68.70	305	P	P	09 14 37.7	-0.2
CHGR				pmax	pmax		
	comp=Z,30nm,1.1s						
EPYK	Eagle Plains	68.76	25	P	P	09 14 38.2	+0.5
	baz=266,SNR=7.0						
O30N	Mendenhall	68.79	31	P	P	09 14 38.7	+0.8
	baz=269						
J30M	Hart River	68.82	27	P	P	09 14 38.7	+0.6
	baz=267,SNR=6.5						
I30M	Mount Dempster	68.83	26	P	P	09 14 38.6	+0.4
	baz=267						
N31M	Braeburn, Yuko	68.96	30	P	P	09 14 38.6	-0.4
N31M				IAmb	IAmb	09 14 41.2	
	comp=Z,34nm,0.9s						
N31M					pP	09 15 23.7	0.0
N31M	Braeburn, Yuko	68.96	30	P	P	09 14 39.6	+0.7
	baz=269,SNR=8.2						
MAYO	Mayo, Yukon	68.97	28	IAmb	IAmb	09 14 41.0	
	comp=Z,39nm,1.1s						
MAYO	Mayo, Yukon	68.97	28	P	P	09 14 39.4	+0.5
	baz=268,SNR=6.2						
G30M	tAoh Zraii Nji	69.00	24	IAmb	IAmb	09 14 41.1	
	comp=Z,34nm,1.1s						
G30M	tAoh Zraii Nji	69.00	24	P	P	09 14 39.7	+0.5
	baz=266,SNR=10						
SKAG	Skagway	69.16	32	IAmb	IAmb	09 14 42.3	
	comp=Z,15nm,0.7s						
SKAG	Skagway	69.16	32	P	P	09 14 40.9	+0.8
	baz=270,SNR=5.6						
SIT	Sitka	69.17	35	P	P	09 14 41.0	+0.7
	baz=271						
F30M	Barrier River	69.21	24	P	P	09 14 41.0	+0.7
	baz=266,SNR=16						
WHY	Whitehorse	69.38	31	IAmb	IAmb	09 14 43.8	
	comp=Z,28nm,0.9s						
WHY	Whitehorse	69.38	31	P	P	09 14 42.6	+1.0
	baz=270,SNR=8.9						
R32K	Eaglecrest	69.59	34	P	P	09 14 43.3	+0.4
	baz=271						
M31M	Drury Creek, Y	69.62	29	IAmb	IAmb	09 14 44.8	
	comp=Z,35nm,1.4s						
M31M	Drury Creek, Y	69.62	29	P	P	09 14 43.6	+0.6
	baz=270,SNR=5.1						
H31M	Peel River	69.70	26	IAmb	IAmb	09 14 45.0	
	comp=Z,33nm,1.1s						
H31M	Peel River	69.70	26	P	P	09 14 43.8	+0.4
	baz=268,SNR=11						
G31M	Satah River	69.77	24	P	P	09 14 44.0	+0.3
	baz=268,SNR=16						
P32M	Atlin	69.98	32	IAmb	IAmb	09 14 47.2	
	comp=Z,15nm,0.8s						
P32M	Atlin	69.98	32	P	P	09 14 46.0	+0.8
	baz=271						
F31M	Tsiigehtchic	69.99	24	P	P	09 14 45.4	+0.4
	baz=268						
INK	Inuvik	70.10	23	IAmb	IAmb	09 14 46.6	
	comp=Z,30nm,0.8s						
INK	Inuvik	70.10	23	P	P	09 14 45.7	0.0
INK				pmax	pmax		
	comp=Z,41nm,0.8s						
INK	Inuvik	70.10	23	P	P	09 14 45.7	0.0
	baz=268,SNR=14						
N32M	Quiet Lake	70.26	31	P	P	09 14 47.3	+0.3
	baz=271						
P33M	Teslin, Yukon	70.41	32	P	P	09 14 48.3	+0.4
	baz=272						
U33K	Whale Pass	70.43	36	P	P	09 14 48.7	+0.8
	baz=273						
Q32M	Nakina River	70.74	33	P	P	09 14 50.6	+0.5
	baz=273						
WRAK	Wrangell Islan	70.84	36	P	P	09 14 51.1	+0.7
	baz=274						
R33M	Jennings River	71.39	32	IAmb	IAmb	09 14 56.2	
	comp=Z,31nm,1.5s						
R33M	Jennings River	71.39	32	P	P	09 14 54.4	+0.5
	baz=274						
S34M	Telegraph Cree	71.40	34	IAmb	IAmb	09 14 56.1	
	comp=Z,13nm,0.7s						
S34M	Telegraph Cree	71.40	34	P	P	09 14 54.5	+0.7
	baz=274						
DLBC	Dease Lake	71.94	33	P	P	09 14 57.8	+0.6
	baz=275,SNR=9.0						
T35M	Bob Quinn	71.95	35	P	P	09 14 58.3	+1.1
	baz=275						
WTLY	Watson Lake, Y	72.43	32	IAmb	IAmb	09 15 02.1	
	comp=Z,26nm,1.2s						
WTLY	Watson Lake, Y	72.43	32	P	P	09 15 00.8	+0.9
	baz=275						
TGTN	Hyland Airport	72.55	30	P	P	09 15 01.2	+0.5
	baz=275,SNR=7.8						
PPT2	Papeete2	72.76	115	eS	S	09 24 08.9	-3.7
	comp=Z,43nm,27.8s						
PPT2	Papeete2	72.76	115	eLR	LR	09 37 29.3	
	comp=Z,90nm,27.0s						
PPT2				eLR	LR	09 37 35.5	
	comp=Z,98nm,24.2s						
A36M	Sachs Harbour	72.83	19	P	P	09 15 02.0	+0.1
	baz=275						
C36M	Paulatuk	73.48	22	P	P	09 15 05.8	0.0
	baz=277						
ARTI	Arti	73.83	325	P	P	09 15 06.6	-1.5
ARTI				IAmb	IAmb	09 15 07.8	
	comp=Z,14nm,0.6s						
ARTI	Arti	73.83	325	LR	LR	09 49 20.4	
	comp=Z,32nm,18.3s,baz=189,slow=37						
ARTI	Arti	73.83	325	cifP	P	09 15 06.9	-1.3
ARTI						09 15 22.0	
ARTI				S	S	09 24 22.0	-1.4
ARTI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LIRD	Liard River Hi	73.86	32	P	P	09 15 08.6	+0.3
	baz=278						
ABKAR	Akbulak array	73.94	317		P	09 15 07.4	-1.5
TOAD	Toad River Com	74.38	33	P	P	09 15 11.5	+0.1
	baz=279,SNR=7.7						
WRGLY	Wrigley	74.56	28	P	P	09 15 12.7	+0.4
	baz=279						
KOTAN	Kotaneelee Air	74.78	31	P	P	09 15 14.0	+0.4
	baz=279						
NLWA	Neilton Lookou	77.32	44	IAmb	IAmb	09 15 31.0	
	comp=Z,19nm,0.7s						
PGC	Sidney	77.32	43	IAmb	IAmb	09 15 30.2	
	comp=Z,14nm,0.7s						
B04A	Port Angeles	77.42	43	P	P	09 15 30.2	+1.6
B04A				IAmb	IAmb	09 15 31.3	
	comp=Z,23nm,0.8s						
WISH	Wishkah	77.45	44	IAmb	IAmb	09 15 31.9	
	comp=Z,24nm,0.8s						
E03A	Lebam	77.71	45	IAmb	IAmb	09 15 32.8	
	comp=Z,28nm,0.8s						
A04D	Lummi Island	77.78	43	IAmb	IAmb	09 15 33.1	
	comp=Z,17nm,0.7s						
GNW	Green Mountain	77.97	44	IAmb	IAmb	09 15 34.4	
	comp=Z,28nm,0.9s						
KIRV	Kirov	78.15	328	ceP	P	09 15 32.8	+0.4
G03D	McMinnville, O	78.22	46	IAmb	IAmb	09 15 35.2	
	comp=Z,15nm,0.7s						
I03D	Drain, OR	78.52	48	IAmb	IAmb	09 15 37.3	
	comp=Z,17nm,0.8s						
D05A	Enumclaw	78.61	44	IAmb	IAmb	09 15 37.9	
	comp=Z,28nm,0.7s						
BUCK	Buck Mountain	78.65	47	IAmb	IAmb	09 15 38.4	
	comp=Z,33nm,0.8s						
YKAW3	Yellowknife Wh	78.66	28	IAmb	IAmb	09 15 36.2	
	comp=Z,29nm,0.8s						
YKA	Yellowknife Ar	78.68	28		P	09 15 35.1	-0.3
YKA	Yellowknife Ar	78.68	28	P	P	09 15 35.2	-0.1
	comp=Z,19nm,0.7s,baz=294,slow=6.5,SNR=20						
	comp=Z,19nm,0.7s						
KMPM	Mount Pierce	78.74	51	IAmb	IAmb	09 15 39.6	
	comp=Z,22nm,0.9s						
YKAW1	Yellowknife Wh	78.74	28	IAmb	IAmb	09 15 36.7	
	comp=Z,34nm,0.8s						
H04D	Lebanon	78.75	47	IAmb	IAmb	09 15 38.7	
	comp=Z,43nm,1.3s						
H04A	Detroit Lake	79.09	47	IAmb	IAmb	09 15 39.4	
	comp=Z,15nm,0.8s						
HOOD	Mount Hood Mea	79.30	46	IAmb	IAmb	09 15 45.3	
	comp=Z,15nm,0.7s						
LTY	Liberty	79.47	44	IAmb	IAmb	09 15 41.6	
	comp=Z,17nm,0.7s						
WIFE	Three Sisters-	79.50	47	IAmb	IAmb	09 15 42.7	
	comp=Z,26nm,0.8s						
L04D	Klamath Falls	79.62	49	IAmb	IAmb	09 15 43.1	
	comp=Z,22nm,0.7s						
MXC	Moxie City	79.89	44	P	P	09 15 43.2	+1.0
MXC				IAmb	IAmb	09 15 44.4	
	comp=Z,24nm,1.3s						
SPITS	Spitsbergen Ar	79.96	351	P	P	09 15 40.4	-1.7
	comp=Z,2.0nm,0.6s,baz=104,slow=6.1,SNR=0.9						
	comp=Z,2.0nm,0.6s						
M03C	McCloud	80.00	50	P	P	09 15 43.8	+0.8
M03C				IAmb	IAmb	09 15 45.2	
	comp=Z,26nm,0.8s						
B08A	Colville Reser	80.05	42	IAmb	IAmb	09 15 44.7	
	comp=Z,23nm,0.8s						
E07A	Sunnyside	80.19	44	IAmb	IAmb	09 15 46.0	
	comp=Z,18nm,0.8s						
O03E	Paynes Creek	80.48	51	IAmb	IAmb	09 15 47.4	
	comp=Z,17nm,0.8s						
HATC	Hat Creek Radi	80.60	50	IAmb	IAmb	09 15 48.5	
	comp=Z,25nm,0.8s						
D08A	Wollman Farm,	80.67	44	IAmb	IAmb	09 15 47.8	
	comp=Z,13nm,0.7s						
E08A	Dider Farm, El	80.73	44	IAmb	IAmb	09 15 48.9	
	comp=Z,51nm,1.7s						
C09A	Chrisman Ranch	80.88	43	IAmb	IAmb	09 15 48.7	
	comp=Z,14nm,0.8s						
ORV	Oroville	80.91	51	IAmb	IAmb	09 15 49.5	
	comp=Z,34nm,1.6s						
YPT	Yellepit	80.92	45	IAmb	IAmb	09 18 23.4	
	comp=Z,19nm,0.6s						
E09A	Wood Farm, Sta	81.33	44	IAmb	IAmb	09 15 51.8	
	comp=Z,16nm,0.7s						
NEW	Newport	81.49	42	IAmb	IAmb	09 15 52.4	
	comp=Z,26nm,1.1s						
NEW	Newport	81.49	42	P	P	09 15 51.5	+0.8
NEW				pmax	pmax		
	comp=Z,23nm,1.0s						
BEKR	Beckworth	81.67	51	IAmb	IAmb	09 15 53.7	
	comp=Z,24nm,0.7s						
WELL	Weller Preserv	81.79	52	IAmb	IAmb	09 15 54.9	
	comp=Z,32nm,1.4s						
J08A	Circle Bar Ran	82.03	47	IAmb	IAmb	09 15 55.7	
	comp=Z,18nm,1.0s						
BBGB	Big Mountain B	82.07	54	IAmb	IAmb	09 16 44.5	
	comp=Z,27nm,1.2s						
KLMR	Klimovskoe	82.17	332	eP	P	09 15 45.1	-8.8
KLMR				pmax	pmax		
	comp=Z,21nm,1.7s						
WVOR	Wild Horse Val	82.18	48	P	P	09 15 55.6	+1.0
WVOR				pmax	pmax		
	comp=Z,18nm,1.1s						
PKD	Bear Valley Ra	82.64	55	IAmb	IAmb	09 15 59.2	
	comp=Z,47nm,1.5s						
ARCES	ARCESS Array B	83.26	342	P	P	09 15 57.2	-2.2
	comp=Z,6.2nm,0.7s,baz=64,slow=5.5,SNR=12						
	comp=Z,6.2nm,0.7s						
RYN	Ryan	83.39	52	IAmb	IAmb	09 16 02.5	
	comp=Z,12nm,0.7s						
LHV	Little Huntoon	83.52	52	IAmb	IAmb	09 16 04.1	
	comp=Z,35nm,1.5s						
NVAR	Mina Array Bea	83.61	52	P	P	09 16 03.2	+1.1
	comp=Z,14nm,0.7s,baz=272,slow=5.5,SNR=178						
NVAR				LR	LR	09 51 59.0	
	comp=Z,24nm,18.3s,baz=356,slow=34						
	comp=Z,14nm,0.7s						
VES	Vestal, Richgr	83.80	54	IAmb	IAmb	09 16 04.2	
	comp=Z,61nm,1.7s						
MFID	Camas Ranch	83.84	46	IAmb	IAmb	09 16 05.0	
	comp=Z,27nm,1.1s						
AKT	Akhty	84.14	312	eP	P	09 16 00.9	-3.7
AKT				e		09 19 18.1	
AKT				pmax	pmax		
	comp=Z,37nm,1.5s						
DRV	Dumont d'Urvil	84.42	182	P	P	09 16 04.2	-0.9
TPH	Tonopah	84.53	52	IAmb	IAmb	09 16 08.2	
	comp=Z,12nm,0.7s						
TPO	Tropico Hills	84.76	55	IAmb	IAmb	09 16 10.2	
	comp=Z,62nm,1.8s						
ELK	Elko	85.13	49	IAmb	IAmb	09 16 11.8	
	comp=Z,24nm,1.0s						
ELK	Elko	85.13	49	P	P	09 16 10.7	+1.0
CCCA	Chr Cany lake	85.23	54	IAmb	IAmb	09 16 12.5	
	comp=Z,12nm,0.6s						
FURC	Furnace Creek,	85.31	53	IAmb	IAmb	09 16 12.8	
	comp=Z,64nm,1.8s						
DLMT	Dillon	85.37	44	IAmb	IAmb	09 16 12.3	
	comp=Z,46nm,1.6s						
WCT	Wildcat Mounta	85.39	53	IAmb	IAmb	09 16 12.8	
	comp=Z,38nm,1.6s						
QSM	Queen of Sheba	85.47	54	IAmb	IAmb	09 16 14.4	
	comp=Z,46nm,2.0s						
GWY	Greenwater Val	85.55	54	IAmb	IAmb	09 16 13.8	
	comp=Z,35nm,1.7s						
R11B	Troy Canyon, C	85.67	51	IAmb	IAmb	09 16 14.6	
	comp=Z,23nm,1.4s						
GSC	Goldstone, Bar	85.73	54	IAmb	IAmb	09 16 14.7	
	comp=Z,29nm,1.7s						
S11A	Rachel	85.78	52	IAmb	IAmb	09 16 15.0	
	comp=Z,21nm,0.9s						
OBN	Obninsk	85.96	327	eP	P	09 16 14.6	+1.5
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EGMT	Eagleton	86.21	41	IAmb	IAmb	09 16 15.9	
	comp=Z,20nm,0.9s						
SPR3	Spring Creek 3	86.37	50	IAmb	IAmb	09 16 18.2	
	comp=Z,19nm,1.1s						
PRN	Pahroc Range	86.38	52	IAmb	IAmb	09 16 18.0	
	comp=Z,18nm,1.1s						
PFO	Pinyon Flats O	86.55	56	P	P	09 16 16.9	+0.2
PFO	Pinyon Flats O	86.55	56	P	P	09 16 16.9	+0.2
PFO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PFO	Pinyon Flats O	86.55	56	P	P	09 16 17.1	+0.4
MTPC	Mountain Pass	86.64	54	IAmb	IAmb	09 16 19.4	
	comp=Z,32nm,1.9s						
KBZ	Khabaz	86.72	315	P	P	09 16 15.7	-1.4
	comp=Z,3.5nm,0.9s,baz=6.7,slow=17,SNR=4.9						
	comp=Z,3.5nm,0.9s						
BELC	Belle Mtn. Jos	86.78	55	IAmb	IAmb	09 16 19.6	
	comp=Z,38nm,2.0s						
KIV	Kislovodsk	86.78	315	eP	P	09 16 14.6	-3.0
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YFT	Old Faithful	86.87	44	IAmb	IAmb	09 16 21.8	
	comp=Z,15nm,0.8s						
YNR	Norris Junctio	86.87	44	IAmb	IAmb	09 16 21.4	
	comp=Z,29nm,1.1s						
H17A	Grant Village	87.06	44	IAmb	IAmb	09 16 22.8	
	comp=Z,14nm,1.0s						
V12A	Nelson	87.09	53	IAmb	IAmb	09 16 21.5	
	comp=Z,28nm,1.3s						
YMP	Mirror Lake Pl	87.21	44	IAmb	IAmb	09 16 22.8	
	comp=Z,26nm,1.2s						
BC3	Big Chuckawall	87.33	56	IAmb	IAmb	09 16 22.4	
	comp=Z,33nm,1.8s						
IRM	Iron Mountain	87.40	55	P	P	09 16 20.8	+0.1
IRM				IAmb	IAmb	09 16 22.7	
	comp=Z,37nm,1.9s						
CCUT	Cedar City	87.59	51	IAmb	IAmb	09 16 24.1	
	comp=Z,15nm,0.9s						
NEE2	Needles Airpor	87.60	54	P	P	09 16 22.1	+0.6
FINES	FINESS Array B	87.62	335	P	P	09 16 18.0	-3.0
	comp=Z,3.6nm,0.6s,baz=72,slow=6.2,SNR=13						
CTU	Camp Tracy	87.63	48	IAmb	IAmb	09 16 23.5	
	comp=Z,15nm,0.9s						
TCUT	Toone Canyon	87.72	47	IAmb	IAmb	09 16 23.8	
	comp=Z,22nm,0.7s						
FFC	Flin Flon	87.75	32		P	09 16 21.8	0.0
FFC	Flin Flon	87.75	32	P	P	09 16 21.8	0.0
FFC				pmax	pmax		
	comp=Z,26nm,0.9s						
FFC	Flin Flon	87.75	32	P	P	09 16 21.6	-0.3
FFC				pP	pP	09 17 08.1	-0.6
SZCU	Shurtz Canyon	87.78	51	IAmb	IAmb	09 16 24.7	
	comp=Z,13nm,0.8s						
LCMT	Little Creek M	87.87	52	IAmb	IAmb	09 16 25.2	
	comp=Z,13nm,0.9s						
JLU	Jordanelle	87.88	48	IAmb	IAmb	09 16 24.9	
	comp=Z,24nm,0.9s						
MPU	Maple Canyon	87.96	49	IAmb	IAmb	09 16 25.2	
	comp=Z,21nm,1.1s						
BLYC	Blythe	88.02	55	IAmb	IAmb	09 16 25.8	
	comp=Z,33nm,1.8s						
PDAR	Pinedale Array	88.37	45	P	P	09 16 24.8	-0.6
PDAR	Pinedale Array	88.37	45	P	P	09 16 24.6	-0.7
	comp=Z,1.7nm,0.7s,baz=218,slow=1.7,SNR=22						
	comp=Z,1.7nm,0.7s						
KHAM	Kharkiv	88.37	323	P	P	09 16 24.8	-0.1
TMUT	Trail Mountain	88.53	49	IAmb	IAmb	09 16 28.1	
	comp=Z,14nm,0.8s						
Q16A	Castle Valley	88.70	49	IAmb	IAmb	09 16 29.1	
	comp=Z,21nm,0.8s						
P17A	Butcher Ranch,	88.80	49	IAmb	IAmb	09 16 29.3	
	comp=Z,18nm,0.9s						
P18A	Preston Nutter	89.10	49	IAmb	IAmb	09 16 30.6	
	comp=Z,13nm,0.8s						
RDMU	Red Mountain	89.21	47	IAmb	IAmb	09 16 31.0	
	comp=Z,19nm,0.9s						
DGMT	Dagmar	89.40	39	IAmb	IAmb	09 16 30.4	
	comp=Z,11nm,0.7s						
PIX	Pinacate	89.62	57	IAmb	IAmb	09 16 33.3	
	comp=Z,8.7nm,0.8s						
214A	Organ Pipe Nat	90.00	56	IAmb	IAmb	09 16 35.2	
	comp=Z,15nm,0.8s						
O20A	White River Ci	90.32	47	IAmb	IAmb	09 16 35.8	
	comp=Z,18nm,0.8s						
K22A	Casper	90.46	45	IAmb	IAmb	09 16 37.4	
	comp=Z,11nm,0.9s						
X18A	Snowflake	91.27	53	IAmb	IAmb	09 16 41.2	
	comp=Z,11nm,0.8s						
MVCO	Mesa Verde	91.31	50	IAmb	IAmb	09 16 41.0	
	comp=Z,15nm,1.1s						
RSSD	Black Hills	91.45	43		P	09 16 39.8	+0.2
RSSD	Black Hills	91.45	43	P	P	09 16 39.8	+0.2
RSSD				pmax	pmax		
	comp=Z,36nm,1.6s						
TUC	Tucson	91.47	55	P	P	09 16 40.8	+1.0
TUC				IAmb	IAmb	09 16 42.3	
	comp=Z,10.0nm,1.1s						
TUC	Tucson	91.47	55	P	P	09 16 40.8	+1.0
TUC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AK01	Malin Array Si	91.99	325	P	P	09 16 41.5	-0.1
ISCO	Idaho Springs	92.29	47	IAmb	IAmb	09 16 45.7	
	comp=Z,11nm,0.8s						
ISCO	Idaho Springs	92.29	47	P	P	09 16 44.7	+1.0
S22A	4UR Ranch, Cre	92.30	49	IAmb	IAmb

comp=Z,8.7nm,0.9s
MNTX Cornudas Mount 95.92 54 IAmb IAmb 09 17 01.9
comp=Z,3.9nm,0.7s
MLR Muntele Rosu 96.64 322 LR LR 10 04 28.0
comp=Z,47nm,18.9s,baz=292,slow=38
PECS Pecos 97.23 54 IAmb IAmb 09 17 07.5
comp=Z,3.6nm,0.7s
TXAR Lajitas Array 98.27 56 P Pdif 09 17 11.5 +0.6
comp=Z,1.1nm,0.9s,baz=311,slow=4.5,SNR=4.1
comp=Z,1.1nm,0.9s
NVL N'lazarevskaya 120.46 196 *i* PKIKP **PKPdf 09 22 22.3 -0.3**
NVL *e* 09 23 50.9
NVL *e*PPP PPP 09 26 25.3
NVL *e* 09 29 16.9
NVL *e*SS SS 09 40 08.9 +4.1
NVL *e*SSS SSS 09 44 39.0
NVL pmax pmax
comp=Z,7.0nm,0.9s
NVL pmax pmax
comp=N,199nm,15.2s
SNAA Sanae 123.15 191 PKP **PKPdf 09 22 26.5 -1.4**
comp=N,1.3nm,0.5s,baz=200,slow=5.4,SNR=19
TORD Torodi Ar. Bea 132.97 309 PKP **PKPdf 09 22 47.9 -0.3**
comp=N,0.3nm,0.7s,baz=13,slow=3.5,SNR=3.6
TORD SKPbc **SKPbc 09 25 55.0 -2.6**
comp=N,1.8nm,0.9s,baz=38,slow=4.8,SNR=7.4
PLCA Paso Flores 141.43 134 PKhKP PKPpre 09 22 56.9
comp=N,1.4nm,0.7s,baz=299,slow=3.5,SNR=5.3
PLCA PKP **PKPdf 09 23 03.5 +0.4**
comp=N,3.5nm,1.0s,baz=153,slow=1.5,SNR=6.6
PLCA SKPbc **SKPbc 09 26 22.3 +0.5**
comp=N,4.0nm,0.9s,baz=297,slow=2.3,SNR=6.6
DBIC Dimbokro 142.06 307 PKhKP PKPpre 09 22 59.0
comp=N,1.3nm,0.4s,baz=110,slow=1.6,SNR=3.6
LPAZ La Paz 147.62 92 PKP **PKPdf 09 23 15.3 +0.2**
comp=N,16nm,0.7s,baz=321,slow=2.6,SNR=43
LPAZ PKPbc **PKPbc 09 23 18.8 +0.7**
comp=N,16nm,0.7s,baz=278,slow=2.8,SNR=53
CPUP Villa Florida 157.08 116 PKPab **PKPab 09 24 00.1 +0.5**
comp=N,1.6nm,0.9s,baz=320,slow=0.9,SNR=9.5
BDFB Brasilia 166.65 82 PKPab **PKPab 09 24 42.3 +0.4**
comp=N,2.5nm,0.6s,baz=324,slow=8.7,SNR=4.2

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*IDC **07** 09:35:37.0±1.5, 63°.06S×167°.31E, h0km, mb3.9/5, mbtmp4.1/7, ML4.2/2, MS3.7/20, Error ellipse: s-maj=56.9km s-min=19.5km az=83.0*
ISC 07 09:35:38.3±1.3, 63°.05±0°.1×167°.4E±0°.3, h10km, n34, σ0°70/9, mb3.9/5, MS3.7/18, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.68**	**185**	Pn	**Pn**	**09 39 06.2**	**+0.6**
	0.3nm,0.3s,baz=16,slow=16,SNR=30						
VNDA				LR	LR	09 43 34.4	
	comp=Z,535nm,21.7s,baz=8.0,slow=33 7.9nm,0.9s						
RPZ	**Rata Peaks**	**19.45**	**8**	P	**Pn**	**09 40 06.3**	**+0.4**
	3.5nm,0.3s,baz=178,slow=3.8,SNR=18						
RPZ				LR	LR	09 46 11.5	
	comp=Z,345nm,21.4s,baz=162,slow=32 19nm,0.5s						
URZ	**Urewera**	**25.48**	**18**	LR	LR	09 49 16.8	
	comp=Z,238nm,21.3s,baz=169,slow=32						
QSPA	**South Pole Qui**	**27.07**	**180**	P	**P**	**09 41 21.0**	**+0.2**
	4.7nm,1.1s,baz=18,slow=8.0,SNR=7.3						
QSPA				LR	LR	09 50 45.8	
	comp=Z,134nm,20.2s,baz=24,slow=34 4.7nm,1.1s						
STKA	**Stephens Creek**	**35.20**	**320**	LR	LR	09 54 49.4	
	comp=Z,122nm,18.4s,baz=188,slow=33						
MAW	**Mawson**	**38.91**	**216**	P	**P**	**09 43 03.7**	**+0.3**
	2.2nm,0.9s,baz=141,slow=6.5,SNR=4.7						
MAW				LR	LR	09 59 10.8	
	comp=Z,216nm,19.1s,baz=122,slow=36 2.2nm,0.9s						
H01W1	**Cape Leeuwin H**	**43.02**	**285**	T	T	10 30 27.9	
	baz=146,slow=75,SNR=182						
H01W2	**Cape Leeuwin H**	**43.02**	**285**	T	T	10 30 25.7	
	baz=146,slow=75,SNR=170						
H01W3	**Cape Leeuwin H**	**43.03**	**285**	T	T	10 30 26.6	
	baz=146,slow=75,SNR=147						
ASAR	**Alice Springs**	**45.25**	**315**	P	**P**	**09 43 56.4**	**+0.7**
	1.6nm,1.0s,baz=155,slow=7.4,SNR=11						
ASAR				LR	LR	10 00 04.1	
	comp=Z,75nm,19.1s,baz=119,slow=32 1.6nm,1.0s						
SNAA	**Sanae**	**45.42**	**184**	P	**P**	**09 43 55.7**	**-0.8**
	1.3nm,0.8s,baz=149,slow=10,SNR=5.1						
SNAA				LR	LR	10 02 26.6	
	comp=Z,129nm,18.1s,baz=196,slow=36 1.3nm,0.8s						
RAR	**Rarotonga**	**47.33**	**43**	LR	LR	09 58 59.9	
	comp=Z,62nm,20.2s,baz=224,slow=30						
WRA	**Warramunga Arr**	**48.59**	**317**	P	**P**	**09 44 21.5**	**-0.3**
	0.7nm,1.0s,baz=158,slow=6.5,SNR=2.7						
WRA				LR	LR	10 03 15.4	
	comp=Z,64nm,19.1s,baz=184,slow=34 0.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.24**	**308**	LR	LR	10 05 36.7	
	comp=Z,47nm,18.3s,baz=208,slow=34						
HNR	**Honiara**	**53.76**	**351**	LR	LR	10 04 19.3	
	comp=Z,56nm,20.8s,baz=236,slow=32						
PPT	**Papeete**	**54.19**	**53**	LR	LR	10 02 00.1	
	comp=Z,45nm,19.4s,baz=190,slow=29						
PLCA	**Paso Flores**	**66.77**	**136**	LR	LR	10 09 45.6	
	comp=Z,48nm,18.1s,baz=208,slow=31						
H03S2	**Juan Fernandez**	**70.08**	**126**	T	T	11 03 22.9	
	baz=204,slow=74,SNR=128						
H03S1	**Juan Fernandez**	**70.08**	**126**	T	T	11 03 24.2	
	baz=204,slow=74,SNR=139						
H03S3	**Juan Fernandez**	**70.09**	**126**	T	T	11 03 23.7	
	baz=204,slow=74,SNR=178						
H03N3	**Juan Fernandez**	**70.42**	**126**	T	T	11 03 46.6	
	baz=211,slow=73						
H03N2	**Juan Fernandez**	**70.43**	**126**	T	T	11 03 46.3	
	baz=211,slow=73						
H03N1	**Juan Fernandez**	**70.44**	**126**	T	T	11 03 45.0	
	baz=211,slow=73						
CFA	**Coronel Fontan**	**75.86**	**133**	LR	LR	10 16 29.3	
	comp=Z,58nm,18.1s,baz=140,slow=32						
BOSA	**Boshof**	**83.84**	**213**	LR	LR	10 24 29.7	
	comp=Z,49nm,18.6s,baz=207,slow=35						
H08S2	**Diego Garcia H**	**85.47**	**262**	T	T	11 23 46.0	
	baz=152,slow=76,SNR=123						
H08S1	**Diego Garcia H**	**85.48**	**262**	T	T	11 23 49.9	
	baz=152,slow=76,SNR=125						
H08S3	**Diego Garcia H**	**85.49**	**262**	T	T	11 23 47.7	
	baz=152,slow=76,SNR=93						
LBTB	**Lobatse**	**87.19**	**214**	LR	LR	10 25 46.7	
	comp=Z,28nm,18.1s,baz=161,slow=34						
MATP	**Matopo**	**90.78**	**218**	LR	LR	10 27 15.9	
	comp=Z,76nm,18.3s,baz=164,slow=34						
SIV	**San Ignacio**	**92.71**	**134**	LR	LR	10 24 15.8	
	comp=Z,33nm,20.1s,baz=314,slow=32						
JOW	**Kunigami**	**94.78**	**326**	LR	LR	10 30 31.7	
	comp=Z,25nm,20.2s,baz=14,slow=35						
BRTR	**Keskin Array B**	**144.07**	**252**	PKP	**PKPab**	**09 55 10.6**	**-0.3**
	3.3nm,0.9s,baz=163,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**154.55**	**261**	PKPab	**PKPab**	**09 55 51.5**	**-1.0**
	1.2nm,0.7s,baz=129,slow=3.4,SNR=5.8						

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*SDD **07** 09:38:48.5±1.6, 19°.19N×67°.17W, h22km±62km, MD2.8, ML1.6, MW2.3*
*RSPR **07** 09:38:49.1, 19°.20N×67°.25W, h43km±10km, MD2.8/6*
ISC 07 09:38:48.6±2.0, 19°.12N±0°.10×67°.19W±0°.05, h29km, n19, σ0°77/23, 11C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.65**	**174**	⇑*e*P	**Pn**	**09 39 01.5**	**-0.4**
AGPR	**Aguadilla, PR**	**0.65**	**174**	*e*S	**Sn**	**09 39 11.2**	**0.0**
AGPR	**Aguadilla, PR**	**0.65**	**174**	⇑*e*Pg	**Pn**	**09 39 01.4**	**-0.5**
AGPR				⇓*e*Sg	**Sn**	**09 39 11.6**	**+0.3**
AGPR				IAML		09 39 12.3	
	comp=N,39nm,0.8s						
IDE	**Isla Desecheo**	**0.78**	**200**	⇑*e*P	**Pb**	**09 39 03.4**	**-0.2**
IDE	**Isla Desecheo**	**0.78**	**200**	*e*S	**Sn**	**09 39 15.1**	**+0.7**
EMPR	**Esperanza - Ma**	**0.89**	**136**	⇑*e*P	**Pb**	**09 39 05.6**	**+0.1**
EMPR	**Esperanza - Ma**	**0.89**	**136**	*e*S	**Sb**	**09 39 18.9**	**+1.8**
LSP	**Las Mesas**	**0.94**	**174**	⇑*e*P	**Pb**	**09 39 05.8**	**-0.6**
LSP	**Las Mesas**	**0.94**	**174**	*e*S	**Sb**	**09 39 18.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	⇑*e*Pg	**Pb**	**09 39 08.8**	**-0.3**
CRPR				⇑*e*Sg	**Sb**	**09 39 23.5**	**+0.2**
CRPR				IAML		09 39 29.8	
	comp=N,12nm,0.2s						

ECPR	**Experimental S**	**1.12**	**135**	⇓*e*P	**Pb**	**09 39 08.7**	**-0.6**
ECPR	**Experimental S**	**1.12**	**135**	*e*S	**Sb**	**09 39 23.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.15**	**173**	⇑*e*P	**Pb**	**09 39 09.2**	**-0.7**
MLPR	**Magueyes Islan**	**1.15**	**173**	*e*S	**Sb**	**09 39 24.9**	**+0.4**
MLPR	**Magueyes Islan**	**1.15**	**173**	⇓*e*Pg	**Pb**	**09 39 09.2**	**-0.7**
MLPR				*e*Sg	**Sb**	**09 39 25.2**	**+0.8**
MLPR				IAML		09 39 29.3	
	comp=N,5.1nm,1.2s						
CELP	**Cerrillos**	**1.19**	**151**	⇑*e*P	**Pb**	**09 39 09.8**	**-0.7**
CELP	**Cerrillos**	**1.19**	**151**	*e*S	**Sb**	**09 39 25.1**	**-0.4**
CELP	**Cerrillos**	**1.19**	**151**	⇓*e*Pg	**Pb**	**09 39 10.0**	**-0.5**
CELP				IAML		09 39 27.4	
	comp=N,16nm,1.3s						
CELP				⇑*e*Sg	**Sb**	**09 39 27.4**	**+1.9**
MIDR	**Miches**	**1.77**	**266**	*e*Sg	**Sb**	**09 39 42.9**	**+0.8**
MIDR				IAML		09 39 48.6	
	comp=N,2.4nm,0.5s						
MIDR				IAML		09 39 51.3	
	comp=N,11nm,1.6s						

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*NEIC **07** 09:45:37.9±0.9, 56°.65N±0°.07×157°.06W±0°.09, h89km±10km, Error ellipse: s-maj=11.2km s-min=4.6km az=147.0*
AEIC 07 09:45:38.7±0.9, 56°.66N±0°.06×157°.04W±0°.08, h88km±7km, ML2.3, ML2.5/30(NEIC), Error ellipse: s-maj=10.7km s-min=4.3km az=150.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	**Aniakchak Peak**	**0.62**	**287**		Pn	09 45 53.6	-0.8
ANPB	**Aniakchak Plen**	**0.70**	**282**		Pn	09 45 53.9	-1.1
ANPB					Sn	09 46 06.1	-1.0
CHGN	**Chignik**	**0.84**	**245**		Pn	09 45 55.5	-0.9
CHGN	**Chignik**	**0.84**	**245**	IAML		09 46 09.2	
	comp=N,176nm,0.1s						
CHGN				IAML		09 46 10.3	
	comp=E,217nm,0.1s						
PLK4	**Peulik 4**	**1.04**	**21**		Pn	09 45 58.1	-0.7
PLK4					Sn	09 46 13.3	-0.6
PLK4	**Peulik 4**	**1.04**	**21**	IAML		09 46 14.0	
	comp=E,59nm,1.2s						
PLK4				IAML		09 46 14.3	
	comp=N,38nm,1.1s						
PLBL	**Peulik Blue Cr**	**1.05**	**7**		Pn	09 45 57.9	-0.9
PLK3	**Peulik 3**	**1.11**	**22**		Pn	09 45 59.0	-0.5
PLK3					Sn	09 46 14.9	-0.3
PLK1	**Peulik 1**	**1.17**	**12**		Pn	09 45 59.2	-1.0
PLK1					Sn	09 46 15.2	-1.1
PLK2	**Peulik 2**	**1.17**	**19**		Pn	09 45 59.9	-0.4
VNSG	**Veniaminof 6**	**1.26**	**246**		Pn	09 46 00.7	-0.6
VNHG	**Veniaminof 1**	**1.26**	**250**		Pn	09 46 01.3	-0.1
PLK5	**Peulik 5**	**1.34**	**4**		Pn	09 46 01.4	-0.9
PLK5					Sn	09 46 20.2	+0.1
VNSS	**Veniaminof 8**	**1.41**	**253**		Pn	09 46 02.6	-0.7
VNFG	**Fog Glacier, M**	**1.44**	**256**		Pn	09 46 03.0	-0.7
VNFG				IAML		09 46 44.6	
	comp=N,104nm,1.5s						
VNFG	**Fog Glacier, M**	**1.44**	**256**		Sn	09 46 22.0	-0.6
VNFG	**Fog Glacier, M**	**1.44**	**256**	IAML		09 46 17.9	
	comp=E,126nm,1.4s						
VNWF	**Veniaminof 8**	**1.49**	**251**		Pn	09 46 03.8	-0.5
CAHL	**Cahill**	**1.68**	**33**		Pn	09 46 05.6	-1.1
CNTC	**Contact Creek**	**1.73**	**21**		Pn	09 46 06.0	-1.3
CNTC					Sn	09 46 26.7	-2.3
KABU	**Katmai Buttres**	**1.87**	**30**		Pn	09 46 08.4	-0.8
KELA	**Mount Kelaz**	**1.92**	**21**		Pn	09 46 08.1	-1.6
KAKN	**Katmai Knife C**	**1.96**	**32**		Pn	09 46 09.3	-1.0
Q16K	**King Salmon**	**2.03**	**6**		Pn	09 46 10.0	-1.2
Q16K					Sn	09 46 34.0	-1.9
OHAK	**Old Harbor**	**2.13**	**73**		Pn	09 46 11.2	-1.3
OHAK					Sn	09 46 35.5	-2.9
OHAK	**Old Harbor**	**2.13**	**73**	IAML		09 46 36.9	
	comp=E,17nm,1.3s						
KAHC	**Katmai Hardscr**	**2.27**	**28**		Pn	09 46 13.7	-0.8
SDPT	**Sand Point**	**2.33**	**237**		Pn	09 46 14.5	-0.7
SDPT	**Sand Point**	**2.33**	**237**	IAML		09 46 48.7	
	comp=N,21nm,1.5s						
SDPT				IAML		09 47 20.8	
	comp=E,14nm,1.1s						
CNBA	**Chernabura Isl**	**2.34**	**219**		Pn	09 46 13.7	-1.6
P17K	**Kvichak River**	**2.56**	**7**		Pn	09 46 17.4	-0.9
KDAK	**Kodiak Island**	**2.67**	**63**		Pn	09 46 18.4	-1.3
KDAK	**Kodiak Island**	**2.67**	**63**	IAML		09 46 44.2	
	comp=E,8.0nm,1.4s						
KDAK				IAML		09 47 21.0	
	comp=E,13nm,1.4s						
P18K	**Big Mountain,**	**2.90**	**19**		Pn	09 46 21.7	-1.1
P18K	**Big Mountain,**	**2.90**	**19**	IAML		09 47 26.1	
	comp=N,6.1nm,1.0s						
Q19K	**Cape Douglas,**	**2.91**	**37**		Pn	09 46 22.5	-0.4
PS1A	**Pavlof South-1**	**2.92**	**247**		Pn	09 46 22.5	-0.5
O15K	**Ungalikthiuk R**	**2.93**	**331**		Pn	09 46 21.8	-1.3
O15K	**Ungalikthiuk R**	**2.93**	**331**	IAML		09 46 47.2	
	comp=E,7.4nm,1.4s						
S12K	**Black Hills**	**2.96**	**253**		Pn	09 46 23.0	-0.7
S12K	**Black Hills**	**2.96**	**253**	IAML		09 46 57.1	
	comp=N,23nm,1.4s						
S12K				IAML		09 48 01.6	
	comp=E,28nm,1.4s						
PS4A	**Pavlof South-4**	**3.01**	**246**		Pn	09 46 23.8	-0.5
PN7A	**Pavlof North-7**	**3.04**	**248**		Pn	09 46 24.5	-0.2
DOL	**Dolgoi Island**	**3.11**	**243**		Pn	09 46 24.4	-1.2
SYI	**Shuyak Island**	**3.17**	**50**		Pn	09 46 25.7	-0.8
DT1	**Dutton Round H**	**3.34**	**244**		Pn	09 46 27.4	-1.2
N15K	**Kwethluk River**	**3.87**	**337**		Pn	09 46 35.3	-0.5
N15K	**Kwethluk River**	**3.87**	**337**	IAML		09 47 19.9	
	comp=E,8.9nm,1.3s						
N15K				IAML		09 48 47.6	
	comp=N,8.3nm,1.4s						
N16K	**Nishlik Lake**	**3.93**	**347**		Pn	09 46 35.6	-1.1
CNPM	**China Poot**	**4.21**	**45**		Pn	09 46 39.3	-1.3

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*IDC **07** 09:45:49.3±2.1, 52°.45N×169°.70W, h0km, mb3.5/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=82.2km s-min=29.4km az=3.0*
*AEIC **07** 09:45:52.7±1.5, 52°.31N±0°.07×169°.57W±0°.07, h26km±7km, Error ellipse: s-maj=11.7km s-min=4.0km az=152.0*
*NEIC **07** 09:45:54.1±0.7, 52°.35N±0°.06×169°.56W±0°.05, h35km±2km, ML3.5/18, ML3.2(AEIC), Error ellipse: s-maj=9.8km s-min=4.6km az=13.0*
ISC 07 09:45:54.9±1.0, 52°.44N±0°.10×169°.63W±0°.05, h40km, n51, σ0°65/49, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.35**	**350**		**Pn**	**09 46 03.1**	**-0.7**
CLCO					**Sn**	**09 46 10.8**	**+0.9**
CLES	**Cleveland East**	**0.42**	**337**		**Pn**	**09 46 03.8**	**-0.7**
CLES	**Cleveland East**	**0.42**	**337**		**Sn**	**09 46 12.5**	**+1.2**
NIKH	**Nikolski High**	**0.71**	**41**		**Pn**	**09 46 07.1**	**-1.4**
NIKH	**Nikolski High**	**0.71**	**41**		**Sn**	**09 46 17.9**	**-0.3**
OKSP	**Okmok Steeple**	**1.15**	**44**		**Pn**	**09 46 13.3**	**-1.1**
OKSP					**Sn**	**09 46 29.0**	**0.0**
OKCE	**Okmok Cone E**	**1.33**	**41**		**Pn**	**09 46 16.6**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.35**	**45**		**Pn**	**09 46 16.6**	**-0.6**
OKTU					**Sn**	**09 46 34.0**	**+0.1**
OKNC	**Okmok New Cone**	**1.36**	**41**		**Pn**	**09 46 17.6**	**+0.1**
OKFG	**Magazine Ridge**	**1.42**	**46**		**Pn**	**09 46 17.7**	**-0.5**
MAPS	**Pakushin South**	**2.12**	**49**		**Pn**	**09 46 27.4**	**-0.4**
MGOD	**Makushin Gods**	**2.14**	**50**		**Pn**	**09 46 27.6**	**-0.6**
MREP	**Makushin Rep't**	**2.21**	**51**		**Pn**	**09 46 28.6**	**-0.4**
MSW	**Makushin Switc**	**2.26**	**48**		**Pn**	**09 46 29.4**	**-0.3**
UNV	**Unalaska Valle**	**2.35**	**52**		**Pn**	**09 46 30.4**	**-0.4**
UNV				IAML		09 47 06.5	
	comp=E,201nm,0.5s						
UNV				IAML		09 47 07.1	
	comp=N,233nm,0.5s						
UNV	**Unalaska Valle**	**2.35**	**52**		**Sn**	**09 46 59.9**	**+1.5**
AKRB	**Akutan Reef Bi**	**2.73**	**50**		**Pn**	**09 46 36.6**	**+0.5**
ZRO	**Akutan Zero**	**2.75**	**52**		**Pn**	**09 46 36.9**	**+0.6**
KOFP	**Korovin Flat P**	**2.75**	**268**		**Pn**	**09 46 36.5**	**+0.1**
KOFP					**Sn**	**09 47 08.8**	**+0.4**
LVA	**Lava Point**	**2.76**	**50**		**Pn**	**09 46 37.3**	**+0.7**
LVA	**Lava Point**	**2.76**	**50**	IAML		09 47 25.3	
	comp=N,265nm,0.7s						
LVA				IAML		09 47 27.3	
	comp=E,194nm,0.9s						
AKBBA	**Akutan Broad B**	**2.77**	**52**		**Pn**	**09 46 37.6**	**+0.9**
AKV	**Akutan Volcano**	**2.77**	**51**		**Pn**	**09 46 37.6**	**+0.9**
ATKA	**Atka Island**	**2.81**	**267**		**Pn**	**09 46 36.5**	**-0.8**
ATKA	**Atka Island**	**2.81**	**267**	IAML		09 47 20.2	
	comp=N,73nm,1.4s						
AKUT	**Akutan**	**2.87**	**52**	Pn	**Pn**	**09 46 38.8**	**+0.8**
AKUT				IAML		09 47 26.9	
	comp=E,73nm,0.8s						
GSTR	**Great Sitkin T**	**3.97**	**268**		**Pn**	**09 46 52.9**	**-0.3**
GSMY	**Great Sitkin M**	**3.97**	**267**		**Sn**	**09 47 38.8**	**+0.3**
GSTD	**Great Sitkin T**	**4.02**	**267**		**Pn**	**09 46 53.7**	**-0.3**
GSTD					**Sn**	**09 47 40.2**	**+0.3**
GSCK	**Great Sitkin C**	**4.04**	**266**		**Pn**	**09 46 53.6**	**-0.5**
GSCK					**Sn**	**09 47 40.8**	**+0.6**
ETKA	**Kagalaska Isla**	**4.21**	**265**		**Pn**	**09 46 56.1**	**-0.4**
ETKA					**Sn**	**09 47 45.1**	**+0.6**
ADAG	**Mount Adagdak**	**4.32**	**267**		**Pn**	**09 46 57.8**	**-0.1**
ADK	**Adak**	**4.38**	**265**		**Pn**	**09 46 58.5**	**-0.3**
ADK	**Adak**	**4.38**	**265**	IAML		09 47 54.0	
	comp=E,46nm,1.2s						
ADK				IAML		09 48 06.5	
	comp=E,67nm,1.3s						
KIWB	**Kanaga Island**	**4.67**	**266**	Pn	**Pn**	**09 47 03.2**	**+0.4**
KIWB				IAML		09 48 04.0	
	comp=N,51nm,0.5s						
KIWB				IAML		09 48 10.4	
	comp=E,60nm,0.6s						
KIKV	**Kanaga Island**	**4.68**	**266**		**Pn**	**09 47 03.4**	**+0.5**
TASE	**Tanaga Southea**	**5.22**	**267**		**Pn**	**09 47 10.3**	**0.0**
GANE	**Gareloi Northe**	**5.67**	**267**		**Pn**	**09 47 16.9**	**+0.4**
GAKI	**Gareloi-Kavalg**	**5.74**	**265**		**Pn**	**09 47 17.7**	**+0.2**
CNBA	**Chernabura Isl**	**6.43**	**64**		**Pn**	**09 47 27.5**	**+0.6**
AMKA	**Amchitka**	**6.93**	**266**	Pn	**Pn**	**09 47 34.4**	**+0.6**
ILAR	**Eielson Array**	**16.98**	**35**	P	**Pn**	**09 49 48.2**	**-0.8**
	baz=234,slow=12,SNR=1.4						
	comp=E,0.1nm,0.6s						
PETK	**Petropavlovsk-**	**19.69**	**285**	P	**P**	**09 50 19.4**	**-1.0**
	comp=E,0.8nm,0.3s,baz=84,slow=14,SNR=18						
	comp=E,1.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**37.41**	**218**	T	T	10 32 42.6	
	baz=24,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**37.42**	**218**	T	T	10 32 46.4	
	baz=24,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**37.43**	**218**	T	T	10 32 46.2	
	baz=24,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**38.60**	**218**	T	T	10 34 13.6	
	baz=23,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**38.62**	**218**	T	T	10 34 14.7	
	baz=23,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.62**	**218**	T	T	10 34 14.3	
	baz=23,slow=76,SNR=16						
PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**	**09 53 30.6**	**+0.4**
	comp=E,0.4nm,0.5s,baz=324,slow=7.2,SNR=9.5						
	comp=E,0.4nm,0.5s						
TXAR	**Lajitas Array**	**52.90**	**89**	P	**P**	**09 55 07.3**	**+0.4**
	comp=E,0.3nm,0.4s,baz=319,slow=6.9,SNR=2.4						
	comp=E,0.3nm,0.4s						

TRN 07 10:23:22.6, 14°.48N×60°.56W, h30km, MD4.1, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.42**	**315**	*e*P	Pn	10 23 32.8	+0.1
ILAM				*e*S	Sn	10 23 40.4	+0.9
BIM	**Bigot**	**0.49**	**275**	*e*P	Pn	10 23 34.6	+0.9
BIM				*e*S	Sn	10 23 43.4	+2.1
SLBI	**Saint Lucia, B**	**0.60**	**222**	*e*P	Pb	10 23 34.7	0.0
SLBI				*e*S	Sn	10 23 43.5	-0.3
SVN	**Savane Anatole**	**0.69**	**302**	*e*P	Pn	10 23 37.1	+0.7
SVN				*e*S	Sn	10 23 47.7	+1.6
DLPL	**La Plaine**	**1.08**	**322**	*e*P	Pb	10 23 42.5	-0.2
DLPL				*e*S	Sb	10 23 57.6	+1.1
MDN	**Morne-Daniel**	**1.16**	**316**	*e*P	Pb	10 23 43.8	-0.3
MDN				*e*S	Sb	10 23 59.9	+1.1
DSLB	**Salisbury**	**1.27**	**319**	*e*P	Pb	10 23 45.6	-0.3
DSLB				*e*S	Sb	10 24 02.5	+0.6
DWS	**Wesley**	**1.31**	**326**	*e*P	Pn	10 23 45.5	+0.7
DWS				*e*S	Sn	10 24 01.8	+0.5
SVB	**Belmont**	**1.37**	**209**	*e*P	Pn	10 23 46.3	+0.6
SVB				*e*S	Sn	10 24 03.2	+0.3
BBGH	**Gun Hill**	**1.64**	**144**	*e*P	Pn	10 23 50.6	+1.1
BBGH				*e*S	Sb	10 24 11.9	-0.7
TBG	**Guadaloupe-3**	**1.72**	**323**	*e*P	Pn	10 23 51.5	+0.9
TBG				*e*S	Sn	10 24 12.2	+0.6
DSDZ	**La Diserade, G**	**1.89**	**345**	*e*P	Pn	10 23 52.1	-0.8
DSDZ				*e*S	Sn	10 24 15.0	-0.7
MMLZ	**Guadeloupe Bro**	**1.89**	**326**	*e*P	Pn	10 23 53.5	+0.7
MMLZ				*e*S	Sn	10 24 15.9	+0.2
ATGZ	**Broadband at L**	**1.96**	**325**	*e*P	Pn	10 23 55.2	+1.3
ATGZ				*e*S	Sn	10 24 19.1	+1.6
DHSZ	**Broadband at M**	**2.13**	**327**	*e*P	Pn	10 23 57.5	+1.3
DHSZ				*e*S	Sn	10 24 21.8	+0.1
GCMP	**Grenada, Carri**	**2.15**	**203**	*e*P	Pn	10 23 57.6	+1.2
GCMP				*e*S	Sn	10 24 23.3	+1.2
GRHS	**Sauteurs**	**2.47**	**205**	*e*P	Pn	10 24 01.9	+1.0
GRHS				*e*S	Sn	10 24 30.7	+0.6
GRGR	**Grenville**	**2.56**	**205**	*e*P	Pn	10 24 03.7	+1.6
GRGR				*e*S	Sn	10 24 33.5	+1.3
**

STKA	Stephens Creek	36.01 246	P	P	10 53 04.1	-0.1
	comp=Z,3.7nm,0.5s,baz=106,slow=11,SNR=6.7					
	comp=Z,3.7nm,0.5s					
COEN	Coen	36.44 276	P	P	10 53 08.3	+0.3
COEN			IAmb	IAmb	10 53 23.8	
	comp=Z,15nm,1.4s					
INKA	Innaminka	36.53 253	P	P	10 53 10.2	+1.7
INKA			IAmb	IAmb	10 53 10.9	
	comp=Z,3.4nm,0.6s					
QIS	Mount Isa	38.18 264	P	P	10 53 22.2	0.0
BBOO	Buckleboo	40.76 245	P	P	10 53 42.4	-0.2
AS31	Alice Springs	42.96 258		P	10 54 00.3	+0.3
ASAR	Alice Springs	42.96 258	P	P	10 54 00.5	+0.5
ASAR	Alice Springs	42.96 258	P	P	10 53 59.8	-0.3
	comp=Z,11nm,0.5s,baz=94,slow=8.2,SNR=211					
ASAR			PcP	PcP	10 55 37.0	+0.2
	comp=Z,2.9nm,0.6s,baz=111,slow=3.8,SNR=9.0					
ASAR			ScP	ScP	10 58 31.7	-0.5
	comp=Z,0.4nm,0.6s,baz=100,slow=3.8,SNR=2.6					
ASAR			S	S	10 59 40.4	-3.1
	comp=Z,2.3nm,0.9s,baz=97,slow=15,SNR=13					
	comp=Z,11nm,0.5s					
WR8	Warramunga Arr	43.01 264		P	10 54 00.2	-0.2
WR8			IAmb	IAmb	10 54 01.4	
	comp=Z,7.3nm,0.5s					
WB0	Warramunga Arr	43.14 264		P	10 54 01.2	-0.2
WRAB	Tennant Creek	43.15 264	P	P	10 54 01.3	-0.2
WRAB			IAmb	IAmb	10 54 01.8	
	comp=Z,13nm,0.9s					
WRA	Warramunga Arr	43.16 264		P	10 54 00.5	-1.1
WRA	Warramunga Arr	43.16 264	P	P	10 54 01.2	-0.4
	comp=Z,11nm,0.6s,baz=96,slow=8.3,SNR=576					
WRA			PcP	PcP	10 55 37.8	+0.3
	comp=Z,0.8nm,0.5s,baz=101,slow=3.1,SNR=1.5					
WRA			ScP	ScP	10 58 33.6	+0.6
	comp=Z,1.1nm,1.1s,baz=94,slow=4.3,SNR=4.8					
WRA			S	S	10 59 39.1	-7.3
	comp=Z,0.7nm,0.9s,baz=90,slow=14,SNR=6.4					
	comp=Z,11nm,0.6s					
MTN	Manton Dam	47.93 272	P	P	10 54 37.4	-0.4
MTN			IAmb	IAmb	10 54 38.0	
	comp=Z,16nm,0.6s					
KNRA	Kununurra	49.31 268		P	10 54 48.3	+0.3
KNRA			IAmb	IAmb	10 54 48.9	
	comp=Z,17nm,0.9s					
SOEI	Soe	55.29 273		P	10 55 32.2	+1.3
SOEI			IAmb	IAmb	10 55 33.3	
	comp=Z,36nm,0.7s					
BATI	Baumata	55.70 273	P	P	10 55 34.1	+0.4
	comp=Z,21nm,0.5s,baz=71,slow=17,SNR=3.6					
	comp=Z,21nm,0.5s					
PSA00	Pilbara Seismi	56.10 258	P	P	10 55 36.3	0.0
PSA00			IAmb	IAmb	10 55 37.1	
	comp=Z,11nm,0.8s					
MBWA	Marble Bar	56.30 259	P	P	10 55 37.4	-0.3
MBWA			IAmb	IAmb	10 55 38.0	
	comp=Z,15nm,0.8s					
VNDA	Vanda	56.33 185	P	P	10 55 37.7	+0.8
VNDA	Vanda	56.33 185	P	P	10 55 38.9	+2.0
	comp=Z,0.6nm,0.5s,baz=1.1,slow=7.3,SNR=7.5					
	comp=Z,0.6nm,0.5s					
NWAO	Narrogin (SRO)	56.57 244	P	P	10 55 38.9	-0.4
NWAO			IAmb	IAmb	10 55 44.6	
	comp=Z,36nm,1.4s					
MORW	Morawa	58.10 249	P	P	10 55 49.4	-0.3
GIRL	Giralia	60.94 256	P	P	10 56 09.0	+0.3
CASY	Casey	62.08 205	P	P	10 56 15.5	+0.2
TOLI2	Tolitoli	62.69 283	P	P	10 56 19.6	-0.6
TOLI2			IAmb	IAmb	10 56 20.9	
	comp=Z,8.3nm,0.8s					
QSPA	South Pole Qui	68.09 180	P	P	10 56 56.6	+3.6
QSPA	South Pole Qui	68.09 180	P	P	10 56 56.1	+3.0
	comp=Z,4.4nm,0.8s,baz=18,slow=5.7,SNR=37					
	comp=Z,4.4nm,0.8s					
UGM	Wanagama	68.67 270	P	P	10 56 56.2	-1.2
KKM	Kota Kinabalu	68.92 286	P	P	10 56 59.4	+0.4
KKM			IAmb	IAmb	10 56 60.0	
	comp=Z,15nm,0.7s					
MJAR	Matsushiro Arr	70.67 325	P	P	10 57 08.5	-0.2
	comp=Z,2.8nm,0.6s,baz=153,slow=5.9,SNR=7.1					
	comp=Z,2.8nm,0.6s					
JTM	Tenmabayashi	72.48 330	P	P	10 57 20.5	+1.4
KIWB	Kanaga Island	73.55 1	P	P	10 57 25.5	+0.6
PET	Petropavlovsk	77.10 347	P	P	10 57 45.3	+0.7
	comp=Z,43nm,1.2s					
KSRS	Korea Array	77.17 320	P	P	10 57 45.2	-0.1
	comp=Z,0.9nm,0.7s,baz=139,slow=5.0,SNR=4.3					
	comp=Z,0.9nm,0.7s					
PEA0B	Petropavlovsk-	77.39 346	P	P	10 57 46.9	+0.7
PETK	Petropavlovsk-	77.39 346	P	P	10 57 46.3	+0.1
PETK	Petropavlovsk-	77.39 346	P	P	10 57 46.2	0.0
	comp=Z,6.7nm,0.8s,baz=141,slow=5.0,SNR=12					
	comp=Z,6.7nm,0.8s					
BELA	Belgrano 2	78.25 173	P	P	10 57 50.6	0.0
MAW	Mawson	79.74 200	P	P	10 57 59.0	+0.5
	comp=Z,1.9nm,0.6s,baz=131,slow=7.2,SNR=16					
	comp=Z,1.9nm,0.6s					
TROLL	Troll, Antarti	86.24 181 ⇓P		P	10 58 30.9	-0.2
	comp=Z,142nm,0.5s					
SNAA	Sanae	86.56 179 ⇓P		P	10 58 31.3	-1.2
	comp=Z,20nm,0.5s					
SNAA	Sanae	86.56 179	P	P	10 58 32.0	-0.5
	comp=Z,0.6nm,0.4s,baz=194,slow=12,SNR=11					
	comp=Z,0.6nm,0.4s					
VNA3	Neumayer Olymp	86.74 177 ⇓P	P		10 58 29.8	-3.5
	comp=Z,3.5nm,0.8s					
VNA2	Neumayer--Watz	87.17 177 ⇓P	P		10 58 31.8	-3.5
	comp=Z,2.6nm,0.4s,baz=180,slow=4.2					
CMAR	Chiang Mai Arr	89.42 290		P	10 58 47.5	+0.8
CMAR	Chiang Mai Arr	89.42 290	P	P	10 58 47.0	+0.3
	comp=Z,3.7nm,0.8s,baz=135,slow=3.2,SNR=29					
	comp=Z,3.7nm,0.8s					
CHTO	Chiang Mai	89.56 290		P	10 58 48.8	+1.4
CHTO			IAmb	IAmb	10 58 49.9	
	comp=Z,6.9nm,0.8s					
ILAR	Eielson Array	90.04 13	P	P	10 58 48.4	-0.2
	comp=Z,0.4nm,0.7s,baz=228,slow=4.2,SNR=3.2					
	comp=Z,0.4nm,0.7s					
SONM	Songino Array	96.04 319	P	P	10 59 15.9	-0.6
	comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=1.4					
	comp=Z,0.3nm,0.5s					
MKAR	Makanchi Array	111.29 313	PKiKP	PKiKP	11 04 17.8	-1.2
	comp=Z,0.4nm,0.4s,baz=105,slow=1.4,SNR=5.2					
KURBB	Kurchatov Arra	114.26 317	PKiKP	PKPdf	11 04 23.2	-1.2
	comp=Z,0.6nm,0.4s,baz=109,slow=1.7,SNR=8.6					
BVAR	Borovoye Array	119.39 319	PKP	PKPdf	11 04 33.7	-0.6
	comp=Z,2.9nm,0.4s,baz=112,slow=1.8,SNR=15					
SPITS	Spitsbergen Ar	123.26 356	PKP	PKPdf	11 04 40.4	-0.7
	comp=Z,2.0nm,0.5s,baz=64,slow=3.8,SNR=4.8					
ARCES	ARCESS Array B	130.14 349	PKP	PKPdf	11 04 54.2	-0.2
	comp=Z,1.8nm,0.6s,baz=35,slow=4.4,SNR=18					
FINES	FINESS Array B	136.82 342	PKhKP	PKPpre	11 04 55.3	
	comp=Z,0.9nm,0.5s,baz=90,slow=2.8,SNR=3.6					
FINES			PKP	PKPdf	11 05 06.2	-0.9
	comp=Z,0.7nm,0.3s,baz=47,slow=3.9,SNR=6.4					
FINES			SKPbc	SKPbc	11 07 44.4	-0.5
	comp=Z,2.1nm,0.8s,baz=58,slow=7.2,SNR=4.8					
HFS	Hagfors	140.78 350	PKhKP	PKPpre	11 05 08.6	
	comp=Z,1.6nm,0.4s,baz=52,slow=2.4,SNR=14					
AKASG	Malin Array Be	143.66 329	PKhKP	PKPpre	11 05 17.1	
	comp=Z,5.9nm,0.5s,baz=43,slow=4.0,SNR=30					
KIEV	Kiev	143.67 329		PKPab	11 05 18.0	-0.9
BRTR	Keskin Array B	146.85 310		PKPbc	11 05 28.3	-0.3
BRTR	Keskin Array B	146.85 310	PKPbc	PKPbc	11 05 28.4	-0.2
	comp=Z,2.9nm,0.7s,baz=132,slow=4.6,SNR=11					
MMAI	Mount Meron Ar	147.40 297	PKPbc	PKPbc	11 05 31.1	+0.8
	comp=Z,4.4nm,0.4s,baz=79,slow=5.2,SNR=6.6					
CLL	Collm	149.19 345		PKPbc	11 05 33.9	-0.1
MORC	Moravsky Berou	149.22 338		PKPbc	11 05 33.5	-0.7
MANT	Manisa	150.96 311		PKPbc	11 05 38.8	0.0
GERES	GERESS Array B	151.25 342	PKPbc	PKPbc	11 05 38.7	-0.3
	comp=Z,1.3nm,0.5s,baz=306,slow=3.0,SNR=7.8					
TORD	Torodi Ar. Bea	171.15 187	PKP	PKPdf	11 05 52.7	-0.9
	comp=Z,0.7nm,0.8s,baz=359,slow=2.1,SNR=4.1					
TORD			PKPab	PKPab	11 07 16.8	-0.5
	comp=Z,0.5nm,0.7s,baz=146,slow=2.2,SNR=3.9					

NEIC 07 11:28:17.3±0.6, 37°.65N±0°.01×105°.49W±0°.01, h5km±1km, ML1.4/16, Error ellipse: s-maj=2.9km s-min=2.3km az=1.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.09	353	Pg	Pg	11 28 20.0	+0.5
SDCO				Sg	Sg	11 28 21.7	+0.7
SDCO				IAML		11 28 22.4	
	236nm,0.1s						
T25A	Trinidad	1.00	121	Pg	Pg	11 28 36.3	-0.1
T25A				Sg	Sg	11 28 49.1	-0.3
T25A				IAML		11 28 49.4	
	comp=N,8.4nm,0.5s						
S22A	4UR Ranch, Cre	1.07	275	Pg	Pg	11 28 37.4	-0.4
S22A				IAML		11 28 55.2	
	comp=E,7.8nm,0.1s						
Q24A	Divide	1.34	11		Pn	11 28 42.3	-0.7
Q24A					Sg	11 28 59.9	-0.4
MVCO	Mesa Verde	2.44	260	Pn	Pn	11 28 56.8	-1.2
MVCO				IAML		11 29 42.8	
	comp=E,2.1nm,0.8s						
RTBA	Rita Blanca	2.51	118	Pn	Pn	11 28 57.4	-1.5

*IDC **07** 12:09:24.2±4.1, 22°.17S×70°.98W, h0km, mb3.8/1, mbtmp3.6/2, ML3.2/1, MS3.4/1, Error ellipse: s-maj=143.0km s-min=67.4km az=102.0*
*SJA **07** 12:09:43.9±0.6, 21°.15S×68°.97W, h126km±3km, ML3.3, MW3.6*
*GUC **07** 12:09:45.9±0.7, 21°.16S×68°.91W, h110km±4km, ML3.3*

ISC 07 12:09:45.1±1.2, 21°.18S±0°.03×69°.05W±0°.05, h122km±8km, n38, σ1§22/55, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.43	288⇑	eP	Pn	12 10 02.8	-0.3
PB01				eS	Sn	12 10 15.8	-0.8
PB01				IAML		12 10 16.8	
	comp=N,2μm,0.3s						
PB01	IPOC Station P	0.43	288	eP	Pn	12 10 02.1	-1.0
PB01				eS	Sn	12 10 16.2	-0.4
PB01				IAML		12 10 16.9	
	comp=Z,1μm,0.5s						
PB09	IPOC Station P	0.64	196	eP	Pn	12 10 04.8	+0.2
PB09				eS	Sn	12 10 18.7	-0.5
PB09				IAML		12 10 20.6	
	comp=N,591nm,0.3s						
PB09	IPOC Station P	0.64	196	eP	Pn	12 10 04.6	0.0
PB09				eS	Sn	12 10 20.1	+0.9
PB09				IAML		12 10 20.4	
	comp=Z,580nm,0.5s						
PB02	IPOC Station P	0.81	260⇑	eP	Pn	12 10 06.3	+0.6
PB02				eS	Sn	12 10 21.9	+0.6
PB02	IPOC Station P	0.81	260	eP	Pn	12 10 06.3	+0.6
PB02				eS	Sn	12 10 22.6	+1.3
PB02				IAML		12 10 26.7	
	comp=Z,2μm,0.2s						
PB08	IPOC Station P	1.04	354⇑	eP	Pn	12 10 07.8	-0.4
PB08				eS	Sn	12 10 24.8	-0.8
PB08				IAML		12 10 26.2	
	comp=E,604nm,0.3s						
PB08	IPOC Station P	1.04	354	eP	Pn	12 10 07.8	-0.4
PB08				eS	Sn	12 10 25.4	-0.1
PB08				IAML		12 10 26.1	
	comp=Z,450nm,0.3s						
PB03	IPOC Station P	1.09	217⇑	eP	Pn	12 10 08.9	+0.5
PB03				eS	Sn	12 10 26.3	+0.2
PB03				IAML		12 10 27.4	
	comp=E,746nm,0.2s						
PB03	IPOC Station P	1.09	217	eP	Pn	12 10 08.3	-0.2
PB03				eS	Sn	12 10 26.6	+0.5
PB03				IAML		12 10 27.3	
	comp=Z,522nm,0.4s						
TA01	Diego Aracena	1.22	300⇑	eP	Pn	12 10 10.0	+0.4
TA01				eS	Sn	12 10 28.8	+0.6
TA01				IAML		12 10 30.3	
	comp=N,782nm,0.3s						
TA01	Diego Aracena	1.22	300	eP	Pn	12 10 04.5	-5.2
TA01				eS	Sn	12 10 29.9	+1.7
TA01				IAML		12 10 31.4	
	comp=Z,320nm,0.2s						
TA02	Huaiquique	1.36	311⇑	eP	Pn	12 10 11.2	+0.1
TA02				eS	Sn	12 10 30.4	-0.4
TA02				IAML		12 10 35.0	
	comp=N,829nm,0.1s						
TA02	Huaiquique	1.36	311	eP	Pn	12 10 11.2	+0.1
TA02				eS	Sn	12 10 32.7	+1.8
TA02				IAML		12 10 34.1	
	comp=Z,373nm,0.2s						
GO01	Chusmiza	1.51	355⇓	eP	Pn	12 10 13.1	-0.2
GO01				eS	Sn	12 10 33.6	-1.1
GO01	Chusmiza	1.51	355	eP	Pn	12 10 10.7	-2.7
GO01				eS	Sn	12 10 34.7	0.0
GO01				IAML		12 10 35.9	
	comp=Z,175nm,0.3s						
PB11	IPOC Station P	1.52	338⇑	eP	Pn	12 10 12.9	-0.3
PB11				eS	Sn	12 10 34.1	-0.3
PB11				IAML		12 10 35.4	
	comp=E,740nm,0.4s						
PB11	IPOC Station P	1.52	338	eP	Pn	12 10 12.2	-0.9
PB11				eS	Sn	12 10 34.6	+0.2
PB11				IAML		12 10 36.4	
	comp=Z,317nm,0.5s						
PB06	IPOC Station P	1.60	198	eP	Pn	12 10 14.8	+0.8
PB06				eS	Sn	12 10 36.4	+0.3
PB06				IAML		12 10 38.5	
	comp=E,542nm,0.3s						
PB06	IPOC Station P	1.60	198	eP	Pn	12 10 10.5	-3.6
PB06				eS	Sn	12 10 37.4	+1.3
PB06				IAML		12 10 39.5	
	comp=Z,259nm,0.3s						
AF01	San Pedro de A	1.94	156	eP	Pn	12 10 29.8	+12
AF01				eS	Sn	12 10 46.8	+3.2
AF01				IAML		12 11 09.6	
	comp=Z,99nm,0.2s						
PB05	IPOC Station P	1.98	213	eP	Pn	12 10 19.2	+0.5
PB05				eS	Sn	12 10 42.8	-1.5
PB05				IAML		12 10 45.2	
	comp=E,196nm,0.3s						
PB05	IPOC Station P	1.98	213	eP	Pn	12 10 19.4	+0.7
PB05				eS	Sn	12 10 43.7	-0.6
PB05				IAML		12 10 45.1	
	comp=Z,130nm,0.3s						
PB10	IPOC Station P	2.71	211	eP	Pn	12 10 27.9	+0.2
PB10				eS	Sn	12 10 50.3	-10
PB10				IAML		12 11 00.2	
	comp=Z,61nm,0.5s						
PB16	IPOC Station P	2.86	351	eP	Pn	12 10 30.8	+0.5
PB16				IAML		12 11 08.7	
	comp=E,39nm,0.5s						
PB16	IPOC Station P	2.86	351	eP	Pn	12 10 30.8	+0.5
YJA	Yavi	3.43	107	eP	Pn	12 10 37.5	-0.1
PB14	IPOC Station P	3.65	200	eP	Pn	12 10 41.0	+0.6
PB14				IAML		12 11 46.8	
	comp=Z,32nm,0.5s						
HJA	Humahuaca	3.93	122	eP	Pn	12 10 44.8	+0.6
AZAP	Zapla	4.76	130	eP	Pn	12 10 55.0	-0.2
AZAP				IAML		12 11 53.7	
	comp=Z,14nm,3.2s						
LPAZ	La Paz	4.94	10	Pn	Pn	12 11 00.9	+3.0
	comp=Z,0.3nm,0.3s,baz=204,slow=8.8,SNR=3.9						
	comp=Z,0.7nm,0.3s						
AC01	Pan de Azucar	5.15	196	eP	Pn	12 10 57.8	-2.3
AC01				eS	Sn	12 11 55.9	-2.6
AC01				IAML		12 12 38.1	
	comp=Z,19nm,0.9s						
H03N1	Juan Fernandez	15.03	214	T	T	12 27 08.6	
	baz=35						
H03N2	Juan Fernandez	15.03	214	T	T	12 27 16.4	
	baz=35						
H03N3	Juan Fernandez	15.04	214	T	T	12 27 19.2	
	baz=35						
RPN	Rapa Nui	37.12	253	LR	LR	12 26 00.8	
	comp=Z,58nm,21.3s,baz=245,slow=28						
TORD	Torodi Ar. Bea	77.37	70	P	P	12 21 32.8	+5.7
	comp=Z,0.5nm,0.5s,baz=244,slow=4.7,SNR=5.4						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	145.45	36	PKPbc	PKPab	12 29 08.9	-0.3
	comp=Z,0.6nm,0.8s,baz=310,slow=1.4,SNR=3.5						

IDC 07 12:19:24.9±10.0, 23°.84N×11°.13W, h0km, mbtmp3.3/1, ML3.3/1, Error ellipse: s-maj=750.4km s-min=77.9km az=48.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	16.15	129	Pn	Pn	12 23 13.2	-0.1
	0.1nm,0.3s,baz=316,slow=13,SNR=5.2						
	0.3nm,0.3s						
WRA	Warramunga Arr	147.78	90	PKPbc	PKPbc	12 39 11.7	-0.8
	0.2nm,0.6s,baz=285,slow=1.3,SNR=6.5						
ASAR	Alice Springs	148.05	97	PKPbc	PKPbc	12 39 12.5	-0.6
	0.2nm,0.5s,baz=280,slow=2.4,SNR=7.1						

*IDC **07** 12:21:55.0±1.8, 28°.76S×177°.66W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=53.1km s-min=29.8km az=49.0*

ISC 07 12:21:59.4±1.6, 28°.7S±0°.3×177°.6W±0°.3, h35km, n13, σ1§24/7, mb3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.60	265	P	P	12 30 00.1	-0.4
	0.3nm,0.4s,baz=107,slow=7.5,SNR=16						
	0.3nm,0.4s						
WRA	Warramunga Arr	44.44	270	P	P	12 30 07.7	+0.5
	0.4nm,0.4s,baz=111,slow=7.7,SNR=17						
	0.4nm,0.4s						
VNDA	Vanda	49.84	186	P	P	12 30 47.2	-1.4
	0.6nm,0.6s,baz=27,slow=4.5,SNR=7.0						
	0.6nm,0.6s						
QSPA	South Pole Qui	61.43	180	P	P	12 32 13.6	+1.5
	1.6nm,0.8s,baz=23,slow=0.7,SNR=10						
	1.6nm,0.8s						
H03S2	Juan Fernandez	81.11	124	T	T	14 03 54.9	
	baz=240,slow=74,SNR=4.4						
H03S1	Juan Fernandez	81.12	124	T	T	14 03 54.2	
	baz=240,slow=74,SNR=4.6						
H03S3	Juan Fernandez	81.12	124	T	T	14 03 47.0	
	baz=240,slow=74,SNR=5.4						
H03N3	Juan Fernandez	81.29	123	T	T	14 03 56.2	
	baz=239						
H03N2	Juan Fernandez	81.29	123	T	T	14 03 56.2	
	baz=239						
H03N1	Juan Fernandez	81.31	123	T	T	14 03 48.0	
	baz=239						
FINES	FINESS Array B	143.65	341	PKP	PKPdf	12 41 28.9	-1.0
	0.8nm,0.5s,baz=50,slow=3.0,SNR=6.5						
AKASG	Malin Array Be	150.13	325	PKPbc	PKiKP	12 41 46.9	-0.1
	0.9nm,0.5s,baz=50,slow=2.4,SNR=2.3						
MMAI	Mount Meron Ar	151.43	287	PKPbc	PKiKP	12 41 51.1	+0.8
	0.7nm,0.3s,baz=90,slow=6.2,SNR=1.7						

*DMN **07** 12:35:43.4±0.0, 27°.64N×91°.86E, h10km, Ml5.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BJI **07** 12:35:44.9, 27°.40N×91°.40E, h10km, mB4.7/14, mb4.7/53, ML4.2/5, Ms4.2/26, Ms7 4.0/29*
*IDC **07** 12:35:44.0±0.6, 27°.35N×91°.38E, h0km, mb4.2/25, mbtmp4.2/27, ML4.4/2, MS3.5/15, Error ellipse: s-maj=17.3km s-min=12.2km az=41.0*
*MOS **07** 12:35:45.4±1.0, 27°.40N×91°.42E, h16km, mb4.7/25, Error ellipse: s-maj=9.3km s-min=4.8km az=111.9*
*NEIC **07** 12:35:46.4±1.8, 27°.29N±0°.05×91°.31E±0°.06, h10km±1km, mb4.7/63, Error ellipse: s-maj=11.5km s-min=5.5km az=225.0*
*NDI **07** 12:35:50.6±1.9, 27°.29N×91°.48E, h10km, ML4.5, MW4.5*

ISC 07 12:35:46.6±0.8, 27°.39N±0°.04×91°.36E±0°.03, h13km±4km, n234, σ1§40/238, mb4.6/74, MS3.7/21, 11C-5D, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEZP	TEZPUR	1.50	121	eP	Pg	12 36 15.5	+0.1
TEZP				eS	Sg	12 36 34.7	-0.2
TEZP				IAML		12 36 34.8	
	comp=E,8μm,0.1s						
TEZP				IAML		12 36 35.4	
	comp=N,9μm,0.2s						
SHL	Shillong	1.88	165		Pn	12 36 19.2	+0.7
SHL	Shillong	1.88	165	P	Pn	12 36 19.3	+0.7
ZIRO	ZIRO	2.22	86	eP	Pb	12 36 25.5	-1.2
ZIRO				eS	Sb	12 36 53.0	-1.2
ZIRO				IAML		12 36 55.8	
	comp=N,2μm,0.5s						
ZIRO				IAML		12 36 56.6	
	comp=E,8μm,0.5s						
LSA	Lhasa	2.31	356	Pn	Pb	12 36 28.8	+0.4
LSA	Lhasa	2.31	356	Pn	Pn	12 36 26.0	+1.2
LSA				Sn	Sb	12 36 57.9	+0.9
LSA				smax	smax		
	comp=E,1μm,0.9s						
LSA				smax	smax		
	comp=E,2μm,0.7s						
LSA	Lhasa	2.31	356	P	Pb	12 36 28.8	+0.4
JORH	JORHAT	2.66	103	eP	Pb	12 36 31.9	-2.1
JORH				eS	Sn	12 37 02.7	+1.4
JORH				IAML		12 37 09.6	
	comp=E,9μm,0.3s						
JORH				IAML		12 37 11.1	
	comp=N,7μm,0.3s						
SILR	SILCHAR	2.91	153	eP	Pn	12 36 34.5	+1.9
SILR				eS	Sn	12 37 09.1	+1.8
SILR				IAML		12 37 11.1	
	comp=E,2μm,0.7s						
SILR				IAML		12 37 17.0	
	comp=N,2μm,0.6s						
KOHI	KOHIMA	2.97	123	eP	Pn	12 36 35.6	+2.0
KOHI				eS	Sn	12 37 10.3	+1.1
KOHI				IAML		12 37 11.3	
	comp=E,4μm,0.4s						
KOHI				IAML		12 37 11.7	
	comp=N,5μm,0.3s						
IMP	Imphal	3.45	137	eP	Pn	12 36 42.0	+1.8
IMP				eS	Sn	12 37 21.6	+0.7
IMP				IAML		12 37 24.9	
	comp=N,3μm,0.4s						
IMP				IAML		12 37 24.9	
	comp=E,4μm,0.3s						
AGT	Agartala	3.49	182	eP	Pn	12 36 43.2	+2.6
AGT				eS	Sn	12 37 22.3	+0.5
AGT				IAML		12 37 45.2	
	comp=E,4μm,0.3s						
AGT				IAML		12 37 46.4	
	comp=N,3μm,1.5s						
ODAN	Odare	3.58	262	Pn	Pn	12 36 43.4	+1.4
	baz=260,slow=0.0						
EVN	Everest	4.07	279		Pn	12 36 50.9	+1.8
RAMN	Ramite	4.26	265	Pn	Pn	12 36 53.5	+2.1
	baz=263,slow=0.0						
RAMN				Sn	Sn	12 37 45.2	+4.0
	comp=N,488nm,0.3s,baz=263,slow=0.0						
BRDH	Bariadhala	4.70	177	Pn	Pn	12 36 58.5	+1.2
	comp=N,120nm,0.3s,baz=36,slow=8.7,SNR=12						
BRDH				Sn	Sn	12 37 49.0	-2.7
	comp=N,197nm,0.3s,baz=270,slow=20,SNR=11						
BRDH				Lg	Lg	12 38 08.5	
	comp=N,103nm,0.3s,baz=288,slow=20,SNR=4.0						
GUN	Gumba	4.89	277	Pn	Pn	12 37 01.4	+1.3
	baz=274,slow=0.0						
SAIH	SAIHA	5.10	163	eP	Pn	12 37 05.4	+2.6
SAIH				eS	Sn	12 38 00.3	-1.3
SAIH				IAML		12 38 05.8	
	comp=E,2μm,0.4s						
SAIH				IAML		12 38 06.0	
	comp=N,700nm,0.4s				

TNCH smax smax
comp=E,92nm,1.3s
TNCH smax smax
comp=E,66nm,1.0s
GOMU GeErMu 9.26 18 P **Pn 12 37 57.8 -2.4**
GOMU pmax pmax
comp=E,10.0nm,0.5s
PZH PanZhiHua 9.31 93 P **Pn 12 38 03.5 +2.8**
KMI Kunming 10.46 100 P **Pn 12 38 16.9 +0.3**
KMI pmax pmax
comp=E,10.0nm,0.9s
CHTO Chiang Mai 11.02 139 Pn 12 38 24.0 -0.1
CHTO Chiang Mai 11.02 139 P **Pn 12 38 24.0 -0.1**
CM31 Chiang Mai Arr 11.30 140 Pn 12 38 27.2 -0.7
CMAR Chiang Mai Arr 11.30 140 Pn **Pn 12 38 27.8 -0.1**
comp=E,0.5nm,0.3s,baz=318,slow=13,SNR=12
CMAR Sn **Sn 12 40 40.1 +5.9**
comp=E,0.3nm,0.3s,baz=307,slow=30,SNR=1.9
comp=E,1.3nm,0.6s
CD2 Chengdu 11.39 69 P **Pn 12 38 28.6 -0.5**
CD2 pmax pmax
comp=E,20nm,0.4s
CD2 LR LR
comp=E,600nm,11.8s
CD2 LR LR
comp=E,980nm,8.8s
CD2 LR LR
comp=E,1μm,9.7s
SMLA Simla 12.94 290 *e*P Pn 12 38 55.1 +5.0
SMLA IAML 12 41 10.7
comp=N,43nm,0.8s
SMLA *e*S **Sn 12 41 12.0 -2.0**
SMLA IAML 12 41 14.0
comp=E,57nm,1.2s
LZDM Lanzhou Array 13.53 48 Pn **Pn 12 38 57.7 -0.9**
baz=218,slow=9.4
comp=E,3.0nm,0.3s
GYA Guiyang 13.69 90 ⇑P **Pn 12 38 59.6 -1.0**
GYA pmax pmax
comp=E,19nm,0.7s
LZH Lanzhou 13.70 48 *e*P **Pn 12 39 00.0 -0.8**
LZH sP P 12 39 06.2 -3.3
LZH pmax pmax
comp=E,21nm,1.5s
LZH LR LR
comp=E,420nm,11.1s
LZH LR LR
comp=E,460nm,14.3s
LZH LR LR
comp=E,610nm,14.0s
GTA Gaotai 13.90 28 *e*P **Pn 12 39 03.9 +0.4**
GTA pP P 12 39 07.9 -3.8
GTA sP 12 39 11.6
GTA pmax pmax
comp=E,5.0nm,0.7s
GTA LR LR
comp=E,320nm,12.0s
GTA LR LR
comp=E,200nm,12.4s
GTA LR LR
comp=E,250nm,13.5s
HYB Hyderabad 15.44 233 *e*P **P 12 39 28.2 -0.6**
HYB *e*S **S 12 42 30.4 -0.8**
ENH Enshi 16.15 75 Pn **Pn 12 39 34.1 +0.8**
ENH IAmb IAmb 12 39 42.6
comp=Z,26nm,0.6s
XAN Xi'an 16.48 62 ⇑P **Pn 12 39 34.3 -3.4**
XAN pmax pmax
comp=Z,22nm,1.0s
XAN pmax pmax
comp=Z,180nm,4.9s
XAN LR LR
comp=Z,280nm,8.1s
XAN LR LR
comp=Z,620nm,9.0s
XAN LR LR
comp=Z,700nm,8.8s
WMQ Urumqi 16.66 351 *e*P **Pn 12 39 39.8 0.0**
WMQ pmax pmax
comp=Z,37nm,0.9s
NIL Nilore 16.79 296 Pn **Pn 12 39 37.8 -3.8**
NIL IAmb IAmb 12 39 45.5
comp=Z,37nm,0.6s
NIL Nilore 16.79 296 P **Pn 12 39 37.8 -3.8**
NIL pmax pmax
comp=Z,37nm,0.6s
KSH Kashi 17.61 317 P **P 12 39 54.6 +1.8**
KSH pP sP 12 39 59.4 0.0
KSH pmax pmax
comp=Z,11nm,0.9s
TARG Taragay, Kyrgy 18.11 326 P 12 39 59.4 +0.8
TARG Taragay, Kyrgy 18.11 326 P **P 12 39 59.4 +0.8**
TARG pmax pmax
comp=Z,7.0nm,0.8s
SHLS Shalkode 18.46 332 *i*P **P 12 39 59.2 -2.9**
KDJ Kajisay 18.72 325 P **P 12 40 03.7 -1.4**
KDJ pmax pmax
comp=Z,7.0nm,0.7s
LYN LuoYang 19.44 63 P **P 12 40 12.6 -0.2**
LYN pmax pmax
comp=Z,14nm,1.1s
LYN pmax pmax
comp=Z,170nm,6.5s
LYN LR LR
comp=Z,310nm,12.7s
LYN LR LR
comp=Z,220nm,8.9s
LYN LR LR
comp=Z,350nm,10.3s
BOOM Boomskoye usch 19.62 324 P **Pn 12 40 16.8 +0.5**
BOOM Boomskoye usch 19.62 324 P **Pn 12 40 16.8 +0.5**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
ARXS Arharly 20.01 331 *i*P **P 12 40 19.7 +0.6**
BTO Baotou 20.27 45 *e*P **P 12 40 22.1 +0.1**
BTO pP **pP 12 40 26.0 -0.4**
BTO sP **sP 12 40 28.8 +0.1**
BTO PP **PnPn 12 40 42.1 +3.4**
BTO S **S 12 44 03.2 -5.9**
BTO sS Sn 12 44 10.6 -1.6
BTO SS **SnSn 12 44 32.6 +5.8**
BTO pmax pmax
comp=Z,42nm,1.0s
BTO pmax pmax
comp=Z,220nm,7.5s
BTO LR LR
comp=Z,370nm,11.9s
BTO LR LR
comp=Z,440nm,13.9s
BTO LR LR
comp=Z,680nm,14.1s
WHN Wuhan 20.36 76 P **P 12 40 22.8 0.0**
WHN pmax pmax
comp=Z,48nm,1.0s
KBL Kabul 20.40 296 P 12 40 24.6 +1.1
KBL IAmb IAmb 12 40 25.5
comp=Z,20nm,0.8s
KBL Kabul 20.40 296 P **P 12 40 24.6 +1.1**
KBL pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 20.49 322 P 12 40 23.7 -0.7
AAK Ala-Archa 20.49 322 P **P 12 40 24.5 +0.1**
comp=Z,1.4nm,0.4s,baz=167,slow=5.3,SNR=5.3
comp=Z,1.4nm,0.4s
AAK Ala-Archa 20.49 322 ⇓*i*P Pn 12 40 26.5 0.0
AAK pmax pmax
comp=Z,5.0nm,1.0s
ARSB Arslanbob 20.52 317 P Pn 12 40 27.7 +0.8
ARSB Arslanbob 20.52 317 P Pn 12 40 27.7 +0.8
ARSB pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 20.65 342 P **P 12 40 26.4 +0.5**
MK31 IAmb IAmb 12 40 27.1
comp=Z,14nm,0.7s
MK31 Makanchi Array 20.65 342*c i*P **P 12 40 26.0 +0.1**
MKAR Makanchi Array 20.65 342 P **P 12 40 26.2 +0.3**
comp=Z,14nm,0.6s,baz=147,slow=13,SNR=119
MKAR LR LR 12 49 30.9
comp=Z,71nm,18.4s,baz=196,slow=40
comp=Z,14nm,0.6s
MAKZ Makanchi 20.75 342 P **P 12 40 27.3 +0.3**
MAKZ IAmb IAmb 12 40 28.1
comp=Z,12nm,0.6s
MAKZ Makanchi 20.75 342 P **P 12 40 27.3 +0.3**
MAKZ pmax pmax
comp=Z,12nm,0.6s

GAR Garm 21.02 309 P **P 12 40 31.9 +1.8**
GAR IAmb IAmb 12 40 39.9
comp=Z,26nm,0.8s
HHC Hu-ho-hao-te 21.38 46 *e*P **P 12 40 33.7 -0.3**
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,73nm,3.7s
HHC LR LR
comp=Z,310nm,10.7s
HHC LR LR
comp=Z,230nm,9.9s
HHC LR LR
comp=Z,400nm,11.3s
CHGR Chuyangaron 21.68 307 P 12 40 37.2 0.0
CHGR IAmb IAmb 12 40 39.5
comp=Z,28nm,0.5s
CHGR Chuyangaron 21.68 307 P **P 12 40 37.2 0.0**
CHGR pmax pmax
comp=Z,28nm,0.5s
BTLS Baital 22.40 326 *i*P **P 12 40 45.6 +0.9**
BTLS pmax pmax
comp=Z,41nm,4.0s
PALK Pallekele 22.42 209 LR LR 12 49 03.6
comp=Z,98nm,22.0s,baz=22,slow=36
IUG Iuzhnay 22.80 316 *i*P P 12 40 56.3 +7.2
KK31 Karatay Array 23.05 318 P **P 12 40 54.5 +2.9**
KK31 Karatay Array 23.05 318 P **P 12 40 54.5 +2.9**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 23.05 318 P **P 12 40 54.4 +2.8**
KKAR Karatay Array 23.05 318 P **P 12 40 54.4 +2.8**
TIA Tai'an 23.55 62 P **P 12 40 55.0 -1.7**
TIA pmax pmax
comp=Z,18nm,0.9s
SONM Songino Array 23.55 26 P **P 12 40 56.7 -0.1**
SONM Songino Array 23.55 26 P **P 12 40 56.4 -0.4**
comp=Z,6.0nm,0.6s,baz=211,slow=11,SNR=21
SONM LR LR 12 51 31.0
comp=Z,78nm,20.0s,baz=234,slow=40
comp=Z,6.0nm,0.6s
KNGR Kungurtug, Tuv 23.65 10⇑*i*P **P 12 40 59.4 +1.7**
KNGR pmax pmax
comp=Z,18nm,0.7s
ULN Ulaanbaatar 23.84 27 P 12 40 59.0 -0.6
ULN Ulaanbaatar 23.84 27*c i*P **P 12 40 58.7 -0.8**
ULN pmax pmax
comp=Z,9.0nm,1.0s
BJT Baijiatuau 24.09 52 P **P 12 41 01.5 -0.3**
BJT Baijiatuau 24.09 52 P **P 12 41 01.5 -0.3**
BJT pmax pmax
comp=Z,6.0nm,0.6s
BJI Beijing 24.10 52 P **P 12 41 02.2 +0.3**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI LR LR
comp=Z,250nm,12.4s
BJI LR LR
comp=Z,270nm,10.6s
BJI LR LR
comp=Z,460nm,11.8s
NJ2 Nanjing 24.30 72 *e*P **P 12 41 04.5 +0.7**
NJ2 pmax pmax
comp=Z,15nm,0.9s
KCSI Kotacane, Aceh 24.51 164 P **P 12 41 07.1 +1.2**
ZAK Zakamensk 24.70 18 *e*P **P 12 41 07.1 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KURBB Kurchatov Arra 25.18 341 P **P 12 41 11.8 +0.3**
comp=Z,3.4nm,0.4s,baz=154,slow=9.8,SNR=18
comp=Z,3.4nm,0.4s
KURK Kurchatov 25.23 341 P 12 41 11.8 -0.2
KURK Kurchatov 25.23 341⇑*i*P **P 12 41 12.3 +0.2**
KURK pmax pmax
comp=Z,4.0nm,0.6s
MOY Mondy 25.31 14 *e*P **P 12 41 14.3 +1.3**
MOY pmax pmax
comp=Z,19nm,1.8s
PSI Prapat 25.50 162 LR LR 12 52 29.3
comp=Z,35nm,18.2s,baz=343,slow=39
ZAA0 Zalesovo Array 26.97 351 P 12 41 27.5 -0.2
ZAA0 IAmb IAmb 12 41 28.9
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 26.97 351 P **P 12 41 28.1 +0.3**
ZALV Zalesovo Beam 26.97 351 P **P 12 41 27.9 +0.3**
comp=Z,7.1nm,0.5s,baz=177,slow=8.0,SNR=39
comp=Z,7.1nm,0.5s
ZALV Zalesovo Beam 26.97 351 P **P 12 41 28.1 +0.3**
BVAR Borovoye Array 29.98 334 P **P 12 41 55.0 +0.4**
comp=Z,2.8nm,0.5s,baz=138,slow=9.6,SNR=16
comp=Z,2.8nm,0.5s
BVAR Borovoye Array 29.98 334 P **P 12 41 55.0 +0.4**
BORK Borovoye 30.02 334*d i*P **P 12 41 55.6 +0.6**
BORK pmax pmax
comp=Z,2.0nm,0.6s
CN2 Changchun 31.92 50 P **P 12 42 11.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 32.28 63 P **P 12 42 13.3 -1.7**
comp=Z,0.8nm,0.5s,baz=258,slow=8.6,SNR=6.9
comp=Z,0.8nm,0.5s
AB31 Akbulak array 32.55 321 P 12 42 18.0 +0.7
AB31 IAmb IAmb 12 42 24.9
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 32.55 321 P **P 12 42 18.4 +1.1**
BNX BinXian 33.89 48 ⇓P **P 12 42 29.4 +0.4**
BNX pmax pmax
comp=Z,16nm,1.0s
JNU Nakatsue 34.47 71 LR LR 12 56 31.4
comp=Z,32nm,19.6s,baz=278,slow=36
USRK Ussuriysk Ar. 36.56 52 P **P 12 42 51.5 -0.5**
comp=Z,3.9nm,0.8s,baz=258,slow=11,SNR=5.1
comp=Z,3.9nm,0.8s
ZEA Zeya 37.25 35 *e*P **P 12 42 58.6 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,100nm,9.0s
ZEA MLR MLR
comp=Z,200nm,10.0s
ARTI Arti 37.33 330 P **P 12 42 58.5 0.0**
ARTI Arti 37.33 330*d i*P **P 12 42 58.5 0.0**
ARTI 12 44 22.1
ARTI S **S 12 48 48.3 +2.7**
ARTI pmax pmax
comp=Z,23nm,4.0s
MJB9 Matsu-Tunnel 40.44 65 P **P 12 43 24.4 -0.5**
MJB9 IAmb IAmb 12 43 24.6
comp=Z,16nm,0.6s
MAJO Matsushiro 40.45 65 P **P 12 43 24.4 -0.6**
MAJO IAmb IAmb 12 43 24.6
comp=Z,17nm,0.6s
MAJO Matsushiro 40.45 65*ce*P **P 12 43 24.3 -0.6**
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 40.45 65 P **P 12 43 24.9 0.0**
MJAR Matsushiro Arr 40.45 65 P **P 12 43 24.4 -0.4**
comp=Z,10nm,0.7s,baz=273,slow=9.4,SNR=33
MJAR LR LR 13 00 47.4
comp=Z,28nm,21.1s,baz=201,slow=37
comp=Z,10nm,0.7s
MJAR Matsushiro Arr 40.45 65 P **P 12 43 24.9 0.0**
MJAR pmax pmax
comp=Z,11nm,1.4s
KIV Kislovodsk 42.22 306 *e*P **P 12 43 39.2 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIRV Kirov 42.59 329⇑*e*P **P 12 43 43.2 +1.1**
YAK Yakutsk 42.91 25 LR LR 13 02 40.2
comp=Z,93nm,18.6s,baz=233,slow=38
YAK Yakutsk 42.91 25*c i*P **P 12 43 44.3 -0.3**
YAK pmax pmax
comp=Z,13nm,0.5s
ASAJ Asahikawa 44.08 54 LR LR 13 01 37.9
comp=Z,21nm,20.7s,baz=338,slow=35
YSS Yuzhno-Sakhali 44.49 50 *e*P **P 12 43 58.1 +0.5**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,200nm,13.0s
OBN Obninsk 48.00 321 *e*P **P 12 44 24.7 -0.4**
OBN pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 48.09 329 *e*P **P 12 44 24.7 -1.0**
KLMR pmax pmax
comp=Z,20nm,1.4s

BR131 Keskin Array S 48.89 300*d i*P **P 12 44 34.0 +1.6**
BRTR Keskin Array B 48.89 300 P **P 12 44 32.5 +0.2**
comp=Z,0.6nm,0.5s,baz=96,slow=7.8,SNR=4.8
comp=Z,0.6nm,0.5s
TIXI Tiksi 48.89 15 P **P 12 44 31.7 0.0**
TIXI Tiksi 48.89 15⇑*i*P **P 12 44 31.2 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,0.3s
BR105 Keskin Array S 48.91 300 P **P 12 44 31.8 -0.7**
comp=Z,3.5nm,1.3s
EIL Elat 49.19 287 LR LR 13 09 06.9
comp=Z,39nm,19.3s,baz=127,slow=41
ANTO Ankara 49.53 300 P **P 12 44 36.2 -1.0**
comp=Z,5.9nm,0.6s
MA2 Magadan 51.38 34 LR LR 13 09 26.0
comp=Z,67nm,18.9s,baz=288,slow=39
AK09 Malin Array Si 51.83 314 P **P 12 44 53.7 -0.5**
AK08 Malin Array Si 51.85 314 P **P 12 44 53.9 -0.5**
AK10 Malin Array Si 51.85 314 P **P 12 44 53.9 -0.5**
AKASG Malin Array Be 51.87 314 P **P 12 44 53.5 -1.0**
comp=Z,0.8nm,0.4s,baz=83,slow=6.5,SNR=9.4
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 51.87 314⇑*e*P **P 12 44 56.7 +2.2**
AK01 Malin Array Si 51.88 314 P **P 12 44 54.1 -0.5**
AK07 Malin Array Si 51.88 314 P **P 12 44 54.1 -0.5**
AK05 Malin Array Si 51.88 314 P **P 12 44 54.1 -0.5**
AK12 Malin Array Si 51.91 314 P **P 12 44 54.3 -0.6**
AK18 Malin Array Si 51.97 314 P **P 12 44 54.8 -0.5**
AK17 Malin Array Si 51.98 314 P **P 12 44 54.9 -0.4**
VALR Valaam 52.26 328 *i*P **P 12 44 57.5 +0.3**
JOF Joensuu 52.41 330 *e*P **P 12 44 58.3 0.0**
LUBAR Lubar, Ukraine 52.79 313 P **P 12 45 00.9 -0.5**
SEY Seymchan 52.85 30 *e*P **P 12 45 00.8 -0.8**
SEY pmax pmax
comp=Z,13nm,1.4s
KMPD K-Podol'skiy 53.66 312 P **P 12 45 07.3 -0.5**
VSU Vasula 53.87 324 *e*P **P 12 45 12.0 +2.8**
VSU pmax pmax
comp=Z,9.0nm,0.8s
RNPP5 Staryi Chortor 53.99 315 P **P 12 45 09.8 -0.4**
RNPP1 Kostyukhnivka 54.06 315 P **P 12 45 10.3 -0.4**
BURAR Bucovina Array 54.53 311 P **P 12 45 17.9 +3.6**
PEA0B Petropavlovsk- 54.53 43 P **P 12 45 14.1 -0.1**
PEA0B Petropavlovsk- 54.53 43 P **P 12 45 14.1 -0.1**
PEA0B pmax pmax
comp=Z,62nm,1.5s
PETK Petropavlovsk- 54.53 43 P **P 12 45 14.1 -0.1**
comp=Z,2.1nm,0.8s,baz=298,slow=6.4,SNR=1.6
PETK LR LR 13 10 46.8
comp=Z,86nm,18.7s,baz=284,slow=38
comp=Z,2.1nm,0.8s
FIA1 FINESS Array S 54.55 328 P **P 12 45 14.2 +0.1**
FINES FINESS Array B 54.55 328 P **P 12 45 14.2 +0.1**
FINES FINESS Array B 54.55 328 P **P 12 45 13.9 -0.2**
comp=Z,2.9nm,0.5s,baz=107,slow=8.8,SNR=14
comp=Z,2.9nm,0.5s
FINES FINESS Array B 54.55 328 P **P 12 45 14.2 +0.1**
KEF Keuruu 55.21 328 *e*P **P 12 45 18.8 -0.1**
MORS Morshin 55.33 312 P **P 12 45 19.7 -0.2**
KEV Kevo 55.74 338 P **P 12 45 22.8 +0.2**
KEV Kevo 55.74 338 P **P 12 45 22.8 +0.2**
KEV pmax pmax
comp=Z,26nm,1.2s
ARCES ARCESS Array B 56.20 337 P **P 12 45 26.1 +0.2**
ARCES IAmb IAmb 12 45 27.0
comp=Z,17nm,1.3s
ARCES ARCESS Array B 56.20 337 P **P 12 45 25.8 -0.1**
comp=Z,1.6nm,0.4s,baz=102,slow=7.5,SNR=28
comp=Z,1.6nm,0.4s
ARCES ARCESS Array B 56.20 337 P **P 12 45 26.1 +0.2**
ARCES pmax pmax
comp=Z,17nm,1.3s
VAF Ylistaro 56.32 329 *e*P **P 12 45 26.6 -0.1**
SJUU Sjulsmark 57.03 332 *e*P **P 12 45 31.8 0.0**
LANU Lannavaara 57.19 335 *e*P **P 12 45 32.1 -0.9**
HFS Hagfors 60.58 326 P **P 12 45 56.3 -0.3**
comp=Z,3.0nm,0.6s,baz=111,slow=8.1,SNR=20
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 61.72 327 P **P 12 46 03.4 -1.0**
comp=Z,2.5nm,0.6s,baz=84,slow=6.9
NOA NORSAR Array B 61.72 327 P **P 12 46 03.3 -1.1**
comp=Z,1.2nm,0.6s,baz=85,slow=6.7,SNR=12
NOA LR LR 13 16 35.5
comp=Z,48nm,18.8s,baz=245,slow=40
comp=Z,1.2nm,0.6s
GERES GERESS Array B 62.02 313 P **P 12 46 06.2 -0.5**
comp=Z,1.0nm,0.6s,baz=57,slow=4.9,SNR=13
comp=Z,1.0nm,0.6s
WB0 Warramunga Arr 62.73 134 P **P 12 46 11.0 -0.6**
WB0 IAmb IAmb 12 46 42.4
comp=Z,5.2nm,1.1s
WRA Warramunga Arr 62.82 134 P **P 12 46 12.2 0.0**
WRA Warramunga Arr 62.82 134 P **P 12 46 11.4 -0.8**
comp=Z,0.4nm,0.5s,baz=325,slow=7.0,SNR=30
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 62.82 134 P **P 12 46 12.3 0.0**
WRAB Tennant Creek 62.82 134 P **P 12 46 11.4 -0.8**
WRAB IAmb IAmb 12 46 24.7
comp=Z,3.8nm,0.9s
WRAB Tennant Creek 62.82 134 P **P 12 46 11.4 -0.8**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WR8 Warramunga Arr 62.93 134 P **P 12 46 12.7 -0.2**
WR8 IAmb IAmb 12 46 47.8
comp=Z,6.9nm,1.1s
AS31 Alice Springs 65.29 137 P **P 12 46 27.8 -0.7**
ASAR Alice Springs 65.29 137 P **P 12 46 29.6 +1.1**
ASAR Alice Springs 65.29 137 P **P 12 46 27.8 -0.7**
comp=Z,0.7nm,0.6s,baz=318,slow=6.1,SNR=17
comp=Z,0.7nm,0.6s
ASAR Alice Springs 65.29 137 P **P 12 46 29.6 +1.1**
BFO Black Forest 65.62 313 *i*P **P 12 46 31.8 +1.5**
EKA Eskdalemuir Ar 70.39 323 P **P 12 46 60.0 -0.2**
comp=Z,0.4nm,0.3s,baz=68,slow=5.7,SNR=5.7
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 70.39 323 P **P 12 47 00.0 -0.2**
F17K Baldwin Pennin 71.81 24 P **P 12 47 09.8 +1.3**
D20K Etivluk River 72.29 21 P **P 12 47 12.6 +1.2**
D20K IAmb IAmb 12 47 13.7
comp=Z,11nm,1.0s
E19K Redstone River 72.72 22 IAmb IAmb 12 47 20.6
comp=Z,6.2nm,0.7s
E21K Killik River 73.26 21 P **P 12 47 17.5 +0.3**
F20K Avaraart Lake 73.43 22 IAmb IAmb 12 47 19.1
comp=Z,9.5nm,1.3s
TOLK Toolik Lake Re 74.48 19 P **P 12 47 25.3 +0.9**
TOLK IAmb IAmb 12 47 54.6
comp=Z,16nm,1.4s
LSZ Lusaka 74.48 243 LR LR 13 18 06.4
comp=Z,49nm,18.3s,baz=332,slow=34
IMAR Indian Mountai 74.67 23 P **P 12 47 25.7 +0.3**
O16K Kokwok River B 76.39 29 P **P 12 47 36.2 +0.8**
O16K IAmb IAmb 12 47 37.3
comp=Z,7.8nm,1.1s
I23K Minto, Yukon-K 76.65 22 P **P 12 47 37.6 +0.8**
I23K IAmb IAmb 12 48 02.5
comp=Z,9.5nm,1.5s
BMAR Burnt Mountain 76.71 19 P **P 12 47 38.7 +1.5**
ESDC Sonseca Array 76.86 308 P **P 12 47 38.2 -0.3**
comp=Z,0.8nm,0.8s,baz=65,slow=5.9,SNR=4.7
comp=Z,0.8nm,0.8s
NEA2 Nenana 77.08 23 IAmb IAmb 12 47 47.6
comp=Z,6.1nm,1.0s
MATP Matopo 77.19 239 LR LR 13 18 03.4
comp=Z,54nm,19.7s,baz=39,slow=33
COLA College 77.32 22 P **P 12 47 40.6 0.0**
COLA IAmb IAmb 12 47 49.2
comp=Z,6.7nm,0.7s
COLA College 77.32 22 P **P 12 47 40.6 0.0**
COLA pmax pmax
comp=Z,7.0nm,0.7s
MCK McKinley 77.66 23 IAmb IAmb 12 47 50.6
comp=Z,6.1nm,0.9s
PRP Porcupine Dome 77.67 21 IAmb IAmb 12 47 44.3
comp=Z,13nm,1.3s
IL31 77.71 22 P **P 12 47 42.0 -0.8**
IL31 IAmb IAmb 12 47 48.3
comp=Z,4.3nm,0.9s
ILAR Eielson Array 77.71 22 P **P 12 47 42.0 -0.8**
ILAR Eielson Array 77.71 22 P **P 12 47 41.9 -0.9**
comp=Z,1.7nm,0.8s,baz=315,slow=4.4,SNR=17
ILAR PP **PP 12 50 35.8 -1.7**
comp=Z,0.3nm,0.8s,baz=316,slow=6.9,SNR=4.5
comp=Z,1.7nm,0.8s
ILAR Eielson Array 77.71 22 P **P 12 47 42.0 -0.8**
RND Reindeer 77.89 24 P **P 12 47 43.8 -0.1**

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RND                                     IAmb    IAmb    12 47 53.4
     comp=Z,3.4nm,0.7s
RND  Reindeer          77.89  24  P       P       12 47 43.8 -0.1
RND                                     pmax    pmax
     comp=Z,3.0nm,0.7s
SML  Sawmill           79.07  25  P       P       12 47 51.0 +0.6
SCRK Sand Creek        79.19  22  IAmb    IAmb    12 47 51.5
     comp=Z,5.1nm,0.6s
SCM  Sheep Creek Mo    79.42  24  P       P       12 47 53.1 +0.7
SCM                                     IAmb    IAmb    12 48 04.1
     comp=Z,8.2nm,0.9s
SCM  Sheep Creek Mo    79.42  24  P       P       12 47 53.1 +0.7
SCM                                     pmax    pmax
     comp=Z,8.0nm,0.9s
KDAK Kodiak Island     79.80  29  LR      LR      13 26 22.9
     comp=Z,90nm,19.1s,baz=339,slow=38
L27K Beaver Creek,     80.52  22  IAmb    IAmb    12 48 07.3
     comp=Z,5.7nm,1.0s
BCAR Beaver Creek A    80.53  22  P       P       12 47 59.7 +1.3
DAWY Dawson            80.58  20  P       P       12 47 59.2 +0.6
I30M Mount Dempster    80.62  18  IAmb    IAmb    12 48 07.2
     comp=Z,9.9nm,1.4s
MCARA McCarthy VSAT    81.27  23  P       P       12 48 03.7 +1.5
MCARA                                   IAmb    IAmb    12 48 11.7
     comp=Z,15nm,1.1s
HYT  Haines Junctio    83.55  22  P       P       12 48 15.5 +1.2
TORD Torodi Ar. Bea    83.77 282  P       P       12 48 16.0 -0.1
     comp=Z,0.4nm,0.4s,baz=75,slow=5.1,SNR=4.3
     comp=Z,0.4nm,0.4s
BOSA Boshof            84.34 234  P       P       12 48 18.1 -0.7
     comp=Z,1.4nm,0.7s,baz=169,slow=16,SNR=1.4
     comp=Z,1.4nm,0.7s
YKA  Yellowknife Ar    88.04  12  P       P       12 48 36.1 -0.2
     comp=Z,2.2nm,0.8s,baz=310,slow=4.4,SNR=2.3
     comp=Z,2.2nm,0.8s
NVL  N'lazarevskaya   112.22 201  i PKIKP PKiKP   12 54 12.6 -8.5
NVL                                 e               13 01 25.0
NVL                                 eSS     SS      13 10 42.7 -2.0
NVL                                 eSSS    SSS     13 14 52.9
NVL                                     pmax    pmax
     comp=Z,9.0nm,0.9s
NVL                                     pmax    pmax
     comp=N,106nm,9.4s
NVL                                     MLR     MLR
     comp=E,95nm,18.0s
SNAA Sanae            117.04 201  PKP     PKPdf   12 54 29.2 -1.2
     comp=E,1.2nm,0.9s,baz=355,slow=6.1,SNR=2.6
QSPA South Pole Qui   117.19 180  PKP     PKiKP   12 54 31.4 +0.6
     comp=E,1.2nm,1.0s,baz=332,slow=3.1,SNR=2.3
TXAR Lajitas Array    121.79  15  PKP     PKPdf   12 54 41.4 +0.4
     comp=E,0.2nm,0.5s,baz=10,slow=2.6,SNR=3.6
ROSC El Rosal         145.10 334  PKPbc   PKPab   12 55 25.3 +0.8
     comp=E,14nm,0.4s,baz=321,slow=13,SNR=4.0
CPUP Villa Florida    152.08 265  PKPbc   PKPbc   12 55 40.6 -1.5
     comp=E,0.9nm,0.9s,baz=279,slow=3.9,SNR=5.4
```

*HEL **07** 12:36:46.3±0.2, 60°.98N×29°.05E, h0km, ML1.9, Suspected explosion*
*IDC **07** 12:36:48.0±2.1, 60°.93N×28°.88E, h0km, mbtmp3.3/2, ML2.5/2, Error ellipse: s-maj=19.0km s-min=12.5km az=173.0*

ISC 07 12:36:44.8±1.1, 61°.01N±0°.04×28°.96E±0°.05, h0km, n29, σ1§86/38, Finland-Karelia border region

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
VJF  Virojoki          0.83 236  PG      Pb              12 37 02.1  0.0
VJF                              MSG                     12 37 13.0
     comp=Z,28nm,0.2s
VJF                              SB      Sb              12 37 13.9  0.0
FIA0 FINESS Array S    1.46 289  PG      Pn              12 37 12.8 +0.3
FIA0                             MSG                     12 37 31.7
     comp=Z,12nm,0.2s
FIA0                             SN      Sn              12 37 33.5 +1.2
FINES FINESS Array B   1.46 289  Pg      Pb              12 37 13.6 +0.7
     comp=Z,3.3nm,0.3s,baz=113,slow=16,SNR=62
FINES                            Lg      Lg              12 37 33.7
     comp=Z,9.0nm,0.3s,baz=107,slow=30,SNR=34
FINES                            Rg      Rg              12 37 40.2
     comp=Z,61nm,0.7s,baz=114,slow=34,SNR=24
PVF  Pernaja           1.59 254  PG      Pg              12 37 15.2 -0.1
PVF                              MSG                     12 37 35.0
     comp=Z,14nm,0.2s
PVF                              SN      Sg              12 37 39.4 +3.5
KAF  Kangasniemi       1.69 312  PG      Pg              12 37 17.8 +0.6
KAF                              MSG                     12 37 38.1
     comp=Z,26nm,0.2s
ARBE Arbavere          2.16 225  eP      Pb              12 37 24.0 -0.8
ARBE Arbavere          2.16 225  PG      Pg              12 37 25.8 -0.5
NUR  Nurmijarvi        2.17 259  PB      Pb              12 37 24.8 -0.2
     baz=76
NUR                              MSG                     12 37 51.9
     comp=Z,5.2nm,0.2s
SUF  Sumiainen         2.17 323  PG      Pg              12 37 26.4 -0.1
     baz=138
SUF                              MSG                     12 37 52.1
     comp=Z,3.8nm,0.2s
SUF                              SG      Sg              12 37 55.6 +0.9
HEL1 Helsinki          2.18 249  MSG                     12 37 51.9
     comp=Z,6.2nm,0.2s
HEL1                             SG      Sg              12 37 54.0 -0.7
JOF  Joensuu           2.22  29  eP      Pb              12 37 26.4 +0.6
JOF  Joensuu           2.22  29  PG      Pb              12 37 26.0 +0.3
JOF                              SG      Sb              12 37 54.3 +0.6
HEL5 Espoo, Suvisaa    2.27 249  PB      Pb              12 37 26.3 -0.2
HEL5                             MSG                     12 37 54.5
     comp=Z,4.3nm,0.2s
KEF  Keuruu            2.28 303  eP      Pb              12 37 27.3 +0.5
KEF  Keuruu            2.28 303  PG      Pb              12 37 27.1 +0.4
KEF                              MSG                     12 37 55.2
     comp=Z,4.5nm,0.2s
KEF                              SG      Sg              12 37 58.2 +0.3
MEF  Metsahovi         2.38 253  eP      Pb              12 37 29.4 +0.8
MEF  Metsahovi         2.38 253  PB      Pb              12 37 28.0 -0.6
MEF                              MSG                     12 37 57.8
     comp=Z,6.0nm,0.2s
MEF                              SB      Sb              12 37 59.0 +0.4
NIF  Nilsia            2.45 348  PG      Pb              12 37 30.1 +0.3
NIF                              MSG                     12 37 59.6
     comp=Z,5.0nm,0.2s
NIF                              SG      Sb              12 38 02.6 +2.1
TVF  Tvarminne         3.06 250  PG      Pb              12 37 40.6 +0.5
TVF                              MSG                     12 38 17.2
     comp=Z,1.5nm,0.2s
RAF  Rauma             3.50 273  eP      Pb              12 37 44.4 -3.2
RAF  Rauma             3.50 273  PB      Pb              12 37 46.9 -0.8
VAF  Ylistaro          3.60 307  eP      Pn              12 37 45.4 +3.6
VAF  Ylistaro          3.60 307  PB      Pb              12 37 48.8 -0.5
OUF  Merijarvi         3.90 332  PG      Pg              12 37 57.8 -1.7
     baz=144
OBF4 Vikkela, Lumij    4.21 337  PG      Pg              12 38 03.5 -1.9
AAL  Aland             4.50 263  SG      Sg              12 39 08.1 -1.1
I43RU DUBNA INFRASON 6.06 131    I       I               13 13 10.0
     baz=322,slow=323,SNR=7.6
HFS  Hagfors           7.57 270  Pn      Pn              12 38 38.2 +1.9
     comp=Z,0.2nm,0.3s,baz=74,slow=15,SNR=4.6
HFS                              Sn      Sn              12 40 00.0 -2.7
     comp=Z,0.2nm,0.3s,baz=81,slow=26,SNR=1.6
HFS                              Lg      Lg              12 40 41.5
     comp=Z,0.4nm,0.3s,baz=76,slow=24,SNR=4.2
     comp=Z,1.1nm,0.6s
ARCES ARCESS Array B   8.69 352  Pn      Pn              12 38 53.4 +1.8
     comp=Z,0.1nm,0.3s,baz=166,slow=14,SNR=5.1
ARCES                            Sn      Sn              12 40 23.0 -7.0
     comp=Z,0.1nm,0.3s,baz=168,slow=21,SNR=2.7
ARCES                            Lg      Lg              12 41 10.2
     comp=Z,0.2nm,0.3s,baz=174,slow=30,SNR=6.1
     comp=Z,1.7nm,0.8s
```

IDC 07 12:43:29.2±9.4, 30°.12S×179°.00W, h375km±97km, mb2.6/2, mbtmp3.5/3, Error ellipse: s-maj=96.1km s-min=51.2km az=16.0, Kermadec Islands region

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
URZ  Urewera           8.73 201  P       P               12 45 32.9 -0.5
     1.4nm,0.3s,baz=246,slow=4.5,SNR=15
URZ                              S       S               12 47 12.0 -1.0
     2.9nm,0.3s,baz=89,slow=22,SNR=14
ASAR Alice Springs    42.26 267  P       P               12 50 47.6  0.0
     0.3nm,0.8s,baz=104,slow=7.2,SNR=1.6
     0.3nm,0.8s
WRA  Warramunga Arr   43.22 272  P       P               12 50 55.1 -0.2
     0.6nm,0.6s,baz=110,slow=7.6,SNR=10
     0.6nm,0.6s
FINES FINESS Array B  144.58 339 PKP     PKPbc           13 02 20.1 -0.5
     0.8nm,0.3s,baz=38,slow=3.4,SNR=9.2
```

*CNRM **07** 13:06:14.2, 36°.07N×8°.57W, h33km, ML2.6*
*INMG **07** 13:06:17.9±1.3, 36°.31N×8°.64W, h14km±4km, ML2.1, Error ellipse: s-maj=6.7km s-min=2.8km az=59.0, #DIST_RANGE: LOCAL #IPMA_REGION: SE Cabo S.Vicente*
*SFS **07** 13:06:17.7, 36°.32N×8°.63W, h16km, ML2.8/9, ML2.8/9, MLv2.8/9*
*IGIL **07** 13:06:18.0, 36°.31N×8°.68W, h14km, ML2.0*
*MDD **07** 13:06:18.0±0.9, 36°.38N×8°.54W, h9km±4km, mb_Lg2.7/12, Error ellipse: s-maj=7.5km s-min=4.2km az=44.0*

ISC 07 13:06:14.6±1.6, 36°.19N±0°.04×8°.65W±0°.05, h27km±14km, n69, σ1§57/98, West of Gibraltar

```
Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
PFVI Vila Bisbo        0.95 351  eP      Pb              13 06 33.0 +0.5
PFVI                             eS      Sn              13 06 44.5 -0.5
PFVI                             i IAML                  13 06 44.9
PFVI                             i IAML                  13 06 45.1
PFVI                             i IAML                  13 06 45.1
PFVI Vila Bisbo        0.95 351  P       Pb              13 06 32.6  0.0
PFVI Vila Bisbo        0.95 351  S       Sn              13 06 48.0 +3.0
MORF Marmelete         1.12 360  eP      Pn              13 06 35.4 +0.9
MORF                             eS      Sn              13 06 48.4 -0.7
MORF                                 IAML                13 06 49.8
     comp=N,47nm,0.1s
MORF Marmelete         1.12 360  eP      Pn              13 06 35.3 +0.9
MORF                             eS      Sn              13 06 48.9 -0.1
MORF                             i IAML                  13 06 49.4
MORF                             i IAML                  13 06 49.5
MORF                             i IAML                  13 06 50.7
PBDV Barranco-do-Ve    1.20  28  S       Sn              13 06 52.0 +0.9
PBDV Barranco-do-Ve    1.20  28  eP      Pb              13 06 37.4 +0.7
PBDV                             eS      Sn              13 06 52.1 +1.0
PBDV                             i IAML                  13 06 52.9
PBDV                             i IAML                  13 06 52.9
PBDV                             i IAML                  13 06 53.3
PTEO Sao Teotonio      1.36 357  eP      Pn              13 06 38.7 +1.0
PTEO                             eS      Sb              13 06 54.8 -1.5
PTEO                             i IAML                  13 06 54.9
PTEO                             i IAML                  13 06 55.0
PTEO                             i IAML                  13 06 57.4
PVAQ Vaqueiros         1.43  31  eP      Pn              13 06 40.4 +1.6
PVAQ                             eS      Sb              13 06 57.4 -0.9
PVAQ                             i IAML                  13 06 58.1
PVAQ                             i IAML                  13 06 58.2
PVAQ                             i IAML                  13 06 58.7
PVAQ Vaqueiros         1.43  31  P       Pn              13 06 38.5 -0.2
PCVE Castro Verde      1.52  19  S       Sn              13 06 58.9 -0.1
PCVE                             P       Pn              13 06 41.5 +1.4
PCVE Castro Verde      1.52  19  eP      Pn              13 06 41.6 +1.6
PCVE                             eS      Sb              13 06 59.4 -1.6
PCVE                             i IAML                  13 07 00.4
PCVE                             i IAML                  13 07 00.5
PCVE                             i IAML                  13 07 00.6
EGRO El Granado        1.64  34  P       Pn              13 06 43.0 +1.4
EGRO                             S       Sn              13 07 01.9 +0.1
EGRO El Granado        1.64  34  Pn      Pn              13 06 42.9 +1.3
EGRO                             Sn      Sn              13 07 01.7  -0.1
EGRO                             i IVmb_Lg               13 07 02.9
MESJ Messejana         1.69  12  eP      Pn              13 06 43.6 +1.4
MESJ                             eS      Sn              13 07 02.6  -0.4
MESJ                                 IAML                13 07 03.3
     comp=E,8.0nm,0.2s
MESJ Messejana         1.69  12  eP      Pn              13 06 43.7 +1.4
MESJ                             eS      Sn              13 07 02.9  -0.1
MESJ                             i IAML                  13 07 03.8
MESJ                             i IAML                  13 07 04.7
MESJ                             i IAML                  13 07 05.0
ARNO Arenosillo        1.79  59  S       Sn              13 07 06.9 +1.4
PBEJ Beja              1.94  19  eP      Pn              13 06 47.8 +2.0
PBEJ                             eS      Sn              13 07 08.8  -0.5
PBEJ                             i IAML                  13 07 09.5
PBEJ                             i IAML                  13 07 10.5
PBEJ                             i IAML                  13 07 11.0
EMIN Mina Concepcio    2.23  44  S       Sn              13 07 15.6  -0.9
EMIN                             P       Pn              13 06 51.2 +1.4
EMIN Mina Concepcio    2.23  44  Pn      Pn              13 06 51.3 +1.4
EMIN                             Sn      Sn              13 07 15.7  -0.8
EMIN                             i IVmb_Lg               13 07 17.0
ESPR Espera            2.35  72  P       Pn              13 06 53.6 +2.3
ESPR                             S       Sn              13 07 21.3 +1.9
ESPR Espera            2.35  72  Pn      Pn              13 06 53.8 +2.4
ESPR                             Sn      Sn              13 07 20.6 +1.2
ESPR                             i IVmb_Lg               13 07 23.8
PBAR Barrancos         2.37  32  P       Pn              13 06 52.7 +1.1
PBAR                             S       Sn              13 07 19.9 +0.1
PBAR Barrancos         2.37  32  eP      Pn              13 06 53.0 +1.4
PBAR                             eS      Sn              13 07 19.9 +0.1
PBAR                             i IAML                  13 07 21.8
PBAR                             i IAML                  13 07 22.5
PBAR                             i IAML                  13 07 22.5
EVO  Evora             2.40  12  eP      Pn              13 06 53.0 +1.0
EVO                              eS      Sn              13 07 20.1  -0.5
EVO                              i IAML                  13 07 20.2
EVO                              i IAML                  13 07 21.5
EVO                              i IAML                  13 07 24.0
PARRA Arraiolos        2.64 353  eP      Pn              13 06 56.8 +1.3
PARRA                            eS      Sn              13 07 26.4  -0.2
PARRA                            i IAML                  13 07 27.9
PARRA                            i IAML                  13 07 28.0
PARRA                            i IAML                  13 07 28.3
SMIR Smir Dam          2.70 100  P       Pn              13 06 53.3  -2.9
SMIR Smir Dam          2.70 100  S       Sn              13 07 25.6  -2.3
PESTR Estremoz         2.81  17  P       Pn              13 06 59.1 +1.4
PESTR                            S       Sn              13 07 29.0  -1.7
PESTR Estremoz         2.81  17  eP      Pn              13 06 59.5 +1.8
PESTR                            eS      Sn              13 07 29.3  -1.4
PESTR                            i IAML                  13 07 30.6
PESTR                            i IAML                  13 07 31.7
PESTR                            i IAML                  13 07 32.6
PMAFR Mafra            2.81 350  P       Pn              13 06 59.3 +1.6
PMAFR                            S       Sn              13 07 30.2  -0.6
PMAFR Mafra            2.81 350  eP      Pn              13 06 59.4 +1.6
PMAFR                            eS      Sn              13 07 29.5  -1.2
PMAFR                            i IAML                  13 07 31.3
PMAFR                            i IAML                  13 07 33.6
PMAFR                            i IAML                  13 07 42.2
EBAD Badajoz           2.88  26  S       Sn              13 07 32.0  -0.4
EBAD                             P       Pn              13 06 59.5 +0.9
EBAD Badajoz           2.88  26  Pn      Pn              13 06 59.4 +0.7
EBAD                             Sn      Sn              13 07 31.9  -0.4
EBAD                             i IVmb_Lg               13 07 33.4
E1302 La Puebla de C   2.90  70  Pn      Pn              13 07 00.7 +1.7
E1302                            Sn      Sn              13 07 33.2 +0.3
E1302                            i IVmb_Lg               13 07 38.4
PMTG Montargil         2.90   7  eP      Pn              13 06 59.9 +1.0
PMTG                             eS      Sn              13 07 31.1  -1.8
PMTG                             i IAML                  13 07 31.8
PMTG                             i IAML                  13 07 31.8
PMTG                             i IAML                  13 07 33.1
ZHG  ZHG               3.19 148  P       Pn              13 07 01.5  -1.6
ZHG  ZHG               3.19 148  S       Sn              13 07 38.4  -1.9
ECAB El Cabril         3.20  53  S       Sn              13 07 38.7  -1.6
ECAB                             P       Pn              13 07 04.5 +1.4
ECAB El Cabril         3.20  53  Pn      Pn              13 07 04.7 +1.6
ECAB                             Sn      Sn              13 07 38.3  -2.0
ECAB                             i IVmb_Lg               13 07 45.3
PMRV Marv??o           3.39  17  eP      Pn              13 07 06.7 +1.0
PMRV                             eS      Sn              13 07 43.5  -1.5
PMRV                             i IAML                  13 07 44.7
PMRV                             i IAML                  13 07 45.7
PMRV                             i IAML                  13 07 46.5
PSARD Sardoal          3.43   6  eP      Pn              13 07 07.3 +1.0
PSARD                            eS      Sn              13 07 44.5  -1.6
PSARD                            i IAML                  13 07 45.5
PSARD                            i IAML                  13 07 46.5
PSARD                            i IAML                  13 07 46.8
PCBR Castelo Branco    3.76  14  eS      Sn              13 07 52.9  -1.4
PCBR                             i IAML                  13 07 53.5
PCBR                             i IAML                  13 07 54.1
PCBR                             i IAML                  13 07 54.1
EGOR Sierra Gorda,     3.76  74  S       Sn              13 07 55.4 +0.9
EADA Adamuz            3.81  57  P       Pn              13 07 13.1 +1.7
EADA                             S       Sn              13 07 54.0  -1.4
EADA Adamuz            3.81  57  Pn      Pn              13 07 13.1 +1.7
EADA                             Sn      Sn              13 07 54.3  -1.0
EADA                             i IVmb_Lg               13 07 57.0
PCAS Casmilo, Conde    3.86   2  eS      Sn              13 07 54.1  -2.6
PCAS                             i IAML                  13 07 57.9
PCAS                             i IAML                  13 07 58.2
PCAS                             i IAML                  13 08 01.4
ELGU Los Guajares,     4.10  79  S       Sn              13 08 03.2 +0.5
ELGU Los Guajares,     4.10  79  Sn      Sn              13 08 03.1 +0.4
ELGU                             i IVmb_Lg               13 08 14.7
EPLA Plasencia         4.37  27  Pn      Pn              13 07 20.6 +1.4
EPLA                             Sn      Sn              13 08 06.5  -2.7
EPLA                             i IVmb_Lg               13 08 12.6
PVIS Viseu             4.56   7  eS      Sn              13 08 13.4  -0.5
MD31 MD31              4.61 135  P       Pn              13 07 19.8  -2.8
MD31 MD31              4.61 135  S       Sn              13 08 11.8  -3.5
PSIM Granatula de C    4.69  54  Pn      Pn              13 07 24.9 +1.2
PSIM                             Sn      Sn              13 08 15.5  -1.8
MDT  Midelt            4.74 134  P       Pn              13 07 22.5  -1.9
MDT  Midelt            4.74 134  S       Sn              13 08 14.5  -3.9
EQES Quesada           4.75  68  Pn      Pn              13 07 25.9 +1.5
EQES                             Sn      Sn              13 08 16.4  -2.2
EQES                             i IVmb_Lg               13 08 24.6
PAB  San Pablo         4.78  44  Pn      Pn              13 07 26.1 +1.2
PAB                              Sn      Sn              13 08 15.6  -3.8
PAB                              i IVmb_Lg               13 08 22.9
TISM Timmit            4.82 157  P       Pn              13 07 22.7  -2.6
TISM Timmit            4.82 157  S       Sn              13 08 14.9  -5.3
OUK  Oukaimeden        5.01 172  P       Pn              13 07 26.4  -1.9
OUK  Oukaimeden        5.01 172  S       Sn              13 08 21.3  -4.2
MVO  Moncorvo          5.13  14  eP      Pn              13 07 31.0 +1.3
MVO                              eS      Sn              13 08 24.5  -3.5
MVO                              i IAML                  13 08 26.9
MVO                              i IAML                  13 08 28.0
MVO                              i IAML                  13 08 28.1
POLO Lamas de Olo      5.22   7  eS      Sn              13 08 27.2  -3.2
POLO                             i IAML                  13 08 29.2
POLO                             i IAML                  13 08 29.2
POLO                             i IAML                  13 08 29.8
OUZM OUZ               5.49 163  P       Pn              13 07 32.8  -1.9
OUZM OUZ               5.49 163  S       Sn              13 08 35.6  -1.6
PGAV Gavieira, Arco    5.78   3  eS      Sn              13 08 40.5  -3.5
PGAV                             i IAML                  13 08 45.8
PGAV                             i IAML                  13 08 54.4
ZGR  Zagora            6.56 156  P       Pn              13 07 47.3  -2.1
ZGR  Zagora            6.56 156  S       Sn              13 09 01.4  -2.0
```

*KRNET **07** 13:10:28.7±0.1, 42°.91N×70°.84E, mb2.7*
*SOME **07** 13:10:28.2, 42°.97N×71°.03E, h10km*

ISC 07 13:10:30.1±1.0, 42°.90N±0°.06×71°.11E±0°.03, h10km, n11, σ1§14/22, 8C-6D, Kyrgyzstan

```
Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
DZA  Taraz             0.17  92  eP      Pg              13 10 32.5 -1.2
     134nm,0.1s
DZA                              eS      Sg              13 10 35.7  -0.5
     298nm,0.3s
BRLS Borolday          0.94 279  eP      Pg              13 10 47.0  -1.1
     3.6nm,0.3s
BRLS                             eS      Sg              13 11 00.5 +0.1
     15nm,0.3s
ARK  Arkit             1.27 150  ⇓iP     Pn              13 10 53.6  -0.4
ARK                              ⇓iS     Sn              13 11 12.0 +0.9
TRKS Terek-Say         1.37 179  ⇑iP     Pn              13 10 55.0  -0.4
TRKS                             ⇑iS     Sg              13 11 14.1 +0.1
MRKS Merke             1.57  95  eP      Pn              13 10 58.7 +0.6
     3.9nm,0.5s
MRKS                             eS      Sg              13 11 20.0  -0.5
     17nm,0.3s
EKS2 Erkin-Say         1.98  96  ⇑iP     Pn              13 11 04.8 +1.0
EKS2                             ⇑iS     Sb              13 11 31.1  0.0
ARSB Arslanbob         2.10 138  ⇑iP     Pn              13 11 05.9 +0.4
ARSB                             ⇑iS     Sn              13 11 33.0 +1.3
UCH  Uchtor            2.60 104  ⇓iP     Pn              13 11 13.7 +1.0
UCH                              ⇓iS     Sn              13 11 46.5 +1.9
SALK Salom-Alik        2.86 134  ⇑iP     Pn              13 11 16.5 +0.7
SALK                             ⇑iS     Sn              13 11 51.2 +0.8
SFK  Sufi-Kurgan       3.40 147  ⇓iP     Pn              13 11 23.5 +0.1
SFK                              ⇓iS     Sn              13 12 03.7  -0.1
KST  Kastek            3.57  86  eP      Pb              13 11 34.0 +0.7
     1.9nm,0.3s
KST                              eS      Sg              13 12 21.4  -3.3
     6.1nm,0.6s
```

RSNC 07 13:18:21.3±0.8, 14°N±5°×72°W±°, h0km, M2.5, mB5.9, mb3.9, ML2.6, Mw(mB)5.4, MwMwp6.5, Mwp6.4, Caribbean Sea

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
URIC Uribia, Colomb    2.31 178  P       Pn              13 18 57.9  -2.7
URIC                             S       Sn              13 19 29.0  -0.7
CRJC Cerrejon, Guaj    3.08 195  P       Pn              13 19 10.5  -0.8
CRJC                             S       Sn              13 19 50.1 +1.1
SMRC Santa Marta, M    3.52 217  P       Pn              13 19 16.5  -0.8
SMRC                             S       Sn              13 19 59.6  -0.1
SJCC San Jacinto, C    5.09 217  P       Pn              13 19 41.9 +2.9
SJCC                             S       Sn              13 20 38.3  -0.3
OCAC Ocana             5.87 192  P       Pn              13 19 50.5 +0.7
     1μm16nm,0.5s
OCAC                             S       Sn              13 20 59.5 +1.6
     1μm16nm,0.5s
PAMC Pamplona, Colo    6.67 185  P       Pn              13 20 01.4 +0.4
ZARC Zaragoza, Cauc    7.03 203  P       Pn              13 20 07.9 +2.3
ZARC                             S       Sn              13 21 27.1 +0.7
UREC San Jos de Ur     7.09 209  P       Pn              13 20 08.8 +2.4
UREC                             S       Sn              13 21 28.9 +1.2
BRJC Barrancabermej    7.19 193  P       Pn              13 20 08.4 +0.6
BARC Barichara         7.46 188  P       Pn              13 20 11.7  0.0
PTBC PUERTO BERRIO,    7.79 198  P       Pn              13 20 17.7 +1.7
PTBC                             S       Sn              13 21 46.7 +1.7
RUSC La Rusia          8.13 187  P       Pn              13 20 21.7 +0.5
     4.5nm,1.3s
HELC Santa Helena      8.48 204  P       Pn              13 20 28.5 +2.6
NORC Norcasia          8.84 198  P       Pn              13 20 31.4 +0.9
GUY2C Guyana, Caldas   9.32 201  P       Pn              13 20 39.4 +2.0
```

*NOU **07** 13:18:25.4, 20°.75S×178°.97W, h688km, mb4.3/10, Fiji Islands Region*
*IDC **07** 13:18:27.2±2.8, 21°.11S×179°.06W, h549km±29km, mb3.3/10, mbtmp4.1/11, Error ellipse: s-maj=19.5km s-min=17.1km az=99.0*
*NEIC **07** 13:18:28.4±1.0, 21°.3S±0°.1×178°.9W±0°.1, h574km±5km, mb4.3/39, Error ellipse: s-maj=17.2km s-min=16.2km az=202.0*

ISC 07 13:18:26.8±0.5, 21°.45S±0°.07×178°.90W±0°.09, h550km, n106, σ1§58/109, mb4.2/30, Fiji Islands region

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
MSVF Nonsavu           4.68 322  P       P               13 19 56.7 +2.6
MSVF Nonsavu           4.68 322  P       P               13 19 57.1 +3.0
TAVE Taveuni           4.81 348  P       P               13 19 58.2 +3.1
DGTI Dogotuki          5.28 346  P       P               13 20 01.4 +2.3
GLKZ Green Lake        7.83 174  P       P               13 20 28.7 +6.0
GLKZ                             S       S               13 21 57.7  -0.1
PINNC Pines Island,   12.72 262  P       P               13 21 14.7 +1.9
DZM  Mont Dzumac      13.63 265  P       P               13 21 24.3 +2.0
DZM  Mont Dzumac      13.63 265  P       P               13 21 21.0  -1.4
     2.7nm,0.7s,baz=134,slow=14,SNR=1.9
OUZ  Omahuta          15.22 204  P       P               13 21 40.7 +2.4
OUZ  Omahuta          15.22 204  P       P               13 21 40.4 +2.0
WCZ  Waipu Caves      15.60 201  P       P               13 21 44.9 +2.7
KUZ  Kuaotunu         15.95 196  P       P               13 21 46.6 +1.0
KUZ  Kuaotunu         15.95 196  P       P               13 21 45.6  0.0
WIAZ Waiheke Island   16.15 197  P       P               13 21 49.1 +1.6
MBAZ Motutapu North   16.20 198  P       P               13 21 50.1 +2.1
ETAZ East Tamaki Re   16.36 198  P       P               13 21 50.5 +1.0
MKAZ Moumakai         16.43 197  P       P               13 21 51.7 +1.6
HAZ  Te Kaha          16.51 189  P       P               13 21 49.7  -1.1
HAZ                              S       S               13 24 31.2  -6.0
AWAZ Awhitu Peninsu   16.55 198  P       P               13 21 52.9 +1.7
RUGZ Raukumara Rang   16.73 189  P       P               13 21 52.6  -0.4
TGRZ Tauranga         16.76 193  P       P               13 21 55.0 +1.8
TOZ  Tahuroa Road     16.94 195  P       P               13 21 56.3 +1.6
TOZ                              IAmb    IAmb            13 21 57.9
```

comp=Z,8.5nm,0.8s
TOZ Tahuroa Road 16.94 195 P P 13 21 56.8 +2.1
URZ Urewera 17.11 191 P P 13 21 53.6 -2.7
comp=Z,5.6nm,0.3s,baz=22,slow=13,SNR=21
URZ S S 13 24 38.9 -8.2
comp=Z,5.1nm,0.9s,baz=11,slow=8.0,SNR=2.6
URZ Urewera 17.11 191 P P 13 21 55.3 -1.0
URZ Urewera 17.11 191 P P 13 21 54.1 -2.2
URZ S S 13 24 39.8 -7.3
MWZ Matawai 17.11 190 P P 13 21 55.4 -1.0
MWZ S **S** **13 24 44.1 -3.2**
MUGZ Murupara 17.38 191 P P 13 21 58.1 -0.7
HRRZ Handcock Road 17.39 193 P P 13 21 59.9 +1.0
TLZ Tolley Road 17.50 195 P P 13 22 01.5 +1.6
BKZ Black Stump Fm 18.10 192 P P 13 22 03.6 -1.8
VRZ Vera Road 18.44 196 P P 13 22 10.1 +1.6
TSZ Takapari Road 19.07 192 P P 13 22 13.7 -0.5
TCW Tory Channel 20.54 195 P P 13 22 27.1 -0.4
QRZ Quartz Range 20.64 199 P P 13 22 28.9 +0.4
QRZ Quartz Range 20.64 199 P P 13 22 28.9 +0.4
QRZ Quartz Range 20.64 199 P P 13 22 25.9 -2.6
NNZ Nelson 20.77 197 P P 13 22 29.3 -0.2
MRNZ Matariki Terra 21.11 198 P P 13 22 32.1 -0.5
THZ Tophouse 21.40 197 P P 13 22 35.1 -0.3
THZ Tophouse 21.40 197 P P 13 22 35.0 -0.3
DSZ Denniston Nort 21.71 199 P P 13 22 38.8 +0.7
KHZ Kahutara 21.85 195 P P 13 22 38.3 -1.0
KHZ Kahutara 21.85 195 P P 13 22 38.5 -0.8
GVZ Greta Valley S 22.50 196 P P 13 22 44.0 -1.1
LTZ Lake Taylor 22.52 197 P P 13 22 42.0 -3.4
INZ Inchbonnie 22.71 199 P P 13 22 46.2 -0.8
WVZ Waitaha Valley 23.24 200 P P 13 22 51.3 -0.4
GC1S Gold Coast 1 S 25.89 249 P P 13 23 10.0 -5.3
WHZ Wether Hill Ro 26.66 201 P P 13 23 23.2 +1.3
EIDS Eidsvold 27.80 256 P P 13 23 33.0 +0.8
EIDS IAmb IAmb 13 23 52.0
comp=Z,7.7nm,1.1s
TV1H Townsville Har 32.20 268 P P 13 24 01.9 -8.3
CTAO Charters Tower 32.57 266 P P 13 24 13.7 +0.4
CTAO IAmb IAmb 13 24 14.5
comp=Z,4.6nm,0.8s
STKA Stephens Creek 36.63 245 P P 13 24 47.5 +0.5
STKA Stephens Creek 36.63 245 P P 13 24 47.6 +0.6
comp=Z,1.1nm,0.4s,baz=92,slow=13,SNR=4.0
comp=Z,1.1nm,0.4s
COEN Coen 36.82 275 P P 13 24 49.5 +0.6
COEN IAmb IAmb 13 25 08.2
comp=Z,15nm,1.2s
BBOO Buckleboo 41.38 244 P P 13 25 25.4 0.0
BBOO IAmb IAmb 13 25 45.1
comp=Z,21nm,1.2s
AS31 Alice Springs 43.49 258 P P 13 25 41.8 -0.3
AS31 IAmb IAmb 13 25 43.0
comp=Z,2.8nm,0.3s
ASAR Alice Springs 43.49 258 P P 13 25 41.5 -0.6
ASAR Alice Springs 43.49 258 P P 13 25 42.1 0.0
comp=Z,6.7nm,0.5s,baz=92,slow=8.3,SNR=207
ASAR PcP **PcP** **13 27 17.5 -0.3**
comp=Z,0.7nm,0.6s,baz=105,slow=4.0,SNR=5.6
ASAR ScP **ScP** **13 30 17.5 +0.4**
comp=Z,0.4nm,0.9s,baz=92,slow=3.5,SNR=2.3
ASAR S **S** **13 31 27.7 -3.7**
comp=Z,0.9nm,0.8s,baz=93,slow=16,SNR=7.2
comp=Z,6.7nm,0.5s
WR8 Warramunga Arr 43.49 263 P P 13 25 41.4 -0.8
WB0 Warramunga Arr 43.63 263 P P 13 25 42.5 -0.7
WB0 IAmb IAmb 13 25 43.2
comp=Z,7.6nm,0.5s
WRAB Tennant Creek 43.64 263 P P 13 25 42.6 -0.7
WRAB IAmb IAmb 13 25 42.9
comp=Z,5.4nm,0.8s
WRA Warramunga Arr 43.65 263 P P 13 25 42.7 -0.6
comp=Z,2.1nm,0.3s,baz=96,slow=7.6,SNR=227
WRA PcP **PcP** **13 27 18.2 -0.2**
comp=Z,0.2nm,0.5s,baz=100,slow=5.6,SNR=1.5
WRA S S 13 31 26.1 -7.5
comp=Z,0.3nm,0.7s,baz=100,slow=14,SNR=3.0
comp=Z,2.1nm,0.3s
FORT Forrest 48.15 247 P P 13 26 17.4 0.0
FORT IAmb IAmb 13 26 52.7
comp=Z,10.0nm,1.1s
MTN Manton Dam 48.34 272 P P 13 26 18.4 -0.6
MTN IAmb IAmb 13 26 51.3
comp=Z,27nm,1.4s
KNRA Kununurra 49.77 267 P P 13 26 29.2 -0.3
KNRA IAmb IAmb 13 26 30.0
comp=Z,5.7nm,0.7s
FITZ Fitzroy Crossi 52.08 263 P P 13 26 46.1 -0.2
PSA00 Pilbara Seismi 56.64 258 P P 13 27 17.7 -0.6
MBWA Marble Bar 56.83 258 P P 13 27 18.9 -0.7
SBA Scott Base 56.88 184 P P 13 27 21.4 +2.5
VNDA Vanda 56.90 185 P P 13 27 20.9 +1.8
VNDA Vanda 56.90 185 P P 13 27 20.9 +1.8
comp=Z,0.5nm,0.4s,baz=1.1,slow=7.6,SNR=8.7
comp=Z,0.5nm,0.4s
QSPA South Pole Qui 68.63 180 P P 13 28 38.0 +3.0
QSPA South Pole Qui 68.63 180 P P 13 28 38.1 +3.1
comp=Z,2.4nm,0.7s,baz=3.3,slow=1.0,SNR=20
comp=Z,2.4nm,0.7s
MJAR Matsushiro Arr 70.48 324 P P 13 28 45.6 -0.7
MJAR Matsushiro Arr 70.48 324 P P 13 28 44.8 -1.5
comp=Z,2.0nm,0.8s,baz=152,slow=6.9,SNR=4.7
comp=Z,2.0nm,0.8s
ADK Adak 73.04 1 P P 13 28 59.8 -1.0
TPUB Ta-pu 73.79 304 P P 13 29 04.5 -1.3
UNV Unalaska Valle 75.74 8 P P 13 29 14.6 -1.3
UNV IAmb IAmb 13 29 54.1
comp=Z,20nm,1.2s
SMAI San Martin Ant 78.03 159 P P 13 29 29.8 +1.5
KHMM Horse Mountain 80.41 39 P P 13 29 39.5 -2.0
KHMM IAmb IAmb 13 30 23.5
comp=Z,18nm,1.4s
NVAR Mina Array Bea 82.28 44 P P 13 29 51.9 +0.6
comp=Z,0.6nm,0.7s,baz=215,slow=8.2,SNR=6.2
comp=Z,0.6nm,0.7s
GLI Glacier Island 85.97 15 P P 13 30 07.7 -0.8
CUT Chulitna 86.61 13 P P 13 30 10.7 -0.8
BMRM Bremner River 86.67 16 P P 13 30 11.3 -0.7
BMRM IAmb IAmb 13 30 52.4
comp=Z,14nm,1.3s
SCM Sheep Creek Mo 86.75 14 P P 13 30 11.9 -0.5
SNAA Sanae 87.09 179 P P 13 30 13.6 -0.3
SNAA IAmb IAmb 13 30 53.8
comp=Z,4.8nm,1.4s
TRF Thorofare Moun 87.55 12 P P 13 30 14.9 -1.2
TRF IAmb IAmb 13 30 16.1
comp=Z,6.9nm,0.8s
RND Reindeer 87.80 13 P P 13 30 16.4 -0.8
RND IAmb IAmb 13 30 17.2
comp=Z,5.2nm,0.8s
MCK McKinley 88.07 13 P P 13 30 17.7 -0.7
MCK IAmb IAmb 13 30 27.9
comp=Z,4.1nm,1.0s
I21K Tanana 88.79 11 P P 13 30 20.9 -0.8
I21K IAmb IAmb 13 31 00.7
comp=Z,6.9nm,1.4s
CCB Clear Creek Bu 89.12 13 P P 13 30 22.0 -1.2
CCB IAmb IAmb 13 30 56.4
comp=Z,2.2nm,1.2s
BCAR Beaver Creek A 89.16 16 P P 13 30 22.3 -1.2
I23K Minto, Yukon-K 89.25 12 P P 13 30 22.6 -1.2
I23K IAmb IAmb 13 30 30.7
comp=Z,3.5nm,1.2s
ILAR Eielson Array 89.42 13 P P 13 30 23.5 -1.1
comp=Z,0.5nm,0.4s,baz=218,slow=5.3,SNR=14
comp=Z,0.5nm,0.4s
CMAR Chiang Mai Arr 89.64 290 P P 13 30 26.5 -0.2
comp=Z,0.5nm,0.4s,baz=114,slow=3.6,SNR=6.0
comp=Z,0.5nm,0.4s
PDAR Pinedale Array 90.22 44 P P 13 30 29.4 +0.2
comp=Z,0.5nm,0.7s,baz=258,slow=1.5,SNR=2.3
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 119.25 320 PKP **PKPdf** **13 36 12.0 -1.4**
comp=Z,0.9nm,0.4s,baz=89,slow=2.4,SNR=5.7
SPITS Spitsbergen Ar 122.75 356 PKP **PKPdf** **13 36 18.6 -0.9**
comp=Z,15nm,0.9s,baz=33,slow=8.6,SNR=2.9
ARCES ARCESS Array B 129.69 349 PKP **PKPdf** **13 36 31.6 -1.3**
comp=Z,1.0nm,0.5s,baz=20,slow=1.5,SNR=9.9
FINES FINESS Array B 136.43 343 PKP **PKPdf** **13 36 45.9 +0.2**
comp=Z,1.6nm,0.9s,baz=6.4,slow=6.3,SNR=1.6
AKASG Malin Array Be 143.42 330 PKhKP PKPpre 13 36 55.7
comp=Z,2.4nm,0.4s,baz=44,slow=4.2,SNR=21
EKA Eskdalemuir Ar 146.01 4 PKPbc **PKPdf** **13 37 02.9 -0.1**
comp=Z,1.6nm,0.7s,baz=1.1,slow=4.2,SNR=3.4
BRTR Keskin Array B 146.83 311 PKPbc **PKPdf** **13 37 07.0 +2.0**
comp=Z,1.1nm,0.5s,baz=134,slow=3.7,SNR=5.7
GERES GERESS Array B 150.87 343 PKPbc **PKPbc** **13 37 15.9 -1.5**
comp=Z,2.1nm,0.9s,baz=318,slow=3.6,SNR=5.4

IDC 07 13:33:01.5±9.4, 30°.45S×179°.34E, h486km±106km, mb2.2/2, mbtmp3.3/3, Error ellipse: s-maj=111.7km s-min=50.3km az=23.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.00**	**193**	P	P	13 34 58.3	+0.9
URZ				S	S	13 36 31.9	-0.7
ASAR	**Alice Springs**	**40.81**	**268**	P	P	13 39 59.8	-0.2
WRA	**Warramunga Arr**	**41.81**	**274**	P	P	13 40 08.0	0.0
FINES	**FINESS Array B**	**144.38**	**338**	PKP	PKPbc	13 51 40.1	-0.6

comp=Z,3.3nm,0.8s,baz=86,slow=9.1,SNR=1.4
0.3nm,0.8s
comp=Z,0.3nm,0.8s,baz=107,slow=8.3,SNR=2.5
0.3nm,0.8s
comp=Z,0.1nm,0.3s,baz=111,slow=7.9,SNR=4.7
0.1nm,0.3s
comp=Z,1.1nm,0.7s,baz=64,slow=3.2,SNR=4.5

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*IDC **07** 13:39:38.9±1.4, 45°.05N×80°.88E, h0km, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=17.1km s-min=9.2km az=131.0*
*NNC **07** 13:39:39.9±0.4, 44°.97N×80°.84E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=6.1km s-min=2.3km az=123.0*
*SOME **07** 13:39:42.4, 44°.95N×80°.83E, h25km*
ISC 07 13:39:38.3±1.2, 44°.92N±0°.03×81°.00E±0°.04, h3km±9km, n48, σ2s15/67, 11C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**1.41**	**247**	S	**Sn**	**13 40 21.8**	**-2.5**
TDK	**Taldyqorghan**	**1.84**	**274**	*e*P	**Pb**	**13 40 12.4**	**-0.3**
TDK				*e*S	**Sn**	**13 40 34.4**	**-0.3**
PDGK	**Podgornoye**	**1.92**	**215**	⇑Pn	**Pb**	**13 40 14.0**	**-0.1**
PDGK				⇑Sn	**Sb**	**13 40 39.9**	**+1.3**
SHLS	**Shalkode**	**2.08**	**213**	*e*P	**Pb**	**13 40 16.1**	**-0.7**
SHLS				*e*S	**Sn**	**13 40 40.4**	**-0.2**
MK31	**Makanchi Array**	**2.08**	**25**	Pn	**Pb**	**13 40 16.5**	**-0.3**
MK31				⇑Sn	**Sb**	**13 40 43.4**	**+0.3**
MKAR	**Makanchi Array**	**2.08**	**25**	Pg	**Pb**	**13 40 16.8**	**-0.1**
MKAR				Lg	Lg	13 40 41.6	
KPKS	**Kokpek**	**2.21**	**230**	Pg	**Pb**	**13 40 20.0**	**+1.1**
KPKS				Lg	Lg	13 40 47.0	
UZB	**Uzynbulak**	**2.27**	**220**	Pg	**Pb**	**13 40 21.1**	**+1.0**
UZB				Lg	Lg	13 40 49.5	
UZB	**Uzynbulak**	**2.27**	**220**	*e*P	**Pb**	**13 40 21.1**	**+1.0**
UZB				*e*S	**Sb**	**13 40 49.5**	**+0.9**
ARXS	**Arharly**	**2.37**	**254**	Pg	**Pb**	**13 40 22.0**	**+0.3**
ARXS				Lg	Lg	13 40 50.5	
ARXS	**Arharly**	**2.37**	**254**	*e*P	**Pb**	**13 40 22.0**	**+0.3**
ARXS				*e*S	**Sb**	**13 40 50.5**	**-1.0**
KURS	**Kuram**	**2.48**	**236**	Pg	**Pb**	**13 40 24.6**	**+1.0**
KURS				Lg	Lg	13 40 55.3	
CHKK	**Chushkaly**	**3.06**	**251**	Pg	**Pb**	**13 40 33.9**	**+0.4**
CHKK				Lg	Lg	13 41 11.3	
CHKK	**Chushkaly**	**3.06**	**251**	*e*P	**Pb**	**13 40 33.9**	**+0.4**
CHKK				*e*S	**Sb**	**13 41 11.3**	**0.0**
KTBS	**Karatobe**	**3.32**	**250**	Pg	**Pb**	**13 40 39.1**	**+1.2**
KTBS				Lg	Lg	13 41 19.8	
MDOK	**Medeo**	**3.34**	**240**	Pg	**Pb**	**13 40 39.3**	**+0.9**
MDOK				Lg	Lg	13 41 20.2	
KNDC	**Almaty**	**3.37**	**241**	⇑Pn	**Pn**	**13 40 33.9**	**+2.0**
KNDC				⇑Sn	**Sn**	**13 41 14.6**	**+2.2**
TNSS	**Tian-Shan**	**3.48**	**239**	Pg	**Pb**	**13 40 42.1**	**+1.4**
TNSS				Lg	Lg	13 41 25.2	
TNSS	**Tian-Shan**	**3.48**	**239**	*e*P	**Pb**	**13 40 42.1**	**+1.4**
TNSS				*e*S	**Sb**	**13 41 25.2**	**+1.7**
KUU	**Kurty**	**3.49**	**255**	Pg	**Pb**	**13 40 42.0**	**+1.2**
KUU				Lg	Lg	13 41 24.7	
KUU	**Kurty**	**3.49**	**255**	*e*P	**Pb**	**13 40 42.0**	**+1.2**
KUU				*e*S	**Sb**	**13 41 24.7**	**+1.1**
ZSN	**Zaisan**	**3.69**	**45**	*e*P	**Pg**	**13 40 48.8**	**-0.3**
ZSN				*e*S	**Sg**	**13 41 36.5**	**-0.5**
MTBS	**Maitube**	**3.75**	**243**	Pg	**Pb**	**13 40 45.9**	**+0.7**
MTBS				Lg	Lg	13 41 31.7	
MTBS	**Maitube**	**3.75**	**243**	*e*P	**Pb**	**13 40 45.9**	**+0.7**
MTBS				*e*S	**Sb**	**13 41 31.7**	**+0.7**
KRBS	**Karabastau**	**4.01**	**254**	Pg	**Pb**	**13 40 52.1**	**+2.4**
KRBS				Lg	Lg	13 41 42.0	
KST	**Kastek**	**4.09**	**244**	Pg	**Pb**	**13 40 53.8**	**+2.8**
KST				Lg	Lg	13 41 45.0	
KST	**Kastek**	**4.09**	**244**	*e*P	**Pb**	**13 40 53.8**	**+2.8**
KST				*e*S	**Sb**	**13 41 45.0**	**+4.2**
SGDS	**Sogindy**	**4.81**	**255**	Pg	**Pb**	**13 41 06.0**	**+2.8**
SGDS				Lg	Lg	13 42 06.5	
BTLS	**Baital**	**4.93**	**274**	Pg	**Pb**	**13 41 06.2**	**+0.9**
BTLS				Lg	Lg	13 42 06.9	
BTLS	**Baital**	**4.93**	**274**	*e*P	**Pb**	**13 41 07.8**	**+2.4**
BTLS				*e*S	**Sb**	**13 42 08.7**	**+3.7**
AAK	**Ala-Archa**	**5.23**	**246**	Pn	**Pn**	**13 41 01.2**	**+3.6**
AAK				Pg	**Pb**	**13 41 12.9**	**+2.4**
AAK				Lg	Lg	13 42 15.2	
AAK	**Ala-Archa**	**5.23**	**246**	⇑Pg	**Pb**	**13 41 12.1**	**+1.6**
AAK				⇓Lg	Lg	13 42 23.0	
SEM	**Semipalatinsk**	**5.52**	**355**	Pg	**Pb**	**13 41 18.9**	**+3.5**
SEM	**Semipalatinsk**	**5.52**	**355**	*e*P	**Pg**	**13 41 24.4**	**+0.4**
SEM				*e*S	**Sg**	**13 42 37.2**	**+1.7**
KURBB	**Kurchatov Arra**	**5.95**	**345**	Pn	**Pn**	**13 41 06.5**	**-0.7**
KURBB				Sn	**Sn**	**13 42 12.3**	**-3.5**
KURBB				Lg	Lg	13 42 42.6	
KURBB	**Kurchatov Arra**	**5.95**	**345**	⇑Pn	**Pn**	**13 41 06.7**	**-0.5**
KURBB				Sn	**Sn**	**13 42 19.2**	**+3.5**
KURBB				⇓Lg	Lg	13 42 55.3	
KURK	**Kurchatov**	**6.02**	**345**	⇑Pn	**Pn**	**13 41 09.4**	**+1.2**
KURK				Sn	**Sn**	**13 42 18.3**	**+0.8**
KURK				⇑Lg	Lg	13 42 51.0	
MRKS	**Merke**	**6.03**	**252**	Lg	Lg	13 42 44.1	
MRKS	**Merke**	**6.03**	**252**	*e*P	**Pg**	**13 41 30.9**	**-2.8**
MRKS				*e*S	**Sg**	**13 42 48.4**	**-3.4**
BRZS	**Berezniki**	**7.58**	**315**	Pg	Pg	13 41 57.3	-6.2
BRZS	**Berezniki**	**7.58**	**315**	*e*P	**Pg**	**13 42 01.1**	**-2.3**
BRZS				*e*S	**Sg**	**13 43 40.3**	**-1.3**
KK31	**Karatay Array**	**7.77**	**260**	Pn	**Pn**	**13 41 34.3**	**+2.0**
KK31				⇑Pg	Pg	13 42 01.4	-5.8
KK31				⇑Lg	Lg	13 43 43.9	
ZALV	**Zalesovo Beam**	**9.38**	**14**	Pn	**Pn**	**13 41 54.7**	**+0.5**
ZALV				Sn	**Sn**	**13 43 33.8**	**-6.3**
ZALV				Lg	Lg	13 44 32.5	
BVAR	**Borovoye Array**	**10.69**	**323**	Pn	**Pn**	**13 42 10.3**	**-2.0**
BVAR				Sn	**Sn**	**13 44 05.6**	**-6.8**
BVAR				Lg	Lg	13 45 07.0	
AB31	**Akbulak array**	**14.97**	**294**	P	**Pn**	**13 43 11.8**	**+1.1**
AKTO	**Aktyubinsk**	**16.40**	**298**	Lg	Lg	13 48 14.4	
SONM	**Songino Array**	**17.74**	**71**	P	**P**	**13 43 47.9**	**+0.6**
ARTI	**Arti**	**18.27**	**317**	Lg	Lg	13 49 13.5	

comp=Z,0.9nm,0.4s,baz=89,slow=2.4,SNR=5.7
comp=Z,15nm,0.9s,baz=33,slow=8.6,SNR=2.9
comp=Z,1.6nm,0.9s,baz=6.4,slow=6.3,SNR=1.6
comp=Z,2.4nm,0.4s,baz=44,slow=4.2,SNR=21
comp=Z,1.6nm,0.7s,baz=1.1,slow=4.2,SNR=3.4
comp=Z,0.5nm,0.4s,baz=89,slow=2.4,SNR=5.7
comp=Z,0.5nm,0.4s
comp=Z,0.5nm,0.4s,baz=114,slow=3.6,SNR=6.0
comp=Z,0.5nm,0.4s
comp=Z,0.5nm,0.7s,baz=258,slow=1.5,SNR=2.3
comp=Z,0.5nm,0.7s
comp=Z,0.9nm,0.4s,baz=89,slow=2.4,SNR=5.7
comp=Z,15nm,0.9s,baz=33,slow=8.6,SNR=2.9
comp=Z,1.0nm,0.5s,baz=20,slow=1.5,SNR=9.9
comp=Z,1.6nm,0.9s,baz=6.4,slow=6.3,SNR=1.6
comp=Z,2.4nm,0.4s,baz=44,slow=4.2,SNR=21
comp=Z,1.6nm,0.7s,baz=1.1,slow=4.2,SNR=3.4
comp=Z,1.1nm,0.5s,baz=134,slow=3.7,SNR=5.7
comp=Z,2.1nm,0.9s,baz=318,slow=3.6,SNR=5.4

TRN 07 13:42:31.6, 17°.39N×61°.38W, h6km, MD3.5, South-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.47**	**306**	*e*P	Pn	13 42 44.3	-0.7
ANWB				*e*S	Sb	13 42 51.8	+2.2
DSDZ	**La Diserade, G**	**1.11**	**164**	*e*P	Pn	13 42 54.6	+0.8
DSDZ				*e*S	Sn	13 43 14.0	+4.6
DHSZ	**Broadband at M**	**1.17**	**198**	*e*P	Pn	13 42 56.1	+1.6
DHSZ				*e*S	Sn	13 43 14.9	+4.1
ATGZ	**Broadband at L**	**1.33**	**194**	*e*P	Pg	13 42 59.3	+2.2
ATGZ				*e*S	Sn	13 43 17.6	+2.8
MMLZ	**Guadeloupe Bro**	**1.36**	**192**	*e*P	Pg	13 42 59.0	+1.1
MMLZ				*e*S	Sn	13 43 20.0	+4.4
TBG	**Guadaloupe-3**	**1.55**	**189**	*e*P	Pg	13 43 01.7	+0.3
TBG				*e*S	Sg	13 43 24.1	+2.6
DSLB	**Salisbury**	**1.94**	**181**	*e*P	Pb	13 43 08.0	+0.5
DSLB				*e*S	Sg	13 43 33.7	-0.3

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*IDC **07** 14:12:44.5±1.1, 1°.00N×126°.70E, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=103.6km s-min=16.3km az=68.0*
*DJA **07** 14:12:48.0±0.6, 1°N±2°×12°6E±°, h12km±5km, M3.4/10, MLv3.4/10*
*NEIC **07** 14:12:50.9±1.3, 1°.0N±0°.1×126°.68E±0°.06, h44km±5km, mb4.2/11, Error ellipse: s-maj=17.7km s-min=7.6km az=194.0*
ISC 07 14:12:50.7±0.6, 0°.94N±0°.06×126°.59E±0°.05, h39km, n35, σ1s13/38, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.80**	**102**		**Pn**	**14 13 04.6**	**-0.9**
TNTI				Sn	**Sn**	**14 13 14.9**	**-1.2**
TNTI	**Ternate**	**0.80**	**102**	P	**Pn**	**14 13 05.4**	**-0.1**
TNTI				S	**Sn**	**14 13 18.0**	**+1.8**
LBMI	**Labuha**	**1.82**	**150**	S	**Sn**	**14 13 42.6**	**+1.3**
KMSI	**Cibinong**	**2.63**	**262**	P	**Pn**	**14 13 28.7**	**-2.0**
SGSI	**Sangihe**	**2.92**	**339**	P	**Pn**	**14 13 34.9**	**+0.2**
SANI	**Sanana**	**3.03**	**191**	P	**Pn**	**14 13 34.9**	**-1.3**
NLAI	**Namlea**	**4.19**	**173**	P	**Pn**	**14 13 51.1**	**-1.0**
LUWI	**Luwuk**	**4.30**	**243**	Pn	**Pn**	**14 13 54.6**	**+1.0**
TOLI2	**Tolitoli**	**5.81**	**272**	Pn	**Pn**	**14 14 15.1**	**+0.7**
MTN	**Manton Dam**	**14.42**	**162**	P	**P**	**14 16 19.6**	**+1.0**
KNRA	**Kununurra**	**16.65**	**173**	Pn	**Pn**	**14 16 41.4**	**0.0**
KNRA				IAmb	IAmb	14 16 43.3	
FITZ	**Fitzroy Crossi**	**18.95**	**183**	P	**P**	**14 17 07.3**	**-1.3**
WB0	**Warramunga Arr**	**21.96**	**160**	P	**P**	**14 17 39.9**	**-1.4**
WB0				IAmb	IAmb	14 17 43.9	
WRAB	**Tennant Creek**	**22.10**	**160**	P	**P**	**14 17 41.4**	**-1.5**
WRA	**Warramunga Arr**	**22.10**	**160**	P	**P**	**14 17 41.1**	**-1.8**
WRA	**Warramunga Arr**	**22.10**	**160**	P	**P**	**14 17 41.4**	**-1.5**
WR8	**Warramunga Arr**	**22.17**	**160**	P	**P**	**14 17 42.1**	**-1.5**
WR8				IAmb	IAmb	14 17 48.1	
AS31	**Alice Springs**	**25.48**	**164**	P	**P**	**14 18 16.4**	**+0.9**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**14 18 17.1**	**+1.7**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**14 18 15.0**	**-0.4**
ASAR				PcP	**PcP**	**14 21 46.6**	**-0.2**
KULM	**Kulim**	**26.25**	**280**	P	**P**	**14 18 22.7**	**+0.1**
KULM				IAmb	IAmb	14 18 24.7	
STKA	**Stephens Creek**	**35.60**	**158**	P	**P**	**14 19 44.7**	**-0.1**
MKAR	**Makanchi Array**	**59.76**	**326**	P	**P**	**14 22 50.5**	**-1.3**
MKAR	**Makanchi Array**	**59.76**	**326**	P	**P**	**14 22 51.3**	**-0.6**
MAKZ	**Makanchi**	**59.95**	**326**	P	**P**	**14 22 51.9**	**-1.3**
MAKZ				IAmb	IAmb	14 23 30.3	
BFZ	**Birch Farm**	**61.21**	**139**	P	**P**	**14 23 02.3**	**+0.5**
ZALV	**Zalesovo Beam**	**63.00**	**334**	P	**P**	**14 23 13.0**	**-0.6**
KURBB	**Kurchatov Arra**	**64.00**	**328**	P	**P**	**14 23 19.8**	**-0.5**
KURK	**Kurchatov**	**64.01**	**328**	P	**P**	**14 23 18.8**	**-1.5**
KURK				IAmb	IAmb	14 23 26.1	
BVAR	**Borovoye Array**	**69.57**	**328**	P	**P**	**14 23 55.7**	**0.0**
ABKAR	**Akbulak array**	**74.21**	**321**	P	**P**	**14 24 22.6**	**-1.0**
H19K	**Roundabout Mou**	**83.75**	**24**	P	**P**	**14 25 16.7**	**+1.2**
IL31		**87.66**	**25**	P	**P**	**14 25 34.2**	**-0.7**
IL31				IAmb	IAmb	14 26 10.3	
ILAR	**Eielson Array**	**87.66**	**25**	P	**P**	**14 25 34.0**	**-0.9**
BCAR	**Beaver Creek A**	**89.91**	**27**	P	**P**	**14 25 45.7**	**+0.1**

comp=Z,1.8nm,0.9s,baz=0.0,slow=11,SNR=3.0
comp=Z,1.8nm,0.9s
comp=Z,0.7nm,0.5s,baz=121,slow=7.7,SNR=7.8
comp=Z,0.7nm,0.5s
comp=Z,4.6nm,1.2s
comp=Z,0.3nm,0.4s,baz=126,slow=3.7,SNR=1.7
comp=Z,0.3nm,0.4s
comp=Z,0.7nm,0.5s,baz=128,slow=6.7,SNR=9.0
comp=Z,0.7nm,0.5s
comp=Z,1.3nm,0.8s
comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.6
comp=Z,0.4nm,0.5s
comp=Z,4.2nm,1.4s
comp=Z,0.2nm,0.5s,baz=343,slow=2.1,SNR=4.7
comp=Z,0.9nm,0.5s
comp=Z,11nm,1.3s
comp=Z,0.2nm,0.5s,baz=346,slow=11,SNR=27
comp=Z,0.9nm,0.5s
comp=Z,0.8nm,0.3s,baz=340,slow=11,SNR=24
comp=Z,0.8nm,0.3s
comp=Z,6.9nm,1.3s
comp=Z,3.7nm,0.9s
comp=Z,0.3nm,0.4s,baz=321,slow=7.7,SNR=1.6
comp=Z,0.4nm,0.5s
comp=Z,4.6nm,1.2s
comp=Z,0.3nm,0.4s,baz=126,slow=3.7,SNR=1.7
comp=Z,0.3nm,0.4s
comp=Z,0.7nm,0.5s,baz=128,slow=6.7,SNR=9.0
comp=Z,0.7nm,0.5s
comp=Z,1.3nm,0.8s
comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.6
comp=Z,0.4nm,0.5s
comp=Z,4.2nm,1.4s

*IDC **07** 14:20:34.2±1.0, 48°.82S×124°.39E, h0km, mb3.7/7, mbtmp3.8/8, ML2.5/1, Error ellipse: s-maj=48.4km s-min=18.0km az=99.0*

ISC 07 14:20:36.1±0.9, 48°.8S±0°.1×124°.4E±0°.3, h13km, n16, σ0s72/8, mb3.7/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.84**	**328**	T	T	14 40 26.0	
	baz=153						
H01W2	**Cape Leeuwin H**	**15.84**	**328**	T	T	14 40 26.0	
	baz=153						
H01W3	**Cape Leeuwin H**	**15.86**	**328**	T	T	14 40 27.1	
	baz=153						
NWAO	**Narrogin (SRO)**	**16.76**	**339**	Pn	**Pn**	**14 24 30.1**	**-0.3**
	0.8nm,0.3s,baz=157,slow=15,SNR=5.8						
	8.0nm,0.8s						
STKA	**Stephens Creek**	**21.33**	**44**	P	**P**	**14 25 22.2**	**-0.5**
	1.6nm,0.7s,baz=199,slow=10,SNR=2.9						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**26.21**	**20**	P	**P**	**14 26 10.5**	**-0.1**
	1.6nm,0.8s,baz=202,slow=9.0,SNR=20						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**29.91**	**19**	P	**P**	**14 26 44.7**	**+1.1**
	0.4nm,0.6s,baz=195,slow=10,SNR=5.2						
	0.4nm,0.6s						
VNDA	**Vanda**	**32.16**	**166**	P	**P**	**14 27 03.1**	**+0.2**
	0.9nm,0.9s,baz=309,slow=11,SNR=2.9						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**14 28 20.3**	**-0.8**
	1.0nm,0.9s,baz=315,slow=2.9,SNR=2.2						
	1.0nm,0.9s						
SNAA	**Sanae**	**54.16**	**198**	P	**P**	**14 30 01.2**	**+0.6**
	1.8nm,0.8s,baz=146,slow=9.4,SNR=6.8						
	1.8nm,0.8s						
H08S2	**Diego Garcia H**	**59.76**	**295**	T	T	15 35 00.7	
	baz=144,slow=76,SNR=5.1						
H08S1	**Diego Carcia H**	**59.77**	**295**	T	T	15 35 04.6	
	baz=144,slow=76,SNR=6.1						
H08S3	**Diego Garcia H**	**59.78**	**295**	T	T	15 35 02.4	
	baz=144,slow=76,SNR=5.9						
CMAR	**Chiang Mai Arr**	**70.71**	**334**	P	**P**	**14 31 51.4**	**-0.3**
	0.3nm,0.3s,baz=165,slow=6.0,SNR=1.3						
	0.3nm,0.3s						
H10S2	**ASCENSION HYDR**	**12.14**	**224**	T	T	16 41 41.9	
	baz=150						
H10S3	**ASCENSION HYDR**	**12.15**	**224**	T	T	16 41 46.0	
	baz=70						

*IDC **07** 14:22:10.3±0.6, 48°.77S×123°.64E, h0km, mb4.4/11, mbtmp4.4/12, ML2.4/1, MS4.2/8, Error ellipse: s-maj=32.3km s-min=13.8km az=103.0*

*BJI **07** 14:22:11.8, 49°.00S×123°.08E, h14km, mB5.2/5, mb4.8/17*

*GCMT **07** 14:22:12.3±0.3, 48°.85S±0°.02×124°.25E±0°.07, h18km±1km, MW4.8/87, Moment Tensor Solution. s12,c13; s87,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.30±.17; $M_{\theta\theta}$1.82±.11; $M_{\phi\phi}$0.48±.11; $M_{r\theta}$-0.07±.26; $M_{\phi\phi}$-0.13±.07; $M_{\phi r}$-0.02±.38; Best double couple: M=2.06800×10^{16} NP1:ϕ_s276.00000°, δ44.00000°, λ-89.00000°. NP2: ϕ_s95.00000°, δ46.00000°, λ-91.00000°. Principal axes: T 1.8340, Plg1.0000°, Azm186.0000°; N 0.4730, Plg0.0000°, Azm96.0000°; P -2.3010, Plg89.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 14:22:12.3±1.7, 48°.88S±0°.09×123°.8E±0°.2, h10km±1km, mb4.8/25 Error ellipse: s-maj=27.9km s-min=15.7km az=82.0*

ISC 07 14:22:12.1±0.4, 48°.87S±0°.06×123°.7E±0°.1, h10km, n72, σ1s31/59, mb4.6/27, MS4.1/8, 5C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.66**	**330**	T	T	14 42 00.2	
	baz=150,slow=76						
H01W2	**Cape Leeuwin H**	**15.66**	**329**	T	T	14 42 00.5	
	baz=150,slow=76						
H01W3	**Cape Leeuwin H**	**15.68**	**330**	T	T	14 42 01.3	
	baz=150,slow=76						
NWAO	**Narrogin (SRO)**	**16.66**	**341**		**Pn**	**14 26 04.0**	**-1.5**
NWAO				IAmb	IAmb	14 26 14.4	
	comp=Z,71nm,1.3s						
NWAO	**Narrogin (SRO)**	**16.66**	**341**	Pn	**Pn**	**14 26 05.0**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=181,slow=12,SNR=4.7						
NWAO				LR	LR	14 31 02.8	
	comp=Z,764nm,20.9s,baz=200,slow=32						
	comp=Z,11nm,0.6s						
FORT	**Forrest**	**18.37**	**12**		**P**	**14 26 27.7**	**+0.8**
CASY	**Casey**	**18.76**	**197**		**Pn**	**14 26 31.1**	**-0.2**
MORW	**Morawa**	**20.64**	**341**		**P**	**14 26 49.5**	**-2.2**
MORW				IAmb	IAmb	14 27 03.6	
	comp=Z,75nm,1.1s						
STKA	**Stephens Creek**	**21.67**	**45**		**P**	**14 27 02.1**	**-0.6**
STKA	**Stephens Creek**	**21.67**	**45**	P	**P**	**14 27 02.8**	**0.0**
	comp=Z,3.4nm,0.8s,baz=163,slow=14,SNR=3.7						
STKA				LR	LR	14 33 52.6	
	comp=Z,342nm,21.1s,baz=207,slow=32						
	comp=Z,3.4nm,0.8s						
INKA	**Innaminka**	**24.86**	**38**		**P**	**14 27 34.7**	**0.0**
ASAR	**Alice Springs**	**26.41**	**21**		**P**	**14 27 47.2**	**-1.6**
ASAR	**Alice Springs**	**26.41**	**21**	P	**P**	**14 27 47.4**	**-1.5**
	comp=Z,5.7nm,0.9s,baz=203,slow=8.3,SNR=17						
ASAR				PcP	**PcP**	**14 31 13.5**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=172,slow=2.8,SNR=2.4						
ASAR				LR	LR	14 36 59.5	
	comp=Z,851nm,21.6s,baz=179,slow=34						
	comp=Z,5.7nm,0.9s						
AS31	**Alice Springs**	**26.41**	**21**		**P**	**14 27 47.5**	**-1.4**
PSA00	**Pilbara Seismi**	**27.41**	**352**		**P**	**14 27 58.4**	**+0.6**
WRA	**Warramunga Arr**	**30.10**	**20**	P	**P**	**14 28 19.1**	**-2.6**
	comp=Z,2.8nm,1.1s,baz=196,slow=7.9,SNR=5.4						
WRA				PcP	**PcP**	**14 31 21.9**	**-1.3**
	comp=Z,0.7nm,1.0s,baz=202,slow=2.6,SNR=2.8						
WRA				LR	LR	14 39 14.9	
	comp=Z,732nm,21.2s,baz=205,slow=34						
	comp=Z,2.8nm,1.1s						
WR8	**Warramunga Arr**	**30.12**	**20**	P	**P**	**14 28 20.4**	**-1.5**
WB0	**Warramunga Arr**	**30.28**	**20**	P	**P**	**14 28 21.1**	**-2.2**
WB0				IAmb	IAmb	14 28 30.5	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.73**	**4**	P	**P**	**14 28 25.5**	**-1.9**
	comp=Z,3.5nm,1.1s,baz=168,slow=9.3,SNR=3.2						
FITZ				LR	LR	14 39 44.4	
	comp=Z,446nm,21.6s,baz=180,slow=34						
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**32.22**	**165**	P	**P**	**14 28 39.9**	**0.0**
VNDA				IAmb	IAmb	14 28 41.9	
	comp=Z,14nm,1.2s						
VNDA	**Vanda**	**32.22**	**165**	P	**P**	**14 28 40.4**	**+0.5**
	comp=Z,5.7nm,1.1s,baz=313,slow=9.2,SNR=12						
VNDA				LR	LR	14 40 43.1	
	comp=Z,394nm,18.9s,baz=337,slow=34						
	comp=Z,5.7nm,1.1s						
CTA	**Charters Tower**	**33.93**	**40**	LR	LR	14 42 40.2	
	comp=Z,6.9nm,18.3s,baz=198,slow=36						
MAW	**Mawson**	**35.23**	**215**	P	**P**	**14 29 06.0**	**-0.1**
	comp=Z,6.8nm,1.1s,baz=80,slow=8.0,SNR=9.1						
	comp=Z,6.8nm,1.1s						
RTZ	**Ruatahuna**	**39.08**	**95**		**P**	**14 29 38.8**	**-0.5**
RTZ				IAmb	IAmb	14 29 39.9	
	comp=Z,59nm,1.4s						
QSPA	**South Pole Qui**	**41.25**	**180**	P	**P**	**14 29 56.3**	**-0.8**
QSPA				IAmb	IAmb	14 30 01.4	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**41.25**	**180**	P	**P**	**14 29 58.1**	**+1.0**
	comp=Z,7.3nm,1.0s,baz=320,slow=4.8,SNR=8.7						
QSPA				PcP	**PcP**	**14 31 55.1**	**-0.4**
	comp=Z,4.1nm,1.0s,baz=329,slow=4.3,SNR=3.6						
	comp=Z,7.3nm,1.0s						
DZM	**Mont Dzumac**	**43.06**	**67**	eLR	LR	14 42 05.1	
	comp=Z,113nm,29.9s						
KPJI	**Karang Pucung**	**43.24**	**338**	P	P	14 30 20.6	+7.0
JAY	**Jayapura**	**48.42**	**23**	LR	LR	14 50 33.8	
	comp=Z,304nm,21.1s,baz=209,slow=35						
TOLI2	**Tolitoli**	**49.85**	**356**	P	**P**	**14 31 05.0**	**-0.3**
TOLI2				IAmb	IAmb	14 31 14.1	
	comp=Z,8.6nm,1.0s						
SBUM	**Sibu**	**52.08**	**345**	P	**P**	**14 31 23.6**	**+1.4**
SBUM				IAmb	IAmb	14 31 32.5	
	comp=Z,10nm,1.3s						
TROLL	**Troll, Antarti**	**52.59**	**200**	⇑P	**P**	**14 31 25.8**	**+0.2**
	comp=Z,228nm,0.9s						
BELA	**Belgrano 2**	**52.82**	**186**		**P**	**14 31 26.4**	**-0.6**
BELA				IAmb	IAmb	14 31 27.9	
	comp=Z,24nm,1.4s						
SNAA	**Sanae**	**53.99**	**198**	⇑P	**P**	**14 31 36.2**	**+0.5**
	comp=Z,184nm,0.9s						
SNAA	**Sanae**	**53.99**	**198**	P	**P**	**14 31 36.0**	**+0.3**
SNAA	**Sanae**	**53.99**	**198**	P	**P**	**14 31 35.9**	**+0.2**
	comp=Z,14nm,1.1s,baz=142,slow=7.5,SNR=17						
	comp=Z,14nm,1.1s						
MYLDM	**Lahad Datu**	**54.02**	**354**	P	**P**	**14 31 38.9**	**+2.4**
MYLDM				IAmb	IAmb	14 32 09.0	
	comp=Z,32nm,1.5s						
VNA2	**Neumayer--Watz**	**55.49**	**197**	⇑P	**P**	**14 31 44.7**	**-1.9**
	comp=Z,2.5nm,0.4s,baz=130,slow=8.0						
VNA3	**Neumayer Olymp**	**55.67**	**197**	⇑P	**P**	**14 31 48.1**	**+0.2**
	comp=Z,3.2nm,1.0s						
RPSI	**Rantau Prapat**	**55.70**	**330**	P	**P**	**14 31 48.6**	**0.0**
RPSI				IAmb	IAmb	14 31 57.5	
	comp=Z,17nm,1.0s						
VNA1	**Neumayer--Stat**	**55.89**	**197**	⇑P	**P**	**14 31 50.1**	**+0.8**
	comp=Z,13nm,1.2s						
IPM	**Ipoh**	**56.70**	**333**	P	**P**	**14 31 55.9**	**0.0**
KCSI	**Kotacane, Aceh**	**56.86**	**329**	P	P	14 32 04.2	+7.3
KULM	**Kulim**	**57.58**	**332**	P	**P**	**14 32 01.0**	**-1.0**
H08S2	**Diego Garcia H**	**59.40**	**296**	T	T	15 36 38.3	
	baz=144,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**59.41**	**296**	T	T	15 36 39.1	
	baz=144,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**59.42**	**296**	T	T	15 36 39.8	
	baz=144,slow=76,SNR=15						
SMAI	**San Martin Ant**	**63.04**	**175**	P	**P**	**14 32 38.8**	**+0.1**
SMAI				IAmb	IAmb	14 32 55.6	
	comp=Z,9.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**70.57**	**335**	P	**P**	**14 33 27.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**70.57**	**335**	P	**P**	**14 33 27.0**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=186,slow=4.8,SNR=13						
	comp=Z,1.0nm,0.3s						
TBI	**Tubuai**	**70.75**	**104**	eLR	LR	14 54 54.9	
	comp=Z,1μm,28.0s						
TBI				eLR	LR	14 54 56.3	
	comp=Z,192nm,26.0s						
CHTO	**Chiang Mai**	**70.91**	**335**	P	**P**	**14 33 29.6**	**+0.3**
CHTO				IAmb	IAmb	14 33 39.1	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**74.20**	**245**	P	**P**	**14 33 47.8**	**-1.4**
	comp=Z,4.8nm,1.0s,baz=73,slow=5.7,SNR=3.7						
	comp=Z,4.8nm,1.0s						
PPT2	**Papeete2**	**74.81**	**99**	eLR	LR	14 56 54.0	
	comp=Z,42nm,22.8s						
PPT	**Papeete**	**74.83**	**99**	LR	LR	15 01 04.1	
	comp=Z,58nm,19.9s,baz=339,slow=31						
PZH	**PanZhiHua**	**77.57**	**340**	P	**P**	**14 34 11.3**	**+3.1**
SHL	**Shillong**	**79.38**	**331**	P	**P**	**14 34 18.5**	**+0.2**
WHN	**Wuhan**	**79.50**	**352**	P	**P**	**14 34 20.6**	**+2.1**
NJ2	**Nanjing**	**80.68**	**356**	eP	**P**	**14 34 27.6**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
EVN	**Everest**	**83.30**	**328**	P	**P**	**14 34 39.8**	**+0.3**
XAN	**Xi'an**	**83.59**	**348**	P	**P**	**14 34 41.8**	**+1.6**
XAN				pmax	pmax		
	comp=Z,18nm,1.2s						
MJAR	**Matsushiro Arr**	**86.01**	**12**	P	**P**	**14 34 52.1**	**-0.1**
	comp=Z,3.8nm,1.1s,baz=183,slow=4.6,SNR=4.7						
	comp=Z,3.8nm,1.1s						
KSAR	**Wonju Array Be**	**86.02**	**3**	P	**P**	**14 34 52.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**89.98**	**351**	eP	**P**	**14 35 14.5**	**+3.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,72nm,4.0s						
GTA	**Gaotai**	**90.42**	**342**	eP	**P**	**14 35 15.2**	**+1.8**
GTA				sP	pwP	14 35 22.2	+1.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
H10S2	**ASCENSION HYDR**	**11.81**	**225**	T	T	16 43 21.6	
	baz=150,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**11.82**	**225**	T	T	16 43 23.0	
	baz=70,slow=74,SNR=11						
BRTR	**Keskin Array B**	**118.61**	**299**	PP	**PP**	**14 42 16.3**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=117,slow=5.4,SNR=1.8						
TXAR	**Lajitas Array**	**139.14**	**101**	PKhKP	PKPpre	14 41 28.7	
	comp=Z,0.3nm,0.7s,baz=314,slow=4.7,SNR=2.3						
TXAR				PKP	**PKPdf**	**14 41 39.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=204,slow=3.3,SNR=3.3						
PDAR	**Pinedale Array**	**143.01**	**79**	PKP	**PKPdf**	**14 41 45.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=289,slow=4.5,SNR=1.9						
YKA	**Yellowknife Ar**	**145.70**	**45**	PKPbc	**PKPab**	**14 41 50.1**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=280,slow=4.2,SNR=6.5						
EKA	**Eskdalemuir Ar**	**147.44**	**302**	PKPbc	**PKPbc**	**14 41 55.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=157,slow=2.7,SNR=2.3						

IDC 07 14:27:01.2±1.6, 48°.93S×124°.42E, h0km, mb3.8/4, mbtmp3.9/5, ML2.3/1, Error ellipse: s-maj=73.3km s-min=28.2km az=105.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.94**	**328**	T	T	14 46 51.6	
	baz=156,slow=76,SNR=37						
H01W2	**Cape Leeuwin H**	**15.95**	**328**	T	T	14 46 51.5	
	baz=156,slow=76,SNR=59						
H01W3	**Cape Leeuwin H**	**15.96**	**328**	T	T	14 46 53.3	
	baz=156,slow=76,SNR=47						
NWAO	**Narrogin (SRO)**	**16.86**	**339**	Pn	P	14 30 59.8	-1.0
	0.6nm,0.3s,baz=170,slow=9.7,SNR=5.2						
	5.8nm,0.6s						
ASAR	**Alice Springs**	**26.30**	**20**	P	P	14 32 38.8	+0.3
	1.6nm,0.7s,baz=201,slow=8.8,SNR=17						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**30.00**	**19**	P	P	14 33 11.0	-0.4
	1.0nm,1.2s,baz=197,slow=8.2,SNR=2.7						
	1.0nm,1.2s						
SNAA	**Sanae**	**54.08**	**198**	P	P	14 36 27.1	+0.1
	1.6nm,1.0s,baz=146,slow=7.3,SNR=2.7						
	1.6nm,1.0s						
H08S2	**Diego Garcia H**	**59.83**	**296**	T	T	15 41 28.3	
	baz=144						
H08S1	**Diego Carcia H**	**59.84**	**295**	T	T	15 41 29.4	
	baz=144						
H08S3	**Diego Garcia H**	**59.85**	**296**	T	T	15 41 29.2	
	baz=144						
CMAR	**Chiang Mai Arr**	**70.81**	**334**	P	P	14 38 19.0	-0.4
	0.2nm,0.3s,baz=161,slow=6.0,SNR=1.5						
	0.2nm,0.3s						
H10S2	**ASCENSION HYDR**	**12.08**	**224**	T	T	16 48 12.5	
	baz=146						
H10S3	**ASCENSION HYDR**	**12.10**	**224**	T	T	16 48 09.8	
	baz=74						

IDC 07 14:27:55.3±8.3, 47°.24N×155°.50E, h0km, mb3.7/4, mbtmp3.6/5, ML2.2/1, Error ellipse: s-maj=165.7km s-min=38.7km az=131.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.04**	**13**	Pn	Pn	14 29 24.8	-1.1
	0.3nm,0.3s,baz=200,slow=10,SNR=10						
PETK				Sn	Sn	14 30 38.9	+3.1
	baz=186,slow=12						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	14 36 37.0	-0.1
	0.2nm,0.6s,baz=55,slow=7.6,SNR=1.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**48.54**	**304**	P	P	14 36 39.7	-0.2
	0.7nm,0.6s,baz=69,slow=8.4,SNR=8.1						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**51.80**	**310**	P	P	14 37 04.6	0.0
	0.7nm,0.4s,baz=59,slow=8.9,SNR=2.2						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**64.28**	**336**	P	P	14 38 32.1	+0.2
	0.6nm,0.4s,baz=25,slow=6.1,SNR=3.6						
	0.6nm,0.4s						

*NEIC **07** 14:37:31.1±1.0, 51°.29N±0°.08×178°.13W±0°.05, h30km±5km, mb3.9/13, ML3.8/8, ML3.5(AEIC), Error ellipse: s-maj=11.1km s-min=4.3km az=176.0*

*AEIC **07** 14:37:31.6±1.0, 51°.31N±0°.06×178°.13W±0°.05, h26km±6km, Error ellipse: s-maj=8.4km s-min=4.5km az=171.0*

ISC 07 14:37:31.3±1.4, 51°.30N±0°.08×178°.15W±0°.03, h32km±8km, n56, σ0s89/64, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.49**	**19**		**Pn**	**14 37 41.9**	**-0.1**
GAKI	**Gareloi-Kavalg**	**0.49**	**302**		**Pb**	**14 37 41.8**	**0.0**
GAKI					**Sb**	**14 37 49.3**	**+0.5**
TASE	**Tanaga Southea**	**0.54**	**7**		**Pb**	**14 37 42.7**	**+0.1**
TASE					**Sn**	**14 37 51.2**	**+0.3**
TAPA	**Tanaga Point A**	**0.56**	**22**		**Pb**	**14 37 43.0**	**+0.1**
TAPA					**Sn**	**14 37 51.4**	**+0.1**
GALAA	**Gareloi Lava P**	**0.61**	**320**		**Pb**	**14 37 43.8**	**+0.1**
GALAA					**Sn**	**14 37 53.1**	**+0.7**
TAFP	**Tanaga Falls P**	**0.61**	**10**		**Pb**	**14 37 43.5**	**-0.3**
TAFP					**Sb**	**14 37 52.3**	**0.0**
GAEA	**Gareloi East**	**0.61**	**323**		**Pb**	**14 37 43.8**	**0.0**
GAEA					**Sn**	**14 37 52.9**	**+0.3**
TANO	**Tanaga North**	**0.62**	**2**		**Pb**	**14 37 43.7**	**-0.2**
GANE	**Gareloi Northe**	**0.66**	**323**		**Pb**	**14 37 44.2**	**-0.2**
GANE					**Sn**	**14 37 53.7**	**+0.1**
GASW	**Gareloi Southw**	**0.66**	**318**		**Pb**	**14 37 44.1**	**-0.3**
GANO	**Gareloi North**	**0.67**	**322**		**Pb**	**14 37 44.2**	**-0.4**
KIMD	**Kanaga Island**	**0.74**	**50**		**Pb**	**14 37 45.5**	**-0.3**
KIMD					**Sn**	**14 37 55.6**	**0.0**
KIWB	**Kanaga Island**	**0.84**	**48**		**Pb**	**14 37 46.6**	**-0.9**
KIWB				IAML		14 37 58.7	
	comp=N,3μm,0.8s						
KIWB				IAML		14 38 00.8	
	comp=E,2μm,0.6s						
KIWB	**Kanaga Island**	**0.84**	**48**		**Sb**	**14 37 58.1**	**-0.3**
KIKV	**Kanaga Island**	**0.84**	**46**		**Sb**	**14 37 58.2**	**-0.4**
KIRH	**Kanaga Island**	**0.89**	**47**		**Pn**	**14 37 47.8**	**+0.2**
KINC	**Kanaga Island**	**0.90**	**45**		**Pn**	**14 37 48.0**	**+0.3**
ADK	**Adak**	**1.09**	**57**		**Pn**	**14 37 50.1**	**-0.2**
ADK				IAML		14 38 04.8	
	comp=E,3μm,0.3s						
ADK				IAML		14 38 07.2	
	comp=E,3μm,0.3s						
ADK	**Adak**	**1.09**	**57**		**Sn**	**14 38 04.4**	**+0.3**
ETKA	**Kagalaska Isla**	**1.23**	**62**		**Sn**	**14 38 07.6**	**0.0**
GSCK	**Great Sitkin C**	**1.43**	**59**		**Pn**	**14 37 55.5**	**+0.5**
CERB	**Semis' Cerberu**	**1.52**	**296**		**Pn**	**14 37 56.7**	**+0.4**
GSTR	**Great Sitkin T**	**1.53**	**58**		**Pn**	**14 37 56.7**	**+0.4**
CEPE	**Semis' Perret**	**1.53**	**297**		**Pn**	**14 37 56.4**	**0.0**
GSIG	**Igitkin Island**	**1.55**	**63**		**Pn**	**14 37 57.0**	**+0.3**
AMKA	**Amchitka**	**1.60**	**274**		**Pn**	**14 37 57.1**	**-0.2**
LSSE	**Little Sitkin**	**2.14**	**289**		**Pn**	**14 38 05.3**	**+0.5**
LSPA	**Little Sitkin**	**2.15**	**289**		**Pn**	**14 38 05.3**	**+0.4**
LSNW	**Little Sitkin**	**2.19**	**289**		**Pn**	**14 38 05.9**	**+0.5**
ATKA	**Atka Island**	**2.62**	**68**		**Pn**	**14 38 12.0**	**+0.7**
KOWE	**Korovin West**	**2.65**	**65**		**Pn**	**14 38 13.3**	**+1.6**
KOKL	**Mount Kliuchef**	**2.66**	**66**		**Pn**	**14 38 13.4**	**+1.5**
KOFP	**Korovin Flat P**	**2.70**	**67**		**Pn**	**14 38 14.4**	**+1.9**
MAPS	**Pakushin South**	**7.28**	**65**		**Pn**	**14 39 17.9**	**+2.5**
MGOD	**Makushin Gods**	**7.32**	**66**		**Pn**	**14 39 18.1**	**+2.2**
MNAT	**Makushin Natee**	**7.45**	**65**		**Pn**	**14 39 20.2**	**+2.6**
UNV	**Unalaska Valle**	**7.54**	**66**		**Pn**	**14 39 22.2**	**+3.3**
CNBA	**Chernabura Isl**	**11.71**	**65**	Pn	**Pn**	**14 40 15.1**	**-0.8**
L16K	**Owhat River**	**14.60**	**37**	Pn	**Pn**	**14 40 56.0**	**+0.7**
N17K	**Nushagak Hills**	**14.89**	**44**	P	P	**14 41 04.8**	**+0.3**
F15K	**North Star Dit**	**16.02**	**20**	P	**P**	**14 41 17.3**	**+0.2**
CNPM	**China Poot**	**17.25**	**51**	Pn	**Pn**	**14 41 29.3**	**-0.3**
SKT	**Skwentna**	**17.98**	**43**	P	**P**	**14 41 39.1**	**+0.3**
SLKM	**Skilak Lake**	**18.04**	**48**	P	**Pn**	**14 41 39.3**	**+0.1**
SLKM				IAmb	IAmb	14 41 47.9	
	comp=Z,9.6nm,1.2s						
F19K	**Shaleruckik Mo**	**18.61**	**26**	P	**P**	**14 41 45.6**	**0.0**
E19K	**Redstone River**	**19.22**	**25**	P	**P**	**14 41 52.4**	**+0.1**
E19K				IAmb	IAmb	14 42 20.8	
	comp=Z,8.7nm,1.2s						
G21K	**Allakaket**	**19.64**	**30**	P	**P**	**14 41 57.2**	**+0.2**
G21K				IAmb	IAmb	14 42 16.1	
	comp=Z,6.8nm,1.3s						
F21K	**Alatna River**	**20.10**	**28**	P	**P**	**14 42 01.9**	**0.0**
F21K				IAmb	IAmb	14 42 39.1	
	comp=Z,11nm,1.4s						
DHY	**Denali Highway**	**20.18**	**42**	P	**P**	**14 42 01.6**	**-1.4**
DHY				IAmb	IAmb	14 42 38.5	
	comp=Z,12nm,1.4s						
I23K	**Minto, Yukon-K**	**20.29**	**36**	P	**P**	**14 42 02.8**	**-1.1**
D20K	**Etivluk River**	**20.31**	**23**	P	**P**	**14 42 03.6**	**-0.6**
D20K				IAmb	IAmb	14 42 04.2	
	comp=Z,5.7nm,0.9s						
G23K	**Bananza Creek**	**20.88**	**32**	P	**P**	**14 42 10.9**	**+0.5**
G23K				IAmb	IAmb	14 42 15.1	
	comp=Z,6.9nm,1.2s						
D23K	**Nanushuk River**	**22.04**	**26**	P	**P**	**14 42 22.2**	**-0.5**
BMAR	**Burnt Mountain**	**23.08**	**33**	P	**P**	**14 42 33.5**	**-0.4**
YHH	**Holmes Hill**	**44.03**	**71**	P	**P**	**14 45 35.6**	**-0.3**
PDAR	**Pinedale Array**	**45.94**	**73**	P	**P**	**14 45 50.7**	**-0.5**

GCG 07 15:03:10.9±2.6, 13°.39N×90°.75W, h52km±164km, MD3.9, ML3.4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.88**	**12**	eP	Pn	15 03 30.8	+3.5
FG16	**Alotenango, Sa**	**0.91**	**15**	eP	Pn	15 03 31.2	+3.5
NUBE	**Las Nubes**	**1.07**	**62**	eP	Pn	15 03 29.4	-0.4
STG2	**El Palmar,

NVAR Mina Array Bea 55.26 325 P **P 15 17 39.8 +0.5**
0.2nm,0.5s,baz=124,slow=7.4,SNR=2.0
0.2nm,0.5s

YBH Yreka Blue Hor 59.97 325 LR LR 15 43 11.9
comp=Z,4.7nm,18.1s,baz=54,slow=35

ESDC Sonseca Array 83.25 49 P **P 15 20 33.7 +1.4**
1.2nm,0.8s,baz=264,slow=5.0,SNR=7.8
1.2nm,0.8s

TORD Torodi Ar. Bea 84.07 76 P **P 15 20 37.1 +0.2**
0.8nm,0.6s,baz=306,slow=6.2,SNR=8.0
0.8nm,0.6s

TSUM Tsumeb 96.51 110 LR LR 16 03 27.0
comp=Z,62nm,18.2s,baz=314,slow=34

H11N3 WAKE ISLAND Hyl 12.39 289 T T 17 28 26.0
baz=90

H11N2 WAKE ISLAND Hyl 12.41 289 T T 17 28 28.4
baz=90

H11N1 WAKE ISLAND Hyl 12.41 289 T T 17 28 28.0
baz=90

H11S2 WAKE ISLAND Hyl 12.64 288 T T 17 28 40.3
baz=88,slow=75,SNR=13

H11S1 WAKE ISLAND Hyl 12.65 288 T T 17 28 42.0
baz=88,slow=75,SNR=9.2

H11S3 WAKE ISLAND Hyl 12.66 288 T T 17 28 45.0
baz=88,slow=75,SNR=8.8

ZALV Zalesovo Beam 129.79 11 PKP **PKPdf 15 27 14.7 +0.1**
0.6nm,0.5s,baz=326,slow=2.1,SNR=3.5

ASAR Alice Springs 135.62 229 PKP **PKPdf 15 27 26.8 +0.2**
0.4nm,0.8s,baz=124,slow=1.9,SNR=4.8

WRA Warramunga Arr 137.32 233 PKP **PKPdf 15 27 30.0 +0.2**
0.7nm,0.7s,baz=131,slow=1.9,SNR=9.3

FITZ Fitzroy Crossi 145.12 228 PKPbc **PKPdf 15 27 43.9 +0.1**
5.1nm,1.1s,baz=161,slow=9.8,SNR=5.1

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*IDC **07** 15:20:42.7±0.6, 43°.92S×39°.50E, h0km, mb4.2/15, mbtmp4.2/16, ML4.4/1, MS4.0/40, Error ellipse: s-maj=22.6km s-min=14.3km az=56.0*
*NEIC **07** 15:20:43.9±2.3, 44°.19S±0°.09×38°.9E±0°.2, h10km±1km, mb4.6/25, Error ellipse: s-maj=26.1km s-min=10.5km az=242.0*
*GCMT **07** 15:20:45.9±0.4, 44°.06S±0°.02×38°.89E±0°.03, h22km±1km, MW4.9/83, Moment Tensor Solution. s14,c15; s83,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43±.22; $M_{\theta\theta}$2.54±.15; $M_{\phi\phi}$-1.11±.12; $M_{r\theta}$0.88±.18; $M_{\phi\theta}$1.40±.09; $M_{\phi r}$-0.26±.21; Best double couple: $M_0$2.61700×10^{16} NP1:ϕ_s33.00000°, δ53.00000°, λ-152.00000°. NP2: ϕ_s285.00000°, δ68.00000°, λ-40.00000°. Principal axes: T 3.1400, Plg9.0000°, Azm342.0000°; N -1.0460, Plg45.0000°, Azm82.0000°; P -2.0940, Plg43.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 15:20:44.2±0.4, 43°.96S±0°.08×39°.1E±0°.1, h10km, n87, σ1º54/53, mb4.5/25, MS4.0/39, 4D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**14.57**	**313**	Pn	**Pn**	**15 24 08.6**	**-1.8**
POGA	**Pongola**	**17.62**	**338**	Pn	**Pn**	**15 24 49.6**	**-0.2**
POGA				IAmb	IAmb	15 24 55.4	
	comp=Z,30nm,0.6s						
SUR	**Sutherland**	**18.41**	**303**		**P**	**15 24 59.6**	**0.0**
SUR				IAmb	IAmb	15 25 17.7	
	comp=Z,56nm,1.4s						
BOSA	**Boshof**	**18.91**	**320**		**P**	**15 25 06.3**	**+1.2**
BOSA	**Boshof**	**18.91**	**320**	P	**Pn**	**15 25 06.8**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=156,slow=13,SNR=16						
BOSA				S	Sn	15 28 25.3	-12
	comp=Z,1.1nm,0.4s,baz=210,slow=20,SNR=1.3						
BOSA				LR	LR	15 31 06.4	
	comp=Z,635nm,19.9s,baz=185,slow=33						
	comp=Z,13nm,0.8s						
LBTB	**Lobatse**	**21.88**	**325**		**P**	**15 25 37.2**	**-0.1**
LBTB				IAmb	IAmb	15 25 42.6	
	comp=Z,19nm,0.9s						
LBTB	**Lobatse**	**21.88**	**325**	P	**P**	**15 25 39.1**	**+1.7**
	comp=Z,14nm,0.8s,baz=157,slow=9.5,SNR=13						
LBTB				S	**S**	**15 29 32.5**	**-6.6**
	comp=Z,6.4nm,0.8s,baz=115,slow=19,SNR=5.7						
LBTB				LR	LR	15 32 57.7	
	comp=Z,431nm,19.7s,baz=152,slow=33						
	comp=Z,14nm,0.8s						
LPHEP	**Lephephe**	**23.26**	**328**	P	**P**	**15 25 52.2**	**+0.3**
LPHEP				IAmb	IAmb	15 26 20.6	
	comp=Z,28nm,1.4s						
KDWAN	**Kaudwane**	**23.72**	**325**	P	**P**	**15 25 54.9**	**-1.6**
KDWAN				IAmb	IAmb	15 26 17.8	
	comp=Z,28nm,1.2s						
LKGWB	**Lokgwabe**	**24.63**	**318**		**P**	**15 26 02.1**	**-2.9**
MATP	**Matopo**	**25.08**	**336**	LR	LR	15 34 57.0	
	comp=Z,354nm,19.0s,baz=162,slow=34						
KGCAE	**Kacgae**	**25.25**	**321**		**P**	**15 26 10.4**	**0.0**
KGCAE				IAmb	IAmb	15 26 17.8	
	comp=Z,21nm,1.0s						
MAW	**Mawson**	**26.85**	**160**	P	**P**	**15 26 23.8**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=309,slow=11,SNR=9.7						
MAW				LR	LR	15 34 15.3	
	comp=Z,285nm,21.4s,baz=324,slow=30						
	comp=Z,3.5nm,0.6s						
LSZ	**Lusaka**	**30.07**	**339**	P	**P**	**15 26 52.5**	**-1.2**
LSZ				IAmb	IAmb	15 27 09.2	
	comp=Z,6.1nm,0.8s						
LSZ	**Lusaka**	**30.07**	**339**	LR	LR	15 37 53.3	
	comp=Z,199nm,19.0s,baz=176,slow=34						
TSUM	**Tsumeb**	**30.57**	**317**	LR	LR	15 38 19.4	
	comp=Z,460nm,19.3s,baz=157,slow=34						
TROLL	**Troll, Antarti**	**33.10**	**200**	⇓P	**P**	**15 27 20.0**	**0.0**
	comp=Z,33nm,0.7s						
SNAA	**Sanae**	**34.29**	**202**	⇓P	**P**	**15 27 28.4**	**-1.8**
	comp=Z,22nm,1.0s						
SNAA	**Sanae**	**34.29**	**202**		**P**	**15 27 28.8**	**-1.4**
SNAA				IAmb	IAmb	15 27 39.7	
	comp=Z,10nm,0.9s						
SNAA	**Sanae**	**34.29**	**202**	P	**P**	**15 27 32.4**	**+2.1**
	comp=Z,3.1nm,1.1s,baz=59,slow=6.8,SNR=21						
SNAA				LR	LR	15 39 11.0	
	comp=Z,209nm,18.8s,baz=20,slow=32						
	comp=Z,3.1nm,1.1s						
VNA2	**Neumayer--Watz**	**35.24**	**204**	⇓P	P	15 27 33.3	-5.1
	comp=Z,2.9nm,0.4s,baz=61,slow=10						
VNA3	**Neumayer Olymp**	**36.05**	**204**	⇓P	**P**	**15 27 45.6**	**+0.3**
	comp=Z,1.0nm,0.7s						
KIBK	**Kibwezi**	**41.45**	**358**	P	**P**	**15 28 32.7**	**+1.4**
BELA	**Belgrano 2**	**44.04**	**197**	P	**P**	**15 28 50.1**	**-1.4**
QSPA	**South Pole Qui**	**46.25**	**180**	P	**P**	**15 29 09.8**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=277,slow=2.9,SNR=21						
QSPA				LR	LR	15 46 45.2	
	comp=Z,157nm,21.9s,baz=250,slow=34						
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**53.83**	**167**	P	**P**	**15 30 05.7**	**-0.8**
VNDA				IAmb	IAmb	15 30 14.3	
	comp=Z,6.4nm,1.1s						
VNDA	**Vanda**	**53.83**	**167**	P	**P**	**15 30 05.5**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=264,slow=7.3,SNR=17						
VNDA				LR	LR	15 51 12.9	
	comp=Z,133nm,20.1s,baz=226,slow=34						
	comp=Z,2.3nm,0.7s						
SBA	**Scott Base**	**54.37**	**168**	P	**P**	**15 30 10.6**	**+0.2**
SBA				IAmb	IAmb	15 30 12.5	
	comp=Z,12nm,0.9s						
PMSA	**Palmer Station**	**56.32**	**210**	LR	LR	15 50 33.1	
	comp=Z,185nm,19.0s,baz=114,slow=32						
H01W2	**Cape Leeuwin H**	**56.82**	**108**	T	T	16 31 52.1	
	baz=238,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**56.83**	**108**	T	T	16 31 52.8	
	baz=238,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**56.83**	**108**	T	T	16 31 54.2	
	baz=238,slow=75,SNR=13						
H10S2	**ASCENSION HYDR**	**58.07**	**290**	T	T	16 33 42.9	
	baz=86,slow=74,SNR=43						
H10S3	**ASCENSION HYDR**	**58.09**	**290**	T	T	16 33 21.9	
	baz=134,slow=74,SNR=44						
MORW	**Morawa**	**61.49**	**104**	P	**P**	**15 31 01.0**	**-0.2**
PALK	**Pallekele**	**63.34**	**47**	LR	LR	15 52 26.6	
	comp=Z,62nm,19.9s,baz=194,slow=30						
DBIC	**Dimbokro**	**64.12**	**310**	P	**P**	**15 31 20.0**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=110,slow=16,SNR=1.6						
DBIC				LR	LR	15 55 46.4	
	comp=Z,126nm,19.4s,baz=194,slow=33						
	comp=Z,2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.27**	**320**	P	**P**	**15 31 32.2**	**-0.4**
TORD				IAmb	IAmb	15 31 44.9	
	comp=Z,5.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**66.27**	**320**	P	**P**	**15 31 33.7**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=150,slow=6.8,SNR=7.8						
	comp=Z,1.1nm,0.6s						
RAYN	**Ar Rayn**	**67.41**	**6**	P	**P**	**15 31 41.6**	**+1.8**
LEM	**Lembang**	**69.86**	**80**	LR	LR	15 54 11.3	
	comp=Z,118nm,21.3s,baz=334,slow=29						
PSI	**Prapat**	**70.79**	**66**	LR	LR	15 56 15.8	
	comp=Z,46nm,21.1s,baz=159,slow=30						
EIL	**Elat**	**73.37**	**356**	LR	LR	16 04 47.5	
	comp=Z,65nm,18.5s,baz=158,slow=36						
PLCA	**Paso Flores**	**74.63**	**228**	LR	LR	15 59 33.3	
	comp=Z,98nm,19.6s,baz=155,slow=31						
FITZ	**Fitzroy Crossi**	**75.22**	**101**	LR	LR	15 57 25.9	
	comp=Z,33nm,21.1s,baz=75,slow=29						
ASF	**Jabal al Asfar**	**75.80**	**358**	LR	LR	16 05 34.5	
	comp=Z,74nm,18.7s,baz=228,slow=36						
CPUP	**Villa Florida**	**76.55**	**246**	P	**P**	**15 32 36.1**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=352,slow=6.4,SNR=3.4						
CPUP				LR	LR	16 00 16.8	
	comp=Z,18nm,19.2s,baz=0.5,slow=31						
	comp=Z,0.3nm,0.4s						
STKA	**Stephens Creek**	**76.66**	**121**	P	**P**	**15 32 34.3**	**-1.0**
STKA	**Stephens Creek**	**76.66**	**121**	P	**P**	**15 32 34.3**	**-1.0**
	comp=Z,6.2nm,0.7s,baz=219,slow=4.4,SNR=8.6						
STKA				LR	LR	15 59 56.1	
	comp=Z,80nm,20.0s,baz=199,slow=31						
	comp=Z,6.2nm,0.7s						
MMAI	**Mount Meron Ar**	**76.68**	**357**	LR	LR	16 06 35.4	
	comp=Z,74nm,18.6s,baz=169,slow=36						
ASAR	**Alice Springs**	**77.25**	**110**	P	**P**	**15 32 37.4**	**-1.4**
ASAR	**Alice Springs**	**77.25**	**110**	P	**P**	**15 32 38.0**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=231,slow=4.9,SNR=38						
ASAR				LR	LR	16 00 23.7	
	comp=Z,96nm,21.1s,baz=252,slow=31						
	comp=Z,3.7nm,0.8s						
AS31	**Alice Springs**	**77.25**	**110**	P	**P**	**15 32 38.0**	**-0.8**
BDFB	**Brasilia**	**77.27**	**261**	P	**P**	**15 32 41.4**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=34,slow=6.4,SNR=1.6						
BDFB				LR	LR	16 00 29.1	
	comp=Z,64nm,18.4s,baz=134,slow=31						
	comp=Z,1.1nm,0.3s						
INKA	**Innaminka**	**78.98**	**118**	P	**P**	**15 32 48.1**	**-0.2**
INKA				IAmb	IAmb	15 32 49.5	
	comp=Z,5.9nm,1.1s						
BATI	**Baumata**	**79.09**	**94**	LR	LR	16 01 57.9	
	comp=Z,49nm,18.4s,baz=194,slow=31						
KAPI	**Kappang**	**79.81**	**87**	LR	LR	16 03 21.2	
	comp=Z,54nm,18.8s,baz=264,slow=32						
WRA	**Warramunga Arr**	**80.06**	**108**	P	**P**	**15 32 52.9**	**-1.4**
WRA	**Warramunga Arr**	**80.06**	**108**	P	**P**	**15 32 53.5**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=221,slow=4.2,SNR=17						
WRA				LR	LR	16 03 45.1	
	comp=Z,175nm,18.1s,baz=223,slow=32						
	comp=Z,2.1nm,0.8s						
WB0	**Warramunga Arr**	**80.22**	**108**	P	**P**	**15 32 53.6**	**-1.6**
WB0				IAmb	IAmb	15 33 04.0	
	comp=Z,6.0nm,1.2s						
BRDH	**Bariadhala**	**81.92**	**48**	LR	LR	16 04 50.2	
	comp=Z,89nm,20.3s,baz=178,slow=32						
CMAR	**Chiang Mai Arr**	**82.72**	**56**	P	**P**	**15 33 06.4**	**-1.8**
	comp=Z,0.9nm,1.1s,baz=246,slow=5.4,SNR=4.3						
CMAR				LR	LR	16 04 21.7	
	comp=Z,29nm,19.3s,baz=230,slow=32						
	comp=Z,0.9nm,1.1s						
RPZ	**Rata Peaks**	**82.74**	**147**	P	**P**	**15 33 07.3**	**-0.8**
BRTR	**Keskin Array B**	**83.45**	**356**	P	**P**	**15 33 11.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=180,slow=4.9,SNR=3.5						
	comp=Z,0.6nm,0.8s						
KEST	**Kesra**	**83.81**	**336**	LR	LR	16 12 49.8	
	comp=Z,130nm,18.3s,baz=13,slow=37						
EVN	**Everest**	**83.84**	**41**	P	**P**	**15 33 14.8**	**+0.2**
GNI	**Garni**	**83.88**	**4**	LR	LR	16 09 56.9	
	comp=Z,62nm,19.8s,baz=306,slow=35						
VAE	**Valuarnera**	**84.10**	**340**	LR	LR	16 10 13.9	
	comp=Z,123nm,20.0s,baz=174,slow=35						
SHL	**Shillong**	**84.40**	**46**	P	**P**	**15 33 17.4**	**+0.5**
SIV	**San Ignacio**	**86.18**	**252**	LR	LR	16 05 11.1	
	comp=Z,73nm,21.8s,baz=94,slow=31						
MDT	**Midelt**	**86.19**	**324**	LR	LR	16 11 48.1	
	comp=Z,150nm,19.6s,baz=170,slow=36						
MSWZ	**Moikau Station**	**86.32**	**149**	P	**P**	**15 33 26.8**	**+0.6**
URZ	**Urewera**	**89.77**	**148**	LR	LR	16 10 15.5	
	comp=Z,89nm,18.8s,baz=176,slow=33						
PZH	**PanZhiHua**	**90.55**	**53**	P	**P**	**15 33 48.9**	**+2.4**
AAK	**Ala-Archa**	**91.86**	**25**	LR	LR	16 10 33.4	
	comp=Z,93nm,19.0s,baz=323,slow=33						
ESDC	**Sonseca Array**	**91.88**	**328**	P	**P**	**15 33 52.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=5.4,SNR=4.3						
ESDC				LR	LR	16 13 53.4	
	comp=Z,170nm,21.6s,baz=130,slow=35						
	comp=Z,0.4nm,0.6s						
MDP	**Montagnes des**	**94.76**	**272**	LR	LR	16 13 10.7	
	comp=Z,55nm,18.1s,baz=126,slow=33						
VRAC	**Vranov**	**94.95**	**345**	LR	LR	16 20 01.3	
	comp=Z,191nm,18.3s,baz=304,slow=38						
AKTO	**Aktyubinsk**	**95.45**	**12**	LR	LR	16 19 10.0	
	comp=Z,70nm,18.1s,baz=31,slow=37						
WMQ	**Urumqi**	**97.56**	**33**	*e*P	**P**	**15 34 18.6**	**+0.4**
WMQ				pP	pwP	15 34 25.2	+0.7
WMQ				pmax	pmax		
	comp=Z,41nm,0.7s						
DZM	**Mont Dzumac**	**98.50**	**132**	*e*LR	LR	16 06 13.1	
	comp=Z,170nm,29.2s						
NNA	**Nana**	**99.58**	**243**	LR	LR	16 16 11.5	
	comp=Z,69nm,19.1s,baz=184,slow=33						
TBI	**Tubuai**	**112.56**	**171**	*e*LR	LR	16 12 49.6	
	comp=Z,597nm,40.8s						
TBI				*e*LR	LR	16 12 49.8	
	comp=Z,723nm,28.5s						
PPT2	**Papeete2**	**118.24**	**171**	*e*LR	LR	16 15 18.5	
	comp=Z,162nm,33.5s						
PPT2				*e*LR	LR	16 15 21.7	
	comp=Z,201nm,35.8s						
TXAR	**Lajitas Array**	**147.06**	**256**	PKPbc	**PKPbc**	**15 40 26.7**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=111,slow=6.9,SNR=7.2						
ULM	**Lac du Bonnet**	**149.10**	**298**	PKPbc	**PKPbc**	**15 40 32.4**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=73,slow=2.0,SNR=2.3						
NVAR	**Mina Array Bea**	**162.14**	**260**	PKPab	**PKPab**	**15 41 33.8**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=78,slow=3.7,SNR=2.3						

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*HLW **07** 15:39:04.9, 29°.74N×34°.64E, h19km±1km, Md1.6, Ml2.0*
*SGS **07** 15:39:06.4, 29°.59N×34°.48E, h11km, Ml1.3*
*JSO **07** 15:39:06.1±1.1, 30°N±5°×3°5E±°, h11km±7km, M2.0/7, Md2.7/7, ML1.9/7, MLv2.0/7, MLv2.0/7*

ISC 07 15:39:05.1±1.4, 29°.70N±0°.04×34°.51E±0°.06, h13km±10km, n21, σ1º24/26, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRI	**Mt Berech**	**0.36**	**76**	P	**Pb**	**15 39 13.5**	**0.0**
MBRI				S	**Sb**	**15 39 18.8**	**-0.3**
KRMI	**Paran Flat**	**0.45**	**24**	P	**Pb**	**15 39 15.3**	**+0.3**
AQBJ	**Aqaba**	**0.47**	**87**	P	**Pb**	**15 39 15.2**	**-0.1**
HBST	**Basata**	**0.52**	**158**	P	**Pg**	**15 39 15.8**	**+0.5**
HBST				S	**Sg**	**15 39 23.0**	**+0.7**
HRFI	**Mount Harif**	**0.57**	**54**	P	**Pb**	**15 39 16.7**	**-0.2**
HQLS		**0.63**	**130**	S	**Sg**	**15 39 25.6**	**0.0**
HQLS		**0.63**	**130**	P	**Pg**	**15 39 17.5**	**+0.2**
NUB	**Nuweibaa**	**0.68**	**170**	P	**Pg**	**15 39 18.9**	**+0.6**
HAQS	**Haql**	**0.74**	**151**	P	**Pn**	**15 39 25.0**	**+3.6**
HAQS	**Haql**	**0.74**	**151**	S	**Sn**	**15 39 34.8**	**+2.2**
JMOS	**Jabal al Moall**	**0.75**	**135**	P	**Pg**	**15 39 19.3**	**-0.2**
JMOS				S	**Sg**	**15 39 29.1**	**-0.2**
PRNI	**Paran**	**0.78**	**34**	P	**Pb**	**15 39 20.6**	**+0.1**
HDHB	**Dhahab**	**0.98**	**174**	P	**Pg**	**15 39 23.5**	**-0.5**
HDHB				S	**Sg**	**15 39 37.0**	**+0.2**
ZFRI	**Zfri**	**1.03**	**34**	P	**Pg**	**15 39 24.9**	**0.0**
HKAT	**Jabal Katrina**	**1.26**	**201**	P	**Pn**	**15 39 27.9**	**-0.8**
HKAT				S	**Sb**	**15 39 45.0**	**-0.1**
JLOS		**1.29**	**138**	P	**Pn**	**15 39 27.9**	**-1.1**
JLOS		**1.29**	**138**	S	**Sb**	**15 39 43.6**	**-2.3**
BDAS	**Al Bad`**	**1.37**	**158**	P	**Pn**	**15 39 28.6**	**-1.4**
RSHS		**1.42**	**170**	P	**Pn**	**15 39 29.1**	**-1.6**
AYUS	**`Aynunah**	**1.65**	**156**	P	**Pn**	**15 39 32.4**	**-1.3**
WTBKS	**WTBKS**	**2.03**	**142**	P	**Pn**	**15 39 38.6**	**-0.5**

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*IDC **07** 15:42:55.2±1.0, 2°.59S×138°.26E, h0km, mb3.7/4, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=26.6km s-min=22.8km az=130.0*

ISC 07 15:42:59.7±1.0, 2°.7S±0°.1×138°.41E±0°.10, h32km, n8, σ0º91/9, mb3.9/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**86**	Pn	**Pn**	**15 43 36.6**	**+1.1**
	3.3nm,0.3s,baz=284,slow=9.0,SNR=20						
JAY				Sn	**Sb**	**15 44 07.8**	**-0.9**
	2.7nm,0.3s,baz=302,slow=18,SNR=3.1						
	26nm,0.7s						
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**15 47 01.9**	**-0.9**
	0.1nm,0.3s,baz=9.1,slow=12,SNR=6.4						
	0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.78**	**218**	P	**P**	**15 47 27.4**	**0.0**
	baz=35,slow=9.3,SNR=2.4						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**21.31**	**191**	P	**P**	**15 47 44.1**	**+0.1**
	0.3nm,0.4s,baz=10.0,slow=10,SNR=10						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**69.58**	**323**	P	**P**	**15 54 06.0**	**+0.3**
	1.0nm,0.6s,baz=113,slow=8.1,SNR=9.1						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**85.94**	**24**	P	**P**	**15 55 35.5**	**-0.9**
	0.4nm,0.7s,baz=271,slow=4.7,SNR=4.3						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**87.26**	**180**	P	**P**	**15 55 43.9**	**+0.9**
	1.1nm,1.1s,baz=346,slow=4.2,SNR=1.7						
	1.1nm,1.1s						
LPAZ	**La Paz**	**147.71**	**127**	PKPbc	**PKiKP**	**16 02 44.3**	**-0.7**
	0.7nm,0.4s,baz=233,slow=4.6,SNR=2.4						

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*IDC **07** 16:10:53.0±2.4, 11°.16S×161°.90E, h60km±21km, mb3.4/7, mbtmp3.7/9, ML3.6/2, MS3.2/5, Error ellipse: s-maj=24.9km s-min=15.3km az=61.0*

ISC 07 16:10:50.9±0.9, 11°.2S±0°.1×162°.0E±0°.1, h36km, n11, σ1º83/11, mb3.8/7, MS3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.63**	**310**	P	**Pn**	**16 11 32.5**	**+1.6**
	26nm,0.3s,baz=148,slow=8.6,SNR=12						
HNR				S	**Sn**	**16 12 03.2**	**+1.6**
	132nm,0.5s,baz=87,slow=20,SNR=8.6						
HNR				LR	LR	16 12 40.9	
	comp=Z,105nm,18.4s,baz=182,slow=42						
	78nm,0.4s						
DZM	**Mont Dzumac**	**11.67**	**159**	P	**Pn**	**16 13 38.2**	**+3.2**
	0.2nm,0.3s,baz=5.2,slow=11,SNR=15						
DZM				S	**Sn**	**16 15 42.9**	**-1.2**
	5.2nm,0.9s,baz=280,slow=13,SNR=2.2						
DZM				LR	LR	16 17 22.3	
	comp=Z,110nm,19.6s,baz=28,slow=33						
	4.4nm,0.8s						
STKA	**Stephens Creek**	**27.91**	**219**	LR	LR	16 27 57.7	
	comp=Z,117nm,18.1s,baz=25,slow=37						
WRA	**Warramunga Arr**	**27.99**	**248**	P	**P**	**16 16 38.1**	**-0.5**
	0.4nm,0.9s,baz=78,slow=9.3,SNR=8.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**29.47**	**241**	P	**P**	**16 16 50.0**	**-1.7**
	0.1nm,0.5s,baz=65,slow=10,SNR=5.3						
ASAR				LR	LR	16 28 04.8	
	comp=Z,54nm,18.4s,baz=100,slow=35						
	0.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**35.78**	**255**	P	**P**	**16 17 46.4**	**-0.6**
	1.5nm,0.8s,baz=60,slow=10,SNR=7.5						
	1.5nm,0.8s						
PETK	**Petropavlovsk-**	**64.11**	**357**	LR	LR	16 50 11.5	
	comp=Z,22nm,18.1s,baz=297,slow=37						
QSPA	**South Pole Qui**	**78.85**	**180**	P	**P**	**16 22 50.0**	**-0.2**
	1.4nm,1.0s,baz=271,slow=8.3,SNR=3.1						
	1.4nm,1.0s						
ILAR	**Eielson Array**	**84.82**	**20**	P	**P**	**16 23 19.6**	**-1.8**
	0.3nm,0.6s,baz=233,slow=5.5,SNR=4.8						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**88.93**	**51**	P	**P**	**16 23 43.1**	**+0.8**
	0.3nm,0.6s,baz=255,slow=4.7,SNR=2.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**91.09**	**317**	P	**P**	**16 23 50.3**	**-1.5**
	0.5nm,0.8s,baz=88,slow=7.5,SNR=3.0						
	0.5nm,0.8s						

IDC 07 16:47:26.4±8.2, 6°.61S×153°.96E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=178.2km s-min=49.0km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**233**	P	P	16 52 34.9	-0.2
	0.1nm,0.5s,baz=58,slow=9.6,SNR=1.6						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**25.67**	**227**	P	P	16 52 57.8	-0.5
	0.2nm,0.7s,baz=50,slow=9.6,SNR=1.8						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.69**	**296**	P	P	16 57 33.5	+0.4
	0.4nm,0.6s,baz=113,slow=7.8,SNR=4.2						
	0.4nm,0.6s						

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*NNC **07** 17:01:35.0±0.9, 42°.86N×78°.06E, h0km, mb1.8, mpv2.5, Error ellipse: s-maj=8.2km s-min=3.2km az=178.0*
*KRNET **07** 17:01:36.1±0.1, 42°.87N×77°.98E, h18km, mb2.7*
*SOME **07** 17:01:36.6, 42°.85N×78°.00E, h15km*

ISC 07 17:01:35.0±1.1, 42°.87N±0°.03×78°.11E±0°.03, h7km±10km, n27, σ0º66/49, 18C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.29**	**49**	P	**Pb**	**17 01 42.6**	**0.0**
	18nm,0.1s						
SATY				S	**Sb**	**17 01 46.7**	**-0.9**
	246nm,0.1s						
PRZ	**Przheval'sk**	**0.44**	**151**	⇑*i*P	**Pb**	**17 01 45.6**	**+0.3**
PRZ				⇑*i*S	**Sb**	**17 01

5.3nm,0.5s
TKM2 Tokmak 2 1.85 272⇓eP Pn 17 02 08.2 +0.9
TKM2 ⇓eS Sn 17 02 31.5 +0.5
KBK Karagaybulak 2.34 266⇑iP Pn 17 02 14.9 +0.9
KBK ⇑iS Sn 17 02 43.3 +0.2
CHMS Chumysh 2.47 274⇓iP Pn 17 02 16.6 +0.9
CHMS ⇓iS Sn 17 02 46.2 +0.1
JNKS Jany-Kuch 2.58 226⇑eP Pn 17 02 18.8 +1.4
JNKS ⇑eS Sn 17 02 49.5 +0.4
AAK Ala-Archa 2.67 266⇑iP Pn 17 02 19.7 +1.1
AAK ⇑iS Sn 17 02 51.3 0.0
USP Ospenovka 2.67 280⇑iP Pn 17 02 19.5 +1.0
USP ⇑iS Sn 17 02 51.1 -0.1
UCH Uchtor 2.73 258⇓iP Pn 17 02 20.6 +0.9
UCH ⇓iS Sn 17 02 53.0 -0.2
EKS2 Erkin-Say 3.20 268⇓iP Pn 17 02 26.8 +1.0
EKS2 ⇓iS Sn 17 03 03.7 -0.5

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*IDC **07** 17:01:57.7±10.0, 39°.87N×141°.35E, h0km, mb3.5/2, mbtmp3.5/3, ML2.8/1, MS4.0/1, Error ellipse: s-maj=255.4km s-min=76.1km az=153.0*
*NEIC **07** 17:02:29.2±1.3, 37°.80N±0°.08×140°.1E±0°.2, h136km±9km, mb4.4/3, Error ellipse: s-maj=21.0km s-min=4.1km az=123.0*
*JMA **07** 17:02:29.2±0.1, 37°.8N±0°.5×140°.0E±0°.7, h133km±1km, MV2.6/37, MID FUKUSHIMA PREF*
ISC 07 17:02:28.9±1.0, 37°.75N±0°.05×140°.04E±0°.05, h136km±6km, n35, σ0§48/47, mb4.1/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAR	**Yonezawaarcadi**	**0.18**	**27**	*eP*	**Pn**	**17 02 47.5**	**+0.1**
JYAR				*eS*	Sn	17 03 01.2	-0.2
JOTO	**OTAMA OYAMA**	**0.30**	**130**	*eP*	**Pn**	**17 02 47.7**	**-0.1**
JOTO				*eS*	Sn	17 03 02.3	+0.3
JFY	**Yanaizu**	**0.44**	**218**	*eP*	**Pn**	**17 02 48.4**	**+0.1**
JFY				*eS*	Sn	17 03 02.7	-0.3
JYS	**Shiratake**	**0.47**	**2**	P	**Pn**	**17 02 48.8**	**+0.4**
JYS				*eS*	Sn	17 03 03.3	0.0
JNS	**Sasagawa**	**0.58**	**277**	*eP*	**Pn**	**17 02 48.8**	**-0.2**
JNS				*eS*	Sn	17 03 03.8	-0.5
JMM	**Marumori**	**0.61**	**79**	Pn	**Pn**	**17 02 49.4**	**+0.2**
JMM				Sn	Sn	17 03 04.3	-0.2
JMM	**Marumori**	**0.61**	**79**	*i* P	**Pn**	**17 02 49.4**	**+0.2**
JMM				*eS*	Sn	17 03 04.4	-0.2
JFK	**Kawauchi**	**0.77**	**120**	*eP*	**Pn**	**17 02 50.1**	**-0.3**
JFK				*eS*	Sn	17 03 06.3	-0.4
JOU	**Okura**	**0.79**	**39**	*i* P	**Pn**	**17 02 51.1**	**+0.6**
JOU				*eS*	Sn	17 03 07.4	+0.5
JYA	**Atsumi**	**0.88**	**343**	P	**Pn**	**17 02 51.6**	**+0.4**
JYA				*eS*	Sn	17 03 08.1	-0.1
JAW	**Awa shima**	**0.94**	**319**	*eP*	**Pn**	**17 02 51.8**	**+0.1**
JAW				*eS*	Sn	17 03 08.6	-0.5
JUON	**Uonuma**	**0.95**	**236**	*eP*	**Pn**	**17 02 51.8**	**-0.1**
JUON				*eS*	Sn	17 03 09.1	-0.2
JYK	**Kaneyama**	**1.19**	**12**	P	**Pn**	**17 02 54.5**	**+0.4**
JYK				*eS*	Sn	17 03 13.5	+0.2
JAG	**Ashikaga**	**1.41**	**200**	*i* P	**Pn**	**17 02 56.7**	**+0.3**
JMK	**Ichinoseki**	**1.51**	**37**	*i* P	**Pn**	**17 02 58.0**	**+0.5**
JMK				*eS*	Sn	17 03 20.4	+1.0
MJAR	**Matsushiro Arr**	**1.90**	**231**		**Pn**	**17 03 01.7**	**-0.2**
MJAR	**Matsushiro Arr**	**1.90**	**231**	Pn	**Pn**	**17 03 02.3**	**+0.3**
	0.5nm,0.3s,baz=37,slow=10,SNR=41 10nm,0.6s						
MAJO	**Matsushiro**	**1.90**	**231**		**Pn**	**17 03 02.0**	**+0.1**
MAT	**Matsushiro**	**1.90**	**231**	*eP*	**Pn**	**17 03 02.4**	**+0.4**
MAT				*eS*	Sn	17 03 28.0	+0.7
MJB9	**Matsu-Tunnel**	**1.90**	**231**		**Pn**	**17 03 03.3**	**+1.3**
JRY	**Ryogami san**	**1.96**	**208**	P	**Pn**	**17 03 02.9**	**+0.2**
JOM	**Ohasama**	**1.98**	**29**	P	**Pn**	**17 03 03.7**	**+0.8**
JOM				*eS*	Sn	17 03 29.0	+0.1
JGF	**Kuroka**	**3.04**	**226**	Pn	**Pn**	**17 03 17.6**	**+1.3**
JTM	**Tenmabayashi**	**3.13**	**14**		**Pn**	**17 03 17.5**	**+0.1**
ERM	**Erimo**	**4.88**	**28**	Pn	**Pn**	**17 03 39.5**	**-1.0**
JKA	**Kamikawa-asahi**	**6.64**	**16**	Pn	**Pn**	**17 04 04.0**	**0.0**
HIA	**Hailar**	**18.62**	**315**	P	**P**	**17 06 35.5**	**-0.3**
HIA				IAmb	IAmb	17 07 08.7	
	comp=Z,6.1nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**29.45**	**120**	T	T	17 39 02.1	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**29.46**	**120**	T	T	17 39 34.0	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**29.47**	**120**	T	T	17 39 18.4	
	baz=316						
PSI	**Prapat**	**51.24**	**237**	LR	LR	17 36 33.9	
	comp=Z,132nm,18.0s,baz=36,slow=39						
WB0	**Warramunga Arr**	**57.46**	**186**	P	**P**	**17 12 03.6**	**0.0**
WB0				IAmb	IAmb	17 12 07.5	
	comp=Z,7.2nm,1.4s						
WR8	**Warramunga Arr**	**57.64**	**186**	P	**P**	**17 12 04.9**	**0.0**
WR8				IAmb	IAmb	17 12 36.2	
	comp=Z,9.5nm,1.4s						
WRA	**Warramunga Arr**	**57.64**	**186**	P	**P**	**17 12 05.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=4.3,slow=6.8,SNR=11 comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**61.36**	**186**	P	**P**	**17 12 30.0**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=4.3,slow=8.0,SNR=4.8 comp=Z,0.3nm,0.8s						

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*TAP **07** 17:15:38.8, 24°.45N×120°.95E, h5km, ML3.5, C*
*JMA **07** 17:15:39.6±0.4, 24°.5N±0°.7×12°.1E±°, h0km, MV3.0/9, TAIWAN REGION*
ISC 07 17:15:39.9±0.8, 24°.46N±0°.01×120°.95E±0°.01, h12km±5km, n129, σ0§88/235, 18C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMLH	**Miaoli**	**0.16**	**299**	⇓*iP*	**Pg**	**17 15 43.3**	**-0.3**
NMLH				*eS*	Sg	17 15 46.2	-0.1
NSY	**Sanyi**	**0.17**	**256**	⇑*iP*	**Pg**	**17 15 43.7**	**-0.2**
NSY				*eS*	Sg	17 15 47.1	+0.5
NSTT	**Nanjuang**	**0.18**	**16**	⇑*iP*	**Pg**	**17 15 43.5**	**-0.5**
NSTT				S	Sg	17 15 46.8	+0.1
WHP	**Taichung City**	**0.18**	**180**	⇑*iP*	**Pg**	**17 15 43.4**	**-0.6**
WHP				S	Sg	17 15 46.4	-0.4
TWQ1	**Liyutan**	**0.19**	**235**	*eP*	**Pg**	**17 15 43.7**	**-0.5**
TWQ1				*eS*	Sg	17 15 47.1	+0.1
LIOB	**Emei**	**0.20**	**19**	⇑*iP*	**Pg**	**17 15 43.9**	**-0.4**
LIOB				*eS*	Sg	17 15 47.5	+0.3
NFF	**Wufeng Townshi**	**0.23**	**42**	⇑*iP*	**Pg**	**17 15 44.5**	**-0.4**
NFF				S	Sg	17 15 48.2	-0.1
TDCB	**Techi**	**0.28**	**137**	⇓*iP*	**Pg**	**17 15 45.4**	**-0.4**
TDCB				S	Sg	17 15 49.3	-0.5
TWT	**Tachien**	**0.29**	**134**	⇓*iP*	**Pg**	**17 15 45.6**	**-0.4**
TWT				*eS*	Sg	17 15 49.7	-0.4
WDJ	**Dajia District**	**0.30**	**249**	⇑P	**Pb**	**17 15 46.4**	**-0.9**
WDJ				S	Sb	17 15 51.5	-0.7
SBCB	**Hsinchu**	**0.33**	**6**	*eP*	**Pb**	**17 15 47.0**	**-0.9**
FUSS	**Fushou**	**0.34**	**128**	⇓P	**Pb**	**17 15 46.9**	**-1.2**
FUSS				*eS*	Sg	17 15 51.6	0.0
HSN	**Hsinchu**	**0.34**	**3**	⇑*eP*	**Pb**	**17 15 48.0**	**0.0**
HSN				*eS*	Sb	17 15 54.2	+0.8
KSHI	**Guanxi Townshi**	**0.38**	**33**	⇑*iP*	**Pb**	**17 15 48.0**	**-0.6**
KSHI				*eS*	Sb	17 15 54.0	-0.4
NNS	**Nan Shan**	**0.39**	**93**	*eP*	**Pb**	**17 15 47.8**	**-1.0**
NNS				S	Sg	17 15 53.2	+0.2
TCU	**Taichung**	**0.40**	**219**	P	**Pb**	**17 15 48.4**	**-0.5**
NNSB	**Datong**	**0.40**	**94**	*eP*	**Pb**	**17 15 47.9**	**-1.1**
NNSB				S	Sg	17 15 53.0	-0.3
WCS	**Beigang Elemen**	**0.40**	**185**	⇑P	**Pg**	**17 15 47.8**	**-0.1**
WCS				S	Sg	17 15 53.5	+0.3
WHF	**Hehuan Shan**	**0.43**	**137**	*i* P	**Pb**	**17 15 48.8**	**-0.8**
WHF				*eS*	Sb	17 15 54.9	-1.3
NSK	**Sanguang**	**0.43**	**60**	⇑*iP*	**Pg**	**17 15 48.2**	**-0.3**
NSK				S	Sg	17 15 54.5	+0.2
YHNB	**Yeheng**	**0.44**	**62**	⇑*iP*	**Pg**	**17 15 48.3**	**-0.5**
YHNB				*eS*	Sg	17 15 54.4	-0.2
WUSB	**Renai**	**0.49**	**161**	⇓*iP*	**Pg**	**17 15 49.4**	**-1.2**
WUSB				*i* S	Sg	17 15 55.6	-0.5
WCHH	**Zhanghua**	**0.52**	**223**	*eP*	**Pb**	**17 15 50.9**	**-0.1**
WCHH				*eS*	Sb	17 15 59.7	+1.3
WCH1	**Changhua City**	**0.53**	**224**	*eP*	**Pb**	**17 15 51.2**	**0.0**
LATG	**Datong**	**0.53**	**82**	⇑*iP*	**Pb**	**17 15 50.4**	**-0.9**
LATG				S	Sg	17 15 57.4	-0.2
OWD	**Renai**	**0.54**	**157**	⇓*iP*	**Pb**	**17 15 50.5**	**-0.9**
OWD				S	Sg	17 15 57.3	-0.5
ETLH	**Xiulin Townshi**	**0.55**	**117**	⇓P	**Pb**	**17 15 51.0**	**-0.5**
ETLH				*eS*	Sb	17 15 58.5	-0.9
NCUH	**Zhongli**	**0.55**	**23**	*eP*	**Pb**	**17 15 51.7**	**+0.1**
NCUH				*eS*	Sb	17 16 00.0	+0.6
SMLT	**Sun Moon Lake**	**0.57**	**184**	*eP*	**Pb**	**17 15 51.3**	**-0.7**
SMLT				*eS*	Sb	17 15 59.4	-0.8
ENTT	**Nioudou**	**0.59**	**72**	P	**Pb**	**17 15 51.3**	**-0.9**
ENTT				*eS*	Sg	17 15 58.9	-0.4
NWLT	**Wulai**	**0.60**	**58**	*eP*	**Pg**	**17 15 51.0**	**-0.6**
NWLT				*eS*	Sg	17 15 59.4	-0.1
LXIB	**Xiulin Townshi**	**0.61**	**136**	⇓*iP*	**Pb**	**17 15 52.0**	**-0.6**
LXIB				S	Sb	17 16 00.2	-1.1
WNT	**Mingjian**	**0.63**	**203**	⇑*iP*	**Pb**	**17 15 53.1**	**+0.3**
WNT				S	Sb	17 16 02.8	+1.2
FUSB	**Fushanzhiwuyua**	**0.66**	**63**	⇑P	**Pg**	**17 15 52.1**	**-0.6**
FUSB				*eS*	Sb	17 16 02.4	-0.1
NACB	**Ninganchiao**	**0.66**	**115**	*i* P	**Pb**	**17 15 52.8**	**-0.5**
NACB				S	Sb	17 16 01.4	-1.0
WJS	**Zhushan**	**0.66**	**198**	⇑P	**Pb**	**17 15 53.7**	**+0.2**
WJS				*eS*	Sb	17 16 03.7	+1.1
SSLB	**Suanglung**	**0.67**	**179**	*eP*	**Pg**	**17 15 52.4**	**-0.5**
ETL	**Fush Village**	**0.69**	**116**	*eP*	**Pb**	**17 15 53.4**	**-0.5**
ETL				S	Sb	17 16 02.3	-1.0
ETM	**Tongmen**	**0.70**	**134**	P	**Pb**	**17 15 53.6**	**-0.5**
ETM				*eS*	Sb	17 16 02.8	-0.9
TWD	**Chiawan**	**0.70**	**122**	⇓P	**Pb**	**17 15 53.8**	**-0.3**
TWD				S	Sb	17 16 02.7	-1.0
TWE	**Neicheng**	**0.71**	**68**	*eP*	**Pb**	**17 15 53.5**	**-0.7**
TWE				*eS*	Sb	17 16 03.6	-0.3
NDS	**Dongshan**	**0.72**	**76**	*eP*	**Pb**	**17 15 53.7**	**-0.8**
ENA	**Nanau**	**0.72**	**92**	*eP*	**Pb**	**17 15 54.3**	**-0.2**
ENA				*eS*	Sg	17 16 02.9	-0.6
NHDH	**Xindian Distri**	**0.73**	**46**	*eP*	**Pb**	**17 15 54.2**	**-0.4**
EAHA	**Aohua**	**0.73**	**100**	*eP*	**Pb**	**17 15 54.3**	**-0.4**
EAHA				*eS*	Sg	17 16 03.4	-0.4
WHYT	**Xinyi Township**	**0.76**	**186**	⇑P	**Pb**	**17 15 55.4**	**+0.2**
WHYT				*eS*	Sb	17 16 06.4	+0.8
TAP	**Taipei**	**0.77**	**41**	*eP*	**Pb**	**17 15 55.5**	**+0.2**
TAP				*eS*	Sn	17 16 07.8	-0.4
TWS1	**Kuangyinshan**	**0.77**	**34**	⇑P	**Pb**	**17 15 55.7**	**+0.4**
TWS1				*eS*	Sb	17 16 07.6	+1.9
TWA	**Mucha**	**0.78**	**48**	*eP*	**Pb**	**17 15 55.6**	**+0.2**
TWA				*eS*	Sb	17 16 07.6	+1.6
ESL	**Shilin**	**0.78**	**145**	⇓*iP*	**Pb**	**17 15 55.1**	**-0.3**
ESL				*eS*	Sg	17 16 04.3	-1.0
NHY	**Taipei**	**0.81**	**44**	*eP*	**Pb**	**17 15 56.3**	**+0.3**
NHY				*eS*	Sb	17 16 08.5	+1.7
WDL	**Douliou City**	**0.83**	**207**	*eP*	**Pb**	**17 15 56.4**	**+0.2**
WDL				*eS*	Sb	17 16 08.9	+1.6
TWC	**Suao**	**0.83**	**79**	*eP*	**Pb**	**17 15 55.9**	**-0.5**
TWC				*eS*	Sg	17 16 06.0	-1.0
TEYL	**Yanliau Villag**	**0.84**	**135**	*eP*	**Pb**	**17 15 56.2**	**-0.2**
NTST	**Danshui**	**0.84**	**33**	*eP*	**Pb**	**17 15 56.5**	**+0.1**
NTST				*eS*	Sb	17 16 08.9	+1.2
WARBT	**Fenglin Townsh**	**0.84**	**151**	⇓P	**Pb**	**17 15 55.9**	**-0.6**
WARBT				*eS*	Sg	17 16 06.2	-1.0
WGK	**Gukeng**	**0.85**	**205**	P	**Pb**	**17 15 56.7**	**+0.1**
WGK				*eS*	Sb	17 16 09.4	+1.5
WTCT	**Ta-ch'eng**	**0.85**	**226**	P	**Pb**	**17 15 56.1**	**-0.5**
WTCT				S	Sb	17 16 09.2	+1.2
WDLH	**Douliu**	**0.85**	**206**	*eP*	**Pb**	**17 15 56.8**	**+0.1**
WDLH				*eS*	Sb	17 16 09.6	+1.5
SHUL	**Shoufeng**	**0.87**	**140**	P	**Pb**	**17 15 57.1**	**+0.1**
SHUL				*eS*	Sb	17 16 08.6	-0.1
ZUZH	**Zhuzihu**	**0.89**	**38**	*eP*	**Pb**	**17 15 57.3**	**0.0**
ZUZH				*eS*	Sb	17 16 10.3	+1.2
YM01	**YM01**	**0.89**	**39**	P	**Pb**	**17 15 57.3**	**0.0**
YM01				S	Sb	17 16 10.7	+1.5
CHN5	**Tsauling**	**0.89**	**196**	*i* P	**Pb**	**17 15 57.3**	**-0.1**
CHN5				*eS*	Sb	17 16 09.9	+0.6
ANP	**Anpu**	**0.89**	**36**	*eP*	**Pb**	**17 15 57.4**	**-0.1**
ANP				*eS*	Sb	17 16 10.3	+1.0
EGFH	**Guangfu**	**0.90**	**151**	*eP*	**Pb**	**17 15 57.0**	**-0.5**
EGFH				*eS*	Sg	17 16 07.7	-1.4
WTK	**Tuku**	**0.92**	**214**	P	**Pb**	**17 15 57.6**	**-0.2**
WTK				*eS*	Sb	17 16 11.4	+1.3
YM08	**YM08**	**0.93**	**39**	*eP*	**Pb**	**17 15 57.7**	**-0.4**
TIPB	**Shuangxi**	**0.95**	**57**	*eP*	**Pb**	**17 15 57.9**	**-0.4**
TIPB				*eS*	Sb	17 16 12.4	+1.5
ALS	**Alishan**	**0.95**	**188**	⇑*iP*	**Pb**	**17 15 58.7**	**+0.1**
ALS				S	Sb	17 16 12.6	+1.3
NWF	**Wu-fen Shan**	**0.97**	**51**	P	**Pb**	**17 15 58.8**	**0.0**
NWF				*eS*	Sb	17 16 13.1	+1.4
WFSB	**Wu-fen Shan**	**0.97**	**51**	P	**Pb**	**17 15 58.9**	**+0.1**
WFSB				*eS*	Sb	17 16 13.1	+1.5
EGS		**0.98**	**67**	*eP*	**Pb**	**17 15 59.2**	**+0.4**
EGS				*eS*	Sb	17 16 11.3	-0.3
TWY	**Chenhua**	**1.01**	**36**	P	**Pb**	**17 15 59.4**	**0.0**
TWY				*eS*	Sb	17 16 14.0	+1.5
EHY	**Hungye**	**1.01**	**160**	*eP*	**Pb**	**17 15 58.8**	**-0.5**
EHY				*eS*	Sb	17 16 12.6	0.0
CHN2	**Minshiung**	**1.02**	**205**	*eP*	**Pb**	**17 15 59.4**	**-0.1**
CHN2				*eS*	Sb	17 16 14.1	+1.2
TNOU	**National Taiwa**	**1.02**	**47**	P	**Pb**	**17 15 59.3**	**-0.2**
TNOU				*eS*	Sb	17 16 13.7	+0.8
EHYH	**Wanrong**	**1.03**	**159**	*eP*	**Pb**	**17 15 59.5**	**-0.2**
WSF	**Szhu**	**1.05**	**219**	*eP*	**Pg**	**17 15 59.3**	**-0.9**
WSF				*eS*	Sb	17 16 14.6	+0.8
SXI1	**Grass Mountain**	**1.05**	**53**	*eP*	**Pb**	**17 15 59.9**	**-0.3**
SXI1				*eS*	Sn	17 16 15.4	+0.1
HGSD	**Ruisui**	**1.06**	**155**	P	**Pb**	**17 16 00.2**	**0.0**
HGSD				*eS*	Sn	17 16 15.2	0.0
WCKO	**Fanlu**	**1.06**	**197**	P	**Pb**	**17 15 59.9**	**-0.4**
WCKO				*eS*	Sb	17 16 14.8	+0.7
CHY	**Chiayi**	**1.07**	**207**	*eP*	**Pg**	**17 15 59.7**	**-0.9**
CHY				*eS*	Sb	17 16 14.8	+0.5
TWB1	**Santiao Chiao**	**1.09**	**60**	P	**Pb**	**17 16 00.8**	**0.0**
TWB1				*eS*	Sb	17 16 15.6	+0.6
YULB	**Yu-li**	**1.11**	**163**	P	**Pg**	**17 16 00.5**	**-0.8**
YULB				*eS*	Sb	17 16 16.1	+0.6
WSL	**Shuilin Townsh**	**1.14**	**215**	*eP*	**Pg**	**17 16 01.0**	**-0.9**
WSL				*eS*	Sb	17 16 17.4	+1.1
TWF1	**Yuli**	**1.15**	**164**	*eP*	**Pg**	**17 16 01.2**	**-0.9**
TWF1				*eS*	Sn	17 16 17.7	+0.2
TPUB	**Ta-pu**	**1.19**	**194**	P	**Pg**	**17 16 01.9**	**-0.9**
TPUB				*eS*	Sb	17 16 18.6	+0.8
WTP	**Ta-pu**	**1.25**	**194**	P	**Pg**	**17 16 02.8**	**-1.1**
WTP				*eS*	Sb	17 16 20.0	+0.6
TWK	**Hsinying**	**1.26**	**200**	*i* P	**Pg**	**17 16 03.2**	**-1.0**
TWK				S	Sn	17 16 21.3	+1.0
ELDTW	**Lidau**	**1.27**	**177**	P	**Pn**	**17 16 04.0**	**+0.4**
ELDTW				*eS*	Sn	17 16 22.0	+1.5
STYH	**Taoyuan**	**1.29**	**187**	P	**Pg**	**17 16 03.8**	**-1.0**
STYH				*eS*	Sb	17 16 21.4	+0.4
FULB	**Fuli**	**1.29**	**166**	*eP*	**Pn**	**17 16 05.2**	**+1.3**
FULB				*eS*	Sn	17 16 23.8	+2.6
CHN8	**Yiju**	**1.30**	**211**	*eP*	**Pg**	**17 16 03.6**	**-1.3**
CHN8				*eS*	Sn	17 16 22.0	+0.9
SNST	**Tainan City**	**1.30**	**199**	*eP*	**Pg**	**17 16 03.6**	**-1.3**
SNST				*eS*	Sb	17 16 21.4	+0.4
CHN1	**Nanshi**	**1.32**	**197**	*eP*	**Pg**	**17 16 04.2**	**-1.2**
CHN1				*eS*	Sn	17 16 22.9	+1.0
EHD	**Haiduan**	**1.32**	**170**	*eP*	**Pb**	**17 16 04.7**	**-0.1**
EHD				*eS*	Sn	17 16 23.1	+1.2
CHKH	**Chenggong**	**1.33**	**162**	*eP*	**Pb**	**17 16 05.3**	**+0.5**
CHKH				*eS*	Sb	17 16 22.0	+0.3
ECS	**Chishang**	**1.38**	**170**	*eP*	**Pb**	**17 16 06.3**	**+0.6**
CHKT	**Chengkung**	**1.41**	**164**	*eP*	**Pb**	**17 16 06.7**	**+0.6**
CHKT				*eS*	Sn	17 16 27.1	+3.2
SSHA	**Shanhua**	**1.45**	**205**	*eS*	**Sn**	**17 16 27.0**	**+2.1**
SCLT	**Jiali**	**1.45**	**208**	*eP*	**Pn**	**17 16 06.3**	**+0.3**
SCLT				*eS*	Sn	17 16 26.4	+1.6
CHN3	**Shinhua**	**1.48**	**201**	*eP*	**Pb**	**17 16 07.0**	**-0.3**
CHN3				*eS*	Sn	17 16 28.2	+2.6
EDH	**Donghe**	**1.52**	**167**	*eP*	**Pg**	**17 16 08.2**	**-0.8**
EDH				*eS*	Sg	17 16 29.2	+0.5
TSCK	**Chigu Township**	**1.52**	**211**	*eP*	**Pn**	**17 16 07.3**	**+0.3**
TSCK				*eS*	Sg	17 16 28.4	-0.7
PCYT	**Pengchaiyu**	**1.55**	**41**	*eP*	**Pn**	**17 16 06.7**	**-0.7**
PNG	**Penghu**	**1.55**	**235**	*eP*	**Pn**	**17 16 06.7**	**-0.6**
PNG				*eS*	Sn	17 16 26.4	-1.0
LONT	**Longtian**	**1.55**	**174**	*eP*	**Pg**	**17 16 09.0**	**-0.8**
LONT				*eS*	Sg	17 16 29.9	-0.1
PHUB	**P'eng-hu**	**1.57**	**233**	*eP*	**Pn**	**17 16 05.7**	**-1.9**
PHUB				*eS*	Sn	17 16 28.1	+0.2
SCST	**Cishan**	**1.62**	**195**	*eP*	**Pn**	**17 16 09.1**	**+0.8**
SCST				*eS*	Sg	17 16 32.7	+0.6
TWG	**Pinlang**	**1.63**	**176**	*eP*	**Pg**	**17 16 10.3**	**-1.0**
TWG				*eS*	Sg	17 16 32.2	-0.3
TWGBT	**Beinan**	**1.64**	**176**	*eP*	**Pb**	**17 16 10.1**	**0.0**
TWGBT				*eS*	Sg	17 16 32.3	-0.3
WDGT	**Dungji**	**1.68**	**225**	*eP*	**Pn**	**17 16 08.8**	**-0.3**
WDGT				*eS*	Sn	17 16 31.5	+1.0
TWM1	**Shoushan**	**1.70**	**197**	*eP*	**Pb**	**17 16 11.0**	**-0.1**
SSD	**Sandimen**	**1.73**	**190**	*eP*	**Pn**	**17 16 10.8**	**+0.9**
SSD				*eS*	Sg	17 16 34.9	-0.7
PTMZ	**Houxiangcun**	**1.76**	**290**	*eP*	**Pn**	**17 16 08.4**	**-1.8**
JYNG	**Yonagunijimaku**	**1.82**	**90**	*eP*	**Pb**	**17 16 13.0**	**-0.2**
LDUT	**Ludao**	**1.84**	**165**	*eS*	**Sb**	**17 16 36.4**	**-0.1**
ECL	**Taimali**	**1.85**	**180**	*eP*	**Pb**	**17 16 12.8**	**-0.9**
ECL				*eS*	Sg	17 16 38.0	-1.5
MASBT	**Mashibuluo**	**1.86**	**189**	P	**Pn**	**17 16 12.3**	**+0.7**
MASBT				*eS*	Sg	17 16 38.9	-0.9
VCHM	**Qimei**	**1.86**	**228**	*eP*	**Pn**	**17 16 11.7**	**0.0**
VCHM				*eS*	Sb	17 16 37.4	+0.1
MATB	**Ma-tsu**	**1.91**	**332**	*eP*	**Pn**	**17 16 10.7**	**-1.7**
MATB				*eS*	Sn	17 16 36.9	+0.4
EAST	**Anshuo**	**2.07**	**183**	*eP*	**Pn**	**17 16 15.7**	**+1.2**
SCZT	**Fangliau**	**2.10**	**188**	*eP*	**Pn**	**17 16 15.7**	**+0.8**
SCZT				*eS*	Sb	17 16 43.2	-0.7
MHZQ	**Yeshan**	**2.38**	**314**	*eP*	**Pn**	**17 16 17.4**	**-1.4**
IRIF	**Iriomote-Funau**	**2.54**	**92**	*eP*	**Pn**	**17 16 22.0**	**+1.0**
XPSS	**Dashiqiu**	**2.55**	**345**	*eP*	**Pn**	**17 16 19.8**	**-1.4**
AXDP	**Jialang**	**2.74**	**280**	*eP*	**Pn**	**17 16 22.0**	**-1.8**
JIJ	**Ishigaki jima**	**2.92**	**91**	*eP*	**Pn**	**17 16 27.9**	**+1.8**
JISG	**Ishigakijimahi**	**3.07**	**87**	*eP*	**Pn**	**17 16 29.7**	**+1.5**

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*BJI **07** 17:17:05.6, 24°.83N×122°.47E, h6km, mB4.5/5, mb4.2/13, ML4.3/4, Ms4.5/19, Ms7 4.2/18*
*IDC **07** 17:17:06.0±0.7, 24°.52N×122°.29E, h0km, mb3.9/17, mbtmp3.9/20, ML3.4/3, MS3.9/28, Error ellipse: s-maj=21.3km s-min=14.5km az=71.0*
*NIED **07** 17:17:06.9, 24°.58N×122°.42E, h32km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}=0.34; $M_{\theta\theta}$=1.03; $M_{\phi\phi}$=-0.69; $M_{r\theta}$=0.05; $M_{r\phi}$=0.52; $M_{\theta\phi}$=0.12; Fault plane solution: M_0=1.02000×10^16^ NP1: ϕ_s=119.00000°, δ80.00000°, λ-5.00000°. NP2:ϕ_s=210.00000°, δ85.00000°, λ-170.00000°.*
*JMA **07** 17:17:06.9±0.1, 24°.6N±1°.0×122°.4E±0°.4, h32km±2km, MD4.7/17, MV4.2/17, NW OFF ISHIGAKIJIMA IS*
*TAP **07** 17:17:06.6, 24°.66N×122°.36E, h15km, ML5.1, C*
*NEIC **07** 17:17:06.7±1.6, 24°.58N±0°.07×122°.39E±0°.07, h6km±3km, mb4.4/22, Error ellipse: s-maj=11.5km s-min=7.0km az=145.0*
ISC 07 17:17:06.5±1.0, 24°.63N±0°.02×122°.42E±0°.01, h5km±7km, n251, σ1§41/323, mb4.1/27, MS4.0/27, 17C-35D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.27**	**219**	⇑*iP*	**Pg**	**17 17 13.0**	**+1.3**
EOS2				*i* S	Sg	17 17 18.4	+3.2
EOS3	**EOS3**	**0.35**	**195**	⇑*iP*	**Pb**	**17 17 14.7**	**-0.5**
EOS3				S	Sb	17 17 20.3	-0.7
EGS		**0.49**	**296**	⇓*iP*	**Pg**	**17 17 15.6**	**-0.3**
EGS				*eS*	Sg	17 17 22.1	-0.2
JYNG	**Yonagunijimaku**	**0.51**	**110**	*i* P	**Pg**	**17 17 17.1**	**+0.7**
JYNG				*eS*	Sg	17 17 23.8	+0.7
JYNG	**Yonagunijimaku**	**0.51**	**110**	A

ETM			eS	Sn	17 17 41.7	-1.7
LXIB	Xiulin Townshi	1.10 237	⇑P	Pg	17 17 26.9	-0.7
LXIB			eS	Sn	17 17 42.4	-1.8
FUSS	Fushou	1.14 251	⇓P	Pg	17 17 27.5	-0.8
FUSS			eS	Sg	17 17 42.2	-0.8
KSHI	Guanxi Townshi	1.14 278	⇓P	Pg	17 17 28.1	-0.2
KSHI			eS	Sb	17 17 43.7	0.0
SHUL	Shoufeng	1.15 223	⇑P	Pn	17 17 28.5	-0.7
WHF	Hehuan Shan	1.16 245	⇓iP	Pg	17 17 27.8	-1.0
WHF			eS	Sn	17 17 44.5	-1.6
NCU	National Centr	1.17 287	P	Pg	17 17 23.4	-5.5
NCU			S	Sg	17 17 39.6	-4.5
NCUH	Zhongli	1.17 287	eP	Pg	17 17 28.2	-0.7
NCUH			eS	Sg	17 17 43.9	-0.2
NFF	Wufeng Townshi	1.18 270	eP	Pb	17 17 28.9	-0.5
NFF			eS	Sb	17 17 44.4	-0.6
TWT	Tachien	1.19 252	⇓P	Pb	17 17 29.2	-0.5
TWT			eS	Sb	17 17 44.5	-0.9
TDCB	Techi	1.21 252	⇓P	Pg	17 17 28.8	-0.9
ESL	Shilin	1.21 228	P	Pb	17 17 29.1	-0.8
ESL			eS	Sb	17 17 44.2	-1.6
TEGC	Jichi Village	1.22 221	eP	Pn	17 17 29.9	-0.2
IRIF	Iriomote-Funau	1.23 104	P	Pg	17 17 28.0	-2.1
IRIF			eS	Sg	17 17 43.6	-2.5
IRIF	Iriomote-Funau	1.23 104	A	A	17 17 28.0	
	comp=N,39nm,1.0s,comp=E,20nm,2.3s					
LIOB	Emei	1.27 271	eP	Pg	17 17 30.4	-0.6
LIOB			eS	Sn	17 17 48.0	-0.4
NSTT	Nanjuang	1.29 270	⇑iP	Pn	17 17 30.4	-0.7
NSTT			eS	Sn	17 17 47.8	-0.9
WARBT	Fenglin Townsh	1.31 226	⇑P	Pg	17 17 30.2	-1.4
WARBT			eS	Sn	17 17 48.7	-0.5
SBCB	Hsinchu	1.31 277	P	Pn	17 17 30.6	-0.8
SBCB			eS	Sn	17 17 49.4	+0.1
EGFH	Guangfu	1.32 224	eP	Pg	17 17 31.1	-0.7
OWD	Renai	1.32 239	⇓P	Pg	17 17 30.7	-1.1
OWD			S	Sg	17 17 47.4	-1.4
HSN	Hsinchu	1.33 278	eP	Pn	17 17 30.4	-1.3
HSN			eS	Sb	17 17 48.0	-1.2
WUSB	Renai	1.34 242	⇓P	Pn	17 17 31.5	-0.6
WUSB			eS	Sn	17 17 49.6	-0.7
WHP	Taichung City	1.39 256	⇓P	Pg	17 17 32.4	-0.7
WHP			eS	Sb	17 17 49.8	-1.1
HATJ	Hateruma jima	1.39 114	eP	Pn	17 17 30.6	-1.9
HATJ			eS	Sb	17 17 47.3	-3.6
HATJ	Hateruma jima	1.39 114	A	A	17 17 30.6	
	comp=N,41nm,1.9s,comp=E,51nm,1.9s					
HGSD	Ruisui	1.45 219	⇓P	Pn	17 17 32.3	-1.1
NMLH	Miaoli	1.48 267	eP	Pg	17 17 35.0	0.0
NMLH			eS	Sg	17 17 54.4	+0.2
WCS	Beigang Elemen	1.49 248	eP	Pg	17 17 34.2	-0.8
EHYH	Wanrong	1.50 221	eP	Pb	17 17 33.8	-1.0
EHY	Hungye	1.50 222	eP	Pn	17 17 32.6	-1.4
JKRS	Kuro-shima	1.50 105	P	Pn	17 17 32.3	-1.7
JKRS	Kuro-shima	1.50 105	A	A	17 17 32.3	
	comp=N,26nm,2.1s,comp=E,23nm,4.9s					
NSY	Sanyi	1.52 262	⇓P	Pg	17 17 35.2	-0.5
NSY			eS	Sg	17 17 56.6	+1.2
TWQ1	Liyutan	1.52 260	⇓P	Pg	17 17 35.1	-0.6
SMLT	Sun Moon Lake	1.57 242	⇓iP	Pb	17 17 35.5	-0.6
SMLT			eS	Sg	17 17 57.0	-0.1
SSLB	Suanglung	1.58 238	Pn	Pg	17 17 35.8	-1.0
SSLB			Sn	Sn	17 17 54.6	-1.3
SSLB	Suanglung	1.58 238	P	Pg	17 17 36.0	-0.8
SSLB	Suanglung	1.58 238	⇓P	Pn	17 17 34.9	-0.2
SSLB			eS	Sn	17 17 54.6	-1.3
ECBN	Changbin	1.58 214	⇓P	Pn	17 17 34.2	-0.9
ECBN			S	Sn	17 17 54.5	-1.4
JIJ	Ishigaki jima	1.59 99	P	Pn	17 17 33.0	-2.3
JIJ			eS	Sn	17 17 52.1	-4.2
YULB	Yu-li	1.60 220	Pn	Pn	17 17 34.3	-1.1
YULB	Yu-li	1.60 220	P	Pg	17 17 36.8	-0.4
YULB	Yu-li	1.60 220	P	Pn	17 17 34.4	-1.1
YULB			eS	Sn	17 17 54.3	-2.2
EYUL	Yuli	1.62 218	eP	Pb	17 17 36.1	-0.8
TWF1	Yuli	1.63 219	eP	Pn	17 17 35.1	-0.7
TWF1			eS	Sn	17 17 54.1	-3.2
WDJ	Dajia District	1.64 260	eP	Pg	17 17 37.7	-0.3
WDJ			eS	Sg	17 18 00.7	+1.4
TCU	Taichung	1.66 253	eP	Pg	17 17 37.7	-0.6
WHYT	Xinyi Township	1.71 237	eP	Pg	17 17 38.0	-1.2
WHYT			S	Sn	17 17 58.2	-0.8
CHKH	Chenggong	1.71 213	eP	Pn	17 17 36.5	-0.4
CHKH			eS	Sn	17 17 57.3	-1.8
JISG	Ishigakijimahi	1.73 91	eP	Pn	17 17 34.8	-2.3
WJS	Zhushan	1.74 243	eP	Pg	17 17 39.6	-0.3
WNT	Mingjian	1.75 245	eP	Pg	17 17 39.4	-0.6
FULB	Fuli	1.76 216	eP	Pn	17 17 36.8	-0.8
FULB			eS	Sb	17 17 59.7	-1.9
WCHH	Zhanghua	1.78 252	eP	Pb	17 17 38.8	-0.8
WCH1	Changhua City	1.79 252	eP	Pb	17 17 39.1	-0.7
CHKT	Chengkung	1.80 212	eP	Pn	17 17 36.6	-1.6
CHKT			eS	Sn	17 17 59.1	-2.4
EHD	Haiduan	1.84 217	eP	Pn	17 17 37.1	-1.7
ALS	Alishan	1.85 233	eP	Pb	17 17 39.8	-1.1
ECS	Chishang	1.88 216	eP	Pn	17 17 38.9	-0.4
CHN5	Tsauling	1.89 237	⇑P	Pb	17 17 41.1	-0.5
ELDTW	Lidau	1.92 222	⇓P	Pb	17 17 39.2	-0.8
WGK	Gukeng	1.94 241	eP	Pb	17 17 42.0	-0.2
EDH	Donghe	1.94 212	eP	Pn	17 17 38.9	-1.1
EDH			eS	Sn	17 18 02.2	-2.6
WDL	Douliou City	1.94 242	eP	Pb	17 17 41.5	-0.8
WDLH	Douliu	1.96 242	eP	Pb	17 17 41.9	-0.7
WCKO	Fanlu	2.04 235	eP	Pb	17 17 43.9	-0.1
WTK	Tuku	2.08 244	eP	Pb	17 17 43.5	-1.1
JTJ	Tarama	2.08 89	eP	Pn	17 17 40.3	-1.7
JTJ	Tarama	2.08 89	A	A	17 17 40.3	
	comp=N,11nm,3.3s,comp=E,11nm,1.7s					
LONT	Longtian	2.08 215	eP	Pn	17 17 41.1	-1.0
CHN2	Minshiung	2.08 239	eP	Pg	17 17 44.9	-1.6
CHN2			eS	Sg	17 18 11.2	-2.3
STYH	Taoyuan	2.09 226	eP	Pb	17 17 43.1	-1.8
STYH			eS	Sb	17 18 09.3	-1.8
CHN4	Tsaushan	2.10 233	eP	Pb	17 17 44.2	-0.9
TPUB	Ta-pu	2.10 231	P	Pb	17 17 44.5	-0.6
TPUB	Ta-pu	2.10 231	eP	Pb	17 17 44.1	-1.0
TPUB			eS	Sb	17 18 09.3	-2.3
LDUT	Ludao	2.13 204	eP	Pn	17 17 40.7	-2.0
LDUT			eS	Sn	17 18 05.6	-4.0
CHY	Chiayi	2.14 239	eP	Pb	17 17 44.7	-1.0
WTP	Ta-pu	2.15 230	eP	Pb	17 17 44.6	-1.3
TWGBT	Beinan	2.18 214	eP	Pn	17 17 42.5	-0.9
TWG	Pinlang	2.18 215		Pn	17 17 42.5	-0.9
TWG	Pinlang	2.18 215	eP	Pn	17 17 42.5	-0.9
TWG			eS	Sn	17 18 09.0	-1.8
TWK	Hsinying	2.23 233	eP	Pb	17 17 45.7	-1.6
WSF	Szhu	2.24 244	eP	Pn	17 17 44.7	+0.6
WSF			eS	Sb	17 18 13.3	-2.0
CHN1	Nanshi	2.25 231	eP	Pb	17 17 46.1	-1.5
CHN1			eS	Sb	17 18 14.8	-1.0
SNST	Tainan City	2.25 232	eP	Pb	17 17 46.6	-1.0
WSL	Shuilin Townsh	2.29 242	eP	Pb	17 17 46.1	-2.1
CHN8	Yiju	2.39 238	eP	Pn	17 17 46.2	0.0
ECL	Taimali	2.43 214	eP	Pn	17 17 44.9	-1.9
CHN3	Shinhua	2.43 231	eP	Pb	17 17 50.1	-0.7
SCST	Cishan	2.47 226	eP	Pb	17 17 49.7	-1.7
SHHT	Tainan City	2.48 230	eP	Pb	17 17 50.3	-1.2
SSD	Sandimen	2.49 221	eP	Pn	17 17 48.8	+1.2
SSD			eS	Sb	17 18 19.7	-3.0
SCLT	Jiali	2.50 235	eP	Pb	17 17 49.6	-2.2
JIRB	Irabujima	2.51 85	eP	Pn	17 17 47.0	-0.9
TWM1	Shoushan	2.56 226	eP	Pb	17 17 52.9	-0.1
JIKM	Ikemajima	2.59 83	eP	Pn	17 17 47.8	-1.3
MASBT	Mashibuluo	2.59 220	eP	Pn	17 17 49.8	+0.7
MASBT			eS	Sb	17 18 22.3	-3.3
SGLT	Jiouru	2.59 223	eP	Pb	17 17 52.2	-1.2
TSCK	Chigu Township	2.59 236	eP	Pn	17 17 50.0	+0.9
JMJ	Miyako jima 2	2.62 85	P	Pn	17 17 50.0	+0.5
JMJ2	Miyako jima3	2.65 87	eP	Pn	17 17 49.1	-0.7
TAW	Tawu	2.66 212	eP	Pb	17 17 52.4	-2.2
EAST	Anshuo	2.66 213	eP	Pn	17 17 49.4	-0.7
EAST			eS	Sn	17 18 22.4	-0.3
MATB	Ma-tsu	2.70 305	eP	Pn	17 17 48.5	-2.0
MATB			eS	Sn	17 18 16.1	-7.4
LAY	Lan-yu	2.70 197	eP	Pn	17 17 49.2	-1.3
LAY			eS	Sn	17 18 20.3	-3.3
JOGS	Gusukube	2.72 87	eP	Pn	17 17 50.0	-0.9
LYUB	Lan-yu	2.73 196	P	Pn	17 17 48.9	-2.0
LYUB			eS	Sn	17 18 19.7	-4.5
SCZT	Fangliau	2.79 217	eP	Pn	17 17 51.9	+0.1
PNG	Penghu	2.82 249	eP	Pn	17 17 51.9	-0.3
SLIU	Shizi	2.83 212	eP	Pn	17 17 52.5	+0.2
PHUB	P'eng-hu	2.83 247	eP	Pn	17 17 51.7	-0.6
WDGT	Dungji	2.87 242	eP	Pn	17 17 53.6	+0.8
PTMZ	Houxiangcun	3.02 278	eP	Pn	17 17 53.6	-1.3
HEN	Hengchun	3.04 211	eP	Pn	17 17 55.7	+0.5
XPSS	Dashiqiu	3.04 319	eP	Pn	17 17 53.1	-2.2
TWKBT	Hengchun	3.06 209	eP	Pn	17 17 55.2	-0.3
VCHM	Qimei	3.08 243	eP	Pn	17 17 55.9	+0.2
QZH	Quanzhou	3.49 276	Pn	Pn	17 18 00.4	-1.0
QZH			Sn	Sn	17 18 41.6	-1.5
QZH			smax	smax		
	comp=E,1μm,0.8s					
QZH			smax	smax		
	comp=E,850nm,0.8s					
QZH			LR	LR		
	comp=E,1μm,8.8s					
KNM	Kinmen	3.63 267	eP	Pn	17 18 04.3	+1.0
AXDP	Jialang	4.05 275	eP	Pn	17 18 08.2	-0.9
DSXP	Dongshan	4.65 260	eP	Pn	17 18 17.1	-0.2
JOW	Kunigami	5.72 66	Pn	Pn	17 18 32.7	+0.6
	comp=E,4.2nm,0.3s,baz=114,slow=28,SNR=11					
	comp=E,24nm,0.7s					
JOW	Kunigami	5.72 66	P	Pn	17 18 32.7	+0.6
SSE	Sheshan	6.53 351	Pn	Pn	17 18 40.6	-2.6
SSE			Sn	Sn	17 19 57.7	-0.3
SSE			smax	smax		
	comp=E,48nm,1.2s					
SSE			smax	smax		
	comp=E,98nm,1.1s					
SSE			LR	LR		
	comp=E,310nm,4.8s					
SSE			LR	LR		
	comp=E,410nm,4.6s					
NJ2	Nanjing	8.03 338	ePn	Pn	17 19 01.2	-2.6
NJ2			Sn	Sn	17 20 34.7	-0.3
NJ2			smax	smax		
	comp=E,150nm,0.9s					
NJ2			smax	smax		
	comp=E,130nm,1.1s					
NJ2			LR	LR		
	comp=E,1μm,9.0s					
NJ2			LR	LR		
	comp=E,1μm,6.4s					
NJ2			LR	LR		
	comp=E,970nm,10.9s					
WHN	Wuhan	9.27 311	P	Pn	17 19 18.6	-2.1
WHN			S	Sn	17 20 56.3	-9.0
WHN			LR	LR		
	comp=E,7μm,13.8s					
WHN			LR	LR		
	comp=E,7μm,15.5s					
WHN			LR	LR		
	comp=E,3μm,10.3s					
JNU	Nakatsue	11.24 39	LR	LR	17 25 02.7	
	comp=E,336nm,18.3s,baz=224,slow=42					
QIZ	Qiongzhong	12.94 247	P	Pn	17 20 11.1	+0.1
QIZ			S	Sn	17 22 39.2	+3.8
QIZ			LR	LR		
	comp=N,260nm,6.6s					
QIZ			LR	LR		
	comp=E,420nm,8.8s					
QIZ			LR	LR		
	comp=Z,410nm,9.6s					
KSAR	Wonju Array Be	13.60 19	Pn	Pn	17 20 21.2	+1.2
KSRS	Korea Array	13.62 19	Pn	Pn	17 20 23.8	+3.5
	comp=Z,0.4nm,0.3s,baz=198,slow=11,SNR=16					
	comp=Z,0.4nm,0.5s					
KS19	Wonju Array Si	13.65 19	Pn	Pn	17 20 23.7	+3.0
DAV	Davao City (W)	17.72 170	LR	LR	17 28 06.9	
	comp=Z,158nm,20.4s,baz=341,slow=38					
MJAR	Matsushiro Arr	18.02 45	P	P	17 21 20.2	+2.0
	baz=236,slow=8.7,SNR=2.6					
MJAR			LR	LR	17 29 07.5	
	comp=Z,280nm,18.2s,baz=223,slow=40					
	comp=Z,1.5nm,1.0s					
MYLDM	Lahad Datu	19.70 192	P	P	17 21 36.2	-0.6
MYLDM			IAmb	IAmb	17 22 03.3	
	comp=Z,22nm,1.1s					
MDJ	Mudanjiang	20.78 15		Pn	17 21 51.8	+1.2
MDJ			IAmb	IAmb	17 21 58.3	
	comp=Z,16nm,0.9s					
USRK	Ussuriysk Ar.	21.03 19	P	P	17 21 53.4	+2.4
	comp=Z,4.2nm,0.8s,baz=98,slow=5.8,SNR=4.4					
	comp=Z,4.2nm,0.8s					
TNCH	TengChong	21.69 276	P	P	17 21 58.2	-0.3
TNCH			pP	pP	17 21 59.7	-0.2
TNCH			sP	sP	17 22 03.1	+2.5
TNCH			PP	PnPn	17 22 24.4	+5.3
TNCH			S	S	17 25 45.5	-14
TNCH			pmax	pmax		
	comp=Z,16nm,1.0s					
TNCH			pmax	pmax		
	comp=Z,110nm,4.3s					
TNCH			LR	LR		
	comp=Z,190nm,5.0s					
TNCH			LR	LR		
	comp=Z,400nm,8.3s					
TNCH			LR	LR		
	comp=Z,550nm,10.4s					
CHTO	Chiang Mai	22.55 260		P	17 22 07.2	-0.4
CMAR	Chiang Mai Arr	22.67 259	P	P	17 22 09.3	+0.5
CMAR	Chiang Mai Arr	22.67 259	P	P	17 22 08.2	-0.6
	comp=Z,1.1nm,0.3s,baz=61,slow=8.8,SNR=7.3					
CMAR			LR	LR	17 30 25.2	
	comp=Z,110nm,18.1s,baz=75,slow=36					
	comp=Z,1.1nm,0.3s					
GTA	Gaotai	24.08 313	eP	P	17 22 22.8	-0.2
GTA			pP	sP	17 22 28.1	+2.9
GTA			pmax	pmax		
	comp=Z,3.0nm,1.5s					
GTA			LR	LR		
	comp=Z,570nm,14.5s					
GTA			LR	LR		
	comp=Z,440nm,16.7s					
GTA			LR	LR		
	comp=Z,430nm,15.6s					
SBUM	Sibu	24.15 206		P	17 22 22.0	-1.6
HIA	Hailar	24.68 356	P	P	17 22 28.0	-0.3
HIA			IAmb	IAmb	17 23 06.0	
	comp=Z,6.9nm,0.7s					
ASAJ	Asahikawa	25.48 35	LR	LR	17 32 58.5	
	comp=Z,217nm,18.7s,baz=222,slow=37					
ULN	Ulaanbaatar	26.19 336		P	17 22 42.8	+0.7
SONM	Songino Array	26.41 335		P	17 22 43.3	-0.8
SONM	Songino Array	26.41 335	P	P	17 22 43.5	-0.6
	comp=Z,4.4nm,0.7s,baz=146,slow=8.4,SNR=15					
SONM			LR	LR	17 33 29.5	
	comp=Z,181nm,20.3s,baz=148,slow=37					
	comp=Z,4.4nm,0.7s					
YSS	Yuzhno-Sakhali	27.56 31	P	P	17 22 57.3	+3.0
SHL	Shillong	27.64 278		P	17 22 54.5	-0.9
SHL			IAmb	IAmb	17 23 23.3	
	comp=Z,16nm,1.3s					
LSA	Lhasa	28.22 287	P	P	17 23 01.2	+0.3
LSA			IAmb	IAmb	17 23 07.9	
	comp=Z,3.0nm,0.6s					
KAPI	Kappang	29.58 185	LR	LR	17 36 22.5	
	comp=Z,44nm,18.8s,baz=356,slow=39					
JAY	Jayapura	32.30 144	LR	LR	17 34 21.2	
	comp=Z,59nm,20.9s,baz=8.0,slow=32					
BATI	Baumata	34.65 178	LR	LR	17 39 29.8	
	comp=Z,73nm,18.9s,baz=26,slow=39					
YAK	Yakutsk	37.71 6	LR	LR	17 40 02.4	
	comp=Z,145nm,19.1s,baz=179,slow=36					
MKAR	Makanchi Array	38.81 315	P	P	17 24 32.2	0.0
MKAR	Makanchi Array	38.81 315	P	P	17 24 31.7	-0.5
	comp=Z,0.8nm,0.6s,baz=100,slow=10,SNR=6.0					
	comp=Z,0.8nm,0.6s					
PETK	Petropavlovsk-	38.87 34	LR	LR	17 40 40.0	
	comp=Z,106nm,19.0s,baz=208,slow=36					
MA2	Magadan	40.15 22	LR	LR	17 43 07.9	
	comp=Z,138nm,19.0s,baz=213,slow=39					
ZAA0	Zalesovo Array	40.49 326		P	17 24 44.0	-2.0
ZAA0			IAmb	IAmb	17 24 51.8	
	comp=Z,24nm,0.9s					
ZALV	Zalesovo Beam	40.49 326		P	17 24 43.6	-2.4
ZALV	Zalesovo Beam	40.49 326	P	P	17 24 45.8	-0.2
	comp=Z,3.6nm,0.8s,baz=110,slow=7.8,SNR=12					
ZALV			LR	LR	17 42 00.9	
	comp=Z,82nm,18.8s,baz=110,slow=37					
	comp=Z,3.6nm,0.8s					
KURK	Kurchatov	42.48 319	P	P	17 25 02.3	-0.1
KURK			IAmb	IAmb	17 25 08.7	
	comp=Z,5.8nm,1.1s					
KURBB	Kurchatov Arra	42.50 319	P	P	17 25 02.2	-0.4
	comp=Z,0.7nm,0.8s,baz=112,slow=9.7,SNR=5.2					
	comp=Z,0.7nm,0.8s					
FITZ	Fitzroy Crossi	42.59 175	P	P	17 25 02.9	-0.6
	comp=Z,1.1nm,0.6s,baz=355,slow=11,SNR=1.8					
	comp=Z,1.1nm,0.6s					
AAK	Ala-Archa	43.13 307	LR	LR	17 43 45.2	
	comp=Z,183nm,18.2s,baz=97,slow=37					
COEN	Coen	43.38 150	P	P	17 25 08.9	-1.2
COEN			IAmb	IAmb	17 25 13.0	
	comp=Z,11nm,0.9s					
WB0	Warramunga Arr	45.65 164		P	17 25 25.8	-2.3
WB0			IAmb	IAmb	17 25 37.1	
	comp=Z,7.7nm,0.9s					
WRAB	Tennant Creek	45.79 164	P	P	17 25 28.0	-1.3
WRA	Warramunga Arr	45.80 164		P	17 25 28.2	-1.1
WRA	Warramunga Arr	45.80 164	P	P	17 25 28.4	-1.0
	comp=Z,7.1nm,0.9s,baz=346,slow=8.7,SNR=37					
	comp=Z,7.1nm,0.9s					
TIXI	Tiksi	47.19 3	LR	LR	17 46 57.1	
	comp=Z,198nm,18.2s,baz=197,slow=38					
BVAR	Borovoye Array	48.05 320	P	P	17 25 47.1	+0.5
	comp=Z,0.8nm,0.6s,baz=101,slow=7.7,SNR=6.5					
	comp=Z,0.8nm,0.6s					
ASAR	Alice Springs	49.29 166	P	P	17 25 56.1	-0.3
	comp=Z,3.3nm,0.8s,baz=344,slow=7.6,SNR=64					
	comp=Z,3.3nm,0.8s					
AB31	Akbulak array	53.94 314		P	17 26 29.3	-1.7
AB31			IAmb	IAmb	17 26 36.4	
	comp=Z,2.4nm,0.8s					
ABKAR	Akbulak array	53.94 314		P	17 26 30.1	-0.9
ARTI	Arti	55.52 323	P	P	17 26 43.0	+0.6
	comp=Z,2.8nm,0.6s,baz=76,slow=4.2,SNR=3.6					
	comp=Z,2.8nm,0.6s					
KIRV	Kirov	60.50 325	LR	LR	17 53 17.3	
	comp=Z,157nm,18.8s,baz=73,slow=36					
ILAR	Eielson Array	68.30 27	P	P	17 28 10.9	+2.7
	comp=Z,0.2nm,0.5s,baz=304,slow=6.5,SNR=2.6					
ILAR			LR	LR	18 00 13.0	
	comp=Z,42nm,18.1s,baz=336,slow=38					
	comp=Z,0.2nm,0.5s					
SPITS	Spitsbergen Ar	69.29 348	LR	LR	18 02 01.0	
	comp=Z,116nm,18.1s,baz=254,slow=39					
ARCES	ARCESS Array B	69.55 338	LR	LR	18 02 28.9	
	comp=Z,78nm,18.3s,baz=265,slow=39					
FINES	FINESS Array B	71.63 330	P	P	17 28 29.6	+0.9
	comp=Z,0.7nm,0.6s,baz=50,slow=3.0,SNR=4.6					
FINES			LR	LR	18 04 56.0	
	comp=Z,169nm,19.4s,baz=270,slow=40					
	comp=Z,0.7nm,0.6s					
AKASG	Malin Array Be	73.28 318	P	P	17 28 40.3	+1.5
	comp=Z,0.6nm,0.6s,baz=65,slow=6.2,SNR=2.1					
AKASG			LR	LR	18 05 06.9	
	comp=Z,128nm,19.1s,baz=300,slow=39					
	comp=Z,0.6nm,0.6s					
BRTR	Keskin Array B	73.81 307	P	P	17 28 44.1	+1.8
	comp=Z,0.8nm,0.8s,baz=59,slow=6.0,SNR=4.5					
	comp=Z,0.8nm,0.8s					
HFS	Hagfors	77.72 331	P	P	17 29 05.1	+0.9
	comp=Z,2.7nm,1.0s,baz=111,slow=3.2,SNR=1.8					
HFS			LR	LR	18 08 08.3	
	comp=Z,211nm,21.3s,baz=259,slow=39					
	comp=Z,2.7nm,1.0s					
DLBC	Dease Lake	77.99 31	LR	LR	18 08 16.0	
	comp=Z,206nm,18.6s,baz=44,slow=39					
NOA	NORSAR Array B	78.35 332	P	P	17 29 07.0	-0.7
	comp=Z,0.6nm,0.8s,baz=60,slow=5.6,SNR=3.5					
NOA			LR	LR	18 07 21.8	
	comp=Z,66nm,19.1s,baz=260,slow=38					
	comp=Z,0.6nm,0.8s					
BORG	Borgarnes	86.58 345	LR	LR	18 12 07.2	
	comp=Z,155nm,18.1s,baz=124,slow=38					
FRB	Frobisher Bay	91.50 5	LR	LR	18 14 41.8	
	comp=Z,57nm,18.8s,baz=65,slow=38					
PDAR	Pinedale Array	97.61 36	LR	LR	18 16 43.8	
	comp=Z,40nm,19.2s,baz=24,slow=37					
ULM	Lac du Bonnet	98.09 24	LR	LR	18 20 28.8	
	comp=Z,61nm,18.4s,baz=26,slow=39					

*IDC **07** 17:20:17.3±7.3, 4°.32N×127°.33E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=181.3km s-min=88.9km az=173.0*

*NEIC **07** 17:20:19.9±2.1, 4°.4N±0°.1×127°.2E±0°.1, h10km±1km, mb4.2/7, Error ellipse: s-maj=23.0km s-min=15.1km az=56.0*

*DJA **07** 17:20:20.8±0.9, 4°N±6°×12°7E±°, h14km±4km, M4.0/6, MLv4.0/6*

ISC 07 17:20:17.7±0.8, 4°.15N±0°.06×127°.4E±0°.1, h10km, n25, σ1°39/28, mb4.2/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.91	256	P	Pn	17 20 50.6	+0.3
SGSI				S	Sn	17 21 13.9	-0.6
TNTI	Ternate	3.35	180		Pb	17 21 15.6	-1.7
TNTI				Sn	Sn	17 21 51.1	+1.0
TNTI	Ternate	3.35	180	P	Pb	17 21 15.0	-2.3
TNTI				S	Sb	17 21 56.1	-2.1
LUWI	Luwuk	6.92	222	Pn	Pn	17 22 02.8	+3.5
TOLI2	Tolitoli	7.25	246	Pn	Pn	17 22 04.2	+0.4
MYLDM	Lahad Datu	8.91	277	Pn	Pn	17 22 26.1	-0.6
SOEI	Soe	14.16	193	P	P	17 23 48.6	+2.4
MTN	Manton Dam	17.29	168	Pn	P	17 24 20.9	0.0
MTN				IAmb	IAmb	17 24 42.0	
	comp=Z,16nm,1.3s						
KNRA	Kununurra	19.74	176		P	17 24 45.2	-2.6
KNRA				IAmb	IAmb	17 24 54.0	
	comp=Z,12nm,0.8s						
TPUB	Ta-pu	20.13	342	P	P	17 24 51.4	-0.7
SSLB	Suanglung	20.49	343	P	P	17 24 56.1	+0.1
SSLB				IAmb	IAmb	17 25 15.1	
	comp=Z,40nm,1.5s						
FITZ	Fitzroy Crossi	22.17	184	P	P	17 25 15.7	+1.6
CMAR	Chiang Mai Arr	31.23	299	P	P	17 26 38.0	+0.2
	comp=Z,0.6nm,0.7s,baz=115,slow=7.4,SNR=4.2						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	57.59	325	P	P	17 30 06.4	-1.5
MKAR	Makanchi Array	57.59	325	P	P	17 30 08.4	+0.5
	comp=Z,1.0nm,0.5s,baz=122,slow=8.2,SNR=16						
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	60.52	333	P	P	17 30 28.4	+0.4
	comp=Z,0.2nm,0.3s,baz=129,slow=5.5,SNR=1.9		

mbtmp3.7/7, ML2.6/2, MS3.0/2, Error ellipse: s-maj=27.9km s-min=22.2km az=11.0

ISC 07 17:30:41.1±1.3, **10°.5S**±0°.2×**151°.4E**±0°.1, **h35**km, **n7, σ0.67/8, mb3.9**/5, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.28**	**284**	Pn	**Pn**	**17 31 43.0**	**-0.7**
	2.8nm,0.3s,baz=90,slow=6.0,SNR=11						
PMG				Sn	**Sn**	**17 32 33.4**	**+1.0**
	1.0nm,0.3s,baz=82,slow=14,SNR=2.0						
PMG				Lg	Lg	17 32 50.0	
	3.0nm,0.3s,baz=265,slow=20,SNR=4.6						
PMG				LR	LR	17 33 16.6	
	comp=Z,86nm,21.7s,baz=10.0,slow=38						
	7.4nm,0.3s						
WRA	**Warramunga Arr**	**18.93**	**238**	P	**Pn**	**17 35 00.3**	**+0.3**
	0.1nm,0.3s,baz=60,slow=10,SNR=11						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**21.21**	**230**	P	**P**	**17 35 23.9**	**0.0**
	1.0nm,0.8s,baz=68,slow=11,SNR=10						
ASAR				LR	LR	17 43 35.6	
	comp=Z,89nm,19.3s,baz=32,slow=37						
	1.0nm,0.8s						
STKA	**Stephens Creek**	**23.16**	**202**	P	**P**	**17 35 44.3**	**-0.2**
	3.3nm,0.8s,baz=4.8,slow=12,SNR=2.3						
	3.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.16**	**299**	P	**P**	**17 40 38.4**	**-0.5**
	0.3nm,0.8s,baz=106,slow=8.7,SNR=1.8						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**79.54**	**180**	P	**P**	**17 42 44.5**	**+0.2**
	1.7nm,1.1s,baz=357,slow=7.0,SNR=2.3						
	1.7nm,1.1s						
ILAR	**Eielson Array**	**87.90**	**22**	P	**P**	**17 43 27.2**	**+0.5**
	1.4nm,0.8s,baz=256,slow=4.9,SNR=8.5						
	1.4nm,0.8s						

*TAP **07** 17:32:45.3, 24°.68N×122°.39E, h11km, ML2.9, C*
*JMA **07** 17:32:46.1±0.1, 24°.6N±0°.9×122°.4E±0°.3, h30km±2km, MV2.4/12, NW OFF ISHIGAKIJIMA IS*

ISC 07 17:32:43.7±1.0, **24°.71N**±0°.02×**122°.49E**±0°.02, **h11**km±8km, **n109, σ0.83/208, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.37**	**220**	*eP*	**Pb**	**17 32 52.2**	**0.0**
EOS2				*eS*	**Sg**	**17 32 57.2**	**+1.2**
EOS3	**EOS3**	**0.45**	**201**	*i P*	**Pb**	**17 32 53.8**	**+0.3**
EOS3				*eS*	**Sg**	**17 32 59.3**	**+1.0**
JYNG	**Yonagunijimaku**	**0.48**	**122**	*eP*	**Pn**	**17 32 56.3**	**-0.2**
JYNG				*eS*	**Sb**	**17 33 03.1**	**+1.8**
EGS		**0.53**	**285**	*i P*	**Pb**	**17 32 54.7**	**-0.3**
EGS				*eS*	**Sb**	**17 33 01.6**	**-1.0**
YOJ	**Yonaguni jima**	**0.53**	**117**	P	**Pn**	**17 32 57.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.53**	**117**	S	**Sn**	**17 33 06.1**	**0.0**
YOJ	**Yonaguni jima**	**0.53**	**117**	*eP*	**Pn**	**17 32 57.1**	**-0.1**
YOJ				*eS*	**Sn**	**17 33 04.6**	**-1.4**
YOJ	**Yonaguni jima**	**0.53**	**117**	*i P*	**Pn**	**17 32 57.2**	**0.0**
YOJ				S	**Sn**	**17 33 05.8**	**-0.3**
TWB1	**Santiao Chiao**	**0.55**	**303**	*i P*	**Pb**	**17 32 55.6**	**+0.3**
TWB1				*i S*	**Sb**	**17 33 02.1**	**-1.1**
TWC	**Suao**	**0.59**	**261**	*i P*	**Pg**	**17 32 55.0**	**-0.3**
TWC				*i S*	**Sg**	**17 33 03.4**	**+0.3**
EOS4	**EOS4**	**0.60**	**195**	*eP*	**Pn**	**17 32 57.0**	**-0.9**
EOS4				*eS*	**Sb**	**17 33 05.1**	**+0.7**
ESAO	**Su ao**	**0.60**	**258**	*i P*	**Pg**	**17 32 55.3**	**-0.1**
ESAO				*eS*	**Sg**	**17 33 03.7**	**+0.3**
TIPB	**Shuangxi**	**0.66**	**294**	*i P*	**Pb**	**17 32 57.7**	**+0.5**
TIPB				*i S*	**Sb**	**17 33 05.7**	**-0.8**
ILA	**Ilan**	**0.68**	**275**	P	**Pb**	**17 32 58.0**	**+0.5**
ILA				S	**Sb**	**17 33 07.5**	**+0.6**
SXI1	**Grass Mountain**	**0.68**	**305**	*i P*	**Pn**	**17 32 58.7**	**-0.6**
SXI1				S	**Sb**	**17 33 07.6**	**+0.5**
NDS	**Dongshan**	**0.71**	**264**	*i P*	**Pg**	**17 32 57.4**	**0.0**
NDS				S	**Sg**	**17 33 06.9**	**+0.1**
ENA	**Nanau**	**0.74**	**248**	*i P*	**Pg**	**17 32 57.6**	**-0.4**
ENA				*i S*	**Sg**	**17 33 07.6**	**-0.1**
NWF	**Wu-fen Shan**	**0.74**	**299**	*i P*	**Pn**	**17 33 00.1**	**-0.1**
NWF				*i S*	**Sn**	**17 33 09.9**	**-1.6**
WFSB	**Wu-fen Shan**	**0.74**	**299**	*i P*	**Pn**	**17 33 00.1**	**+0.1**
WFSB				*i S*	**Sn**	**17 33 10.0**	**-1.3**
TWE	**Neicheng**	**0.75**	**271**	*i P*	**Pg**	**17 32 58.1**	**-0.1**
TWE				*i S*	**Sg**	**17 33 08.3**	**+0.3**
EAHA	**Aohua**	**0.78**	**242**	*i P*	**Pg**	**17 32 58.7**	**-0.1**
EAHA				S	**Sg**	**17 33 08.7**	**-0.3**
TNOU	**National Taiwa**	**0.79**	**304**	P	**Pn**	**17 33 00.2**	**-0.5**
TNOU				*i S*	**Sb**	**17 33 10.8**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.82**	**274**	*i P*	**Pb**	**17 32 59.7**	**-0.3**
FUSB				*i S*	**Sg**	**17 33 10.3**	**-0.2**
ENTT	**Nioudou**	**0.85**	**266**	*i P*	**Pg**	**17 32 59.9**	**-0.2**
ENTT				*i S*	**Sg**	**17 33 10.8**	**-0.3**
TWA	**Mucha**	**0.87**	**288**	*i P*	**Pn**	**17 33 02.0**	**+0.1**
TWA				*i S*	**Sb**	**17 33 12.1**	**-0.3**
LATG	**Datong**	**0.90**	**259**	*i P*	**Pg**	**17 33 00.6**	**-0.4**
LATG				S	**Sg**	**17 33 12.5**	**-0.2**
NHY	**Taipei**	**0.90**	**292**	*eP*	**Pn**	**17 33 03.3**	**+1.1**
NHY				*eS*	**Sn**	**17 33 14.9**	**-0.4**
NWLT	**Wulai**	**0.90**	**275**	*i P*	**Pb**	**17 33 01.2**	**-0.2**
NWLT				*i S*	**Sg**	**17 33 11.9**	**-1.0**
NHDH	**Xindian Distri**	**0.92**	**286**	*i P*	**Pn**	**17 33 01.9**	**-0.5**
NHDH				S	**Sg**	**17 33 13.1**	**-0.2**
YM01	**YM01**	**0.95**	**298**	*i P*	**Pn**	**17 33 03.1**	**+0.2**
YM01				*i S*	**Sn**	**17 33 15.6**	**-0.8**
YM08	**YM08**	**0.95**	**301**	*i P*	**Pn**	**17 33 02.7**	**-0.2**
YM08				*i S*	**Sn**	**17 33 15.4**	**-1.1**
TATO	**Taipei**	**0.95**	**287**	P	**Pn**	**17 33 03.5**	**+0.6**
TATO	**Taipei**	**0.95**	**287**	S	**Sb**	**17 33 14.5**	**-0.3**
TATO	**Taipei**	**0.95**	**287**	*i P*	**Pn**	**17 33 03.3**	**+0.4**
TATO				S	**Sg**	**17 33 14.1**	**-0.4**
TAP	**Taipei**	**0.96**	**291**	*eP*	**Pn**	**17 33 02.4**	**-0.6**
TAP				*i S*	**Sn**	**17 33 15.6**	**-1.0**
ETL	**Fush Village**	**0.96**	**236**	*i P*	**Pg**	**17 33 01.5**	**-0.7**
ETL				S	**Sb**	**17 33 15.7**	**+0.6**
ZUZH	**Zhuzihu**	**0.97**	**298**	*i P*	**Pn**	**17 33 03.9**	**+0.6**
ZUZH				*i S*	**Sn**	**17 33 16.3**	**-0.8**
NACB	**Ninganchiao**	**0.97**	**237**	P	**Pg**	**17 33 01.9**	**-0.6**
NACB	**Ninganchiao**	**0.97**	**237**	*i P*	**Pg**	**17 33 01.8**	**-0.6**
NACB				*eS*	**Sg**	**17 33 13.9**	**-1.3**
TWY	**Chenhua**	**0.99**	**305**	*i P*	**Pn**	**17 33 03.2**	**-0.2**
TWY				*i S*	**Sn**	**17 33 17.4**	**0.0**
PCYT	**Pengchaiyu**	**1.00**	**338**	P	**Pn**	**17 33 05.4**	**+1.8**
PCYT				*eS*	**Sn**	**17 33 18.4**	**+0.8**
ANP	**Anpu**	**1.00**	**299**	*i P*	**Pn**	**17 33 04.3**	**+0.6**
ANP				S	**Sn**	**17 33 17.2**	**-0.7**
YHNB	**Yeheng**	**1.02**	**268**	P	**Pn**	**17 33 03.5**	**-0.4**
YHNB	**Yeheng**	**1.02**	**268**	*i P*	**Pg**	**17 33 03.1**	**-0.2**
YHNB				*i S*	**Sg**	**17 33 15.3**	**-1.2**
TWD	**Chiawan**	**1.03**	**233**	*i P*	**Pg**	**17 33 03.1**	**-0.4**
TWD				S	**Sn**	**17 33 19.8**	**+1.4**
NSK	**Sanguang**	**1.03**	**269**	*i P*	**Pg**	**17 33 03.4**	**-0.2**
NSK				*i S*	**Sg**	**17 33 15.6**	**-1.5**
ETLH	**Xiulin Townshi**	**1.05**	**242**	*i P*	**Pg**	**17 33 03.2**	**-0.7**
ETLH				*eS*	**Sg**	**17 33 17.8**	**+0.3**
NNSB	**Datong**	**1.05**	**255**	*i P*	**Pg**	**17 33 03.2**	**-0.7**
NNSB				S	**Sg**	**17 33 17.5**	**-0.1**
NTST	**Danshui**	**1.05**	**296**	*i P*	**Pn**	**17 33 05.2**	**+0.9**
NTST				*i S*	**Sn**	**17 33 18.9**	**-0.1**
TWS1	**Kuangyinshan**	**1.05**	**292**	*i P*	**Pn**	**17 33 05.1**	**+0.8**
TWS1				*i S*	**Sn**	**17 33 18.9**	**-0.1**
NNS	**Nan Shan**	**1.05**	**256**	*i P*	**Pg**	**17 33 03.4**	**-0.6**
NNS				*i S*	**Sg**	**17 33 16.5**	**-1.3**
ETM	**Tongmen**	**1.17**	**231**	*i P*	**Pb**	**17 33 05.7**	**-0.3**
ETM				S	**Sn**	**17 33 22.8**	**+0.8**
IRIF	**Iriomote-Funau**	**1.19**	**108**	*eP*	**Pg**	**17 33 07.4**	**+0.9**
IRIF				*eS*	**Sn**	**17 33 22.7**	**+0.5**
LXIB	**Xiulin Townshi**	**1.20**	**236**	*i P*	**Pn**	**17 33 05.7**	**-0.8**
LXIB				S	**Sn**	**17 33 24.4**	**+1.6**
KSHI	**Guanxi Townshi**	**1.20**	**274**	*i P*	**Pg**	**17 33 07.7**	**+1.0**
KSHI				S	**Sn**	**17 33 23.8**	**+1.1**
NCUH	**Zhongli**	**1.22**	**283**	P	**Pg**	**17 33 07.7**	**+0.6**
NCUH				S	**Sn**	**17 33 23.8**	**+0.7**
FUSS	**Fushou**	**1.23**	**248**	*i P*	**Pb**	**17 33 07.0**	**0.0**
FUSS				*i S*	**Sn**	**17 33 23.8**	**+0.2**
SHUL	**Shoufeng**	**1.25**	**223**	*i P*	**Pg**	**17 33 07.7**	**0.0**
SHUL				*eS*	**Sn**	**17 33 24.5**	**+0.7**
WHF	**Hehuan Shan**	**1.25**	**244**	*i P*	**Pn**	**17 33 07.1**	**-0.4**
WHF				*i S*	**Sb**	**17 33 23.9**	**+0.1**
NFF	**Wufeng Townshi**	**1.25**	**267**	*i P*	**Pg**	**17 33 07.7**	**-0.1**
NFF				*i S*	**Sn**	**17 33 24.7**	**+0.6**
TWT	**Tachien**	**1.28**	**250**	*i P*	**Pg**	**17 33 08.8**	**+0.4**
TWT				*eS*	**Sb**	**17 33 24.6**	**+0.1**
ESL	**Shilin**	**1.31**	**228**	*i P*	**Pb**	**17 33 08.6**	**+0.2**
ESL				S	**Sg**	**17 33 26.2**	**+0.2**
LIOB	**Emei**	**1.34**	**268**	*i P*	**Pg**	**17 33 10.3**	**+0.7**
LIOB				S	**Sg**	**17 33 27.2**	**+0.1**
HATJ	**Hateruma jima**	**1.36**	**118**	*eS*	**Sg**	**17 33 27.9**	**+0.4**
NSTT	**Nanjuang**	**1.36**	**267**	*i P*	**Pg**	**17 33 10.2**	**+0.4**
NSTT				*i S*	**Sg**	**17 33 27.3**	**-0.2**
WARBT	**Fenglin Townsh**	**1.41**	**226**	*i P*	**Pb**	**17 33 10.1**	**+0.1**
WARBT				S	**Sn**	**17 33 28.1**	**+0.3**
OWD	**Renai**	**1.42**	**238**	*i P*	**Pn**	**17 33 08.8**	**-0.7**
OWD				S	**Sn**	**17 33 28.6**	**+0.4**
EGFH	**Guangfu**	**1.42**	**224**	*i P*	**Pg**	**17 33 10.7**	**-0.3**
EGFH				S	**Sb**	**17 33 28.8**	**+0.6**
WUSB	**Renai**	**1.44**	**241**	*i P*	**Pb**	**17 33 10.8**	**+0.2**
WUSB				S	**Sb**	**17 33 29.8**	**+0.7**
JKRS	**Kuro-shima**	**1.46**	**108**	*eP*	**Pg**	**17 33 11.7**	**0.0**
JKRS				*eS*	**Sg**	**17 33 30.0**	**-0.6**
WHP	**Taichung City**	**1.47**	**253**	P	**Pg**	**17 33 11.7**	**-0.3**
WHP				S	**Sb**	**17 33 30.2**	**+0.4**
JIJ	**Ishigaki jima**	**1.54**	**102**	*eP*	**Pg**	**17 33 12.6**	**-0.7**
JIJ				*eS*	**Sb**	**17 33 31.3**	**-0.4**
HGSD	**Ruisui**	**1.55**	**219**	*i P*	**Pn**	**17 33 11.6**	**+0.3**
HGSD				*eS*	**Sn**	**17 33 31.2**	**-0.1**
NMLH	**Miaoli**	**1.56**	**264**	*i P*	**Pg**	**17 33 14.3**	**+0.7**
NMLH				S	**Sg**	**17 33 34.8**	**+0.9**
DPDB	**Guoxing**	**1.58**	**245**	*i P*	**Pg**	**17 33 13.8**	**-0.2**
DPDB				S	**Sb**	**17 33 33.0**	**+0.2**
EHYH	**Wanrong**	**1.60**	**221**	*i P*	**Pn**	**17 33 12.3**	**+0.4**
EHYH				S	**Sn**	**17 33 33.0**	**+0.5**
EHY	**Hungye**	**1.60**	**222**	*i P*	**Pn**	**17 33 12.7**	**+0.7**
EHY				*eS*	**Sn**	**17 33 32.9**	**+0.3**
JISG	**Ishigakijimahi**	**1.66**	**94**	*eP*	**Pg**	**17 33 14.7**	**-0.8**
SMLT	**Sun Moon Lake**	**1.67**	**241**	*i P*	**Pg**	**17 33 15.6**	**-0.1**
SMLT				S	**Sb**	**17 33 36.3**	**+0.8**
SSLB	**Suanglong**	**1.68**	**237**	P	**Pb**	**17 33 15.0**	**+0.4**
SSLB	**Suanglong**	**1.68**	**237**	*i P*	**Pb**	**17 33 15.1**	**+0.6**
SSLB				S	**Sb**	**17 33 35.7**	**0.0**
YULB	**Yu-li**	**1.70**	**220**	*i P*	**Pn**	**17 33 13.7**	**+0.3**
YULB				*eS*	**Sn**	**17 33 35.2**	**+0.1**
TWF1	**Yuli**	**1.74**	**219**	*i P*	**Pn**	**17 33 14.4**	**+0.7**
TWF1				*eS*	**Sn**	**17 33 34.8**	**-1.1**
WHYT	**Xinyi Township**	**1.80**	**236**	*i P*	**Pg**	**17 33 17.9**	**-0.4**
WHYT				S	**Sb**	**17 33 40.9**	**+1.5**
CHKH	**Chenggong**	**1.81**	**214**	*eP*	**Pn**	**17 33 14.2**	**-0.5**
CHKH				*i S*	**Sn**	**17 33 36.3**	**-1.4**
WNT	**Mingjian**	**1.84**	**244**	*i P*	**Pg**	**17 33 19.6**	**+0.5**
WNT				S	**Sg**	**17 33 43.7**	**+0.7**
FULB	**Fuli**	**1.86**	**216**	*i P*	**Pn**	**17 33 16.2**	**+0.8**
FULB				*i S*	**Sn**	**17 33 38.9**	**-0.1**
CHKT	**Chengkung**	**1.90**	**213**	*eP*	**Pn**	**17 33 15.9**	**-0.1**
CHKT				*i S*	**Sn**	**17 33 38.7**	**-1.3**
EHD	**Haiduan**	**1.95**	**217**	*i P*	**Pn**	**17 33 16.4**	**-0.2**
EHD				*eS*	**Sn**	**17 33 42.5**	**+1.3**
ALS	**Alishan**	**1.95**	**233**	*i P*	**Pb**	**17 33 19.4**	**+0.1**
ALS				*eS*	**Sn**	**17 33 42.8**	**+1.2**
CHN5	**Tsauling**	**1.99**	**237**	*i P*	**Pg**	**17 33 21.3**	**-0.6**
CHN5				S	**Sb**	**17 33 44.4**	**-0.4**
ELDTW	**Lidau**	**2.03**	**222**	*i P*	**Pn**	**17 33 18.1**	**+0.3**
ELDTW				S	**Sn**	**17 33 43.6**	**+0.4**
EDH	**Donghe**	**2.04**	**212**	P	**Pn**	**17 33 17.8**	**-0.1**
EDH				*i S*	**Sn**	**17 33 41.0**	**-2.4**
WDLH	**Douliu**	**2.05**	**241**	*eP*	**Pb**	**17 33 21.7**	**+0.8**
WDLH				S	**Sg**	**17 33 48.6**	**-1.1**
WCKO	**Fanlu**	**2.14**	**234**	*i P*	**Pb**	**17 33 22.5**	**+0.1**
WCKO				S	**Sb**	**17 33 49.3**	**+0.3**
LONT	**Longtian**	**2.18**	**215**	P	**Pn**	**17 33 19.4**	**-0.5**
LONT				*eS*	**Sn**	**17 33 45.7**	**-1.2**
STYH	**Taoyuan**	**2.19**	**226**	*i P*	**Pb**	**17 33 21.8**	**-1.5**
STYH				S	**Sb**	**17 33 49.4**	**-1.1**
TPUB	**Ta-pu**	**2.21**	**231**	P	**Pb**	**17 33 22.5**	**-1.1**
TPUB	**Ta-pu**	**2.21**	**231**	*i P*	**Pb**	**17 33 22.5**	**-1.1**
TPUB				*eS*	**Sn**	**17 33 48.9**	**+1.4**
LDUT	**Ludao**	**2.23**	**205**	P	**Pn**	**17 33 19.1**	**-1.4**
LDUT				*i S*	**Sn**	**17 33 45.4**	**-2.6**
WTP	**Ta-pu**	**2.25**	**230**	*i P*	**Pb**	**17 33 23.9**	**-0.5**
WTP				S	**Sb**	**17 33 51.1**	**-1.2**
TWK	**Hsinying**	**2.33**	**232**	*i P*	**Pb**	**17 33 25.4**	**-0.3**
TWK				*eS*	**Sb**	**17 33 53.3**	**-1.2**
SNST	**Tainan City**	**2.35**	**231**	P	**Pb**	**17 33 25.7**	**-0.4**
SNST				*eS*	**Sb**	**17 33 54.0**	**-1.1**
CHN1	**Nanshi**	**2.35**	**230**	*i P*	**Pb**	**17 33 26.2**	**+0.1**
CHN1				*i S*	**Sb**	**17 33 55.5**	**+0.4**
SCST	**Cishan**	**2.58**	**226**	P	**Pn**	**17 33 27.4**	**+2.1**
SCST				*eS*	**Sb**	**17 34 01.6**	**+0.1**
SSD	**Sandimen**	**2.59**	**222**	*i P*	**Pb**	**17 33 29.1**	**-1.0**
SSD				S	**Sn**	**17 33 59.1**	**+2.1**
MASBT	**Mashibuluo**	**2.69**	**220**	*i P*	**Pn**	**17 33 29.3**	**+2.4**
MASBT				*i S*	**Sn**	**17 34 02.5**	**+3.0**
MATB	**Ma-tsu**	**2.72**	**303**	P	**Pn**	**17 33 28.1**	**+0.8**
MATB				*eS*	**Sn**	**17 33 58.1**	**-2.0**
EAST	**Anshuo**	**2.76**	**213**	P	**Pn**	**17 33 29.2**	**+1.3**
EAST				*eS*	**Sn**	**17 33 59.7**	**-1.5**

*IDC **07** 17:38:12.9±4.0, 1°.81S×99°.09E, h0km, mb3.2/5, mbtmp3.2/5, MS3.1/1, Error ellipse: s-maj=171.1km s-min=23.6km az=57.0*
*DJA **07** 17:38:17.3±0.5, 1°.S±2°.×9°.9E±°, h11km±4km, M3.7/10, MLv3.7/10*

ISC 07 17:38:16.1±1.8, **1°.39S**±0°.05×**99°.36E**±0°.05, **h9**km±13km, **n27, σ1.07/19, mb3.2**/4, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.27**	**283**	P	**Pb**	**17 38 23.4**	**+0.2**
PDSI	**Padang**	**1.20**	**67**	P	**Pn**	**17 38 39.3**	**+0.1**
PDSI				S	**Sn**	**17 38 56.7**	**+1.1**
PPI	**Padang Panjang**	**1.39**	**48**	P	**Pb**	**17 38 42.7**	**+0.4**
PPI				S	**Sn**	**17 39 01.4**	**+1.1**
PPSI	**Pulau Pagai**	**1.51**	**154**	P	**Pg**	**17 38 45.4**	**+0.2**
PPSI				S	**Sn**	**17 39 04.0**	**+0.8**
PBSI	**Pulau Batu**	**1.71**	**321**	P	**Pb**	**17 38 47.6**	**-0.1**
PBSI				S	**Sn**	**17 39 09.2**	**+1.2**
MNSI	**Mandailing Nat**	**2.18**	**6**	P	**Pb**	**17 38 54.9**	**-0.9**
MNSI				S	**Sb**	**17 39 22.1**	**-0.8**
GSI	**Gunungsitoli**	**3.21**	**326**	P	**Pn**	**17 39 06.7**	**-0.1**
MASI	**Maura Aman, Be**	**3.37**	**121**	P	**Pn**	**17 39 09.6**	**+0.6**
LEM	**Lembang**	**9.85**	**123**	LR	LR	17 44 50.3	
	comp=Z,94nm,18.1s,baz=237,slow=40						
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**Pn**	**17 42 48.9**	**+1.3**
	0.1nm,0.3s,baz=172,slow=10.0,SNR=1.5						
	0.1nm,0.3s						
H08S2	**Diego Garcia H**	**27.48**	**256**	T	T	18 12 06.0	
	baz=78,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**27.48**	**256**	T	T	18 12 08.8	
	baz=78,slow=75,SNR=47						
H08S1	**Diego Carcia H**	**27.50**	**256**	T	T	18 12 02.4	
	baz=78,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**36.06**	**159**	T	T	18 23 09.5	
	baz=335,slow=75,SNR=6.0						
H01W2	**Cape Leeuwin H**	**36.08**	**159**	T	T	18 23 11.1	
	baz=335,slow=75,SNR=7.3						
H01W1	**Cape Leeuwin H**	**36.08**	**159**	T	T	18 23 06.5	
	baz=335,slow=75,SNR=6.2						
WRA	**Warramunga Arr**	**38.86**	**121**	P	**P**	**17 45 40.0**	**-2.1**
	0.3nm,0.7s,baz=299,slow=8.4,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**40.13**	**126**	P	**P**	**17 45 50.8**	**-1.9**
	0.2nm,0.8s,baz=304,slow=8.2,SNR=5.0						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**50.27**	**345**	P	**P**	**17 47 13.5**	**+0.6**
	0.3nm,0.6s,baz=166,slow=7.9,SNR=4.6						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**17 47 58.7**	**+0.6**
	0.3nm,0.5s,baz=164,slow=7.5,SNR=4.5						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.91**	**216**	T	T	18 54 03.6	
	baz=58,slow=75,SNR=48						
H04N1	**CROZET ISLANDS**	**60.92**	**216**	T	T	18 54 05.3	
	baz=58,slow=75,SNR=48						
H04N3	**CROZET ISLANDS**	**60.92**	**216**	T	T	18 54 02.9	
	baz=58,slow=75,SNR=47						
H04S1	**CROZET ISLANDS**	**61.21**	**215**	T	T	18 54 15.0	
	baz=57,slow=75,SNR=5.2						
H04S3	**CROZET ISLANDS**	**61.22**	**215**	T	T	18 54 19.4	
	baz=57,slow=75,SNR=8.0						
H04S2	**CROZET ISLANDS**	**61.23**	**215**	T	T	18 54 19.4	
	baz=57,slow=75,SNR=6.0						
TXAR	**Lajitas Array**	**144.60**	**36**	PKPbc	**PKPab**	**17 57 52.2**	**-0.3**
	0.2nm,0.6s,baz=293,slow=3.1,SNR=1.9						

*IDC **07** 17:48:18.9±2.8, 15°.28N×146°.03E, h102km±23km, mb3.6/11, mbtmp4.0/12, Error ellipse: s-maj=33.4km s-min=19.6km az=87.0*
*NEIC **07** 17:48:21.4±1.3, 15°.27N±0°.04×145°.8E±0°.1, h112km±4km, mb4.4/11, Error ellipse: s-maj=20.6km s-min=5.5km az=80.0*

ISC 07 17:48:19.1±1.1, **15°.3N**±0°.1×**146°.0E**±0°.2, **h100**km, **n34, σ1.02/30, mb4.2**/18, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.03**	**212**	Pn	**Pn**	**17 48 53.3**	**+1.1**
GUMO				Sn	**Sn**	**17 49 16.6**	**-0.8**
GUMO	**Guam**	**2.03**	**212**	P	**Pn**	**17 48 53.4**	**+1.3**
	56nm,0.3s,baz=351,slow=20,SNR=8.8						
GUMO				S	**Sn**	**17 49 17.3**	**-0.1**
	256nm,0.3s,baz=170,slow=22,SNR=13						
H11S3	**WAKE ISLAND Hy 20.07**	**78**		T	T	18 13 48.9	
	baz=265,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy 20.08**	**78**		T	T	18 13 50.6	
	baz=265,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy 20.09**	**78**		T	T	18 13 51.1	
	baz=265,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy 20.42**	**75**		T	T	18 14 12.9	
	baz=263,slow=75,SNR=6.1						
H11N2	**WAKE ISLAND Hy 20.43**	**75**		T	T	18 14 12.7	
	baz=263,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy 20.44**	**75**		T	T	18 14 08.8	
	baz=263,slow=75,SNR=6.3						
MTN	**Manton Dam**	**31.61**	**208**	P	**P**	**17 54 30.3**	**-2.4**
WB0	**Warramunga Arr**	**36.69**	**198**	P	**P**	**17 55 16.3**	**-0.3**
WB0				IAmb	IAmb	17 55 18.3	
	comp=Z,4.2nm,1.2s						
WR8	**Warramunga Arr**	**36.84**	**198**	P	**P**	**17 55 17.8**	**0.0**
WR8				IAmb	IAmb	17 55 25.3	
	comp=Z,7.0nm,1.3s						
WB2	**Warramunga Arr**	**36.87**	**198**	P	**P**	**17 55 18.2**	**+0.2**
WB2				IAmb	IAmb	17 55 55.5	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**36.87**	**198**	P	**P**	**17 55 17.4**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=17,slow=9.3,SNR=7.1						
	comp=Z,0.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.79**	**212**	P	**P**	**17 55 33.7**	**-0.6**
AS31	**Alice Springs**	**40.51**	**197**	P	**P**	**17 55 47.7**	**-0.9**
ASAR	**Alice Springs**	**40.51**	**197**	P	**P**	**17 55 47.5**	**-1.1**
ASAR	**Alice Springs**	**40.51**	**197**	P	**P**	**17 55 48.2**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=16,slow=7.2,SNR=4.6						
	comp=Z,0.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**45.01**	**281**	P	**P**	**17 56 25.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=93,slow=8.4,SNR=2.9						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**45.95**	**323**	P	**P**	**17 56 32.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=136,slow=3.8,SNR=5.5						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**60.85**	**324**	P	**P**	**17 58 19.8**	**-1.1**
ZALV	**Zalesovo Beam**	**60.85**	**324**	P	**P**	**17 58 20.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=88,slow=7.6,SNR=6.2						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**61.00**	**315**	P	**P**	**17 58 22.5**	**+0.4**
MKAR	**Makanchi Array**	**61.00**

SNOW IAML 18 06 53.5
comp=N,36nm,0.7s
YNR Norris Junctio 3.94 285 Pn 18 05 35.2 +2.8
YNR IAML 18 06 46.3
comp=E,30nm,0.3s
YPP Pitchstone Pla 3.97 279 Pn 18 05 34.2 +1.4
ISCO Idaho Springs 3.99 183 Pn 18 05 34.8 +1.7
ISCO IAML 18 06 40.4
comp=E,24nm,1.0s
YFT Old Faithful 4.01 281 Pn 18 05 35.2 +1.9
YHH Holmes Hill 4.08 286 Pn 18 05 35.9 +1.6
TPAW Teton Pass 4.08 268 Pn 18 05 36.2 +1.9
TPAW IAML 18 07 00.9
comp=E,53nm,1.0s
O20A White River Ci 4.24 212 IAML 18 06 45.0
comp=E,35nm,1.1s
O20A IAML 18 06 60.0
comp=E,37nm,1.6s
E28A Huff 4.31 48 Pn 18 05 38.0 +0.9
YHB Horse Butte 4.31 285 IAML 18 07 02.4
comp=N,18nm,0.9s
YHL Hebgen Lake 4.32 286 IAML 18 06 54.4
comp=N,26nm,1.2s
YHL IAML 18 07 14.0
comp=E,28nm,1.2s
K30B Basset 4.33 103 Pn 18 05 38.6 +1.1
RDMU Red Mountain 4.50 226 IAML 18 06 57.1
comp=E,35nm,1.0s
RDMU IAML 18 06 58.0
comp=N,21nm,1.2s
SUSD Miller 4.64 80 Pn 18 05 43.4 +1.6
DGMT Dagmar 4.75 9 Pn 18 05 44.8 +1.6
Q24A Divide 4.83 178 IAML 18 07 07.5
comp=N,15nm,1.0s
BOZ Bozeman (W) 4.83 294 IAML 18 07 04.4
comp=N,14nm,1.1s
BOZ IAML 18 07 07.6
comp=N,16nm,1.0s
HWUT Hardware Ranch 5.08 247 IAML 18 07 18.4
comp=N,24nm,1.0s
BSUT Blindstream Ca 5.17 233 IAML 18 07 25.9
comp=E,13nm,2.6s
BSUT IAML 18 07 34.7
comp=N,14nm,1.3s
KSCO Kaye Shedlock' 5.19 156 Pn 18 05 51.4 +2.0
P17A Butcher Ranch, 5.91 225 Pn **Pn 18 06 01.7 +2.3**
ECSD EROS Data Cent 6.32 88 Pn 18 06 05.2 +0.4
Q16A Castle Valley 6.55 224 Pn **Pn 18 06 07.7 -0.5**
JTMT Jette 7.40 305 Pn **Pn 18 06 21.7 +2.1**
RTBA Rita Blanca 7.61 164 Pn **Pn 18 06 23.0 +0.4**
I10CA LAC DU BONNET 9.03 42 I I 18 59 40.0
baz=227,slow=302,SNR=3.5
ULM Lac du Bonnet 9.14 42 Pn **Pn 18 06 43.4 0.0**
comp=N,2.4nm,0.3s,baz=236,slow=11,SNR=9.3
ULM Lg Lg 18 09 14.8
comp=N,0.5nm,0.3s,baz=128,slow=22,SNR=3.0
comp=N,5.4nm,0.3s
EPLO Experimental L 9.91 50 Pn **Pn 18 06 53.0 -1.0**
EYMN Ely 10.51 62 Pn **Pn 18 07 00.5 -1.7**
NVAR Mina Array Bea 11.14 246 Pn Pn 18 07 10.7 -0.4
comp=N,0.1nm,0.3s,baz=60,slow=14,SNR=1.8
comp=N,0.2nm,0.4s
CMIG Matias Romero 28.05 158 LR LR 18 24 47.3
comp=N,51nm,18.1s,baz=358,slow=44
ARCES ARCESS Array B 61.38 18 P P 18 14 46.4 -1.3
comp=N,2.7nm,0.9s,baz=324,slow=8.2,SNR=4.2
comp=N,2.7nm,0.9s
SIV San Ignacio 71.94 135 LR LR 18 50 35.8
comp=N,52nm,18.3s,baz=338,slow=39
MKAR Makanchi Array 89.55 355 P **P 18 17 29.8 +0.3**
comp=N,0.5nm,0.8s,baz=19,slow=5.3,SNR=2.7
comp=N,0.5nm,0.8s

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*AEIC **07** 18:10:02.4±1.1, 53°.57N±0°.08×164°.64W±0°.08, h37km±10km, Error ellipse: s-maj=11.3km s-min=5.8km az=161.0*

NEIC 07 18:10:02.9±1.1, 53°.54N±0°.06×164°.63W±0°.07, h35km±2km, ML2.6/18, ML2.3(AEIC), Error ellipse: s-maj=11.2km s-min=6.8km az=342.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.87**	**314**		Pn	18 10 17.8	-0.8
AKSA					Sn	18 10 29.9	-0.1
AKUT	**Akutan**	**0.90**	**312**		Pn	18 10 18.6	-0.4
AKUT					Sn	18 10 30.1	-0.6
AKUT				IAML		18 10 31.2	
	comp=N,141nm,0.5s						
AHB	**Akutan Harbor**	**0.91**	**310**		Pn	18 10 18.6	-0.5
AHB					Sn	18 10 31.4	+0.4
AKBBA	**Akutan Broad B**	**0.95**	**306**		Pn	18 10 19.3	-0.4
AKBBA					Sn	18 10 32.7	+0.6
ZRO	**Akutan Zero**	**0.97**	**305**		Pn	18 10 19.6	-0.4
ZRO					Sn	18 10 32.8	+0.3
AKMO	**Akutan Morgan**	**0.98**	**304**		Pn	18 10 19.7	-0.5
AKMO					Sn	18 10 33.2	+0.3
AKLV	**Akutan Long Va**	**1.00**	**309**		Pn	18 10 19.9	-0.6
LVA	**Lava Point**	**1.04**	**307**		Pn	18 10 20.9	0.0
LVA	**Lava Point**	**1.04**	**307**	IAML		18 10 43.1	
	comp=N,192nm,0.8s						
LVA				IAML		18 10 43.7	
	comp=E,112nm,0.8s						
AKGG	**Akutan Green G**	**1.04**	**310**		Pn	18 10 20.6	-0.4
WEBT	**Westdahl Beart**	**1.05**	**356**		Pn	18 10 20.6	-0.6
UNV	**Unalaska Valle**	**1.15**	**286**		Pn	18 10 22.6	+0.1
UNV					Sn	18 10 36.6	-0.5
UNV	**Unalaska Valle**	**1.15**	**286**	IAML		18 10 40.6	
	comp=E,93nm,0.5s						
UNV				IAML		18 10 40.8	
	comp=N,114nm,0.4s						
SSLS	**Shishaldin Sou**	**1.23**	**17**		Pn	18 10 22.7	-0.9
MNAT	**Makushin Natee**	**1.27**	**286**		Pn	18 10 24.2	+0.1
MREP	**Makushin Rep't**	**1.29**	**283**		Pn	18 10 24.1	-0.3
MSW	**Makushin Switc**	**1.33**	**287**		Pn	18 10 25.0	0.0
MSW					Sn	18 10 42.0	+0.5
MGOD	**Makushin Gods**	**1.36**	**282**		Pn	18 10 25.4	0.0
ISNN	**Isanotski Nort**	**1.39**	**21**		Pn	18 10 25.5	-0.3
MAPS	**Pakushin South**	**1.40**	**282**		Pn	18 10 26.2	+0.3
FALS	**False Pass**	**1.50**	**28**		Pn	18 10 27.7	+0.5
FALS					Sn	18 10 47.2	+1.7
DT1	**Dutton Round H**	**2.09**	**40**		Pn	18 10 35.4	0.0
DT1					Sn	18 11 01.0	+1.0
DOL	**Dolgoi Island**	**2.28**	**44**		Pn	18 10 38.0	0.0
NIKH	**Nikolski High**	**2.60**	**259**		Pn	18 10 43.1	+0.7
NIKH	**Nikolski High**	**2.60**	**259**	IAML		18 11 44.6	
	comp=N,51nm,1.2s						
NIKH				IAML		18 12 05.7	
	comp=E,34nm,1.1s						
S12K	**Black Hills**	**2.63**	**34**		Pn	18 10 43.3	+0.5
S12K	**Black Hills**	**2.63**	**34**	IAML		18 11 24.1	
	comp=E,23nm,1.1s						
S12K				IAML		18 11 27.2	
	comp=N,19nm,1.1s						
SDPT	**Sand Point**	**3.03**	**52**		Pn	18 10 48.5	+0.2
SDPT	**Sand Point**	**3.03**	**52**	IAML		18 11 46.7	
	comp=N,17nm,1.2s						
CLCO	**Concord Point,**	**3.16**	**258**		Pn	18 10 50.0	-0.1
CNBA	**Chernabura Isl**	**3.23**	**65**		Pn	18 10 50.6	-0.4
CHGN	**Chignik**	**4.53**	**50**	Pn	Pn	18 11 08.0	-0.9
O15K	**Ungalikthiuk R**	**6.25**	**23**	Pn	Pn	18 11 33.1	+0.6
OHAK	**Old Harbor**	**7.44**	**56**	Pn	Pn	18 11 48.9	+0.1

IDC 07 18:25:40.3±2.8, 6°.68S×128°.60E, h0km, mb3.5/1, mbtmp3.6/3, ML3.6/2, MS3.3/1, Error ellipse: s-maj=302.1km s-min=31.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.31**	**158**	Pn	Pn	18 29 03.7	-0.6
	0.2nm,0.3s,baz=333,slow=13,SNR=15						
WRA				Sn	Sn	18 31 30.1	-14
	0.6nm,0.3s,baz=330,slow=23,SNR=9.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.64**	**164**	P	Pn	18 29 48.0	+0.3
	0.4nm,0.3s,baz=348,slow=11,SNR=24						
ASAR				S	Sn	18 32 57.8	-7.1
	0.3nm,0.6s,baz=359,slow=28,SNR=4.7						
	0.8nm,0.4s						
BRDH	**Bariadhala**	**46.47**	**310**	LR	LR	18 55 17.8	
	comp=Z,30nm,18.1s,baz=296,slow=38						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	18 36 36.4	0.0
	0.3nm,0.5s,baz=111,slow=7.8,SNR=5.4						
	0.3nm,0.5s						

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*DJA **07** 18:37:58.8±0.2, 0°.S±2°×9°.9E±°, h73km±5km, M4.5/28, mB5.1/7, mb4.5/16, MLv4.7/28, Mw(mB)4.4/7*
*NEIC **07** 18:37:59.0±1.3, 0°.37S±0°.08×99°.03E±0°.08, h76km±6km, mb4.6/25, Error ellipse: s-maj=12.8km s-min=9.3km az=223.0*
*IDC **07** 18:37:59.0±3.2, 0°.34S×99°.17E, h79km±27km, mb3.9/17, mbtmp4.2/20, MS3.2/4, Error ellipse: s-maj=27.4km s-min=14.1km az=46.0*

ISC 07 18:37:56.5±0.4, 0°.34S±0°.04×99°.10E±0°.04, h53km, n122, σ2°.20/113, mb4.5/31, 6C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.87**	**289**	P	Pn	18 38 16.3	+3.7
PBSI				S	Sn	18 38 29.0	+4.6
SISI	**Saibi**	**0.98**	**181**	P	Pn	18 38 17.2	+3.2
SISI				S	Sn	18 38 31.1	+4.2
MNSI	**Mandailing Nat**	**1.23**	**23**	P	Pn	18 38 20.8	+3.4
PPI	**Padang Panjang**	**1.30**	**95**	P	Pn	18 38 22.6	+4.3
PDSI	**Padang**	**1.47**	**113**	P	Pn	18 38 24.0	+3.3
SBSI	**Sibolga**	**1.89**	**353**	P	Pn	18 38 27.5	+1.1
BKNI	**Bangkinang**	**2.05**	**71**		Pn	18 38 31.2	+2.7
BKNI	**Bangkinang**	**2.05**	**71**	P	Pn	18 38 31.5	+3.0
BKNI	**Bangkinang**	**2.05**	**71**	P	Pn	18 38 32.4	+3.9
GSI	**Gunungsitoli**	**2.24**	**317**		Pn	18 38 33.5	+2.3
GSI				Sn	Sn	18 38 58.6	+1.0
GSI	**Gunungsitoli**	**2.24**	**317**	P	Pn	18 38 33.8	+2.6
GSI	**Gunungsitoli**	**2.24**	**317**	P	Pn	18 38 33.5	+2.3
PPSI	**Pulau Pagai**	**2.57**	**159**	P	Pn	18 38 37.8	+2.1
KRJI	**Kerinci**	**2.93**	**126**	P	Pn	18 38 45.6	+4.9
RPSI	**Rantau Prapat**	**3.02**	**357**		Pn	18 38 44.7	+2.8
PSI	**Prapat**	**3.13**	**357**	P	Pn	18 38 44.6	+1.2
	210nm,0.7s,baz=162,slow=8.5,SNR=204						
PSI	**Prapat**	**3.13**	**357**	P	Pn	18 38 44.9	+1.4
SNSI	**Sinabang, Aceh**	**3.90**	**315**	P	Pn	18 38 55.8	+1.9
KCSI	**Kotacane, Aceh**	**4.06**	**341**	P	Pn	18 38 57.7	+1.5
MASI	**Maura Aman, Be**	**4.19**	**132**	P	Pn	18 39 01.1	+3.2
KSI	**Kapahiang**	**4.79**	**133**	P	Pn	18 39 09.1	+2.9
BTDF	**Bukit Timah Da**	**4.97**	**70**	P	Pn	18 39 12.3	+3.7
IPM	**Ipoh**	**5.16**	**22**		Pn	18 39 14.8	+3.5
IPM	**Ipoh**	**5.16**	**22**	P	Pn	18 39 15.3	+4.0
MYKOM	**Kota Tinggi**	**5.20**	**66**		Pn	18 39 15.5	+3.8
MYKOM				Sn	Sn	18 40 10.0	-0.4
MYKOM	**Kota Tinggi**	**5.20**	**66**	P	Pn	18 39 15.6	+3.9
MLSI	**Meulaboh, Aceh**	**5.32**	**330**	P	Pn	18 39 15.2	+1.8
	1.3nm5μm60nm,0.8s						
DSRI	**Dabo**	**5.47**	**91**	P	Pn	18 39 18.8	+3.2
	0.2nm552nm21nm,0.5s						
MNAI	**Manna**	**5.54**	**136**	Pn	Pn	18 39 19.1	+2.7
MNAI	**Manna**	**5.54**	**136**	P	Pn	18 39 19.2	+2.7
MNAI	**Manna**	**5.54**	**136**	P	Pn	18 39 19.2	+2.7
TPRI	**Tanjung Pinang**	**5.56**	**77**	P	Pn	18 39 20.3	+3.5
	0.3nm29nm,0.5s						
LHSI	**Lahat**	**5.61**	**128**	P	Pn	18 39 20.2	+2.8
	0.4nm1μm39nm,0.9s						
KULM	**Kulim**	**5.80**	**15**		Pn	18 39 22.5	+2.4
KULM	**Kulim**	**5.80**	**15**	P	Pn	18 39 22.9	+2.8
LHMI	**Lhok Sumawe**	**5.94**	**339**	Pn	Pn	18 39 24.6	+2.6
LHMI	**Lhok Sumawe**	**5.94**	**339**	P	Pn	18 39 24.8	+2.9
LHMI	**Lhok Sumawe**	**5.94**	**339**	P	Pn	18 39 25.1	+3.2
	0.3nm66nm,0.7s						
MDSI	**Maura Dua**	**6.53**	**129**	P	Pn	18 39 33.2	+3.2
	0.2nm27nm,0.8s						
LWLI	**Liwa**	**6.79**	**133**	P	Pn	18 39 35.8	+2.2
	51nm,0.6s						
KASI	**Kota Agung**	**7.45**	**134**	P	Pn	18 39 44.4	+1.8
	0.5nm39nm,1.2s						
TPI	**Tanjungpandan**	**8.88**	**106**	P	Pn	18 40 06.2	+4.0
	9.0nm,0.7s						
CGJI	**Cibinong**	**9.05**	**134**	P	Pn	18 40 06.8	+2.2
	44nm,1.7s						
LEM	**Lembang**	**10.66**	**127**	LR	LR	18 45 03.6	
	comp=Z,63nm,19.9s,baz=236,slow=40						
BBJI	**Bungbulang**	**11.07**	**130**	P	Pn	18 40 35.4	+3.1
JAGI	**Jajag, Banyuwa**	**17.03**	**119**	P	P	18 41 52.4	+0.1
CMAR	**Chiang Mai Arr**	**18.68**	**360**	P	Pn	18 42 11.0	-0.4
	1.9nm,0.8s,baz=192,slow=12,SNR=22						
CMAR				LR	LR	18 49 10.7	
	comp=Z,46nm,18.7s,baz=190,slow=36						
CHTO	**Chiang Mai**	**19.04**	**360**		Pn	18 42 14.9	-0.7
PALK	**Pallekele**	**19.85**	**293**	P	P	18 42 23.3	-0.1
PALK	**Pallekele**	**19.85**	**293**	P	Pn	18 42 25.5	+0.2
	13nm,0.9s,baz=95,slow=6.9,SNR=4.9						
PALK				LR	LR	18 50 16.0	
	comp=Z,45nm,18.6s,baz=355,slow=37						
PZH	**PanZhiHua**	**26.81**	**5**	P	P	18 43 34.7	+2.7
H08S2	**Diego Garcia H**	**27.50**	**254**	T	T	19 11 52.0	
	baz=77,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**27.51**	**254**	T	T	19 11 52.2	
	baz=77,slow=76,SNR=35						
H08S1	**Diego Garcia H**	**27.52**	**254**	T	T	19 11 53.3	
	baz=77,slow=76,SNR=28						
NJ2	**Nanjing**	**37.24**	**28**	*e*P	P	18 45 05.2	+2.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA	**Gaotai**	**39.57**	**1**	*e*P	P	18 45 24.6	+1.9
GTA				pP	sP	18 45 47.5	+4.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**39.61**	**122**	P	P	18 45 22.5	-0.7
	comp=Z,0.4nm,0.9s,baz=311,slow=8.7,SNR=7.1						
WRA				PcP	**PcP**	18 47 29.2	-0.4
	comp=Z,0.4nm,0.7s,baz=310,slow=3.0,SNR=2.6						
	comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**40.95**	**127**	P	P	18 45 33.6	-0.7
	comp=Z,0.5nm,0.8s,baz=297,slow=7.5,SNR=12						
ASAR				PcP	**PcP**	18 47 33.9	-0.1
	comp=Z,0.4nm,0.8s,baz=292,slow=2.3,SNR=2.7						
	comp=Z,0.5nm,0.8s						
NIL	**Nilore**	**41.64**	**327**	P	P	18 45 38.8	-1.0
NIL				IAmb	IAmb	18 45 40.5	
	comp=Z,7.6nm,0.8s						
AIS	**Amsterdam Isla**	**42.23**	**206**	P	P	18 45 43.8	-0.7
HHC	**Hu-ho-hao-te**	**42.54**	**14**	*e*P	P	18 45 50.5	+3.4
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
KSH	**Kashi**	**44.96**	**335**	P	P	18 46 05.9	-0.7
WMQ	**Urumqi**	**45.14**	**348**	*e*P	P	18 46 09.3	+1.4
WMQ				LR	LR		
	comp=Z,170nm,16.5s						
KSRS	**Korea Array**	**46.08**	**32**	P	P	18 46 12.9	-2.4
	comp=Z,1.5nm,0.8s,baz=219,slow=8.5,SNR=4.6						
	comp=Z,1.5nm,0.8s						
KDJ	**Kajisay**	**46.68**	**338**	P	P	18 46 19.6	-0.6
DRK	**Karamyk**	**46.85**	**331**	P	P	18 46 22.1	+0.4
CHGR	**Chuyangaron**	**47.57**	**328**		P	18 46 26.5	-0.6
CHGR				IAmb	IAmb	18 46 28.0	
	comp=Z,17nm,1.5s						
ARSB	**Arslanbob**	**47.75**	**333**		P	18 46 28.7	+0.2
ARSB				IAmb	IAmb	18 46 30.4	
	comp=Z,9.9nm,1.0s						
SONM	**Songino Array**	**48.40**	**7**	P	P	18 46 34.2	+0.8
SONM	**Songino Array**	**48.40**	**7**	P	P	18 46 34.5	+1.0
	comp=Z,2.9nm,0.5s,baz=190,slow=9.3,SNR=21						
	comp=Z,2.9nm,0.5s						
MKAR	**Makanchi Array**	**49.20**	**345**		P	18 46 39.4	0.0
MKAR	**Makanchi Array**	**49.20**	**345**	P	P	18 46 39.9	+0.4
	comp=Z,5.5nm,0.7s,baz=156,slow=8.9,SNR=47						
	comp=Z,5.5nm,0.7s						
KK31	**Karatay Array**	**50.28**	**333**	P	P	18 46 47.1	-0.6
KK31				IAmb	IAmb	18 47 09.9	
	comp=Z,6.0nm,1.4s						
KKAR	**Karatay Array**	**50.28**	**333**	P	P	18 46 47.7	0.0
USRK	**Ussuriysk Ar.**	**53.14**	**29**	P	P	18 47 08.6	-0.3
	comp=Z,2.4nm,0.6s,baz=237,slow=4.0,SNR=2.6						
	comp=Z,2.4nm,0.6s						
KURBB	**Kurchatov Arra**	**53.72**	**344**	P	P	18 47 12.8	-0.2
	comp=Z,4.4nm,0.8s,baz=164,slow=7.2,SNR=37						
	comp=Z,4.4nm,0.8s						
KURK	**Kurchatov**	**53.78**	**344**		P	18 47 13.1	-0.4
KURK				IAmb	IAmb	18 47 15.0	
	comp=Z,4.9nm,0.8s						
ZAA0	**Zalesovo Array**	**55.39**	**350**	IAmb	IAmb	18 47 26.0	
	comp=Z,7.9nm,1.0s						
ZALV	**Zalesovo Beam**	**55.39**	**350**		P	18 47 24.5	-0.6
ZALV	**Zalesovo Beam**	**55.39**	**350**	P	P	18 47 24.9	-0.2
	comp=Z,8.5nm,0.7s,baz=181,slow=6.3,SNR=32						
	comp=Z,8.5nm,0.7s						
BVAR	**Borovoye Array**	**58.33**	**340**	P	P	18 47 45.3	-0.7
	comp=Z,3.1nm,0.6s,baz=140,slow=9.2,SNR=16						
	comp=Z,3.1nm,0.6s						
AB31	**Akbulak array**	**59.77**	**331**	IAmb	IAmb	18 47 56.1	
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**59.77**	**331**		P	18 47 55.0	-1.0
H04N2	**CROZET ISLANDS**	**61.60**	**215**	T	T	19 54 13.2	
	baz=57,slow=75,SNR=62						
H04N1	**CROZET ISLANDS**	**61.61**	**216**	T	T	19 54 13.7	
	baz=57,slow=75,SNR=69						
H04N3	**CROZET ISLANDS**	**61.62**	**215**	T	T	19 54 07.0	
	baz=57,slow=75,SNR=67						
H04S1	**CROZET ISLANDS**	**61.91**	**215**	T	T	19 54 24.2	
	baz=57,slow=75,SNR=4.9						
H04S3	**CROZET ISLANDS**	**61.92**	**215**	T	T	19 54 34.4	
	baz=57,slow=75,SNR=7.1						
H04S2	**CROZET ISLANDS**	**61.93**	**215**	T	T	19 54 28.8	
	baz=57,slow=75,SNR=5.6						
GURO	**Guroymak-BITLI**	**65.01**	**313**	P	P	18 48 31.7	+0.2
GURO				IAmb	IAmb	18 48 32.7	
	comp=Z,6.7nm,0.9s						
ARTI	**Arti**	**65.38**	**336**	P	P	18 48 31.9	-1.4
MARD	**Mardin**	**65.48**	**312**		P	18 48 34.4	-0.2
KBZ	**Khabaz**	**66.48**	**319**	P	P	18 48 40.3	-0.3
	comp=Z,3.0nm,0.8s,baz=135,slow=7.8,SNR=7.0						
	comp=Z,3.0nm,0.8s						
MMAI	**Mount Meron Ar**	**68.34**	**306**	P	P	18 48 53.2	+0.4
	comp=Z,2.3nm,0.7s,baz=72,slow=4.7,SNR=1.5						
	comp=Z,2.3nm,0.7s						
BR131	**Keskin Array S**	**71.55**	**312**	P	P	18 49 11.2	-1.2
BRTR	**Keskin Array B**	**71.55**	**312**	P	P	18 49 11.0	-1.4
BRTR	**Keskin Array B**	**71.55**	**312**	P	P	18 49 11.2	-1.2
	comp=Z,1.2nm,0.6s,baz=139,slow=6.5,SNR=8.2						
	comp=Z,1.2nm,0.6s						
TPGR	**Topolog**	**76.64**	**316**	⇑P	P	18 49 41.5	-0.4
SCHLR	**Schela**	**77.19**	**317**	⇓P	P	18 49 36.7	-8.2
SORM	**Soroca**	**77.50**	**320**	⇑P	P	18 49 46.1	-0.5
AKASG	**Malin Array Be**	**77.64**	**322**	P	P	18 49 47.0	-0.2
	comp=Z,0.7nm,0.6s,baz=78,slow=4.9,SNR=1.2						
	comp=Z,0.7nm,0.6s						
ELND	**Elena**	**78.00**	**314**	⇑P	P	18 49 49.9	+0.4
VRI	**Vrincioaia**	**78.04**	**317**	⇑P	P	18 49 49.7	+0.1
PLOR	**Plostina**	**78.09**	**317**	⇓P	P	18 49 49.4	-0.5
MLR	**Muntele Rosu**	**78.49**	**317**	P	P	18 49 50.4	-1.8
MLR				IAmb	IAmb	18 49 53.3	
	comp=Z,6.9nm,1.0s						
MLR	**Muntele Rosu**	**78.49**	**317**	⇑P	P	18 49 52.7	+0.4
BURAR	**Bucovina Array**	**79.43**	**319**	P	P	18 49 57.6	+0.2
BURAR				IAmb	IAmb	18 49 59.1	
	comp=Z,4.9nm,0.9s						
BURAR	**Bucovina Array**	**79.43**	**319**	⇑P	P	18 49 58.3	+0.9
BUR08	**Bucovina Ar. S**	**79.45**	**319**	P	P	18 49 56.9	-0.6
BUR08				IAmb	IAmb	18 49 58.8	
	comp=Z,5.8nm,0.9s						
MARR	**Marisel-Cluj**	**80.65**	**317**	⇓P	P	18 50 04.3	+0.4
SURR	**Surduc**	**81.17**	**316**	⇓P	P	18 50 06.8	+0.2
MDVR	**Moldovita**	**81.30**	**315**	⇓P	P	18 50 06.1	-1.3
FINES	**FINESS Array B**	**82.24**	**332**	P	P	18 50 11.5	-0.3
	comp=Z,1.7nm,0.4s,baz=108,slow=5.8,SNR=22						
	comp=Z,1.7nm,0.4s						
VNDA	**Vanda**	**83.95**	**169**	P	P	18 50 17.7	-2.8
ARCES	**ARCESS Array B**	**84.62**	**340**	P	P	18 50 24.0	0.0
	comp=Z,1.2nm,0.7s,baz=108,slow=5.5,SNR=7.4						
ARCES				LR	LR	19 33 33.1	
	comp=Z,79nm,19.2s,baz=254,slow=39						
	comp=Z,1.2nm,0.7s						
GERES	**GERESS Array B**	**87.22**	**319**	P	P	18 50 36.8	-0.6
	comp=Z,0.7nm,0.8s,baz=75,slow=5.7,SNR=5.5						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**88.00**	**330**	P	P	18 50 40.2	-0.5
	comp=Z,3.4nm,0.8s,baz=90,slow=3.2,SNR=7.8						
	comp=Z,3.4nm,0.8s						
TXAR	**Lajitas Array**	**143.90**	**35**	PKP	PKPbc	18 57 24.4	-0.2
	comp=Z,0.8nm,0.8s,baz=328,slow=1.6,SNR=4.5						
JCT	**Junction City**	**145.06**	**29**		**PKPbc**	**18 57 23.1**	**-5.1**
W52A	**Murphy**	**145.31**	**4**	PKPdf	**PKPbc**	**18 57 24.3**	**-4.6**
DRIO	**Del Rio**	**145.50**	**31**	PKPdf	**PKPdf**	**18 57 26.7**	**-2.8**
X48A	**Hartselle**	**145.58**	**9**	PKPdf	**PKPdf**	**18 57 27.8**	**-1.7**

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*SGS **07** 18:46:10.9, 31°.58N×35°.00E, h7km, Ml3.2*
*GRAL **07** 18:46:10.3±0.3, 30°.74N×35°.89E, h0km±47km, MD3.7*
*GII **07** 18:46:15.7±0.0, 31°.16N×35°.48E, h7km, Mws2.8, confirmed*
*JSO **07** 18:46:15.3±0.2, 31°.N±2°.×3°.6E±°, h5km±2km, M3.3/20, Md3.6/19, ML3.2/19, MLv3.2/20, MLv3.2/20*

ISC 07 18:46:15.6±0.8, 31°.16N±0°.01×35°.53E±0°.02, h14km±5km, n115, σ0°.68/119, 8C-7D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LISJ	**El Lisan**	**0.09**	**332**	P	Pg	18 46 18.2	-0.3
LISJ				S	Sg	18 46 20.2	-0.4
NVZR	**Neve Zohar**	**0.14**	**268**	⇑P	Pg	18 46 18.9	-0.3
GHAJ	**Ghor Haditha**	**0.15**	**12**	P	Pg	18 46 19.1	-0.2
GHAJ	**Ghor Haditha**	**0.15**	**12**	⇑P	Pg	18 46 19.2	-0.1
MDBI	**Mazsada**	**0.21**	**316**	P	Pg	18 46 20.0	-0.3
MDBI	**Mazsada**	**0.21**	**316**	⇓P	Pg	18 46 19.9	-0.3
MSBI	**Mazada**	**0.21**	**316**	⇓P	Pg	18 46 20.1	-0.2
MSBI	**Mazada**	**0.21**	**316**	S	Sg	18 46 23.8	+0.3
NTKR	**Neot Hakikar**	**0.26**	**211**	P	Pb	18 46 21.8	-0.3
ARADI	**Arad**	**0.28**	**289**	P	Pg	18 46 21.2	-0.4
KEGD	**Kibutz Ein-Ged**	**0.32**	**337**	⇓P	Pb	18 46 22.4	-0.7
IDAN	**Idan**	**0.39**	**214**	⇑P	Pg	18 46 23.6	+0.1
YTIR	**Yattir**	**0.41**	**300**	P	Pg	18 46 23.4	-0.4
YTIR	**Yattir**	**0.41**	**300**	⇓P	Pg	18 46 23.5	-0.3
YTIR	**Yattir**	**0.41

SAMR	Samar	1.39	198	P	Pn	18 46 41.1	+0.4
SAMR	Samar	1.39	198	S	Sg	18 47 00.4	-0.2
ELFZ	Elifaz	1.43	198	P	Pn	18 46 41.4	+0.2
ELFZ	Elifaz	1.43	198	S	Sg	18 47 01.2	-0.4
MBRI	Mt Berech	1.46	202	P	Pn	18 46 41.6	-0.2
MBRI	Mt Berech	1.46	202	P	Pn	18 46 41.5	-0.2
MBRI	Mt Berech	1.46	202	S	Sn	18 47 01.2	+0.5
AQBJ	Aqaba	1.49	196	P	Pn	18 46 42.3	+0.3
OFRI	`Ofer	1.53	342	P	Pn	18 46 43.2	+0.6
OFRI	`Ofer	1.53	342	P	Pn	18 46 42.7	+0.1
OFRI	`Ofer	1.53	342	S	Sg	18 47 04.1	-0.8
ASF	Jabal al Asfar	1.54	49	P	Pn	18 46 42.6	-0.2
EIL	Elat	1.57	199	P	Pn	18 46 43.1	0.0
EIL	Elat	1.57	199	S	Sb	18 47 04.5	+0.4
QREAT	Al Qurrayyat	1.78	78	S	Sg	18 47 12.4	-0.4
QREAT	Al Qurrayyat	1.78	78	P	Pb	18 46 47.8	-0.3
KSHT	Keshet	1.83	7	P	Pn	18 46 47.1	+0.2
HQLS		1.90	192	P	Pn	18 46 47.5	-0.2
HQLS		1.90	192	S	Sb	18 47 15.1	+1.4
JMOS	Jabal al Moall	2.02	191	S	Sb	18 47 18.6	+1.5
JMOS				P	Pn	18 46 49.4	+0.1
GEM	Giv'at Ha'Em	2.05	3	P	Pn	18 46 50.3	+0.6
NATI	Neve Ativ	2.10	5	P	Pn	18 46 51.0	+0.6
HAQS	Haql	2.17	194	S	Sg	18 47 27.0	+1.7
HAQS	Haql	2.17	194	P	Pg	18 46 56.3	-0.9
SHBL	Chebaa	2.19	5	*eP*	Pn	18 46 52.4	+0.6
SHBL				*eS*	Sb	18 47 23.6	+1.4
RCY	Rachaya	2.34	6	*eP*	Pn	18 46 54.4	+0.4
QRWL	Qaraoun	2.38	3	*eP*	Pn	18 46 55.2	+0.8
HANO	Al Hamad	2.41	84	S	Sg	18 47 30.9	-2.2
HANO	Al Hamad	2.41	84	P	Pn	18 46 55.2	+0.5
DQRL	Deir Qamar	2.54	1	*eP*	Pn	18 46 57.5	+0.9
DQRL				*eS*	Sb	18 47 32.4	+0.1
ZAHL	Zahle	2.71	6	*eP*	Pn	18 46 59.4	+0.5
BHL	Bhannes	2.74	2	*eP*	Pn	18 47 00.1	+0.8
BDAS	Al Bad`	2.75	188	S	Sg	18 47 41.5	-2.4
BDAS	Al Bad`	2.75	188	P	Pn	18 46 58.4	-0.9
AYUS	`Aynunah	2.97	184	P	Pb	18 47 08.3	0.0
TBKS	Tabuk	3.06	163	P	Pn	18 47 03.6	0.0
WTBKS	WTBKS	3.08	174	P	Pn	18 47 04.6	+0.5
HWQ	Hawqa	3.13	6	*eP*	Pn	18 47 05.1	+0.4
JOFS	JOFS	3.18	122	P	Pn	18 47 05.1	-0.2
URD10	Hayder	3.28	155	P	Pn	18 47 06.6	-0.1
BEIL	Beino	3.42	9	*eP*	Pn	18 47 08.8	+0.2
URD12	Shuwaq	3.64	158	P	Pn	18 47 12.4	+0.7

IDC 07 19:04:23.8±3.2, 33°.50S×178°.82W, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=71.6km s-min=36.6km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.79	214	Pn	Pn	19 05 51.6	+0.7
URZ	2.6nm,0.3s,baz=258,slow=4.1,SNR=12			Sn	Sn	19 06 56.5	-1.5
	2.3nm,0.3s,baz=151,slow=20,SNR=6.7 8.6nm,0.3s						
ASAR	Alice Springs	42.35	271	P	P	19 12 20.2	+0.4
	0.6nm,0.7s,baz=116,slow=8.0,SNR=9.5 0.6nm,0.7s						
WRA	Warramunga Arr	43.62	276	P	P	19 12 29.7	-0.4
	0.7nm,0.5s,baz=117,slow=7.9,SNR=14 0.7nm,0.5s						
FINES	FINESS Array B	147.78	338	PKPbc	PKPbc	19 24 08.8	-0.9
	0.6nm,0.5s,baz=46,slow=4.0,SNR=4.4						

IDC 07 19:12:05.9±1.1, 47°.68N×155°.07E, h0km, mb3.9/15, mbtmp3.9/17, ML3.1/2, Error ellipse: s-maj=29.0km s-min=19.2km az=113.0

ISC 07 19:12:09.0±1.1, 47°.6N±0°.1×155°.1E±0°.2, h21km, n20, σ1§29/18, mb4.0/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.75	16	Pn	Pn	19 13 31.7	-1.3
PETK	0.5nm,0.3s,baz=195,slow=14,SNR=3.0			Sn	Sn	19 14 41.1	+2.8
	baz=80,slow=11 2.8nm,0.6s						
ASAJ	Asahikawa	9.42	253	Pn	Pn	19 14 24.3	+0.9
	0.4nm,0.3s,baz=79,slow=15,SNR=4.5 7.9nm,0.9s						
KSRS	Korea Array	22.37	253	P	P	19 17 05.9	+0.3
	1.9nm,1.0s,baz=66,slow=12,SNR=4.2 1.9nm,1.0s						
H11S1	WAKE ISLAND Hy	30.52	158	T	T	19 51 11.8	
	baz=344,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	30.53	158	T	T	19 51 05.4	
	baz=344,slow=76,SNR=9.8						
H11S2	WAKE ISLAND Hy	30.54	158	T	T	19 51 20.5	
	baz=344,slow=76,SNR=11						
ZALV	Zalesovo Beam	43.24	306	P	P	19 20 06.5	-1.9
	0.3nm,0.3s,baz=81,slow=8.9,SNR=2.2 0.3nm,0.3s						
MKAR	Makanchi Array	47.78	298	P	P	19 20 43.3	-1.1
	0.4nm,0.5s,baz=54,slow=7.4,SNR=3.0 0.4nm,0.5s						
KURBB	Kurchatov Arra	48.14	304	P	P	19 20 45.7	-1.5
	1.4nm,0.5s,baz=67,slow=8.4,SNR=9.0 1.4nm,0.5s						
BVAR	Borovoye Array	51.38	310	P	P	19 21 10.7	-1.1
	1.0nm,0.3s,baz=53,slow=8.5,SNR=12 1.0nm,0.3s						
FINES	FINESS Array B	63.85	335	P	P	19 22 38.7	-0.6
	1.4nm,0.6s,baz=33,slow=6.2,SNR=13 1.4nm,0.6s						
ULM	Lac du Bonnet	64.97	42	P	P	19 22 46.1	-0.7
	2.5nm,0.5s,baz=328,slow=9.5,SNR=2.2 2.5nm,0.5s						
NOA	NORSAR Array B	67.86	342	P	P	19 23 05.1	-0.2
	0.8nm,0.8s,baz=41,slow=4.8,SNR=3.3 0.8nm,0.8s						
HFS	Hagfors	68.13	340	P	P	19 23 07.0	+0.1
	1.5nm,0.7s,baz=64,slow=3.4,SNR=5.8 1.5nm,0.7s						
WRA	Warramunga Arr	69.79	201	P	P	19 23 17.8	+0.2
	0.3nm,0.8s,baz=10,slow=6.0,SNR=2.1 0.3nm,0.8s						
AKASG	Malin Array Be	71.60	327	P	P	19 23 27.5	-0.8
	1.2nm,0.7s,baz=31,slow=5.6,SNR=3.1 1.2nm,0.7s						
ASAR	Alice Springs	73.47	200	P	P	19 23 40.4	+0.7
	0.3nm,0.7s,baz=12,slow=5.3,SNR=4.8 0.3nm,0.7s						
EKA	Eskdalemuir Ar	75.82	347	P	P	19 23 53.8	+0.7
	1.7nm,0.8s,baz=24,slow=6.2,SNR=1.6 1.7nm,0.8s						
BRTR	Keskin Array B	78.70	318	P	P	19 24 10.7	+1.0
	1.0nm,0.8s,baz=52,slow=2.6,SNR=3.8 1.0nm,0.8s						
MMAI	Mount Meron Ar	83.27	313	P	P	19 24 35.8	+1.8
	0.6nm,0.5s,baz=35,slow=7.9,SNR=1.8 0.6nm,0.5s						

IDC 07 19:36:43.7±4.8, 6°.16S×148°.39E, h0km, mb3.4/3, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=128.2km s-min=32.6km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.44	201	Pn	Pn	19 37 40.3	+1.7
PMG	8.7nm,0.3s,baz=20,slow=10,SNR=11			Sn	Sn	19 38 13.8	-6.4
	1.3nm,0.3s,baz=17,slow=22,SNR=1.1						
WRA	Warramunga Arr	19.34	224	P	P	19 41 09.6	-1.2
	0.1nm,0.3s,baz=48,slow=10,SNR=5.1 0.2nm,0.4s						
ASAR	Alice Springs	22.29	217	P	P	19 41 42.6	-0.3
	1.0nm,0.5s,baz=52,slow=9.3,SNR=13 1.0nm,0.5s						
FITZ	Fitzroy Crossi	25.16	240	P	P	19 42 10.7	-0.3
	0.6nm,0.4s,baz=68,slow=6.9,SNR=1.5 0.6nm,0.4s						
MKAR	Makanchi Array	78.50	320	P	P	19 48 47.4	+0.5
	0.1nm,0.4s,baz=104,slow=4.6,SNR=1.0 0.1nm,0.4s						

AUST 07 19:50:56.0±0.8, 17°S±8°, 12°1E±°, h10km, mb3.6/3, ML2.7/4, Error ellipse: s-maj=21.1km s-min=7.7km az=143.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	Eighty Mile Be	2.24	175	P	Pn	19 51 34.5	+1.4
FITZ	Fitzroy Crossi	4.27	105	P	Pn	19 52 01.1	-0.1
MBWA	Marble Bar	4.37	200	P	Pn	19 52 02.4	-0.1
MBWA				S	Sn	19 52 48.8	-4.8
PSAD1	Pilbara Seismi	4.62	197	P	Pn	19 52 05.6	-0.3
PSAC1	Pilbara Seismi	4.70	197	P	Pn	19 52 06.8	-0.3
PSAC1				S	Sn	19 52 55.9	-5.8
PSAC2	Pilbara Seismi	4.70	196	P	Pn	19 52 07.2	+0.1
PSA00	Pilbara Seismi	4.73	197	P	Pn	19 52 07.0	-0.4
PSA00				S	Sn	19 52 56.6	-5.8
PSAB3	Pilbara Seismi	4.75	197	P	Pn	19 52 07.8	+0.1
PSAD3	Pilbara Seismi	4.81	197	P	Pn	19 52 08.4	-0.2
KNRA	Kununurra	7.29	80	P	Pn	19 52 42.7	+0.1
	comp=Z,0.0nmcomp=Z,8.0nm,1.7s						
KNRA				S	Sn	19 53 59.4	-6.0
GIRL	Giralia	8.69	229	P	Pn	19 53 01.6	-0.1
	comp=Z,37nm,1.3s,comp=Z,0.1nm						
MEEK	Meekatharra	9.89	194	P	Pn	19 53 18.1	-0.1
CVQOZ	Cooralya Stati	10.01	221	P	Pn	19 53 09.7	-10
WRKA	Warakurna	10.30	142	P	Pn	19 53 23.1	-0.9
	comp=Z,2.5nm,2.1s,comp=Z,0.0nm						
MTN	Manton Dam	10.37	68	P	Pn	19 53 25.0	+0.1

MOS 07 20:09:28.3±1.0, 5°.93S×102°.38E, h10km, mb5.4/60, MS4.4/6, Error ellipse: s-maj=8.4km s-min=4.2km az=116.3

IDC 07 20:09:30.2±0.4, 5°.92S×102°.43E, h0km, mb5.0/35, mbtmp4.9/37, ML4.5/2, MS4.3/48, Error ellipse: s-maj=15.4km s-min=10.1km az=57.0

DJA 07 20:09:32.0±0.6, 6°S±2°×10°2E±°, h14km±4km, M5.2/102, mb5.5/102, mB5.7/71, MLv5.7/31, Mw(mB)5.2/71, MwMwp4.7/11, Mwp5.0/11

NEIC 07 20:09:33.3±1.8, 6°.02S±0°.03×102°.27E±0°.07, h20km±3km, mb5.3/112, Mww5.1/12, Error ellipse: s-maj=9.6km s-min=3.7km az=96.0

NEIC 07 20:09:35, 6°.22S×102°.40E, h36km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16 Nm; Mrr=1.04; Mθθ=1.43; Mφφ2.48; Mrθ2.40; Mθφ-4.87; Mφr-1.55; Fault plane solution: M0 6.04000×10^16 NP1: φs192.42000°, δ63.22000°, λ0.72000°. NP2: φs102.09000°, δ89.36000°, λ153.22000°. Principal axes: T 6.6786, Plg19.0000°, Azm54.0000°; N -1.5838, Plg63.0000°, Azm281.0000°; P -5.0948, Plg18.0000°, Azm150.0000°;

NEIC 07 20:09:35, 6°.02S×102°.30E, h36km

GCMT 07 20:09:36.3±0.2, 6°.07S±0°.01×102°.24E±0°.01, h24km, MW5.1/124, Moment Tensor Solution. s76, c110; s124, c200; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.40±.12; Mθθ=0.73±.10; Mφφ1.13±.12; Mrθ=1.29±.23; Mθφ=4.89±.09; Mφr=3.50±.31; Best double couple: M0 6.19900×10^16 NP1: φs98.00000°, δ55.00000°, λ=173.00000°. NP2: φs4.00000°, δ84.00000°, λ=35.00000°. Principal axes: T 5.8450, Plg19.0000°, Azm57.0000°; N 0.7120, Plg54.0000°, Azm176.0000°; P -6.5530, Plg29.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 07 20:09:33.7±0.5, 6°.01S±0°.03×102°.34E±0°.04, h24km±2km, h24km:pP-P, n685, σ1§56/691, mb5.2/197, MS4.4/78, 47C-37D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.74	21		Pn	20 10 02.9	+0.5
MNAI	Manna	1.74	21	P	Pn	20 10 03.4	+0.9
MNAI	Manna	1.74	21	P	Pn	20 10 02.9	+0.5
LWLI	Liwa	1.97	60	P	Pn	20 10 05.8	+0.1
KASI	Kota Agung	2.20	78	P	Pn	20 10 08.8	+0.1
KSI	Kapahiang	2.35	6	P	Pn	20 10 11.0	+0.1
MDSI	Maura Dua	2.37	51	P	Pn	20 10 12.2	+1.1
LHSI	Lahat	2.46	29	P	Pn	20 10 13.7	+1.4
KLI	Kotabumi	2.75	66	P	Pn	20 10 18.0	+1.7
MASI	Maura Aman, Be	2.85	358	P	Pn	20 10 17.8	+0.1
BLSI	Bandar Lampung	2.96	78	P	Pn	20 10 20.6	+1.4
CGJI	Cibinong	3.39	100	P	Pn	20 10 25.2	+0.2
SBJI	Serang	3.77	92	P	Pn	20 10 31.3	+1.0
PMBI	Palembang	3.90	39		Pn	20 10 32.8	+0.7
PMBI	Palembang	3.90	39	P	Pn	20 10 34.4	+2.3
PMBI	Palembang	3.90	39	P	Pn	20 10 33.5	+1.4
PPSI	Pulau Pagai	3.97	324	P	Pn	20 10 32.2	-0.9
KRJI	Kerinci	3.98	347	P	Pn	20 10 32.9	-0.5
TNG	Tangerang	4.29	92	P	Pn	20 10 38.2	+0.8
SKJI	Sukabumi	4.30	104	P	Pn	20 10 37.8	+0.1
DBJI	Dramaga	4.42	97	P	Pn	20 10 40.2	+1.0
CNJI	Cibinong	4.93	106	P	Pn	20 10 46.8	+0.5
LEM	Lembang	5.31	99	Pn	Pn	20 10 53.4	+1.8
	161nm,0.3s,baz=16,slow=21,SNR=141						
LEM				Sn	Sn	20 11 50.4	-1.7
	262nm,0.3s,baz=221,slow=23,SNR=8.9						
LEM				LR	LR	20 13 17.7	
	comp=Z,4μm,19.9s,baz=311,slow=44						
LEM	Lembang	5.31	99	P	Pn	20 10 54.0	+2.4
	8.2nm13μm1μm,1.0s						
PPBI	Pangkal Pinang	5.38	45	P	Pn	20 10 53.5	+1.1
PDSI	Padang	5.39	340	P	Pn	20 10 51.4	-1.3
BBJI	Bungbulang	5.47	106	P	Pn	20 10 54.0	+0.2
SISI	Saibi	5.67	325	P	Pn	20 10 55.4	-1.0
PPI	Padang Panjang	5.84	341	P	Pn	20 10 57.8	-1.0
	4.2nm4μm10μm1μm,0.9s						
DSRI	Dabo	5.92	22	P	Pn	20 11 01.4	+1.4
	2μm4μm319nm,0.8s						
TPI	Tanjungpandan	6.20	59	P	Pn	20 11 04.8	+1.0
	2μm147nm,0.7s						
BKNI	Bangkinang	6.42	348		Pn	20 11 05.8	-1.0
BKNI	Bangkinang	6.42	348	P	Pn	20 11 07.0	+0.2
BKNI	Bangkinang	6.42	348	P	Pn	20 11 06.1	-0.7
	4.2nm2μm7μm735nm,1.1s						
KPJI	Karang Pucung	6.68	102	P	Pn	20 11 11.9	+1.6
	3.6nm5μm733nm,0.8s						
PBSI	Pulau Batu	7.17	325	P	Pn	20 11 15.9	-1.1
TPRI	Tanjung Pinang	7.21	18	P	Pn	20 11 18.6	+0.9
	0.8nm2μm139nm,0.7s						
MNSI	Mandailing Nat	7.30	338	P	Pn	20 11 17.0	-1.8
	1.6nm3μm5μm472nm,0.7s						
BTDF	Bukit Timah Da	7.46	11	P	Pn	20 11 22.7	+1.7
MYKOM	Kota Tinggi	7.89	11		Pn	20 11 27.6	+0.6
MYKOM	Kota Tinggi	7.89	11	P	Pn	20 11 28.3	+1.4
YOGI	Yogyakarta	8.10	103	P	Pn	20 11 30.5	+0.6
	7μm863nm,1.0s						
SMRI	Semarang	8.11	98		Pn	20 11 29.5	-0.5
SMRI	Semarang	8.11	98	P	Pn	20 11 30.4	+0.3
SMRI	Semarang	8.11	98	P	Pn	20 11 32.0	+1.9
	8μm540nm,0.8s						
COCO	West Island	8.20	221		Pn	20 11 29.2	-2.1
COCO	West Island	8.20	221	P	Pn	20 11 29.0	-2.3
COCO	West Island	8.20	221	P	Pn	20 11 30.1	-1.2
UGM	Wanagama	8.34	104		Pn	20 11 33.5	+0.3
UGM	Wanagama	8.34	104	P	Pn	20 11 33.2	0.0
UGM	Wagama	8.34	104	P	Pn	20 11 33.6	+0.4
	6μm553nm,1.0s						
GSI	Gunungsitoli	8.68	327		Pn	20 11 35.7	-2.1
GSI	Gunungsitoli	8.68	327	P	Pn	20 11 36.1	-1.8
GSI	Gunungsitoli	8.68	327	P	Pn	20 11 36.0	-1.8
	4μm477nm,0.7s						
WOJI	Wonogiri, Jawa	8.71	103	P	Pn	20 11 38.9	+0.6
	4μm311nm,0.9s						
PCJI	Pacitan	9.04	104	P	Pn	20 11 43.4	+0.7
NGJI	Ngawi	9.16	99	P	Pn	20 11 46.3	+1.9
	371nm,0.9s						
RPSI	Rantau Prapat	9.29	338		Pn	20 11 44.0	-2.2
RPSI	Rantau Prapat	9.29	338		Pn	20 11 44.5	-1.7
RPSI					Sn	20 13 24.1	-5.9
PSI	Prapat	9.39	339	Pn	Pn	20 11 44.5	-3.2
	6.1nm,0.3s,baz=162,slow=12,SNR=25						
PSI				Sn	Sn	20 13 24.1	-8.5
	1.3nm,0.3s,baz=142,slow=19,SNR=1.8 42nm,0.5s						
TBJI	Tambak Boyo	9.48	95	P	Pn	20 11 49.9	+1.1
	323nm,0.8s						
GRJI	Gresik	10.12	96	P	Pn	20 11 58.5	+1.0
BWJI	Bawean	10.26	90	P	Pn	20 11 59.9	+0.4
	406nm,0.9s						
SNSI	Sinabang, Aceh	10.29	324	P	Pn	20 11 58.7	-1.2
IPM	Ipoh	10.50	353		Pn	20 12 01.8	-0.9
IPM	Ipoh	10.50	353	P	Pn	20 12 03.2	+0.4
KCSI	Kotacane, Aceh	10.51	334	P	Pn	20 11 59.8	-3.1
	60nm,0.6s						
KSM	Kuching	10.88	47		Pn	20 12 08.8	+0.8
BLJI	Banyuglugur	11.31	99	P	Pn	20 12 14.3	+0.5
	3μm256nm,0.7s						
KULM	Kulim	11.35	351		Pn	20 12 12.7	-1.7
KULM	Kulim	11.35	351	P	Pn	20 12 12.6	-1.7
KMMI	Kalianget	11.60	96	P	Pn	20 12 18.6	+0.8
	3μm460nm,1.0s						
MLSI	Meulaboh, Aceh	11.80	330	P	Pn	20 12 18.5	-2.1
ABJI	Asem Bagus	11.94	99	P	Pn	20 12 24.4	+1.9
	5μm546nm,0.8s						
JAGI	Jajag, Banyuwa	11.97	103		Pn	20 12 20.8	-2.1
JAGI	Jajag, Banyuwa	11.97	103	P	Pn	20 12 21.1	-1.8
JAGI	Jajag, Banyuwa	11.97	103	P	Pn	20 12 22.7	-0.2
	4μm358nm,0.9s						
LHMI	Lhok Sumawe	12.39	334		Pn	20 12 25.2	-3.4
LHMI	Lhok Sumawe	12.39	334	P	Pn	20 12 26.9	-1.7
LHMI	Lhok Sumawe	12.39	334	P	Pn	20 12 27.0	-1.7
	103nm,0.9s						
BBKI	Banjar Baru	12.71	79	P	Pn	20 12 34.9	+1.8
	3μm110nm,1.1s						
SRBI	Singaraja	12.94	100	P	Pn	20 12 37.3	+1.1
	3μm314nm,0.7s						
SBUM	Sibu	12.96	50		Pn	20 12 38.6	+2.2
SBUM	Sibu	12.96	50	P	Pn	20 12 38.8	+2.4
DNP	Denpasar	13.04	103	P	Pn	20 12 37.5	0.0
	539nm,0.9s						
MTKI	Muara Teweh, K	13.50	69	P	Pn	20 12 45.3	+1.5
	324nm,1.0s						
TWSI	Taliwang, Sumb	14.67	102	P	Pn	20 12 57.9	-2.0
	2μm153nm,0.8s						
BKB	Balikpapan	15.27	73		Pn	20 13 09.3	+1.5
BKB	Balikpapan	15.27	73	P	Pn	20 13 09.8	+2.0
BKB	Balikpapan	15.27	73	P	P	20 13 11.2	-1.3
CMBY	CAMPBELL BAY	15.42	327	*eP*	P	20 13 12.0	-2.1
CMBY				IAmb	IAmb	20 13 17.8	
	comp=Z,421nm,1.0s						
CMBY				*eS*	Sn	20 16 04.4	+4.5
CMBY				IAML		20 16 32.6	
	comp=E,382nm,0.3s						
PLAI	Plampang	15.56	101	P	Pn	20 13 08.1	-3.6
	comp=E,4μmcomp=E,574nm,0.8s						
WBSI	Waikabubak, Su	17.27	103	P	Pn	20 13 29.8	-3.7
	comp=E,2μmcomp=E,184nm,0.9s						
KAPI	Kappang	17.36	88	P	Pn	20 13 32.5	-2.0
	comp=E,1.0nm,0.3s,baz=253,slow=11,SNR=1.2						
KAPI				LR	LR	20 21 41.8	
	comp=E,954nm,19.8s,baz=265,slow=42 comp=E,8.4nm,0.4s						
KAPI	Kappang	17.36	88	*eP*	Pn	20 13 33.8	-0.7
KAPI				pmax	pmax		
	comp=Z,15nm,1.0s						
SPSI	Sidrap Palu	17.48	84	P	P	20 13 36.8	-0.2
BKSI	Bulukumba	17.71	89	P	Pn	20 13 37.8	-1.0
	comp=Z,84nm,0.9s						
BNSI	Bone	17.76	86	P	Pn	20 13 39.5	0.0
	comp=Z,3μmcomp=Z,276nm,1.3s						
WSI	Waingapu	18.16	103	P	Pn	20 13 40.9	-3.4
	comp=Z,7μmcomp=Z,431nm,0.9s						
KKM	Kota Kinabalu	18.30	49		P	20 13 45.9	-0.4
KKM	Kota Kinabalu	18.30	49	P	Pn	20 13 46.7	+0.4
BASI	Baing, Sumba	18.53	104	P	Pn	20 13 49.2	+0.3
	comp=Z,1μm,1.3s						
MPSI	Mapaga	18.62	71	P	Pn	20 13 50.7	+0.6
DLV	Lat	18.85	19	P	Pn	20 13 52.9	0.0
EDFI	Ende, Flores	19.38	99	P	P	20 13 55.9	-2.2
	comp=Z,1μmcomp=Z,123nm,0.7s						
MYLDM	Lahad Datu	19.59	56		Pn	20 14 01.5	-0.1
MYLDM	Lahad Datu	19.59	56	P	Pn	20 14 02.5	+0.8
TOLI2	Tolitoli	19.72	70		P	20 14 02.1	+0.4
TOLI2	Tolitoli	19.72	70	P	P	20 14 02.3	+0.6
MMRI	Maumere	19.91	99		P	20 14 01.5	-2.2
MMRI				IAmb	IAmb	20 14 09.7	
	comp=Z,171nm,0.6s						
MMRI	Maumere	19.91	99	P	P	20 14 02.7	-1.0
MMRI	Maumere	19.91	99	P	P	20 14 01.9	-1.8
	comp=Z,3μmcomp=Z,242nm,0.6s						
APSI	Ampana	19.92	76	P	P	20 14 04.4	+0.5
	comp=Z,4μmcomp=Z,457nm,0.9s						
GIRL	Giralia	20.13	146	Pn	Pn	20 14 07.7	-0.4
BBSI	Bau Bau	20.14	90	P	P	20 14 05.5	-0.7
	comp=Z,73nm,0.8s						
MRSI	Marisa	20.60	72	P	P	20 14 10.9	-0.4
LUWI	Luwuk	20.97	77	P	P	20 14 13.8	-1.5
LUWI	Luwuk	20.97	77	P	P	20 14 15.0	-0.3
	comp=Z,4μmcomp=Z,297nm,1.0s						
DGPR	DIGLIPUR	21.23	334	*eP*	P	20 14 18.2	+0.2
DGPR				*eS*	S	20 18 11.3	-1.6
BATI	Baumata	21.51	103	P	P	20 14 20.1	-1.0
	comp=Z,424nm,0.7s,baz=188,slow=1.0,SNR=73						
BATI				S	S	20 18 08.8	-10
	comp=Z,88nm,0.5s,baz=248,slow=21,SNR=6.4						
BATI	Baumata	21.51	103	P	P	20 14 20.6	-0.6
SOEI	Soe	22.03	101		P	20 14 24.1	-2.8
SOEI	Soe	22.03	101	P	P	20 14 26.6	-0.3
SOEI	Soe	22.03	101	P	P	20 14 25.3	-1.6
	comp=Z,6μmcomp=Z,806nm,1.0s						
KMSI	Cibinong	22.57	74	P	P	20 14 32.7	+0.2
	comp=Z,3μmcomp=Z,207nm,0.8s						
MBWA	Marble Bar	22.60	133	P	P	20 14 32.4	-0.3
	comp=Z,77nm,0.9s						
MBWA	Marble Bar	22.60	133	P	P	20 14 31.8	-0.9
MBWA	Marble Bar	22.60	133	P	P	20 14 33.7	+0.9
MBWA				P	P	20 14 33.7	+0.9
MBWA				S	S	20 18 41.9	+2.7
MBWA				S	S	20 18 41.9	+2.7
MBWA	Marble Bar	22.60	133	P	P	20 14 32.7	-0.1
PSAC1	Pilbara Seismi	22.89	134	P	P	20 14 35.3	-0.6
	comp=Z,83nm,1.4s						
PSA00	Pilbara Seismi	22.95	134	P	P	20 14 36.1	-0.2
	comp=Z,56nm,1.0s						
PSA00	Pilbara Seismi	22.95	134		P	20 14 36.0	-0.3
PSA00				IAmb	IAmb	20 14 49.4	
	comp=Z,87nm,1.2s						
PSA00	Pilbara Seismi	22.95	134

comp=Z,630nm,22.4s
QIZ LR LR
comp=Z,2μm,23.1s
QIZ LR LR
comp=Z,630nm,17.7s
DAV Davao City (W) 26.58 61 LR LR 20 27 03.3
comp=Z,474nm,18.2s,baz=210,slow=40
SLVN Son La 27.21 3 P **P** **20 15 16.4 +0.5**
SLVN IAmb IAmb 20 15 30.0
comp=Z,48nm,1.0s
SLVN Son La 27.21 3 P **P** **20 15 16.9 +1.0**
KNRA Kununurra 27.64 112 P **P** **20 15 19.0 -0.7**
comp=Z,104nm,0.9s
KNRA Kununurra 27.64 112 P **P** **20 15 19.3 -0.5**
KNRA IAmb IAmb 20 15 33.1
comp=Z,70nm,0.8s
DRS Darwin Rock St 28.89 105 P **P** **20 15 31.1 +0.2**
MUN Mundaring 28.91 155 P **P** **20 15 29.9 -1.0**
MTN Manton Dam 29.18 106 P **P** **20 15 32.6 -1.0**
comp=Z,50nm,0.4s
MTN Manton Dam 29.18 106 IAmb IAmb 20 16 18.1
comp=Z,51nm,0.6s
KOD Kodaikanal 29.56 303 *e*P **P** **20 15 36.1 -1.1**
KOD IAmb IAmb 20 15 40.7
comp=Z,31nm,0.9s
H08S2 Diego Garcia H 29.68 265 T T 20 46 44.4
baz=88,slow=75,SNR=329
H08S3 Diego Garcia H 29.69 265 T T 20 47 00.7
baz=88,slow=75,SNR=1235
H08S1 Diego Garcia H 29.70 265 T T 20 46 45.8
baz=88,slow=75,SNR=1187
SAIH SAIHA 29.76 342 *e*P **P** **20 15 36.4 -2.3**
SAIH IAmb IAmb 20 15 41.3
comp=Z,20nm,0.8s
SAIH *e*S **S** **20 20 33.1 -0.8**
NWAO Narrogin (SRO) 30.16 155 LR LR 20 26 39.3
comp=Z,894nm,20.8s,baz=308,slow=34
NWAO Narrogin (SRO) 30.16 155 P **P** **20 15 43.6 +1.6**
NWAO Narrogin (SRO) 30.16 155 P **P** **20 15 41.7 -0.3**
BRDH Bariadhala 30.37 340 LR LR 20 30 18.4
comp=Z,722nm,21.2s,baz=150,slow=41
H01W3 Cape Leeuwin H 30.73 161 T T 20 47 56.6
baz=338,slow=76,SNR=198
H01W2 Cape Leeuwin H 30.75 161 T T 20 47 57.8
baz=338,slow=76,SNR=210
H01W1 Cape Leeuwin H 30.75 161 T T 20 48 13.3
baz=338,slow=76,SNR=297
KMI Kunming 30.94 1 P **P** **20 15 51.4 +2.2**
KMI S **S** **20 20 50.9 -1.6**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI LR LR
comp=Z,460nm,19.0s
KMI LR LR
comp=Z,2μm,20.7s
KMI LR LR
comp=Z,1μm,16.8s
TNCH TengChong 31.07 353 ⇓P **P** **20 15 51.0 +0.7**
TNCH pP pP 20 15 54.8 -2.1
TNCH sP pwP 20 15 57.1 -2.5
TNCH S **S** **20 20 52.4 -2.0**
TNCH SS **SnSn** **20 22 39.2 +2.6**
TNCH pmax pmax
comp=Z,29nm,1.5s
TNCH LR LR
comp=Z,880nm,15.0s
TNCH LR LR
comp=Z,710nm,11.4s
TNCH LR LR
comp=Z,2μm,15.4s
WRKA Warakurna 31.25 130 P **P** **20 15 50.1 -1.6**
comp=Z,6.1nm,1.1s
IMP Imphal 31.72 345 *e*P **P** **20 15 53.7 -2.2**
IMP IAmb IAmb 20 15 56.8
comp=Z,38nm,0.5s
IMP *e*S **S** **20 21 03.5 -0.9**
RKPI Ransiki, Papua 32.07 83 P **P** **20 15 57.1 -2.0**
comp=Z,51nm,0.7s
PZH PanZhiHua 32.32 359 P **P** **20 16 05.5 +4.3**
PZH S **S** **20 21 15.6 +1.8**
PZH LR LR
comp=Z,540nm,19.0s
PZH LR LR
comp=Z,630nm,18.2s
PZH LR LR
comp=Z,580nm,17.7s
KOHI KOHIMA 32.53 346 *e*P **P** **20 16 01.0 -2.1**
KOHI IAmb IAmb 20 16 04.9
comp=Z,36nm,1.0s
KOHI *e*S **S** **20 21 15.9 -1.3**
GYA Guiyang 32.54 7 ⇑P **P** **20 16 04.8 +1.7**
GYA pmax pmax
comp=Z,12nm,0.6s
GYA LR LR
comp=Z,650nm,19.9s
GYA LR LR
comp=Z,2μm,18.9s
GYA LR LR
comp=Z,1μm,14.3s
SHL Shillong 32.99 342 P **P** **20 16 06.8 -0.2**
SHL Shillong 32.99 342 P **P** **20 16 07.1 0.0**
SNR=21
SHL Shillong 32.99 342 *e*P **P** **20 16 04.6 -2.5**
SHL IAmb IAmb 20 16 07.7
comp=Z,31nm,0.6s
SHL Shillong 32.99 342 P **P** **20 16 06.9 -0.2**
SHL pmax pmax
comp=Z,74nm,0.7s
HYB Hyderabad 33.07 315 *e*P **P** **20 16 09.0 +1.2**
HYB *e*S **S** **20 21 25.8 +0.1**
BOK Bokaro 33.69 332 *e*P **P** **20 16 10.8 -2.3**
BOK IAmb IAmb 20 16 15.9
comp=Z,40nm,1.6s
WB0 Warramunga Arr 34.02 117 IAmb IAmb 20 16 29.7
comp=Z,36nm,0.8s
BAKI Biak 34.03 83 P **P** **20 16 16.4 +0.2**
comp=Z,40nm,0.8s
WRA Warramunga Arr 34.03 117 P **P** **20 16 16.0 -0.1**
WRA Warramunga Arr 34.03 117 P **P** **20 16 16.1 0.0**
comp=Z,12nm,0.7s,baz=287,slow=12,SNR=100
WRA S **S** **20 21 41.7 +1.2**
comp=Z,3.3nm,1.1s,baz=290,slow=16,SNR=5.0
WRA LR LR 20 32 59.9
comp=Z,278nm,18.3s,baz=269,slow=42
comp=Z,12nm,0.7s
WRAB Tennant Creek 34.04 117 P **P** **20 16 16.2 0.0**
WRAB IAmb IAmb 20 16 30.0
comp=Z,44nm,0.7s
WRAB Tennant Creek 34.04 117 P **P** **20 16 16.2 0.0**
WRAB Tennant Creek 34.04 117 *c i*P **P** **20 16 16.2 0.0**
WRAB pmax pmax
comp=Z,16nm,0.8s
TPUB Ta-pu 34.17 31 P **P** **20 16 15.9 -1.4**
TPUB IAmb IAmb 20 16 33.4
comp=Z,54nm,1.0s
WR8 Warramunga Arr 34.18 117 IAmb IAmb 20 16 32.2
comp=Z,48nm,0.8s
ZIRO ZIRO 34.33 347 *e*P **P** **20 16 16.3 -2.5**
ZIRO IAmb IAmb 20 16 20.1
comp=Z,44nm,0.5s
ZIRO *e*S **S** **20 21 44.9 -0.2**
YULB Yu-li 34.59 32 IAmb IAmb 20 16 35.2
comp=Z,31nm,1.0s
SSLB Suanglung 34.74 31 P **P** **20 16 20.9 -1.3**
SSLB IAmb IAmb 20 16 39.8
comp=Z,42nm,1.2s
AS31 Alice Springs 35.07 123 P **P** **20 16 25.9 +0.7**
ASAR Alice Springs 35.07 123 P **P** **20 16 25.0 -0.1**
ASAR Alice Springs 35.07 123 P **P** **20 16 25.2 +0.1**
comp=Z,7.8nm,0.8s,baz=296,slow=7.8,SNR=96
ASAR S **S** **20 21 54.6 -1.8**
comp=Z,4.5nm,1.1s,baz=297,slow=16,SNR=7.0
ASAR LR LR 20 32 22.9
comp=Z,520nm,19.7s,baz=297,slow=39
comp=Z,7.8nm,0.8s
NACB Ninganchiao 35.39 31 P **P** **20 16 26.8 -0.9**
NACB IAmb IAmb 20 16 47.9
comp=Z,45nm,1.0s
KAD Karad 36.20 310 *e*P **P** **20 16 31.6 -3.3**
KAD IAmb IAmb 20 16 37.1
comp=Z,40nm,0.7s
SMPI Sarmi 36.49 85 P **P** **20 16 35.5 -1.9**
CD2 Chengdu 36.73 2 P **P** **20 16 39.7 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,240nm,6.9s
CD2 LR LR
comp=Z,2μm,17.8s
CD2 LR LR
comp=Z,2μm,17.1s
CD2 LR LR
comp=Z,2μm,17.1s
LSA Lhasa 37.09 344 P **P** **20 16 41.1 -1.7**
LSA pmax pmax
comp=Z,59nm,0.9s
LSA LR LR
comp=Z,440nm,22.4s
LSA LR LR
comp=Z,180nm,13.9s
LSA Lhasa 37.09 344 P **P** **20 16 43.8 +1.0**
JMJ Miyako jima 2 37.92 35 P **P** **20 16 50.2 +0.9**
WHN Wuhan 38.12 17 P **P** **20 16 51.6 +0.7**
WHN S **S** **20 22 47.0 +4.4**
WHN pmax pmax
comp=Z,86nm,0.8s
WHN LR LR
comp=Z,1μm,14.2s
WHN LR LR
comp=Z,3μm,14.1s
WHN LR LR
comp=Z,2μm,19.2s
JAY Jayapura 38.41 86 LR LR 20 36 43.1
comp=Z,135nm,19.2s,baz=228,slow=43
JAY Jayapura 38.41 86 P **P** **20 16 52.9 -0.8**
comp=Z,495nmcomp=Z,24nm,0.9s
QIS Mount Isa 38.92 115 P **P** **20 16 58.5 +0.6**
comp=Z,48nm,1.0s
QIS Mount Isa 38.92 115 P **P** **20 16 57.7 -0.2**
XAN Xi'an 40.31 8 ⇓P **P** **20 17 09.4 +0.1**
XAN pP pP 20 17 12.3 -3.9
XAN PcS **PcS** **20 23 05.1 +1.9**
XAN S **S** **20 23 18.9 +3.3**
XAN pmax pmax
comp=Z,170nm,3.6s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,960nm,18.5s
XAN LR LR
comp=Z,1μm,22.0s
COEN Coen 40.93 104 P **P** **20 17 14.4 -0.2**
COEN IAmb IAmb 20 17 28.7
comp=Z,32nm,0.7s
COEN Coen 40.93 104 P **P** **20 17 14.7 0.0**
NJ2 Nanjing 40.99 22 ⇓*i*P **P** **20 17 15.7 +0.9**
NJ2 sP **sP** **20 17 28.4 +4.2**
NJ2 S **S** **20 23 27.0 +1.3**
NJ2 pmax pmax
comp=Z,24nm,0.8s
NJ2 pmax pmax
comp=Z,110nm,4.7s
NJ2 LR LR
comp=Z,480nm,12.3s
NJ2 LR LR
comp=Z,650nm,12.3s
NJ2 LR LR
comp=Z,640nm,12.3s
BBOO Buckleboo 41.17 135 P **P** **20 17 16.1 -0.3**
JOW Kunigami 41.19 36 LR LR 20 35 34.7
comp=Z,160nm,18.7s,baz=164,slow=38
PTH Pithoragarh 41.25 330 *e*P **P** **20 17 14.7 -2.6**
PTH IAmb IAmb 20 17 19.2
comp=Z,42nm,0.8s
UDPR Udaipur 41.25 319 *e*P **P** **20 17 14.3 -2.9**
UDPR IAmb IAmb 20 17 18.8
comp=Z,36nm,1.0s
LYN LuoYang 41.46 13 ⇑P **P** **20 17 19.2 +0.6**
LYN S **S** **20 23 31.2 -1.4**
LYN pmax pmax
comp=Z,150nm,1.0s
LYN pmax pmax
comp=Z,200nm,5.1s
LYN LR LR
comp=Z,580nm,18.9s
LYN LR LR
comp=Z,2μm,21.0s
LYN LR LR
comp=Z,1μm,15.5s
LZDM Lanzhou Array 41.76 2 P **P** **20 17 21.8 +0.3**
comp=Z,35nm,0.8s,baz=186,slow=13,SNR=13
LZDM LR LR 20 38 27.5
comp=Z,639nm,18.2s,baz=275,slow=42
comp=Z,35nm,0.8s
LZH Lanzhou 41.89 2 *e*P **P** **20 17 23.6 +1.2**
LZH pP pP 20 17 30.4 +1.1
LZH S **S** **20 23 35.7 -3.6**
LZH pmax pmax
comp=Z,39nm,1.2s
LZH LR LR
comp=Z,960nm,15.2s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,14.6s
KUDL Kundal 42.13 325 *e*P **P** **20 17 21.9 -2.3**
KUDL IAmb IAmb 20 17 25.3
comp=Z,37nm,0.8s
JMZ Minamidaito 2 42.28 40 P **P** **20 17 27.3 +1.8**
INKA Innaminka 42.36 125 P **P** **20 17 27.0 +0.8**
GOMU GeErMu 42.57 351 P **P** **20 17 28.4 +0.2**
GOMU PcP **PcP** **20 19 22.4 +2.0**
GOMU S **S** **20 23 48.0 -1.8**
GOMU pmax pmax
comp=Z,13nm,1.1s
GOMU LR LR
comp=Z,270nm,16.0s
GOMU LR LR
comp=Z,170nm,19.2s
GOMU LR LR
comp=Z,320nm,16.3s
MTSU Mount Surprise 42.67 110 P **P** **20 17 28.9 0.0**
HTT Hallett 43.54 134 P **P** **20 17 35.5 -0.3**
SMLA Simla 44.08 328 *e*P **P** **20 17 37.2 -2.8**
SMLA IAmb IAmb 20 17 42.6
comp=Z,48nm,1.0s
TIA Tai'an 44.23 17 P **P** **20 17 40.6 -0.5**
TIA S **S** **20 24 10.5 -2.8**
TIA pmax pmax
comp=Z,20nm,0.8s
TIA LR LR
comp=Z,360nm,17.5s
TIA LR LR
comp=Z,1μm,19.2s
TIA LR LR
comp=Z,880nm,15.3s
TIY Taiyuan 44.50 11 P **P** **20 17 45.0 +1.7**
TIY S **S** **20 24 18.1 +0.8**
TIY pmax pmax
comp=Z,32nm,0.5s
TIY LR LR
comp=Z,330nm,18.6s
TIY LR LR
comp=Z,1μm,19.4s
TIY LR LR
comp=Z,260nm,18.5s
PMG Port Moresby 44.52 97 P **P** **20 17 43.0 -0.8**
PMG Port Moresby 44.52 97 LR LR 20 40 13.0
comp=Z,197nm,19.9s,baz=274,slow=42
PMG Port Moresby 44.52 97 P **P** **20 17 44.1 +0.3**
PMG Port Moresby 44.52 97 P **P** **20 17 44.2 +0.4**
PMG Port Moresby 44.52 97 *c i*P **P** **20 17 43.5 -0.3**
PMG pmax pmax
comp=Z,81nm,1.0s
HNS HongShan 44.70 14 ⇑P **P** **20 17 45.0 +0.2**
HNS S **S** **20 24 18.2 -1.8**
HNS pmax pmax
comp=Z,20nm,1.0s
HNS LR LR
comp=Z,300nm,18.4s
HNS LR LR
comp=Z,700nm,18.3s
HNS LR LR
comp=Z,550nm,17.8s
STKA Stephens Creek 44.78 130 P **P** **20 17 45.7 0.0**
STKA Stephens Creek 44.78 130 P **P** **20 17 45.9 +0.2**
comp=Z,17nm,0.7s,baz=304,slow=8.0,SNR=28
STKA LR LR 20 38 59.6
comp=Z,488nm,19.2s,baz=302,slow=40
comp=Z,17nm,0.7s
STKA Stephens Creek 44.78 130 P **P** **20 17 46.5 +0.8**
STKA Stephens Creek 44.78 130 P **P** **20 17 45.7 0.0**
STKA pmax pmax
comp=Z,107nm,0.8s
QLP Quilpie 44.83 122 P **P** **20 17 47.2 +1.1**
CTA Charters Tower 44.85 112 LR LR 20 37 07.3
comp=Z,8.0nm,21.5s,baz=267,slow=37
CTAO Charters Tower 44.85 112 P **P** **20 17 46.8 +0.4**
CTAO IAmb IAmb 20 18 00.2
comp=Z,56nm,0.9s
CTAO Charters Tower 44.85 112 P **P** **20 17 47.8 +1.4**
CTAO Charters Tower 44.85 112 P **P** **20 17 46.8 +0.4**
CTAO pmax pmax
comp=Z,56nm,1.0s
MANU Manus Island 45.07 87 IAmb IAmb 20 18 01.7
comp=Z,23nm,0.8s
GTA Gaotai 45.25 357 P **P** **20 17 50.8 +1.5**
GTA pP sP 20 17 58.4 -0.7
GTA sP pP 20 18 02.9 +6.6
GTA PcP **PcP** **20 19 30.1 +1.0**
GTA PP **PP** **20 19 42.1 +6.6**
GTA S **S** **20 24 30.9 +2.6**
GTA pmax pmax
comp=Z,18nm,0.9s
GTA LR LR
comp=Z,810nm,18.2s
GTA LR LR
comp=Z,1μm,18.2s
GTA LR LR
comp=Z,1μm,19.3s
DHRM DHARAMSHALA 45.41 329 *e*P **P** **20 17 48.4 -2.5**
DHRM IAmb IAmb 20 17 58.1
comp=Z,36nm,1.1s
DHRM *e*S **S** **20 24 28.4 -2.7**
BTO Baotou 46.92 8 *e*P **P** **20 18 03.8 +1.4**
BTO pP **pP** **20 18 08.3 -1.1**
BTO sP **sP** **20 18 10.9 -0.9**
BTO S **S** **20 24 52.6 +0.4**
BTO sS **sS** **20 25 04.1 +0.3**
BTO SS **SS** **20 28 16.2 -3.1**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,280nm,5.5s
BTO LR LR
comp=Z,2μm,14.4s
BTO LR LR
comp=Z,1μm,16.5s
BTO LR LR
comp=Z,2μm,14.8s
HHC Hu-ho-hao-te 47.39 10 *e*P **P** **20 18 08.1 +2.0**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,170nm,3.9s
HHC LR LR
comp=Z,190nm,17.6s
HHC LR LR
comp=Z,850nm,17.6s
HHC LR LR
comp=Z,360nm,18.3s
JNU Nakatsue 47.41 33 LR LR 20 37 44.9
comp=Z,127nm,21.5s,baz=221,slow=36
JNU Nakatsue 47.41 33 P **P** **20 18 07.4 +1.0**
BJT Baijiatuau 47.54 14 P **P** **20 18 08.6 +1.5**
BJI Beijing 47.56 14 P **P** **20 18 07.9 +0.6**
BJI PcP **PcP** **20 19 41.4 +4.4**
BJI S **S** **20 25 01.8 +0.7**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,200nm,13.3s
BJI LR LR
comp=Z,220nm,12.7s
BJI LR LR
comp=Z,350nm,17.9s
CMSA Cobar Meteorol 47.81 128 P **P** **20 18 09.6 +0.1**
NIL Nilore 48.11 327 P **P** **20 18 11.1 -0.7**
NIL Nilore 48.11 327 P **P** **20 18 11.9 +0.1**
NIL Nilore 48.11 327 P **P** **20 18 11.1 -0.7**
NIL pmax pmax
comp=Z,65nm,0.8s
KSAR Wonju Array Be 49.36 27 P **P** **20 18 21.2 0.0**
KSAR Wonju Array Be 49.36 27 P **P** **20 18 21.2 0.0**
KSRS Korea Array 49.38 27 P **P** **20 18 21.1 -0.4**
comp=Z,6.0nm,0.8s,baz=228,slow=6.9,SNR=18
KSRS LR LR 20 39 21.2
comp=Z,84μm,20.8s,baz=225,slow=36
comp=Z,6.0nm,0.8s
KS19 Wonju Array Si 49.40 27 P **P** **20 18 21.0 -0.6**
KS19 IAmb IAmb 20 18 48.9
comp=Z,83nm,1.8s
JMN Monobe 49.53 35 P **P** **20 18 21.4 -1.3**
JMN IAmb IAmb 20 18 34.9
comp=Z,42nm,0.8s
JMN Monobe 49.53 35 P **P** **20 18 24.5 +1.8**
EIDS Eidsvold 50.38 118 P **P** **20 18 28.0 -1.3**
EIDS IAmb IAmb 20 18 44.0
comp=Z,30nm,1.1s
JLN Jalan Bani Buh 50.49 305 P **P** **20 18 31.5 +1.4**
SNR=5.4
NGCH Negor - Chabah 50.75 310 P **P** **20 18 34.6 +2.6**
DQM DQM 51.04 302 P **P** **20 18 35.9 +1.6**
SNR=10
KBL Kabul 51.13 324 P **P** **20 18 34.0 -1.0**
KBL Kabul 51.13 324 P **P** **20 18 35.2 +0.2**
SNR=10.0
KBL Kabul 51.13 324 P **P** **20 18 34.0 -1.0**
KBL pmax pmax
comp=Z,18nm,1.0s
MHTO MHTO 51.15 303 P **P** **20 18 35.9 +0.9**
SNR=9.7
WMQ Urumqi 51.33 346 *e*P **P** **20 18 37.9 +1.7**
WMQ pP pP 20 18 42.0 -1.1
WMQ sP pwP 20 18 50.7 +5.1
WMQ pmax pmax
comp=Z,97nm,1.1s
WMQ pmax pmax
comp=Z,140nm,4.9s
WMQ LR LR
comp=Z,540nm,12.3s
WMQ LR LR
comp=Z,440nm,18.3s
WMQ LR LR
comp=Z,230nm,15.9s
KSH Kashi 51.43 334 P **P** **20 18 36.2 -0.9**
KSH S **S** **20 25 51.5 -4.2**
KSH pmax pmax
comp=Z,97nm,0.7s
WSAR Wadi Sarin 51.65 306 P **P** **20 18 40.7 +1.9**
JMDO Jabal Madar 51.66 305 P **P** **20 18 40.3 +1.3**
SNR=5.4
CAN Canberra 51.83 131 **P** **20 18 38.7 -1.4**
CAN IAmb IAmb 20 18 55.5
comp=Z,42nm,1.1s
CAN Canberra 51.83 131 P **P** **20 18 38.7 -1.4**
CAN pmax pmax
comp=Z,43nm,1.1s
SHAO Shalim 51.91 298 P **P** **20 18 42.5 +1.6**
SHAO Shalim 51.91 298 P **P** **20 18 42.1 +1.2**
SMDO Samad 52.03 305 P **P** **20 18 43.5 +1.7**
SNR=7.7
BIDO Bidbid 52.19 306 P **P** **20 18 44.9 +2.1**
SNR=6.6
DMTO DMTO 52.39 298 P **P** **20 18 45.6 +1.3**
INU Inuyama 52.50 36 **P** **20 18 43.9 -1.0**
HOQ Hoqain 52.88 306 P **P** **20 18 49.8 +1.9**
SNR=5.9
PRZ Przheval'sk 52.95 338 IAmb IAmb 20 18 50.6
comp=Z,36nm,0.7s
RBK Rabkut 52.96 297 P **P** **20 18 50.2 +1.5**
SHLS Shalkode 53.15 339 *e*P **P** **20 18 48.5 -1.2**
SHLS Shalkode 53.15 339 *e*P **P** **20 18 48.5 -1.2**
PDGK Podgornoye 53.29 339 P **P** **20 18 50.7 -0.1**
UZB Uzynbulak 53.30 339 *e*P **P** **20 18 50.7 -0.2**
comp=Z,23nm,0.6s
UZB Uzynbulak 53.30 339 *e*P **P** **20 18 50.6 -0.2**
UZB pmax pmax
comp=Z,23nm,0.6s
ARQ Araqi 53.40 305 P **P** **20 18 53.5 +1.7**
SNR=5.2
SATY Saty 53.45 338 *e*P **P** **20 18 51.8 -0.1**
comp=Z,17nm,0.5s
SATY Saty 53.45 338 *e*P **P** **20 18 51.8 -0.1**
SATY pmax pmax
comp=Z,17nm,0.5s
DOK Doka 53.45 298 P **P** **20 18 53.4 +1.1**

WHFO	Wadi Hawf	53.50	297	P	P	20 18 53.6	+1.0
ULHL	Ulahol	53.59	336	P	P	20 18 53.6	+0.5
	SNR=7.0						
GAR	Garm	53.71	329	IAmb	IAmb	20 18 55.4	
	comp=Z,45nm,0.9s						
ABTO	Aybut	53.71	297	P	P	20 18 55.5	+1.3
	SNR=6.4						
SONM	Songino Array	53.73	3	P	P	20 18 54.6	+0.7
SONM	Songino Array	53.73	3	P	P	20 18 55.1	+1.2
	comp=Z,33nm,0.7s,baz=183,slow=8.5,SNR=96						
SONM				LR	LR	20 45 36.2	
	comp=Z,324nm,18.2s,baz=180,slow=40						
	comp=Z,33nm,0.7s						
SONM	Songino Array	53.73	3	P	P	20 18 54.6	+0.7
SONM				pmax	pmax		
	comp=Z,56nm,0.8s						
SOHO	SOHO	53.76	306	P	P	20 18 55.9	+1.5
SOHO	SOHO	53.76	306	*i* P	P	20 18 55.3	+0.9
	SNR=5.9						
CN2	Changchun	53.79	21	P	P	20 18 53.4	-0.9
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
ULN	Ulaanbaatar	53.80	4	P	P	20 18 54.9	+0.4
ULN				IAmb	IAmb	20 19 07.8	
	comp=Z,40nm,0.9s						
ULN	Ulaanbaatar	53.80	4	P	P	20 18 55.8	+1.3
ULN	Ulaanbaatar	53.80	4	*d i* P	P	20 18 55.3	+0.8
ULN				pmax	pmax		
	comp=Z,17nm,0.8s						
BOOM	Boomskoye usch	53.91	336	IAmb	IAmb	20 18 56.9	
	comp=Z,46nm,0.8s						
TNSS	Tian-Shan	53.98	337	*e* P	P	20 18 55.7	-0.5
TNSS	Tian-Shan	53.98	337	*e* P	P	20 18 55.6	-0.5
MAJO	Matsushiro	54.02	36	P	P	20 18 54.6	-1.5
MAJO				IAmb	IAmb	20 19 10.4	
	comp=Z,22nm,1.0s						
MAJO	Matsushiro	54.02	36	⇓*e* P	P	20 18 54.2	-1.9
MAJO				pmax	pmax		
	comp=Z,16nm,1.2s						
MJAR	Matsushiro Arr	54.02	36	P	P	20 18 53.3	-2.8
MJAR	Matsushiro Arr	54.02	36	P	P	20 18 54.1	-2.1
	comp=Z,5.8nm,0.8s,baz=217,slow=7.2,SNR=16						
MJAR				LR	LR	20 42 42.0	
	comp=Z,100nm,20.2s,baz=224,slow=37						
	comp=Z,5.8nm,0.8s						
MJB9	Matsu-Tunnel	54.02	36	IAmb	IAmb	20 19 11.8	
	comp=Z,20nm,1.0s						
MDOK	Medeo	54.05	337	*e* P	P	20 18 56.2	-0.2
MDOK	Medeo	54.05	337	*e* P	P	20 18 56.1	-0.2
CHGR	Chuyangaron	54.05	328	P	P	20 18 54.7	-1.7
CHGR	Chuyangaron	54.05	328	P	P	20 18 54.7	-1.7
CHGR				pmax	pmax		
	comp=Z,98nm,1.3s						
AAA	Alma-Ata	54.14	337	*e* P	P	20 18 56.9	0.0
	comp=Z,23nm,0.7s						
AAA	Alma-Ata	54.14	337	*e* P	P	20 18 56.9	0.0
AAA				pmax	pmax		
	comp=Z,23nm,0.7s						
UMZA	Um Al Zommool	54.24	303	P	P	20 18 59.3	+1.3
UCH	Uchtor	54.29	335	P	P	20 18 59.1	+0.6
	SNR=33						
ALNE	Al Ain	54.36	305	P	P	20 19 00.3	+1.5
	SNR=6.9						
ALNE	Al Ain	54.36	305	*i* P	P	20 19 00.0	+1.2
	SNR=31						
ASHO	Ashiyiah	54.40	306	P	P	20 19 00.4	+1.3
ASHO	Ashiyiah	54.40	306	*i* P	P	20 19 01.0	+1.8
	SNR=7.9						
UOSS	Minazif	54.41	306	P	P	20 19 00.6	+1.4
UOSS	Minazif	54.41	306	P	P	20 19 00.3	+1.1
HATD	Hatta, Dubai	54.41	306	P	P	20 19 00.7	+1.6
HATD	Hatta, Dubai	54.41	306	*i* P	P	20 19 00.5	+1.3
	SNR=6.0						
TKM2	Tokmak 2	54.41	336	P	P	20 18 59.5	+0.4
	SNR=91						
KBK	Karagaybulak	54.46	335	P	P	20 19 00.3	+0.9
	SNR=34						
MDH	Madha	54.50	307	P	P	20 19 00.2	+0.4
AAK	Ala-Archa	54.63	335	P	P	20 19 00.6	0.0
AAK	Ala-Archa	54.63	335	P	P	20 19 00.8	+0.1
	comp=Z,14nm,0.8s,baz=150,slow=6.0,SNR=30						
AAK				LR	LR	20 46 31.4	
	comp=Z,263nm,19.6s,baz=150,slow=41						
	comp=Z,14nm,0.8s						
AAK	Ala-Archa	54.63	335	P	P	20 19 01.7	+1.0
AAK	Ala-Archa	54.63	335	P	P	20 19 01.4	+0.7
	SNR=20						
AAK	Ala-Archa	54.63	335	*i* P	P	20 19 01.3	+0.7
	SNR=19						
AAK	Ala-Archa	54.63	335	*i* P	P	20 18 59.8	-0.9
AAK				pmax	pmax		
	comp=Z,125nm,0.9s						
MASF	Masafi	54.64	307	P	P	20 19 02.3	+1.4
ARXS	Arharly	54.65	339	*i* P	P	20 18 59.2	-1.5
BANOM	Banah	54.79	307	P	P	20 19 01.6	-0.3
FAQ	Al Faqa, Dubai	54.80	306	P	P	20 19 03.5	+1.4
	SNR=5.9						
FAQ	Al Faqa, Dubai	54.80	306	*i* P	P	20 19 04.0	+2.0
	SNR=9.3						
CHMS	Chumysh	54.82	335	P	P	20 19 02.0	+0.2
	SNR=16						
NAZ	Nazwa, Dubai	54.86	306	P	P	20 19 03.7	+1.2
NAZ	Nazwa, Dubai	54.86	306	*i* P	P	20 19 03.4	+0.9
	SNR=7.0						
EKS2	Erkin-Say	54.96	334	P	P	20 19 03.8	+0.8
	SNR=8.7						
ASUD	Al Ashush, Dub	54.96	306	P	P	20 19 04.9	+1.8
ASUD	Al Ashush, Dub	54.96	306	*i* P	P	20 19 04.7	+1.6
	SNR=6.9						
SHME	Shamm	54.98	308	P	P	20 19 04.6	+1.3
SHME	Shamm	54.98	308	P	P	20 19 04.2	+0.9
TDK	Taldyqorghan	55.13	339	⇓*i* P	P	20 19 04.0	0.0
	comp=Z,18nm,0.7s						
TDK	Taldyqorghan	55.13	339	⇓*i* P	P	20 19 04.0	0.0
TDK				pmax	pmax		
	comp=Z,18nm,0.7s						
USP	Ospenovka	55.15	335	P	P	20 19 04.5	+0.3
	SNR=34						
HRA	Herat	55.20	320	P	P	20 19 04.0	-1.0
AJN	Ajban	55.21	305	P	P	20 19 06.0	+1.0
AJN	Ajban	55.21	305	P	P	20 19 05.4	+0.5
SGDS	Sogindy	55.25	336	⇓*i* P	P	20 19 04.9	-0.1
ZSN	Zaisan	55.42	346	*e* P	P	20 19 06.2	+0.1
	comp=Z,17nm,0.8s						
ZSN	Zaisan	55.42	346	*e* P	P	20 19 06.2	+0.1
ZSN				pmax	pmax		
	comp=Z,17nm,0.8s						
MK31	Makanchi Array	55.50	343	*i* P	P	20 19 06.4	-0.3
MKAR	Makanchi Array	55.50	343	P	P	20 19 06.5	-0.1
MKAR	Makanchi Array	55.50	343	P	P	20 19 06.8	+0.1
	comp=Z,37nm,0.8s,baz=146,slow=8.2,SNR=246						
MKAR				S	S	20 26 49.3	-1.2
	comp=Z,3.5nm,1.1s,baz=151,slow=16,SNR=8.3						
MKAR				LR	LR	20 45 48.9	
	comp=Z,138nm,19.6s,baz=140,slow=39						
	comp=Z,37nm,0.8s						
MKAR	Makanchi Array	55.50	343	P	P	20 19 06.5	-0.1
MZWR	Madinat Zayed	55.76	304	P	P	20 19 10.4	+1.5
MZR	Muzera	55.77	303	P	P	20 19 10.6	+1.6
MZR	Muzera	55.77	303	*i* P	P	20 19 10.5	+1.4
	SNR=12						
MDJ	Mudanjiang	56.03	23	P	P	20 19 14.6	+4.1
MDJ				PP	PP	20 21 16.3	+0.6
MDJ				S	S	20 26 58.0	+0.4
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDJ				LR	LR		
	comp=Z,350nm,12.7s						
MDJ				LR	LR		
	comp=Z,310nm,13.4s						
MDJ				LR	LR		
	comp=Z,470nm,14.4s						
ZAK	Zakamensk	56.16	1	*e* P	P	20 19 12.0	+0.5
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNX	BinXian	56.17	21	⇓P	P	20 19 11.6	+0.2
BNX				pmax	pmax		
	comp=Z,41nm,0.8s						
DZA	Taraz	56.22	333	*e* P	P	20 19 11.6	-0.3
	comp=Z,16nm,0.7s						
DZA	Taraz	56.22	333	*e* P	P	20 19 11.6	-0.3
DZA				pmax	pmax		
	comp=Z,16nm,0.7s						
IUG	Iuzhnay	56.24	331	⇓*i* P	P	20 19 12.1	-0.1
	comp=Z,23nm,1.0s						
IUG	Iuzhnay	56.24	331	*d i* P	P	20 19 12.1	-0.1
IUG				pmax	pmax		
	comp=Z,23nm,1.0s						
KNGR	Kungurtug, Tuv	56.53	356	⇑*e* P	P	20 19 14.9	+0.8
KNGR				pmax	pmax		
	comp=Z,13nm,0.8s						
CHM	Chimkent	56.58	331	*e* P	P	20 19 14.5	0.0
	comp=Z,25nm,1.4s						
CHM	Chimkent	56.58	331	*e* P	P	20 19 14.5	0.0
CHM				pmax	pmax		
	comp=Z,25nm,1.4s						
USRK	Ussuriysk Ar.	56.67	25	P	P	20 19 14.6	-0.4
	comp=Z,20nm,0.7s,baz=214,slow=5.3,SNR=27						
	comp=Z,20nm,0.7s						
KK31	Karatay Array	56.76	332	*i* P	P	20 19 15.2	-0.6
KKAR	Karatay Array	56.76	332	P	P	20 19 14.7	-1.1
KKAR	Karatay Array	56.76	332	P	P	20 19 14.7	-1.1
BTLS	Baital	56.80	336	*e* P	P	20 19 15.4	-0.5
	comp=Z,9.5nm,0.6s						
BTLS	Baital	56.80	336	*e* P	P	20 19 15.4	-0.5
BTLS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRLS	Boroldoy	57.02	332	*e* P	P	20 19 16.2	-1.4
	comp=Z,21nm,1.6s						
BRLS	Boroldoy	57.02	332	*e* P	P	20 19 16.1	-1.4
BRLS				pmax	pmax		
	comp=Z,21nm,1.6s						
JRN	Qarnain Island	57.12	305	P	P	20 19 19.8	+1.2
HNR	Honiara	57.14	97	P	P	20 19 18.2	-0.8
HNR	Honiara	57.14	97	P	P	20 19 18.5	-0.5
	comp=Z,95nm,0.7s,baz=252,slow=6.4,SNR=3.3						
	comp=Z,95nm,0.7s						
MOY	Mondy	57.46	359	*e* P	P	20 19 21.0	+0.4
MOY				pmax	pmax		
	comp=Z,14nm,1.6s						
SLWR	Sila	57.70	303	P	P	20 19 24.1	+1.4
TRNA	Turayna	58.38	304	P	P	20 19 28.7	+1.3
CIT	Chita	58.59	8	*e* P	P	20 19 29.2	+0.7
CIT				*e*		20 20 19.2	
CIT				*e*		20 23 03.6	
CIT				pmax	pmax		
	comp=Z,41nm,1.3s						
SMRA	Abu-Samra	58.70	304	P	P	20 19 30.3	+0.6
H04S1	CROZET ISLANDS	59.30	218	T	T	21 24 12.3	
	baz=63,slow=75,SNR=247						
H04S3	CROZET ISLANDS	59.32	218	T	T	21 23 56.8	
	baz=63,slow=75,SNR=484						
H04S2	CROZET ISLANDS	59.32	218	T	T	21 24 06.1	
	baz=63,slow=75,SNR=361						
KURBB	Kurchatov Arra	60.03	343	P	P	20 19 38.3	-0.1
	comp=Z,29nm,0.8s,baz=161,slow=6.4,SNR=99						
KURBB				S	S	20 27 51.2	+1.6
	comp=Z,0.6nm,0.2s,baz=141,slow=16,SNR=6.9						
KURBB				LR	LR	20 50 28.2	
	comp=Z,323nm,18.1s,baz=170,slow=41						
	comp=Z,29nm,0.8s						
KURK	Kurchatov	60.09	343	P	P	20 19 38.3	-0.5
KURK	Kurchatov	60.09	343	P	P	20 19 39.2	+0.5
KURK	Kurchatov	60.09	343	*de* P	P	20 19 38.7	-0.1
KURK				pmax	pmax		
	comp=Z,52nm,0.9s						
HEH	HeiHe	60.09	18	*e* P	P	20 19 38.5	-0.3
HEH				pmax	pmax		
	comp=Z,31nm,0.8s						
HEH				LR	LR		
	comp=Z,460nm,19.7s						
HEH				LR	LR		
	comp=Z,170nm,22.1s						
HEH				LR	LR		
	comp=Z,360nm,17.1s						
CASY	Casey	60.44	176	P	P	20 19 41.6	+0.6
BRZS	Berezniki	61.41	339	*e* P	P	20 19 47.7	-0.2
BRZS	Berezniki	61.41	339	*e* P	P	20 19 47.6	-0.2
ZAA0	Zalesovo Array	61.52	348	P	P	20 19 48.4	-0.1
ZALV	Zalesovo Beam	61.52	348	P	P	20 19 48.5	0.0
	comp=Z,25nm,0.7s,baz=160,slow=4.7,SNR=102						
ZALV				S	S	20 28 01.9	-6.7
	comp=Z,2.2nm,0.9s,baz=180,slow=9.7,SNR=5.8						
ZALV				LR	LR	20 50 11.9	
	comp=Z,332nm,19.1s,baz=143,slow=40						
	comp=Z,25nm,0.7s						
ATD	Arta Tunnel	61.69	286	LR	LR	20 43 37.8	
	comp=Z,4.7nm,18.8s,baz=76,slow=33						
RAYN	Ar Rayn	62.73	300	P	P	20 19 56.0	-1.3
RAYN				IAmb	IAmb	20 19 58.9	
	comp=Z,68nm,1.6s						
RAYN	Ar Rayn	62.73	300	P	P	20 19 58.1	+0.8
RAYN	Ar Rayn	62.73	300	*i* P	P	20 19 57.9	+0.6
	SNR=17						
RAYN	Ar Rayn	62.73	300	P	P	20 19 56.0	-1.3
RAYN				pmax	pmax		
	comp=Z,68nm,1.6s						
KBD	Kabd	63.07	307	P	P	20 20 00.4	+1.0
ZEA	Zeya	63.11	16	*e* P	P	20 20 00.4	+1.3
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.5s						
ZEA				MLR	MLR		
	comp=E,200nm,15.0s						
ZEA				MLR	MLR		
	comp=N,100nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS	Yuzhno-Sakhali	63.70	30	P	P	20 20 02.6	-0.5
YSS				IAmb	IAmb	20 20 15.0	
	comp=Z,42nm,1.0s						
YSS	Yuzhno-Sakhali	63.70	30	*e* P	P	20 20 02.1	-1.1
YSS				*e*		20 22 27.1	
YSS				*e* S	S	20 28 36.6	+0.4
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
DZM	Mont Dzumac	63.78	112	*e* P	P	20 20 14.6	+10
	comp=Z,44nm,1.5s						
DZM	Mont Dzumac	63.78	112	*e* SS	SS	20 32 46.3	-0.5
	comp=Z,124nm,24.9s						
DZM				*e* LR	LR	20 38 58.7	
	comp=Z,390nm,24.3s						
DZM	Mont Dzumac	63.78	112	LR	LR	20 49 34.6	
	comp=Z,172nm,19.6s,baz=190,slow=38						
KIBK	Kibwezi	64.20	270	P	P	20 20 06.7	-0.6
KIBK	Kibwezi	64.20	270	P	P	20 20 08.4	+1.1
BOD	Bodaibo	64.31	7	*e* P	P	20 20 07.1	+0.2
BOD				pmax	pmax		
	comp=Z,34nm,1.4s						
BVA0	Borovoye Array	64.73	339	P	P	20 20 08.5	-1.3
BVAR	Borovoye Array	64.73	339	P	P	20 20 09.6	-0.2
	comp=Z,40nm,0.7s,baz=143,slow=8.7,SNR=259						
BVAR				LR	LR	20 54 34.9	
	comp=Z,218nm,18.5s,baz=130,slow=42						
	comp=Z,40nm,0.7s						
BORK	Borovoye	64.77	339	*d i* P	P	20 20 09.7	-0.4
BORK				pmax	pmax		
	comp=Z,36nm,0.7s						
AB31	Akbulak array	66.25	331	P	P	20 20 19.2	-0.5
AB31	Akbulak array	66.25	331	*i* P	P	20 20 19.4	-0.3
ABKAR	Akbulak array	66.25	331	P	P	20 20 19.0	-0.7
LKRN	Lenkeran, Azer	66.58	317	P	P	20 20 23.8	+1.8
MAW	Mawson	67.03	195	P	P	20 20 24.6	+0.2
	comp=Z,1.8nm,0.9s,baz=39,slow=6.5,SNR=3.6						
MAW				LR	LR	20 46 29.9	
	comp=Z,147nm,18.0s,baz=32,slow=33						
	comp=Z,1.8nm,0.9s						
LODK	Lodwar	67.54	276	P	P	20 20 29.2	+0.4
LODK	Lodwar	67.54	276	P	P	20 20 30.0	+1.3
AKTO	Aktyubinsk	67.97	331	P	P	20 20 30.4	-0.2
	comp=Z,12nm,1.0s,baz=118,slow=7.6,SNR=18						
AKTO				LR	LR	20 53 47.9	
	comp=Z,136nm,18.7s,baz=272,slow=39						
	comp=Z,12nm,1.0s						
AKTO	Aktyubinsk	67.97	331	P	P	20 20 29.8	-0.8
AKT	Akhty	68.64	319	*e* P	P	20 20 35.0	-0.2
AKT				*e*		20 20 57.1	
AKT				*e*		20 23 04.1	
AKT				*e* PPP	PPP	20 24 43.1	
AKT				*e* S	S	20 29 42.5	+5.7
AKT				pmax	pmax		
	comp=Z,66nm,1.1s						
AKT				MLR	MLR		
	comp=Z,326nm,22.0s						
MNGR	Mingechevir, A	68.72	318	P	P	20 20 36.8	+1.3
SEKA	Sheki	68.86	318	P	P	20 20 37.3	+0.8
NAX	Nakhchivan	69.06	316	P	P	20 20 38.7	+0.9
GANJ	Ganja	69.17	318	P	P	20 20 39.4	+1.0
MAK	Makhachkala	69.52	320	*c i* P	P	20 20 33.8	-6.6
MAK				*e* S	S	20 29 38.0	-8.8
MAK				pmax	pmax		
	comp=Z,128nm,1.7s						
GNI	Garni	70.02	316	P	P	20 20 44.0	+0.2
GNI				IAmb	IAmb	20 20 48.4	
	comp=Z,17nm,0.9s						
GNI	Garni	70.02	316	P	P	20 20 44.7	+0.9
GNI	Garni	70.02	316	P	P	20 20 44.3	+0.5
GNI	Garni	70.02	316	*de* P	P	20 20 44.3	+0.5
GNI				pmax	pmax		
	comp=Z,19nm,1.0s						
GNI	Garni	70.02	316	P	P	20 20 43.1	-0.7
	comp=Z,19nm,1.0s						
RPZ	Rata Peaks	70.53	134	LR	LR	20 51 42.7	
	comp=Z,373nm,20.9s,baz=292,slow=36						
YAK	Yakutsk	71.04	13	P	P	20 20 48.3	-1.0
YAK				IAmb	IAmb	20 21 00.8	
	comp=Z,38nm,0.8s						
YAK	Yakutsk	71.04	13	LR	LR	20 57 36.3	
	comp=Z,178nm,20.1s,baz=206,slow=41						
YAK	Yakutsk	71.04	13	*e* P	P	20 20 48.1	-1.2
YAK				*e*		20 21 08.4	
YAK				*e*		20 23 25.5	
YAK				*e* PPP	PPP	20 25 07.2	
YAK				*e* S	S	20 30 05.2	+1.3
YAK				*e*		20 30 56.8	
YAK				*e* SS	SS	20 34 38.5	+0.9
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,150nm,4.1s						
YAK				pmax	pmax		
	comp=N,27nm,2.4s						
YAK				pmax	pmax		
	comp=E,122nm,3.7s						
YAK				smax	smax		
	comp=E,156nm,4.3s						
YAK				smax	smax		
	comp=N,130nm,3.8s						
GURO	Guroymak-BITLI	71.23	314	IAmb	IAmb	20 20 53.0	
	comp=Z,30nm,1.0s						
SVE	Sverdlovsk	71.25	337	*ce* P	P	20 20 51.4	+0.7
SVE				pmax	pmax		
	comp=Z,51nm,1.2s						
THZ	Tophouse	71.55	132		P	20 20 52.0	-1.0
MBAR	Mbarara	71.64	271	P	P	20 20 54.0	-0.2
MBAR	Mbarara	71.64	271	P	P	20 20 55.6	+1.4
MBAR	Mbarara	71.64	271	P	P	20 20 54.0	-0.2
MBAR				pmax	pmax		
	comp=Z,12nm,1.1s						
ARTI	Arti	71.83	336	P	P	20 20 54.1	-0.1
ARTI	Arti	71.83	336	P	P	20 20 54.1	-0.1
	comp=Z,32nm,1.0s,baz=138,slow=3.1,SNR=38						
ARTI				LR	LR	20 57 36.5	
	comp=Z,222nm,18.2s,baz=130,slow=40						
	comp=Z,32nm,1.0s						
ARTI	Arti	71.83	336	*d i* P	P	20 20 54.2	-0.1
ARTI						20 21 10.2	
ARTI						20 23 31.2	
ARTI				S	S	20 30 16.0	+2.7
ARTI				pmax	pmax		
	comp=Z,34nm,1.0s						
MATP	Matopo	72.80	251	LR	LR	20 49 58.6	
	comp=Z,124nm,18.2s,baz=58,slow=33						
ASF	Jabal al Asfar	72.81	306	LR	LR	20 52 03.3	
	comp=Z,190nm,20.4s,baz=136,slow=35						
KBZ	Khabaz	72.84	319	P	P	20 21 01.1	+0.6
	comp=Z,25nm,0.9s,baz=113,slow=5.5,SNR=39						
	comp=Z,25nm,0.9s						
KBZ	Khabaz	72.84	319	*d i* P	P	20 21 00.9	+0.4
KBZ				pmax	pmax		
	comp=Z,34nm,1.0s						
KIV	Kislovodsk	73.08	319	P	P	20 21 01.7	-0.4
KIV				IAmb	IAmb	20 21 04.0	
	comp=Z,34nm,0.9s						
KIV	Kislovodsk	73.08	319	P	P	20 21 02.8	+0.7
KIV	Kislovodsk	73.08	319	⇑P	P	20 21 02.7	+0.6
KIV	Kislovodsk	73.08	319	*i* P	P	20 21 02.8	+0.7
	SNR=8.7						
KIV	Kislovodsk	73.08	319	*e* P	P	20 21 02.2	+0.1
KIV				pmax	pmax		
	comp=Z,31nm,1.0s						
LSZ	Lusaka	73.18	256	LR	LR	20 48 06.9	
	comp=Z,229nm,20.8s,baz=115,slow=32						
GOF	Gofitskoye	73.34	320	*ce* P	P	20 21 04.0	+0.5
EIL	Elat	73.64	303	LR	LR	20 52 22.7	
	comp=Z,150nm,19.2s,baz=152,slow=35						
BKZ	Black Stump Fm	73.95	129	P	P	20 21 05.7	-1.6
BKZ				IAmb	IAmb	20 21 22.0	
	comp=Z,20nm,0.6s						
GAZ	Gaziantep	74.24	311	IAmb	IAmb	20 21 10.9	
	comp=Z,26nm,1.0s						
MMAI	Mount Meron Ar	74.28	307	P	P	20 21 10.5	+1.1
	comp=Z,11nm,0.9s,baz=112,slow=6.4,SNR=13						
MMAI				LR	LR	20 53 11.2	
	comp=Z,168nm,20.9s,baz=105,slow=35						
	comp=Z,11nm,0.9s						
RTZ	Ruatahuna	74.28	128	P	P	20 21 08.2	-1.1
RTZ				IAmb	IAmb	20 21 37.2	
	comp=Z,32nm,1.0s						
BELG	Belogornoye	74.34	329	P	P	20 21 08.9	-0.2
	comp=Z,19nm,0.7s,baz=142,slow=19,SNR=14						
	comp=Z,19nm,0.7s						
BELG	Belogornoye	74.34	329	*d i* P	P	20 21 08.7	-0.4
BELG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
URZ	Urewera	74.35	128	LR	LR	20 57 27.2	
	comp=Z,341nm,18.1s,baz=287,slow=39						
LABN	Labinsk	74.65	319	*e* P	P	20 21 09.9	-1.2
LABN				pmax	pmax		
	comp=Z,31nm,1.0s						
SYO	Syowa Base	74.87	199	⇑*e* P	P	20 21 13.2	+1.3
SOC	Sochi	74.87	318	*e* P	P	20 21 10.6	-1.9
SOC				*e*		20 23 56.6	
SOC				*e* PPP	PPP	20 25 46.8	
SOC				*e* S	S	20 30 49.5	+1.2
SOC				*e* SS	SS	20 35 35.3	-1.6
SOC				pmax	pmax		
	comp=Z,38nm,0.9s						
PETK	Petropavlovsk-	75.05	31	P	P	20 21 12.6	-0.7
	comp=Z,4.5nm,0.9s,baz=258,slow=7.1,SNR=4.6						
PETK				LR	LR	20 56 59.4	
	comp=Z,66nm,18.8s,baz=254,slow=38						
	comp=Z,4.5nm,0.9s						
ERBR	Yeremizino-Bor	75.25	320	*e* P	P	20 21 13.2	-1.4
ERBR				pmax	pmax		
	comp=Z,35nm,1.3s						
LBTB	Lobatse	75.49	246	LR	LR	20 48 23.0	
	comp=Z,180nm,20.2s,baz=86,slow=31						
PET	Petropavlovsk	75.50	31	*e* P	P	20 21 15.2	-0.6
PET				*e*		20 21 26.6	
PET				*e* S	S	20 30 51.9	-2.9
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
BOSA	Boshof	75.82	242	P	P	20 21 18.7	+0.3
	comp=Z,4.1nm,0.8s,baz=99,slow=13,SNR=5.5						
BOSA				LR	LR	20 50

comp=Z,12nm,0.8s
BRTR Keskin Array B 77.73 313 P **P 20 21 28.0 -1.0**
BR105 Keskin Array S 77.75 313 P **P 20 21 28.4 -0.7**
comp=Z,147nmcomp=Z,19nm,0.9s
BR105 PcP **sP 20 21 37.6 -1.2**
comp=Z,147nmcomp=Z,19nm,0.9s
VNDA Vanda 77.81 169 P **P 20 21 29.2 +0.7**
VNDA IAmb IAmb 20 24 14.7
comp=Z,19nm,0.7s
VNDA Vanda 77.81 169 P **P 20 21 28.6 +0.1**
comp=Z,1.7nm,0.8s,baz=309,slow=5.4,SNR=10
VNDA LR LR 20 50 31.6
comp=Z,127nm,19.1s,baz=312,slow=32
comp=Z,1.7nm,0.8s
ILGA Ilgaz 78.10 314 IAmb IAmb 20 21 32.4
comp=Z,33nm,1.3s
VORD Divnogorie 78.20 325 *e*P **P 20 21 28.8 -2.3**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 78.38 325 *e*P **P 20 21 29.6 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 78.40 313 P **P 20 21 31.8 -0.8**
ANTO IAmb IAmb 20 21 33.6
comp=Z,20nm,0.9s
ANTO Ankara 78.40 313 P **P 20 21 32.8 +0.3**
ANTO Ankara 78.40 313 ⇑P **P 20 21 32.4 -0.2**
ANTO Ankara 78.40 313 P **P 20 21 31.8 -0.8**
ANTO pmax pmax
comp=Z,20nm,0.9s
SEY Seymchan 78.47 21⇑*e*P **P 20 21 32.5 +0.1**
SEY pmax pmax
comp=Z,5.0nm,0.7s
VORR Voronezh 78.55 325 *e*P **P 20 21 30.9 -2.1**
VORR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 79.10 326 *e*P **P 20 21 34.1 -1.9**
LPSR pmax pmax
comp=Z,30nm,0.9s
SIM Simferopol' 79.12 318 *e*P **P 20 21 35.6 -0.7**
SIM pmax pmax
comp=Z,43nm,1.0s
TIXI Tiksi 79.44 8⇓*e*P **P 20 21 37.0 -0.5**
TIXI pmax pmax
comp=Z,22nm,1.4s
MOS Moscow 81.11 329 *e*P **P 20 21 45.9 -0.9**
MOS pmax pmax
comp=Z,48nm,0.8s
OBN Obninsk 81.41 328 P **P 20 21 47.9 -0.4**
OBN Obninsk 81.41 328 ⇑P **P 20 21 49.3 +0.9**
OBN Obninsk 81.41 328 ⇓*i*P **P 20 21 48.7 +0.3**
OBN *i* 20 24 51.8
OBN pmax pmax
comp=Z,39nm,0.9s
OBN MLR MLR
comp=Z,131nm,13.0s
OBN Obninsk 81.41 328 P **P 20 21 48.0 -0.4**
comp=Z,62nm,1.3s
KLMR Klimovskoe 82.43 334 *e*P **P 20 21 52.0 -1.6**
KLMR *e* 20 24 59.4
KLMR pmax pmax
comp=Z,50nm,1.4s
TIRR Tirgusor 82.84 316 IAmb IAmb 20 21 57.0
comp=Z,18nm,0.9s
TIRR Tirgusor 82.84 316 ⇑P **P 20 21 56.7 +0.5**
TIRR Tirgusor 82.84 316 P **P 20 21 56.6 +0.5**
TIRR Tirgusor 82.84 316 P **P 20 21 55.6 -0.6**
TLBR Topalu 83.11 316 ⇑P **P 20 21 57.9 +0.3**
TSUM Tsumeb 83.12 251 LR LR 20 54 38.9
comp=Z,186nm,19.5s,baz=10.0,slow=32
HARR Harsova 83.23 316 ⇑P **P 20 21 58.4 +0.2**
HARR Harsova 83.23 316 P **P 20 21 58.4 +0.2**
LOZB Loznitsa 83.83 315 ⇑P **P 20 22 02.1 +0.7**
VASR Vaslui 83.84 318 ⇑P **P 20 22 01.3 0.0**
SORM Soroca 83.88 320 ⇑P **P 20 22 01.8 +0.4**
SORM Soroca 83.88 320 P **P 20 22 01.8 +0.4**
RAZG Razgrad 83.94 315 ⇑P **P 20 22 02.7 +0.8**
GHRR 83.95 317 ⇑P **P 20 22 02.9 +1.0**
QSPA South Pole Qui 83.98 180 **P 20 22 04.0 +2.1**
QSPA IAmb IAmb 20 22 16.6
comp=Z,10nm,0.8s
QSPA South Pole Qui 83.98 180 P **P 20 22 03.7 +1.8**
comp=Z,5.0nm,0.9s,baz=308,slow=4.2,SNR=12
QSPA LR LR 20 53 56.4
comp=Z,111nm,18.7s,baz=313,slow=32
comp=Z,5.0nm,0.9s
AK09 Malin Array Si 84.00 322 P **P 20 22 01.5 -0.5**
AK09 pP **PcP 20 22 05.8 -0.1**
AKASG Malin Array Be 84.06 322 P **P 20 22 01.3 -1.0**
AKASG Malin Array Be 84.06 322 P **P 20 22 02.0 -0.3**
comp=Z,5.6nm,0.6s,baz=89,slow=4.8,SNR=32
comp=Z,5.6nm,0.6s
AKBB Malin Array Si 84.06 322 IAmb IAmb 20 22 02.9
comp=Z,15nm,0.7s
AKBB Malin Array Si 84.06 322*d i*P **P 20 22 01.9 -0.4**
AKBB Malin Array Si 84.06 322 P **P 20 22 01.9 -0.4**
KIEV Kiev 84.07 322 P **P 20 22 01.7 -0.6**
KIEV IAmb IAmb 20 22 02.9
comp=Z,14nm,0.7s
KIEV Kiev 84.07 322 ⇑P **P 20 22 02.3 0.0**
KIEV Kiev 84.07 322 *i* P **P 20 22 02.1 -0.2**
SNR=8.9
KIEV Kiev 84.07 322 P **P 20 22 01.7 -0.6**
KIEV pmax pmax
comp=Z,14nm,0.7s
AK11 Malin Array Si 84.09 322 P **P 20 22 01.9 -0.5**
ELND Elena 84.24 314 ⇓P **P 20 22 04.0 +0.6**
VRI Vrincioaia 84.36 317 ⇑P **P 20 22 05.3 +1.3**
VRI Vrincioaia 84.36 317 P **P 20 22 05.3 +1.3**
PLOR Plostina 84.41 317 ⇑P **P 20 22 05.4 +1.1**
PLOR Plostina 84.41 317 P **P 20 22 05.3 +1.1**
NVL N'lazarevskaya 84.54 199 *e*P **P 20 22 04.2 -0.2**
NVL *e* 20 25 19.3
NVL *e*S **SKSac 20 32 27.4 +0.8**
NVL *e*SS **SS 20 38 03.2 +3.1**
NVL *e*SSS SSS 20 41 32.9
NVL pmax pmax
comp=Z,7.0nm,0.7s
NVL smax smax
comp=N,121nm,7.5s
NVL MLR MLR
comp=Z,89nm,18.0s
NEHR Nehoiu 84.54 317 ⇑P **P 20 22 06.2 +1.3**
TESR Tescani 84.57 318 ⇑P **P 20 22 06.1 +1.0**
ONER Baraj Valea Uz 84.70 318 ⇑P **P 20 22 06.1 +0.4**
ZIMR 84.77 315 ⇑P **P 20 22 07.1 +1.0**
ZIMR 84.77 315 P **P 20 22 07.0 +1.0**
MLR Muntele Rosu 84.80 317 IAmb IAmb 20 22 08.3
comp=Z,32nm,1.0s
MLR Muntele Rosu 84.80 317 ⇑P **P 20 22 07.4 +1.1**
MLR Muntele Rosu 84.80 317 P **P 20 22 07.4 +1.1**
TURR Turia 84.89 317 ⇓P **P 20 22 07.5 +0.8**
KMPD K-Podol'skiy 85.21 320 P **P 20 22 07.6 -0.6**
PLVB Pleven 85.23 314 ⇑P **P 20 22 08.5 +0.1**
DOPR Dopca 85.29 317 ⇓P **P 20 22 09.8 +1.1**
ARR Arges 85.67 316 ⇑P **P 20 22 11.0 +0.4**
BURAR Bucovina Array 85.79 319 P **P 20 22 11.6 +0.4**
BURAR IAmb IAmb 20 22 13.5
comp=Z,18nm,0.7s
BURAR Bucovina Array 85.79 319 ⇑P **P 20 22 13.0 +1.7**
BURAR Bucovina Array 85.79 319 P **P 20 22 12.9 +1.7**
BUR08 Bucovina Ar. S 85.81 319 IAmb IAmb 20 22 13.3
comp=Z,14nm,0.8s
MNK Minsk 85.93 326 *i* P **P 20 22 12.5 +0.9**
MNK *i* 20 22 15.0
MNK *i* PPP PPP 20 27 25.6
MNK *i* S **SKSac 20 32 37.6 +1.8**
MNK *i* SS **SS 20 38 29.2 +7.6**
MNK pmax pmax
comp=Z,26nm,0.7s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,12nm,0.8s
BILL Bilibino 86.09 20⇑*i*P **P 20 22 14.6 +2.4**
BILL pmax pmax
comp=Z,11nm,1.3s
RNPP5 Staryi Chortor 86.24 322 P **P 20 22 12.6 -0.6**
ARCR ARCALIA 86.24 318 ⇓P **P 20 22 14.8 +1.5**
BMR Baia Mare 86.94 318 ⇓P **P 20 22 18.2 +1.5**
BMR Baia Mare 86.94 318 P **P 20 22 18.2 +1.5**
GZR Gura Zlata 86.95 316 ⇑P **P 20 22 17.8 +0.8**
GZR Gura Zlata 86.95 316 P **P 20 22 17.7 +0.8**
DEV Deva 86.96 317 ⇑P **P 20 22 18.6 +1.6**
DEV Deva 86.96 317 P **P 20 22 18.5 +1.6**
MARR Marisel-Cluj 86.98 317 ⇑P **P 20 22 17.6 +0.5**
HERR Herculane 87.10 316 ⇓P **P 20 22 18.4 +0.8**
DRGR 87.28 317 ⇓P **P 20 22 19.4 +0.8**
DRGR 87.28 317 P **P 20 22 19.3 +0.8**
LVZ Lovozero 87.32 339⇓*e*P **P 20 22 19.0 +0.8**
LVZ pmax pmax
comp=Z,14nm,1.1s
TROLL Troll, Antarti 87.36 198 ⇑P **P 20 22 20.4 +1.9**
comp=Z,112nm,0.7s
BOVS Bovan 87.36 314 ⇓P **P 20 22 19.2 +0.3**
SURR Surduc 87.47 316 ⇑P **P 20 22 20.4 +1.1**
MDVR Moldovita 87.57 315 ⇑P **P 20 22 20.8 +0.8**
VSU Vasula 87.62 329*d i*P **P 20 22 19.4 -0.3**
VSU pmax pmax
comp=Z,34nm,0.9s
APA Apatity 87.64 339⇓*e*P **P 20 22 19.2 -0.5**
APA *e* 20 25 45.7
BZS Buzias 87.79 316 ⇓P **P 20 22 21.8 +0.8**
BZS Buzias 87.79 316 P **P 20 22 21.7 +0.8**
SUW Suwalki 88.48 325 *e*P **P 20 22 24.4 +0.4**
FINES FINESS Array B 88.72 332 P **P 20 22 25.5 +0.6**
FINES FINESS Array B 88.72 332 P **P 20 22 25.3 +0.3**
comp=Z,13nm,0.8s,baz=117,slow=5.8,SNR=41
FINES PP **PP 20 25 51.3 -2.6**
comp=Z,2.9nm,0.8s,baz=95,slow=12,SNR=4.9
FINES LR LR 21 07 17.8
comp=Z,281nm,18.4s,baz=129,slow=39
comp=Z,13nm,0.8s
STHS Stebnicka Huta 88.75 320 *e*P **P 20 22 26.2 +0.8**
SNAA Sanae 89.07 198 ⇑P **P 20 22 28.4 +1.8**
comp=Z,70nm,0.8s
SNAA Sanae 89.07 198 P **P 20 22 28.0 +1.4**
SNAA IAmb IAmb 20 22 46.3
comp=Z,19nm,1.1s
SNAA Sanae 89.07 198 P **P 20 22 28.5 +1.9**
comp=Z,4.4nm,1.0s,baz=120,slow=7.0,SNR=13
SNAA LR LR 20 56 08.1
comp=Z,74nm,21.3s,baz=32,slow=31
comp=Z,4.4nm,1.0s
SNAA Sanae 89.07 198 P **P 20 22 28.0 +1.4**
SNAA pmax pmax
comp=Z,19nm,1.1s
R9F13 Warsaw-Wawer 89.33 323 *e*P **P 20 22 29.2 +1.2**
NIE Niedzica 89.36 320 *e*P **P 20 22 29.5 +1.2**
PSZ Piszkesteto 89.37 318 IAmb IAmb 20 22 30.2
comp=Z,16nm,1.0s
PSZ Piszkesteto 89.37 318 ⇑P **P 20 22 29.3 +0.9**
PSZ Piszkesteto 89.37 318 P **P 20 22 29.3 +0.9**
BEL Belsk 89.47 322 *e*P **P 20 22 29.6 +0.9**
MORH Mrgy, Hungar 89.94 316 ⇑P **P 20 22 31.9 +0.9**
TIP Timpagrande 90.33 309 ⇑P **P 20 22 34.6 +1.5**
SRO Srobarova 90.40 318 *e*P **P 20 22 34.6 +1.5**
VNA2 Neumayer--Watz 90.70 198 ⇓P **P 20 22 36.1 +2.0**
comp=Z,2.6nm,0.5s,baz=78,slow=3.3
BLY Banja Luka 90.75 315 ⇓P **P 20 22 35.2 +0.4**
JAVC Velka Javorina 90.97 319 *e*P **P 20 22 37.2 +1.3**
ARCES ARCESS Array B 91.01 340 P **P 20 22 35.6 +0.1**
comp=Z,6.2nm,0.9s,baz=97,slow=6.6,SNR=9.1
ARCES LR LR 21 08 03.2
comp=Z,170nm,18.0s,baz=96,slow=39
comp=Z,6.2nm,0.9s
MODS Modra-Piesok 91.17 318 *e*P **P 20 22 37.8 +1.1**
MORC Moravsky Berou 91.18 320 IAmb IAmb 20 22 38.9
comp=Z,12nm,1.0s
MORC Moravsky Berou 91.18 320 ⇑P **P 20 22 37.3 +0.4**
MORC Moravsky Berou 91.18 320 *e*P **P 20 22 37.5 +0.7**
MORC Moravsky Berou 91.18 320 P **P 20 22 37.2 +0.4**
KRLC Kraliky 91.71 320 *e*P **P 20 22 40.6 +1.4**
KRLC Kraliky 91.71 320 *e*P **P 20 22 40.6 +1.4**
RONA Rosalia, Austr 91.73 318 *e*P **P 20 22 40.1 +0.7**
comp=Z,6.7nm,1.5s
VRAC Vranov 91.74 319 *e*P **P 20 22 39.2 -0.1**
KRUC Moravsky 91.83 319 *e*P **P 20 22 40.4 +0.6**
DPC Dobruska-Polom 92.04 320 *e*P **P 20 22 42.4 +1.6**
DPC Dobruska-Polom 92.04 320 *e*P **P 20 22 42.4 +1.6**
CONA Conrad Observa 92.05 318 *e*P **P 20 22 40.4 -0.5**
comp=Z,1.9nm,0.7s
ARSA Arzberg 92.20 317 *i* PcP **P 20 22 42.5 +1.0**
comp=Z,8.3nm,0.9s
CHVC Chvalec 92.23 320 *e*P **P 20 22 42.6 +1.0**
CHVC Chvalec 92.23 320 *e*P **P 20 22 42.6 +1.0**
SOKA Soboth 92.48 316 *i* PcP **P 20 22 44.0 +1.1**
comp=Z,7.2nm,0.8s,SNR=5.8
OBKA Obir 92.79 316 *e*P **P 20 22 44.6 +0.2**
comp=Z,15nm,1.6s
MOA Molln 93.11 318 *i* P **P 20 22 46.2 +0.5**
comp=Z,3.2nm,0.9s
ZVC Zvikov 93.31 319 *e*P **P 20 22 47.2 +0.6**
BIOA Bad Ischl, Aus 93.52 317 *i* P **P 20 22 47.8 +0.1**
comp=Z,4.2nm,0.9s
GERES GERESS Array B 93.58 319 P **P 20 22 48.2 +0.3**
comp=Z,3.1nm,0.7s,baz=90,slow=2.7,SNR=23
comp=Z,3.1nm,0.7s
BRG Berggiesshubel 93.60 321 *e*P **P 20 22 48.9 +1.0**
BRG Amp 20 22 49.7
comp=Z,5.2nm,0.8s
LESA Schwarzleotal 94.15 317 *i* P **P 20 22 50.4 -0.2**
comp=Z,2.8nm,0.5s
CLL Collm 94.23 321 *i* P **P 20 22 50.4 -0.3**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 94.23 321 *i* P **P 20 22 50.4 -0.3**
comp=Z,5.0nm,0.9s
CIMO Cimolais 94.23 316 IAmb IAmb 20 22 52.1
comp=Z,12nm,0.9s
HFS Hagfors 94.48 330 P **P 20 22 51.8 +0.1**
comp=Z,3.4nm,0.7s,baz=132,slow=2.1,SNR=7.9
comp=Z,3.4nm,0.7s
WTTA Wattenberg 94.84 317 *i* P **P 20 22 53.9 0.0**
comp=Z,6.9nm,1.1s
WATA Walderalm 94.89 317 *i* P **P 20 22 53.7 -0.4**
comp=Z,2.5nm,0.5s
SPITS Spitsbergen Ar 95.01 348 P **P 20 22 53.3 -0.6**
comp=Z,9.8nm,0.9s,baz=110,slow=8.1,SNR=2.6
SPITS LR LR 21 13 23.0
comp=Z,216nm,18.6s,baz=89,slow=40
comp=Z,9.8nm,0.9s
SQTA Sankt Quirin 95.13 317 *i* P **P 20 22 55.2 0.0**
comp=Z,3.0nm,0.5s
RAR Rarotonga 95.16 112 LR LR 21 04 32.0
comp=Z,72nm,20.9s,baz=282,slow=35
MOTA Moosalm 95.21 317 *i* P **P 20 22 55.4 -0.1**
comp=Z,3.0nm,0.8s
RETA Reutte 95.45 317 *i* P **P 20 22 56.8 +0.2**
comp=Z,2.4nm,0.6s
NB2 NORSAR Subarra 95.76 331 P **P 20 22 57.6 0.0**
comp=Z,0.8nm,0.6s,baz=95,slow=5.3
NOA NORSAR Array B 95.76 331 P **P 20 22 57.4 -0.2**
comp=Z,1.0nm,0.7s,baz=95,slow=4.6,SNR=6.3
NOA PP **PP 20 26 51.1 +1.7**
comp=Z,1.3nm,0.7s,baz=89,slow=8.2,SNR=3.5
NOA LR LR 21 12 32.5
comp=Z,108nm,18.9s,baz=265,slow=40
comp=Z,1.0nm,0.7s
KEST Kesra 95.89 305 LR LR 21 06 13.2
comp=Z,105nm,19.5s,baz=279,slow=36
DAVA Damuels 96.04 317 *i* P **P 20 22 59.0 -0.3**
comp=Z,8.4nm,1.0s
TBI Tubuai 104.15 116 *e*LQ LQ 20 53 13.6
comp=Z,1μm,39.2s
TBI *e*LR LR 20 57 46.0
comp=Z,879nm,29.5s
ILAR Eielson Array 104.19 24 PP **PP 20 27 52.9 -0.2**
comp=Z,0.7nm,1.1s,baz=309,slow=9.2,SNR=2.3
PPT2 Papeete2 105.26 110 *e*SS SS 20 42 54.8 -2.9
comp=Z,77nm,26.2s
PPT2 Papeete2 105.26 110 *e*LQ LQ 20 53 51.8
comp=Z,335nm,35.2s
PPT2 *e*LR LR 20 58 17.6
comp=Z,162nm,24.0s
PPT2 *e*LR LR 20 58 20.2
comp=Z,180nm,23.0s
ESDC Sonseca Array 106.35 309 PP **PP 20 28 11.2 +1.1**
comp=Z,1.1nm,0.9s,baz=53,slow=5.2,SNR=5.2
TAOE Nuku Hiva Isla 115.98 103 *e*LR LR 21 03 11.6
comp=Z,374nm,25.7s
WELL Weller Preserv 129.42 44 PKPpre 20 28 32.0
NVAR Mina Array Bea 131.07 43 PKP **PKPdf 20 28 44.2 0.0**
comp=Z,0.7nm,0.9s,baz=323,slow=2.9,SNR=3.0
NVAR SKPbc **SKPbc 20 32 07.5 +0.1**
comp=Z,2.0nm,0.9s,baz=298,slow=4.1,SNR=7.0
PDAR Pinedale Array 133.80 33 PKhKP PKPpre 20 28 46.5
comp=Z,0.2nm,0.6s,baz=24,slow=5.5,SNR=3.9
PDAR SKP 20 32 28.6
comp=Z,1.9nm,0.7s,baz=78,slow=0.8,SNR=13
RSSD Black Hills 135.55 27 **PKPdf 20 28 50.8 -1.6**
RSSD Black Hills 135.55 27 PKIKP **PKPdf 20 28 50.8 -1.6**
CPUP Villa Florida 142.29 211 PKhKP PKPpre 20 28 58.9
comp=Z,0.2nm,0.4s,baz=145,slow=2.9,SNR=6.8
MNTX Cornudas Mount 143.59 42 **PKPdf 20 29 06.6 -0.5**
BDFB Brasilia 143.61 233 PKhKP PKPpre 20 29 05.9
comp=Z,1.2nm,0.4s,baz=62,slow=4.0,SNR=3.7
P40A Paris 144.19 19 PKPbc 20 29 05.9 -0.2
VHRN Van Horn 144.42 43 **PKPdf 20 29 08.9 +0.1**
KSPA Keystone Colle 144.56 358 **PKPab 20 29 06.7 -0.2**
ALPN Alpine 145.59 42 **PKPab 20 29 12.9 +1.7**
CCM Cathedral Cave 145.79 19 **PKPdf 20 29 10.4 -0.3**
CCM Cathedral Cave 145.79 19 PKP2 **PKPdf 20 29 10.4 -0.3**
AQDB Aquidauana 145.97 219 **PKPdf 20 29 08.2 -3.3**
PSUB Penn St. - Bra 146.17 357 **PKPdf 20 29 09.9 -1.4**
TXAR Lajitas Array 146.22 44 PKPbc **PKPab 20 29 13.7 +0.1**
comp=Z,6.6nm,0.8s,baz=306,slow=1.6,SNR=43
WCI Wyandotte Cave 146.98 13 **PKPbc 20 29 14.7 0.0**
WCI Wyandotte Cave 146.98 13 PKP2 **PKPbc 20 29 14.7 0.0**
DRIO Del Rio 148.18 40 **PKPdf 20 29 14.4 -0.6**
PTLB Pontes e Lacer 151.87 221 **PKPbc 20 29 26.7 -0.9**
LPAZ La Paz 155.93 203 PKPab **PKPab 20 29 55.5 +1.1**
comp=Z,1.8nm,0.7s,baz=20,slow=6.1,SNR=4.0

IDC 07 20:18:33.4±5.3, 15°.63S×171°.04W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=227.5km s-min=38.2km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.90**	**241**	P	P	20 26 57.6	-0.4
	3.6nm,1.0s,baz=84,slow=18,SNR=2.8						
	3.6nm,1.0s						
WRA	**Warramunga Arr**	**52.01**	**257**	P	P	20 27 45.1	0.0
	0.6nm,0.3s,baz=93,slow=7.1,SNR=16						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**52.20**	**252**	P	P	20 27 46.5	0.0
	2.7nm,0.6s,baz=90,slow=8.0,SNR=19						
	2.7nm,0.6s						
ILAR	**Eielson Array**	**82.25**	**10**	P	P	20 30 56.2	0.0
	0.2nm,0.5s,baz=186,slow=7.2,SNR=1.6						
	0.2nm,0.5s						

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*CATAC **07** 20:48:50.0±0.6, 13°N±3°×9°0W±°, h1km, M3.6/4, MLv3.6/4, Error ellipse: s-maj=6.7km s-min=3.2km az=13.3, confirmed*
*GCG **07** 20:48:49.1±1.6, 12°.77N×90°.33W, h0km±354km, MD4.2*
*SNET **07** 20:48:51.3±2.0, 12°.89N×90°.38W, h17km, ML3.4*

ISC 07 20:48:49.6±1.9, 12°.83N±0°.08×90°.35W±0°.05, h10km, n36, σ0°48/40, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.06**	**18**	S	**Sn**	**20 49 26.3**	**+0.9**
FAME	**Alcaldia de Sa**	**1.06**	**18**	P	**Pg**	**20 49 09.8**	**-0.2**
LALI	**Alcalda de L**	**1.20**	**57**	S	**Sn**	**20 49 28.5**	**-0.3**
JAYA	**Jayaque - finc**	**1.20**	**47**	*e*P	**Pg**	**20 49 12.5**	**-0.2**
JAYA	**Jayaque - finc**	**1.20**	**47**	*e*P	**Pb**	**20 49 12.3**	**-0.3**
NUBE	**Las Nubes**	**1.20**	**28**	*e*P	**Pn**	**20 49 12.6**	**-0.1**
NUBE				*e*S	**Sb**	**20 49 28.0**	**-0.3**
NUBE	**Las Nubes**	**1.20**	**28**	*e*P	**Pb**	**20 49 12.5**	**-0.2**
NUBE	**Las Nubes**	**1.20**	**28**	S	**Sn**	**20 49 29.8**	**+0.7**
NUBE	**Las Nubes**	**1.20**	**28**	P	**Pb**	**20 49 12.2**	**-0.4**
SBLS	**San Blas**	**1.23**	**35**	*e*P	**Pg**	**20 49 13.1**	**-0.2**
SNJE	**San Jose**	**1.26**	**35**	*e*P	**Pn**	**20 49 13.2**	**-0.3**
SNJE				*e*P	**Pb**	**20 49 13.4**	**-0.3**
SNJE				*e*S	**Sb**	**20 49 29.1**	**-0.9**
RTR	**El Retiro**	**1.26**	**33**	*e*P	**Pb**	**20 49 13.6**	**-0.1**
LOAL	**Lomas de Alarc**	**1.29**	**26**	S	**Sg**	**20 49 31.4**	**+0.3**
PMON	**Piamonte**	**1.34**	**49**	S	**Sg**	**20 49 33.1**	**+0.4**
PMON	**Piamonte**	**1.34**	**49**	P	**Pb**	**20 49 14.8**	**-0.1**
ITCA	**Escuela Especi**	**1.34**	**51**	S	**Sg**	**20 49 33.0**	**+0.1**
BOQS	**Boqueron**	**1.38**	**49**	*e*P	**Pg**	**20 49 15.7**	**-0.5**
PANCS	**Alcalda de**	**1.38**	**56**	S	**Sg**	**20 49 34.3**	**+0.2**
UNIC	**Universidad Ca**	**1.39**	**34**	S	**Sg**	**20 49 34.7**	**+0.4**
UNIC	**Universidad Ca**	**1.39**	**34**	P	**Pb**	**20 49 15.6**	**-0.1**
LOMA	**Loma Larga**	**1.41**	**55**	*e*P	**Pn**	**20 49 15.2**	**-0.3**
RBDL	**Robledal**	**1.43**	**27**	*i* P	**Pn**	**20 49 15.9**	**+0.1**
RBDL				*e*S	**Sb**	**20 49 34.9**	**+0.1**
UDBS	**Universidad Do**	**1.46**	**53**	S	**Sg**	**20 49 37.4**	**+0.7**
TECO	**Alcaldia de Te**	**1.68**	**65**	S	**Sg**	**20 49 44.7**	**+0.9**
TECO	**Alcaldia de Te**	**1.68**	**65**	P	**Pb**	**20 49 20.2**	**-0.6**
UESV	**Universidad de**	**1.72**	**62**	S	**Sb**	**20 49 43.7**	**+0.6**
UESV	**Universidad de**	**1.72**	**62**	P	**Pn**	**20 49 19.1**	**-0.6**
MTO3	**Montecristo**	**1.83**	**32**	*e*P	**Pn**	**20 49 22.1**	**+0.7**
ESQI	**Esquipulas**	**1.98**	**30**	*e*P	**Pb**	**20 49 25.5**	**-0.3**
ESQI	**Esquipulas**	**1.98**	**30**	P	**Pb**	**20 49 25.4**	**-0.4**
RTAL	**Retalhuleu**	**2.13**	**322**	S	**Sg**	**20 49 58.6**	**+0.4**
LCND	**La Caada**	**2.45**	**79**	*e*P	**Pn**	**20 49 29.9**	**+0.3**
SANH	**Santa Rosa de**	**2.48**	**38**	S	**Sb**	**20 50 04.1**	**-0.8**
CNCH	**Conchagua**	**2.49**	**80**	S	**Sn**	**20 50 01.7**	**+0.7**
CNCH	**Conchagua**	**2.49**	**80**	P	**Pn**	**20 49 30.9**	**+0.5**
HUEH	**Huehuetenango**	**2.71**	**336**	S	**Sb**	**20 50 11.7**	**-0.2**

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*IDC **07** 21:11:32.1±0.8, 4°.44N×96°.18E, h0km, mb4.0/12, mbtmp4.0/14, ML4.2/2, MS3.7/21, Error ellipse: s-maj=32.5km s-min=12.0km az=47.0*
*DJA **07** 21:11:36.1±0.3, 5°N±2°×9°6E±°, h10km, M4.6/14, mB5.2/2, mb4.6/6, MLv4.6/14, Mw(mB)4.6/2*
*NEIC **07** 21:11:37.2±1.3, 4°.62N±0°.05×96°.42E±0°.08, h25km±6km, mb4.5/19, Error ellipse: s-maj=11.4km s-min=6.1km az=107.0*

ISC 07 21:11:34.6±0.4, 4°.59N±0°.03×96°.26E±0°.05, h10km, n92, σ2°11/90, mb4.3/28, MS3.7/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.35**	**156**	P	**Pg**	**21 11 40.5**	**-1.1**
MLSI				S	**Sg**	**21 11 45.6**	**-0.6**
LHMI	**Lhok Sumawe**	**0.93**	**47**		**Pb**	**21 11 52.2**	**-0.7**
LHMI	**Lhok Sumawe**	**0.93**	**47**	P	**Pb**	**21 11 52.3**	**-0.7**
LHMI	**Lhok Sumawe**	**0.93**	**47**	P	**Pn**	**21 11 53.2**	**-0.6**
LHMI				S	**Sn**	**21 12 05.9**	**-1.4**
KCSI	**Kotacane, Aceh**	**1.84**	**125**	P	**Pn**	**21 12 06.1**	**-0.2**
KCSI				S	**Sb**	**21 12 29.8**	**-1.7**
SNSI	**Sinabang, Aceh**	**2.16**	**178**	P	**Pb**	**21 12 13.3**	**-0.6**
SNSI				S	**Sb**	**21 12 40.1**	**-0.8**
PSI	**Prapat**	**3.19**	**124**	Pn	**Pn**	**21 12 25.4**	**+0.4**
	22nm,0.3s,baz=311,slow=14,SNR=39						
PSI				Sn	**Sn**	**21 13 04.7**	**+1.4**
	28nm,0.3s,baz=99,slow=13,SNR=6.8						
PSI				Lg	Lg	21 13 14.8	
	41nm,0.3s,baz=187,slow=6.6,SNR=11						
	46nm,0.4s						
PSI	**Prapat**	**3.19**	**124**	P	**Pn**	**21 12 26.8**	**+1.7**
RPSI	**Rantau Prapat**	**3.25**	**125**	Pn	**Pn**	**21 12 26.0**	**+0.2**
RPSI	**Rantau Prapat**	**3.25**	**125**		**Pn**	**21 12 25.4**	**-0.3**
RPSI					**Sn**	**21 13 04.7**	**+0.1**
CMBY	**CAMPBELL BAY**	**3.35**	**316**	*e*P	**Pn**	**21 12 24.7**	**-2.3**
CMBY				*e*S	**Sn**	**21 13 05.9**	**-1.1**
CMBY				IAML		21 13 27.7	
	comp=E,1μm,1.1s						
CMBY				IAML		21 13 31.8	
	comp=N,1μm,0.7s						
GSI	**Gunungsitoli**	**3.51**	**158**	Pn	**Pn**	**21 12 28.9**	**-0.4**
GSI	**Gunungsitoli**	**3.51**	**158**	P	**Pn**	**21 12 29.5**	**+0.1**
GSI	**Gunungsitoli**	**3.51**	**158**	P	**Pn**	**21 12 27.9**	**-1.5**
GSI				S	**Sn**	**21 13 12.4**	**+1.4**
KULM	**Kulim**	**4.42**	**81**	Pn	**Pn**	**21 12 40.2**	**-1.7**
KULM	**Kulim**	**4.42**	**81**	P	**Pn**	**21 12 40.8**	**-1.1**
IPM	**Ipoh**	**4.75**	**91**	Pn	**Pn**	**21 12 44.4**	**-1.9**
IPM	**Ipoh**	**4.75**	**91**	P	**Pn**	**21 12 45.5**	**-0.9**
MNSI	**Mandailing Nat**	**5.01**	**139**	P	**Pn**	**21 12 49.9**	**-0.1**
PPI	**Padang Panjang**	**6.49**	**140**	P	**Pn**	**21 13 11.6**	**+1.3**
	comp=N,0.2nmcomp=N,26nm,1.0s						
PDSI	**Padang**	**6.89**	**142**	P	**Pn**	**21 13 15.8**	**0.0**
	comp=N,0.2nmcomp=N,28nm,1.0s						
PBA	**Port Blair**	**7.84**	**334**	*e*P	Pn	21 13 23.9	-5.0
PBA				IAML		21 13 52.5	
PBA				*e*S	Sn	21 14 45.5	-12
PBA				IAML		21 15 20.3	
	comp=N,428nm,1.3s						
MYKOM	**Kota Tinggi**	**8.07**	**110**	Pn	**Pn**	**21 13 31.2**	**-0.8**
PPSI	**Pulau Pagai**	**8.20**	**153**	P	**Pn**	**21 13 34.1**	**+0.3**
	comp=N,81nm,1.1s						
KRJI	**Kerinci**	**8.42**	**142**	P	**Pn**	**21 13 38.9**	**+1.9**
MNAI	**Manna**	**11.12**	**143**	Pn	**Pn**	**21 14 12.5**	**-1.3**
MNAI	**Manna**	**11.12**	**143**	P	**Pn**	**21 14 13.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.03**	**11**	Pn	**Pn**	**21 14 56.3**	**+2.6**

comp=N,0.5nm,0.3s,baz=203,slow=12,SNR=9.7
CMAR Lg Lg 21 19 02.7
baz=163,slow=32
CMAR LR LR 21 20 58.0
comp=N,150nm,19.6s,baz=190,slow=40
comp=N,0.8nm,0.3s
KSM Kuching 14.36 102 P P 21 15 03.9 -1.4
CHTO Chiang Mai 14.38 10 P P 21 15 06.0 +0.5
PALK Pallekele 15.71 281 LR LR 21 20 39.9
comp=N,236nm,21.8s,baz=94,slow=35
BRDH Bariadhala 18.53 346 LR LR 21 24 15.2
comp=N,299nm,18.5s,baz=160,slow=41
QIZ Qiongzhong 19.54 42 P Pn 21 16 03.0 -0.8
QIZ S **S 21 19 44.2 +0.8**
QIZ pmax pmax
comp=Z,29nm,1.9s
QIZ LR LR
comp=N,470nm,17.1s
QIZ LR LR
comp=E,400nm,19.6s
QIZ LR LR
comp=Z,160nm,21.4s
IMP Imphal 20.25 354 *e*P **P 21 16 04.0 -6.4**
IMP IAmb IAmb 21 16 18.0
comp=Z,2.8nm,0.2s
IMP *e*S **S 21 19 50.8 -6.9**
TNCH TengChong 20.44 6 P Pn 21 16 18.0 +3.3
TNCH pP sP 21 16 25.7 +8.8
TNCH sP pP 21 16 30.6 +15
TNCH PP **PnPn 21 16 38.8 +8.9**
TNCH S **S 21 19 56.7 -5.0**
TNCH sS pS 21 20 14.4 +2.0
TNCH pmax pmax
comp=Z,34nm,1.1s
TNCH pmax pmax
comp=Z,120nm,2.0s
TNCH LR LR
comp=N,140nm,6.0s
TNCH LR LR
comp=E,200nm,7.4s
TNCH LR LR
comp=Z,210nm,11.4s
KOHI KOHIMA 21.12 355 *e*P **P 21 16 15.1 -4.7**
KOHI IAmb IAmb 21 16 26.7
comp=Z,16nm,0.2s
SHL Shillong 21.28 349 P **P 21 16 21.6 0.0**
KMI Kunming 21.35 16 P **P 21 16 24.5 +2.1**
KMI pmax pmax
comp=Z,9.0nm,0.6s
TEZP TEZPUR 22.16 352 *e*P **P 21 16 24.0 -6.8**
TEZP IAmb IAmb 21 16 40.0
comp=Z,8.9nm,0.7s
PZH PanZhiHua 22.41 13 P **P 21 16 35.2 +1.5**
KAPI Kappang 25.32 112 LR LR 21 27 15.7
comp=Z,144nm,18.9s,baz=288,slow=37
LSA Lhasa 25.44 350 P **P 21 17 03.0 -0.3**
LSA IAmb IAmb 21 17 21.9
comp=Z,3.7nm,0.8s
LSA Lhasa 25.44 350 P **P 21 17 02.4 -0.9**
DAV Davao City (W) 29.26 84 LR LR 21 32 18.4
comp=Z,76nm,19.1s,baz=244,slow=42
NJ2 Nanjing 34.56 35 *e*P **P 21 18 25.2 +1.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GTA Gaotai 34.81 5 *e*P **P 21 18 27.6 +1.7**
GTA pP sP 21 18 38.6 +8.1
GTA sP pP 21 18 41.9 +13
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=N,140nm,17.1s
GTA LR LR
comp=E,110nm,17.8s
GTA LR LR
comp=Z,170nm,17.1s
FITZ Fitzroy Crossi 36.71 129 P **P 21 18 40.3 -1.9**
FITZ Fitzroy Crossi 36.71 129 LR LR 21 33 34.4
comp=Z,81nm,21.6s,baz=332,slow=36
JOW Kunigami 37.73 51 LR LR 21 35 09.5
comp=Z,73nm,18.1s,baz=326,slow=37
KNRA Kununurra 37.95 123 P **P 21 18 50.1 -2.7**
KNRA IAmb IAmb 21 19 02.4
comp=Z,10nm,1.2s
HHC Hu-ho-hao-te 38.63 19 *e*P **P 21 19 01.5 +3.1**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,70nm,4.5s
HHC LR LR
comp=N,130nm,16.8s
HHC LR LR
comp=E,160nm,17.6s
HHC LR LR
comp=Z,180nm,17.6s
WMQ Urumqi 39.80 350 *e*P **P 21 19 10.3 +2.2**
GAR Garm 41.56 329 P **P 21 19 22.8 +0.1**
GAR IAmb IAmb 21 19 24.7
comp=Z,5.4nm,1.1s
NWAO Narrogin (SRO) 42.28 153 LR LR 21 35 47.3
comp=Z,52nm,20.6s,baz=92,slow=34
AAK Ala-Archa 42.55 336 LR LR 21 38 40.8
comp=Z,100nm,18.4s,baz=162,slow=38
MKAR Makanchi Array 43.75 346 P **P 21 19 39.6 -0.7**
MKAR Makanchi Array 43.75 346 P **P 21 19 39.8 -0.5**
comp=Z,1.0nm,0.7s,baz=148,slow=9.9,SNR=8.7
MKAR LR LR 21 39 49.1
comp=Z,90nm,21.0s,baz=296,slow=39
comp=Z,1.0nm,0.7s
SONM Songino Array 43.96 10 P **P 21 19 42.7 +0.6**
comp=Z,1.3nm,0.8s,baz=182,slow=8.9,SNR=9.9
SONM PcP **PcP 21 21 27.8 -0.1**
comp=Z,0.3nm,0.6s,baz=199,slow=3.1,SNR=1.7
SONM LR LR 21 39 15.3
comp=Z,76nm,19.5s,baz=210,slow=38
comp=Z,1.3nm,0.8s
WB0 Warramunga Arr 44.62 124 P **P 21 19 45.6 -2.1**
WB0 IAmb IAmb 21 19 47.9
comp=Z,5.5nm,0.7s
WRA Warramunga Arr 44.66 124 P **P 21 19 46.0 -1.9**
WRA Warramunga Arr 44.66 124 P **P 21 19 46.0 -1.9**
comp=Z,3.4nm,0.6s,baz=301,slow=9.2,SNR=56
WRA PcP **PcP 21 21 30.9 +0.2**
comp=Z,0.6nm,0.9s,baz=308,slow=3.6,SNR=1.9
comp=Z,3.4nm,0.6s
WR8 Warramunga Arr 44.80 124 P **P 21 19 47.4 -1.7**
WR8 IAmb IAmb 21 19 51.6
comp=Z,8.7nm,0.8s
ASAR Alice Springs 46.21 129 P **P 21 19 59.1 -1.2**
ASAR Alice Springs 46.21 129 P **P 21 19 58.2 -2.0**
comp=Z,2.3nm,0.4s,baz=300,slow=8.0,SNR=36
ASAR PcP **PcP 21 21 36.0 0.0**
comp=Z,0.5nm,0.7s,baz=293,slow=4.2,SNR=2.2
ASAR LR LR 21 41 15.9
comp=Z,62nm,19.3s,baz=290,slow=39
comp=Z,2.3nm,0.4s
KURBB Kurchatov Arra 48.24 345 P **P 21 20 15.1 -0.5**
comp=Z,0.6nm,0.6s,baz=167,slow=7.1,SNR=7.4
KURBB PcP **PcP 21 21 43.2 +0.5**
comp=Z,0.4nm,0.7s,baz=154,slow=3.9,SNR=2.7
comp=Z,0.6nm,0.6s
ZALV Zalesovo Beam 50.09 351 P **P 21 20 29.4 -0.3**
ZALV Zalesovo Beam 50.09 351 P **P 21 20 28.9 -0.8**
comp=Z,1.7nm,0.7s,baz=176,slow=6.0,SNR=6.8
ZALV LR LR 21 43 04.2
comp=Z,66nm,18.0s,baz=300,slow=38
comp=Z,1.7nm,0.7s
RAYN Ar Rayn 52.39 296 P **P 21 20 49.3 +1.7**
RAYN IAmb IAmb 21 20 55.9
comp=Z,3.1nm,0.9s
PMG Port Moresby 52.59 105 LR LR 21 46 53.5
comp=Z,39nm,18.0s,baz=306,slow=40
BVAR Borovoye Array 52.77 341 P **P 21 20 49.1 -0.7**
comp=Z,0.9nm,0.7s,baz=138,slow=9.2,SNR=5.6
comp=Z,0.9nm,0.7s
AB31 Abkulak array 54.11 331 P **P 21 20 59.0 -0.8**
ABKAR Abkulak array 54.11 331 P **P 21 20 58.3 -1.5**
STKA Stephens Creek 56.33 133 LR LR 21 49 29.1
comp=Z,56nm,18.3s,baz=13,slow=40
ARTI Arti 59.76 337 LR LR 21 48 59.0
comp=Z,100nm,19.3s,baz=20,slow=38
MMAI Mount Meron Ar 63.20 305 P **P 21 22 03.0 -0.5**
comp=Z,1.5nm,0.7s,baz=125,slow=9.2,SNR=1.8
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 66.17 312 P **P 21 22 21.5 -1.4**
comp=Z,0.6nm,0.6s,baz=128,slow=4.6,SNR=4.7
comp=Z,0.6nm,0.6s
ELL Elmali 68.38 308 P **P 21 22 37.6 +0.7**
ELL IAmb IAmb 21 22 41.2
comp=Z,6.3nm,1.0s
TIXI Tiksi 70.04 10 LR LR 21 56 35.8
comp=Z,87nm,18.1s,baz=231,slow=38
LSZ Lusaka 70.22 252 LR LR 21 50 28.6
comp=Z,113nm,18.9s,baz=114,slow=33
MATP Matopo 70.96 247 LR LR 21 52 48.7
comp=Z,40nm,18.1s,baz=16,slow=35
BURAR Bucovina Array 73.89 318 P **P 21 23 10.5 +0.4**
BUR08 Bucovina Ar. S 73.90 318 P **P 21 23 11.4 +1.2**
BUR08 IAmb IAmb 21 23 14.3
comp=Z,3.8nm,1.2s
LBTB Lobatse 74.57 243 LR LR 21 54 23.0
comp=Z,56nm,18.2s,baz=62,slow=34
ITM Ithomi 74.77 307 P **P 21 23 15.3 0.0**
FINES FINESS Array B 76.58 332 P **P 21 23 23.6 -1.6**
comp=Z,3.3nm,1.1s,baz=153,slow=6.0,SNR=3.7
comp=Z,3.3nm,1.1s
GERES GERESS Array B 81.67 319 P **P 21 23 53.6 +0.2**
comp=Z,0.6nm,0.5s,baz=99,slow=4.2,SNR=6.8
comp=Z,0.6nm,0.5s
STAL STALIGIAL 82.25 316 P **P 21 23 56.7 +0.3**
HFS Hagfors 82.34 330 P **P 21 23 56.1 -0.5**
comp=Z,1.1nm,0.8s,baz=96,slow=6.4,SNR=4.8
comp=Z,1.1nm,0.8s
CIMO Cimolais 82.44 316 P **P 21 23 57.3 -0.1**
CIMO IAmb IAmb 21 24 02.2
comp=Z,11nm,1.3s
SENIN Lac Senin/Sane 86.00 316 P **P 21 24 15.8 +0.1**
SENIN IAmb IAmb 21 24 17.9
comp=Z,3.6nm,0.8s
VNDA Vanda 89.31 169 LR LR 22 00 17.5
comp=Z,34nm,20.4s,baz=241,slow=33
G21K Allakaket 93.75 22 P **P 21 24 51.4 -0.2**

WEL 07 21:25:42.7±0.4, 39°S±3°×17°8E±°, h22km±3km, M3.6/19, ML4.0/19, MLv3.6/19, Error ellipse: s-maj=4.2km s-min=3.8km az=179.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.11**	**309**	P	Pb	21 25 47.0	-1.7
KNZ				S	Sb	21 25 50.8	-2.0
MHGZ	**Mahia Peninsul**	**0.12**	**122**	P	Pb	21 25 47.9	-0.7
MHGZ				S	Sb	21 25 53.0	+0.3
PRGZ	**Paritu Road**	**0.18**	**26**	P	Pb	21 25 48.6	+0.1
WFSS	**Wairoa Fire St**	**0.28**	**281**	P	Pb	21 25 50.2	+1.0
WFSS				S	Sn	21 25 56.8	-0.3
RIGZ	**Rimuhau**	**0.38**	**358**	P	Pn	21 25 51.9	-1.1
RIGZ				S	Sn	21 25 59.4	-0.3
WHHZ	**Waihua**	**0.42**	**272**	P	Pb	21 25 52.5	+1.0
WHHZ				S	Sn	21 26 00.5	-0.1
SNGZ	**Shannon Statio**	**0.46**	**312**	P	Pb	21 25 53.0	+0.9
SNGZ				S	Sn	21 26 01.2	-0.4
RAHZ	**Arahi**	**0.57**	**288**	P	Pb	21 25 54.8	+0.7
RAHZ				S	Sn	21 26 04.5	+0.3
ARHZ	**Aropaoanui**	**0.63**	**254**	P	Pn	21 25 55.9	-0.5
TKGZ	**Te Karaka**	**0.65**	**5**	P	Pn	21 25 56.3	-0.3
TKGZ				S	Sn	21 26 07.4	+1.2
RAGZ	**Rawiri**	**0.66**	**334**	P	Pn	21 25 56.3	-0.5
RAGZ				S	Sn	21 26 07.0	+0.5
CNGZ	**Carnagh Statio**	**0.69**	**29**	P	Pn	21 25 57.0	-0.2
NMHZ	**Naumai**	**0.76**	**269**	P	Pn	21 25 58.0	-0.2
MTHZ	**Maungataniwha**	**0.77**	**288**	P	Pb	21 25 57.8	+0.4
MWZ	**Matawai**	**0.78**	**345**	P	Pb	21 25 58.0	+0.4
RTZ	**Ruatahuna**	**0.78**	**307**	P	Pn	21 25 58.1	-0.4
CKHZ	**Cape Kidnapper**	**0.79**	**224**	P	Pb	21 25 57.9	+0.2
MCHZ	**McNeill Hill**	**0.91**	**247**	P	Pn	21 26 00.1	-0.2
TWGZ	**Tauwhareparae**	**0.93**	**10**	P	Pn	21 26 00.3	-0.2
URZ	**Urewera**	**0.98**	**328**	P	Pb	21 26 00.8	-0.1
KAHZ	**Kahuranaki**	**0.99**	**224**	P	Pb	21 26 00.8	-0.5
MUGZ	**Murupara**	**1.00**	**307**	P	Pb	21 26 01.3	0.0
BKZ	**Black Stump Fm**	**1.00**	**265**	P	Pb	21 26 01.1	-0.3
PUZ	**Puketiti**	**1.08**	**20**	P	Pn	21 26 01.7	-0.9
MRHZ	**Matea Rd**	**1.09**	**283**	P	Pn	21 26 02.8	0.0
KWHZ	**Kaweka Forest**	**1.10**	**252**	P	Pn	21 26 02.5	-0.4
RUGZ	**Raukumara Rang**	**1.12**	**356**	P	Pn	21 26 02.4	-0.9
PXZ	**Pawanui**	**1.18**	**217**	P	Pn	21 26 02.5	-1.4
KRHZ	**Kereru**	**1.22**	**243**	P	Pn	21 26 03.9	-0.7
ALRZ	**Allen Road**	**1.24**	**295**	P	Pb	21 26 05.8	+0.4
PKGZ	**Pakihiroa**	**1.24**	**11**	P	Pn	21 26 04.1	-0.7
TARZ	**Mount Tarawera**	**1.31**	**310**	P	Pn	21 26 06.0	+0.1
HAZ	**Te Kaha**	**1.33**	**0**	P	Pn	21 26 05.5	-0.5
HRRZ	**Handcock Road**	**1.36**	**300**	P	Pb	21 26 08.3	+0.8
WMGZ	**Waiomatatini S**	**1.36**	**22**	P	Pn	21 26 05.7	-0.7
WHRZ	**Whale Island**	**1.38**	**333**	P	Pn	21 26 06.8	0.0
WPHZ	**Waipukurau**	**1.42**	**226**	P	Pn	21 26 06.0	-1.2
HSRZ	**Hossack Road**	**1.43**	**302**	P	Pn	21 26 07.7	+0.4
PRHZ	**Porangahau**	**1.47**	**217**	P	Pn	21 26 06.7	-1.3
PNHZ	**Pukenui**	**1.47**	**236**	P	Pn	21 26 06.7	-1.3
MXZ	**Matakaoa Point**	**1.58**	**15**	P	Pn	21 26 08.7	-0.7
CTZ	**Chatham Island**	**6.27**	**140**	P	Pn	21 27 12.4	-1.4

*IDC **07** 21:27:12.3±2.1, 4°.13N×95°.76E, h0km, mb3.6/4, mbtmp3.5/6, ML3.8/2, MS2.9/2, Error ellipse: s-maj=73.9km s-min=19.8km az=52.0*
*DJA **07** 21:27:17.6±0.4, 5°N±4°×9°6E±°, h10km, M3.9/8, MLv3.9/8*
ISC 07 21:27:15.3±1.0, 4°.60N±0°.06×96°.30E±0°.10, h10km, n12, σ1$27/13, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.34**	**162**	P	**Pg**	**21 27 22.4**	**+0.2**
LHMI	**Lhok Sumawe**	**0.91**	**46**	P	**Pn**	**21 27 34.9**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.82**	**126**	P	**Pn**	**21 27 47.6**	**+0.9**
KCSI				S	**Sn**	**21 28 09.6**	**-0.2**
SNSI	**Sinabang, Aceh**	**2.17**	**179**	P	**Pn**	**21 27 52.3**	**+0.7**
PSI	**Prapat**	**3.17**	**124**	Pn	**Pn**	**21 28 08.1**	**+2.6**
	5.8nm,0.3s,baz=302,slow=15,SNR=19						
PSI				Sn	**Sb**	**21 28 48.9**	**-1.8**
	5.1nm,0.3s,baz=0.9,slow=6.3,SNR=4.1						
	18nm,0.3s						
GSI	**Gunungsitoli**	**3.51**	**159**	P	**Pn**	**21 28 10.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.02**	**10**	Pn	**P**	**21 30 40.6**	**-1.5**
	0.2nm,0.3s,baz=200,slow=14,SNR=4.1						
CMAR				LR	LR	21 36 39.2	
	comp=Z,33nm,18.4s,baz=225,slow=39						
	0.3nm,0.4s						
PALK	**Pallekele**	**15.73**	**280**	LR	LR	21 36 13.4	
	comp=Z,67nm,20.5s,baz=54,slow=35						
MKAR	**Makanchi Array**	**43.75**	**346**	P	**P**	**21 35 21.7**	**+0.7**
	0.2nm,0.3s,baz=162,slow=8.7,SNR=6.4						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.64**	**124**	P	**P**	**21 35 28.4**	**-0.1**
	1.5nm,0.6s,baz=301,slow=9.2,SNR=22						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**46.19**	**129**	P	**P**	**21 35 40.3**	**-0.4**
	0.4nm,0.3s,baz=301,slow=7.6,SNR=8.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**48.24**	**345**	P	**P**	**21 35 57.1**	**+0.8**
	0.2nm,0.7s,baz=168,slow=7.3,SNR=2.6						
	0.2nm,0.7s						

WEL 07 21:50:47.2±0.4, 39°S±3°×17°8E±°, h21km±3km, M3.2/17, ML3.6/17, MLv3.2/17, Error ellipse: s-maj=3.9km s-min=3.2km az=157.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.11**	**324**	P	Pb	21 50 51.3	-2.0
KNZ				S	Sb	21 50 55.1	-2.6
MHGZ	**Mahia Peninsul**	**0.12**	**109**	P	Pb	21 50 52.3	-1.0
MHGZ				S	Sb	21 50 57.5	-0.1
PRGZ	**Paritu Road**	**0.21**	**27**	P	Pb	21 50 53.2	+0.1
PRGZ				S	Sb	21 50 58.8	+1.7
WFSS	**Wairoa Fire St**	**0.27**	**287**	P	Pb	21 50 54.3	+0.8
WFSS				S	Sn	21 51 00.1	-1.4
RIGZ	**Rimuhau**	**0.41**	**0**	P	Pb	21 50 56.4	+0.8
RIGZ				S	Sn	21 51 03.9	-1.0
WHHZ	**Waihua**	**0.41**	**275**	P	Pb	21 50 56.8	+1.1
WHHZ				S	Sn	21 51 04.9	-0.1
SNGZ	**Shannon Statio**	**0.47**	**315**	P	Pb	21 50 57.4	+0.7
SNGZ				S	Sn	21 51 05.6	-0.8
RAHZ	**Arahi**	**0.56**	**290**	P	Pb	21 50 59.1	+0.7
RAHZ				S	Sn	21 51 08.7	0.0
ARHZ	**Aropaoanui**	**0.61**	**256**	P	Pn	21 51 00.3	-0.4
ARHZ				S	Sn	21 51 10.8	+0.8
RAGZ	**Rawiri**	**0.67**	**336**	P	Pb	21 51 00.9	+0.5
RAGZ				S	Sn	21 51 11.5	-0.1
TKGZ	**Te Karaka**	**0.68**	**6**	P	Pb	21 51 00.7	+0.4
TKGZ				S	Sn	21 51 11.5	0.0
CNGZ	**Carnagh Statio**	**0.72**	**29**	P	Pb	21 51 01.5	+0.5
CNGZ				S	Sn	21 51 14.5	+1.9
NMHZ	**Naumai**	**0.74**	**271**	P	Pn	21 51 02.3	-0.3
CKHZ	**Cape Kidnapper**	**0.76**	**224**	P	Pn	21 51 02.2	-0.5
MTHZ	**Maungataniwha**	**0.76**	**290**	P	Pb	21 51 02.2	+0.4
RTZ	**Ruatahuna**	**0.79**	**309**	P	Pb	21 51 02.6	+0.4
MWZ	**Matawai**	**0.80**	**347**	P	Pb	21 51 02.4	0.0
MCHZ	**McNeill Hill**	**0.89**	**248**	P	Pn	21 51 04.4	-0.2
TWGZ	**Tauwhareparae**	**0.95**	**10**	P	Pb	21 51 04.8	-0.3
KAHZ	**Kahuranaki**	**0.96**	**225**	P	Pb	21 51 05.0	-0.2
BKZ	**Black Stump Fm**	**0.99**	**267**	P	Pb	21 51 05.4	-0.2
URZ	**Urewera**	**0.99**	**329**	P	Pb	21 51 05.6	-0.1
MUGZ	**Murupara**	**1.00**	**309**	P	Pb	21 51 05.7	-0.1
KWHZ	**Kaweka Forest**	**1.08**	**253**	P	Pn	21 51 07.0	-0.2
PXZ	**Pawanui**	**1.15**	**217**	P	Pn	21 51 06.7	-1.4
RUGZ	**Raukumara Rang**	**1.15**	**357**	P	Pn	21 51 06.9	-1.3
KRHZ	**Kereru**	**1.20**	**243**	P	Pn	21 51 08.3	-0.5
ALRZ	**Allen Road**	**1.24**	**296**	P	Pb	21 51 10.8	+1.0
PKGZ	**Pakihiroa**	**1.27**	**11**	P	Pn	21 51 08.6	-1.2
TARZ	**Mount Tarawera**	**1.32**	**311**	P	Pb	21 51 11.1	-0.2
HAZ	**Te Kaha**	**1.36**	**1**	P	Pn	21 51 10.0	-0.9
HRRZ	**Handcock Road**	**1.36**	**302**	P	Pb	21 51 14.6	+2.6
WMGZ	**Waiomatatini S**	**1.39**	**22**	P	Pn	21 51 10.2	-1.2
WHRZ	**Whale Island**	**1.40**	**334**	P	Pb	21 51 14.2	+1.6
HSRZ	**Hossack Road**	**1.43**	**304**	P	Pb	21 51 15.5	+2.3
PNHZ	**Pukenui**	**1.45**	**236**	P	Pn	21 51 11.0	-1.3
RATZ	**Rangitukua**	**1.57**	**278**	P	Pb	21 51 18.6	+3.0
MOVZ	**Moawhango**	**1.59**	**259**	P	Pn	21 51 14.6	+0.4
NGRZ	**Ngongotaha**	**1.59**	**309**	P	Pb	21 51 15.3	-0.7
ETVZ	**East Tongariro**	**1.59**	**269**	P	Pb	21 51 15.2	+0.8
TMVZ	**Te Maari**	**1.60**	**269**	P	Pb	21 51 15.3	-0.8
MXZ	**Matakaoa Point**	**1.61**	**16**	P	Pn	21 51 13.3	-1.0
NTVZ	**North Tongarir**	**1.62**	**270**	P	Pb	21 51 18.3	+1.8
OTVZ	**Oturere**	**1.63**	**268**	P	Pn	21 51 15.4	+0.5
TUVZ	**Tukino**	**1.64**	**264**	P	Pb	21 51 16.1	-0.8
KRVZ	**Karewarewa**	**1.65**	**270**	P	Pb	21 51 20.0	+3.1
SNVZ	**South Ngauruho**	**1.65**	**267**	P	Pb	21 51 21.0	+4.0
NNVZ	**North Ngauruho**	**1.67**	**269**	P	Pb	21 51 17.1	-0.2
NGZ	**Ngauruhoe**	**1.68**	**267**	P	Pb	21 51 17.8	+0.3
TSZ	**Takapari Road**	**1.68**	**235**	P	Pn	21 51 14.1	-1.3
WTVZ	**West Tongariro**	**1.69**	**269**	P	Pb	21 51 19.6	+1.9
WNVZ	**Wahianoa**	**1.69**	**262**	P	Pn	21 51 16.6	+0.9
WHVZ	**Whangaehu Hut**	**1.70**	**264**	P	Pn	21 51 16.6	+0.8
MAVZ	**Matarangi**	**1.72**	**264**	P	Pb	21 51 20.5	+2.3
FWVZ	**Far West T-bar**	**1.72**	**265**	P	Pb	21 51 20.6	+2.3
COVZ	**Chateau Observ**	**1.73**	**266**	P	Pb	21 51 21.9	+3.6
TWVZ	**Taurewa**	**1.81**	**271**	P	Pb	21 51 22.8	+3.2
MRZ	**Mangatainoka R**	**2.28**	**227**	P	Pn	21 51 21.9	-1.7
HOWZ	**Holdsworth Sta**	**2.48**	**223**	P	Pn	21 51 23.9	-2.5
PKE	**Pukeiti**	**2.94**	**267**	P	Pn	21 51 33.8	+1.2
CTZ	**Chatham Island**	**6.26**	**139**	P	Pn	21 52 16.9	-1.4

*GII **07** 22:02:18.7±0.0, 35°.17N×26°.31E, h12km, Mws3.4, confirmed*
*IDC **07** 22:02:22.7±1.0, 35°.18N×26°.45E, h0km, mb3.8/6, mbtmp3.7/10, ML3.1/4, Error ellipse: s-maj=26.6km s-min=13.7km az=172.0*
*AFAD **07** 22:02:25.8, 34°.98N×26°.65E, h8km±2km, ML2.7*
*HLW **07** 22:02:25.6, 35°.01N×26°.26E, h5km±1km, Ml3.5*
*ATH **07** 22:02:26.7, 35°.04N×26°.32E, h26km±1km, ML3.5/7, Manual Solution by S.Koutrakis First location: 2019/10/07 22:03:33, This location: 2019/10/07 23:03:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*ISK **07** 22:02:27.2, 35°.32N×26°.26E, h8km, ML3.1/24*
*THE **07** 22:02:28.5, 35°N±6°×2°6E±°, h12km±7km, M3.2/7, MLh3.2/7*
ISC 07 22:02:26.0±0.8, 34°.99N±0°.04×26°.39E±0°.03, h30km±5km, n92, σ1$82/106, mb3.8/5, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.18**	**311**	Pg	**Pb**	**22 02 31.8**	**-0.4**
ZKR				Sg	**Sb**	**22 02 35.8**	**-0.5**
ZKR	**Zakros**	**0.18**	**311**	P	**Pb**	**22 02 31.8**	**-0.4**
ZKR	**Zakros**	**0.18**	**311**	P	**Pb**	**22 02 31.7**	**-0.4**
ZKR				S	**Sb**	**22 02 35.7**	**-0.5**
NPS	**Neapolis**	**0.69**	**293**	P	**Pb**	**22 02 38.8**	**-0.7**
NPS				S	**Sb**	**22 02 45.8**	**-3.0**
NPS	**Neapolis**	**0.69**	**293**	P	**Pb**	**22 02 39.1**	**-0.4**
NPS				S	**Sb**	**22 02 47.2**	**-1.6**
KARP	**Karpathos**	**0.84**	**49**	Pg	**Pb**	**22 02 42.8**	**+0.7**
KARP	**Karpathos**	**0.84**	**49**	P	**Pb**	**22 02 42.9**	**+0.8**
KARP				S	**Sb**	**22 02 55.6**	**+2.5**
KARP	**Karpathos**	**0.84**	**49**	P	**Pb**	**22 02 42.9**	**+0.8**
KARP				S	**Sb**	**22 02 54.4**	**+1.3**
IACM	**Heraklion**	**1.12**	**286**	P	**Pb**	**22 02 47.1**	**+0.3**
IACM				S	**Sb**	**22 03 01.6**	**+0.6**
IDI	**Anoyia**	**1.26**	**284**	Pn	**Pn**	**22 02 48.7**	**+1.1**
IDI	**Anoyia**	**1.26**	**284**	P	**Pn**	**22 02 48.6**	**+1.1**
IDI	**Anoyia**	**1.26**	**284**	Pn	**Pn**	**22 02 48.7**	**+1.1**
	42nm,0.3s,baz=95,slow=16,SNR=131						
IDI				Sn	**Sb**	**22 03 08.3**	**+3.2**
	67nm,0.3s,baz=236,slow=12,SNR=8.6						
TMBK	**Timbaki Herakl**	**1.33**	**274**	P	**Pb**	**22 02 50.6**	**+0.3**
THERA	**Ancient Thera,**	**1.56**	**332**	P	**Pn**	**22 02 51.7**	**0.0**
THERA	**Ancient Thera,**	**1.56**	**332**	P	**Pn**	**22 02 51.9**	**+0.2**
SAP3	**Santorini-Thir**	**1.67**	**330**	P	**Pn**	**22 02 53.9**	**+0.3**
SAP3	**Santorini-Thir**	**1.67**	**330**	P	**Pn**	**22 02 53.5**	**+0.3**
SAP3				S	**Sn**	**22 03 13.6**	**0.0**
NISR	**Nisiros**	**1.72**	**20**	P	**Pn**	**22 02 54.8**	**+0.9**
NISR				S	**Sb**	**22 03 16.9**	**-1.4**
ARG	**Arkhangelos**	**1.87**	**49**	Pn	**Pb**	**22 02 58.7**	**-0.8**
GVD	**Gavdhos**	**1.90**	**266**	Pn	**Pb**	**22 02 59.9**	**0.0**
DAT	**Datca**	**1.98**	**29**	Pn	**Pn**	**22 02 58.8**	**+1.2**
DAT				Sn	**Sn**	**22 03 22.1**	**+0.7**
CHAN	**Chania**	**1.99**	**286**	P	**Pn**	**22 02 57.6**	**+0.1**
DATC	**Datca-Mugla**	**2.04**	**30**	Pn	**Pn**	**22 02 59.7**	**+1.4**
APE	**Apeiranthos**	**2.18**	**342**	Pn	**Pn**	**22 03 00.3**	**0.0**
APE				Sn	**Sn**	**22 03 24.4**	**-1.9**
APE	**Apeiranthos**	**2.18**	**342**	P	**Pn**	**22 03 00.8**	**+0.5**
APE				S	**Sn**	**22 03 26.2**	**-0.1**
BODT	**Bodrum**	**2.20**	**20**	Pn	**Pn**	**22 03 01.7**	**+1.3**
TURN	**Turunc**	**2.33**	**40**	Pn	**Pn**	**22 03 04.5**	**+2.3**
TURN				Sn	**Sn**	**22 03 32.1**	**+2.3**
TURN	**Turunc**	**2.33**	**40**	P	**Pb**	**22 03 05.9**	**-1.4**
TURN				*i* IAML		22 03 46.0	
	comp=E,63nm,0.4s						
TURN				*i* IAML		22 03 50.0	
	comp=N,68nm,0.5s						
MHLO	**Agia Marina, M**	**2.34**	**317**	P	**Pn**	**22 03 03.0**	**+0.6**
MLSB	**Milas**	**2.56**	**26**	Pn	**Pn**	**22 03 05.5**	**+0.1**
DALY	**Dalyan (Mula)**	**2.59**	**45**	Pn	**Pb**	**22 03 08.8**	**-2.9**
YER	**Yerkesik**	**2.63**	**35**	Pn	**Pn**	**22 03 08.8**	**+2.4**
IZZE	**Mula-Seydike**	**2.72**	**57**	P	**Pn**	**22 03 10.2**	**+2.6**
IZZE				S	**Sn**	**22 03 41.6**	**+2.1**
IZZE				*i* IAML		22 03 43.0	
	comp=N,125nm,0.3s						
IZZE				*i* IAML		22 03 45.0	
	comp=E,108nm,0.4s					

KNIK *i* IAML 22 04 16.0
comp=E,18nm,1.7s
KNIK *i* IAML 22 04 24.0
comp=N,15nm,0.6s
AYDB Zeytinkoy-Aydi 3.19 22 Pn **Pn 22 03 15.8 +1.7**
TAVA DENIZLI_Tavas 3.20 39 P **Pn 22 03 17.9 +3.6**
TAVA S **Sb 22 03 57.8 -3.0**
TAVA *i* IAML 22 04 13.0
comp=E,32nm,0.6s
TAVA *i* IAML 22 04 18.0
comp=N,25nm,0.6s
VLI Velíai 3.29 303 P **Pn 22 03 16.0 +0.6**
NAZL Nazilli-Aydin 3.34 27 Pn **Pn 22 03 18.1 +2.0**
ELL Elmali 3.35 58 Pn **Pn 22 03 20.3 +3.9**
URLA Izmir 3.36 3 Pn **Pn 22 03 17.4 +0.9**
CHOS Chios island 3.40 356 Pn **Pn 22 03 17.8 +0.8**
CHOS Chios island 3.40 356 P **Pn 22 03 18.0 +1.0**
GOLH Golhisar 3.41 48 P **Pn 22 03 20.1 +3.0**
GOLH S **Sb 22 04 01.4 -5.3**
GOLH *i* IAML 22 04 21.0
comp=E,45nm,0.5s
GOLH *i* IAML 22 04 24.0
comp=N,56nm,0.8s
KARY Karystos 3.42 333 P **Pn 22 03 17.5 +0.3**
APMY Acipayam-Deniz 3.42 43 Pn **Pn 22 03 20.5 +3.3**
BLCB Balcova 3.43 9 Pn **Pn 22 03 18.7 +1.4**
AKUM Antalya-Kumluc 3.48 66 P **Pn 22 03 19.6 +1.5**
AKUM S **Sn 22 04 01.2 +2.9**
AKUM *i* IAML 22 04 05.0
comp=E,20nm,0.6s
AKUM *i* IAML 22 04 44.0
comp=N,19nm,1.7s
VLY Voula,Athens 3.54 325 P **Pn 22 03 19.3 +0.5**
ODEM Odemis-Izmir 3.55 22 Pn **Pn 22 03 20.8 +1.8**
KORT Korkueli 3.79 57 Pn **Pn 22 03 26.8 +4.4**
KULA Kula-Manisa 3.96 27 Pn **Pn 22 03 26.8 +2.1**
DKL Dikili 4.09 6 Pn **Pn 22 03 27.5 +1.1**
GORD Gordes-Manisa 4.16 20 Pn **Pn 22 03 29.5 +2.0**
ITM Ithomi 4.22 302 Pn **Pn 22 03 30.4 +2.2**
CSS Mathiatis 5.70 88 P Pn 22 03 44.7 -3.9
SWA2 5.79 188 ⇓P **Pn 22 03 52.0 +2.3**
SWA2 S **Sn 22 04 54.9 -0.2**
RYAN Fayoum 6.75 150 S **Sn 22 05 20.1 +1.2**
BRTR Keskin Array B 7.46 49 Pn **Pn 22 04 12.8 -0.1**
0.1nm,0.3s,baz=229,slow=15,SNR=2.4
BRTR Sn **Sn 22 05 34.9 -1.6**
baz=222,slow=25,SNR=1.8
MMAI Mount Meron Ar 7.74 102 Pn **Pn 22 04 16.9 +0.2**
0.9nm,0.3s,baz=294,slow=11,SNR=4.5
MMAI Sn **Sn 22 05 43.3 0.0**
1.9nm,0.3s,baz=303,slow=26,SNR=5.7
0.5nm,0.3s
KZIT Kziot 7.87 119 P Pn 22 04 14.5 -3.9
KZIT Kziot 7.87 119 S **Sn 22 05 45.3 -1.1**
GEM Giv'at Ha'Em 7.90 100 P Pn 22 04 14.5 -4.2
GEM Giv'at Ha'Em 7.90 100 S **Sn 22 05 45.6 -1.5**
NATI Neve Ativ 7.94 100 P Pn 22 04 15.9 -3.4
HMDT Nahal Hemdat 8.10 107 P Pn 22 04 18.8 -2.7
HMDT Nahal Hemdat 8.10 107 S **Sn 22 05 50.6 -1.4**
YTIR Yattir 8.16 114 P Pn 22 04 19.9 -2.6
RMNI Mount Ramon 8.30 120 P Pn 22 04 21.8 -2.6
PRNI Paran 8.61 120 P Pn 22 04 26.0 -2.6
ZFRI Zfri 8.62 118 P Pn 22 04 25.3 -3.3
ZFRI P 22 04 25.4
HRFI Mount Harif 8.82 122 P Pn 22 04 28.7 -2.7
HRFI Mount Harif 8.82 122 S **Sn 22 06 08.8 -0.9**
MBRI Mt Berech 8.88 123 P Pn 22 04 29.6 -2.7
MBRI Mt Berech 8.88 123 S **Sn 22 06 10.8 -0.5**
EIL Elat 8.98 124 Pn **Pn 22 04 35.4 +1.8**
0.4nm,0.3s,baz=273,slow=1.4,SNR=9.9
EIL Sn Sn 22 06 09.1 -4.6
0.8nm,0.3s,baz=13,slow=5.9,SNR=5.5
1.6nm,0.3s
EIL Elat 8.98 124 P Pn 22 04 31.2 -2.3
ASF Jabal al Asfar 9.21 105 Pn **Pn 22 04 36.4 -0.4**
0.1nm,0.3s,baz=270,slow=5.1,SNR=1.7
ASF Sn **Sn 22 06 19.2 -0.2**
0.1nm,0.3s,baz=288,slow=20,SNR=2.0
0.6nm,0.4s
VAE Valguarnera 9.99 288 Pn **Pn 22 04 49.0 +1.6**
6.8nm,0.9s,baz=56,slow=7.3,SNR=1.4
VAE Sn **Sn 22 06 39.4 +0.9**
0.6nm,0.3s,baz=114,slow=20,SNR=2.0
TORD Torodi Ar. Bea 31.16 232 P **P 22 08 43.4 +1.0**
0.5nm,0.7s,baz=40,slow=10.0,SNR=4.2
0.5nm,0.7s
ARCES ARCESS Array B 34.60 359 P **P 22 09 09.6 -2.2**
2.3nm,1.1s,baz=172,slow=9.4,SNR=6.3
2.3nm,1.1s
KURBB Kurchatov Arra 40.44 51 P **P 22 10 02.2 +0.7**
1.8nm,0.2s,baz=267,slow=8.7,SNR=3.4
1.8nm,0.2s
MKAR Makanchi Array 43.03 56 P **P 22 10 23.6 +0.9**
0.5nm,0.6s,baz=274,slow=7.8,SNR=8.6
0.5nm,0.6s
ZALV Zalesovo Beam 44.39 46 P **P 22 10 33.4 -0.1**
0.7nm,0.4s,baz=276,slow=9.0,SNR=4.7
0.7nm,0.4s
SONM Songino Array 58.81 51 P **P 22 12 21.4 -0.1**
0.3nm,0.4s,baz=273,slow=11,SNR=1.2
0.3nm,0.4s

*SNET **07** 22:12:46.0±0.6, 12°.37N×87°.81W, h63km±13km, ML3.4*
*CATAC **07** 22:12:46.3±0.5, 12°.N±3°×8°.8W±°, h22km, M3.8/10,*
MLv3.8/10, Error ellipse: s-maj=8.2km s-min=3.0km
az=34.1, confirmed
ISC 07 22:12:46.7±2.1, 12°.36N±0°.09×87°.82W±0°.06, h62km±23km,
n28, σ0§36/35, 9C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.82**	**66**	S	**Sn**	**22 13 15.0**	**+0.6**
CRIN	**San Cristobal**	**0.82**	**66**	⇑P	**Pn**	**22 13 03.2**	**+0.5**
PKGN	**Cerro Pekin**	**0.88**	**70**	⇑P	**Pn**	**22 13 03.3**	**+0.1**
PKGN				S	**Sn**	**22 13 15.3**	**-0.2**
CNCH	**Conchagua**	**0.91**	**359**	*e*P	**Pn**	**22 13 03.6**	**-0.1**
CNCH				*e*S	**Sn**	**22 13 16.3**	**-0.1**
CNCH	**Conchagua**	**0.91**	**359**	⇓P	**Pn**	**22 13 03.7**	**-0.1**
LCND	**La Caada**	**0.94**	**356**	*e*P	**Pn**	**22 13 04.3**	**+0.2**
LCND				*e*P		22 13 04.3	
LCND				*e*S	**Sn**	**22 13 16.2**	**-0.8**
LCND	**La Caada**	**0.94**	**356**	⇑P	**Pn**	**22 13 04.3**	**+0.2**
CNGA	**Al SSO del Vol**	**1.10**	**83**	⇑P	**Pn**	**22 13 06.1**	**-0.1**
CNGA				S	**Sn**	**22 13 20.2**	**-0.5**
CNGN	**Cerro Negro**	**1.10**	**83**	S	**Sn**	**22 13 20.9**	**+0.2**
CNGN	**Cerro Negro**	**1.10**	**83**	⇓P	**Pn**	**22 13 06.0**	**-0.2**
BLLM	**Bellamira**	**1.15**	**339**	*e*P	**Pn**	**22 13 06.8**	**0.0**
LCY	**Lacayo**	**1.15**	**336**	*e*P	**Pn**	**22 13 07.3**	**+0.4**
CNRM	**Centro Naciona**	**1.16**	**343**	S	**Sn**	**22 13 22.2**	**+0.3**
RANC	**El Ranchito**	**1.16**	**337**	*e*P	**Pn**	**22 13 07.3**	**+0.3**
RANC				*e*S	**Sn**	**22 13 22.0**	**-0.2**
PACA	**Pacayal**	**1.21**	**336**	*e*P	**Pn**	**22 13 07.8**	**+0.2**
PACA				*e*P		22 13 07.9	
PACA				*e*S	**Sn**	**22 13 23.0**	**-0.2**
PACA	**Pacayal**	**1.21**	**336**	⇑P	**Pn**	**22 13 07.8**	**+0.2**
COPN	**Copaltepe**	**1.21**	**98**	⇑P	**Pn**	**22 13 07.5**	**-0.1**
TECA	**Tecapa**	**1.31**	**329**	*e*P	**Pn**	**22 13 09.2**	**+0.1**
APQ2	**Apoyeque**	**1.47**	**96**	S	**Sn**	**22 13 28.9**	**-0.4**
TECO	**Alcaldia de Te**	**1.50**	**321**	S	**Sn**	**22 13 29.8**	**-0.3**
UNAN	**Cigeo UNAN**	**1.54**	**99**	S	**Sn**	**22 13 30.9**	**0.0**
MGAN	**Managua**	**1.55**	**98**	S	**Sn**	**22 13 31.7**	**+0.4**
LIMN	**Finca el Limon**	**1.58**	**64**	⇑P	**Pn**	**22 13 12.3**	**-0.3**
LIMN				S	**Sn**	**22 13 31.3**	**-0.8**
YUSH	**Yuscaran**	**1.85**	**31**	⇑P	**Pn**	**22 13 16.4**	**+0.2**
YUSH	**Yuscaran**	**1.85**	**31**	S	**Sn**	**22 13 38.3**	**-0.3**
RCVN	**Varilla2**	**2.00**	**52**	S	**Sn**	**22 13 42.4**	**+0.1**
RCVN	**Varilla2**	**2.00**	**52**	P	**Pn**	**22 13 18.7**	**+0.4**
RCPN	**Sur Rio San Ju**	**2.04**	**55**	⇑P	**Pn**	**22 13 19.4**	**+0.5**

IDC 07 22:15:12.2±52.0, 18°.85S×176°.26W, h0km, mb3.9/3,
mbtmp3.9/3, Error ellipse: s-maj=970.6km
s-min=176.6km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.99**	**243**	P	P	22 22 48.9	+0.1
	1.3nm,0.5s,baz=90,slow=1.0,SNR=3.5						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**46.47**	**260**	P	P	22 23 41.3	-0.1
	0.3nm,0.3s,baz=96,slow=7.3,SNR=7.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**46.51**	**255**	P	P	22 23 41.4	-0.3
	1.4nm,0.6s,baz=92,slow=8.4,SNR=17						
	1.4nm,0.6s						

*IDC **07** 22:32:24.3±1.8, 0°.98S×148°.88E, h0km, mb3.4/7,*
mbtmp3.4/7, Error ellipse: s-maj=58.8km s-min=25.9km
az=106.0
ISC 07 22:32:29.6±1.8, 1°.0S±0°.2×148°.9E±0°.4, h35km, n13,
σ0§53/7, mb3.4/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.58**	**216**	P	**P**	**22 37 37.5**	**+0.2**
	0.5nm,0.5s,baz=36,slow=10,SNR=5.5						
	0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.14**	**41**	T	T	23 05 27.8	
	baz=224,slow=76,SNR=253						
H11S2	**WAKE ISLAND Hy**	**26.14**	**41**	T	T	23 05 24.1	
	baz=224,slow=76,SNR=115						
H11S1	**WAKE ISLAND Hy**	**26.15**	**41**	T	T	23 05 29.5	
	baz=224,slow=76,SNR=131						
ASAR	**Alice Springs**	**26.79**	**212**	P	**P**	**22 38 06.2**	**-0.3**
	0.3nm,0.8s,baz=29,slow=7.8,SNR=2.4						
	0.3nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**27.15**	**40**	T	T	23 06 43.2	
	baz=223						
H11N3	**WAKE ISLAND Hy**	**27.16**	**40**	T	T	23 06 42.6	
	baz=223						
H11N2	**WAKE ISLAND Hy**	**27.16**	**40**	T	T	23 06 40.1	
	baz=223						
CMAR	**Chiang Mai Arr**	**52.74**	**294**	P	**P**	**22 41 42.0**	**+0.5**
	0.5nm,0.6s,baz=106,slow=6.6,SNR=1.4						
	0.5nm,0.6s						
SONM	**Songino Array**	**61.07**	**329**	P	**P**	**22 42 40.1**	**-0.1**
	0.3nm,0.5s,baz=138,slow=8.8,SNR=1.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**74.92**	**319**	P	**P**	**22 44 06.4**	**-0.7**
	0.1nm,0.4s,baz=110,slow=8.3,SNR=2.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**78.43**	**322**	P	**P**	**22 44 26.5**	**-0.3**
	0.3nm,0.7s,baz=119,slow=3.9,SNR=5.3						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**80.20**	**23**	P	**P**	**22 44 36.5**	**+0.3**
	0.3nm,0.6s,baz=257,slow=5.7,SNR=4.5						
	0.3nm,0.6s						

*NEIC **07** 22:37:28.2±1.7, 6°.04N±0°.06×125°.45E±0°.10, h62km±8km,*
mb4.5/37, Error ellipse: s-maj=14.2km s-min=8.7km
az=101.0
*DJA **07** 22:37:29.4±0.5, 6°.N±3°×12°.5E±°, h61km±19km, M4.8/10,*
mB5.0/3, mb5.0/4, MLv4.8/10, Mw(mB)4.4/3
*IDC **07** 22:37:29.3±1.1, 6°.13N×125°.54E, h87km±12km, mb3.7/6,*
mbtmp4.1/7, MS2.9/2, Error ellipse: s-maj=49.5km
s-min=13.9km az=73.0
ISC 07 22:37:26.8±0.5, 6°.04N±0°.04×125°.44E±0°.07, h50km, n64,
σ1§46/66, mb4.5/29, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.03**	**7**	Pn	**Pn**	**22 37 46.0**	**+1.1**
DAV				Sn	**Sn**	**22 37 59.7**	**+1.3**
DAV	**Davao City (W)**	**1.03**	**7**	P	**Pn**	**22 37 46.9**	**+2.0**
	2μm,0.3s,baz=247,slow=3.7,SNR=36						
DAV				S	**Sn**	**22 38 02.8**	**+4.5**
	2μm,0.3s,baz=282,slow=21,SNR=9.9						
DAV				LR	LR	22 38 03.9	
	comp=Z,119nm,18.4s,baz=312,slow=37						
SGSI	**Sangihe**	**2.34**	**178**	P	**Pn**	**22 38 05.7**	**+2.9**
SGSI				S	**Sn**	**22 38 33.7**	**+3.3**
TNTI	**Ternate**	**5.57**	**160**	Pn	**Pn**	**22 38 45.1**	**-2.1**
MRSI	**Marisa**	**6.54**	**212**	P	**Pn**	**22 39 03.0**	**+2.5**
	0.4nm1μm52nm,0.4s						
MRSI				S	**Sn**	**22 40 15.6**	**+1.8**
	0.4nm1μm52nm,0.4s						
TOLI2	**Tolitoli**	**6.75**	**224**	Pn	**Pn**	**22 39 02.2**	**-1.2**
MYLDM	**Lahad Datu**	**6.96**	**263**	Pn	**Pn**	**22 39 06.2**	**0.0**
LUWI	**Luwuk**	**7.52**	**201**	Pn	**Pn**	**22 39 13.0**	**-0.9**
SANI	**Sanana**	**8.05**	**176**	P	**Pn**	**22 39 22.3**	**+1.1**
	0.3nm1μm60nm,0.5s						
SAUI	**Saumlaki**	**15.11**	**157**		**P**	**22 41 01.6**	**+0.2**
BATI	**Baumata**	**16.24**	**186**	P	**P**	**22 41 15.6**	**+1.5**
	15nm,0.4s,baz=70,slow=7.5,SNR=3.7						
BATI				LR	LR	22 47 32.1	
	comp=Z,63nm,20.6s,baz=258,slow=37						
JAGI	**Jajag, Banyuwa**	**18.29**	**218**	P	**P**	**22 41 36.0**	**-0.7**
JAGI				IAmb	IAmb	22 42 13.6	
	comp=Z,33nm,1.4s						
KNRA	**Kunounrra**	**21.83**	**171**	P	**P**	**22 42 14.7**	**-0.3**
KNRA				IAmb	IAmb	22 42 17.3	
	comp=Z,19nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.99**	**180**	P	**P**	**22 42 36.5**	**-0.3**
IPM	**Ipoh**	**24.36**	**268**	P	**P**	**22 42 40.8**	**+0.3**
IPM				IAmb	IAmb	22 42 43.0	
	comp=Z,9.9nm,0.7s						
KULM	**Kulim**	**24.68**	**270**	P	**P**	**22 42 44.4**	**+1.0**
COEN	**Coen**	**26.54**	**139**	P	**P**	**22 42 59.6**	**-0.5**
COEN				IAmb	IAmb	22 43 04.0	
	comp=Z,15nm,0.9s						
NJ2	**Nanjing**	**26.60**	**347**	*e*P	**P**	**22 43 02.8**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	**27.12**	**161**	P	**P**	**22 43 04.2**	**-1.0**
WRA	**Warramunga Arr**	**27.26**	**161**	P	**P**	**22 43 05.6**	**-1.0**
WRA	**Warramunga Arr**	**27.26**	**161**	P	**P**	**22 43 05.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=341,slow=10,SNR=10						
	comp=Z,0.5nm,0.3s						
WR8	**Warramunga Arr**	**27.33**	**161**	P	**P**	**22 43 06.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.63**	**298**	LR	LR	22 55 08.6	
	comp=Z,12nm,18.1s,baz=110,slow=37						
PZH	**PanZhiHua**	**30.41**	**315**	P	**P**	**22 43 38.0**	**+3.3**
AS31	**Alice Springs**	**30.66**	**165**	P	**P**	**22 43 36.8**	**+0.1**
ASAR	**Alice Springs**	**30.66**	**165**	P	**P**	**22 43 37.0**	**+0.3**
ASAR	**Alice Springs**	**30.66**	**165**	P	**P**	**22 43 35.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=338,slow=7.0,SNR=19						
	comp=Z,0.8nm,0.4s						
LZH	**Lanzhou**	**35.88**	**329**	*e*P	**P**	**22 44 20.1**	**-2.1**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
MORW	**Morawa**	**36.06**	**194**	P	**P**	**22 44 23.2**	**-0.4**
INKA	**Innaminka**	**36.69**	**157**	P	**P**	**22 44 28.7**	**-0.3**
INKA				IAmb	IAmb	22 44 52.6	
	comp=Z,2.3nm,0.7s						
FORT	**Forrest**	**36.70**	**176**	P	**P**	**22 44 27.9**	**-1.2**
FORT				IAmb	IAmb	22 44 53.1	
	comp=Z,6.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**36.82**	**342**	*e*P	**P**	**22 44 32.6**	**+2.5**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,60nm,4.7s						
SHL	**Shillong**	**37.50**	**305**	P	**P**	**22 44 35.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.53**	**191**	P	**P**	**22 44 52.8**	**-0.1**
BBOO	**Buckleboo**	**39.93**	**166**	P	**P**	**22 44 56.4**	**+0.1**
EIDS	**Eidsvold**	**39.95**	**142**	P	**P**	**22 44 56.0**	**-0.5**
EIDS				IAmb	IAmb	22 45 11.4	
	comp=Z,11nm,1.3s						
GTA	**Gaotai**	**40.47**	**329**	*e*P	**P**	**22 45 00.8**	**0.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**40.73**	**159**	P	**P**	**22 45 02.8**	**0.0**
STKA	**Stephens Creek**	**40.73**	**159**	P	**P**	**22 45 03.0**	**+0.1**
	comp=Z,5.4nm,0.5s,baz=339,slow=9.3,SNR=12						
	comp=Z,5.4nm,0.5s						
EVN	**Everest**	**42.60**	**305**	P	**P**	**22 45 19.4**	**+0.3**
ARMA	**Armidale**	**44.09**	**147**	P	**P**	**22 45 29.7**	**-0.7**
CAN	**Canberra**	**46.74**	**153**	P	**P**	**22 45 52.2**	**+1.1**
CAN				IAmb	IAmb	22 46 03.9	
	comp=Z,9.4nm,1.1s						
TOO	**Toolangi**	**47.24**	**158**	P	**P**	**22 45 55.8**	**+0.8**
TOO				IAmb	IAmb	22 46 36.7	
	comp=Z,4.2nm,1.1s						
WMQ	**Urumqi**	**50.11**	**325**	*e*P	P	22 46 21.0	+3.9
WMQ				pmax	pmax		
	comp=Z,37nm,0.7s						
MKAR	**Makanchi Array**	**54.94**	**325**	P	**P**	**22 46 51.1**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=120,slow=7.5,SNR=11						
	comp=Z,0.6nm,0.5s						
NIL	**Nilore**	**55.52**	**307**	P	**P**	**22 46 56.6**	**-0.5**
NIL				IAmb	IAmb	22 46 57.5	
	comp=Z,8.3nm,1.1s						
KURBB	**Kurchatov Arra**	**59.12**	**327**	P	**P**	**22 47 20.3**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=125,slow=8.0,SNR=12						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**59.12**	**327**	P	**P**	**22 47 20.6**	**-1.5**
GAR	**Garm**	**59.43**	**312**	P	**P**	**22 47 23.9**	**-0.8**
FUTU	**Fugatoga**	**59.51**	**110**	P	**P**	**22 47 25.3**	**-0.1**
KK31	**Karatay Array**	**60.68**	**317**		**P**	**22 47 32.2**	**-0.8**
KKAR	**Karatay Array**	**60.68**	**317**	P	**P**	**22 47 32.1**	**-1.0**
L16K	**Owhat River**	**77.65**	**28**	P	**P**	**22 49 16.0**	**-1.7**
L16K				IAmb	IAmb	22 49 36.7	
	comp=Z,17nm,1.5s						
M16K	**Timber Creek**	**77.77**	**29**	P	**P**	**22 49 17.8**	**-0.7**
M16K				IAmb	IAmb	22 49 26.3	
	comp=Z,12nm,1.1s						
D19K	**Kuna River**	**79.45**	**21**	P	**P**	**22 49 26.5**	**-1.1**
D19K				IAmb	IAmb	22 50 01.3	
	comp=Z,21nm,1.4s						
H19K	**Roundabout Mou**	**79.61**	**24**	P	**P**	**22 49 28.1**	**-0.3**
H19K				IAmb	IAmb	22 49 46.1	
	comp=Z,4.7nm,1.1s						
I21K	**Tanana**	**81.43**	**25**	P	**P**	**22 49 37.8**	**-0.4**
I21K				IAmb	IAmb	22 49 41.8	
	comp=Z,5.0nm,1.2s						
CNPM	**China Poot**	**81.44**	**31**	P	**P**	**22 49 36.8**	**-1.7**
CNPM				IAmb	IAmb	22 49 41.9	
	comp=Z,13nm,1.1s						
SUA	**Susitna One**	**81.77**	**29**	P	**P**	**22 49 38.9**	**-1.3**
SUA				IAmb	IAmb	22 50 21.6	
	comp=Z,4.7nm,1.0s						
I23K	**Minto, Yukon-K**	**82.53**	**25**	P	**P**	**22 49 43.6**	**-0.4**
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**22 49 47.0**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=257,slow=4.5,SNR=7.8						
	comp=Z,0.4nm,0.6s						
BMAR	**Burnt Mountain**	**84.46**	**23**	P	**P**	**22 49 54.3**	**+0.3**
RIDG	**Independent Ri**	**84.50**	**27**	P	**P**	**22 49 52.9**	**-1.3**
RIDG				IAmb	IAmb	22 49 53.5	
	comp=Z,2.2nm,0.6s						
I28M	**Miner Creek**	**86.47**	**25**	P	**P**	**22 50 02.9**	**-1.1**
I28M				IAmb	IAmb	22 50 07.2	
	comp=Z,2.4nm,1.1s						

*IDC **07** 22:50:28.7±1.3, 3°.82S×101°.85E, h0km, mb4.2/11,*
mbtmp4.2/11, MS3.6/1, Error ellipse: s-maj=55.9km
s-min=16.7km az=55.0
*NEIC **07** 22:50:40.5±2.5, 3°.60S±0°.08×102°.17E±0°.03, h78km±10km,*
mb4.4/13, Error ellipse: s-maj=11.6km s-min=3.8km
az=183.0
*DJA **07** 22:50:41.2±0.2, 4°S±3°×10°2E±°, h65km±4km, M4.5/19,*
mB5.5/2, mb4.6/13, MLv4.4/19, Mw(mB)5.0/2
ISC 07 22:50:39.9±0.6, 3°.59S±0°.07×102°.14E±0°.07, h71km, n78,
σ1§42/71, mb4.4/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.46**	**13**	P	**Pn**	**22 50 54.2**	**+1.7**
KSI	**Kapahiang**	**0.46**	**98**	P	**Pn**	**22 50 53.3**	**+0.8**
MNAI	**Manna**	**1.12**	**133**		**Pn**	**22 51 00.8**	**+0.9**
MNAI				Sn	**Sn**	**22 51 15.7**	**+0.8**
MNAI	**Manna**	**1.12**	**133**	P	**Pn**	**22 51 01.0**	**+1.0**
LHSI	**Lahat**	**1.40**	**100**	P	**Pn**	**22 51 05.4**	**+1.8**
KRJI	**Kerinci**	**1.63**	**336**	P	**Pn**	**22 51 08.8**	**+2.0**
MDSI	**Maura Dua**	**2.22**	**114**	P	**Pn**	**22 51 16.0**	**+1.4**
PPSI	**Pulau Pagai**	**2.28**	**291**	P	**Pn**	**22 51 17.7**	**+2.4**
LWLI	**Liwa**	**2.38**	**127**	P	**Pn**	**22 51 18.3**	**+1.4**
PMBI	**Palembang**	**2.71**	**76**	Pn	**Pn**	**22 51 21.0**	**-0.2**
PMBI	**Palembang**	**2.71**	**76**	P	**Pn**	**22 51 21.2**	**0.0**
KLI	**Kotabumi**	**2.99**	**115**	P	**Pn**	**22 51 27.1**	**+2.1**
KASI	**Kota Agung**	**3.04**	**129**	P	**Pn**	**22 51 26.9**	**+1.3**
PDSI	**Padang**	**3.14**	**328**	P	**Pn**	**22 51 29.4**	**+2.3**
PPI	**Padang Panjang**	**3.56**	**331**	P	**Pn**	**22 51 35.8**	**+3.0**
BLSI	**Bandar Lampung**	**3.57**	**120**	P	**Pn**	**22 51 34.5**	**+1.6**
SISI	**Saibi**	**3.79**	**306**	P	**Pn**	**22 51 37.8**	**+2.0**
BKNI	**Bangkinang**	**4.04**	**344**	Pn	**Pn**	**22 51 41.6**	**+2.3**
CGJI	**Cibinong**	**4.64**	**130**	P	**Pn**	**22 51 47.9**	**+0.3**
SBJI	**Serang**	**4.71**	**122**	P	**Pn**	**22 51 49.9**	**+1.5**
MNSI	**Mandailing Nat**	**5.05**	**330**	P	**Pn**	**22 51 54.8**	**+1.7**
	0.4nm42nm,0.6s						
TPRI	**Tanjung Pinang**	**5.07**	**28**	P	**Pn**	**22 51 54.8**	**+1.4**
	0.4nm3μm48nm,0.4s						
PBSI	**Pulau Batu**	**5.21**	**312**	P	**Pn**	**22 51 57.0**	**+1.6**
	77nm,0.5s						
TPI	**Tanjungpandan**	**5.57**	**82**	P	**Pn**	**22 52 01.6**	**+1.4**
GSI	**Gunungsitoli**	**6.66**	**317**	Pn	**Pn**	**22 52 15.7**	**+0.4**
GSI	**Gunungsitoli**	**6.66**	**317**	P	**Pn**	**22 52 15.9**	**+0.7**
KCSI	**Kotacane, Aceh**	**8.30**	**328**	P	**Pn**	**22 52 38.1**	**+0.5**
SNSI	**Sinabang, Aceh**	**8.32**	**316**	P	**Pn**	**22 52 38.9**	**+1.0**
	110nm,1.1s						
UGM	**Wanagama**	**9.38**	**118**	Pn	**Pn**	**22 52 53.0**	**+0.6**
UGM	**Wanagama**	**9.38**	**118**	P	**Pn**	**22 52 53.0**	**+0.6**
	86nm,1.8s						
MLSI	**Meulaboh, Aceh**	**9.68**	**324**	P	**Pn**	**22 52 56.5**	**0.0**
	44nm,0.7s						
PCJI	**Pacitan**	**10.09**	**117**	P	**Pn**	**22 53 01.5**	**-0.5**
	53nm,1.5s						
ABJI	**Asem Bagus**	**12.74**	**110**	P	**Pn**	**22 53 40.0**	**+1.8**
	69nm,1.5s						
JAGI	**Jajag, Banyuwa**	**12.89**	**113**	Pn	**Pn**	**22 53 38.1**	**-2.2**
EDFI	**Ende, Flores**	**20.10**	**106**	P	**P**	**22 55 08.7**	**+0.6**
	6.3nm,0.6s						
LUWI	**Luwuk**	**20.77**	**84**	P	**P**	**22 55 16.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**22.13**	**352**	P	**P**	**22 55 29.1**	**-0.8**
	1.1nm,0.3s,baz=186,slow=9.0,SNR=9.7						
	1.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**27.16**	**124**	P	**P**	**22 56 16.7**	**-0.1**
H08S2	**Diego Garcia H**	**29.77**	**261**	T	T	23 26 51.7	
	baz=84,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**29.78**	**261**	T	T	23 26 52.3	
	baz=84,slow=75,SNR=55						
H08S1	**Diego Carcia H**	**29.79**	**261**	T	T	23 26 53.1	
	baz=84,slow=75,SNR=33						
**PZH

KURK IAmb IAmb 23 00 23.2
comp=Z,2.8nm,0.8s
ZAA0 Zalesovo Array 59.13 348 P **P** **23 00 31.4 -1.5**
ZALV Zalesovo Beam 59.13 348 P **P** **23 00 31.8 -1.2**
comp=Z,2.9nm,0.5s,baz=172,slow=6.4,SNR=15
comp=Z,2.9nm,0.5s
H04N2 CROZET ISLANDS 60.83 218 T T 00 06 06.3
baz=61,slow=74,SNR=52
H04N1 CROZET ISLANDS 60.84 218 T T 00 05 57.2
baz=61,slow=74,SNR=62
H04N3 CROZET ISLANDS 60.84 218 T T 00 05 56.6
baz=61,slow=74,SNR=62
BVAR Borovoye Array 62.41 339 P **P** **23 00 53.8 -1.5**
comp=Z,2.2nm,0.4s,baz=139,slow=9.1,SNR=22
comp=Z,2.2nm,0.4s
AB31 Akbulak array 64.06 331 P **P** **23 01 04.8 -1.5**
AB31 IAmb IAmb 23 01 05.7
comp=Z,2.6nm,0.8s
ABKAR Akbulak array 64.06 331 P **P** **23 01 04.9 -1.3**
ARTI Arti 69.56 336 **P** **23 01 39.9 -1.2**
BURAR Bucovina Array 83.86 318 P **P** **23 03 02.5 +0.5**
BUR08 Bucovina Ar. S 83.87 319 P **P** **23 03 02.5 +0.4**
BUR08 IAmb IAmb 23 03 11.7
comp=Z,2.2nm,1.0s
FINES FINESS Array B 86.50 332 P **P** **23 03 13.8 -0.9**
comp=Z,0.9nm,0.7s,baz=98,slow=7.2,SNR=5.6
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 88.68 340 P **P** **23 03 24.3 -0.7**
comp=Z,0.8nm,0.6s,baz=92,slow=6.1,SNR=5.1
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 144.58 41 PKP **PKPab** **23 10 07.1 -0.7**
comp=Z,0.7nm,0.7s,baz=186,slow=0.4,SNR=6.5

*SCB **07** 22:51:02.8±1.3, 22°.22S×67°.29W, h161km±12km, ML3.5/3, Error ellipse: s-maj=6.1km s-min=3.6km az=0.0*
ISC 07 22:51:02.0±1.4, 22°.19S±0°.07×67°.30W±0°.05, h178km, n20, σ1§19/25, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.11**	**227**	*e*P	**Pn**	**22 51 32.6**	**+1.8**
YJA	**Yavi**	**1.65**	**90**	Pg	**Pn**	**22 51 36.4**	**+0.6**
MOCB	**Mochara**	**1.80**	**59**	Pg	**Pn**	**22 51 37.4**	**0.0**
MOCB				Sg	**Sn**	**22 52 03.6**	**-1.0**
MOCB				IAML		22 52 04.5	
152nm,0.4s
PB09 IPOC Station P 1.85 282 ||*e*P **Pn** **22 51 38.4 +0.9**
PB09 *e*S **Sn** **22 52 04.1 -0.8**
PB09 IAML 22 52 11.4
comp=E,73nm,0.3s
PB09 IPOC Station P 1.85 282 Pg **Pn** **22 51 38.4 +0.9**
PB06 IPOC Station P 2.17 256 Pg **Pn** **22 51 41.9 +1.0**
PB01 IPOC Station P 2.33 299 Pg **Pn** **22 51 43.4 +0.6**
PB01 Sg **Sn** **22 52 14.2 -0.2**
PB01 IAML 22 52 16.1
comp=E,160nm,0.2s
PB02 IPOC Station P 2.56 289 Pg **Pn** **22 51 46.0 +0.5**
PB02 Sg **Sn** **22 52 18.3 -0.9**
PB02 IAML 22 52 19.5
comp=E,323nm,0.3s
PB08 IPOC Station P 2.67 319⇑ *e*P **Pn** **22 51 48.2 +1.2**
PB08 IAML 22 52 24.4
comp=N,60nm,0.5s
PB08 IPOC Station P 2.67 319 Pg **Pn** **22 51 48.7 +1.6**
GO01 Chusmiza 3.07 324 Pg **Pn** **22 51 52.9 +1.0**
TA01 Diego Aracena 3.13 300⇑ *e*P **Pn** **22 51 51.5 -0.7**
TA01 *e*S **Sn** **22 52 28.7 -2.7**
TA01 IAML 22 52 30.3
comp=E,162nm,0.3s
SOEO Opoqueri 3.65 351 Pg **Pn** **22 52 00.8 +1.7**
PB14 IPOC Station P 3.75 229 Pg **Pn** **22 52 00.3 +0.2**
SOET ToroToro 4.29 19 Pg **Pn** **22 52 07.1 0.0**
PB16 IPOC Station P 4.36 331 Pg **Pn** **22 52 09.0 +0.8**
BBOJ La Paz, Jacaqu 5.25 351 Pg **Pn** **22 52 21.5 +1.7**
BBOE La Paz, Chanca 5.39 353 Pg **Pn** **22 52 22.9 +1.3**
BBOD La Paz, Gloria 5.66 347 Pg **Pn** **22 52 25.8 +0.7**
BBOB La Paz, Bander 6.07 352 Pg **Pn** **22 52 31.1 +0.7**

*IDC **07** 23:03:14.9±1.6, 0°.04N×125°.27E, h0km, mb3.7/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=136.9km s-min=22.1km az=65.0*
*DJA **07** 23:03:19.9±0.9, 0°.5±3°×12°.5E±°, h13km±7km, M4.0/12, MLv4.0/12*
ISC 07 23:03:21.9±0.9, 0°.05S±0°.07×125°.04E±0°.05, h53km, n12, σ1§20/15, mb3.6/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.23**	**300**	P	**Pn**	**23 03 41.3**	**-1.5**
KMSI				S	**Sn**	**23 03 58.5**	**+0.2**
SANI	**Sanana**	**2.20**	**155**	P	**Pn**	**23 03 54.6**	**-1.5**
TNTI	**Ternate**	**2.46**	**71**	P	**Pn**	**23 03 59.8**	**+0.1**
TNTI				S	**Sn**	**23 04 30.4**	**+1.8**
LUWI	**Luwuk**	**2.47**	**247**	P	**Pn**	**23 04 00.9**	**+1.1**
LUWI				S	**Sn**	**23 04 30.6**	**+1.8**
MRSI	**Marisa**	**3.14**	**280**	P	**Pn**	**23 04 07.7**	**-1.3**
APSI	**Ampana**	**3.50**	**256**	P	**Pn**	**23 04 14.2**	**+0.4**
NLAI	**Namlea**	**3.78**	**147**	P	**Pn**	**23 04 17.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.95**	**178**	P	**P**	**23 07 27.0**	**-0.8**
1.0nm,0.3s,baz=17,slow=13,SNR=2.0
1.1nm,0.7s
WRA Warramunga Arr 21.77 156 P **P** **23 08 08.1 -1.3**
0.8nm,0.4s,baz=337,slow=9.9,SNR=8.4
0.8nm,0.4s
ASAR Alice Springs 25.00 160 P **P** **23 08 40.4 -0.7**
0.8nm,0.4s,baz=340,slow=11,SNR=15
0.8nm,0.4s
STKA Stephens Creek 35.32 155 P **P** **23 10 12.4 +0.3**
1.2nm,0.5s,baz=330,slow=8.6,SNR=4.8
1.2nm,0.5s
MKAR Makanchi Array 59.74 327 P **P** **23 13 21.9 +0.5**
0.2nm,0.3s,baz=130,slow=8.0,SNR=9.8
0.2nm,0.3s

*IDC **07** 23:12:20.7±3.0, 6°.73N×127°.12E, h98km±25km, mb3.2/9, mbtmp3.5/9, MS3.3/1, Error ellipse: s-maj=39.6km s-min=15.1km az=67.0*
*DJA **07** 23:12:25.4±1.1, 6°N±7°×12°6E±°, h13km±13km, M4.8/13, mB5.7/5, mb4.8/10, MLv4.6/13, Mw(mB)5.3/5*
ISC 07 23:12:21.1±0.9, 6°.57N±0°.08×126°.9E±0°.1, h100km, n18, σ1§37/19, mb3.6/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.43**	**290**	P	**Pn**	**23 12 48.3**	**+1.8**
222nm,0.3s,baz=59,slow=22,SNR=9.6
DAV S **Sn** **23 13 08.1** **+2.4**
774nm,0.3s,baz=90,slow=24,SNR=30
SGSI Sangihe 3.19 206 P **Pn** **23 13 09.8 +0.4**
TNTI Ternate 5.78 176 P **Pn** **23 13 46.6 +2.2**
0.4nm53nm,0.6s
TNTI S **Sn** **23 14 48.5 -0.8**
0.4nm53nm,0.6s
KMSI Cibinong 6.64 206 P **Pn** **23 13 55.1 -1.0**
129nm,0.6s
MRSI Marisa 7.83 220 P **Pn** **23 14 10.5 -1.9**
31nm,1.3s
SWI Sorong 8.56 149 P Pn 23 14 28.3 +6.1
30nm,0.9s
NLAI Namlea 9.74 179 P **Pn** **23 14 38.1 -0.3**
4μm55nm,0.4s
AAI Ambon 10.27 173 P **Pn** **23 14 45.9 +0.4**
FITZ Fitzroy Crossi 24.54 183 P **P** **23 17 32.3 +0.8**
1.5nm,0.5s,baz=37,slow=2.8,SNR=4.2
1.5nm,0.5s
WRA Warramunga Arr 27.34 165 P **P** **23 17 58.0 +1.2**
0.6nm,0.9s,baz=347,slow=10,SNR=6.2
WRA ScP **ScP** **23 24 46.4 +0.8**
0.3nm,0.5s,baz=331,slow=2.8,SNR=2.2
0.6nm,0.9s
ASAR Alice Springs 30.81 167 P **P** **23 18 28.1 +0.4**
0.2nm,0.4s,baz=345,slow=8.6,SNR=1.9
0.2nm,0.4s
BRDH Bariadhala 37.57 299 LR LR 23 36 29.6
comp=Z,36nm,18.1s,baz=248,slow=38
SONM Songino Array 44.70 340 P **P** **23 20 23.6 -0.6**
0.2nm,0.4s,baz=157,slow=7.8,SNR=2.1
0.2nm,0.4s
MKAR Makanchi Array 55.37 324 P **P** **23 21 43.0 -1.9**
0.2nm,0.3s,baz=117,slow=7.0,SNR=6.4
0.2nm,0.3s
ZALV Zalesovo Beam 58.17 332 P **P** **23 22 03.7 -0.7**
0.2nm,0.3s,baz=142,slow=5.4,SNR=1.7
0.2nm,0.3s
KURBB Kurchatov Arra 59.48 326 P **P** **23 22 13.8 +0.2**
0.3nm,0.4s,baz=126,slow=6.2,SNR=5.5
0.3nm,0.4s
BVAR Borovoye Array 65.07 326 P **P** **23 22 51.6 +0.8**
0.3nm,0.4s,baz=123,slow=5.3,SNR=2.8
0.3nm,0.4s
ILAR Eielson Array 82.47 26 P **P** **23 24 30.7 -1.6**
0.2nm,0.5s,baz=239,slow=5.9,SNR=5.0
0.2nm,0.5s

*UCR **07** 23:17:54.0±0.8, 8°.32N×82°.81W, h22km±3km, MW3.5*
*UPA **07** 23:17:54.6±0.8, 8°.36N×82°.80W, h20km±3km, MW3.2*
ISC 07 23:17:53.9±1.2, 8°.34N±0°.04×82°.82W±0°.03, h32km±6km, n39, σ0§76/55, 3C-20D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIEL	**Armuelles**	**0.07**	**212**⇑ *e*P	**Sb**	**23 18 05.5**	**+2.5**
LESP3	**La Esperanza,**	**0.07**	**23**⇑ *i*P	**Pb**	**23 17 58.5**	**-0.8**
LESP3 *e*S **Sb** **23 18 01.2** **-1.8**
LPPC Paso Canoas 0.19 354 *e*P **Pb** **23 17 59.5 -0.7**
LPPC *e*S **Sb** **23 18 04.0 -0.6**
LMNES Limones 0.24 190⇑ *e*P **Pb** **23 18 00.5 -0.3**
BAGA3 Bagala, Chiriq 0.31 66 ⇓ *i*P **Pb** **23 18 01.9 +0.2**
BAGA3 *e*S **Sb** **23 18 07.3 +0.3**
DMCAL E. de Neily 0.33 4 ⇓ *e*P **Pb** **23 18 01.8 -0.2**
NELY Ciudad Neily 0.33 337 *e*P **Pb** **23 18 01.3 -0.7**
NELY *e*S **Sb** **23 18 07.4 -0.1**
DVD David 0.38 75 ⇓ *i*P **Pb** **23 18 02.4 -0.1**
DVD *e*S **Sb** **23 18 07.7 -0.7**
PEDE3 Pedregal, Chir 0.39 84 ⇓ *i*P **Pb** **23 18 02.6 -0.2**
PEDE3 *e*S **Sb** **23 18 08.3 -0.5**
LOCO3 Loma Colorada, 0.40 80 ⇓ *i*P **Pb** **23 18 02.9 0.0**
LOCO3 *e*S **Sb** **23 18 09.3 +0.2**
JEFFS S de V. Baru 0.43 41 ⇓ *e*P **Pb** **23 18 03.5 +0.1**
LOMA3 Las Lomas, Chi 0.43 78 *e*P **Pb** **23 18 03.2 -0.1**
LOMA3 *e*S **Sb** **23 18 09.6 -0.2**
BRU2 Volcan 0.47 15 ⇓ *i*P **Pb** **23 18 04.0 -0.1**
BRU2 *e*S **Sb** **23 18 11.8 +0.8**
BRU2 Volcan 0.47 15 ⇓ *e*P **Pb** **23 18 03.9 -0.2**
BANCO falda S V. Bar 0.47 37 ⇓ *e*P **Pb** **23 18 04.0 -0.1**
PTAR3 Potrerillos Ar 0.47 42 ⇓ *i*P **Pb** **23 18 04.1 0.0**
PTAR3 *e*S **Sb** **23 18 10.7 -0.4**
SCLRA Santa Clara, W 0.49 4 *e*P **Pb** **23 18 04.4 0.0**
BC3P Paso Ancho 0.51 23 ⇓ *i*P **Pb** **23 18 04.5 -0.3**
BC3P *e*S **Sb** **23 18 13.0 +0.7**
PIRO Carate, Puerto 0.52 277 *e*P **Pb** **23 18 03.6 -1.0**
PIRO *e*S **Sb** **23 18 12.7 +0.6**
PIRO Carate, Puerto 0.52 277 *e*P **Pb** **23 18 03.7 -1.0**
JIME Puerto Jimenez 0.54 291 *e*P **Pb** **23 18 04.3 -0.7**
BQTLY Boquete Panama 0.54 40 ⇓ *e*P **Pb** **23 18 05.0 -0.2**
BQSF3 Alto Boquete, 0.55 44 ⇓ *i*P **Pb** **23 18 05.0 -0.3**
BQSF3 *e*S **Sb** **23 18 13.2 0.0**
WILLF Boquete 0.56 43 ⇓ *e*P **Pb** **23 18 05.0 -0.4**
LNBQ3 Los Naranjos, 0.58 40 ⇓ *i*P **Pb** **23 18 05.3 -0.5**
LNBQ3 *e*S **Sb** **23 18 13.9 -0.1**
DAP26 falda E V. Bar 0.59 41 *e*P **Pb** **23 18 05.4 -0.6**
PSOM3 Paja de Sombre 0.60 55 ⇓ *i*P **Pb** **23 18 05.5 -0.5**
PSOM3 *e*S **Sb** **23 18 14.5 +0.1**
ALCO Alturas Coton, 0.60 358 ⇓ *e*P **Pb** **23 18 05.5 -0.7**
PBNVO Pueblo Nuevo, 0.82 48 ⇓ *e*P **Pb** **23 18 08.8 -1.0**
RBALA Bur 0.85 51 ⇓ *e*P **Pn** **23 18 09.5 -0.1**
CHGR2 Aguacate 0.89 48 *e*P **Pn** **23 18 09.9 -0.3**
CHGR2 *e*S **Sb** **23 18 22.1 -0.4**
DRK0 Durika 1.01 335 *e*P **Pn** **23 18 12.0 0.0**
DRK0 Durika 1.01 335 *e*P **Pn** **23 18 12.0 0.0**
KKNTU Kakintº 1.12 64 ⇓ *e*P **Pn** **23 18 13.0 -0.3**
SAJE San Jernim 1.21 326 *e*P **Pn** **23 18 14.9 +0.2**
LAES El Progreso Va 1.43 351 *e*P **Pn** **23 18 19.0 +1.4**
VERH Veragua Rainfo 1.62 347 *e*P **Pn** **23 18 21.6 +1.4**
LCR2 La Lucha 2 1.82 320 *e*S **Sb** **23 18 48.1 -1.1**
CVTQ Turrialba Volc 1.90 330 *e*P **Pn** **23 18 26.5 +2.1**

*MOS **07** 23:30:30.3±1.8, 43°.64N×146°.70E, h94km, mb4.0/1, Error ellipse: s-maj=31.0km s-min=12.8km az=89.9*
*SKHL **07** 23:30:33.9±0.2, 43°.40N×146°.10E, h102km±7km, mb4.8/3, msha5.6/3*
*JMA **07** 23:30:34.4±0.2, 43°.4N±0°.6×14°6E±°, h97km±1km, MV3.7/39, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*IDC **07** 23:30:47.4±9.6, 43°.75N×145°.70E, h214km±144km, mb3.2/6, mbtmp3.8/7, MS3.0/1, Error ellipse: s-maj=130.1km s-min=28.9km az=166.0*
ISC 07 23:30:33.8±0.9, 43°.41N±0°.07×146°.11E±0°.06, h102km±6km, n37, σ1§00/42, mb3.6/6, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.27**	**260**	*i* P	**Pn**	**23 30 48.4**	**+0.1**
NEM2 *i* S **Sn** **23 30 58.8** **-0.5**
NMR Nemuro--Hokkai 0.28 261 ⇓ *i*PN **Pn** **23 30 48.5 +0.1**
NMR *i* S **Sn** **23 30 58.8 -0.6**
NMR Nemuro--Hokkai 0.28 261 *i* P **Pn** **23 30 48.5 +0.1**
NMR *i* S **Sn** **23 30 58.9 -0.5**
GLVR Golovnino 0.54 308 *e*PN **Pn** **23 30 50.0 0.0**
GLVR *e*S **Sn** **23 31 02.2 +0.1**
GLVR pmax pmax
comp=N,293nm,0.1s
GLVR pmax pmax
comp=E,458nm,0.1s
GLVR pmax pmax
comp=Z,2μm,0.1s
GLVR smax smax
comp=N,1μm,0.2s
GLVR smax smax
comp=E,3μm,0.1s
GLVR Golovnino 0.54 308 *e*P **Pn** **23 30 50.0 0.0**
GLVR AMB AMB 23 30 51.5
comp=E,2μm,0.3s
GLVR *e*S **Sn** **23 31 02.2 +0.1**
GLVR A A 23 31 05.0
comp=E,1μm,0.2s
GLVR A A 23 31 05.0
comp=E,3μm,0.2s
YUK Yuzh-Kuril'sk 0.65 344 *d* PN **Pn** **23 30 50.4 -0.4**
YUK pmax pmax
comp=E,667nm,0.1s
YUK pmax pmax
comp=Z,1μm,0.1s
YUK Yuzh-Kuril'sk 0.65 344 *i* P **Pn** **23 30 50.4 -0.4**
YUK AMB AMB 23 30 50.7
comp=Z,830nm,0.4s
YUK *e*S **Sn** **23 31 02.8 -0.9**
YUK A A 23 31 05.9
comp=Z,1μm,0.3s
YUK A A 23 31 05.9
comp=Z,950nm,0.3s
JKHN Kushirohamanak 0.77 245 *i* P **Pn** **23 30 52.2 +0.3**
JNSB Nemuroshibetsu 0.88 295 *i* P **Pn** **23 30 53.1 +0.1**
JRA Rausu 0.89 307 *i* P **Pn** **23 30 53.1 0.0**
JRA S **Sn** **23 31 07.3 -0.3**
RUSJ Misakicho 0.93 318 ⇓ *i*PN **Pn** **23 30 53.6 +0.1**
RUSJ *e*S **Sn** **23 31 10.0 +1.6**
AKK Akkeshi 1.00 247 *e*P **Pn** **23 30 54.4 +0.1**
JNK Nakash 1.02 280 *i* P **Pn** **23 30 54.2 -0.3**
JNK S **Sn** **23 31 08.4 -1.8**
JAK Akkeshi 1.11 248 *i* P **Pn** **23 30 55.6 +0.1**
JAK S **Sn** **23 31 11.4 -0.5**
JTKR Abashiri--Toko 1.69 290 *i* P **Pn** **23 31 02.5 +0.1**
JTKR *e*S **Sn** **23 31 23.7 -0.5**
JAR Ashorobuto 1.71 267 *i* P **Pn** **23 31 03.1 +0.4**
JOB Onbets 1.74 254 *i* P **Pn** **23 31 03.5 +0.5**
JOB S **Sn** **23 31 25.2 -0.1**
JMP Maruseppu 2.08 288 P **Pn** **23 31 07.5 +0.1**
JMP S **Sn** **23 31 32.8 -0.4**
JCH Churui 2.17 249 *i* P **Pn** **23 31 08.7 +0.2**
KUR Kuril'sk 2.22 34 PN Pn 23 31 15.0 +5.9
KUR Kuril'sk 2.22 34 *e*P **Pn** **23 31 08.8 -0.3**
KUR AMB AMB 23 31 10.3
comp=Z,20nm,0.5s
KUR *e*S **Sn** **23 31 34.9 -1.3**
KUR A A 23 31 38.1
comp=Z,140nm,0.3s
KUR A A 23 31 38.1
comp=Z,70nm,0.3s
MJAR Matsushiro Arr 9.15 224 P Pn 23 32 56.8 +14
comp=Z,0.7nm,0.2s,baz=28,slow=12,SNR=1.5
MJAR S Sn 23 34 39.0 +15
comp=Z,0.9nm,0.3s,baz=32,slow=34,SNR=4.8
SEY Seymchan 19.89 8⇑ *e*P **Pn** **23 35 03.6 +4.2**
SEY pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 27.90 293 P **P** **23 36 13.5 -0.7**
comp=Z,0.5nm,0.5s,baz=79,slow=7.8,SNR=1.7
comp=Z,0.5nm,0.5s
H11N2 WAKE ISLAND Hy 29.36 137 T T 00 07 37.4
baz=328,slow=75,SNR=65
H11N1 WAKE ISLAND Hy 29.37 137 T T 00 07 38.2
baz=328,slow=75,SNR=84
H11N3 WAKE ISLAND Hy 29.37 137 T T 00 07 35.6
baz=328,slow=75,SNR=72
H11S1 WAKE ISLAND Hy 30.30 139 T T 00 08 39.9
baz=329,slow=76,SNR=55
H11S3 WAKE ISLAND Hy 30.31 139 T T 00 08 49.5
baz=329,slow=76,SNR=62
H11S2 WAKE ISLAND Hy 30.32 139 T T 00 08 52.0
baz=329,slow=76,SNR=53
ILAR Eielson Array 42.21 36 P **P** **23 38 17.8 +1.7**
comp=Z,0.3nm,0.6s,baz=278,slow=8.2,SNR=3.1
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 44.07 298 P **P** **23 38 30.9 -0.6**
comp=Z,0.8nm,0.6s,baz=80,slow=9.3,SNR=11
comp=Z,0.8nm,0.6s
CMAR Chiang Mai Arr 46.70 253 LR LR 00 01 39.9
comp=Z,15nm,18.9s,baz=210,slow=40
FINES FINESS Array B 64.83 333 P **P** **23 41 00.1 -1.2**
comp=Z,2.0nm,0.6s,baz=49,slow=8.3,SNR=15
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 69.64 338 P **P** **23 41 30.6 -1.2**
comp=Z,0.3nm,0.4s,baz=33,slow=6.5
NOA NORSAR Array B 69.64 338 P **P** **23 41 30.8 -0.9**
comp=Z,0.5nm,0.6s,baz=33,slow=6.2,SNR=4.4
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 71.40 323 P **P** **23 41 41.2 -1.3**
comp=Z,0.4nm,0.3s,baz=44,slow=6.1,SNR=4.7
comp=Z,0.4nm,0.3s

*RSNC **07** 23:55:33.6±0.0, 9°N±6°×7°9W±°, h208km±6km, M3.7, mB4.6, mb4.1, ML3.5, Mw(mB)3.7*
*CATAC **07** 23:55:39.8±1.0, 10°N±4°×7°9W±°, h24km±8km, M3.9/9, MLv3.9/9, Error ellipse: s-maj=8.7km s-min=3.9km az=166.2, confirmed*
*UPA **07** 23:55:40.9±2.3, 9°.68N×78°.45W, h50km±12km, MW4.5*
*IDC **07** 23:55:42.7±5.8, 9°.47N×78°.60W, h70km±50km, mb3.5/3, mbtmp3.8/4, ML3.7/1, MS3.8/2, Error ellipse: s-maj=45.7km s-min=32.2km az=163.0*
ISC 07 23:55:40.7±0.9, 9°.69N±0°.05×78°.47W±0°.03, h42km±13km, n62, σ1§69/88, mb3.8/4, 5C-9D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTI	**Torti**	**0.77**	**168**	⇓ *i*P	**Pn**	**23 55 55.6**	**+0.4**
TOTI *i* S **Sn** **23 56 06.1** **+0.5**
UPD2 Meteti 1.22 158 ⇓ *i*P **Pn** **23 56 01.7 +0.4**
UPD2 *i* S **Sn** **23 56 16.6 -0.1**
UPA Univ. de Panam 1.26 236 ⇓ *e*P **Pn** **23 56 01.9 0.0**
UPA *i* S **Sn** **23 56 16.8 -0.9**
FLAM Flamenco Islan 1.31 234 *e*P **Pn** **23 56 02.8 +0.3**
FLAM *i* S **Sn** **23 56 18.5 -0.2**
FRIJ El Hiral 1.32 250⇑ *i*P **Pn** **23 56 02.4 -0.3**
FRIJ *i* S **Sn** **23 56 18.5 -0.6**
GAMB1 Gamboa 1.35 245 *e*P **Pn** **23 56 03.2 +0.2**
ARRA3 Arraijan, Pana 1.38 239 ⇓ *e*P **Pn** **23 56 04.1 +0.7**
ARRA3 *i* S **Sn** **23 56 19.9 -0.5**
TABO3 Taboga, Panama 1.39 230 *e*P **Pn** **23 56 04.5 +0.8**
BCIP Isla Barro Col 1.45 249⇑ *i*P **Pn** **23 56 04.4 +0.1**
BCIP *i* S **Sn** **23 56 23.9 +1.7**
BCIP Isla Barro Col 1.45 249 P **Pn** **23 56 04.5 +0.1**
BCIP S **Sn** **23 56 23.3 +1.1**
BCIP Isla Barro Col 1.45 249 P **Pn** **23 56 04.5 +0.1**
BCIP S **Sn** **23 56 22.2 0.0**
CHOR3 La Chorrera 1.50 238 ⇓ *e*P **Pn** **23 56 06.1 +0.9**
CHOR3 *i* S **Sn** **23 56 24.4 +0.8**
ZANG Zanguenga, Cho 1.56 242 ⇓ *e*P **Pn** **23 56 06.8 +0.8**
ZANG *i* S **Sn** **23 56 26.3 +1.3**
PNME Penonome 2.19 237 *e*P **Pn** **23 56 13.3 -1.4**
CRIS3 El Cristo, Coc 2.56 236 ⇓ *e*P Pn 23 56 10.3 -9.3
APAC Apartado, Choc 2.58 133 P **Pn** **23 56 21.6 +1.6**
APAC S **Sn** **23 56 53.6 +3.4**
CHIT3 Chitre 2.58 228 *e*P Pn 23 56 14.3 -5.8
PTAC Punta Ardita, 2.61 165 *e*P **Pn** **23 56 20.2 -0.2**
PTAC Punta Ardita, 2.61 165 P **Pn** **23 56 20.0 -0.4**
PTAC S **Sn** **23 56 52.7 +1.8**
PESE3 Pese, Herrera 2.76 230 *e*P **Pn** **23 56 21.6 -0.9**
ACHO3 Achotines, Los 2.82 217 *e*P **Pn** **23 56 24.5 +1.2**
TOSI3 Tonosi 2.99 221 *e*P Pn 23 56 34.2 +8.5
MESA3 La Mesa, Verag 3.09 240 ⇑ *e*P **Pn** **23 56 28.0 +1.0**
RSUS3 Rio de Jesus, 3.15 238 ⇓ *e*P **Pn** **23 56 30.1 +2.2**
MARI3 Mariato, Verag 3.21 231 *e*P **Pn** **23 56 28.3 -0.4**
MARI3 *i* S **Sn** **23 57 06.6 +0.8**
SJCC San Jacinto, C 3.25 86⇑ *i*P **Pn** **23 56 29.9 +0.7**
SJCC *i* S **Sn** **23 57 04.5 -2.3**
SJCC San Jacinto, C 3.25 86 P **Pn** **23 56 31.4 +2.2**
SJCC S **Sn** **23 57 09.0 +2.2**
SJCC San Jacinto, C 3.25 86 P **Pn** **23 56 30.4 +1.2**
SJCC P **Pn** **23 56 30.5 +1.2**
SJCC P **Pn** **23 56 30.5 +1.2**
SJCC S **Sn** **23 57 04.2 -2.6**
GMAL Guarumal, Vera 3.34 235⇑ *e*P **Pn** **23 56 31.2 +0.8**
DBBC Dabeiba 3.47 140 P **Pn** **23 56 33.1 +0.8**
DBBC S **Sn** **23 57 13.8 +1.5**
UREC San Jos de Ur 3.48 123 *e*P **Pn** **23 56 31.9 -0.5**
UREC *i* S **Sn** **23 57 10.7 -1.8**
UREC San Jos de Ur 3.48 123 P **Pn** **23 56 32.2 -0.3**
UREC S **Sn** **23 57 10.2 -2.3**
CHGR2 Aguacate 3.70 259 ⇓ *e*P **Pn** **23 56 36.0 +0.6**
RGM0 Gandoca 4.08 269 S **Sn** **23 57 28.2 +1.0**
DVD David 4.12 253 *e*P **Pn** **23 56 39.0 -2.2**
ARGC Ariguani, Magd 4.17 87 P **Pn** **23 56 44.5 +2.7**
ARGC S **Sn** **23 57 29.8 +0.5**
ZARC Zaragoza, Cauc 4.19 121 P **Pn** **23 56 41.6 -0.5**
ZARC S **Sn** **23 57 26.4 -3.4**
BRU2 Volcan 4.26 258 *e*P Pn 23 56 48.7 +5.5
BRU2 Volcan 4.26 258 S **Sn** **23 57 34.6 +2.7**
HELC Santa Helena 4.54 140 *e*P **Pn** **23 56 48.9 +1.7**
HELC *i* S **Sn** **23 57 33.5 -5.4**
HELC Santa Helena 4.54 140 P **Pn** **23 56 48.7 +1.5**
HELC S **Sn** **23 57 39.1 +0.2**
PRVC Isla de Provid 4.63 323 P **Pn** **23 56 47.2 -1.0**
PRVC S **Sn** **23 57 34.6 -6.1**
PTBC PUERTO BERRIO, 5.06 128 P **Pn** **23 56 53.0 -1.1**
468nm11nm,0.7s
PTBC S **Sn** **23 57 48.3 -3.0**
468nm11nm,0.7s
OCAC Ocana 5.29 105 P **Pn** **23 56 58.1 +0.7**
3μm42nm,0.5s
OCAC S **Sn** **23 57 55.4 -1.8**
3μm42nm,0.5s
BRJC Barrancabermej 5.40 120 P **Pn** **23 56 58.4 -0.4**
34nm,0.6s
BRJC S **Sn** **23 57 58.5 -1.2**
34nm,0.6s
CRJC Cerrejon, Guaj 5.66 76 P **Pn** **23 57 01.8 -0.5**
CRJC S **Sn** **23 58 01.5 -4.6**
JTS Las Juntas de 6.41 276 P **Pn** **23 57 14.4 +1.7**
1.6nm,0.3s,baz=108,slow=20,SNR=6.1
JTS S **Sn** **23 58 23.2 -1.5**
3.9nm,0.5s,baz=114,slow=20,SNR=1.8
3.5nm,0.3s
CBCY The Bluff, Cay 10.07 353 *e*P **Pn** **23 58 00.2 -2.6**
MARVS Santiago de Cu 10.55 13 *i* P **Pn** **23 58 09.6 +0.3**
GTBY Guantanamo Bay 10.68 17 *i* P **Pn** **23 58 11.9 +0.7**
YAR Yar 10.81 11 *i* P **Pn** **23 58 12.9 -0.1**
QMBU Quimbuelo 11.03 18 *i* P **Pn** **23 58 15.6 -0.4**
PINC Pinares de May 11.04 13 *i* P **Pn** **23 58 16.6 +0.5**
MASC Masc 11.20 21 *i* P **Pn** **23 58 18.6 +0.4**
CCCC Cccc 11.46 3 *i* P **Pn** **23 58 22.2 +0.3**
LPAZ La Paz 27.77 158 LR LR 00 13 13.5
comp=Z,47nm,19.1s,baz=80,slow=38
TXAR Lajitas Array 30.63 313 P **P** **00 01 51.6 +0.4**
0.2nm,0.3s,baz=124,slow=9.2,SNR=4.1
0.2nm,0.3s
SADO Sadowa 34.95 359 LR LR 00 17 41.5
comp=Z,557nm,18.7s,baz=70,slow=38
PDAR Pinedale Array 42.70 326 P **P** **00 03 34.0 +0.1**
1.1nm,0.7s,baz=122,slow=11,SNR=9.7
1.1nm,0.7s
SCHQ Schefferville 45.97 9 P **P** **00 04 00.2 +0.6**
47nm,0.7s,baz=199,slow=8.7,SNR=6.0

ESDC Sonseca Array 71.97 51 P **P 00 07 00.3 +0.1**
1.3nm,0.8s,baz=276,slow=6.1,SNR=8.3
1.3nm,0.8s
ASAR Alice Springs 146.12 242 PKPbc **PKPdf 00 15 14.4 -1.8**
0.8nm,0.7s,baz=103,slow=3.0,SNR=6.2

IDC 08 00:02:19.3±20.0, 3°.62S×126°.84E, h194km±222km, mb3.1/2, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=148.9km s-min=49.3km az=44.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.44**	**185**	P	Pn	00 05 34.8	-0.1
	0.4nm,0.3s,baz=13,slow=8.7,SNR=17						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**17.80**	**156**	P	P	00 06 13.5	+0.1
	0.2nm,0.3s,baz=335,slow=12,SNR=8.1						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**21.06**	**162**	P	P	00 06 48.5	0.0
	3.1nm,0.8s,baz=338,slow=9.9,SNR=23						
	3.1nm,0.8s						
MKAR	**Makanchi Array**	**63.70**	**327**	P	P	00 12 30.1	0.0
	0.3nm,0.7s,baz=136,slow=7.0,SNR=3.7						
	0.3nm,0.7s						

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*NEIC **08** 00:10:04.5±0.6, 64°.4S±0°.2×174°.6E±0°.4, h10km±1km, mb4.1/8, Error ellipse: s-maj=35.1km s-min=16.7km az=41.0*
*IDC **08** 00:10:05.8±2.1, 64°.28S×174°.83E, h0km, mb4.0/4, mbtmp4.1/4, MS3.5/7, Error ellipse: s-maj=84.3km s-min=24.3km az=75.0*
ISC 08 00:10:05.1±1.1, 64°.4S±0°.1×174°.5E±0°.3, h10km, n33, σ1ᵽ32/17, mb4.0/6, MS3.4/6, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.72**	**187**	Pn	**Pn**	**00 13 18.3**	**-0.9**
VNDA	**Vanda**	**13.74**	**192**	Pn	**Pn**	**00 13 19.4**	**-0.2**
VNDA	**Vanda**	**13.74**	**192**	Pn	**Pn**	**00 13 20.2**	**+0.5**
	0.1nm,0.3s,baz=48,slow=18,SNR=8.6						
VNDA				LR	LR	00 17 13.5	
	comp=Z,196nm,20.1s,baz=334,slow=31						
RPZ	**Rata Peaks**	**20.83**	**353**	P	**P**	**00 14 47.3**	**+0.7**
	5.7nm,0.5s,baz=280,slow=23,SNR=10						
	5.7nm,0.5s						
QSPA	**South Pole Qui**	**25.68**	**180**	P	**P**	**00 15 34.8**	**-0.2**
QSPA				IAmb	IAmb	00 15 40.4	
	comp=Z,5.7nm,0.9s						
QSPA	**South Pole Qui**	**25.68**	**180**	P	**P**	**00 15 37.8**	**+2.9**
	comp=Z,4.5nm,0.9s,baz=29,slow=3.7,SNR=11						
QSPA				LR	LR	00 24 28.7	
	comp=Z,105nm,19.4s,baz=16,slow=33						
	comp=Z,4.5nm,0.9s						
URZ	**Urewera**	**26.23**	**5**	LR	LR	00 23 45.3	
	comp=Z,89nm,20.5s,baz=182,slow=31						
SNAA	**Sanae**	**44.17**	**181**	P	P	00 18 07.4	-6.0
SNAA				IAmb	IAmb	00 18 12.0	
	comp=Z,1.8nm,1.0s						
SNAA	**Sanae**	**44.17**	**181**	LR	LR	00 35 14.1	
	comp=Z,61nm,18.4s,baz=184,slow=34						
H01W1	**Cape Leeuwin H**	**46.41**	**279**	T	T	01 09 28.2	
	baz=147,slow=75,SNR=56						
H01W2	**Cape Leeuwin H**	**46.41**	**279**	T	T	01 09 28.5	
	baz=147,slow=75,SNR=44						
H01W3	**Cape Leeuwin H**	**46.42**	**279**	T	T	01 09 29.4	
	baz=147,slow=75,SNR=40						
ASAR	**Alice Springs**	**48.56**	**307**	P	**P**	**00 18 48.1**	**-0.2**
ASAR	**Alice Springs**	**48.56**	**307**	P	**P**	**00 18 50.8**	**+2.5**
	comp=Z,0.6nm,0.5s,baz=156,slow=8.2,SNR=19						
ASAR				LR	LR	00 36 09.3	
	comp=Z,25nm,18.0s,baz=110,slow=32						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**48.56**	**307**	P	**P**	**00 18 47.8**	**-0.5**
WR8	**Warramunga Arr**	**51.79**	**310**	P	**P**	**00 19 11.8**	**-1.0**
WRA	**Warramunga Arr**	**51.86**	**310**	P	**P**	**00 19 13.4**	**+0.1**
WRA	**Warramunga Arr**	**51.86**	**310**	P	**P**	**00 19 15.3**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=158,slow=7.3,SNR=4.7						
WRA				LR	LR	00 39 52.9	
	comp=Z,51nm,18.3s,baz=116,slow=34						
	comp=Z,1.3nm,0.6s						
WRAB	**Tennant Creek**	**51.86**	**310**	P	**P**	**00 19 12.5**	**-0.8**
WB0	**Warramunga Arr**	**52.00**	**310**	P	**P**	**00 19 14.2**	**-0.2**
WB0				IAmb	IAmb	00 19 21.9	
	comp=Z,4.9nm,0.9s						
PSA00	**Pilbara Seismi**	**55.73**	**293**	P	**P**	**00 19 40.5**	**-1.2**
PSA00				IAmb	IAmb	00 19 47.6	
	comp=Z,1.6nm,1.1s						
PMG	**Port Moresby**	**58.20**	**328**	LR	LR	00 41 08.0	
	comp=Z,32nm,20.9s,baz=198,slow=32						
H03S2	**Juan Fernandez**	**66.66**	**120**	T	T	01 33 10.3	
	baz=205,slow=74,SNR=37						
H03S1	**Juan Fernandez**	**66.66**	**120**	T	T	01 33 11.7	
	baz=205,slow=74,SNR=35						
H03S3	**Juan Fernandez**	**66.68**	**120**	T	T	01 33 11.1	
	baz=205,slow=74,SNR=43						
H03N3	**Juan Fernandez**	**67.00**	**119**	T	T	01 33 33.8	
	baz=208,slow=78,SNR=16						
H03N2	**Juan Fernandez**	**67.01**	**119**	T	T	01 33 32.8	
	baz=208,slow=78,SNR=54						
H03N1	**Juan Fernandez**	**67.02**	**119**	T	T	01 33 33.0	
	baz=208,slow=78,SNR=13						
ITAB	**Concordia**	**81.69**	**139**	P	**P**	**00 22 22.5**	**-0.9**
H08S2	**Diego Garcia H**	**88.31**	**256**	T	T	02 01 58.0	
	baz=154,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**88.32**	**256**	T	T	02 02 04.0	
	baz=154,slow=76,SNR=9.1						
H08S3	**Diego Garcia H**	**88.33**	**256**	T	T	02 02 04.0	
	baz=154,slow=76,SNR=12						
BRTR	**Keskin Array B**	**146.43**	**242**	PKPbc	**PKiKP**	**00 29 48.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=159,slow=4.5,SNR=6.6						

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*HVO **08** 00:27:43.5±1.4, 19°.432N±0°.009×155°.619W±0°.008, h-0km±7km, ML2.0/19, ML2.1/34(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=198.0*
NEIC 08 00:27:43.9±0.8, 19°.433N±0°.006×155°.590W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=327.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.05**	**352**		Pg	00 27 45.5	-0.2
MWH				IAML		00 27 50.3	
	comp=N,2μm,0.3s						
ALEP	**Alea Permanent**	**0.12**	**335**		Pg	00 27 46.7	+0.1
ALEP					Sg	00 27 49.0	+0.7
AIN	**Ainahou**	**0.14**	**116**		Pg	00 27 47.4	+0.6
AIN				Sg	Sg	00 27 51.5	+2.9
KHU	**Kahuku**	**0.19**	**187**		Pg	00 27 47.6	0.0
KHU					Sg	00 27 50.6	+0.5
HMH	**Humu'ula Sheep**	**0.20**	**31**		Pg	00 27 48.1	+0.3
MLH	**Mauna Loa**	**0.20**	**72**		Pg	00 27 48.6	+0.7
MLH				IAML		00 27 53.0	
	comp=N,393nm,0.4s						
MLH				IAML		00 27 53.1	
	comp=E,349nm,0.5s						
HTC	**Hot Caves**	**0.27**	**137**		Pg	00 27 49.3	+0.2
WRMHI	**West Rim**	**0.27**	**95**		Pg	00 27 49.7	+0.4
WRMHI					Sg	00 27 54.2	+1.2
UWE	**Uwekahuna**	**0.28**	**92**		Pg	00 27 49.6	+0.3
UWE	**Uwekahuna**	**0.28**	**92**		Sb	00 27 54.9	-1.6
SDHHI	**Sand Hill**	**0.28**	**99**		Pg	00 27 49.8	+0.4
SDHHI					Sg	00 27 54.4	+1.3
OBL	**Observatory Le**	**0.29**	**93**		Pg	00 27 49.8	+0.3
OBL					Sg	00 27 55.0	+1.6
UWB	**Uwekahuna Bluf**	**0.29**	**92**		Pg	00 27 49.9	+0.3
UWB					Sg	00 27 54.7	+1.1
RSD	**Rainshed**	**0.29**	**84**	Pg	Pg	00 27 49.5	-0.1
RSD				IAML		00 27 58.8	
	comp=E,207nm,2.4s						
RSD				IAML		00 27 59.1	
	comp=N,263nm,2.7s						
HLP	**Hilina Pali**	**0.30**	**117**		Pg	00 27 49.5	-0.2
HLP	**Hilina Pali**	**0.30**	**117**		Sg	00 27 54.6	+1.0
RIM	**Rim**	**0.30**	**97**		Pg	00 27 50.1	+0.3
RIM					Sg	00 27 54.6	+0.8
SBLHI	**Steaming Bluff**	**0.30**	**91**		Pg	00 27 50.1	+0.3
SBLHI					Sg	00 27 54.8	+0.9
KKO	**Keanakako'i**	**0.31**	**96**		Pg	00 27 50.2	+0.3
KKO					Sg	00 27 55.1	+1.1
HATHI	**Halema'uma'u T**	**0.31**	**92**		Pg	00 27 50.9	+0.9
HATHI				IAML		00 27 59.8	
	comp=N,238nm,0.9s						
HATHI				IAML		00 28 00.4	
	comp=E,262nm,0.4s						
BYL	**Byron's Ledge**	**0.31**	**94**		Pg	00 27 49.9	0.0
HUH	**Hualalai**	**0.34**	**317**		Pg	00 27 51.2	+0.6
HUH				IAML		00 27 58.0	
	comp=N,193nm,0.8s						
HUH				IAML		00 28 01.0	
	comp=E,223nm,0.5s						
PUH	**Pauahi**	**0.36**	**99**		Pg	00 27 50.5	-0.3
PUH				IAML		00 28 02.6	
	comp=E,219nm,3.0s						
PUH	**Pauahi**	**0.36**	**99**		Sg	00 27 56.4	+0.8
KNHH	**Kane Nui o Ham**	**0.40**	**98**	Pg	Pg	00 27 51.4	-0.3
STCH	**Steam Cracks**	**0.44**	**96**		Pg	00 27 52.5	+0.1
STCH				IAML		00 27 55.3	
	comp=N,122nm,3.8s						
STCH				IAML		00 28 05.6	
	comp=E,101nm,3.1s						
STCH	**Steam Cracks**	**0.44**	**96**		Sg	00 27 59.2	+1.1
NPOC	**North of Pu'u**	**0.46**	**95**		Pg	00 27 53.0	+0.3
NPOC					Sg	00 27 60.0	+1.4
HPAH	**Hawaii Prepara**	**0.60**	**350**	Pg	Pg	00 27 54.4	-1.1

CATAC 08 00:34:38.8±0.4, 12°N±3°×8°7W±°, h33km±2km, M3.0/7, MLv3.0/7, Error ellipse: s-maj=6.1km s-min=2.6km az=25.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.61**	**21**	P	Pb	00 34 52.1	+0.8
CRIN	**San Cristobal**	**0.61**	**21**	S	Sn	00 35 02.5	+2.5
TEL3	**Telica 3**	**0.61**	**44**	P	Pb	00 34 51.9	+0.6
PKGN	**Cerro Pekin**	**0.61**	**29**	P	Pb	00 34 52.1	+0.8
PKGN				S	Sn	00 35 02.2	+2.3
QUEN	**Al S del Volca**	**0.62**	**42**	P	Pb	00 34 52.4	+0.9
HOYN	**Al Sur del Vol**	**0.64**	**43**	P	Pb	00 34 52.3	+0.5
HOYN				S	Sn	00 35 02.6	+1.8
HERN	**Volcan Telica**	**0.65**	**42**	S	Sn	00 35 01.6	+0.7
HERN	**Volcan Telica**	**0.65**	**42**	P	Pn	00 34 51.4	-0.3
CNGA	**Al SSO del Vol**	**0.67**	**57**	P	Pb	00 34 52.8	+0.5
CNGA				S	Sb	00 35 03.1	+1.7
PLRN	**Geotermica Pol**	**0.67**	**48**	P	Pb	00 34 52.7	+0.4
PLRN				S	Sb	00 35 02.5	+1.0
CNGN	**Cerro Negro**	**0.68**	**57**	P	Pb	00 34 52.7	+0.3
CNGN	**Cerro Negro**	**0.68**	**57**	S	Sb	00 35 03.1	+1.5
ILCN	**San Idelfonso**	**0.72**	**52**	P	Pn	00 34 52.7	0.0
ILCN				S	Sb	00 35 03.8	+1.1
APQ2	**Apoyeque**	**0.94**	**86**	S	Sn	00 35 08.3	+0.4
MGAN	**Managua**	**1.01**	**89**	S	Sb	00 35 10.7	-0.2
WILN	**Americas 2**	**1.07**	**88**	P	Pn	00 34 57.5	+0.1
WILN				S	Sb	00 35 12.2	-0.3
MAS3	**Al N del Volca**	**1.08**	**95**	S	Sn	00 35 12.2	+0.6
NANN	**Nandasmo**	**1.15**	**99**	S	Sb	00 35 15.3	+0.4
CNCH	**Conchagua**	**1.26**	**335**	P	Pn	00 35 00.4	+0.1
CNCH	**Conchagua**	**1.26**	**335**	S	Sn	00 35 16.7	+0.6
LIMN	**Finca el Limon**	**1.29**	**44**	P	Pn	00 35 00.9	+0.3
LIMN				S	Sn	00 35 17.1	+0.4
MATN	**Matagalpa**	**1.54**	**59**	S	Sn	00 35 22.7	-0.4
PACA	**Pacayal**	**1.68**	**323**	S	Sn	00 35 26.8	+0.4
OCON	**Estacion meteo**	**1.69**	**28**	P	Pn	00 35 06.6	+0.6
OCON				S	Sn	00 35 27.4	+0.9
RCVN	**Varillal2**	**1.79**	**36**	S	Sn	00 35 30.0	+0.7
RCVN	**Varillal2**	**1.79**	**36**	P	Pn	00 35 08.2	+0.6
YUSH	**Yuscaran**	**1.86**	**13**	P	Pn	00 35 09.2	+0.6
YUSH	**Yuscaran**	**1.86**	**13**	S	Sn	00 35 31.3	+0.4
TGUH	**Tegucigalpa,Un**	**1.92**	**0**	P	Pn	00 35 10.0	+0.7
TGUH				S	Sn	00 35 32.5	+0.2
TECO	**Alcaldia de Te**	**2.03**	**314**	S	Sn	00 35 35.2	+0.3
JAYA	**Jayaque - finc**	**2.60**	**306**	S	Sn	00 35 50.0	+0.7
NUBE	**Las Nubes**	**3.01**	**306**	S	Sn	00 35 59.3	0.0

IDC 08 00:49:39.1±31.0, 37°.82S×52°.41E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=1179.0km s-min=47.5km az=52.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**69.44**	**104**	P	P	01 00 49.4	-0.1
	0.3nm,0.7s,baz=234,slow=6.3,SNR=2.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**71.84**	**101**	P	P	01 01 04.2	+0.1
	1.3nm,0.9s,baz=234,slow=4.8,SNR=8.2						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**88.39**	**20**	P	P	01 02 32.4	-0.2
	0.6nm,1.0s,baz=205,slow=5.4,SNR=4.1						
	0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**91.02**	**16**	P	P	01 02 44.8	+0.1
	0.9nm,1.0s,baz=216,slow=5.9,SNR=4.6						
	0.9nm,1.0s						

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*VIE **08** 00:52:10.8±2.2, 51°.50N×16°.06E, h0km, mb2.9/15, ml3.0/14, ms4.0/1, Error ellipse: s-maj=12.8km s-min=9.5km az=1.0 81 km NW of Wroclaw Suspected Mining induced.*
*IPEC **08** 00:52:12.9±0.2, 51°.50N×16°.13E, h1km, ML3.1/7, Error ellipse: s-maj=1.8km s-min=1.3km az=43.0*
*DNK **08** 00:52:12.8±1.6, 51°.57N×16°.01E, h0km±47km, ML2.9*
*IDC **08** 00:52:13.8±0.7, 51°.49N×15°.85E, h0km, mbtmp3.3/7, ML2.8/7, Error ellipse: s-maj=10.6km s-min=6.4km az=98.0*
*BGR **08** 00:52:14.5±0.3, 51°.42N×16°.07E, h1km, ML3.1/17, Error ellipse: s-maj=3.3km s-min=1.1km az=15.0*
*PRU **08** 00:52:15.1,51°.43N×16°.12E, h0km*
*UPP **08** 00:52:15.5±3.0, 51°.64N×15°.61E, h0km, ML2.1, Presumed earthquake*
ISC 08 00:52:11.4±0.6, 51°.55N±0°.03×16°.10E±0°.02, h0km, n88, σ1ᵽ37/178, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pg**	**00 52 26.0**	**+0.9**
KSP				*e*Sg	**Sg**	**00 52 35.0**	**+0.6**
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pb**	**00 52 26.1**	**-0.6**
KSP				*e*Sg	**Sg**	**00 52 33.5**	**-0.9**
CHVC	**Chvalec**	**0.96**	**182**	*e*PG	**Pb**	**00 52 31.0**	**0.0**
CHVC				*e*SG	**Sg**	**00 52 42.6**	**+0.3**
OSTC	**Ostas**	**1.00**	**176**	*e*PG	**Pb**	**00 52 31.6**	**+0.1**
OSTC				*e*SG	**Sg**	**00 52 43.9**	**+0.5**
	comp=Z,108nm,0.6s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pb**	**00 52 32.3**	**0.0**
UPC				*e*SG	**Sg**	**00 52 45.4**	**+0.5**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pb**	**00 52 35.1**	**-0.1**
DPC				*e*SG	**Sg**	**00 52 49.7**	**-0.5**
	comp=Z,129nm,0.6s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pb**	**00 52 35.0**	**-0.1**
DPC				*e*Sg	**Sg**	**00 52 48.8**	**-1.4**
PIVO	**Bartosovice**	**1.40**	**168**	*e*Pg	**Pg**	**00 52 38.2**	**+0.1**
	baz=349						
PIVO				*e*Sg	**Sg**	**00 52 55.0**	**-1.1**
	194nm,0.8s,baz=349						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**00 52 39.3**	**+0.8**
PVCC				*e*SG	**Sn**	**00 52 58.3**	**+0.8**
	comp=Z,309nm,0.7s						
BRG	**Berggiesshubel**	**1.52**	**244**	*e*Pn	**Pg**	**00 52 41.2**	**+0.7**
BRG				*e*Sg	**Sn**	**00 53 01.0**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**244**	Pn	**Pb**	**00 52 40.2**	**-0.2**
BRG				Pg	**Pg**	**00 52 41.4**	**+1.0**
BRG				Sg	**Sn**	**00 53 01.5**	**+1.3**
BRG				Amp		00 53 02.9	
	comp=Z,129nm,0.5s						
KRLC	**Kraliky**	**1.54**	**163**	*e*PG	**Pb**	**00 52 40.7**	**-0.1**
KRLC				*e*SG	**Sn**	**00 52 59.7**	**-1.1**
	comp=Z,178nm,0.6s						
RICC	**Richard**	**1.62**	**232**	*e*PN	**Pb**	**00 52 42.2**	**+0.1**
RICC				*e*SG	**Sg**	**00 53 04.5**	**+1.2**
PRA	**Prague**	**1.82**	**216**	*e*PN	**Pn**	**00 52 44.6**	**+0.7**
FBE	**Freiberg**	**1.84**	**251**	*e*Pn	**Pb**	**00 52 45.9**	**+0.1**
FBE				*e*Pg	**Pg**	**00 52 47.3**	**+0.7**
FBE				*e*Sg	**Sg**	**00 53 11.2**	**+0.8**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**00 52 44.5**	**+0.2**
PRU				*e*PG	**Pb**	**00 52 46.2**	**+0.1**
PRU				*e*SG	**Sb**	**00 53 10.0**	**+0.3**
	comp=Z,90nm,0.8s						
HSKC	**Hora Svate Kat**	**1.93**	**242**	*e*PG	**Pg**	**00 52 48.3**	**0.0**
HSKC				*e*SG	**Sg**	**00 53 13.1**	**-0.3**
	comp=Z,278nm,1.1s						
STEB	**Steborice**	**1.94**	**146**	*e*PG	**Pb**	**00 52 47.5**	**0.0**
STEB				*e*SG	**Sb**	**00 53 12.7**	**+0.5**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**00 52 46.5**	**+0.7**
CLL				*e*Sg	**Sg**	**00 53 15.4**	**+1.3**
CLL	**Collm**	**1.96**	**264**	*i* Pn	**Pn**	**00 52 46.4**	**+0.6**
	comp=Z,11nm,0.7s						
CLL				*i* Pg	**Pg**	**00 52 49.2**	**+0.4**
CLL				*i* x	x	00 52 53.7	
CLL				*i* Sg	**Sg**	**00 53 15.4**	**+1.3**
	comp=Z,58nm,0.8s						
CLL				Lm	MLR	04 59 00.0	
	comp=Z,300nm,20.9s						
MORC	**Moravsky Berou**	**2.00**	**152**	||P	**Pn**	**00 52 46.8**	**+0.4**
MORC				||S	**Sb**	**00 53 14.4**	**+0.3**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**00 52 46.8**	**+0.4**
	baz=333						
MORC				*e*Sg	**Sb**	**00 53 13.9**	**-0.1**
	comp=Z,87nm,0.6s,baz=333						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**00 52 46.5**	**+0.1**
MORC				*e*Sg	**Sb**	**00 53 14.4**	**+0.3**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**00 52 52.3**	**-0.3**
OKC				*e*SG	**Sb**	**00 53 18.7**	**+0.3**
	comp=Z,96nm,0.8s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pn	**Pn**	**00 52 49.4**	**+0.9**
OKC				*e*Pg	**Pg**	**00 52 52.8**	**+0.2**
OKC				*e*Sg	**Sb**	**00 53 19.5**	**+1.1**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**00 52 51.1**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=349,slow=16,SNR=18						
VRAC				Sn	**Sb**	**00 53 20.4**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=74,slow=23,SNR=5.6						
VRAC				Lg	Lg	00 53 24.5	
	comp=Z,3.2nm,0.3s,baz=249,slow=23,SNR=14						
	comp=Z,17nm,0.8s						
VRAC	**Vranov**	**2.27**	**172**	||P	**Pn**	**00 52 51.5**	**+1.5**
VRAC				||S	**Sb**	**00 53 22.3**	**+0.6**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**00 52 50.7**	**+0.6**
	baz=352						
VRAC				*e*Sg	**Sb**	**00 53 22.6**	**+0.9**
	comp=Z,95nm,1.0s,baz=352						
TREC	**Trest**	**2.29**	**190**	*e*SG	**Sg**	**00 53 24.2**	**-0.8**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**00 52 54.1**	**+0.9**
	baz=356						
KRUC				*e*Sg	**Sb**	**00 53 29.6**	**+1.2**
	comp=Z,94nm,1.0s,baz=356						
TANN	**Tannenbergstha**	**2.57**	**245**	*e*Pn	**Pn**	**00 52 55.5**	**+1.3**
TANN				*e*Pg	**Pg**	**00 53 02.0**	**+1.5**
TANN				*e*Sg	**Sg**	**00 53 32.9**	**-0.8**
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**00 52 56.3**	**+1.0**
WERD				*e*Pg	**Pg**	**00 53 03.3**	**+1.3**
WERD				*e*Sg	**Sg**	**00 53 35.3**	**-0.9**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**00 52 55.4**	**-0.5**
OJC				*e*Pg	**Pg**	**00 53 03.9**	**+1.0**
OJC				*e*Sg	**Sg**	**00 53 39.7**	**+1.8**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**00 52 56.7**	**+0.8**
OJC				*e*Pg	**Pg**	**00 53 03.9**	**+1.0**
OJC				*e*Sg	**Sg**	**00 53 39.7**	**+1.8**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Pn	**Pn**	**00 52 59.2**	**+0.7**
	baz=340						
JAVC				*e*Sg	**Sb**	**00 53 41.6**	**+2.3**
	comp=Z,91nm,1.4s,baz=340						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**00 52 59.7**	**+0.7**
KHC				*e*PG	**Pg**	**00 53 05.8**	**-1.3**
KHC				*e*SG	**Sg**	**00 53 45.0**	**+0.1**
	comp=Z,40nm,0.7s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**00 53 01.1**	**+1.4**
CKRC				*e*PG	**Pb**	**00 53 06.5**	**+1.4**
CKRC				*e*SG	**Sg**	**00 53 45.3**	**-1.3**
	comp=Z,42nm,0.6s						
MOX	**Moxa**	**2.97**	**254**	*e*Pn	**Pn**	**00 53 01.0**	**+1.3**
MOX				*e*Pg	**Pg**	**00 53 08.6**	**+0.3**
MOX				*e*Sg	**Sg**	**00 53 47.1**	**+0.3**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**00 53 01.4**	**+1.5**
MANZ				*e*Sg	**Sg**	**00 53 45.5**	**-1.5**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**00 53 01.7**	**+0.8**
ROTZ				*e*Pg	**Pg**	**00 53 10.4**	**+0.5**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**00 53 02.6**	**+0.8**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**00 53 03.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=43						
GERES				Sn	**Sn**	**00 53 38.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=26,slow=25,SNR=6.3						
GERES				Lg	Lg	00 53 49.3	
	comp=Z,0.9nm,0.3s,baz=24,slow=28,SNR=12						
	comp=Z,3.4nm,0.4s						
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**00 53 03.3**	**+0.8**
WET				*e*Sg	**Sg**	**00 53 51.9**	**-1.4**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**00 53 13.9**	**-0.1**
MODS				*e*SG	**Sg**	**00 53 55.6**	**-0.7**
ZST	**Bratislava**	**3.42**	**169**	*e*PG	**Pg**	**00 53 18.3**	**+1.4**
ZST				*e*SG	**Sg**	**00 53 59.9**	**-1.3**
NIE	**Niedzica**	**3.43**	**127**	*e*Pg	**Pg**	**00 53 17.3**	**+0.3**
NIE				*e*Sg	**Sg**	**00 54 02.1**	**+0.7**
NIE	**Niedzica**	**3.43**	**127**	*e*Pg	**Pg**	**00 53 17.3**	**+0.3**
NIE				*e*Sg	**Sg**	**00 54 00.9**	**-0.5**
CLZ	**Clausthal**	**3.58**	**277**	*e*Pn	**Pn**	**00 53 09.7**	**+1.6**
CLZ				*e*Pg	**Pg**	**00 53 21.8**	**+1.9**
CLZ				*e*Sg	**Sg**	**00 54 07.1**	**+0.8**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**00 53 09.9**	**+1.2**
GRF				*e*Pg	**Pg**	**00 53 21.7**	**+0.9**
GRF				*e*Sg	**Sg**	**00 54 06.4**

ABTA				*e*Sg		**Sg**	**00 55 01.1 -2.1**
	comp=Z,12nm,0.9s						
VXJU	**Vaexsjoe**	**5.42 353**		P		**Pn**	**00 53 35.1 +1.7**
VXJU				S		**Sn**	**00 54 33.4 -3.1**
VXJU	**Vaexsjoe**	**5.42 353**		P		**Pn**	**00 53 35.1 +1.7**
VXJU				S		**Sn**	**00 54 33.4 -3.1**
OSKU	**Oskarshamn**	**5.66 360**		P		**Pn**	**00 53 38.3 +1.7**
OSKU	**Oskarshamn**	**5.66 360**		P		**Pn**	**00 53 38.3 +1.7**
FETA	**Feichten**	**5.74 220**		*e*Pn		**Pn**	**00 53 33.3 -4.6**
	comp=Z,0.4nm,0.4s						
FETA				*e*Sg		**Sg**	**00 55 16.9 +1.4**
	comp=Z,2.9nm,0.5s						
BYXU	**Byxelkrok**	**5.78 5**		P		**Pn**	**00 53 40.0 +1.8**
BYXU	**Byxelkrok**	**5.78 5**		P		**Pn**	**00 53 40.0 +1.8**
FABU	**Falkenberg**	**5.81 341**		P		**Pn**	**00 53 39.9 +1.2**
FABU	**Falkenberg**	**5.81 341**		*i* P		**Pn**	**00 53 39.3 +0.7**
FABU				P		Pb	00 53 39.9 -14
FABU				*e*S		**Sn**	**00 54 43.5 -2.4**
DAVA	**Damuels**	**5.89 226**		*i* Pn		**Pn**	**00 53 40.5 +0.6**
	comp=Z,1.3nm,0.3s						
DAVA				*e*Sg		**Sg**	**00 55 21.1 +0.7**
	comp=Z,5.4nm,0.7s						
GNOU	**Gnosjoe**	**5.91 348**		P		**Pn**	**00 53 41.3 +1.2**
GNOU	**Gnosjoe**	**5.91 348**		P		**Pn**	**00 53 41.3 +1.2**
BORU	**Boraas**	**6.40 344**		*e*P		**Pn**	**00 53 47.6 +0.9**
BORU				*e*S		**Sn**	**00 54 57.3 -3.1**
BURAR	**Bucovina Array**	**7.11 120**		⇑P		**Pn**	**00 53 57.9 +1.1**
AKASG	**Malin Array Be**	**8.30 91**		Pn		**Pn**	**00 54 13.8 +0.9**
	comp=Z,0.8nm,0.3s,baz=281,slow=12,SNR=6.4						
AKASG				Sn		**Sn**	**00 55 46.3 -1.0**
	comp=Z,0.6nm,0.3s,baz=278,slow=22,SNR=1.2						
AKASG				Lg		Lg	00 56 41.7
	baz=274,slow=29						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**8.71 352**		Pn		**Pn**	**00 54 18.7 +0.3**
	comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=6.2						
HFS				Sn		**Sn**	**00 55 55.4 -1.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=21,SNR=1.7						
	comp=Z,0.9nm,0.5s						
NOA	**NORSAR Array B**	**9.89 346**		Pn		**Pn**	**00 54 33.8 -0.8**
	baz=166,slow=12,SNR=3.3						
	comp=Z,0.7nm,0.9s						
FINES	**FINESS Array B**	**11.33 25**		Pn		**Pn**	**00 54 54.4 +0.1**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=11						
FINES				Sn		**Sn**	**00 56 55.8 -5.6**
	comp=Z,0.2nm,0.3s,baz=209,slow=19,SNR=5.2						
	comp=Z,1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**12.08 296**		Pn		**Pn**	**00 55 04.3 -0.3**
	baz=102,slow=14						
	comp=Z,0.4nm,0.4s						

*OMAN **08** 00:54:20.9±0.5, 24.°84N×62.°38E, h83km±34km, mb4.2/8, ml3.3/7, Error ellipse: s-maj=5.3km s-min=4.6km az=159.0*
*DSN **08** 00:54:26.0±2.1, 25.°35N×61.°86E, h15km, ML3.2/10, Error ellipse: s-maj=47.5km s-min=20.6km az=4.0*

ISC 08 00:54:19.4±3.7, 24.°92N±0.°08×62.°5E±0.°2, h35km, n32, σ1§31/45, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.27 290**		P		**Pn**	**00 54 41.4 +0.7**
	SNR=8.5						
WSAR	**Wadi Sarin**	**3.87 245**		P		**Pn**	**00 55 16.1 -0.4**
	SNR=19						
WSAR				S		**Sn**	**00 56 00.4 -0.4**
JLN	**Jalan Bani Buh**	**3.92 226**		P		**Pn**	**00 55 15.8 -1.3**
	SNR=26						
JLN				S		**Sn**	**00 56 01.7 -0.3**
	SNR=8.0						
BIDO	**Bidbid**	**4.19 252**		P		**Pn**	**00 55 21.9 +1.1**
BIDO				S		**Sn**	**00 56 09.4 +0.9**
SMDO	**Samad**	**4.43 246**		P		**Pn**	**00 55 24.7 +0.4**
	SNR=15						
SMDO				S		**Sn**	**00 56 14.3 -0.5**
JMDO	**Jabal Madar**	**4.73 238**		P		**Pn**	**00 55 29.0 +0.7**
	SNR=28						
JMDO				S		**Sn**	**00 56 22.3 +0.4**
	SNR=6.4						
HOQ	**Hoqain**	**4.88 255**		P		**Pn**	**00 55 31.0 +0.6**
	SNR=8.6						
HOQ				S		**Sn**	**00 56 25.0 -0.6**
SOHO	**SOHO**	**5.45 263**		P		**Pn**	**00 55 38.6 +0.5**
SOHO				S		**Sn**	**00 56 39.7 +0.1**
MDH	**Madha**	**5.59 275**		P		**Pn**	**00 55 40.0 -0.1**
MDH				S		**Sn**	**00 56 41.3 -1.9**
	SNR=8.2						
MDH	**Madha**	**5.59 275**		P		**Pn**	**00 55 39.4 -0.7**
MDH				S		**Sn**	**00 56 39.7 -3.5**
ARQ	**Araqi**	**5.64 255**		P		**Pn**	**00 55 43.6 +2.8**
	SNR=17						
BANOM	**Banah**	**5.66 282**		P		**Pn**	**00 55 41.1 +0.1**
BANOM				S		**Sn**	**00 56 43.4 -1.3**
BANOM	**Banah**	**5.66 282**		P		**Pn**	**00 55 40.9 -0.1**
UOSS	**Minazif**	**5.67 272**		P		**Pn**	**00 55 41.3 +0.1**
UOSS				S		**Sn**	**00 56 43.6 -1.6**
	SNR=7.6						
UOSS	**Minazif**	**5.67 272**		P		**Pn**	**00 55 40.5 -0.7**
MHTO	**MHTO**	**5.69 227**		P		**Pn**	**00 55 42.3 +0.8**
	SNR=6.8						
MHTO				S		**Sn**	**00 56 44.8 -0.9**
	SNR=5.9						
MSFE	**Esma-Masafi**	**5.72 276**		P		**Pn**	**00 55 42.7 +0.8**
MASF	**Masafi**	**5.72 276**		P		**Pn**	**00 55 42.8 +0.9**
HATD	**Hatta, Dubai**	**5.74 270**		P		**Pn**	**00 55 43.2 +1.0**
HATD				S		**Sn**	**00 56 46.7 -0.2**
HATD	**Hatta, Dubai**	**5.74 270**		P		**Pn**	**00 55 42.4 +0.2**
SHME	**Shamm**	**5.82 283**		P		**Pn**	**00 55 44.7 +1.5**
	SNR=26						
SHME	**Shamm**	**5.82 283**		P		**Pn**	**00 55 44.0 +0.8**
ASHO	**Ashiyiah**	**5.82 269**		P		**Pn**	**00 55 43.8 +0.6**
	SNR=65						
ASHO	**Ashiyiah**	**5.82 269**		P		**Pn**	**00 55 44.6 +1.4**
NAZ	**Nazwa, Dubai**	**6.17 272**		P		**Pn**	**00 55 50.3 +2.3**
ALNE	**Al Ain**	**6.17 263**		P		**Pn**	**00 55 50.1 +2.1**
	SNR=5.7						
ALNE	**Al Ain**	**6.17 263**		P		**Pn**	**00 55 49.9 +1.9**
FAQ	**Al Faqa, Dubai**	**6.24 270**		P		**Pn**	**00 55 48.6 -0.4**
	SNR=5.2						
FAQ	**Al Faqa, Dubai**	**6.24 270**		P		**Pn**	**00 55 51.3 +2.3**
ASUD	**Al Ashush, Dub**	**6.48 269**		P		**Pn**	**00 55 52.9 +0.5**
	SNR=7.2						
ASUD	**Al Ashush, Dub**	**6.48 269**		P		**Pn**	**00 55 55.2 +2.8**
DQM	**DQM**	**6.73 223**		P		**Pn**	**00 55 55.7 -0.1**

*CATAC **08** 00:56:17.2±0.7, 9.°N±12.°×7.°7W±.°, h1km, M3.7/5, MLv3.7/5, Error ellipse: s-maj=27.2km s-min=3.9km az=17.5, confirmed*
*UPA **08** 00:56:19.7±1.7, 8.°90N×77.°51W, h2km±5km, MW4.4*
*RSNC **08** 00:56:22.7±0.0, 9.°N±1.°×7.°7W±.°, h30km±5km, M3.4, mB4.8, mb4.3, ML3.0, MLv3.9, Mw(mB)4.0*

ISC 08 00:56:20.9±1.4, 8.°98N±0.°04×77.°47W±0.°03, h19km±4km, n54, σ1§89/86, 1C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.69 232**		*e*P		**Pg**	**00 56 33.5 -1.0**
TOTI	**Torti**	**0.83 267**		*e*P		**Pg**	**00 56 35.8 -1.4**
APAC	**Apartado, Choc**	**1.38 141**		P		**Pn**	**00 56 45.6 +0.5**
APAC				S		**Sg**	**00 57 06.9 +1.2**
CHPO	**Chepo, Panama**	**1.64 277**		*e*P		**Pn**	**00 56 48.4 -0.2**
CHPO				*e*S		**Sn**	**00 57 07.8 -1.3**
PTAC	**Punta Ardita,**	**1.85 191**		*e*P		**Pn**	**00 56 50.6 -0.9**
PTAC				*e*S		**Sn**	**00 57 12.2 -2.2**
PTAC	**Punta Ardita,**	**1.85 191**		P		**Pn**	**00 56 50.4 -1.1**
PTAC				S		**Sn**	**00 57 13.5 -0.9**
UPA	**Univ. de Panam**	**2.04 270**		*e*P		**Pn**	**00 56 53.9 -0.3**
FLAM	**Flamenco Islan**	**2.04 268**		*e*P		**Pn**	**00 56 52.6 -1.7**
ARRA3	**Arraijan, Pana**	**2.16 270**		*e*P		**Pn**	**00 56 55.2 -0.7**
GAMB1	**Gamboa**	**2.22 274**		*e*P		**Pn**	**00 56 56.2 -0.4**
GAMB1				*e*S		**Sn**	**00 57 24.4 +0.8**
FRIJ	**El Hiral**	**2.24 276**		*e*P		**Pn**	**00 56 57.1 +0.1**
UREC	**San Jos de Ur**	**2.27 122**		*e*P		**Pn**	**00 56 57.4 0.0**
UREC				*e*S		**Sn**	**00 57 24.0 -0.9**
UREC	**San Jos de Ur**	**2.27 122**		P		**Pn**	**00 56 57.0 -0.3**
UREC				S		**Sn**	**00 57 23.9 -0.9**
DBBC	**Dabeiba**	**2.31 147**		P		**Pn**	**00 56 58.0 0.0**
DBBC				S		**Sn**	**00 57 30.7 +4.8**
BCIP	**Isla Barro Col**	**2.35 275**		⇑*i*P		**Pn**	**00 56 58.1 -0.2**
BCIP				*e*S		**Sn**	**00 57 29.8 +3.1**
BCIP	**Isla Barro Col**	**2.35 275**		P		**Pn**	**00 56 58.2 -0.2**
BCIP				S		**Sn**	**00 57 29.8 +3.1**
BCIP	**Isla Barro Col**	**2.35 275**		P		**Pn**	**00 56 57.9 -0.5**
BCIP				S		**Sn**	**00 57 26.3 -0.4**
ZANG	**Zanguenga, Cho**	**2.37 270**		*e*P		**Pn**	**00 56 58.4 -0.3**
ZANG				*i* S		**Sn**	**00 57 31.2 +3.9**
SJCC	**San Jacinto, C**	**2.44 68**		*e*S		**Sn**	**00 57 32.8 +3.8**
SJCC	**San Jacinto, C**	**2.44 68**		P		**Pn**	**00 56 59.8 +0.1**
SJCC				S		**Sn**	**00 57 29.2 +0.2**
SOLC	**Bahia Solano**	**2.73 179**		P		**Pn**	**00 57 05.4 +1.7**
PNME	**Penonome**	**2.87 260**		*e*P		**Pn**	**00 57 05.7 +0.1**
ZARC	**Zaragoza, Cauc**	**2.97 120**		P		**Pn**	**00 57 05.6 -1.5**
ZARC				S		**Sn**	**00 57 39.3 -2.9**
CHIT3	**Chitre**	**3.09 251**		*e*P		**Pn**	**00 57 07.6 -1.0**
ARGC	**Ariguani, Magd**	**3.30 74**		P		**Pn**	**00 57 12.8 +1.3**
ARGC				S		**Sn**	**00 57 50.3 +0.1**
HELC	**Santa Helena**	**3.37 145**		*e*P		**Pn**	**00 57 14.0 +1.2**
HELC				*e*S		**Sn**	**00 57 54.7 +2.2**
HELC	**Santa Helena**	**3.37 145**		P		**Pn**	**00 57 13.3 +0.5**
HELC	**Santa Helena**	**3.37 145**		P		**Pn**	**00 57 14.1 +1.3**
HELC				S		**Sb**	**00 57 59.9 -1.1**
CBOC	**Ciudad Bolivar**	**3.41 155**		P		**Pn**	**00 57 14.8 +1.6**
CBOC				S		**Sb**	**00 58 02.7 +0.7**
PTBC	**PUERTO BERRIO,**	**3.84 129**		P		**Pn**	**00 57 18.3 -0.7**
PTBC				S		**Sn**	**00 58 00.8 -2.9**
SMRC	**Santa Marta, M**	**3.86 55**		P		**Pn**	**00 57 21.3 +2.0**
SMRC				S		**Sn**	**00 58 03.5 -0.7**
GMAL	**Guarumal, Vera**	**3.92 252**		*e*P		**Pn**	**00 57 19.8 -0.2**
OCAC	**Ocana**	**4.17 100**		P		**Pn**	**00 57 23.3 -0.3**
OCAC				S		**Sn**	**00 58 10.3 -1.6**
BRJC	**Barrancabermej**	**4.19 118**		P		**Pn**	**00 57 24.7 +0.9**
BRJC				S		**Sn**	**00 58 11.2 -1.0**
GUY2C	**Guyana, Caldas**	**4.27 151**		P		**Pn**	**00 57 28.8 +3.5**
GUY2C				S		**Sb**	**00 58 26.0 -1.1**
SPBC	**San Pablo de B**	**4.72 134**		P		**Pn**	**00 57 32.6 +1.5**
SPBC				S		**Sn**	**00 58 27.3 +1.9**
BARC	**Barichara**	**4.86 119**		P		**Pn**	**00 57 34.2 +1.0**
BARC				S		**Sn**	**00 58 29.4 +0.3**
ANIL	**Santa Ana**	**4.91 155**		P		**Pn**	**00 57 37.0 +3.1**
CRJC	**Cerrejon, Guaj**	**4.95 65**		P		**Pn**	**00 57 34.5 +0.2**
CRJC				S		**Sn**	**00 58 27.5 -3.7**
PAMC	**Pamplona, Colo**	**4.99 109**		P		**Pn**	**00 57 35.9 +0.7**
PAMC				S		**Sn**	**00 58 31.3 -1.4**
YOTC	**Yotoco, Valle**	**5.08 167**		P		**Pn**	**00 57 35.5 -0.7**
	0.1nm20nm,0.9s						
YOTC				S		**Sn**	**00 58 32.6 -1.9**
	0.1nm20nm,0.9s						
ROSC	**El Rosal**	**5.16 143**		P		**Pn**	**00 57 40.2 +2.7**
	0.1nm28nm,0.6s						
RUSC	**La Rusia**	**5.32 125**		P		**Pn**	**00 57 39.8 +0.1**
	0.1nm452nm19nm,0.4s						
RUSC				S		**Sn**	**00 58 39.9 -0.9**
	0.1nm452nm19nm,0.4s						
ORTC	**Ortega, Tolima**	**5.50 156**		P		**Pn**	**00 57 45.8 +4.0**
	376nm18nm,0.9s						
PRAC	**Prado**	**5.82 154**		P		**Pn**	**00 57 50.8 +4.5**
	14nm,1.3s						
URIC	**Uribia, Colomb**	**6.03 63**		P		**Pn**	**00 57 49.1 0.0**
	14nm,1.2s						
URIC				S		**Sn**	**00 58 54.3 -3.3**
	14nm,1.2s						
POPC	**Popayan, Colom**	**6.44 173**		P		**Pn**	**00 57 56.2 +1.2**
	389nm32nm,0.9s						
URMC	**La Uribe, Meta**	**6.47 151**		P		**Pn**	**00 57 57.8 +2.6**
	8.6nm,0.8s						
BBAC	**Balboa, Cauca**	**6.91 178**		P		**Pn**	**00 58 03.3 +1.9**
	467nm28nm,0.7s						
GCUF	**Volcan Galeras**	**7.70 179**		P		**Pn**	**00 58 14.3 +1.8**
	17nm,0.6s						
GCUF				S		**Sn**	**00 59 40.5 +1.0**
	17nm,0.6s						
CUSE	**Cuicocha Este**	**8.66 186**		P		**Pn**	**00 58 26.6 +1.0**
	1μm81nm,0.6s						
OTAV	**Otavalo**	**8.74 186**		P		**Pn**	**00 58 27.8 +1.1**
	16nm,0.9s						
OTAV				S		**Sn**	**01 00 00.2 -4.7**
	16nm,0.9s						
PAC1	**Pacto, Paraso**	**8.75 189**		P		**Pn**	**00 58 26.9 +0.3**
PIAT	**Ana Tenorio**	**9.94 185**		P		**Pn**	**00 58 46.0 +2.9**

*GEN **08** 01:01:51.6, 44.°86N×6.°76E, h6km±1km, MI0.6*
*LDG **08** 01:01:52.4±0.0, 44.°86N×6.°75E, h2km, Md1.8/2, Ml1.6/2, Error ellipse: s-maj=0.9km s-min=0.7km az=55.0*

STR 08 01:01:52.3±0.3, 45.°N±2.°×.°±.°, h8km, MLv1.3/9, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.06 24**		P		Pg	01 01 54.3 -0.1
RRL				S		Sg	01 01 55.8 -0.1
RRL	**Rocca Remolon**	**0.06 24**		Pg		Pg	01 01 54.3 -0.1
RRL				Sg		Sg	01 01 55.8 -0.1
MBDF	**Montbardon**	**0.14 175**		*e*Pg		Pg	01 01 55.0 -0.3
MBDF				*e*Sg		Sg	01 01 57.0 -0.4
	30nm,0.2s						
BNI	**Bardonecchia**	**0.20 344**		P		Pg	01 01 56.4 +0.1
BNI				S		Sg	01 01 59.5 +0.4
CREF	**Crivoux**	**0.33 197**		Pg		Pg	01 01 58.5 -0.3
CREF				Sg		Sg	01 02 03.4 +0.3
BHB	**Bricherasio**	**0.36 93**		P		Pg	01 01 59.5 +0.1
BHB				S		Sg	01 02 04.1 -0.1
BHB	**Bricherasio**	**0.36 93**		Pg		Pg	01 01 59.5 +0.1
BHB				Sg		Sg	01 02 04.1 -0.1
SURF	**Saint Ours**	**0.38 174**		P		Pg	01 01 59.8 -0.1
SURF				S		Sg	01 02 04.9 0.0
SURF	**Saint Ours**	**0.38 174**		Pg		Pg	01 01 59.7 -0.1
SURF				Sg		Sg	01 02 05.8 +0.9
JAUF	**Jausiers**	**0.43 180**		Pg		Pg	01 02 00.5 -0.2
JAUF				Sg		Sg	01 02 07.4 +0.9
OGAG	**Argentiere**	**0.43 201**		P		Pg	01 01 55.8 -5.0
OGAG				S		Sg	01 01 58.1 -8.4
OGAG	**Argentiere**	**0.43 201**		Pg		Pg	01 01 55.8 -5.0
OGAG				Sg		Sg	01 01 58.1 -8.4
PZZ	**Stroppo**	**0.44 144**		P		Pg	01 02 00.5 -0.4
PZZ				S		Sg	01 02 06.2 -0.5
PZZ	**Stroppo**	**0.44 144**		Pg		Pg	01 02 00.4 -0.5
PZZ				Sg		Sg	01 02 07.3 +0.7
RSP	**Reno Superiore**	**0.46 52**		P		Pg	01 02 01.8 +0.5
RSP				S		Sg	01 02 07.9 +0.5
RSP	**Reno Superiore**	**0.46 52**		Pg		Pg	01 02 01.7 +0.4
RSP				Sg		Sg	01 02 07.9 +0.6
ORIF	**Oris-en-Rattie**	**0.62 275**		*e*Pg		Pg	01 02 04.2 -0.2
ORIF				*e*Sg		Sg	01 02 12.0 -0.5
	3.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.62 275**		Pg		Pg	01 02 04.1 -0.2
ORIF				Sg		Sg	01 02 12.6 +0.1
LPG	**La Plagne**	**0.64 360**		*e*Pg		Pg	01 02 04.7 +0.1
LPG				*e*Sg		Sg	01 02 13.3 +0.3
	2.6nm,0.2s						
LPL	**La Plagne**	**0.65 359**		*e*Pg		Pg	01 02 05.2 +0.2
LPL				*e*Sg		Sg	01 02 13.9 +0.3
	6.7nm,0.5s						
ISO	**Isola**	**0.71 163**		Pg		Pg	01 02 05.6 -0.4
ISO				Sg		Sg	01 02 15.7 +0.4
STV	**Sant Anna di V**	**0.74 146**		Pg		Pg	01 02 06.3 -0.3
ENAUX	**Enaux**	**0.75 179**		Pg		Pg	01 02 06.6 -0.2
ENAUX				Sg		Sg	01 02 17.0 +0.4
ENR	**Entracque**	**0.79 143**		Pg		Pg	01 02 07.6 0.0
GRN	**Grenoble**	**0.81 298**		Pg		Pb	01 02 08.5 -0.2
SPIF	**crte de Spivo**	**0.88 157**		Pg		Pg	01 02 08.7 -0.4
SPIF				Sg		Sg	01 02 21.0 +0.4
CIRO	**Champorcher**	**0.94 38**		Pg		Pg	01 02 10.3 -0.1
TRAV	**Traversella**	**0.96 47**		Pg		Pg	01 02 10.5 -0.2
SALSA	**La sagne**	**0.98 183**		Pg		Pb	01 02 11.6 -0.1
GBOS	**Grotte di Boss**	**0.99 128**		Pg		Pg	01 02 10.6 -0.8
TURF	**col de Turini**	**1.00 153**		Pg		Pg	01 02 11.6 +0.1
TURF				Sg		Sg	01 02 24.5 +0.1
REMY	**Saint-Rhmy-en**	**1.02 16**		Pg		Pg	01 02 11.7 -0.2
SAOF	**Saorge**	**1.05 146**		Pg		Pg	01 02 11.8 -0.6
SBF	**Sospel**	**1.11 154**		*e*Pg		Pb	01 02 13.8 0.0
SBF				*e*Sg		Sg	01 02 27.9 -0.2
	1.2nm,0.2s						
CALF	**Calern**	**1.12 174**		Pg		Pn	01 02 14.3 0.0
ESCA	**l'Escarene**	**1.12 156**		Pg		Pg	01 02 13.7 -0.2
RORO	**Rocca Rossa**	**1.20 128**		Pg		Pb	01 02 14.0 -1.4
CANO	**Canova, Maglio**	**1.25 121**		Pg		Pn	01 02 15.2 -0.9
SATI	**Passo dei Sala**	**1.28 37**		Pn		Pn	01 02 16.8 -0.1
PCP	**Piancastagn**	**1.32 103**		Pn		Pn	01 02 16.7 -0.4
VIVF	**Saint-Julien-l**	**1.48 270**		*e*Pg		Pg	01 02 21.1 +0.4
LMR	**La Mourre**	**1.54 187**		*e*Pg		Pb	01 02 20.8 -0.3
LMR				*e*Sg		Sn	01 02 40.2 0.0
	1.6nm,0.4s						
SSB	**Saint Sauveur**	**1.62 286**		Pg		Pg	01 02 23.8 +0.4

*IDC **08** 01:49:44.7±1.2, 5.°24N×124.°70E, h0km, mb4.0/4, mbtmp4.1/6, ML4.3/2, MS3.1/2, Error ellipse: s-maj=38.9km s-min=18.8km az=82.0*
*NEIC **08** 01:49:46.7±1.6, 5.°35N±0.°04×124.°79E±0.°04, h10km±1km, mb4.5/15, Error ellipse: s-maj=7.9km s-min=5.0km az=125.0*
*DJA **08** 01:49:50.4±1.4, 5.°N±3.°×12.°5E±.°, h30km±14km, M4.4/7, mB4.8/2, mb4.6/2, MLv4.3/7, Mw(mB)4.1/2*

ISC 08 01:49:46.5±0.6, 5.°35N±0.°04×124.°90E±0.°09, h10km, n32, σ1§06/33, mb4.3/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.77 159**		P		**Pb**	**01 50 19.0 -0.1**
SGSI				S		**Sn**	**01 50 40.3 +0.5**
DAV	**Davao City (W)**	**1.83 22**		Pn		**Pn**	**01 50 18.3 +0.3**
DAV				Sg		**Sb**	**01 50 44.7 +1.5**
DAV	**Davao City (W)**	**1.83 22**		Pn		**Pb**	**01 50 20.4 +0.2**
	126nm,0.3s,baz=244,slow=18,SNR=2.7						
DAV				Sn		**Sg**	**01 50 46.2 +0.7**
	155nm,0.3s,baz=133,slow=23,SNR=12						
	328nm,0.4s						
TNTI	**Ternate**	**5.17 152**		Pn		**Pn**	**01 51 04.5 +0.4**
MRSI	**Marisa**	**5.67 211**		P		**Pn**	**01 51 13.6 +2.7**
TOLI2	**Tolitoli**	**5.89 224**				**Pn**	**01 51 14.7 +0.8**
LUWI	**Luwuk**	**6.70 199**		Pn		**Pn**	**01 51 24.4 -0.6**
TGY	**Tagaytay City**	**9.53 336**		LR		LR	01 55 32.0
	comp=Z,227nm,20.8s,baz=280,slow=36						
JAY	**Jayapura**	**17.61 116**		Pn		**P**	**01 53 55.2 +1.9**
	0.8nm,0.3s,baz=62,slow=20,SNR=4.9						
	3.8nm,0.6s						
MTN	**Manton Dam**	**19.11 161**		P		**P**	**01 54 09.9 +0.2**
KNRA	**Kununurra**	**21.24 170**		P		**P**	**01 54 33.1 +0.3**
KNRA				IAmb		IAmb	01 54 36.2
	comp=Z,7.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.31 178**		P		**P**	**01 54 56.5 +1.7**
WB0	**Warramunga Arr**	**26.65 160**		P		**P**	**01 55 24.1 -1.6**
WB0				IAmb		IAmb	01 55 32.9
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**26.80 160**		P		**P**	**01 55 27.2 +0.2**
	comp=Z,1.1nm,0.6s,baz=342,slow=10.0,SNR=8.5						
	comp=Z,1.1nm,0.6s						
WR8	**Warramunga Arr**	**26.86 160**		P		**P**	**01 55 26.3 -1.3**
CMAR	**Chiang Mai Arr**	**28.49 299**		LR		LR	02 07 37.7
	comp=Z,15nm,18.3s,baz=260,slow=38						
ASAR	**Alice Springs**	**30.15 163**		P		**P**	**01 55 55.0 -1.8**
	comp=Z,0.5nm,0.4s,baz=339,slow=8.0,SNR=7.3						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**39.41 165**		P		**P**	**01 57 16.6 0.0**
BBOO				IAmb		IAmb	01 57 19.4
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**40.30 158**		P		**P**	**01 57 23.5 -0.6**
STKA				IAmb		IAmb	01 57 26.1
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**40.30 158**		P		**P**	**01 57 23.2 -0.8**
	comp=Z,3.7nm,0.8s,baz=353,slow=8.1,SNR=4.4						
	comp=Z,3.7nm,0.8s						
SANVU	**Saraoutou**	**46.72 117**		P		**P**	**01 58 16.9 +0.8**
PEA0B	**Petropavlovsk-**	**54.65 24**		P		**P**	**01 59 15.1 -0.3**
MKAR	**Makanchi Array**	**55.19 325**		P		**P**	**01 59 18.5 -1.0**
MKAR	**Makanchi Array**	**55.19 325**		P		**P**	**01 59 19.1 -0.4**
	comp=Z,0.5nm,0.4s,baz=117,slow=7.2,SNR=9.9						
	comp=Z,0.5nm,0.4s						
AB31	**Akbulak array**	**69.75 321**		P		**P**	**02 00 56.6 -0.2**
AB31				IAmb		IAmb	02 00 58.3
	comp=Z,2.3nm,1.3s						
ABKAR	**Akbulak array**	**69.75 321**		P		**P**	**02 00 55.6 -1.3**
ANM	**Nome**	**76.55 25**		P		**P**	**02 01 37.6 +0.9**
M16K	**Timber Creek**	**78.63 29**		P		**P**	**02 01 48.2 -0.3**
M16K				IAmb		IAmb	02 01 56.4
	comp=Z,12nm,1.2s						
BYL	**Byron's Ledge**	**78.67 71**		P		**P**	**02 01 48.4 -1.2**
PLK4	**Peulik 4**	**79.47 32**		P		**P**	**02 01 52.5 -0.7**
PLK4				IAmb		IAmb	02 02 01.7
	comp=Z,15nm,1.4s						
P18K	**Big Mountain,**	**80.26 31**		P		**P**	**02 01 56.7 -0.7**
P18K				IAmb		IAmb	02 01 57.3
	comp=Z,5.1nm,1.1s						
ILSW	**Iliamna Southw**	**81.36 30**		P		**P**	**02 02 03.6 +0.2**
ILSW				I

comp=Z,33nm,21.7s,baz=154,slow=32
MKAR Makanchi Array 42.51 311 P P 02 15 13.5 +0.5
0.9nm,0.7s,baz=102,slow=9.9,SNR=9.4
0.9nm,0.7s
ZALV Zalesovo Beam 42.92 322 P P 02 15 17.5 +1.4
0.3nm,0.3s,baz=102,slow=6.6,SNR=2.4
0.3nm,0.3s
KURBB Kurchatov Arra 45.70 316 P P 02 15 38.8 +0.3
2.4nm,0.7s,baz=102,slow=8.4,SNR=13
2.4nm,0.7s
WB0 Warramunga Arr 46.36 174 P P 02 15 44.0 +0.1
WB0 IAmb IAmb 02 15 46.3
comp=Z,12nm,1.8s
WRA Warramunga Arr 46.53 175 P P 02 15 46.7 +1.5
comp=Z,0.8nm,0.9s,baz=351,slow=8.6,SNR=4.8
comp=Z,0.8nm,0.9s
WR8 Warramunga Arr 46.56 174 P P 02 15 44.9 -0.5
WR8 IAmb IAmb 02 15 46.5
comp=Z,20nm,1.9s
ASAR Alice Springs 50.19 175 P P 02 16 13.5 0.0
comp=Z,0.8nm,0.8s,baz=0.0,slow=8.0,SNR=6.9
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 51.07 318 P P 02 16 20.9 +1.1
comp=Z,2.6nm,0.8s,baz=81,slow=9.2,SNR=8.9
comp=Z,2.6nm,0.8s
AB31 Akbulak array 57.57 313 P P 02 17 07.2 -0.1
ABKAR Akbulak array 57.57 313 P P 02 17 07.8 +0.6
B21K Ikpikpuk River 60.12 23 P P 02 17 25.4 +0.8
D22K Ayikyak River 60.77 24 P P 02 17 29.9 +0.7
E22K Anaktuvuk Pass 61.08 25 P P 02 17 32.5 +1.2
E22K IAmb IAmb 02 17 40.5
comp=Z,9.4nm,1.4s
SUA Susitna One 61.78 32 P P 02 17 36.6 +0.4
ILAR Eielson Array 63.23 28 P P 02 17 46.2 +0.6
comp=Z,0.3nm,0.8s,baz=272,slow=8.3,SNR=2.1
comp=Z,0.3nm,0.8s
BMAR Burnt Mountain 63.87 25 P P 02 17 50.1 +0.2
F26K Sheenjek River 64.00 25 P P 02 17 52.7 +1.9
F26K IAmb IAmb 02 17 58.3
comp=Z,8.7nm,1.4s
KLU Klutina 64.08 32 P P 02 17 51.6 +0.2
EGAK Eagle 65.66 28 P P 02 18 03.1 +1.6
EGAK IAmb IAmb 02 18 04.3
comp=Z,6.1nm,1.3s
H29M Whitestone 66.50 26 P P 02 18 08.0 +1.1
O28M Mount Upton 66.94 32 P P 02 18 11.3 +1.1
O28M IAmb IAmb 02 18 13.9
comp=Z,18nm,1.4s
I30M Mount Dempster 67.53 27 P P 02 18 14.6 +0.9
KBZ Khabaz 70.18 310 P P 02 18 30.5 +0.2
comp=Z,2.5nm,0.8s,baz=136,slow=4.5,SNR=5.2
comp=Z,2.5nm,0.8s
ARCES ARCESS Array B 70.20 339 P P 02 18 31.9 +1.9
ARCES IAmb IAmb 02 18 39.0
comp=Z,6.9nm,1.4s
FIA1 FINESS Array S 73.30 331 P P 02 18 48.9 +0.1
FIA1 IAmb IAmb 02 18 52.0
comp=Z,17nm,1.1s
FINES FINESS Array B 73.30 331 P P 02 18 48.6 -0.1
FINES FINESS Array B 73.30 331 P P 02 18 49.0 +0.2
comp=Z,2.4nm,0.6s,baz=74,slow=5.8,SNR=22
comp=Z,2.4nm,0.6s
AKASG Malin Array Be 76.28 320 P P 02 19 06.4 +0.2
comp=Z,1.6nm,0.6s,baz=61,slow=6.1,SNR=6.4
comp=Z,1.6nm,0.6s
BRTR Keskin Array B 78.09 308 P P 02 19 17.5 +0.7
BRTR Keskin Array B 78.09 308 P P 02 19 17.6 +0.8
comp=Z,1.1nm,0.9s,baz=69,slow=9.1,SNR=5.0
comp=Z,1.1nm,0.9s
NOA NORSAR Array B 79.65 334 P P 02 19 24.5 -0.4
comp=Z,0.9nm,0.7s,baz=50,slow=5.7,SNR=3.3
comp=Z,0.9nm,0.7s
NC204 NORSAR Array S 79.68 335 P P 02 19 24.7 -0.4
NC204 IAmb IAmb 02 19 26.7
comp=Z,23nm,1.6s
BURAR Bucovina Array 80.03 318 P P 02 19 26.8 -0.5
ELL Elmali 82.03 307 P P 02 19 37.9 -0.3
NVAR Mina Array Bea 88.96 47 P P 02 20 13.8 +0.9
comp=Z,0.2nm,0.5s,baz=305,slow=4.4,SNR=2.2
comp=Z,0.2nm,0.5s

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*IDC **08** 02:13:04.1±1.9, 13°.28N×87°.25W, h0km, mb3.6/2, mbtmp3.7/3, ML3.2/1, MS2.8/2, Error ellipse: s-maj=66.3km s-min=23.5km az=53.0*
*CATAC **08** 02:13:05.0±0.4, 12°.2N±2°.8°×8°.8W±°, h25km±3km, M4.2/31, MLv4.2/31, Error ellipse: s-maj=4.6km s-min=2.5km az=30.7, confirmed*
*SNET **08** 02:13:05.6±0.8, 12°.40N×87°.81W, h14km±9km, ML4.1*
*GCG **08** 02:13:09.2±1.4, 12°.74N×87°.96W, h9km±26km, MD4.5, ML4.3*
ISC 08 02:12:58.6±1.3, 12°.05N±0°.05×87°.90W±0°.03, h15km±11km, n79, σ1°38/89, mb3.7/3, 8C-15D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.05**	**52**	S	**Sb**	**02 13 31.8**	**-0.5**
CRIN	**San Cristobal**	**1.05**	**52**	⇓P	**Pn**	**02 13 20.5**	**+1.6**
PKGN	**Cerro Pekin**	**1.09**	**56**	⇓P	**Pn**	**02 13 20.7**	**+1.3**
PKGN				S	**Sb**	**02 13 32.5**	**-0.8**
CNCH	**Conchagua**	**1.22**	**3**	⇓*i*P	**Pn**	**02 13 22.5**	**+1.2**
CNCH				*e*S	**Sn**	**02 13 35.5**	**-2.1**
CNCH	**Conchagua**	**1.22**	**3**	⇑P	**Pn**	**02 13 22.8**	**+1.5**
LCND	**La Caada**	**1.25**	**1**	*e*P	**Pn**	**02 13 22.9**	**+1.3**
LCND				*e*S	**Sn**	**02 13 36.4**	**-1.7**
LCND	**La Caada**	**1.25**	**1**	⇓P	**Pn**	**02 13 23.1**	**+1.5**
CNGN	**Cerro Negro**	**1.26**	**69**	S	**Sn**	**02 13 38.0**	**-0.4**
CNGN	**Cerro Negro**	**1.26**	**69**	⇓P	**Pn**	**02 13 23.1**	**+1.4**
COPN	**Copaltepe**	**1.29**	**84**	⇓P	**Pb**	**02 13 24.5**	**+1.9**
LCY	**Lacayo**	**1.42**	**344**	*e*P	**Pb**	**02 13 25.8**	**+1.0**
BLLM	**Bellamira**	**1.42**	**347**	⇑*i*P	**Pb**	**02 13 25.8**	**+0.9**
RANC	**El Ranchito**	**1.43**	**345**	⇑*e*P	**Pb**	**02 13 26.0**	**+1.0**
CNRM	**Centro Naciona**	**1.44**	**350**	P	**Pb**	**02 13 26.2**	**+1.1**
PACA	**Pacayal**	**1.47**	**344**	*e*P	**Pb**	**02 13 26.8**	**+1.1**
PACA	**Pacayal**	**1.47**	**344**	⇓P	**Pb**	**02 13 26.9**	**+1.2**
APQ2	**Apoyeque**	**1.55**	**84**	P	**Pb**	**02 13 28.9**	**+1.9**
TECA	**Tecapa**	**1.55**	**338**	*e*P	**Pb**	**02 13 28.1**	**+1.0**
UNAN	**Cigeo UNAN**	**1.60**	**88**	P	**Pb**	**02 13 29.6**	**+1.8**
TISN	**Laguna Tiscapa**	**1.60**	**87**	⇑P	**Pb**	**02 13 29.2**	**+1.3**
MGAN	**Managua**	**1.62**	**86**	S	**Sn**	**02 13 48.0**	**+0.7**
MGAN	**Managua**	**1.62**	**86**	⇓P	**Pb**	**02 13 29.3**	**+1.0**
WILN	**Americas 2**	**1.68**	**86**	P	**Pb**	**02 13 31.0**	**+1.7**
MAS3	**Al N del Volca**	**1.69**	**91**	⇑P	**Pb**	**02 13 30.6**	**+1.2**
TECO	**Alcaldia de Te**	**1.71**	**330**	*e*P	**Pb**	**02 13 30.3**	**+0.6**
TECO	**Alcaldia de Te**	**1.71**	**330**	⇓P	**Pb**	**02 13 30.5**	**+0.7**
NANN	**Nandasmo**	**1.75**	**93**	S	**Sn**	**02 13 53.2**	**+2.8**
NANN	**Nandasmo**	**1.75**	**93**	⇑P	**Pb**	**02 13 32.6**	**+2.2**
UESV	**Universidad de**	**1.80**	**331**	P	**Pb**	**02 13 32.0**	**+0.8**
LIMN	**Finca el Limon**	**1.81**	**56**	P	**Pn**	**02 13 30.4**	**+1.1**
LIMN				S	**Sn**	**02 13 50.1**	**-1.9**
SCLA	**Alcaldia de Sa**	**1.83**	**334**	*e*P	**Pb**	**02 13 32.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.83**	**334**	⇓P	**Pb**	**02 13 32.5**	**+0.7**
LFRS	**El Faro**	**1.93**	**324**	*e*P	**Pb**	**02 13 34.2**	**+0.7**
PAVA	**Las Pavas**	**1.94**	**329**	*e*P	**Pb**	**02 13 34.2**	**+0.5**
PAVA	**Las Pavas**	**1.94**	**329**	P	**Pb**	**02 13 35.0**	**+1.3**
LALI	**Alcalda de L**	**1.99**	**316**	*i*S	**Sn**	**02 13 56.7**	**+0.3**
LOMA	**Loma Larga**	**2.01**	**322**	*e*P	**Pb**	**02 13 35.5**	**+0.5**
LOMA	**Loma Larga**	**2.01**	**322**	P	**Pg**	**02 13 36.9**	**-0.4**
LBRS	**Las Brisas**	**2.01**	**327**	*e*P	**Pb**	**02 13 35.7**	**+0.7**
LFU	**La Fuente**	**2.06**	**325**	*e*P	**Pb**	**02 13 36.7**	**+0.9**
TGUH	**Tegucigalpa,Un**	**2.09**	**17**	P	**Pn**	**02 13 34.6**	**+1.4**
OCON	**Estacion meteo**	**2.10**	**41**	⇓P	**Pn**	**02 13 34.5**	**+1.2**
OCON				S	**Sn**	**02 13 56.6**	**-2.5**
MATN	**Matagalpa**	**2.12**	**65**	S	**Sn**	**02 13 59.0**	**-0.7**
MATN	**Matagalpa**	**2.12**	**65**	⇓P	**Pn**	**02 13 34.2**	**+0.6**
PIC2	**El Picacho**	**2.14**	**322**	*e*P	**Pb**	**02 13 37.8**	**+0.6**
BOQS	**Boqueron**	**2.15**	**321**	*e*P	**Pb**	**02 13 37.9**	**+0.6**
PMON	**Piamonte**	**2.15**	**320**	*e*P	**Pb**	**02 13 37.5**	**+0.2**
PMON	**Piamonte**	**2.15**	**320**	P	**Pb**	**02 13 37.6**	**+0.3**
YUSH	**Yuscaran**	**2.15**	**29**	S	**Sn**	**02 13 57.9**	**-2.7**
YUSH	**Yuscaran**	**2.15**	**29**	⇓P	**Pn**	**02 13 35.2**	**+1.1**
JAYA	**Jayaque - finc**	**2.19**	**317**	*e*P	**Pb**	**02 13 38.3**	**+0.2**
JAYA	**Jayaque - finc**	**2.19**	**317**	*e*P	**Pb**	**02 13 38.4**	**+0.2**
JAYA				*e*S	**Sn**	**02 14 01.5**	**-0.2**
JAYA	**Jayaque - finc**	**2.19**	**317**	P	**Pg**	**02 13 39.3**	**-1.5**
RCVN	**Varillal2**	**2.26**	**47**	P	**Pn**	**02 13 37.2**	**+1.6**
MORN	**Al O del Volca**	**2.26**	**103**	P	**Pb**	**02 13 39.1**	**-0.1**
CONN	**Concepcion**	**2.28**	**102**	P	**Pb**	**02 13 38.9**	**-0.5**
RCPN	**Sur Rio San Ju**	**2.29**	**50**	P	**Pn**	**02 13 37.7**	**+1.7**
CEVE	**Cerro Verde**	**2.44**	**317**	P	**Pb**	**02 13 42.8**	**+0.5**
SBLS	**San Blas**	**2.44**	**317**	*e*P	**Pb**	**02 13 42.0**	**-0.4**
SNJE	**San Jose**	**2.45**	**318**	*e*P	**Pb**	**02 13 42.3**	**-0.3**
CARN	**Rivas**	**2.48**	**110**	⇑P	**Pb**	**02 13 42.2**	**-0.8**
CARN				S	**Sb**	**02 14 13.6**	**+0.2**
NUBE	**Las Nubes**	**2.59**	**315**	*e*P	**Pb**	**02 13 44.4**	**-0.6**
NUBE	**Las Nubes**	**2.59**	**315**	*e*P	**Pb**	**02 13 44.1**	**-0.8**
NUBE				*e*S	**Sn**	**02 14 12.3**	**+0.7**
NUBE	**Las Nubes**	**2.59**	**315**	P	**Pb**	**02 13 44.9**	**-0.1**
ACON	**Acoyapa**	**2.67**	**91**	P	**Pn**	**02 13 44.1**	**+3.0**
RBDL	**Robledal**	**2.69**	**320**	*e*P	**Pb**	**02 13 45.5**	**-1.0**
FAME	**Alcaldia de Sa**	**2.72**	**311**	⇓P	**Pb**	**02 13 46.7**	**-0.3**
MTO3	**Montecristo**	**2.73**	**329**	*e*P	**Pn**	**02 13 44.8**	**+2.7**
SARH	**Santa Rosa de**	**2.83**	**343**	*e*P	**Pn**	**02 13 45.7**	**+2.3**
SARH	**Santa Rosa de**	**2.83**	**343**	P	**Pn**	**02 13 46.0**	**+2.6**
ESQI	**Esquipulas**	**2.86**	**331**	⇓P	**Pb**	**02 13 47.9**	**-1.5**
FG16	**Alotenango, Sa**	**3.37**	**311**	*e*P	**Pg**	**02 14 02.6**	**-0.5**
FG16				*e*S	**Sb**	**02 14 39.4**	**+0.4**
FG16				IAML		02 15 03.4	
comp=N,1μm,0.3s
JTS Las Juntas de 3.38 121 Pn **Pg 02 14 03.6 +0.2**
comp=N,2.1nm,0.3s,baz=278,slow=17,SNR=9.6
JTS Sn **Sg 02 14 47.0 -0.3**
comp=N,11nm,0.3s,baz=111,slow=19,SNR=10.0
JTS LR LR 02 15 51.3
comp=N,93nm,19.2s,baz=316,slow=45
comp=N,25nm,0.4s
JTS Las Juntas de 3.38 121 ⇑P **Pb 02 13 56.7 -1.6**
JTS S **Sb 02 14 37.3 -2.0**
SOCE Pocosol 3.62 117 P **Pb 02 14 00.2 -2.2**
SDV Santo Domingo 17.27 99 LR LR 02 25 04.4
comp=N,43nm,19.4s,baz=296,slow=43
TXAR Lajitas Array 22.61 322 P **P 02 18 01.5 +2.6**
comp=N,1.5nm,0.7s,baz=134,slow=11,SNR=15
comp=N,1.5nm,0.7s
PDAR Pinedale Array 35.92 332 P **P 02 19 59.0 +0.4**
comp=N,0.6nm,0.6s,baz=131,slow=11,SNR=7.5
comp=N,0.6nm,0.6s
SCHQ Schefferville 45.79 17 P **P 02 21 16.6 -2.9**
comp=N,25nm,0.5s,baz=215,slow=6.2,SNR=6.7

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*JMA **08** 02:16:45.6±0.2, 33°.N±3°.×13°.7E±°, h430km, MV3.4/50, SE OFF KII PENINSULA*
*IDC **08** 02:16:51.5±1.6, 33°.28N×137°.01E, h378km±10km, mb3.0/9, mbtmp3.7/13, Error ellipse: s-maj=29.6km s-min=17.9km az=172.0*
ISC 08 02:16:52.5±1.0, 33°.3N±0°.1×137°.08E±0°.07, h400km, n27, σ2°55/28, mb3.2/9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.38**	**320**	*e*P	**Pn**	**02 17 39.6**	**-2.1**
TK02	**Tokai 2**	**0.83**	**43**	*e*P	**Pn**	**02 17 40.4**	**-2.3**
JIE	**Ise**	**1.10**	**344**	*e*P	**Pn**	**02 17 40.9**	**-3.0**
JKN2	**Miekihoku**	**1.12**	**324**	*e*P	**Pn**	**02 17 39.6**	**-4.3**
JTNC	**Tanabenakahech**	**1.31**	**292**	*e*P	**Pn**	**02 17 41.2**	**-3.6**
JNY	**Yasuok**	**2.12**	**18**	*e*P	**Pn**	**02 17 46.9**	**-2.4**
JAI	**Aioi**	**2.24**	**282**	*e*P	**Pn**	**02 17 46.8**	**-3.2**
JHJ	**Hachijo jima 2**	**2.28**	**95**	P	**Pn**	**02 17 47.5**	**-2.8**
113nm,0.4s,baz=200,slow=20,SNR=6.1
JHJ2 Mitsune 2.31 95 *e*P **Pn 02 17 47.9 -2.6**
JWT Wachi 2.38 325 *e*P **Pn 02 17 48.1 -2.8**
JOD2 Odawara 2 2.54 40 *e*P **Pn 02 17 49.9 -2.2**
JRY Ryogami san 3.07 29 *e*P **Pn 02 17 54.1 -2.2**
BSO4 Boso 4 3.17 58 *e*P **Pn 02 17 53.6 -3.3**
BSO3 Boso 3 3.20 62 *e*P **Pn 02 17 53.7 -3.4**
MJAR Matsushiro Arr 3.33 16 P **Pn 02 17 56.1 -2.4**
4.1nm,0.5s,baz=186,slow=9.7,SNR=11
MJAR S **S 02 18 49.0 -2.9**
1.7nm,0.6s,baz=189,slow=16,SNR=4.9
JTO Tosashimizu 3.62 264 *e*P **Pn 02 17 58.2 -2.9**
JNU Nakatsue 5.20 269 P **Pn 02 18 14.4 -2.3**
10nm,0.7s,baz=159,slow=0.4,SNR=4.9
KSRS Korea Array 8.53 301 P **P 02 18 53.9 +0.3**
3.2nm,0.7s,baz=121,slow=11,SNR=7.9
SONM Songino Array 27.22 311 P **P 02 22 03.1 +1.3**
0.9nm,0.5s,baz=118,slow=9.7,SNR=4.9
0.9nm,0.5s
MKAR Makanchi Array 43.19 305 P **P 02 24 16.4 +0.6**
0.6nm,0.4s,baz=89,slow=8.7,SNR=6.5
0.6nm,0.4s
KURBB Kurchatov Arra 45.58 310 P **P 02 24 34.5 +0.1**
0.3nm,0.3s,baz=90,slow=7.6,SNR=6.4
0.3nm,0.3s
BVAR Borovoye Array 50.50 314 P **P 02 25 11.8 +0.2**
0.4nm,0.3s,baz=86,slow=7.4,SNR=3.7
0.4nm,0.3s
ILAR Eielson Array 54.49 31 P **P 02 25 42.9 +2.6**
0.4nm,0.8s,baz=260,slow=6.6,SNR=4.3
0.4nm,0.8s
FINES FINESS Array B 70.39 332 P **P 02 27 23.5 -0.6**
0.9nm,0.8s,baz=44,slow=6.5,SNR=1.2
0.9nm,0.8s
KBZ Khabaz 70.58 310 P **P 02 27 26.3 +0.8**
1.5nm,0.8s,baz=50,slow=7.9,SNR=2.7
1.5nm,0.8s
BRTR Keskin Array B 78.57 310 P **P 02 28 12.8 +1.5**
0.4nm,0.8s,baz=57,slow=5.3,SNR=1.6
0.4nm,0.8s
NVAR Mina Array Bea 80.06 50 P **P 02 28 21.0 +1.6**
0.3nm,0.5s,baz=286,slow=6.1,SNR=3.2
0.3nm,0.5s

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*NEIC **08** 02:39:33.0±1.4, 24°.66S±0°.05×176°.8W±0°.1, h61km±10km, mb4.4/14, Error ellipse: s-maj=17.3km s-min=7.4km az=82.0*
*IDC **08** 02:39:36.6±4.1, 22°.79S×178°.65W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=262.8km s-min=45.3km az=157.0*
ISC 08 02:39:32.2±0.7, 24°.66S±0°.07×176°.9W±0°.1, h35km, n23, σ2°72/23, mb4.3/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.66**	**191**	Pn	**Pn**	**02 40 41.0**	**+1.0**
RAO				Sn	**Sn**	**02 41 34.1**	**+1.2**
MSVF	**Nonsavu**	**8.32**	**325**	Pn	**Pn**	**02 41 32.0**	**+1.5**
NIUE	**Niue**	**8.56**	**51**	Pn	**Pn**	**02 41 31.8**	**-1.9**
PINNC	**Pines Island,**	**14.45**	**275**		**P**	**02 43 00.2**	**-0.3**
HIZ	**Hauiti**	**15.47**	**205**		**Pn**	**02 43 10.8**	**+3.2**
BKZ	**Black Stump Fm**	**15.49**	**199**		**Pn**	**02 43 10.6**	**+2.6**
QRZ	**Quartz Range**	**18.37**	**206**	P	**P**	**02 43 42.9**	**-0.9**
QRZ				IAmb	IAmb	02 44 06.4	
comp=Z,50nm,1.5s
THZ Tophouse 19.03 204 P **P 02 43 46.7 -4.5**
THZ IAmb IAmb 02 44 26.2
comp=Z,37nm,1.3s
KHZ Kahutara 19.38 202 P **P 02 43 50.7 -4.2**
KHZ IAmb IAmb 02 44 31.4
comp=Z,38nm,1.3s
COEN Coen 38.99 278 P **P 02 46 53.9 -1.5**
COEN IAmb IAmb 02 46 55.6
comp=Z,8.3nm,1.0s
ASAR Alice Springs 44.66 261 P **P 02 47 41.3 -0.5**
comp=Z,0.2nm,0.3s,baz=94,slow=6.6,SNR=5.8
comp=Z,0.2nm,0.3s
WR8 Warramunga Arr 44.99 266 P **P 02 47 43.4 -1.0**
WB2 Warramunga Arr 45.13 266 P **P 02 47 43.9 -1.6**
WB2 IAmb IAmb 02 47 45.1
comp=Z,5.2nm,1.3s
WB0 Warramunga Arr 45.13 266 P **P 02 47 43.9 -1.7**
WB0 IAmb IAmb 02 48 23.1
comp=Z,5.4nm,1.4s
WRA Warramunga Arr 45.14 266 P **P 02 47 44.6 -1.0**
WRA Warramunga Arr 45.14 266 P **P 02 47 44.2 -1.4**
comp=Z,1.6nm,0.4s,baz=102,slow=8.1,SNR=17
comp=Z,1.6nm,0.4s
CASY Casey 60.66 206 P **P 02 49 37.0 -2.4**
QSPA South Pole Qui 65.43 180 P **P 02 50 07.3 -4.0**
QSPA IAmb IAmb 02 50 37.4
comp=Z,5.9nm,1.4s
JMZ Minamidaito 2 70.91 311 P **P** 02 50 42.6 -3.4
BELA Belgrano 2 75.33 172 P **P 02 51 15.5 +4.1**
BELA IAmb IAmb 02 51 21.2
comp=Z,5.2nm,1.0s
ARCES ARCESS Array B 133.17 349 PKP **PKiKP 02 58 50.0 +5.4**
comp=Z,2.3nm,1.0s,baz=13,slow=1.6,SNR=6.2
AKASG Malin Array Be 147.09 329 PKP **PKiKP 02 59 15.0 +1.4**
comp=Z,0.8nm,0.4s,baz=47,slow=3.6,SNR=7.4
BRTR Keskin Array B 150.25 308 PKPbc **PKiKP 02 59 22.4 +1.7**
comp=Z,0.5nm,0.5s,baz=57,slow=2.1,SNR=4.7

IDC 08 02:44:17.5±48.0, 15°.03S×171°.95W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=930.6km s-min=202.8km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.43**	**240**	P	P	02 52 38.4	+0.1
0.7nm,0.4s,baz=85,slow=12,SNR=2.8
0.7nm,0.4s
WRA Warramunga Arr 51.29 256 P P 02 53 23.1 -0.7
0.4nm,0.6s,baz=93,slow=6.9,SNR=7.2
0.4nm,0.6s
ASAR Alice Springs 51.55 252 P P 02 53 26.0 +0.2
4.3nm,0.5s,baz=89,slow=8.2,SNR=75
4.3nm,0.5s

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*SDD **08** 02:49:43.4±2.5, 18°.64N×69°.36W, h104km±13km, MD3.0, ML2.6, MW3.1*
*OSPL **08** 02:49:44.7±2.9, 18°.78N×69°.41W, h94km±21km, ML2.8*
ISC 08 02:49:43.7±1.5, 18°.67N±0°.06×69°.39W±0°.03, h91km±9km, n22, σ0°82/38, 14C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.12**	**6**	⇑*e*Pg	**Pn**	**02 49 56.1**	**-0.6**
HATOM				⇑*e*Sg	**Sn**	**02 50 06.6**	**+0.3**
HATOM				IAML		02 50 08.0	
comp=N,236nm,0.5s
MIDR Miches 0.45 46 ⇑*e*Pg **Pn 02 49 57.6 -0.6**
MIDR ⇑*e*Sg **Sn 02 50 09.8 +0.8**
MIDR IAML 02 50 10.4
comp=N,41nm,0.2s
MIDR IAML 02 50 10.9
comp=N,158nm,0.1s
SDD Santo Domingo 0.54 247 ⇑*e*Pg **Pn 02 49 58.5 -0.4**
SDD ⇑*e*Sg **Sn 02 50 10.5 +0.4**
SDD IAML 02 50 11.8
comp=N,29nm,0.9s
SDD Santo Domingo 0.54 247 *i*P **Pn 02 49 58.5 -0.4**
SDD *e*S **Sn 02 50 10.5 +0.4**
SMDR Samana, DR 0.65 18 ⇑*e*Pg **Pn 02 49 58.7 -1.2**
SMDR ⇓*e*Sg **Sn 02 50 12.3 +0.4**
SMDR IAML 02 50 15.4
comp=N,189nm,0.8s
HIDR Higuey Centro 0.65 97 ⇑*e*Pg **Pn 02 49 59.4 -0.5**
HIDR ⇓*e*Sg **Sn 02 50 12.4 +0.5**
HIDR IAML 02 50 14.3
comp=N,696nm,0.2s
DR08 Loma La Naviza 0.66 296 ⇓*e*Pg **Pn 02 49 59.5 -0.5**
DR08 ⇓*e*Sg **Sn 02 50 12.2 0.0**
DR08 IAML 02 50 14.2
comp=N,14μm,0.2s
NADR Nagua 0.81 327 ⇓*e*Pg **Pn 02 50 00.7 -0.8**
NADR ⇓*e*Sg **Sn 02 50 15.4 +0.8**
NADR IAML 02 50 20.8
comp=N,927nm,0.2s
PCDR Punta Cana, DR 0.97 99 ⇑*e*Pg **Pn 02 50 02.8 -0.4**
PCDR ⇑*e*Sg **Sn 02 50 18.7 +0.9**
PCDR IAML 02 50 21.1
comp=N,113nm,1.0s
PCDR IAML 02 50 22.5
comp=N,73nm,1.0s
SFDR San Fco. de Ma 1.01 307 ⇓*e*Pg **Pn 02 50 03.3 -0.3**
SFDR ⇑*e*Sg **Sn 02 50 20.0 +1.5**
ABDR Alto Bandera 1.18 277 ⇑*e*Pg **Pn 02 50 06.6 +0.7**
ABDR ⇑*e*Sg **Sn 02 50 23.0 +0.4**
ABDR IAML 02 50 39.3
comp=N,0.2nm,0.5s
SC01 Santiago de lo 1.47 301 ⇓*e*Pg **Pn 02 50 08.9 -0.2**
SC01 ⇑*e*Sg **Sn 02 50 29.5 +1.1**
SC01 IAML 02 50 37.1
comp=N,117nm,0.5s
SC01 Santiago de lo 1.47 301 *i*P **Pn 02 50 08.9 -0.2**
SDDR Presa de Saban 1.82 280 *i*P **Pn 02 50 14.2 +0.5**
SDDR IAML 02 50 44.4
comp=Z,32nm,0.3s
PODR Polo 1.86 255 *i*P **Pn 02 50 14.5 +0.2**
PODR *e*S **Sn 02 50 39.6 +1.9**
LONE3 El Aguacate, B 1.96 268 *i*P **Pn 02 50 15.1 -0.5**
LONE3 IAML 02 50 51.6
comp=Z,18nm,1.8s
LODU1 El Espartillar 2.00 261 *i*P **Pn 02 50 15.9 0.0**
LODU1 IAML 02 50 47.9
comp=Z,52nm,1.7s
LOVI El Cajuil, Ovi 2.07 245 *i*P **Pn 02 50 15.7 -1.1**
LOVI *e*S **Sn 02 50 40.3 -1.8**
LOVI IAML 02 50 47.5
comp=Z,72nm,1.1s
LOPP1 Punta Rusia, P 2.07 305 *i*P **Pn 02 50 15.3 -1.6**
LOPP1 IAML 02 50 50.9
comp=Z,63nm,2.6s
AGPR Aguadilla, PR 2.17 95 *i*P **Pn 02 50 18.8 +0.5**
AGPR *e*S **Sn 02 50 44.4 -0.3**
AGPR IAML 02 50 52.9
comp=Z,100nm,1.5s
CRPR Cabo Rojo, PR 2.27 107 *i*P **Pn 02 50 19.2 -0.3**
CRPR IAML 02 50 55.3
comp=Z,43nm,1.4s
LOBH Bahia de las A 2.28 250 *i*P **Pn 02 50 19.6 0.0**
LOBH *e*S **Sn 02 50 46.6 -0.6**
LOBH IAML 02 50 51.0
comp=Z,41nm,2.8s

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*SOME **08** 02:59:46.5, 40°.32N×82°.08E, h10km*
*NNC **08** 02:59:50.4±3.0, 40°.38N×81°.87E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=22.3km s-min=17.7km az=12.0*
ISC 08 02:59:49.4±3.6, 40°.4N±0°.1×81°.9E±0°.1, h10km, n19, σ2°81/26, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.31**	**328**	Pg	**Pb**	**03 00 46.4**	**-1.8**
8.5nm,0.3s
SHLS Lg Lg 03 01 29.9
79nm,0.7s
SHLS Shalkode 3.31 328 *e*P **Pb 03 00 46.5 -1.8**
8.5nm,0.3s
SHLS *e*S **Sb 03 01 29.9 +1.2**
79nm,0.7s
PDGK Podgornoye 3.45 330 ⇑Pg **Pg 03 00 53.8 -1.6**
2.1nm,0.3s
PDGK ⇑Lg Lg 03 01 38.6
36nm,0.8s
UZB Uzynbulak 3.49 324 Pg **Pb 03 00 52.6 +1.2**
3.5nm,0.4s
UZB Lg Lg 03 01 40.4
37nm,0.5s
UZB Uzynbulak 3.49 324 *e*P **Pb 03 00 52.6 +1.2**
3.5nm,0.4s
UZB *e*S **Sg 03 01 40.4 -1.2**
37nm,0.5s
SATY Saty 3.73 317 Pg **Pg 03 00 58.3 -2.5**
3.9nm,0.4s
SATY Lg Lg 03 01 50.2
17nm,0.2s
KPKS Kokpek 3.90 324 Pg **Pb 03 01 00.2 +2.0**
0.4nm,0.2s
KPKS Lg Lg 03 01 53.3
27nm,0.5s
KNOS Konyrlen 4.45 334 Pg **Pg 03 01 10.8 -3.9**
3.5nm,0.3s
KNOS Lg Lg 03 02 11.6
6.3nm,0.5s
TNSS Tian-Shan 4.54 308 Pg **Pg 03 01 13.0 -3.3**
1.0nm,0.2s
TNSS Lg Lg 03 02 15.5
1.1nm,0.5s
TNSS Tian-Shan 4.54 308 *e*P **Pg 03 01 13.1 -3.3**
1.0nm,0.2s
TNSS *e*S **Sg 03 02 15.5 +0.3**
1.1nm,0.5s
KOTS Kotyrbulak 4.56 310 Pg **Pg 03 01 13.4 -3.3**
4.1nm,0.2s
KOTS Lg Lg 03 02 16.2
17nm,0.7s
KOTS Kotyrbulak 4.56 310 *e*P **Pg 03 01 13.4 -3.3**
4.1nm,0.2s
KOTS *e*S **Sg 03 02 16.2 +0.5**
17nm,0.7s
ARXS Arharly 4.87 323 Pg **Pg 03 01 18.9 -3.7**
2.4nm,0.7s
ARXS Lg Lg 03 02 25.5
5.4nm,0.4s
ARXS Arharly 4.87 323 *e*P **Pg 03 01 18.9 -3.7**
ARXS *e*S **Sg 03 02 25.5 -0.1**
CHKK Chushkaly 5.02 316 *e*P **Pb 03 01 21.0 +3.7**
0.6nm,0.0s

CHKK *e*S **Sg** **03 02 28.6 -2.0**
3.2nm,0.1s
KTBS Karatobe 5.10 313 Pg **Pg** **03 01 23.9 -3.1**
1.3nm,0.5s
KTBS Lg Lg 03 02 34.3
9.8nm,0.7s
KST Kastek 5.16 303 Pg **Pg** **03 01 25.8 -2.3**
1.9nm,0.4s
KST Lg Lg 03 02 37.7
6.6nm,0.6s
KST Kastek 5.16 303 *e*P **Pg** **03 01 25.9 -2.3**
1.9nm,0.4s
KST *e*S **Sg** **03 02 37.6 +2.8**
6.6nm,0.6s
MK31 Makanchi Array 6.43 3 ⇓Pn Pn 03 01 28.1 +4.0
0.5nm,0.4s,baz=164,slow=15,SNR=5.6
MK31 ⇓Sn **Sn** **03 02 42.8 +5.2**
4.0nm,0.5s,baz=167,slow=29,SNR=7.5

NEIC 08 03:09:26.2±0.9, 38°.03N±0°.02×97°.97W±0°.03, h5km±2km, mb_Lg2.2/21, ML2.5/8, Error ellipse: s-maj=3.7km s-min=2.3km az=51.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.70**	**305**	Pg	Pg	03 09 38.9	-0.8
R32A				Sg	Sg	03 09 48.2	-0.7
R32A				IAML		03 09 51.0	
	248nm,0.5s						
R32A				IAML		03 09 53.3	
	238nm,0.4s						
KAN08	**Anthony NE Sta**	**0.80**	**180**	Pg	Pg	03 09 40.3	-1.2
KAN08				IAML		03 09 59.4	
	comp=N,141nm,0.1s						
KAN01	**Argonia South**	**0.89**	**169**	Pg	Pg	03 09 42.2	-1.0
KAN01				Sg	Sg	03 09 54.2	-0.5
KAN01				IAML		03 10 03.4	
	comp=N,147nm,0.1s						
KAN14	**Manchester OK**	**1.07**	**180**	Pg	Pg	03 09 45.6	-1.0
GC02	**Grant County #**	**1.18**	**176**	Pg	Pg	03 09 47.6	-1.2
BLOK	**Blackwell**	**1.40**	**154**		Pn	03 09 51.4	-1.1
KSU1	**Kansas State U**	**1.52**	**44**		Pn	03 09 53.4	-0.7
CROK	**Carrier**	**1.52**	**180**		Pn	03 09 53.1	-1.0
NOKA	**Waynoka**	**1.58**	**209**		Pn	03 09 54.8	-0.2
CBKS	**Cedar Bluff**	**1.59**	**300**		Pn	03 09 54.8	-0.3
T35A	**Sooner Cattle**	**1.61**	**133**		Pn	03 09 54.9	-0.4
OK038	**West end E0370**	**1.66**	**202**	Pn	Pn	03 09 56.3	+0.2
OK051	**E0350 and S346**	**1.77**	**149**	Pn	Pn	03 09 56.7	-0.8
QUOK	**Quay**	**2.11**	**151**	Pn	Pn	03 10 02.3	+0.1
OK052	**Battle Ridge R**	**2.23**	**155**	Pn	Pn	03 10 03.9	-0.1
ELIS	**Ellis County**	**2.27**	**211**	Pn	Pn	03 10 03.5	-1.0
CSTR	**Hydro, Custer**	**2.44**	**194**	Pn	Pn	03 10 06.4	-0.5
DEOK	**Depew**	**2.48**	**151**	Pn	Pn	03 10 06.3	-1.0
TUL3	**Leonard**	**2.74**	**140**	Pn	Pn	03 10 10.7	-0.2
TUL3				IAmb_Lg		03 10 52.7	
	comp=Z,7.4nm,0.8s						
RLO	**Rose Lookout**	**3.00**	**127**	IAmb_Lg		03 11 08.7	
	comp=Z,7.1nm,0.7s						
U38A	**Gravette**	**3.27**	**118**	IAmb_Lg		03 11 18.3	
	comp=Z,6.8nm,0.8s						
WMOK	**Wichita Mounta**	**3.34**	**191**	Pn	Pn	03 10 18.5	-0.7
N35A	**Tabor**	**3.36**	**32**	Pn	Pn	03 10 19.7	+0.3
SMWD	**Samnorwood**	**3.44**	**213**	Pn	Pn	03 10 20.3	-0.2
SMWD				IAmb_Lg		03 11 17.4	
	comp=Z,6.3nm,0.7s						
HHAR	**Hobbs**	**3.66**	**117**	Pn	Pn	03 10 22.7	-0.9
KSCO	**Kaye Shedlock'**	**3.78**	**287**	IAmb_Lg		03 11 24.7	
	comp=Z,5.3nm,0.7s						
P38A	**Dawn**	**3.82**	**64**	Pn	Pn	03 10 24.7	-1.0
RTBA	**Rita Blanca**	**4.12**	**249**	Pn	Pn	03 10 27.4	-2.5
AMTX	**Amarillo**	**4.33**	**225**	IAmb_Lg		03 11 48.2	
	comp=Z,8.4nm,1.0s						
MGMO	**Mountain Grove**	**4.61**	**99**	IAmb_Lg		03 11 49.6	
	comp=Z,4.3nm,0.8s						
DKNS	**Dickens**	**4.97**	**210**	Pn	Pn	03 10 42.2	+0.7
MIAR	**Mount Ida**	**4.97**	**133**	Pn	Pn	03 10 42.4	+0.9
T25A	**Trinidad**	**5.19**	**262**	IAmb_Lg		03 12 13.7	
	comp=Z,3.7nm,0.8s						
WHAR	**Wooly Hollow**	**5.32**	**119**	Pn	Pn	03 10 44.9	-1.5

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*IDC **08** 03:35:38.8±2.3, 8°.01S×122°.22E, h0km, mb3.4/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=287.5km s-min=31.1km az=55.0*
*DJA **08** 03:35:40.9±0.3, 8°.S±3°×12°.2E±°, h10km, M3.5/8, MLv3.5/8*
ISC 08 03:35:42.7±1.0, 8°.44S±0°.05×121°.83E±0°.04, h35km, n12, σ2°.38/17, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.45**	**115**	P	**Pn**	**03 35 51.6**	**-1.0**
MMRI				S	**Sn**	**03 35 59.1**	**-0.3**
WSI	**Waingapu**	**1.94**	**231**	P	**Pn**	**03 36 12.2**	**-1.0**
BASI	**Baing, Sumba**	**2.15**	**215**	P	**Pn**	**03 36 16.8**	**+0.7**
BASI				S	**Sn**	**03 36 43.1**	**+1.5**
BATI	**Baumata**	**2.52**	**134**	P	**Pn**	**03 36 23.2**	**+2.1**
BSSI	**Bau Bau, Buton**	**2.64**	**330**	P	**Pn**	**03 36 23.6**	**+0.7**
BSSI				S	**Sn**	**03 36 55.0**	**+1.3**
WBSI	**Waikabubak, Su**	**2.69**	**244**	P	**Pn**	**03 36 22.7**	**-0.8**
SOEI	**Soe**	**2.74**	**119**	P	**Pn**	**03 36 27.6**	**+3.4**
BKSI	**Bulukumba**	**3.53**	**331**	P	**Pn**	**03 36 33.7**	**-1.4**
PLAI	**Plampang**	**4.03**	**264**	P	**Pn**	**03 36 42.9**	**+1.0**
PLAI				S	**Sn**	**03 37 29.0**	**+1.1**
WRA	**Warramunga Arr**	**16.65**	**135**	Pn	**Pn**	**03 39 32.6**	**-0.9**
	0.1nm,0.3s,baz=308,slow=13,SNR=2.2						
WRA				Sn	**Sn**	**03 42 30.6**	**-6.8**
	0.1nm,0.3s,baz=313,slow=24,SNR=3.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**19.05**	**144**	P	**Pn**	**03 40 05.2**	**+2.2**
	0.2nm,0.3s,baz=327,slow=13,SNR=11						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**65.28**	**331**	P	**P**	**03 46 21.2**	**+0.2**
	0.2nm,0.4s,baz=149,slow=6.0,SNR=2.4						
	0.2nm,0.4s						

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*INMG **08** 04:43:47.0±5.6, 54°.82N×36°.53W, h10km, M4.4, mb4.8, #DIST_RANGE: DISTANT*
*IDC **08** 04:43:49.1±0.5, 54°.33N×35°.24W, h0km, mb4.0/22, mbtmp4.1/24, ML3.7/3, MS4.0/60, Error ellipse: s-maj=17.0km s-min=12.2km az=172.0*
*GCMT **08** 04:43:51.3±0.2, 54°.55N±0°.03×35°.08W±0°.02, h12km, MW4.8/104, Moment Tensor Solution. s28,c31; s104,c152; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.74±.05; $M_{\theta\theta}$-0.09±.06; $M_{\phi\phi}$1.82±.04; $M_{r\theta}$0.61±.25; $M_{\theta\phi}$-0.19±.05; $M_{r\phi}$0.12±.20; Best double couple: $M_0$1.89300×10^16^ NP1:ϕ_s337.00000°, δ47.00000°, λ-116.00000°. NP2:ϕ_s192.00000°, δ49.00000°, λ-65.00000°. Principal axes: T 1.8390, Plg1.0000°, Azm265.0000°; N 0.1000, Plg18.0000°, Azm355.0000°; P -1.9460, Plg72.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 04:43:51.3±1.4, 54°.33N±0°.10×35°.1W±0°.1, h10km±1km, mb4.6/78 Error ellipse: s-maj=17.1km s-min=13.7km az=199.0*
ISC 08 04:43:50.9±0.4, 54°.36N±0°.08×35°.15W±0°.05, h10km, n184, σ1°.73/137, mb4.6/79, MS4.0/61, 1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**8.74**	**325**	Pn	**Pn**	**04 45 59.1**	**+1.8**
SFJD	**Kangerlussuaq**	**14.70**	**336**	Pn	**Pn**	**04 47 18.9**	**+0.3**
SFJD	**Kangerlussuaq**	**14.70**	**336**	Pn	**Pn**	**04 47 19.3**	**+0.7**
	0.4nm,0.3s,baz=190,slow=16,SNR=1.6						
SFJD				LR	LR	04 51 55.7	
	comp=Z,422nm,19.8s,baz=124,slow=33						
	3.6nm,0.6s						
DRLN	**Deer Lake**	**14.71**	**259**	Pn	**Pn**	**04 47 18.5**	**-0.5**
SCHQ	**Schefferville**	**18.29**	**284**		**Pn**	**04 48 03.8**	**-0.7**
SCHQ	**Schefferville**	**18.29**	**284**	P	**Pn**	**04 48 02.4**	**-2.1**
	2.1nm,0.3s,baz=89,slow=9.6,SNR=9.8						
SCHQ				LR	LR	04 53 54.8	
	comp=Z,4μm,19.5s,baz=82,slow=33						
SUMG	**Summit**	**18.34**	**357**	P	**P**	**04 48 07.6**	**+2.0**
EKA	**Eskdalemuir Ar**	**18.36**	**74**	P	**P**	**04 48 05.5**	**+0.1**
	baz=278,slow=9.0						
	7.7nm,1.0s						
FRB	**Frobisher Bay**	**19.35**	**312**	LR	LR	04 54 16.9	
	comp=Z,469nm,18.3s,baz=101,slow=32						
BATG	**Bathurst New B**	**20.65**	**263**	P	**P**	**04 48 29.2**	**-1.3**
BATG				IAmb	IAmb	04 48 30.8	
	comp=Z,40nm,0.9s						
PGAV	**Gavieira, Arco**	**21.64**	**114**	*e*P	**P**	**04 48 46.9**	**+5.6**
PGAV				*i* IAmb	IAmb	04 48 47.7	
	comp=Z,72nm,1.6s						
PCAB	**Cabril**	**21.95**	**114**	*e*P	**P**	**04 48 50.1**	**+5.5**
PCAB				*i* IAmb	IAmb	04 48 53.6	
	comp=Z,46nm,1.4s						
GGN	**Saint George**	**22.30**	**259**	P	**P**	**04 48 47.8**	**-0.5**
POLO	**Lamas de Ólo**	**22.31**	**114**	*e*P	**P**	**04 48 54.3**	**+5.8**
D62A	**Allapoint, All**	**22.49**	**265**	P	**P**	**04 48 50.3**	**+0.1**
PBRG	**Braganca**	**22.58**	**112**	*e*P	**P**	**04 48 54.4**	**+3.1**
PBRG				*i* IAmb	IAmb	04 49 00.5	
	comp=Z,75nm,1.6s						
G65A	**Princeton**	**22.67**	**260**	P	**P**	**04 48 51.1**	**-1.0**
F64A	**Sherman**	**22.74**	**262**	P	**P**	**04 48 53.1**	**+0.2**
COI	**Coimbra**	**22.82**	**117**	P	**P**	**04 49 00.4**	**+6.6**
MVO	**Moncorvo**	**22.87**	**114**	*e*P	**P**	**04 48 56.9**	**+2.5**
MVO				*i* IAmb	IAmb	04 49 05.0	
	comp=Z,28nm,1.5s						
PCAS	**Casmilo, Conde**	**22.89**	**118**	P	**P**	**04 49 00.1**	**+5.5**
E62A	**Clayton Lake**	**23.01**	**265**	P	**P**	**04 48 55.6**	**-0.1**
E62A				IAmb	IAmb	04 49 00.6	
	comp=Z,23nm,1.2s						
PSBE	**So Bento**	**23.14**	**119**	*e*P	**P**	**04 49 01.2**	**+4.1**
PSBE				*i* IAmb	IAmb	04 49 05.2	
	comp=Z,65nm,1.7s						
PSARD	**Sardoal**	**23.40**	**118**	*e*P	**P**	**04 49 01.5**	**+1.7**
PSARD				*i* IAmb	IAmb	04 49 07.9	
	comp=Z,64nm,1.6s						
PARRA	**Arraiolos**	**23.55**	**121**	*e*P	P	04 49 09.8	+8.7
PARRA				*i* IAmb	IAmb	04 49 13.3	
	comp=Z,32nm,1.6s						
PCBR	**Castelo Branco**	**23.58**	**117**	*e*P	**P**	**04 49 02.0**	**+0.5**
PCBR				*i* IAmb	IAmb	04 49 10.3	
	comp=Z,96nm,1.6s						
PKME	**Peaks-Kenny Pk**	**23.63**	**261**	P	**P**	**04 49 01.2**	**-0.7**
PMRV	**Marv??o**	**23.93**	**117**	*e*P	**P**	**04 49 06.4**	**+1.5**
PMRV				*i* IAmb	IAmb	04 49 13.6	
	comp=Z,51nm,1.7s						
PESTR	**Estremoz**	**24.24**	**118**	*e*P	**P**	**04 49 13.7**	**+5.8**
PESTR				*i* IAmb	IAmb	04 49 19.5	
	comp=Z,16nm,1.7s						
EVO	**Evora**	**24.28**	**120**	*e*P	**P**	**04 49 10.9**	**+2.7**
EVO				*i* IAmb	IAmb	04 49 15.4	
	comp=Z,22nm,1.7s						
G62A	**West of Eustis**	**24.37**	**263**	P	**P**	**04 49 08.2**	**-0.8**
G62A				IAmb	IAmb	04 49 19.4	
	comp=Z,16nm,1.0s						
MESJ	**Messejana**	**24.71**	**121**	P	**P**	**04 49 19.1**	**+7.1**
PCVE	**Castro Verde**	**24.96**	**121**	*e*P	**P**	**04 49 16.2**	**+1.9**
PBAR	**Barrancos**	**25.05**	**119**	*e*P	**P**	**04 49 17.6**	**+2.5**
PBAR				*i* IAmb	IAmb	04 49 22.9	
	comp=Z,26nm,1.3s						
H62A	**Milan**	**25.11**	**262**	P	**P**	**04 49 16.5**	**+0.9**
H62A				IAmb	IAmb	04 49 16.7	
	comp=Z,19nm,1.1s						
NOA	**NORSAR Array B**	**25.19**	**56**	P	**P**	**04 49 14.6**	**-1.7**
	comp=Z,2.8nm,1.1s,baz=275,slow=9.1,SNR=3.3						
NOA				LR	LR	04 57 03.3	
	comp=Z,393nm,21.6s,baz=275,slow=32						
	comp=Z,2.8nm,1.1s						
PAB	**San Pablo**	**25.46**	**113**	P	**P**	**04 49 19.1**	**+0.2**
PAB				IAmb	IAmb	04 49 26.1	
	comp=Z,16nm,1.2s						
ESBB	**Sonseca Array**	**25.57**	**112**	P	**P**	**04 49 21.2**	**+1.3**
ESBB				IAmb	IAmb	04 49 25.9	
	comp=Z,20nm,1.5s						
ESDC	**Sonseca Array**	**25.57**	**112**	P	**P**	**04 49 20.2**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=312,slow=8.4,SNR=14						
ESDC				LR	LR	04 57 22.3	
	comp=Z,264nm,18.6s,baz=320,slow=32						
	comp=Z,3.6nm,1.0s						
ILON	**Igloolik, Nuna**	**25.77**	**324**	P	**P**	**04 49 21.5**	**+0.1**
ILON				IAmb	IAmb	04 50 00.0	
	comp=Z,14nm,1.0s						
TRQ	**Mont Tremblant**	**26.16**	**268**	P	**P**	**04 49 25.1**	**-0.2**
TRQ				IAmb	IAmb	04 49 27.4	
	comp=Z,17nm,1.0s						
HFS	**Hagfors**	**26.52**	**58**	LR	LR	04 58 16.0	
	comp=Z,471nm,19.4s,baz=290,slow=33						
RETA	**Reutte**	**29.30**	**84**	*e*P	**P**	**04 49 52.1**	**-1.3**
	comp=Z,4.1nm,1.1s						
FETA	**Feichten**	**29.53**	**85**	*e*pP	pP	04 49 57.2	-0.6
	comp=Z,7.9nm,1.5s						
MOTA	**Moosalm**	**29.58**	**84**	*e*P	**P**	**04 49 54.0**	**-1.9**
	comp=Z,5.7nm,1.1s						
SADO	**Sadowa**	**29.65**	**269**	P	**P**	**04 49 55.9**	**-0.5**
SADO	**Sadowa**	**29.65**	**269**	LR	LR	05 00 55.8	
	comp=Z,8μm,18.1s,baz=84,slow=35						
SQTA	**Sankt Quirin**	**29.70**	**85**	*e*pP	pP	04 50 01.1	+1.9
	comp=Z,9.5nm,1.2s						
GERES	**GERESS Array B**	**30.33**	**80**	P	**P**	**04 50 02.3**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=304,slow=9.5,SNR=7.0						
GERES				LR	LR	05 01 13.1	
	comp=Z,350nm,18.7s,baz=292,slow=34						
	comp=Z,0.9nm,0.8s						
MD01	**Midelt array s**	**30.36**	**123**	P	**P**	**04 50 02.3**	**-0.7**
MD31	**MD31**	**30.36**	**123**	P	**P**	**04 50 03.2**	**+0.4**
MD31				IAmb	IAmb	04 50 04.6	
	comp=Z,6.5nm,0.9s						
MDT	**Midelt**	**30.48**	**122**	LR	LR	05 01 09.9	
	comp=Z,121nm,18.9s,baz=17,slow=34						
RES	**Resolute Bay**	**30.68**	**333**	LR	LR	05 00 43.3	
	comp=Z,119nm,20.9s,baz=42,slow=33						
ARCES	**ARCESS Array B**	**30.70**	**37**	P	**P**	**04 50 05.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=273,slow=8.4,SNR=4.5						
ARCES				LR	LR	04 59 54.2	
	comp=Z,248nm,20.1s,baz=248,slow=31						
	comp=Z,1.7nm,0.8s						
VRAC	**Vranov**	**31.76**	**78**	LR	LR	05 02 46.6	
	comp=Z,317nm,18.1s,baz=318,slow=36						
FINES	**FINESS Array B**	**32.17**	**52**	P	**P**	**04 50 17.5**	**-0.9**
	comp=Z,4.3nm,1.1s,baz=330,slow=8.0,SNR=3.0						
FINES				LR	LR	05 01 33.2	
	comp=Z,410nm,19.4s,baz=274,slow=33						
	comp=Z,4.3nm,1.1s						
RONA	**Rosalia, Austr**	**32.40**	**80**	*i* pP	pP	04 50 22.6	-0.4
	comp=Z,5.7nm,1.0s						
R55A	**Marlinton**	**34.30**	**261**	P	**P**	**04 50 38.2**	**+1.0**
MNK	**Minsk**	**35.57**	**63**	*i* P	**P**	**04 50 45.8**	**-2.1**
	comp=E,4.0nm,0.7s						
MNK				*i* P	**P**	**04 50 45.8**	**-2.1**
	comp=N,8.0nm,0.6s						
MNK				*i* P	**P**	**04 50 45.8**	**-2.1**
	comp=Z,17nm,1.4s,baz=296						
MNK				*i* PP	**PnPn**	**04 52 04.8**	**-2.0**
MNK				*i* PPP	PPP	04 52 18.0	
MNK				*i* S	**S**	**04 56 22.7**	**-0.7**
MNK				*i* SS	**SnSn**	**04 58 44.5**	**+1.2**
MNK				*i* SSS	SSS	04 59 01.8	
MNK				*i* LRM	MLR	05 05 17.4	
	comp=E,201nm,14.6s						
KEST	**Kesra**	**35.80**	**103**	P	**P**	**04 50 49.6**	**-0.6**
	comp=E,11nm,1.0s,baz=16,slow=3.1,SNR=4.1						
KEST				LR	LR	05 04 37.1	
	comp=E,218nm,19.0s,baz=241,slow=35						
	comp=E,11nm,1.0s						
ULM	**Lac du Bonnet**	**36.35**	**289**	LR	LR	05 04 36.5	
	comp=E,422nm,18.2s,baz=122,slow=34						
R50A	**Paris**	**36.74**	**265**	P	**P**	**04 50 58.5**	**+0.3**
R50A				IAmb	IAmb	04 50 59.8	
	comp=Z,17nm,1.2s						
VAE	**Valguarnera**	**37.51**	**96**	LR	LR	05 04 12.3	
	comp=Z,247nm,18.0s,baz=323,slow=33						
BUR08	**Bucovina Ar. S**	**37.52**	**75**	P	**P**	**04 51 04.4**	**-0.4**
BURAR	**Bucovina Array**	**37.55**	**75**	P	**P**	**04 51 05.7**	**+0.7**
AKASG	**Malin Array Be**	**38.12**	**68**	P	**P**	**04 51 08.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=302,slow=8.5,SNR=9.9						
AKASG				LR	LR	05 07 11.6	
	comp=Z,234nm,18.0s,baz=294,slow=37						
	comp=Z,0.2nm,0.3s						
TKL	**Tuckaleechee C**	**38.22**	**261**	LR	LR	05 05 56.6	
	comp=Z,334nm,21.3s,baz=54,slow=35						
MLR	**Muntele Rosu**	**39.17**	**77**	LR	LR	05 06 26.3	
	comp=Z,365nm,21.9s,baz=314,slow=35						
OBN	**Obninsk**	**39.73**	**59**	LR	LR	05 06 56.4	
	comp=Z,374nm,18.0s,baz=212,slow=35						
YKA	**Yellowknife Ar**	**39.84**	**315**	LR	LR	05 06 06.2	
	comp=Z,171nm,20.0s,baz=86,slow=34						
V48A	**Smith Brothers**	**39.93**	**264**	P	**P**	**04 51 25.6**	**+0.5**
V48A				IAmb	IAmb	04 51 26.7	
	comp=Z,10nm,1.1s						
MILM	**Milestii Mici**	**39.96**	**74**	*e*P	**P**	**04 51 23.0**	**-2.1**
	comp=Z,160nm,2.5s						
MILM				*e*L	L	05 08 02.0	
MILM				LRM	MLR	05 10 49.0	
	comp=Z,500nm,9.5s						
ECSD	**EROS Data Cent**	**40.43**	**281**		**P**	**04 51 29.2**	**+0.1**
CCM	**Cathedral Cave**	**40.93**	**270**	P	**P**	**04 51 33.3**	**0.0**
P38A	**Dawn**	**41.23**	**274**		**P**	**04 51 35.3**	**-0.5**
P38A				IAmb	IAmb	04 51 36.2	
	comp=Z,8.9nm,1.2s						
PBMO	**Poplar Bluff**	**41.32**	**268**	P	**P**	**04 51 36.0**	**-0.5**
PBMO				IAmb	IAmb	04 51 37.6	
	comp=Z,19nm,1.5s						
OXF	**Oxford**	**42.30**	**265**	P	**P**	**04 51 44.1**	**-0.4**
Z47A	**Carrollton**	**42.46**	**262**	P	**P**	**04 51 45.2**	**-0.6**
SJG	**San Juan**	**43.31**	**226**	LR	LR	05 09 48.0	
	comp=Z,53nm,18.0s,baz=28,slow=36						
TAM	**Tamanrasset**	**43.78**	**120**	P	**P**	**04 51 56.3**	**-0.5**
INK	**Inuvik**	**43.86**	**328**	LR	LR	05 09 09.0	
	comp=Z,241nm,21.3s,baz=48,slow=35						
KIRV	**Kirov**	**43.97**	**49**	LR	LR	05 08 24.1	
	comp=Z,261nm,21.6s,baz=308,slow=34						
LAO	**LASA Array**	**44.05**	**291**		**P**	**04 51 58.4**	**-0.2**
LAO				IAmb	IAmb	04 52 00.9	
	comp=Z,8.1nm,0.9s						
MIAR	**Mount Ida**	**44.71**	**268**		**P**	**04 52 03.6**	**-0.4**
MIAR				IAmb	IAmb	04 52 05.2	
	comp=Z,13nm,1.1s						
143A	**Socs Landing,**	**44.76**	**265**	P	**P**	**04 52 03.4**	**-0.9**
YNE	**Yellowstone No**	**47.16**	**291**	P	**P**	**04 52 23.4**	**-0.1**
YNE				IAmb	IAmb	04 52 25.6	
	comp=Z,3.9nm,0.8s						
BR131	**Keskin Array S**	**47.20**	**78**		**P**	**04 52 24.2**	**+0.5**
BR131				IAmb	IAmb	04 52 26.1	
	comp=Z,6.2nm,0.8s						
BRTR	**Keskin Array B**	**47.20**	**78**		**P**	**04 52 23.6**	**-0.1**
BRTR	**Keskin Array B**	**47.20**	**78**	P	**P**	**04 52 25.3**	**+1.6**
	comp=Z,4.8nm,0.9s,baz=318,slow=5.3,SNR=17						
	comp=Z,4.8nm,0.9s						
WMOK	**Wichita Mounta**	**47.62**	**273**	P	**P**	**04 52 26.3**	**-0.7**
WMOK				IAmb	IAmb	04 52 28.0	
	comp=Z,7.6nm,1.2s						
BPMT	**Black Pine Rid**	**48.11**	**295**	P	**P**	**04 52 31.1**	**+0.3**
ISCO	**Idaho Springs**	**48.11**	**283**	P	**P**	**04 52 31.6**	**+0.6**
ISCO				IAmb	IAmb	04 52 34.2	
	comp=Z,2.4nm,0.7s						
PD31	**Pinedale Array**	**48.36**	**288**	P	**P**	**04 52 32.8**	**-0.1**
PDAR	**Pinedale Array**	**48.36**	**288**	P	**P**	**04 52 32.4**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=69,slow=8.1,SNR=10						
PDAR				LR	LR	05 11 53.9	
	comp=Z,223nm,19.3s,baz=26,slow=35						
	comp=Z,1.1nm,0.8s						
DLBC	**Dease Lake**	**48.44**	**316**	LR	LR	05 11 56.1	
	comp=Z,2μm,18.4s,baz=32,slow=35						
NEW	**Newport**	**48.86**	**299**	LR	LR	05 11 46.8	
	comp=Z,208nm,19.1s,baz=48,slow=34						
ARTI	**Arti**	**49.17**	**47**		**P**	**04 52 39.1**	**+0.6**
ARTI				IAmb	IAmb	04 52 44.4	
	comp=Z,6.7nm,0.9s						
ARTI	**Arti**	**49.17**	**47**	LR	LR	05 11 35.5	
	comp=Z,370nm,20.1s,baz=325,slow=34						
AMTX	**Amarillo**	**49.21**	**275**		**P**	**04 52 39.8**	**+0.5**
T25A	**Trinidad**	**49.23**	**279**	P	**P**	**04 52 39.9**	**+0.4**
T25A				IAmb	IAmb	04 52 45.2	
	comp=Z,10.0nm,1.5s						
KBZ	**Khabaz**	**49.73**	**68**	P	**P**	**04 52 45.1**	**+2.2**
	comp=Z,3.2nm,1.0s,baz=295,slow=4.3,SNR=3.5						
KBZ				LR	LR	05 14 46.5	
	comp=Z,146nm,18.1s,baz=319,slow=37						
	comp=Z,3.2nm,1.0s						
RDMU	**Red Mountain**	**49.83**	**286**	P	**P**	**04 52 43.5**	**-0.6**
RDMU				IAmb	IAmb	04 53 05.2	
	comp=Z,6.8nm,1.3s						
PCRV	**Puerto La Cruz**	**49.92**	**219**	LR	LR	05 10 50.5	
	comp=Z,79nm,21.4s,slow=32						
BRDY	**Brady**	**50.22**	**270**		**P**	**04 52 46.2**	**-0.7**
ILAR	**Eielson Array**	**50.23**	**329**	P	**P**	**04 52 46.3**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=38,slow=6.9,SNR=4.7						
ILAR				LR	LR	05 12 25.3	
	comp=Z,129nm,20.5s,baz=48,slow=34						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.24**	**131**	P	**P**	**04 52 46.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**50.24**	**131**	P	**P**	**04 52 46.5**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=341,slow=9.7,SNR=17						
	comp=Z,5.3nm,1.0s						
HWUT	**Hardware Ranch**	**50.25**	**289**		**P**	**04 52 47.2**	**0.0**
HWUT				IAmb	IAmb	04 52 48.5	
	comp=Z,5.1nm,0.9s						
ARPR	**Arapgir-MALATY**	**50.31**	**76**	P	**P**	**04 52 46.4**	**-1.2**
ARPR				IAmb	IAmb	04 52 58.7	
	comp=Z,7.6nm,0.9s						
HLID	**Hailey**	**50.50**	**292**		**P**	**04 52 50.0**	**+1.0**
PV12	**Saucer Basin,**	**50.93**	**284**	P	**P**	**04 52 52.7**	**+0.2**
PV02	**Paradox Valley**	**50.97**	**283**	P	**P**	**04 52 53.4**	**+0.6**
PV02				IAmb	IAmb	04 52 54.6	
	comp=Z,5.7nm,0.9s						
PV03	**Paradox Valley**	**51.00**	**284**	P	**P**	**04 52 53.9**	**+0.9**
PV20	**West Nyswonger**	**51.01**	**284**	P	**P**	**04 52 53.9**	**+0.9**
PV20				IAmb	IAmb	04 53 13.5	
	comp=Z,8.5nm,1.1s						
PV10	**Paradox Valley**	**51.03**	**284**	P	**P**	**04 52 54.0**	**+0.8**
PV10

NVAR Mina Array Bea 56.17 290 P **P 04 53 29.2 -1.7**
comp=Z,0.2nm,0.6s,baz=50,slow=11,SNR=2.5
NVAR LR LR 05 16 02.8
comp=Z,270nm,20.9s,baz=38,slow=34
comp=Z,0.2nm,0.6s
YBH Yreka Blue Hor 56.20 296 LR LR 05 16 33.3
comp=Z,10.0nm,19.7s,baz=56,slow=35
BVAR Borovoye Array 56.53 44 P **P 04 53 34.1 +1.2**
comp=Z,1.1nm,0.6s,baz=287,slow=6.0,SNR=7.4
BVAR LR LR 05 15 37.3
comp=Z,147nm,20.9s,baz=296,slow=34
comp=Z,1.1nm,0.6s
GWY Greenwater Val 56.88 287 **P 04 53 35.4 -0.5**
GWY IAmb IAmb 04 53 57.2
comp=Z,5.9nm,1.3s
KDAK Kodiak Island 57.30 326 LR LR 05 17 54.7
comp=Z,89nm,18.4s,baz=50,slow=36
PFO Pinyon Flats O 58.63 285 LR LR 05 16 48.5
comp=Z,119nm,19.5s,baz=30,slow=34
ROSC El Rosal 58.66 227 P **P 04 53 49.2 +0.4**
ROSC El Rosal 58.66 227 P **P 04 53 47.0 -1.8**
comp=Z,10nm,0.6s,baz=103,slow=9.8,SNR=6.6
ROSC LR LR 05 19 31.9
comp=Z,75nm,18.8s,baz=53,slow=37
comp=Z,10nm,0.6s
CMIG Matias Romero 58.74 255 LR LR 05 19 29.3
comp=Z,94nm,20.0s,baz=30,slow=36
JTS Las Juntas de 58.96 241 LR LR 05 16 41.7
comp=Z,104nm,20.4s,baz=8.5,slow=34
ZALV Zalesovo Beam 61.24 36 LR LR 05 18 55.0
comp=Z,49nm,19.7s,baz=308,slow=34
KURBB Kurchatov Arra 61.62 42 P **P 04 54 07.8 -0.4**
comp=Z,1.2nm,0.7s,baz=324,slow=7.9,SNR=5.3
KURBB LR LR 05 19 54.2
comp=Z,105nm,19.1s,baz=165,slow=35
comp=Z,1.2nm,0.7s
LPIG La Paz 62.21 273 LR LR 05 20 50.1
comp=Z,223nm,19.2s,baz=42,slow=36
MKAR Makanchi Array 66.18 42 P **P 04 54 37.9 -0.5**
MKAR Makanchi Array 66.18 42 P **P 04 54 38.9 +0.5**
comp=Z,0.9nm,0.7s,baz=337,slow=3.3,SNR=2.4
MKAR LR LR 05 21 35.2
comp=Z,97nm,21.2s,baz=304,slow=34
comp=Z,0.9nm,0.7s
AAK Ala-Archa 66.30 49 LR LR 05 22 30.3
comp=Z,259nm,20.4s,baz=322,slow=35
MA2 Magadan 66.32 357 LR LR 05 22 04.0
comp=Z,45nm,21.8s,baz=324,slow=35
BDFB Brasilia 70.58 193 P **P 04 55 06.3 +0.2**
comp=Z,1.2nm,0.6s,baz=22,slow=7.7,SNR=3.5
comp=Z,1.2nm,0.6s
PETK Petropavlovsk- 72.37 352 LR LR 05 28 28.4
comp=Z,89nm,18.9s,baz=0.6,slow=37
SONM Songino Array 73.12 26 P **P 04 55 21.1 -0.1**
SONM IAmb IAmb 04 55 22.4
comp=Z,4.8nm,1.2s
SONM Songino Array 73.12 26 P **P 04 55 21.5 +0.2**
comp=Z,1.9nm,1.0s,baz=325,slow=4.5,SNR=6.1
SONM LR LR 05 28 30.0
comp=Z,40nm,19.1s,baz=274,slow=37
comp=Z,1.9nm,1.0s
LPAZ La Paz 75.79 213 P **P 04 55 38.0 +0.4**
comp=Z,0.9nm,0.8s,baz=27,slow=2.3,SNR=2.7
comp=Z,0.9nm,0.8s
GTA Gaotai 78.92 34 *e*P **P 04 55 54.1 -0.3**
GTA sP PcP 04 56 03.4 +0.3
GTA pmax pmax
comp=Z,5.0nm,1.3s
HHC Hu-ho-hao-te 80.96 25 *e*P **P 04 56 04.6 -0.9**
HHC pmax pmax
comp=Z,9.0nm,0.5s
ASAJ Asahikawa 81.88 2 LR LR 05 33 40.2
comp=Z,36nm,18.1s,baz=244,slow=36
XAN Xi'an 86.66 29 ⇓P **P 04 56 34.2 -0.5**
XAN pP PcP 04 56 35.9 -1.1
XAN pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 87.64 120 LR LR 05 35 37.5
comp=Z,106nm,19.0s,baz=190,slow=36
BRDH Bariadhala 90.74 48 LR LR 05 38 37.4
comp=Z,119nm,18.8s,baz=300,slow=36
NJ2 Nanjing 91.06 22 *e*P **P 04 56 54.9 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
PZH PanZhiHua 91.32 38 P **P 04 56 57.2 +0.3**
JHJ Hachijo jima 2 92.77 4 LR LR 05 36 01.3
comp=Z,84nm,21.4s,baz=88,slow=34
CMAR Chiang Mai Arr 97.55 43 LR LR 05 43 22.1
comp=Z,49nm,21.6s,baz=325,slow=37
TAOE Nuku Hiva Isla 105.88 277 *e*LR LR 05 32 51.2
comp=Z,80nm,24.6s
PPT2 Papeete2 118.32 279 *e*LR LR 05 38 36.4
PPT2 *e*LR LR 05 38 37.4
comp=Z,127nm,23.5s
TBI Tubuai 122.75 275 *e*LR LR 05 40 38.6
comp=Z,691nm,23.8s
TBI *e*LR LR 05 40 40.4
comp=Z,1μm,27.8s
DZM Mont Dzumac 143.88 325 *e*LR LR 05 50 27.7
comp=Z,170nm,23.8s
QSPA South Pole Qui 144.25 180 PKP PKPbc 05 03 25.2 +1.3
comp=Z,2.8nm,1.0s,baz=243,slow=3.3,SNR=7.2
ASAR Alice Springs 148.27 19 PKPbc **PKPbc 05 03 36.4 -0.7**
comp=Z,1.7nm,0.5s,baz=347,slow=2.2,SNR=18

MOS ***08*** *04:46:09.9±0.9, 44°.55N×138°.50E, h287km, mb4.3/26, Error ellipse: s-maj=7.9km s-min=5.9km az=109.4*
NEIC ***08*** *04:46:09.4±2.0, 44°.7N±0°.1×138°.4E±0°.1, h257km±9km, mb4.3/71, Error ellipse: s-maj=15.9km s-min=12.2km az=144.0*
NIED ***08*** *04:46:10.5, 44°.46N×138°.60E, h295km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.68; Mθθ=2.70; Mφφ=-2.02; Mrθ=0.58; Mφθ=-2.25; Mφr=-2.12; Fault plane solution: M0=3.94000×10^15 NP1: φs=72.00000°, δ=65.00000°, λ=-159.00000°. NP2: φs=333.00000°, δ=71.00000°, λ=-26.00000°.*
IDC ***08*** *04:46:10.3±1.0, 44°.57N×138°.49E, h275km±10km, mb3.7/25, mbtmp4.4/32 Error ellipse: s-maj=10.8km s-min=8.4km az=153.0*
JMA ***08*** *04:46:10.5±0.3, 44°.5N±1°.0×13°.9E±°, h295km±2km, MV4.2/39, EASTERN SEA OF JAPAN*
SKHL ***08*** *04:46:10.7±0.8, 44°.50N×138°.50E, h291km±7km, mb4.4/6, mbv4.4/3, msh4.6/3, msha4.6/4*
ISC 08 04:46:10.2±0.5, 44°.48N±0°.04×138°.48E±0°.04, h280km±5km, n234, σ1°33/252, mb4.3/79, 10C-15D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.45**	**293**	⇑	*i*P	**Pn**	**04 46 52.2**	**+1.2**
TEY					*e*		04 47 23.5	
TEY	comp=E,120nm,0.5s			pmax	pmax			
TEY	comp=Z,280nm,0.5s			pmax	pmax			
TEY	comp=N,20nm,0.6s			pmax	pmax			
TEY	comp=N,200nm,1.8s			pmax	pmax			
TEY	comp=E,300nm,1.8s			pmax	pmax			
TEY	comp=Z,200nm,1.7s			pmax	pmax			
TEY	comp=E,150nm,1.1s			pmax	pmax			
TEY	comp=N,220nm,0.8s			pmax	pmax			
TEY	comp=Z,100nm,1.0s			pmax	pmax			
TEY	**Ternei**	**1.45**	**293**	*i* P		**Pn**	**04 46 52.2**	**+1.2**
TEY	comp=Z,280nm,0.5s			AMB	AMB		04 46 52.4	
TEY				*e*S		**S**	**04 47 23.5**	**+0.1**
TEY	comp=Z,220nm,0.9s			A	A		04 47 24.4	
TEY	comp=Z,150nm,0.9s			A	A		04 47 24.4	
TEY	comp=Z,200nm,2.0s			A	A		04 47 24.4	
TEY	comp=Z,300nm,2.0s			A	A		04 47 24.4	
JRBN	**Rebuntou**	**2.06**	**62**	P		**Pn**	**04 46 56.5**	**+0.8**
JRBN				S		**S**	**04 47 31.3**	**-0.4**
JYG	**Yagishiri**	**2.11**	**90**	*e*P		**Pn**	**04 46 56.9**	**+0.8**
JRR	**Rishiri**	**2.12**	**71**	*e*P		**Pn**	**04 46 57.6**	**+1.4**
JSH	**Shimam**	**2.16**	**148**	P		**Pn**	**04 46 57.7**	**+1.1**
JSH				*e*S		**S**	**04 47 34.2**	**+0.7**
JSS	**Shosan**	**2.42**	**91**	P		**Pn**	**04 47 00.4**	**+1.6**
JHR	**Hokuryu**	**2.45**	**106**	P		**Pn**	**04 47 00.5**	**+1.3**
JOSM	**Okushiri--Mats**	**2.50**	**163**	P		**Pn**	**04 47 01.2**	**+1.4**
JOSM				*e*S		**S**	**04 47 41.1**	**+1.9**
JWK2	**Keihoku**	**2.57**	**70**	*e*P		**Pn**	**04 47 02.1**	**+1.9**
JWK2				*e*S		**S**	**04 47 41.9**	**+1.8**
JEW	**Eniwo**	**2.71**	**126**	*e*P		**Pn**	**04 47 02.9**	**+1.2**
JSE	**Soyaes**	**2.96**	**79**	*e*P		**Pn**	**04 47 05.5**	**+1.3**
JSE				*e*S		**S**	**04 47 48.9**	**+1.8**
ASAJ	**Asahikawa**	**2.98**	**96**	P		**Pn**	**04 47 05.5**	**+1.1**
	comp=Z,201nm,0.4s,baz=273,slow=9.0,SNR=125							
JKA	**Kamikawa-asahi**	**2.98**	**96**			**Pn**	**04 47 05.4**	**+1.0**
JKA				Sn		**S**	**04 47 45.3**	**-2.2**
JKK2	**Kamakawa 2**	**3.13**	**100**	P		**Pn**	**04 47 07.1**	**+1.1**
JKK2				*e*S		**S**	**04 47 50.5**	**+0.2**
JOMM	**Oshimamatsumae**	**3.16**	**159**	*e*P		**Pn**	**04 47 07.2**	**+0.9**
JOMM				*e*S		**S**	**04 47 51.2**	**+0.3**
JOT	**Ohata**	**3.62**	**148**	*e*P		**Pn**	**04 47 10.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.81**	**124**	*e*P		**Pn**	**04 47 14.1**	**+0.8**
YSS	**Yuzhno-Sakhali**	**3.88**	**49**	Pn		**Pn**	**04 47 12.0**	**-2.0**
YSS	**Yuzhno-Sakhali**	**3.88**	**49**	⇓*i*P		**Pn**	**04 47 15.2**	**+1.2**
YSS				*e*S		**S**	**04 48 04.5**	**-0.4**
YSS	comp=Z,60nm,0.8s			pmax	pmax			
YSS	comp=N,20nm,0.9s			pmax	pmax			
YSS	comp=E,30nm,0.6s			pmax	pmax			
YSS	comp=Z,100nm,2.8s			pmax	pmax			
YSS	comp=E,400nm,3.5s			smax	smax			
YSS	comp=N,150nm,1.3s			smax	smax			
YSS	comp=E,150nm,1.1s			smax	smax			
YSS	**Yuzhno-Sakhali**	**3.88**	**49**	*i* P		**Pn**	**04 47 14.9**	**+0.9**
YSS				AMB	AMB		04 47 16.5	
YSS	comp=E,30nm,0.6s			AMB	AMB		04 47 16.7	
YSS	comp=E,100nm,3.0s			*e*S		**S**	**04 48 04.5**	**-0.4**
YSS				A	A		04 48 05.9	
YSS	comp=E,400nm,4.0s			A	A		04 48 07.7	
YSS	comp=E,50nm,0.6s			A	A		04 48 07.7	
YSS	comp=E,80nm,0.6s							
JTKR	**Abashiri--Toko**	**3.93**	**96**	*e*P		**Pn**	**04 47 15.4**	**+0.7**
JAR	**Ashorobuto**	**4.00**	**105**	P		**Pn**	**04 47 16.0**	**+0.6**
JCH	**Churui**	**4.01**	**116**	*e*P		**Pn**	**04 47 14.1**	**-1.4**
JCH				*e*S		**S**	**04 48 06.2**	**-1.5**
JTM	**Tenmabayashi**	**4.16**	**152**	Pn		**Pn**	**04 47 16.8**	**-0.5**
ERM	**Erimo**	**4.21**	**124**	Pn		**Pn**	**04 47 18.4**	**+0.6**
ERM	**Erimo**	**4.21**	**124**	P		**Pn**	**04 47 18.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**4.67**	**269**	P		**Pn**	**04 47 24.1**	**+1.0**
	comp=E,13nm,0.6s,baz=77,slow=12,SNR=14							
USRK				S		**S**	**04 48 15.1**	**-6.2**
	comp=E,4.5nm,0.6s,baz=85,slow=24,SNR=1.7							
JANG	**Nango**	**4.68**	**150**	*e*P		**Pn**	**04 47 23.7**	**+0.4**
JANG				*e*S		**S**	**04 48 16.2**	**-5.6**
JAK	**Akkeshi**	**4.74**	**106**	*e*P		**Pn**	**04 47 22.8**	**-1.1**
JAK				*e*S		**S**	**04 48 19.6**	**-3.2**
JRA	**Rausu**	**4.80**	**94**	*e*P		**Pn**	**04 47 25.5**	**+0.9**
AKK	**Akkeshi**	**4.83**	**105**	*e*P		**Pn**	**04 47 23.8**	**-1.2**
VLA	**Vladivostok**	**4.97**	**256**	*de*P		**Pn**	**04 47 27.9**	**+1.3**
VLA	comp=Z,87nm,0.9s			pmax	pmax			
VLA	**Vladivostok**	**4.97**	**256**	*e*P		**Pn**	**04 47 27.9**	**+1.3**
VLA				AMB	AMB		04 47 29.2	
	comp=Z,90nm,0.9s							
NMR	**Nemuro--Hokkai**	**5.35**	**99**	*e*P		**Pn**	**04 47 29.6**	**-1.5**
NEM2	**Nemuro 2**	**5.36**	**99**	*e*P		**Pn**	**04 47 29.9**	**-1.3**
NEM2				*e*S		**S**	**04 48 30.1**	**-6.2**
JMK	**Ichinoseki**	**5.89**	**159**	*e*P		**Pn**	**04 47 37.0**	**-0.8**
JMK				*e*S		**S**	**04 48 43.1**	**-5.0**
MDJ	**Mudanjiang**	**6.36**	**274**			**Pn**	**04 47 42.9**	**-0.4**
JSD	**Sado**	**6.44**	**182**	Pn		**Pn**	**04 47 45.7**	**+1.2**
GRNR	**Gornyy**	**6.44**	**348**	⇑*i*P		**Pn**	**04 47 44.9**	**+0.6**
GRNR				pmax	pmax			
	comp=N,30nm,0.7s							
GRNR				pmax	pmax			
	comp=E,20nm,0.7s							
GRNR				pmax	pmax			
	comp=Z,30nm,0.7s							
GRNR	**Gornyy**	**6.44**	**348**	*e*P		**Pn**	**04 47 44.9**	**+0.6**
GRNR				AMB	AMB		04 47 45.8	
	comp=Z,30nm,0.7s							
JMM	**Marumori**	**6.83**	**164**	Pn		**Pn**	**04 47 47.8**	**-1.5**
TYV	**Tymovskoe**	**6.98**	**22**	*e*P		**Pn**	**04 47 52.3**	**+1.5**
TYV				*e*S		**S**	**04 49 14.8**	**+2.8**
TYV	comp=Z,200nm,5.4s			pmax	pmax			
TYV	comp=Z,33nm,1.0s			pmax	pmax			
TYV	comp=N,200nm,3.6s			smax	smax			
TYV	comp=E,300nm,3.6s			smax	smax			
TYV	comp=N,6.0nm,1.4s			smax	smax			
TYV	comp=E,12nm,1.4s			smax	smax			
TYV	**Tymovskoe**	**6.98**	**22**	*e*P		**Pn**	**04 47 52.5**	**+1.7**
TYV				AMB	AMB		04 47 52.7	
TYV	comp=E,200nm,5.0s			AMB	AMB		04 47 53.7	
TYV	comp=E,20nm,0.7s			*e*S		**S**	**04 49 12.8**	**+0.8**
TYV				A	A		04 49 17.8	
TYV	comp=E,200nm,4.0s			A	A		04 49 17.8	
TYV	comp=E,300nm,4.0s			A	A		04 49 19.2	
TYV	comp=E,10.0nm,1.0s			A	A		04 49 19.2	
TYV	comp=E,10.0nm,1.0s							
MJB9	**Matsu-Tunnel**	**7.93**	**182**	Pn		**Pn**	**04 48 03.6**	**+0.7**
MAJO	**Matsushiro**	**7.93**	**182**	Pn		**Pn**	**04 48 02.2**	**-0.7**
MAJO	**Matsushiro**	**7.93**	**182**	P		**Pn**	**04 48 02.2**	**-0.7**
MJAR	**Matsushiro Arr**	**7.93**	**182**	Pn		**Pn**	**04 48 02.7**	**-0.2**
MJAR	**Matsushiro Arr**	**7.93**	**182**	P		**Pn**	**04 48 03.1**	**+0.2**
	comp=E,45nm,0.7s,baz=1.5,slow=12,SNR=53							
MJAR				S		**S**	**04 49 33.8**	**-0.3**
	comp=E,5.5nm,0.8s,baz=353,slow=24,SNR=2.3							
BNX	**BinXian**	**7.94**	**283**	⇓P		**Pn**	**04 48 03.6**	**+0.8**
BNX				pmax	pmax			
	comp=Z,190nm,0.7s							
JGF	**Kuroka**	**8.91**	**186**	Pn		**Pn**	**04 48 14.7**	**-0.4**
INU	**Inuyama**	**9.19**	**188**	Pn		**Pn**	**04 48 18.4**	**-0.1**
CN2	**Changchun**	**9.40**	**270**	P		**Pn**	**04 48 21.9**	**+0.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HEH	**HeiHe**	**9.47**	**311**	*e*P		**Pn**	**04 48 21.3**	**-0.4**
HEH				pmax	pmax			
	comp=Z,37nm,0.7s							
KSRS	**Korea Array**	**10.62**	**232**	P		**Pn**	**04 48 37.9**	**+1.6**
	comp=Z,4.5nm,0.6s,baz=46,slow=11,SNR=12							
JMN	**Monobe**	**11.31**	**200**	Pn		**Pn**	**04 48 45.4**	**+0.5**
JHJ	**Hachijo jima 2**	**11.39**	**174**	P		**Pn**	**04 48 43.8**	**-1.9**
	comp=Z,41nm,0.3s,baz=74,slow=20,SNR=5.6							
TJN	**Taejon**	**11.71**	**230**	*d*iP		**P**	**04 48 51.0**	**-0.9**
ZEA	**Zeya**	**11.82**	**326**	*e*P		**Pn**	**04 48 51.1**	**+0.4**
ZEA	comp=E,10.0nm,0.6s			pmax	pmax			
ZEA	comp=N,20nm,1.2s			pmax	pmax			
ZEA	comp=Z,40nm,0.7s			pmax	pmax			
ZEA	**Zeya**	**11.82**	**326**	*e*P		**Pn**	**04 48 51.1**	**+0.4**
ZEA				AMB	AMB		04 48 51.7	
	comp=Z,40nm,0.7s							
JNU	**Nakatsue**	**12.79**	**210**	Pn		**Pn**	**04 49 02.4**	**-0.5**
JNU	**Nakatsue**	**12.79**	**210**	P		**P**	**04 49 04.1**	**+0.1**
	comp=Z,20nm,0.8s,baz=31,slow=11,SNR=6.9							
SKR	**Severo-Kuril's**	**13.41**	**56**	*e*P		**Pn**	**04 49 09.9**	**-0.1**
SKR				AMB	AMB		04 49 12.8	
	comp=Z,80nm,0.6s							
HIA	**Hailar**	**13.68**	**297**			**Pn**	**04 49 13.1**	**-0.4**
HIA	**Hailar**	**13.68**	**297**	*d*iP		**Pn**	**04 49 13.0**	**-0.4**
HIA				pmax	pmax			
	comp=Z,25nm,0.9s							
DL2	**Dalian**	**13.76**	**252**	P		**Pn**	**04 49 13.9**	**-0.6**
DL2				pmax	pmax			
	comp=Z,33nm,1.0s							
PAU	**Pauzhetka**	**14.11**	**54**	*e*P		**P**	**04 49 17.8**	**-0.5**
PAU				AMB	AMB		04 49 18.6	
	comp=Z,40nm,0.8s							
PEA0B	**Petropavlovsk-**	**15.29**	**49**	P		**P**	**04 49 29.0**	**-2.3**
PEA0B	**Petropavlovsk-**	**15.29**	**49**	P		**P**	**04 49 29.0**	**-2.3**
PEA0B				pmax	pmax			
	comp=Z,30nm,1.1s							
PETK	**Petropavlovsk-**	**15.29**	**49**	P		**P**	**04 49 29.3**	**-2.0**
PETK	**Petropavlovsk-**	**15.29**	**49**	P		**P**	**04 49 30.7**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=224,slow=6.5,SNR=9.9							
PET	**Petropavlovsk**	**15.77**	**50**	⇑*e*P		**P**	**04 49 36.5**	**0.0**
PET				pmax	pmax			
	comp=Z,37nm,1.0s							
PET	**Petropavlovsk**	**15.77**	**50**	*e*P		**P**	**04 49 36.7**	**+0.2**
XLT	**XiLinHaoTe**	**16.08**	**276**	*e*P		**P**	**04 49 40.1**	**0.0**
XLT				pmax	pmax			
	comp=Z,21nm,0.8s							
MA2	**Magadan**	**16.85**	**22**	P		**P**	**04 49 47.9**	**-0.3**
MA2	**Magadan**	**16.85**	**22**	P		**P**	**04 49 47.6**	**-0.7**
	comp=Z,34nm,0.6s,baz=203,slow=9.6,SNR=23							
MA2	**Magadan**	**16.85**	**22**	*de*P		**P**	**04 49 48.0**	**-0.3**
MA2				pmax	pmax			
	comp=Z,60nm,1.7s							
BJT	**Baijiatuau**	**17.10**	**263**			**P**	**04 49 50.3**	**-0.9**
BJT				IAmb	IAmb		04 49 57.1	
	comp=Z,9.2nm,1.0s							
BJT	**Baijiatuau**	**17.10**	**263**	P		**P**	**04 49 50.3**	**-0.9**
BJT				pmax	pmax			
	comp=Z,9.0nm,1.0s							
YAK	**Yakutsk**	**18.32**	**347**	*e*P		**P**	**04 49 59.9**	**-4.2**
YAK				*e*S		**S**	**04 53 14.6**	**-3.7**
YAK	comp=Z,5.0nm,0.8s			pmax	pmax			
YAK	comp=N,21nm,0.9s			smax	smax			
YAK	comp=E,64nm,1.9s			smax	smax			
HHC	**Hu-ho-hao-te**	**20.09**	**269**	*e*P		**P**	**04 50 23.6**	**+0.3**
HHC				pmax	pmax			
	comp=Z,20nm,0.6s							
SEY	**Seymchan**	**20.15**	**19**	P		**P**	**04 50 21.8**	**-1.8**
	comp=Z,10nm,0.7s,baz=220,slow=8.6,SNR=17							
	comp=Z,10nm,0.7s							
SEY	**Seymchan**	**20.15**	**19**	⇑*e*P		**P**	**04 50 21.7**	**-1.8**
SEY				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ULN	**Ulaanbaatar**	**21.95**	**290**	⇓*e*P		**P**	**04 50 40.2**	**-1.1**
ULN				pmax	pmax			
	comp=Z,16nm,1.7s							
ULN	**Ulaanbaatar**	**21.95**	**290**	*e*P		**P**	**04 50 40.2**	**-1.1**
SONM	**Songino Array**	**22.39**	**290**	P		**P**	**04 50 44.6**	**-0.7**
SONM				IAmb	IAmb		04 50 46.5	
	comp=Z,18nm,1.2s							
SONM	**Songino Array**	**22.39**	**290**	P		**P**	**04 50 44.6**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=86,slow=8.1,SNR=36							
	comp=Z,6.2nm,0.6s							
LZH	**Lanzhou**	**27.56**	**264**	*e*P		**P**	**04 51 32.4**	**+0.5**
LZH				pmax	pmax			
	comp=Z,28nm,1.0s							
LZDM	**Lanzhou Array**	**27.73**	**264**	P		**P**	**04 51 33.6**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=77,slow=13,SNR=4.0							
	comp=Z,1.7nm,0.3s							
AMKA	**Amchitka**	**27.92**	**61**	P		**P**	**04 51 36.3**	**+1.7**
KNGR	**Kungurtug, Tuv**	**28.05**	**297**	⇓*e*P		**P**	**04 51 36.2**	**+0.2**
KNGR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GTA	**Gaotai**	**29.01**	**274**	*e*P		**P**	**04 51 45.4**	**+0.7**
GTA				pP	pP		04 52 41.1	+2.0
GTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIWB	**Kanaga Island**	**30.10**	**60**	P		**P**	**04 51 54.0**	**+0.1**
ADK	**Adak**	**30.39**	**60**	P		**P**	**04 51 57.7**	**+1.3**
ADK	**Adak**	**30.39**	**60**	P		**P**	**04 51 57.7**	**+1.3**
ADK				pmax	pmax			
	comp=Z,29nm,1.0s							
PZH	**PanZhiHua**	**34.52**	**251**	P		**P**	**04 52 33.5**	**+0.9**
ZAA0	**Zalesovo Array**	**35.52**	**305**	P		**P**	**04 52 40.3**	**-0.3**
ZAA0				IAmb	IAmb		04 52 41.6	
	comp=Z,7.5nm,0.8s							
ZALV	**Zalesovo Beam**	**35.52**	**305**	P		**P**	**04 52 40.1**	**-0.5**
	comp=Z,11nm,0.6s,baz=85,slow=8.3,SNR=24							
ZALV				ScP		**ScP**	**04 58 22.2**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=90,slow=4.9,SNR=5.1							
	comp=Z,11nm,0.6s							
ZALV	**Zalesovo Beam**	**35.52**	**305**	P		**P**	**04 52 40.2**	**-0.4**
WMQ	**Urumqi**	**35.97**	**287**	*e*P		**P**	**04 52 46.4**	**+1.8**
K15K	**Wolf Creek Mou**	**38.31**	**41**	P		**P**	**04 53 03.9**	**0.0**
MK31	**Makanchi Array**	**38.65**	**294**	*d*iP		**P**	**04 53 07.0**	**+0.1**
MKAR	**Makanchi Array**	**38.65**	**294**	P		**P**	**04 53 07.1**	**+0.2**
MKAR	**Makanchi Array**	**38.65**	**294**	P		**P**	**04 53 06.8**	**-0.1**
	comp=Z,12nm,0.8s,baz=82,slow=9.9,SNR=75							
MKAR				ScP		**ScP**	**04 58 34.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=57,slow=4.5,SNR=4.9							
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**38.65**	**294**	P		**P**	**04 53 07.1**	**+0.2**
MKAR	**Makanchi Array**	**38.65**	**294**	*e*P		**P**	**04 53 07.1**	**+0.2**
L16K	**Owhat River**	**39.30**	**42**	P		**P**	**04 53 11.1**	**-0.9**
L16K				IAmb	IAmb		04 53 43.9	
	comp=Z,13nm,1.1s							
KURK	**Kurchatov**	**39.87**	**301**	P		**P**	**04 53 17.0**	**+0.1**
KURK				IAmb	IAmb		04 53 19.4	
	comp=Z,17nm,0.9s							
KURK	**Kurchatov**	**39.87**	**301**	P		**P**	**04 53 17.7**	**+0.8**
KURBB	**Kurchatov Arra**	**39.95**	**301**	P		**P**	**04 53 17.7**	**+0.1**
	comp=Z,7.5nm,0.4s,baz=77,slow=8.9,SNR=79							
	comp=Z,7.5nm,0.4s							
KURBB	**Kurchatov Arra**	**39.95**	**301**	P		**P**	**04 53 17.4**	**-0.1**
E19K	**Redstone River**	**40.18**	**33**	P		**P**	**04 53 18.0**	**-1.2**
E19K				IAmb	IAmb		04 53 18.6	
	comp=Z,11nm,1.0s							
H19K	**Roundabout Mou**	**40.49**	**36**			**P**	**04 53 20.6**	**-1.1**
G21K	**Allakaket**	**41.66**	**34**	P		**P**	**04 53 30.1**	**-1.1**
SHLS	**Shalkode**	**41.80**	**290**	*e*P		**P**	**04 53 30.7**	**-2.1**
SHL	**Shillong**	**41.93**	**259**	P		**P**	**04 53 33.7**	**-0.5**
SHL				pmax	pmax			
	comp=Z,26nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.95**	**245**	P		**P**	**04 53 36.0**	**+1.8**
	comp=Z,2.7nm,0.7s,baz=35,slow=7.8,SNR=17							
	comp=Z,2.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**41.95**	**245**	P		**P**	**04 53 36.0**	**+1.8**
E22K	**Anaktuvuk Pass**	**42.23**	**32**	P		**P**	**04 53 34.7**	**-1.1**
E22K				IAmb	IAmb		04 53 35.4	
	comp=Z,8.1nm,0.7s							
M20K	**Styx River**	**42.28**	**41**	P		**P**	**04 53 36.2**	**-0.1**
ARXS	**Arharly**	**42.48**	**292**	*e*P		**P**	**04 53 38.0**	**-0.2**
E23K	**Chandalar**	**43.06**	**32**			**P**	**04 53 41.8**	**-0.7**
OHAK	**Old Harbor**	**43.08**	**48**	P		**P**	**04 53 42.1**	**-0.6**
OHAK				IAmb	IAmb		04 53 43.3	
	comp=Z,24nm,1.0s							
KDAK	**Kodiak Island**	**43.33**	**47**	⇓*e*P		**P**	**04 53 40.4**	**-4.2**
KDAK				pmax	pmax			
	comp=Z,24nm,1.2s							
TARG	**Taragay, Kyrgy**	**43.50**	**289**	P		**P**	**04 53 47.6**	**+0.9**
TARG				IAmb	IAmb		04 53 49.4	
	comp=Z,12nm,0.9s							
TARG	**Taragay, Kyrgy**	**43.50**	**289**	P		**P**	**04 53 47.6**	**+0.9**
TARG				pmax	pmax			
	comp=Z,12nm,0.9s							
NEA2	**Nenana**	**43.69**	**37**	P		**P**	**04 53 46.4**	**-1.0**
KDJ	**Kajisay**	**43.75**	**289**			**P**	**

comp=Z,31nm,0.9s
TKM2 Tokmak 2 44.48 291 P **P** **04 53 55.5 +1.2**
SNR=37

IL31 44.59 36 P **P** **04 53 53.5 -0.9**
ILAR Eielson Array 44.59 36 P **P** **04 53 53.5 -1.1**
comp=Z,2.0nm,0.8s,baz=276,slow=4.9,SNR=20
comp=Z,2.0nm,0.8s
BTLS Baital 44.65 294 *e*P **P** **04 53 55.2 -0.1**
DHY Denali Highway 44.70 39 P **P** **04 53 54.7 -1.0**
KBK Karagaybulak 45.03 291 P **P** **04 53 59.6 +1.0**
SNR=16
BMAR Burnt Mountain 45.04 32 P **P** **04 53 57.9 -0.2**
USP Ospenovka 45.07 292 P **P** **04 53 59.6 +0.9**
SNR=7.5
AAK Ala-Archa 45.34 291 P **P** **04 54 01.6 +0.6**
AAK IAmb IAmb 04 54 04.2
comp=Z,9.1nm,0.6s
AAK Ala-Archa 45.34 291 P **P** **04 54 01.8 +0.8**
SNR=9.3
AAK Ala-Archa 45.34 291 *c*e**P** **P** **04 54 01.1 +0.1**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 45.34 291 *e*P **P** **04 54 01.1 +0.1**
EKS2 Erkin-Say 45.81 292 P **P** **04 54 05.5 +0.9**
SNR=7.9
SCRK Sand Creek 45.98 37 P **P** **04 54 03.8 -1.8**
SCRK IAmb IAmb 04 54 06.0
comp=Z,6.0nm,0.5s
K27K Chicken 46.79 36 P **P** **04 54 11.4 -0.2**
K27K IAmb IAmb 04 54 13.1
comp=Z,4.8nm,0.5s
EGAK Eagle 46.98 35 **P** **04 54 12.3 -0.8**
EGAK IAmb IAmb 04 54 13.9
comp=Z,10nm,0.8s
L27K Beaver Creek, 47.16 38 P **P** **04 54 14.6 +0.1**
I28M Miner Creek 47.30 34 **P** **04 54 15.6 -0.1**
KK31 Karatay Array 47.77 294 **P** **04 54 19.9 +0.3**
KK31 IAmb IAmb 04 54 20.9
comp=Z,11nm,0.8s
KK31 Karatay Array 47.77 294 *i*P **P** **04 54 19.9 +0.3**
KKAR Karatay Array 47.77 294 P **P** **04 54 20.1 +0.6**
KKAR Karatay Array 47.77 294 P **P** **04 54 20.2 +0.6**
TRKS Terek-Say 48.07 291 P **P** **04 54 21.8 -0.2**
TRKS pmax pmax
comp=Z,15nm,1.0s
SVE Sverdlovsk 48.23 314 *e*P **P** **04 54 23.5 +0.7**
SVE pmax pmax
comp=Z,17nm,0.9s
SVE Sverdlovsk 48.23 314 *e*P **P** **04 54 23.5 +0.7**
F30M Barrier River 48.29 31 **P** **04 54 23.5 +0.4**
F30M IAmb IAmb 04 54 27.6
comp=Z,12nm,0.9s
EPYK Eagle Plains 48.30 33 P **P** **04 54 23.1 -0.2**
EPYK IAmb IAmb 04 54 23.8
comp=Z,9.6nm,0.8s
L29M L29M 48.75 37 **P** **04 54 27.4 +0.7**
I30M Mount Dempster 48.79 34 P **P** **04 54 26.9 -0.2**
INK Inuvik 48.89 30 IAmb IAmb 04 54 27.7
comp=Z,9.5nm,0.6s
H31M Peel River 49.40 33 IAmb IAmb 04 54 32.9
comp=Z,11nm,0.8s
ARTI Arti 49.55 314 P **P** **04 54 32.7 0.0**
ARTI IAmb IAmb 04 54 33.5
comp=Z,12nm,0.7s
ARTI Arti 49.55 314 *c i*P **P** **04 54 32.6 -0.2**
ARTI 04 55 50.1
ARTI S **S** **05 01 19.5 +1.2**
ARTI SS **SS** **05 04 52.8 -0.8**
ARTI pmax pmax
comp=Z,10.0nm,0.8s
GAR Garm 49.83 289 IAmb IAmb 04 54 42.4
comp=Z,12nm,0.5s
P29M Windy Craggy 50.15 41 P **P** **04 54 38.9 +1.7**
P29M IAmb IAmb 04 54 40.0
comp=Z,20nm,1.1s
N31M Braeburn, Yuko 50.34 38 IAmb IAmb 04 54 42.2
comp=Z,20nm,1.3s
CHGR Chuyangaron 50.78 289 P **P** **04 54 42.7 +0.3**
CHGR pmax pmax
comp=Z,47nm,0.6s
AB31 Akbulak array 51.63 305 *i*P **P** **04 54 48.5 +0.2**
ABKAR Akbulak array 51.63 305 P **P** **04 54 49.2 +0.8**
P33M Teslin, Yukon 52.19 39 IAmb IAmb 04 54 54.5
comp=Z,8.8nm,0.8s
KIRV Kirov 53.06 319⇓*e*P **P** **04 54 59.2 +0.6**
WTLY Watson Lake, Y 54.03 38 IAmb IAmb 04 55 07.6
comp=Z,9.4nm,0.7s
T35M Bob Quinn 54.85 42 IAmb IAmb 04 55 15.0
comp=Z,7.6nm,0.8s
ARCES ARCESS Array B 56.26 337 P **P** **04 55 23.1 +1.7**
comp=Z,1.1nm,0.7s,baz=79,slow=8.9,SNR=6.8
comp=Z,1.1nm,0.7s
BELG Belogornoye 56.96 313 *c i*P **P** **04 55 26.8 +0.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 58.55 31 P **P** **04 55 37.2 -0.1**
comp=Z,2.9nm,0.7s,baz=212,slow=9.3,SNR=6.3
comp=Z,2.9nm,0.7s
FINES FINESS Array B 61.23 330 P **P** **04 55 55.3 -0.2**
comp=Z,2.1nm,0.5s,baz=46,slow=11,SNR=12
comp=Z,2.1nm,0.5s
LPSR Galich'ya Gora 61.26 317 *e*P **P** **04 55 54.8 -1.0**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 61.97 315 *e*P **P** **04 55 58.5 -2.0**
VSR pmax pmax
comp=Z,4.0nm,0.9s
VORD Divnogorie 62.05 315 *e*P **P** **04 56 00.0 -1.1**
VORD pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 64.21 184⇑*e*P **P** **04 56 18.3 +2.8**
WRAB pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 64.22 184 P **P** **04 56 15.7 +0.2**
comp=Z,0.5nm,0.5s,baz=1.8,slow=7.1,SNR=14
comp=Z,0.5nm,0.5s
KIV Kislovodsk 64.48 307 *e*P **P** **04 56 18.1 +0.9**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 64.48 307 *e*P **P** **04 56 18.1 +0.9**
KBZ Khabaz 64.50 307 P **P** **04 56 18.4 +1.3**
comp=Z,4.6nm,0.8s,baz=14,slow=5.1,SNR=7.5
comp=Z,4.6nm,0.8s
KBZ Khabaz 64.50 307⇓*e*P **P** **04 56 18.0 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 64.50 307 *e*P **P** **04 56 18.0 +0.8**
D05A Enumclaw 64.54 48 P **P** **04 56 19.1 +1.7**
HFS Hagfors 66.42 333 P **P** **04 56 29.0 -0.1**
comp=Z,1.0nm,0.3s,baz=49,slow=6.7,SNR=10.0
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 66.48 335 P **P** **04 56 29.3 -0.3**
comp=Z,0.6nm,0.6s,baz=39,slow=6.4,SNR=2.2
comp=Z,0.6nm,0.6s
AKASG Malin Array Be 67.12 319 P **P** **04 56 33.8 +0.1**
comp=Z,3.7nm,0.5s,baz=45,slow=6.3,SNR=23
comp=Z,3.7nm,0.5s
AKBB Malin Array Si 67.12 319⇓*e*P **P** **04 56 33.5 -0.2**
KIEV Kiev 67.14 319 P **P** **04 56 33.2 -0.6**
KIEV IAmb IAmb 04 56 34.4
comp=Z,5.4nm,0.7s
KIEV Kiev 67.14 319 P **P** **04 56 33.2 -0.6**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
PINE Pine Mountain 67.27 51 P **P** **04 56 36.8 +1.8**
J05D Fort Rock, OR 67.43 51 P **P** **04 56 37.7 +1.7**
J05D IAmb IAmb 04 56 38.6
comp=Z,6.7nm,0.7s
ASAR Alice Springs 67.94 185 P **P** **04 56 40.2 +1.2**
comp=Z,0.5nm,0.6s,baz=2.1,slow=5.3,SNR=5.3
comp=Z,0.5nm,0.6s
K05A Summer Lake 67.99 51 P **P** **04 56 40.8 +1.3**
K05A IAmb IAmb 04 56 42.7
comp=Z,11nm,1.0s
OVMT Ovando 69.26 44 P **P** **04 56 47.9 +0.7**
FRB Frobisher Bay 70.01 12 P **P** **04 56 51.0 -0.2**
comp=Z,20nm,0.6s,baz=344,slow=5.9,SNR=30
comp=Z,20nm,0.6s
DLMT Dillon 70.64 45 P **P** **04 56 56.3 +0.8**
BURAR Bucovina Array 71.16 319 P **P** **04 56 58.8 +0.2**
BURAR Bucovina Array 71.16 319 P **P** **04 56 58.8 +0.2**
YHH Holmes Hill 71.92 44 P **P** **04 57 04.2 +0.8**
NVAR Mina Array Bea 72.32 53 P **P** **04 57 06.3 +0.6**
NVAR Mina Array Bea 72.32 53 P **P** **04 57 06.9 +1.1**
comp=Z,3.2nm,0.7s,baz=302,slow=5.7,SNR=31
comp=Z,3.2nm,0.7s

BRTR Keskin Array B 72.36 309 P **P** **04 57 06.7 +0.8**
comp=Z,1.1nm,0.7s,baz=64,slow=5.6,SNR=4.8
comp=Z,1.1nm,0.7s
TPAW Teton Pass 72.79 46 P **P** **04 57 09.8 +1.3**
DSP Deep Springs 73.23 54 P **P** **04 57 12.8 +1.9**
BW06 Boulder Array 74.02 45 P **P** **04 57 16.1 +0.4**
BW06 IAmb IAmb 04 57 17.2
comp=Z,7.9nm,0.8s
PDAR Pinedale Array 74.02 45 P **P** **04 57 16.4 +0.7**
comp=Z,5.7nm,0.6s,baz=328,slow=1.9,SNR=71
comp=Z,5.7nm,0.6s
ULM Lac du Bonnet 74.48 33 P **P** **04 57 17.8 0.0**
comp=Z,8.0nm,0.6s,baz=308,slow=6.3,SNR=4.9
comp=Z,8.0nm,0.6s
FURC Furnace Creek, 74.50 54 P **P** **04 57 19.4 +1.2**
FURC IAmb IAmb 04 57 20.5
comp=Z,7.8nm,1.0s
KHC Kasperske Hory 75.08 326⇑*e*P **P** **04 57 21.2 -0.1**
KHC pmax pmax
comp=Z,4.0nm,1.6s
GERES GERESS Array B 75.26 326 P **P** **04 57 23.0 +0.6**
comp=Z,0.4nm,0.6s,baz=31,slow=5.4,SNR=3.6
comp=Z,0.4nm,0.6s
RSSD Black Hills 75.73 41 P **P** **04 57 25.3 0.0**
RSSD pmax pmax
comp=Z,14nm,1.1s
SRU San Rafael Swe 76.16 48 P **P** **04 57 29.2 +1.4**
SRU IAmb IAmb 04 57 29.8
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 76.16 48 P **P** **04 57 29.2 +1.4**
SRU pmax pmax
comp=Z,4.0nm,0.8s
HMU Henry Mountain 76.89 49 P **P** **04 57 32.6 +0.6**
HMU IAmb IAmb 04 57 34.0
comp=Z,7.2nm,0.7s
PV10 Paradox Valley 77.49 48 P **P** **04 57 36.8 +1.5**
PV13 Radium Mtn., P 77.77 48 P **P** **04 57 38.2 +1.4**
PV13 IAmb IAmb 04 57 39.5
comp=Z,3.5nm,0.7s
ESJX Sierra Juarez 78.17 57 P **P** **04 57 40.0 +1.0**
ESJX IAmb IAmb 04 58 09.1
comp=Z,9.8nm,1.5s
G40A Rib Lake 80.75 33 P **P** **04 57 52.4 -0.1**
ANMO Albuquerque 81.43 49⇑*e*P **P** **04 57 57.4 +1.0**
ANMO pmax pmax
comp=Z,4.0nm,2.0s
VLDQ Val d'Or 82.54 23 P **P** **04 58 00.3 -1.3**
VLDQ IAmb IAmb 04 58 01.6
comp=Z,12nm,1.2s
P38A Dawn 84.07 38 P **P** **04 58 10.0 +0.4**
TXAR Lajitas Array 87.23 51 P **P** **04 58 26.6 +1.2**
comp=Z,0.7nm,0.8s,baz=289,slow=2.8,SNR=8.2
comp=Z,0.7nm,0.8s

IDC ***08*** *05:09:05.8±0.4, 61°.00S×53°.81W, h0km, mb4.5/14, mbtmp4.5/15, ML3.2/1, MS4.1/27, Error ellipse: s-maj=21.8km s-min=13.2km az=80.0*
NEIC ***08*** *05:09:07.9±1.7, 61°.09S±0°.06×53°.88W±0°.08, h10km±1km, mb4.9/51, Error ellipse: s-maj=11.3km s-min=6.2km az=160.0*
GCMT ***08*** *05:09:08.9±0.2, 61°.10S±0°.01×53°.86W±0°.05, h14km, MW4.9/110, Moment Tensor Solution. s41,c47; s110,c147; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=2.91±.17; $M_{\theta\theta}$=2.82±.12; $M_{\phi\phi}$=0.09±.12; $M_{r\theta}$=0.26±.23; $M_{\theta\phi}$=0.99±.07; $M_{\phi r}$=0.48±.30; Best double couple: M_0=3.07800×10^16^ NP1:ϕ_s=61.00000°, δ45.00000°, λ-105.00000°. NP2:ϕ_s=263.00000°, δ47.00000°, λ-75.00000°. Principal axes: T 3.1410, Plg1.0000°, Azm342.0000°; N -0.1260, Plg11.0000°, Azm72.0000°; P -3.0140, Plg79.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***08*** *05:09:12.0, 61°.10S×54°.00W, h30km, mB4.9/1, Ms7 4.9/2*
ISC 08 05:09:07.5±0.3, 61°.10S±0°.05×54°.06W±0°.07, h10km, n253, σ1**^{9}06**/227**, mb4.8**/33**, MS4.2**/27**, 6C, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPZ	**Base Esperanza**	**2.69**	**210**		**Pn**	**05 09 50.2**	**-0.5**
PMSA	**Palmer Station**	**5.86**	**227**		**Pn**	**05 10 36.8**	**+2.5**
PMSA	**Palmer Station**	**5.86**	**227**	Pn	**Pn**	**05 10 35.4**	**+1.2**
0.6nm,0.3s,baz=325,slow=22,SNR=7.0							
PMSA				Sn	**Sb**	**05 11 54.4**	**-5.4**
2.5nm,0.3s,baz=354,slow=18,SNR=1.4							
PMSA				LR	LR	05 12 38.5	
comp=Z,2μm,19.9s,baz=70,slow=35							
152nm,1.0s							
PMSA	**Palmer Station**	**5.86**	**227**	*e*P	**Pn**	**05 10 37.4**	**+3.1**
SMAI	**San Martin Ant**	**8.99**	**213**		**Pn**	**05 11 18.9**	**+1.7**
EFI	**East Falkland**	**9.70**	**345**	Pn	**Pn**	**05 11 27.7**	**+0.7**
HOPE	**Hope Point**	**11.59**	**62**	Pn	**Pn**	**05 11 52.1**	**-0.6**
MG02	**Cerro Sombrero**	**11.72**	**309**	Pn	**Pn**	**05 11 55.6**	**+1.0**
AY03	**Cochrane**	**17.51**	**314**	P	**P**	**05 13 13.1**	**+0.5**
BELA	**Belgrano 2**	**17.98**	**167**		**P**	**05 13 18.1**	**+0.5**
COYC	**Coyhaique**	**18.81**	**318**		**Pn**	**05 13 28.0**	**+0.7**
COYC				IAmb	IAmb	05 13 33.9	
comp=Z,95nm,1.3s							
VNA3	**Neumayer Olymp**	**20.05**	**139**	⇑P	Pn	05 13 41.6	-0.5
comp=Z,22nm,0.7s							
VNA1	**Neumayer--Stat**	**20.45**	**137**	⇑P	Pn	05 13 47.1	+0.4
comp=Z,9.0nm,0.8s							
VNA2	**Neumayer--Watz**	**20.76**	**138**	⇑P	Pn	05 13 49.7	-0.7
comp=Z,16nm,0.7s,baz=286,slow=12							
LL02	**Futaleuf**	**20.87**	**321**	P	Pn	05 13 51.7	-0.2
SNAA	**Sanae**	**22.26**	**139**	⇑P	**P**	**05 14 05.3**	**+1.1**
comp=Z,624nm,0.8s							
SNAA	**Sanae**	**22.26**	**139**		**P**	**05 14 04.6**	**+0.4**
SNAA				IAmb	IAmb	05 14 10.4	
comp=Z,58nm,1.1s							
SNAA	**Sanae**	**22.26**	**139**	P	**P**	**05 14 05.0**	**+0.7**
comp=Z,28nm,1.0s,baz=277,slow=8.5,SNR=24							
SNAA				PcP	**PcP**	**05 17 59.9**	**+0.3**
comp=Z,3.5nm,0.8s,baz=325,slow=4.4,SNR=5.7							
SNAA				LR	LR	05 21 03.0	
comp=Z,336nm,21.8s,baz=231,slow=32							
comp=Z,28nm,1.0s							
PLCA	**Paso Flores**	**22.76**	**326**		**P**	**05 14 08.9**	**-0.8**
PLCA				IAmb	IAmb	05 14 18.3	
comp=Z,24nm,1.1s							
PLCA	**Paso Flores**	**22.76**	**326**	P	**P**	**05 14 09.4**	**-0.3**
comp=Z,16nm,0.9s,baz=160,slow=9.3,SNR=26							
PLCA				PcP	**PcP**	**05 18 01.1**	**-0.1**
comp=Z,1.6nm,0.9s,baz=256,slow=4.2,SNR=2.0							
PLCA				LR	LR	05 23 16.6	
comp=Z,851nm,18.0s,baz=168,slow=37							
comp=Z,16nm,0.9s							
PLCA	**Paso Flores**	**22.76**	**326**	*e*P	**P**	**05 14 08.2**	**-1.5**
TRQA	**Tornquist**	**23.60**	**344**		**P**	**05 14 18.2**	**0.0**
TRQA				IAmb	IAmb	05 14 21.3	
comp=Z,61nm,1.1s							
TROLL	**Troll, Antarti**	**23.95**	**140**	⇑P	**P**	**05 14 22.5**	**+1.0**
comp=Z,1μm,1.4s							
BI02	**San Fabin de**	**26.78**	**328**	P	**P**	**05 14 46.3**	**-1.1**
QSPA	**South Pole Qui**	**29.13**	**180**	P	**P**	**05 15 11.5**	**+3.2**
QSPA				IAmb	IAmb	05 15 13.8	
comp=Z,46nm,0.9s							
QSPA	**South Pole Qui**	**29.13**	**180**	P	**P**	**05 15 12.2**	**+3.9**
comp=Z,33nm,0.8s,baz=159,slow=4.6,SNR=76							
QSPA				PcP	**PcP**	**05 18 17.6**	**+2.2**
comp=Z,8.3nm,0.9s,baz=233,slow=1.1,SNR=3.4							
QSPA				LR	LR	05 28 30.4	
comp=Z,700nm,19.6s,baz=155,slow=40							
PLTB	**Pedras Altas**	**29.35**	**1**		**P**	**05 15 09.6**	**-0.7**
PLTB				IAmb	IAmb	05 15 12.5	
comp=Z,21nm,1.1s							
PLTB	**Pedras Altas**	**29.35**	**1**	*e*P	**P**	**05 15 10.1**	**-0.2**
MT09	**Talagante**	**29.45**	**330**	P	**P**	**05 15 11.6**	**+0.2**
MT02	**Curacav**	**29.98**	**330**	P	**P**	**05 15 16.2**	**+0.3**
MT02				IAmb	IAmb	05 15 16.5	
comp=Z,40nm,1.2s							
PSAL	**Palomas, Salto**	**30.11**	**354**	*e*P	**P**	**05 15 17.0**	**0.0**
VA03	**San Esteban**	**30.32**	**332**	P	**P**	**05 15 19.6**	**+0.7**
VA03				IAmb	IAmb	05 15 30.7	
comp=Z,26nm,0.9s							
CFA	**Coronel Fontan**	**30.94**	**336**	LR	LR	05 28 16.5	
comp=Z,310nm,19.3s,baz=124,slow=37							
ZON	**Zonda**	**31.09**	**335**		**P**	**05 15 27.2**	**+1.6**
ZON				IAmb	IAmb	05 15 30.9	
comp=Z,55nm,1.8s							
CPUP	**Villa Florida**	**34.83**	**355**		**P**	**05 15 57.1**	**-1.2**
CPUP	**Villa Florida**	**34.83**	**355**	P	**P**	**05 15 57.3**	**-1.0**
comp=Z,3.1nm,1.0s,baz=15,slow=8.0,SNR=17							
CPUP				PcP	**PcP**	**05 18 31.5**	**+0.2**
comp=Z,0.9nm,0.8s,baz=328,slow=2.5,SNR=3.8							
comp=Z,3.1nm,1.0s							
CPUP Villa Florida 34.83 355 *e*P **P** **05 15 57.8 -0.5**							
AC02 Maricunga 35.75 337 IAmb IAmb 05 16 27.4							
comp=Z,25nm,1.4s							
PTGB Pitanga 36.39 3 *e*P **P** **05 16 12.4 +0.6**							
SYO Syowa Base 36.46 143⇑*e*pP **P** **05 16 12.2 +0.3**							
LDASE Londrina, Braz 37.74 4 *e*P **P** **05 16 22.9 -0.3**							
AMBA Amambai (Brazi 38.15 359 *e*P **P** **05 16 27.1 +0.3**							
SBA Scott Base 39.07 193 **P** **05 16 36.6 +2.7**							
SBA IAmb IAmb 05 16 41.2							
comp=Z,25nm,1.3s							
VNDA Vanda 39.87 191 **P** **05 16 43.1 +2.6**							
VNDA Vanda 39.87 191 P **P** **05 16 43.2 +2.7**							
comp=Z,2.7nm,0.8s,baz=154,slow=7.2,SNR=21							
VNDA				PcP	**PcP**	**05 18 46.9**	**+1.0**
comp=Z,3.3nm,1.0s,baz=180,slow=3.0,SNR=3.2							
VNDA				LR	LR	05 32 53.1	
comp=Z,134nm,21.2s,baz=152,slow=36							
comp=Z,2.7nm,0.8s							
PB03 IPOC Station P 40.53 337 IAmb IAmb 05 16 48.1							
comp=Z,14nm,1.1s							
AQDB Aquidauana 40.60 358 P **P** **05 16 46.9 -0.2**							
AQDB Aquidauana 40.60 358 *e*P **P** **05 16 47.0 -0.2**							
BDQN Bodoquena, MS 40.66 356 *e*P **P** **05 16 47.0 -0.6**							
ITRB Iturama 41.44 5 *e*P **P** **05 16 54.3 +0.2**							
GO01 Chusmiza 42.75 339 IAmb IAmb 05 17 31.9							
comp=Z,29nm,1.6s							
PMNB Patos De Minas 42.86 11 *e*P **P** **05 17 06.2 +0.5**							
IPMB Ipameri, GO 43.27 8 *e*P **P** **05 17 09.6 +0.5**							
SJMB Sao Joao De Ma 43.32 18 *e*P **P** **05 17 09.8 +0.4**							
DIAM Diamantina, MG 43.39 14 *e*P **P** **05 17 10.8 +0.7**							
PP1B Ponte de Pedra 43.45 359 *e*P **P** **05 17 10.8 +0.3**							
MAW Mawson 43.69 150 P **P** **05 17 13.5 +1.6**							
comp=Z,18nm,0.8s,baz=214,slow=8.6,SNR=48							
MAW				PcP	**PcP**	**05 18 59.1**	**+0.5**
comp=Z,7.7nm,0.6s,baz=216,slow=3.9,SNR=14							
MAW				LR	LR	05 34 39.1	
comp=Z,459nm,20.3s,baz=231,slow=35							
comp=Z,18nm,0.8s							
SALV Santo Antonio 45.15 358 *e*P **P** **05 17 24.8 +0.7**							
SIV San Ignacio 45.33 350 LR LR 05 37 53.0							
comp=Z,290nm,18.4s,baz=193,slow=38							
ARAG Araguaiana, MT 45.36 3 *e*P **P** **05 17 25.5 -0.2**							
BDFB Brasilia 45.60 8 P **P** **05 17 26.7 -1.1**							
BDFB IAmb IAmb 05 17 52.5							
comp=Z,32nm,1.6s							
BDFB Brasilia 45.60 8 P **P** **05 17 26.5 -1.3**							
comp=Z,6.4nm,0.6s,baz=172,slow=1.9,SNR=17							
BDFB				LR	LR	05 34 37.0	
comp=Z,198nm,20.0s,baz=167,slow=34							
comp=Z,6.4nm,0.6s							
GUA01 Guaratinga, BA 45.62 19 *e*P **P** **05 17 29.4 +1.6**							
PTLB Pontes e Lacer 45.73 353 P **P** **05 17 28.9 +0.2**							
PTLB IAmb IAmb 05 17 36.4							
comp=Z,7.7nm,1.1s							
PTLB Pontes e Lacer 45.73 353 *e*P **P** **05 17 28.4 -0.2**							
LPAZ La Paz 45.88 341 P **P** **05 17 31.6 +1.0**							
comp=Z,1.1nm,0.9s,baz=167,slow=10,SNR=3.2							
LPAZ				PcP	**PcP**	**05 19 08.2**	**+0.6**
comp=Z,2.1nm,0.8s,baz=233,slow=5.1,SNR=4.4							
LPAZ				LR	LR	05 38 08.2	
comp=Z,242nm,19.3s,baz=158,slow=38							
comp=Z,1.1nm,0.9s							
LPAZ La Paz 45.88 341 *e*P **P** **05 17 29.4 -1.2**							
JANB Januaria 46.51 13 *e*P **P** **05 17 35.2 +0.3**							
VILB Vilhena 48.28 352 P **P** **05 17 49.1 +0.5**							
VILB IAmb IAmb 05 17 53.9							
comp=Z,15nm,0.9s							
VILB Vilhena 48.28 352 *e*P **P** **05 17 49.8 +1.2**							
SDBA SAO DESIDERIO 49.07 12 *e*P **P** **05 17 55.5 +0.8**							
SNDB Serra Nova Dou 49.08 4 *e*P **P** **05 17 55.2 +0.4**							
PDRB Porto dos Gac 49.44 357 *e*P **P** **05 17 57.0 -0.5**							
RPN Rapa Nui 49.98 287 LR LR 05 34 52.9							
comp=Z,124nm,19.5s,baz=111,slow=31							
CLDB Colider 50.15 358 *e*P **P** **05 18 02.8 -0.1**							
NNA Nana 51.79 331 LR LR 05 37 36.5							
comp=Z,159nm,21.8s,baz=181,slow=33							
SMTB Santa Maria do 52.35 8 *e*P **P** **05 18 20.2 +0.8**							
CASY Casey 52.42 172 P **P** **05 18 19.7 +0.4**							
CASY IAmb IAmb 05 18 21.9							
comp=Z,9.9nm,0.9s							
NBAN Anadia - AL 52.99 22 *e*P **P** **05 18 24.5 +0.3**							
NPGB Novo Progresso 53.95 358 *e*P **P** **05 18 31.4 +0.2**							
PRPB Parauapebas 54.90 5 *e*P **P** **05 18 39.7 +1.6**							
ITTB Itaituba 56.61 358 *e*P **P** **05 18 51.9 +1.5**							
H04S2 CROZET ILANDS 57.03 128 T T 06 20 46.0							
baz=210,slow=75,SNR=6.7							
H04S3 CROZET ILANDS 57.05 128 T T 06 20 48.6							
baz=210,slow=75,SNR=8.8							
H04S1 CROZET ILANDS 57.05 128 T T 06 20 43.1							
baz=210,slow=75,SNR=6.2							
TEFE Tefe 58.01 348 *e*P **P** **05 19 00.8 +0.6**							
MACA Manacapuru-AM 58.02 352 IAmb IAmb 05 19 35.4							
comp=Z,7.8nm,0.8s							
MACA Manacapuru-AM 58.02 352 *e*P **P** **05 18 59.5 -0.8**							
TMAB Tom-Au,PA,Br 58.76 7 *e*P **P** **05 19 06.2 +0.8**							
H10S2 ASCENSION HYDR 59.60 47 T T 06 24 04.2							
baz=21,slow=74,SNR=31							
H10S3 ASCENSION HYDR 59.60 47 T T 06 24 03.7							
baz=199,slow=74,SNR=28							
BOSA Boshof 60.29 96 P **P** **05 19 15.9 -0.2**							
BOSA IAmb IAmb 05 19 17.0							
comp=Z,12nm,0.9s							
BOSA Boshof 60.29 96 P **P** **05 19 15.7 -0.5**							
comp=Z,7.8nm,0.6s,baz=216,slow=6.9,SNR=22							
BOSA				LR	LR	05 39 52.9	
comp=Z,97nm,20.5s,baz=210,slow=31							
comp=Z,7.8nm,0.6s							
H10N3 ASCENSION HYDR 60.69 46 T T 06 25 28.9							
baz=199,slow=74,SNR=19							
H10N1 ASCENSION HYDR 60.69 46 T T 06 25 37.0							
baz=199,slow=74,SNR=20							
H10N2 ASCENSION HYDR 60.70 46 T T 06 25 32.5							
baz=199,slow=74,SNR=20							
LBTB Lobatse 63.47 94 P **P** **05 19 37.4 -0.2**							
LBTB Lobatse 63.47 94 LR LR 05 42 06.0							
comp=Z,226nm,19.8s,baz=196,slow=31							
BOAV Boa Vista 63.51 353 P **P** **05 19 38.3 +0.6**							
BOAV IAmb IAmb 05 19 40.6							
comp=Z,36nm,1.7s							
BOAV Boa Vista 63.51 353 *e*P **P** **05 19 38.5 +0.8**							
KGCAE Kacgae 63.64 90 *i*P **P** **05 19 38.9 +0.2**							
OTAV Otavalo 63.97 333 P **P** **05 19 42.5 +1.2**							
OTAV Otavalo 63.97 333 *e*P **P** **05 19 42.2 +0.9**							
LPHEP Lephephe 64.99 93 *i*P **P** **05 19 46.8 -0.7**							
ROSC El Rosal 67.61 338 P **P** **05 20 04.0 -0.7**							
ROSC IAmb IAmb 05 20 08.5							
comp=Z,9.9nm,0.8s							
ROSC El Rosal 67.61 338 P **P** **05 20 05.3 +0.7**							
comp=Z,8.4nm,0.8s,baz=126,slow=9.4,SNR=5.0							
ROSC				LR	LR	05 51 16.7	
comp=Z,158nm,18.4s,baz=247,slow=38							
comp=Z,8.4nm,0.8s							
BROLN Tlhalogang 67.62 93 *i*P **P** **05 20 04.0 -0.4**							
RUSC La Rusia 68.43 340 P **P** **05 20 09.4 -0.5**							
RUSC IAmb IAmb 05 20 15.5							
comp=Z,32nm,1.6s							
MATP Matopo 68.76 94 LR LR 05 45 03.3							
comp=Z,189nm,21.0s,baz=206,slow=31							
KSANE Kasane 69.38 89 IAmb IAmb 05 20 19.1							
comp=Z,15nm,1.1s							
SDV Santo Domingo 70.98 343 LR LR 05 53 32.1							
comp=Z,158nm,19.1s,baz=96,slow=38							
PCRV Puerto La Cruz 71.54 349 LR LR 05 54 22.8							
comp=Z,185nm,18.7s,slow=

comp=Z,5.7nm,1.0s
SIUN Universidad Ur 78.47 330 IAmb IAmb 05 21 08.8
comp=Z,6.8nm,0.9s
SJG San Juan 79.53 348 LR LR 05 57 35.7
comp=Z,90nm,21.2s,baz=148,slow=37
MTO3 Montecristo 80.32 325 IAmb IAmb 05 21 19.6
comp=Z,12nm,1.1s
TAOE Nuku Hiva Isla 80.42 269 *e*LR LR 05 46 30.5
comp=Z,145nm,26.0s
NWAO Narrogin (SRO) 86.04 173 LR LR 05 57 48.5
comp=Z,109nm,21.6s,baz=152,slow=34
TORD Torodi Ar. Bea 86.06 54 P **P 05 21 47.9 -0.2**
comp=Z,5.9nm,0.9s,baz=203,slow=3.6,SNR=18
comp=Z,5.9nm,0.9s
STKA Stephens Creek 86.48 193 P **P 05 21 48.9 -1.2**
comp=Z,1.7nm,0.5s,baz=96,slow=1.1,SNR=3.2
STKA LR LR 05 59 53.9
comp=Z,96nm,18.1s,baz=203,slow=35
comp=Z,1.7nm,0.5s
DZM Mont Dzumac 90.92 217 *e*LR LR 05 51 16.4
comp=Z,170nm,23.8s
ASAR Alice Springs 95.29 187 P **P 05 22 30.6 -0.9**
comp=Z,0.8nm,0.7s,baz=178,slow=5.4,SNR=5.6
ASAR PP **PP 05 26 18.9 -1.8**
comp=Z,3.4nm,0.9s,baz=178,slow=8.2,SNR=15
ASAR PKKPbc **PKKPbc 05 39 22.9 +1.5**
comp=Z,0.7nm,0.7s,baz=352,slow=1.7,SNR=8.5
ASAR LR LR 06 06 52.2
comp=Z,211nm,19.1s,baz=130,slow=36
comp=Z,0.8nm,0.7s
LPIG La Paz 96.22 310 LR LR 05 59 02.4
comp=Z,61nm,18.4s,baz=106,slow=31
TXAR Lajitas Array 98.69 318 PKKPbc PKKPbc 05 39 12.0 -1.2
comp=Z,0.3nm,0.7s,baz=208,slow=2.4,SNR=4.1
TXAR LR LR 06 02 03.8
comp=Z,36nm,18.3s,baz=88,slow=32
WRA Warramunga Arr 98.96 188 P **Pdif 05 22 47.0 -1.1**
comp=Z,0.8nm,0.6s,baz=178,slow=4.0,SNR=8.4
WRA PP **PP 05 26 45.2 -3.7**
comp=Z,0.6nm,0.9s,baz=180,slow=5.6,SNR=3.2
WRA LR LR 06 07 46.0
comp=Z,210nm,20.9s,baz=170,slow=36
comp=Z,0.8nm,0.6s
WRAB Tennant Creek 98.97 188 P **Pdif 05 22 45.4 -2.7**
WB0 Warramunga Arr 99.13 188 P **Pdif 05 22 47.9 -1.0**
TKL Tuckaleechee C 99.42 336 LR LR 06 11 28.9
comp=Z,95nm,18.5s,baz=164,slow=38
GERES GERESS Array B 122.33 46 PKP **PKPdf 05 28 00.3 -1.3**
comp=Z,0.5nm,0.2s,baz=222,slow=1.8,SNR=5.3
BRTR Keskin Array B 122.77 66 PKP **PKPdf 05 28 01.6 -1.3**
comp=Z,1.2nm,0.8s,baz=48,slow=2.1,SNR=4.7
EKA Eskdalemuir Ar 122.84 32 PKP **PKPdf 05 28 00.5 -1.7**
comp=Z,1.6nm,0.9s,baz=170,slow=1.7,SNR=4.0
AKASG Malin Array Be 129.68 55 PKP **PKPdf 05 28 13.8 -1.6**
comp=Z,0.3nm,0.3s,baz=250,slow=1.9,SNR=6.5
HFS Hagfors 131.66 38 PKP **PKPdf 05 28 17.3 -1.6**
comp=Z,1.4nm,0.6s,baz=180,slow=4.0,SNR=1.7
NOA NORSAR Array B 131.66 36 PKP **PKPdf 05 28 17.7 -1.2**
comp=Z,1.0nm,0.8s,baz=72,slow=3.6,SNR=3.5
CMAR Chiang Mai Arr 133.31 144 PKPdf 05 28 23.2 -0.2
CMAR Chiang Mai Arr 133.31 144 PKP **PKPdf 05 28 23.0 -0.4**
comp=Z,1.6nm,0.3s,baz=225,slow=2.0,SNR=15
FINES FINESS Array B 136.60 44 PKP **PKPdf 05 28 27.3 -0.8**
comp=Z,2.8nm,0.9s,baz=130,slow=3.0,SNR=4.1
M29M Somme Creek 138.75 315 PKPdf 05 28 32.5 +0.3
L29M L29M 139.09 316 PKPdf 05 28 32.8 0.0
PZH PanZhiHua 141.72 144 PKP **PKPdf 05 28 39.3 +0.5**
ARCES ARCESS Array B 141.93 34 PKhKP PKPpre 05 28 31.3
comp=Z,5.8nm,0.8s,baz=239,slow=1.4,SNR=16
AKTO Aktyubinsk 142.07 75 PKP **PKPdf 05 28 35.7 -2.8**
comp=Z,2.2nm,0.8s,baz=165,slow=3.3,SNR=4.3
KSH Kashi 142.72 102 PKP **PKPdf 05 28 37.1 -3.1**
KKAR Karatay Array 142.84 93 PKPpre 05 28 35.8
ILAR Eielson Array 143.13 314 PKhKP PKPpre 05 28 35.4
comp=Z,1.4nm,0.8s,baz=155,slow=2.3,SNR=14
MCK McKinley 143.24 312 PKPpre 05 28 37.4
F25K Christian Rive 144.34 319 P **PKPdf 05 28 41.8 -0.2**
baz=124
O16K Kokwok River B 144.34 302 P **PKPab 05 28 39.5 -0.8**
baz=126
AAK Ala-Archa 144.42 97 PKP PKPbc 05 28 41.5 -0.1
comp=Z,25nm,0.7s,baz=215,slow=2.7,SNR=50
G24K Hadweenzic Riv 144.44 317 P **PKPab 05 28 40.3 -0.2**
baz=123
UNV Unalaska Valle 144.49 289 P **PKPab 05 28 39.8 -1.2**
baz=129
N17K Nushagak Hills 144.52 304 P **PKPab 05 28 40.6 -0.3**
baz=125
M18K Stony River 144.53 306 P **PKPab 05 28 40.4 -0.6**
baz=125
CHUM Lake Minchumin 144.56 311 P **PKPab 05 28 40.5 -0.5**
baz=124
E25K Arctic Village 144.60 320 P **PKPab 05 28 40.8 -0.3**
baz=123
H23K Yukon River 144.65 315 P **PKPab 05 28 41.5 +0.1**
baz=123
O15K Ungalikthiuk R 144.81 301 P **PKPab 05 28 42.1 0.0**
baz=126
C27K Jago River 144.86 323 P **PKPab 05 28 41.8 -0.1**
baz=122
F24K Squaw Lake 145.02 318 P **PKPbc 05 28 42.7 0.0**
baz=122,SNR=8.7
NIKH Nikolski High 145.02 287 P **PKPbc 05 28 42.0 -1.0**
baz=130
M17K Holitna River 145.12 305 P **PKPbc 05 28 43.2 +0.2**
baz=124,SNR=6.9
N16K Nishlik Lake 145.13 303 P **PKPbc 05 28 43.3 +0.1**
baz=125
I21K Tanana 145.15 313 P **PKPbc 05 28 42.7 -0.3**
baz=122
SPITS Spitsbergen Ar 145.26 20 PKPbc **PKPbc 05 28 42.9 -0.3**
comp=Z,32nm,0.9s,baz=90,slow=1.4,SNR=9.8
G23K Bananza Creek 145.30 316 PKPdf 05 28 43.8 +0.1
G23K Bananza Creek 145.30 316 P **PKPbc 05 28 43.6 +0.1**
baz=122,SNR=17
C26K Camden Bay 145.37 323 P **PKPab 05 28 44.1 +0.4**
baz=121
O14K Tigyukauivet M 145.46 300 P **PKPdf 05 28 42.6 -1.5**
baz=125
D25K Kavik River 145.49 321 P **PKPdf 05 28 42.6 -1.4**
baz=121
N15K Kwethluk River 145.50 302 PKPab 05 28 44.9 +0.3
N15K Kwethluk River 145.50 302 P **PKPdf 05 28 43.0 -1.2**
baz=124,SNR=5.9
E24K Your Creek 145.51 319 P **PKPdf 05 28 43.3 -0.7**
baz=121,SNR=11
M16K Timber Creek 145.52 304 P **PKPdf 05 28 43.8 -0.3**
baz=124,SNR=14
COLD Coldfoot 145.63 317 P **PKPdf 05 28 44.2 0.0**
baz=121
I20K Naaghedeneel 145.85 311 P **PKPdf 05 28 44.2 -0.3**
baz=122
E23K Chandalar 145.86 318 P **PKPdf 05 28 44.3 -0.3**
baz=120
L17K Donlin 145.87 306 P **PKPdf 05 28 44.4 -0.4**
baz=123
G22K Bettles 145.91 316 P **PKPdf 05 28 44.5 -0.1**
baz=121
CNSH ChangSha 145.94 159 PKPbc **PKPab 05 28 47.1 0.0**
J18K Innoko River 145.97 308 P **PKPdf 05 28 44.5 -0.3**
baz=122
N14K Kuskokwak Cree 146.02 301 P **PKPdf 05 28 45.6 +0.6**
baz=124
M15K Kasigluk River 146.04 302 P **PKPdf 05 28 45.2 +0.1**
baz=124
ARTI Arti 146.05 67 PKPbc **PKPdf 05 28 44.8 -0.4**
comp=Z,15nm,0.8s,baz=233,slow=1.5,SNR=18
L16K Owhat River 146.10 305 P **PKPbc 05 28 46.0 -0.1**
baz=123,SNR=5.6
TOLK Toolik Lake Re 146.14 319 P **PKPdf 05 28 45.3 +0.2**
baz=120,SNR=8.3
D24K Happy Valley 146.16 320 P **PKPbc 05 28 46.2 +0.1**
baz=120
K17K Iditarod 146.18 307 P **PKPdf 05 28 45.5 +0.2**
baz=122
H20K Anotleneega Mo 146.35 312 P **PKPbc 05 28 47.2 +0.4**
baz=120,SNR=9.1
G21K Allakaket 146.39 314 P **PKPbc 05 28 47.3 +0.4**
baz=120,SNR=11
C24K Franklin Bluff 146.40 321 P **PKPbc 05 28 47.3 +0.5**
baz=119
F22K John River 146.43 316 P **PKPbc 05 28 46.7 -0.3**
baz=120
CD2 Chengdu 146.45 144 PKPbc **PKPbc 05 28 47.7 -0.5**
M14K Bethel 146.59 302 P **PKPbc 05 28 47.7 +0.2**
baz=123
E22K Anaktuvuk Pass 146.62 318 P **PKPbc 05 28 47.0 -0.5**
baz=119
D23K Nanushuk River 146.65 319 P **PKPbc 05 28 47.3 -0.2**
baz=118
GCSA Galena City Sc 146.70 310 P **PKPbc 05 28 48.1 +0.4**
baz=120
F21K Alatna River 146.73 316 P **PKPbc 05 28 47.7 -0.2**
baz=119
L15K Ungalak Mounta 146.90 304 P **PKPbc 05 28 48.8 +0.3**
baz=122,SNR=5.3
H19K Roundabout Mou 146.94 312 P **PKPbc 05 28 48.0 -0.4**
baz=120
M13K Dall Lake 146.98 301 P **PKPbc 05 28 49.1 +0.4**
baz=123
C23K Itkillik River 147.04 321 P **PKPbc 05 28 48.4 -0.2**
baz=117
L14K Kuka Creek 147.21 302 P **PKPbc 05 28 48.5 -0.8**
baz=122
K15K Wolf Creek Mou 147.24 305 P **PKPbc 05 28 48.5 -0.8**
baz=121
D22K Ayikyak River 147.25 319 P **PKPbc 05 28 49.0 -0.3**
baz=117
J16K Anvik River 147.38 307 P **PKPbc 05 28 49.5 -0.3**
baz=120
F20K Avaraart Lake 147.41 315 P **PKPbc 05 28 49.3 -0.4**
baz=118
H18K Honhosa River 147.45 310 P **PKPbc 05 28 49.6 -0.3**
baz=119
E21K Killik River 147.47 317 P **PKPbc 05 28 50.0 0.0**
baz=117
P08K Saint George I 147.55 292 P **PKPbc 05 28 51.1 +0.8**
baz=125
I17K Unalakleet 147.71 307 P **PKPbc 05 28 50.5 -0.1**
baz=119
G18K Tagagawik 147.91 312 P **PKPbc 05 28 50.8 -0.4**
baz=118
H17K Granite Mounta 147.93 310 P **PKPbc 05 28 51.0 -0.1**
baz=118
F19K Shaleruckik Mo 148.03 313 P **PKPbc 05 28 51.0 -0.4**
baz=117
C21K Knifeblade Rid 148.05 318 P **PKPbc 05 28 51.1 -0.3**
baz=115
E20K Nigu River 148.12 316 P **PKPbc 05 28 51.1 -0.6**
baz=116
E19K Redstone River 148.12 315 P **PKPbc 05 28 51.5 -0.2**
baz=116
B22K Teshekpuk Lake 148.13 321 P **PKPbc 05 28 50.9 -0.6**
baz=115
M11K Mekoryuk 148.17 299 P **PKPbc 05 28 51.3 -0.6**
baz=121
SPIA Saint Paul Isl 148.20 292 P **PKPbc 05 28 51.5 -0.6**
baz=124
B21K Ikpikpuk River 148.20 319 P **PKPbc 05 28 51.9 +0.2**
baz=115
GOMU GeErMu 148.25 127 PKPbc **PKPbc 05 28 53.3 -0.1**
J14K Nanvaranak Lak 148.28 304 P **PKPbc 05 28 51.4 -0.7**
baz=119
K13K Kusilvak Mount 148.32 303 P **PKPbc 05 28 51.6 -0.7**
baz=120
D20K Etivluk River 148.46 317 P **PKPbc 05 28 52.3 -0.2**
baz=115
G17K Kiwalik Mounta 148.47 310 P **PKPbc 05 28 52.4 -0.2**
baz=117
WHN Wuhan 148.49 161 PKPbc **PKPbc 05 28 54.0 +0.3**
F18K Selawik 148.59 312 P **PKPbc 05 28 52.6 -0.3**
baz=116
H16K Elim 148.67 308 P **PKPbc 05 28 52.7 -0.4**
baz=117
A22K Sinclair Lake 148.87 322 P **PKPbc 05 28 52.7 -0.8**
baz=112
E18K Tukpahlearik C 149.28 314 P **PKPbc 05 28 53.8 -0.8**
baz=114
BVAR Borovoye Array 149.60 80 PKPbc **PKPbc 05 28 54.7 -1.1**
comp=Z,14nm,0.7s,baz=254,slow=1.8,SNR=50
C19K Lookout Ridge 149.61 317 P **PKPbc 05 28 55.4 0.0**
baz=112
C18K Utukok River 149.97 316 P **PKPbc 05 28 55.6 -0.7**
baz=112
D17K Noatak River 150.27 313 P **PKPbc 05 28 56.8 -0.2**
baz=112
RDOG Red Dog Mine 150.34 314 P **PKPbc 05 28 56.8 -0.4**
baz=112
B18K Kokolik River 150.44 317 P **PKPbc 05 28 57.4 +0.1**
baz=110
NJ2 Nanjing 150.57 168 *e*PKPbc **PKPdf 05 28 53.4 0.0**
C17K DeLong Mountai 150.59 315 P **PKiKP 05 28 58.3 -0.1**
baz=111
XAN Xi'an 150.78 150 PKPbc **PKPbc 05 28 58.7 -0.6**
LZDM Lanzhou Array 151.13 140 PKPbc **PKPbc 05 28 59.6 -0.8**
comp=Z,17nm,0.7s,baz=224,slow=6.2,SNR=19
MKAR Makanchi Array 151.23 100 PKP **PKPdf 05 28 52.1 -1.9**
comp=Z,0.3nm,0.5s,baz=270,slow=1.2,SNR=3.8
MKAR PKPbc **sPKPdf 05 28 58.1 -0.3**
comp=Z,6.6nm,0.7s,baz=354,slow=1.2,SNR=32
LZH Lanzhou 151.30 141 *e*PKPbc **PKPbc 05 29 00.9 +0.3**
LZH pPKP PKPab 05 29 09.4 +0.7
WMQ Urumqi 151.55 110 *e*PKPbc **PKPdf 05 28 56.0 +1.4**
WMQ LR LR
comp=Z,140nm,17.5s
JNU Nakatsue 151.83 189 PKPbc **PKPbc 05 29 01.9 +0.1**
comp=Z,11nm,0.8s,baz=129,slow=6.5,SNR=5.4
KURBB Kurchatov Arra 152.03 90 PKP **PKPdf 05 28 54.9 -0.1**
comp=Z,7.7nm,0.7s,baz=234,slow=1.9,SNR=5.6
KURBB PKPbc **sPKPdf 05 29 00.3 +0.9**
comp=Z,7.8nm,0.7s,baz=235,slow=2.8,SNR=53
KURBB PP **PP 05 32 44.5 +0.8**
comp=Z,0.4nm,0.3s,baz=246,slow=6.2,SNR=6.5
GTA Gaotai 152.95 131 PKPbc **PKPbc 05 29 03.7 -0.5**
MJAR Matsushiro Arr 154.22 203 PKPbc **PKPbc 05 29 06.1 -0.8**
comp=Z,2.2nm,0.6s,baz=180,slow=3.8,SNR=3.1
MJAR PKPab **PKPab 05 29 20.9 +0.2**
comp=Z,1.8nm,0.2s,baz=177,slow=4.1,SNR=5.9
HHC Hu-ho-hao-te 157.89 150 *e*PKP **PKPdf 05 29 01.1 -2.4**
SONM Songino Array 162.62 131 PKPab **PKPab 05 29 56.3 -0.7**
comp=Z,2.8nm,0.9s,baz=197,slow=4.7,SNR=8.9

CATAC 08 05:43:01.6±0.2, 10°N±1°×8°4W±°, h4km±1km, M2.6/12, MLv2.6/12, Error ellipse: s-maj=4.0km s-min=2.4km az=58.1, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.27**	**161**	P	Pg	05 43 07.2	+0.3
LCR2				S	Sg	05 43 11.0	+0.6
QUEP	**Quepos**	**0.57**	**187**	P	Pg	05 43 12.8	+0.3
QUEP	**Quepos**	**0.57**	**187**	S	Sg	05 43 20.9	+1.0
SOCE	**Pocosol**	**0.64**	**307**	P	Pg	05 43 14.5	+0.5
SOCE	**Pocosol**	**0.64**	**307**	S	Sg	05 43 23.1	+0.7
TRT2	**Tortugero**	**0.66**	**32**	S	Sg	05 43 23.7	+0.8
TRT2	**Tortugero**	**0.66**	**32**	P	Pg	05 43 14.5	+0.1
COVE	**Coope Vega, Sa**	**0.78**	**337**	S	Sb	05 43 27.8	-0.9
COVE	**Coope Vega, Sa**	**0.78**	**337**	P	Pg	05 43 16.8	+0.2
JTS	**Las Juntas de**	**0.90**	**289**	P	Pg	05 43 18.4	-0.4
JTS				S	Sb	05 43 32.0	-0.1
OCHAL	**Ojochal**	**1.00**	**154**	S	Sb	05 43 34.7	-0.2
OCHAL	**Ojochal**	**1.00**	**154**	P	Pg	05 43 20.7	-0.1
PIRO	**Carate, Puerto**	**1.75**	**155**	P	Pn	05 43 33.0	+0.3
PIRO	**Carate, Puerto**	**1.75**	**155**	S	Sb	05 43 56.2	-0.4
BRU2	**Volcan**	**1.83**	**131**	P	Pn	05 43 33.4	-0.6
CARN	**Rivas**	**1.84**	**310**	P	Pn	05 43 33.3	-0.7
CDITO	**Canoas**	**1.86**	**139**	S	Sn	05 43 58.4	+0.3
CDITO	**Canoas**	**1.86**	**139**	P	Pn	05 43 33.9	-0.3

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*NEIC **08** 05:53:07.2±1.4, 24°.1S±0°.4×180°.0E±0°.2, h546km±27km, mb4.1/16, Error ellipse: s-maj=62.9km s-min=23.4km az=201.0*
*IDC **08** 05:53:16.7±10.0, 23°.99S×179°.45E, h654km±137km, mb3.1/5, mbtmp4.1/5, Error ellipse: s-maj=56.7km s-min=32.0km az=69.0*
ISC 08 05:53:07.8±1.1, 24°.1S±0°.2×179°.9E±0°.1, h550km, n23, σ1°08/23, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.53**	**277**	P	**P**	**05 55 53.3**	**+1.3**
EIDS	**Eidsvold**	**26.17**	**261**	P	**P**	**05 57 59.3**	**+0.4**
CTAO	**Charters Tower**	**31.37**	**271**	P	**P**	**05 58 44.8**	**+0.7**
STKA	**Stephens Creek**	**34.56**	**248**	P	**P**	**05 59 10.6**	**-0.3**
STKA	**Stephens Creek**	**34.56**	**248**	P	**P**	**05 59 10.2**	**-0.7**
1.6nm,0.5s,baz=90,slow=9.0,SNR=4.6
1.6nm,0.5s
BBOO Buckleboo 39.28 247 P **P 05 59 48.8 -0.8**
AS31 Alice Springs 41.90 261 P **P 06 00 10.3 -0.3**
ASAR Alice Springs 41.90 261 P **P 06 00 10.6 -0.1**
1.5nm,0.6s,baz=92,slow=7.6,SNR=23
1.5nm,0.6s
WR8 Warramunga Arr 42.14 266 P **P 06 00 12.1 -0.5**
WR8 IAmb IAmb 06 00 12.3
comp=Z,3.0nm,0.5s
WRAB Tennant Creek 42.28 266 P **P 06 00 12.4 -1.2**
WRAB IAmb IAmb 06 00 13.6
comp=Z,7.8nm,0.8s
WB0 Warramunga Arr 42.28 267 P **P 06 00 13.2 -0.5**
WB0 IAmb IAmb 06 00 13.8
comp=Z,5.6nm,0.8s
WRA Warramunga Arr 42.29 266 P **P 06 00 13.3 -0.4**
WRA Warramunga Arr 42.29 266 P **P 06 00 13.4 -0.4**
comp=Z,3.4nm,0.5s,baz=104,slow=8.1,SNR=37
comp=Z,3.4nm,0.5s
FORT Forrest 46.15 250 P **P 06 00 42.4 -1.0**
FORT IAmb IAmb 06 00 42.9
comp=Z,5.2nm,0.8s
MTN Manton Dam 47.36 275 P **P 06 00 52.5 -0.2**
MTN IAmb IAmb 06 00 59.9
comp=Z,9.3nm,1.4s
KNRA Kununurra 48.58 270 P **P 06 01 01.3 -0.5**
KNRA IAmb IAmb 06 01 02.6
comp=Z,5.5nm,0.8s
FITZ Fitzroy Crossi 50.71 266 P **P 06 01 17.8 +0.4**
MORW Morawa 56.71 250 P **P 06 01 59.4 -0.3**
MORW IAmb IAmb 06 02 32.8
comp=Z,10nm,1.4s
QSPA South Pole Qui 66.00 180 P **P 06 03 01.6 +1.7**
QSPA IAmb IAmb 06 03 35.1
comp=Z,7.4nm,1.5s
QSPA South Pole Qui 66.00 180 P **P 06 03 01.4 +1.6**
comp=Z,1.1nm,0.7s,baz=7.8,slow=0.5,SNR=8.9
comp=Z,1.1nm,0.7s
BELA Belgrano 2 76.27 173 P **P 06 03 58.4 -1.3**
TXAR Lajitas Array 90.62 58 P **P 06 05 13.2 +1.1**
comp=Z,0.6nm,0.7s,baz=212,slow=6.9,SNR=9.6
comp=Z,0.6nm,0.7s
HFS Hagfors 142.70 349 PKP **PKPdf 06 11 35.3 -2.7**
comp=Z,1.2nm,0.6s,baz=54,slow=2.5,SNR=5.2

IDC 08 06:10:35.7±24.0, 6°.24S×128°.14E, h384km±309km, mb3.1/2, mbtmp3.8/5, Error ellipse: s-maj=206.8km s-min=70.0km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.04**	**191**	P	P	06 13 16.1	-0.3
0.9nm,0.6s,baz=26,slow=10.0,SNR=5.3
WRA Warramunga Arr 14.90 157 P P 06 13 47.7 -0.1
4.3nm,0.6s,baz=335,slow=12,SNR=50
ASAR Alice Springs 18.20 163 P P 06 14 23.4 +0.1
0.8nm,0.6s,baz=340,slow=11,SNR=11
MKAR Makanchi Array 66.58 328 P P 06 20 46.1 0.0
0.6nm,0.4s,baz=123,slow=8.0,SNR=6.7
0.6nm,0.4s
KURBB Kurchatov Arra 70.90 329 P P 06 21 12.2 0.0
0.7nm,0.6s,baz=128,slow=4.8,SNR=5.2
0.7nm,0.6s

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*VAO **08** 06:18:03.6±0.5, 18°.01S×69°.31W, h133km±4km, mb5.1*
*NEIC **08** 06:18:04.2±2.5, 18°.11S±0°.04×69°.48W±0°.09, h138km±5km, mb4.7/247, Mwr4.6(GUC), Error ellipse: s-maj=12.0km s-min=5.7km az=98.0*
*IDC **08** 06:18:04.4±0.4, 17°.91S×69°.23W, h135km±3km, mb4.3/17, mbtmp4.7/19, MS3.4/4, Error ellipse: s-maj=12.7km s-min=10.2km az=64.0*
*GUC **08** 06:18:05.0±0.9, 18°.10S×69°.75W, h128km±4km, ML4.6*
*GCMT **08** 06:18:08.2±0.5, 18°.10S±0°.03×69°.50W±0°.03, h150km±4km, MW4.9/79, Moment Tensor Solution. s12,c12; s79,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.06±.11; $M_{\theta\theta}$-0.14±.12; $M_{\phi\phi}$0.07±.15; $M_{r\theta}$0.30±.06; $M_{\theta\phi}$1.66±.12; $M_{\phi r}$-2.02±.10; Best double couple: $M_0$2.62600×10^{16} NP1:ϕ_s267.00000°, δ39.00000°, λ1.00000°. NP2: ϕ_s176.00000°, δ89.00000°, λ129.00000°. Principal axes: T 2.5100, Plg34.0000°, Azm118.0000°; N 0.2330, Plg39.0000°, Azm356.0000°; P -2.7420, Plg33.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 06:18:03.1±0.4, 18°.05S±0°.03×69°.41W±0°.05, h130km±3km, n278, σ1°85/214, mb4.7/108, 7C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.30**	**199**		**Pn**	**06 18 23.1**	**+1.1**
PB16	**IPOC Station P**	**0.30**	**199**	*e*P	**Pn**	**06 18 23.2**	**+1.2**
PB16 *i* S **Sn** **06 18 38.0 +1.8**
PB16 IAML 06 18 38.8
comp=N,34μm,0.4s
PB18 Visviri 0.47 351 Pn 06 18 24.8 +2.1
PB18 Visviri 0.47 351 ||*i*P **Pn 06 18 24.7 +2.1**
PB18 *i* S **Sn** **06 18 40.8 +3.4**
PB18 IAML 06 18 50.9
comp=E,11μm,0.7s
PX02 IPOC Station P 1.18 220 ⇑*i*P **Pn 06 18 26.8 -1.0**
PX02 *e*S **Sn** **06 18 44.1 -2.6**
PX02 IAML 06 18 46.6
comp=Z,11μm,0.4s
GO01 Chusmiza 1.62 173 Pn 06 18 35.1 +2.0
GO01 Chusmiza 1.62 173 ⇑*i*P **Pn 06 18 34.9 +1.8**
GO01 *e*S **Sn** **06 18 58.0 +2.1**
GO01 IAML 06 19 01.5
comp=N,6μm,0.1s
PB11 IPOC Station P 1.71 188 Pn 06 18 34.7 +0.9
PB11 IPOC Station P 1.71 188 ||*i*P **Pn 06 18 34.2 +0.3**
PB11 *e*S **Sn** **06 18 56.8 -0.5**
PB11 IAML 06 19 00.3
comp=E,7μm,0.3s
I08BO LAS PENAS INFR 2.04 27 P **Pn 06 18 41.2 +3.0**
baz=230,slow=14,SNR=7.8
PB08 IPOC Station P 2.09 173 Pn 06 18 40.3 +1.7
PB08 IPOC Station P 2.09 173 ⇑*i*P **Pn 06 18 40.3 +1.7**
PB08 *i* S **Sn** **06 19 07.4 +1.7**
PB08 IAML 06 19 10.6
comp=E,2μm,0.2s
LPAZ La Paz 2.14 35 Pn 06 18 42.0 +2.6
LPAZ La Paz 2.14 35 P **Pn 06 18 42.0 +2.6**
comp=E,2μm,0.4s,baz=225,slow=7.1
LPAZ LR LR 06 19 27.4
comp=E,942nm,18.9s,baz=237,slow=43
LPAZ La Paz 2.14 35 *e*P **Pn 06 18 42.1 +2.7**
TA02 Huaiquique 2.31 197 *e*P **Pn 06 18 40.4 -0.5**
TA02 *i* S **Sn** **06 19 07.8 -2.2**
TA02 IAML 06 19 09.9
comp=N,6μm,0.1s
PX03 IPOC Station P 2.35 185 *e*P **Pn 06 18 41.7 +0.2**
TA01 Diego Aracena 2.60 196 Pn 06 18 44.3 -0.4
TA01 Diego Aracena 2.60 196 *e*P **Pn 06 18 44.1 -0.5**
TA01 *e*S **Sn** **06 19 11.1 -5.5**
TA01 IAML 06 19 19.8
comp=N,2μm,0.4s
PATCX Punta Patache 2.84 194 Pn 06 18 47.4 -0.4
PATCX Punta Patache 2.84 194 *e*P **Pn 06 18 47.4 -0.4**
PATCX *e*S **Sn** **06 19 17.1 -5.1**
PB01 IPOC Station P 2.98 181 Pn 06 18 50.1 +0.6
PB01 IPOC Station P 2.98 181 ||*i*P **Pn 06 18 50.0 +0.6**
PB01 *i* S **Sn** **06 19 21.6 -3.7**
PB01 IAML 06 19 25.5
comp=E,2μm,0.3s
PB02 IPOC Station P 3.28 188 Pn 06 18 54.2 +0.7
PB09 IPOC Station P 3.73 178 Pn 06 19 00.3 +0.9
PB03 IPOC Station P 3.99 185 Pn 06 19 03.0 +0.2
PB06 IPOC Station P 4.63 182 Pn 06 19 11.3 -0.1
PB05 IPOC Station P 4.83 189 Pn 06 19 13.2 -0.9
AF01 San Pedro de A 5.01 167 Pn 06 19 18.3 +1.7
PB10 IPOC Station P 5.54 191 Pn 06 19 21.7 -1.8
PB14 IPOC Station P 6.61 188 Pn 06 19 36.0 -2.1
GO02 Mina Guanaco 7.08 181 Pn 06 19 43.1 -1.3
SIV San Ignacio 8.23 77 P **Pn 06 19 58.5 -1.2**
comp=E,73nm,0.4s,baz=265,slow=8.6,SNR=181
SIV S **Sn** **06 21 27.1 -4.2**
comp=E,57nm,0.7s,baz=355,slow=22,SNR=11
NNA Nana 9.38 309 Pn 06 20 13.0 -2.2
NNA Nana 9.38 309 P **Pn 06 20 12.3 -2.9**
comp=E,109nm,0.3s,baz=138,slow=12,SNR=62
GO03 Copiapo 9.53 184 Pn **Pn 06 20 14.0 -3.2**
PTLB Pontes e Lacer 10.17 77 Pn 06 20 24.2 -1.7
PTLB Pontes e Lacer 10.17 77 *e*P **Pn 06 20 24.5 -1.3**
VILB Vilhena 10.22 62 Pn 06 20 25.2 -1.3
VILB Vilhena 10.22 62 *e*P **Pn 06 20 25.1 -1.4**
MURT Porto Murtinho 11.66 110 *e*P **Pn 06 20 44.0 -1.6**

BDQN Bodoquena, MS 12.19 103 *eP* **Pn 06 20 50.6 -1.9**
AQDB Aquidauana 13.17 103 Pn **Pn 06 21 03.7 -1.5**
AQDB Aquidauana 13.17 103 *eP* **Pn 06 21 03.7 -1.5**
SALV Santo Antonio 13.29 83 *eP* **Pn 06 21 06.2 -0.7**
ZON Zonda 13.45 177 P **Pn 06 21 07.7 -1.2**
CFA Coronel Fontan 13.53 176 P **Pn 06 21 07.0 -2.9**
comp=E,11nm,0.7s,baz=0.2,slow=13,SNR=59
CFA S Sn 06 23 28.6 -11
comp=E,7.9nm,0.5s,baz=246,slow=20,SNR=10
PDRB Porto dos Gac 13.82 64 *eP* **Pn 06 21 09.8 -3.9**
PP1B Ponte de Pedra 13.84 90 *eP* **Pn 06 21 12.1 -1.9**
CPUP Villa Florida 13.88 129 Pn **Pn 06 21 13.5 -0.9**
CPUP Villa Florida 13.88 129 P **Pn 06 21 13.1 -1.3**
comp=E,3.6nm,0.6s,baz=166,slow=12,SNR=19
CPUP LR LR 06 26 53.6
comp=E,33nm,19.8s,baz=168,slow=38
CPUP ScP **ScP 06 29 48.5 0.0**
comp=E,1.0nm,1.0s,baz=166,slow=4.2,SNR=3.5
CPUP Villa Florida 13.88 129 *eP* **Pn 06 21 12.2 -2.2**
ATAH Atahualpa 13.95 320 P **Pn 06 21 12.2 -3.4**
comp=E,9.0nm,0.8s,baz=137,slow=10,SNR=7.8
AMBA Amambai (Brazi 14.35 112 *eP* **Pn 06 21 20.8 +0.4**
CLDB Colider 14.98 63 *eP* **Pn 06 21 27.8 -0.6**
TEFE Tefe 15.19 18 *eP* **Pn 06 21 30.5 -0.4**
MT05 Renca 15.32 184 P **P 06 21 34.3 0.0**
MT05 IAmb IAmb 06 21 37.3
comp=Z,68nm,1.1s
MT08 Bocatoma Ro 15.34 182 IAmb IAmb 06 21 43.4
comp=Z,32nm,1.1s
MT16 CCHEN 15.34 184 IAmb IAmb 06 21 37.8
comp=Z,54nm,1.3s
MT03 Universidad Ad 15.41 183 P **Pn 06 21 32.3 -1.3**
MT03 IAmb IAmb 06 21 38.7
comp=Z,60nm,1.1s
MT13 San Alfonso 15.65 183 P **P 06 21 37.9 0.0**
MT13 IAmb IAmb 06 21 44.5
comp=Z,28nm,0.9s
MT09 Talagante 15.72 185 IAmb IAmb 06 21 42.6
comp=Z,35nm,0.9s
C2SB Chapadao do Su 15.74 95 *eP* **Pn 06 21 38.2 +0.4**
LMEL Las Melosas 15.74 182 IAmb IAmb 06 21 45.4
comp=Z,17nm,0.8s
MT01 Popeta 15.83 186 IAmb IAmb 06 21 43.6
comp=Z,59nm,1.1s
BO01 Tunca 16.34 185 P **Pn 06 21 45.2 +0.1**
BO01 IAmb IAmb 06 21 50.1
comp=Z,34nm,1.3s
BO02 Sierra Bellavi 16.72 184 P **Pn 06 21 48.1 -1.6**
BO02 IAmb IAmb 06 22 14.8
comp=Z,18nm,0.8s
PSAL Palomas, Salto 16.82 143 *eP* **P 06 21 48.7 -2.1**
ARAG Araguaiana, MT 17.00 85 *eP* **Pn 06 21 53.1 -0.1**
MACA Manacapuru-AM 17.09 31 P **P 06 21 52.5 -1.5**
MACA IAmb IAmb 06 21 56.9
comp=Z,50nm,0.7s
MACA Manacapuru-AM 17.09 31 *eP* **P 06 21 52.2 -1.7**
PTGB Pitanga 17.45 115 *eP* **Pn 06 21 58.4 -0.2**
NPGB Novo Progresso 17.53 53 *eP* **P 06 21 57.6 -1.2**
H03N1 Juan Fernandez 17.54 207 P **Pn 06 22 05.8 +6.5**
baz=110,slow=14,SNR=25
H03N1 T T 06 39 13.4
baz=29,slow=73,SNR=20
H03N2 Juan Fernandez 17.54 207 P **Pn 06 22 06.0 +6.7**
baz=110,slow=14,SNR=17
H03N2 T T 06 39 10.5
baz=29,slow=73,SNR=12
H03N3 Juan Fernandez 17.55 207 P **Pn 06 22 05.9 +6.4**
baz=110,slow=14,SNR=26
H03N3 T T 06 39 11.7
baz=29,slow=73,SNR=17
H03S3 Juan Fernandez 17.86 207 P **Pn 06 22 09.4 +6.2**
baz=16,slow=20,SNR=18
H03S1 Juan Fernandez 17.88 207 P **Pn 06 22 09.2 +5.9**
baz=16,slow=20,SNR=13
H03S2 Juan Fernandez 17.88 207 P **Pn 06 22 09.6 +6.3**
baz=16,slow=20,SNR=21
LDASE Londrina, Braz 17.91 110 *eP* **P 06 22 02.9 0.0**
ITRB Iturama 18.10 98 *eP* **P 06 22 04.9 -0.2**
COHC Cochancay 18.26 327 **Pn 06 22 08.4 +0.2**
ITAB Concordia 18.36 123 P **P 06 22 08.3 +0.5**
ITAB Concordia 18.36 123 *eP* **Pn 06 22 08.5 -0.9**
SNDB Serra Nova Dou 18.50 73 *eP* **P 06 22 09.3 -0.1**
CPSB Cacapava Do Su 19.03 133 *eP* **P 06 22 14.9 -0.1**
ITTB Itaituba 19.08 46 *eP* **P 06 22 14.4 -1.3**
FRTB Fartura 19.29 109 *eP* **P 06 22 17.8 -0.2**
SLOR San Lorenzo - 19.39 332 **Pn 06 22 22.2 +0.1**
SLOR IAmb IAmb 06 22 58.9
comp=Z,22nm,1.0s
PLTB Pedras Altas 19.76 137 P **P 06 22 22.1 -0.8**
PLTB Pedras Altas 19.76 137 *eP* **P 06 22 22.8 -0.1**
BB19B Bebedouro 19.90 102 *eP* **P 06 22 24.6 -0.1**
IPMB Ipameri, GO 20.16 93 *eP* **P 06 22 25.9 -1.6**
OTAV Otavalo 20.24 333 *eP* **P 06 22 29.9 +1.1**
CNLB Canela 20.32 127 *eP* **P 06 22 27.9 -1.2**
FLOC Florencia 20.46 342 P Pn 06 22 34.5 +0.4
BDFB Brasilia 20.61 87 P **P 06 22 31.8 -0.6**
BDFB Brasilia 20.61 87 P **P 06 22 32.3 -0.1**
comp=Z,58nm,0.5s,baz=256,slow=10.0,SNR=45
comp=Z,58nm,0.5s
TRQA Tornquist 20.96 163 **P 06 22 36.3 +0.4**
TRQA IAmb IAmb 06 22 37.4
comp=Z,38nm,0.8s
RCLB Rio Claro- Sao 20.97 106 *eP* **P 06 22 34.9 -1.3**
SPB Sao Paulo 21.26 109 P **P 06 22 37.6 -1.5**
SPB IAmb IAmb 06 22 39.6
comp=Z,43nm,0.7s
SPB Sao Paulo 21.26 109 *eP* **P 06 22 38.3 -0.8**
PET01 Itanhaem-SP 21.54 111 *eP* **P 06 22 42.7 +0.6**
VAO Valinhos 21.58 107 P **P 06 22 41.0 -1.7**
VAO Valinhos 21.58 107 *eP* **P 06 22 41.1 -1.5**
PMNB Patos De Minas 21.81 95 *eP* **P 06 22 43.9 -1.3**
MAL2 Monte Alegre, 21.84 45 P **P 06 22 43.9 -1.6**
BOAV Boa Vista 22.12 24 P **P 06 22 46.7 -1.6**
BOAV IAmb IAmb 06 22 49.3
comp=Z,26nm,1.1s
BOAV Boa Vista 22.12 24 *eP* **P 06 22 47.4 -0.9**
LR05 Currie 22.21 185 **P 06 22 49.7 +0.7**
LR05 IAmb IAmb 06 22 51.1
comp=Z,20nm,0.7s
PRPB Paraupebas 22.47 61 *eP* **P 06 22 49.7 -2.1**
PLCA Paso Flores 22.62 182 P **P 06 22 53.6 +0.5**
PLCA Paso Flores 22.62 182 P **P 06 22 54.2 +1.1**
comp=Z,10.0nm,0.9s,baz=356,slow=10,SNR=20
PLCA pP **pP 06 23 20.4 +2.1**
comp=Z,2.7nm,0.6s,baz=12,slow=12,SNR=2.3
comp=Z,10.0nm,0.9s
PLCA Paso Flores 22.62 182 *eP* **P 06 22 53.2 +0.1**
PARB Paraibuna 22.85 107 *eP* **P 06 22 55.4 -0.1**
SMTB Santa Maria do 23.08 70 *eP* **P 06 22 57.5 -0.2**
BSCB Bom Sucesso 23.39 101 *eP* **P 06 22 59.9 -0.7**
RUSC La Rusia 24.07 351 P **P 06 23 05.5 -1.6**
RUSC IAmb IAmb 06 23 16.4
comp=Z,12nm,0.8s
JANB Januaria 24.23 87 *eP* **P 06 23 07.1 -1.0**
SDBA SAO DESIDERIO 24.29 80 *eP* **P 06 23 08.8 +0.2**
LL01 San Ignacio de 24.38 185 IAmb IAmb 06 23 12.3
comp=Z,22nm,0.8s
DIAM Diamantina, MG 24.45 95 *eP* **P 06 23 09.7 -0.5**
VAS01 Vassouras-RJ 24.72 104 *eP* **P 06 23 11.7 -0.8**
GO07 Milladeo Hill, 25.24 187 P **P 06 23 16.8 -0.2**
DUB01 Friburgo-RJ 25.69 103 *eP* **P 06 23 19.5 -1.9**
CAM01 Campos-RJ 26.34 103 *eP* **P 06 23 26.3 -0.8**
SJMB Sao Joao De Ma 26.78 96 *eP* **P 06 23 30.0 -1.1**
BAUV El Baul 26.86 3 P **P 06 23 30.4 -1.4**
BAUV IAmb IAmb 06 24 06.7
comp=Z,26nm,1.0s
RIB01 Linhares ES 27.50 97 *eP* **P 06 23 37.0 -0.5**
GUA01 Guaratinga, BA 28.29 92 *eP* **P 06 23 43.5 -1.0**
CMC01 Camacan, BA 28.74 89 *eP* **P 06 23 48.3 -0.2**
NBAN Anadia - AL 33.18 80 *eP* **P 06 24 27.1 -0.6**
RCBR Riachuelo 34.88 74 P **P 06 24 42.7 +0.3**
MTO3 Montecristo 37.78 327 P **P 06 25 07.4 +0.3**
MTO3 IAmb IAmb 06 25 08.8
comp=Z,15nm,0.9s
RPN Rapa Nui 37.82 249 LR LR 06 36 23.1
comp=Z,115nm,19.2s,baz=167,slow=29
SMAI San Martin Ant 50.08 179 **P 06 26 45.8 +1.4**
SMAI IAmb IAmb 06 26 47.0
comp=Z,6.3nm,0.7s
LRAL Lakeview Retre 53.51 342 IAmb IAmb 06 27 09.6
comp=Z,7.5nm,0.6s
TKL Tuckaleechee C 55.13 346 LR LR 06 52 17.8
comp=Z,45nm,18.4s,baz=64,slow=37
SWET Sewanee 55.25 344 IAmb IAmb 06 27 22.3
comp=Z,17nm,1.2s
PLAL Pickwick Lake 55.65 341 IAmb IAmb 06 27 24.9
comp=Z,11nm,1.0s
V48A Smith Brothers 55.99 343 IAmb IAmb 06 27 27.7
comp=Z,11nm,0.6s
DRIO Del Rio 55.99 327 IAmb IAmb 06 27 29.2
comp=Z,11nm,0.9s
JCT Junction City 56.43 328 IAmb IAmb 06 27 32.0
comp=Z,6.7nm,0.7s
WVT Waverly 56.64 342 **P 06 27 31.1 -1.6**
WVT IAmb IAmb 06 27 31.8
comp=Z,9.6nm,0.6s
BRDY Brady 56.70 330 **P 06 27 32.9 -0.3**
BRDY IAmb IAmb 06 27 33.6
comp=Z,6.0nm,1.1s
UALR University of 56.88 337 IAmb IAmb 06 27 35.1
comp=Z,11nm,0.8s
HPIG 56.90 321 IAmb IAmb 06 27 35.6
comp=Z,5.0nm,0.6s
MIAR Mount Ida 57.14 336 IAmb IAmb 06 27 36.6
comp=Z,22nm,1.4s
SAND Sanderson 57.20 326 IAmb IAmb 06 27 37.8
comp=Z,5.8nm,1.1s
OZNA Ozona 57.45 328 **P 06 27 38.3 -0.4**
OZNA IAmb IAmb 06 27 39.1
comp=Z,19nm,1.4s
TXAR Lajitas Array 57.56 324 P **P 06 27 39.1 -0.3**
comp=Z,1.6nm,0.7s,baz=150,slow=8.9,SNR=20
TXAR pP **pP 06 28 11.7 -0.2**
comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=5.1
comp=Z,1.6nm,0.7s
LCAR Lake Charles 57.63 339 IAmb IAmb 06 27 39.3
comp=Z,12nm,1.0s
PLPT Palo Pinto 57.64 331 IAmb IAmb 06 27 41.5
comp=Z,15nm,1.4s
ABTX Abilene, Hawle 58.11 330 IAmb IAmb 06 27 43.8
comp=Z,15nm,0.9s
SGCY Sterling City 58.25 328 IAmb IAmb 06 28 19.7
comp=Z,7.6nm,0.8s
MNHN Monahans 58.63 327 IAmb IAmb 06 27 47.6
comp=Z,12nm,0.9s
HHAR Hobbs 58.81 337 IAmb IAmb 06 28 21.1
comp=Z,8.6nm,1.0s
MGMO Mountain Grove 58.99 339 IAmb IAmb 06 27 49.0
comp=Z,19nm,1.2s
SN07 Snyder 07 59.09 329 IAmb IAmb 06 27 50.2
comp=Z,9.4nm,0.7s
RLO Rose Lookout 59.12 336 IAmb IAmb 06 27 51.1
comp=Z,12nm,0.8s
TUL3 Leonard 59.20 335 IAmb IAmb 06 27 51.1
comp=Z,13nm,1.0s
POST Post 59.37 329 IAmb IAmb 06 27 53.2
comp=Z,11nm,1.0s
VHRN Van Horn 59.40 324 IAmb IAmb 06 27 52.4
comp=Z,6.7nm,0.7s
CCM Cathedral Cave 59.47 340 P **P 06 27 51.5 -0.8**
CCM IAmb IAmb 06 27 52.7
comp=Z,12nm,0.8s
R40A Maddies Statio 60.02 339 P **P 06 27 55.2 -0.9**
R40A IAmb IAmb 06 27 56.4
comp=Z,7.8nm,0.7s
MNTX Cornudas Mount 60.32 325 IAmb IAmb 06 27 58.4
comp=Z,5.5nm,1.1s
T35A Sooner Cattle 60.36 335 IAmb IAmb 06 27 59.7
comp=Z,12nm,0.9s
MSTX Muleshoe 60.72 328 IAmb IAmb 06 28 01.4
comp=Z,14nm,1.0s
P40A Paris 61.07 340 IAmb IAmb 06 28 03.6
comp=Z,14nm,1.1s
P38A Dawn 61.65 339 IAmb IAmb 06 28 08.1
comp=Z,4.9nm,0.6s
121A Cookes Peak, D 62.28 324 IAmb IAmb 06 28 12.9
comp=Z,4.5nm,0.7s
319A Douglas 62.30 322 IAmb IAmb 06 28 13.2
comp=Z,13nm,1.1s
N38A Joes South For 62.59 340 IAmb IAmb 06 28 13.0
comp=Z,11nm,0.8s
L40A Anamosa 63.12 342 IAmb IAmb 06 28 17.1
comp=Z,14nm,0.9s
ANMO Albuquerque 63.38 326 P **P 06 28 18.9 -0.1**
VNA3 Neumayer Olymp 63.48 162 ⇑P **P 06 28 19.5 +0.6**
comp=Z,3.6nm,0.7s
VNA2 Neumayer--Watz 64.04 161 ⇑P **P 06 28 22.5 -0.1**
comp=Z,4.0nm,0.6s,baz=303,slow=8.2
I40A Norwalk 64.63 343 IAmb IAmb 06 28 27.1
comp=Z,11nm,1.0s
214A Organ Pipe Nat 64.83 320 IAmb IAmb 06 28 30.4
comp=Z,14nm,1.1s
SDCO Great Sand Dun 65.06 329 IAmb IAmb 06 28 31.4
comp=Z,7.4nm,0.9s
SNAA Sanae 65.68 161 ⇑P **P 06 28 34.3 +1.0**
comp=Z,85nm,0.7s
SNAA Sanae 65.68 161 P **P 06 28 33.9 +0.6**
SNAA Sanae 65.68 161 P **P 06 28 34.1 +0.8**
comp=Z,2.3nm,0.6s,baz=264,slow=7.4,SNR=24
comp=Z,2.3nm,0.6s
X16A Lo Mia Camp, P 65.74 323 IAmb IAmb 06 28 36.4
comp=Z,6.5nm,1.1s
G40A Rib Lake 65.80 344 IAmb IAmb 06 29 05.3
comp=Z,10nm,1.2s
MVCO Mesa Verde 66.17 327 IAmb IAmb 06 28 38.4
comp=Z,6.7nm,1.0s
PV01 Paradox Valley 66.90 327 IAmb IAmb 06 29 19.7
comp=Z,6.1nm,0.8s
PV15 Paradox Valley 67.02 327 IAmb IAmb 06 28 44.2
comp=Z,12nm,0.9s
PV02 Paradox Valley 67.05 327 IAmb IAmb 06 29 23.4
comp=Z,13nm,1.1s
PV22 Blue Mesa, Par 67.32 327 IAmb IAmb 06 28 45.7
comp=Z,8.1nm,1.3s
TROLL Troll, Antarti 67.39 161 ⇑P **P 06 28 45.4 +1.1**
comp=Z,186nm,0.5s
BC3 Big Chuckawall 67.61 320 P **P 06 28 46.7 +0.6**
BC3 IAmb IAmb 06 28 47.7
comp=Z,5.5nm,0.8s
BAR Barrett 67.73 318 IAmb IAmb 06 28 49.0
comp=Z,9.5nm,1.0s
IRM Iron Mountain 67.76 320 IAmb IAmb 06 28 49.1
comp=Z,10nm,1.1s
F33A 5 Mile Ranch, 68.10 340 IAmb IAmb 06 29 23.1
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 68.21 319 P **P 06 28 50.7 +0.8**
DANC Danby, Needles 68.23 320 IAmb IAmb 06 28 52.2
comp=Z,14nm,1.0s
DBIC Dimbokro 68.25 75 P **P 06 28 50.0 -0.5**
DBIC Dimbokro 68.25 75 P **P 06 28 49.7 -0.7**
comp=Z,30nm,0.6s,baz=263,slow=5.8,SNR=50
comp=Z,30nm,0.6s
KNB Kanab 68.38 324 IAmb IAmb 06 28 53.5
comp=Z,14nm,0.9s
V12A Nelson 68.65 322 IAmb IAmb 06 28 54.6
comp=Z,10nm,1.2s
CCUT Cedar City 69.06 324 IAmb IAmb 06 28 57.9
comp=Z,9.1nm,0.9s
RSSD Black Hills 69.51 334 P **P 06 28 58.1 +0.2**
GSC Goldstone, Bar 69.54 320 IAmb IAmb 06 29 00.4
comp=Z,15nm,1.4s
SHOC Shoshone, Teco 69.62 321 IAmb IAmb 06 29 01.2
comp=Z,4.3nm,0.5s
QSM Queen of Sheba 70.02 321 IAmb IAmb 06 29 02.8
comp=Z,7.1nm,1.0s
CCCA Chr Cany lake 70.03 320 IAmb IAmb 06 29 03.4
comp=Z,20nm,1.0s
GWY Greenwater Val 70.05 321 IAmb IAmb 06 29 03.1
comp=Z,8.3nm,0.8s
AGMN Agassiz Nation 70.16 342 IAmb IAmb 06 29 36.0
comp=Z,6.8nm,0.7s
WSHM Spangler Hills 70.16 320 P **P 06 29 02.9 +1.1**
WSHM IAmb IAmb 06 29 03.8
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 70.31 322 IAmb IAmb 06 29 04.9
comp=Z,7.1nm,0.8s
FURC Furnace Creek, 70.35 321 IAmb IAmb 06 29 05.3
comp=Z,13nm,0.9s
WCT Wildcat Mounta 70.43 321 IAmb IAmb 06 29 06.1
comp=Z,12nm,1.1s
EPLO Experimental L 70.79 344 IAmb IAmb 06 29 05.2
comp=Z,11nm,0.6s
ISA Isabella, Lake 70.81 319 IAmb IAmb 06 29 08.0
comp=Z,6.4nm,0.9s
PDAR Pinedale Array 70.91 330 P **P 06 29 06.1 -0.3**
PDAR Pinedale Array 70.91 330 P **P 06 29 06.3 -0.1**
comp=Z,1.6nm,0.8s,baz=141,slow=7.3,SNR=11
PDAR pP **pP 06 29 40.0 0.0**
comp=Z,1.3nm,0.6s,baz=122,slow=7.2,SNR=5.5
comp=Z,1.6nm,0.8s
VES Vestal, Richgr 71.30 319 IAmb IAmb 06 29 10.8
comp=Z,17nm,1.1s
ULM Lac du Bonnet 71.91 342 P **P 06 29 11.2 -0.7**
comp=Z,9.3nm,0.7s,baz=139,slow=7.4,SNR=6.2
ULM pP **pP 06 29 44.8 -0.6**
comp=Z,8.1nm,0.6s,baz=145,slow=5.7,SNR=3.9
comp=Z,9.3nm,0.7s
QSPA South Pole Qui 72.12 180 P **P 06 29 16.7 +3.4**
comp=Z,2.3nm,0.5s,baz=329,slow=1.2,SNR=27
QSPA pP **pP 06 29 46.5 -0.3**
comp=Z,5.1nm,1.0s,baz=206,slow=2.3,SNR=2.9
comp=Z,2.3nm,0.5s
LAO LASA Array 72.49 334 IAmb IAmb 06 29 51.8
comp=Z,11nm,1.1s
NVAR Mina Array Bea 72.51 322 P **P 06 29 17.4 +1.3**
comp=Z,2.7nm,0.8s,baz=148,slow=6.6,SNR=23
NVAR pP **pP 06 29 50.7 +0.9**
comp=Z,2.8nm,1.0s,baz=135,slow=6.2,SNR=4.9
comp=Z,2.7nm,0.8s
SCHQ Schefferville 72.62 2 P **P 06 29 15.0 -1.1**
comp=Z,22nm,0.6s,baz=207,slow=9.0,SNR=2.2
comp=Z,22nm,0.6s
YNE Yellowstone No 72.82 331 IAmb IAmb 06 29 53.9
comp=Z,15nm,0.7s
YMR Madison River 73.01 330 IAmb IAmb 06 29 21.3
comp=Z,16nm,1.5s
YHB Horse Butte 73.18 330 IAmb IAmb 06 29 22.0
comp=Z,6.9nm,0.8s
YHL Hebgen Lake 73.25 330 IAmb IAmb 06 29 23.5
comp=Z,9.1nm,1.1s
PAHR Pah Rah Range 73.98 322 IAmb IAmb 06 29 27.0
comp=Z,14nm,0.8s
MFID Camas Ranch 74.52 327 IAmb IAmb 06 29 29.8
comp=Z,12nm,1.1s
PLID Pearl Lake 75.78 328 IAmb IAmb 06 29 36.5
comp=Z,8.1nm,0.9s
MSO Missoula 76.01 330 IAmb IAmb 06 29 38.2
comp=Z,13nm,1.4s
BMO Blue Mountains 76.28 327 IAmb IAmb 06 29 39.3
comp=Z,6.4nm,0.8s
TORD Torodi Ar. Bea 76.67 71 P **P 06 29 39.4 -0.9**
comp=Z,20nm,0.6s,baz=255,slow=4.4,SNR=94
comp=Z,20nm,0.6s
PINE Pine Mountain 77.52 324 IAmb IAmb 06 29 47.1
comp=Z,7.9nm,0.9s
I05D Terrebonne, OR 78.09 325 IAmb IAmb 06 29 50.0
comp=Z,12nm,0.8s
C09A Chrisman Ranch 78.79 329 IAmb IAmb 06 29 53.2
comp=Z,9.3nm,0.9s
MORF Marmelete 79.35 45 *eP* **P 06 29 55.7 +1.0**
PBDV Barranco-do-Ve 79.81 45 *eP* **P 06 29 57.9 +0.8**
MD01 Midelt array s 79.84 51 **P 06 29 58.1 +0.5**
PARRA Arraiolos 79.91 44 *eP* **P 06 30 02.2 +4.5**
VNDA Vanda 80.15 190 P **P 06 30 00.4 +2.1**
comp=Z,1.6nm,0.8s,baz=122,slow=4.3,SNR=11
comp=Z,1.6nm,0.8s
D05A Enumclaw 80.27 327 IAmb IAmb 06 30 01.5
comp=Z,26nm,1.0s
MTE Manteigas 81.73 43 *eP* **P 06 30 07.8 +0.4**
PCAB Cabril 82.12 42 *eP* **P 06 30 09.9 +0.5**
MVO Moncorvo 82.47 42 *eP* **P 06 30 11.8 +0.6**
MVO *i* IAmb IAmb 06 31 06.5
comp=Z,25nm,1.6s
PAB San Pablo 83.40 45 **P 06 30 17.1 +1.0**
PAB IAmb IAmb 06 30 17.6
comp=Z,6.0nm,0.8s
ESDC Sonseca Array 83.73 45 **P 06 30 18.2 +0.5**
ESDC IAmb IAmb 06 30 19.4
comp=Z,7.9nm,1.2s
ESDC Sonseca Array 83.73 45 P **P 06 30 18.2 +0.5**
comp=Z,3.7nm,1.0s,baz=250,slow=5.6,SNR=15
ESDC pP **pP 06 30 53.1 +1.0**
comp=Z,3.5nm,1.0s,baz=250,slow=5.6,SNR=5.2
comp=Z,3.7nm,1.0s
BOSA Boshof 85.48 118 P **P 06 30 26.4 -0.6**
comp=Z,6.6nm,0.8s,baz=237,slow=3.7,SNR=7.8
comp=Z,6.6nm,0.8s
BBB Bella Bella 86.47 328 LR LR 07 12 21.7
comp=Z,28nm,18.1s,baz=124,slow=38
KHWEE KHWEE 87.72 112 P **P 06 30 38.9 +0.9**
MAW Mawson 87.75 164 P **P 06 30 38.2 +1.2**
comp=Z,2.3nm,0.7s,baz=221,slow=5.8,SNR=6.0
MAW pP **pP 06 31 13.1 +1.4**
comp=Z,2.9nm,0.9s,baz=309,slow=3.7,SNR=3.3
comp=Z,2.3nm,0.7s
YKA Yellowknife Ar 87.80 341 P **P 06 30 37.6 +0.5**
comp=Z,8.0nm,0.8s,baz=138,slow=3.7,SNR=10.0
YKA pP **pP 06 31 12.3 +0.5**
comp=Z,5.8nm,0.8s,baz=132,slow=4.0,SNR=4.8
comp=Z,8.0nm,0.8s
KEST Kesra 91.61 53 P **P 06 30 56.0 +0.3**
comp=Z,2.6nm,0.4s,baz=350,slow=1.0,SNR=4.4
comp=Z,2.6nm,0.4s
ILAR Eielson Array 100.95 335 PP **PP 06 35 46.7 -0.5**
comp=Z,0.5nm,0.9s,baz=116,slow=8.1,SNR=4.4
ARTI Arti 125.47 33 PKP **PKiKP 06 36 49.0 +0.1**
comp=Z,0.9nm,0.3s,baz=341,slow=4.9,SNR=5.0
H11N3 WAKE ISLAND Hyl26.90 281 T T 08 56 40.1
baz=100,slow=74,SNR=4.0
H11S2 WAKE ISLAND Hyl26.91 280 T T 08 56 37.2
baz=101,slow=74,SNR=4.6
H11N2 WAKE ISLAND Hyl26.91 281 T T 08 56 44.3
baz=100,slow=74,SNR=4.6
H11S1 WAKE ISLAND Hyl26.91 280 T T 08 56 42.7
baz=101,slow=74,SNR=14
H11N1 WAKE ISLAND Hyl26.92 281 T T 08 56 48.0
baz=100,slow=74,SNR=5.2
H11S3 WAKE ISLAND Hyl26.92 280 T T 08 56 44.9
baz=101,slow=74,SNR=12
AKTO Aktyubinsk 127.34 40 PKP **PKiKP 06 36 53.1 +0.2**
comp=Z,1.3nm,0.6s,baz=353,slow=2.9,SNR=3.9
ASAR Alice Springs 132.70 210 PKP **PKPdf 06 37 03.5 +0.1**
comp=Z,1.0nm,0.6s,baz=132,slow=2.0,SNR=17
ASAR pPKP **pPKPdf 06 37 40.4 +0.5**
comp=Z,1.2nm,1.0s,baz=140,slow=3.3,SNR=3.6
ASAR SKPbc **SKPbc 06 40 17.4 -1.5**
comp=Z,1.2nm,1.0s,baz=129,slow=4.5,SNR=5.4
BVAR Borovoye Array 133.19 32 PKP **PKiKP 06 37 05.0 +0.4**
comp=Z,1.0nm,0.5s,baz=285,slow=2.1,SNR=2.5
BVAR SKPbc **SKPbc 06 40 20.5 +1.0**
comp=Z,1.4nm,0.6s,baz=318,slow=1.9,SNR=4.7
WRA Warramunga Arr 135.63 213 PKP **PKPdf 06 37 08.9 0.0**
comp=Z,1.4nm,0.6s,baz=154,slow=1.9,SNR=14
WRA SKPbc **SKPbc 06 40 27.4 -1.2**
comp=Z,2.7nm,0.9s,baz=149,slow=2.6,SNR=14
KURBB Kurchatov Arra 138.68 31 PKP **PKPdf 06 37 13.6 0.0**
comp=Z,0.8nm,0.6s,baz=308,slow=2.5,SNR=10
KURBB pPKP **pPKPdf 06 37 49.9 -0.1**
comp=Z,0.7nm,0.6s,baz=312,slow=2.6,SNR=3.4
ZALV Zalesovo Beam 139.01 23 PKP **PKPdf 06 37 13.7 -0.4**
comp=Z,3.5nm,0.6s,baz=299,slow=2.4,SNR=16
ZALV pPKP **pPKPdf 06 37 51.7 +1.1**
comp=Z,4.7nm,0.8s,baz=284,slow=2.4,SNR=4.1
MKAR Makanchi Array 143.07 33 PKP PKPbc 06 37 19.1 +0.2
comp=Z,0.8nm,0.5s,baz=318,slow=1.6,SNR=4.8
MKAR pPKP pPKPdf 06 37 58.4 +0.3
comp=Z,0.9nm,0.7s,baz=318,slow=1.6,SNR=3.2
MKAR SKP 06 40 46.9
comp=Z,1.0nm,0.7s,baz=318,slow=3.3,SNR=5.1
USRK Ussuriysk Ar. 148.33 330 PKPbc **PKiKP 06 37 35.4 -0.4**
comp=Z,6.8nm,0.7s,baz=280,slow=5.2,SNR=7.4
MJAR Matsushiro Arr 149.49 313 PKPbc **PKiKP 06 37 38.2 -0.3**
comp=Z,7.5nm,0.6s,baz=100,slow=2.1,SNR=12
SONM Songino Array 150.10 6 PKPbc **PKiKP 06 37 39.5 0.0**
comp=Z,5.4nm,0.8s,baz=306,slow=1.5,SNR=17
SONM pPKPbc **pPKPbc 06 38 13.4 -1.5**
comp=Z,5.1nm,0.9s,baz=334,slow=1.4,SNR=5.5
GTA Gaotai 156.75 22 *eP* PKPab 06 38 23.6 +10
GTA sP pPKPab 06 38 49.7 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.3s
HHC Hu-ho-hao-te 157.27 358 *eP* **PKPdf 06 37 40.2 -3.8**
XAN Xi'an 164.01 5 PKP **PKPdf 06 37 57.1 +5.7**
NJ2 Nanjing 164.19 333 *eP* **PKPdf 06 37 50.8 -0.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
PZH PanZhiHua 168.26 43 PKP **PKPdf 06 37 54.4 -0.7**
CMAR Chiang Mai Arr 168.92 86 PKPab **PKPab 06 39 06.7 -0.6**
comp=Z,1.1nm,0.3s,baz=277,slow=3.8,SNR=7.7

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*IDC **08** 07:12:04.0±1.5, 31°.17S×68°.39W, h99km±9km, mb3.7/1, mbtmp3.7/4, Error ellipse: s-maj=68.3km s-min=22.3km az=102.0*
*SJA **08** 07:12:04.5±0.7, 31°.22S×68°.34W, h104km±2km, ML3.6, MW3.6*
ISC 08 07:12:04.9±0.8, **31°.25S**±0°.03×**68°.31W**±0°.03, **h105**km±5km, **n50**, σ1.9**60**/88, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.16**	**240**	*e*P	**Pn**	**07 12 19.7**	**0.0**
RTLL				*e*S	**Sn**	**07 12 30.8**	**+0.1**
RTLL				IAML		07 12 31.8	
	comp=Z,2μm,0.5s						
SJA	**San Juan**	**0.35**	**218**	*e*P	**Pn**	**07 12 19.8**	**-0.6**
SJA				*e*S	**Sn**	**07 12 33.3**	**+1.3**
SJA				IAML		07 12 35.6	
	comp=Z,2μm,0.2s						
CFA	**Coronel Fontan**	**0.36**	**170**	P	**Pn**	**07 12 20.9**	**+0.5**
	comp=Z,212nm,0.2s,baz=334,slow=8.1,SNR=6034						
CFA				S	**Sn**	**07 12 32.6**	**+0.6**
	comp=Z,995nm,0.3s,baz=114,slow=19,SNR=91						
CFA	**Coronel Fontan**	**0.36**	**170**	*e*P	**Pn**	**07 12 20.8**	**+0.4**
CFA				*e*S	**Sn**	**07 12 32.6**	**+0.6**
ZON	**Zonda**	**0.43**	**227**	*e*P	**Pn**	**07 12 21.0**	**+0.2**
ZON				*e*S	**Sn**	**07 12 32.9**	**+0.1**
ZON				IAML		07 12 33.3	
	comp=Z,2μm,0.4s						
ACCO	**Cerro Coronel**	**0.93**	**315**	*e*P	**Pn**	**07 12 25.4**	**+0.2**
ACCO				*e*S	**Sn**	**07 12 40.5**	**0.0**
AVFE	**Valle Fertil**	**0.94**	**52**	*e*P	**Pn**	**07 12 25.8**	**+0.7**
AVFE				*e*S	**Sn**	**07 12 41.4**	**+1.0**
AVFE				IAML		07 12 42.0	
	comp=Z,612nm,0.4s						
RTLS	**Leoncito**	**1.01**	**237**	*e*P	**Pn**	**07 12 26.8**	**+0.7**
RTLS				*e*S	**Sn**	**07 12 43.7**	**+1.7**
RTLS				IAML		07 12 44.7	
	comp=Z,2μm,0.3s						
ACDV	**Cuesta del Vie**	**1.28**	**327**	*e*P	**Pn**	**07 12 29.3**	**+0.3**
ACDV				*e*S	**Sn**	**07 12 47.6**	**+0.4**
ACDV				IAML		07 12 47.9	
	comp=Z,1μm,0.4s						
ACAN	**Cantantal**	**1.40**	**137**	*e*P	**Pn**	**07 12 31.0**	**+0.8**
ASAL	**Salagasta**	**1.41**	**198**	*e*P	**Pn**	**07 12 31.3**	**+0.9**
ASAL				*e*S	**Sn**	**07 12 52.0**	**+2.2**
ACHE	**Chepes**	**1.41**	**87**	*e*P	**Pn**	**07 12 31.6**	**+1.1**
ACHE				*e*S	**Sn**	**07 12 51.9**	**+2.0**
AROD	**Rodeo**	**1.47**	**317**	*e*P	**Pn**	**07 12 31.9**	**+0.5**
AROD				*e*S	**Sn**	**07 12 51.6**	**+0.1**
ARCO	**CERRO ARCO**	**1.67**	**198**	*e*P	**Pn**	**07 12 34.8**	**+1.1**
ARCO				*e*S	**Sn**	**07 12 52.7**	**-2.9**
ARCO				IAML		07 12 58.4	
	comp=Z,706nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.75**	**61**	*e*P	**Pn**	**07 12 35.5**	**+0.9**
APLL				*e*S	**Sn**	**07 12 58.3**	**+1.1**
AGUA	**GUANDACOL**	**1.76**	**355**	*e*P	**Pn**	**07 12 35.4**	**+0.6**
AGUA				*e*S	**Sn**	**07 12 58.5**	**+1.1**
AGUA				IAML		07 13 02.8	
	comp=Z,692nm,0.3s						
AAGR	**Agrelo**	**1.88**	**193**	*e*P	**Pn**	**07 12 37.4**	**+1.1**
AAGR				*e*S	**Sn**	**07 13 01.8**	**+1.6**
CO03	**El Pedregal**	**2.08**	**281**	*e*P	**Pn**	**07 12 39.6**	**+0.9**
CO03				*e*S	**Sn**	**07 13 05.8**	**+1.1**
CO03				IAML		07 13 06.9	
	comp=Z,181nm,0.6s						
ACLC	**CERRO LA CRUZ**	**2.16**	**33**	*e*P	**Pn**	**07 12 40.4**	**+0.5**
ACLC				*e*S	Sn	07 12 56.9	-10
ACLC				IAML		07 13 14.2	
	comp=Z,195nm,0.5s						
AVIZ	**Vizcacheras**	**2.23**	**184**	*e*P	**Pn**	**07 12 41.9**	**+1.2**
AVIZ				*e*S	**Sn**	**07 13 02.4**	**-5.6**
CO02	**Combarbal**	**2.31**	**270**	*e*P	**Pn**	**07 12 42.1**	**+0.5**
CO02				*e*S	**Sn**	**07 13 11.7**	**+1.8**
CO02				IAML		07 13 11.9	
	comp=Z,246nm,0.7s						
GO04	**Tololo Observa**	**2.40**	**296**	*e*P	**Pn**	**07 12 43.3**	**+0.3**
GO04				*e*S	**Sn**	**07 13 12.4**	**+0.2**
GO04				IAML		07 13 14.0	
	comp=Z,790nm,0.2s						
VA03	**San Esteban**	**2.43**	**231**	*e*P	**Pn**	**07 12 44.4**	**+1.1**
VA03				*e*S	**Sn**	**07 13 15.9**	**+3.1**
VA03				IAML		07 13 17.0	
	comp=Z,237nm,0.2s						
MRA	**San Martin**	**2.50**	**119**	*e*P	**Pn**	**07 12 45.4**	**+1.2**
MRA				*e*S	**Sn**	**07 13 14.4**	**+0.1**
MRA				IAML		07 13 16.4	
	comp=Z,272nm,0.4s						
VCA	**Vinchina**	**2.50**	**2**	*e*P	**Pn**	**07 12 45.0**	**+0.7**
VCA				*e*S	**Sn**	**07 13 17.4**	**+2.8**
VCA				IAML		07 13 19.6	
	comp=Z,429nm,0.5s						
MT08	**Bocatoma Ro**	**2.62**	**213**	*e*P	**Pn**	**07 12 47.7**	**+1.8**
MT08				*e*S	**Sn**	**07 13 20.9**	**+3.3**
MT08				IAML		07 13 21.2	
	comp=Z,152nm,0.3s						
MT04	**Ro Olivares**	**2.65**	**215**	*e*P	**Pn**	**07 12 47.9**	**+1.6**
MT04				*e*S	**Sn**	**07 13 17.0**	**-1.1**
AANI	**Anillaco**	**2.70**	**26**	*e*P	**Pn**	**07 12 47.5**	**+0.5**
AANI				*e*S	**Sn**	**07 13 19.7**	**+0.4**
AANI				IAML		07 13 24.8	
	comp=Z,658nm,0.3s						
PEL	**Peldehue**	**2.76**	**226**	*e*S	**Sn**	**07 13 22.1**	**+1.7**
PEL				IAML		07 13 23.6	
	comp=Z,120nm,0.8s						
ROC1	**El Roble**	**2.87**	**232**	*e*P	**Pn**	**07 12 48.9**	**-0.3**
ROC1				*e*S	**Sn**	**07 13 23.2**	**-0.1**
MT03	**Universidad Ad**	**2.91**	**219**	*e*P	**Pn**	**07 12 50.8**	**+1.2**
MT03				*e*S	**Sn**	**07 13 26.9**	**+2.8**
MT03				IAML		07 13 28.3	
	comp=Z,149nm,0.2s						
MT05	**Renca**	**2.96**	**223**	*e*P	**Pn**	**07 12 51.4**	**+1.1**
MT05				*e*S	**Sn**	**07 13 27.7**	**+2.3**
MT05				IAML		07 13 28.9	
	comp=Z,117nm,0.3s						
MT13	**San Alfonso**	**3.00**	**213**	*e*P	**Pn**	**07 12 52.5**	**+1.7**
MT13				*e*S	**Sn**	**07 13 26.5**	**+0.4**
MT13				IAML		07 13 37.1	
	comp=Z,69nm,0.2s						
LCO	**Las Campanas**	**3.04**	**317**	*e*P	**Pn**	**07 12 52.1**	**+0.5**
LCO				*e*S	**Sn**	**07 13 27.6**	**0.0**
LCO				IAML		07 13 31.3	
	comp=Z,264nm,0.2s						
LMEL	**Las Melosas**	**3.04**	**211**	*e*P	**Pn**	**07 12 53.1**	**+1.6**
LMEL				*e*S	Sn	07 13 38.4	+11
MT02	**Curacav**	**3.12**	**229**	*e*P	**Pn**	**07 12 52.2**	**-0.2**
MT02				*e*S	**Sn**	**07 13 29.0**	**0.0**
MT02				IAML		07 13 56.5	
	comp=Z,52nm,0.6s						
TCA	**Tanti**	**3.18**	**93**	*e*P	**Pn**	**07 12 54.2**	**+1.0**
TCA				*e*S	**Sn**	**07 13 30.1**	**-0.4**
TCA				IAML		07 13 58.7	
	comp=Z,73nm,0.3s						
RFA	**San Rafael**	**3.52**	**182**	*e*P	**Pn**	**07 12 57.7**	**+0.1**
RFA				*e*S	**Sn**	**07 13 38.8**	**+0.4**
RFA				IAML		07 14 08.9	
	comp=Z,86nm,0.4s						
MT01	**Popeta**	**3.60**	**223**	*e*P	**Pn**	**07 12 57.7**	**-1.0**
MT01				*e*S	**Sn**	**07 13 39.1**	**-1.3**
MT01				IAML		07 13 39.7	
	comp=Z,38nm,0.1s						
BO01	**Tunca**	**3.91**	**216**	*e*P	**Pn**	**07 13 02.1**	**-0.8**
BO01				*e*S	**Sn**	**07 13 47.5**	**-0.3**
BO01				IAML		07 13 52.6	
	comp=Z,31nm,0.6s						
GO03	**Copiapo**	**4.01**	**335**	*e*P	**Pn**	**07 13 04.6**	**+0.3**
GO03				*e*S	**Sn**	**07 13 49.5**	**-0.9**
GO03				IAML		07 13 50.8	
	comp=Z,67nm,0.3s						
BO02	**Sierra Bellavi**	**4.10**	**210**	*e*P	Pn	07 12 51.8	-14
BO02				*e*S	**Sn**	**07 13 59.7**	**+7.2**
BO02				IAML		07 13 59.9	
	comp=Z,76nm,0.1s						
AC02	**Maricunga**	**4.46**	**351**	*e*S	**Sn**	**07 14 04.8**	**+3.0**
AC02				IAML		07 14 07.3	
	comp=Z,24nm,0.3s						
EDS3	**Malargue**	**4.60**	**191**	*e*P	**Pn**	**07 13 12.7**	**+0.4**
EDS3				*e*S	Sn	07 13 50.9	-14
PLCA	**Paso Flores**	**9.64**	**190**	P	**Pn**	**07 14 19.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=357,slow=13,SNR=8.0						
LPAZ	**La Paz**	**14.89**	**1**	P	**Pn**	**07 15 29.6**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=197,slow=6.2,SNR=13						
SIV	**San Ignacio**	**16.56**	**25**	P	**Pn**	**07 15 48.7**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=185,slow=11,SNR=7.4						
QSPA	**South Pole Qui**	**58.98**	**180**	P	**P**	**07 21 54.0**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=156,slow=0.8,SNR=7.0						
	comp=Z,1.8nm,1.0s						
WRA	**Warramunga Arr**	**124.65**	**206**	PKP	**PKPdf**	**07 30 51.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=165,slow=1.6,SNR=6.7						
MKAR	**Makanchi Array**	**152.59**	**47**	PKPbc	**PKPbc**	**07 31 48.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=311,slow=3.3,SNR=4.0						
MKAR				PKPab	**PKPab**	**07 31 58.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=316,slow=4.0,SNR=2.7						

*IDC **08** 07:44:36.8±1.3, 34°.04N×72°.49E, h0km, mb3.8/5, mbtmp3.8/9, ML3.6/4, MS3.0/1, Error ellipse: s-maj=39.2km s-min=20.0km az=70.0*
*NEIC **08** 07:44:40.4±2.1, 34°.00N±0°.08×72°.57E±0°.07, h10km±2km, mb3.9/3, Error ellipse: s-maj=14.9km s-min=8.5km az=205.0*
*NDI **08** 07:44:40.0±1.8, 33°.95N×72°.58E, h10km, ML3.8, MW3.8*
*NNC **08** 07:44:41.7±9.8, 34°.02N×72°.22E, h21km±122km, mb3.8, mpv3.9, Error ellipse: s-maj=103.4km s-min=50.2km az=150.0*

ISC 08 07:44:40.7±0.8, 33°.89N±0°.06×72°.52E±0°.06, h34km, n46, σ1 9 65/59, mb4.0/7, 6C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.66**	**111**		**Pn**	**07 44 53.4**	**-0.2**
NIL					**Sb**	**07 45 04.1**	**+1.2**
SRNI	**Srinagar**	**1.95**	**83**	*e*P	**Pn**	**07 45 12.4**	**+1.1**
SRNI				*e*S	**Sb**	**07 45 38.1**	**-1.4**
SRNI				IAML		07 45 41.8	
	comp=N,3μm,0.3s						
SRNI				IAML		07 45 42.1	
	comp=E,2μm,0.0s						
JMU	**Jammu**	**2.31**	**120**	*e*P	**Pn**	**07 45 17.2**	**+0.8**
JMU				*e*S	**Sn**	**07 45 44.1**	**+0.5**
JMU				IAML		07 45 54.0	
	comp=E,544nm,0.4s						
JMU				IAML		07 45 54.5	
	comp=N,550nm,0.3s						
KBL	**Kabul**	**2.95**	**284**	Pn	**Pn**	**07 45 28.4**	**+3.0**
THN	**Thein Dam**	**3.05**	**118**	*e*P	**Pn**	**07 45 29.0**	**+2.5**
THN				*e*S	**Sn**	**07 46 04.6**	**+2.7**
THN				IAML		07 46 25.1	
	comp=N,189nm,0.6s						
THN				IAML		07 46 28.0	
	comp=E,180nm,0.2s						
TSSA	**Tissa**	**3.22**	**108**	*e*P	**Pn**	**07 45 30.9**	**+1.9**
TSSA				*e*S	**Sn**	**07 46 07.8**	**+1.5**
TSSA				IAML		07 46 18.4	
	comp=E,317nm,0.1s						
TSSA				IAML		07 46 18.7	
	comp=N,450nm,0.5s						
DHRM	**DHARAMSHALA**	**3.57**	**116**	*e*P	**Pn**	**07 45 35.5**	**+1.6**
DHRM				*e*S	**Sn**	**07 46 15.6**	**+0.6**
DHRM				IAML		07 46 32.2	
	comp=N,264nm,0.3s						
DHRM				IAML		07 46 39.4	
	comp=E,379nm,0.2s						
ALCI	**Alchi Leh**	**3.89**	**84**	*e*P	**Pn**	**07 45 39.1**	**+0.7**
ALCI				*e*S	**Sn**	**07 46 20.4**	**-2.6**
BHK	**Bhakra**	**4.11**	**126**	*e*P	Pn	07 45 47.5	+6.3
BHK				*e*S	**Sb**	**07 46 37.1**	**-4.5**
BHK				IAML		07 46 57.1	
	comp=E,152nm,0.4s						
BHK				IAML		07 46 58.2	
	comp=N,260nm,1.3s						
SMLA	**Simla**	**4.80**	**124**	*e*P	**Pn**	**07 45 51.9**	**+1.4**
SMLA				*e*S	**Sn**	**07 46 44.5**	**-0.4**
SMLA				IAML		07 47 18.0	
	comp=N,152nm,0.4s						
SMLA				IAML		07 47 18.2	
	comp=E,193nm,0.6s						
KLP	**Kalpa**	**5.37**	**114**	*e*P	**Pn**	**07 45 59.7**	**+0.9**
KLP				*e*S	**Sn**	**07 46 57.8**	**-1.8**
KLP				IAML		07 47 27.2	
	comp=E,194nm,0.7s						
KLP				IAML		07 47 30.6	
	comp=N,196nm,0.7s						
GAR	**Garm**	**5.40**	**341**	Pn	**Pn**	**07 46 00.5**	**+1.6**
CHGR	**Chuyangaron**	**5.47**	**331**	Pn	**Pn**	**07 46 01.6**	**+1.7**
DRK	**Karamyk**	**5.61**	**354**	Pn	**Pn**	**07 46 03.8**	**+1.9**
KUDL	**Kundal**	**6.67**	**148**	*e*P	**Pn**	**07 46 17.5**	**+1.3**
KUDL				*e*S	**Sn**	**07 47 30.5**	**-0.5**
KUDL				IAML		07 48 19.3	
	comp=E,227nm,0.8s						
KUDL				IAML		07 48 19.3	
	comp=N,320nm,0.8s						
ARSB	**Arslanbob**	**7.43**	**3**	Pn	**Pn**	**07 46 27.3**	**+0.5**
AAK	**Ala-Archa**	**8.87**	**9**	Pn	**Pn**	**07 46 47.0**	**+0.4**
AAK	**Ala-Archa**	**8.87**	**9**	Pn	**Pn**	**07 46 47.4**	**+0.8**
	comp=N,1.6nm,0.3s,baz=189,slow=9.5,SNR=14						
AAK				Sn	**Sn**	**07 48 23.6**	**-1.8**
	comp=N,0.7nm,0.3s,baz=18,slow=20,SNR=2.0						
AAK				LR	LR	07 49 54.3	
	comp=N,91nm,18.7s,baz=342,slow=36						
	comp=N,3.6nm,0.3s						
AAK	**Ala-Archa**	**8.87**	**9**	⇑P	**Pn**	**07 46 48.4**	**+1.8**
	comp=N,3.0nm,0.6s						
AAK				⇑S	**Sn**	**07 48 27.9**	**+2.6**
	comp=N,3.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**8.87**	**27**	Pn	**Pn**	**07 46 47.6**	**+0.8**
BOOM	**Boomskoye usch**	**9.00**	**16**	Pn	**Pn**	**07 46 49.5**	**+1.1**
KDJ	**Kajisay**	**9.01**	**23**	Pn	**Pn**	**07 46 50.1**	**+1.5**
KK31	**Karatay Array**	**9.33**	**351**	Pn	**Pn**	**07 46 53.2**	**+0.4**
KK31	**Karatay Array**	**9.33**	**351**	⇑P	**Pn**	**07 46 53.3**	**+0.4**
	comp=N,5.2nm,0.2s,baz=176,slow=14,SNR=90						
KK31				⇑S	**Sn**	**07 48 34.8**	**-1.7**
	comp=N,1.3nm,0.3s,baz=169,slow=21,SNR=3.9						
KKAR	**Karatay Array**	**9.33**	**351**	Pn	**Pn**	**07 46 53.2**	**+0.4**
PRZ	**Przheval'sk**	**9.74**	**27**	Pn	**Pn**	**07 46 58.7**	**+0.1**
MK31	**Makanchi Array**	**14.87**	**27**	Pn	**Pn**	**07 48 07.8**	**-0.6**
MK31	**Makanchi Array**	**14.87**	**27**	⇓P	**Pn**	**07 48 05.7**	**-2.7**
	comp=N,0.7nm,0.6s,baz=202,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**14.87**	**27**	Pn	**Pn**	**07 48 07.5**	**-0.9**
MKAR	**Makanchi Array**	**14.87**	**27**	Pn	**Pn**	**07 48 06.9**	**-1.5**
	comp=N,0.1nm,0.3s,baz=202,slow=12,SNR=6.0						
	comp=N,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**17.29**	**13**	P	**Pn**	**07 48 35.0**	**-4.3**
	comp=N,0.6nm,0.5s,baz=201,slow=12,SNR=4.8						
AB31	**Akbulak array**	**17.96**	**332**		**Pn**	**07 48 47.7**	**0.0**
AB31				IAmb	IAmb	07 49 15.9	
	comp=Z,4.7nm,1.4s						
AB31	**Akbulak array**	**17.96**	**332**	⇑P	**Pn**	**07 48 46.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=151,slow=12,SNR=7.5						
ABKAR	**Akbulak array**	**17.96**	**332**		**Pn**	**07 48 48.2**	**+0.6**
BVA0	**Borovoye Array**	**19.19**	**356**	⇑P	**Pn**	**07 49 04.0**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=153,slow=10,SNR=10.0						
BVAR	**Borovoye Array**	**19.19**	**356**	P	**P**	**07 49 00.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=162,slow=9.3,SNR=8.1						
	comp=Z,1.2nm,0.4s						
AKTO	**Aktyubinsk**	**19.66**	**332**	P	**P**	**07 49 05.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=139,slow=8.3,SNR=14						
	comp=Z,3.7nm,0.7s						
AKTO	**Aktyubinsk**	**19.66**	**332**	⇓P	**P**	**07 49 05.9**	**-0.7**
	comp=Z,2.2nm,0.7s						
ZAA0	**Zalesovo Array**	**21.86**	**20**		**P**	**07 49 29.2**	**-1.0**
ZAA0				IAmb	IAmb	07 49 33.6	
	comp=Z,3.9nm,0.7s						
ZALV	**Zalesovo Beam**	**21.86**	**20**	P	**P**	**07 49 28.4**	**-1.9**
ZALV	**Zalesovo Beam**	**21.86**	**20**	P	**P**	**07 49 29.3**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=213,slow=11,SNR=8.3						
	comp=Z,3.0nm,0.5s						
ARTI	**Arti**	**24.51**	**341**	P	**P**	**07 49 57.5**	**+0.8**
ARTI				IAmb	IAmb	07 50 04.4	
	comp=Z,5.0nm,0.7s						
ARCES	**ARCESS Array B**	**44.02**	**338**	P	**P**	**07 52 44.6**	**-0.1**
	comp=Z,6.5nm,1.2s,baz=116,slow=8.9,SNR=5.3						
	comp=Z,6.5nm,1.2s						
HFS	**Hagfors**	**45.89**	**323**	P	**P**	**07 52 58.8**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=91,slow=13,SNR=4.0						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**79.55**	**123**	P	**P**	**07 56 45.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=322,slow=5.1,SNR=6.0						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**81.74**	**126**	P	**P**	**07 56 58.6**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=311,slow=5.7,SNR=5.9						
	comp=Z,0.3nm,0.7s						

*MEX **08** 08:03:34.9±0.9, 15°.30N×93°.26W, h90km±9km, MD3.8*
*GCG **08** 08:03:35.7±1.1, 15°.40N×93°.14W, h62km±33km, MD4.0*

ISC 08 08:03:32.1±1.9, 15°.30N±0°.07×93°.23W±0°.07, h103km±15km, n16, σ1 9 96/29, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.40**	**2**	*e*P	**Pn**	**08 03 47.6**	**+0.1**
PCIG				*e*S	**Sn**	**08 03 58.0**	**-1.1**
PATR	**El Naranjo**	**0.98**	**101**	*e*P	**Pn**	**08 03 53.5**	**+0.7**
PATR				*e*S	**Sn**	**08 04 07.7**	**-0.6**
THIG		**1.01**	**113**	*i* P	**Pn**	**08 03 53.6**	**+0.8**
THIG				*i* S	**Sn**	**08 04 07.8**	**-0.7**
THIG		**1.01**	**113**	*i* P	**Pn**	**08 03 53.7**	**+0.8**
THIG				*e*S	**Sn**	**08 04 07.6**	**-0.9**
PAVE	**Pavencul**	**1.03**	**96**	*e*P	**Pn**	**08 03 54.5**	**+1.3**
PAVE				*e*S	**Sn**	**08 04 09.6**	**+0.4**
CHUJ	**Union Juarez**	**1.11**	**101**	*e*P	**Pn**	**08 03 55.0**	**+0.8**
CHUJ				*e*S	**Sn**	**08 04 10.9**	**+0.1**
SMCA	**Catarina**	**1.20**	**111**	*e*P	**Pn**	**08 03 55.7**	**+0.7**
SMCA				*e*S	**Sn**	**08 04 11.6**	**-0.8**
CCIG	**Comitan**	**1.44**	**47**	*e*P	**Pn**	**08 03 59.4**	**+1.4**
CCIG				*i* S	**Sn**	**08 04 18.6**	**+1.1**
CCIG	**Comitan**	**1.44**	**47**	*e*P	**Pn**	**08 03 59.4**	**+1.4**
TGIG		**1.47**	**4**	*e*P	**Pn**	**08 03 59.1**	**+0.8**
TGIG				*e*S	**Sn**	**08 04 17.1**	**-1.0**
TGIG		**1.47**	**4**	*e*P	**Pn**	**08 03 59.0**	**+0.7**
TGIG				*e*S	**Sn**	**08 04 16.6**	**-1.5**
RTAL	**Retalhuleu**	**1.68**	**117**	*e*S	**Sn**	**08 04 24.1**	**+1.7**
NILT	**Santiago Nilte**	**1.83**	**314**	*i* P	**Pn**	**08 04 04.6**	**+2.0**
NILT				*i* S	**Sn**	**08 04 25.8**	**-0.1**
STG2	**El Palmar, Qui**	**1.99**	**115**	*i* S	**Sn**	**08 04 23.0**	**-6.8**
UXUV	**UXUV**	**2.19**	**337**	*e*P	**Pn**	**08 04 07.0**	**-0.3**
UXUV				*i* S	**Sn**	**08 04 29.6**	**-4.5**
CMIG	**Matias Romero**	**2.38**	**319**	*e*P	**Pn**	**08 04 12.0**	**+2.2**
CMIG				*i* S	**Sn**	**08 04 38.0**	**-0.7**

*ASRS **08** 08:09:16.0±0.6, 54°.04N×86°.50E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 08:09:18.2±2.9, 54°.02N×86°.53E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=23.0km s-min=12.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**267**	I	I	08 16 10.0	
	baz=86,slow=327,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.01**	**267**	Pg	Pg	08 09 35.7	-1.9
	0.9nm,0.3s,baz=87,slow=17,SNR=10						
ZALV				Lg	Lg	08 09 52.6	
	2.3nm,0.3s,baz=86,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.97**	**239**	Pn	Pn	08 10 49.1	+1.4
	0.2nm,0.3s,baz=57,slow=14,SNR=3.5						
	1.9nm,0.2s						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	08 11 12.9	+1.1
	0.1nm,0.3s,baz=21,slow=12,SNR=2.9						
MKAR				Sn	Sn	08 12 39.6	-0.3
	0.1nm,0.3s,baz=24,slow=27,SNR=3.2						
	0.2nm,0.3s						

IDC 08 08:47:50.2±3.3, 5°.46S×133°.71E, h0km, mb3.3/1, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=129.2km s-min=32.1km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**178**	Pn	Pn	08 51 13.8	-1.9
	0.1nm,0.3s,baz=353,slow=13,SNR=2.3						
WRA				Sn	Sn	08 53 45.5	-11
	0.1nm,0.3s,baz=354,slow=24,SNR=1.3						
	0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**14.83**	**211**	Pn	Pn	08 51 21.7	+0.3
	0.2nm,0.3s,baz=33,slow=9.8,SNR=2.3						
FITZ				Sn	Sn	08 53 57.1	-10
	0.3nm,0.3s,baz=206,slow=19,SNR=5.6						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**18.11**	**179**	P	P	08 52 04.2	+0.4
	0.2nm,0.3s,baz=6.3,slow=12,SNR=12						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**69.03**	**325**	P	P	08 58 57.7	0.0
	0.2nm,0.4s,baz=122,slow=4.9,SNR=1.8						
	0.2nm,0.4s						

VIE 08 08:48:05.0±0.4, 47°.14N×15°.14E, h0km, mb0.8/1, ml0.7/2, Error ellipse: s-maj=4.8km s-min=1.0km az=118.0 9 km NNE of Kflach Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.28**	**68**	*i* Pg	Pg	08 48 10.1	-0.3
	0.7nm,0.1s						
ARSA				*e*Sg	Sg	08 48 14.7	+0.6
	0.5nm,0.1s						
SOKA	**Soboth**	**0.47**	**189**	*e*Pg	Pg	08 48 14.2	+0.2
	0.2nm,0.1s						
SOKA				*i* Sg	Sg	08 48 20.8	+0.7
	0.3nm,0.1s						

LJU 08 08:48:09.0, 46°.39N×15°.07E, h0km, 1D, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAVS	**Zavodnje**	**0.05**	**325**	⇓*i* Pg	Pg	08 48 09.0	-1.0
ZAVS				IAML		08 48 11.2	
	comp=Z,33nm,0.1s						

*ISK **08** 08:52:45.1, 38°.75N×38°.25E, h5km, ML2.7/10*
*AFAD **08** 08:52:47.1, 38°.72N×38°.13E, h7km±3km, ML2.6*

ISC 08 08:52:46.2±1.2, 38°.74N±0°.03×38°.19E±0°.04, h7km±11km, n14, σ0 9 96/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPR	**Arapgir-MALATY**	**0

SAUI				Sn	Sn	09 44 21.5	+3.2
MTN	Manton Dam	6.20	168		Pn	09 44 48.4	+1.6
SOEI	Soe	6.21	241	Pn	Pn	09 44 48.6	+1.4
BATI	Baumata	6.95	240	P	Pn	09 44 59.2	+2.3
	48nm,0.5s,baz=61,slow=5.1,SNR=4.0						
BATI				S	Sn	09 46 17.0	+2.1
	28nm,0.4s,baz=253,slow=19,SNR=1.9						
KNRA	Kununurra	8.92	186		Pn	09 45 23.7	+0.6
FITZ	Fitzroy Crossi	11.97	199	Pn	Pn	09 46 03.2	-0.2
FITZ	Fitzroy Crossi	11.97	199	P	Pn	09 46 02.7	-0.7
	0.4nm,0.3s,baz=26,slow=8.8,SNR=20						
FITZ				S	Sn	09 48 07.9	-8.0
	4.4nm,0.3s,baz=157,slow=17,SNR=8.0						
	1.2nm,0.2s						
WB0	Warramunga Arr	13.69	161	Pn	Pn	09 46 23.1	-2.4
WRA	Warramunga Arr	13.84	162	Pn	Pn	09 46 24.6	-2.7
WRA	Warramunga Arr	13.84	162	P	Pn	09 46 24.8	-2.6
	0.5nm,0.3s,baz=341,slow=13,SNR=21						
WRA				S	Sn	09 48 52.6	-8.1
	1.1nm,0.4s,baz=338,slow=23,SNR=5.5						
	1.9nm,0.6s						
WR8	Warramunga Arr	13.90	161	Pn	Pn	09 46 26.5	-1.6
COEN	Coen	14.99	120		Pn	09 46 43.7	+1.8
AS31	Alice Springs	17.27	167	P	P	09 47 09.0	+0.2
AS31				IAmb	IAmb	09 47 12.9	
	comp=Z,4.3nm,0.5s						
ASAR	Alice Springs	17.28	167	P	P	09 47 09.1	+0.2
ASAR	Alice Springs	17.28	167	P	P	09 47 09.9	+1.0
	comp=Z,1.7nm,0.3s,baz=342,slow=9.4,SNR=127						
ASAR				S	S	09 50 15.9	-5.4
	comp=Z,0.8nm,0.9s,baz=347,slow=23,SNR=5.7						
	comp=Z,7.0nm,0.5s						
PSA00	Pilbara Seismi	17.58	212		P	09 47 13.1	+0.9
PSA00				IAmb	IAmb	09 47 41.0	
	comp=Z,11nm,1.1s						
PSA00	Pilbara Seismi	17.58	212		P	09 47 12.3	+0.1
PSA00				IAmb	IAmb	09 47 34.2	
	comp=Z,5.2nm,1.4s						
STKA	Stephens Creek	27.32	158	P	P	09 48 47.8	-0.5
	comp=Z,2.4nm,0.9s,baz=336,slow=8.6,SNR=4.8						
	comp=Z,2.4nm,0.9s						
TUWZ	Tuamarina	52.21	138	P	P	09 52 13.2	+0.3
MKAR	Makanchi Array	67.90	327	P	P	09 53 58.0	-1.9
	comp=Z,1.6nm,0.5s,baz=118,slow=8.6,SNR=13						
	comp=Z,1.6nm,0.5s						
KURBB	Kurchatov Arra	72.19	329	P	P	09 54 23.7	-2.1
	comp=Z,0.3nm,0.5s,baz=108,slow=6.0,SNR=2.2						
	comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui	83.22	180	P	P	09 55 26.8	0.0
QSPA				IAmb	IAmb	09 55 42.2	
	comp=Z,2.2nm,1.1s						

IDC 08 09:56:42.2±1.4, 3°36S×151°88E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=69.3km s-min=26.8km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.76	225	P	P	10 01 56.7	+0.1
	1.9nm,1.0s,baz=50,slow=10,SNR=11						
	1.9nm,1.0s						
ASAR	Alice Springs	26.63	219	P	P	10 02 24.4	+1.6
	0.8nm,0.9s,baz=47,slow=9.3,SNR=7.0						
	0.8nm,0.9s						
VNDA	Vanda	74.29	178	P	P	10 08 20.3	-0.7
	0.5nm,0.6s,baz=309,slow=6.5,SNR=8.1						
	0.5nm,0.6s						
ILAR	Eielson Array	81.18	22	P	P	10 08 59.2	-0.4
	0.5nm,0.7s,baz=246,slow=5.8,SNR=6.6						
	0.5nm,0.7s						

*IDC **08** 09:58:43.2±1.7, 4°07S×152°47E, h0km, mb3.9/8, mbtmp4.0/8, MS3.5/16, Error ellipse: s-maj=56.3km s-min=23.6km az=117.0*

*NEIC **08** 09:58:48.7±2.0, 3°82S±0°04×152°2E±0°1, h10km±1km, mb4.5/17, Error ellipse: s-maj=19.2km s-min=6.7km az=98.0*

ISC 08 09:58:51.1±0.7, 3°82S±0°07×152°2E±0°1, h35km, n51, σ1972/37, mb4.3/16, MS3.4/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.37	188	Pg	Pn	09 58 56.2	-3.9
RABL				Sg	Sn	09 59 03.6	-2.6
MANU	Manus Island	5.16	290		Pn	10 00 02.9	-3.0
PMG	Port Moresby	7.49	222	Pn	Pn	10 00 38.8	+0.9
PMG	Port Moresby	7.49	222	Pn	Pn	10 00 41.1	+3.2
	2.0nm,0.3s,baz=2.3,slow=9.0,SNR=9.0						
HNR	Honiara	9.48	126	LR	LR	10 04 59.9	
	comp=Z,498nm,19.0s,baz=343,slow=41						
GUMO	Guam	18.77	337	LR	LR	10 10 26.6	
	comp=Z,94nm,20.4s,baz=165,slow=37						
DZM	Mont Dzumac	22.79	144	P	P	10 03 51.7	+0.6
DZM				IAmb	IAmb	10 04 04.7	
	comp=Z,35nm,1.2s						
DZM	Mont Dzumac	22.79	144	LR	LR	10 11 46.3	
	comp=Z,72nm,19.7s,baz=308,slow=35						
WB0	Warramunga Arr	23.53	226		P	10 03 57.5	-0.9
WB0				IAmb	IAmb	10 04 01.1	
	comp=Z,13nm,1.1s						
WR8	Warramunga Arr	23.57	226		P	10 03 56.4	-2.4
WR8				IAmb	IAmb	10 04 16.5	
	comp=Z,12nm,1.1s						
WB2	Warramunga Arr	23.67	226	P	P	10 03 57.1	-2.6
WB2				IAmb	IAmb	10 04 02.0	
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	23.68	226		P	10 03 59.6	-0.2
WRA	Warramunga Arr	23.68	226	P	P	10 03 56.4	-3.4
	comp=Z,7.5nm,0.9s,baz=50,slow=9.8,SNR=17						
	comp=Z,7.5nm,0.9s						
INKA	Innaminka	26.18	204		P	10 04 23.5	+1.0
AS31	Alice Springs	26.50	220		P	10 04 26.8	+1.3
ASAR	Alice Springs	26.50	220	P	P	10 04 26.3	+0.8
ASAR	Alice Springs	26.50	220	P	P	10 04 22.4	-3.1
	comp=Z,0.5nm,0.8s,baz=56,slow=8.8,SNR=10						
ASAR				LR	LR	10 15 11.5	
	comp=Z,60nm,19.0s,baz=18,slow=37						
	comp=Z,0.5nm,0.8s						
DAV	Davao City (W)	28.71	292	LR	LR	10 15 36.4	
	comp=Z,53nm,19.3s,baz=352,slow=35						
BATI	Baumata	29.03	256	LR	LR	10 17 45.6	
	comp=Z,85nm,18.7s,baz=52,slow=39						
FITZ	Fitzroy Crossi	29.63	239	LR	LR	10 17 22.3	
	comp=Z,122nm,18.4s,baz=116,slow=38						
TOLI2	Tolitoli	31.80	278	P	P	10 05 13.7	+1.0
TOLI2				IAmb	IAmb	10 05 29.2	
	comp=Z,14nm,1.1s						
JOW	Kunigami	38.27	324	LR	LR	10 18 23.2	
	comp=Z,97nm,20.6s,baz=124,slow=31						
SBUM	Sibu	40.46	278	P	P	10 06 27.7	+0.9
JNU	Nakatsue	41.93	333	LR	LR	10 23 47.1	
	comp=Z,41nm,18.3s,baz=60,slow=36						
TCW	Tory Channel	42.17	155	P	P	10 06 40.9	+0.5
MJAR	Matsushiro Arr	42.23	343	LR	LR	10 21 46.8	
	comp=Z,66nm,18.7s,baz=164,slow=32						
RAR	Rarotonga	49.71	115	LR	LR	10 26 20.7	
	comp=Z,32nm,18.7s,baz=140,slow=34						
PETK	Petropavlovsk-	56.91	4	LR	LR	10 28 54.7	
	comp=Z,37nm,21.0s,baz=189,slow=32						
CM31	Chiang Mai Arr	56.94	295	P	P	10 08 34.0	+0.5
CM31				IAmb	IAmb	10 09 04.3	
	comp=Z,4.2nm,0.9s						
CMAR	Chiang Mai Arr	56.94	295	P	P	10 08 33.7	+0.3
CMAR	Chiang Mai Arr	56.94	295	P	P	10 08 34.1	+0.7
	comp=Z,0.6nm,0.3s,baz=106,slow=7.3,SNR=7.7						
	comp=Z,0.6nm,0.3s						
SHEM	Shemya Is, Ala	59.30	15	LR	LR	10 33 25.1	
	comp=Z,29nm,18.4s,baz=299,slow=35						
SONM	Songino Array	65.19	328	P	P	10 09 29.8	+0.7
SONM				IAmb	IAmb	10 09 37.6	
	comp=Z,2.0nm,1.2s						
SONM	Songino Array	65.19	328	P	P	10 09 27.4	-1.7
	comp=Z,0.5nm,0.4s,baz=146,slow=10,SNR=1.7						
	comp=Z,0.5nm,0.4s						
SHL	Shillong	65.31	300	P	P	10 09 30.8	+0.5
SEY	Seymchan	66.57	0	LR	LR	10 37 25.1	
	comp=Z,20nm,19.2s,baz=196,slow=35						
KDAK	Kodiak Island	75.57	27	LR	LR	10 41 20.5	
	comp=Z,36nm,20.1s,baz=59,slow=34						
MKAR	Makanchi Array	79.21	319	P	P	10 10 52.1	-0.6
	comp=Z,0.5nm,0.8s,baz=94,slow=7.4,SNR=4.2						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	81.48	22	P	P	10 11 03.6	-0.9
ILAR	Eielson Array	81.48	22	P	P	10 11 03.2	-1.3
	comp=Z,1.6nm,0.7s,baz=245,slow=5.6,SNR=15						
	comp=Z,1.6nm,0.7s						
KURBB	Kurchatov Arra	82.68	322	P	P	10 11 11.0	-0.1
	comp=Z,0.4nm,0.3s,baz=109,slow=4.3,SNR=5.4						
	comp=Z,0.4nm,0.3s						
BCAR	Beaver Creek A	82.77	25	P	P	10 11 12.4	+1.0
BMAR	Burnt Mountain	83.53	20	P	P	10 11 16.4	+1.1
G26K	Porcupine Rive	83.60	21	P	P	10 11 16.6	+1.1
QSPA	South Pole Qui	86.13	180	P	P	10 11 30.5	+2.0
QSPA				IAmb	IAmb	10 11 54.5	
	comp=Z,7.6nm,1.5s						
H31M	Peel River	86.74	23	P	P	10 11 31.8	+0.5
G31M	Satah River	87.09	22	P	P	10 11 33.4	+0.4
BVAR	Borovoye Array	88.11	323	P	P	10 11 36.6	-1.6
	comp=Z,0.7nm,0.5s,baz=99,slow=7.7,SNR=5.2						
	comp=Z,0.7nm,0.5s						
AB31	Akbulak array	94.36	319	P	P	10 12 07.9	+0.7
AB31				IAmb	IAmb	10 12 11.6	
	comp=Z,1.7nm,1.0s						
ABKAR	Akbulak array	94.36	319	P	P	10 12 07.5	+0.3
ARTI	Arti	95.29	326	LR	LR	10 58 45.8	
	comp=Z,85nm,18.8s,baz=332,slow=38						

*NEIC **08** 10:38:10.1±2.2, 19°24N±0°04×67°09W±0°02, h10km±1km, ML2.1/11, Md3.0/5(RSPR), Error ellipse: s-maj=7.5km s-min=4.1km az=359.0*

*SDD **08** 10:38:15.1±1.4, 18°30N×67°02W, h148km±10km, MD3.0, ML2.3, MW2.8*

*RSPR **08** 10:38:17.7, 19°02N×67°20W, h15km±2km, MD3.0/5*

ISC 08 10:38:12.7±1.7, 19°13N±0°07×67°04W±0°04, h12km±10km, n33, σ1944/46, 7C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.66	186		Pn	10 38 27.6	-0.3
AGPR					Sb	10 38 36.0	+0.6
AGPR	Aguadilla, PR	0.66	186	⇑eP	Pn	10 38 27.6	-0.3
AGPR	Aguadilla, PR	0.66	186	eS	Sb	10 38 36.0	+0.6
AOPR	Arecibo Observ	0.82	161		Pn	10 38 29.9	-0.3
AOPR				Sn	Sn	10 38 41.2	-1.1
AOPR				IAML		10 38 53.0	
	comp=N,50nm,0.3s						
AOPR	Arecibo Observ	0.82	161	⇑eP	Pn	10 38 30.2	0.0
AOPR	Arecibo Observ	0.82	161	eS	Sn	10 38 41.1	-1.2
AOPR	Arecibo Observ	0.82	161	ePg	Pn	10 38 34.2	+4.0
AOPR				eSg	Sn	10 38 48.5	+6.2
AOPR				IAML		10 38 53.6	
	comp=N,40nm,1.1s						
UUPR	Utuado, UPR, P	0.92	161		Pg	10 38 30.3	-0.2
LSP	Las Mesas	0.95	183		Pn	10 38 32.1	+0.2
LSP					Sb	10 38 43.5	-0.2
LSP	Las Mesas	0.95	183	⇓eP	Pn	10 38 32.1	+0.2
LSP	Las Mesas	0.95	183	eS	Sb	10 38 43.5	-0.2
CRPR	Cabo Rojo, PR	1.12	183		Pb	10 38 32.2	-1.8
CRPR					Sb	10 38 47.4	-1.1
CRPR				IAML		10 38 50.8	
	comp=E,42nm,1.8s						
CRPR	Cabo Rojo, PR	1.12	183	⇑eP	Pn	10 38 34.6	+0.4
CRPR	Cabo Rojo, PR	1.12	183	eS	Sb	10 38 47.3	-1.2
CRPR	Cabo Rojo, PR	1.12	183	ePg	Pn	10 38 34.5	+0.3
CRPR				eSg	Sb	10 38 47.4	-1.1
CRPR				IAML		10 38 51.1	
	comp=N,55nm,2.0s						
CELP	Cerrillos	1.14	157		Pb	10 38 34.0	-0.3
CELP				IAML		10 38 48.6	
	comp=E,34nm,3.9s						
CELP					Sg	10 38 49.0	-0.4
CELP				IAML		10 39 03.3	
	comp=N,33nm,4.2s						
CELP	Cerrillos	1.14	157	⇑eP	Pg	10 38 35.1	+0.5
CELP	Cerrillos	1.14	157	eS	Sn	10 38 49.9	-0.2
CELP	Cerrillos	1.14	157	ePg	Pg	10 38 35.6	+1.0
CELP				eSg	Sg	10 38 49.4	0.0
CELP				IAML		10 38 49.6	
	comp=N,35nm,1.4s						
MLPR	Magueyes Islan	1.15	180	⇑eP	Pg	10 38 35.1	+0.2
MLPR	Magueyes Islan	1.15	180	eS	Sb	10 38 48.2	-1.3
MLPR	Magueyes Islan	1.15	180	ePg	Pb	10 38 34.6	0.0
MLPR				eSg	Sg	10 38 49.5	-0.4
MLPR				IAML		10 39 16.1	
	comp=N,16nm,4.0s						
OBIP	Obispado Ponce	1.16	159		Pb	10 38 33.2	-1.4
OBIP					Sb	10 38 49.3	-0.3
OBIP				IAML		10 38 51.0	
	comp=E,33nm,1.4s						
OBIP	Obispado Ponce	1.16	159	⇑eP	Pg	10 38 35.7	+0.7
OBIP	Obispado Ponce	1.16	159	eS	Sg	10 38 49.8	-0.2
GCPR	Guaynabo City	1.22	132	Pn	Pn	10 38 34.5	-1.1
SJG	San Juan	1.32	140	Pn	Pn	10 38 36.4	-0.6
SJG				IAML		10 38 49.8	
	comp=E,27nm,0.2s						
SJG				IAML		10 39 19.3	
	comp=E,25nm,1.9s						
IGPR	InterUniversit	1.46	142		Pg	10 38 41.5	+0.8
IGPR					Sg	10 38 59.4	-0.3
IGPR	InterUniversit	1.46	142	⇑eP	Pg	10 38 41.5	+0.8
IGPR	InterUniversit	1.46	142	eS	Sg	10 38 59.4	-0.3
HIDR	Higuey Centro	1.67	252	ePg	Pb	10 38 44.0	+0.5
HIDR				eSg	Sg	10 39 06.9	+0.3
HIDR				IAML		10 39 21.3	
	comp=N,76nm,0.6s						
MIDR	Miches	1.91	266	ePg	Pb	10 38 48.8	+1.4
MIDR				eSg	Sg	10 39 14.2	+0.2
MIDR				IAML		10 39 19.5	
	comp=N,3.2nm,0.9s						
MIDR				IAML		10 39 49.7	
	comp=N,43nm,3.2s						
DR12	Loma Pena Alta	2.24	262	Pn	Pn	10 38 46.6	-3.1

*IDC **08** 10:43:18.5±28.0, 38°05N×20°59E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=546.6km s-min=43.8km az=34.0*

*THE **08** 10:43:29.9, 38°9N±0°7×21°2E±0°5, h19km±1km, M3.1/22, MLh3.1/22*

*ATH **08** 10:43:29.4, 38°84N×21°20E, h26km±2km, ML3.2/18, Manual Solution by A.Moschou First location: 2019/10/08 10:44:23, This location: 2020/11/25 06:57:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 08 10:43:29.2±0.9, 38°85N±0°02×21°20E±0°02, h18km±3km, n58, σ0975/83, mb3.8/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMPL	Ampelaki	0.08	7	P	Pg	10 43 33.5	+0.7
AMPL				S	Sg	10 43 36.5	+1.4
AST1	Astakos	0.32	196	P	Pb	10 43 36.9	+0.6
PVO	Paravola	0.34	132	P	Pb	10 43 37.2	+0.4
PVO				S	Sb	10 43 43.0	+1.1
PVO	Paravola	0.34	132	P	Pb	10 43 37.1	+0.4
PVO				S	Sb	10 43 42.4	+0.6
ARTB	Arta	0.36	331	P	Pb	10 43 37.4	+0.3
ARTB				S	Sb	10 43 43.9	+1.5
NYDR	Nydri-Lefkada	0.41	252	P	Pb	10 43 38.1	+0.1
NYDR				S	Sb	10 43 44.9	+0.9
NYDR	Nydri-Lefkada	0.41	252	P	Pb	10 43 38.1	+0.1
NYDR				S	Sb	10 43 45.0	+1.0
TSLK	Tsoukalades, L	0.43	267	P	Pb	10 43 38.8	+0.5
TSLK				S	Sb	10 43 45.9	+1.6
TSLK	Tsoukalades, L	0.43	267	P	Pb	10 43 38.5	+0.3
TSLK				S	Sn	10 43 46.3	-1.5
LKD2	Lefkada island	0.43	263	P	Pb	10 43 38.7	+0.4
LKD2				S	Sb	10 43 45.9	+1.5
LKD2	Lefkada island	0.43	263	P	Pb	10 43 38.6	+0.4
LKD2				S	Sb	10 43 45.8	+1.4
EVR	Evrytania	0.48	81	P	Pg	10 43 39.1	+0.1
EVR				S	Sb	10 43 46.8	+0.8
EVR	Evrytania	0.48	81	P	Pg	10 43 39.1	+0.1
EVR				S	Sb	10 43 47.3	+1.4
EVGI	Lefkada island	0.48	242	P	Pb	10 43 39.4	+0.2
EVGI				S	Sn	10 43 47.4	-1.7
EVGI	Lefkada island	0.48	242	P	Pb	10 43 39.2	0.0
EVGI				S	Sb	10 43 46.9	+1.0
TETR	Tetrakomo, Epi	0.50	6	P	Pb	10 43 39.5	-0.1
TETR				S	Sb	10 43 46.9	+0.4
TETR	Tetrakomo, Epi	0.50	6	P	Pb	10 43 39.3	-0.2
TETR				S	Sb	10 43 47.2	+0.7
ANX	Ano Chora	0.62	114	P	Pg	10 43 41.8	+0.3
ANX	Ano Chora	0.62	114	P	Pb	10 43 41.2	-0.2
ANX				S	Sg	10 43 51.0	+1.3
FSK	Fiskardo	0.63	233	P	Pb	10 43 41.7	+0.1
FSK				S	Sn	10 43 52.5	-0.3
FSK	Fiskardo	0.63	233	P	Pb	10 43 41.2	-0.4
FSK				S	Sg	10 43 50.9	+0.8
AXS	Araxos	0.66	168	P	Pg	10 43 42.3	+0.1
AXS				S	Sn	10 43 52.9	-0.7
AXS	Araxos	0.66	168	P	Pb	10 43 42.2	+0.1
AXS				S	Sg	10 43 52.1	+1.1
PRMD	Pramanda	0.69	353	P	Pb	10 43 42.8	+0.1
PRMD				S	Sn	10 43 53.7	-0.7
EFP	Efpalio	0.69	127	P	Pg	10 43 43.0	+0.2
EFP				S	Sn	10 43 53.6	-0.7
EFP	Efpalio	0.69	127	P	Pb	10 43 42.6	0.0
EFP				S	Sg	10 43 52.9	+0.9
MAKR	Makrakomi, Fth	0.74	77	P	Pg	10 43 44.0	+0.2
MAKR	Makrakomi, Fth	0.74	77	P	Pb	10 43 43.9	+0.2
RLS	Riolos of Patr	0.81	165	P	Pb	10 43 44.9	+0.2
RLS	Riolos of Patr	0.81	165	P	Pb	10 43 44.7	-0.1
VLS	Valsamata	0.82	216	P	Pb	10 43 44.8	-0.2
VLS				S	Sn	10 43 58.3	+0.8
VLS	Valsamata	0.82	216	P	Pb	10 43 44.6	-0.4
JAN	Janina	0.85	342	P	Pg	10 43 46.1	+0.2
JAN	Janina	0.85	342	P	Pg	10 43 46.0	+0.2
KALE	Kalithea	0.86	121	P	Pb	10 43 45.9	+0.2
KALE	Kalithea	0.86	121	P	Pb	10 43 45.7	0.0
ARG2	Argostoli	0.87	220	P	Pb	10 43 45.3	-0.4
AGG	Agios Georgios	0.90	78	P	Pb	10 43 46.3	+0.1
CLEM	Kyllini,Ilia,G	0.95	183	P	Pg	10 43 48.7	+1.0
THL	Klokotos Trika	0.96	41	P	Pb	10 43 47.5	+0.3
THL	Klokotos Trika	0.96	41	P	Pb	10 43 47.2	0.0
IGT	Igoumenitsa	0.96	316	P	Pn	10 43 48.1	+0.3
IGT	Igoumenitsa	0.96	316	P	Pn	10 43 48.0	+0.3
ORTH	Orthonies,Zaky	1.07	202	P	Pb	10 43 48.7	-0.4
AXAR	Agios Charalam	1.14	94	P	Pb	10 43 50.7	+0.3
AXAR	Agios Charalam	1.14	94	P	Pn	10 43 50.3	0.0
LTHK	Lithakia	1.17	194	P	Pn	10 43 50.2	-0.5
KRI1	kERI	1.22	195	P	Pn	10 43 51.4	+0.1
GUR	Goura	1.27	135	P	Pn	10 43 52.4	+0.2
ATAL	Atalanti	1.43	96	P	Pn	10 43 54.8	+0.6
LTK	Loutraki	1.61	120	P	Pn	10 43 57.2	+0.5
OHR	Ohrid	2.28	352	*i* Pn	Pb	10 44 09.2	-0.7
VAY	Valandovo	2.69	23	*i* Pn	Pn	10 44 13.6	+2.1
HFS	Hagfors	21.83	350	P	P	10 48 20.5	+0.2
	3.5nm,0.9s,baz=159,slow=12,SNR=2.2						
	3.5nm,0.9s						
ARCES	ARCESS Array B	30.84	3	P	P	10 49 42.6	-1.2
	2.3nm,0.9s,baz=187,slow=9.1,SNR=9.4						
	2.3nm,0.9s						
BVAR	Borovoye Array	36.28	51	P	P	10 50 30.8	-0.5
	0.4nm,0.4s,baz=285,slow=7.3,SNR=2.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	44.50	59	P	P	10 51 38.0	-1.4
	0.3nm,0.4s,baz=278,slow=8.8,SNR=3.1						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	44.85	49	P	P	10 51 41.2	-0.8
	3.0nm,0.5s,baz=288,slow=5.9,SNR=8.0						
	3.0nm,0.5s						

*IDC **08** 10:48:22.6±6.5, 38°17N×73°42E, h70km±59km, mb3.6/6, mbtmp3.9/11, ML3.2/4, Error ellipse: s-maj=57.4km s-min=48.7km az=123.0*

*MOS **08** 10:48:27.9±0.9, 38°46N×73°30E, h125km, mb4.1/5, Error ellipse: s-maj=10.0km s-min=5.6km az=90.4*

*NEIC **08** 10:48:29.3±1.5, 38°48N±0°05×73°23E±0°06, h123km±11km, mb4.3/5, Error ellipse: s-maj=7.6km s-min=6.7km az=177.0*

*NNC **08** 10:48:30.1±2.7, 38°54N×73°06E, h107km±53km, mb3.7, mpv3.9, Error ellipse: s-maj=26.9km s-min=16.4km az=21.0*

ISC 08 10:48:26.5±0.5, 38°32N±0°04×73°43E±0°05, h107km, n83, σ2912/99, mb3.9/8, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	1.72	313	Pn	Pn	10 49 57.6	+1.4
DRK				Sn	Sn	10 49 19.3	+0.6
DRK	Karamyk	1.72	313	PN	Pn	10 48 57.6	+1.4
DRK						10 49 19.3	
GAR	Garm	2.53	287		Pn	10 49 07.1	+0.7
GAR				Sn	Sn	10 49 36.5	-0.5
ARSB	Arslanbob	3.02	354		Pn	10 49 13.6	+0.8
ARSB				Sn	Sn	10 49 47.6	-0.9
ARSB	Arslanbob	3.02	354	PN	Pn	10 49 13.6	+0.8
ARSB				S	Sn	10 49 47.6	-0.9
CHGR	Chuyangaron	3.37	277		Pn	10 49 17.8	+0.4
CHGR				Sn	Sn	10 49 55.1	-1.6
CHGR	Chuyangaron	3.37	277	PN	Pn	10 49 17.8	+0.4
AAK	Ala-Archa	4.39	10		Pn	10 49 32.8	+1.7
AAK	Ala-Archa	4.39	10	P	Pn	10 49 33.0	+1.8
	15nm,0.3s,baz=183,slow=9.8,SNR=39						
AAK				S	Sn	10 50 21.0	-0.3
	88nm,0.7s,baz=338,slow=19,SNR=12						
AAK	Ala-Archa	4.39	10	⇓P	Pn	10 49 32.4	+1.2
	8.6nm,0.6s						
AAK				⇓S	Sn	10 50 22.1	+0.7
	52nm,0.6s						
AAK	Ala-Archa	4.39	10	*i* PN	Pn	10 49 32.7	+1.6
AAK				pmax	pmax		
	comp=Z,90nm,0.6s						
BOOM	Boomskoye usch	4.58	24	Pn	Pn	10 49 36.0	+2.2
BOOM	Boomskoye usch	4.58	24	PN	Pn	10 49 36.0	+2.2
NIL	Nilore	4.66	182		Pn	10 49 39.0	+4.3
NIL	Nilore	4.66	182	PN	Pn	10 49 39.0	+4.3
KDJ	Kajisay	4.77	36		Pn	10 49 39.8	+3.6
KDJ	Kajisay	4.77	36	PN	Pn	10 49 39.8	+3.6
TARG	Taragay, Kyrgy	4.78	43		Pn	10 49 38.4	+1.8
TARG	Taragay, Kyrgy	4.78	43	PN	Pn	10 49 38.4	+1.8
KBL	Kabul	5.17	225		Pn	10 49 45.2	+3.5
KBL	Kabul	5.17	225	PN	Pn	10 49 45.3	+3.5

SMLA	**Simla**	**7.80**	**156**	*e*P	**Pn**	**10 50 19.1**	**+1.8**
SMLA				*e*S	**Sn**	**10 51 39.4**	**-4.5**
SMLA				IAML		10 51 44.5	
	comp=N,421nm,0.3s						
SMLA				IAML		10 51 46.3	
	comp=E,278nm,0.3s						
KLP	**Kalpa**	**7.84**	**148**	*e*P	**Pn**	**10 50 19.5**	**+1.5**
KLP				*e*S	**Sn**	**10 51 41.2**	**-4.1**
KLP				IAML		10 51 45.8	
	comp=E,179nm,0.3s						
KLP				IAML		10 51 50.1	
	comp=N,156nm,0.1s						
UTK	**UTTARKASHI**	**8.62**	**150**	*e*P	**Pn**	**10 50 28.5**	**0.0**
UTK				*e*S	**Sn**	**10 51 59.1**	**-5.1**
UTK				IAML		10 52 03.8	
	comp=N,173nm,0.4s						
UTK				IAML		10 52 06.1	
	comp=E,125nm,0.7s						
JOSI	**Joshimath**	**9.24**	**145**	*e*P	**Pn**	**10 50 36.5**	**-0.6**
JOSI				*e*S	**Sn**	**10 52 12.4**	**-7.0**
JOSI				IAML		10 52 19.2	
	comp=E,108nm,1.1s						
JOSI				IAML		10 52 20.9	
	comp=N,98nm,0.1s						
MKAR	**Makanchi Array**	**10.69**	**35**	P	**Pn**	**10 50 55.6**	**-0.8**
	comp=N,0.1nm,0.3s,baz=210,slow=16,SNR=3.3						
	comp=N,0.3nm,0.5s						
WMQ	**Urumqi**	**12.08**	**58**	*e*P	**P**	**10 51 20.4**	**-2.9**
KURBB	**Kurchatov Arra**	**12.82**	**15**	P	**Pn**	**10 51 22.5**	**-2.1**
	baz=207,slow=12,SNR=3.1						
	comp=N,0.3nm,0.4s						
KURK	**Kurchatov**	**12.93**	**15**	*i* P	**Pn**	**10 51 24.2**	**-1.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**14.62**	**323**		**Pn**	**10 51 46.1**	**-1.8**
AB31	**Akbulak array**	**14.62**	**323**	P	**Pn**	**10 51 45.8**	**-2.1**
	comp=Z,5.6nm,0.5s,baz=128,slow=12,SNR=130						
AB31	**Akbulak array**	**14.62**	**323**	*e*P	**Pn**	**10 51 45.5**	**-2.4**
ABKAR	**Akbulak array**	**14.62**	**323**	Pn	**Pn**	**10 51 45.9**	**-2.0**
BVA0	**Borovoye Array**	**14.86**	**353**	⇑P	**P**	**10 51 52.7**	**-1.3**
	comp=Z,9.5nm,0.5s,baz=161,slow=12,SNR=51						
BVA0	**Borovoye Array**	**14.86**	**353**	P	**P**	**10 51 52.7**	**-1.3**
BVAR	**Borovoye Array**	**14.86**	**353**	P	**Pn**	**10 51 50.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=163,slow=12,SNR=33						
	comp=Z,1.4nm,0.4s						
BORK	**Borovoye**	**14.89**	**353**	*i* P	**Pn**	**10 51 49.9**	**-1.4**
BORK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**16.34**	**323**	P	**Pn**	**10 52 09.0**	**-0.4**
	comp=Z,15nm,0.7s,baz=122,slow=10,0,SNR=22						
AKTO				S	Sn	10 54 57.1	-13
	comp=Z,1.1nm,0.5s,baz=137,slow=18,SNR=2.2						
AKTO	**Aktyubinsk**	**16.34**	**323**	⇓P	**Pn**	**10 52 08.9**	**-0.4**
	comp=Z,7.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.34**	**323**	P	**Pn**	**10 52 09.0**	**-0.4**
ZAA0	**Zalesovo Array**	**17.47**	**23**	P	**P**	**10 52 22.4**	**-0.4**
ZALV	**Zalesovo Beam**	**17.47**	**23**	P	**P**	**10 52 21.8**	**-1.0**
ZALV	**Zalesovo Beam**	**17.47**	**23**	P	**P**	**10 52 22.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=221,slow=12,SNR=10						
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**17.47**	**23**	*e*P	**P**	**10 52 23.0**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKT	**Akhty**	**19.95**	**287**	*e*P	**P**	**10 52 49.4**	**-0.7**
AKT				*e*S	**S**	**10 56 26.4**	**-2.3**
AKT				pmax	pmax		
	comp=Z,15nm,1.6s						
SHL	**Shillong**	**20.12**	**124**	P	Pn	10 52 55.5	+0.6
SHL				IAmb	IAmb	10 52 56.1	
	comp=Z,5.4nm,0.6s						
SHL	**Shillong**	**20.12**	**124**	P	Pn	10 52 55.5	+0.6
SHL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA	**Gaotai**	**20.55**	**79**	*e*P	**P**	**10 52 57.3**	**+0.7**
GTA				pP	Pn	10 53 02.1	+2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARTI	**Arti**	**20.67**	**336**	P	**P**	**10 52 56.5**	**-1.0**
ARTI	**Arti**	**20.67**	**336**	P	**P**	**10 52 58.3**	**+0.7**
	comp=Z,4.7nm,0.5s,baz=162,slow=9.1,SNR=6.2						
	comp=Z,4.7nm,0.5s						
ARTI	**Arti**	**20.67**	**336**	*c i* P	**P**	**10 52 58.2**	**+0.7**
ARTI						10 53 27.7	
ARTI				S	**S**	**10 56 44.3**	**+1.9**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KNGR	**Kungurtug, Tuv**	**21.02**	**46**	*i* P	**P**	**10 53 01.8**	**+0.3**
KNGR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**22.26**	**284**	*i* P	**P**	**10 53 15.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,17nm,1.4s						
BELG	**Belogornoye**	**22.80**	**316**	*i* P	**P**	**10 53 18.2**	**-1.7**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**23.59**	**293**	*i* P	**P**	**10 53 27.2**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,10.0nm,3.3s						
PZH	**PanZhiHua**	**26.54**	**108**	P	**P**	**10 53 58.0**	**+3.6**
HHC	**Hu-ho-hao-te**	**29.34**	**73**	*e*P	**P**	**10 54 22.6**	**+3.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
FINES	**FINESS Array B**	**37.10**	**324**	P	**P**	**10 55 25.0**	**-1.1**
FINES	**FINESS Array B**	**37.10**	**324**	P	**P**	**10 55 26.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=116,slow=9.3,SNR=6.0						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**40.24**	**336**	P	**P**	**10 55 53.1**	**+0.9**
ARCES				IAmb	IAmb	10 56 17.3	
	comp=Z,15nm,1.4s						
ARCES	**ARCESS Array B**	**40.24**	**336**	P	**P**	**10 55 53.0**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=106,slow=8.9,SNR=14						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**42.87**	**321**	P	**P**	**10 56 13.6**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=81,slow=11,SNR=2.6						
	comp=Z,1.5nm,0.5s						
CLL	**Collm**	**43.59**	**308**	P	**P**	**10 56 19.1**	**-0.6**
CLL				IAmb	IAmb	10 56 41.0	
	comp=Z,5.8nm,1.1s						
CLL	**Collm**	**43.59**	**308**	P	**P**	**10 56 19.1**	**-0.6**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**10 56 25.4**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=104,slow=6.2,SNR=2.0						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.69**	**269**	P	**P**	**10 59 12.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.8,SNR=5.8						
	comp=Z,0.8nm,0.5s						

*HEL **08** 11:06:39.9±0.1, 63°.88N×23°.28E, h0km, ML0.9, Explosion*
*IDC **08** 11:06:41.0±2.1, 63°.88N×24°.20E, h0km, mbtmp2.5/2, ML1.4/2, Error ellipse: s-maj=56.6km s-min=11.1km az=78.0*
ISC 08 11:06:37.9±1.7, 63°.84N±0°.03×23°.3E±0°.1, h0km, n10, σ0§47/16, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF0	**Syolatti, Pyha**	**0.78**	**31**	*e*P	**Pg**	**11 06 53.3**	**+0.4**
OBF0				*e*S	**Sg**	**11 07 03.0**	**0.0**
OUF	**Merijarvi**	**0.83**	**49**	*e*P	**Pg**	**11 06 54.3**	**+0.6**
OUF				*e*S	**Sg**	**11 07 04.7**	**+0.3**
OBF4	**Vikkela, Lumij**	**1.26**	**38**	*e*P	**Pb**	**11 07 02.1**	**-0.3**
OBF4				*e*S	**Sg**	**11 07 17.6**	**-0.7**
OUL	**Oulu**	**1.69**	**41**	*e*P	**Pb**	**11 07 09.0**	**-0.7**
OUL				*e*S	**Sn**	**11 07 30.7**	**-0.2**
OUL				MSG		11 07 31.7	
	comp=Z,0.6nm,0.1s						
SUF	**Sumiainen**	**1.71**	**130**	*e*P	**Pg**	**11 07 10.7**	**+0.1**
SUF				*e*S	**Sg**	**11 07 33.0**	**+0.3**
KEF	**Keuruu**	**1.82**	**156**	*e*P	**Pg**	**11 07 12.8**	**+0.1**
KEF				*e*S	**Sg**	**11 07 36.8**	**+0.5**
KEF				MSG		11 07 38.5	
	comp=Z,0.4nm,0.1s						
KAF	**Kangasniemi**	**2.21**	**140**	*e*P	**Pb**	**11 07 18.2**	**-0.4**
KAF				*e*S	**Sb**	**11 07 46.4**	**-0.1**
KAF				MSG		11 07 50.8	
	comp=Z,0.6nm,0.1s						
FINES	**FINESS Array B**	**2.72**	**151**	Pn	**Pb**	**11 07 26.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=331,slow=11,SNR=4.5						
FINES				Lg	Lg	11 08 01.5	
	comp=Z,0.2nm,0.3s,baz=340,slow=26,SNR=5.2						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**5.79**	**8**	Pn	**Pn**	**11 08 05.3**	**+0.4**
	baz=190,slow=15,SNR=1.3						
	comp=Z,1.1nm,0.9s						
I43RU	**DUBNA INFRASON**	**9.91**	**130**	I	I	12 07 50.0	
	baz=324,slow=326,SNR=3.0						

*IDC **08** 11:17:14.4±4.4, 20°.92S×178°.67W, h416km±47km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=23.5km s-min=18.4km az=146.0*
ISC 08 11:17:13.0±0.8, 20°.9S±0°.1×178°.7W±0°.2, h400km, n10, σ0§80/11, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.72**	**191**	P	**P**	**11 20 53.8**	**-0.5**
	4.3nm,0.3s,baz=289,slow=3.9,SNR=12						
URZ				S	**S**	**11 23 58.4**	**+0.8**
	5.3nm,0.4s,baz=252,slow=23,SNR=11						
STKA	**Stephens Creek**	**37.06**	**244**	P	**P**	**11 23 46.6**	**-0.3**
	1.2nm,0.4s,baz=124,slow=12,SNR=6.1						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**43.81**	**257**	P	**P**	**11 24 41.9**	**+0.2**
	1.9nm,0.8s,baz=91,slow=8.4,SNR=31						
ASAR				PcP	**PcP**	**11 26 18.8**	**-1.3**
	0.3nm,0.5s,baz=107,slow=4.0,SNR=5.5						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**43.92**	**263**	P	**P**	**11 24 42.9**	**+0.3**
	1.8nm,0.6s,baz=96,slow=8.2,SNR=22						
	1.8nm,0.6s						
NVAR	**Mina Array Bea**	**81.72**	**44**	P	**P**	**11 28 49.6**	**+1.1**
	0.6nm,0.6s,baz=222,slow=8.3,SNR=7.3						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**87.79**	**58**	P	**P**	**11 29 17.9**	**-0.5**
	0.7nm,0.9s,baz=197,slow=3.9,SNR=7.1						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**88.81**	**13**	P	**P**	**11 29 21.6**	**-0.6**
	0.3nm,0.7s,baz=223,slow=6.3,SNR=5.9						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**11 29 27.8**	**+0.7**
	0.5nm,0.3s,baz=115,slow=3.9,SNR=4.4						
	0.5nm,0.3s						
PDAR	**Pinedale Array**	**89.66**	**43**	P	**P**	**11 29 27.5**	**+0.5**
	0.6nm,0.6s,baz=218,slow=4.6,SNR=6.5						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**143.01**	**330**	PKP	PKPab	11 35 56.6	0.0
	0.6nm,0.4s,baz=44,slow=3.9,SNR=5.2						

*TAP **08** 11:26:02.8, 24°.64N×122°.42E, h16km, ML3.5, C*
*JMA **08** 11:26:04.0±0.1, 24°.6N±0°.9×122°.4E±0°.4, h28km±2km, MV2.9/10, NW OFF ISHIGAKIJIMA IS*
ISC 08 11:26:01.9±1.0, 24°.62N±0°.02×122°.48E±0°.02, h16km±8km, n75, σ0§51/124, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.30**	**229**	*i* P	**Pb**	**11 26 10.1**	**+1.2**
EOS2				*i* S	**Sb**	**11 26 15.1**	**+1.6**
EOS3	**EOS3**	**0.36**	**204**	P	**Pn**	**11 26 11.5**	**-0.8**
EOS3				S	**Sb**	**11 26 16.5**	**+1.3**
JYNG	**Yonagunijimaku**	**0.46**	**111**	*e*P	**Pn**	**11 26 14.0**	**+0.2**
JYNG				*e*S	**Sn**	**11 26 21.1**	**-0.5**
YOJ	**Yonaguni jima**	**0.51**	**108**	*e*P	**Pn**	**11 26 14.9**	**+0.4**
YOJ				*e*S	**Sn**	**11 26 22.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.51**	**108**	P	**Pn**	**11 26 14.9**	**+0.4**
YOJ				S	**Sn**	**11 26 22.1**	**-0.8**
EOS4	**EOS4**	**0.52**	**197**	*e*P	**Pn**	**11 26 14.4**	**+0.1**
EOS4				S	**Sb**	**11 26 20.4**	**+0.9**
EGS		**0.55**	**294**	*i* P	**Pg**	**11 26 12.5**	**-0.2**
TWC	**Suao**	**0.57**	**269**	*i* P	**Pg**	**11 26 12.6**	**-0.6**
TWC				S	**Sg**	**11 26 20.7**	**-0.2**
ESAO	**Su ao**	**0.58**	**266**	P	**Pg**	**11 26 13.2**	**-0.2**
ESAO				S	**Sg**	**11 26 21.0**	**0.0**
TWB1	**Santiao Chiao**	**0.59**	**311**	P	**Pg**	**11 26 13.5**	**-0.1**
TWB1				S	**Sg**	**11 26 21.7**	**+0.3**
EWUT	**Wuta**	**0.66**	**255**	P	**Pg**	**11 26 14.8**	**0.0**
EWUT				*e*S	**Sg**	**11 26 23.7**	**+0.1**
TIPB	**Shuangxi**	**0.69**	**301**	*e*P	**Pb**	**11 26 15.6**	**0.0**
TIPB				*e*S	**Sb**	**11 26 25.2**	**+0.2**
NDS	**Dongshan**	**0.69**	**271**	*i* P	**Pg**	**11 26 15.4**	**-0.1**
NDS				*e*S	**Sb**	**11 26 25.1**	**+0.1**
ENA	**Nanau**	**0.70**	**254**	*i* P	**Pg**	**11 26 15.4**	**-0.2**
ENA				*e*S	**Sb**	**11 26 25.2**	**+0.1**
SXI1	**Grass Mountain**	**0.72**	**311**	*i* P	**Pb**	**11 26 16.5**	**+0.3**
SXI1				*i* S	**Sb**	**11 26 26.4**	**+0.4**
EAHA	**Aohua**	**0.73**	**247**	*i* P	**Pb**	**11 26 16.2**	**-0.1**
EAHA				*e*S	**Sb**	**11 26 26.5**	**+0.4**
TWE	**Neicheng**	**0.75**	**278**	*i* P	**Pg**	**11 26 15.9**	**-0.5**
TWE				S	**Sb**	**11 26 26.4**	**-0.1**
NWF	**Wu-fen Shan**	**0.78**	**305**	P	**Pb**	**11 26 17.5**	**+0.4**
NWF				S	**Sb**	**11 26 27.8**	**+0.2**
WFSB	**Wu-fen Shan**	**0.78**	**305**	*i* P	**Pg**	**11 26 17.6**	**+0.5**
WFSB				S	**Sb**	**11 26 27.9**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.82**	**280**	*e*P	**Pb**	**11 26 17.5**	**-0.4**
FUSB				*e*S	**Sb**	**11 26 28.6**	**-0.2**
ENTT	**Nioudou**	**0.83**	**272**	*i* P	**Pg**	**11 26 18.1**	**0.0**
ENTT				*e*S	**Sg**	**11 26 29.4**	**+0.4**
TNOU	**National Taiwa**	**0.83**	**310**	*i* P	**Pg**	**11 26 18.3**	**+0.2**
TNOU				S	**Sb**	**11 26 28.7**	**-0.2**
LATG	**Datong**	**0.87**	**265**	*i* P	**Pb**	**11 26 18.5**	**-0.2**
TWA	**Mucha**	**0.89**	**294**	*e*P	**Pn**	**11 26 19.9**	**+0.1**
TWA				*e*S	**Sb**	**11 26 30.3**	**-0.4**
NWLT	**Wulai**	**0.90**	**280**	P	**Pb**	**11 26 19.0**	**-0.2**
NWLT				*e*S	**Sb**	**11 26 30.5**	**-0.5**
ETL	**Fush Village**	**0.91**	**240**	P	**Pg**	**11 26 19.6**	**+0.2**
NACB	**Ninganchiao**	**0.92**	**241**	P	**Pg**	**11 26 19.6**	**-0.2**
NACB				S	**Sg**	**11 26 31.9**	**0.0**
NWRT	**Kuosheng**	**0.94**	**308**	*e*P	**Pb**	**11 26 19.6**	**-0.3**
NWRT				*e*S	**Sb**	**11 26 31.5**	**-0.7**
TWD	**Chiawan**	**0.97**	**237**	*e*P	**Pn**	**11 26 21.0**	**+0.2**
TWD				*e*S	**Sn**	**11 26 34.6**	**+0.4**
TATO	**Taipei**	**0.97**	**292**	*e*P	**Pb**	**11 26 20.1**	**-0.2**
TATO				*e*S	**Sb**	**11 26 32.3**	**-0.6**
TAP	**Taipei**	**0.98**	**296**	*e*P	**Pb**	**11 26 20.3**	**-0.2**
TAP				*e*S	**Sg**	**11 26 33.7**	**0.0**
YM01	**YM01**	**0.98**	**303**	P	**Pg**	**11 26 20.9**	**0.0**
YM01				*e*S	**Sg**	**11 26 33.7**	**0.0**
YM08	**YM08**	**0.99**	**305**	*e*P	**Pb**	**11 26 20.7**	**0.0**
YM08				*e*S	**Sb**	**11 26 32.7**	**-0.8**
ETLH	**Xiulin Townshi**	**1.00**	**246**	P	**Pg**	**11 26 21.1**	**-0.1**
ETLH				*e*S	**Sn**	**11 26 34.7**	**-0.5**
YHNB	**Yeheng**	**1.01**	**273**	*e*P	**Pg**	**11 26 21.1**	**-0.2**
YHNB				*e*S	**Sb**	**11 26 33.5**	**-0.5**
ZUZH	**Zhuzihu**	**1.01**	**303**	*e*P	**Pb**	**11 26 21.1**	**+0.1**
ZUZH				*e*S	**Sb**	**11 26 33.9**	**-0.1**
NNSB	**Datong**	**1.02**	**259**	*e*P	**Pb**	**11 26 21.1**	**-0.1**
NNSB				*e*S	**Sb**	**11 26 33.8**	**-0.7**
NNSH	**Datong**	**1.02**	**259**	*e*P	**Pb**	**11 26 21.1**	**-0.1**
NNSH				*e*S	**Sb**	**11 26 33.9**	**-0.5**
NSK	**Sanguang**	**1.02**	**273**	*e*P	**Pb**	**11 26 21.4**	**+0.1**
NSK				*e*S	**Sb**	**11 26 33.5**	**-1.0**
NNS	**Nan Shan**	**1.02**	**260**	*e*P	**Pb**	**11 26 21.3**	**0.0**
NNS				*e*S	**Sb**	**11 26 33.9**	**-0.7**
TWY	**Chenhua**	**1.03**	**309**	*e*P	**Pg**	**11 26 22.7**	**+0.9**
TWY				*e*S	**Sg**	**11 26 35.3**	**-0.1**
ANP	**Anpu**	**1.04**	**303**	*e*P	**Pg**	**11 26 22.0**	**0.0**
PCYT	**Pengchaiyu**	**1.07**	**340**	*e*P	**Pg**	**11 26 23.4**	**+0.8**
TWS1	**Kuangyinshan**	**1.08**	**297**	*e*P	**Pb**	**11 26 21.9**	**-0.2**
TWS1				*e*S	**Sg**	**11 26 36.7**	**-0.1**
TEYL	**Yanliau Villag**	**1.10**	**227**	*e*P	**Pg**	**11 26 23.4**	**+0.3**
ETM	**Tongmen**	**1.11**	**234**	*e*P	**Pg**	**11 26 23.9**	**+0.6**
IRIF	**Iriomote-Funau**	**1.17**	**104**	*e*P	**Pg**	**11 26 25.2**	**+0.6**
SHUL	**Shoufeng**	**1.18**	**226**	*e*P	**Pg**	**11 26 24.9**	**+0.3**
FUSS	**Fushou**	**1.19**	**252**	*e*P	**Pg**	**11 26 24.9**	**+0.1**
KSHI	**Guanxi Townshi**	**1.20**	**278**	*e*P	**Pg**	**11 26 25.1**	**+0.1**
KSHI				*e*S	**Sb**	**11 26 39.6**	**+0.1**
WHF	**Hehuan Shan**	**1.20**	**247**	*e*P	**Pg**	**11 26 25.0**	**-0.2**
NFF	**Wufeng Townshi**	**1.24**	**271**	*e*P	**Pn**	**11 26 24.8**	**+0.1**
TWT	**Tachien**	**1.24**	**253**	*e*P	**Pn**	**11 26 26.6**	**+0.8**
ESL	**Shilin**	**1.25**	**230**	*e*P	**Pg**	**11 26 25.7**	**-0.2**
LIOB	**Emei**	**1.33**	**271**	*e*P	**Pg**	**11 26 27.5**	**0.0**
WARBT	**Fenglin Townsh**	**1.34**	**228**	*e*P	**Pg**	**11 26 27.3**	**-0.4**
NSTT	**Nanjuang**	**1.35**	**271**	*e*P	**Pg**	**11 26 28.1**	**+0.3**
NSTT				*e*S	**Sg**	**11 26 45.5**	**+0.1**
OWD	**Renai**	**1.36**	**241**	*e*P	**Pb**	**11 26 26.8**	**-0.3**
SBCB	**Hsinchu**	**1.37**	**278**	*e*P	**Pb**	**11 26 26.8**	**-0.4**
SBCB				*e*S	**Sn**	**11 26 44.2**	**-0.1**
WUSB	**Renai**	**1.39**	**244**	*e*P	**Pg**	**11 26 28.7**	**0.0**
WUSB				*e*S	**Sg**	**11 26 46.8**	**0.0**
WHP	**Taichung City**	**1.44**	**257**	*e*P	**Pb**	**11 26 28.9**	**+0.5**
JKRS	**Kuro-shima**	**1.45**	**105**	*e*P	**Pg**	**11 26 29.5**	**-0.2**
JKRS				*e*S	**Sg**	**11 26 48.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.54**	**99**	*e*P	**Pg**	**11 26 30.8**	**-0.6**
JIJ				*e*S	**Sb**	**11 26 49.5**	**+0.3**
SSLB	**Suanglung**	**1.62**	**240**	*e*P	**Pg**	**11 26 32.6**	**-0.4**
YULB	**Yu-li**	**1.63**	**222**	*e*P	**Pn**	**11 26 30.6**	**+0.6**
YULB				*e*S	**Sn**	**11 26 49.3**	**-1.5**
WHYT	**Xinyi Township**	**1.75**	**239**	*e*P	**Pn**	**11 26 32.4**	**+0.8**
FULB	**Fuli**	**1.78**	**218**	*e*P	**Pb**	**11 26 33.5**	**-0.7**
YUS	**Yu-Shan**	**1.79**	**231**	*e*P	**Pb**	**11 26 34.2**	**-0.4**
CHKT	**Chengkung**	**1.82**	**214**	*e*P	**Pb**	**11 26 33.9**	**-1.1**
CHKT				*e*S	**Sn**	**11 26 55.0**	**-0.5**
ALS	**Alishan**	**1.89**	**235**	*e*P	**Pb**	**11 26 36.7**	**+0.5**
CHN5	**Tsauling**	**1.94**	**239**	*e*P	**Pb**	**11 26 36.9**	**0.0**
ELDTW	**Lidau**	**1.95**	**224**	*e*P	**Pb**	**11 26 36.1**	**-1.1**
EDH	**Donghe**	**1.96**	**214**	*e*P	**Pn**	**11 26 34.8**	**+0.3**
EDH				*e*S	**Sn**	**11 26 59.5**	**+0.7**
STYH	**Taoyuan**	**2.12**	**228**	*e*P	**Pb**	**11 26 38.9**	**-1.1**
STYH				*e*S	**Sn**	**11 27 03.4**	**+0.5**
TPUB	**Ta-pu**	**2.14**	**233**	*e*P	**Pn**	**11 26 38.4**	**+1.4**

TAP 08 11:26:09.5, 24°.60N×122°.43E, h18km, ML3.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.25**	**224**	*i* P	**Pb**	**11 26 16.5**	**+1.1**
EOS2				*i* S	Sn	11 26 21.8	-1.9
EOS3	**EOS3**	**0.33**	**198**	*i* P	Pb	11 26 17.1	+0.3
EOS3				*i* S	Sb	11 26 22.5	+0.8
EOS4	**EOS4**	**0.49**	**192**	*e*S	Sb	11 26 26.8	+0.8
EGS		**0.51**	**298**	*i* P	Pb	11 26 19.9	0.0
EGS				S	Sb	11 26 27.0	0.0
TWC	**Suao**	**0.53**	**271**	*e*P	Pg	11 26 19.9	-0.2
TWC				*e*S	Sb	11 26 27.5	0.0
ESAO	**Su ao**	**0.53**	**267**	*e*P	Pb	11 26 20.3	+0.1
ESAO				*e*S	Sb	11 26 28.4	+0.8
YOJ	**Yonaguni jima**	**0.55**	**104**	P	Pg	11 26 20.2	-0.3
YOJ				S	Sb	11 26 28.4	+0.3
TWB1	**Santiao Chiao**	**0.57**	**316**	*e*P	Pg	11 26 20.3	-0.5
TWB1				S	Sb	11 26 28.8	+0.1
EWUT	**Wuta**	**0.61**	**255**	P	Pg	11 26 21.8	+0.2
EWUT				*e*S	Sb	11 26 30.8	+1.0
ILA	**Ilan**	**0.64**	**285**	*e*P	Pg	11 26 22.5	+0.3
ILA				*e*S	Sn	11 26 32.0	-1.3
ENA	**Nanau**	**0.65**	**255**	*e*P	Pg	11 26 22.4	+0.1
ENA				*e*S	Sg	11 26 31.4	+0.4
NDS	**Dongshan**	**0.65**	**273**	*e*P	Pg	11 26 22.3	0.0
NDS				*e*S	Sg	11 26 31.3	+0.3
TIPB	**Shuangxi**	**0.66**	**304**	*e*P	Pb	11 26 22.3	-0.1
TIPB				*e*S	Sg	11 26 32.0	+0.6
EAHA	**Aohua**	**0.68**	**247**	P	Pg	11 26 23.2	+0.2
EAHA				*e*S	Sg	11 26 33.1	+1.0
SXI1	**Grass Mountain**	**0.70**	**315**	*i* P	Pg	11 26 23.7	+0.3
SXI1				S	Sg	11 26 33.3	+0.5
TWE	**Neicheng**	**0.70**	**280**	P	Pb	11 26 22.8	-0.4
TWE				*e*S	Sg	11 26 33.1	+0.4
NWF	**Wu-fen Shan**	**0.75**	**309**	P	Pg	11 26 24.6	+0.3
NWF				*e*S	Sg	11 26 34.7	+0.4
WFSB	**Wu-fen Shan**	**0.75**	**309**	P	Pg	11 26 24.6	+0.3
WFSB				S	Sg	11 26 34.8	+0.5
FUSB	**Fushanzhiwuyua**	**0.78**	**282**	*e*P	Pg	11 26 25.1	+0.3
FUSB				*e*S	Sn	11 26 36.5	-0.4
ENTT	**Nioudou**	**0.79**	**273**	P	Pn	11 26 25.3	-0.4
ENTT				*e*S	Sg	11 26 35.5	+0.2
TNOU	**National Taiwa**	**0.81**	**313**	P	Pb	11 26 25.1	+0.1
TNOU				S	Sb	11 26 35.4	-0.2
LATG	**Datong**	**0.82**	**266**	*e*P	Pn	11 26 26.8	+0.5
LATG				*e*S	Sg	11 26 36.9	+0.3
TWA	**Mucha**	**0.85**	**296**	*e*P	Pn	11 26 26.4	-0.2
TWA				*e*S	Sb	11 26 37.2	+0.2
NWLT	**Wulai**	**0.86**	**282**	*e*P	Pg	11 26 26.4	+0.1
NWLT				*e*S	Sg	11 26 37.5	-0.2
NACB	**

LATG	**Datong**	**0.80 264**	P	**Pg**	**11 32 13.3**	**-0.9**
LATG			eS	**Sb**	**11 32 25.6**	**+0.1**
TWA	**Mucha**	**0.83 296**	eP	**Pb**	**11 32 14.7**	**-0.3**
TWA			eS	**Sg**	**11 32 25.3**	**-0.2**
NWLT	**Wulai**	**0.83 281**	eP	**Pg**	**11 32 13.7**	**-1.1**
NWLT			eS	**Sb**	**11 32 25.5**	**-0.8**
ETL	**Fush Village**	**0.85 237**	P	**Pg**	**11 32 14.6**	**-0.5**
ETL			eS	**Sb**	**11 32 26.9**	**+0.2**
NACB	**Ninganchiao**	**0.86 239**	P	**Pg**	**11 32 14.4**	**-0.9**
NACB	**Ninganchiao**	**0.86 239**	P	**Pg**	**11 32 14.5**	**-0.8**
NACB			eS	**Sb**	**11 32 26.8**	**-0.2**
NHY	**Taipei**	**0.87 299**	eP	**Pb**	**11 32 15.4**	**-0.2**
NHY			eS	**Sb**	**11 32 27.4**	**+0.2**
NHDH	**Xindian Distri**	**0.87 293**	eP	**Pg**	**11 32 15.0**	**-0.4**
NHDH			eS	**Sb**	**11 32 26.9**	**-0.3**
NWRT	**Kuosheng**	**0.89 311**	eS	**Sg**	**11 32 26.8**	**-0.7**
TATO	**Taipei**	**0.91 293**	P	**Pg**	**11 32 15.9**	**-0.2**
TATO	**Taipei**	**0.91 293**	S	**Sg**	**11 32 27.1**	**-0.8**
TATO	**Taipei**	**0.91 293**	eP	**Pg**	**11 32 15.3**	**-0.8**
TATO			eS	**Sg**	**11 32 27.6**	**-0.3**
TWD	**Chiawan**	**0.91 234**	eP	**Pg**	**11 32 15.6**	**-0.6**
TWD			eS	**Sn**	**11 32 29.4**	**-1.0**
TAP	**Taipei**	**0.92 297**	eP	**Pg**	**11 32 15.4**	**-0.9**
TAP			eS	**Sb**	**11 32 28.3**	**-0.4**
YM01	**YM01**	**0.92 305**	P	**Pg**	**11 32 15.8**	**-0.6**
YM01			S	**Sg**	**11 32 28.2**	**-0.2**
YM08	**YM08**	**0.93 308**	eP	**Pg**	**11 32 15.5**	**-1.1**
YM08			eS	**Sg**	**11 32 28.0**	**-0.7**
ETLH	**Xiulin Townshi**	**0.94 244**	eP	**Pg**	**11 32 16.0**	**-0.7**
ETLH			eS	**Sn**	**11 32 32.3**	**+1.2**
YHNB	**Yeheng**	**0.94 273**	eP	**Pg**	**11 32 15.7**	**-1.0**
YHNB			eS	**Sg**	**11 32 28.4**	**-0.5**
ZUZH	**Zhuzihu**	**0.95 305**	P	**Pg**	**11 32 15.9**	**-1.1**
ZUZH			S	**Sg**	**11 32 28.6**	**-0.7**
NNSB	**Datong**	**0.95 259**	eP	**Pg**	**11 32 15.8**	**-1.2**
NNSB			eS	**Sb**	**11 32 29.7**	**0.0**
NNSH	**Datong**	**0.95 259**	eP	**Pg**	**11 32 16.1**	**-0.8**
NNSH			eS	**Sn**	**11 32 30.7**	**-0.8**
BACT	**New Taipei Cit**	**0.95 293**	eP	**Pg**	**11 32 16.4**	**-0.6**
BACT			eS	**Sb**	**11 32 29.5**	**-0.1**
NSK	**Sanguang**	**0.95 274**	P	**Pg**	**11 32 16.1**	**-0.9**
NSK			eS	**Sb**	**11 32 30.0**	**+0.2**
NNS	**Nan Shan**	**0.96 259**	eP	**Pg**	**11 32 15.9**	**-1.2**
NNS			eS	**Sb**	**11 32 29.8**	**-0.2**
HWA	**Hwalien**	**0.97 229**	eP	**Pn**	**11 32 18.4**	**+0.3**
HWA			eS	**Sn**	**11 32 33.0**	**+1.2**
TWY	**Chenhua**	**0.98 312**	eP	**Pg**	**11 32 16.4**	**-1.1**
TWY			eS	**Sg**	**11 32 30.0**	**-0.3**
ANP	**Anpu**	**0.98 305**	eP	**Pg**	**11 32 16.6**	**-1.0**
ANP			eS	**Sg**	**11 32 29.9**	**-0.4**
NSM	**Shimen**	**0.99 312**	eP	**Pg**	**11 32 16.8**	**-1.0**
NSM			eS	**Sb**	**11 32 30.9**	**0.0**
TWS1	**Kuangyinshan**	**1.02 298**	P	**Pg**	**11 32 17.7**	**-0.5**
TWS1			S	**Sb**	**11 32 31.8**	**+0.3**
NTST	**Danshui**	**1.02 302**	P	**Pg**	**11 32 17.7**	**-0.6**
NTST			S	**Sb**	**11 32 31.8**	**+0.1**
PCYT	**Pengchaiyu**	**1.05 343**	eP	**Pb**	**11 32 18.4**	**-0.3**
TEYL	**Yanliau Villag**	**1.05 225**	eP	**Pn**	**11 32 18.9**	**-0.3**
TEYL			eS	**Sn**	**11 32 33.8**	**0.0**
ETM	**Tongmen**	**1.06 232**	eP	**Pb**	**11 32 18.5**	**-0.3**
ETM			eS	**Sn**	**11 32 34.5**	**+0.6**
NTY	**Taoyuan**	**1.07 291**	eP	**Pb**	**11 32 18.3**	**-0.9**
NTY			eS	**Sg**	**11 32 32.7**	**-0.6**
FUSS	**Fushou**	**1.12 251**	eP	**Pg**	**11 32 19.7**	**-0.5**
FUSS			eS	**Sn**	**11 32 35.6**	**-0.3**
KSHI	**Guanxi Townshi**	**1.13 278**	eP	**Pn**	**11 32 20.3**	**+0.1**
KSHI			eS	**Sn**	**11 32 36.0**	**+0.2**
SHUL	**Shoufeng**	**1.13 223**	eP	**Pn**	**11 32 20.6**	**+0.3**
WHF	**Hehuan Shan**	**1.14 246**	eP	**Pg**	**11 32 19.8**	**-0.8**
WHF			eS	**Sn**	**11 32 36.3**	**-0.4**
NCU	**National Centr**	**1.16 288**	eS	**Sb**	**11 32 34.8**	**-0.9**
NCUH	**Zhongli**	**1.16 288**	eP	**Pb**	**11 32 20.0**	**-0.7**
NCUH			eS	**Sn**	**11 32 36.9**	**+0.3**
NFF	**Wufeng Townshi**	**1.17 271**	eP	**Pb**	**11 32 20.4**	**-0.4**
NFF			eS	**Sn**	**11 32 37.0**	**+0.1**
TWT	**Tachien**	**1.18 252**	eP	**Pn**	**11 32 21.0**	**-0.1**
TWT			eS	**Sn**	**11 32 37.6**	**+0.4**
TDCB	**Techi**	**1.19 252**	eP	**Pb**	**11 32 21.0**	**-0.2**
TDCB			eS	**Sn**	**11 32 37.4**	**-0.2**
ESL	**Shilin**	**1.20 228**	eP	**Pg**	**11 32 21.2**	**-0.5**
ESL			eS	**Sn**	**11 32 37.4**	**0.0**
NJD	**Zhudong**	**1.20 276**	eP	**Pg**	**11 32 22.1**	**+0.3**
NJD			eS	**Sn**	**11 32 39.0**	**+1.5**
TEGC	**Jichi Village**	**1.20 221**	eS	**Sn**	**11 32 38.8**	**+1.2**
IRIF	**Iriomote-Funau**	**1.24 103**	P	**Pn**	**11 32 20.2**	**-1.6**
IRIF			S	**Sb**	**11 32 37.2**	**-0.5**
LIOB	**Emei**	**1.26 271**	eP	**Pb**	**11 32 22.3**	**-0.1**
LIOB			eS	**Sn**	**11 32 39.9**	**+0.7**
HSN1	**Hsinchu**	**1.27 277**	eP	**Pn**	**11 32 22.0**	**-0.2**
HSN1			eS	**Sg**	**11 32 38.9**	**-0.7**
NSTT	**Nanjuang**	**1.28 271**	eP	**Pg**	**11 32 23.1**	**0.0**
NSTT			eS	**Sn**	**11 32 40.6**	**+1.2**
NHW	**Xinwu Township**	**1.29 288**	eP	**Pn**	**11 32 21.8**	**-0.7**
NHW			eS	**Sg**	**11 32 40.0**	**-0.3**
WARBT	**Fenglin Townsh**	**1.29 226**	eP	**Pn**	**11 32 22.3**	**-0.2**
WARBT			eS	**Sg**	**11 32 40.3**	**0.0**
EGFH	**Guangfu**	**1.30 223**	eP	**Pg**	**11 32 23.5**	**-0.1**
SBCB	**Hsinchu**	**1.30 278**	eP	**Pn**	**11 32 22.6**	**0.0**
SBCB			eS	**Sg**	**11 32 41.4**	**+0.9**
OWD	**Renai**	**1.30 240**	eP	**Pn**	**11 32 21.5**	**-1.3**
OWD			eS	**Sn**	**11 32 40.4**	**+0.1**
HSN	**Hsinchu**	**1.32 278**	eP	**Pg**	**11 32 23.8**	**-0.1**
HSN			eS	**Sg**	**11 32 41.3**	**+0.2**
WUSB	**Renai**	**1.33 242**	P	**Pg**	**11 32 23.5**	**-0.2**
WUSB			eS	**Sg**	**11 32 43.0**	**+1.5**
WHP	**Taichung City**	**1.37 256**	eP	**Pg**	**11 32 24.4**	**-0.7**
WHP			eS	**Sg**	**11 32 42.7**	**-0.2**
HATJ	**Hateruma jima**	**1.40 113**	eP	**Pn**	**11 32 24.6**	**+0.7**
HATJ			eS	**Sn**	**11 32 42.9**	**+0.6**
NJN	**Zhunan**	**1.40 273**	eP	**Pn**	**11 32 23.8**	**-0.1**
NJN			eS	**Sg**	**11 32 44.9**	**+1.3**
HGSD	**Ruisui**	**1.44 219**	eP	**Pn**	**11 32 24.1**	**-0.4**
HGSD			eS	**Sg**	**11 32 43.8**	**-1.1**
VWDT	**VWDT**	**1.44 233**	eP	**Pg**	**11 32 25.6**	**-0.7**
VWDT			eS	**Sg**	**11 32 45.1**	**+0.1**
WPL	**Puli Township**	**1.45 246**	eP	**Pg**	**11 32 25.7**	**-0.8**
WPL			eS	**Sg**	**11 32 45.7**	**+0.3**
DPDB	**Guoxing**	**1.47 247**	eP	**Pb**	**11 32 25.9**	**-0.1**
NMLH	**Miaoli**	**1.47 267**	eP	**Pg**	**11 32 26.7**	**-0.2**
NMLH			eS	**Sg**	**11 32 47.6**	**+1.6**
EHYH	**Wanrong**	**1.48 221**	eP	**Pn**	**11 32 24.5**	**-0.7**
EHYH			eS	**Sg**	**11 32 45.0**	**-1.4**
EHY	**Hungye**	**1.49 222**	eP	**Pb**	**11 32 25.8**	**-0.4**
EHY			eS	**Sg**	**11 32 45.8**	**-0.7**
TWQ1	**Liyutan**	**1.51 260**	eP	**Pg**	**11 32 27.6**	**-0.1**
TWQ1			eS	**Sg**	**11 32 47.9**	**+0.6**
JKRS	**Kuro-shima**	**1.51 104**	eP	**Pn**	**11 32 24.5**	**-1.1**
JKRS			eS	**Sn**	**11 32 43.0**	**-2.1**
SMLT	**Sun Moon Lake**	**1.56 242**	eP	**Pg**	**11 32 27.9**	**-0.6**
SSLB	**Suanglung**	**1.56 238**	P	**Pb**	**11 32 27.5**	**0.0**
SSLB	**Suanglung**	**1.56 238**	eP	**Pg**	**11 32 27.7**	**-0.9**
SSLB			eS	**Sg**	**11 32 47.8**	**-1.1**
ECBN	**Changbin**	**1.56 214**	eS	**Sb**	**11 32 46.6**	**-0.6**
TYC	**Yuchr**	**1.58 244**	eP	**Pg**	**11 32 28.4**	**-0.6**
TYC			eS	**Sg**	**11 32 49.3**	**-0.3**
YULB	**Yu-li**	**1.59 220**	P	**Pn**	**11 32 26.2**	**-0.4**
YULB	**Yu-li**	**1.59 220**	eP	**Pn**	**11 32 26.6**	**0.0**
YULB			eS	**Sb**	**11 32 47.5**	**-0.5**
JIJ	**Ishigaki jima**	**1.60 99**	eP	**Pn**	**11 32 25.1**	**-1.7**
JIJ			eS	**Sn**	**11 32 44.4**	**-3.1**
TWF1	**Yuli**	**1.62 219**	eP	**Pn**	**11 32 27.1**	**0.0**
TWF1			eS	**Sn**	**11 32 47.7**	**-0.2**
WDJ	**Dajia District**	**1.63 261**	eP	**Pb**	**11 32 27.9**	**-0.7**
WDJ			eS	**Sb**	**11 32 48.7**	**-0.5**
TCU	**Taichung**	**1.65 254**	eP	**Pb**	**11 32 29.0**	**+0.1**
WWF	**Wufeng**	**1.66 250**	eP	**Pg**	**11 32 29.5**	**-1.0**
WWF			eS	**Sg**	**11 32 54.4**	**+2.4**
WHYT	**Xinyi Township**	**1.69 237**	eP	**Pg**	**11 32 30.0**	**-1.0**
WHYT			eS	**Sg**	**11 32 52.6**	**-0.4**
CHKH	**Chenggong**	**1.70 213**	eP	**Pn**	**11 32 28.1**	**0.0**
CHKH			eS	**Sn**	**11 32 49.0**	**-0.7**
WJS	**Zhushan**	**1.73 243**	eP	**Pg**	**11 32 31.4**	**-0.4**
WJS			eS	**Sg**	**11 32 54.5**	**+0.4**
JISG	**Ishigakijimahi**	**1.73 91**	eP	**Pn**	**11 32 26.7**	**-1.9**
WNT	**Mingjian**	**1.74 245**	eP	**Pg**	**11 32 31.1**	**-0.8**
WNT			eS	**Sg**	**11 32 54.3**	**-0.2**
YUS	**Yu-Shan**	**1.74 230**	eP	**Pn**	**11 32 29.4**	**+0.3**
YUS			eS	**Sn**	**11 32 51.6**	**0.0**
FULB	**Fuli**	**1.74 216**	eP	**Pn**	**11 32 29.4**	**+0.7**
FULB			eS	**Sb**	**11 32 51.8**	**-0.7**
WCHH	**Zhanghua**	**1.77 253**	eP	**Pb**	**11 32 30.7**	**-0.3**
CHKT	**Chengkung**	**1.79 212**	eP	**Pn**	**11 32 29.8**	**+0.5**
CHKT			eS	**Sn**	**11 32 51.1**	**-0.9**
EHD	**Haiduan**	**1.83 217**	eP	**Pn**	**11 32 29.8**	**-0.1**
EHD			eS	**Sb**	**11 32 54.6**	**-0.4**
ALS	**Alishan**	**1.83 233**	eP	**Pb**	**11 32 31.4**	**-0.9**
ALS			eS	**Sg**	**11 32 55.9**	**-1.7**
ECS	**Chishang**	**1.87 216**	eS	**Sb**	**11 32 56.0**	**0.0**
CHN5	**Tsauling**	**1.88 237**	eP	**Pg**	**11 32 33.4**	**-1.3**
CHN5			eS	**Sg**	**11 32 58.5**	**-0.6**
ELDTW	**Lidau**	**1.91 222**	eP	**Pn**	**11 32 31.6**	**+0.5**
ELDTW			eS	**Sb**	**11 32 56.4**	**-0.9**
WGK	**Gukeng**	**1.92 241**	eS	**Sg**	**11 32 59.3**	**-1.2**
EDH	**Donghe**	**1.93 212**	eP	**Pn**	**11 32 30.8**	**-0.4**
EDH			eS	**Sn**	**11 32 54.9**	**-0.5**
WDLH	**Douliu**	**1.94 242**	eP	**Pb**	**11 32 34.0**	**+0.1**
WDLH			eS	**Sg**	**11 32 59.3**	**-1.8**
WCKO	**Fanlu**	**2.02 235**	eP	**Pb**	**11 32 35.6**	**+0.2**
WCKO			eS	**Sb**	**11 33 01.0**	**+0.5**
WTK	**Tuku**	**2.06 244**	eP	**Pb**	**11 32 35.5**	**-0.5**
WTK			eS	**Sg**	**11 33 03.3**	**-1.6**
LONT	**Longtian**	**2.07 215**	eP	**Pn**	**11 32 34.3**	**+1.1**
LONT			eS	**Sn**	**11 32 59.2**	**+0.3**
CHN2	**Minshiung**	**2.07 239**	eS	**Sg**	**11 33 03.5**	**-1.7**
STYH	**Taoyuan**	**2.08 226**	eP	**Pb**	**11 32 34.9**	**-1.4**
STYH			eS	**Sb**	**11 33 00.8**	**-1.2**
CHN4	**Tsaushan**	**2.08 233**	eP	**Pb**	**11 32 36.0**	**-0.4**
CHN4			eS	**Sb**	**11 33 03.1**	**+0.9**
TPUB	**Ta-pu**	**2.09 231**	P	**Pb**	**11 32 35.6**	**-0.9**
TPUB	**Ta-pu**	**2.09 231**	eP	**Pb**	**11 32 36.6**	**+0.1**
TPUB			eS	**Sg**	**11 33 03.4**	**-2.4**
STYT	**Tauyuan**	**2.09 226**	eP	**Pb**	**11 32 34.9**	**-1.7**
STYT			eS	**Sn**	**11 32 59.3**	**-0.3**
LDUT	**Ludao**	**2.12 204**	eS	**Sn**	**11 32 58.1**	**-2.1**
CHY	**Chiayi**	**2.13 239**	eP	**Pb**	**11 32 36.6**	**-0.6**
CHY			eS	**Sb**	**11 33 04.3**	**+0.8**
WTP	**Ta-pu**	**2.13 230**	eP	**Pb**	**11 32 36.4**	**-0.9**
WTP			eS	**Sb**	**11 33 04.3**	**+0.5**
TWGBT	**Beinan**	**2.17 214**	P	**Pn**	**11 32 35.2**	**+0.6**
TWGBT	**Beinan**	**2.17 214**	eP	**Pn**	**11 32 34.9**	**+0.3**
TWGBT			eS	**Sn**	**11 33 00.8**	**-0.5**
TWG	**Pinlang**	**2.17 215**	eP	**Pn**	**11 32 34.0**	**-0.6**
TWG			eS	**Sn**	**11 32 59.8**	**-1.7**
TWK	**Hsinying**	**2.21 233**	eP	**Pb**	**11 32 37.0**	**-1.6**
TWK			eS	**Sb**	**11 33 05.9**	**-0.1**
WSF	**Szhu**	**2.22 244**	eP	**Pb**	**11 32 37.5**	**-1.2**
WSF			eS	**Sg**	**11 33 08.2**	**-1.9**
CHN1	**Nanshi**	**2.23 231**	eP	**Pb**	**11 32 38.8**	**-0.2**
CHN1			eS	**Sb**	**11 33 07.7**	**+1.1**
SNST	**Tainan City**	**2.23 232**	eP	**Pb**	**11 32 37.9**	**-1.1**
SNST			eS	**Sb**	**11 33 07.5**	**+0.9**
WSL	**Shuilin Townsh**	**2.27 242**	eP	**Pb**	**11 32 38.6**	**-1.0**
WSL			eS	**Sg**	**11 33 09.6**	**-2.0**
ECL	**Taimali**	**2.41 214**	eP	**Pn**	**11 32 37.6**	**-0.4**
ECL			eS	**Sn**	**11 33 06.6**	**-0.8**
SCST	**Cishan**	**2.46 226**	eP	**Pb**	**11 32 41.8**	**-1.0**
SCST			eS	**Sb**	**11 33 13.9**	**+0.9**
SSD	**Sandimen**	**2.47 221**	eP	**Pb**	**11 32 41.1**	**-1.9**
SSD			eS	**Sb**	**11 33 12.3**	**-1.2**
MASBT	**Mashibuluo**	**2.58 219**	eP	**Pn**	**11 32 41.5**	**+1.2**
MASBT			eS	**Sb**	**11 33 14.8**	**-1.6**
TSCK	**Chigu Township**	**2.58 236**	eP	**Pn**	**11 32 42.1**	**+1.9**
TSCK			eS	**Sb**	**11 33 15.9**	**-0.7**
EAST	**Anshuo**	**2.65 213**	eP	**Pn**	**11 32 42.2**	**+1.0**
MATB	**Ma-tsu**	**2.70 305**	eP	**Pn**	**11 32 41.1**	**-0.8**
LYUB	**Lan-yu**	**2.71 196**	eP	**Pn**	**11 32 40.9**	**-1.2**
LYUB			eS	**Sn**	**11 33 11.9**	**-3.0**
SCZT	**Fangliau**	**2.77 217**	eP	**Pn**	**11 32 43.6**	**+0.7**
SCZT			eS	**Sn**	**11 33 17.4**	**+1.0**
SMST	**Manzhou Townsh**	**2.96 209**	eP	**Pn**	**11 32 45.5**	**0.0**
SMST			eS	**Sn**	**11 33 20.4**	**-0.6**
PTMZ	**Houxiangcun**	**3.01 279**	eP	**Pn**	**11 32 45.7**	**-0.5**
XPSS	**Dashiqiu**	**3.04 320**	eP	**Pn**	**11 32 45.4**	**-1.3**
KSRS	**Korea Array**	**13.63 19**	Pn	**P**	**11 35 22.9**	**+2.2**
	0.1nm,0.3s,baz=201,slow=12,SNR=5.3					
	0.7nm,0.6s					
MJAR	**Matsushiro Arr**	**18.04 45**	LR	LR	11 44 17.4	
	comp=Z,36nm,18.6s,baz=208,slow=39					
SONM	**Songino Array**	**26.42 335**	P	**P**	**11 37 38.7**	**+3.4**
	0.5nm,0.4s,baz=157,slow=7.8,SNR=4.7					
	0.5nm,0.4s					
MKAR	**Makanchi Array**	**38.81 315**	P	**P**	**11 39 22.8**	**-0.5**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.5					
	0.1nm,0.4s					
WRA	**Warramunga Arr**	**45.79 164**	P	**P**	**11 40 20.1**	**-0.3**
	0.5nm,0.6s,baz=346,slow=8.6,SNR=5.5					
	0.5nm,0.6s					
ASAR	**Alice Springs**	**49.28 166**	P	**P**	**11 40 47.9**	**+0.4**
	0.3nm,0.5s,baz=344,slow=9.5,SNR=11					
	0.3nm,0.5s					

DJA 08 11:32:49.7±0.6, 5°N±5°×12°6E±°, h77km±14km, M3.9/8, mb4.1/3, MLv3.8/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.90**	**197**	P	Pn	11 33 07.5	+0.1
MRSI	**Marisa**	**5.58**	**224**	P	Pn	11 34 10.9	+0.7
	0.2nm33nm,0.5s						
SANI	**Sanana**	**6.56**	**178**	P	Pn	11 34 23.1	-0.5

*SOME **08** 11:35:17.7, 39°.63N×72°.52E, h15km*
*KRNET **08** 11:35:19.7±0.1, 39°.43N×72°.95E, h21km, mb3.4*
*NNC **08** 11:35:20.0±1.2, 39°.74N×72°.47E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=9.3km s-min=4.2km az=2.0

ISC 08 11:35:20.6±1.0, 39°.50N±0°.05×72°.91E±0°.03, h10km, n40, σ1§87/68, 31C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.69**	**41**	⇑*iP*	**Pg**	**11 35 33.4**	**-0.6**
SFK				⇑*iS*	**Sb**	**11 35 43.5**	**-1.0**
DRK	**Karamyk**	**0.86**	**269**	⇓*eP*	**Pg**	**11 35 36.5**	**-0.8**
DRK				⇓*eS*	**Sg**	**11 35 48.5**	**0.0**
OHH	**Osh**	**1.03**	**355**	⇑*iP*	**Pg**	**11 35 40.1**	**-0.3**
OHH				⇑*iS*	**Sg**	**11 35 55.0**	**+1.2**
SALK	**Salom-Alik**	**1.55**	**26**	⇑*iP*	**Pb**	**11 35 49.0**	**-0.5**
SALK				⇑*iS*	**Sg**	**11 36 10.4**	**-0.1**
ARSB	**Arslanbob**	**1.82**	**2**	⇑*iP*	**Pb**	**11 35 53.6**	**-0.6**
ARSB				⇑*iS*	**Sb**	**11 36 18.8**	**+0.7**
GAR	**Garm**	**2.08**	**257**	⇑*iP*	**Pn**	**11 35 56.2**	**+0.5**
GAR				⇑*iS*	**Sn**	**11 36 22.8**	**+1.2**
ARK	**Arkit**	**2.41**	**343**	⇓*iP*	**Pn**	**11 36 01.9**	**+1.7**
ARK				⇓*iS*	**Sn**	**11 36 32.7**	**+2.9**
TRKS	**Terek-Say**	**2.44**	**327**	⇑*iP*	**Pn**	**11 36 01.2**	**+0.5**
TRKS				⇑*iS*	**Sn**	**11 36 31.6**	**+1.0**
JNKS	**Jany-Kuch**	**2.61**	**53**	⇑*iP*	**Pn**	**11 36 03.9**	**+0.8**
JNKS				⇑*iS*	**Sn**	**11 36 36.1**	**+1.0**
UCH	**Uchtor**	**2.98**	**23**	⇑*iP*	**Pn**	**11 36 09.6**	**+1.1**
UCH				⇑*iS*	**Sn**	**11 36 46.3**	**+1.8**
CHGR	**Chuyangaron**	**3.04**	**255**	⇓*iP*	**Pn**	**11 36 09.6**	**+0.7**
CHGR				⇓*iS*	**Sn**	**11 36 46.3**	**+0.9**
EKS2	**Erkin-Say**	**3.23**	**11**	⇓*iP*	**Pn**	**11 36 13.0**	**+1.5**
EKS2				⇓*iS*	**Sn**	**11 36 51.9**	**+1.9**
MRKS	**Merke**	**3.25**	**4**	Pg	**Pb**	**11 36 16.2**	**-2.3**
	6.5nm,0.1s						
MRKS				Lg	Lg	11 36 58.6	
MRKS	**Merke**	**3.25**	**4**	*eP*	**Pb**	**11 36 16.2**	**-2.3**
	3.7nm,0.1s						
MRKS				*eS*	**Sb**	**11 36 58.6**	**+0.4**
	8.7nm,0.4s						
AAK	**Ala-Archa**	**3.36**	**20**	⇑Pg	**Pb**	**11 36 18.2**	**-2.2**
	1.9nm,0.4s						
AAK				⇑Lg	Lg	11 37 02.8	
	7.8nm,0.6s						
AAK	**Ala-Archa**	**3.36**	**20**	⇓*iP*	**Pn**	**11 36 14.8**	**+1.5**
AAK				⇓*iS*	**Sn**	**11 36 55.0**	**+1.7**
IUG	**Iuzhnay**	**3.43**	**321**	Pg	**Pn**	**11 36 15.2**	**+0.9**
	12nm,0.4s						
IUG				Lg	Lg	11 36 56.5	
	38nm,0.3s						
KBK	**Karagaybulak**	**3.51**	**25**	⇑*iP*	**Pn**	**11 36 16.8**	**+1.4**
KBK				⇑*iS*	**Sn**	**11 36 58.4**	**+1.3**
FRU1	**Bishkek**	**3.55**	**21**	⇓*iP*	**Pn**	**11 36 17.7**	**+1.8**
FRU1				⇓*iS*	**Sn**	**11 36 59.9**	**+1.9**
ULHL	**Ulahol**	**3.73**	**42**	⇑*iP*	**Pn**	**11 36 19.5**	**+1.0**
ULHL				⇑*iS*	**Sn**	**11 37 03.2**	**+0.7**
CHMS	**Chumysh**	**3.76**	**21**	⇑*iP*	**Pn**	**11 36 20.3**	**+1.6**
CHMS				⇑*iS*	**Sn**	**11 37 04.5**	**+1.4**
BOOM	**Boomskoye usch**	**3.77**	**37**	⇑⇓*iP*	**Pn**	**11 36 20.2**	**+1.3**
BOOM				⇑*iS*	**Sn**	**11 37 04.3**	**+0.9**
USP	**Ospenovka**	**3.95**	**17**	⇓*iP*	**Pn**	**11 36 22.9**	**+1.6**
USP				⇓*iS*	**Sn**	**11 37 08.7**	**+1.0**
TKM2	**Tokmak 2**	**3.97**	**30**	⇑*iP*	**Pn**	**11 36 23.3**	**+1.5**
TKM2				⇑*iS*	**Sn**	**11 37 09.5**	**+0.9**
KK31	**Karatay Array**	**4.03 334**	Pg	**Pb**	**11 36 27.5**	**-4.2**
	0.5nm,0.2s,baz=145,slow=12,SNR=13						
KK31				⇑Lg	Lg	11 37 16.4	
	5.7nm,0.3s,baz=154,slow=24,SNR=10						
KDJ	**Kajisay**	**4.17**	**50**	⇑*iP*	**Pn**	**11 36 25.6**	**+1.1**
KDJ				⇑*iS*	**Sn**	**11 37 13.8**	**+0.4**
BRLS	**Borolday**	**4.22 328**	Pg	**Pn**	**11 36 27.0**	**+2.0**
	2.2nm,0.2s						
BRLS				Lg	Lg	11 37 16.9	
	7.2nm,0.6s						
BRLS	**Borolday**	**4.22 328**	*eP*	**Pn**	**11 36 27.1**	**+2.0**
	2.2nm,0.2s						
BRLS				*eS*	**Sn**	**11 37 16.9**	**+2.5**
	7.2nm,0.6s						
KST	**Kastek**	**4.22 32**	Pg	**Pb**	**11 36 36.9**	**+1.9**
	3.4nm,0.4s						
KST				Lg	Lg	11 37 33.9	
	14nm,0.6s						
KST	**Kastek**	**4.22 32**	*eP*	**Pb**	**11 36 36.9**	**+1.9**
	3.4nm,0.4s						
KST				*eS*	**Sg**	**11 37 33.9**	**-2.3**
	14nm,0.6s						
MTBS	**Maitube**	**4.49 35**	Pg	**Pg**	**11 36 42.6**	**-4.1**
	4.3nm,0.3s						
MTBS				Lg	Lg	11 37 43.7	
	5.2nm,0.3s						
MTBS	**Maitube**	**4.49 35**	*eP*	**Pg**	**11 36 42.6**	**-4.1**
	4.3nm,0.3s						
MTBS				*eS*	**Sg**	**11 37 43.7**	**-1.2**
	5.2nm,0.3s						
TNSS	**Tian-Shan**	**4.66 39**	Pg	**Pb**	**11 36 45.6**	**+2.9**
	1.9nm,0.3s						
TNSS				Lg	Lg	11 37 48.9	
	2.2nm,1.0s						
TNSS	**Tian-Shan**	**4.66 39**	*eP*	**Pb**	**11 36 45.6**	**+2.9**
	1.9nm,0.3s						
TNSS				*eS*	**Sg**	**11 37 48.9**	**-1.5**
	2.2nm,1.0s						
KRBS	**Karabastau**	**4.68 25**	Pg	**Pb**	**11 36 45.0**	**+2.2**
	2.8nm,0.4s						
KRBS				Lg	Lg	11 37 47.8	
	1.4nm,0.6s						
KOTS	**Kotyrbulak**	**4.89 39**	Pg	**Pg**	**11 36 50.7**	**-3.6**
	5.7nm,0.5s						
KOTS				Lg	Lg	11 37 57.7	
	19nm,0.7s						
KOTS	**Kotyrbulak**	**4.89 39**	*eP*	**Pg**	**11 36 50.7**	**-3.6**
	5.7nm,0.5s						
KOTS				*eS*	**Sg**	**11 37 57.7**	**0.0**
	19nm,0.7s						
KTBS	**Karatobe**	**5.07 33**	Pg	**Pb**	**11 36 52.7**	**+3.2**
	2.7nm,0.8s						
KTBS				Lg	Lg	11 38 01.0	
	5.8nm,0.6s						
PRZ	**Przheval'sk**	**5.11 53**	⇓*iP*	**Pn**	**11 36 38.7**	**+1.3**
PRZ			⇓*iS*	**Sn**	**11 37 36.3**	**-0.3**
SATY	**Saty**	**5.46 48**	Pg	**Pg**	**11 37 02.6**	**-2.5**
	2.7nm,0.4s						
SATY				Lg	Lg	11 38 18.0	
	12nm,0.3s						

*NEIC **08** 11:41:46.6±0.6, 19°.20N±0°.04×67°.24W±0°.03,

CELP			IAML		11 42 29.6	
	comp=N,842nm,0.5s					
GBPR	**Guanica, Bosqu**	**1.47 168**		**Pb**	**11 42 10.2**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.47 168** ⇓	*eP*	**Pb**	**11 42 10.2**	**+0.6**
OBIP	**Obispado Ponce**	**1.48 158**		**Pg**	**11 42 10.6**	**-0.5**
OBIP			Sn	**Sn**	**11 42 27.5**	**-0.4**
OBIP			IAML		11 42 30.6	
	comp=E,1μm,0.3s					
OBIP			IAML		11 42 31.3	
	comp=N,622nm,0.3s					
OBIP	**Obispado Ponce**	**1.48 158** ⇓	*eP*	**Pg**	**11 42 10.5**	**-0.5**
OBIP	**Obispado Ponce**	**1.48 158**	*eS*	**Sn**	**11 42 27.6**	**-0.4**
GCPR	**Guaynabo City**	**1.53 136**		**Pg**	**11 42 12.2**	**+0.2**
GCPR				**Sg**	**11 42 31.4**	**-0.4**
GCPR	**Guaynabo City**	**1.53 136** ⇑	*eP*	**Pg**	**11 42 12.1**	**+0.1**
GCPR	**Guaynabo City**	**1.53 136**	*eS*	**Sb**	**11 42 29.8**	**-0.2**
SJG	**San Juan**	**1.64 142**		**Pg**	**11 42 13.6**	**-0.4**
SJG			IAML		11 42 36.9	
	comp=N,499nm,0.4s					
SJG			IAML		11 42 40.1	
	comp=N,645nm,0.3s					
SJG	**San Juan**	**1.64 142** ⇑	*eP*	**Pg**	**11 42 13.8**	**-0.3**
SJG	**San Juan**	**1.64 142**	*eS*	**Sb**	**11 42 33.3**	**+0.3**
SJG	**San Juan**	**1.64 142** ⇑	*iP*	**Pg**	**11 42 14.8**	**+0.8**
SJG		⇑	*iS*	**Sn**	**11 42 32.0**	**+0.3**
SJG	**San Juan**	**1.64 142**	*i P*	**Pg**	**11 42 14.3**	**+0.2**
SJG			*eS*	**Sn**	**11 42 32.8**	**+1.1**
SJG			IAML		11 42 36.2	
	comp=Z,256nm,0.2s					
HIDR	**Higuey Centro**	**1.65 240** ⇑	*eP*	**Pb**	**11 42 13.3**	**+0.5**
HIDR	**Higuey Centro**	**1.65 240**	*eS*	**Sn**	**11 42 32.6**	**+0.4**
HIDR	**Higuey Centro**	**1.65 240** ⇑	*iP*	**Pg**	**11 42 14.4**	**+0.1**
HIDR		⇑	*iS*	**Sb**	**11 42 35.7**	**+2.3**
HIDR			IAML		11 42 41.2	
	comp=N,604nm,0.3s					
IGPR	**InterUniversit**	**1.78 144**		**Pg**	**11 42 15.5**	**-1.2**
IGPR				**Sn**	**11 42 36.1**	**+0.8**
IGPR	**InterUniversit**	**1.78 144** ⇑	*eP*	**Pg**	**11 42 15.5**	**-1.2**
IGPR	**InterUniversit**	**1.78 144**	*eS*	**Sn**	**11 42 36.1**	**+0.8**
PDPR	**Patillas Dam,**	**1.79 141**		**Pg**	**11 42 15.5**	**-1.4**
PDPR	**Patillas Dam,**	**1.79 141** ⇓	*eP*	**Pg**	**11 42 15.8**	**-1.1**
PDPR	**Patillas Dam,**	**1.79 141**	*eS*	**Sn**	**11 42 36.8**	**+1.4**
MIDR	**Miches**	**1.80 256** ⇑	*eP*	**Pg**	**11 42 16.8**	**-0.3**
MIDR	**Miches**	**1.80 256** ⇑	*iP*	**Pg**	**11 42 18.1**	**+1.0**
MIDR		⇑	*iS*	**Sg**	**11 42 41.2**	**+0.7**
MIDR			IAML		11 42 44.5	
	comp=N,167nm,0.3s					
MIDR			IAML		11 42 50.5	
	comp=N,198nm,0.3s					
HUMP	**Col San Antoni**	**1.80 135**		**Pg**	**11 42 16.1**	**-1.1**
SMDR	**Samana, DR**	**1.88 266** ⇓	*eP*	**Pg**	**11 42 17.7**	**-1.0**
SMDR	**Samana, DR**	**1.88 266**	*eS*	**Sg**	**11 42 43.0**	**-0.1**
SMDR	**Samana, DR**	**1.88 266** ⇑	*iP*	**Pg**	**11 42 19.3**	**+0.7**
SMDR		⇑	*iS*	**Sg**	**11 42 43.3**	**+0.2**
	comp=N,135nm,0.4s					
SMDR			IAML		11 42 57.3	
	comp=N,135nm,0.4s					
DR12	**Loma Pena Alta**	**2.15 253**		**Pb**	**11 42 21.4**	**+0.1**
HATOM	**Hato Mayor del**	**2.15 253** ⇓	*iP*	**Pg**	**11 42 22.5**	**-1.4**
HATOM		⇑	*iS*	**Sb**	**11 42 48.7**	**+0.7**
HATOM			IAML		11 43 04.3	
	comp=N,175nm,0.5s					
NADR	**Nagua**	**2.51 269** ⇑	*iP*	**Pg**	**11 42 30.6**	**0.0**
NADR		⇑	*iS*	**Sb**	**11 42 59.2**	**+1.2**
	comp=N,842nm,0.4s					
NADR			IAML		11 43 24.4	
	comp=N,842nm,0.4s					
DR08	**Loma La Naviza**	**2.71 261** ⇑	*iP*	**Pb**	**11 42 30.8**	**+0.1**
DR08		⇑	*iS*	**Sb**	**11 43 03.8**	**-0.1**
	comp=N,3μm,0.2s					
DR08			IAML		11 43 13.6	
	comp=N,3μm,0.2s					
SDD	**Santo Domingo**	**2.74 250**	Pn	**Pb**	**11 42 29.6**	**-1.7**
SDD			IAML		11 43 15.6	
	comp=N,124nm,0.8s					
SDD	**Santo Domingo**	**2.74 250** ⇑	*iP*	**Pb**	**11 42 30.6**	**-0.7**
SDD		⇑	*iS*	**Sb**	**11 43 03.2**	**-1.5**
SDD			IAML		11 43 15.1	
	comp=N,36nm,0.7s					
BANI	**BANI**	**3.16 252**		**Pb**	**11 42 35.1**	**-3.4**
BANI	**BANI**	**3.16 252** ⇑	*iP*	**Pb**	**11 42 36.4**	**-2.2**
BANI		⇑	*iS*	**Sn**	**11 43 12.9**	**+3.4**
BANI			IAML		11 43 34.1	
	comp=N,306nm,0.3s					
ABDR	**Alto Bandera**	**3.29 260** ⇑	*iP*	**Pb**	**11 42 39.6**	**-1.4**
ABDR			IAML		11 43 43.0	
	comp=N,0.3nm,0.7s					
SC01	**Santiago de lo**	**3.33 271**	Pn	**Pb**	**11 42 38.4**	**-3.0**
SDDR	**Presa de Saban**	**3.89 264**		Pb	11 42 46.0	-4.9
SDDR			IAML		11 43 51.7	
	comp=N,129nm,0.9s					
SDDR	**Presa de Saban**	**3.89 264** ⇑	*iP*	**Pb**	**11 42 46.6**	**-4.3**
SDDR		⇑	*iS*	**Sn**	**11 43 31.1**	**+3.7**
SDDR			IAML		11 43 55.7	
	comp=N,118nm,1.1s					
PODR	**Polo**	**4.06 253**	*i P*	**Pb**	**11 42 49.9**	**-4.0**
PODR			*i S*	**Sn**	**11 43 35.6**	**+3.7**
PODR			IAML		11 44 02.5	
	comp=N,54nm,0.8s					
SABA	**Saba**	**4.16 115**	Pn	**Pn**	**11 42 46.5**	**+0.8**
JIDR	**Jimani**	**4.50 259** ⇑	*iP*	Pb	11 42 55.7	-5.5
JIDR		⇑	*iS*	**Sn**	**11 43 44.6**	**+2.3**
JIDR			IAML		11 44 03.8	
	comp=N,45nm,1.5s					

JMA 08 11:48:12.6±0.2, 28°.1N±0°.4×128°.0E±0°.6, h12km±2km, MV1.6/7, NW OFF OKINAWAJIMA IS, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.86**	**143**	*eS*	Sg	11 48 40.3	-0.3
JTK	**Tokunoshima**	**0.90**	**107**	*eP*	Pg	11 48 29.5	-0.4
JTK				*eS*	Sg	11 48 41.5	-0.2
JIH	**Iheya**	**1.01**	**181**	*eS*	Sg	11 48 45.2	-0.1
JAMN	**Amaminishikomi**	**1.07**	**79**	*eS*	Sb	11 48 47.1	+0.1
JYRO	**Yoronjima**	**1.10**	**158**	*eP*	Pb	11 48 33.0	-0.6
JYRO				*eS*	Sb	11 48 47.7	-0.3

*IDC **08** 11:50:22.0±1.4, 23°.87N×121°.62E, h0km, mb3.5/4, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=32.9km s-min=26.7km az=52.0*
*TAP **08** 11:50:25.9, 24°.06N×121°.50E, h24km, ML3.9, B*
*JMA **08** 11:50:26.1±0.1, 24°.0N±0°.3×121°.6E±0°.9, h22km, MV3.3/12, TAIWAN REGION*
ISC 08 11:50:26.1±0.7, 24°.04N±0°.01×121°.53E±0°.02, h24km±3km, n149, σ0°.87/257, mb3.4/4, 7C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**58**	⇓ *iP*	**Pb**	**11 50 30.4**	**0.0**
TWD				S	**Sb**	**11 50 33.5**	**+0.2**
ETM	**Tongmen**	**0.08**	**203**	⇓ *iP*	**Pb**	**11 50 30.4**	**-0.1**
ETM				S	**Sb**	**11 50 33.3**	**-0.2**
HWA	**Hwalien**	**0.10**	**132**	⇓ P	**Pb**	**11 50 31.0**	**+0.4**
HWA				S	**Sb**	**11 50 35.0**	**+1.4**
ETL	**Fush Village**	**0.15**	**36**	P	**Pb**	**11 50 30.8**	**-0.3**
ETL				S	**Sb**	**11 50 34.3**	**-0.2**
NACB	**Ninganchiao**	**0.15**	**25**	P	**Pb**	**11 50 30.6**	**-0.5**
NACB	**Ninganchiao**	**0.15**	**25**	⇓ *iP*	**Pb**	**11 50 30.7**	**-0.4**
NACB				*i* S	**Sb**	**11 50 34.2**	**-0.2**
ETLH	**Xiulin Townshi**	**0.17**	**346**	⇑ *iP*	**Pb**	**11 50 31.1**	**-0.3**
ETLH				S	**Sb**	**11 50 34.3**	**-0.7**
TEYL	**Yanliau Villag**	**0.18**	**160**	⇓ P	**Pb**	**11 50 31.4**	**-0.1**
TEYL				*eS*	**Sb**	**11 50 36.1**	**+1.1**
ESL	**Shilin**	**0.24**	**201**	⇓ *iP*	**Pb**	**11 50 31.7**	**-0.5**
ESL				*eS*	**Sb**	**11 50 35.8**	**-0.6**
SHUL	**Shoufeng**	**0.25**	**173**	P	**Pb**	**11 50 32.6**	**+0.2**
SHUL				*eS*	**Sb**	**11 50 37.8**	**+1.1**
WHF	**Hehuan Shan**	**0.26**	**293**	⇑ *iP*	**Pb**	**11 50 32.3**	**-0.6**
WHF				S	**Sb**	**11 50 36.8**	**-0.7**
EHP	**Heping Village**	**0.33**	**36**	*eP*	**Pb**	**11 50 33.4**	**-0.1**
EHP				*eS*	**Sb**	**11 50 39.0**	**+0.4**
TEGC	**Jichi Village**	**0.33**	**178**	*eP*	**Pb**	**11 50 33.9**	**+0.4**
TEGC				*eS*	**Sb**	**11 50 39.7**	**+1.2**
FUSS	**Fushou**	**0.33**	**308**	⇑ *iP*	**Pb**	**11 50 33.5**	**-0.2**
FUSS				S	**Sb**	**11 50 38.6**	**-0.3**
OWD	**Renai**	**0.33**	**255**	⇑ *iP*	**Pb**	**11 50 33.4**	**-0.3**
OWD				*eS*	**Sb**	**11 50 38.0**	**-0.8**
EAHA	**Aohua**	**0.35**	**34**	*eP*	**Pb**	**11 50 33.4**	**-0.3**
EAHA				*eS*	**Sb**	**11 50 39.1**	**+0.2**
WARBT	**Fenglin Townsh**	**0.35**	**202**	P	**Pb**	**11 50 33.0**	**-0.8**
WARBT				S	**Sb**	**11 50 38.0**	**-1.0**
WUSB	**Renai**	**0.38**	**263**	⇑ *iP*	**Pb**	**11 50 34.1**	**-0.2**
WUSB				*eS*	**Sb**	**11 50 39.3**	**-0.7**
EGFH	**Guangfu**	**0.38**	**194**	*eP*	**Pb**	**11 50 33.8**	**-0.5**
EGFH				*eS*	**Sb**	**11 50 39.4**	**-0.5**
TWT	**Tachien**	**0.39**	**303**	P	**Pb**	**11 50 34.4**	**-0.1**
TWT				S	**Sb**	**11 50 39.9**	**-0.3**
TDCB	**Techi**	**0.40**	**302**	P	**Pb**	**11 50 34.5**	**-0.2**
TDCB				S	**Sb**	**11 50 39.8**	**-0.8**
NNSB	**Datong**	**0.41**	**341**	*i* P	**Pb**	**11 50 34.6**	**-0.3**
NNSB				S	**Sb**	**11 50 39.9**	**-0.9**
NNS	**Nan Shan**	**0.42**	**340**	⇑ *iP*	**Pb**	**11 50 34.8**	**-0.3**
NNS				S	**Sb**	**11 50 40.4**	**-0.7**
ENA	**Nanau**	**0.43**	**27**	*i* P	**Pb**	**11 50 34.7**	**-0.4**
ENA				*i* S	**Sb**	**11 50 41.1**	**-0.2**
VWDT	**VWDT**	**0.46**	**231**	⇑ *iP*	**Pb**	**11 50 35.4**	**-0.1**
VWDT				S	**Sb**	**11 50 42.2**	**+0.3**
LATG	**Datong**	**0.49**	**360**	P	**Pb**	**11 50 35.8**	**-0.4**
LATG				S	**Sb**	**11 50 42.8**	**-0.3**
HGSD	**Ruisui**	**0.56**	**190**	*eP*	**Pb**	**11 50 37.2**	**0.0**
WCS	**Beigang Elemen**	**0.56**	**272**	P	**Pb**	**11 50 36.9**	**-0.4**
EHY	**Hungye**	**0.56**	**200**	*eP*	**Pb**	**11 50 35.9**	**-1.5**
EHY				*eS*	**Sb**	**11 50 44.7**	**-0.3**
EHYH	**Wanrong**	**0.57**	**197**	*eP*	**Pb**	**11 50 37.0**	**-0.4**
EHYH				*eS*	**Sb**	**11 50 44.5**	**-0.7**
WHP	**Taichung City**	**0.58**	**294**	P	**Pb**	**11 50 37.4**	**-0.3**
WHP				S	**Sb**	**11 50 45.5**	**-0.1**
SSLB	**Suanglung**	**0.58**	**244**	P	**Pb**	**11 50 37.4**	**-0.3**
SSLB	**Suanglung**	**0.58**	**244**	P	**Pb**	**11 50 37.1**	**-0.5**
SSLB				*eS*	**Sb**	**11 50 44.4**	**-1.2**
SMLT	**Sun Moon Lake**	**0.60**	**255**	P	**Pb**	**11 50 37.5**	**-0.4**
SMLT				*eS*	**Sb**	**11 50 45.5**	**-0.5**
ENTT	**Nioudou**	**0.60**	**3**	P	**Pb**	**11 50 37.7**	**-0.2**
ESAO	**Su ao**	**0.60**	**28**	P	**Pb**	**11 50 37.8**	**-0.3**
ESAO				*eS*	**Sb**	**11 50 45.6**	**-0.5**
NDS	**Dongshan**	**0.61**	**16**	*eP*	**Pb**	**11 50 38.2**	**0.0**
NDS				*eS*	**Sb**	**11 50 46.4**	**-0.1**
TYC	**Yuchr**	**0.63**	**258**	P	**Pb**	**11 50 37.9**	**-0.6**
TYC				*eS*	**Sb**	**11 50 46.2**	**-0.6**
TWC	**Suao**	**0.64**	**27**	*eP*	**Pb**	**11 50 38.2**	**-0.4**
TWC				*eS*	**Sb**	**11 50 46.9**	**-0.2**
YHNB	**Yeheng**	**0.64**	**347**	P	**Pb**	**11 50 38.7**	**0.0**
YHNB	**Yeheng**	**0.64**	**347**	P	**Pb**	**11 50 38.5**	**-0.3**
YHNB				*eS*	**Sb**	**11 50 46.7**	**-0.6**
NSK	**Sanguang**	**0.65**	**346**	P	**Pb**	**11 50 38.7**	**-0.2**
NSK				*eS*	**Sb**	**11 50 46.9**	**-0.7**
YULB	**Yu-li**	**0.68**	**198**	P	Pg	11 50 37.6	+0.6
YULB	**Yu-li**	**0.68**	**198**	*eP*	**Pb**	**11 50 37.4**	**-1.9**
YULB				*eS*	**Sb**	**11 50 48.0**	**-0.3**
TWE	**Neicheng**	**0.69**	**11**	*eP*	**Pb**	**11 50 39.2**	**-0.3**
TWE				*eS*	**Sb**	**11 50 48.7**	**+0.1**
NFF	**Wufeng Townshi**	**0.70**	**328**	*eP*	**Pb**	**11 50 39.4**	**-0.2**
NFF				*eS*	**Sb**	**11 50 48.2**	**-0.7**
WHYT	**Xinyi Township**	**0.71**	**241**	*eP*	**Pb**	**11 50 39.6**	**-0.1**
WHYT				*eS*	**Sn**	**11 50 50.0**	**-0.8**
EYUL	**Yuli**	**0.72**	**196**	*eP*	**Pb**	**11 50 40.0**	**+0.1**
EYUL				*eS*	**Sn**	**11 50 50.4**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.72**	**4**	P	**Pb**	**11 50 39.8**	**-0.2**
FUSB				*eS*	**Sb**	**11 50 49.1**	**-0.4**
TWF1	**Yuli**	**0.72**	**197**	*eP*	**Pb**	**11 50 39.5**	**-0.4**
TWF1				*eS*	**Sn**	**11 50 50.3**	**-0.7**
ECBN	**Changbin**	**0.72**	**186**	*eP*	**Pb**	**11 50 39.5**	**-0.5**
ECBN				*eS*	**Sb**	**11 50 50.1**	**+0.6**
EOS4	**EOS4**	**0.73**	**84**	*eP*	**Pb**	**11 50 40.8**	**+0.3**
EOS4				*eS*	**Sn**	**11 50 50.9**	**+0.3**
NWLT	**Wulai**	**0.73**	**358**	*eP*	**Pn**	**11 50 40.2**	**-0.8**
NWLT				*eS*	**Sb**	**11 50 49.6**	**-0.3**
EOS2	**EOS2**	**0.74**	**59**	*eP*	**Pn**	**11 50 41.7**	**+0.8**
TWQ1	**Liyutan**	**0.75**	**294**	*eP*	**Pn**	**11 50 41.0**	**-0.2**
TWQ1				*eS*	**Sn**	**11 50 51.2**	**-0.7**
NSTT	**Nanjuang**	**0.76**	**321**	⇓ P	**Pn**	**11 50 40.8**	**-0.5**
NSTT				*i* S	**Sn**	**11 50 50.5**	**-1.5**
EOS3	**EOS3**	**0.76**	**71**	*eP*	**Pn**	**11 50 41.3**	**+0.2**
LIOB	**Emei**	**0.76**	**322**	P	**Pn**	**11 50 41.0**	**-0.3**
LIOB				*eS*	**Sn**	**11 50 51.1**	**-1.0**
WJS	**Zhushan**	**0.76**	**254**	*eP*	**Pn**	**11 50 41.3**	**0.0**
WJS				*eS*	**Sn**	**11 50 52.2**	**+0.1**
TCU	**Taichung**	**0.79**	**278**	*eP*	**Pn**	**11 50 41.7**	**+0.1**
TCU				*eS*	**Sn**	**11 50 53.1**	**+0.5**
WNT	**Mingjian**	**0.79**	**258**	P	**Pn**	**11 50 41.6**	**-0.1**
WNT				S	**Sn**	**11 50 52.9**	**+0.2**
NSY	**Sanyi**	**0.79**	**298**	*eP*	**Pn**	**11 50 42.1**	**+0.4**
NSY				*eS*	**Sn**	**11 50 52.8**	**-0.1**
KSHI	**Guanxi Townshi**	**0.80**	**336**	*eP*	**Pn**	**11 50 42.3**	**+0.4**
NMLH	**Miaoli**	**0.83**	**306**	*eP*	**Pn**	**11 50 42.8**	**+0.5**
NMLH				*eS*	**Sn**	**11 50 54.2**	**+0.4**
ALS	**Alishan**	**0.85**	**232**	P	**Pn**	**11 50 42.3**	**-0.5**
ALS				*eS*	**Sn**	**11 50 54.2**	**-0.3**
CHKH	**Chenggong**	**0.85**	**188**	*eP*	**Pb**	**11 50 40.9**	**-1.3**
CHKH				*eS*	**Sb**	**11 50 52.6**	**-0.6**
FULB	**Fuli**	**0.87**	**194**	*eP*	**Pb**	**11 50 42.3**	**-0.1**
WDJ	**Dajia District**	**0.87**	**291**	*eP*	**Pn**	**11 50 42.9**	**+0.1**
WCHH	**Zhanghua**	**0.89**	**273**	*eP*	**Pn**	**11 50 43.3**	**+0.3**
WCHH				*eS*	**Sn**	**11 50 56.9**	**+1.8**
CHN5	**Tsauling**	**0.90**	**241**	*eP*	**Pn**	**11 50 43.4**	**+0.2**
CHN5				S	**Sn**	**11 50 56.3**	**+0.9**
SBCB	**Hsinchu**	**0.90**	**327**	*eP*	**Pn**	**11 50 43.8**	**+0.6**
SBCB				*eS*	**Sn**	**11 50 58.0**	**+2.6**
WCH1	**Changhua City**	**0.90**	**272**	*eP*	**Pn**	**11 50 43.4**	**+0.2**
WCH1				*eS*	**Sn**	**11 50 56.6**	**+1.2**
HSN	**Hsinchu**	**0.91**	**326**	*eP*	**Pn**	**11 50 44.4**	**+1.0**
HSN				*eS*	**Sn**	**11 50 57.6**	**+1.9**
TATO	**Taipei**	**0.93**	**358**	P	**Pn**	**11 50 44.0**	**+0.4**
EHD	**Haiduan**	**0.94**	**198**	*eP*	**Pb**	**11 50 43.0**	**-0.7**
EHD				*eS*	**Sb**	**11 50 55.8**	**+0.2**
TWA	**Mucha**	**0.94**	**3**	*eP*	**Pn**	**11 50 44.4**	**+0.7**
TWA				*eS*	**Sn**	**11 50 55.9**	**-0.5**
CHKT	**Chengkung**	**0.95**	**189**	*eP*	**Pb**	**11 50 42.8**	**-1.0**
CHKT				*eS*	**Sb**	**11 50 55.8**	**-0.2**
WGK	**Gukeng**	**0.95**	**248**	*eP*	**Pn**	**11 50 44.4**	**+0.5**
WGK				*eS*	**Sn**	**11 50 57.8**	**+1.1**
WDL	**Douliou City**	**0.96**	**250**	*eS*	**Sn**	**11 50 58.5**	**+1.5**
TIPB	**Shuangxi**	**0.97**	**16**	*eP*	**Pb**	**11 50 43.6**	**-0.5**
ELDTW	**Lidau**	**0.97**	**209**	*eP*	**Pb**	**11 50 43.7**	**-0.6**
ELDTW				*eS*	**Sb**	**11 50 56.4**	**-0.3**
WDLH	**Douliu**	**0.97**	**249**	*eP*	**Pn**	**11 50 44.5**	**+0.4**
WDLH				*eS*	**Sn**	**11 50 58.6**	**+1.4**
NCUH	**Zhongli**	**0.97**	**341**	*eP*	**Pn**	**11 50 45.3**	**+1.0**
NCUH				*eS*	**Sn**	**11 50 59.0**	**+1.7**
ECS	**Chishang**	**0.98**	**197**	*eP*	**Pb**	**11 50 44.4**	**0.0**
WCKO	**Fanlu**	**1.04**	**235**	*eP*	**Pb**	**11 50 45.8**	**+0.4**
WCKO				*eS*	**Sn**	**11 51 00.8**	**+2.0**
TWB1	**Santiao Chiao**	**1.05**	**23**	*eP*	**Pb**	**11 50 45.6**	**+0.1**
TWB1				*eS*	**Sn**	**11 50 59.9**	**+0.8**
NWF	**Wu-fen Shan**	**1.05**	**13**	*eP*	**Pb**	**11 50 46.0**	**+0.3**
NWF				*eS*	**Sn**	**11 50 59.6**	**+0.3**
WFSB	**Wu-fen Shan**	**1.05**	**13**	*eP*	**Pb**	**11 50 46.0**	**+0.4**
WFSB				*eS*	**Sn**	**11 50 59.2**	**0.0**
TWS1	**Kuangyinshan**	**1.06**	**355**	P	**Pb**	**11 50 46.1**	**+0.4**
TWS1				S	**Sn**	**11 51 01.1**	**+1.7**
EDH	**Donghe**	**1.08**	**191**	*eP*	**Pn**	**11 50 44.9**	**-0.8**
EDH				*eS*	**Sb**	**11 50 59.3**	**-0.5**
CHN2	**Minshiung**	**1.09**	**243**	*eS*	**Sn**	**11 50 22.4**	**+2.1**
SXI1	**Grass Mountain**	**1.09**	**17**	*eP*	**Pb**	**11 50 46.0**	**-0.3**
SXI1				*eS*	**Sn**	**11 51 01.8**	**+1.4**
WTK	**Tuku**	**1.10**	**252**	*eP*	**Pb**	**11 50 46.4**	**0.0**
WTK				*eS*	**Sn**	**11 51 02.0**	**+1.6**
YM01	**YM01**	**1.10**	**2**	*eP*	**Pb**	**11 50 46.1**	**-0.4**
YM01				*eS*	**Sn**	**11 51 00.5**	**0.0**
TPUB	**Ta-pu**	**1.10**	**228**	P	**Pb**	**11 50 47.2**	**+0.7**
TPUB	**Ta-pu**	**1.10**	**228**	P	**Pb**	**11 50 46.9**	**+0.4**
TPUB				*eS*	**Sn**	**11 51 02.1**	**+1.5**
STYH	**Taoyuan**	**1.11**	**219**	*eP*	**Pb**	**11 50 46.1**	**-0.4**
ZUZH	**Zhuzihu**	**1.12**	**1**	*eP*	**Pn**	**11 50 46.0**	**-0.2**
ZUZH				*eS*	**Sn**	**11 51 00.9**	**0.0**
NTST	**Danshui**	**1.12**	**356**	*eP*	**Pb**	**11 50 46.8**	**0.0**
NTST				*eS*	**Sn**	**11 51 02.6**	**+1.7**
ANP	**Anpu**	**1.14**	**360**	*eP*	**Pb**	**11 50 47.3**	**+0.1**
ANP				*eS*	**Sn**	**11 51 02.5**	**+0.9**
YM08	**YM08**	**1.14**	**3**	*eP*	**Pb**	**11 50 46.6**	**-0.5**
YM08				*eS*	**Sb**	**11 51 01.8**	**+0.2**
CHY	**Chiayi**	**1.15**	**242**	*eP*	**Pb**	**11 50 47.4**	**+0.1**
CHY				*eS*	**Sb**	**11 51 03.1**	**+1.4**
WTP	**Ta-pu**	**1.15**	**227**	P	**Pb**	**11 50 47.8**	**+0.5**
WTP				*eS*	**Sb**	**11 51 03.8**	**+1.9**
WTCT	**Ta-ch'eng**	**1.16**	**261**	*eP*	**Pb**	**11 50 47.0**	**-0.4**
WTCT				*eS*	**Sb**	**11 51 03.4**	**+1.5**
LONT	**Longtian**	**1.19**	**198**	*eP*	**Pn**	**11 50 45.6**	**-1.5**
TWK	**Hsinying**	**1.23**	**231**	*i* P	**Pb**	**11 50 49.1**	**+0.5**
TWK				*eS*	**Sb**	**11 51 06.0**	**+2.0**
SNST	**Tainan City**	**1.25**	**229**	*eP*	**Pb**	**11 50 49.4**	**+0.4**
SNST				*eS*	**Sb**	**11 51 06.7**	**+2.0**
CHN1	**Nanshi**	**1.25**	**227**	P	**Pb**	**11 50 49.5**	**+0.5**
CHN1				*eS*	**Sb**	**11 51 06.4**	**+1.7**
WSF	**Szhu**	**1.26**	**252**	*eP*	**Pb**	**11 50 49.1**	**-0.1**
WSF				*eS*	**Sb**	**11 51 06.1**	**+1.1**
TWG	**Pinlang**	**1.28**	**199**	*eP*	**Pb**	**11 50 49.1**	**-0.5**
TWGBT	**Beinan**	**1.28**	**199**	P	**Pn**	**11 50 48.5**	**0.0**
TWGBT	**Beinan**	**1.28**	**199**	*eP*	**Pn**	**11 50 48.5**	**0.0**
WSL	**Shuilin Townsh**	**1.30**	**247**	*eP*	**Pb**	**11 50 50.0**	**+0.2**
WSL				*eS*	**Sb**	**11 51 08.9**	**+2.9**
ICHU	**Yijhu**	**1.33**	**240**	*eP*	**Pb**	**11 50 50.2**	**-0.1**
ICHU				*eS*	**Sb**	**11 51 09.8**	**+2.8**
LDUT	**Ludao**	**1.36**	**182**	*eP*	**Pn**	**11 50 49.9**	**+0.4**
CHN8	**Yiju**	**1.39**	**240**	*eP*	**Pb**	**11 50 51.1**	**-0.2**
CHN8				*eS*	**Sb**	**11 51 10.3**	**+1.6**
YOJ	**Yonaguni jima**	**1.42**	**72**	P	**Pb**	**11 50 51.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.42**	**72**	*eP*	**Pn**	**11 50 50.5**	**+0.2**
YOJ				*eS*	**Sn**	**11 51 09.0**	**+0.8**
YOJ	**Yonaguni jima**	**1.42**	**72**	*eP*	**Pn**	**11 50 50.2**	**-0.1**
YOJ				*eS*	**Sn**	**11 51 09.0**	**+0.8**
SCST	**Cishan**	**1.49**	**220**	*eP*	**Pb**	**11 50 53.4**	**+0.3**
SCST				*eS*	**Sb**	**11 51 14.3**	**+2.7**
SCLT	**Jiali**	**1.50**	**235**	*eS*	**Sb**	**11 51 13.3**	**+1.5**
SSD	**Sandimen**	**1.53**	**213**	*eP*	**Pb**	**11 50 53.6**	**-0.1**
SSD				*eS*	**Sb**	**11 51 13.7**	**+1.0**
ECL	**Taimali**	**1.53**	**200**	*eP*	**Pn**	**11 50 51.7**	**-0.2**
TSCK	**Chigu Township**	**1.59**	**236**	*eP*	**Pb**	**11 50 53.9**	**-0.9**
TSCK				*eS*	**Sb**	**11 51 15.2**	**+0.6**
MASBT	**Mashibuluo**	**1.64**	**210**	*eP*	**Pb**	**11 50 55.0**	**-0.7**
MASBT				*eS*	**Sb**	**11 51 16.6**	**+0.7**
EAST	**Anshuo**	**1.77**	**201**	*eP*	**Pb**	**11 50 56.9**	**-0.9**
SCZT	**Fangliau**	**1.86**	**207**	*eP*	**Pn**	**11 50 57.5**	**+1.1**
SCZT				*eS*	**Sb**	**11 51 23.0**	**+0.8**
PHUB	**P'eng-hu**	**1.87**	**254**	*eP*	**Pn**	**11 50 56.4**	**-0.2**
PHUB				*eS*	**Sn**	**11 51 19.9**	**+0.6**
PNG	**Penghu**	**1.87**	**256**	*eP*	**Pn**	**11 50 56.8**	**+0.3**
PNG				*eS*	**Sn**	**11 51 19.7**	**+0.3**
WDGT	**Dungji**	**1.88**	**246**	*eP*	**Pn**	**11 50 56.5**	**-0.2**
WDGT				*eS*	**Sb**	**11 51 20.7**	**-2.1**
LYUB	**Lan-yu**	**2.03**	**179**	*eP*	**Pn**	**11 50 57.2**	**-1.5**
LYUB				*eS*	**Sn**	**11 51 20.6**	**-2.7**
IRIF	**Iriomote-Funau**	**2.03**	**81**	*eP*	**Pn**	**11 50 59.4**	**+0.6**
IRIF				*eS

NTST	Danshui	1.01 301	eS		Sn	12 02 01.9	+0.2
ETM	Tongmen	1.06 231	eP		Pn	12 01 48.9	+0.3
KSHI	Guanxi Townshi	1.12 277	eP		Pg	12 01 51.1	+1.2
KSHI			eS		Sn	12 02 05.8	+1.3
FUSS	Fushou	1.12 250	eP		Pg	12 01 49.8	-0.2
FUSS			eS		Sn	12 02 05.1	+0.2
SHUL	Shoufeng	1.14 222	eP		Pb	12 01 49.7	0.0
WHF	Hehuan Shan	1.14 245	eP		Pg	12 01 50.2	-0.3
WHF			eS		Sn	12 02 05.5	-0.3
NFF	Wufeng Townshi	1.17 270	eP		Pg	12 01 50.8	0.0
NFF			eS		Sn	12 02 06.2	+0.4
TWT	Tachien	1.18 251	eP		Pg	12 01 51.4	+0.3
IRIF	Iriomote-Funau	1.25 104	eP		Pn	12 01 50.3	-0.9
LIOB	Emei	1.26 270	eP		Pg	12 01 52.5	-0.1
LIOB			eS		Sg	12 02 09.1	+0.2
NSTT	Nanjuang	1.27 270	eP		Pg	12 01 52.7	0.0
NSTT			eS		Sg	12 02 09.4	0.0
WARBT	Fenglin Townsh	1.30 225	eP		Pb	12 01 52.5	0.0
WARBT			eS		Sg	12 02 10.1	-0.3
OWD	Renai	1.31 239	eP		Pn	12 01 51.8	-0.4
OWD			eS		Sg	12 02 10.8	+0.2
WHP	Taichung City	1.37 255	eP		Pg	12 01 54.8	+0.1
WHP			eS		Sg	12 02 12.5	-0.1
JKRS	Kuro-shima	1.52 105	eP		Pn	12 01 53.8	-1.1
JKRS			eS		Sn	12 02 13.0	-1.5
SSLB	Suanglung	1.57 237	eP		Pb	12 01 57.5	+0.4
YULB	Yu-li	1.60 219	eP		Pn	12 01 55.9	-0.1
YULB			eS		Sn	12 02 16.2	-0.2

*IDC **08** 12:28:58.5±1.3, 8°.34S×110°.46E, h0km, mb3.6/5, mbtmp3.6/7, ML3.2/2, MS3.2/2, Error ellipse: s-maj=71.7km s-min=17.5km az=41.0*

*DJA **08** 12:29:01.0±0.4, 9°.5S±3°×11°.0E±°, h10km, M4.0/18, mB4.9/1, mb4.4/3, MLv3.9/18, Mw(mB)4.1/1*

ISC 08 12:29:03.9±1.6, 9°.0S±0°.1×109°.85E±0°.05, h53km±19km, n25, σ1§72/30, mb3.4/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	Yogyakarta	1.22	21	P	Pn	12 29 23.1	-1.6
YOGI				S	Sn	12 29 40.0	-0.2
UGM	Wanagama	1.24	33	P	Pn	12 29 22.6	-2.4
UGM				S	Sn	12 29 40.8	+0.2
PCJI	Pacitan	1.52	60	P	Pn	12 29 26.6	-2.1
WOJI	Wonogiri, Jawa	1.54	44	P	Pn	12 29 27.4	-1.7
KPJI	Karang Pucung	1.86	331	P	Pn	12 29 33.6	+0.3
SMRI	Semarang	1.99	17	P	Pn	12 29 35.7	+0.5
SMRI				S	Sn	12 30 00.1	+1.2
NGJI	Ngawi	2.25	45	P	Pn	12 29 40.3	+1.6
LEM	Lembang	3.06	314	Pn	Pn	12 29 52.2	+2.1
	3.4nm,0.3s,baz=311,slow=20,SNR=1.9						
LEM				Sn	Sn	12 30 30.1	+4.5
	5.5nm,0.3s,baz=166,slow=19,SNR=3.5 18nm,0.4s						
LEM	Lembang	3.06	314	P	Pn	12 29 48.7	-1.3
LEM				S	Sn	12 30 25.8	+0.2
CNJI	Cibinong	3.15	301	P	Pn	12 29 49.7	-1.4
CNJI				S	Sn	12 30 28.3	+0.8
GRJI	Gresik	3.31	52	P	Pn	12 29 52.7	-0.5
GRJI				S	Sn	12 30 33.8	+2.5
BLJI	Banyuglugur	3.90	72	P	Pn	12 30 01.4	+0.1
BLJI				S	Sn	12 30 48.8	+2.9
JAGI	Jajag, Banyuwa	4.28	84	P	Pn	12 30 06.3	-0.3
JAGI				S	Sn	12 30 58.3	+3.0
ABJI	Asem Bagus	4.49	75	P	Pn	12 30 09.7	+0.2
TWSI	Taliwang, Sumb	6.95	89	P	Pn	12 30 43.1	-0.2
FITZ	Fitzroy Crossi	17.82	122	P	P	12 33 07.2	-1.2
	0.1nm,0.3s,baz=302,slow=13,SNR=1.7						
FITZ				S	Sn	12 36 10.2	-16
	1.2nm,0.8s,baz=348,slow=20,SNR=1.6						
FITZ				LR	LR	12 40 03.3	
	comp=Z,62nm,18.9s,baz=236,slow=38 1.1nm,0.8s						
NWAO	Narrogin (SRO)	24.81	165	LR	LR	12 45 31.7	
	comp=Z,63nm,18.2s,baz=126,slow=39						
WRA	Warramunga Arr	26.07	117	P	P	12 34 32.8	+0.1
	0.8nm,0.8s,baz=291,slow=11,SNR=7.9 0.8nm,0.8s						
ASAR	Alice Springs	27.26	125	P	P	12 34 43.8	+0.3
	0.6nm,0.7s,baz=299,slow=9.2,SNR=6.0 0.6nm,0.7s						
STKA	Stephens Creek	37.24	132	P	P	12 36 10.4	-0.1
	1.0nm,0.4s,baz=324,slow=7.6,SNR=3.6 1.0nm,0.4s						
MKAR	Makanchi Array	60.70	339	P	P	12 39 08.6	-1.3
	0.4nm,0.6s,baz=143,slow=7.6,SNR=3.7 0.4nm,0.6s						
H04N2	CROZET ISLANDS	61.66	222	T	T	13 46 53.3	
	baz=72,slow=75,SNR=4.6						
H04N1	CROZET ISLANDS	61.68	222	T	T	13 46 54.3	
	baz=72,slow=75,SNR=5.4						
H04N3	CROZET ISLANDS	61.68	222	T	T	13 46 52.6	
	baz=72,slow=75,SNR=4.3						
KURBB	Kurchatov Arra	65.27	339	P	P	12 39 39.5	-0.6
	0.2nm,0.5s,baz=156,slow=4.9,SNR=2.1 0.2nm,0.5s						

*IDC **08** 12:38:37.4±0.6, 3°.29S×177°.61E, h0km, mb4.1/12, mbtmp4.0/12, MS3.7/3, Error ellipse: s-maj=32.3km s-min=17.0km az=137.0*

*NEIC **08** 12:38:41.6±1.3, 3°.46S±0°.08×177°.6E±0°.1, h26km±5km, mb4.4/29, Error ellipse: s-maj=17.6km s-min=9.3km az=67.0*

ISC 08 12:38:39.0±0.5, 3°.58S±0°.08×177°.7E±0°.1, h14km, n62, σ1§39/55, mb4.3/22, MS3.7/3, Gilbert Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	Funafuti	5.14	163	Pn	Pn	12 39 54.5	-1.1
FUNA				Sn	Sn	12 40 49.1	-5.7
TARA	Tarawa	6.83	316	Pn	Pn	12 40 15.1	-3.7
TARA				Sn	Sn	12 41 24.9	-11
H11S2	WAKE ISLAND Hy	24.45	334	T	T	13 09 11.5	
	baz=154,slow=76,SNR=9.6						
H11S3	WAKE ISLAND Hy	24.46	334	T	T	13 09 15.3	
	baz=154,slow=76,SNR=8.1						
H11S1	WAKE ISLAND Hy	24.47	334	T	T	13 09 18.5	
	baz=154,slow=76,SNR=8.6						
H11N3	WAKE ISLAND Hy	25.45	336	T	T	13 10 22.5	
	baz=154,slow=76,SNR=13						
H11N1	WAKE ISLAND Hy	25.46	336	T	T	13 10 25.7	
	baz=154,slow=76,SNR=30						
H11N2	WAKE ISLAND Hy	25.47	336	T	T	13 10 23.8	
	baz=154,slow=76,SNR=16						
JAY	Jayapura	36.93	271	LR	LR	13 00 11.3	
	comp=Z,129nm,19.9s,baz=68,slow=35						
QRZ	Quartz Range	37.37	186	P	P	12 45 51.5	+0.3
NNZ	Nelson	37.67	185	P	P	12 45 53.9	+0.1
LBZ	Lake Benmore	41.17	188	P	P	12 46 23.0	-0.1
MLZ	Mavora Lakes	42.46	190	P	P	12 46 34.2	+0.7
INKA	Innaminka	42.62	232	P	P	12 46 36.2	+1.0
STKA	Stephens Creek	44.04	226	P	P	12 46 48.8	+2.2
STKA	Stephens Creek	44.04	226	P	P	12 46 49.1	+2.5
	1.1nm,0.4s,baz=355,slow=11,SNR=1.9 1.1nm,0.4s						
WR8	Warramunga Arr	45.11	245	P	P	12 46 56.0	+0.6
WR8				IAmb	IAmb	12 46 56.9	
	comp=Z,3.9nm,0.8s						
WB0	Warramunga Arr	45.16	246	P	P	12 46 56.2	+0.5
WB0				IAmb	IAmb	12 46 57.2	
	comp=Z,8.0nm,1.1s						
WRA	Warramunga Arr	45.26	245	P	P	12 46 57.1	+0.6
	comp=Z,2.6nm,0.7s,baz=74,slow=8.0,SNR=20 comp=Z,2.6nm,0.7s						
AS31	Alice Springs	46.72	241	P	P	12 47 08.1	+0.1
ASAR	Alice Springs	46.72	241	P	P	12 47 07.8	-0.2
ASAR	Alice Springs	46.72	241	P	P	12 47 08.7	+0.7
	comp=Z,1.8nm,0.9s,baz=60,slow=7.8,SNR=10						
ASAR				PcP	PcP	12 48 43.0	+1.4
	comp=Z,0.8nm,0.8s,baz=65,slow=3.6,SNR=5.4 comp=Z,1.8nm,0.9s						
BBOO	Buckleboo	48.56	228	P	P	12 47 22.5	+0.4
KNRA	Kununurra	49.57	253	P	P	12 47 30.0	-0.1
FITZ	Fitzroy Crossi	52.91	250	P	P	12 47 55.0	-0.1
TPUB	Ta-pu	61.66	299	P	P	12 48 56.5	-0.4
LEM	Lembang	69.80	264	LR	LR	13 25 42.8	
	comp=Z,50nm,18.1s,baz=172,slow=40						
LHV	Little Huntoon	72.03	48	P	P	12 50 03.4	+0.7
RYN	Ryan	72.14	48	P	P	12 50 04.0	+0.3
RYN				IAmb	IAmb	12 50 04.8	
	comp=Z,3.3nm,1.1s						
NVAR	Mina Array Bea	72.24	48	P	P	12 50 04.1	-0.2
NVAR	Mina Array Bea	72.24	48	P	P	12 50 04.3	0.0
	comp=Z,1.0nm,0.8s,baz=238,slow=9.3,SNR=9.3						
NVAR				LR	LR	13 17 47.4	
	comp=Z,40nm,18.8s,baz=305,slow=32 comp=Z,1.0nm,0.8s						
IMAR	Indian Mountai	72.41	12	P	P	12 50 05.1	+0.6
WRH	Wood River Hil	72.44	15	P	P	12 50 04.3	-0.3
WRH				IAmb	IAmb	12 50 13.0	
	comp=Z,8.7nm,1.4s						
CCB	Clear Creek Bu	72.66	15	P	P	12 50 05.5	-0.4
CCB				IAmb	IAmb	12 50 07.3	
	comp=Z,7.1nm,1.5s						
I23K	Minto, Yukon-K	72.68	14	P	P	12 50 06.0	-0.1
I23K				IAmb	IAmb	12 50 38.2	
	comp=Z,6.0nm,1.3s						
HDA	Harding Lake	72.69	15	P	P	12 50 06.0	-0.1
DOT	Dot Lake	72.89	17	P	P	12 50 07.3	0.0
DOT				IAmb	IAmb	12 50 33.5	
	comp=Z,4.4nm,1.3s						
ILAR	Eielson Array	72.99	15	P	P	12 50 07.2	-0.8
ILAR	Eielson Array	72.99	15	P	P	12 50 07.0	-1.0
	comp=Z,1.4nm,0.9s,baz=230,slow=6.1,SNR=16 comp=Z,1.4nm,0.9s						
BCAR	Beaver Creek A	73.13	18	P	P	12 50 08.0	-0.9
PRN	Pahroc Range	74.36	50	P	P	12 50 16.9	+0.1
PRN				IAmb	IAmb	12 50 26.5	
	comp=Z,5.6nm,1.3s						
VNDA	Vanda	74.37	184	P	P	12 50 16.6	+0.7
VNDA				IAmb	IAmb	12 50 40.2	
	comp=Z,4.1nm,1.5s						
VNDA	Vanda	74.37	184	P	P	12 50 16.3	+0.5
	comp=Z,0.3nm,0.3s,baz=95,slow=5.7,SNR=3.5 comp=Z,0.3nm,0.3s						
DAWY	Dawson	74.59	18	P	P	12 50 17.7	+0.3
DAWY				IAmb	IAmb	12 50 43.6	
	comp=Z,4.1nm,1.3s						
I28M	Miner Creek	75.42	17	P	P	12 50 22.1	-0.1
I28M				IAmb	IAmb	12 50 26.1	
	comp=Z,7.7nm,1.4s						
B21K	Ikpikpuk River	75.44	10	P	P	12 50 22.2	+0.1
BMAR	Burnt Mountain	75.67	14	P	P	12 50 24.1	+0.5
MCMT	McKenzie Canyo	78.14	43	P	P	12 50 38.6	+0.3
PD31	Pinedale Array	79.87	46	P	P	12 50 47.4	-0.4
PD31				IAmb	IAmb	12 50 55.9	
	comp=Z,6.0nm,1.4s						
PDAR	Pinedale Array	79.87	46	P	P	12 50 47.5	-0.2
PDAR	Pinedale Array	79.87	46	P	P	12 50 47.1	-0.7
	comp=Z,0.8nm,0.5s,baz=172,slow=2.4,SNR=17 comp=Z,0.8nm,0.5s						
SONM	Songino Array	80.21	320	P	P	12 50 48.6	-0.7
	comp=Z,0.3nm,0.4s,baz=125,slow=6.3,SNR=1.9 comp=Z,0.3nm,0.4s						
CMAR	Chiang Mai Arr	80.47	289	P	P	12 50 52.0	+0.8
	comp=Z,0.4nm,0.3s,baz=98,slow=3.0,SNR=5.1 comp=Z,0.4nm,0.3s						
TX31	Lajitas Ar. Si	81.88	60	P	P	12 50 59.6	+1.0
TXAR	Lajitas Array	81.88	60	P	P	12 50 59.6	+1.0
	comp=Z,1.2nm,0.8s,baz=230,slow=6.3,SNR=14 comp=Z,1.2nm,0.8s						
QSPA	South Pole Qui	86.38	180	P	P	12 51 24.3	+3.5
QSPA	South Pole Qui	86.38	180	P	P	12 51 24.4	+3.5
	comp=Z,2.5nm,0.6s,baz=87,slow=2.3,SNR=9.3 comp=Z,2.5nm,0.6s						
MK31	Makanchi Array	96.28	317	P	P	12 52 06.4	-0.9
MKAR	Makanchi Array	96.28	317	P	P	12 52 06.4	-0.9
MKAR	Makanchi Array	96.28	317	P	P	12 52 06.7	-0.6
	comp=Z,1.0nm,0.9s,baz=86,slow=6.2,SNR=6.5 comp=Z,1.0nm,0.9s						
AKASG	Malin Array Be	126.07	336	PKP	PKPdf	12 57 39.6	-1.3
	comp=Z,0.3nm,0.3s,baz=6.6,slow=0.7,SNR=1.2						
ESDC	Sonseca Array	144.04	2	PKP	PKPbc	12 58 12.6	0.0
	comp=Z,0.5nm,0.6s,baz=346,slow=3.5,SNR=4.1						

*NOU **08** 12:45:34.8, 10°.54S×161°.32E, h0km, mb4.7/25, Solomon Islands*

*BJI **08** 12:45:35.6, 10°.14S×161°.72E, h59km, mB5.1/10, mb4.8/38, Ms4.9/2*

*NEIC **08** 12:45:38.6±1.8, 10°.37S±0°.08×161°.43E±0°.05, h65km±6km, mb5.0/225, Error ellipse: s-maj=12.3km s-min=5.9km az=197.0*

*MOS **08** 12:45:39.0±1.0, 10°.29S×161°.25E, h85km, mb5.0/19, Error ellipse: s-maj=9.3km s-min=8.4km az=107.2*

*IDC **08** 12:45:40.2±2.3, 10°.36S×161°.22E, h81km±17km, mb4.3/21, mbtmp4.6/22, MS3.7/31, Error ellipse: s-maj=22.2km s-min=12.2km az=94.0*

ISC 08 12:45:37.4±0.3, 10°.47S±0°.04×161°.47E±0°.04, h61km, n528, σ1§32/415, mb5.0/159, 6C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	Huro Makira	0.43	89	P	Pn	12 45 45.8	-2.9
HURO	Huro Makira	0.43	89	S	Sn	12 45 53.3	-3.6
NGOA	Tingoa Renbel	1.75	232	P	Pn	12 46 03.0	-2.5
NGOA	Tingoa Renbel	1.75	232	S	Sn	12 46 23.5	-3.3
HNR	Honiara	1.82	304	Pn	Pn	12 46 04.8	-1.7
HNR				Sn	Sn	12 46 27.3	-1.3
HNR	Honiara	1.82	304	P	Pn	12 46 04.8	-1.7
	3μm,0.5s,baz=175,slow=7.7,SNR=139						
HNR				S	Sn	12 46 26.2	-2.3
	5μm,0.3s,baz=25,slow=21,SNR=6.1						
HNR				LR	LR	12 46 55.8	
	comp=Z,2μm,19.7s,baz=80,slow=48						
HNR	Honiara	1.82	304	P	Pn	12 46 04.9	-1.7
HNR	Honiara	1.82	304	S	Sn	12 46 29.6	+1.1
HNR	Honiara	1.82	304	P	Pn	12 46 04.8	-1.7
HNR						12 46 27.3	
ALEG	Aligegeo Malai	1.87	336	P	Pn	12 46 07.7	+0.5
ALEG	Aligegeo Malai	1.87	336	S	Sn	12 46 32.3	+2.6
SAVO	Savo Central	2.10	309	P	Pn	12 46 09.4	-0.8
SAVO	Savo Central	2.10	309	S	Sn	12 46 36.9	+1.6
TATA	Tatamba Isabel	2.65	321	P	Pn	12 46 19.0	+1.3
TATA	Tatamba Isabel	2.65	321	S	Sn	12 46 51.3	+2.7
SANVU	Saraoutou	7.46	132		Pn	12 47 24.7	+1.0
SANVU	Saraoutou	7.46	132	P	Pn	12 47 25.6	+1.9
DZM	Mont Dzumac	12.48	158	eP	Pn	12 48 33.6	+1.2
	42nm,1.2s						
DZM				eLR	LR	12 51 29.2	
	597nm,24.2s						
DZM	Mont Dzumac	12.48	158		Pn	12 48 34.2	+1.8
DZM	Mont Dzumac	12.48	158	S	Sn	12 50 44.5	-5.3
	2.9nm,0.3s,baz=134,slow=18,SNR=2.0						
ONTNC	Ouen Toro	12.70	159		Pn	12 48 37.7	+2.4
PINNC	Pines Island,	13.36	155	Pn	Pn	12 48 45.2	+1.0
PMG	Port Moresby	14.14	273		Pn	12 48 54.3	-0.4
PMG	Port Moresby	14.14	273	P	Pn	12 48 54.1	-0.6
	24nm,1.0s,baz=129,slow=8.5,SNR=4.4						
PMG				LR	LR	12 54 03.3	
	comp=Z,400nm,21.6s,baz=86,slow=36						
PMG	Port Moresby	14.14	273	P	Pn	12 48 54.4	-0.4
PMG	Port Moresby	14.14	273	P	Pn	12 48 54.5	-0.2
PMG	Port Moresby	14.14	273	P	Pn	12 48 54.3	-0.4
MANU	Manus Island	16.32	300		Pn	12 49 19.6	-3.2
TV1H	Townsville Har	16.65	237	P	P	12 49 28.2	-0.1
PATS	Pohnpei	17.48	350		Pn	12 49 35.7	-1.4
PATS				IAmb	IAmb	12 49 38.2	
	comp=Z,263nm,1.5s						
CTA	Charters Tower	17.50	235	LR	LR	12 56 22.8	
	comp=Z,6.1nm,18.5s,baz=54,slow=37						
CTAO	Charters Tower	17.50	235		P	12 49 39.1	+1.3
CTAO				IAmb	IAmb	12 49 42.4	
	comp=Z,53nm,0.7s						
CTAO	Charters Tower	17.50	235	P	P	12 49 39.0	+1.2
CTAO	Charters Tower	17.50	235	P	P	12 49 39.1	+1.3
CTAO				pmax	pmax		
	comp=Z,53nm,0.7s						
MSVF	Nonsavu	17.62	116	i P	P	12 49 45.2	+6.0
EIDS	Eidsvold	17.79	212		P	12 49 42.6	+1.6
EIDS	Eidsvold	17.79	212	P	P	12 49 43.0	+2.0
COEN	Coen	18.21	257		Pn	12 49 48.6	+2.5
COEN	Coen	18.21	257	P	Pn	12 49 48.2	+2.1
MTSU	Mount Surprise	18.27	243	P	Pn	12 49 49.0	+2.1
FUTU	Fugatoga	20.29	103	P	P	12 50 08.4	+0.1
FUTU				IAmb	IAmb	12 50 24.5	
	comp=Z,74nm,1.0s						
ARMA	Armidale	21.86	203	P	P	12 50 27.1	+1.9
JAY	Jayapura	22.08	290	P	P	12 50 27.4	-0.3
JAY				pmax	pmax		
	comp=Z,19nm,1.1s						
QLP	Quilpie	22.84	223	P	P	12 50 38.2	+2.6
QIS	Mount Isa	23.30	242	P	P	12 50 41.3	+1.0
SMPI	Sarmi	24.12	289	P	P	12 50 47.8	0.0
	comp=Z,71nm,1.1s						
INKA	Innaminka	25.98	226		P	12 51 05.5	+1.0
CAN	Canberra	27.22	203	P	P	12 51 16.3	+0.6
CAN				IAmb	IAmb	12 51 23.6	
	comp=Z,44nm,1.4s						
CAN	Canberra	27.22	203	P	P	12 51 16.3	+0.6
CAN				pmax	pmax		
	comp=Z,44nm,1.4s						
WR8	Warramunga Arr	27.64	247		P	12 51 19.4	-0.3
WB0	Warramunga Arr	27.69	247		P	12 51 19.8	-0.3
WRAB	Tennant Creek	27.77	247	i P	P	12 51 22.7	+1.9
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WB2	Warramunga Arr	27.77	247	P	P	12 51 20.8	0.0
WRA	Warramunga Arr	27.78	247	P	P	12 51 20.0	-0.9
WRA	Warramunga Arr	27.78	247	P	P	12 51 20.6	-0.3
	comp=Z,4.6nm,0.5s,baz=76,slow=9.0,SNR=36 comp=Z,4.6nm,0.5s						
STKA	Stephens Creek	28.13	218	P	P	12 51 24.9	+1.1
STKA				IAmb	IAmb	12 51 34.0	
	comp=Z,37nm,0.6s						
STKA	Stephens Creek	28.13	218	P	P	12 51 25.1	+1.1
	comp=Z,2.8nm,0.7s,baz=41,slow=12,SNR=5.3 comp=Z,2.8nm,0.7s						
STKA	Stephens Creek	28.13	218	P	P	12 51 28.2	+4.3
STKA	Stephens Creek	28.13	218	i P	P	12 51 25.4	+1.5
NIUE	Niue	28.91	111	P	P	12 51 29.7	-1.3
GUMO	Guam	29.03	325	LR	LR	13 02 15.6	
	comp=Z,157nm,22.0s,baz=170,slow=35						
AS31	Alice Springs	29.36	240	P	P	12 51 34.4	-0.6
ASAR	Alice Springs	29.36	240	P	P	12 51 34.2	-0.7
ASAR	Alice Springs	29.36	240	P	P	12 51 33.8	-1.1
	comp=Z,1.1nm,0.4s,baz=64,slow=10,SNR=30						
ASAR				LR	LR	13 03 06.7	
	comp=Z,379nm,19.0s,baz=66,slow=36 comp=Z,1.1nm,0.4s						
ASAR	Alice Springs	29.36	240	P	P	12 51 34.2	-0.7
MTN	Manton Dam	29.80	262	P	P	12 51 37.8	-1.0
TOO	Toolangi	30.57	205	P	P	12 51 46.6	+1.1
TOO	Toolangi	30.57	205	P	P	12 51 46.6	+1.1
TOO				pmax	pmax		
	comp=Z,19nm,1.5s						
URZ	Urewera	31.02	156	LR	LR	13 01 47.0	
	comp=Z,105nm,20.5s,baz=311,slow=31						
RTZ	Ruatahuna	31.27	156	P	P	12 51 51.7	0.0
RTZ				IAmb	IAmb	12 51 56.4	
	comp=Z,39nm,1.5s						
BKZ	Black Stump Fm	31.56	157		P	12 51 55.9	+1.7
BKZ				IAmb	IAmb	12 52 08.6	
	comp=Z,30nm,1.3s						
BKZ	Black Stump Fm	31.56	157	P	P	12 51 59.3	+5.1
KNRA	Kununurra	32.25	257	P	P	12 52 00.2	-0.2
KNRA				IAmb	IAmb	12 52 06.6	
	comp=Z,18nm,0.5s						
BBOO	Buckleboo	32.27	223	P	P	12 52 01.1	+0.7
BBOO				IAmb	IAmb	12 52 01.8	
	comp=Z,17nm,0.9s						
MRNZ	Matariki Terra	32.37	164	P	P	12 52 03.0	+1.8
TAU	Tasmania Unive	34.59	198	P	P	12 52 21.7	+1.3
TAU				pmax	pmax		
	comp=Z,41nm,1.9s						
FITZ	Fitzroy Crossi	35.49	254		P	12 52 27.8	-0.7
FITZ	Fitzroy Crossi	35.49	254	LR	LR	13 05 30.3	
	comp=Z,107nm,21.7s,baz=64,slow=34						
RAR	Rarotonga	38.69	111	LR	LR	13 06 09.7	
	comp=Z,70nm,21.9s,baz=246,slow=32						
EDFI	Ende, Flores	39.24	269	P	P	12 53 02.9	+2.4
	comp=Z,13nm,1.0s						
PSA00	Pilbara Seismi	41.38	249	P	P	12 53 16.8	-1.2
MBWA	Marble Bar	41.42	250		P	12 53 17.8	-0.5
MBWA				IAmb	IAmb	12 53 20.2	
	comp=Z,32nm,1.5s						
MBWA	Marble Bar	41.42	250	P	P	12 53 17.7	-0.6
TOLI2	Tolitoli	42.08	283	P	P	12 53 22.2	-1.5
MYLDM	Lahad Datu	45.52	288		P	12 53 50.5	-0.9
MYLDM				IAmb	IAmb	12 54 18.7	
	comp=Z,26nm,1.3s						
MORW	Morawa	46.25	240	P	P	12 53 56.9	0.0
MORW				IAmb	IAmb	12 54 03.0	
	comp=Z,18nm,1.2s						
JAGI	Jajag, Banyuwa	46.68	268	P	P	12 53 58.3	-2.2
JAGI				IAmb	IAmb	12 54 03.9	
	comp=Z,31nm,0.9s						
JAGI	Jajag, Banyuwa	46.68	268	P	P	12 54 03.9	+3.4
	comp=Z,39nm,1.3s						
TGY	Tagaytay City	47.03	300	LR	LR	13 10 22.5	
	comp=Z,91nm,20.7s,baz=158,slow=32						
PPT	Papeete	47.91	104	LR	LR	13 10 34.0	
	comp=Z,61nm,19.1s,baz=300,slow=31						
PPT2	Papeete2	47.91	104	eP	P	12 54 07.9	-2.2
	comp=Z,64nm,27.8s						
PPT2	Papeete2	47.91	104	eLR	LR	13 07 43.7	
	comp=Z,125nm,24.8s						
PPT2				eLR	LR	13 07 50.8	
	comp=Z,123nm,31.5s						
JHJ	Hachijo jima 2	48.03	335	LR	LR	13 13 53.5	
	comp=Z,56nm,20.2s,baz=72,slow=35						
JOW	Kunigami	49.13	320	P	P	12 54 20.2	+1.0
JGF	Kuroka	51.17	335	P	P	12 54 34.6	0.0
JGF				IAmb	IAmb	12 54 47.3	
	comp=Z,11nm,0.9s						
JMN	Monobe	51.20	330	P	P	12 54 35.0	+0.3
MJA0	Matsu Arr-Jizo	51.62	336	eP	P	12 54 36.8	-1.1
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJAR	Matsushiro Arr	51.64	336		P	12 54 37.5	-0.5
MJAR	Matsushiro Arr	51.64	336	P	P	12 54 36.9	-1.1
	comp=Z,6.2nm,0.7s,baz=171,slow=8.4,SNR=22						
MJAR				LR	LR	13 18 39.4	
	comp=Z,30nm,18.9s,baz=98,slow=38 comp=Z,6.2nm,0.7s						
MJAR	Matsushiro Arr	51.64	336	P	P	12 54 37.5	-0.5
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s					

comp=Z,7.6nm,0.7s
KULM Kulim 62.55 282 P P 12 55 53.7 -1.8
KULM IAmb IAmb 12 55 55.5
comp=Z,16nm,1.1s
MNSI Mandailing Nat 62.55 276 P P 12 55 54.9 -0.7
CN2 Changchun 63.16 331 P P 12 55 59.0 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TYV Tymovskoe 63.24 347 *e*P **P 12 56 00.1 +0.8**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.9s
PET Petropavlovsk 63.29 358 *i* P **P 12 55 59.2 -0.4**
PET pmax pmax
comp=Z,14nm,1.1s
PET Petropavlovsk 63.29 358 P P 12 55 59.6 0.0
comp=Z,20nm,2.1s
PEA0B Petropavlovsk- 63.41 357 P P 12 55 59.7 -0.7
PEA0B Petropavlovsk- 63.41 357 P P 12 55 59.7 -0.7
PEA0B pmax pmax
comp=Z,58nm,1.5s
PETK Petropavlovsk- 63.41 357 P P 12 56 00.1 -0.3
PETK Petropavlovsk- 63.41 357 P P 12 56 00.7 +0.2
comp=Z,8.9nm,0.9s,baz=168,slow=7.6,SNR=7.8
PETK LR LR 13 19 12.1
comp=Z,46nm,21.1s,baz=162,slow=32
comp=Z,8.9nm,0.9s
PETK Petropavlovsk- 63.41 357 P P 12 56 00.1 -0.3
BNX BinXian 63.79 334 ⇓P **P 12 56 02.4 -0.7**
BNX pmax pmax
comp=Z,12nm,0.5s
SHEM Shemya Is, Ala 63.88 9 LR LR 13 17 54.2
comp=Z,50nm,20.6s,baz=146,slow=30
LYN LuoYang 64.49 316 P P 12 56 08.2 +0.2
LYN pmax pmax
comp=Z,18nm,0.5s
CASY Casey 65.42 200 P P 12 56 13.9 +0.5
XAN Xi'an 66.67 314 ⇓P **P 12 56 21.9 -0.2**
XAN pP pP 12 56 33.8 -4.8
XAN sP sP 12 56 43.1 -2.3
XAN S **S 13 05 07.6 -1.8**
XAN pmax pmax
comp=Z,22nm,0.7s
XAN pmax pmax
comp=Z,170nm,6.1s
VNDA Vanda 67.03 180 P 12 56 24.7 +1.1
VNDA Vanda 67.03 180 P P 12 56 24.7 +1.1
comp=Z,3.5nm,0.7s,baz=346,slow=6.8,SNR=39
comp=Z,3.5nm,0.7s
VNDA Vanda 67.03 180 P P 12 56 24.7 +1.1
HEH HeiHe 67.38 337 *e*P **P 12 56 25.2 -1.0**
HEH pmax pmax
comp=Z,13nm,1.1s
SBA Scott Base 67.42 179 P P 12 56 28.0 +1.9
SBA Scott Base 67.42 179 P P 12 56 28.0 +1.9
XLT XiLinHaoTe 68.00 326 *e*P **P 12 56 30.5 +0.1**
XLT pmax pmax
comp=Z,15nm,0.7s
XLT pmax pmax
comp=Z,170nm,5.0s
CCD Concordia, Ant 68.01 190 P P 12 56 31.2 +0.9
CMAR Chiang Mai Arr 68.05 295 P P 12 56 30.3 -0.8
comp=Z,0.9nm,0.5s,baz=111,slow=5.3,SNR=9.2
comp=Z,0.9nm,0.5s
CMAR Chiang Mai Arr 68.05 295 *e*P **P 12 56 30.7 -0.3**
NIKH Nikolski High 68.10 19 P P 12 56 29.8 -0.8
NIKH Nikolski High 68.10 19 P P 12 56 30.6 -0.1
baz=212
PZH PanZhiHua 68.64 304 P P 12 56 36.5 +1.7
HHC Hu-ho-hao-te 68.72 321 *e*P **P 12 56 36.8 +1.8**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.0s
UNV Unalaska Valle 69.60 20 P P 12 56 40.0 +0.1
baz=214
MA2 Magadan 70.34 354 LR LR 13 22 20.3
comp=Z,32nm,21.4s,baz=161,slow=31
LZH Lanzhou 71.30 314 *e*P **P 12 56 50.0 -0.9**
LZH sP pwP 12 57 08.6 +1.1
LZH pmax pmax
comp=Z,20nm,0.6s
S12K Black Hills 72.61 21 P P 12 56 58.3 +0.1
baz=218
CHNA Chernabura Isl 72.82 22 P P 12 56 59.0 -0.3
baz=220
SDPT Sand Point 72.90 22 P P 12 57 00.2 +0.4
baz=219
SEY Seymchan 73.52 356 *e*P **P 12 56 59.8 -3.5**
SEY pmax pmax
comp=Z,10.0nm,1.4s
S14K Fog Glacier 73.95 21 P P 12 57 06.9 +0.8
baz=220
ULN Ulaanbaatar 75.41 326 P 12 57 15.0 +0.1
ULN Ulaanbaatar 75.41 326 *i* P **P 12 57 14.0 -0.9**
GTA Gaotai 75.67 315 P P 12 57 17.0 +0.5
GTA pP PcP 12 57 30.2 +1.1
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA LR LR
comp=Z,170nm,18.5s
GTA LR LR
comp=Z,110nm,18.5s
O14K Tigyukauivet M 75.69 19 P P 12 57 17.3 +1.4
O14K Tigyukauivet M 75.69 19 P P 12 57 17.1 +1.1
baz=218
SONM Songino Array 75.76 325 P 12 57 16.9 0.0
SONM Songino Array 75.76 325 P P 12 57 16.8 0.0
comp=Z,8.1nm,0.8s,baz=142,slow=5.7,SNR=31
SONM LR LR 13 32 59.6
comp=Z,48nm,18.1s,baz=146,slow=38
comp=Z,8.1nm,0.8s
N14K Kuskokwak Cree 76.09 18 P P 12 57 18.8 +0.6
baz=217
O15K Ungalikthiuk R 76.09 19 P P 12 57 19.5 +1.2
baz=219
R17L Mt. Peulik Vol 76.12 22 P P 12 57 19.6 +1.1
baz=223,SNR=5.5
PLK4 Peulik 4 76.12 22 P 12 57 16.8 -1.8
YAK Yakutsk 76.42 345 P 12 57 19.6 -0.4
YAK Yakutsk 76.42 345 LR LR 13 28 04.2
comp=Z,53nm,21.9s,baz=122,slow=33
YAK Yakutsk 76.42 345 *e*P **P 12 57 19.3 -0.7**
YAK *e* 12 57 31.5
YAK pmax pmax
comp=Z,13nm,0.6s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,0.9s
P16K Nushagak River 76.59 20 P P 12 57 21.8 +0.7
baz=221
M14K Bethel 76.67 18 P P 12 57 22.7 +1.2
baz=217,SNR=6.5
N15K Kwethluk River 76.78 19 IAmb IAmb 12 57 24.2
comp=Z,21nm,0.8s
N15K Kwethluk River 76.78 19 P P 12 57 23.2 +1.0
baz=219
R18K Karluk 76.78 23 P P 12 57 22.7 +0.6
baz=225
Q16K King Salmon 76.78 21 P P 12 57 22.9 +0.7
baz=222
GAMB Gambell 76.81 12 P P 12 57 23.1 +0.9
baz=207
K13K Kusilvak Mount 76.87 16 P P 12 57 23.8 +1.2
baz=214
ACHA Angle Creek He 76.92 22 IAmb IAmb 12 57 24.4
comp=Z,9.7nm,0.7s
L14K Kuka Creek 76.93 17 P P 12 57 24.4 +1.5
baz=216
O16K Kokwok River B 76.98 20 P P 12 57 23.5 +0.2
baz=221
OHAK Old Harbor 76.99 23 P P 12 57 23.7 +0.3
baz=226
M15K Kasigluk River 77.00 18 P P 12 57 24.2 +0.8
baz=218
P17K Kvichak River 77.24 21 P P 12 57 24.7 0.0
baz=222
Q18K Katmai Hardscr 77.35 22 P P 12 57 26.3 +0.7
baz=224
N16K Nishlik Lake 77.43 19 P P 12 57 27.6 +1.8
baz=220,SNR=5.3
O17K Koliganek Bris 77.45 20 P P 12 57 26.3 +0.4
baz=222,SNR=6.8
L15K Ungalak Mounta 77.55 17 P P 12 57 27.2 +0.8
baz=217
KDAK Kodiak Island 77.65 23 P 12 57 27.9 +0.8
KDAK Kodiak Island 77.65 23 LR LR 13 28 01.1
comp=Z,50nm,19.2s,baz=221,slow=33
KDAK Kodiak Island 77.65 23 P P 12 57 25.1 -2.0
KDAK pmax pmax
comp=Z,31nm,0.9s
KDAK Kodiak Island 77.65 23 P P 12 57 28.2 +1.1
baz=226
KDAK Kodiak Island 77.65 23 P P 12 57 28.1 +1.0
M16K Timber Creek 77.79 19 P 12 57 29.0 +1.2
M16K Timber Creek 77.79 19 P P 12 57 29.3 +1.5
baz=220,SNR=6.9
P18K Big Mountain, 77.81 21 P P 12 57 28.2 +0.2
baz=224,SNR=10.0
J14K Nanvaranak Lak 77.84 16 P P 12 57 28.7 +0.7
baz=215
N17K Nushagak Hills 77.98 20 IAmb IAmb 12 57 31.2
comp=Z,19nm,0.7s
N17K Nushagak Hills 77.98 20 P P 12 57 30.3 +1.4
baz=222,SNR=7.0
K15K Wolf Creek Mou 78.03 17 P P 12 57 30.6 +1.5
baz=217
Q19K Cape Douglas, 78.05 22 P P 12 57 30.0 +0.7
baz=225
O18K Koktuh Hills 78.16 21 P P 12 57 30.2 +0.4
baz=224,SNR=5.0
L16K Owhat River 78.17 18 IAmb IAmb 12 57 31.6
comp=Z,15nm,0.7s
L16K Owhat River 78.17 18 P P 12 57 31.1 +1.3
baz=219
Q20K Shuyak Island 78.30 23 P P 12 57 32.0 +1.4
baz=226
BILL Bilibino 78.39 2 *i* P **P 12 57 30.2 -0.7**
BILL pmax pmax
comp=Z,21nm,1.1s
M17K Holitna River 78.56 19 IAmb IAmb 12 57 34.7
comp=Z,17nm,0.7s
M17K Holitna River 78.56 19 P P 12 57 34.0 +1.9
baz=221,SNR=6.3
O19K Port Alsworth 78.71 21 P P 12 57 33.5 +0.6
baz=224
P19K Oil Pt 78.71 22 P P 12 57 33.7 +0.7
baz=226
L17K Donlin 78.85 18 P P 12 57 35.1 +1.5
baz=220
ZAK Zakamensk 78.86 326 *e*P **P 12 57 33.0 -1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
ILSW Iliamna Southw 78.98 21 IAmb IAmb 12 57 35.9
comp=Z,36nm,1.1s
J16K Anvik River 79.07 16 IAmb IAmb 12 57 37.4
comp=Z,20nm,0.8s
J16K Anvik River 79.07 16 P P 12 57 36.3 +1.5
baz=218,SNR=5.7
M18K Stony River 79.15 19 P P 12 57 37.0 +1.7
baz=223,SNR=13
O20K Slope Mountain 79.23 21 P P 12 57 36.8 +0.9
baz=226
K17K Iditarod 79.29 18 IAmb IAmb 12 57 38.9
comp=Z,24nm,0.9s
K17K Iditarod 79.29 18 P P 12 57 37.6 +1.6
baz=220
HOM Homer 79.30 22 P P 12 57 37.7 +1.6
baz=227
TLY Talaya 79.35 328 *i* P **P 12 57 34.9 -1.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s
RED Redoubt Volcan 79.42 21 IAmb IAmb 12 57 37.6
comp=Z,20nm,0.6s
F14K Arctic Creek 79.44 13 P P 12 57 38.6 +1.8
baz=212
I17K Unalakleet 79.53 16 P P 12 57 38.8 +1.6
baz=218
QSPA South Pole Qui 79.53 180 P 12 57 39.5 +1.9
QSPA South Pole Qui 79.53 180 P P 12 57 39.5 +1.9
comp=Z,9.7nm,0.9s,baz=40,slow=1.5,SNR=33
comp=Z,9.7nm,0.9s
N20K Mount Spurr 80.16 21 P P 12 57 41.0 +0.2
baz=226
SPCR Spurr Chakacha 80.16 21 P P 12 57 41.6 +0.7
baz=226
G16K Koyuk River 80.30 15 P P 12 57 42.4 +1.0
baz=216
M20K Styx River 80.32 20 P P 12 57 42.2 +0.4
M20K IAmb IAmb 12 57 44.1
comp=Z,15nm,0.7s
M20K Styx River 80.32 20 P P 12 57 42.8 +1.1
baz=225,SNR=13
J18K Innoko River 80.33 18 P P 12 57 42.7 +1.0
baz=222
SEW Seward 80.42 23 IAmb IAmb 12 57 46.8
comp=Z,14nm,0.9s
SEW Seward 80.42 23 P P 12 57 42.9 +0.8
baz=229
H17K Granite Mounta 80.56 16 IAmb IAmb 12 57 44.7
comp=Z,14nm,0.6s
H17K Granite Mounta 80.56 16 P P 12 57 43.9 +1.0
baz=218
O22K Cooper Landing 80.57 22 P P 12 57 43.9 +1.0
baz=229
G17K Kiwalik Mounta 80.82 15 P P 12 57 45.2 +1.0
baz=218
SUA Susitna One 80.85 21 IAmb IAmb 12 57 45.8
comp=Z,15nm,0.8s
SUA Susitna One 80.85 21 P P 12 57 45.0 +0.4
baz=228
SKT Skwentna 80.93 20 P P 12 57 44.2 -0.7
baz=227,SNR=5.4
RC01 Rabbit Creek A 80.97 22 IAmb IAmb 12 57 46.7
comp=Z,18nm,0.6s
RC01 Rabbit Creek A 80.97 22 P P 12 57 45.7 +0.6
baz=228
P23K Montague Islan 81.14 23 P P 12 57 46.6 +0.6
baz=231
H18K Honhosa River 81.15 16 P P 12 57 46.5 +0.5
baz=220
GCSA Galena City Sc 81.25 17 P P 12 57 47.1 +0.7
baz=221
M22K Willow 81.27 21 P P 12 57 46.9 +0.2
baz=228,SNR=6.9
PWL Port Wells 81.33 22 IAmb IAmb 12 57 50.7
comp=Z,29nm,1.0s
PWL Port Wells 81.33 22 P P 12 57 47.7 +0.7
baz=230,SNR=9.4
PPLA Purkeypile 81.35 20 P P 12 57 48.0 +0.8
baz=226
F17K Baldwin Pennin 81.42 14 P P 12 57 48.4 +1.0
baz=217
PMR Palmer 81.52 22 IAmb IAmb 12 57 49.9
comp=Z,15nm,0.6s
PMR Palmer 81.52 22 P P 12 57 48.4 +0.4
baz=229,SNR=12
G18K Tagagawik 81.64 15 P P 12 57 49.1 +0.5
baz=220
KNK Knik Glacier 81.65 22 P P 12 57 49.3 +0.5
baz=230
CUT Chulitna 81.66 21 P P 12 57 49.0 +0.3
baz=228,SNR=7.1
GHO Glory Hole Cre 81.71 21 IAmb IAmb 12 57 51.2
comp=Z,20nm,0.7s
E17K Hotham Inlet 81.80 14 P P 12 57 50.4 +1.1
baz=216
GLI Glacier Island 81.81 23 IAmb IAmb 12 57 53.2
comp=Z,22nm,0.7s
GLI Glacier Island 81.81 23 P P 12 57 50.5 +0.9
baz=231
F18K Selawik 81.94 15 P P 12 57 50.8 +0.7
baz=219
SML Sawmill 81.95 22 IAmb IAmb 12 57 53.4
comp=Z,12nm,0.7s
SML Sawmill 81.95 22 P P 12 57 51.2 +0.8
baz=230,SNR=5.9
H19K Roundabout Mou 81.96 16 IAmb IAmb 12 57 53.5
comp=Z,32nm,1.4s
H19K Roundabout Mou 81.96 16 P P 12 57 51.3 +1.1
baz=222
I20K Naaghedeneel 81.98 17 P P 12 57 51.9 +1.5
baz=224
CHUM Lake Minchumin 81.99 19 P P 12 57 51.4 +1.0
baz=226
EYAK Cordova Ski Ar 82.12 23 IAmb IAmb 12 57 54.5
comp=Z,12nm,0.7s
EYAK Cordova Ski Ar 82.12 23 P P 12 57 52.0 +0.9
baz=232
M23K Glacier View 82.16 22 P P 12 57 52.3 +0.9
baz=230,SNR=12
SCM Sheep Creek Mo 82.33 22 P P 12 57 53.5 +1.1
baz=231,SNR=10
RDOG Red Dog Mine 82.35 13 P P 12 57 53.3 +1.1
baz=215
TRF Thorofare Moun 82.36 20 IAmb IAmb 12 57 53.3
comp=Z,15nm,0.7s
TRF Thorofare Moun 82.36 20 P P 12 57 52.8 +0.2
baz=228,SNR=9.3
E18K Tukpahlearik C 82.36 14 IAmb IAmb 12 57 54.1
comp=Z,16nm,0.8s
E18K Tukpahlearik C 82.36 14 P P 12 57 53.0 +0.7
baz=218
H20K Anotleneega Mo 82.37 17 P P 12 57 54.0 +1.6
baz=223,SNR=5.9
RAGM Ragged Mountai 82.45 24 IAmb IAmb 12 57 56.2
comp=Z,36nm,1.2s
DIV Divide 82.47 23 IAmb IAmb 12 57 56.7
comp=Z,16nm,0.6s
WAT1 Susitna Watana 82.53 21 P P 12 57 54.0 +0.6
baz=229
BPAW Bear Paw Mtn. 82.57 19 IAmb IAmb 12 57 54.1
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 82.57 19 P P 12 57 53.7 +0.2
baz=227
F19K Shaleruckik Mo 82.59 15 P P 12 57 54.3 +0.8
baz=220
C17K DeLong Mountai 82.64 12 P P 12 57 55.0 +1.2
baz=215
KLU Klutina 82.64 23 IAmb IAmb 12 57 57.8
comp=Z,19nm,1.0s
KLU Klutina 82.64 23 P P 12 57 55.0 +1.0
baz=232,SNR=9.5
WAT6 Susitna Watana 82.66 21 P P 12 57 54.8 +0.6
baz=230,SNR=7.7
RND Reindeer 82.81 20 IAmb IAmb 12 57 56.0
comp=Z,18nm,0.7s
BMRM Bremner River 82.83 23 IAmb IAmb 12 57 57.9
comp=Z,14nm,0.6s
BMRM Bremner River 82.83 23 P P 12 57 56.0 +1.0
baz=233,SNR=8.1
M24K Tolsona, Glenn 82.93 22 P P 12 57 57.1 +1.7
baz=232,SNR=19
MCK McKinley 83.00 20 P P 12 57 56.1 +0.4
baz=229
I21K Tanana 83.00 18 P P 12 57 56.7 +1.1
baz=226
IMAR Indian Mountai 83.05 17 P P 12 57 56.6 +0.7
DHY Denali Highway 83.11 21 P P 12 57 56.8 +0.4
DHY IAmb IAmb 12 57 59.3
comp=Z,8.7nm,0.6s
DHY Denali Highway 83.11 21 P P 12 57 57.0 +0.5
baz=230,SNR=11
C18K Utukok River 83.20 13 P P 12 57 57.6 +0.9
C18K IAmb IAmb 12 57 58.1
comp=Z,24nm,0.9s
C18K Utukok River 83.20 13 P P 12 57 57.7 +0.9
baz=217
E19K Redstone River 83.21 15 IAmb IAmb 12 57 58.8
comp=Z,17nm,0.7s
E19K Redstone River 83.21 15 P P 12 57 58.4 +1.7
baz=221
N25K Chitina, Valde 83.21 23 IAmb IAmb 12 58 00.2
comp=Z,21nm,0.8s
N25K Chitina, Valde 83.21 23 P P 12 57 58.4 +1.4
baz=233,SNR=19
F20K Avaraart Lake 83.29 16 P P 12 57 58.5 +1.4
baz=222
CRQE Cirque 83.30 24 P P 12 57 58.8 +1.4
baz=235,SNR=12
TGL Tana Glacier 83.41 24 IAmb IAmb 12 58 00.8
comp=Z,18nm,0.7s
GLB Gilahina Butte 83.42 23 IAmb IAmb 12 58 00.2
comp=Z,18nm,0.8s
VRDI Verde Repeater 83.43 24 IAmb IAmb 12 58 00.9
comp=Z,12nm,0.7s
MESA MESA 83.43 25 IAmb IAmb 12 58 03.6
comp=Z,24nm,0.8s
MESA MESA 83.43 25 P P 12 57 59.1 +0.8
baz=236
HARP HAARP 83.48 22 P P 12 57 59.6 +1.4
baz=233,SNR=6.5
G21K Allakaket 83.50 17 P P 12 57 59.5 +1.3
baz=224
NEA2 Nenana 83.52 19 IAmb IAmb 12 57 59.6
comp=Z,24nm,0.8s
NEA2 Nenana 83.52 19 P P 12 57 58.6 +0.2
baz=229
YAH Yahtse 83.62 25 IAmb IAmb 12 58 01.9
comp=Z,12nm,0.7s
B18K Kokolik River 83.65 12 P P 12 58 00.3 +1.4
baz=216
MAW Mawson 83.66 202 P P 12 57 59.6 +0.5
comp=Z,7.1nm,0.7s,baz=89,slow=6.3,SNR=23
comp=Z,7.1nm,0.7s
MAW Mawson 83.66 202 P P 12 57 59.8 +0.7
MAW pmax pmax
comp=Z,2.0nm,1.0s
MCARA McCarthy VSAT 83.69 24 IAmb IAmb 12 58 02.2
comp=Z,21nm,1.0s
MCARA McCarthy VSAT 83.69 24 P P 12 58 00.9 +1.6
baz=235,SNR=7.8
PAX Paxson 83.72 22 P P 12 58 00.4 +0.9
baz=232
D19K Kuna River 83.78 14 P P 12 58 00.1 +0.4
baz=220
I23K Minto, Yukon-K 83.80 19 IAmb IAmb 12 58 02.3
comp=Z,9.9nm,0.6s
I23K Minto, Yukon-K 83.80 19 P P 12 58 00.3 +0.6
baz=228
GRNC Granite Creek 83.83 24 IAmb IAmb 12 58 02.4
comp=Z,15nm,0.6s
C19K Lookout Ridge 83.92 13 P P 12 58 01.7 +1.3
baz=218
CCB Clear Creek Bu 83.97 20 P 12 58 00.6 0.0
CCB IAmb IAmb 12 58 01.3
comp=Z,14nm,0.6s
F21K Alatna River 84.02 16 P 12 58 01.4 +0.6
F21K Alatna River 84.02 16 P P 12 58 01.7 +0.8
baz=224
E20K Nigu River 84.07 15 P P 12 58 02.4 +1.2
baz=222
PINM Pinnacle 84.10 25 P P 12 58 02.9 +1.4
baz=237
COLA College 84.10 19 P P 12 58 01.7 +0.4
COLA College 84.10 19 *i* P **P 12 58 00.7 -0.6**
COLA pmax pmax
comp=Z,32nm,0.8s
COLA College 84.10 19 P P 12 58 01.6 +0.4
baz=230
COLA College 84.10 19 P P 12 58 01.3 0.0
HDA Harding Lake 84.10 20 P P 12 58 02.0 +0.6
baz=231
K24K Donnelly Dome 84.12 21 P P 12 58 02.6 +1.0
baz=232,SNR=9.1
CTG Chitna Glacier 84.13 24 P P 12 58 03.1 +1.4
baz=236,SNR=14
LOGN Logan Glacier 84.19 25 IAmb IAmb 12 58 04.2
comp=Z,15nm,0.6s
H23K Yukon River 84.19 18 P P 12 58 02.9 +1.1
baz=228
D20K Etivluk River 84.31 14 P P 12 58 03.5 +1.1
baz=221
IL31 84.35 20 IAmb IAmb 12 58 04.0
comp=Z,12nm,0.7s
ILAR Eielson Array 84.35 20 P 12 58 02.4 -0.2
ILAR Eielson Array 84.35 20 P P 12 58 02.5 -0.1
comp=Z,6.7nm,0.4s,baz=246,slow=4.8,SNR=119
ILAR LR LR 13 30 36.8
comp=Z,65nm,19.4s,baz=227,slow=32
comp=Z,6.7nm,0.4s
G22K Bettles 84.36 17 P P 12 58 03.5 +0.9
baz=226
POKR Poker Plat Res 84.39 19 IAmb IAmb 12 58 03.9
comp=Z,10nm,0.8s
POKR Poker Plat Res 84.39 19 P P 12 58 02.9 +0.1
baz=230
RIDG Independent Ri 84.41 21 IAmb IAmb 12 58 04.7
comp=Z,22nm,1.1s
RIDG Independent Ri 84.41 21 P P 12 58 04.1 +1.0
baz=233,SNR=18
O28M Mount Upton 84.49 25 P P 12 58 04.9 +1.1
baz=237,SNR=14
L26K Log Cabin Wild 84.53 22 IAmb IAmb 12 58 06.1
comp=Z,12nm,0.7s
F22K John River 84.58 16 P P 12 58 04.8 +1.1
baz=226
RPN Rapa Nui 84.59 116 LR LR 13 27 09.3
comp=Z,64nm,21.0s,baz=210,slow=29
G23K Bananza Creek 84.64 17 IAmb IAmb 12 58 06.1

comp=Z,8.9nm,0.8s
G23K Banana Creek 84.64 17 P P 12 58 05.3 +1.2
baz=228,SNR=7.9
E21K Killik River 84.77 15 P P 12 58 05.9 +1.3
baz=224
SIT Sitka 84.78 29 P P 12 58 05.9 +1.0
baz=242
S31K Pelican 84.78 28 P P 12 58 06.3 +1.4
baz=241
SCRK Sand Creek 84.86 21 P P 12 58 06.1 +0.8
baz=234
O29M Mount Kennedy 84.92 26 P P 12 58 07.1 +1.4
baz=239
P29M Windy Craggy 84.93 26 P P 12 58 07.3 +1.6
baz=240
COLD Coldfoot 84.94 17 P P 12 58 07.2 +1.7
baz=228
YUK8 Steele Glacier 84.94 24 P P 12 58 07.7 +1.7
baz=238,SNR=19
C21K Knifeblade Rid 85.08 14 P P 12 58 08.1 +1.9
baz=223
E22K Anaktuvuk Pass 85.11 16 P P 12 58 08.2 +1.8
baz=226
L27K Beaver Creek, 85.11 22 P P 12 58 08.0 +1.5
L27K IAmb IAmb 12 58 08.9
comp=Z,37nm,1.5s
L27K Beaver Creek, 85.11 22 P P 12 58 08.2 +1.6
baz=236,SNR=15
BCAR Beaver Creek A 85.13 22 P P 12 58 08.2 +1.6
B20K Meade River 85.17 13 P P 12 58 08.1 +1.6
baz=221
R31K City Hall, Gus 85.23 28 P P 12 58 08.1 +1.0
baz=241
PRP Porcupine Dome 85.27 20 P P 12 58 08.2 +0.9
baz=232
YUK6 Outpost Mounta 85.34 25 P P 12 58 09.5 +1.5
baz=239
G24K Hadweenzic Riv 85.40 18 IAmb IAmb 12 58 10.9
comp=Z,14nm,0.8s
G24K Hadweenzic Riv 85.40 18 P P 12 58 09.3 +1.5
baz=230,SNR=11
D22K Ayikyak River 85.41 15 P P 12 58 09.4 +1.6
baz=225
YUK4 Talbot Arm 85.43 25 P P 12 58 10.5 +2.1
baz=239,SNR=22
B21K Ikpikpuk River 85.47 14 P P 12 58 09.5 +1.4
baz=223
P30M Million Dollar 85.52 26 P P 12 58 10.1 +1.4
baz=240
K27K Chicken 85.58 22 P P 12 58 10.7 +1.9
baz=235
H25L Birch Creek 85.64 19 P P 12 58 10.0 +1.0
baz=232
HYT Haines Junctio 85.64 25 IAmb IAmb 12 58 11.7
comp=Z,8.9nm,0.7s
HYT Haines Junctio 85.64 25 P P 12 58 10.7 +1.4
baz=240,SNR=9.0
E23K Chandalar 85.67 17 IAmb IAmb 12 58 11.4
comp=Z,21nm,1.4s
E23K Chandalar 85.67 17 P P 12 58 10.9 +1.6
baz=228
R32K Eaglecrest 85.73 28 P P 12 58 11.3 +1.7
baz=242
WMQ Urumqi 85.74 316 *e*P P 12 58 10.8 +0.7
F24K Squaw Lake 85.80 17 IAmb IAmb 12 58 13.2
comp=Z,7.1nm,0.7s
F24K Squaw Lake 85.80 17 P P 12 58 11.4 +1.6
baz=230,SNR=5.3
G25K Bearman Lake 85.86 18 P P 12 58 11.7 +1.6
baz=231
SKAG Skagway 85.92 27 P P 12 58 12.4 +1.9
baz=242
I26K Coal Creek Min 85.94 20 P P 12 58 11.9 +1.4
baz=234
WRAK Wrangell Islan 85.95 31 P P 12 58 12.4 +1.7
baz=244
D23K Nanushuk River 85.99 16 P P 12 58 12.5 +1.8
baz=227
E24K Your Creek 86.00 17 P P 12 58 12.2 +1.4
baz=229
TOLK Toolik Lake Re 86.07 16 P P 12 58 12.2 +1.0
baz=228
M29M Somme Creek 86.08 24 P P 12 58 12.9 +1.5
baz=239,SNR=6.2
N30M Aishikik Lake 86.14 25 IAmb IAmb 12 58 14.4
comp=Z,6.4nm,0.7s
N30M Aishikik Lake 86.14 25 P P 12 58 13.0 +1.4
baz=240,SNR=5.5
O30N Mendenhall 86.22 26 IAmb IAmb 12 58 14.2
comp=Z,6.3nm,0.7s
O30N Mendenhall 86.22 26 P P 12 58 13.3 +1.2
baz=241,SNR=5.6
EGAK Eagle 86.33 21 P P 12 58 13.8 +1.4
baz=236,SNR=13
HYB Hyderabad 86.44 288 *e*P P 12 58 13.6 -0.5
HYB *e*PP PP 13 01 50.8 +14
F25K Christian Rive 86.52 18 P P 12 58 15.0 +1.6
baz=232
BBB Bella Bella 86.52 36 LR LR 13 29 48.5
comp=Z,28nm,20.7s,baz=210,slow=31
PKD Bear Valley Ra 86.53 53 IAmb IAmb 12 58 18.1
comp=Z,7.3nm,0.8s
L29M L29M 86.56 23 P P 12 58 15.2 +1.5
baz=239,SNR=15
DAWY Dawson 86.58 22 IAmb IAmb 12 58 16.9
comp=Z,24nm,1.1s
DAWY Dawson 86.58 22 P P 12 58 15.3 +1.5
baz=238,SNR=12
C23K Itkillik River 86.61 15 P P 12 58 15.1 +1.4
baz=227
D24K Happy Valley 86.61 16 P P 12 58 15.3 +1.5
baz=229
WHY Whitehorse 86.69 26 P P 12 58 15.9 +1.4
baz=242
N31M Braeburn, Yuko 86.69 25 IAmb IAmb 12 58 17.7
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 86.69 25 P P 12 58 15.9 +1.5
baz=241
G26K Porcupine Rive 86.70 19 P P 12 58 16.0 +1.8
baz=234,SNR=11
P32M Atlin 86.71 27 P P 12 58 15.8 +1.3
baz=243
O03E Paynes Creek 86.77 48 IAmb IAmb 12 58 30.9
comp=Z,8.8nm,1.1s
M30M Minto, Yukon 86.81 24 P P 12 58 16.1 +1.2
baz=240,SNR=24
M03C McCloud 86.82 47 P P 12 58 17.7 +2.2
M03C IAmb IAmb 12 58 18.6
comp=Z,15nm,0.9s
E25K Arctic Village 86.87 17 P P 12 58 16.4 +1.4
baz=232
H27K Steamboat Moun 87.02 20 IAmb IAmb 12 58 18.4
comp=Z,10.0nm,0.8s
H27K Steamboat Moun 87.02 20 P P 12 58 17.4 +1.5
baz=236,SNR=8.3
C24K Franklin Bluff 87.02 15 P P 12 58 17.0 +1.3
baz=229
F26K Sheenjek River 87.03 18 P P 12 58 17.4 +1.5
baz=233
Q32M Nakina River 87.09 28 P P 12 58 17.8 +1.3
baz=244
I28M Miner Creek 87.13 21 IAmb IAmb 12 58 18.5
comp=Z,12nm,0.6s
I28M Miner Creek 87.13 21 P P 12 58 17.9 +1.4
baz=237,SNR=13
K29M Barlow Dome 87.17 23 IAmb IAmb 12 58 19.8
comp=Z,16nm,1.1s
K29M Barlow Dome 87.17 23 P P 12 58 18.4 +1.7
baz=240,SNR=9.8
S34M Telegraph Cree 87.19 30 P P 12 58 18.2 +1.5
baz=245
G27K Doyon Strip 87.30 19 IAmb IAmb 12 58 19.7
comp=Z,6.5nm,0.7s
G27K Doyon Strip 87.30 19 P P 12 58 18.7 +1.5
baz=236,SNR=8.2
D25K Kavik River 87.39 16 P P 12 58 19.1 +1.5
baz=231
P33M Teslin, Yukon 87.39 27 P P 12 58 19.2 +1.3
baz=244
M31M Drury Creek, Y 87.62 25 P P 12 58 19.8 +1.0
baz=242
I29M Ogilvie Camp, 87.66 21 P P 12 58 20.4 +1.5
baz=239,SNR=9.2
MAYO Mayo, Yukon 87.67 23 P P 12 58 20.5 +1.5
baz=241,SNR=8.8
R33M Jennings River 87.89 28 P P 12 58 21.2 +0.9
baz=246
DLBC Dease Lake 87.94 29 LR LR 13 34 48.0
comp=Z,704nm,18.2s,baz=298,slow=34
DLBC Dease Lake 87.94 29 P P 12 58 21.6 +1.1
baz=246
J30M Hart River 87.99 22 P P 12 58 22.2 +1.5
baz=240
J05D Fort Rock, OR 88.02 45 IAmb IAmb 12 58 24.6
comp=Z,12nm,0.9s
H29M Whitestone 88.09 21 P P 12 58 22.0 +1.1
baz=239
K05A Summer Lake 88.10 46 IAmb IAmb 12 58 24.7
comp=Z,12nm,1.0s
E27K Coleen River 88.11 18 P P 12 58 22.1 +1.1
baz=236
C26K Camden Bay 88.16 16 P P 12 58 22.8 +1.7
baz=232
I30M Mount Dempster 88.29 22 P 12 58 22.2 +0.2
I30M IAmb IAmb 12 58 24.7
comp=Z,10nm,0.8s
I30M Mount Dempster 88.29 22 P P 12 58 23.1 +1.1
baz=240,SNR=11
C27K Jago River 88.32 17 P 12 58 22.4 +0.5
C27K Jago River 88.32 17 P P 12 58 23.5 +1.6
baz=234
PINE Pine Mountain 88.36 45 IAmb IAmb 12 58 26.4
comp=Z,8.4nm,0.8s
G29M Pine Creek 88.57 20 IAmb IAmb 12 58 25.8
comp=Z,17nm,1.1s
G29M Pine Creek 88.57 20 P P 12 58 24.8 +1.6
baz=239
EPYK Eagle Plains 88.74 21 P P 12 58 25.6 +1.5
baz=240
DSP Deep Springs 88.89 52 IAmb IAmb 12 58 29.0
comp=Z,9.7nm,1.2s
NVAR Mina Array Bea 88.89 51 P 12 58 25.9 +0.2
NVAR Mina Array Bea 88.89 51 P P 12 58 27.4 +1.7
comp=Z,3.7nm,0.8s,baz=236,slow=6.5,SNR=29
NVAR LR LR 13 35 21.1
comp=Z,36nm,18.2s,baz=341,slow=33
comp=Z,3.7nm,0.8s
D27M Malcolm River 88.89 18 P P 12 58 26.3 +1.6
baz=236
MPMC Manual Prospec 88.95 53 P P 12 58 25.5 -0.4
E28M Babbage River 88.97 18 P P 12 58 26.6 +1.5
baz=238
MMPY Sheldon Lake, 89.11 25 P P 12 58 27.2 +1.3
baz=245
PFO Pinyon Flats O 89.21 56 LR LR 13 30 29.0
comp=Z,77nm,20.4s,baz=293,slow=30
PFO Pinyon Flats O 89.21 56 *ce*P P 12 58 28.7 +1.5
PFO pmax pmax
comp=Z,3.0nm,0.9s
G30M tAoh Zraii Nji 89.22 20 P P 12 58 27.7 +1.5
baz=241
PMD Palm Desert 89.29 56 IAmb IAmb 12 58 29.9
comp=Z,11nm,1.4s
H31M Peel River 89.31 22 IAmb IAmb 12 58 29.0
comp=Z,9.6nm,0.7s
H31M Peel River 89.31 22 P P 12 58 27.6 +0.9
baz=242
E29M Blow River 89.37 19 P P 12 58 28.0 +1.1
baz=239
D28M Stokes Point 89.61 18 P P 12 58 28.8 +0.9
baz=238
GWY Greenwater Val 89.63 53 IAmb IAmb 12 58 32.1
comp=Z,13nm,1.5s
TPH Topah 89.63 51 IAmb IAmb 12 58 45.0
comp=Z,10.0nm,1.4s
WVOR Wild Horse Val 89.64 47 IAmb IAmb 12 58 32.5
comp=Z,13nm,1.2s
WVOR Wild Horse Val 89.64 47 P P 12 58 30.2 +1.3
WVOR pmax pmax
comp=Z,11nm,1.3s
F30M Barrier River 89.67 20 P P 12 58 29.7 +1.4
baz=241
BELC Bell-Mtn. Jos 89.67 55 IAmb IAmb 12 58 32.7
comp=Z,13nm,1.2s
G31M Satah River 89.86 21 P P 12 58 30.3 +1.1
baz=242
SHOC Shoshone, Teco 89.88 54 IAmb IAmb 12 58 33.1
comp=Z,20nm,1.3s
J08A Circle Bar Ran 89.98 46 IAmb IAmb 12 58 33.2
comp=Z,7.0nm,0.8s
TPNV Topopah Spring 90.13 53 IAmb IAmb 12 58 34.1
comp=Z,6.9nm,0.9s
MK31 Makanchi Array 90.25 318 *i* P P 12 58 29.1 -2.5
MKAR Makanchi Array 90.25 318 P 12 58 29.5 -2.1
MKAR Makanchi Array 90.25 318 P P 12 58 30.3 -1.3
comp=Z,1.7nm,0.4s,baz=92,slow=7.3,SNR=28
comp=Z,1.7nm,0.4s
F31M Tsiigehtchic 90.28 20 P P 12 58 32.0 +0.9
baz=243
ZAA0 Zalesovo Array 90.66 325 P P 12 58 31.6 -1.6
ZALV Zalesovo Beam 90.66 325 P P 12 58 32.0 -1.2
ZALV Zalesovo Beam 90.66 325 P P 12 58 31.3 -1.9
comp=Z,0.9nm,0.6s,baz=103,slow=6.0,SNR=5.6
ZALV LR LR 13 41 34.3
comp=Z,98nm,18.1s,baz=319,slow=37
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 90.66 325 *e*P P 12 58 32.5 -0.7
ZALV pmax pmax
comp=Z,1.0nm,0.6s
B08A Colville Reser 90.67 41 P P 12 58 32.5 -1.0
B08A IAmb IAmb 12 58 35.2
comp=Z,5.0nm,0.8s
SHPR Sheep Range 90.89 53 P P 12 58 34.3 -0.6
E09A Wood Farm, Sta 90.98 43 P P 12 58 34.7 -0.2
E09A IAmb IAmb 12 58 37.9
comp=Z,14nm,1.2s
SYO Syowa Base 91.07 198⇑*ep*P pP 12 58 51.5 -0.5
SYO Syowa Base 91.07 198⇓*es*P sP 12 58 59.2 +0.5
BMO Blue Mountains 91.16 45 P 12 58 35.8 -0.1
BMO Blue Mountains 91.16 45 P P 12 58 35.8 -0.1
BMO pmax pmax
comp=Z,4.0nm,0.9s
BELA Belgrano 2 91.33 177 P 12 58 35.5 -0.6
BELA IAmb IAmb 12 58 37.5
comp=Z,4.0nm,0.8s
ELK Elko 91.73 49 IAmb IAmb 12 58 41.5
comp=Z,5.5nm,1.0s
MFID Camas Ranch 91.87 46 IAmb IAmb 12 58 42.0
comp=Z,5.8nm,1.0s
SPR3 Spring Creek 3 92.05 51 IAmb IAmb 12 58 43.1
comp=Z,4.6nm,0.9s
NEW Newport 92.07 41 IAmb IAmb 12 58 42.4
comp=Z,6.4nm,0.9s
NEW Newport 92.07 41 LR LR 13 33 46.5
comp=Z,53nm,18.9s,baz=334,slow=31
PLID Pearl Lake 92.11 45 IAmb IAmb 12 58 42.9
comp=Z,5.2nm,0.8s
CCUT Cedar City 92.51 52 IAmb IAmb 12 58 46.4
comp=Z,5.3nm,1.2s
LPIG La Paz 92.61 66 LR LR 13 34 45.4
comp=Z,24nm,18.2s,baz=1.5,slow=32
KNB Kanab 92.83 53 IAmb IAmb 12 58 47.9
comp=Z,8.3nm,1.4s
HLID Hailey 92.91 46 IAmb IAmb 12 58 48.3
comp=Z,7.1nm,1.1s
KURK Kurchatov 93.53 321 *i* P P 12 58 44.3 -2.3
KURK pmax pmax
comp=Z,8.0nm,1.8s
KURBB Kurchatov Arra 93.57 321 P P 12 58 44.8 -1.9
comp=Z,1.5nm,0.7s,baz=105,slow=3.5,SNR=18
comp=Z,1.5nm,0.7s
C36M Paulatuk 94.32 20 P P 12 58 50.7 +1.0
baz=252
SMAI San Martin Ant 94.38 164 P P 12 58 51.8 +1.6
SMAI IAmb IAmb 12 58 53.6
comp=Z,5.2nm,0.6s
DLMT Dillon 94.53 45 IAmb IAmb 12 58 54.0
comp=Z,4.2nm,0.8s
PDAR Pinedale Array 96.27 48 P P 12 59 00.5 +0.8
comp=Z,0.4nm,0.5s,baz=226,slow=1.5,SNR=8.0
PDAR LR LR 13 38 26.2
comp=Z,30nm,18.2s,baz=7.5,slow=33
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 96.41 28 LR LR 13 34 16.7
comp=Z,54nm,21.7s,baz=288,slow=30
TROLL Troll, Antarti 96.52 186 ⇑P P 12 58 59.7 -0.4
comp=Z,52nm,0.4s
SNAA Sanae 97.37 185 ⇑P Pdif 12 59 05.4 +1.4
comp=Z,41nm,0.8s
SNAA Sanae 97.37 185 P Pdif 12 59 06.5 +2.6
SNAA IAmb IAmb 12 59 34.6
comp=Z,5.9nm,1.4s
SNAA Sanae 97.37 185 P Pdif 12 59 03.7 -0.2
comp=Z,1.3nm,0.7s,baz=159,slow=4.7,SNR=5.1
SNAA LR LR 13 39 08.4
comp=Z,38nm,20.8s,baz=12,slow=33
comp=Z,1.3nm,0.7s
SNAA Sanae 97.37 185 P Pdif 12 59 06.5 +2.6
SNAA pmax pmax
comp=Z,6.0nm,1.4s
ANMO Albuquerque 97.60 56 LR LR 13 33 45.2
comp=Z,56nm,22.0s,baz=60,slow=30
VNA3 Neumayer Olymp 98.25 183 ⇑P Pdif 12 59 07.8 0.0
comp=Z,1.8nm,1.0s
VNA2 Neumayer-Watz 98.44 184 ⇑P Pdif 12 59 08.1 -0.5
comp=Z,1.5nm,0.6s,baz=160,slow=4.8
BVAR Borovoye Array 98.92 322 P P 12 59 08.9 -2.2
comp=Z,1.1nm,0.7s,baz=81,slow=8.9,SNR=3.3
comp=Z,1.1nm,0.7s
TXAR Lajitas Array 99.25 62 P Pdif 12 59 14.2 +1.0
comp=Z,0.3nm,0.8s,baz=287,slow=4.2,SNR=3.3
TXAR LR LR 13 35 40.1
comp=Z,46nm,21.1s,baz=332,slow=30
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 114.69 344 PKP PKiKP 13 04 09.1 -1.3
comp=Z,2.0nm,0.8s,baz=62,slow=1.5,SNR=6.1
SOC Sochi 120.01 314 *i* PKIKP PKPdf 13 04 19.0 -2.4
SOC *e* 13 05 43.6
SOC *e*PPP PPP 13 08 18.9
SOC *e*PS PS 13 15 35.1 -2.1
SOC *e*SS SS 13 22 08.7 +0.4
SOC *e*SSS SSS 13 26 27.9
MNK Minsk 122.83 330 *i* PKIKP PKPdf 13 04 24.7 -1.8
MNK *i* 13 06 02.1
MNK *i* PPP PPP 13 08 39.6
MNK *i* 13 11 31.2
MNK *i* SS SS 13 22 42.8 -0.5
MNK *i* SSS SSS 13 27 15.6
MNK pmax pmax
comp=E,2.0nm,0.4s
MNK pmax pmax
comp=Z,7.0nm,0.5s
MNK pmax pmax
comp=N,5.0nm,0.5s
MNK MLR MLR
comp=Z,90nm,15.0s
MNK MLR MLR
comp=E,273nm,17.0s
MNK MLR MLR
comp=N,175nm,18.0s
AKASG Malin Array Be 124.05 325 PKP PKPdf 13 04 26.1 -2.8
comp=N,0.7nm,0.4s,baz=59,slow=2.4,SNR=1.9
ESDC Sonseca Array 148.16 338 PKPbc PKPbc 13 05 15.5 -1.4
comp=N,1.3nm,0.7s,baz=14,slow=4.4,SNR=5.8

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*KRNET **08** 13:02:12.3±0.1, 43.°75N×69.°26E, mb3.0*
*SOME **08** 13:02:15.3, 43.°63N×69.°57E*
*NNC **08** 13:02:17.2±1.7, 43.°58N×69.°71E, h0km, mb3.9, mpv3.3,*
Error ellipse: s-maj=10.0km s-min=7.7km az=142.0,
Suspected Mining explosion.
ISC 08 13:02:16.0±2.1, 43.°72N±0.°07×69.°7E±0.°1, h0km, n15,
σ1§72/22, 9C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.70**	**169**	P	**Pb**	**13 02 31.5**	**+0.5**
	4.6nm,0.5s						
BRLS				S	**Sn**	**13 02 43.6**	**-1.1**
	41nm,0.3s						
KK31	**Karatay Array**	**0.87**	**134**	⇓P	**Pg**	**13 02 30.9**	**-1.8**
	1.7nm,0.3s,baz=323,slow=19,SNR=102						
KK31				⇑S	**Sg**	**13 02 42.4**	**-1.6**
	57nm,0.6s,baz=304,slow=30,SNR=50						
IUG	**Iuzhnay**	**1.59**	**170**	P	**Pn**	**13 02 45.3**	**-0.2**
	43nm,0.4s						
IUG				S	**Sb**	**13 03 07.1**	**+0.1**
	77nm,0.4s						
TRKS	**Terek-Say**	**2.44**	**153**	⇑*e*P	**Pn**	**13 02 58.5**	**+1.2**
TRKS				⇑*e*S	**Sb**	**13 03 32.1**	**+0.5**
ARK	**Arkit**	**2.56**	**138**	⇓*e*P	**Pn**	**13 02 59.6**	**+0.8**
ARK				⇓*e*S	**Sb**	**13 03 34.6**	**-0.3**
MRKS	**Merke**	**2.78**	**109**	Pg	**Pg**	**13 03 08.5**	**-0.8**
	6.7nm,0.4s						
MRKS				Lg	Lg	13 03 46.7	
	17nm,0.5s						
BTLS	**Baital**	**3.41**	**66**	Pg	**Pg**	**13 03 21.1**	**-0.3**
	16nm,0.5s						
BTLS				Lg	Lg	13 04 08.5	
	3.0nm,0.5s						
ARSB	**Arslanbob**	**3.43**	**133**	⇑*e*P	**Pn**	**13 03 12.2**	**+1.4**
ARSB				⇑*e*S	**Sn**	**13 03 55.6**	**+3.4**
SGDS	**Sogindy**	**3.62**	**92**	Pg	**Pg**	**13 03 23.5**	**-1.9**
	4.6nm,0.5s						
SGDS				Lg	Lg	13 04 12.5	
	6.5nm,0.4s						
AAK	**Ala-Archa**	**3.70**	**105**	⇑Pg	**Pb**	**13 03 22.1**	**-0.1**
	2.6nm,0.5s						
AAK				⇑Lg	Lg	13 04 14.6	
	4.1nm,0.6s						
SALK	**Salom-Alik**	**4.19**	**131**	⇑*e*P	**Pn**	**13 03 22.7**	**+1.4**
SALK				⇑*e*S	**Sn**	**13 04 14.0**	**+3.0**
KRBS	**Karabastau**	**4.36**	**88**	Pg	**Pg**	**13 03 37.5**	**-2.1**
	4.5nm,0.6s						
KRBS				Lg	Lg	13 04 36.6	
	6.2nm,0.5s						
KST	**Kastek**	**4.64**	**96**	Pg	**Pg**	**13 03 43.1**	**-1.9**
	4.2nm,0.6s						
KST				Lg	Lg	13 04 45.7	
	8.7nm,0.5s						
KTBS	**Karatobe**	**5.09**	**88**	Pg	**Pg**	**13 03 51.2**	**-2.3**
	4.1nm,0.6s						
KTBS				Lg	Lg	13 05 00.2	
	9.5nm,0.5s						
CHKK	**Chushkaly**	**5.31**	**86**	Pg	**Pg**	**13 03 55.6**	**-2.1**
	3.7nm,0.2s						
CHKK				Lg	Lg	13 05 07.7	
	5.7nm,0.3s						

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*NEIC **08** 13:05:16.1±0.7, 18.°855N±0.°006×155.°23W±0.°02,*
h10km±2km, Error ellipse: s-maj=3.2km s-min=2.7km
az=282.0
HVO 08 13:05:17.4±1.0, 18.°88N±0.°03×155.°26W±0.°03, h16km±7km,
ML4.0/51, ML4.0/46(NEIC), Error ellipse: s-maj=6.0km
s-min=2.3km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.35**	**308**		Pg	13 05 24.1	-0.6
HPO					Sg	13 05 29.2	-0.5
HTC	**Hot Caves**	**0.38**	**340**		Pg	13 05 24.8	-0.5
HLP	**Hilina Pali**	**0.42**	**354**		Pg	13 05 25.4	-0.7
HLP	**Hilina Pali**	**0.42**	**354**		Sg	13 05 31.0	-0.9
KHU	**Kahuku**	**0.50**	**318**		Pg	13 05 26.1	-1.4
KHU					Sg	13 05 32.6	-1.7
PUH	**Pauahi**	**0.50**	**5**		Pg	13 05 26.1	-1.4
PUH					Sg	13 05 32.2	-2.0
PUH	**Pauahi**	**0.50**	**5**	IAML		13 05 33.0	
	comp=E,4μm,0.3s						
PUH				IAML		13 05 38.1	
	comp=N,5μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.51**	**10**		Pg	13 05 26.2	-1.4
SDHHI	**Sand Hill**	**0.51**	**356**		Pg	13 05 26.3	-1.4
SDHHI					Sg	13 05 33.1	-1.6
RIM	**Rim**	**0.52**	**359**		Pg	13 05 26.3	-1.5
RIM					Sg	13 05 33.4	-1.5
KKO	**Keanakako'i**	**0.52**	**359**		Pg	13 05 26.4	-1.4
KKO					Sg	13 05 32.8	-2.1
STCH	**Steam Cracks**	**0.52**	**14**		Pg	13 05 26.4	-1.5
STCH					Sg	13 05 32.9	-2.1
STCH	**Steam Cracks**	**0.52**	**14**	IAML		13 05 33.4	
	comp=E,11μm,0.2s						
STCH				IAML		13 05 33.5	
	comp=N,10μm,0.5s						
AIN	**Ainahou**	**0.53**	**339**	Pg	Pg	13 05 26.9	-1.1
AIN	**Ainahou**	**0.53**	**339**		Sg	13 05 33.7	-1.4
JCUZ	**Jacuzzi**	**0.53**	**17**		Pg	13 05 26.4	-1.6
JCUZ					Sg	13 05 33.0	-2.1
WRMHI	**West Rim**	**0.53**	**356**		Pg	13 05 26.4	-1.6
WRMHI					Sg	13 05 33.4	-1.9
BYL	**Byron's Ledge**	**0.54**	**0**		Pg	13 05 26.5	-1.6
BYL					Sg	13 05 33.1	-2.3
BYL	**Byron's Ledge**	**0.54**	**0**	IAML		13 05 33.7	
	comp=N,7μm,0.5s						
BYL				IAML		13 05 33.7	
	comp=E,10μm,0.2s						
NPOC	**North of Pu'u**	**0.54**	**15**		Pg	13 05 26.5	-1.6
NPOC					Sg	13 05 33.3	-2.0
OBL	**Observatory Le**	**0.54**	**358**		Pg	13 05 26.6	-1.6

OBL					Sg	13 05 33.7	-1.8
UWE	Uwekahuna	0.55	357		Pg	13 05 26.7	-1.6
UWE					Sg	13 05 33.7	-1.9
UWE	Uwekahuna	0.55	357	IAML		13 05 34.3	
	comp=E,15μm,0.4s						
UWE				IAML		13 05 34.3	
	comp=N,11μm,0.2s						
HATHI	Halema'uma'u T	0.55	360		Pg	13 05 26.6	-1.7
HATHI					Sg	13 05 33.4	-2.3
HATHI	Halema'uma'u T	0.55	360	IAML		13 05 33.8	
	comp=N,11μm,0.2s						
HATHI				IAML		13 05 34.1	
	comp=E,7μm,0.2s						
UWB	Uwekahuna Bluf	0.55	358		Pg	13 05 26.6	-1.8
UWB					Sg	13 05 33.5	-2.2
SBLHI	Steaming Bluff	0.55	359		Pg	13 05 26.6	-1.8
SBLHI					Sg	13 05 33.5	-2.3
RSD	Rainshed	0.59	358		Pg	13 05 27.1	-2.0
RSD					Sg	13 05 34.5	-2.4
RSD	Rainshed	0.59	358	IAML		13 05 34.9	
	comp=N,5μm,0.5s						
RSD				IAML		13 05 39.9	
	comp=E,3μm,0.3s						
JOKA	Jonika Flow	0.61	24		Pg	13 05 27.4	-2.0
JOKA				IAML		13 05 35.3	
	comp=E,7μm,0.4s						
JOKA				IAML		13 05 35.5	
	comp=N,6μm,0.8s						
JOKA	Jonika Flow	0.61	24		Pn	13 05 34.9	+3.4
MLH	Mauna Loa	0.63	349		Pg	13 05 28.0	-1.9
MLH	Mauna Loa	0.63	349		Pn	13 05 36.1	+4.1
MLH	Mauna Loa	0.63	349	IAML		13 05 36.4	
	comp=E,9μm,0.2s						
MLH				IAML		13 05 36.7	
	comp=N,17μm,0.3s						
MWH	Mokuaweoweo	0.69	332		Pg	13 05 28.7	-2.4
MWH					Sg	13 05 36.9	-3.3
MWH	Mokuaweoweo	0.69	332	IAML		13 05 37.9	
	comp=E,10μm,0.6s						
MWH				IAML		13 05 41.2	
	comp=N,8μm,0.5s						
HMH	Humu'ula Sheep	0.75	344		Pg	13 05 29.9	-2.3
HMH					Sg	13 05 38.7	-3.6
HMH	Humu'ula Sheep	0.75	344	IAML		13 05 40.3	
	comp=E,7μm,0.2s						
ALEP	Alea Permanent	0.76	331		Pg	13 05 29.6	-2.7
ALEP					Sg	13 05 39.1	-3.2
POHA	Pohakuloa	0.92	344		Pb	13 05 31.6	-3.5
POHA					Sb	13 05 42.4	-4.7
POHA	Pohakuloa	0.92	344	IAML		13 05 48.5	
	comp=E,3μm,0.3s						
POHA				IAML		13 05 48.8	
	comp=E,4μm,0.5s						
HUH	Hualalai	0.97	326		Pb	13 05 32.9	-3.2
HUH					Sb	13 05 44.3	-4.5
KKH	Kailua Kona	1.06	318		Pb	13 05 33.5	-3.9
KKH					Sb	13 05 45.2	-5.8
HPAH	Hawaii Prepara	1.22	340		Pn	13 05 35.7	-4.3
HPAH					Sb	13 05 48.5	-7.3
MHA	Mahukona	1.44	335		Pn	13 05 38.9	-4.0
MHA					Sn	13 05 54.2	-7.3
HLK	Haleakala	2.09	334		Pn	13 05 47.5	-4.5
HLK					Sn	13 06 10.6	-7.3
KHLH	Kahului Airpor	2.29	332		Pn	13 05 50.6	-4.0
KHLH					Pg	13 06 05.3	+3.9
KHLH	Kahului Airpor	2.29	332		Sn	13 06 16.6	-5.8
KPA	Kalaupapa	2.82	325		Pn	13 05 57.0	-4.8
WMR	Waimanalo Ridg	3.33	317		Pn	13 06 04.0	-4.9
DHH	Diamond Head	3.37	315		Pn	13 06 04.2	-5.2
HON	Honolulu	3.54	314		Pn	13 06 07.2	-4.6
KIP	Kipapa	3.62	315		Pn	13 06 07.8	-5.0
KIP				IAML		13 06 49.9	
	comp=E,283nm,0.6s						
KIP				IAML		13 06 51.5	
	comp=E,388nm,0.5s						
OPA	Opana	3.81	318		Pn	13 06 10.2	-5.2
KEKH	Kekaha	5.19	307		Pn	13 06 29.2	-5.3
KEKH					Sn	13 07 23.1	-11

*IDC **08** 13:06:10.8±3.0, 37°.38N×20°.51E, h0km, mb3.5/7, mbtmp3.5/8, ML4.0/1, MS3.7/2, Error ellipse: s-maj=61.2km s-min=26.4km az=9.0*
*THE **08** 13:06:19.6, 38°.1N±0°.6×20°.6E±1°.0, h18km, M3.5/27, MLh3.5/27*
*PDG **08** 13:06:19.6±0.8, 38°.10N×20°.47E, h16km±1km, ML3.7/9, Error ellipse: s-maj=1.9km s-min=2.8km az=0.0*
*ATH **08** 13:06:19.1, 38°.11N×20°.53E, h21km, ML3.6/15, Manual Solution by D.Makaris First location: 2019/10/08 13:07:15, This location: 2019/10/08 14:13:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 08 13:06:19.0±0.7, 38°.11N±0°.02×20°.52E±0°.03, h24km±4km, n88, σ1§46/128, mb3.6/7, 3C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	Pessada-Kefalo	0.05	82	P	Pb	13 06 22.9	-0.2
PSDA				S	Sb	13 06 25.3	-0.8
PSDA	Pessada-Kefalo	0.05	82	P	Pb	13 06 23.0	-0.2
PSDA				S	Sb	13 06 25.2	-0.8
ARG2	Argostoli	0.08	340	P	Pb	13 06 23.7	+0.3
ARG2				S	Sb	13 06 26.7	+0.4
VLS	Valsamata	0.09	37	P	Pb	13 06 23.1	-0.4
VLS				S	Sb	13 06 25.6	-0.8
VLS	Valsamata	0.09	37	P	Pb	13 06 23.1	-0.4
VLS				S	Sb	13 06 25.7	-0.8
LXR1	Lixouri, Cepha	0.11	325	P	Pb	13 06 24.5	+0.9
LXR1				S	Sb	13 06 28.3	+1.6
RTZL	Ratzakli, Kefa	0.20	99	P	Pb	13 06 23.7	-0.8
RTZL				S	Sb	13 06 26.7	-1.6
ORTH	Orthonies,Zaky	0.29	152	P	Pb	13 06 25.5	-0.3
ORTH				S	Sb	13 06 29.9	-0.6
ORTH	Orthonies,Zaky	0.29	152	P	Pb	13 06 25.5	-0.3
ORTH				S	Sb	13 06 30.4	0.0
VSK1	VASILIKIADES	0.30	6	P	Pb	13 06 26.0	0.0
VSK1				S	Sb	13 06 31.0	+0.2
FSK	Fiskardo	0.35	5	P	Pb	13 06 26.7	0.0
FSK				S	Sb	13 06 32.3	+0.2
FSK	Fiskardo	0.35	5	P	Pb	13 06 26.9	+0.1
FSK				S	Sb	13 06 32.2	+0.1
KYPS	Kipseli, Zakin	0.37	140	P	Pb	13 06 27.4	+0.3
KYPS				S	Sb	13 06 33.5	+0.9
LTHK	Lithakia	0.47	148	P	Pb	13 06 28.3	-0.3
LTHK	Lithakia	0.47	148	P	Pb	13 06 28.5	-0.2
LTHK				S	Sb	13 06 35.6	+0.5
KRI1	kERI	0.50	152	P	Pb	13 06 29.0	-0.2
KRI1				S	Sb	13 06 36.8	+0.7
EVGI	Lefkada island	0.52	12	P	Pb	13 06 29.4	-0.1
EVGI	Lefkada island	0.52	12	P	Pb	13 06 29.5	-0.1
EVGI				S	Sb	13 06 36.6	-0.2
CLEM	Kyllini,Ilia,G	0.53	114	P	Pb	13 06 29.9	+0.2
CLEM				S	Sb	13 06 36.9	0.0
NYDR	Nydri-Lefkada	0.62	13	P	Pb	13 06 30.8	-0.4
AST1	Astakos	0.62	46	P	Pb	13 06 30.5	-0.7
AXS	Araxos	0.68	82	P	Pb	13 06 31.3	-0.9
AXS	Araxos	0.68	82	P	Pb	13 06 31.3	-0.9
AXS				S	Sb	13 06 41.0	-0.2
LKD2	Lefkada island	0.69	9	P	Pb	13 06 32.2	-0.2
LKD2	Lefkada island	0.69	9	P	Pb	13 06 32.5	+0.1
LKD2				S	Sb	13 06 42.3	+0.8
TSLK	Tsoukalades, L	0.72	8	P	Pb	13 06 32.9	-0.1
TSLK	Tsoukalades, L	0.72	8	P	Pb	13 06 33.2	+0.2
TSLK				S	Sb	13 06 42.9	+0.4
RLS	Riolos of Patr	0.75	93	P	Pb	13 06 32.6	-0.7
RLS	Riolos of Patr	0.75	93	P	Pb	13 06 32.7	-0.7
RLS				S	Sb	13 06 43.6	+0.5
PVO	Paravola	0.94	57	P	Pb	13 06 36.4	-0.2
PVO	Paravola	0.94	57	P	Pb	13 06 36.5	0.0
PVO				S	Sb	13 06 48.9	+0.3
DRO	Drossia	0.95	99	P	Pb	13 06 36.5	-0.3
DRO	Drossia	0.95	99	P	Pb	13 06 36.5	-0.3
DRO				S	Sn	13 06 50.0	+0.3
AMPL	Ampelaki	0.98	33	P	Pb	13 06 36.9	-0.4
EFP	Efpalio	1.14	73	P	Pn	13 06 39.3	0.0
EFP	Efpalio	1.14	73	P	Pn	13 06 39.3	0.0
EFP				S	Sb	13 06 54.0	-0.3
ANX	Ano Chora	1.20	66	P	Pn	13 06 40.5	+0.1
ANX				S	Sb	13 06 55.6	-0.7
EVR	Evrytania	1.29	51	P	Pb	13 06 42.7	0.0
EVR				S	Sb	13 06 59.0	+0.1
KALE	Kalithea	1.30	77	P	Pn	13 06 42.1	+0.4
KALE				S	Sb	13 06 59.2	0.0
TETR	Tetrakomo, Epi	1.37	25	P	Pn	13 06 43.1	+0.4
TETR				S	Sn	13 07 00.5	+0.4
GUR	Goura	1.45	96	P	Pn	13 06 44.3	+0.5
GUR				S	Sn	13 07 02.4	+0.4
ITM	Ithomi	1.45	129	P	Pn	13 06 44.1	+0.4
ITM				S	Sb	13 07 03.1	-0.2
JAN	Janina	1.57	9	P	Pn	13 06 45.7	+0.3
JAN				S	Sn	13 07 05.6	+0.7
AGG	Agios Georgios	1.69	57	P	Pb	13 06 49.1	-0.3
THL	Klokotos Trika	1.86	38	P	Pb	13 06 52.5	+0.2
LKR	Lokris	2.02	74	P	Pb	13 06 53.9	-1.2
ATAL	Atalanti	2.05	73	P	Pb	13 06 54.3	-1.2
PENT	Pentalofos	2.14	13	P	Pb	13 06 57.5	+0.4
NEST	Nestorio	2.34	10	P	Pb	13 07 00.1	-0.4
NEO	Neokhori	2.43	60	P	Pn	13 06 59.5	+2.4
LIT	Litokhoron	2.51	37	P	Pn	13 07 00.5	+2.2
VLY	Voula,Athens	2.60	95	P	Pn	13 07 01.1	+1.7
OHR	Ohrid	3.01	4	*i* Pn	Pb	13 07 08.8	-3.1
KNT	Kendrikon	3.56	30	P	Pn	13 07 15.1	+2.4
VAY	Valandovo	3.58	26	*i* Pn	Pn	13 07 15.8	+2.9
DRME	Dracevica, Mon	4.20	346	⇑*i* Pn	Pn	13 07 23.8	+2.3
DRME				*i* Sn	Sn	13 08 10.1	+0.3
BUM	Brajici-Budva	4.37	344	⇓*i* Pn	Pn	13 07 25.5	+1.6
BUM				*i* Sn	Sn	13 08 13.1	-1.0
PDG	Podgorica	4.43	348	⇑*i* Pn	Pn	13 07 26.4	+1.8
PDG				*i* Sn	Sn	13 08 15.6	+0.3
HCY	Herceg Novi	4.60	341	⇓*i* Pn	Pn	13 07 27.9	+0.9
HCY				*i* Sn	Sn	13 08 15.1	-4.6
IVA	Berane	4.78	354	⇓*i* Pn	Pn	13 07 32.0	+2.4
IVA				*i* Sn	Sn	13 08 27.9	+3.6
KOME	Kolasin	4.80	351	*e*Pn	Pn	13 07 32.0	+2.2
KOME				*i* Sn	Sn	13 08 24.1	-0.6
NKME	Niksic	4.81	346	⇑*i* Pn	Pn	13 07 31.0	+1.1
NKME				*i* Sn	Sn	13 08 25.0	+0.2
TREB	Trebinje	4.89	341	*e*Pn	Pn	13 07 31.8	+0.8
BRY	Bratogost	5.02	343	⇓*i* Pn	Pn	13 07 33.7	+0.8
BRY				*i* Sn	Sn	13 08 26.9	-3.3
STON	Ston	5.22	337	*e*Pn	Pn	13 07 35.8	+0.3
UPM	Unac-Piva	5.24	347	⇓*i* Pn	Pn	13 07 37.8	+1.9
UPM				*i* Sn	Sn	13 08 34.9	-0.7
KLINJ	Klinje	5.27	344	*e*Pn	Pn	13 07 36.9	+0.7
RUDO	Rudo	5.57	351	*e*Pn	Pn	13 07 40.7	+0.3
KIJV	Kijevo	6.66	333	*e*Pn	Pn	13 07 56.3	+1.0
BLY	Banja Luka	7.09	340	*e*Pn	Pn	13 08 05.2	+4.0
BOJS	Bojanci	8.37	334	*e*Pn	Pn	13 08 20.3	+1.6
BRJN	Brijuni	8.48	325	*e*Pn	Pn	13 08 21.9	+1.7
GBRS	Gornja Briga	8.55	332	*i* Pn	Pn	13 08 23.1	+1.8
CRES	Cresnjevec Ost	8.58	336	*i* Pn	Pn	13 08 22.6	+0.9
PERS	Pernice	9.41	337	*i* Pn	Pn	13 08 33.9	+0.8
SOKA	Soboth	9.48	336	*i* Pn	Pn	13 08 34.8	+0.9
	1.4nm,0.3s						
SOKA				*e*Sn	Sn	13 10 14.4	-5.2
	2.7nm,0.6s						
OBKA	Obir	9.49	334	*i* Pn	Pn	13 08 36.7	+2.5
	1.0nm,0.2s						
OBKA				Sn	Sn	13 10 17.2	-2.8
	13nm,0.8s						
KBA	Koelnbreinsper	10.40	332	*e*Sn	Sn	13 10 38.3	-4.3
	0.7nm,0.3s						
ESDC	Sonseca Array	19.11	282	P	P	13 10 36.7	-3.4
	0.1nm,0.3s,baz=91,slow=10,SNR=5.0						
	0.1nm,0.3s						
HFS	Hagfors	22.47	351	P	P	13 11 17.5	+1.4
	1.9nm,0.5s,baz=158,slow=12,SNR=10						
	1.9nm,0.5s						
EKA	Eskdalemuir Ar	23.49	325	P	P	13 11 28.1	+1.5
	1.0nm,0.6s,baz=116,slow=8.9,SNR=1.8						
	1.0nm,0.6s						
FINES	FINESS Array B	23.62	7	P	P	13 11 31.8	+4.0
	2.0nm,0.8s,baz=149,slow=9.3,SNR=4.9						
	2.0nm,0.8s						
NOA	NORSAR Array B	23.69	349	P	P	13 11 30.8	+2.2
	0.4nm,0.6s,baz=159,slow=11,SNR=1.6						
	0.4nm,0.6s						
TORD	Torodi Ar. Bea	29.98	219	LR	LR	13 25 39.9	
	comp=Z,79nm,19.2s,baz=1.0,slow=40						
KURBB	Kurchatov Arra	42.27	53	P	P	13 14 09.6	-0.7
	0.1nm,0.3s,baz=282,slow=8.8,SNR=2.0						
	0.1nm,0.3s						
MKAR	Makanchi Array	45.34	58	P	P	13 14 33.4	-1.6
	0.3nm,0.4s,baz=275,slow=8.0,SNR=5.9						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	45.74	48	P	P	13 14 37.2	-0.8
	0.7nm,0.4s,baz=270,slow=10,SNR=5.7						
	0.7nm,0.4s						
RES	Resolute Bay	59.84	344	LR	LR	13 43 32.7	
	comp=Z,91nm,19.1s,baz=29,slow=37						

*DJA **08** 13:10:46.9±1.7, 5°.1N±19°.1×12°.7E±°, h146km±10km, M4.1/6, mb4.1/2, MLv4.2/6*
*NEIC **08** 13:10:47.0±1.3, 5°.04N±0°.07×127°.4E±0°.1, h159km±10km, mb4.4/15, Error ellipse: s-maj=17.7km s-min=10.5km az=79.0*
*IDC **08** 13:10:47.8±10.0, 5°.00N×127°.43E, h170km±106km, mb3.5/12, mbtmp4.0/12, Error ellipse: s-maj=33.6km s-min=15.5km az=71.0*

ISC 08 13:10:45.7±0.6, 5°.02N±0°.06×127°.38E±0°.10, h150km, n36, σ0§85/37, mb4.0/18, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.28	234	P	Pn	13 11 24.1	-0.1
SGSI				S	Sn	13 11 53.0	-0.7
DAV	Davao City (W)	2.71	319	Pn	Pn	13 11 30.9	+1.3
TNTI	Ternate	4.22	180	Pn	Pn	13 11 50.3	+1.3
TOLI2	Tolitoli	7.65	240	Pn	Pn	13 12 35.5	+0.9
MTN	Manton Dam	18.14	168	P	P	13 14 46.0	-0.6
MTN				IAmb	IAmb	13 14 59.9	
	comp=Z,9.8nm,1.1s						
TPUB	Ta-pu	19.31	341	P	P	13 14 57.4	-2.0
TPUB				IAmb	IAmb	13 15 30.3	
	comp=Z,44nm,1.2s						
YHNB	Yeheng	20.37	344	P	P	13 15 12.2	+1.4
YHNB				IAmb	IAmb	13 15 42.6	
	comp=Z,41nm,1.2s						
KNRA	Kununurra	20.61	176	P	P	13 15 14.4	+1.1
KNRA				IAmb	IAmb	13 15 15.9	
	comp=Z,8.5nm,0.6s						
FITZ	Fitzroy Crossi	23.04	184	P	P	13 15 39.0	+1.1
FITZ	Fitzroy Crossi	23.04	184	P	P	13 15 37.6	-0.4
	comp=Z,2.0nm,0.4s,baz=11,slow=9.5,SNR=23						
	comp=Z,2.0nm,0.4s						
WB0	Warramunga Arr	25.58	165	P	P	13 16 00.8	-0.2
WB0				IAmb	IAmb	13 16 05.0	
	comp=Z,4.7nm,1.1s						
WRA	Warramunga Arr	25.73	165	P	P	13 16 01.9	-0.6
	comp=Z,1.2nm,0.5s,baz=345,slow=10,SNR=11						
	comp=Z,1.2nm,0.5s						
WR8	Warramunga Arr	25.79	164	P	P	13 16 02.6	-0.3
AS31	Alice Springs	29.21	168	P	P	13 16 32.6	-0.9
ASAR	Alice Springs	29.21	168	P	P	13 16 33.6	+0.1
ASAR	Alice Springs	29.21	168	P	P	13 16 34.0	+0.4
	comp=Z,0.3nm,0.5s,baz=347,slow=6.8,SNR=13						
	comp=Z,0.3nm,0.5s						
CMAR	Chiang Mai Arr	30.81	298	P	P	13 16 48.5	+0.8
	comp=Z,0.3nm,0.3s,baz=102,slow=9.5,SNR=1.4						
	comp=Z,0.3nm,0.3s						
KSRS	Korea Array	32.28	1	P	P	13 16 59.7	-0.6
	comp=Z,1.1nm,0.7s,baz=196,slow=10,SNR=2.6						
	comp=Z,1.1nm,0.7s						
INKA	Innaminka	35.03	159	P	P	13 17 23.8	-0.4
INKA				IAmb	IAmb	13 18 00.2	
	comp=Z,3.6nm,1.4s						
BBOO	Buckleboo	38.52	168	P	P	13 17 54.3	+0.7
BBOO				IAmb	IAmb	13 17 56.1	
	comp=Z,28nm,1.4s						
STKA	Stephens Creek	39.11	161	P	P	13 17 58.8	+0.2
STKA	Stephens Creek	39.11	161	P	P	13 17 58.7	+0.2
	comp=Z,1.3nm,0.3s,baz=347,slow=6.7,SNR=5.4						
	comp=Z,1.3nm,0.3s						
SHL	Shillong	39.66	305	P	P	13 18 03.2	-0.3
SHL				IAmb	IAmb	13 18 04.1	
	comp=Z,6.6nm,0.6s						
GTA	Gaotai	42.34	328	P	P	13 18 26.8	+1.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	46.30	340	P	P	13 18 56.5	0.0
	comp=Z,0.4nm,0.3s,baz=321,slow=39,SNR=1.9						
	comp=Z,0.4nm,0.3s						
PEA0B	Petropavlovsk-	54.00	22	P	P	13 19 54.5	+0.3
PETK	Petropavlovsk-	54.00	22	P	P	13 19 54.2	+0.1
PETK	Petropavlovsk-	54.00	22	P	P	13 19 54.5	+0.4
	comp=Z,2.7nm,0.7s,baz=245,slow=2.5,SNR=5.0						
	comp=Z,2.7nm,0.7s						
MKAR	Makanchi Array	56.88	324	P	P	13 20 15.1	+0.2
MKAR	Makanchi Array	56.88	324	P	P	13 20 15.6	+0.6
	comp=Z,0.9nm,0.4s,baz=112,slow=7.8,SNR=11						
	comp=Z,0.9nm,0.4s						
KURK	Kurchatov	61.02	327	P	P	13 20 43.0	-0.3
KURK				IAmb	IAmb	13 20 44.1	
	comp=Z,1.9nm,0.6s						
KURBB	Kurchatov Arra	61.02	327	P	P	13 20 43.5	+0.2
	comp=Z,2.0nm,0.8s,baz=124,slow=6.0,SNR=15						
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	66.61	326	P	P	13 21 19.9	0.0
	comp=Z,1.2nm,0.6s,baz=278,slow=36,SNR=3.8						
	comp=Z,1.2nm,0.6s						
ABKAR	Akbulak array	71.57	320	P	P	13 21 49.5	-1.0
SPB2	Spitsbergen Ar	89.34	349	P	P	13 23 23.6	-1.1
ARCES	ARCESS Array B	89.47	340	P	P	13 23 24.1	-1.3
	comp=Z,2.5nm,0.8s,baz=70,slow=5.1,SNR=1.9						
	comp=Z,2.5nm,0.8s						

*CATAC **08** 13:43:24.6±0.6, 12°.N±4°.4×8°.9W±°, h16km±6km, M4.0/22, MLv4.0/22, Error ellipse: s-maj=9.4km s-min=3.2km az=33.4, confirmed*
*SNET **08** 13:43:25.9±2.5, 11°.97N×89°.14W, h35km, ML3.8*
*GCG **08** 13:43:28.4±0.9, 12°.20N×89°.34W, h17km±11km, MD4.1*

ISC 08 13:43:20.7±2.2, 11°.93N±0°.09×89°.22W±0°.05, h7km±12km, n66, σ0§85/78, 6C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.55	356	*e*P	Pg	13 43 50.8	+0.3
LALI	Alcalda de L	1.55	356	P	Pg	13 43 50.7	+0.2
LALI	Alcalda de L	1.55	356	S	Sb	13 44 09.5	-0.2
TECO	Alcaldia de Te	1.65	15	S	Sb	13 44 13.3	+0.7
TECO	Alcaldia de Te	1.65	15	P	Pb	13 43 51.1	-0.4
PANCS	Alcalda de	1.67	1	S	Sb	13 44 13.2	0.0
PANCS	Alcalda de	1.67	1	P	Pb	13 43 52.2	+0.3
LFRS	El Faro	1.69	5	*e*P	Pb	13 43 52.5	+0.3
LOMA	Loma Larga	1.71	2	S	Sb	13 44 14.5	+0.3
LOMA	Loma Larga	1.71	2	P	Pb	13 43 52.7	+0.2
JAYA	Jayaque - finc	1.73	353	*e*P	Pb	13 43 53.2	+0.3
JAYA				*e*S	Sb	13 44 13.6	-1.3
JAYA	Jayaque - finc	1.73	353	*e*P	Pb	13 43 53.2	+0.3
JAYA				*e*S	Sb	13 44 13.7	-1.3
JAYA	Jayaque - finc	1.73	353	S	Sb	13 44 14.7	-0.2
JAYA	Jayaque - finc	1.73	353	⇑P	Pb	13 43 53.2	+0.3
ITCA	Escuela Especi	1.73	358	S	Sb	13 44 15.2	+0.1
LCY	Lacayo	1.74	31	*e*P	Pb	13 43 52.9	-0.1
UESV	Universidad de	1.75	14	P	Pb	13 43 53.4	+0.2
UESV	Universidad de	1.75	14	S	Sb	13 44 14.5	-0.9
PACA	Pacayal	1.76	30	*e*P	Pb	13 43 53.3	-0.2
PACA				*e*S	Sb	13 44 15.7	-0.2
PACA	Pacayal	1.76	30	⇓P	Pb	13 43 53.1	-0.3
IGN	Direccin Gen	1.77	2	S	Sb	13 44 16.0	-0.2
IGN	Direccin Gen	1.77	2	P	Pb	13 43 53.6	0.0
PMON	Piamonte	1.77	357	S	Sb	13 44 16.6	+0.4
PMON	Piamonte	1.77	357	⇑P	Pb	13 43 53.9	+0.2
UDBS	Universidad Do	1.77	2	S	Sb	13 44 16.0	-0.2
UDBS	Universidad Do	1.77	2	P	Pb	13 43 53.8	+0.1
UEES	Universidad Ev	1.77	359	S	Sb	13 44 15.2	-1.1
BLLM	Bellamira	1.78	32	*e*P	Pb	13 43 53.5	-0.3
PAVA	Las Pavas	1.79	9	*e*P	Pb	13 43 53.9	-0.1
PAVA				*e*S	Sb	13 44 15.6	-1.2
PAVA	Las Pavas	1.79	9	⇓P	Pb	13 43 53.9	-0.1
PQSS	Presa 15 de Se	1.80	21	S	Sb	13 44 15.7	-1.2
SCLA	Alcaldia de Sa	1.82	15	S	Sb	13 44 17.0	-0.6
SCLA	Alcaldia de Sa	1.82	15	⇓P	Pb	13 43 54.3	-0.2
CNRM	Centro Naciona	1.85	34	S	Sb	13 44 17.5	-0.7
CEDA	San Andres	1.87	355	S	Sb	13 44 17.9	-0.9
CEDA	San Andres	1.87	355	P	Pb	13 43 54.6	-0.7
LCND	La Caada	1.89	43	*e*P	Pb	13 43 54.8	-0.7
LCND	La Caada	1.89	43	⇓P	Pb	13 43 54.5	-1.1
CNCH	Conchagua	1.90	45	*e*P	Pb	13 43 55.1	-0.8
CNCH				*e*S	Sg	13 44 22.2	+0.2
CNCH	Conchagua	1.90	45	⇓P	Pb	13 43 55.1	-0.8
CEVE	Cerro Verde	1.93	348	*e*P	Pb	13 43 56.7	+0.3
CEVE				*e*S	Sb	13 44 19.8	-0.9
CEVE	Cerro Verde	1.93	348	S	Sb	13 44 20.1	+0.6
CEVE	Cerro Verde	1.93	348	⇓P	Pb	13 43 56.7	+0.3
NUBE	Las Nubes	2.03	345	*e*P	Pb	13 43 57.9	-0.3
NUBE				*e*S	Sn	13 44 21.1	-0.3
NUBE	Las Nubes	2.03	345	*i* P	Pb	13 43 57.8	-0.3
NUBE				*e*S	Sn	13 44 20.7	-0.7
NUBE	Las Nubes	2.03	345	⇓P	Pb	13 43 57.8	-0.3
FAME	Alcaldia de Sa	2.05	338	⇑P	Pb	13 43 57.9	-0.5
FAME	Alcaldia de Sa	2.05	338	S	Sb	13 44 22.6	-1.5
UNIC	Universidad Ca	2.06	351	P	Pb	13 43 58.7	+0.2
UNIC	Universidad Ca	2.06	351	S	Sb	13 44 24.0	-0.5
LOAL	Lomas de Alarc	2.13	345	S	Sb	13 44 26.0	-0.3
LOAL	Lomas de Alarc	2.13

ASAR Alice Springs 42.99 265 P P 14 11 28.1 +0.8
0.6nm,0.6s,baz=98,slow=7.0,SNR=15
ASAR PcP **PcP 14 13 14.2 +0.2**
0.2nm,0.3s,baz=106,slow=3.9,SNR=4.5
0.6nm,0.6s
WRA Warramunga Arr 43.77 270 P **P 14 11 33.6 +0.1**
2.2nm,0.6s,baz=108,slow=7.5,SNR=17
2.2nm,0.6s
FITZ Fitzroy Crossi 52.11 268 P **P 14 12 37.7 +0.3**
3.3nm,0.9s,baz=122,slow=6.8,SNR=5.9
3.3nm,0.9s
QSPA South Pole Qui 61.99 180 P **P 14 13 49.8 +3.7**
0.9nm,0.6s,baz=299,slow=1.2,SNR=13
0.9nm,0.6s
TROLL Troll, Antarti 80.15 180 ⇑P **P 14 15 35.5 +0.5**
comp=Z,57nm,0.5s
VNA3 Neumayer Olymp 80.59 176 ⇑P **P 14 15 37.3 +0.1**
comp=Z,3.0nm,0.6s
VNA2 Neumayer--Watz 81.03 177 ⇑P **P 14 15 39.8 +0.2**
comp=Z,1.6nm,0.5s,baz=160,slow=4.8
PETK Petropavlovsk- 83.53 346 P P 14 15 54.9 +2.4
comp=Z,2.5nm,0.8s,baz=178,slow=5.5,SNR=2.3
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 92.37 290 P **P 14 16 37.4 +1.8**
comp=Z,0.3nm,0.3s,baz=122,slow=5.5,SNR=1.9
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 116.08 311 PKP **PKiKP 14 22 06.7 +0.2**
comp=Z,0.3nm,0.4s,baz=206,slow=1.6,SNR=5.3
KURBB Kurchatov Arra 119.29 315 PKP **PKiKP 14 22 12.2 -0.2**
comp=Z,0.4nm,0.6s,baz=120,slow=1.7,SNR=4.5
BVAR Borovoye Array 124.56 317 PKP **PKiKP 14 22 23.3 +0.5**
comp=Z,0.7nm,0.5s,baz=113,slow=0.6,SNR=3.7
FINES FINESS Array B 142.90 341 PKhKP PKPpre 14 22 54.5
comp=Z,1.3nm,0.5s,baz=58,slow=5.0,SNR=5.1
NOA NORSAR Array B 146.46 352 PKPbc **PKiKP 14 23 05.2 -1.9**
comp=Z,0.4nm,0.5s,baz=13,slow=2.8,SNR=1.8
HFS Hagfors 146.96 349 PKPbc **PKiKP 14 23 06.2 -1.9**
comp=Z,1.1nm,0.5s,baz=63,slow=6.8,SNR=5.5
AKASG Malin Array Be 149.29 325 PKPbc **PKPab 14 23 13.0 -4.3**
comp=Z,1.3nm,0.4s,baz=47,slow=3.4,SNR=10
MMAI Mount Meron Ar 150.62 288 PKPbc **PKiKP 14 23 17.9 +1.3**
comp=Z,3.4nm,1.0s,baz=211,slow=1.0,SNR=4.3
BRTR Keskin Array B 151.20 302 PKPbc **PKiKP 14 23 16.7 -1.0**
comp=Z,0.6nm,0.6s,baz=60,slow=3.5,SNR=2.5

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*SJA **08** 14:04:06.9±0.6,27.°16S×71.°13W,h50km±5km,ML3.7,*
MW3.8
*NEIC **08** 14:04:08.9±1.5,27.°20S±0.°04×71.°12W±0.°04,h35km±2km,*
mb4.2/2,ML3.7(GUC),Error ellipse: s-maj=7.9km
s-min=3.9km az=327.0
*GUC **08** 14:04:11.9±0.6,27.°35S×70.°98W,h33km±6km,ML3.7*
ISC 08 14:04:08.9±1.1,27.°16S±0.°03×71.°08W±0.°05,h43km±15km,
n60,σ1°66/69,2C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.68**	**107**		**Pn**	**14 04 22.2**	**0.0**
AC06	**Mina Casimiro**	**0.68**	**107**	⇓*iP*	**Pn**	**14 04 22.3**	**+0.2**
AC06				*eS*	**Sn**	**14 04 30.8**	**-0.9**
AC06				IAML		14 04 31.5	
	comp=E,10μm,0.2s						
GO03	**Copiapo**	**0.87**	**120**		**Pn**	**14 04 24.3**	**-0.5**
GO03	**Copiapo**	**0.87**	**120**	*eP*	**Pn**	**14 04 24.3**	**-0.5**
GO03				*eS*	**Sn**	**14 04 34.5**	**-1.9**
GO03				IAML		14 04 36.8	
	comp=E,5μm,0.2s						
GO03	**Copiapo**	**0.87**	**120**	*eP*	**Pn**	**14 04 24.2**	**-0.6**
GO03	**Copiapo**	**0.87**	**120**	*eP*	**Pn**	**14 04 24.4**	**-0.4**
GO03				IAML		14 04 38.3	
	comp=Z,2μm,0.1s						
AC04	**Llanos de Chal**	**1.04**	**180**		**Pn**	**14 04 27.2**	**+0.1**
AC04	**Llanos de Chal**	**1.04**	**180**	*eP*	Pn	14 04 32.1	+5.0
AC04				IAML		14 04 42.3	
	comp=E,4μm,0.2s						
AC04	**Llanos de Chal**	**1.04**	**180**	⇑*eP*	**Pn**	**14 04 27.2**	**+0.1**
AC04				*eS*	**Sn**	**14 04 39.7**	**-0.8**
AC04				IAML		14 04 42.3	
	comp=E,4μm,0.2s						
AC04	**Llanos de Chal**	**1.04**	**180**	*eP*	**Pn**	**14 04 26.5**	**-0.6**
AC04				IAML		14 04 46.2	
	comp=Z,785nm,0.4s						
AC01	**Pan de Azucar**	**1.09**	**23**		**Pn**	**14 04 29.4**	**+1.7**
AC01	**Pan de Azucar**	**1.09**	**23**	⇑*iP*	**Pn**	**14 04 29.4**	**+1.7**
AC01				*eS*	**Sn**	**14 04 42.3**	**+0.5**
AC01				IAML		14 04 42.9	
	comp=N,2μm,0.5s						
AC01	**Pan de Azucar**	**1.09**	**23**	*eP*	Pn	14 04 34.1	+6.4
AC01	**Pan de Azucar**	**1.09**	**23**	*eP*	**Pn**	**14 04 24.0**	**-3.8**
AC01				*eS*	**Sn**	**14 04 42.6**	**+0.8**
AC01				IAML		14 04 42.8	
	comp=Z,894nm,0.4s						
AC02	**Maricunga**	**1.77**	**80**		**Pn**	**14 04 37.9**	**+0.4**
AC02	**Maricunga**	**1.77**	**80**	⇓*iP*	**Pn**	**14 04 38.1**	**+0.6**
AC02				*eS*	**Sn**	**14 04 58.1**	**-1.0**
AC02				IAML		14 05 00.0	
	comp=N,3μm,0.1s						
AC02	**Maricunga**	**1.77**	**80**	*eP*	Pn	14 04 42.8	+5.3
AC02	**Maricunga**	**1.77**	**80**	*eP*	**Pn**	**14 04 37.9**	**+0.4**
AC02				*eS*	**Sn**	**14 04 58.6**	**-0.5**
AC02				IAML		14 05 00.3	
	comp=Z,780nm,0.2s						
LCO	**Las Campanas**	**1.88**	**170**		**Pn**	**14 04 38.5**	**-0.3**
LCO	**Las Campanas**	**1.88**	**170**	*eP*	Pn	14 04 44.0	+5.2
LCO	**Las Campanas**	**1.88**	**170**	*eP*	**Pn**	**14 04 38.5**	**-0.3**
LCO	**Las Campanas**	**1.88**	**170**	*eP*	**Pn**	**14 04 38.5**	**-0.3**
LCO				IAML		14 05 09.4	
	comp=Z,855nm,0.3s						
GO02	**Mina Guanaco**	**2.40**	**34**		**Pn**	**14 04 47.0**	**+1.1**
GO02	**Mina Guanaco**	**2.40**	**34**	*eP*	**Pn**	**14 04 47.1**	**+1.3**
GO02				*eS*	**Sn**	**14 05 15.7**	**+1.5**
GO02				IAML		14 05 19.7	
	comp=N,525nm,0.2s						
GO02	**Mina Guanaco**	**2.40**	**34**	*eP*	Pn	14 04 54.5	+8.6
GO02	**Mina Guanaco**	**2.40**	**34**	*eP*	**Pn**	**14 04 47.2**	**+1.3**
GO02				IAML		14 05 37.3	
	comp=Z,334nm,0.4s						
PB14	**IPOC Station P**	**2.59**	**14**		**Pn**	**14 04 49.4**	**+0.7**
PB14	**IPOC Station P**	**2.59**	**14**	*eP*	**Pn**	**14 04 49.4**	**+0.7**
PB14	**IPOC Station P**	**2.59**	**14**	*eP*	Pn	14 04 58.2	+10
PB14	**IPOC Station P**	**2.59**	**14**	*eP*	**Pn**	**14 04 49.0**	**+0.4**
PB14				*eS*	**Sn**	**14 05 20.1**	**+1.0**
PB14				IAML		14 05 22.1	
	comp=Z,146nm,0.5s						
VCA	**Vinchina**	**2.99**	**122**	*eP*	**Pn**	**14 04 56.7**	**+2.8**
VCA				*eS*	**Sn**	**14 05 32.8**	**+4.1**
VCA				IAML		14 05 33.6	
	comp=Z,254nm,0.3s						
GO04	**Tololo Observa**	**3.02**	**175**		**Pn**	**14 04 53.1**	**-1.2**
GO04	**Tololo Observa**	**3.02**	**175**	*eP*	Pn	14 04 59.3	+4.9
GO04	**Tololo Observa**	**3.02**	**175**	*eP*	**Pn**	**14 04 53.2**	**-1.2**
GO04	**Tololo Observa**	**3.02**	**175**	*eS*	**Sn**	**14 05 36.7**	**+7.3**
GO04				IAML		14 05 46.9	
	comp=Z,402nm,0.4s						
AGUA	**GUANDACOL**	**3.26**	**136**	*eP*	**Pn**	**14 05 00.3**	**+2.8**
AGUA				IAML		14 05 56.6	
	comp=Z,125nm,0.5s						
AROD	**Rodeo**	**3.32**	**155**	*eP*	**Pn**	**14 05 00.8**	**+2.2**
AROD				*eS*	Sn	14 05 50.3	+13
ACDV	**Cuesta del Vie**	**3.46**	**151**	*eP*	Pn	14 05 07.7	+7.3
ACDV				IAML		14 06 04.7	
	comp=Z,64nm,0.5s						
CO06	**Fray Jorge**	**3.54**	**188**	*eP*	Pn	14 05 07.4	+6.1
PB10	**IPOC Station P**	**3.66**	**8**	Pn	**Pn**	**14 05 03.2**	**+0.2**
PB10	**IPOC Station P**	**3.66**	**8**	*eP*	**Pn**	**14 05 02.9**	**-0.1**
CO03	**El Pedregal**	**3.69**	**175**		**Pn**	**14 05 03.1**	**-0.3**
CO03	**El Pedregal**	**3.69**	**175**	*eP*	**Pn**	**14 05 04.1**	**+0.7**
CO03				*eS*	**Sn**	**14 05 46.0**	**+0.3**
CO03				IAML		14 06 04.0	
	comp=Z,168nm,0.3s						
ACCO	**Cerro Coronel**	**3.85**	**153**	*eP*	**Pn**	**14 05 07.9**	**+2.0**
ACCO				*eS*	**Sn**	**14 05 53.7**	**+3.6**
AANI	**Anillaco**	**4.02**	**115**	*eS*	**Sn**	**14 05 54.1**	**+0.1**
AANI				IAML		14 05 55.1	
	comp=Z,345nm,0.9s						
CO02	**Combarbal**	**4.03**	**179**	*eP*	**Pn**	**14 05 07.7**	**-0.5**
CO02				*eS*	Sn	14 06 13.0	+19
CO02				IAML		14 06 21.3	
	comp=Z,187nm,0.4s						
ACLC	**CERRO LA CRUZ**	**4.29**	**123**	*eP*	**Pn**	**14 05 12.8**	**+1.1**
ACLC				*eS*	**Sn**	**14 06 01.3**	**+0.7**
ACLC				IAML		14 06 01.6	
	comp=Z,43nm,0.7s						
PB06	**IPOC Station P**	**4.64**	**18**	*eP*	**Pn**	**14 05 16.5**	**-0.1**
PB06	**IPOC Station P**	**4.64**	**18**	*eP*	**Pn**	**14 05 16.6**	**0.0**
PB06				*eS*	**Sn**	**14 06 09.6**	**+0.3**
PB06				IAML		14 06 58.6	
	comp=Z,58nm,0.7s						
RTLS	**Leoncito**	**4.88**	**162**	*eP*	**Pn**	**14 05 21.8**	**+1.8**
RTLS				*eS*	**Sn**	**14 06 16.9**	**+1.5**
RTLS				IAML		14 06 46.1	
	comp=Z,137nm,0.7s						
CFA	**Coronel Fontan**	**5.08**	**151**	*eP*	**Pn**	**14 05 23.6**	**+1.0**
CFA				*eS*	**Sn**	**14 06 19.6**	**-0.4**
APLL	**PUNTA DE LOS L**	**5.14**	**130**	*eP*	**Pn**	**14 05 23.7**	**+0.3**
APLL				*eS*	**Sn**	**14 06 19.1**	**-2.3**
PB03	**IPOC Station P**	**5.23**	**14**	*eP*	**Pn**	**14 05 27.8**	**+3.2**
PB03				*eS*	**Sn**	**14 06 23.4**	**-0.4**
PB03				IAML		14 07 05.1	
	comp=Z,42nm,0.4s						
PB09	**IPOC Station P**	**5.59**	**18**	Pn	**Pn**	**14 05 30.2**	**+0.5**
PB02	**IPOC Station P**	**5.91**	**11**	Pn	**Pn**	**14 05 33.5**	**-0.5**
PB01	**IPOC Station P**	**6.26**	**14**	Pn	**Pn**	**14 05 37.5**	**-1.3**
PB11	**IPOC Station P**	**7.48**	**10**	Pn	**Pn**	**14 05 56.0**	**+0.4**
LR05	**Currie**	**13.06**	**183**	Pn	**Pn**	**14 07 11.8**	**0.0**
BELA	**Belgrano 2**	**53.47**	**171**	P	**P**	**14 13 23.6**	**-0.6**
BELA				IAmb	IAmb	14 13 49.2	
	comp=Z,3.1nm,1.5s						
SNAA	**Sanae**	**57.65**	**160**	P	**P**	**14 13 52.8**	**-1.5**
SNAA				IAmb	IAmb	14 14 20.7	
	comp=Z,3.5nm,1.2s						

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*IDC **08** 14:13:32.8±1.8,6.°89S×129.°57E,h0km,mb3.7/3,*
mbtmp3.9/6,ML4.2/3,Error ellipse: s-maj=71.8km
s-min=24.7km az=74.0
*NEIC **08** 14:13:47.8±1.5,7.°39S±0.°07×129.°50E±0.°08,h133km±14km,*
mb4.1/4,Error ellipse: s-maj=13.2km s-min=8.3km
az=51.0
ISC 08 14:13:48.0±0.8,7.°56S±0.°07×129.°49E±0.°08,h150km,n19,
σ2°05/24,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**103**	Pn	**Pn**	**14 14 21.2**	**-0.2**
SAUI				Sn	**Sn**	**14 14 45.2**	**-1.8**
MTN	**Manton Dam**	**5.50**	**163**		**Pn**	**14 15 09.8**	**+1.7**
MTN				Sn	**Sn**	**14 16 13.3**	**+2.6**
SOEI	**Soe**	**5.60**	**247**	Pn	**Pn**	**14 15 10.2**	**+0.6**
KNRA	**Kununurra**	**8.10**	**185**		**Pn**	**14 15 44.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.13**	**199**	Pn	**Pn**	**14 16 22.6**	**-0.3**
	2.4nm,0.3s,baz=24,slow=15,SNR=79						
FITZ				Sn	**Sn**	**14 18 21.6**	**-4.4**
	0.6nm,0.3s,baz=85,slow=18,SNR=2.5						
	4.9nm,0.3s						
WB0	**Warramunga Arr**	**13.04**	**159**		**Pn**	**14 16 47.7**	**-0.1**
WRA	**Warramunga Arr**	**13.18**	**160**	Pn	**Pn**	**14 16 51.0**	**+1.4**
WRA	**Warramunga Arr**	**13.18**	**160**	Pn	**Pn**	**14 16 49.2**	**-0.4**
	1.1nm,0.3s,baz=339,slow=13,SNR=25						
WRA				Sn	**Sn**	**14 19 11.7**	**-3.9**
	1.3nm,0.3s,baz=322,slow=26,SNR=9.1						
	1.2nm,0.3s						
WR8	**Warramunga Arr**	**13.25**	**159**		**Pn**	**14 16 51.0**	**+0.4**
COEN	**Coen**	**14.87**	**116**	P	**P**	**14 17 13.9**	**+1.0**
AS31	**Alice Springs**	**16.57**	**166**		**Pn**	**14 17 34.2**	**+2.3**
ASAR	**Alice Springs**	**16.57**	**166**		**Pn**	**14 17 34.4**	**+2.6**
ASAR	**Alice Springs**	**16.57**	**166**	P	**Pn**	**14 17 34.8**	**+2.9**
	0.5nm,0.3s,baz=340,slow=10,SNR=42						
ASAR				S	**S**	**14 20 35.3**	**-0.8**
	1.1nm,0.6s,baz=344,slow=24,SNR=7.0						
	1.5nm,0.6s						
PSA00	**Pilbara Seismi**	**16.76**	**213**		**Pn**	**14 17 36.7**	**+2.6**
PSA00				IAmb	IAmb	14 17 39.0	
	comp=Z,5.3nm,0.8s						
PMG	**Port Moresby**	**17.58**	**97**	P	**P**	**14 17 40.9**	**-1.9**
PMG				IAmb	IAmb	14 17 47.0	
	comp=Z,22nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.70**	**311**	P	**P**	**14 21 04.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=116,slow=8.9,SNR=1.2						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**	**14 24 33.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=116,slow=8.3,SNR=4.9						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.72**	**329**	P	**P**	**14 24 59.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=129,slow=5.0,SNR=6.3						
	comp=Z,0.4nm,0.5s						
L16K	**Owhat River**	**87.79**	**27**	P	**P**	**14 26 20.8**	**+0.9**

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*KRNET **08** 14:21:49.5±0.1,39.°72N×76.°87E,mb3.6*
*SOME **08** 14:21:49.0,39.°85N×77.°10E,h10km*
*NNC **08** 14:21:52.0±0.8,39.°97N×77.°13E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=5.9km s-min=4.4km az=162.0
ISC 08 14:21:48.1±2.5,39.°65N±0.°08×77.°15E±0.°05,h2km±17km,
n63,σ1°53/93,40C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.81**	**321**	⇑*iP*	**Pn**	**14 22 19.7**	**-1.0**
JNKS				⇑*iS*	**Sn**	**14 22 41.9**	**-2.5**
KDJ	**Kajisay**	**2.48**	**1**	⇑*eP*	**Pb**	**14 22 32.1**	**-1.5**
KDJ				⇑*eS*	**Sb**	**14 23 03.1**	**-1.5**
ULHL	**Ulahol**	**2.68**	**345**	P	**Pb**	**14 22 34.7**	**-2.4**
	SNR=18						
ULHL	**Ulahol**	**2.68**	**345**	⇑*iP*	**Pn**	**14 22 34.4**	**+1.8**
ULHL				⇑*iS*	**Sn**	**14 23 07.1**	**+1.3**
SALK	**Salom-Alik**	**2.83**	**297**	⇓*eP*	**Pn**	**14 22 35.0**	**+0.4**
SALK				⇓*eS*	**Sn**	**14 23 08.2**	**-1.1**
SFK	**Sufi-Kurgan**	**2.83**	**279**	⇑*iP*	**Pn**	**14 22 35.0**	**+0.4**
SFK				⇑*iS*	**Sn**	**14 23 08.2**	**-1.3**
BOOM	**Boomskoye usch**	**2.98**	**343**	⇑*iP*	**Pn**	**14 22 38.4**	**+1.7**
BOOM				⇑*iS*	**Sn**	**14 23 14.0**	**+0.9**
PRZ	**Przheval'sk**	**2.99**	**18**	⇑*eP*	**Pb**	**14 22 40.4**	**-1.8**
PRZ				⇑*eS*	**Sb**	**14 23 17.5**	**-1.7**
UCH	**Uchtor**	**3.26**	**323**	P	**Pn**	**14 22 42.7**	**+2.0**
	SNR=13						
UCH	**Uchtor**	**3.26**	**323**	⇑*iP*	**Pn**	**14 22 41.7**	**+1.0**
UCH				⇑*iS*	**Sn**	**14 23 19.6**	**-0.7**
TNSS	**Tian-Shan**	**3.39**	**358**	Pg	**Pb**	**14 22 47.9**	**-1.3**
	4.0nm,0.3s						
TNSS				Lg	Lg	14 23 30.5	
	30nm,0.3s						
TNSS	**Tian-Shan**	**3.39**	**358**	*eP*	**Pb**	**14 22 47.9**	**-1.3**
	4.0nm,0.3s						
TNSS				*eS*	**Sb**	**14 23 30.5**	**-0.5**
	30nm,0.3s						
KBK	**Karagaybulak**	**3.43**	**332**	P	**Pb**	**14 22 49.6**	**-0.2**
	SNR=7.5						
KBK	**Karagaybulak**	**3.43**	**332**	⇑*iP*	**Pn**	**14 22 44.2**	**+1.3**
KBK				⇑*iS*	**Sn**	**14 23 23.9**	**-0.4**
OHH	**Osh**	**3.46**	**286**	⇓*iP*	**Pn**	**14 22 43.7**	**+0.6**
OHH				⇓*iS*	**Sn**	**14 23 22.8**	**-2.0**
TKM2	**Tokmak 2**	**3.47**	**341**	P	**Pn**	**14 22 46.3**	**+2.8**
	SNR=5.8						
TKM2	**Tokmak 2**	**3.47**	**341**	⇑*iP*	**Pn**	**14 22 45.0**	**+1.6**
TKM2				⇑*iS*	**Sn**	**14 23 25.8**	**+0.5**
KST	**Kastek**	**3.51**	**346**	Pg	**Pb**	**14 22 50.2**	**-0.8**
	5.4nm,0.3s						
KST				Lg	Lg	14 23 34.6	
	53nm,0.4s						
KST	**Kastek**	**3.51**	**346**	*eP*	**Pb**	**14 22 50.2**	**-0.8**
	5.4nm,0.3s						
KST				*eS*	**Sb**	**14 23 34.6**	**+0.4**
	53nm,0.4s						
MDOK	**Medeo**	**3.51**	**359**	Pg	**Pb**	**14 22 50.3**	**-0.9**
	3.8nm,0.2s						
MDOK				Lg	Lg	14 23 34.3	
	147nm,0.8s						
MTBS	**Maitube**	**3.52**	**351**	Pg	**Pb**	**14 22 50.3**	**-1.0**
	3.1nm,0.1s						
MTBS				Lg	Lg	14 23 34.3	
	71nm,0.6s						
MTBS	**Maitube**	**3.52**	**351**	*eP*	**Pb**	**14 22 50.3**	**-1.0**
	3.1nm,0.1s						
MTBS				*eS*	**Sb**	**14 23 34.3**	**-0.2**
	71nm,0.6s						
SATY	**Saty**	**3.54**	**15**	Pg	**Pb**	**14 22 50.7**	**-0.8**
	24nm,0.3s						
SATY				Lg	Lg	14 23 35.3	
	66nm,0.5s						
KNDC	**Almaty**	**3.57**	**358**	⇓Lg	Lg	14 23 34.2	
	526nm,0.7s						
KOTS	**Kotyrbulak**	**3.58**	**360**	Pg	**Pb**	**14 22 51.8**	**-0.5**
	8.6nm,0.2s						
KOTS				Lg	Lg	14 23 37.5	
	291nm,0.8s						
KOTS	**Kotyrbulak**	**3.58**	**360**	*eP*	**Pb**	**14 22 51.8**	**-0.5**
	8.6nm,0.2s						
KOTS				*eS*	**Sb**	**14 23 37.5**	**+1.1**
	291nm,0.8s						
ARSB	**Arslanbob**	**3.59**	**299**	⇑*eP*	**Pn**	**14 22 45.4**	**+0.4**
ARSB				⇑*eS*	**Sn**	**14 23 26.9**	**-1.2**
AAK	**Ala-Archa**	**3.60**	**327**	P	**Pn**	**14 22 47.4**	**+2.3**
	SNR=7.2						
AAK	**Ala-Archa**	**3.60**	**327**	⇑Pn	**Pn**	**14 22 47.0**	**+1.9**
	12nm,0.9s						
AAK				⇑Lg	Lg	14 23 36.5	
	9.2nm,0.5s						
AAK	**Ala-Archa**	**3.60**	**327**	⇑*iP*	**Pn**	**14 22 46.3**	**+1.2**
AAK				⇑*iS*	**Sn**	**14 23 27.7**	**-0.6**
FRU1	**Bishkek**	**3.69**	**330**	⇑*iP*	**Pn**	**14 22 47.8**	**+1.6**
FRU1				⇑*iS*	**Sn**	**14 23 30.3**	**0.0**
UZB	**Uzynbulak**	**3.77**	**21**	Pg	**Pb**	**14 22 55.0**	**-0.5**
	14nm,0.3s						
UZB				Lg	Lg	14 23 42.9	
	22nm,0.7s						
UZB	**Uzynbulak**	**3.77**	**21**	*eP*	**Pb**	**14 22 55.0**	**-0.5**
	14nm,0.3s						
UZB				*eS*	**Sb**	**14 23 42.9**	**+1.2**
	22nm,0.7s						
CHMS	**Chumysh**	**3.80**	**332**	P	**Pn**	**14 22 46.0**	**-1.8**
	SNR=6.6						
CHMS	**Chumysh**	**3.80**	**332**	⇑*iP*	**Pn**	**14 22 49.2**	**+1.4**
CHMS				⇑*iS*	**Sn**	**14 23 32.7**	**-0.5**
KURS	**Kuram**	**3.91**	**11**	Pg	**Pb**	**14 22 58.2**	**+0.2**
	9.3nm,0.3s						
KURS				Lg	Lg	14 23 47.7	
	31nm,0.7s						
SHLS	**Shalkode**	**3.91**	**26**	Pg	**Pb**	**14 23 00.2**	**+2.2**
	41nm,0.8s						
SHLS				Lg	Lg	14 23 51.7	
	67nm,0.5s						
SHLS	**Shalkode**	**3.91**	**26**	*eP*	**Pb**	**14 23 00.2**	**+2.2**
	41nm,0.8s						
SHLS				*eS*	**Sg**	**14 23 51.7**	**-2.2**
	67nm,0.5s						
EKS2	**Erkin-Say**	**3.94**	**321**	P	**Pn**	**14 22 52.6**	**+2.8**
	SNR=12						
EKS2	**Erkin-Say**	**3.94**	**321**	⇑*iP*	**Pn**	**14 22 50.8**	**+1.0**
EKS2				⇑*iS*	**Sn**	**14 23 35.3**	**-1.4**
KPKS	**Kokpek**	**3.98**	**16**	Pg	**Pb**	**14 22 58.9**	**-0.3**
	0.2nm,0.2s						
KPKS				Lg	Lg	14 23 49.0	
	42nm,0.3s						
PDGK	**Podgornoye**	**4.08**	**25**	⇑Pn	**Pn**	**14 22 51.8**	**+0.2**
	1.7nm,0.4s						
PDGK				⇑Pg	**Pb**	**14 23 00.0**	**-0.7**
	15nm,0.5s						
PDGK				⇑Sn	**Sn**	**14 23 38.4**	**-1.7**
	30nm,0.7s						
PDGK				⇑Lg	Lg	14 23 51.9	
	34nm,0.7s						
USP	**Ospenovka**	**4.13**	**332**	P	**Pn**	**14 22 54.5**	**+2.2**
	SNR=5.4						
USP	**Ospenovka**	**4.13**	**332**	⇑*iP*	**Pn**	**14 22 53.7**	**+1.4**
USP				⇑*iS*	**Sn**	**14 23 40.2**	**-1.0**
DRK	**Karamyk**	**4.14**	**269**	⇑*eP*	**Pn**	**14 22 53.0**	**+0.3**
DRK				⇑*eS*	**Sn**	**14 23 39.2**	**-2.6**
CHKK	**Chushkaly**	**4.20**	**358**	Pg	**Pb**	**14 23 02.4**	**-0.4**
	2.2nm,0.1s						
CHKK				Lg	Lg	14 23 55.4	
	66nm,0.3s						
CHKK	**Chushkaly**	**4.20**	**358**	*eP*	**Pb**	**14 23 02.4**	**-0.4**
	2.2nm,0.1s						
CHKK				*eS*	**Sb**	**14 23 55.5**	**+1.4**
	66nm,0.3s						
SGDS	**Sogindy**	**4.24**	**334**	Pg	**Pb**	**14 23 03.1**	**-0.5**
	2.5nm,0.3s						
SGDS				Lg	Lg	14 23 56.6	
	18nm,0.6s						
MRKS	**Merke**	**4.28**	**318**	Pg	**Pb**	**14 23 04.5**	**+0.3**
	10nm,0.6s						
MRKS				Lg	Lg	14 23 58.7	
	16nm,0.4s						
MRKS	**Merke**	**4.28**	**318**	*eP*	**Pb**	**14 23 04.5**	**+0.3**
	10nm,0.6s						
MRKS				*eS*	**Sb**	**14 23 58.7**	**+2.3**
	16nm,0.4s						
KUU	**Kurty**	**4.28**	**352**	Pg	**Pb**	**14 23 02.9**	**-1.3**
	2.8nm,0.0s						
KUU				Lg	Lg	14 23 55.9	
	58nm,0.4s						
KUU	**Kurty**	**4.28**	**352**	*eP*	**Pb**	**14 23 02.9**	**-1.3**
	2.8nm,0.0s						
KUU				*eS*	**Sb**	**14 23 55.9**	**-0.5**
	58nm,0.4s						
ARK	**Arkit**	**4.49**	**300**	⇓*iP*	**Pn**	**14 22 57.9**	**+0.6**
ARK				⇓*iS*	**Sn**	**14 23 47.7**	**-2.4**
ARXS	**Arharly**	**4.59**	**6**	Pg	**Pb**	**14 23 09.3**	**-0.2**
	11nm,0.4s						
ARXS				Lg	Lg	14 24 06.9	
	122nm,0.3s						
ARXS	**Arharly**	**4.59**	**6**	*eP*	**Pb**	**14 23 09.3**	**-0.2**
ARXS				*eS*	**Sb**	**14 24 06.9**	**+1.7**
KNOS	**Konyrlen**	**4.94**	**17**	Pg	**Pb**	**14 23 16.2**	**+0.7**
	3.7nm,0.3s						
KNOS				Lg	Lg	14 24 19.0	
	16nm,0.6s						
TRKS	**Terek-Say**	**4.95**	**294**	⇓*eP*	**Pn**	**14 23 03.6**	**0.0**
TRKS				⇓*iS*	**Sn**	**14 23 57.6**	**-3.9**
TDK	**Taldyqorghan**	**5.43**	**9**	Pg	**Pb**	**14 23 24.6**	**+0.9**

H11S2	**WAKE ISLAND Hy**	21.59	75	T	T	14 52 22.8
	baz=268					
JMN	**Monobe**	21.96	335	P	**P**	**14 30 29.1 -0.6**
H11N1	**WAKE ISLAND Hy**	21.97	72	T	T	14 54 13.1
	baz=257,slow=75,SNR=4.5					
H11N2	**WAKE ISLAND Hy**	21.98	72	T	T	14 54 18.5
	baz=257,slow=75,SNR=3.2					
H11N3	**WAKE ISLAND Hy**	21.99	72	T	T	14 54 02.4
	baz=257,slow=75,SNR=3.9					
INU	**Inuyama**	22.35	343		**P**	**14 30 33.5 +0.2**
JGF	**Kuroka**	22.50	344		**P**	**14 30 34.5 -0.2**
JGF				IAmb	IAmb	14 30 37.3
	comp=Z,16nm,0.7s					
JGF	**Kuroka**	22.50	344	P	**P**	**14 30 35.2 +0.5**
JNU	**Nakatsue**	22.82	329		**P**	**14 30 37.9 +0.3**
JNU				IAmb	IAmb	14 30 39.3
	comp=Z,23nm,0.9s					
JNU	**Nakatsue**	22.82	329	LR	LR	14 38 33.9
	comp=Z,59nm,20.0s,baz=338,slow=34					
JNU	**Nakatsue**	22.82	329	P	**P**	**14 30 38.3 +0.7**
MJAR	**Matsushiro Arr**	23.18	347	P	**P**	**14 30 39.4 -1.4**
	comp=Z,10nm,0.8s,baz=172,slow=11,SNR=19					
	comp=Z,10nm,0.8s					
MAJO	**Matsushiro**	23.18	347	P	**P**	**14 30 39.9 -0.9**
MAJO	**Matsushiro**	23.18	347	P	**P**	**14 30 41.0 +0.2**
PMG	**Port Moresby**	23.39	174		**P**	**14 30 42.5 -0.3**
PMG	**Port Moresby**	23.39	174	P	**P**	**14 30 41.9 -0.9**
	comp=Z,44nm,0.7s,baz=34,slow=6.3,SNR=14					
	comp=Z,44nm,0.7s					
PMG	**Port Moresby**	23.39	174	P	**P**	**14 30 42.9 +0.1**
PMG	**Port Moresby**	23.39	174	P	**P**	**14 30 43.0 +0.1**
JMM	**Marumori**	24.02	352	P	**P**	**14 30 49.4 +1.0**
JMM	**Marumori**	24.02	352	P	**P**	**14 30 49.6 +1.2**
YULB	**Yu-li**	24.02	296	P	**P**	**14 30 49.0 +0.4**
SSLB	**Suanglung**	24.45	297	P	**P**	**14 30 52.1 -0.4**
SSLB				IAmb	IAmb	14 31 05.1
	comp=Z,19nm,0.9s					
SSLB	**Suanglung**	24.45	297	P	**P**	**14 30 52.6 +0.1**
TATA	**Tatamba Isabel**	26.82	145	P	**P**	**14 31 14.3 +0.4**
SAVO	**Savo Central**	27.46	146	P	**P**	**14 31 19.5 0.0**
ALEG	**Aligegeo Malai**	27.62	144	P	**P**	**14 31 21.3 +0.3**
KSRS	**Korea Array**	27.73	330	P	**P**	**14 31 21.4 -0.3**
	comp=Z,3.1nm,0.8s,baz=152,slow=8.9,SNR=9.4					
	comp=Z,3.1nm,0.8s					
COEN	**Coen**	27.82	183	P	**P**	**14 31 22.8 0.0**
COEN				IAmb	IAmb	14 31 23.8
	comp=Z,11nm,0.8s					
COEN	**Coen**	27.82	183	P	**P**	**14 31 23.1 +0.4**
NJ2	**Nanjing**	29.68	312	*e*P	**P**	**14 31 40.6 +1.6**
NJ2				pmax	pmax	
	comp=Z,13nm,0.5s					
MTN	**Manton Dam**	29.87	207	P	**P**	**14 31 40.0 -0.9**
MTN				IAmb	IAmb	14 31 41.8
	comp=Z,6.3nm,0.7s					
MTSU	**Mount Surprise**	31.94	181	P	**P**	**14 32 00.3 +1.3**
TV1H	**Townsville Har**	33.12	176	P	**P**	**14 32 10.2 +1.0**
KNRA	**Kununurra**	33.44	209		**P**	**14 32 11.4 -0.6**
KNRA				IAmb	IAmb	14 32 13.2
	comp=Z,10nm,0.8s					
CTAO	**Charters Tower**	33.91	177		**P**	**14 32 16.3 +0.2**
CTAO	**Charters Tower**	33.91	177	P	**P**	**14 32 16.2 +0.1**
CN2	**Changchun**	33.97	335	P	**P**	**14 32 16.0 -0.3**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
QIS	**Mount Isa**	34.71	188	P	**P**	**14 32 23.3 +0.4**
WRAB	**Tennant Creek**	35.23	197	P	**P**	**14 32 26.9 -0.5**
WRA	**Warramunga Arr**	35.24	197	P	**P**	**14 32 26.9 -0.6**
	comp=Z,5.3nm,0.7s,baz=15,slow=9.4,SNR=27					
WRA				PcP	**PcP**	**14 34 54.6 +0.8**
	comp=Z,2.8nm,0.7s,baz=12,slow=3.3,SNR=8.1					
WRA				ScP	**ScP**	**14 38 22.3 +1.7**
	comp=Z,3.7nm,0.8s,baz=14,slow=3.9,SNR=15					
	comp=Z,5.3nm,0.7s					
HNS	**HongShan**	35.42	317	⇑P	**P**	**14 32 30.1 +1.3**
HNS				pmax	pmax	
	comp=Z,22nm,0.7s					
ENH	**Enshi**	36.23	302		**P**	**14 32 35.7 -0.2**
SANVU	**Saraoutou**	36.76	142	P	**P**	**14 32 41.0 +0.5**
SANVU	**Saraoutou**	36.76	142	P	**P**	**14 32 41.6 +1.2**
FITZ	**Fitzroy Crossi**	37.03	211		**P**	**14 32 42.1 -0.5**
FITZ	**Fitzroy Crossi**	37.03	211	P	**P**	**14 32 42.4 -0.2**
	comp=Z,14nm,0.8s,baz=30,slow=9.8,SNR=30					
FITZ				PcP	**PcP**	**14 34 59.6 +0.5**
	comp=Z,3.1nm,0.6s,baz=111,slow=1.4,SNR=4.1					
FITZ				ScP	**ScP**	**14 38 27.9 +0.7**
	comp=Z,1.4nm,0.5s,baz=352,slow=3.8,SNR=3.8					
	comp=Z,14nm,0.8s					
FITZ	**Fitzroy Crossi**	37.03	211	P	**P**	**14 32 42.4 -0.2**
GYA	**Guiyang**	37.64	295	⇑P	**P**	**14 32 49.5 +1.6**
GYA				pmax	pmax	
	comp=Z,19nm,0.8s					
XAN	**Xi'an**	38.01	308	⇓P	**P**	**14 32 51.0 +0.2**
XAN				pP	pP	14 33 32.5 +0.8
XAN				pmax	pmax	
	comp=Z,20nm,0.7s					
HEH	**HeiHe**	38.80	342	*e*P	**P**	**14 32 57.0 -0.1**
HEH				pmax	pmax	
	comp=Z,18nm,1.2s					
AS31	**Alice Springs**	38.90	196	P	**P**	**14 32 57.6 -0.7**
ASAR	**Alice Springs**	38.90	196	P	**P**	**14 32 57.6 -0.7**
	comp=Z,1.7nm,0.6s,baz=18,slow=12,SNR=39					
ASAR				PP	**PP**	**14 34 33.0 +1.1**
	comp=Z,2.7nm,1.0s,baz=27,slow=9.6,SNR=5.2					
ASAR				PcP	**PcP**	**14 35 05.2 +0.3**
	comp=Z,2.8nm,0.9s,baz=37,slow=2.7,SNR=7.4					
ASAR				ScP	**ScP**	**14 38 35.8 +1.5**
	comp=Z,1.1nm,0.6s,baz=19,slow=3.6,SNR=11					
	comp=Z,1.7nm,0.6s					
HHC	**Hu-ho-hao-te**	39.35	319	*e*P	**P**	**14 33 02.7 +0.7**
HHC				pmax	pmax	
	comp=Z,20nm,0.8s					
EIDS	**Eidsvold**	39.63	171	P	**P**	**14 33 04.5 +0.4**
EIDS				IAmb	IAmb	14 33 29.9
	comp=Z,29nm,1.5s					
UGM	**Wanagama**	40.31	239	P	**P**	**14 33 08.7 -1.4**
QLP	**Quilpie**	40.35	181	P	**P**	**14 33 09.8 -0.3**
PETK	**Petropavlovsk-**	40.35	12	PcP	**PcP**	**14 35 08.8 -0.3**
	comp=Z,4.2nm,0.9s,baz=213,slow=7.2,SNR=4.5					
CD2	**Chengdu**	41.14	301	P	**P**	**14 33 15.9 -0.8**
CD2				pmax	pmax	
	comp=Z,20nm,0.4s					
INKA	**Innaminka**	41.67	185	P	**P**	**14 33 20.3 -0.6**
DZM	**Mont Dzumac**	41.71	149	P	**P**	**14 33 23.0 +1.6**
DZM	**Mont Dzumac**	41.71	149	P	**P**	**14 33 23.3 +1.9**
ONTNC	**Ouen Toro**	41.92	149	P	**P**	**14 33 24.5 +1.6**
ONTNC				IAmb	IAmb	14 33 38.8
	comp=Z,30nm,1.1s					
YATNC	**Mamie plateau,**	41.93	148	P	**P**	**14 33 25.3 +2.2**
PZH	**PanZhiHua**	41.99	294	P	**P**	**14 33 24.5 +0.8**
MYKOM	**Kota Tinggi**	42.16	257	P	**P**	**14 33 24.7 -0.3**
LZH	**Lanzhou**	42.64	309	*e*P	**P**	**14 33 30.3 +1.4**
LZH				pmax	pmax	
	comp=Z,22nm,1.5s					
PINNC	**Pines Island,**	42.67	148	P	**P**	**14 33 30.3 +1.3**
PINNC	**Pines Island,**	42.67	148	P	**P**	**14 33 31.4 +2.4**
MBWA	**Marble Bar**	42.69	216	P	**P**	**14 33 28.6 -0.7**
LZDM	**Lanzhou Array**	42.70	308	P	**P**	**14 33 30.1 +0.4**
	comp=Z,4.4nm,0.4s,baz=153,slow=7.4,SNR=1.9					
	comp=Z,4.4nm,0.4s					
PSA00	**Pilbara Seismi**	42.96	215	P	**P**	**14 33 31.1 -0.2**
CMAR	**Chiang Mai Arr**	44.07	282		**P**	**14 33 39.3 -1.1**
CMAR	**Chiang Mai Arr**	44.07	282	P	**P**	**14 33 41.0 +0.6**
	comp=Z,3.1nm,0.8s,baz=87,slow=5.9,SNR=28					
CMAR				PcP	**PcP**	**14 35 22.8 +0.6**
	comp=Z,1.0nm,0.4s,baz=99,slow=2.1,SNR=4.6					
CMAR				ScP	**ScP**	**14 38 57.3 +2.2**
	comp=Z,1.6nm,0.3s,baz=88,slow=2.8,SNR=5.2					
	comp=Z,3.1nm,0.8s					
KULM	**Kulim**	44.22	263	P	**P**	**14 33 40.5 -1.1**
KULM				IAmb	IAmb	14 34 22.4
	comp=Z,19nm,1.2s					
KULM	**Kulim**	44.22	263	P	**P**	**14 33 42.7 +1.1**
ARMA	**Armidale**	44.67	171	P	**P**	**14 33 45.6 +0.6**
ARMA				IAmb	IAmb	14 33 46.7
	comp=Z,16nm,0.9s					
ARMA	**Armidale**	44.67	171	P	**P**	**14 33 45.6 +0.6**
CMSA	**Cobar Meteorol**	45.29	179	P	**P**	**14 33 50.0 +0.3**
MSVF	**Nonsavu**	45.57	133	P	**P**	**14 33 54.4 +2.1**
MSVF				IAmb	IAmb	14 33 55.0
	comp=Z,25nm,1.0s					
MSVF	**Nonsavu**	45.57	133	P	**P**	**14 33 54.3 +2.1**
STKA	**Stephens Creek**	45.72	184	P	**P**	**14 33 52.8 -0.3**
	comp=Z,7.7nm,0.5s,baz=6.4,slow=7.8,SNR=19					
	comp=Z,7.7nm,0.5s					
STKA	**Stephens Creek**	45.72	184	P	**P**	**14 33 52.9 -0.2**

SONM	**Songino Array**	46.30	325	P	**P**	**14 33 58.6 +1.0**
	comp=Z,1.5nm,0.6s,baz=137,slow=8.8,SNR=6.1					
SONM				ScP	**ScP**	**14 39 05.2 +1.3**
	comp=Z,1.5nm,0.7s,baz=151,slow=3.4,SNR=6.3					
	comp=Z,1.5nm,0.6s					
PSI	**Prapat**	46.54	260	P	**P**	**14 33 59.8 -0.2**
RPSI	**Rantau Prapat**	46.57	260	P	**P**	**14 33 59.4 -0.6**
GTA	**Gaotai**	46.78	311	P	**P**	**14 34 03.1 +1.6**
GTA				pP	pP	14 34 43.4 -0.6
GTA				ScP	**ScP**	**14 39 07.1 +1.0**
GTA				pmax	pmax	
	comp=Z,15nm,1.0s					
GTA				LR	LR	
	comp=Z,170nm,17.1s					
GTA				LR	LR	
	comp=Z,160nm,17.8s					
GTA				LR	LR	
	comp=Z,120nm,17.8s					
BBOO	**Buckleboo**	47.28	190	P	**P**	**14 34 05.0 -0.1**
BBOO				IAmb	IAmb	14 34 05.8
	comp=Z,14nm,0.7s					
BBOO	**Buckleboo**	47.28	190	P	**P**	**14 34 05.1 -0.1**
FORT	**Forrest**	47.32	200	P	**P**	**14 34 05.2 -0.3**
FORT				IAmb	IAmb	14 34 06.8
	comp=Z,13nm,0.8s					
CAN	**Canberra**	49.22	175	P	**P**	**14 34 21.2 +1.1**
CAN				IAmb	IAmb	14 34 52.6
	comp=Z,42nm,1.5s					
CAN	**Canberra**	49.22	175	P	**P**	**14 34 21.5 +1.4**
MILA	**Mila**	50.96	175	P	**P**	**14 34 34.2 +1.2**
MORW	**Morawa**	51.00	213	P	**P**	**14 34 32.2 -1.2**
MORW				IAmb	IAmb	14 34 33.2
	comp=Z,14nm,0.8s					
MORW	**Morawa**	51.00	213	P	**P**	**14 34 32.5 -0.9**
TOO	**Toolangi**	51.31	179	P	**P**	**14 34 36.6 +1.0**
TOO				IAmb	IAmb	14 34 38.3
	comp=Z,19nm,1.1s					
LSA	**Lhasa**	51.66	297	P	**P**	**14 34 38.9 -0.2**
BLDU	**Ballidu**	51.90	211	P	**P**	**14 34 39.2 -0.9**
MUN	**Mundaring**	53.26	210	P	**P**	**14 34 49.3 -0.7**
GLAD	**Gladstone**	54.79	177	P	**P**	**14 35 02.5 +1.6**
OUZ	**Omahuta**	56.10	152	P	P	14 35 12.9 +2.5
OUZ	**Omahuta**	56.10	152	P	**P**	**14 35 12.8 +2.5**
TAU	**Tasmania Unive**	56.68	178	P	**P**	**14 35 15.7 +1.4**
WMQ	**Urumqi**	56.73	313	*e*P	**P**	**14 35 17.0 +2.0**
WMQ				pmax	pmax	
	comp=Z,30nm,0.6s					
WCZ	**Waipu Caves**	57.04	151	P	**P**	**14 35 19.2 +2.3**
MKAZ	**Moumakai**	58.37	152	P	**P**	**14 35 26.4 +0.2**
TIXI	**Tiksi**	58.41	354	LR	LR	15 07 37.4
	comp=Z,15nm,19.0s,baz=12,slow=43					
TOZ	**Tahuroa Road**	59.03	152	IAmb	IAmb	14 35 33.4
	comp=Z,22nm,1.4s					
HAZ	**Te Kaha**	60.13	150	P	**P**	**14 35 39.3 +1.0**
URZ	**Urewera**	60.21	151	P	**P**	**14 35 39.2 +0.4**
	comp=Z,7.3nm,0.6s,baz=271,slow=2.8,SNR=12					
	comp=Z,7.3nm,0.6s					
URZ	**Urewera**	60.21	151	P	**P**	**14 35 39.3 +0.5**
URZ	**Urewera**	60.21	151	P	**P**	**14 35 39.2 +0.4**
COVZ	**Chateau Observ**	60.25	153	P	**P**	**14 35 40.9 +1.7**
TRVZ	**Turoa**	60.34	153	P	**P**	**14 35 41.0 +1.1**
QRZ	**Quartz Range**	60.34	156	P	**P**	**14 35 42.1 +2.4**
QRZ	**Quartz Range**	60.34	156	P	**P**	**14 35 40.7 +1.0**
RTZ	**Ruatahuna**	60.43	151	P	**P**	**14 35 40.7 +0.3**
RTZ	**Ruatahuna**	60.43	151	P	**P**	**14 35 40.8 +0.3**
MWZ	**Matawai**	60.47	151	P	**P**	**14 35 40.9 +0.3**
MOVZ	**Moawhango**	60.51	153	P	**P**	**14 35 41.8 +0.8**
MTHZ	**Maungataniwha**	60.56	152	P	**P**	**14 35 41.7 +0.5**
BKZ	**Black Stump Fm**	60.65	152	P	**P**	**14 35 42.0 +0.1**
BKZ				IAmb	IAmb	14 35 42.5
	comp=Z,10nm,0.8s					
BKZ	**Black Stump Fm**	60.65	152	P	**P**	**14 35 42.3 +0.4**
BKZ	**Black Stump Fm**	60.65	152	P	**P**	**14 35 42.0 +0.1**
SNGZ	**Shannon Statio**	60.73	151	P	**P**	**14 35 42.8 +0.4**
NMHZ	**Naumai**	60.74	152	P	**P**	**14 35 43.9 +1.4**
MKAR	**Makanchi Array**	61.08	316	P	**P**	**14 35 45.4 +0.6**
	comp=Z,4.3nm,0.6s,baz=92,slow=8.9,SNR=50					
MKAR				PKP2bc		15 05 09.1
	comp=Z,1.1nm,0.9s,baz=311,slow=2.8,SNR=5.9					
	comp=Z,4.3nm,0.6s					
PNHZ	**Pukenui**	61.13	153	P	**P**	**14 35 45.2 +0.2**
TSZ	**Takapari Road**	61.14	153	P	**P**	**14 35 45.1 0.0**
ZALV	**Zalesovo Beam**	61.19	324	P	**P**	**14 35 45.0 -0.2**
	comp=Z,0.7nm,0.5s,baz=89,slow=6.4,SNR=3.5					
ZALV				PKPPKP	**P'P'df**	**15 05 02.4 +3.0**
	comp=Z,0.6nm,0.5s,baz=307,slow=0.7,SNR=4.4					
	comp=Z,0.7nm,0.5s					
THZ	**Tophouse**	61.29	156	P	**P**	**14 35 46.7 +0.6**
MRZ	**Mangatainoka R**	61.47	154	P	**P**	**14 35 47.3 +0.1**
LTZ	**Lake Taylor**	61.92	157	P	**P**	**14 35 50.3 +0.1**
KHZ	**Kahutara**	62.09	156	P	**P**	**14 35 50.9 -0.4**
KHZ	**Kahutara**	62.09	156	P	**P**	**14 35 50.0 -1.3**
RPZ	**Rata Peaks**	62.28	159	P	**P**	**14 35 52.2 -0.4**
RPZ	**Rata Peaks**	62.28	159	P	**P**	**14 35 52.5 -0.2**
	comp=Z,26nm,0.8s,baz=0.1,slow=1.5,SNR=6.8					
	comp=Z,26nm,0.8s					
RPZ	**Rata Peaks**	62.28	159	P	**P**	**14 35 53.1 +0.4**
OXZ	**Oxford**	62.30	158	P	**P**	**14 35 52.3 -0.5**
GVZ	**Greta Valley S**	62.37	157	P	**P**	**14 35 53.5 +0.3**
MQZ	**McQueen's Vall**	62.86	158	P	**P**	**14 35 57.9 +1.5**
KURK	**Kurchatov**	64.16	320	P	**P**	**14 36 04.8 -0.2**
KURK				IAmb	IAmb	14 36 06.4
	comp=Z,15nm,1.1s					
KURBB	**Kurchatov Arra**	64.20	320	P	**P**	**14 36 05.3 +0.1**
	comp=Z,9.5nm,0.7s,baz=102,slow=6.8,SNR=73					
	comp=Z,9.5nm,0.7s					
NIL	**Nilore**	67.03	301		**P**	**14 36 23.8 +0.1**
ILAR	**Eielson Array**	68.26	25	P	**P**	**14 36 28.1 -2.6**
	comp=Z,0.6nm,0.4s,baz=253,slow=5.3,SNR=15					
	comp=Z,0.6nm,0.4s					
DOT	**Dot Lake**	69.23	27	P	**P**	**14 36 36.0 -0.8**
BVAR	**Borovoye Array**	69.50	322	P	**P**	**14 36 38.8 +0.1**
	comp=Z,7.6nm,0.6s,baz=102,slow=7.8,SNR=37					
	comp=Z,7.6nm,0.6s					
M29M	**Somme Creek**	71.60	29	P	**P**	**14 36 51.4 +0.2**
AB31	**Akbulak array**	76.13	318	P	**P**	**14 37 17.0 -0.6**
ABKAR	**Akbulak array**	76.13	318		**P**	**14 37 17.1 -0.6**
M03C	**McCloud**	83.25	49	IAmb	IAmb	14 37 58.1
	comp=Z,16nm,0.9s					
J05D	**Fort Rock, OR**	83.45	47	IAmb	IAmb	14 37 59.3
	comp=Z,5.8nm,0.8s					
MNRC	**McLaughlin Min**	83.54	52	IAmb	IAmb	14 38 00.9
	comp=Z,15nm,1.1s					
PINE	**Pine Mountain**	83.55	47	IAmb	IAmb	14 37 59.9
	comp=Z,18nm,1.3s					
MHC	**Mount Hamilton**	84.50	53	IAmb	IAmb	14 38 04.6
	comp=Z,7.8nm,1.1s					
BEKR	**Beckworth**	84.88	50	IAmb	IAmb	14 38 06.0
	comp=Z,6.5nm,0.8s					
NEW	**Newport**	85.03	42	IAmb	IAmb	14 38 07.0
	comp=Z,9.3nm,0.9s					
PKD	**Bear Valley Ra**	85.69	54	IAmb	IAmb	14 38 10.5
	comp=Z,11nm,0.8s					
BMO	**Blue Mountains**	85.81	45	IAmb	IAmb	14 38 10.6
	comp=Z,9.5nm,1.1s					
ARCES	**ARCESS Array B**	86.64	342	P	**P**	**14 38 12.8 +0.4**
	comp=Z,1.3nm,0.7s,baz=69,slow=7.9,SNR=6.1					
	comp=Z,1.3nm,0.7s					
LHV	**Little Huntoon**	86.68	52	IAmb	IAmb	14 38 15.7
	comp=Z,9.2nm,1.3s					
NVAR	**Mina Array Bea**	86.79	51		**P**	**14 38 14.3 +0.2**
NVAR	**Mina Array Bea**	86.79	51	P	**P**	**14 38 14.8 +0.7**
	comp=Z,3.9nm,0.6s,baz=267,slow=5.8,SNR=27					
	comp=Z,3.9nm,0.6s					
MFID	**Camas Ranch**	87.23	46	IAmb	IAmb	14 38 17.7
	comp=Z,12nm,0.9s					
TPH	**Tonopah**	87.70	51	IAmb	IAmb	14 38 20.2
	comp=Z,9.3nm,0.9s					
GMN	**Gold Mountain**	87.89	52	IAmb	IAmb	14 38 21.1
	comp=Z,5.2nm,0.8s					
CLC	**China Lake**	88.03	54	IAmb	IAmb	14 38 21.6
	comp=Z,4.7nm,0.8s					
MPMC	**Maual Prospec**	88.05	53	IAmb	IAmb	14 38 21.9
	comp=Z,7.8nm,0.9s					
LRMC	**Laurel Mtn Rad**	88.05	54	IAmb	IAmb	14 38 21.9
	comp=Z,6.5nm,0.7s					
WSHM	**Spangler Hills**	88.17	54	IAmb	IAmb	14 38 22.2
	comp=Z,4.5nm,0.8s					
HLID	**Hailey**	88.17	46	IAmb	IAmb	14 38 22.4
	comp=Z,6.5nm,0.9s					
ELK	**Elko**	88.42	48	IAmb	IAmb	14 38 23.7
	comp=Z,9.5nm,0.8s					
ELK	**Elko**	88.42	48	LR	LR	15 16 25.9
	comp=Z,52nm,18.8s,baz=22,slow=34					
QSM	**Queen of Sheba**	88.56	53	IAmb	IAmb	14 38 24.1
	comp=Z,7.7nm,0.8s					

GSC	**Goldstone, Bar**	88.79	54	IAmb	IAmb	14 38 25.3
	comp=Z,8.4nm,0.8s					
S11A	**Rachel**	88.94	52	IAmb	IAmb	14 38 26.7
	comp=Z,8.4nm,0.9s					
PFO	**Pinyon Flats O**	89.54	56	P	**P**	**14 38 27.6 +0.5**
PFO				IAmb	IAmb	14 38 29.5
	comp=Z,5.8nm,0.9s					
PMD	**Palm Desert**	89.59	55	IAmb	IAmb	14 38 29.5
	comp=Z,8.9nm,1.1s					
SPR3	**Spring Creek 3**	89.61	50	IAmb	IAmb	14 38 29.7
	comp=Z,4.7nm,1.1s					
BELC	**Belle Mtn. Jos**	89.80	55	IAmb	IAmb	14 38 29.8
	comp=Z,7.0nm,0.8s					
BC3	**Big Chuckawall**	90.33	55	IAmb	IAmb	14 38 32.7
	comp=Z,9.0nm,1.1s					
ESJX	**Sierra Juarez**	90.41	57	IAmb	IAmb	14 38 32.9
	comp=Z,5.3nm,0.8s					
IRM	**Iron Mountain**	90.43	55	IAmb	IAmb	14 38 33.0
	comp=Z,6.9nm,0.9s					
FINES	**FINESS Array B**	90.72	335	P	**P**	**14 38 30.6 -1.1**
	comp=Z,1.4nm,0.6s,baz=67,slow=6.1,SNR=4.7					
	comp=Z,1.4nm,0.6s					
HWUT	**Hardware Ranch**	90.79	47	IAmb	IAmb	14 38 34.2
	comp=Z,4.7nm,0.8s					
W13A	**Hualapai Mount**	91.14	54	IAmb	IAmb	14 38 36.6
	comp=Z,3.5nm,0.8s					
KNB	**Kanab**	91.36	51	IAmb	IAmb	14 38 37.8
	comp=Z,5.6nm,0.9s					
PDAR	**Pinedale Array**	91.79	45	P	**P**	**14 38 36.8 -0.7**
	comp=Z,0.9nm,0.6s,baz=226,slow=3.5,SNR=11					
	comp=Z,0.9nm,0.6s					
VNDA	**Vanda**	91.89	176	P	**P**	**14 38 37.7 +1.0**
	comp=Z,2.8nm,0.8s,baz=314,slow=6.2,SNR=19					
	comp=Z,2.8nm,0.8s					
113A	**Mohawk Valley,**	91.94	56	IAmb	IAmb	14 38 39.9
	comp=Z,4.3nm,0.9s					
SRU	**San Rafael Swe**	92.38	49	IAmb	IAmb	14 38 41.3
	comp=Z,3.0nm,0.9s					
HMU	**Henry Mountain**	92.62	50	P	**P**	**14 38 42.0 +0.6**
HMU				IAmb	IAmb	14 38 46.0
	comp=Z,2.7nm,0.9s					
PV23	**Carpenter Ridg**	93.72	49	P	**P**	**14 38 47.0 +0.6**
MLR	**Muntele Rosu**	99.06	321	LR	LR	15 26 58.1
	comp=Z,236nm,18.1s,baz=336,slow=37					
VAE	**Valguarnera**	110.71	320	Pdiff	**Pdif**	**14 40 06.2 +4.0**
	comp=Z,31nm,0.6s,baz=49,slow=5.4,SNR=5.5					
SET	**Setif**	116.99	324	P	**Pdif**	**14 40 28.0 -2.2**
SNAA	**Sanae**	119.16	191	PKP	**PKiKP**	**14 44 16.1 -0.4**
	comp=Z,3.4nm,0.6s,baz=200,slow=5.4,SNR=27					
TORD	**Torodi Ar. Bea**	134.50	305	PKP	**PKiKP**	**14 44 46.9 -1.7**
	comp=Z,1.4nm,0.7s,baz=38,slow=3.5,SNR=6.4					
TORD				SKPbc	**SKPab**	**14 47 59.0 -2.9**
	comp=Z,1.3nm,0.7s,baz=38,slow=4.4,SNR=6.2					
PLCA	**Paso Flores**	139.35	138	PKhKP	PKPpre	14 44 48.9
	comp=Z,0.9nm,0.5s,baz=253,slow=4.1,SNR=3.8					
PLCA				PKP	**PKiKP**	**14 44 57.4 -0.5**
	comp=Z,5.2nm,0.7s,baz=194,slow=2.4,SNR=12					
PLCA				SKPbc	**SKiKP**	**14 48 13.8 -1.3**
	comp=Z,4.9nm,0.9s,baz=216,slow=3.8,SNR=7.7					
DBIC	**Dimbokro**	143.47	302	PKhKP	PKPpre	14 44 58.6
	comp=Z,1.4nm,0.3s,baz=72,slow=4.6,SNR=4.3					
LPAZ	**La Paz**	148.25	98	PKPbc	**PKPbc**	**14 45 13.3 -2.6**
	comp=Z,11nm,0.7s,baz=316,slow=1.5,SNR=8.6					
CPUP	**Villa Florida**	156.00	124	PKP	**PKPdf**	**14 45 22.6 -0.2**
	comp=Z,0.4nm,0.7s,baz=41,slow=2.0,SNR=4.1					
CPUP				PKPab	**PKPab**	**14 45 52.0 +0.9**
	comp=Z,1.2nm,0.8s,baz=117,slow=4.5,SNR=7.4					
BDFB	**Brasilia**	167.60	99	PKP	**PKPdf**	**14 45 35.2 +0.2**
	comp=Z,1.0nm,0.3s,baz=208,slow=2.7,SNR=3.2					

*SGS **08** 14:26:43.5,25°.09N×36°.64E, h6km, Ml2.3*
*HLW **08** 14:26:44.1,25°.11N×36°.24E, h23km±5km, Md2.5, Ml2.2*
ISC 08 14:26:39.2±0.9,25°.08N±0°.05×36°.42E±0°.04,h10km,n43, σ0°70/44,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJ12	**UMJ12**	0.74	58	P	**Pn**	**14 26 55.9**	**+0.1**
UMJS	**Umm Lajj**	0.82	79	P	**Pb**	**14 26 56.3**	**+0.7**
UMJ11	**UMJ11**	0.83	46	P	**Pn**	**14 26 56.8**	**-0.1**
UMJ11	**UMJ11**	0.83	46

ML2.4/1, Error ellipse: s-maj=26.3km s-min=10.9km az=137.0

ISC 08 14:41:59.0±1.1, 61°.68N±0°.05×30°.00E±0°.05, h0km, n22, σ1♀50/32, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.57**	**243**	PG	**Pg**	**14 42 09.9**	**+0.1**
	baz=79						
RUF				SG	**Sg**	**14 42 17.4**	**+0.3**
RUF				MSG		14 42 18.0	
	comp=Z,5.0nm,0.2s						
JOF	**Joensuu**	**1.38**	**26**	*e*P	**Pb**	**14 42 25.9**	**+0.2**
JOF	**Joensuu**	**1.38**	**26**	PG	**Pb**	**14 42 25.9**	**+0.2**
	baz=198						
JOF				SG	**Sn**	**14 42 46.1**	**+1.6**
VJF	**Virojoki**	**1.65**	**227**	PG	**Pn**	**14 42 25.5**	**-3.7**
VJF				MSG		14 42 47.8	
	comp=Z,6.6nm,0.2s						
VJF				SN	**Sn**	**14 42 49.8**	**-1.3**
KAF	**Kangasniemi**	**1.80**	**285**	PG	**Pg**	**14 42 33.7**	**+0.2**
KAF				MSG		14 42 55.8	
	comp=Z,5.3nm,0.2s						
KAF				SG	**Sg**	**14 42 58.7**	**+1.9**
FIA0	**FINESS Array S**	**1.89**	**264**	PG	**Pb**	**14 42 34.0**	**-0.3**
	baz=89						
FIA0				MSG		14 42 57.1	
	comp=Z,4.7nm,0.2s						
FIA0				SG	**Sb**	**14 42 58.9**	**+0.4**
FINES	**FINESS Array B**	**1.89**	**264**	Pg	**Pb**	**14 42 34.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=86,slow=15,SNR=26						
FINES				Lg	Lg	14 42 57.9	
	comp=Z,0.6nm,0.3s,baz=79,slow=31,SNR=3.5						
NIF	**Nilsia**	**1.99**	**330**	PG	**Pg**	**14 42 37.2**	**+0.1**
NIF				MSG		14 43 02.5	
	comp=Z,3.5nm,0.2s						
NIF				SG	**Sg**	**14 43 04.7**	**+1.9**
SUF	**Sumiainen**	**2.08**	**302**	PG	**Pg**	**14 42 38.9**	**0.0**
SUF				MSG		14 43 04.6	
	comp=Z,4.7nm,0.2s						
SUF				SG	**Sg**	**14 43 07.7**	**+1.9**
PVF	**Pernaja**	**2.31**	**242**	PG	**Pn**	**14 42 39.5**	**+1.3**
PVF				MSG		14 43 07.7	
	comp=Z,1.9nm,0.2s						
KEF	**Keuruu**	**2.48**	**284**	*e*P	**Pb**	**14 42 44.1**	**-0.1**
KEF	**Keuruu**	**2.48**	**284**	PB	**Pb**	**14 42 44.1**	**-0.1**
	baz=104						
KEF				MSG		14 43 15.0	
	comp=Z,1.9nm,0.2s						
KEF				SG	**Sg**	**14 43 17.3**	**-1.1**
RMF	**Romuvaara**	**2.54**	**359**	PN	**Pb**	**14 42 44.7**	**-0.7**
	baz=181						
RMF				MSG		14 43 18.1	
	comp=Z,2.0nm,0.2s						
RMF				SB	**Sg**	**14 43 20.0**	**-0.6**
MEF	**Metsahovi**	**3.10**	**244**	*e*P	**Pn**	**14 42 48.7**	**-0.4**
MEF	**Metsahovi**	**3.10**	**244**	SB	**Sn**	**14 43 29.1**	**+2.2**
MEF				MSG		14 43 30.5	
	comp=Z,1.5nm,0.2s						
OUF	**Merijarvi**	**3.61**	**321**	SG	**Sg**	**14 43 52.5**	**-2.2**
VAF	**Ylistaro**	**3.68**	**295**	*e*P	**Pb**	**14 43 01.2**	**-3.5**
MSF	**Maaselka**	**4.27**	**355**	SG	**Sg**	**14 44 14.1**	**-1.8**
KU6	**Riekki**	**4.36**	**359**	PN	**Pn**	**14 43 07.4**	**+1.1**
KU6				SG	**Sg**	**14 44 17.7**	**-1.2**
RANF	**Ranua**	**4.58**	**343**	SG	**Sg**	**14 44 24.1**	**-1.7**
I43RU	**DUBNA INFRASON**	**6.20**	**140**	I	I	15 17 00.0	
	baz=328,slow=323,SNR=1.8						
ARCES	**ARCESS Array B**	**8.10**	**349**	Pn	**Pn**	**14 43 58.9**	**+1.3**
	baz=152,slow=14,SNR=5.2						
ARCES				Sn	**Sn**	**14 45 29.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=162,slow=23,SNR=1.7						
ARCES				Lg	Lg	14 46 10.4	
	comp=Z,0.1nm,0.3s,baz=166,slow=30,SNR=5.1						
	comp=Z,1.7nm,0.9s						

*ISK **08** 14:55:38.6, 35°.00N×33°.88E, h7km, ML3.4/26*
*GII **08** 14:55:38.3±0.0, 34°.95N×33°.93E, h10km, Mws3.1, confirmed*
*GRAL **08** 14:55:39.9±0.3, 35°.06N×34°.09E, h146km±15km, MD3.5*
*NIC **08** 14:55:39.9, 34°.98N×33°.85E, h16km±1km, Ml2.9/11*
*HLW **08** 14:55:41.2, 34°.65N×33°.19E, h8km±6km, Ml3.2*
*AFAD **08** 14:55:42.9, 35°.23N×33°.87E, h23km±1km, ML3.1*

ISC 08 14:55:39.4±0.9, 35°.00N±0°.02×33°.95E±0°.02, h24km±5km, n157, σ1♀60/187, 4C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAR1C	**Paralimni Civi**	**0.04**	**27**	P	**Pb**	**14 55 43.8**	**+0.2**
PAR1C				S	**Sb**	**14 55 46.6**	**+0.2**
PARAL	**Paralimni**	**0.07**	**91⇓**	*e*P	**Pb**	**14 55 44.3**	**+0.6**
PARAL				S	**Sb**	**14 55 47.6**	**+0.9**
PARAL				AML	AML	14 55 50.5	
	28nm,0.4s						
PARAL				AML	AML	14 55 53.5	
	26nm,0.4s						
MVOU	**Mavrovouni**	**0.27**	**274⇑**	*i*P	**Pb**	**14 55 44.7**	**-1.1**
MVOU				S	**Sb**	**14 55 48.0**	**-2.2**
MVOU				AML	AML	14 55 48.1	
	25nm,0.2s						
MVOU				AML	AML	14 55 48.5	
	62nm,0.3s						
LAR1C	**Larnaka City C**	**0.29**	**256**	P	**Pb**	**14 55 45.0**	**-1.1**
LAR1C				S	**Sb**	**14 55 48.9**	**-1.9**
ATHAL	**Athalassa**	**0.48**	**288**	P	**Pb**	**14 55 48.4**	**-0.8**
ATHAL				S	**Sb**	**14 55 55.1**	**-0.8**
ATHAL				AML	AML	14 55 58.6	
	8.1nm,0.4s						
ATHAL				AML	AML	14 56 00.2	
	8.3nm,0.5s						
CSS	**Mathiatis**	**0.51**	**266**	Pg	**Pb**	**14 55 47.9**	**-1.9**
CSS				Sg	**Sb**	**14 55 54.5**	**-2.4**
CSS	**Mathiatis**	**0.51**	**266**	P	**Pb**	**14 55 48.0**	**-1.9**
CSS	**Mathiatis**	**0.51**	**266⇑**	*i*P	**Pb**	**14 55 48.0**	**-1.9**
CSS				S	**Sb**	**14 55 54.0**	**-2.9**
CSS				AML	AML	14 55 59.3	
	3.3nm,0.5s						
CSS				AML	AML	14 56 01.4	
	2.7nm,0.4s						
CSS	**Mathiatis**	**0.51**	**266**	P	**Pb**	**14 55 47.9**	**-1.9**
CSS				S	**Sb**	**14 55 55.7**	**-1.2**
ASGA	**Asgata**	**0.62**	**250⇑**	*e*P	**Pb**	**14 55 50.4**	**-1.2**
ASGA				S	**Sn**	**14 56 01.9**	**+0.1**
ASGA				AML	AML	14 56 06.6	
	2.6nm,0.4s						
ASGA				AML	AML	14 56 08.2	
	2.0nm,0.4s						
XYLS	**Xyliatos**	**0.74**	**272**	P	**Pb**	**14 55 51.9**	**-1.8**
XYLS				S	**Sb**	**14 56 03.0**	**-0.4**
XYLS				AML	AML	14 56 09.1	
	1.6nm,0.4s						
XYLS				AML	AML	14 56 12.0	
	2.0nm,0.3s						
TROD	**Troodos**	**0.89**	**267⇑**	*e*P	**Pb**	**14 55 55.2**	**-1.2**
TROD				S	**Sn**	**14 56 13.6**	**+4.6**
TROD				AML	AML	14 56 17.3	
	2.3nm,0.5s						
TROD				AML	AML	14 56 22.1	
	2.7nm,1.0s						
APOL	**The Sanctuary**	**0.95**	**250**	P	**Pb**	**14 55 58.2**	**+0.9**
APOL				S	**Sn**	**14 56 12.8**	**+2.6**
APOL				AML	AML	14 56 14.3	
	1.6nm,0.4s						
APOL				AML	AML	14 56 14.6	
	1.7nm,0.4s						
ALFC	**Alefka**	**1.12**	**279**	P	**Pn**	**14 55 58.8**	**-0.9**
ALFC				S	**Sb**	**14 56 17.6**	**+3.3**
ALFC				AML	AML	14 56 25.0	
	1.2nm,0.4s						
ALFC				AML	AML	14 56 26.4	
	1.7nm,0.5s						
NATA	**Nata**	**1.16**	**260**	P	**Pb**	**14 56 02.5**	**+1.8**
NATA				S	**Sb**	**14 56 19.4**	**+4.1**
NATA				AML	AML	14 56 27.2	
	2.4nm,0.6s						
NATA				AML	AML	14 56 28.4	
	2.6nm,0.6s						
TISA	**Tisan-Mersin**	**1.19**	**349**	Pn	**Pb**	**14 56 01.2**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.19**	**344**	Pn	**Pb**	**14 56 01.5**	**+0.1**
AKK1				Sn	**Sb**	**14 56 17.9**	**+1.5**
YESI	**Yesilovacik-Me**	**1.22**	**348**	Pn	**Pb**	**14 56 01.9**	**0.0**
YESI				Sn	**Sb**	**14 56 19.4**	**+2.2**
GULN	**MERSIN_Gulnar**	**1.23**	**344**	P	**Pb**	**14 56 01.8**	**-0.2**
GULN				S	**Sb**	**14 56 17.0**	**-0.5**
YORU	**Yoruktepe-Mers**	**1.24**	**339**	Pn	**Pb**	**14 56 02.8**	**+0.6**
OREN	**Orenkoy-Mersin**	**1.27**	**342**	Pn	**Pb**	**14 56 02.3**	**-0.4**
AKMS	**Akamas**	**1.33**	**271**	P	**Pb**	**14 56 05.3**	**+1.6**
AKMS				S	**Sb**	**14 56 24.0**	**+3.7**
AKMS				AML	AML	14 56 32.2	
	0.9nm,0.4s						
AKMS				AML	AML	14 56 32.3	
	1.0nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.33**	**329**	Pn	**Pb**	**14 56 03.4**	**-0.3**
BOZY	**Bozyazi-Mersin**	**1.36**	**325**	Pn	**Pb**	**14 56 04.2**	**-0.1**
SILI	**Silifke-Mersin**	**1.37**	**359**	Pn	**Pb**	**14 56 04.8**	**+0.5**
KEBE	**Keben-Mersin**	**1.46**	**352**	Pn	**Pb**	**14 56 05.9**	**-0.1**
BERE	**Bereket-Mersin**	**1.47**	**336**	Pn	**Pb**	**14 56 05.6**	**-0.6**
KIZK	**Mersin**	**1.49**	**6**	Pn	**Pb**	**14 56 06.3**	**-0.1**
KIZK	**Mersin**	**1.49**	**6**	P	**Pb**	**14 56 06.1**	**-0.3**
KIZK				S	**Sb**	**14 56 24.1**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.50**	**344**	Pn	**Pb**	**14 56 06.3**	**-0.3**
BHL	**Bhannes**	**1.78**	**127**	*e*P	**Pb**	**14 56 10.5**	**-0.8**
HWQ	**Hawqa**	**1.79**	**113**	*e*P	**Pb**	**14 56 10.3**	**-1.3**
HWQ				*e*S	**Sb**	**14 56 33.0**	**-0.7**
GAZI	**Gazipasa**	**1.82**	**313**	Pn	**Pn**	**14 56 09.8**	**+0.5**
GAZI	**Gazipasa**	**1.82**	**313**	P	**Pn**	**14 56 09.8**	**+0.5**
GAZI				S	**Sn**	**14 56 31.8**	**+0.2**
GAZI				*i* IAML		14 56 41.0	
	comp=N,170nm,0.7s						
GAZI				*i* IAML		14 56 42.0	
	comp=E,172nm,0.5s						
ERMK	**Ermenek**	**1.85**	**333**	P	**Pb**	**14 56 12.2**	**-0.4**
ERMK				S	**Sb**	**14 56 34.4**	**-1.0**
ERMK				*i* IAML		14 56 41.0	
	comp=N,221nm,0.4s						
ERMK				*i* IAML		14 56 42.0	
	comp=E,192nm,0.3s						
DQRL	**Deir Qamar**	**1.86**	**133**	*e*P	**Pb**	**14 56 11.7**	**-1.0**
BEIL	**Beino**	**1.89**	**103**	*e*P	**Pn**	**14 56 11.3**	**+1.0**
BEIL				*e*S	**Sn**	**14 56 34.5**	**+1.1**
MERS	**Mersin**	**1.92**	**14**	Pn	**Pb**	**14 56 12.9**	**-1.0**
ZAHL	**Zahle**	**1.96**	**125**	*e*P	**Pn**	**14 56 12.5**	**+1.3**
ASUZ	**Hatay-Arsuz**	**1.97**	**49**	P	**Pb**	**14 56 17.5**	**+2.9**
QRWL	**Qaraoun**	**2.03**	**135**	*e*P	**Pn**	**14 56 13.5**	**+1.3**
FKH	**Fakeheh**	**2.16**	**110**	*e*P	**Pn**	**14 56 14.5**	**+0.5**
HNTI	**Hanita**	**2.16**	**152**	P	**Pn**	**14 56 15.5**	**+1.6**
HNTI	**Hanita**	**2.16**	**152**	P	**Pn**	**14 56 14.2**	**+0.3**
HNTI	**Hanita**	**2.16**	**152**	S	**Sn**	**14 56 40.1**	**+0.2**
RCY	**Rachaya**	**2.16**	**133**	*e*P	**Pn**	**14 56 14.9**	**+0.9**
RCY				*e*S	**Sn**	**14 56 41.0**	**+0.9**
ALAN	**Alanya-ANTALYA**	**2.21**	**315**	Pn	**Pb**	**14 56 16.0**	**-2.6**
SHBL	**Chebaa**	**2.21**	**137**	*e*P	**Pn**	**14 56 15.9**	**+1.1**
KRMN	**Karaman**	**2.24**	**346**	Pn	**Pb**	**14 56 16.9**	**-2.4**
NATI	**Neve Ativ**	**2.27**	**139**	P	**Pn**	**14 56 17.0**	**+1.5**
NATI	**Neve Ativ**	**2.27**	**139**	P	**Pn**	**14 56 15.9**	**+0.4**
NATI	**Neve Ativ**	**2.27**	**139**	S	**Sn**	**14 56 43.4**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.28**	**141**	P	**Pn**	**14 56 16.4**	**+0.9**
GEM	**Giv'at Ha'Em**	**2.28**	**141**	P	**Pn**	**14 56 16.1**	**+0.6**
GEM	**Giv'at Ha'Em**	**2.28**	**141**	S	**Sn**	**14 56 43.5**	**+0.7**
YURE	**YUREGIR**	**2.28**	**36**	P	**Pb**	**14 56 19.6**	**-0.2**
TAHT	**Tahtakopru-Hat**	**2.28**	**52**	Pn	**Pb**	**14 56 18.5**	**-1.4**
HDMB	**Hadim**	**2.30**	**329**	Pn	**Pb**	**14 56 18.1**	**-2.2**
MMC7	**Mount Meron ar**	**2.30**	**148**	P	**Pn**	**14 56 15.9**	**0.0**
MMA0B	**Mount Meron ar**	**2.31**	**148**	P	**Pn**	**14 56 16.3**	**+0.2**
MMA0B	**Mount Meron ar**	**2.31**	**148**	S	**Sn**	**14 56 44.0**	**+0.2**
KKBE	**Karaman, Kazim**	**2.37**	**340**	P	**Pb**	**14 56 20.4**	**-1.0**
GULE	**Gulek**	**2.38**	**16**	P	**Pb**	**14 56 20.5**	**-1.1**
GULE				S	**Sb**	**14 56 48.9**	**-1.7**
GULE				*i* IAML		14 56 57.0	
	comp=N,148nm,0.4s						
KERG	**Konya-Eregli**	**2.42**	**3**	P	**Pb**	**14 56 20.5**	**-1.8**
KARA	**Karaisali**	**2.43**	**21**	Pn	**Pb**	**14 56 20.1**	**-2.3**
BLGI	**Bet Lehem HaGe**	**2.48**	**155**	P	**Pn**	**14 56 18.4**	**+0.1**
BLGI	**Bet Lehem HaGe**	**2.48**	**155**	S	**Sn**	**14 56 47.8**	**0.0**
CEYT	**Ceyhan**	**2.48**	**35**	Pn	**Pb**	**14 56 21.0**	**-2.3**
OFRI	**`Ofer**	**2.52**	**160**	P	**Pn**	**14 56 19.3**	**+0.4**
OFRI	**`Ofer**	**2.52**	**160**	P	**Pn**	**14 56 19.0**	**+0.1**
OFRI	**`Ofer**	**2.52**	**160**	S	**Sn**	**14 56 48.6**	**-0.2**
KSHT	**Keshet**	**2.53**	**142**	P	**Pn**	**14 56 19.7**	**+0.6**
KSHT	**Keshet**	**2.53**	**142**	S	**Sn**	**14 56 49.9**	**+0.7**
HASA	**Hatay-Hassa-Ha**	**2.70**	**49**	P	**Pb**	**14 56 26.9**	**-0.2**
SHMJ	**Saham**	**2.72**	**146**	P	**Pn**	**14 56 23.3**	**+1.7**
AKO	**Adana**	**2.74**	**26**	P	**Pb**	**14 56 25.0**	**-2.7**
CMRD	**Camardi-Nigde**	**2.79**	**17**	Pn	**Pb**	**14 56 25.3**	**-3.3**
MMLI	**Mount Malkishu**	**2.83**	**154**	Pn	**Pn**	**14 56 25.4**	**+2.3**
MMLI	**Mount Malkishu**	**2.83**	**154**	P	**Pn**	**14 56 24.4**	**+1.3**
MMLI	**Mount Malkishu**	**2.83**	**154**	P	**Pn**	**14 56 23.0**	**-0.2**
MMLI	**Mount Malkishu**	**2.83**	**154**	S	**Sn**	**14 56 56.8**	**+0.3**
SLTI	**Sal'it**	**2.89**	**161**	P	**Pn**	**14 56 25.4**	**+1.4**
SLTI	**Sal'it**	**2.89**	**161**	P	**Pn**	**14 56 24.2**	**+0.2**
SLTI	**Sal'it**	**2.89**	**161**	S	**Sn**	**14 56 57.9**	**-0.2**
SEYD	**Seydisehir-KON**	**2.95**	**325**	Pn	**Pn**	**14 56 26.8**	**+1.9**
QRNJ	**Al-Qirein**	**2.98**	**153**	P	**Pn**	**14 56 27.0**	**+1.9**
SEDI	**Konya, Seydise**	**3.03**	**325**	P	**Pb**	**14 56 30.0**	**-2.6**
HMDT	**Nahal Hemdat**	**3.03**	**154**	P	**Pn**	**14 56 27.8**	**+1.9**
HMDT	**Nahal Hemdat**	**3.03**	**154**	P	**Pn**	**14 56 26.1**	**+0.2**
HMDT	**Nahal Hemdat**	**3.03**	**154**	S	**Sn**	**14 57 01.8**	**+0.3**
NIDE	**Nigde/Merkez-G**	**3.07**	**12**	P	**Pb**	**14 56 30.8**	**-2.7**
SALP	**Salfit**	**3.10**	**160**	P	**Pn**	**14 56 28.4**	**+1.6**
SALP	**Salfit**	**3.10**	**160**	P	**Pn**	**14 56 27.2**	**+0.3**
SALP	**Salfit**	**3.10**	**160**	S	**Sn**	**14 57 03.0**	**-0.1**
KAMA	**Osmaniye**	**3.10**	**44**	P	**Pb**	**14 56 30.8**	**-3.1**
ANDN	**Andirin**	**3.22**	**36**	P	**Pb**	**14 56 33.0**	**-3.0**
AKUM	**Antalya-Kumluc**	**3.22**	**295**	P	**Pb**	**14 56 35.7**	**-0.3**
AKUM				S	**Sb**	**14 57 13.8**	**-0.9**
AKUM				*i* IAML		14 57 27.0	
	comp=E,64nm,0.9s						
AKUM				*i* IAML		14 57 32.0	
	comp=N,60nm,0.9s						
UJAP	**Al Uja**	**3.29**	**157**	Pn	**Pn**	**14 56 32.5**	**+3.1**
YAHY	**KAYSERI_Yahyal**	**3.29**	**20**	P	**Pb**	**14 56 34.4**	**-2.8**
LADK	**Ladik-KONYA**	**3.44**	**339**	Pn	**Pn**	**14 56 33.9**	**+2.2**
KORT	**Korkueli**	**3.54**	**305**	Pn	**Pn**	**14 56 34.9**	**+1.9**
KORT	**Korkueli**	**3.54**	**305**	P	**Pb**	**14 56 38.2**	**-3.2**
AMAZ	**Amatzia**	**3.55**	**167**	P	**Pn**	**14 56 34.4**	**+1.4**
AMAZ	**Amatzia**	**3.55**	**167**	P	**Pn**	**14 56 33.0**	**0.0**
AMAZ	**Amatzia**	**3.55**	**167**	S	**Sn**	**14 57 14.3**	**+0.1**
DOGA	**KONYA_Doganhis**	**3.61**	**330**	P	**Pb**	**14 56 38.5**	**-4.1**
DSI	**Dead Sea**	**3.62**	**160**	P	**Pn**	**14 56 35.7**	**+1.7**
DSI				S	**Sn**	**14 57 17.2**	**+1.3**
DSI	**Dead Sea**	**3.62**	**160**	P	**Pn**	**14 56 33.8**	**-0.1**
DSI	**Dead Sea**	**3.62**	**160**	S	**Sn**	**14 57 15.5**	**-0.4**
ELL	**Elmali**	**3.72**	**299**	Pn	**Pn**	**14 56 37.7**	**+2.2**
ASF	**Jabal al Asfar**	**3.74**	**138**	P	**Pn**	**14 56 38.2**	**+2.5**
AKAS	**Kas**	**3.75**	**290**	Pn	**Pn**	**14 56 38.3**	**+2.4**
AKAS	**Kas**	**3.75**	**290**	P	**Pn**	**14 56 43.0**	**-2.0**
YTIR	**Yattir**	**3.75**	**165**	P	**Pn**	**14 56 37.3**	**+1.4**
YTIR				S	**Sn**	**14 57 21.0**	**+1.7**
YTIR	**Yattir**	**3.75**	**165**	P	**Pn**	**14 56 36.1**	**+0.2**
YTIR	**Yattir**	**3.75**	**165**	S	**Sn**	**14 57 19.4**	**+0.1**
KDHN	**Kadinhani**	**3.81**	**338**	P	Pb	14 56 41.1	-5.0
MDBI	**Mazsada**	**3.86**	**162**	P	**Pn**	**14 56 37.4**	**+0.2**
MDBI	**Mazsada**	**3.86**	**162**	S	**Sn**	**14 57 21.0**	**-0.8**
MSBI	**Mazada**	**3.86**	**162**	P	**Pn**	**14 56 38.7**	**+1.5**
MSBI				S	**Sn**	**14 57 23.2**	**+1.5**
MSBI	**Mazada**	**3.86**	**162**	P	**Pn**	**14 56 37.4**	**+0.2**
MSBI	**Mazada**	**3.86**	**162**	S	**Sn**	**14 57 21.0**	**-0.8**
GHAJ	**Ghor Haditha**	**3.92**	**159**	P	**Pn**	**14 56 40.5**	**+2.4**
GHAJ	**Ghor Haditha**	**3.92**	**159**	P	**Pn**	**14 56 38.2**	**+0.1**
GHAJ	**Ghor Haditha**	**3.92**	**159**	S	**Sn**	**14 57 23.9**	**+0.5**
BAGO	**Egridir - ISPA**	**3.93**	**320**	P	**Pb**	**14 56 44.2**	**-3.8**
YVAC	**Isparta, Yalva**	**3.93**	**327**	P	Pb	14 56 43.1	-4.9
KNIK	**Mula-Seydike**	**4.01**	**299**	P	**Pb**	**14 56 45.7**	**-3.7**
KZIT	**Kziot**	**4.09**	**175**	P	**Pn**	**14 56 41.7**	**+1.2**
KZIT	**Kziot**	**4.09**	**175**	P	**Pn**	**14 56 40.9**	**+0.4**
KZIT	**Kziot**	**4.09**	**175**	S	**Sn**	**14 57 27.4**	**-0.3**
IZZE	**Mula-Seydike**	**4.11**	**292**	P	**Pn**	**14 56 43.4**	**+2.7**
IZZE				*i* IAML		14 57 00.0	
	comp=E,26nm,0.5s						
IZZE				S	**Sn**	**14 57 27.1**	**-0.9**
IZZE				*i* IAML		14 57 42.0	
	comp=N,56nm,0.4s						
GOLH	**Golhisar**	**4.20**	**303**	P	**Pb**	**14 56 48.3**	**-4.3**
GOLH				S	**Sn**	**14 57 33.3**	**+2.9**
GOLH				*i* IAML		14 57 55.0	
	comp=N,31nm,1.2s						
GOLH				*i* IAML		14 58 00.0	
	comp=E,28nm,0.6s						
IDAN	**Idan**	**4.30**	**165**	P	**Pn**	**14 56 43.4**	**+0.1**
IDAN	**Idan**	**4.30**	**165**	S	**Sn**	**14 57 32.6**	**0.0**
SABU	**Mula-Dalaman**	**4.44**	**296**	P	**Pn**	**14 56 49.0**	**+3.8**
SABU				S	**Sn**	**14 57 36.2**	**0.0**
RMNI	**Mount Ramon**	**4.44**	**171**	P	**Pn**	**14 56 45.7**	**+0.4**
RMNI	**Mount Ramon**	**4.44**	**171**	S	**Sn**	**14 57 36.6**	**+0.3**
ZFRI	**Zfri**	**4.55**	**167**	P	**Pn**	**14 56 47.7**	**+1.0**
ZFRI	**Zfri**	**4.55**	**167**	P	**Pn**	**14 56 46.6**	**-0.2**
ZFRI	**Zfri**	**4.55**	**167**	S	**Sn**	**14 57 38.5**	**-0.3**
DNZT	**Denizli-Tavas-**	**4.59**	**301**	P	Pn	14 56 52.3	+4.8
DNZT				S	**Sn**	**14 57 39.2**	**-0.8**
PRNI	**Paran**	**4.71**	**169**	P	**Pn**	**14 56 49.9**	**+0.8**
PRNI	**Paran**	**4.71**	**169**	P	**Pn**	**14 56 49.2**	**+0.1**
PRNI	**Paran**	**4.71**	**169**	S	**Sn**	**14 57 43.1**	**+0.1**
KRMI	**Paran Flat**	**4.91**	**172**	P	**Pn**	**14 56 52.4**	**+0.7**
KRMI	**Paran Flat**	**4.91**	**172**	P	**Pn**	**14 56 51.8**	**0.0**
KRMI	**Paran Flat**	**4.91**	**172**	S	**Sn**	**14 57 48.1**	**+0.3**
HRFI	**Mount Harif**	**5.03**	**169**	P	**Pn**	**14 56 53.9**	**+0.5**
HRFI	**Mount Harif**	**5.03**	**169**	S	**Sn**	**14 57 50.8**	**0.0**
MBRI	**Mt Berech**	**5.25**	**171**	P	**Pn**	**14 56 58.0**	**+1.5**
MBRI	**Mt Berech**	**5.25**	**171**	P	**Pn**	**14 56 57.2**	**+0.7**
MBRI	**Mt Berech**	**5.25**	**171**	S	**Sn**	**14 57 56.8**	**+0.5**
EIL	**Elat**	**5.38**	**171**	P	**Pn**	**14 56 58.7**	**+0.6**
EIL	**Elat**	**5.38**	**171**	S	**Sn**	**14 57 59.5**	**+0.2**
NUB	**Nuweibaa**	**5.98**	**174**	P	**Pn**	**14 57 07.1**	**+0.6**
HDHB	**Dhahab**	**6.28**	**175**	P	**Pn**	**14 57 10.9**	**+0.4**

*IDC **08** 15:03:07.3±1.9, 8°.11S×125°.08E, h0km, mb3.5/1, mbtmp3.6/5, ML3.6/4, MS3.6/2, Error ellipse: s-maj=51.4km s-min=26.2km az=76.0*
*DJA **08** 15:03:09.2±1.0, 8°.S±2°.×12°.5E±°, h17km±9km, M3.5/8, mb3.7/3, MLv3.5/8*

ISC 08 15:03:06.1±1.1, 7°.93S±0°.05×124°.82E±0°.09, h27km, n15, σ2♀15/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.90**	**197**	P	**Pb**	**15 03 41.0**	**+0.9**
SOEI				S	**Sb**	**15 04 04.4**	**+1.0**
BATI	**Baumata**	**2.53**	**207**	Pn	**Pb**	**15 03 49.9**	**-1.0**
	6.2nm,0.3s,baz=49,slow=5.0,SNR=7.8						
BATI				Sn	**Sn**	**15 04 14.3**	**-1.2**
	6.8nm,0.3s,baz=189,slow=7.0,SNR=4.2						
	20nm,0.4s						
BATI	**Baumata**	**2.53**	**207**	P	**Pn**	**15 03 48.8**	**+3.3**
BATI				S	**Sn**	**15 04 18.7**	**+3.2**
MMRI	**Maumere**	**2.65**	**254**	P	**Pn**	**15 03 47.2**	**+0.2**
EDFI	**Ende, Flores**	**3.20**	**255**	P	**Pn**	**15 03 54.6**	**-0.1**
BBSI	**Bau Bau**	**3.30**	**317**	P	**Pn**	**15 03 56.9**	**+1.0**
BBSI				S	**Sn**	**15 04 33.7**	**-0.6**
KDI	**Kendari**	**4.51**	**331**	P	**Pn**	**15 04 14.3**	**+1.6**
KDI				S	**Sn**	**15 05 06.0**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.65**	**292**	P	**Pn**	**15 04 15.2**	**+0.7**
BSSI				S	**Sn**	**15 05 07.0**	**-0.6**
BKSI	**Bulukumba**	**5.33**	**299**	P	**Pn**	**15 04 24.4**	**+0.4**
	0.1nm5.7nm,1.0s						
BKSI				S	**Sn**	**15 05 23.2**	**-1.4**
	0.1nm5.7nm,1.0s						
BNSI	**Bone**	**5.85**	**307**	P	**Pn**	**15 04 31.9**	**+0.8**
	21nm,0.9s						
BNSI				S	**Sn**	**15 05 36.0**	**-1.3**
	21nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.14**	**176**	Pn	**Pn**	**15 05 30.6**	**+0.7**
	0.3nm,0.3s,baz=356,slow=12,SNR=10.0						
FITZ				Sn	**Sn**	**15 07 17.9**	**-5.0**
	0.4nm,0.3s,baz=162,slow=10,SNR=4.1						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**15.09**	**143**	Pn	**Pn**	**15 06 38.0**	**+0.4**
	0.6nm,0.3s,baz=319,slow=13,SNR=19						
WRA				Sn	**Sn**	**15 09 18.8**	**-5.2**
	0.1nm,0.3s,baz=321,slow=26,SNR=1.5						
WRA				LR	LR	15 12 00.

GUC 08 17:14:34.2±0.7, 37.15S×75.09W, h16km±5km, ML3.7, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.57**	**76**	⇑*e*P	Pn	17 14 59.9	-1.5
BI05				*e*S	Sn	17 15 20.3	-1.1
BI05				IAML		17 15 21.7	
	comp=N,749nm,0.2s						
BI04	**Isla Mocha**	**1.58**	**143**	⇑*e*P	Pn	17 15 00.8	-0.8
BI04				*e*S	Sn	17 15 20.7	-0.9
BI04				IAML		17 15 22.8	
	comp=N,2μm,0.3s						
LC02	**Puerto Saavedr**	**2.12**	**141**	*e*P	Pn	17 15 08.7	-0.3
LC02				*e*S	Sn	17 15 35.0	0.0
LC02				IAML		17 15 38.9	
	comp=E,3μm,0.3s						
LR02	**Universidad Au**	**3.02**	**152**	*e*S	Sn	17 15 55.4	-1.8
LC01	**Cunco**	**3.08**	**126**	*e*P	Pn	17 15 23.1	+1.0
LC01				IAML		17 16 03.9	
	comp=E,626nm,0.2s						
BI02	**San Fabin de**	**3.09**	**82**	*e*P	Pn	17 15 22.7	+0.3
BI02				*e*S	Sn	17 16 00.1	+1.0
BI02				IAML		17 16 01.8	
	comp=E,66nm,0.2s						
LR03	**Panguipulli**	**3.28**	**140**	⇑*e*P	Pn	17 15 26.4	+1.4
LR03				*e*S	Sn	17 16 03.9	+0.2
GO05	**Hualane**	**3.33**	**51**	IAML		17 16 05.0	
	comp=N,119nm,0.1s						
GO06	**Curarrehue**	**3.74**	**132**	⇑*i*P	Pn	17 15 32.6	+1.2
GO06				*i*S	Sn	17 16 17.0	+1.8
LR05	**Currie**	**3.91**	**143**	⇓*e*P	Pn	17 15 34.5	+0.9
LR05				*e*S	Sn	17 16 19.0	-0.1
LMEL	**Las Melosas**	**5.17**	**52**	⇓*i*P	Pn	17 15 49.8	-1.3
LMEL				*e*S	Sn	17 16 49.0	-1.4

*JMA **08** 17:21:00.7±0.1, 23.3N±0.4×121.7E±0.8, h30km±2km, MV3.0/15, TAIWAN REGION*
*TAP **08** 17:21:01.7, 23.26N×121.59E, h29km, ML3.2, C*

ISC 08 17:21:01.2±0.9, 23.26N±0.02×121.63E±0.02, h29km±5km, n111, σ0.76/175, 4C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.17**	**288**	⇑*i*P	Pb	17 21 07.2	+0.2
ECBN				*i*S	Sb	17 21 11.1	+0.1
CHKH	**Chenggong**	**0.23**	**252**	⇑*i*P	Pb	17 21 07.5	-0.1
CHKH				*i*S	Sb	17 21 11.6	-0.3
CHKT	**Chengkung**	**0.29**	**237**	⇑*i*P	Pb	17 21 08.4	0.0
CHKT				*i*S	Sb	17 21 13.1	-0.3
HGSD	**Ruisui**	**0.30**	**320**	⇑*i*P	Pb	17 21 08.2	-0.4
HGSD				*i*S	Sb	17 21 12.9	-0.7
EYUL	**Yuli**	**0.30**	**287**	*i*P	Pb	17 21 08.8	+0.2
EYUL				S	Sb	17 21 14.4	+0.8
FULB	**Fuli**	**0.32**	**259**	*i*P	Pb	17 21 08.6	-0.3
FULB				*i*S	Sb	17 21 14.1	+0.1
TWF1	**Yuli**	**0.32**	**286**	*i*P	Pb	17 21 08.8	0.0
TWF1				*i*S	Sb	17 21 14.2	+0.2
YULB	**Yu-li**	**0.33**	**293**	P	Pb	17 21 09.1	+0.1
YULB	**Yu-li**	**0.33**	**293**	S	Sb	17 21 15.1	+0.7
YULB	**Yu-li**	**0.33**	**293**	*i*P	Pb	17 21 09.1	+0.1
YULB				*i*S	Sb	17 21 14.9	+0.5
EHYH	**Wanrong**	**0.35**	**311**	P	Pb	17 21 09.6	+0.4
EHYH				S	Sb	17 21 15.6	+0.9
EHY	**Hungye**	**0.37**	**311**	*i*P	Pb	17 21 09.5	-0.2
EHY				*i*S	Sb	17 21 15.8	+0.4
EHD	**Haiduan**	**0.41**	**254**	*i*P	Pb	17 21 09.7	-0.4
EHD				*i*S	Sb	17 21 16.0	-0.2
ECS	**Chishang**	**0.41**	**246**	P	Pn	17 21 10.8	-0.4
ECS				*e*S	Sn	17 21 17.5	-0.4
EDH	**Donghe**	**0.42**	**226**	P	Pb	17 21 10.4	+0.2
EDH				S	Sb	17 21 16.9	+0.4
EGFH	**Guangfu**	**0.45**	**335**	P	Pb	17 21 10.8	+0.1
EGFH				S	Sb	17 21 17.8	+0.6
TEGC	**Jichi Village**	**0.45**	**349**	P	Pb	17 21 10.6	-0.3
TEGC				S	Sb	17 21 17.3	-0.1
WARBT	**Fenglin Townsh**	**0.51**	**334**	⇓*i*P	Pb	17 21 11.5	-0.2
WARBT				S	Sb	17 21 18.5	-0.4
SHUL	**Shoufeng**	**0.53**	**353**	P	Pb	17 21 12.1	+0.1
SHUL				S	Sb	17 21 19.6	+0.2
ELDTW	**Lidau**	**0.57**	**263**	P	Pb	17 21 12.0	-0.8
ELDTW				S	Sb	17 21 19.2	-1.5
ESL	**Shilin**	**0.58**	**342**	*i*P	Pb	17 21 12.5	-0.4
ESL				*i*S	Sb	17 21 20.5	-0.4
LONT	**Longtian**	**0.58**	**233**	P	Pb	17 21 13.0	+0.1
LONT				S	Sb	17 21 20.9	0.0
TEYL	**Yanliau Villag**	**0.60**	**357**	P	Pn	17 21 13.8	0.0
TEYL				S	Sn	17 21 22.7	+0.1
LDUT	**Ludao**	**0.60**	**194**	P	Pb	17 21 12.7	-0.6
LDUT				S	Sb	17 21 21.2	-0.3
YUS	**Yu-Shan**	**0.66**	**290**	*i*P	Pb	17 21 14.4	-0.2
YUS				*i*S	Sb	17 21 23.1	-0.6
VWDT	**VWDT**	**0.67**	**318**	⇓*i*P	Pb	17 21 14.2	-0.1
VWDT				S	Sb	17 21 22.7	-0.5
TWGBT	**Beinan**	**0.67**	**229**	P	Pb	17 21 14.0	-0.4
TWGBT	**Beinan**	**0.67**	**229**	*e*P	Pb	17 21 13.7	-0.7
TWGBT				*e*S	Sb	17 21 23.1	-0.4
TWG	**Pinlang**	**0.68**	**230**	P	Pb	17 21 13.9	-0.6
TWG				S	Sb	17 21 23.2	-0.4
ETM	**Tongmen**	**0.71**	**350**	P	Pb	17 21 14.6	-0.5
ETM				*e*S	Sb	17 21 24.1	-0.5
LXIB	**Xiulin Townshi**	**0.78**	**345**	P	Pn	17 21 15.4	-1.0
LXIB				S	Sb	17 21 25.0	-1.7
STYH	**Taoyuan**	**0.79**	**264**	P	Pn	17 21 16.2	-0.1
STYH				*i*S	Sb	17 21 25.6	-1.2
ALS	**Alishan**	**0.80**	**288**	*i*P	Pb	17 21 16.9	+0.1
ALS				S	Sb	17 21 27.5	+0.2
OWD	**Renai**	**0.81**	**329**	P	Pn	17 21 16.2	-0.6
OWD				S	Sb	17 21 25.5	-1.9
SSLB	**Suanglung**	**0.81**	**310**	P	Pn	17 21 16.1	-0.6
SSLB	**Suanglung**	**0.81**	**310**	S	Sb	17 21 26.4	-1.0
SSLB	**Suanglung**	**0.81**	**310**	⇓*i*P	Pn	17 21 16.2	-0.6
SSLB				S	Sb	17 21 26.4	-1.0
TWD	**Chiawan**	**0.81**	**358**	*i*P	Pn	17 21 15.9	-0.8
TWD				S	Sb	17 21 26.4	-1.0
WHYT	**Xinyi Township**	**0.83**	**301**	P	Pb	17 21 17.2	+0.1
WHYT				S	Sn	17 21 28.5	+0.2
WUSB	**Renai**	**0.87**	**327**	⇓P	Pn	17 21 17.2	-0.3
WUSB				*i*S	Sb	17 21 27.6	-1.5
ETL	**Fush Village**	**0.89**	**360**	*e*P	Pn	17 21 17.3	-0.5
ETL				*e*S	Sn	17 21 27.8	-2.0
NACB	**Ninganchiao**	**0.91**	**358**	P	Pn	17 21 17.4	-0.6
NACB	**Ninganchiao**	**0.91**	**358**	S	Sn	17 21 29.3	-0.8
NACB	**Ninganchiao**	**0.91**	**358**	*e*P	Pn	17 21 17.5	-0.6
NACB				*e*S	Sn	17 21 29.4	-0.8
ECL	**Taimali**	**0.91**	**223**	*e*P	Pn	17 21 17.3	-0.7
SMLT	**Sun Moon Lake**	**0.91**	**313**	P	Pn	17 21 18.3	+0.1
SMLT				S	Sb	17 21 31.0	+0.7
TPUB	**Ta-pu**	**0.92**	**273**	P	Pb	17 21 18.7	+0.1
TPUB	**Ta-pu**	**0.92**	**273**	S	Sb	17 21 31.5	+1.0
TPUB	**Ta-pu**	**0.92**	**273**	*i*P	Pb	17 21 18.8	+0.2
TPUB				*e*S	Sb	17 21 31.6	+1.0
WTP	**Ta-pu**	**0.94**	**269**	P	Pb	17 21 18.8	0.0
WTP				S	Sb	17 21 31.3	+0.4
CHN5	**Tsauling**	**0.94**	**291**	*e*P	Pb	17 21 19.5	+0.6
CHN5				S	Sb	17 21 32.3	+1.2
WHF	**Hehuan Shan**	**0.94**	**339**	P	Pn	17 21 18.2	-0.6
WHF				S	Sn	17 21 29.9	-1.6
ETLH	**Xiulin Townshi**	**0.95**	**352**	*e*P	Pn	17 21 17.9	-0.7
ETLH				*e*S	Sn	17 21 30.1	-1.2
WCKO	**Fanlu**	**0.96**	**281**	*i*P	Pb	17 21 19.9	+0.7
WCKO				*e*S	Sb	17 21 33.0	+1.4
WJS	**Zhushan**	**1.00**	**304**	*e*P	Pb	17 21 20.5	+0.6
CHN1	**Nanshi**	**1.02**	**266**	*e*P	Pb	17 21 20.7	+0.5
CHN1				*i*S	Sb	17 21 35.2	+1.9
FUSS	**Fushou**	**1.04**	**340**	*e*P	Pn	17 21 20.2	+0.1
FUSS				*i*S	Sn	17 21 32.7	-1.1
SNST	**Tainan City**	**1.04**	**268**	*i*P	Pb	17 21 21.1	+0.4
SNST				S	Sb	17 21 34.9	+0.9
TWK	**Hsinying**	**1.05**	**270**	*i*P	Pb	17 21 21.0	+0.2
TWK				S	Sb	17 21 35.7	+1.5
SSD	**Sandimen**	**1.05**	**241**	*e*P	Pb	17 21 20.8	-0.1
EOS4	**EOS4**	**1.06**	**36**	P	Pn	17 21 20.3	+0.6
EOS4				*e*S	Sn	17 21 33.0	-0.4
WNT	**Mingjian**	**1.06**	**305**	*e*P	Pb	17 21 21.5	+0.5
EAHA	**Aohua**	**1.07**	**5**	*e*S	Sn	17 21 33.9	-0.2
WGK	**Gukeng**	**1.07**	**293**	*e*P	Pb	17 21 21.6	+0.5
TWT	**Tachien**	**1.07**	**337**	*e*P	Pb	17 21 21.3	0.0
TWT				*e*S	Sn	17 21 33.4	-1.0
TDCB	**Techi**	**1.08**	**336**	*e*P	Pb	17 21 21.1	-0.3
TDCB				*e*S	Sn	17 21 33.3	-1.2
WDLH	**Douliu**	**1.09**	**293**	P	Pb	17 21 21.9	+0.5
WDLH				*i*S	Sb	17 21 37.8	+2.5
CHN2	**Minshiung**	**1.10**	**284**	*e*P	Pb	17 21 22.0	+0.5
WDL	**Douliou City**	**1.10**	**294**	*e*P	Pb	17 21 22.1	+0.5
SCST	**Cishan**	**1.11**	**251**	*e*P	Pb	17 21 22.7	+0.9
MASBT	**Mashibuluo**	**1.12**	**235**	*e*P	Pn	17 21 20.8	-0.1
CHY	**Chiayi**	**1.13**	**282**	*e*P	Pb	17 21 22.9	+0.7
CHY				*e*S	Sb	17 21 38.3	+1.8
ENA	**Nanau**	**1.17**	**5**	*e*P	Pn	17 21 21.3	-0.3
NNSB	**Datong**	**1.18**	**349**	*e*P	Pn	17 21 22.0	+0.1
EWUT	**Wuta**	**1.19**	**6**	*e*P	Pn	17 21 22.0	+0.2
EWUT				*e*S	Sn	17 21 36.7	-0.3
WHP	**Taichung City**	**1.19**	**328**	*e*P	Pb	17 21 23.8	+0.6
NNS	**Nan Shan**	**1.20**	**349**	*e*P	Pn	17 21 22.5	+0.4
TWM1	**Shoushan**	**1.20**	**249**	*e*P	Pb	17 21 25.1	+1.8
WTK	**Tuku**	**1.22**	**291**	*e*P	Pb	17 21 23.5	-0.1
TCU	**Taichung**	**1.24**	**315**	*e*P	Pb	17 21 25.0	+0.9
LYUB	**Lan-yu**	**1.25**	**182**	*e*P	Pn	17 21 21.9	-0.8
LYUB				*e*S	Sn	17 21 36.3	-2.4
LATG	**Datong**	**1.27**	**356**	*e*P	Pn	17 21 23.2	+0.1
WCHH	**Zhanghua**	**1.28**	**310**	*e*P	Pb	17 21 24.7	+0.1
SCZT	**Fangliau**	**1.29**	**227**	*e*P	Pn	17 21 23.9	+0.7
SNJT	**Kaohsiung City**	**1.30**	**247**	*e*P	Pb	17 21 25.7	+0.7
CHN8	**Yiju**	**1.31**	**274**	*e*P	Pb	17 21 25.1	0.0
CHN8				S	Sb	17 21 42.4	+0.9
WSL	**Shuilin Townsh**	**1.31**	**282**	*e*P	Pn	17 21 24.4	+0.9
TWQ1	**Liyutan**	**1.34**	**324**	*i*P	Pb	17 21 25.5	-0.1
TWQ1				*e*S	Sb	17 21 43.3	+0.9
WSF	**Szhu**	**1.35**	**286**	*e*P	Pb	17 21 25.4	-0.4
ENTT	**Nioudou**	**1.37**	**358**	*e*P	Pn	17 21 24.9	+0.5
NSY	**Sanyi**	**1.40**	**325**	*i*P	Pb	17 21 27.2	+0.6
WDJ	**Dajia District**	**1.41**	**320**	*i*P	Pb	17 21 27.5	+0.6
WDJ				S	Sb	17 21 45.8	+1.3
YHNB	**Yeheng**	**1.42**	**351**	P	Pn	17 21 25.8	+0.7
YHNB	**Yeheng**	**1.42**	**351**	*e*P	Pn	17 21 25.6	+0.5
TSCK	**Chigu Township**	**1.43**	**266**	*e*P	Pb	17 21 26.2	-0.9
NSK	**Sanguang**	**1.43**	**350**	*e*P	Pb	17 21 26.4	-0.8
NSTT	**Nanjuang**	**1.48**	**337**	*e*S	Sb	17 21 46.8	+0.3
NMLH	**Miaoli**	**1.48**	**329**	*e*P	Pb	17 21 28.1	0.0
LIOB	**Emei**	**1.49**	**338**	*e*P	Pb	17 21 28.1	-0.1
FUSB	**Fushanzhiwuyua**	**1.49**	**358**	*e*P	Pb	17 21 27.5	-0.8
NWLT	**Wulai**	**1.51**	**356**	*e*P	Pn	17 21 26.6	+0.2
KSHI	**Guanxi Townshi**	**1.56**	**345**	*e*P	Pb	17 21 29.8	+0.3
JYNG	**Yonaunjimaku**	**1.69**	**45**	*e*S	Sn	17 21 49.9	+0.5
HATJ	**Hateruma jima**	**2.14**	**68**	*e*S	Sn	17 22 00.6	-0.1
IRIF	**Iriomote-Funau**	**2.20**	**61**	*e*S	Sn	17 22 02.2	+0.2
JKRS	**Kuro-shima**	**2.38**	**66**	*e*P	Pn	17 21 39.6	+1.3
JKRS				*e*S	Sn	17 22 07.7	+1.1
JIJ	**Ishigaki jima**	**2.55**	**64**	P	Pn	17 21 41.3	+0.8
JIJ				*e*S	Sn	17 22 10.1	-0.5
JISG	**Ishigakijimahi**	**2.78**	**61**	*e*P	Pn	17 21 44.2	+0.5
JISG				*e*S	Sn	17 22 16.1	-0.3
JTJ	**Tarama**	**3.13**	**63**	*e*P	Pn	17 21 49.5	+1.0
JTJ				*e*S	Sn	17 22 24.7	-0.1
JIRB	**Irabujima**	**3.59**	**64**	*e*P	Pn	17 21 55.5	+0.5
JIRB				*e*S	Sn	17 22 36.6	+0.2
JMJ2	**Miyako jima3**	**3.69**	**66**	*e*P	Pn	17 21 57.4	+1.1
JMJ2				*e*S	Sn	17 22 39.3	+0.6

*NEIC **08** 17:27:17.1±1.1, 19.57N±0.01×155.95W±0.02, h15km±3km, Error ellipse: s-maj=2.4km s-min=1.3km az=119.0*

HVO 08 17:27:17.6±1.5, 19.542N±0.010×155.96W±0.02, h11km±3km, ML2.3/23, ML2.4/42(NEIC), Error ellipse: s-maj=2.5km s-min=1.3km az=74.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.13**	**332**		Pg	17 27 20.9	+0.2
KKH				Sg	Sg	17 27 23.6	+0.6
HUH	**Hualalai**	**0.18**	**38**		Pg	17 27 21.1	-0.6
HUH				Sg	Sg	17 27 23.2	-1.4
HUH				IAML		17 27 28.0	
	comp=E,979nm,0.2s						
HUH				IAML		17 27 28.7	
	comp=N,1μm,0.2s						
ALEP	**Alea Permanent**	**0.29**	**90**		Pg	17 27 24.0	+0.3
ALEP					Sg	17 27 28.3	+0.5
MWH	**Mokuaweoweo**	**0.34**	**99**		Pg	17 27 24.4	-0.3
MWH					Sg	17 27 29.3	0.0
KHU	**Kahuku**	**0.43**	**132**		Pg	17 27 25.9	-0.3
KHU					Sg	17 27 32.1	0.0
HMH	**Humu'ula Sheep**	**0.45**	**82**		Pg	17 27 26.2	-0.3
HMH				IAML		17 27 37.7	
	comp=E,414nm,0.5s						
HMH				IAML		17 27 38.3	
	comp=N,329nm,1.3s						
HMH	**Humu'ula Sheep**	**0.45**	**82**		Sg	17 27 32.8	+0.3
POHA	**Pohakuloa**	**0.45**	**62**		Pg	17 27 26.1	-0.5
POHA				IAML		17 27 39.0	
	comp=N,292nm,0.6s						
POHA				IAML		17 27 41.6	
	comp=N,341nm,0.6s						
POHA	**Pohakuloa**	**0.45**	**62**		Sg	17 27 32.4	-0.2
AIN	**Ainahou**	**0.50**	**110**		Pg	17 27 26.7	-0.7
AIN				IAML		17 27 31.7	
	comp=N,273nm,3.9s						
AIN				IAML		17 27 40.0	
	comp=E,317nm,0.8s						
AIN	**Ainahou**	**0.50**	**110**		Sg	17 27 33.5	-0.5
MLH	**Mauna Loa**	**0.54**	**95**		Pg	17 27 27.2	-1.0
MLH				IAML		17 27 35.8	
	comp=N,374nm,0.1s						
MLH	**Mauna Loa**	**0.54**	**95**		Sg	17 27 34.5	-0.8
HPAH	**Hawaii Prepara**	**0.54**	**26**		Pg	17 27 27.2	-1.0
HPAH					Sg	17 27 34.1	-1.3
HPAH	**Hawaii Prepara**	**0.54**	**26**	IAML		17 27 34.4	
	comp=N,205nm,0.4s						
HPAH				IAML		17 27 34.7	
	comp=E,250nm,0.2s						
HTC	**Hot Caves**	**0.61**	**120**		Pg	17 27 28.1	-1.3
WRMHI	**West Rim**	**0.63**	**102**		Pg	17 27 28.4	-1.6
WRMHI					Sg	17 27 36.3	-1.9
UWE	**Uwekahuna**	**0.64**	**101**		Pg	17 27 28.4	-1.6
SDHHI	**Sand Hill**	**0.64**	**104**		Pg	17 27 28.4	-1.7
SDHHI					Pn	17 27 36.5	+3.8
RSD	**Rainshed**	**0.64**	**97**		Pg	17 27 28.6	-1.5
RSD				IAML		17 27 37.3	
	comp=E,219nm,1.9s						
RSD				IAML		17 27 40.2	
	comp=N,260nm,1.8s						
MHA	**Mahukona**	**0.65**	**4**	Pg	Pg	17 27 28.6	-1.6
UWB	**Uwekahuna Bluf**	**0.65**	**100**		Pg	17 27 28.5	-1.7
HLP	**Hilina Pali**	**0.66**	**112**		Sg	17 27 37.2	-1.9
HLP	**Hilina Pali**	**0.66**	**112**		Pg	17 27 28.7	-1.7
HLP				IAML		17 27 39.6	
	comp=E,431nm,4.0s						
HLP				IAML		17 27 41.2	
	comp=N,430nm,4.2s						
HATHI	**Halema'uma'u T**	**0.67**	**100**		Pg	17 27 28.4	-2.2
HATHI				IAML		17 27 39.6	
	comp=N,170nm,1.5s						
HATHI				IAML		17 27 54.3	
	comp=E,173nm,0.8s						
BYL	**Byron's Ledge**	**0.67**	**101**	Pg	Pg	17 27 28.7	-1.8
BYL				IAML		17 27 49.2	
	comp=N,168nm,3.0s						
BYL				IAML		17 27 49.4	
	comp=E,192nm,3.6s						
PUH	**Pauahi**	**0.72**	**103**		Pg	17 27 29.3	-2.2
PUH					Sg	17 27 39.4	-1.6
PUH				IAML		17 27 49.7	
	comp=E,132nm,3.5s						
PUH				IAML		17 27 56.8	
	comp=N,174nm,3.5s						
KNHH	**Kane Nui o Ham**	**0.76**	**102**		Pg	17 27 30.1	-2.2
STCH	**Steam Cracks**	**0.80**	**101**		Pg	17 27 30.2	-2.8
JOKA	**Jonika Flow**	**0.90**	**97**	Pg	Pg	17 27 31.6	-3.4
JOKA				IAML		17 27 49.6	
	comp=E,97nm,2.7s						

IDC 08 17:31:25.7±27.0, 20.49S×178.33W, h506km±243km, mb3.0/3, mbtmp3.9/3, Error ellipse: s-maj=188.7km s-min=109.3km az=95.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.52**	**244**	P	P	17 37 56.4	+0.2
	1.7nm,0.8s,baz=81,slow=9.8,SNR=3.7						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**44.22**	**257**	P	P	17 38 49.8	-0.1
	1.8nm,0.8s,baz=90,slow=8.3,SNR=49						
ASAR				PcP	PcP	17 40 23.2	-0.4
	0.6nm,0.5s,baz=104,slow=4.2,SNR=13						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**44.30**	**262**	P	P	17 38 49.9	-0.5
	0.3nm,0.3s,baz=96,slow=8.0,SNR=6.4						
WRA				PcP	pP	17 40 23.1	+0.5
	0.2nm,0.3s,baz=92,slow=3.2,SNR=2.1						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**118.87**	**320**	PKP	PKPdf	17 49 14.7	-1.4
	0.7nm,0.3s,baz=118,slow=2.0,SNR=5.2						
MMAI	**Mount Meron Ar**	**147.54**	**300**	PKPbc	PKPbc	17 50 13.6	+0.3
	1.1nm,0.4s,baz=72,slow=4.7,SNR=8.9						

*MOS **08** 17:34:00.7±1.5, 50.48N×87.39E, h13km, mb4.0/1, Error ellipse: s-maj=8.8km s-min=6.0km az=95.8*
*ASRS **08** 17:34:00.8, 50.5N±0.9×87.4E±0.9, h13km±3km, MLh4.5/19, confirmed*
*NNC **08** 17:34:04.2±1.6, 50.63N×87.13E, h1km±8km, mb4.2, mpv4.2, Error ellipse: s-maj=11.4km s-min=5.8km az=101.0*

ISC 08 17:34:01.2±0.6, 50.58N±0.02×87.43E±0.02, h10km, n82, σ2.39/122, 14C-15D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.27**	**170**	⇓P	Pg	17 34 05.9	-0.9
CHBI				S	Sg	17 34 08.9	-1.5
CHBI	**Chibit, Altay**	**0.27**	**170**	PG	Pg	17 34 05.8	-0.9
CHBI				S	Sg	17 34 08.9	-1.5
AKAR	**Aktash**	**0.29**	**155**	⇓P	Pg	17 34 06.3	-0.8
AKAR				S	Sg	17 34 09.7	-1.2
AKAR	**Aktash**	**0.29**	**155**	PG	Pg	17 34 06.2	-0.8
AKAR				S	Sg	17 34 09.7	-1.2
ULGR	**Ulagan, Altay**	**0.34**	**83**	⇑P	Pg	17 34 08.4	+0.4
ULGR				S	Sg	17 34 13.0	+0.4
ULGR	**Ulagan, Altay**	**0.34**	**83**	PG	Pg	17 34 08.4	+0.4
ULGR				S	Sg	17 34 13.0	+0.4
CUR	**Chagan-Uzun**	**0.76**	**129**	⇑P	Pg	17 34 15.1	-0.9
CUR				Sg	Sg	17 34 25.3	-0.5
CUR	**Chagan-Uzun**	**0.76**	**129**	PG	Pg	17 34 15.0	-0.9
CUR				S	Sg	17 34 25.3	-0.5
TUNR	**Tungur**	**0.82**	**239**	⇓P	Pg	17 34 16.5	-0.6
TUNR				S	Sg	17 34 26.9	-0.8
TUNR	**Tungur**	**0.82**	**239**	PG	Pg	17 34 16.4	-0.6
TUNR				S	Sg	17 34 26.8	-0.8
DGZ	**Jazzator, Alta**	**0.88**	**180**	⇓P	Pg	17 34 16.9	-1.2
DGZ				S	Sg	17 34 27.4	-2.3
DGZ	**Jazzator, Alta**	**0.88**	**180**	PG	Pg	17 34 16.9	-1.2
DGZ				S	Sg	17 34 27.3	-2.3
ELDR	**Elanda**	**1.06**	**307**	⇑P	Pg	17 34 21.3	-0.3
ELDR				S	Sb	17 34 35.5	-0.1
ELDR	**Elanda**	**1.06**	**307**	PG	Pg	17 34 21.2	-0.3
ELDR				S	Sb	17 34 35.4	-0.1
YALR	**Yailyu, Altay**	**1.20**	**5**	⇓P	Pg	17 34 24.1	-0.1
YALR				S	Sn	17 34 40.2	-0.1
YALR	**Yailyu, Altay**	**1.20**	**5**	PG	Pg	17 34 24.0	-0.1
YALR				S	Sn	17 34 40.2	-0.1
ARTR	**Artybash**	**1.22**	**356**	⇓P	Pg	17 34 24.6	-0.1
ARTR				S	Sn	17 34 41.9	+0.9
ARTR	**Artybash**	**1.22**	**356**	PG	Pg	17 34 24.6	-0.1
ARTR				S	Sn	17 34 41.8	+0.9
TEL	**Teeli**	**1.81**	**75**	⇑P	Pg	17 34 35.2	-0.8
TEL				S	Sg	17 34 59.0	-0.4
TEL	**Teeli**	**1.81**	**75**	PN	Pg	17 34 35.1	-0.8
TEL				S	Sg	17 34 59.0	-0.4
ELT	**Eltsovka**	**2.78**	**345**	⇓P	Pb	17 34 49.5	-1.5
ELT				S	Sb	17 35 27.2	+2.0
ELT	**Eltsovka**	**2.78**	**345**	PN	Pb	17 34 49.4	-1.5
ELT				S	Sb	17 35 27.1	+2.0
KALT2	**Kaltan 2**	**2.83**	**359**	P	Pb	17 34 50.4	-1.3
KALT2				S	Sg	17 35 31.4	-0.5
KALT3	**Kaltan 3**	**2.94**	**0**	P	Pb	17 34 52.0	-1.6
KIYZ	**Kiyzas, Kuzbas**	**2.99**	**4**	P	Pb	17 34 52.5	-2.0
LUZB	**Luzhba, Kemero**	**3.22**	**16**	P	Pb	17 34 55.7	-2.7
LUZB				Sg	Sg	17 35 45.2	+0.7
LUZB	**Luzhba, Kemero**	**3.22**	**16**	PN	Pb	17 34 55.6	-2.7
LUZB				S	Sg	17 35 45.1	+0.7
VEH	**Verkhnyaya Baz**	**3.22**	**33**	P	Pb	17 34 56.3	-2.2
VEH				Sg	Sg	17 35 41.6	-2.9
VEH	**Verkhnyaya Baz**	**3.22**	**33**	PN	Pb	17 34 56.2	-2.2
VEH

UZB	**Uzynbulak**	**9.40**	**221**	Pg	**Sn**	**17 37 59.4**	**-3.1**
	4.9nm,0.4s						
UZB				Lg	Lg	17 38 58.7	
	15nm,1.3s						
CHKK	**Chushkaly**	**9.78**	**231**	Pg		17 38 05.5	
	1.2nm,0.1s						
CHKK				Lg	Lg	17 39 10.0	
	12nm,0.6s						
KTBS	**Karatobe**	**10.03**	**231**	Pg	**Sn**	**17 38 10.2**	**-7.7**
	3.3nm,0.6s						
KTBS				Lg	Lg	17 39 17.4	
	19nm,0.8s						
KUU	**Kurty**	**10.07**	**233**	Pg	**Sn**	**17 38 10.3**	**-8.6**
	3.1nm,0.0s						
KUU				Lg	Lg	17 39 17.7	
	28nm,0.4s						
KOTS	**Kotyrbulak**	**10.18**	**228**	Pg	**Sn**	**17 38 16.1**	**-5.7**
	5.0nm,0.6s						
KOTS				Lg	Lg	17 39 27.9	
	35nm,1.0s						
MDOK	**Medeo**	**10.27**	**228**	Pg	**Sn**	**17 38 16.2**	**-7.6**
	1.0nm,0.1s						
MDOK				Lg	Lg	17 39 27.6	
	8.8nm,0.7s						
KRBS	**Karabastau**	**10.55**	**234**	Pg	**Sn**	**17 38 22.2**	**-8.4**
	1.1nm,0.4s						
KRBS				Lg	Lg	17 39 38.8	
	3.9nm,0.7s						
MTBS	**Maitube**	**10.59**	**229**	Pg	Sn	17 38 20.6	-11
	2.3nm,0.1s						
MTBS				Lg	Lg	17 39 35.2	
	9.2nm,0.6s						
BVA0	**Borovoye Array**	**10.83**	**290**	⇓Pn	**Pn**	**17 36 37.0**	**+0.8**
	3.6nm,0.9s,baz=98,slow=12,SNR=12						
BVA0				⇑Sn	**Sn**	**17 38 37.3**	**-0.1**
	4.1nm,0.6s,baz=107,slow=26,SNR=5.0						
BVA0	**Borovoye Array**	**10.83**	**290**	P	**Pn**	**17 36 37.0**	**+0.8**
BVA0				S	**Sn**	**17 38 37.3**	**-0.1**
BORK	**Borovoye**	**10.88**	**290**	*i* P	**Pn**	**17 36 37.5**	**+0.7**
KST	**Kastek**	**10.88**	**231**	Pg	Sn	17 38 28.0	-11
	2.6nm,0.6s						
KST				Lg	Lg	17 39 48.1	
	16nm,1.0s						
BRVK	**Borovoye**	**10.90**	**290**	⇑Pn	**Pn**	**17 36 37.7**	**+0.6**
	1.9nm,0.9s						
BRVK				⇑Sn	**Sn**	**17 38 37.5**	**-1.5**
	3.0nm,0.6s						
SGDS	**Sogindy**	**11.27**	**236**	Pg	Sn	17 38 34.7	-13
	2.1nm,0.4s						
SGDS				Lg	Lg	17 39 59.3	
	13nm,0.7s						
MRKS	**Merke**	**12.50**	**237**	Pg		17 38 56.2	
	0.8nm,0.2s						
MRKS				Lg	Lg	17 40 36.2	
	9.5nm,0.7s						
ULN	**Ulaanbaatar**	**13.11**	**94**	*i* P	**Pn**	**17 37 07.2**	**-0.3**
KSH	**Kashi**	**13.69**	**220**	P	P	17 37 30.3	+6.1
KSH				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KK31	**Karatay Array**	**13.76**	**244**	⇑Pn	**Pn**	**17 37 19.3**	**+3.0**
	comp=Z,0.3nm,0.2s,baz=50,slow=15,SNR=4.6						
KK31	**Karatay Array**	**13.76**	**244**	P	**Pn**	**17 37 19.3**	**+3.0**
GTA	**Gaotai**	**14.17**	**137**	*e*P	**P**	**17 37 30.4**	**+0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				smax	smax		
	comp=N,9.0nm,1.6s						
GTA				smax	smax		
	comp=E,6.0nm,1.5s						
AB31	**Akbulak array**	**17.71**	**276**	⇑Pn	**Pn**	**17 38 06.4**	**-1.4**
	comp=E,0.6nm,0.5s,baz=78,slow=10.0,SNR=15						
AB31	**Akbulak array**	**17.71**	**276**	P	**Pn**	**17 38 06.4**	**-1.4**
ARTI	**Arti**	**18.15**	**300**	P	**Pn**	**17 38 12.3**	**-0.7**
ARTI				S	**Sn**	**17 41 35.2**	**-0.2**
KIRV	**Kirov**	**23.16**	**305**	*i* P	**P**	**17 39 09.4**	**+1.9**
BELG	**Belogornoye**	**24.64**	**290**	*i* P	**P**	**17 39 23.3**	**+1.7**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						

DJA 08 17:59:24.4±0.5,3°S±2°×13°1E±°,h15km±3km,M3.7/13, mb4.0/3,MLv3.6/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.69**	**222**	P	Pn	17 59 52.9	-0.5
BNDI				S	Sb	18 00 16.1	-0.2
MSAI	**Masohi**	**2.11**	**268**	P	Pn	18 00 00.6	+1.4
SWI	**Sorong**	**2.39**	**5**	P	Pn	18 00 02.8	-0.3
SWI				S	Sn	18 00 33.5	+1.4
KMPI	**Kaimana, Papua**	**2.69**	**99**	P	Pn	18 00 06.4	-0.8
AAI	**Ambon**	**2.87**	**261**	P	Pn	18 00 11.4	+1.7
RKPI	**Ransiki, Papua**	**3.58**	**61**	P	Pn	18 00 19.8	+0.3
RKPI				S	Sn	18 01 02.9	+1.3
NLAI	**Namlea**	**3.93**	**270**	P	Pn	18 00 24.9	+0.6
NLAI				S	Sn	18 01 11.4	+1.2
SANI	**Sanana**	**5.19**	**283**	P	Pn	18 00 39.1	-2.4
	0.1nm17nm,1.2s						
BAKI	**Biak**	**5.46**	**68**	P	Pn	18 00 46.7	+1.3
	18nm,0.9s						
BAKI				S	Sn	18 01 49.1	+1.1
	18nm,0.9s						
SOEI	**Soe**	**9.32**	**226**	P	Pn	18 01 37.8	-0.7

*NEIC **08** 18:17:59.8±2.3, 19°.26N±0°.04×67°.18W±0°.02, h10km±1km, mb4.4/24, ML3.9/21, Md4.0/12(RSPR), Error ellipse: s-maj=6.3km s-min=3.0km az=20.0*
*IDC **08** 18:18:00.5±0.9, 19°.23N×67°.20W, h0km, mb3.8/7, mbtmp3.9/9, ML3.7/2, MS2.8/3, Error ellipse: s-maj=27.1km s-min=12.3km az=51.0*
*OSPL **08** 18:18:01.4±0.3, 19°.25N×67°.40W, h10km±3km, ML3.7*
*SDD **08** 18:18:01.3±1.4, 19°.25N×67°.23W, h3km±5km, MD3.3, ML4.1, MW3.7*
*RSPR **08** 18:18:02.5, 19°.24N×67°.44W, h10km±31km, MD4.0/12*
ISC 08 18:18:00.3±1.3,19°23N±0°.04×67°27W±0°.03,h10km±9km, n125,σ1§64/142,mb4.3/14,MS4.1/3,25C-10D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.77**	**169**		**Pg**	**18 18 15.8**	**+0.6**
AGPR					**Sb**	**18 18 27.8**	**+1.4**
AGPR	**Aguadilla, PR**	**0.77**	**169**	⇓*e*P	**Pg**	**18 18 15.8**	**+0.6**
AGPR	**Aguadilla, PR**	**0.77**	**169**	*e*S	**Sb**	**18 18 27.8**	**+1.4**
AGPR	**Aguadilla, PR**	**0.77**	**169**	*i* P	**Pg**	**18 18 15.8**	**+0.6**
AGPR				*i* S	**Sg**	**18 18 25.9**	**+0.6**
AGPR				IAML		18 18 28.1	
	comp=N,6μm,0.3s						
AGPR	**Aguadilla, PR**	**0.77**	**169**	*i* P	**Pg**	**18 18 15.9**	**+0.6**
AGPR				*e*S	**Sg**	**18 18 26.9**	**+1.6**
AGPR				IAML		18 18 30.9	
	comp=Z,3μm,0.2s						
IDE	**Isla Desecheo**	**0.86**	**193**		**Pg**	**18 18 17.3**	**+0.4**
IDE					**Sg**	**18 18 28.9**	**+0.9**
IDE	**Isla Desecheo**	**0.86**	**193**	⇑*e*P	**Pg**	**18 18 17.3**	**+0.4**
IDE	**Isla Desecheo**	**0.86**	**193**	*e*S	**Sg**	**18 18 28.9**	**+0.9**
AOPR	**Arecibo Observ**	**1.00**	**151**		**Pg**	**18 18 19.3**	**-0.3**
AOPR					**Sg**	**18 18 28.7**	**-4.0**
AOPR				IAML		18 18 45.3	
	comp=N,3μm,0.4s						
AOPR	**Arecibo Observ**	**1.00**	**151**	⇑*e*P	**Pg**	**18 18 19.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.00**	**151**	*e*S	**Sg**	**18 18 33.6**	**+0.9**
AOPR	**Arecibo Observ**	**1.00**	**151**	⇑*i*P	**Pg**	**18 18 19.8**	**+0.1**
AOPR				⇑*i*S	**Sg**	**18 18 32.8**	**0.0**
AOPR				IAML		18 18 46.0	
	comp=N,3μm,0.2s						
PRSN	**Puerto Rico Se**	**1.01**	**173**		**Pg**	**18 18 17.4**	**-2.4**
PRSN	**Puerto Rico Se**	**1.01**	**173**		**Sg**	**18 18 33.8**	**+0.8**
PRSN	**Puerto Rico Se**	**1.01**	**173**	⇑*e*P	**Pg**	**18 18 19.9**	**+0.1**
PRSN	**Puerto Rico Se**	**1.01**	**173**	⇑*i*P	**Pg**	**18 18 19.9**	**+0.1**
PRSN				⇑*i*S	**Sg**	**18 18 33.9**	**+0.8**
PRSN				IAML		18 18 45.4	
	comp=N,6μm,0.3s						
EMPR	**Esperanza - Ma**	**1.03**	**137**		**Pg**	**18 18 20.4**	**+0.4**
EMPR	**Esperanza - Ma**	**1.03**	**137**		**Sn**	**18 18 36.3**	**+1.1**
EMPR	**Esperanza - Ma**	**1.03**	**137**	⇑*e*P	**Pn**	**18 18 22.5**	**+1.7**
EMPR	**Esperanza - Ma**	**1.03**	**137**	*e*S	**Sn**	**18 18 36.3**	**+1.1**
LSP	**Las Mesas**	**1.06**	**170**		**Pg**	**18 18 20.9**	**+0.1**
LSP					**Sg**	**18 18 35.5**	**+0.9**
LSP	**Las Mesas**	**1.06**	**170**	⇑*e*P	**Pg**	**18 18 20.9**	**+0.1**
LSP	**Las Mesas**	**1.06**	**170**	*e*S	**Sg**	**18 18 35.5**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.10**	**152**		**Pb**	**18 18 20.8**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.10**	**152**	⇑*e*P	**Pb**	**18 18 22.4**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.23**	**173**		**Pn**	**18 18 22.0**	**-1.5**
CRPR					**Sb**	**18 18 35.6**	**-3.8**
CRPR				IAML		18 18 43.5	
	comp=E,2μm,0.6s						
CRPR				IAML		18 18 47.0	
	comp=N,2μm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.23**	**173**	⇑*e*P	**Pn**	**18 18 23.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.23**	**173**	⇑*i*P	**Pn**	**18 18 22.9**	**-0.6**
CRPR				⇓*i*S	**Sb**	**18 18 39.4**	**0.0**
CRPR				IAML		18 18 49.9	
	comp=N,2μm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.23**	**173**	*i* P	**Pn**	**18 18 23.4**	**-0.1**
CRPR				*e*S	**Sb**	**18 18 39.4**	**0.0**
CRPR				IAML		18 18 47.9	
	comp=Z,2μm,0.4s						
ECPR	**Experimental S**	**1.25**	**136**	⇑*e*P	**Pn**	**18 18 24.5**	**+0.7**
ECPR	**Experimental S**	**1.25**	**136**	*e*S	**Sn**	**18 18 41.5**	**+0.8**
PCDR	**Punta Cana, DR**	**1.27**	**236**	⇑*e*Pg	**Pn**	**18 18 23.7**	**-0.4**
PCDR				IAML		18 18 44.6	
	comp=N,7μm,0.5s						
MLPR	**Magueyes Islan**	**1.27**	**170**	⇓*e*P	**Pn**	**18 18 23.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.27**	**170**	⇑*i*P	**Pn**	**18 18 24.1**	**-0.1**
MLPR				⇓*i*S	**Sb**	**18 18 40.9**	**+0.1**
MLPR				IAML		18 18 41.2	
	comp=N,569nm,0.6s						
GBPR	**Guanica, Bosqu**	**1.30**	**163**		**Pn**	**18 18 25.2**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.30**	**163**	⇓*e*P	**Pn**	**18 18 25.2**	**+0.6**
CELP	**Cerrillos**	**1.32**	**150**		**Pn**	**18 18 24.3**	**-0.5**
CELP					**Sb**	**18 18 37.0**	**-5.2**
CELP				IAML		18 18 46.5	
	comp=E,2μm,0.6s						
CELP				IAML		18 18 48.9	
	comp=N,2μm,0.6s						
CELP	**Cerrillos**	**1.32**	**150**	⇑*e*P	**Pn**	**18 18 24.8**	**-0.1**
CELP	**Cerrillos**	**1.32**	**150**	*e*S	**Sb**	**18 18 42.5**	**+0.3**
CELP	**Cerrillos**	**1.32**	**150**	⇑*i*P	**Pn**	**18 18 24.7**	**-0.1**
CELP				*i* S	**Sb**	**18 18 41.9**	**-0.3**
CELP				IAML		18 18 50.4	
	comp=N,2μm,0.6s						
OBIP	**Obispado Ponce**	**1.34**	**152**		**Pn**	**18 18 24.3**	**-0.7**
OBIP					**Sb**	**18 18 37.6**	**-5.1**
OBIP				IAML		18 18 49.9	
	comp=N,2μm,0.6s						
OBIP	**Obispado Ponce**	**1.34**	**152**	⇑*e*P	**Pn**	**18 18 25.0**	**0.0**
OBIP	**Obispado Ponce**	**1.34**	**152**	*e*S	**Sb**	**18 18 42.7**	**+0.1**
GCPR	**Guaynabo City**	**1.45**	**129**		**Pn**	**18 18 27.1**	**+0.5**
GCPR					**Sn**	**18 18 41.1**	**-4.6**
GCPR	**Guaynabo City**	**1.45**	**129**	⇑*e*P	**Pb**	**18 18 27.8**	**+0.3**
GCPR	**Guaynabo City**	**1.45**	**129**	*e*S	**Sb**	**18 18 46.5**	**+0.6**
HIDR	**Higuey Centro**	**1.51**	**245**	⇑*e*P	**Pn**	**18 18 27.2**	**-0.2**
HIDR	**Higuey Centro**	**1.51**	**245**	*e*S	**Sn**	**18 18 47.0**	**-0.1**
HIDR	**Higuey Centro**	**1.51**	**245**	⇓*i*P	**Pn**	**18 18 27.4**	**0.0**
HIDR				⇓*i*S	**Sn**	**18 18 47.1**	**0.0**
HIDR				IAML		18 18 56.6	
	comp=N,3μm,0.3s						
SJG	**San Juan**	**1.54**	**136**		**Pn**	**18 18 28.1**	**+0.3**
SJG				IAML		18 18 53.1	
	comp=N,1μm,0.5s						
SJG	**San Juan**	**1.54**	**136**	Pg	**Pn**	**18 18 28.4**	**+0.6**
	comp=N,57nm,0.3s,baz=309,slow=10,SNR=41						
SJG				Lg	Lg	18 18 48.0	
	comp=N,98nm,0.3s,baz=92,slow=23,SNR=7.0						
SJG				LR	LR	18 19 19.1	
	comp=N,706nm,18.4s,baz=193,slow=53						
SJG	**San Juan**	**1.54**	**136**	⇓*e*P	**Pn**	**18 18 28.6**	**+0.8**
SJG	**San Juan**	**1.54**	**136**	*e*S	**Sb**	**18 18 49.5**	**+1.0**
SJG	**San Juan**	**1.54**	**136**	*e*Pg	**Pn**	**18 18 28.4**	**+0.6**
SJG	**San Juan**	**1.54**	**136**	*i* P	**Pn**	**18 18 28.4**	**+0.6**
SJG				*e*S	**Sn**	**18 18 48.5**	**+0.6**
SJG				IAML		18 18 59.7	
	comp=Z,622nm,0.7s						
IGPR	**InterUniversit**	**1.67**	**138**		**Pn**	**18 18 30.8**	**+1.2**
IGPR					**Sb**	**18 18 52.6**	**+0.3**
IGPR	**InterUniversit**	**1.67**	**138**	⇓*e*P	**Pn**	**18 18 30.8**	**+1.2**
IGPR	**InterUniversit**	**1.67**	**138**	*e*S	**Sb**	**18 18 52.6**	**+0.3**
PDPR	**Patillas Dam,**	**1.69**	**135**		**Pn**	**18 18 30.2**	**+0.3**
PDPR				IAML		18 18 57.2	
	comp=N,1μm,0.1s						
PDPR	**Patillas Dam,**	**1.69**	**135**	⇑*e*P	**Pn**	**18 18 31.2**	**+1.3**
PDPR	**Patillas Dam,**	**1.69**	**135**	*e*S	**Sb**	**18 18 53.3**	**+0.5**
MIDR	**Miches**	**1.70**	**262**	⇑*e*P	**Pn**	**18 18 31.4**	**+1.4**
MIDR	**Miches**	**1.70**	**262**	⇓*i*P	**Pn**	**18 18 31.1**	**+1.1**
MIDR				⇑*i*S	**Sn**	**18 18 52.5**	**+0.7**
MIDR				IAML		18 18 55.0	
	comp=N,1μm,0.7s						
HUMP	**Col San Antoni**	**1.73**	**128**		**Pn**	**18 18 30.8**	**+0.3**
SMDR	**Samana, DR**	**1.81**	**272**	*i* P	**Pn**	**18 18 31.5**	**-0.1**
SMDR				*i* S	**Sn**	**18 18 54.6**	**0.0**
SMDR				IAML		18 19 05.8	
	comp=E,1μm,0.3s						
SMDR				IAML		18 19 05.8	
	comp=N,43μm,0.3s						
DR12	**Loma Pena Alta**	**2.04**	**258**		**Pn**	**18 18 35.8**	**+0.9**
HATOM	**Hato Mayor del**	**2.04**	**258**	⇑*i*P	**Pn**	**18 18 36.4**	**+1.6**
HATOM				⇑*i*S	**Sn**	**18 19 01.3**	**+0.9**
HATOM				IAML		18 19 09.1	
	comp=N,1μm,0.6s						
SDD	**Santo Domingo**	**2.62**	**253**		**Pn**	**18 18 43.4**	**+0.7**
SDD				IAML		18 19 30.0	
	comp=N,615nm,1.1s						
BANI	**BANI**	**3.04**	**255**		**Pn**	**18 18 49.8**	**+1.2**
SC01	**Santiago de lo**	**3.27**	**274**		**Pn**	**18 18 52.7**	**+1.0**
SDDR	**Presa de Saban**	**3.81**	**267**		**Pn**	**18 19 01.3**	**+2.2**
SDDR	**Presa de Saban**	**3.81**	**267**	*e*P	**Pn**	**18 19 01.5**	**+2.4**
SDDR				*e*S	**Sn**	**18 19 47.7**	**+3.7**
SMRT	**St. Maarten**	**4.15**	**106**		**Pn**	**18 19 04.7**	**+0.9**
SMRT				IAML		18 20 10.2	
	comp=E,229nm,0.2s						
SMRT				IAML		18 20 11.2	
	comp=N,175nm,0.7s						
GRTK	**Grand Turk**	**4.28**	**303**	*e*P	**Pn**	**18 19 04.1**	**-1.4**
PAPH	**Port-au-Prince**	**4.81**	**262**	*e*P	**Pn**	**18 19 15.1**	**+2.2**
PAPH				*e*S	**Sn**	**18 20 12.1**	**+3.4**
MASC	**Masc**	**6.62**	**279**	*e*P	**Pn**	**18 19 36.3**	**-1.4**
MASC				*e*S	**Sn**	**18 20 47.1**	**-6.2**
QMBU	**Quimbuelo**	**7.17**	**279**	*e*P	**Pn**	**18 19 42.8**	**-2.5**
NMDO	**Nuevo Mundo**	**7.38**	**282**	Pn	Pn	18 19 42.5	-5.6
NMDO	**Nuevo Mundo**	**7.38**	**282**	*e*P	Pn	18 19 44.1	-4.0
GTBY	**Guantanamo Bay**	**7.42**	**277**	*e*P	**Pn**	**18 19 48.4**	**-0.4**
RCC	**Rio Carpintero**	**7.98**	**277**	*e*P	**Pn**	**18 19 54.4**	**-2.0**
PINC	**Pinares de May**	**8.12**	**280**	*e*P	**Pn**	**18 19 55.0**	**-3.3**
MARVS	**Santiago de Cu**	**8.17**	**277**	*e*P	**Pn**	**18 19 57.8**	**-1.2**
HLGC	**Holguin**	**8.42**	**283**	*e*P	**Pn**	**18 20 01.6**	**-0.9**
YAR	**Yar**	**8.63**	**279**	*e*P	**Pn**	**18 20 03.1**	**-2.2**
YAR				*e*S	Sn	18 21 35.1	-7.7
CHIV	**Chivirico**	**8.65**	**276**	Pn	Pn	18 20 00.9	-4.7
CHIV	**Chivirico**	**8.65**	**276**	*e*P	**Pn**	**18 20 02.4**	**-3.2**
PCRV	**Puerto La Cruz**	**9.35**	**164**	Pn	**Pn**	**18 20 16.3**	**+1.0**
	comp=N,1.7nm,0.3s,baz=321,slow=6.6,SNR=8.9						
PCRV				Sn	Sn	18 21 50.0	-11
	comp=N,0.2nm,0.3s,baz=124,slow=15,SNR=1.2						
PCRV				LR	LR	18 24 19.4	
	comp=N,65nm,18.6s,slow=40						
	comp=N,20nm,0.7s						
CCCC	**Cccc**	**10.05**	**283**	*e*P	Pn	18 20 16.4	-8.4
BAUV	**El Baul**	**10.25**	**184**		**Pn**	**18 20 29.1**	**+1.6**
SMRC	**Santa Marta, M**	**10.45**	**221**	Pn	**Pn**	**18 20 29.5**	**-0.9**
SDV	**Santo Domingo**	**10.79**	**198**	Pn	**Pn**	**18 20 36.6**	**+1.5**
	comp=N,2.2nm,0.3s,baz=80,slow=12,SNR=4.1						
SDV				Sn	Sn	18 22 26.4	-10
	comp=N,0.8nm,0.3s,baz=112,slow=21,SNR=1.3						
	comp=N,4.8nm,0.3s						
BBSR	**BB Station**	**13.29**	**10**	Pn	**Pn**	**18 21 08.2**	**-0.9**
RUSC	**La Rusia**	**14.41**	**204**		**Pn**	**18 21 23.8**	**-1.2**
BOAV	**Boa Vista**	**17.99**	**158**		**Pn**	**18 22 08.1**	**-2.6**
JTS	**Las Juntas de**	**19.25**	**245**	LR	LR	18 30 28.3	
	comp=N,31nm,19.7s,baz=23,slow=39						
FLOC	**Florencia**	**19.36**	**206**	P	**P**	**18 22 22.2**	**-4.1**
W57A	**Gilead**	**19.45**	**327**	P	**P**	**18 22 25.5**	**-1.6**
W57A				IAmb	IAmb	18 22 44.4	
	comp=Z,30nm,1.3s						
MDP	**Montagnes des**	**20.02**	**133**	LR	LR	18 30 38.4	
	comp=Z,31nm,21.7s,baz=299,slow=38						
HODGE	**Hodges**	**20.02**	**321**	P	**P**	**18 22 32.6**	**-0.7**
KMSC	**Kings Mountain**	**20.16**	**325**	P	**P**	**18 22 34.4**	**-0.4**
KMSC				IAmb	IAmb	18 23 00.1	
	comp=Z,9.6nm,0.6s						
T57A	**Hurt**	**20.59**	**332**	P	**P**	**18 22 39.0**	**-0.5**
T57A				IAmb	IAmb	18 23 16.4	
	comp=Z,30nm,1.4s						
V55A	**Taylorsville**	**20.63**	**326**	P	**P**	**18 22 39.4**	**-0.5**
V55A				IAmb	IAmb	18 22 53.6	
	comp=Z,34nm,1.4s						
BLA	**Blacksburg**	**21.30**	**330**	P	**P**	**18 22 47.0**	**-0.2**
BLA				IAmb	IAmb	18 23 22.0	
	comp=Z,15nm,0.7s						
V53A	**Saluda**	**21.36**	**323**	P	**P**	**18 22 47.6**	**-0.4**
V53A				IAmb	IAmb	18 23 26.7	
	comp=Z,8.3nm,0.6s						
TKL	**Tuckaleechee C**	**21.91**	**322**	P	**P**	**18 22 52.3**	**-1.4**
TKL				IAmb	IAmb	18 23 17.7	
	comp=Z,29nm,1.4s						
R55A	**Marlinton**	**22.03**	**332**	P	**P**	**18 22 54.1**	**-1.0**
CPCT	**Cooper Cave**	**22.21**	**320**	P	**P**	**18 22 55.2**	**-1.8**
CPCT				IAmb	IAmb	18 23 26.7	
	comp=Z,7.4nm,0.6s						
P57A	**Homestead Farm**	**22.22**	**338**	P	**P**	**18 22 54.8**	**-2.2**
P57A				IAmb	IAmb	18 23 23.8	
	comp=Z,18nm,1.2s						
TZTN	**Tazewell**	**22.41**	**324**	P	**P**	**18 22 59.0**	**0.0**
TZTN				IAmb	IAmb	18 23 34.6	
	comp=Z,17nm,1.0s						
Y49A	**Blount Mountai**	**22.43**	**314**	P	**P**	**18 22 58.1**	**-1.3**
Y49A				IAmb	IAmb	18 23 16.2	
	comp=Z,9.3nm,0.7s						
S51A	**Beattyville**	**23.23**	**326**	P	**P**	**18 23 05.8**	**-1.8**
M57A	**Sunshine Farm,**	**23.59**	**341**	P	**P**	**18 23 09.8**	**-1.5**
M57A				IAmb	IAmb	18 23 45.0	
	comp=Z,12nm,1.0s						
K62A	**Royalston**	**23.74**	**351**	P	**P**	**18 23 11.3**	**-1.4**
L56A	**Greenwood**	**24.45**	**341**	P	**P**	**18 23 19.7**	**+0.3**
SADO	**Sadowa**	**27.32**	**341**	LR	LR	18 34 08.3	
	comp=Z,540nm,19.6s,baz=1.5,slow=35						
TXAR	**Lajitas Array**	**34.54**	**294**	P	**P**	**18 24 51.2**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=107,slow=9.0,SNR=9.0						
	comp=Z,0.7nm,0.7s						
SDCO	**Great Sand Dun**	**38.01**	**307**	P	**P**	**18 25 17.3**	**-1.7**
PDAR	**Pinedale Array**	**42.59**	**313**	P	**P**	**18 26 00.6**	**+3.7**
	comp=Z,0.3nm,0.5s,baz=107,slow=9.5,SNR=3.4						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**57.61**	**55**	P	**P**	**18 27 52.4**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=272,slow=6.4,SNR=7.3						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.15**	**84**	P	**P**	**18 28 49.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=301,slow=8.4,SNR=2.5						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**68.36**	**333**	P	**P**	**18 29 02.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=103,slow=5.0,SNR=7.1						
	comp=Z,0.7nm,0.8s						
ARCES	**ARCESS Array B**	**73.12**	**22**	P	**P**	**18 29 32.4**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=292,slow=5.3,SNR=3.8						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**74.90**	**30**	P	**P**	**18 29 43.0**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=276,slow=3.6,SNR=1.9						
	comp=Z,1.6nm,0.8s						
BELG	**Belogornoye**	**89.14**	**34**	LR	LR	19 07 16.9	
	comp=Z,309nm,20.9s,baz=96,slow=33						

*NEIC **08** 18:44:24.4±2.3, 19°.21N±0°.04×67°.09W±0°.03, h10km±1km, ML2.7/13, Md2.6/15(RSPR), Error ellipse: s-maj=6.2km s-min=4.2km az=344.0*
*SDD **08** 18:44:25.5±1.3, 19°.27N×67°.16W, h31km±56km, MD3.5, ML2.7, MW3.3*
*RSPR **08** 18:44:26.9, 19°.22N×67°.18W, h10km±31km, MD2.6/15*
ISC 08 18:44:27.1±1.6,19°11N±0°.07×67°18W±0°.04,h22km±11km, n55,σ1§11/68,11C-11D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.64**	**175**		**Pb**	**18 44 39.8**	**+0.1**
AGPR					**Sb**	**18 44 49.9**	**+1.6**
AGPR	**Aguadilla, PR**	**0.64**	**175**	⇑*e*P	**Pb**	**18 44 39.8**	**+0.1**
AGPR	**Aguadilla, PR**	**0.64**	**175**	*e*S	**Sb**	**18 44 49.9**	**+1.6**
AGPR	**Aguadilla, PR**	**0.64**	**175**	⇓*e*Pg	**Pb**	**18 44 39.6**	**-0.1**
AGPR				⇑*e*Sg	**Sn**	**18 44 50.4**	**0.0**
AGPR				IAML		18 44 52.1	
	comp=N,505nm,0.3s						
AGPR				IAML		18 44 52.1	
	comp=E,504nm,0.3s						
IDE	**Isla Desecheo**	**0.78**	**202**		**Pb**	**18 44 42.0**	**+0.1**
IDE					**Sn**	**18 44 54.1**	**+0.4**
IDE	**Isla Desecheo**	**0.78**	**202**	⇑*e*P	**Pb**	**18 44 42.0**	**+0.1**
IDE	**Isla Desecheo**	**0.78**	**202**	*e*S	**Sn**	**18 44 54.1**	**+0.4**
**

MIDR	**Miches**	**1.78 266**	*e*Pg		**Pn**	**18 44 55.6**	**-0.9**
MIDR			IAML			18 45 26.6	
	comp=E,53nm,0.6s						
MIDR			IAML			18 45 28.5	
	comp=N,41nm,0.3s						
MIDR			IAML			18 45 28.5	
	comp=N,42nm,0.2s						
DR12	**Loma Pena Alta**	**2.11 262**	Pn		**Pn**	**18 45 00.9**	**-0.2**
HATOM	**Hato Mayor del**	**2.11 262**⇓	*e*Pg		**Pn**	**18 45 01.1**	**0.0**
HATOM			IAML			18 45 38.8	
	comp=E,28nm,0.8s						
HATOM			IAML			18 45 41.1	
	comp=N,33nm,1.0s						
BANI	**BANI**	**3.10 257**	Pn		**Pn**	**18 45 14.7**	**-0.1**
SDDR	**Presa de Saban**	**3.89 269**			**Pn**	**18 45 26.2**	**+0.6**

KRSC ***08*** *18:58:31.4±1.7, 52°.35N×159°.73E, h41km±21km, Ml4.7*
MOS ***08*** *18:58:33.2±1.2, 52°.39N×159°.50E, h62km, mb4.8/20, Error ellipse: s-maj=7.7km s-min=3.5km az=92.7*
NEIC ***08*** *18:58:34.7±1.7, 52°.55N±0°.08×159°.5E±0°.1, h55km±6km, mb4.6/65, Error ellipse: s-maj=12.8km s-min=8.8km az=203.0*
IDC ***08*** *18:58:37.3±1.4, 52°.61N×159°.30E, h70km±10km, mb3.8/25, mbtmp4.1/28, MS3.8/23, Error ellipse: s-maj=14.9km s-min=12.2km az=136.0*
ISC 08 18:58:33.6±0.9, 52°.43N±0°.04×159°.58E±0°.04, h51km±7km, n358, σ1§52/370, mb4.5/96, MS3.9/22, 25C-16D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.65**	**271**	PN			**Pn**	**18 58 46.4**	**-0.3**
RUS				S			**Sn**	**18 58 56.1**	**-0.1**
RUS	**Russkaya**	**0.65**	**271**	*e*P			**Pn**	**18 58 46.5**	**-0.3**
RUS				*e*S			**Sn**	**18 58 56.1**	**-0.1**
SPN	**Mys Shipunski**	**0.73**	**22**	PN			**Pn**	**18 58 47.3**	**-0.4**
SPN	**Mys Shipunski**	**0.73**	**22**	*e*P			**Pn**	**18 58 47.3**	**-0.4**
NLC	**Nalytchevo**	**0.76**	**349**	PN			**Pn**	**18 58 47.8**	**-0.3**
NLC				S			**Sn**	**18 58 59.1**	**+0.4**
NLC	**Nalytchevo**	**0.76**	**349**	*e*P			**Pn**	**18 58 47.8**	**-0.3**
NLC				*e*S			**Sn**	**18 58 59.2**	**+0.4**
DALK	**Dalny**	**0.79**	**321**	PN			**Pn**	**18 58 48.4**	**-0.1**
DALK				S			**Sn**	**18 58 59.6**	**+0.3**
DALK	**Dalny**	**0.79**	**321**	*e*P			**Pn**	**18 58 48.4**	**-0.1**
DALK				*e*S			**Sn**	**18 58 59.6**	**+0.3**
PET	**Petropavlovsk**	**0.82**	**317**				**Pn**	**18 58 48.5**	**-0.4**
PET				Sn			**Sn**	**18 58 59.5**	**-0.6**
PET	**Petropavlovsk**	**0.82**	**317**	κ *i*PN			**Pn**	**18 58 49.0**	**+0.1**
PET				*i* S			**Sn**	**18 58 59.9**	**-0.2**
PET					pmax	pmax			
	comp=Z,1μm,0.4s								
PET					smax	smax			
	comp=E,4μm,0.6s								
PET					smax	smax			
	comp=N,4μm,0.6s								
PET	**Petropavlovsk**	**0.82**	**317**	*e*P			**Pn**	**18 58 49.0**	**+0.1**
PET				*e*S			**Sn**	**18 59 00.3**	**+0.1**
PET	**Petropavlovsk**	**0.82**	**317**	Pn			**Pn**	**18 58 49.1**	**+0.1**
MTVR	**Mutnovka**	**0.86**	**274**	PN			**Pn**	**18 58 49.6**	**+0.1**
MTVR				S			**Sn**	**18 59 01.1**	**-0.1**
MTVR	**Mutnovka**	**0.86**	**274**	*e*P			**Pn**	**18 58 49.7**	**+0.1**
MTVR				*e*S			**Sn**	**18 59 01.2**	**-0.1**
INSR	**Institute**	**0.87**	**318**	PN			**Pn**	**18 58 49.8**	**+0.2**
INSR				S			**Sn**	**18 59 01.9**	**+0.6**
INSR	**Institute**	**0.87**	**318**	*e*P			**Pn**	**18 58 49.8**	**+0.2**
INSR				*e*S			**Sn**	**18 59 02.0**	**+0.6**
UGLR	**Uglovaya**	**0.91**	**330**	PN			**Pn**	**18 58 50.6**	**+0.4**
UGLR	**Uglovaya**	**0.91**	**330**	*e*P			**Pn**	**18 58 50.7**	**+0.4**
GRL	**Gorelyy**	**0.93**	**278**	PN			**Pn**	**18 58 51.2**	**+0.7**
GRL				S			**Sn**	**18 59 04.4**	**+1.5**
GRL	**Gorelyy**	**0.93**	**278**	*e*P			**Pn**	**18 58 51.2**	**+0.7**
GRL				*e*S			**Sn**	**18 59 04.4**	**+1.5**
SDLR	**Sedlovina**	**0.95**	**334**	PN			**Pn**	**18 58 51.0**	**+0.2**
SDLR				S			**Sn**	**18 59 04.0**	**+0.6**
SDLR	**Sedlovina**	**0.95**	**334**	*e*P			**Pn**	**18 58 51.0**	**+0.2**
SDLR				*e*S			**Sn**	**18 59 04.0**	**+0.6**
SMAR	**Somma**	**0.96**	**331**	PN			**Pn**	**18 58 51.2**	**+0.2**
SMAR				S			**Sn**	**18 59 04.6**	**+0.8**
SMAR	**Somma**	**0.96**	**331**	*e*P			**Pn**	**18 58 51.2**	**+0.2**
SMAR				*e*S			**Sn**	**18 59 04.6**	**+0.8**
KRMR	**Karymshinskiy**	**0.97**	**295**	PN			**Pn**	**18 58 51.2**	**+0.3**
KRMR				S			**Sn**	**18 59 04.3**	**+0.6**
KRMR	**Karymshinskiy**	**0.97**	**295**	*e*P			**Pn**	**18 58 51.2**	**+0.3**
KRMR				*e*S			**Sn**	**18 59 04.3**	**+0.6**
AVH	**Avacha**	**0.98**	**329**	PN			**Pn**	**18 58 51.8**	**+0.6**
AVH				S			**Sn**	**18 59 05.6**	**+1.5**
AVH	**Avacha**	**0.98**	**329**	*e*P			**Pn**	**18 58 51.8**	**+0.6**
AVH				*e*S			**Sn**	**18 59 05.6**	**+1.5**
KRER	**Koryakskii**	**1.01**	**331**	PN			**Pn**	**18 58 52.2**	**+0.5**
KRER				S			**Sn**	**18 59 06.6**	**+1.6**
KRER	**Koryakskii**	**1.01**	**331**	*e*P			**Pn**	**18 58 52.3**	**+0.5**
KRER				*e*S			**Sn**	**18 59 06.6**	**+1.6**
ASAK	**Asacha**	**1.03**	**268**	PN			**Pn**	**18 58 52.5**	**+0.7**
ASAK				S			**Sn**	**18 59 06.2**	**+1.0**
ASAK	**Asacha**	**1.03**	**268**	*e*P			**Pn**	**18 58 52.5**	**+0.7**
ASAK				*e*S			**Sn**	**18 59 06.3**	**+1.0**
KOK	**Koryaka**	**1.04**	**327**	PN			**Pn**	**18 58 52.5**	**+0.6**
KOK	**Koryaka**	**1.04**	**327**	*e*P			**Pn**	**18 58 52.6**	**+0.6**
KRX	**Arik**	**1.09**	**329**	PN			**Pn**	**18 58 53.1**	**+0.4**
KRX	**Arik**	**1.09**	**329**	*e*P			**Pn**	**18 58 53.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.33**	**302**				**Pn**	**18 58 56.8**	**+0.9**
PEA0B				Sn			**Sn**	**18 59 12.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.33**	**302**	*i* PN			**Pn**	**18 58 56.6**	**+0.8**
PETK	**Petropavlovsk-**	**1.33**	**302**				**Pn**	**18 58 55.6**	**-0.2**
PETK	**Petropavlovsk-**	**1.33**	**302**	P			**Pn**	**18 58 55.8**	**0.0**
	comp=N,273nm,0.3s,baz=104,slow=19,SNR=872								
PETK				S			**Sn**	**18 59 12.3**	**-0.2**
	comp=N,280nm,0.4s,baz=98,slow=20,SNR=6.2								
GNL	**Ganaly**	**1.61**	**323**	PN			**Pn**	**18 59 01.2**	**+1.5**
GNL	**Ganaly**	**1.61**	**323**	*e*P			**Pn**	**18 59 01.3**	**+1.5**
KII	**Karymskiy**	**1.61**	**357**	PN			**Pn**	**18 59 01.8**	**+2.1**
KII				S			**Sn**	**18 59 23.9**	**+4.5**
KII	**Karymskiy**	**1.61**	**357**	*e*P			**Pn**	**18 59 01.8**	**+2.1**
KII				*e*S			**Sn**	**18 59 24.0**	**+4.5**
MIPR	**Malaya Ipel'ka**	**1.74**	**266**	PN			**Pn**	**18 59 03.4**	**+2.1**
MIPR	**Malaya Ipel'ka**	**1.74**	**266**	*e*P			**Pn**	**18 59 03.5**	**+2.1**
MIPR				*e*S			**Sn**	**18 59 26.7**	**+4.4**
PAU	**Pauzhetka**	**1.96**	**242**	PN			**Pn**	**18 59 05.7**	**+1.3**
PAU	**Pauzhetka**	**1.96**	**242**	*e*P			**Pn**	**18 59 05.8**	**+1.3**
MKZ	**Mys Kozlova**	**2.49**	**30**	PN			**Pn**	**18 59 11.4**	**-0.2**
MKZ				S			**Sn**	**18 59 40.5**	**-0.2**
MKZ	**Mys Kozlova**	**2.49**	**30**	*e*P			**Pn**	**18 59 11.5**	**-0.2**
MKZ				*e*S			**Sn**	**18 59 40.6**	**-0.2**
SKR	**Severo-Kuril's**	**2.78**	**232**⇓	*i* PN			**Pn**	**18 59 17.2**	**+1.7**
SKR				*e*S			**Sn**	**18 59 47.9**	**+0.1**
SKR					pmax	pmax			
	comp=Z,263nm,0.6s								
SKR					smax	smax			
	comp=E,1μm,0.6s								
SKR					smax	smax			
	comp=N,2μm,0.7s								
SKR	**Severo-Kuril's**	**2.78**	**232**	*e*P			**Pn**	**18 59 17.0**	**+1.4**
SKR				*e*S			**Sn**	**18 59 48.3**	**+0.5**
TUMD	**Tumrok D**	**2.83**	**10**	PN			**Pn**	**18 59 17.9**	**+1.7**
TUMD				S			**Sn**	**18 59 51.8**	**+2.8**
TUMD	**Tumrok D**	**2.83**	**10**	*e*P			**Pn**	**18 59 17.9**	**+1.7**
TUMD				*e*S			**Sn**	**18 59 51.9**	**+2.8**
KMNR	**Kamenistaya**	**3.36**	**6**	PN			**Pn**	**18 59 27.1**	**+3.5**
KMNR	**Kamenistaya**	**3.36**	**6**	*e*P			**Pn**	**18 59 27.1**	**+3.5**
ESO	**Esso**	**3.54**	**352**	PN			**Pn**	**18 59 29.1**	**+3.0**
ESO	**Esso**	**3.54**	**352**	*e*P			**Pn**	**18 59 29.2**	**+3.0**
BZMR	**Bezymyannaya**	**3.56**	**8**	PN			**Pn**	**18 59 29.9**	**+3.5**
BZMR	**Bezymyannaya**	**3.56**	**8**	*e*P			**Pn**	**18 59 29.9**	**+3.5**
KIRR	**Kirishev**	**3.56**	**7**	PN			**Pn**	**18 59 29.9**	**+3.4**
KIRR	**Kirishev**	**3.56**	**7**	*e*P			**Pn**	**18 59 29.9**	**+3.4**
KPT	**Kopyto**	**3.57**	**6**	PN			**Pn**	**18 59 29.8**	**+3.4**
KPT	**Kopyto**	**3.57**	**6**	*e*P			**Pn**	**18 59 29.9**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**3.58**	**10**	PN			**Pn**	**18 59 30.5**	**+3.8**
BZGR	**Bezymyannyi-Gr**	**3.58**	**10**	*e*P			**Pn**	**18 59 30.6**	**+3.8**
BZWR	**Bezymyannyi-We**	**3.59**	**8**	PN			**Pn**	**18 59 30.0**	**+3.2**
BZWR	**Bezymyannyi-We**	**3.59**	**8**	*e*P			**Pn**	**18 59 30.1**	**+3.2**
KOZ	**Kozyrevsk**	**3.64**	**3**	PN			**Pn**	**18 59 31.1**	**+3.7**
KOZ	**Kozyrevsk**	**3.64**	**3**	*e*P			**Pn**	**18 59 31.2**	**+3.7**
ZLN	**Zelenaya**	**3.67**	**11**	PN			**Pn**	**18 59 32.1**	**+4.2**
ZLN	**Zelenaya**	**3.67**	**11**	*e*P			**Pn**	**18 59 32.2**	**+4.2**
CIRR	**Tsirk**	**3.76**	**10**	PN			**Pn**	**18 59 33.4**	**+4.3**
CIRR	**Tsirk**	**3.76**	**10**	*e*P			**Pn**	**18 59 33.5**	**+4.3**
SRDR	**Sredinnyy**	**3.90**	**1**	PN			**Pn**	**18 59 34.3**	**+3.3**
SRDR	**Sredinnyy**	**3.90**	**1**	*e*P			**Pn**	**18 59 34.3**	**+3.3**
KLY	**Klyuchi**	**3.95**	**9**	PN			**Pn**	**18 59 34.6**	**+3.1**
KLY	**Klyuchi**	**3.95**	**9**	*e*P			**Pn**	**18 59 34.7**	**+3.1**
KBTR	**Krutoberegovo**	**4.24**	**25**	PN			**Pn**	**18 59 36.9**	**+1.4**
KBTR	**Krutoberegovo**	**4.24**	**25**	*e*P			**Pn**	**18 59 36.9**	**+1.4**
KBG	**Krutoberegovo**	**4.25**	**24**	PN			**Pn**	**18 59 38.2**	**+2.5**
KBG	**Krutoberegovo**	**4.25**	**24**	*e*P			**Pn**	**18 59 38.3**	**+2.5**
SMKR	**Semkarok**	**4.31**	**14**	PN			**Pn**	**18 59 40.7**	**+4.1**
SMKR	**Semkarok**	**4.31**	**14**	*e*P			**Pn**	**18 59 40.7**	**+4.1**
BKI	**Bering**	**4.70**	**51**	PN			**Pn**	**18 59 42.1**	**+0.2**
BKI	**Bering**	**4.70**	**51**	*e*P			**Pn**	**18 59 42.1**	**+0.2**
BKI				*e*S			**Sn**	**19 00 30.8**	**-4.2**
MA2	**Magadan**	**8.69**	**329**	Pn			**Pn**	**19 00 34.4**	**-2.2**
MA2	**Magadan**	**8.69**	**329**	LR			LR	19 04 29.7	
	comp=N,298nm,19.5s,baz=144,slow=42								
MA2	**Magadan**	**8.69**	**329**	PN			**Pn**	**19 00 34.4**	**-2.2**
SHEM	**Shemya Is, Ala**	**8.85**	**82**	Pn			**Pn**	**19 00 40.0**	**+1.3**
SMY	**Shemya**	**8.85**	**82**	Pn			**Pn**	**19 00 39.9**	**+1.1**
SMY	**Shemya**	**8.85**	**82**	PN			**Pn**	**19 00 39.9**	**+1.1**
SEY	**Seymchan**	**11.21**	**343**	P			**Pn**	**19 01 11.1**	**+0.2**
	comp=N,2.2nm,1.0s,baz=145,slow=13,SNR=4.4								
SEY				LR			LR	19 06 01.2	
	comp=N,414nm,19.0s,baz=145,slow=40								
SEY	**Seymchan**	**11.21**	**343**	*e*PN			**Pn**	**19 01 12.0**	**+1.1**
SEY					pmax	pmax			
	comp=Z,9.0nm,1.3s								
JKA	**Kamikawa-asahi**	**14.01**	**240**	Pn			**Pn**	**19 01 47.8**	**-1.3**
ASAJ	**Asahikawa**	**14.01**	**240**	P			**Pn**	**19 01 51.1**	**+1.9**
	comp=Z,14nm,0.8s,baz=84,slow=21,SNR=8.1								
ERM	**Erimo**	**15.22**	**233**	Pn			**Pn**	**19 02 02.7**	**-2.4**
ERM	**Erimo**	**15.22**	**233**	P			**Pn**	**19 02 02.7**	**-2.4**
ERM					pmax	pmax			
	comp=Z,139nm,1.3s								
JTM	**Tenmabayashi**	**17.18**	**235**				**Pn**	**19 02 23.4**	**-6.5**
YAK	**Yakutsk**	**18.65**	**313**	P			**P**	**19 02 45.5**	**-1.3**
YAK	**Yakutsk**	**18.65**	**313**	P			**P**	**19 02 46.8**	**-0.1**
	comp=Z,80nm,0.8s,baz=93,slow=0.3,SNR=42								
YAK	**Yakutsk**	**18.65**	**313**	*e*P			**P**	**19 02 46.7**	**-0.2**
YAK				*e*S			**Sn**	**19 06 13.9**	**-1.2**
YAK					pmax	pmax			
	comp=Z,84nm,1.0s								
YAK					pmax	pmax			
	comp=N,9.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.1s								
YAK					smax	smax			
	comp=N,151nm,3.5s								
YAK					smax	smax			
	comp=E,99nm,3.8s								
ZEA	**Zeya**	**19.38**	**287**	*e*P			**P**	**19 02 54.1**	**-0.8**
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.2s								
ZEA				MLR			MLR		
	comp=Z,100nm,13.0s								
JMM	**Marumori**	**19.60**	**229**	P			**P**	**19 02 56.4**	**-1.0**
JMM				IAmb			IAmb	19 03 32.0	
	comp=Z,58nm,1.4s								
MJB9	**Matsu-Tunnel**	**21.89**	**232**	P			**P**	**19 03 23.4**	**+1.2**
MJB9				IAmb			IAmb	19 03 28.9	
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**21.89**	**232**	P			**P**	**19 03 23.0**	**+0.9**
MAJO				IAmb			IAmb	19 03 27.6	
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**21.89**	**232**	*i* P			**P**	**19 03 23.7**	**+1.5**
MAJO					pmax	pmax			
	comp=Z,16nm,0.8s								
MJAR	**Matsushiro Arr**	**21.89**	**232**	P			**P**	**19 03 24.1**	**+2.0**
	comp=Z,5.6nm,0.8s,baz=18,slow=9.3,SNR=14								
MJAR				LR			LR	19 11 16.5	
	comp=Z,127nm,21.6s,baz=30,slow=35								
	comp=Z,5.6nm,0.8s								
JGF	**Kuroka**	**23.05**	**232**	P			**P**	**19 03 35.7**	**+1.2**
JGF				IAmb			IAmb	19 03 54.9	
	comp=Z,36nm,1.5s								
N15K	**Kwethluk River**	**23.35**	**55**	P			**P**	**19 03 36.2**	**-1.0**
N15K				IAmb			IAmb	19 04 06.6	
	comp=Z,42nm,1.4s								
TIXI	**Tiksi**	**23.56**	**336**	P			**P**	**19 03 36.9**	**-2.1**
TIXI	**Tiksi**	**23.56**	**336**	LR			LR	19 13 46.8	
	comp=Z,244nm,19.4s,baz=173,slow=39								
TIXI	**Tiksi**	**23.56**	**336**	P			**P**	**19 03 36.9**	**-2.1**
TIXI					pmax	pmax			
	comp=Z,14nm,1.1s								
M16K	**Timber Creek**	**23.94**	**53**	P			**P**	**19 03 40.0**	**-2.6**
M16K				IAmb			IAmb	19 03 58.5	
	comp=Z,21nm,1.4s								
H17K	**Granite Mounta**	**23.99**	**43**	P			**P**	**19 03 42.6**	**-0.5**
E18K	**Tukpahlearik C**	**24.37**	**37**	P			**P**	**19 03 46.3**	**-0.3**
H19K	**Roundabout Mou**	**25.54**	**42**	P			**P**	**19 03 56.2**	**-0.9**
H19K				IAmb			IAmb	19 04 10.5	
	comp=Z,23nm,1.3s								
KSRS	**Korea Array**	**26.68**	**248**	P			**P**	**19 04 08.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=50,slow=11,SNR=2.7								
	comp=Z,1.1nm,0.8s								
KSRS	**Korea Array**	**26.68**	**248**	P			**P**	**19 04 08.0**	**+0.4**
JNU	**Nakatsue**	**28.27**	**238**	LR			LR	19 16 31.8	
	comp=Z,78nm,19.2s,baz=26,slow=38								
C23K	**Itkillik River**	**28.53**	**34**	P			**P**	**19 04 25.0**	**+1.1**
C23K				IAmb			IAmb	19 04 54.9	
	comp=Z,14nm,1.2s								
G24K	**Hadweenzic Riv**	**29.29**	**40**	P			**P**	**19 04 30.7**	**-0.1**
G24K				IAmb			IAmb	19 04 46.6	
	comp=Z,11nm,1.0s								
IL31		**29.51**	**44**	P			**P**	**19 04 33.2**	**+0.6**
ILAR	**Eielson Array**	**29.51**	**44**	P			**P**	**19 04 33.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=261,slow=7.5,SNR=16								
ILAR				LR			LR	19 17 31.9	
	comp=Z,54nm,19.2s,baz=276,slow=38								
	comp=Z,1.0nm,0.7s								
D25K	**Kavik River**	**29.92**	**35**	P			**P**	**19 04 36.5**	**+0.2**
D25K				IAmb			IAmb	19 04 38.9	
	comp=Z,7.4nm,0.8s								
BMAR	**Burnt Mountain**	**30.45**	**39**	P			**P**	**19 04 39.9**	**-1.1**
SCRK	**Sand Creek**	**30.81**	**46**	P			**P**	**19 04 43.5**	**-0.9**
L27K	**Beaver Creek,**	**31.88**	**47**	P			**P**	**19 04 54.4**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**33.13**	**167**	T			T	19 41 10.8	
	baz=352,slow=76,SNR=632								
H11N3	**WAKE ISLAND Hy**	**33.14**	**167**	T			T	19 41 11.9	
	baz=352,slow=76,SNR=231								
H11N1	**WAKE ISLAND Hy**	**33.14**	**167**	T			T	19 41 04.9	
	baz=352,slow=76,SNR=376								
ULN	**Ulaanbaatar**	**33.35**	**284**	*i* P			**P**	**19 05 07.2**	**+0.5**
ULN					pmax	pmax			
	comp=Z,13nm,4.0s								
L29M	**L29M**	**33.53**	**47**				**P**	**19 05 09.3**	**+1.2**
L29M				IAmb			IAmb	19 05 11.4	
	comp=Z,7.0nm,0.8s								
SONM	**Songino Array**	**33.75**	**284**	P			**P**	**19 05 08.9**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=36,slow=11,SNR=3.2								
SONM				PcP			**PcP**	**19 07 50.5**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=108,slow=2.6,SNR=5.7								
SONM				LR			LR	19 19 36.8	
	comp=Z,116nm,19.2s,baz=58,slow=38								
	comp=Z,0.3nm,0.4s								
H11S1	**WAKE ISLAND Hy**	**34.30**	**168**	T			T	19 42 10.9	
	baz=352,slow=76,SNR=38								
H11S3	**WAKE ISLAND Hy**	**34.32**	**168**	T			T	19 41 46.2	
	baz=352,slow=76,SNR=43								
H11S2	**WAKE ISLAND Hy**	**34.32**	**168**	T			T	19 41 47.1	
	baz=352,slow=76,SNR=21								
HHC	**Hu-ho-hao-te**	**34.33**	**270**	*e*P			**P**	**19 05 16.7**	**+1.5**
HHC					pmax	pmax			
	comp=Z,10.0nm,1.0s								
INK	**Inuvik**	**34.59**	**37**	LR			LR	19 20 36.4	
	comp=Z,105nm,20.5s,baz=159,slow=38								
M31M	**Drury Creek, Y**	**35.42**	**48**	P			**P**	**19 05 25.7**	**+1.4**
M31M				IAmb			IAmb	19 05 27.7	
	comp=Z,4.2nm,0.8s								
NJ2	**Nanjing**	**35.75**	**252**	*e*P			**P**	**19 05 28.8**	**+1.4**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
P33M	**Teslin, Yukon**	**36.73**	**51**	P			**P**	**19 05 34.7**	**-0.9**
KNGR	**Kungurtug, Tuv**	**37.62**	**293**	*i* P			**P**	**19 05 43.2**	**-0.1**
KNGR					pmax	pmax			
	comp=Z,8.0nm,1.5s								
DLBC	**Dease Lake**	**38.70**	**52**	LR			LR	19 22 26.4	
	comp=Z,576nm,21.0s,baz=299,slow=37								
XAN	**Xi'an**	**40.28**	**263**	P			**P**	**19 06 05.6**	**-0.1**
XAN					pmax	pmax			
	comp=Z,3.0nm,0.4s								
GUMO	**Guam**	**40.49**	**202**	LR			LR	19 20 40.1	
	comp=Z,98nm,21.4s,baz=206,slow=33								
LZH	**Lanzhou**	**42.02**	**270**	*e*P			**P**	**19 06 19.7**	**-0.4**
LZH				pP			pwP	19 06 36.0	+0.2
LZH					pmax	pmax			
	comp=Z,15nm,1.1s								
GTA	**Gaotai**	**42.37**	**277**	*e*P			**P**	**19 06 22.9**	**+0.1**
GTA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
GTA				LR			LR		
	comp=N,170nm,18.2s								
GTA				LR			LR		
	comp=E,170nm,18.9s								
GTA				LR			LR		
	comp=Z,140nm,18.9s								
ZALV	**Zalesovo Beam**	**42.88**	**303**	P			**P**	**19 06 26.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=58,slow=5.6,SNR=3.7								
ZALV				PcP			**PcP**	**19 08 17.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=46,slow=5.0,SNR=3.8								
ZALV				LR			LR	19 27 26.5	
	comp=Z,117nm,18.9s,baz=346,slow=41								
	comp=Z,0.4nm,0.5s								
SPITS	**Spitsbergen Ar**	**47.74**	**350**	P			**P**	**19 07 04.2**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=59,slow=8.9,SNR=15								
	comp=Z,2.1nm,0.4s								
SPB2	**Spitsbergen Ar**	**47.74**	**350**	P			**P**	**19 07 03.6**	**-1.2**
KURK	**Kurchatov**	**47.82**	**302**				**P**	**19 07 04.3**	**-1.5**
KURK				IAmb			IAmb	19 07 09.3	
	comp=Z,4.2nm,0.8s								
KURK	**Kurchatov**	**47.82**	**302**	*i* P			**P**	**19 07 04.5**	**-1.2**
KURK					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KURBB	**Kurchatov Arra**	**47.92**	**302**	P			**P**	**19 07 05.6**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=59,slow=7.8,SNR=15								
KURBB				LR			LR	19 28 27.8	
	comp=Z,130nm,18.8s,baz=162,slow=38								
	comp=Z,3.1nm,0.8s								
MK31	**Makanchi Array**	**48.16**	**296**	⇑Pn			**P**	**19 07 07.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=179,slow=13,SNR=5.9								
MK31				⇓Lg			Lg	19 07 56.8	
	comp=Z,1.4nm,0.6s,baz=170,slow=28,SNR=6.0								
MK31	**Makanchi Array**	**48.16**	**296**	*i* P			**P**	**19 07 07.1**	**-1.4**
MKAR	**Makanchi Array**	**48.16**	**296**	P			**P**	**19 07 07.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=49,slow=6.7,SNR=9.0								
	comp=Z,0.6nm,0.5s								
MXC	**Moxie City**	**49.85**	**63**	P			**P**	**19 07 22.2**	**+0.8**
PZH	**PanZhiHua**	**49.98**	**262**	P			**P**	**19 07 24.9**	**+2.1**
BVAR	**Borovoye Array**	**50.56**	**309**	P			**P**	**19 07 25.4**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=54,slow=7.5,SNR=8.0								
	comp=Z,2.2nm,0.7s								
BORK	**Borovoye**	**50.58**	**309**	*i* P			**P**	**19 07 25.8**	**-1.0**
BORK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BMO	**Blue Mountains**	**52.56**	**63**				**P**	**19 07 40.8**	**-1.0**
BMO				IAmb			IAmb	19 07 43.6	
	comp=Z,3.2nm,0.7s								
BMO	**Blue Mountains**	**52.56**	**63**	P			**P**	**19 07 40.8**	**-1.0**
BMO					pmax	pmax			
	comp=Z,3.0nm,0.7s								
APA	**Apatity**	**53.75**	**337**⇓	*e*P			P	19 08 01.4	+11
ARTI	**Arti**	**53.78**	**317***c*	*i* P			**P**	**19 07 49.2**	**-1.2**
ARTI				S			**S**	**19 15 17.8**	**-3.1**
ARTI

AKBB IAmb IAmb 19 09 33.6
comp=Z,6.7nm,1.1s
AKBB Malin Array Si 69.02 329 P **P 19 09 32.9 -0.5**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
AKBB Malin Array Si 69.02 329 P **P 19 09 33.2 -0.2**
KIEV Kiev 69.03 329 P **P 19 09 33.0 -0.5**
KIEV IAmb IAmb 19 09 33.6
comp=Z,5.5nm,1.1s
KIEV Kiev 69.03 329 ⇓P **P 19 09 33.3 -0.1**
KIEV Kiev 69.03 329 P **P 19 09 33.0 -0.5**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
KIEV Kiev 69.03 329 P **P 19 09 33.2 -0.3**
comp=Z,33nm,1.4s
AK01 Malin Array Si 69.03 329 P **P 19 09 33.2 -0.3**
AK20 Malin Array Si 69.06 329 P **P 19 09 33.3 -0.3**
MI28 Mi28,Pidlybu 69.31 330 P **P 19 09 35.2 0.0**
RNPP8 Varash 69.50 331 P **P 19 09 36.1 -0.3**
RNPP5 Staryi Chortor 69.59 331 P **P 19 09 36.8 -0.1**
KIV Kislovodsk 69.71 317 *e*P **P 19 09 35.9 -2.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s
LUBAR Lubar, Ukraine 70.17 329 P **P 19 09 39.9 -0.6**
TX31 Lajitas Ar. Si 71.19 66 **P 19 09 48.0 +0.8**
TXAR Lajitas Array 71.19 66 P **P 19 09 48.4 +1.2**
TXAR Lajitas Array 71.19 66 P **P 19 09 49.5 +2.3**
comp=Z,1.4nm,0.6s,baz=298,slow=4.4,SNR=22
comp=Z,1.4nm,0.6s
TXAR Lajitas Array 71.19 66 P **P 19 09 48.4 +1.2**
HORU Horodok 71.20 330 P **P 19 09 46.6 -0.2**
SORM Soroca 71.54 328 ⇓P **P 19 09 48.6 -0.3**
EKA Eskdalemuir Ar 71.66 350 P **P 19 09 50.1 +0.7**
comp=Z,0.6nm,0.4s,baz=15,slow=6.3,SNR=4.6
comp=Z,0.6nm,0.4s
KMPD K-Podol'skiy 71.77 329 P **P 19 09 49.7 -0.5**
GNI Garni 71.91 313 LR LR 19 44 11.8
comp=Z,99nm,18.2s,baz=342,slow=38
OJC Ojcow 72.21 334 P **P 19 09 53.0 +0.1**
comp=Z,9.6nm,1.0s
STNU Starunia 72.24 331 P **P 19 09 52.9 -0.1**
KSV Kosov 72.42 330 P **P 19 09 53.9 -0.2**
KSP Ksiaz 72.53 337 P **P 19 09 54.4 -0.4**
comp=Z,5.8nm,0.9s
MEZ Mezhgor'ye 72.71 331 P **P 19 09 55.3 -0.5**
E62A Clayton Lake 72.76 33 P **P 19 09 56.2 0.0**
E62A IAmb IAmb 19 10 01.2
comp=Z,12nm,1.2s
CLL Collm 72.86 339 *i*P **P 19 09 58.0 +1.3**
CLL pmax pmax
comp=Z,29nm,1.7s
CLL Collm 72.86 339 P **P 19 09 56.7 0.0**
comp=Z,13nm,1.4s
CLL Collm 72.86 339 *i*P **P 19 09 57.2 +0.5**
comp=Z,9.0nm,1.0s
BUR08 Bucovina Ar. S 72.97 330 P **P 19 09 57.4 -0.1**
BUR08 IAmb IAmb 19 10 02.1
comp=Z,5.1nm,0.8s
DPC Dobruska-Polom 72.98 336 *e*P **P 19 09 58.9 +1.4**
DPC Dobruska-Polom 72.98 336 *e*P **P 19 09 58.9 +1.4**
DPC Dobruska-Polom 72.98 336 P **P 19 09 58.1 +0.6**
comp=Z,5.5nm,1.3s
BURAR Bucovina Array 72.99 330 **P 19 09 57.4 -0.3**
BURAR IAmb IAmb 19 09 59.2
comp=Z,6.3nm,0.7s
BURAR Bucovina Array 72.99 330 ⇑P **P 19 09 57.4 -0.3**
BURAR Bucovina Array 72.99 330 P **P 19 09 57.4 -0.3**
BURAR pmax pmax
comp=Z,6.0nm,0.7s
STEB Steborice 73.00 335 *e*P **P 19 09 58.6 +1.0**
KRLC Kraliky 73.12 336 *e*P **P 19 09 59.3 +1.0**
KRLC Kraliky 73.12 336 *e*P **P 19 09 59.3 +1.0**
CTAO Charters Tower 73.13 193 P **P 19 09 58.5 -0.1**
CTAO Charters Tower 73.13 193 P **P 19 09 58.5 -0.1**
CTAO pmax pmax
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 73.20 335 P **P 19 09 59.2 +0.4**
MORC IAmb IAmb 19 10 00.8
comp=Z,5.9nm,0.9s
MORC Moravsky Berou 73.20 335 ⇓P **P 19 10 00.1 +1.3**
MORC Moravsky Berou 73.20 335 *e*P **P 19 09 59.5 +0.7**
MORC Moravsky Berou 73.20 335 ⇓P **P 19 10 00.1 +1.3**
TESR Tescani 73.52 328 ⇑P **P 19 10 00.9 +0.3**
TESR Tescani 73.52 328 P **P 19 10 00.7 0.0**
comp=Z,9.8nm,2.3s
VLDR Vladesti 73.64 327 ⇓P **P 19 10 01.4 +0.1**
L56A Greenwood 73.66 41 P **P 19 10 01.8 +0.1**
ARCR ARCALIA 73.73 330 ⇑P **P 19 10 03.4 +1.5**
F64A Sherman 73.81 33 P **P 19 10 03.2 +0.9**
F64A IAmb IAmb 19 10 38.3
comp=Z,17nm,1.4s
VRAC Vranov 73.88 336 LR LR 19 46 35.1
comp=Z,126nm,18.3s,baz=352,slow=39
VRAC Vranov 73.88 336 ⇑P **P 19 10 04.3 +1.6**
VRAC Vranov 73.88 336 *e*P **P 19 10 03.4 +0.7**
VRAC Vranov 73.88 336 ⇑P **P 19 10 04.3 +1.6**
VRI Vrincioaia 74.06 328 ⇓P P 19 10 13.2 +9.3
TURR Turia 74.13 328 ⇑P **P 19 10 03.6 -0.7**
KRUC Moravsky 74.16 336 *e*P **P 19 10 04.8 +0.5**
OZUR 74.17 329 ⇑P **P 19 10 06.5 +2.0**
CFR Carcaliu 74.20 327 ⇑P **P 19 10 04.6 0.0**
CFR Carcaliu 74.20 327 ⇑P **P 19 10 04.6 0.0**
PSZ Piszkesteto 74.28 333 ⇑P **P 19 10 05.7 +0.5**
PSZ Piszkesteto 74.28 333 ⇑P **P 19 10 05.7 +0.5**
ZVC Zvikov 74.34 337 *e*P **P 19 10 06.4 +1.0**
BISRR Bisoca 74.35 328 ⇑P P 19 09 58.5 -7.1
TPGR Topolog 74.39 326 ⇑P **P 19 10 06.4 +0.6**
DZM Mont Dzumac 74.42 173 *e*LR LR 19 33 02.0
comp=Z,126nm,27.1s
DRGR 74.49 331 ⇑P **P 19 10 06.8 +0.4**
DRGR 74.49 331 ⇑P **P 19 10 06.8 +0.4**
MLR Muntele Rosu 74.65 328 P **P 19 10 07.0 -0.4**
MLR IAmb IAmb 19 10 09.7
comp=Z,4.6nm,0.7s
MLR Muntele Rosu 74.65 328 LR LR 19 47 29.6
comp=Z,242nm,18.2s,baz=336,slow=39
MLR Muntele Rosu 74.65 328 ⇑P **P 19 10 08.3 +0.9**
MLR Muntele Rosu 74.65 328 ⇑P **P 19 10 08.3 +0.9**
MLR Muntele Rosu 74.65 328 P **P 19 10 07.2 -0.2**
comp=Z,7.9nm,0.7s
G65A Princeton 74.66 33 P **P 19 10 07.6 +0.3**
HARR Harsova 74.70 326 ⇓P P 19 10 16.3 +8.7
KHC Kasperske Hory 74.77 338 *e*P **P 19 10 09.8 +1.8**
KHC Kasperske Hory 74.77 338 *e*P **P 19 10 09.8 +1.8**
KHC Kasperske Hory 74.77 338 P **P 19 10 08.1 +0.1**
CKRC Cesky Krumlov 74.89 337 *e*P **P 19 10 10.2 +1.6**
CKRC Cesky Krumlov 74.89 337 *e*P **P 19 10 10.2 +1.6**
GERES GERESS Array B 75.01 337 P **P 19 10 09.8 +0.4**
comp=Z,1.2nm,0.6s,baz=42,slow=6.1,SNR=10
comp=Z,1.2nm,0.6s
WB0 Warramunga Arr 75.16 204 P **P 19 10 11.6 +1.2**
WB0 IAmb IAmb 19 10 46.0
comp=Z,9.4nm,1.4s
ARR Arges 75.18 329 ⇑P **P 19 10 11.6 +1.2**
WR8 Warramunga Arr 75.31 204 P **P 19 10 12.3 +1.1**
WR8 IAmb IAmb 19 10 14.9
comp=Z,7.5nm,1.3s
WRAB Tennant Creek 75.33 204 P **P 19 10 12.1 +0.8**
WRAB pmax pmax
comp=Z,14nm,1.1s
CONA Conrad Observa 75.34 336 *i*P **P 19 10 12.1 +0.8**
comp=Z,2.6nm,0.8s
WRA Warramunga Arr 75.34 204 P **P 19 10 13.1 +1.6**
comp=Z,1.6nm,0.6s,baz=20,slow=6.1,SNR=14
comp=Z,1.6nm,0.6s
RONA Rosalia, Austr 75.44 335 *e*P **P 19 10 13.8 +2.0**
comp=Z,1.6nm,0.6s
GZR Gura Zlata 75.73 330 ⇑P **P 19 10 13.4 -0.2**
GZR Gura Zlata 75.73 330 ⇑P **P 19 10 13.4 -0.2**
BZS Buzias 75.88 331 ⇓P **P 19 10 14.2 -0.1**
BZS Buzias 75.88 331 ⇓P **P 19 10 14.2 -0.1**
ARSA Arzberg 76.05 336 *e*P **P 19 10 16.0 +0.7**
comp=Z,1.8nm,0.6s
MORH Mrgy, Hungar 76.19 333 ⇓P **P 19 10 16.1 0.0**
MORH Mrgy, Hungar 76.19 333 P **P 19 10 15.9 -0.1**
HERR Herculane 76.31 330 ⇑P **P 19 10 14.2 -2.6**
VLAD Vladila 76.48 328 ⇓P P 19 10 01.6 -16
LESA Schwarzleotal 76.58 338 *e*P **P 19 10 20.3 +1.9**
comp=Z,2.6nm,0.8s
SOKA Soboth 76.71 336 *e*P **P 19 10 20.4 +1.3**
comp=Z,1.8nm,0.5s
KBA Koelnbreinsper 76.75 337 *e*P **P 19 10 21.5 +2.0**
comp=Z,14nm,0.8s
BRTR Keskin Array B 76.93 320 P **P 19 10 20.8 +0.2**
comp=Z,1.5nm,0.8s,baz=42,slow=5.0,SNR=4.6
comp=Z,1.5nm,0.8s
BR106 Keskin Array S 76.94 320 P **P 19 10 20.8 +0.2**
comp=Z,3.4nm,1.3s
BR105 Keskin Array S 76.95 320 P **P 19 10 20.5 -0.2**
comp=Z,4.7nm,1.2s
WTTA Wattenberg 76.97 338 *e*P **P 19 10 22.1 +1.4**
comp=Z,3.8nm,1.0s
OBKA Obir 76.99 336 *e*P **P 19 10 22.0 +1.3**
comp=Z,1.2nm,0.5s
MOTA Moosalm 77.02 339 *e*P **P 19 10 22.3 +1.4**
comp=Z,4.3nm,0.9s
SQTA Sankt Quirin 77.11 338 *e*P **P 19 10 22.9 +1.4**
comp=Z,5.2nm,0.8s
ABTA Abfaltersbach 77.26 337 *e*P **P 19 10 23.2 +0.9**
comp=Z,3.3nm,0.7s
DAVA Damuels 77.34 339 *e*P **P 19 10 23.6 +0.8**
comp=Z,2.4nm,0.8s
FETA Feichten 77.41 339 *e*P **P 19 10 24.8 +1.6**
comp=Z,5.6nm,1.5s
PALK Pallekele 77.49 266 P **P 19 10 23.4 -0.5**
PALK Pallekele 77.49 266 P **P 19 10 23.4 -0.5**
PALK pmax pmax
comp=Z,24nm,1.4s
BOVS Bovan 77.65 330 ⇑P **P 19 10 23.2 -1.1**
TUE Stuetta 78.23 339 P **P 19 10 27.4 -0.4**
comp=Z,26nm,1.9s
RDO Rodhopi 78.66 326 P **P 19 10 29.1 -0.8**
AS31 Alice Springs 79.02 204 P **P 19 10 33.3 +1.3**
ASAR Alice Springs 79.02 204 P **P 19 10 33.4 +1.4**
ASAR Alice Springs 79.02 204 P **P 19 10 34.3 +2.3**
comp=Z,1.4nm,0.6s,baz=14,slow=5.6,SNR=33
comp=Z,1.4nm,0.6s
ASAR Alice Springs 79.02 204 P **P 19 10 33.4 +1.4**
FDMO Fiordimonte 80.61 336 P **P 19 10 41.6 +1.0**
FDMO IAmb IAmb 19 10 42.9
comp=Z,12nm,1.3s
NRCA Norcia 80.79 336 P **P 19 10 41.8 +0.2**
NRCA IAmb IAmb 19 10 45.6
comp=Z,8.1nm,0.9s
CSS Mathiatis 81.16 318 P **P 19 10 43.7 +0.1**
comp=Z,7.6nm,1.0s
MMAI Mount Meron Ar 81.97 315 P **P 19 10 48.7 +0.7**
comp=Z,4.0nm,0.6s,baz=46,slow=6.0,SNR=12
comp=Z,4.0nm,0.6s
PPT Papeete 82.43 132 LR LR 19 43 21.4
comp=Z,49nm,19.6s,baz=339,slow=32
PPT2 Papeete2 82.45 132 *e*LR LR 19 36 45.6
comp=Z,94nm,26.8s
PPT2 *e*LR LR 19 36 51.9
comp=Z,127nm,27.8s
KARP Karpathos 83.06 323 P **P 19 10 53.6 0.0**
comp=Z,21nm,1.1s
ITM Ithomi 83.44 327 P **P 19 10 54.7 -0.8**
IDI Anoyia 84.12 324 P **P 19 10 57.3 -1.8**
RAYN Ar Rayn 85.16 303 P **P 19 11 03.8 -0.6**
RAYN IAmb IAmb 19 11 05.2
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 85.16 303 ⇑P **P 19 11 04.3 -0.1**
ESDC Sonseca Array 87.17 347 P **P 19 11 15.1 +1.0**
comp=Z,1.3nm,1.0s,baz=3.0,slow=5.4,SNR=6.7
comp=Z,1.3nm,1.0s
H03N2 Juan Fernandez 134.51 89 T T 21 48 34.3
baz=314,slow=77,SNR=13
H03N1 Juan Fernandez 134.53 89 T T 21 48 35.6
baz=314,slow=77,SNR=14
H03N3 Juan Fernandez 134.53 89 T T 21 48 34.5
baz=314,slow=77,SNR=12

*KRSC **08** 19:01:48.7±1.2, 52°.37N×159°.62E, h46km±16km, Ml4.4*
*MOS **08** 19:01:49.0±1.1, 52°.32N×159°.60E, h47km, mb4.4/10, Error ellipse: s-maj=9.3km s-min=4.1km az=94.3*
*NEIC **08** 19:01:51.1±1.6, 52°.49N±0°.05×159°.5E±0°.1, h53km±7km, mb4.3/19, Error ellipse: s-maj=13.2km s-min=5.1km az=64.0*
*IDC **08** 19:01:53.9±1.7, 52°.59N×159°.25E, h73km±12km, mb3.7/21, mbtmp4.0/22, MS3.9/3, Error ellipse: s-maj=19.1km s-min=14.8km az=114.0*
ISC 08 19:01:50.4±0.9, 52°.41N±0°.04×159°.51E±0°.04, h48km±8km, n153, σ1§56/180, mb4.2/33, MS3.9/3, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.61**	**273**	PN	**Pn**	**19 02 02.9**	**0.0**
RUS				S	**Sn**	**19 02 12.5**	**+0.6**
RUS	**Russkaya**	**0.61**	**273**	*e*P	**Pn**	**19 02 02.9**	**0.0**
RUS				*e*S	**Sn**	**19 02 12.5**	**+0.6**
SPN	**Mys Shipunski**	**0.76**	**24**	PN	**Pn**	**19 02 03.9**	**-0.9**
SPN				S	**Sn**	**19 02 17.0**	**+1.8**
SPN	**Mys Shipunski**	**0.76**	**24**	*e*P	**Pn**	**19 02 04.0**	**-0.9**
SPN				*e*S	**Sn**	**19 02 17.0**	**+1.8**
NLC	**Nalytchevo**	**0.77**	**353**	PN	**Pn**	**19 02 04.3**	**-0.6**
NLC				S	**Sn**	**19 02 15.8**	**+0.3**
NLC	**Nalytchevo**	**0.77**	**353**	*e*P	**Pn**	**19 02 04.4**	**-0.6**
NLC				*e*S	**Sn**	**19 02 15.8**	**+0.3**
DALK	**Dalny**	**0.77**	**324**	PN	**Pn**	**19 02 05.0**	**0.0**
DALK				S	**Sn**	**19 02 15.9**	**+0.3**
DALK	**Dalny**	**0.77**	**324**	*e*P	**Pn**	**19 02 05.0**	**0.0**
DALK				*e*S	**Sn**	**19 02 16.0**	**+0.3**
PET	**Petropavlovsk**	**0.81**	**320**	Pn	**Pn**	**19 02 05.2**	**-0.3**
PET				Sn	**Sn**	**19 02 15.2**	**-1.2**
PET	**Petropavlovsk**	**0.81**	**320**	⇓*i*PN	**Pn**	**19 02 05.7**	**+0.3**
PET				*e*S	**Sn**	**19 02 15.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,348nm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET	**Petropavlovsk**	**0.81**	**320**	*e*P	**Pn**	**19 02 05.6**	**+0.1**
PET				*e*S	**Sn**	**19 02 17.3**	**+0.8**
MTVR	**Mutnovka**	**0.82**	**276**	PN	**Pn**	**19 02 06.0**	**+0.3**
MTVR				S	**Sn**	**19 02 18.0**	**+1.1**
MTVR	**Mutnovka**	**0.82**	**276**	*e*P	**Pn**	**19 02 06.0**	**+0.3**
MTVR				*e*S	**Sn**	**19 02 18.0**	**+1.1**
INSR	**Institute**	**0.86**	**320**	PN	**Pn**	**19 02 06.4**	**+0.3**
INSR				S	**Sn**	**19 02 17.3**	**-0.3**
INSR	**Institute**	**0.86**	**320**	*e*P	**Pn**	**19 02 06.4**	**+0.3**
INSR				*e*S	**Sn**	**19 02 17.4**	**-0.3**
GRL	**Gorelyy**	**0.89**	**280**	PN	**Pn**	**19 02 07.6**	**+0.9**
GRL	**Gorelyy**	**0.89**	**280**	*e*P	**Pn**	**19 02 07.6**	**+0.9**
UGLR	**Uglovaya**	**0.90**	**333**	PN	**Pn**	**19 02 07.2**	**+0.4**
UGLR				S	**Sn**	**19 02 20.3**	**+1.4**
UGLR	**Uglovaya**	**0.90**	**333**	*e*P	**Pn**	**19 02 07.2**	**+0.4**
UGLR				*e*S	**Sn**	**19 02 20.3**	**+1.4**
KRMR	**Karymshinskiy**	**0.94**	**297**	PN	**Pn**	**19 02 07.5**	**+0.3**
KRMR				S	**Sn**	**19 02 20.1**	**+0.5**
KRMR	**Karymshinskiy**	**0.94**	**297**	*e*P	**Pn**	**19 02 07.6**	**+0.3**
KRMR				*e*S	**Sn**	**19 02 20.2**	**+0.5**
SDLR	**Sedlovina**	**0.95**	**337**	PN	**Pn**	**19 02 07.5**	**0.0**
SDLR				S	**Sn**	**19 02 20.9**	**+0.9**
SDLR	**Sedlovina**	**0.95**	**337**	*e*P	**Pn**	**19 02 07.5**	**0.0**
SDLR				*e*S	**Sn**	**19 02 20.9**	**+0.9**
SMAR	**Somma**	**0.96**	**334**	PN	**Pn**	**19 02 07.7**	**0.0**
SMAR	**Somma**	**0.96**	**334**	*e*P	**Pn**	**19 02 07.8**	**0.0**
AVH	**Avacha**	**0.98**	**332**	PN	**Pn**	**19 02 08.3**	**+0.5**
AVH				S	**Sn**	**19 02 22.3**	**+1.7**
AVH	**Avacha**	**0.98**	**332**	*e*P	**Pn**	**19 02 08.4**	**+0.5**
AVH				*e*S	**Sn**	**19 02 22.4**	**+1.7**
ASAK	**Asacha**	**0.99**	**269**	PN	**Pn**	**19 02 08.8**	**+0.8**
ASAK	**Asacha**	**0.99**	**269**	*e*P	**Pn**	**19 02 08.8**	**+0.8**
KRER	**Koryakskii**	**1.01**	**333**	PN	**Pn**	**19 02 08.7**	**+0.4**
KRER				S	**Sn**	**19 02 23.2**	**+1.7**
KRER	**Koryakskii**	**1.01**	**333**	*e*P	**Pn**	**19 02 08.8**	**+0.4**
KRER				*e*S	**Sn**	**19 02 23.2**	**+1.7**
KOK	**Koryaka**	**1.03**	**329**	PN	**Pn**	**19 02 09.1**	**+0.6**
KOK				S	**Sn**	**19 02 23.2**	**+1.3**
KOK	**Koryaka**	**1.03**	**329**	*e*P	**Pn**	**19 02 09.2**	**+0.6**
KOK				*e*S	**Sn**	**19 02 23.3**	**+1.3**
KRX	**Arik**	**1.08**	**332**	PN	**Pn**	**19 02 09.6**	**+0.3**
KRX	**Arik**	**1.08**	**332**	*e*P	**Pn**	**19 02 09.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.30**	**303**	**Pn**	**Pn**	**19 02 12.9**	**+0.7**
PEA0B				Sn	**Sn**	**19 02 28.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.30**	**303**	*i*PN	**Pn**	**19 02 12.6**	**+0.4**
PETK	**Petropavlovsk-**	**1.30**	**303**	Pn	**Pn**	**19 02 12.8**	**+0.6**
PETK	**Petropavlovsk-**	**1.30**	**303**	P	**Pn**	**19 02 12.1**	**-0.1**
	comp=N,193nm,0.4s,baz=114,slow=18,SNR=11						
PETK				S	**Sn**	**19 02 28.6**	**+0.2**
	comp=N,112nm,0.4s,baz=105,slow=20,SNR=8.8						
PETK	**Petropavlovsk-**	**1.30**	**303**	PN	**Pn**	**19 02 12.8**	**+0.6**
GNL	**Ganaly**	**1.60**	**324**	PN	**Pn**	**19 02 17.6**	**+1.3**
GNL	**Ganaly**	**1.60**	**324**	*e*P	**Pn**	**19 02 17.6**	**+1.3**
KII	**Karymskiy**	**1.63**	**359**	PN	**Pn**	**19 02 18.0**	**+1.3**
KII				S	**Sn**	**19 02 39.4**	**+2.9**
KII	**Karymskiy**	**1.63**	**359**	*e*P	**Pn**	**19 02 18.1**	**+1.3**
KII				*e*S	**Sn**	**19 02 39.4**	**+2.9**
MIPR	**Malaya Ipel'ka**	**1.69**	**267**	PN	**Pn**	**19 02 20.0**	**+2.5**
MIPR	**Malaya Ipel'ka**	**1.69**	**267**	*e*P	**Pn**	**19 02 20.1**	**+2.5**
PAU	**Pauzhetka**	**1.92**	**242**	PN	**Pn**	**19 02 21.9**	**+1.4**
PAU				S	**Sn**	**19 02 46.0**	**+2.5**
PAU	**Pauzhetka**	**1.92**	**242**	*e*P	**Pn**	**19 02 22.0**	**+1.4**
PAU				*e*S	**Sn**	**19 02 46.1**	**+2.5**
MKZ	**Mys Kozlova**	**2.53**	**31**	PN	**Pn**	**19 02 28.6**	**-0.3**
MKZ	**Mys Kozlova**	**2.53**	**31**	*e*P	**Pn**	**19 02 28.6**	**-0.3**
SKR	**Severo-Kuril's**	**2.73**	**232**	*i*PN	**Pn**	**19 02 33.0**	**+1.3**
SKR	**Severo-Kuril's**	**2.73**	**232**	*e*P	**Pn**	**19 02 33.3**	**+1.5**
SKR				*e*S	**Sn**	**19 03 04.4**	**+0.9**
TUMD	**Tumrok D**	**2.85**	**10**	PN	**Pn**	**19 02 35.4**	**+2.1**
TUMD				S	**Sn**	**19 03 09.4**	**+3.0**
TUMD	**Tumrok D**	**2.85**	**10**	*e*P	**Pn**	**19 02 35.4**	**+2.1**
TUMD				*e*S	**Sn**	**19 03 09.4**	**+3.0**
KMNR	**Kamenistaya**	**3.38**	**7**	PN	**Pn**	**19 02 44.6**	**+3.9**
KMNR	**Kamenistaya**	**3.38**	**7**	*e*P	**Pn**	**19 02 44.7**	**+3.9**
ESO	**Esso**	**3.56**	**353**	PN	**Pn**	**19 02 45.6**	**+2.6**
ESO	**Esso**	**3.56**	**353**	*e*P	**Pn**	**19 02 45.6**	**+2.6**
BZMR	**Bezymyannaya**	**3.58**	**9**	PN	**Pn**	**19 02 46.9**	**+3.5**
BZMR	**Bezymyannaya**	**3.58**	**9**	*e*P	**Pn**	**19 02 47.0**	**+3.5**
KPT	**Kopyto**	**3.59**	**6**	PN	**Pn**	**19 02 45.3**	**+1.8**
KPT	**Kopyto**	**3.59**	**6**	*e*P	**Pn**	**19 02 45.3**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**3.60**	**11**	PN	**Pn**	**19 02 47.6**	**+3.8**
BZGR	**Bezymyannyi-Gr**	**3.60**	**11**	*e*P	**Pn**	**19 02 47.6**	**+3.8**
BZWR	**Bezymyannyi-We**	**3.61**	**9**	PN	**Pn**	**19 02 47.5**	**+3.6**
BZWR	**Bezymyannyi-We**	**3.61**	**9**	*e*P	**Pn**	**19 02 47.5**	**+3.6**
KOZ	**Kozyrevsk**	**3.66**	**3**	PN	**Pn**	**19 02 48.0**	**+3.5**
KOZ	**Kozyrevsk**	**3.66**	**3**	*e*P	**Pn**	**19 02 48.0**	**+3.5**
ZLN	**Zelenaya**	**3.69**	**11**	PN	**Pn**	**19 02 48.9**	**+3.9**
ZLN	**Zelenaya**	**3.69**	**11**	*e*P	**Pn**	**19 02 48.9**	**+3.9**
KBTR	**Krutoberegovo**	**4.27**	**26**	PN	**Pn**	**19 02 54.4**	**+1.6**
KBTR	**Krutoberegovo**	**4.27**	**26**	*e*P	**Pn**	**19 02 54.4**	**+1.6**
KBG	**Krutoberegovo**	**4.28**	**25**	PN	**Pn**	**19 02 54.9**	**+2.0**
KBG	**Krutoberegovo**	**4.28**	**25**	*e*P	**Pn**	**19 02 54.9**	**+2.0**
BKI	**Bering**	**4.74**	**51**	PN	**Pn**	**19 02 58.4**	**-0.8**
BKI	**Bering**	**4.74**	**51**	*e*P	**Pn**	**19 02 58.4**	**-0.8**
JKA	**Kamikawa-asahi**	**13.96**	**240**	Pn	**Pn**	**19 05 06.9**	**+1.5**
ASAJ	**Asahikawa**	**13.96**	**240**	P	**Pn**	**19 05 07.1**	**+1.7**
	comp=N,16nm,0.8s,baz=47,slow=18,SNR=5.8						
ASAJ	**Asahikawa**	**13.96**	**240**	P	**Pn**	**19 05 06.9**	**+1.5**
YAK	**Yakutsk**	**18.63**	**313**	P	**Pn**	**19 06 03.8**	**-0.6**
YAK	**Yakutsk**	**18.63**	**313**	P	**Pn**	**19 06 05.5**	**+1.2**
	comp=N,32nm,0.8s,baz=129,slow=1.0,SNR=10						
YAK	**Yakutsk**	**18.63**	**313**	*e*P	**Pn**	**19 06 05.4**	**+1.0**
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
JYT	**Yasato**	**21.17**	**228**	P	**P**	**19 06 27.7**	**-3.7**
MAJO	**Matsushiro**	**21.84**	**232**	P	**P**	**19 06 37.7**	**-1.0**
MAJO				IAmb	IAmb	19 06 55.8	
	comp=Z,23nm,1.3s						
MAJO	**Matsushiro**	**21.84**	**232**	*i*P	**P**	**19 06 40.1**	**+1.4**
MJAR	**Matsushiro Arr**	**21.84**	**232**	P	**P**	**19 06 38.9**	**+0.2**
MJAR	**Matsushiro Arr**	**21.84**	**232**	P	**P**	**19 06 40.8**	**+2.1**
	comp=Z,1.4nm,0.5s,baz=25,slow=12,SNR=9.1						
	comp=Z,1.4nm,0.5s						
MJAR	**Matsushiro Arr**	**21.84**	**232**	P	**P**	**19 06 38.9**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**23.56**	**336**	P	**P**	**19 06 55.5**	**-0.5**
TIXI				IAmb	IAmb	19 07 08.6	
	comp=Z,7.8nm,0.9s						
TIXI	**Tiksi**	**23.56**	**336**	P	**P**	**19 06 55.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
M16K	**Timber Creek**	**23.98**	**53**	P	**P**	**19 06 58.5**	**-1.5**
M16K				IAmb	IAmb	19 07 05.6	
	comp=Z,9.7nm,1.1s						
E18K	**Tukpahlearik C**	**24.41**	**37**	P	**P**	**19 07 03.6**	**-0.3**
E18K				IAmb	IAmb	19 07 25.2	
	comp=Z,26nm,1.4s						
C18K	**Utukok River**	**24.62**	**34**	P	**P**	**19 07 04.2**	**-1.7**
C18K				IAmb	IAmb	19 07 23.7	
	comp=Z,9.0nm,1.1s						
B20K	**Meade River**	**26.43**	**32**	P	**P**	**19 07 21.7**	**-0.5**
IMAR	**Indian Mountai**	**26.75**	**41**	P	**P**	**19 07 25.1**	**+0.1**
B21K	**Ikpikpuk River**	**27.16**	**33**	P	**P**	**19 07 29.0**	**+0.3**
B21K				IAmb	IAmb	19 08 07.1	
	comp=Z,11nm,1.2s						
C23K	**Itkillik River**	**28.57**	**34**	P	**P**	**19 07 41.2**	**-0.1**
ILAR	**Eielson Array**	**29.55**	**44**	P	**P**	**19 07 50.9**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=271,slow=8.4,SNR=5.2						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**29.55**	**44**	*e*P	**P**	**19 07 51.2**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BCAR	**Beaver Creek A**	**31.94**	**47**	P	**P**	**19 08 12.4**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**33.12**	**167**	T	T	19 43 33.8	
	baz=351						
H11N3	**WAKE ISLAND Hy**	**33.13**	**167**	T	T	19 43 45.3	
	baz=351						
H11N1	**WAKE ISLAND Hy**	**33.14**	**167**	T	T	19 43 29.2	
	baz=351						
H11S1	**WAKE ISLAND Hy**	**34.30**	**168**	T	T	19 44 56.5	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.31**	**168**	T	T	19 45 01.5	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.32**	**168**	T	T	19 44 60.0	
	baz=352						
ZALV	**Zalesovo Beam**	**42.85**	**303**	PcP	**PcP**	**19 11 33.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=84,slow=4.5,SNR=1.6						
SPITS	**Spitsbergen Ar**	**47.75**	**350**	P	**P**	**19 10 21.0**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=38,slow=15,SNR=1.9						
	comp=Z,2.4nm,0.6s						
KURK	**Kurchatov**	**47.80**	**302**	P	**P**	**19 10 20.9**	**-1.7**
KURK				PcP	**PcP**	**19 11 49.2**	**-1.5**
KURK	**Kurchatov**	**47.80**	**302**	*i*P	**P**	**19 10 21.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**47.90**	**302**	P	**P**	**19 10 21.1**	**-2.2**
	comp=Z,1.9nm,0.2s,baz=59,slow=7.6,SNR=4.7						

NB2	**NORSAR Subarra**	64.10	343	P	P	19 12 18.9	-0.1
	comp=Z,2.4nm,0.6s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	64.10	343	P	P	19 12 19.0	0.0
	comp=Z,2.3nm,0.7s,baz=20,slow=6.7,SNR=11						
	comp=Z,2.3nm,0.7s						
HFS	**Hagfors**	64.49	342	P	P	19 12 20.8	-0.7
	comp=Z,2.9nm,0.6s,baz=28,slow=6.5,SNR=12						
	comp=Z,2.9nm,0.6s						
AKASG	**Malin Array Be**	69.02	329	P	P	19 12 49.2	-1.2
	comp=Z,1.0nm,0.5s,baz=31,slow=6.1,SNR=3.8						
	comp=Z,1.0nm,0.5s						
KBZ	**Khabaz**	69.79	316	P	P	19 12 54.4	-0.9
	comp=Z,2.3nm,1.0s,baz=32,slow=9.5,SNR=2.6						
	comp=Z,2.3nm,1.0s						
TXAR	**Lajitas Array**	71.23	66	P	P	19 13 05.0	+0.5
	comp=Z,0.5nm,0.6s,baz=316,slow=4.7,SNR=4.4						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	71.23	66	P	P	19 13 05.0	+0.5
EKA	**Eskdalemuir Ar**	71.67	350	P	P	19 13 06.6	+0.1
	comp=Z,0.6nm,0.4s,baz=14,slow=6.2,SNR=1.7						
	comp=Z,0.6nm,0.4s						
BUR08	**Bucovina Ar. S**	72.97	330	P	P	19 13 14.3	-0.3
BUR08				IAmb	IAmb	19 13 15.2	
	comp=Z,1.9nm,0.7s						
BURAR	**Bucovina Array**	72.99	330	P	P	19 13 14.3	-0.4
BURAR				IAmb	IAmb	19 13 16.2	
	comp=Z,2.9nm,0.7s						
GERES	**GERESS Array B**	75.01	337	P	P	19 13 26.1	-0.4
	comp=Z,0.8nm,0.6s,baz=46,slow=5.9,SNR=6.5						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	75.31	204	P	P	19 13 29.1	+0.8
	comp=Z,1.3nm,0.7s,baz=16,slow=5.9,SNR=6.6						
	comp=Z,1.3nm,0.7s						
BRTR	**Keskin Array B**	76.92	320	P	P	19 13 37.7	+0.1
	comp=Z,0.4nm,0.6s,baz=29,slow=3.3,SNR=1.3						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	78.99	204	P	P	19 13 50.4	+1.5
	comp=Z,1.0nm,0.6s,baz=16,slow=5.9,SNR=18						
	comp=Z,1.0nm,0.6s						
MMAI	**Mount Meron Ar**	81.95	315	P	P	19 14 04.7	-0.2
	comp=Z,2.4nm,0.6s,baz=38,slow=5.4,SNR=6.3						
	comp=Z,2.4nm,0.6s						
RAYN	**Ar Rayn**	85.13	303	P	P	19 14 20.9	-0.5
RAYN				IAmb	IAmb	19 14 21.6	
	comp=Z,2.8nm,0.7s						
RAYN	**Ar Rayn**	85.13	303	P	P	19 14 20.9	-0.5
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESDC	**Sonseca Array**	87.17	347	P	P	19 14 32.6	+1.4
	comp=Z,0.7nm,0.8s,baz=1.6,slow=5.6,SNR=4.3						
	comp=Z,0.7nm,0.8s						
RPZ	**Rata Peaks**	96.26	172	LR	LR	19 52 48.1	
	comp=Z,48nm,21.7s,baz=123,slow=32						
H03N2	**Juan Fernandez**	134.56	89	T	T	21 51 52.5	
	baz=314,slow=77,SNR=6.4						
H03N1	**Juan Fernandez**	134.57	89	T	T	21 51 50.6	
	baz=314,slow=77,SNR=5.4						
H03N3	**Juan Fernandez**	134.57	89	T	T	21 51 53.1	
	baz=314,slow=77,SNR=6.0						

*NEIC **08** 19:10:45.2±1.0, 36°.029N±0°.007×98°.09W±0°.01, h6km±3km, Error ellipse: s-maj=1.4km s-min=0.2km az=217.0*

NEIC 08 19:10:45.2±1.0, 36°.035N±0°.007×98°.09W±0°.01, h5km±1km, mb_Lg2.8/61, ML3.1/80, ML3.0/34, Error ellipse: s-maj=2.6km s-min=1.5km az=39.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.48**	**11**		Pg	19 10 54.8	+0.4
CROK				Sg	Sg	19 11 01.4	+0.8
BCOK	**Bluff Creek, N**	**0.54**	**134**		Pg	19 10 56.0	+0.3
BCOK					Sg	19 11 03.4	+0.6
OK029	**Liberty Lake**	**0.57**	**115**		Pg	19 10 56.3	+0.1
OK029				Sg	Sg	19 11 04.2	+0.6
OK029				IAML		19 11 04.5	
	2μm,0.3s						
CSTR	**Hydro, Custer**	**0.62**	**231**		Pg	19 10 57.6	+0.4
CSTR				Sg	Sg	19 11 05.7	+0.5
OK038	**West end E0370**	**0.69**	**310**		Pg	19 10 58.4	0.0
OK038				Sg	Sg	19 11 08.2	+0.8
ADOK	**Arcadia Dam**	**0.70**	**123**		Pg	19 10 58.5	-0.1
ADOK				Sg	Sg	19 11 08.1	+0.3
OK004	**Okla Sci Mus**	**0.72**	**135**		Pg	19 10 59.1	+0.1
OK004					Sg	19 11 08.9	+0.6
OKCFA	**Oklahoma City**	**0.81**	**140**		Pg	19 11 00.6	-0.2
OKCFA					Sg	19 11 11.5	+0.3
OKCSW	**OKLAHOMA CITY**	**0.82**	**140**	Pg	Pg	19 11 00.9	-0.1
OKCSW				IAML		19 11 14.7	
	comp=N,690nm,0.5s						
GC02	**Grant County #**	**0.84**	**13**		Pg	19 11 01.1	-0.1
GC02				Sg	Sg	19 11 12.4	+0.3
NOKA	**Waynoka**	**0.90**	**312**		Pg	19 11 02.2	-0.4
NOKA					Sg	19 11 15.0	+0.7
KAN14	**Manchester OK**	**0.93**	**6**		Pg	19 11 02.6	-0.4
KAN14				Sg	Sg	19 11 15.2	+0.2
KAN14				IAML		19 11 16.5	
	comp=E,695nm,0.1s						
FNO	**Franklin**	**0.96**	**144**		Pg	19 11 03.0	-0.6
FNO				Sg	Sg	19 11 16.1	0.0
FNO				IAML		19 11 17.3	
	comp=E,514nm,0.1s						
OK048	**Pawnee Station**	**1.00**	**67**		Pg	19 11 04.1	-0.4
OK048				Sg	Sg	19 11 17.5	0.0
OK048				IAML		19 11 22.6	
	comp=E,894nm,0.2s						
OK048				IAML		19 11 22.6	
	comp=E,425nm,0.3s						
BLOK	**Blackwell**	**1.01**	**44**	Pg	Pg	19 11 04.3	-0.4
BLOK				Sg	Sg	19 11 18.1	+0.3
OK052	**Battle Ridge R**	**1.05**	**92**		Pg	19 11 04.7	-0.6
OK052					Sg	19 11 19.1	+0.3
OK052				IAML		19 11 24.4	
	comp=E,535nm,0.2s						
OK052				IAML		19 11 24.5	
	comp=E,434nm,0.2s						
ELIS	**Ellis County**	**1.07**	**272**		Pg	19 11 05.3	-0.5
ELIS				IAML		19 11 25.8	
	comp=N,447nm,0.2s						
ELIS				IAML		19 11 29.3	
	comp=E,450nm,0.2s						
KAN13	**South Haven SW**	**1.09**	**27**		Pg	19 11 06.0	-0.2
KAN13					Sb	19 11 20.9	-0.4
OK051	**E0350 and S346**	**1.12**	**65**		Pg	19 11 06.1	-0.6
QUOK	**Quay**	**1.13**	**83**		Pg	19 11 06.2	-0.7
QUOK				IAML		19 11 23.9	
	comp=E,419nm,0.2s						
KAN01	**Argonia South**	**1.15**	**13**		Pg	19 11 06.6	-0.7
KAN01				Pn	Pb	19 11 06.7	-0.9
KAN01					Sb	19 11 22.5	-0.3
KAN01				IAML		19 11 27.6	
	comp=N,391nm,0.1s						
KAN08	**Anthony NE Sta**	**1.19**	**5**		Pg	19 11 07.6	-0.6
KAN08					Sb	19 11 24.2	+0.1
DEOK	**Depew**	**1.31**	**98**		Pn	19 11 08.7	-1.5
DEOK					Sb	19 11 27.6	+0.2
DEOK				IAML		19 11 27.9	
	comp=E,294nm,0.1s						
DEOK				IAML		19 11 30.3	
	comp=N,398nm,0.3s						
WMOK	**Wichita Mounta**	**1.41**	**204**		Pn	19 11 10.3	-1.3
X34A	**Smith Ranch, M**	**1.45**	**171**		Pn	19 11 11.9	-0.1
X34A					Sg	19 11 32.3	+0.6
T35A	**Sooner Cattle**	**1.55**	**55**		Pn	19 11 13.0	-0.4
TUL3	**Leonard**	**1.87**	**93**		Pn	19 11 17.9	0.0
SMWD	**Samnorwood**	**1.98**	**243**		Pn	19 11 19.3	-0.3
LOOK	**Love County**	**2.17**	**160**		Pn	19 11 22.4	+0.3
LOOK				IAmb_Lg		19 11 54.4	
	comp=Z,56nm,0.7s						
WTFS	**Witchita Falls**	**2.28**	**188**		Pn	19 11 23.7	+0.1
WTFS					Sb	19 11 54.8	-0.6
R32A	**Long Quarter,**	**2.43**	**348**		Pn	19 11 26.6	+0.9
R32A				IAmb_Lg		19 12 05.0	
	comp=Z,35nm,0.7s						
RLO	**Rose Lookout**	**2.49**	**86**		Pn	19 11 26.9	+0.4
Z35A	**Perchaven, San**	**2.79**	**165**		Pn	19 11 31.6	+1.2
U38A	**Gravette**	**3.02**	**81**		Pn	19 11 34.7	+0.9
CBKS	**Cedar Bluff**	**3.07**	**335**		Pn	19 11 33.4	-1.0
FW06	**Azle**	**3.09**	**172**		Pn	19 11 34.2	-0.4
AMTX	**Amarillo**	**3.15**	**250**		Pn	19 11 36.4	+0.8
AMTX				IAmb_Lg		19 12 31.7	
	comp=Z,32nm,0.7s						
APMT	**Aspermont**	**3.18**	**212**		Pn	19 11 36.6	+0.7
PLPT	**Palo Pinto**	**3.22**	**183**	Pn	Pn	19 11 35.7	-0.8
PLPT					Sb	19 12 22.1	-0.4
KSU1	**Kansas State U**	**3.28**	**21**	IAmb_Lg		19 12 38.2	
	comp=Z,32nm,1.1s						
HHAR	**Hobbs**	**3.37**	**85**		Pn	19 11 38.8	+0.3
ABTX	**Abilene, Hawle**	**3.64**	**201**		Pn	19 11 42.3	+0.1
SN07	**Snyder 07**	**3.74**	**219**		Pn	19 11 43.1	-0.5
SN07				IAmb_Lg		19 12 46.7	
	comp=Z,31nm,0.8s						
Z38A	**Mt. Pleasant**	**3.77**	**136**		Pn	19 11 40.9	-3.1
RTBA	**Rita Blanca**	**3.78**	**277**		Pn	19 11 41.6	-2.7
MIAR	**Mount Ida**	**3.98**	**111**		Pn	19 11 45.0	-1.9
MIAR				IAmb_Lg		19 12 57.0	
	comp=Z,19nm,0.7s						
POST	**Post**	**4.08**	**225**	IAmb_Lg		19 13 02.5	
	comp=Z,19nm,0.7s						
237A	**Washetta, Mont**	**4.45**	**154**	IAmb_Lg		19 13 17.6	
	comp=Z,16nm,0.8s						
X40A	**Basin Creek Fa**	**4.57**	**108**		Pn	19 11 53.8	-1.2
X40A				IAmb_Lg		19 13 17.2	
	comp=Z,19nm,0.8s						
WHAR	**Wooly Hollow**	**4.78**	**97**		Pn	19 11 57.1	-0.8
WHAR				IAmb_Lg		19 13 21.8	
	comp=Z,15nm,0.9s						
BRDY	**Brady**	**4.80**	**189**		Pn	19 11 57.4	-0.8
BRDY				IAmb_Lg		19 13 16.9	
	comp=Z,12nm,0.9s						
MGMO	**Mountain Grove**	**4.82**	**75**	IAmb_Lg		19 13 18.1	
	comp=Z,27nm,0.8s						
SGCY	**Sterling City**	**4.82**	**212**	IAmb_Lg		19 13 26.8	
	comp=Z,22nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.84**	**90**	IAmb_Lg		19 13 22.6	
	comp=Z,17nm,0.7s						
UALR	**University of**	**4.86**	**103**	IAmb_Lg		19 13 30.2	
	comp=Z,16nm,0.9s						
P38A	**Dawn**	**5.09**	**44**		Pn	19 12 01.1	-1.0
P38A				IAmb_Lg		19 13 25.5	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**5.17**	**62**		Pn	19 12 03.2	0.0
R40A				IAmb_Lg		19 13 32.0	
	comp=Z,17nm,0.8s						
T25A	**Trinidad**	**5.20**	**284**		Pn	19 12 03.7	-0.2
T25A				IAmb_Lg		19 13 38.2	
	comp=Z,16nm,1.0s						
LCAR	**Lake Charles**	**5.62**	**88**	IAmb_Lg		19 13 45.6	
	comp=Z,8.7nm,1.0s						
OZNA	**Ozona**	**5.70**	**207**		Pn	19 12 08.3	-2.2
JCT	**Junction City**	**5.72**	**195**	IAmb_Lg		19 13 57.1	
	comp=Z,19nm,0.7s						
P40A	**Paris**	**5.92**	**52**		Pn	19 12 13.6	0.0
PBMO	**Poplar Bluff**	**6.22**	**81**	IAmb_Lg		19 14 07.2	
	comp=Z,16nm,0.7s						
FVM	**French Village**	**6.43**	**70**	IAmb_Lg		19 14 13.7	
	comp=Z,17nm,1.0s						
ANMO	**Albuquerque**	**6.91**	**263**		Pn	19 12 25.6	-1.7
SAND	**Sanderson**	**6.94**	**210**		Pn	19 12 26.9	-0.8
ISCO	**Idaho Springs**	**7.03**	**305**	IAmb_Lg		19 14 41.5	
	comp=Z,10nm,1.1s						
BNM	**Barren Site**	**7.25**	**257**		Pn	19 12 28.8	-3.2
ALPN	**Alpine**	**7.31**	**221**		Pn	19 12 31.1	-1.7
MNTX	**Cornudas Mount**	**7.45**	**237**		Pn	19 12 31.7	-2.9
MNTX				IAmb_Lg		19 14 48.3	
	comp=Z,6.3nm,0.7s						
Y22A	**Socorro**	**7.58**	**257**		Pn	19 12 33.3	-3.3
Y22A				IAmb_Lg		19 15 02.5	
	comp=Z,6.6nm,0.8s						
VHRN	**Van Horn**	**7.78**	**230**		Pn	19 12 37.1	-2.2
L40A	**Anamosa**	**8.05**	**40**	IAmb_Lg		19 15 13.2	
	comp=Z,12nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.17**	**217**		Pn	19 12 41.9	-2.6
TXAR	**Lajitas Array**	**8.17**	**217**		Pn	19 12 40.6	-4.0
L42A	**Oliver, Polo**	**8.86**	**45**	Pn	Pn	19 12 53.1	-0.7
RSSD	**Black Hills**	**9.27**	**332**	IAmb_Lg		19 16 01.3	
	comp=Z,6.5nm,0.7s						

*NEIC **08** 19:13:46.4±1.1, 13°.75N±0°.08×121°.1E±0°.1, h166km±5km, mb4.4/24, Error ellipse: s-maj=19.3km s-min=2.1km az=54.0*

*IDC **08** 19:13:46.1±0.5, 13°.69N×121°.01E, h158km±5km, mb3.4/9, mbtmp3.9/10, Error ellipse: s-maj=40.0km s-min=11.9km az=63.0*

ISC 08 19:13:45.1±0.5, 13°.68N±0°.07×121°.1E±0°.1, h150km, n40, σ1°28/42, mb4.2/21, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.44**	**345**	P	**Pn**	**19 14 09.1**	**+2.8**
	2μm,0.3s,baz=153,slow=3.4,SNR=65						
TGY				S	**Sn**	**19 14 26.2**	**+3.8**
	1μm,0.3s,baz=180,slow=20,SNR=10						
MYLDM	**Lahad Datu**	**8.81**	**197**	Pn	**Pn**	**19 15 51.3**	**+1.9**
TOLI2	**Tolitoli**	**12.49**	**181**	P	**P**	**19 16 44.2**	**+0.7**
SBUM	**Sibu**	**14.17**	**219**	P	**P**	**19 17 02.8**	**+0.6**
JOW	**Kunigami**	**14.73**	**26**	P	**Pn**	**19 17 06.2**	**0.0**
KAPI	**Kappang**	**18.61**	**184**	P	**P**	**19 17 53.2**	**+2.0**
	13nm,0.5s,baz=8.1,slow=7.1,SNR=7.4						
CMAR	**Chiang Mai Arr**	**21.77**	**286**	P	**P**	**19 18 24.4**	**-0.7**
	0.9nm,0.8s,baz=99,slow=9.7,SNR=9.1						
	0.9nm,0.8s						
JAGI	**Jajag, Banyuwa**	**23.04**	**198**	P	**P**	**19 18 37.9**	**+0.5**
SOEI	**Soe**	**23.50**	**172**	P	**P**	**19 18 40.9**	**-0.8**
SOEI				IAmb	IAmb	19 18 58.3	
	comp=Z,28nm,1.3s						
LZDM	**Lanzhou Array**	**27.12**	**328**	P	**P**	**19 19 13.2**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=159,slow=4.5,SNR=1.9						
	comp=Z,2.5nm,0.3s						
SHL	**Shillong**	**29.84**	**298**	P	**P**	**19 19 36.3**	**-2.3**
SHL				IAmb	IAmb	19 19 38.7	
	comp=Z,3.1nm,0.6s						
KNRA	**Kununurra**	**30.14**	**165**	P	**P**	**19 19 40.2**	**-0.9**
KNRA				IAmb	IAmb	19 19 47.1	
	comp=Z,20nm,1.5s						
FITZ	**Fitzroy Crossi**	**31.89**	**172**	P	**P**	**19 19 55.0**	**-1.4**
MBWA	**Marble Bar**	**34.64**	**182**	P	**P**	**19 20 19.5**	**-0.7**
EVN	**Everest**	**34.87**	**299**		**P**	**19 20 22.6**	**-0.4**
PSA00	**Pilbara Seismi**	**35.05**	**182**	P	**P**	**19 20 23.1**	**-0.6**
PSA00	**Pilbara Seismi**	**35.05**	**182**	P	**P**	**19 20 22.6**	**-1.1**
PSA00				IAmb	IAmb	19 20 24.1	
	comp=Z,6.0nm,0.9s						
COEN	**Coen**	**35.12**	**141**	P	**P**	**19 20 24.7**	**+0.2**
COEN				IAmb	IAmb	19 20 38.8	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**35.73**	**158**	P	**P**	**19 20 28.6**	**-1.1**
WB0				IAmb	IAmb	19 20 35.2	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**35.88**	**158**	P	**P**	**19 20 30.3**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=336,slow=8.9,SNR=18						
	comp=Z,1.4nm,0.6s						
WB2	**Warramunga Arr**	**35.88**	**158**	P	**P**	**19 20 30.1**	**-0.8**
WB2				IAmb	IAmb	19 20 43.6	
	comp=Z,9.3nm,1.5s						
SONM	**Songino Array**	**36.18**	**343**	P	**P**	**19 20 34.2**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=165,slow=12,SNR=0.6						
	comp=Z,0.2nm,0.4s						
AS31	**Alice Springs**	**39.18**	**161**	P	**P**	**19 20 58.1**	**-0.5**
ASAR	**Alice Springs**	**39.18**	**161**	P	**P**	**19 20 58.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=341,slow=8.5,SNR=40						
ASAR				PcP	**PcP**	**19 23 05.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=341,slow=3.6,SNR=2.9						
	comp=Z,0.8nm,0.3s						
CTAO	**Charters Tower**	**41.72**	**143**	P	**P**	**19 21 21.0**	**+1.5**
CTAO				IAmb	IAmb	19 21 44.0	
	comp=Z,7.4nm,1.2s						
MORW	**Morawa**	**42.77**	**186**	P	**P**	**19 21 26.9**	**-1.0**
MORW				IAmb	IAmb	19 21 28.1	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**44.71**	**171**	P	**P**	**19 21 43.1**	**-0.3**
FORT				IAmb	IAmb	19 22 22.1	
	comp=Z,9.7nm,1.1s						
MK31	**Makanchi Array**	**46.26**	**323**	P	**P**	**19 21 55.2**	**-0.2**
MKAR	**Makanchi Array**	**46.26**	**323**	P	**P**	**19 21 54.4**	**-1.0**
MKAR	**Makanchi Array**	**46.26**	**323**	P	**P**	**19 21 55.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=124,slow=7.7,SNR=4.1						
	comp=Z,0.2nm,0.5s						
NWAO	**Narrogin (SRO)**	**46.48**	**184**	P	**P**	**19 21 56.8**	**-0.5**
NWAO				IAmb	IAmb	19 22 39.8	
	comp=Z,27nm,1.3s						
BBOO	**Buckleboo**	**48.40**	**163**	P	**P**	**19 22 11.6**	**-0.4**
BBOO				IAmb	IAmb	19 22 42.8	
	comp=Z,22nm,1.4s						
ZALV	**Zalesovo Beam**	**49.24**	**333**	P	**P**	**19 22 16.1**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=108,slow=9.3,SNR=1.7						
	comp=Z,0.3nm,0.3s						
STKA	**Stephens Creek**	**49.39**	**157**	P	**P**	**19 22 19.6**	**-0.1**
STKA				IAmb	IAmb	19 22 44.2	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**49.39**	**157**	P	**P**	**19 22 19.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=331,slow=13,SNR=4.3						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**50.40**	**326**	P	**P**	**19 22 28.2**	**+1.2**
	comp=Z,0.8nm,0.2s,baz=121,slow=8.9,SNR=1.5						
	comp=Z,0.8nm,0.2s						
KURK	**Kurchatov**	**50.40**	**326**	P	**P**	**19 22 27.9**	**+0.9**
ARMA	**Armidale**	**52.80**	**147**	P	**P**	**19 22 44.4**	**-0.9**
S12K	**Black Hills**	**71.43**	**36**	P	**P**	**19 24 47.9**	**-1.1**
CASY	**Casey**	**80.11**	**184**	P	**P**	**19 25 35.9**	**-1.9**

*IDC **08** 19:44:31.6±2.0, 48°.80N×151°.99E, h224km±19km, mb3.2/12, mbtmp3.8/16, Error ellipse: s-maj=19.2km s-min=14.3km az=131.0*

*NEIC **08** 19:44:32.2±1.8, 49°.0N±0°.1×151°.7E±0°.2, h219km±10km, mb4.1/19, Error ellipse: s-maj=25.3km s-min=13.2km az=133.0*

ISC 08 19:44:33.1±0.7, 48°.7N±0°.1×152°.0E±0°.1, h250km, n41, σ1°62/42, mb3.9/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**5.71**	**37**	Pn	**Pn**	**19 45 54.7**	**-2.8**
PETK	**Petropavlovsk-**	**5.71**	**37**	P	**Pn**	**19 45 54.1**	**-3.3**
	3.7nm,0.6s,baz=209,slow=14,SNR=11						
JKA	**Kamikawa-asahi**	**7.93**	**238**	Pn	**Pn**	**19 46 24.1**	**-1.3**
ASAJ	**Asahikawa**	**7.93**	**238**	P	**Pn**	**19 46 24.7**	**-0.8**
	9.0nm,0.8s,baz=50,slow=14,SNR=5.0						
SEY	**Seymchan**	**14.27**	**1**	P	**Pn**	**19 47 42.2**	**-1.9**
	0.7nm,0.3s,baz=229,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**14.48**	**259**	P	**Pn**	**19 47 46.4**	**-0.4**
	4.2nm,0.7s,baz=85,slow=8.4,SNR=3.4						
JYT	**Yasato**	**15.17**	**219**		**P**	**19 47 49.6**	**-5.0**
K17K	**Iditarod**	**30.45**	**44**	P	**P**	**19 50 21.2**	**-0.9**
G18K	**Tagagawik**	**30.67**	**38**	P	**P**	**19 50 25.5**	**+1.4**
E19K	**Redstone River**	**31.51**	**35**	P	**P**	**19 50 32.7**	**+1.3**
E19K				IAmb	IAmb	19 50 38.4	
	comp=Z,7.9nm,1.2s						
B20K	**Meade River**	**32.10**	**30**	P	**P**	**19 50 38.7**	**+2.3**
IMAR	**Indian Mountai**	**32.68**	**38**	P	**P**	**19 50 42.6**	**+1.1**
KDAK	**Kodiak Island**	**33.51**	**53**	P	**P**	**19 50 53.0**	**+4.2**
E24K	**Your Creek**	**34.88**	**34**	P	**P**	**19 51 02.0**	**+1.5**
E24K				IAmb	IAmb	19 51 38.5	
	comp=Z,4.4nm,1.1s						
ILAR	**Eielson Array**	**35.53**	**40**	P	**P**	**19 51 06.8**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=270,slow=5.8,SNR=4.8						
	comp=Z,0.2nm,0.5s						
SCRK	**Sand Creek**	**36.86**	**41**	P	**P**	**19 51 18.2**	**+0.9**
SCRK				IAmb	IAmb	19 51 53.8	
	comp=Z,5.0nm,1.4s						
INK	**Inuvik**	**40.43**	**34**	P	**P**	**19 51 48.3**	**+1.7**
INK				IAmb	IAmb	19 51 59.1	
	comp=Z,11nm,1.3s						
ZALV	**Zalesovo Beam**	**40.86**	**304**	P	**P**	**19 51 50.2**	**-0.2**
ZALV	**Zalesovo Beam**	**40.86**	**304**	P	**P**	**19 51 50.7**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=65,slow=7.2,SNR=3.7						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**45.38**	**295**	P	**P**	**19 52 26.0**	**-0.6**
MAKZ	**Makanchi**	**45.56**	**295**	P	**P**	**19 52 27.6**	**-0.4**
KURK	**Kurchatov**	**45.66**	**302**	P	**P**	**19 52 28.7**	**+0.1**
KURK				IAmb	IAmb	19 52 30.1	
	comp=Z,3.1nm,0.5s						
KURBB	**Kurchatov Arra**	**45.75**	**302**	P	**P**	**19 52 30.2**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=67,slow=8.3,SNR=9.4						
	comp=Z,3.1nm,0.5s						
BVAR	**Borovoye Array**	**49.03**	**308**	P	**P**	**19 52 55.5**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=57,slow=7.8,SNR=18						
BVAR				PcP	**sP**	**19 54 16.2**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=55,slow=2.6,SNR=8.4						
	comp=Z,2.0nm,0.4s						
CM31	**Chiang Mai Arr**	**52.12**	**254**	P	**P**	**19 53 19.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**52.12**	**254**	P	**P**	**19 53 20.0**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=42,slow=7.1,SNR=2.7						
	comp=Z,0.2nm,0.4s						
ARTI	**Arti**	**53.16**	**316**	P	**P**	**19 53 25.9**	**+0.8**
ARTI				IAmb	IAmb	19 53 26.6	
	comp=Z,4.4nm,0.8s						
ARCES	**ARCESS Array B**	**55.75**	**340**	P	**P**	**19 53 43.6**	**+0.1**
ARCES	**ARCESS Array B**	**55.75**	**340**	P	**P**	**19 53 44.4**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=41,slow=7.8,SNR=2.1						
	comp=Z,4.1nm,0.9s						
ILON	**Igloolik, Nuna**	**55.82**	**20**	P	**P**	**19 53 44.0**	**+0.1**
AB31	**Akbulak array**	**56.59**	**308**	P	**P**	**19 53 50.2**	**+0.6**
ABKAR	**Akbulak array**	**56.59**	**308**	P	**P**	**19 53 50.0**	**+0.4**
CHGR	**Chuyangaron**	**57.93**	**294**	P	**P**	**19 54 00.6**	**+1.3**
CHGR				IAmb	IAmb	19 54 40.5	
	comp=Z,5.3nm,1.3s						
FIA1	**FINESS Array S**	**61.94**	**334**	P	**P**	**19 54 25.6**	**-0.4**
FINES	**FINESS Array B**	**61.94**	**334**

BLOK				Sg	Sg	19 48 07.3	-0.9
OK052	**Battle Ridge R**	**1.04**	**92**		Pg	19 47 55.3	-0.3
OK052					Sb	19 48 10.4	+0.2
OK052				IAML		19 48 14.9	
comp=E,445nm,0.1s							
OK052				IAML		19 48 15.0	
comp=E,598nm,0.3s							
ELIS	**Ellis County**	**1.08**	**272**		Pg	19 47 56.1	-0.1
ELIS				IAML		19 48 19.6	
comp=N,684nm,0.3s							
ELIS				IAML		19 48 20.4	
comp=E,703nm,0.3s							
KAN13	**South Haven SW**	**1.10**	**26**		Pg	19 47 56.5	-0.2
KAN13					Sg	19 48 11.2	+0.4
OK051	**E0350 and S346**	**1.12**	**65**		Pg	19 47 56.4	-0.6
QUOK	**Quay**	**1.13**	**82**		Pg	19 47 56.6	-0.5
QUOK					Sg	19 48 11.8	0.0
QUOK				IAML		19 48 12.5	
comp=N,788nm,0.3s							
QUOK				IAML		19 48 19.9	
comp=E,396nm,0.3s							
KAN01	**Argonia South**	**1.15**	**13**		Pg	19 47 57.0	-0.6
KAN01				IAML		19 48 17.7	
comp=N,392nm,0.2s							
KAN08	**Anthony NE Sta**	**1.20**	**4**		Pg	19 47 58.0	-0.6
KAN08					Sg	19 48 14.1	0.0
DEOK	**Depew**	**1.30**	**98**		Pn	19 47 59.3	-1.2
DEOK					Sn	19 48 18.1	-0.2
DEOK				IAML		19 48 20.7	
comp=N,431nm,0.3s							
DEOK				IAML		19 48 21.0	
comp=E,378nm,0.2s							
WMOK	**Wichita Mounta**	**1.41**	**204**		Pn	19 48 01.1	-0.9
X34A	**Smith Ranch, M**	**1.44**	**172**		Pn	19 48 02.5	+0.1
X34A					Sg	19 48 23.2	+1.2
T35A	**Sooner Cattle**	**1.55**	**55**		Pn	19 48 03.9	0.0
TUL3	**Leonard**	**1.87**	**93**		Pn	19 48 08.5	+0.2
SMWD	**Samnorwood**	**1.98**	**243**		Pn	19 48 09.8	-0.1
LOOK	**Love County**	**2.17**	**160**		Pn	19 48 13.0	+0.6
LOOK					Sb	19 48 43.0	+0.6
LOOK				IAmb_Lg		19 48 44.0	
comp=Z,70nm,0.8s							
WTFS	**Witchita Falls**	**2.28**	**188**		Pn	19 48 14.6	+0.6
WTFS					Sb	19 48 45.9	+0.1
R32A	**Long Quarter,**	**2.44**	**348**		Pn	19 48 16.7	+0.6
R32A				IAmb_Lg		19 48 52.7	
comp=Z,37nm,0.8s							
RLO	**Rose Lookout**	**2.49**	**86**		Pn	19 48 16.8	+0.1
Z35A	**Perchaven, San**	**2.78**	**165**		Pn	19 48 21.9	+1.1
U38A	**Gravette**	**3.02**	**81**		Pn	19 48 24.7	+0.6
FW06	**Azle**	**3.08**	**172**		Pn	19 48 26.0	+1.1
AMTX	**Amarillo**	**3.15**	**250**		Pn	19 48 26.6	+0.6
AMTX				IAmb_Lg		19 49 13.2	
comp=Z,33nm,0.8s							
APMT	**Aspermont**	**3.18**	**212**		Pn	19 48 26.7	+0.4
PLPT	**Palo Pinto**	**3.22**	**183**		Pn	19 48 27.3	+0.5
KSU1	**Kansas State U**	**3.28**	**21**	IAmb_Lg		19 49 25.9	
comp=Z,31nm,0.9s							
DKNS	**Dickens**	**3.32**	**225**		Pn	19 48 28.0	-0.3
HHAR	**Hobbs**	**3.37**	**85**		Pn	19 48 28.7	-0.2
ABTX	**Abilene, Hawle**	**3.63**	**201**		Pn	19 48 32.4	-0.2
TREL	**Terrell**	**3.68**	**153**		Pn	19 48 33.0	-0.3
TREL				IAmb_Lg		19 49 38.0	
comp=Z,38nm,0.8s							
SN07	**Snyder 07**	**3.74**	**219**		Pn	19 48 34.1	+0.1
SN07				IAmb_Lg		19 49 37.2	
comp=Z,39nm,0.8s							
Z38A	**Mt. Pleasant**	**3.77**	**136**	IAmb_Lg		19 49 44.4	
comp=Z,47nm,0.7s							
RTBA	**Rita Blanca**	**3.78**	**278**		Pn	19 48 34.0	-0.7
RTBA				IAmb_Lg		19 49 41.6	
comp=Z,18nm,0.8s							
MIAR	**Mount Ida**	**3.98**	**111**		Pn	19 48 36.0	-1.3
MIAR				IAmb_Lg		19 49 45.8	
comp=Z,24nm,0.8s							
WHTX	**Lake Whitney,**	**4.06**	**172**		Pn	19 48 37.5	-1.0
POST	**Post**	**4.08**	**225**	IAmb_Lg		19 49 45.2	
comp=Z,26nm,0.7s							
237A	**Washetta, Mont**	**4.44**	**154**	IAmb_Lg		19 49 58.2	
comp=Z,26nm,0.9s							
X40A	**Basin Creek Fa**	**4.57**	**108**		Pn	19 48 44.0	-1.4
X40A				IAmb_Lg		19 50 02.3	
comp=Z,28nm,0.7s							
WLAR	**White Oak Lake**	**4.71**	**118**	IAmb_Lg		19 50 05.4	
comp=Z,25nm,0.9s							
WHAR	**Wooly Hollow**	**4.78**	**97**		Pn	19 48 47.0	-1.2
WHAR				IAmb_Lg		19 50 11.7	
comp=Z,13nm,0.7s							
BRDY	**Brady**	**4.79**	**189**		Pn	19 48 47.5	-1.0
BRDY				IAmb_Lg		19 50 17.5	
comp=Z,15nm,0.8s							
MGMO	**Mountain Grove**	**4.81**	**75**	IAmb_Lg		19 50 08.6	
comp=Z,33nm,0.8s							
SGCY	**Sterling City**	**4.82**	**212**		Pn	19 48 47.9	-1.0
SGCY				IAmb_Lg		19 50 19.6	
comp=Z,25nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.84**	**90**		Pn	19 48 49.5	+0.4
FCAR				IAmb_Lg		19 50 13.0	
comp=Z,21nm,0.8s							
UALR	**University of**	**4.86**	**103**	IAmb_Lg		19 50 18.1	
comp=Z,26nm,1.1s							
Z41A	**Richland Creek**	**5.16**	**121**	IAmb_Lg		19 50 23.1	
comp=Z,25nm,0.9s							
R40A	**Maddies Statio**	**5.17**	**62**		Pn	19 48 53.3	-0.3
R40A				IAmb_Lg		19 50 22.5	
comp=Z,19nm,0.8s							
T25A	**Trinidad**	**5.21**	**284**	IAmb_Lg		19 50 21.5	
comp=Z,21nm,0.9s							
435B	**Jarrell**	**5.25**	**175**	IAmb_Lg		19 50 37.5	
comp=Z,20nm,0.7s							
JCT	**Junction City**	**5.72**	**195**	IAmb_Lg		19 50 47.6	
comp=Z,24nm,0.7s							
CCM	**Cathedral Cave**	**5.83**	**68**	IAmb_Lg		19 50 53.4	
comp=Z,18nm,0.8s							
PBMO	**Poplar Bluff**	**6.22**	**81**	IAmb_Lg		19 50 55.3	
comp=Z,26nm,0.9s							
FVM	**French Village**	**6.43**	**70**		Pn	19 49 11.1	0.0
FVM				IAmb_Lg		19 51 02.6	
comp=Z,20nm,0.9s							
CGM3	**Cape Girardeau**	**6.89**	**77**	IAmb_Lg		19 51 13.2	
comp=Z,16nm,0.7s							
SAND	**Sanderson**	**6.94**	**210**		Pn	19 49 17.8	-0.3
ISCO	**Idaho Springs**	**7.04**	**305**	IAmb_Lg		19 51 32.4	
comp=Z,9.3nm,0.8s							
SIUC	**Southern Illin**	**7.30**	**74**	IAmb_Lg		19 51 36.6	
comp=Z,18nm,0.7s							
MNTX	**Cornudas Mount**	**7.45**	**237**	Pn	Pn	19 49 23.5	-1.5
MNTX				IAmb_Lg		19 51 38.9	
comp=Z,8.6nm,0.7s							
Y22A	**Socorro**	**7.58**	**257**	IAmb_Lg		19 51 48.5	
comp=Z,11nm,1.0s							
833A	**Chaparral WMA,**	**7.76**	**189**	IAmb_Lg		19 51 53.7	
comp=Z,9.1nm,0.7s							
L42A	**Oliver, Polo**	**8.86**	**45**	IAmb_Lg		19 52 20.1	
comp=Z,19nm,0.8s							
RSSD	**Black Hills**	**9.27**	**332**	IAmb_Lg		19 52 54.4	
comp=Z,6.9nm,0.8s							
K22A	**Casper**	**9.29**	**318**	IAmb_Lg		19 52 41.3	
comp=Z,12nm,0.7s							

*IDC **08** 19:48:14.0±1.2, 32°.74N×5°.56W, h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=23.1km s-min=11.4km az=176.0*
*CNRM **08** 19:48:14.4, 32°.68N×5°.61W, h4km, ML4.0*
*MDD **08** 19:48:16.7±0.9, 32°.81N×5°.68W, h0km, Mb4.3/16, M_mb3.7/12, Error ellipse: s-maj=7.5km s-min=6.7km az=19.0*
*IGIL **08** 19:48:17.9, 32°.81N×5°.68W, h0km, ML3.5*
*INMG **08** 19:48:18.6±1.5, 32°.96N×5°.64W, h0km±42km, ML3.2, Error ellipse: s-maj=37.4km s-min=9.3km az=170.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Fez (Marr)*

ISC 08 19:48:15.3±0.6, 32°.80N±0°.02×5°.44W±0°.02, h14km, n233, σ1.9 88/267, mb3.7/4, 15C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 26.0**	**-1.1**
CZD	**Col de Zad**	**0.41**	**56**	S	**Sn**	**19 48 34.5**	**-0.2**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 26.1**	**-1.0**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 26.1**	**-1.0**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 27.0**	**-0.1**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 27.0**	**-0.1**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 27.0**	**-0.1**
CZD	**Col de Zad**	**0.41**	**56**	P	**Pn**	**19 48 27.0**	**-0.1**
MD31	**MD31**	**0.58**	**83**	P	**Pn**	**19 48 28.3**	**-0.9**
MD31	**MD31**	**0.58**	**83**	S	**Sn**	**19 48 39.0**	**+0.4**
MDT	**Midelt**	**0.70**	**89**	Pg	**Pn**	**19 48 30.2**	**-0.9**
99nm,0.3s,baz=260,slow=19,SNR=492							
MDT				Lg	Lg	19 48 40.0	
489nm,0.3s,baz=1.5,slow=18,SNR=55							
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.3**	**-0.7**
MDT	**Midelt**	**0.70**	**89**	S	**Sn**	**19 48 43.0**	**+1.3**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.3**	**-0.7**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.3**	**-0.7**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.1**	**-0.9**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.1**	**-0.9**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.1**	**-0.9**
MDT	**Midelt**	**0.70**	**89**	P	**Pn**	**19 48 30.1**	**-0.9**
LCRM	**LCR**	**1.01**	**29**	P	**Pg**	**19 48 34.8**	**-0.1**
LCRM	**LCR**	**1.01**	**29**	S	**Sn**	**19 48 50.8**	**+1.5**
LCRM	**LCR**	**1.01**	**29**	P	**Pn**	**19 48 38.0**	**+2.7**
LCRM	**LCR**	**1.01**	**29**	P	**Pn**	**19 48 38.0**	**+2.7**
LCRM	**LCR**	**1.01**	**29**	P	**Pn**	**19 48 38.0**	**+2.7**
LCRM	**LCR**	**1.01**	**29**	P	**Pn**	**19 48 38.0**	**+2.7**
LCRM	**LCR**	**1.01**	**29**	P	Pn	19 48 40.0	+4.7
LCRM	**LCR**	**1.01**	**29**	P	Pn	19 48 40.0	+4.7
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.8**	**-0.7**
GOLM	**Goulmima**	**1.17**	**159**	S	**Sn**	**19 48 54.5**	**+1.2**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.2**	**-1.2**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.2**	**-1.2**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.2**	**-1.2**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.2**	**-1.2**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.4**	**-1.1**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.4**	**-1.1**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.4**	**-1.1**
GOLM	**Goulmima**	**1.17**	**159**	P	**Pb**	**19 48 36.4**	**-1.1**
ZHG	**ZHG**	**1.19**	**303**	P	**Pn**	**19 48 38.1**	**+0.5**
ZHG	**ZHG**	**1.19**	**303**	S	**Sb**	**19 48 52.8**	**-0.3**
ZHG	**ZHG**	**1.19**	**303**	P	**Pn**	**19 48 38.2**	**+0.5**
ZHG	**ZHG**	**1.19**	**303**	P	**Pn**	**19 48 38.2**	**+0.5**
ZHG	**ZHG**	**1.19**	**303**	P	**Pn**	**19 48 38.1

PCBR *i* IAML 19 51 22.1
PCBR *i* IAML 19 51 23.4
PCBR *i* IAML 19 51 27.2
PSBE So Bento 7.22 339 *e*P **Pn 19 50 02.1 +1.5**
EPLA Plasencia 7.26 356 P **Pn 19 50 02.0 +0.9**
EPLA ⇑*i*IVmb_VC 19 50 04.9
comp=N,328nm,SNR=4.2
EPLA S **Sn 19 51 16.9 -6.5**
MTE Manteigas 7.77 348 *e*P **Pn 19 50 09.7 +1.6**
MTE *e*S **Sn 19 51 32.7 -3.1**
MTE *i* IAML 19 51 36.2
MTE *i* IAML 19 51 36.8
MTE *i* IAML 19 51 58.8
PVIS Viseu 8.14 347 *e*P **Pn 19 50 15.2 +2.1**
PVIS *e*S **Sn 19 51 40.5 -4.4**
MVO Moncorvo 8.44 352 *e*P **Pn 19 50 19.0 +1.7**
MVO *e*S **Sn 19 51 49.4 -3.0**
MVO *i* IAML 19 51 52.7
MVO *i* IAML 19 51 53.2
MVO *i* IAML 19 52 02.6
ETOR Torete 8.45 18 P **Pn 19 50 18.6 +1.2**
ETOR ⇑*i*IVmb_VC 19 50 21.6
comp=N,81nm,SNR=0.9
ETOR S **Sn 19 51 48.8 -3.8**
POLO Lamas de Olo 8.76 348 *e*P **Pn 19 50 23.4 +1.7**
POLO *e*S **Sn 19 51 56.2 -4.0**
POLO *i* IAML 19 51 59.9
POLO *i* IAML 19 52 02.0
POLO *i* IAML 19 52 12.5
PBRG Braganca 9.04 354 *e*P **Pn 19 50 27.0 +1.5**
PCAB Cabril 9.13 348 *e*P **Pn 19 50 27.6 +0.9**
ECAL Calabor 9.18 354 P **Pn 19 50 29.8 +2.4**
ECAL ⇑*i*IVmb_VC 19 50 35.3
comp=N,163nm,SNR=1.4
ECAL S **Sn 19 52 05.5 -5.0**
PGAV Gavieira, Arco 9.42 347 *e*P **Pn 19 50 33.7 +3.0**
TORD Torodi Ar. Bea 20.62 160 P **P 19 52 54.5 +0.1**
comp=N,0.8nm,0.6s,baz=345,slow=13,SNR=6.5
comp=N,0.8nm,0.6s
GERES GERESS Array B 21.51 36 P **P 19 53 05.7 +1.9**
comp=N,0.4nm,0.6s,baz=216,slow=11,SNR=4.1
comp=N,0.4nm,0.6s
DBIC Dimbokro 26.01 179 P **P 19 53 48.3 +0.4**
comp=N,4.8nm,1.0s,baz=354,slow=6.8,SNR=3.2
comp=N,4.8nm,1.0s
MKAR Makanchi Array 65.50 49 P **P 19 59 00.6 +2.5**
comp=N,0.4nm,0.9s,baz=276,slow=5.1,SNR=3.0
comp=N,0.4nm,0.9s
PDAR Pinedale Array 77.67 313 P **P 20 00 11.9 +0.1**
comp=N,0.5nm,0.7s,baz=56,slow=5.9,SNR=5.0
comp=N,0.5nm,0.7s

MOS ***08*** *19:58:26.9±1.0, 35°.75N×140°.39E, h63km, mb4.8/24, Error ellipse: s-maj=8.4km s-min=5.9km az=109.9*
NEIC ***08*** *19:58:30.7±1.3, 35°.71N±0°.05×140°.11E±0°.08, h70km±5km, mb4.6/63, Error ellipse: s-maj=9.9km s-min=6.5km az=121.0*
NIED ***08*** *19:58:30.4, 35°.80N×140°.11E, h62km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.58; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-1.65; $M_{r\theta}$-0.10; $M_{\phi\theta}$-0.16; $M_{r\phi}$1.32; Fault plane solution: $M_0$2.09000×10^15^ NP1: ϕ_s192.00000°, δ26.00000°, λ102.00000°. NP2: ϕ_s359.00000°, δ65.00000°, λ84.00000°.*
IDC ***08*** *19:58:30.5±1.3, 35°.62N×140°.14E, h76km±11km, mb3.8/23, mbtmp4.1/27, MS3.3/6 Error ellipse: s-maj=16.5km s-min=7.0km az=68.0*
JMA ***08*** *19:58:30.4±0.2, 35°.8N±0°.5×140°.1E±0°.7, h62km±1km, MD4.2/37, MV4.0/37, NORTHERN CHIBA PREF*
JMA Felt II J1 at NORTHERN CHIBA PREF .
ISC 08 19:58:29.6±0.6, 35.72N±0°.04×140°.18E±0°.04, h69km±5km, n209, σ1$61/200, mb4.5/65, 1C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.23**	**109**	*i* P	**Pn**	**19 58 41.6**	**+1.4**
TOK	**Tokyo**	**0.34**	**265**	*i* P	**Pn**	**19 58 42.0**	**+1.1**
TOK				*e*S	**Sn**	**19 58 51.5**	**+2.3**
TOK	**Tokyo**	**0.34**	**265**	A	A	19 58 42.0	
	comp=N,126nm,0.4s,comp=E,120nm,0.8s						
JIHU	**Itakohorinouch**	**0.37**	**49**	*i* P	**Pn**	**19 58 41.6**	**+0.4**
JIHU				*e*S	**Sn**	**19 58 50.5**	**+0.8**
JYT	**Yasato**	**0.51**	**1**	A	A	19 58 41.9	
	comp=N,48nm,0.3s,comp=E,76nm,0.4s						
JKUC	**kamogawauchiur**	**0.56**	**178**	A	A	19 58 44.2	
	comp=N,9.0nm,0.6s,comp=E,15nm,1.3s						
JYO	**Yokosk**	**0.65**	**221**	A	A	19 58 44.6	
	comp=N,35nm,0.7s,comp=E,27nm,0.6s						
JHYU	**Hitachinakayam**	**0.70**	**28**	A	A	19 58 44.4	
	comp=N,11nm,0.3s,comp=E,9.0nm,0.7s						
JSGW	**Sagamiharawaka**	**0.80**	**262**	A	A	19 58 45.6	
	comp=N,8.0nm,0.5s,comp=E,5.0nm,0.5s						
JAG	**Ashikaga**	**0.92**	**320**	⇓*i*P	**Pn**	**19 58 46.6**	**-0.5**
JAG	**Ashikaga**	**0.92**	**320**	A	A	19 58 46.6	
	comp=N,12nm,0.7s,comp=E,7.0nm,0.5s						
BSO3	**Boso 3**	**0.95**	**163**	*i* P	**Pn**	**19 58 48.1**	**+0.8**
JOD2	**Odawara 2**	**1.00**	**243**	⇓*i*P	**Pn**	**19 58 48.0**	**-0.1**
JOD2				⇓S	**Sn**	**19 59 01.0**	**-0.8**
JOD2	**Odawara 2**	**1.00**	**243**	A	A	19 58 48.0	
	comp=N,14nm,0.2s,comp=E,12nm,0.5s						
JRY	**Ryogami san**	**1.08**	**286**	⇓*i*P	**Pn**	**19 58 49.5**	**+0.3**
JIM2	**Oshima 3**	**1.17**	**212**	*e*P	**Pn**	**19 58 49.8**	**-0.5**
JIM2	**Oshima 3**	**1.17**	**212**	A	A	19 58 49.8	
	comp=N,19nm,0.3s,comp=E,19nm,0.4s						
JHTM	**Izuhatsuma**	**1.22**	**232**	A	A	19 58 51.9	
	comp=N,26nm,0.8s,comp=E,26nm,0.4s						
BSO1	**Boso 1**	**1.25**	**148**	*e*P	**Pn**	**19 58 51.5**	**+0.8**
BSO1				*e*S	**Sn**	**19 59 07.9**	**+1.3**
JSB	**Shiboa**	**1.27**	**351**	A	A	19 58 51.1	
	comp=N,7.0nm,0.8s,comp=E,13nm,1.1s						
JKT	**Katashina**	**1.29**	**325**	⇓*i*P	**Pn**	**19 58 51.4**	**-0.5**
JKT	**Katashina**	**1.29**	**325**	A	A	19 58 51.4	
	comp=N,9.0nm,0.3s,comp=E,15nm,0.5s						
JYN	**Shimob**	**1.35**	**261**	⇓*i*P	**Pn**	**19 58 52.8**	**+0.1**
SHZ3	**Shizuoka 3**	**1.74**	**249**	A	A	19 58 58.6	
	comp=N,8.0nm,1.0s,comp=E,4.0nm,1.8s						
MJA0	**Matsu Arr-Jizo**	**1.77**	**298**	*e*P	**Pn**	**19 58 58.4**	**+0.2**
MJA0				pmax	pmax		
	comp=Z,457nm,0.4s						
MJAR	**Matsushiro Arr**	**1.79**	**298**	Pn	**Pn**	**19 58 58.7**	**+0.2**
MJAR	**Matsushiro Arr**	**1.79**	**298**	P	**Pn**	**19 58 58.4**	**-0.2**
	comp=Z,457nm,0.5s,baz=101,slow=14,SNR=1645						
MJAR				S	**Sn**	**19 59 22.2**	**+1.8**
	comp=Z,81nm,0.3s,baz=2.8,slow=32,SNR=3.4						
MJAR				LR	LR	19 59 42.0	
	comp=Z,242nm,20.4s,baz=70,slow=39						
MJAR	**Matsushiro Arr**	**1.79**	**298**	P	**Pn**	**19 58 58.7**	**+0.2**
MAJO	**Matsushiro**	**1.80**	**298**	Pn	**Pn**	**19 58 58.9**	**+0.4**
MAJO	**Matsushiro**	**1.80**	**298**	P	**Pn**	**19 58 59.3**	**+0.8**
MAJO	**Matsushiro**	**1.80**	**298**	*i* P	**Pn**	**19 58 58.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.80**	**298**	Pn	**Pn**	**19 58 59.4**	**+0.8**
JSG	**Sagara**	**1.94**	**238**	Pn	**Pn**	**19 59 01.2**	**+0.8**
JSG	**Sagara**	**1.94**	**238**	P	**Pn**	**19 59 03.1**	**+2.7**
JMM	**Marumori**	**2.20**	**13**	Pn	**Pn**	**19 59 04.7**	**+0.8**
JMM	**Marumori**	**2.20**	**13**	P	**Pn**	**19 59 05.2**	**+1.3**
JMM	**Marumori**	**2.20**	**13**	S	**Sn**	**19 59 31.8**	**+1.7**
JGF	**Kuroka**	**2.30**	**268**	Pn	**Pn**	**19 59 06.1**	**+0.7**
JGF	**Kuroka**	**2.30**	**268**	P	**Pn**	**19 59 06.6**	**+1.2**
INU	**Inuyama**	**2.61**	**263**	Pn	**Pn**	**19 59 09.0**	**-0.4**
INU	**Inuyama**	**2.61**	**263**	P	**Pn**	**19 59 10.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.61**	**187**	P	**Pn**	**19 59 10.0**	**+0.4**
	comp=Z,375nm,0.3s,baz=326,slow=7.3,SNR=62						
JHJ				S	**Sn**	**19 59 39.1**	**-1.1**
	comp=Z,438nm,0.3s,baz=90,slow=20,SNR=11						
JHJ2	**Mitsune**	**2.62**	**187**	Pn	**Pn**	**19 59 10.3**	**+0.7**
JSD	**Sado**	**2.78**	**327**	Pn	**Pn**	**19 59 12.1**	**+0.3**
JSD	**Sado**	**2.78**	**327**	P	**Pn**	**19 59 12.1**	**+0.3**
JTM	**Tenmabayashi**	**5.11**	**8**	Pn	**Pn**	**19 59 44.0**	**+0.4**
JMN	**Monobe**	**5.56**	**251**	Pn	**Pn**	**19 59 50.0**	**+0.2**
ERM	**Erimo**	**6.70**	**19**	Pn	**Pn**	**20 00 03.5**	**-1.8**
ERM	**Erimo**	**6.70**	**19**	P	**Pn**	**20 00 03.5**	**-1.8**
JNU	**Nakatsue**	**8.11**	**254**	Pn	**Pn**	**20 00 24.6**	**-0.1**
JNU	**Nakatsue**	**8.11**	**254**	P	**Pn**	**20 00 25.1**	**+0.4**
	comp=Z,2.8nm,0.4s,baz=62,slow=2.9,SNR=6.7						
JNU				LR	LR	20 03 55.7	
	comp=Z,141nm,19.4s,baz=58,slow=40						
ASAJ	**Asahikawa**	**8.59**	**12**	P	**Pn**	**20 00 28.9**	**-2.3**
	comp=Z,5.3nm,0.3s,baz=210,slow=12,SNR=22						
ASAJ				S	**Sn**	**20 02 01.3**	**-5.1**
	comp=Z,4.3nm,0.4s,baz=198,slow=20,SNR=1.4						
ASAJ	**Asahikawa**	**8.59**	**12**	P	**Pn**	**20 00 29.3**	**-1.8**
JKA	**Kamikawa-asahi**	**8.59**	**12**	Pn	**Pn**	**20 00 29.2**	**-1.9**
NMR	**Nemuro--Hokkai**	**8.76**	**28**	*e*P	**Pn**	**20 00 30.3**	**-3.1**
NMR				*e*S	Sn	20 02 00.5	-10
GLVR	**Golovnino**	**9.00**	**26**	P	**Pn**	**20 00 34.3**	**-2.4**
GLVR				*e*S	**Sn**	**20 02 08.3**	**-8.2**
RUSJ	**Misakicho**	**9.23**	**23**	*e*P	**Pn**	**20 00 38.1**	**-1.8**
RUSJ				*e*S	**Sn**	**20 02 15.0**	**-7.1**
YUK	**Yuzh-Kuril'sk**	**9.38**	**26**	*e*P	**Pn**	**20 00 39.0**	**-2.9**
YUK				*e*S	Sn	20 02 15.5	-10
YUK				pmax	pmax		
	comp=Z,119nm,0.2s						
KSRS	**Korea Array**	**10.01**	**284**	P	**Pn**	**20 00 53.0**	**+2.5**
	comp=Z,6.0nm,0.8s,baz=98,slow=14,SNR=12						
KSRS	**Korea Array**	**10.01**	**284**	*e*P	**Pn**	**20 00 54.1**	**+3.6**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSAR	**Wonju Array Be**	**10.04**	**283**	Pn	**Pn**	**20 00 52.4**	**+1.5**
KSAR	**Wonju Array Be**	**10.04**	**283**	P	**Pn**	**20 00 52.4**	**+1.5**
KS19	**Wonju Array Si**	**10.06**	**284**	Pn	**Pn**	**20 00 53.6**	**+2.4**
TJN	**Taejon**	**10.40**	**277**	*i* P	**Pn**	**20 00 59.7**	**+3.8**
USRK	**Ussuriysk Ar.**	**10.54**	**326**	P	**Pn**	**20 00 59.9**	**+2.1**
	comp=Z,4.2nm,0.5s,baz=140,slow=14,SNR=5.7						
YSS	**Yuzhno-Sakhali**	**11.39**	**9**	Pn	**Pn**	**20 01 08.0**	**-1.3**
BNX	**BinXian**	**13.91**	**320**	⇓P	**Pn**	**20 01 43.9**	**+0.5**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.2s						
NJ2	**Nanjing**	**18.08**	**264**	*e*P	**Pn**	**20 02 36.1**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI	**Beijing**	**19.41**	**290**	P	**Pn**	**20 02 55.0**	**+3.1**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YHNB	**Yeheng**	**19.60**	**241**	P	**P**	**20 02 51.0**	**-1.4**
YHNB				IAmb	IAmb	20 03 09.2	
	comp=Z,19nm,1.1s						
NACB	**Ningancliao**	**19.75**	**239**	IAmb	IAmb	20 03 14.4	
	comp=Z,25nm,1.0s						
SSLB	**Suanglung**	**20.45**	**240**	P	**P**	**20 03 00.0**	**-1.6**
TPUB	**Ta-pu**	**20.99**	**239**	P	**P**	**20 03 05.4**	**-2.0**
TPUB				IAmb	IAmb	20 03 14.4	
	comp=Z,15nm,1.0s						
PETK	**Petropavlovsk-**	**21.32**	**30**	P	**P**	**20 03 10.1**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=221,slow=8.3,SNR=2.7						
	comp=Z,3.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.99**	**292**	*e*P	**P**	**20 03 27.0**	**-1.6**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
MA2	**Magadan**	**24.85**	**13**	P	**P**	**20 03 45.8**	**+0.5**
MA2				IAmb	IAmb	20 03 54.4	
	comp=Z,33nm,1.1s						
MA2	**Magadan**	**24.85**	**13**	LR	LR	20 15 09.2	
	comp=Z,29nm,19.4s,baz=86,slow=40						
MA2	**Magadan**	**24.85**	**13**	P	**P**	**20 03 45.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,33nm,1.1s						
XAN	**Xi'an**	**25.65**	**275**	⇓P	**P**	**20 03 46.0**	**-6.9**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ENH	**Enshi**	**26.25**	**267**	P	**P**	**20 03 57.6**	**-0.8**
ENH				IAmb	IAmb	20 03 58.6	
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**27.15**	**349**	*i* P	**P**	**20 04 07.5**	**+1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.30**	**307**	*i* P	**P**	**20 04 07.2**	**-0.6**
SONM	**Songino Array**	**27.73**	**306**	P	**P**	**20 04 10.6**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=113,slow=11,SNR=5.3						
SONM				PcP	**PcP**	**20 07 27.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=110,slow=3.1,SNR=2.3						
SONM				LR	LR	20 14 21.6	
	comp=Z,66nm,18.9s,baz=24,slow=34						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**27.73**	**306**	*e*P	**P**	**20 04 09.5**	**-2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.39**	**117**	T	T	20 34 12.1	
	baz=308,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.39**	**117**	T	T	20 34 12.1	
	baz=308,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.40**	**117**	T	T	20 34 12.5	
	baz=308,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	20 34 32.1	
	baz=312,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	20 34 27.5	
	baz=312,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**29.05**	**119**	T	T	20 34 33.0	
	baz=312,slow=75,SNR=30						
LZH	**Lanzhou**	**29.33**	**282**	*e*P	**P**	**20 04 26.0**	**0.0**
LZH				pP	pP	20 04 40.6	-1.9
LZH				sP	sP	20 04 51.1	+0.5
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
GTA	**Gaotai**	**32.02**	**289**	*e*P	**P**	**20 04 51.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PZH	**PanZhiHua**	**33.99**	**265**	P	**P**	**20 05 08.5**	**+1.6**
TIXI	**Tiksi**	**36.48**	**354**	P	**P**	**20 05 26.5**	**-1.1**
TIXI				IAmb	IAmb	20 05 45.0	
	comp=Z,5.5nm,0.9s						
TIXI	**Tiksi**	**36.48**	**354**	P	**P**	**20 05 26.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TOLI2	**Tolitoli**	**38.87**	**212**	P	**P**	**20 05 45.9**	**-2.4**
TOLI2				IAmb	IAmb	20 05 56.1	
	comp=Z,4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.20**	**256**	P	**P**	**20 05 58.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=53,slow=8.3,SNR=6.0						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.20**	**256**	*e*P	**P**	**20 05 58.9**	**-0.6**
ZAA0	**Zalesovo Array**	**42.08**	**313**	P	**P**	**20 06 14.6**	**+0.1**
ZAA0				IAmb	IAmb	20 06 17.5	
	comp=Z,4.8nm,0.6s						
ZALV	**Zalesovo Beam**	**42.08**	**313**	P	**P**	**20 06 14.6**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=92,slow=7.7,SNR=20						
ZALV				PcP	**PcP**	**20 08 07.5**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=109,slow=2.8,SNR=5.5						
	comp=Z,3.9nm,0.5s						
BRDH	**Bariadhala**	**43.91**	**266**	LR	LR	20 26 20.9	
	comp=Z,74nm,18.3s,baz=292,slow=38						
MK31	**Makanchi Array**	**43.99**	**303**	*i* P	**P**	**20 06 29.7**	**-0.3**
MKAR	**Makanchi Array**	**43.99**	**303**	P	**P**	**20 06 30.1**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=83,slow=10,SNR=44						
MKAR				PcP	**PcP**	**20 08 15.4**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=83,slow=3.3,SNR=4.9						
MKAR				LR	LR	20 25 30.6	
	comp=Z,83nm,18.2s,baz=321,slow=37						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**43.99**	**303**	*e*P	**P**	**20 06 30.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**44.20**	**303**	P	**P**	**20 06 32.1**	**+0.4**
MAKZ				IAmb	IAmb	20 06 34.3	
	comp=Z,5.4nm,1.1s						
MAKZ	**Makanchi**	**44.20**	**303**	P	**P**	**20 06 32.1**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
C16K	**Lisburne Hills**	**44.32**	**26**	P	**P**	**20 06 33.6**	**+1.4**
L16K	**Owhat River**	**45.34**	**36**	P	**P**	**20 06 42.8**	**+2.3**
L16K				IAmb	IAmb	20 07 06.0	
	comp=Z,4.8nm,1.0s						
KURK	**Kurchatov**	**45.97**	**309**	P	**P**	**20 06 45.6**	**0.0**
KURK	**Kurchatov**	**45.97**	**309**	*i* P	**P**	**20 06 45.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.04**	**309**	P	**P**	**20 06 46.0**	**-0.1**
	comp=Z,5.3nm,0.5s,baz=84,slow=7.7,SNR=27						
KURBB				PcP	**PcP**	**20 08 21.5**	**-0.1**
	comp=Z,0.5nm,0.2s,baz=90,slow=3.7,SNR=1.3						
	comp=Z,5.3nm,0.5s						
E19K	**Redstone River**	**47.10**	**28**	P	**P**	**20 06 55.8**	**+1.6**
E19K				IAmb	IAmb	20 07 13.1	
	comp=Z,5.4nm,1.1s						
SOEI	**Soe**	**47.66**	**201**	P	**P**	**20 06 58.2**	**-1.1**
SOEI				IAmb	IAmb	20 07 23.5	
	comp=Z,7.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**48.10**	**297**	P	**P**	**20 07 04.0**	**+1.1**
TARG				IAmb	IAmb	20 07 15.9	
	comp=Z,6.1nm,1.0s						
TARG	**Taragay, Kyrgy**	**48.10**	**297**	P	**P**	**20 07 04.0**	**+1.1**
TARG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
B21K	**Ikpikpuk River**	**48.40**	**25**	P	**P**	**20 07 06.6**	**+2.3**
KDJ	**Kajisay**	**48.45**	**298**	P	**P**	**20 07 06.5**	**+1.2**
KDJ	**Kajisay**	**48.45**	**298**	P	**P**	**20 07 06.5**	**+1.2**
KDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
HNR	**Honiara**	**48.63**	**154**	LR	LR	20 29 29.4	
	comp=Z,12nm,18.7s,baz=18,slow=38						
KDAK	**Kodiak Island**	**48.74**	**41**	P	**P**	**20 07 08.2**	**+1.2**
KDAK				IAmb	IAmb	20 07 32.2	
	comp=Z,11nm,1.0s						
KDAK	**Kodiak Island**	**48.74**	**41**	P	**P**	**20 07 08.2**	**+1.2**
KDAK				pmax	pmax		
	comp=Z,11nm,1.0s						
D22K	**Ayikyak River**	**48.98**	**26**	P	**P**	**20 07 10.9**	**+2.1**
D22K				IAmb	IAmb	20 07 27.4	
	comp=Z,6.0nm,0.9s						
PBA	**Port Blair**	**49.01**	**253**	P	**P**	**20 07 09.9**	**+0.3**
MTN	**Manton Dam**	**49.05**	**192**	P	**P**	**20 07 09.9**	**+0.1**
MTN				IAmb	IAmb	20 07 10.3	
	comp=Z,9.7nm,1.0s						
E22K	**Anaktuvuk Pass**	**49.23**	**27**	P	**P**	**20 07 12.0**	**+1.3**
BOOM	**Boomskoye usch**	**49.25**	**298**	P	**P**	**20 07 12.1**	**+0.7**
BOOM				IAmb	IAmb	20 07 30.3	
	comp=Z,6.9nm,1.1s						
BOOM				PcP	**PcP**	**20 08 33.8**	**+0.3**
BOOM	**Boomskoye usch**	**49.25**	**298**	P	**P**	**20 07 12.1**	**+0.7**
BOOM						20 08 33.8	
BOOM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COEN	**Coen**	**49.48**	**176**	P	**P**	**20 07 13.9**	**+0.7**
COEN				IAmb	IAmb	20 07 22.6	
	comp=Z,9.6nm,1.1s						
KSH	**Kashi**	**50.04**	**295**	P	**P**	**20 07 22.1**	**+4.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
AAK	**Ala-Archa**	**50.24**	**299**	P	**P**	**20 07 19.5**	**+0.5**
AAK				IAmb	IAmb	20 07 27.5	
	comp=Z,4.2nm,0.8s						
AAK	**Ala-Archa**	**50.24**	**299**	P	**P**	**20 07 19.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
E24K	**Your Creek**	**50.47**	**27**	P	**P**	**20 07 22.2**	**+2.1**
BVAR	**Borovoye Array**	**50.73**	**313**	P	**P**	**20 07 22.7**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=86,slow=8.1,SNR=8.1						
BVAR				PcP	**PcP**	**20 08 38.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=5.0,SNR=1.6						
	comp=Z,1.4nm,0.5s						
BORK	**Borovoye**	**50.77**	**313**	*i* P	**P**	**20 07 21.7**	**-0.8**
BORK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**51.13**	**32**	P	**P**	**20 07 27.0**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=270,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**51.13**	**32**	P	**P**	**20 07 27.0**	**+1.9**
F26K	**Sheenjek River**	**52.12**	**28**	P	**P**	**20 07 35.0**	**+2.6**
KNRA	**Kununurra**	**52.25**	**194**	P	**P**	**20 07 34.0**	**+0.2**
GSI	**Gunungsitoli**	**52.27**	**239**	P	**P**	**20 07 33.5**	**-0.6**
SCRK	**Sand Creek**	**52.45**	**33**	P	**P**	**20 07 36.8**	**+1.7**
KK31	**Karatay Array**	**52.93**	**301**	P	**P**	**20 07 39.1**	**+0.3**
KK31				IAmb	IAmb	20 07 41.8	
	comp=Z,2.9nm,0.9s						
KK31	**Karatay Array**	**52.93**	**301**	P	**P**	**20 07 39.1**	**+0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
I28M	**Miner Creek**	**54.00**	**31**	P	**P**	**20 07 48.6**	**+2.3**
GAR	**Garm**	**54.37**	**296**	P	**P**	**20 07 49.5**	**0.0**
GAR				IAmb	IAmb	20 08 02.8	
	comp=Z,2.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.27**	**197**	P	**P**	**20 07 56.5**	**+0.7**
CHGR	**Chuyangaron**	**55.34**	**296**	P	**P**	**20 07 56.5**	**+0.1**
CHGR	**Chuyangaron**	**55.34**	**296**	P	**P**	**20 07 56.5**	**+0.1**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WB0	**Warramunga Arr**	**55.45**	**187**	P	**P**	**20 07 57.2**	**0.0**
WB0				IAmb	IAmb	20 07 58.6	
	comp=Z,6.4nm,0.9s						
WR8	**Warramunga Arr**	**55.63**	**186**	P	**P**	**20 07 58.6**	**+0.1**
WRA	**Warramunga Arr**	**55.63**	**187**	P	**P**	**20 07 58.4**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=2.0,slow=7.4,SNR=109						
	comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**55.63**	**187**	*e*P	**P**	**20 07 59.0**	**+0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
J30M	**Hart River**	**55.66**	**31**	P	**P**	**20 08 00.0**	**+1.6**
ARTI	**Arti**	**56.80**	**319**	P	**P**	**20 08 06.6**	**+0.1**
ARTI	**Arti**	**56.80**	**319**	*c i*P	**P**	**20 08 06.5**	**+0.1**
ARTI						20 09 02.1	
ARTI				S	**S**	**20 15 55.5**	**+1.3**
ARTI						20 17 50.0	
ARTI				SS	**SS**	**20 19 42.0**	**-0.5**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AS31	**Alice Springs**	**59.36**	**187**	P	**P**	**20 08 25.5**	**+0.8**
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**20 08 23.4**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=5.8,slow=8.1,SNR=49						
	comp=Z,1.0nm,0.5s						
MBWA	**Marble Bar**	**59.79**	**202**	P	**P**	**20 08 27.7**	**+0.1**
PSA00	**

HFS Hagfors 74.87 335 P P 20 10 03.1 +0.7
comp=Z,1.0nm,0.5s,baz=58,slow=3.6,SNR=8.3
comp=Z,1.0nm,0.5s
NC204 NORSAR Array S 74.97 337 P P 20 10 03.9 +0.8
NC204 IAmb IAmb 20 10 32.1
comp=Z,8.0nm,1.1s
NB2 NORSAR Subarra 75.01 337 P P 20 10 03.6 +0.3
comp=Z,0.2nm,0.4s,baz=41,slow=5.6
NOA NORSAR Array B 75.01 337 P P 20 10 03.7 +0.4
comp=Z,0.6nm,0.6s,baz=41,slow=5.8,SNR=4.7
comp=Z,0.6nm,0.6s
NORES NORESS Array B 75.13 337 P P 20 10 07.6 +3.6
LRM Limekiln Ridge 75.78 44 P P 20 10 10.4 +2.1
NVAR Mina Array Bea 76.58 52 P P 20 10 14.8 +1.9
comp=Z,0.3nm,0.4s,baz=316,slow=6.7,SNR=4.0
comp=Z,0.3nm,0.4s
ILGA Ilgaz 78.12 312 P P 20 10 22.7 +1.2
ILGA IAmb IAmb 20 10 51.6
comp=Z,12nm,1.0s
BUR08 Bucovina Ar. S 78.71 321 P P 20 10 25.3 +0.8
BRTR Keskin Array B 78.97 311 P P 20 10 27.0 +0.9
comp=Z,0.6nm,0.5s,baz=57,slow=4.1,SNR=4.4
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 78.97 311 P P 20 10 27.0 +0.9
PDAR Pinedale Array 79.30 45 P P 20 10 29.0 +1.1
comp=Z,0.5nm,0.5s,baz=300,slow=2.8,SNR=5.9
comp=Z,0.5nm,0.5s
CLL Collm 81.73 330 *i* P **P 20 10 41.1 +0.6**
MMAI Mount Meron Ar 81.91 305 P P 20 10 42.7 +0.8
comp=Z,0.8nm,0.7s,baz=20,slow=4.6,SNR=1.6
comp=Z,0.8nm,0.7s
GERES GERESS Array B 83.30 328 P P 20 10 48.2 -0.6
comp=Z,0.2nm,0.3s,baz=48,slow=8.1,SNR=2.4
comp=Z,0.2nm,0.3s
FUORN Ofenpass-Fuorn 86.49 328 P P 20 11 05.6 +0.5
TXAR Lajitas Array 91.71 52 P P 20 11 28.9 -0.9
comp=Z,0.3nm,0.3s,baz=319,slow=5.0,SNR=5.6
comp=Z,0.3nm,0.3s
TORD Torodi Ar. Bea 117.53 313 PKP PKPdf 20 17 07.3 -0.8
comp=Z,0.4nm,0.8s,baz=34,slow=2.1,SNR=1.7
SNAA Sanae 139.20 197 PKP PKPdf 20 17 46.8 -0.7
comp=Z,0.7nm,0.8s,baz=127,slow=20,SNR=1.8
H03N2 Juan Fernandez 147.86 97 T T 23 04 32.5
baz=286,slow=75,SNR=3.7
H03N3 Juan Fernandez 147.87 98 T T 23 04 33.7
baz=286,slow=75,SNR=2.9
H03N1 Juan Fernandez 147.88 97 T T 23 04 35.6
baz=286,slow=75,SNR=3.3

TAP 08 20:02:50.0, 24°.10N×121°.62E, h11km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**239**	P	Pg	20 02 52.2	+0.2
TWD				S	Sg	20 02 53.6	+0.2
ETL	**Fush Village**	**0.06**	**0**	*e*P	Pg	20 02 52.5	+0.2
ETL				S	Sg	20 02 54.0	0.0
NACB	**Ninganchiao**	**0.08**	**342**	P	Pg	20 02 52.6	+0.1
NACB				S	Sg	20 02 54.4	+0.1
NACB	**Ninganchiao**	**0.08**	**342**	P	Pg	20 02 52.3	-0.2
ETLH	**Xiulin Townshi**	**0.17**	**311**	*i* P	Pg	20 02 54.5	+0.7
ETLH				*i* S	Sg	20 02 57.5	+1.0
ETM	**Tongmen**	**0.17**	**223**	P	Pg	20 02 54.2	+0.4
ETM				S	Sg	20 02 57.1	+0.6
LXIB	**Xiulin Townshi**	**0.20**	**249**	*e*P	Pg	20 02 54.0	-0.4
WUSB	**Renai**	**0.47**	**258**	*e*P	Pg	20 02 59.0	-0.3

NOU 08 20:19:38.9, 16°.55S×166°.92E, h0km, MLv4.0/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.13**	**14**	P	Pg	20 20 00.7	+0.1
SANVU	**Saraoutou**	**1.13**	**14**	S	Sg	20 20 15.0	-0.2
DVP	**Devils Point**	**1.68**	**134**	P	Pn	20 20 09.8	+0.2
YATNC	**Mamie plateau,**	**5.48**	**180**	P	Pn	20 21 01.0	-0.9
DZM	**Mont Dzumac**	**5.51**	**185**	P	Pn	20 21 01.8	-0.6
ONTNC	**Ouen Toro**	**5.74**	**184**	P	Pn	20 21 05.4	-0.1
OUENC	**Ouen Island, N**	**5.84**	**181**	P	Pn	20 21 07.8	+1.0

DJA 08 20:28:53.3±1.6, 9°.5±4°.×11°.9E±°, h19km±16km, M3.5/10, mb4.4/3, MLv3.1/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.09**	**176**	P	Pb	20 29 12.6	-1.0
WSI	**Waingapu**	**1.48**	**139**	P	Pn	20 29 18.7	-0.2
PLAI	**Plampang**	**1.54**	**260**	P	Pn	20 29 20.3	+0.5
PLAI				S	Sn	20 29 39.7	+0.4
EDFI	**Ende, Flores**	**2.36**	**95**	P	Pn	20 29 32.2	+1.0
TWSI	**Taliwang, Sumb**	**2.41**	**265**	P	Pn	20 29 31.3	-0.4
BSSI	**Bau Bau, Buton**	**2.66**	**26**	P	Pn	20 29 34.8	-0.4
BKSI	**Bulukumba**	**3.31**	**14**	P	Pn	20 29 44.0	-0.1
JAGI	**Jajag, Banyuwa**	**5.10**	**271**	P	Pn	20 30 08.8	0.0
0.1nm17nm,1.1s
TBJI Tambak Boyo 7.59 283 P Pn 20 30 42.9 -0.1

*KRSC **08** 20:37:12.9±1.8, 49°.74N×156°.89E, h66km±31km, Ml4.0*
*MOS **08** 20:37:13.0±0.9, 49°.73N×156°.90E, h62km, mb4.0/1, Error ellipse: s-maj=29.0km s-min=5.4km az=71.1*
*IDC **08** 20:37:17.2±2.8, 50°.23N×156°.07E, h140km±29km, mb3.3/6, mbtmp3.6/7, MS3.1/1, Error ellipse: s-maj=31.5km s-min=24.7km az=103.0*
ISC 08 20:37:13.3±1.8, 49°.7N±0°.2×156°.6E±0°.2, h88km±21km, n58, σ1§38/56, mb3.8/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**344**	*e*PN	**Pn**	**20 37 33.0**	**+0.2**
SKR				*e*S	**Sn**	**20 37 46.7**	**-0.7**
SKR				pmax	pmax		
comp=Z,161nm,0.4s
SKR smax smax
comp=N,2μm,0.3s
SKR smax smax
comp=E,2μm,0.4s
SKR Severo-Kuril's 1.00 344 *e*P **Pn 20 37 33.0 +0.2**
SKR *e*S **Sn 20 37 46.8 -0.7**
PAU Pauzhetka 1.75 5 PN **Pn 20 37 42.6 +0.5**
PAU S **Sn 20 38 03.8 -0.2**
PAU Pauzhetka 1.75 5 *e*P **Pn 20 37 42.6 +0.5**
PAU *e*S **Sn 20 38 03.8 -0.2**
MIPR Malaya Ipel'ka 2.56 3 PN **Pn 20 37 53.2 +0.4**
MIPR Malaya Ipel'ka 2.56 3 *e*P **Pn 20 37 53.2 +0.4**
ASAK Asacha 2.79 17 PN **Pn 20 37 57.4 +1.4**
ASAK S **Sn 20 38 31.0 +2.2**
ASAK Asacha 2.79 17 *e*P **Pn 20 37 57.5 +1.4**
ASAK *e*S **Sn 20 38 31.1 +2.2**
MTVR Mutnovka 2.95 20 PN **Pn 20 37 59.2 +1.1**
MTVR S **Sn 20 38 33.2 +0.6**
MTVR Mutnovka 2.95 20 *e*P **Pn 20 37 59.3 +1.1**
MTVR *e*S **Sn 20 38 33.2 +0.6**
RUS Russkaya 2.98 24 PN **Pn 20 37 58.9 +0.5**
RUS Russkaya 2.98 24 *e*P **Pn 20 37 58.9 +0.5**
GRL Gorelyy 2.99 18 PN **Pn 20 38 00.1 +1.4**
GRL S **Sn 20 38 34.5 +0.9**
GRL Gorelyy 2.99 18 *e*P **Pn 20 38 00.1 +1.4**
GRL *e*S **Sn 20 38 34.6 +0.9**
KRMR Karymshinskiy 3.26 17 PN **Pn 20 38 03.4 +1.2**
KRMR Karymshinskiy 3.26 17 *e*P **Pn 20 38 03.5 +1.2**
PEA0B Petropavlovsk- 3.46 12 PN **Pn 20 38 05.9 +0.9**
PETK Petropavlovsk- 3.46 12 P **Pn 20 38 05.2 +0.2**
comp=E,4.9nm,0.4s,baz=202,slow=13,SNR=20
DALK Dalny 3.59 22 PN **Pn 20 38 07.7 +1.1**
DALK S **Sn 20 38 46.7 -1.1**
DALK Dalny 3.59 22 *e*P **Pn 20 38 07.7 +1.1**
DALK *e*S **Sn 20 38 46.7 -1.1**
UGLR Uglovaya 3.77 21 PN **Pn 20 38 10.8 +1.7**
UGLR Uglovaya 3.77 21 *e*P **Pn 20 38 10.9 +1.7**
AVH Avacha 3.80 20 PN **Pn 20 38 11.4 +1.9**
AVH Avacha 3.80 20 *e*P **Pn 20 38 11.5 +1.9**
KOK Koryaka 3.80 19 PN **Pn 20 38 11.7 +2.1**
KOK Koryaka 3.80 19 *e*P **Pn 20 38 11.7 +2.1**
SMAR Somma 3.81 21 PN **Pn 20 38 11.5 +1.7**
SMAR Somma 3.81 21 *e*P **Pn 20 38 11.6 +1.7**
SDLR Sedlovina 3.85 21 PN **Pn 20 38 11.2 +1.0**
SDLR Sedlovina 3.85 21 *e*P **Pn 20 38 11.3 +1.0**
KRX Arik 3.87 19 PN **Pn 20 38 12.2 +1.7**
KRX Arik 3.87 19 *e*P **Pn 20 38 12.2 +1.7**
SPN Mys Shipunski 4.02 31 PN **Pn 20 38 13.6 +1.2**
SPN S **Sn 20 38 56.9 -1.4**
SPN Mys Shipunski 4.02 31 *e*P **Pn 20 38 13.7 +1.2**
SPN *e*S **Sn 20 38 57.0 -1.4**
GNL Ganaly 4.07 12 PN **Pn 20 38 14.2 +1.0**
GNL Ganaly 4.07 12 *e*P **Pn 20 38 14.3 +1.0**
MKZ Mys Kozlova 5.79 31 PN **Pn 20 38 36.2 -0.3**
MKZ Mys Kozlova 5.79 31 *e*P **Pn 20 38 36.3 -0.3**
TUMD Tumrok D 5.97 22 PN **Pn 20 38 41.3 +2.3**
TUMD Tumrok D 5.97 22 *e*P **Pn 20 38 41.4 +2.3**
JHJ Hachijo jima 2 20.74 223 LR LR 20 51 27.6
comp=E,54nm,19.2s,baz=60,slow=41
H11N2 WAKE ISLAND Hy 31.05 161 T T 21 17 25.3
baz=348,slow=76,SNR=3.0
H11N1 WAKE ISLAND Hy 31.06 161 T T 21 17 27.7
baz=348,slow=76,SNR=3.4
H11N3 WAKE ISLAND Hy 31.06 161 T T 21 17 28.3
baz=348,slow=76,SNR=7.6
H11S1 WAKE ISLAND Hy 32.19 162 T T 21 18 04.7
baz=347,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 32.20 162 T T 21 18 45.4
baz=347
H11S2 WAKE ISLAND Hy 32.21 162 T T 21 18 06.5
baz=347,slow=76,SNR=12
ILAR Eielson Array 32.79 41 P **P 20 43 34.6 -3.0**
comp=E,0.3nm,0.9s,baz=272,slow=8.3,SNR=2.0
comp=E,0.3nm,0.9s
GUMO Guam 37.29 199 P **P 20 44 18.1 +1.5**
comp=E,154nm,0.6s,baz=8.0,slow=19,SNR=4.4
MKAR Makanchi Array 47.64 297 P P 20 45 34.5 -5.8
comp=E,0.4nm,0.4s,baz=52,slow=6.6,SNR=10
comp=E,0.4nm,0.4s
KURK Kurchatov 47.66 303 P P 20 45 34.5 -5.8
KURBB Kurchatov Arra 47.76 303 P P 20 45 34.5 -6.5
comp=E,0.9nm,0.6s,baz=69,slow=8.0,SNR=7.2
comp=E,0.9nm,0.6s
BVAR Borovoye Array 50.76 309 P P 20 45 57.7 -6.2
comp=E,0.4nm,0.4s,baz=64,slow=6.6,SNR=2.9
comp=E,0.4nm,0.4s
CMAR Chiang Mai Arr 55.29 257 P P 20 46 35.6 -2.0
comp=E,0.5nm,0.6s,baz=40,slow=7.2,SNR=5.7
comp=E,0.5nm,0.6s
MMAI Mount Meron Ar 82.50 314 P P 20 49 22.3 -3.8
comp=E,0.9nm,0.5s,baz=45,slow=4.5,SNR=5.7
comp=E,0.9nm,0.5s
H03N2 Juan Fernandez 136.45 90 T T 23 27 50.3
baz=313
H03N1 Juan Fernandez 136.47 90 T T 23 27 49.0
baz=313
H03N3 Juan Fernandez 136.47 90 T T 23 27 56.4
baz=313

*IDC **08** 20:38:40.7±6.9, 20°.75N×144°.53E, h221km±65km, mb3.2/9, mbtmp3.8/10, Error ellipse: s-maj=40.7km s-min=14.9km az=80.0*
ISC 08 20:38:38.5±1.1, 20°.8N±0°.2×144°.5E±0°.3, h200km, n11, σ0§47/11, mb3.5/10, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.68**	**342**	P	**P**	**20 42 20.1**	**+0.1**
1.0nm,0.4s,baz=162,slow=8.7,SNR=8.1
KSRS Korea Array 22.04 323 P **P 20 43 17.6 +0.6**
2.5nm,0.8s,baz=145,slow=8.5,SNR=6.8
2.5nm,0.8s
WRA Warramunga Arr 41.65 195 P **P 20 46 07.9 +0.4**
0.4nm,0.3s,baz=14,slow=8.2,SNR=9.1
0.4nm,0.3s
ASAR Alice Springs 45.34 194 P **P 20 46 36.8 -0.2**
0.3nm,0.6s,baz=14,slow=7.1,SNR=6.4
0.3nm,0.6s
MKAR Makanchi Array 56.27 313 P **P 20 47 58.0 -0.3**
0.2nm,0.7s,baz=85,slow=8.4,SNR=3.7
MKAR PcP **PcP 20 48 52.8 -0.5**
0.1nm,0.5s,baz=96,slow=4.5,SNR=1.7
0.2nm,0.7s
KURBB Kurchatov Arra 59.08 317 P **P 20 48 17.7 0.0**
0.4nm,0.5s,baz=90,slow=7.7,SNR=8.0
0.4nm,0.5s
BVAR Borovoye Array 64.21 320 P **P 20 48 52.5 +0.5**
0.5nm,0.4s,baz=104,slow=5.2,SNR=5.5
0.5nm,0.4s
AB31 Akbulak array 71.11 316 ⇑P P 20 49 44.3 +9.2
0.2nm,0.5s,baz=156,slow=13,SNR=6.1
ARCES ARCESS Array B 80.22 342 P **P 20 50 26.5 +0.1**
1.9nm,0.7s,baz=51,slow=6.5,SNR=1.6
1.9nm,0.7s
NVAR Mina Array Bea 82.73 52 P **P 20 50 40.7 +0.1**
0.8nm,0.6s,baz=291,slow=7.8,SNR=3.8
0.8nm,0.6s
FINES FINESS Array B 84.58 335 P **P 20 50 48.2 -0.8**
0.9nm,0.4s,baz=51,slow=6.4,SNR=13
0.9nm,0.4s

*IDC **08** 21:04:58.7±2.3, 34°.62N×26°.37E, h0km, mb3.8/4, mbtmp3.7/6, ML3.5/2, MS3.0/1, Error ellipse: s-maj=50.8km s-min=19.5km az=24.0*
*ATH **08** 21:04:58.2, 34°.09N×26°.02E, h6km±2km, ML2.6/7, Manual Solution by F.Xalaris First location: 2019/10/08 21:06:20, This location: 2019/10/08 21:46:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **08** 21:05:01.0, 34°.29N×26°.03E, h86km, ML2.5/10*
*THE **08** 21:05:03.8, 34°N±16°×2°6E±2°1, h89km±20km, M2.4/4, MLh2.4/4*
*AFAD **08** 21:05:12.4, 34°.99N×27°.01E, h12km±1km, ML2.3*
ISC 08 21:04:58.9±1.5, 34°.10N±0°.06×26°.06E±0°.04, h31km±11km, n42, σ1§96/58, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.02**	**7**	Pg	**Pn**	**21 05 18.7**	**+1.6**
ZKR				Sg	**Sn**	**21 05 32.8**	**+2.4**
ZKR	**Zakros**	**1.02**	**7**	P	**Pn**	**21 05 19.0**	**+1.8**
ZKR				S	**Sn**	**21 05 32.6**	**+2.2**
ZKR	**Zakros**	**1.02**	**7**	P	**Pn**	**21 05 18.1**	**+1.0**
ZKR				S	**Sn**	**21 05 31.8**	**+1.3**
NPS	**Neapolis**	**1.22**	**343**	P	**Pb**	**21 05 21.6**	**+0.3**
NPS	**Neapolis**	**1.22**	**343**	P	**Pb**	**21 05 21.5**	**+0.2**
NPS				S	**Sn**	**21 05 37.6**	**+2.3**
IDI	**Anoyia**	**1.53**	**321**	Pn	**Pb**	**21 05 25.9**	**-0.7**
IDI				Sn	**Sb**	**21 05 44.1**	**-1.5**
IDI	**Anoyia**	**1.53**	**321**	P	**Pb**	**21 05 26.0**	**-0.6**
IDI	**Anoyia**	**1.53**	**321**	Pn	**Pb**	**21 05 26.0**	**-0.7**
1.1nm,0.3s,baz=120,slow=16,SNR=19
IDI Anoyia 1.53 321 P **Pb 21 05 26.1 -0.5**
IDI S **Sb 21 05 46.1 +0.5**
KARP Karpathos 1.71 32 Pn **Pn 21 05 28.5 +1.9**
KARP Sn **Sn 21 05 48.6 +1.2**
KARP Karpathos 1.71 32 P **Pb 21 05 29.4 -0.3**
KARP S **Sb 21 05 49.9 -0.9**
KARP Karpathos 1.71 32 P **Pb 21 05 29.1 -0.6**
KARP S **Sb 21 05 51.4 +0.6**
GVD Gavdhos 1.79 295 Pn **Pb 21 05 30.5 -0.5**
GVD Gavdhos 1.79 295 P **Pn 21 05 29.4 +1.8**
GVD S **Sb 21 05 52.3 -0.7**
THERA Ancient Thera, 2.31 348 P **Pn 21 05 34.1 -0.7**
THERA S **Sn 21 06 00.5 -1.8**
THERA Ancient Thera, 2.31 348 P **Pn 21 05 37.0 +2.1**
SNT5 Nea Kammeni, S 2.36 347 P **Pn 21 05 35.5 0.0**
THR3 Thira Island, 2.37 347 P **Pn 21 05 35.8 +0.2**
ARG Arkhangelos 2.71 38 Pn **Pn 21 05 42.3 +2.0**
YAZI Mula-Datşa- 2.82 23 P **Pn 21 05 44.4 +2.6**
DAT Datca 2.91 25 Pn **Pn 21 05 44.7 +1.6**
APE Apeiranthos 3.00 352 Pn **Pn 21 05 44.5 +0.2**
APE Apeiranthos 3.00 352 P **Pn 21 05 44.1 -0.1**
APE S **Sn 21 06 15.9 -3.2**
TURN Turunc 3.21 33 Pn **Pn 21 05 48.9 +1.7**
TURN Turunc 3.21 33 P **Pn 21 05 49.2 +2.0**
TURN S **Sn 21 06 22.0 -2.4**
IZZE Mula-Seydike 3.49 47 P **Pn 21 05 53.0 +2.0**
IZZE S **Sn 21 06 27.6 -3.7**
IZZE *i* IAML 21 06 36.0
comp=N,20nm,0.4s
KSL Kastellorizon 3.54 54 P **Pn 21 05 54.2 +2.5**
AKAS Kas 3.60 53 Pn **Pn 21 05 54.8 +2.1**
AKAS Kas 3.60 53 P **Pn 21 05 54.9 +2.2**
AKAS *i* IAML 21 06 15.0
comp=N,32nm,1.4s
AKAS S **Sn 21 06 30.2 -4.1**
SABU Mula-Dalaman 3.61 40 P **Pn 21 05 54.8 +2.1**
SABU S Sn 21 06 26.6 -7.7
SABU *i* IAML 21 06 53.0
comp=N,14nm,2.2s
CAME Cameli-Denizli 3.88 42 Pn **Pn 21 05 58.5 +1.9**
KNIK Mula-Seydike 3.97 45 P **Pn 21 06 00.7 +3.0**
TAVA DENIZLI_Tavas 4.08 34 P **Pn 21 06 01.8 +2.5**
TAVA *i* IAML 21 06 35.0
comp=N,8.3nm,2.2s
TAVA S Sn 21 06 37.9 -8.2
AKUM Antalya-Kumluc 4.15 56 P **Pn 21 06 02.7 +2.6**
AKUM S **Sn 21 06 42.8 -4.8**
AKUM *i* IAML 21 07 05.0
comp=N,10nm,1.3s
KORT Korkueli 4.54 49 P Pn 21 06 11.4 +5.7
MMAI Mount Meron Ar 7.88 95 Pn **Pn 21 06 52.3 +0.9**
0.6nm,0.3s,baz=278,slow=12,SNR=5.6
MMAI Sn **Sn 21 08 19.2 -0.3**
1.1nm,0.3s,baz=280,slow=19,SNR=5.5
0.2nm,0.3s
EIL Elat 8.76 118 Pn **Pn 21 07 06.0 +2.7**
0.7nm,0.3s,baz=337,slow=7.7,SNR=15
EIL Sn **Sn 21 08 38.2 -2.8**
0.9nm,0.3s,baz=358,slow=15,SNR=6.0
1.4nm,0.3s
KEST Kesra 13.81 282 LR LR 21 14 27.2
comp=Z,64nm,19.6s,baz=16,slow=41
FINES FINESS Array B 27.36 0 P **P 21 10 39.7 -1.3**
2.5nm,1.0s,baz=182,slow=9.9,SNR=4.5
2.5nm,1.0s
ARCES ARCESS Array B 35.49 360 P **P 21 11 51.4 -1.0**
2.2nm,0.9s,baz=183,slow=8.8,SNR=5.2
2.2nm,0.9s
MKAR Makanchi Array 43.75 56 P **P 21 13 02.3 +0.9**
0.3nm,0.5s,baz=279,slow=6.3,SNR=5.0
0.3nm,0.5s
ZALV Zalesovo Beam 45.21 45 P **P 21 13 14.1 +1.2**
0.4nm,0.4s,baz=274,slow=7.1,SNR=2.5
0.4nm,0.4s

*OTT **08** 21:05:08.9±0.2, 74°.29N×92°.40W, h18km, MN3.8/6, 86km southeast from Resolute, Nu Boothia Ungava Seismic Zone.*
*DNK **08** 21:05:09.0±2.7, 75°.25N×93°.33W, h15km, ML2.5*
*IDC **08** 21:05:10.7±3.2, 74°.35N×94°.09W, h0km, mb4.6/1, mbtmp4.1/3, ML4.2/2, MS3.4/1, Error ellipse: s-maj=50.7km s-min=31.1km az=4.0*
*ANF **08** 21:05:18.8±1.6, 73°.88N×95°.52W, h52km±11km, Error ellipse: s-maj=16.6km s-min=11.7km az=9.0*
ISC 08 21:05:05.2±0.8, 74°.12N±0°.08×92°.53W±0°.06, h10km, n67, σ1§30/59, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.86**	**313**	PG	**Pg**	**21 05 23.0**	**+1.2**
RES				SG	**Sg**	**21 05 32.8**	**-0.1**
RES				Trac		21 05 33.1	
comp=Z,503nm,0.1s
RES Resolute Bay 0.86 313 *e*P **Pg 21 05 22.9 +1.2**
RES *i* S **Sg 21 05 32.6 -0.3**
POIN Pond Inlet 4.41 102 PN **Pn 21 06 13.5 +1.4**
POIN SN **Sn 21 07 01.9 -1.4**
POIN LG Lg 21 07 25.7
POIN Trac 21 07 27.7
comp=Z,19nm,0.2s
ILON Igloolik, Nuna 5.83 140 PN **Pn 21 06 34.7 +3.2**
ILON SN **Sn 21 07 38.6 +0.4**
ILON LG Lg 21 08 12.9
ILON Trac 21 08 20.0
comp=Z,66nm,0.2s
TULEG Thule 6.46 57 *i* P **Pn 21 06 38.7 -1.5**
TULEG *i* S Sn 21 07 43.7 -10
TULEG IAML 21 07 48.0
comp=Z,29nm,0.1s
KULLO Kullorsuaq 9.46 70 SN Sn 21 08 50.7 -17
KULLO Kullorsuaq 9.46 70 *i* **Pn 21 07 20.1 -1.1**
KULLO *i* S Sn 21 08 57.5 -10
KUKN Kugluktuk,NWT 9.63 241 PN **Pn 21 07 25.1 +1.4**
KUKN SN Sn 21 09 08.7 -3.0
KUKN LG Lg 21 10 11.8
KUKN Trac 21 10 16.6
comp=Z,44nm,0.5s
A36M Sachs Harbour 9.70 273 PN **Pn 21 07 26.4 +1.9**
A36M SN Sn 21 09 08.5 -4.8
A36M Trac 21 10 13.3
comp=Z,47nm,0.8s
A36M Sachs Harbour 9.70 273 S Sn 21 09 05.5 -7.7
baz=64
UPNV Upernavik 10.35 80 *i* P **Pn 21 07 33.4 0.0**
UPNV *i* 21 09 22.4
NEEM North Greenlan 10.52 53 *i* Pn 21 07 32.5 -3.6
NEEM *i* 21 09 20.8
NEEM IAML 21 09 21.6
comp=Z,6.4nm,0.3s
C36M Paulatuk 10.87 260 P Pn 21 07 38.6 -1.9
baz=50
YKA Yellowknife Ar 14.09 226 Pn Pn 21 08 24.3 -0.3
comp=Z,2.4nm,0.3s,baz=26,slow=11,SNR=28
YKA Sn Sn 21 10 50.7 -10
comp=Z,2.3nm,0.3s,baz=27,slow=20,SNR=6.9
YKA Lg Lg 21 12 23.0
comp=Z,1.1nm,0.3s,baz=19,slow=29,SNR=3.7
comp=Z,3.0nm,0.4s
INK Inuvik 14.14 267 P Pn 21 08 23.5 -1.7
baz=48
F31M Tsiigehtchic 14.80 264 P Pn 21 08 32.8 -1.3
baz=46
SUMG Summit 15.13 69 *i* P **Pn 21 08 40.2 +1.2**
SUMG *e*S Sn 21 11 13.8 -13
F30M Barrier River 15.24 267 P **Pn 21 08 38.5 -1.6**
baz=46
F30M S Sn 21 11 16.4 -12
baz=46
E29M Blow River 15.29 271 P **Pn 21 08 39.6 -1.1**
baz=49
E29M S Sn 21 11 21.1 -8.7
baz=49
G31M Satah River 15.31 264 P **Pn 21 08 38.4 -2.6**
baz=44,SNR=26
G31M S Sn 21 11 18.5 -12
baz=44
WRGLY Wrigley 15.40 241 P **Pn 21 08 41.1 -1.1**
baz=31
WRGLY S Sn 21 11 20.9 -12
baz=31
FCC Fort Churchill 15.44 183 PN **Pn 21 08 43.3 +0.6**
FCC SN Sn 21 11 26.1 -7.4
FCC LG Lg 21 13 14.8
FCC Trac 21 13 21.3
comp=Z,33nm,0.8s
D27M Malcolm River 15.57 276 S Sn 21 11 24.9 -12
baz=51
E28M Babbage River 15.59 273 P **Pn 21 08 43.8 -0.9**
baz=50
E28M S Sn 21 11 24.8 -12
baz=50
G30M tAoh Zraii Nji 15.81 266 P **Pn 21 08 46.0 -1.5**
baz=45,SNR=8.8
G30M S Sn 21 11 29.0 -13
baz=45
C27K Jago River 16.07 280 P **Pn 21 08 50.1 -0.8**
baz=52
C27K S Sn 21 11 36.4 -12
baz=52
H31M Peel River 16.16 261 P **Pn 21 08 50.0 -2.1**
baz=42,SNR=14
H31M S Sn 21 11 37.0 -14
baz=42
G29M Pine Creek 16.35 267 P **Pn 21 08 52.8 -1.7**
baz=45,SNR=9.2
G29M S Sn 21 11 42.9 -13
baz=45
F28M Old Crow 16.36 271 P **Pn 21 08 54.0 -0.6**
baz=47
E27K Coleen River 16.44 274 P **Pn 21 08 55.0 -0.6**
baz=48
E27K S Sn 21 11 44.8 -13
baz=48
H29M Whitestone 16.95 266 P **Pn 21 09 00.5 -1.6**
baz=43,SNR=10
I30M Mount Dempster 17.16 262 P **Pn 21 09 02.7 -2.1**
baz=41
I30M S Sn 21 12 01.3 -14
baz=41
G27K Doyon Strip 17.43 271 P **Pn 21 09 06.5 -1.5**
baz=45

F26K	**Sheenjek River**	**17.48**	**275**	P	**Pn**	**21 09 08.2**	**-0.5**
	baz=47						
DAG	**Danmarks Havn**	**17.61**	**47**	*i* P	Pn	21 09 03.5	-6.8
DAG				*e*S	Sn	21 12 04.2	-22
J30M	**Hart River**	**17.64**	**260**	P	**Pn**	**21 09 08.9**	**-2.0**
	baz=39,SNR=17						
J30M				S	Sn	21 12 11.7	-15
	baz=39						
H27K	**Steamboat Moun**	**17.81**	**269**	P	**Pn**	**21 09 11.5**	**-1.4**
	baz=44						
H27K				S	Sn	21 12 19.8	-11
	baz=44						
MMPY	**Sheldon Lake,**	**17.87**	**250**	P	**Pn**	**21 09 12.3**	**-1.3**
	baz=34						
MMPY				S	Sn	21 12 18.8	-14
	baz=34						
G26K	**Porcupine Rive**	**17.91**	**273**	P	**Pn**	**21 09 13.7**	**-0.3**
	baz=45						
I28M	**Miner Creek**	**17.96**	**266**	P	**Pn**	**21 09 12.9**	**-1.8**
	baz=42,SNR=10						
I28M				S	Sn	21 12 20.4	-14
	baz=42						
F25K	**Christian Rive**	**17.96**	**276**	P	**Pn**	**21 09 15.1**	**+0.4**
	baz=47						
TGTN	**Hyland Airport**	**18.04**	**245**	S	Sn	21 12 23.7	-13
	baz=31						
KOTAN	**Kotaneelee Air**	**18.24**	**237**	P	**Pn**	**21 09 18.1**	**0.0**
	baz=26						
D23K	**Nanushuk River**	**18.38**	**284**	P	**Pn**	**21 09 20.8**	**+1.0**
	baz=49						
K29M	**Barlow Dome**	**18.54**	**260**	P	**P**	**21 09 21.5**	**-0.2**
	baz=38						
EGAK	**Eagle**	**18.81**	**266**	P	**P**	**21 09 23.2**	**-1.3**
	baz=40						
I26K	**Coal Creek Min**	**18.95**	**269**	P	**P**	**21 09 25.8**	**-0.3**
	baz=42						
H25L	**Birch Creek**	**18.97**	**273**	P	**P**	**21 09 25.8**	**-0.4**
	baz=44						
M31M	**Drury Creek, Y**	**19.04**	**254**	P	**P**	**21 09 26.4**	**-0.7**
	baz=34						
L29M	**L29M**	**19.30**	**259**	P	**P**	**21 09 28.8**	**-1.1**
	baz=37						
M30M	**Minto, Yukon**	**19.37**	**257**	P	**P**	**21 09 29.8**	**-0.9**
	baz=36						
K27K	**Chicken**	**19.64**	**265**	P	**P**	**21 09 33.4**	**-0.2**
	baz=39						
G23K	**Bananza Creek**	**19.79**	**278**	P	**P**	**21 09 36.1**	**+0.9**
	baz=44						
M29M	**Somme Creek**	**19.93**	**259**	P	**P**	**21 09 35.8**	**-1.0**
	baz=36						
SCRK	**Sand Creek**	**20.21**	**267**	P	**P**	**21 09 40.6**	**+0.7**
	baz=39						
P33M	**Teslin, Yukon**	**20.31**	**248**	P	**P**	**21 09 40.9**	**-0.2**
	baz=30						
L27K	**Beaver Creek,**	**20.34**	**263**	P	**P**	**21 09 40.6**	**-0.7**
	baz=37						
F21K	**Alatna River**	**20.36**	**282**	P	**P**	**21 09 42.1**	**+0.7**
	baz=45						
N30M	**Aishikik Lake**	**20.37**	**255**	P	**P**	**21 09 41.0**	**-0.7**
	baz=34						
ILAR	**Eielson Array**	**20.39**	**271**	P	**P**	**21 09 44.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=10,SNR=12						
	comp=Z,0.8nm,0.6s						
R33M	**Jennings River**	**20.55**	**245**	P	**P**	**21 09 43.4**	**-0.3**
	baz=29						
HYT	**Haines Junctio**	**21.02**	**255**	P	**P**	**21 09 47.1**	**-1.5**
	baz=33						
PAX	**Paxson**	**21.41**	**267**	P	**P**	**21 09 51.5**	**-1.4**
	baz=38						
P30M	**Million Dollar**	**21.47**	**253**	P	**P**	**21 09 52.0**	**-1.5**
	baz=32						
SCHQ	**Schefferville**	**21.93**	**138**	P	P	21 10 10.1	+12
	comp=Z,10nm,0.3s,baz=333,slow=11,SNR=1.3						
	comp=Z,10nm,0.3s						
H20K	**Anotleneega Mo**	**22.02**	**280**	P	**P**	**21 10 00.2**	**+0.8**
	baz=42						
MA2	**Magadan**	**40.13**	**315**	LR	LR	21 29 57.9	
	comp=Z,46nm,18.3s,baz=90,slow=38						

*SOME **08** 21:18:19.7, 41.78N×83.97E, h15km*
*NNC **08** 21:18:20.5±1.9, 41.43N×83.69E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.2km s-min=11.7km az=15.0*
ISC 08 21:18:22.2±4.5, 42.0N±0.8×83.9E±0.3, h10km, n8, σ3.01/9, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.44**	**291**	Pg	**Pb**	**21 19 20.5**	**-2.8**
	2.7nm,0.3s						
SHLS				Lg	Lg	21 20 05.1	
	10nm,0.6s						
SHLS	**Shalkode**	**3.44**	**291**	*e*P	**Pb**	**21 19 20.6**	**-2.8**
	2.7nm,0.3s						
SHLS				*e*S	**Sb**	**21 20 04.4**	**-0.9**
	10nm,0.6s						
PDGK	**Podgornoye**	**3.48**	**293**	⇑Pg	**Pb**	**21 19 26.3**	**+2.3**
	3.5nm,0.8s						
PDGK				⇓Lg	Lg	21 20 16.9	
	9.0nm,1.0s						
UZB	**Uzynbulak**	**3.75**	**289**	Pg	**Pb**	**21 19 31.0**	**+2.4**
	4.2nm,0.4s						
UZB				Lg	Lg	21 20 24.6	
	14nm,0.8s						
UZB	**Uzynbulak**	**3.75**	**289**	*e*P	**Pg**	**21 19 32.0**	**-2.0**
	4.2nm,0.4s						
UZB				*e*S	**Sg**	**21 20 23.9**	**+1.3**
	14nm,0.8s						
KPKS	**Kokpek**	**4.08**	**292**	Pg	**Pb**	**21 19 37.7**	**+3.5**
	0.2nm,0.1s						
KPKS				Lg	Lg	21 20 34.1	
	4.0nm,0.2s						
SATY	**Saty**	**4.17**	**286**	Pg	**Pb**	**21 19 38.6**	**+2.9**
	0.8nm,0.1s						
SATY				Lg	Lg	21 20 35.4	
	3.3nm,0.2s						
MK31	**Makanchi Array**	**4.90**	**347**	⇑Lg	Lg	21 21 15.8	
	2.5nm,0.7s,baz=168,slow=26						

*NEIC **08** 21:26:51.8±1.1, 55.80N±0.04×158.11W±0.08, h50km±17km, Error ellipse: s-maj=6.7km s-min=4.7km az=125.0*
AEIC 08 21:26:51.1±1.7, 55.84N±0.04×158.20W±0.08, h62km±3km, ML2.6, ML2.9/48(NEIC), Error ellipse: s-maj=7.0km s-min=5.1km az=129.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNSG	**Veniaminof 6**	**0.57**	**300**		Pn	21 27 04.8	+0.7
VNSG					Sn	21 27 15.4	+1.8
VNKR	**Veniaminof 5**	**0.68**	**287**		Pn	21 27 06.1	+0.8
VNKR					Sn	21 27 17.4	+1.6
VNSW	**Veniaminof 7**	**0.80**	**288**		Pn	21 27 07.2	+0.4
VNSW					Sn	21 27 19.9	+1.7
VNFG	**Fog Glacier, M**	**0.88**	**301**		Pn	21 27 07.9	+0.1
VNFG					Sn	21 27 22.0	+1.9
VNFG	**Fog Glacier, M**	**0.88**	**301**	IAML		21 27 30.3	
	comp=E,311nm,0.5s						
VNFG				IAML		21 27 40.2	
	comp=N,393nm,0.8s						
ANPB	**Aniakchak Plen**	**0.97**	**357**		Pn	21 27 09.7	+0.9
ANPB					Sn	21 27 22.9	+0.9
ANPK	**Aniakchak Peak**	**1.01**	**2**		Pn	21 27 10.1	+0.7
ANPK					Sn	21 27 24.8	+1.9
AZAC	**Aniakchak**	**1.06**	**359**		Pn	21 27 11.0	+0.8
AZAC					Sn	21 27 26.2	+2.0
CNBA	**Chernabura Isl**	**1.29**	**218**	Pn	Pn	21 27 13.2	+0.1
CNBA				Sn	Sn	21 27 30.3	+0.8
SDPT	**Sand Point**	**1.38**	**250**		Pn	21 27 15.5	+1.3
SDPT				Sn	Sn	21 27 32.6	+1.1
SDPT				IAML		21 27 34.2	
	comp=N,216nm,0.7s						
SDPT				IAML		21 27 35.8	
	comp=E,163nm,0.4s						
CHIR	**Chirikof Islan**	**1.46**	**90**	Pn	Pn	21 27 15.7	+0.4
CHIR				Sn	Sn	21 27 32.3	-1.0
CHIR				IAML		21 27 34.5	
	comp=N,96nm,0.5s						
R16K	**Pilot Point**	**1.77**	**11**	Pn	Pn	21 27 20.6	+1.2
R16K				Sn	Sn	21 27 41.4	+0.5
R16K				IAML		21 27 43.9	
	comp=N,170nm,1.1s						
R16K				IAML		21 27 45.8	
	comp=E,156nm,0.9s						
PLBL	**Peulik Blue Cr**	**2.02**	**22**		Pn	21 27 23.9	+1.1
PLBL					Sn	21 27 48.4	+1.5
PS1A	**Pavlof South-1**	**2.05**	**260**		Pn	21 27 24.4	+1.1
PS1A					Sn	21 27 49.1	+1.4
PLK4	**Peulik 4**	**2.07**	**29**		Pn	21 27 25.4	+1.9
PLK4				Sn	Sn	21 27 50.2	+2.0
PLK4				IAML		21 27 52.4	
	comp=E,73nm,0.7s						
PLK4				IAML		21 27 52.5	
	comp=N,47nm,0.7s						
PS4A	**Pavlof South-4**	**2.13**	**258**		Pn	21 27 25.6	+1.2
PS4A					Sn	21 27 51.3	+1.5
PLK3	**Peulik 3**	**2.14**	**29**		Pn	21 27 25.7	+1.2
PLK3					Sn	21 27 52.4	+2.4
PLK1	**Peulik 1**	**2.15**	**23**		Pn	21 27 25.4	+0.8
S12K	**Black Hills**	**2.19**	**268**	Pn	Pn	21 27 26.3	+1.2
S12K				Sn	Sn	21 27 51.9	+0.8
S12K				IAML		21 27 54.0	
	comp=E,112nm,0.2s						
S12K				IAML		21 27 54.3	
	comp=N,113nm,0.7s						
PLK2	**Peulik 2**	**2.19**	**27**		Pn	21 27 26.3	+1.1
SII	**Sitkinak Islan**	**2.36**	**70**	Pn	Pn	21 27 27.8	+0.3
SII				IAML		21 28 13.3	
	comp=E,86nm,1.0s						
SII				IAML		21 28 14.7	
	comp=N,67nm,0.7s						
CNTC	**Contact Creek**	**2.74**	**27**		Pn	21 27 34.0	+1.2
ANCK	**Angle Creek**	**2.79**	**31**		Pn	21 27 34.4	+1.0
MGLS	**Mageik Landsli**	**2.84**	**35**		Pn	21 27 35.3	+1.3
ACHA	**Angle Creek He**	**2.85**	**32**	Pn	Pn	21 27 34.6	+0.4
KABU	**Katmai Buttres**	**2.91**	**32**		Pn	21 27 36.5	+1.4
OHAK	**Old Harbor**	**3.06**	**61**	Pn	Pn	21 27 36.8	-0.1
FALS	**False Pass**	**3.14**	**254**	Pn	Pn	21 27 39.8	+1.8
P16K	**Nushagak River**	**3.20**	**2**	Pn	Pn	21 27 40.3	+1.3
P16K				IAML		21 28 17.1	
	comp=E,44nm,0.9s						
KAHG	**Katmai Hook Gl**	**3.32**	**35**		Pn	21 27 42.0	+1.3
O15K	**Ungalikthiuk R**	**3.46**	**346**	Pn	Pn	21 27 43.6	+1.2
O15K				IAML		21 28 22.7	
	comp=N,36nm,0.2s						
KDAK	**Kodiak Island**	**3.65**	**55**	Pn	Pn	21 27 45.0	0.0
KDAK				IAML		21 28 32.1	
	comp=N,11nm,1.0s						
O16K	**Kokwok River B**	**3.77**	**1**	Pn	Pn	21 27 47.2	+0.6
O16K				IAML		21 28 45.7	
	comp=E,9.6nm,0.9s						
O14K	**Tigyukauivet M**	**3.80**	**336**	Pn	Pn	21 27 48.3	+1.2
O14K				IAML		21 28 31.8	
	comp=N,16nm,0.8s						
O14K				IAML		21 28 57.4	
	comp=E,12nm,0.8s						
P18K	**Big Mountain,**	**3.91**	**23**	Pn	Pn	21 27 49.9	+1.3
Q19K	**Cape Douglas,**	**3.96**	**37**	Pn	Pn	21 27 50.4	+1.0
N15K	**Kwethluk River**	**4.46**	**348**	Pn	Pn	21 27 57.8	+1.7
N15K				IAML		21 29 11.8	
	comp=N,14nm,0.9s						
N15K				IAML		21 29 18.0	
	comp=E,15nm,1.0s						
P19K	**Oil Pt**	**4.66**	**33**	Pn	Pn	21 28 00.2	+1.3
P19K				IAML		21 29 06.2	
	comp=E,16nm,0.9s						
M16K	**Timber Creek**	**5.21**	**356**	Pn	Pn	21 28 08.4	+2.0
M16K				IAML		21 30 38.2	
	comp=N,5.9nm,1.1s						
CNPM	**China Poot**	**5.26**	**42**	Pn	Pn	21 28 07.4	+0.4
CNPM				IAML		21 29 31.4	
	comp=N,7.5nm,1.0s						
M14K	**Bethel**	**5.31**	**340**	Pn	Pn	21 28 08.9	+1.2
M13K	**Dall Lake**	**5.34**	**331**	Pn	Pn	21 28 09.7	+1.6
M17K	**Holitna River**	**5.59**	**4**	Pn	Pn	21 28 12.8	+1.2
M18K	**Stony River**	**5.80**	**11**		Pn	21 28 16.4	+1.9
L16K	**Owhat River**	**5.93**	**354**	Pn	Pn	21 28 17.8	+1.6
K15K	**Wolf Creek Mou**	**6.70**	**347**	Pn	Pn	21 28 28.6	+1.9
KNK	**Knik Glacier**	**7.55**	**38**	Pn	Pn	21 28 38.2	-0.2
HIN	**Hinchinbrook I**	**7.69**	**49**	Pn	Pn	21 28 39.7	-0.6
FID	**Port Fidalgo**	**7.89**	**47**	Pn	Pn	21 28 41.4	-1.6
KAIM	**Kayak Island**	**8.40**	**55**	Pn	Pn	21 28 50.9	+0.8
BMRM	**Bremner River**	**8.79**	**49**	Pn	Pn	21 28 54.6	-0.8
M24K	**Tolsona, Glenn**	**8.82**	**40**	Pn	Pn	21 28 56.7	+0.8
N25K	**Chitina, Valde**	**9.13**	**45**	Pn	Pn	21 29 00.1	+0.1
SNH	**Sunshine Point**	**9.23**	**56**	Pn	Pn	21 29 02.0	+0.6

IDC 08 21:32:39.0±6.0, 28.07S×73.33E, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/2, Error ellipse: s-maj=162.0km s-min=39.6km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.34**	**358**	T	T	21 58 00.9	
	baz=177,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**20.34**	**358**	T	T	21 57 56.0	
	baz=177,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**20.35**	**358**	T	T	21 58 01.0	
	baz=177,slow=76,SNR=25						
H04N2	**CROZET ISLANDS**	**24.78**	**217**	T	T	22 04 25.7	
	baz=52,slow=74,SNR=176						
H04N1	**CROZET ISLANDS**	**24.79**	**218**	T	T	22 04 31.7	
	baz=52,slow=74,SNR=168						
H04N3	**CROZET ISLANDS**	**24.80**	**217**	T	T	22 04 27.5	
	baz=52,slow=74,SNR=203						
H04S1	**CROZET ISLANDS**	**25.16**	**216**	T	T	22 04 54.1	
	baz=50,slow=76,SNR=9.2						
H04S3	**CROZET ISLANDS**	**25.17**	**216**	T	T	22 04 58.8	
	baz=50,slow=76,SNR=12						
H04S2	**CROZET ISLANDS**	**25.18**	**216**	T	T	22 05 07.2	
	baz=50,slow=76,SNR=13						
MAW	**Mawson**	**40.06**	**186**	LR	LR	21 53 49.9	
	comp=Z,64nm,18.2s,baz=66,slow=32						
CMAR	**Chiang Mai Arr**	**52.48**	**31**	P	P	21 41 54.1	+0.2
	0.3nm,0.2s,baz=204,slow=8.1,SNR=5.2						
	0.3nm,0.2s						
ASAR	**Alice Springs**	**54.20**	**100**	P	P	21 42 07.0	+0.2
	1.0nm,0.8s,baz=254,slow=7.3,SNR=8.6						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**55.83**	**96**	P	P	21 42 18.0	-0.5
	0.5nm,0.8s,baz=250,slow=7.6,SNR=3.2						
	0.5nm,0.8s						
JAY	**Jayapura**	**68.90**	**81**	LR	LR	22 11 26.1	
	comp=Z,26nm,20.7s,baz=160,slow=34						
MKAR	**Makanchi Array**	**74.96**	**6**	P	P	21 44 21.5	-0.2
	0.4nm,0.8s,baz=188,slow=4.4,SNR=4.0						
	0.4nm,0.8s						

*IDC **08** 21:49:19.1±0.6, 42.96N×78.69E, h0km, mb3.9/22, mbtmp4.0/29, ML4.0/7, MS3.6/13, Error ellipse: s-maj=9.5km s-min=7.9km az=149.0*
*MOS **08** 21:49:20.0±0.9, 42.99N×78.71E, h12km, mb4.5/9, Error ellipse: s-maj=4.7km s-min=4.1km az=150.6*
MOS Felt (III) at Saty; (II) at Almaty.
*KRNET **08** 21:49:20.7±0.1, 43.00N×78.61E, h20km, mb5.3*
*NNC **08** 21:49:20.0±0.3, 42.97N×78.64E, h3km±2km, mb5.2, mpv5.2, Error ellipse: s-maj=3.4km s-min=1.3km az=173.0*
*BJI **08** 21:49:21.1, 42.99N×78.96E, h8km, mB4.8/5, mb4.5/26, ML4.6/11, Ms4.1/15, Ms7.3/7.13*
*SOME **08** 21:49:21.1, 43.02N×78.55E, h10km, MS4.2*
*KNET **08** 21:49:22.5±0.7, 42.90N×78.38E, h4km±6km, ml4.9, Error ellipse: s-maj=11.2km s-min=6.3km az=159.0*
*NEIC **08** 21:49:23.9±2.5, 42.86N±0.05×78.71E±0.08, h24km±5km, mb4.5/26, Error ellipse: s-maj=9.5km s-min=6.4km az=126.0*
ISC 08 21:49:21.2±0.6, 43.00N±0.02×78.62E±0.01, h10km±3km, n285, σ1.973/380, mb4.1/36, MS3.8/12, 52C-48D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.16**	**290**	P	**Pg**	**21 49 24.5**	**-0.3**
	22μm,0.5s						
SATY				S	**Sg**	**21 49 27.2**	**-0.2**
	11μm,0.4s						
SATY	**Saty**	**0.16**	**290**	*e*P	**Pg**	**21 49 24.5**	**-0.3**
SATY				*e*S	**Sg**	**21 49 27.2**	**-0.2**
SATY	**Saty**	**0.16**	**290**	⇑*i*P	**Pg**	**21 49 24.6**	**-0.3**
SATY	**Saty**	**0.16**	**290**	*c i*PG	**Pg**	**21 49 24.5**	**-0.3**
UZB	**Uzynbulak**	**0.33**	**64**	P	**Pg**	**21 49 27.3**	**-0.5**
	4μm,0.3s						
UZB				S	**Sg**	**21 49 32.1**	**-0.2**
	46μm,0.3s						
UZB	**Uzynbulak**	**0.33**	**64**	*e*P	**Pg**	**21 49 27.3**	**-0.5**
UZB				*e*S	**Sg**	**21 49 32.1**	**-0.2**
UZB	**Uzynbulak**	**0.33**	**64**	*e*P	**Pg**	**21 49 27.3**	**-0.5**
	2μm,0.2s						
UZB				*e*S	**Sg**	**21 49 32.1**	**-0.2**
	30μm,0.2s						
UZB	**Uzynbulak**	**0.33**	**64**	⇑*i*P	**Pg**	**21 49 27.3**	**-0.5**
UZB				*e*S	**Sg**	**21 49 31.9**	**-0.5**
UZB	**Uzynbulak**	**0.33**	**64**	*c i*PG	**Pg**	**21 49 27.3**	**-0.5**
UZB				*e*S	**Sg**	**21 49 31.8**	**-0.5**
KPKS	**Kokpek**	**0.47**	**6**	P	**Pg**	**21 49 30.2**	**-0.1**
	72nm,0.5s						
KPKS				S	**Sg**	**21 49 36.9**	**+0.4**
	7μm,0.4s						
KPKS	**Kokpek**	**0.47**	**6**	*e*P	**Pg**	**21 49 30.2**	**-0.1**
KPKS				*e*S	**Sg**	**21 49 36.8**	**+0.4**
KPKS	**Kokpek**	**0.47**	**6**	⇓*i*P	**Pg**	**21 49 30.2**	**-0.1**
KPKS				*e*S	**Sg**	**21 49 36.6**	**+0.1**
KPKS	**Kokpek**	**0.47**	**6**	*d i*PG	**Pg**	**21 49 30.2**	**-0.1**
KPKS				*e*S	**Sg**	**21 49 36.6**	**+0.1**
PRZ	**Przheval'sk**	**0.54**	**197**		**Pg**	**21 49 31.4**	**-0.4**
PRZ					**Sg**	**21 49 39.4**	**+0.4**
PRZ	**Przheval'sk**	**0.54**	**197**	⇓*i*P	**Pg**	**21 49 31.4**	**-0.4**
PRZ				⇓*i*S	**Sg**	**21 49 38.3**	**-0.7**
PRZ	**Przheval'sk**	**0.54**	**197**	⇓*i*PG	**Pg**	**21 49 31.4**	**-0.4**
PRZ				*i* S	**Sg**	**21 49 39.4**	**+0.4**
KURS	**Kuram**	**0.58**	**326**	P	**Pg**	**21 49 32.5**	**-0.1**
	1μm,0.3s						
KURS				S	**Sg**	**21 49 41.0**	**+0.8**
	10μm,0.4s						
KURS	**Kuram**	**0.58**	**326**	*e*P	**Pg**	**21 49 32.5**	**-0.1**
KURS				*e*S	**Sg**	**21 49 41.0**	**+0.8**
SHLS	**Shalkode**	**0.64**	**76**	P	**Pn**	**21 49 38.4**	**+1.9**
	3μm,0.2s						
SHLS				S	**Sn**	**21 49 50.9**	**+4.1**
	5μm,0.3s						
SHLS	**Shalkode**	**0.64**	**76**	*e*P	**Pn**	**21 49 38.4**	**+1.9**
SHLS				*e*S	**Sn**	**21 49 50.9**	**+4.1**
SHLS	**Shalkode**	**0.64**	**76**	*e*P	**Pn**	**21 49 38.4**	**+1.9**
	3μm,0.2s						
SHLS				*e*S	**Sn**	**21 49 50.9**	**+4.1**
	5μm,0.4s						
SHLS	**Shalkode**	**0.64**	**76**	⇑*i*P	**Pn**	**21 49 38.3**	**+1.9**
SHLS				*e*S	**Sn**	**21 49 50.6**	**+3.9**
SHLS	**Shalkode**	**0.64**	**76**	*c i*PG	**Pn**	**21 49 38.3**	**+1.9**
SHLS				*e*S	**Sn**	**21 49 50.6**	**+3.9**
PDGK	**Podgornoye**	**0.72**	**63**	⇑P	**Pg**	**21 49 34.2**	**-0.9**
	988nm,0.5s						
PDGK				⇓S	**Sb**	**21 49 43.9**	**-2.0**
	12μm,0.7s						
PDGK	**Podgornoye**	**0.72**	**63**	*i* PG	**Pg**	**21 49 34.2**	**-0.9**
PDGK				pmax	pmax		
	comp=Z,988nm,0.4s						
KOTS	**Kotyrbulak**	**1.12**	**282**	P	**Pb**	**21 49 41.7**	**-1.1**
KOTS				S	**Sb**	**21 49 56.6**	**-1.0**
	comp=Z,22μm,0.3s						
KOTS	**Kotyrbulak**	**1.12**	**282**	*e*P	**Pb**	**21 49 41.7**	**-1.1**
KOTS				*e*S	**Sb**	**21 49 56.6**	**-1.0**
KOTS	**Kotyrbulak**	**1.12**	**282**	*e*P	**Pb**	**21 49 41.7**	**-1.1**
	comp=Z,5μm,0.2s						
KOTS				*e*S	**Sb**	**21 49 56.6**	**-1.0**
	comp=Z,22μm,0.4s						
MDOK	**Medeo**	**1.16**	**278**	Pg	**Pb**	**21 49 42.2**	**-1.3**
	comp=Z,6μm,0.3s						
MDOK				Lg	Lg	21 49 57.4	
	comp=Z,19μm,0.5s						
MDOK	**Medeo**	**1.16**	**278**	*e*P	**Pb**	**21 49 42.2**	**-1.3**
MDOK				*e*S	**Sb**	**21 49 57.4**	**-1.2**
MDOK	**Medeo**	**1.16**	**278**	*e*P	**Pb**	**21 49 42.1**	**-1.3**
MDOK	**Medeo**	**1.16**	**278**	*e*PG	**Pb**	**21 49 42.1**	**-1.3**
TNSS	**Tian-Shan**	**1.22**	**272**	P	**Pn**	**21 49 43.0**	**-1.7**
	comp=Z,394nm,0.6s						
TNSS				S	**Sb**	**21 49 59.2**	**-1.5**
	comp=Z,1μm,0.5s						
TNSS	**Tian-Shan**	**1.22**	**272**	*e*P	**Pn**	**21 49 43.0**	**-1.7**
	comp=Z,394nm,0.6s						
TNSS				*e*S	**Sb**	**21 49 59.2**	**-1.5**
	comp=Z,2μm,0.2s						
TNSS	**Tian-Shan**	**1.22**	**272**	⇑*i*P	**Pn**	**21 49 43.0**	**-1.7**
TNSS	**Tian-Shan**	**1.22**	**272**	⇑*i*PG	**Pn**	**21 49 43.0**	**-1.7**
KNDC	**Almaty**	**1.23**	**281**	⇑P	**Pn**	**21 49 43.6**	**-0.9**
	comp=Z,2μm,0.5s						
KNDC				⇑S	**Sb**	**21 50 00.3**	**-0.1**
	comp=Z,13μm,0.7s						
KNDC	**Almaty**	**1.23**	**281**	PG	**Pn**	**21 49 43.6**	**-0.9**
KNDC				S	**Sb**	**21 50 00.3**	**-0.1**
AAA	**Alma-Ata**	**1.26**	**280**	P	**Pn**	**21 49 44.5**	**-0.5**
	comp=Z,5μm,0.5s						
AAA				S	**Sb**	**21 50 01.6**	**+0.2**
	comp=Z,5μm,0.5s						
AAA	**Alma-Ata**	**1.26**	**280**	*e*P	**Pn**	**21 49 44.5**	**-0.5**
	comp=Z,5μm,0.5s						
AAA				*e*S	**Sb**	**21 50 01.6**	**+0.2**
	comp=Z,5μm,0.5s						
AAA	**Alma-Ata**	**1.26**	**280**	⇑*i*P	**Pn**	**21 49 44.5**	**-0.5**
AAA	**Alma-Ata**	**1.26**	**280**	*c i*PG	**Pn**	**21 49 44.4**	**-0.5**
ARXS	**Arharly**	**1.34**	**335**	P	**Pn**	**21 49 46.0**	**0.0**
	comp=Z,3μm,0.2s						
ARXS				S	**Sb**	**21 50 04.2**	**+0.6**
	comp=Z,7μm,0.2s						
ARXS	**Arharly**	**1.34**	**335**	*e*P	**Pn**	**21 49 46.0**	**0.0**
	comp=Z,3μm,0.2s						
ARXS				*e*S	**Sb**	**21 50 04.2**	**+0.6**
	comp=Z,7μm,0.3s						
ARXS	**Arharly**	**1.34**	**335**	*e*PG	**Pn**	**21 49 45.5**	**-0.5**
KDJ	**Kajisay**	**1.37**	**231**	Pn	**Pn**	**21 49 45.6**	**-0.9**
KDJ				Sn	**Sb**	**21 50 03.2**	**-1.6**
KDJ	**Kajisay**	**1.37**	**231**	⇑*i*P	**Pn**	**21 49 45.5**	**-1.1**
KDJ				⇑*i*S	**Sb**	**21 50 04.1**	**-0.7**
KDJ	**Kajisay**	**1.37**	**231**	*i* PG	**Pn**	**21 49 45.5**	**-1.1**
KDJ				*i* S	**Sb**	**21 50 03.2**	**-1.6**
TARG	**Taragay, Kyrgy**	**1.41**	**206**		**Pn**	**21 49 46.0**	**-1.3**
TARG	**Taragay, Kyrgy**	**1.41**	**206**	PG	**Pn**	**21 49 46.0**	**-1.3**
KNOS	**Konyrlen**	**1.42**	**17**	P	**Pb**	**21 49 47.6**	**-0.2**
	comp=Z,4μm,0.2s						
KNOS				S	**Sg**	**21 50 06.6**	**-0.2**
	comp=Z,7μm,0.4s						
CHKK	**Chushkaly**	**1.46**	**306**	P	**Pn**	**21 49 48.1**	**+0.4**
	comp=Z,2μm,0.3s						
CHKK				S	**Sn**	**21 50 07.6**	**+0.7**
	comp=Z,14μm,

comp=Z,4μm,0.3s
TDK Taldyqorghan 2.00 356 Pg Pb 21 49 57.8 +0.1
comp=Z,5μm,0.5s
TDK Lg Lg 21 50 24.1
comp=Z,7μm,0.6s
TDK Taldyqorghan 2.00 356 *e*P Pb 21 49 57.8 +0.1
comp=Z,3μm,0.4s
TDK *e*S **Sb 21 50 24.1 +1.4**
comp=Z,7μm,0.5s
TDK Taldyqorghan 2.00 356 *e*P Pn 21 49 55.5 +0.4
TDK Taldyqorghan 2.00 356 *e*PN Pn 21 49 55.5 +0.4
BOOM Boomskoye usch 2.04 256 Pn 21 49 57.0 +1.4
BOOM Sn **Sn 21 50 23.6 +2.3**
BOOM Boomskoye usch 2.04 256 ⇑*i*P **Pn 21 49 56.4 +0.7**
BOOM ⇑*i*S **Sn 21 50 23.0 +1.7**
BOOM Boomskoye usch 2.04 256 PN Pn 21 49 57.1 +1.4
BOOM 21 50 23.6
TKM2 Tokmak 2 2.22 269 P Pn 21 50 00.5 +2.3
comp=Z,2μm,0.5s,SNR=2893
TKM2 ⇑S **Sb 21 50 30.2 +1.1**
comp=Z,4μm,0.2s
TKM2 Tokmak 2 2.22 269 ⇑*i*P **Pn 21 49 59.1 +0.9**
TKM2 ⇑*i*S **Sn 21 50 27.5 +1.7**
TKM2 Tokmak 2 2.22 269 *i*PN Pn 21 49 59.1 +0.9
TKM2 *i*S **Sn 21 50 27.0 +1.2**
KRBS Karabastau 2.25 289 Pg Pb 21 50 02.2 +0.1
comp=Z,1μm,0.4s
KRBS Lg Lg 21 50 31.6
comp=Z,2μm,0.4s
KBK Karagaybulak 2.72 264 ⇑P **Pn 21 50 08.1 +3.0**
comp=Z,3μm,0.6s,SNR=1758
KBK ⇓S **Sb 21 50 42.4 -1.1**
comp=Z,7μm,0.4s
KBK Karagaybulak 2.72 264 ⇓*i*P **Pn 21 50 06.2 +1.1**
KBK ⇓*i*S **Sn 21 50 39.5 +1.3**
KBK Karagaybulak 2.72 264 ⇓*i*PN **Pn 21 50 06.2 +1.1**
KBK *i*S **Sn 21 50 39.2 +1.0**
CHMS Chumysh 2.83 271 ⇑P **Pn 21 50 09.1 +2.5**
comp=Z,1μm,0.5s,SNR=756
CHMS ⇓S **Sb 21 50 45.6 -1.1**
comp=Z,4μm,0.4s
CHMS Chumysh 2.83 271 ⇑*i*P **Pn 21 50 07.6 +1.0**
CHMS ⇑*i*S **Sn 21 50 42.0 +1.2**
CHMS Chumysh 2.83 271 *i*PN Pn 21 50 07.6 +1.0
CHMS *i*S **Sn 21 50 41.5 +0.7**
FRU1 Bishkek 2.94 268 Pn Pn 21 50 10.9 +3.0
FRU1 Bishkek 2.94 268 ⇑*i*P **Pn 21 50 08.9 +0.9**
FRU1 ⇑*i*S **Sn 21 50 44.5 +1.2**
FRU1 Bishkek 2.94 268 *i*PN Pn 21 50 08.9 +0.9
FRU1 *i*S **Sn 21 50 44.2 +0.9**
JNKS Jany-Kuch 2.94 230 ⇑*i*P **Pn 21 50 10.0 +1.8**
JNKS ⇑*i*S **Sn 21 50 44.9 +1.2**
SGDS Sogindy 2.95 280 Pg Pb 21 50 14.6 +0.7
comp=Z,336nm,0.3s
SGDS Lg Lg 21 50 52.9
comp=Z,2μm,0.6s
SGDS Sogindy 2.95 280 *e*P Pn 21 50 09.7 +1.5
USP Ospenovka 3.02 276 ⇑P **Pn 21 50 10.8 +1.6**
comp=Z,593nm,0.5s,SNR=67
USP Ospenovka 3.02 276 ⇓*e*P **Pn 21 50 10.2 +1.0**
USP ⇓*i*S **Sn 21 50 46.6 +1.1**
USP Ospenovka 3.02 276 ⇓*i*PN **Pn 21 50 10.2 +1.0**
USP *i*S **Sn 21 50 46.1 +0.6**
AAK Ala-Archa 3.05 265 Pn 21 50 12.1 +2.4
AAK Ala-Archa 3.05 265 Pn Pn 21 50 12.7 +3.0
comp=Z,116nm,0.3s,baz=106,slow=15,SNR=177
AAK LR LR 21 50 49.8
comp=Z,177nm,19.7s,baz=158,slow=29
AAK Lg Lg 21 50 54.9
comp=Z,240nm,0.3s,baz=117,slow=18,SNR=18
comp=Z,420nm,0.4s
AAK Ala-Archa 3.05 265 ⇑P **Pn 21 50 12.5 +2.8**
comp=Z,555nm,0.5s,SNR=380
AAK Ala-Archa 3.05 265 ⇑Pn **Pn 21 50 09.5 -0.2**
comp=Z,5μm,0.8s
AAK ⇑Lg Lg 21 50 57.2
comp=Z,8μm,0.6s
AAK Ala-Archa 3.05 265 ⇑*i*P **Pn 21 50 10.8 +1.1**
AAK ⇑*i*S **Sn 21 50 47.5 +1.1**
AAK Ala-Archa 3.05 265 *i*PN Pn 21 50 12.3 +2.6
UCH Uchtor 3.13 257 ⇓P **Pn 21 50 13.2 +2.2**
comp=Z,650nm,0.5s,SNR=466
UCH Uchtor 3.13 257 ⇓*i*P **Pn 21 50 11.9 +1.0**
UCH ⇓*i*S **Sn 21 50 49.4 +0.9**
UCH Uchtor 3.13 257 ⇓*i*PN **Pn 21 50 11.9 +1.0**
UCH *i*S **Sn 21 50 49.4 +0.9**
EKS2 Erkin-Say 3.58 266 ⇑P **Pn 21 50 19.5 +2.7**
comp=Z,773nm,0.7s,SNR=53
EKS2 Erkin-Say 3.58 266 ⇓*i*P **Pn 21 50 17.9 +1.1**
EKS2 ⇓*i*S **Sn 21 51 00.0 +0.8**
EKS2 Erkin-Say 3.58 266 ⇓*i*PN **Pn 21 50 17.9 +1.1**
EKS2 *i*S **Sn 21 50 59.5 +0.3**
BTLS Baital 3.87 303 Pg Pb 21 50 32.5 +2.9
comp=Z,260nm,0.8s
BTLS Lg Lg 21 51 23.9
comp=Z,793nm,0.9s
BTLS Baital 3.87 303 *e*P Pb 21 50 31.5 +1.9
comp=Z,156nm,0.6s
BTLS *e*S **Sb 21 51 21.7 +5.2**
comp=Z,760nm,0.5s
BTLS Baital 3.87 303 *e*P Pn 21 50 21.6 +0.8
BTLS Baital 3.87 303 *e*PN Pn 21 50 21.6 +0.8
MRKS Merke 3.97 268 Pg Pb 21 50 34.1 +2.8
comp=Z,726nm,0.5s
MRKS Lg Lg 21 51 26.3
comp=Z,1μm,0.4s
MRKS Merke 3.97 268 *e*P Pb 21 50 33.3 +2.0
comp=Z,726nm,0.5s
MRKS *e*S **Sb 21 51 24.9 +5.5**
comp=Z,1μm,0.5s
KSH Kashi 4.01 211 Pn Pb 21 50 32.3 +0.3
KSH Sn **Sb 21 51 22.8 +2.1**
KSH smax smax
comp=Z,1μm,0.8s
KSH smax smax
comp=Z,2μm,1.0s
SALK Salom-Alik 4.16 241 ⇓*e*P **Pn 21 50 26.8 +2.0**
SALK ⇓*e*S **Sn 21 51 14.0 +0.4**
MAKZ Makanchi 4.49 31 Pn Pn 21 50 31.6 +2.3
MAKZ Makanchi 4.49 31 PN Pn 21 50 31.6 +2.3
ARSB Arslanbob 4.51 250 Pn 21 50 32.4 +2.7
ARSB Arslanbob 4.51 250 ⇓*i*P **Pn 21 50 31.1 +1.4**
ARSB ⇓*i*S **Sn 21 51 22.5 +0.2**
ARSB Arslanbob 4.51 250 PN Pn 21 50 32.4 +2.7
MK31 Makanchi Array 4.60 33 ⇑Pn **Pn 21 50 31.4 +0.6**
comp=Z,23nm,0.3s
MK31 ⇓Sn **Sn 21 51 24.2 -0.1**
comp=Z,74nm,0.4s
MK31 ⇓Lg Lg 21 51 46.9
comp=Z,925nm,0.7s
MK31 Makanchi Array 4.60 33 *i*PN Pn 21 50 32.2 +1.4
MKAR Makanchi Array 4.60 33 Pn 21 50 32.6 +1.8
MKAR Makanchi Array 4.60 33 Pn Pn 21 50 32.2 +1.4
comp=Z,10nm,0.3s,baz=210,slow=12,SNR=354
MKAR Sn **Sn 21 51 26.8 +2.5**
comp=Z,24nm,0.3s,baz=215,slow=22,SNR=5.3
MKAR Lg Lg 21 51 42.6
comp=Z,71nm,0.3s,baz=214,slow=29,SNR=20
comp=Z,27nm,0.5s
SFK Sufi-Kurgan 4.86 234 ⇑*i*P **Pn 21 50 36.5 +1.9**
SFK ⇑*i*S **Sn 21 51 30.9 -0.2**
SFK Sufi-Kurgan 4.86 234 *i*PN Pn 21 50 36.5 +1.9
SFK *i*S **Sn 21 51 31.6 +0.5**
OHH Osh 5.01 242 ⇓*i*P **Pn 21 50 38.2 +1.6**
OHH ⇓*i*S **Sn 21 51 34.2 -0.4**
OHH Osh 5.01 242 ⇓*i*PN **Pn 21 50 38.2 +1.6**
OHH *i*S **Sn 21 51 34.7 +0.1**
ARK Arkit 5.07 259 ⇓*i*P **Pn 21 50 38.7 +1.3**
ARK ⇓*i*S **Sn 21 51 35.5 -0.5**
ARK Arkit 5.07 259 ⇓*i*PN **Pn 21 50 38.7 +1.3**
ARK *i*S **Sn 21 51 35.5 -0.5**
DZA Taraz 5.35 271 *e*P Pn 21 50 42.6 +1.5
DZA Taraz 5.35 271 *e*PN Pn 21 50 42.6 +1.5
TRKS Terek-Say 5.74 258 ⇑*i*P **Pn 21 50 47.9 +1.3**
TRKS ⇑*i*S **Sn 21 51 51.4 -1.2**
TRKS Terek-Say 5.74 258 *i*PN Pn 21 50 47.9 +1.3
KK31 Karatay Array 5.94 274 Pn 21 50 51.3 +2.1
KK31 Karatay Array 5.94 274 Pn **Pn 21 50 51.1 +1.9**
comp=Z,12nm,0.6s,baz=89,slow=13,SNR=277
KK31 ⇓Pg **Pb 21 51 09.0 +4.2**
comp=Z,109nm,0.6s,baz=88,slow=15,SNR=12
KK31 ⇑Lg Lg 21 52 28.9
comp=Z,429nm,0.6s
KK31 Karatay Array 5.94 274 PN **Pn 21 50 51.3 +2.1**
KKAR Karatay Array 5.94 274 Pn 21 50 51.4 +2.2
KKAR Karatay Array 5.94 274 PN **Pn 21 50 51.4 +2.2**
DRK Karamyk 6.23 238 Pn 21 50 55.6 +2.2
DRK Karamyk 6.23 238 ⇑*i*P **Pn 21 50 55.2 +1.8**
DRK ⇑*i*S **Sn 21 52 03.3 -1.5**
DRK Karamyk 6.23 238 *i*PN Pn 21 50 55.2 +1.8
DRK *i*S **Sn 21 52 04.0 -0.8**
ZSN Zaisan 6.26 43 Pg **Pg 21 51 17.9 -3.2**
comp=Z,57nm,0.8s
ZSN Lg Lg 21 52 41.5
comp=Z,290nm,0.9s
ZSN Zaisan 6.26 43 *e*P Pg 21 51 17.9 -3.2
comp=Z,33nm,0.5s
ZSN *e*S **Sg 21 52 41.5 -0.7**
comp=Z,278nm,0.8s
IUG Iuzhnay 6.40 265 Pg Pg 21 51 19.3 -4.4
comp=Z,378nm,0.7s
IUG Lg Lg 21 52 43.9
comp=Z,1μm,0.7s
IUG Iuzhnay 6.40 265 *e*P Pn 21 50 57.0 +1.5
IUG Iuzhnay 6.40 265 *e*PN Pn 21 50 57.0 +1.5
BRLS Borolday 6.44 273 *e*P Pn 21 50 59.4 +3.4
BRLS Borolday 6.44 273 *e*PN Pn 21 50 59.4 +3.4
WMQ Urumqi 6.66 80 Pn **Pn 21 51 00.8 +1.6**
WMQ Sn **Sn 21 52 17.7 +2.5**
WMQ smax smax
comp=Z,220nm,0.9s
WMQ smax smax
comp=Z,170nm,1.1s
WMQ LR LR
comp=Z,1μm,5.9s
WMQ LR LR
comp=Z,1μm,8.3s
WMQ LR LR
comp=Z,200nm,13.7s
GAR Garm 7.44 240 Pn 21 51 11.5 +1.6
GAR Garm 7.44 240 ⇑*e*P **Pn 21 51 11.5 +1.6**
GAR ⇑*i*S **Sn 21 52 31.9 -2.5**
GAR Garm 7.44 240 *i*P Pn 21 51 11.5 +1.6
GAR *i*S **Sn 21 52 32.4 -2.0**
SEM Semipalatinsk 7.49 8 Pg **Pg 21 51 40.8 -3.8**
comp=Z,39nm,0.7s
SEM Lg Lg 21 53 20.7
comp=Z,163nm,0.8s
SEM Semipalatinsk 7.49 8 *e*P Pg 21 51 40.8 -3.8
comp=Z,22nm,0.6s
SEM *e*S **Sg 21 53 20.7 -0.8**
comp=Z,163nm,0.7s
KURBB Kurchatov Arra 7.62 360 Pn **Pn 21 51 12.0 -0.3**
comp=Z,0.8nm,0.3s,baz=186,slow=12,SNR=55
KURBB Sn **Sn 21 52 37.7 -0.8**
comp=Z,1.4nm,0.3s,baz=153,slow=19,SNR=7.0
KURBB Lg Lg 21 53 19.3
comp=Z,4.0nm,0.3s,baz=178,slow=28,SNR=8.4
comp=Z,4.3nm,0.6s
KURBB Kurchatov Arra 7.62 360 ⇑Pn **Pn 21 51 12.2 0.0**
comp=Z,5.7nm,0.5s
KURBB ⇑Lg Lg 21 53 22.7
comp=Z,1μm,0.7s
KURBB Kurchatov Arra 7.62 360 P **Pn 21 51 12.2 0.0**
KURK Kurchatov 7.71 0 Pn 21 51 13.3 -0.2
KURK Kurchatov 7.71 0 ⇑Pn **Pn 21 51 11.9 -1.6**
comp=Z,3.7nm,0.5s
KURK ⇓Lg Lg 21 53 26.0
comp=Z,295nm,0.8s
KURK Kurchatov 7.71 0 *i*P Pn 21 51 12.9 -0.6
BRZS Berezniki 8.09 332 Pg Pg 21 51 51.2 -4.8
comp=Z,1.4nm,0.5s
BRZS Lg Lg 21 53 38.5
comp=Z,247nm,0.7s
BRZS Berezniki 8.09 332 *e*P Pg 21 51 51.7 -4.3
comp=Z,0.8nm,0.3s
BRZS *e*S **Sg 21 53 39.2 -1.5**
comp=Z,188nm,0.5s
CHGR Chuyangaron 8.38 242 Pn 21 51 24.0 +1.2
CHGR Chuyangaron 8.38 242 P **Pn 21 51 24.0 +1.2**
NIL Nilore 10.24 206 Pn 21 51 49.4 +1.1
NIL Nilore 10.24 206 P **Pn 21 51 49.4 +1.1**
KBL Kabul 11.27 225 Pn **Pn 21 52 03.0 +0.5**
KBL Kabul 11.27 225 P **Pn 21 52 03.0 +0.5**
BVA0 Borovoye Array 11.43 334 ⇑Pn **Pn 21 52 02.9 -1.5**
comp=Z,7.3nm,0.6s,baz=146,slow=14,SNR=37
BVA0 ⇓Sn **Sn 21 54 14.1 +2.0**
comp=Z,30nm,0.8s,baz=149,slow=25,SNR=4.0
BVA0 ⇑Lg Lg 21 55 23.5
comp=Z,180nm,1.1s,baz=145,slow=27,SNR=6.5
BVA0 Borovoye Array 11.43 334 P **Pn 21 52 02.9 -1.5**
BVA0 S **Sn 21 54 09.2 -2.9**
BVAR Borovoye Array 11.43 334 Pn **Pn 21 52 03.3 -1.1**
comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=20
BVAR Sn **Sn 21 54 07.5 -4.6**
comp=Z,0.4nm,0.3s,baz=137,slow=21,SNR=5.1
BVAR Lg Lg 21 55 18.9
comp=Z,0.7nm,0.3s,baz=139,slow=29,SNR=5.4
BVAR LR LR 21 56 08.4
comp=Z,108nm,20.4s,baz=118,slow=36
comp=Z,16nm,0.9s
BORK Borovoye 11.47 334 *i*P Pn 21 52 04.1 -0.8
BRVK Borovoye 11.49 334 ⇓Pn **Pn 21 52 03.2 -2.0**
comp=Z,6.1nm,0.7s
BRVK ⇓Lg Lg 21 55 25.9
comp=Z,210nm,1.1s
ZAA0 Zalesovo Array 11.69 18 Pn 21 52 08.7 +0.8
ZAA0 Zalesovo Array 11.69 18 ⇓Pn **Pn 21 52 08.3 +0.3**
comp=Z,2.9nm,0.7s
ZAA0 ⇑Lg Lg 21 55 32.7
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 11.69 18 Pn 21 52 08.4 +0.4
ZALV Zalesovo Beam 11.69 18 Pn **Pn 21 52 08.5 +0.5**
comp=Z,2.1nm,0.3s,baz=213,slow=15,SNR=63
ZALV Sn Sn 21 54 09.0 -9.5
comp=Z,1.3nm,0.3s,baz=213,slow=16,SNR=2.2
ZALV Lg Lg 21 55 27.9
comp=Z,1.4nm,0.3s,baz=200,slow=25,SNR=4.1
comp=Z,13nm,0.6s
GOMU GeErMu 14.21 113 P Pn 21 52 39.4 -3.3
GOMU pP P 21 52 42.9 -7.4
GOMU sP 21 52 47.5
GOMU S **Sn 21 55 19.6 -1.0**
GOMU pmax pmax
comp=Z,18nm,0.8s
GOMU LR LR
comp=Z,300nm,10.9s
GOMU LR LR
comp=Z,140nm,10.0s
GOMU LR LR
comp=Z,250nm,10.6s
AB31 Akbulak array 14.36 302 Pn 21 52 42.6 -1.9
AB31 Akbulak array 14.36 302 Pn **Pn 21 52 42.9 -1.6**
comp=Z,4.5nm,0.6s,baz=107,slow=9.9,SNR=30
AB31 ⇓Lg Lg 21 56 56.9
comp=Z,57nm,0.8s
AB31 Akbulak array 14.36 302 P **Pn 21 52 42.5 -1.9**
ABKAR Akbulak array 14.36 302 Pn 21 52 42.5 -2.0
KNGR Kungurtug, Tuv 14.98 53 *i*P Pn 21 52 53.3 +0.3
HRA Herat 15.39 241 Pn 21 52 57.2 -1.4
AKTO Aktyubinsk 15.93 305 Pn **Pn 21 53 04.3 -1.0**
comp=Z,0.7nm,0.3s,baz=102,slow=14,SNR=8.9
AKTO Sn **Sn 21 55 52.7 -9.1**
comp=Z,0.3nm,0.3s,baz=139,slow=20,SNR=1.2
AKTO Lg Lg 21 57 41.6
comp=Z,0.8nm,0.3s,baz=41,slow=17,SNR=3.8
comp=Z,3.2nm,0.6s
AKTO Aktyubinsk 15.93 305 ⇓Pn **Pn 21 53 04.6 -0.7**
comp=Z,4.1nm,0.6s
AKTO ⇓Lg Lg 21 57 47.9
comp=Z,49nm,1.1s
GTA Gaotai 16.35 96 P **Pn 21 53 08.0 -2.8**
GTA pP P 21 53 13.5 -0.3
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA LR LR
comp=Z,280nm,14.9s
GTA LR LR
comp=Z,360nm,13.5s
GTA LR LR
comp=Z,340nm,12.7s
EVN Everest 16.42 153 Pn **Pn 21 53 11.0 -1.3**
LSA Lhasa 16.65 139 P **P 21 53 15.8 -1.8**
LSA Lhasa 16.65 139 P **Pn 21 53 14.3 -0.8**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 16.65 139 P **P 21 53 15.8 -1.8**
LSA pmax pmax
comp=Z,13nm,0.6s
SVE Sverdlovsk 17.96 327 *e*P Pn 21 53 30.0 -0.8
ZAK Zakamensk 18.40 58 *e*P Pn 21 53 34.9 -1.5
ZAK pmax pmax
comp=Z,17nm,1.3s
ARTI Arti 18.63 323 P **P 21 53 39.0 +0.3**
ARTI IAmb IAmb 21 53 50.1
comp=Z,14nm,0.6s
ARTI Arti 18.63 323 P **P 21 53 38.8 +0.1**
comp=Z,0.6nm,0.3s,baz=129,slow=14,SNR=9.9
ARTI S Sn 21 56 55.2 -12
comp=Z,2.4nm,0.5s,baz=107,slow=19,SNR=1.6
ARTI Lg Lg 21 59 04.6
comp=Z,0.2nm,0.3s,baz=126,slow=19,SNR=5.4
comp=Z,5.6nm,0.6s
ARTI Arti 18.63 323 *d i*P **P 21 53 39.1 +0.4**
ARTI S **S 21 57 11.3 +0.5**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 18.98 54 *i*P Pn 21 53 43.2 0.0
TLY pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 20.04 66 P 21 53 54.4 +0.1
SONM Songino Array 20.04 66 P **P 21 53 53.2 -1.1**
comp=Z,6.7nm,0.8s,baz=268,slow=10,SNR=29
SONM Lg Lg 21 59 56.2
comp=Z,0.2nm,0.3s,baz=265,slow=29,SNR=3.8
SONM LR LR 22 01 36.9
comp=Z,74nm,20.3s,baz=278,slow=37
comp=Z,6.7nm,0.8s
SONM Songino Array 20.04 66 P **P 21 53 54.4 +0.1**
SONM pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 20.48 66 P 21 53 58.3 -0.8
ULN Ulaanbaatar 20.48 66 *i*P P 21 53 58.8 -0.4
ULN pmax pmax
comp=Z,23nm,1.9s
SHL Shillong 20.52 144 P **P 21 53 58.1 -1.6**
SHL Shillong 20.52 144 P **P 21 53 58.1 -1.6**
SHL pmax pmax
comp=Z,21nm,0.5s
LZDM Lanzhou Array 20.55 102 P **P 21 53 59.6 -0.6**
comp=Z,2.4nm,0.4s,baz=292,slow=9.0,SNR=5.9
comp=Z,2.4nm,0.4s
LZH Lanzhou 20.60 101 *e*P Pn 21 54 01.2 -1.6
LZH pP sP 21 54 10.2 +4.3
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,400nm,12.1s
LZH LR LR
comp=Z,350nm,13.6s
LZH LR LR
comp=Z,250nm,14.3s
BELG Belogornoye 22.72 305 P **P 21 54 25.0 +2.0**
comp=Z,15nm,0.9s,baz=90,slow=3.0,SNR=3.9
comp=Z,15nm,0.9s
BELG Belogornoye 22.72 305 *i*P P 21 54 23.7 +0.7
BELG pmax pmax
comp=Z,3.0nm,0.9s
AKT Akhty 22.86 277 *e*P P 21 54 29.2 +4.5
AKT pmax pmax
comp=Z,8.0nm,1.0s
LKRN Lenkeran, Azer 22.91 269 P **P 21 54 31.1 +6.0**
SEKA Sheki 23.31 276 P **P 21 54 35.0 +5.7**
CD2 Chengdu 23.34 113 P **P 21 54 30.8 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
BTO Baotou 23.46 85 *e*P P 21 54 29.1 -1.8
BTO pP **pP 21 54 33.4 -0.9**
BTO sP **sP 21 54 36.1 +0.3**
BTO PP **PnPn 21 54 59.8 +2.6**
BTO pmax pmax
comp=Z,18nm,0.8s
BTO pmax pmax
comp=Z,230nm,6.3s
MNGR Mingechevir, A 23.51 275 P **P 21 54 37.3 +6.1**
KIRV Kirov 23.89 321 *i*P P 21 54 35.0 +0.3
GANJ Ganja 24.10 275 P **P 21 54 42.6 +5.7**
HHC Hu-ho-hao-te 24.52 84 *e*P P 21 54 40.9 0.0
HHC pmax pmax
comp=Z,13nm,0.6s
PZH PanZhiHua 25.02 124 P **P 21 54 45.6 +0.2**
NAX Nakhchivan 25.16 273 P **P 21 54 52.3 +5.7**
GNI Garni 25.40 275 P 21 54 50.1 +1.3
GNI IAmb IAmb 21 54 55.8
comp=Z,15nm,1.1s
GNI Garni 25.40 275 P **P 21 54 50.0 +1.1**
comp=Z,3.2nm,0.8s,baz=74,slow=14,SNR=6.3
comp=Z,3.2nm,0.8s
GNI Garni 25.40 275 P **P 21 54 50.0 +1.1**
NCK Nalchik 25.40 283 *i*P P 21 54 52.1 +3.4
NCK pmax pmax
comp=Z,4.0nm,1.2s
KBZ Khabaz 25.86 284 P **P 21 54 52.7 0.0**
comp=Z,1.3nm,0.9s,baz=90,slow=7.1,SNR=5.1
comp=Z,1.3nm,0.9s
KBZ Khabaz 25.86 284 *i*P P 21 54 53.4 +0.7
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 25.96 285 *e*P P 21 54 52.7 -1.2
KIV *e*S **S 21 59 24.5 +0.2**
KIV pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 26.03 284 *i*P P 21 54 53.4 -1.2
HIA Hailar 28.90 63 *i*P P 21 55 20.1 0.0
HIA pmax pmax
comp=Z,7.0nm,0.9s
MARD Mardin 29.29 272 P 21 55 24.9 +1.1
MARD IAmb IAmb 21 55 29.6
comp=Z,9.6nm,1.0s
CMAR Chiang Mai Arr 29.91 139 P **P 21 55 28.4 -0.8**
CMAR Chiang Mai Arr 29.91 139 P **P 21 55 28.7 -0.5**
comp=Z,1.1nm,0.8s,baz=321,slow=8.9,SNR=9.8
CMAR LR LR 22 08 11.1
comp=Z,48nm,19.0s,baz=305,slow=38
comp=Z,1.1nm,0.8s
RAYN Ar Rayn 33.52 245 P 21 56 01.9 +0.9
RAYN Ar Rayn 33.52 245 P **P 21 56 01.9 +0.9**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 33.61 280 P **P 21 56 03.0 +1.2**
BRTR Keskin Array B 33.61 280 P **P 21 56 03.2 +1.4**
comp=Z,2.4nm,0.9s,baz=90,slow=8.1,SNR=8.9
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 33.61 280 P **P 21 56 03.0 +1.2**
AKASG Malin Array Be 34.09 301 P **P 21 56 06.5 +0.9**
comp=Z,0.2nm,0.3s,baz=80,slow=7.0,SNR=1.7
comp=Z,0.2nm,0.3s
YAK Yakutsk 35.25 39 P **P 21 56 16.0 +0.5**
FIA1 FINESS Array S 35.87 319 P **P 21 56 22.5 +1.7**
FINES FINESS Array B 35.87 319 P **P 21 56 22.5 +1.7**
FINES FINESS Array B 35.87 319 P **P 21 56 20.1 -0.7**
comp=Z,3.0nm,0.9s,baz=97,slow=8.8,SNR=6.7
comp=Z,3.0nm,0.9s
FINES FINESS Array B 35.87 319 P **P 21 56 22.5 +1.7**
BURAR Bucovina Array 37.22 296 P **P 21 56 35.2 +2.6**
BURAR Bucovina Array 37.22 296 P **P 21 56 35.7 +3.0**
BURAR pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 37.26 292 P **P 21 56 34.4 +1.4**
MLR IAmb IAmb 21 56 36.3
comp=Z,5.9nm,1.2s
MLR Muntele Rosu 37.26 292 P **P 21 56 34.1 +1.1**
comp=Z,2.9nm,1.0s,baz=60,slow=20,SNR=5.5
comp=Z,2.9nm,1.0s
ELL Elmali 37.47 277 P **P 21 56 36.9 +1.9**
ELL IAmb IAmb 21 56 43.5
comp=Z,5.2nm,0.7s
ELL Elmali 37.47 277 P **P 21 56 36.9 +1.9**
ELL pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 37.52 24 P **P 21 56 35.5 +0.7**
TIXI IAmb IAmb 21 56 37.9
comp=Z,9.7nm,0.9s
TIXI Tiksi 37.52 24 P **P 21 56 35.5 +0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 37.72 333 P **P 21 56 37.0 +0.5**
ARCES ARCESS Array B 37.72 333 P **P 21 56 36.9 +0.4**
comp=Z,2.0nm,0.7s,baz=98,slow=4.5,SNR=6.0
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 37.72 333 P **P 21 56 37.0 +0.5**
ARCES pmax pmax
comp=Z,20nm,1.5s
JNU Nakatsue 41.72 86 LR LR 22 16 19.5
comp=Z,83nm,18.2s,baz=330,slow=39
HFS Hagfors 41.93 317 P **P 21 57 12.0 +0.4**

comp=Z,1.8nm,0.6s,baz=102,slow=11,SNR=5.9
comp=Z,1.8nm,0.6s
VRAC Vranov 42.35 301 LR LR 22 16 04.2
comp=Z,185nm,19.1s,baz=358,slow=38
NC405 NORSAR Array S 42.79 319 P **P 21 57 19.0 +0.4**
NC405 IAmb IAmb 21 57 34.4
comp=Z,17nm,1.1s
NB2 NORSAR Subarra 43.04 319 P **P 21 57 20.5 -0.2**
comp=Z,3.1nm,0.8s,baz=84,slow=8.6
NOA NORSAR Array B 43.04 319 P **P 21 57 20.3 -0.4**
comp=Z,1.1nm,0.6s,baz=83,slow=8.0,SNR=9.9
comp=Z,1.1nm,0.6s
NC204 NORSAR Array S 43.23 319 P **P 21 57 22.1 -0.1**
NC204 IAmb IAmb 21 57 43.9
comp=Z,7.5nm,1.1s
KONO Kongsberg 44.04 317 P **P 21 57 31.1 +2.4**
KONO Kongsberg 44.04 317 P **P 21 57 31.1 +2.4**
KONO pmax pmax
comp=Z,38nm,1.5s
GERES GERESS Array B 44.30 301 P **P 21 57 32.1 +0.9**
comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=2.3
comp=Z,0.1nm,0.3s
ASAJ Asahikawa 45.31 66 LR LR 22 19 00.5
comp=Z,115nm,18.1s,baz=48,slow=39
MJAR Matsushiro Art 45.42 77 P **P 21 57 39.5 -0.6**
comp=Z,1.6nm,0.8s,baz=286,slow=8.7,SNR=4.6
comp=Z,1.6nm,0.8s
SEY Seymchan 45.72 38 LR LR 22 16 59.9
comp=Z,70nm,18.9s,baz=299,slow=36
FUORN Ofenpass-Fuorn 47.24 299 P **P 21 57 56.2 +1.7**
FUORN IAmb IAmb 21 58 19.7
comp=Z,5.0nm,1.3s
EKA Eskdalemuir Ar 51.85 314 P **P 21 58 29.0 -0.3**
comp=Z,1.7nm,0.8s,baz=77,slow=7.9,SNR=2.3
comp=Z,1.7nm,0.8s
EKA Eskdalemuir Ar 51.85 314 P **P 21 58 29.0 -0.3**
ESDC Sonseca Array 59.65 298 P **P 21 59 24.9 -0.6**
comp=Z,0.3nm,0.5s,baz=55,slow=6.5,SNR=1.6
comp=Z,0.3nm,0.5s
KAPI Kappang 60.57 131 LR LR 22 30 22.2
comp=Z,51nm,18.3s,baz=263,slow=41
B21K Ikpikpuk River 61.14 19 P **P 21 59 36.1 +1.0**
IMAR Indian Mountai 64.11 21 P **P 21 59 55.1 +0.1**
F25K Christian Rive 64.77 17 P **P 21 59 59.6 +0.2**
F25K IAmb IAmb 22 00 21.7
comp=Z,10nm,1.5s
BMAR Burnt Mountain 65.14 17 P **P 22 00 02.1 +0.4**
BPAW Bear Paw Mtn. 66.31 21 P **P 22 00 09.7 +0.3**
BPAW IAmb IAmb 22 00 15.7
comp=Z,2.5nm,1.0s
ILAR Eielson Array 66.82 19 P **P 22 00 12.1 -0.5**
comp=Z,1.0nm,0.8s,baz=335,slow=6.4,SNR=6.4
comp=Z,1.0nm,0.8s
KDAK Kodiak Island 70.88 26 LR LR 22 33 18.2
comp=Z,52nm,19.1s,baz=305,slow=37
TORD Torodi Ar. Bea 71.62 271 P **P 22 00 41.2 -1.9**
comp=Z,0.7nm,0.5s,baz=49,slow=5.9,SNR=10
TORD LR LR 22 39 05.3
comp=Z,61nm,18.3s,baz=266,slow=42
comp=Z,0.7nm,0.5s
LSZ Lusaka 74.15 231 LR LR 22 36 57.7
comp=Z,56nm,18.5s,baz=184,slow=38
WRA Warramunga Arr 80.89 128 P **P 22 01 33.5 -2.1**
comp=Z,1.1nm,0.8s,baz=320,slow=5.7,SNR=8.8
comp=Z,1.1nm,0.8s
ASAR Alice Springs 83.58 131 P **P 22 01 48.3 -1.3**
comp=Z,0.3nm,0.5s,baz=325,slow=6.1,SNR=1.9
comp=Z,0.3nm,0.5s
ULM Lac du Bonnet 87.00 356 LR LR 22 42 53.0
comp=Z,25nm,19.1s,baz=328,slow=37
PDAR Pinedale Array 94.30 6 P **P 22 02 39.9 -1.1**
comp=Z,0.3nm,0.6s,baz=318,slow=0.8,SNR=4.0
comp=Z,0.3nm,0.6s

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*IDC **08** 21:50:06.5±1.3, 12°.07S×42°.11E, h0km, mb3.8/6, mbtmp3.8/6, MS3.4/8, Error ellipse: s-maj=43.8km s-min=28.6km az=138.0*
*NEIC **08** 21:50:07.7±1.8, 11°.95S±0°.06×42°.00E±0°.09, h10km±1km, mb4.3/9, Error ellipse: s-maj=16.6km s-min=6.5km az=122.0*
ISC 08 21:50:07.4±0.6, **12°.04S**±0°.07×**42°.03E**±0°.08, **h10**km, **n46**, σ2.9**30**/43, **mb4.1**/8, **MS3.3**/6, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SBV	**Sambava**	**7.82**	**101**	P			**Pn**	**21 52 02.4**	**+1.1**
SBV				S			Sn	21 53 24.9	-5.1
SBV	**Sambava**	**7.82**	**101**	P			**Pn**	**21 52 02.1**	**+0.8**
SBV				S			Sn	21 53 24.9	-5.1
ATG	**Ambohiby**	**7.89**	**150**	P			**Pn**	**21 52 04.7**	**+2.2**
ATG	**Ambohiby**	**7.89**	**150**	P			**Pn**	**21 52 04.7**	**+2.2**
FIRM	**Firavahana**	**8.10**	**145**	P			**Pn**	**21 52 08.5**	**+3.2**
FIRM	**Firavahana**	**8.10**	**145**	P			**Pn**	**21 52 08.5**	**+3.2**
OPO	**Ambohidratompo**	**8.18**	**143**	P			**Pn**	**21 52 09.2**	**+2.8**
OPO	**Ambohidratompo**	**8.18**	**143**	P			**Pn**	**21 52 09.1**	**+2.8**
DGRM	**Ambatolahisoa**	**8.33**	**150**	P			**Pn**	**21 52 11.6**	**+3.2**
DGRM	**Ambatolahisoa**	**8.33**	**150**	P			**Pn**	**21 52 11.2**	**+2.7**
MDSM	**Mandiavato**	**8.50**	**146**	P			**Pn**	**21 52 13.9**	**+3.1**
MDSM	**Mandiavato**	**8.50**	**146**	P			**Pn**	**21 52 13.9**	**+3.1**
ABPO	**Ambohimpanom**	**8.55**	**145**				**Pn**	**21 52 14.1**	**+2.6**
ABPO	**Ambohimpanom**	**8.55**	**145**	P			**Pn**	**21 52 14.2**	**+2.7**
ABPO				S			**Sn**	**21 53 44.3**	**-4.0**
ABPO	**Ambohimpanom**	**8.55**	**145**	P			**Pn**	**21 52 14.3**	**+2.7**
ABPO				S			**Sn**	**21 53 44.3**	**-4.0**
AVY	**Angavokely**	**8.78**	**142**	P			**Pn**	**21 52 18.8**	**+4.1**
ABM	**Ambohimiarambe**	**9.25**	**147**	P			**Pn**	**21 52 24.8**	**+3.8**
ABM	**Ambohimiarambe**	**9.25**	**147**	P			**Pn**	**21 52 24.9**	**+3.8**
KIBK	**Kibwezi**	**10.42**	**337**	Pn			**Pn**	**21 52 34.7**	**-2.3**
VOI	**Vohitsoka**	**10.81**	**156**	Pn			**Pn**	**21 52 44.3**	**+1.8**
VOI	**Vohitsoka**	**10.81**	**156**	P			**Pn**	**21 52 44.9**	**+2.4**
FOMA	**Nahampoana Res**	**13.69**	**161**	Pn			**Pn**	**21 53 21.4**	**-0.3**
LSZ	**Lusaka**	**13.84**	**255**	Pn			**Pn**	**21 53 23.5**	**-0.3**
LSZ	**Lusaka**	**13.84**	**255**	LR			LR	21 58 48.5
	comp=Z,188nm,18.9s,baz=76,slow=38								
MATP	**Matopo**	**15.43**	**236**	LR			LR	21 58 43.8
	comp=Z,51nm,20.0s,baz=40,slow=33								
KSANE	**Kasane**	**17.28**	**249**				**P**	**21 54 10.2**	**-0.3**
POGA	**Pongola**	**18.05**	**211**				**Pn**	**21 54 18.5**	**0.0**
LPHEP	**Lephephe**	**19.06**	**232**				**Pn**	**21 54 30.7**	**-0.2**
LBTB	**Lobatse**	**20.20**	**228**	P			**P**	**21 54 43.1**	**+0.5**
LBTB				IAmb			IAmb	21 55 07.2
	comp=Z,22nm,1.4s								
LBTB	**Lobatse**	**20.20**	**228**	LR			LR	22 02 03.2
	comp=Z,51nm,18.8s,baz=34,slow=35								
KGCAE	**Kacgae**	**21.73**	**238**	P			**P**	**21 54 57.8**	**-1.4**
KGCAE				IAmb			IAmb	21 55 26.4
	comp=Z,12nm,1.1s								
GRTLG	**Ghanzi**	**21.97**	**242**	P			**P**	**21 55 01.3**	**-0.4**
GRTLG				IAmb			IAmb	21 55 19.1
	comp=Z,20nm,1.4s								
BOSA	**Boshof**	**22.74**	**221**	P			**P**	**21 55 09.8**	**-0.2**
BOSA				IAmb			IAmb	21 55 26.5
	comp=Z,7.4nm,0.8s								
BOSA	**Boshof**	**22.74**	**221**	P			**P**	**21 55 10.5**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=45,slow=14,SNR=7.9								
BOSA				LR			LR	22 04 52.6
	comp=Z,72nm,19.4s,baz=13,slow=39								
	comp=Z,3.0nm,0.8s								
TSUM	**Tsumeb**	**24.58**	**250**	LR			LR	22 05 30.8
	comp=Z,68nm,19.3s,baz=108,slow=38								
TORD	**Torodi Ar. Bea**	**47.19**	**301**	P			**P**	**21 58 41.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=105,slow=8.6,SNR=3.1								
	comp=Z,0.4nm,0.8s								
KIEV	**Kiev**	**63.47**	**351**	P			**P**	**22 00 36.8**	**-0.6**
KIEV				IAmb			IAmb	22 00 39.6
	comp=Z,2.6nm,0.7s								
AKBB	**Malin Array Si**	**63.47**	**351**	P			**P**	**22 00 36.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**63.78**	**62**	P			**P**	**22 00 40.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=226,slow=7.4,SNR=1.3								
CMAR				LR			LR	22 25 08.0
	comp=Z,23nm,19.0s,baz=205,slow=33								
	comp=Z,0.3nm,0.3s								
ESDC	**Sonseca Array**	**66.88**	**323**	P			**P**	**22 01 01.4**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=127,slow=6.2,SNR=4.9								
	comp=Z,0.8nm,0.8s								
FINES	**FINESS Array B**	**74.32**	**352**	P			**P**	**22 01 43.9**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=152,slow=6.3,SNR=1.8								
	comp=Z,1.9nm,0.9s								
ZALV	**Zalesovo Beam**	**75.09**	**25**	P			**P**	**22 01 50.6**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=224,slow=8.1,SNR=2.1								
ZALV				LR			LR	22 33 52.0
	comp=Z,45nm,19.8s,baz=338,slow=35								
	comp=Z,1.5nm,0.8s								
SOEI	**Soe**	**80.49**	**98**	P			**P**	**22 02 18.7**	**-1.8**
ASAR	**Alice Springs**	**86.94**	**113**	LR			LR	22 37 03.4
	comp=Z,43nm,19.0s,baz=286,slow=32								
ELK	**Elko**	**145.12**	**329**	PKPbc			**PKPdf**	**22 09 46.9**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=26,slow=3.9,SNR=8.9								
NVAR	**Mina Array Bea**	**148.41**	**330**	PKPbc			**PKPbc**	**22 09 54.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=31,slow=3.8,SNR=6.1								

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*KRNET **08** 21:56:22.7±0.1, 43°.03N×78°.43E, h13km, mb2.9*
*SOME **08** 21:56:22.4, 42°.98N×78°.55E, h10km*
ISC 08 21:56:22.9±1.2, **42°.9N**±0°.1×**78°.8E**±0°.2, **h16**km±15km, **n9**, σ0.9**99**/13, **10C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.29**	**44**	*eP*			**Pg**	**21 56 29.1**	**-0.1**
	36nm,0.1s								
UZB				*e*S			**Sg**	**21 56 33.7**	**+0.3**
	132nm,0.1s								
PRZ	**Przheval'sk**	**0.53**	**210**	⇑*i*P			**Pg**	**21 56 33.2**	**-0.2**
PRZ				⇑*i*S			**Sg**	**21 56 40.9**	**+0.4**
KDJ	**Kajisay**	**1.42**	**236**	⇑*i*P			**Pn**	**21 56 47.3**	**-0.9**
KDJ				⇑*i*S			**Sn**	**21 57 05.2**	**-1.4**
ULHL	**Ulahol**	**1.98**	**250**	⇑*i*P			**Pn**	**21 56 56.2**	**+0.2**
ULHL				⇑*i*S			**Sn**	**21 57 20.8**	**+0.3**
BOOM	**Boomskoye usch**	**2.12**	**259**	⇑*i*P			Pn	21 56 58.4	+0.5
BOOM				⇑*i*S			**Sn**	**21 57 24.5**	**+0.5**
TKM2	**Tokmak 2**	**2.32**	**271**	⇓*i*P			Pn	21 57 01.2	+0.6
TKM2				⇓*i*S			**Sn**	**21 57 29.2**	**+0.3**
KBK	**Karagaybulak**	**2.81**	**266**	⇓*e*P			Pn	21 57 08.0	+0.6
KBK				⇓*i*S			**Sn**	**21 57 41.3**	**+0.2**
CHMS	**Chumysh**	**2.94**	**272**	⇑*i*P			Pn	21 57 09.4	+0.4
CHMS				⇑*i*S			**Sn**	**21 57 43.5**	**-0.4**
JNKS	**Jany-Kuch**	**2.98**	**232**	⇓*e*P			Pn	21 57 11.8	+2.1
JNKS				⇓*e*S			**Sn**	**21 57 47.5**	**+2.3**

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*KRNET **08** 21:56:37.5±0.1, 43°.02N×78°.61E, h21km, mb3.1*
*NNC **08** 21:56:37.5±0.5, 43°.03N×78°.64E, h2km±3km, mb3.6, mpv3.5, Error ellipse: s-maj=5.5km s-min=2.0km az=174.0*
*SOME **08** 21:56:38.3, 42°.97N×78°.57E, h20km*
ISC 08 21:56:38.4±0.9, **43°.05N**±0°.03×**78°.59E**±0°.02, **h10**km±6km, **n42**, σ1.9**07**/83, **25C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.14**	**273**	P			**Pg**	**21 56 41.8**	**+0.2**
	91nm,0.1s								
SATY				S			**Sg**	**21 56 44.4**	**+0.5**
	5μm,0.1s								
SATY	**Saty**	**0.14**	**273**	*e*P			**Pg**	**21 56 41.8**	**+0.2**
SATY				*e*S			**Sg**	**21 56 44.4**	**+0.5**
UZB	**Uzynbulak**	**0.33**	**73**	P			**Pg**	**21 56 44.5**	**-0.4**
	28nm,0.1s								
UZB				S			**Sg**	**21 56 49.0**	**-0.4**
	206nm,0.1s								
UZB	**Uzynbulak**	**0.33**	**73**	*e*P			**Pg**	**21 56 44.5**	**-0.4**
UZB				*e*S			**Sg**	**21 56 48.9**	**-0.4**
UZB	**Uzynbulak**	**0.33**	**73**	*e*P			**Pg**	**21 56 44.5**	**-0.4**
	28nm,0.1s								
UZB				*e*S			**Sg**	**21 56 49.0**	**-0.4**
	206nm,0.1s								
KPKS	**Kokpek**	**0.42**	**9**	P			**Pb**	**21 56 46.4**	**-1.5**
	0.4nm,0.2s								
KPKS				S			**Sb**	**21 56 52.4**	**-2.0**
	60nm,0.1s								
KPKS	**Kokpek**	**0.42**	**9**	*e*P			**Pb**	**21 56 46.5**	**-1.5**
KPKS				*e*S			**Sb**	**21 56 52.4**	**-2.0**
KURS	**Kuram**	**0.53**	**325**	P			**Pb**	**21 56 49.1**	**-0.8**
	13nm,0.1s								
KURS				S			**Sb**	**21 56 57.0**	**-0.7**
	31nm,0.2s								
KURS	**Kuram**	**0.53**	**325**	*e*P			**Pb**	**21 56 49.1**	**-0.8**
KURS				*e*S			**Sb**	**21 56 57.0**	**-0.7**
PRZ	**Przheval'sk**	**0.59**	**194**	⇑*i*P			**Pg**	**21 56 48.4**	**-1.4**
PRZ				⇑*i*S			**Sg**	**21 56 55.8**	**-1.7**
SHLS	**Shalkode**	**0.64**	**80**	P			**Pn**	**21 56 55.4**	**+1.7**
	26nm,0.1s								
SHLS				S			**Sn**	**21 57 07.5**	**+3.5**
	54nm,0.2s								
SHLS	**Shalkode**	**0.64**	**80**	*e*P			**Pn**	**21 56 55.4**	**+1.7**
	26nm,0.1s								
SHLS				*e*S			**Sn**	**21 57 07.5**	**+3.5**
	54nm,0.2s								
PDGK	**Podgornoye**	**0.71**	**67**	⇑P			**Pg**	**21 56 51.1**	**-1.0**
	32nm,1.1s								
PDGK				⇓S			**Sg**	**21 57 00.4**	**-1.0**
	29nm,0.5s								
KOTS	**Kotyrbulak**	**1.10**	**280**	P			**Pg**	**21 56 58.9**	**-0.6**
	42nm,0.2s								
KOTS				S			**Sg**	**21 57 13.5**	**-0.4**
	113nm,0.3s								
KOTS	**Kotyrbulak**	**1.10**	**280**	*e*P			**Pg**	**21 56 58.9**	**-0.6**
	42nm,0.2s								
KOTS				*e*S			**Sg**	**21 57 13.5**	**-0.4**
	113nm,0.3s								
MDOK	**Medeo**	**1.14**	**276**	Pg			**Pg**	**21 56 59.4**	**-0.8**
	17nm,0.1s								
MDOK				Lg			Lg	21 57 14.4	
	94nm,0.4s								
KNDC	**Almaty**	**1.20**	**278**	⇑P			**Pb**	**21 57 01.8**	**+0.5**
	25nm,0.6s								
KNDC				⇑S			**Sg**	**21 57 17.3**	**+0.2**
	65nm,0.7s								
TNSS	**Tian-Shan**	**1.21**	**270**	P			**Pg**	**21 57 00.6**	**-1.0**
	3.0nm,0.2s								
TNSS				S			**Sg**	**21 57 16.6**	**-0.7**
	10nm,0.2s								
TNSS	**Tian-Shan**	**1.21**	**270**	*e*P			**Pg**	**21 57 00.6**	**-1.0**
	3.0nm,0.2s								
TNSS				*e*S			**Sg**	**21 57 16.6**	**-0.7**
	10nm,0.2s								
ARXS	**Arharly**	**1.29**	**335**	P			**Pn**	**21 57 02.8**	**+0.3**
	24nm,0.2s								
ARXS				S			**Sn**	**21 57 20.0**	**+0.1**
	42nm,0.3s								
ARXS	**Arharly**	**1.29**	**335**	*e*P			**Pn**	**21 57 02.8**	**+0.3**
	24nm,0.2s								
ARXS				*e*S			**Sn**	**21 57 20.0**	**+0.1**
	42nm,0.3s								
KNOS	**Konyrlen**	**1.37**	**18**	P			**Pb**	**21 57 04.3**	**+0.1**
	22nm,0.1s								
KNOS				S			**Sn**	**21 57 22.9**	**+0.8**
	31nm,0.4s								
KDJ	**Kajisay**	**1.39**	**229**	⇑*i*P			**Pn**	**21 57 02.5**	**-1.5**
KDJ				⇑*i*S			**Sg**	**21 57 21.2**	**-2.0**
CHKK	**Chushkaly**	**1.42**	**305**	P			**Pg**	**21 57 05.0**	**-0.5**
	22nm,0.3s								
CHKK				S			**Sn**	**21 57 23.8**	**+0.8**
	60nm,0.2s								
CHKK	**Chushkaly**	**1.42**	**305**	*e*P			**Pg**	**21 57 05.0**	**-0.5**
	22nm,0.3s								
CHKK				*e*S			**Sn**	**21 57 23.8**	**+0.8**
	60nm,0.2s								
KTBS	**Karatobe**	**1.54**	**296**	P			**Pb**	**21 57 07.3**	**+0.3**
	12nm,0.2s								
KTBS				S			**Sg**	**21 57 27.9**	**-0.1**
	50nm,0.3s								
MTBS	**Maitube**	**1.59**	**274**	P			**Pn**	**21 57 07.7**	**+1.1**
	12nm,0.3s								
MTBS				S			**Sn**	**21 57 28.5**	**+1.2**
	21nm,0.3s								
MTBS	**Maitube**	**1.59**	**274**	*e*P			**Pn**	**21 57 07.7**	**+1.1**
	12nm,0.3s								
MTBS				*e*S			**Sn**	**21 57 28.5**	**+1.2**
	21nm,0.3s								
KUU	**Kurty**	**1.84**	**298**	P			**Pb**	**21 57 12.8**	**+0.6**
	5.5nm,0.1s								
KUU				S			**Sg**	**21 57 36.9**	**-0.7**
	65nm,0.3s								
KUU	**Kurty**	**1.84**	**298**	*e*P			**Pb**	**21 57 11.6**	**-0.6**
	5.5nm,0.1s								
KUU				*e*S			**Sb**	**21 57 35.6**	**+0.3**
	65nm,0.3s								
ULHL	**Ulahol**	**1.91**	**246**	⇑*i*P			**Pn**	**21 57 11.3**	**+0.1**
ULHL				⇑*i*S			**Sn**	**21 57 36.5**	**+1.0**
KST	**Kastek**	**1.93**	**271**	P			**Pb**	**21 57 13.8**	**+0.1**
	5.7nm,0.2s								
KST				S			**Sb**	**21 57 38.7**	**+0.8**
	26nm,0.5s								
KST	**Kastek**	**1.93**	**271**	*e*P			**Pb**	**21 57 13.3**	**-0.4**
	5.7nm,0.2s								
KST				*e*S			**Sb**	**21 57 38.7**	**+0.8**
	26nm,0.5s								
BOOM	**Boomskoye usch**	**2.03**	**255**	⇑*i*P			**Pn**	**21 57 13.6**	**+0.8**
BOOM				⇑*i*S			**Sn**	**21 57 39.3**	**+0.9**
TKM2	**Tokmak 2**	**2.20**	**268**	⇑*i*P			**Pn**	**21 57 16.1**	**+0.9**
TKM2				⇑*i*S			**Sn**	**21 57 43.9**	**+1.3**
KBK	**Karagaybulak**	**2.71**	**263**	⇑*i*P			**Pn**	**21 57 23.1**	**+0.9**
KBK				⇑*i*S			**Sn**	**21 57 55.9**	**+0.8**
CHMS	**Chumysh**	**2.82**	**270**	⇑*i*P			**Pn**	**21 57 24.6**	**+1.1**
CHMS				⇑*i*S			**Sn**	**21 57 58.5**	**+0.9**
FRU1	**Bishkek**	**2.92**	**267**	⇑*e*P			**Pn**	**21 57 25.9**	**+0.9**
FRU1				⇑*e*S			**Sn**	**21 58 01.1**	**+1.0**
JNKS	**Jany-Kuch**	**2.96**	**229**	⇓*i*P			**Pn**	**21 57 26.2**	**+0.5**
JNKS				⇓*i*S			**Sn**	**21 58 01.5**	**+0.1**
USP	**Ospenovka**	**3.00**	**275**	⇑*i*P			**Pn**	**21 57 27.0**	**+0.9**
USP				⇑*i*S			**Sn**	**21 58 02.9**	**+0.8**
AAK	**Ala-Archa**	**3.04**	**264**	⇑*i*P			**Pn**	**21 57 27.6**	**+0.9**
AAK				⇑*i*S			**Sn**	**21 58 03.9**	**+0.6**
UCH	**Uchtor**	**3.12**	**256**	⇑*i*P			**Pn**	**21 57 29.1**	**+1.0**
UCH				⇑*i*S			**Sn**	**21 58 06.2**	**+0.6**

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*NNC **08** 22:01:58.9±0.4, 42°.98N×78°.63E, h1km±2km, mb3.2, mpv3.3, Error ellipse: s-maj=4.0km s-min=1.7km az=175.0*
*SOME **08** 22:01:59.5, 43°.02N×78°.57E, h10km*
*KRNET **08** 22:01:59.3±0.1, 43°.03N×78°.44E, h13km, mb2.8*
ISC 08 22:01:59.6±1.0, **43°.00N**±0°.03×**78°.57E**±0°.02, **h7**km±8km, **n49**, σ1.9**17**/91, **27C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.13**	**295**	P			**Pg**	**22 02 03.1**	**+0.6**
	58nm,0.1s								
SATY				S			**Sg**	**22 02 05.8**	**+1.4**
	2μm,0.1s								
UZB	**Uzynbulak**	**0.36**	**66**	P			**Pg**	**22 02 06.0**	**-0.7**
	22nm,0.1s								
UZB				S			**Sg**	**22 02 10.8**	**-0.7**
	372nm,0.1s								
UZB	**Uzynbulak**	**0.36**	**66**	*e*P			**Pg**	**22 02 06.0**	**-0.7**
	22nm,0.1s								
UZB				*e*S			**Sg**	**22 02 10.8**	**-0.7**
	372nm,0.1s								
KPKS	**Kokpek**	**0.47**	**10**	P			**Pg**	**22 02 08.9**	**+0.1**
	0.4nm,0.2s								
KPKS				S			**Sb**	**22 02 15.7**	**-1.8**
	86nm,0.2s								
PRZ	**Przheval'sk**	**0.53**	**193**	⇑*i*P			**Pg**	**22 02 09.7**	**-0.2**
PRZ				⇑*i*S			**Sg**	**22 02 17.3**	**+0.4**
KURS	**Kuram**	**0.56**	**329**	P			**Pb**	**22 02 10.9**	**-1.0**
	12nm,0.2s								
KURS				S			**Sb**	**22 02 19.0**	**-1.2**
	21nm,0.2s								
SHLS	**Shalkode**	**0.67**	**76**	P			**Pn**	**22 02 17.0**	**+1.3**
	21nm,0.1s								
SHLS				S			**Sn**	**22 02 29.6**	**+3.0**
	57nm,0.1s								
SHLS	**Shalkode**	**0.67**	**76**	*e*P			**Pn**	**22 02 17.0**	**+1.3**
	21nm,0.1s								
SHLS				*e*S			**Sn**	**22 02 29.6**	**+3.0**
	57nm,0.1s								
PDGK	**Podgornoye**	**0.75**	**64**	⇑P			**Pg**	**22 02 12.7**	**-1.3**
	2.4nm,0.3s								
PDGK				⇑S			**Sg**	**22 02 22.1**	**-1.7**
	64nm,0.6s								
KOTS	**Kotyrbulak**	**1.09**	**283**	P			**Pb**	**22 02 20.4**	**-0.5**
	38nm,0.2s								
KOTS				S			**Sn**	**22 02 35.4**	**-1.5**
	78nm,0.3s								
KOTS	**Kotyrbulak**	**1.09**	**283**	*e*P			**Pb**	**22 02 20.4**	**-0.5**
	38nm,0.2s								
KOTS				*e*S			**Sn**	**22 02 35.4**	**-1.5**
	78nm,0.3s								
MDOK	**Medeo**	**1.12**	**279**	Pg			**Pg**	**22 02 20.5**	**-0.7**
	16nm,0.2s								
MDOK				Lg			Lg	22 02 35.5	
	21nm,0.2s								
TNSS	**Tian-Shan**	**1.19**	**272**	P			**Pg**	**22 02 21.9**	**-0.5**
	2.0nm,0.2s								
TNSS				S			**Sb**	**22 02 38.1**	**-0.4**
	9.0nm,0.2s								
TNSS	**Tian-Shan**	**1.19**	**272**	*e*P			**Pg**	**22 02 21.9**	**-0.5**
	2.0nm,0.2s								
TNSS				*e*S			**Sb**	**22 02 38.1**	**-0.4**
	9.0nm,0.2s								
KNDC	**Almaty**	**1.19**	**281**	⇑P			**Pg**	**22 02 23.1**	**+0.6**
	16nm,0.7s								
KNDC				⇓S			**Sn**	**22 02 39.2**	**-0.1**
	18nm,0.3s								
AAA	**Alma-Ata**	**1.23**	**280**	P			**Pg**	**22 02 23.5**	**+0.4**
	15nm,0.1s								
AAA				S			**Sn**	**22 02 40.6**	**+0.4**
	3.2nm,0.1s								
AAA	**Alma-Ata**	**1.23**	**280**	*e*P			**Pg**	**22 02 23.5**	**+0.4**
	15nm,0.1s								
AAA				*e*S			**Sn**	**22 02 40.5**	**+0.4**
	3.2nm,0.1s								
ARXS	**Arharly**	**1.32**	**336**	P			**Pg**	**22 02 24.6**	**-0.4**
	17nm,0.2s								
ARXS				S			**Sg**	**22 02 42.6**	**+0.5**
	34nm,0.2s								
ARXS	**Arharly**	**1.32**	**336**	*e*P			**Pg**	**22 02 24.6**	**-0.4**
ARXS				*e*S			**Sg**	**22 02 42.6**	**+0.5**
KDJ	**Kajisay**	**1.35**	**230**	⇑*i*P			**Pn**	**22 02 23.8**	**-1.2**
KDJ				⇑*i*S			**Sb**	**22 02 41.4**	**-1.4

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SGDS                                  Lg      Lg     22 03 30.9
    4.9nm,0.3s
JNKS  Jany-Kuch          2.91 229⇑iP          Pn     22 02 48.5 +1.9
JNKS                          ⇑iS             Sn     22 03 24.1 +2.1
USP   Ospenovka          2.99 276⇑iP          Pn     22 02 48.5 +1.0
USP                           ⇑iS             Sn     22 03 24.4 +0.8
AAK   Ala-Archa          3.02 264 ⇓Pg         Pg     22 02 55.5 -1.9
    4.1nm,0.9s
AAK                           ⇓Lg             Lg     22 03 36.9
    1.8nm,0.5s
AAK   Ala-Archa          3.02 264 ⇓iP         Pn     22 02 49.2 +1.2
AAK                           ⇓iS             Sn     22 03 25.7 +1.2
UCH   Uchtor             3.09 257⇑iP          Pn     22 02 50.4 +1.2
UCH                           ⇑iS             Sn     22 03 27.8 +1.1
EKS2  Erkin-Say          3.54 266⇑iP          Pn     22 02 56.4 +1.3
EKS2                          ⇑iS             Sn     22 03 38.0 +0.7
MRKS  Merke              3.94 268  Pg         Pb     22 03 11.4 +2.1
    1.6nm,0.4s
MRKS                          Lg              Lg     22 04 02.8
    3.5nm,0.3s
MRKS  Merke              3.94 268 eP          Pb     22 03 11.4 +2.1
    1.6nm,0.4s
MRKS                          eS              Sg     22 04 02.8 -3.1
    3.5nm,0.3s
MK31  Makanchi Array     4.62  34  Pn         Pn     22 03 10.1 +0.3
    0.6nm,0.5s,baz=188,slow=17,SNR=13
MK31                          Lg              Lg     22 04 23.4
    0.4nm,0.2s,baz=215,slow=27,SNR=7.9
```

DJA 08 22:04:32.9±0.2, 8°S±3°×11°6E±°, h12km±2km, M3.9/17, mB4.6/1, mb4.2/5, MLv3.8/17, Mw(mB)3.8/1, Sumbawa region

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
TWSI  Taliwang, Sumb     0.84 108   P     Pg          22 04 48.7  -0.5
TWSI                                S     Sg          22 05 00.2  -0.1
DNP   Denpasar           0.87 257   P     Pb          22 04 50.3  +0.3
DNP                                 S     Sn          22 05 03.0  -0.7
SRBI  Singaraja          0.94 295   P     Pg          22 04 50.0  -1.0
SRBI                                S     Sb          22 05 03.4   0.0
PLAI  Plampang           1.72 102   P     Pn          22 05 03.5  +0.8
PLAI                                S     Sn          22 05 25.2  +0.5
JAGI  Jajag, Banyuwa     1.90 270   P     Pn          22 05 03.4  -1.7
ABJI  Asem Bagus         1.94 290   P     Pn          22 05 06.9  +1.2
ABJI                                S     Sn          22 05 30.9  +0.9
KMMI  Kalianget          2.52 304   P     Pn          22 05 14.2  +0.5
BLJI  Banyuglugur        2.56 286   P     Pn          22 05 14.0  -0.2
BLJI                                S     Sn          22 05 44.7  -0.6
WBSI  Waikabubak, Su     3.48 110   P     Pn          22 05 26.7  -0.2
WBSI                                S     Sn          22 06 09.5  +1.4
PCJI  Pacitan            4.85 273   P     Pn          22 05 44.8  -1.0
BSSI  Bau Bau, Buton     4.96  62   P     Pn          22 05 46.5  -0.8
BKSI  Bulukumba          5.10  52   P     Pn          22 05 48.6  -0.6
UGM   Wanagama           5.52 275   P     Pn          22 05 56.5  +1.5
    48nm,2.8s
UGM                                 S     Sn          22 07 00.3  +1.8
    48nm,2.8s
EDFI  Ende, Flores       5.56  93   P     Pn          22 05 55.9  +0.2
    0.1nm18nm,0.7s
EDFI                                S     Sn          22 07 00.8  +1.1
    0.1nm18nm,0.7s
BNSI  Bone               5.70  45   P     Pn          22 05 58.3  +0.8
BNSI                                S     Sn          22 07 04.0  +1.1
```

ASRS 08 22:22:05.4±0.2, 51°N±1°×8°9E±°, h10km, MLh3.9/12, Error ellipse: s-maj=3.2km s-min=2.2km az=127.3, confirmed
IDC 08 22:22:08.6±2.2, 51°25N×88°68E, h0km, mb4.1/1, mbtmp3.9/6, ML3.4/5, Error ellipse: s-maj=20.9km s-min=12.9km az=77.0
NNC 08 22:22:11.8±0.9, 51°26N×88°37E, h1km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=6.7km s-min=3.9km az=92.0

ISC 08 22:22:05.5±1.1, 51°26N±0°02×88°84E±0°03, h5km±9km, n31, σ1°92/51, 13C-8D, Southwestern Siberia

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
ULGR  Ulagan, Altay      0.84 222   ⇓Pg         Pb     22 22 22.5  -0.3
ULGR                                Sg          Sg     22 22 32.4  -0.2
TEL   Teeli              0.89 105   ⇑Pg         Pn     22 22 23.9  -0.9
TEL                                 Sg          Sb     22 22 35.3  -0.4
YALR  Yailyu, Altay      0.93 304   ⇑Pg         Pn     22 22 26.3  +1.0
YALR                                Sg          Sn     22 22 39.1  +0.2
ARTR  Artybash           1.12 300   ⇑Pg         Pn     22 22 29.6  +1.7
CUR   Chagan-Uzun        1.20 195   ⇓Pg         Pn     22 22 28.5  -0.6
CUR                                 Sg          Sb     22 22 43.1  -1.6
CHBI  Chibit, Altay      1.27 223   ⇓Pg         Pg     22 22 30.1  +0.3
CHBI                                Sg          Sb     22 22 45.5  -1.2
ELDR  Elanda             1.73 270   ⇑Pg         Pg     22 22 39.5  +0.9
ELDR                                Sg          Sg     22 23 03.5  +2.4
DGZ   Jazzator, Alta     1.80 211   ⇓Pg         Pg     22 22 39.5  -0.5
DGZ                                 Sg          Sg     22 23 02.3  -0.9
DJO   Djoy, Khakassi     2.12  43   Pg          Pg     22 22 46.8  +0.7
DJO                                 Sg          Sg     22 23 15.4  +1.8
VEH   Verkhnyaya Baz     2.20  24   Pg          Pg     22 22 48.8  +1.2
VEH                                 Sg          Sg     22 23 17.9  +1.9
CERR  Cheremushki        2.26  44   Pg          Pg     22 22 49.0  +0.3
CERR                                Sg          Sg     22 23 19.8  +1.8
LUZB  Luzhba, Kemero     2.41   1   Pg          Pg     22 22 51.7   0.0
LUZB                                Sg          Sg     22 23 24.8  +1.9
ELT   Eltsovka           2.57 322   ⇑Pg         Pb     22 22 53.0  +0.9
ELT                                 Sg          Sg     22 23 26.1  -1.8
ARDR  Aradan             3.14  63   Pg          Pg     22 23 04.8  -0.7
ARDR                                Sg          Sg     22 23 45.6  -0.5
ZAA0  Zalesovo Array     3.65 319   ⇑Pn         Pb     22 23 07.0  -3.4
    2.2nm,0.6s
ZAA0                                ⇑Lg             Lg     22 24 01.4
    26nm,0.8s
ZALV  Zalesovo Beam      3.65 319   Pn          Pb     22 23 06.8  -3.6
    4.7nm,0.3s,baz=140,slow=13,SNR=53
ZALV                                Sn          Sb     22 23 50.7  -4.2
    6.2nm,0.3s,baz=137,slow=18,SNR=4.3
ZALV                                Lg              Lg     22 24 01.5
    10.0nm,0.3s,baz=136,slow=27,SNR=5.8
    8.2nm,0.3s
BRCR  Berchikul'         4.40 356   Pn          Pb     22 23 17.9  -5.5
BRCR                                Pg          Pg     22 23 27.2  -2.6
BRCR                                Sg          Sg     22 24 27.7  +0.8
MINR  Mina               4.87  39   Pg          Pg     22 23 38.0  -0.9
MINR                                Sg          Sg     22 24 43.2  +1.2
MK31  Makanchi Array     6.20 227   Pn          Pn     22 23 42.0  +4.2
    1.6nm,0.3s,baz=47,slow=12,SNR=211
MK31                                ⇑Sn             Sn     22 24 52.2  +3.1
    16nm,0.7s
MK31                                ⇓Lg             Lg     22 25 22.6
    21nm,0.6s,baz=47,slow=30,SNR=7.6
MKAR  Makanchi Array     6.20 227   Pn          Pn     22 23 41.7  +4.0
    3.2nm,0.3s,baz=45,slow=12,SNR=152
MKAR                                Sn              Sn     22 24 51.3  +2.2
    1.9nm,0.3s,baz=44,slow=21,SNR=3.5
MKAR                                Lg              Lg     22 25 14.6
    2.2nm,0.3s,baz=44,slow=21,SNR=3.9
    3.9nm,0.3s
KURBB Kurchatov Arra     6.55 268   Pn          Pn     22 23 44.5  +2.0
    0.8nm,0.3s,baz=83,slow=15,SNR=12
KURBB                               Sn              Sn     22 24 58.5  +1.0
    1.0nm,0.3s,baz=83,slow=25,SNR=7.7
KURBB                               Lg              Lg     22 25 31.6
    1.0nm,0.3s,baz=84,slow=30,SNR=7.3
    2.0nm,0.3s
KURBB Kurchatov Arra     6.55 268   ⇑Pn         Pn     22 23 45.6  +3.1
    4.3nm,0.3s
KURBB                               ⇓Sn             Sn     22 24 58.9  +1.4
    44nm,0.6s
KURBB                               ⇓Lg             Lg     22 25 30.9
    133nm,0.7s
BVA0  Borovoye Array     11.48 286  ⇑Pn         Pn     22 24 52.3  +2.3
    2.9nm,0.8s,baz=90,slow=14,SNR=16
BVA0                                ⇑Sn             Sn     22 26 59.3  +0.9
    5.9nm,0.8s,baz=66,slow=25,SNR=6.4
BVAR  Borovoye Array     11.48 286  Pn          Pn     22 24 51.5  +1.6
    0.1nm,0.3s,baz=90,slow=13,SNR=16
BVAR                                Sn              Sn     22 26 55.5  -3.0
    0.1nm,0.3s,baz=99,slow=23,SNR=3.8
    2.1nm,0.4s
BRVK  Borovoye           11.54 286  ⇓Pn         Pn     22 24 52.7  +1.8
    1.1nm,0.5s
BRVK                                ⇑Sn             Sn     22 27 01.1  +1.0
    1.8nm,0.7s
SONM  Songino Array      11.90 100  Lg              Lg     22 28 20.4
    0.2nm,0.3s,baz=287,slow=30,SNR=5.5
AAK   Ala-Archa          13.03 234  Lg              Lg     22 28 57.4
    0.1nm,0.3s,baz=45,slow=39,SNR=1.4
KK31  Karatay Array      14.87 244  Pn          P      22 25 39.0  -3.2
    1.7nm,0.8s,baz=56,slow=11,SNR=4.3
AB31  Akbulak array      18.54 275  ⇑Pn         Pn     22 26 25.9  +3.0
    1.3nm,0.8s,baz=72,slow=12,SNR=4.0
ARTI  Arti               18.60 298  P           Pn     22 26 24.7  +1.0
    0.4nm,0.3s,baz=107,slow=14,SNR=5.0
ARTI                                S               S      22 29 53.9  -1.8
    1.4nm,0.6s,baz=30,slow=20,SNR=2.3
    2.1nm,0.5s
FINES FINESS Array B     34.88 312  P           P      22 28 59.6  +2.2
    2.8nm,1.0s,baz=86,slow=7.5,SNR=1.8
    2.8nm,1.0s
```

NEIC 08 22:23:14.2±0.9, 19°22N±0°07×67°23W±0°04, h27km±14km, ML2.6/15, Md3.3/11(RSPR), Error ellipse: s-maj=10.5km s-min=3.1km az=155.0
OSPL 08 22:23:14.4±0.3, 19°22N×67°35W, h14km±2km, ML2.3
SDD 08 22:23:14.6±2.4, 19°25N×67°12W, h31km±89km, MD3.6, ML2.7, MW3.2
RSPR 08 22:23:15.6, 19°26N×67°27W, h38km±13km, MD3.3/11

ISC 08 22:23:11.5±1.4, 19°29N±0°06×67°13W±0°03, h15km±9km, n63, σ0°69/82, 21C-11D, Mona Passage

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
AGPR  Aguadilla, PR      0.82 179                     Pn     22 23 28.4  -0.1
AGPR                                                 Sb     22 23 39.5  +1.1
AGPR  Aguadilla, PR      0.82 179   ⇓eP         Pn     22 23 28.4  -0.1
AGPR  Aguadilla, PR      0.82 179   eS          Sb     22 23 39.5  +1.1
AGPR  Aguadilla, PR      0.82 179   ⇑ePg        Pn     22 23 28.3  -0.2
AGPR                                ⇑eSg            Sg     22 23 38.5  +0.2
AGPR                                IAML            22 23 45.1
    comp=N,274nm,0.2s
AGPR  Aguadilla, PR      0.82 179   i P         Pn     22 23 28.3  -0.2
AGPR                                eS              Sg     22 23 38.5  +0.2
AGPR                                IAML            22 23 40.4
    comp=Z,114nm,0.7s
IDE   Isla Desecheo      0.96 200                     Pn     22 23 30.6  +0.2
IDE                                                  Sb     22 23 42.5  +0.1
IDE   Isla Desecheo      0.96 200   ⇓eP         Pn     22 23 30.6  +0.2
IDE   Isla Desecheo      0.96 200   eS          Sb     22 23 42.5  +0.1
EMPR  Esperanza - Ma     0.99 145   Pn          Pn     22 23 33.0  +2.2
EMPR  Esperanza - Ma     0.99 145   ⇑eP         Pn     22 23 35.4  +4.5
AOPR  Arecibo Observ     1.01 159                     Pn     22 23 31.4  +0.3
AOPR                                                 Sn     22 23 45.3  +0.2
AOPR  Arecibo Observ     1.01 159   ⇓eP         Pn     22 23 31.5  +0.3
AOPR  Arecibo Observ     1.01 159   eS          Sn     22 23 45.5  +0.4
AOPR  Arecibo Observ     1.01 159   ⇑ePg        Pn     22 23 31.0  -0.2
AOPR                                ⇑eSg            Sb     22 23 43.7  -0.1
AOPR                                IAML            22 23 47.4
    comp=N,286nm,0.3s
PRSN  Puerto Rico Se     1.07 181   Pn          Pg     22 23 32.2   0.0
PRSN                                Sn              Sb     22 23 45.3  -0.2
PRSN  Puerto Rico Se     1.07 181   ⇓eP         Pg     22 23 32.2   0.0
UUPR  Utuado, UPR, P     1.11 159                     Sn     22 23 47.5   0.0
UUPR  Utuado, UPR, P     1.11 159   Pn          Pg     22 23 32.8   0.0
UUPR  Utuado, UPR, P     1.11 159   ⇓eP         Pg     22 23 34.3  +1.5
UUPR  Utuado, UPR, P     1.11 159   eS          Sn     22 23 47.5   0.0
LSP   Las Mesas          1.11 178                     Pg     22 23 33.0   0.0
LSP                                                  Sb     22 23 47.3  +0.4
LSP   Las Mesas          1.11 178   ⇑eP         Pg     22 23 33.0   0.0
LSP   Las Mesas          1.11 178   eS          Sb     22 23 47.3  +0.4
ECPR  Experimental S     1.21 143   ⇑eP         Pg     22 23 35.5  +0.6
ECPR  Experimental S     1.21 143   eS          Sg     22 23 52.0  +1.4
CRPR  Cabo Rojo, PR      1.28 179                     Pb     22 23 35.3   0.0
CRPR                                                 Sb     22 23 50.8  -0.8
CRPR                                IAML            22 23 51.9
    comp=E,127nm,0.3s
CRPR                                IAML            22 23 54.3
    comp=N,119nm,0.4s
CRPR  Cabo Rojo, PR      1.28 179   ⇑eP         Pb     22 23 35.7  +0.4
CRPR  Cabo Rojo, PR      1.28 179   ePg         Pb     22 23 35.2   0.0
CRPR                                ⇑eSg            Sb     22 23 51.4  -0.2
CRPR                                IAML            22 23 54.2
    comp=N,137nm,0.5s
CRPR  Cabo Rojo, PR      1.28 179   i P         Pb     22 23 35.4   0.0
CRPR                                eS              Sb     22 23 51.0  -0.6
CRPR                                IAML            22 23 52.0
    comp=Z,116nm,0.3s
MLPR  Magueyes Islan     1.32 176   ⇓eP         Pb     22 23 36.1  +0.1
MLPR  Magueyes Islan     1.32 176   eS          Sn     22 23 52.3  -0.4
MLPR  Magueyes Islan     1.32 176   ePg         Pb     22 23 36.0   0.0
MLPR                                ⇑eSg            Sn     22 23 51.1  -1.7
MLPR                                IAML            22 23 55.3
    comp=N,31nm,0.6s
CELP  Cerrillos          1.32 157                     Pg     22 23 36.3  -0.6
CELP                                                 Sn     22 23 52.2  -0.6
CELP                                IAML            22 23 55.2
    comp=E,98nm,0.6s
CELP                                IAML            22 23 57.5
    comp=N,115nm,0.4s
CELP  Cerrillos          1.32 157   ⇓eP         Pg     22 23 36.6  -0.3
CELP  Cerrillos          1.32 157   eS          Sb     22 23 52.8  +0.1
CELP  Cerrillos          1.32 157   ⇑ePg        Pg     22 23 36.1  -0.8
CELP                                ⇑eSg            Sn     22 23 52.5  -0.3
CELP                                IAML            22 23 57.3
    comp=N,114nm,0.3s
GBPR  Guanica, Bosqu     1.33 170                     Pg     22 23 37.1   0.0
GBPR  Guanica, Bosqu     1.33 170   ⇓eP         Pg     22 23 37.1   0.0
OBIP  Obispado Ponce     1.34 158                     Pg     22 23 36.6  -0.7
OBIP                                                 Sn     22 23 52.8  -0.4
OBIP                                IAML            22 23 55.9
    comp=N,97nm,0.4s
OBIP                                IAML            22 23 56.0
    comp=E,107nm,0.4s
OBIP  Obispado Ponce     1.34 158   ⇓eP         Pg     22 23 36.7  -0.6
OBIP  Obispado Ponce     1.34 158   eS          Sn     22 23 53.2  -0.1
GCPR  Guaynabo City      1.39 134                     Pg     22 23 38.1  -0.2
GCPR                                Sn              Sg     22 23 56.2  -0.3
GCPR  Guaynabo City      1.39 134   ⇑eP         Pg     22 23 38.7  +0.3
GCPR  Guaynabo City      1.39 134   eS          Sg     22 23 57.3  +0.8
PCDR  Punta Cana, DR     1.42 237   ⇑eSg        Sb     22 23 57.4  +1.9
PCDR                                IAML            22 24 03.6
    comp=N,124nm,0.9s
SJG   San Juan           1.50 142                     Pg     22 23 39.9  -0.4
SJG                                IAML            22 24 02.4
    comp=N,57nm,0.3s
SJG                                IAML            22 24 09.2
    comp=N,66nm,0.3s
SJG   San Juan           1.50 142   ⇓eP         Pg     22 23 40.5  +0.2
SJG   San Juan           1.50 142   eS          Sb     22 23 58.2  +0.4
SJG   San Juan           1.50 142   ⇑ePg        Pg     22 23 40.2  -0.2
SJG   San Juan           1.50 142   i P         Pg     22 23 40.4   0.0
SJG                                IAML            22 24 03.6
    comp=Z,22nm,0.2s
IGPR  InterUniversit     1.64 144                     Pg     22 23 41.9  -1.1
IGPR                                                 Sb     22 24 01.7  -0.3
IGPR  InterUniversit     1.64 144   ⇓eP         Pg     22 23 41.9  -1.1
IGPR  InterUniversit     1.64 144   eS          Sb     22 24 01.7  -0.3
PDPR  Patillas Dam,      1.65 140   Pn          Pb     22 23 41.5   0.0
PDPR                                Sn              Sg     22 24 03.0  -1.6
PDPR                                IAML            22 24 11.4
    comp=N,46nm,0.2s
PDPR  Patillas Dam,      1.65 140   ⇑eP         Pb     22 23 41.5   0.0
PDPR  Patillas Dam,      1.65 140   eS          Sg     22 24 04.3  -0.3
HUMP  Col San Antoni     1.67 133   Pn          Pb     22 23 41.7  -0.2
MIDR  Miches             1.84 261   ⇓eP         Pb     22 23 44.4  -0.4
MIDR  Miches             1.84 261   ⇑ePg        Pb     22 23 44.5  -0.3
MIDR                                ⇑eSg            Sn     22 24 07.3  +1.7
MIDR                                IAML            22 24 13.8
    comp=N,23nm,0.4s
MIDR                                IAML            22 24 14.3
    comp=N,32nm,1.4s
DR12  Loma Pena Alta     2.19 257   Pn          Pb     22 23 49.6  -1.3
HATOM Hato Mayor del     2.19 257   ⇑ePg        Pb     22 23 50.0  -0.9
HATOM                               ⇑eSg            Sn     22 24 15.2  +0.9
HATOM                               IAML            22 24 24.0
    comp=N,41nm,0.8s
NADR  Nagua              2.58 272   eSg         Sb     22 24 29.5  +0.6
NADR                                IAML            22 24 47.4
    comp=N,333nm,1.2s
SDDR  Presa de Saban     3.94 266   Pn          Pn     22 24 10.5  -1.0
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IDC 08 22:25:09.2±5.4, 32°71N×5°71W, h0km, mb2.8/2, mbtmp2.9/3, ML3.3/1, Error ellipse: s-maj=157.0km s-min=31.4km az=91.0
CNRM 08 22:25:10.5, 32°65N×5°59W, h1km, ML3.7
MDD 08 22:25:11.4±0.7, 32°71N×5°64W, h1km, Mb4.2/17, M_mb3.6/17, Error ellipse: s-maj=6.0km s-min=4.5km az=129.0
IGIL 08 22:25:12.8, 32°71N×5°64W, h0km, ML2.9
INMG 08 22:25:14.6±1.3, 32°74N×5°57W, h30km±13km, ML2.9, Error ellipse: s-maj=7.2km s-min=6.2km az=142.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Fez (Marr)

ISC 08 22:25:10.3±0.7, 32°73N±0°02×5°63W±0°02, h7km, n213, σ2°05/254, 16C, Morocco

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
CZD   Col de Zad         0.58  58   P           Pg     22 25 21.8  +0.2
CZD   Col de Zad         0.58  58   S           Sg     22 25 30.8  +1.5
CZD   Col de Zad         0.58  58   P           Pg     22 25 22.3  +0.6
CZD   Col de Zad         0.58  58   P           Pg     22 25 22.3  +0.6
CZD   Col de Zad         0.58  58   P           Pg     22 25 23.1   0.0
CZD   Col de Zad         0.58  58   P           Pb     22 25 23.1   0.0
CZD   Col de Zad         0.58  58   P           Pb     22 25 23.1   0.0
CZD   Col de Zad         0.58  58   P           Pb     22 25 23.1   0.0
MD31  MD31               0.75  79   P           Pg     22 25 24.4  -0.3
MD31  MD31               0.75  79   S           Sg     22 25 34.7  +0.2
MDT   Midelt             0.87  84   P           Pb     22 25 28.4  +0.6
MDT   Midelt             0.87  84   S           Sg     22 25 37.4  -0.9
MDT   Midelt             0.87  84   P           Pb     22 25 28.4  +0.6
MDT   Midelt             0.87  84   P           Pb     22 25 28.4  +0.6
MDT   Midelt             0.87  84   S           Pg     22 25 26.2  -0.8
MDT   Midelt             0.87  84   S           Pg     22 25 26.2  -0.8
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   S           Sn     22 25 49.3  +1.3
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   P           Pn     22 25 35.0  +2.6
ZHG   ZHG                1.11 311   P           Pn     22 25 35.0  +2.6
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
ZHG   ZHG                1.11 311   P           Pn     22 25 34.3  +1.9
LCRM  LCR                1.16  34   P           Pg     22 25 32.1  -0.4
LCRM  LCR                1.16  34   S           Sg     22 25 47.0  -0.6
LCRM  LCR                1.16  34   P           Pn     22 25 34.0  +0.9
LCRM  LCR                1.16  34   P           Pn     22 25 34.0  +0.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   S           Sn     22 25 53.0  +3.7
LCRM  LCR                1.16  34   P           Pn     22 25 34.0  +0.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   P           Pn     22 25 34.0  +0.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   P           Pn     22 25 35.0  +1.9
LCRM  LCR                1.16  34   S           Sn     22 25 53.0  +3.7
GOLM  Goulmima           1.17 150   P           Pg     22 25 33.0  +0.2
GOLM  Goulmima           1.17 150   S           Sn     22 25 49.7  +0.2
GOLM  Goulmima           1.17 150   P           Pg     22 25 32.5  -0.3
GOLM  Goulmima           1.17 150   P           Pg     22 25 32.5  -0.3
GOLM  Goulmima           1.17 150   P           Pg     22 25 33.0  +0.2
GOLM  Goulmima           1.17 150   P           Pg     22 25 33.0  +0.2
GOLM  Goulmima           1.17 150   P           Pg     22 25 33.0  +0.2
GOLM  Goulmima           1.17 150   P           Pg     22 25 33.0  +0.2
TISM  Timmit             1.21 215   P           Pg     22 25 32.8  -0.8
TISM  Timmit             1.21 215   S           Sg     22 25 49.6  +0.2
TISM  Timmit             1.21 215   P           Pg     22 25 33.0  -0.6
TISM  Timmit             1.21 215   P           Pg     22 25 33.0  -0.6
TISM  Timmit             1.21 215   P           Pg     22 25 34.0  +0.4
TISM  Timmit             1.21 215   P           Pg     22 25 34.0  +0.4
TISM  Timmit             1.21 215   P           Pg     22 25 33.0  -0.6
TISM  Timmit             1.21 215   P           Pg     22 25 34.0  +0.4
TISM  Timmit             1.21 215   P           Pg     22 25 33.0  -0.6
TISM  Timmit             1.21 215   P           Pg     22 25 34.0  +0.4
RTC   Rabat Centre       1.62 321   P           Pb     22 25 41.4  +0.8
RTC   Rabat Centre       1.62 321   S           Sg     22 26 08.4  +5.9
RTC   Rabat Centre       1.62 321   S           Sg     22 26 08.4  +5.9
RTC   Rabat Centre       1.62 321   S           Sg     22 26 08.4  +5.9
ARF   Arif               1.76 137   P           Pn     22 25 41.5  +0.1
ARF   Arif               1.76 137   S           Sn     22 26 04.6  +0.5
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pb     22 25 43.1   0.0
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pn     22 25 42.0  +0.6
ARF   Arif               1.76 137   P           Pb     22 25 43.1   0.0
SRHM  Skhour des Reh     1.93 263   P           Pb     22 25 46.7  +0.9
SRHM  Skhour des Reh     1.93 263   S           Sg     22 26 14.7  +2.4
SRHM  Skhour des Reh     1.93 263   P           Pg     22 25 47.0  -0.3
SRHM  Skhour des Reh     1.93 263   P           Pg     22 25 47.0  -0.3
SRHM  Skhour des Reh     1.93 263   S           Sg     22 26 15.0  +2.6
SRHM  Skhour des Reh     1.93 263   S           Sg     22 26 15.0  +2.6
SRHM  Skhour des Reh     1.93 263   P           Pn     22 25 45.1  +1.5
SRHM  Skhour des Reh     1.93 263   P           Pg     22 25 47.0  -0.3
SRHM  Skhour des Reh     1.93 263   P           Pn     22 25 45.1  +1.5
SRHM  Skhour des Reh     1.93 263   P           Pg     22 25 47.0  -0.3
TZRR  Tazzarine          1.94 178   P           Pn     22 25 44.6  +0.8
TZRR  Tazzarine          1.94 178   S           Sn     22 26 09.3  +0.9
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pb     22 25 47.0  +1.0
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pb     22 25 47.0  +1.0
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
TZRR  Tazzarine          1.94 178   P           Pn     22 25 45.0  +1.2
OUZM  OUZ                2.05 208   P           Pb     22 25 47.4  -0.6
OUZM  OUZ                2.05 208   S           Sg     22 26 16.6  +0.3
OUZM  OUZ                2.05 208   P           Pn     22 25 47.0  +1.6
OUZM  OUZ                2.05 208   P           Pn     22 25 47.0  +1.6
OUZM  OUZ                2.05 208   S           Sg     22 26 17.0  +0.7
OUZM  OUZ                2.05 208   S           Sg     22 26 17.0  +0.7
OUZM  OUZ                2.05 208   P           Pn     22 25 47.0  +1.6
OUZM  OUZ                2.05 208   P           Pn     22 25 47.0  +1.6
TIO   Tiouine            2.27 218   P           Pn     22 25 49.2  +0.9
TIO   Tiouine            2.27 218   S           Sn     22 26 18.1  +1.5
AKLM  AKL                2.31  39   P           Pn     22 25 50.1  +1.2
AKLM  AKL                2.31  39   S           Sb     22 26 21.5  +0.3
AKLM  AKL                2.31  39   P           Pn     22 25 51.1  +2.2
AKLM  AKL                2.31  39   P           Pn     22 25 51.1  +2.2
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
AKLM  AKL                2.31  39   P           Pn     22 25 51.1  +2.2
AKLM  AKL                2.31  39   P           Pn     22 25 51.1  +2.2
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
AKLM  AKL                2.31  39   P           Pb     22 25 53.0  +0.6
OUK   Oukaimeden         2.43 232   P           Pn     22 25 51.5  +0.7
OUK   Oukaimeden         2.43 232   S           Sn     22 26 22.4  +1.5
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
OUK   Oukaimeden         2.43 232   P           Pn     22 25 52.0  +1.2
ZGR   Zagora             2.60 180   P           Pn     22 25 53.6  +0.7
ZGR   Zagora             2.60 180   S           Sn     22 26 25.9  +1.2
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
ZGR   Zagora             2.60 180   P           Pn     22 25 55.0  +2.1
ZGR   Zagora             2.60 180   P           Pn     22 25 55.0  +2.1
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
ZGR   Zagora             2.60 180   P           Pn     22 25 54.0  +1.1
PALE  Palemas            2.85  29   P           Pn     22 25 57.8  +1.5
PALE  Palemas            2.85  29   S           Sn     22 26 34.4  +3.4
SMIR  Smir Dam           2.96   4   P           Pn     22 25 59.5  +1.8
SMIR  Smir Dam           2.96   4   S           Sb     22 26 37.5  -2.1
JBK   JBK                3.02  57   P           Pn     22 25 58.5  -0.2
JBK   JBK                3.02  57   S           Sn     22 26 34.9  -0.4
JBK   JBK                3.02  57   P           Pn     22 26 01.0  +2.2
JBK   JBK                3.02  57   P           Pn     22 26 01.0  +2.2
JBK   JBK                3.02  57   P           Pn     22 26 01.0  +2.2
JBK   JBK                3.02  57   P           Pn     22 26 01.0  +2.2
TTIG  Tnine Tigouga,     3.23 229   P           Pn     22 26 02.3  +0.6
TTIG  Tnine Tigouga,     3.23 229   S           Sn     22 26 42.3  +1.8
TTIG  Tnine Tigouga,     3.23 229   P           Pg     22 26 11.0  -1.3
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TTIG	Tnine Tigouga,	3.23	229	P		Pg	22 26 11.0	-1.3
GOG	Mont Gurugu	3.32	41	P		Pn	22 26 04.0	+1.3
GOG	Mont Gurugu	3.32	41	S		Sn	22 26 45.6	+3.2
TAF	Taforalt	3.39	51	P		Pn	22 26 04.5	+0.7
TAF	Taforalt	3.39	51	S		Sn	22 26 47.0	+2.7
FIGM	Figuig	3.74	98	P		Pn	22 26 09.4	+0.7
FIGM	Figuig	3.74	98	S		Sn	22 26 54.5	+1.5
FIGM	Figuig	3.74	98	P		Pn	22 26 10.0	+1.3
FIGM	Figuig	3.74	98	P		Pn	22 26 10.0	+1.3
ESPR	Espera	4.14	358	⇑iVmb_VC			22 26 14.6	
	151nm,SNR=1.5							
ESPR				P		Pn	22 26 14.8	+0.9
ESPR				S		Sn	22 27 02.2	-0.3
E1302	La Puebla de C	4.41	4	P		Pn	22 26 16.6	-1.1
E1302				⇑iVmb_VC			22 26 16.9	
	258nm,SNR=1.4							
E1302				S		Sn	22 27 10.0	+0.8
ELGU	Los Guajares,	4.45	21	P		Pn	22 26 18.7	+0.5
ELGU				⇑iVmb_VC			22 26 25.0	
	162nm,SNR=1.8							
ELGU				S		Sn	22 27 09.3	-1.1
EGOR	Sierra Gorda,	4.55	16	P		Pn	22 26 20.1	+0.3
EGOR				S		Sn	22 27 12.2	-0.7
PBDV	Barranco-do-Ve	4.88	338	⇑eP		Pn	22 26 25.2	+1.0
PBDV				eS		Sn	22 27 19.0	-2.1
PBDV				i IAML			22 27 20.5	
PBDV				i IAML			22 27 23.4	
PBDV				i IAML			22 27 25.0	
PVAQ	Vaqueiros	4.97	340	eP		Pn	22 26 26.4	+1.0
PVAQ				eS		Sn	22 27 20.5	-2.6
PVAQ				i IAML			22 27 25.1	
PVAQ				i IAML			22 27 25.5	
PVAQ				i IAML			22 27 27.0	
PVAQ	Vaqueiros	4.97	340	P		Pn	22 26 27.0	+1.7
EGRO	El Granado	5.03	343	P		Pn	22 26 27.4	+1.2
EGRO				⇑iVmb_VC			22 26 31.5	
	463nm,SNR=3.0							
EGRO				S		Sn	22 27 21.2	-3.4
EMIN	Mina Concepcio	5.10	351	P		Pn	22 26 28.0	+0.8
EMIN				⇑iVmb_VC			22 26 37.6	
	162nm,SNR=1.8							
EMIN				S		Sn	22 27 25.0	-1.4
PFVI	Vila Bisbo	5.12	330	eP		Pn	22 26 30.8	+3.3
PFVI				eS		Sn	22 27 25.5	-1.3
PFVI				i IAML			22 27 28.6	
PFVI				i IAML			22 27 30.3	
PFVI				i IAML			22 27 49.9	
PFVI	Vila Bisbo	5.12	330	P		Pn	22 26 30.7	+3.3
PFVI	Vila Bisbo	5.12	330	P		Pn	22 26 30.7	+3.3
PFVI	Vila Bisbo	5.12	330	P		Pn	22 26 30.7	+3.3
MORF	Marmelete	5.20	332	eP		Pn	22 26 29.6	+1.1
MORF				eS		Sn	22 27 26.2	-2.5
MORF				IAML			22 27 29.2	
	comp=E,29nm,0.2s							
MORF	Marmelete	5.20	332	eP		Pn	22 26 29.9	+1.3
MORF				eS		Sn	22 27 26.4	-2.3
MORF				i IAML			22 27 29.9	
MORF				i IAML			22 27 32.8	
MORF				i IAML			22 27 35.5	
PCVE	Castro Verde	5.28	339	eP		Pn	22 26 31.1	+1.5
PCVE				S		Sn	22 27 28.8	-1.8
PCVE				i IAML			22 27 29.6	
PCVE				i IAML			22 27 29.9	
PCVE				i IAML			22 27 33.1	
ECAB	El Cabril	5.34	2	P		Pn	22 26 31.2	+0.7
ECAB				⇑iVmb_VC			22 26 36.0	
	comp=E,96nm,SNR=1.6							
ECAB				S		Sn	22 27 28.7	-3.5
E0803	Jimena (Jaen)	5.39	19	P		Pn	22 26 32.2	+0.9
E0803				S		Sn	22 27 33.2	-0.5
PTEO	Sao Teotonio	5.43	333	eP		Pn	22 26 33.4	+1.7
PTEO				S		Sn	22 27 32.5	-2.0
PTEO				i IAML			22 27 36.1	
PTEO				i IAML			22 27 37.0	
PTEO				i IAML			22 27 47.5	
EQES	Quesada	5.48	22	P		Pn	22 26 34.3	+1.8
EQES				⇑iVmb_VC			22 26 42.1	
	comp=E,92nm,SNR=1.4							
EQES				S		Sn	22 27 37.0	+1.1
EADA	Adamuz	5.50	9	P		Pn	22 26 33.2	+0.6
EADA				⇑iVmb_VC			22 26 41.5	
	comp=E,132nm,SNR=1.8							
EADA				S		Sn	22 27 32.6	-3.6
MESJ	Messejana	5.52	338	eP		Pn	22 26 33.9	+1.0
MESJ				eS		Sn	22 27 33.5	-3.2
MESJ				IAML			22 27 38.8	
	comp=E,9.4nm,0.3s							
MESJ	Messejana	5.52	338	eP		Pn	22 26 34.2	+1.2
MESJ				eS		Sn	22 27 34.0	-2.8
MESJ				i IAML			22 27 37.8	
MESJ				i IAML			22 27 39.2	
MESJ				i IAML			22 27 40.2	
PBAR	Barrancos	5.56	348	eP		Pn	22 26 34.3	+0.9
PBAR				eS		Sn	22 27 34.1	-3.4
PBAR				i IAML			22 27 37.8	
PBAR				i IAML			22 27 38.5	
PBAR				i IAML			22 27 39.8	
PBEJ	Beja	5.59	342	eP		Pn	22 26 35.6	+1.7
PBEJ				eS		Sn	22 27 36.2	-2.3
PBEJ				i IAML			22 27 40.3	
PBEJ				i IAML			22 27 40.5	
PBEJ				i IAML			22 27 40.5	
EVO	Evora	6.11	342	eS		Sn	22 27 47.8	-3.4
EVO				i IAML			22 27 51.0	
EVO				i IAML			22 27 51.1	
EVO				i IAML			22 27 52.6	
EBAD	Badajoz	6.12	350	P		Pn	22 26 42.2	+1.0
EBAD				S		Sn	22 27 47.9	-3.5
PSIM	Granatula de C	6.27	14	P		Pn	22 26 44.3	+1.1
PSIM				S		Sn	22 27 52.1	-3.1
PESTR	Estremoz	6.33	346	eP		Pn	22 26 45.7	+1.6
PESTR				eS		Sn	22 27 53.7	-3.0
PESTR				i IAML			22 27 56.7	
PESTR				i IAML			22 27 57.5	
PESTR				i IAML			22 28 09.3	
PESTR	Estremoz	6.33	346	P		Pn	22 26 46.0	+1.9
TANT	Tantan	6.47	230	P		Pn	22 26 46.1	+0.1
PMTG	Montargil	6.67	342	eP		Pn	22 26 49.9	+1.2
PMTG				eS		Sn	22 28 02.2	-2.7
PMTG				i IAML			22 28 04.3	
PMTG				i IAML			22 28 06.2	
PMTG				i IAML			22 28 15.8	
PARRA	Arraiolos	6.68	336	eP		Pn	22 26 45.9	-2.9
PARRA				eS		Sn	22 27 55.3	-10
PARRA				i IAML			22 27 57.3	
PARRA				i IAML			22 27 58.6	
PARRA				i IAML			22 28 01.3	
ETOB	Tobarra	6.78	28	P		Pn	22 26 52.3	+2.1
ETOB				⇑iVmb_VC			22 26 54.8	
	comp=E,131nm,SNR=1.1							
PMRV	Marv??o	6.84	348	eP		Pn	22 26 52.4	+1.3
PMRV				eS		Sn	22 28 05.4	-3.8
PMRV				i IAML			22 28 09.4	
PMRV				i IAML			22 28 09.4	
PMRV				i IAML			22 28 10.3	
PAB	San Pablo	6.88	8	P		Pn	22 26 51.8	+0.1
PAB				⇑iVmb_VC			22 26 54.7	
	comp=E,62nm,SNR=1.2							
PAB				S		Sn	22 28 04.8	-5.6
PMAFR	Mafra	6.89	336	eP		Pn	22 26 53.4	+1.7
PMAFR				eS		Sn	22 28 08.2	-2.1
ESDC	Sonseca Array	7.06	11	S		Sn	22 28 10.8	-3.9
ESDC	Sonseca Array	7.06	11	Pn		Pn	22 26 54.9	+0.7
	comp=E,0.2nm,0.3s,baz=195,slow=13,SNR=5.2							
ESDC				Sn		Sn	22 28 09.7	-5.1
	comp=E,0.3nm,0.3s,baz=196,slow=23,SNR=4.6							
	comp=E,0.3nm,0.3s							
ESBB	Sonseca Array	7.07	11	S		Sn	22 28 11.0	-3.8
PSARD	Sardoal	7.16	344	eP		Pn	22 26 57.0	+1.6
PSARD				eS		Sn	22 28 13.2	-3.8
PSARD				i IAML			22 28 15.5	
PSARD				i IAML			22 28 15.9	
PSARD				i IAML			22 28 30.7	
PSBE	So Bento	7.24	340	eP		Pn	22 26 58.1	+1.5
PSBE				eS		Sn	22 28 17.3	-1.8
PCBR	Castelo Branco	7.25	349	eP		Pn	22 26 58.1	+1.3
PCBR				eS		Sn	22 28 14.9	-4.4
PCBR				i IAML			22 28 16.6	
PCBR				i IAML			22 28 17.4	
PCBR				i IAML			22 28 20.1	
EPLA	Plasencia	7.33	357	P		Pn	22 26 58.5	+0.7
EPLA				⇑iVmb_VC			22 27 03.3	
	comp=E,198nm,SNR=2.4							
EPLA				S		Sn	22 28 16.3	-5.0
MTE	Manteigas	7.81	349	⇑eP		Pn	22 27 05.7	+1.2
MTE				eS		Sn	22 28 27.7	-5.4
GUD	Guadarrama	7.99	8	P		Pn	22 27 06.2	-0.8
GUD				⇑iVmb_VC			22 27 10.2	
	comp=E,74nm,SNR=1.3							
GUD				S		Sn	22 28 31.3	-6.4
CFUE	Fuerteventura	8.22	243	S		Sn	22 28 38.2	-5.1
EJUZ	Juzbado, Salam	8.35	359	P		Pn	22 27 11.8	0.0
EJUZ				S		Sn	22 28 41.6	-4.8
MVO	Moncorvo	8.50	353	eP		Pn	22 27 15.3	+1.5
MVO				eS		Sn	22 28 47.3	-2.7
MVO				i IAML			22 28 48.8	
MVO				i IAML			22 28 48.9	
MVO				i IAML			22 29 00.6	
ETOR	Torete	8.57	19	P		Pn	22 27 14.5	-0.4
ETOR				⇑iVmb_VC			22 27 23.9	
	comp=E,132nm,SNR=1.2							
ETOR				S		Sn	22 28 48.5	-3.4
PVRL	Vila Real	8.69	350	eP		Pn	22 27 17.9	+1.3
POLO	Lamas de Olo	8.80	349	eP		Pn	22 27 19.5	+1.5
POLO				eS		Sn	22 28 53.2	-4.4
POLO				i IAML			22 28 55.3	
POLO				i IAML			22 28 56.3	
POLO				i IAML			22 28 57.4	
PBRG	Braganca	9.11	355	eP		Pn	22 27 23.6	+1.4
ECAL	Calabor	9.24	355	P		Pn	22 27 23.9	-0.1
ECAL				S		Sn	22 29 03.5	-4.8
ELOB	Lobios	9.33	349	P		Pn	22 27 25.8	+0.5
ELOB				⇑iVmb_VC			22 27 33.4	
	comp=E,126nm,SNR=0.8							
ELOB				S		Sn	22 29 04.5	-5.9
TORD	Torodi Ar. Bea	20.61	159	P		P	22 29 50.2	-0.1
	comp=E,0.4nm,0.6s,baz=343,slow=11,SNR=2.4							
	comp=E,0.4nm,0.6s							
GERES	GERESS Array B	21.66	36	P		P	22 30 01.6	+0.1
	comp=E,0.2nm,0.5s,baz=226,slow=12,SNR=2.3							
	comp=E,0.2nm,0.5s							

*AEIC **08** 22:25:23.7±1.2, 54°.04N±0°.05×163°.95W±0°.07, h41km±10km, Error ellipse: s-maj=8.6km s-min=4.7km az=142.0*

NEIC 08 22:25:24.6±1.3, 54°.03N±0°.05×163°.97W±0°.07, h35km±2km, ML2.6/12, ML2.4(AEIC), Error ellipse: s-maj=9.9km s-min=4.8km az=323.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	Shishaldin Sou	0.68	358		Pn	22 25 36.9	-1.0
SSLS					Sn	22 25 47.1	-0.1
WEBT	Westdahl Beart	0.72	321		Pn	22 25 38.1	-0.3
WEBT					Sn	22 25 48.8	+0.6
SSBA	Shishaldin	0.75	353		Pn	22 25 37.8	-0.9
SSBA					Sn	22 25 49.3	+0.5
SSLN	Shishaldin Nor	0.78	359		Pn	22 25 39.1	-0.1
SSLN					Sn	22 25 50.0	+0.3
ISNN	Isanotski Nort	0.81	8		Pn	22 25 39.1	-0.5
ISNN					Sn	22 25 50.9	+0.5
FALS	False Pass	0.89	21		Pn	22 25 39.9	-0.6
FALS					Sn	22 25 52.6	+0.4
AKSA	Akutan Strait	1.02	276		Pn	22 25 41.8	-0.7
AKSA					Sn	22 25 55.9	+0.3
AKUT	Akutan	1.07	276		Pn	22 25 42.4	-0.6
AKUT					Sn	22 25 57.1	+0.4
AKUT				IAML		22 25 57.8	
	comp=E,153nm,0.3s						
AKUT				IAML		22 25 57.9	
	comp=N,159nm,0.1s						
AKBBA	Akutan Broad B	1.16	274		Pn	22 25 43.8	-0.6
AKBBA					Sn	22 25 59.8	+0.9
LVA	Lava Point	1.23	277	Pn	Pn	22 25 45.3	+0.1
LVA				IAML		22 26 18.7	
	comp=E,127nm,1.0s						
DT1	Dutton Round H	1.46	42		Pn	22 25 47.9	-0.5
DT1					Sn	22 26 06.6	+0.4
UNV	Unalaska Valle	1.51	264		Pn	22 25 48.6	-0.6
UNV					Sn	22 26 07.8	+0.1
MNAT	Makushin Natee	1.61	266		Pn	22 25 50.0	-0.6
MNAT					Sn	22 26 12.3	+2.1
DOL	Dolgoi Island	1.66	47		Pn	22 25 50.1	-1.0
DOL					Sn	22 26 11.5	+0.3
MREP	Makushin Rep't	1.66	263		Pn	22 25 50.7	-0.6
MSW	Makushin Switc	1.67	267		Pn	22 25 50.7	-0.7
MSW					Sn	22 26 12.3	+0.8
PN7A	Pavlof North-7	1.81	38		Pn	22 25 53.4	+0.1
S12K	Black Hills	2.00	33		Pn	22 25 55.6	-0.3
S12K				IAML		22 26 24.2	
	comp=E,39nm,0.2s						
SDPT	Sand Point	2.42	56		Pn	22 26 01.0	-0.6
SDPT				IAML		22 26 34.3	
	comp=E,27nm,0.8s						
SDPT				IAML		22 26 36.2	
	comp=N,48nm,1.2s						
O14K	Tigyukauivet M	5.44	15	Pn	Pn	22 26 43.1	0.0
O15K	Ungalikthiuk R	5.64	22	Pn	Pn	22 26 46.0	+0.2
N14K	Kuskokwak Cree	6.04	11	Pn	Pn	22 26 51.8	+0.6
N15K	Kwethluk River	6.50	17	Pn	Pn	22 26 57.6	-0.1

DJA 08 22:36:58.3±0.4, 1°.8S±8°.×13°.6E±°, h30km±7km, M4.1/6, mb5.4/1, MLv3.5/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	0.04	24	P	Pb	22 37 03.2	-0.2
BAKI				S	Sb	22 37 08.5	+1.7
SRPI	Serui, Papua	0.65	167	P	Pn	22 37 11.9	+0.4
RKPI	Ransiki, Papua	1.93	262	P	Pn	22 37 29.4	+0.3
SMPI	Sarmi	2.73	106	P	Pn	22 37 40.1	0.0
KMPI	Kaimana, Papua	3.39	225	P	Pn	22 37 49.1	-0.1
BNDI	Bandanaira	6.99	242	P	Pn	22 38 38.4	-0.3

*IDC **08** 22:38:53.0±1.1, 0°.83S×136°.73E, h0km, mb4.1/7, mbtmp4.2/10, ML3.7/2, MS3.0/1, Error ellipse: s-maj=32.7km s-min=12.6km az=86.0*
*DJA **08** 22:38:54.7±0.5, 1°.5±4°.×13°.6E±°, h10km, M4.2/7, mb4.5/2, MLv4.1/7*

ISC 08 22:38:57.0±0.9, 0°.87S±0°.08×136°.36E±0°.05, h25km, n19, σ1°.49/20, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	0.41	218	P	Pb	22 39 04.3	-1.4
BAKI				S	Sb	22 39 10.0	-1.7
SRPI	Serui, Papua	1.00	187	P	Pn	22 39 14.3	-1.2
SRPI				S	Sn	22 39 30.7	+1.9
RKPI	Ransiki, Papua	2.27	254	P	Pn	22 39 32.0	-1.0
RKPI				S	Sn	22 40 00.1	-0.1
SMPI	Sarmi	2.60	115	P	Pn	22 39 37.0	-0.5
SMPI				S	Sb	22 40 11.9	-2.6
JAY	Jayapura	4.64	111	Pn	Pn	22 40 00.2	-5.4
	1.0nm,0.3s,baz=252,slow=20,SNR=7.5						
	11nm,0.3s						
JAY	Jayapura	4.64	111	P	Pn	22 40 04.8	-0.8
SWI	Sorong	5.10	270	P	Pn	22 40 11.2	-0.7
	0.2nm28nm,0.4s						
BATI	Baumata	15.67	233	Pn	P	22 42 40.0	-0.2
	21nm,0.4s,baz=72,slow=20,SNR=4.3						
WRA	Warramunga Arr	19.06	186	P	P	22 43 17.9	+0.2
	0.4nm,0.3s,baz=5.4,slow=11,SNR=32						
WRA				S	S	22 46 55.8	+3.2
	1.0nm,0.9s,baz=9.9,slow=34,SNR=2.8						
	6.7nm,0.9s						
FITZ	Fitzroy Crossi	20.10	211	P	Pn	22 43 32.8	+1.8
	1.2nm,0.5s,baz=33,slow=10,SNR=5.7						
	1.2nm,0.5s						
ASAR	Alice Springs	22.79	186	P	P	22 43 58.6	+0.6
	22nm,0.7s,baz=6.2,slow=11,SNR=210						
ASAR				S	S	22 48 07.9	+2.2
	0.3nm,0.7s,baz=0.2,slow=29,SNR=4.1						
ASAR				LR	LR	22 54 45.8	
	comp=Z,35nm,19.9s,baz=257,slow=42						
	22nm,0.7s						
STKA	Stephens Creek	31.24	171	P	P	22 45 14.7	0.0
	1.8nm,0.7s,baz=345,slow=12,SNR=3.6						
	1.8nm,0.7s						
H11S3	WAKE ISLAND Hy 35.48	56		T	T	23 23 30.4	
	baz=240,slow=75,SNR=9.1						
H11S2	WAKE ISLAND Hy 35.50	56		T	T	23 23 28.8	
	baz=240,slow=75,SNR=9.6						
H11S1	WAKE ISLAND Hy 35.50	56		T	T	23 23 30.8	
	baz=240,slow=75,SNR=5.7						
MKAR	Makanchi Array	66.91	323	P	P	22 49 48.3	+1.0
	0.5nm,0.6s,baz=120,slow=7.5,SNR=6.7						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	70.88	325	P	P	22 50 12.5	+0.6
	4.0nm,0.2s,baz=123,slow=6.8,SNR=1.5						
	4.0nm,0.2s						
BVAR	Borovoye Array	76.47	325	P	P	22 50 46.1	+1.4
	0.3nm,0.4s,baz=123,slow=5.3,SNR=3.6						
	0.3nm,0.4s						
VNDA	Vanda	77.82	175	P	P	22 50 51.9	+0.1
	0.7nm,0.7s,baz=315,slow=5.0,SNR=4.3						
	0.7nm,0.7s						

*JMA **08** 23:04:56.9±0.3, 40°.7N±0°.6×14°.3E±°, h26km±4km, MV3.8/38, E OFF AOMORI PREF*
*IDC **08** 23:04:59.6±2.5, 40°.72N×142°.73E, h57km±20km, mb3.7/8, mbtmp3.9/11, ML3.4/3, MS3.7/1, Error ellipse: s-maj=35.3km s-min=14.8km az=95.0*
*NEIC **08** 23:05:00.9±1.9, 40°.87N±0°.06×142°.46E±0°.08, h49km±9km, mb4.3/7, Error ellipse: s-maj=10.9km s-min=5.5km az=135.0*

ISC 08 23:04:55.7±1.3, 40°.71N±0°.03×142°.68E±0°.05, h20km±5km, n52, σ1°.28/53, mb4.2/13, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	0.90	236	⇓iP	Pg	23 05 12.6	-0.6
JANG	Nango	0.95	250	⇓iP	Pg	23 05 13.7	-0.5
JTH	Tanohata	0.99	219	⇓P	Pn	23 05 14.0	-0.4
JTH				⇓S	Sb	23 05 26.2	-0.6
JARK	Aomorirokkasho	1.04	287	⇓iP	Pn	23 05 15.1	-0.1
JARK				⇓S	Sb	23 05 27.5	-0.8
JTM	Tenmabayashi	1.23	274	Pn	Pb	23 05 17.9	-0.3
JTM				Sn	Sb	23 05 33.3	-0.4
JTM	Tenmabayashi	1.23	274	⇓iP	Pb	23 05 18.2	0.0
JTM				⇓S	Sb	23 05 33.7	0.0
ERM	Erimo	1.35	15	Pn	Pg	23 05 21.1	-0.7
ERM				Sn	Sn	23 05 36.3	-0.6
JOT	Ohata	1.41	299	⇓P	Pn	23 05 20.5	+0.2
JNBK	Urakawa-nobuka	1.57	2	P	Pb	23 05 24.2	+0.1
JOM	Ohasama	1.63	221	iP	Pb	23 05 24.0	-1.1
JAH	Hinai	1.65	252	⇓iP	Pb	23 05 24.9	-0.5
JKB	Kayabe	1.71	314	P	Pn	23 05 25.1	+0.7
JKB				S	Sn	23 05 45.0	-0.7
JSR	Shiriuchi	1.90	296	P	Pb	23 05 28.4	-1.2
JSR				S	Sn	23 05 50.7	+0.4
JCH	Churui	1.97	15	P	Pb	23 05 29.6	-1.3
JCH				S	Sb	23 05 53.5	-1.6
JIW	Iwasaki	2.04	268	P	Pb	23 05 31.0	-1.1
JRG	Rokugo	2.05	231	P	Pb	23 05 31.1	-1.1
JMK	Ichinoseki	2.08	213	P	Pb	23 05 31.6	-1.2
JMM	Marumori	3.19	208	Pn	Pn	23 05 46.8	+2.1
JMM				Sn	Sn	23 06 24.9	+2.6
JKA	Kamikawa-asahi	3.41	359	Pn	Pn	23 05 48.9	+1.2
JKA				Sn	Sn	23 06 29.9	+2.3
ASAJ	Asahikawa	3.41	359	P	Pn	23 05 49.4	+1.7
	4.7nm,0.3s,baz=200,slow=13,SNR=8.5						
ASAJ				S	Sn	23 06 29.9	+2.4
	17nm,0.5s,baz=204,slow=20,SNR=5.9						
	6.3nm,0.3s						
MJB9	Matsu-Tunnel	5.44	222	Pn	Pn	23 06 21.4	+5.7
MAJO	Matsushiro	5.44	222	Pn	Pn	23 06 20.4	+4.8
MJAR	Matsushiro Arr	5.44	222	Pn	Pn	23 06 20.9	+5.2
MJAR	Matsushiro Arr	5.44	222	P	Pn	23 06 18.8	+3.1
	0.3nm,0.3s,baz=30,slow=13,SNR=9.6						
	5.4nm,0.5s						
JGF	Kuroka	6.60	221	Pn	Pn	23 06 34.5	+2.9
USRK	Ussuriysk Ar.	8.64	297	P	Pn	23 07 02.7	+3.1
	0.3nm,0.3s,baz=104,slow=12,SNR=2.5						
	1.9nm,0.6s						
H11N2	WAKE ISLAND Hy 29.41	128		T	T	23 41 56.6	
	baz=319,slow=75,SNR=32						
H11N1	WAKE ISLAND Hy 29.42	128		T	T	23 42 05.1	
	baz=319,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy 29.43	128		T	T	23 42 06.2	
	baz=319,slow=75,SNR=29						
H11S1	WAKE ISLAND Hy 30.24	130		T	T	23 43 45.3	
	baz=322,slow=76,SNR=6.5						
H11S3	WAKE ISLAND Hy 30.24	130		T	T	23 43 44.1	
	baz=322,slow=76,SNR=5.9						
H11S2	WAKE ISLAND Hy 30.26	130		T	T	23 43 38.0	
	baz=322,slow=76,SNR=6.3						
ZAA0	Zalesovo Array	40.27	309	P	P	23 12 30.8	-0.2
ZAA0				IAmb	IAmb	23 12 31.2	
	comp=Z,1.4nm,0.5s						
ZALV	Zalesovo Beam	40.27	309		P	23 12 31.1	+0.1
ZALV	Zalesovo Beam	40.27	309	P	P	23 12 30.8	-0.2
	comp=Z,1.3nm,0.4s,baz=84,slow=7.9,SNR=7.9						
	comp=Z,1.3nm,0.4s						
H19K	Roundabout Mou	41.86	33	P	P	23 12 45.6	+1.6
H19K				IAmb	IAmb	23 13 09.3	
	comp=Z,9.8nm,1.3s						
MKAR	Makanchi Array	43.10	299	P	P	23 12 53.9	-0.5
MKAR	Makanchi Array	43.10	299	P	P	23 12 54.1	-0.4
	comp=Z,0.7nm,0.4s,baz=84,slow=10,SNR=18						
	comp=Z,0.7nm,0.4s						
MAKZ	Makanchi	43.31	299	P	P	23 12 55.4	-0.7
KURBB	Kurchatov Arra	44.61	305	P	P	23 13 04.9	-1.5
	comp=Z,1.1nm,0.2s,baz=80,slow=8.5,SNR=4.4						
	comp=Z,1.1nm,0.2s						
F26K	Sheenjek River	46.80	30	P	P	23 13 25.3	+1.7
F26K				IAmb	IAmb	23 13 50.6	
	comp=Z,9.2nm,1.4s						
BVAR	Borovoye Array	48.90	310	P	P	23 13 39.8	-0.2
	comp=Z,1.6nm,0.5s,baz=74,slow=8.9,SNR=8.7						
	comp=Z,1.6nm,0.5s						
KKAR	Karatay Array	52.21	298	P	P	23 14 04.7	-0.5
ARTI	Arti	54.41	317	P	P	23 14 20.7	-0.4
ARTI				IAmb	IAmb	23 14 21.2	
	comp=Z,4.4nm,0.6s						
ARTI	Arti	54.41	317	LR	LR	23 41 21.3	
	comp=Z,78nm,21.3s,baz=318,slow=40						
AB31	Akbulak array	56.38	309	P	P	23 14 35.1	-0.2
AB31				IAmb	IAmb	23 14 35.4	
	comp=Z,1.8nm,1.1s						
ABKAR	Akbulak array	56.38	309	P	P	23 14 34.9	-0.5
WRA	Warramunga Arr	60.83	189	P

NMR			*e*S	Sn	23 10 40.1	+0.1
GLVR	**Golovnino**	**2.37 256**	*e*S	Sn	23 10 41.2	+0.9
JRA	**Rausu**	**2.60 262**	P	Pn	23 10 16.1	+0.5
JNSB	**Nemuroshibetsu**	**2.72 259**	P	Pn	23 10 18.2	+0.9
JNSB			S	Sn	23 10 50.0	+1.1
JNK	**Nakash**	**2.97 257**	P	Pn	23 10 21.2	+0.5
JNK			S	Sn	23 10 55.1	0.0
AKK	**Akkeshi**	**3.10 246**	*e*P	Pn	23 10 22.5	+0.1
AKK			*e*S	Sn	23 10 56.8	-1.3
JAK	**Akkeshi**	**3.20 246**	P	Pn	23 10 24.1	+0.3
JAK			S	Sn	23 10 59.8	-0.9
JAR	**Ashorobuto**	**3.72 255**	P	Pn	23 10 31.6	+0.7
JAR			S	Sn	23 11 13.3	-0.1
JCH	**Churui**	**4.25 248**	P	Pn	23 10 38.0	-0.2
JCH			S	Sn	23 11 23.6	-2.9

*NEIC **08** 23:26:20.3±1.4, 19°.21N±0°.04×67°.19W±0°.03, h10km±1km, ML3.1/15, Md3.3/14(RSPR), Error ellipse: s-maj=6.2km s-min=5.0km az=9.0*
*OSPL **08** 23:26:21.9±0.4, 19°.23N×67°.34W, h15km±2km, ML3.1*
*RSPR **08** 23:26:22.0, 19°.31N×67°.34W, h44km±12km, MD3.3/14*
*SDD **08** 23:26:22.5±2.0, 19°.19N×67°.07W, h8km±9km, MD3.5, ML3.0, MW3.1*

ISC 08 23:26:20.8±1.5, **19°.20N**±0°.06×**67°.18W**±0°.03, **h12**km±9km, **n64**, σ0°.79/84, **24C-9D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.73 175**			**Pb**	**23 26 36.1**	**+0.5**
AGPR					**Sb**	**23 26 46.3**	**+0.7**
AGPR	**Aguadilla, PR**	**0.73 175**		⇓*e*P	**Pb**	**23 26 36.1**	**+0.5**
AGPR	**Aguadilla, PR**	**0.73 175**		⇑*i*P	**Pb**	**23 26 36.2**	**+0.5**
AGPR				⇑*i*S	**Sg**	**23 26 44.6**	**-0.1**
	comp=N,835nm,0.5s						
AGPR				IAML		23 26 47.1	
	comp=N,835nm,0.5s						
AGPR	**Aguadilla, PR**	**0.73 175**		*i*P	**Pb**	**23 26 36.1**	**+0.5**
AGPR				*e*S	**Sb**	**23 26 46.3**	**+0.7**
AGPR				IAML		23 26 48.6	
	comp=Z,703nm,0.2s						
IDE	**Isla Desecheo**	**0.86 199**			**Pn**	**23 26 38.2**	**-0.6**
IDE					**Sn**	**23 26 50.6**	**-0.7**
IDE	**Isla Desecheo**	**0.86 199**		⇓*e*P	**Pn**	**23 26 38.2**	**-0.6**
IDE	**Isla Desecheo**	**0.86 199**		*e*S	**Sn**	**23 26 50.6**	**-0.7**
AOPR	**Arecibo Observ**	**0.94 155**			**Pg**	**23 26 38.6**	**-0.3**
AOPR	**Arecibo Observ**	**0.94 155**		⇑*e*P	**Pg**	**23 26 39.0**	**0.0**
AOPR	**Arecibo Observ**	**0.94 155**		*e*S	**Sn**	**23 26 54.3**	**+0.9**
AOPR	**Arecibo Observ**	**0.94 155**		⇑*i*P	**Pg**	**23 26 38.9**	**0.0**
AOPR				*i*S	**Sg**	**23 26 50.6**	**-0.7**
	comp=N,773nm,0.3s						
AOPR				IAML		23 26 57.6	
	comp=N,773nm,0.3s						
EMPR	**Esperanza - Ma**	**0.95 140**			**Sn**	**23 26 54.0**	**+0.5**
EMPR	**Esperanza - Ma**	**0.95 140**	Pn		**Pn**	**23 26 40.0**	**0.0**
EMPR	**Esperanza - Ma**	**0.95 140**		⇓*e*P	**Pn**	**23 26 40.9**	**+0.9**
EMPR	**Esperanza - Ma**	**0.95 140**		*e*S	**Sn**	**23 26 54.0**	**+0.5**
PRSN	**Puerto Rico Se**	**0.98 178**			**Pg**	**23 26 39.9**	**+0.1**
PRSN					**Sg**	**23 26 53.5**	**+0.9**
PRSN	**Puerto Rico Se**	**0.98 178**			**Pb**	**23 26 39.4**	**-0.4**
PRSN	**Puerto Rico Se**	**0.98 178**		⇑*e*P	**Pg**	**23 26 39.9**	**+0.1**
PRSN	**Puerto Rico Se**	**0.98 178**		*e*S	**Sg**	**23 26 53.5**	**+0.9**
LSP	**Las Mesas**	**1.02 175**			**Pg**	**23 26 40.7**	**+0.1**
LSP					**Sn**	**23 26 55.4**	**-0.1**
LSP	**Las Mesas**	**1.02 175**		⇓*e*P	**Pg**	**23 26 40.7**	**+0.1**
LSP	**Las Mesas**	**1.02 175**		*e*S	**Sn**	**23 26 55.4**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.04 155**			**Sn**	**23 26 57.3**	**+1.6**
UUPR	**Utuado, UPR, P**	**1.04 155**	Pn		**Pb**	**23 26 39.4**	**-1.4**
UUPR	**Utuado, UPR, P**	**1.04 155**		⇓*e*P	**Pb**	**23 26 40.5**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.04 155**		*e*S	**Sn**	**23 26 57.3**	**+1.6**
ECPR	**Experimental S**	**1.17 139**		⇑*e*P	**Pg**	**23 26 43.7**	**+0.3**
ECPR	**Experimental S**	**1.17 139**		*e*S	**Sn**	**23 27 00.2**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.19 177**	Pn		**Pn**	**23 26 42.9**	**-0.4**
CRPR					**Sb**	**23 26 57.5**	**-1.3**
CRPR				IAML		23 26 59.7	
	comp=E,415nm,0.5s						
CRPR				IAML		23 27 01.5	
	comp=N,457nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.19 177**		⇑*e*P	**Pn**	**23 26 43.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.19 177**		*e*S	**Sb**	**23 26 59.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.19 177**		⇓*i*P	**Pn**	**23 26 43.0**	**-0.3**
CRPR				⇑*i*S	**Sb**	**23 26 58.6**	**-0.2**
	comp=N,517nm,0.6s						
CRPR				IAML		23 27 01.3	
	comp=N,517nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.19 177**		*i*P	**Pn**	**23 26 42.9**	**-0.4**
CRPR				*e*S	**Sb**	**23 26 58.7**	**0.0**
CRPR				IAML		23 27 00.1	
	comp=Z,321nm,0.5s						
MLPR	**Magueyes Islan**	**1.23 174**		⇓*e*P	**Pn**	**23 26 43.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.23 174**		⇑*i*P	**Pn**	**23 26 43.8**	**-0.1**
MLPR				⇑*i*S	**Sb**	**23 27 00.1**	**+0.1**
	comp=N,104nm,0.3s						
MLPR				IAML		23 27 00.6	
	comp=N,103nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.25 167**			**Pb**	**23 26 44.2**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.25 167**		⇑*e*P	**Pb**	**23 26 44.2**	**-0.2**
CELP	**Cerrillos**	**1.26 153**	Pn		**Pn**	**23 26 43.3**	**-0.9**
CELP			Sn		**Sb**	**23 27 00.7**	**0.0**
CELP			IAML			23 27 03.2	
	comp=E,383nm,0.5s						
CELP			IAML			23 27 06.4	
	comp=N,414nm,0.5s						
CELP	**Cerrillos**	**1.26 153**		⇑*e*P	**Pn**	**23 26 44.0**	**-0.3**
CELP	**Cerrillos**	**1.26 153**		*e*S	**Sg**	**23 27 01.5**	**+0.2**
CELP	**Cerrillos**	**1.26 153**		⇑*i*P	**Pn**	**23 26 44.0**	**-0.3**
CELP				⇑*i*S	**Sb**	**23 26 58.9**	**-1.7**
	comp=N,413nm,0.3s						
CELP			IAML			23 27 06.3	
	comp=N,413nm,0.3s						
OBIP	**Obispado Ponce**	**1.27 155**	Pn		**Pn**	**23 26 43.5**	**-1.0**
OBIP			Sn		**Sb**	**23 27 00.5**	**-0.6**
OBIP			IAML			23 27 04.5	
	comp=N,351nm,0.4s						
OBIP			IAML			23 27 05.7	
	comp=E,353nm,0.5s						
OBIP	**Obispado Ponce**	**1.27 155**		⇑*e*P	**Pn**	**23 26 44.3**	**-0.2**
OBIP	**Obispado Ponce**	**1.27 155**		*e*S	**Sn**	**23 27 01.7**	**+0.2**
PCDR	**Punta Cana, DR**	**1.33 239**		⇑*i*P	**Pg**	**23 26 46.2**	**-0.3**
PCDR				⇑*i*S	**Sg**	**23 27 04.6**	**+0.9**
	comp=N,194nm,0.5s						
PCDR			IAML			23 27 08.6	
	comp=N,194nm,0.5s						
PCDR			IAML			23 27 11.5	
	comp=N,356nm,0.6s						
GCPR	**Guaynabo City**	**1.36 130**	Pn		**Pn**	**23 26 45.4**	**-0.3**
GCPR			Sn		**Sn**	**23 27 03.3**	**-0.5**
GCPR	**Guaynabo City**	**1.36 130**		⇑*e*P	**Pb**	**23 26 46.3**	**0.0**
GCPR	**Guaynabo City**	**1.36 130**		*e*S	**Sg**	**23 27 04.8**	**0.0**
SJG	**San Juan**	**1.46 138**	Pn		**Pn**	**23 26 46.8**	**-0.2**
SJG			IAML			23 27 08.9	
	comp=N,246nm,0.5s						
SJG			IAML			23 27 11.9	
	comp=N,167nm,0.3s						
SJG	**San Juan**	**1.46 138**		⇓*e*P	**Pb**	**23 26 47.9**	**0.0**
SJG	**San Juan**	**1.46 138**		*e*S	**Sg**	**23 27 07.4**	**-0.4**
SJG	**San Juan**	**1.46 138**		⇑*i*P	**Pb**	**23 26 47.3**	**-0.7**
SJG				⇑*i*S	**Sn**	**23 27 03.2**	**-2.8**
SJG	**San Juan**	**1.46 138**		*i*P	**Pb**	**23 26 47.9**	**0.0**
SJG			IAML			23 27 10.1	
	comp=Z,98nm,0.2s						
HIDR	**Higuey Centro**	**1.58 248**		⇑*i*P	**Pb**	**23 26 48.9**	**-1.1**
HIDR				*i*S	**Sb**	**23 27 10.2**	**+0.3**
HIDR			IAML			23 27 20.1	
	comp=N,200nm,0.3s						
IGPR	**InterUniversit**	**1.59 140**			**Pb**	**23 26 49.7**	**-0.5**
IGPR					**Sb**	**23 27 11.3**	**+0.9**
IGPR	**InterUniversit**	**1.59 140**		⇑*e*P	**Pb**	**23 26 49.7**	**-0.5**
IGPR	**InterUniversit**	**1.59 140**		*e*S	**Sb**	**23 27 11.3**	**+0.9**
PDPR	**Patillas Dam,**	**1.61 137**	Pn		**Pn**	**23 26 48.5**	**-0.6**
PDPR			IAML			23 27 12.2	
	comp=N,153nm,0.5s						
PDPR	**Patillas Dam,**	**1.61 137**		⇑*e*P	**Pn**	**23 26 49.0**	**-0.1**
PDPR	**Patillas Dam,**	**1.61 137**		*e*S	**Sb**	**23 27 11.6**	**+0.8**
HUMP	**Col San Antoni**	**1.64 130**	Pn		**Pn**	**23 26 49.0**	**-0.6**
DR12	**Loma Pena Alta**	**2.13 259**	Pn		**Pn**	**23 26 56.7**	**+0.4**
HATOM	**Hato Mayor del**	**2.13 259**		⇓*i*P	**Pb**	**23 26 57.4**	**-2.0**
HATOM				⇑*i*S	**Sb**	**23 27 26.2**	**+0.4**
HATOM			IAML			23 27 32.5	
	comp=N,58nm,1.2s						
SDDR	**Presa de Saban**	**3.89 267**	Pn		**Pn**	**23 27 22.9**	**+2.3**

*IDC **08** 23:49:29.9±1.3, 1°.04N×126°.76E, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=108.8km s-min=17.5km az=71.0*
*DJA **08** 23:49:36.6±0.6, 1°.N±3°.×12°.7E±°, h18km±5km, M3.8/9, mb3.7/1, MLv3.8/9*

ISC 08 23:49:38.0±0.9, **1°.1N**±0°.1×**127°.0E**±0°.1, **h72**km, **n10,** σ0°.64/11, **mb3.7/6, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.47 127**		P	**Pn**	**23 49 50.1**	**-0.7**
TNTI				S	**Sn**	**23 49 59.6**	**-0.6**
NLAI	**Namlea**	**4.27 179**		P	**Pn**	**23 50 41.2**	**+0.5**
LUWI	**Luwuk**	**4.71 244**		P	**Pn**	**23 50 45.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.09 184**		P	**P**	**23 53 54.8**	**-0.2**
	0.1nm,0.3s,baz=4.4,slow=13,SNR=4.0						
	1.4nm,1.0s						
WRA	**Warramunga Arr**	**22.08 161**		P	**P**	**23 54 27.4**	**0.0**
	1.0nm,0.6s,baz=337,slow=10,SNR=5.6						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.48 165**		P	**P**	**23 54 59.8**	**+0.1**
	0.4nm,0.5s,baz=345,slow=11,SNR=15						
	0.4nm,0.5s						
SONM	**Songino Array**	**49.90 342**		P	**P**	**23 58 24.3**	**-0.1**
	0.7nm,0.8s,baz=165,slow=8.5,SNR=3.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**59.89 326**		P	**P**	**23 59 37.5**	**+1.0**
	1.2nm,0.5s,baz=122,slow=8.5,SNR=20						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.12 328**		P	**P**	**00 00 05.3**	**+0.7**
	1.3nm,0.6s,baz=125,slow=6.2,SNR=21						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**69.69 327**		P	**P**	**00 00 40.1**	**+0.1**
	0.6nm,0.6s,baz=111,slow=7.9,SNR=2.9						
	0.6nm,0.6s						

NOU 08 23:52:43.7, 15°.24S×167°.49E, h110km, **mb3.5/11, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.34 233**		P	Pn	23 53 00.2	+0.5
SANVU	**Saraoutou**	**0.34 233**		S	Sn	23 53 14.7	+3.1
DVP	**Devils Point**	**2.56 165**		P	Pn	23 53 24.1	+0.2
DVP	**Devils Point**	**2.56 165**		S	Sn	23 53 55.4	+0.6
YATNC	**Mamie plateau,**	**6.81 185**		P	Pn	23 54 21.2	+0.2
DZM	**Mont Dzumac**	**6.87 188**		P	Pn	23 54 22.7	+0.8
DZM	**Mont Dzumac**	**6.87 188**		S	Sn	23 55 38.3	-0.3

*NEIC **09** 00:00:03.9±1.5, 19°.20N±0°.04×67°.17W±0°.02, h10km±1km, ML3.2/15, Md2.9/16(RSPR), Error ellipse: s-maj=6.1km s-min=4.0km az=9.0*
*SDD **09** 00:00:03.5±2.0, 19°.31N×67°.22W, h23km±96km, MD3.5, ML3.2, MW3.6*
*OSPL **09** 00:00:04.2±0.7, 19°.24N×67°.37W, h7km±4km, ML3.1*
*RSPR **09** 00:00:04.6, 19°.33N×67°.38W, h44km±15km, MD2.9/16*

ISC 09 00:00:02.1±1.5, **19°.24N**±0°.06×**67°.22W**±0°.03, **h3**km±10km, **n63,** σ0°.71/84, **27C-5D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.78 173**			**Pn**	**00 00 19.0**	**-1.0**
AGPR					**Sb**	**00 00 29.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.78 173**		⇓*e*P	**Pn**	**00 00 19.0**	**-1.0**
AGPR	**Aguadilla, PR**	**0.78 173**		⇓*e*Pg	**Pb**	**00 00 18.7**	**+0.5**
AGPR				⇑*e*Sg	**Sb**	**00 00 29.0**	**-0.1**
AGPR				IAML		00 00 33.6	
	comp=N,1μm,0.2s						
AGPR	**Aguadilla, PR**	**0.78 173**		*i*P	**Pn**	**00 00 18.9**	**-1.0**
AGPR				*e*S	**Sb**	**00 00 29.1**	**-0.1**
AGPR				IAML		00 00 31.2	
	comp=Z,458nm,0.2s						
IDE	**Isla Desecheo**	**0.89 196**			**Pb**	**00 00 20.5**	**+0.4**
IDE					**Sb**	**00 00 32.4**	**+0.1**
IDE	**Isla Desecheo**	**0.89 196**		⇓*e*P	**Pb**	**00 00 20.5**	**+0.4**
IDE	**Isla Desecheo**	**0.89 196**		*e*S	**Sb**	**00 00 32.4**	**+0.1**
AOPR	**Arecibo Observ**	**0.99 154**			**Pb**	**00 00 22.0**	**0.0**
AOPR					**Sb**	**00 00 36.4**	**+1.0**
AOPR	**Arecibo Observ**	**0.99 154**		⇑*e*P	**Pn**	**00 00 22.4**	**-0.5**
AOPR	**Arecibo Observ**	**0.99 154**		*e*S	**Sn**	**00 00 37.2**	**-0.3**
AOPR	**Arecibo Observ**	**0.99 154**		⇑*e*Pg	**Pn**	**00 00 22.4**	**-0.5**
AOPR				⇑*e*Sg	**Sn**	**00 00 36.7**	**-0.8**
AOPR				IAML		00 00 40.5	
	comp=N,1μm,0.2s						
EMPR	**Esperanza - Ma**	**1.00 139**			**Pn**	**00 00 22.7**	**-0.3**
EMPR					**Sn**	**00 00 38.9**	**+1.3**
EMPR	**Esperanza - Ma**	**1.00 139**		⇓*e*P	**Pn**	**00 00 22.1**	**-0.9**
EMPR	**Esperanza - Ma**	**1.00 139**		⇑*e*P	**Pn**	**00 00 22.7**	**-0.3**
EMPR	**Esperanza - Ma**	**1.00 139**		*e*S	**Sn**	**00 00 38.9**	**+1.3**
PRSN	**Puerto Rico Se**	**1.02 176**			**Pn**	**00 00 22.6**	**-0.7**
PRSN					**Sb**	**00 00 37.4**	**+1.2**
PRSN	**Puerto Rico Se**	**1.02 176**			**Pb**	**00 00 22.2**	**-0.2**
PRSN	**Puerto Rico Se**	**1.02 176**		⇑*e*P	**Pn**	**00 00 22.6**	**-0.7**
PRSN	**Puerto Rico Se**	**1.02 176**		*e*S	**Sb**	**00 00 37.4**	**+1.2**
LSP	**Las Mesas**	**1.07 173**			**Pn**	**00 00 23.4**	**-0.6**
LSP					**Sn**	**00 00 39.5**	**+0.2**
LSP	**Las Mesas**	**1.07 173**		⇑*e*P	**Pn**	**00 00 23.4**	**-0.6**
LSP	**Las Mesas**	**1.07 173**		*e*S	**Sn**	**00 00 39.5**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.09 154**			**Pn**	**00 00 24.4**	**+0.1**
UUPR					**Sn**	**00 00 39.7**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.09 154**			**Pg**	**00 00 22.7**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.09 154**		⇑*e*P	**Pn**	**00 00 24.4**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.09 154**		*e*S	**Sn**	**00 00 39.7**	**-0.2**
ECPR	**Experimental S**	**1.22 139**		⇓*e*P	**Pn**	**00 00 26.4**	**+0.3**
ECPR	**Experimental S**	**1.22 139**		*e*S	**Sn**	**00 00 43.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.23 175**	Pn		**Pg**	**00 00 25.2**	**-0.5**
CRPR			Sn		**Sg**	**00 00 41.5**	**-0.2**
CRPR			IAML			00 00 45.8	
	comp=N,468nm,0.5s						
CRPR			IAML			00 00 52.3	
	comp=E,444nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.23 175**		⇓*e*P	**Pn**	**00 00 25.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.23 175**		⇑*e*Pg	**Pg**	**00 00 25.6**	**-0.1**
CRPR				⇑*e*Sg	**Sn**	**00 00 43.1**	**-0.3**
CRPR			IAML			00 00 45.0	
	comp=N,504nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.23 175**		*i*P	**Pn**	**00 00 25.8**	**-0.4**
CRPR				*e*S	**Sb**	**00 00 42.5**	**+0.2**
CRPR			IAML			00 00 47.8	
	comp=Z,442nm,0.4s						
MLPR	**Magueyes Islan**	**1.28 173**		⇓*e*P	**Pn**	**00 00 26.4**	**-0.4**
MLPR	**Magueyes Islan**	**1.28 173**		*e*S	**Sg**	**00 00 42.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.28 173**		⇓*e*Pg	**Pn**	**00 00 26.2**	**-0.6**
MLPR				⇑*e*Sg	**Sb**	**00 00 44.1**	**+0.5**
MLPR			IAML			00 00 45.2	
	comp=N,140nm,0.7s						
GBPR	**Guanica, Bosqu**	**1.30 166**			**Pg**	**00 00 27.3**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.30 166**		⇑*e*P	**Pg**	**00 00 27.3**	**+0.4**
CELP	**Cerrillos**	**1.31 152**	Pn		**Pb**	**00 00 26.9**	**-0.4**
CELP			Sn		**Sg**	**00 00 43.5**	**-0.6**
CELP			IAML			00 00 47.9	
	comp=E,488nm,0.3s						
CELP	**Cerrillos**	**1.31 152**		⇑*e*P	**Pg**	**00 00 27.4**	**+0.2**
CELP	**Cerrillos**	**1.31 152**		*e*S	**Sg**	**00 00 44.2**	**+0.1**
CELP	**Cerrillos**	**1.31 152**		⇓*e*Pg	**Pg**	**00 00 27.1**	**-0.1**
CELP				⇑*e*Sg	**Sg**	**00 00 44.3**	**+0.2**
CELP			IAML			00 00 46.0	
	comp=N,823nm,0.5s						
OBIP	**Obispado Ponce**	**1.32 154**	Pn		**Pg**	**00 00 27.4**	**0.0**
OBIP			Sn		**Sb**	**00 00 44.7**	**-0.3**
OBIP			IAML			00 00 46.7	
	comp=N,610nm,0.4s						
OBIP			IAML			00 00 46.7	
	comp=E,595nm,0.4s						
OBIP	**Obispado Ponce**	**1.32 154**		⇑*e*P	**Pg**	**00 00 27.6**	**+0.1**
OBIP	**Obispado Ponce**	**1.32 154**		*e*S	**Sn**	**00 00 46.5**	**+0.8**
GCPR	**Guaynabo City**	**1.42 131**	Pn		**Pg**	**00 00 29.1**	**-0.2**
GCPR			Sn		**Sb**	**00 00 47.0**	**-0.7**
GCPR			IAML			00 00 52.6	
	comp=N,274nm,0.6s						
GCPR	**Guaynabo City**	**1.42 131**		⇑*e*P	**Pg**	**00 00 29.5**	**+0.2**
GCPR	**Guaynabo City**	**1.42 131**		*e*S	**Sg**	**00 00 48.9**	**+1.2**
SJG	**San Juan**	**1.51 138**	Pn		**Pn**	**00 00 29.4**	**-0.7**
SJG			IAML			00 00 58.7	
	comp=N,287nm,0.4s						
SJG	**San Juan**	**1.51 138**		⇑*e*P	**Pg**	**00 00 30.8**	**-0.3**
SJG	**San Juan**	**1.51 138**		*e*S	**Sg**	**00 00 51.5**	**+0.9**
SJG	**San Juan**	**1.51 138**		⇑*e*Pg	**Pg**	**00 00 30.6**	**-0.4**
SJG				⇑*e*Sg	**Sg**	**00 00 52.6**	**+1.9**
SJG	**San Juan**	**1.51 138**		*i*P	**Pg**	**00 00 31.1**	**+0.1**
SJG			IAML			00 00 55.0	
	comp=Z,205nm,0.4s						
HIDR	**Higuey Centro**	**1.56 246**		⇑*e*Sg	**Sg**	**00 00 52.6**	**+0.4**
HIDR			IAML			00 01 06.1	
	comp=N,165nm,0.3s						
IGPR	**InterUniversit**	**1.65 140**			**Pg**	**00 00 33.1**	**-0.6**
IGPR					**Sn**	**00 00 53.4**	**-0.3**
IGPR	**InterUniversit**	**1.65 140**		⇑*e*P	**Pg**	**00 00 33.1**	**-0.6**
IGPR	**InterUniversit**	**1.65 140**		*e*S	**Sn**	**00 00 53.4**	**-0.3**
PDPR	**Patillas Dam,**	**1.66 137**	Pn		**Pb**	**00 00 32.4**	**-1.0**
PDPR			IAML			00 01 00.9	
	comp=E,194nm,0.1s						
PDPR	**Patillas Dam,**	**1.66 137**		⇑*e*P	**Pb**	**00 00 33.1**	**-0.2**
PDPR	**Patillas Dam,**	**1.66 137**		*e*S	**Sn**	**00 00 53.6**	**-0.3**
HUMP	**Col San Antoni**	**1.69 130**	Pn		**Pb**	**00 00 33.2**	**-0.7**
DR12	**Loma Pena Alta**	**2.10 258**	Pn		**Pb**	**00 00 39.3**	**-1.5**
HATOM	**Hato Mayor del**	**2.10 258**		⇑*e*Pg	**Pb**	**00 00 39.4**	**-1.4**
HATOM				⇑*e*Sg	**Sb**	**00 01 06.4**	**-0.9**
HATOM			IAML			00 01 16.5	
	comp=N,64nm,0.7s						
SDDR	**Presa de Saban**	**3.86 267**	Pn		**Pn**	**00 01 05.2**	**+2.7**
SDDR			IAML			00 02 17.0	
	comp=N,57nm,1.1s						

*DJA **09** 00:00:04.8±0.5, 4°.S±5°.×12°.9E±°, h130km±4km, M3.7/9, mb3.8/1, MLv3.6/9*
*IDC **09** 00:00:08.0±3.7, 3°.71S×129°.10E, h214km±37km, mb3.1/2, mbtmp3.8/4, Error ellipse: s-maj=67.4km s-min=17.0km az=73.0*

ISC 09 00:00:03.0±0.9, **3°.76S**±0°.07×**128°.65E**±0°.08, **h150**km, **n10,** σ2°.28/15, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.46 279**		P	**Pn**	**00 00 24.6**	**+0.4**
AAI				S	**Sn**	**00 00 39.6**	**-0.6**
MSAI	**Masohi**	**0.49 34**		P	**Pn**	**00 00 24.9**	**+0.5**
MSAI				S	**Sn**	**00 00 40.3**	**-0.3**
BNDI	**Bandanaira**	**1.46 121**		P	**Pn**	**00 00 32.7**	**+0.5**
NLAI	**Namlea**	**1.63 288**		P	**Pn**	**00 00 33.9**	**-0.1**
SANI	**Sanana**	**3.15 302**		P	**Pn**	**00 00 51.8**	**-0.6**
SWI	**Sorong**	**3.88 42**		P	**Pn**	**00 01 02.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**14.55 191**		P	**Pn**	**00 03 24.9**	**+2.9**
	1.2nm,0.6s,baz=5.3,slow=11,SNR=9.5						
FITZ				S	**S**	**00 06 13.8**	**+2.2**
	1.3nm,0.9s,baz=335,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**17.02 161**		P	**P**	**00 03 51.2**	**-0.4**
	1.3nm,0.4s,baz=342,slow=11,SNR=17						
WRA				S	**S**	**00 06 55.8**	**-5.6**
	0.3nm,0.3s,baz=337,slow=21,SNR=2.7						
ASAR	**Alice Springs**	**20.43 166**		P	**P**	**00 04 28.9**	**+0.2**
	3.0nm,0.3s,baz=344,slow=11,SNR=44						
ASAR				S	**S**	**00 08 05.6**	**-3.9**
	0.6nm,0.7s,baz=350,slow=20,SNR=3.7						
	3.0nm,0.3s						
MKAR	**Makanchi Array**	**64.80 327**		P	**P**	**00 10 25.2**	**-0.6**
	0.1nm,0.4s,baz=120,slow=7.8,SNR=1.7						
	0.1nm,0.4s						

*KRSC **09** 00:02:49.5±1.6, 56°.24N×164°.45E, h49km±21km, Ml3.8*
*IDC **09** 00:02:51.7±1.3, 55°.17N×165°.31E, h0km, mb3.4/4, mbtmp3.3/5, ML2.4/1, Error ellipse: s-maj=92.0km s-min=21.9km az=150.0*

ISC 09 00:02:50.0±0.8, **56°.23N**±0°.05×**164°.39E**±0°.04, **h10**km, **n43,** σ1°.60/49, **mb3.4/4, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.88 269**		*e*P	**Pg**	**00 03 06.1**	**-0.8**
KBTR				*e*S	**Sg**	**00 03 16.6**	**-1.6**
KBG	**Krutoberegovo**	**0.94 272**		*e*P	**Pg**	**00 03 07.1**	**-0.9**
KBG				*e*S	**Sg**	**00 03 18.7**	**-1.6**
BKI	**Bering**	**1.37 138**		*e*P	**Pb**	**00 03 14.5**	**-1.2**
BKI	

65nm,0.1s
UZB eS Sg 00 05 47.9 +0.5
222nm,0.1s
KPKS Kokpek 0.51 4 P Pg 00 05 46.1 +0.2
39nm,0.1s
KPKS S Sg 00 05 53.0 +0.3
68nm,0.3s
PRZ Przheval'sk 0.51 200 ⇑iP Pb 00 05 47.3 +0.2
PRZ ⇑iS Sb 00 05 55.2 +0.6
KURS Kuram 0.63 327 P Pg 00 05 48.3 +0.1
9.1nm,0.2s
KURS S Sg 00 05 56.7 +0.2
9.5nm,0.2s
PDGK Podgornoye 0.72 59 ⇑P Pg 00 05 49.9 -0.2
3.7nm,0.3s
PDGK ⇑S Sg 00 05 59.4 -0.1
14nm,0.5s
KOTS Kotyrbulak 1.15 284 P Pb 00 05 57.7 -0.3
21nm,0.2s
KOTS S Sb 00 06 13.1 +0.1
55nm,0.3s
KOTS Kotyrbulak 1.15 284 eP Pb 00 05 57.7 -0.3
21nm,0.2s
KOTS eS Sb 00 06 13.1 +0.1
55nm,0.3s
MDOK Medeo 1.18 280 Pg Pb 00 05 58.1 -0.5
16nm,0.3s
MDOK Lg Lg 00 06 13.4
20nm,0.4s
TNSS Tian-Shan 1.24 274 P Pn 00 05 59.6 -0.1
2.2nm,0.3s
TNSS S Sg 00 06 16.3 +0.2
3.2nm,0.3s
TNSS Tian-Shan 1.24 274 eP Pn 00 05 59.6 -0.1
2.2nm,0.3s
TNSS eS Sg 00 06 16.3 +0.2
3.2nm,0.3s
KDJ Kajisay 1.36 233 ⇑iP Pb 00 06 01.5 -0.1
KDJ ⇑iS Sb 00 06 19.1 0.0
TARG Taragay, Kyrgy 1.38 207 ⇓iP Pn 00 06 01.6 0.0
TARG ⇓iS Sb 00 06 19.4 -0.4
ARXS Arharly 1.38 335 P Pb 00 06 01.9 -0.1
18nm,0.2s
ARXS S Sg 00 06 20.1 -0.5
15nm,0.3s
ARXS Arharly 1.38 335 eP Pb 00 06 01.9 -0.1
18nm,0.2s
ARXS eS Sg 00 06 20.1 -0.5
15nm,0.3s
KNOS Konyrlen 1.45 15 P Pg 00 06 03.4 -0.5
11nm,0.2s
KNOS S Sg 00 06 22.6 -0.2
20nm,0.2s
CHKK Chushkaly 1.50 307 P Pb 00 06 03.8 0.0
5.0nm,0.3s
CHKK S Sb 00 06 23.3 +0.4
22nm,0.2s
CHKK Chushkaly 1.50 307 eP Pb 00 06 03.8 0.0
5.0nm,0.3s
CHKK eS Sb 00 06 23.3 +0.4
22nm,0.2s
KTBS Karatobe 1.61 298 P Pb 00 06 06.0 +0.2
9.5nm,0.2s
KTBS S Sg 00 06 27.2 -0.7
40nm,0.3s
MTBS Maitube 1.63 277 P Pb 00 06 06.5 +0.4
2.8nm,0.2s
MTBS S Sg 00 06 27.9 -0.5
5.7nm,0.2s
MTBS Maitube 1.63 277 eP Pb 00 06 06.5 +0.4
2.8nm,0.2s
MTBS eS Sg 00 06 27.9 -0.5
5.7nm,0.2s
ULHL Ulahol 1.91 249 ⇑iP Pn 00 06 09.4 +0.7
ULHL ⇑iS Sn 00 06 33.1 +0.3
KUU Kurty 1.92 300 P Pb 00 06 10.2 -0.8
3.5nm,0.1s
KUU S Sb 00 06 34.4 -0.5
19nm,0.2s
KUU Kurty 1.92 300 eP Pb 00 06 10.2 -0.8
3.5nm,0.1s
KUU eS Sb 00 06 34.4 -0.5
19nm,0.2s
KST Kastek 1.96 273 Pg Pb 00 06 12.4 +0.5
2.4nm,0.2s
KST Lg Lg 00 06 38.4
6.5nm,0.5s
KST Kastek 1.96 273 eP Pb 00 06 12.4 +0.5
2.4nm,0.2s
KST eS Sg 00 06 38.4 -0.8
6.5nm,0.5s
BOOM Boomskoye usch 2.04 258 ⇓iP Pn 00 06 11.3 +0.8
BOOM ⇓iS Sn 00 06 36.4 +0.3
TKM2 Tokmak 2 2.23 270 ⇓iP Pn 00 06 14.2 +1.0
TKM2 ⇓iS Sn 00 06 41.2 +0.4
KRBS Karabastau 2.28 290 Pg Pb 00 06 17.0 -0.2
4.1nm,0.3s
KRBS Lg Lg 00 06 46.0
29nm,0.2s
CHMS Chumysh 2.85 272 ⇓eP Pn 00 06 22.5 +1.0
CHMS ⇓iS Sn 00 06 55.8 0.0
JNKS Jany-Kuch 2.93 230 ⇓eP Pn 00 06 23.4 +0.7
JNKS ⇓eS Sn 00 06 57.0 -1.0
SGDS Sogindy 2.97 281 Pg Pb 00 06 29.6 +0.6
1.0nm,0.3s
SGDS Lg Lg 00 07 08.1
3.4nm,0.5s
AAK Ala-Archa 3.07 265 ⇑Pg Pg 00 06 33.2 -1.6
1.0nm,0.6s
AAK ⇑Lg Lg 00 07 14.1
1.2nm,0.5s
MK31 Makanchi Array 4.63 33 Pn Pn 00 06 44.8 -1.1
0.1nm,0.3s,baz=185,slow=16,SNR=6.3
MK31 ⇑Sn Sn 00 07 42.1 +2.5
0.2nm,0.3s
MK31 ⇑Lg Lg 00 07 59.3
0.3nm,0.3s,baz=214,slow=28,SNR=9.1
KK31 Karatay Array 5.96 274 ⇑Lg Lg 00 08 43.1
0.2nm,0.3s,baz=77,slow=28,SNR=6.0

IDC 09 00:12:01.0±3.3, 31°.68S×177°.17W, h0km, mb3.7/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=79.0km s-min=37.9km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.07**	**214**	Pn	Pn	00 13 59.6	+0.1
	0.1nm,0.3s,baz=54,slow=9.2,SNR=1.4						
URZ				Sn	Sn	00 15 31.2	-0.3
	0.4nm,0.3s,baz=177,slow=20,SNR=2.3						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**43.76**	**268**	P	P	00 20 08.6	0.0
	0.8nm,0.7s,baz=106,slow=7.1,SNR=12						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.87**	**273**	P	P	00 20 17.2	-0.2
	0.7nm,0.5s,baz=113,slow=7.7,SNR=4.7						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**146.59**	**340**	PKPbc	PKPdf	00 31 42.8	+0.6
	0.9nm,0.7s,baz=33,slow=3.3,SNR=5.0						

*SOME **09** 00:13:49.8, 42°.95N×78°.55E, h10km*
*KRNET **09** 00:13:49.7±0.1, 42°.94N×78°.63E, h35km, mb2.5*
*NNC **09** 00:13:49.0±0.6, 42°.97N×78°.63E, h0km, mb2.6, mpv2.8, Error ellipse: s-maj=4.6km s-min=2.0km az=166.0*
ISC 09 00:13:48.9±1.0, 42°.93N±0°.03×78°.63E±0°.03, h10km±8km, n29, σ0°.53/55, 11C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.21**	**307**	P	Pg	00 13 53.5	+0.1
	6.8nm,0.1s						
SATY				S	Sg	00 13 56.5	0.0
	456nm,0.2s						
UZB	**Uzynbulak**	**0.36**	**53**	P	Pg	00 13 56.2	+0.1
	27nm,0.1s						
UZB				S	Sg	00 14 00.9	+0.1
	60nm,0.1s						
UZB	**Uzynbulak**	**0.36**	**53**	eP	Pg	00 13 56.2	+0.1
	27nm,0.1s						
UZB				eS	Sg	00 14 00.9	+0.1
	60nm,0.1s						
PRZ	**Przheval'sk**	**0.48**	**201**	⇑iP	Pb	00 14 00.0	+0.5
PRZ				⇑iS	Sb	00 14 07.9	+1.2
KPKS	**Kokpek**	**0.54**	**4**	P	Pg	00 13 59.1	-0.3
	12nm,0.1s						
KPKS				S	Sg	00 14 05.9	-0.6
	39nm,0.2s						
KURS	**Kuram**	**0.65**	**329**	P	Pg	00 14 01.3	-0.3
	6.8nm,0.3s						
KURS				S	Sg	00 14 09.6	-0.5
	2.8nm,0.2s						
PDGK	**Podgornoye**	**0.74**	**57**	⇓P	Pg	00 14 02.7	-0.5
	1.8nm,0.3s						
PDGK				⇑S	Sg	00 14 12.0	-1.0
	6.6nm,0.5s						
KOTS	**Kotyrbulak**	**1.16**	**286**	P	Pb	00 14 10.7	-0.4
	4.5nm,0.2s						
KOTS				S	Sg	00 14 25.9	-0.3
	29nm,0.3s						
KOTS	**Kotyrbulak**	**1.16**	**286**	eP	Pb	00 14 10.7	-0.4
	4.5nm,0.2s						
KOTS				eS	Sg	00 14 25.9	-0.3
	29nm,0.3s						
MDOK	**Medeo**	**1.19**	**282**	Pg	Pb	00 14 11.1	-0.5
	4.5nm,0.3s						
MDOK				Lg	Lg	00 14 26.4	
	9.4nm,0.6s						
TNSS	**Tian-Shan**	**1.24**	**275**	P	Pb	00 14 12.4	-0.3
	0.7nm,0.4s						
TNSS				S	Sb	00 14 29.0	+0.1
	2.0nm,0.3s						
TNSS	**Tian-Shan**	**1.24**	**275**	eP	Pb	00 14 12.4	-0.3
	0.7nm,0.4s						
TNSS				eS	Sb	00 14 29.0	+0.1
	2.0nm,0.3s						
KDJ	**Kajisay**	**1.34**	**234**	⇓iP	Pn	00 14 13.9	+0.1
KDJ				⇓iS	Sb	00 14 31.4	-0.1
TARG	**Taragay, Kyrgy**	**1.35**	**207**	⇑iP	Pn	00 14 14.3	+0.1
TARG				⇑iS	Sb	00 14 32.0	0.0
ARXS	**Arharly**	**1.41**	**336**	P	Pn	00 14 14.9	+0.2
	8.9nm,0.2s						
ARXS				S	Sb	00 14 33.1	-0.3
	6.8nm,0.2s						
ARXS	**Arharly**	**1.41**	**336**	eP	Pn	00 14 14.9	+0.2
	8.9nm,0.2s						
ARXS				eS	Sb	00 14 33.1	-0.3
	6.8nm,0.2s						
KNOS	**Konyrlen**	**1.48**	**15**	P	Pn	00 14 16.4	+0.6
	2.3nm,0.1s						
KNOS				S	Sn	00 14 35.1	-0.1
	9.1nm,0.2s						
CHKK	**Chushkaly**	**1.51**	**308**	P	Pn	00 14 16.8	+0.7
	1.1nm,0.1s						
CHKK				S	Sn	00 14 36.3	+0.5
	6.5nm,0.3s						
CHKK	**Chushkaly**	**1.51**	**308**	eP	Pn	00 14 16.8	+0.7
	1.1nm,0.1s						
CHKK				eS	Sn	00 14 36.3	+0.5
	6.5nm,0.3s						
KTBS	**Karatobe**	**1.62**	**299**	P	Pb	00 14 19.1	+0.1
	2.1nm,0.3s						
KTBS				S	Sb	00 14 40.1	+0.5
	7.0nm,0.3s						
MTBS	**Maitube**	**1.63**	**278**	P	Pb	00 14 19.3	+0.2
	2.2nm,0.2s						
MTBS				S	Sb	00 14 40.9	+1.2
	4.5nm,0.2s						
MTBS	**Maitube**	**1.63**	**278**	eP	Pb	00 14 19.3	+0.2
	2.2nm,0.2s						
MTBS				eS	Sb	00 14 40.9	+1.2
	4.5nm,0.2s						
ULHL	**Ulahol**	**1.90**	**250**	⇑iP	Pn	00 14 21.7	+0.2
ULHL				⇑iS	Sn	00 14 45.1	-0.4
KST	**Kastek**	**1.96**	**274**	Pg	Pb	00 14 25.4	+0.6
	1.0nm,0.3s						
KST				Lg	Lg	00 14 51.4	
	3.9nm,0.6s						
KST	**Kastek**	**1.96**	**274**	eP	Pb	00 14 25.4	+0.6
	1.0nm,0.3s						
KST				eS	Sg	00 14 51.4	-0.6
	3.9nm,0.6s						
BOOM	**Boomskoye usch**	**2.03**	**258**	⇓iP	Pn	00 14 23.5	+0.1
BOOM				⇓iS	Sn	00 14 48.4	-0.5
TKM2	**Tokmak 2**	**2.23**	**271**	⇑iP	Pn	00 14 26.3	+0.2
TKM2				⇑iS	Sn	00 14 53.1	-0.7
KRBS	**Karabastau**	**2.29**	**290**	Pg	Pb	00 14 30.7	+0.4
	0.7nm,0.4s						
KRBS				Lg	Lg	00 15 00.3	
	2.5nm,0.4s						
JNKS	**Jany-Kuch**	**2.91**	**231**	⇑eP	Pn	00 14 35.5	+0.1
JNKS				⇑eS	Sn	00 15 09.0	-1.5

IDC 09 00:16:23.9±57.0, 20°.33S×175°.12W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=1074.0km s-min=187.3km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.29**	**244**	P	P	00 24 02.6	-0.4
	2.7nm,0.7s,baz=90,slow=10,SNR=3.5						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**47.18**	**256**	P	P	00 24 59.3	+0.6
	2.8nm,0.5s,baz=94,slow=8.3,SNR=35						
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**47.30**	**261**	P	P	00 24 58.8	-0.7
	0.8nm,0.3s,baz=98,slow=8.1,SNR=13						
	0.8nm,0.3s						

IDC 09 00:47:27.3±5.3, 6°.86S×129°.18E, h230km±55km, mb3.3/1, mbtmp3.6/4, Error ellipse: s-maj=59.5km s-min=23.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.69**	**197**	P	Pn	00 50 07.8	+0.2
	1.0nm,0.7s,baz=20,slow=12,SNR=2.3						
FITZ				S	S	00 52 18.2	+1.0
	1.1nm,0.3s,baz=24,slow=12,SNR=8.3						
WRA	**Warramunga Arr**	**13.94**	**159**	P	Pn	00 50 34.4	-1.1
	0.3nm,0.3s,baz=338,slow=13,SNR=4.6						
WRA				S	S	00 52 54.4	-15
	0.3nm,0.3s,baz=335,slow=21,SNR=2.1						
ASAR	**Alice Springs**	**17.32**	**165**	P	Pn	00 51 15.0	-1.0
	0.6nm,0.5s,baz=350,slow=11,SNR=7.6						
ASAR				S	S	00 54 21.2	-0.9
	0.2nm,0.4s,baz=221,slow=38,SNR=1.7						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	00 57 59.5	-0.1
	0.4nm,0.4s,baz=133,slow=7.0,SNR=6.0						
	0.4nm,0.4s						

*TAP **09** 01:16:46.6, 24°.96N×122°.80E, h144km, ML3.0, D*
*JMA **09** 01:16:48.2±0.4, 25°.N±4°.×122°.8E±1°.0, h129km±4km, MV2.2/12, NW OFF ISHIGAKIJIMA IS*
ISC 09 01:16:47.0±2.1, 24°.89N±0°.08×122°.78E±0°.03, h143km±13km, n49, σ0°.72/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**161**	eP	Pn	01 17 06.8	-0.6
YOJ	**Yonaguni jima**	**0.47**	**154**	eP	Pn	01 17 07.6	+0.2
YOJ	**Yonaguni jima**	**0.47**	**154**	eP	Pn	01 17 07.6	+0.2
EOS2	**EOS2**	**0.68**	**227**	eS	Sn	01 17 25.1	+0.3
EOS3	**EOS3**	**0.73**	**215**	eP	Pn	01 17 09.7	+0.9
EOS3				eS	Sn	01 17 26.2	+0.8
EGS		**0.77**	**267**	eP	Pn	01 17 10.7	+1.5
SXI1	**Grass Mountain**	**0.84**	**284**	P	Pn	01 17 09.9	0.0
TIPB	**Shuangxi**	**0.87**	**276**	i P	Pn	01 17 10.2	+0.2
TIPB				S	Sn	01 17 27.4	-0.2
EOS4	**EOS4**	**0.87**	**209**	eP	Pn	01 17 10.0	+0.4
EOS4				S	Sn	01 17 26.6	-0.3
TWC	**Suao**	**0.89**	**252**	eP	Pn	01 17 11.3	+1.2
TWC				i S	Sn	01 17 27.1	-0.6
EWUT	**Wuta**	**1.01**	**244**	eP	Pn	01 17 11.4	+0.2
EWUT				S	Sn	01 17 29.4	-0.1
IRIF	**Iriomote-Funau**	**1.03**	**122**	eS	Sn	01 17 29.3	-0.5
ENA	**Nanau**	**1.05**	**244**	i P	Pn	01 17 11.9	+0.4
ENA				eS	Sn	01 17 30.2	0.0
FUSB	**Fushanzhiwuyua**	**1.09**	**264**	P	Pn	01 17 12.2	+0.3
FUSB				eS	Sn	01 17 30.2	-0.8
EAHA	**Aohua**	**1.10**	**240**	i S	Sn	01 17 31.0	+0.1
YM01	**YM01**	**1.13**	**283**	S	Sn	01 17 30.0	-1.5
NWLT	**Wulai**	**1.17**	**265**	eS	Sn	01 17 31.4	-0.7
LATG	**Datong**	**1.19**	**253**	eP	Pn	01 17 13.7	+0.7
LATG				eS	Sn	01 17 32.8	+0.1
HATJ	**Hateruma jima**	**1.25**	**131**	eP	Pn	01 17 14.3	+0.9
HATJ				eS	Sn	01 17 33.8	+0.3
NACB	**Ninganchiao**	**1.29**	**237**	eP	Pn	01 17 13.8	-0.1
NACB				eS	Sn	01 17 33.6	-0.7
JKRS	**Kuro-shima**	**1.29**	**120**	eP	Pn	01 17 14.5	+0.6
YHNB	**Yeheng**	**1.29**	**261**	eP	Pn	01 17 14.8	+0.8
YHNB				eS	Sn	01 17 33.5	-1.0
NSK	**Sanguang**	**1.31**	**261**	eP	Pn	01 17 14.8	+0.7
NSK				eS	Sn	01 17 34.1	-0.7
TWD	**Chiawan**	**1.34**	**234**	S	Sn	01 17 34.9	-0.3
JIJ	**Ishigaki jima**	**1.35**	**113**	eP	Pn	01 17 14.6	+0.2
JIJ				eS	Sn	01 17 34.9	-0.4
NNSB	**Datong**	**1.35**	**250**	eP	Pn	01 17 15.1	+0.6
NNSB				eS	Sn	01 17 35.6	0.0
NNS	**Nan Shan**	**1.35**	**251**	eS	Sn	01 17 35.7	0.0
ETLH	**Xiulin Townshi**	**1.36**	**240**	eP	Pn	01 17 14.9	+0.2
ETLH				eS	Sn	01 17 34.8	-1.0
JISG	**Ishigakijimahi**	**1.43**	**102**	eP	Pn	01 17 15.3	+0.1
JISG				eS	Sn	01 17 35.5	-1.2
ETM	**Tongmen**	**1.49**	**232**	P	Pn	01 17 16.1	+0.2
ETM				S	Sn	01 17 37.1	-0.9
LXIB	**Xiulin Townshi**	**1.52**	**236**	P	Pn	01 17 16.3	-0.1
LXIB				S	Sn	01 17 37.6	-1.1
NFF	**Wufeng Townshi**	**1.53**	**261**	eS	Sn	01 17 37.9	-1.0
FUSS	**Fushou**	**1.54**	**246**	eS	Sn	01 17 38.7	-0.6
SHUL	**Shoufeng**	**1.56**	**226**	eP	Pn	01 17 16.9	+0.2
SHUL				eS	Sn	01 17 39.2	-0.1
WHF	**Hehuan Shan**	**1.56**	**242**	eP	Pn	01 17 17.8	+0.6
WHF				eS	Sn	01 17 39.5	-0.7
TWT	**Tachien**	**1.59**	**247**	eS	Sn	01 17 40.4	+0.1
TDCB	**Techi**	**1.60**	**247**	eS	Sn	01 17 40.5	0.0
LIOB	**Emei**	**1.62**	**262**	eS	Sn	01 17 40.3	-0.3
NSTT	**Nanjuang**	**1.64**	**261**	eS	Sn	01 17 40.4	-0.5
WARBT	**Fenglin Townsh**	**1.72**	**228**	eP	Pn	01 17 18.4	-0.1
WARBT				eS	Sn	01 17 41.1	-1.6
EGFH	**Guangfu**	**1.73**	**226**	eS	Sn	01 17 41.5	-1.2
OWD	**Renai**	**1.73**	**238**	eS	Sn	01 17 40.8	-2.2
WUSB	**Renai**	**1.76**	**240**	eP	Pn	01 17 20.2	+1.2
WUSB				eS	Sn	01 17 43.3	-0.2
JTJ	**Tarama**	**1.77**	**98**	eP	Pn	01 17 19.5	+0.6
JTJ				eS	Sn	01 17 43.0	-0.4
WHP	**Taichung City**	**1.78**	**250**	eP	Pn	01 17 20.5	+1.3
WHP				eS	Sn	01 17 44.0	+0.2
HGSD	**Ruisui**	**1.86**	**222**	eP	Pn	01 17 20.2	+0.1
HGSD				eS	Sn	01 17 45.5	0.0
VWDT	**VWDT**	**1.87**	**233**	eS	Sn	01 17 45.8	+0.2
YULB	**Yu-li**	**2.01**	**223**	eP	Pn	01 17 22.2	+0.3
TWF1	**Yuli**	**2.04**	**222**	eS	Sn	01 17 48.6	-0.6

*CNRM **09** 01:23:22.7, 36°.21N×7°.80W, h49km*
*SFS **09** 01:23:25.5, 36°.40N×7°.45W, h21km, ML2.8/10, ML3.1/10, MLv2.9/10*
*INMG **09** 01:23:26.8±2.0, 36°.51N×7°.40W, h12km±5km, ML1.7, Error ellipse: s-maj=6.2km s-min=3.1km az=36.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*MDD **09** 01:23:26.6±0.6, 36°.58N×7°.31W, h3km±3km, mb_Lg2.3/12, Error ellipse: s-maj=5.0km s-min=2.3km az=27.0*
*IGIL **09** 01:23:27.2, 36°.55N×7°.40W, h13km, ML1.3*
ISC 09 01:23:23.9±1.2, 36°.37N±0°.03×7°.48W±0°.03, h33km±5km, n72, σ1°.60/107, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXAYA	**Ayamonte**	**0.86**	**4**	Sg	Sn	01 23 51.9	+0.8
PBDV	**Barranco-do-Ve**	**0.95**	**337**	⇓eP	Pn	01 23 42.1	+1.1
PBDV				eS	Sb	01 23 53.1	-1.1
PBDV				i IAML		01 23 53.9	
PBDV				i IAML		01 23 54.9	
PBDV				i IAML		01 23 57.6	
PVAQ	**Vaqueiros**	**1.05**	**349**	eP	Pn	01 23 43.5	+1.1
PVAQ				eS	Sb	01 23 55.7	-1.5
PVAQ				i IAML		01 23 56.1	
PVAQ				i IAML		01 23 56.5	
PVAQ				i IAML		01 23 56.8	
PVAQ	**Vaqueiros**	**1.05**	**349**	P	Pb	01 23 43.2	-0.5
PVAQ	**Vaqueiros**	**1.05**	**349**	S	Sn	01 23 58.6	+2.6
EGRO	**El Granado**	**1.17**	**360**	Pg	Pb	01 23 45.4	-0.2
EGRO				Sg	Sn	01 23 58.5	-0.2
EGRO				i IVmb_Lg		01 23 59.9	
PFVI	**Vila Bisbo**	**1.33**	**306**	S	Sb	01 24 06.5	+1.5
MORF	**Marmelete**	**1.33**	**315**	ePn	Pb	01 23 49.7	+1.3
MORF				eSn	Sb	01 24 05.6	+0.5
MORF				i IAML		01 24 09.3	
MORF				i IAML		01 24 15.6	
MORF				i IAML		01 24 15.7	
PCVE	**Castro Verde**	**1.34**	**340**	P	Pn	01 23 47.9	+1.5
PCVE				S	Sn	01 24 03.1	0.0
PCVE	**Castro Verde**	**1.34**	**340**	eP	Pn	01 23 47.8	+1.5
PCVE				eS	Sn	01 24 03.6	+0.5
PCVE				i IAML		01 24 03.9	
PCVE				i IAML		01 24 05.0	
PCVE				i IAML		01 24 12.0	
ESPR	**Espera**	**1.40**	**68**	S	Sn	01 24 05.1	+0.7
ESPR				P	Pn	01 23 48.5	+1.4
ESPR	**Espera**	**1.40**	**68**	Pg	Pn	01 23 48.6	+1.5
ESPR				Sg	Sn	01 24 04.6	+0.2
ESPR				i IVmb_Lg		01 24 06.2	
EMIN	**Mina Concepcio**	**1.54**	**24**	P	Pb	01 23 50.5	-1.3
EMIN				S	Sn	01 24 07.2	-0.8
EMIN	**Mina Concepcio**	**1.54**	**24**	Pg	Pb	01 23 50.5	-1.3
EMIN				Sg	Sn	01 24 07.1	-0.9
EMIN				i IVmb_Lg		01 24 08.7	
PTEO	**Sao Teotonio**	**1.54**	**320**	ePn	Pn	01 23 50.6	+1.5
PTEO				eSn	Sn	01 24 08.9	+0.8
MESJ	**Messejana**	**1.59**	**338**	eP	Pn	01 23 51.2	+1.4
MESJ				eS	Sn	01 24 09.1	-0.1
MESJ				IAML		01 24 11.3	
	comp=N,3.4nm,0.1s						
MESJ	**Messejana**	**1.59**	**338**	ePn	Pn	01 23 51.1	+1.3
MESJ				eSn	Sn	01 24 09.3	+0.2
MESJ				i IAML		01 24 16.0	
MESJ				i IAML		01 24 16.4	
MESJ				i IAML		01 24 17.6	
EJIF	**Jimena Fronter**	**1.62**	**86**	Sg	Sb	01 24 14.1	+0.8
PBEJ	**Beja**	**1.69**	**349**	ePn	Pn	01 23 52.7	+1.5
ECEU	**Ceuta**	**1.76**	**105**	Pn	Pb	01 23 56.8	+1.2
ECEU				Pg	Pb	01 23 56.8	+1.2
ECEU				Sn	Sn	01 24 16.2	+2.8
PBAR	**Barrancos**	**1.84**	**11**	P	Pn	01 23 54.6	+1.4
PBAR				S	Sn	01 24 15.5	+0.2
PBAR	**Barrancos**	**1.84**	**11**	ePn	Pn	01 23 54.7	+1.5
PBAR				eSn	Sn	01 24 15.3	0.0
PBAR				i IAML		01 24 20.8	
PBAR				i IAML		01 24 22.4	
PBAR				i IAML		01 24 23.8	
E1302	**La Puebla de C**	**1.95**	**66**	Pg	Pb	01 23 59.3	+0.5
E1302				Sg	Sb	01 24 20.5	-2.2
EVO	**Evora**	**2.20**	**349**	S	Sn	01 24 24.7	+0.3
ECAB	**El Cabril**	**2.37**	**43**	P	Pn	01 24 01.6	+1.1
ECAB				S	Sn	01 24 27.8	-0.6
ECAB	**El Cabril**	**2.37**	**43**	Pn	Pn	01 24 02.5	+2.0
ECAB				Sn	Sn	01 24 27.0	-1.5
ECAB				i IVmb_Lg		01 24 32.6	
EBAD	**Badajoz**	**2.41**	**9**	P	Pn	01 24 02.0	+0.9
EBAD				S	Sn	01 24 28.9	-0.6
EBAD	**Badajoz**	**2.41**	**9**	Pn	Pn	01 24 02.2	+1.1
EBAD				Sn	Sn	01 24 29.2	-0.3
EBAD				i IVmb_Lg		01 24 39.3	
PESTR	**Estremoz**	**2.50**	**358**	P	Pn	01 24 03.4	+1.1
PESTR				S	Sn	01 24 31.3	-0.3
PESTR	**Estremoz**	**2.50**	**358**	ePn	Pn	01 24 04.0	+1.7
PESTR				eSn	Sn	01 24 30.7	-0.9
PESTR	**Estremoz**	**2.50**	**358**	P	Pn	01 24 03.6	+1.3
PESTR	**Estremoz**	**2.50**	**358**	S	Sn	01 24 33.5	+1.9
PARRA	**Arraiolos**	**2.74**	**334**	ePn	Pn	01 24 03.7	-1.9
PARRA				eSn	Sn	01 24 30.9	-6.8
PARRA				i IAML		01 24 32.4	
PARRA				i IAML		01 24 32.9	
PARRA				i IAML		01 24 43.0	
EGOR	**Sierra Gorda,**	**2.80**	**74**	S	Sn	01 24 39.6	+0.2
EGOR	**Sierra Gorda,**	**2.80**	**74**	Sn	Sn	01 24 40.7	+1.3
EGOR				i IVmb_Lg		01 24 42.2	
EADA	**Adamuz**	**2.93**	**51**	P	Pn	01 24 09.6	+1.4
EADA				S	Sn	01 24 41.3	-0.9
EADA	**Adamuz**	**2.93**	**51**	Pn	Pn	01 24 10.2	+2.0
EADA				Sn	Sn	01 24 40.6	-1.6
EADA				i IVmb_Lg		01 24 46.2	
PMAFR	**Mafra**	**2.96**	**332**	S	Sn	01 24 43.9	+1.0
ZHG	**ZHG**	**2.99**	**167**	P	Pn	01 24 08.4	-0.7
ZHG	**ZHG**	**2.99**	**167**	S	Sn	01 24 42.5	-1.5
PMRV	**Marv??o**	**3.06**	**1**	ePn	Pn

PMRV			*i* IAML			01 24 45.6	
PMRV			*i* IAML			01 24 45.9	
PMRV			*i* IAML			01 24 47.1	
ELGU	**Los Guajares,**	**3.14 80**	S	**Sn**		**01 24 48.9**	**+1.5**
ELGU	**Los Guajares,**	**3.14 80**	Sn	**Sn**		**01 24 49.5**	**+2.0**
ELGU			*i* IVmb_Lg			01 24 54.3	
PSARD	**Sardoal**	**3.27 351**	*e*Pn	**Pn**		**01 24 14.7**	**+1.7**
PSARD			*e*Sn	**Sn**		**01 24 50.3**	**-0.5**
PSARD			*i* IAML			01 24 51.8	
PSARD			*i* IAML			01 24 52.6	
PSARD			*i* IAML			01 24 52.9	
AKLM	**AKL**	**3.48 121**	P	**Pn**		**01 24 15.2**	**-0.6**
AKLM	**AKL**	**3.48 121**	S	**Sn**		**01 24 55.8**	**-0.2**
E0803	**Jimena (Jaen)**	**3.52 64**	Pn	**Pn**		**01 24 17.2**	**+0.9**
E0803			Sn	**Sn**		**01 24 56.8**	**-0.1**
EQES	**Quesada**	**3.80 67**	Pn	**Pn**		**01 24 22.7**	**+2.4**
EQES			Sn	**Sn**		**01 25 03.1**	**-0.8**
EQES			*i* IVmb_Lg			01 25 08.3	
PSIM	**Granatula de C**	**3.84 49**	Pn	**Pn**		**01 24 22.0**	**+1.2**
PSIM			Sn	**Sn**		**01 25 04.6**	**-0.1**
EPLA	**Plasencia**	**3.85 16**	Pn	**Pn**		**01 24 22.8**	**+1.8**
EPLA			Sn	**Sn**		**01 25 03.5**	**-1.6**
PAB	**San Pablo**	**4.02 37**	Pn	**Pn**		**01 24 24.7**	**+1.4**
PAB			Sn	**Sn**		**01 25 05.5**	**-3.8**
PAB			*i* IVmb_Lg			01 25 09.6	
MTE	**Manteigas**	**4.03 359**	*e*Pn	**Pn**		**01 24 25.4**	**+2.0**
MTE			*e*Sn	**Sn**		**01 25 07.7**	**-1.7**
MTE			*i* IAML			01 25 10.1	
MTE			*i* IAML			01 25 10.1	
MD31	**MD31**	**4.15 147**	P	**Pn**		**01 24 24.3**	**-0.7**
MD31	**MD31**	**4.15 147**	S	**Sn**		**01 25 11.9**	**-0.6**
MDT	**Midelt**	**4.26 145**	P	**Pn**		**01 24 26.0**	**-0.6**
MDT	**Midelt**	**4.26 145**	S	**Sn**		**01 25 14.7**	**-0.5**
PVIS	**Viseu**	**4.36 356**	*e*Sn	**Sn**		**01 25 15.5**	**-2.0**
MVO	**Moncorvo**	**4.80 4**	*e*Pn	**Pn**		**01 24 35.6**	**+1.6**
MVO			*e*Sn	**Sn**		**01 25 26.2**	**-2.3**
POLO	**Lamas de Olo**	**5.01 357**	*e*Sn	**Sn**		**01 25 32.3**	**-1.3**
POLO			*i* IAML			01 25 33.8	
POLO			*i* IAML			01 25 33.9	
POLO			*i* IAML			01 25 34.0	
ETOB	**Tobarra**	**5.23 62**	P	**Pn**		**01 24 40.7**	**+0.7**
ETOB			S	**Sn**		**01 25 36.1**	**-3.0**
ETOB	**Tobarra**	**5.23 62**	Pn	**Pn**		**01 24 40.8**	**+0.8**
ETOB			Sn	**Sn**		**01 25 36.1**	**-3.0**
TIO	**Tiouine**	**5.43 178**	S	**Sn**		**01 25 41.6**	**-2.5**
TIO			P	**Pn**		**01 24 44.7**	**+2.0**
TIO	**Tiouine**	**5.43 178**	P	Pn		01 24 39.8	-2.9
TIO	**Tiouine**	**5.43 178**	S	Sn		01 25 40.1	-4.0
PBRG	**Braganca**	**5.46 6**	*e*Sn	**Sn**		**01 25 41.5**	**-3.2**
OUZM	**OUZ**	**5.47 174**	P	Pn		01 24 42.1	-1.2
OUZM	**OUZ**	**5.47 174**	S	**Sn**		**01 25 44.1**	**-1.2**
ELOB	**Lobios**	**5.51 355**	Sn	**Sn**		**01 25 43.9**	**-2.1**
EVIV	**Cofrentes, Val**	**5.80 58**	Sn	**Sn**		**01 25 50.8**	**-2.4**
TTIG	**Tnine Tigouga,**	**5.86 188**	P	Pn		01 24 45.0	-3.6
TTIG	**Tnine Tigouga,**	**5.86 188**	S	Sn		01 25 48.6	-6.1
ECHE	**Chera**	**6.06 56**	P	**Pn**		**01 24 52.1**	**+0.7**
ECHE			S	**Sn**		**01 25 58.5**	**-1.1**

*DJA **09** 01:29:06.8±0.5,4°S±4°×12°8E±°, h10km, M3.8/6, MLv3.8/6*
*IDC **09** 01:29:07.6±1.8,3°.81S×128°.05E, h0km, mb4.0/3,*
mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=149.4km
s-min=25.5km az=67.0
ISC 09 01:29:07.7±0.8,**3°.64S**±0°.10×**128°.40E**±0°.05,**h10**km,**n9,**
σ1$02/12,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**257**	P	**Pg**	**01 29 11.5**	**-0.5**
AAI				S	**Sg**	**01 29 14.6**	**-0.4**
MSAI	**Masohi**	**0.60**	**61**	P	**Pb**	**01 29 19.8**	**-0.5**
MSAI				S	**Sb**	**01 29 28.4**	**-0.5**
NLAI	**Namlea**	**1.36**	**287**	P	**Pn**	**01 29 30.9**	**-1.8**
SANI	**Sanana**	**2.88**	**303**	P	**Pn**	**01 29 53.6**	**0.0**
SANI				S	**Sn**	**01 30 29.0**	**+0.6**
SWI	**Sorong**	**3.97**	**46**	P	**Pn**	**01 30 07.9**	**-0.8**
WRA	**Warramunga Arr**	**17.21**	**161**	P	**Pn**	**01 33 08.8**	**+0.4**
	0.1nm,0.3s,baz=338,slow=11,SNR=6.8						
	2.3nm,1.0s						
ASAR	**Alice Springs**	**20.61**	**166**	P	**P**	**01 33 47.7**	**+0.5**
	8.1nm,0.8s,baz=345,slow=11,SNR=78						
	8.1nm,0.8s						
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**01 39 46.5**	**+1.4**
	0.5nm,0.7s,baz=121,slow=7.0,SNR=4.3						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**68.83**	**329**	P	**P**	**01 40 13.6**	**+1.4**
	1.4nm,0.6s,baz=131,slow=5.9,SNR=4.9						
	1.4nm,0.6s						

*SJA **09** 01:37:23.4±0.8,21°.32S×67°.19W, h227km±7km, ML3.6, MW3.5*
*SCB **09** 01:37:25.8±1.3,21°.38S×67°.17W, h196km±10km, ML3.8/3, Error ellipse: s-maj=5.4km s-min=3.1km az=0.0*
*GUC **09** 01:37:26.5±0.5,21°.33S×67°.40W, h227km±6km, ML3.8*
*IDC **09** 01:37:27.8±4.2,21°.06S×66°.99W, h220km±23km, mb3.5/1, mbtmp3.7/4, MS3.7/1, Error ellipse: s-maj=77.3km*
s-min=23.7km az=54.0
ISC 09 01:37:25.0±1.0,**21°.33S**±0°.04×**67°.22W**±0°.04,**h214**km±8km,
n55,σ1$47/84,5C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.47**	**87**	Pg	**Pn**	**01 37 59.6**	**-0.7**
MOCB				Sg	**Sn**	**01 38 24.4**	**-3.2**
MOCB				IAML		01 38 24.9	
	684nm,0.3s						
YJA	**Yavi**	**1.79**	**118**	*e*P	**Pn**	**01 38 02.7**	**-0.4**
YJA	**Yavi**	**1.79**	**118**	Pg	**Pn**	**01 38 02.9**	**-0.2**
YJA	**Yavi**	**1.79**	**118**	*e*P	**Pn**	**01 38 03.1**	**0.0**
YJA				*e*S	**Sn**	**01 38 31.6**	**-1.2**
AF01	**San Pedro de A**	**1.85**	**209**	*e*P	**Pn**	**01 38 05.2**	**+1.8**
AF01				*e*S	**Sn**	**01 38 39.0**	**+5.5**
PB09	**IPOC Station P**	**1.94**	**256**	⇑*i*P	**Pn**	**01 38 05.0**	**+0.8**
PB09				*i* S	**Sn**	**01 38 34.5**	**-0.2**
PB09	**IPOC Station P**	**1.94**	**256**	Pg	**Pn**	**01 38 05.3**	**+1.1**
PB09	**IPOC Station P**	**1.94**	**256**	*e*P	**Pn**	**01 38 04.8**	**+0.6**
PB09				*e*S	**Sn**	**01 38 36.1**	**+1.4**
PB01	**IPOC Station P**	**2.14**	**277**	*e*P	**Pn**	**01 38 06.0**	**0.0**
PB01				*i* S	**Sn**	**01 38 36.7**	**-1.4**
PB01				IAML		01 38 39.9	
	comp=N,272nm,0.3s						
PB01	**IPOC Station P**	**2.14**	**277**	Pg	**Pn**	**01 38 06.7**	**+0.6**
PB01				Sg	**Sn**	**01 38 37.5**	**-0.6**
PB01				IAML		01 38 39.9	
	comp=N,240nm,0.2s						
PB01	**IPOC Station P**	**2.14**	**277**	*e*P	**Pn**	**01 38 05.7**	**-0.4**
PB01				*e*S	**Sn**	**01 38 38.3**	**+0.2**
PB01				IAML		01 38 39.3	
	comp=Z,170nm,0.2s						
PB08	**IPOC Station P**	**2.16**	**303**	⇑*i*P	**Pn**	**01 38 07.5**	**+0.8**
PB08				*i* S	**Sn**	**01 38 38.5**	**-0.6**
PB08				IAML		01 38 40.5	
	comp=E,144nm,0.2s						
PB08	**IPOC Station P**	**2.16**	**303**	Pg	**Pn**	**01 38 07.6**	**+0.9**
PB08	**IPOC Station P**	**2.16**	**303**	*e*P	**Pn**	**01 38 06.9**	**+0.3**
PB08				*e*S	**Sn**	**01 38 40.2**	**+1.1**
PB08				IAML		01 38 41.4	
	comp=Z,66nm,0.1s						
PB03	**IPOC Station P**	**2.47**	**253**	*e*P	**Pn**	**01 38 09.7**	**+0.1**
PB03				*i* S	**Sn**	**01 38 42.7**	**-1.8**
PB03				IAML		01 38 43.8	
	comp=N,216nm,0.5s						
PB03	**IPOC Station P**	**2.47**	**253**	*e*P	**Pn**	**01 38 08.8**	**-0.8**
PB03				*e*S	**Sn**	**01 38 43.4**	**-1.1**
PB03				IAML		01 38 44.0	
	comp=Z,177nm,0.1s						
GO01	**Chusmiza**	**2.48**	**311**	*e*P	**Pn**	**01 38 10.6**	**+0.4**
GO01				*i* S	**Sn**	**01 38 44.6**	**-0.8**
GO01	**Chusmiza**	**2.48**	**311**	Pg	**Pn**	**01 38 11.0**	**+0.9**
GO01	**Chusmiza**	**2.48**	**311**	*e*P	**Pn**	**01 38 10.8**	**+0.6**
GO01				*e*S	**Sn**	**01 38 48.5**	**+3.2**
GO01				IAML		01 38 51.6	
	comp=Z,106nm,0.1s						
PB02	**IPOC Station P**	**2.50**	**270**	*e*P	**Pn**	**01 38 10.0**	**+0.1**
PB02				*i* S	**Sn**	**01 38 42.6**	**-2.3**
PB02				IAML		01 38 46.7	
	comp=E,356nm,0.2s						
PB02	**IPOC Station P**	**2.50**	**270**	Pg	**Pn**	**01 38 10.3**	**+0.4**
PB02				Sg	**Sn**	**01 38 43.8**	**-1.2**
PB02				IAML		01 38 45.3	
	comp=E,280nm,0.2s						
PB02	**IPOC Station P**	**2.50**	**270**	*e*P	**Pn**	**01 38 09.6**	**-0.3**
PB02				*e*S	**Sn**	**01 38 44.2**	**-0.8**
PB02				IAML		01 38 47.1	
	comp=Z,266nm,0.3s						
HJA	**Humahuaca**	**2.51**	**139**	*e*P	**Pn**	**01 38 10.6**	**+0.3**
HJA				*e*S	**Sn**	**01 38 45.3**	**-0.5**
HJA				IAML		01 38 45.3	
	comp=Z,72nm,0.6s						
PB06	**IPOC Station P**	**2.58**	**237**	⇑*i*P	**Pn**	**01 38 11.0**	**+0.2**
PB06				*i* S	**Sn**	**01 38 45.6**	**-1.2**
PB06				IAML		01 38 46.4	
	comp=E,200nm,0.3s						
PB06	**IPOC Station P**	**2.58**	**237**	Pg	**Pn**	**01 38 11.2**	**+0.4**
PB06	**IPOC Station P**	**2.58**	**237**	*e*P	**Pn**	**01 38 11.1**	**+0.2**
PB06				*e*S	**Sn**	**01 38 46.2**	**-0.5**
PB06				IAML		01 38 51.5	
	comp=Z,106nm,0.4s						
HMBC	**Humberstone**	**2.71**	**292**	⇑*i*P	**Pn**	**01 38 12.0**	**-0.3**
HMBC				*i* S	**Sn**	**01 38 46.8**	**-2.4**
HMBC				IAML		01 38 50.2	
	comp=N,437nm,0.2s						
PB11	**IPOC Station P**	**2.77**	**304**	⇑*i*P	**Pn**	**01 38 13.0**	**+0.1**
PB11				*i* S	**Sn**	**01 38 48.9**	**-1.6**
PB11	**IPOC Station P**	**2.77**	**304**	Pg	**Pn**	**01 38 13.1**	**+0.2**
PB11	**IPOC Station P**	**2.77**	**304**	*e*P	**Pn**	**01 38 12.3**	**-0.6**
PB11				*e*S	**Sn**	**01 38 49.4**	**-1.1**
PB11				IAML		01 38 51.3	
	comp=Z,420nm,0.1s						
PATCX	**Punta Patache**	**2.79**	**280**	*e*P	**Pn**	**01 38 13.1**	**0.0**
TA01	**Diego Aracena**	**2.87**	**285**	*e*P	**Pn**	**01 38 13.5**	**-0.4**
TA01				*i* S	**Sn**	**01 38 49.4**	**-2.8**
TA01				IAML		01 38 52.2	
	comp=E,209nm,0.3s						
TA01	**Diego Aracena**	**2.87**	**285**	*e*P	**Pn**	**01 38 13.6**	**-0.4**
TA01				*e*S	**Sn**	**01 38 50.2**	**-2.1**
TA01				IAML		01 38 51.1	
	comp=Z,76nm,0.5s						
TA02	**Huaiquique**	**2.92**	**291**	*e*P	**Pn**	**01 38 14.5**	**0.0**
TA02				*e*S	**Sn**	**01 38 51.1**	**-2.1**
TA02				IAML		01 38 52.0	
	comp=Z,267nm,0.1s						
SALTA		**3.00**	**165**	*e*P	**Pn**	**01 38 17.2**	**+1.4**
SALTA				*e*P		01 38 19.4	
SALTA				*e*P		01 38 19.7	
SOET	**ToroToro**	**3.46**	**23**	Pg	**Pn**	**01 38 21.3**	**+0.1**
AZAP	**Zapla**	**3.50**	**146**	*e*P	**Pn**	**01 38 21.3**	**-0.1**
AZAP				*e*S	**Sn**	**01 39 03.7**	**-2.2**
AZAP				IAML		01 39 04.1	
	comp=Z,172nm,0.5s						
PB16	**IPOC Station P**	**3.67**	**324**	Pg	**Pn**	**01 38 25.1**	**+1.1**
PB16	**IPOC Station P**	**3.67**	**324**	*e*P	**Pn**	**01 38 25.3**	**+1.3**
PB16				*e*S	**Sn**	**01 39 06.6**	**-3.7**
PB16				IAML		01 39 15.2	
	comp=Z,46nm,0.6s						
SLA	**San Lorenzo**	**3.73**	**155**	*e*P	**Pn**	**01 38 25.2**	**+1.1**
PB10	**IPOC Station P**	**3.78**	**234**	*e*P	**Pn**	**01 38 24.6**	**0.0**
PB10				*e*S	**Sn**	**01 39 09.4**	**-2.2**
PB10				IAML		01 39 11.5	
	comp=Z,29nm,0.5s						
GO02	**Mina Guanaco**	**4.40**	**209**	*e*S	**Sn**	**01 39 24.1**	**-1.7**
GO02				IAML		01 39 28.9	
	comp=Z,151nm,0.3s						
PB14	**IPOC Station P**	**4.41**	**221**	Pg	**Pn**	**01 38 32.7**	**+0.1**
PB14	**IPOC Station P**	**4.41**	**221**	*e*P	**Pn**	**01 38 32.8**	**+0.1**
PB14				*e*S	**Sn**	**01 39 23.1**	**-2.9**
PB14				IAML		01 39 25.1	
	comp=Z,72nm,0.6s						
BBOJ	**La Paz, Jacaqu**	**4.42**	**348**	Pg	**Pn**	**01 38 35.0**	**+1.9**
BBOE	**La Paz, Chanca**	**4.55**	**351**	Pg	**Pn**	**01 38 36.7**	**+2.0**
BBOD	**La Paz, Gloria**	**4.84**	**344**	Pg	**Pn**	**01 38 40.5**	**+2.1**
LPAZ	**La Paz**	**5.08**	**350**	P	**Pn**	**01 38 42.5**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=145,slow=6.1,SNR=26						
LPAZ				S	**Sn**	**01 39 40.0**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=331,slow=18,SNR=1.9						
LPAZ	**La Paz**	**5.08**	**350**	Pg	**Pn**	**01 38 42.6**	**+1.1**
LPAZ	**La Paz**	**5.08**	**350**	*e*P	Pn	01 38 35.3	-6.2
BBOB	**La Paz, Bander**	**5.23**	**350**	Pg	**Pn**	**01 38 44.3**	**+1.1**
CPUP	**Villa Florida**	**10.33**	**121**	P	**Pn**	**01 39 50.0**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=171,slow=11,SNR=4.7						
BDFB	**Brasilia**	**19.06**	**76**	P	**P**	**01 41 31.6**	**0.0**
	comp=Z,1.9nm,0.4s,baz=236,slow=8.1,SNR=6.8						
TKL	**Tuckaleechee C**	**58.80**	**344**	LR	LR	02 18 40.1	
	comp=Z,53nm,18.5s,baz=4.0,slow=42						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	**P**	**01 48 48.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=260,slow=4.7,SNR=18						
	comp=Z,0.8nm,0.5s						

GCG 09 02:03:36.3±1.2,**14°.32N**×**91°.62W**,**h61**km±9km,**MD3.7,**
ML3.5,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.26**	**64**	*e*P	Pn	02 03 47.8	+1.4
STG2				*e*S	Sn	02 03 56.5	+2.7
SOKI	**Kika Raxquin**	**0.54**	**23**	*e*P	Pn	02 03 50.2	+0.9
SOKI				*e*S	Sn	02 04 00.8	+2.1
SMCA	**Catarina**	**0.69**	**320**	*e*P	Pn	02 03 50.5	-0.1
SMCA				*e*S	Sn	02 04 01.1	+0.1
SMCA				IAML		02 04 03.6	
	comp=N,1μm,0.1s						
ESSG	**Sabana Grande**	**0.77**	**85**	*e*P	Pn	02 03 51.8	+0.3
ESSG				*e*S	Sn	02 04 03.6	+0.9
FG8	**Yepocapa, Chim**	**1.03**	**93**	*e*P	Pn	02 03 51.1	-3.8
FG8				*e*S	Sn	02 04 02.3	-6.3
NUBE	**Las Nubes**	**1.83**	**103**	*e*P	Pn	02 04 06.3	+0.7
NUBE				*e*S	Sn	02 04 27.5	-0.4

*TIR **09** 02:31:44.3,41°.46N×19°.39E, h42km±1km, Ml2.8/3*
*BEO **09** 02:31:45.2±0.5,41°.39N×19°.67E, h4km±3km, ML1.8/7*
*SKO **09** 02:31:45.2,41°.27N×19°.43E, h0km, ML1.9*
ISC 09 02:31:44.8±1.1,**41°.40N**±0°.03×**19°.46E**±0°.03,**h6**km±10km,
n26,σ1$09/43,5D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**99**	⇓Pg	**Pg**	**02 31 49.9**	**-0.9**
TIR				Sg	**Sg**	**02 31 54.9**	**0.0**
TIR				AML	AML	02 31 57.6	
	0.6nm,0.4s						
TIR	**Tirane**	**0.31**	**99**	*i* Pg	**Pg**	**02 31 49.9**	**-0.9**
TIR				*i* Sg	**Sg**	**02 31 55.1**	**+0.2**
VLO	**Vlora**	**0.93**	**178**	⇓Pg	**Pb**	**02 32 04.1**	**+0.9**
VLO				Sg	**Sb**	**02 32 16.0**	**+0.2**
VLO				AML	AML	02 32 21.1	
	0.9nm,0.6s						
PDG	**Podgorica**	**1.04**	**352**	*e*Pg	**Pg**	**02 32 04.9**	**0.0**
PDG				*e*Sg	**Sb**	**02 32 19.8**	**+0.5**
OHR	**Ohrid**	**1.05**	**105**	*i* Pg	**Pg**	**02 32 04.9**	**-0.1**
OHR				*i* Sg	**Sg**	**02 32 19.9**	**+1.3**
OHR				*e*Lg	Lg	02 32 20.4	
	comp=N,13nm,0.5s						
OHR				*e*Lg	Lg	02 32 23.9	
	comp=E,31nm,0.6s						
KBN	**Korca**	**1.27**	**127**	⇓Pg	**Pg**	**02 32 08.1**	**-1.0**
KBN				Sg	**Sg**	**02 32 26.2**	**+0.7**
NEST	**Nestorio**	**1.55**	**129**	⇓Pn	**Pn**	**02 32 12.9**	**-0.2**
NEST				Sn	**Sn**	**02 32 34.6**	**+1.0**
TREB	**Trebinje**	**1.56**	**328**	*e*Pn	**Pn**	**02 32 13.7**	**+0.6**
TREB				*e*Sn	**Sg**	**02 32 35.9**	**+1.0**
DBRK	**Dubrovnik**	**1.60**	**323**	*e*Pn	**Pb**	**02 32 15.2**	**+0.4**
SJES	**Sjenica**	**1.90**	**11**	*e*Pn	**Pn**	**02 32 18.0**	**+0.1**
SJES				*e*Sn	**Sn**	**02 32 43.2**	**+0.9**
NOCI	**Noci**	**1.91**	**252**	Pn	**Pn**	**02 32 16.8**	**-1.1**
NOCI				Sn	**Sn**	**02 32 41.1**	**-1.1**
STON	**Ston**	**1.97**	**319**	*e*Pn	**Pn**	**02 32 19.8**	**+1.1**
STON				*e*Sn	**Sg**	**02 32 47.9**	**-0.2**
IGT	**Igoumenitsa**	**1.98**	**160**	⇓Pn	**Pn**	**02 32 19.2**	**+0.4**
IGT				Sn	**Sn**	**02 32 44.9**	**+1.0**
IGT	**Igoumenitsa**	**1.98**	**160**	*e*Pn	**Pn**	**02 32 18.6**	**-0.2**
IGT				*e*Sn	**Sn**	**02 32 44.1**	**+0.2**
SELS	**Selova**	**2.20**	**33**	*e*Pn	**Pn**	**02 32 21.1**	**-0.8**
SELS				*e*Sn	**Sn**	**02 32 48.8**	**-0.7**
RUDO	**Rudo**	**2.22**	**358**	*e*Pn	**Pn**	**02 32 23.8**	**+1.6**
IVAS	**Ivanjica**	**2.24**	**13**	*e*Pn	**Pn**	**02 32 21.4**	**-1.1**
IVAS				*e*Sn	**Sn**	**02 32 49.2**	**-1.3**
BARS	**Barje**	**2.26**	**50**	*i* Pn	**Pb**	**02 32 27.5**	**+1.5**
BARS	**Barje**	**2.26**	**50**	*e*Pn	**Pn**	**02 32 20.9**	**-1.8**
BARS				*e*Sn	**Sn**	**02 32 49.0**	**-1.8**
LSTV	**Lastovo**	**2.35**	**307**	*e*Pn	**Pb**	**02 32 26.4**	**-1.1**
RICI	**Ricice**	**2.71**	**321**	*e*Pn	**Pn**	**02 32 28.6**	**-0.3**
SGRT	**San Giovanni R**	**2.81**	**279**	Pn	**Pn**	**02 32 29.1**	**-1.3**
SGRT				Sn	**Sn**	**02 33 02.7**	**-1.9**
SGRT				AML	AML	02 33 12.8	
	comp=E,0.1nm,1.1s						
VTS	**Vitosha**	**3.07**	**65**	*e*Pn	**Pn**	**02 32 32.2**	**-1.8**
KIJV	**Kijevo**	**3.44**	**320**	*e*Pn	**Pn**	**02 32 40.0**	**+1.0**
ZIRJ	**Zirje**	**3.61**	**310**	*e*Pn	**Pn**	**02 32 43.4**	**+2.2**
DUGI	**Dugi Otok**	**4.15**	**310**	*e*Pn	**Pn**	**02 32 50.0**	**+1.2**

CATAC 09 02:53:01.6±0.3,**14°N**±2°×**8°5W**±°, **h1**km,**M3.1**/10,
MLv3.1/10,**Error ellipse: s-maj=4.9km s-min=3.7km**
az=12.8,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIUN	**Universidad Ur**	**0.58**	**179**	P	Pg	02 53 12.4	-0.3
SIUN				S	Sg	02 53 21.4	+1.1
BILN	**Bilwi Airport**	**1.39**	**100**	P	Pn	02 53 26.1	-2.0
BILN				S	Sg	02 53 45.2	-1.0
RCPN	**Sur Rio San Ju**	**1.49**	**239**	P	Pn	02 53 28.1	-1.6
RCPN	**Sur Rio San Ju**	**1.49**	**239**	S	Sg	02 53 48.4	-1.0
RCVN	**Varilla2**	**1.54**	**243**	P	Pn	02 53 29.1	-1.3
RCVN	**Varilla2**	**1.54**	**243**	S	Sn	02 53 49.4	-1.8
MATN	**Matagalpa**	**1.76**	**219**	P	Pn	02 53 31.8	-1.6
MATN	**Matagalpa**	**1.76**	**219**	S	Sn	02 53 55.4	-1.0
OCON	**Estacion meteo**	**1.78**	**248**	P	Pn	02 53 32.9	-0.6
OCON				S	Sn	02 53 56.5	-0.3
LIMN	**Finca el Limon**	**1.97**	**232**	P	Pn	02 53 35.9	-0.3
LIMN				S	Sn	02 54 02.3	+0.6
YUSH	**Yuscaran**	**2.03**	**260**	P	Pn	02 53 36.0	-1.0
YUSH	**Yuscaran**	**2.03**	**260**	S	Sn	02 54 03.0	-0.1
ACON	**Acoyapa**	**2.35**	**189**	P	Pn	02 53 41.1	-0.3
ACON	**Acoyapa**	**2.35**	**189**	S	Sn	02 54 12.5	+1.6
TGUH	**Tegucigalpa,Un**	**2.43**	**265**	P	Pn	02 53 43.3	+0.7
TGUH				S	Sb	02 54 15.7	-1.0
POLN	**Al Sur del Vol**	**2.57**	**230**	S	Sn	02 54 16.7	+0.4
CNGN	**Cerro Negro**	**2.58**	**226**	S	Sb	02 54 22.2	+1.1
CNGN	**Cerro Negro**	**2.58**	**226**	P	Pn	02 53 46.3	+1.7

AUST 09 03:05:26.1±0.9,**18°S**±6°×**12°0E**±°, **h10**km,**mb3.9**/2,
ML2.4/6,**Error ellipse: s-maj=13.0km s-min=8.4km**
az=169.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.46**	**125**	P	Pn	03 05 52.1	-0.5
CAAN				S	Sn	03 06 11.8	0.0
MBWA	**Marble Bar**	**2.77**	**190**	P	Pn	03 06 10.9	+0.3
MBWA				S	Sn	03 06 45.5	+1.5
PSAC1	**Pilbara Seismi**	**3.12**	**188**	P	Pn	03 06 15.4	0.0
PSAC1				S	Sn	03 06 53.5	+0.6
PSAC2	**Pilbara Seismi**	**3.14**	**186**	P	Pn	03 06 15.8	+0.1
PSAC2				S	Sn	03 06 54.2	+0.9
PSA00	**Pilbara Seismi**	**3.16**	**187**	P	Pn	03 06 16.6	+0.6
PSA00				S	Sn	03 06 54.1	+0.4
PSAB3	**Pilbara Seismi**	**3.18**	**187**	P	Pn	03 06 16.5	+0.3
PSAB3				S	Sn	03 06 55.4	+1.2
FITZ	**Fitzroy Crossi**	**5.13**	**87**	P	Pn	03 06 37.3	-5.8
FITZ	**Fitzroy Crossi**	**5.13**	**87**	S	Sn	03 07 32.6	-10
GIRL	**Giralia**	**7.03**	**232**	P	Pn	03 07 09.1	-0.1
	comp=Z,0.1nmcomp=Z,44nm,1.8s						
GIRL				S	Sn	03 08 25.1	-4.1
MEEK	**Meekatharra**	**8.31**	**190**	P	Pn	03 07 26.0	-0.9
	comp=Z,0.1nmcomp=Z,7.9nm,2.4s						
MEEK	**Meekatharra**	**8.31**	**190**	S	Sn	03 08 56.7	-4.2

*MOS **09** 03:06:28.8±1.2,40°.80N×52°.02E, h17km, mb4.7/10, Error ellipse: s-maj=5.1km s-min=4.0km az=9.7*
*NEIC **09** 03:06:29.4±1.9,40°.68N±0°.07×51.96E±0°.07, h10km±1km, mb4.6/56, Error ellipse: s-maj=12.3km s-min=8.9km az=181.0*
*THR **09** 03:06:30.8±0.0,40°.66N×51°.87E, h20km±992km, mb4.6*
*AZER **09** 03:06:33.7,40°.42N×51°.79E, h28km, ml4.4*
*IDC **09** 03:06:33.9±1.6,40°.68N×51°.83E, h47km±16km, mb4.0/21, mbtmp4.3/33, ML4.3/12, MS3.5/20, Error ellipse: s-maj=14.1km s-min=9.9km az=170.0*
ISC 09 03:06:31.2±1.1,**40°.76N**±0°.03×**51°.98E**±0°.03,**h26**km±8km,
n381,σ1$77/429,mb4.6/58,MS3.7/16,22C-9D,Caspian Sea

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

MAK smax smax
comp=E,737nm,0.4s
MAK smax smax
comp=N,556nm,0.5s
MAK MLR MLR
comp=Z,106nm,8.0s
ZKTA Zakatala 4.13 284 Pn **Pn 03 07 36.3 +3.6**
ZKTA Sn **Sn 03 08 25.8 +5.6**
VSHL Vashlovani 4.25 278 P **Pn 03 07 37.2 +3.0**
GANJ Ganja 4.30 270 Pn **Pn 03 07 35.4 +0.4**
GANJ Sn **Sn 03 08 22.9 -1.4**
GANJ Ganja 4.30 270 P **Pn 03 07 35.6 +0.6**
GDB GEDABAY 4.73 272 Pn **Pn 03 07 41.5 +0.5**
GDB Sn **Sn 03 08 34.0 -1.0**
ZNJK Zanjan 4.83 213 *e*Pn **Pn 03 07 41.5 -1.0**
ZNJK IAML 03 08 35.6
comp=Z,1μm,1.0s
CHTH Charan 4.89 188 *e*Pn **Pn 03 07 43.6 +0.2**
CHTH IAML 03 08 37.8
comp=Z,830nm,1.0s
ORD Ordubad 4.96 250 Pn **Pn 03 07 45.1 +1.1**
ORD Sn **Sn 03 08 38.2 -2.4**
QZX Qazax, Azerbai 5.01 276 Pn **Pn 03 07 46.0 +1.2**
QZX Sn **Sn 03 08 42.0 +0.1**
DGRG David-gareji 5.04 280 P **Pn 03 07 47.6 +2.4**
DGRG S **Sn 03 08 43.6 +1.1**
DGRG David-gareji 5.04 280 *e*P **Pn 03 07 47.5 +2.4**
DGRG *e*S **Sn 03 08 43.5 +1.1**
SBZ Shahbuz 5.11 257 Pn **Pn 03 07 48.2 +1.9**
SBZ Sn **Sn 03 08 44.4 0.0**
DAMV Damavand 5.12 180 *e*Pn **Pn 03 07 48.0 +1.5**
DAMV IAML 03 08 46.4
comp=Z,830nm,1.0s
NAX Nakhchivan 5.22 254 Pn **Pn 03 07 49.5 +1.7**
NAX Sn **Sn 03 08 47.8 +0.6**
NAX Nakhchivan 5.22 254 P **Pn 03 07 49.4 +1.7**
SHTL Shatili 5.45 293 P **Pn 03 07 53.9 +3.1**
SHTL Shatili 5.45 293 *e*P **Pn 03 07 53.9 +3.1**
GNI Garni 5.55 266 Pn **Pn 03 07 53.7 +1.4**
GNI Garni 5.55 266 P **Pn 03 07 53.3 +1.0**
comp=Z,6.8nm,0.3s,baz=300,slow=4.2,SNR=17
GNI S **Sn 03 08 54.7 -0.6**
comp=Z,37nm,0.6s,baz=172,slow=5.6,SNR=4.2
GNI LR LR 03 10 23.7
comp=Z,41nm,19.2s,baz=84,slow=42
comp=Z,18nm,0.4s
GNI Garni 5.55 266 *i* P **Pn 03 07 54.4 +2.1**
SHRO Shahrood 5.72 145 *e*Pn **Pn 03 07 56.0 +1.4**
SHRO IAML 03 08 59.6
comp=Z,200nm,1.0s
TRLG Trialeti 5.99 280 P **Pn 03 07 59.6 +1.2**
TRLG Trialeti 5.99 280 *e*P **Pn 03 07 59.6 +1.2**
GHVR GHOM 6.29 185 *e*Pn **Pn 03 08 04.0 +1.5**
GHVR IAML 03 09 30.5
comp=Z,180nm,1.0s
ASAO Ashtian 6.39 195 *i* P **Pn 03 08 05.0 +1.0**
ASAO IAML 03 09 32.3
comp=Z,140nm,1.0s
SNGE Sanandaj 6.74 214 *i* P **Pn 03 08 09.9 +1.2**
SNGE IAML 03 09 48.3
comp=Z,34nm,1.0s
NCK Nalchik 6.80 296 *i* P **Pn 03 08 11.1 +1.8**
SRSL SARDASHT 6.85 231 *e*Pn **Pn 03 08 12.9 +2.7**
SRSL IAML 03 08 14.4
comp=Z,37nm,1.0s
KHMZ Khomeyn 7.19 194 *e*Pn **Pn 03 08 17.0 +2.1**
KHMZ IAML 03 10 00.9
comp=Z,69nm,1.0s
NEUR Neytrino 7.34 293 *i* P **Pn 03 08 16.6 -0.3**
KBZ Khabaz 7.36 297 P **Pn 03 08 18.3 +1.4**
comp=Z,1.0nm,0.3s,baz=154,slow=3.4,SNR=26
KBZ S **Sn 03 09 38.4 -1.2**
comp=Z,22nm,0.6s,baz=281,slow=4.3,SNR=4.9
KBZ LR LR 03 12 01.8
comp=Z,69nm,20.0s,baz=157,slow=45
comp=Z,3.3nm,0.2s
SHA1 Shidzhatmaz 7.53 296 *i* P **Pn 03 08 20.7 +1.3**
KVAR Kislovodsk Arr 7.58 298 P **Pn 03 08 22.1 +2.0**
baz=30,slow=18
KVAR S **Sn 03 09 39.8 -5.3**
comp=Z,23nm,0.3s,baz=198,slow=9.6,SNR=4.7
comp=Z,2.4nm,0.3s
KIV Kislovodsk 7.58 298 **Pn 03 08 21.7 +1.6**
KIV Kislovodsk 7.58 298 *e*P **Pn 03 08 22.2 +2.1**
KIV *e*S **Sn 03 09 49.6 +4.4**
KIV pmax pmax
comp=Z,20nm,0.9s
TABS Tabas 8.20 148 *e*Pn **Pn 03 08 30.9 +2.3**
TABS IAML_BB 03 08 31.9
comp=Z,380nm,1.0s
YZKH Yazd 8.62 165 *e*Pn **Pn 03 08 35.6 +1.3**
YZKH IAML 03 08 35.9
comp=Z,9.1nm,0.7s
KOPT Kop Dagi 8.79 269 **Pn 03 08 37.2 +0.3**
MARD Mardin 9.37 252 **Pn 03 08 44.8 +0.2**
SOC Sochi 9.53 291 *e*P **Pn 03 08 43.9 -2.8**
SOC *e* 03 10 32.4
SOC MLR MLR
comp=Z,105nm,14.0s
SHRT Shahrakht 9.71 134 *e*Pn **Pn 03 08 50.4 +1.0**
SHRT IAML 03 09 05.6
comp=Z,5.3nm,0.8s
KLNJ Kolanjah 9.74 182 *e*Pn **Pn 03 08 52.4 +2.4**
KLNJ IAML 03 09 10.0
comp=Z,10.0nm,0.7s
AB31 Akbulak array 10.19 31 **Pn 03 08 56.2 +0.6**
AB31 Akbulak array 10.19 31 P **Pn 03 08 56.3 +0.6**
AB31 03 10 46.9
ABKAR Akbulak array 10.19 31 **Pn 03 08 55.7 0.0**
BSRN Basiran 10.50 145 *e*Pn **Pn 03 09 02.1 +1.9**
BSRN IAML 03 09 16.2
comp=Z,5.9nm,0.9s
AKTO Aktyubinsk 10.55 22 P **Pn 03 09 02.0 +1.3**
comp=Z,7.2nm,0.3s,baz=212,slow=8.6,SNR=40
AKTO S **Sn 03 10 53.4 -4.6**
comp=Z,71nm,0.3s,baz=214,slow=22,SNR=18
AKTO LR LR 03 14 28.2
comp=Z,240nm,20.3s,baz=330,slow=44
comp=Z,20nm,0.4s
BELG Belogornoye 12.01 347 P **Pn 03 09 22.0 +1.4**
comp=Z,3.3nm,0.3s,baz=122,slow=2.1,SNR=6.1
BELG S **Sn 03 11 26.3 -7.2**
comp=Z,160nm,0.6s,baz=75,slow=22,SNR=17
BELG Belogornoye 12.01 347 *i* P **Pn 03 09 22.0 +1.4**
CHM Chimkent 13.30 78 *e*P **Pn 03 09 38.0 -0.3**
CHM Chimkent 13.30 78 *e*P **Pn 03 09 38.0 -0.3**
CHGR Chuyangaron 13.40 93 **Pn 03 09 39.6 -0.1**
CHGR Chuyangaron 13.40 93 P **Pn 03 09 39.6 -0.1**
VORD Divnogorie 13.48 323 *e*P **Pn 03 09 38.2 -2.4**
VORD pmax pmax
comp=Z,9.0nm,0.9s
BRLS Boroldaу 13.50 74 *e*P **Pn 03 09 39.0 -2.0**
BRLS Boroldaу 13.50 74 *e*P **Pn 03 09 39.0 -2.0**
BRLS Boroldaу 13.50 74 *e*P **Pn 03 09 38.6 -2.4**
comp=Z,4.3nm,0.4s
IUG Iuzhnay 13.62 78 *e*P **Pn 03 09 42.8 +0.1**
IUG Iuzhnay 13.62 78 *e*P **Pn 03 09 42.8 +0.1**
VSR Storozhevoye 13.71 324 *e*P **Pn 03 09 41.4 -2.4**
VSR pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 14.00 74 **Pn 03 09 47.6 -0.2**
KK31 Karatay Array 14.00 74 *i* P **Pn 03 09 47.4 -0.4**
KK31 *i* 03 12 16.5
KKAR Karatay Array 14.00 74 **Pn 03 09 47.3 -0.5**
KKAR Karatay Array 14.00 74 P **Pn 03 09 47.3 -0.5**
VORR Voronezh 14.02 325 *e*P **Pn 03 09 45.6 -2.4**
VORR pmax pmax
comp=Z,9.0nm,0.8s
BR131 Keskin Array S 14.05 272 *i* P **Pn 03 09 50.7 +2.1**
BRTR Keskin Array B 14.05 272 Pn **Pn 03 09 48.8 +0.2**
BRTR Keskin Array B 14.05 272 P **Pn 03 09 50.0 +1.3**
comp=Z,1.3nm,0.8s,baz=81,slow=15,SNR=4.9
BRTR Keskin Array B 14.05 272 P **Pn 03 09 48.8 +0.2**
GAR Garm 14.20 91 **Pn 03 09 50.8 +0.1**
DZA Taraz 14.59 75 *e*P **Pn 03 09 56.1 +0.1**
DZA Taraz 14.59 75 *e*P **Pn 03 09 56.0 +0.1**
ANTO Ankara 14.66 273 Pn **Pn 03 09 58.6 +1.6**
ANTO Ankara 14.66 273 P **Pn 03 09 58.6 +1.6**
LPSR Galich'ya Gora 14.82 327 *e*P **Pn 03 09 57.3 -1.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
ASF Jabal al Asfar 14.84 239 P **Pn 03 10 00.5 +1.1**
comp=Z,0.2nm,0.3s,baz=105,slow=3.7,SNR=5.7
comp=Z,2.4nm,0.5s

SHME Shamm 15.08 165 P **P 03 10 08.4 +0.9**
BANOM Banah 15.23 165 P **P 03 10 09.6 +0.3**
MMAI Mount Meron Ar 15.34 245 P **Pn 03 10 07.0 +1.1**
comp=Z,0.2nm,0.3s,baz=58,slow=11,SNR=4.6
MMAI LR LR 03 16 14.1
comp=Z,67nm,18.9s,baz=30,slow=38
comp=Z,1.8nm,0.7s
MASF Masafi 15.74 166 P **P 03 10 15.4 +0.5**
CSS Mathiatis 15.81 254 **P 03 10 14.1 -1.6**
MDH Madha 15.84 166 P **P 03 10 15.5 -0.5**
ARSB Arslanbob 15.86 81 P **Pn 03 10 12.8 0.0**
ARSB IAmb IAmb 03 10 35.2
comp=Z,14nm,0.6s
ARSB Arslanbob 15.86 81 P **Pn 03 10 12.8 0.0**
ARSB pmax pmax
comp=Z,15nm,0.6s
UOSS Minazif 16.16 166 **Pn 03 10 14.9 -1.8**
UOSS Minazif 16.16 166 P **P 03 10 20.4 +0.8**
ARTI Arti 16.19 13 **Pn 03 10 14.8 -1.9**
ARTI Arti 16.19 13 P **Pn 03 10 14.8 -1.9**
comp=Z,22nm,0.5s,baz=202,slow=7.7,SNR=33
ARTI S Sn 03 13 02.7 -13
comp=Z,17nm,0.6s,baz=93,slow=23,SNR=9.1
ARTI LR LR 03 17 20.2
comp=Z,118nm,20.2s,baz=254,slow=40
ARTI Arti 16.19 13 *d i* P **Pn 03 10 14.6 -2.1**
ARTI S **Sn 03 13 13.2 -2.2**
ARTI pmax pmax
comp=Z,15nm,0.5s
GHAJ Ghor Haditha 16.27 240 **Pn 03 10 18.8 +1.0**
GHAJ IAmb IAmb 03 10 22.6
comp=Z,18nm,0.7s
HATD Hatta, Dubai 16.27 166 P **P 03 10 22.2 +1.4**
BORA Eskisehir 16.44 274 **P 03 10 21.7 -1.0**
BTLS Baital 16.71 68 *e*P **Pn 03 10 24.0 +0.5**
BTLS Baital 16.71 68 *e*P **Pn 03 10 23.9 +0.5**
AAK Ala-Archa 16.92 76 P **Pn 03 10 27.0 +0.8**
AAK Ala-Archa 16.92 76 P **P 03 10 28.3 +0.3**
comp=Z,1.7nm,0.3s,baz=256,slow=11,SNR=13
AAK LR LR 03 17 57.7
comp=Z,75nm,20.6s,baz=292,slow=40
comp=Z,5.2nm,0.5s
AAK Ala-Archa 16.92 76 *i* P **Pn 03 10 25.5 -0.7**
AAK pmax pmax
comp=Z,10.0nm,1.0s
PURM Purcari 16.98 297 ⇓P **Pn 03 10 25.7 -1.1**
FRU1 Bishkek 17.01 76 **Pn 03 10 27.8 +0.5**
FRU1 Bishkek 17.01 76 P **Pn 03 10 27.8 +0.5**
FRU1 pmax pmax
comp=Z,50nm,0.5s
SGDS Sogindy 17.02 73 *e*P **Pn 03 10 27.8 +0.4**
SOHO SOHO 17.02 166 P **P 03 10 28.7 -0.3**
SVE Sverdlovsk 17.04 16 *e*P **P 03 10 32.4 +3.3**
SVE *e*S **Sn 03 13 25.9 -10**
SVE pmax pmax
comp=Z,40nm,1.3s
BRZS Berezniki 17.17 51 *e*P **Pn 03 10 29.8 +0.5**
BRZS Berezniki 17.17 51 *e*P **Pn 03 10 29.7 +0.5**
BORK Borovoye 17.49 39 *i* P **Pn 03 10 33.3 +0.2**
BORK pmax pmax
comp=Z,11nm,0.4s
TLCR 17.50 292 ⇓P **P 03 10 35.2 +1.0**
BVA0 Borovoye Array 17.51 39 P **Pn 03 10 33.5 +0.1**
BVA0 03 13 39.4
BVAR Borovoye Array 17.51 39 P **P 03 10 34.6 +0.2**
comp=Z,1.0nm,0.3s,baz=224,slow=12,SNR=40
BVAR S **Sn 03 13 39.7 -7.7**
comp=Z,30nm,0.7s,baz=236,slow=21,SNR=9.2
BVAR LR LR 03 18 35.4
comp=Z,187nm,21.4s,baz=274,slow=41
comp=Z,37nm,0.5s
OBN Obninsk 17.62 330 **P 03 10 36.5 +1.0**
OBN Obninsk 17.62 330 P **Pn 03 10 34.4 -0.3**
comp=Z,7.4nm,0.3s,baz=105,slow=23,SNR=3.9
OBN S Sn 03 13 37.8 -12
comp=Z,9.3nm,0.4s,baz=82,slow=22,SNR=1.5
comp=Z,19nm,0.4s
OBN Obninsk 17.62 330 *e*P **P 03 10 38.7 +3.2**
OBN *e*S **S 03 13 58.4 +1.2**
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,380nm,8.0s
ELL Elmali 17.66 264 P **P 03 10 37.3 +1.0**
ELL Elmali 17.66 264 P **P 03 10 37.3 +1.0**
ELL pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 17.71 333 *e*P **Pn 03 10 34.2 -1.6**
MOS *e*S **Sn 03 13 45.4 -6.9**
TIRR Tirgusor 17.72 290 P **Pn 03 10 35.0 -1.0**
comp=Z,18nm,1.5s
ARQ Araqi 17.79 166 P **P 03 10 37.6 -0.1**
KIRV Kirov 17.91 356 P **P 03 10 39.5 +0.8**
comp=Z,6.6nm,0.3s,baz=208,slow=0.3,SNR=20
KIRV S Sn 03 13 45.1 -12
comp=Z,9.6nm,0.5s,baz=354,slow=16,SNR=3.6
KIRV Kirov 17.91 356 *i* P **P 03 10 40.2 +1.5**
CFR Carcaliu 17.97 292 ⇑P **Pn 03 10 36.5 -2.6**
TLBR Topalu 17.98 290 ⇑P **Pn 03 10 38.2 -1.1**
BOOM Boomskoye usch 17.99 77 **P 03 10 40.3 +0.4**
BOOM IAmb IAmb 03 10 48.4
comp=Z,31nm,1.2s
BOOM Boomskoye usch 17.99 77 P **P 03 10 40.3 +0.4**
BOOM pmax pmax
comp=Z,31nm,1.2s
RAYN Ar Rayn 18.03 200 P **Pn 03 10 37.3 -2.7**
RAYN Ar Rayn 18.03 200 P **Pn 03 10 37.3 -2.7**
RAYN pmax pmax
comp=Z,22nm,1.2s
AKAS Kas 18.07 263 P **P 03 10 40.9 +0.1**
AKAS IAmb IAmb 03 11 03.2
comp=Z,23nm,0.9s
WSAR Wadi Sarin 18.35 160 P **Pn 03 10 44.4 +0.5**
baz=33,slow=24,SNR=9.2
WSAR Wadi Sarin 18.35 160 P **Pn 03 10 44.8 +0.9**
NIL Nilore 18.35 106 P **Pn 03 10 44.1 +0.2**
NIL Nilore 18.35 106 P **Pn 03 10 44.1 +0.2**
NIL pmax pmax
comp=Z,13nm,1.1s
SORM Soroca 18.36 302 ⇑P **P 03 10 41.8 -2.0**
SMDO Samad 18.38 162 P **Pn 03 10 44.4 0.0**
KSH Kashi 18.38 86 P **P 03 10 43.7 -0.5**
KSH pmax pmax
comp=Z,10.0nm,0.6s
BSY Bisya 18.50 165 P **P 03 10 44.4 -1.0**
AK09 Malin Array Si 18.59 310 P **P 03 10 45.4 -0.9**
AK10 Malin Array Si 18.61 310 P **P 03 10 45.3 -1.1**
AK07 Malin Array Si 18.62 309 P **P 03 10 45.4 -1.1**
AKASG Malin Array Be 18.66 310 P **P 03 10 46.5 -0.6**
AKASG IAmb IAmb 03 10 49.9
comp=Z,28nm,0.8s
AKASG Malin Array Be 18.66 310 P **P 03 10 47.1 +0.1**
comp=Z,17nm,0.6s,baz=115,slow=11,SNR=37
AKASG S **Sn 03 14 10.4 -5.0**
comp=Z,1.6nm,0.5s,baz=115,slow=23,SNR=5.5
AKBB Malin Array Si 18.66 310 P **P 03 10 47.2 +0.2**
AKBB IAmb IAmb 03 10 50.0
comp=Z,32nm,0.7s
AKBB Malin Array Si 18.66 310 *i* P **P 03 10 47.2 +0.2**
AKBB pmax pmax
comp=Z,31nm,0.7s
AKBB Malin Array Si 18.66 310 P **P 03 10 46.5 -0.6**
AK01 Malin Array Si 18.67 310 P **P 03 10 47.0 -0.1**
KIEV Kiev 18.67 310 P **P 03 10 47.2 +0.1**
KIEV IAmb IAmb 03 10 50.0
comp=Z,29nm,0.7s
KIEV Kiev 18.67 310 ⇑P **P 03 10 46.9 -0.2**
KIEV Kiev 18.67 310 P **P 03 10 47.3 +0.1**
KIEV pmax pmax
comp=Z,29nm,0.7s
KIEV Kiev 18.67 310 P **P 03 10 46.9 -0.2**
comp=Z,179nm,0.8s
AAA Alma-Ata 18.68 74 *e*P **P 03 10 47.7 +0.3**
AAA Alma-Ata 18.68 74 *e*P **P 03 10 47.7 +0.3**
CHKK Chushkaly 18.74 72 *e*P **P 03 10 48.3 +0.3**
CHKK Chushkaly 18.74 72 *e*P **P 03 10 48.2 +0.3**
MDOK Medeo 18.78 74 *e*P **P 03 10 48.5 -0.1**
MDOK Medeo 18.78 74 *e*P **P 03 10 48.5 -0.1**
BISRR Bisoca 19.01 293 P **P 03 10 50.1 -0.9**
comp=Z,259nm,1.2s
VRI Vrincioaia 19.03 294 ⇓P **Pn 03 10 56.4 +4.3**
JMDO Jabal Madar 19.06 162 P **P 03 10 51.9 +0.3**
PLOR5 Plostina Array 19.07 294 P **Pn 03 10 52.8 +0.2**
comp=Z,14nm,0.8s

PLOR Plostina 19.08 294 ⇑P **Pn 03 10 53.9 +1.2**
TESR Tescani 19.17 296 ⇑P **P 03 10 53.0 +0.3**
LUBAR Lubar, Ukraine 19.26 306 P **P 03 10 52.8 -0.8**
MI30 MI30,Zelenitsa 19.29 309 P **P 03 10 53.5 -0.4**
comp=Z,43nm,0.8s
MI29 MI29, Kamyanyy 19.37 308 P **P 03 10 54.5 -0.3**
comp=Z,314nm,0.8s
TARG Taragay, Kyrgy 19.43 79 P **P 03 10 56.6 +0.6**
TARG Taragay, Kyrgy 19.43 79 P **P 03 10 56.6 +0.6**
TARG pmax pmax
comp=Z,17nm,1.4s
MLR Muntele Rosu 19.54 293 P **Pn 03 10 59.3 +1.0**
MLR Muntele Rosu 19.54 293 P **Pn 03 10 57.8 -0.5**
comp=Z,0.3nm,0.3s,baz=36,slow=8.7,SNR=3.2
MLR LR LR 03 19 54.1
comp=Z,107nm,20.2s,baz=354,slow=41
comp=Z,1.5nm,0.5s
MLR Muntele Rosu 19.54 293 ⇑P **Pn 03 11 00.9 +2.6**
TURR Turia 19.55 294 ⇑P **Pn 03 11 04.2 +6.0**
JLN Jalan Bani Buh 19.59 159 P **P 03 10 57.8 +0.4**
SNR=11
MI28 MI28,Pidlybu 19.66 309 P **P 03 10 57.5 -0.5**
KMPD K-Podol'skiy 19.69 302 P **P 03 10 57.8 -0.5**
KMPD P **Pn 03 10 58.0 -1.8**
SATY Saty 19.78 75 *e*P **P 03 10 59.7 +0.1**
SATY Saty 19.78 75 *e*P **P 03 10 59.6 +0.1**
HORU Horodok 19.88 304 P **P 03 11 00.6 +0.3**
RDO Rodhopi 19.95 280 P **Pn 03 11 02.4 -0.6**
DOPR Dopca 19.97 294 ⇑P **P 03 11 01.9 +0.5**
KARP Karpathos 20.17 263 P **P 03 11 03.9 +0.2**
KARP Karpathos 20.17 263 *e*P Pn 03 11 04.8 -0.8
UZB Uzynbulak 20.23 74 *e*P **P 03 11 04.6 +0.2**
UZB Uzynbulak 20.23 74 *e*P **P 03 11 04.6 +0.2**
BURAR Bucovina Array 20.31 299 P **P 03 11 05.4 +0.2**
BURAR Bucovina Array 20.31 299 ⇑P **P 03 11 06.2 +1.0**
BURAR Bucovina Array 20.31 299 ⇑P **P 03 11 06.2 +1.0**
BUR08 Bucovina Ar. S 20.33 299 P **P 03 11 05.8 +0.5**
MHTO MHTO 20.36 164 P **P 03 11 06.1 +0.3**
ARR Arges 20.45 292 ⇑P **P 03 11 07.3 +0.6**
KSV Kosov 20.54 301 P **P 03 11 07.8 +0.2**
SHLS Shalkode 20.55 74 *e*P Pn 03 11 11.6 +1.5
SHLS Shalkode 20.55 74 *e*P Pn 03 11 11.6 +1.5
ARCR ARCALIA 20.81 297 ⇓P **P 03 11 10.5 0.0**
RNPP5 Staryi Chortor 20.82 309 P **P 03 11 10.7 +0.1**
RNPP8 Varash 20.88 309 P **P 03 11 11.1 -0.1**
RNPP9 Sopachiv 20.88 309 P **P 03 11 11.0 -0.2**
KURBB Kurchatov Arra 20.90 53 P Pn 03 11 13.9 -0.1
comp=Z,15nm,0.7s,baz=255,slow=11,SNR=64
KURBB S **S 03 15 02.2 -0.9**
comp=Z,1.1nm,0.6s,baz=248,slow=20,SNR=4.5
KURBB LR LR 03 20 40.0
comp=Z,157nm,18.0s,baz=169,slow=40
comp=Z,15nm,0.7s
KURK Kurchatov 20.99 53 P **P 03 11 13.3 +1.0**
KURK IAmb IAmb 03 11 16.9
comp=Z,26nm,0.7s
KURK Kurchatov 20.99 53 *ce*P Pn 03 11 14.9 -0.1
KURK pmax pmax
comp=Z,12nm,0.8s
STNU Starunia 20.99 301 P **P 03 11 12.2 -0.2**
RAKU Rahkiv 21.08 299 P **P 03 11 13.2 -0.2**
MNK Minsk 21.13 319 *i* P **P 03 11 12.4 -1.5**
comp=E,12nm,1.0s
MNK *i* P **P 03 11 12.4 -1.5**
comp=N,25nm,1.0s
MNK *i* P **P 03 11 12.4 -1.5**
comp=Z,31nm,0.9s,baz=120
MNK *i* PP **PnPn 03 11 32.1 -1.2**
MNK *i* PPP PPP 03 11 39.9
MNK *i* S **S 03 15 08.8 +1.3**
MNK *i* SS **SnSn 03 15 32.3 +2.7**
MNK *i* SSS SSS 03 15 45.8
MNK *i* LQ LQ 03 17 53.0
MNK *i* LR LR 03 19 23.6
MNK *i* LRM MLR 03 21 34.4
comp=N,281nm,16.6s
MNK *i* LRM MLR 03 21 41.1
comp=E,140nm,12.2s
MNK *i* LRM MLR 03 21 42.1
comp=Z,92nm,11.6s
MNK Minsk 21.13 319 *i* P **P 03 11 12.4 -1.5**
MNK *i* PPP PPP 03 11 39.8
MNK *i* S **S 03 15 08.8 +1.3**
MNK *i* SS **SnSn 03 15 32.3 +2.7**
MNK *i* SSS SSS 03 15 45.7
MNK pmax pmax
comp=Z,31nm,0.9s
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=E,12nm,1.0s
MNK MLR MLR
comp=N,281nm,17.0s
MNK MLR MLR
comp=E,140nm,12.0s
MNK MLR MLR
comp=Z,92nm,12.0s
DQM DQM 21.30 165 P **P 03 11 14.8 -1.1**
KLMR Klimovskoe 21.53 343 *e*P **P 03 11 15.5 -2.6**
KLMR *e*S **S 03 15 14.3 -0.9**
KLMR pmax pmax
comp=Z,42nm,1.0s
LVV L'vov 21.54 304 P **P 03 11 18.7 +0.4**
MARR Marisel-Cluj 21.61 296 ⇑P **P 03 11 20.0 +0.8**
GZR Gura Zlata 21.76 292 ⇑P **P 03 11 19.7 -1.1**
GZR Gura Zlata 21.76 292 ⇑P **P 03 11 19.7 -1.1**
SHIU Shidnytsya 21.83 302 P **P 03 11 21.2 -0.3**
NACGM Naroch 21.89 319 *e*P **P 03 11 21.8 -0.2**
comp=Z,24nm,0.8s,baz=120
DRGR 21.90 296 ⇓P **P 03 11 22.6 +0.3**
DRGR 21.90 296 ⇓P **P 03 11 22.6 +0.3**
IDI Anoyia 21.98 264 P **P 03 11 22.2 -1.0**
IDI IAmb IAmb 03 11 31.8
comp=Z,50nm,1.4s
IDI Anoyia 21.98 264 P **P 03 11 21.9 -1.3**
comp=Z,3.7nm,0.4s,baz=38,slow=20,SNR=8.8
comp=Z,3.7nm,0.4s
HERR Herculane 22.01 291 ⇑P **P 03 11 21.7 -1.7**
DOK Doka 22.15 175 P **P 03 11 23.9 -1.2**
SNR=39
SURR Surduc 22.23 293 ⇑P **P 03 11 26.3 +0.5**
KWP Kalwaria Pacla 22.33 303 P **P 03 11 29.8 +2.9**
IIGN Ignalina 22.39 319 *e*P **P 03 11 22.5 -4.9**
BZS Buzias 22.58 293 ⇑P **P 03 11 29.8 +0.3**
BZS Buzias 22.58 293 ⇑P **P 03 11 29.8 +0.3**
MK31 Makanchi Array 22.61 64 *i* P **P 03 11 31.3 +1.4**
MK31 pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 22.61 64 P **P 03 11 31.1 +1.2**
MKAR Makanchi Array 22.61 64 P **P 03 11 32.0 +2.1**
comp=Z,6.2nm,0.7s,baz=261,slow=9.1,SNR=46
MKAR S **S 03 15 34.2 -1.9**
comp=Z,0.7nm,0.6s,baz=269,slow=20,SNR=1.8
MKAR LR LR 03 21 10.5
comp=Z,83nm,21.7s,baz=300,slow=38
comp=Z,6.2nm,0.7s
MKAR Makanchi Array 22.61 64 P **P 03 11 31.1 +1.2**
WHFO Wadi Hawf 22.82 176 P **P 03 11 30.3 -1.9**
SNR=6.1
SHAO Shalim 22.88 171 P **P 03 11 31.3 -1.6**
SNR=17
DMTO DMTO 23.11 173 P **P 03 11 33.6 -1.6**
SNR=7.4
RBK Rabkut 23.26 175 P **P 03 11 35.0 -1.7**
SNR=5.9
ABTO Aybut 23.36 177 P **P 03 11 35.2 -2.6**
SNR=10
SUW Suwalki 23.38 314 *e*P **P 03 11 38.2 +0.7**
ITM Ithomi 23.58 271 P **P 03 11 38.3 -1.5**
ITM IAmb IAmb 03 11 39.4
comp=Z,36nm,1.3s
PABE Paberze 23.59 318 P **P 03 11 40.0 +0.4**
PABE IAmb IAmb 03 11 46.5
comp=Z,21nm,0.8s
PABE Paberze 23.59 318 *e*P **P 03 11 41.1 +1.5**
NIE Niedzica 23.83 302 P **P 03 11 44.3 +2.2**
BEL Belsk 24.04 308 *e*P **P 03 11 45.2 +1.3**
OJC Ojcow 24.29 304 *e*P **P 03 11 46.9 +0.5**
OJC Ojcow 24.29 304 P **P 03 11 46.8 +0.5**
OJC Ojcow 24.29 304 P **P 03 11 46.8 +0.5**
OJC Ojcow 24.29 304 P **P 03 11 47.0 +0.7**
comp=Z,16nm,0.8s
PDG Podgorica 24.45 285 P **P 03 11 49.1 +1.4**
PDG IAmb IAmb 03 11 51.0

comp=Z,10nm,0.5s
ARBE Arbavere 24.77 328 *e*P **P 03 11 51.0 +0.5**
JOF Joensuu 25.37 338 *e*P **P 03 11 56.9 +1.0**
SLIT Slitere, Latvi 25.41 322 *e*P **P 03 11 57.6 +1.3**
MAUC Maruska 25.43 301 *e*P **P 03 11 57.9 +1.2**
STEB Steborice 25.53 303 *e*P **P 03 11 58.5 +0.9**
ZAA0 Zalesovo Array 25.60 48 P **P 03 11 58.6 +0.5**
ZAA0 IAmb IAmb 03 12 00.6
comp=Z,8.3nm,0.6s
ZALV Zalesovo Beam 25.60 48 P **P 03 11 58.8 +0.7**
ZALV Zalesovo Beam 25.60 48 P **P 03 12 00.1 +2.0**
comp=Z,7.2nm,0.5s,baz=263,slow=11,SNR=28
ZALV LR LR 03 22 26.6
comp=Z,92nm,19.2s,baz=250,slow=37
comp=Z,7.2nm,0.5s
ZALV Zalesovo Beam 25.60 48 P **P 03 11 58.8 +0.7**
MORC Moravsky Berou 25.66 302 P **P 03 11 59.3 +0.5**
MORC Moravsky Berou 25.66 302 *e*P **P 03 12 00.0 +1.2**
MORC Moravsky Berou 25.66 302 P **P 03 11 59.3 +0.5**
MORC pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 26.01 331 P **P 03 12 01.9 +0.1**
FINES FINESS Array B 26.01 331 P **P 03 12 02.0 +0.2**
FINES FINESS Array B 26.01 331 P **P 03 12 02.1 +0.4**
comp=Z,7.5nm,0.5s,baz=144,slow=11,SNR=38
FINES LR LR 03 24 22.1
comp=Z,159nm,21.9s,baz=324,slow=41
comp=Z,7.5nm,0.5s
KRLC Kraliky 26.19 303 *e*P **P 03 12 03.4 -0.2**
KRLC Kraliky 26.19 303 *e*P **P 03 12 03.4 -0.2**
VRAC Vranov 26.22 301 *e*P **P 03 12 04.9 +1.0**
WMQ Urumqi 26.47 71 *e*P **P 03 12 09.4 +3.2**
DPC Dobruska-Polom 26.52 303 *e*P **P 03 12 06.8 +0.2**
DPC Dobruska-Polom 26.52 303 *e*P **P 03 12 06.8 +0.2**
DPC Dobruska-Polom 26.52 303 P **P 03 12 06.7 +0.2**
comp=Z,6.9nm,0.8s
KSP Ksiaz 26.60 304 P **P 03 12 10.8 +3.6**
KSP Ksiaz 26.60 304 P **P 03 12 08.1 +0.9**
comp=Z,5.0nm,0.8s
CHVC Chvalec 26.71 304 *e*P **P 03 12 09.7 +1.4**
CHVC Chvalec 26.71 304 *e*P **P 03 12 09.7 +1.4**
KEF Keuruu 26.91 332 *e*P **P 03 12 10.8 +0.9**
TIP Timpagrande 26.93 278 P **P 03 12 12.0 +1.6**
TIP IAmb IAmb 03 12 17.4
comp=Z,16nm,1.3s
SGRT San Giovanni R 27.13 284 P **P 03 12 12.2 0.0**
AAL Aland 27.70 325 *e*P **P 03 12 16.9 -0.1**
ZVC Zvikov 27.80 301 *e*P **P 03 12 19.0 +1.0**
BRG Berggiesshubel 28.08 304 *e*P **P 03 12 22.4 +1.9**
BRG Amp 03 12 22.9
comp=Z,6.3nm,0.9s
GERES GERESS Array B 28.09 300 P **P 03 12 19.5 -1.2**
comp=Z,0.6nm,0.5s,baz=83,slow=11,SNR=5.1
comp=Z,0.6nm,0.5s
KHC Kasperske Hory 28.18 300 *e*P **P 03 12 23.3 +1.8**
KHC Kasperske Hory 28.18 300 *e*P **P 03 12 23.3 +1.8**
VAF Ylistaro 28.26 332 *e*P **P 03 12 23.1 +1.2**
APA Apatity 28.73 345ǁ *e*P **P 03 12 24.9 -1.1**
APA *e* 03 13 14.1
APA *e*S **S 03 17 12.3 -1.1**
APA MLR MLR
comp=Z,1μm,8.8s
NRCA Norcia 28.87 287 P **P 03 12 29.4 +1.6**
NRCA IAmb IAmb 03 12 55.9
comp=Z,7.5nm,1.3s
DEL Delary 29.22 315 *i* P **P 03 12 31.7 +1.2**
LUNU Lund 29.23 314 *i* P **P 03 12 31.2 +0.7**
BJUU Bjuv 29.57 314 *i* P **P 03 12 34.1 +0.4**
BORU Boraas 30.13 317 *i* P **P 03 12 39.0 +0.4**
FUORN Ofenpass-Fuorn 30.45 295 P **P 03 12 41.6 -0.2**
ONAU Onsala 30.50 317 *i* P **P 03 12 42.2 +0.3**
HFS Hagfors 30.51 322 P **P 03 12 42.2 +0.2**
comp=Z,2.6nm,0.6s,baz=114,slow=8.4,SNR=19
comp=Z,2.6nm,0.6s
TJOU Tjoern 30.83 318 *i* P **P 03 12 44.9 +0.2**
TUE Stuetta 31.09 295 P **P 03 12 46.6 -0.9**
SSRD Sdr. Stenderup 31.31 312 *i* P **P 03 12 45.1 -3.9**
SSRD IAmb IAmb 03 12 47.0
comp=Z,65nm,1.0s
NORES NORESS Array B 31.73 323 P **P 03 12 52.6 0.0**
NB2 NORSAR Subarra 31.98 323 P **P 03 12 54.4 -0.6**
comp=Z,1.2nm,0.6s,baz=115,slow=9.3
NB2 NORSAR Subarra 31.98 323 P **P 03 12 55.2 +0.2**
NOA NORSAR Array B 31.98 323 P **P 03 12 54.8 -0.2**
comp=Z,1.3nm,0.7s,baz=111,slow=8.6,SNR=6.3
NOA LR LR 03 26 33.0
comp=Z,67nm,18.4s,baz=355,slow=38
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 32.01 343 P **P 03 12 56.1 +1.1**
comp=Z,0.8nm,0.4s,baz=148,slow=9.4,SNR=13
comp=Z,0.8nm,0.4s
HOMB Homborsund 32.49 317 *i* P **P 03 12 60.0 +0.7**
KNGR Kungurtug, Tuv 32.83 57 *i* P **P 03 13 05.6 +3.0**
KNGR pmax pmax
comp=Z,7.0nm,1.0s
GTA Gaotai 36.27 76 *e*P **P 03 13 33.8 +1.3**
GTA pP sP 03 13 46.4 +3.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=N,120nm,17.1s
GTA LR LR
comp=E,170nm,18.2s
GTA LR LR
comp=Z,170nm,17.8s
EKA Eskdalemuir Ar 38.57 311 P **P 03 13 51.8 +0.2**
comp=Z,2.1nm,0.3s,baz=96,slow=8.9,SNR=44
comp=Z,2.1nm,0.3s
SONM Songino Array 38.89 61 P **P 03 13 57.0 +2.5**
comp=Z,0.3nm,0.4s,baz=280,slow=8.2,SNR=1.8
comp=Z,0.3nm,0.4s
ULN Ulaanbaatar 39.32 61 *i* P **P 03 13 59.2 +1.1**
ULN pmax pmax
comp=Z,3.0nm,0.4s
SPITS Spitsbergen Ar 40.20 349 P **P 03 14 06.8 +1.8**
comp=Z,2.1nm,0.4s,baz=137,slow=11,SNR=25
comp=Z,2.1nm,0.4s
ESDC Sonseca Array 42.10 288 P **P 03 14 20.7 -0.4**
comp=Z,0.4nm,0.4s,baz=65,slow=8.1,SNR=5.9
comp=Z,0.4nm,0.4s
PZH PanZhiHua 43.25 93 P **P 03 14 30.9 +0.2**
HHC Hu-ho-hao-te 44.32 69 *e*P **P 03 14 39.2 +0.1**
HHC pmax pmax
comp=Z,13nm,0.7s
XAN Xi'an 45.05 80 ⇑P **P 03 14 45.9 +1.0**
XAN pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 45.84 105 P **P 03 14 51.9 +0.6**
comp=Z,1.3nm,0.4s,baz=305,slow=8.4,SNR=5.7
comp=Z,1.3nm,0.4s
TIXI Tiksi 47.82 25 LR LR 03 36 05.6
comp=Z,86nm,19.1s,baz=14,slow=37
YAK Yakutsk 49.47 37 LR LR 03 39 13.8
comp=Z,127nm,18.3s,baz=304,slow=40
HEH HeiHe 51.59 52 *e*P **P 03 15 36.7 +1.7**
HEH pmax pmax
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 51.70 253 P **P 03 15 34.9 -1.4**
comp=Z,0.4nm,0.5s,baz=36,slow=8.0,SNR=10
comp=Z,0.4nm,0.5s
CN2 Changchun 52.77 61 P **P 03 15 45.1 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 53.36 77 *e*P **P 03 15 48.3 -0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
USRK Ussuriysk Ar. 56.87 58 P **P 03 16 14.2 +0.6**
comp=Z,3.2nm,0.5s,baz=278,slow=8.3,SNR=5.9
comp=Z,3.2nm,0.5s
KSRS Korea Array 57.27 67 P **P 03 16 17.5 +1.0**
comp=Z,2.7nm,0.6s,baz=289,slow=6.5,SNR=10
comp=Z,2.7nm,0.6s
MA2 Magadan 59.95 36 LR LR 03 45 50.4
comp=Z,61nm,18.7s,baz=284,slow=39
DBIC Dimbokro 60.80 252 P **P 03 16 40.2 -1.0**
DBIC Dimbokro 60.80 252 P **P 03 16 39.2 -2.1**
comp=Z,5.1nm,1.0s,baz=60,slow=5.8,SNR=5.5
comp=Z,5.1nm,1.0s
DBIC Dimbokro 60.80 252 P **P 03 16 40.2 -1.0**
DBIC pmax pmax
comp=Z,7.0nm,0.8s
MATP Matopo 64.67 204 LR LR 03 50 41.8
comp=Z,48nm,18.0s,baz=12,slow=41
PETK Petropavlovsk- 66.75 39 LR LR 03 48 24.5
comp=Z,46nm,18.2s,baz=279,slow=38
E19K Redstone River 69.85 12 P **P 03 17 40.1 +1.0**

LBTB Lobatse 69.89 205 P **P 03 17 40.1 +0.2**
LBTB Lobatse 69.89 205 LR LR 03 51 21.2
comp=Z,50nm,19.1s,baz=14,slow=38
LBTB Lobatse 69.89 205 P **P 03 17 40.1 +0.2**
LBTB pmax pmax
comp=Z,20nm,1.5s
E24K Your Creek 70.39 8 P **P 03 17 43.4 +0.9**
E24K IAmb IAmb 03 17 44.9
comp=Z,9.2nm,1.4s
F21K Alatna River 70.61 10 P **P 03 17 45.0 +1.2**
F21K IAmb IAmb 03 17 45.7
comp=Z,5.0nm,0.6s
SCHQ Schefferville 71.41 328 P **P 03 17 48.8 -0.1**
comp=Z,50nm,0.8s,baz=108,slow=3.2,SNR=2.8
G26K Porcupine Rive 71.94 6 P **P 03 17 53.5 +1.7**
G26K IAmb IAmb 03 17 54.3
comp=Z,3.2nm,0.7s
G27K Doyon Strip 72.25 6 P **P 03 17 55.1 +1.4**
G27K IAmb IAmb 03 17 56.2
comp=Z,2.7nm,0.6s
H23K Yukon River 72.44 9 P **P 03 17 56.5 +1.6**
H23K IAmb IAmb 03 17 57.3
comp=Z,4.5nm,0.7s
G31M Satah River 72.54 3 P **P 03 17 55.9 +0.6**
BOSA Boshof 73.34 204 P **P 03 18 00.1 -0.6**
BOSA Boshof 73.34 204 P **P 03 18 00.1 -0.6**
comp=Z,2.5nm,0.8s,baz=21,slow=6.7,SNR=4.4
comp=Z,2.5nm,0.8s
COLA College 73.56 9*ce*P **P 03 18 03.9 +2.5**
COLA pmax pmax
comp=Z,3.0nm,1.3s
I26K Coal Creek Min 73.61 7 P **P 03 18 02.9 +1.1**
I26K IAmb IAmb 03 18 03.5
comp=Z,5.5nm,0.7s
I28M Miner Creek 73.72 5 P **P 03 18 03.0 +0.5**
ILAR Eielson Array 73.76 8 P **P 03 18 03.5 +0.8**
comp=Z,0.8nm,0.6s,baz=331,slow=4.8,SNR=12
comp=Z,0.8nm,0.6s
BPAW Bear Paw Mtn. 73.91 10 P **P 03 18 04.5 +1.0**
BPAW IAmb IAmb 03 18 06.8
comp=Z,7.3nm,1.3s
I30M Mount Dempster 74.15 4 P **P 03 18 05.6 +0.5**
I30M IAmb IAmb 03 18 06.4
comp=Z,14nm,1.4s
DAWY Dawson 75.13 5 P **P 03 18 11.3 +0.6**
DAWY IAmb IAmb 03 18 12.2
comp=Z,5.3nm,0.8s
K29M Barlow Dome 75.46 4 P **P 03 18 13.7 +1.0**
K29M IAmb IAmb 03 18 14.4
comp=Z,4.0nm,0.7s
SKT Skwentna 75.86 11 P **P 03 18 15.3 +0.5**
SKT IAmb IAmb 03 18 16.1
comp=Z,6.3nm,1.0s
BCAR Beaver Creek A 75.93 6 P **P 03 18 16.9 +1.6**
L27K Beaver Creek, 75.93 6 P **P 03 18 16.7 +1.4**
L27K IAmb IAmb 03 18 17.5
comp=Z,4.4nm,0.6s
HYT Haines Junctio 78.47 5 P **P 03 18 31.0 +1.3**
HYT IAmb IAmb 03 18 31.8
comp=Z,6.9nm,1.0s
DLBC Dease Lake 81.15 1 LR LR 04 02 41.0
comp=Z,217nm,18.1s,baz=4.0,slow=41
BBB Bella Bella 87.43 0 LR LR 04 08 15.3
comp=Z,34nm,18.2s,baz=24,slow=42
WRA Warramunga Arr 97.21 110 P **P 03 20 00.8 -1.0**
comp=Z,0.6nm,0.7s,baz=318,slow=4.2,SNR=7.1
comp=Z,0.6nm,0.7s
NVL N'lazarevskaya 114.91 194 *e*PKIKP **PKiKP 03 25 12.2 +3.9**
NVL *e* 03 26 10.9
NVL *e*PPP PPP 03 28 36.3
NVL *e* 03 32 24.6
NVL *e*SS SS 03 42 07.7 +6.0
NVL *e*SSS SSS 03 46 26.0
NVL pmax pmax
comp=Z,7.0nm,1.0s
NVL pmax pmax
comp=N,129nm,8.2s
NVL MLR MLR
comp=Z,95nm,20.0s
QSPA South Pole Qui 130.58 180 PKP **PKiKP 03 25 39.3 -0.2**
comp=Z,0.9nm,0.9s,baz=286,slow=0.8,SNR=2.3

CATAC ***09*** *03:14:00.1±0.5, 7°N±2°×7°3W±°, h167km±4km, M4.1/10, mb4.1/4, mB4.3/4, MLv4.3/10, Mw(mB)3.4/4, Error ellipse: s-maj=7.6km s-min=4.9km az=106.4, confirmed*
NEIC ***09*** *03:14:02.3±1.4, 6°78N±0°07×73°00W±0°08, h156km±6km, mb4.3/49, Error ellipse: s-maj=13.0km s-min=8.1km az=132.0*
IDC ***09*** *03:14:02.3±0.6, 6°74N×72°93W, h162km±7km, mb3.2/6, mbtmp3.9/10, Error ellipse: s-maj=20.3km s-min=7.2km az=135.0*
RSNC ***09*** *03:14:03.6±0.0, 7°N±1°×7°3W±°, h145km±1km, M4.1, mB4.8, mb4.3, ML3.8, Mw(mB)4.0*
ISC 09 03:14:02.0±0.6, **6°86N**±0°03×**73°10W**±0°04, **h154**km±5km, **n137**, σ1§**55**/183, **mb4.3**/30, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**198**	P	**Pn**	**03 14 23.4**	**+0.1**
BARC				S	**Sn**	**03 14 37.6**	**-1.9**
PAMC	**Pamplona, Colo**	**0.62**	**40**	P	**Pn**	**03 14 26.3**	**+1.3**
PAMC				S	**Sn**	**03 14 43.4**	**+0.9**
BRJC	**Barrancabermej**	**0.65**	**280**	P	**Pn**	**03 14 25.0**	**+0.4**
BRJC				S	**Sn**	**03 14 42.1**	**+0.3**
RUSC	**La Rusia**	**0.96**	**179**		**Pn**	**03 14 27.2**	**-0.2**
RUSC				Sn	**Sn**	**03 14 46.5**	**-0.3**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**03 14 27.1**	**-0.2**
RUSC				S	**Sn**	**03 14 46.2**	**-0.6**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**03 14 27.2**	**-0.2**
RUSC				S	**Sn**	**03 14 45.9**	**-0.9**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**03 14 31.4**	**+0.5**
OCAC				S	**Sn**	**03 14 53.8**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**03 14 29.7**	**-1.0**
PTBC				S	**Sn**	**03 14 50.9**	**-1.8**
SPBC	**San Pablo de B**	**1.54**	**219**	P	**Pn**	**03 14 32.1**	**-0.3**
SPBC				S	**Sn**	**03 14 54.7**	**-1.1**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**03 14 35.2**	**-0.5**
ZARC				S	**Sn**	**03 15 00.9**	**-0.8**
ROSC	**El Rosal**	**2.35**	**211**	Pn	**Pn**	**03 14 43.0**	**+1.1**
ROSC				Sn	**Sn**	**03 15 13.4**	**+0.8**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**03 14 43.0**	**+1.1**
	667nm,0.4s,baz=63,slow=17,SNR=466						
ROSC				S	**Sn**	**03 15 13.8**	**+1.2**
	1μm,0.5s,baz=98,slow=19,SNR=10						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**03 14 42.9**	**+1.1**
ROSC				S	**Sn**	**03 15 12.6**	**0.0**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**03 14 44.0**	**+0.2**
HELC				S	**Sn**	**03 15 15.0**	**-0.9**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**03 14 43.2**	**-0.6**
HELC				S	**Sn**	**03 15 14.3**	**-1.6**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**03 14 44.7**	**+0.6**
CVER				S	**Sn**	**03 15 16.0**	**-0.4**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**03 14 43.2**	**-1.0**
UREC				S	**Sn**	**03 15 14.5**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**03 14 47.3**	**0.0**
GUY2C				S	**Sn**	**03 15 20.8**	**-1.4**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**03 14 50.4**	**-0.1**
CBOC				S	**Sn**	**03 15 27.4**	**-0.6**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**03 14 50.6**	**-0.2**
DBBC				S	**Sn**	**03 15 26.2**	**-2.4**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**03 14 53.0**	**+1.2**
SDV				Sn	**Sn**	**03 15 30.0**	**-0.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**03 14 53.1**	**+1.2**
	67nm,0.3s,baz=228,slow=10,SNR=31						
SDV				S	**Sn**	**03 15 30.6**	**+0.3**
	181nm,0.5s,baz=62,slow=22,SNR=34						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**03 14 53.0**	**+1.2**
SDV				S	**Sn**	**03 15 30.0**	**-0.3**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**03 14 53.2**	**+1.3**
ARGC				S	**Sn**	**03 15 29.8**	**-0.9**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**03 14 54.1**	**+0.6**
ANIL				S	**Sn**	**03 15 32.5**	**-0.8**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**03 14 56.5**	**-0.7**
PRAC				S	**Sn**	**03 15 38.7**	**-1.5**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**03 14 56.2**	**-1.1**
PRAC				S	**Sn**	**03 15 38.3**	**-1.8**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**03 14 57.1**	**-0.2**
APAC				S	**Sn**	**03 15 39.6**	**-0.6**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**03 14 57.0**	**-0.7**
ORTC				S	**Sn**	**03 15 40.2**	**-0.7**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**03 14 57.2**	**-0.7**
SJCC				S	**Sn**	**03 15 37.6**	**-3.8**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**03 14 56.8**	**-1.2**
SJCC				S	**Sn**	**03 15 37.8**	**-3.6**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**03 15 00.2**	**+0.2**
URMC				S	**Sn**	**03 15 43.3**	**-1.8**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**03 15 03.5**	**-0.8**
CRJC				S	**Sn**	**03 15 50.8**	**-2.0**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**03 15 05.8**	**-0.9**
YOTC				S	**Sn**	**03 15 51.1**	**-5.9**
SOLC	**Bahia Solano**	**4.33**	**262**	P	**Pn**	**03 15 05.1**	**-1.6**
SOLC				S	**Sn**	**03 15 56.6**	**-0.5**
SMRC	**Santa Marta, M**	**4.42**	**345**		**Pn**	**03 15 07.9**	**0.0**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**03 15 08.9**	**+1.0**
SMRC				S	**Sn**	**03 15 56.5**	**-2.7**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**03 15 10.7**	**-0.7**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**03 15 10.2**	**-2.0**
MACC				S	**Sn**	**03 16 01.2**	**-5.7**
BETC	**Betania**	**4.76**	**209**	P	**Pn**	**03 15 11.6**	**-0.9**
BETC				S	**Sn**	**03 16 04.3**	**-3.2**
URI	**Uribia**	**4.93**	**13**	P	**Pn**	**03 15 13.7**	**-0.9**
URI				S	**Sn**	**03 16 07.4**	**-3.9**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**03 15 13.6**	**-1.0**
URIC				S	**Sn**	**03 16 07.8**	**-3.5**
BAUV	**El Baul**	**5.42**	**67**		**Pn**	**03 15 19.6**	**-1.5**
BAUV				Sn	**Sn**	**03 16 18.8**	**-4.0**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**03 15 23.2**	**-0.3**
	33nm,0.5s						
POPC				S	**Sn**	**03 16 22.8**	**-4.3**
	33nm,0.5s						
FLOC	**Florencia**	**5.83**	**206**		**Pn**	**03 15 26.1**	**-0.5**
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**03 15 25.6**	**-1.0**
FLOC				S	**Sn**	**03 16 29.1**	**-3.6**
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**03 15 32.5**	**-0.8**
GR1C				S	**Sn**	**03 16 41.3**	**-3.6**
BBAC	**Balboa, Cauca**	**6.34**	**221**	P	**Pn**	**03 15 33.7**	**+0.1**
	729nm16nm,0.5s						
BBAC				S	**Sn**	**03 16 43.9**	**-1.4**
	729nm16nm,0.5s						
CRUC	**La Cruz**	**6.51**	**216**	P	**Pn**	**03 15 38.3**	**+2.3**
GCUF	**Volcan Galeras**	**7.02**	**217**	P	**Pn**	**03 15 43.6**	**+0.7**
	9.1nm,0.8s						
BCIP	**Isla Barro Col**	**7.06**	**289**		**Pn**	**03 15 40.9**	**-2.0**
BCIP	**Isla Barro Col**	**7.06**	**289**	P	**Pn**	**03 15 40.9**	**-2.0**
CMBC	**Cumbal**	**7.54**	**219**	P	**Pn**	**03 15 50.0**	**+0.3**
CUSE	**Cuicocha Este**	**8.39**	**219**	P	**Pn**	**03 16 00.7**	**-0.4**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**03 16 08.5**	**-0.2**
	5.8nm,0.5s,baz=298,slow=6.1,SNR=21						
PCRV				S	**Sn**	**03 17 45.8**	**-2.8**
	13nm,0.8s,baz=184,slow=7.3,SNR=2.7						
SGC2	**Sao Gabriel da**	**9.26**	**139**	P	**Pn**	**03 16 12.3**	**0.0**
SOCE	**Pocosol**	**11.92**	**288**	Pn	**Pn**	**03 16 48.9**	**+1.7**
MTDJ	**Mount Denham**	**12.10**	**339**	Pn	**Pn**	**03 16 51.7**	**+2.1**
JTS	**Las Juntas de**	**12.21**	**287**	Pn	**Pn**	**03 16 51.6**	**+0.6**
JTS	**Las Juntas de**	**12.21**	**287**	P	**Pn**	**03 16 53.5**	**+2.5**
	2.2nm,0.3s,baz=237,slow=17,SNR=6.5						
DR12	**Loma Pena Alta**	**12.39**	**17**	Pn	**Pn**	**03 16 53.2**	**-0.3**
CELP	**Cerrillos**	**12.83**	**29**	Pn	**Pn**	**03 16 57.0**	**-1.9**
GTBY	**Guantanamo Bay**	**13.13**	**352**	*e*P	**P**	**03 17 06.9**	**-0.4**
MASC	**Masc**	**13.28**	**355**	*e*P	**P**	**03 17 07.6**	**-1.3**
BOAV	**Boa Vista**	**13.29**	**109**		**Pn**	**03 17 02.2**	**-2.7**
RCC	**Rio Carpintero**	**13.30**	**349**	*e*P	**P**	**03 17 08.9**	**-0.2**
MARVS	**Santiago de Cu**	**13.34**	**349**	*e*P	**P**	**03 17 08.5**	**-1.1**
QMBU	**Quimbuelo**	**13.36**	**353**	*e*P	**P**	**03 17 08.9**	**-1.0**
LMGC	**Las Mercedes**	**13.66**	**344**	*e*P	**P**	**03 17 12.1**	**-1.1**
PINC	**Pinares de May**	**13.79**	**349**	*e*P	**P**	**03 17 14.5**	**-0.1**
YAR	**Yar**	**13.80**	**347**	*e*P	**P**	**03 17 15.4**	**+0.7**
HLGC	**Holguin**	**14.24**	**349**	*e*P	**P**	**03 17 24.1**	**+4.5**
CCCC	**Cccc**	**14.95**	**343**	*e*P	**P**	**03 17 32.3**	**+4.8**
MGV	**Manicaragua**	**16.55**	**337**	*e*P	Pn	03 17 53.7	+8.4
MTQ3	**Montecristo**	**17.64**	**296**	P	**P**	**03 17 57.1**	**-0.3**
TEIG	**Tepich**	**19.83**	**314**	P	**P**	**03 18 22.0**	**+1.0**
TEIG				IAmb	IAmb	03 18 38.2	
	comp=Z,28nm,1.4s						
CCM	**Cathedral Cave**	**35.15**	**335**	P	**P**	**03 20 41.3**	**+0.4**
CCM				IAmb	IAmb	03 20 42.6	
	comp=Z,7.3nm,0.8s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**03 20 52.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=124,slow=9.4,SNR=8.0						
TXAR				PcP	**PcP**	**03 23 14.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=102,slow=4.2,SNR=5.0						
	comp=Z,0.5nm,0.7s						
EMMW	**East Machias**	**38.02**	**7**	P	**P**	**03 21 06.5**	**+1.3**
EMMW				IAmb	IAmb	03 21 15.8	
	comp=Z,7.9nm,0.9s						
G62A	**West of Eustis**	**38.28**	**3**	P	**P**	**03 21 08.8**	**+1.4**
G62A				IAmb	IAmb	03 21 10.1	
	comp=Z,14nm,1.2s						
GGN	**Saint George**	**38.50**	**7**	P	**P**	**03 21 10.7**	**+1.5**
GGN				IAmb	IAmb	03 21 28.3	
	comp=Z,19nm,1.4s						
BUKO	**Buck Lake**	**38.82**	**353**	P	**P**	**03 21 12.2**	**+0.2**
BUKO				IAmb	IAmb	03 21 16.2	
	comp=Z,9.0nm,1.2s						
MNTX	**Cornudas Mount**	**38.96**	**314**	P	**P**	**03 21 13.9**	**+0.5**
MNTX				IAmb	IAmb	03 21 15.3	
	comp=Z,5.7nm,1.4s						
JFWS	**Jewell Farm**	**38.97**	**340**	P	**P**	**03 21 13.4**	**+0.3**
JFWS				IAmb	IAmb	03 21 24.1	
	comp=Z,6.0nm,0.9s						
F64A	**Sherman**	**39.07**	**5**	P	**P**	**03 21 13.9**	**-0.1**
TRQ	**Mont Tremblant**	**39.23**	**358**	P	**P**	**03 21 16.0**	**+0.6**
LMN	**Caledonia Moun**	**39.50**	**9**	P	**P**	**03 21 18.7**	**+1.1**
GBN	**Guysborough**	**39.70**	**13**	P	**P**	**03 21 18.9**	**-0.2**
E62A	**Clayton Lake**	**39.73**	**4**	P	**P**	**03 21 21.8**	**+2.2**
E62A				IAmb	IAmb	03 21 22.2	
	comp=Z,5.1nm,1.0s						
D62A	**Allapoint, All**	**40.23**	**4**	P	**P**	**03 21 25.7**	**+2.2**
D62A				IAmb	IAmb	03 21 25.9	
	comp=Z,8.3nm,0.8s						
BATG	**Bathurst New B**	**40.72**	**7**	P	**P**	**03 21 28.5**	**+0.9**
LDAQ	**Lac Daran**	**40.99**	**2**	P	**P**	**03 21 30.9**	**+1.1**
LDAQ				IAmb	IAmb	03 21 59.3	
	comp=Z,8.0nm,1.2s						
VLDQ	**Val d'Or**	**41.27**	**356**	P	**P**	**03 21 33.7**	**+1.7**
VLDQ				IAmb	IAmb	03 21 52.0	
	comp=Z,12nm,1.4s						
ECSD	**EROS Data Cent**	**42.12**	**334**	P	**P**	**03 21 39.9**	**+0.8**
ICQ	**Pointe Anglais**	**42.80**	**6**	P	**P**	**03 21 45.0**	**+0.7**
EYMN	**Ely**	**43.84**	**342**	P	**P**	**03 21 53.3**	**+0.4**
EPLO	**Experimental L**	**46.06**	**341**	P	**P**	**03 22 10.1**	**-0.2**
EPLO				IAmb	IAmb	03 22 32.8	
	comp=Z,9.1nm,1.1s						
BSUT	**Blindstream Ca**	**47.48**	**321**	P	**P**	**03 22 23.2**	**+1.2**
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**03 22 26.9**	**+0.7**
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**03 22 26.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=134,slow=11,SNR=4.6						
	comp=Z,0.4nm,0.5s						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**03 22 26.9**	**+0.9**
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**03 22 26.8**	**+0.7**
	comp=Z,48nm,0.6s,baz=187,slow=8.4,SNR=7.7						
HWUT	**Hardware Ranch**	**48.59**	**322**	P	**P**	**03 22 30.4**	**+0.2**
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**03 22 53.5**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=85,slow=7.2,SNR=3.6						
	comp=Z,0.6nm,0.8s						
HATC	**Hat Creek Radi**	**54.69**	**316**	P	**P**	**03 23 14.6**	**-0.9**
KEBM	**Edson Butte**	**57.49**	**317**	P	**P**	**03 23 37.4**	**+2.2**
YKA	**

comp=Z,4.1nm,1.0s
J25K Salcha River, 76.27 335 P **P 03 25 34.0 +0.5**
BMAR Burnt Mountain 76.63 338 P **P 03 25 35.8 +0.3**
ILAR Eielson Array 76.94 335 P **P 03 25 37.2 0.0**
ILAR Eielson Array 76.94 335 P **P 03 25 37.1 -0.1**
comp=Z,0.4nm,0.8s,baz=78,slow=5.2,SNR=4.4
comp=Z,0.4nm,0.8s
RND Reindeer 77.53 333 P **P 03 25 41.8 +1.2**
RND IAmb IAmb 03 25 57.5
comp=Z,7.5nm,1.4s
KTH Kantishna Hill 78.47 333 P **P 03 25 46.3 +0.5**
G23K Bananza Creek 78.57 337 P **P 03 25 46.8 +0.6**
G23K IAmb IAmb 03 25 50.2
comp=Z,6.4nm,1.4s
C24K Franklin Bluff 78.62 340 P **P 03 25 47.2 +0.8**
SPU Mount Spurr 78.70 331 P **P 03 25 47.5 +0.5**
PPLA Purkeypile 78.96 333 P **P 03 25 49.0 +0.4**
PPLA IAmb IAmb 03 25 49.6
comp=Z,5.0nm,0.8s
E22K Anaktuvuk Pass 79.47 338 P **P 03 25 51.6 +0.5**
K20K Telida 79.85 333 P **P 03 25 53.1 -0.2**
K20K IAmb IAmb 03 25 57.0
comp=Z,10nm,1.5s
J20K Nowinta River 79.96 334 P **P 03 25 53.9 +0.1**
J20K IAmb IAmb 03 25 58.0
comp=Z,4.4nm,1.2s
IMAR Indian Mountai 79.96 336 P **P 03 25 54.5 +0.7**
L19K White Mountain 80.12 332 P **P 03 25 54.8 0.0**
L19K IAmb IAmb 03 26 18.7
comp=Z,6.0nm,1.3s
B21K Ikpikpuk River 80.65 339 P **P 03 25 58.2 +0.9**
MKAR Makanchi Array 122.28 20 PKP **PKPdf 03 32 38.2 -0.8**
comp=Z,0.2nm,0.4s,baz=7.5,slow=3.0,SNR=3.0
ASAR Alice Springs 149.15 234 PKPbc **PKPbc 03 33 32.0 -1.1**
comp=Z,0.9nm,0.5s,baz=117,slow=3.6,SNR=7.9
WRA Warramunga Arr 150.38 241 PKPbc **PKPbc 03 33 35.1 -1.1**
comp=Z,0.9nm,0.4s,baz=102,slow=2.3,SNR=10

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*IDC **09** 03:23:37.5±0.7,23°.92S×177°.12W,h0km,mb3.8/11, mbtmp3.8/12,ML3.4/1,MS3.5/13,Error ellipse: s-maj=29.9km s-min=20.0km az=159.0*
ISC 09 03:23:42.7±0.6,23°.9S±0°.2×177°.1W±0°.1,h35km,n33, σ1§16/16,mb3.9/11,MS3.6/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.15**	**198**	LR	LR	03 31 10.6	
comp=Z,64nm,21.6s,baz=5.0,slow=30							
DZM	**Mont Dzumac**	**15.28**	**274**	*e*P	P	03 27 32.1	+12
42nm,26.8s							
DZM				*e*LR	LR	03 30 57.0	
376nm,25.1s							
RAR	**Rarotonga**	**16.21**	**84**	Pn	**Pn**	**03 27 25.7**	**-2.1**
1.5nm,0.3s,baz=284,slow=17,SNR=3.5							
RAR				LR	LR	03 32 40.0	
comp=Z,95nm,20.1s,baz=282,slow=33							
17nm,0.9s							
HNR	**Honiara**	**26.23**	**299**	LR	LR	03 37 31.7	
comp=Z,191nm,20.1s,baz=329,slow=32							
PPT2	**Papeete2**	**26.45**	**81**	*e*LR	LR	03 35 39.5	
256nm,30.2s							
PPT2				*e*LR	LR	03 35 47.3	
295nm,26.2s							
PPT	**Papeete**	**26.45**	**81**	LR	LR	03 39 27.9	
comp=Z,64nm,18.7s,baz=287,slow=36							
STKA	**Stephens Creek**	**37.20**	**248**	P	**P**	**03 30 50.5**	**-0.2**
0.4nm,0.5s,baz=90,slow=9.1,SNR=3.5							
STKA				LR	LR	03 44 09.2	
comp=Z,90nm,20.1s,baz=33,slow=33							
0.4nm,0.5s							
TAOE	**Nuku Hiva Isla**	**38.31**	**73**	*e*LR	LR	03 41 11.2	
141nm,28.4s							
ASAR	**Alice Springs**	**44.67**	**260**	P	**P**	**03 31 52.2**	**-0.2**
1.8nm,0.9s,baz=94,slow=8.0,SNR=11							
1.8nm,0.9s							
WRA	**Warramunga Arr**	**45.07**	**265**	P	**P**	**03 31 54.6**	**-1.0**
1.3nm,0.6s,baz=103,slow=8.4,SNR=9.9							
WRA				LR	LR	03 49 47.5	
comp=Z,100nm,18.1s,baz=130,slow=35							
1.3nm,0.6s							
VNDA	**Vanda**	**54.62**	**186**	LR	LR	03 53 56.7	
comp=Z,25nm,19.6s,baz=335,slow=33							
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**03 34 28.7**	**+2.0**
1.2nm,1.1s,baz=6.1,slow=8.6,SNR=2.7							
QSPA				LR	LR	03 58 05.1	
comp=Z,27nm,20.8s,baz=17,slow=31							
1.2nm,1.1s							
MAW	**Mawson**	**78.67**	**200**	P	**P**	**03 35 40.6**	**-0.2**
0.7nm,0.5s,baz=142,slow=12,SNR=2.4							
0.7nm,0.5s							
NVAR	**Mina Array Bea**	**82.92**	**43**	P	**P**	**03 36 05.5**	**+1.3**
0.1nm,0.3s,baz=268,slow=4.4,SNR=2.0							
0.1nm,0.3s							
H03S2	**Juan Fernandez**	**83.38**	**124**	T	T	05 07 53.7	
baz=244,slow=74,SNR=44							
H03S1	**Juan Fernandez**	**83.39**	**124**	T	T	05 07 58.0	
baz=244,slow=74,SNR=50							
H03S3	**Juan Fernandez**	**83.40**	**124**	T	T	05 07 56.8	
baz=244,slow=74,SNR=63							
H03N2	**Juan Fernandez**	**83.54**	**124**	T	T	05 08 03.4	
baz=250,slow=73,SNR=95							
H03N3	**Juan Fernandez**	**83.54**	**124**	T	T	05 08 03.3	
baz=250,slow=73,SNR=130							
H03N1	**Juan Fernandez**	**83.55**	**124**	T	T	05 08 01.2	
baz=250,slow=73,SNR=70							
KDAK	**Kodiak Island**	**83.92**	**13**	LR	LR	04 04 47.9	
comp=Z,39nm,21.6s,baz=253,slow=29							
SNAA	**Sanae**	**84.60**	**178**	P	**P**	**03 36 11.7**	**-0.4**
1.4nm,1.1s,baz=224,slow=6.6,SNR=3.8							
1.4nm,1.1s							
PLCA	**Paso Flores**	**86.33**	**133**	P	**P**	**03 36 20.4**	**-0.9**
1.0nm,0.9s,baz=300,slow=7.4,SNR=3.0							
1.0nm,0.9s							
TXAR	**Lajitas Array**	**88.18**	**57**	P	**P**	**03 36 32.4**	**+2.0**
0.2nm,0.8s,baz=224,slow=7.0,SNR=9.4							
0.2nm,0.8s							
ANMO	**Albuquerque**	**88.87**	**51**	LR	LR	04 10 49.2	
comp=Z,48nm,18.1s,baz=72,slow=32							
CMIG	**Matias Romero**	**89.93**	**71**	LR	LR	04 13 44.0	
comp=Z,22nm,18.1s,baz=20,slow=33							
PDAR	**Pinedale Array**	**90.85**	**43**	P	**P**	**03 36 42.9**	**+0.1**
0.2nm,0.7s,baz=259,slow=1.5,SNR=3.6							
0.2nm,0.7s							
ILAR	**Eielson Array**	**91.43**	**12**	P	**P**	**03 36 44.8**	**+0.1**
0.2nm,0.9s,baz=206,slow=5.9,SNR=1.5							
0.2nm,0.9s							
JTS	**Las Juntas de**	**96.02**	**81**	LR	LR	04 13 06.4	
comp=Z,20nm,18.3s,baz=318,slow=31							
LPAZ	**La Paz**	**99.97**	**113**	P	**Pdif**	**03 37 25.1**	**-0.3**
1.4nm,0.5s,baz=359,slow=2.9,SNR=4.6							
LPAZ				LR	LR	04 16 45.2	
comp=Z,17nm,18.2s,baz=140,slow=32							
AKASG	**Malin Array Be**	**146.38**	**329**	PKPbc	**PKPbc**	**03 43 19.1**	**-0.5**
1.2nm,0.6s,baz=42,slow=4.1,SNR=7.3							
BRTR	**Keskin Array B**	**149.69**	**309**	PKPbc	**PKPbc**	**03 43 28.2**	**-0.8**
1.2nm,1.1s,baz=144,slow=4.4,SNR=3.7							
MMAI	**Mount Meron Ar**	**150.13**	**295**	PKPbc	**PKiKP**	**03 43 30.6**	**-0.4**
2.8nm,0.7s,baz=73,slow=5.0,SNR=6.3							

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*NEIC **09** 03:23:53.8±0.7,36°.55N±0°.03×70°.06E±0°.10,h233km±9km, mb4.1/3,Error ellipse: s-maj=12.1km s-min=3.2km az=71.0*
*NNC **09** 03:23:57.1±2.2,36°.80N×70°.04E,h184km±32km,mb2.8, mpv3.8,Error ellipse: s-maj=21.5km s-min=12.9km az=6.0*
ISC 09 03:23:53.3±0.9,36°.56N±0°.07×70°.02E±0°.08,h213km,n27, σ1§90/30,2C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.16**	**202**		**Pn**	**03 24 36.0**	**+1.3**
CHGR	**Chuyangaron**	**2.20**	**342**		**Pn**	**03 24 37.0**	**+2.0**
GAR	**Garm**	**2.45**	**5**		**Pn**	**03 24 39.4**	**+1.9**
DRK	**Karamyk**	**3.24**	**25**	Pn	**Pn**	**03 24 48.2**	**+1.5**
NIL	**Nilore**	**3.93**	**137**	Pn	**Pn**	**03 24 55.8**	**+1.0**
ARSB	**Arslanbob**	**5.29**	**25**		**Pn**	**03 25 12.3**	**+0.5**
JMU	**Jammu**	**5.56**	**132**	*e*P	**Pn**	**03 25 18.9**	**+3.8**
JMU				*e*S	**S**	**03 26 14.6**	**-5.1**
JMU				IAML		03 26 17.2	
comp=E,166nm,0.4s							
JMU				IAML		03 26 17.5	
comp=N,191nm,0.2s							
TSSA	**Tissa**	**6.27**	**125**	*e*P	**Pn**	**03 25 26.8**	**+2.3**
TSSA				*e*S	S	03 26 28.9	-7.7
TSSA				IAML		03 26 34.1	
comp=N,175nm,0.6s							
TSSA				IAML		03 26 35.2	
comp=E,194nm,0.0s							
KK31 Karatay Array		**6.55**	**3**		**Pn**	**03 25 28.4**	**+0.7**
KK31 Karatay Array		**6.55**	**3**	⇓P	**Pn**	**03 25 28.2**	**+0.5**
comp=E,4.2nm,0.3s,baz=182,slow=13,SNR=40							
KK31				⇑S	**S**	**03 26 40.3**	**-2.5**
comp=E,16nm,0.7s							
KKAR Karatay Array		**6.55**	**3**		**Pn**	**03 25 28.6**	**+0.9**
DHRM DHARAMSHALA		**6.74**	**128**	*e*P	**Pn**	**03 25 33.0**	**+2.5**
DHRM				*e*S	S	03 26 39.5	-8.2
DHRM				IAML		03 26 44.0	
comp=N,199nm,0.2s							
DHRM				IAML		03 26 44.0	
comp=E,193nm,0.2s							
AAK Ala-Archa		**6.99**	**28**		**Pn**	**03 25 34.4**	**+0.8**
AAK Ala-Archa		**6.99**	**28**	⇓P	**Pn**	**03 25 34.1**	**+0.5**
comp=E,2.3nm,0.5s							
AAK				⇓S	**S**	**03 26 51.7**	**-1.5**
comp=E,7.0nm,0.6s							
BOOM Boomskoye usch		**7.49**	**36**	Pn	**Pn**	**03 25 40.3**	**+0.3**
KDJ Kajisay		**7.86**	**43**	Pn	**Pn**	**03 25 45.3**	**+0.5**
TARG Taragay, Kyrgy		**7.95**	**47**	Pn	**Pn**	**03 25 46.4**	**+0.1**
SMLA Simla		**8.04**	**130**	*e*P	**Pn**	**03 25 49.9**	**+2.8**
SMLA				*e*S	S	03 27 08.2	-10
SMLA				IAML		03 27 13.7	
comp=E,145nm,0.4s							
SMLA				IAML		03 27 15.8	
comp=N,133nm,0.3s							
MAKZ Makanchi		**13.58**	**37**		**Pn**	**03 26 58.0**	**+0.6**
MK31 Makanchi Array		**13.72**	**38**	P	**Pn**	**03 26 59.7**	**+0.5**
MK31 Makanchi Array		**13.72**	**38**	⇑P	**Pn**	**03 27 01.2**	**+2.0**
comp=N,0.6nm,0.4s,baz=224,slow=19,SNR=17							
MKAR Makanchi Array		**13.72**	**38**	Pn	**Pn**	**03 26 58.4**	**-0.8**
AB31 Akbulak array		**14.66**	**333**	⇓P	**P**	**03 27 13.6**	**+2.2**
comp=N,0.3nm,0.3s,baz=153,slow=13,SNR=6.1							
ZAA0 Zalesovo Array		**20.20**	**26**	P	**P**	**03 28 10.9**	**-0.7**
ZAA0				IAmb	IAmb	03 28 15.0	
comp=Z,3.2nm,0.6s							
ZALV Zalesovo Beam		**20.20**	**26**	P	**P**	**03 28 11.2**	**-0.4**
MARD Mardin		**23.34**	**281**	P	**P**	**03 28 41.1**	**-1.6**
MARD				IAmb	IAmb	03 28 41.3	
comp=Z,5.5nm,0.4s							
OSSC Osservatorio P		**44.71**	**298**	P	**P**	**03 31 44.3**	**-1.0**
OSSC				IAmb	IAmb	03 32 21.8	
comp=Z,8.1nm,1.2s							

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*NEIC **09** 03:43:17.8±1.7,7°.02S±0°.09×151°.2E±0°.1,h10km±1km, mb4.7/35,Error ellipse: s-maj=23.6km s-min=10.6km az=120.0*
*IDC **09** 03:43:22.3±2.3,7°.10S×151°.15E,h64km±19km,mb3.9/13, mbtmp4.2/14,MS3.4/5,Error ellipse: s-maj=20.1km s-min=12.6km az=119.0*
ISC 09 03:43:20.2±0.6,7°.02S±0°.08×151°.14E±0°.10,h40km,n63, σ1§91/63,mb4.5/29,MS3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL Rabaul		**2.99**	**20**		**Pn**	**03 44 04.7**	**-0.5**
RABL				Sn	**Sn**	**03 44 40.4**	**+0.6**
PMG Port Moresby		**4.60**	**239**		**Pn**	**03 44 28.0**	**+0.7**
PMG Port Moresby		**4.60**	**239**	P	**Pn**	**03 44 27.7**	**+0.4**
18nm,0.3s,baz=58,slow=5.9,SNR=6.1							
PMG				S	**Sn**	**03 45 22.2**	**+2.7**
36nm,0.3s,baz=12,slow=17,SNR=8.7							
PMG				LR	LR	03 46 17.7	
comp=Z,219nm,18.1s,baz=107,slow=38							
HNR Honiara		**9.04**	**106**	LR	LR	03 48 36.2	
comp=Z,51nm,20.4s,baz=279,slow=35							
COEN Coen		**10.43**	**228**	Pn	**Pn**	**03 45 47.2**	**-0.2**
MTN Manton Dam		**20.53**	**252**	P	**P**	**03 47 56.8**	**+1.3**
WB0 Warramunga Arr		**20.61**	**230**		**P**	**03 47 55.2**	**-1.1**
WRA Warramunga Arr		**20.75**	**230**	P	**P**	**03 47 57.8**	**0.0**
WRA Warramunga Arr		**20.75**	**230**	P	**P**	**03 47 57.3**	**-0.5**
3.9nm,0.7s,baz=54,slow=11,SNR=22							
WRA				S	**S**	**03 51 40.3**	**-7.2**
0.5nm,0.8s,baz=60,slow=22,SNR=3.0							
3.9nm,0.7s							
DZM Mont Dzumac		**21.02**	**137**	P	**P**	**03 48 00.4**	**-0.4**
DZM				IAmb	IAmb	03 48 01.8	
comp=Z,17nm,1.2s							
DZM Mont Dzumac		**21.02**	**137**	P	**P**	**03 48 00.2**	**-0.6**
comp=Z,4.6nm,0.5s,baz=279,slow=12,SNR=7.7							
comp=Z,4.6nm,0.5s							
INKA Innaminka		**22.84**	**204**	P	**P**	**03 48 20.8**	**+0.7**
AS31 Alice Springs		**23.41**	**223**		**P**	**03 48 28.0**	**+2.2**
ASAR Alice Springs		**23.41**	**223**	P	**P**	**03 48 25.1**	**-0.7**
ASAR Alice Springs		**23.41**	**223**	P	**P**	**03 48 26.4**	**+0.5**
comp=Z,4.2nm,0.9s,baz=59,slow=8.7,SNR=19							
ASAR				S	**S**	**03 52 33.9**	**-2.5**
comp=Z,0.2nm,0.4s,baz=35,slow=22,SNR=4.3							
comp=Z,4.2nm,0.9s							
KNRA Kununurra		**23.54**	**247**	P	**P**	**03 48 27.9**	**+0.7**
KNRA				IAmb	IAmb	03 48 37.1	
comp=Z,7.6nm,0.7s							
STKA Stephens Creek		**26.29**	**199**		**P**	**03 48 50.6**	**-1.5**
STKA				IAmb	IAmb	03 48 58.3	
comp=Z,27nm,1.0s							
STKA Stephens Creek		**26.29**	**199**	P	**P**	**03 48 51.0**	**-1.1**
comp=Z,3.1nm,0.6s,baz=17,slow=11,SNR=7.9							
comp=Z,3.1nm,0.6s							
FITZ Fitzroy Crossi		**27.17**	**244**		**P**	**03 49 00.5**	**+0.2**
URZ Urewera		**38.98**	**147**	LR	LR	04 04 27.0	
comp=Z,72nm,18.1s,baz=245,slow=32							
JNU Nakatsue		**44.32**	**335**	LR	LR	04 07 49.4	
comp=Z,28nm,18.2s,baz=4.0,slow=33							
KSRS Korea Array		**49.27**	**336**	P	**P**	**03 52 04.5**	**-0.6**
comp=Z,1.7nm,0.8s,baz=153,slow=8.4,SNR=7.1							
comp=Z,1.7nm,0.8s							
CMAR Chiang Mai Arr		**57.36**	**297**	P	**P**	**03 53 04.2**	**-0.7**
comp=Z,1.8nm,0.3s,baz=103,slow=7.5,SNR=4.5							
comp=Z,1.8nm,0.3s							
PETK Petropavlovsk-		**60.15**	**5**	P	**P**	**03 53 22.6**	**-1.1**
comp=Z,4.3nm,0.8s,baz=183,slow=8.5,SNR=4.4							
comp=Z,4.3nm,0.8s							
SONM Songino Array		**67.34**	**329**	P	**P**	**03 54 11.3**	**-0.1**
comp=Z,0.8nm,0.6s,baz=140,slow=7.0,SNR=2.7							
comp=Z,0.8nm,0.6s							
SBA Scott Base		**71.27**	**177**	P	**P**	**03 54 35.9**	**+0.8**
Q19K Cape Douglas,		**79.05**	**26**	P	**P**	**03 55 22.0**	**+1.9**
CNPM China Poot		**80.42**	**26**		**P**	**03 55 29.8**	**+2.3**
MKAR Makanchi Array		**80.92**	**320**	P	**P**	**03 55 31.1**	**+0.7**
comp=Z,0.8nm,0.9s,baz=111,slow=6.6,SNR=4.5							
comp=Z,0.8nm,0.9s							
E19K Redstone River		**82.79**	**18**	P	**P**	**03 55 42.2**	**+2.4**
E19K				IAmb	IAmb	03 55 43.1	
comp=Z,5.9nm,0.8s							
SML Sawmill		**82.81**	**25**	P	**P**	**03 55 42.4**	**+2.2**
BPAW Bear Paw Mtn.		**82.95**	**22**	P	**P**	**03 55 41.8**	**+1.0**
BPAW				IAmb	IAmb	03 55 43.2	
comp=Z,9.0nm,1.3s							
QSPA South Pole Qui		**82.96**	**180**	P	**P**	**03 55 44.3**	**+3.3**
QSPA South Pole Qui		**82.96**	**180**	P	**P**	**03 55 39.0**	**-2.0**
comp=Z,2.0nm,1.3s,baz=60,slow=2.1,SNR=6.7							
comp=Z,2.0nm,1.3s							
F20K Avaraart Lake		**83.00**	**18**	P	**P**	**03 55 42.9**	**+2.0**
F20K				IAmb	IAmb	03 55 44.6	
comp=Z,4.1nm,0.9s							
IMAR Indian Mountai		**83.01**	**20**	P	**P**	**03 55 42.4**	**+1.4**
FID Port Fidalgo		**83.09**	**26**	P	**P**	**03 55 42.5**	**+1.0**
C19K Lookout Ridge		**83.16**	**16**	P	**P**	**03 55 44.0**	**+2.2**
C19K				IAmb	IAmb	03 55 49.9	
comp=Z,8.1nm,1.2s							
G21K Allakaket		**83.40**	**19**	P	**P**	**03 55 44.8**	**+1.8**
G21K				IAmb	IAmb	03 55 46.2	
comp=Z,3.4nm,0.9s							
MCK McKinley		**83.53**	**23**	P	**P**	**03 55 45.2**	**+1.4**
MLY Manley		**83.53**	**21**	P	**P**	**03 55 46.2**	**+2.4**
MLY				IAmb	IAmb	03 55 47.5	
comp=Z,5.6nm,0.7s							
F21K Alatna River		**83.81**	**19**	P	**P**	**03 55 47.0**	**+1.8**
F21K				IAmb	IAmb	03 55 55.1	
comp=Z,5.3nm,1.2s							
DHY Denali Highway		**83.82**	**24**	P	**P**	**03 55 46.6**	**+1.2**
DHY				IAmb	IAmb	03 55 51.2	
comp=Z,4.1nm,0.6s							
M24K Tolsona, Glenn		**83.85**	**25**	P	**P**	**03 55 49.3**	**+3.8**
BOOM Boomskoye usch		**83.92**	**314**	P	**P**	**03 55 47.9**	**+1.4**
BOOM				IAmb	IAmb	03 55 48.4	
comp=Z,5.0nm,0.8s							
I23K Minto, Yukon-K		**84.09**	**21**	P	**P**	**03 55 48.7**	**+2.2**
I23K				IAmb	IAmb	03 55 51.6	
comp=Z,8.3nm,1.4s							
WRH Wood River Hil		**84.22**	**22**	P	**P**	**03 55 48.4**	**+1.2**
WRH				IAmb	IAmb	03 55 54.6	
comp=Z,12nm,1.3s							
H23K Yukon River		**84.38**	**21**	P	**P**	**03 55 50.2**	**+2.2**
H23K				IAmb	IAmb	03 55 52.0	
comp=Z,4.1nm,1.0s							
B20K Meade River		**84.40**	**16**	P	**P**	**03 55 50.2**	**+2.2**
CCB Clear Creek Bu		**84.42**	**22**	P	**P**	**03 55 49.1**	**+0.9**
CCB				IAmb	IAmb	03 55 50.4	
comp=Z,10nm,1.4s							
KURBB Kurchatov Arra		**84.52**	**322**	P	**P**	**03 55 47.9**	**-1.2**
comp=Z,0.8nm,0.5s,baz=116,slow=4.2,SNR=9.0							
comp=Z,0.8nm,0.5s							
WAX Waxell Ridge		**84.57**	**27**	P	**P**	**03 55 51.6**	**+2.4**
IL31		**84.82**	**22**	P	**P**	**03 55 51.1**	**+0.9**
IL31				IAmb	IAmb	03 55 52.7	
comp=Z,5.0nm,0.8s							
ILAR Eielson Array		**84.82**	**22**		**P**	**03 55 51.3**	**+1.0**
ILAR Eielson Array		**84.82**	**22**	P	**P**	**03 55 51.0**	**+0.7**
comp=Z,3.5nm,0.8s,baz=252,slow=4.9,SNR=28							
comp=Z,3.5nm,0.8s							
DOT Dot Lake		**85.41**	**24**	P	**P**	**03 55 55.1**	**+1.8**
DOT				IAmb	IAmb	03 55 57.8	
comp=Z,4.9nm,0.9s							
D23K Nanushuk River		**85.66**	**18**	P	**P**	**03 55 56.7**	**+2.3**
BCAR Beaver Creek A		**86.10**	**25**	P	**P**	**03 55 59.8**	**+3.1**
K27K Chicken		**86.37**	**24**	P	**P**	**03 56 00.9**	**+2.9**
K27K				IAmb	IAmb	03 56 02.0	
comp=Z,2.8nm,0.8s							
BVAR Borovoye Array		**90.02**	**323**	P	**P**	**03 56 14.3**	**-1.3**
comp=Z,0.6nm,0.5s,baz=87,slow=7.4,SNR=2.4							
comp=Z,0.6nm,0.5s							
ABKAR Akbulak array		**96.04**	**319**	P	**P**	**03 56 42.4**	**-1.1**
ELK Elko		**97.27**	**50**	LR	LR	04 29 57.5	
comp=Z,135nm,21.9s,baz=301,slow=29							
TORD Torodi Ar. Bea		**149.32**	**284**	PKPbc	**PKPbc**	**04 03 06.6**	**+0.7**
comp=Z,1.1nm,0.6s,baz=50,slow=3.7,SNR=11							

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*SJA **09** 04:07:24.5±0.9,22°.65S×66°.11W,h270km±6km,ML3.5, MW3.7*
*IDC **09** 04:07:26.4±1.9,22°.80S×65°.99W,h237km±20km,mb3.6/1, mbtmp3.8/5,Error ellipse: s-maj=36.7km s-min=23.2km az=110.0*
ISC 09 04:07:25.4±0.9,22°.78S±0°.06×66°.17W±0°.06,h262km±7km, n27,σ1§78/37,3C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA Humahuaca		**0.82**	**121**	*e*P	**Pn**	**04 08 02.0**	**+0.8**
HJA				*e*S	**S**	**04 08 29.6**	**+0.2**
HJA				IAML		04 08 35.5	
comp=Z,68nm,0.7s							
YJA Yavi		**0.85**	**45**	*e*P	**Pn**	**04 08 02.2**	**+0.7**
YJA				*e*S	**S**	**04 08 28.6**	**-1.3**
YJA				IAML		04 08 29.3	
comp=Z,39nm,0.4s							
SALTA		**1.45**	**186**	⇑*i*P	**Pn**	**04 08 07.1**	**+2.1**
SALTA		**1.45**	**186**	*e*P	**Pn**	**04 08 06.1**	**+1.1**
SALTA				*e*S	**S**	**04 08 37.2**	**+0.9**
SALTA				IAML		04 08 39.0	
comp=Z,44nm,1.0s							
AZAP Zapla		**1.75**	**145**	*e*P	**Pn**	**04 08 07.8**	**+0.8**
AZAP				*e*S	**S**	**04 08 39.9**	**-0.1**
AZAP				IAML		04 08 42.6	
comp=Z,87nm,0.6s							
AF01 San Pedro de A		**1.86**	**264**	⇑*i*P	**Pn**	**04 08 09.8**	**+1.9**
AF01				*i*S	**S**	**04 08 43.2**	**+1.6**
AF01				IAML		04 09 05.0	
comp=N,143nm,0.2s							
PB09 IPOC Station P		**3.01**	**288**	⇑*i*P	**Pn**	**04 08 20.2**	**+1.3**
PB09				*i*S	**S**	**04 09 00.5**	**-0.9**
PB09 IPOC Station P		**3.01**	**288**	*e*P	**Pn**	**04 08 18.9**	**-0.1**
PB09				*e*S	**S**	**04 08 59.7**	**-1.6**
PB09				IAML		04 09 03.3	
comp=Z,289nm,0.1s							
PB06 IPOC Station P		**3.15**	**271**	*e*P	**Pn**	**04 08 21.0**	**+0.7**
FSA Cafayete		**3.32**	**177**	*e*P	**Pn**	**04 08 23.7**	**+1.5**
PB03 IPOC Station P		**3.40**	**282**	*e*P	**Pn**	**04 08 23.5**	**+0.4**
PB03 IPOC Station P		**3.40**	**282**	*e*P	**Pn**	**04 08 23.3**	**+0.3**
PB03				*e*S	**S**	**04 09 06.4**	**-2.5**
PB03				IAML		04 09 06.8	
comp=Z,942nm,0.1s							
PB01 IPOC Station P		**3.54**	**299**	⇓*i*P	**Pn**	**04 08 25.1**	**+0.6**
PB02 IPOC Station P		**3.75**	**292**	*e*P	**Pn**	**04 08 27.4**	**+0.4**
PB08 IPOC Station P		**3.83**	**313**	*e*P	**Pn**	**04 08 29.5**	**+1.3**
GO02 Mina Guanaco		**3.93**	**232**	*e*P	**Pn**	**04 08 30.4**	**+1.3**
PB10 IPOC Station P		**4.10**	**259**	*e*P	**Pn**	**04 08 31.2**	**+0.4**
PATCX Punta Patache		**4.19**	**297**	*e*P	**Pn**	**04 08 32.1**	**+0.1**
PB14 IPOC Station P		**4.30**	**244**	*e*P	**Pn**	**04 08 34.4**	**+1.0**
TA01 Diego Aracena		**4.34**	**300**	*e*P	**Pn**	**04 08 33.4**	**-0.3**
TA02 Huaiquique		**4.46**	**303**	*e*P	**Pn**	**04 08 35.5**	**+0.5**
LPAZ La Paz		**6.72**	**344**	P	**Pn**	**04 09 04.1**	**+0.7**
comp=Z,0.8nm,0.3s,baz=217,slow=5.6,SNR=4.2							
LPAZ				S	**S**	**04 10 18.9**	**-3.1**
comp=Z,2.4nm,0.8s,baz=310,slow=14,SNR=7.7							
SIV San Ignacio		**8.29**	**36**	P	**Pn**	**04 09 22.5**	**0.0**
comp=Z,2.9nm,0.6s,baz=211,slow=6.2,SNR=21							
CFA Coronel Fontan		**8.98**	**191**	P	**Pn**	**04 09 32.1**	**+1.1**
comp=Z,0.9nm,0.3s,baz=349,slow=8.1,SNR=29							
CFA				S	**S**	**04 11 05.7**	**-7.1**
comp=Z,1.5nm,0.3s,baz=281,slow=19,SNR=11							
BDFB Brasilia		**18.55**	**71**	P	**Pn**	**04 11 25.1**	**-2

Q19K Cape Douglas, 0.81 198 Sn 04 30 23.2 -0.1
NCT North Crescent 0.87 8 Pn 04 30 09.2 -0.1
RDJH Redoubt Jeurge 0.91 11 Pn 04 30 09.7 0.0
DFR Drift River 0.93 15 Pn 04 30 09.8 0.0
DFR Sn 04 30 25.1 -0.2
CNPM China Poot 0.99 99 Pn 04 30 10.3 0.0
CNPM IAML 04 30 27.1
comp=N,960nm,0.6s
CNPM IAML 04 30 29.9
comp=E,1μm,0.4s
O18K Koktuh Hills 1.05 279 Pn 04 30 10.5 -0.3
P18K Big Mountain, 1.10 255 Pn 04 30 10.9 -0.6
P18K Big Mountain, 1.10 255 Sn 04 30 27.0 -1.3
BRLK Bradley Lake 1.16 86 Pn 04 30 11.7 -0.3
BRLK IAML 04 30 30.7
comp=N,719nm,0.1s
BRLK IAML 04 30 31.3
comp=E,694nm,0.5s
SYI Shuyak Island 1.16 160 Pn 04 30 12.3 +0.2
SYI IAML 04 30 31.6
comp=N,2μm,0.8s
SYI IAML 04 30 32.2
comp=E,976nm,0.4s
BRSE Bradley Lake S 1.23 87 Pn 04 30 12.6 -0.2
N19K Bonanza Creek 1.30 330 Pn **Pn 04 30 13.6 -0.1**
N19K IAML 04 30 32.3
comp=N,358nm,0.8s
KAHG Katmai Hook Gl 1.40 211 Pn 04 30 15.2 +0.3
KAHC Katmai Hardscr 1.42 223 Pn 04 30 15.2 +0.1
KARR Katmai Rainbow 1.44 214 Pn 04 30 15.7 +0.4
CKL Chakachamna La 1.56 15 Pn 04 30 17.0 +0.3
KAWH Katmai 1.57 213 Pn 04 30 16.9 0.0
SPCR Spurr Chakacha 1.58 17 Pn 04 30 17.2 +0.3
SPU Mount Spurr 1.58 20 Pn 04 30 17.2 +0.2
SPCN Chakachatna No 1.60 17 Pn 04 30 17.6 +0.3
SPWE Spurr West 1.61 11 Pn 04 30 17.9 +0.5
SPBG Spurr Blockage 1.61 14 Pn 04 30 18.0 +0.6
SPBG **Sn 04 30 39.2 +0.3**
N18K Kilae Creek 1.68 307 Pn **Pn 04 30 17.6 -0.5**
SLKM Skilak Lake 1.68 60 Pn 04 30 18.2 0.0
SLKM **Sn 04 30 40.1 -0.2**
SLKM Skilak Lake 1.68 60 IAML 04 30 40.3
comp=N,1μm,0.4s
SLKM IAML 04 30 41.4
comp=E,914nm,0.3s
SPNN North Nagishla 1.69 8 Pn 04 30 18.7 +0.3
SPCG Spurr Capps Gl 1.69 19 Pn 04 30 18.8 +0.4
KAKN Katmai Knife C 1.72 216 Pn 04 30 18.8 +0.1
P17K Kvichak River 1.75 255 Pn 04 30 19.1 +0.1
KABU Katmai Buttres 1.81 218 Pn 04 30 20.2 +0.5
ACHA Angle Creek He 1.87 218 Pn 04 30 20.7 +0.1
MGLS Mageik Landsli 1.88 214 Pn 04 30 21.0 +0.4
O22K Cooper Landing 1.89 64 Pn 04 30 20.9 +0.2
SEW Seward 1.91 76 Pn 04 30 21.0 +0.1
SEW IAML 04 30 46.9
comp=E,289nm,0.8s
STLK Strandline Lak 1.92 19 Pn 04 30 21.6 +0.5
STLK IAML 04 30 48.9
comp=N,270nm,0.6s
ANCK Angle Creek 1.93 220 Pn 04 30 21.7 +0.4
KDAK Kodiak Island 1.95 171 Pn 04 30 20.6 -0.8
KDAK IAML 04 30 46.5
comp=N,288nm,0.3s
KDAK IAML 04 30 46.5
comp=N,481nm,0.5s
KDAK Kodiak Island 1.95 171 P **Pn 04 30 20.6 -0.8**
comp=N,97nm,0.4s,baz=18,slow=5.2,SNR=618
KDAK S **Sn 04 30 45.1 -1.0**
comp=N,112nm,0.3s,baz=6.6,slow=21,SNR=7.7
O17K Koliganek Bris 1.99 274 Pn 04 30 21.9 0.0
Q16K King Salmon 2.07 242 Pn 04 30 23.3 +0.4
SUA Susitna One 2.13 33 Pn 04 30 24.4 +0.5
N17K Nushagak Hills 2.18 294 Pn 04 30 24.3 -0.1
M20K Styx River 2.19 0 Pn 04 30 25.0 +0.4
RC01 Rabbit Creek A 2.20 49 Pn 04 30 24.9 +0.2
RC01 IAML 04 30 52.5
comp=E,824nm,0.3s
M18K Stony River 2.23 325 Pn 04 30 24.6 -0.3
M19K Big River Lodg 2.29 345 Pn 04 30 25.8 -0.1
SKT Skwentna 2.42 19 Pn 04 30 27.4 -0.1
SKT IAML 04 31 00.1
comp=E,132nm,0.3s
SKT IAML 04 31 05.1
comp=N,133nm,0.6s
OHAK Old Harbor 2.49 182 Pn 04 30 27.2 -1.1
O16K Kokwok River B 2.50 270 Pn 04 30 28.7 +0.1
M22K Willow 2.54 35 Pn 04 30 29.6 +0.5
PLK2 Peulik 2 2.55 222 Pn 04 30 29.9 +0.7
PLK1 Peulik 1 2.62 225 Pn 04 30 30.7 +0.7
PLK4 Peulik 4 2.66 220 Pn 04 30 31.4 +0.6
PLK4 IAML 04 31 04.3
comp=E,162nm,1.4s
PLK4 IAML 04 31 04.3
comp=N,151nm,1.1s
PWL Port Wells 2.67 62 Pn 04 30 30.2 -0.6
M17K Holitna River 2.71 311 Pn 04 30 31.3 0.0
PMR Palmer 2.75 45 Pn 04 30 31.3 -0.4
PMR IAML 04 31 04.8
comp=E,218nm,0.5s
PMR IAML 04 31 05.6
comp=N,241nm,0.7s
PLBL Peulik Blue Cr 2.77 225 Pn 04 30 32.6 +0.6
KNK Knik Glacier 2.89 51 Pn 04 30 33.4 -0.3
N16K Nishlik Lake 2.91 288 Pn 04 30 34.4 +0.5
P23K Montague Islan 2.92 82 Pn 04 30 34.4 +0.4
P23K IAML 04 31 08.9
comp=E,194nm,0.7s
P23K IAML 04 31 11.0
comp=N,293nm,0.6s
GHO Glory Hole Cre 2.94 43 Pn 04 30 34.0 -0.4
CUT Chulitna 3.06 26 Pn 04 30 36.4 +0.6
CUT IAML 04 31 16.3
comp=N,339nm,0.5s
CUT IAML 04 31 18.2
comp=E,312nm,0.3s
M16K Timber Creek 3.17 297 Pn 04 30 37.8 +0.5
SML Sawmill 3.18 46 Pn 04 30 37.0 -0.4
SML IAML 04 31 14.9
comp=E,275nm,1.0s
PPLA Purkeypile 3.24 8 Pn 04 30 39.3 +0.9
PPLA IAML 04 31 39.1
comp=E,86nm,1.4s
GLI Glacier Island 3.24 66 Pn 04 30 37.6 -0.7
GLI IAML 04 31 15.1
comp=N,305nm,0.5s
M23K Glacier View 3.40 49 Pn 04 30 39.9 -0.5
HIN Hinchinbrook I 3.41 75 Pn 04 30 40.3 -0.3
O15K Ungalikthiuk R 3.44 264 Pn 04 30 41.9 +0.9
FID Port Fidalgo 3.50 70 Pn 04 30 40.3 -1.4
FID IAML 04 31 20.8
comp=E,270nm,0.5s
FID IAML 04 31 21.4
comp=N,294nm,0.4s
L17K Donlin 3.50 316 Pn 04 30 41.3 -0.3
N15K Kwethluk River 3.52 281 Pn 04 30 43.0 +1.0
SCM Sheep Creek Mo 3.57 51 Pn 04 30 42.6 -0.1
SCM IAML 04 31 25.7
comp=E,262nm,0.7s
WAT7 Susitna Watana 3.77 32 Pn 04 30 45.5 +0.1
EYAK Cordova Ski Ar 3.81 74 Pn 04 30 45.3 -0.4
EYAK IAML 04 31 29.7
comp=E,61nm,0.4s
EYAK IAML 04 31 30.7
comp=N,62nm,0.5s
WAT1 Susitna Watana 3.85 33 Pn 04 30 46.4 0.0
WAT6 Susitna Watana 3.91 40 Pn 04 30 46.8 -0.5
K17K Iditarod 3.92 323 Pn 04 30 47.2 0.0
DIV Divide 3.94 65 Pn 04 30 47.4 -0.2
DIV IAML 04 31 34.3
comp=E,92nm,0.4s
DIV IAML 04 31 37.9
comp=N,130nm,0.5s
KLU Klutina 4.00 60 Pn 04 30 47.8 -0.6
TRF Thorofare Moun 4.01 19 Pn 04 30 48.8 +0.2
TRF IAML 04 31 58.4
comp=N,84nm,0.5s
TRF IAML 04 31 59.3
comp=E,64nm,0.8s
KTH Kantishna Hill 4.01 14 Pn 04 30 48.5 -0.1
KTH IAML 04 31 59.3
comp=N,54nm,0.8s
KTH IAML 04 32 10.7
comp=E,59nm,1.5s
J18K Innoko River 4.14 337 Pn 04 30 50.1 -0.2

M24K Tolsona, Glenn 4.18 52 Pn 04 30 51.1 +0.2
RND Reindeer 4.25 27 Pn 04 30 51.8 0.0
RND IAML 04 31 40.6
comp=E,43nm,0.5s
RND IAML 04 31 57.8
comp=N,41nm,0.7s
GOAT Goat Mountain 4.31 75 Pn 04 30 52.5 -0.1
DHY Denali Highway 4.38 37 Pn 04 30 53.2 -0.4
DHY IAML 04 31 44.7
comp=N,81nm,0.5s
DHY IAML 04 31 45.4
comp=E,119nm,0.6s
BMRM Bremner River 4.44 70 Pn 04 30 53.4 -0.9
BMRM IAML 04 31 44.9
comp=E,120nm,0.3s
BMRM IAML 04 31 48.1
comp=N,112nm,0.5s
M14K Bethel 4.51 287 Pn 04 30 56.3 +1.1
M14K Bethel 4.51 287 IAML 04 32 23.1
comp=N,56nm,3.0s
M14K IAML 04 32 55.5
comp=E,57nm,2.3s
HMT Hamilton 4.51 78 Pn 04 30 55.5 +0.2
MCK McKinley 4.52 25 Pn 04 30 55.6 +0.3
MCK IAML 04 31 50.1
comp=E,40nm,0.5s
MCK IAML 04 32 23.5
comp=N,32nm,0.8s
BPAW Bear Paw Mtn. 4.53 12 Pn 04 30 54.9 -0.7
N25K Chitina, Valde 4.63 62 Pn 04 30 57.0 +0.1
N25K IAML 04 31 49.7
comp=N,73nm,0.5s
NICHA Nichawak Mount 4.65 79 Pn 04 30 57.5 +0.3
HARP HAARP 4.74 52 Pn 04 30 59.5 +1.1
BERG Berg Lake 4.79 78 Pn 04 30 59.2 +0.1
BWN Browne 4.81 20 Pn 04 30 59.7 +0.4
BWN IAML 04 32 30.8
comp=E,78nm,2.1s
BWN IAML 04 33 24.8
comp=N,68nm,1.8s
WACK Wrangell Chich 4.89 58 Pn 04 31 02.2 +1.6
GLB Gilahina Butte 4.93 65 Pn 04 31 00.6 -0.4
GLB IAML 04 31 57.5
comp=E,64nm,0.8s
PAX Paxson 4.95 45 Pn 04 31 01.1 -0.1
PAX IAML 04 32 10.3
comp=N,49nm,0.8s
PAX IAML 04 32 11.7
comp=E,50nm,0.7s
GRIN Grindle Hills 4.98 79 Pn 04 31 01.9 +0.4
KHIT Khitrov Hills 5.02 77 Pn 04 31 02.4 +0.2
VRDI Verde Repeater 5.04 68 Pn 04 31 02.3 -0.3
VRDI IAML 04 31 59.5
comp=E,43nm,0.6s
VRDI IAML 04 32 00.1
comp=N,77nm,0.6s
J16K Anvik River 5.06 318 Pn 04 31 02.5 -0.1
J16K IAML 04 31 50.8
comp=E,16nm,3.4s
CRQM Cirque 5.11 74 Pn 04 31 03.6 +0.1
I20K Naaghedeneel 5.15 354 Pn 04 31 04.1 +0.3
I20K IAML 04 31 45.8
comp=N,67nm,2.7s
SNH Sunshine Point 5.21 80 Pn 04 31 05.1 +0.3
SNH IAML 04 32 04.6
comp=N,60nm,0.4s
SNH IAML 04 32 07.9
comp=E,59nm,1.0s
WAX Waxell Ridge 5.22 77 Pn 04 31 05.0 +0.2
TGL Tana Glacier 5.26 74 Pn 04 31 05.8 +0.3
TGL IAML 04 32 04.9
comp=N,76nm,0.6s
TGL IAML 04 32 08.3
comp=E,56nm,0.5s
NEA2 Nenana 5.27 20 Pn 04 31 04.8 -0.7
MCARA McCarthy VSAT 5.28 67 Pn 04 31 06.0 +0.4
MCARA IAML 04 32 08.6
comp=E,80nm,0.4s
WRH Wood River Hil 5.35 24 Pn 04 31 06.0 -0.5
WRH IAML 04 32 06.9
comp=N,16nm,0.8s
WRH IAML 04 32 09.2
comp=E,19nm,0.6s
BARK Barkley Ridge 5.39 78 Pn 04 31 07.9 +0.6
MLY Manley 5.47 11 Pn 04 31 07.7 -0.5
ISLE Juniper Island 5.48 76 Pn 04 31 08.5 0.0
PTPK Patty Peak 5.50 70 Pn 04 31 09.5 +0.7
KIAG Kiagna River 5.51 72 Pn 04 31 08.8 -0.1
BALM Baldy 5.53 71 Pn 04 31 09.5 +0.3
HDA Harding Lake 5.55 29 Pn 04 31 08.6 -0.7
CCB Clear Creek Bu 5.56 25 Pn 04 31 08.7 -0.7
BAGL Bagley Icefiel 5.60 77 Pn 04 31 10.7 +0.8
MESA MESA 5.66 80 Pn 04 31 11.5 +0.6
RIDG Independent Ri 5.66 41 Pn 04 31 10.8 0.0
I23K Minto, Yukon-K 5.75 16 Pn 04 31 11.5 -0.3
COLA College 5.75 23 Pn 04 31 11.4 -0.5
YAH Yahtse 5.76 78 Pn 04 31 13.1 +0.7
L26K Log Cabin Wild 5.78 51 Pn 04 31 13.4 +1.1
GRNC Granite Creek 5.78 75 Pn 04 31 13.2 +0.6
BARN Barnard Glacie 5.87 72 Pn 04 31 14.4 +0.7
DOT Dot Lake 5.87 44 Pn 04 31 14.1 +0.5
H20K Anotleneega Mo 5.87 353 Pn 04 31 13.6 0.0
IL01 5.87 27 Pn 04 31 12.6 -0.9
IL31 5.87 27 Pn 04 31 12.9 -0.6
ILAR Eielson Array 5.87 27 Pn 04 31 12.9 -0.7
ILAR Eielson Array 5.87 27 P **Pn 04 31 12.6 -1.0**
comp=E,22nm,0.5s,baz=215,slow=13,SNR=382
ILAR S **Sn 04 32 17.2 -2.3**
comp=E,4.7nm,0.5s,baz=202,slow=24,SNR=6.0
RKAV Rock Avalanche 5.96 79 Pn 04 31 16.0 +1.0
H18K Honhosa River 5.98 338 Pn 04 31 14.5 -0.6
CTGM Chitina Glacie 6.01 73 Pn 04 31 16.5 +0.9
POKR Poker Plat Res 6.05 24 Pn 04 31 15.6 -0.4
TABL Table Mountain 6.07 78 Pn 04 31 17.2 +0.7
CHX Chaix Hills 6.08 81 Pn 04 31 17.5 +1.0
SCRK Sand Creek 6.10 41 Pn 04 31 16.1 -0.8
LOGN Logan Glacier 6.16 74 Pn 04 31 18.1 +0.5
IMAR Indian Mountai 6.31 358 Pn 04 31 20.2 +0.7
H23K Yukon River 6.37 14 Pn 04 31 19.5 -0.8
L27K Beaver Creek, 6.40 53 Pn 04 31 21.2 +0.4
BCAR Beaver Creek A 6.42 53 Pn 04 31 21.1 0.0
PCA Pinnacle 6.51 81 Pn 04 31 23.1 +0.9
O28M Mount Upton 6.55 75 Pn 04 31 24.2 +1.2
K27K Chicken 6.80 46 Pn 04 31 26.1 -0.1
PRP Porcupine Dome 6.81 28 Pn 04 31 26.5 0.0
BCPM Bancas Point 6.83 82 Pn 04 31 27.0 +0.4
G21K Allakaket 6.84 359 Pn 04 31 27.2 +0.5
PNL Peninsula 6.97 84 Pn 04 31 28.5 0.0
G23K Bananza Creek 7.18 10 Pn 04 31 31.2 -0.1
I26K Coal Creek Min 7.28 35 Pn 04 31 32.2 -0.4
O29M Mount Kennedy 7.34 79 Pn 04 31 34.3 +0.7
F19K Shaleruckik Mo 7.45 346 Pn 04 31 35.5 +0.6
F20K Avaraart Lake 7.47 352 Pn 04 31 35.6 +0.5
G24K Hadweenzic Riv 7.48 18 Pn 04 31 34.5 -0.9
F21K Alatna River 7.55 359 Pn 04 31 36.8 +0.5
EGAK Eagle 7.57 43 Pn 04 31 36.6 +0.1
M29M Somme Creek 7.64 63 Pn 04 31 38.0 +0.4
COLD Coldfoot 7.67 9 Pn 04 31 37.9 0.0
FYU Fort Yukon 7.76 24 Pn 04 31 38.6 -0.5
G25K Bearman Lake 7.77 21 Pn 04 31 38.4 -0.8
P29M Windy Craggy 7.81 84 Pn 04 31 40.5 +0.6
DAWY Dawson 7.83 50 Pn 04 31 40.8 +0.6
HYT Haines Junctio 7.87 75 Pn 04 31 41.7 +1.0
L29M L29M 7.98 58 Pn 04 31 43.1 +1.0
E19K Redstone River 7.99 349 Pn 04 31 42.9 +0.6
N30M Aishikik Lake 8.11 71 Pn 04 31 43.9 -0.1
F24K Squaw Lake 8.19 14 Pn 04 31 44.4 -0.5
I28M Miner Creek 8.38 41 Pn 04 31 47.2 -0.5
G26K Porcupine Rive 8.40 26 Pn 04 31 46.4 -1.3
H27K Steamboat Moun 8.41 34 Pn 04 31 47.6 -0.4
M30M Minto, Yukon 8.42 63 Pn 04 31 49.0 +0.9
E22K Anaktuvuk Pass 8.49 3 Pn 04 31 49.6 +0.6
E23K Chandalar 8.54 9 Pn 04 31 49.2 -0.5
O30N Mendenhall 8.56 75 Pn 04 31 50.4 +0.3
F25K Christian Rive 8.59 20 Pn 04 31 49.2 -1.2
BMAR Burnt Mountain 8.64 23 Pn 04 31 49.4 -1.7
E24K Your Creek 8.65 12 Pn 04 31 50.9 -0.4
N31M Braeburn, Yuko 8.74 71 Pn 04 31 53.1 +0.7
G27K Doyon Strip 8.80 31 Pn 04 31 52.0 -1.3
F26K Sheenjek River 8.96 23 Pn 04 31 53.6 -1.7
E25K Arctic Village 9.08 18 Pn 04 31 55.7 -1.4
DLBC Dease Lake 11.96 86 P **Pn 04 32 37.7 +1.9**
comp=E,28nm,0.4s,baz=225,slow=8.3,SNR=8.9
DLBC S **Sn 04 34 46.9 -0.2**
comp=E,14nm,0.7s,baz=140,slow=26,SNR=1.7
INK Inuvik 12.13 36 P **Pn 04 32 37.9 0.0**
comp=E,2.0nm,0.6s,baz=234,slow=15,SNR=6.2
YKA Yellowknife Ar 18.65 65 P **P 04 33 59.0 +1.1**
comp=E,1.3nm,0.5s,baz=250,slow=10,SNR=4.5
SEY Seymchan 25.67 301 LR LR 04 45 16.0
comp=E,52nm,18.2s,baz=329,slow=36
KSRS Korea Array 53.16 283 P **P 04 38 56.1 +0.9**
comp=E,1.1nm,0.5s,baz=40,slow=7.9,SNR=5.3
comp=E,1.1nm,0.5s
SONM Songino Array 54.90 306 P **P 04 39 08.9 +1.0**
comp=E,1.7nm,0.6s,baz=35,slow=4.7,SNR=5.0
comp=E,1.7nm,0.6s
ZALV Zalesovo Beam 57.57 324 P **P 04 39 26.9 +0.3**
comp=E,1.7nm,0.5s,baz=33,slow=7.9,SNR=6.6
comp=E,1.7nm,0.5s
BVAR Borovoye Array 62.30 332 P **P 04 39 58.4 -0.5**
comp=E,0.8nm,0.4s,baz=346,slow=11,SNR=5.1
comp=E,0.8nm,0.4s
KURBB Kurchatov Arra 62.34 326 P **P 04 39 58.6 -0.6**
comp=E,0.4nm,0.4s,baz=32,slow=6.5,SNR=2.8
comp=E,0.4nm,0.4s
MKAR Makanchi Array 64.61 321 P **P 04 40 12.8 -1.5**
comp=E,0.3nm,0.5s,baz=32,slow=6.9,SNR=4.1
comp=E,0.3nm,0.5s

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*NEIC **09** 04:43:30.6±1.4, 13°.74N±0°.08×145°.3E±0°.2, h140km±6km, mb4.3/10, Error ellipse: s-maj=24.1km s-min=6.2km az=114.0*
*IDC **09** 04:43:31.5±1.1, 13°.75N×145°.23E, h144km±7km, mb3.2/7, mbtmp3.6/7, Error ellipse: s-maj=39.0km s-min=18.5km az=89.0*

ISC 09 04:43:31.0±0.8, 13°.7N±0°.1×145°.3E±0°.2, h150km, n29, σ1°.25/25, mb3.9/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.42**	**254**		**Pn**		**04 43 50.7**	**-1.3**
GUMO					Sn	**Sn**	**04 44 05.9**	**-2.1**
GUMO	**Guam**	**0.42**	**254**	P	**Pn**		**04 43 52.2**	**+0.2**
GUMO	754nm,0.3s,baz=159,slow=2.4,SNR=12							
				S		**Sn**	**04 44 05.6**	**-2.4**
	966nm,0.3s,baz=109,slow=23,SNR=28							
H11S3	**WAKE ISLAND Hy 21.10**	**74**		T		T	05 10 26.1	
	baz=261,slow=74,SNR=7.2							
H11S1	**WAKE ISLAND Hy 21.12**	**74**		T		T	05 10 09.2	
	baz=261,slow=74,SNR=5.1							
H11S2	**WAKE ISLAND Hy 21.12**	**74**		T		T	05 10 23.5	
	baz=261,slow=74,SNR=4.7							
H11N1	**WAKE ISLAND Hy 21.53**	**71**		T		T	05 11 30.1	
	baz=209,slow=77,SNR=4.7							
H11N2	**WAKE ISLAND Hy 21.54**	**71**		T		T	05 11 27.6	
	baz=209,slow=77,SNR=4.0							
H11N3	**WAKE ISLAND Hy 21.55**	**71**		T		T	05 11 31.2	
	baz=209,slow=77,SNR=5.0							
WB0	**Warramunga Arr**	**34.95**	**198**	P		**P**	**04 50 09.3**	**+0.5**
WB0				IAmb		IAmb	04 50 16.1	
	comp=Z,8.1nm,1.5s							
WR8	**Warramunga Arr**	**35.09**	**198**	P		**P**	**04 50 10.2**	**+0.1**
WR8				IAmb		IAmb	04 50 13.5	
	comp=Z,3.7nm,1.1s							
WB2	**Warramunga Arr**	**35.12**	**198**	P		**P**	**04 50 11.2**	**+0.9**
WB2				IAmb		IAmb	04 50 22.8	
	comp=Z,7.2nm,1.4s							
WRA	**Warramunga Arr**	**35.13**	**198**	P		**P**	**04 50 12.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=19,slow=9.2,SNR=7.4							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**38.77**	**197**	P		**P**	**04 50 42.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=18,slow=13,SNR=5.8							
	comp=Z,0.2nm,0.3s							
DZM	**Mont Dzumac**	**41.17**	**149**	P		**P**	**04 50 59.9**	**-1.1**
BBOO	**Buckleboo**	**47.09**	**191**	P		**P**	**04 51 49.1**	**+1.2**
BBOO				IAmb		IAmb	04 51 54.5	
	comp=Z,13nm,1.3s							
MKAR	**Makanchi Array**	**61.69**	**316**	P		**P**	**04 53 33.7**	**+0.4**
MKAR	**Makanchi Array**	**61.69**	**316**	P		**P**	**04 53 33.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=104,slow=6.1,SNR=2.0							
	comp=Z,0.2nm,0.5s							
ZAA0	**Zalesovo Array**	**61.76**	**324**	P		**P**	**04 53 33.3**	**-0.3**
ZALV	**Zalesovo Beam**	**61.76**	**324**	P		**P**	**04 53 32.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=84,slow=4.9,SNR=1.9							
	comp=Z,0.5nm,0.3s							
N19K	**Bonanza Creek**	**63.79**	**28**	P		**P**	**04 53 46.6**	**-0.4**
N19K				IAmb		IAmb	04 54 04.6	
	comp=Z,6.4nm,1.1s							
KURBB	**Kurchatov Arra**	**64.80**	**320**	P		**P**	**04 53 55.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=96,slow=6.6,SNR=4.9							
	comp=Z,0.4nm,0.3s							
F20K	**Avaraart Lake**	**65.61**	**22**	P		**P**	**04 53 58.6**	**0.0**
F21K	**Alatna River**	**66.49**	**22**	P		**P**	**04 54 05.8**	**+1.6**
F21K				IAmb		IAmb	04 54 25.1	
	comp=Z,4.0nm,1.2s							
B21K	**Ikpikpuk River**	**67.03**	**19**	P		**P**	**04 54 07.0**	**-0.6**
MID	**Middleton Isla**	**67.33**	**31**	P		**P**	**04 54 10.3**	**+0.7**
ILAR	**Eielson Array**	**68.29**	**25**	P		**P**	**04 54 17.8**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=251,slow=5.7,SNR=5.3							
	comp=Z,0.1nm,0.4s							
BVAR	**Borovoye Array**	**70.08**	**322**	P		**P**	**04 54 27.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=99,slow=7.4,SNR=2.8							
	comp=Z,1.0nm,0.6s							
BCAR	**Beaver Creek A**	**70.15**	**28**	P		**P**	**04 54 26.7**	**-0.5**
LPAZ	**La Paz**	**147.64**	**99**	PKPbc		**PKPbc**	**05 02 58.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=272,slow=1.8,SNR=1.5							

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*SNET **09** 04:55:36.7±12.0, 13°.08N×89°.45W, h47km, ML2.6*

CATAC 09 04:55:33.2±0.9, 13°N±5°×8°9W±°, h29km±5km, M2.5/9, MLv2.5/9, Error ellipse: s-maj=11.4km s-min=5.5km az=11.1, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.62**	**3**	*e*P		Pn	04 55 46.3	-0.1
JAYA				*e*S		Sn	04 55 55.9	+0.4
JAYA	**Jayaque - finc**	**0.62**	**3**	P		Pn	04 55 46.4	0.0
JAYA	**Jayaque - finc**	**0.62**	**3**	S		Sn	04 55 56.1	+0.6
LOMA	**Loma Larga**	**0.68**	**26**	P		Pb	04 55 47.0	+0.2
LOMA	**Loma Larga**	**0.68**	**26**	S		Sn	04 55 57.8	+0.9
PMON	**Piamonte**	**0.70**	**14**	*e*P		Pn	04 55 47.3	-0.1
PMON	**Piamonte**	**0.70**	**14**	P		Pn	04 55 47.3	-0.1
PMON	**Piamonte**	**0.70**	**14**	S		Sn	04 55 58.7	+1.3
TECO	**Alcaldia de Te**	**0.85**	**53**	*e*P		Pn	04 55 48.7	-0.7
TECO				*e*S		Sb	04 56 00.3	-0.3
TECO	**Alcaldia de Te**	**0.85**	**53**	P		Pn	04 55 49.0	-0.3
PAVA	**Las Pavas**	**0.86**	**38**	P		Pn	04 55 49.4	-0.2
PAVA	**Las Pavas**	**0.86**	**38**	S		Sn	04 56 02.0	+0.7
UESV	**Universidad de**	**0.91**	**48**	P		Pn	04 55 49.6	-0.5
UESV	**Universidad de**	**0.91**	**48**	S		Sb	04 56 01.9	-0.3
NUBE	**Las Nubes**	**0.92**	**342**	*i*P		Pn	04 55 50.3	-0.1
NUBE				*e*S		Sn	04 56 03.1	+0.5
NUBE	**Las Nubes**	**0.92**	**342**	P		Pn	04 55 50.2	-0.1
FAME	**Alcaldia de Sa**	**0.96**	**328**	P		Pn	04 55 50.8	-0.1
FAME	**Alcaldia de Sa**	**0.96**	**328**	S		Sn	04 56 03.5	-0.1
SCLA	**Alcaldia de Sa**	**0.99**	**48**	*e*P		Pn	04 55 51.5	+0.2
SCLA	**Alcaldia de Sa**	**0.99**	**48**	P		Pn	04 55 51.3	-0.1
SCLA	**Alcaldia de Sa**	**0.99**	**48**	S		Sb	04 56 05.3	+0.6
PACA	**Pacayal**	**1.21**	**69**	P		Pb	04 55 55.6	-0.1
PACA	**Pacayal**	**1.21**	**69**	S		Sb	04 56 10.6	-0.3
LCY	**Lacayo**	**1.22**	**71**	*e*P		Pn	04 55 54.7	+0.1
RANC	**El Ranchito**	**1.23**	**71**	*e*P		Pb	04 56 10.7	+15
RANC				*e*S		Sb	04 56 24.1	+13
LCND	**La Caada**	**1.58**	**80**	*e*P		Pn	04 55 59.4	+0.1
LCND	**La Caada**	**1.58**	**80**	P		Pn	04 55 59.5	+0.1

CATAC 09 05:04:57.4±1.1, 12°N±4°×8°7W±°, h17km±8km, M2.4/10, MLv2.4/10, Error ellipse: s-maj=10.2km s-min=5.9km az=46.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.74**	**59**	P		Pg	05 05 12.1	+0.2
ROCN	**Rota Cerro Neg**	**0.87**	**34**	P		Pg	05 05 14.4	0.0
ROCN				S		Sn	05 05 26.8	-0.3
CNGA	**Al SSO del Vol**	**0.87**	**37**	P		Pg	05 05 14.5	+0.1
CNGA				S		Sn	05 05 26.8	-0.5
CNGN	**Cerro Negro**	**0.88**	**37**	P		Pb	05 05 14.3	0.0
PKGN	**Cerro Pekin**	**0.90**	**16**	P		Pb	05 05 14.7	0.0
PKGN				S		Sg	05 05 27.2	+0.2
POLN	**Al Sur del Vol**	**0.94**	**26**	P		Pb	05 05 14.8	-0.6
POLN				S		Sb	05 05 27.4	-0.2
UNAN	**Cigeo UNAN**	**1.00**	**72**	S		Sg	05 05 29.6	-0.3

MAS3	Al N del Volca	1.06	78	P	Pb	05 05 17.1	-0.3
NANN	Nandasmo	1.10	83	P	Pg	05 05 19.1	+0.3
CSGN	Cosiguina Volc	1.21	345	P	Pn	05 05 19.6	-0.1
CSGN				S	Sn	05 05 36.0	+0.2
LIMN	Finca el Limon	1.52	34	P	Pn	05 05 23.0	-0.9
CNCH	Conchagua	1.58	338	P	Pn	05 05 23.8	-1.0
CNCH	Conchagua	1.58	338	S	Sb	05 05 45.5	-0.5
YUSH	Yuscaran	2.18	10	P	Pn	05 05 33.3	+0.3

*SJA **09** 05:30:26.6±0.6,22°.82S×68°.84W,h108km±3km,ML3.4, MW3.6*
*GUC **09** 05:30:27.9±0.6,22°.80S×68°.80W,h105km±4km,ML3.6*
ISC 09 05:30:27.2±1.3,22°.80S±0°.03×68°.80W±0°.04,h108km±9km, n31,σ1º46/51,7C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	0.59	104	∥*i*P	Pn	05 30 45.2	+0.3
AF01				*i* S	Sn	05 30 57.4	-0.7
AF01	**San Pedro de A**	0.59	104	*e*P	Pn	05 30 45.2	+0.3
AF01				*e*S	Sn	05 30 57.1	-1.1
PB06	**IPOC Station P**	0.72	278	⇑*i*P	Pn	05 30 45.7	-0.1
PB06				*i* S	Sn	05 30 59.0	-0.6
PB06				IAML		05 30 59.9	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	0.72	278	*e*P	Pn	05 30 45.6	-0.2
PB06				*e*S	Sn	05 30 59.4	-0.3
PB06				IAML		05 30 60.0	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	1.08	338	⇑*i*P	Pn	05 30 50.4	+1.0
PB09				*e*S	Sn	05 31 06.5	+0.5
PB09				IAML		05 31 08.5	
	comp=N,1μm,0.5s						
PB09	**IPOC Station P**	1.08	338	*e*P	Pn	05 30 50.4	+1.0
PB09				*e*S	Sn	05 31 07.2	+1.2
PB09				IAML		05 31 08.6	
	comp=Z,1μm,0.3s						
PB03	**IPOC Station P**	1.16	310	⇑*i*P	Pn	05 30 50.4	+0.3
PB03				*i* S	Sn	05 31 07.0	-0.4
PB03	**IPOC Station P**	1.16	310	*e*P	Pn	05 30 50.2	+0.1
PB03				*e*S	Sn	05 31 07.5	+0.1
PB03				IAML		05 31 09.0	
	comp=Z,763nm,0.4s						
PB10	**IPOC Station P**	1.76	246	⇑*i*P	Pn	05 30 56.9	-0.2
PB10				*i* S	Sn	05 31 18.6	-1.3
PB10	**IPOC Station P**	1.76	246	*e*P	Pn	05 30 57.0	-0.1
PB10				*e*S	Sn	05 31 19.6	-0.3
PB02	**IPOC Station P**	1.79	325	⇑*i*P	Pn	05 30 58.2	+0.6
PB02				*i* S	Sn	05 31 21.2	+0.4
PB02				IAML		05 31 22.1	
	comp=E,1μm,0.4s						
PB02	**IPOC Station P**	1.79	325	*e*P	Pn	05 30 58.2	+0.6
PB02				*e*S	Sn	05 31 21.8	+1.0
PB02				IAML		05 31 29.7	
	comp=Z,762nm,0.3s						
PB01	**IPOC Station P**	1.86	340	⇑*i*P	Pn	05 30 59.1	+0.7
PB01				*i* S	Sn	05 31 22.5	+0.2
PB01				IAML		05 31 24.3	
	comp=E,872nm,0.3s						
PB01	**IPOC Station P**	1.86	340	*e*P	Pn	05 30 59.2	+0.7
PB01				*e*S	Sn	05 31 22.7	+0.4
PB01				IAML		05 31 27.8	
	comp=Z,413nm,0.2s						
PB14	**IPOC Station P**	2.33	219	*e*P	Pn	05 31 04.9	+0.2
PB14				*e*S	Sn	05 31 31.3	-2.1
PB14				IAML		05 31 38.4	
	comp=Z,71nm,0.2s						
PATCX	**Punta Patache**	2.34	327	⇑*i*P	Pn	05 31 04.3	-0.3
PATCX				*i* S	Sn	05 31 32.6	-0.6
PATCX				IAML		05 31 40.5	
	comp=N,309nm,0.3s						
GO02	**Mina Guanaco**	2.46	197	*e*P	Pn	05 31 06.5	+0.3
GO02				*e*S	Sn	05 31 33.1	-3.1
GO02				IAML		05 31 40.5	
	comp=N,221nm,0.2s						
GO02	**Mina Guanaco**	2.46	197	*e*P	Pn	05 31 06.6	+0.3
GO02				*e*S	Sn	05 31 41.0	+4.7
GO02				IAML		05 31 44.8	
	comp=Z,106nm,0.2s						
TA01	**Diego Aracena**	2.57	330	*e*P	Pn	05 31 07.0	-0.5
TA01				*e*S	Sn	05 31 38.9	+0.5
TA01				IAML		05 31 47.6	
	comp=Z,90nm,0.6s						
SALTA		2.67	123	*e*P	Pn	05 30 51.3	-18
SALTA				*e*P		05 31 11.6	
PB08	**IPOC Station P**	2.67	353	*e*P	Pn	05 31 10.1	+0.9
PB08				*i* S	Sn	05 31 36.9	-4.5
PB08	**IPOC Station P**	2.67	353	*e*P	Pn	05 31 09.6	+0.4
PB08				*e*S	Sn	05 31 31.3	-10
PB08				IAML		05 31 37.1	
	comp=Z,83nm,0.5s						
TA02	**Huaiquique**	2.81	334	*e*P	Pn	05 31 10.4	-0.2
TA02				*e*S	Sn	05 31 43.3	-0.7
TA02				IAML		05 31 52.9	
	comp=Z,65nm,0.6s						
YJA	**Yavi**	3.10	79	*e*P	Pn	05 31 13.3	-1.6
PB11	**IPOC Station P**	3.13	345	*e*P	Pn	05 31 15.1	0.0
PB11				*e*S	Sn	05 31 37.4	-15
PB11				IAML		05 31 46.4	
	comp=Z,85nm,0.6s						
GO01	**Chusmiza**	3.14	353	*e*P	Pn	05 31 16.4	+0.8
GO01				*e*S	Sn	05 31 39.4	-13
GO01				IAML		05 32 20.9	
	comp=Z,66nm,0.3s						
HJA	**Humahuaca**	3.15	98	*e*P	Pn	05 31 18.7	+3.2
AZAP	**Zapla**	3.71	113	*e*P	Pn	05 31 19.9	-2.9
AC02	**Maricunga**	4.03	184	*e*P	Pn	05 31 28.0	+0.7
AC02				*e*S	Sn	05 31 57.7	-16
AC02				IAML		05 32 18.7	
	comp=Z,15nm,0.2s						
FSA	**Cafayete**	4.18	143	*e*P	Pn	05 31 31.6	+2.5
PB16	**IPOC Station P**	4.50	351	*e*P	Pn	05 31 34.7	+1.0
PB16				IAML		05 32 54.5	
	comp=Z,24nm,0.8s						

*AZER **09** 05:33:09.0,41°.62N×49°.20E,h9km,ml3.4*
*DRS **09** 05:33:09.9,41°.66N×49°.11E,h9km*
*MOS **09** 05:33:12.5±0.9,41°.76N×48°.90E,h12km,mb4.3/1,Error ellipse: s-maj=10.9km s-min=6.3km az=31.7*
ISC 09 05:33:08.4±1.3,41°.73N±0°.02×49°.23E±0°.03,h2km±10km, n68,σ0º97/124,1C-1D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUBA	**Quba, Azerbaij**	0.67	236	P	Pb	05 33 22.7	-0.1
QUBA				S	Sb	05 33 33.5	+1.0
SIZA	**Siyzn**	0.70	201	P	Pg	05 33 22.6	+0.7
SIZA				S	Sb	05 33 33.3	-0.2
DRN	**Derbent**	0.73	294	*i* Pg	Pb	05 33 23.6	-0.3
	1μm,0.2s						
DRN				*e*Sg	Sb	05 33 35.2	+0.9
	13μm,0.3s						
DRN	**Derbent**	0.73	294	*i* PG	Pb	05 33 23.5	-0.3
DRN				pmax	pmax		
	comp=Z,1μm,0.2s						
QSAR	**Qusar**	0.76	254	P	Pb	05 33 24.0	-0.3
QSAR				S	Sb	05 33 36.1	+1.0
KSMR	**Kasumkent**	0.83	261	*e*Pg	Pb	05 33 25.4	-0.3
	comp=Z,1μm,0.5s						
KSMR				*e*Sg	Sb	05 33 37.3	0.0
	comp=Z,13μm,0.3s						
KSMR	**Kasumkent**	0.83	261	*i* PG	Pb	05 33 25.3	-0.3
KSMR				*e*S	Sb	05 33 38.2	+0.9
ATGJ	**Altiaghaj**	0.90	194	P	Pg	05 33 26.1	+0.4
ATGJ				S	Sb	05 33 39.3	+0.1
XNQ	**Khinaliq**	0.99	236	P	Pg	05 33 27.9	+0.4
XNQ				S	Sb	05 33 42.5	+0.5
PQL	**Pirkuli**	1.06	207	P	Pg	05 33 29.1	+0.5
PQL				S	Sb	05 33 44.4	+0.6
AKT	**Akhty**	1.15	258	*i* Pg	Pg	05 33 30.3	-0.2
	comp=Z,1μm,0.2s						
AKT				*e*Sg	Sg	05 33 46.2	+0.8
	comp=Z,2μm,0.4s						
AKT	**Akhty**	1.15	258	*d i*PG	Pg	05 33 30.3	-0.2
GBS	**Qobustan**	1.22	190	P	Pn	05 33 33.2	+0.8
GBS				S	Sn	05 33 49.7	+0.2
IML	**Ismayilli**	1.23	220	P	Pg	05 33 32.2	+0.3
IML				S	Sb	05 33 49.4	+0.8
URKR	**Urkarakh**	1.27	291	*e*Pg	Pg	05 33 32.3	-0.4
	comp=Z,319nm,0.2s						
URKR				*e*Sg	Sn	05 33 50.9	+0.1
	comp=Z,2μm,0.6s						
URKR	**Urkarakh**	1.27	291	*i* PG	Pg	05 33 32.3	-0.4
URKR				*e*S	Sb	05 33 50.3	+0.5
NDR	**Nardaran**	1.29	153	P	Pn	05 33 33.9	+0.5
NDR				S	Sg	05 33 48.6	-1.1
QBL	**Gabala**	1.31	234	Pn	Pb	05 33 34.6	+0.9
QBL				Sn	Sb	05 33 51.5	+0.6
SGKR	**Sergokala**	1.38	302	*e*Pg	Pn	05 33 34.0	-0.6
	comp=Z,315nm,0.8s						
SGKR				*e*Sg	Sn	05 33 53.9	+0.5
	comp=Z,1μm,0.4s						
SGKR	**Sergokala**	1.38	302	*i* PG	Pn	05 33 33.6	-1.0
SGKR				*e*S	Sn	05 33 53.7	+0.3
GOBA	**Gobu**	1.38	164	Pn	Pb	05 33 35.8	+0.8
GOBA				Sg	Sn	05 33 55.0	+1.4
GALA	**Gala**	1.50	152	Sn	Sg	05 33 57.2	+0.7
KDMR	**Kurdemir**	1.57	211	Pn	Pn	05 33 37.3	+0.1
KDMR				Sn	Sg	05 34 00.4	+1.6
SEKA	**Sheki**	1.61	252	Pn	Pn	05 33 38.3	+0.4
SEKA				Sn	Sn	05 33 59.5	+0.2
SEKA	**Sheki**	1.61	252	PG	Pn	05 33 38.3	+0.4
KMKR	**Kumukh**	1.64	285	*e*Pg	Pn	05 33 37.9	-0.5
	comp=Z,95nm,0.2s						
KMKR				*e*Sg	Sb	05 34 00.8	+0.2
	comp=Z,2μm,0.3s						
KMKR	**Kumukh**	1.64	285	*i* PG	Pn	05 33 38.3	-0.1
KMKR				*e*S	Sg	05 34 02.1	+1.1
MAK	**Makhachkala**	1.77	314	*e*Pg	Pb	05 33 40.6	-1.0
	comp=Z,219nm,0.4s						
MAK				*e*Sg	Sg	05 34 05.3	0.0
	comp=Z,1μm,0.4s						
MAK	**Makhachkala**	1.77	314	⇑*i*PG	Pn	05 33 40.4	+0.4
MAK				*e*S	Sg	05 34 05.1	-0.2
MAK				pmax	pmax		
	comp=Z,1μm,1.6s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.5s						
ALIB	**&Aumlli-Bayram**	1.78	185	Pn	Pb	05 33 42.0	+0.3
ALIB				Sn	Sn	05 34 02.9	-0.4
ZRD	**Zardab**	1.86	219	Pn	Pn	05 33 41.7	+0.4
ZRD				Sn	Sb	05 34 07.8	+0.9
ARKR	**Arakani**	1.87	298	*e*Pg	Pb	05 33 42.5	-0.9
	comp=N,68nm,0.3s						
ARKR				*e*Sg	Sg	05 34 08.6	0.0
	comp=N,449nm,0.4s						
ARKR	**Arakani**	1.87	298	*e*PN	Pb	05 33 42.5	-0.9
ARKR				*e*S	Sg	05 34 08.6	0.0
MNGR	**Mingechevir, A**	1.88	240	Pn	Pb	05 33 43.4	-0.1
MNGR				Sn	Sg	05 34 08.8	0.0
MNGR	**Mingechevir, A**	1.88	240	PN	Pb	05 33 43.3	-0.1
BUJR	**Buynaksk**	1.91	305	*e*PN	Pn	05 33 41.1	-0.9
BUJR				*e*S	Sn	05 34 06.9	+0.2
ZKTA	**Zakatala**	1.95	268	Pn	Pb	05 33 44.6	-0.1
ZKTA				Sn	Sg	05 34 11.0	-0.2
SAAT	**Saatly**	1.97	198	Sn	Sn	05 34 09.3	+1.4
KRNR	**Karanay**	2.04	303	*e*Pg	Pn	05 33 43.9	+0.1
	comp=N,68nm,0.4s						
KRNR				*e*Sg	Sb	05 34 12.1	0.0
	comp=N,275nm,0.3s						
KRNR	**Karanay**	2.04	303	*e*PN	Pn	05 33 43.9	+0.1
KRNR				*e*S	Sb	05 34 12.1	0.0
HNZR	**Khunzah**	2.04	295	*e*PN	Pb	05 33 45.7	-0.6
HNZR				*e*S	Sb	05 34 13.1	+0.9
XNZR	**Khunzakh**	2.04	294	*e*Pg	Pn	05 33 43.8	-0.2
	comp=N,94nm,0.3s						
XNZR				*e*Sg	Sb	05 34 11.3	-0.9
	comp=N,295nm,0.4s						
UNCR	**Uncukul**	2.06	299	*e*Pg	Pn	05 33 44.3	+0.3
	comp=N,63nm,0.4s						
UNCR				*e*Sg	Sb	05 34 12.1	-0.4
	comp=N,277nm,0.5s						
UNCR	**Uncukul**	2.06	299	*e*PN	Pn	05 33 44.3	+0.3
UNCR				*e*S	Sb	05 34 12.1	-0.4
BRDA	**Brd**	2.14	227	Sn	Sb	05 34 15.2	+0.5
TLTR	**Tlyarata**	2.18	281	*e*Pg	Pn	05 33 45.0	-0.7
	comp=N,1.0nm,0.5s						
TLTR				*e*Sg	Sn	05 34 14.1	+0.7
	comp=N,249nm,0.4s						
TLTR	**Tlyarata**	2.18	281	*e*PN	Pn	05 33 45.0	-0.7
TLTR				*e*S	Sn	05 34 14.1	+0.7
AGDM	**Agdam**	2.28	225	Pn	Pn	05 33 46.7	-0.4
AGDM				Sn	Sn	05 34 16.6	+0.8
DLMR	**Dylym**	2.34	306	*e*Pn	Pn	05 33 49.1	+1.3
	comp=N,156nm,0.3s						
DLMR				*e*Sn	Sb	05 34 20.4	-0.3
	comp=N,2μm,0.4s						
DLMR	**Dylym**	2.34	306	*e*PN	Pn	05 33 49.2	+1.3
DLMR				*e*S	Sb	05 34 20.4	-0.3
BLQ	**Beylaqan**	2.38	213	Pn	Pb	05 33 51.1	-0.8
BLQ				Sn	Sn	05 34 17.5	-0.5
BTLR	**Botlikh**	2.42	294	*e*Pn	Pn	05 33 49.1	+0.1
	comp=N,62nm,0.4s						
BTLR				*e*Sn	Sn	05 34 20.9	+1.7
	comp=N,296nm,0.4s						
BTLR	**Botlikh**	2.42	294	*e*PN	Pb	05 33 51.4	-1.3
BTLR				pmax	pmax		
	comp=Z,17nm,0.3s						
GANJ	**Ganja**	2.45	245	Pn	Pn	05 33 48.8	-0.6
GANJ				Sn	Sn	05 34 18.9	-0.9
GANJ	**Ganja**	2.45	245	PN	Pn	05 33 48.7	-0.6
GLBA	**Ciilabad**	2.57	195	Pn	Pn	05 33 49.8	-1.2
GLBA				Sn	Sn	05 34 21.3	-1.4
DVE	**Vedeno**	2.60	299	*i* PN	Pn	05 33 52.4	+0.8
QRD	**Qoradiz**	2.69	213	Pg	Pb	05 33 55.4	-1.9
QRD				Sn	Sn	05 34 25.3	-0.5
GDB	**GEDABAY**	2.81	250	Pn	Pn	05 33 53.8	-0.7
GDB				Sn	Sn	05 34 27.8	-1.1
YRD	**Yardimli**	2.91	195	Pn	Pn	05 33 54.0	-1.9
YRD				Sn	Sn	05 34 28.8	-2.8
QZX	**Qazax, Azerbai**	2.98	258	Pn	Pn	05 33 57.0	+0.4
QZX				Sn	Sn	05 34 32.6	-0.3
LRK	**Lerik**	3.16	193	Pn	Pn	05 33 59.4	+0.1
LRK				Sn	Sn	05 34 35.4	-2.2
ASTR	**Astara**	3.19	186	Pn	Pn	05 34 00.7	+1.2
ASTR				Sn	Sn	05 34 34.6	-3.4
ORD	**Ordubad**	3.74	222	Pn	Pn	05 34 07.5	+0.3
ORD				Sn	Sn	05 34 51.6	-0.1
GNI	**Garni**	3.75	247	*i* PN	Pn	05 34 09.8	+2.4
GNI				*i* S	Sn	05 34 53.2	+1.1
GNI				pmax	pmax		
	comp=Z,42nm,1.3s						
NAX	**Nakhchivan**	3.83	229	Sg	Sg	05 35 08.1	-3.2
KIV	**Kislovodsk**	5.30	297	*e*PN	Pn	05 34 30.3	+1.7
KIV				*e*S	Sn	05 35 33.3	+3.1
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN	**Obninsk**	15.77	332	*e*P	P	05 36 54.8	-0.6
OBN				pmax	pmax		
	comp=Z,13nm,0.5s						

*IDC **09** 05:44:41.8±0.6,56°.93S×140°.85W,h0km,mb4.1/9, mbtmp4.1/9,MS4.6/43,Error ellipse: s-maj=24.5km s-min=18.3km az=3.0*
*NEIC **09** 05:44:46.3±1.0,57°.9S±0°.1×139°.2W±0°.2,h10km±1km, mb5.0/29,Ms_20 5.1/274,Mww5.5/17,Error ellipse: s-maj=23.8km s-min=5.0km az=33.0*
*GCMT **09** 05:44:47.3±0.1,57°.00S±0°.01×141°.22W±0°.01,h22km, MW5.6/150,Moment Tensor Solution. s126,c215; s150,c279; Duration: 1º5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.20±.03; $M_{\theta\theta}$2.07±.03; $M_{\phi\phi}$-1.87±.03; $M_{r\theta}$-0.06±.05; $M_{r\phi}$1.87±.03; $M_{\theta r}$-0.02±.05; Best double couple: $M_0$2.71700×10^{17} NP1:ϕ_s203.00000°,δ89.00000°, λ179.00000°. NP2:ϕ_s293.00000°,δ89.00000°,λ1.00000°. Principal axes: T 2.8180, Plg1.0000°, Azm158.0000°; N -0.1970, Plg89.0000°, Azm334.0000°; P -2.6160, Plg0.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 05:44:54.1,56°.85S×141°.11W,h30km,Moment Tensor Solution. Duration: 2º9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14; $M_{\theta\theta}$1.94; $M_{\phi\phi}$-1.79; $M_{r\theta}$-0.10; $M_{\phi\phi}$1.03; $M_{\theta r}$0.71; Fault plane solution: $M_0$2.25000×10^{17} NP1: ϕ_s119.02000°,δ75.63000°,λ-11.79000°. NP2: ϕ_s211.99000°,δ78.58000°,λ-165.33000°. Principal axes: T 2.2038, Plg2.0000°, Azm345.0000°; N 0.0924, Plg71.0000°, Azm249.0000°; P -2.2961, Plg18.0000°, Azm76.0000°;*
*NEIC **09** 05:44:54.1,57°.65S×139°.05W,h30km*
ISC 09 05:44:43.0±0.4,57°.28S±0°.08×140°.12W±0°.09,h10km, n251,σ2º45/63,mb5.0/22,MS5.1/180,6C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	27.17	202	P	P	05 50 24.1	-1.9
VNDA	**Vanda**	28.10	203	P	P	05 50 33.4	-0.9
VNDA	**Vanda**	28.10	203	P	P	05 50 36.0	+1.6
	0.3nm,0.7s,baz=67,slow=10,SNR=3.2						
VNDA				LR	LR	05 58 25.0	
	comp=Z,1μm,21.1s,baz=79,slow=29						
	0.3nm,0.7s						
MQZ	**McQueen's Vall**	32.26	274	P	P	05 51 19.2	+7.8
KHZ	**Kahutara**	32.66	277	P	P	05 51 23.0	+8.1
QSPA	**South Pole Qui**	32.88	180	P	P	05 51 13.1	-3.8
QSPA				IAmb	IAmb	05 51 30.2	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	32.88	180	P	P	05 51 21.8	+4.9
	comp=Z,4.3nm,0.8s,baz=69,slow=2.0,SNR=11						
QSPA				LR	LR	06 02 19.3	
	comp=Z,3μm,21.2s,baz=69,slow=32						
	comp=Z,4.3nm,0.8s						
RPZ	**Rata Peaks**	33.13	273	LR	LR	06 01 09.3	
	comp=Z,2μm,20.6s,baz=128,slow=30						
RTZ	**Ruatahuna**	33.54	285	IAMs_20	IAMs_20	06 01 40.1	
	comp=Z,3μm,19.0s						
URZ	**Urewera**	33.73	286	LR	LR	06 01 24.4	
	comp=Z,2μm,21.4s,baz=114,slow=30						
FOZ	**Fox Glacier**	33.92	272	IAMs_20	IAMs_20	06 00 58.4	
	comp=Z,4μm,18.0s						
PMSA	**Palmer Station**	35.44	134	LR	LR	06 02 31.0	
	comp=Z,1μm,19.6s,baz=238,slow=30						
RPN	**Rapa Nui**	37.19	49	LR	LR	06 03 51.0	
	comp=Z,1μm,18.2s,baz=208,slow=31						
BELA	**Belgrano 2**	37.81	161		P	05 51 56.1	-2.9
RAO	**Raoul Island**	38.44	301	LR	LR	06 05 09.1	
	comp=Z,285nm,19.7s,baz=128,slow=32						
RAR	**Rarotonga**	38.80	330	LR	LR	06 03 22.6	
	comp=Z,1μm,19.5s,baz=127,slow=29						
ESPZ	**Base Esperanza**	38.83	135	P	P	05 52 04.2	-3.3
PPT2	**Papeete2**	40.25	346	*e*P	P	05 52 07.0	-13
	comp=Z,146nm,27.0s						
PPT2				*e*S	S	05 58 16.7	-10
	comp=Z,966nm,26.5s						
PPT2				*e*SS	SS	06 01 23.1	-2.2
	comp=Z,453nm,23.5s						
PPT2				*e*LR	LR	06 02 43.8	
	comp=Z,4μm,28.8s						
PPT2				*e*LR	LR	06 03 08.0	
	comp=Z,3μm,22.2s						
PPT	**Papeete**	40.27	346	LR	LR	06 04 20.4	
	comp=Z,1μm,19.1s,baz=184,slow=30						
EFI	**East Falkland**	45.27	120	P	P	05 52 57.6	-2.7
CASY	**Casey**	45.97	212	P	P	05 53 07.2	+1.6
CASY				IAmb	IAmb	05 53 34.3	
	comp=Z,27nm,1.6s						
PLCA	**Paso Flores**	46.38	100	P	P	05 53 08.6	-0.8
PLCA				IAmb	IAmb	05 53 38.3	
	comp=Z,32nm,1.6s						
PLCA	**Paso Flores**	46.38	100	P	P	05 53 13.1	+3.8
	comp=Z,2.2nm,1.0s,baz=248,slow=11,SNR=4.5						
	comp=Z,2.2nm,1.0s						
H03S2	**Juan Fernandez**	46.90	87	T	T	06 44 21.2	
	baz=218,slow=74						
H03S1	**Juan Fernandez**	46.91	87	T	T	06 44 22.6	
	baz=218,slow=74						
H03S3	**Juan Fernandez**	46.92	87	T	T	06 44 26.8	
	baz=218,slow=74						
VNA3	**Neumayer Olymp**	47.12	160	⇑P	P	05 53 16.8	+2.2
	comp=Z,15nm,0.8s						
H03N3	**Juan Fernandez**	47.19	87	T	T	06 44 44.6	
	baz=222,slow=72,SNR=734						
H03N2	**Juan Fernandez**	47.20	87	T	T	06 44 43.4	
	baz=222,slow=72,SNR=560						
H03N1	**Juan Fernandez**	47.21	87	T	T	06 44 43.5	
	baz=222,slow=72,SNR=846						
VNA2	**Neumayer--Watz**	47.79	161	⇑P	P	05 53 22.4	+2.5
	comp=Z,20nm,0.7s,baz=209,slow=7.6						
VNA1	**Neumayer--Stat**	47.87	160	⇑P	P	05 53 23.1	+2.8
	comp=Z,23nm,0.9s						
SNAA	**Sanae**	47.91	163	⇑P	P	05 53 23.2	+2.3
	comp=Z,173nm,0.6s						
SNAA	**Sanae**	47.91	163		P	05 53 19.6	-1.3
SNAA				IAmb	IAmb	05 53 27.6	
	comp=Z,22nm,1.3s						
SNAA	**Sanae**	47.91	163	P	P	05 53 23.3	+2.5
	comp=Z,6.6nm,0.6s,baz=211,slow=7.4,SNR=48						
SNAA				LR	LR	06 13 09.3	
	comp=Z,693nm,18.2s,baz=216,slow=35						
	comp=Z,6.6nm,0.6s						
TAOE	**Nuku Hiva Isla**	48.31	360	*e*P	P	05 53 12.8	-12
	comp=Z,88nm,25.4s						
TAOE	**Nuku Hiva Isla**	48.31	360	*e*PP	PP	05 55 09.9	-7.1
	comp=Z,52nm,29.5s						
TAOE				*e*S	S	06 00 24.3	-0.1
	comp=Z,734nm,25.4s						
TAOE				*e*SS	SS	06 03 49.1	-4.8
	comp=Z,564nm,29.1s						
TAOE				*e*LR	LR	06 06 44.6	
	comp=Z,3μm,25.5s						
TROLL	**Troll, Antarti**	48.40	165	⇑P	P	05 53 27.6	+2.8
	comp=Z,246nm,0.5s						
BO02	**Sierra Bellavi**	50.60	95	P	P	05 53 41.4	-0.5
BO02				IAmb	IAmb	05 53 50.5	
	comp=Z,12nm,0.9s						
MT01	**Popeta**	51.05	94	P	P	05 53 43.9	-1.3
MT01				IAmb	IAmb	05 54 22.9	
	comp=Z,28nm,1.4s						
MT02	**Curacav**	51.57	93	P	P	05 53 48.2	-0.9
DZM	**Mont Dzumac**	52.14	289	*e*P	P	05 53 50.9	-2.6
	comp=Z,41nm,24.6s						
DZM	**Mont Dzumac**	52.14	289	*e*LQ	LQ	06 06 37.4	
	comp=Z,3μm,25.8s						
DZM				*e*LR	LR	06 08 51.5	
	comp=Z,1μm,25.9s						
DZM	**Mont Dzumac**	52.14	289	LR	LR	06 12 07.1	
	comp=Z,685nm,18.3s,baz=136,slow=32						
VA03	**San Esteban**	52.27	93	P	P	05 53 53.3	-1.

LPAZ LR LR 06 15 19.7
comp=Z,89nm,21.5s,baz=208,slow=27
comp=Z,2.4nm,0.8s
ASAR Alice Springs 68.28 260 LR LR 06 23 16.5
comp=Z,357nm,18.9s,baz=144,slow=34
ATAH Atahualpa 68.97 69 LR LR 06 20 25.6
comp=Z,146nm,19.6s,baz=236,slow=31
H01W1 Cape Leeuwin H 69.08 238 T T 07 11 25.7
baz=145,slow=75,SNR=504
H01W2 Cape Leeuwin H 69.08 238 T T 07 11 27.2
baz=145,slow=75,SNR=670
H01W3 Cape Leeuwin H 69.09 238 T T 07 11 22.0
baz=145,slow=75,SNR=588
NWAO Narrogin (SRO) 69.25 241 LR LR 06 18 24.4
comp=Z,736nm,21.7s,baz=126,slow=29
SIV San Ignacio 70.78 90 LR LR 06 23 50.0
comp=Z,84nm,18.4s,baz=238,slow=33
WRA Warramunga Arr 71.07 263 LR LR 06 22 51.2
comp=Z,849nm,20.4s,baz=135,slow=32
COEN Coen 71.19 273 P P 05 56 08.9 +6.9
COEN IAmb IAmb 05 56 29.0
comp=Z,27nm,1.4s
COHC Cochancay 72.54 66 P **P 05 56 12.1 +2.0**
PMG Port Moresby 72.81 280 LR LR 06 23 46.8
comp=Z,458nm,20.2s,baz=154,slow=32
SLOR San Lorenzo - 74.41 66 P **P 05 56 23.3 +1.6**
FITZ Fitzroy Crossi 77.23 257 P **P 05 56 35.9 -1.4**
comp=Z,2.9nm,0.8s,baz=140,slow=9.4,SNR=1.8
FITZ LR LR 06 25 52.9
comp=Z,1μm,21.4s,baz=140,slow=32
comp=Z,2.9nm,0.8s
MBWA Marble Bar 77.76 250 IAMs_20 IAMs_20 06 24 56.2
comp=Z,712nm,18.0s
BDFB Brasilia 78.12 100 LR LR 06 27 50.6
comp=Z,328nm,19.1s,baz=216,slow=33
JTS Las Juntas de 81.01 55 LR LR 06 25 08.1
comp=Z,720nm,21.2s,baz=214,slow=30
ROSC El Rosal 81.28 67 LR LR 06 26 25.6
comp=Z,196nm,21.5s,baz=226,slow=31
JAY Jayapura 82.04 278 LR LR 06 29 20.6
comp=Z,275nm,20.5s,baz=120,slow=33
CMIG Matias Romero 83.08 43 LR LR 06 26 07.6
comp=Z,184nm,21.5s,baz=200,slow=30
BATI Baumata 84.84 259 LR LR 06 33 45.9
comp=Z,808nm,18.2s,baz=166,slow=35
LPIG La Paz 84.85 27 LR LR 06 26 13.1
comp=Z,220nm,20.1s,baz=204,slow=29
SOEI Soe 84.90 260 IAMs_20 IAMs_20 06 34 53.1
comp=Z,993nm,19.0s
SDV Santo Domingo 86.60 68 LR LR 06 30 05.5
comp=Z,185nm,21.6s,baz=220,slow=31
PCRV Puerto La Cruz 90.76 72 LR LR 06 33 04.7
comp=Z,500nm,20.9s,slow=32
KAPI Kappang 91.28 259 IAMs_20 IAMs_20 06 35 10.7
comp=Z,718nm,20.0s
KAPI Kappang 91.28 259 LR LR 06 34 50.9
comp=Z,783nm,21.4s,baz=150,slow=33
PFO Pinyon Flats O 92.72 20 LR LR 06 30 17.8
comp=Z,556nm,19.3s,baz=202,slow=30
RCBR Riachuelo 92.75 105 LR LR 06 36 41.5
comp=Z,127nm,20.0s,baz=213,slow=34
BC3 Big Chuckawall 92.95 20 IAMs_20 IAMs_20 06 30 00.6
comp=Z,626nm,19.0s
BELC Belle Mtn. Jos 93.18 20 IAMs_20 IAMs_20 06 30 23.0
comp=Z,728nm,21.0s
OSI Osito Audit: C 93.31 18 IAMs_20 IAMs_20 06 28 57.1
comp=Z,713nm,21.0s
GUMO Guam 93.41 290 LR LR 06 31 39.3
comp=Z,107nm,21.9s,baz=164,slow=30
BOSA Boshof 93.56 167 LR LR 06 38 49.4
comp=Z,565nm,18.3s,baz=184,slow=35
LRMC Laurel Mtn Rad 94.33 18 IAMs_20 IAMs_20 06 30 35.8
comp=Z,698nm,20.0s
ISA Isabella, Lake 94.37 18 IAMs_20 IAMs_20 06 30 55.3
comp=Z,687nm,18.0s
VES Vestal, Richgr 94.45 17 IAMs_20 IAMs_20 06 29 31.4
comp=Z,669nm,22.0s
CWC Cottonwood Cre 95.20 18 IAMs_20 IAMs_20 06 31 03.0
comp=Z,724nm,20.0s
TIN Tinemaha, Big 95.77 17 IAMs_20 IAMs_20 06 31 10.4
comp=Z,818nm,21.0s
LEM Lembang 96.04 248 LR LR 06 37 24.0
comp=Z,72nm,18.6s,baz=156,slow=33
ANMO Albuquerque 96.17 27 LR LR 06 31 40.9
comp=Z,420nm,21.6s,baz=294,slow=29
CVS Carmenet Viney 96.42 14 IAMs_20 IAMs_20 06 31 55.8
comp=Z,610nm,20.0s
SJG San Juan 96.71 67 LR LR 06 36 26.9
comp=Z,95nm,18.7s,baz=214,slow=32
WELL Weller Preserv 96.75 15 IAMs_20 IAMs_20 06 31 04.9
comp=Z,599nm,20.0s
NVAR Mina Array Bea 97.11 17 LR LR 06 31 54.4
comp=Z,625nm,21.9s,baz=194,slow=29
LBTB Lobatse 97.15 167 LR LR 06 38 32.2
comp=Z,306nm,19.8s,baz=180,slow=33
KCPM Cahto Peak 97.60 13 IAMs_20 IAMs_20 06 33 07.2
comp=Z,610nm,18.0s
DAV Davao City (W) 98.23 270 LR LR 06 40 51.4
comp=Z,151nm,19.6s,baz=164,slow=34
KHMM Horse Mountain 98.76 13 IAMs_20 IAMs_20 06 31 41.8
comp=Z,824nm,21.0s
M02C Callahan 99.37 13 IAMs_20 IAMs_20 06 32 42.0
comp=Z,817nm,21.0s
H10N3 ASCENSION HYDR 101.51 125 T T 07 53 35.1
baz=206,slow=74,SNR=21
H10N1 ASCENSION HYDR 101.52 125 T T 07 53 38.0
baz=206,slow=74,SNR=25
H10N2 ASCENSION HYDR 101.53 125 T T 07 53 37.1
baz=206,slow=74,SNR=17
MFID Camas Ranch 102.37 18 IAMs_20 IAMs_20 06 34 49.9
comp=Z,681nm,21.0s
HLID Hailey 102.76 19 IAMs_20 IAMs_20 06 34 55.8
comp=Z,653nm,20.0s
HAWA Hanford 104.72 15 IAMs_20 IAMs_20 06 35 48.2
comp=Z,654nm,21.0s
BKNI Bangkinang 105.47 245 IAMs_20 IAMs_20 06 38 58.4
comp=Z,526nm,22.0s
MSO Missoula 106.01 18 IAMs_20 IAMs_20 06 36 34.9
comp=Z,683nm,21.0s
V35K Ketchikan 112.46 5 IAMs_20 IAMs_20 06 41 22.5
comp=Z,649nm,20.0s
WRAK Wrangell Islan 113.52 5 IAMs_20 IAMs_20 06 41 21.5
comp=Z,524nm,20.0s
S31K Pelican 114.93 2 IAMs_20 IAMs_20 06 43 36.6
comp=Z,448nm,19.0s
S34M Telegraph Cree 115.07 5 IAMs_20 IAMs_20 06 40 43.4
comp=Z,664nm,22.0s
R32K Eaglecrest 115.29 3 IAMs_20 IAMs_20 06 43 04.8
comp=Z,501nm,19.0s
BESE Bessie Mountai 115.59 3 IAMs_20 IAMs_20 06 39 39.7
comp=Z,580nm,22.0s
Q32M Nakina River 116.06 5 IAMs_20 IAMs_20 06 39 38.8
comp=Z,511nm,22.0s
R33M Jennings River 116.56 5 IAMs_20 IAMs_20 06 43 19.7
comp=Z,537nm,20.0s
P29M Windy Craggy 116.58 1 IAMs_20 IAMs_20 06 42 24.4
comp=Z,445nm,20.0s
QIZ Qiongzhong 116.63 264 PKP **PKiKP 06 03 30.8 +3.7**
QIZ PP **PP 06 04 41.3 +6.5**
QIZ SS SS 06 20 53.3 +13
QIZ LR LR
comp=Z,230nm,16.7s
QIZ LR LR
comp=Z,190nm,14.7s
P32M Atlin 116.64 4 IAMs_20 IAMs_20 06 44 07.2
comp=Z,489nm,19.0s
P16K Nushagak River 116.83 350 IAMs_20 IAMs_20 06 43 48.6
comp=Z,575nm,22.0s
BCPM Bancas Point 116.89 0 IAMs_20 IAMs_20 06 45 00.8
comp=Z,495nm,19.0s
PCA Pinnacle 117.03 360 IAMs_20 IAMs_20 06 46 25.7
comp=Z,472nm,18.0s
P23K Montague Islan 117.08 356 IAMs_20 IAMs_20 06 43 20.8
comp=Z,477nm,19.0s
O29M Mount Kennedy 117.25 1 IAMs_20 IAMs_20 06 44 56.1
comp=Z,509nm,18.0s
P33M Teslin, Yukon 117.29 4 IAMs_20 IAMs_20 06 44 30.4
comp=Z,385nm,19.0s
YAH Yahtse 117.31 359 IAMs_20 IAMs_20 06 47 49.0
comp=Z,523nm,18.0s
HMT Hamilton 117.32 358 IAMs_20 IAMs_20 06 50 19.8
comp=Z,477nm,20.0s
TABL Table Mountain 117.38 359 IAMs_20 IAMs_20 06 48 11.0
comp=Z,528nm,18.0s
O16K Kokwok River B 117.39 350 IAMs_20 IAMs_20 06 46 57.5
comp=Z,459nm,20.0s
O18K Koktuh Hills 117.40 351 IAMs_20 IAMs_20 06 42 23.2
comp=Z,577nm,21.0s
HIN Hinchinbrook I 117.44 356 IAMs_20 IAMs_20 06 42 23.3
comp=Z,486nm,20.0s
ISLE Juniper Island 117.55 359 IAMs_20 IAMs_20 06 48 13.7
comp=Z,517nm,19.0s
GRNC Granite Creek 117.68 359 IAMs_20 IAMs_20 06 48 10.9
comp=Z,516nm,18.0s
O28M Mount Upton 117.71 360 IAMs_20 IAMs_20 06 47 15.6
comp=Z,463nm,18.0s
TGL Tana Glacier 117.71 358 IAMs_20 IAMs_20 06 49 26.0
comp=Z,492nm,18.0s
SLKM Skilak Lake 117.72 354 IAMs_20 IAMs_20 06 45 10.1
comp=Z,566nm,19.0s
O30N Mendenhall 117.75 2 IAMs_20 IAMs_20 06 42 44.1
comp=Z,583nm,22.0s
LOGN Logan Glacier 117.77 360 IAMs_20 IAMs_20 06 48 07.1
comp=Z,522nm,18.0s
FID Port Fidalgo 117.80 356 IAMs_20 IAMs_20 06 49 47.2
comp=Z,507nm,18.0s
CTGM Chitina Glacie 117.91 359 IAMs_20 IAMs_20 06 48 20.0
comp=Z,481nm,18.0s
GLI Glacier Island 117.95 356 IAMs_20 IAMs_20 06 42 48.7
comp=Z,480nm,20.0s
BMRM Bremner River 117.96 358 IAMs_20 IAMs_20 06 48 18.8
comp=Z,472nm,18.0s
PWL Port Wells 117.97 355 IAMs_20 IAMs_20 06 44 18.6
comp=Z,451nm,20.0s
BARN Barnard Glacie 118.01 359 IAMs_20 IAMs_20 06 48 21.6
comp=Z,407nm,20.0s
DIV Divide 118.15 357 IAMs_20 IAMs_20 06 50 01.0
comp=Z,411nm,19.0s
VRDI Verde Repeater 118.20 358 IAMs_20 IAMs_20 06 49 49.9
comp=Z,416nm,18.0s
N32M Quiet Lake 118.22 4 IAMs_20 IAMs_20 06 45 16.1
comp=Z,492nm,19.0s
RC01 Rabbit Creek A 118.27 355 IAMs_20 IAMs_20 06 45 55.6
comp=Z,524nm,20.0s
GLB Gilahina Butte 118.42 358 IAMs_20 IAMs_20 06 47 42.8
comp=Z,387nm,18.0s
N30M Aishikik Lake 118.42 2 IAMs_20 IAMs_20 06 47 04.0
comp=Z,509nm,18.0s
N31M Braeburn, Yuko 118.48 2 IAMs_20 IAMs_20 06 41 53.2
comp=Z,527nm,21.0s
KLU Klutina 118.52 357 IAMs_20 IAMs_20 06 50 03.7
comp=Z,425nm,18.0s
KNK Knik Glacier 118.53 355 IAMs_20 IAMs_20 06 44 38.4
comp=Z,507nm,21.0s
SCM Sheep Creek Mo 118.91 356 IAMs_20 IAMs_20 06 50 58.1
comp=Z,430nm,19.0s
SML Sawmill 118.92 356 IAMs_20 IAMs_20 06 44 59.7
comp=Z,458nm,20.0s
M31M Drury Creek, Y 119.23 3 IAMs_20 IAMs_20 06 44 22.0
comp=Z,575nm,21.0s
M27K Edge Creek, AK 119.31 359 IAMs_20 IAMs_20 06 49 48.1
comp=Z,390nm,19.0s
M26K Nabesna, AK 119.37 358 IAMs_20 IAMs_20 06 44 55.8
comp=Z,474nm,21.0s
M29M Somme Creek 119.39 1 IAMs_20 IAMs_20 06 49 25.9
comp=Z,429nm,19.0s
M30M Minto, Yukon 119.55 2 IAMs_20 IAMs_20 06 48 14.8
comp=Z,517nm,20.0s
CUT Chulitna 119.61 355 IAMs_20 IAMs_20 06 50 01.1
comp=Z,411nm,21.0s
L16K Owhat River 119.61 350 IAMs_20 IAMs_20 06 55 00.1
comp=Z,390nm,19.0s
PAX Paxson 119.99 357 IAMs_20 IAMs_20 06 50 35.5
comp=Z,372nm,18.0s
L29M L29M 120.07 1 IAMs_20 IAMs_20 06 45 31.6
comp=Z,477nm,20.0s
DHY Denali Highway 120.15 356 IAMs_20 IAMs_20 06 52 12.1
comp=Z,446nm,18.0s
K13K Kusilvak Mount 120.41 347 IAMs_20 IAMs_20 06 42 02.6
comp=Z,561nm,22.0s
RND Reindeer 120.54 355 IAMs_20 IAMs_20 06 45 21.5
comp=Z,458nm,19.0s
DOT Dot Lake 120.64 358 IAMs_20 IAMs_20 06 50 06.4
comp=Z,410nm,20.0s
TRF Thorofare Moun 120.65 355 IAMs_20 IAMs_20 06 42 33.6
comp=Z,560nm,22.0s
RIDG Independent Ri 120.74 358 IAMs_20 IAMs_20 06 50 52.4
comp=Z,438nm,19.0s
K29M Barlow Dome 120.81 1 IAMs_20 IAMs_20 06 46 25.2
comp=Z,456nm,20.0s
MCK McKinley 120.87 355 IAMs_20 IAMs_20 06 46 40.2
comp=Z,496nm,20.0s
PALK Pallekele 120.89 229 IAMs_20 IAMs_20 06 45 22.8
comp=Z,468nm,19.0s
SCRK Sand Creek 120.96 358 IAMs_20 IAMs_20 06 50 51.0
comp=Z,369nm,18.0s
J17K VABM Dome 121.23 350 IAMs_20 IAMs_20 06 48 30.7
comp=Z,501nm,19.0s
BWN Browne 121.33 355 IAMs_20 IAMs_20 06 49 21.3
comp=Z,454nm,20.0s
BPAW Bear Paw Mtn. 121.34 354 IAMs_20 IAMs_20 06 49 00.7
comp=Z,537nm,20.0s
HDA Harding Lake 121.47 357 IAMs_20 IAMs_20 06 49 48.9
comp=Z,435nm,19.0s
J26L Joseph Creek 121.48 358 IAMs_20 IAMs_20 06 50 07.7
comp=Z,372nm,19.0s
J30M Hart River 121.56 2 IAMs_20 IAMs_20 06 45 53.9
comp=Z,441nm,20.0s
WRH Wood River Hil 121.58 356 IAMs_20 IAMs_20 06 47 23.7
comp=Z,486nm,19.0s
J25K Salcha River, 121.63 357 IAMs_20 IAMs_20 06 52 02.9
comp=Z,478nm,18.0s
EGAK Eagle 121.73 359 IAMs_20 IAMs_20 06 51 42.1
comp=Z,401nm,18.0s
CCB Clear Creek Bu 121.74 356 IAMs_20 IAMs_20 06 46 51.0
comp=Z,494nm,20.0s
ILAR Eielson Array 121.83 357 PKP **PKPdf 06 03 35.4 -0.3**
comp=Z,1.7nm,1.0s,baz=224,slow=1.2,SNR=6.0
CMAR Chiang Mai Arr 121.96 254 PKP **PKPdf 06 03 37.4 +0.1**
comp=Z,0.8nm,0.4s,baz=143,slow=3.9,SNR=1.4
COLA College 121.97 356 IAMs_20 IAMs_20 06 46 47.1
comp=Z,440nm,20.0s
NJ2 Nanjing 122.12 280 *e*PKP **PKiKP 06 03 42.4 +5.0**
POKR Poker Flat Res 122.20 356 IAMs_20 IAMs_20 06 46 26.1
comp=Z,438nm,20.0s
I29M Ogilvie Camp, 122.33 1 IAMs_20 IAMs_20 06 50 39.4
comp=Z,429nm,18.0s
I28M Miner Creek 122.41 0 IAMs_20 IAMs_20 06 46 16.7
comp=Z,428nm,20.0s
PRP Porcupine Dome 122.54 357 IAMs_20 IAMs_20 06 52 48.0
comp=Z,412nm,18.0s
H31M Peel River 122.84 3 IAMs_20 IAMs_20 06 46 54.5
comp=Z,434nm,20.0s
H24K Noodor Dome 122.94 356 IAMs_20 IAMs_20 06 48 05.6
comp=Z,472nm,20.0s
H23K Yukon River 122.99 355 IAMs_20 IAMs_20 06 49 36.2
comp=Z,409nm,19.0s
ANM Nome 123.04 347 IAMs_20 IAMs_20 06 44 59.1
comp=Z,561nm,21.0s
EPYK Eagle Plains 123.36 2 IAMs_20 IAMs_20 06 45 09.5
comp=Z,553nm,20.0s
FYU Fort Yukon 123.59 358 IAMs_20 IAMs_20 06 53 49.5
comp=Z,444nm,19.0s
G24K Hadweenzic Riv 123.79 356 IAMs_20 IAMs_20 06 54 20.0
comp=Z,370nm,18.0s
G26K Porcupine Rive 123.94 358 IAMs_20 IAMs_20 06 53 11.8
comp=Z,372nm,18.0s
G31M Satah River 123.96 3 IAMs_20 IAMs_20 06 47 48.2
comp=Z,492nm,20.0s
G30M tAoh Zraii Nji 123.98 2 IAMs_20 IAMs_20 06 45 16.8
comp=Z,492nm,21.0s
F15K North Star Dit 124.06 348 IAMs_20 IAMs_20 06 58 51.9
comp=Z,351nm,18.0s
F17K Baldwin Pennin 124.42 350 IAMs_20 IAMs_20 06 50 31.1
comp=Z,451nm,20.0s
F31M Tsiigehtchic 124.50 3 IAMs_20 IAMs_20 06 52 15.2
comp=Z,477nm,18.0s
F28M Old Crow 124.58 0 IAMs_20 IAMs_20 06 47 56.1
comp=Z,492nm,21.0s
F30M Barrier River 124.62 2 IAMs_20 IAMs_20 06 49 23.7
comp=Z,455nm,19.0s
F26K Sheenjek River 124.70 358 IAMs_20 IAMs_20 06 47 08.7
comp=Z,428nm,22.0s
E25K Arctic Village 125.16 358 IAMs_20 IAMs_20 06 52 40.9
comp=Z,461nm,18.0s
E27K Coleen River 125.16 359 IAMs_20 IAMs_20 06 52 08.7
comp=Z,411nm,19.0s
E24K Your Creek 125.20 356 IAMs_20 IAMs_20 06 56 22.3
comp=Z,420nm,19.0s
E23K Chandalar 125.22 356 IAMs_20 IAMs_20 06 50 28.2
comp=Z,414nm,19.0s
E29M Blow River 125.37 1 IAMs_20 IAMs_20 06 50 49.8
comp=Z,431nm,20.0s
E22K Anaktuvuk Pass 125.40 355 IAMs_20 IAMs_20 06 46 26.1
comp=Z,580nm,22.0s
E28M Babbage River 125.58 0 IAMs_20 IAMs_20 06 54 21.4
comp=Z,413nm,18.0s
TOLK Toolik Lake Re 125.80 356 IAMs_20 IAMs_20 06 48 09.5
comp=Z,501nm,21.0s
LODK Lodwar 126.18 174 IAMs_20 IAMs_20 06 53 49.3
comp=Z,514nm,20.0s
D27M Malcolm River 126.22 360 IAMs_20 IAMs_20 06 52 34.6
comp=Z,438nm,19.0s
D25K Kavik River 126.38 357 IAMs_20 IAMs_20 06 47 07.4
comp=Z,444nm,22.0s
C36M Paulatuk 126.86 7 IAMs_20 IAMs_20 06 53 55.7
comp=Z,382nm,20.0s
XAN Xi'an 128.99 274 PKP **PKiKP 06 03 55.9 +4.8**
A36M Sachs Harbour 129.40 6 IAMs_20 IAMs_20 06 54 05.9
comp=Z,415nm,18.0s
HHC Hu-ho-hao-te 132.58 282 *e*PKP **PKiKP 06 03 59.1 +0.9**
ATD Arta Tunnel 134.29 184 IAMs_20 IAMs_20 06 59 28.6
comp=Z,338nm,19.0s
UOSS Minazif 145.62 207 IAMs_20 IAMs_20 07 08 35.0
comp=Z,304nm,21.0s
RAYN Ar Rayn 146.03 189 IAMs_20 IAMs_20 07 08 43.0
comp=Z,359nm,19.0s
CART Cartagena 146.74 109 IAMs_20 IAMs_20 07 21 17.2
comp=Z,316nm,21.0s
ESDC Sonseca Array 146.74 103 PKPbc **PKiKP 06 04 27.6 +0.4**
comp=Z,2.5nm,0.9s,baz=237,slow=2.6,SNR=8.8
WMQ Urumqi 147.50 266 *e*PKPbc **PKPab 06 04 28.4 -0.2**
KSH Kashi 150.65 248 PKPbc **PKiKP 06 04 37.6 +2.3**
MKAR Makanchi Array 152.33 266 PKPbc **PKPbc 06 04 37.5 -0.7**
comp=Z,3.0nm,0.9s,baz=82,slow=2.6,SNR=8.3
AAK Ala-Archa 153.71 251 PKPbc **PKPbc 06 04 40.4 -1.0**
comp=Z,0.7nm,0.3s,baz=211,slow=5.9,SNR=1.8
ZALV Zalesovo Beam 154.76 282 PKPab **PKPab 06 04 55.4 -2.9**
comp=Z,1.0nm,0.5s,baz=132,slow=4.1,SNR=1.4
KURBB Kurchatov Arra 156.56 270 PKPab **PKPab 06 05 06.2 +0.1**
comp=Z,1.6nm,0.9s,baz=115,slow=3.6,SNR=6.1
BRTR Keskin Array B 161.97 164 PKPab **PKPab 06 05 33.0 +3.0**
comp=Z,0.5nm,0.7s,baz=193,slow=5.6,SNR=2.2
BVAR Borovoye Array 162.14 269 PKPab **PKPab 06 05 29.3 -1.1**
comp=Z,1.5nm,0.6s,baz=149,slow=3.4,SNR=6.2
GERES GERESS Array B 162.24 107 PKPab **PKPab 06 05 33.4 +2.4**
comp=Z,0.2nm,0.3s,baz=259,slow=3.7,SNR=1.5
CLL Collm 163.28 99 *i* PKPab **PKPab 06 05 40.0 +4.6**
CLL LmV 07 28 00.0
comp=Z,300nm,19.1s
AKTO Aktyubinsk 167.32 245 PKPab **PKPab 06 05 50.9 -2.3**
comp=Z,1.0nm,0.5s,baz=131,slow=1.5,SNR=5.3
ARTI Arti 169.82 273 PKPab **PKPab 06 06 01.4 -2.7**
comp=Z,2.7nm,0.3s,baz=34,slow=3.6,SNR=5.0

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*SNET **09** 05:48:38.8±1.4, 13°.99N×90°.06W, h5km, ML2.8*
*CATAC **09** 05:48:38.7±0.8, 14°N±2°×9°0W±°, h5km±2km, M2.8/12, MLv2.8/12, Error ellipse: s-maj=9.8km s-min=4.5km az=106.6, confirmed*
*GCG **09** 05:48:39.0±1.0, 13°.98N×90°.06W, h7km±8km, MD3.7, ML2.8, MW3.4*

ISC 09 05:48:40.9±1.0, 13°.99N±0°.03×89°.99W±0°.03, h11km±7km, n46, σ1§23/55, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.15**	**191**	P	**Pg**	**05 48 43.0**	**-1.4**
LOAL	**Lomas de Alarc**	**0.20**	**88**	*e*P	**Pb**	**05 48 45.6**	**-1.1**
LOAL	**Lomas de Alarc**	**0.20**	**88**	P	**Pb**	**05 48 45.5**	**-1.1**
LOAL	**Lomas de Alarc**	**0.20**	**88**	S	**Sb**	**05 48 50.4**	**+2.2**
NUBE	**Las Nubes**	**0.22**	**114**	*i* P	**Pb**	**05 48 45.7**	**-1.4**
NUBE				*e*S	**Sb**	**05 48 50.2**	**+1.4**
NUBE	**Las Nubes**	**0.22**	**114**	*i* P	**Pb**	**05 48 45.7**	**-1.4**
NUBE				*i* S	**Sg**	**05 48 50.1**	**+1.2**
NUBE	**Las Nubes**	**0.22**	**114**	P	**Pg**	**05 48 45.5**	**-0.1**
RBDL	**Robledal**	**0.32**	**67⇑**	*i*P	**Pb**	**05 48 47.6**	**-1.2**
RBDL				*e*S	**Sb**	**05 48 53.5**	**-0.4**
RTR	**El Retiro**	**0.34**	**106**	*e*P	**Pb**	**05 48 48.2**	**-1.0**
SBLS	**San Blas**	**0.38**	**113**	*e*P	**Pb**	**05 48 48.8**	**-1.1**
CEVE	**Cerro Verde**	**0.39**	**115**	*e*P	**Pb**	**05 48 49.0**	**-0.9**
CEVE	**Cerro Verde**	**0.39**	**115**	P	**Pb**	**05 48 49.1**	**-0.9**
SNJE	**San Jose**	**0.39**	**108**	*e*P	**Pb**	**05 48 49.0**	**-1.0**
SNJE				*e*S	**Sb**	**05 48 55.9**	**-0.2**
UNIC	**Universidad Ca**	**0.43**	**91**	*e*P	**Pg**	**05 48 49.3**	**-0.1**
UNIC				*e*S	**Sg**	**05 48 56.2**	**+1.1**
UNIC	**Universidad Ca**	**0.43**	**91**	P	**Pg**	**05 48 49.1**	**-0.2**
FG16	**Alotenango, Sa**	**0.58**	**299**	*i* P	**Pn**	**05 48 56.6**	**+1.2**
FG8	**Yepocapa, Chim**	**0.62**	**296**	*i* P	**Pn**	**05 48 57.4**	**+1.6**
JAYA	**Jayaque - finc**	**0.62**	**123**	*e*P	**Pg**	**05 48 52.5**	**-0.6**
JAYA				*e*S	**Sb**	**05 49 02.4**	**-0.3**
JAYA	**Jayaque - finc**	**0.62**	**123**	*i* P	**Pg**	**05 48 52.5**	**-0.6**
JAYA				*e*S	**Sb**	**05 49 02.1**	**-0.6**
JAYA	**Jayaque - finc**	**0.62**	**123**	P	**Pg**	**05 48 52.5**	**-0.6**
PMON	**Piamonte**	**0.71**	**113**	P	**Pb**	**05 48 54.6**	**-0.8**
MTO3	**Montecristo**	**0.73**	**56**	*e*P	**Pg**	**05 48 54.4**	**-0.8**
MTO3	**Montecristo**	**0.73**	**56**	*i* P	**Pg**	**05 48 54.4**	**-0.8**
MTO3	**Montecristo**	**0.73**	**56**	P	**Pg**	**05 48 54.3**	**-0.8**
MTO3	**Montecristo**	**0.73**	**56**	S	**Sg**	**05 49 05.4**	**+0.6**
UEES	**Universidad Ev**	**0.78**	**110**	P	**Pb**	**05 48 55.6**	**-1.0**
LALI	**Alcalda de L**	**0.82**	**128**	P	**Pg**	**05 48 56.1**	**-0.7**
LALI	**Alcalda de L**	**0.82**	**128**	S	**Sb**	**05 49 09.0**	**+0.8**
ESQI	**Esquipulas**	**0.84**	**48**	*i* P	**Pg**	**05 48 56.3**	**-1.0**
ESQI				*e*S	**Sb**	**05 49 08.7**	**-0.4**
ESQI	**Esquipulas**	**0.84**	**48**	P	**Pg**	**05 48 56.3**	**-1.0**
ESQI	**Esquipulas**	**0.84**	**48**	S	**Sb**	**05 49 09.1**	**0.0**
LOMA	**Loma Larga**	**0.86**	**113**	P	**Pg**	**05 48 57.0**	**-0.7**
ESSG	**Sabana Grande**	**0.91**	**296**	*e*P	**Pg**	**05 48 55.1**	**-3.4**
LLGN	**La Laguna**	**1.03**	**80**	*e*S	**Sb**	**05 49 14.8**	**+0.4**
LLGN	**La Laguna**	**1.03**	**80**	P	**Pg**	**05 48 59.9**	**-0.8**
LLGN	**La Laguna**	**1.03**	**80**	S	**Sb**	**05 49 15.2**	**+0.8**
PAVA	**Las Pavas**	**1.06**	**105**	*e*P	**Pb**	**05 49 00.8**	**-0.5**
PAVA	**Las Pavas**	**1.06**	**105**	P	**Pb**	**05 49 00.8**	**-0.5**
PAVA	**Las Pavas**	**1.06**	**105**	S	**Sn**	**05 49 17.0**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.25**	**103**	*e*P	**Pn**	**05 49 04.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.25**	**103**	P	**Pn**	**05 49 04.1**	**-0.4**
TECO	**Alcaldia de Te**	**1.25**	**111**	*e*P	**Pn**	**05 49 03.8**	**-0.7**
TECO	**Alcaldia de Te**	**1.25**	**111**	P	**Pn**	**05 49 03.6**	**-0.9**
TECO	**Alcaldia de Te**	**1.25**	**111**	S	**Sn**	**05 49 22.4**	**+1.0**
STG2	**El Palmar, Qui**	**1.42**	**288**	*e*S	**Sn**	**05 49 30.4**	**+4.8**
SARH	**Santa Rosa de**	**1.42**	**57**	*e*P	**Pn**	**05 49 06.4**	**-0.4**
SARH				*e*S	**Sg**	**05 49 26.9**	**+0.2**

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*BJI **09** 05:49:49.6, 0°.60S×148°.94E, h15km, mB5.1/5, mb4.7/32, Ms4.7/5, Ms7 4.3/7*
*IDC **09** 05:49:49.2±0.6, 0°.81S×148°.63E, h0km, mb4.4/18, mbtmp4.4/19, ML2.2/1, MS3.8/8, Error ellipse: s-maj=24.4km s-min=12.8km az=96.0*
*NEIC **09** 05:49:51.5±1.6, 0°.85S±0°.09×148°.51E±0°.08, h10km±1km, mb4.8/30, Error ellipse: s-maj=16.7km s-min=11.9km az=144.0*

ISC 09 05:49:54.4±0.4, 0°.89S±0°.07×148°.55E±0°.08, h32km, n85, σ1§17/73, mb4.6/41, MS3.8/7, 1C-2D, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.64**	**226**		**Pn**	**05 50 19.0**	**-2.0**
RABL	**Rabaul**	**4.88**	**132**	Pn	**Pn**	**05 51 05.9**	**+0.3**
JAY	**Jayapura**	**8.00**	**258**	LR	LR	05 54 22.9	
	comp=Z,254nm,21.3s,baz=55,slow=34						
PMG	**Port Moresby**	**8.57**	**189**	Pn	**Pn**	**05 51 55.1**	**-1.2**
	1.6nm,0.3s,baz=20,slow=16,SNR=1.3						
	4.8nm,0.3s						
PATS	**Pohnpei**	**12.41**	**52**	Pn	**Pn**	**05 52 47.2**	**-1.6**
GUMO	**Guam**	**14.84**	**346**	LR	LR	05 58 14.3	
	comp=Z,210nm,19.4s,baz=132,slow=34						
CTA	**Charters Tower**	**19.21**	**187**	LR	LR	06 01 08.3	
	comp=Z,7.1nm,21.0s,baz=20,slow=35						
MTN	**Manton Dam**	**20.95**	**235**		**P**	**05 54 35.0**	**+0.2**
MTN				IAmb	IAmb	05 54 36.5	
	comp=Z,55nm,1.4s						
WB0	**Warramunga Arr**	**23.32**	**216**		**P**	**05 54 59.1**	**-0.8**
WB0				IAmb	IAmb	05 55 01.9	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**23.48**	**215**	P	**P**	**05 55 00.5**	**-0.9**
WRAB				IAmb	IAmb	05 55 03.4	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**23.49**	**215**		**P**	**05 54 59.7**	**-1.9**
WRA	**Warramunga Arr**	**23.49**	**215**	P	**P**	**05 55 01.1**	**-0.5**
	comp=Z,12nm,0.6s,baz=37,slow=10,SNR=89						
WRA				LR	LR	06 05 29.0	
	comp=Z,243nm,19.1s,baz=60,slow=40						
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**24.43**	**232**		**P**	**05 55 09.1**	**-1.2**
KNRA				IAmb	IAmb	05 55 12.1	
	comp=Z,12nm,0.7s						

SOEI Soe 25.70 249 P P 05 55 20.4 -1.7
H11S3 WAKE ISLAND Hy 26.25 42 T T 06 22 39.8
baz=228,slow=76
H11S2 WAKE ISLAND Hy 26.26 42 T T 06 22 52.4
baz=228,slow=76
H11S1 WAKE ISLAND Hy 26.27 42 T T 06 22 53.1
baz=228,slow=76
BATI Baumata 26.41 249 P P 05 55 29.3 +0.9
comp=Z,43nm,0.5s,baz=139,slow=11,SNR=2.7
AS31 Alice Springs 26.73 211 P 05 55 30.7 -0.5
ASAR Alice Springs 26.73 211 P 05 55 31.3 +0.1
ASAR Alice Springs 26.73 211 P P 05 55 31.8 +0.6
comp=Z,3.2nm,0.6s,baz=41,slow=7.5,SNR=52
ASAR LR LR 06 07 19.3
comp=Z,271nm,19.0s,baz=98,slow=39
comp=Z,3.2nm,0.6s
H11N1 WAKE ISLAND Hy 27.26 40 T T 06 23 56.5
baz=223,slow=74
H11N3 WAKE ISLAND Hy 27.27 40 T T 06 23 57.6
baz=223,slow=74
H11N2 WAKE ISLAND Hy 27.28 40 T T 06 23 57.8
baz=223,slow=74
INKA Innaminka 27.73 195 P P 05 55 39.8 -0.2
FITZ Fitzroy Crossi 28.26 231 P 05 55 44.2 -0.7
FITZ Fitzroy Crossi 28.26 231 P **P 05 55 44.9 0.0**
comp=Z,3.7nm,0.5s,baz=53,slow=8.9,SNR=9.2
comp=Z,3.7nm,0.5s
ARMA Armidale 29.51 175 P P 05 55 56.6 +0.6
STKA Stephens Creek 31.51 191 P **P 05 56 13.0 -0.5**
comp=Z,1.7nm,0.5s,baz=338,slow=8.8,SNR=4.4
comp=Z,1.7nm,0.5s
JOW Kunigami 33.78 326 LR LR 06 06 59.8
comp=Z,157nm,21.8s,baz=94,slow=30
BBOO Buckleboo 33.86 199 P **P 05 56 33.0 -1.1**
PSA00 Pilbara Seismi 34.72 232 P 05 56 41.8 +0.1
JHJ Hachijo jima 2 34.82 347 LR LR 06 10 07.1
comp=Z,56nm,20.3s,baz=154,slow=35
JMN Monobe 37.10 340 P **P 05 57 01.7 -0.2**
JMN IAmb IAmb 05 57 02.5
comp=Z,29nm,1.0s
MJAR Matsushiro Arr 38.46 347 P P 05 57 10.8 -2.6
comp=Z,1.3nm,0.3s,baz=147,slow=6.8,SNR=1.6
MJAR LR LR 06 12 30.4
comp=Z,164nm,18.0s,baz=165,slow=35
comp=Z,1.3nm,0.3s
KSRS Korea Array 42.66 336 P **P 05 57 47.1 -1.0**
comp=Z,0.8nm,0.5s,baz=151,slow=7.9,SNR=2.4
comp=Z,0.8nm,0.5s
NJ2 Nanjing 43.16 322 *e*P **P 05 57 51.3 -0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NWAO Narrogin (SRO) 43.38 220 P P 05 57 53.5 -0.6
NWAO IAmb IAmb 05 57 59.2
comp=Z,15nm,1.1s
USRK Ussuriysk Ar. 47.26 344 P **P 05 58 22.9 -1.7**
comp=Z,3.1nm,0.8s,baz=187,slow=6.7,SNR=2.4
comp=Z,3.1nm,0.8s
BNX BinXian 50.05 341 ⇓P **P 05 58 46.1 +0.1**
BNX pmax pmax
comp=Z,24nm,1.5s
XAN Xi'an 50.88 317 ⇓P **P 05 58 52.5 -0.1**
XAN pP pP 05 59 02.3 +0.6
XAN S **S 06 06 10.5 +3.4**
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,290nm,7.6s
XAN LR LR
comp=Z,220nm,6.3s
XAN LR LR
comp=Z,170nm,6.9s
CMAR Chiang Mai Arr 52.40 294 P 05 59 04.1 0.0
CMAR Chiang Mai Arr 52.40 294 P **P 05 59 04.8 +0.7**
comp=Z,3.9nm,0.6s,baz=114,slow=5.5,SNR=24
comp=Z,3.9nm,0.6s
CHTO Chiang Mai 52.49 295 P 05 59 05.8 +1.0
CD2 Chengdu 52.98 311 P **P 05 59 09.9 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
HHC Hu-ho-hao-te 53.43 325 *e*P **P 05 59 12.3 +0.8**
HHC pmax pmax
comp=Z,11nm,0.6s
PETK Petropavlovsk- 54.35 7 P **P 05 59 17.8 -0.1**
comp=Z,3.8nm,0.6s,baz=155,slow=6.6,SNR=7.8
comp=Z,3.8nm,0.6s
GTA Gaotai 59.92 318 P **P 05 59 59.2 +1.5**
GTA pP pP 06 00 05.1 -1.8
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA LR LR
comp=Z,170nm,18.2s
GTA LR LR
comp=Z,170nm,17.5s
GTA LR LR
comp=Z,170nm,18.9s
WMQ Urumqi 70.01 318 *e*P **P 06 01 02.7 -0.5**
WMQ pmax pmax
comp=Z,51nm,0.9s
MKAR Makanchi Array 74.61 319 P 06 01 30.0 -0.5
MKAR Makanchi Array 74.61 319 P **P 06 01 30.9 +0.4**
comp=Z,1.9nm,0.6s,baz=100,slow=7.2,SNR=21
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 75.57 327 P 06 01 34.8 -1.0
ZALV Zalesovo Beam 75.57 327 P **P 06 01 35.6 -0.3**
comp=Z,2.0nm,0.5s,baz=108,slow=7.3,SNR=5.4
comp=Z,2.0nm,0.5s
CNPM China Poot 76.12 27 P 06 01 39.0 +0.1
M20K Styx River 76.40 25 P **P 06 01 41.0 +0.4**
M20K IAmb IAmb 06 01 43.2
comp=Z,7.2nm,0.8s
VNDA Vanda 76.89 177 P 06 01 43.5 +0.6
VNDA IAmb IAmb 06 01 44.7
comp=Z,3.5nm,0.6s
VNDA Vanda 76.89 177 P **P 06 01 43.9 +0.9**
comp=Z,3.0nm,0.6s,baz=332,slow=6.7,SNR=65
comp=Z,3.0nm,0.6s
KSH Kashi 77.18 311 P **P 06 01 48.6 +3.1**
KSH pmax pmax
comp=Z,5.0nm,0.8s
SBA Scott Base 77.51 176 P 06 01 48.1 +1.7
SBA IAmb IAmb 06 01 54.7
comp=Z,26nm,1.9s
KURK Kurchatov 78.10 322 P 06 01 50.2 0.0
KURK IAmb IAmb 06 01 51.1
comp=Z,4.7nm,0.7s
KURBB Kurchatov Arra 78.13 322 P **P 06 01 50.2 -0.1**
comp=Z,2.3nm,0.6s,baz=110,slow=5.1,SNR=20
comp=Z,2.3nm,0.6s
SML Sawmill 78.40 26 P 06 01 51.5 -0.2
RND Reindeer 78.85 24 P 06 01 53.4 -0.8
G23K Bananza Creek 79.86 21 P **P 06 02 00.1 +0.5**
G23K IAmb IAmb 06 02 00.5
comp=Z,36nm,1.9s
IL31 80.21 23 P **P 06 01 59.7 -1.6**
ILAR Eielson Array 80.21 23 P 06 01 59.7 -1.7
ILAR Eielson Array 80.21 23 P **P 06 01 60.0 -1.5**
comp=Z,3.5nm,0.6s,baz=249,slow=5.6,SNR=65
comp=Z,3.5nm,0.6s
BARN Barnard Glacie 81.11 28 P **P 06 02 06.8 +0.2**
BARN IAmb IAmb 06 02 08.4
comp=Z,10.0nm,0.6s
CTGM Chitina Glacie 81.23 28 P **P 06 02 07.4 +0.2**
CTGM IAmb IAmb 06 02 08.1
comp=Z,7.9nm,0.8s
G26K Porcupine Rive 82.22 22 P 06 02 12.6 +0.6
G26K IAmb IAmb 06 02 14.5
comp=Z,6.5nm,0.8s
HYT Haines Junctio 82.99 28 P 06 02 16.6 +0.2
HYT IAmb IAmb 06 02 17.5
comp=Z,3.6nm,0.8s
BVAR Borovoye Array 83.59 323 P **P 06 02 19.6 +0.1**
comp=Z,3.4nm,0.7s,baz=103,slow=6.3,SNR=16
comp=Z,3.4nm,0.7s
MAW Mawson 87.53 202 P P 06 02 39.5 +0.8
comp=Z,1.4nm,0.6s,baz=99,slow=6.4,SNR=10.0
comp=Z,1.4nm,0.6s
QSPA South Pole Qui 89.04 180 P P 06 02 47.0 +0.9
comp=Z,1.2nm,0.8s,baz=262,slow=1.3,SNR=7.2
comp=Z,1.2nm,0.8s
AB31 Akbulak array 89.75 319 P 06 02 48.1 -1.5
AB31 IAmb IAmb 06 06 02.0
comp=Z,5.9nm,1.4s
NVAR Mina Array Bea 93.02 52 P **P 06 03 05.8 +0.4**
comp=Z,0.5nm,0.6s,baz=260,slow=8.1,SNR=4.5
comp=Z,0.5nm,0.6s

NEW Newport 93.55 42 LR LR 06 37 43.1
comp=Z,257nm,20.5s,baz=202,slow=31
SYO Syowa Base 95.89 200⇑*e*PP **PP 06 07 11.6 +2.1**
GERES GERESS Array B 118.51 328 PKP **PKPdf 06 08 37.0 -2.2**
comp=Z,0.3nm,0.3s,baz=222,slow=1.3,SNR=4.2
PLCA Paso Flores 125.43 144 PKP **PKiKP 06 08 53.2 +0.1**
comp=Z,0.7nm,0.6s,baz=235,slow=3.8,SNR=7.0
ESDC Sonseca Array 133.98 330 PKP **PKPdf 06 09 08.0 -0.9**
comp=Z,0.3nm,0.3s,baz=68,slow=5.9,SNR=1.6
LPAZ La Paz 139.98 117 PKP **PKPdf 06 09 19.4 -2.0**
comp=Z,0.9nm,0.6s,baz=234,slow=4.3,SNR=5.6
CPUP Villa Florida 143.18 139 PKP PKPbc 06 09 23.6 +0.6
comp=Z,0.2nm,0.4s,baz=241,slow=1.9,SNR=4.0
TORD Torodi Ar. Bea 144.98 292 PKPbc PKPbc 06 09 28.8 0.0
comp=Z,1.2nm,0.6s,baz=78,slow=3.7,SNR=8.3
DBIC Dimbokro 152.86 283 PKPbc **PKiKP 06 09 49.9 +0.3**
comp=Z,2.6nm,0.6s,baz=270,slow=5.1,SNR=3.8
DBIC PKPab **pPKPbc 06 09 59.7 +0.6**
comp=Z,3.2nm,0.7s,baz=136,slow=6.6,SNR=3.7

*IDC **09** 05:57:45.4±1.9, 7°.79S×117°.44E, h0km, mb3.6/3, mbtmp3.8/5, ML3.4/2, MS2.8/2, Error ellipse: s-maj=42.3km s-min=24.2km az=70.0*
*DJA **09** 05:57:47.5±0.2, 8°S±2°×117°E±°, h10km, M4.3/18, mB6.4/1, mb4.5/3, MLv4.1/18, Mw(mB)6.2/1*
ISC 09 05:57:49.6±0.9, 7°.89S±0°.04×117°.48E±0°.05, h35km, n23, σ2°.06/27, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.97**	**163**	P	**Pn**	**05 58 07.6**	**+0.8**
PLAI				S	**Sn**	**05 58 22.8**	**+3.4**
TWSI	**Taliwang, Sumb**	**1.03**	**215**	P	**Pn**	**05 58 06.3**	**-1.3**
TWSI				S	**Sn**	**05 58 20.2**	**-0.6**
SRBI	**Singaraja**	**2.25**	**265**	P	**Pn**	**05 58 25.4**	**+1.0**
SRBI				S	**Sn**	**05 58 51.3**	**+0.3**
WBSI	**Waikabubak, Su**	**2.56**	**133**	P	**Pn**	**05 58 32.7**	**+3.9**
ABJI	**Asem Bagus**	**3.22**	**271**	P	**Pn**	**05 58 39.5**	**+1.8**
WSI	**Waingapu**	**3.30**	**123**	P	**Pn**	**05 58 40.2**	**+1.4**
JAGI	**Jajag, Banyuwa**	**3.34**	**260**	P	**Pn**	**05 58 38.3**	**-1.2**
BSSI	**Bau Bau, Buton**	**3.46**	**60**	P	**Pn**	**05 58 41.2**	**+0.2**
KMMI	**Kalianget**	**3.58**	**283**	P	**Pn**	**05 58 44.3**	**+1.6**
KAPI	**Kappang**	**3.64**	**38**	Pn	**Pn**	**05 58 42.9**	**-0.6**
	4.9nm,0.3s,baz=228,slow=3.5,SNR=13						
KAPI				Sn	**Sn**	**05 59 25.1**	**-0.2**
	5.5nm,0.3s,baz=300,slow=21,SNR=5.8						
KAPI				LR	LR	06 00 13.2	
	comp=Z,30nm,19.2s,baz=194,slow=41						
	18nm,0.2s						
BKSI	**Bulukumba**	**3.66**	**46**	P	**Pn**	**05 58 42.9**	**-0.9**
BASI	**Baing, Sumba**	**3.83**	**127**	P	**Pn**	**05 58 47.0**	**+0.8**
EDFI	**Ende, Flores**	**4.25**	**102**	P	**Pn**	**05 58 52.9**	**+0.9**
BNSI	**Bone**	**4.34**	**37**	P	**Pn**	**05 58 55.3**	**+2.1**
SPSI	**Sidrap Palu**	**4.52**	**30**	P	**Pn**	**05 58 55.4**	**-0.2**
SOEI	**Soe**	**6.96**	**106**	P	**Pn**	**05 59 29.9**	**+0.7**
	0.1nm14nm,0.7s						
MTKI	**Muara Teweh, K**	**7.37**	**339**	P	**Pn**	**05 59 35.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**12.88**	**143**	Pn	**Pn**	**06 00 50.1**	**-0.2**
	0.1nm,0.3s,baz=325,slow=12,SNR=2.3						
FITZ				Sn	**Sn**	**06 03 09.7**	**-2.9**
	0.4nm,0.3s,baz=181,slow=23,SNR=8.1						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**20.25**	**128**	P	**P**	**06 02 23.6**	**+1.4**
	1.1nm,0.5s,baz=302,slow=12,SNR=23						
WRA				S	**S**	**06 06 01.4**	**-6.2**
	0.1nm,0.3s,baz=297,slow=18,SNR=1.6						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**22.23**	**137**	P	**P**	**06 02 45.4**	**+1.9**
	2.2nm,0.7s,baz=316,slow=9.8,SNR=20						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**62.80**	**334**	P	**P**	**06 08 11.9**	**+0.2**
	0.8nm,0.7s,baz=134,slow=7.7,SNR=2.8						
	0.8nm,0.7s						
SHEM	**Shemya Is, Ala**	**77.10**	**31**	LR	LR	06 40 28.0	
	comp=Z,182nm,21.2s,baz=135,slow=33						
SNAA	**Sanae**	**91.65**	**196**	LR	LR	06 47 26.4	
	comp=Z,18nm,21.1s,baz=190,slow=32						

*ASRS **09** 06:05:15.0±1.3, 54°.28N×86°.15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 06:05:18.5±2.5, 54°.23N×86°.10E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=18.8km s-min=12.4km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**250**	I	I	06 11 00.0	
	baz=68,slow=323,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.81**	**250**	Pg	Pg	06 05 32.4	-1.5
	0.5nm,0.3s,baz=66,slow=11,SNR=3.6						
ZALV				Lg	Lg	06 05 45.4	
	2.6nm,0.3s,baz=73,slow=33,SNR=12						
ZALV				Rg	Rg	06 05 54.8	
	14nm,0.4s,baz=67,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**5.87**	**235**	Pn	Pn	06 06 47.8	+1.1
	0.1nm,0.3s,baz=52,slow=14,SNR=4.4						
KURBB				Lg	Lg	06 08 25.7	
	0.1nm,0.3s,baz=48,slow=27,SNR=1.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.83**	**200**	Pn	Pn	06 07 14.5	+0.9
	0.3nm,0.3s,baz=22,slow=14,SNR=11						
MKAR				Lg	Lg	06 09 29.4	
	0.1nm,0.3s,baz=19,slow=32,SNR=2.0						
	0.4nm,0.2s						

*CATAC **09** 06:18:29.7±0.2, 10°N±1°×8°4W±°, h5km±1km, M3.9/17, MLv3.9/17, Error ellipse: s-maj=3.7km s-min=2.3km az=51.7, confirmed*
*UCR **09** 06:18:29.3±1.3, 9°.81N×83°.81W, h6km±1km, MW4.4, Fault plane solution: NP1:φs=43.20000°, δ90.00000°, λ20.00000°.*
*UPA **09** 06:18:30.3±1.6, 9°.94N×83°.78W, h10km±7km, MW4.4*
ISC 09 06:18:29.4±0.7, 9°.80N±0°.02×83°.80W±0°.01, h12km±3km, n163, σ0°.73/207, 57C-29D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REPA	**Paraso**	**0.07**	**289**⇑	*e*P	**Pg**	**06 18 31.5**	**-0.7**
REPA				*e*S	**Sg**	**06 18 33.0**	**-1.2**
VINA	**Juan Vinas**	**0.10**	**29**⇓	*e*P	**Pg**	**06 18 32.3**	**-0.2**
VINA				*e*S	**Sg**	**06 18 34.5**	**-0.2**
PCAYA	**Pacayas**	**0.11**	**353**⇓	*e*P	**Pg**	**06 18 32.5**	**-0.2**
TAGO	**Cartago**	**0.14**	**297**⇑	*e*P	**Pg**	**06 18 32.9**	**-0.1**
TAGO				*e*S	**Sg**	**06 18 35.5**	**0.0**
TURIB	**Turrialba**	**0.15**	**47**	*e*P	**Pg**	**06 18 33.0**	**-0.1**
TURIB				*e*S	**Sg**	**06 18 35.5**	**-0.2**
VICA	**Volcano Irazu**	**0.19**	**346**⇓	*e*P	**Pg**	**06 18 33.9**	**0.0**
CVTQ	**Turrialba Volc**	**0.20**	**9**⇓	*e*P	**Pb**	**06 18 34.5**	**-0.8**
CVTV	**Tajo**	**0.20**	**13**⇓	*e*P	**Pb**	**06 18 34.6**	**-0.6**
CVTV				*e*S	**Sb**	**06 18 38.2**	**+0.9**
ABRB	**Las Abras (San**	**0.22**	**22**⇓	*e*P	**Pb**	**06 18 34.8**	**-0.6**
ABRB				*e*S	**Sb**	**06 18 38.8**	**+1.2**
VTR0	**Volcan Turrial**	**0.22**	**10**⇓	*e*P	**Pb**	**06 18 34.8**	**-0.7**
VTR0				*e*S	**Sb**	**06 18 38.7**	**+0.9**
TRIO	**Tres Rios**	**0.22**	**298**⇑	*e*P	**Pg**	**06 18 34.0**	**-0.2**
TRIO				*e*S	**Sg**	**06 18 37.3**	**-0.2**
CVTR	**Volcan Turrial**	**0.22**	**10**⇓	*e*P	**Pb**	**06 18 34.7**	**-0.9**
PIEC	**Cerro El Cedra**	**0.24**	**221**⇓	*e*P	**Pg**	**06 18 34.3**	**-0.3**
PIEC				*e*S	**Sg**	**06 18 38.0**	**-0.1**
CVIMO	**Finca Echandi**	**0.26**	**327**⇓	*e*P	**Pg**	**06 18 35.2**	**+0.2**
CORON	**Coronado**	**0.26**	**310**⇑	*e*P	**Pg**	**06 18 35.4**	**+0.4**
CORON				*e*S	**Sg**	**06 18 39.8**	**+1.0**
PITB	**Pirrs, San**	**0.26**	**238**⇑	*e*P	**Pg**	**06 18 34.7**	**-0.3**
PITB				*e*S	**Sg**	**06 18 38.8**	**0.0**
RAZU	**San Marcos de**	**0.27**	**237**⇑	*e*P	**Pg**	**06 18 34.8**	**-0.2**
RAZU				*e*S	**Sg**	**06 18 39.1**	**+0.3**
RESJ	**San Isidro (Tu**	**0.27**	**34**⇓	*e*P	**Pb**	**06 18 35.8**	**-0.4**
AMPA	**Desamparados**	**0.28**	**289**⇑	*e*P	**Pg**	**06 18 35.0**	**-0.2**
AMPA				*e*S	**Sg**	**06 18 39.1**	**0.0**
ECI	**Escuela Centro**	**0.28**	**298**⇑	*e*P	**Pg**	**06 18 35.5**	**+0.1**
ECI				*e*S	**Sg**	**06 18 39.9**	**+0.6**
SJS3	**Mercedes San J**	**0.28**	**298**⇑	*e*P	**Pg**	**06 18 35.6**	**+0.3**
SJS3				*e*S	**Sg**	**06 18 40.1**	**+0.8**
SJS	**Escuela Geolog**	**0.29**	**298**⇑	*e*P	**Pg**	**06 18 35.5**	**+0.1**
SJS				*e*S	**Sg**	**06 18 39.9**	**+0.5**
LUPE	**Guadalupe**	**0.29**	**300**⇑	*e*P	**Pg**	**06 18 35.7**	**+0.2**
LUPE				*e*S	**Sg**	**06 18 40.2**	**+0.7**
LUJA	**Lujan**	**0.30**	**294**⇑	*e*P	**Pg**	**06 18 35.6**	**0.0**
LUJA				*e*S	**Sg**	**06 18 40.2**	**+0.5**

CENT San Jose 0.31 295⇑ *e*P **Pb 06 18 36.7 -0.1**
CENT *e*S **Sb 06 18 41.4 -0.5**
TIBA Tibas 0.31 300⇑ *e*P **Pg 06 18 36.2 +0.3**
TIBA *e*S **Sg 06 18 40.9 +0.8**
MEXI Barrio Mexico 0.32 296⇑ *e*P **Pg 06 18 36.0 +0.1**
MEXI *e*S **Sg 06 18 40.9 +0.6**
DOMI Santo Domingo 0.34 302⇑ *e*P **Pg 06 18 36.6 +0.3**
ACOS Acosta 0.36 269⇑ *e*P **Pg 06 18 36.6 -0.1**
LCOCO El Coco 0.36 40⇓ *e*P **Pb 06 18 37.5 -0.3**
RVLA Villa Bonita 0.37 34⇓ *e*P **Pb 06 18 37.6 -0.3**
HEME Heredia, Merce 0.39 300⇑ *e*P **Pb 06 18 38.5 +0.3**
HEME *e*S **Sb 06 18 44.4 +0.2**
SANTA Santa Ana 0.40 289⇑ *e*P **Pg 06 18 37.2 -0.2**
SANTA *e*S **Sg 06 18 43.0 +0.1**
IRES Siquirres 0.41 45⇑ *e*P **Pb 06 18 38.3 -0.3**
IRES *e*S **Sb 06 18 45.1 +0.3**
PILE Guapiles 0.41 1⇓ *e*P **Pb 06 18 38.5 -0.1**
BELE Belen 0.42 294⇑ *e*P **Pg 06 18 37.8 0.0**
BELE *e*S **Sg 06 18 43.8 +0.3**
PICV PH. Pirrs 0.43 246⇑ *e*P **Pg 06 18 37.5 -0.4**
LLNJ Naranjito 0.44 222⇓ *e*P **Pg 06 18 38.8 +0.6**
LLNJ *e*S **Sb 06 18 46.1 +0.4**
UELA Alajuela 0.46 298⇑ *e*P **Pg 06 18 37.0 -1.6**
ZEDO Perez Zeledon 0.46 166⇓ *e*P **Pg 06 18 38.2 -0.3**
ZEDO *e*S **Sg 06 18 44.8 +0.1**
PAR1A Puntarenas Pro 0.49 245⇑ *e*P **Pg 06 18 39.1 0.0**
PURI Puriscal 0.51 275⇓ *e*P **Pg 06 18 39.2 -0.2**
POAS San Pedro de P 0.52 302⇑ *e*P **Pg 06 18 40.0 +0.5**
QUEP Quepos 0.52 224 S **Sb 06 18 48.3 +0.4**
QUEP Quepos 0.52 224 ⇓P **Pg 06 18 39.9 +0.3**
QUEP Quepos 0.52 224 *e*P **Pg 06 18 39.8 +0.2**
QUEP *e*S **Sg 06 18 47.8 +1.3**
TAAN Batan 0.53 58 *e*P **Pb 06 18 40.5 0.0**
TAAN *e*S **Sn 06 18 49.5 -2.0**
SAJE San Jernim 0.54 148⇓ *e*P **Pg 06 18 39.5 -0.5**
SAJE *e*S **Sg 06 18 47.0 -0.1**
CARI Cariari 0.56 6⇓ *e*P **Pb 06 18 41.1 -0.1**
GREC Grecia 0.57 298⇑ *e*P **Pb 06 18 41.9 +0.5**
VPS5 V. Poas 0.57 312 *e*P **Pg 06 18 40.9 +0.2**
VPS8 V Poas 0.57 310⇑ *e*P **Pg 06 18 41.2 +0.4**
ATEO Atenas 0.60 287⇑ *e*P **Pg 06 18 40.9 -0.2**
SARCI Sarchi 0.61 298 *e*P **Pg 06 18 41.8 +0.5**
VERH Veragua Rainfo 0.61 78⇑ *e*P **Pb 06 18 41.7 -0.3**
NARAN Naranjo de Ala 0.64 297⇑ *e*P **Pg 06 18 42.2 +0.3**
PALD Palmares 0.68 292⇑ *e*P **Pg 06 18 42.2 -0.4**
EDPE Pejibaye, P 0.68 161⇓ *e*P **Pg 06 18 42.4 -0.2**
SARA Sarapiqu 0.68 341⇓ *e*P **Pb 06 18 43.0 -0.2**
ZARE Zarcero 0.69 303 *e*P **Pg 06 18 43.3 +0.3**
OCHAL Ojochal 0.72 168 S **Sn 06 18 55.4 -0.8**
OCHAL Ojochal 0.72 168 ⇓P **Pg 06 18 43.3 0.0**
RAMO San Ramon 0.72 293⇑ *e*P **Pg 06 18 43.1 -0.2**
OROT Orotina 0.73 279⇑ *e*P **Pg 06 18 42.8 -0.7**
LAES El Progreso Va 0.74 93⇑ *e*P **Pb 06 18 43.7 -0.5**
TRT2 Tortugero 0.75 5 S **Sn 06 18 55.0 -2.1**
TRT2 Tortugero 0.75 5 ⇓P **Pb 06 18 43.9 -0.6**
TRT2 Tortugero 0.75 5⇓ *e*P **Pb 06 18 43.8 -0.6**
VPL2 V. Platanar 0.76 311⇑ *e*P **Pg 06 18 44.2 0.0**
BURE Buenos Aires 0.77 144⇓ *e*P **Pb 06 18 43.6 -1.1**
ITAL Pital 0.80 324⇑ *e*P **Pb 06 18 44.7 -0.4**
QUEU Ciudad Quesada 0.81 309⇑ *e*P **Pg 06 18 45.7 +0.6**
ARZA Esparza 0.88 282⇑ *e*P **Pb 06 18 45.7 -0.9**
PANP Palmar Norte 0.90 158⇓ *e*P **Pg 06 18 47.2 +0.4**
ROBF Roble, Puntare 0.94 281 *e*P **Pb 06 18 46.7 -0.9**
BRIBI Bribri 0.98 101 *e*P **Pn 06 18 49.0 0.0**
SOCE Pocosol 0.99 306 S **Sn 06 19 03.1 0.0**
SOCE Pocosol 0.99 306 ⇑P **Pb 06 18 48.2 -0.3**
SOCE Pocosol 0.99 306⇑ *e*P **Pb 06 18 48.1 -0.4**
EDP2 Potrero Grande 0.99 142⇓ *e*P **Pb 06 18 48.0 -0.6**
ENAS Puntarenas 1.04 280 *e*P **Pb 06 18 48.8 -0.5**
COVE Coope Vega, Sa 1.09 327 S **Sn 06 19 04.9 -0.5**
COVE Coope Vega, Sa 1.09 327 ⇑P **Pb 06 18 49.6 -0.5**
VACR Volcan Arenal 1.09 308⇑ *e*P **Pb 06 18 49.9 -0.4**
CASO Castillo 1.11 304 *e*P **Pb 06 18 50.1 -0.5**
ARE1 Arenal 1 1.12 306⇑ *e*P **Pb 06 18 50.2 -0.4**
VARE2 V. Arenal 1.12 306⇑ *e*P **Pb 06 18 50.2 -0.5**
PAQE Paquera 1.12 271 *e*P **Pn 06 18 49.8 -1.1**
CEDE Laguna Cedeo 1.12 307 *e*P **Pb 06 18 50.4 -0.3**
MTEVE Monteverde 1.14 297⇑ *e*P **Pn 06 18 50.4 -0.9**
REZ Monterrey de S 1.14 309 *e*P **Pb 06 18 51.2 +0.1**
TABAC Tabacon 1.18 306 *e*P **Pb 06 18 51.6 -0.1**
RGM0 Gandoca 1.19 100 *e*P **Pg 06 18 52.8 +0.5**
RGM0 Gandoca 1.19 100 S **Sg 06 19 09.0 +1.1**
JTS Las Juntas de 1.24 293⇑ *e*P **Pn 06 18 52.0 -0.5**
JTS *e*S **Sn 06 19 09.0 -0.1**
JTS Las Juntas de 1.24 293 ⇑P **Pb 06 18 51.9 -0.5**
JTS S **Sg 06 19 09.8 +0.5**
JTS Las Juntas de 1.24 293 *e*P **Pn 06 18 51.8 -0.7**
JUNT Juntas 1.24 293 *e*P **Pn 06 18 52.0 -0.6**
CHIK Chiripa 1.27 300 *e*P **Pn 06 18 52.8 -0.1**
ALCO Alturas Coton, 1.27 132 *e*P **Pn 06 18 52.7 -0.5**
VITO San Vito 1.27 140 *e*P **Pg 06 18 54.1 +0.1**
CBL1 Cabuya 1.29 261⇑ *e*P **Pn 06 18 53.0 -0.2**
TILA Tilaran 1.33 300⇑ *e*P **Pn 06 18 53.7 -0.1**
RSRNO Rio Sereno 1.35 137 *e*P **Pb 06 18 54.9 +0.3**
CNI2 El Empalme, Bo 1.36 106 *e*P **Pb 06 18 54.1 -0.7**
MLIR3 Monte Lirio, C 1.39 136 *e*P **Pg 06 18 56.6 +0.5**
PIRO Carate, Puerto 1.46 162 *e*P **Pb 06 18 56.2 -0.3**
PIRO *e*S **Sg 06 19 18.5 +2.0**
PIRO Carate, Puerto 1.46 162 S **Sg 06 19 18.0 +1.4**
PIRO Carate, Puerto 1.46 162 P **Pn 06 18 56.0 +0.4**
BRU2 Volcan 1.48 132⇑ *e*P **Pb 06 18 56.5 -0.4**
BRU2 *e*S **Sg 06 19 17.0 -0.2**
BRU2 Volcan 1.48 132 ⇑P **Pb 06 18 56.5 -0.4**
BRU2 Volcan 1.48 132 *e*P **Pb 06 18 56.4 -0.6**
DMCAL E. de Neily 1.50 139⇓ *e*P **Pb 06 18 56.8 -0.4**
LCHIL Los Chiles 1.52 324 *e*P **Pb 06 18 56.8 -0.8**
CDITO Canoas 1.53 143 P **Pb 06 18 56.9 -0.7**
BC3P Paso Ancho 1.53 130 *e*P **Pb 06 18 57.1 -0.6**
BC3P *e*S **Sb 06 19 17.7 +0.5**
CUI Cuipilapa 1.59 302 *e*P **Pg 06 18 59.7 -0.2**
BAGA Bagaces 1.61 297⇑ *e*P **Pb 06 18 58.4 -0.7**
UPAL Upala 1.62 312 P **Pb 06 18 58.5 -0.7**
UPAL Upala 1.62 312 S **Sg 06 19 20.8 -0.7**
PLVR Palo Verde 1.62 290⇑ *e*P **Pn 06 18 58.3 +0.4**
COLC Colonia 1.63 302 *e*P **Pb 06 18 58.8 -0.6**
HORNC Hornillas 1.63 304 *e*P **Pb 06 18 58.7 -0.8**
VMAR Armenia, Volca 1.64 308⇑ *e*P **Pn 06 18 58.5 +0.5**
BANCO falda S V. Bar 1.65 131 *e*P **Pb 06 18 59.3 -0.6**
BQTLY Boquete Panama 1.68 128 *e*P **Pb 06 18 59.6 -0.7**
DAP26 falda E V. Bar 1.69 127 *e*P **Pb 06 18 59.5 -1.0**
PTAR3 Potrerillos Ar 1.69 131 *e*P **Pb 06 19 00.5 +0.2**
PTAR3 *e*S **Sg 06 19 23.8 -0.2**
WILLF Boquete 1.70 128 *e*P **Pb 06 18 59.9 -0.8**
LESP3 La Esperanza, 1.71 144 *e*P **Pn 06 18 59.4 +0.5**
LESP3 *e*S **Sg 06 19 24.1 -0.3**
BQSF3 Alto Boquete, 1.71 128 *e*P **Pb 06 19 00.6 -0.2**
BQSF3 *e*S **Sg 06 19 23.4 -1.0**
JUD3 Juan Diaz 3 1.75 282 *e*P **Pn 06 19 00.1 +0.5**
GPS1 Guardaparques 1.81 302 *e*P **Pb 06 19 02.0 -0.4**
PBNVO Pueblo Nuevo, 1.82 120⇓ *e*P **Pb 06 19 01.6 -1.1**
BAGA3 Bagala, Chiriq 1.83 137 *e*P **Pb 06 19 02

BCIP	Isla Barro Col	3.96	99	eP	Pn	06 19 30.4	+0.4
BCIP	Isla Barro Col	3.96	99	P	Pn	06 19 29.9	0.0
BCIP	Isla Barro Col	3.96	99	eP	Pn	06 19 30.3	+0.4
FRIJ	El Hiral	4.06	98	eP	Pn	06 19 32.0	+0.7
GAMB1	Gamboa	4.09	99	eP	Pn	06 19 32.3	+0.6
LIMN	Finca el Limon	4.10	322	P	Pn	06 19 33.3	+1.3

IDC 09 06:23:29.4±8.9, 24°.16N×140°.64E, h374km±66km, mb3.0/4, mbtmp3.8/5, Error ellipse: s-maj=239.6km s-min=19.8km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	17.15	324	P	P	06 27 06.2	+0.2
	2.2nm,0.7s,baz=132,slow=12,SNR=6.9						
WRA	Warramunga Arr	44.26	189	P	P	06 31 03.5	-0.1
	0.3nm,0.3s,baz=8.8,slow=8.7,SNR=7.4						
	0.3nm,0.3s						
MKAR	Makanchi Array	51.32	311	P	P	06 31 57.1	+0.3
	0.5nm,0.4s,baz=88,slow=8.5,SNR=7.2						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	54.13	316	P	P	06 32 16.4	-0.8
	0.3nm,0.3s,baz=92,slow=6.7,SNR=5.7						
	0.3nm,0.3s						
BVAR	Borovoye Array	59.28	319	P	P	06 32 53.0	+0.1
	0.6nm,0.3s,baz=106,slow=6.5,SNR=3.7						
	0.6nm,0.3s						

*FCIAR **09** 06:35:26.0, 81°.64N×4°.37W, h10km, station OMEGA has station magnitude of 4.00 station ZFI2 has station magnitude of 4.00*
*IDC **09** 06:35:27.6±0.7, 81°.19N×4°.95W, h0km, mb3.7/14, mbtmp3.8/16, ML3.8/2, MS3.9/16, Error ellipse: s-maj=22.5km s-min=13.8km az=44.0*
*BER **09** 06:35:28.0±2.9, 81°.57N×4°.67W, h10km, Mw4.0, ML2.5(DNK), Confirmed Earthquake*
*KOLA **09** 06:35:30.2, 81°.87N×1°.13W, h0km, ML1.7, Error ellipse: s-maj=149.5km s-min=51.3km az=50.0, Arctic Ocean, Knipovich ridge, north*
*DNK **09** 06:35:30.2±3.3, 81°.58N×3°.90W, h36km±27km, ML2.5*
ISC 09 06:35:27.5±0.6, 81°.44N±0°.06×3°.89W±0°.04, h10km, n55, σ2°96/57, mb3.7/12, MS3.8/16, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	1.90	281	eP	Pn	06 35 58.5	-1.4
NOR				eS	Sn	06 36 20.5	-3.4
NOR	Nord	1.90	281	i P	Pb	06 35 59.9	-2.4
NOR				eS	Sn	06 36 17.2	-6.6
NOR				IAML		06 36 25.1	
	comp=Z,119nm,0.6s						
KBS	Kingsbay	3.69	125	P	Pn	06 36 24.4	0.0
KBS				S	Sn	06 37 04.2	-3.6
KBS	Kingsbay	3.69	125	eP	Pn	06 36 24.7	+0.2
KBS				IAML		06 36 25.9	
	comp=Z,26nm,0.4s						
KBS	Kingsbay	3.69	125	eP	Pn	06 36 24.6	+0.2
KBS				i S	Sn	06 37 04.8	-3.1
BRBB	Barentsburg B	4.63	127	S	Sn	06 37 29.3	-1.7
BRBB	Barentsburg B	4.63	127	eP	Pn	06 36 39.1	+1.7
BRBB				eS	Sn	06 37 28.9	-2.1
SPA0	Spitsbergen Ar	4.83	122	eP	Pn	06 36 39.0	-1.1
SPA0				eS	Sn	06 37 32.8	-3.2
SPA0	Spitsbergen Ar	4.83	122	eP	Pn	06 36 40.6	+0.5
SPA0				IAML		06 36 43.2	
	comp=Z,32nm,0.4s						
SPA0				eS	Sn	06 37 33.6	-2.4
SPITS	Spitsbergen Ar	4.83	122	Pn	Pn	06 36 40.5	+0.4
	baz=345,slow=9.0						
SPITS				Sn	Sn	06 37 33.8	-2.1
	baz=311,slow=22						
	comp=Z,28nm,0.4s						
SPITS	Spitsbergen Ar	4.83	122	P	Pn	06 36 40.6	+0.5
SPITS				S	Sn	06 37 33.7	-2.3
DAG	Danmarks Havn	5.43	218	eP	Pn	06 36 47.2	-1.2
DAG				eS	Sn	06 37 45.0	-5.8
DAG	Danmarks Havn	5.43	218	i P	Pn	06 36 47.1	-1.2
DAG				i S	Sn	06 37 46.1	-4.7
DAG				IAML		06 37 55.8	
	comp=Z,16nm,0.4s						
HSPB	Hornsund (broa	5.71	131	P	Pn	06 36 53.2	+1.1
HSPB				S	Sn	06 37 56.6	-1.0
HSPB	Hornsund (broa	5.71	131	eP	Pn	06 36 52.4	+0.2
HSPB				eS	Sn	06 37 55.6	-2.0
HSPB	Hornsund (broa	5.71	131	eP	Pn	06 36 53.4	+1.2
HSPB				IAML		06 36 56.0	
	comp=Z,20nm,0.4s						
HOPEN	Hopen	7.31	117	eP	Pn	06 37 13.3	-0.7
HOPEN				eS	Sn	06 38 31.2	-5.6
HOPEN	Hopen	7.31	117	eP	Pn	06 37 14.5	+0.5
HOPEN				IAML		06 38 25.5	
	comp=Z,8.5nm,0.7s						
HOPEN				eS	Sn	06 38 32.4	-4.4
ZFI2	Zemlya Franca-	7.77	69	eP	Pn	06 37 19.0	-1.3
ZFI2				eS	Sn	06 38 39.8	-8.3
	comp=Z,39nm,0.4s						
OMEGA	Omega	7.79	69	eP	Pn	06 37 19.0	-1.6
OMEGA				eS	Sn	06 38 39.8	-8.9
	comp=Z,44nm,1.0s						
DBG	Daneborg	7.89	214	eP	Pn	06 37 20.9	-1.1
DBG				eS	Sn	06 38 43.3	-8.0
DBG	Daneborg	7.89	214	eP	Pn	06 37 19.9	-2.2
DBG				eS	Sn	06 38 43.3	-8.0
DBG				IAML		06 38 53.1	
	comp=Z,16nm,1.0s						
NEEM	North Greenlan	9.23	270	eP	Pn	06 37 38.7	-2.0
NEEM				eS	Sn	06 39 12.3	-12
NEEM	North Greenlan	9.23	270	eP	Pn	06 37 38.7	-2.0
NEEM				eS	Sn	06 39 12.3	-12
NEEM				IAML		06 39 19.7	
	comp=Z,13nm,0.6s						
SUMG	Summit	11.49	239	eP	Pn	06 38 08.9	-2.8
SUMG				eS	Sn	06 40 05.6	-14
SUMG	Summit	11.49	239	eP	Pn	06 38 08.9	-2.8
SUMG				eS	Sn	06 40 05.6	-14
SUMG				IAML		06 40 19.4	
	comp=Z,4.7nm,0.4s						
ARCES	ARCESS Array B	13.72	133	Pn	Pn	06 38 40.5	-1.3
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=1.5						
	comp=Z,4.2nm,1.0s						
SFJD	Kangerlussuaq	18.28	246	LR	LR	06 47 14.8	
	comp=Z,298nm,18.9s,baz=272,slow=39						
NOA	NORSAR Array B	20.91	159	P	P	06 40 11.1	+1.4
	comp=Z,0.6nm,0.8s,baz=355,slow=9.7,SNR=1.5						
	comp=Z,0.6nm,0.8s						
FINES	FINESS Array B	21.64	139	P	P	06 40 20.1	+2.6
	comp=Z,3.2nm,0.9s,baz=5.0,slow=6.9,SNR=4.0						
FINES				LR	LR	06 48 43.7	
	comp=Z,146nm,20.8s,baz=347,slow=37						
	comp=Z,3.2nm,0.9s						
HFS	Hagfors	21.95	156	P	P	06 40 21.1	+0.3
	comp=Z,2.4nm,0.8s,baz=358,slow=10,SNR=2.1						
	comp=Z,2.4nm,0.8s						
EKA	Eskdalemuir Ar	26.23	179	P	P	06 41 01.7	-0.4
	comp=Z,1.5nm,0.7s,baz=346,slow=8.8,SNR=1.7						
	comp=Z,1.5nm,0.7s						
OBN	Obninsk	28.98	130	LR	LR	06 53 20.4	
	comp=Z,176nm,18.0s,baz=197,slow=37						
YKA	Yellowknife Ar	31.67	304	LR	LR	06 54 40.0	
	comp=Z,200nm,19.3s,baz=298,slow=36						
AKASG	Malin Array Be	32.55	140	P	P	06 42 00.1	+1.9
	comp=Z,0.1nm,0.3s,baz=343,slow=9.1,SNR=4.4						
	comp=Z,0.1nm,0.3s						
ILAR	Eielson Array	32.65	331	P	P	06 42 00.7	+1.7
	comp=Z,0.8nm,0.9s,baz=12,slow=8.3,SNR=7.4						
	comp=Z,0.8nm,0.9s						
DLBC	Dease Lake	37.40	316	LR	LR	06 59 22.8	
	comp=Z,900nm,18.6s,baz=291,slow=38						
KURBB	Kurchatov Arra	39.22	87	P	P	06 42 58.9	+3.6
	comp=Z,3.7nm,1.0s,baz=344,slow=7.8,SNR=15						
	comp=Z,3.7nm,1.0s						
ULM	Lac du Bonnet	41.00	282	LR	LR	06 59 30.1	
	comp=Z,183nm,18.2s,baz=28,slow=35						
MKAR	Makanchi Array	43.51	85	P	P	06 43 33.1	+2.5
	comp=Z,0.7nm,0.8s,baz=352,slow=7.4,SNR=5.1						
	comp=Z,0.7nm,0.8s						
BRTR	Keskin Array B	43.86	137	P	P	06 43 34.7	+1.1
	comp=Z,0.7nm,0.7s,baz=330,slow=5.2,SNR=2.4						
	comp=Z,0.7nm,0.7s						
PETK	Petropavlovsk-	45.33	16	P	P	06 43 50.4	+5.4
	comp=Z,3.1nm,0.9s,baz=350,slow=7.3,SNR=1.3						
	comp=Z,3.1nm,0.9s						
NEW	Newport	45.89	301	LR	LR	07 03 45.4	
	comp=Z,126nm,18.5s,baz=20,slow=37						
PDAR	Pinedale Array	50.27	293	LR	LR	07 06 11.7	
	comp=Z,69nm,18.6s,baz=351,slow=37						
ASF	Jabal al Asfar	51.67	135	LR	LR	07 09 58.1	
	comp=Z,440nm,21.2s,baz=219,slow=40						
YBH	Yreka Blue Hor	53.02	305	LR	LR	07 05 57.3	
	comp=Z,6.4nm,20.1s,baz=27,slow=34						
NVAR	Mina Array Bea	55.71	300	P	P	06 45 06.0	+2.1
	comp=Z,0.7nm,0.9s,baz=48,slow=2.2,SNR=3.9						
NVAR				LR	LR	07 09 12.2	
	comp=Z,144nm,18.8s,baz=360,slow=36						
	comp=Z,0.7nm,0.9s						
ANMO	Albuquerque	57.52	288	LR	LR	07 09 37.4	
	comp=Z,98nm,18.8s,baz=111,slow=36						
PFO	Pinyon Flats O	60.22	297	LR	LR	07 13 41.5	
	comp=Z,73nm,18.4s,baz=306,slow=38						
TXAR	Lajitas Array	62.63	284	P	P	06 45 53.1	+1.3
	comp=Z,0.5nm,0.8s,baz=58,slow=4.3,SNR=7.6						
TXAR				LR	LR	07 11 28.1	
	comp=Z,35nm,18.6s,baz=344,slow=34						
	comp=Z,0.5nm,0.8s						
TORD	Torodi Ar. Bea	68.36	174	P	P	06 46 27.2	-1.5
	comp=Z,0.7nm,1.0s,baz=355,slow=8.0,SNR=7.6						
	comp=Z,0.7nm,1.0s						
LPIG	La Paz	68.73	290	LR	LR	07 18 04.9	
	comp=Z,55nm,19.2s,baz=44,slow=37						
CMIG	Matias Romero	73.36	274	LR	LR	07 21 56.7	
	comp=Z,30nm,19.9s,baz=18,slow=38						
CMAR	Chiang Mai Arr	73.77	75	P	P	06 47 02.9	+1.3
	comp=Z,1.0nm,0.3s,baz=347,slow=5.5,SNR=1.2						
	comp=Z,1.0nm,0.3s						
JTS	Las Juntas de	78.56	263	LR	LR	07 22 10.3	
	comp=Z,64nm,20.0s,baz=337,slow=36						

*IDC **09** 06:48:06.6±3.8, 53°.63N×91°.31E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=32.8km s-min=28.9km az=109.0*
*NNC **09** 06:48:17.3±7.2, 53°.16N×90°.69E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=52.8km s-min=37.3km az=82.0, Suspected Mining explosion.*
ASRS 09 06:48:02.0±2.2, 53°.77N×91°.11E, h0km, M2.9, 9C-1D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.73	275	I	I	07 14 50.0	
	baz=92,slow=325,SNR=4.3						
ZAA0	Zalesovo Array	3.73	275	⇑Pn	Pg	06 49 13.2	-0.2
	1.3nm,0.8s						
ZAA0				⇑Sn	Sg	06 50 00.4	-1.3
	3.6nm,0.8s						
ZALV	Zalesovo Beam	3.73	275	Pn	Pb	06 49 07.5	-1.2
	0.7nm,0.3s,baz=94,slow=16,SNR=11						
ZALV				Sn	Sb	06 49 50.9	-3.5
	0.5nm,0.3s,baz=88,slow=25,SNR=3.8						
	1.2nm,0.3s						
KURK	Kurchatov	8.25	253	⇑Pn	Pn	06 50 13.5	+11
	0.6nm,0.5s						
KURK				⇑Sn	Sn	06 51 40.3	+3.6
	1.5nm,0.8s						
KURK				⇑Lg	Lg	06 52 25.5	
	5.6nm,1.1s						
KURBB	Kurchatov Arra	8.35	253	Pn	Pn	06 50 08.9	+4.7
	0.1nm,0.3s,baz=65,slow=14,SNR=2.9						
KURBB				Sn	Sn	06 51 43.8	+4.8
	0.1nm,0.3s,baz=67,slow=27,SNR=5.8						
KURBB				Lg	Lg	06 52 30.9	
	baz=63,slow=33,SNR=5.7						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	8.35	253	⇓Pn	Pn	06 50 12.7	+8.5
	1.4nm,0.6s,baz=66,slow=15						
KURBB				⇑Sn	Sn	06 51 41.7	+2.7
	10nm,0.7s,baz=261,slow=36						
KURBB				⇑Lg	Lg	06 52 27.0	
	15nm,0.9s						
MK31	Makanchi Array	8.97	222	⇑Sn	Sn	06 51 59.8	+5.3
	0.2nm,0.4s						
MK31				⇑Lg	Lg	06 52 49.3	
	3.3nm,0.8s,baz=49,slow=28,SNR=6.2						
MKAR	Makanchi Array	8.97	222	Pn	Pn	06 50 17.8	+5.0
	0.1nm,0.3s,baz=44,slow=14,SNR=4.7						
MKAR				Sn	Sn	06 51 58.3	+3.7
	baz=39,slow=24						
MKAR				Lg	Lg	06 52 48.2	
	baz=47,slow=30						
	0.4nm,0.6s						

*NNC **09** 07:08:33.3±0.6, 50°.00N×78°.70E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=15.4km s-min=2.5km az=75.0, Suspected Mining explosion.*
*IDC **09** 07:08:34.4±1.0, 50°.06N×78°.73E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=11.1km s-min=6.1km az=64.0*
ISC 09 07:08:33.9±1.1, 50°.01N±0°.05×78°.5E±0°.1, h0km, n17, σ0°72/28, 14C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.58	359	⇓P	Pg	07 08 44.8	-0.2
KUR07				⇓S	Sg	07 08 53.8	+1.3
KUR06	Kurchatov Arra	0.60	359	⇑P	Pg	07 08 45.3	-0.1
KUR06				⇑S	Sg	07 08 54.4	+1.2
KUR14	Kurchatov Arra	0.61	3	⇑P	Pg	07 08 45.0	-0.6
KUR14				⇓S	Sg	07 08 54.0	+0.5
KUR15	Kurchatov Arra	0.61	2	⇑P	Pg	07 08 45.3	-0.4
KUR15				⇓S	Sg	07 08 54.6	+0.9
KURBB	Kurchatov Arra	0.62	360	Pg	Pg	07 08 45.6	-0.2
	1.2nm,0.3s,baz=168,slow=18,SNR=41						
KURBB				Lg	Lg	07 08 54.4	
	2.1nm,0.3s,baz=168,slow=33,SNR=20						
KURBB	Kurchatov Arra	0.62	360	⇑P	Pg	07 08 45.5	-0.2
	18nm,0.5s						
KURBB				⇑S	Sg	07 08 54.4	+0.6
	59nm,0.7s						
KUR16	Kurchatov Arra	0.62	358	⇓P	Pg	07 08 45.7	-0.1
KUR16				⇓S	Sg	07 08 55.0	+1.1
KUR17	Kurchatov Arra	0.63	356	⇓P	Pg	07 08 46.1	+0.1
KUR17				⇑S	Sg	07 08 55.5	+1.3
KUR05	Kurchatov Arra	0.64	0	⇑P	Pg	07 08 45.8	-0.4
KUR05				⇑S	Sg	07 08 54.9	+0.5
KUR04	Kurchatov Arra	0.66	0	⇓P	Pg	07 08 46.3	-0.2
KUR04				⇑S	Sg	07 08 55.8	+0.7
KURK	Kurchatov	0.71	4	⇑P	Pg	07 08 46.8	-0.8
	1.8nm,0.5s						
KURK				⇓S	Sg	07 08 57.1	+0.2
	33nm,0.8s						
MK31	Makanchi Array	4.07	141	⇑Pn	Pn	07 09 37.7	+0.3
	0.1nm,0.2s,baz=322,slow=9.8,SNR=11						
MK31				⇑Pg	Pb	07 09 47.6	+1.1
	1.1nm,0.5s,baz=326,slow=15,SNR=7.5						
MK31				⇑Lg	Lg	07 10 39.8	
	18nm,0.7s,baz=325,slow=25,SNR=26						
MKAR	Makanchi Array	4.07	141	Pn	Pn	07 09 37.7	+0.3
	0.1nm,0.3s,baz=321,slow=10,SNR=12						
MKAR				Pg	Pb	07 09 45.7	-0.8
	0.4nm,0.3s,baz=325,slow=16,SNR=7.4						
MKAR				Sn	Sn	07 10 25.4	-0.4
	0.4nm,0.3s,baz=328,slow=14,SNR=5.7						
MKAR				Lg	Lg	07 10 39.3	
	1.7nm,0.3s,baz=331,slow=24,SNR=14						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	5.54	42	Pn	Pn	07 09 56.9	-0.6
	0.3nm,0.3s,baz=233,slow=13,SNR=6.7						
ZALV				Lg	Lg	07 11 24.0	
	0.6nm,0.3s,baz=227,slow=21,SNR=1.7						
	1.2nm,0.5s						
I46RU	ZALESOVO INFRA	5.54	42	I	I	07 41 40.0	
	baz=224,slow=324,SNR=6.1						
BVAR	Borovoye Array	5.92	304	Sn	Sn	07 11 10.3	-0.9
	0.1nm,0.3s,baz=110,slow=25,SNR=5.9						
BVAR				Lg	Lg	07 11 42.1	
	0.1nm,0.3s,baz=119,slow=27,SNR=3.5						
AAK	Ala-Archa	7.88	202	Lg	Lg	07 12 44.6	
	0.3nm,0.3s,baz=79,slow=19,SNR=6.0						

*UCR **09** 07:10:54.4±1.0, 9°.81N×83°.81W, h5km±1km, MW3.5, Fault plane solution: NP1:φ226.95000°, δ84.92000°, λ14.13000°.*
*UPA **09** 07:10:55.5±1.1, 9°.79N×83°.85W, h8km±5km, MD3.4, ML3.4, MW3.4*

ISC 09 07:10:54.8±0.8, 9°.79N±0°.02×83°.82W±0°.02, h7km±6km, n82, σ0°65/104, 20C-19D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REPA	Paraso	0.07	307	eP	Pg	07 10 56.5	-0.2
REPA				eS	Sg	07 10 57.9	-0.2
VINA	Juan Vinas	0.13	33	eP	Pg	07 10 57.4	-0.2
VINA				eS	Sg	07 10 59.4	-0.1
PCAYA	Pacayas	0.13	2	eP	Pg	07 10 57.6	0.0
PCAYA				eS	Sg	07 11 00.2	+0.5
TAGO	Cartago	0.13	306	eP	Pg	07 10 57.9	+0.3
TAGO				eS	Sg	07 11 00.6	+0.9
TURIB	Turrialba	0.17	47	eP	Pg	07 10 58.1	-0.3
TURIB				eS	Sg	07 11 00.5	-0.3
VICA	Volcano Irazu	0.20	352	eP	Pg	07 10 58.9	0.0
TRIO	Tres Rios	0.21	304	eP	Pg	07 10 59.1	0.0
TRIO				eS	Sg	07 11 02.6	+0.6
PIEC	Cerro El Cedra	0.22	221	eP	Pg	07 10 59.3	+0.2
PIEC				eS	Sg	07 11 03.1	+0.9
CVTQ	Turrialba Volc	0.22	12	eP	Pg	07 10 59.5	+0.2
CVTQ				eS	Sg	07 11 03.2	+0.8
CVTV	Tajo	0.23	17	eP	Pg	07 10 59.7	+0.3
CVTV				eS	Sg	07 11 03.4	+1.0
VTR0	Volcan Turrial	0.23	13	eP	Pg	07 10 59.9	+0.3
ABRB	Las Abras (San	0.24	24	eP	Pg	07 10 59.9	+0.3
ABRB				eS	Sg	07 11 03.8	+0.9
CVTR	Volcan Turrial	0.24	13	eP	Pg	07 10 59.8	+0.2
PITB	Pirrs, San	0.24	239	eP	Pg	07 10 59.9	+0.3
RAZU	San Marcos de	0.24	238	eP	Pg	07 10 59.9	+0.3
CORON	Coronado	0.26	315	eP	Pg	07 11 00.5	+0.5
CORON				eS	Sg	07 11 05.1	+1.6
AMPA	Desamparados	0.27	294	eP	Pg	07 10 60.0	-0.1
CVIMO	Finca Echandi	0.27	332	eP	Pg	07 11 00.2	0.0
ECI	Escuela Centro	0.28	303	eP	Pg	07 11 00.6	+0.3
SJS3	Mercedes San J	0.28	303	eP	Pg	07 11 00.6	+0.3
SJS	Escuela Geolog	0.28	303	eP	Pg	07 11 00.6	+0.2
LUPE	Guadalupe	0.28	304	eP	Pg	07 11 00.7	+0.3
LUJA	Lujan	0.29	299	eP	Pg	07 11 00.7	+0.2
RESJ	San Isidro (Tu	0.29	35	eP	Pg	07 11 00.9	+0.3
CENT	San Jose	0.30	299	eP	Pb	07 11 01.9	-0.7
MEXI	Barrio Mexico	0.31	300	eP	Pg	07 11 01.1	+0.3
DOMI	Santo Domingo	0.33	305	eP	Pg	07 11 01.6	+0.3
ACOS	Acosta	0.34	271	eP	Pg	07 11 01.6	+0.1
HEME	Heredia, Merce	0.38	303	eP	Pb	07 11 03.5	-0.4
LCOCO	El Coco	0.39	41	eP	Pg	07 11 02.5	+0.1
SANTA	Santa Ana	0.39	292	eP	Pg	07 11 02.3	-0.1
PICV	PH. Pirrs	0.41	247	eP	Pg	07 11 02.5	-0.1
BELE	Belen	0.41	297	eP	Pg	07 11 02.8	0.0
LLNJ	Naranjito	0.42	222	eP	Pb	07 11 03.8	-0.7
PILE	Guapiles	0.43	4	eP	Pg	07 11 03.5	+0.5
PAR1A	Puntarenas Pro	0.47	246	eP	Pg	07 11 04.2	+0.3
PURI	Puriscal	0.49	277	eP	Pg	07 11 04.3	0.0
TAAN	Batan	0.55	57	eP	Pg	07 11 05.7	+0.3
VPS8	V Poas	0.57	313	eP	Pg	07 11 06.4	+0.5
CARI	Cariari	0.58	8	eP	Pg	07 11 06.1	+0.2
ATEO	Atenas	0.59	289	eP	Pg	07 11 06.0	-0.2
VERH	Veragua Rainfo	0.63	77	eP	Pg	07 11 06.8	-0.2
PALD	Palmares	0.67	294	eP	Pg	07 11 07.2	-0.4
EDPE	Pejibaye, P	0.67	159	eP	Pg	07 11 07.3	-0.4
ARTO	Ro Cuarto	0.68	324	eP	Pg	07 11 07.7	-0.2
SARA	Sarapiqu	0.69	343	eP	Pg	07 11 08.1	0.0
LAES	El Progreso Va	0.76	92	eP	Pg	07 11 09.0	-0.3
VPL2	V. Platanar	0.76	313	eP	Pg	07 11 09.4	0.0
TRT2	Tortugero	0.77	6	eP	Pg	07 11 08.8	-0.7
PANP	Palmar Norte	0.89	157	eP	Pg	07 11 12.2	+0.2
SOCE	Pocosol	0.99	307	eP	Pg	07 11 13.4	-0.3
EDP2	Potrero Grande	0.99	141	eP	Pg	07 11 13.3	-0.5
CASO	Castillo	1.11	305	eP	Pg	07 11 15.3	-0.8
VARE2	V. Arenal	1.11	307	eP	Pg	07 11 15.5	-0.6
CEDE	Laguna Cedeo	1.12	309	eP	Pg	07 11 15.8	-0.4
MTEVE	Monteverde	1.13	298	eP	Pg	07 11 15.4	-1.0
TABAC	Tabacon	1.17	307	eP	Pg	07 11 16.6	-0.7
RGM0	Gandoca	1.21	99	eP	Pg	07 11 17.6	-0.4
JTS	Las Juntas de	1.23	294	eP	Pb	07 11 17.2	-1.1
JTS				eS	Sg	07 11 33.9	-0.3
JTS	Las Juntas de	1.23	294	eP	Pb	07 11 17.2	-1.1
JUNT	Juntas	1.23	294	eP	Pb	07 11 17.3	-1.0
ALCO	Alturas Coton,	1.28	131	eP	Pn	07 11 17.7	-1.6
RSRNO	Rio Sereno	1.35	136	eS	Sn	07 11 42.3	+3.9
QUEB	Quebradon, Cot	1.35	308	eP	Pn	07 11 19.3	-0.8
PIRO	Carate, Puerto	1.45	161	eP	Pn	07 11 21.5	0.0
BRU2	Volcan	1.48	132	eP	Pn	07 11 21.7	-0.3
BRU2				eS	Sn	07 11 41.9	+0.1
BRU2	Volcan	1.48	132	eP	Pn	07 11 21.7	-0.3
BRU2				AMP		07 11 23.3	
	comp=Z,457nm,0.3s						
BRU2				eS	Sn	07 11 41.7	-0.1
BRU2	Volcan	1.48	132	eP	Pn	07 11 21.6	-0.5
BC3P	Paso Ancho	1.53	129	eP	Pb	07 11 23.4	-0.2
BC3P				eS	Sb	07 11 43.7	+0.3
CLLRA	Cordillera,	1.57	131	eP	Pn	07 11 22.9	-0.4
CLLRA				eS	Sn	07 11 44.1	+0.1
CUI	Cuipilapa	1.58	303	eP	Pg	07 11 25.0	-0.2
BQTLY	Boquete Panama	1.68	127	eP	Pn	07 11 25.3	+0.6
BQTLY				eS	Sg	07 11 48.5	-0.4
PTAR3	Potrerillos Ar	1.70	130	eP	Pg	07 11 28.1	+0.8
PTAR3				eS	Sb	07 11 48.1	+0.1
BQSF3	Alto Boquete,	1.71	127	eP	Pn	07 11 25.6	+0.4
BQSF3				eS	Sb	07 11 48.6	0.0
PBNVO	Pueblo Nuevo,	1.83	119	eP	Pn	07 11 26.7	0.0
CHGR2	Aguacate	1.85	117	eP	Pn	07 11 27.4	+0.4
CHGR2				eS	Sb	07 11 51.8	-0.6
LAPC	Finca la Perla	1.87

TUZ				S		Sn	07 21 35.1	-2.8
SYZ	Scrubby Hill	1.82	134	P		Pn	07 21 14.4	+1.0
SYZ	Scrubby Hill	1.82	134	S		Sn	07 21 36.3	-2.0
SYZ	Scrubby Hill	1.82	134	P		Pn	07 21 14.7	+1.4
SYZ				S		Sn	07 21 36.6	-1.6
HDWS	Haast DOC Work	1.90	43	P		Pn	07 21 15.5	+1.2
HDWS				S		Sn	07 21 39.1	-0.6
BDCS	Balclutha Dist	1.98	120	P		Pn	07 21 16.3	+1.1
TMBS	Taieri Mouth B	2.21	112	P		Pn	07 21 21.0	+3.0
LBZ	Lake Benmore	2.27	68	P		Pn	07 21 19.3	+0.5
LBZ				S		Sn	07 21 46.1	-1.7
TWAS	Twizel Area Sc	2.27	64	P		Pn	07 21 19.3	+0.4
TWAS				S		Sn	07 21 46.3	-1.6
ODZ	Otahua Downs	2.42	86	P		Pn	07 21 21.1	+0.6
ODZ	Otahua Downs	2.42	86	S		Sn	07 21 48.5	-2.5
ODZ	Otahua Downs	2.42	86	P		Pn	07 21 21.2	+0.7
HHSZ	Highcliff Hill	2.43	106	P		Pn	07 21 22.9	+2.2
FOZ	Fox Glacier	2.54	47	P		Pn	07 21 22.6	+0.5
TMZ	Timaru	2.82	73	P		Pn	07 21 25.9	+0.2
ARCZ	Arundel	3.11	66	P		Pn	07 21 29.3	0.0
RPZ	Rata Peaks	3.14	61	P		Pn	07 21 30.2	+0.5
RPZ	Rata Peaks	3.14	61	P		Pn	07 21 30.1	+0.3
WVZ	Waitaha Valley	3.34	50	P		Pn	07 21 32.5	+0.2
WACZ	Wakanui South	3.54	69	P		Pn	07 21 35.2	+0.4
OXZ	Oxford	3.95	62	P		Pn	07 21 40.2	-0.2
INZ	Inchbonnie	3.96	51	P		Pn	07 21 41.1	+0.7
MQZ	McQueen's Vall	4.18	70	P		Pn	07 21 43.5	+0.3
AKCZ	Akaroa Harbour	4.28	73	P		Pn	07 21 45.6	+0.9
LTZ	Lake Taylor	4.40	57	P		Pn	07 21 46.5	+0.3
OKCZ	Okains Bay	4.44	72	P		Pn	07 21 48.9	+2.1
GVZ	Greta Valley S	4.76	63	P		Pn	07 21 51.4	+0.4
DSZ	Denniston Nort	4.84	45	P		Pn	07 21 52.3	+0.2
KHZ	Kahutara	5.37	60	P		Pn	07 22 00.7	+1.6
KHZ	Kahutara	5.37	60	P		Pn	07 22 00.5	+1.4
THZ	Tophouse	5.41	51	P		Pn	07 21 59.6	-0.1
MRNZ	Matariki Terra	5.58	48	P		Pn	07 22 02.6	+0.7
QRZ	Quartz Range	5.90	43	P		Pn	07 22 07.6	+1.5
QRZ	Quartz Range	5.90	43	P		Pn	07 22 07.0	+0.9
CAW	Cannon Point	7.07	57	P		Pn	07 22 21.7	-0.2
BKZ	Black Stump Fm	9.18	52	P		Pn	07 22 53.3	+3.1
OUZ	Omahuta	11.15	28	P		Pn	07 23 22.1	+5.8

*IDC **09** 07:29:59.3±4.3,36°.58N×71°.23E,h0km,mb3.8/2, mbtmp3.7/4,ML3.4/2,Error ellipse: s-maj=104.9km s-min=30.8km az=143.0*
*NNC **09** 07:30:16.1±7.5,37°.34N×71°.16E,h120km±127km,mb3.0, mpv3.5,Error ellipse: s-maj=74.8km s-min=60.3km az=143.0*

ISC 09 07:30:11.7±1.8,37°.1N±0°.1×71°.1E±0°.1,h88km,n8, σ1$52/10,4C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.02	356	P		Pn		07 31 39.3	+1.1
	2.9nm,0.2s,baz=184,slow=10.0,SNR=101								
KK31				⇑S		Sn		07 32 45.8	+0.1
	3.8nm,0.3s,baz=176,slow=22,SNR=5.9								
AAK	Ala-Archa	6.12	24	⇑P		Pn		07 31 41.3	+1.6
	1.0nm,0.4s								
AAK				⇑S		Sn		07 32 47.5	-0.7
	2.3nm,0.5s								
MKAR	Makanchi Array	12.76	37	Pn		Pn		07 33 09.1	-0.7
	0.2nm,0.3s,baz=227,slow=15,SNR=4.9 0.3nm,0.4s								
AB31	Akbulak array	14.62	330	⇑P		Pn		07 33 31.6	-2.3
	0.6nm,0.4s,baz=141,slow=14,SNR=10								
AKTO	Aktyubinsk	16.32	329	⇓P		P		07 33 58.0	+1.2
	1.0nm,0.4s								
ZALV	Zalesovo Beam	19.34	25	P		P		07 34 29.8	-0.1
	0.7nm,0.3s,baz=216,slow=9.9,SNR=6.3 1.9nm,0.3s								
FINES	FINESS Array B	37.05	326	P		P		07 37 14.8	+2.0
	1.7nm,0.7s,baz=100,slow=7.9,SNR=3.8 1.7nm,0.7s								
TORD	Torodi Ar. Bea	65.83	268	P		P		07 40 47.3	-0.7
	0.4nm,0.7s,baz=40,slow=7.3,SNR=2.4 0.4nm,0.7s								

*MOS **09** 07:31:28.2±1.1,42°.37N×143°.65E,h62km,mb3.9/1,Error ellipse: s-maj=13.5km s-min=7.4km az=71.7*
*SKHL **09** 07:31:28.6±0.3,42°.30N×143°.70E,h65km±2km,mb5.5/3*
*JMA **09** 07:31:28.6±0.1,42°.4N±0°.4×143°.6E±0°.6,h54km±1km, MD4.1/36,MV4.4/36,SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
*NEIC **09** 07:31:29.2±1.3,42°.39N±0°.07×143°.8E±0°.2,h61km±5km, mb4.6/9,Error ellipse: s-maj=21.0km s-min=9.2km az=102.0*
*IDC **09** 07:31:29.5±0.5,42°.42N×143°.71E,h58km±4km,mb3.7/16, mbtmp4.0/20,MS3.5/3,Error ellipse: s-maj=13.3km s-min=7.4km az=68.0*

ISC 09 07:31:29.2±0.5,42°.41N±0°.04×143°.67E±0°.04,h56km±4km, n98,σ0$96/104,mb4.0/21,12D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTHR	Tokachihiroo	0.30	248	⇓iP		Pn		07 31 38.0	-0.9
JTHR				⇓eS		Sn		07 31 44.4	-1.4
JTHR	Tokachihiroo	0.30	248	A		A		07 31 38.0	
	comp=N,19nm,0.3s,comp=E,27nm,1.5s								
JCH	Churui	0.31	312	⇓iP		Pn		07 31 38.4	-0.6
JCH				⇓eS		Sn		07 31 44.9	-1.1
JCH	Churui	0.31	312	A		A		07 31 38.4	
	comp=N,39nm,0.5s,comp=E,31nm,0.7s								
JOB	Onbets	0.51	13	⇓iP		Pn		07 31 40.8	-0.2
JOB				⇓eS		Sn		07 31 49.6	+0.2
JOB	Onbets	0.51	13	A		A		07 31 40.8	
	comp=N,22nm,1.0s,comp=E,16nm,4.4s								
ERM	Erimo	0.55	225			Pn		07 31 42.2	+0.9
ERM	Erimo	0.55	225	PN		Pn		07 31 42.3	+0.9
JEM	Erimo	0.55	225	eP		Pn		07 31 40.4	-0.9
JEM	Erimo	0.55	225	A		A		07 31 40.4	
	comp=N,15nm,0.8s,comp=E,13nm,0.5s								
JNBK	Urakawa-nobuka	0.69	260	iP		Pn		07 31 42.3	-0.8
JNBK				eS		Sn		07 31 52.6	-0.6
JNBK	Urakawa-nobuka	0.69	260	A		A		07 31 42.3	
	comp=N,19nm,0.4s,comp=E,22nm,0.8s								
JSHD	Hidakashinhida	0.89	271	P		Pn		07 31 45.5	-0.1
JSHD				S		Sn		07 31 58.5	+0.8
JSHD	Hidakashinhida	0.89	271	A		A		07 31 45.5	
	comp=N,9.0nm,0.5s,comp=E,18nm,1.2s								
JAR	Ashorobuto	0.90	5	⇓iP		Pn		07 31 45.4	-0.3
JAR				⇓S		Sn		07 31 58.0	+0.2
JAR	Ashorobuto	0.90	5	A		A		07 31 45.4	
	comp=N,87nm,0.4s,comp=E,77nm,0.3s								
JAK	Akkeshi	0.96	52	iP		Pn		07 31 45.5	-1.0
JAK				S		Sn		07 31 58.8	-0.5
JAK	Akkeshi	0.96	52	A		A		07 31 45.5	
	comp=N,13nm,0.3s,comp=E,16nm,0.9s								
JBT2	Biratori 2	1.04	292	⇓iP		Pn		07 31 46.5	-1.0
JBT2				⇓eS		Sn		07 31 59.9	-1.2
AKK	Akkeshi	1.06	54	iP		Pn		07 31 46.8	-1.0
JFR	Furan	1.10	314	iP		Pn		07 31 47.7	-0.7
JFR				eS		Sn		07 32 01.5	-1.2
JFR	Furan	1.10	314	A		A		07 31 47.7	
	comp=N,11nm,0.3s,comp=E,17nm,0.3s								
JKHN	Kushirohamanak	1.29	58	P		Pn		07 31 49.9	-1.0
JIAM	Iburiatsuma	1.31	280	A		A		07 31 50.8	
	comp=N,27nm,1.3s,comp=E,17nm,0.9s								
JNK	Nakash	1.41	33	iP		Pn		07 31 51.6	-0.9
JNK				S		Sn		07 32 08.5	-1.6
JNK	Nakash	1.41	33	A		A		07 31 51.6	
	comp=N,5.0nm,1.0s,comp=E,6.0nm,0.9s								
JTKR	Abashiri--Toko	1.57	6	A		A		07 31 55.2	
	comp=N,6.0nm,0.5s,comp=E,4.0nm,1.4s								
JMP	Maruseppu	1.62	352	A		A		07 31 55.8	
	comp=N,6.0nm,1.7s,comp=E,4.0nm,0.6s								
NMR	Nemuro--Hokkai	1.79	57	eP		Pn		07 31 56.9	-0.8
NMR				eS		Sn		07 32 17.6	-1.7
JKA	Kamikawa-asahi	1.88	336			Pn		07 31 59.6	+0.6
JKA	Kamikawa-asahi	1.88	336	eP		Pn		07 31 59.9	+0.9
ASAJ	Asahikawa	1.88	336	P		Pn		07 31 59.9	+0.9
	comp=E,81nm,0.4s,baz=186,slow=12,SNR=85								
ASAJ				S		Sn		07 32 22.5	+0.9
	comp=E,233nm,0.4s,baz=148,slow=19,SNR=9.3								
ASAJ				LR		LR		07 33 00.6	
	comp=E,311nm,21.8s,baz=106,slow=48								
GLVR	Golovnino	1.90	45	⇓iPN		Pn		07 31 58.9	-0.3
GLVR				iS		Sn		07 32 21.4	-0.6
GLVR				pmax		pmax			
	comp=Z,972nm,0.2s								
GLVR				pmax		pmax			
	comp=N,310nm,0.1s								
GLVR				pmax		pmax			
	comp=E,256nm,0.1s								
GLVR				smax		smax			
	comp=E,5μm,0.4s								
GLVR				smax		smax			
	comp=N,8μm,0.3s								
GLVR	Golovnino	1.90	45	iP		Pn		07 31 58.9	-0.3
GLVR				AMB		AMB		07 32 00.2	
	comp=N,970nm,0.2s								
GLVR				iS		Sn		07 32 21.4	-0.6
GLVR				A		A		07 32 27.0	
	comp=N,8μm,0.5s								
GLVR				A		A		07 32 27.0	
	comp=N,5μm,0.5s								
RUSJ	Misakicho	2.05	34	⇓iPN		Pn		07 32 01.8	+0.5
RUSJ				iS		Sn		07 32 26.5	+0.8
JAHD	Aomorihigashid	2.08	238	A		A		07 32 01.4	
	comp=N,9.0nm,0.5s,comp=E,13nm,0.4s								
YUK	Yuzh-Kuril'sk	2.28	44	ePN		Pn		07 32 04.9	+0.5
YUK				iS		Sn		07 32 30.3	-1.1
YUK				pmax		pmax			
	comp=Z,1μm,0.3s								
YUK				pmax		pmax			
	comp=N,264nm,0.2s								
YUK				smax		smax			
	comp=E,2μm,0.2s								
YUK				smax		smax			
	comp=N,6μm,0.5s								
YUK	Yuzh-Kuril'sk	2.28	44	eP		Pn		07 32 04.9	+0.5
YUK				AMB		AMB		07 32 06.4	
	comp=N,1μm,0.4s								
YUK				iS		Sn		07 32 31.3	-0.1
YUK				A		A		07 32 37.6	
	comp=N,5μm,0.4s								
YUK				A		A		07 32 37.6	
	comp=N,2μm,0.4s								
JTM	Tenmabayashi	2.54	231			Pn		07 32 08.4	+0.5
KUR	Kuril'sk	4.15	46	ePN		Pn		07 32 32.5	+2.6
KUR				iS		Sn		07 33 20.3	+3.2
KUR				pmax		pmax			
	comp=Z,152nm,0.4s								
KUR				smax		smax			
	comp=N,255nm,0.4s								
KUR				smax		smax			
	comp=E,557nm,0.4s								
KUR	Kuril'sk	4.15	46	eP		Pn		07 32 31.4	+1.5
KUR				AMB		AMB		07 32 32.8	
	comp=E,150nm,0.4s								
KUR				eS		Sn		07 33 17.5	+0.4
KUR				A		A		07 33 23.9	
	comp=E,240nm,0.4s								
KUR				A		A		07 33 23.9	
	comp=E,470nm,0.4s								
YSS	Yuzhno-Sakhali	4.60	352	ePN		Pn		07 32 38.0	+1.9
YSS				eS		Sn		07 33 27.7	-0.4
YSS				pmax		pmax			
	comp=Z,30nm,0.4s								
YSS				smax		smax			
	comp=N,90nm,0.3s								
YSS				smax		smax			
	comp=E,40nm,0.5s								
YSS	Yuzhno-Sakhali	4.60	352	eP		Pn		07 32 38.0	+1.9
YSS				AMB		AMB		07 32 38.3	
	comp=E,30nm,0.3s								
YSS				eS		Sn		07 33 27.7	-0.4
YSS				A		A		07 33 31.1	
	comp=E,90nm,0.3s								
YSS				A		A		07 33 31.1	
	comp=E,90nm,0.3s								
JMM	Marumori	5.04	207			Pn		07 32 41.6	-0.6
JSD	Sado	6.01	225	Pn		Pn		07 32 56.2	+0.6
MJB9	Matsu-Tunnel	7.22	218			Pn		07 33 12.8	+0.7
MAJO	Matsushiro	7.22	218			Pn		07 33 11.8	-0.3
MAJO	Matsushiro	7.22	218	PN		Pn		07 33 11.8	-0.3
MJAR	Matsushiro Arr	7.22	218	P		Pn		07 33 12.8	+0.7
	comp=E,5.3nm,0.5s,baz=32,slow=13,SNR=9.9								
MJAR				LR		LR		07 36 17.6	
	comp=E,168nm,20.6s,baz=350,slow=40								
JGF	Kuroka	8.38	218	Pn		Pn		07 33 28.2	+0.1
USRK	Ussuriysk Ar.	8.71	286	P		Pn		07 33 34.4	+2.0
	comp=E,2.7nm,0.5s,baz=89,slow=12,SNR=6.0								
JHJ	Hachijo jima 2	9.77	200	LR		LR		07 37 51.1	
	comp=E,154nm,18.0s,baz=49,slow=39								
JMN	Monobe	11.59	225	Pn		Pn		07 34 11.9	0.0
KSRS	Korea Array	13.06	253	P		Pn		07 34 33.6	+1.8
	comp=E,0.7nm,0.5s,baz=61,slow=13,SNR=4.8								
PETK	Petropavlovsk-	14.24	36	P		Pn		07 34 48.5	+0.8
	comp=E,2.8nm,0.6s,baz=218,slow=10,SNR=4.7								
SEY	Seymchan	21.19	11	P		P		07 36 08.6	-1.1
	comp=E,1.4nm,0.3s,baz=234,slow=19,SNR=2.6 comp=E,1.4nm,0.3s								
H11N2	WAKE ISLAND Hy	29.93	132	T		T		08 08 59.6	
	baz=325,slow=76,SNR=426								
H11N1	WAKE ISLAND Hy	29.94	132	T		T		08 09 07.8	
	baz=325,slow=76,SNR=325								
H11N3	WAKE ISLAND Hy	29.95	132	T		T		08 09 00.4	
	baz=325,slow=76,SNR=294								
H11S1	WAKE ISLAND Hy	30.82	134	T		T		08 10 08.9	
	baz=327,slow=76								
H11S3	WAKE ISLAND Hy	30.82	134	T		T		08 10 13.7	
	baz=327,slow=76								
H11S2	WAKE ISLAND Hy	30.83	134	T		T		08 10 11.9	
	baz=327,slow=76								
G18K	Tagagawik	39.17	33	P		P		07 38 50.2	-1.0
G18K				IAmb		IAmb		07 39 09.6	
	comp=Z,11nm,1.5s								
M17K	Holitna River	39.36	41	P		P		07 38 51.1	-1.7
ZALV	Zalesovo Beam	39.79	308	P		P		07 38 56.0	-0.4
	comp=Z,0.7nm,0.3s,baz=96,slow=6.6,SNR=4.2								
ZALV				PcP		PcP		07 41 02.0	+0.4
	comp=Z,1.7nm,0.7s,baz=90,slow=3.0,SNR=4.8 comp=Z,0.7nm,0.3s								
E19K	Redstone River	39.95	31	P		P		07 38 57.6	0.0
E19K				IAmb		IAmb		07 39 32.3	
	comp=Z,15nm,1.4s								
B20K	Meade River	40.41	27	P		P		07 38 60.0	-1.3
IMAR	Indian Mountai	41.18	33	P		P		07 39 08.0	+0.2
MKAR	Makanchi Array	42.95	298	P		P		07 39 22.4	-0.1
	comp=Z,1.0nm,0.6s,baz=70,slow=14,SNR=7.4								
MKAR				PcP		PcP		07 41 12.5	+0.4
	comp=Z,0.5nm,0.7s,baz=56,slow=2.6,SNR=2.6 comp=Z,1.0nm,0.6s								
I23K	Minto, Yukon-K	42.99	35	P		P		07 39 22.0	-0.6
ILAR	Eielson Array	44.07	35	P		P		07 39 30.9	-0.3
	comp=Z,0.6nm,0.9s,baz=257,slow=5.6,SNR=6.4								
ILAR				PcP		PcP		07 41 14.2	-1.4
	comp=Z,0.2nm,0.6s,baz=286,slow=3.4,SNR=1.3 comp=Z,0.6nm,0.9s								
KURK	Kurchatov	44.17	304	P		P		07 39 33.1	+0.9
KURK				PcP				07 41 14.9	
KURK	Kurchatov	44.17	304	eP		P		07 39 33.1	+0.9
KURBB	Kurchatov Arra	44.25	304	P		P		07 39 33.1	+0.2
	comp=Z,1.9nm,0.7s,baz=75,slow=8.9,SNR=10								
KURBB				PcP		PcP		07 41 14.9	-1.5
	comp=Z,0.5nm,0.6s,baz=93,slow=3.0,SNR=2.8 comp=Z,1.9nm,0.7s								
BVAR	Borovoye Array	48.38	309	P		P		07 40 05.8	+0.6
	comp=Z,0.7nm,0.3s,baz=78,slow=10,SNR=7.3 comp=Z,0.7nm,0.3s								
HYT	Haines Junctio	49.00	40	IAmb		IAmb		07 40 29.1	
	comp=Z,5.7nm,0.9s								
ARCES	ARCESS Array B	59.60	339	P		P		07 41 27.1	+0.4
	comp=Z,2.7nm,0.9s,baz=32,slow=8.3,SNR=1.4								
ARCES				LR		LR		08 13 46.4	
	comp=Z,153nm,18.3s,baz=333,slow=43 comp=Z,2.7nm,0.9s								
WB0	Warramunga Arr	62.45	190	P		P		07 41 46.2	-0.3
WB0				IAmb		IAmb		07 42 26.8	
	comp=Z,7.9nm,1.4s								
WR8	Warramunga Arr	62.62	190	P		P		07 41 47.2	-0.5
WR8				IAmb		IAmb		07 41 47.8	
	comp=Z,5.8nm,1.2s								
WRA	Warramunga Arr	62.63	190	P		P		07 41 47.4	-0.3
WRA	Warramunga Arr	62.63	190	P		P		07 41 47.2	-0.6
	comp=Z,1.8nm,0.5s,baz=7.7,slow=6.7,SNR=24								
WRA				pP		pP		07 42 03.5	+0.6
	comp=Z,0.4nm,0.5s,baz=8.0,slow=6.9,SNR=2.6 comp=Z,1.8nm,0.5s								
WRA	Warramunga Arr	62.63	190	P		P		07 41 47.4	-0.3
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
FINES	FINESS Array B	64.89	332	P		P		07 42 01.9	-0.3
	comp=Z,1.5nm,0.5s,baz=36,slow=8.0,SNR=9.4 comp=Z,1.5nm,0.5s								
ASAR	Alice Springs	66.36	190	P		P		07 42 12.2	+0.2
	comp=Z,0.9nm,0.6s,baz=6.8,slow=6.3,SNR=14								
ASAR				pP		pP		07 42 28.6	+1.3
	comp=Z,0.4nm,0.6s,baz=9.4,slow=6.6,SNR=1.9 comp=Z,0.9nm,0.6s								
NB2	NORSAR Subarra	69.90	338	P		P		07 42 33.4	-0.5
	comp=Z,2.0nm,0.8s,baz=36,slow=6.2								
NOA	NORSAR Array B	69.90	338	P		P		07 42 33.4	-0.5
	comp=Z,1.1nm,0.6s,baz=37,slow=6.0,SNR=4.9 comp=Z,1.1nm,0.6s								
HFS	Hagfors	69.91	336	P		P		07 42 33.7	-0.2
	comp=Z,1.5nm,0.6s,baz=55,slow=5.6,SNR=4.8 comp=Z,1.5nm,0.6s								
NVAR	Mina Array Bea	70.45	56	P		P		07 42 39.0	+1.1
	comp=Z,0.7nm,0.6s,baz=294,slow=6.5,SNR=8.6								
NVAR				pP		pP		07 42 54.1	+0.8
	comp=Z,0.7nm,0.7s,baz=304,slow=6.3,SNR=5.2 comp=Z,0.7nm,0.6s								
PDAR	Pinedale Array	72.71	48	P		P		07 42 51.6	+0.2
	comp=Z,0.3nm,0.4s,baz=296,slow=0.9,SNR=9.0								
PDAR				pP		pP		07 43 05.8	-1.1
	comp=Z,0.9nm,0.5s,baz=180,slow=0.3,SNR=9.1 comp=Z,0.3nm,0.4s								
EKA	Eskdalemuir Ar	78.63	341	P		P		07 43 24.6	-0.1
	comp=Z,1.5nm,0.7s,baz=22,slow=6.1,SNR=1.7								
EKA				pP		pP		07 43 39.5	-0.9
	comp=Z,0.7nm,0.4s,baz=27,slow=5.6,SNR=2.7 comp=Z,1.5nm,0.7s								
TXAR	Lajitas Array	85.51	54	P		P		07 44 02.0	+0.7
	comp=Z,0.5nm,0.7s,baz=306,slow=3.1,SNR=8.9								
TXAR				pP		pP		07 44 17.8	+0.6
	comp=Z,0.8nm,0.6s,baz=297,slow=3.8,SNR=9.5 comp=Z,0.5nm,0.7s								
TORD	Torodi Ar. Bea	114.61	319	PKP		PKiKP		07 50 02.1	-1.4
	comp=Z,0.2nm,0.3s,baz=59,slow=2.7,SNR=2.2								
QSPA	South Pole Qui	132.14	180	PKP		PKiKP		07 50 36.7	+0.1
	comp=Z,0.8nm,0.9s,baz=333,slow=3.7,SNR=2.0								
H03N2	Juan Fernandez	145.52	89	T		T		10 33 53.3	
	baz=300,slow=76,SNR=6.0								
H03N3	Juan Fernandez	145.54	89	T		T		10 33 54.4	
	baz=300,slow=76,SNR=6.1								
H03N1	Juan Fernandez	145.54	89	T		T		10 33 55.0	
	baz=300,slow=76,SNR=5.3								
SNAA	Sanae	146.39	198	PKPbc		PKPbc		07 51 01.9	-0.7
	comp=Z,1.6nm,0.8s,baz=210,slow=5.9,SNR=16								
SNAA				pPKPbc		pPKPab		07 51 19.7	-0.1
	comp=Z,2.4nm,0.9s,baz=172,slow=3.2,SNR=4.7								
BDFB	Brasilia	151.50	24	PKPbc		PKPbc		07 51 16.1	-1.2
	comp=Z,0.6nm,0.4s,baz=56,slow=7.3,SNR=4.5								

IDC 09 07:40:23.9±2.0,0°.91S×149°.13E,h0km,mb3.5/5, mbtmp3.5/5,MS4.0/1,Error ellipse: s-maj=81.9km s-min=26.9km az=109.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.82	216	P		P		07 45 38.5	-0.2
	1.8nm,1.1s,baz=39,slow=10.0,SNR=6.0 1.8nm,1.1s								
H11S3	WAKE ISLAND Hy	25.88	41	T		T		08 13 14.3	
	baz=228								
H11S2	WAKE ISLAND Hy	25.89	41	T		T		08 13 19.0	
	baz=228								
H11S1	WAKE ISLAND Hy	25.90	41	T		T		08 13 18.3	
	baz=228								
H11N1	WAKE ISLAND Hy	26.90	39	T		T		08 14 31.3	
	baz=222								
H11N3	WAKE ISLAND Hy	26.92	39	T		T		08 14 32.1	
	baz=222								
H11N2	WAKE ISLAND Hy	26.92	39	T		T		08 14 32.5	
	baz=222								
ASAR	Alice Springs	27.01	212	P		P		07 46 08.1	+0.2
	0.4nm,0.8s,baz=47,slow=7.3,SNR=4.1 0.4nm,0.8s								
LZDM	Lanzhou Array	55.94	316	LR		LR		08 11 39.9	
	comp=Z,142nm,21.9s,baz=310,slow=34								
MKAR	Makanchi Array	75.01	319	P		P		07 52 06.9	-0.4
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.6 0.2nm,0.5s								
KURBB	Kurchatov Arra	78.50	322	P		P		07 52 27.4	+0.5
	0.4nm,0.8s,baz=101,slow=4.4,SNR=4.4 0.4nm,0.8s								
ILAR	Eielson Array	80.00	23	P		P		07 52 34.8	0.0
	0.3nm,0.7s,baz=260,slow=5.9,SNR=2.8 0.3nm,0.7s								

*NEIC **09** 07:48:16.5±1.1,35°.65N±0°.06×139°.6E±0°.1,h76km±29km, ML3.4/16,Error ellipse: s-maj=14.3km s-min=8.1km az=107.0*
*NIED **09** 07:48:16.1,35°.72N×139°.61E,h27km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.39; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$0.86; $M_{r\theta}$1.41; $M_{\theta\phi}$-0.88; $M_{\phi r}$2.27; Fault plane solution: $M_0$3.02000×10^{14} NP1: ϕ_s293.00000°,δ26.00000°,λ170.00000°. NP2: ϕ_s32.00000°,δ85.00000°,λ64.00000°.*
*JMA **09** 07:48:16.1±0.2,35°.7N±0°.4×139°.6E±0°.5,h27km±1km, MV3.5/20,TOKYO PREF*
JMA Felt III J1 at TOKYO PREF .
*IDC **09** 07:48:16.7±2.3,35°.49N×139°.22E,h35km±18km,mb3.2/4, mbtmp3.5/5,ML3.7/1,MS4.1/1,Error ellipse: s-maj=32.9km s-min=15.6km az=67.0*

**ISC 09 07:48:15.8±1.0,

H11S1	WAKE ISLAND Hy	29.43	118	T	T	08 24 17.4	
	baz=312						
H11S2	WAKE ISLAND Hy	29.44	118	T	T	08 24 25.6	
	baz=312						
BRDH	Bariadhala	43.43	266	LR	LR	08 17 10.0	
	comp=N,203nm,18.4s,baz=168,slow=40						
MKAR	Makanchi Array	43.62	303	P	P	07 56 16.1	-0.5
	comp=N,0.3nm,0.7s,baz=76,slow=6.8,SNR=3.8						
	comp=N,0.3nm,0.7s						
KURBB	Kurchatov Arra	45.70	309	P	P	07 56 32.3	-0.9
	comp=N,0.7nm,0.5s,baz=82,slow=7.2,SNR=9.0						
	comp=N,0.7nm,0.5s						
WRA	Warramunga Arr	55.53	186	P	P	07 57 46.8	-0.8
	comp=N,0.3nm,0.4s,baz=2.6,slow=7.4,SNR=5.3						
	comp=N,0.3nm,0.4s						
ASAR	Alice Springs	59.25	186	P	P	07 58 13.3	-0.5
	comp=N,0.2nm,0.6s,baz=10,slow=6.3,SNR=1.5						
	comp=N,0.2nm,0.6s						

*UCR **09** 07:57:34.2±1.4, 8.°92N×84.°30W, h19km±3km, MW4.4*
*CATAC **09** 07:57:35.4±0.5, 9.°N±3.°×8.°4W±.°, h13km±2km, M4.2/18, MLv4.2/18, Error ellipse: s-maj=8.3km s-min=3.4km az=36.3, confirmed*
*UPA **09** 07:57:42.8±2.2, 8.°85N×83.°67W, h16km±15km, MW4.5*
ISC 09 07:57:33.4±1.0, 8.°92N±0.°04×84.°29W±0.°03, h13km, n175, σ0§98/178, 64C-13D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	Quepos	0.53	13	P	Pb	07 57 44.8	+0.2
QUEP	Quepos	0.53	13	⇑eP	Pb	07 57 44.8	+0.2
QUEP				eS	Sb	07 57 52.1	+0.1
SVQ2	Quepos	0.53	13	⇑eP	Pb	07 57 44.7	+0.2
LLNJ	Naranjito	0.58	18	⇑eP	Pb	07 57 45.8	+0.2
OCHAL	Ojochal	0.66	74	P	Pb	07 57 47.0	+0.2
OCHAL	Ojochal	0.66	74	S	Sb	07 57 56.3	+0.4
PAR1A	Puntarenas Pro	0.68	3	⇑eP	Pb	07 57 47.6	+0.4
PICV	PH. Pirrs	0.71	7	⇑eP	Pb	07 57 47.8	0.0
EDPE	Pejibaye, P	0.74	71	⇓eP	Pb	07 57 48.3	0.0
PIEC	Cerro El Cedra	0.77	25	⇓eP	Pb	07 57 48.8	-0.1
BITO	Garabito Jaco	0.77	335	⇑eP	Pb	07 57 48.9	+0.1
RAZU	San Marcos de	0.78	19	eP	Pb	07 57 49.0	0.0
PITB	Pirrs, San	0.79	19	⇑eP	Pb	07 57 49.2	+0.2
PANP	Palmar Norte	0.82	87	⇑eP	Pb	07 57 49.6	0.0
ACOS	Acosta	0.88	8	⇑eP	Pg	07 57 50.3	-0.3
PURI	Puriscal	0.93	358	⇑eP	Pg	07 57 51.2	-0.2
BUEE	Buenos Aires	0.97	75	eP	Pg	07 57 52.0	-0.2
REPA	Paraso	0.99	24	⇑eP	Pb	07 57 52.2	-0.5
AMPA	Desamparados	1.00	13	eP	Pb	07 57 52.0	-0.7
TAGO	Cartago	1.01	21	eP	Pb	07 57 52.6	-0.3
SANTA	Santa Ana	1.02	6	⇑eP	Pb	07 57 52.3	-0.7
OROT	Orotina	1.02	347	⇑eP	Pb	07 57 52.2	-0.8
JIME	Puerto Jimenez	1.02	111	⇑eP	Pg	07 57 53.0	-0.2
TRIO	Tres Rios	1.02	16	eP	Pb	07 57 52.5	-0.7
LUJA	Lujan	1.03	12	⇑eP	Pb	07 57 52.6	-0.6
CENT	San Jose	1.03	11	eP	Pn	07 57 53.8	0.0
MEXI	Barrio Mexico	1.04	11	⇑eP	Pb	07 57 53.0	-0.4
CBL1	Cabuya	1.04	310	⇑eP	Pb	07 57 52.9	-0.4
ECI	Escuela Centro	1.04	13	⇑eP	Pb	07 57 53.0	-0.4
SJS3	Mercedes San J	1.04	13	⇑eP	Pb	07 57 53.1	-0.3
SJS	Escuela Geolog	1.04	13	⇑eP	Pb	07 57 52.9	-0.6
LUPE	Guadalupe	1.05	12	⇑eP	Pb	07 57 53.1	-0.5
BELE	Belen	1.06	5	⇑eP	Pb	07 57 53.1	-0.6
ATEO	Atenas	1.06	355	eP	Pb	07 57 53.2	-0.6
PIRO	Carate, Puerto	1.07	118	eP	Pb	07 57 53.6	-0.2
PIRO	Carate, Puerto	1.07	118	P	Pb	07 57 53.5	-0.3
PIRO	Carate, Puerto	1.07	118	⇑eP	Pb	07 57 53.4	-0.3
DOMI	Santo Domingo	1.08	10	⇑eP	Pb	07 57 53.7	-0.3
HEME	Heredia, Merce	1.08	8	⇑eP	Pn	07 57 54.9	+0.4
CORON	Coronado	1.09	15	eP	Pb	07 57 54.0	-0.3
HDC	Heredia	1.09	9	⇑eP	Pb	07 57 53.9	-0.4
UELA	Alajuela	1.10	4	⇑eP	Pb	07 57 52.1	-2.4
EDP2	Potrero Grande	1.10	85	eP	Pb	07 57 54.0	-0.4
PCAYA	Pacayas	1.10	25	⇓eP	Pb	07 57 54.1	-0.4
PAQE	Paquera	1.10	325	⇑eP	Pb	07 57 53.4	-1.1
VINA	Juan Vinas	1.11	29	⇓eP	Pb	07 57 54.1	-0.5
ARZA	Esparza	1.13	341	⇑eP	Pb	07 57 54.0	-0.9
PALD	Palmares	1.14	353	⇑eP	Pb	07 57 54.2	-1.0
ROBF	Roble, Puntare	1.15	337	eP	Pb	07 57 54.2	-1.0
VICA	Volcano Irazu	1.15	22	⇓eP	Pb	07 57 54.8	-0.6
TURIB	Turrialba	1.15	31	⇓eP	Pb	07 57 54.7	-0.6
CVIMO	Finca Echandi	1.15	17	⇑eP	Pb	07 57 54.8	-0.4
GREC	Grecia	1.15	359	⇑eP	Pg	07 57 55.9	+0.2
POAS	San Pedro de P	1.15	2	⇑eP	Pb	07 57 55.1	-0.3
FITO	Golfito	1.16	104	⇑eP	Pb	07 57 54.1	-1.1
SARCI	Sarchi	1.17	357	eP	Pb	07 57 55.2	-0.4
RAMO	San Ramon	1.18	351	eP	Pb	07 57 54.9	-0.9
NARAN	Naranjo de Ala	1.18	356	⇑eP	Pb	07 57 55.3	-0.5
ENAS	Puntarenas	1.19	333	⇑eP	Pn	07 57 55.0	-0.8
CVTQ	Turrialba Volc	1.20	25	eP	Pb	07 57 55.6	-0.6
CVTV	Tajo	1.20	26	eP	Pb	07 57 55.9	-0.4
VTR0	Volcan Turrial	1.21	25	eP	Pb	07 57 56.0	-0.5
CVTR	Volcan Turrial	1.21	25	eP	Pb	07 57 56.0	-0.6
ABRB	Las Abras (San	1.22	27	eP	Pn	07 57 56.2	-0.3
VPS5	V. Poas	1.27	2	eP	Pn	07 57 56.7	-0.5
RESJ	San Isidro (Tu	1.27	30	⇓eP	Pn	07 57 57.0	-0.1
VITO	San Vito	1.30	94	eP	Pb	07 57 57.7	-0.2
NELY	Ciudad Neily	1.35	101	⇑eP	Pn	07 57 57.9	-0.1
LCOCO	El Coco	1.36	32	⇓eP	Pn	07 57 58.3	+0.1
RVLA	Villa Bonita	1.37	30	eP	Pn	07 57 58.4	0.0
PILE	Guapiles	1.38	21	eP	Pb	07 57 58.9	-0.3
VPL2	V. Platanar	1.39	356	⇑eP	Pn	07 57 58.4	-0.3
IRES	Siquirres	1.40	33	⇓eP	Pn	07 57 58.9	+0.2
QUEU	Ciudad Quesada	1.41	354	eP	Pn	07 57 59.1	+0.3
RSRNO	Rio Sereno	1.41	94	⇑eP	Pb	07 57 59.4	-0.3
ARTO	Ro Cuarto	1.42	3	⇑eP	Pn	07 57 58.9	-0.1
ALCO	Alturas Coton,	1.43	89	eP	Pn	07 57 59.0	-0.4
CDITO	Canoas	1.44	104	P	Pn	07 57 59.0	-0.2
CDITO	Canoas	1.44	104	S	Sb	07 58 17.8	-0.5
MLIR3	Monte Lirio, C	1.45	95	eP	Pb	07 58 00.2	-0.2
VERH	Veragua Rainfo	1.48	47	⇓eP	Pn	07 58 00.1	+0.3
LPPC	Paso Canoas	1.48	105	eP	Pn	07 57 59.6	-0.2
LAES	El Progreso Va	1.48	55	⇓eP	Pb	07 58 00.2	-0.7
TAAN	Batan	1.49	38	eP	Pb	07 58 00.4	-0.5
MTEVE	Monteverde	1.49	339	⇑eP	Pn	07 57 59.6	-0.5
DMCAL	E. de Neily	1.50	99	⇑eP	Pn	07 58 00.0	-0.1
SOCE	Pocosol	1.50	347	P	Pn	07 58 00.2	+0.1
SOCE	Pocosol	1.50	347	eP	Pn	07 58 00.0	-0.1
JUNT	Juntas	1.51	334	⇑eP	Pn	07 57 59.5	-0.8
JTS	Las Juntas de	1.52	334	P	Pn	07 57 59.7	-0.6
JTS	Las Juntas de	1.52	334	⇑eP	Pn	07 57 59.6	-0.7
CARI	Cariari	1.54	21	eP	Pb	07 58 01.8	-0.1
ARIEL	Armuelles	1.55	114	eP	Pg	07 58 12.4	+9.2
LESP3	La Esperanza,	1.56	109	⇑eP	Pn	07 58 00.6	-0.3
CASO	Castillo	1.57	344	eP	Pn	07 58 01.5	+0.4
BRU2	Volcan	1.58	94	⇑iP	Pn	07 58 01.4	+0.1
BRU2	Volcan	1.58	94	P	Pn	07 58 01.4	+0.1
BRU2	Volcan	1.58	94	S	Sn	07 58 21.1	-0.6
BRU2	Volcan	1.58	94	⇑eP	Pn	07 58 01.4	+0.1
ARE1	Arenal 1	1.59	344	eP	Pn	07 58 01.8	+0.4
VARE2	V. Arenal	1.59	344	⇑eP	Pn	07 58 01.9	+0.4
BRIBI	Bribri	1.61	64	eP	Pb	07 58 02.8	-0.2
CEDE	Laguna Cedeo	1.61	345	⇑eP	Pn	07 58 02.3	+0.6
LMNES	Limones	1.63	120	⇑eP	Pn	07 58 01.1	-0.7
CHIIK	Chiripa	1.64	318	eP	Pn	07 58 02.0	+0.8
TABAC	Tabacon	1.64	343	⇑eP	Pn	07 58 02.6	+0.4
REZ	Monterrey de S	1.65	346	eP	Pn	07 58 02.8	+0.6
BC3P	Paso Ancho	1.66	93	eP	Pn	07 58 02.3	-0.2
BC3P				eS	Sb	07 58 24.6	-0.2
CNAS	Canas	1.70	332	eP	Pn	07 58 02.9	0.0
TRT2	Tortugero	1.72	18	P	Pn	07 58 03.6	+0.5
TRT2	Tortugero	1.72	18	S	Sn	07 58 25.2	+0.3
TRT2	Tortugero	1.72	18	⇓eP	Pn	07 58 03.4	+0.3
INVE	Universidad In	1.73	334	⇑eP	Pn	07 58 03.2	-0.1
BANCO	falda S V. Bar	1.75	96	⇑eP	Pn	07 58 03.9	+0.2
JEFFS	S de V. Baru	1.75	98	⇑eP	Pn	07 58 03.8	+0.2
JUD3	Juan Diaz 3	1.75	315	eP	Pn	07 58 02.6	-1.1
PLVR	Palo Verde	1.77	324	eP	Pb	07 58 06.0	+0.1
PTAR3	Potrerillos Ar	1.78	97	eP	Pb	07 58 04.3	+0.3
RGM0	Gandoca	1.79	68	eP	Pb	07 58 06.0	-0.1
RGM0	Gandoca	1.79	68	P	Pn	07 58 04.2	+0.2
BAGA3	Bagala, Chiriq	1.79	104	⇑eP	Pn	07 58 04.9	+0.8
COVE	Coope Vega, Sa	1.80	356	P	Pn	07 58 04.4	+0.2
QUEB	Quebradon, Cot	1.80	341	⇑eP	Pn	07 58 04.4	+0.1
BQTLY	Boquete Panama	1.81	95	⇑eP	Pn	07 58 04.5	0.0
WILLF	Boquete	1.83	95	⇑eP	Pn	07 58 04.7	-0.1
BQSF3	Alto Boquete,	1.84	95	⇑eP	Pn	07 58 04.8	-0.1
DAP26	falda E V. Bar	1.84	94	eP	Pn	07 58 04.5	-0.5
CNI2	El Empalme, Bo	1.86	74	eP	Pn	07 58 05.3	+0.2
BAGA	Bagaces	1.87	329	eP	Pn	07 58 05.0	-0.2
DVD	David	1.88	105	⇑eP	Pn	07 58 05.8	+0.6
DVD				eS	Sb	07 58 29.7	-1.2
TENO	El Achiote	1.90	339	eP	Pn	07 58 05.5	-0.2
LOCO3	Loma Colorada,	1.91	105	eP	Pn	07 58 06.3	+0.5
PEDE3	Pedregal, Chir	1.92	106	eP	Pn	07 58 06.2	+0.4
LOMA3	Las Lomas, Chi	1.93	104	eP	Pn	07 58 06.8	+0.8
CUI	Cuipilapa	1.94	333	eP	Pb	07 58 08.3	-0.3
COLC	Colonia	1.96	333	⇓eP	Pn	07 58 07.0	+0.5
HORNC	Hornillas	1.99	334	eP	Pn	07 58 07.4	+0.4
VMAR	Armenia, Volca	2.05	337	eP	Pn	07 58 08.0	+0.2
PBNVO	Pueblo Nuevo,	2.07	91	⇑eP	Pn	07 58 07.9	0.0
ALIBA	Liberia Airpor	2.08	323	eP	Pn	07 58 09.8	+1.8
UPAL	Upala	2.10	340	P	Pb	07 58 10.7	-0.7
GPS2	Hotel Rincn d	2.11	330	eP	Pn	07 58 09.3	+0.8
RBALA	Bur	2.11	91	⇑eP	Pn	07 58 08.6	+0.1
CHGR2	Aguacate	2.12	89	eP	Pn	07 58 08.9	+0.4
ELI1	Hacienda Flor	2.12	324	P	Pb	07 58 11.0	-0.8
LAPC	Finca la Perla	2.16	329	eP	Pn	07 58 09.6	+0.4
VORI	VORI	2.16	331	eP	Pn	07 58 10.0	+0.6
BUAI	Buenos Aires	2.21	332	eP	Pn	07 58 10.6	+0.8
KKNTU	Kakintø	2.45	92	⇑eP	Pn	07 58 13.5	+0.4
LCRUZ	La Cruz	2.52	328	eP	Pn	07 58 16.6	+2.4
CARN	Rivas	2.56	332	P	Pb	07 58 17.7	-1.6
NANC3	Nancito, Chiri	2.61	105	eP	Pn	07 58 16.2	+0.8
MORN	Al O del Volca	2.94	333	P	Pn	07 58 22.5	+2.6
ACON	Acoyapa	3.16	344	P	Pn	07 58 23.9	+1.0
ACON	Acoyapa	3.16	344	eP	Pn	07 58 22.0	-0.9
MESA3	La Mesa, Verag	3.16	104	eP	Pn	07 58 24.2	+1.2
RSUS3	Rio de Jesus,	3.23	106	eP	Pn	07 58 25.3	+1.5
GMAL	Guarumal, Vera	3.23	111	eP	Pn	07 58 24.1	+0.2
NADN	Granada	3.30	329	P	Pn	07 58 26.9	+2.0
MARI3	Mariato, Verag	3.50	111	eP	Pn	07 58 28.7	+1.2
NANN	Nandasmo	3.51	329	P	Pn	07 58 31.9	+4.1
CRUN	El Crucero	3.64	327	P	Pn	07 58 30.0	+0.4
CRIS3	El Cristo, Coc	3.69	100	eP	Pn	07 58 32.4	+2.2
TISN	Laguna Tiscapa	3.75	329	P	Pn	07 58 34.0	+2.8
CHIT3	Chitre	3.94	104	eP	Pn	07 58 37.0	+3.3
COPN	Copaltepe	3.96	325	P	Pn	07 58 37.2	+3.2
CNGA	Al SSO del Vol	4.28	326	P	Pn	07 58 41.6	+3.3
CNGN	Cerro Negro	4.28	327	P	Pn	07 58 41.6	+3.2
MATN	Matagalpa	4.30	338	P	Pn	07 58 39.9	+1.1
ZANG	Zanguenga, Cho	4.37	89	eP	Pn	07 58 40.9	+1.4
BCIP	Isla Barro Col	4.40	86	eP	Pn	07 58 41.1	+1.1
POLN	Al Sur del Vol	4.46	326	P	Pn	07 58 43.4	+2.5
FRIJ	El Hiral	4.51	86	eP	Pn	07 58 42.5	+0.9
GAMB1	Gamboa	4.52	87	⇑eP	Pn	07 58 42.5	+0.8
PKGN	Cerro Pekin	4.57	325	P	Pn	07 58 45.8	+3.5
PKGN				S	Pg	07 58 59.4	-1.7

*IDC **09** 07:57:38.2±0.5, 20.°36N×121.°64E, h0km, mb4.4/28, mbtmp4.4/32, ML4.8/4, MS3.9/31, Error ellipse: s-maj=17.7km s-min=11.9km az=73.0*
*NEIC **09** 07:57:40.7±1.0, 20.°40N±0.°05×121.°63E±0.°09, h10km±1km, mb4.7/44, Error ellipse: s-maj=13.8km s-min=8.4km az=89.0*
*BJI **09** 07:57:42.8, 20.°62N×121.°20E, h10km, mB4.8/13, mb4.5/41, ML4.2/2, Ms4.3/32, Ms7 4.0/34*
ISC 09 07:57:44.0±0.4, 20.°36N±0.°04×121.°66E±0.°05, h43km, n137, σ1§53/129, mb4.5/56, MS4.0/38, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.51	347		Pn	07 58 17.9	-4.3
YULB	Yu-li	3.03	354		Pn	07 58 28.1	-1.4
TPUB	Ta-pu	3.08	342		Pn	07 58 27.7	-2.4
SSLB	Suanglung	3.47	349		Pn	07 58 33.7	-1.8
NACB	Ninganchiao	3.79	359		Pn	07 58 38.4	-1.5
YOJ	Yonaguni jima	4.26	17		Pn	07 58 45.5	-0.9
YHNB	Yeheng	4.29	357		Pn	07 58 45.8	-1.1
TATO	Taipei	4.59	358		Pn	07 58 50.8	-0.1
TGY	Tagaytay City	6.26	186	Pn	Pn	07 59 13.4	-0.5
	48nm,0.3s,baz=315,slow=5.7,SNR=1.5						
TGY				Sn	Sn	08 00 26.2	+1.9
	200nm,0.3s,baz=45,slow=20,SNR=3.1						
	160nm,0.3s						
HKPS	Hong Kong Po S	7.26	287	Pn	Pn	07 59 26.7	-0.9
JOW	Kunigami	8.84	42		Pn	07 59 48.0	-1.3
JOW	Kunigami	8.84	42	Pn	Pn	07 59 48.1	-1.1
	74nm,0.3s,baz=206,slow=12,SNR=80						
JOW				Sn	Sn	08 01 22.9	-4.7
	baz=200,slow=15						
	157nm,0.3s						
JMZ	Minamidaito 2	10.34	57		Pn	08 00 09.1	-0.6
QIZ	Qiongzhong	11.21	265	P	Pn	08 00 18.4	-3.3
QIZ				S	Sn	08 02 26.1	+0.3
QIZ				LR	LR		
	comp=N,540nm,10.5s						
QIZ				LR	LR		
	comp=E,250nm,11.7s						
QIZ				LR	LR		
	comp=Z,640nm,9.9s						
NJ2	Nanjing	11.91	348	eP	Pn	08 00 30.1	-1.1
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=N,590nm,18.0s						
NJ2				LR	LR		
	comp=E,910nm,12.3s						
NJ2				LR	LR		
	comp=Z,570nm,17.5s						
JNU	Nakatsue	15.13	31		Pn	08 01 14.1	-0.7
JNU				IAmb	IAmb	08 01 31.6	
	comp=Z,30nm,0.8s						
JNU	Nakatsue	15.13	31	Pn	Pn	08 01 14.2	-0.6
	comp=Z,1.5nm,0.3s,baz=271,slow=3.1,SNR=9.5						
	comp=Z,14nm,0.9s						
LYN	LuoYang	16.30	332	P	Pn	08 01 29.4	-0.5
LYN				sP	P	08 01 33.6	+1.3
LYN				PP	pwP	08 01 45.2	-1.0
LYN				pmax	pmax		
	comp=Z,89nm,0.9s						
LYN				pmax	pmax		
	comp=Z,290nm,4.7s						
LYN				LR	LR		
	comp=Z,1μm,11.5s						
LYN				LR	LR		
	comp=Z,1μm,12.9s						
LYN				LR	LR		
	comp=Z,820nm,13.4s						
XAN	Xi'an	17.70	323	⇑P	Pn	08 01 46.1	-1.2
XAN				PP	PnPn	08 01 58.4	-0.2
XAN				S	Sn	08 05 05.0	+1.5
XAN				pmax	pmax		
	comp=Z,29nm,0.9s						
XAN				pmax	pmax		
	comp=Z,240nm,3.8s						
XAN				LR	LR		
	comp=Z,940nm,18.2s						
XAN				LR	LR		
	comp=Z,770nm,17.5s						
XAN				LR	LR		
	comp=Z,560nm,17.9s						
KSAR	Wonju Array Be	17.86	16		P	08 01 51.3	+1.8
KSRS	Korea Array	17.88	16	P	Pn	08 01 48.7	-0.7
	comp=Z,0.4nm,0.3s,baz=199,slow=12,SNR=30						
	comp=Z,8.9nm,0.8s						
KS19	Wonju Array Si	17.91	16	P	Pn	08 01 49.4	-0.4
HNS	HongShan	18.02	342	⇑P	P	08 01 53.8	+2.6
HNS				pmax	pmax		
	comp=Z,47nm,1.4s						
HNS				LR	LR		
	comp=Z,540nm,13.7s						
HNS				LR	LR		
	comp=Z,530nm,14.5s						
HNS				LR	LR		
	comp=Z,520nm,20.1s						
TOLI2	Tolitoli	19.15	183		Pn	08 02 03.8	-1.2
CD2	Chengdu	19.23	307	P	P	08 02 04.0	-0.7
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				LR	LR		
	comp=Z,1μm,16.5s						
CD2				LR	LR		
	comp=Z,1μm,15.9s						
CD2				LR	LR		
	comp=Z,690nm,14.0s						
PZH	PanZhiHua	19.26	292	P	Pn	08 02 06.2	-0.2
PZH				LR	LR		
	comp=Z,330nm,13.1s						
PZH				LR	LR		
	comp=Z,270nm,12.4s						
PZH				LR	LR		
	comp=Z,230nm,12.4s						
SBUM	Sibu	20.05	209		Pn	08 02 14.1	-1.5
BJT	Baijiatuau	20.15	348		P	08 02 14.4	-0.1
BJT				IAmb	IAmb	08 02 18.4	
	comp=Z,38nm,0.7s						
BJI	Beijing	20.17	348	P	P	08 02 14.3	-0.4
BJI				pP	Pn	08 02 17.2	+0.4
BJI				sP	pP	08 02 20.2	-4.5
BJI				S	Sn	08 06 02.4	-0.6
BJI				LR	LR		
	comp=Z,170nm,12.6s						
BJI				LR	LR		
	comp=Z,140nm,11.8s						
BJI				LR	LR		
	comp=Z,160nm,14.3s						
JHJ	Hachijo jima 2	20.53	48	LR	LR	08 09 15.8	
	comp=Z,166nm,22.0s,baz=278,slow=34						
CHTO	Chiang Mai	21.46	270		P	08 02 26.8	-2.1
CMAR	Chiang Mai Arr	21.51	269	P	P	08 02 28.9	-0.6
	comp=Z,1.6nm,0.3s,baz=74,slow=10.0,SNR=8.1						
	comp=Z,1.6nm,0.3s						
MJAR	Matsushiro Arr	21.66	38	P	P	08 02 31.3	+0.4
	comp=Z,0.5nm,0.3s,baz=221,slow=9.8,SNR=1.6						
KSM	Kuching	21.81	212	P	P	08 02 31.5	-1.0
LZH	Lanzhou	22.12	319	eP	P	08 02 36.1	+0.1
LZH				sP	pP	08 02 43.8	-1.9
LZH				S	S	08 06 36.1	-1.3
LZH				pmax	pmax		
	comp=Z,34nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,4.4s						
LZH				LR	LR		
	comp=Z,500nm,12.4s						
LZH				LR	LR		
	comp=Z,460nm,12.7s						
LZH				LR	LR		
	comp=Z,390nm,12.7s						
LZDM	Lanzhou Array	22.13	318	P	P	08 02 36.0	-0.2
	comp=Z,5.5nm,0.5s,baz=163,slow=11,SNR=12						
	comp=Z,5.5nm,0.5s						
HHC	Hu-ho-hao-te	22.16	339	⇓iP	P	08 02 39.1	+2.8
HHC				sP	pP	08 02 46.5	+0.4
HHC				PP	PnPn	08 03 04.2	+4.5
HHC				S	S	08 06 40.0	+2.0
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,95nm,5.9s						
HHC				LR	LR		
	comp=Z,410nm,15.8s						
HHC				LR	LR		
	comp=Z,410nm,13.0s						
HHC				LR	LR		
	comp=Z,470nm,15.0s						
BTO	Baotou	22.49	336	eP	P	08 02 41.3	+1.5
BTO				pP	pP	08 02 45.4	-4.3
BTO				sP	pwP	08 02 48.5	-4.5
BTO				S	S	08 06 47.7	+3.8
BTO				sS	Sn	08 06 50.6	-8.3
BTO				pmax	pmax		
	comp=Z,27nm,1.1s						
BTO				pmax	pmax		
	comp=Z,290nm,6.7s						
BTO				LR	LR		
	comp=Z,1μm,13.6s						
BTO				LR	LR		
	comp=Z,2μm,15.1s						
BTO				LR	LR		
	comp=Z,650nm,24.7s						
XLT	XiLinHaoTe	23.93	350	eP	P	08 02 54.4	+0.4
XLT				pmax	pmax		
	comp=Z,16nm,1.0s						
XLT				pmax	pmax		
	comp=Z,240nm,3.8s						
JMM	Marumori	24.07	39	P	P	08 02 56.1	+0.8
USRK	Ussuriysk Ar.	25.28	18	P	P	08 03 05.9	-0.3
	comp=Z,1.6nm,0.5s,baz=238,slow=9.9,SNR=2.2						
	comp=Z,1.6nm,0.5s						
KAPI	Kappang	25.29	184	P	P	08 03 06.3	-0.2
KAPI				IAmb	IAmb	08 03 37.4	
	comp=Z,25nm,1.1s						
KAPI	Kappang	25.29	184	LR	LR	08 13 52.3	
	comp=Z,95nm,19.0s,baz=1.5,slow=38						
IPM	Ipoh	25.55	235	P	P	08 03 07.8	-1.2
IPM				IAmb	IAmb	08 03 09.3	
	comp=Z,20nm,0.8s						
GTA	Gaotai	26.70	320	P	P	08 03 20.6	+1.3
GTA				pP	pP	08 03 30.5	+0.8
GTA				sP	sP	08 03 33.8	-0.7
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				LR	LR		
	comp=Z,330nm,16.7s						
GTA				LR	LR		
	comp=Z,250nm,17.8s						
GTA				LR	LR		
	comp=Z,320nm,16.4s						
PSI	Prapat	28.22	235	LR	LR	08 13 21.4	
	comp=Z,140nm,21.8s,baz=52,slow=33						
GOMU	GeErM

KSH	Kashi	43.43 306	P	P	08 05 46.2	+3.4
KSH			sP	sP	08 05 57.8	-0.6
KSH			pmax	pmax		
comp=Z,6.0nm,0.9s						
ZALV	Zalesovo Beam	43.71 329		P	08 05 44.5	-0.1
BOOM	Boomskoye usch	44.17 311	P	P	08 05 49.2	+0.4
MA2	Magadan	44.36 21	LR	LR	08 24 04.9	
comp=Z,126nm,21.3s,baz=117,slow=36						
AAK	Ala-Archa	45.24 310	LR	LR	08 25 40.1	
comp=Z,270nm,20.8s,baz=110,slow=37						
KURK	Kurchatov	45.34 322	P	P	08 05 57.9	+0.2
KURK			IAmb	IAmb	08 06 14.8	
comp=Z,13nm,1.1s						
KURBB	Kurchatov Arra	45.35 322	P	P	08 05 58.0	+0.2
comp=Z,1.8nm,0.7s,baz=122,slow=7.5,SNR=15						
KURBB			PcP	PcP	08 07 38.8	+2.0
comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=1.3						
comp=Z,1.8nm,0.7s						
AS31	Alice Springs	45.36 164	P	P	08 05 58.2	0.0
ASAR	Alice Springs	45.36 164	P	P	08 05 58.1	-0.1
ASAR	Alice Springs	45.36 164	P	P	08 05 58.6	+0.4
comp=Z,7.4nm,0.7s,baz=347,slow=7.2,SNR=115						
comp=Z,7.4nm,0.7s						
GAR	Garm	47.66 305	P	P	08 06 16.8	+0.4
KK31	Karatay Array	48.20 310	P	P	08 06 20.9	+0.6
KK31			IAmb	IAmb	08 06 22.1	
comp=Z,4.6nm,0.8s						
KKAR	Karatay Array	48.20 310	P	P	08 06 20.6	+0.4
CHGR	Chuyangaron	48.52 304	P	P	08 06 23.6	+0.7
BVAR	Borovoye Array	50.93 323	P	P	08 06 41.0	+0.1
comp=Z,0.9nm,0.5s,baz=105,slow=12,SNR=5.9						
BVAR			PcP	PcP	08 07 57.1	+0.3
comp=Z,3.7nm,0.6s,baz=104,slow=3.7,SNR=5.0						
BVAR			LR	LR	08 27 19.1	
comp=Z,83nm,18.2s,baz=95,slow=35						
comp=Z,0.9nm,0.5s						
FORT	Forrest	51.22 173	P	P	08 06 44.5	+1.2
TIXI	Tiksi	51.47 3	LR	LR	08 31 53.2	
comp=Z,173nm,18.7s,baz=202,slow=40						
SHEM	Shemya Is, Ala	51.50 38	LR	LR	08 28 38.7	
comp=Z,22nm,20.6s,baz=282,slow=36						
STKA	Stephens Creek	55.35 159	P	P	08 07 13.9	+0.4
comp=Z,1.9nm,0.6s,baz=357,slow=7.8,SNR=8.2						
comp=Z,1.9nm,0.6s						
AB31	Akbulak array	56.45 316	P	P	08 07 21.9	+0.5
AKTO	Aktyubinsk	57.84 317	P	P	08 07 31.9	+0.7
comp=Z,3.7nm,0.8s,baz=84,slow=6.1,SNR=8.6						
AKTO			LR	LR	08 31 45.2	
comp=Z,144nm,18.8s,baz=36,slow=35						
comp=Z,3.7nm,0.8s						
ARTI	Arti	58.52 324	P	P	08 07 35.8	0.0
comp=Z,5.4nm,0.7s,baz=189,slow=1.1,SNR=6.5						
ARTI			LR	LR	08 35 53.2	
comp=Z,119nm,21.7s,baz=125,slow=39						
comp=Z,5.4nm,0.7s						
KIRV	Kirov	63.61 326	P	P	08 08 10.6	+0.4
comp=Z,9.3nm,0.5s,baz=147,slow=5.1,SNR=2.2						
KIRV			LR	LR	08 38 22.4	
comp=Z,144nm,21.2s,baz=96,slow=38						
comp=Z,9.3nm,0.5s						
GNI	Garni	67.36 306	LR	LR	08 43 09.8	
comp=Z,68nm,19.3s,baz=42,slow=41						
KBZ	Khabaz	68.23 310	P	P	08 08 40.6	+0.4
comp=Z,3.9nm,0.9s,baz=40,slow=7.9,SNR=5.0						
KBZ			LR	LR	08 44 09.1	
comp=Z,99nm,19.8s,baz=87,slow=41						
comp=Z,3.9nm,0.9s						
H19K	Roundabout Mou	68.31 26	P	P	08 08 41.5	+1.2
RAYN	Ar Rayn	69.92 288	P	P	08 08 52.1	+0.9
RAYN			IAmb	IAmb	08 09 04.3	
comp=Z,6.9nm,1.1s						
BPAW	Bear Paw Mtn.	70.74 28	P	P	08 08 56.5	+1.1
KDAK	Kodiak Island	70.77 34	LR	LR	08 39 17.4	
comp=Z,24nm,21.8s,baz=255,slow=35						
E23K	Chandalar	70.83 23	P	P	08 08 57.0	+1.1
E23K			IAmb	IAmb	08 09 18.4	
comp=Z,9.3nm,1.1s						
H23K	Yukon River	71.13 26	P	P	08 08 59.2	+1.4
F24K	Squaw Lake	71.55 24	P	P	08 09 01.8	+1.5
F24K			IAmb	IAmb	08 09 12.4	
comp=Z,7.7nm,0.8s						
G24K	Hadweenzic Riv	71.83 25	P	P	08 09 03.1	+1.1
ILAR	Eielson Array	72.40 27	P	P	08 09 05.0	-0.4
comp=Z,1.2nm,0.7s,baz=268,slow=5.1,SNR=8.2						
comp=Z,1.2nm,0.7s						
SCM	Sheep Creek Mo	72.74 30	P	P	08 09 08.4	+0.9
G26K	Porcupine Rive	73.22 24		P	08 09 12.2	+2.1
G26K			IAmb	IAmb	08 09 21.4	
comp=Z,7.3nm,1.1s						
M24K	Tolsona, Glenn	73.22 29	P	P	08 09 11.8	+1.4
ARCES	ARCESS Array B	73.23 339	P	P	08 09 10.7	+0.4
comp=Z,3.0nm,0.8s,baz=68,slow=8.0,SNR=3.7						
ARCES			LR	LR	08 43 34.8	
comp=Z,190nm,18.4s,baz=324,slow=38						
comp=Z,3.0nm,0.8s						
SPITS	Spitsbergen Ar	73.29 348	P	P	08 09 10.8	+0.3
comp=Z,7.1nm,1.0s,baz=92,slow=10.0,SNR=6.0						
SPITS			LR	LR	08 44 04.3	
comp=Z,137nm,20.6s,baz=146,slow=38						
comp=Z,7.1nm,1.0s						
RIDG	Independent Ri	73.48 28	P	P	08 09 12.5	+0.7
RIDG			IAmb	IAmb	08 09 21.7	
comp=Z,8.3nm,1.0s						
SCRK	Sand Creek	73.80 27	P	P	08 09 14.2	+0.4
FINES	FINESS Array B	74.96 330	P	P	08 09 20.5	+0.1
comp=Z,3.6nm,0.8s,baz=49,slow=6.6,SNR=6.7						
FINES			LR	LR	08 45 30.1	
comp=Z,204nm,20.1s,baz=69,slow=38						
comp=Z,3.6nm,0.8s						
BCAR	Beaver Creek A	74.98 28	P	P	08 09 22.6	+2.0
I28M	Miner Creek	75.11 25	P	P	08 09 22.4	+1.0
I28M			IAmb	IAmb	08 09 32.3	
comp=Z,6.8nm,1.1s						
DAWY	Dawson	75.73 27	P	P	08 09 25.9	+1.1
DAWY			IAmb	IAmb	08 09 27.0	
comp=Z,3.9nm,0.8s						
BRTR	Keskin Array B	75.81 307	P	P	08 09 26.2	+0.3
comp=Z,0.4nm,0.4s,baz=54,slow=6.6,SNR=2.4						
comp=Z,0.4nm,0.4s						
AKASG	Malin Array Be	76.02 319	P	P	08 09 26.6	0.0
comp=Z,1.0nm,0.6s,baz=63,slow=6.1,SNR=5.4						
AKASG			LR	LR	08 46 16.8	
comp=Z,114nm,18.6s,baz=34,slow=38						
comp=Z,1.0nm,0.6s						
INK	Inuvik	76.59 22	LR	LR	08 45 44.7	
comp=Z,58nm,18.7s,baz=96,slow=38						
M29M	Somme Creek	76.62 28	P	P	08 09 31.3	+1.2
M29M			IAmb	IAmb	08 09 41.4	
comp=Z,7.6nm,0.8s						
M30M	Minto, Yukon	77.31 28	P	P	08 09 34.9	+1.1
M30M			IAmb	IAmb	08 10 03.5	
comp=Z,14nm,1.5s						
EIL	Elat	77.45 297	LR	LR	08 47 29.8	
comp=Z,48nm,19.3s,baz=152,slow=39						
HYT	Haines Junctio	77.58 30	P	P	08 09 36.7	+1.2
HYT			IAmb	IAmb	08 10 08.7	
comp=Z,5.5nm,1.1s						
O30N	Mendenhall	78.25 29	P	P	08 09 40.3	+1.2
O30N			IAmb	IAmb	08 10 17.0	
comp=Z,8.8nm,1.4s						
WHY	Whitehorse	78.84 29	P	P	08 09 44.1	+1.6
WHY			IAmb	IAmb	08 09 52.9	
comp=Z,8.1nm,0.8s						
MLR	Muntele Rosu	79.62 315	P	P	08 09 47.7	+0.7
comp=Z,2.8nm,0.6s,baz=94,slow=19,SNR=3.6						
MLR			LR	LR	08 48 50.2	
comp=Z,161nm,21.7s,baz=44,slow=39						
comp=Z,2.8nm,0.6s						
HFS	Hagfors	81.11 331	P	P	08 09 55.4	+0.9
comp=Z,4.1nm,0.8s,baz=108,slow=8.4,SNR=5.9						
comp=Z,4.1nm,0.8s						
NB2	NORSAR Subarra	81.80 333	P	P	08 10 00.0	+1.8
comp=Z,15nm,1.4s,baz=64,slow=5.6						
NOA	NORSAR Array B	81.80 333	P	P	08 09 59.3	+1.1
comp=Z,2.4nm,0.8s,baz=64,slow=5.1,SNR=5.9						
NOA			LR	LR	08 49 39.0	
comp=Z,135nm,19.6s,baz=40,slow=38						
comp=Z,2.4nm,0.8s						
VRAC	Vranov	84.15 321	P	P	08 10 10.9	+0.3
comp=Z,4.1nm,0.5s,baz=54,slow=4.1,SNR=5.6						
comp=Z,4.1nm,0.5s						
CLL	Collm	85.36 323	*eP*	P	08 10 18.0	+1.4
GERES	GERESS Array B	86.07 321	P	P	08 10 21.0	+0.6
comp=Z,1.2nm,0.7s,baz=64,slow=6.1,SNR=5.9						
GERES			LR	LR	08 53 02.4	
comp=Z,123nm,20.2s,baz=59,slow=39						
comp=Z,1.2nm,0.7s						
YKA	Yellowknife Ar	86.30 23	P	P	08 10 21.6	+0.6
comp=Z,3.1nm,0.8s,baz=30,slow=5.2,SNR=5.1						
comp=Z,3.1nm,0.8s						
BORG	Borgarnes	90.51 345	LR	LR	08 54 54.7	
comp=Z,107nm,18.1s,baz=61,slow=38						
FRB	Frobisher Bay	95.79 5	LR	LR	08 56 57.5	
comp=Z,52nm,20.9s,baz=0.0,slow=37						
LSZ	Lusaka	98.36 257	LR	LR	08 52 57.8	
comp=Z,31nm,18.2s,baz=125,slow=34						
NVAR	Mina Array Bea	98.90 43	P	Pdif	08 11 21.3	+1.0
comp=Z,0.5nm,0.7s,baz=296,slow=5.1,SNR=5.1						
NVAR			LR	LR	08 48 38.3	
comp=Z,22nm,19.4s,baz=268,slow=31						
comp=Z,0.5nm,0.7s						
TXAR	Lajitas Array	114.04 43	PKP	PKiKP	08 16 19.8	+0.6
comp=Z,0.2nm,0.7s,baz=188,slow=2.8,SNR=4.2						
SNAA	Sanae	119.75 197	PKP	PKPdf	08 16 28.0	-0.8
comp=Z,0.7nm,0.8s,baz=158,slow=19,SNR=6.0						

TRN ***09*** *08:05:15.6, 10°.63N×62°.54W, h72km, MD4.1, Paria peninsula.*
FUNV ***09*** *08:05:16.3, 10°.61N×62°.48W, h90km, MW3.8*

ISC 09 08:05:14.7±1.8, 10°.62N±0°.08×62°.54W±0°.07, h91km±25km, n24, σ↑↓41/38, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.12	89	*eP*	Pn	08 05 36.6	+0.8
TRN				*eS*	Sn	08 05 50.6	-1.1
GRFF	Grenada Fort F	1.62	29	*eP*	Pn	08 05 42.0	0.0
GRFF				*eS*	Sn	08 06 01.8	-1.0
GRGR	Grenville	1.73	30	*eP*	Pn	08 05 43.7	+0.2
GRGR				*eS*	Sn	08 06 05.2	-0.2
GRHS	Sauteurs	1.82	29	*eP*	Pn	08 05 44.4	-0.2
GRHS				*eS*	Sn	08 06 06.1	-1.2
PCRV	Puerto La Cruz	2.11	258	↑*eP*	Pn	08 05 49.9	+1.5
PCRV				*eS*	Sn	08 06 13.7	-0.6
PCRV	Puerto La Cruz	2.11	258	*eP*	Pn	08 05 49.9	+1.5
PCRV				*eS*	Sn	08 06 14.6	+0.3
GCMP	Grenada, Carri	2.15	30	*eP*	Pn	08 05 49.2	+0.3
GCMP				*eS*	Sn	08 06 14.4	-0.6
SVB	Belmont	2.92	25	*eP*	Pn	08 05 59.9	+0.7
SVB				*eS*	Sn	08 06 33.2	-0.2
SLBI	Saint Lucia, B	3.71	24	*eP*	Pn	08 06 11.2	+1.4
SLBI				*eS*	Sn	08 06 50.8	-1.7
BBGH	Gun Hill	3.84	49	*eP*	Pn	08 06 13.4	+1.8
BIM	Bigot	4.13	20	*eP*	Pn	08 06 16.2	+0.7
BIM				*eS*	Sn	08 07 01.3	-1.4
FUNV	FUNVISIS	4.20	268	*eP*	Pn	08 06 18.0	+1.4
SVN	Savane Anatole	4.40	18	*eP*	Pn	08 06 19.7	+0.5
SVN				*eS*	Sn	08 07 08.7	-0.7
TACV	Tcata	4.44	264	*eP*	Pn	08 06 20.9	+1.1
TACV				*eS*	Sn	08 07 08.2	-2.2
DLPL	La Plaine	4.85	15	*eP*	Pn	08 06 26.9	+1.6
DSLB	Salisbury	4.91	13	*eP*	Pn	08 06 27.8	+1.7
CACV	CAICARA DEL OR	4.98	233	*eP*	Pn	08 06 22.4	-4.8
CACV				*eS*	Sn	08 07 12.4	-11
BENV	Beln	5.02	263	*eP*	Pn	08 06 28.8	+1.1
BENV				*eS*	Sn	08 07 23.1	-1.4
TBG	Guadaloupe-3	5.27	9	*eP*	Pn	08 06 32.1	+1.1
ATGZ	Broadband at L	5.50	8	*eP*	Pn	08 06 36.9	+2.8
DHSZ	Broadband at M	5.67	8	*eP*	Pn	08 06 37.4	+1.0
BAUV	El Baul	5.67	253	*eP*	Pn	08 06 36.8	+0.2
BAUV				*eS*	Sn	08 07 37.7	-2.7
BAUV	El Baul	5.67	253	*eP*	Pn	08 06 36.7	+0.2
BAUV				*eS*	Sn	08 07 37.6	-2.7
DSDZ	La Diserade, G	5.83	14	*eP*	Pn	08 06 41.0	+2.3

RSNC 09 08:16:45.0±0.0, 5°N±1°×7°6W±°, h99km±2km, M2.2, mb3.6, ML2.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUY2C	Guyana, Caldas	0.88	71	P	Pn	08 17 04.5	-0.1
GUY2C				S	Sn	08 17 19.3	+0.1
ANIL	Santa Ana	0.91	119	P	Pn	08 17 04.5	-0.2
ANIL				S	Sn	08 17 19.6	+0.1
CBOC	Ciudad Bolivar	0.94	12	P	Pn	08 17 04.3	-0.6
CBOC				S	Sn	08 17 19.7	-0.1
YOTC	Yotoco, Valle	0.96	189	P	Pn	08 17 04.7	-0.4
YOTC				S	Sn	08 17 20.6	+0.4
ORTC	Ortega, Tolima	1.40	137	P	Pn	08 17 09.5	-0.5
ORTC				S	Sn	08 17 28.6	-0.3
HELC	Santa Helena	1.41	28	P	Pn	08 17 09.8	-0.7
HELC				S	Sn	08 17 29.6	-0.1
PRAC	Prado	1.79	133	P	Pn	08 17 14.3	-0.6
PRAC				S	Sn	08 17 37.6	0.0
DBBC	Dabeiba	2.06	360	P	Pn	08 17 18.3	-0.2
DBBC				S	Sn	08 17 44.9	+0.9
SPBC	San Pablo de B	2.23	71	P	Pn	08 17 20.2	-0.5
SPBC				S	Sn	08 17 47.6	-0.4
PTBC	PUERTO BERRIO,	2.35	47	P	Pn	08 17 21.8	-0.4
PTBC				S	Sn	08 17 49.1	-1.6
POPC	Popayan, Colom	2.43	191	P	Pn	08 17 22.2	-1.2
POPC				S	Sn	08 17 51.7	-1.1
URMC	La Uribe, Meta	2.48	133	P	Pn	08 17 22.5	-1.4
URMC				S	Sn	08 17 52.4	-1.3
GR1C	Gorgona, Isla	2.75	226	P	Pn	08 17 25.6	-1.8
GR1C				S	Sn	08 17 56.8	-3.2
UREC	San Jos de Ur	2.87	13	P	Pn	08 17 29.9	+0.8
UREC				S	Sn	08 18 03.0	0.0
APAC	Apartado, Choc	2.96	353	P	Pn	08 17 32.6	+2.3
BBAC	Balboa, Cauca	3.08	200	P	Pn	08 17 32.0	-0.1
BBAC				S	Sn	08 18 07.6	-0.7
RUSC	La Rusia	3.24	73	P	Pn	08 17 33.4	-1.1
FLOC	Florencia	3.38	171	P	Pn	08 17 34.9	-1.0
FLOC				S	Sn	08 18 14.2	-1.0
BARC	Barichara	3.42	61	P	Pn	08 17 36.1	-0.5
CRUC	La Cruz	3.43	193	P	Pn	08 17 37.2	+0.3
CRUC				S	Sn	08 18 17.3	+0.4
MACC	Macarena, Meta	3.64	140	P	Pn	08 17 38.2	-1.1
MACC				S	Sn	08 18 18.3	-3.0
PAMC	Pamplona, Colo	4.22	55	P	Pn	08 17 49.6	+2.0
PAMC				S	Sn	08 18 34.0	-2.1
OCAC	Ocana	4.35	41	P	Pn	08 17 50.0	+0.9
OCAC				S	Sn	08 18 37.4	-1.4
BCIP	Isla Barro Col	5.54	320	P	Pn	08 18 04.0	-1.0
BCIP				S	Sn	08 19 06.3	-1.1

IDC ***09*** *08:17:18.1±4.9, 36°.25N×71°.24E, h52km±43km, mb3.8/13, mbtmp4.1/17, ML4.0/4, Error ellipse: s-maj=33.2km s-min=17.3km az=18.0*
BJI ***09*** *08:17:21.1, 36°.63N×71°.14E, h101km, mB5.2/2, mb4.6/14*
MOS ***09*** *08:17:22.0±1.1, 36°.59N×71°.42E, h89km, mb4.5/10, Error ellipse: s-maj=8.5km s-min=4.2km az=89.7*
NEIC ***09*** *08:17:23.8±1.8, 36°.60N±0°.06×71°.21E±0°.09, h95km±8km, mb4.6/12, Error ellipse: s-maj=10.3km s-min=8.9km az=104.0*
NNC ***09*** *08:17:26.3±7.7, 36°.82N×70°.90E, h98km±121km, mb3.6, mpv4.0, Error ellipse: s-maj=76.0km s-min=49.6km az=149.0*

ISC 09 08:17:23.8±0.5, 36°.52N±0°.06×71°.37E±0°.06, h100km, n124, σ↑↓64/124, mb4.3/24, 11C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.62	342		Pn	08 18 02.8	-1.7
KBL	Kabul	2.73	225		Pn	08 18 06.3	+0.2
KBL	Kabul	2.73	225	PN	Pn	08 18 06.3	+0.2
CHGR	Chuyangaron	2.77	321		Pn	08 18 03.4	-3.0
CHGR	Chuyangaron	2.77	321	PN	Pn	08 18 03.9	-2.6
NIL	Nilore	3.25	151		Pn	08 18 14.0	+1.1
NIL	Nilore	3.25	151	PN	Pn	08 18 14.0	+1.1
OHH	Osh	4.16	15	PN	Pn	08 18 24.0	-1.1
KSH	Kashi	4.71	49	P	Pn	08 18 29.0	-3.7
KSH				S	Sn	08 19 16.9	-9.3
KSH				smax	smax		
comp=N,250nm,0.4s							
KSH				smax	smax		
comp=E,210nm,0.3s							
TRKS	Terek-Say	5.01	358	PN	Pn	08 18 35.3	-1.4
ARK	Arkit	5.30	5	PN	Pn	08 18 39.6	-1.0
ARK				pmax	pmax		
comp=Z,31nm,0.6s							
IUG	Iuzhnay	5.72	350	*eP*	Pn	08 18 45.1	-1.2
IUG	Iuzhnay	5.72	350	*ePN*	Pn	08 18 45.0	-1.2
CHM	Chimkent	5.95	347	*eP*	Pn	08 18 48.2	-1.2
CHM	Chimkent	5.95	347	*ePN*	Pn	08 18 48.2	-1.2
UCH	Uchtor	6.20	22	P	Pn	08 18 53.6	+0.4
SNR=15							
DZA	Taraz	6.37	360	*eP*	Pn	08 18 53.7	-1.4
DZA	Taraz	6.37	360	*ePN*	Pn	08 18 53.6	-1.4
EKS2	Erkin-Say	6.41	16	P	Pn	08 18 56.4	+0.6
SNR=27							
AAK	Ala-Archa	6.57	21	P	Pn	08 18 58.1	+0.2
comp=Z,11nm,0.3s,baz=188,slow=6.4,SNR=62							
AAK				S	Sn	08 20 10.6	-0.9
comp=Z,11nm,0.4s,baz=131,slow=20,SNR=6.3							
comp=Z,27nm,0.3s							
AAK	Ala-Archa	6.57	21	P	Pn	08 18 58.6	+0.7
SNR=38							
AAK	Ala-Archa	6.57	21	⇑P	Pn	08 18 58.2	+0.2
comp=Z,5.9nm,0.4s							
AAK				⇑S	Sn	08 20 10.3	-1.1
comp=Z,8.2nm,0.7s							
AAK	Ala-Archa	6.57	21	*d iPN*	Pn	08 18 58.4	+0.5
AAK				pmax	pmax		
comp=Z,22nm,0.8s							
BRLS	Borolday	6.61	350	*eP*	Pn	08 18 53.8	-4.6
BRLS	Borolday	6.61	350	*ePN*	Pn	08 18 53.7	-4.6
KK31	Karatay Array	6.61	355		Pn	08 18 57.0	-1.3
KK31	Karatay Array	6.61	355	P	Pn	08 18 57.1	-1.3
comp=Z,3.7nm,0.2s,baz=179,slow=14,SNR=94							
KK31				⇓S	Sn	08 20 09.8	-2.4
comp=Z,10nm,0.5s,baz=180,slow=25,SNR=4.1							
KK31	Karatay Array	6.61	355	PN	Pn	08 18 57.0	-1.3
KKAR	Karatay Array	6.61	355		Pn	08 18 56.9	-1.4
KKAR	Karatay Array	6.61	355	PN	Pn	08 18 56.9	-1.4
BOOM	Boomskoye usch	6.94	29		Pn	08 19 03.7	+0.8
BOOM	Boomskoye usch	6.94	29	PN	Pn	08 19 03.7	+0.8
USP	Ospenovka	7.16	19	P	Pn	08 19 05.7	-0.2
SNR=12							
TKM2	Tokmak 2	7.18	26	P	Pn	08 19 06.5	+0.2
SNR=17							
SGDS	Sogindy	7.37	19	*eP*	Pn	08 19 06.8	-1.8
MDOK	Medeo	7.95	32	*eP*	Pn	08 19 14.7	-1.9
MDOK	Medeo	7.95	32	*ePN*	Pn	08 19 14.7	-1.9
SATY	Saty	8.49	37	*eP*	Pn	08 19 22.3	-1.7
SATY	Saty	8.49	37	*ePN*	Pn	08 19 22.2	-1.7
BTLS	Baital	8.76	13	*eP*	Pn	08 19 26.0	-1.4
BTLS	Baital	8.76	13	*ePN*	Pn	08 19 26.0	-1.4
UZB	Uzynbulak	8.86	39	*eP*	Pn	08 19 27.2	-1.8
UZB	Uzynbulak	8.86	39	*ePN*	Pn	08 19 27.2	-1.8
SHLS	Shalkode	9.10	41	*eP*	Pn	08 19 33.6	+1.4
SHLS	Shalkode	9.10	41	*eP*	Pn	08 19 33.5	+1.4
MK31	Makanchi Array	13.11	35	↑*eP*	Pn	08 20 25.9	-0.1
MKAR	Makanchi Array	13.11	35	P	Pn	08 20 24.9	-1.1
comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=5.4							
comp=Z,0.8nm,0.7s							
DANN	Dangsing	13.25 124		Pn	Pn	08 20 24.1	-4.1
baz=112,slow=0.0							
DANN				Sn	Sn	08 22 40.2	-14
comp=Z,40nm,0.5s,baz=112,slow=0.0							
BRZS	Berezniki	13.49	4	*eP*	Pn	08 20 29.4	-1.6
BRZS	Berezniki	13.49	4	*eP*	Pn	08 20 29.4	-1.6
GKN	Gorkha	14.06 123		Pn	Pn	08 20 34.7	-4.0
baz=112,slow=0.0							
GKN				Sn	Sn	08 22 59.8	-14
comp=Z,62nm,0.4s,baz=112,slow=0.0							
WMQ	Urumqi	14.45	55	*eP*	Pn	08 20 45.6	+2.2
DMN	Daman	14.63 123		Sn	Sn	08 23 13.7	-14
comp=Z,75nm,0.7s,baz=112,slow=0.0							
ZSN	Zaisan	14.81	38	*eP*	Pn	08 20 46.6	-1.4
ZSN	Zaisan	14.81	38	*eP*	Pn	08 20 46.6	-1.4
PKIN	Phulchoki	14.85 123		Pn	Pn	08 20 45.7	-3.2
baz=112,slow=0.0							
PKIN				Sn	Sn	08 23 19.4	-13
baz=112,slow=0.0							
PKI	Pulchoki	14.86 123		Pn	Pn	08 20 46.8	-2.3
baz=112,slow=0.0							
PKI				Sn	Sn	08 23 19.1	-14
comp=Z,24nm,0.5s,baz=112,slow=0.0							
GUN	Gumba	14.97 121		Pn	Pn	08 20 48.6	-1.9
baz=110,slow=0.0							
GUN				Sn	Sn	08 23 24.5	-11
comp=Z,65nm,0.9s,baz=110,slow=0.0							
KURBB	Kurchatov Arra	15.02 18		P	Pn	08 20 47.1	-3.4
comp=Z,0.5nm,0.7s,baz=214,slow=12,SNR=4.3							
KURK	Kurchatov	15.12 18	↑*eP*		Pn	08 20 52.3	+0.5
AB31	Akbulak array	15.21 330		Pn	Pn	08 20 49.2	-3.8
AB31	Akbulak array	15.21 330	↑P	Pn	Pn	08 20 49.0	-4.0
comp=Z,0.8nm,0.3s,baz=140,slow=12,SNR=76							
AB31	Akbulak array	15.21 330		P	Pn	08 20 49.2	-3.8
ABKAR	Akbulak array	15.21 330			Pn	08 20 49.3	-3.7
RAMN	Ramite	16.07 122		Pn	Pn	08 21 02.6	-1.6
baz=112,slow=0.0							
BVAR	Borovoye Array	16.52 358		P	Pn	08 21 07.7	-1.6
comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=8.3							
comp=Z,2.0nm,0.4s							
BORK	Borovoye	16.55 358	↑*eP*		Pn	08 21 09.1	-0.5
BORK				pmax	pmax		
comp=Z,15nm,3.9s							
ODAN	Odare	16.67 121		Pn	Pn	08 21 11.9	+0.3
baz=111,slow=0.0							
AKTO	Aktyubinsk	16.91 330		P	Pn	08 21 12.0	-2.1
comp=Z,2.5nm,0.3s,baz=150,slow=7.2,SNR=21							
comp=Z,5.5nm,0.3s							
AKTO	Aktyubinsk	16.91 330	↑P		Pn	08 21 12.1	-2.0
comp=Z,4.4nm,0.4s							
AKTO	Aktyubinsk	16.91 330		P	Pn	08 21 12.0	-2.1
ZAA0	Zalesovo Array	19.78 24		P	P	08 21 45.7	-0.1

comp=Z,0.7nm,0.5s,baz=83,slow=7.0,SNR=4.8
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 33.16 309⇑ *iP* **P 08 23 52.8 +2.3**
AKBB pmax pmax
comp=Z,14nm,1.7s
MLR Muntele Rosu 35.03 299 P **P 08 24 09.4 +2.6**
MLR pmax pmax
comp=Z,9.0nm,1.4s
BURAR Bucovina Array 35.52 303 P **P 08 24 10.6 -0.4**
BURAR Bucovina Array 35.52 303 P **P 08 24 10.6 -0.4**
FINES FINESS Array B 37.63 326 P **P 08 24 28.8 +0.2**
FINES FINESS Array B 37.63 326 P **P 08 24 29.1 +0.5**
comp=Z,1.6nm,0.3s,baz=116,slow=7.7,SNR=20
comp=Z,1.6nm,0.3s
NJ2 Nanjing 39.18 82 *eP* **P 08 24 42.6 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 41.24 337 P **P 08 24 58.5 +0.1**
ARCES IAmb IAmb 08 25 00.7
comp=Z,33nm,1.4s
ARCES ARCESS Array B 41.24 337 P **P 08 24 59.6 +1.1**
comp=Z,3.4nm,0.6s,baz=113,slow=7.5,SNR=16
comp=Z,3.4nm,0.6s
HFS Hagfors 43.24 322 P **P 08 25 15.5 +0.7**
comp=Z,2.4nm,0.3s,baz=97,slow=10,SNR=21
comp=Z,2.4nm,0.3s
NORES NORESS Array B 44.36 323 P **P 08 25 24.7 +1.0**
NB2 NORSAR Subarra 44.55 323 P **P 08 25 25.3 0.0**
comp=Z,1.1nm,0.4s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.55 323 P **P 08 25 28.2 +2.9**
NOA NORSAR Array B 44.55 323 P **P 08 25 25.7 +0.5**
comp=Z,1.1nm,0.4s,baz=96,slow=7.8,SNR=9.2
comp=Z,1.1nm,0.4s
KSRS Korea Array 44.60 71 P **P 08 25 26.9 +1.0**
comp=Z,2.0nm,1.0s,baz=282,slow=7.9,SNR=2.9
comp=Z,2.0nm,1.0s
NC204 NORSAR Array S 44.78 323 P **P 08 25 27.4 +0.2**
NC204 IAmb IAmb 08 25 30.1
comp=Z,21nm,1.4s
TORD Torodi Ar. Bea 66.01 269 P **P 08 27 57.9 -2.0**
comp=Z,0.5nm,0.4s,baz=46,slow=6.6,SNR=7.6
comp=Z,0.5nm,0.4s
C18K Utukok River 68.17 18 P **P 08 28 13.1 +0.3**
C19K Lookout Ridge 68.23 17 P **P 08 28 14.3 +1.1**
TOLK Toolik Lake Re 70.83 15 P **P 08 28 30.2 +1.0**
TOLK IAmb IAmb 08 29 13.9
comp=Z,5.5nm,1.2s
IMAR Indian Mountai 72.07 18 P **P 08 28 36.5 -0.1**
L16K Owhat River 73.83 23 P **P 08 28 47.7 +0.7**
L16K IAmb IAmb 08 29 07.7
comp=Z,20nm,1.5s
C36M Paulatuk 73.83 6 P **P 08 28 47.1 +0.2**
INK Inuvik 73.84 9 P **P 08 28 48.0 +1.0**
INK pmax pmax
comp=Z,5.0nm,1.2s
LBTB Lobatse 74.89 222 P **P 08 28 53.7 0.0**
LBTB IAmb IAmb 08 28 54.7
comp=Z,14nm,1.4s
LBTB Lobatse 74.89 222 P **P 08 28 53.7 0.0**
LBTB pmax pmax
comp=Z,14nm,1.5s
WRA Warramunga Arr 81.75 122 P **P 08 29 31.1 -0.4**
comp=Z,0.2nm,0.5s,baz=319,slow=5.4,SNR=2.0
comp=Z,0.2nm,0.5s
ASAR Alice Springs 84.02 125 P **P 08 29 42.8 -0.5**
comp=Z,0.3nm,0.6s,baz=309,slow=5.2,SNR=5.5
comp=Z,0.3nm,0.6s

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*DJA **09** 08:21:49.5±0.3, 9°S±4°×10°9E±°, h10km, M4.8/28, mB5.9/5, mb4.6/13, MLv4.5/28, Mw(mB)5.5/5*
*NEIC **09** 08:21:55.8±1.3, 8.2S±0.1°×109.04E±0.08, h80km±3km, mb4.2/9, Error ellipse: s-maj=17.5km s-min=8.2km az=207.0*
*IDC **09** 08:21:55.1±1.9, 7.96S×109.23E, h82km±25km, mb3.6/5, mbtmp3.9/6, MS3.2/3, Error ellipse: s-maj=47.9km s-min=17.6km az=39.0*
ISC 09 08:21:52.0±0.7, 8.42S±0.09×108.90E±0.07, h55km, n59, σ1§65/50, mb4.2/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**1.08**	**2**	P	**Pn**	**08 22 12.9**	**+1.9**
YOGI	**Yogyakarta**	**1.51**	**67**	P	**Pn**	**08 22 16.7**	**0.0**
UGM	**Wanagama**	**1.69**	**73**		**Pn**	**08 22 19.3**	**+0.1**
UGM	**Wanagama**	**1.69**	**73**	P	**Pn**	**08 22 19.1**	**-0.1**
LEM	**Lembang**	**2.03**	**321**	P	**Pn**	**08 22 26.6**	**+2.6**
	109nm,0.5s,baz=127,slow=20,SNR=11						
LEM				S	**Sn**	**08 22 51.1**	**+2.8**
	328nm,0.7s,baz=98,slow=18,SNR=12						
LEM				LR	LR	08 23 31.4	
	comp=Z,152nm,20.4s,baz=335,slow=49						
LEM	**Lembang**	**2.03**	**321**	P	**Pn**	**08 22 25.5**	**+1.5**
SMRI	**Semarang**	**2.05**	**48**		**Pn**	**08 22 26.4**	**+2.3**
SMRI	**Semarang**	**2.05**	**48**	P	**Pn**	**08 22 26.0**	**+1.9**
CNJI	**Cibinong**	**2.07**	**302**	P	**Pn**	**08 22 24.4**	**0.0**
WOJI	**Wonogiri, Jawa**	**2.09**	**74**	P	**Pn**	**08 22 23.9**	**-0.7**
PCJI	**Pacitan**	**2.27**	**84**	P	**Pn**	**08 22 27.9**	**+0.8**
SKJI	**Sukabumi**	**2.71**	**301**	P	**Pn**	**08 22 33.4**	**+0.2**
NGJI	**Ngawi**	**2.75**	**68**	P	Pn	08 22 37.5	+3.9
TBJI	**Tambak Boyo**	**3.33**	**62**	P	**Pn**	**08 22 43.3**	**+1.7**
CGJI	**Cibinong**	**3.65**	**299**	P	**Pn**	**08 22 46.8**	**+0.8**
GRJI	**Gresik**	**3.85**	**67**	P	**Pn**	**08 22 50.2**	**+1.4**
BLJI	**Banyuglugur**	**4.70**	**82**	P	**Pn**	**08 23 01.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.20**	**91**		**Pn**	**08 23 08.8**	**+1.5**
JAGI	**Jajag, Banyuwa**	**5.20**	**91**	P	**Pn**	**08 23 08.6**	**+1.3**
	0.9nm64nm,0.8s						
KMMI	**Kalianget**	**5.20**	**75**	P	**Pn**	**08 23 08.0**	**+0.7**
	0.2nm55nm,1.3s						
ABJI	**Asem Bagus**	**5.32**	**84**	P	**Pn**	**08 23 11.1**	**+2.2**
	0.5nm82nm,0.9s						
TPI	**Tanjungpandan**	**5.76**	**348**	P	**Pn**	**08 23 16.7**	**+1.7**
MDSI	**Maura Dua**	**6.11**	**310**	P	**Pn**	**08 23 20.7**	**+1.0**
	0.1nm11nm,0.5s						
DNP	**Denpasar**	**6.25**	**93**	P	**Pn**	**08 23 22.7**	**+1.0**
SRBI	**Singaraja**	**6.26**	**87**	P	**Pn**	**08 23 22.7**	**+0.9**
KSI	**Kapahiang**	**7.86**	**307**	P	**Pn**	**08 23 45.0**	**+1.2**
TWSI	**Taliwang, Sumb**	**7.90**	**93**	P	**Pn**	**08 23 45.3**	**+0.9**
	0.2nm25nm,0.9s						
PLAI	**Plampang**	**8.79**	**93**	P	**Pn**	**08 23 57.9**	**+1.4**
	47nm,0.8s						
KBKI	**Kotabaru**	**8.84**	**55**	P	**Pn**	**08 23 58.6**	**+1.4**
WBSI	**Waikabubak, Su**	**10.43**	**97**	P	**Pn**	**08 24 19.3**	**+0.2**
	27nm,0.7s						
KAPI	**Kappang**	**11.30**	**73**	LR	LR	08 28 54.9	
	comp=Z,64nm,18.8s,baz=296,slow=39						
WSI	**Waingapu**	**11.33**	**97**	P	**Pn**	**08 24 33.4**	**+2.2**
EDFI	**Ende, Flores**	**12.65**	**92**	P	**Pn**	**08 24 48.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**18.91**	**122**	P	**Pn**	**08 26 09.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.91**	**122**	P	**Pn**	**08 26 08.7**	**-0.7**
	1.6nm,0.7s,baz=276,slow=8.0,SNR=6.0						
FITZ				S	S	08 29 25.6	-15
	1.3nm,0.6s,baz=217,slow=19,SNR=2.2						
DLV	**Lat**	**20.23**	**359**	P	**P**	**08 26 18.9**	**-4.1**
KNRA	**Kununurra**	**20.71**	**112**	P	**P**	**08 26 28.7**	**+0.7**
KNRA				IAmb	IAmb	08 26 29.4	
	comp=Z,9.7nm,0.7s						
MTN	**Manton Dam**	**22.28**	**103**	P	**P**	**08 26 45.0**	**+0.1**
MTN				IAmb	IAmb	08 27 10.8	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**27.13**	**117**	P	**P**	**08 27 31.2**	**+1.0**
WRA	**Warramunga Arr**	**27.15**	**118**	P	**P**	**08 27 31.3**	**+0.9**
WRA	**Warramunga Arr**	**27.15**	**118**	P	**P**	**08 27 30.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=290,slow=11,SNR=20						
	comp=Z,1.7nm,0.8s						
WR8	**Warramunga Arr**	**27.29**	**118**	P	**P**	**08 27 33.1**	**+1.5**
WR8				IAmb	IAmb	08 27 42.0	
	comp=Z,9.5nm,1.4s						
ASAR	**Alice Springs**	**28.34**	**125**	P	**P**	**08 27 41.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=302,slow=8.8,SNR=11						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.46**	**340**	LR	LR	08 41 56.7	
	comp=Z,18nm,19.1s,baz=145,slow=43						
H08S2	**Diego Garcia H**	**36.05**	**269**	T	T	09 06 49.9	
	baz=93,slow=76,SNR=89						
H08S3	**Diego Garcia H**	**36.06**	**269**	T	T	09 06 56.6	
	baz=93,slow=76,SNR=74						
H08S1	**Diego Carcia H**	**36.07**	**269**	T	T	09 06 59.6	
	baz=93,slow=76,SNR=75						
STKA	**Stephens Creek**	**38.30**	**132**	P	**P**	**08 29 08.6**	**+1.2**
STKA	**Stephens Creek**	**38.30**	**132**	P	**P**	**08 29 08.2**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=304,slow=8.5,SNR=9.7						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**59.86**	**339**	P	**P**	**08 31 50.0**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=147,slow=8.2,SNR=4.0						
	comp=Z,0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.44**	**222**	T	T	09 39 10.6	
	baz=71,slow=75,SNR=296						
H04N1	**CROZET ISLANDS**	**61.45**	**222**	T	T	09 39 07.2	
	baz=71,slow=75,SNR=281						
H04N3	**CROZET ISLANDS**	**61.45**	**222**	T	T	09 39 01.6	
	baz=71,slow=75,SNR=251						
AB31	**Akbulak array**	**71.59**	**329**	P	**P**	**08 33 06.3**	**-1.2**
AB31				IAmb	IAmb	08 33 21.4	
	comp=Z,4.9nm,1.5s						
ABKAR	**Akbulak array**	**71.59**	**329**	P	**P**	**08 33 06.3**	**-1.2**
MA2	**Magadan**	**75.54**	**21**	LR	LR	09 08 41.4	
	comp=Z,53nm,18.7s,baz=126,slow=37						
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**08 34 06.3**	**+2.5**
QSPA				IAmb	IAmb	08 34 11.6	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**08 34 06.7**	**+2.9**
	comp=Z,1.0nm,0.8s,baz=323,slow=5.1,SNR=7.1						
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**143.03**	**51**	PKP	**PKPdf**	**08 41 16.5**	**-4.0**
	comp=Z,0.1nm,0.5s,baz=312,slow=3.0,SNR=2.2						

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*MEX **09** 08:24:48.3±1.2, 14.79N×92.45W, h91km±8km, MD3.9*
*GCG **09** 08:24:49.3±0.7, 14.66N×92.48W, h62km±6km, MD3.6, ML3.3*
ISC 09 08:24:45.2±1.7, 14.58N±0.08×92.52W±0.05, h89km±9km, n20, σ1§88/36, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**37**	*eP*	**Pn**	**08 24 59.8**	**+0.6**
THIG				*eS*	**Sn**	**08 25 09.2**	**-0.4**
THIG		**0.41**	**37**	*iP*	**Pn**	**08 24 59.4**	**+0.3**
SMCA	**Catarina**	**0.52**	**57**	*iP*	**Pn**	**08 25 00.9**	**+1.0**
SMCA				*eS*	**Sn**	**08 25 09.9**	**-1.0**
SMCA				IAML		08 25 11.4	
	comp=E,1μm,0.2s						
PATR	**El Naranjo**	**0.61**	**27**	*eP*	**Pn**	**08 25 01.0**	**0.0**
PATR				*eS*	**Sn**	**08 25 11.0**	**-1.8**
CHUJ	**Union Juarez**	**0.65**	**38**	*eP*	**Pn**	**08 25 01.7**	**+0.3**
CHUJ				*eS*	**Sn**	**08 25 12.1**	**-1.4**
PAVE	**Pavencul**	**0.70**	**28**	*eP*	**Pn**	**08 25 02.2**	**+0.3**
PAVE				*eS*	**Sn**	**08 25 12.9**	**-1.3**
RTAL	**Retalhuleu**	**0.80**	**93**	*eP*	**Pn**	**08 25 04.7**	**+2.0**
RTAL				*eS*	**Sn**	**08 25 17.8**	**+2.1**
SOKI	**Kika Raxquin**	**1.11**	**77**	*eP*	**Pn**	**08 25 09.5**	**+3.0**
STG2	**El Palmar, Qui**	**1.12**	**97**	*eP*	**Pn**	**08 25 04.9**	**-1.4**
STG2				*eS*	**Sn**	**08 25 18.6**	**-3.6**
HUEH	**Huehuetenango**	**1.23**	**53**	*eP*	**Pn**	**08 25 10.2**	**+2.5**
HUEH				*eS*	**Sn**	**08 25 25.9**	**+1.2**
HUEH	**Huehuetenango**	**1.23**	**53**	*eP*	**Pn**	**08 25 10.2**	**+2.5**
HUEH				*eS*	**Sn**	**08 25 26.6**	**+1.9**
PCIG		**1.31**	**329**	*eP*	**Pn**	**08 25 09.5**	**+1.0**
PCIG				*eS*	**Sn**	**08 25 24.7**	**-1.3**
CCIG	**Comitan**	**1.74**	**12**	*eS*	**Sn**	**08 25 34.8**	**-1.3**
FG8	**Yepocapa, Chim**	**1.93**	**99**	*eP*	**Pn**	**08 25 15.0**	**-1.5**
TGIG		**2.27**	**345**	*eP*	**Pn**	**08 25 20.9**	**0.0**
TGIG				*eS*	**Sn**	**08 25 45.5**	**-2.8**
UXUV	**UXUV**	**3.14**	**330**	*eP*	**Pn**	**08 25 34.8**	**+2.1**
UXUV				*eS*	**Sn**	**08 26 07.9**	**-1.3**
CMIG	**Matias Romero**	**3.38**	**318**	*eP*	**Pn**	**08 25 37.8**	**+2.0**
CMIG				*eS*	**Sn**	**08 26 14.9**	**0.0**
PETF	**Flores**	**3.46**	**47**	*eP*	**Pn**	**08 25 38.8**	**+1.9**
PETF				*eS*	**Sn**	**08 26 15.0**	**-1.8**
NEUV	**Arroyo Zacate**	**4.43**	**315**	*eP*	**Pn**	**08 25 51.7**	**+1.6**
NEUV				*eS*	**Sn**	**08 26 39.3**	**-1.3**
SCIG	**Sabancuy**	**4.55**	**16**	*eP*	**Pn**	**08 25 52.7**	**+1.0**
SCIG				*eS*	**Sn**	**08 26 39.3**	**-4.1**

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*DJA **09** 08:30:58.9±0.3, 9°S±4°×10°9E±°, h10km, M4.4/25, mB5.4/3, mb4.5/7, MLv4.2/25, Mw(mB)4.8/3*
*IDC **09** 08:31:04.6±2.0, 7.94S×109.29E, h85km±26km, mb3.4/5, mbtmp3.7/6, MS2.8/1, Error ellipse: s-maj=52.3km s-min=18.6km az=41.0*
ISC 09 08:31:01.6±0.8, 8.6S±0.1°×108.89E±0.08, h55km, n39, σ1§50/32, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**1.21**	**2**	P	**Pn**	**08 31 21.6**	**-0.7**
YOGI	**Yogyakarta**	**1.57**	**62**	P	**Pn**	**08 31 25.4**	**-1.8**
UGM	**Wanagama**	**1.74**	**69**	P	**Pn**	**08 31 27.9**	**-1.5**
LEM	**Lembang**	**2.13**	**324**	P	**Pn**	**08 31 35.0**	**+0.2**
	72nm,0.5s,baz=125,slow=18,SNR=7.8						
LEM				S	**Sn**	**08 32 02.1**	**+1.9**
	178nm,0.5s,baz=114,slow=20,SNR=10						
LEM	**Lembang**	**2.13**	**324**	P	**Pn**	**08 31 35.1**	**+0.2**
CNJI	**Cibinong**	**2.13**	**305**	P	**Pn**	**08 31 33.2**	**-1.6**
WOJI	**Wonogiri, Jawa**	**2.14**	**71**	P	**Pn**	**08 31 32.7**	**-2.1**
SMRI	**Semarang**	**2.14**	**46**	P	**Pn**	**08 31 35.0**	**0.0**
PCJI	**Pacitan**	**2.29**	**81**	P	**Pn**	**08 31 36.5**	**-0.5**
SKJI	**Sukabumi**	**2.77**	**303**	P	**Pn**	**08 31 43.5**	**-0.1**
NGJI	**Ngawi**	**2.81**	**65**	P	**Pn**	**08 31 44.6**	**+0.6**
DBJI	**Dramaga**	**2.90**	**313**	P	**Pn**	**08 31 47.4**	**+2.0**
TBJI	**Tambak Boyo**	**3.40**	**60**	P	**Pn**	**08 31 52.1**	**-0.1**
CGJI	**Cibinong**	**3.71**	**301**	P	**Pn**	**08 31 55.8**	**-0.5**
GRJI	**Gresik**	**3.91**	**66**	P	**Pn**	**08 31 59.3**	**+0.1**
BLJI	**Banyuglugur**	**4.73**	**81**	P	**Pn**	**08 32 11.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.21**	**90**	P	**Pn**	**08 32 17.3**	**+0.3**
	0.4nm2μm32nm,0.5s						
KASI	**Kota Agung**	**5.29**	**304**	P	**Pn**	**08 32 18.2**	**+0.1**
	0.2nm37nm,1.0s						
ABJI	**Asem Bagus**	**5.35**	**82**	P	**Pn**	**08 32 19.0**	**+0.2**
MDSI	**Maura Dua**	**6.18**	**311**	P	**Pn**	**08 32 32.0**	**+1.7**
SRBI	**Singaraja**	**6.28**	**86**	P	**Pn**	**08 32 34.1**	**+2.5**
	0.2nm54nm,0.8s						
TWSI	**Taliwang, Sumb**	**7.91**	**92**	P	**Pn**	**08 32 54.6**	**+0.6**
PLAI	**Plampang**	**8.79**	**92**	P	**Pn**	**08 33 06.8**	**+0.7**
	30nm,0.8s						
KAPI	**Kappang**	**11.35**	**73**	LR	LR	08 38 25.8	
	comp=Z,42nm,18.4s,baz=222,slow=41						
EDFI	**Ende, Flores**	**12.66**	**92**	P	**Pn**	**08 33 56.2**	**-2.9**
	5.7nm,0.5s						
MNSI	**Mandailing Nat**	**13.12**	**315**	P	**Pn**	**08 34 04.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.85**	**122**	P	**Pn**	**08 35 17.5**	**-0.7**
	0.7nm,0.5s,baz=281,slow=5.2,SNR=3.2						
FITZ				S	S	08 38 33.7	-15
	0.5nm,0.4s,baz=219,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**27.10**	**117**	P	**P**	**08 36 39.9**	**+0.4**
	0.7nm,0.7s,baz=290,slow=12,SNR=10.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**28.27**	**125**	P	**P**	**08 36 50.1**	**+0.2**
	0.5nm,0.5s,baz=304,slow=9.0,SNR=5.1						
	0.5nm,0.5s						
H08S2	**Diego Garcia H**	**36.03**	**269**	T	T	09 15 53.9	
	baz=93,slow=75,SNR=78						
H08S3	**Diego Garcia H**	**36.05**	**269**	T	T	09 15 58.1	
	baz=93,slow=75,SNR=83						
H08S1	**Diego Carcia H**	**36.05**	**269**	T	T	09 15 53.2	
	baz=93,slow=75,SNR=81						
STKA	**Stephens Creek**	**38.22**	**132**	P	**P**	**08 38 17.3**	**+1.0**
	1.2nm,0.4s,baz=320,slow=8.5,SNR=7.9						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**59.98**	**339**	P	**P**	**08 40 59.0**	**-3.3**
	0.3nm,0.4s,baz=148,slow=8.4,SNR=3.7						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.33**	**222**	T	T	09 48 12.5	
	baz=71,slow=75,SNR=451						
H04N1	**CROZET ISLANDS**	**61.35**	**222**	T	T	09 48 16.0	
	baz=71,slow=75,SNR=493						
H04N3	**CROZET ISLANDS**	**61.35**	**222**	T	T	09 48 14.7	
	baz=71,slow=75,SNR=434						
QSPA	**South Pole Qui**	**81.45**	**180**	P	**P**	**08 43 15.8**	**+3.1**
	0.4nm,0.6s,baz=306,slow=2.6,SNR=1.5						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**143.12**	**52**	PKP	PKPbc	08 50 25.3	-1.9
	0.1nm,0.5s,baz=294,slow=6.1,SNR=2.8						

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*NNC **09** 08:31:49.5±2.2, 49.60N×81.73E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=33.3km s-min=8.7km az=52.0, Suspected Mining explosion.*
*IDC **09** 08:31:50.3±1.4, 49.79N×81.55E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=17.8km s-min=10.7km az=50.0*
ISC 09 08:31:42.1±1.4, 49.98N±0.05×82.30E±0.07, h0km, n7, σ0§86/8, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.47**	**289**	⇑Pn	**Pb**	**08 32 28.1**	**+0.8**
	4.8nm,0.8s						
KURK				⇑Sn	**Sb**	**08 32 58.4**	**+0.2**
	6.7nm,0.5s						
KURBB	**Kurchatov Arra**	**2.50**	**286**	Pg	**Pb**	**08 32 28.5**	**+0.7**
	0.2nm,0.3s,baz=112,slow=18,SNR=31						
KURBB				Lg	Lg	08 32 56.8	
	0.4nm,0.3s,baz=109,slow=31,SNR=16						
KURBB	**Kurchatov Arra**	**2.50**	**286**	⇑Pn	**Pg**	**08 32 29.2**	**-0.7**
	18nm,0.9s						
KURBB				⇓Sn	**Sb**	**08 32 58.7**	**-0.4**
	15nm,0.5s						
MK31	**Makanchi Array**	**3.19**	**180**	⇓Pg	**Pg**	**08 32 42.4**	**-0.8**
	1.2nm,0.5s,baz=20,slow=19,SNR=3.8						
MK31				⇓Lg	Lg	08 33 18.5	
	1.7nm,0.4s,baz=355,slow=30,SNR=8.5						
MKAR	**Makanchi Array**	**3.19**	**180**	Pn	**Pb**	**08 32 40.5**	**+0.9**
	0.5nm,0.3s,baz=354,slow=14,SNR=13						
MKAR				Lg	Lg	08 33 22.4	
	0.8nm,0.3s,baz=355,slow=26,SNR=17						
	1.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**4.27**	**20**	I	I	09 00 10.0	
	baz=204,slow=328,SNR=8.2						
ZALV	**Zalesovo Beam**	**4.27**	**20**	Pn	**Pg**	**08 33 03.2**	**-0.6**
	0.2nm,0.3s,baz=212,slow=7.8,SNR=1.4						
ZALV				Lg	Lg	08 34 17.4	
	0.4nm,0.3s,baz=202,slow=26,SNR=6.0						
	0.4nm,0.3s						

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*CATAC **09** 08:36:31.6±0.3, 12°N±2°×87°7W±°, h93km±2km, M3.2/31, MLv3.2/31, Error ellipse: s-maj=5.6km s-min=2.6km az=39.3, confirmed*
*SNET **09** 08:36:40.2±5.6, 13°23N×87°26W, h177km, ML2.7*
ISC 09 08:36:31.2±1.4, 12°03N±0°05×86°70W±0°04, h111km±7km, n60, σ0§77/75, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.18**	**36**	P	**Pn**	**08 36 46.2**	**-0.4**
AMTN	**Mateare**	**0.34**	**52**	S	**Sn**	**08 36 59.4**	**+0.2**
AMTN	**Mateare**	**0.34**	**52**	P	**Pn**	**08 36 46.6**	**-0.6**
ABCN	**Banco Central**	**0.40**	**77**	P	**Pn**	**08 36 47.1**	**-0.4**
ABCN	**Banco Central**	**0.40**	**77**	S	**Sn**	**08 36 59.8**	**0.0**
APYN	**Apoyeque**	**0.40**	**60**	P	**Pn**	**08 36 47.7**	**+0.2**
APYN				S	**Sn**	**08 36 59.9**	**+0.1**
APQ2	**Apoyeque**	**0.41**	**66**	P	**Pn**	**08 36 47.2**	**-0.3**
APQ2				S	**Sn**	**08 36 59.8**	**0.0**
UNAN	**Cigeo UNAN**	**0.43**	**79**	P	**Pn**	**08 36 47.3**	**-0.4**
UNAN				S	**Sn**	**08 36 60.0**	**-0.1**
ALLN	**Telcor Managua**	**0.44**	**73**	S	**Sn**	**08 37 00.3**	**+0.2**
ALLN	**Telcor Managua**	**0.44**	**73**	P	**Pn**	**08 36 47.5**	**-0.3**
TISN	**Laguna Tiscapa**	**0.44**	**75**	P	**Pn**	**08 36 47.4**	**-0.4**
MGAN	**Managua**	**0.46**	**75**	S	**Sn**	**08 37 00.3**	**-0.1**
MGAN	**Managua**	**0.46**	**75**	P	**Pn**	**08 36 47.4**	**-0.5**
CNGA	**AI SSO del Vol**	**0.46**	**0**	P	**Pn**	**08 36 47.5**	**-0.4**
CNGA				S	**Sn**	**08 37 01.2**	**+0.7**
CNGN	**Cerro Negro**	**0.47**	**1**	P	**Pn**	**08 36 48.0**	**0.0**
CNGN	**Cerro Negro**	**0.47**	**1**	S	**Sn**	**08 37 01.0**	**+0.3**
ROCN	**Rota Cerro Neg**	**0.49**	**355**	P	**Pn**	**08 36 47.8**	**-0.3**
ROCN				S	**Sn**	**08 37 01.6**	**+0.8**
MAS3	**AI N del Volca**	**0.52**	**91**	S	**Sn**	**08 37 00.9**	**-0.1**
WILN	**Americas 2**	**0.52**	**75**	P	**Pn**	**08 36 47.6**	**-0.6**
WILN				S	**Sn**	**08 37 00.9**	**-0.2**
NANN	**Nandasmo**	**0.58**	**99**	S	**Sn**	**08 37 02.9**	**+1.1**
NANN	**Nandasmo**	**0.58**	**99**	P	**Pn**	**08 36 49.1**	**+0.4**
QUEN	**AI S del Volca**	**0.58**	**345**	P	**Pn**	**08 36 48.7**	**-0.1**
TELN	**Telica**	**0.58**	**348**	P	**Pn**	**08 36 48.7**	**-0.1**
TELN				S	**Sn**	**08 37 02.8**	**+0.6**
HERN	**Volcan Telica**	**0.59**	**348**	S	**Sn**	**08 37 01.2**	**-0.9**
POLN	**AI Sur del Vol**	**0.62**	**350**	P	**Pn**	**08 36 48.1**	**-1.0**
POLN				S	**Sn**	**08 37 02.5**	**0.0**
PKGN	**Cerro Pekin**	**0.69**	**337**	P	**Pn**	**08 36 49.6**	**+0.1**
PKGN				S	**Sn**	**08 37 04.6**	**+1.2**
CRIN	**San Cristobal**	**0.75**	**333**	P	**Pn**	**08 36 49.7**	**-0.4**
CRIN	**San Cristobal**	**0.75**	**333**	S	**Sn**	**08 37 04.8**	**+0.4**
LIMN	**Finca el Limon**	**1.08**	**18**	P	**Pn**	**08 36 53.3**	**-0.1**
LIMN				S	**Sn**	**08 37 10.1**	**0.0**
MORN	**AI O del Volca**	**1.14**	**115**	P	**Pn**	**08 36 53.5**	**-0.4**
MATN	**Matagalpa**	**1.17**	**40**	P	**Pn**	**08 36 53.2**	**-1.2**
MATN	**Matagalpa**	**1.17**	**40**	S	**Sn**	**08 37 10.7**	**-1.2**
CSGN	**Cosiguina Volc**	**1.26**	**319**	P	**Pn**	**08 36 55.1**	**-0.2**
CSGN				S	**Sn**	**08 37 13.9**	**+0.3**
CARN	**Rivas**	**1.43**	**126**	P	**Pn**	**08 36 56.4**	**-0.8**
CARN				S	**Sn**	**08 37 16.2**	**-0.7**
ACON	**Acoyapa**	**1.50**	**92**	P	**Pn**	**08 36 56.3**	**-1.7**
ACON	**Acoyapa**	**1.50**	**92**	S	**Sn**	**08 37 20.4**	**+2.1**
RCPN	**Sur Rio San Ju**	**1.60**	**22**	P	**Pn**	**08 36 59.7**	**+0.3**
OCON	**Estacion meteo**	**1.61**	**8**	P	**Pn**	**08 36 59.5**	**+0.1**
RCVN	**Varillal2**	**1.62**	**18**	P	**Pn**

*MOS **09** 08:51:23.0±0.8, 30°.00N×138°.93E, h411km, mb5.1/53, Error ellipse: s-maj=7.9km s-min=4.0km az=113.0*
*IDC **09** 08:51:24.6±0.5, 30°.02N×139°.03E, h415km±4km, mb4.5/31, mbtmp5.3/39, Error ellipse: s-maj=8.6km s-min=6.6km az=72.0*
*NEIC **09** 08:51:24.5±1.6, 30°.02N±0°.08×139°.0E±0°.1, h409km±1km, mb4.6/391, Error ellipse: s-maj=12.9km s-min=11.1km az=96.0*
ISC 09 08:51:24.4±0.3, 30°.02N±0°.03×139°.02E±0°.04, h416km±2km, h416km:pP-P, n1132, σ1§15/1090, mb4.7/370, 52C-59D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.12**	**12**	P	**P**	**08 52 30.5**	**+0.9**
JHCJ				*e*S	**S**	**08 53 21.7**	**-1.0**
JHJ2	**Mitsune**	**3.16**	**12**	P	**P**	**08 52 30.2**	**+0.3**
JHJ2	**Mitsune**	**3.16**	**12**	P	**P**	**08 52 30.9**	**+1.0**
JHJ	**Hachijo jima 2**	**3.16**	**12**	P	**P**	**08 52 30.5**	**+0.6**
	797nm,0.5s,baz=216,slow=19,SNR=87						
JHJ				S	**S**	**08 53 19.8**	**-3.5**
	851nm,0.3s,baz=240,slow=23,SNR=9.7						
JMKN	**Mikurajimanish**	**3.90**	**7**	P	**P**	**08 52 36.3**	**+0.1**
CBIJ	**Chichi jima**	**4.03**	**135**	P	**P**	**08 52 35.5**	**-2.2**
CBIJ				*e*S	**S**	**08 53 32.9**	**-4.4**
CBIJ	**Chichi jima**	**4.03**	**135**	A	A	08 52 35.5	
	comp=N,25nm,1.4s,comp=E,28nm,0.8s						
TTO1	**TONANKAI O.B.S**	**4.07**	**333**	P	**P**	**08 52 40.4**	**+3.0**
JSG	**Sagara**	**4.70**	**352**		**P**	**08 52 45.1**	**+1.3**
JSG	**Sagara**	**4.70**	**352**	P	**P**	**08 52 46.0**	**+2.2**
JTNC	**Tanabenakahech**	**4.77**	**324**	P	**P**	**08 52 46.7**	**+2.1**
JIE	**Ise**	**4.78**	**336**	P	**P**	**08 52 47.1**	**+2.4**
JIE				*e*S	**S**	**08 53 52.4**	**+2.1**
BSO1	**Boso 1**	**4.91**	**19**	P	**P**	**08 52 45.4**	**+0.1**
JOD2	**Odawara 2**	**5.23**	**1**	P	**P**	**08 52 49.2**	**0.0**
JOD2				S	**S**	**08 53 56.0**	**-2.7**
INU	**Inuyama**	**5.58**	**343**		**P**	**08 52 54.0**	**+1.2**
INU	**Inuyama**	**5.58**	**343**	P	**P**	**08 52 54.6**	**+1.8**
	comp=E,770nm,0.9s						
JMN	**Monobe**	**5.73**	**312**		**P**	**08 52 56.4**	**+2.0**
JMN	**Monobe**	**5.73**	**312**	P	**P**	**08 52 56.8**	**+2.4**
	comp=E,216nm,1.0s						
JGF	**Kuroka**	**5.74**	**346**		**P**	**08 52 55.5**	**+0.9**
JGF	**Kuroka**	**5.74**	**346**	P	**P**	**08 52 56.1**	**+1.6**
	comp=E,358nm,0.8s						
JRY	**Ryogami san**	**5.99**	**359**	P	**P**	**08 52 57.1**	**+0.1**
JRY				S	**S**	**08 54 09.4**	**-3.8**
JTO	**Tosashimizu**	**6.02**	**300**	P	**P**	**08 52 60.0**	**+2.5**
MJAR	**Matsushiro Arr**	**6.54**	**354**		**P**	**08 53 02.3**	**-1.4**
MJAR	**Matsushiro Arr**	**6.54**	**354**	P	**P**	**08 53 03.0**	**-0.7**
	comp=E,108nm,0.5s,baz=173,slow=10,SNR=241						
MJAR				S	**S**	**08 54 24.2**	**+0.1**
	comp=E,18nm,0.4s,baz=133,slow=18,SNR=1.8						
MJAR				ScP	**ScP**	**09 01 58.5**	**-0.1**
	comp=E,2.3nm,0.8s,baz=161,slow=0.9,SNR=6.7						
MAJO	**Matsushiro**	**6.54**	**354**		**P**	**08 53 02.6**	**-1.0**
MAJO	**Matsushiro**	**6.54**	**354**	P	**P**	**08 53 03.2**	**-0.4**
	comp=E,448nm,0.8s						
MAJO	**Matsushiro**	**6.54**	**354**	*c* iP	**P**	**08 53 02.8**	**-0.8**
MJB9	**Matsu-Tunnel**	**6.55**	**354**		**P**	**08 53 04.2**	**+0.5**
JHS	**Saijyo**	**7.04**	**316**	P	**P**	**08 53 11.2**	**+2.1**
JHS				*e*S	**S**	**08 54 36.7**	**+2.6**
JNU	**Nakatsue**	**7.60**	**296**		**P**	**08 53 17.5**	**+2.2**
JNU	**Nakatsue**	**7.60**	**296**	P	**P**	**08 53 17.3**	**+2.0**
	comp=E,107nm,0.9s,baz=103,slow=7.1,SNR=26						
JNU				S	**S**	**08 54 46.4**	**+0.7**
	comp=E,62nm,0.9s,baz=86,slow=19,SNR=9.4						
JNU	**Nakatsue**	**7.60**	**296**	P	**P**	**08 53 17.9**	**+2.6**
JOI	**OKI**	**7.91**	**324**	P	**P**	**08 53 20.1**	**+1.5**
JOI				S	**S**	**08 54 51.7**	**-0.1**
JMM	**Marumori**	**7.97**	**10**		**P**	**08 53 18.4**	**-0.8**
JMM	**Marumori**	**7.97**	**10**	P	**P**	**08 53 18.6**	**-0.6**
	comp=E,415nm,0.6s						
JSD	**Sado**	**8.03**	**356**	P	**P**	**08 53 18.9**	**-0.8**
	comp=E,228nm,0.9s						
JSJ	**Shimokoshiki**	**8.17**	**284**	P	**P**	**08 53 23.3**	**+1.9**
JSJ				S	**S**	**08 55 00.0**	**+2.8**
JAMN	**Amaminishikomi**	**8.79**	**261**	P	**P**	**08 53 30.2**	**+2.0**
JAMN				S	**S**	**08 55 12.8**	**+2.6**
JMK	**Ichinoseki**	**9.10**	**11**	P	**P**	**08 53 31.8**	**+0.3**
JMK				S	**S**	**08 55 11.6**	**-4.8**
JTU	**Tsushima**	**9.30**	**301**	P	**P**	**08 53 36.4**	**+2.6**
	comp=E,327nm,1.1s						
JTU	**Tsushima**	**9.30**	**301**	S	**S**	**08 55 22.5**	**+1.8**
	comp=E,327nm,1.1s						
JTU	**Tsushima**	**9.30**	**301**	P	**P**	**08 53 36.1**	**+2.3**
JTU				S	**S**	**08 55 22.7**	**+2.0**
JOW	**Kunigami**	**9.97**	**254**		**P**	**08 53 45.1**	**+3.6**
JOW	**Kunigami**	**9.97**	**254**	P	**P**	**08 53 43.4**	**+1.9**
	comp=E,198nm,0.8s,baz=76,slow=7.9,SNR=26						
JOW				S	**S**	**08 55 35.6**	**+1.0**
	comp=E,25nm,0.9s,baz=126,slow=18,SNR=0.9						
JOW	**Kunigami**	**9.97**	**254**	P	**P**	**08 53 43.6**	**+2.2**
	comp=E,301nm,0.8s						
JOW	**Kunigami**	**9.97**	**254**	P	**P**	**08 53 45.5**	**+4.1**
JTM	**Tenmabayashi**	**10.88**	**8**		**P**	**08 53 51.6**	**+0.4**
JTM	**Tenmabayashi**	**10.88**	**8**	P	**P**	**08 53 52.3**	**+1.2**
	comp=E,519nm,0.8s						
JTM	**Tenmabayashi**	**10.88**	**8**	S	**S**	**08 55 53.3**	**+0.9**
	comp=E,519nm,0.8s						
JKE	**Kume jima 2**	**11.40**	**254**	P	**P**	**08 53 59.2**	**+2.1**
JOT	**Ohata**	**11.46**	**8**	P	**P**	**08 53 58.7**	**+1.1**
TJN	**Taejon**	**11.64**	**306**	P	**P**	**08 54 00.4**	**+0.8**
TJN	**Taejon**	**11.64**	**306**	P	**P**	**08 54 01.8**	**+2.2**
	comp=E,747nm,0.8s						
TJN	**Taejon**	**11.64**	**306**	*d* iP	**P**	**08 54 00.7**	**+1.1**
KSRS	**Korea Array**	**11.84**	**312**	P	**P**	**08 54 03.2**	**+1.4**
	comp=E,130nm,0.8s,baz=126,slow=11,SNR=414						
KSRS				S	**S**	**08 56 12.3**	**+0.5**
	comp=E,1.5nm,0.5s,baz=144,slow=17,SNR=0.9						
KSRS				PcP	**PcP**	**08 59 11.3**	**-0.6**
	comp=E,3.1nm,0.6s,baz=114,slow=0.3,SNR=7.9						
KSRS				ScP	**ScP**	**09 02 05.0**	**+0.3**
	comp=E,12nm,0.9s,baz=159,slow=1.1,SNR=43						
KSAR	**Wonju Array Be**	**11.86**	**312**		**P**	**08 54 02.9**	**+0.9**
KSAR	**Wonju Array Be**	**11.86**	**312**	P	**P**	**08 54 02.9**	**+0.9**
KS19	**Wonju Array Si**	**11.90**	**312**	P	**P**	**08 54 03.3**	**+0.8**
JOSM	**Okushiri--Mats**	**12.05**	**2**	P	**P**	**08 54 05.2**	**+1.2**
ERM	**Erimo**	**12.43**	**14**	P	**P**	**08 54 08.9**	**+0.7**
ERM	**Erimo**	**12.43**	**14**	P	**P**	**08 54 09.8**	**+1.6**
	comp=E,422nm,0.8s						
ERM	**Erimo**	**12.43**	**14**	S	**S**	**08 56 27.5**	**+3.9**
	comp=E,422nm,0.8s						
ERM	**Erimo**	**12.43**	**14**	P	**P**	**08 54 08.9**	**+0.7**
JEM	**Erimo**	**12.43**	**14**	P	**P**	**08 54 09.8**	**+1.6**
	comp=E,237nm,0.9s						
JEM	**Erimo**	**12.43**	**14**	S	**S**	**08 56 27.5**	**+3.9**
	comp=E,237nm,0.9s						
INCN	**Inchon**	**12.71**	**309**	P	**P**	**08 54 11.6**	**+0.2**
INCN	**Inchon**	**12.71**	**309**	P	**P**	**08 54 11.6**	**+0.2**
JCH	**Churui**	**13.05**	**14**	P	**P**	**08 54 16.6**	**+1.7**
JHR	**Hokuryu**	**13.87**	**8**	*e*P	**P**	**08 54 26.1**	**+2.1**
MSHR	**Mys Shultsa**	**14.04**	**335**	⇑*e*P	**P**	**08 54 26.4**	**+0.7**
VLA	**Vladivostok**	**14.27**	**338**	⇑*e*P	**P**	**08 54 30.7**	**+2.5**
ASAJ	**Asahikawa**	**14.36**	**10**	P	**P**	**08 54 30.6**	**+1.4**
	comp=E,88nm,0.7s,baz=210,slow=12,SNR=58						
ASAJ				S	**S**	**08 57 02.1**	**0.0**
	comp=E,39nm,1.1s,baz=227,slow=19,SNR=3.3						
JKA	**Kamikawa-asahi**	**14.36**	**10**		**P**	**08 54 30.3**	**+1.1**
NEM2	**Nemuro 2**	**14.37**	**20**	P	**P**	**08 54 30.7**	**+1.4**
NMR	**Nemuro--Hokkai**	**14.37**	**20**	*e*P	**P**	**08 54 30.5**	**+1.2**
JTKR	**Abashiri--Toko**	**14.46**	**14**	P	**P**	**08 54 31.7**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**15.01**	**19**	*e*P	**P**	**08 54 37.8**	**+1.5**
YUK				pmax	pmax		
	comp=Z,729nm,0.6s						
YUK				pmax	pmax		
	comp=E,87nm,0.4s						
YUK				pmax	pmax		
	comp=N,73nm,0.6s						
USRK	**Ussuriysk Ar.**	**15.22**	**340**	P	**P**	**08 54 39.5**	**+1.0**
	comp=N,38nm,0.6s,baz=163,slow=12,SNR=65						
USRK				S	**S**	**08 57 21.9**	**+2.8**
	comp=N,14nm,1.1s,baz=162,slow=16,SNR=6.7						
MDJ	**Mudanjiang**	**16.37**	**335**		**P**	**08 54 52.0**	**+1.1**
MDJ	**Mudanjiang**	**16.37**	**335**	P	**P**	**08 54 50.4**	**-0.4**
MDJ				S	**S**	**08 57 48.9**	**+7.3**
MDJ				pmax	pmax		
	comp=N,55nm,1.6s						
YHNB	**Yeheng**	**16.55**	**255**	P	**P**	**08 54 51.3**	**-1.8**
YHNB	**Yeheng**	**16.55**	**255**	P	**P**	**08 54 52.0**	**-1.1**
	comp=N,92nm,1.0s						
YHNB	**Yeheng**	**16.55**	**255**	S	**S**	**08 57 47.3**	**+1.6**
	comp=N,92nm,1.0s						
NACB	**Ninganchiao**	**16.56**	**254**	P	**P**	**08 54 51.6**	**-1.5**
	comp=N,111nm,0.7s						
DL2	**Dalian**	**16.84**	**306**	P	**P**	**08 54 55.0**	**-0.9**
DL2				pmax	pmax		
	comp=N,170nm,0.8s						
YULB	**Yu-li**	**17.14**	**252**	P	**P**	**08 54 57.7**	**-1.6**
YULB	**Yu-li**	**17.14**	**252**	P	**P**	**08 54 58.8**	**-0.5**
	comp=N,118nm,0.8s						
YSS	**Yuzhno-Sakhali**	**17.16**	**9**		**P**	**08 54 59.3**	**+0.1**
YSS	**Yuzhno-Sakhali**	**17.16**	**9**	P	**P**	**08 55 00.3**	**+1.1**
	comp=N,193nm,1.4s						
YSS	**Yuzhno-Sakhali**	**17.16**	**9**	*e*P	**P**	**08 55 00.2**	**+1.1**
YSS				*e*S	**S**	**08 57 55.1**	**-1.7**
YSS				pmax	pmax		
	comp=Z,120nm,1.1s						
YSS				smax	smax		
	comp=E,70nm,1.3s						
GUMO	**Guam**	**17.22**	**160**		**P**	**08 55 00.6**	**+0.4**
GUMO	**Guam**	**17.22**	**160**	P	**P**	**08 55 00.9**	**+0.8**
	comp=E,627nm,1.0s,baz=350,slow=19,SNR=7.0						
SSLB	**Suanglung**	**17.26**	**253**	P	**P**	**08 55 00.6**	**0.0**
	comp=E,122nm,1.1s						
NJ2	**Nanjing**	**17.40**	**282**	⇓P	**P**	**08 55 01.1**	**-0.8**
NJ2				ScP	**ScP**	**09 02 15.5**	**+0.7**
NJ2				pmax	pmax		
	comp=E,140nm,0.8s						
CN2	**Changchun**	**17.49**	**326**	P	**P**	**08 55 03.4**	**+0.7**
CN2				S	**S**	**08 58 00.5**	**-2.8**
CN2				ScP	**ScP**	**09 02 14.1**	**-0.6**
CN2				pmax	pmax		
	comp=E,60nm,0.7s						
CN2				pmax	pmax		
	comp=E,300nm,5.0s						
TPUB	**Ta-pu**	**17.73**	**252**		**P**	**08 55 05.0**	**-0.6**
TPUB	**Ta-pu**	**17.73**	**252**	P	**P**	**08 55 05.8**	**+0.2**
	comp=E,100nm,0.9s						
BNX	**BinXian**	**18.14**	**333**	⇑P	**P**	**08 55 10.1**	**+0.5**
BNX				pmax	pmax		
	comp=E,35nm,1.0s						
TIA	**Tai'an**	**19.33**	**294**	P	**P**	**08 55 20.5**	**-1.1**
TIA				S	**S**	**08 58 35.7**	**+0.1**
TIA				pmax	pmax		
	comp=E,390nm,0.7s						
TIA				pmax	pmax		
	comp=E,580nm,4.9s						
TYV	**Tymovskoe**	**21.00**	**6**	*e*P	**P**	**08 55 37.9**	**+1.3**
TYV				pmax	pmax		
	comp=Z,42nm,1.3s						
TYV				pmax	pmax		
	comp=Z,1μm,4.3s						
BJT	**Baijiatuau**	**21.16**	**304**	P	**P**	**08 55 38.4**	**+0.2**
	comp=Z,168nm,1.2s						
BJI	**Beijing**	**21.16**	**304**	P	**P**	**08 55 37.9**	**-0.3**
BJI				sP	**sP**	**08 57 32.7**	**+1.2**
BJI				S	**S**	**08 59 08.8**	**+3.8**
BJI				ScP	**ScP**	**09 02 23.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,69nm,1.1s						
BJI				pmax	pmax		
	comp=Z,220nm,3.5s						
WHN	**Wuhan**	**21.30**	**278**	P	**P**	**08 55 40.1**	**+0.5**
WHN				S	**S**	**08 59 09.8**	**+2.3**
WHN				ScP	**ScP**	**09 02 24.5**	**+0.7**
WHN				pmax	pmax		
	comp=Z,130nm,0.9s						
HNS	**HongShan**	**21.49**	**296**	⇓P	**P**	**08 55 40.7**	**-0.5**
HNS				sP	**sP**	**08 57 37.3**	**+2.3**
HNS				S	**S**	**08 59 08.8**	**-1.5**
HNS				PcP	**PcP**	**08 59 28.5**	**+1.3**
HNS				ScP	**ScP**	**09 02 24.9**	**+0.8**
HNS				pmax	pmax		
	comp=Z,150nm,1.1s						
LYN	**LuoYang**	**22.87**	**288**	⇓P	**P**	**08 55 53.4**	**-0.4**
LYN				S	**S**	**08 59 32.1**	**-0.2**
LYN				ScP	**ScP**	**09 02 28.5**	**+0.7**
LYN				pmax	pmax		
	comp=Z,99nm,0.8s						
XLT	**XiLinHaoTe**	**22.88**	**314**	*e*P	**P**	**08 55 53.9**	**0.0**
XLT				ScP	**ScP**	**09 02 28.2**	**+0.4**
XLT				pmax	pmax		
	comp=Z,30nm,1.3s						
HIA	**Hailar**	**24.16**	**328**		**P**	**08 56 05.7**	**+0.4**
HIA	**Hailar**	**24.16**	**328**	P	**P**	**08 56 05.7**	**+0.4**
HIA				pmax	pmax		
	comp=Z,41nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.75**	**303**	⇓*i*P	**P**	**08 56 10.8**	**+0.1**
HHC				sP	sP	08 58 13.4	+1.1
HHC				S	**S**	**09 00 04.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,93nm,1.2s						
HHC				pmax	pmax		
	comp=Z,240nm,10.1s						
ZEA	**Zeya**	**25.20**	**343**	*e*P	**P**	**08 56 15.4**	**+1.0**
ZEA				pmax	pmax		
	comp=N,30nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.6s						
ENH	**Enshi**	**25.51**	**278**	P	**P**	**08 56 17.6**	**+0.1**
	comp=Z,139nm,1.3s						
XAN	**Xi'an**	**25.78**	**287**	⇓P	**P**	**08 56 19.5**	**-0.4**
XAN				S	**S**	**09 00 14.8**	**-3.6**
XAN				pmax	pmax		
	comp=Z,340nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,3.7s						
BTO	**Baotou**	**25.81**	**302**	*e*P	**P**	**08 56 21.9**	**+1.8**
BTO				sP	**sP**	**08 58 22.5**	**+1.8**
BTO				pmax	pmax		
	comp=Z,86nm,1.0s						
BTO				pmax	pmax		
	comp=Z,440nm,7.4s						
PEA0B	**Petropavlovsk-**	**26.82**	**25**	P	**P**	**08 56 30.9**	**+2.1**
PEA0B	**Petropavlovsk-**	**26.82**	**25**	P	**P**	**08 56 30.9**	**+2.1**
PEA0B				pmax	pmax		
	comp=Z,58nm,1.2s						
PETK	**Petropavlovsk-**	**26.82**	**25**	P	**P**	**08 56 29.9**	**+1.1**
PETK	**Petropavlovsk-**	**26.82**	**25**	P	**P**	**08 56 29.2**	**+0.4**
	comp=Z,12nm,0.8s,baz=168,slow=2.3,SNR=18						
PETK				ScP	**ScP**	**09 02 37.3**	**-1.4**
	comp=Z,4.3nm,0.8s,baz=251,slow=0.8,SNR=4.2						
	comp=Z,12nm,0.8s						
PETK	**Petropavlovsk-**	**26.82**	**25**	P	**P**	**08 56 29.9**	**+1.1**
PET	**Petropavlovsk**	**27.11**	**26**	P	**P**	**08 56 31.6**	**+0.3**
PET				IAmb	IAmb	08 56 34.1	
	comp=Z,54nm,1.1s						
PET	**Petropavlovsk**	**27.11**	**26**	*de*P	**P**	**08 56 32.8**	**+1.5**
PET				pmax	pmax		
	comp=Z,90nm,1.6s						
QIZ	**Qiongzhong**	**28.63**	**254**	P	**P**	**08 56 46.7**	**+1.5**
QIZ				S	**S**	**09 01 04.8**	**+1.6**
QIZ				sS	**sS**	**09 03 17.8**	**-2.5**
GYA	**Guiyang**	**28.67**	**271**	⇑P	**P**	**08 56 46.2**	**+0.6**
GYA				pmax	pmax		
	comp=Z,210nm,0.8s						
CIT	**Chita**	**28.93**	**327**	*e*P	**P**	**08 56 48.4**	**+0.9**
CIT				*e*		08 58 03.4	
CIT				pmax	pmax		
	comp=Z,245nm,1.2s						
LZH	**Lanzhou**	**29.99**	**291**	*e*P	**P**	**08 56 57.1**	**0.0**
LZH				pP	pwP	08 58 16.6	+0.1
LZH				sP	sP	08 58 54.2	-4.5
LZH				SS	SS	09 03 55.0	+1.6
LZH				pmax	pmax		
	comp=Z,190nm,1.3s						
LZH				pmax	pmax		
	comp=Z,340nm,4.5s						
LZDM	**Lanzhou Array**	**30.10**	**291**	P	**P**	**08 56 58.1**	**-0.1**
	comp=Z,89nm,0.7s,baz=130,slow=6.0,SNR=82						
LZDM				PcP	**PcP**	**08 59 48.1**	**+0.4**
	comp=Z,4.5nm,0.5s,baz=119,slow=1.8,SNR=4.0						
LZDM				ScP	**ScP**	**09 02 49.3**	**-0.5**
	comp=Z,6.5nm,0.5s,baz=115,slow=2.1,SNR=6.8						
	comp=Z,89nm,0.7s						
ULN	**Ulaanbaatar**	**30.29**	**315**	P	**P**	**08 56 59.9**	**+0.3**
ULN				IAmb	IAmb	08 57 01.0	
	comp=Z,34nm,0.7s						
ULN	**Ulaanbaatar**	**30.29**	**315**	P	**P**	**08 57 00.8**	**+1.3**
ULN	**Ulaanbaatar**	**30.29**	**315**	*d* iP	**P**	**08 57 00.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,120nm,1.6s						
CD2	**Chengdu**	**30.33**	**281**	P	**P**	**08 56 59.9**	**-0.1**
CD2				pmax	pmax		
	comp=Z,450nm,0.5s						
MA2	**Magadan**	**30.61**	**12**		**P**	**08 57 02.0**	**+0.1**
MA2	**Magadan**	**30.61**	**12**	P	**P**	**08 57 02.9**	**+1.0**
	comp=Z,106nm,0.6s						
MA2	**Magadan**	**30.61**	**12**	*de*P	**P**	**08 57 03.1**	**+1.1**
MA2				pmax	pmax		
	comp=Z,170nm,1.7s						
MA2	**Magadan**	**30.61**	**12**	P	**P**	**08 57 03.0**	**+1.0**
	comp=Z,103nm,0.6s						
SONM	**Songino Array**	**30.69**	**315**		**P**	**08 57 03.3**	**+0.4**
SONM				IAmb	IAmb	08 57 04.8	
	comp=Z,51nm,1.3s						
SONM	**Songino Array**	**30.69**	**315**	P	**P**	**08 57 03.7**	**+0.8**
	comp=Z,16nm,0.7s,baz=118,slow=7.8,SNR=24						
SONM				PcP	**PcP**	**08 59 49.2**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=133,slow=3.1,SNR=4.5						
SONM				ScP	**ScP**	**09 02 50.7**	**-0.5**
	comp=Z,10nm,0.9s,baz=128,slow=4.0,SNR=12						
	comp=Z,16nm,0.7s						
SONM	**Songino Array**	**30.69**	**315**	P	**P**	**08 57 03.3**	**+0.4**
SONM				pmax	pmax		
	comp=Z,51nm,1.3s						
BAKI	**Biak**	**31.16**	**186**	P	**P**	**08 57 08.5**	**+1.3**
	comp=Z,91nm,0.9s						
SWI	**Sorong**	**31.59**	**195**	P	**P**	**08 57 10.9**	**0.0**
	comp=Z,1μmcomp=Z,125nm,0.6s						
RKPI	**Ransiki, Papua**	**31.69**	**189**	P	**P**	**08 57 11.7**	**-0.1**
	comp=Z,6μmcomp=Z,131nm,0.7s						
SMPI	**Sarmi**	**31.83**	**181**	P	**P**	**08 57 14.2**	**+1.2**
	comp=Z,85nm,0.9s						
JAY	**Jayapura**	**32.39**	**177**	P	**P**	**08 57 18.4**	**+0.5**
	comp=Z,34nm,1.0s						
KMI	**Kunming**	**32.44**	**270**	⇓P	**P**	**08 57 18.5**	**0.0**
KMI				pmax	pmax		
	comp=Z,48nm,0.8s						
GENI	**Genyem**	**32.44**	**178**	P	**P**	**08 57 19.7**	**+1.4**
	comp=Z,158nm,1.0s						
YAK	**Yakutsk**	**32.60**	**352**	P	**P**	**08 57 19.3**	**+0.3**
	comp=Z,19nm,0.3s,baz=187,slow=2.4,SNR=4.7						
	comp=Z,19nm,0.3s						
YAK	**Yakutsk**	**32.60**	**352**	*e*P	**P**	**08 57 19.0**	**0.0**
YAK				*e*		08 58 44.0	
YAK				*e*		08 59 52.9	
YAK				*e*S	**S**	**09 02 01.3**	**-2.2**
YAK				*e*		09 06 51.8	
YAK				pmax	pmax		
	comp=Z,28nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,289nm,4.8s						
YAK				pmax	pmax		
	comp=N,336nm,4.1s						
YAK				pmax	pmax		
	comp=E,112nm,3.3s						
YAK				smax	smax		
	comp=E,246nm,4.0s						
YAK				smax	smax		
	comp=N,238nm,3.0s						
BOD	**Bodaibo**	**32.75**	**335**	*e*P	**P**	**08 57 20.5**	**+0.1**
BOD				pmax	pmax		
	comp=Z,59nm,1.1s						
MANU	**Manus Island**	**32.86**	**164**		**P**	**08 57 22.8**	**+0.9**
PZH	**PanZhiHua**	**32.92**	**273**	P	**P**	**08 57 22.5**	**0.0**
PZH				pmax	pmax		
	comp=Z,110nm,0.9s						
GTA	**Gaotai**	**33.34**	**297**	P	**P**	**08 57 26.4**	**+0.5**
GTA				pP	pwP	08 58 46.4	+0.1
GTA				PcP	**PcP**	**08 59 57.5**	**+1.1**
GTA				S	**S**	**09 02 15.0**	**-0.8**
GTA				ScP	**ScP**	**09 03 01.4**	**+0.8**
GTA				pmax	pmax		
	comp=Z,160nm,0.7s						
FAKI	**Fak Fak**	**33.38**	**192**		**P**	**08 57 25.6**	**-0.7**
FAKI	**Fak Fak**	**33.38**	**192**	P	**P**	**08 57 27.2**	**+0.9**
	comp=Z,71nm,0.8s						
FAKI	**Fak Fak**	**33.38**	**192**	P	**P**	**08 57 26.1**	**-0.2**
	comp=Z,761nmcomp=Z,70nm,0.8s						
TOLI2	**Tolitoli**	**33.57**	**214**		**P**	**08 57 27.8**	**-0.2**
ZAK	**Zakamensk**	**33.58**	**317**	*e*P	**P**	**08 57 27.4**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,68nm,1.4s						
SEY	**Seymchan**	**34.04**	**11**	*e*P	**P**	**08 57 31.8**	**+0.5**
SEY				pmax	pmax		
	comp=Z,21nm,1.2s						
SANI	**Sanana**	**34.23**	**204**	P	**P**	**08 57 32.8**	**-0.7**
	comp=Z,73nm,0.8s						
SANI	**Sanana**	**34.23**	**204**	P	**P**	**08 57 32.6**	**-0.9**
	comp=Z,76nm,0.8s						
MSAI	**Masohi**	**34.55**	**198**	P	**P**	**08 57 37.7**	**+1.5**
	comp=Z,4μmcomp=Z,123nm,1.1s						
APSI	**Ampana**	**34.93**	**211**	P	**P**	**08 57 39.6**	**+0.1**
	comp=Z,46nm,0.5s						
NLAI	**Namlea**	**34.98**	**201**	P	**P**	**08 57 41.6**	**+1.8**
	comp=Z,46nm,0.9s						
AAI	**Ambon**	**35.08**	**199**	P	**P**	**08 57 41.5**	**+0.8**
	comp=Z,196nm,0.9s						
MOY	**Mondy**	**35.42**	**319**	*e*P	**P**	**08 57 43.7**	**+0.4**
MOY				pmax	pmax		
	comp=Z,46nm,2.0s						
AMKA	**Amchitka**	**36.63**	**43**	P	**P**	**08 57 53.3**	**+0.1**
GOMU	**GeErMu**	**37.29**	**291**	P	**P**	**08 58 00.0**	**+0.6**
GOMU				pmax	pmax		
	comp=Z,170nm,0.9s						
SBUM	**Sibu**	**37.38**	**228**	P	**P**	**08 58 00.5**	**+0.6**
BKB	**Balikpapan**	**37.59**	**218**	P	**P**	**08 58 01.2**	**-0.4**
CHTO	**Chiang Mai**	**37.98**	**262**		**P**	**08 58 05.0**	**+0.1**
CHTO	**Chiang Mai**	**37.98**	**262**	P	**P**	**08 58 05.7**	**+0.9**
CHTO				S	**S**	**09 03 23.7**	**-2.2**
CHTO	**Chiang Mai**	**37.98**	**262**	P	**P**	**08 58 05.4**	**+0.5**

comp=Z,3.7nm,0.5s,baz=230,slow=2.9,SNR=3.5
comp=Z,18nm,0.4s
TIXI **Tiksi** **42.05 355***c iP* **P** **08 58 37.3 +0.2**
TIXI pmax pmax
comp=Z,11nm,0.6s
WMQ **Urumqi** **42.63 303** *eP* **P** **08 58 43.7 +1.5**
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,220nm,4.9s
BATI **Baumata** **42.63 203** P **P** **08 58 41.2 -1.2**
comp=Z,1µmcomp=Z,70nm,0.5s
DRS **Darwin Rock St** **42.92 192** P **P** **08 58 44.5 -0.1**
comp=Z,49nm,0.6s
MTN **Manton Dam** **43.28 191** P **P** **08 58 47.4 -0.1**
PLAI **Plampang** **43.69 211** P **P** **08 58 50.0 -0.7**
comp=Z,60nm,0.9s
PLAI **Plampang** **43.69 211** P **P** **08 58 49.6 -1.1**
comp=Z,831nmcomp=Z,61nm,0.9s
KULM **Kulim** **43.72 243** P **P** **08 58 51.6 +0.5**
KULM **Kulim** **43.72 243** P **P** **08 58 52.1 +1.1**
comp=Z,108nm,1.0s
COEN **Coen** **43.90 174** P **P** **08 58 52.9 +0.6**
COEN IAmb IAmb 08 58 54.5
comp=Z,24nm,0.6s
COEN **Coen** **43.90 174** P **P** **08 58 53.1 +0.7**
comp=Z,34nm,0.6s
KMMI **Kalianget** **44.01 217** P **P** **08 58 53.0 -0.3**
comp=Z,69nm,0.6s
TWSI **Taliwang, Sumb** **44.02 212** P **P** **08 58 52.5 -0.8**
comp=Z,43nm,0.8s
NIKH **Nikolski High** **44.08 43** P **P** **08 58 53.3 0.0**
NIKH **Nikolski High** **44.08 43** P **P** **08 58 53.0 -0.3**
baz=260
SRBI **Singaraja** **44.26 215** P **P** **08 58 55.5 +0.3**
comp=Z,92nm,0.6s
TPI **Tanjungpandan** **44.28 228** P **P** **08 58 55.7 +0.3**
comp=Z,33nm,1.0s
DSRI **Dabo** **44.67 234** P **P** **08 58 58.7 +0.2**
JAGI **Jajag, Banyuwa** **45.12 216** P **P** **08 59 01.4 -0.5**
comp=Z,50nm,1.0s
JAGI **Jajag, Banyuwa** **45.12 216** P **P** **08 59 00.8 -1.1**
comp=Z,3µmcomp=Z,52nm,0.8s
ZAA0 **Zalesovo Array** **45.46 318** P **P** **08 59 03.8 -0.2**
ZAA0 IAmb IAmb 08 59 04.9
comp=Z,42nm,0.8s
ZALV **Zalesovo Beam** **45.46 318** P **P** **08 59 03.8 -0.2**
ZALV **Zalesovo Beam** **45.46 318** P **P** **08 59 04.0 0.0**
comp=Z,43nm,0.8s,baz=97,slow=7.3,SNR=136
ZALV PcP **PcP** **09 00 34.6 -0.1**
comp=Z,13nm,0.5s,baz=109,slow=3.3,SNR=14
ZALV ScP **ScP** **09 03 45.9 -1.2**
comp=Z,4.9nm,0.6s,baz=112,slow=4.6,SNR=7.9
comp=Z,43nm,0.8s
UNV **Unalaska Valle** **45.61 42** P **P** **08 59 04.6 -0.5**
UNV IAmb IAmb 08 59 28.8
comp=Z,60nm,1.3s
UNV **Unalaska Valle** **45.61 42** P **P** **08 59 04.7 -0.5**
baz=261
NGJI **Ngawi** **45.63 220** P **P** **08 59 05.9 +0.1**
comp=Z,43nm,0.9s
GAMB **Gambell** **45.79 28** P **P** **08 59 06.0 -0.4**
baz=246
NGOA **Tingoa Renbel** **46.03 151** P **P** **08 59 09.5 +0.6**
comp=Z,187nm,0.8s
AKUT **Akutan** **46.08 42** P **P** **08 59 09.6 +0.8**
comp=Z,85nm,2.4s
MK31 **Makanchi Array** **46.48 308***d iP* **P** **08 59 11.9 -0.2**
MKAR **Makanchi Array** **46.48 308** P **P** **08 59 11.8 -0.3**
MKAR **Makanchi Array** **46.48 308** P **P** **08 59 12.1 0.0**
comp=Z,26nm,0.7s,baz=92,slow=9.1,SNR=208
MKAR PcP **PcP** **09 00 38.7 +0.1**
comp=Z,18nm,0.8s,baz=77,slow=5.4,SNR=12
MKAR ScP **ScP** **09 03 50.6 -1.0**
comp=Z,5.0nm,0.6s,baz=80,slow=5.7,SNR=10
comp=Z,26nm,0.7s
KNRA **Kununurra** **46.49 194** P **P** **08 59 12.3 -0.1**
UGM **Wanagama** **46.60 221** P **P** **08 59 12.9 -0.5**
UGM **Wanagama** **46.60 221** P **P** **08 59 13.4 0.0**
comp=Z,64nm,0.9s
KPJI **Karang Pucung** **47.05 223** P **P** **08 59 16.3 -0.4**
comp=Z,101nm,0.9s
KCSI **Kotacane, Aceh** **47.05 244** P **P** **08 59 15.5 -1.3**
M11K **Mekoryuk** **47.12 34** P **P** **08 59 16.2 -0.5**
baz=255
MNSI **Mandailing Nat** **47.42 240** P **P** **08 59 19.0 -0.6**
comp=Z,9µmcomp=Z,101nm,0.9s
LEM **Lembang** **47.44 225** P **P** **08 59 19.9 0.0**
comp=Z,2µmcomp=Z,216nm,0.8s
PPI **Padang Panjang** **47.65 238** P **P** **08 59 21.0 -0.3**
comp=Z,70nm,0.8s
MLSI **Meulaboh, Aceh** **47.67 246** P **P** **08 59 20.1 -1.4**
comp=Z,139nm,0.6s
KLI **Kotabumi** **47.68 229** P **P** **08 59 21.7 +0.2**
BLSI **Bandar Lampung** **47.81 228** P **P** **08 59 22.2 -0.3**
LHSI **Lahat** **47.81 231** P **P** **08 59 22.9 +0.4**
comp=Z,172nm,1.1s
MDSI **Maura Dua** **47.85 230** P **P** **08 59 22.8 0.0**
comp=Z,2µmcomp=Z,206nm,0.9s
PDSI **Padang** **47.91 237** P **P** **08 59 22.7 -0.6**
comp=Z,6µmcomp=Z,36nm,0.9s
BBJI **Bungbulang** **47.92 224** P **P** **08 59 21.8 -1.6**
comp=Z,36nm,0.8s
TNA **Tin City** **47.97 27** P **P** **08 59 23.9 +0.9**
baz=249
MASI **Maura Aman, Be** **48.20 233** P **P** **08 59 25.5 0.0**
K13K **Kusilvak Mount** **48.24 32** P **P** **08 59 25.9 +0.8**
baz=255
LWLI **Liwa** **48.32 230** P **P** **08 59 25.3 -1.2**
S12K **Black Hills** **48.41 40** P **P** **08 59 27.1 +0.6**
baz=263
M13K **Dall Lake** **48.51 34** P **P** **08 59 28.2 +1.1**
baz=258
F14K **Arctic Creek** **48.57 27** P **P** **08 59 28.7 +1.2**
baz=251
GSI **Gunungsitoli** **48.60 242** P **P** **08 59 28.7 +0.2**
comp=Z,462nm,0.8s
GSI **Gunungsitoli** **48.60 242** P **P** **08 59 28.4 -0.1**
SHLS **Shalkode** **48.64 303** *eP* **P** **08 59 26.3 -2.3**
ANM **Nome** **48.66 28** P **P** **08 59 29.2 +0.9**
baz=252
JOHN **Johnston Islan** **48.68 94** P **P** **08 59 30.3 +1.3**
comp=Z,139nm,0.9s
J14K **Nanvaranak Lak** **48.95 31** P **P** **08 59 31.4 +1.0**
baz=256
UZB **Uzynbulak** **48.96 303** *eP* **P** **08 59 31.3 +0.3**
KURK **Kurchatov** **48.96 313** **P** **08 59 30.5 -0.2**
KURK **Kurchatov** **48.96 313** P **P** **08 59 31.0 +0.3**
KURK **Kurchatov** **48.96 313***d iP* **P** **08 59 30.3 -0.4**
KURK pmax pmax
comp=Z,125nm,1.1s
KURBB **Kurchatov Arra** **49.02 313** P **P** **08 59 31.4 +0.3**
comp=Z,62nm,0.7s,baz=91,slow=8.1,SNR=382
KURBB PcP **PcP** **09 00 46.9 -0.7**
comp=Z,6.4nm,0.8s,baz=94,slow=3.9,SNR=4.4
KURBB ScP **ScP** **09 04 01.6 -0.7**
comp=Z,0.9nm,0.5s,baz=97,slow=3.9,SNR=2.2
KURBB S **S** **09 06 00.4 -2.9**
comp=Z,1.3nm,0.7s,baz=89,slow=12,SNR=5.1
comp=Z,62nm,0.7s
L14K **Kuka Creek** **49.02 33** IAmb IAmb 08 59 34.0
comp=Z,33nm,1.2s
L14K **Kuka Creek** **49.02 33** P **P** **08 59 31.8 +0.9**
baz=258
N14K **Kuskokwak Cree** **49.23 35** P **P** **08 59 33.6 +1.1**
baz=260
M14K **Bethel** **49.25 34** P **P** **08 59 33.7 +1.1**
baz=259
SDPT **Sand Point** **49.27 41** P **P** **08 59 33.0 +0.1**
baz=265
F15K **North Star Dit** **49.30 27** P **P** **08 59 34.4 +1.4**
baz=252
O14K **Tigyukauivet M** **49.33 36** P **P** **08 59 34.0 +0.7**
baz=261
G15K **Niukluk** **49.34 28** P **P** **08 59 34.2 +1.0**
baz=253
FITZ **Fitzroy Crossi** **49.54 197** ScP **ScP** **09 04 04.6 -0.2**
comp=Z,3.2nm,0.8s,baz=51,slow=3.6,SNR=3.6
FITZ S **S** **09 06 09.9 -1.2**
comp=Z,8.0nm,0.9s,baz=309,slow=13,SNR=10
L15K **Ungalak Mounta** **49.65 33** P **P** **08 59 36.9 +1.2**
baz=259
WB0 **Warramunga Arr** **49.69 186** **P** **08 59 36.2 -0.3**
ARXS **Arharly** **49.73 304** *eP* **P** **08 59 36.8 +0.2**
CHNA **Chernabura Isl** **49.74 42** P **P** **08 59 36.8 +0.4**
comp=Z,51nm,1.3s
CHNA **Chernabura Isl** **49.74 42** P **P** **08 59 37.1 +0.7**
baz=266
K15K **Wolf Creek Mou** **49.76 32** P **P** **08 59 38.0 +1.5**
baz=258
M15K **Kasigluk River** **49.85 34** P **P** **08 59 37.9 +0.7**
baz=260
WRAB **Tennant Creek** **49.86 186** **P** **08 59 37.5 -0.2**
WRAB IAmb IAmb 08 59 39.3
comp=Z,20nm,1.1s
WRAB **Tennant Creek** **49.86 186** P **P** **08 59 37.4 -0.3**
comp=Z,14nm,0.8s
WRAB **Tennant Creek** **49.86 186***ce*P **P** **08 59 37.3 -0.4**
WRAB pmax pmax
comp=Z,16nm,0.9s
WR8 **Warramunga Arr** **49.87 186** IAmb IAmb 08 59 39.4
comp=Z,25nm,0.7s
WRA **Warramunga Arr** **49.87 186** **P** **08 59 37.0 -0.8**
WRA **Warramunga Arr** **49.87 186** P **P** **08 59 37.5 -0.4**
comp=Z,13nm,0.4s,baz=0.7,slow=7.6,SNR=269
WRA PcP **PcP** **09 00 51.8 +0.6**
comp=Z,2.8nm,0.5s,baz=355,slow=4.6,SNR=4.7
WRA pP **pP** **09 01 01.3 +1.8**
comp=Z,21nm,1.3s,baz=6.5,slow=8.3,SNR=3.3
WRA ScP **ScP** **09 04 05.5 -0.8**
comp=Z,3.3nm,0.8s,baz=3.2,slow=4.3,SNR=6.0
WRA S **S** **09 06 09.7 -6.0**
comp=Z,2.3nm,0.6s,baz=8.9,slow=14,SNR=7.9
comp=Z,13nm,0.4s
S14K **Fog Glacier** **49.88 40** P **P** **08 59 38.3 +0.8**
baz=265
C16K **Lisburne Hills** **49.90 24** P **P** **08 59 38.3 +1.0**
baz=249
TARG **Taragay, Kyrgy** **50.01 301** IAmb IAmb 08 59 41.2
comp=Z,64nm,1.0s
O15K **Ungalikthiuk R** **50.05 36** P **P** **08 59 39.7 +1.0**
baz=262
N15K **Kwethluk River** **50.06 35** P **P** **08 59 39.8 +1.1**
baz=261
G16K **Koyuk River** **50.13 28** P **P** **08 59 40.2 +1.0**
baz=255
QIS **Mount Isa** **50.28 179** P **P** **08 59 40.6 -0.3**
comp=Z,14nm,0.8s
CTAO **Charters Tower** **50.30 171** **P** **08 59 40.4 -0.6**
CTAO **Charters Tower** **50.30 171** P **P** **08 59 40.4 -0.6**
CTAO pmax pmax
comp=Z,11nm,1.0s
J16K **Anvik River** **50.38 31** P **P** **08 59 42.0 +1.0**
baz=258
KDJ **Kajisay** **50.42 302** IAmb IAmb 08 59 43.1
comp=Z,26nm,0.6s
I17K **Unalakleet** **50.46 30** P **P** **08 59 42.8 +1.2**
baz=258
D17K **Noatak River** **50.51 25** P **P** **08 59 43.4 +1.5**
baz=252
L16K **Owhat River** **50.60 33** P **P** **08 59 43.6 +1.0**
baz=261
RDOG **Red Dog Mine** **50.68 24** IAmb IAmb 08 59 45.4
comp=Z,16nm,0.7s
RDOG **Red Dog Mine** **50.68 24** P **P** **08 59 44.5 +1.3**
baz=252
C17K **DeLong Mountai** **50.72 24** P **P** **08 59 44.8 +1.3**
baz=252
M16K **Timber Creek** **50.74 34** P **P** **08 59 44.7 +1.0**
baz=262
N16K **Nishlik Lake** **50.75 34** P **P** **08 59 45.1 +1.2**
baz=262
E17K **Hotham Inlet** **50.79 26** P **P** **08 59 45.3 +1.2**
baz=254
F17K **Baldwin Pennin** **50.84 27** P **P** **08 59 45.7 +1.4**
baz=255,SNR=5.3
G17K **Kiwalik Mounta** **50.85 28** P **P** **08 59 45.9 +1.4**
baz=256
P16K **Nushagak River** **50.97 36** P **P** **08 59 46.4 +0.9**
baz=264
O16K **Kokwok River B** **50.98 36** P **P** **08 59 46.6 +1.2**
baz=264
R16K **Pilot Point** **51.06 38** P **P** **08 59 46.9 +0.8**
baz=266
ULHL **Ulahol** **51.10 302** P **P** **08 59 47.6 +0.6**
SNR=21
L17K **Donlin** **51.22 32** P **P** **08 59 48.2 +1.0**
baz=261
K17K **Iditarod** **51.31 32** IAmb IAmb 08 59 50.4
comp=Z,17nm,0.8s
K17K **Iditarod** **51.31 32** P **P** **08 59 49.1 +1.3**
baz=261
E18K **Tukpahlearik C** **51.34 25** P **P** **08 59 49.3 +1.2**
baz=255
C18K **Utukok River** **51.47 24** P **P** **08 59 50.1 +1.1**
baz=253
B18K **Kokolik River** **51.47 23** P **P** **08 59 50.3 +1.4**
baz=252
TKM2 **Tokmak 2** **51.48 303** P **P** **08 59 50.5 +0.7**
SNR=35
F18K **Selawik** **51.50 27** P **P** **08 59 50.7 +1.5**
baz=256,SNR=5.4
O17K **Koliganek Bris** **51.51 35** P **P** **08 59 50.8 +1.5**
baz=264
M17K **Holitna River** **51.52 33** IAmb IAmb 08 59 52.1
comp=Z,16nm,0.9s
M17K **Holitna River** **51.52 33** P **P** **08 59 50.8 +1.4**
baz=263
N17K **Nushagak Hills** **51.54 35** P **P** **08 59 50.7 +1.1**
baz=264
Q16K **King Salmon** **51.63 37** P **P** **08 59 51.2 +0.9**
baz=266
H18K **Honhosa River** **51.71 29** P **P** **08 59 51.7 +0.9**
baz=259
KSH **Kashi** **51.72 299** P **P** **08 59 55.1 +3.7**
KSH pmax pmax
comp=Z,59nm,0.8s
R17L **Mt. Peulik Vol** **51.72 38** P **P** **08 59 52.1 +1.2**
baz=267
G18K **Tagagawik** **51.74 28** IAmb IAmb 08 59 52.9
comp=Z,18nm,0.8s
G18K **Tagagawik** **51.74 28** P **P** **08 59 52.2 +1.2**
baz=258,SNR=8.5
P17K **Kvichak River** **51.79 36** P **P** **08 59 52.4 +1.1**
baz=265
KBK **Karagaybulak** **51.99 303** P **P** **08 59 54.3 +0.9**
SNR=10
Q17K **Contact Creek** **52.01 37** P **P** **08 59 53.3 +0.2**
baz=267
J18K **Innoko River** **52.13 31** P **P** **08 59 54.9 +1.0**
baz=262
C19K **Lookout Ridge** **52.15 24** P **P** **08 59 55.1 +1.1**
baz=255
USP **Ospenovka** **52.23 303** P **P** **08 59 55.6 +0.6**
SNR=13
GCSA **Galena City Sc** **52.26 29** P **P** **08 59 55.3 +0.6**
baz=261
F19K **Shaleruckik Mo** **52.28 27** P **P** **08 59 55.6 +0.7**
baz=258
M18K **Stony River** **52.30 33** P **P** **08 59 56.4 +1.4**
baz=264
AAK **Ala-Archa** **52.32 303** P **P** **08 59 56.4 +0.6**
AAK IAmb IAmb 08 59 57.1
comp=Z,29nm,0.8s
AAK **Ala-Archa** **52.32 303** P **P** **08 59 56.7 +0.9**
AAK **Ala-Archa** **52.32 303** P **P** **08 59 56.5 +0.8**
SNR=18
AAK **Ala-Archa** **52.32 303** *i* P **P** **08 59 56.6 +0.8**
SNR=19
AAK **Ala-Archa** **52.32 303***d iP* **P** **08 59 56.0 +0.2**
AAK pmax pmax
comp=Z,32nm,0.8s
BTLS **Baital** **52.33 306** *eP* **P** **08 59 55.5 -0.1**
UCH **Uchtor** **52.37 302** P **P** **08 59 57.4 +0.8**
SNR=28
P18K **Big Mountain,** **52.42 36** IAmb IAmb 08 59 58.0
comp=Z,45nm,1.4s
P18K **Big Mountain,** **52.42 36** P **P** **08 59 57.0 +0.9**
baz=266
O18K **Koktuh Hills** **52.46 35** P **P** **08 59 57.7 +1.4**
baz=266
Q18K **Katmai Hardscr** **52.49 37** P **P** **08 59 56.4 -0.2**
baz=267
D19K **Kuna River** **52.52 24** P **P** **08 59 57.2 +0.5**
baz=257
H19K **Roundabout Mou** **52.57 28** IAmb IAmb 08 59 59.2
comp=Z,18nm,0.7s
H19K **Roundabout Mou** **52.57 28** P **P** **08 59 58.0 +1.0**
baz=260,SNR=8.2
E19K **Redstone River** **52.62 26** IAmb IAmb 08 59 59.4
comp=Z,32nm,0.7s
E19K **Redstone River** **52.62 26** P **P** **08 59 58.3 +0.9**
baz=258
SANVU **Saraoutou** **52.74 145** P **P** **08 59 59.3 +0.5**
SANVU **Saraoutou** **52.74 145** P **P** **08 59 59.3 +0.5**
comp=Z,172nm,0.8s
R18K **Karluk** **52.74 38** P **P** **08 59 59.1 +0.8**
baz=268
EKS2 **Erkin-Say** **52.84 303** P **P** **08 59 59.8 +0.3**
SNR=13
O19K **Port Alsworth** **52.93 35** IAmb IAmb 09 00 02.1
comp=Z,40nm,1.3s
O19K **Port Alsworth** **52.93 35** P **P** **09 00 00.5 +0.9**
baz=266
M19K **Big River Lodg** **53.02 33** P **P** **09 00 01.2 +0.9**
baz=265
D20K **Etivluk River** **53.10 24** IAmb IAmb 09 00 02.9
comp=Z,21nm,0.7s
D20K **Etivluk River** **53.10 24** P **P** **09 00 01.8 +1.0**
baz=258
F20K **Avaraart Lake** **53.12 26** P **P** **09 00 01.9 +1.0**
baz=260,SNR=7.3
E20K **Nigu River** **53.17 25** P **P** **09 00 02.3 +1.0**
baz=259
B20K **Meade River** **53.20 23** P **P** **09 00 02.7 +1.2**
baz=256
H20K **Anotleneega Mo** **53.21 28** P **P** **09 00 02.9 +1.3**
baz=262,SNR=5.7
Q19K **Cape Douglas,** **53.21 37** P **P** **09 00 02.6 +0.8**
baz=268
I20K **Naaghedeneel** **53.28 29** IAmb IAmb 09 00 04.7
comp=Z,41nm,0.8s
I20K **Naaghedeneel** **53.28 29** P **P** **09 00 03.4 +1.3**
baz=263,SNR=8.4
OHAK **Old Harbor** **53.37 39** IAmb IAmb 09 00 06.2
comp=Z,24nm,1.0s
OHAK **Old Harbor** **53.37 39** P **P** **09 00 03.1 +0.3**
comp=Z,22nm,0.9s
OHAK **Old Harbor** **53.37 39** P **P** **09 00 03.5 +0.7**
baz=270
P19K **Oil Pt** **53.45 36** P **P** **09 00 04.0 +0.5**
baz=268
AS31 **Alice Springs** **53.60 186** **P** **09 00 04.9 -0.1**
AS31 IAmb IAmb 09 00 06.5
comp=Z,9.7nm,0.5s
ASAR **Alice Springs** **53.60 186** **P** **09 00 04.9 0.0**
ASAR **Alice Springs** **53.60 186** P **P** **09 00 04.8 -0.2**
comp=Z,9.4nm,0.5s,baz=6.8,slow=8.2,SNR=195
ASAR ScP **ScP** **09 04 22.2 -0.2**
comp=Z,1.2nm,0.6s,baz=357,slow=4.1,SNR=3.9
ASAR S **S** **09 07 02.0 -3.9**
comp=Z,2.6nm,0.9s,baz=20,slow=22,SNR=12
comp=Z,9.4nm,0.5s
ASAR **Alice Springs** **53.60 186** P **P** **09 00 04.9 0.0**
M20K **Styx River** **53.61 33** P **P** **09 00 05.3 +0.6**
M20K **Styx River** **53.61 33** P **P** **09 00 05.6 +1.0**
baz=266
IMAR **Indian Mountai** **53.74 28** P **P** **09 00 06.3 +0.9**
KDAK **Kodiak Island** **53.75 38** **P** **09 00 05.5 -0.1**
KDAK IAmb IAmb 09 00 07.3
comp=Z,58nm,1.2s
KDAK **Kodiak Island** **53.75 38***ce*P **P** **09 00 05.9 +0.4**
KDAK pmax pmax
comp=Z,69nm,1.3s
KDAK **Kodiak Island** **53.75 38** P **P** **09 00 06.0 +0.4**
baz=270
C21K **Knifeblade Rid** **53.84 24** P **P** **09 00 07.2 +1.1**
baz=259
Q20K **Shuyak Island** **53.86 37** P **P** **09 00 06.8 +0.5**
baz=269
G21K **Allakaket** **53.90 27** P **P** **09 00 07.6 +1.1**
G21K IAmb IAmb 09 00 08.7
comp=Z,14nm,0.8s
G21K **Allakaket** **53.90 27** P **P** **09 00 07.6 +1.1**
baz=263
B21K **Ikpikpuk River** **53.99 23** P **P** **09 00 08.4 +1.4**
baz=259
E21K **Killik River** **54.01 25** IAmb IAmb 09 00 09.9
comp=Z,16nm,0.8s
E21K **Killik River** **54.01 25** P **P** **09 00 08.9 +1.6**
baz=261
F21K **Alatna River** **54.01 26** **P** **09 00 08.4 +1.1**
F21K **Alatna River** **54.01 26** P **P** **09 00 08.7 +1.4**
baz=262,SNR=5.9
BVA0 **Borovoye Array** **54.02 316** P **P** **09 00 07.3 -0.3**
BVAR **Borovoye Array** **54.02 316** P **P** **09 00 07.7 +0.1**
comp=Z,89nm,0.5s,baz=94,slow=8.2,SNR=269
BVAR PcP **PcP** **09 01 06.8 +0.3**
comp=Z,25nm,0.6s,baz=82,slow=4.3,SNR=10
BVAR ScP **ScP** **09 04 23.0 -0.9**
comp=Z,6.3nm,0.6s,baz=89,slow=5.2,SNR=6.8
BVAR S **S** **09 07 08.3 -2.5**
comp=Z,0.9nm,0.4s,baz=93,slow=14,SNR=3.5
comp=Z,89nm,0.5s
N20K **Mount Spurr** **54.02 34** P **P** **09 00 08.7 +1.2**
baz=268
SPCR **Spurr Chakacha** **54.02 34** P **P** **09 00 08.9 +1.4**
baz=268,SNR=5.9
BORK **Borovoye** **54.06 316***d iP* **P** **09 00 07.9 +0.1**
BORK pmax pmax
comp=Z,66nm,0.6s
SPU **Mount Spurr** **54.09 34** P **P** **09 00 07.9 -0.1**
PPLA **Purkeypile** **54.12 32** IAmb IAmb 09 00 10.7
comp=Z,15nm,0.8s
PPLA **Purkeypile** **54.12 32** P **P** **09 00 10.0 +1.7**
baz=266,SNR=5.0
CHUM **Lake Minchumin** **54.13 31** P **P** **09 00 09.8 +1.6**
baz=266,SNR=5.7
A22K **Sinclair Lake** **54.14 22** P **P** **09 00 09.7 +1.6**
baz=258
MBWA **Marble Bar** **54.16 202** **P** **09 00 08.8 -0.1**
MBWA IAmb IAmb 09 00 09.9
comp=Z,17nm,0.8s
MBWA **Marble Bar** **54.16 202** P **P** **09 00 09.1 +0.2**
MBWA **Marble Bar** **54.16 202** P **P** **09 00 09.1 +0.2**
comp=Z,13nm,0.7s
STLK **Strandline Lak** **54.21 34** P **P** **09 00 09.4 +0.5**
SKT **Skwentna** **54.37 33** IAmb IAmb 09 00 11.4
comp=Z,12nm,0.6s
SKT **Skwentna** **54.37 33** P **P** **09 00 10.5 +0.5**
baz=268,SNR=8.3
PSA00 **Pilbara Seismi** **54.51 202** **P** **09 00 10.2 -1.2**
PSA00 **Pilbara Seismi** **54.51 202** IAmb IAmb 09 00 13.0
comp=Z,33nm,1.3s
PSA00 **Pilbara Seismi** **54.51 202** P **P** **09 00 11.5 +0.1**
comp=Z,20nm,1.0s
D22K **Ayikyak River** **54.54 24** IAmb IAmb 09 00 13.4
comp=Z,14nm,0.5s
D22K **Ayikyak River** **54.54 24** P **P** **09 00 12.4 +1.3**
baz=262,SNR=5.6
F22K **John River** **54.55 26** P **P** **09 00 12.6 +1.5**
baz=263,SNR=23
BRSE **Bradley Lake S** **54.71 36** P **P** **09 00 13.5 +1.1**
baz=270
BPAW **Bear Paw Mtn.** **54.73 30** P **P** **09 00 13.6 +1.2**
baz=267,SNR=9.4
SUA **Susitna One** **54.73 34** IAmb IAmb 09 00 14.7
comp=Z,22nm,1.0s
SUA **Susitna One** **54.73 34** P **P** **09 00 13.0 +0.3**
baz=269
G22K **Bettles** **54.74 27** P **P** **09 00 13.6 +1.2**
baz=264,SNR=15
E22K **Anaktuvuk Pass** **54.76 25** IAmb IAmb 09 00 14.9
comp=Z,20nm,0.9s
E22K **Anaktuvuk Pass** **54.76 25** P **P** **09 00 13.9 +1.3**
baz=263,SNR=9.8
TRF **Thorofare Moun** **55.01 31** P **P** **09 00 15.5 +0.9**
baz=268
M22K **Willow** **55.04 33** IAmb IAmb 09 00 16.2
comp=Z,54nm,1.1s
M22K **Willow** **55.04 33** P **P** **09 00 15.0 +0.4**
baz=269
KK31 **Karatay Array** **55.13 304** *i* P **P** **09 00 15.8 +0.1**
NIL **Nilore** **55.15 292** **P** **09 00 16.8 +0.8**
NIL **Nilore** **55.15 292** P **P** **09 00 17.1 +1.1**
NIL **Nilore** **55.15 292** P **P** **09 00 16.8 +0.8**
NIL pmax pmax
comp=Z,77nm,0.8s
RC01 **Rabbit Creek A** **55.22 34** P **P** **09 00 16.6 +0.7**
RC01 IAmb IAmb 09 00 17.1
comp=Z,15nm,0.7s
RC01 **Rabbit Creek A** **55.22 34** P **P** **09 00 16.4 +0.5**
baz=270
D23K **Nanushuk River** **55.27 24** P **P** **09 00 17.6 +1.4**
baz=264
COLD **Coldfoot** **55.28 27** P **P** **09 00 17.5 +1.3**
baz=265
G23K **Bananza Creek** **55.31 27** IAmb IAmb 09 00 19.4
comp=Z,20nm,0.8s
G23K **Bananza Creek** **55.31 27** P **P** **09 00 18.1 +1.5**
baz=266,SNR=16
SEW **Seward** **55.36 35** P **P** **09 00 17.4 +0.5**

baz=271
BWN Browne 55.40 30 IAmb IAmb 09 00 31.7
comp=Z,38nm,0.7s
C23K Itkillik River 55.40 23 P **P** **09 00 18.1 +1.1**
baz=263
H23K Yukon River 55.44 28 P **P** **09 00 18.8 +1.3**
baz=267
I23K Minto, Yukon-K 55.48 29 P **P** **09 00 18.8 +1.1**
baz=267
PMR Palmer 55.51 33 P **P** **09 00 18.2 +0.3**
PMR IAmb IAmb 09 00 19.0
comp=Z,18nm,0.9s
PMR Palmer 55.51 33 P **P** **09 00 18.8 +0.9**
comp=Z,22nm,1.0s
PMR Palmer 55.51 33 P **P** **09 00 18.2 +0.3**
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 55.51 33 P **P** **09 00 18.2 +0.3**
baz=270,SNR=7.9
E23K Chandalar 55.57 26 P **P** **09 00 20.1 +1.6**
baz=265,SNR=7.9
NEA2 Nenana 55.59 30 IAmb IAmb 09 00 20.4
comp=Z,22nm,1.0s
NEA2 Nenana 55.59 30 P **P** **09 00 19.6 +1.1**
baz=268,SNR=12
MCK McKinley 55.62 31 IAmb IAmb 09 00 20.8
comp=Z,18nm,0.7s
MCK McKinley 55.62 31 P **P** **09 00 19.1 +0.4**
baz=269,SNR=12
BRLS Borolday 55.63 304 *e*P **P** **09 00 20.3 +1.1**
TOLK Toolik Lake Re 55.64 25 P **P** **09 00 19.8 +0.9**
baz=265
RND Reindeer 55.65 31 IAmb IAmb 09 00 20.1
comp=Z,28nm,0.6s
IUG Iuzhnay 55.66 303 *e*P **P** **09 00 20.2 +0.7**
WAT1 Susitna Watana 55.78 32 P **P** **09 00 20.0 +0.1**
baz=270
KNK Knik Glacier 55.83 34 IAmb IAmb 09 00 21.7
comp=Z,28nm,0.6s
KNK Knik Glacier 55.83 34 P **P** **09 00 20.9 +0.6**
baz=271,SNR=7.3
SML Sawmill 55.89 33 IAmb IAmb 09 00 22.1
comp=Z,24nm,0.8s
SML Sawmill 55.89 33 P **P** **09 00 21.6 +1.0**
baz=271,SNR=7.0
PWL Port Wells 55.90 34 IAmb IAmb 09 00 24.1
comp=Z,22nm,0.7s
PWL Port Wells 55.90 34 P **P** **09 00 21.3 +0.5**
baz=271
D24K Happy Valley 55.95 24 IAmb IAmb 09 00 23.1
comp=Z,21nm,0.8s
D24K Happy Valley 55.95 24 P **P** **09 00 22.3 +1.3**
baz=265,SNR=7.9
E24K Your Creek 56.00 26 P **P** **09 00 22.7 +1.4**
baz=266
C24K Franklin Bluff 56.05 24 P **P** **09 00 22.8 +1.3**
baz=265
COLA College 56.12 29 P **P** **09 00 22.7 +0.6**
COLA IAmb IAmb 09 00 24.6
comp=Z,15nm,0.8s
COLA College 56.12 29 P **P** **09 00 23.1 +1.0**
comp=Z,7.9nm,0.8s
COLA College 56.12 29*d i*P **P** **09 00 22.7 +0.6**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 56.12 29 P **P** **09 00 23.1 +1.0**
baz=269
WAT6 Susitna Watana 56.16 32 P **P** **09 00 23.0 +0.3**
baz=271,SNR=8.7
M23K Glacier View 56.17 33 P **P** **09 00 23.5 +0.8**
baz=271,SNR=5.9
F24K Squaw Lake 56.19 26 IAmb IAmb 09 00 25.1
comp=Z,18nm,0.6s
F24K Squaw Lake 56.19 26 P **P** **09 00 24.1 +1.4**
baz=267,SNR=16
EIDS Eidsvold 56.27 167 P **P** **09 00 24.2 +0.5**
comp=Z,24nm,1.1s
POKR Poker Plat Res 56.30 29 P **P** **09 00 24.8 +1.3**
baz=269
G24K Hadweenzic Riv 56.32 27 P **P** **09 00 25.3 +1.7**
baz=268,SNR=8.8
DHY Denali Highway 56.32 32 P **P** **09 00 25.2 +1.4**
baz=271,SNR=6.0
SCM Sheep Creek Mo 56.36 33 IAmb IAmb 09 00 25.7
comp=Z,27nm,0.7s
SCM Sheep Creek Mo 56.36 33 P **P** **09 00 25.2 +1.1**
baz=272,SNR=5.9
HDA Harding Lake 56.50 30 IAmb IAmb 09 00 25.6
comp=Z,15nm,0.8s
HDA Harding Lake 56.50 30 P **P** **09 00 24.9 +0.1**
baz=270,SNR=14
ILAR Eielson Array 56.53 30 P **P** **09 00 24.7 -0.3**
comp=Z,3.2nm,0.6s,baz=258,slow=4.7,SNR=70
ILAR PcP **PcP** **09 01 15.8 -0.3**
comp=Z,1.5nm,0.8s,baz=305,slow=4.6,SNR=5.2
ILAR pP **pP** **09 01 49.4 -0.6**
comp=Z,1.0nm,0.8s,baz=265,slow=6.9,SNR=3.0
ILAR ScP **ScP** **09 04 33.6 -1.1**
comp=Z,0.7nm,0.9s,baz=284,slow=3.6,SNR=2.0
comp=Z,3.2nm,0.6s
D25K Kavik River 56.84 24 P **P** **09 00 28.2 +1.1**
baz=267
G25K Bearman Lake 56.87 27 P **P** **09 00 29.0 +1.7**
baz=269
M24K Tolsona, Glenn 56.90 33 P **P** **09 00 29.1 +1.4**
baz=272
H25L Birch Creek 56.97 28 P **P** **09 00 29.7 +1.6**
baz=270
K24K Donnelly Dome 57.02 31 P **P** **09 00 29.7 +1.2**
baz=272
KLU Klutina 57.05 34 IAmb IAmb 09 00 30.6
comp=Z,11nm,0.8s
KLU Klutina 57.05 34 P **P** **09 00 29.3 +0.6**
baz=273
F25K Christian Rive 57.05 26 IAmb IAmb 09 00 31.6
comp=Z,13nm,0.9s
F25K Christian Rive 57.05 26 P **P** **09 00 30.4 +1.6**
baz=269,SNR=9.0
CHGR Chuyangaron 57.08 299 P **P** **09 00 29.6 +0.2**
E25K Arctic Village 57.09 26 IAmb IAmb 09 00 31.6
comp=Z,11nm,0.8s
E25K Arctic Village 57.09 26 P **P** **09 00 30.7 +1.8**
baz=269,SNR=8.2
PRP Porcupine Dome 57.10 29 P **P** **09 00 29.4 +0.3**
baz=271,SNR=7.9
EYAK Cordova Ski Ar 57.18 35 P **P** **09 00 30.3 +0.7**
comp=Z,41nm,1.6s
PAX Paxson 57.19 32 P **P** **09 00 30.6 +0.8**
baz=272,SNR=7.9
FYU Fort Yukon 57.21 27 IAmb IAmb 09 00 34.6
comp=Z,12nm,0.8s
HARP HAARP 57.36 32 P **P** **09 00 32.0 +1.1**
baz=273,SNR=8.5
RIDG Independent Ri 57.44 31 IAmb IAmb 09 00 33.7
comp=Z,11nm,0.7s
RIDG Independent Ri 57.44 31 P **P** **09 00 31.5 +0.1**
baz=272,SNR=8.5
BMAR Burnt Mountain 57.46 26 P **P** **09 00 33.8 +2.3**
F26K Sheenjek River 57.63 26 IAmb IAmb 09 00 35.4
comp=Z,13nm,0.7s
F26K Sheenjek River 57.63 26 P **P** **09 00 34.7 +2.0**
baz=271,SNR=14
N25K Chitina, Valde 57.67 33 P **P** **09 00 34.2 +1.1**
baz=274
BMRM Bremner River 57.72 34 IAmb IAmb 09 00 35.2
comp=Z,17nm,0.6s
BMRM Bremner River 57.72 34 P **P** **09 00 34.4 +1.0**
baz=274
G26K Porcupine Rive 57.78 27 P **P** **09 00 35.0 +1.4**
baz=271
C27K Jago River 57.78 24 IAmb IAmb 09 00 36.8
comp=Z,18nm,1.1s
C27K Jago River 57.78 24 P **P** **09 00 35.1 +1.5**
baz=270,SNR=5.5
DOT Dot Lake 57.79 31 P **P** **09 00 34.4 +0.6**
DOT IAmb IAmb 09 00 35.1
comp=Z,17nm,0.7s
SCRK Sand Creek 57.81 31 **P** **09 00 34.5 +0.5**
SCRK IAmb IAmb 09 00 35.3
comp=Z,15nm,0.7s
SCRK Sand Creek 57.81 31 P **P** **09 00 34.3 +0.3**
baz=273,SNR=19
MENT Mentasta 57.99 32 P **P** **09 00 36.4 +1.2**
MENT IAmb IAmb 09 00 39.8
comp=Z,12nm,0.8s
MENT Mentasta 57.99 32 P **P** **09 00 36.6 +1.4**
I26K Coal Creek Min 58.10 29 P **P** **09 00 36.5 +0.7**
baz=273

KBL Kabul 58.26 294 **P** **09 00 37.4 -0.4**
KBL IAmb IAmb 09 00 38.6
comp=Z,30nm,0.8s
KBL Kabul 58.26 294 P **P** **09 00 37.9 +0.2**
SNR=13
KBL Kabul 58.26 294 P **P** **09 00 37.4 -0.4**
KBL pmax pmax
comp=Z,30nm,0.8s
MCARA McCarthy VSAT 58.44 34 IAmb IAmb 09 00 40.2
comp=Z,14nm,0.6s
MCARA McCarthy VSAT 58.44 34 P **P** **09 00 39.0 +0.7**
baz=276
CRQE Cirque 58.47 34 P **P** **09 00 39.2 +0.6**
baz=276
E27K Coleen River 58.58 25 IAmb IAmb 09 00 41.5
comp=Z,10nm,0.7s
E27K Coleen River 58.58 25 P **P** **09 00 40.5 +1.4**
baz=273,SNR=8.7
OUENC Ouen Island, N 58.60 150 P **P** **09 00 41.3 +1.5**
TGL Tana Glacier 58.60 34 IAmb IAmb 09 00 41.4
comp=Z,9.6nm,0.7s
WAX Waxell Ridge 58.62 35 IAmb IAmb 09 00 41.3
comp=Z,22nm,0.5s
G27K Doyon Strip 58.62 27 P **P** **09 00 40.7 +1.3**
baz=273
K27K Chicken 58.64 30 P **P** **09 00 40.6 +1.1**
baz=275
H27K Steamboat Moun 58.71 28 P **P** **09 00 41.6 +1.5**
baz=274,SNR=10
D27M Malcolm River 58.76 24 P **P** **09 00 41.8 +1.5**
baz=272
L27K Beaver Creek, 58.84 32 P **P** **09 00 42.0 +1.1**
baz=276
BCAR Beaver Creek A 58.86 32 P **P** **09 00 42.0 +0.9**
EGAK Eagle 58.98 29 P **P** **09 00 42.4 +0.6**
baz=275
PALK Pallekele 59.03 260 **P** **09 00 43.4 +0.3**
PALK IAmb IAmb 09 00 44.4
comp=Z,30nm,0.8s
PALK Pallekele 59.03 260 P **P** **09 00 43.9 +0.8**
PALK Pallekele 59.03 260 P **P** **09 00 43.4 +0.3**
PALK pmax pmax
comp=Z,30nm,0.8s
MESA MESA 59.10 35 P **P** **09 00 43.7 +0.7**
baz=277
GRNC Granite Creek 59.13 34 P **P** **09 00 44.1 +0.9**
GRNC IAmb IAmb 09 00 44.6
comp=Z,9.5nm,0.7s
SVE Sverdlovsk 59.22 321 *e*P **P** **09 00 43.8 +0.2**
SVE pmax pmax
comp=Z,57nm,0.9s
F28M Old Crow 59.26 26 P **P** **09 00 44.9 +1.2**
baz=274,SNR=5.3
CTG Chitna Glacier 59.30 34 P **P** **09 00 45.0 +0.8**
baz=277
E28M Babbage River 59.31 25 IAmb IAmb 09 00 46.6
comp=Z,12nm,0.7s
E28M Babbage River 59.31 25 P **P** **09 00 45.7 +1.6**
baz=274,SNR=9.9
I28M Miner Creek 59.43 29 IAmb IAmb 09 00 47.0
comp=Z,12nm,0.5s
I28M Miner Creek 59.43 29 P **P** **09 00 46.0 +1.0**
baz=276,SNR=17
D28M Stokes Point 59.55 24 P **P** **09 00 47.0 +1.5**
baz=274
MEEK Meekatharra 59.62 201 P **P** **09 00 46.5 -0.2**
comp=Z,15nm,1.3s
DAWY Dawson 59.82 30 **P** **09 00 48.1 +0.5**
DAWY Dawson 59.82 30 P **P** **09 00 48.4 +0.9**
baz=277,SNR=6.7
O28M Mount Upton 59.88 34 P **P** **09 00 49.4 +1.1**
baz=278
E29M Blow River 59.94 25 IAmb IAmb 09 00 50.5
comp=Z,8.0nm,0.6s
E29M Blow River 59.94 25 P **P** **09 00 49.4 +1.2**
baz=276,SNR=6.3
PINM Pinnacle 59.95 35 P **P** **09 00 49.5 +1.0**
baz=279
H29M Whitestone 59.99 28 P **P** **09 00 49.9 +1.3**
baz=277
YUK8 Steele Glacier 60.02 33 P **P** **09 00 50.2 +1.0**
baz=278
G29M Pine Creek 60.05 27 IAmb IAmb 09 00 51.6
comp=Z,25nm,0.7s
G29M Pine Creek 60.05 27 P **P** **09 00 50.7 +1.6**
baz=277,SNR=18
I29M Ogilvie Camp, 60.12 29 P **P** **09 00 50.7 +1.2**
baz=277,SNR=8.8
BCPM Bancas Point 60.28 35 P **P** **09 00 51.6 +1.0**
BCPM IAmb IAmb 09 00 52.7
comp=Z,13nm,0.9s
PNL Peninsula 60.45 35 P **P** **09 00 52.9 +1.1**
comp=Z,18nm,0.8s
PNL Peninsula 60.45 35 P **P** **09 00 52.8 +1.0**
baz=280
M29M Somme Creek 60.45 32 P **P** **09 00 53.4 +1.5**
baz=279,SNR=7.6
L29M L29M 60.51 31 IAmb IAmb 09 00 56.2
comp=Z,15nm,1.1s
L29M L29M 60.51 31 P **P** **09 00 53.7 +1.6**
baz=279,SNR=9.2
ARTI Arti 60.52 321 **P** **09 00 52.0 -0.4**
ARTI Arti 60.52 321 P **P** **09 00 52.2 -0.1**
comp=Z,72nm,0.5s,baz=91,slow=3.8,SNR=113
comp=Z,72nm,0.5s
ARTI Arti 60.52 321*d i*P **P** **09 00 51.9 -0.4**
ARTI 09 01 29.0
ARTI *PP **pP** **09 02 18.4 +0.4**
ARTI 09 03 06.1
ARTI S **S** **09 08 34.6 +0.2**
ARTI SS **SS** **09 12 38.4 -2.1**
ARTI pmax pmax
comp=Z,75nm,0.6s
YUK4 Talbot Arm 60.54 33 P **P** **09 00 54.1 +1.5**
baz=279,SNR=8.3
EPYK Eagle Plains 60.63 27 P **P** **09 00 54.2 +1.2**
baz=278,SNR=23
K29M Barlow Dome 60.66 30 P **P** **09 00 54.5 +1.2**
baz=279,SNR=7.4
YUK6 Outpost Mounta 60.74 34 P **P** **09 00 55.4 +1.3**
baz=280
G30M tAoh Zraii Nji 60.74 27 IAmb IAmb 09 00 55.3
comp=Z,29nm,1.1s
G30M tAoh Zraii Nji 60.74 27 P **P** **09 00 54.5 +0.8**
baz=278,SNR=11
O29M Mount Kennedy 60.74 34 IAmb IAmb 09 00 56.5
comp=Z,12nm,0.8s
O29M Mount Kennedy 60.74 34 P **P** **09 00 55.1 +1.2**
baz=280,SNR=9.3
F30M Barrier River 60.82 26 IAmb IAmb 09 00 56.7
comp=Z,42nm,1.1s
F30M Barrier River 60.82 26 P **P** **09 00 55.5 +1.3**
baz=278,SNR=9.9
I30M Mount Dempster 60.94 29 IAmb IAmb 09 00 57.3
comp=Z,11nm,0.6s
I30M Mount Dempster 60.94 29 P **P** **09 00 56.2 +1.1**
baz=279,SNR=10
J30M Hart River 61.06 29 P **P** **09 00 57.0 +1.1**
baz=279,SNR=5.5
AB31 Akbulak array 61.07 313 P **P** **09 00 55.7 -0.4**
ABKAR Akbulak array 61.07 313 **P** **09 00 56.2 +0.1**
HYT Haines Junctio 61.17 34 **P** **09 00 58.4 +1.6**
HYT IAmb IAmb 09 00 59.2
comp=Z,8.2nm,0.8s
HYT Haines Junctio 61.17 34 P **P** **09 00 58.1 +1.4**
baz=280,SNR=9.5
M30M Minto, Yukon 61.20 32 P **P** **09 00 57.9 +1.2**
baz=280
N30M Aishikik Lake 61.26 33 P **P** **09 00 58.3 +1.1**
baz=280
P29M Windy Craggy 61.28 35 IAmb IAmb 09 00 59.9
comp=Z,14nm,0.8s
P29M Windy Craggy 61.28 35 P **P** **09 00 59.0 +1.6**
baz=281,SNR=8.2
ARMA Armidale 61.29 168 P **P** **09 00 58.6 +0.8**
comp=Z,28nm,2.3s
FORT Forrest 61.35 191 **P** **09 00 58.6 +0.5**
MAYO Mayo, Yukon 61.42 30 IAmb IAmb 09 01 00.3
comp=Z,10nm,0.7s
MAYO Mayo, Yukon 61.42 30 P **P** **09 00 59.6 +1.4**
baz=280
G31M Satah River 61.51 27 IAmb IAmb 09 00 59.9
comp=Z,18nm,0.5s
G31M Satah River 61.51 27 P **P** **09 00 59.1 +0.5**
baz=280,SNR=11
CMSA Cobar Meteorol 61.54 174 P **P** **09 01 00.1 +0.8**
comp=Z,17nm,0.8s

INK Inuvik 61.55 25 IAmb IAmb 09 01 00.2
comp=Z,10nm,0.5s
INK Inuvik 61.55 25 P **P** **09 00 59.5 +0.6**
baz=280,SNR=6.5
P30M Million Dollar 61.57 34 P **P** **09 01 00.2 +0.8**
baz=281
STKA Stephens Creek 61.60 178 **P** **09 00 59.9 +0.2**
STKA Stephens Creek 61.60 178 P **P** **09 00 60.0 +0.2**
comp=Z,21nm,0.6s,baz=350,slow=6.9,SNR=75
comp=Z,21nm,0.6s
STKA Stephens Creek 61.60 178 P **P** **09 01 00.0 +0.2**
comp=Z,6.7nm,0.7s
STKA Stephens Creek 61.60 178*c i*P **P** **09 00 59.8 +0.1**
F31M Tsiigehtchic 61.62 26 P **P** **09 00 59.8 +0.4**
baz=280
H31M Peel River 61.68 28 IAmb IAmb 09 01 01.7
comp=Z,20nm,0.7s
H31M Peel River 61.68 28 P **P** **09 01 00.8 +0.9**
baz=280,SNR=11
O30N Mendenhall 61.87 34 P **P** **09 01 02.3 +1.1**
baz=282
N31M Braeburn, Yuko 61.87 33 IAmb IAmb 09 01 03.6
comp=Z,14nm,0.9s
N31M Braeburn, Yuko 61.87 33 P **P** **09 01 02.8 +1.6**
baz=282,SNR=9.5
AKTO Aktyubinsk 62.00 314 P **P** **09 01 01.4 -0.9**
M31M Drury Creek, Y 62.37 32 IAmb IAmb 09 01 06.2
comp=Z,9.6nm,0.8s
M31M Drury Creek, Y 62.37 32 P **P** **09 01 05.6 +1.1**
baz=282,SNR=9.8
S31K Pelican 62.39 37 P **P** **09 01 06.3 +1.7**
baz=283
WHY Whitehorse 62.47 34 IAmb IAmb 09 01 07.5
comp=Z,15nm,0.7s
WHY Whitehorse 62.47 34 P **P** **09 01 06.5 +1.3**
baz=283,SNR=9.5
SKAG Skagway 62.52 35 P **P** **09 01 06.9 +1.5**
SKAG IAmb IAmb 09 01 07.6
comp=Z,7.5nm,0.6s
SKAG Skagway 62.52 35 P **P** **09 01 07.1 +1.7**
comp=Z,11nm,0.7s
SKAG Skagway 62.52 35 P **P** **09 01 06.8 +1.5**
baz=283
BBOO Buckleboo 62.55 183 **P** **09 01 05.6 -0.3**
BBOO IAmb IAmb 09 01 07.8
comp=Z,9.8nm,0.5s
BBOO Buckleboo 62.55 183 P **P** **09 01 06.4 +0.5**
comp=Z,17nm,0.7s
MORW Morawa 62.71 203 **P** **09 01 06.9 -0.1**
MORW IAmb IAmb 09 01 08.0
comp=Z,21nm,1.1s
MORW Morawa 62.71 203 P **P** **09 01 07.2 +0.1**
comp=Z,18nm,0.9s
SIT Sitka 63.08 38 P **P** **09 01 10.7 +1.6**
comp=Z,22nm,2.0s
HTT Hallett 63.10 180 P **P** **09 01 10.0 +0.4**
comp=Z,12nm,0.9s
R32K Eaglecrest 63.20 36 P **P** **09 01 11.2 +1.3**
baz=284
N32M Quiet Lake 63.21 33 P **P** **09 01 11.0 +0.9**
baz=284
JIS Juneau Island 63.27 36 P **P** **09 01 10.9 +0.6**
comp=Z,21nm,0.8s
P32M Atlin 63.29 35 P **P** **09 01 11.7 +1.2**
baz=284
P33M Teslin, Yukon 63.57 34 P **P** **09 01 13.7 +1.4**
baz=285
MMPY Sheldon Lake, 63.69 31 P **P** **09 01 14.5 +1.4**
baz=285
BLDU Ballidu 63.92 201 P **P** **09 01 15.2 +0.3**
comp=Z,22nm,1.6s
Q32M Nakina River 64.17 35 P **P** **09 01 17.4 +1.0**
baz=286
C36M Paulatuk 64.64 23 P **P** **09 01 19.6 +0.7**
baz=288
CRAG Craig 64.69 39 P **P** **09 01 21.0 +1.6**
comp=Z,14nm,2.4s
CRAG Craig 64.69 39 P **P** **09 01 20.5 +1.0**
baz=287
R33M Jennings River 64.69 34 P **P** **09 01 20.5 +0.9**
baz=286
KIRV Kirov 64.71 325 P **P** **09 01 20.1 +0.5**
comp=Z,153nm,0.7s,baz=72,slow=2.4,SNR=44
comp=Z,153nm,0.7s
KIRV Kirov 64.71 325*d i*P **P** **09 01 19.7 +0.1**
S34M Telegraph Cree 65.03 36 P **P** **09 01 22.9 +1.3**
baz=287
TGTN Hyland Airport 65.34 32 P **P** **09 01 25.0 +1.3**
baz=288,SNR=9.3
DLBC Dease Lake 65.44 35 P **P** **09 01 25.7 +1.3**
baz=288
WTLY Watson Lake, Y 65.53 33 P **P** **09 01 26.1 +1.3**
baz=288
CAN Canberra 65.67 171 P **P** **09 01 27.0 +1.1**
comp=Z,28nm,1.9s
T35M Bob Quinn 65.77 37 P **P** **09 01 27.5 +1.1**
baz=288
NWAO Narrogin (SRO) 65.91 200 P **P** **09 01 27.8 +0.4**
NWAO Narrogin (SRO) 65.91 200 P **P** **09 01 27.9 +0.4**
NWAO Narrogin (SRO) 65.91 200 P **P** **09 01 27.6 +0.1**
comp=Z,26nm,0.7s
NWAO Narrogin (SRO) 65.91 200 P **P** **09 01 27.8 +0.4**
comp=Z,26nm,0.7s
NWAO Narrogin (SRO) 65.91 200 P **P** **09 01 27.8 +0.4**
NWAO pmax pmax
comp=Z,21nm,0.7s
U35K Hyder 66.22 38 P **P** **09 01 30.7 +1.6**
baz=289
WRGLY Wrigley 66.90 29 P **P** **09 01 34.5 +1.2**
baz=291
SPB2 Spitsbergen Ar 67.01 349 IAmb IAmb 09 01 35.5
comp=Z,17nm,0.7s
SPA0 Spitsbergen Ar 67.01 349 *e*P **P** **09 01 34.4 +0.7**
SPITS Spitsbergen Ar 67.01 349 P **P** **09 01 34.4 +0.7**
comp=Z,7.8nm,0.5s,baz=86,slow=11,SNR=43
comp=Z,7.8nm,0.5s
SPITS Spitsbergen Ar 67.01 349 P **P** **09 01 34.6 +0.8**
SPITS pmax pmax
comp=Z,23nm,1.1s
LIRD Liard River Hi 67.05 34 P **P** **09 01 35.8 +1.5**
baz=290
KBS Kingsbay 67.22 350 P **P** **09 01 35.4 +0.4**
KBS Kingsbay 67.22 350*d i*P **P** **09 01 36.1 +1.1**
KBS pmax pmax
comp=Z,28nm,1.7s
KBS Kingsbay 67.22 350 *e*P **P** **09 01 36.4 +1.4**
KBS Kingsbay 67.22 350 *i* P **P** **09 01 36.2 +1.1**
BELG Belogornoye 67.64 319*d i*P **P** **09 01 37.8 -0.2**
BELG pmax pmax
comp=Z,31nm,0.9s
TOAD Toad River Com 67.67 34 P **P** **09 01 39.1 +0.9**
baz=291
NOR Nord 67.91 356 *i* P **P** **09 01 40.0 +0.7**
NOR IAmb IAmb 09 01 40.8
comp=Z,63nm,1.9s
APA Apatity 68.28 337 *j i*P **P** **09 01 39.0 -2.7**
APA *i* 09 02 03.0
APA *i* *PP **pP** **09 03 04.7 -5.3**
APA MLR MLR
comp=Z,2μm,7.8s
VADS Vadso 68.41 340 *e*P **P** **09 01 43.4 +0.9**
KLMR Klimovskoe 68.66 329 *e*P **P** **09 01 40.4 -3.7**
KLMR pmax pmax
comp=Z,106nm,1.4s
KEV Kevo 69.30 340 P **P** **09 01 48.5 +0.7**
KEV Kevo 69.30 340 P **P** **09 01 48.5 +0.7**
KEV pmax pmax
comp=Z,56nm,0.7s
HAMF Hammerfest 69.79 341 *e*P **P** **09 01 51.3 +0.5**
ARA0 ARCESS Array S 69.86 340 *e*P **P** **09 01 52.1 +0.8**
ARCES ARCESS Array B 69.86 340 **P** **09 01 51.6 +0.3**
ARCES ARCESS Array B 69.86 340 P **P** **09 01 52.0 +0.7**
comp=Z,34nm,0.5s,baz=70,slow=8.8,SNR=163
comp=Z,34nm,0.5s
JLN Jalan Bani Buh 70.63 285 P **P** **09 01 57.2 +0.4**
SNR=5.1
WSAR Wadi Sarin 70.82 286 P **P** **09 01 58.6 +0.7**
KTK1 Kautokeino 70.83 340 *e*P **P** **09 01 57.8 +0.7**
YKA Yellowknife Ar 70.90 28 P **P** **09 01 57.9 +0.3**
comp=Z,2.6nm,0.6s,baz=287,slow=5.2,SNR=20
comp=Z,2.6nm,0.6s
BIDO Bidbid 71.12 287 P **P** **09 02 00.9 +1.2**
SNR=9.4
JOF Joensuu 71.23 333 *e*P **P** **09 01 59.6 +0.1**
JETT Jettan, Norway 71.33 341 *e*P **P** **09 02 00.7 +0.6**
SMDO Samad 71.38 286 P **P** **09 02 01.7 +0.4**
SNR=6.6

VRH	Novokhopyorsk	71.48 319	*e*P		P	09 01 58.7 -2.5
VRH			pmax	pmax		
	comp=Z,70nm,0.8s					
BANOM	Banah	71.61 290	P		P	09 02 03.6 +1.0
BANOM	Banah	71.61 290	P		P	09 02 03.4 +0.8
JMDO	Jabal Madar	71.63 286	P		P	09 02 03.0 +0.3
	SNR=6.6					
SHME	Shamm	71.69 290	P		P	09 02 03.4 +0.5
	SNR=11					
SHME	Shamm	71.69 290	*i* P		P	09 02 03.6 +0.7
	SNR=28					
SHME			P		P	09 02 04.0 +1.1
TRO	Tromso	71.70 341	*e*P		P	09 02 02.6 +0.4
AKT	Akhty	71.71 308	*e*P		P	09 02 01.7 -1.3
AKT			*e*			09 02 17.3
AKT			*e*			09 04 45.6
AKT			pmax	pmax		
	comp=Z,123nm,0.7s					
MOS	Moscow	71.72 324	*e*P		P	09 02 01.5 -1.1
MOS			pmax	pmax		
	comp=Z,82nm,1.0s					
LANU	Lannavaara	71.76 339	*e*P		P	09 02 03.2 +0.6
HOQ	Hoqain	71.77 287	P		P	09 02 03.1 -0.4
	SNR=17					
MDH	Madha	71.88 289	P		P	09 02 03.6 -0.4
MASF	Masafi	71.96 289	P		P	09 02 05.4 +0.8
	SNR=6.2					
MSFE	Esma-Masafi	71.97 289	*i* P		P	09 02 05.5 +0.9
	SNR=8.8					
UOSS	Minazif	72.11 289			P	09 02 05.6 +0.2
UOSS			IAmb	IAmb		09 02 06.3
	comp=Z,21nm,0.9s					
UOSS	Minazif	72.11 289	P		P	09 02 05.6 +0.2
UOSS	Minazif	72.11 289	*i* P		P	09 02 05.7 +0.2
	SNR=8.2					
SOHO	SOHO	72.18 288	P		P	09 02 06.5 +0.6
SOHO	SOHO	72.18 288	*i* P		P	09 02 06.4 +0.6
	SNR=11					
HATD	Hatta, Dubai	72.22 289	P		P	09 02 06.7 +0.6
	SNR=14					
HATD	Hatta, Dubai	72.22 289	P		P	09 02 06.7 +0.6
ASHO	Ashiyiah	72.34 289	P		P	09 02 07.4 +0.5
	SNR=11					
ASHO	Ashiyiah	72.34 289	*i* P		P	09 02 07.0 +0.2
	SNR=21					
MHTO	MHTO	72.34 284	P		P	09 02 07.0 +0.2
	SNR=14					
LPSR	Galich'ya Gora	72.44 321	*e*P		P	09 02 04.7 -2.1
LPSR			pmax	pmax		
	comp=Z,70nm,0.9s					
ARQ	Araqi	72.53 287	P		P	09 02 09.0 +1.0
	SNR=16					
OBN	Obninsk	72.55 324			P	09 02 07.8 +0.4
OBN	Obninsk	72.55 324	*d i* P		P	09 02 07.0 -0.3
OBN			*e*			09 02 22.5
OBN			*e**PP		pwP	09 03 40.8 -1.2
OBN			*e**SP		sP	09 04 19.9 -0.8
OBN			*e*			09 04 54.4
OBN			*e*PPP	PPP		09 06 42.4
OBN			pmax	pmax		
	comp=Z,81nm,0.8s					
OBN	Obninsk	72.55 324	P		P	09 02 07.7 +0.4
	comp=Z,105nm,0.9s					
DAG	Danmarks Havn	72.57 355	*i* P		P	09 02 07.6 +0.4
DAG			IAmb	IAmb		09 02 08.6
	comp=Z,34nm,1.0s					
NEEM	North Greenlan	72.61 2	*i* P		P	09 02 08.8 +1.0
NEEM			IAmb	IAmb		09 02 09.5
	comp=Z,53nm,1.0s					
FAQ	Al Faqa, Dubai	72.69 289	P		P	09 02 09.1 +0.2
	SNR=5.0					
VORR	Voronezh	72.70 320	*e*P		P	09 02 06.6 -1.7
VORR			pmax	pmax		
	comp=Z,70nm,0.9s					
ALNE	Al Ain	72.86 288	P		P	09 02 10.3 +0.5
	SNR=14					
ALNE	Al Ain	72.86 288	*i* P		P	09 02 10.3 +0.5
	SNR=7.8					
VSR	Storozhevoye	72.92 320	*e*P		P	09 02 07.9 -1.8
VSR			pmax	pmax		
	comp=Z,90nm,0.9s					
ASUD	Al Ashush, Dub	72.96 289	P		P	09 02 11.1 +0.7
VORD	Divnogorie	72.97 319	*e*P		P	09 02 08.3 -1.6
VORD			pmax	pmax		
	comp=Z,50nm,0.9s					
DQM	DQM	73.17 284	P		P	09 02 12.0 +0.4
	SNR=6.3					
PUL	Pulkovo	73.22 330	⇑*e*P		P	09 02 12.0 +0.8
PUL			pmax	pmax		
	comp=Z,173nm,0.5s					
GOF	Gofitskoye	73.31 313	*ce*P		P	09 02 12.4 +0.3
SJUU	Sjulsmark	73.38 337	*e*P		P	09 02 12.4 +0.4
NCK	Nalchik	73.64 311	⇓*e*P		P	09 02 15.0 +1.0
NCK			pmax	pmax		
	comp=Z,14nm,0.3s					
STEI	Steigen	73.82 341	*e*P		P	09 02 14.9 +0.4
UMZA	Um Al Zommool	73.93 287	P		P	09 02 15.9 -0.1
KBZ	Khabaz	73.99 311	P		P	09 02 16.7 +0.8
	comp=Z,77nm,0.8s,baz=89,slow=3.8,SNR=116					
	comp=Z,77nm,0.8s					
KBZ	Khabaz	73.99 311	*d i* P		P	09 02 16.2 +0.3
KBZ			pmax	pmax		
	comp=Z,89nm,0.8s					
KIV	Kislovodsk	74.03 312			P	09 02 16.8 +0.6
KIV	Kislovodsk	74.03 312	P		P	09 02 17.4 +1.1
KIV	Kislovodsk	74.03 312	*i* P		P	09 02 17.2 +0.9
	SNR=8.6					
KIV	Kislovodsk	74.03 312	*e*P		P	09 02 15.4 -0.9
KIV			pmax	pmax		
	comp=Z,88nm,1.1s					
KIV	Kislovodsk	74.03 312	P		P	09 02 16.9 +0.6
	comp=Z,886nmcomp=Z,88nm,1.3s					
FINES	FINESS Array B	74.09 333			P	09 02 16.7 +0.5
FINES	FINESS Array B	74.09 333	P		P	09 02 16.2 +0.1
	comp=Z,33nm,0.5s,baz=64,slow=5.5,SNR=209					
	comp=Z,33nm,0.5s					
FINES	FINESS Array B	74.09 333	P		P	09 02 16.7 +0.5
SHA1	Shidzhatmaz	74.14 312	*d i* P		P	09 02 17.2 +0.1
KEF	Keuruu	74.16 334	*e*P		P	09 02 16.2 -0.3
FAUS	Fauske	74.17 340	*e*P		P	09 02 16.8 +0.3
NEUR	Neytrino	74.32 311	*i* P		P	09 02 19.9 +1.8
NEUR			pmax	pmax		
	comp=Z,13nm,1.0s					
GNI	Garni	74.33 307			P	09 02 19.4 +1.2
GNI	Garni	74.33 307	P		P	09 02 19.7 +1.5
GNI	Garni	74.33 307	*d i* P		P	09 02 18.9 +0.7
GNI			pmax	pmax		
	comp=Z,74nm,1.3s					
GNI	Garni	74.33 307	P		P	09 02 19.2 +1.0
	comp=Z,647nmcomp=Z,45nm,1.1s					
VAF	Ylistaro	74.48 335	*e*P		P	09 02 18.6 +0.3
JRN	Qarnain Island	74.85 290	P		P	09 02 20.8 -0.4
KULLO	Kullorsuaq	75.12 4	*i* P		P	09 02 22.1 +0.4
KULLO			IAmb	IAmb		09 02 23.0
	comp=Z,23nm,0.7s					
RAUS	Rausandaksla	75.18 340	*e*P		P	09 02 22.1 -0.1
MZR	Muzera	75.19 288	P		P	09 02 24.0 +0.8
	SNR=8.4					
MZR	Muzera	75.19 288	*i* P		P	09 02 23.1 0.0
	SNR=13					
MZR			*i* P		P	09 02 24.0 +0.8
	SNR=5.2					
VAGH	Vaagaholmen	75.20 341	*e*P		P	09 02 22.5 +0.2
MOR8	Moi Rana	75.24 340	*e*P		P	09 02 21.7 -0.9
GHWR	Ruwais	75.26 289	P		P	09 02 23.4 -0.1
ARBE	Arbavere	75.26 331	*e*P		P	09 02 23.4 +0.5
B08A	Colville Reser	75.28 42	IAmb	IAmb		09 02 25.0
	comp=Z,6.6nm,0.9s					
MEF	Metsahovi	75.47 332	*e*P		P	09 02 24.5 +0.6
VSU	Vasula	75.49 330	*d i* P		P	09 02 23.2 -0.9
VSU			pmax	pmax		
	comp=Z,106nm,1.0s					
MXC	Moxie City	75.56 44	IAmb	IAmb		09 02 27.0
	comp=Z,5.0nm,0.7s					
SHAO	Shalim	75.64 283	P		P	09 02 26.1 +0.4
SHAO	Shalim	75.64 283	*i* P		P	09 02 26.0 +0.3
	SNR=7.2					
LEIR	Leirfjorden	75.67 340	*e*P		P	09 02 25.3 +0.3
HIZ	Hauiti	75.94 152	P		P	09 02 28.6 +1.8
	comp=Z,40nm,1.5s					
VSLR	Vesyoloye	75.96 312	*i* P		P	09 02 27.4 +0.3
VSLR			pmax	pmax		
	comp=Z,117nm,0.7s					
SHMA	Al-Shehemyia	75.97 292	P		P	09 02 27.3 -0.1
RAF	Rauma	76.03 334	*e*P		P	09 02 27.1 0.0
SOC	Sochi	76.11 312	*e*P		P	09 02 27.0 -0.9
SOC			*e*			09 05 26.7
SOC			*e*PPP	PPP		09 07 22.7
SOC			*e*S	S		09 11 35.7 -1.0
SOC			*e*SS	SS		09 16 37.1 -2.7
SOC			*e*SSS	SSS		09 20 03.5
SOC			pmax	pmax		
	comp=Z,54nm,0.7s					
D08A	Wollman Farm,	76.16 44	IAmb	IAmb		09 02 29.9
	comp=Z,7.6nm,0.7s					
C09A	Chrisman Ranch	76.17 43	IAmb	IAmb		09 02 30.0
	comp=Z,11nm,0.6s					
SLWR	Sila	76.18 290	P		P	09 02 28.7 0.0
SAKB	Bahrain	76.26 292	P		P	09 02 28.9 -0.2
TRNA	Turayna	76.27 291	P		P	09 02 28.9 -0.3
DMTO	DMTO	76.35 283	P		P	09 02 29.7 0.0
PINE	Pine Mountain	76.48 47			P	09 02 32.2 +1.9
PINE			IAmb	IAmb		09 02 32.9
	comp=Z,18nm,0.8s					
J05D	Fort Rock, OR	76.54 48	IAmb	IAmb		09 02 32.9
	comp=Z,14nm,0.9s					
SMRA	Abu-Samra	76.58 291	P		P	09 02 30.5 -0.3
DOK	Doka	76.63 284	P		P	09 02 31.0 -0.2
	SNR=8.8					
URZ	Urewera	76.68 150	P		P	09 02 30.9 0.0
	comp=Z,14nm,0.8s					
E09A	Wood Farm, Sta	76.89 44	IAmb	IAmb		09 02 34.7
	comp=Z,18nm,1.4s					
M03C	McCloud	76.92 50	IAmb	IAmb		09 02 34.5
	comp=Z,12nm,0.7s					
RTZ	Ruatahuna	76.92 150	P		P	09 02 32.0 -0.3
RTZ			IAmb	IAmb		09 02 32.8
	comp=Z,14nm,0.8s					
UPNV	Upernavik	76.95 5	*i* P		P	09 02 32.7 +0.7
UPNV			IAmb	IAmb		09 02 33.2
	comp=Z,19nm,0.7s					
K05A	Summer Lake	77.03 48	IAmb	IAmb		09 02 36.2
	comp=Z,15nm,1.0s					
KBD	Kabd	77.06 296	P		P	09 02 33.7 +0.3
RBK	Rabkut	77.08 283	P		P	09 02 33.6 -0.1
NSS	Namsos	77.12 339	*e*P		P	09 02 32.8 -0.3
BKZ	Black Stump Fm	77.17 151			P	09 02 33.3 -0.4
BKZ			IAmb	IAmb		09 02 34.2
	comp=Z,9.4nm,0.6s					
MNK	Minsk	77.18 326	*i* P		P	09 02 33.6 0.0
MNK			*i* *PP		pP	09 04 04.6 +0.1
MNK			*i*			09 05 34.7
MNK			*i* PPP	PPP		09 07 23.4
MNK			*i* S	S		09 11 48.0 +0.2
MNK			*i* SS	SS		09 16 57.4 +2.3
MNK			*i* SSS	SSS		09 20 23.7
MNK			pmax	pmax		
	comp=Z,71nm,0.8s					
MNK			pmax	pmax		
	comp=N,20nm,0.7s					
MNK			pmax	pmax		
	comp=E,52nm,0.8s					
MNK			MLR	MLR		
	comp=E,918nm,22.0s					
MNK			MLR	MLR		
	comp=N,666nm,19.0s					
MNK			MLR	MLR		
	comp=Z,235nm,22.0s					
AAL	Aland	77.25 333	*e*P		P	09 02 33.1 -0.7
WHFO	Wadi Hawf	77.25 283	P		P	09 02 34.2 -0.5
	SNR=6.0					
ISAL	Salakas	77.41 328	*e*P		P	09 02 36.9 +2.1
SUMG	Summit	77.67 359	*i* P		P	09 02 37.9 +1.5
SUMG			IAmb	IAmb		09 02 39.2
	comp=Z,20nm,0.8s					
SLIT	Slitere, Latvi	77.89 331	*e*P		P	09 02 37.4 0.0
ABTO	Aybut	77.92 283	P		P	09 02 38.2 -0.2
	SNR=7.5					
VSVD	Vaisvydziai	78.17 329	*e*P		P	09 02 39.2 +0.3
J08A	Circle Bar Ran	78.26 47	IAmb	IAmb		09 02 42.0
	comp=Z,8.9nm,0.6s					
BFZ	Birch Farm	78.35 152	P		P	09 02 40.3 +0.3
	comp=Z,27nm,1.6s					
NUUG	Nuugaatsiaq	78.36 4	*i* P		P	09 02 40.3 +0.6
NUUG			IAmb	IAmb		09 02 40.8
	comp=Z,17nm,0.6s					
UPP	Uppsala	78.37 334	*e*P		P	09 02 39.5 -0.4
PABE	Paberze	78.44 328	*e*P		P	09 02 40.7 +0.3
AK03	Malin Array Si	78.61 322	P		P	09 02 41.2 -0.2
AKASG	Malin Array Be	78.62 322	P		P	09 02 41.1 -0.4
	comp=Z,15nm,0.4s,baz=51,slow=5.4,SNR=98					
AKASG			PP		PP	09 05 44.2 -1.5
	comp=Z,3.0nm,0.8s,baz=52,slow=8.5,SNR=4.0					
	comp=Z,15nm,0.4s					
AKBB	Malin Array Si	78.62 322	*d i* P		P	09 02 41.2 -0.3
AKBB			pmax	pmax		
	comp=Z,51nm,0.8s					
AKBB	Malin Array Si	78.62 322	P		P	09 02 40.8 -0.7
AK01	Malin Array Si	78.63 322	P		P	09 02 40.9 -0.6
KIEV	Kiev	78.63 322	*i* P		P	09 02 41.1 -0.4
	SNR=17					
KIEV	Kiev	78.63 322	P		P	09 02 41.1 -0.4
KIEV	Kiev	78.63 322	P		P	09 02 40.8 -0.7
	comp=Z,294nm,0.8s					
AK09	Malin Array Si	78.63 322	P		P	09 02 41.5 -0.1
AK04	Malin Array Si	78.64 322	P		P	09 02 41.2 -0.4
AK23	Malin Array Si	78.64 322	P		P	09 02 41.3 -0.3
AK08	Malin Array Si	78.64 322	P		P	09 02 41.4 -0.2
AK02	Malin Array Si	78.65 322	P		P	09 02 41.2 -0.5
AK10	Malin Array Si	78.66 322	P		P	09 02 41.5 -0.2
AK11	Malin Array Si	78.66 322	P		P	09 02 41.5 -0.2
AK22	Malin Array Si	78.67 322	P		P	09 02 41.5 -0.2
AK21	Malin Array Si	78.67 323	P		P	09 02 41.5 -0.3
AK05	Malin Array Si	78.67 322	P		P	09 02 41.5 -0.3
AK15	Malin Array Si	78.67 322	P		P	09 02 41.5 -0.3
AK12	Malin Array Si	78.69 322	P		P	09 02 41.6 -0.2
AK18	Malin Array Si	78.69 322	P		P	09 02 41.6 -0.3
AK06	Malin Array Si	78.69 322	P		P	09 02 41.7 -0.2
AK16	Malin Array Si	78.70 322	P		P	09 02 41.7 -0.2
AK20	Malin Array Si	78.71 322	P		P	09 02 41.7 -0.3
AK07	Malin Array Si	78.71 322	P		P	09 02 41.7 -0.3
AK17	Malin Array Si	78.72 322	P		P	09 02 41.8 -0.2
AK14	Malin Array Si	78.72 322	P		P	09 02 41.8 -0.2
AK19	Malin Array Si	78.72 322	P		P	09 02 41.8 -0.2
AK13	Malin Array Si	78.75 322	P		P	09 02 42.0 -0.2
BEKR	Beckworth	78.77 50	IAmb	IAmb		09 02 44.4
	comp=Z,7.1nm,0.7s					
SIM	Simferopol'	78.93 316	*e*P		P	09 02 43.5 +0.2
PBUR	Paburge	79.04 329	*e*P		P	09 02 44.0 +0.4
MI28	Mi28,Pidlybu	79.31 323	P		P	09 02 45.1 -0.1
HFS	Hagfors	79.64 335	P		P	09 02 46.4 -0.3
	comp=Z,68nm,0.6s,baz=96,slow=4.5,SNR=197					
	comp=Z,68nm,0.6s					
CMB	Columbia Colle	79.66 52	IAmb	IAmb		09 02 49.1
	comp=Z,7.9nm,0.6s					
SUW	Suwalki	79.70 327	*e*P		P	09 02 47.1 -0.2
SUW	Suwalki	79.70 327	*e*P		P	09 02 47.8 +0.6
DOMB	Dombas	79.83 338	*e*P		P	09 02 48.2 +0.4
LUBAR	Lubar, Ukraine	79.83 322	P		P	09 02 47.9 -0.1
NB2	NORSAR Subarra	79.86 337	P		P	09 02 47.5 -0.5
	comp=Z,37nm,0.6s,baz=47,slow=5.1					
NB2	NORSAR Subarra	79.86 337	P		P	09 02 47.5 -0.5
	baz=47,slow=5.1					
NOA	NORSAR Array B	79.86 337	P		P	09 02 47.6 -0.5
	comp=Z,41nm,0.7s,baz=44,slow=5.4,SNR=133					
	comp=Z,41nm,0.7s					
MOL	Molde	79.91 339	*e*P		P	09 02 48.6 +0.5
RNPP9	Sopachiv	79.94 324	P		P	09 02 48.1 -0.4
NC602	NORSAR Array S	79.97 337	*e*P		P	09 02 47.6 -0.9
NORES	NORESS Array B	79.97 337	P		P	09 02 49.5 +1.0
NORES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
RNPP8	Varash	80.00 324	P		P	09 02 48.5 -0.3
RNPP5	Staryi Chortor	80.05 324	P		P	09 02 48.9 -0.2
WAKR	Walker	80.07 51	IAmb	IAmb		09 02 51.8
	comp=Z,4.6nm,0.7s					
AKN	Aaknes	80.38 339	*e*		P	09 02 47.8 -2.9
AKN			*e*P		PcP	09 02 51.4 -4.8
SORM	Soroca	80.53 321	⇑P		P	09 02 50.3 -1.4
SORM	Soroca	80.53 321	⇑P		P	09 02 50.3 -1.4
PKD	Bear Valley Ra	80.60 54	IAmb	IAmb		09 02 54.2
	comp=Z,8.0nm,0.6s					
RYN	Ryan	80.63 51	IAmb	IAmb		09 02 54.5
	comp=Z,5.5nm,0.7s					
ILULI	Ilulissat	80.79 4	*i* P		P	09 02 50.1 -2.5
OSL	Oslo	80.83 336	*e*P		P	09 02 53.2 +0.2
LHV	Little Huntoon	80.83 51	IAmb	IAmb		09 02 57.6
	comp=Z,7.0nm,0.7s					
NVAR	Mina Array Bea	80.88 51			P	09 02 54.8 +0.8
NVAR	Mina Array Bea	80.88 51	P		P	09 02 55.0 +1.0
	comp=Z,5.9nm,0.8s,baz=285,slow=5.7,SNR=40					
NVAR			pP		pP	09 04 26.2 -0.3
	comp=Z,1.2nm,0.8s,baz=306,slow=6.3,SNR=2.5					
	comp=Z,5.9nm,0.8s					
EGMT	Eagleton	80.91 39	IAmb	IAmb		09 02 55.7
	comp=Z,12nm,0.8s					
HORU	Horodok	80.95 322	P		P	09 02 53.8 -0.1
SKAR	Skarslia	81.09 338	*e*P		P	09 02 55.0 +0.5
KMPD	K-Podol'skiy	81.31 322	P		P	09 02 55.4 -0.4
KMPD			P		P	09 02 54.7 -1.1
STRU	Stroemstad	81.32 336	*e*P		P	09 02 55.6 +0.1
STRU	Stroemstad	81.32 336	*i* P		P	09 02 54.8 -0.7
HYA	Hoyanger	81.40 339	*e*P		P	09 02 56.3 +0.4
FOO	Floro	81.42 340	*e*P		P	09 02 56.9 +0.8
KONO	Kongsberg	81.43 337	*e*P		P	09 02 56.1 0.0
RAYN	Ar Rayn	81.45 292			P	09 02 57.1 +0.1
RAYN	Ar Rayn	81.45 292	P		P	09 02 58.0 +1.0
RAYN	Ar Rayn	81.45 292	*i* P		P	09 02 57.4 +0.4
	SNR=67					
RAYN	Ar Rayn	81.45 292	P		P	09 02 57.1 +0.1
RAYN			pmax	pmax		
	comp=Z,44nm,0.7s					
VES	Vestal, Richgr	81.67 53	IAmb	IAmb		09 02 59.0
	comp=Z,11nm,0.9s					
BORU	Boraas	81.73 334	*i* P		P	09 02 57.3 -0.4
TPH	Tonopah	81.79 51	IAmb	IAmb		09 03 00.6
	comp=Z,6.0nm,0.9s					
TJOU	Tjoern	81.88 335	*i* P		P	09 02 57.7 -0.8
YHL	Hebgen Lake	81.90 43	IAmb	IAmb		09 03 02.0
	comp=Z,12nm,1.2s					
TLCR		81.95 318	⇓P		P	09 02 58.3 -0.8
TLCR		81.95 318	⇓P		P	09 02 58.3 -0.8
BR131	Keskin Array S	81.98 311	P		P	09 03 00.2 +0.6
	SNR=34					
BR131	Keskin Array S	81.98 311	*d i* P		P	09 02 59.8 +0.2
BRTR	Keskin Array B	81.98 311			P	09 02 59.8 +0.2
BRTR	Keskin Array B	81.98 311	P		P	09 02 60.0 +0.3
	comp=Z,52nm,0.8s,baz=100,slow=3.8,SNR=165					
	comp=Z,52nm,0.8s					
BRTR	Keskin Array B	81.98 311	P		P	09 02 59.8 +0.2
BR104	Keskin Array S	81.99 311	P		P	09 02 59.5 -0.2
	comp=Z,578nmcomp=Z,80nm,1.0s					
BR106	Keskin Array S	81.99 311	P		P	09 03 00.2 +0.5
	comp=Z,495nmcomp=Z,72nm,0.9s					
VLDR	Vladesti	81.99 319	⇑P		P	09 03 00.1 +0.8
BR105	Keskin Array S	82.00 311	P		P	09 03 00.2 +0.5
	comp=Z,583nmcomp=Z,85nm,0.9s					
KIRS	Kirsehir-Merke	82.12 311	⇓P		P	09 03 00.6 +0.4
DEL	Delary	82.13 333	*i* P		P	09 02 59.0 -0.8
GMN	Gold Mountain	82.17 51	IAmb	IAmb		09 03 02.5
	comp=Z,6.9nm,0.6s					
BEL	Belsk	82.20 327	*e*P		P	09 03 00.6 +0.3
BEL	Belsk	82.20 327	P		P	09 03 02.6 +2.4
FABU	Falkenberg	82.20 334	*i* P		P	09 02 59.2 -1.0
KSV	Kosov	82.21 322	P		P	09 03 00.2 -0.2
ODD1	Odda	82.22 338	*e*P		P	09 03 00.7 +0.4
ONAU	Onsala	82.23 334	*i* P		P	09 02 59.5 -0.8
GHRR		82.25 319	P		P	09 03 01.8 +1.1
GRAC	Grapevine Rang	82.26 52	IAmb	IAmb		09 03 03.0
	comp=Z,7.5nm,0.8s					
STNU	Starunia	82.27 323	P		P	09 03 00.7 0.0
BER	Bergen	82.27 339	*e*P		P	09 03 00.9 +0.4
MORS	Morshin	82.33 323	P		P	09 03 01.8 +0.8
CFR	Carcaliu	82.34 318	⇓P		P	09 03 01.4 +0.3
CFR	Carcaliu	82.34 318	⇓P		P	09 03 01.4 +0.3
TPGR	Topolog	82.36 318	⇑P		P	09 03 01.8 +0.5
TESR	Tescani	82.42 320	⇓P		P	09 03 01.6 +0.1
TESR	Tescani	82.42 320	P		P	09 03 01.5 0.0
	comp=Z,1µmcomp=Z,185nm,1.0s					
COSR	Cosmesti PH	82.43 319	⇑P		P	09 03 03.3 +1.8
ANTO	Ankara	82.45 312			P	09 03 02.5 +0.5
ANTO	Ankara	82.45 312	P		P	09 03 02.5 +0.5
ANTO	Ankara	82.45 312	⇓P		P	09 03 02.7 +0.8
ANTO	Ankara	82.45 312	P		P	09 03 02.4 +0.5
ANTO	Ankara	82.45 312	P		P	09 03 02.3 +0.4
	comp=Z,349nmcomp=Z,39nm,1.0s					
PANC	Panciu	82.51 319	⇑P		P	09 03 02.5 +0.5
BURAR	Bucovina Array	82.55 321			P	09 03 02.8 +0.5
BURAR	Bucovina Array	82.55 321	⇓P		P	09 03 02.8 +0.5
BURAR	Bucovina Array	82.55 321	⇓P		P	09 03 02.8 +0.5
SHIU	Shidnytsya	82.55 323	P		P	09 03 02.9 +0.7
TIRR	Tirgusor	82.60 317	⇑P		P	09 03 02.9 +0.5
TIRR	Tirgusor	82.60 317	⇑P		P	09 03 02.9 +0.5
ODBI	Odobesti	82.62 319	⇓P		P	09 03 03.0 +0.5
KWP	Kalwaria Pacla	82.64 324	*e*P		P	09 03 02.9 +0.3
KWP	Kalwaria Pacla	82.64 324	P		P	09 03 02.9 +0.3
KWP	Kalwaria Pacla	82.64 324	P		P	09 03 02.9 +0.3
	comp=Z,112nm,1.1s					
BLS5	Blasjo	82.66 338	*e*P		P	09 03 02.8 +0.3
ONER	Baraj Valea Uz	82.66 320	⇓P		P	09 03 00.6 -2.2
MPMC	Manual Prospec	82.67 53	IAmb	IAmb		09 03 05.4
	comp=Z,5.1nm,0.8s					
BJUU	Bjuv	82.74 333	*i* P		P	09 03 02.3 -0.6
HARR	Harsova	82.75 318	⇑P		P	09 03 04.0 +0.7
HARR	Harsova	82.75 318	P		P	09 03 03.9 +0.7
VRI	Vrincioaia	82.75 319	⇓P		P	09 03 04.2 +1.0
VRI	Vrincioaia	82.75 319	P		P	09 03 04.1 +0.8
VRI	Vrincioaia	82.75 319	P		P	09 03 04.0 +0.8
	comp=Z,112nm,1.1s					
TPO	Tropico Hills	82.77 54	IAmb	IAmb		09 03 06.2
	comp=Z,14nm,0.9s					
PLOR5	Plostina Array	82.80 319	P		P	09 03 03.8 +0.3
	comp=Z,54nm,0.6s					
PLOR	Plostina	82.80 319	⇑P		P	09 03 04.6 +1.0
PLOR	Plostina	82.80 319	P		P	09 03 04.1 +0.6
HOMB	Homborsund	82.83 336	*e*P		P	09 03 00.3 -3.0
LRMC	Laurel Mtn Rad	82.83 53	IAmb	IAmb		09 03 48.4
	comp=Z,9.0nm,0.8s					
RLMT	Red Lodge	82.86 42	IAmb	IAmb		09 03 06.1
	comp=Z,11nm,1.1s					
RAKU	Rahkiv	82.86 322	P		P	09 03 03.3 -0.5
FURC	Furnace Creek,	82.88 52	IAmb	IAmb		09 03 06.5
	comp=Z,17nm,0.8s					
LUNU	Lund	82.89 332	*i* P		P	09 03 03.5 -0.2
MEZ	Mezhgor'ye	82.91 323	P		P	09 03 04.1 +0.1
BISRR	Bisoca	82.95 319	⇓P		P	09 03 05.5 +1.2
BISRR	Bisoca	82.95 319	P		P	09 03 05.3 +1.0
	comp=Z,31µmcomp=Z,324nm,0.8s					
S11A	Rachel	83.01 51	IAmb	IAmb		09 03 07.2
	comp=Z,9.9nm,0.8s					
SFJD	Kangerlussuaq	83.02 4	P		P	09 03 04.7 +0.6
SFJD			IAmb	IAmb		09 03 05.2
	comp=Z,20

TCUT	Toone Canyon	83.89	46	IAmb	IAmb	09 03 11.7		
	comp=Z,9.2nm,0.8s							
CTU	Camp Tracy	83.92	46	IAmb	IAmb	09 03 11.7		
	comp=Z,5.8nm,0.7s							
MUD	Monsted U'grnd	83.95	335	*i* P	P	09 03 08.5	-0.5	
MUD				IAmb	IAmb	09 03 08.9		
	comp=Z,28nm,0.9s							
ELS	Elsinore Mount	83.98	55	IAmb	IAmb	09 03 11.2		
	comp=Z,5.1nm,0.7s							
NIE	Niedzica	83.99	325	P	P	09 03 10.1	+0.7	
PDAR	Pinedale Array	84.06	44		P	09 03 09.8	-0.4	
PDAR	Pinedale Array	84.06	44	P	P	09 03 10.4	+0.3	
	comp=Z,1.9nm,0.8s,baz=328,slow=1.9,SNR=18							
	comp=Z,1.9nm,0.8s							
ARR	Arges	84.23	320	⇑P	P	09 03 11.6	+0.9	
MARR	Marisel-Cluj	84.25	321	⇑P	P	09 03 11.2	+0.3	
LOZB	Loznitsa	84.30	317	⇑P	P	09 03 11.4	+0.3	
MTPC	Mountain Pass	84.30	52	IAmb	IAmb	09 03 13.6		
	comp=Z,6.4nm,0.8s							
MMAI	Mount Meron Ar	84.35	305	P	P	09 03 12.1	+0.4	
	comp=Z,8.0nm,0.6s,baz=50,slow=6.7,SNR=27							
	comp=Z,8.0nm,0.6s							
MPU	Maple Canyon	84.37	47	IAmb	IAmb	09 03 14.0		
	comp=Z,6.4nm,1.0s							
CTYL	Yalikoy Yolu	84.39	315	⇑P	P	09 03 10.9	-0.6	
DRGR		84.40	322	⇓P	P	09 03 11.6	0.0	
DRGR		84.40	322	⇓P	P	09 03 11.6	0.0	
LANS	Liptovska Anna	84.57	325	P	P	09 03 14.9	+2.6	
LANS	Liptovska Anna	84.57	325	*e*P	P	09 03 14.2	+1.9	
V12A	Nelson	84.65	52	IAmb	IAmb	09 03 15.3		
	comp=Z,6.4nm,0.8s							
LOT	Lotru	84.66	320	⇑P	P	09 03 13.1	+0.2	
DPP	Dos Picos Cty	84.67	55	IAmb	IAmb	09 03 14.8		
	comp=Z,5.6nm,0.8s							
PFO	Pinyon Flats O	84.68	54	P	P	09 03 13.9	+0.6	
PFO				IAmb	IAmb	09 03 15.3		
	comp=Z,13nm,0.9s							
PFO	Pinyon Flats O	84.68	54	P	P	09 03 13.9	+0.6	
PFO				pmax	pmax			
	comp=Z,13nm,1.0s							
PMD	Palm Desert	84.72	54	IAmb	IAmb	09 03 14.8		
	comp=Z,13nm,0.7s							
BELC	Belle Mtn. Jos	84.79	54	IAmb	IAmb	09 03 15.5		
	comp=Z,12nm,0.7s							
STEB	Steborice	84.89	326	*e*P	P	09 03 13.6	-0.2	
KSP	Ksiaz	84.97	328	*e*P	P	09 03 14.1	-0.1	
ELND	Elena	84.99	317	⇑P	P	09 03 14.7	+0.3	
LCMT	Little Creek M	85.02	50	IAmb	IAmb	09 03 17.3		
	comp=Z,6.0nm,0.8s							
BAR	Barrett	85.03	55	IAmb	IAmb	09 03 16.8		
	comp=Z,11nm,0.9s							
MORC	Moravsky Berou	85.10	326	IAmb	IAmb	09 03 15.8		
	comp=Z,23nm,1.4s							
MORC	Moravsky Berou	85.10	326	⇓P	P	09 03 14.8	-0.1	
MORC	Moravsky Berou	85.10	326	*e*P	P	09 03 14.6	-0.3	
MORC	Moravsky Berou	85.10	326	⇓P	P	09 03 14.8	-0.1	
BAND	Balkesir-Ban	85.16	314	⇑P	P	09 03 15.2	-0.2	
PSZ	Piszkesteto	85.16	324	⇓P	P	09 03 15.4	+0.1	
PSZ	Piszkesteto	85.16	324	*e*P	P	09 03 15.3	+0.1	
PSZ	Piszkesteto	85.16	324	⇓P	P	09 03 15.4	+0.1	
CBX	Cerro Bola	85.23	55	IAmb	IAmb	09 03 18.0		
	comp=Z,13nm,0.8s							
GZR	Gura Zlata	85.24	321	⇑P	P	09 03 15.4	-0.3	
GZR	Gura Zlata	85.24	321	⇑P	P	09 03 15.4	-0.3	
P17A	Butcher Ranch,	85.25	47	IAmb	IAmb	09 03 18.4		
	comp=Z,4.4nm,0.7s							
CHVC	Chvalec	85.26	328	*e*P	P	09 03 15.8	+0.2	
CHVC	Chvalec	85.26	328	*e*P	P	09 03 15.8	+0.2	
KRLC	Kraliky	85.26	327	*e*P	P	09 03 15.7	0.0	
KRLC	Kraliky	85.26	327	*e*P	P	09 03 15.7	0.0	
DPC	Dobruska-Polom	85.29	327	*e*P	P	09 03 16.2	+0.3	
DPC	Dobruska-Polom	85.29	327	*e*P	P	09 03 16.2	+0.3	
KNB	Kanab	85.30	50	IAmb	IAmb	09 03 19.0		
	comp=Z,9.5nm,0.8s							
IRM	Iron Mountain	85.30	53	IAmb	IAmb	09 03 18.4		
	comp=Z,5.9nm,0.8s							
RDMU	Red Mountain	85.34	45	IAmb	IAmb	09 03 18.7		
	comp=Z,9.6nm,1.0s							
BC3	Big Chuckawall	85.36	54	IAmb	IAmb	09 03 18.7		
	comp=Z,8.4nm,0.7s							
SURR	Surduc	85.37	321	⇑P	P	09 03 16.0	-0.2	
SRE	Strehaia	85.46	320	⇑P	P	09 03 16.8	+0.1	
SRE	Strehaia	85.46	320	⇑P	P	09 03 16.8	+0.1	
JAVC	Velka Javorina	85.66	326	*e*P	P	09 03 18.4	+0.7	
BZS	Buzias	85.73	321	⇓P	P	09 03 17.2	-0.8	
BZS	Buzias	85.73	321	⇓P	P	09 03 17.2	-0.8	
HERR	Herculane	85.76	320	⇑P	P	09 03 17.8	-0.4	
VRAC	Vranov	85.88	326	*e*P	P	09 03 18.4	-0.3	
ESJX	Sierra Juarez	85.91	55	IAmb	IAmb	09 03 21.3		
	comp=Z,8.2nm,0.8s							
K22A	Casper	85.93	42	IAmb	IAmb	09 03 20.4		
	comp=Z,5.8nm,0.8s							
MANT	Manisa	85.95	313	IAmb	IAmb	09 03 22.1		
	comp=Z,28nm,1.5s							
BRG	Berggiesshubel	86.03	329	*e*P	P	09 03 19.1	-0.2	
BRG				Amp		09 03 20.7		
	comp=Z,11nm,0.9s							
ALN	Alexandroupoli	86.10	316	IAmb	IAmb	09 03 20.0		
	comp=Z,14nm,0.8s							
GLA	Glamis	86.13	54	IAmb	IAmb	09 03 22.6		
	comp=Z,12nm,0.8s							
KRUC	Moravsky	86.14	326	*e*P	P	09 03 19.5	-0.4	
CLL	Collm	86.14	329	IAmb	IAmb	09 03 21.0		
	comp=Z,12nm,0.8s							
CLL	Collm	86.14	329	*i* P	P	09 03 18.8	-1.0	
CLL				pmax	pmax			
	comp=Z,59nm,1.7s							
CLL	Collm	86.14	329	*i* P	P	09 03 18.8	-1.0	
	comp=Z,59nm,1.7s							
MODS	Modra-Piesok	86.17	325	*e*P	P	09 03 20.5	+0.4	
MDVR	Moldovita	86.21	321	⇑P	P	09 03 20.3	-0.1	
RDO	Rodhopi	86.26	316	IAmb	IAmb	09 03 20.9		
	comp=Z,12nm,0.9s							
PRU	Pruhonice	86.37	328	*e*P	P	09 03 21.3	+0.3	
PRU	Pruhonice	86.37	328	*e*P	P	09 03 21.3	+0.3	
RSSD	Black Hills	86.43	40		P	09 03 22.4	+0.7	
RSSD				IAmb	IAmb	09 03 24.1		
	comp=Z,6.8nm,0.8s							
RSSD	Black Hills	86.43	40	P	P	09 03 22.4	+0.7	
RSSD				pmax	pmax			
	comp=Z,7.0nm,0.8s							
EZN	Ezine	86.57	315	⇓P	P	09 03 22.2	+0.1	
EZN	Ezine	86.57	315	⇓P	P	09 03 22.2	+0.1	
ZVC	Zvikov	86.92	328	*e*P	P	09 03 23.4	-0.2	
MORH	Mrgy, Hungar	86.92	323	⇑P	P	09 03 23.3	-0.3	
PV23	Carpenter Ridg	86.94	47	IAmb	IAmb	09 03 26.6		
	comp=Z,10nm,1.0s							
BOVS	Bovan	86.94	320	⇑P	P	09 03 23.4	-0.4	
PV10	Paradox Valley	86.96	47	IAmb	IAmb	09 03 26.8		
	comp=Z,19nm,1.1s							
PV20	West Nyswonger	87.03	47	IAmb	IAmb	09 03 26.8		
	comp=Z,6.5nm,1.0s							
PV19	Morning Glory	87.04	47	IAmb	IAmb	09 03 26.9		
	comp=Z,11nm,1.1s							
RONA	Rosalia, Austr	87.12	325	*i* P	P	09 03 24.5	-0.1	
	comp=Z,7.9nm,1.0s							
PV18	Skein Mesa, Pa	87.12	47	IAmb	IAmb	09 03 28.6		
	comp=Z,8.4nm,1.1s							
CONA	Conrad Observa	87.17	326	*e*PcP	P	09 03 25.1	+0.1	
	comp=Z,13nm,0.8s,SNR=6.8							
CKRC	Cesky Krumlov	87.30	327	*e*P	P	09 03 25.2	-0.2	
CKRC	Cesky Krumlov	87.30	327	*e*P	P	09 03 25.2	-0.2	
KHC	Kasperske Hory	87.42	328	*d* *i* P	P	09 03 25.6	-0.4	
KHC				pmax	pmax			
	comp=Z,12nm,0.7s							
KHC	Kasperske Hory	87.42	328	*e*P	P	09 03 25.8	-0.2	
GEC2	GERESS Array S	87.57	327	IAmb	IAmb	09 03 26.9		
	comp=Z,7.5nm,0.7s							
GERES	GERESS Array B	87.57	327	P	P	09 03 26.2	-0.6	
	comp=Z,7.5nm,0.6s,baz=35,slow=4.9,SNR=41							
	comp=Z,7.5nm,0.6s							
ARSA	Arzberg	87.81	325	IAmb	IAmb	09 03 28.6		
	comp=Z,16nm,1.3s							
ARSA	Arzberg	87.81	325	*i* P	P	09 03 27.5	-0.3	
	comp=Z,4.8nm,0.7s							
AGMN	Agassiz Nation	87.86	33	IAmb	IAmb	09 03 28.6		
	comp=Z,6.7nm,1.0s							
EPLO	Experimental L	87.86	31	IAmb	IAmb	09 03 29.4		
	comp=Z,8.1nm,0.6s							
MOA	Molln	88.00	326	*i* P	P	09 03 28.6	-0.2	
	comp=Z,12nm,1.0s							
BIOA	Bad Ischl, Aus	88.41	327	*i* PcP	P	09 03 30.6	-0.1	
	comp=Z,6.5nm,0.5s							
PERS	Pernice	88.43	325	*i* P	P	09 03 30.1	-0.8	
SOKA	Soboth	88.44	325	*i* P	P	09 03 30.5	-0.5	
	comp=Z,17nm,0.8s,SNR=7.9							
OBKA	Obir	88.80	325	*i* P	P	09 03 32.1	-0.5	
	comp=Z,8.6nm,0.7s							
CRES	Cresnjevec Ost	88.82	324	*i* P	P	09 03 31.8	-0.8	
KBA	Koelnbreinsper	88.99	326	*i* P	P	09 03 32.6	-0.9	
	comp=Z,8.0nm,0.7s,SNR=5.3							
EKA	Eskdalemuir Ar	89.03	339	P	P	09 03 33.4	0.0	
	comp=Z,4.2nm,0.5s,baz=51,slow=3.4,SNR=21							
	comp=Z,4.2nm,0.5s							
LESA	Schwarzleotal	89.06	327	*i* P	P	09 03 33.3	-0.5	
	comp=Z,15nm,0.6s,SNR=6.9							
PDG	Podgorica	89.09	320	IAmb	IAmb	09 03 34.6		
	comp=Z,16nm,1.0s							
PDG	Podgorica	89.09	320	⇓P	P	09 03 33.4	-0.5	
MYKA	Terra Mystica	89.16	326	*i* P	P	09 03 33.1	-1.2	
	comp=Z,12nm,0.5s,SNR=6.6							
CRNS	Crni Vrh	89.24	325	*i* P	P	09 03 33.2	-1.4	
F33A	5 Mile Ranch,	89.38	35	IAmb	IAmb	09 03 36.8		
	comp=Z,7.3nm,0.8s							
OGNE	Ogallala	89.61	42	IAmb	IAmb	09 03 38.0		
	comp=Z,19nm,0.9s							
ABTA	Abfaltersbach	89.62	326	*i* P	P	09 03 35.4	-1.0	
	comp=Z,23nm,1.0s,SNR=8.8							
WATA	Walderalm	89.64	327	*i* P	P	09 03 36.0	-0.6	
	comp=Z,5.2nm,0.6s							
WTTA	Wattenberg	89.67	327	*i* P	P	09 03 36.1	-0.6	
	comp=Z,11nm,0.7s							
MOTA	Mosalm	89.86	328	*i* P	P	09 03 36.9	-0.7	
	comp=Z,7.3nm,0.6s							
SQTA	Sankt Quirin	89.90	327	*i* P	P	09 03 37.2	-0.6	
	comp=Z,11nm,0.8s							
RETA	Reutte	89.91	328	*i* PcP	P	09 03 37.4	-0.3	
	comp=Z,11nm,0.7s,SNR=5.2							
CIMO	Cimolais	89.97	326	IAmb	IAmb	09 03 37.0		
	comp=Z,12nm,0.7s							
FETA	Feichten	90.27	328	*i* P	P	09 03 38.9	-0.7	
	comp=Z,12nm,0.7s,SNR=6.9							
RCHB	Rochefort	90.28	332	*d*P	P	09 03 38.6	-0.7	
WLF	Walferdange	90.29	332	*d*P	P	09 03 39.4	+0.1	
BMRD	Maredsous	90.36	333	*d*P	P	09 03 39.1	-0.5	
BFO	Black Forest	90.38	330		P	09 03 38.6	-1.2	
BFO	Black Forest	90.38	330	P	P	09 03 38.6	-1.2	
BFO				pmax	pmax			
	comp=Z,40nm,1.2s							
DAVA	Damuels	90.47	328	*i* PcP	P	09 03 40.1	-0.3	
	comp=Z,24nm,0.8s,SNR=5.1							
CTI	Castel Tesino	90.54	326	IAmb	IAmb	09 03 40.0		
	comp=Z,12nm,0.8s							
T25A	Trinidad	90.62	46	IAmb	IAmb	09 03 44.8		
	comp=Z,5.9nm,0.8s							
ANMO	Albuquerque	90.69	48		P	09 03 41.8	+0.1	
ANMO				IAmb	IAmb	09 03 44.1		
	comp=Z,4.7nm,0.8s							
ANMO	Albuquerque	90.69	48	*c*e*P	P	09 03 43.5	+1.8	
ANMO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ECSD	EROS Data Cent	90.69	37	IAmb	IAmb	09 03 43.2		
	comp=Z,4.4nm,0.9s							
319A	Douglas	90.94	53	IAmb	IAmb	09 03 45.4		
	comp=Z,6.4nm,0.8s							
Y22A	Socorro	90.97	49	IAmb	IAmb	09 03 45.4		
	comp=Z,5.0nm,0.9s							
HSIG		91.15	55	IAmb	IAmb	09 03 46.1		
	comp=Z,4.9nm,0.9s							
121A	Cookes Peak, D	91.27	51	IAmb	IAmb	09 03 47.2		
	comp=Z,6.3nm,0.9s							
BNI	Bardonecchia	93.61	328	IAmb	IAmb	09 03 55.3		
	comp=Z,6.2nm,0.7s							
P38A	Dawn	95.23	38	IAmb	IAmb	09 04 03.3		
	comp=Z,5.5nm,0.8s							
TXAR	Lajitas Array	96.03	51	P	P	09 04 06.2	0.0	
TXAR	Lajitas Array	96.03	51	P	P	09 04 07.2	+1.0	
	comp=Z,1.3nm,0.7s,baz=302,slow=3.3,SNR=22							
TXAR				pP	pP	09 05 40.6	-0.6	
	comp=Z,1.6nm,0.7s,baz=295,slow=3.1,SNR=11							
TXAR				PP	PP	09 08 00.2	-4.4	
	comp=Z,0.5nm,1.0s,baz=320,slow=6.7,SNR=2.3							
	comp=Z,1.3nm,0.7s							
ESDC	Sonseca Array	102.59	332	PP	PP	09 08 48.7	-4.6	
	comp=Z,1.2nm,0.7s,baz=29,slow=8.1,SNR=6.6							
M65A	Busby, Falmout	103.69	22	P	Pdif	09 04 40.1	+0.2	
	baz=334							
QSPA	South Pole Qui	119.78	180	PKP	PKiKP	09 09 26.8	+1.4	
	comp=Z,6.3nm,0.7s,baz=265,slow=0.6,SNR=68							
QSPA				SKP		09 12 20.2		
	comp=Z,4.1nm,0.9s,baz=344,slow=2.3,SNR=5.8							
QSPA				PKKPbc	PKKPab	09 19 37.6	+0.2	
	comp=Z,1.3nm,0.8s,baz=264,slow=0.9,SNR=8.4							
TORD	Torodi Ar. Bea	120.57	310		PKPdf	09 09 26.6	-1.7	
TORD	Torodi Ar. Bea	120.57	310	PKP	PKPdf	09 09 27.6	-0.6	
	comp=Z,3.9nm,0.6s,baz=38,slow=2.1,SNR=20							
TORD				PP	PP	09 10 53.7	-7.8	
	comp=Z,1.1nm,0.7s,baz=31,slow=8.1,SNR=5.1							
TORD				SKP		09 12 22.7		
	comp=Z,2.0nm,1.0s,baz=349,slow=3.5,SNR=4.1							
BOSA	Boshof	122.98	254	PKP	PKPdf	09 09 32.5	-0.2	
	comp=Z,5.9nm,0.9s,baz=59,slow=4.8,SNR=7.5							
KGCAE	Kacgae	123.58	261		PKiKP	09 09 34.1	-0.1	
DBIC	Dimbokro	129.68	310	PKP	PKPdf	09 09 45.5	-0.2	
	comp=Z,6.8nm,0.7s,baz=78,slow=2.7,SNR=8.3							
TROLL	Troll, Antarti	131.96	197	⇑PKPdf	PKiKP	09 09 49.0	-0.6	
	comp=Z,245nm,0.7s							
TROLL				⇑SKPbc	SKPbc	09 12 34.4	-0.5	
	comp=Z,670nm,0.8s							
BELA	Belgrano 2	131.97	182		PKPdf	09 09 47.2	-1.0	
ROSC	El Rosal	132.87	48	PKP	PKPdf	09 09 52.5	+0.2	
	comp=Z,4.7nm,0.3s,baz=325,slow=18,SNR=1.4							
SNAA	Sanae	133.47	196	⇑PKPdf	PKPdf	09 09 50.2	-1.0	
	comp=Z,40nm,0.8s							
SNAA				⇓SKPbc	SKPbc	09 12 38.7	-1.2	
	comp=Z,208nm,0.8s							
SNAA	Sanae	133.47	196	PKP	PKPdf	09 09 50.6	-0.6	
	comp=Z,1.9nm,0.9s,baz=217,slow=9.1,SNR=5.7							
SNAA				SKPbc	SKPbc	09 12 39.3	-0.6	
	comp=Z,12nm,0.9s,baz=141,slow=2.7,SNR=23							
VNA2	Neumayer--Watz	135.04	195	⇑PKPdf	PKPdf	09 09 54.3	+0.2	
	comp=Z,5.3nm,0.5s,baz=92,slow=0.9							
VNA2				⇓SKPbc	SKPbc	09 12 44.1	-0.8	
	comp=Z,13nm,0.6s,baz=120,slow=2.0							
VNA3	Neumayer Olymp	135.29	194	⇑PKPdf	PKPdf	09 09 54.5	-0.1	
	comp=Z,3.1nm,0.5s							
VNA3				⇑SKPbc	SKPbc	09 12 44.5	-1.2	
	comp=Z,7.0nm,0.7s							
VNA1	Neumayer--Stat	135.44	195	⇓SKPbc	SKPbc	09 12 45.3	-0.8	
	comp=Z,8.8nm,0.8s							
ESPZ	Base Esperanza	145.06	167		PKPab	09 10 13.6	+0.2	
MACA	Manacapuru-AM	147.42	39		PKPbc	09 10 21.0	0.0	
COYC	Coyhaique	151.16	131		PKiKP	09 10 29.6	+0.1	
LPAZ	La Paz	151.63	67	PKP	PKPdf	09 10 25.8	+0.7	
	comp=Z,1.8nm,0.8s,baz=8.9,slow=3.3,SNR=7.0							
LPAZ				PKPbc	PKiKP	09 10 32.8	+0.6	
	comp=Z,7.9nm,0.7s,baz=338,slow=1.6,SNR=33							
LPAZ				pPKPbc	pPKPbc	09 12 12.8	+0.9	
	comp=Z,4.1nm,1.0s,baz=345,slow=6.9,SNR=4.2							
PLCA	Paso Flores	153.74	122	PKPbc	PKiKP	09 10 35.6	+0.5	
	comp=Z,1.7nm,0.6s,baz=238,slow=2.0,SNR=9.4							
PLCA				PKPab	PKPab	09 10 50.0	0.0	
	comp=Z,2.3nm,0.7s,baz=251,slow=4.5,SNR=7.5							
PLCA				pPKPbc	pPKPbc	09 12 15.0	0.0	
	comp=Z,3.3nm,1.1s,baz=344,slow=2.6,SNR=3.6							
VILB	Vilhena	155.41	50		PKPab	09 10 58.2	+0.5	
BDFB	Brasilia	164.30	26	PKPab	PKPab	09 11 36.4	0.0	
	comp=Z,2.0nm,0.5s,baz=307,slow=3.1,SNR=4.0							
CPUP	Villa Florida	165.12	80	PKP	PKPdf	09 10 40.2	+0.2	
	comp=Z,0.8nm,0.9s,baz=190,slow=4.2,SNR=4.5							
CPUP				PKPab	PKPab	09 11 39.9	-0.1	
	comp=Z,0.2nm,0.4s,baz=198,slow=0.7,SNR=3.0							
PLTB	Pedras Altas	169.02	102		PKPdf	09 10 42.6	-0.1	

JMA 09 08:51:45.5±0.1, 36°.1N±0°.1×137°.6E±0°.1, h7km, WESTERN NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.28	307	P	Pg	08 51 51.1	+0.1

SJA 09 08:59:37.8±0.8, 31°.23S×68°.94W, h114km±3km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.39	145	*e*P	Pn	08 59 55.1	+0.5
ZON				*e*S	Sn	09 00 07.5	+0.4
ZON				IAML		09 00 08.4	
	comp=Z,754nm,0.2s						
RTLL	Cerro Villicun	0.41	105	*e*P	Pn	08 59 54.9	+0.2
RTLL				*e*S	Sn	09 00 06.8	-0.6
RTLL				IAML		09 00 09.0	
	comp=Z,1μm,0.2s						
SJA	San Juan	0.44	133	*e*P	Pn	08 59 55.7	+0.9
SJA				*e*S	Sn	09 00 08.7	+1.1
SJA				IAML		09 00 09.8	
	comp=Z,1μm,0.2s						
ACCO	Cerro Coronel	0.65	351	*e*P	Pn	08 59 57.6	+1.1
ACCO				*e*S	Sn	09 00 12.4	+1.8
RTLS	Leoncito	0.65	208	*e*P	Pn	08 59 56.9	+0.3
RTLS				*e*S	Sn	09 00 10.7	+0.1
RTLS				IAML		09 00 11.3	
	comp=Z,2μm,0.2s						
CFA	Coronel Fontan	0.71	122	*e*P	Pn	08 59 57.2	+0.5
ASAL	Salagasta	1.36	176	*e*P	Pn	09 00 04.3	+1.0
ASAL				*e*S	Sn	09 00 24.5	+1.7
CO03	El Pedregal	1.55	284	*e*P	Pn	09 00 06.5	+1.0
CO03				*e*S	Sn	09 00 27.7	+1.1
CO03				IAML		09 00 30.5	
	comp=Z,410nm,0.3s						
CO02	Combarbal	1.76	270	*e*P	Pn	09 00 08.6	+0.5
CO02				*e*S	Sn	09 00 32.3	+1.0
CO02				IAML		09 00 33.8	
	comp=Z,367nm,0.3s						
AGUA	GUANDACOL	1.78	13	*e*P	Pn	09 00 09.7	+1.3
AGUA				*e*S	Sn	09 00 28.7	-2.9
AGUA				IAML		09 00 35.0	
	comp=Z,304nm,0.4s						
ACAN	Cantantal	1.82	125	*e*P	Pn	09 00 09.5	+0.7
ACAN				IAML		09 00 35.1	
	comp=Z,540nm,0.3s						
GO04	Tololo Observa	1.91	303	*e*P	Pn	09 00 10.7	+0.5
GO04				*e*S	Sn	09 00 36.2	+1.4
GO04				IAML		09 00 39.5	
	comp=Z,377nm,0.2s						
VA03	San Esteban	2.05	221	*e*P	Pn	09 00 13.1	+1.3
VA03				*e*S	Sn	09 00 41.0	+3.3
VA03				IAML		09 00 42.5	
	comp=Z,125nm,0.3s						
MT08	Bocatoma Ro	2.39	202	*e*P	Pn	09 00 16.0	-0.2
MT08				*e*S	Sn	09 00 45.0	-0.6
MT04	Ro Olivares	2.40	205	*e*P	Pn	09 00 20.5	+4.2
MT04				*e*S	Sn	09 00 43.2	-2.5
PEL	Peldehue	2.42	217	*e*P	Pn	09 00 17.6	+1.3
PEL				*e*S	Sn	09 00 49.2	+3.3
ROC1	El Roble	2.48	225	*e*P	Pn	09 00 17.4	+0.1
ROC1				*e*S	Sn	09 00 48.4	+0.8
MT03	Universidad Ad	2.62	210	*e*P	Pn	09 00 20.6	+1.6
MT03				*e*S	Sn	09 00 52.5	+1.8
MT03				IAML		09 00 57.6	
	comp=Z,62nm,0.4s						
MT05	Renca	2.64	215	*e*P	Pn	09 00 20.6	+1.4
MT05				*e*S	Sn	09 00 54.0	+2.9
LCO	Las Campanas	2.68	325	*e*P	Pn	09 00 20.2	+0.2
LCO				*e*S	Sn	09 00 53.0	+0.6
LCO				IAML		09 00 54.0	
	comp=Z,372nm,0.6s						
MT02	Curacav	2.75	222	*e*P	Pn	09 00 20.5	-0.1
MT02				*e*S	Sn	09 00 54.4	+0.7
MT13	San Alfonso	2.76	204	*e*P	Pn	09 00 20.8	0.0
MT13				*e*S	Sn	09 00 59.2	+5.3
LMEL	Las Melosas	2.82	202	*e*P	Pn	09 00 22.6	+0.9
LMEL				*e*S	Sn	09 01 07.3	+12
VA01	Torpederas	2.91	231	*e*P	Pn	09 00 22.6	-0.1
VA01				*e*S	Sn	09 00 59.8	+2.5
AANI	Anillaco	2.97	36	*e*P	Pn	09 00 25.4	+1.7
AANI				IAML		09 01 05.2	
	comp=Z,172nm,0.6s						
MRA	San Martin	2.99	114	*e*P	Pn	09 00 25.1	+1.2
MRA				IAML		09 01 25.5	
	comp=Z,67nm,0.3s						
MT01	Popeta	3.27	216	*e*P	Pn	09 00 26.8	-0.7
AC04	Llanos de Chal	3.54	328	*e*P	Pn	09 00 31.1	0.0
AC04				IAML		09 01 16.8	
	comp=Z,36nm,0.2s						
TCA	Tanti	3.72	93	IAML		09 01 33.5	
	comp=Z,35nm,0.8s						
BO02	Sierra Bellavi	3.88	203	*e*S	Sn	09 01 23.0	+2.5
BO02				*e*S	Sn	09 01 23.0	+2.5
AC02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**164**	*e*Pg	**Pb**	**09 10 35.0**	**-0.6**
KSP				*e*Sg	**Sb**	**09 10 45.2**	**-1.1**
CHVC	**Chvalec**	**0.97**	**177**	*e*PG	**Pb**	**09 10 39.3**	**-0.3**
CHVC				*e*SG	**Sb**	**09 10 53.2**	**+0.3**
	comp=Z,38nm,0.5s						
OSTC	**Ostas**	**1.01**	**171**	*e*PG	**Pn**	**09 10 40.8**	**-0.5**
OSTC				*e*SG	**Sb**	**09 10 54.2**	**+0.1**
UPC	**Upice**	**1.05**	**179**	*e*PG	**Pb**	**09 10 41.3**	**+0.4**
UPC				*e*SG	**Sb**	**09 10 55.0**	**-0.2**
	comp=Z,46nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**170**	*e*PG	**Pn**	**09 10 44.4**	**+0.1**
DPC				*e*SG	**Sb**	**09 11 00.5**	**+0.2**
	comp=Z,30nm,0.6s						
PVCC	**Panska Ves**	**1.36**	**221**	*e*PG	**Pb**	**09 10 46.4**	**+0.2**
PVCC				*e*SG	**Sn**	**09 11 05.8**	**+1.0**
	comp=Z,94nm,0.2s						
BRG	**Berggiesshubel**	**1.45**	**243**	Pg	**Pg**	**09 10 47.7**	**+0.1**
BRG				Sg	**Sn**	**09 11 07.7**	**+0.7**
BRG				Amp		09 11 08.2	
	comp=Z,51nm,0.5s						
KRLC	**Kraliky**	**1.57**	**161**	*e*PG	**Pn**	**09 10 48.7**	**-0.3**
KRLC				*e*SG	**Sg**	**09 11 10.8**	**+0.6**
	comp=Z,32nm,0.4s						
PRU	**Pruhonice**	**1.81**	**211**	*e*PG	**Pb**	**09 10 54.0**	**+0.1**
PRU				*e*SG	**Sg**	**09 11 18.5**	**+0.4**
	comp=Z,21nm,0.7s						
HSKC	**Hora Svate Kat**	**1.86**	**240**	*e*PG	**Pb**	**09 10 54.4**	**-0.4**
HSKC				*e*SG	**Sg**	**09 11 19.9**	**+0.2**
CLL	**Collm**	**1.88**	**264**	*i* Pn	**Pn**	**09 10 52.1**	**-1.1**
	comp=Z,8.0nm,0.6s						
CLL				*i* Pg	**Pb**	**09 10 55.1**	**+0.1**
CLL				*i* x	x	09 10 59.0	
CLL				*i* Sg	**Sb**	**09 11 19.5**	**+0.5**
	comp=Z,8.0nm,0.3s						
STEB	**Steborice**	**1.98**	**144**	*e*PG	**Pb**	**09 10 57.3**	**+0.5**
STEB				*e*SG	**Sg**	**09 11 23.3**	**-0.3**
	comp=Z,50nm,0.7s						
MORC	**Moravsky Berou**	**2.04**	**150**	*e*PN	**Pn**	**09 10 54.5**	**-1.0**
MORC				*e*SG	**Sb**	**09 11 23.6**	**-0.2**
OKC	**Ostrava-Krasne**	**2.21**	**140**	*e*SG	**Sg**	**09 11 30.9**	**+0.2**
VRAC	**Vranov**	**2.28**	**170**	*e*PN	**Pn**	**09 10 59.3**	**+0.5**
VRAC				*e*SG	**Sg**	**09 11 32.3**	**-0.9**
ZVC	**Zvikov**	**2.41**	**209**	*e*PG	**Pg**	**09 11 05.4**	**-0.5**
ZVC				*e*SG	**Sg**	**09 11 37.4**	**+0.3**
KRUC	**Moravsky**	**2.51**	**174**	*e*SG	**Sg**	**09 11 39.6**	**-0.9**
OJC	**Ojcow**	**2.77**	**117**	*e*Pg	**Pg**	**09 11 12.3**	**-0.6**
OJC				*e*Sg	**Sg**	**09 11 47.8**	**-0.9**
KHC	**Kasperske Hory**	**2.87**	**213**	*e*PN	**Pn**	**09 11 07.5**	**+0.6**
KHC				*e*PG	**Pg**	**09 11 14.0**	**-0.9**
KHC				*e*SG	**Sg**	**09 11 51.5**	**-0.6**
	comp=Z,7.4nm,0.5s						
LANS	**Liptovska Anna**	**3.29**	**136**	*e*SG	**Sg**	**09 12 04.8**	**-0.6**
NIE	**Niedzica**	**3.49**	**126**	*e*Pg	**Pg**	**09 11 28.0**	**+1.2**
NIE				*e*Sg	**Sg**	**09 12 13.4**	**+1.3**
CONA	**Conrad Observa**	**3.63**	**181**	Sg	**Sg**	**09 12 17.0**	**+0.5**
	comp=Z,2.7nm,0.3s						

*NEIC **09** 09:15:16.6±1.2, 37.°382N±0.°007×121.°742W±0.°009, h10km±1km, Error ellipse: s-maj=2.2km s-min=1.2km az=216.0*

NCEDC 09 09:15:16.6±1.2, 37.°382N±0.°007×121.°733W±0.°008, h9km±2km, Mwr3.3/5, ML3.1/59(NEIC), Error ellipse: s-maj=1.0km s-min=0.9km az=143.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C059	**Quail Canyon R**	**0.05**	**219**		Pg	09 15 18.8	**+0.2**
C059					Sg	09 15 20.6	+0.7
MHC	**Mount Hamilton**	**0.08**	**119**		Pg	09 15 19.1	+0.1
MHC				Sg	Sg	09 15 21.3	+0.5
CALM	**Calaveras Res.**	**0.09**	**323**		Pg	09 15 19.0	0.0
CALM					Sg	09 15 21.1	+0.5
C016	**Longford Drive**	**0.11**	**278**		Pg	09 15 19.8	+0.6
CMLM	**Mount Lewis**	**0.12**	**34**		Pg	09 15 19.7	+0.2
CMLM					Sg	09 15 22.2	+0.8
C046	**N 16th Street**	**0.12**	**257**		Pg	09 15 20.0	+0.6
CCOB	**Coe Ranch Numb**	**0.13**	**159**		Pg	09 15 20.1	+0.5
C054	**Valleyhaven Wa**	**0.13**	**214**		Pg	09 15 20.1	+0.5
SCCB	**Santa Clara Co**	**0.14**	**228**		Pg	09 15 20.1	+0.3
SCCB					Sg	09 15 22.8	+0.9
ARN	**Arnold Ranch**	**0.16**	**101**		Pg	09 15 20.2	+0.1
CMMM	**Mount Mocho**	**0.20**	**69**		Pg	09 15 21.2	+0.3
CMMM					Sg	09 15 24.6	+0.8
C001	**Firth Court Fr**	**0.21**	**311**		Pg	09 15 21.2	+0.2
JLAB	**Laurel Hill**	**0.23**	**180**		Pg	09 15 21.6	+0.3
JLAB					Sg	09 15 25.5	+1.1
CADM	**Anderson Res.**	**0.23**	**159**		Pg	09 15 22.0	+0.6
WENL	**Wente Vineyard**	**0.24**	**355**		Pg	09 15 22.0	+0.5
WENL					Sg	09 15 26.2	+1.4
CVLM	**Vallecito**	**0.26**	**341**		Pg	09 15 22.4	+0.6
CVLM					Sb	09 15 27.1	-0.9
JJOM	**Saint Joseph's**	**0.26**	**228**		Pg	09 15 22.2	+0.2
JJOM					Sg	09 15 26.4	+0.9
JSJM	**St Joseph**	**0.29**	**261**		Pg	09 15 23.0	+0.6
CNIC	**Niles Canyon**	**0.29**	**321**		Pg	09 15 22.8	+0.3
CNIC					Sg	09 15 27.5	+1.1
CSAM	**Sandia**	**0.29**	**4**		Pg	09 15 23.2	+0.7
CBZL	**Buffer Zone**	**0.31**	**2**		Pb	09 15 23.7	-0.6
CSTL	**Corral Hollow**	**0.32**	**36**		Pg	09 15 23.6	+0.7
CMPM	**Mikes Peak**	**0.33**	**94**		Pg	09 15 23.4	+0.2
CYD1	**Coyote D'meter**	**0.34**	**302**		Pg	09 15 23.3	-0.1
JBMM	**Black Mountain**	**0.34**	**259**		Pg	09 15 23.7	+0.3
MTOS	**Mt Oso, Westle**	**0.34**	**69**		Pg	09 15 23.8	+0.3
MTOS					Sb	09 15 29.4	-1.2
HLPM	**Lions Peak**	**0.35**	**167**		Pg	09 15 23.9	+0.4
JSFB	**Stanford Teles**	**0.35**	**274**		Pg	09 15 23.9	+0.3
GHS	**Gilroy Hot Spr**	**0.36**	**141**		Pg	09 15 23.9	0.0
JFP	**Foothills Park**	**0.36**	**267**		Pg	09 15 24.1	+0.2
JTGM	**Trout Gulch Ro**	**0.37**	**198**		Pg	09 15 23.4	-0.5
JRSC	**Jasper Ridge**	**0.40**	**273**		Pg	09 15 24.6	0.0
JRSC				IAML		09 15 34.5	
	comp=N,1μm,0.2s						
JRSC				IAML		09 15 35.6	
	comp=E,1μm,0.3s						
C055	**Cottonwood Ave**	**0.41**	**313**		Pg	09 15 24.5	-0.1
CDC	**Canada Road**	**0.41**	**151**		Pg	09 15 24.8	+0.2
HCAM	**Canada Road**	**0.41**	**151**		Pg	09 15 25.2	+0.6
JPLM	**Pleasant Valle**	**0.41**	**191**		Pg	09 15 25.1	+0.4
JBNB	**Ben Lomond Mou**	**0.42**	**233**		Pg	09 15 25.0	0.0
CMOB	**Morgan Territo**	**0.43**	**353**		Pb	09 15 26.1	-0.3
CBSNC	**Byron Hot Spri**	**0.44**	**9**		Pb	09 15 26.3	-0.3
CLCB	**Lake Chabot**	**0.44**	**324**		Pg	09 15 25.7	+0.4
HCBM	**Chamberlain**	**0.45**	**173**		Pg	09 15 25.9	+0.5
CSLM	**San Leandro Hi**	**0.46**	**318**		Pg	09 15 25.7	+0.1
JELB	**Ellicott, Sant**	**0.46**	**190**		Pb	09 15 26.3	-0.6
HFEM	**San Felipe**	**0.48**	**146**		Pg	09 15 25.9	0.0
BGH	**Bear Gulch**	**0.48**	**265**		Pg	09 15 26.4	+0.4
HPCM	**Pacheco Lake**	**0.49**	**131**		Pg	09 15 26.1	0.0
HCOM	**Corn Cob Canyo**	**0.49**	**178**		Pg	09 15 26.8	+0.6
BGC	**Bolinger Road**	**0.51**	**329**		Pb	09 15 27.1	-0.6
SLD	**San Luis Dam**	**0.51**	**127**		Pg	09 15 26.6	0.0
JCPM	**Coyote Point**	**0.51**	**294**		Pg	09 15 26.5	-0.1
CRHM	**Round Hill Res**	**0.52**	**337**		Pb	09 15 27.8	-0.1
JPSM		**0.52**	**250**		Pg	09 15 27.0	+0.2
JCHM	**Cahill Ridge**	**0.53**	**285**		Pg	09 15 26.7	-0.2
CMCM	**Mills College**	**0.53**	**319**		Pg	09 15 27.2	+0.2
CRPB	**Russellman Par**	**0.55**	**345**		Pb	09 15 27.9	-0.5
HTUM	**Tustin Road**	**0.56**	**173**		Pg	09 15 27.7	+0.3
SCKWR	**San Luis Creek**	**0.56**	**110**		Pb	09 15 28.2	-0.4
SAC	**San Andreas**	**0.58**	**290**		Pg	09 15 27.6	-0.3
BDM	**Black Diamond**	**0.58**	**350**		Pb	09 15 28.6	-0.4
HERM	**Elkhorn Road**	**0.58**	**178**		Pg	09 15 28.3	+0.3
JSBM	**San Bruno Moun**	**0.61**	**300**		Pg	09 15 28.0	-0.4
BRIB	**Brioneс**	**0.63**	**328**		Pg	09 15 29.2	+0.3
BKS	**Berkeley--Byer**	**0.64**	**321**		Pg	09 15 29.0	+0.1
CMSB	**University of**	**0.64**	**320**		Pg	09 15 29.1	+0.1
JMGM	**Milagra Ridge**	**0.64**	**294**		Pg	09 15 28.7	-0.4
VAK	**Adit at Lawren**	**0.64**	**321**		Pg	09 15 29.1	+0.1
BL67	**Building 67, L**	**0.64**	**320**		Pg	09 15 29.1	0.0
BL88	**Building 88, L**	**0.65**	**320**		Pg	09 15 29.2	+0.1
BRK	**Berkeley--Havi**	**0.65**	**320**		Pg	09 15 29.1	-0.1
FRP	**Fremont Peak**	**0.66**	**163**		Pg	09 15 29.6	+0.3
CYBM	**Yerba Buena Is**	**0.66**	**311**		Pg	09 15 29.0	-0.4
SAO	**San Andreas Ge**	**0.66**	**160**		Pb	09 15 30.0	-0.3
CTAM	**Taylor**	**0.68**	**341**		Pg	09 15 30.2	+0.4
FORD	**Fort Ord Natur**	**0.69**	**183**		Pg	09 15 30.2	+0.2
FORD				IAML		09 15 49.5	
	comp=E,1μm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWIT	**Twitchell Isla**	**0.71**	**3**		Pn	09 15 32.2	-0.7
CPIM	**Pinole Ridge**	**0.72**	**328**		Pg	09 15 30.8	+0.3
JPRM	**Presidio of Sa**	**0.72**	**305**		Pg	09 15 30.2	-0.3
BSRM	**Salinas Radio**	**0.73**	**166**		Pg	09 15 30.5	-0.3
CSPM	**San Pablo Ridg**	**0.73**	**322**		Pg	09 15 31.1	+0.3
HMR	**Hamilton Ranch**	**0.77**	**356**		Pn	09 15 33.1	-0.6
CPMM	**Point Molate**	**0.78**	**317**		Pg	09 15 31.3	-0.4
HMOM	**Monterey**	**0.79**	**191**		Pg	09 15 31.7	-0.2
NLHM	**Lake Herman**	**0.81**	**336**		Pg	09 15 32.4	+0.2
BJOM	**Mount Johnson**	**0.82**	**156**		Pg	09 15 32.3	-0.2
SCZ	**Santa Cruz**	**0.83**	**161**		Pg	09 15 31.9	-0.6
BJCM	**Johnson Can.**	**0.88**	**162**		Pg	09 15 32.8	-0.8
JEPS	**Jepson Natural**	**0.88**	**355**		Pg	09 15 33.4	-0.1
BPRM	**Ponciano Ridge**	**0.97**	**180**		Pg	09 15 34.4	-0.9
BBGB	**Big Mountain B**	**0.97**	**145**		Pg	09 15 34.9	-0.5
SNT	**Sears Point**	**0.98**	**325**		Pg	09 15 34.8	-0.7
BSMM	**Soledad Missio**	**1.03**	**166**		Pg	09 15 35.4	-1.0
BSGM	**Shirttail Gulc**	**1.04**	**158**		Pg	09 15 35.1	-1.5
BMSM	**Mercy Hot Spri**	**1.04**	**134**		Pg	09 15 35.6	-1.0
MYLM	**Yosemite Lake**	**1.04**	**90**		Pg	09 15 35.3	-1.4
FARB	**Farallon Islan**	**1.06**	**288**		Pg	09 15 35.3	-1.7
FARB				IAML		09 15 51.9	
	comp=E,436nm,0.3s						
FARB				IAML		09 15 52.4	
	comp=N,686nm,0.4s						
NOLM	**Olema**	**1.07**	**308**		Pg	09 15 35.2	-1.9
NADM	**Allendale**	**1.09**	**350**		Pg	09 15 36.8	-0.8
LRV	**Little Rabbit**	**1.11**	**149**		Pg	09 15 36.8	-1.3
CVS	**Carmenet Viney**	**1.12**	**329**		Pg	09 15 36.9	-1.3
CVS				IAML		09 15 56.4	
	comp=E,388nm,0.5s						
CVS				IAML		09 15 56.5	
	comp=N,425nm,0.6s						
NAPC	**Atlas Peak**	**1.13**	**339**		Pg	09 15 36.6	-1.8
RUSS	**Russell Ranch**	**1.17**	**355**		Pb	09 15 38.1	-0.9
RUSS				IAML		09 15 53.5	
	comp=E,350nm,0.7s						
RUSS				IAML		09 16 00.2	
	comp=N,297nm,0.5s						
OAKV	**Oakville Exper**	**1.18**	**333**		Pb	09 15 37.5	-1.6
MCCM	**Marconi Confer**	**1.19**	**310**		Pb	09 15 36.9	-2.4
MCCM				IAML		09 15 57.5	
	comp=E,653nm,0.4s						
NPRM	**Point Reyes**	**1.19**	**301**		Pb	09 15 37.5	-1.8
NTYM	**Taylor**	**1.25**	**324**		Pn	09 15 38.6	-1.6
CMB	**Columbia Colle**	**1.25**	**58**		Pn	09 15 39.5	-0.8
CMB				IAML		09 15 59.0	
	comp=N,358nm,0.6s						
CMB				IAML		09 15 59.6	
	comp=E,224nm,0.7s						
LEGD	**La Grand CA**	**1.27**	**97**		Pn	09 15 39.6	-1.0
BUCR	**Buckhorn Ranch**	**1.29**	**77**		Pn	09 15 39.2	-1.7
WELL	**Weller Preserv**	**1.32**	**37**		Pn	09 15 40.4	-0.9
WELL				IAML		09 15 58.7	
	comp=N,483nm,0.3s						
PCCM	**Crazy Canyon**	**1.37**	**160**		Pn	09 15 40.3	-1.6
PMPB	**Monarch Peak**	**1.38**	**147**		Pn	09 15 41.0	-1.1
HULI	**Fort Hunter Li**	**1.42**	**163**		Pn	09 15 41.0	-1.5
HULI				IAML		09 16 05.9	
	comp=E,388nm,0.8s						
MHDM	**Hidden Dam**	**1.49**	**100**		Pn	09 15 41.9	-1.7
PSAM	**San Ardo**	**1.52**	**153**		Pn	09 15 42.8	-1.1
NMTM	**Middletown**	**1.53**	**339**		Pn	09 15 42.8	-1.3
GAXM	**Alexander Vall**	**1.55**	**329**		Pn	09 15 42.6	-1.9
MMIM	**Miami Mountain**	**1.58**	**88**		Pn	09 15 44.0	-1.0
FTR	**Fort Ross**	**1.60**	**316**		Pn	09 15 43.1	-2.0
GDXM	**Geysers**	**1.65**	**330**		Pn	09 15 44.5	-1.4
FRI	**Friant**	**1.66**	**103**		Pn	09 15 45.5	-0.4
GHCM	**House Creek**	**1.68**	**317**		Pn	09 15 44.1	-2.2
PKD	**Bear Valley Ra**	**1.72**	**146**		Pn	09 15 45.6	-1.2
PKD				IAML		09 16 18.7	
	comp=N,139nm,0.5s						
PVCM	**Vineyard Canyo**	**1.75**	**146**		Pn	09 15 45.8	-1.3
PSTM	**Stockdale Moun**	**1.75**	**145**		Pn	09 15 45.8	-1.4
AVNL	**Avenal, CA USA**	**1.79**	**139**		Pn	09 15 46.3	-1.4
RAMR	**Ramage Ranch**	**1.88**	**158**		Pn	09 15 47.8	-1.1
OSUM	**Sutter Buttes**	**1.89**	**357**		Pn	09 15 47.1	-1.9
SFRE	**Sierra Foothil**	**1.90**	**10**		Pn	09 15 48.1	-1.1
LCUV	**Le Cuvier**	**1.91**	**155**		Pn	09 15 47.8	-1.5
HOPS	**Hopland Field**	**1.92**	**327**	Pn	Pn	09 15 48.1	-1.5
KCC	**Kaiser Creek**	**1.93**	**91**		Pn	09 15 50.1	+0.5
OSTM	**Stimpson Lane**	**1.99**	**3**		Pn	09 15 48.4	-2.0
TCHL	**Shandon**	**2.00**	**147**		Pn	09 15 50.0	-0.7
PAGB	**Antelope Grade**	**2.04**	**144**		Pn	09 15 50.2	-0.9
BONV	**Boonville, CA**	**2.05**	**322**		Pn	09 15 49.5	-1.8
MRDM	**Red Cones**	**2.14**	**83**		Pn	09 15 54.0	+1.2
MDCM	**Deadman Creek**	**2.16**	**80**		Pn	09 15 54.3	+1.2
YUBA	**Cisco Grove, Y**	**2.17**	**25**		Pn	09 15 53.8	+0.7
MLCM	**Laurel Creek C**	**2.25**	**83**		Pn	09 15 56.0	+1.6
MGPM	**Gravel Pit**	**2.26**	**83**		Pb	09 15 56.1	-1.7
MCBM	**Casa Benchmark**	**2.27**	**83**		Pb	09 15 56.6	-1.4
DCMP	**DeCamp, Califo**	**2.44**	**329**	Pn	Pn	09 15 55.5	-1.1
PEAR	**Peavine Mounta**	**2.62**	**31**		Pn	09 16 01.1	+1.7
BEKR	**Beckworth**	**2.70**	**23**		Pn	09 16 00.6	+0.1
BEKR				IAML		09 16 45.6	
	comp=N,42nm,0.6s						
BEKR				IAML		09 16 46.4	
	comp=E,63nm,0.5s						
O03E	**Paynes Creek**	**2.91**	**359**		Pn	09 16 02.7	-0.4
O03E				IAML		09 17 09.5	
	comp=E,43nm,0.8s						
O02D	**Mt. Diablo Mer**	**2.91**	**344**	Pn	Pn	09 16 03.5	+0.3
PAHR	**Pah Rah Range**	**2.96**	**38**		Pn	09 16 04.5	+0.6
PAHR				IAML		09 16 57.2	
	comp=E,44nm,1.5s						
ISA	**Isabella, Lake**	**3.14**	**122**		Pn	09 16 06.2	-0.1
ISA				IAML		09 17 07.6	
	comp=E,30nm,0.8s						
TPO	**Tropico Hills**	**3.78**	**130**	Pn	Pn	09 16 15.3	+0.2
TPO				IAML		09 17 02.5	
	comp=N,20nm,0.8s						
TPO				IAML		09 17 24.0	
	comp=E,30nm,0.8s						
JCC	**Jacoby Creek,**	**3.87**	**333**		Pn	09 16 16.6	+0.4
JCC				IAML		09 16 47.8	
	comp=E,41nm,1.9s						
JCC				IAML		09 18 40.8	
	comp=N,38nm,2.1s						

*MOS **09** 09:19:41.3, 43.°49N×41.°37E, h4km, MPVA4.2*
*TIF **09** 09:19:41.7, 43.°48N×41.°44E, h6km±3km*
*NORS **09** 09:19:44.2, 43.°49N×41.°52E, h2km, MPVA3.6*

ISC 09 09:19:41.5±0.9, 43.°49N±0.°02×41.°34E±0.°01, h6km±7km, n59, σ1§12/109, 4C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.09**	**326**	*i* Pg	**Pg**	**09 19 44.0**	**+0.3**
ARXR				*e*Sg	**Sg**	**09 19 46.0**	**+0.8**
ARXR	**Arkhyz**	**0.09**	**326**	*c i*PG	**Pg**	**09 19 44.0**	**+0.3**
DOMR	**Dombai**	**0.28**	**134**	*i* Pg	**Pg**	**09 19 46.7**	**-0.4**
DOMR				*i* Sg	**Sg**	**09 19 50.2**	**-0.6**
DOMR	**Dombai**	**0.28**	**134**	*d i*PG	**Pg**	**09 19 46.7**	**-0.4**
GRYR	**Gornoye**	**0.66**	**344**	*e*Pg	**Pg**	**09 19 54.4**	**+0.2**
GRYR				*e*Sg	**Sb**	**09 20 03.9**	**-1.0**
GRYR	**Gornoye**	**0.66**	**344**	‖*i*PG	**Pg**	**09 19 54.2**	**+0.1**
GRYR				*i* S	**Sb**	**09 20 04.0**	**-0.8**
RPOR	**Krasnaya Polya**	**0.81**	**286**	*i* Pg	**Pg**	**09 19 56.0**	**-1.1**
RPOR				*e*Sg	**Sg**	**09 20 08.5**	**+0.9**
RPOR	**Krasnaya Polya**	**0.81**	**286**	*c i*PG	**Pg**	**09 19 56.0**	**-1.1**
VSLR	**Vesyoloye**	**0.95**	**269**	*e*Pg	**Pg**	**09 19 58.9**	**-0.9**
VSLR				*e*Sg	**Sb**	**09 20 13.4**	**0.0**
VSLR	**Vesyoloye**	**0.95**	**269**	*i* PG	**Pg**	**09 19 58.8**	**-1.0**
VSLR				*e*S	**Sb**	**09 20 13.6**	**+0.2**
SHA1	**Shidzhatmaz**	**0.99**	**75**	*i* Pg	**Pg**	**09 20 00.2**	**-0.3**
SHA1				*e*Sg	**Sg**	**09 20 13.1**	**-0.2**
SHA1	**Shidzhatmaz**	**0.99**	**75**	*d i*PG	**Pg**	**09 19 59.9**	**-0.6**
SHA1				pmax	pmax		
	comp=Z,66nm,0.2s						
NEUR	**Neytrino**	**1.01**	**102**	*e*Pg	**Pg**	**09 20 00.4**	**-0.6**
NEUR				*e*Sg	**Sg**	**09 20 13.2**	**-0.9**
NEUR	**Neytrino**	**1.01**	**102**	*e*PG	**Pb**	**09 20 00.8**	**-0.8**
NEUR				*e*S	**Sg**	**09 20 13.3**	**-0.9**
GUZR	**Guzeripl'**	**1.02**	**300**	*e*Pg	**Pg**	**09 19 59.9**	**-1.2**
GUZR				*e*Sg	**Sg**	**09 20 13.8**	**-0.7**
GUZR	**Guzeripl'**	**1.02**	**300**	*i* PG	**Pg**	**09 20 00.0**	**-1.2**
GUZR				*e*S	**Sg**	**09 20 13.4**	**-1.1**
KIV	**Kislovodsk**	**1.08**	**64**	*e*Pg	**Pb**	**09 20 02.3**	**-0.4**
KIV				*e*Sg	**Sb**	**09 20 16.5**	**-0.6**
KIV	**Kislovodsk**	**1.08**	**64**	‖*i*PG	**Pb**	**09 20 02.0**	**-0.7**
KIV				*i* S	**Sb**	**09 20 17.1**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**1.15**	**77**	*e*Pg	**Pg**	**09 20 02.6**	**-1.0**
KBZ				*i* Sg	**Sg**	**09 20 18.0**	**-0.6**
KBZ	**Khabaz**	**1.15**	**77**	*d i*PG	**Pg**	**09 20 02.6**	**-1.0**
SOC	**Sochi**	**1.19**	**275**	*e*Pg	**Pn**	**09 20 05.3**	**+0.6**
SOC				*e*Sg	**Sn**	**09 20 21.9**	**+0.8**
SOC	**Sochi**	**1.19**	**275**	*e*PG	**Pn**	**09 20 05.1**	**+0.4**
SOC				*e*		09 20 21.8	
SOC				pmax	pmax		
	comp=Z,140nm,0.4s						
SOC				smax	smax		
	comp=E,224nm,0.5s						
PYA1	**Pyatigorsk**	**1.39**	**65**	*i* Pg	**Pb**	**09 20 07.5**	**-0.5**
PYA1				*e*Sg	**Sn**	**09 20 25.7**	**-0.6**
PYA1	**Pyatigorsk**	**1.39**	**65**	*c i*PG	**Pb**	**09 20 07.5**	**-0.5**
MRNR	**Maryino**	**1.43**	**289**	*e*Pg	**Pn**	**09 20 07.8**	**-0.1**
MRNR				*e*Sg	**Sg**	**09 20 28.8**	**+1.4**
MRNR	**Maryino**	**1.43**	**289**	*i* PG	**Pn**	**09 20 07.9**	**-0.1**
MRNR				*i* S	**Sg**	**09 20 29.2**	**+1.9**
GOYR	**Goytkh**	**1.61**	**299**	*e*Pg	**Pn**	**09 20 10.8**	**+0.3**
GOYR				*e*Sg	**Sb**	**09 20 33.1**	**+0.8**
GOYR	**Goytkh**	**1.61**	**299**	*d i*PG	**Pn**	**09 20 11.0**	**+0.5**
GOYR				*i* S	**Sg**	**09 20 34.6**	**+1.3**
GOYR				pmax	pmax		
	comp=Z,192nm,0.9s						
NCK	**Nalchik**	**1.64**	**89**	*e*Pg	**Pb**	**09 20 11.8**	**-0.4**
NCK				*e*Sg	**Sb**	**09 20 32.6**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.74**	**109**	*e*Pg	**Pg**	**09 20 16.2**	**+1.4**
DIGR				*e*Sg	**Sg**	**09 20 37.4**	**0.0**
GARIG	**Gari**	**1.79**	**119**	P	**Pg**	**09 20 16.6**	**+0.7**
GARIG				S	**Sg**	**09 20 43.3**	**+4.3**
LSNR	**Lesken**	**1.82**	**96**	*e*Pg	**Pg**	**09 20 15.7**	**-0.7**
LSNR				*e*Sg	**Sg**	**09 20 38.5**	**-1.5**
LSNR	**Lesken**	**1.82**	**96**	*e*PN	**Pg**	**09 20 16.4**	**0.0**
LSNR				*e*S	**Sg**	**09 20 40.2**	**+0.2**
BATM	**Batumi**	**1.90**	**172**	P	**Pb**	**09 20 16.1**	**-0.5**
BATM				S	**Sg**	**09 20 42.5**	**-0.1**
BATM	**Batumi**	**1.90**	**172**	*e*PN	**Pb**	**09 20 16.1**	**-0.5**
BATM				*e*S	**Sg**	**09 20 42.4**	**-0.1**
STDR	**Stavd-Durt**	**1.98**	**92**	*e*Pg	**Pn**	**09 20 16.2**	**+0.6**
STDR				*e*Sg	**Sb**	**09 20 42.8**	**-0.2**
GOF	**Gofitskoye**	**1.99**	**37**	*e*Pg	**Pg**	**09 20 18.5**	**-1.1**
GOF				*e*Sg	**Sg**	**09 20 44.5**	**-1.0**
GOF	**Gofitskoye**	**1.99**	**37**	*ce*PN	**Pg**	**09 20 21.2**	**+1.6**
GOF				*e*S	**Sg**	**09 20 44.8**	**-0.6**
KORR	**Kora**	**2.03**	**100**	*e*Pg	**Pn**	**09 20 16.8**	**+0.5**
KORR				*e*Sg	**Sb**	**09 20 44.6**	**+0.3**
KORR	**Kora**	**2.03**	**100**	*e*PN	**Pg**	**09 20 21.1**	**+0.7**
KORR				*e*S	**Sg**	**09 20 46.4**	**-0.3**
PRTR	**Priterechnaya**	**2.15**	**82**	*e*Pg	**Pg**	**09 20 22.9**	**+0.2**
PRTR				*i* Sg	**Sb**	**09 20 46.3**	**-1.4**
ALIG	**Mtskhetisjvari**	**2.19**	**128**	P

QLP	Quilpie	35.35	249	P	P	10 06 19.6	-0.2
MANU	Manus Island	36.73	291		P	10 06 32.4	+1.1
MANU				IAmb	IAmb	10 06 33.1	
comp=Z,25nm,0.8s							
COEN	Coen	36.81	270		P	10 06 32.3	+0.4
COEN	Coen	36.81	270	P	P	10 06 31.3	-0.6
GLAD	Gladstone	36.84	224	P	P	10 06 31.8	+0.1
TOO	Toolangi	37.11	230	P	P	10 06 34.5	+0.4
TOO				IAmb	IAmb	10 06 35.2	
comp=Z,17nm,0.9s							
MOO	Moorlands	38.09	222	P	P	10 06 42.3	+0.3
TAU	Tasmania Unive	38.24	222	P	P	10 06 42.9	-0.3
BRAT	Ballarat	38.26	231	P	P	10 06 43.9	+0.5
STKA	Stephens Creek	38.50	241		P	10 06 45.9	+0.4
STKA	Stephens Creek	38.50	241	P	P	10 06 45.7	+0.2
comp=Z,20nm,0.5s,baz=90,slow=9.8,SNR=75							
comp=Z,20nm,0.5s							
STKA	Stephens Creek	38.50	241	P	P	10 06 45.3	-0.2
INKA	Innaminka	38.58	247		P	10 06 46.6	+0.5
INKA				IAmb	IAmb	10 06 47.0	
comp=Z,12nm,0.5s							
QIS	Mount Isa	39.42	259	P	P	10 06 52.2	-0.9
HTT	Hallett	41.03	239	P	P	10 07 05.6	-0.2
JAY	Jayapura	42.55	286	P	P	10 07 18.2	+0.1
comp=Z,26nm,0.7s,baz=141,slow=6.4,SNR=7.7							
comp=Z,26nm,0.7s							
JAY	Jayapura	42.55	286	P	P	10 07 17.1	-0.9
comp=Z,29nm,0.7s							
GENI	Genyem	43.01	286	P	P	10 07 22.2	+0.6
comp=Z,89nm,0.8s							
BBOO	Buckleboo	43.28	241	P	P	10 07 23.3	-0.2
BBOO	Buckleboo	43.28	241	P	P	10 07 23.1	-0.3
WR8	Warramunga Arr	44.24	259	P	P	10 07 30.4	-0.7
WR8				IAmb	IAmb	10 07 30.8	
comp=Z,11nm,0.6s							
WB0	Warramunga Arr	44.36	260	P	P	10 07 30.8	-1.2
WB0				IAmb	IAmb	10 07 31.5	
comp=Z,18nm,0.8s							
WRAB	Tennant Creek	44.38	259	P	P	10 07 31.4	-0.8
WRAB				IAmb	IAmb	10 07 31.7	
comp=Z,15nm,0.7s							
WRA	Warramunga Arr	44.39	259	P	P	10 07 29.8	-2.5
WRA	Warramunga Arr	44.39	259	P	P	10 07 30.0	-2.2
comp=Z,13nm,0.6s,baz=94,slow=7.5,SNR=16							
WRA				PcP	PcP	10 09 03.1	-1.1
comp=Z,2.4nm,0.6s,baz=92,slow=3.1,SNR=6.2							
WRA				ScP	ScP	10 12 04.1	-0.3
comp=Z,0.9nm,0.7s,baz=93,slow=3.9,SNR=4.1							
comp=Z,13nm,0.6s							
AS31	Alice Springs	44.58	254	P	P	10 07 33.4	-0.3
ASAR	Alice Springs	44.58	254	P	P	10 07 33.2	-0.5
ASAR	Alice Springs	44.58	254	P	P	10 07 33.1	-0.6
comp=Z,132nm,0.6s,baz=88,slow=8.1,SNR=3098							
ASAR				PcP	PcP	10 09 04.2	-0.7
comp=Z,2.7nm,0.4s,baz=90,slow=3.4,SNR=4.2							
ASAR				ScP	ScP	10 12 04.8	-0.3
comp=Z,1.0nm,0.9s,baz=100,slow=3.9,SNR=4.7							
ASAR				S	S	10 13 27.9	-2.2
comp=Z,0.4nm,0.8s,baz=86,slow=13,SNR=3.2							
SMPI	Sarmi	44.59	286	P	P	10 07 32.9	-0.9
comp=Z,32nm,0.8s							
MTN	Manton Dam	48.51	268	P	P	10 08 02.9	-0.6
MTN				IAmb	IAmb	10 08 03.1	
comp=Z,14nm,0.8s							
FORT	Forrest	49.86	244	P	P	10 08 12.0	-1.1
FORT				IAmb	IAmb	10 08 12.7	
comp=Z,22nm,0.7s							
KNRA	Kununurra	50.22	264	P	P	10 08 15.4	-0.6
KNRA				IAmb	IAmb	10 08 16.0	
comp=Z,28nm,0.7s							
FAKI	Fak Fak	50.24	281	P	P	10 08 15.9	-0.3
FAKI				IAmb	IAmb	10 08 44.0	
comp=Z,20nm,1.2s							
SWI	Sorong	51.90	283	P	P	10 08 28.0	-0.2
FITZ	Fitzroy Crossi	52.78	260	P	P	10 08 34.5	0.0
FITZ	Fitzroy Crossi	52.78	260	P	P	10 08 34.1	-0.4
comp=Z,6.4nm,0.4s,baz=111,slow=6.2,SNR=45							
comp=Z,6.4nm,0.4s							
SOEI	Soe	55.78	270	P	P	10 08 56.5	+0.8
SOEI				IAmb	IAmb	10 08 57.6	
comp=Z,54nm,0.8s							
SOEI	Soe	55.78	270	P	P	10 08 54.8	-1.0
comp=Z,83nm,0.9s							
PSA00	Pilbara Seismi	57.69	255	P	P	10 09 07.8	-0.9
PSA00				IAmb	IAmb	10 09 08.4	
comp=Z,26nm,0.6s							
PSA00	Pilbara Seismi	57.69	255	P	P	10 09 07.4	-1.3
PSA00				IAmb	IAmb	10 09 08.4	
comp=Z,11nm,0.9s							
PSA00	Pilbara Seismi	57.69	255	P	P	10 09 07.8	-0.9
MBWA	Marble Bar	57.85	256	P	P	10 09 08.8	-1.0
MBWA				IAmb	IAmb	10 09 09.4	
comp=Z,12nm,0.6s							
MBWA	Marble Bar	57.85	256	P	P	10 09 08.7	-1.0
MEEK	Meekatharra	58.25	249	P	P	10 09 11.3	-1.1
EDFI	Ende, Flores	58.49	270	P	P	10 09 11.8	-2.5
comp=Z,25nm,1.0s							
NWAO	Narrogin (SRO)	59.08	242	P	P	10 09 17.0	-0.8
NWAO				IAmb	IAmb	10 09 46.5	
comp=Z,31nm,1.4s							
NWAO	Narrogin (SRO)	59.08	242	P	P	10 09 17.1	-0.7
BLDU	Ballidu	59.63	244	P	P	10 09 20.7	-0.9
MUN	Mundaring	59.98	243	P	P	10 09 23.4	-0.5
MORW	Morawa	60.32	246	P	P	10 09 25.2	-1.0
MORW				IAmb	IAmb	10 09 25.6	
comp=Z,9.9nm,0.6s							
MORW	Morawa	60.32	246	P	P	10 09 25.7	-0.5
SBA	Scott Base	60.66	183	P	P	10 09 26.2	-1.4
VNDA	Vanda	60.68	185	P	P	10 09 28.1	+0.4
VNDA	Vanda	60.68	185	P	P	10 09 27.8	+0.1
comp=Z,0.7nm,0.7s,baz=351,slow=7.5,SNR=7.6							
comp=Z,0.7nm,0.7s							
PLAI	Plampang	62.20	269	P	P	10 09 37.5	-1.2
TOLI2	Tolitoli	62.38	281	P	P	10 09 38.1	-1.7
GIRL	Giralia	62.69	253	P	P	10 09 42.0	+0.2
TWSI	Taliwang, Sumb	63.08	269	P	P	10 09 41.4	-3.0
comp=Z,59nm,0.7s							
JAGI	Jajag, Banyuwa	65.75	269	P	P	10 09 59.7	-1.7
JAGI				IAmb	IAmb	10 10 00.1	
comp=Z,32nm,0.8s							
JAGI	Jajag, Banyuwa	65.75	269	P	P	10 09 59.6	-1.7
CASY	Casey	66.25	205	P	P	10 10 02.9	-0.5
ADK	Adak	69.25	1	P	P	10 10 21.5	-0.3
UGM	Wanagama	69.36	268	P	P	10 10 22.9	-0.5
UGM	Wanagama	69.36	268	P	P	10 10 22.2	-1.2
KPJI	Karang Pucung	71.04	268	P	P	10 10 31.6	-1.7
comp=Z,35nm,0.7s							
SSLB	Suanglung	71.84	303	P	P	10 10 35.3	-2.5
BBJI	Bungbulang	72.22	268	P	P	10 10 38.8	-1.5
KSM	Kuching	72.36	277	P	P	10 10 41.1	+0.1
KSM				IAmb	IAmb	10 10 42.0	
comp=Z,25nm,0.9s							
QSPA	South Pole Qui	72.41	180	P	P	10 10 42.4	+1.8
QSPA	South Pole Qui	72.41	180	P	P	10 10 42.3	+1.8
comp=Z,6.9nm,0.8s,baz=344,slow=0.4,SNR=49							
comp=Z,6.9nm,0.8s							
PETK	Petropavlovsk-	73.35	345	P	P	10 10 45.9	+0.1
comp=Z,1.8nm,0.6s,baz=159,slow=5.1,SNR=1.1							
comp=Z,1.8nm,0.6s							
CGJI	Cibinong	74.32	268	P	P	10 10 48.9	-3.3
PLK4	Peulik 4	77.27	12	P	P	10 11 07.6	0.0
PLK4				IAmb	IAmb	10 11 40.0	
comp=Z,63nm,1.5s							
NJ2	Nanjing	77.54	310	eP	P	10 11 11.2	+1.6
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
NVAR	Mina Array Bea	79.44	44	P	P	10 11 20.3	+0.5
comp=Z,1.6nm,0.7s,baz=224,slow=8.5,SNR=15							
comp=Z,1.6nm,0.7s							
PINE	Pine Mountain	80.77	38	P	P	10 11 27.2	+0.6
RPSI	Rantau Prapat	83.53	275	IAmb	IAmb	10 11 41.0	
comp=Z,8.7nm,0.6s							
MAW	Mawson	84.01	200	P	P	10 11 41.8	-0.5
comp=Z,4.0nm,0.7s,baz=143,slow=3.9,SNR=31							
comp=Z,4.0nm,0.7s							
RND	Reindeer	84.08	13	P	P	10 11 42.3	-0.4
DHY	Denali Highway	84.11	14	P	P	10 11 42.1	-0.9
ILAR	Eielson Array	85.69	13	P	P	10 11 49.2	-1.3
comp=Z,0.7nm,0.4s,baz=223,slow=5.1,SNR=26							
comp=Z,0.7nm,0.4s							
XAN	Xi'an	85.86	307	⇓P	P	10 11 52.5	+0.4
XAN				pmax	pmax		
comp=Z,12nm,0.9s							
XAN				pmax	pmax		
comp=Z,230nm,5.5s							
TXAR	Lajitas Array	86.10	58	P	P	10 11 54.6	+1.2
comp=Z,1.3nm,0.8s,baz=217,slow=6.6,SNR=15							
comp=Z,1.3nm,0.8s							
PDAR	Pinedale Array	87.36	44	P	P	10 11 59.1	0.0
comp=Z,0.8nm,0.5s,baz=219,slow=3.0,SNR=12							
comp=Z,0.8nm,0.5s							
CMAR	Chiang Mai Arr	88.52	290	P	P	10 12 05.3	+0.5
comp=Z,1.8nm,0.8s,baz=109,slow=4.5,SNR=13							
comp=Z,1.8nm,0.8s							
PZH	PanZhiHua	88.77	298	P	P	10 12 06.4	+0.4
TROLL	Troll, Antarti	90.57	180	⇑P	P	10 12 11.7	-1.8
comp=Z,176nm,0.5s							
SNAA	Sanae	90.87	179	⇑P	P	10 12 13.4	-1.3
comp=Z,42nm,0.5s							
SNAA	Sanae	90.87	179	P	P	10 12 13.3	-1.5
comp=Z,1.7nm,0.6s,baz=206,slow=7.7,SNR=32							
comp=Z,1.7nm,0.6s							
VNA3	Neumayer Olymp	91.02	176	⇑P	P	10 12 14.4	-1.0
comp=Z,8.5nm,0.7s							
VNA2	Neumayer--Watz	91.46	177	⇑P	P	10 12 16.9	-0.5
comp=Z,4.2nm,0.7s,baz=157,slow=2.6							
VNA1	Neumayer--Stat	91.69	177	⇑P	P	10 12 18.1	-0.3
comp=Z,12nm,1.1s							
BVAR	Borovoye Array	116.45	321	PKP	PKPdf	10 17 49.4	-2.0
comp=Z,1.1nm,0.3s,baz=112,slow=1.6,SNR=4.9							
BNN	Bunyan	143.26	312		PKPbc	10 18 40.6	-0.1
BURAR	Bucovina Array	144.24	332	PKPbc	PKPab	10 18 43.8	+0.1
BRTR	Keskin Array B	144.39	315		PKPdf	10 18 43.9	-0.4
BRTR	Keskin Array B	144.39	315	PKP	PKPbc	10 18 43.6	-0.5
comp=Z,2.5nm,0.7s,baz=113,slow=3.0,SNR=10							
CLL	Collm	145.14	347	PKPdf	PKPbc	10 18 45.6	-0.2
MMAI	Mount Meron Ar	145.75	303	PKPbc	PKPbc	10 18 47.6	-0.7
comp=Z,4.6nm,0.5s,baz=69,slow=4.8,SNR=11							
GERES	GERESS Array B	147.28	345	PKPbc	PKPbc	10 18 51.5	-0.6
comp=Z,1.0nm,0.4s,baz=48,slow=2.0,SNR=7.6							

*IDC **09** 10:03:07.3±0.9,2°.16S×138°.48E, h0km, mb3.8/6, mbtmp3.8/8, ML3.5/2, MS3.5/4, Error ellipse: s-maj=30.1km s-min=21.1km az=45.0*

ISC 09 10:03:12.8±0.8,2°.3S±0°.1×138°.5E±0°.1,h35km,n12, σ1$23/10,mb3.9/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.23	97	Pn	Pn	10 03 46.1	-1.2
5.2nm,0.3s,baz=227,slow=11,SNR=22							
JAY				Sn	Sn	10 04 15.2	+1.5
4.7nm,0.3s,baz=306,slow=20,SNR=6.2							
JAY				LR	LR	10 04 57.4	
comp=Z,214nm,20.0s,baz=283,slow=49							
41nm,0.8s							
PMG	Port Moresby	11.18	130	LR	LR	10 11 41.4	
comp=Z,83nm,19.4s,baz=350,slow=46							
WRA	Warramunga Arr	18.04	193	P	Pn	10 07 19.7	-1.2
0.3nm,0.3s,baz=13,slow=12,SNR=5.2							
1.0nm,0.5s							
HHC	Hu-ho-hao-te	49.42	333	eP	P	10 12 00.7	+1.2
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
MKAR	Makanchi Array	69.29	322	P	P	10 14 16.8	+0.2
comp=Z,1.0nm,0.8s,baz=107,slow=7.8,SNR=6.4							
comp=Z,1.0nm,0.8s							
KURBB	Kurchatov Arra	73.23	325	P	P	10 14 39.7	-0.5
comp=Z,0.7nm,0.7s,baz=116,slow=6.3,SNR=7.0							
comp=Z,0.7nm,0.7s							
VNDA	Vanda	76.25	175	P	P	10 14 58.1	+0.8
comp=Z,0.4nm,0.7s,baz=318,slow=6.1,SNR=3.6							
comp=Z,0.4nm,0.7s							
BVAR	Borovoye Array	78.81	325	P	P	10 15 11.6	-0.4
comp=Z,1.8nm,0.7s,baz=109,slow=6.9,SNR=7.5							
comp=Z,1.8nm,0.7s							
ILAR	Eielson Array	85.51	24	P	P	10 15 45.6	-1.3
comp=Z,0.4nm,0.9s,baz=272,slow=7.2,SNR=2.9							
comp=Z,0.4nm,0.9s							
AKTO	Aktyubinsk	85.65	321	LR	LR	10 53 58.9	
comp=Z,60nm,21.2s,baz=298,slow=36							
QSPA	South Pole Qui	87.69	180	P	P	10 15 58.8	+1.0
comp=Z,0.7nm,0.8s,baz=340,slow=2.3,SNR=1.6							
comp=Z,0.7nm,0.8s							
ARCES	ARCESS Array B	100.00	341	LR	LR	11 08 51.7	
comp=Z,114nm,18.6s,baz=316,slow=40							

*MOS **09** 10:44:33.8±0.9,36°.50N×70°.75E, h199km, mb5.4/39, Error ellipse: s-maj=4.3km s-min=3.0km az=93.7*

*BJI **09** 10:44:34.7,36°.58N×70°.80E, h200km, mB5.1/23, mb5.2/76*

*NEIC **09** 10:44:35.7±1.6,36°.51N±0°.06×70°.64E±0°.07, h203km±4km, mb5.2/326, Mww5.1/13, Error ellipse: s-maj=8.4km s-min=8.2km az=138.0*

*GCMT **09** 10:44:35.7±0.2,36°.46N±0°.01×70°.64E±0°.02, h196km±1km, MW5.0/115, Moment Tensor Solution. s44,c50; s115,c169; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.83±.10; $M_{\theta\theta}$-2.60±.11; $M_{\phi\phi}$-0.23±.11; $M_{r\theta}$3.22±.09; $M_{\theta\phi}$0.23±.11; $M_{\phi r}$-1.25±.08; Best double couple: M_o4.39500×10^16^ NP1:ϕ_s267.00000°, δ20.00000°, λ70.00000°. NP2:ϕ_s107.00000°, δ71.00000°, λ97.00000°. Principal axes: T 4.5550, Plg63.0000°, Azm28.0000°; N -0.3250, Plg7.0000°, Azm285.0000°; P -4.2350, Plg26.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 10:44:36,36°.60N×70°.39E, h220km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16^Nm; M_{rr}3.53; $M_{\theta\theta}$-3.29; $M_{\phi\phi}$-0.25; $M_{r\theta}$3.66; $M_{\theta\phi}$1.42; $M_{\phi r}$-1.52; Fault plane solution: M_o5.42000×10^16^ NP1: ϕ_s290.56000°, δ21.48000°, λ88.41000°. NP2: ϕ_s112.27000°, δ68.53000°, λ90.63000°. Principal axes: T 5.2565, Plg66.0000°, Azm23.0000°; N 0.3102, Plg1.0000°, Azm292.0000°; P -5.5667, Plg24.0000°, Azm202.0000°;*

*IDC **09** 10:44:36.2±0.4,36°.46N×70°.75E, h210km±3km, mb4.6/39, mbtmp5.3/44 Error ellipse: s-maj=6.8km s-min=6.1km az=169.0*

*NEIC **09** 10:44:36,36°.50N×70°.64E, h220km*

*NNC **09** 10:44:37.7±3.6,36°.77N×70°.73E, h199km±30km, mb4.9, mpv6.3, Error ellipse: s-maj=31.2km s-min=18.1km az=4.0*

ISC 09 10:44:34.8±0.2,36°.41N±0°.03×70.75E±0°.03,h200km±2km, h200km:pP-P,n1153,σ1$45/1175,mb5.2/308,43C-59D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.33	217		Pn	10 45 17.1	0.0
KBL	Kabul	2.33	217	P	Pn	10 45 17.2	0.0
SNR=939							
KBL				S	Sn	10 45 48.8	-1.1
KBL	Kabul	2.33	217	PN	Pn	10 45 17.1	0.0
CHGR	Chuyangaron	2.57	331		Pn	10 45 18.3	-1.3
CHGR	Chuyangaron	2.57	331	PN	Pn	10 45 18.3	-1.3
GAR	Garm	2.61	353		Pn	10 45 19.0	-1.0
NIL	Nilore	3.44	143		Pn	10 45 31.4	+1.7
NIL	Nilore	3.44	143	P	Pn	10 45 31.5	+1.7
NIL	Nilore	3.44	143	PN	Pn	10 45 31.4	+1.7
SRNI	Srinagar	4.07	123	eP	Pn	10 45 34.9	-2.6
SRNI				eS	Sn	10 46 23.5	-3.1
SRNI				IAmb	IAmb	10 46 28.3	
comp=N,9μm,1.2s							
SRNI				IAmb	IAmb	10 46 32.6	
comp=E,5μm,0.9s							
OHH	Osh	4.41	21	PN	Pn	10 45 39.1	-2.6
JMU	Jammu	5.03	136	eP	Pn	10 45 46.1	-3.5
JMU				eS	Sn	10 46 45.0	-3.5
JMU				IAML		10 46 49.0	
comp=N,4μm,0.8s							
JMU				IAML		10 46 54.5	
comp=E,4μm,0.3s							
TRKS	Terek-Say	5.12	3	PN	Pn	10 45 49.2	-1.7
KSH	Kashi	5.16	52	P	Pn	10 45 46.6	-4.8
KSH				S	Sn	10 46 41.3	-10
KSH				smax	smax		
comp=E,6μm,0.6s							
KSH				smax	smax		
comp=E,8μm,0.8s							
ARSB	Arslanbob	5.21	19		Pn	10 45 50.4	-1.5
ARSB	Arslanbob	5.21	19	PN	Pn	10 45 50.4	-1.5
ARK	Arkit	5.46	10	PN	Pn	10 45 54.0	-1.2
ALCI	Alchi Leh	5.70	111	eP	Pn	10 45 53.4	-5.2
ALCI				eS	Sn	10 47 01.9	-2.7
ALCI				IAML		10 47 03.1	
comp=E,1μm,0.6s							
ALCI				IAML		10 47 06.0	
comp=N,2μm,0.4s							
TSSA	Tissa	5.70	127	eP	Pn	10 45 56.0	-2.5
TSSA				eS	Sn	10 46 59.2	-5.3
TSSA				IAML		10 47 04.4	
comp=N,6μm,0.0s							
IUG	Iuzhnay	5.76	355	⇓iP	Pn	10 45 58.2	-0.8
IUG	Iuzhnay	5.76	355	diPN	Pn	10 45 58.1	-0.8
CHM	Chimkent	5.97	352	eP	Pn	10 46 00.9	-0.7
CHM	Chimkent	5.97	352	ePN	Pn	10 46 00.9	-0.7
DHRM	DHARAMSHALA	6.19	131	eP	Pn	10 46 01.1	-3.7
DHRM				eS	Sn	10 47 12.5	-3.4
DHRM				IAML		10 47 15.2	
comp=E,992nm,0.7s							
DHRM				IAML		10 47 16.5	
comp=N,950nm,0.5s							
TLWR	Talawar	6.19	134	eP	Pn	10 46 00.6	-4.1
TLWR				eS	Sn	10 47 10.9	-4.8
TLWR				IAML		10 47 16.8	
comp=N,3μm,0.4s							
TLWR				IAML		10 47 16.9	
comp=E,2μm,0.9s							
DZA	Taraz	6.49	4	eP	Pn	10 46 07.4	-1.0
DZA	Taraz	6.49	4	ePN	Pn	10 46 07.3	-1.1
UCH	Uchtor	6.50	26	P	Pn	10 46 08.0	-1.0
SNR=2156							
BRLS	Borolday	6.65	354	⇓iP	Pn	10 46 05.6	-4.8
BRLS	Borolday	6.65	354	diPN	Pn	10 46 05.5	-4.9
EKS2	Erkin-Say	6.67	20	P	Pn	10 46 09.8	-1.0
SNR=312							
KK31	Karatay Array	6.69	359		Pn	10 46 09.4	-1.4
KK31	Karatay Array	6.69	359	⇓P	Pn	10 46 09.5	-1.4
comp=E,1μm,0.3s,baz=192,slow=14,SNR=9300							
KK31				⇓S	Sn	10 47 21.2	-6.0
comp=E,980nm,0.5s,baz=189,slow=21,SNR=15							
KK31	Karatay Array	6.69	359	ePN	Pn	10 46 09.5	-1.4
KKAR	Karatay Array	6.69	359		Pn	10 46 09.5	-1.4
KKAR	Karatay Array	6.69	359	PN	Pn	10 46 09.5	-1.4
BHK	Bhakra	6.86	135	eP	Pn	10 46 12.7	-0.5
BHK				IAML		10 47 28.8	
comp=E,2μm,0.9s							
BHK				IAML		10 47 29.6	
comp=N,1μm,0.7s							
BHK				eS	Sn	10 47 32.0	+0.8
AAK	Ala-Archa	6.86	24	P	Pn	10 46 12.5	-0.8
comp=N,1μm,0.4s,baz=191,slow=6.0,SNR=2310							
AAK				S	Sn	10 47 27.2	-4.2
comp=N,2μm,0.6s,baz=328,slow=22,SNR=26							
AAK	Ala-Archa	6.86	24	P	Pn	10 46 12.8	-0.5
AAK				S	Sn	10 47 28.4	-3.0
AAK	Ala-Archa	6.86	24	P	Pn	10 46 12.5	-0.8
SNR=574							
AAK	Ala-Archa	6.86	24	⇓P	Pn	10 46 12.5	-0.8
comp=N,376nm,0.5s							
AAK				⇑S	Sn	10 47 27.6	-3.8
AAK	Ala-Archa	6.86	24	iP	Pn	10 46 12.5	-0.8
SNR=768							
KBK	Karagaybulak	7.03	26	P	Pn	10 46 15.1	-0.5
SNR=228							
FRU1	Bishkek	7.06	24	Pn	Pn	10 46 15.3	-0.5
FRU1	Bishkek	7.06	24	PN	Pn	10 46 15.3	-0.5
ULHL	Ulahol	7.21	34	P	Pn	10 46 16.7	-1.3
SNR=45							
HRA	Herat	7.23	256		Pn	10 46 18.0	-0.3
CHMS	Chumysh	7.27	24	P	Pn	10 46 17.2	-1.3
SNR=206							
BOOM	Boomskoye usch	7.28	32		Pn	10 46 17.6	-1.2
BOOM	Boomskoye usch	7.28	32	PN	Pn	10 46 17.6	-1.2
USP	Ospenovka	7.43	22	P	Pn	10 46 18.8	-1.8
SNR=191							
TKM2	Tokmak 2	7.50	28	P	Pn	10 46 20.7	-0.9
SNR=3563							
SMLA	Simla	7.50	133	eP	Pn	10 46 18.9	-2.8
SMLA				eS	Sn	10 47 40.1	-6.4
SMLA				IAML		10 47 44.9	
comp=E,2μm,0.6s							
SMLA				IAML		10 47 44.9	
comp=N,4μm,0.6s							
KDJ	Kajisay	7.58	39		Pn	10 46 21.1	-1.6
KDJ	Kajisay	7.58	39	PN	Pn	10 46 21.1	-1.6
SGDS	Sogindy	7.64	22	⇓iP	Pn	10 46 21.6	-1.8
HNLY	HANLEY	7.69	116	IAML		10 47 56.9	
comp=N,175nm,0.8s							
KLP	Kalpa	7.90	126	eP	Pn	10 46 24.5	-2.7
KLP				eS	Sn	10 47 48.8	-7.7
KLP				IAML		10 47 55.2	
comp=E,2μm,0.9s							
KLP				IAML		10 48 00.3	
comp=N,4μm,1.9s							
TNSS	Tian-Shan	8.16	34	eP	Pn	10 46 29.2	-1.3
TNSS	Tian-Shan	8.16	34	ePN	Pn	10 46 29.1	-1.3
AAA	Alma-Ata	8.28	33	eP	Pn	10 46 31.1	-0.6
AAA	Alma-Ata	8.28	33	ePN	Pn	10 46 31.7	0.0
MDOK	Medeo	8.30	34	eP	Pn	10 46 31.2	-1.0
MDOK				eS	Sn	10 48 03.8	-1.8
MDOK	Medeo	8.30	34	ePN	Pn	10 46 31.1	-1.0
MDOK				eS	Sn	10 48 03.7	-1.8
KNDC	Almaty	8.31	33	⇓P	Pn	10 46 31.7	-0.4
comp=N,3μm,0.8s							
KNDC				⇑S	Sn	10 48 04.3	-1.2
comp=N,1μm,1.2s							
KNDC	Almaty	8.31	33	PN	Pn	10 46 31.7	-0.4
KNDC				S	Sn	10 48 04.3	-1.2
PRZ	Przheval'sk	8.47	42		Pn	10 46 34.1	-0.2
PRZ	Przheval'sk	8.47	42	PN	Pn	10 46 34.1	-0.2
DDI	Dehra Dun	8.61	133	eP	Pn	10 46 34.1	-2.1
DDI				eS	Sn	10 48 04.9	-8.0
DDI				IAML		10 48 08.9	
comp=N,980nm,0.8s							
DDI				IAML		10 48 13.9	
comp=E,871nm,0.4s							
CHKK	Chushkaly	8.83	31	eP	Pn	10 46 37.0	-1.9
CHKK	Chushkaly	8.83	31	ePN	Pn	10 46 36.9	-1.9
SATY	Saty	8.88	39	⇓iP	Pn

comp=N,273nm,1.6s
BHUJ Bhuj 13.15 184 *e*P **Pn 10 47 33.9 -0.3**
BHUJ *e*S S 10 49 48.4 -13
BHUJ IAML 10 50 01.9
comp=E,1μm,0.8s
BHUJ IAML 10 50 06.2
comp=N,640nm,0.6s
MAKZ Makanchi 13.34 35 Pn **Pn 10 47 35.4 -1.1**
MAKZ Makanchi 13.34 35 P **Pn 10 47 35.4 -1.1**
MK31 Makanchi Array 13.48 36 ⇓P **Pn 10 47 36.7 -1.5**
comp=N,263nm,0.7s,baz=218,slow=11,SNR=1545
MK31 Makanchi Array 13.48 36 *i* P **Pn 10 47 37.1 -1.1**
MKAR Makanchi Array 13.48 36 **Pn 10 47 37.0 -1.2**
MKAR Makanchi Array 13.48 36 P **Pn 10 47 36.8 -1.4**
comp=N,257nm,0.8s,baz=225,slow=12,SNR=184
MKAR S **S 10 50 05.1 -3.3**
comp=N,11nm,0.7s,baz=243,slow=25,SNR=1.8
BRZS Berezniki 13.64 5 *e*P **Pn 10 47 39.1 -1.1**
BRZS Berezniki 13.64 5 *e*P **Pn 10 47 39.0 -1.1**
NGCH Negor - Chabah 13.76 219 P **Pn 10 47 42.7 +0.9**
SNR=9.5
NGCH S **Sn 10 50 16.1 +0.7**
BHPL Bhopal 14.34 154 *e*P Pn 10 47 41.7 -7.4
BHPL IAML 10 50 22.9
comp=N,259nm,1.2s
BHPL IAML 10 50 24.5
comp=E,290nm,0.8s
BHPL *e*S **S 10 50 24.9 -3.8**
ALBI Allahabad 14.57 136 *e*P **Pn 10 47 49.3 -2.5**
NRDN NARMADA NAGAR 14.74 156 *e*P **Pn 10 47 50.9 -3.1**
NRDN *e*S **S 10 50 37.3 -0.4**
WMQ Urumqi 14.91 55 *e*P **Pn 10 47 55.5 -0.5**
WMQ S **S 10 50 38.3 -3.3**
WMQ pmax pmax
comp=E,60nm,0.7s
WMQ pmax pmax
comp=E,420nm,4.3s
AB31 Akbulak array 15.07 332 **Pn 10 47 55.8 -1.9**
AB31 Akbulak array 15.07 332 ⇑P **Pn 10 47 55.6 -2.0**
comp=E,112nm,0.5s,baz=144,slow=12,SNR=1529
AB31 Akbulak array 15.07 332 *i* P **Pn 10 47 55.8 -1.9**
ABKAR Akbulak array 15.07 332 **Pn 10 47 55.8 -1.9**
ZSN Zaisan 15.21 39 *e*P **Pn 10 47 58.6 -0.9**
ZSN Zaisan 15.21 39 *e*P **Pn 10 47 58.5 -0.9**
KURBB Kurchatov Arra 15.27 19 P **Pn 10 47 58.7 -1.5**
comp=E,53nm,0.4s,baz=210,slow=10,SNR=96
KURBB S **S 10 50 45.5 -4.0**
comp=E,17nm,0.9s,baz=212,slow=22,SNR=5.9
KURBB Kurchatov Arra 15.27 19 ⇑P **Pn 10 47 57.7 -2.4**
comp=E,106nm,0.5s
KURBB Kurchatov Arra 15.27 19 P **Pn 10 47 57.7 -2.4**
KURK Kurchatov 15.38 19 **Pn 10 47 59.5 -1.9**
KURK Kurchatov 15.38 19 P **Pn 10 47 59.3 -2.1**
KURK S **S 10 50 52.3 +0.2**
KURK Kurchatov 15.38 19 ⇓P **Pn 10 47 58.9 -2.5**
comp=E,47nm,0.8s
KURK Kurchatov 15.38 19 *d i* P **Pn 10 47 59.0 -2.5**
BANOM Banah 16.17 234 P **P 10 48 10.7 -0.1**
BANOM S **S 10 51 07.4 -2.9**
BANOM Banah 16.17 234 *i* P **P 10 48 10.5 -0.3**
SNR=268
SHME Shamm 16.19 234 P **P 10 48 11.2 +0.3**
SNR=17
SHME S **S 10 51 07.9 -2.6**
SHME Shamm 16.19 234 *i* P **P 10 48 10.8 -0.1**
SNR=56
MDH Madha 16.61 232 P **P 10 48 14.5 -1.1**
SNR=56
MDH Madha 16.61 232 *i* P **P 10 48 14.4 -1.1**
SNR=27
BVA0 Borovoye Array 16.61 359 ⇑P **P 10 48 15.3 0.0**
comp=E,94nm,0.5s
BVA0 Borovoye Array 16.61 359 P **P 10 48 15.3 0.0**
BVAR Borovoye Array 16.61 359 P **P 10 48 15.4 +0.1**
comp=E,139nm,0.4s,baz=159,slow=11,SNR=420
BVAR S **S 10 51 16.3 -2.3**
comp=E,55nm,0.8s,baz=165,slow=22,SNR=5.6
BORK Borovoye 16.64 359 *d i* P **P 10 48 15.7 +0.2**
MASF Masafi 16.65 233 P **P 10 48 16.1 +0.1**
SNR=62
MSFE Esma-Masafi 16.66 233 *i* P **P 10 48 16.1 0.0**
SNR=106
AKTO Aktyubinsk 16.76 331 P **P 10 48 17.2 +0.3**
comp=E,590nm,0.6s,baz=143,slow=8.9,SNR=1184
AKTO S **S 10 51 13.9 -7.7**
comp=E,54nm,0.7s,baz=15,slow=19,SNR=3.9
AKTO Aktyubinsk 16.76 331 ⇑P **P 10 48 16.9 0.0**
comp=E,482nm,0.9s
WSAR Wadi Sarin 16.80 222 P **Pn 10 48 19.3 +0.5**
comp=E,0.6nm,0.5s,baz=74,slow=24,SNR=124
WSAR S **S 10 51 22.0 -0.8**
baz=17,slow=19,SNR=1.5
WSAR Wadi Sarin 16.80 222 P **Pn 10 48 18.9 +0.1**
SNR=38
BIDO Bidbid 16.85 224 P **Pn 10 48 19.5 +0.1**
SNR=24
UMQ Umm Al-Quwin 16.86 234 P **Pn 10 48 20.0 +0.5**
SNR=9.8
UMQ Umm Al-Quwin 16.86 234 *i* P **Pn 10 48 19.8 +0.3**
SNR=11
UOSS Minazif 16.92 232 P **P 10 48 17.9 -1.0**
UOSS Minazif 16.92 232 P **P 10 48 18.1 -0.9**
UOSS Minazif 16.92 232 *i* P **P 10 48 17.7 -1.3**
SNR=44
HATD Hatta, Dubai 17.05 231 P **Pn 10 48 22.0 +0.2**
SNR=54
HATD Hatta, Dubai 17.05 231 *i* P **P 10 48 19.5 -0.9**
SNR=30
ASHO Ashiyiah 17.20 231 P **Pn 10 48 23.2 -0.3**
SNR=225
ASHO Ashiyiah 17.20 231 *i* P **Pn 10 48 23.1 -0.5**
SNR=340
NAZ Nazwa, Dubai 17.24 233 P **Pn 10 48 23.2 -0.7**
SNR=74
NAZ Nazwa, Dubai 17.24 233 *i* P **P 10 48 22.9 +0.5**
SNR=102
SMDO Samad 17.26 223 P **Pn 10 48 24.1 -0.2**
SNR=28
HOQ Hoqain 17.27 226 P **P 10 48 22.8 +0.1**
SNR=19
JLN Jalan Bani Buh 17.29 218 P **Pn 10 48 24.8 +0.2**
SNR=50
SOHO SOHO 17.31 229 P **P 10 48 22.3 -0.9**
SOHO SOHO 17.31 229 *i* P **P 10 48 23.4 +0.3**
SNR=22
FAQ Al Faqa, Dubai 17.45 232 P **P 10 48 25.5 +0.7**
SNR=35
FAQ Al Faqa, Dubai 17.45 232 *i* P **P 10 48 25.0 +0.3**
SNR=25
LKRN Lenkeran, Azer 17.57 284 P **Pn 10 48 27.5 -0.2**
ASUD Al Ashush, Dub 17.71 233 P **Pn 10 48 28.8 -0.7**
SNR=16
ASUD Al Ashush, Dub 17.71 233 *i* P **P 10 48 28.1 +0.6**
SNR=22
JMDO Jabal Madar 17.78 222 P **Pn 10 48 30.1 -0.3**
SNR=45
ALNE Al Ain 17.85 231 P **P 10 48 29.9 +0.8**
SNR=72
ALNE Al Ain 17.85 231 *i* P **P 10 48 30.0 +0.9**
SNR=95
ARQ Araqi 17.92 227 P **Pn 10 48 31.1 -0.9**
SNR=47
AJN Ajban 17.97 233 P **P 10 48 30.9 +0.5**
SNR=37
AJN Ajban 17.97 233 *i* P **P 10 48 31.0 +0.6**
SNR=43
POO Poona 18.02 170 *e*P **P 10 48 26.3 -4.8**
POO *e*S **S 10 51 45.1 -2.3**
BOK Bokaro 18.12 130 *e*P **P 10 48 28.2 -3.9**
BOK *e*S **S 10 51 48.3 -1.0**
BOK IAML 10 52 01.8
comp=E,147nm,0.4s
BOK IAML 10 52 02.1
comp=N,166nm,1.1s
DRN Derbent 18.23 295 ⇓*i* P **P 10 48 33.8 +0.7**
LSA Lhasa 18.35 106 **Pn 10 48 38.0 +0.6**
LSA Lhasa 18.35 106 P **P 10 48 35.5 +0.5**
LSA pmax pmax
comp=N,110nm,0.9s
LSA LR LR
comp=N,260nm,6.2s
LSA LR LR
comp=N,440nm,3.9s
LSA Lhasa 18.35 106 P **Pn 10 48 38.0 +0.6**
AKT Akhty 18.59 293 *e*P **P 10 48 36.7 -0.4**
AKT *e*S **S 10 51 57.9 -0.5**
AKT pmax pmax
comp=Z,46nm,0.6s
SEKA Sheki 18.95 292 P **P 10 48 41.7 +0.8**
MNGR Mingechevir, A 18.99 290 P **P 10 48 41.9 +0.7**
MHTO MHTO 18.99 219 P **Pn 10 48 43.5 -1.1**
SNR=78
MAK Makhachkala 19.02 297 *e*P **P 10 48 39.7 -1.8**
MAK *e*S **S 10 52 04.2 -2.4**
MAK pmax pmax
comp=Z,92nm,0.7s
JRN Qarnain Island 19.14 238 P **P 10 48 42.2 -0.8**
SNR=17
UMZA Um Al Zommool 19.20 229 P **P 10 48 44.2 +0.5**
MZWR Madinat Zayed 19.25 234 P **P 10 48 43.9 -0.3**
KAD Karad 19.27 170 *e*P **P 10 48 40.6 -4.0**
KAD *e*S **S 10 52 10.3 -1.8**
GOMU GeErMu 19.39 83 P **P 10 48 47.5 +1.4**
GOMU pP Pn 10 48 51.4 +1.8
GOMU pmax pmax
comp=Z,59nm,1.1s
GANJ Ganja 19.55 290 P **P 10 48 47.3 -0.1**
GHWR Ruwais 19.77 236 P **P 10 48 48.8 -1.1**
SHMA Al-Shehemyia 19.90 244 P **P 10 48 50.6 -0.6**
SNR=9.9
DVE Vedeno 20.01 297 ⇓*i* P **P 10 48 52.4 +0.1**
MZR Muzera 20.05 233 P **P 10 48 51.8 -1.0**
MZR Muzera 20.05 233 *i* P **P 10 48 51.5 -1.3**
SNR=26
ZAA0 Zalesovo Array 20.08 25 **P 10 48 52.9 +0.1**
ZAA0 Zalesovo Array 20.08 25 ⇑P **P 10 48 52.8 -0.1**
comp=Z,79nm,0.8s
ZALV Zalesovo Beam 20.08 25 **P 10 48 52.6 -0.3**
ZALV Zalesovo Beam 20.08 25 P **P 10 48 52.7 -0.1**
comp=Z,351nm,0.5s,baz=221,slow=11,SNR=1024
ZALV S **S 10 52 22.2 -4.9**
comp=Z,24nm,0.7s,baz=221,slow=17,SNR=3.1
comp=Z,351nm,0.5s
DQM DQM 20.09 219 P **P 10 48 54.4 +1.1**
DQM P Pn 10 48 54.5 -3.4
SNR=16
NAX Nakhchivan 20.13 286 P **P 10 48 54.5 +0.9**
SAKB Bahrain 20.14 245 P **P 10 48 53.3 -0.4**
HYB Hyderabad 20.14 158 *e*P **P 10 48 55.2 +1.4**
HYB IVmB_BB 10 48 57.8
comp=Z,1μm,0.8s
HYB *e*pP **pP 10 49 28.2 +1.0**
HYB *e*sP **sP 10 49 55.4 +3.0**
HYB *e*S **S 10 52 32.7 +3.6**
HYB IVMs_BB IVMs_BB 10 55 14.0
comp=Z,602nm,4.5s
TRNA Turayna 20.41 241 P **P 10 48 55.2 -1.5**
SNR=8.3
SLWR Sila 20.51 238 P **P 10 48 56.5 -1.2**
KBD Kabd 20.65 256 P **P 10 48 57.9 -1.3**
SMRA Abu-Samra 20.68 241 P **P 10 48 58.5 -1.0**
SNR=14
GNI Garni 20.73 288 **P 10 49 02.3 +2.1**
GNI Garni 20.73 288 P **P 10 49 01.6 +1.5**
comp=Z,66nm,0.8s,baz=78,slow=2.4,SNR=24
comp=Z,66nm,0.8s
GNI Garni 20.73 288 P **P 10 49 00.2 +0.1**
GNI Garni 20.73 288 P **P 10 49 02.2 +2.1**
GNI Garni 20.73 288 *c i* P **P 10 49 02.2 +2.1**
GNI pmax pmax
comp=Z,119nm,1.1s
SHL Shillong 21.05 115 **P 10 49 04.4 +0.7**
SHL Shillong 21.05 115 P **P 10 49 05.0 +1.4**
SNR=85
SHL Shillong 21.05 115 P **P 10 49 04.4 +0.7**
SVE Sverdlovsk 21.53 345 *de*P **P 10 49 08.1 +0.1**
SVE *e*S **S 10 53 00.3 +7.1**
SVE pmax pmax
comp=Z,180nm,0.9s
ARTI Arti 21.66 341 **P 10 49 09.4 0.0**
ARTI Arti 21.66 341 P **P 10 49 09.8 +0.4**
comp=Z,159nm,0.7s,baz=156,slow=9.8,SNR=60
comp=Z,159nm,0.7s
ARTI Arti 21.66 341 *c i* P **P 10 49 09.0 -0.4**
ARTI *PP **pP 10 49 41.6 -2.3**
ARTI S **S 10 52 54.6 -0.8**
ARTI pmax pmax
comp=Z,265nm,0.8s
PYA1 Pyatigorsk 22.38 298 ⇓*i* P **P 10 49 16.5 0.0**
KBZ Khabaz 22.46 298 P **P 10 49 17.3 +0.1**
comp=Z,14nm,0.6s,baz=117,slow=3.5,SNR=31
comp=Z,14nm,0.6s
KBZ Khabaz 22.46 298 *c i* P **P 10 49 16.9 -0.3**
NEUR Neytrino 22.53 296 *i* P **P 10 49 19.9 +1.8**
NEUR pmax pmax
comp=Z,38nm,1.7s
GOF Gofitskoye 22.62 301 *ce*P **P 10 49 19.9 +1.3**
SHA1 Shidzhatmaz 22.64 298 *d i* P **P 10 49 19.8 +0.7**
KIV Kislovodsk 22.65 298 P **P 10 49 17.0 -2.0**
KIV Kislovodsk 22.65 298 P **P 10 49 19.0 0.0**
KIV Kislovodsk 22.65 298 *e*P **P 10 49 18.6 -0.4**
KIV *e*S **S 10 53 12.1 +0.3**
KIV pmax pmax
comp=Z,36nm,1.0s
SHAO Shalim 22.67 220 P **P 10 49 20.4 +1.1**
SHAO Shalim 22.67 220 *i* P **P 10 49 20.4 +1.1**
SNR=8.7
BELG Belogornoye 22.83 322 *c i* P **P 10 49 20.6 +0.2**
BELG pmax pmax
comp=Z,74nm,0.7s
DOK Doka 22.99 224 P **P 10 49 23.0 +0.8**
SNR=16
GTA Gaotai 23.08 74 P **P 10 49 24.6 +1.6**
GTA pP pP 10 50 08.3 +7.8
GTA sP sP 10 50 26.7 +0.7
GTA S **S 10 53 15.8 -3.1**
GTA SS **SnSn 10 54 23.8 +5.5**
GTA pmax pmax
comp=Z,130nm,1.2s
GTA pmax pmax
comp=Z,510nm,4.1s
DMTO DMTO 23.28 221 P **P 10 49 25.5 +0.7**
WHFO Wadi Hawf 23.75 224 P **P 10 49 29.5 +0.3**
SNR=16
RBK Rabkut 23.85 222 P **P 10 49 30.3 +0.2**
SNR=11
KNGR Kungurtug, Tuv 23.88 45 *ce*P **P 10 49 32.0 +1.9**
KNGR pmax pmax
comp=Z,296nm,0.7s
MARD Mardin 23.95 281 P **P 10 49 28.1 -2.8**
LABN Labinsk 24.16 299 *e*P **P 10 49 35.9 +3.3**
LABN *e*PP **pP 10 50 14.0 +3.3**
LABN *e*S **S 10 53 42.4 +6.7**
LABN pmax pmax
comp=Z,76nm,0.8s
RPOR Krasnaya Polya 24.35 297 *de*P **P 10 49 36.2 +1.9**
ABTO Aybut 24.47 224 P **P 10 49 36.0 +0.3**
SNR=20
GUZR Guzeripl' 24.49 297 *ce*P **P 10 49 36.4 +0.7**
GUZR pmax pmax
comp=Z,501nm,1.0s
ERBR Yeremizino-Bor 24.52 302 *e*P **P 10 49 36.5 +0.7**
ERBR *e*PP **pP 10 50 18.0 +3.4**
ERBR *e*S **S 10 53 44.0 +2.6**
ERBR pmax pmax
comp=Z,62nm,0.8s
SOC Sochi 24.73 296 *e*P **P 10 49 38.1 +0.3**
SOC *e*PP **pP 10 50 15.0 -1.9**
SOC *e*SP PP 10 50 38.7 +0.8
SOC *e*S **S 10 53 46.7 +1.9**
SOC *e*SS **sS 10 54 56.3 -1.1**
RAYN Ar Rayn 25.28 246 **P 10 49 42.7 -0.3**
RAYN IAmb IAmb 10 49 49.2
comp=Z,46nm,0.8s
RAYN Ar Rayn 25.28 246 *i* P **P 10 49 43.3 +0.4**
SNR=38
RAYN Ar Rayn 25.28 246 P **P 10 49 43.4 +0.4**
VRH Novokhopyorsk 25.43 315 *e*P **P 10 49 42.2 -1.7**
VRH pmax pmax
comp=Z,80nm,1.0s
KIRV Kirov 26.23 334 *c i* P **P 10 49 51.6 +0.6**
MOY Mondy 26.31 45 *e*P **P 10 49 53.7 +1.7**
MOY *e* 10 50 37.6
MOY pmax pmax
comp=Z,62nm,1.6s
TNCH TengChong 26.34 108 *e*P **P 10 49 54.7 +2.0**
TNCH pP pP 10 50 39.3 +5.1
TNCH sP sP 10 50 59.7 +1.8
TNCH S **S 10 54 12.5 +1.6**
TNCH sS sS 10 55 22.1 -2.4
TNCH pmax pmax
comp=Z,35nm,0.6s
TNCH pmax pmax
comp=Z,160nm,3.5s
ANN Anapa 26.50 299 *e*P **P 10 49 53.4 -0.2**
ANN *e*PP **pP 10 50 34.6 +0.7**
ANN *e*S **S 10 54 13.1 +0.5**
ANN pmax pmax
comp=Z,31nm,0.6s
LZDM Lanzhou Array 26.53 81 P **P 10 49 56.0 +1.6**
comp=Z,7.6nm,0.5s,baz=263,slow=12,SNR=13
LZDM PcP **PcP 10 53 13.5 -0.2**
comp=Z,7.3nm,0.5s,baz=266,slow=4.3,SNR=4.3
comp=Z,7.6nm,0.5s
LZH Lanzhou 26.62 81 *e*P **P 10 49 57.2 +2.1**
LZH PP **PP 10 50 54.2 -5.1**
LZH sP sP 10 51 00.8 +0.5
LZH SS SS 10 55 45.3 -30
LZH pmax pmax
comp=Z,54nm,1.2s
LZH LR LR
comp=Z,180nm,12.7s
VORD Divnogorie 26.75 313 *e*P **P 10 49 54.5 -1.3**
VORD pmax pmax
comp=Z,50nm,1.0s
VSR Storozhevoye 26.92 313 *e*P **P 10 49 55.0 -2.3**
VSR pmax pmax
comp=Z,70nm,1.0s
VORR Voronezh 27.06 314 *e*P **P 10 49 56.7 -1.8**
VORR pmax pmax
comp=Z,120nm,1.0s
ZAK Zakamensk 27.20 49 *e*P **P 10 50 00.4 +0.4**
ZAK pmax pmax
comp=Z,35nm,1.1s
LPSR Galich'ya Gora 27.58 316 *e*P **P 10 50 01.5 -1.6**
LPSR pmax pmax
comp=Z,170nm,0.9s
CD2 Chengdu 27.93 92 P **P 10 50 08.5 +1.9**
CD2 pmax pmax
comp=Z,150nm,1.0s
PZH PanZhiHua 28.12 102 P **P 10 50 09.1 +0.7**
SONM Songino Array 28.55 55 **P 10 50 13.1 +1.1**
SONM IAmb IAmb 10 50 14.6
comp=Z,31nm,0.9s
SONM Songino Array 28.55 55 P **P 10 50 13.5 +1.5**
comp=Z,38nm,0.8s,baz=258,slow=9.9,SNR=46
comp=Z,38nm,0.8s
SIM Simferopol' 28.86 299 *e*P **P 10 50 15.6 +1.0**
ULN Ulaanbaatar 28.99 55 P **P 10 50 17.0 +1.0**
ULN IAmb IAmb 10 50 18.2
comp=Z,32nm,0.8s
ULN Ulaanbaatar 28.99 55 P **P 10 50 17.3 +1.3**
ULN Ulaanbaatar 28.99 55 P **P 10 50 17.1 +1.1**
KIRS Kirsehir-Merke 29.12 287 ⇓P **P 10 50 18.5 +1.5**
MMAI Mount Meron Ar 29.15 274 P **P 10 50 18.6 +1.2**
comp=Z,0.4nm,0.3s,baz=76,slow=6.1,SNR=3.6
MMAI PcP **PcP 10 53 20.3 +0.5**
comp=Z,7.0nm,0.7s,baz=58,slow=5.4,SNR=8.4
MMAI ScP **ScP 10 56 40.5 -1.9**
comp=Z,5.7nm,0.8s,baz=64,slow=6.6,SNR=7.7
BR131 Keskin Array S 29.27 288 **P 10 50 18.6 +0.1**
BR131 Keskin Array S 29.27 288 ⇑*i* P **P 10 50 19.0 +0.5**
BRTR Keskin Array B 29.27 288 P **P 10 50 19.0 +0.5**
comp=Z,3.0nm,0.6s,baz=105,slow=8.6,SNR=13
BRTR pP **pP 10 51 01.4 +2.1**
comp=Z,12nm,1.0s,baz=98,slow=8.9,SNR=5.2
comp=Z,3.0nm,0.6s
KMI Kunming 29.57 103 P **P 10 50 22.4 +1.0**
KMI pmax pmax
comp=Z,27nm,0.9s
MOS Moscow 29.60 321 *e*P **P 10 50 20.5 -0.5**
MOS *e*PP **pP 10 51 04.7 +2.9**
MOS *e* 10 51 25.6
MOS *e*S **S 10 54 59.6 -1.5**
MOS pmax pmax
comp=Z,200nm,0.9s
MOS pmax pmax
comp=Z,190nm,0.8s
MOS pmax pmax
comp=E,153nm,0.9s
MOS pmax pmax
comp=N,65nm,0.8s
OBN Obninsk 29.87 320 **P 10 50 23.6 +0.2**
OBN Obninsk 29.87 320 ⇑P **P 10 50 23.7 +0.3**
OBN Obninsk 29.87 320 *c i* P **P 10 50 23.8 +0.4**
OBN *e*PP **pP 10 51 07.6 +3.4**
OBN *e*SP **sP 10 51 24.9 -2.5**
OBN *e* 10 51 31.5
OBN *e* 10 53 20.3
OBN *e*S **S 10 55 05.2 -0.1**
OBN pmax pmax
comp=Z,147nm,0.6s
ANTO Ankara 29.90 288 P **P 10 50 23.2 -0.8**
ANTO Ankara 29.90 288 P **P 10 50 23.2 -0.8**
ANTO pmax pmax
comp=Z,32nm,1.5s
CHTO Chiang Mai 30.36 118 **P 10 50 29.7 +1.6**
CHTO Chiang Mai 30.36 118 P **P 10 50 30.5 +2.4**
CHTO Chiang Mai 30.36 118 P **P 10 50 30.2 +2.1**
CHTO Chiang Mai 30.36 118 P **P 10 50 29.7 +1.6**
CHTO pmax pmax
comp=Z,26nm,1.3s
CHTO Chiang Mai 30.36 118 P **P 10 50 30.3 +2.2**
CHTO pP **pP 10 51 12.3 +2.1**
CHTO sP **sP 10 51 32.9 -0.7**
PALK Pallekele 30.39 160 **P 10 50 29.4 +1.0**
PALK IAmb IAmb 10 50 31.4
comp=Z,30nm,0.9s
PALK Pallekele 30.39 160 P **P 10 50 30.7 +2.2**
PALK Pallekele 30.39 160 *d i* P **P 10 50 30.2 +1.7**
PALK pmax pmax
comp=Z,47nm,1.0s
CM31 Chiang Mai Arr 30.59 118 P **P 10 50 31.5 +1.4**
CMAR Chiang Mai Arr 30.59 118 **P 10 50 31.6 +1.4**
CMAR Chiang Mai Arr 30.59 118 P **P 10 50 31.4 +1.3**
comp=Z,17nm,0.9s,baz=297,slow=8.1,SNR=89
CMAR pP **pP 10 51 12.8 +0.7**
comp=Z,4.8nm,0.8s,baz=303,slow=7.8,SNR=2.2
CMAR PP **PnPn 10 51 39.3 +0.3**
comp=Z,6.4nm,0.9s,baz=297,slow=12,SNR=4.6
CMAR PcP **PcP 10 53 22.9 -0.7**
comp=Z,6.8nm,0.8s,baz=290,slow=5.8,SNR=5.1
CMAR ScP **ScP 10 56 45.4 -1.7**
comp=Z,1.0nm,0.3s,baz=301,slow=4.6,SNR=4.5
comp=Z,17nm,0.9s
BTO Baotou 30.84 70 ⇑*i* P **P 10 50 32.8 +0.6**
BTO pP **pP 10 51 14.8 +0.3**
BTO sP **sP 10 51 38.4 +0.1**
BTO PP **PnPn 10 51 42.4 +0.5**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,670nm,8.2s
XAN Xi'an 31.14 83 ⇑P **P 10 50 35.8 +0.9**
XAN pP pP 10 51 18.3 +1.4
XAN sP sP 10 51 40.4 +0.1
XAN S **S 10 55 28.6 +2.8**
XAN pmax pmax
comp=Z,130nm,0.8s
XAN pmax pmax
comp=Z,270nm,4.6s
XAN Xi'an 31.14 83 P **P 10 50 36.0 +1.1**
XAN ScP **ScP 10 56 46.9 -1.9**
KLMR Klimovskoe 31.46 331 *e*P **P 10 50 36.0 -1.3**
KLMR *e*PP **pP 10 51 16.6 -1.9**
KLMR *e*SP **sP 10 51 39.0 -2.7**
KLMR *e* 10 51 48.4
KLMR *e* 10 53 20.6
KLMR pmax pmax
comp=Z,171nm,1.2s
HHC Hu-ho-hao-te 31.98 69 ⇓*i* P **P 10 50 44.3 +2.0**
HHC sP sP 10 51 53.0 +5.5
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,64nm,5.1s
GYA Guiyang 32.05 98 ⇑P **P 10 50 44.4 +1.4**
GYA pmax pmax
comp=Z,75nm,0.9s
SLVN Son La 32.50 108 P **P 10 50 49.0 +2.1**
ENH Enshi 32.78 89 **P 10 50 50.5 +1.3**
ENH IAmb IAmb 10 50 52.5
comp=Z,101nm,1.1s
ENH Enshi 32.78 89 P **P 10 50 50.8 +1.6**
AKASG Malin Array Be 32.84 309 P **P 10 50 49.3 -0.1**

AKASG IAmb IAmb 10 50 50.6
comp=Z,68nm,0.8s
AKASG Malin Array Be 32.84 309 P P 10 50 49.3 -0.1
comp=Z,16nm,0.5s,baz=82,slow=7.1,SNR=152
AKASG pP **pP 10 51 32.1 +1.3**
comp=Z,13nm,0.7s,baz=87,slow=7.1,SNR=4.7
AKASG PP **PP 10 52 07.9 0.0**
comp=Z,24nm,0.9s,baz=87,slow=9.9,SNR=6.2
AKASG ScP **ScP 10 56 51.5 -2.8**
comp=Z,4.0nm,0.8s,baz=79,slow=3.4,SNR=7.8
comp=Z,16nm,0.5s
AKBB Malin Array Si 32.84 309 P 10 50 49.6 +0.1
AKBB IAmb IAmb 10 50 50.5
comp=Z,56nm,0.7s
AKBB Malin Array Si 32.84 309 *d iP* **P 10 50 50.0 +0.5**
KIEV Kiev 32.85 309 P 10 50 48.8 -0.7
KIEV IAmb IAmb 10 50 50.5
comp=Z,50nm,0.7s
KIEV Kiev 32.85 309 ⇓P **P 10 50 50.3 +0.8**
KIEV Kiev 32.85 309 *i P* **P 10 50 49.6 0.0**
SNR=25
KIEV Kiev 32.85 309 P P 10 50 50.3 +0.8
KIEV Kiev 32.85 309 P P 10 50 49.3 -0.2
KIEV pP **pP 10 51 31.7 +0.9**
AKAS Kas 32.97 282 P P 10 50 49.9 -1.0
SORM Soroca 33.09 304 ⇓P **P 10 50 51.8 +0.2**
SORM Soroca 33.09 304 P P 10 50 51.7 +0.2
TIY Taiyuan 33.09 75 *eP* **P 10 50 53.8 +1.9**
TIY S **S 10 56 01.9 +5.9**
TIY pmax pmax
comp=Z,43nm,0.9s
LYN LuoYang 33.84 81 P P 10 51 00.5 +2.3
LYN sP sP 10 52 06.7 +2.7
LYN pmax pmax
comp=Z,83nm,1.0s
CIT Chita 33.86 49 *eP* **P 10 50 59.0 +0.7**
CIT *e* 10 51 44.0
CIT *e* 10 52 03.4
CIT *e* 10 53 33.0
CIT pmax pmax
comp=Z,220nm,1.6s
VRI Vrincioaia 34.10 300 ⇑P **P 10 51 00.9 +0.5**
VRI Vrincioaia 34.10 300 P P 10 51 00.8 +0.5
PLOR Plostina 34.15 300 ⇓P **P 10 51 02.7 +1.8**
PLOR Plostina 34.15 300 P P 10 51 02.6 +1.8
TESR Tescani 34.16 301 ⇓P **P 10 51 01.5 +0.6**
RAZG Razgrad 34.32 296 ⇓P **P 10 51 03.5 +1.2**
MNK Minsk 34.42 315 *i P* **P 10 51 02.7 -0.3**
comp=E,22nm,0.8s
MNK *i P* **P 10 51 02.7 -0.3**
comp=Z,128nm,0.8s,baz=104
MNK *i P* **P 10 51 02.8 -0.3**
comp=N,99nm,1.1s
MNK *i* pP **pP 10 51 41.4 -3.0**
MNK *i* PP **PnPn 10 52 25.4 -0.2**
MNK *i* S **S 10 56 16.2 +0.4**
MNK *i* SS **SnSn 10 58 52.7 +0.4**
MNK *i* LRM MLR 11 06 59.3
comp=E,436nm,22.0s
MNK *i* LRM MLR 11 07 03.5
comp=Z,136nm,19.9s
MNK *i* LRM MLR 11 07 26.9
comp=N,450nm,19.7s
MNK Minsk 34.42 315 *i P* **P 10 51 02.6 -0.3**
MNK *i* *PP **pP 10 51 41.4 -3.0**
MNK *i* 10 52 25.4
MNK *i* S **S 10 56 16.2 +0.4**
MNK pmax pmax
comp=Z,128nm,0.8s
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=N,99nm,1.1s
MNK MLR MLR
comp=E,436nm,22.0s
MNK MLR MLR
comp=Z,136nm,20.0s
MNK MLR MLR
comp=N,450nm,20.0s
TURR Turia 34.59 300 ⇓P **P 10 51 05.9 +1.2**
MLR Muntele Rosu 34.65 299 IAmb IAmb 10 51 51.4
comp=Z,55nm,1.1s
MLR Muntele Rosu 34.65 299 ⇓P **P 10 51 06.0 +0.8**
MLR Muntele Rosu 34.65 299 P P 10 51 06.0 +0.8
PUL Pulkovo 34.87 325 ⇓*i P* **P 10 51 07.6 +0.8**
PUL pmax pmax
comp=Z,191nm,0.6s
HNS HongShan 34.93 75 ⇑P **P 10 51 09.1 +1.5**
HNS S S 10 56 33.3 +9.3
HNS pmax pmax
comp=Z,27nm,0.9s
DOPR Dopca 35.03 300 ⇑P **P 10 51 09.4 +1.0**
KARP Karpathos 35.06 282 IAmb IAmb 10 51 11.3
comp=Z,80nm,0.9s
KARP Karpathos 35.06 282 *eP* **P 10 51 09.0 +0.2**
XLT XiLinHaoTe 35.09 63 *eP* **P 10 51 11.1 +2.1**
XLT pmax pmax
comp=Z,22nm,1.3s
NACGM Naroch 35.14 316 *eP* **P 10 51 09.4 +0.3**
comp=E,138nm,1.0s
BURAR Bucovina Array 35.16 303 P 10 51 10.3 +0.7
BURAR Bucovina Array 35.16 303 ⇑P **P 10 51 10.4 +0.7**
BURAR Bucovina Array 35.16 303 P P 10 51 10.3 +0.7
BUR08 Bucovina Ar. S 35.18 303 P 10 51 10.4 +0.7
VALR Valaam 35.30 328 *eP* **P 10 51 10.7 +0.3**
BOD Bodaibo 35.55 39 *eP* **P 10 51 12.8 +0.2**
BOD pmax pmax
comp=Z,96nm,1.0s
GULI GuiLin 35.55 97 P P 10 51 06.9 -6.1
GULI S S 10 56 16.2 -18
GULI pmax pmax
comp=Z,68nm,1.3s
GULI pmax pmax
comp=Z,200nm,4.6s
GULI LR LR
comp=N,130nm,16.3s
GULI LR LR
comp=E,170nm,17.4s
GULI LR LR
comp=Z,140nm,18.4s
ARR Arges 35.57 299 ⇓P **P 10 51 14.3 +1.2**
BJT Baijiatuau 35.57 70 P 10 51 14.5 +1.4
BJT Baijiatuau 35.57 70 P P 10 51 14.5 +1.4
BJT pmax pmax
comp=Z,10.0nm,0.7s
BJI Beijing 35.58 70 P P 10 51 14.0 +1.0
BJI PcP **PcP 10 53 37.9 +0.6**
BJI S **S 10 56 35.1 +1.3**
BJI ScS **ScS 11 01 11.6 +2.2**
BJI pmax pmax
comp=Z,6.0nm,0.8s
ISAL Salakas 35.66 317 *eP* **P 10 51 12.9 -0.6**
ARCR ARCALIA 35.74 302 ⇑P **P 10 51 15.9 +1.5**
JOF Joensuu 35.84 330 *eP* **P 10 51 15.7 +0.7**
VSU Vasula 36.13 322 *c iP* **P 10 51 16.6 -0.9**
VSU pmax pmax
comp=Z,207nm,0.8s
LOT Lotru 36.18 299 ⇓P **P 10 51 19.2 +1.0**
CNSH ChangSha 36.36 91 P P 10 51 20.5 +0.7
CNSH pmax pmax
comp=Z,93nm,0.9s
MARR Marisel-Cluj 36.59 301 ⇑P **P 10 51 23.1 +1.4**
WHN Wuhan 36.60 86 P P 10 51 22.8 +1.0
WHN pmax pmax
comp=Z,150nm,1.1s
ARBE Arbavere 36.80 323 *eP* **P 10 51 23.7 +0.6**
PABE Paberze 36.84 316 *eP* **P 10 51 24.4 +0.9**
GZR Gura Zlata 36.88 299 ⇓P **P 10 51 24.4 +0.3**
GZR Gura Zlata 36.88 299 P P 10 51 24.4 +0.3
IDI Anoyia 36.92 282 P P 10 51 23.7 -0.9
IDI Anoyia 36.92 282 P P 10 51 24.1 -0.5
SUW Suwalki 37.03 314 *eP* **P 10 51 25.1 -0.1**
SUW Suwalki 37.03 314 *eP* **P 10 51 25.1 -0.1**
TIA Tai'an 37.09 76 P P 10 51 24.5 -1.4
TIA P **P 10 51 27.5 +1.6**
TIA pmax pmax
comp=Z,30nm,4.2s
SURR Surduc 37.32 300 ⇑P **P 10 51 29.2 +1.5**
FIA1 FINESS Array S 37.44 326 P 10 51 28.6 +0.1
FINES FINESS Array B 37.45 326 P 10 51 28.6 +0.1
FINES FINESS Array B 37.45 326 P P 10 51 28.9 +0.4
comp=Z,87nm,0.7s,baz=114,slow=9.6,SNR=278
comp=Z,87nm,0.7s
LVZ Lovozero 37.47 338 P P 10 51 28.8 0.0
LVZ IAmb IAmb 10 51 29.9
comp=Z,62nm,0.8s
LVZ Lovozero 37.47 338 ⇓*iP* **P 10 51 29.4 +0.7**
LVZ pmax pmax
comp=Z,77nm,0.8s
LVZ Lovozero 37.47 338 P P 10 51 28.8 0.0
HIA Hailar 37.51 54 P 10 51 29.6 +0.3
HIA Hailar 37.51 54 P P 10 51 30.8 +1.5
HIA Hailar 37.51 54 P P 10 51 29.6 +0.3
HIA pmax pmax
comp=Z,19nm,0.8s
APA Apatity 37.64 338 ⇓*iP* **P 10 51 29.0 -1.1**
APA *i* *PP **pP 10 52 09.0 -3.5**
APA *e* 10 53 02.0
APA MLR MLR
comp=Z,1μm,7.2s
MDVR Moldovita 37.67 298 ⇑P **P 10 51 30.9 +0.1**
BZS Buzias 37.68 300 ⇓P **P 10 51 31.3 +0.5**
BZS Buzias 37.68 300 P P 10 51 31.3 +0.5
BOVS Bovan 37.79 297 ⇑P **P 10 51 32.7 +1.0**
MEF Metsahovi 37.81 324 *eP* **P 10 51 32.2 +0.6**
STHS Stebnicka Huta 37.85 306 *eP* **P 10 51 32.3 +0.2**
AGG Agios Georgios 38.04 289 P P 10 51 35.1 +1.2
R9F13 Warsaw-Wawer 38.05 311 *eP* **P 10 51 34.8 +1.1**
R9F13 epP **pP 10 52 19.2 +3.4**
R9F13 eS S 10 57 11.3 +0.4
PBUR Paburge 38.07 317 *eP* **P 10 51 34.6 +0.8**
MSF Maaselka 38.18 334 P P 10 51 34.8 +0.1
SLIT Slitere, Latvi 38.19 319 *eP* **P 10 51 34.4 -0.4**
KEF Keuruu 38.24 327 *eP* **P 10 51 35.3 +0.1**
NIE Niedzica 38.46 306 *eP* **P 10 51 38.6 +1.3**
PSZ Piszkesteto 38.75 304 ⇓P **P 10 51 41.4 +1.6**
PSZ Piszkesteto 38.75 304 P P 10 51 41.3 +1.6
OJC Ojcow 38.80 307 *eP* **P 10 51 40.3 +0.2**
OJC Ojcow 38.80 307 P P 10 51 40.2 +0.2
LANS Liptovska Anna 39.01 306 *eP* **P 10 51 43.4 +1.5**
LANS epP **pP 10 52 23.5 -0.5**
RAF Rauma 39.29 325 *eP* **P 10 51 43.6 -0.3**
VAF Ylistaro 39.50 328 *eP* **P 10 51 46.1 +0.5**
NJ2 Nanjing 39.69 82 *eP* **P 10 51 49.1 +1.5**
NJ2 pmax pmax
comp=Z,19nm,0.5s
SRO Srobarova 39.82 303 *eP* **P 10 51 50.2 +1.7**
SRO epP **pP 10 52 34.7 +3.9**
AAL Aland 39.92 323 *eP* **P 10 51 48.5 -0.6**
DL2 Dalian 39.93 71 P P 10 51 50.7 +1.2
DL2 pmax pmax
comp=Z,57nm,1.2s
MAUC Maruska 40.08 306 *eP* **P 10 51 52.0 +1.3**
STEB Steborice 40.10 307 *eP* **P 10 51 51.7 +0.9**
JAVC Velka Javorina 40.20 305 *eP* **P 10 51 53.0 +1.3**
MORC Moravsky Berou 40.25 307 P 10 51 51.8 -0.3
MORC Moravsky Berou 40.25 307 ⇓P **P 10 51 53.2 +1.1**
MORC Moravsky Berou 40.25 307 *eP* **P 10 51 52.6 +0.5**
MORC Moravsky Berou 40.25 307 P P 10 51 51.8 -0.3
MORC pmax pmax
comp=Z,15nm,0.7s
VADS Vadso 40.33 340 *eP* **P 10 51 53.3 +1.0**
GKP Gorka Klasztor 40.48 312 *eP* **P 10 51 54.4 +0.6**
GKP Gorka Klasztor 40.48 312 *eP* **P 10 51 54.6 +0.8**
MODS Modra-Piesok 40.48 304 *eP* **P 10 51 54.7 +0.7**
MODS epP **pP 10 52 39.5 +3.1**
MODS ePP **PP 10 53 29.5 -1.9**
KRLC Kraliky 40.74 307 *eP* **P 10 51 57.1 +1.0**
KRLC Kraliky 40.74 307 *eP* **P 10 51 57.1 +1.0**
SJUU Sjulsmark 40.78 331 *eP* **P 10 51 56.5 +0.4**
KEV Kevo 40.81 338 P P 10 51 55.9 -0.4
KEV IAmb IAmb 10 51 57.8
comp=Z,75nm,0.9s
KEV Kevo 40.81 338 P P 10 51 55.9 -0.4
KEV pmax pmax
comp=Z,75nm,0.9s
KEV Kevo 40.81 338 ⇑P **P 10 51 56.5 +0.2**
VRAC Vranov 40.89 306 ⇓P **P 10 51 58.5 +1.3**
VRAC Vranov 40.89 306 *eP* **P 10 51 58.1 +0.8**
VRAC Vranov 40.89 306 P P 10 51 58.5 +1.3
UPP Uppsala 41.02 322 *eP* **P 10 51 58.2 +0.1**
DPC Dobruska-Polom 41.02 307 *eP* **P 10 51 59.5 +1.1**
DPC Dobruska-Polom 41.02 307 *eP* **P 10 51 59.5 +1.1**
KRUC Moravsky 41.03 305 *eP* **P 10 51 59.1 +0.7**
KSP Ksiaz 41.03 308 *eP* **P 10 51 58.9 +0.5**
KCSI Kotacane, Aceh 41.12 136 P P 10 51 57.8 -1.7
ARA0 ARCESS Array S 41.15 338 *eP* **P 10 52 00.1 +1.0**
ARCES ARCESS Array B 41.15 338 P 10 51 59.5 +0.4
ARCES ARCESS Array B 41.15 338 P P 10 51 59.7 +0.6
comp=Z,96nm,0.7s,baz=111,slow=7.8,SNR=219
ARCES pP **pP 10 52 43.8 +1.8**
comp=Z,17nm,0.7s,baz=120,slow=7.4,SNR=3.2
comp=Z,96nm,0.7s
ARCES ARCESS Array B 41.15 338 P P 10 51 59.5 +0.4
ARCES pmax pmax
comp=Z,121nm,0.9s
RONA Rosalia, Austr 41.19 303 *i P* **P 10 52 00.4 +0.6**
comp=Z,11nm,0.7s
CHVC Chvalec 41.19 308 *eP* **P 10 52 00.9 +1.2**
CHVC Chvalec 41.19 308 *eP* **P 10 52 00.9 +1.2**
CONA Conrad Observa 41.46 304 *i P* **P 10 52 02.7 +0.7**
comp=Z,21nm,0.8s,SNR=9.5
KTK1 Kautokeino 41.62 336 *eP* **P 10 52 03.3 +0.4**
LANU Lannavaara 41.62 335 *eP* **P 10 52 03.2 +0.3**
ARSA Arzberg 41.75 303 *i P* **P 10 52 04.7 +0.3**
comp=Z,7.9nm,1.0s
CN2 Changchun 41.83 62 P P 10 52 04.9 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GROS Grobnik 41.85 302 *i P* **P 10 52 05.4 +0.2**
PERS Pernice 42.09 302 *i P* **P 10 52 07.6 +0.5**
SOKA Soboth 42.15 302 *i P* **P 10 52 08.3 +0.7**
comp=Z,24nm,0.7s,SNR=15
PRU Pruhonice 42.19 307 *eP* **P 10 52 08.6 +0.9**
PRU Pruhonice 42.19 307 *eP* **P 10 52 08.6 +0.9**
IPM Ipoh 42.23 132 P 10 52 09.1 +0.6
IPM Ipoh 42.23 132 P P 10 52 09.6 +1.0
HAMF Hammerfest 42.24 339 *eP* **P 10 52 08.9 +1.0**
ZEA Zeya 42.28 47 *eP* **P 10 52 10.4 +2.0**
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=Z,80nm,0.8s
PSI Prapat 42.36 136 P P 10 52 10.8 +1.1
PSI Prapat 42.36 136 P P 10 52 10.2 +0.5
CKRC Cesky Krumlov 42.42 305 *eP* **P 10 52 10.7 +1.0**
CKRC Cesky Krumlov 42.42 305 *eP* **P 10 52 10.7 +1.0**
ZVC Zvikov 42.45 306 *eP* **P 10 52 10.8 +0.9**
HEH HeiHe 42.46 53 *eP* **P 10 52 11.0 +1.0**
HEH pmax pmax
comp=Z,190nm,0.9s
BRG Berggiesshubel 42.52 308 *eP* **P 10 52 11.5 +1.1**
BRG Amp 10 52 12.1
comp=Z,16nm,0.7s
BRG pP **pP 10 52 55.3 +2.0**
BRG Amp 10 52 57.2
comp=Z,8.4nm,0.8s
MOA Molln 42.54 304 *i P* **P 10 52 11.1 +0.5**
comp=Z,18nm,0.8s,SNR=8.9
DEL Delary 42.59 317 *i P* **P 10 52 11.5 +0.7**
JETT Jettan, Norway 42.76 337 *eP* **P 10 52 12.8 +0.7**
LUNU Lund 42.79 315 *i P* **P 10 52 13.0 +0.5**
GERES GERESS Array B 42.82 305 P P 10 52 12.9 0.0
comp=Z,3.1nm,0.7s,baz=81,slow=8.2,SNR=18
GERES pP **pP 10 53 55.1 -1.3**
comp=Z,3.0nm,0.8s,baz=76,slow=11,SNR=4.2
GERES ScP **ScP 10 57 31.2 -1.0**
comp=Z,1.9nm,0.7s,baz=71,slow=6.2,SNR=5.2
comp=Z,3.1nm,0.7s
GERES GERESS Array B 42.82 305 P P 10 52 13.0 0.0
GSI Gunungsitoli 42.86 138 P 10 52 14.8 +1.2
GSI IAmb IAmb 10 52 20.0
comp=Z,59nm,0.6s
GSI Gunungsitoli 42.86 138 P P 10 52 16.1 +2.6
GSI Gunungsitoli 42.86 138 P P 10 52 15.5 +2.0
comp=Z,9μmcomp=Z,86nm,0.6s
KHC Kasperske Hory 42.87 306 *eP* **P 10 52 13.9 +0.6**
KHC Kasperske Hory 42.87 306 *eP* **P 10 52 13.9 +0.6**
KHC *ex* x 10 53 34.0
BNX BinXian 42.91 59 ⇓P **P 10 52 14.8 +1.1**
BNX pmax pmax
comp=Z,16nm,1.0s
BIOA Bad Ischl, Aus 42.98 304 *i P* **P 10 52 14.5 +0.3**
comp=Z,7.9nm,0.4s
HFS Hagfors 43.01 322 P P 10 52 13.9 -0.3
comp=Z,96nm,0.7s,baz=103,slow=9.5,SNR=123
HFS pP **pP 10 52 58.7 +1.5**
comp=Z,16nm,0.5s,baz=97,slow=11,SNR=3.1
comp=Z,96nm,0.7s
BJUU Bjuv 43.04 316 *i P* **P 10 52 14.8 +0.3**
CLL Collm 43.09 309 *i P* **P 10 52 15.1 +0.1**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 43.09 309 *i P* **P 10 52 15.1 +0.1**
comp=Z,12nm,0.9s
CLL *e*pP **pP 10 52 59.0 +1.1**
CLL *e*PP **PP 10 53 55.0 -4.1**
CADS Cadrg 43.09 302 *eP* **P 10 52 15.1 -0.1**
MYKA Terra Mystica 43.10 302 *i P* **P 10 52 15.7 +0.4**
comp=Z,6.9nm,0.7s
SABO M.te Sabotino 43.22 301 IAmb IAmb 10 53 02.4
comp=Z,68nm,1.3s
KBA Koelnbreinsper 43.25 303 *i P* **P 10 52 16.8 +0.3**
comp=Z,5.3nm,0.6s
FABU Falkenberg 43.25 317 *i P* **P 10 52 16.4 +0.2**
BORU Boraas 43.26 318 *i P* **P 10 52 16.4 +0.2**
TRO Tromso 43.27 336 *eP* **P 10 52 16.8 +0.7**
LESA Schwarzleotal 43.65 303 *i P* **P 10 52 19.8 +0.1**
comp=Z,9.0nm,0.4s,SNR=8.8
ONAU Onsala 43.70 318 *i P* **P 10 52 19.7 0.0**
FAUS Fauske 43.79 333 *eP* **P 10 52 20.7 +0.4**
MOR8 Moi Rana 43.80 331 *eP* **P 10 52 20.1 -0.3**
ABTA Abfaltersbach 43.86 302 *i P* **P 10 52 20.8 -0.5**
comp=Z,5.7nm,0.7s
TJOU Tjoern 43.89 319 *i P* **P 10 52 20.6 -0.7**
STEI Steigen 43.96 333 *eP* **P 10 52 22.1 +0.4**
RAUS Rausandaksla 44.02 331 *eP* **P 10 52 22.5 +0.3**
NC602 NORSAR Array S 44.14 323 P P 10 52 22.9 -0.3
NC602 IAmb IAmb 10 52 23.9
comp=Z,58nm,1.0s
NC602 NORSAR Array S 44.14 323 *eP* **P 10 52 22.9 -0.3**
NORES NORESS Array B 44.14 323 P P 10 52 23.0 -0.2
NORES pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 44.16 35 P P 10 52 23.6 +0.3
YAK Yakutsk 44.16 35 *c iP* **P 10 52 23.2 -0.1**
YAK *e**PP **pP 10 53 04.3 -3.1**
YAK *e* 10 54 02.1
YAK *e* 10 54 09.3
YAK *e*PPP PPP 10 54 53.0
YAK *e*S **S 10 58 41.5 +0.8**
YAK *e* 11 01 57.3
YAK pmax pmax
comp=Z,270nm,1.0s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,30nm,0.9s
YAK pmax pmax
comp=Z,413nm,5.3s
YAK pmax pmax
comp=N,370nm,5.7s
YAK pmax pmax
comp=E,213nm,4.8s
YAK smax smax
comp=E,251nm,4.7s
YAK smax smax
comp=N,107nm,3.5s
YAK Yakutsk 44.16 35 P P 10 52 23.4 +0.1
STRU Stroemstad 44.18 320 *eP* **P 10 52 23.4 -0.2**
STRU Stroemstad 44.18 320 *i P* **P 10 52 23.2 -0.3**
NB201 NORSAR Array S 44.29 323 IAmb IAmb 10 52 25.3
comp=Z,72nm,0.9s
LEIR Leirfjorden 44.31 330 *eP* **P 10 52 24.7 +0.3**
NB2 NORSAR Subarra 44.33 323 P P 10 52 24.2 -0.6
comp=Z,113nm,0.9s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.33 323 P P 10 52 24.2 -0.6
baz=97,slow=7.9
NOA NORSAR Array B 44.33 323 P P 10 52 24.4 -0.4
comp=Z,58nm,0.7s,baz=97,slow=7.8,SNR=208
NOA PP **PP 10 54 11.3 -0.8**
comp=Z,4.2nm,0.7s,baz=98,slow=8.0,SNR=3.3
comp=Z,58nm,0.7s
MNSI Mandailing Nat 44.38 136 P P 10 52 26.6 +1.0
comp=Z,48nm,0.7s
WTTA Wattenberg 44.38 303 *eP* **P 10 52 25.1 -0.4**
comp=Z,20nm,0.9s,SNR=5.9
VAGH Vaagaholmen 44.39 331 *eP* **P 10 52 25.5 +0.5**
STOK Stokkvaagen 44.39 331 *eP* **P 10 52 25.5 +0.4**
WATA Walderalm 44.41 303 *eP* **P 10 52 25.1 -0.6**
comp=Z,6.7nm,0.6s
MURB Monte Urbino 44.45 298 P P 10 52 26.8 +0.8
MURB IAmb IAmb 10 52 28.9
comp=Z,44nm,0.8s
NSS Namsos 44.47 328 *eP* **P 10 52 25.8 0.0**
NAO01 NORSAR Array S 44.47 323 IAmb IAmb 10 52 26.4
comp=Z,77nm,1.0s
NBO00 NORSAR Array S 44.54 323 IAmb IAmb 10 52 27.1
comp=Z,76nm,0.8s
CTI Castel Tesino 44.55 302 P 10 52 26.7 -0.1
CTI Castel Tesino 44.55 302 P P 10 52 26.7 -0.1
CTI pmax pmax
comp=Z,17nm,0.7s
NC204 NORSAR Array S 44.57 323 IAmb IAmb 10 52 27.5
comp=Z,84nm,0.9s
MDJ Mudanjiang 44.62 60 P P 10 52 29.5 +2.2
MDJ pmax pmax
comp=Z,23nm,1.9s
LOF Lofoten 44.63 333 *eP* **P 10 52 26.8 -0.2**
SQTA Sankt Quirin 44.67 303 *i P* **P 10 52 27.4 -0.4**
comp=Z,9.6nm,0.8s
YHNB Yeheng 44.69 91 IAmb IAmb 10 52 30.2
comp=Z,102nm,1.5s
MOTA Moosalm 44.72 303 *i P* **P 10 52 27.5 -0.8**
comp=Z,20nm,0.8s,SNR=7.6
SSLB Suanglung 44.77 92 P P 10 52 29.4 +0.6
SSLB IAmb IAmb 10 52 32.4
comp=Z,86nm,1.1s
SSLB Suanglung 44.77 92 P P 10 52 30.9 +2.2
RETA Reutte 44.93 304 *i P* **P 10 52 29.5 -0.2**
comp=Z,7.6nm,0.8s
TJN Taejon 44.99 72 P P 10 52 29.7 -0.6
FETA Feichten 45.02 303 *i P* **P 10 52 30.0 -0.6**
comp=Z,9.7nm,0.6s,SNR=5.2
KONO Kongsberg 45.03 321 P 10 52 29.5 -0.7
KONO IAmb IAmb 10 52 31.1
comp=Z,35nm,0.6s
KONO Kongsberg 45.03 321 ⇓*iP* **P 10 52 30.3 +0.1**
KONO pmax pmax
comp=Z,28nm,0.6s
KONO Kongsberg 45.03 321 *eP* **P 10 52 30.3 +0.1**
KS19 Wonju Array Si 45.04 71 P P 10 52 31.1 +0.4
KSAR Wonju Array Be 45.07 71 P 10 52 30.8 -0.1
KSAR Wonju Array Be 45.07 71 P P 10 52 30.8 -0.1
KSRS Korea Array 45.10 71 P P 10 52 31.3 +0.2
comp=Z,6.0nm,0.6s,baz=274,slow=6.8,SNR=27
KSRS pP **pP 10 53 19.5 +3.7**
comp=Z,4.0nm,0.8s,baz=275,slow=6.6,SNR=2.0
KSRS PcP **PcP 10 54 08.0 -0.1**
comp=Z,7.5nm,0.9s,baz=292,slow=3.2,SNR=6.9
comp=Z,6.0nm,0.6s
MUD Monsted U'grnd 45.19 317 *i P* **P 10 52 32.3 +0.7**
YULB Yu-li 45.23 92 P P 10 52 35.1 +2.8
YULB IAmb IAmb 10 52 36.3
comp=Z,53nm,0.9s
YULB Yu-li 45.23 92 P P 10 52 35.1 +2.8
BJO1 Bjornoya 45.29 343 *eP* **P 10 52 33.0 +0.9**
TWG Pinlang 45.32 93 P P 10 52 35.5 +2.4
TWG IAmb IAmb 10 52 37.0
comp=Z,156nm,1.1s
TWGBT Beinan 45.33 93 P P 10 52 36.1 +3.0
DOMB Dombas 45.45 324 *eP* **P 10 52 33.8 +0.2**
HOMB Homborsund 45.55 319 *i P* **P 10 52 34.7 +0.4**
DAVA Damuels 45.55 304 *i P* **P 10 52 34.5 -0.3**
comp=Z,63nm,0.9s,SNR=16
SKAR Skarslia 45.72 322 *eP* **P 10 52 36.5 +0.7**
VLC Villacollemand 45.78 299 P P 10 52 36.5 +0.1
PPI Padang Panjang 45.86 136 P P 10 52 38.0 +0.7
comp=Z,42nm,0.7s
TIXI Tiksi 45.93 22 P 10 52 37.7 +0.5
TIXI Tiksi 45.93 22 *c iP* **P 10 52 37.6 +0.5**
TIXI pmax pmax
comp=Z,198nm,0.8s
TIXI Tiksi 45.93 22 P P 10 52 37.5 +0.4
TIXI pP **pP 10 53 22.3 +0.6**
TIXI PcP **PcP 10 54 10.2 -0.3**
TUE Stuetta 46.05 303 P 10 52 38.0 -0.7
MYKOM Kota Tinggi 46.07 131 P P 10 52 40.0 +1.1
MYKOM Kota Tinggi 46.07 131 P P 10 52 40.6 +1.7
MOL Molde 46.19 325 *eP* **P 10 52 39.6 +0.3**

SNART Snartemo 46.24 319 *e*P **P** **10 52 40.2 +0.5**
SNART Snartemo 46.24 319 *i* P **P** **10 52 40.2 +0.5**
LODK Lodwar 46.25 233 P **P** **10 52 40.7 +0.2**
LODK Lodwar 46.25 233 P **P** **10 52 42.3 +1.8**
SNR=6.0
PDSI Padang 46.27 137 P **P** **10 52 40.9 +0.3**
comp=Z,72nm,0.8s
USRK Ussuriysk Ar. 46.39 61 P **P** **10 52 41.5 +0.4**
comp=Z,5.0nm,0.6s,baz=291,slow=7.5,SNR=8.1
comp=Z,5.0nm,0.6s
BFO Black Forest 46.42 305 P **P** **10 52 40.5 -0.8**
AKN Aaknes 46.43 324 *e*P **P** **10 52 41.6 +0.4**
ODD1 Odda 46.54 321 *e*P **P** **10 52 42.9 +0.8**
BLS5 Blasjo 46.62 321 *e*P **P** **10 52 43.6 +0.9**
BER Bergen 47.19 322 *e*P **P** **10 52 47.3 +0.3**
ASK Askoy 47.25 322 *e*P **P** **10 52 47.4 -0.1**
SENIN Lac Senin/Sane 47.47 303 P **P** **10 52 48.7 -1.0**
BTNL Ternell 47.49 309 *d*P **P** **10 52 49.8 +0.3**
comp=Z,11nm,0.8s
SPB2 Spitsbergen Ar 47.53 347 IAmb IAmb 10 52 51.8
comp=Z,76nm,0.9s
SPA0 Spitsbergen Ar 47.53 347 *e*P **P** **10 52 50.9 +1.4**
SPITS Spitsbergen Ar 47.53 347 P **P** **10 52 50.7 +1.2**
comp=Z,35nm,0.6s,baz=119,slow=12,SNR=80
SPITS pP **pP** **10 53 35.7 +2.0**
comp=Z,3.6nm,0.5s,baz=111,slow=13,SNR=1.5
comp=Z,35nm,0.6s
SPITS Spitsbergen Ar 47.53 347 P **P** **10 52 50.5 +1.0**
SPITS pmax pmax
comp=Z,113nm,1.1s
MEM Membach 47.56 309 *d*P **P** **10 52 49.6 -0.5**
comp=Z,12nm,0.9s
BHOU Houvegnez 47.60 308 *d*P **P** **10 52 50.7 +0.2**
WLF Walferdange 47.62 307 P **P** **10 52 50.2 -0.3**
WLF Walferdange 47.62 307 *d*P **P** **10 52 51.4 +0.8**
comp=Z,20nm,0.8s
RCHB Rochefort 48.13 308 *d*P **P** **10 52 54.9 +0.4**
comp=Z,13nm,0.8s
BNI Bardonecchia 48.17 301 P **P** **10 52 53.9 -1.1**
DSRI Dabo 48.30 132 P **P** **10 52 57.4 +1.2**
BMRD Maredsous 48.39 308 *d*P **P** **10 52 57.2 +0.8**
comp=Z,10nm,0.8s
DOU Dourbes 48.54 308 *d*P **P** **10 52 58.1 +0.5**
KMBO Kilima Mbogo 48.62 227 P **P** **10 53 00.6 +1.7**
comp=Z,11nm,0.5s,baz=47,slow=8.5,SNR=9.0
comp=Z,11nm,0.5s
KBS Kingsbay 48.65 347 P **P** **10 52 58.0 0.0**
KBS IAmb IAmb 10 53 00.3
comp=Z,128nm,1.0s
KBS Kingsbay 48.65 347*c i*P **P** **10 52 59.1 +1.1**
KBS pmax pmax
comp=Z,139nm,1.0s
KBS Kingsbay 48.65 347 *e*P **P** **10 52 59.2 +1.2**
KBS Kingsbay 48.65 347 *i* P **P** **10 52 58.9 +0.8**
KBS Kingsbay 48.65 347 P **P** **10 52 59.0 +0.9**
KBS pP **pP** **10 53 43.4 +1.0**
KEST Kesra 48.87 288 IAmb IAmb 10 53 02.2
comp=Z,104nm,1.7s
KEST Kesra 48.87 288 P **P** **10 53 01.2 +0.8**
comp=Z,15nm,0.6s,baz=123,slow=0.8,SNR=17
comp=Z,15nm,0.6s
KEST Kesra 48.87 288 P **P** **10 53 00.9 +0.5**
MASI Maura Aman, Be 49.10 136 P **P** **10 53 02.0 -0.3**
comp=Z,99nm,0.8s
KIBK Kibwezi 49.13 226 P **P** **10 53 03.5 +0.9**
KIBK Kibwezi 49.13 226 P **P** **10 53 04.5 +1.8**
JOW Kunigami 49.28 84 P **P** **10 53 03.4 -0.1**
SSB Saint Sauveur 49.59 302 P **P** **10 53 05.5 -0.2**
SSB Saint Sauveur 49.59 302 P **P** **10 53 05.7 0.0**
SSB pP **pP** **10 53 50.8 +1.0**
KSI Kapahiang 49.72 136 P **P** **10 53 08.2 +1.2**
comp=Z,128nm,0.9s
KSM Kuching 50.45 124 P **P** **10 53 14.1 +1.7**
SBUM Sibu 51.02 122 **P** **10 53 17.7 +1.0**
SBUM Sibu 51.02 122 P **P** **10 53 18.6 +1.9**
EKA Eskdalemuir Ar 52.21 316 P **P** **10 53 24.6 -0.3**
comp=Z,7.4nm,0.7s,baz=80,slow=7.2,SNR=15
EKA pP **pP** **10 54 11.5 +1.8**
comp=Z,10.0nm,0.8s,baz=90,slow=7.8,SNR=4.9
comp=Z,7.4nm,0.7s
MBAR Mbarara 52.29 234 P **P** **10 53 26.5 +0.2**
MBAR IAmb IAmb 10 53 31.3
comp=Z,31nm,0.7s
MBAR Mbarara 52.29 234 P **P** **10 53 27.6 +1.3**
MBAR Mbarara 52.29 234*ce*P **P** **10 53 27.6 +1.3**
MBAR pmax pmax
comp=Z,28nm,0.6s
MBAR Mbarara 52.29 234 P **P** **10 53 27.2 +0.9**
MBAR pP **pP** **10 54 10.2 -1.7**
ETOS Mallorca 52.40 296 P **P** **10 53 25.3 -1.4**
YSS Yuzhno-Sakhali 53.04 55 P **P** **10 53 31.2 0.0**
YSS Yuzhno-Sakhali 53.04 55 P **P** **10 53 31.9 +0.7**
YSS Yuzhno-Sakhali 53.04 55 *e*P **P** **10 53 31.5 +0.3**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,1µm,3.6s
MAJO Matsushiro 53.17 68 P **P** **10 53 32.0 -0.4**
MAJO Matsushiro 53.17 68 P **P** **10 53 32.5 +0.1**
MAJO Matsushiro 53.17 68 ‖ *i*P **P** **10 53 32.1 -0.3**
MAJO pmax pmax
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 53.17 68 P **P** **10 53 32.9 +0.5**
MJAR Matsushiro Arr 53.17 68 P **P** **10 53 32.4 0.0**
comp=Z,7.2nm,0.8s,baz=291,slow=9.3,SNR=15
comp=Z,7.2nm,0.8s
MJAR Matsushiro Arr 53.17 68 P **P** **10 53 32.9 +0.5**
MJAR pmax pmax
comp=Z,9.0nm,1.1s
MYLDM Lahad Datu 53.62 114 P **P** **10 53 36.5 +0.7**
MYLDM Lahad Datu 53.62 114 P **P** **10 53 38.5 +2.7**
NOR Nord 53.85 350 *i* P **P** **10 53 37.0 +0.4**
NOR IAmb IAmb 10 53 37.6
comp=Z,33nm,1.1s
ILTH Belurgan, Co L 54.30 315 P **P** **10 53 40.4 +0.2**
DSB Dublin 54.52 314 P **P** **10 53 41.6 -0.2**
SEY Seymchan 54.60 34 *e*P **P** **10 53 41.8 -0.4**
SEY pmax pmax
comp=Z,106nm,1.3s
JMM Marumori 54.61 66 IAmb IAmb 10 54 32.4
comp=Z,32nm,1.0s
IDGL Inch Island, C 54.70 316 P **P** **10 53 44.0 +1.0**
DAG Danmarks Havn 54.76 344 P **P** **10 53 43.6 +0.4**
DAG Danmarks Havn 54.76 344 *i* P **P** **10 53 43.1 0.0**
DAG IAmb IAmb 10 53 44.6
comp=Z,81nm,1.0s
IWEX Carrickbyrne, 54.99 313 P **P** **10 53 45.7 +0.5**
ECHE Chera 55.20 297 P **P** **10 53 46.1 -0.9**
CART Cartagena 55.97 294 P **P** **10 53 50.2 -2.2**
ETOB Tobarra 55.97 296 P **P** **10 53 51.2 -1.3**
BBKI Banjar Baru 57.12 124 P **P** **10 54 02.1 +1.3**
comp=Z,64nm,0.9s
ESBB Sonseca Array 57.32 298 P **P** **10 54 00.9 -1.0**
ESBB IAmb IAmb 10 54 48.6
comp=Z,76nm,2.0s
ESDC Sonseca Array 57.32 298 **P** **10 54 01.1 -0.8**
ESDC Sonseca Array 57.32 298 P **P** **10 54 01.6 -0.4**
comp=Z,8.0nm,0.7s,baz=59,slow=7.4,SNR=43
ESDC pP **pP** **10 54 48.0 +0.5**
comp=Z,6.5nm,0.8s,baz=59,slow=7.1,SNR=5.4
comp=Z,8.0nm,0.7s
TAM Tamanrasset 57.34 276 P **P** **10 54 01.8 -0.7**
TAM IAmb IAmb 10 54 58.0
comp=Z,32nm,0.5s
TAM Tamanrasset 57.34 276 P **P** **10 54 01.8 -0.7**
TAM pmax pmax
comp=Z,32nm,0.5s
PAB San Pablo 57.64 298 P **P** **10 54 04.5 +0.2**
TOLI2 Tolitoli 58.03 115 P **P** **10 54 07.0 -0.2**
BILL Bilibino 58.78 26*c i*P **P** **10 54 12.6 +1.1**
BILL pmax pmax
comp=Z,83nm,0.8s
BILL Bilibino 58.78 26 P **P** **10 54 13.0 +1.5**
MVO Moncorvo 58.91 300 *e*P **P** **10 54 13.5 +0.6**
OPO Ambohidratompo 59.05 206 P **P** **10 54 14.8 +0.7**
comp=Z,8.1nm,0.9s,baz=17,slow=10,SNR=7.0
OPO pP **pP** **10 55 03.3 +2.4**
comp=Z,8.9nm,1.0s,baz=17,slow=8.6,SNR=3.1
comp=Z,8.1nm,0.9s
ALE Alert 59.10 354 P **P** **10 54 14.6 +1.0**
MRSI Marisa 59.31 115 P **P** **10 54 16.9 +1.0**
comp=Z,115nm,0.8s
ABPO Ambohimpanom 59.45 206 P **P** **10 54 17.6 +0.7**
ABPO Ambohimpanom 59.45 206 P **P** **10 54 17.6 +0.7**
ABPO pmax pmax
comp=Z,31nm,1.1s
PGAV Gavieira, Arco 59.45 302 *e*P **P** **10 54 17.8 +1.1**
MTE Manteigas 59.57 300 *e*P **P** **10 54 18.7 +1.2**
PVIS Viseu 59.69 300 *e*P **P** **10 54 18.8 +0.5**
PCBR Castelo Branco 59.75 299 *e*P **P** **10 54 19.1 +0.5**
PMRV Marv??o 59.85 299 *e*P **P** **10 54 20.1 +0.7**
SGSI Sangihe 59.87 109 P **P** **10 54 19.0 -0.8**
APSI Ampana 60.04 116 P **P** **10 54 22.0 +1.1**
comp=Z,73nm,1.3s
PBAR Barrancos 60.12 297 *e*P **P** **10 54 21.8 +0.6**
PEA0B Petropavlovsk- 60.17 44 P **P** **10 54 20.9 -0.4**
PEA0B Petropavlovsk- 60.17 44 P **P** **10 54 20.9 -0.4**
PEA0B pmax pmax
comp=Z,138nm,1.6s
PETK Petropavlovsk- 60.17 44 P **P** **10 54 20.4 -0.9**
comp=Z,5.9nm,0.6s,baz=302,slow=4.5,SNR=13
comp=Z,5.9nm,0.6s
PESTR Estremoz 60.22 298 *e*P **P** **10 54 22.4 +0.4**
PSARD Sardoal 60.33 299 *e*P **P** **10 54 23.2 +0.6**
PCAS Casmilo, Conde 60.38 300 *e*P **P** **10 54 23.8 +0.9**
EVO Evora 60.66 298 *e*P **P** **10 54 25.7 +0.8**
MD01 Midelt array s 60.72 291 **P** **10 54 24.7 -0.8**
MD31 MD31 60.72 291 P **P** **10 54 24.6 -0.9**
PET Petropavlovsk 60.74 44 *e*P **P** **10 54 24.4 -0.7**
PET pmax pmax
comp=Z,75nm,1.3s
KMSI Cibinong 60.74 113 P **P** **10 54 26.6 +0.9**
comp=Z,6µmcomp=Z,155nm,0.9s
PBEJ Beja 60.77 297 *e*P **P** **10 54 25.9 +0.3**
PVAQ Vaqueiros 60.93 297 P **P** **10 54 26.5 -0.2**
PVAQ IAmb IAmb 10 54 27.5
comp=Z,36nm,0.8s
PVAQ Vaqueiros 60.93 297 *e*P **P** **10 54 27.2 +0.6**
PCVE Castro Verde 61.06 297 *e*P **P** **10 54 27.9 +0.4**
NEEM North Greenlan 61.08 348 *i* P **P** **10 54 27.5 +0.1**
NEEM IAmb IAmb 10 54 28.8
comp=Z,106nm,1.4s
SUMG Summit 61.08 341 P **P** **10 54 28.4 +0.8**
SUMG IAmb IAmb 10 54 30.4
comp=Z,50nm,0.8s
SUMG Summit 61.08 341 P **P** **10 54 28.4 +0.8**
SUMG pmax pmax
comp=Z,50nm,0.8s
SUMG Summit 61.08 341 *i* P **P** **10 54 28.0 +0.4**
SUMG IAmb IAmb 10 54 30.6
comp=Z,60nm,1.0s
MESJ Messejana 61.10 297 *e*P **P** **10 54 28.3 +0.4**
MESJ IAmb IAmb 10 54 29.3
comp=Z,22nm,1.0s
MESJ Messejana 61.10 297 *e*P **P** **10 54 28.5 +0.7**
MESJ Messejana 61.10 297 *e*P **P** **10 54 28.3 +0.4**
PBDV Barranco-do-Ve 61.15 297 *e*P **P** **10 54 28.9 +0.7**
PTEO Sao Teotonio 61.59 297 *e*P **P** **10 54 31.9 +0.8**
VOI Vohitsoka 62.27 205 **P** **10 54 36.0 +0.2**
VOI Vohitsoka 62.27 205 P **P** **10 54 37.7 +1.9**
TNTI Ternate 63.15 111 **P** **10 54 42.0 +0.3**
TNTI Ternate 63.15 111 P **P** **10 54 42.3 +0.6**
TNTI Ternate 63.15 111 P **P** **10 54 42.0 +0.3**
comp=Z,68nm,0.8s
SANI Sanana 63.98 114 P **P** **10 54 47.4 +0.2**
SANI Sanana 63.98 114 P **P** **10 54 47.3 +0.1**
comp=Z,644nmcomp=Z,68nm,0.7s
EDA Edea 64.28 255 **P** **10 54 48.2 -1.0**
EDA IAmb IAmb 10 54 49.9
comp=Z,24nm,0.8s
LSZ Lusaka 65.25 226 P **P** **10 54 54.9 -0.5**
LSZ IAmb IAmb 10 55 44.9
comp=Z,72nm,2.0s
LSZ Lusaka 65.25 226 P **P** **10 54 56.8 +1.4**
comp=Z,8.8nm,0.7s,baz=29,slow=10,SNR=9.0
LSZ pP **pP** **10 55 44.4 +1.4**
comp=Z,5.9nm,0.3s,baz=75,slow=6.3,SNR=2.8
comp=Z,8.8nm,0.7s
SAATT Saattut 65.49 342 *i* P **P** **10 54 56.2 +0.2**
SAATT IAmb IAmb 10 54 58.3
comp=Z,14nm,0.7s
TORD Torodi Ar. Bea 65.51 269 **P** **10 54 54.3 -2.8**
TORD Torodi Ar. Bea 65.51 269 P **P** **10 54 55.7 -1.4**
comp=Z,55nm,0.5s,baz=43,slow=6.9,SNR=79
comp=Z,55nm,0.5s
EDFI Ende, Flores 65.60 123 P **P** **10 54 55.2 -2.5**
NLAI Namlea 65.60 114 P **P** **10 54 57.9 +0.3**
ILULI Ilulissat 66.42 341 P **P** **10 55 01.9 -0.1**
ILULI IAmb IAmb 10 55 03.7
comp=Z,97nm,1.3s
ILULI Ilulissat 66.42 341 P **P** **10 55 01.9 -0.1**
ILULI pmax pmax
comp=Z,97nm,1.3s
ILULI Ilulissat 66.42 341 *i* P **P** **10 55 01.7 -0.3**
ILULI IAmb IAmb 10 55 03.8
comp=Z,34nm,0.8s
DY2G Dye2 66.78 337 *i* P **P** **10 55 05.5 +0.9**
DY2G IAmb IAmb 10 55 06.2
comp=Z,174nm,1.5s
GDH Godhavn 67.03 341 *i* P **P** **10 55 06.0 +0.2**
GDH IAmb IAmb 10 55 07.0
comp=Z,70nm,1.3s
SWI Sorong 67.16 109 P **P** **10 55 07.5 0.0**
comp=Z,73nm,1.1s
SWI Sorong 67.16 109 P **P** **10 55 07.3 -0.2**
A21K Barrow 67.45 15 P **P** **10 55 09.2 +0.7**
comp=Z,320
C16K Lisburne Hills 67.61 20 P **P** **10 55 09.7 +0.2**
baz=314,SNR=7.0
B18K Kokolik River 67.75 18 P **P** **10 55 11.5 +1.2**
baz=316,SNR=7.0
SFJD Kangerlussuaq 67.77 339 *i* P **P** **10 55 11.1 +0.6**
SFJD IAmb IAmb 10 55 11.8
comp=Z,32nm,1.1s
A22K Sinclair Lake 68.04 15 P **P** **10 55 13.1 +1.0**
baz=322
C17K DeLong Mountai 68.04 19 P **P** **10 55 12.8 +0.6**
baz=316,SNR=7.8
SOEI Soe 68.08 121 IAmb IAmb 10 56 16.1
comp=Z,55nm,0.8s
SOEI Soe 68.08 121 P **P** **10 55 12.8 -0.6**
SOEI Soe 68.08 121 P **P** **10 55 12.1 -1.3**
comp=Z,54nm,0.7s
B20K Meade River 68.35 16 P **P** **10 55 14.8 +0.8**
baz=320
RDOG Red Dog Mine 68.41 19 IAmb IAmb 10 55 16.0
comp=Z,49nm,1.1s
RDOG Red Dog Mine 68.41 19 P **P** **10 55 14.8 +0.3**
baz=316
C18K Utukok River 68.42 18 P **P** **10 55 15.1 +0.5**
baz=317,SNR=13
C19K Lookout Ridge 68.47 17 P **P** **10 55 15.7 +0.8**
baz=318,SNR=12
D17K Noatak River 68.62 19 P **P** **10 55 16.4 +0.6**
baz=316,SNR=27
GAMB Gambell 68.67 25 P **P** **10 55 16.8 +0.6**
baz=310
TNA Tin City 68.72 22 P **P** **10 55 17.2 +0.8**
baz=312
B22K Teshekpuk Lake 68.88 15 IAmb IAmb 10 55 19.2
comp=Z,66nm,0.8s
B22K Teshekpuk Lake 68.88 15 P **P** **10 55 18.2 +0.9**
baz=323,SNR=6.4
B21K Ikpikpuk River 69.21 15 P **P** **10 55 20.3 +1.0**
B21K Ikpikpuk River 69.21 15 P **P** **10 55 20.3 +1.0**
baz=322,SNR=9.6
MATP Matopo 69.21 222 P P 10 55 26.8 +6.6
comp=Z,23nm,0.6s,baz=23,slow=5.5,SNR=23
FAKI Fak Fak 69.23 110 P **P** **10 55 20.7 +0.3**
FAKI IAmb IAmb 10 55 21.7
comp=Z,66nm,1.0s
FAKI Fak Fak 69.23 110 P **P** **10 55 20.9 +0.5**
FAKI Fak Fak 69.23 110 P **P** **10 55 20.2 -0.2**
FAKI Fak Fak 69.23 110 P **P** **10 55 20.6 +0.2**
comp=Z,66nm,0.9s
F14K Arctic Creek 69.27 22 P **P** **10 55 20.8 +1.0**
baz=314,SNR=5.2
D19K Kuna River 69.29 17 P **P** **10 55 20.6 +0.7**
baz=320
E17K Hotham Inlet 69.40 19 P **P** **10 55 21.0 +0.4**
baz=317,SNR=13
D20K Etivluk River 69.47 17 P **P** **10 55 21.7 +0.6**
baz=321
E18K Tukpahlearik C 69.48 19 P **P** **10 55 21.6 +0.5**
baz=318
C21K Knifeblade Rid 69.54 16 P **P** **10 55 22.3 +0.9**
baz=322,SNR=5.5
F15K North Star Dit 69.60 21 P **P** **10 55 23.1 +1.2**
baz=315,SNR=12
C23K Itkillik River 69.86 14 P **P** **10 55 24.5 +1.2**
baz=326,SNR=20
NRS Narsarsuaq 69.86 332 *i* P **P** **10 55 23.4 -0.1**
NRS IAmb IAmb 10 55 24.6
comp=Z,44nm,1.1s
E20K Nigu River 69.93 17 P **P** **10 55 24.5 +0.6**
baz=321
F17K Baldwin Pennin 70.03 20 P **P** **10 55 25.3 +0.8**
baz=318,SNR=9.7
ANM Nome 70.19 22 P **P** **10 55 26.6 +1.2**
baz=315
D22K Ayikyak River 70.22 15 P **P** **10 55 26.3 +0.7**
baz=324,SNR=13
E21K Killik River 70.29 16 P **P** **10 55 26.3 +0.3**
baz=323,SNR=14
G15K Niukluk 70.29 22 P **P** **10 55 26.8 +0.7**
baz=316,SNR=5.6
E19K Redstone River 70.30 18 P **P** **10 55 26.5 +0.4**
baz=321
C24K Franklin Bluff 70.32 14 P **P** **10 55 27.3 +1.1**
baz=327
F18K Selawik 70.34 19 P **P** **10 55 26.9 +0.6**
baz=319,SNR=20
G16K Koyuk River 70.49 21 IAmb IAmb 10 55 29.4
comp=Z,39nm,0.9s
G16K Koyuk River 70.49 21 P **P** **10 55 28.2 +0.9**
baz=317,SNR=7.0
D23K Nanushuk River 70.56 15 IAmb IAmb 10 55 29.6
comp=Z,36nm,0.8s
D23K Nanushuk River 70.56 15 P **P** **10 55 28.5 +0.9**
baz=326,SNR=12
F19K Shaleruckik Mo 70.65 18 IAmb IAmb 10 55 29.3
comp=Z,106nm,1.8s
F19K Shaleruckik Mo 70.65 18 P **P** **10 55 27.9 -0.2**
baz=320,SNR=14
D24K Happy Valley 70.78 14 P **P** **10 55 29.6 +0.7**
baz=327
C26K Camden Bay 70.84 12 P **P** **10 55 30.6 +1.3**
baz=330
G17K Kiwalik Mounta 70.89 20 P **P** **10 55 30.3 +0.6**
baz=318,SNR=11
F20K Avaraart Lake 70.99 18 IAmb IAmb 10 55 31.4
comp=Z,44nm,1.3s
F20K Avaraart Lake 70.99 18 P **P** **10 55 30.2 0.0**
baz=322,SNR=17
E22K Anaktuvuk Pass 71.01 16 P **P** **10 55 31.0 +0.6**
baz=325,SNR=28
TOLK Toolik Lake Re 71.06 15 P **P** **10 55 31.5 +0.8**
baz=327,SNR=43
H16K Elim 71.08 21 P **P** **10 55 31.7 +0.9**
baz=317
D25K Kavik River 71.10 13 P **P** **10 55 32.0 +1.1**
baz=329,SNR=29
G18K Tagagawik 71.14 19 P **P** **10 55 31.2 0.0**
baz=320,SNR=8.1
C27K Jago River 71.30 12 IAmb IAmb 10 55 34.5
comp=Z,50nm,0.7s
C27K Jago River 71.30 12 P **P** **10 55 33.3 +1.2**
baz=331,SNR=19
A36M Sachs Harbour 71.31 5 IAmb IAmb 10 55 33.8
comp=Z,62nm,0.8s
A36M Sachs Harbour 71.31 5 P **P** **10 55 32.5 +0.4**
baz=346
F21K Alatna River 71.38 17 IAmb IAmb 10 55 35.1
comp=Z,40nm,0.7s
F21K Alatna River 71.38 17 P **P** **10 55 33.0 +0.3**
baz=324,SNR=31
F22K John River 71.44 16 P **P** **10 55 33.9 +0.9**
baz=325,SNR=29
E23K Chandalar 71.54 15 IAmb IAmb 10 55 35.4
comp=Z,97nm,1.4s
E23K Chandalar 71.54 15 P **P** **10 55 34.4 +0.7**
baz=327,SNR=22
E24K Your Creek 71.76 14 IAmb IAmb 10 55 36.3
comp=Z,32nm,0.8s
E24K Your Creek 71.76 14 P **P** **10 55 35.6 +0.7**
baz=328,SNR=32
H18K Honhosa River 71.79 20 P **P** **10 55 35.5 +0.5**
baz=320
SAUI Saumlaki 71.86 115 P **P** **10 55 38.1 +1.8**
G21K Allakaket 71.95 17 P **P** **10 55 35.9 -0.1**
baz=324
H19K Roundabout Mou 72.00 19 P **P** **10 55 37.0 +0.7**
baz=322,SNR=24
J14K Nanvaranak Lak 72.06 23 P **P** **10 55 37.7 +1.0**
baz=317
G22K Bettles 72.08 16 P **P** **10 55 37.1 +0.4**
baz=325
D27M Malcolm River 72.09 11 P **P** **10 55 38.2 +1.4**
baz=334,SNR=9.8
I17K Unalakleet 72.09 21 P **P** **10 55 38.0 +1.2**
baz=319
COLD Coldfoot 72.11 16 IAmb IAmb 10 55 38.7
comp=Z,86nm,1.2s
COLD Coldfoot 72.11 16 P **P** **10 55 37.7 +0.7**
baz=326,SNR=40
KHWEE KHWEE 72.11 224 P **P** **10 55 36.5 -1.2**
KHWEE IAmb IAmb 10 55 41.7
comp=Z,42nm,0.7s
E25K Arctic Village 72.28 13 IAmb IAmb 10 55 39.2
comp=Z,23nm,0.7s
E25K Arctic Village 72.28 13 P **P** **10 55 38.8 +0.8**
baz=330,SNR=22
K13K Kusilvak Mount 72.30 24 IAmb IAmb 10 55 40.1
comp=Z,40nm,0.9s
K13K Kusilvak Mount 72.30 24 P **P** **10 55 39.1 +0.9**
baz=316,SNR=7.6
IMAR Indian Mountai 72.32 18 P **P** **10 55 37.6 -0.5**
F24K Squaw Lake 72.35 15 IAmb IAmb 10 55 40.5
comp=Z,61nm,1.6s
F24K Squaw Lake 72.35 15 P **P** **10 55 39.2 +0.8**
baz=328,SNR=12
D28M Stokes Point 72.35 11 P **P** **10 55 39.7 +1.4**
baz=336
H20K Anotleneega Mo 72.43 18 P **P** **10 55 39.4 +0.5**
baz=323,SNR=36
GCSA Galena City Sc 72.50 19 P **P** **10 55 40.1 +0.8**
baz=322,SNR=16
J16K Anvik River 72.57 22 P **P** **10 55 40.9 +1.1**
baz=319,SNR=13
G23K Bananza Creek 72.58 16 IAmb IAmb 10 55 41.6
comp=Z,30nm,0.9s
G23K Bananza Creek 72.58 16 P **P** **10 55 40.5 +0.7**
baz=327,SNR=22
F25K Christian Rive 72.73 14 IAmb IAmb 10 55 43.0
comp=Z,48nm,1.1s
F25K Christian Rive 72.73 14 P **P** **10 55 42.0 +1.4**
baz=330,SNR=32
M11K Mekoryuk 72.88 26 P **P** **10 55 42.9 +1.4**
baz=315
E28M Babbage River 72.89 11 IAmb IAmb 10 55 44.1
comp=Z,27nm,0.6s
E28M Babbage River 72.89 11 P **P** **10 55 42.9 +1.3**
baz=335,SNR=39
F26K Sheenjek River 72.92 13 P **P** **10 55 42.9 +1.1**
baz=331,SNR=19
E27K Coleen River 72.94 12 P **P** **10 55 42.9 +1.1**
baz=333,SNR=27
K15K Wolf Creek Mou 73.03 23 IAmb IAmb 10 55 44.5
comp=Z,38nm,0.9s
K15K Wolf Creek Mou 73.03 23 P **P** **10 55 43.7 +1.3**
baz=318,SNR=8.3
BMAR Burnt Mountain 73.08 13 P **P** **10 55 43.7 +1.0**
I20K Naaghedeneel 73.09 19 P **P** **10 55 43.8 +1.1**
baz=323,SNR=13
G24K Hadweenzic Riv 73.13 15 IAmb IAmb 10 55 44.6
comp=Z,34nm,0.8s
G24K Hadweenzic Riv 73.13 15 P **P** **10 55 44.1 +1.1**
baz=329,SNR=38
POGA Pongola 73.31 216 IAmb IAmb 10 55 48.7
comp=Z,27nm,0.7s
E29M Blow River 73.34 11 P **P** **10 55 45.3 +1.1**
baz=336,SNR=49
G25K Bearman Lake 73.36 14 P **P** **10 55 45.5 +1.3**
baz=330,SNR=21
L14K Kuka Creek 73.38 24 IAmb IAmb 10 55 46.8
comp=Z,58nm,0.8s
L14K Kuka Creek 73.38 24 P **P** **10 55 45.9 +1.5**
baz=318,SNR=13
I21K Tanana 73.40 17 P **P** **10 55 45.3 +0.7**
baz=325
H23K Yukon River 73.43 16 P **P** **10 55 46.0 +1.2**
baz=327
L15K Ungalak Mounta 73.51 23 P **P** **10 55 46.3 +1.1**
baz=318,SNR=8.0
J18K Innoko River 73.56 20 P **P** **10 55 46.3 +0.8**
baz=322
SPIA Saint Paul Isl 73.58 30 P **P** **10 55 46.9 +1.2**
baz=313
SMPI Sarmi 73.61 105 P **P** **10 55 47.1 +0.5**

comp=Z,96nm,0.8s
G26K Porcupine Rive 73.65 13 P P 10 55 47.1 +1.1
baz=332,SNR=21
KDWAN **Kaudwane 73.69 224 P P 10 55 47.4 +0.5**
K17K Iditarod 73.69 21 P P 10 55 47.3 +1.0
baz=321
F28M Old Crow 73.74 12 IAmb IAmb 10 55 48.7
comp=Z,71nm,1.4s
F28M Old Crow 73.74 12 P P 10 55 47.7 +1.2
baz=335,SNR=26
MLY Manley 73.82 17 P P 10 55 47.5 +0.4
baz=326
M13K Dall Lake 73.84 25 P P 10 55 49.1 +1.9
baz=317,SNR=7.4
H25L Birch Creek 73.85 15 P P 10 55 48.5 +1.4
baz=330,SNR=20
PSAD1 Pilbara Seismi 73.90 133 P P 10 55 48.4 +0.4
comp=Z,19nm,1.4s
PSAC1 Pilbara Seismi 73.95 133 P P 10 55 48.9 +0.6
comp=Z,17nm,0.9s
C36M Paulatuk 73.99 5 P P 10 55 48.0 +0.2
baz=348,SNR=18
PSA00 Pilbara Seismi 74.00 133 P P 10 55 48.6 0.0
comp=Z,17nm,1.6s
PSA00 Pilbara Seismi 74.00 133 P 10 55 48.8 +0.2
PSA00 Pilbara Seismi 74.00 133 P P 10 55 49.3 +0.7
INK Inuvik 74.03 9 P P 10 55 48.7 +0.6
INK Inuvik 74.03 9 P P 10 55 48.9 +0.8
comp=Z,52nm,0.5s,baz=358,slow=6.4,SNR=363
INK pP **pP 10 56 38.6 +2.0**
comp=Z,7.6nm,0.6s,baz=11,slow=6.8,SNR=2.0
comp=Z,52nm,0.5s
INK Inuvik 74.03 9 P P 10 55 49.0 +0.8
baz=340,SNR=58
I23K Minto, Yukon-K 74.05 16 P P 10 55 49.2 +0.9
baz=327,SNR=44
M14K Bethel 74.05 24 P P 10 55 49.7 +1.3
baz=318,SNR=22
L16K Owhat River 74.11 22 P P 10 55 50.2 +1.5
baz=320,SNR=29
L17K Donlin 74.14 22 P P 10 55 50.3 +1.3
baz=321,SNR=16
G27K Doyon Strip 74.16 13 IAmb IAmb 10 55 52.0
comp=Z,40nm,0.7s
G27K Doyon Strip 74.16 13 P P 10 55 50.3 +1.3
baz=333,SNR=71
P08K Saint George I 74.26 30 P P 10 55 51.2 +1.6
baz=314
F30M Barrier River 74.37 10 P P 10 55 51.1 +0.9
baz=338,SNR=20
CHUM Lake Minchumin 74.39 18 P P 10 55 51.2 +0.9
baz=325,SNR=21
LBTB Lobatse 74.48 222 P **P 10 55 51.8 +0.4**
LBTB IAmb IAmb 10 55 55.9
comp=Z,44nm,1.3s
LBTB Lobatse 74.48 222 P P 10 55 52.0 +0.6
comp=Z,14nm,0.6s,baz=47,slow=4.7,SNR=18
comp=Z,14nm,0.6s
LBTB Lobatse 74.48 222 P P 10 55 52.0 +0.6
LBTB Lobatse 74.48 222 P P 10 55 52.3 +0.9
LBTB pP **pP 10 56 39.5 -0.9**
DBIC Dimbokro 74.49 267 P 10 55 51.0 -0.7
DBIC Dimbokro 74.49 267 P P 10 55 50.7 -1.0
comp=Z,18nm,0.7s,baz=60,slow=5.1,SNR=18
comp=Z,18nm,0.7s
DBIC Dimbokro 74.49 267 P P 10 55 51.0 -0.7
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC Dimbokro 74.49 267 P P 10 55 51.1 -0.7
DBIC pP **pP 10 56 40.6 +0.3**
POKR Poker Plat Res 74.50 16 P P 10 55 52.0 +1.0
baz=329,SNR=24
M15K Kasigluk River 74.51 24 P P 10 55 52.3 +1.3
baz=319,SNR=14
BPAW Bear Paw Mtn. 74.54 18 P P 10 55 51.3 +0.1
BPAW IAmb IAmb 10 55 52.5
comp=Z,71nm,1.2s
BPAW Bear Paw Mtn. 74.54 18 P P 10 55 51.5 +0.3
baz=326,SNR=30
PRP Porcupine Dome 74.56 15 IAmb IAmb 10 55 53.8
comp=Z,83nm,1.6s
PRP Porcupine Dome 74.56 15 P P 10 55 52.4 +0.9
baz=330,SNR=19
NEA2 Nenana 74.58 17 P P 10 55 51.7 +0.3
baz=328,SNR=66
DRS Darwin Rock St 74.58 118 P P 10 55 52.2 +0.1
COLA College 74.62 16 P P 10 55 52.0 +0.4
COLA College 74.62 16 P P 10 55 51.9 +0.3
COLA College 74.62 16 P P 10 55 52.0 +0.4
COLA pmax pmax
comp=Z,66nm,0.8s
COLA College 74.62 16 P P 10 55 52.2 +0.6
baz=329
COLA College 74.62 16 P P 10 55 51.8 +0.2
COLA pP **pP 10 56 40.8 +0.6**
KGCAE **Kacgae 74.67 226** P **P 10 55 52.4 -0.2**
KGCAE IAmb IAmb 10 55 56.9
comp=Z,38nm,0.8s
G29M Pine Creek 74.68 11 IAmb IAmb 10 55 54.1
comp=Z,90nm,1.4s
G29M Pine Creek 74.68 11 P P 10 55 53.0 +1.0
baz=336,SNR=17
TSUM Tsumeb 74.70 232 P P 10 55 52.4 -0.5
TSUM Tsumeb 74.70 232 P P 10 55 53.3 +0.4
comp=Z,8.7nm,0.6s,baz=16,slow=7.3,SNR=18
TSUM pP **pP 10 56 42.7 +0.7**
comp=Z,10nm,1.0s,baz=44,slow=8.4,SNR=3.9
comp=Z,8.7nm,0.6s
H27K Steamboat Moun 74.70 13 P P 10 55 53.3 +1.2
baz=334,SNR=67
N14K Kuskokwak Cree 74.76 24 IAmb IAmb 10 55 54.8
comp=Z,62nm,0.8s
N14K Kuskokwak Cree 74.76 24 P P 10 55 53.7 +1.2
baz=319,SNR=5.6
M16K Timber Creek 74.80 23 IAmb IAmb 10 55 55.3
comp=Z,46nm,0.8s
M16K Timber Creek 74.80 23 P P 10 55 54.2 +1.5
baz=321,SNR=11
F31M Tsiigehtchic 74.81 10 P P 10 55 53.3 +0.6
baz=340,SNR=21
CCB Clear Creek Bu 74.82 16 IAmb IAmb 10 55 54.9
comp=Z,65nm,1.6s
G30M tAoh Zraii Nji 74.89 11 P P 10 55 53.7 +0.5
baz=338,SNR=18
WRH Wood River Hil 74.91 16 IAmb IAmb 10 55 54.1
comp=Z,47nm,1.4s
IL31 74.92 16 IAmb IAmb 10 55 54.8
comp=Z,53nm,1.1s
ILAR Eielson Array 74.92 16 P 10 55 53.3 -0.1
ILAR Eielson Array 74.92 16 P P 10 55 52.9 -0.4
comp=Z,42nm,1.1s,baz=356,slow=3.6,SNR=154
ILAR pP **pP 10 56 42.0 0.0**
comp=Z,2.6nm,0.9s,baz=322,slow=5.7,SNR=1.9
ILAR PP **PP 10 58 42.0 -1.0**
comp=Z,5.3nm,1.0s,baz=318,slow=7.9,SNR=6.1
comp=Z,42nm,1.1s
ILAR Eielson Array 74.92 16 P P 10 55 53.3 -0.1
M17K Holitna River 74.97 22 P P 10 55 55.2 +1.5
baz=322,SNR=27
FITZ Fitzroy Crossi 75.00 126 P P 10 55 54.7 +0.2
comp=Z,4.8nm,0.9s
FITZ Fitzroy Crossi 75.00 126 P 10 55 54.8 +0.4
FITZ Fitzroy Crossi 75.00 126 P P 10 55 55.1 +0.7
MTN Manton Dam 75.03 119 P P 10 55 54.3 -0.4
comp=Z,24nm,0.8s
MTN Manton Dam 75.03 119 P P 10 55 54.4 -0.3
FRB Frobisher Bay 75.09 343 P P 10 55 54.5 +0.2
N15K Kwethluk River 75.10 24 IAmb IAmb 10 55 57.2
comp=Z,51nm,0.9s
N15K Kwethluk River 75.10 24 P P 10 55 56.1 +1.7
baz=320,SNR=7.9
GENI Genyem 75.12 105 P P 10 55 56.2 +0.9
GENI Genyem 75.12 105 P P 10 55 55.9 +0.6
comp=Z,114nm,1.0s
HDA Harding Lake 75.22 16 P P 10 55 54.3 -0.7
baz=330,SNR=23
I26K Coal Creek Min 75.22 14 IAmb IAmb 10 55 56.8
comp=Z,84nm,1.4s
I26K Coal Creek Min 75.22 14 P P 10 55 55.8 +0.8
baz=332,SNR=32
G31M Satah River 75.23 10 P P 10 55 55.5 +0.5
baz=340,SNR=41
PPLA Purkeypile 75.23 19 P P 10 55 55.6 +0.2
baz=326,SNR=11
TRF Thorofare Moun 75.25 18 P P 10 55 55.1 -0.4
baz=327,SNR=9.3
H29M Whitestone 75.26 12 IAmb IAmb 10 55 57.9
comp=Z,67nm,0.9s
H29M Whitestone 75.26 12 P P 10 55 56.2 +0.9
baz=336,SNR=41
N16K Nishlik Lake 75.29 23 P P 10 55 57.0 +1.5
baz=321,SNR=13
MCK McKinley 75.34 17 IAmb IAmb 10 55 56.9
comp=Z,78nm,1.4s
MCK McKinley 75.34 17 P P 10 55 55.9 +0.1
baz=328,SNR=18
KNRA Kununurra 75.35 122 P P 10 55 56.6 +0.1
KNRA IAmb IAmb 10 55 57.8
comp=Z,56nm,0.8s
M18K Stony River 75.38 21 P P 10 55 56.8 +0.8
baz=323,SNR=9.9
EPYK Eagle Plains 75.38 11 IAmb IAmb 10 55 57.5
comp=Z,90nm,1.4s
EPYK Eagle Plains 75.38 11 P P 10 55 56.1 +0.1
baz=338,SNR=25
O14K Tigyukauivet M 75.41 25 P P 10 55 57.3 +1.1
baz=319
MAKGR Makgori 75.54 222 P P 10 55 57.3 -0.2
MAKGR IAmb IAmb 10 56 01.7
comp=Z,26nm,0.7s
I28M Miner Creek 75.70 13 P P 10 55 58.1 +0.2
baz=335,SNR=48
N17K Nushagak Hills 75.73 22 IAmb IAmb 10 56 00.7
comp=Z,77nm,1.4s
N17K Nushagak Hills 75.73 22 P P 10 55 59.6 +1.6
baz=322,SNR=9.2
M20K Styx River 75.82 20 P P 10 56 00.1 +1.5
baz=325
O15K Ungalikthiuk R 75.95 24 IAmb IAmb 10 56 01.5
comp=Z,46nm,0.8s
O15K Ungalikthiuk R 75.95 24 P P 10 56 00.2 +1.0
baz=320,SNR=6.3
K24K Donnelly Dome 76.00 16 P P 10 55 59.3 -0.3
baz=330,SNR=15
I29M Ogilvie Camp, 76.06 12 P P 10 55 60.0 +0.1
baz=336,SNR=58
EGAK Eagle 76.08 13 IAmb IAmb 10 56 01.6
comp=Z,70nm,1.4s
EGAK Eagle 76.08 13 P P 10 56 00.3 +0.3
baz=334,SNR=16
CUT Chulitna 76.14 18 IAmb IAmb 10 56 02.1
comp=Z,49nm,0.8s
CUT Chulitna 76.14 18 P P 10 55 59.7 -0.6
baz=327,SNR=7.9
SKT Skwentna 76.17 19 P P 10 56 00.2 -0.3
baz=326,SNR=29
O16K Kokwok River B 76.19 23 P P 10 56 02.1 +1.5
baz=321,SNR=22
WAT1 Susitna Watana 76.20 17 P P 10 55 60.0 -0.7
baz=328
SCRK Sand Creek 76.23 15 P P 10 56 01.5 +0.5
baz=332,SNR=46
RIDG Independent Ri 76.26 15 P P 10 56 00.7 -0.4
baz=331,SNR=30
H31M Peel River 76.27 10 IAmb IAmb 10 56 01.9
comp=Z,38nm,0.7s
H31M Peel River 76.27 10 P P 10 56 01.3 +0.3
baz=340,SNR=24
DHY Denali Highway 76.27 17 IAmb IAmb 10 56 02.2
comp=Z,41nm,0.7s
DHY Denali Highway 76.27 17 P P 10 56 00.9 -0.4
baz=329,SNR=35
O17K Koliganek Bris 76.36 23 P P 10 56 02.6 +1.1
baz=322,SNR=6.3
I30M Mount Dempster 76.50 11 IAmb IAmb 10 56 03.9
comp=Z,74nm,1.1s
I30M Mount Dempster 76.50 11 P P 10 56 02.7 +0.2
baz=338,SNR=22
DOT Dot Lake 76.51 15 IAmb IAmb 10 56 03.6
comp=Z,60nm,1.4s
K27K Chicken 76.58 14 P P 10 56 03.7 +1.0
baz=333
WAT6 Susitna Watana 76.61 17 P P 10 56 02.6 -0.6
baz=329,SNR=14
SPCR Spurr Chakacha 76.63 20 P P 10 56 03.0 -0.2
baz=326
N20K Mount Spurr 76.63 20 P P 10 56 02.9 -0.3
baz=326
P16K Nushagak River 76.66 24 P P 10 56 04.1 +0.9
baz=322
M22K Willow 76.73 19 P P 10 56 02.9 -0.6
baz=327,SNR=7.7
PAX Paxson 76.80 16 P P 10 56 04.2 +0.1
baz=331,SNR=46
SUA Susitna One 76.81 19 IAmb IAmb 10 56 05.6
comp=Z,58nm,1.0s
SUA Susitna One 76.81 19 P P 10 56 03.7 -0.5
baz=327,SNR=7.1
O19K Port Alsworth 76.86 21 IAmb IAmb 10 56 06.2
comp=Z,53nm,1.1s
O19K Port Alsworth 76.86 21 P P 10 56 05.0 +0.7
baz=324,SNR=7.1
O18K Koktuh Hills 76.87 22 P P 10 56 05.6 +1.1
baz=324,SNR=18
GHO Glory Hole Cre 77.01 18 IAmb IAmb 10 56 06.7
comp=Z,84nm,1.2s
P17K Kvichak River 77.02 23 P P 10 56 06.6 +1.3
baz=323,SNR=18
DAWY Dawson 77.05 13 P 10 56 05.6 +0.1
DAWY IAmb IAmb 10 56 07.6
comp=Z,56nm,1.0s
DAWY Dawson 77.05 13 P P 10 56 05.9 +0.4
baz=336,SNR=53
J30M Hart River 77.11 12 IAmb IAmb 10 56 07.8
comp=Z,76nm,1.3s
J30M Hart River 77.11 12 P P 10 56 06.6 +0.7
baz=338,SNR=28
PMR Palmer 77.11 18 IAmb IAmb 10 56 06.7
comp=Z,42nm,1.1s
PMR Palmer 77.11 18 P P 10 56 05.9 +0.2
PMR Palmer 77.11 18 P P 10 56 05.8 +0.1
baz=328,SNR=9.6
RED Redoubt Volcan 77.12 21 IAmb IAmb 10 56 07.4
comp=Z,42nm,1.2s
SML Sawmill 77.13 18 P P 10 56 06.1 +0.2
baz=329,SNR=19
MENT Mentasta 77.21 15 P P 10 56 07.0 +0.7
L26K Log Cabin Wild 77.21 15 IAmb IAmb 10 56 08.2
comp=Z,66nm,1.4s
P18K Big Mountain, 77.24 22 IAmb IAmb 10 56 08.3
comp=Z,50nm,0.9s
P18K Big Mountain, 77.24 22 P P 10 56 07.2 +0.6
baz=324,SNR=7.0
M23K Glacier View 77.29 18 P P 10 56 06.7 -0.1
baz=329,SNR=36
SCM Sheep Creek Mo 77.36 17 P P 10 56 07.3 +0.1
baz=330,SNR=14
Q16K King Salmon 77.37 23 P P 10 56 08.3 +1.1
baz=323,SNR=15
HARP HAARP 77.37 16 P P 10 56 08.3 +1.1
baz=331,SNR=36
RC01 Rabbit Creek A 77.39 19 IAmb IAmb 10 56 08.2
comp=Z,64nm,1.1s
RC01 Rabbit Creek A 77.39 19 P P 10 56 07.0 -0.3
baz=328,SNR=6.8
M24K Tolsona, Glenn 77.39 17 P P 10 56 08.6 +1.2
baz=330,SNR=25
KNK Knik Glacier 77.44 18 P P 10 56 08.0 +0.4
baz=329,SNR=14
UNV Unalaska Valle 77.44 31 P P 10 56 07.1 -0.6
baz=316
O20K Slope Mountain 77.44 21 P P 10 56 07.3 -0.5
baz=326
L27K Beaver Creek, 77.50 15 P P 10 56 08.5 +0.6
baz=334
BCAR Beaver Creek A 77.50 15 P P 10 56 08.5 +0.5
BOSA Boshof 77.55 220 P P 10 56 09.4 +0.7
BOSA Boshof 77.55 220 P P 10 56 09.3 +0.6
comp=Z,14nm,0.7s,baz=7.8,slow=3.3,SNR=14
BOSA pP **pP 10 56 58.5 +0.4**
comp=Z,10nm,0.8s,baz=22,slow=7.7,SNR=4.0
comp=Z,14nm,0.7s
BOSA Boshof 77.55 220 P **P 10 56 09.5 +0.7**
BOSA pmax pmax
comp=Z,14nm,0.7s
BOSA Boshof 77.55 220 P **P 10 56 09.4 +0.7**
BOSA pP **pP 10 56 58.4 +0.4**
K29M Barlow Dome 77.59 12 IAmb IAmb 10 56 10.5
comp=Z,91nm,1.3s
K29M Barlow Dome 77.59 12 P P 10 56 09.2 +0.6
baz=337,SNR=44
SLKM Skilak Lake 77.75 19 IAmb IAmb 10 56 09.9
comp=Z,77nm,1.2s
S12K Black Hills 77.81 27 P P 10 56 09.8 0.0
baz=319
O22K Cooper Landing 77.90 19 P P 10 56 09.7 -0.4
baz=328
Q18K Katmai Hardscr 77.91 23 P P 10 56 09.8 -0.6
baz=324,SNR=6.9
PWL Port Wells 77.94 18 IAmb IAmb 10 56 11.5
comp=Z,53nm,1.0s
PWL Port Wells 77.94 18 P P 10 56 10.7 +0.3
baz=329,SNR=5.4
KLU Klutina 77.99 17 IAmb IAmb 10 56 13.0
comp=Z,59nm,0.9s
KLU Klutina 77.99 17 P P 10 56 11.1 +0.3
baz=331,SNR=18
MAYO Mayo, Yukon 78.10 12 IAmb IAmb 10 56 13.0
comp=Z,82nm,1.1s
MAYO Mayo, Yukon 78.10 12 P P 10 56 11.9 +0.7
baz=338,SNR=15
L29M L29M 78.16 13 IAmb IAmb 10 56 14.3
comp=Z,67nm,1.1s
L29M L29M 78.16 13 P P 10 56 12.6 +0.9
baz=337,SNR=56
BRLK Bradley Lake 78.19 20 IAmb IAmb 10 56 12.7
comp=Z,45nm,0.8s
N25K Chitina, Valde 78.19 16 IAmb IAmb 10 56 13.9
comp=Z,76nm,1.6s
N25K Chitina, Valde 78.19 16 P P 10 56 12.5 +0.6
baz=332,SNR=8.0
GLI Glacier Island 78.24 18 P P 10 56 11.9 -0.1
baz=330
BRSE Bradley Lake S 78.25 20 P P 10 56 12.3 +0.2
baz=327
S14K Fog Glacier 78.27 26 P P 10 56 11.8 -0.6
baz=321
PLK4 Peulik 4 78.30 24 IAmb IAmb 10 56 13.8
comp=Z,81nm,1.4s
R17L Mt. Peulik Vol 78.30 24 P P 10 56 12.2 -0.2
baz=323
SEW Seward 78.30 19 IAmb IAmb 10 56 12.8
comp=Z,40nm,1.2s
SEW Seward 78.30 19 P P 10 56 12.3 0.0
baz=328
DIV Divide 78.34 17 IAmb IAmb 10 56 14.2
comp=Z,56nm,1.0s
SDPT Sand Point 78.66 27 P P 10 56 14.5 +0.1
baz=320
M29M Somme Creek 78.71 13 IAmb IAmb 10 56 16.9
comp=Z,36nm,0.9s
M29M Somme Creek 78.71 13 P P 10 56 15.7 +0.9
baz=336,SNR=27
Q20K Shuyak Island 78.73 21 P P 10 56 15.4 +0.7
baz=326
SYI Shuyak Island 78.73 21 IAmb IAmb 10 56 16.1
comp=Z,69nm,1.0s
MCARA McCarthy VSAT 78.75 16 IAmb IAmb 10 56 16.6
comp=Z,32nm,1.0s
MCARA McCarthy VSAT 78.75 16 P P 10 56 15.4 +0.6
baz=333,SNR=6.9
BMRM Bremner River 78.76 17 P P 10 56 15.2 +0.3
baz=332,SNR=17
VRDI Verde Repeater 78.79 16 IAmb IAmb 10 56 17.4
comp=Z,45nm,0.9s
EYAK Cordova Ski Ar 78.85 17 P P 10 56 16.6 +1.3
EYAK Cordova Ski Ar 78.85 17 P P 10 56 15.9 +0.6
baz=331,SNR=6.0
M30M Minto, Yukon 78.89 13 P P 10 56 16.1 +0.5
baz=338,SNR=20
P23K Montague Islan 78.92 18 P P 10 56 16.1 +0.4
baz=330,SNR=6.5
R18K Karluk 78.96 23 P P 10 56 16.3 +0.4
baz=324
CRQM Cirque 79.28 16 IAmb IAmb 10 56 19.6
comp=Z,53nm,1.0s
CRQE Cirque 79.29 16 P P 10 56 18.4 +0.5
baz=333,SNR=6.0
BARN Barnard Glacie 79.33 15 IAmb IAmb 10 56 20.8
comp=Z,48nm,1.0s
TGL Tana Glacier 79.35 16 IAmb IAmb 10 56 20.4
comp=Z,50nm,1.0s
KDAK Kodiak Island 79.36 22 P P 10 56 18.4 +0.3
KDAK Kodiak Island 79.36 22 P P 10 56 18.3 +0.3
comp=Z,87nm,0.9s,baz=345,slow=4.9,SNR=34
comp=Z,87nm,0.9s
KDAK Kodiak Island 79.36 22 P P 10 56 18.4 +0.3
KDAK pmax pmax
comp=Z,110nm,0.9s
KDAK Kodiak Island 79.36 22 P P 10 56 18.3 +0.3
baz=326
KDAK Kodiak Island 79.36 22 P P 10 56 18.1 0.0
CHNA Chernabura Isl 79.39 27 P P 10 56 18.9 +0.6
CHNA Chernabura Isl 79.39 27 P P 10 56 17.7 -0.6
baz=321
CTG Chitna Glacier 79.49 15 P P 10 56 19.6 +0.6
baz=334,SNR=17
CTGM Chitina Glacie 79.49 15 IAmb IAmb 10 56 20.9
comp=Z,61nm,1.1s
YUK8 Steele Glacier 79.52 14 P P 10 56 19.6 +0.3
baz=336,SNR=11
ISLE Juniper Island 79.59 16 IAmb IAmb 10 56 21.1
comp=Z,46nm,1.0s
OHAK Old Harbor 79.60 23 IAmb IAmb 10 56 20.9
comp=Z,52nm,0.8s
OHAK Old Harbor 79.60 23 P P 10 56 20.3 +0.9
OHAK Old Harbor 79.60 23 P P 10 56 19.7 +0.3
baz=325,SNR=12
GRNC Granite Creek 79.61 16 IAmb IAmb 10 56 21.4
comp=Z,44nm,1.0s
WAX Waxell Ridge 79.62 16 IAmb IAmb 10 56 21.7
comp=Z,42nm,1.0s
M31M Drury Creek, Y 79.65 12 IAmb IAmb 10 56 21.4
comp=Z,55nm,1.1s
M31M Drury Creek, Y 79.65 12 P P 10 56 20.3 +0.6
baz=340,SNR=41
LOGN Logan Glacier 79.68 15 IAmb IAmb 10 56 21.9
comp=Z,44nm,1.0s
YUK4 Talbot Arm 79.69 14 P P 10 56 20.6 +0.4
baz=336,SNR=31
MMPY Sheldon Lake, 79.73 10 P P 10 56 21.1 +0.9
baz=342,SNR=18
N30M Aishikik Lake 79.88 13 IAmb IAmb 10 56 23.1
comp=Z,43nm,1.1s
N30M Aishikik Lake 79.88 13 P P 10 56 21.6 +0.6
baz=338,SNR=22
O28M Mount Upton 79.90 15 P P 10 56 22.2 +0.8
baz=335,SNR=12
WRGLY Wrigley 80.05 6 P P 10 56 22.9 +1.1
baz=348,SNR=18
MESA MESA 80.06 16 IAmb IAmb 10 56 24.3
comp=Z,38nm,0.9s
MESA MESA 80.06 16 P P 10 56 23.1 +0.9
baz=334
N31M Braeburn, Yuko 80.09 13 IAmb IAmb 10 56 24.2
comp=Z,74nm,0.9s
N31M Braeburn, Yuko 80.09 13 P P 10 56 22.7 +0.6
baz=339,SNR=36
YUK6 Outpost Mounta 80.11 14 P P 10 56 23.2 +0.8
baz=337,SNR=15
HYT Haines Junctio 80.39 14 IAmb IAmb 10 56 25.9
comp=Z,49nm,0.9s
HYT Haines Junctio 80.39 14 P P 10 56 24.8 +1.0
baz=337,SNR=37
MANU Manus Island 80.46 100 IAmb IAmb 10 56 26.3
comp=Z,88nm,1.7s
PINM Pinnacle 80.50 15 P P 10 56 25.1 +0.8
baz=335,SNR=13
O29M Mount Kennedy 80.66 14 P P 10 56 25.6 +0.3
baz=336,SNR=6.0
O30N Mendenhall 80.70 13 IAmb IAmb 10 56 27.1
comp=Z,42nm,0.9s
O30N Mendenhall 80.70 13 P P 10 56 26.0 +0.7
baz=338,SNR=42
N32M Quiet Lake 80.85 11 P P 10 56 25.9 -0.2
baz=341
WHY Whitehorse 81.02 12 IAmb IAmb 10 56 28.0
comp=Z,57nm,0.8s
WHY Whitehorse 81.02 12 P P 10 56 26.9 -0.2
baz=339,SNR=19
PNL Peninsula 81.07 15 P P 10 56 28.7 +1.4
PNL Peninsula 81.07 15 P P 10 56 28.0 +0.7
baz=336,SNR=12
P30M Million Dollar 81.14 14 P P 10 56 28.5 +0.8
baz=338
TGTN Hyland Airport 81.19 9 P P 10 56 29.1 +1.2
baz=345,SNR=13
YKAW3 Yellowknife Wh 81.27 3 IAmb IAmb 10 56 29.7
comp=Z,48nm,0.9s
YKA Yellowknife Ar 81.34 3 P P 10 56 28.9 +0.2
comp=Z,19nm,0.8s,baz=24,slow=9.9,SNR=34
YKA pP **pP 10 57 19.1 +1.4**
comp=Z,5.7nm,0.6s,baz=348,slow=6.0,SNR=3.9

comp=Z,19nm,0.8s
YKAW1 **Yellowknife Wh** 81.36 2 P **P** 10 56 28.7 0.0
YKAW1 IAmb IAmb 10 56 30.1
comp=Z,51nm,0.9s
P29M **Windy Craggy** 81.44 14 P **P** 10 56 29.6 +0.3
baz=337,SNR=9.9
P33M **Teslin, Yukon** 81.79 12 P **P** 10 56 31.3 +0.2
baz=341,SNR=71
WB0 **Warramunga Arr** 82.03 122 IAmb IAmb 10 56 33.1
comp=Z,26nm,0.8s
SKAG **Skagway** 82.06 13 IAmb IAmb 10 56 34.6
comp=Z,47nm,0.9s
SKAG **Skagway** 82.06 13 P **P** 10 56 33.6 +1.2
SKAG **Skagway** 82.06 13 P **P** 10 56 33.3 +0.9
baz=339,SNR=20
SCHQ **Schefferville** 82.10 337 P **P** 10 56 32.6 -0.1
comp=Z,112nm,0.7s,baz=38,slow=4.9,SNR=14
comp=Z,112nm,0.7s
WRA **Warramunga Arr** 82.11 122 **P** 10 56 32.8 -0.5
WRA **Warramunga Arr** 82.11 122 P **P** 10 56 32.6 -0.7
comp=Z,26nm,0.7s,baz=322,slow=4.9,SNR=307
WRA pP **pP** 10 57 24.9 +1.8
comp=Z,6.4nm,0.7s,baz=324,slow=4.9,SNR=4.6
comp=Z,26nm,0.7s
WRA **Warramunga Arr** 82.11 122 P **P** 10 56 32.8 -0.5
WRAB **Tennant Creek** 82.12 122 **P** 10 56 32.9 -0.4
WRAB IAmb IAmb 10 56 33.6
comp=Z,34nm,0.8s
WRAB **Tennant Creek** 82.12 122 P **P** 10 56 32.7 -0.6
WRAB **Tennant Creek** 82.12 122 P **P** 10 56 32.9 -0.4
WRAB pmax pmax
comp=Z,34nm,0.9s
WRAB **Tennant Creek** 82.12 122 P **P** 10 56 32.7 -0.6
P32M **Atlin** 82.23 12 IAmb IAmb 10 56 34.9
comp=Z,33nm,1.0s
P32M **Atlin** 82.23 12 P **P** 10 56 33.8 +0.4
baz=340,SNR=16
WR8 **Warramunga Arr** 82.23 122 IAmb IAmb 10 56 34.0
comp=Z,29nm,0.8s
WTLY **Watson Lake, Y** 82.48 10 IAmb IAmb 10 56 36.2
comp=Z,44nm,0.7s
WTLY **Watson Lake, Y** 82.48 10 P **P** 10 56 35.2 +0.5
baz=344,SNR=24
R33M **Jennings River** 82.86 11 IAmb IAmb 10 56 38.4
comp=Z,42nm,0.9s
R33M **Jennings River** 82.86 11 P **P** 10 56 37.3 +0.6
baz=343,SNR=35
R31K **City Hall, Gus** 82.97 14 P **P** 10 56 37.8 +0.8
baz=339
BESE **Bessie Mountai** 82.97 13 IAmb IAmb 10 56 39.4
comp=Z,38nm,0.9s
KOTAN **Kotaneelee Air** 83.04 7 P **P** 10 56 38.3 +0.9
baz=348
Q32M **Nakina River** 83.07 12 IAmb IAmb 10 56 39.6
comp=Z,33nm,0.7s
Q32M **Nakina River** 83.07 12 P **P** 10 56 38.6 +0.7
baz=342,SNR=24
S31K **Pelican** 83.29 14 P **P** 10 56 39.3 +0.6
baz=338
R32K **Eaglecrest** 83.32 13 IAmb IAmb 10 56 41.9
comp=Z,37nm,1.0s
R32K **Eaglecrest** 83.32 13 P **P** 10 56 40.0 +1.0
baz=340,SNR=10.0
JIS **Juneau Island** 83.35 13 P **P** 10 56 40.6 +1.6
LIRD **Liard River Hi** 83.51 9 P **P** 10 56 40.8 +0.9
baz=346,SNR=15
DLBC **Dease Lake** 83.92 11 P **P** 10 56 42.9 +0.7
comp=Z,198nm,0.7s,baz=321,slow=4.5,SNR=52
DLBC **Dease Lake** 83.92 11 P **P** 10 56 42.8 +0.7
baz=343,SNR=21
TOAD **Toad River Com** 84.16 8 P **P** 10 56 43.9 +0.6
baz=347,SNR=29
S34M **Telegraph Cree** 84.25 12 P **P** 10 56 44.8 +1.1
baz=343
SIT **Sitka** 84.31 14 IAmb IAmb 10 56 46.1
comp=Z,39nm,0.8s
SIT **Sitka** 84.31 14 P **P** 10 56 45.8 +1.9
SIT **Sitka** 84.31 14 P **P** 10 56 45.0 +1.1
baz=339
ASAR **Alice Springs** 84.37 125 P **P** 10 56 44.2 -0.6
ASAR **Alice Springs** 84.37 125 P **P** 10 56 44.1 -0.7
comp=Z,20nm,0.7s,baz=310,slow=5.1,SNR=379
ASAR pP **pP** 10 57 36.5 +1.5
comp=Z,4.9nm,0.7s,baz=310,slow=5.1,SNR=3.9
comp=Z,20nm,0.7s
ASAR **Alice Springs** 84.37 125 P **P** 10 56 44.2 -0.6
COEN **Coen** 84.56 112 P **P** 10 56 45.2 -0.6
COEN **Coen** 84.56 112 P **P** 10 56 45.6 -0.2
T33K **Petersburg** 84.99 13 P **P** 10 56 48.0 +0.7
baz=341
T35M **Bob Quinn** 85.28 11 IAmb IAmb 10 56 51.1
comp=Z,32nm,0.8s
T35M **Bob Quinn** 85.28 11 P **P** 10 56 50.1 +1.2
baz=343,SNR=17
WRAK **Wrangell Islan** 85.47 13 IAmb IAmb 10 56 51.7
comp=Z,35nm,0.8s
WRAK **Wrangell Islan** 85.47 13 P **P** 10 56 50.7 +1.0
baz=342
U33K **Whale Pass** 85.62 13 P **P** 10 56 51.2 +0.7
baz=341
FORT **Forrest** 85.75 133 P **P** 10 56 51.6 +0.2
QIS **Mount Isa** 86.19 119 P **P** 10 56 53.2 -0.7
CRAG **Craig** 86.23 13 P **P** 10 56 54.2 +0.7
baz=341
U35K **Hyder** 86.34 12 P **P** 10 56 54.6 +0.5
baz=344
V35K **Ketchikan** 86.64 13 P **P** 10 56 55.8 +0.4
baz=342
MTSU **Mount Surprise** 88.04 114 P **P** 10 57 02.9 +0.2
FFC **Flin Flon** 89.01 356 **P** 10 57 06.8 0.0
FFC IAmb IAmb 10 57 08.0
comp=Z,22nm,0.9s
FFC **Flin Flon** 89.01 356 P **P** 10 57 06.8 0.0
FFC pmax pmax
comp=Z,22nm,0.9s
FFC **Flin Flon** 89.01 356 P **P** 10 57 07.0 +0.3
FFC pP **pP** 10 57 57.5 +0.9
FFC sP **sP** 10 58 16.0 -1.9
CTAO **Charters Tower** 90.69 114 P **P** 10 57 14.7 -0.3
CTAO IAmb IAmb 10 57 15.4
comp=Z,18nm,0.7s
CTAO **Charters Tower** 90.69 114 P **P** 10 57 14.8 -0.3
CTAO **Charters Tower** 90.69 114 P **P** 10 57 14.7 -0.3
CTAO pmax pmax
comp=Z,18nm,0.7s
LLLB **Lillooet** 92.64 8 IAmb IAmb 10 57 25.7
comp=Z,28nm,1.1s
ULM **Lac du Bonnet** 92.91 351 P **P** 10 57 23.4 -1.5
comp=Z,11nm,0.8s,baz=57,slow=5.2,SNR=5.6
comp=Z,11nm,0.8s
QLP **Quilpie** 93.31 121 P **P** 10 57 26.9 -0.1
HTT **Hallett** 94.20 129 P **P** 10 57 30.7 -0.3
AGMN **Agassiz Nation** 94.82 351 IAmb IAmb 10 57 34.9
comp=Z,13nm,1.1s
STKA **Stephens Creek** 94.90 126 P **P** 10 57 34.2 +0.1
comp=Z,2.4nm,0.6s,baz=338,slow=8.4,SNR=6.1
comp=Z,2.4nm,0.6s
B08A **Colville Reser** 95.13 7 IAmb IAmb 10 57 36.5
comp=Z,38nm,1.8s
NEW **Newport** 95.41 5 IAmb IAmb 10 57 37.9
comp=Z,11nm,0.8s
GNW **Green Mountain** 95.52 9 IAmb IAmb 10 57 39.5
comp=Z,12nm,1.0s
EGMT **Eagleton** 95.94 0 IAmb IAmb 10 57 40.7
comp=Z,15nm,0.9s
LTY **Liberty** 96.08 8 IAmb IAmb 10 59 40.1
comp=Z,21nm,1.7s
LON **Longmire** 96.45 9 IAmb IAmb 10 57 42.8
comp=Z,9.7nm,0.8s
MXC **Moxie City** 96.79 8 IAmb IAmb 10 57 44.6
comp=Z,12nm,1.0s
E08A **Dider Farm, El** 97.00 7 IAmb IAmb 10 57 45.2
comp=Z,6.3nm,0.8s
E09A **Wood Farm, Sta** 97.06 6 IAmb IAmb 10 57 45.3
comp=Z,9.3nm,1.0s
F10A **Beach Ranch, E** 97.68 6 IAmb IAmb 10 57 52.4
comp=Z,9.4nm,1.3s
PDAR **Pinedale Array** 101.20 0 P **Pdif** 10 58 01.1 -1.7
comp=Z,0.5nm,0.5s,baz=9.5,slow=3.6,SNR=5.1
NVAR **Mina Array Bea** 105.06 7 Pdiff **Pdif** 10 58 21.4 +1.4
comp=Z,1.2nm,0.8s,baz=2.5,slow=5.5,SNR=7.0
NVAR PKKPbc **PKKPbc** 11 14 00.8 +0.3
comp=Z,0.5nm,0.7s,baz=210,slow=3.5,SNR=6.8
SYO **Syowa Base** 107.61 191 ↑*e*PDiff pPdif 10 59 20.6 -0.5
TXAR **Lajitas Array** 114.39 355 PKiKP **PKiKP** 11 02 51.2 0.0
comp=Z,0.3nm,0.6s,baz=117,slow=1.2,SNR=5.0
TXAR PKKPbc **PKKPbc** 11 13 30.0 -0.5
comp=Z,0.8nm,0.8s,baz=181,slow=8.2,SNR=8.6
TROLL **Troll, Antarti** 117.95 199 ↑PKKPbc **PKKPab** 11 13 17.6 -0.7
comp=Z,224nm,0.6s
TROLL ↓PKPdf **PKiKP** 11 02 56.8 +0.1
comp=Z,1μm,0.6s
SNAA **Sanae** 119.24 200 ↑PKKPbc **PKKPab** 11 13 12.1 -0.5
comp=Z,79nm,0.6s
SNAA ↓PKPdf **PKPdf** 11 02 58.3 -0.7
comp=Z,117nm,0.6s
SNAA **Sanae** 119.24 200 PKP **PKPdf** 11 02 58.6 -0.4
comp=Z,6.4nm,0.8s,baz=148,slow=2.9,SNR=29
SNAA PKKPbc **PKKPab** 11 13 12.6 +0.1
comp=Z,3.2nm,0.7s,baz=232,slow=7.1,SNR=27
VNA2 **Neumayer--Watz** 120.24 202 ↓PKPdf **PKPdf** 11 03 00.7 -0.2
comp=Z,21nm,0.6s,baz=32,slow=3.0
VNA1 **Neumayer--Stat** 120.39 202 ↓PKPdf **PKPdf** 11 03 01.0 -0.1
comp=Z,13nm,0.8s
VNA3 **Neumayer Olymp** 121.05 202 ↑PKKPbc **PKKPab** 11 13 05.5 +0.8
comp=Z,8.6nm,0.6s
VNA3 ↓PKPdf **PKPdf** 11 03 02.0 -0.5
comp=Z,18nm,0.7s
VNDA **Vanda** 125.47 165 PKP **PKPdf** 11 03 10.1 -0.7
comp=Z,1.2nm,0.8s,baz=290,slow=4.3,SNR=9.8
QSPA **South Pole Qui** 126.21 180 **PKiKP** 11 03 13.0 0.0
QSPA **South Pole Qui** 126.21 180 PKP **PKiKP** 11 03 14.0 +1.0
comp=Z,17nm,0.8s,baz=279,slow=0.9,SNR=42
TEFE **Tefe** 127.52 298 *e*P **PKPdf** 11 03 15.9 -0.7
BELA **Belgrano 2** 128.52 195 **PKiKP** 11 03 17.0 -0.3
PTLB **Pontes e Lacer** 130.94 282 *e*P **PKiKP** 11 03 24.5 +0.6
SIV **San Ignacio** 132.78 282 PKP **PKiKP** 11 03 27.2 -0.4
comp=Z,2.0nm,0.5s,baz=108,slow=3.7,SNR=11
CPUP **Villa Florida** 135.01 268 PKP **PKPdf** 11 03 29.6 -0.8
comp=Z,2.6nm,0.7s,baz=284,slow=1.8,SNR=27
CPUP SKPbc **SKPbc** 11 06 40.5 -1.6
comp=Z,2.0nm,1.0s,baz=205,slow=0.8,SNR=5.8
PSAL **Palomas, Salto** 137.15 262 *e*P **PKiKP** 11 03 35.8 -0.2
LPAZ **La Paz** 138.45 288 PKP **PKPdf** 11 03 37.4 -0.4
comp=Z,2.3nm,0.7s,baz=17,slow=3.0,SNR=7.0
LPAZ SKPbc **SKPbc** 11 06 50.7 -2.6
comp=Z,1.7nm,0.8s,baz=54,slow=4.1,SNR=4.5
LPAZ **La Paz** 138.45 288 *e*P **PKPdf** 11 03 38.3 +0.5
PB11 **IPOC Station P** 141.63 285 **PKPdf** 11 03 42.3 -0.6
PB09 **IPOC Station P** 142.41 282 **PKPdf** 11 03 45.1 +0.9
CFA **Coronel Fontan** 145.85 266 PKPbc **PKPdf** 11 03 50.0 +0.2
comp=Z,14nm,0.7s,baz=20,slow=2.1,SNR=42
LCO **Las Campanas** 146.90 272 **PKPbc** 11 03 54.0 -0.2
LCO **Las Campanas** 146.90 272 PKP2 **PKPbc** 11 03 54.0 -0.2
PLCA **Paso Flores** 149.61 250 PKPbc **PKPbc** 11 04 00.2 -0.3
comp=Z,17nm,0.9s,baz=126,slow=2.6,SNR=8.6
PLCA **Paso Flores** 149.61 250 *e*P **PKPbc** 11 03 59.8 -0.7
MG05 **Puerto Natales** 149.87 228 **PKPbc** 11 04 01.0 +0.4

IDC ***09*** *10:49:08.6±2.1, 15°.44N×94°.31W, h0km, mb3.9/3, mbtmp3.8/4, ML3.7/1, MS3.0/8, Error ellipse: s-maj=35.4km s-min=20.7km az=60.0*
CATAC ***09*** *10:49:09.4±0.4, 15°.N±3°×9°.4W±°, h1km, M4.3/11, MLv4.3/11, Error ellipse: s-maj=6.8km s-min=4.2km az=39.1, confirmed*
GCG ***09*** *10:49:09.7±2.9, 15°.20N×94°.52W, h38km±939km, MD4.7, ML4.2*
MEX ***09*** *10:49:10.4±1.0, 15°.08N×94°.45W, h16km±11km, MD4.1*
NEIC ***09*** *10:49:12.3±1.9, 15°.24N±0°.06×94°.33W±0°.04, h35km±2km, mb4.0/25, Md4.1/52(MEX), Error ellipse: s-maj=9.6km s-min=6.8km az=15.0*
ISC 09 10:49:07.2±3.2, 15°.14N±0°.04×94°.45W±0°.02, h10km±22km, n128, σ2°.46/176, mb3.9/8, MS2.9/6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.32**	**65**		**Pn**	**10 49 30.3**	**-1.3**
PCIG					**Sb**	**10 49 46.1**	**-2.9**
PCIG		**1.32**	**65**	*e*P	**Pn**	**10 49 30.5**	**-1.1**
PCIG				*e*S	**Sb**	**10 49 45.8**	**-3.2**
NILT	**Santiago Nilte**	**1.43**	**354**	*e*P	**Pn**	**10 49 31.3**	**-1.9**
NILT				*e*S	**Sn**	**10 49 48.0**	**-4.0**
HUIG	**Huatulco**	**1.71**	**292**		**Pn**	**10 49 36.7**	**-0.5**
HUIG					**Sn**	**10 49 55.7**	**-3.4**
HUIG	**Huatulco**	**1.71**	**292**	*e*P	**Pn**	**10 49 36.7**	**-0.5**
HUIG				*e*S	**Sn**	**10 49 55.7**	**-3.4**
HUIG	**Huatulco**	**1.71**	**292**	*e*P	**Pn**	**10 49 36.4**	**-0.7**
HUIG				*e*S	**Sn**	**10 49 55.2**	**-3.9**
HUIG				IAML		10 49 56.5	
comp=N,289nm,0.3s							
CMIG	**Matias Romero**	**1.98**	**348**		**Pn**	**10 49 40.3**	**-0.6**
CMIG					**Sn**	**10 50 03.1**	**-2.7**
CMIG	**Matias Romero**	**1.98**	**348**	Pg	**Pn**	**10 49 40.5**	**-0.3**
comp=N,130nm,0.3s,baz=163,slow=12,SNR=1855							
CMIG				Lg	Lg	10 50 03.2	
comp=N,151nm,0.3s,baz=89,slow=20,SNR=7.0							
CMIG				LR	LR	10 50 33.9	
comp=N,328nm,19.7s,baz=135,slow=49							
CMIG	**Matias Romero**	**1.98**	**348**	*e*P	**Pn**	**10 49 40.3**	**-0.6**
CMIG				*e*S	**Sn**	**10 50 03.1**	**-2.7**
TGIG		**2.07**	**38**		**Pn**	**10 49 42.3**	**+0.2**
TGIG					**Sn**	**10 50 07.6**	**-0.4**
TGIG		**2.07**	**38**	*e*P	**Pn**	**10 49 42.3**	**+0.2**
TGIG				*e*S	**Sn**	**10 50 07.6**	**-0.4**
TGIG		**2.07**	**38**	*e*P	**Pn**	**10 49 42.5**	**+0.4**
TGIG				*e*S	**Sn**	**10 50 07.0**	**-1.1**
TGIG				IAML		10 50 11.6	
comp=N,1μm,0.4s							
TGBT	**Tuxtla Gutierr**	**2.09**	**39**	*e*P	**Pn**	**10 49 42.1**	**-0.2**
TGBT				*e*S	**Sn**	**10 50 08.2**	**-0.2**
THIG		**2.13**	**96**		**Pn**	**10 49 43.8**	**+1.0**
THIG					**Sn**	**10 50 03.9**	**-5.3**
THIG		**2.13**	**96**	*e*P	**Pn**	**10 49 43.8**	**+1.0**
THIG				*e*S	**Sn**	**10 50 03.9**	**-5.3**
PATR	**El Naranjo**	**2.14**	**90**		**Pn**	**10 49 42.4**	**-0.9**
PATR					**Sn**	**10 50 07.7**	**-2.3**
PATR	**El Naranjo**	**2.14**	**90**	*e*P	**Pn**	**10 49 42.4**	**-0.9**
PATR				*e*S	**Sn**	**10 50 07.7**	**-2.3**
UXUV	**UXUV**	**2.19**	**8**		**Pn**	**10 49 44.3**	**+0.7**
UXUV					**Sn**	**10 50 10.0**	**-0.8**
UXUV	**UXUV**	**2.19**	**8**	*e*P	**Pn**	**10 49 44.3**	**+0.7**
UXUV				*e*S	**Sn**	**10 50 10.0**	**-0.8**
PAVE	**Pavencul**	**2.20**	**88**		**Pn**	**10 49 42.8**	**-1.2**
PAVE					**Sn**	**10 50 07.9**	**-3.5**
PAVE	**Pavencul**	**2.20**	**88**	*e*P	**Pn**	**10 49 42.8**	**-1.2**
PAVE				*e*S	**Sn**	**10 50 07.9**	**-3.5**
CHUJ	**Union Juarez**	**2.27**	**91**	*e*P	**Pn**	**10 49 45.2**	**+0.2**
CHUJ				*e*S	**Sn**	**10 50 10.5**	**-2.5**
CCIG	**Comitan**	**2.50**	**63**		**Pn**	**10 49 49.1**	**+1.2**
CCIG	**Comitan**	**2.50**	**63**		**Sn**	**10 50 19.1**	**+0.3**
CCIG	**Comitan**	**2.50**	**63**	*e*P	**Pn**	**10 49 49.9**	**+1.6**
CCIG				*e*S	**Sn**	**10 50 19.1**	**+0.3**
CCIG	**Comitan**	**2.50**	**63**	*e*P	**Pn**	**10 49 49.8**	**+1.6**
CCIG				IAML		10 50 34.9	
comp=N,740nm,0.6s							
CCIG	**Comitan**	**2.50**	**63**	P	**Pn**	**10 49 50.2**	**+2.0**
CCIG	**Comitan**	**2.50**	**63**	S	**Sn**	**10 50 20.6**	**+1.7**
PEIG	**Puerto Escondi**	**2.73**	**289**		**Pn**	**10 49 51.3**	**+0.1**
PEIG					**Sn**	**10 50 19.2**	**-5.1**
PEIG	**Puerto Escondi**	**2.73**	**289**	*e*P	**Pn**	**10 49 51.3**	**+0.1**
PEIG				*e*S	**Sn**	**10 50 19.2**	**-5.1**
RTAL	**Retalhuleu**	**2.74**	**103**		**Pb**	**10 49 54.6**	**-1.7**
RTAL	**Retalhuleu**	**2.74**	**103**	*e*P	**Pn**	**10 49 52.9**	**+1.7**
RTAL				*e*S	**Sn**	**10 50 21.3**	**-3.1**
RTAL	**Retalhuleu**	**2.74**	**103**	P	**Pn**	**10 49 54.5**	**+3.2**
RTAL	**Retalhuleu**	**2.74**	**103**	S	**Sb**	**10 50 28.9**	**-1.0**
HUEH	**Huehuetenango**	**2.85**	**86**		**Pn**	**10 49 54.1**	**+1.1**
HUEH	**Huehuetenango**	**2.85**	**86**		**Sn**	**10 50 27.4**	**-0.2**
HUEH	**Huehuetenango**	**2.85**	**86**	*e*P	**Pn**	**10 49 53.3**	**+0.3**
HUEH				*e*S	**Sn**	**10 50 27.4**	**-0.2**
HUEH	**Huehuetenango**	**2.85**	**86**	*e*P	**Pn**	**10 49 53.7**	**+0.7**
HUEH				*e*S	**Sn**	**10 50 28.6**	**+1.0**
HUEH				IAML		10 50 41.6	
comp=N,4μm,0.8s							
HUEH	**Huehuetenango**	**2.85**	**86**	P	**Pn**	**10 49 55.4**	**+2.4**
HUEH	**Huehuetenango**	**2.85**	**86**	S	**Sn**	**10 50 30.6**	**+3.0**
NEUV	**Arroyo Zacate**	**2.87**	**333**		**Pn**	**10 49 52.9**	**-0.1**
NEUV					**Sn**	**10 50 23.4**	**-4.2**
NEUV	**Arroyo Zacate**	**2.87**	**333**	*e*P	**Pn**	**10 49 52.9**	**-0.1**
NEUV				*e*S	**Sn**	**10 50 23.4**	**-4.2**
TUIG	**Tuzandepetl**	**2.88**	**1**		**Sn**	**10 50 28.9**	**+1.0**
TUIG	**Tuzandepetl**	**2.88**	**1**	*e*P	**Pn**	**10 49 53.4**	**+0.3**
TUIG				*e*S	**Sn**	**10 50 28.9**	**+1.0**
OXLC	**Oaxaca**	**2.89**	**312**	*e*P	**Pn**	**10 49 53.8**	**+0.3**
OXLC				*e*S	**Sn**	**10 50 28.9**	**+0.5**
OXIG	**Oaxaca**	**2.92**	**312**		**Pn**	**10 49 56.0**	**+2.1**
OXIG					**Sn**	**10 50 27.9**	**-1.1**
VHO	**Vista Hermosa**	**2.92**	**312**	*e*P	**Pn**	**10 49 56.0**	**+2.1**
VHO				*e*S	**Sn**	**10 50 27.9**	**-1.1**
YOIG	**Yosondua**	**3.43**	**300**		**Pn**	**10 50 04.1**	**+3.1**
YOIG					**Sn**	**10 50 41.6**	**-0.3**
YOIG	**Yosondua**	**3.43**	**300**	*e*P	**Pn**	**10 50 04.1**	**+3.1**
YOIG				*e*S	**Sn**	**10 50 41.6**	**-0.3**
TXIG	**Tlaxiaco**	**3.82**	**304**		**Pn**	**10 50 08.5**	**+2.2**
TXIG					**Sn**	**10 50 53.5**	**+2.1**
TXIG	**Tlaxiaco**	**3.82**	**304**	*e*P	**Pn**	**10 50 08.5**	**+2.2**
TXIG				*e*S	**Sn**	**10 50 53.5**	**+2.1**
TOIG	**Toxpalan**	**3.86**	**320**		**Pn**	**10 50 09.8**	**+3.0**
TOIG					**Sn**	**10 50 54.9**	**+2.6**
TOIG	**Toxpalan**	**3.86**	**320**	*e*P	**Pn**	**10 50 09.8**	**+3.0**
TOIG				*e*S	**Sn**	**10 50 54.9**	**+2.6**
HLIG	**Huajuapan de L**	**4.18**	**310**		**Pn**	**10 50 15.1**	**+3.8**
HLIG					**Sn**	**10 50 58.5**	**-1.8**
HLIG	**Huajuapan de L**	**4.18**	**310**	*e*P	**Pn**	**10 50 15.1**	**+3.8**
HLIG				*e*S	**Sn**	**10 50 58.5**	**-1.8**
TPIG	**Tehuac#an**	**4.29**	**320**	*e*P	**Pn**	**10 50 13.9**	**+1.1**
TPIG				*e*S	**Sn**	**10 51 01.5**	**-1.5**
FTIG	**Fresnillo de T**	**4.48**	**308**		**Pn**	**10 50 18.9**	**+3.6**
FTIG					**Sn**	**10 51 06.1**	**-1.4**
FTIG	**Fresnillo de T**	**4.48**	**308**	*e*P	**Pn**	**10 50 18.9**	**+3.6**
FTIG				*e*S	**Sn**	**10 51 06.1**	**-1.4**
FAME	**Alcaldia de Sa**	**4.49**	**106**	P	**Pn**	**10 50 17.7**	**+2.4**
FAME	**Alcaldia de Sa**	**4.49**	**106**	S	**Sn**	**10 51 12.5**	**+4.9**
TLIG	**Tlapa**	**4.63**	**302**		**Pn**	**10 50 20.8**	**+3.5**
TLIG	**Tlapa**	**4.63**	**302**		**Sn**	**10 51 08.0**	**-3.2**
TLIG	**Tlapa**	**4.63**	**302**	*e*P	**Pn**	**10 50 19.3**	**+1.9**
TLIG				*e*S	**Sn**	**10 51 08.0**	**-3.2**
TLIG	**Tlapa**	**4.63**	**302**	P	**Pn**	**10 50 20.4**	**+3.1**
PETF	**Flores**	**4.75**	**68**		**Pn**	**10 50 20.6**	**+1.7**
PETF	**Flores**	**4.75**	**68**		**Sn**	**10 51 14.4**	**+0.3**
PETF	**Flores**	**4.75**	**68**	*e*P	**Pn**	**10 50 19.8**	**+0.9**
PETF				*e*S	**Sn**	**10 51 14.4**	**+0.3**
PETF	**Flores**	**4.75**	**68**	*e*P	**Pn**	**10 50 19.5**	**+0.6**
PETF				IAML		10 51 21.5	
comp=N,660nm,0.6s							
PETF	**Flores**	**4.75**	**68**	P	**Pn**	**10 50 20.7**	**+1.8**
PETF	**Flores**	**4.75**	**68**	S	**Sn**	**10 51 16.8**	**+2.7**
CRIG	**Cruz Grande**	**4.77**	**290**		**Pn**	10 50 14.5	-4.7
CRIG					Sn	10 51 06.8	-7.8
CRIG	**Cruz Grande**	**4.77**	**290**	*e*P	Pn	10 50 14.5	-4.7
CRIG				*e*S	Sn	10 51 06.8	-7.8
SCIG	**Sabancuy**	**4.92**	**39**		**Pn**	**10 50 20.9**	**-0.4**
SCIG					**Sn**	**10 51 13.7**	**-4.7**
SCIG	**Sabancuy**	**4.92**	**39**	*e*P	**Pn**	**10 50 20.9**	**-0.4**
SCIG				*e*S	**Sn**	**10 51 13.7**	**-4.7**
SCIG	**Sabancuy**	**4.92**	**39**	S	**Sn**	**10 51 17.0**	**-1.3**
SCIG	**Sabancuy**	**4.92**	**39**	P	**Pn**	**10 50 21.8**	**+0.5**
LVIG	**Laguna Verde**	**4.93**	**338**		**Sn**	**10 51 12.2**	**-6.3**
LVIG	**Laguna Verde**	**4.93**	**338**	*e*P	**Pn**	**10 50 20.2**	**-1.1**
LVIG				*e*S	**Sn**	**10 51 12.2**	**-6.3**
ESQI	**Esquipulas**	**4.98**	**96**		**Pn**	**10 50 25.2**	**+3.1**
MTO3	**Montecristo**	**4.98**	**98**		**Pn**	**10 50 23.9**	**+1.6**
DAIG	**Los Arroyos**	**5.33**	**291**	*e*P	**Pn**	**10 50 28.6**	**+1.6**
DAIG				*e*S	**Sn**	**10 51 23.1**	**-5.4**
PPCL	**Tochimilco**	**5.47**	**314**	*e*P	**Pn**	**10 50 28.5**	**-0.6**
PPCL				*e*S	**Sn**	**10 51 31.6**	**-0.7**
PPPT	**Popocatepetl**	**5.52**	**314**	*e*P	**Pn**	**10 50 34.7**	**+4.8**
PPPT				*e*S	**Sn**	**10 51 35.9**	**+2.1**
PPSX	**Xalitzintla**	**5.52**	**316**	*e*P	**Pn**	**10 50 27.2**	**-2.6**
PPSX				*e*S	**Sn**	**10 51 40.3**	**+6.9**
MEIG	**Mezcala**	**5.68**	**300**	*e*P	**Pn**	**10 50 34.9**	**+3.2**
MEIG				*e*S	**Sn**	**10 51 34.0**	**-3.1**
YAIG	**Yautepec**	**5.76**	**311**	*e*P	**Pn**	**10 50 36.9**	**+3.9**
YAIG				*e*S	**Sn**	**10 51 35.9**	**-3.3**
PLIG	**Platanillo**	**5.82**	**304**	*e*P	**Pn**	**10 50 36.8**	**+3.1**
PLIG				*e*S	**Sn**	**10 51 36.6**	**-4.0**
ARIG	**Puente Sto Nin**	**6.45**	**300**	*e*P	**Pn**	**10 50 46.3**	**+3.9**
ARIG				*e*S	**Sn**	**10 51 55.4**	**-0.8**
TEIG	**Tepich**	**7.76**	**48**	Pn	**Pn**	**10 50 59.3**	**-0.9**
baz=306,slow=24,SNR=18							
TEIG				Sn	**Sn**	**10 52 24.3**	**-4.0**
baz=129,slow=24,SNR=8.8							
HERN	**Volcan Telica**	**7.82**	**108**	Pn	**Pn**	**10 51 05.0**	**+3.9**
JTS	**Las Juntas de**	**10.45**	**116**	LR	LR	10 55 20.0	
comp=N,46nm,20.6s,baz=311,slow=36							
SOR	**Soroa**	**13.23**	**53**	Pn	**Pn**	**10 52 13.9**	**-1.3**
HNDO	**Hondo**	**15.00**	**344**		**Pn**	**10 52 40.0**	**+0.7**
435B	**Jarrell**	**15.83**	**350**	Pn	**Pn**	**10 52 50.7**	**+0.4**
435B				IAmb	IAmb	10 52 57.4	
comp=Z,15nm,1.0s							
SAND	**Sanderson**	**16.35**	**336**	Pn	**P**	**10 52 59.0**	**-0.9**
TXAR	**Lajitas Array**	**16.49**	**330**	Pn	**Pn**	**10 53 00.6**	**+1.8**
TXAR	**Lajitas Array**	**16.49**	**330**	Pn	**Pn**	**10 53 00.1**	**+1.3**
comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=10							
comp=Z,0.5nm,0.8s							
TX31	**Lajitas Ar. Si**	**16.49**	**330**		**P**	**10 53 01.0**	**-0.5**
BRDY	**Brady**	**16.60**	**346**		**Pn**	**10 53 00.5**	**+0.4**
OZNA	**Ozona**	**16.86**	**340**		**Pn**	**10 53 04.8**	**+1.3**
OZNA				IAmb	IAmb	10 53 11.6	
comp=Z,7.2nm,0.8s							
WHTX	**Lake Whitney,**	**17.00**	**351**	Pn	**Pn**	**10 53 04.0**	**-1.2**
WHTX				IAmb	IAmb	10 53 35.6	
comp=Z,11nm,0.8s							
ALPN	**Alpine**	**17.36**	**332**		**P**	**10 53 11.8**	**+0.7**
LPIG	**La Paz**	**17.38**	**303**	LR	LR	10 58 56.7	
comp=Z,54nm,18.7s,baz=113,slow=34							
ABTX	**Abilene, Hawle**	**18.04**	**346**	P	**P**	**10 53 18.9**	**+0.4**
ABTX				IAmb	IAmb	10 53 42.6	
comp=Z,5.2nm,0.5s							
VHRN	**Van Horn**	**18.33**	**330**	P	**P**	**10 53 23.7**	**+1.8**
MNTX	**Cornudas Mount**	**19.27**	**331**	P	**Pn**	**10 53 35.1**	**+2.0**
DKNS	**Dickens**	**19.35**	**344**	P	**P**	**10 53 34.0**	**+1.0**
DKNS				IAmb	IAmb	10 53 35.8	
comp=Z,6.8nm,0.8s							
MSTX	**Muleshoe**	**20.20**	**340**	P	**P**	**10 53 43.1**	**+0.8**
MSTX				IAmb	IAmb	10 53 49.4	
comp=Z,8.4nm,0.9s							
SMWD	**Samnorwood**	**20.55**	**346**		**P**	**10 53 47.1**	**+1.1**
SMWD				IAmb	IAmb	10 53 54.1	
comp=Z,9.0nm,0.7s							
AMTX	**Amarillo**	**20.71**	**343**	P	**P**	**10 53 45.9**	**-1.9**
121A	**Cookes Peak, D**	**21.14**	**327**

MSAI	**Masohi**	**0.62 64**	P	Pg	10 54 41.0	+0.1
MSAI			S	Sg	10 54 49.1	0.0
NLAI	**Namlea**	**1.32 287**	P	Pb	10 54 53.8	0.0
SANI	**Sanana**	**2.84 303**	P	Pn	10 55 15.6	+1.2
SWI	**Sorong**	**3.98 47**	P	Pn	10 55 31.0	+1.0

*HEL **09** 11:14:59.7±0.3, 61.°09N×29.°90E, h0km, ML1.9, Suspected explosion*
*IDC **09** 11:15:01.9±2.5, 61.°06N×29.°65E, h0km, mbtmp3.3/2, ML2.1/1, Error ellipse: s-maj=21.8km s-min=12.7km az=165.0*
ISC 09 11:14:60.0±1.4, **61.°06N**±0.°05×**29.°82E**±0.°06, **h0km**, **n26**, σ1§**25**/39, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.56**	**311**	PG	**Pg**	**11 15 10.0**	**-0.6**
RUF				SG	**Sg**	**11 15 17.1**	**-0.7**
RUF				MSG		11 15 17.9	
	comp=Z,15nm,0.2s						
VJF	**Virojoki**	**1.23**	**246**	PG	**Pg**	**11 15 22.8**	**-0.6**
VJF				MSG		11 15 38.3	
	comp=Z,16nm,0.2s						
VJF				SN	**Sn**	**11 15 44.0**	**+2.5**
FIA0	**FINESS Array S**	**1.85**	**284**	PG	**Pn**	**11 15 33.0**	**+0.1**
	baz=101						
FIA0				MSG		11 15 55.7	
	comp=Z,7.2nm,0.2s						
FIA0				SG	**Sg**	**11 15 58.1**	**-1.2**
FINES	**FINESS Array B**	**1.85**	**284**	Pg	**Pn**	**11 15 33.3**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=104,slow=16,SNR=23						
FINES				Lg	Lg	11 15 57.5	
	comp=Z,1.9nm,0.3s,baz=99,slow=27,SNR=17						
FINES				Rg	Rg	11 16 06.7	
	comp=Z,48nm,1.0s,baz=103,slow=31,SNR=32						
KAF	**Kangasniemi**	**1.98**	**304**	PG	**Pn**	**11 15 35.7**	**+1.0**
KAF				MSG		11 15 59.0	
	comp=Z,13nm,0.2s						
KAF				SG	**Sb**	**11 16 01.8**	**-0.4**
JOF	**Joensuu**	**1.99**	**20**	*e*P	**Pn**	**11 15 34.3**	**-0.6**
JOF	**Joensuu**	**1.99**	**20**	PG	**Pn**	**11 15 34.8**	**-0.1**
JOF				SG	**Sn**	**11 16 00.1**	**-0.4**
PVF	**Pernaja**	**2.01**	**257**	PG	**Pn**	**11 15 35.9**	**+0.8**
PVF				MSG		11 16 00.6	
	comp=Z,24nm,0.2s						
PVF				SG	**Sg**	**11 16 03.7**	**-0.7**
SUF	**Sumiainen**	**2.41**	**315**	PG	**Pn**	**11 15 42.2**	**+1.7**
SUF				MSG		11 16 11.0	
	comp=Z,3.3nm,0.2s						
SUF				SG	**Sb**	**11 16 14.0**	**-0.3**
ARBE	**Arbavere**	**2.51**	**231**	PG	**Pb**	**11 15 45.9**	**0.0**
NIF	**Nilsia**	**2.52**	**339**	PG	**Pn**	**11 15 43.9**	**+1.8**
NIF				MSG		11 16 13.8	
	comp=Z,3.1nm,0.2s						
NIF				SG	**Sn**	**11 16 15.4**	**+1.9**
HEL1	**Helsinki**	**2.59**	**252**	PG	**Pb**	**11 15 47.6**	**+0.4**
	baz=72						
HEL1				MSG		11 16 17.4	
	comp=Z,5.2nm,0.2s						
HEL1				SG	**Sg**	**11 16 22.6**	**-0.5**
NUR	**Nurmijarvi**	**2.59**	**260**	PN	**Pn**	**11 15 44.4**	**+1.3**
NUR				MSG		11 16 17.4	
	comp=Z,4.2nm,0.2s						
NUR				SG	**Sg**	**11 16 21.4**	**-1.8**
KEF	**Keuruu**	**2.61**	**297**	*e*P	**Pn**	**11 15 44.7**	**+1.3**
KEF	**Keuruu**	**2.61**	**297**	PB	**Pn**	**11 15 45.4**	**+2.0**
	baz=114						
KEF				MSG		11 16 17.4	
	comp=Z,3.8nm,0.2s						
KEF				SB	**Sb**	**11 16 18.0**	**-2.2**
HEL5	**Espoo, Suvisaa**	**2.68**	**252**	PG	**Pb**	**11 15 48.5**	**-0.2**
HEL5				MSG		11 16 20.0	
	comp=Z,4.3nm,0.2s						
HEL5				SG	**Sg**	**11 16 25.1**	**-0.8**
MEF	**Metsahovi**	**2.80**	**255**	*e*P	**Pn**	**11 15 46.9**	**+0.9**
MEF	**Metsahovi**	**2.80**	**255**	PB	**Pb**	**11 15 50.2**	**-0.6**
MEF				MSG		11 16 23.6	
	comp=Z,4.3nm,0.2s						
MEF				SB	**Sb**	**11 16 25.5**	**-0.1**
RMF	**Romuvaara**	**3.17**	**1**	PB	**Pn**	**11 15 52.4**	**+1.4**
RMF				MSG		11 16 31.9	
	comp=Z,2.5nm,0.2s						
RMF				SB	**Sn**	**11 16 32.6**	**+3.1**
VAF	**Ylistaro**	**3.91**	**304**	*e*P	**Pn**	**11 16 02.1**	**+1.0**
RAF	**Rauma**	**3.92**	**273**	*e*P	**Pn**	**11 16 02.3**	**+1.0**
AAL	**Aland**	**4.92**	**264**	*e*P	**Pn**	**11 16 15.8**	**+0.8**
I43RU	**DUBNA INFRASON**	**5.80**	**135**	I	I	11 48 20.0	
	baz=326,slow=328,SNR=2.9						
SJUU	**Sjulsmark**	**5.80**	**324**	*e*P	**Pn**	**11 16 27.2**	**+0.1**
HFS	**Hagfors**	**7.99**	**270**	Pn	**Pn**	**11 16 55.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=1.7						
HFS				Lg	Lg	11 19 10.8	
	comp=Z,0.2nm,0.3s,baz=73,slow=20,SNR=1.8						
	comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**8.70**	**350**	Pn	**Pn**	**11 17 06.5**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=162,slow=12,SNR=1.2						
ARCES				Lg	Lg	11 19 33.7	
	comp=Z,0.1nm,0.3s,baz=172,slow=32,SNR=1.1						

*IDC **09** 11:21:12.2±1.4, 30.°73S×177.°58W, h0km, mb4.0/3, mbtmp4.0/3, MS3.1/2, Error ellipse: s-maj=41.7km s-min=21.5km az=82.0*
ISC 09 11:21:17.5±1.4, **30.°85S**±0.°09×**177.°8W**±0.°3, **h35km**, **n8**, σ1§**74**/9, **mb4.1/3**, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59**	**357**	Pn	**Pn**	**11 21 41.4**	**-1.7**
	150nm,0.3s,baz=76,slow=19,SNR=3.3						
RAO				Sn	**Sn**	**11 22 03.2**	**+0.7**
	227nm,0.3s,baz=75,slow=20,SNR=3.1						
URZ	**Urewera**	**8.49**	**208**	Pn	Pn	11 23 12.4	-5.6
	0.6nm,0.3s,baz=223,slow=11,SNR=5.7						
URZ				Sn	**Sn**	**11 24 50.2**	**-2.4**
	2.0nm,0.3s,baz=223,slow=13,SNR=6.1						
PPT	**Papeete**	**28.85**	**69**	LR	LR	11 36 17.7	
	comp=Z,31nm,21.2s,baz=227,slow=32						
ASAR	**Alice Springs**	**43.25**	**267**	P	**P**	**11 29 17.1**	**+1.4**
	1.2nm,0.6s,baz=103,slow=7.6,SNR=12						
ASAR				PcP	**PcP**	**11 31 04.4**	**-0.2**
	0.5nm,0.6s,baz=110,slow=3.5,SNR=4.1						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**44.27**	**273**	P	**P**	**11 29 25.5**	**+1.5**
	1.2nm,0.4s,baz=112,slow=7.9,SNR=17						
WRA				PcP	**PcP**	**11 31 08.1**	**+0.1**
	0.4nm,0.8s,baz=106,slow=3.4,SNR=2.6						
	1.2nm,0.4s						
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**11 31 16.9**	**+1.6**
	2.1nm,0.9s,baz=53,slow=1.7,SNR=12						
	2.1nm,0.9s						
TXAR	**Lajitas Array**	**92.50**	**57**	LR	LR	12 10 43.1	
	comp=Z,12nm,18.1s,baz=34,slow=32						
FINES	**FINESS Array B**	**145.62**	**340**	PKPbc	**PKPdf**	**11 40 49.9**	**-1.5**
	1.2nm,0.4s,baz=57,slow=5.0,SNR=13						

*SSNC **09** 11:21:34.6±1.5, 19.°54N×73.°63W, h19km±10km, MD3.1, ML2.5*
*SDD **09** 11:21:34.5±1.9, 19.°45N×73.°77W, h10km±15km, MD3.3, ML2.7, MW2.5*
ISC 09 11:21:33.2±1.9, **19.°60N**±0.°07×**73.°72W**±0.°03, **h14km**±14km, **n16**, σ1§**11**/33, **10C-1D**, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.74**	**320**	*e*Pg	**Pn**	**11 21 49.1**	**-0.1**
MASC				⇑*e*Sg	**Sn**	**11 22 00.5**	**+0.1**
MASC				*e*Sg	**Sb**	**11 22 00.6**	**+2.6**
MASC				IAML		11 22 01.9	
	comp=N,94nm,0.1s						
MASC	**Masc**	**0.74**	**320**	*e*P	**Pn**	**11 21 49.0**	**-0.3**
MASC				*e*S	**Sn**	**11 22 00.2**	**-0.2**
MASC				IAML		11 22 01.1	
	comp=N,129nm,0.1s						
MASC				IAML		11 22 01.1	
	comp=E,168nm,0.1s						
QMBU	**Quimbuelo**	**1.19**	**300**	*e*P	**Pn**	**11 21 54.8**	**-0.6**
QMBU				*e*S	**Sb**	**11 22 09.7**	**-1.0**
QMBU				IAML		11 22 12.2	
	comp=N,62nm,0.2s						
QMBU				IAML		11 22 12.9	
	comp=E,89nm,0.2s						

GTBY	**Guantanamo Bay**	**1.35**	**284**	⇑*i*P	**Pn**	**11 21 58.0**	**+0.4**
GTBY				⇑*i*S	**Sg**	**11 22 18.1**	**+1.3**
GTBY				IAML		11 22 19.1	
	comp=N,65nm,0.5s						
GTBY				IAML		11 22 19.5	
	comp=N,145nm,0.3s						
GTBY	**Guantanamo Bay**	**1.35**	**284**	*e*P	**Pn**	**11 21 57.5**	**-0.1**
GTBY				*e*S	**Sn**	**11 22 15.3**	**0.0**
GTBY				IAML		11 22 18.7	
	comp=N,103nm,0.5s						
GTBY				IAML		11 22 19.6	
	comp=N,142nm,0.3s						
RCC	**Rio Carpintero**	**1.90**	**282**	*e*P	**Pn**	**11 22 05.1**	**-0.1**
RCC				*e*S	**Sn**	**11 22 28.6**	**-0.3**
RCC				*e*Sg	**Sb**	**11 22 32.2**	**+1.0**
RCC				IAML		11 22 33.5	
	comp=N,32nm,0.2s						
RCC				IAML		11 22 33.6	
	comp=E,30nm,0.2s						
MCDR	**Montecristi**	**1.96**	**81**	⇑*i*P	**Pb**	**11 22 08.3**	**-0.5**
MCDR				⇑*i*S	**Sg**	**11 22 34.3**	**-2.2**
MCDR				IAML		11 22 45.9	
	comp=N,171nm,0.2s						
JIDR	**Jimani**	**2.08**	**122**	⇓*i*P	**Pn**	**11 22 07.5**	**-0.2**
JIDR				*i* S	**Sn**	**11 22 32.2**	**-1.3**
JIDR				IAML		11 22 38.9	
	comp=N,20nm,0.3s						
MARVS	**Santiago de Cu**	**2.09**	**281**	*e*P	**Pn**	**11 22 08.1**	**+0.3**
MARVS				*e*S	**Sn**	**11 22 33.0**	**-0.6**
MARVS				IAML		11 22 41.0	
	comp=N,39nm,0.2s						
MARVS				IAML		11 22 41.0	
	comp=E,40nm,0.2s						
PINC	**Pinares de May**	**2.14**	**295**	*e*P	**Pn**	**11 22 08.8**	**+0.4**
PINC				*e*S	**Sn**	**11 22 33.9**	**-0.8**
PINC				IAML		11 22 40.7	
	comp=E,27nm,0.1s						
PINC				IAML		11 22 44.3	
	comp=N,35nm,0.1s						
SDDR	**Presa de Saban**	**2.38**	**105**	⇑*i*P	**Pn**	**11 22 13.2**	**+1.4**
SDDR				⇑*i*S	**Sn**	**11 22 41.3**	**+0.5**
SDDR				IAML		11 22 47.0	
	comp=N,32nm,0.8s						
CHIV	**Chivirico**	**2.56**	**279**	*e*P	**Pn**	**11 22 15.3**	**+1.0**
CHIV				*e*S	**Sn**	**11 22 44.8**	**-0.5**
CHIV				IAML		11 22 51.6	
	comp=N,10nm,0.1s						
CHIV				IAML		11 22 53.1	
	comp=E,8.0nm,0.1s						
YAR	**Yar**	**2.60**	**288**	*e*P	**Pn**	**11 22 15.2**	**+0.4**
PODR	**Polo**	**2.71**	**121**	⇑*i*P	**Pn**	**11 22 17.4**	**+0.9**
PODR				⇑*i*S	**Sn**	**11 22 48.8**	**-0.6**
PODR				IAML		11 23 11.1	
	comp=N,38nm,1.1s						
LMGC	**Las Mercedes**	**3.13**	**279**	*e*P	**Pn**	**11 22 22.1**	**+0.1**
LMGC				*e*S	**Sn**	**11 22 56.5**	**-2.7**
HATOM	**Hato Mayor del**	**4.18**	**100**	⇑*i*P	**Pn**	**11 22 38.7**	**+2.1**
HATOM				*i* S	**Sn**	**11 23 24.6**	**-0.6**
HATOM				IAML		11 23 41.4	
	comp=N,24nm,2.2s						

*SNET **09** 11:36:58.8±1.0, 13.°57N×90.°23W, h57km, ML3.1*
*CATAC **09** 11:36:58.4±0.9, 13.°N±7.°×9.°0W±.°, h29km±5km, M3.1/8, MLv3.1/8, Error ellipse: s-maj=15.1km s-min=5.8km az=20.3, confirmed*
*GCG **09** 11:36:59.1±0.6, 13.°62N×90.°18W, h60km±8km, MD4.0, ML3.6*
ISC 09 11:37:00.2±2.4, **13.°5N**±0.°1×**90.°17W**±0.°08, **h48km**±21km, **n33**, σ1§**38**/38, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.39**	**22**	P	**Pn**	**11 37 09.0**	**-1.2**
NUBE	**Las Nubes**	**0.56**	**42**	*i* P	**Pn**	**11 37 11.5**	**-0.8**
NUBE				*e*S	**Sn**	**11 37 21.3**	**+0.3**
NUBE	**Las Nubes**	**0.56**	**42**	*i* P	**Pn**	**11 37 11.5**	**-0.8**
NUBE				*e*S	**Sn**	**11 37 21.1**	**0.0**
NUBE	**Las Nubes**	**0.56**	**42**	P	**Pn**	**11 37 11.5**	**-0.8**
CEVE	**Cerro Verde**	**0.63**	**56**	*e*P	**Pn**	**11 37 12.5**	**-0.8**
CEVE	**Cerro Verde**	**0.63**	**56**	P	**Pn**	**11 37 12.7**	**-0.6**
CEVE	**Cerro Verde**	**0.63**	**56**	S	**Sn**	**11 37 23.7**	**+1.1**
SBLS	**San Blas**	**0.64**	**56**	*i* P	**Pn**	**11 37 12.4**	**-1.0**
SBLS				*e*P		11 37 12.6	
SBLS				*e*S	**Sn**	**11 37 23.3**	**+0.5**
LOAL	**Lomas de Alarc**	**0.64**	**36**	*e*P	**Pn**	**11 37 12.3**	**-0.8**
LOAL	**Lomas de Alarc**	**0.64**	**36**	P	**Pn**	**11 37 12.5**	**-0.7**
RTR	**El Retiro**	**0.66**	**50**	*e*P	**Pn**	**11 37 12.8**	**-0.7**
SNJE	**San Jose**	**0.67**	**54**	*e*P	**Pn**	**11 37 13.0**	**-0.7**
JAYA	**Jayaque - finc**	**0.72**	**76**	*e*P	**Pn**	**11 37 13.5**	**-0.8**
JAYA				*e*S	**Sn**	**11 37 24.7**	**+0.2**
JAYA	**Jayaque - finc**	**0.72**	**76**	*e*P	**Pn**	**11 37 13.5**	**-0.8**
JAYA				*e*S	**Sn**	**11 37 24.2**	**-0.3**
JAYA	**Jayaque - finc**	**0.72**	**76**	P	**Pn**	**11 37 13.6**	**-0.8**
JAYA	**Jayaque - finc**	**0.72**	**76**	S	**Sn**	**11 37 25.1**	**+0.6**
UNIC	**Universidad Ca**	**0.78**	**50**	S	**Sn**	**11 37 26.6**	**+0.8**
UNIC	**Universidad Ca**	**0.78**	**50**	P	**Pn**	**11 37 14.8**	**-0.3**
RBDL	**Robledal**	**0.79**	**36**	*i* P	**Pn**	**11 37 14.2**	**-1.0**
RBDL				*e*S	**Sn**	**11 37 26.7**	**+0.6**
FG16	**Alotenango, Sa**	**0.86**	**337**	*i* P	Pn	11 37 18.6	+2.4
FG16				*e*S	**Sn**	**11 37 33.3**	**+5.5**
FG16				IAML		11 37 40.8	
	comp=N,2μm,0.2s						
PMON	**Piamonte**	**0.86**	**74**	*e*P	**Pn**	**11 37 15.5**	**-0.6**
PMON				*e*S	**Sn**	**11 37 28.7**	**+0.9**
PMON	**Piamonte**	**0.86**	**74**	P	**Pn**	**11 37 15.7**	**-0.5**
PMON	**Piamonte**	**0.86**	**74**	S	**Sn**	**11 37 29.1**	**+1.4**
FG8	**Yepocapa, Chim**	**0.87**	**334**	*e*P	Pn	11 37 18.9	+2.6
FG8				*e*S	Sn	11 37 34.7	+6.8
UEES	**Universidad Ev**	**0.93**	**75**	S	**Sn**	**11 37 31.4**	**+1.9**
UEES	**Universidad Ev**	**0.93**	**75**	P	**Pn**	**11 37 17.7**	**+0.7**
LOMA	**Loma Larga**	**0.98**	**80**	*e*P	**Pn**	**11 37 17.4**	**-0.3**
ESSG	**Sabana Grande**	**1.11**	**325**	*e*P	**Pn**	**11 37 17.1**	**-2.4**
MTO3	**Montecristo**	**1.21**	**40**	*e*P	**Pn**	**11 37 19.3**	**-1.6**
MTO3	**Montecristo**	**1.21**	**40**	*e*P	**Pn**	**11 37 19.4**	**-1.4**
MTO3	**Montecristo**	**1.21**	**40**	P	**Pn**	**11 37 19.5**	**-1.4**
ESQI	**Esquipulas**	**1.34**	**37**	*e*P	**Pn**	**11 37 21.2**	**-1.4**
LCND	**La Caada**	**2.22**	**94**	P	Pn	11 37 40.0	+5.4

*SOME **09** 11:42:29.4, 41.°17N×83.°18E, h10km*
*NNC **09** 11:42:31.5±3.7, 41.°72N×83.°57E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=28.2km s-min=18.3km az=157.0*
ISC 09 11:42:32.5±3.3, **41.°5N**±0.°2×**83.°1E**±0.°1, **h10km**, **n8**, σ1§**97**/11, **4C-3D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.28**	**306**	⇑Pn	**Pn**	**11 43 25.1**	**+1.0**
	1.3nm,0.4s						
PDGK				⇓Pg	**Pg**	**11 43 34.6**	**-0.8**
	9.2nm,0.6s						
PDGK				⇑Sn	**Sb**	**11 44 10.1**	**-0.9**
	8.9nm,0.6s						
PDGK				⇑Lg	Lg	11 44 19.8	
	28nm,0.6s						
UZB	**Uzynbulak**	**3.48**	**300**	Pg	**Pb**	**11 43 36.5**	**+2.1**
	4.7nm,0.2s						
UZB				Lg	Lg	11 44 25.2	
	12nm,0.3s						
UZB	**Uzynbulak**	**3.48**	**300**	*e*P	**Pb**	**11 43 36.5**	**+2.1**
	4.7nm,0.2s						
UZB				*e*S	**Sg**	**11 44 25.2**	**+0.8**
	12nm,0.3s						
KPKS	**Kokpek**	**3.85**	**303**	Pg	**Pg**	**11 43 44.8**	**-1.5**
	0.2nm,0.1s						
KPKS				Lg	Lg	11 44 39.1	
	12nm,0.3s						
SATY	**Saty**	**3.86**	**296**	Pg	**Pg**	**11 43 43.5**	**-2.9**
	1.7nm,0.1s						
SATY				Lg	Lg	11 44 37.0	
	5.9nm,0.2s						
KNOS	**Konyrlen**	**4.10**	**316**	Pg	**Pg**	**11 43 49.9**	**-1.2**
	7.3nm,0.4s						
KNOS				Lg	Lg	11 44 47.8	
	7.7nm,0.4s						
KTBS	**Karatobe**	**5.27**	**297**	Pg	**Pg**	**11 44 10.7**	**-2.6**
	1.5nm,0.5s						
KTBS				Lg	Lg	11 45 23.3	
	5.9nm,0.6s						
MK31	**Makanchi Array**	**5.37**	**354**	⇑Pn	**Pn**	**11 43 52.2**	**-0.4**
	0.2nm,0.3s						
MK31				⇓Sn	Sn	11 44 49.1	-5.4
	1.2nm,0.4s						
MK31				⇓Lg	Lg	11 45 15.2	
	6.3nm,0.5s,baz=155,slow=31,SNR=5.9						

IDC 09 11:48:10.0±14.0, **24.°62S**×**179.°47E**, **h565km**±170km, **mb2.9/4**, **mbtmp3.8/4**, **Error ellipse: s-maj=65.9km s-min=35.8km az=63.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.44**	**262**	P	P	11 55 08.1	-0.2
	1.9nm,1.1s,baz=89,slow=8.3,SNR=15						
	1.9nm,1.1s						
WRA	**Warramunga Arr**	**41.88**	**267**	P	P	11 55 11.6	-0.1
	1.3nm,0.4s,baz=99,slow=6.8,SNR=23						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**65.46**	**180**	P	P	11 57 57.1	-0.3
	0.5nm,0.6s,baz=22,slow=1.3,SNR=5.6						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**91.22**	**58**	P	P	12 00 16.1	+0.3
	0.3nm,0.7s,baz=221,slow=7.0,SNR=4.6						
	0.3nm,0.7s						
HFS	**Hagfors**	**143.15**	**348**	PKP	PKPdf	12 06 38.9	-0.6
	0.7nm,0.3s,baz=17,slow=2.0,SNR=6.6						

GCG 09 11:52:40.1±0.5, **14.°39N**×**91.°83W**, **h72km**±7km, **MD3.3**, **ML3.5**, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.44**	**84**	*i* P	Pn	11 52 52.5	-0.3
SMCA	**Catarina**	**0.52**	**333**	*e*P	Pn	11 52 53.4	+0.1
SMCA				*i* S	Sn	11 53 03.7	+0.6
SMCA				IAML		11 53 04.2	
	comp=N,690nm,0.2s						
SOKI	**Kika Raxquin**	**0.59**	**44**	*e*P	Pn	11 52 55.4	+0.9
THIG		**0.66**	**321**	IAML		11 53 07.1	
	comp=N,840nm,0.2s						
ESSG	**Sabana Grande**	**0.97**	**90**	*e*P	Pn	11 52 58.4	0.0
ESSG				*e*S	Sn	11 53 13.1	+1.0
FG8	**Yepocapa, Chim**	**1.24**	**96**	*e*P	Pn	11 52 57.7	-4.2
FG8				*e*S	Sn	11 53 10.5	-7.6
FG16	**Alotenango, Sa**	**1.28**	**95**	*e*P	Pn	11 52 58.9	-3.6
FG16				*e*S	Sn	11 53 13.8	-5.5
FG16				IAML		11 53 18.4	
	comp=N,2μm,0.3s						

*AEIC **09** 12:15:12.6±1.6, 53.°83N±0.°04×161.°86W±0.°08, h22km±8km, Error ellipse: s-maj=6.9km s-min=5.3km az=63.0*
NEIC 09 12:15:09.6±1.6, **53.°77N**±0.°09×**161.°67W**±0.°08, **h9km**±15km, **ML3.0**/12, **ML2.7**(AEIC), **Error ellipse: s-maj=13.9km s-min=4.4km az=154.0**, **South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**1.39**	**355**		Pn	12 15 34.9	-0.2
DOL					Sb	12 15 51.8	-1.7
DT1	**Dutton Round H**	**1.39**	**345**		Pn	12 15 34.8	-0.3
DT1					Sb	12 15 51.0	-2.5
FALS	**False Pass**	**1.50**	**317**		Pn	12 15 35.3	-1.3
PS4A	**Pavlof South-4**	**1.58**	**356**		Pn	12 15 38.2	+0.4
PS4A					Sb	12 15 59.2	0.0
CNBA	**Chernabura Isl**	**1.61**	**48**	Pn	Pn	12 15 37.9	-0.2
CNBA				IAML		12 16 12.5	
	comp=E,57nm,1.0s						
ISNN	**Isanotski Nort**	**1.63**	**312**		Pn	12 15 38.4	-0.1
ISNN					Sn	12 15 58.4	-1.2
PS1A	**Pavlof South-1**	**1.66**	**359**		Pn	12 15 39.4	+0.6
SSLS	**Shishaldin Sou**	**1.66**	**306**		Pn	12 15 38.9	0.0
SSLS					Sn	12 15 58.9	-0.8
PN7A	**Pavlof North-7**	**1.68**	**354**		Pb	12 15 40.0	-0.6
SDPT	**Sand Point**	**1.73**	**23**		Pn	12 15 39.8	0.0
SDPT				IAML		12 16 10.9	
	comp=E,127nm,0.5s						
SDPT				IAML		12 16 10.9	
	comp=N,218nm,0.9s						
S12K	**Black Hills**	**1.95**	**353**		Pn	12 15 43.0	+0.1
S12K				IAML		12 16 11.2	
	comp=E,139nm,0.8s						
S12K				IAML		12 16 11.5	
	comp=N,98nm,1.2s						
UNV	**Unalaska Valle**	**2.87**	**273**	Pn	Pn	12 15 57.0	+1.6
PLK4	**Peulik 4**	**4.90**	**36**	Pn	Pn	12 16 25.0	+1.6
PLK4				IAML		12 17 45.7	
	comp=N,17nm,1.1s						
O15K	**Ungalikthiuk R**	**5.52**	**10**	Pn	Pn	12 16 32.0	+0.2
N14K	**Kuskokwak Cree**	**6.17**	**360**	Pn	Pn	12 16 39.6	-1.2
KDAK	**Kodiak Island**	**6.51**	**48**	Pn	Pn	12 16 46.3	+0.8

*IDC **09** 12:15:13.3±4.0, 5.°85S×102.°85E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=146.3km s-min=60.8km az=52.0*
*DJA **09** 12:15:16.9±0.8, 6.°S±3.°×10.°3E±.°, h12km±7km, M4.0/13, mb4.2/3, MLv3.9/13*
ISC 09 12:15:15.4±2.5, **5.°91S**±0.°09×**103.°00E**±0.°06, **h17km**±14km, **n29**, σ0§**90**/25, **mb3.9/6**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.38**	**50**	P	**Pb**	**12 15 40.8**	**+0.1**
LWLI				S	**Sb**	**12 15 58.7**	**+0.6**
KASI	**Kota Agung**	**1.54**	**76**	P	**Pn**	**12 15 41.0**	**-1.0**
KASI				S	**Sn**	**12 16 01.2**	**-0.3**
MNAI	**Manna**	**1.54**	**358**	P	**Pg**	**12 15 44.6**	**-0.5**
MNAI				S	**Sg**	**12 16 06.5**	**+1.4**
MDSI	**Maura Dua**	**1.84**	**40**	P	**Pb**	**12 15 47.5**	**-1.0**
MDSI				S	**Sb**	**12 16 10.9**	**-0.3**
LHSI	**Lahat**	**2.13**	**14**	P	**Pb**	**12 15 52.6**	**-1.0**
KSI	**Kapahiang**	**2.28**	**350**	P	**Pb**	**12 15 55.2**	**-0.9**
BLSI	**Bandar Lampung**	**2.30**	**77**	P	**Pn**	**12 15 53.8**	**+1.3**
CGJI	**Cibinong**	**2.77**	**105**	P	**Pn**	**12 15 59.5**	**+0.6**
CGJI				S	**Sn**	**12 16 31.0**	**-0.9**
MASI	**Maura Aman, Be**	**2.85**	**345**	P	**Pb**	**12 16 04.5**	**-1.4**
PPSI	**Pulau Pagai**	**4.32**	**316**	P	**Pn**	**12 16 22.3**	**+2.0**
CNJI	**Cibinong**	**4.33**	**109**	P	**Pn**	**12 16 20.5**	**+0.1**
**

ML2.7/4, **ML2.5**/42(NEIC), **Error ellipse: s-maj=3.9km s-min=2.3km az=186.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**0.75**	**236**		Pg	12 20 04.1	-0.1
Q09A					Sg	12 20 14.8	+0.9
Q09A				IAML		12 20 23.5	
	comp=E,132nm,0.2s						
Q09A				IAML		12 20 26.1	
	comp=N,143nm,0.4s						
R11B	**Troy Canyon, C**	**1.11**	**145**		Pg	12 20 11.3	+0.1
R11B				IAML		12 20 29.0	
	comp=N,88nm,0.2s						
TPH	**Tonopah**	**1.35**	**209**		Pg	12 20 15.3	-0.5
NV11	**Mina Array Sit**	**1.61**	**240**		Pn	12 20 18.9	-0.8
SPR3	**Spring Creek 3**	**1.62**	**99**		Pb	12 20 21.0	0.0
SPR3				IAML		12 20 44.1	
	comp=N,56nm,0.7s						
SPR3				IAML		12 20 45.7	
	comp=E,50nm,0.7s						
S11A	**Rachel**	**1.69**	**162**		Pn	12 20 21.0	+0.1
NVAR	**Mina Array Bea**	**1.71**	**242**		Pn	12 20 20.5	-0.6
NV09	**Mina Array Sit**	**1.73**	**242**		Pn	12 20 20.6	-0.8
ELK	**Elko**	**1.73**	**30**		Pn	12 20 20.8	-0.7
NV08	**Mina Array Sit**	**1.73**	**241**		Pn	12 20 20.5	-0.9
RYN	**Ryan**	**1.78**	**250**		Pn	12 20 21.1	-1.0
RYN				IAML		12 20 47.6	
	comp=N,61nm,0.2s						
LHV	**Little Huntoon**	**1.93**	**239**		Pn	12 20 23.8	-0.2
LHV				IAML		12 21 03.8	
	comp=N,36nm,0.8s						
PRN	**Pahroc Range**	**2.13**	**150**		Pn	12 20 27.1	+0.3
PRN				IAML		12 21 00.3	
	comp=N,42nm,0.3s						
PRN				IAML		12 21 07.2	
	comp=E,30nm,0.6s						
LCH	**Last Change Ra**	**2.25**	**206**		Pb	12 20 31.3	-0.2
DSP	**Deep Springs**	**2.26**	**214**	Pn	Pn	12 20 28.8	+0.3
DSP				IAML		12 21 02.4	
	comp=E,22nm,0.8s						
TPNV	**Topopah Spring**	**2.31**	**177**		Pn	12 20 29.8	+0.4
TPNV				IAML		12 21 16.2	
	comp=E,26nm,0.9s						
TPNV				IAML		12 21 17.0	
	comp=E,34nm,0.9s						
SGV	**South Grapevin**	**2.33**	**193**		Pb	12 20 33.0	+0.1
PAHR	**Pah Rah Range**	**2.36**	**282**	Pn	Pn	12 20 28.9	-1.1
PAHR				IAML		12 21 04.2	
	comp=N,22nm,0.8s						
PAHR				IAML		12 21 06.0	
	comp=E,24nm,0.7s						
WAKR	**Walker**	**2.49**	**253**		Pn	12 20 30.7	-1.3
WAKR				IAML		12 21 08.7	
	comp=N,16nm,0.6s						
WAKR				IAML		12 21 10.6	
	comp=E,15nm,0.6s						
MCY	**Mercury**	**2.62**	**172**		Pn	12 20 33.6	+0.1
AMDNV	**Amargosa**	**2.80**	**178**		Pn	12 20 37.1	+1.1
SHPR	**Sheep Range**	**2.92**	**160**	Pn	Pn	12 20 37.6	-0.2

*AEIC **09** 12:23:06.9±1.8, 53°.79N±0°.05×161°.79W±0°.07, h26km±8km, Error ellipse: s-maj=8.5km s-min=5.1km az=213.0*

NEIC 09 12:23:05.5±1.5, 53°.82N±0°.02×161°.71W±0°.08, h10km±2km, ML3.0/10, ML2.9(AEIC), Error ellipse: s-maj=7.8km s-min=4.1km az=79.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**1.34**	**346**		Pn	12 23 29.3	-0.9
DT1					Sb	12 23 46.6	-1.2
DOL	**Dolgoi Island**	**1.34**	**356**		Pn	12 23 29.2	-1.1
DOL					Sb	12 23 47.8	0.0
FALS	**False Pass**	**1.44**	**317**		Pn	12 23 30.6	-1.1
HAG	**Hague Volcano**	**1.51**	**356**		Pn	12 23 32.5	0.0
PS4A	**Pavlof South-4**	**1.54**	**357**		Pb	12 23 33.5	-0.5
PS4A					Sn	12 23 53.0	+0.1
ISNN	**Isanotski Nort**	**1.58**	**311**		Pn	12 23 33.5	-0.1
ISNN					Sn	12 23 54.0	-0.1
CNBA	**Chernabura Isl**	**1.60**	**50**	Pn	Pn	12 23 33.5	-0.3
CNBA				IAML		12 24 07.1	
	comp=E,69nm,0.9s						
CNBA				IAML		12 24 10.9	
	comp=N,53nm,0.7s						
PS1A	**Pavlof South-1**	**1.61**	**359**		Pn	12 23 34.2	+0.2
PS1A					Sn	12 23 55.1	+0.4
PN7A	**Pavlof North-7**	**1.63**	**354**		Pn	12 23 34.7	+0.5
SDPT	**Sand Point**	**1.70**	**25**		Pn	12 23 35.3	+0.1
SDPT				IAML		12 24 05.9	
	comp=N,347nm,0.8s						
SDPT				IAML		12 24 08.4	
	comp=E,204nm,1.0s						
S12K	**Black Hills**	**1.90**	**354**		Pn	12 23 38.6	+0.7
S12K				IAML		12 24 06.1	
	comp=E,225nm,0.7s						
S12K				IAML		12 24 06.2	
	comp=N,131nm,0.9s						
UNV	**Unalaska Valle**	**2.84**	**273**	Pn	Pn	12 23 51.4	+0.6
Q19K	**Cape Douglas,**	**6.80**	**38**	Pn	Pn	12 24 42.9	-2.4

IDC 09 12:28:58.1±2.3, 4°.29N×126°.90E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=131.2km s-min=27.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.28**	**183**	P	P	12 33 57.6	+0.5
	0.9nm,0.6s,baz=5.5,slow=8.7,SNR=3.1						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**25.17**	**163**	P	P	12 34 25.0	-0.4
	0.1nm,0.4s,baz=341,slow=10,SNR=2.0						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**28.62**	**167**	P	P	12 34 56.4	-0.1
	0.1nm,0.7s,baz=346,slow=8.2,SNR=4.1						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	12 38 47.1	0.0
	0.2nm,0.4s,baz=123,slow=6.7,SNR=3.8						
	0.2nm,0.4s						

*BUL **09** 12:43:08.4±1.1, 25°.49S×29°.65E, h10km, MD3.0*

PRE 09 12:43:02.5±0.8, 26°.00S×29°.23E, h0km, ML2.1, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.71**	**90**	*e*P	Pg	12 43 15.9	-0.2
CRLN				*e*S	Sg	12 43 26.1	+0.7
CRLN				IAML		12 43 34.8	
	comp=Z,38nm,0.7s						
PILG	**Pilgrimsrest,**	**1.71**	**52**	*e*P	Pn	12 43 34.2	+0.5
PILG				*e*S	Sg	12 43 57.5	+0.1
PILG				IAML		12 44 01.6	
	comp=Z,47nm,0.5s						
PRYS	**Parys**	**1.91**	**241**	*e*P	Pn	12 43 36.5	0.0
PRYS				*e*S	Sb	12 44 02.6	-0.4
PRYS				IAML		12 44 11.7	
	comp=Z,13nm,0.3s						
LEPH	**Lephalale, Lim**	**2.50**	**328**	*e*P	Pn	12 43 45.9	+1.3
LEPH				*e*S	Sn	12 44 16.6	+0.7
LEPH				IAML		12 44 25.0	
	comp=Z,26nm,0.3s						
POGA	**Pongola**	**2.59**	**122**	*e*P	Pn	12 43 46.4	+0.7
POGA				*e*S	Sn	12 44 18.9	+1.1
POGA				IAML		12 44 27.4	
	comp=Z,18nm,0.4s						
MOPA	**Mopani**	**3.16**	**39**	*i* P	Pn	12 43 48.6	-5.0
MOPA				*i* S	Sn	12 44 19.2	-13
LBTB	**Lobatse**	**3.43**	**286**	*i* P	Pb	12 44 04.9	+0.7
LBTB				*i* S	Sb	12 44 46.9	+0.4
MUSN	**Musina, Limpop**	**3.74**	**9**	*i* P	Pn	12 43 57.8	-3.8
MUSN				*i* S	Sn	12 44 35.5	-11
BOSA	**Boshof**	**4.39**	**233**	*i* P	Pb	12 44 22.6	+1.9
BOSA				*i* S	Sb	12 45 18.7	+4.5
BLWY	**Bulawayo**	**5.86**	**354**	*i* P	Pn	12 44 29.2	-1.6
BLWY				*i* S	Sn	12 45 27.4	-11

*IDC **09** 13:05:18.3±1.2, 38°.51N×69°.65E, h0km, mb3.7/9, mbtmp3.7/16, ML3.4/7, MS3.2/3, Error ellipse: s-maj=20.1km s-min=13.3km az=165.0*
*NNC **09** 13:05:20.7±4.3, 38°.65N×69°.37E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=41.4km s-min=23.9km az=165.0*

ISC 09 13:05:19.8±1.0, 38°.47N±0°.10×69°.58E±0°.08, h12km, n27, σ2s71/30, mb3.6/6, 6C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.68**	**8**	Pn	**Pn**	**13 06 29.9**	**-0.4**
	13nm,0.6s,baz=243,slow=59,SNR=79						
KK31				⇓Pg	**Pb**	**13 06 43.0**	**+1.2**
	22nm,0.5s,baz=192,slow=17,SNR=23						
KK31				⇑Sn	**Sn**	**13 07 27.8**	**+3.3**
	11nm,0.4s,baz=198,slow=25,SNR=3.6						
KK31				⇓Lg	Lg	13 07 42.8	
	40nm,0.5s,baz=188,slow=29,SNR=7.0						
EKS2	**Erkin-Say**	**5.26**	**36**	P	**Pn**	**13 06 40.9**	**+2.5**
	SNR=14						
UCH	**Uchtor**	**5.31**	**44**	P	**Pn**	**13 06 41.0**	**+1.6**
	SNR=9.9						
AAK	**Ala-Archa**	**5.59**	**40**	Pn	**Pn**	**13 06 44.7**	**+1.7**
	3.5nm,0.3s,baz=207,slow=6.5,SNR=17						
AAK				Sn	**Sn**	**13 07 40.4**	**-6.9**
	1.0nm,0.3s,baz=204,slow=12,SNR=1.7						
AAK				LR	LR	13 09 06.0	
	comp=Z,130nm,18.7s,baz=212,slow=41						
	7.7nm,0.3s						
AAK	**Ala-Archa**	**5.59**	**40**	P	**Pn**	**13 06 45.5**	**+2.5**
	SNR=16						
AAK	**Ala-Archa**	**5.59**	**40**	⇑Pn	**Pn**	**13 06 45.3**	**+2.3**
	2.2nm,0.4s						
AAK				⇑Pg	**Pb**	**13 06 59.6**	**+2.1**
	19nm,0.8s						
AAK				⇑Sn	**Sn**	**13 07 52.8**	**+5.5**
	9.2nm,0.6s						
AAK				⇑Lg	Lg	13 08 12.7	
	30nm,0.8s						
USP	**Ospenovka**	**6.07**	**36**	P	**Pn**	**13 06 52.3**	**+2.9**
	SNR=8.5						
TKM2	**Tokmak 2**	**6.37**	**44**	P	**Pn**	**13 06 56.9**	**+3.1**
	SNR=15						
MKAR	**Makanchi Array**	**12.50**	**44**	Pn	**Pn**	**13 08 14.7**	**-2.9**
	0.1nm,0.3s,baz=225,slow=13,SNR=5.7						
MKAR				Lg	Lg	13 11 54.1	
	0.1nm,0.3s,baz=230,slow=22,SNR=2.6						
	0.6nm,0.6s						
AB31	**Akbulak array**	**12.81**	**330**	⇓P	**Pn**	**13 08 19.8**	**-1.9**
	1.6nm,0.3s,baz=169,slow=12,SNR=75						
KURBB	**Kurchatov Arra**	**13.71**	**25**	Pn	**Pn**	**13 08 30.3**	**-3.5**
	0.1nm,0.3s,baz=215,slow=13,SNR=5.7						
KURBB				Lg	Lg	13 12 26.2	
	baz=213,slow=31,SNR=7.2						
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**14.51**	**329**	Pn	**Pn**	**13 08 43.1**	**-1.8**
	0.7nm,0.3s,baz=94,slow=8.4,SNR=6.6						
AKTO				Sn	Sn	13 11 14.2	-11
	0.2nm,0.3s,baz=7.4,slow=18,SNR=1.7						
AKTO				Lg	Lg	13 12 52.4	
	0.2nm,0.3s,baz=185,slow=11,SNR=1.8						
	2.0nm,0.4s						
AKTO	**Aktyubinsk**	**14.51**	**329**	⇓P	**Pn**	**13 08 44.1**	**-0.8**
	2.9nm,0.5s						
BVA0	**Borovoye Array**	**14.56**	**2**	⇑P	**P**	**13 08 50.6**	**-1.5**
	0.9nm,0.3s,baz=167,slow=9.7,SNR=13						
BVAR	**Borovoye Array**	**14.56**	**2**	Pn	**Pn**	**13 08 42.0**	**-3.6**
	0.1nm,0.3s,baz=171,slow=12,SNR=5.0						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**18.66**	**29**	P	**P**	**13 09 34.9**	**-2.5**
	0.7nm,0.3s,baz=223,slow=12,SNR=11						
ZALV				LR	LR	13 16 25.8	
	comp=Z,47nm,18.6s,baz=295,slow=36						
	1.4nm,0.5s						
ARTI	**Arti**	**19.41**	**341**	P	**Pn**	**13 09 45.8**	**-1.0**
	0.3nm,0.3s,baz=179,slow=2.5,SNR=3.6						
	2.8nm,0.6s						
BELG	**Belogornoye**	**20.65**	**319**	P	**P**	**13 09 59.4**	**+0.2**
	8.8nm,0.6s,baz=41,slow=2.8,SNR=5.1						
	8.8nm,0.6s						
KBZ	**Khabaz**	**20.74**	**293**	P	Pn	13 10 01.7	-0.9
	1.4nm,0.7s,baz=135,slow=10.0,SNR=2.3						
	1.4nm,0.7s						
BRTR	**Keskin Array B**	**27.81**	**284**	P	**P**	**13 11 08.3**	**-0.7**
	0.4nm,0.4s,baz=99,slow=9.0,SNR=2.3						
	0.4nm,0.4s						
SONM	**Songino Array**	**28.21**	**59**	P	**P**	**13 11 10.9**	**-1.6**
	0.6nm,0.5s,baz=267,slow=9.1,SNR=2.4						
	0.6nm,0.5s						
IDI	**Anoyia**	**35.63**	**279**	LR	LR	13 29 12.6	
	comp=Z,95nm,19.1s,baz=303,slow=40						
HFS	**Hagfors**	**40.82**	**321**	P	**P**	**13 12 59.5**	**-1.4**
	0.9nm,0.5s,baz=90,slow=10,SNR=4.8						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**42.13**	**322**	P	**P**	**13 13 11.7**	**0.0**
	0.8nm,0.6s,baz=96,slow=8.1,SNR=3.5						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**64.67**	**267**	P	**P**	**13 16 00.2**	**+2.3**
	0.2nm,0.5s,baz=51,slow=7.6,SNR=2.0						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**73.18**	**15**	P	**P**	**13 16 50.3**	**+0.2**
	0.4nm,0.9s,baz=338,slow=5.5,SNR=3.2						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**83.98**	**121**	P	**P**	**13 17 50.8**	**+0.6**
	0.3nm,0.6s,baz=317,slow=5.1,SNR=1.7						
	0.3nm,0.6s						

*IDC **09** 13:05:32.2±1.4, 30°.53S×177°.38W, h0km, mb4.1/4, mbtmp4.1/4, MS3.3/3, Error ellipse: s-maj=37.1km s-min=20.7km az=78.0*

ISC 09 13:05:36.9±1.5, 30°.5S±0°.1×177°.3W±0°.3, h33km, n11, σ0s78/9, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**338**	Pn	**Pn**	**13 05 58.2**	**-1.1**
	163nm,0.3s,baz=75,slow=22,SNR=5.4						
RAO				Sn	**Sb**	**13 06 19.6**	**+1.2**
	233nm,0.3s,baz=100,slow=22,SNR=3.7						
URZ	**Urewera**	**9.00**	**209**	Pn	Pn	13 07 34.8	-10
	0.3nm,0.3s,baz=320,slow=7.9,SNR=1.9						
URZ				Sn	Sn	13 09 08.5	-16
	1.9nm,0.3s,baz=154,slow=7.4,SNR=6.9						
DZM	**Mont Dzumac**	**16.78**	**296**	LR	LR	13 14 35.4	
	comp=Z,70nm,18.9s,baz=228,slow=32						
PPT	**Papeete**	**28.34**	**69**	LR	LR	13 21 06.9	
	comp=Z,56nm,20.6s,baz=328,slow=33						
STKA	**Stephens Creek**	**35.02**	**257**	P	**P**	**13 12 26.9**	**+0.4**
	1.7nm,0.8s,baz=111,slow=16,SNR=4.3						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**43.68**	**267**	P	**P**	**13 13 38.2**	**-0.6**
	1.4nm,0.7s,baz=105,slow=7.4,SNR=19						
ASAR				PcP	**PcP**	**13 15 25.8**	**+0.1**
	0.4nm,0.6s,baz=125,slow=3.6,SNR=2.9						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.68**	**272**	P	**P**	**13 13 46.4**	**-0.4**
	1.3nm,0.4s,baz=112,slow=7.8,SNR=10						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**59.61**	**180**	P	**P**	**13 15 37.8**	**+0.4**
	2.4nm,0.9s,baz=7.5,slow=2.0,SNR=11						
	2.4nm,0.9s						
ATAH	**Atahualpa**	**94.06**	**101**	LR	LR	13 53 22.5	
	comp=Z,23nm,19.0s,baz=176,slow=30						
FINES	**FINESS Array B**	**145.43**	**340**	PKPbc	**PKPdf**	**13 25 10.8**	**+0.1**
	1.4nm,0.4s,baz=46,slow=5.5,SNR=16						
AKASG	**Malin Array Be**	**151.73**	**323**	PKPbc	**PKPbc**	**13 25 27.7**	**+0.1**
	0.6nm,0.5s,baz=54,slow=2.0,SNR=4.6						

IDC 09 13:09:08.1±4.3, 6°.67S×128°.86E, h249km±43km, mb3.0/1, mbtmp3.9/5, Error ellipse: s-maj=46.1km s-min=19.3km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.23**	**235**	P	Pn	13 10 38.8	-0.4
	18nm,0.7s,baz=97,slow=19,SNR=1.6						
BATI				S	S	13 11 50.4	-1.6
	13nm,0.3s,baz=66,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**11.78**	**195**	P	Pn	13 11 48.8	-0.3
	5.1nm,0.4s,baz=30,slow=11,SNR=40						
FITZ				S	S	13 13 54.7	-5.9
	1.5nm,0.8s,baz=68,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**14.22**	**159**	P	Pn	13 12 17.1	-1.9
	0.8nm,0.4s,baz=344,slow=12,SNR=11						
WRA				S	S	13 14 49.9	-6.6
	0.8nm,0.5s,baz=336,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**17.58**	**165**	P	P	13 12 57.5	+1.2
	1.2nm,0.6s,baz=346,slow=11,SNR=36						
ASAR				S	S	13 16 06.3	+0.3
	0.2nm,0.5s,baz=349,slow=24,SNR=5.4						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	13 19 36.9	+0.5
	0.3nm,0.5s,baz=110,slow=6.5,SNR=1.9						
	0.3nm,0.5s						

IDC 09 13:13:31.9±1.2, 40°.33S×16°.70W, h0km, mb3.9/5, mbtmp3.9/5, MS3.6/16, Error ellipse: s-maj=34.4km s-min=29.5km az=136.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**32.41**	**4**	T	T	13 54 25.4	
	baz=191,slow=78						
H10N3	**ASCENSION HYDR**	**32.41**	**4**	T	T	13 54 24.7	
	baz=191,slow=78						
H10N2	**ASCENSION HYDR**	**32.43**	**4**	T	T	13 54 31.9	
	baz=191,slow=78						
TSUM	**Tsumeb**	**36.13**	**65**	LR	LR	13 32 04.3	
	comp=Z,140nm,21.7s,baz=162,slow=31						
BOSA	**Boshof**	**36.20**	**84**	P	P	13 20 36.2	-0.3
	5.9nm,0.8s,baz=286,slow=15,SNR=4.3						
	5.9nm,0.8s						
CPUP	**Villa Florida**	**36.38**	**280**	P	P	13 20 37.6	-0.3
	0.2nm,0.3s,baz=326,slow=7.7,SNR=3.3						
CPUP				LR	LR	13 33 29.7	
	comp=Z,25nm,18.3s,baz=12,slow=33						
	0.2nm,0.3s						
PMSA	**Palmer Station**	**36.44**	**212**	LR	LR	13 31 17.0	
	comp=Z,91nm,21.2s,baz=74,slow=29						
LBTB	**Lobatse**	**38.36**	**80**	LR	LR	13 34 50.5	
	comp=Z,87nm,18.0s,baz=220,slow=33						
PLCA	**Paso Flores**	**40.38**	**251**	LR	LR	13 36 02.1	
	comp=Z,125nm,20.5s,baz=114,slow=33						
MATP	**Matopo**	**43.21**	**76**	LR	LR	13 36 51.3	
	comp=Z,123nm,20.3s,baz=208,slow=32						
LSZ	**Lusaka**	**46.25**	**71**	LR	LR	13 39 56.4	
	comp=Z,37nm,20.0s,baz=186,slow=34						
H04S2	**CROZET ISLANDS**	**48.67**	**122**	T	T	14 14 38.6	
	baz=253,slow=76,SNR=44						
H04S3	**CROZET ISLANDS**	**48.68**	**122**	T	T	14 14 40.3	
	baz=253,slow=76,SNR=40						
H04S1	**CROZET ISLANDS**	**48.69**	**122**	T	T	14 14 45.2	
	baz=253,slow=76,SNR=41						
QSPA	**South Pole Qui**	**49.93**	**180**	P	P	13 22 27.3	+0.1
	1.0nm,0.7s,baz=202,slow=2.0,SNR=9.4						
	1.0nm,0.7s						
LPAZ	**La Paz**	**50.40**	**283**	LR	LR	13 41 39.1	
	comp=Z,48nm,20.9s,baz=96,slow=34						
TORD	**Torodi Ar. Bea**	**55.88**	**22**	P	P	13 23 12.0	+0.6
	1.2nm,1.0s,baz=196,slow=6.7,SNR=4.3						
	1.2nm,1.0s						
KMBO	**Kilima Mbogo**	**62.46**	**66**	LR	LR	13 48 37.3	
	comp=Z,88nm,19.1s,baz=97,slow=34						
ROSC	**El Rosal**	**69.27**	**296**	LR	LR	13 53 18.5	
	comp=Z,61nm,20.6s,baz=222,slow=34						
RPN	**Rapa Nui**	**74.86**	**247**	LR	LR	13 54 46.5	
	comp=Z,34nm,20.7s,baz=258,slow=33						
JTS	**Las Juntas de**	**80.54**	**292**	LR	LR	14 01 24.8	
	comp=Z,26nm,18.1s,baz=56,slow=36						
MMAI	**Mount Meron Ar**	**87.43**	**42**	LR	LR	14 02 32.0	
	comp=Z,28nm,20.4s,baz=244,slow=34						
ASF	**Jabal al Asfar**	**87.53**	**43**	LR	LR	14 03 40.6	
	comp=Z,44nm,18.0s,baz=291,slow=34						
BRTR	**Keskin Array B**	**91.95**	**36**	P	P	13 26 41.6	-0.7
	0.4nm,0.4s,baz=208,slow=4.1,SNR=4.0						
	0.4nm,0.4s						
H01W2	**Cape Leeuwin H**	**92.51**	**142**	T	T	15 10 07.7	
	baz=216,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**92.52**	**141**	T	T	15 10 08.2	
	baz=216,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**92.52**	**142**	T	T	15 10 09.4	
	baz=216,slow=75,SNR=27						
GERES	**GERESS Array B**	**92.78**	**20**	LR	LR	14 04 06.0	
	comp=Z,43nm,20.8s,baz=284,slow=33						
GNI	**Garni**	**97.70**	**43**	LR	LR	14 09 56.3	
	comp=Z,29nm,19.4s,baz=286,slow=35						
ILAR	**Eielson Array**	**142.55**	**327**	PKhKP	PKPpre	13 33 02.0	
	0.3nm,0.8s,baz=80,slow=1.4,SNR=4.5						

*SOF **09** 13:37:44.5, 38°.8N±0°.2×27°.1E±0°.1, h18km±24km, MD3.9/4*
*ISK **09** 13:37:45.9, 38°.86N×27°.01E, h9km, ML3.6/46*
*THE **09** 13:37:47.0, 39°N±1°×2°7E±°, h5km±2km, M3.1/16, MLh3.1/16*
*AFAD **09** 13:37:46.3, 38°.85N×27°.00E, h4km±1km, MW3.5*
*ATH **09** 13:37:47.3, 38°.85N×26°.99E, h19km±2km, ML3.1/15, Manual Solution by G.Panopoulou First location: 2019/10/09 13:39:11, This location: 2019/10/09 14:12:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 09 13:37:46.3±0.9, 38°.85N±0°.02×27°.01E±0°.02, h12km±6km, n120, σ0s58/156, 3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZMD	**zmir-Dikili-**	**0.15**	**335**	P	**Pg**	**13 37 49.7**	**-0.2**
IZMD				S	**Sg**	**13 37 52.1**	**-0.3**
DKL	**Dikili**	**0.23**	**340**	Pg	**Pg**	**13 37 51.1**	**-0.1**
DKL				Sg	**Sg**	**13 37 54.6**	**0.0**
BLCB	**Balcova**	**0.46**	**177**	Pg	**Pg**	**13 37 55.9**	**+0.5**
BLCB				Sg	**Sb**	**13 38 02.9**	**-0.4**
BLCB	**Balcova**	**0.46**	**177**	P	**Pg**	**13 37 55.9**	**+0.5**
BLCB				S	**Sb**	**13 38 02.6**	**-0.6**
KARB	**zmir-Karabur**	**0.50**	**248**	P	**Pg**	**13 37 56.4**	**+0.3**
KARB				S	**Sb**	**13 38 04.6**	**+0.3**
SOMA	**Soma-Manisa**	**0.51**	**53**	Pg	**Pg**	**13 37 56.1**	**-0.2**
SOMA				Sg	**Sg**	**13 38 03.6**	**+0.5**
AYVA	**Ayvalik**	**0.52**	**332**	P	**Pg**	**13 37 56.8**	**+0.3**
AYVA				S	**Sg**	**13 38 03.4**	**0.0**
URLA	**Izmir**	**0.59**	**214**	Pg	**Pg**	**13 37 57.8**	**+0.1**
URLA	**Izmir**	**0.59**	**214**	P	**Pg**	**13 37 57.8**	**+0.1**
URLA				S	**Sn**	**13 38 08.9**	**-1.2**
AKHS	**Akhisar**	**0.63**	**87**	P	**Pg**	**13 37 58.8**	**+0.3**
AKHS				S	**Sb**	**13 38 07.9**	**-0.2**
AKS	**Akhisar**	**0.63**	**87**	Pg	**Pg**	**13 37 58.5**	**0.0**
BUHA	**Balikesir, Bur**	**0.65**	**5**	P	**Pg**	**13 37 57.1**	**-1.9**
BUHA				S	**Sg**	**13 38 07.2**	**-0.4**
PRK	**Paraskevi**	**0.70**	**305**	P	**Pg**	**13 37 60.0**	**+0.2**
PRK				S	**Sb**	**13 38 09.7**	**-0.2**
PRK	**Paraskevi**	**0.70**	**305**	P	**Pg**	**13 37 59.9**	**+0.1**
PRK				S	**Sb**	**13 38 10.0**	**+0.1**
GOMA	**Golmarm

LPK	Lapseki	1.53	353	Pn	Pn	13 38 13.8	+0.3
KRBG	Karabiga-Canak	1.56	8	Pn	Pn	13 38 13.9	0.0
SMAA	Simav-Kutahya	1.56	80	Pn	Pn	13 38 14.4	+0.5
GADA	Gvkgeada	1.59	328	Pn	Pn	13 38 14.6	+0.3
GADA	Gvkgeada	1.59	328	P	Pn	13 38 14.5	+0.2
GELI	Tayfur-Gelibol	1.60	345	Pn	Pn	13 38 14.8	+0.4
EDC	Edincik	1.64	24	Pn	Pn	13 38 15.2	+0.3
MLSB	Milas	1.67	158	Pn	Pn	13 38 15.3	-0.1
EFSA	Agios Efstrati	1.71	294	P	Pn	13 38 16.2	+0.2
EFSA				S	Sn	13 38 36.9	-0.9
SHAP	Saphane-Kutahy	1.74	84	Pn	Pn	13 38 16.9	+0.5
YKAV	Yalikavak-Bodr	1.74	173	Pn	Pn	13 38 16.7	+0.4
LIA	Limnos Island	1.76	307	P	Pn	13 38 17.0	+0.4
LIA				S	Sb	13 38 40.6	+0.1
LIA	Limnos Island	1.76	307	P	Pn	13 38 16.8	+0.2
LIA				S	Sn	13 38 38.5	-0.5
BODT	Bodrum	1.80	172	Pn	Pn	13 38 18.1	+0.9
BODT	Bodrum	1.80	172	P	Pb	13 38 18.8	-0.4
MRMT	Marmara Adasi	1.81	14	Pn	Pn	13 38 17.7	+0.3
RKY	Sarkoy-Tekirda	1.84	4	Pn	Pn	13 38 18.3	+0.5
ERIK	Erikli-Kesan	1.86	348	Pn	Pn	13 38 18.5	+0.5
ENZZ	Sultanice-Enez	1.88	339	Pn	Pn	13 38 18.7	+0.4
GEDZ	Gediz	1.88	83	Pn	Pn	13 38 18.8	+0.4
ORLT	Orhaneli	1.89	50	Pn	Pn	13 38 18.9	+0.4
TNSA	Tinos	1.96	229	P	Pn	13 38 18.9	-0.4
TNSA				S	Sn	13 38 43.3	-0.4
SMTH	Samothraki Isl	1.98	325	P	Pn	13 38 19.9	+0.2
SMTH	Samothraki Isl	1.98	325	P	Pn	13 38 19.8	+0.1
SMTH				S	Sn	13 38 43.4	-1.1
YER	Yerkesik	1.99	149	Pn	Pn	13 38 20.5	+0.7
ENEZ	Enez	2.00	341	Pn	Pn	13 38 20.5	+0.7
ENEZ	Enez	2.00	341	P	Pn	13 38 20.6	+0.7
ENEZ				S	Sn	13 39 45.8	+1.1
TVSB	Tavsanli	2.00	72	Pn	Pn	13 38 20.4	+0.3
MDNY	Mudanya-Bursa	2.10	43	Pn	Pn	13 38 21.9	+0.6
APE	Apeiranthos	2.13	214	P	Pn	13 38 22.4	+0.7
APE	Apeiranthos	2.13	214	P	Pn	13 38 21.8	0.0
DAT	Datca	2.17	168	P	Pn	13 38 23.2	+0.9
ALN	Alexandroupoli	2.17	340	Pn	Pn	13 38 22.9	+0.6
ALN	Alexandroupoli	2.17	340	P	Pn	13 38 23.1	+0.7
ALN				S	Sn	13 38 51.1	+1.9
ALN	Alexandroupoli	2.17	340	P	Pn	13 38 22.4	+0.1
ALN				S	Sn	13 38 49.0	-0.2
KARY	Karystos	2.18	249	P	Pn	13 38 23.2	+0.8
KARY	Karystos	2.18	249	P	Pn	13 38 22.5	+0.2
KARY				S	Sn	13 38 48.0	-1.3
ARMT	Armutlu	2.23	39	Pn	Pn	13 38 23.9	+0.7
KYMI	Kymi, Euboea I	2.28	265	P	Pn	13 38 23.0	-0.8
UKOP	Uzunkopru-Edir	2.29	353	Pn	Pn	13 38 24.8	+0.8
AOS	Alonnisos	2.46	278	P	Pn	13 38 27.2	+1.0
THAS	Thassos island	2.49	316	P	Pn	13 38 26.7	+0.1
THAS	Thassos island	2.49	316	P	Pn	13 38 26.7	+0.1
THAS				S	Sn	13 38 55.4	-1.5
DION	Dionisos Attik	2.53	253	P	Pn	13 38 27.5	+0.2
RDO	Rodhopi	2.56	334	P	Pn	13 38 28.2	+0.6
RDO	Rodhopi	2.56	334	P	Pn	13 38 28.1	+0.5
RDO				S	Sn	13 38 58.1	-0.5
VLY	Voula,Athens	2.71	249	P	Pn	13 38 30.0	+0.2
THERA	Ancient Thera,	2.76	207	P	Pn	13 38 31.5	+1.1
OUR	Ouranopolis	2.77	303	P	Pn	13 38 30.8	+0.3
ARG	Arkhangelos	2.77	161	P	Pn	13 38 31.0	+0.4
KAVA	Kavala	2.88	319	P	Pn	13 38 32.6	+0.6
KAVA				S	Sn	13 39 04.9	-1.7
KVLA	Kavala	2.90	317	P	Pn	13 38 32.5	+0.2
NEO	Neokhori	2.98	280	P	Pn	13 38 32.8	-0.7
MHLO	Agia Marina, M	2.98	225	P	Pn	13 38 34.0	+0.5
VIL2	Platees	3.00	259	P	Pn	13 38 33.6	-0.1
KDZ	Kurdzhali	3.06	336	‖	P	13 38 34.9	+0.4
MET4	Agioi Theodoro	3.09	248	P	Pn	13 38 34.9	-0.1
MET5	Makryloggos,Me	3.12	248	P	Pn	13 38 34.5	-0.9
MET6	Megalochori,Me	3.14	248	P	Pn	13 38 36.5	+0.9
PLG	Polygyros	3.14	300	P	Pn	13 38 35.9	+0.2
MET2	Kameni Chora,	3.15	248	P	Pn	13 38 35.5	-0.3
LTK	Loutraki	3.28	257	P	Pn	13 38 38.3	+0.7
KARP	Karpathos	3.30	178	P	Pn	13 38 38.3	+0.5
AXAR	Agios Charalam	3.40	270	P	Pn	13 38 39.8	+0.6
SRS	Serrai	3.47	312	P	Pn	13 38 40.5	+0.3
HORT	Hortiatis	3.48	301	P	Pn	13 38 41.1	+0.7
MMB	Musomishta	3.67	318	‖	i P	13 38 43.9	+0.9
GUR	Goura	3.78	257	P	Pn	13 38 45.2	+0.8
VLI	Veliai	3.86	238	P	Pn	13 38 44.8	-0.8
KNT	Kendrikon	3.91	307	P	Pn	13 38 46.4	+0.2
KKB	Krupnik	4.21	316	P	Pn	13 38 51.6	+1.3
PVL	Pavlikeni	4.49	343	P	Pn	13 38 55.0	+0.9
VTS	Vitosha	4.73	324	‖	i P	13 38 58.8	+1.2
VTS				S	Sn	13 39 51.8	-0.7
MPEP	Malo Peshtene	5.13	332	P	Pn	13 39 03.9	+0.9

IDC 09 13:42:28.9±2.0, 0°.62N×125°.96E, h0km, mb3.3/3, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=115.9km s-min=20.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.60	181	P	Pn	13 46 49.1	+1.0
	0.1nm,0.3s,baz=7.2,slow=11,SNR=1.3 0.3nm,0.3s						
WRA	Warramunga Arr	22.02	159	P	P	13 47 25.0	-0.1
	0.6nm,0.5s,baz=337,slow=11,SNR=8.1						
WRA				S	S	13 51 29.7	+0.5
	0.2nm,0.5s,baz=326,slow=12,SNR=1.6 0.6nm,0.5s						
ASAR	Alice Springs	25.34	163	P	P	13 47 58.1	+0.4
	0.5nm,0.6s,baz=344,slow=12,SNR=19 0.5nm,0.6s						
MKAR	Makanchi Array	59.69	327	P	P	13 52 34.8	-0.4
	0.1nm,0.4s,baz=142,slow=7.3,SNR=2.2 0.1nm,0.4s						

IDC 09 14:22:10.1±1.3, 10°.73N×124°.09E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=75.7km s-min=25.0km az=75.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.11	162	P	P	14 28 37.4	-1.8
	0.2nm,0.3s,baz=344,slow=11,SNR=5.6 0.2nm,0.3s						
ASAR	Alice Springs	35.51	164	P	P	14 29 09.9	+1.1
	0.2nm,0.4s,baz=353,slow=7.4,SNR=17 0.2nm,0.4s						
MKAR	Makanchi Array	50.37	324	P	P	14 31 08.1	-1.0
	0.2nm,0.6s,baz=133,slow=8.5,SNR=1.6 0.2nm,0.6s						
ILAR	Eielson Array	79.97	26	P	P	14 34 21.8	+0.8
	0.3nm,0.7s,baz=249,slow=7.1,SNR=4.8 0.3nm,0.7s						

*ATH **09** 14:32:09.5, 37°.25N×20°.54E, h6km±1km, ML3.4/23, Manual Solution by D.Makaris First location: 2019/10/09 14:33:10, This location: 2020/10/06 13:57:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*IDC **09** 14:32:09.3±2.3, 37°.66N×20°.89E, h0km, mb3.6/6, mbtmp3.6/8, ML3.5/2, MS2.8/2, Error ellipse: s-maj=51.1km s-min=23.5km az=177.0*

*THE **09** 14:32:10.7, 37°N±2°×2°1E±°, h0km±1km, M3.4/28, MLh3.4/28*

ISC 09 14:32:10.2±1.3, 37°.28N±0°.04×20°.58E±0°.03, h10km±8km, n80, σ1°.917/111, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.42	26	P	Pb	14 32 19.2	-0.6
KRI1				S	Sb	14 32 26.5	+0.2
LTHK	Lithakia	0.47	25	P	Pb	14 32 19.9	-0.7
LTHK				S	Sb	14 32 27.7	0.0
LTHK	Lithakia	0.47	25	P	Pb	14 32 19.9	-0.7
LTHK				S	Sg	14 32 26.1	+0.4
ORTH	Orthonies,Zaky	0.58	9	P	Pg	14 32 21.3	-0.2
ORTH				S	Sb	14 32 30.5	-0.1
ORTH	Orthonies,Zaky	0.58	9	P	Pb	14 32 21.6	-0.8
ORTH				S	Sg	14 32 29.6	+0.6
RTZL	Ratzakli, Kefa	0.81	11	P	Pg	14 32 25.6	-0.2
RTZL				S	Sb	14 32 38.4	+1.1
PSDA	Pessada-Kefalo	0.83	0	P	Pb	14 32 26.3	-0.5
PSDA				S	Sb	14 32 39.1	+1.1
VLS	Valsamata	0.90	0	P	Pg	14 32 26.7	-0.7
VLS				S	Sb	14 32 40.4	+0.6
VLS	Valsamata	0.90	0	P	Pg	14 32 26.8	-0.7
VLS				S	Sb	14 32 39.6	-0.2
ARG2	Argostoli	0.90	355	P	Pb	14 32 28.4	+0.6
ARG2				S	Sb	14 32 40.6	+0.7
LXR1	Lixouri, Cepha	0.93	353	P	Pb	14 32 28.8	+0.5
LXR1				S	Sb	14 32 41.5	+0.9
RLS	Riolos of Patr	1.05	42	P	Pb	14 32 30.4	0.0
RLS				S	Sb	14 32 45.8	+1.6
RLS	Riolos of Patr	1.05	42	P	Pb	14 32 30.6	+0.2
RLS				S	Sb	14 32 44.6	+0.5
ITM	Ithomi	1.08	95	P	Pg	14 32 30.8	-0.1
ITM				S	Sn	14 32 47.8	+1.4
ITM	Ithomi	1.08	95	P	Pg	14 32 30.7	-0.2
ITM				S	Sg	14 32 45.0	0.0
AXS	Araxos	1.11	34	P	Pg	14 32 31.4	-0.1
AXS				S	Sn	14 32 48.4	+1.3
AXS	Araxos	1.11	34	P	Pg	14 32 30.9	-0.6
AXS				S	Sb	14 32 47.1	+1.2
DRO	Drossia	1.12	53	P	Pb	14 32 31.8	+0.2
DRO	Drossia	1.12	53	P	Pb	14 32 31.9	+0.2
DRO				S	Sb	14 32 47.5	+1.2
FSK	Fiskardo	1.18	359	P	Pn	14 32 33.0	+0.3
FSK	Fiskardo	1.18	359	P	Pg	14 32 32.1	-0.7
FSK				S	Sg	14 32 47.9	-0.3
AST1	Astakos	1.32	18	P	Pb	14 32 35.4	+0.3
EVGI	Lefkada island	1.34	3	P	Pg	14 32 35.1	-0.8
UPR	University Cam	1.38	43	P	Pb	14 32 37.6	+1.5
NYDR	Nydri-Lefkada	1.43	4	P	Pg	14 32 36.9	-0.8
LKD2	Lefkada island	1.51	2	P	Pn	14 32 38.1	+0.8
PVO	Paravola	1.53	29	P	Pg	14 32 39.1	-0.5
PVO	Paravola	1.53	29	P	Pn	14 32 37.8	+0.3
PVO				S	Sn	14 32 58.1	+0.7
TSLK	Tsoukalades, L	1.54	2	P	Pg	14 32 39.2	-0.6
GUR	Goura	1.54	64	P	Pn	14 32 38.2	+0.3
GUR				S	Sn	14 32 58.5	+0.5
EFP	Efpalio	1.55	42	P	Pg	14 32 39.6	-0.4
EFP	Efpalio	1.55	42	P	Pn	14 32 38.6	+0.8
EFP				S	Sn	14 32 58.7	+0.7
KALE	Kalithea	1.66	48	P	Pg	14 32 41.5	-0.5
KALE	Kalithea	1.66	48	P	Pn	14 32 39.4	0.0
KALE				S	Sn	14 33 01.1	+0.3
ANX	Ano Chora	1.69	39	P	Pn	14 32 40.2	+0.5
ANX				S	Sg	14 33 04.1	-0.3
EVR	Evrytania	1.90	30	P	Pb	14 32 45.0	0.0
EVR	Evrytania	1.90	30	P	Pn	14 32 42.5	-0.2
EVR				S	Sn	14 33 08.0	+1.2
VLI	Veliai	1.97	106	P	Pn	14 32 43.4	-0.2
LOUT	Loutraki	2.03	69	P	Pn	14 32 44.2	-0.2
LOUT				S	Sn	14 33 11.1	+1.3
LTK	Loutraki	2.03	68	P	Pn	14 32 45.2	+0.7
LTK	Loutraki	2.03	68	P	Pn	14 32 45.5	+0.9
LTK				S	Sn	14 33 10.1	+0.1
MAKR	Makrakomi, Fth	2.12	35	P	Pn	14 32 46.2	+0.5
MAKR				S	Sn	14 33 13.5	+1.4
TETR	Tetrakomo, Epi	2.13	15	P	Pn	14 32 47.5	+1.5
TETR	Tetrakomo, Epi	2.13	15	P	Pn	14 32 47.7	+1.8
AXAR	Agios Charalam	2.21	47	P	Pn	14 32 49.1	+2.2
AXAR	Agios Charalam	2.21	47	P	Pn	14 32 47.4	+0.4
AGG	Agios Georgios	2.22	38	P	Pn	14 32 48.9	+1.8
MET5	Makryloggos,Me	2.24	80	P	Pn	14 32 48.2	+1.0
MET4	Agioi Theodoro	2.27	80	P	Pn	14 32 48.5	+0.8
MET4				S	Sn	14 33 18.0	+2.3
VIL2	Platees	2.32	66	P	Pn	14 32 49.1	+0.6
VIL2				S	Sb	14 33 20.5	-0.4
LKR	Lokris	2.35	54	P	Pn	14 32 50.1	+1.2
LKR				S	Sn	14 33 20.6	+2.8
ATAL	Atalanti	2.39	53	P	Pn	14 32 50.9	+1.5
ATAL				S	Sn	14 33 21.4	+2.7
THL	Klokotos Trika	2.54	26	P	Pn	14 32 52.7	+1.2
THL	Klokotos Trika	2.54	26	P	Pn	14 32 53.5	+2.0
THL				S	Sn	14 33 25.2	+2.7
ANKY	Antikythira Is	2.60	122	P	Pn	14 32 54.4	+2.1
VLY	Voula,Athens	2.62	76	P	Pn	14 32 52.6	+0.1
DION	Dionisos Attik	2.78	72	P	Pn	14 32 55.3	+0.6
DION	Dionisos Attik	2.78	72	P	Pn	14 32 55.0	+0.3
NEO	Neokhori	2.90	45	P	Pn	14 32 57.4	+0.9
NEO	Neokhori	2.90	45	P	Pn	14 32 57.1	+0.7
NEO				S	Sn	14 33 32.7	+1.4
PENT	Pentalofos	2.94	8	P	Pn	14 32 58.0	+0.9
KYMI	Kymi, Euboea I	3.09	63	P	Pn	14 32 59.7	+0.7
KARY	Karystos	3.15	75	P	Pn	14 33 00.3	+0.5
NEST	Nestorio	3.15	7	P	Pn	14 33 02.2	+2.3
KZN	Kozani	3.16	17	P	Pn	14 33 01.2	+1.1
KTI	Kastanea	3.33	21	P	Pn	14 33 03.5	+1.1
TIP	Timpagrande	3.56	303	P	Pn	14 33 05.3	-0.2
CEL	Celeste	3.84	286	P	Pn	14 33 09.2	-0.2
IDI	Anoyia	4.01	118	P	Pn	14 33 12.6	+0.9
THERA	Ancient Thera,	4.03	102	P	Pn	14 33 12.5	+0.6
MLR	Muntele Rosu	9.14	24	LR	LR	14 37 35.6	
	comp=Z,36nm,21.1s,baz=188,slow=38						
KEST	Kesra	9.18	264	Pn	Pn	14 34 25.4	+2.8
	0.3nm,0.3s,baz=44,slow=11,SNR=2.5 3.8nm,0.7s						
VRAC	Vranov	12.37	348	LR	LR	14 39 52.9	
	comp=Z,76nm,18.5s,baz=356,slow=38						
ESDC	Sonseca Array	19.35	285	P	Pn	14 36 39.7	+2.8
	baz=88,slow=10,SNR=4.7 1.4nm,1.0s						
HFS	Hagfors	23.29	351	P	P	14 37 15.9	-2.0
	2.9nm,0.8s,baz=171,slow=10,SNR=3.7 2.9nm,0.8s						
EKA	Eskdalemuir Ar	24.19	326	P	P	14 37 25.4	-1.2
	1.9nm,0.7s,baz=134,slow=6.1,SNR=3.4 1.9nm,0.7s						
NOA	NORSAR Array B	24.51	349	P	P	14 37 26.0	-3.4
	1.5nm,0.9s,baz=161,slow=9.3,SNR=4.2 1.5nm,0.9s						
KURBB	Kurchatov Arra	42.73	53	P	P	14 40 05.1	-2.2
	0.4nm,0.5s,baz=282,slow=8.5,SNR=4.6 0.4nm,0.5s						
MKAR	Makanchi Array	45.73	58	P	P	14 40 29.1	-2.4
	0.2nm,0.5s,baz=266,slow=9.2,SNR=4.1 0.2nm,0.5s						
ZALV	Zalesovo Beam	46.26	47	P	P	14 40 31.7	-3.8
	0.5nm,0.3s,baz=282,slow=9.7,SNR=1.8 0.5nm,0.3s						

TAP 09 14:34:19.0, 23°.81N×121°.86E, h30km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	Shoufeng	0.27	265	i P	Pb	14 34 26.0	0.0
SHUL				S	Sn	14 34 31.5	-0.5
TWD	Chiawan	0.36	319	eP	Pb	14 34 25.9	-1.3
TWD				eS	Sb	14 34 32.8	-0.1
ESL	Shilin	0.39	271	i P	Pb	14 34 26.7	-1.0
ESL				S	Sb	14 34 33.0	-0.6
EGFH	Guangfu	0.42	250	P	Pb	14 34 28.3	+0.2
EGFH				i S	Sn	14 34 35.1	-0.6
NACB	Ninganchiao	0.43	327	i P	Pb	14 34 27.4	-0.9
NACB				i S	Sb	14 34 34.5	-0.3
WARBT	Fenglin Townsh	0.44	258	i P	Pb	14 34 27.6	-0.8
WARBT				S	Sb	14 34 35.5	+0.6
LXIB	Xiulin Townshi	0.46	298	P	Pb	14 34 28.8	0.0
LXIB				S	Sb	14 34 35.9	+0.4
HGSD	Ruisui	0.51	231	i P	Pb	14 34 28.9	-0.6
HGSD				i S	Sb	14 34 36.9	+0.2
ETLH	Xiulin Townshi	0.52	319	i P	Pb	14 34 29.4	-0.5
EOS4	EOS4	0.52	54	i P	Pb	14 34 29.6	0.0
EOS4				i S	Sb	14 34 36.4	-0.3
EHYH	Wanrong	0.56	236	i P	Pb	14 34 30.1	-0.4
EHYH				i S	Sb	14 34 38.7	+0.4
EHY	Hungye	0.58	238	i P	Pb	14 34 30.6	-0.1
EHY				S	Sb	14 34 38.0	-0.6
EOS3	EOS3	0.64	42	P	Pb	14 34 31.1	-0.5
EOS3				eS	Sn	14 34 42.3	+1.5
WHF	Hehuan Shan	0.64	302	i P	Pb	14 34 31.6	-0.4
WHF				i S	Sn	14 34 41.4	-0.3
OWD	Renai	0.64	283	eP	Pb	14 34 30.8	-1.0
OWD				i S	Sb	14 34 39.5	-1.0
VWDT	VWDT	0.66	265	i P	Pb	14 34 31.8	-0.2
VWDT				S	Sn	14 34 41.7	+0.1
YULB	Yu-li	0.66	231	i P	Pb	14 34 31.5	-0.6
YULB				i S	Sb	14 34 40.9	-0.1
TWF1	Yuli	0.69	228	i P	Pb	14 34 32.0	-0.5
TWF1				i S	Sb	14 34 41.7	0.0
WUSB	Renai	0.70	285	i P	Pb	14 34 32.3	-0.5
WUSB				eS	Sn	14 34 43.3	+0.4
NNSB	Datong	0.75	325	eP	Pb	14 34 33.7	0.0
FULB	Fuli	0.80	220	P	Pn	14 34 33.5	-0.8
FULB				S	Sn	14 34 45.2	+0.1
EHD	Haiduan	0.89	222	P	Pn	14 34 34.0	-1.4
EHD				i S	Sn	14 34 46.1	-1.3
WHYT	Xinyi Township	0.93	263	i P	Pn	14 34 36.0	-0.1
WHYT				i S	Sb	14 34 48.5	0.0
ALS	Alishan	1.01	253	eP	Pb	14 34 37.8	-0.3
ALS				S	Sn	14 34 50.8	0.0

TAP 09 14:34:27.3, 24°.46N×121°.88E, h18km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.10	263	i P	Pg	14 34 31.1	0.0
EWUT				i S	Sg	14 34 33.4	-0.1
ESAO	Su ao	0.12	343	eP	Pg	14 34 31.0	-0.3
ESAO				i S	Sg	14 34 33.8	-0.2
ENA	Nanau	0.13	258	i P	Pg	14 34 31.4	0.0
ENA				i S	Sg	14 34 34.3	+0.1
TWC	Suao	0.15	348	i P	Pg	14 34 31.9	+0.2
TWC				i S	Sg	14 34 34.5	-0.1
EAHA	Aohua	0.18	226	i P	Pg	14 34 32.0	-0.1
EAHA				S	Sg	14 34 36.2	+0.9
NDS	Dongshan	0.23	319	P	Pg	14 34 32.9	0.0
NDS				S	Sg	14 34 36.9	+0.3
EOS2	EOS2	0.32	97	eP	Pb	14 34 34.4	0.0
EOS2				eS	Sb	14 34 40.0	+0.7
TWE	Neicheng	0.33	323	i P	Pb	14 34 34.7	+0.1
TWE				S	Sg	14 34 39.2	0.0
LATG	Datong	0.34	284	i P	Pg	14 34 33.8	-0.8
LATG				i S	Sb	14 34 39.7	-0.2
ENTT	Nioudou	0.34	302	i P	Pb	14 34 35.1	+0.1
ENTT				i S	Sb	14 34 39.9	-0.1
FUSB	Fushanzhiwuyua	0.41	318	i P	Pb	14 34 36.3	+0.2
FUSB				i S	Sb	14 34 41.8	-0.1
EOS3	EOS3	0.43	113	eP	Pb	14 34 36.5	+0.2
EOS3				eS	Sb	14 34 43.0	+0.6
ETLH	Xiulin Townshi	0.44	236	i P	Pg	14 34 36.0	-0.4
ETLH				eS	Sb	14 34 43.0	0.0
ETLH	Xiulin Townshi	0.44	236	S	Sg	14 34 36.5	-6.1
NNSB	Datong	0.46	267	eP	Pb	14 34 37.0	+0.1
NNSB				S	Sg	14 34 43.2	+0.2
NNSB	Datong	0.46	267	i S	Sg	14 34 43.2	+0.2
NNS	Nan Shan	0.47	268	i P	Pb	14 34 37.5	+0.5
NNS				S	Sg	14 34 43.1	-0.2
NWLT	Wulai	0.47	313	i P	Pb	14 34 37.7	+0.6
NWLT				i S	Sb	14 34 43.6	-0.1
YHNB	Yeheng	0.51	295	i P	Pg	14 34 37.0	-0.7
YHNB				i S	Sb	14 34 44.7	-0.1
TIPB	Shuangxi	0.52	354	i P	Pb	14 34 37.8	0.0
TIPB				i S	Sg	14 34 44.7	0.0
NSK	Sanguang	0.53	295	i P	Pb	14 34 38.0	0.0
NSK				i S	Sb	14 34 45.3	0.0

*ISK **09** 14:39:12.7, 35°.99N×29°.78E, h24km, ML3.0/22*
*NIC **09** 14:39:14.0, 36°.02N×29°.77E, h29km±1km, Ml2.5/10*
*AFAD **09** 14:39:15.5, 36°.16N×29°.75E, h5km±6km, ML2.8*
*GII **09** 14:39:17.9±0.0, 35°.63N±0°.04×30°.10E±0°.01, h5km, Mws2.9, confirmed*

ISC 09 14:39:13.6±0.9, 36°.01N±0°.03×29°.78E±0°.03, h30km±6km, n68, σ1°.915/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.21	311	P	Pb	14 39 20.2	+0.3
KSL				AML	AML	14 39 24.8	
	10nm,0.3s						
KSL				AML	AML	14 39 24.9	
	18nm,0.4s						
KSL				S	Sb	14 39 24.9	+0.8
DEMR	Demre-Antalya	0.25	25	Pg	Pb	14 39 19.9	-0.5
DEMR				Sg	Sb	14 39 24.3	-0.6
AKAS	Kas	0.26	328	Pg	Pb	14 39 19.9	-0.8
AKAS				Sg	Sb	14 39 24.8	-0.6
AKAS	Kas	0.26	328	i IAML		14 39 26.0	
	comp=N,4μm,0.3s						
AKAS				i IAML		14 39 26.0	
	comp=E,4μm,0.4s						
AKUM	Antalya-Kumluc	0.55	56	i IAML		14 39 35.0	
	comp=N,653nm,0.4s						
AKUM				i IAML		14 39 36.0	
	comp=E,876nm,0.2s						
IZZE	Mula-Seydike	0.61	314	P	Pb	14 39 25.5	-0.5
IZZE				S	Sb	14 39 34.2	-0.1
IZZE				i IAML		14 39 36.0	
	comp=E,569nm,0.2s						
IZZE				i IAML		14 39 37.0	
	comp=N,716nm,0.5s						
ELL	Elmali	0.74	8	Pg	Pn	14 39 27.9	-0.3
ELL	Elmali	0.74	8	P	Pb	14 39 27.0	-1.1
ELL				S	Sn	14 39 39.2	+0.6
ELL				AML	AML	14 39 42.4	
	1.1nm,0.3s						
ELL				AML	AML	14 39 44.9	
	1.5nm,0.5s						
KEMT	Kemer-ANTALYA	0.86	47	Pg	Pn	14 39 30.0	+0.3
CAME	Cameli-Denizli	1.00	338	Pg	Pn	14 39 31.5	-0.4
CAME				Sg	Sn	14 39 45.8	+0.7
SABU	Mula-Dalaman	1.04	321	P	Pn	14 39 31.8	-0.5
SABU				S	Sb	14 39 46.3	-0.1
SABU				i IAML		14 39 47.0	
	comp=N,271nm,0.6s						
SABU				i IAML		14 39 47.0	
	comp=E,207nm,1.1s						
KORT	Korkueli	1.09	25	Pn	Pb	14 39 33.4	-0.6
KORT				Sn	Sn	14 39 48.9	+1.7
KORT	Korkue

0.4nm,0.1s
NATA AML AML 14 40 23.3
0.1nm,0.1s
TROD Troodos 2.74 112 P **Pn 14 39 56.6 +0.9**
TROD S **Sn 14 40 29.5 +1.6**
TROD AML AML 14 40 34.7
TROD AML AML 14 40 37.1
0.1nm,0.5s
XYLS Xyliatos 2.85 110 P **Pn 14 39 57.4 +0.3**
XYLS S **Sn 14 40 32.3 +1.8**
XYLS AML AML 14 40 34.2
0.1nm,0.4s
XYLS AML AML 14 40 40.5
0.1nm,0.3s
CSS Mathiatis 3.08 109 S **Sn 14 40 37.4 +1.2**
CSS AML AML 14 40 38.9
CSS AML AML 14 40 39.8
CSS Mathiatis 3.08 109 P **Pn 14 40 02.8 +2.5**
ASGA Asgata 3.09 112 P **Pn 14 40 01.4 +1.1**
ASGA S **Sn 14 40 37.5 +1.2**
ASGA AML AML 14 40 44.6
ASGA AML AML 14 40 51.0
0.1nm,0.5s
HNTI Hanita 5.33 122 P **Pn 14 40 32.2 +1.0**
HNTI Hanita 5.33 122 S **Sn 14 41 30.1 -1.4**
OFRI `Ofer 5.48 127 P **Pn 14 40 34.3 +1.1**
OFRI `Ofer 5.48 127 S **Sn 14 41 33.9 -1.4**
MMA0B Mount Meron ar 5.52 121 P **Pn 14 40 34.9 +1.0**
MMA0B Mount Meron ar 5.52 121 S **Sn 14 41 34.9 -1.5**
GEM Giv'at Ha'Em 5.60 118 P **Pn 14 40 36.4 +1.5**
NATI Neve Ativ 5.63 117 P **Pn 14 40 36.4 +1.1**
NATI Neve Ativ 5.63 117 S **Sn 14 41 37.2 -1.6**
KSHT Keshet 5.83 120 P **Pn 14 40 39.7 +1.6**
KSHT Keshet 5.83 120 S **Sn 14 41 42.0 -1.9**
MMLI Mount Malkishu 5.88 126 P **Pn 14 40 40.0 +1.2**
MMLI Mount Malkishu 5.88 126 S **Sn 14 41 43.7 -1.5**
HMDT Nahal Hemdat 6.07 127 P **Pn 14 40 42.8 +1.6**
HMDT Nahal Hemdat 6.07 127 S **Sn 14 41 48.1 -1.6**
KZIT Kziot 6.39 142 P **Pn 14 40 47.4 +1.7**
DSI Dead Sea 6.43 132 P **Pn 14 40 47.0 +0.6**
DSI Dead Sea 6.43 132 S **Sn 14 41 56.2 -2.6**
MSBI Mazada 6.60 134 P **Pn 14 40 49.8 +1.2**
PRNI Paran 7.14 141 P **Pn 14 40 57.0 +0.8**
PRNI Paran 7.14 141 S **Sn 14 42 13.7 -2.6**
KRMI Paran Flat 7.20 143 P **Pn 14 40 57.8 +1.0**
HRFI Mount Harif 7.42 142 P **Pn 14 41 00.7 +0.9**
HRFI Mount Harif 7.42 142 S **Sn 14 42 20.0 -3.1**
MBRI Mt Berech 7.56 144 P **Pn 14 41 02.4 +0.5**
EIL Elat 7.68 144 P **Pn 14 41 04.5 +1.1**

IDC 09 14:46:10.4±20.0, 18°06S×178°48W, h596km±202km, mb3.5/3, mbtmp4.5/3, Error ellipse: s-maj=143.5km s-min=97.6km az=94.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.50**	**241**	P	P	14 52 43.3	+0.2
	3.0nm,0.5s,baz=95,slow=11,SNR=8.6						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**260**	P	P	14 53 30.3	-0.5
	1.3nm,0.4s,baz=98,slow=7.5,SNR=38						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**44.68**	**254**	P	P	14 53 31.9	0.0
	9.4nm,0.5s,baz=92,slow=7.9,SNR=515						
ASAR				PcP	PcP	14 55 00.9	-0.4
	0.2nm,0.5s,baz=92,slow=3.5,SNR=1.6						
	9.4nm,0.5s						
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc	PKPbc	15 04 48.6	-0.5
	0.5nm,0.5s,baz=24,slow=2.8,SNR=2.7						

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*IDC **09** 15:30:32.4±1.2, 3°.24N×126°.36E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=76.3km s-min=15.3km az=66.0*
*NEIC **09** 15:30:48.4±2.1, 3°.0N±0°.1×125°.82E±0°.09, h131km±3km, mb4.3/16, Error ellipse: s-maj=16.8km s-min=12.3km az=201.0*
*DJA **09** 15:30:50.1±0.4, 3°N±4°×12°6E±°, h124km±5km, M4.2/19, mB5.2/4, mb4.1/10, MLv4.2/19, Mw(mB)4.5/4*
ISC 09 15:30:49.7±0.6, 2°.81N±0°.07×125°.83E±0°.07, h150km, n58, σ1§25/58, mb4.2/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.92**	**341**	P	**Pn**	**15 31 13.0**	**-0.8**
TNTI	**Ternate**	**2.54**	**143**		**Pn**	**15 31 30.6**	**-0.8**
TNTI	**Ternate**	**2.54**	**143**	P	**Pn**	**15 31 30.9**	**-0.5**
TNTI	**Ternate**	**2.54**	**143**	P	**Pn**	**15 31 30.6**	**-0.8**
KMSI	**Cibinong**	**2.89**	**220**	P	**Pn**	**15 31 34.7**	**-0.9**
MRSI	**Marisa**	**4.53**	**239**	P	**Pn**	**15 31 56.9**	**+0.1**
SANI	**Sanana**	**4.83**	**178**	P	**Pn**	**15 31 57.7**	**-3.2**
SANI	**Sanana**	**4.83**	**178**	P	**Pn**	**15 31 57.8**	**-3.2**
LUWI	**Luwuk**	**4.90**	**219**	Pn	**Pn**	**15 32 02.3**	**+0.6**
LUWI	**Luwuk**	**4.90**	**219**	P	**Pn**	**15 32 01.6**	**-0.2**
TOLI2	**Tolitoli**	**5.32**	**252**	Pn	**Pn**	**15 32 05.6**	**-1.8**
APSI	**Ampana**	**5.58**	**229**	P	**Pn**	**15 32 10.8**	**0.0**
	0.1nm21nm,0.7s						
NLAI	**Namlea**	**6.14**	**168**	P	**Pn**	**15 32 17.1**	**-1.2**
	6μm111nm,0.9s						
MSAI	**Masohi**	**6.86**	**153**	P	**Pn**	**15 32 27.9**	**0.0**
	0.3nm2μm33nm,0.9s						
AAI	**Ambon**	**6.88**	**160**	P	**Pn**	**15 32 27.9**	**-0.2**
	1μm47nm,0.8s						
KDI	**Kendari**	**7.45**	**206**	P	**Pn**	**15 32 34.5**	**-1.3**
FAKI	**Fak Fak**	**8.58**	**132**	Pn	**Pn**	**15 32 52.6**	**+1.7**
FAKI	**Fak Fak**	**8.58**	**132**	P	**Pn**	**15 32 53.5**	**+2.6**
FAKI	**Fak Fak**	**8.58**	**132**	P	**Pn**	**15 32 52.4**	**+1.5**
	32nm,1.6s						
EDFI	**Ende, Flores**	**12.20**	**200**	P	**Pn**	**15 33 38.4**	**-0.4**
SOEI	**Soe**	**12.58**	**187**	P	**Pn**	**15 33 41.0**	**-2.7**
SBUM	**Sibu**	**13.60**	**269**	P	**P**	**15 34 01.8**	**+1.4**
KSM	**Kuching**	**15.56**	**265**	P	**P**	**15 34 22.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**16.16**	**226**		**P**	**15 34 30.2**	**+1.4**
JAGI				IAmb	IAmb	15 34 49.7	
	comp=Z,19nm,1.0s						
MTN	**Manton Dam**	**16.42**	**161**	Pn	**P**	**15 34 29.5**	**-2.2**
KNRA	**Kununurra**	**18.60**	**171**	P	**P**	**15 34 55.5**	**0.0**
KNRA				IAmb	IAmb	15 34 57.2	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.78**	**181**	P	**P**	**15 35 19.4**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=17,slow=9.0,SNR=28						
	comp=Z,2.7nm,0.4s						
COEN	**Coen**	**23.95**	**135**	P	**P**	**15 35 50.8**	**+0.5**
COEN				IAmb	IAmb	15 35 53.8	
	comp=Z,7.6nm,1.1s						
COEN	**Coen**	**23.95**	**135**	P	**P**	**15 35 49.5**	**-0.8**
WB0	**Warramunga Arr**	**23.96**	**160**	P	**P**	**15 35 50.9**	**+0.6**
WRAB	**Tennant Creek**	**24.10**	**160**	P	**P**	**15 35 52.1**	**+0.5**
WRA	**Warramunga Arr**	**24.11**	**160**	P	**P**	**15 35 51.7**	**+0.1**
WRA	**Warramunga Arr**	**24.11**	**160**	P	**P**	**15 35 52.0**	**+0.4**
	comp=Z,8.1nm,0.7s,baz=342,slow=10,SNR=46						
	comp=Z,8.1nm,0.7s						
WR8	**Warramunga Arr**	**24.18**	**160**	P	**P**	**15 35 53.2**	**+0.9**
WR8				IAmb	IAmb	15 35 54.4	
	comp=Z,7.0nm,0.6s						
PMG	**Port Moresby**	**24.48**	**120**	P	**P**	**15 35 53.6**	**-1.5**
PMG	**Port Moresby**	**24.48**	**120**	P	**P**	**15 35 53.3**	**-1.8**
QIS	**Mount Isa**	**26.87**	**150**	P	**P**	**15 36 17.7**	**+1.1**
AS31	**Alice Springs**	**27.47**	**164**	P	**P**	**15 36 22.6**	**+0.7**
AS31				IAmb	IAmb	15 36 24.4	
	comp=Z,1.6nm,0.4s						
ASAR	**Alice Springs**	**27.47**	**164**	P	**P**	**15 36 22.1**	**+0.2**
ASAR	**Alice Springs**	**27.47**	**164**	P	**P**	**15 36 22.6**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=342,slow=6.9,SNR=71						
	comp=Z,1.5nm,0.4s						
MTSU	**Mount Surprise**	**27.66**	**139**	P	**P**	**15 36 23.7**	**0.0**
CMAR	**Chiang Mai Arr**	**30.58**	**302**	P	**P**	**15 36 50.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=100,slow=6.7,SNR=1.0						
	comp=Z,0.2nm,0.5s						
FORT	**Forrest**	**33.47**	**177**	P	**P**	**15 37 14.4**	**-0.2**
FORT				IAmb	IAmb	15 37 33.1	
	comp=Z,6.8nm,0.9s						
BBOO	**Buckleboo**	**36.73**	**166**	P	**P**	**15 37 43.4**	**+0.8**
BBOO				IAmb	IAmb	15 37 54.4	
	comp=Z,8.1nm,1.1s						
BBOO	**Buckleboo**	**36.73**	**166**	P	**P**	**15 37 40.1**	**-2.4**
STKA	**Stephens Creek**	**37.61**	**158**	P	**P**	**15 37 51.0**	**+1.0**
STKA	**Stephens Creek**	**37.61**	**158**	P	**P**	**15 37 51.3**	**+1.4**
	comp=Z,4.4nm,0.7s,baz=335,slow=8.5,SNR=8.9						
	comp=Z,4.4nm,0.7s						
GTA	**Gaotai**	**43.43**	**330**	*eP*	**P**	**15 38 38.9**	**+1.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**57.80**	**326**	P	**P**	**15 40 25.2**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=122,slow=7.6,SNR=41						
	comp=Z,1.7nm,0.4s						
GAR	**Garm**	**61.88**	**313**	P	**P**	**15 40 52.7**	**-0.8**
GAR				IAmb	IAmb	15 41 18.1	
	comp=Z,5.4nm,1.2s						
KURBB	**Kurchatov Arra**	**62.03**	**328**	P	**P**	**15 40 53.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=123,slow=6.9,SNR=17						
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**62.03**	**328**	P	**P**	**15 40 53.5**	**-0.5**
BVAR	**Borovoye Array**	**67.60**	**327**	P	**P**	**15 41 30.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=98,slow=7.4,SNR=2.9						
	comp=Z,0.6nm,0.4s						
AB31	**Akbulak array**	**72.29**	**321**	P	**P**	**15 41 57.2**	**-1.5**
ABKAR	**Akbulak array**	**72.29**	**321**	P	**P**	**15 41 57.7**	**-1.1**
P08K	**Saint George I**	**73.90**	**31**	P	**P**	**15 42 09.3**	**+1.3**
IVI	**Ivigtut**	**115.99**	**357**	PKPdf	**PKPdf**	**15 49 13.7**	**-0.8**
M44A	**Midewin, Midew**	**126.29**	**31**	PKPdf	**PKiKP**	**15 49 34.9**	**-0.4**

NNC 09 15:32:30.0±7.1, 38°23N×72°22E, h0km, mb3.5, mpv3.2, 4C-1D, Error ellipse: s-maj=57.2km s-min=46.9km az=166.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.73**	**21**	⇑P	Pn	15 33 42.7	-0.1
	0.7nm,0.3s						
AAK				⇓S	Sn	15 34 39.3	+0.9
	7.1nm,0.7s						
KK31	**Karatay Array**	**5.04**	**346**	⇑P	Pn	15 33 47.9	+1.1
	2.4nm,0.3s						
KK31				⇑S	Sn	15 34 46.9	+1.2
	1.7nm,0.3s						
AB31	**Akbulak array**	**14.12**	**325**	⇑P	Pn	15 35 47.7	-3.5
	0.2nm,0.4s,baz=129,slow=14,SNR=9.6						

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*JMA **09** 15:34:51.4±0.1, 24°.0N±0°.9×122°.4E±0°.3, h46km±2km, MV2.5/12, TAIWAN REGION*
*TAP **09** 15:34:51.8, 24°.08N×122°.38E, h48km, ML3.0, C*
ISC 09 15:34:52.0±1.2, 24°02N±0°.02×122°41E±0°.02, h45km±7km, n132, σ1§23/252, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.13**	**319**	*eP*	**Pn**	**15 34 59.1**	**+0.2**
EOS4				*eS*	**Sn**	**15 35 04.5**	**+0.6**
EOS3	**EOS3**	**0.28**	**342**	⇑*eP*	**Pn**	**15 35 00.5**	**+0.2**
EOS3				*eS*	**Sn**	**15 35 07.3**	**+1.1**
EOS2	**EOS2**	**0.43**	**337**	*eP*	**Pn**	**15 35 02.1**	**+0.1**
EOS2				*eS*	**Sn**	**15 35 10.1**	**+1.0**
JYNG	**Yonagunijimaku**	**0.65**	**48**	P	**Pn**	**15 35 04.8**	**0.0**
JYNG				S	**Sn**	**15 35 14.5**	**+0.4**
EAHA	**Aohua**	**0.69**	**297**	*i P*	**Pn**	**15 35 05.2**	**-0.2**
EAHA				*i S*	**Sn**	**15 35 14.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.70**	**51**	P	**Pn**	**15 35 05.6**	**0.0**
YOJ	**Yonaguni jima**	**0.70**	**51**	*eP*	**Pn**	**15 35 05.5**	**0.0**
YOJ				*eS*	**Sn**	**15 35 15.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.70**	**51**	*i P*	**Pn**	**15 35 05.4**	**-0.1**
YOJ				S	**Sn**	**15 35 15.9**	**+0.5**
EWUT	**Wuta**	**0.72**	**306**	*i P*	**Pn**	**15 35 05.0**	**-0.8**
EWUT				*i S*	**Sn**	**15 35 14.8**	**-1.0**
ETL	**Fush Village**	**0.74**	**281**	*i P*	**Pn**	**15 35 05.2**	**-0.8**
ETL				*i S*	**Sn**	**15 35 15.4**	**-0.9**
ENA	**Nanau**	**0.74**	**304**	*i P*	**Pn**	**15 35 05.4**	**-0.7**
ENA				*i S*	**Sn**	**15 35 15.5**	**-0.7**
HWA	**Hwalien**	**0.74**	**267**	*i P*	**Pn**	**15 35 05.7**	**-0.4**
HWA				*i S*	**Sn**	**15 35 16.9**	**+0.7**
TWD	**Chiawan**	**0.75**	**275**	⇓*iP*	**Pn**	**15 35 05.3**	**-0.9**
TWD				*i S*	**Sn**	**15 35 15.2**	**-1.3**
ESAO	**Su ao**	**0.76**	**317**	*i P*	**Pn**	**15 35 05.3**	**-1.1**
ESAO				*i S*	**Sn**	**15 35 15.1**	**-1.7**
TEYL	**Yanliau Villag**	**0.76**	**259**	*i P*	**Pn**	**15 35 05.8**	**-0.6**
TEYL				*i S*	**Sn**	**15 35 16.9**	**+0.1**
NACB	**Ninganchiao**	**0.76**	**282**	P	**Pn**	**15 35 05.5**	**-0.9**
NACB	**Ninganchiao**	**0.76**	**282**	S	**Sn**	**15 35 15.9**	**-1.0**
NACB	**Ninganchiao**	**0.76**	**282**	⇓*iP*	**Pn**	**15 35 05.4**	**-0.9**
NACB				*i S*	**Sn**	**15 35 15.8**	**-1.0**
TWC	**Suao**	**0.78**	**319**	*i P*	**Pn**	**15 35 05.7**	**-1.0**
TWC				*i S*	**Sn**	**15 35 15.5**	**-1.8**
SHUL	**Shoufeng**	**0.81**	**254**	*i P*	**Pn**	**15 35 06.6**	**-0.5**
SHUL				*i S*	**Sn**	**15 35 18.3**	**+0.3**
ETM	**Tongmen**	**0.84**	**267**	*i P*	**Pn**	**15 35 06.3**	**-1.2**
ETM				*i S*	**Sn**	**15 35 17.4**	**-1.4**
TEGC	**Jichi Village**	**0.86**	**249**	*i P*	**Pn**	**15 35 07.3**	**-0.4**
TEGC				*i S*	**Sn**	**15 35 19.1**	**0.0**
ETLH	**Xiulin Townshi**	**0.87**	**283**	*i P*	**Pn**	**15 35 07.2**	**-0.8**
ETLH				*i S*	**Sn**	**15 35 18.4**	**-1.3**
NDS	**Dongshan**	**0.88**	**314**	*i P*	**Pn**	**15 35 07.8**	**-0.2**
NDS				*i S*	**Sn**	**15 35 19.3**	**-0.5**
LXIB	**Xiulin Townshi**	**0.92**	**270**	*i P*	**Pn**	**15 35 07.6**	**-1.0**
LXIB				S	**Sn**	**15 35 19.5**	**-1.3**
ESL	**Shilin**	**0.92**	**257**	*i P*	**Pn**	**15 35 07.4**	**-1.1**
ESL				*i S*	**Sn**	**15 35 19.0**	**-1.6**
EGS		**0.93**	**332**	P	**Pn**	**15 35 07.7**	**-1.0**
EGS				*i S*	**Sn**	**15 35 20.1**	**-0.8**
LATG	**Datong**	**0.96**	**303**	*i P*	**Pn**	**15 35 08.5**	**-0.7**
LATG				*i S*	**Sn**	**15 35 21.0**	**-0.8**
EGFH	**Guangfu**	**0.97**	**249**	*i P*	**Pn**	**15 35 08.4**	**-0.8**
EGFH				S	**Sn**	**15 35 21.1**	**-0.7**
TWE	**Neicheng**	**0.98**	**316**	*i P*	**Pn**	**15 35 08.9**	**-0.3**
TWE				*i S*	**Sn**	**15 35 20.7**	**-1.2**
WARBT	**Fenglin Townsh**	**0.99**	**252**	*i P*	**Pn**	**15 35 08.5**	**-1.0**
WARBT				*i S*	**Sn**	**15 35 20.8**	**-1.5**
ENTT	**Nioudou**	**0.99**	**309**	*i P*	**Pn**	**15 35 09.0**	**-0.4**
ENTT				*i S*	**Sn**	**15 35 22.3**	**0.0**
NNSH	**Datong**	**1.02**	**294**	*i P*	**Pn**	**15 35 09.4**	**-0.6**
NNSH				*i S*	**Sn**	**15 35 22.4**	**-1.0**
NNSB	**Datong**	**1.03**	**294**	*i P*	**Pn**	**15 35 09.4**	**-0.6**
NNSB				*i S*	**Sn**	**15 35 22.5**	**-0.9**
NNS	**Nan Shan**	**1.04**	**294**	*i P*	**Pn**	**15 35 09.8**	**-0.5**
NNS				*i S*	**Sn**	**15 35 22.9**	**-0.8**
HGSD	**Ruisui**	**1.05**	**240**	*i P*	**Pn**	**15 35 09.5**	**-0.7**
HGSD				*i S*	**Sn**	**15 35 22.8**	**-1.0**
FUSB	**Fushanzhiwuyua**	**1.05**	**315**	*i P*	**Pn**	**15 35 10.2**	**-0.2**
FUSB				*i S*	**Sn**	**15 35 23.5**	**-0.5**
WHF	**Hehuan Shan**	**1.06**	**277**	*i P*	**Pn**	**15 35 09.9**	**-0.8**
WHF				*i S*	**Sn**	**15 35 23.2**	**-1.3**
TWB1	**Santiao Chiao**	**1.06**	**339**	*i P*	**Pn**	**15 35 09.5**	**-0.9**
TWB1				*i S*	**Sn**	**15 35 22.4**	**-1.6**
TIPB	**Shuangxi**	**1.09**	**331**	*i P*	**Pn**	**15 35 10.2**	**-0.6**
TIPB				*i S*	**Sn**	**15 35 23.3**	**-1.5**
FUSS	**Fushou**	**1.09**	**282**	*i P*	**Pn**	**15 35 10.7**	**-0.4**
FUSS				*i S*	**Sn**	**15 35 24.6**	**-0.6**
EHYH	**Wanrong**	**1.11**	**242**	*i P*	**Pn**	**15 35 10.7**	**-0.4**
EHYH				*i S*	**Sn**	**15 35 25.1**	**-0.2**
NWLT	**Wulai**	**1.12**	**312**	*i P*	**Pn**	**15 35 11.1**	**-0.2**
NWLT				*i S*	**Sn**	**15 35 25.0**	**-0.6**
EHY	**Hungye**	**1.12**	**243**	*i P*	**Pn**	**15 35 10.6**	**-0.7**
EHY				*i S*	**Sn**	**15 35 24.6**	**-1.0**
ECBN	**Changbin**	**1.13**	**232**	*i P*	**Pn**	**15 35 11.0**	**-0.3**
ECBN				*i S*	**Sn**	**15 35 25.0**	**-0.7**
OWD	**Renai**	**1.13**	**267**	*i P*	**Pn**	**15 35 11.2**	**-0.4**
OWD				*i S*	**Sn**	**15 35 24.6**	**-1.4**
YHNB	**Yeheng**	**1.15**	**305**	P	**Pn**	**15 35 11.4**	**-0.3**
YHNB	**Yeheng**	**1.15**	**305**	S	**Sn**	**15 35 24.7**	**-1.6**
YHNB	**Yeheng**	**1.15**	**305**	*i P*	**Pn**	**15 35 11.4**	**-0.3**
YHNB				*i S*	**Sn**	**15 35 25.2**	**-1.1**
TWT	**Tachien**	**1.16**	**282**	*i P*	**Pn**	**15 35 11.1**	**-0.8**
TWT				*i S*	**Sn**	**15 35 26.6**	**0.0**
NSK	**Sanguang**	**1.16**	**304**	*i P*	**Pn**	**15 35 11.5**	**-0.4**
NSK				*i S*	**Sn**	**15 35 25.4**	**-1.3**
TDCB	**Techi**	**1.17**	**282**	*i P*	**Pn**	**15 35 11.8**	**-0.3**
TDCB				S	**Sn**	**15 35 25.7**	**-1.2**
SXI1	**Grass Mountain**	**1.18**	**335**	*i P*	**Pn**	**15 35 11.2**	**-0.9**
SXI1				S	**Sn**	**15 35 25.8**	**-1.2**
WUSB	**Renai**	**1.19**	**269**	*i P*	**Pn**	**15 35 12.0**	**-0.2**
WUSB				*i S*	**Sn**	**15 35 27.1**	**-0.2**
NWF	**Wu-fen Shan**	**1.20**	**331**	*eP*	**Pn**	**15 35 12.1**	**-0.2**
NWF				*eS*	**Sn**	**15 35 26.5**	**-1.0**
VWDT	**VWDT**	**1.20**	**257**	*i P*	**Pn**	**15 35 12.3**	**+0.1**
VWDT				*i S*	**Sn**	**15 35 27.1**	**-0.2**
WFSB	**Wu-fen Shan**	**1.20**	**331**	*eP*	**Pn**	**15 35 12.0**	**-0.2**
WFSB				*eS*	**Sn**	**15 35 26.5**	**-0.9**
YULB	**Yu-li**	**1.20**	**239**	P	**Pn**	**15 35 11.8**	**-0.5**
YULB	**Yu-li**	**1.20**	**239**	S	**Sn**	**15 35 26.6**	**-0.9**
YULB	**Yu-li**	**1.20**	**239**	*i P*	**Pn**	**15 35 11.9**	**-0.4**
YULB				*i S*	**Sn**	**15 35 26.9**	**-0.6**
EYUL	**Yuli**	**1.21**	**237**	*i P*	**Pn**	**15 35 12.5**	**0.0**
EYUL				*i S*	**Sn**	**15 35 28.2**	**+0.6**
TWA	**Mucha**	**1.22**	**322**	*i P*	**Pn**	**15 35 12.7**	**0.0**
TWA				*i S*	**Sn**	**15 35 28.9**	**+0.9**
TWF1	**Yuli**	**1.22**	**237**	*i P*	**Pn**	**15 35 12.4**	**-0.2**
TWF1				*i S*	**Sn**	**15 35 27.8**	**-0.2**
NHDH	**Xindian Distri**	**1.24**	**319**	*i P*	**Pn**	**15 35 13.7**	**+0.8**
NHDH				S	**Sn**	**15 35 27.2**	**-1.2**
IRIF	**Iriomote-Funau**	**1.24**	**75**	P	**Pn**	**15 35 13.1**	**+0.2**
CHKH	**Chenggong**	**1.25**	**229**	P	**Pn**	**15 35 12.1**	**-0.8**
CHKH				*i S*	**Sn**	**15 35 26.6**	**-2.0**
FULB	**Fuli**	**1.31**	**232**	*i P*	**Pn**	**15 35 13.1**	**-0.8**
FULB				*i S*	**Sn**	**15 35 29.2**	**-1.1**
CHKT	**Chengkung**	**1.33**	**227**	*i P*	**Pn**	**15 35 13.2**	**-0.9**
CHKT				*i S*	**Sn**	**15 35 28.5**	**-2.1**
NFF	**Wufeng Townshi**	**1.33**	**298**	*i P*	**Pn**	**15 35 14.6**	**+0.4**
NFF				*i S*	**Sn**	**15 35 31.3**	**+0.5**
SSLB	**Suanglung**	**1.36**	**260**	P	**Pn**	**15 35 14.5**	**0.0**
SSLB	**Suanglung**	**1.36**	**260**	*i P*	**Pn**	**15 35 14.5**	**0.0**
SSLB				*eS*	**Sn**	**15 35 30.0**	**-1.3**
KSHI	**Guanxi Townshi**	**1.36**	**304**	*i P*	**Pn**	**15 35 15.1**	**+0.6**
KSHI				S	**Sn**	**15 35 32.5**	**+1.2**
YM01	**YM01**	**1.36**	**326**	*i P*	**Pn**	**15 35 13.9**	**-0.6**
YM01				S	**Sn**	**15 35 30.1**	**-1.4**
WHP	**Taichung City**	**1.36**	**281**	*i P*	**Pn**	**15 35 15.2**	**+0.5**
WHP				*i S*	**Sn**	**15 35 31.8**	**+0.1**
WCS	**Beigang Elemen**	**1.37**	**272**	*i P*	**Pn**	**15 35 14.9**	**+0.2**
WCS				*eS*	**Sn**	**15 35 31.1**	**-0.6**
YM08	**YM08**	**1.38**	**327**	*eP*	**Pn**	**15 35 15.0**	**+0.1**
YM08				S	**Sn**	**15 35 30.3**	**-1.7**
ZUZH	**Zhuzihu**	**1.39**	**325**	*i P*	**Pn**	**15 35 14.8**	**-0.1**
ZUZH				*i S*	**Sn**	**15 35 32.0**	**-0.1**
SMLT	**Sun Moon Lake**	**1.39**	**265**	*i P*	**Pn**	**15 35 15.2**	**+0.1**
SMLT				*eS*	**Sn**	**15 35 32.1**	**-0.2**
EHD	**Haiduan**	**1.41**	**232**	*i P*	**Pn**	**15 35 14.1**	**-1.1**
EHD				*i S*	**Sn**	**15 35 31.1**	**-1.4**
TWS1	**Kuangyinshan**	**1.41**	**320**	*i P*	**Pn**	**15 35 15.2**	**0.0**
TWS1				S	**Sn**	**15 35 33.3**	**+0.7**
ANP	**Anpu**	**1.42**	**325**	P	**Pn**	**15 35 13.7**	**-1.7**
ANP				*eS*	**Sn**	**15 35 31.4**	**-1.6**
LIOB	**Emei**	**1.42**	**296**	*i P*	**Pn**	**15 35 16.1**	**+0.7**
LIOB				*i S*	**Sn**	**15 35 34.1**	**+1.2**
NSTT	**Nanjuang**	**1.43**	**296**	*i P*	**Pn**	**15 35 16.1**	**+0.7**
NSTT				*i S*	**Sn**	**15 35 33.4**	**+0.4**
TYC	**Yuchr**	**1.43**	**266**	*i P*	**Pn**	**15 35 15.7**	**+0.3**
TYC				*eS*	**Sn**	**15 35 32.5**	**-0.5**
ECS	**Chishang**	**1.43**	**230**	*i P*	**Pn**	**15 35 15.7**	**+0.2**
ECS				S	**Sn**	**15 35 33.5**	**+0.4**
NTST	**Danshui**	**1.44**	**323**	*eP*	**Pn**	**15 35 16.0**	**+0.5**
NTST				*i S*	**Sn**	**15 35 33.9**	**+0.6**
EDH	**Donghe**	**1.46**	**225**	*i P*	**Pn**	**15 35 15.2**	**-0.7**
EDH				*i S*	**Sn**	**15 35 31.9**	**-1.8**
WHYT	**Xinyi Township**	**1.47**	**258**	*i P*	**Pn**	**15 35 16.7**	**+0.7**
WHYT				*eS*	**Sn**	**15 35 34.9**	**+0.8**
JKRS	**Kuro-shima**	**1.47**	**81**	*eP*	**Pn**	**15 35 16.9**	**+0.9**
SBCB	**Hsinchu**	**1.51**	**301**	*eP*	**Pn**	**15 35 17.7**	**+1.1**
SBCB				S	**Sn**	**15 35 36.8**	**+1.6**
ELDTW	**Lidau**	**1.52**	**237**	*i P*	**Pn**	**15 35 16.3**	**-0.6**
ELDTW				*i S*	**Sn**	**15 35 33.8**	**-1.8**
TWQ1	**Liyutan**	**1.53**	**283**	*i P*	**Pn**	**15 35 17.8**	**+0.9**
TWQ1				*i S*	**Sn**	**15 35 37.5**	**+1.8**
ALS	**Alishan**	**1.56**	**251**	*i P*	**Pn**	**15 35 18.2**	**+0.7**
ALS				*eS*	**Sn**	**15 35 38.1**	**+1.4**
NSY	**Sanyi**	**1.56**	**285**	*i P*	**Pn**	**15 35 18.1**	**+0.9**
NSY				S	**Sn**	**15 35 35.8**	**-0.5**
NMLH	**Miaoli**	**1.57**	**290**	*i P*	**Pn**	**15 35 17.4**	**+0.1**
NMLH				S	**Sn**	**15 35 37.4**	**+0.9**
WNT	**Mingjian**	**1.59**	**265**	*i P*	**Pn**	**15 35 19.3**	**+1.6**
WNT				*i S*	**Sn**	**15 35 39.9**	**+2.7**
TCU	**Taichung**	**1.59**	**275**	*i P*	**Pn**	**15 35 18.8**	**+1.1**
TCU				S	**Sn**

1.2nm,0.8s
MKAR Makanchi Array 24.64 321 P **P** **15 46 30.1 -0.1**
1.3nm,0.7s,baz=116,slow=11,SNR=12
1.3nm,0.7s
ZALV Zalesovo Beam 28.46 335 P **P** **15 47 05.5 +1.0**
1.4nm,0.7s,baz=133,slow=6.5,SNR=4.5
1.4nm,0.7s
KURBB Kurchatov Arra 28.93 324 P **P** **15 47 08.0 -0.7**
0.8nm,0.7s,baz=130,slow=9.5,SNR=6.9
0.8nm,0.7s
PETK Petropavlovsk- 44.90 43 LR LR 16 11 37.0
comp=Z,31nm,18.2s,baz=273,slow=41
WRA Warramunga Arr 56.77 146 P **P** **15 50 54.0 +0.4**
3.2nm,0.8s,baz=338,slow=8.1,SNR=18
3.2nm,0.8s
BRTR Keskin Array B 58.13 301 P **P** **15 51 04.1 +0.7**
0.5nm,0.4s,baz=75,slow=8.8,SNR=2.8
0.5nm,0.4s
FINES FINESS Array B 59.28 327 P **P** **15 51 11.4 +0.7**
0.7nm,0.7s,baz=112,slow=6.2,SNR=4.3
0.7nm,0.7s
ASAR Alice Springs 59.77 149 P **P** **15 51 14.9 +0.3**
1.4nm,0.8s,baz=335,slow=6.1,SNR=4.5
1.4nm,0.8s

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*NIED **09** 15:52:42.7, 41.°56N×142.°06E, h66km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}7.08; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-6.72; $M_{r\theta}$3.26; $M_{\theta\phi}$-2.28; $M_{r\phi}$5.10; Fault plane solution: $M_0$9.46000×10^{14} NP1: ϕ_s188.00000°, δ26.00000°, λ72.00000°. NP2: ϕ_s27.00000°, δ65.00000°, λ98.00000°.*
*JMA **09** 15:52:42.7±0.2, 41.°6N±0.°5×142.°1E±0.°8, h66km±2km, MV3.8/38, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
*NEIC **09** 15:52:43.3±2.1, 41.°56N±0.°07×142.°10E±0.°09, h58km±7km, mb4.3/24, Error ellipse: s-maj=12.1km s-min=6.1km az=135.0*
*IDC **09** 15:52:43.1±0.8, 41.°55N×142.°05E, h63km±6km, mb3.7/14, mbtmp3.9/18, Error ellipse: s-maj=14.5km s-min=9.3km az=105.0*

ISC 09 15:52:43.4±0.6, 41.°56N±0.°03×142.°06E±0.°04, h63km±5km, n91, σ1°01/96, mb4.2/26, 18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.62**	**242**	⇓iP	**Pn**	**15 52 56.7**	**-0.2**
JAHD				⇓S	**Sn**	**15 53 07.0**	**+0.3**
JARK	**Aomorirokkasho**	**0.76**	**224**	⇓iP	**Pn**	**15 52 57.9**	**-0.7**
JARK				⇓S	**Sn**	**15 53 08.8**	**-0.9**
JOT	**Ohata**	**0.78**	**257**	⇓iP	**Pn**	**15 52 58.2**	**-0.6**
JOT				⇓S	**Sn**	**15 53 10.1**	**0.0**
JKB	**Kayabe**	**0.83**	**293**	⇓iP	**Pn**	**15 52 58.5**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.88**	**36**	P	**Pn**	**15 52 59.0**	**-1.1**
ERM	**Erimo**	**0.94**	**61**		**Pn**	**15 52 60.0**	**-0.7**
JEM	**Erimo**	**0.94**	**61**	iP	**Pn**	**15 53 00.1**	**-0.7**
JIAM	**Iburiatsuma**	**1.06**	**354**	⇓iP	**Pn**	**15 53 02.7**	**+0.3**
JTM	**Tenmabayashi**	**1.08**	**224**	Pn	**Pn**	**15 53 02.2**	**-0.4**
JTM	**Tenmabayashi**	**1.08**	**224**	⇓iP	**Pn**	**15 53 02.3**	**-0.2**
JTM				⇓S	**Sn**	**15 53 16.4**	**-0.4**
JNB	**Noboribetsu**	**1.18**	**320**	⇓iP	**Pn**	**15 53 03.0**	**-1.0**
JNB				⇓eS	**Sn**	**15 53 18.2**	**-1.0**
JSR	**Shiriuchi**	**1.23**	**269**	iP	**Pn**	**15 53 04.2**	**-0.4**
JBT2	**Biratori 2**	**1.24**	**10**	P	**Pn**	**15 53 04.6**	**0.0**
JANG	**Nango**	**1.26**	**199**	⇓iP	**Pn**	**15 53 04.2**	**-0.8**
JANG				⇓S	**Sn**	**15 53 19.9**	**-1.1**
JEW	**Eniwo**	**1.35**	**341**	⇓iP	**Pn**	**15 53 06.1**	**-0.1**
JEW				⇓S	**Sn**	**15 53 23.0**	**-0.3**
JYM2	**Yakumo 2**	**1.38**	**294**	⇓iP	**Pn**	**15 53 06.5**	**0.0**
JCH	**Churui**	**1.43**	**42**	⇓iP	**Pn**	**15 53 07.4**	**+0.2**
JOSM	**Okushiri--Mats**	**2.00**	**286**	P	**Pn**	**15 53 14.2**	**-0.7**
ASAJ	**Asahikawa**	**2.58**	**9**	P	**Pn**	**15 53 23.4**	**+0.6**
	25nm,0.4s,baz=227,slow=12,SNR=98						
ASAJ				S	**Sn**	**15 53 53.3**	**+0.3**
	67nm,0.8s,baz=336,slow=31,SNR=5.2						
JKA	**Kamikawa-asahi**	**2.58**	**9**	Pn	**Pn**	**15 53 23.3**	**+0.4**
JMM	**Marumori**	**3.82**	**195**	Pn	**Pn**	**15 53 40.2**	**+0.5**
JSD	**Sado**	**4.58**	**221**	Pn	**Pn**	**15 53 51.0**	**+0.9**
YSS	**Yuzhno-Sakhali**	**5.41**	**5**	Pn	**Pn**	**15 54 03.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.84**	**212**	Pn	**Pn**	**15 54 11.6**	**+4.2**
MAJO	**Matsushiro**	**5.84**	**212**	Pn	**Pn**	**15 54 10.7**	**+3.3**
MJAR	**Matsushiro Arr**	**5.84**	**212**	Pn	**Pn**	**15 54 08.6**	**+1.2**
MJAR	**Matsushiro Arr**	**5.84**	**212**	P	**Pn**	**15 54 07.4**	**0.0**
	1.5nm,0.3s,baz=28,slow=12,SNR=12						
JGF	**Kuroka**	**7.00**	**213**	Pn	**Pn**	**15 54 27.2**	**+3.9**
INU	**Inuyama**	**7.36**	**214**	Pn	**Pn**	**15 54 30.3**	**+2.2**
USRK	**Ussuriysk Ar.**	**7.85**	**293**	P	**Pn**	**15 54 34.8**	**-0.1**
	3.5nm,0.6s,baz=92,slow=14,SNR=7.8						
USRK				S	**Sn**	**15 56 02.0**	**-0.2**
	2.1nm,0.6s,baz=350,slow=32,SNR=2.6						
KSRS	**Korea Array**	**11.66**	**254**	P	**Pn**	**15 55 27.2**	**+0.2**
	1.4nm,0.9s,baz=64,slow=14,SNR=20						
KSRS				S	**Sn**	**15 57 36.3**	**+0.9**
	1.9nm,0.6s,baz=68,slow=24,SNR=5.5						
KS19	**Wonju Array Si**	**11.69**	**254**	Pn	Pn	15 55 32.6	+5.3
KSAR	**Wonju Array Be**	**11.70**	**254**	Pn	Pn	15 55 32.0	+4.5
H11N2	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	16 31 20.4	
	baz=321,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	16 31 20.3	
	baz=321,slow=76,SNR=117						
H11N3	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	16 31 21.6	
	baz=321,slow=76,SNR=100						
H11S1	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	16 32 19.6	
	baz=322,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	16 32 21.8	
	baz=322,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**31.17**	**130**	T	T	16 32 22.2	
	baz=322,slow=76,SNR=48						
ZAA0	**Zalesovo Array**	**39.36**	**308**	P	**P**	**16 00 06.0**	**-0.5**
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**16 00 06.4**	**0.0**
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**16 00 06.3**	**-0.1**
	1.4nm,0.4s,baz=88,slow=6.1,SNR=10						
ZALV				PcP	**PcP**	**16 02 13.6**	**0.0**
	0.3nm,0.3s,baz=78,slow=3.2,SNR=4.2						
	1.4nm,0.4s						
E19K	**Redstone River**	**41.29**	**31**	P	**P**	**16 00 22.3**	**+0.2**
E19K				IAmb	IAmb	16 01 04.5	
	comp=Z,5.5nm,1.2s						
B20K	**Meade River**	**41.70**	**27**	P	**P**	**16 00 24.5**	**-1.0**
MKAR	**Makanchi Array**	**42.28**	**298**	P	**P**	**16 00 30.0**	**-0.6**
MKAR	**Makanchi Array**	**42.28**	**298**	P	**P**	**16 00 30.2**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=82,slow=10,SNR=8.5						
MKAR				PcP	**PcP**	**16 02 23.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=72,slow=5.7,SNR=5.8						
	comp=Z,2.0nm,0.9s						
J20K	**Nowinta River**	**42.33**	**36**	P	**P**	**16 00 31.4**	**+0.7**
IMAR	**Indian Mountai**	**42.54**	**33**	P	**P**	**16 00 32.0**	**-0.4**
CHTO	**Chiang Mai**	**43.05**	**252**	P	**P**	**16 00 36.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.28**	**251**	P	**P**	**16 00 39.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=50,slow=8.1,SNR=5.6						
CMAR				PcP	**PcP**	**16 02 27.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=342,slow=0.6,SNR=4.1						
	comp=Z,0.4nm,0.7s						
E22K	**Anaktuvuk Pass**	**43.40**	**30**	P	**P**	**16 00 39.0**	**-0.3**
KURBB	**Kurchatov Arra**	**43.73**	**304**	P	**P**	**16 00 41.7**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=78,slow=8.7,SNR=19						
KURBB				pP	**pP**	**16 00 57.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=77,slow=8.8,SNR=5.3						
	comp=Z,2.2nm,0.5s						
I23K	**Minto, Yukon-K**	**44.37**	**34**	P	**P**	**16 00 47.8**	**+0.7**
E24K	**Your Creek**	**44.65**	**30**	P	**P**	**16 00 49.6**	**+0.2**
E24K				IAmb	IAmb	16 00 57.6	
	comp=Z,6.6nm,1.4s						
H24K	**Noodor Dome**	**44.95**	**33**	P	**P**	**16 00 53.0**	**+1.2**
H24K				IAmb	IAmb	16 00 57.4	
	comp=Z,4.1nm,1.1s						
ILAR	**Eielson Array**	**45.45**	**35**	P	**P**	**16 00 55.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=273,slow=6.6,SNR=15						
	comp=Z,1.4nm,0.9s						
F26K	**Sheenjek River**	**46.30**	**30**	P	**P**	**16 01 03.2**	**+0.8**
F26K				IAmb	IAmb	16 01 32.7	
	comp=Z,3.2nm,1.2s						
G26K	**Porcupine Rive**	**46.51**	**31**	P	**P**	**16 01 04.8**	**+0.9**
G26K				IAmb	IAmb	16 01 47.3	
	comp=Z,5.4nm,1.4s						
SCRK	**Sand Creek**	**46.79**	**36**	P	**P**	**16 01 05.7**	**-0.7**
L27K	**Beaver Creek,**	**47.90**	**37**	P	**P**	**16 01 15.8**	**+0.9**
L27K				IAmb	IAmb	16 01 23.2	
	comp=Z,6.1nm,1.5s						
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**16 01 15.1**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=74,slow=9.2,SNR=15						
	comp=Z,2.0nm,0.3s						
I28M	**Miner Creek**	**48.27**	**33**	P	**P**	**16 01 17.9**	**+0.2**
I28M				IAmb	IAmb	16 01 19.9	
	comp=Z,5.1nm,1.1s						
F30M	**Barrier River**	**49.48**	**30**	P	**P**	**16 01 27.8**	**+1.0**
F30M				IAmb	IAmb	16 01 29.4	
	comp=Z,6.9nm,0.9s						
INK	**Inuvik**	**50.15**	**29**	P	**P**	**16 01 31.8**	**-0.1**
INK				IAmb	IAmb	16 01 49.4	
	comp=Z,3.7nm,1.1s						
AB31	**Akbulak array**	**55.48**	**308**	P	**P**	**16 02 11.2**	**-0.3**
AB31				IAmb	IAmb	16 02 21.4	
	comp=Z,2.3nm,1.0s						
ABKAR	**Akbulak array**	**55.48**	**308**	P	**P**	**16 02 11.3**	**-0.2**
KNRA	**Kununurra**	**58.26**	**195**	P	**P**	**16 02 31.0**	**-0.5**
WB0	**Warramunga Arr**	**61.43**	**188**	P	**P**	**16 02 51.9**	**-1.2**
WB0				IAmb	IAmb	16 02 52.5	
	comp=Z,2.6nm,0.8s						
WR8	**Warramunga Arr**	**61.60**	**188**	P	**P**	**16 02 53.2**	**-1.1**
WRA	**Warramunga Arr**	**61.61**	**188**	P	**P**	**16 02 53.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=7.4,slow=6.9,SNR=9.4						
	comp=Z,1.1nm,0.6s						
FIA1	**FINESS Array S**	**65.06**	**332**	P	**P**	**16 03 15.9**	**-0.8**
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**16 03 15.8**	**-0.9**
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**16 03 15.4**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=35,slow=9.1,SNR=12						
FINES				pP	**pP**	**16 03 34.2**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=49,slow=6.4,SNR=2.8						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**65.34**	**188**	P	**P**	**16 03 18.3**	**-0.7**
ASAR	**Alice Springs**	**65.34**	**188**	P	**P**	**16 03 18.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=8.9,slow=7.7,SNR=13						
ASAR				sP	**sP**	**16 03 42.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=8.6,slow=7.5,SNR=2.5						
	comp=Z,0.6nm,0.6s						
PSA00	**Pilbara Seismi**	**66.11**	**203**	P	**P**	**16 03 26.1**	**+2.2**
SUMG	**Summit**	**66.16**	**0**	P	**P**	**16 03 24.5**	**+0.4**
SUMG				IAmb	IAmb	16 03 39.3	
	comp=Z,5.3nm,1.1s						
NC405	**NORSAR Array S**	**70.01**	**337**	P	**P**	**16 03 47.2**	**-0.8**
HFS	**Hagfors**	**70.18**	**335**	P	**P**	**16 03 48.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=46,slow=5.1,SNR=12						
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**70.21**	**337**	P	**P**	**16 03 48.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**70.21**	**337**	P	**P**	**16 03 48.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=36,slow=6.1,SNR=3.8						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**71.04**	**322**	P	**P**	**16 03 54.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=47,slow=6.0,SNR=5.7						
	comp=Z,0.9nm,0.5s						
NVAR	**Mina Array Bea**	**71.91**	**55**	P	**P**	**16 04 00.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=259,slow=6.5,SNR=2.8						
	comp=Z,0.3nm,0.3s						
PDAR	**Pinedale Array**	**74.16**	**47**	P	**P**	**16 04 13.1**	**-0.3**
PDAR	**Pinedale Array**	**74.16**	**47**	P	**P**	**16 04 13.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=276,slow=6.0,SNR=3.3						
	comp=Z,0.4nm,0.6s						
BURAR	**Bucovina Array**	**75.08**	**321**	P	**P**	**16 04 18.8**	**+0.3**
SNAA	**Sanae**	**145.21**	**199**	PKPbc	**PKPbc**	**16 12 11.5**	**-0.9**
SNAA	**Sanae**	**145.21**	**199**	PKPbc	**PKPbc**	**16 12 11.4**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=169,slow=4.0,SNR=11						
H03N2	**Juan Fernandez**	**146.74**	**89**	T	T	18 57 07.5	
	baz=300,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**146.75**	**89**	T	T	18 57 10.5	
	baz=300,slow=77,SNR=21						
H03N1	**Juan Fernandez**	**146.75**	**89**	T	T	18 57 08.0	
	baz=300,slow=77,SNR=27						

NNC 09 16:00:41.8±5.7, 37.°50N×71.°10E, h0km, mb3.8, mpv3.6, 3C-1D, Error ellipse: s-maj=50.4km s-min=38.3km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.62**	**356**	P	Pn	16 02 08.3	+1.8
	6.2nm,0.3s						
KK31				⇓S	Sn	16 03 13.3	+1.4
	2.6nm,0.5s						
AAK	**Ala-Archa**	**5.76**	**26**	⇑P	Pn	16 02 08.7	+0.1
	1.1nm,0.4s						
AAK				⇑S	Sn	16 03 15.9	+0.4
	4.6nm,0.9s						
AB31	**Akbulak array**	**14.26**	**329**	P	Pn	16 04 02.0	-2.8
	0.4nm,0.4s,baz=144,slow=12,SNR=14						
AKTO	**Aktyubinsk**	**15.97**	**328**	⇑P	Pn	16 04 26.1	-1.5
	1.0nm,0.8s						

IDC 09 16:15:27.1±5.5, 5.°47S×146.°28E, h60km±44km, mb3.3/3, mbtmp3.6/5, ML3.6/1, MS2.9/2, Error ellipse: s-maj=57.2km s-min=29.4km az=56.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.00**	**168**	P	Pn	16 16 27.2	+1.2
	8.8nm,0.3s,baz=338,slow=11,SNR=18						
PMG				S	Sn	16 17 11.8	+0.1
	16nm,0.5s,baz=320,slow=22,SNR=7.2						
PMG				LR	LR	16 18 27.5	
	comp=Z,70nm,18.9s,baz=70,slow=45						
WRA	**Warramunga Arr**	**18.49**	**218**	P	P	16 19 38.2	-0.3
	0.2nm,0.3s,baz=42,slow=11,SNR=5.8						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**21.67**	**212**	P	P	16 20 13.3	+0.5
	1.0nm,0.9s,baz=47,slow=8.0,SNR=12						
ASAR				LR	LR	16 28 60.0	
	comp=Z,57nm,19.6s,baz=58,slow=38						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.37**	**298**	P	P	16 24 33.0	-0.6
	0.3nm,0.3s,baz=112,slow=6.1,SNR=4.1						
	0.3nm,0.3s						
VNDA	**Vanda**	**72.48**	**176**	P	P	16 26 47.1	+0.2
	0.4nm,0.5s,baz=327,slow=8.0,SNR=7.3						
	0.4nm,0.5s						

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*ISK **09** 16:22:28.6, 37.°89N×29.°56E, h6km, ML3.9/30*
*IDC **09** 16:22:28.2±0.8, 37.°86N×29.°58E, h0km, mb3.9/9, mbtmp3.8/17, ML3.6/6, MS3.1/2, Error ellipse: s-maj=14.1km s-min=12.7km az=38.0*
*AFAD **09** 16:22:29.1, 37.°84N×29.°59E, h9km±1km, MW3.9*
*GII **09** 16:22:31.3±0.0, 37.°565N±0.°002×29.°535E±0.°001, h3km, Mws3.9, confirmed*

ISC 09 16:22:29.4±0.9, 37.°86N±0.°02×29.°58E±0.°02, h8km±6km, n166, σ0°94/199, mb3.9/8, 29C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.15**	**180**	P	**Pg**	**16 22 32.6**	**0.0**
INCE				S	**Sg**	**16 22 35.2**	**+0.4**
BASM	**Basmaki-Afyon**	**0.38**	**81**	Pg	**Pg**	**16 22 36.4**	**-0.5**
BASM				Sg	**Sg**	**16 22 42.4**	**+0.5**
BRDR	**BURDUR-Merkez**	**0.42**	**113**	P	**Pg**	**16 22 37.2**	**-0.3**
BRDR				S	**Sg**	**16 22 43.4**	**+0.3**
APMY	**Acipayam-Deniz**	**0.44**	**209**	Pg	**Pg**	**16 22 37.7**	**-0.3**
APMY				Sg	**Sb**	**16 22 45.1**	**-1.3**
KHL	**Karahalli**	**0.46**	**355**	Pg	**Pg**	**16 22 37.6**	**-0.8**
KHL				Sg	**Sg**	**16 22 44.1**	**-0.4**
DNIZ	**Denizli-Tavas-**	**0.48**	**241**	P	**Pg**	**16 22 39.1**	**+0.3**
DNIZ				S	**Sg**	**16 22 45.2**	**0.0**
PASA	**Karahalli, USA**	**0.49**	**352**	P	**Pg**	**16 22 38.8**	**-0.2**
PASA				S	**Sg**	**16 22 45.1**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.60**	**48**	P	**Pg**	**16 22 40.5**	**-0.4**
KZIL				S	**Sg**	**16 22 48.9**	**+0.1**
GOLH	**Golhisar**	**0.62**	**181**	P	**Pg**	**16 22 41.0**	**-0.4**
GOLH				S	**Sg**	**16 22 48.6**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.66**	**233**	P	**Pg**	**16 22 41.8**	**-0.3**
TAVA				S	**Sg**	**16 22 50.2**	**-0.4**
DNZT	**Denizli-Tavas-**	**0.73**	**217**	P	**Pg**	**16 22 43.0**	**-0.4**
DNZT				S	**Sg**	**16 22 52.8**	**0.0**
ISP	**Isparta**	**0.75**	**93**	Pg	**Pg**	**16 22 43.4**	**-0.4**
ISP				Sg	**Sb**	**16 22 54.9**	**-0.4**
CAEL	**Denizli, Camel**	**0.76**	**195**	P	**Pg**	**16 22 43.6**	**-0.5**
CAEL				S	**Sb**	**16 22 55.1**	**-0.5**
AFYN	**Afyon-Dinar-K**	**0.84**	**60**	P	**Pg**	**16 22 45.2**	**-0.3**
AFYN				S	**Sb**	**16 22 57.6**	**-0.3**
AFYN				S	**Sn**	**16 22 58.1**	**-2.2**
BNAZ	**Uak-Banaz**	**0.85**	**16**	P	**Pg**	**16 22 45.4**	**-0.3**
BNAZ				S	**Sb**	**16 22 58.6**	**+0.4**
BCK	**Bucak**	**0.90**	**116**	Pg	**Pb**	**16 22 46.8**	**-0.5**
CAME	**Cameli-Denizli**	**0.94**	**193**	Pg	**Pg**	**16 22 47.3**	**-0.2**
BUCA	**Burdur, Bucak-**	**0.95**	**124**	P	**Pg**	**16 22 46.8**	**-0.7**
BUCA				S	**Sg**	**16 22 59.6**	**-0.2**
USAK	**Uak-Merkez**	**0.96**	**333**	P	**Pg**	**16 22 47.6**	**-0.3**
USAK				S	**Sg**	**16 22 59.1**	**-1.1**
BAGO	**Egridir - ISPA**	**0.97**	**82**	P	**Pg**	**16 22 46.9**	**-1.1**
BAGO				S	**Sb**	**16 23 01.2**	**-0.3**
KULA	**Kula-Manisa**	**0.97**	**312**	Pg	**Pg**	**16 22 46.9**	**-1.2**
ESEN	**Aydn-Nazilli**	**0.97**	**267**	P	**Pg**	**16 22 47.5**	**-0.6**
ESEN				S	**Sg**	**16 22 59.8**	**-0.9**
KIRA	**zmir-Kiraz**	**0.99**	**290**	P	**Pg**	**16 22 48.3**	**0.0**
KIRA				S	**Sb**	**16 23 02.4**	**+0.4**
KNIK	**Mula-Seydike**	**1.01**	**180**	P	**Pg**	**16 22 48.3**	**-0.6**
MANT	**Manisa**	**1.02**	**308**	P	**Pb**	**16 22 49.1**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.02**	**276**	Pg	**Pg**	**16 22 48.3**	**-0.7**
SHUT	**Suhut-Afyon**	**1.03**	**48**	Pg	**Pg**	**16 22 48.7**	**-0.6**
KORT	**Korkueli**	**1.06**	**144**	Pn	**Pb**	**16 22 49.9**	**-0.1**
KORT	**Korkueli**	**1.06**	**144**	P	**Pg**	**16 22 49.5**	**-0.2**
KORT				S	**Sb**	**16 23 03.8**	**-0.2**
ELL	**Elmali**	**1.14**	**166**	Pn	**Pn**	**16 22 51.6**	**-0.2**
SABU	**Mula-Dalaman**	**1.14**	**205**	P	**Pg**	**16 22 51.2**	**-0.1**
SABU				S	**Sg**	**16 23 05.2**	**-0.9**
MULA	**Mugla, Merkez-**	**1.17**	**239**	P	**Pg**	**16 22 51.1**	**-0.7**
MULA				S	**Sb**	**16 23 07.0**	**-0.2**
GEDZ	**Gediz**	**1.19**	**354**	Pn	**Pg**	**16 22 51.2**	**-1.0**
SHAP	**Saphane-Kutahy**	**1.19**	**347**	Pn	**Pg**	**16 22 51.2**	**-1.1**
GDZ	**Gediz**	**1.23**	**357**	P	**Pg**	**16 22 52.0**	**-1.0**
ODEM	**Odemis-Izmir**	**1.25**	**290**	Pn	**Pg**	**16 22 52.7**	**-0.8**
YER	**Yerkesik**	**1.26**	**235**	Pn	**Pg**	**16 22 53.3**	**-0.2**
DALY	**Dalyan (Mula)**	**1.27**	**215**	Pn	**Pg**	**16 22 53.6**	**-0.2**
ANTB	**Antalya**	**1.29**	**138**	Pn	**Pg**	**16 22 54.1**	**0.0**
SMAA	**Simav-Kutahya**	**1.32**	**340**	Pn	**Pn**	**16 22 53.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**274**	Pn	**Pn**	**16 22 54.1**	**-0.4**
AYDN	**Tasoluk**	**1.36**	**262**	P	**Pb**	**16 22 54.9**	**-0.2**
AYDN				S	**Sg**	**16 23 12.9**	**-0.2**
DEMI	**Demirci**	**1.36**	**331**	P	**Pb**	**16 22 55.0**	**-0.2**
YVAC	**Isparta, Yalva**	**1.38**	**72**	P	**Pn**	**16 22 54.7**	**-0.4**
KURO	**Afyon-Bolvadin**	**1.38**	**50**	P	**Pn**	**16 22 54.7**	**-0.4**
IZZE	**Mula-Seydike**	**1.45**	**191**	P	**Pb**	**16 22 56.6**	**-0.1**
IZZE				S	**Sg**	**16 23 15.8**	**-0.1**
TURN	**Turunc**	**1.52**	**225**	Pn	**Pn**	**16 22 57.0**	**+0.2**
TURN	**Turunc**	**1.52**	**225**	P	**Pb**	**16 22 57.5**	**-0.3**
TURN				S	**Sb**	**16 23 17.0**	**-0.1**
BLVD	**Bolvadin-AFYON**	**1.52**	**52**	Pn	**Pn**	**16 22 56.8**	**-0.2**
GORD	**Gordes-Manisa**	**1.52**	**314**	Pn	**Pn**	**16 22 56.4**	**-0.5**
EMET	**Ktahya-Emet**	**1.53**	**353**	P	**Pn**	**16 22 57.0**	**-0.1**
MLSB	**Milas**	**1.54**	**249**	Pn	**Pn**	**16 22 57.0**	**-0.2**
BYAT	**Afyon-Bayat**	**1.55**	**45**	P	**Pb**	**16 22 58.0**	**-0.5**
GOMA	**Golmarmara-Man**	**1.55**	**303**	Pn	**Pn**	**16 22 57.0**	**-0.4**
TVSB	**Tavsanli**	**1.59**	**357**	Pn	**Pn**	**16 22 57.4**	**-0.6**
AKAS	**Kas**	**1.62**	**179**	Pn	**Pn**	**16 22 58.9**	**+0.4**
AKAS	**Kas**	**1.62**	**179**	P	**Pg**	**16 23 00.7**	**+0.2**
UCKU	**Afyonkarahisar**	**1.65**	**61**	P	**Pn**	**16 22 59.1**	**+0.3**
AKUM	**Antalya-Kumluc**	**1.65**	**158**	P	**Pb**	**16 23 00.3**	**+0.2**
ANDZ	**Kutahya, Merke**	**1.67**	**9**	P	**Pn**	**16 22 58.8**	**-0.2**
DOGA	**KONYA_Doganhis**	**1.67**	**81**	P	**Pn**	**16 22 59.5**	**+0.4**
AKHS	**Akhisar**	**1.72**	**307**	P	**Pn**	**16 22 59.5**	**-0.1**
AKS	**Akhisar**	**1.72**	**307**	Pn	**Pn**	**16 22 59.1**	**-0.6**
SEDI	**Konya, Seydise**	**1.78**	**103**	P	**Pb**	**16 23 01.3**	**-1.0**
SEYD	**Seydisehir-KON**	**1.85**	**103**	Pn	**Pn**	**16 23 02.0**	**+0.4**
GCAM	**G?zelcaml?**	**1.86**	**266**	Pn	**Pn**	**16 23 01.7**	**+0.1**
GCAM	**G?zelcaml?**	**1.86**	**266**	P	**Pn**	**16 23 00.8**	**-0.8**
BDRM	**Kayabasi**	**1.87**	**246**	P	**Pn**	**16 23 02.0**	**+0.3**
DDIM	**Aydin, Didim**	**1.90**	**258**	P	**Pb**	**16 23 03.3**	**-0.9**
SGAZ	**Eskisehir, Sey**	**1.94**	**30**	P	**Pn**	**16 23 02.8**	**+0.1**
DAT	**Datca**	**1.

10nm,0.7s
EIL Elat 9.31 150 P Pn 16 24 43.6 -0.4
EIL Elat 9.31 150 S Sn 16 26 26.8 -2.2
BZS Buzias 9.76 325 ⇑P Pn 16 24 50.6 +0.5
MARR Marisel-Cluj 10.02 334 ⇑P Pn 16 24 56.0 +2.3
BURAR Bucovina Array 10.26 343 ⇑P Pn 16 24 58.9 +1.9
SORM Soroca 10.31 355 ⇑P Pn 16 24 58.2 +0.7
AKASG Malin Array Be 12.84 359 Pn **Pn 16 25 34.3 +2.2**
0.6nm,0.3s,baz=175,slow=12,SNR=1.7
GERES GERESS Array B 15.90 319 Pn **Pn 16 26 13.5 0.0**
baz=152,slow=12,SNR=1.5
0.4nm,0.7s
BELG Belogornoye 19.24 35 P P 16 26 54.2 +0.2
0.2nm,0.3s,baz=248,slow=19,SNR=4.2
3.1nm,0.8s
FINES FINESS Array B 23.71 356 P P 16 27 40.8 -0.7
1.4nm,0.6s,baz=149,slow=8.9,SNR=11
1.4nm,0.6s
HFS Hagfors 24.48 341 P P 16 27 48.7 -0.1
3.8nm,1.0s,baz=144,slow=13,SNR=2.7
3.8nm,1.0s
NOA NORSAR Array B 25.91 339 P P 16 28 01.7 -0.1
0.5nm,0.8s,baz=203,slow=14,SNR=2.2
0.5nm,0.8s
ESDC Sonseca Array 26.13 284 P P 16 28 04.2 +0.2
0.8nm,0.7s,baz=87,slow=9.3,SNR=3.1
0.8nm,0.7s
TORD Torodi Ar. Bea 34.95 233 P P 16 29 22.5 +0.5
1.9nm,0.6s,baz=35,slow=10
1.9nm,0.6s
KURBB Kurchatov Arra 36.66 54 P P 16 29 36.8 +0.4
1.4nm,0.6s,baz=277,slow=8.8,SNR=10
1.4nm,0.6s
MKAR Makanchi Array 39.33 60 P P 16 29 59.7 +0.7
2.0nm,0.6s,baz=285,slow=6.1,SNR=17
2.0nm,0.6s
ZALV Zalesovo Beam 40.56 48 P 16 30 09.1 0.0
1.2nm,0.6s,baz=268,slow=7.6,SNR=6.0
ZALV LR LR 16 51 47.0
comp=Z,38nm,18.3s,baz=342,slow=43
1.2nm,0.6s
CMAR Chiang Mai Arr 62.80 87 P P 16 32 56.2 +0.4
0.4nm,0.3s,baz=302,slow=7.8,SNR=5.2
0.4nm,0.3s

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*NNC **09** 16:51:31.1±0.7, 42°.72N×70°.17E, h0km, mpv3.3, Error ellipse: s-maj=6.7km s-min=3.9km az=132.0*
*KRNET **09** 16:51:31.8±0.1, 42°.56N×70°.09E, mb2.6*
*SOME **09** 16:51:31.5, 42°.68N×70°.27E, h15km*
ISC 09 16:51:29.5±1.2, 42°.70N±0°.03×70°.01E±0°.04, h13km±9km, n28, σ1§12/53, 24C-16D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.36**	**339**	P	**Pn**	**16 51 40.1**	**-0.4**
BRLS	9.9nm,0.1s			S	**Sn**	**16 51 46.6**	**-0.9**
BRLS	**Borolday**	**0.36**	**339**	*eP*	**Pn**	**16 51 40.1**	**-0.4**
BRLS	9.9nm,0.1s			*eS*	**Sn**	**16 51 46.5**	**-0.9**
CHM	**Chimkent**	**0.48**	**219**	*eP*	**Pn**	**16 51 42.9**	**+0.7**
CHM	77nm,0.1s			*eS*	**Sn**	**16 51 51.3**	**+0.8**
KK07	**Karatay Array**	**0.53**	**42**	⇓P	**Pg**	**16 51 40.1**	**+0.1**
KK07				⇑S	**Sg**	**16 51 46.2**	**-0.8**
KK08	**Karatay Array**	**0.54**	**40**	⇑P	**Pg**	**16 51 40.3**	**+0.2**
KK08				⇑S	**Sg**	**16 51 46.5**	**-0.7**
KK03	**Karatay Array**	**0.54**	**41**	⇑P	**Pg**	**16 51 40.3**	**+0.1**
KK03				⇑S	**Sg**	**16 51 46.6**	**-0.8**
KK01	**Karatay Array**	**0.55**	**41**	⇑P	**Pg**	**16 51 40.4**	**+0.1**
KK01				⇑S	**Sg**	**16 51 46.8**	**-0.7**
KK02	**Karatay Array**	**0.55**	**42**	⇓P	**Pg**	**16 51 40.3**	**0.0**
KK02				⇑S	**Sg**	**16 51 46.7**	**-0.9**
KK06	**Karatay Array**	**0.55**	**43**	⇓P	**Pg**	**16 51 40.2**	**-0.1**
KK06				⇑S	**Sg**	**16 51 46.7**	**-0.9**
KK31	**Karatay Array**	**0.55**	**42**	⇑P	**Pg**	**16 51 40.4**	**+0.1**
KK31	8.8nm,0.2s			⇑S	**Sg**	**16 51 46.8**	**-0.8**
KK04	**Karatay Array**	**0.55**	**41**	⇑P	**Pg**	**16 51 40.5**	**+0.1**
KK04	9.6nm,0.2s			⇓S	**Sg**	**16 51 46.8**	**-0.8**
IUG	**Iuzhnay**	**0.55**	**179**	P	**Pb**	**16 51 42.1**	**+1.0**
IUG	32nm,0.1s			S	**Sb**	**16 51 49.8**	**+0.9**
KK09	**Karatay Array**	**0.55**	**40**	⇑P	**Pg**	**16 51 40.6**	**+0.1**
KK09				⇓S	**Sg**	**16 51 47.1**	**-0.7**
KK05	**Karatay Array**	**0.56**	**42**	⇓P	**Pg**	**16 51 40.6**	**0.0**
KK05				⇑S	**Sg**	**16 51 47.3**	**-0.8**
TRKS	**Terek-Say**	**1.44**	**144**	⇓*i*P	**Pb**	**16 51 56.3**	**0.0**
TRKS				⇓*i*S	**Sn**	**16 52 14.0**	**-0.2**
ARK	**Arkit**	**1.70**	**121**	⇑*i*P	**Pn**	**16 51 59.7**	**+0.6**
ARK				⇑*i*S	**Sn**	**16 52 20.2**	**-0.6**
MRKS	**Merke**	**2.37**	**88**	Pg	**Pb**	**16 52 11.4**	**-0.7**
MRKS	1.5nm,0.1s			Lg	Lg	16 52 40.1	
MRKS	**Merke**	**2.37**	**88**	*eP*	**Pb**	**16 52 11.4**	**-0.7**
MRKS	1.5nm,0.1s			*eS*	**Sb**	**16 52 40.1**	**-1.2**
ARSB	**Arslanbob**	**2.60**	**121**	⇓*i*P	**Pn**	**16 52 12.2**	**+0.8**
ARSB				⇓*i*S	**Sn**	**16 52 41.5**	**-1.5**
EKS2	**Erkin-Say**	**2.77**	**89**	⇓*i*P	**Pn**	**16 52 15.4**	**+1.6**
EKS2				⇓*i*S	**Sn**	**16 52 47.5**	**+0.3**
OHH	**Osh**	**3.01**	**135**	⇓*eP*	**Pn**	**16 52 17.1**	**+0.2**
OHH				⇓*eS*	**Sn**	**16 52 50.5**	**-2.3**
USP	**Ospenovka**	**3.34**	**79**	⇓*i*P	**Pn**	**16 52 23.7**	**+2.2**
USP				⇓*i*S	**Sn**	**16 53 01.4**	**+0.4**
UCH	**Uchtor**	**3.36**	**97**	⇑*eP*	**Pn**	**16 52 23.6**	**+1.4**
UCH				⇑*i*S	**Sn**	**16 53 01.4**	**-0.7**
SALK	**Salom-Alik**	**3.38**	**121**	⇑*i*P	**Pn**	**16 52 23.0**	**+0.9**
SALK				⇑*i*S	**Sn**	**16 53 00.3**	**-1.8**
DRK	**Karamyk**	**3.49**	**157**	⇑*eP*	**Pn**	**16 52 23.9**	**+0.2**
DRK				⇑*eS*	**Sn**	**16 53 02.2**	**-2.8**
SFK	**Sufi-Kurgan**	**3.75**	**134**	⇑*i*P	**Pn**	**16 52 28.0**	**+0.7**
SFK				⇑*i*S	**Sn**	**16 53 08.8**	**-2.7**
KRBS	**Karabastau**	**4.26**	**75**	Pg	**Pb**	**16 52 45.9**	**+1.6**
KRBS	0.6nm,0.3s			Lg	Lg	16 53 39.1	
KTBS	**Karatobe**	**4.98**	**76**	Pg	**Pb**	**16 52 59.1**	**+2.5**
KTBS	0.1nm,0.1s			Lg	Lg	16 54 01.7	
	1.9nm,0.3s						

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*SOME **09** 17:15:21.2, 41°.07N×83°.45E, h15km*
*NNC **09** 17:15:27.6±3.0, 41°.15N×83°.17E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=22.9km s-min=15.5km az=166.0*
ISC 09 17:15:22.0±3.3, 41°.2N±0°.1×83°.44E±0°.09, h10km, n26, σ2§80/37, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.63**	**308**	⇓Pn	**Pb**	**17 16 24.3**	**-2.1**
PDGK	3.1nm,0.5s			⇓Pg	**Pg**	**17 16 35.5**	**+3.9**
PDGK	6.7nm,0.5s			⇑Sn	**Sn**	**17 17 03.9**	**+2.4**
PDGK	8.2nm,0.3s			⇓Lg	Lg	17 17 16.3	
UZB	**Uzynbulak**	**3.83**	**302**	Pg	**Pb**	**17 16 32.8**	**+3.1**
UZB	35nm,0.5s			Lg	Lg	17 17 25.1	
UZB	**Uzynbulak**	**3.83**	**302**	*eP*	**Pb**	**17 16 32.8**	**+3.1**
UZB	2.6nm,0.2s			*eS*	**Sg**	**17 17 24.6**	**-0.3**
SATY	**Saty**	**4.19**	**298**	Pg	**Pg**	**17 16 42.7**	**+0.5**
SATY				Pg	**Pg**	**17 16 46.1**	**+3.9**
SATY				Lg	Lg	17 17 32.5	
SATY				Lg	Lg	17 17 42.2	
KPKS	**Kokpek**	**4.20**	**305**	Pg	**Pg**	**17 16 39.8**	**-2.7**
KPKS	22nm,0.6s			Lg	Lg	17 17 36.5	
KNOS	**Konyrlen**	**4.47**	**317**	Pg	**Pg**	**17 16 46.4**	**-1.2**
KNOS	3.6nm,0.6s			Lg	Lg	17 17 48.0	

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16nm,0.8s
KURS Kuram 4.54 302 Pg **Pg 17 16 46.3 -2.6**
3.2nm,0.8s
KURS Lg Lg 17 17 47.7
8.0nm,0.7s
KAPS Kapalarasan 5.08 325 Pg **Pb 17 16 54.8 +3.9**
3.8nm,0.7s
KAPS Lg Lg 17 18 02.1
11nm,0.7s
KOTS Kotyrbulak 5.13 296 Pg **Pg 17 16 58.7 -1.5**
2.3nm,0.5s
KOTS Lg Lg 17 18 09.4
36nm,0.8s
KOTS Kotyrbulak 5.13 296 *eP* **Pg 17 16 58.7 -1.5**
2.3nm,0.5s
KOTS *eS* **Sg 17 18 09.4 +2.7**
36nm,0.8s
ARXS Arharly 5.13 308 Pg **Pg 17 16 57.0 -3.3**
2.4nm,0.8s
ARXS Lg Lg 17 18 06.0
16nm,0.4s
ARXS Arharly 5.13 308 *eP* **Pg 17 16 57.0 -3.3**
ARXS *eS* **Sg 17 18 06.0 -0.6**
MDOK Medeo 5.15 295 Pg **Pg 17 16 56.7 -3.9**
1.9nm,0.6s
MDOK Lg Lg 17 18 05.3
6.7nm,0.8s
TNSS Tian-Shan 5.17 293 Pg **Pg 17 16 59.3 -1.8**
1.2nm,0.5s
TNSS Lg Lg 17 18 10.1
4.6nm,0.8s
TNSS Tian-Shan 5.17 293 *eP* **Pg 17 16 59.3 -1.8**
1.2nm,0.5s
TNSS *eS* **Sg 17 18 10.1 +1.9**
4.6nm,0.8s
CHKK Chushkaly 5.47 301 Pg **Pg 17 17 03.2 -3.5**
0.6nm,0.2s
CHKK Lg Lg 17 18 16.5
7.2nm,0.3s
CHKK Chushkaly 5.47 301 *eP* **Pg 17 17 03.2 -3.5**
0.6nm,0.2s
CHKK *eS* **Sg 17 18 16.5 -1.0**
7.2nm,0.3s
MTBS Maitube 5.56 293 Pg **Pg 17 17 06.5 -2.0**
1.2nm,0.2s
MTBS Lg Lg 17 18 22.3
7.2nm,0.5s
MTBS Maitube 5.56 293 *eP* **Pg 17 17 06.5 -2.0**
1.2nm,0.2s
MTBS *eS* **Sg 17 18 22.3 +1.7**
7.2nm,0.5s
KTBS Karatobe 5.60 299 Pg **Pg 17 17 05.5 -3.8**
1.3nm,0.7s
KTBS Lg Lg 17 18 21.1
7.4nm,0.7s
MK31 Makanchi Array 5.68 352 ⇑Pn Pn 17 16 52.4 +5.9
0.2nm,0.3s,baz=16,slow=22,SNR=9.7
MK31 Pg **Pg 17 17 09.6 -1.1**
1.2nm,0.5s,baz=171,slow=15,SNR=12
MK31 ⇑Sn **Sb 17 18 04.6 -4.7**
2.3nm,0.5s
MK31 ⇑Lg Lg 17 18 24.8
7.4nm,0.6s,baz=271,slow=11,SNR=4.6
KST Kastek 5.86 291 Pg **Pg 17 17 10.6 -3.7**
4.2nm,2.3s
KST Lg Lg 17 18 30.1
12nm,0.9s
KST Kastek 5.86 291 *eP* **Pg 17 17 10.6 -3.7**
4.2nm,2.3s
KST *eS* **Sg 17 18 30.1 -0.2**
12nm,0.9s
KRBS Karabastau 6.27 296 Pg Pb 17 17 16.4 +5.1
1.0nm,1.0s
KRBS Lg Lg 17 18 39.8
0.9nm,0.5s
ZSN Zaisan 6.36 9 Pg **Pg 17 17 21.7 -2.0**
3.7nm,1.0s
ZSN Lg Lg 17 18 49.0
6.9nm,1.1s
ZSN Zaisan 6.36 9 *eP* **Pg 17 17 21.7 -2.0**
3.7nm,1.0s
ZSN *eS* **Sg 17 18 49.0 +3.0**
6.9nm,1.1s

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*IDC **09** 17:15:41.7±3.5, 14°.03N×57°.98E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/24, Error ellipse: s-maj=89.7km s-min=31.9km az=77.0*
ISC 09 17:15:43.2±3.7, 14°.1N±0°.3×58°.0E±0°.6, h10km, n30, σ1§03/6, mb3.6/6, MS3.5/24, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**14.96**	**262**	LR	LR	17 23 00.6	
	comp=Z,4.9nm,21.0s,baz=31,slow=29						
PALK	**Pallekele**	**23.31**	**104**	LR	LR	17 27 53.5	
	comp=Z,68nm,19.2s,baz=284,slow=31						
KMBO	**Kilima Mbogo**	**25.47**	**235**	LR	LR	17 31 39.0	
	comp=Z,150nm,18.1s,baz=100,slow=38						
EIL	**Elat**	**26.35**	**310**	LR	LR	17 31 35.2	
	comp=Z,83nm,18.2s,baz=156,slow=36						
ASF	**Jabal al Asfar**	**26.39**	**317**	LR	LR	17 32 21.3	
	comp=Z,61nm,19.4s,baz=148,slow=38						
MMAI	**Mount Meron Ar**	**27.31**	**316**	LR	LR	17 33 18.4	
	comp=Z,57nm,20.0s,baz=149,slow=38						
GNI	**Garni**	**28.48**	**338**	LR	LR	17 34 43.9	
	comp=Z,65nm,21.4s,baz=140,slow=40						
AAK	**Ala-Archa**	**31.86**	**23**	LR	LR	17 36 45.1	
	comp=Z,72nm,20.3s,baz=212,slow=40						
KBZ	**Khabaz**	**32.28**	**339**	LR	LR	17 36 35.8	
	comp=Z,60nm,21.2s,baz=162,slow=39						
BRDH	**Bariadhala**	**33.02**	**70**	LR	LR	17 36 41.2	
	comp=Z,99nm,18.8s,baz=274,slow=38						
AKTO	**Aktyubinsk**	**36.29**	**0**	LR	LR	17 37 40.0	
	comp=Z,85nm,19.7s,baz=134,slow=36						
MKAR	**Makanchi Array**	**38.47**	**27**	P	**P**	**17 23 06.4**	**+0.9**
	1.1nm,0.8s,baz=218,slow=9.3,SNR=5.3						
MKAR				LR	LR	17 40 53.7	
	comp=Z,74nm,19.2s,baz=218,slow=39						
	1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.52**	**78**	P	**P**	**17 23 14.2**	**-0.3**
	1.0nm,0.9s,baz=274,slow=7.8,SNR=12						
CMAR				LR	LR	17 40 35.5	
	comp=Z,13nm,19.6s,baz=305,slow=38						
	1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**40.12**	**20**	P	**P**	**17 23 19.6**	**+0.5**
	1.1nm,1.0s,baz=215,slow=8.5,SNR=4.1						
KURBB				LR	LR	17 41 27.9	
	comp=Z,64nm,20.1s,baz=176,slow=38						
	1.1nm,1.0s						
BVAR	**Borovoye Array**	**40.12**	**12**	LR	LR	17 40 54.9	
	comp=Z,65nm,18.2s,baz=332,slow=38						
LSZ	**Lusaka**	**41.43**	**226**	LR	LR	17 38 05.7	
	comp=Z,72nm,21.5s,baz=0.5,slow=32						
PSI	**Prapat**	**41.94**	**102**	LR	LR	17 39 01.9	
	comp=Z,46nm,21.9s,baz=238,slow=33						
MATP	**Matopo**	**44.87**	**221**	LR	LR	17 41 06.4	
	comp=Z,56nm,20.1s,baz=42,slow=34						
ZALV	**Zalesovo Beam**	**45.06**	**22**	P	**P**	**17 23 57.8**	**-1.3**
	1.5nm,0.7s,baz=226,slow=7.7,SNR=5.8						
ZALV				LR	LR	17 44 36.1	
	comp=Z,91nm,20.5s,baz=232,slow=38						
	1.5nm,0.7s						
LBTB	**Lobatse**	**50.05**	**219**	LR	LR	17 43 41.8	
	comp=Z,69nm,19.7s,baz=44,slow=34						
TSUM	**Tsumeb**	**51.71**	**231**	LR	LR	17 45 19.2	
	comp=Z,68nm,21.4s,baz=40,slow=34						
BOSA	**Boshof**	**52.92**	**217**	LR	LR	17 44 42.9	
	comp=Z,83nm,20.1s,baz=25,slow=33						
NOA	**NORSAR Array B**	**57.71**	**335**	LR	LR	17 56 39.9	
	comp=Z,9.9nm,18.8s,baz=15,slow=43						
MDT	**Midelt**	**59.58**	**300**	LR	LR	17 51 36.4	
	comp=Z,27nm,19.8s,baz=60,slow=36						
TIXI	**Tiksi**	**70.77**	**18**	LR	LR	18 01 19.1	
	comp=Z,61nm,19.2s,baz=228,slow=39						
H01W3	**Cape Leeuwin H**	**72.12**	**134**	T	T	18 45 21.3	
	baz=301,slow=75,SNR=31						
H01W2	**Cape Leeuwin H**	**72.13**	**134**	T	T	18 45 21.8	
	baz=301,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**72.14**	**134**	T	T	18 45 26.5	
	baz=301,slow=75,SNR=34						
WRA	**Warramunga Arr**	**82.33**	**113**	P	**P**	**17 28 06.2**	**+0.4**
	0.4nm,0.9s,baz=298,slow=4.1,SNR=2.4						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**83.10**	**116**	P	**P**	**17 28 09.8**	**0.0**
	0.3nm,0.7s,baz=294,slow=5.0,SNR=7.5						
	0.3nm,0.7s						

DJA 09 17:18:09.1±0.9, 1°S±2°×12°8E±°, h13km±7km, M3.9/13, mb4.2/6, MLv3.7/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.39**	**341**	P	Pn	17 18 32.8	-1.4
TNTI				S	Sb	17 18 52.6	0.0
SANI	**Sanana**	**2.36**	**231**	P	Pn	17 18 44.8	-2.8
SANI				S	Sn	17 19 15.2	-1.2
NLAI	**Namlea**	**2.77**	**195**	P	Pn	17 18 53.5	+0.3
NLAI				S	Sn	17 19 27.0	+0.5
MSAI	**Masohi**	**2.99**	**158**	P	Pn	17 18 56.8	+0.5
MSAI				S	Sn	17 19 34.2	+2.2
AAI	**Ambon**	**3.14**	**173**	P	Pn	17 18 58.3	0.0
SWI	**Sorong**	**3.45**	**95**	P	Pn	17 19 01.9	-0.7
SWI				S	Sn	17 19 44.5	+1.1
KMSI	**Cibinong**	**4.00**	**286**	P	Pn	17 19 10.0	-0.1
FAKI	**Fak Fak**	**5.01**	**118**	P	Pn	17 19 22.6	-1.5
	0.1nm26nm,1.1s						
APSI	**Ampana**	**6.18**	**267**	P	Pn	17 19 40.8	+0.7
	0.1nm16nm,0.5s						
SPSI	**Sidrap Palu**	**8.73**	**247**	P	Pn	17 20 15.1	-0.1
	26nm,1.1s						
BKSI	**Bulukumba**	**9.03**	**238**	P	Pn	17 20 20.2	+0.9
	13nm,0.8s						
SOEI	**Soe**	**9.80**	**201**	P	Pn	17 20 32.0	+2.0

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*NIED **09** 17:18:35.0, 42°.59N×137°.48E, h317km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.74; Mθθ1.15; Mφφ-0.42; Mrθ-0.39; Mφθ-0.90; Mφr-0.41; Fault plane solution: M0 1.45000×10^15 NP1: φs=331.00000°, δ=57.00000°, λ=-30.00000°. NP2: φs=79.00000°, δ=65.00000°, λ=-143.00000°.*
*JMA **09** 17:18:35.0±0.5, 43°N±1°×13°7E±°, h317km±3km, MV4.3/34, EASTERN SEA OF JAPAN*
*MOS **09** 17:18:34.6±0.9, 42°.71N×137°.21E, h305km, mb4.1/13, Error ellipse: s-maj=8.6km s-min=6.4km az=109.5*
*SKHL **09** 17:18:34.5±0.3, 42°.60N×137°.30E, h307km±8km, mb4.6/5, mbv5.1/3, msh5.0/3, msha4.6/3*
*IDC **09** 17:18:35.2±0.7, 42°.73N×137°.29E, h297km±7km, mb3.5/17, mbtmp4.2/25, Error ellipse: s-maj=9.8km s-min=8.8km az=149.0*
*NEIC **09** 17:18:35.1±2.5, 42°.72N±0°.04×137°.3E±0°.1, h290km±9km, mb4.1/33, Error ellipse: s-maj=11.8km s-min=3.8km az=115.0*
ISC 09 17:18:34.2±0.4, 42°.63N±0°.04×137°.33E±0°.04, h289km, n177, σ1§51/198, mb4.1/44, 9C-15D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.68**	**108**	P	**Pn**	**17 19 20.1**	**+2.5**
JHST	**Hiyamasetana**	**1.90**	**95**	*eP*	**Pn**	**17 19 21.8**	**+2.7**
JOMM	**Oshimamatsumae**	**2.28**	**118**	*eP*	**Pn**	**17 19 24.9**	**+2.6**
JSK	**Shakotan**	**2.42**	**72**	P	**Pn**	**17 19 25.9**	**+2.3**
TEY	**Ternei**	**2.46**	**348**	*eP*	**Pn**	**17 19 25.2**	**+1.3**
TEY	**Ternei**	**2.46**	**348**	*eP*	**Pn**	**17 19 24.9**	**+1.0**
TEY	20nm,0.4s			AMB	AMB	17 19 25.6	
TEY	200nm,3.0s			AMB	AMB	17 19 27.5	
TEY				*eS*	**S**	**17 20 04.0**	**+0.5**
TEY	20nm,0.4s			A	A	17 20 04.9	
TEY	10.0nm,0.4s			A	A	17 20 04.9	
TEY	200nm,3.0s			A	A	17 20 07.3	
TEY	200nm,3.0s			A	A	17 20 07.3	
JOT	**Ohata**	**3.04**	**113**	P	**Pn**	**17 19 31.4**	**+1.8**
JEW	**Eniwo**	**3.05**	**85**	*eP*	**Pn**	**17 19 32.0**	**+2.4**
JEW				*eS*	**S**	**17 20 16.4**	**+2.6**
JTM	**Tenmabayashi**	**3.35**	**122**		**Pn**	**17 19 34.4**	**+1.6**
JTM	**Tenmabayashi**	**3.35**	**122**	P	**Pn**	**17 19 34.4**	**+1.6**
JHR	**Hokuryu**	**3.41**	**69**	*eP*	**Pn**	**17 19 35.8**	**+2.5**
JANG	**Nango**	**3.87**	**124**	P	**Pn**	**17 19 39.0**	**+0.6**
JRBN	**Rebuntou**	**3.88**	**43**	P	**Pn**	**17 19 40.2**	**+1.8**
JRBN				*eS*	**S**	**17 20 30.0**	**+0.3**
VLA	**Vladivostok**	**4.03**	**279**	⇓*eP*	**Pn**	**17 19 41.8**	**+1.7**
JNBK	**Urakawa-nobuka**	**4.03**	**93**	P	**Pn**	**17 19 41.2**	**+1.0**
JNBK				*eS*	**S**	**17 20 32.9**	**0.0**
ASAJ	**Asahikawa**	**4.12**	**67**	P	**Pn**	**17 19 43.1**	**+2.0**
ASAJ	10nm,0.4s,baz=221,slow=13,SNR=51			S	**S**	**17 20 35.6**	**+1.0**
	52nm,1.0s,baz=78,slow=14,SNR=16						
JKA	**Kamikawa-asahi**	**4.12**	**67**	Pn	**Pn**	**17 19 40.8**	**-0.3**
JKA	**Kamikawa-asahi**	**4.12**	**67**	*eP*	**Pn**	**17 19 43.1**	**+2.0**
JKK2	**Kamakawa 2**	**4.15**	**71**	P	**Pn**	**17 19 43.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**4.19**	**294**	P	**Pn**	**17 19 43.0**	**+1.1**
	36nm,0.7s,baz=98,slow=12,SNR=52						
USRK				S	**S**	**17 20 37.2**	**+1.1**
	3.1nm,0.6s,baz=118,slow=6.4,SNR=1.4						
JWK2	**Keihoku**	**4.25**	**49**	*eP*	**Pn**	**17 19 45.6**	**+3.0**
JYK	**Kaneyama**	**4.36**	**147**	P	**Pn**	**17 19 45.6**	**+1.6**
JYK				*eS*	**S**	**17 20 41.5**	**+1.6**
ERM	**Erimo**	**4.37**	**96**		**Pn**	**17 19 45.1**	**+1.1**
ERM					**S**	**17 20 36.5**	**-3.3**
ERM	**Erimo**	**4.37**	**96**	P	**Pn**	**17 19 45.0**	**+1.1**
JEM	**Erimo**	**4.37**	**96**	P	**Pn**	**17 19 45.1**	**+1.2**
JCH	**Churui**	**4.46**	**88**	P	**Pn**	**17 19 45.2**	**+0.3**
JSE	**Soyaes**	**4.46**	**57**	*eP*	**Pn**	**17 19 47.0**	**+2.1**
JSD	**Sado**	**4.64**	**171**	P	**Pn**	**17 19 49.8**	**+2.6**
JMK	**Ichinoseki**	**4.71**	**140**	*eP*	**Pn**	**17 19 48.5**	**+0.5**
JTKR	**Abashiri--Toko**	**4.99**	**72**	*eP*	**Pn**	**17 19 52.4**	**+1.4**
JTKR				*eS*	**S**	**17 20 51.9**	**-0.8**
JMM	**Marumori**	**5.45**	**150**		**Pn**	**17 19 56.5**	**-0.1**
JMM				Sn	**S**	**17 21 00.1**	**-2.8**
JMM	**Marumori**	**5.45**	**150**	P	**Pn**	**17 19 57.2**	**+0.6**
JMM	**Marumori**	**5.45**	**150**	S	**S**	**17 21 01.8**	**-1.0**
AKK	**Akkeshi**	**5.54**	**83**	*eP*	**Pn**	**17 19 57.1**	**-0.5**
YSS	**Yuzhno-Sakhali**	**5.80**	**40**		**Pn**	**17 20 01.8**	**+1.1**
YSS	**Yuzhno-Sakhali**	**5.80**	**40**	P	**Pn**	**17 20 02.1**	**+1.5**
YSS	**Yuzhno-Sakhali**	**5.80**	**40**	*eP*	**Pn**	**17 20 02.1**	**+1.5**
YSS				*eS*	**S**	**17 21 10.5**	**+0.3**
YSS	comp=Z,100nm,0.5s			pmax	pmax		
YSS	comp=N,30nm,0.8s			smax	smax		
YSS	comp=E,20nm,0.8s			smax	smax		
YSS	**Yuzhno-Sakhali**	**5.80**	**40**	*eP*	**Pn**	**17 20 02.1**	**+1.5**
YSS	comp=E,80nm,0.3s			AMB	AMB	17 20 02.8	
YSS	comp=E,1μm,3.0s			AMB	AMB	17 20 03.4	
YSS				*eS*	**S**	**17 21 10.5**	**+0.3**
YSS	comp=E,1μm,3.0s			A	A	17 21 15.3	
YSS	comp=E,700nm,3.0s			A	A	17 21 15.3	
YSS	comp=E,30nm,0.6s			A	A	17 21 16.1	
YSS	comp=E,20nm,0.6s			A	A	17 21 16.1	
MDJ	**Mudanjiang**	**5.95**	**292**		**Pn**	**17 20 03.4**	**+0.8**
RUSJ	**Misakicho**	**5.96**	**73**	*eP*	Pn	17 20 07.4	+4.8
RUSJ				*i* S	**S**	**17 21 20.7**	**+6.9**
GLVR	**Golovnino**	**6.09**	**77**	*eP*	**Pn**	**17 20 04.8**	**+0.6**
GLVR				*eS*	**S**	**17 21 15.6**	**-1.1**
GLVR	comp=Z,44nm,0.1s			pmax	pmax		
MJB9	**Matsu-Tunnel**	**6.11**	**173**		**Pn**	**17 20 07.7**	**+3.0**
MAJO	**Matsushiro**	**6.12**	**173**		**Pn**	**17 20 06.1**	**+1.4**
MAJO	**Matsushiro**	**6.12**	**173**	P	**Pn**	**17 20 07.2**	**+2.5**
MAJO	**Matsushiro**	**6.12**	**173**	⇑*eP*	**Pn**	**17 20 07.2**	**+2.5**
MJAR	**Matsushiro Arr**	**6.12**	**173**		**Pn**	**17 20 06.4**	**+1.7**
MJAR	**Matsushiro Arr**	**6.12**	**173**	P	**Pn**	**17 20 07.2**	**+2.5**
	comp=Z,4.5nm,0.7s,baz=360,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**6.12**	**173**	P	**Pn**	**17 20 06.4**	**+1.7**
NMR	**Nemuro--Hokkai**	**6.21**	**80**	⇓*i*P	**Pn**	**17 20 04.7**	**-0.9**
NMR				*i* S	**S**	**17 21 13.5**	**-5.7**
NMR	**Nemuro--Hokkai**	**6.21**	**80**	*eP*	**Pn**	**17 20 04.9**	**-0.7**
NEM2	**Nemuro 2**	**6.22**	**80**	P	**Pn**	**17 20 05.0**	**-0.7**
NEM2				*eS*	**S**	**17 21 13.7**	**-5.8**
YUK	**Yuzh-Kuril'sk**	**6.38**	**74**	*eP*	Pn	17 20 11.7

YUK Yuzh-Kuril'sk 6.38 74 *eP* **Pn 17 20 09.2 +1.5**
YUK AMB AMB 17 20 12.0
comp=Z,70nm,0.5s
JRY Ryogami san 6.71 169 S **S 17 21 30.9 +0.1**
JGF Kuroka 7.02 180 Pn 17 20 16.7 +1.0
JGF Kuroka 7.02 180 P **Pn 17 20 18.3 +2.6**
INU Inuyama 7.27 182 Pn 17 20 21.7 +2.9
INU Inuyama 7.27 182 P **Pn 17 20 21.9 +3.1**
BNX BinXian 7.78 297 ⇑P **Pn 17 20 25.4 +0.6**
BNX pmax pmax
comp=Z,21nm,0.9s
KUR Kuril'sk 8.04 68 *eP* Pn 17 20 37.7 +10
KSRS Korea Array 8.87 237 P **P 17 20 40.5 -3.2**
comp=Z,5.3nm,0.9s,baz=52,slow=12,SNR=16
TYV Tymovskoe 9.01 22 *eP* **P 17 20 48.3 +3.1**
TYV pmax pmax
comp=Z,500nm,3.6s
TYV pmax pmax
comp=Z,15nm,1.1s
TYV Tymovskoe 9.01 22 *eP* **Pn 17 20 41.3 +1.4**
TYV AMB AMB 17 20 42.7
comp=Z,10.0nm,0.6s
JMN Monobe 9.29 198 Pn **Pn 17 20 45.3 +1.6**
JMN Monobe 9.29 198 P **P 17 20 47.3 -1.4**
HEH HeiHe 10.24 322 *eP* **Pn 17 20 54.7 -0.4**
HEH pmax pmax
comp=Z,16nm,0.8s
JNU Nakatsue 10.77 210 Pn **P 17 21 04.0 -1.0**
JNU Nakatsue 10.77 210 P **P 17 21 04.9 -0.2**
comp=Z,6.7nm,0.5s,baz=18,slow=3.9,SNR=9.7
JNU Nakatsue 10.77 210 P **P 17 21 06.1 +1.0**
ZEA Zeya 12.97 332 *eP* **P 17 21 29.1 -0.1**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA Zeya 12.97 332 *eP* **P 17 21 29.1 -0.1**
ZEA AMB AMB 17 21 30.2
comp=Z,20nm,0.9s
HIA Hailar 13.90 305 P **P 17 21 37.5 -2.1**
HIA Hailar 13.90 305 P **P 17 21 37.5 -2.1**
SKR Severo-Kuril's 15.18 51⇑*eP* **Pn 17 21 55.3 +0.4**
SKR Severo-Kuril's 15.18 51 *eP* **Pn 17 21 55.3 +0.4**
BJT Baijiatuau 16.10 268 P **P 17 22 03.8 0.0**
BJT IAmb IAmb 17 22 04.8
comp=Z,7.6nm,0.7s
BJT Baijiatuau 16.10 268 P **P 17 22 03.8 0.0**
BJT pmax pmax
comp=Z,8.0nm,0.7s
PEA0B Petropavlovsk- 17.16 45 P **Pn 17 22 16.1 -2.0**
PEA0B Petropavlovsk- 17.16 45⇑*iP* **Pn 17 22 16.2 -1.9**
PETK Petropavlovsk- 17.16 45 P **P 17 22 14.7 -0.5**
PETK Petropavlovsk- 17.16 45 P **P 17 22 15.6 +0.3**
comp=Z,7.6nm,0.6s,baz=230,slow=8.3,SNR=21
MA2 Magadan 18.89 21 P **P 17 22 33.5 0.0**
MA2 Magadan 18.89 21 P **P 17 22 33.6 0.0**
comp=Z,34nm,0.7s,baz=205,slow=8.6,SNR=11
MA2 Magadan 18.89 21⇑*eP* **P 17 22 33.3 -0.3**
MA2 Magadan 18.89 21 *eP* **P 17 22 33.3 -0.3**
HHC Hu-ho-hao-te 19.29 273 *eP* **P 17 22 38.3 +0.1**
HHC pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 19.96 349 P **P 17 22 43.2 -1.8**
comp=Z,5.5nm,0.4s,baz=158,slow=2.5,SNR=3.6
YAK S **S 17 26 12.0 -0.5**
comp=Z,7.2nm,0.5s,baz=89,slow=22,SNR=10
YAK Yakutsk 19.96 349⇓*eP* **P 17 22 44.6 -0.3**
YAK pmax pmax
comp=Z,38nm,2.7s
YAK Yakutsk 19.96 349 *eP* **P 17 22 44.6 -0.3**
ULN Ulaanbaatar 21.86 294⇑*eP* **P 17 23 03.1 -0.7**
ULN pmax pmax
comp=Z,21nm,4.0s
ULN Ulaanbaatar 21.86 294 *eP* **P 17 23 03.1 -0.7**
SEY Seymchan 22.17 18⇑*iP* **P 17 23 06.5 +0.3**
SEY pmax pmax
comp=Z,8.0nm,0.7s
SEY Seymchan 22.17 18 *eP* **P 17 23 06.5 +0.3**
SONM Songino Array 22.31 294 P **P 17 23 07.2 -0.6**
SONM Songino Array 22.31 294 P **P 17 23 07.5 -0.3**
comp=Z,2.1nm,0.6s,baz=92,slow=9.3,SNR=6.8
comp=Z,2.1nm,0.6s
GTA Gaotai 28.33 276 *eP* **P 17 24 01.3 -0.6**
GTA pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 29.39 355 P **P 17 24 09.5 -1.2**
TIXI IAmb IAmb 17 24 21.9
comp=Z,6.1nm,1.4s
TIXI Tiksi 29.39 355⇓*eP* **P 17 24 10.2 -0.5**
PZH PanZhiHua 33.14 253 P **P 17 24 45.9 +1.9**
WAKE Wake Island 33.98 124 P **P 17 24 50.3 -0.8**
ZAA0 Zalesovo Array 35.92 307 P 17 25 06.0 -1.2
ZAA0 IAmb IAmb 17 25 07.4
comp=Z,5.7nm,0.6s
ZALV Zalesovo Beam 35.92 307 P 17 25 05.6 -1.6
ZALV Zalesovo Beam 35.92 307 P **P 17 25 06.5 -0.8**
comp=Z,5.4nm,0.5s,baz=88,slow=9.1,SNR=24
ZALV PcP **PcP 17 27 27.0 0.0**
comp=Z,1.8nm,0.6s,baz=101,slow=2.3,SNR=5.6
comp=Z,5.4nm,0.5s
DAV Davao City (W) 36.90 200 P **P 17 25 16.5 +0.6**
DAV Davao City (W) 36.90 200 P **P 17 25 17.0 +1.1**
comp=Z,281nm,0.4s,baz=348,slow=2.3,SNR=5.4
MK31 Makanchi Array 38.66 296*d iP* **P 17 25 29.4 -0.8**
MKAR Makanchi Array 38.66 296 P **P 17 25 29.5 -0.8**
comp=Z,2.4nm,0.6s,baz=84,slow=9.4,SNR=23
comp=Z,2.4nm,0.6s
C16K Lisburne Hills 39.23 30 P **P 17 25 34.3 -0.2**
KURK Kurchatov 40.13 303 P 17 25 41.4 -0.8
KURK IAmb IAmb 17 25 42.2
comp=Z,11nm,0.7s
KURK Kurchatov 40.13 303*ceP* **P 17 25 41.5 -0.7**
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 40.13 303 *eP* **P 17 25 41.5 -0.7**
KURBB Kurchatov Arra 40.20 302 P **P 17 25 42.1 -0.7**
comp=Z,9.1nm,0.5s,baz=79,slow=8.8,SNR=86
KURBB PcP **PcP 17 27 40.4 -0.1**
comp=Z,0.5nm,0.5s,baz=94,slow=3.0,SNR=2.3
comp=Z,9.1nm,0.5s
C18K Utukok River 40.80 29 P **P 17 25 47.7 +0.1**
C18K IAmb IAmb 17 25 54.2
comp=Z,11nm,1.1s
E18K Tukpahlearik C 40.90 31 P **P 17 25 49.1 +0.9**
N15K Kwethluk River 41.04 43 P **P 17 25 51.2 +1.8**
N15K IAmb IAmb 17 26 18.6
comp=Z,18nm,1.2s
C19K Lookout Ridge 41.44 29 P **P 17 25 53.2 +0.6**
C19K IAmb IAmb 17 26 25.6
comp=Z,23nm,1.5s
IMAR Indian Mountai 43.59 34 P **P 17 26 10.4 +0.5**
G21K Allakaket 43.66 33 P **P 17 26 11.3 +0.9**
PPLA Purkeypile 44.54 38 P **P 17 26 19.4 +1.9**
PPLA IAmb IAmb 17 26 43.8
comp=Z,12nm,1.2s
BVA0 Borovoye Array 44.57 308 P **P 17 26 17.4 -0.3**
BVAR Borovoye Array 44.57 308 P **P 17 26 17.7 0.0**
comp=Z,10.0nm,0.5s,baz=70,slow=8.0,SNR=50
BVAR PcP **PcP 17 27 55.2 +0.1**
comp=Z,1.0nm,0.5s,baz=89,slow=4.4,SNR=3.2
comp=Z,10.0nm,0.5s
BORK Borovoye 44.60 308*d iP* **P 17 26 17.9 -0.1**
BORK pmax pmax
comp=Z,5.0nm,0.5s
BPAW Bear Paw Mtn. 44.92 36 P **P 17 26 21.7 +1.4**
SKT Skwentna 44.97 39 P **P 17 26 21.4 +0.6**
SKT IAmb IAmb 17 27 04.6
comp=Z,9.4nm,1.4s
KTH Kantishna Hill 45.02 37 P **P 17 26 21.9 +0.7**
KTH IAmb IAmb 17 26 24.1
comp=Z,6.3nm,0.9s
AAK Ala-Archa 45.24 292 P **P 17 26 21.8 -1.5**
AAK Ala-Archa 45.24 292⇓*iP* **P 17 26 23.8 +0.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 45.24 292 *eP* **P 17 26 23.8 +0.4**
NEA2 Nenana 45.68 35 P **P 17 26 27.4 +1.2**
COLA College 46.16 35*d iP* **P 17 26 31.5 +1.6**
COLA pmax pmax
comp=Z,9.0nm,0.9s
IL31 46.58 35 P **P 17 26 33.0 -0.2**
IL31 IAmb IAmb 17 26 34.7
comp=Z,8.6nm,1.3s
ILAR Eielson Array 46.58 35 P **P 17 26 33.5 +0.3**
ILAR Eielson Array 46.58 35 P **P 17 26 33.6 +0.4**
comp=Z,2.0nm,0.7s,baz=283,slow=8.0,SNR=22
comp=Z,2.0nm,0.7s
PRP Porcupine Dome 47.02 34 P 17 26 37.7 +1.0
PRP IAmb IAmb 17 26 39.1
comp=Z,5.1nm,0.6s
BMAR Burnt Mountain 47.06 31 P **P 17 26 38.4 +1.5**
RIDG Independent Ri 47.66 36 P **P 17 26 42.0 +0.5**
KK31 Karatay Array 47.76 295 P 17 26 41.8 -0.8
KK31 IAmb IAmb 17 26 42.9
comp=Z,5.6nm,0.8s
KK31 Karatay Array 47.76 295 P **P 17 26 41.8 -0.8**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 47.76 295 P 17 26 41.6 -1.0
KKAR Karatay Array 47.76 295 P **P 17 26 41.6 -1.0**
SCRK Sand Creek 47.98 36 P 17 26 44.7 +0.7
SCRK IAmb IAmb 17 26 45.4
comp=Z,5.4nm,0.6s
BCAR Beaver Creek A 49.16 36 P **P 17 26 55.0 +2.1**
GAR Garm 49.64 290 P **P 17 26 56.5 -0.6**
GAR IAmb IAmb 17 26 56.8
comp=Z,7.0nm,0.4s
ARTI Arti 50.24 315 P 17 27 00.9 -0.2
ARTI Arti 50.24 315*d iP* **P 17 27 01.1 0.0**
ARTI 17 28 12.4
ARTI 17 28 55.7
ARTI S **S 17 33 52.3 +2.0**
ARTI SS **SS 17 37 28.8 +1.6**
ARTI pmax pmax
comp=Z,5.0nm,0.4s
AB31 Akbulak array 52.02 306 IAmb IAmb 17 27 14.6
comp=Z,4.5nm,0.5s
AB31 Akbulak array 52.02 306 *i* P **P 17 27 13.8 -0.5**
ABKAR Akbulak array 52.02 306 P 17 27 13.8 -0.5
KBL Kabul 52.68 285 P **P 17 27 18.5 -1.1**
KBL IAmb IAmb 17 27 19.9
comp=Z,7.4nm,0.9s
KBL Kabul 52.68 285 P **P 17 27 18.5 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KIRV Kirov 53.92 320*d iP* **P 17 27 27.9 0.0**
ARCES ARCESS Array B 57.64 337 P **P 17 27 53.6 -0.4**
comp=Z,6.1nm,1.0s,baz=52,slow=9.9,SNR=4.1
comp=Z,6.1nm,1.0s
OBN Obninsk 61.76 320 *eP* **P 17 28 22.3 +0.2**
OBN *e* 17 28 59.8
OBN *e**PP **pwP 17 29 28.8 +1.2**
OBN *e* 17 30 41.5
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 61.76 320 *eP* **P 17 28 22.3 +0.2**
WRA Warramunga Arr 62.32 183 P **P 17 28 26.2 0.0**
comp=Z,0.5nm,1.0s,baz=354,slow=7.2,SNR=2.1
comp=Z,0.5nm,1.0s
FINES FINESS Array B 62.40 330 P **P 17 28 25.6 -0.7**
comp=Z,2.9nm,0.6s,baz=36,slow=9.7,SNR=16
FINES PcP **PcP 17 29 02.2 -0.6**
comp=Z,1.5nm,0.9s,baz=66,slow=4.8,SNR=1.2
comp=Z,2.9nm,0.6s
KIV Kislovodsk 64.94 307 *eP* **P 17 28 43.2 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 64.94 307 *eP* **P 17 28 43.2 0.0**
KBZ Khabaz 64.94 307 P **P 17 28 43.5 +0.5**
comp=Z,1.8nm,0.7s,baz=6.5,slow=9.1,SNR=5.3
comp=Z,1.8nm,0.7s
KBZ Khabaz 64.94 307⇓*eP* **P 17 28 43.4 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,2.5s
KBZ Khabaz 64.94 307 *eP* **P 17 28 43.4 +0.3**
SHA1 Shidzhatmaz 65.08 307⇓*eP* **P 17 28 45.1 +0.8**
NEUR Neytrino 65.33 307⇓*eP* **P 17 28 44.7 -1.2**
NEUR pmax pmax
comp=Z,6.0nm,2.1s
ASAR Alice Springs 66.04 183 P **P 17 28 50.8 +0.6**
comp=Z,0.3nm,0.8s,baz=358,slow=6.6,SNR=2.2
comp=Z,0.3nm,0.8s
HFS Hagfors 67.69 333 P **P 17 28 59.3 -0.8**
comp=Z,1.4nm,0.3s,baz=50,slow=4.6,SNR=18
comp=Z,1.4nm,0.3s
NB2 NORSAR Subarra 67.80 335 P **P 17 29 00.7 -0.2**
comp=Z,0.6nm,0.4s,baz=37,slow=6.5
NB2 NORSAR Subarra 67.80 335 P **P 17 29 00.5 -0.4**
NOA NORSAR Array B 67.80 335 P **P 17 29 00.1 -0.8**
comp=Z,0.8nm,0.4s,baz=39,slow=6.3,SNR=5.8
comp=Z,0.8nm,0.4s
NORES NORESS Array B 67.93 335 P **P 17 29 01.0 -0.7**
AKASG Malin Array Be 67.98 319 P **P 17 29 01.5 -0.6**
comp=Z,1.5nm,0.5s,baz=47,slow=6.1,SNR=10
comp=Z,1.5nm,0.5s
AKBB Malin Array Si 67.98 319⇓*eP* **P 17 29 01.5 -0.6**
AKBB pmax pmax
comp=Z,24nm,3.7s
BR131 Keskin Array S 72.85 308⇓*iP* **P 17 29 32.2 +0.4**
BRTR Keskin Array B 72.85 308 P **P 17 29 31.4 -0.4**
comp=Z,1.0nm,0.7s,baz=82,slow=3.7,SNR=6.3
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 75.93 44 P **P 17 29 49.5 0.0**
comp=Z,0.7nm,0.6s,baz=63,slow=1.0,SNR=4.7
comp=Z,0.7nm,0.6s
KHC Kasperske Hory 76.14 326⇓*eP* **P 17 29 50.5 +0.1**
KHC pmax pmax
comp=Z,11nm,2.3s
EKA Eskdalemuir Ar 76.79 338 P **P 17 29 53.7 -0.1**
comp=Z,0.4nm,0.3s,baz=22,slow=5.7,SNR=4.7
comp=Z,0.4nm,0.3s
SNAA Sanae 145.03 201 PKPbc **PKPab 17 37 35.5 -0.8**
comp=Z,1.1nm,1.1s,baz=153,slow=2.3,SNR=1.8

IDC 09 17:21:51.7±4.2, 4.71S×154.72E, h0km, mb3.6/4, mbtmp3.6/4, MS3.0/2, Error ellipse: s-maj=143.1km s-min=31.4km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.99**	**132**	LR	LR	LR	17 25 48.3	
	comp=Z,25nm,18.1s,baz=250,slow=34							
WRA	**Warramunga Arr**	**24.96**	**231**	P	P	P	17 27 16.8	-0.4
	0.5nm,0.5s,baz=61,slow=8.6,SNR=8.5							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**27.54**	**225**	P	P	P	17 27 40.8	+0.3
	0.2nm,0.4s,baz=56,slow=8.7,SNR=14							
	0.2nm,0.4s							
URZ	**Urewera**	**39.13**	**152**	LR	LR	LR	17 43 24.3	
	comp=Z,70nm,18.1s,baz=12,slow=33							
MKAR	**Makanchi Array**	**81.52**	**319**	P	P	P	17 34 10.2	-1.1
	0.5nm,0.5s,baz=115,slow=7.2,SNR=6.6							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**84.91**	**322**	P	P	P	17 34 28.5	-0.1
	0.5nm,0.8s,baz=100,slow=5.1,SNR=5.8							
	0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**152.09**	**289**	PKPbc	PKiKP	PKiKP	17 41 52.0	+1.4
	0.2nm,0.5s,baz=69,slow=0.4,SNR=2.3							

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*IDC **09** 17:24:05.9±0.9, 26.63S×176.63W, h0km, mb4.0/9, mbtmp4.0/12, ML3.9/3, MS3.6/11, Error ellipse: s-maj=30.6km s-min=18.2km az=85.0*

ISC 09 17:24:18.1±0.9, 26.94S±0.07×177.1W±0.2, h90km, n26, σ0=2.21/21, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.40**	**197**	Pn		**Pn**	**17 24 53.1**	**-2.5**
	121nm,0.3s,baz=37,slow=20,SNR=2.7							
RAO				Sn		**Sn**	**17 25 28.7**	**+4.3**
	87nm,0.3s,baz=80,slow=22,SNR=2.2							
	291nm,0.3s							
URZ	**Urewera**	**12.28**	**202**	Pn		**Pn**	**17 27 07.3**	**-2.3**
	0.5nm,0.3s,baz=51,slow=16,SNR=2.4							
URZ				Sn		**Sn**	**17 29 21.9**	**-2.6**
	0.6nm,0.3s,baz=206,slow=22,SNR=6.9							
URZ				LR		LR	17 31 36.5	
	comp=Z,110nm,18.0s,baz=358,slow=35							
	2.2nm,0.7s							
DZM	**Mont Dzumac**	**15.71**	**284**	*eP*		**Pn**	**17 27 55.4**	**+1.0**
	47nm,26.9s							
DZM				*e*LR		LR	17 31 46.3	
	267nm,23.6s							
DZM	**Mont Dzumac**	**15.71**	**284**	Pn		**Pn**	**17 27 51.6**	**-2.8**
	0.1nm,0.3s,baz=287,slow=18,SNR=1.5							
	3.5nm,1.0s							
RAR	**Rarotonga**	**16.84**	**74**	LR		LR	17 32 14.8	
	comp=Z,250nm,20.2s,baz=263,slow=30							
PPT2	**Papeete2**	**27.10**	**76**	*e*LR		LR	17 36 00.2	
	128nm,25.5s							
PPT2				*e*LR		LR	17 36 01.1	
	162nm,25.0s							
PPT	**Papeete**	**27.11**	**76**	LR		LR	17 38 54.5	
	comp=Z,47nm,18.3s,baz=326,slow=33							
HNR	**Honiara**	**27.79**	**305**	LR		LR	17 39 09.1	
	comp=Z,114nm,21.7s,baz=118,slow=32							
STKA	**Stephens Creek**	**36.13**	**252**	LR		LR	17 45 24.9	
	comp=Z,151nm,18.1s,baz=30,slow=35							
ASAR	**Alice Springs**	**44.17**	**263**	P		**P**	**17 32 20.2**	**+2.0**
	0.5nm,0.6s,baz=99,slow=7.0,SNR=22							
ASAR				LR		LR	17 50 04.2	
	comp=Z,99nm,18.1s,baz=122,slow=35							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**44.85**	**268**	P		**P**	**17 32 25.8**	**+2.1**
	2.2nm,0.7s,baz=106,slow=7.7,SNR=17							
WRA				LR		LR	17 49 25.1	
	comp=Z,67nm,20.1s,baz=29,slow=34							
	2.2nm,0.7s							
VNDA	**Vanda**	**51.60**	**186**	P		**P**	**17 33 17.0**	**+2.3**
	0.6nm,0.8s,baz=13,slow=8.0,SNR=3.7							
	0.6nm,0.8s							
GUMO	**Guam**	**54.63**	**313**	LR		LR	17 54 39.9	
	comp=Z,54nm,19.4s,baz=188,slow=34							
BATI	**Baumata**	**58.04**	**275**	LR		LR	17 58 27.6	
	comp=Z,88nm,18.0s,baz=103,slow=35							
QSPA	**South Pole Qui**	**63.16**	**180**	P		**P**	**17 34 38.4**	**+2.0**
	2.1nm,0.9s,baz=56,slow=1.7,SNR=8.6							
	2.1nm,0.9s							
MJAR	**Matsushiro Arr**	**75.86**	**324**	P		**P**	**17 35 53.8**	**-0.9**
	2.1nm,0.8s,baz=154,slow=6.6,SNR=5.7							
MJAR				LR		LR	18 02 42.9	
	comp=Z,53nm,21.3s,baz=160,slow=30							
	2.1nm,0.8s							
SNAA	**Sanae**	**81.58**	**178**	P		**P**	**17 36 25.1**	**-0.6**
	0.8nm,0.6s,baz=189,slow=14,SNR=9.8							
	0.8nm,0.6s							
KSRS	**Korea Array**	**82.23**	**319**	P		**P**	**17 36 29.6**	**+0.3**
	1.3nm,0.8s,baz=131,slow=6.5,SNR=5.4							
	1.3nm,0.8s							
USRK	**Uesuriysk Ar.**	**84.72**	**326**	P		**P**	**17 36 41.4**	**-0.6**
	2.2nm,0.7s,baz=94,slow=7.4,SNR=2.8							
	2.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**92.99**	**289**	P		**P**	**17 37 23.8**	**+1.9**
	0.6nm,0.8s,baz=155,slow=3.3,SNR=6.1							
	0.6nm,0.8s							
ATAH	**Atahualpa**	**94.53**	**100**	LR		LR	18 10 56.3	
	comp=Z,43nm,21.8s,baz=309,slow=30							
NB2	**NORSAR Subarra**	**145.44**	**353**	PKP		**PKPbc**	**17 43 42.3**	**-3.0**
	comp=Z,2.3nm,0.8s,baz=12,slow=2.5							
NOA	**NORSAR Array B**	**145.44**	**353**	PKPbc		**PKPbc**	**17 43 42.7**	**-2.6**
	comp=Z,1.9nm,0.8s,baz=13,slow=2.4,SNR=5.4							
HFS	**Hagfors**	**146.00**	**350**	PKPbc		**PKPbc**	**17 43 45.0**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=31,slow=0.8,SNR=5.6							
AKASG	**Malin Array Be**	**148.92**	**327**	PKPbc		**PKiKP**	**17 43 56.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=50,slow=4.6,SNR=5.2							
BRTR	**Keskin Array B**	**151.45**	**304**	PKPbc		**PKiKP**	**17 44 02.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=2.5,slow=3.3,SNR=2.1							
BRTR				PKPab		**PKPab**	**17 44 11.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=109,slow=2.2,SNR=5.6							

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*SDD **09** 17:26:50.4±2.0, 18.44N×67.63W, h114km±21km, MD2.6, ML1.9, MW2.2*
*NEIC **09** 17:26:51.2±0.3, 18.5N±0.1×67.67W±0.05, h85km±4km, ML2.0/5, Md2.8/6(RSPR), Error ellipse: s-maj=17.5km s-min=7.2km az=182.0*
*RSPR **09** 17:26:52.4, 18.46N×67.65W, h81km±1km, MD2.8/6*

ISC 09 17:26:51.3±1.7, 18.5N±0.1×67.68W±0.05, h83km±12km, n26, σ0=70/35, 13C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.23**	**124**			**Pn**	**17 27 03.4**	**-0.2**
IDE						**Sn**	**17 27 12.8**	**+0.2**
IDE	**Isla Desecheo**	**0.23**	**124**⇓*eP*			**Pn**	**17 27 03.4**	**-0.2**
IDE	**Isla Desecheo**	**0.23**	**124** *eS*			**Sn**	**17 27 12.8**	**+0.2**
LSP	**Las Mesas**	**0.66**	**121**			**Pn**	**17 27 07.2**	**+0.5**
LSP	**Las Mesas**	**0.66**	**121**⇑*eP*			**Pn**	**17 27 07.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**0.74**	**133**			**Pn**	**17 27 07.3**	**-0.3**
CRPR						**Sn**	**17 27 19.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.74**	**133**	IAML			17 27 20.8	
	comp=N,39nm,2.8s							
CRPR				IAML			17 27 44.9	
	comp=E,39nm,3.3s							
CRPR	**Cabo Rojo, PR**	**0.74**	**133**⇑*eP*			**Pn**	**17 27 07.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.74**	**133** *eS*			**Sn**	**17 27 19.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.74**	**133**⇑*eP*g			**Pn**	**17 27 07.7**	**+0.1**
CRPR				⇑*e*Sg		**Sn**	**17 27 21.4**	**+1.7**
CRPR				IAML			17 27 30.3	
	comp=N,37nm,2.8s							
MLPR	**Magueyes Islan**	**0.81**	**132**⇑*eP*			**Pn**	**17 27 08.3**	**0.0**
MLPR	**Magueyes Islan**	**0.81**	**132** *eS*			**Sn**	**17 27 20.0**	**-1.0**
MLPR	**Magueyes Islan**	**0.81**	**132**⇑*eP*g			**Pn**	**17 27 08.7**	**+0.3**
MLPR				IAML			17 27 21.8	
	comp=N,11nm,2.0s							
MLPR				⇑*e*Sg		**Sn**	**17 27 22.1**	**+1.0**
AOPR	**Arecibo Observ**	**0.89**	**101**			**Pn**	**17 27 09.0**	**-0.3**
AOPR						**Sn**	**17 27 22.5**	**-0.3**
AOPR	**Arecibo Observ**	**0.89**	**101**⇓*eP*			**Pn**	**17 27 09.0**	**-0.3**
AOPR	**Arecibo Observ**	**0.89**	**101** *eS*			**Sn**	**17 27 22.5**	**-0.3**
AOPR	**Arecibo Observ**	**0.89**	**101** *e*Pg			**Pn**	**17 27 09.0**	**-0.3**
AOPR				⇑*e*Sg		**Sn**	**17 27 22.1**	**-0.7**
AOPR				IAML			17 27 23.0	
	comp=N,39nm,3.5s							
HIDR	**Higuey Centro**	**0.99**	**275**⇑*eP*g			**Pn**	**17 27 10.4**	**+0.1**
HIDR				IAML			17 27 36.7	
	comp=N,45nm,0.2s							
CELP	**Cerrillos**	**1.13**	**113**			**Pn**	**17 27 12.3**	**+0.2**
CELP						**Sn**	**17 27 26.8**	**-0.9**
CELP	**Cerrillos**	**1.13**	**113**⇓*eP*			**Pn**	**17 27 12.3**	**+0.2**
CELP	**Cerrillos**	**1.13**	**113** *eS*			**Sn**	**17 27 26.8**	**-0.9**
CELP	**Cerrillos**	**1.13**	**113**⇑*eP*g			**Pn**	**17 27 12.6**	**+0.5**
CELP				⇑*e*Sg		**Sn**	**17 27 28.1**	**+0.4**
CELP				IAML			17 27 29.6	
	comp=N,9.1nm,0.4s							
SMDR	**Samana, DR**	**1.62**	**299**	*e*Sg		**Sn**	**17 27 40.7**	**+1.9**
DR12	**Loma Pena Alta**	**1.64**	**280**	Pn		**Pn**	**17 27 18.7**	**+0.1**
DR12				Sn		**Sn**	**17 27 37.7**	**-1.5**
HATOM	**Hato Mayor del**	**1.64**	**280**⇑*eP*g			**Pn**	**17 27 18.2**	**-0.4**
HATOM				⇑*e*Sg		**Sn**	**17 27 38.9**	**-0.3**
HATOM				IAML			17 27 42.2	
	comp=N,2.8nm,0.2s							
PDPR	**Patillas Dam,**	**1.65**	**107** *e*S			**Sn**	**17 27 40.0**	**+0.6**

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*IDC **09** 17:28:54.8±1.1, 22.63N×144.13E, h0km, mb4.0/13, mbtmp4.0/14, ML3.1/1, MS3.3/2, Error ellipse: s-maj=50.5km s-min=14.7km az=77.0*
*NEIC **09** 17:29:00.5±1.8, 22.69N±0.09×144.3E±0.1, h35km±2km, mb4.4/20, Error ellipse: s-maj=22.7km s-min=11.8km az=120.0*

ISC 09 17:29:00.1±0.8, 22.63N±0.08×144.2E±0.1, h35km, n47, σ0=90/40, mb4.3/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.80**	**341**	Pn		**Pn**	**17 32 25.7**	**-1.2**
	0.1nm,0.3s,baz=156,slow=12,SNR=4.7							
	0.6nm,0.5s							
MAJO	**Matsushiro**	**14.80**	**341**	Pn		**Pn**	**17 32 26.5**	**-0.5**
JOW	**Kunigami**	**15.05**	**289**	LR		LR	17 37 42.7	
	comp=Z,76nm,20.4s,baz=208,slow=35							
JMM	**Marumori**	**15.47**	**350**	Pn		**Pn**	**17 32 35.6**	**0.0**
JMM				IAmb		IAmb	17 33 01.8	
	comp=Z,23nm,1.1s							
KSRS	**Korea Array**	**20.36**	**320**	P		**P**	**17 33 32.2**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=130,slow=12,SNR=13							
	comp=Z,1.1nm,0.7s							
NACB	**Ninganchiao**	**20.79**	**279**	P		**P**	**17 33 38.8**	**+0.4**
NACB				IAmb		IAmb	17 34 22.4	
	comp=Z,15nm,1.0s							
YHNB	**Yeheng**	**20.99**	**280**	P		**P**	**17 33 41.8**	**+1.1**
YULB	**Yu-li**	**21.08**	**277**	P		**P**	**17 33 42.7**	**+1.1**
YULB				IAmb		IAmb	17 33 55.2	
	comp=Z,35nm,1.4s							
H11N1	**WAKE ISLAND Hy**	**21.37**	**94**	T		T	17 56 00.6	
	baz=283,slow=74,SNR=7.5							
H11N2	**WAKE ISLAND Hy**	**21.37**	**94**	T		T	17 56 22.6	
	baz=283,slow=74,SNR=8.2							
H11N3	**WAKE ISLAND Hy**	**21.38**	**94**

H11S1 WAKE ISLAND Hy 21.47 97 T T 17 56 19.3
baz=283,slow=75,SNR=6.8
H11S2 WAKE ISLAND Hy 21.48 97 T T 17 56 22.0
baz=283,slow=75,SNR=7.1
TPUB Ta-pu 21.70 276 P **P** **17 33 49.0 +0.8**
USRK Ussuriysk Ar. 23.75 338 P **P** **17 34 12.0 +2.8**
comp=Z,3.0nm,0.7s,baz=172,slow=8.9,SNR=4.2
TOLI2 Tolitoli 31.23 230 P **P** **17 35 16.7 +0.1**
TOLI2 IAmb IAmb 17 35 19.0
comp=Z,3.7nm,0.7s
COEN Coen 36.37 182 P **P** **17 36 01.8 +0.6**
COEN IAmb IAmb 17 36 14.2
comp=Z,7.8nm,1.1s
MTN Manton Dam 37.50 201 P **P** **17 36 10.8 0.0**
MTN IAmb IAmb 17 36 42.2
comp=Z,8.4nm,1.1s
SMY Shemya 37.75 30 P **P** **17 36 12.6 +0.1**
SONM Songino Array 39.23 319 P **P** **17 36 25.0 -0.2**
comp=Z,0.9nm,0.4s,baz=121,slow=8.3,SNR=2.8
comp=Z,0.9nm,0.4s
KNRA Kununurra 40.96 203 P **P** **17 36 38.8 -0.8**
KNRA IAmb IAmb 17 37 07.7
comp=Z,12nm,1.4s
WB0 Warramunga Arr 43.21 194 P **P** **17 36 57.3 -0.7**
WR8 Warramunga Arr 43.37 193 P **P** **17 36 58.7 -0.5**
WR8 IAmb IAmb 17 37 01.9
comp=Z,4.8nm,1.1s
WRA Warramunga Arr 43.39 194 P **P** **17 36 59.2 -0.3**
WRA Warramunga Arr 43.39 194 P **P** **17 36 59.1 -0.3**
comp=Z,0.7nm,0.3s,baz=14,slow=8.8,SNR=14
comp=Z,0.7nm,0.3s
FITZ Fitzroy Crossi 44.35 206 P **P** **17 37 06.3 -0.8**
FITZ Fitzroy Crossi 44.35 206 P **P** **17 37 06.8 -0.4**
comp=Z,1.2nm,0.5s,baz=24,slow=6.6,SNR=6.6
FITZ LR LR 17 55 07.1
comp=Z,60nm,19.9s,baz=280,slow=36
comp=Z,1.2nm,0.5s
AS31 Alice Springs 47.09 193 P **P** **17 37 28.3 -0.5**
ASAR Alice Springs 47.09 193 P **P** **17 37 28.2 -0.6**
comp=Z,0.3nm,0.4s,baz=8.4,slow=9.3,SNR=16
comp=Z,0.3nm,0.4s
GSI Gunungsitoli 49.97 252 P **P** **17 37 51.0 -0.2**
ZALV Zalesovo Beam 54.07 321 P **P** **17 38 20.7 -0.4**
ZALV Zalesovo Beam 54.07 321 P **P** **17 38 20.9 -0.2**
comp=Z,1.6nm,0.5s,baz=110,slow=7.2,SNR=8.2
comp=Z,1.6nm,0.5s
STKA Stephens Creek 54.25 183 P **P** **17 38 22.2 -0.4**
comp=Z,1.2nm,0.6s,baz=315,slow=12,SNR=3.2
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 54.76 312 P **P** **17 38 27.0 +0.6**
MKAR Makanchi Array 54.76 312 P **P** **17 38 26.4 +0.1**
comp=Z,0.7nm,0.5s,baz=86,slow=9.1,SNR=14
comp=Z,0.7nm,0.5s
MAKZ Makanchi 54.98 312 P **P** **17 38 27.9 0.0**
MAKZ IAmb IAmb 17 38 30.1
comp=Z,4.3nm,1.5s
KURBB Kurchatov Arra 57.49 317 P **P** **17 38 45.1 -0.6**
comp=Z,0.9nm,0.5s,baz=94,slow=7.7,SNR=13
comp=Z,0.9nm,0.5s
BVAR Borovoye Array 62.58 319 P **P** **17 39 21.0 +0.4**
comp=Z,2.5nm,0.4s,baz=93,slow=8.4,SNR=22
comp=Z,2.5nm,0.4s
KK31 Karatay Array 63.21 308 P **P** **17 39 25.3 +0.3**
KK31 IAmb IAmb 17 39 26.5
comp=Z,2.5nm,0.7s
KKAR Karatay Array 63.21 308 P **P** **17 39 25.3 +0.3**
AB31 Akbulak array 69.53 316 P **P** **17 40 05.0 -0.3**
ARCES ARCESS Array B 78.34 342 P **P** **17 40 57.4 +1.0**
comp=Z,2.5nm,0.8s,baz=57,slow=8.8,SNR=5.4
comp=Z,2.5nm,0.8s
FINES FINESS Array B 82.74 335 P **P** **17 41 18.5 -1.7**
comp=Z,0.8nm,0.3s,baz=62,slow=4.5,SNR=9.0
comp=Z,0.8nm,0.3s
HFS Hagfors 88.23 338 P **P** **17 41 45.9 -1.6**
comp=Z,0.5nm,0.3s,baz=64,slow=3.4,SNR=5.2
comp=Z,0.5nm,0.3s
PLCA Paso Flores 145.65 130 PKPbc **PKPab** **17 48 36.4 +0.6**
comp=Z,1.3nm,0.6s,baz=232,slow=3.3,SNR=6.2

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*IDC **09** 17:35:20.3±2.3, 0°.85S×132°.80E, h0km, mb3.5/3, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=108.2km s-min=23.2km az=78.0*
*DJA **09** 17:35:23.1±0.4, 1°.S±5°×13°.3E±°, h10km, M4.2/14, mb4.3/7, MLv4.1/14*
ISC 09 17:35:24.7±1.1, **0°.8S**±0°.1×**133°.17E**±0°.07, **h35**km, **n21**, σ1§**45**/18, **mb3.5/3**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.25**	**126**	P	**Pn**	**17 35 46.6**	**+0.9**
SWI	**Sorong**	**1.91**	**267**	P	**Pn**	**17 35 56.2**	**+1.4**
FAKI	**Fak Fak**	**2.33**	**203**	P	**Pn**	**17 36 01.4**	**+0.8**
KMPI	**Kaimana, Papua**	**2.92**	**169**	P	**Pn**	**17 36 09.6**	**+0.8**
BAKI	**Biak**	**2.97**	**98**	P	**Pn**	**17 36 09.6**	**+0.2**
SRPI	**Serui, Papua**	**3.26**	**110**	P	**Pn**	**17 36 15.4**	**+2.0**
MSAI	**Masohi**	**4.95**	**239**	P	**Pn**	**17 36 39.1**	**+2.5**
BNDI	**Bandanaira**	**4.95**	**221**	P	**Pn**	**17 36 38.4**	**+1.7**
AAI	**Ambon**	**5.75**	**240**	P	**Pn**	**17 36 49.1**	**+1.4**
	34nm,0.9s						
NLAI	**Namlea**	**6.54**	**248**	P	**Pn**	**17 37 00.0**	**+1.5**
	0.1nm25nm,0.6s						
GENI	**Genyem**	**7.23**	**105**	P	**Pn**	**17 37 09.1**	**+1.1**
	0.2nm25nm,1.4s						
SANI	**Sanana**	**7.29**	**260**	P	**Pn**	**17 37 09.6**	**+0.8**
	0.0nm11nm,0.9s						
JAY	**Jayapura**	**7.73**	**103**	P	**Pn**	**17 37 16.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.74**	**203**	Pn	**P**	**17 39 38.4**	**-2.3**
	0.2nm,0.3s,baz=32,slow=8.7,SNR=8.0						
FITZ				Sn	Sn	17 42 54.7	-15
	baz=90,slow=4.9,SNR=3.2						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**19.09**	**177**	P	**Pn**	**17 39 44.8**	**-0.8**
	0.2nm,0.3s,baz=355,slow=11,SNR=5.9						
WRA				S	Sn	17 43 06.3	-12
	0.5nm,0.9s,baz=354,slow=24,SNR=1.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**22.77**	**178**	P	**P**	**17 40 23.7**	**-0.6**
	0.9nm,0.4s,baz=358,slow=11,SNR=28						
	0.9nm,0.4s						
H11N1	**WAKE ISLAND Hy 38.83**	**57**		T	T	18 23 50.7	
	baz=243,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy 38.84**	**57**		T	T	18 23 51.0	
	baz=243,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy 38.84**	**57**		T	T	18 23 52.1	
	baz=243,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**17 46 01.0**	**+0.2**
	0.2nm,0.5s,baz=105,slow=7.6,SNR=3.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**69.00**	**326**	P	**P**	**17 46 26.4**	**-0.1**
	0.3nm,0.8s,baz=119,slow=5.8,SNR=3.3						
	0.3nm,0.8s						

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*NEIC **09** 18:08:15.5±1.3, 17°.1S±0°.1×70°.1W±0°.1, h161km±12km, mb4.3/2, Error ellipse: s-maj=21.7km s-min=7.0km az=133.0*
*GUC **09** 18:08:17.1±0.8, 17°.27S×70°.19W, h149km±4km, ML3.3*
*IDC **09** 18:08:20.1±1.3, 17°.06S×69°.54W, h172km±11km, mb3.5/8, mbtmp4.0/9, MS3.4/1, Error ellipse: s-maj=21.3km s-min=16.3km az=76.0*
ISC 09 18:08:16.8±0.9, **17°.16S**±0°.06×**69°.9W**±0°.1, **h156**km±7km, **n42**, σ1§**76**/52, **mb4.1**/11, **5C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.59**	**136**		**Pn**	**18 08 40.4**	**+0.4**
PB18	**Visviri**	**0.59**	**136**	⇑*i*P	**Pn**	**18 08 40.7**	**+0.7**
PB18				*i* S	**Sn**	**18 08 59.7**	**+2.1**
PB16	**IPOC Station P**	**1.23**	**162**		**Pn**	**18 08 45.3**	**+0.5**
PB16				Sn	**Sn**	**18 09 08.0**	**+1.8**
PB16	**IPOC Station P**	**1.23**	**162**	⇑*i*P	**Pn**	**18 08 45.8**	**+1.0**
PB16				*i* S	**Sn**	**18 09 07.4**	**+1.2**
PB16				IAML		18 09 09.9	
	comp=E,210nm,0.6s						
PX02	**IPOC Station P**	**1.81**	**189**	*e*P	**Pn**	**18 08 48.9**	**-1.4**
PX02				*e*S	**Sn**	**18 09 13.6**	**-2.5**
LPAZ	**La Paz**	**1.91**	**63**		**Pn**	**18 08 52.1**	**+0.2**
LPAZ	**La Paz**	**1.91**	**63**	P	**Pn**	**18 08 52.3**	**+0.4**
	comp=E,135nm,0.4s,baz=259,slow=5.5,SNR=512						
LPAZ				S	**Sn**	**18 09 17.8**	**-1.1**
	comp=E,74nm,0.5s,baz=353,slow=18,SNR=11						
LPAZ				LR	LR	18 09 35.1	
	comp=E,53nm,18.0s,baz=272,slow=48						
GO01	**Chusmiza**	**2.58**	**165**		**Pn**	**18 09 00.7**	**+1.0**
GO01	**Chusmiza**	**2.58**	**165**	⇑*i*P	**Pn**	**18 09 00.9**	**+1.2**
GO01				*i* S	**Sn**	**18 09 34.2**	**+1.4**
PB11	**IPOC Station P**	**2.59**	**175**		**Pn**	**18 08 59.4**	**-0.1**
PB11	**IPOC Station P**	**2.59**	**175**	⇑*i*P	**Pn**	**18 08 59.5**	**0.0**
PB11				*i* S	**Sn**	**18 09 31.9**	**-0.7**
PB11				IAML		18 09 33.8	
	comp=N,371nm,0.2s						
PB08	**IPOC Station P**	**3.05**	**167**		**Pn**	**18 09 06.3**	**+1.0**
HMBC	**Humberstone**	**3.10**	**180**		**Pn**	**18 09 04.8**	**-0.9**
HMBC	**Humberstone**	**3.10**	**180**	*i* P	**Pn**	**18 09 04.5**	**-1.2**
HMBC				*i* S	**Sn**	**18 09 40.7**	**-3.0**
TA01	**Diego Aracena**	**3.39**	**184**		**Pn**	**18 09 08.8**	**-0.6**
TA01				Sn	**Sn**	**18 09 48.6**	**-1.6**
TA01	**Diego Aracena**	**3.39**	**184**	*e*P	**Pn**	**18 09 08.4**	**-0.9**
TA01				*e*S	**Sn**	**18 09 46.1**	**-4.1**
PATCX	**Punta Patache**	**3.65**	**184**		**Pn**	**18 09 11.9**	**-0.8**
PB01	**IPOC Station P**	**3.88**	**174**		**Pn**	**18 09 15.2**	**-0.5**
PB01	**IPOC Station P**	**3.88**	**174**	⇑*i*P	**Pn**	**18 09 15.2**	**-0.5**
PB02	**IPOC Station P**	**4.13**	**180**		**Pn**	**18 09 18.8**	**-0.3**
PB02	**IPOC Station P**	**4.13**	**180**	*e*P	**Pn**	**18 09 18.4**	**-0.7**
PB09	**IPOC Station P**	**4.65**	**172**		**Pn**	**18 09 25.6**	**-0.3**
PB09	**IPOC Station P**	**4.65**	**172**	⇓*i*P	**Pn**	**18 09 26.3**	**+0.4**
PB09				*i* S	**Sn**	**18 10 16.3**	**-3.4**
PB03	**IPOC Station P**	**4.86**	**178**		**Pn**	**18 09 27.6**	**-1.0**
PB06	**IPOC Station P**	**5.52**	**177**		**Pn**	**18 09 36.3**	**-1.0**
PB10	**IPOC Station P**	**6.35**	**185**		**Pn**	**18 09 46.4**	**-1.8**
PB14	**IPOC Station P**	**7.44**	**183**		**Pn**	**18 10 00.6**	**-2.4**
GO02	**Mina Guanaco**	**7.96**	**178**		**Pn**	**18 10 08.7**	**-1.2**
SIV	**San Ignacio**	**8.55**	**83**	P	**Pn**	**18 10 15.8**	**-1.8**
	comp=N,2.7nm,0.4s,baz=280,slow=10,SNR=12						
SIV				S	**Sn**	**18 11 48.3**	**-4.6**
	comp=N,3.3nm,0.7s,baz=335,slow=19,SNR=6.7						
AC01	**Pan de Azucar**	**8.96**	**184**	Pn	**Pn**	**18 10 20.2**	**-2.7**
BOAV	**Boa Vista**	**21.53**	**26**	P	**P**	**18 12 53.1**	**-0.7**
BOAV				IAmb	IAmb	18 12 54.5	
	comp=Z,8.1nm,1.1s						
ROSC	**El Rosal**	**22.29**	**348**	P	**P**	**18 13 04.7**	**+2.8**
	comp=Z,7.2nm,0.3s,baz=149,slow=19,SNR=2.3						
	comp=Z,7.2nm,0.3s						
PLCA	**Paso Flores**	**23.49**	**181**	P	**P**	**18 13 15.0**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=8.2,slow=14,SNR=4.3						
PLCA				LR	LR	18 23 35.3	
	comp=Z,76nm,18.4s,baz=98,slow=39						
	comp=Z,1.9nm,0.8s						
BAUV	**El Baul**	**26.01**	**4**	P	**P**	**18 13 33.1**	**-2.3**
BAUV				IAmb	IAmb	18 13 35.0	
	comp=Z,10nm,0.7s						
TXAR	**Lajitas Array**	**56.56**	**324**	P	P	18 17 45.2	+1.9
	comp=Z,0.1nm,0.4s,baz=152,slow=7.5,SNR=2.2						
	comp=Z,0.1nm,0.4s						
SNAA	**Sanae**	**66.67**	**161**	P	**P**	**18 18 51.7**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=271,slow=7.9,SNR=14						
	comp=Z,0.9nm,0.6s						
DBIC	**Dimbokro**	**68.49**	**75**	P	**P**	**18 19 02.0**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=262,slow=9.8,SNR=4.6						
	comp=Z,2.1nm,0.5s						
ULM	**Lac du Bonnet**	**70.92**	**343**	P	**P**	**18 19 15.3**	**-1.5**
	comp=Z,2.6nm,0.6s,baz=159,slow=5.1,SNR=3.5						
NVAR	**Mina Array Bea**	**71.52**	**322**	P	P	18 19 23.1	+2.1
	comp=Z,21nm,0.3s,baz=123,slow=6.4,SNR=4.3						
QSPA	**South Pole Qui**	**73.00**	**180**	P	**P**	**18 19 32.1**	**+2.8**
	comp=Z,1.3nm,0.6s,baz=156,slow=0.9,SNR=9.8						
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.84**	**72**	P	**P**	**18 19 51.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=261,slow=5.1,SNR=6.2						
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**83.44**	**45**	P	**P**	**18 20 26.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=264,slow=3.5,SNR=2.0						
	comp=Z,0.2nm,0.4s						

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*GEN **09** 18:14:39.3, 45°.89N×6°.92E, h8km±1km, MI1.6*
*ZUR **09** 18:14:40.2, 45°.89N×6°.92E, h0km, MLh1.9/46, Error ellipse: s-maj=2403.6km s-min=663.5km az=228.0*
*LDG **09** 18:14:40.6±0.1, 45°.87N×6°.94E, h5km, Md2.1/2, Ml2.4/17, Error ellipse: s-maj=1.5km s-min=1.1km az=96.0*
*ROM **09** 18:14:40.0±0.1, 45°.882N±0°.007×6°.94E±0°.01, h7km, ML1.6/12, Error ellipse: s-maj=0.8km s-min=0.8km az=237.0*
STR 09 18:14:40.5±0.2, **46°N**±1°×°±°, **h5**km, **MLv1.9**/13, **17C-15D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**159**	⇑Pg	Pg	18 14 41.5	-0.6
BLANC				Sg	Sg	18 14 42.4	-0.9
BLANC	**P.ta Helbronne**	**0.04**	**159**	⇑Pg	Pg	18 14 41.5	-0.6
BLANC				Sg	Sg	18 14 42.4	-0.9
MFERR	**Prayon, Val Fe**	**0.15**	**65**	⇑Pg	Pg	18 14 43.6	-0.1
MFERR				Sg	Sg	18 14 45.9	+0.1
MFERR	**Prayon, Val Fe**	**0.15**	**65**	⇑Pg	Pg	18 14 43.6	-0.1
MFERR				Sg	Sg	18 14 45.9	+0.2
MRGE	**Morge**	**0.16**	**138**	P	Pg	18 14 43.7	0.0
MRGE				S	Sg	18 14 46.2	+0.4
MRGE	**Morge**	**0.16**	**138**	P	Pg	18 14 43.6	0.0
MRGE				S	Sg	18 14 46.4	+0.6
MRGE				AML	AML		
	comp=E,424μm,0.3s						
MRGE				AML	AML		
	comp=N,448μm,0.2s						
REMY	**Saint-Rhmy-en**	**0.18**	**105**	⇑Pg	Pg	18 14 44.3	+0.2
REMY				Sg	Sg	18 14 47.3	+0.8
REMY	**Saint-Rhmy-en**	**0.18**	**105**	⇑Pg	Pg	18 14 44.3	+0.2
REMY				Sg	Sg	18 14 47.3	+0.8
REMY	**Saint-Rhmy-en**	**0.18**	**105**	P	Pg	18 14 44.3	+0.2
REMY				S	Sg	18 14 47.3	+0.8
REMY	**Saint-Rhmy-en**	**0.18**	**105**	⇑P	Pg	18 14 44.3	+0.2
REMY				S	Sg	18 14 47.2	+0.8
REMY				AML	AML		
	comp=E,304μm,0.2s						
REMY				AML	AML		
	comp=N,443μm,0.4s						
REMY				AML	AML		
	comp=N,348μm,0.1s						
REMY				AML	AML		
	comp=E,181μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.18**	**105**	Pg	Pg	18 14 44.2	+0.1
REMY				Sg	Sg	18 14 47.3	+0.8
SEMOS	**Emosson Stauma**	**0.18**	**5**	⇓Pg	Pg	18 14 44.1	-0.1
SEMOS	**Emosson Stauma**	**0.18**	**5**	⇓Pg	Pg	18 14 44.1	-0.1
SEMOS				Sg	Sg	18 14 46.5	-0.1
OGSI	**Sixt**	**0.21**	**329**	⇑Pg	Pg	18 14 44.3	-0.3
OGSI				Sg	Sg	18 14 47.1	-0.4
OGSI	**Sixt**	**0.21**	**329**	⇑Pg	Pg	18 14 44.3	-0.3
OGSI				Sg	Sg	18 14 47.1	-0.4
OGSI	**Sixt**	**0.21**	**329**	Pg	Pg	18 14 44.4	-0.3
OGSI				Sg	Sg	18 14 47.1	-0.4
SMAO	**Martigny, Rue**	**0.24**	**28**	Pg	Pg	18 14 45.3	+0.1
SMAO				Sg	Sg	18 14 48.5	0.0
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	18 14 45.6	-0.1
SALAN				Sg	Sg	18 14 49.0	-0.2
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	18 14 45.6	-0.1
SALAN				Sg	Sg	18 14 49.0	-0.2
RSL	**Roselend**	**0.28**	**226**	⇑Pg	Pg	18 14 45.7	-0.3
RSL				Sg	Sg	18 14 49.2	-0.5
RSL	**Roselend**	**0.28**	**226**	⇑Pg	Pg	18 14 45.7	-0.3
RSL				Sg	Sg	18 14 49.2	-0.5
RSL	**Roselend**	**0.28**	**226**	P	Pg	18 14 45.7	-0.3
RSL				S	Sg	18 14 49.2	-0.5
RSL	**Roselend**	**0.28**	**226**	Pg	Pg	18 14 45.6	-0.4
RSL				Sg	Sg	18 14 49.3	-0.5
FULLY	**Reservoir Maze**	**0.31**	**30**	⇓Pg	Pg	18 14 46.5	-0.1
FULLY	**Reservoir Maze**	**0.31**	**30**	⇓Pg	Pg	18 14 46.5	-0.1
FULLY				Sg	Sg	18 14 50.5	-0.3
LAVEY	**Lavey les Bain**	**0.32**	**14**	⇓Pg	Pg	18 14 46.7	-0.1
LAVEY				Sg	Sg	18 14 50.8	-0.3
LAVEY	**Lavey les Bain**	**0.32**	**14**	Pg	Pg	18 14 46.7	-0.1
LAVEY				Sg	Sg	18 14 50.8	-0.3
ILLEZ	**Chalet Vouargn**	**0.34**	**3**	⇓Pg	Pg	18 14 46.9	-0.1
ILLEZ				Sg	Sg	18 14 51.3	-0.2
ILLEZ	**Chalet Vouargn**	**0.34**	**3**	⇑Pg	Pg	18 14 47.0	-0.1
ILLEZ				Sg	Sg	18 14 51.3	-0.2
RAW4	**Former Reservo**	**0.37**	**30**	⇓Pg	Pg	18 14 47.7	-0.1
RAW4	**Former Reservo**	**0.37**	**30**	⇓Pg	Pg	18 14 47.7	-0.1
LPL	**La Plagne**	**0.39**	**199**	*e*Pg	Pg	18 14 47.9	-0.2
LPL				*e*Sg	Sg	18 14 52.3	-0.9
	comp=E,12nm,0.2s						
GRYON	**Gryon**	**0.39**	**21**	⇓Pg	Pg	18 14 48.0	-0.1
GRYON	**Gryon**	**0.39**	**21**	⇓Pg	Pg	18 14 48.0	-0.1
GRYON				Sg	Sg	18 14 53.1	-0.2
DIX	**Grande Dixence**	**0.40**	**60**	⇓Pg	Pg	18 14 48.2	-0.1
DIX				Sg	Sg	18 14 53.6	+0.1
DIX	**Grande Dixence**	**0.40**	**60**	P	Pg	18 14 48.1	-0.2
DIX				S	Sg	18 14 53.7	+0.2
DIX	**Grande Dixence**	**0.40**	**60**	P	Pg	18 14 48.2	0.0
DIX				S	Sg	18 14 54.1	+0.6
DIX				AML	AML		
	comp=N,236μm,0.9s						
DIX				AML	AML		
	comp=E,263μm,0.5s						
DIX				AML	AML		
	comp=N,236μm,0.9s						
DIX				AML	AML		
	comp=N,203μm,0.3s						
DIX				AML	AML		
	comp=E,225μm,0.2s						
DIX	**Grande Dixence**	**0.40**	**60**	Pg	Pg	18 14 48.1	-0.1
DIX				Sg	Sg	18 14 53.4	-0.1
LPG	**La Plagne**	**0.40**	**196**	*e*Pg	Pg	18 14 48.1	-0.3
LPG				*e*Sg	Sg	18 14 52.8	-0.9
	comp=E,17nm,0.2s						
VET01	**Vtroz, Route**	**0.42**	**36**	Sg	Sg	18 14 54.6	+0.5
SHER	**Hrmence, R**	**0.45**	**48**	Pg	Pg	18 14 49.4	+0.1
SHER				Sg	Sg	18 14 55.4	+0.2
AIGLE	**Aigle**	**0.46**	**4**	⇓Pg	Pg	18 14 49.2	-0.1
AIGLE	**Aigle**	**0.46**	**4**	⇓Pg	Pg	18 14 49.2	-0.1
AIGLE				Sg	Sg	18 14 55.1	-0.2
AIGLE	**Aigle**	**0.46**	**4**	Pg	Pg	18 14 49.3	0.0
AIGLE				Sg	Sg	18 14 55.1	-0.2
MH36	**Zermatt, Posit**	**0.54**	**80**	⇑Pg	Pg	18 14 50.3	-0.6
MH44	**Zermatt, Posit**	**0.54**	**79**	⇑Pg	Pg	18 14 50.3	-0.6
CIRO	**Champorcher**	**0.54**	**121**	P	Pg	18 14 50.0	-0.9
CIRO	**Champorcher**	**0.54**	**121**	P	Pg	18 14 50.7	-0.3
CIRO				AML	AML		
	comp=E,38μm,0.3s						
CIRO				AML	AML		
	comp=N,43μm,0.1s						
CIRO	**Champorcher**	**0.54**	**121**	Pg	Pg	18 14 50.5	-0.4
CIRO				Sg	Sg	18 14 58.9	+0.9
SENIN	**Lac Senin/Sane**	**0.55**	**29**	P	Pg	18 14 51.1	0.0
SENIN				S	Sg	18 14 58.0	-0.3
VANNI	**Vissoie, Val d**	**0.58**	**56**	P	Pg	18 14 52.3	+0.7
VANNI				S	Sg	18 15 00.2	+1.0
ILL12	**Sagenschleif I**	**0.64**	**51**	Pg	Pg	18 14 52.7	-0.1
SATI	**Passo dei Sala**	**0.67**	**91**	P	Pb	18 14 55.9	+1.0
SATI				S	Sg	18 15 02.2	+0.2
TRAV	**Traversella**	**0.69**	**122**	⇑Pg	Pg	18 14 53.4	-0.4
TRAV	**Traversella**	**0.69**	**122**	⇑Pg	Pg	18 14 53.4	-0.4
TRAV	**Traversella**	**0.69**	**122**	P	Pg	18 14 53.4	-0.4
TRAV	**Traversella**	**0.69**	**122**	P	Pg	18 14 53.4	-0.4
TRAV				AML	AML		
	comp=E,54μm,1.6s						
TRAV				AML	AML		
	comp=N,60μm,0.1s						
TRAV				AML	AML		
	comp=E,54μm,1.6s						
TRAV				AML	AML		
	comp=N,60μm,0.1s						
TRAV				AML	AML		
	comp=E,47μm,0.2s						
TRAV				AML	AML		
	comp=N,60μm,0.1s						
TRAV	**Traversella**	**0.69**	**122**	Pg	Pg	18 14 53.4	-0.4
TRAV				Sg	Sg	18 15 03.6	+0.8
OGMO	**Fort Saint-Gob**	**0.70**	**193**	P	Pg	18 14 49.2	-4.7
OGMO	**Fort Saint-Gob**	**0.70**	**193**	Pg	Pg	18 14 53.9	+0.1
OGMO				Sg	Sg	18 15 03.4	+0.6
OGMY	**Moye**	**0.71**	**270**	Pg	Pg	18 14 53.8	-0.4
OGMY				Sg	Sg	18 15 03.3	-0.2
EMBD	**Embd, Matterta**	**0.72**	**62**	⇑Pg	Pg	18 14 53.8	-0.5
EMBD	**Embd, Matterta**	**0.72**	**62**	Pg	Pg	18 14 53.9	-0.5
EMBD				Sg	Sg	18 15 03.1	-0.7
EMBD	**Embd, Matterta**	**0.72**	**62**	P	Pg	18 14 53.8	-0.5
EMBD				S	Sg	18 15 02.9	-0.9
EMBD	**Embd, Matterta**	**0.72**	**62**	Pg	Pg	18 14 53.8	-0.5
EMBD				Sg	Sg	18 15 04.0	+0.2
MMK	**Mattmark**	**0.75**	**77**	P	Pg	18 14 54.0	-0.9
MMK				S	Sg	18 15 04.6	-0.2
MMK	**Mattmark**	**0.75**	**77**	P	Pg	18 14 54.6	-0.4
MMK				S	Sg	18 15 04.5	-0.2
RSP	**Reno Superiore**	**0.78**	**161**	P	Pg	18 14 55.1	-0.3
RSP				S	Sg	18 15 05.1	-0.4
RSP	**Reno Superiore**	**0.78**	**161**	P	Pg	18 14 55.3	-0.1
RSP				S	Sg	18 15 05.9	+0.4
RSP				AML	AML		
	comp=E,55μm,1.6s						
RSP				AML	AML		
	comp=N,53μm,1.3s						
RSP				AML	AML		
	comp=E,55μm,1.6s						
RSP				AML	AML		
	comp=E,122μm,0.5s						
RSP				AML	AML		
	comp=N,105μm,0.5s						
RSP				AML	AML		
	comp=E,38μm,0.2s						
RSP				AML	AML		
	comp=N,44μm,0.2s						
RSP	**Reno Superiore**	**0.78**	**161**	Pg	Pg	18 14 55.0	-0.4
RSP				Sg	Sg	18 15 05.9	+0.4
GIMEL	**St. Georges /**	**0.79**	**326**	P	Pg	18 14 56.1	+0.5
GIMEL				S	Sb	18 15 07.2	-0.6
GIMEL				AML	AML		
	comp=E,48μm,0.1s						
GIMEL				AML	AML		
	comp=N,33μm,0.1s						
GIMEL				AML	AML		
	comp=N,33μm,0.1s						
GIMEL	**St. Georges /**	**0.79**	**326**	Pg	Pg	18 14 55.0	-0.6
GIMEL				Sg	Sg	18 15 06.2	+0.3
BNI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**2.06**	**169**	*e*Pg	Pb	18 15 17.9	-0.4
SBF				*e*Sn	Sn	18 15 37.3	-4.5
SBF				*e*Sg	Sb	18 15 43.5	-0.7
	comp=N,18nm,0.7s						
SMRF	**Simiane la Rot**	**2.13**	**207**	*e*Pn	Pn	18 15 14.2	-2.6
SMRF	**Simiane la Rot**	**2.13**	**207**	*e*Pg	Pn	18 15 18.1	+1.3
SMRF				*e*Sg	Sb	18 15 46.4	0.0
	comp=N,1.5nm,0.3s						
HAU	**Haudompre**	**2.16**	**350**	*e*Pn	Pn	18 15 15.7	-1.4
HAU	**Haudompre**	**2.16**	**350**	*e*Pg	Pb	18 15 20.8	+0.8
HAU				*e*Sg	Sg	18 15 48.8	-0.9
	comp=N,5.7nm,0.3s						
SMF	**Signal de Mont**	**2.26**	**291**	*e*Pg	Pb	18 15 22.6	+0.8
SMF				*e*Sg	Sb	18 15 51.5	+1.4
	comp=N,11nm,0.2s						
LOR	**Lormes**	**2.52**	**304**	*e*Pn	Pn	18 15 21.0	-1.1
LOR	**Lormes**	**2.52**	**304**	*e*Pg	Pg	18 15 27.8	-1.0
LOR				*e*Sn	Sn	18 15 51.2	-2.0
LOR				*e*Sg	Sg	18 16 01.7	+0.3
	comp=N,3.4nm,0.3s						
LMR	**La Mourre**	**2.57**	**187**	*e*Pg	Pb	18 15 26.9	-0.1
LMR				*e*Sg	Sb	18 15 59.7	+0.8
AVF	**Avril sur Loir**	**2.63**	**291**	*e*Pn	Pn	18 15 22.7	-0.8
AVF	**Avril sur Loir**	**2.63**	**291**	*e*Pg	Pg	18 15 29.6	-1.2
AVF				*e*Sn	Sn	18 15 52.4	-3.4
AVF				*e*Sg	Sb	18 16 02.2	+1.6
	comp=N,2.1nm,0.3s						
SSF	**Saint Saulge**	**2.63**	**298**	*e*Pn	Pn	18 15 22.6	-1.0
SSF	**Saint Saulge**	**2.63**	**298**	*e*Pg	Pg	18 15 29.9	-1.0
SSF				*e*Sg	Sg	18 16 03.5	-1.5
	comp=N,2.5nm,0.3s						
VARA	**Varagna**	**2.79**	**90**	AML	AML		
	comp=E,148μm,1.1s						
VARA				AML	AML		
	comp=N,249μm,0.5s						
LASF	**Ste Croix**	**2.82**	**231**	*e*P	Pn	18 15 27.6	+1.3
LASF				*e*Sg	Sg	18 16 09.4	-1.8
	comp=N,2.1nm,0.4s						
BGF	**Bois d'Agland**	**2.90**	**285**	*e*Pn	Pn	18 15 26.0	-1.3
BGF	**Bois d'Agland**	**2.90**	**285**	*e*Pg	Pb	18 15 33.7	+1.0
BGF				*e*Sg	Sg	18 16 11.8	-1.9
	comp=N,7.3nm,0.4s						
SAVF	**Savonnieres en**	**2.99**	**337**	*e*Pn	Pn	18 15 27.5	-1.0
SAVF	**Savonnieres en**	**2.99**	**337**	*e*Pg	Pg	18 15 36.7	-1.1
TCF	**Toulx Ste Croi**	**3.30**	**279**	*e*Pn	Pn	18 15 31.1	-1.7
TCF	**Toulx Ste Croi**	**3.30**	**279**	*e*Pg	Pg	18 15 41.8	-1.8
TCF				*e*Sn	Sn	18 16 07.9	-4.5
TCF				*e*Sg	Sg	18 16 24.9	-1.4
	comp=N,1.4nm,0.2s						
CAF	**Calviac**	**3.55**	**256**	*e*P	Pn	18 15 36.8	+0.6
CAF				*e*Sg	Sg	18 16 32.3	-2.1
	comp=N,1.4nm,0.3s						
MMUR	**Monte Murano**	**4.98**	**117**	AML	AML		
	comp=N,1090μm,1.4s						
MMUR				AML	AML		
	comp=E,788μm,1.5s						

*IDC **09** 18:23:30.4±0.8, 72°.07N×0°.10E, h0km, mb3.6/9, mbtmp3.6/14, ML3.3/5, MS3.4/26, Error ellipse: s-maj=23.3km s-min=16.8km az=56.0*
*NAO **09** 18:23:32.0±1.0, 72°.06N×0°.06W, h7km±10km, ML3.5*
*KOLA **09** 18:23:32.8, 71°.95N×0°.02E, h0km, ML1.8, Norwegian sea, Mohn ridge*
*BER **09** 18:23:35.5±2.9, 72°.11N×0°.14E, h26km±31km, Mw4.6, ML3.5(NAO), Confirmed Earthquake*
*DNK **09** 18:23:35.3±4.6, 72°.34N×0°.68W, h0km±999km*
ISC 09 18:23:31.5±0.6, 72°.00N±0°.06×0°.32E±0°.06, h10km, n111, σ2°.24/117, mb3.5/8, MS3.3/23, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**2.95**	**255**	*e*P	Pn	18 24 18.3	0.0
BEA6	**Bear Island, N**	**5.94**	**56**	Pn	Pn	18 25 00.6	+1.3
	baz=258,slow=18						
BJO1	**Bjornoya**	**5.94**	**56**	*e*P	Pn	18 25 00.4	+1.1
LOF	**Lofoten**	**5.95**	**124**	Pn	Sn	18 25 01.1	+1.6
LOF				Sn	Sn	18 26 05.3	-2.3
LOF	**Lofoten**	**5.95**	**124**	*e*P	Pn	18 25 00.3	+0.8
LOF				*e*S	Sn	18 26 03.6	-4.0
LOF				IAML		18 26 14.9	
	comp=Z,11nm,0.5s						
DBG	**Daneborg**	**6.38**	**301**	Pn	Pn	18 25 01.7	-3.7
DBG	**Daneborg**	**6.38**	**301**	*e*P	Pn	18 25 01.9	-3.5
DBG	**Daneborg**	**6.38**	**301**	*i*P	Pn	18 25 01.6	-3.7
HSPB	**Hornsund (broa**	**6.44**	**32**	Pn	Pn	18 25 07.3	+1.1
HSPB	**Hornsund (broa**	**6.44**	**32**	Pn	Pn	18 25 07.3	+1.1
STEI	**Steigen**	**6.54**	**121**	Pn	Pn	18 25 08.8	+1.2
STEI				Sn	Sn	18 26 18.5	-3.6
STEI	**Steigen**	**6.54**	**121**	*e*P	Pn	18 25 08.2	+0.7
STEI				*e*S	Sn	18 26 18.1	-4.0
STEI				IAML		18 26 20.4	
	comp=Z,11nm,0.5s						
TRO	**Tromso**	**6.56**	**102**	*e*P	Pn	18 25 08.2	+0.4
TRO				IAML		18 25 09.7	
	comp=Z,14nm,0.4s						
FAUS	**Fauske**	**6.96**	**124**	Pn	Pn	18 25 14.6	+1.3
FAUS	**Fauske**	**6.96**	**124**	P	Pn	18 25 13.9	+0.7
FAUS				S	Sn	18 26 28.7	-3.6
FAUS	**Fauske**	**6.96**	**124**	*e*P	Pn	18 25 13.9	+0.7
DAG	**Danmarks Havn**	**6.97**	**322**	*e*P	Pn	18 25 10.3	-3.1
DAG	**Danmarks Havn**	**6.97**	**322**	*e*P	Pn	18 25 10.4	-3.1
VAGH	**Vaagaholmen**	**6.98**	**133**	Pn	Pn	18 25 14.3	+0.7
VAGH	**Vaagaholmen**	**6.98**	**133**	*e*P	Pn	18 25 14.2	+0.6
VAGH				*e*S	Sn	18 26 28.1	-4.7
VAGH				IAML		18 26 31.8	
	comp=Z,5.4nm,0.4s						
JETT	**Jettan, Norway**	**7.05**	**101**	Pn	Pn	18 25 15.6	+1.0
JETT				Sn	Sn	18 26 31.3	-3.5
JETT	**Jettan, Norway**	**7.05**	**101**	*e*P	Pn	18 25 15.4	+0.7
JETT				Sn	Sn	18 26 31.3	-3.5
JETT				IAML		18 26 32.7	
	comp=Z,14nm,0.4s						
STOK	**Stokkvaagen**	**7.25**	**135**	Pn	Pn	18 25 18.7	+1.3
STOK				Sn	Sn	18 26 35.9	-3.7
STOK	**Stokkvaagen**	**7.25**	**135**	*e*P	Pn	18 25 18.4	+1.1
STOK				Sn	Sn	18 26 35.9	-3.7
SCO	**Scoresbysund**	**7.32**	**269**	*i*P	Pn	18 25 16.6	-1.6
SCO	**Scoresbysund**	**7.32**	**269**	*i*P	Pn	18 25 16.6	-1.6
RAUS	**Rausandaksla**	**7.40**	**132**	*e*P	Pn	18 25 21.4	+2.1
RAUS				*e*S	Sn	18 26 39.1	-4.1
RAUS				IAML		18 26 44.0	
	comp=Z,16nm,0.5s						
SPA0	**Spitsbergen Ar**	**7.42**	**26**	Pn	Pn	18 25 21.9	+2.2
	baz=211,slow=12						
SPA0	**Spitsbergen Ar**	**7.42**	**26**	Pn	Pn	18 25 21.9	+2.2
	baz=211,slow=12						
SPITS	**Spitsbergen Ar**	**7.42**	**26**	Pn	Pn	18 25 20.7	+1.1
	baz=205,slow=16						
KIF	**Kilpisjarvi**	**7.46**	**104**	Pn	Pn	18 25 21.0	+0.9
KIF				Sn	Sn	18 26 41.5	-3.1
KIF	**Kilpisjarvi**	**7.46**	**104**	Pn	Pn	18 25 21.0	+0.9
KIF				Sn	Sn	18 26 41.5	-3.1
LEIR	**Leirfjorden**	**7.46**	**136**	Pn	Pn	18 25 21.0	+0.8
LEIR				Sn	Sn	18 26 40.6	-4.2
LEIR	**Leirfjorden**	**7.46**	**136**	*e*P	Pn	18 25 21.2	+1.0
LEIR				*e*S	Sn	18 26 38.6	-6.1
LEIR				IAML		18 26 43.5	
	comp=Z,13nm,0.5s						
KBS	**Kingsbay**	**7.53**	**17**	Pn	Pn	18 25 20.6	-0.4
KBS	**Kingsbay**	**7.53**	**17**	*e*P	Pn	18 25 20.6	-0.4
KBS	**Kingsbay**	**7.53**	**17**	*i*P	Pn	18 25 21.4	+0.4
HAMF	**Hammerfest**	**7.60**	**89**	Pn	Pn	18 25 21.8	-0.3
HAMF	**Hammerfest**	**7.60**	**89**	*e*P	Pn	18 25 21.5	-0.6
MOR8	**Moi Rana**	**7.71**	**132**	Pn	Pn	18 25 25.0	+1.4
MOR8				Sn	Sn	18 26 49.4	-1.5
MOR8	**Moi Rana**	**7.71**	**132**	*e*P	Pn	18 25 25.4	+1.7
MOR8				*e*S	Sn	18 26 47.7	-3.2
MOR8				IAML		18 26 49.8	
	comp=Z,16nm,0.3s						
KOVU	**Salmi**	**7.73**	**110**	*e*P	Pn	18 25 25.1	+1.2
SALU	**Saltoluokta**	**7.82**	**117**	*e*P	Pn	18 25 27.4	+2.2
KTK1	**Kautokeino**	**8.20**	**100**	Pn	Pn	18 25 31.7	+1.4
KTK1	**Kautokeino**	**8.20**	**100**	*e*P	Pn	18 25 31.3	+1.0
LANU	**Lannavaara**	**8.38**	**108**	*e*P	Pn	18 25 33.8	+1.0
ARA0	**ARCESS Array S**	**8.63**	**94**	Pn	Pn	18 25 36.8	+0.5
	baz=296,slow=12						
ARA0				Sn	Sn	18 27 09.9	-3.6
	baz=304,slow=28						
ARA0	**ARCESS Array S**	**8.63**	**94**	Pn	Pn	18 25 36.8	+0.5
	baz=296,slow=12						
ARA0				Sn	Sn	18 27 09.9	-3.6
	baz=304,slow=28						
ARCES	**ARCESS Array B**	**8.63**	**94**	Pn	Pn	18 25 36.8	+0.5
	comp=Z,0.5nm,0.3s,baz=294,slow=12,SNR=28						
ARCES				Sn	Sn	18 27 10.6	-2.9
	baz=302,slow=18						
ARCES				LR	LR	18 28 33.6	
	comp=Z,129nm,20.7s,baz=274,slow=35						
	comp=Z,1.2nm,0.3s						
ARCES	**ARCESS Array B**	**8.63**	**94**	P	Pn	18 25 36.6	+0.4
ARCES				S	Sn	18 27 10.6	-2.9
NSS	**Namsos**	**8.64**	**144**	*e*P	Pn	18 25 37.8	+1.5
NSS				*e*S	Sn	18 27 07.9	-5.6
NSS				IAML		18 27 11.8	
	comp=Z,9.5nm,0.5s						
HEF	**Hetta**	**8.66**	**103**	Pn	Pn	18 25 37.2	+0.5
HEF	**Hetta**	**8.66**	**103**	*e*P	Pn	18 25 37.5	+0.9
KEV	**Kevo**	**9.00**	**92**	Pn	Pn	18 25 41.1	-0.1
KEV	**Kevo**	**9.00**	**92**	Pn	Pn	18 25 41.1	-0.1
VADS	**Vadso**	**9.57**	**87**	Pn	Pn	18 25 48.7	-0.3
VADS	**Vadso**	**9.57**	**87**	P	Pn	18 25 48.3	-0.7
VADS				S	Sn	18 27 30.9	-5.5
VADS	**Vadso**	**9.57**	**87**	Pn	Pn	18 25 48.7	-0.3
MOL	**Molde**	**9.87**	**160**	*e*P	Pn	18 25 55.0	+1.9
AKN	**Aaknes**	**10.19**	**162**	*e*P	Pn	18 25 58.8	+1.2
AKN				IAML		18 26 01.4	
	comp=Z,2.8nm,0.1s						
AKN				*e*S	Sn	18 27 42.4	-9.4
NOR	**Nord**	**10.32**	**346**	P	Pn	18 25 56.4	-2.9
NOR	**Nord**	**10.32**	**346**	P	Pn	18 25 56.4	-2.9
FOO	**Floro**	**10.61**	**168**	*e*P	Pn	18 26 04.1	+0.8
HYA	**Hoyanger**	**11.12**	**165**	*e*P	Pn	18 26 10.6	+0.3
NC204	**NORSAR Array S**	**11.51**	**154**	*e*P	Pn	18 26 17.1	+1.4
SUMG	**Summit**	**11.68**	**291**	*i*P	Pn	18 26 17.1	-1.1
SUMG	**Summit**	**11.68**	**291**	*i*P	Pn	18 26 17.1	-1.1
ASK	**Askoy**	**11.73**	**168**	*e*P	Pn	18 26 19.9	+1.3
NB2	**NORSAR Subarra**	**11.80**	**153**	Pn	Pn	18 26 21.0	+1.4
	baz=338,slow=14						
NB2	**NORSAR Subarra**	**11.80**	**153**	Pn	Pn	18 26 21.0	+1.4
	baz=338,slow=14						
NOA	**NORSAR Array B**	**11.80**	**153**	Pn	Pn	18 26 21.0	+1.4
	baz=338,slow=3.5,SNR=3.9						
NOA				Sn	Sn	18 28 26.4	-4.8
	baz=301,slow=19,SNR=1.6						
NOA				LR	LR	18 30 43.0	
	comp=Z,185nm,19.1s,baz=340,slow=36						
	comp=Z,0.4nm,0.5s						
APA0	**Apatity Array**	**11.99**	**95**	Sn	Sn	18 28 27.3	-8.5
	baz=304,slow=28						
APA0	**Apatity Array**	**11.99**	**95**	Sn	Sn	18 28 27.3	-8.5
	baz=304,slow=28						
NRA0	**NORESS Array S**	**12.14**	**153**	Pn	Pn	18 26 24.9	+0.7
	baz=341,slow=16						
NRA0				Sn	Sn	18 28 31.4	-8.0
	baz=347,slow=28						
NRA0	**NORESS Array S**	**12.14**	**153**	Pn	Pn	18 26 24.9	+0.7
	baz=341,slow=16						
NRA0				Sn	Sn	18 28 31.4	-8.0
	baz=347,slow=28						
HFS	**Hagfors**	**13.04**	**149**	Pn	Pn	18 26 37.8	+1.3
	baz=350,slow=12						
HFS				Sn	Sn	18 28 52.4	-9.0
	baz=3.4,slow=28						
HFS	**Hagfors**	**13.04**	**149**	Pn	Pn	18 26 37.3	+0.8
	comp=Z,0.5nm,0.3s,baz=354,slow=9.1,SNR=18						
HFS				Sn	Sn	18 28 57.0	-4.4
	comp=Z,0.3nm,0.3s,baz=357,slow=25,SNR=5.5						
HFS				LR	LR	18 30 58.0	
	comp=Z,148nm,20.4s,baz=355,slow=34						
	comp=Z,1.7nm,0.5s						
HFS	**Hagfors**	**13.04**	**149**	Pn	Pn	18 26 37.8	+1.3
	baz=350,slow=12						
HFS				Sn	Sn	18 28 52.4	-9.0
	baz=3.4,slow=28						
FIA0	**FINESS Array S**	**14.52**	**124**	Pn	Pn	18 26 57.8	+1.2
	baz=332,slow=14						
FIA0	**FINESS Array S**	**14.52**	**124**	Pn	Pn	18 26 57.8	+1.2
	baz=332,slow=14						
FINES	**FINESS Array B**	**14.52**	**124**	Pn	Pn	18 26 56.9	+0.3
	comp=Z,0.2nm,0.3s,baz=330,slow=12,SNR=6.5						
FINES				LR	LR	18 32 07.1	
	comp=Z,141nm,19.6s,baz=334,slow=35						
	comp=Z,0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**16.80**	**187**	Pn	Pn	18 27 26.2	-0.3
	baz=4.4,slow=10						
	comp=Z,2.1nm,0.6s						
OBN	**Obninsk**	**22.78**	**119**	LR	LR	18 37 12.9	
	comp=Z,209nm,20.4s,baz=273,slow=36						
VRAC	**Vranov**	**23.95**	**153**	LR	LR	18 38 06.6	
	comp=Z,75nm,18.4s,baz=14,slow=36						
GERES	**GERESS Array B**	**24.03**	**158**	P	P	18 28 47.7	+1.4
	comp=Z,1.8nm,0.7s,baz=356,slow=12,SNR=5.0						
GERES				LR	LR	18 37 36.2	
	comp=Z,96nm,21.8s,baz=294,slow=35						
	comp=Z,1.8nm,0.7s						
RES	**Resolute Bay**	**24.67**	**321**	LR	LR	18 38 24.4	
	comp=Z,142nm,18.2s,baz=43,slow=36						
AKASG	**Malin Array Be**	**24.96**	**133**	P	P	18 28 56.7	+2.1
	comp=Z,1.0nm,0.6s,baz=341,slow=9.6,SNR=2.9						
AKASG				LR	LR	18 38 23.2	
	comp=Z,134nm,20.5s,baz=358,slow=36						
	comp=Z,1.0nm,0.6s						
FRB	**Frobisher Bay**	**25.69**	**287**	LR	LR	18 38 32.7	
	comp=Z,48nm,21.2s,baz=346,slow=35						
ARTI	**Arti**	**28.19**	**93**	LR	LR	18 40 23.1	
	comp=Z,53nm,18.1s,baz=313,slow=36						
MLR	**Muntele Rosu**	**29.22**	**141**	LR	LR	18 41 37.4	
	comp=Z,130nm,19.1s,baz=1.5,slow=37						
ESDC	**Sonseca Array**	**32.47**	**186**	P	P	18 30 03.4	+1.7
	comp=Z,0.5nm,0.6s,baz=358,slow=8.3,SNR=2.1						
ESDC				LR	LR	18 43 01.0	
	comp=Z,40nm,18.8s,baz=14,slow=36						
	comp=Z,0.5nm,0.6s						
AKTO	**Aktyubinsk**	**33.18**	**99**	LR	LR	18 41 39.9	
	comp=Z,29nm,21.1s,baz=99,slow=33						
BVAR	**Borovoye Array**	**34.77**	**85**	LR	LR	18 45 14.9	
	comp=Z,46nm,18.2s,baz=340,slow=38						
BRTR	**Keskin Array B**	**36.35**	**134**	P	P	18 30 38.2	+2.7
	comp=Z,0.4nm,0.6s,baz=359,slow=9.7,SNR=2.0						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**38.35**	**71**	LR	LR	18 53 31.5	
	comp=Z,28nm,18.3s,baz=0.5,slow=47						
YKA	**Yellowknife Ar**	**38.65**	**318**	LR	LR	18 45 49.3	
	comp=Z,74nm,18.2s,baz=126,slow=35						
GNI	**Garni**	**38.68**	**121**	LR	LR	18 47 05.8	
	comp=Z,51nm,18.5s,baz=333,slow=36						
ILAR	**Eielson Array**	**41.69**	**340**	P	P	18 31 18.4	-1.2
	comp=Z,0.4nm,0.8s,baz=4.5,slow=7.1,SNR=4.9						
ILAR				LR	LR	18 50 19.6	
	comp=Z,18nm,18.1s,baz=160,slow=39						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**43.91**	**79**	P	P	18 31 38.2	+0.4
	comp=Z,0.4nm,0.8s,baz=349,slow=3.7,SNR=3.8						
MKAR				LR	LR	18 52 15.1	
	comp=Z,40nm,19.6s,baz=334,slow=39						
	comp=Z,0.4nm,0.8s						
DLBC	**Dease Lake**	**45.37**	**326**	LR	LR	18 51 25.3	
	comp=Z,588nm,18.6s,baz=271,slow=37						
BBB	**Bella Bella**	**50.95**	**322**	LR	LR	18 54 10.6	
	comp=Z,49nm,18.8s,baz=42,slow=36						
PDAR	**Pinedale Array**	**55.59**	**303**	P	P	18 33 07.3	+0.3
	comp=Z,0.1nm,0.4s,baz=30,slow=6.1,SNR=1.4						
PDAR				LR	LR	18 58 12.6	
	comp=Z,22nm,18.3s,baz=11,slow=38						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**58.83**	**178**	P	P	18 33 30.1	+0.2
	comp=Z,0.7nm,0.8s,baz=6.0,slow=7.0,SNR=4.0						
	comp=Z,0.7nm,0.8s						
ANMO	**Albuquerque**	**62.08**	**297**	LR	LR	19 00 47.7	
	comp=Z,79nm,18.4s,baz=124,slow=36						
PFO	**Pinyon Flats O**	**66.00**	**305**	LR	LR	19 04 59.3	
	comp=Z,26nm,18.2s,baz=204,slow=38						
LPIG	**La Paz**	**73.39**	**297**	LR	LR	19 07 16.7	
	comp=Z,29nm,19.0s,baz=42,slow=36						
CMAR	**Chiang Mai Arr**	**75.23**	**76**	P	P	18 35 15.6	+1.5
	comp=Z,0.5nm,0.3s,baz=327,slow=7.1,SNR=4.6						
	comp=Z,0.5nm,0.3s						
SDV	**Santo Domingo**	**75.75**	**255**	LR	LR	19 04 15.1	
	comp=Z,15nm,22.0s,baz=256,slow=32						
WRA	**Warramunga Arr**	**121.70**	**53**	PKP	**PKiKP**	18 42 25.2	0.0
	comp=Z,0.2nm,0.6s,baz=353,slow=3.4,SNR=1.9						
ASAR	**Alice Springs**	**125.16**	**54**	PKP	**PKPdf**	18 42 31.5	0.0
	comp=Z,0.3nm,0.6s,baz=9.3,slow=2.1,SNR=7.4						
MAW	**Mawson**	**145.38**	**143**	PKPbc	**PKPab**	18 43 08.5	+0.8
	comp=Z,1.8nm,0.7s,baz=294,slow=7.1,SNR=6.9						

DJA 09 18:52:21.0±0.9, 8°.3±3°.3×10°.7E±°, h16km±8km, M3.9/19, mB5.0/2, mb4.1/7, MLv3.8/19, Mw(mB)4.3/2, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.87**	**32**	P	Pb	18 52 37.2	-0.6
SKJI	**Sukabumi**	**1.04**	**354**	P	Pb	18 52 40.5	-0.2
SKJI				S	Sb	18 52 53.8	-0.4
DBJI	**Dramaga**	**1.49**	**3**	P	Pn	18 52 47.5	+0.4
LEM	**Lembang**	**1.54**	**38**	P	Pn	18 52 48.3	+0.3
LEM				S	Sb	18 53 08.3	-0.4
CGJI	**Cibinong**	**1.72**	**326**	P	Pn	18 52 50.4	+0.1
CGJI				S	Sn	18 53 11.7	-0.2
SBJI	**Serang**	**1.99**	**345**	P	Pn	18 52 55.2	+1.2
KPJI	**Karang Pucung**	**2.36**	**73**	P	Pn	18 52 59.2	+0.1
KPJI				S	Sn	18 53 27.7	-0.1
KASI	**Kota Agung**	**3.30**	**319**	P	Pn	18 53 13.6	+1.5
UGM	**Wanagama**	**3.83**	**88**	P	Pn	18 53 18.1	-1.3
LWLI	**Liwa**	**3.97**	**319**	P	Pn	18 53 21.3	-0.1
WOJI	**Wonogiri, Jawa**	**4.23**	**87**	P	Pn	18 53 23.4	-1.4
MDSI	**Maura Dua**	**4.32**	**325**	P	Pn	18 53 26.8	+0.8
PCJI	**Pacitan**	**4.47**	**92**	P	Pn	18 53 28.2	0.0
MNAI	**Manna**	**5.20**	**315**	P	Pn	18 53 37.9	-0.2
TPI	**Tanjungpandan**	**5.35**	**11**	P	Pn	18 53 41.0	+0.7
	0.1nm12nm,1.4s						
MASI	**Maura Aman, Be**	**6.57**	**318**	P	Pn	18 53 57.3	+0.3
	33nm,1.5s						
JAGI	**Jajag, Banyuwa**	**7.43**	**94**	P	Pn	18 54 09.9	+1.1
	21nm,1.3s						
DSRI	**Dabo**	**7.80**	**344**	P	Pn	18 54 12.0	-2.0

*NNC **09** 19:28:24.9±0.5, 42°.92N×77°.58E, h0km, mb2.1, mpv2.8, Error ellipse: s-maj=4.8km s-min=1.9km az=177.0*
*SOME **09** 19:28:25.4, 42°.92N×77°.53E, h10km*
*KRNET **09** 19:28:25.2±0.1, 42°.88N×77°.50E, h14km, mb2.3*
*KNET **09** 19:28:27.2±0.7, 42°.86N×77°.35E, h3km±3km, ml1.8, Error ellipse: s-maj=4.0km s-min=3.5km az=6.0*
ISC 09 19:28:24.8±1.0, 42°.89N±0°.02×77°.56E±0°.02, h10km±9km, n47, σ0°.68/89, 22C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.47**	**307**	Pg	**Pg**	19 28 34.1	+0.1
	2.4nm,0.1s						
MDOK				Lg	Lg	19 28 40.4	
	11nm,0.2s						
TNSS	**Tian-Shan**	**0.47**	**289**	P	**Pg**	19 28 34.2	0.0
	1.9nm,0.1s						
TNSS				S	**Sg**	19 28 40.7	+0.1
	4.6nm,0.1s						
TNSS	**Tian-Shan**	**0.47**	**289**	*e*P	**Pg**	19 28 34.2	0.0
	1.9nm,0.1s						
TNSS				*e*S	**Sg**	19 28 40.6	+0.1
	4.6nm,0.1s						
KOTS	**Kotyrbulak**	**0.48**	**317**	P	**Pg**	19 28 34.4	+0.2
	4.6nm,0.1s						
KOTS				S	**Sg**	19 28 40.8	+0.3
	54nm,0.2s						
KOTS	**Kotyrbulak**	**0.48**	**317**	*e*P	**Pg**	19 28 34.4	+0.2
	4.6nm,0.1s						
KOTS				*e*S	**Sg**	19 28 40.8	+0.3
	54nm,0.2s						
AAA	**Alma-Ata**	**0.57**	**304**	P	**Pb**	19 28 36.5	-0.5
	12nm,0.1s						
AAA				S	**Sb**	19 28 44.5	-0.7
	4.8nm,0.1s						
AAA	**Alma-Ata**	**0.57**	**304**	*e*P	**Pb**	19 28 36.5	-0.5
	12nm,0.1s						
AAA				*e*S	**Sb**	19 28 44.5	-0.7
	4.8nm,0.1s						
SATY	**Saty**	**0.64**	**74**	P	**Pg**	19 28 36.8	-0.5
	6.8nm,0.1s						
SATY				S	**Sg**	19 28 45.0	-0.7
	21nm,0.2s						
PRZ	**Przheval'sk**	**0.74**	**123**	⇓*i*P	**Pg**	19 28 39.8	+0.7
PRZ				⇓*i*S	**Sg**	19 28 50.4	+1.7
KURS	**Kuram**	**0.75**	**36**	P	**Pg**	19 28 39.1	-0.2
	1.1nm,0.1s						
KURS				S	**Sg**	19 28 48.9	-0.1
	5.1nm,0.2s						
KDJ	**Kajisay**	**0.81**	**201**	⇓*i*P	**Pg**	19 28 40.2	-0.2
KDJ				⇓*i*S	**Sg**	19 28 50.9	0.0
MTBS	**Maitube**	**0.86**	**287**	P	**Pg**	19 28 41.3	-0.1
	4.2nm,0.1s						
MTBS				S	**Sg**	19 28 52.9	+0.1
	5.4nm,0.1s						
MTBS	**Maitube**	**0.86**	**287**	*e*P	**Pg**	19 28 41.3	-0.1
	4.2nm,0.1s						
MTBS				*e*S	**Sg**	19 28 52.9	+0.1
	5.4nm,0.1s

KBK				⇓*i*S		**Sb**	**19 29 25.6 +1.0**
CHMS	**Chumysh**		**2.07 274**	⇓*i*P		**Pb**	**19 29 02.1 -0.3**
CHMS				⇓*i*S		**Sb**	**19 29 29.0 +0.9**
TDK	**Taldyqorghan**	**2.20**	**16**	Pg		**Pb**	**19 29 04.9 +0.2**
TDK				Lg		Lg	19 29 33.1
TDK	**Taldyqorghan**	**2.20**	**16**	*e*P		**Pb**	**19 29 04.9 +0.2**
	5.9nm,0.1s						
TDK				*e*S		**Sb**	**19 29 33.1 +1.1**
	18nm,0.2s						
AAK	**Ala-Archa**	**2.27 265**		⇑P		**Pb**	**19 29 06.6 +0.7**
	1.5nm,0.1s						
AAK	**Ala-Archa**	**2.27 265**		⇓Pn		**Pb**	**19 29 06.1 +0.1**
	0.2nm,0.4s						
AAK				⇑Sn		**Sg**	**19 29 37.6 -0.2**
	1.0nm,0.5s						
AAK	**Ala-Archa**	**2.27 265**		⇑*i*P		**Pb**	**19 29 05.1 -0.9**
AAK				⇑*i*S		**Sb**	**19 29 34.1 -0.1**
USP	**Ospenovka**	**2.27 281**		⇑P		**Pb**	**19 29 06.0 +0.1**
	1.1nm,0.1s						
USP				⇑S		**Sg**	**19 29 36.6 -1.3**
	3.4nm,0.2s						
USP	**Ospenovka**	**2.27 281**		⇓*i*P		**Pb**	**19 29 05.0 -0.9**
USP				⇓*i*S		**Sb**	**19 29 34.1 0.0**
JNKS	**Jany-Kuch**	**2.31 219**		⇑*e*P		**Pb**	**19 29 05.9 -0.9**
JNKS				⇑*e*S		**Sb**	**19 29 35.6 +0.1**
UCH	**Uchtor**	**2.35 255**		⇑P		**Pb**	**19 29 07.5 +0.1**
	1.1nm,0.3s						
UCH	**Uchtor**	**2.35 255**		⇑*i*P		**Pb**	**19 29 06.2 -1.2**
UCH				⇑*i*S		**Sb**	**19 29 36.2 -0.4**
KAPS	**Kapalarasan**	**2.73**	**28**	Pg		**Pb**	**19 29 14.8 +1.2**
	0.9nm,0.1s						
KAPS				Lg		Lg	19 29 50.2
	12nm,0.1s						
EKS2	**Erkin-Say**	**2.79 267**		⇑*i*P		**Pn**	**19 29 12.4 +2.7**
EKS2				⇑*i*S		**Sb**	**19 29 46.7 -2.5**

HLW ***09*** *19:48:22.6,27°.66N×34°.25E,h14km±2km,Md2.2,Ml2.2*
SGS ***09*** *19:48:24.3,27°.84N×34°.45E,h10km,Ml1.1*
GII ***09*** *19:48:28.5±0.0,27°.762N±0°.005×34°.252E±0°.002, h1km,Mws2.6,confirmed*

ISC 09 19:48:21.3±1.0,27°.62N±0°.04×34°.37E±0°.03,h10km,n29, σ1§33/31,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	**Tor 1**	**0.53**	**316**	P	**Pg**	**19 48 31.6**	**-0.1**
TR1				S	**Sg**	**19 48 37.5**	**-1.3**
HHRG	**Al Ghardaqah**	**0.82**	**241**	P	**Pn**	**19 48 38.8**	**-0.2**
HHRG				S	**Sn**	**19 48 49.9**	**-1.1**
KRABS	**KRABS**	**0.92**	**58**	P	**Pg**	**19 48 38.4**	**-0.7**
KRABS	**KRABS**	**0.92**	**58**	S	**Sg**	**19 48 49.1**	**-1.9**
HKAT	**Jabal Katrina**	**0.96**	**340**	P	**Pg**	**19 48 38.9**	**-0.9**
AYUS	**`Aynunah**	**0.98**	**54**	P	**Pg**	**19 48 39.2**	**-0.9**
MWLHS	**Almuwaylih**	**1.02**	**83**	P	**Pb**	**19 48 40.7**	**-0.4**
BDAS	**Al Bad`**	**1.03**	**39**	P	**Pg**	**19 48 39.4**	**-1.9**
HDHB	**Dhahab**	**1.12**	**11**	P	**Pb**	**19 48 42.8**	**0.0**
NUB	**Nuweibaa**	**1.42**	**10**	P	**Pn**	**19 48 46.9**	**-0.4**
WTBKS	**WTBKS**	**1.44**	**71**	P	**Pn**	**19 48 47.1**	**-0.5**
JLOS		**1.49**	**41**	P	**Pn**	**19 48 46.6**	**-1.7**
HAQS	**Haql**	**1.50**	**19**	P	**Pg**	**19 48 52.1**	**+1.9**
GRB	**Gharib**	**1.54**	**295**	P	**Pn**	**19 48 47.3**	**-1.6**
JMOS	**Jabal al Moall**	**1.68**	**23**	P	**Pn**	**19 48 49.0**	**-1.7**
EIL	**Elat**	**2.10**	**14**	P	**Pg**	**19 49 03.7**	**+1.9**
EIL	**Elat**	**2.10**	**14**	S	**Sg**	**19 49 28.5**	**-0.6**
MBRI	**Mt Berech**	**2.22**	**12**	P	**Pg**	**19 49 04.2**	**+0.3**
MBRI	**Mt Berech**	**2.22**	**12**	S	**Sg**	**19 49 32.0**	**-0.7**
NADB	**Abo Dabab**	**2.27**	**177**	P	**Pn**	**19 48 59.4**	**+0.4**
BIDS	**Bi'r al Bayda'**	**2.42**	**107**	P	**Pn**	**19 49 02.9**	**+1.8**
HRFI	**Mount Harif**	**2.48**	**14**	P	**Pg**	**19 49 08.9**	**+0.1**
HRFI	**Mount Harif**	**2.48**	**14**	S	**Sb**	**19 49 38.9**	**+2.3**
KRMI	**Paran Flat**	**2.51**	**7**	P	**Pb**	**19 49 08.1**	**+1.6**
KRMI	**Paran Flat**	**2.51**	**7**	S	**Sb**	**19 49 39.5**	**+2.1**
PRNI	**Paran**	**2.78**	**11**	P	**Pb**	**19 49 11.8**	**+0.7**
PRNI	**Paran**	**2.78**	**11**	S	**Sb**	**19 49 46.4**	**+1.2**
ZFRI	**Zfri**	**3.01**	**13**	P	**Pb**	**19 49 16.6**	**+1.6**
ZFRI	**Zfri**	**3.01**	**13**	S	**Sb**	**19 49 52.0**	**+0.3**

NEIC ***09*** *20:16:28.8±1.4,17°.92S±0°.08×174°.0W±0°.2,h160km±18km, mb4.4/13,Error ellipse: s-maj=25.1km s-min=7.3km az=69.0*
IDC ***09*** *20:16:37.5±10.0,18°.32S×174°.54W,h210km±103km, mb3.7/5,mbtmp4.2/6,Error ellipse: s-maj=50.8km s-min=38.2km az=171.0*

ISC 09 20:16:27.2±0.7,17°.97S±0°.08×174°.04W±0°.07,h150km, n23,σ0§96/24,mb4.3/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**106**	Pn	**Pn**	**20 17 29.9**	**+1.7**
NIUE				Sn	**Sn**	**20 18 13.7**	**-1.9**
AFI	**Afiamalu**	**4.59**	**29**	Pn	**Pn**	**20 17 36.5**	**+1.2**
AFI				Sn	**Sn**	**20 18 27.3**	**-1.0**
MSVF	**Nonsavu**	**7.54**	**271**	Pn	**Pn**	**20 18 15.7**	**+1.1**
DZM	**Mont Dzumac**	**18.78**	**254**	P	**Pn**	**20 20 35.7**	**-1.7**
	4.5nm,0.8s,baz=80,slow=17,SNR=3.3						
URZ	**Urewera**	**21.65**	**199**	P	**P**	**20 21 06.5**	**+0.8**
	3.0nm,0.4s,baz=348,slow=20,SNR=2.7						
	3.0nm,0.4s						
QRZ	**Quartz Range**	**25.54**	**204**	P	**P**	**20 21 41.4**	**-0.6**
ARMA	**Armidale**	**33.54**	**242**	P	**P**	**20 22 53.1**	**+0.1**
ARMA				IAmb	IAmb	20 23 02.8	
	comp=Z,18nm,1.2s						
CTAO	**Charters Tower**	**37.54**	**260**	P	**P**	**20 23 27.5**	**+0.4**
STKA	**Stephens Creek**	**42.26**	**242**	P	**P**	**20 24 05.7**	**-0.2**
STKA				IAmb	IAmb	20 24 08.9	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**42.26**	**242**	P	**P**	**20 24 05.5**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=80,slow=11,SNR=5.1						
	comp=Z,0.9nm,0.4s						
WR8	**Warramunga Arr**	**48.55**	**259**	P	**P**	**20 24 56.0**	**+0.4**
WR8				IAmb	IAmb	20 25 24.3	
	comp=Z,8.4nm,1.4s						
WB0	**Warramunga Arr**	**48.68**	**259**	P	**P**	**20 24 56.8**	**+0.3**
WB0				IAmb	IAmb	20 24 59.5	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**48.71**	**259**	P	**P**	**20 24 56.2**	**-0.6**
WRA	**Warramunga Arr**	**48.71**	**259**	P	**P**	**20 24 56.7**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=97,slow=7.9,SNR=27						
	comp=Z,2.0nm,0.4s						
AS31	**Alice Springs**	**48.77**	**254**		**P**	**20 24 56.7**	**-0.6**
AS31				IAmb	IAmb	20 24 58.7	
	comp=Z,4.2nm,0.6s						
ASAR	**Alice Springs**	**48.77**	**254**		**P**	**20 24 57.0**	**-0.4**
ASAR	**Alice Springs**	**48.77**	**254**	P	**P**	**20 24 57.8**	**+0.5**
	comp=Z,11nm,0.6s,baz=90,slow=8.1,SNR=139						
	comp=Z,11nm,0.6s						
GUMO	**Guam**	**51.25**	**305**	P	**P**	**20 25 15.5**	**-0.4**
MTN	**Manton Dam**	**52.95**	**267**	P	**P**	**20 25 29.0**	**+0.4**
MTN				IAmb	IAmb	20 25 50.2	
	comp=Z,9.7nm,1.2s						
KNRA	**Kununurra**	**54.62**	**263**	P	**P**	**20 25 39.9**	**-0.8**
KNRA				IAmb	IAmb	20 25 50.5	
	comp=Z,9.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**57.11**	**260**	P	**P**	**20 25 59.8**	**+1.4**
SOEI	**Soe**	**60.23**	**269**	P	**P**	**20 26 19.2**	**-1.0**
ILAR	**Eielson Array**	**85.07**	**11**	P	P	20 28 51.4	+5.8
	comp=Z,0.4nm,0.5s,baz=212,slow=5.5,SNR=4.7						
	comp=Z,0.4nm,0.5s						

CATAC ***09*** *20:22:10.4±0.4,8°.N±2°.×7°.6W±°.,h8km±2km,M4.0/8, MLv4.0/8,Error ellipse: s-maj=3.6km s-min=2.6km az=35.8, confirmed*
UPA ***09*** *20:22:12.8±1.4,8°.61N×75°.57W,h65km±21km,MD4.3, ML4.3,MW4.3*
IDC ***09*** *20:22:14.4±2.3,8°.25N×75°.66W,h62km±21km,mb3.4/2, mbtmp4.2/6,MS2.9/2,Error ellipse: s-maj=20.3km s-min=15.1km az=117.0*
RSNC ***09*** *20:22:14.1±0.0,8°.N±1°.×7°.6W±°.,h24km±3km,M3.9,mB4.8, mb4.7,ML3.4,Mw(mB)4.0*

ISC 09 20:22:10.6±1.1,8°.20N±0°.02×75°.71W±0°.03,h17km±8km, n53,σ1§67/91,3C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	**0.48**	**159**	P	**Pg**	**20 22 20.4**	**+0.1**
UREC				S	**Sg**	**20 22 27.0**	**+0.1**
APAC	**Apartado, Choc**	**0.91**	**251**	P	**Pn**	**20 22 29.9**	**+1.2**
APAC				S	**Sn**	**20 22 44.4**	**+2.9**
ZARC	**Zaragoza, Cauc**	**1.10**	**130**	P	**Pn**	**20 22 30.4**	**-0.9**
ZARC				S	**Sb**	**20 22 44.0**	**-1.3**
DBBC	**Dabeiba**	**1.28**	**203**	P	**Pn**	**20 22 32.4**	**-1.4**
DBBC				S	**Sb**	**20 22 48.7**	**-1.8**
SJCC	**San Jacinto, C**	**1.76**	**17**	P	**Pb**	**20 22 42.9**	**+0.3**
SJCC				S	**Sb**	**20 23 04.8**	**+0.3**
SJCC	**San Jacinto, C**	**1.76**	**17**	P	**Pb**	**20 22 42.9**	**+0.3**
SJCC				S	**Sb**	**20 23 04.8**	**+0.3**
HELC	**Santa Helena**	**2.01**	**175**	⇑P	**Pn**	**20 22 43.4**	**-0.7**
HELC				S	**Sn**	**20 23 09.5**	**+0.5**
HELC	**Santa Helena**	**2.01**	**175**	P	**Pn**	**20 22 43.7**	**-0.4**
HELC				S	**Sn**	**20 23 08.3**	**-0.7**
PTBC	**PUERTO BERRIO,**	**2.07**	**143**	P	**Pn**	**20 22 44.5**	**-0.1**
PTBC				S	**Sn**	**20 23 09.3**	**-0.7**
ARGC	**Ariguani, Magd**	**2.19**	**41**	P	**Pg**	**20 22 52.0**	**-0.7**
ARGC				S	**Sg**	**20 23 22.2**	**+1.0**
BRJC	**Barrancabermej**	**2.30**	**122**	P	**Pn**	**20 22 48.9**	**+1.1**
BRJC				S	**Sn**	**20 23 17.2**	**+1.5**
PTAC	**Punta Ardita,**	**2.33**	**243**	P	**Pn**	**20 22 48.2**	**0.0**
PTAC				S	**Sn**	**20 23 15.8**	**-0.7**
CBOC	**Ciudad Bolivar**	**2.34**	**187**	P	**Pn**	**20 22 48.8**	**+0.2**
CBOC				S	**Sn**	**20 23 16.5**	**-0.5**
OCAC	**Ocana**	**2.37**	**89**	P	**Pn**	**20 22 49.9**	**+1.1**
OCAC				S	**Sn**	**20 23 18.9**	**+1.3**
TOTI	**Torti**	**2.67**	**286**	*e*P	**Pn**	**20 22 53.7**	**+0.7**
TOTI				*e*S	**Sn**	**20 23 26.4**	**+1.4**
NORC	**Norcasia**	**2.75**	**162**	P	**Pn**	**20 22 53.9**	**-0.2**
NORC				S	**Sn**	**20 23 27.1**	**+0.1**
BARC	**Barichara**	**2.97**	**122**	P	**Pn**	**20 22 58.3**	**+1.0**
BARC				S	**Sn**	**20 23 34.6**	**+1.9**
GUY2C	**Guyana, Caldas**	**2.98**	**173**	P	**Pn**	**20 22 57.8**	**+0.2**
SPBC	**San Pablo de B**	**3.01**	**147**	P	**Pn**	**20 22 57.2**	**-0.5**
SPBC				S	**Sn**	**20 23 31.6**	**-1.8**
PAMC	**Pamplona, Colo**	**3.10**	**106**	P	**Pn**	**20 23 01.0**	**+1.7**
PAMC				S	**Sn**	**20 23 37.6**	**+1.4**
RECRC	**Villamaria, Ca**	**3.24**	**174**	P	**Pn**	**20 23 02.5**	**+1.3**
SMRC	**Santa Marta, M**	**3.29**	**26**	P	**Pb**	**20 23 07.2**	**-1.3**
SMRC				S	**Sb**	**20 23 45.3**	**-3.0**
CNTA3	**Canitas, Panam**	**3.30**	**288**	*e*P	**Pn**	**20 23 02.6**	**+1.0**
CNTA3				AMP		20 23 02.8	
	comp=Z,603nm,0.2s						
CNTA3				*e*S	**Sn**	**20 23 39.7**	**-0.8**
RUSC	**La Rusia**	**3.47**	**131**	⇑P	**Pn**	**20 23 04.1**	**-0.2**
RUSC				S	**Sn**	**20 23 46.6**	**+1.2**
RUSC	**La Rusia**	**3.47**	**131**	P	**Pn**	**20 23 04.5**	**+0.1**
RUSC				S	**Sn**	**20 23 44.4**	**-0.9**
CHPO	**Chepo, Panama**	**3.50**	**286**	*e*P	**Pn**	**20 23 05.2**	**+0.9**
ROSC	**El Rosal**	**3.61**	**157**	P	**Pn**	**20 23 08.2**	**+2.0**
	comp=Z,35nm,0.3s,baz=355,slow=12,SNR=7.6						
ROSC				S	**Sn**	**20 23 51.4**	**+2.7**
	comp=Z,182nm,0.4s,baz=138,slow=23,SNR=7.0						
ROSC	**El Rosal**	**3.61**	**157**	P	**Pn**	**20 23 06.5**	**+0.3**
ROSC				S	**Sn**	**20 23 50.2**	**+1.5**
ANIL	**Santa Ana**	**3.70**	**175**	P	**Pn**	**20 23 09.1**	**+1.8**
TABO3	**Taboga, Panama**	**3.85**	**279**	*e*P	**Pn**	**20 23 10.5**	**+1.4**
UPA	**Univ. de Panam**	**3.86**	**282**	*e*P	**Pn**	**20 23 11.4**	**+2.1**
UPA				*e*S	**Sn**	**20 23 54.6**	**+0.3**
CVER	**Cruz Verde, Cu**	**4.00**	**156**	P	**Pn**	**20 23 12.2**	**+0.6**
CHOR3	**La Chorrera**	**4.07**	**280**	*e*P	**Pn**	**20 23 12.9**	**+0.7**
CHOR3				*e*S	Sn	20 23 50.2	-9.3
BCIP	**Isla Barro Col**	**4.19**	**284**	⇓*i*P	**Pn**	**20 23 15.9**	**+2.0**
BCIP				*e*S	**Sn**	**20 24 02.0**	**-0.4**
BCIP	**Isla Barro Col**	**4.19**	**284**	⇑P	**Pn**	**20 23 15.0**	**+1.1**
BCIP				S	**Sn**	**20 24 05.1**	**+2.6**
BCIP	**Isla Barro Col**	**4.19**	**284**	P	**Pn**	**20 23 14.9**	**+1.1**
BCIP				S	**Sn**	**20 24 02.4**	**-0.1**
YOTC	**Yotoco, Valle**	**4.24**	**189**	P	**Pn**	**20 23 15.8**	**+1.2**
ORTC	**Ortega, Tolima**	**4.29**	**174**	P	**Pn**	**20 23 16.6**	**+1.4**
ORTC				S	**Sb**	**20 24 21.7**	**+4.5**
PRAC	**Prado**	**4.53**	**170**	P	**Pn**	**20 23 19.1**	**+0.5**
PRAC				S	**Sn**	**20 24 13.7**	**+2.7**
PRAC	**Prado**	**4.53**	**170**	P	**Pn**	**20 23 19.2**	**+0.6**
PRAC				S	**Sb**	**20 24 23.6**	**-0.7**
URIC	**Uribia, Colomb**	**5.05**	**46**	P	**Pn**	**20 23 26.3**	**+0.7**
	comp=Z,712nmcomp=Z,29nm,0.5s						
URIC				S	**Sn**	**20 24 21.3**	**-2.3**
	comp=Z,712nmcomp=Z,29nm,0.5s						
URI	**Uribia**	**5.05**	**46**	P	**Pn**	**20 23 26.0**	**+0.4**
URI				S	**Sn**	**20 24 25.0**	**+1.4**
SDV	**Santo Domingo**	**5.07**	**82**	P	**Pn**	**20 23 27.5**	**+1.5**
	comp=Z,48nm,0.3s,baz=253,slow=8.7,SNR=40						
SDV				S	**Sn**	**20 24 24.4**	**+0.1**
	comp=Z,82nm,0.5s,baz=8.4,slow=21,SNR=8.1						
SDV				LR	LR	20 25 57.5	
	comp=Z,167nm,18.8s,baz=247,slow=45						
SDV	**Santo Domingo**	**5.07**	**82**	P	**Pn**	**20 23 28.1**	**+2.1**
	comp=Z,1μmcomp=Z,116nm,0.7s						
SDV				S	**Sn**	**20 24 25.1**	**+0.8**
	comp=Z,1μmcomp=Z,116nm,0.7s						
URMC	**La Uribe, Meta**	**5.10**	**165**	P	**Pn**	**20 23 27.2**	**+0.8**
URMC				S	**Sn**	**20 24 32.1**	**+7.2**
MACC	**Macarena, Meta**	**6.30**	**163**	P	**Pn**	**20 23 41.1**	**-1.7**
MACC				S	**Sn**	**20 24 50.1**	**-4.3**
FLOC	**Florencia**	**6.58**	**180**	S	**Sn**	**20 25 03.9**	**+2.6**
JTS	**Las Juntas de**	**9.36**	**284**	P	**Pn**	**20 24 27.0**	**+2.1**
	comp=Z,3.5nm,0.3s,baz=150,slow=5.9,SNR=2.3						
JTS				LR	LR	20 28 51.5	
	comp=Z,53nm,19.2s,baz=132,slow=42						
SJG	**San Juan**	**13.54**	**42**	P	**Pn**	**20 25 22.3**	**+0.2**
	comp=Z,9.3nm,0.3s,baz=276,slow=20,SNR=5.5						
LPAZ	**La Paz**	**25.46**	**163**	P	**P**	**20 27 36.3**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=344,slow=6.7,SNR=4.9						
	comp=Z,0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.97**	**78**	P	**P**	**20 33 55.6**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=292,slow=5.6,SNR=5.2						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**147.74**	**238**	PKPbc	**PKPdf**	**20 41 52.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=108,slow=3.4,SNR=6.6						
WRA	**Warramunga Arr**	**148.67**	**245**	PKPbc	**PKPdf**	**20 41 55.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=103,slow=3.3,SNR=1.5						

WEL ***09*** *20:22:49.4±0.6,35°S±4°.×17°.9W±°.,h12km,M5.2/22, mB5.5/13,ML5.5/21,MLv5.4/22,Mw(mB)5.0/13,Error ellipse: s-maj=10.8km s-min=3.4km az=113.3,confirmed*
IDC ***09*** *20:22:50.5±0.4,34°.81S×179°.51W,h0km,mb4.8/16, mbtmp4.8/18,ML5.0/2,MS5.2/45,Error ellipse: s-maj=17.0km s-min=14.3km az=99.0*
BJI ***09*** *20:22:50.4,35°.35S×179°.47W,h9km,mB5.9/27,mb5.1/21, Ms5.5/44,Ms7 5.3/44*
IPGP ***09*** *20:22:51.0,35°.15S×179°.30W,h17km,Mw5.7,Fault plane solution: NP1:φs211.00000°,δ20.00000°,λ109.00000°. NP2:φs11.00000°,δ71.00000°,λ83.00000°.*
NEIC ***09*** *20:22:51.4±1.8,35°.05S±0°.03×179°.3W±0°.1,h10km±1km, mb5.2/71,Ms_20 5.5/647,Mww5.6/39,Error ellipse: s-maj=14.2km s-min=3.7km az=99.0*
MOS ***09*** *20:22:51.8±1.3,34°.99S×179°.43W,h15km,mb5.4/10, MS5.4/10,Error ellipse: s-maj=13.1km s-min=10.6km az=111.7*
ISC-PP ***09*** *20:22:51,35°.05S×179°.33W,h34km±1km,Mwpsm6.1, Moment Tensor Solution. s26 Moment tensor: Scale 10^18Nm; Mrr0.67±.30; Mθθ-0.36±.30; Mφφ-0.30±.18; Mrθ0.03±.17; Mθφ-0.22±.27; Mφr-0.35±.25; Fault plane solution: M0 1.88000×10^18 NP1:φs213.30000°,δ51.90000°, λ71.70000°. NP2:φs61.50000°,δ41.60000°,λ111.90000°.*
NEIC ***09*** *20:22:52.3,34°.96S×178°.70W,h26km,Moment Tensor Solution. Duration: 2§8 Moment tensor: Scale 10^17Nm; Mrr2.54; Mθθ-0.44; Mφφ-2.10; Mrθ-0.30; Mθφ-1.24; Mφr2.00; Fault plane solution: M0 3.34000×10^17 NP1: φs226.91000°,δ32.24000°,λ124.63000°. NP2:φs7.68000°, δ63.96000°,λ70.28000°. Principal axes: T 3.4233, Plg65.0000°, Azm243.0000°; N -0.1675, Plg18.0000°, Azm17.0000°; P -3.2558, Plg17.0000°, Azm112.0000°;*
NEIC ***09*** *20:22:52.3,35°.16S×179°.31W,h26km*
NOU ***09*** *20:22:55.9,35°.32S×179°.18W,h31km,mb5.2/36,East of North Island, N.Z.*
GCMT ***09*** *20:22:59.4±0.1,35°.02S±0°.01×178°.90W±0°.01,h15km, MW5.7/166,Moment Tensor Solution. s142,c251; s166,c322; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr2.35±.03; Mθθ-0.11±.02; Mφφ-2.24±.03; Mrθ1.13±.09; Mθφ-0.63±.02; Mφr3.57±.13; Best double couple: M0 4.43700×10^17 NP1:φs193.00000°,δ16.00000°, λ86.00000°. NP2:φs17.00000°,δ74.00000°,λ91.00000°. Principal axes: T 4.4080, Plg61.0000°, Azm289.0000°; N 0.0550, Plg1.0000°, Azm197.0000°; P -4.4660, Plg29.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

ISC 09 20:22:51.3±0.2,35°.02S±0°.04×179°.22W±0°.04,h10km, n763,σ1§95/446,mb5.2/92,MS5.5/383,19C-10D,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.23**	**217**		**Pn**	**20 23 41.7**	**-0.4**
MXZ	**Matakaoa Point**	**3.23**	**217**	P	**Pn**	**20 23 41.8**	**-0.3**
MXZ	**Matakaoa Point**	**3.23**	**217**	P	**Pn**	**20 23 42.1**	**0.0**
MXZ				S	**Sn**	**20 24 22.4**	**+1.8**
WMGZ	**Waiomatatini S**	**3.38**	**214**	P	**Pn**	**20 23 45.3**	**+1.1**
WMGZ				S	**Sn**	**20 24 26.1**	**+1.7**
HAZ	**Te Kaha**	**3.65**	**221**	P	**Pn**	**20 23 48.4**	**+0.6**
HAZ				S	**Sb**	**20 24 35.0**	**-5.2**
PUZ	**Puketiti**	**3.66**	**213**	P	**Pn**	**20 23 48.3**	**+0.3**
PUZ				S	**Sn**	**20 24 31.4**	**+0.1**
RUGZ	**Raukumara Rang**	**3.86**	**219**	P	**Pn**	**20 23 51.6**	**+0.7**
TWGZ	**Tauwhareparae**	**3.88**	**215**	P	**Pn**	**20 23 51.8**	**+0.8**
TWGZ				S	**Sn**	**20 24 39.0**	**+2.5**
CNGZ	**Carnagh Statio**	**4.03**	**210**	P	**Pn**	**20 23 54.1**	**+1.1**
TKGZ	**Te Karaka**	**4.15**	**214**	P	**Pn**	**20 23 55.5**	**+0.9**
WHRZ	**Whale Island**	**4.17**	**226**	P	**Pn**	**20 23 57.1**	**+2.1**
MWZ	**Matawai**	**4.22**	**217**	P	**Pn**	**20 23 56.2**	**+0.5**
MYRZ	**Mayor Island**	**4.31**	**237**	P	**Pn**	**20 23 58.1**	**+1.2**
URZ	**Urewera**	**4.38**	**221**	Pn	**Pn**	**20 23 58.5**	**+0.7**
	57nm,0.3s,baz=260,slow=3.1,SNR=166						
URZ				Sn	**Sn**	**20 24 48.3**	**-0.6**
	159nm,0.3s,baz=39,slow=24,SNR=4.2						
URZ				LR	LR	20 25 10.4	
	comp=Z,8μm,18.7s,baz=52,slow=32						
	439nm,0.6s						
URZ	**Urewera**	**4.38**	**221**	P	**Pn**	**20 23 57.4**	**-0.4**
URZ	**Urewera**	**4.38**	**221**	P	**Pn**	**20 23 58.1**	**+0.3**
URZ				S	**Sn**	**20 24 48.3**	**-0.6**
RIGZ	**Rimuhau**	**4.41**	**212**	P	**Pn**	**20 23 59.0**	**+0.8**
RIGZ				S	**Sn**	**20 24 49.8**	**+0.1**
KUZ	**Kuaotunu**	**4.45**	**246**	P	**Pn**	**20 24 00.1**	**+1.2**
GRZ	**Great Barrier**	**4.50**	**253**	P	**Pn**	**20 24 01.0**	**+1.5**
RTZ	**Ruatahuna**	**4.71**	**219**		**Pn**	**20 24 02.6**	**+0.1**
WIAZ	**Waiheke Island**	**4.91**	**247**	P	**Pn**	**20 24 07.3**	**+2.1**
MKAZ	**Moumakai**	**5.00**	**244**	P	**Pn**	**20 24 08.4**	**+1.9**
TOZ	**Tahuroa Road**	**5.04**	**236**		**Pn**	**20 24 07.1**	**+0.1**
ABAZ	**Army Bay**	**5.08**	**250**	P	Pn	20 24 11.2	+3.7
MBAZ	**Motutapu North**	**5.08**	**248**	P	**Pn**	**20 24 09.2**	**+1.7**
ETAZ	**East Tamaki Re**	**5.12**	**246**	P	Pn	20 24 12.6	+4.5
EPAZ	**Eden Park BICE**	**5.23**	**247**	P	**Pn**	**20 24 12.6**	**+3.0**
HBAZ	**Herne Bay Bore**	**5.24**	**248**	P	**Pn**	**20 24 12.5**	**+2.9**
WCZ	**Waipu Caves**	**5.33**	**258**	P	**Pn**	**20 24 13.6**	**+2.7**
AWAZ	**Awhitu Peninsu**	**5.37**	**246**	P	**Pn**	**20 24 13.8**	**+2.3**
BKZ	**Black Stump Fm**	**5.37**	**218**		**Pn**	**20 24 10.7**	**-0.9**
BKZ	**Black Stump Fm**	**5.37**	**218**	P	**Pn**	**20 24 11.3**	**-0.3**
WTAZ	**Waiatarua**	**5.38**	**247**	P	**Pn**	**20 24 14.4**	**+2.7**
GLKZ	**Green Lake**	**5.84**	**11**	P	**Pn**	**20 24 14.1**	**-3.8**
GLKZ				S	**Sn**	**20 25 20.1**	**-4.9**
RAO	**Raoul Island**	**5.85**	**11**	Pn	**Pn**	**20 24 16.6**	**-1.5**
	53nm,0.3s,baz=90,slow=22,SNR=1.8						
RAO				Sn	**Sn**	**20 25 18.6**	**-6.7**
	248nm,0.3s,baz=218,slow=23,SNR=6.1						
	132nm,0.3s						
RIZ	**Raoul Island**	**5.86**	**11**	P	**Pn**	**20 24 14.9**	**-3.3**
RIZ				S	**Sn**	**20 25 21.6**	**-3.8**
OUZ	**Omahuta**	**5.89**	**266**	P	**Pn**	**20 24 21.2**	**+2.6**
OUZ	**Omahuta**	**5.89**	**266**	P	**Pn**	**20 24 21.3**	**+2.7**
HIZ	**Hauiti**	**5.90**	**232**		**Pn**	**20 24 17.6**	**-1.2**
HIZ	**Hauiti**	**5.90**	**232**	P	**Pn**	**20 24 19.7**	**+1.0**
WAZ	**Wanganui**	**6.61**	**223**	P	**Pn**	**20 24 29.1**	**+0.6**
WAZ				S	**Sn**	**20 25 43.7**	**-0.1**
BFZ	**Birch Farm**	**6.70**	**211**		**Pn**	**20 24 27.3**	**-2.4**
BFZ	**Birch Farm**	**6.70**	**211**	P	**Pn**	**20 24 28.0**	**-1.7**
KHEZ	**Kahui Hut**	**6.88**	**230**

comp=Z,136nm,1.1s
STKA Stephens Creek 32.70 264 P P 20 29 21.6 -2.4
STKA Stephens Creek 32.70 264 P P 20 29 24.4 +0.4
comp=Z,17nm,1.0s,baz=86,slow=11,SNR=14
STKA PcP **PcP 20 32 08.9 -0.6**
comp=Z,6.4nm,0.6s,baz=71,slow=3.6,SNR=5.4
STKA LR LR 20 42 06.3
comp=Z,6μm,18.6s,baz=104,slow=36
comp=Z,17nm,1.0s
STKA Stephens Creek 32.70 264 P P 20 29 26.1 +2.1
CTA Charters Tower 33.83 287 LR LR 20 43 04.4
comp=Z,111nm,18.5s,baz=110,slow=36
CTAO Charters Tower 33.83 287 P 20 29 34.2 +0.3
CTAO Charters Tower 33.83 287 P P 20 29 36.5 +2.6
CTAO Charters Tower 33.83 287 P P 20 29 34.2 +0.3
CTAO pmax pmax
comp=Z,72nm,1.0s
CTAO MLR MLR
comp=Z,5μm,18.0s
HTT Hallett 34.46 260 P P 20 29 40.6 +1.3
comp=Z,5.7nm,1.4s
HTT Hallett 34.46 260 P P 20 29 40.8 +1.4
HTT Hallett 34.46 260 P P 20 29 40.6 +1.3
INKA Innaminka 34.76 271 P P 20 29 43.1 +1.2
BBOO Buckleboo 36.95 260 P P 20 29 60.0 -0.6
comp=Z,0.0nmcomp=Z,27nm,1.0s
BBOO Buckleboo 36.95 260 P 20 29 58.3 -2.3
BBOO Buckleboo 36.95 260 P P 20 30 02.6 +2.0
QIS Mount Isa 38.89 281 P P 20 30 17.8 +0.7
comp=Z,0.0nmcomp=Z,60nm,1.0s
QIS Mount Isa 38.89 281 P P 20 30 18.4 +1.3
COEN Coen 39.80 292 P P 20 30 25.6 +0.8
comp=Z,0.0nmcomp=Z,59nm,1.3s
COEN Coen 39.80 292 P 20 30 25.3 +0.5
COEN IAmb IAmb 20 30 38.4
comp=Z,50nm,0.9s
COEN Coen 39.80 292 P P 20 30 27.7 +2.9
PMG Port Moresby 39.90 302 P P 20 30 24.9 -0.6
PMG Port Moresby 39.90 302 LR LR 20 44 47.6
comp=Z,11μm,19.4s,baz=135,slow=33
PMG Port Moresby 39.90 302 P P 20 30 24.9 -0.6
PMG pmax pmax
comp=Z,39nm,1.1s
PMG MLR MLR
comp=Z,10μm,20.0s
AS31 Alice Springs 42.06 273 P P 20 30 42.0 -1.4
comp=Z,0.0nmcomp=Z,20nm,0.9s
ASAR Alice Springs 42.06 273 P P 20 30 42.2 -1.2
ASAR Alice Springs 42.06 273 P P 20 30 42.1 -1.3
comp=Z,41nm,0.8s,baz=116,slow=6.8,SNR=191
ASAR PcP **PcP 20 32 37.7 -0.6**
comp=Z,4.6nm,0.9s,baz=107,slow=4.0,SNR=1.5
ASAR ScP **ScP 20 36 27.0 -1.8**
comp=Z,1.2nm,0.9s,baz=98,slow=4.7,SNR=2.9
ASAR S **S 20 36 58.6 -4.2**
comp=Z,2.5nm,0.9s,baz=116,slow=15,SNR=6.3
ASAR LR LR 20 48 49.8
comp=Z,14μm,18.2s,baz=116,slow=37
comp=Z,41nm,0.8s
ASAR Alice Springs 42.06 273 P P 20 30 42.2 -1.2
WR8 Warramunga Arr 43.33 278 P 20 30 52.8 -0.9
WR8 IAmb IAmb 20 30 56.6
comp=Z,34nm,0.8s
SBA Scott Base 43.37 184 P 20 30 52.8 -0.5
SBA Scott Base 43.37 184 P P 20 30 52.8 -0.5
SBA pmax pmax
comp=Z,16nm,1.1s
SBA MLR MLR
comp=Z,2μm,20.0s
VNDA Vanda 43.41 186 P 20 30 53.9 +0.3
VNDA Vanda 43.41 186 P P 20 30 56.6 +3.0
comp=Z,0.7nm,0.6s,baz=12,slow=7.1,SNR=8.5
WRAB Tennant Creek 43.46 278 P P 20 30 52.7 -2.1
WRAB IAmb IAmb 20 30 57.5
comp=Z,35nm,0.8s
WRAB Tennant Creek 43.46 278 P P 20 30 52.7 -2.1
WRAB pmax pmax
comp=Z,35nm,0.9s
WRAB MLR MLR
comp=Z,9μm,18.0s
WRA Warramunga Arr 43.46 278 P P 20 30 53.0 -1.8
WRA Warramunga Arr 43.46 278 P P 20 30 53.6 -1.2
comp=Z,30nm,0.8s,baz=120,slow=7.4,SNR=102
WRA ScP **ScP 20 36 33.4 -1.1**
comp=Z,0.3nm,0.5s,baz=111,slow=3.7,SNR=1.5
WRA S **S 20 37 16.7 -6.7**
comp=Z,3.7nm,1.2s,baz=120,slow=13,SNR=6.3
WRA LR LR 20 49 40.9
comp=Z,9μm,18.2s,baz=136,slow=37
comp=Z,30nm,0.8s
WB0 Warramunga Arr 43.51 278 P 20 30 53.8 -1.3
WB0 IAmb IAmb 20 30 57.9
comp=Z,51nm,0.9s
FORT Forrest 44.05 260 P P 20 30 59.1 -0.2
comp=Z,0.0nmcomp=Z,32nm,0.7s
FORT Forrest 44.05 260 P 20 30 57.6 -1.7
TAOE Nuku Hiva Isla 44.19 63 *e*P **P 20 31 01.5 +0.8**
comp=Z,250nm,26.7s
TAOE Nuku Hiva Isla 44.19 63 *e*PP **PP 20 32 40.0 -3.7**
comp=Z,105nm,26.4s
TAOE *e*S **S 20 37 28.4 -5.8**
comp=Z,853nm,24.6s
TAOE *e*SS **SS 20 40 53.7 +1.6**
comp=Z,6μm,26.6s
TAOE *e*LR LR 20 43 15.4
comp=Z,4μm,24.1s
MANU Manus Island 45.17 309 P 20 31 08.2 -0.3
MANU IAmb IAmb 20 31 37.3
comp=Z,64nm,1.4s
WRKA Warakurna 46.06 268 P P 20 31 14.1 -1.5
comp=Z,17nm,1.1s
JAY Jayapura 49.28 302 LR LR 20 50 00.6
comp=Z,2μm,22.0s,baz=108,slow=33
JAY Jayapura 49.28 302 P P 20 31 40.2 -0.3
comp=Z,36nm,1.1s
GENI Genyem 49.60 301 P P 20 31 43.9 +1.0
comp=Z,2μmcomp=Z,57nm,1.3s
MTN Manton Dam 49.87 284 P P 20 31 43.1 -1.9
MTN Manton Dam 49.87 284 P P 20 31 44.2 -0.8
MTN IAmb IAmb 20 31 56.8
comp=Z,20nm,0.9s
KNRA Kununurra 50.21 279 P P 20 31 45.8 -1.8
KNRA Kununurra 50.21 279 IAmb IAmb 20 32 02.5
comp=Z,53nm,1.4s
CASY Casey 50.61 210 P P 20 31 49.0 -0.9
CASY IAmb IAmb 20 32 04.8
comp=Z,33nm,0.9s
FITZ Fitzroy Crossi 51.49 274 LR LR 20 54 12.0
comp=Z,14μm,18.0s,baz=114,slow=37
NWAO Narrogin (SRO) 51.93 253 P P 20 32 01.5 +1.1
JOHN Johnston Islan 52.28 12 P P 20 32 06.5 +3.6
SAUI Saumlaki 52.62 289 IAMs_20 IAMs_20 20 53 27.2
comp=Z,4μm,18.0s
MUN Mundaring 53.09 254 P P 20 32 08.7 -0.4
comp=Z,0.0nmcomp=Z,23nm,1.3s
MUN Mundaring 53.09 254 P P 20 32 09.8 +0.8
MUN Mundaring 53.09 254 P P 20 32 08.6 -0.4
BLDU Ballidu 53.21 255 P P 20 32 11.2 +1.3
MEEK Meekatharra 53.29 261 P P 20 32 09.0 -1.6
comp=Z,0.0nmcomp=Z,46nm,1.5s
MEEK Meekatharra 53.29 261 P P 20 32 12.2 +1.6
BAKI Biak 53.46 299 P P 20 32 13.6 +1.7
comp=Z,53nm,0.9s
MORW Morawa 54.35 257 P P 20 32 15.3 -3.1
MORW Morawa 54.35 257 IAmb IAmb 20 32 38.4
comp=Z,31nm,1.2s
MORW Morawa 54.35 257 P P 20 32 19.2 +0.9
PSAC2 Pilbara Seismi 54.51 267 P P 20 32 17.4 -2.1
PSA00 Pilbara Seismi 54.55 267 P P 20 32 17.9 -2.0
PSA00 Pilbara Seismi 54.55 267 P 20 32 18.3 -1.5
PSA00 Pilbara Seismi 54.55 267 IAmb IAmb 20 32 31.4
comp=Z,33nm,1.0s
PSA00 Pilbara Seismi 54.55 267 P P 20 32 20.8 +1.0
PSAC1 Pilbara Seismi 54.60 267 P P 20 32 18.4 -1.7
RKPI Ransiki, Papua 54.64 297 P P 20 32 20.2 -0.3
comp=Z,1μmcomp=Z,44nm,0.8s
MBWA Marble Bar 54.84 267 P P 20 32 19.2 -2.7
MBWA Marble Bar 54.84 267 P P 20 32 20.1 -1.8
MBWA IAmb IAmb 20 32 33.6
comp=Z,29nm,0.9s
MBWA Marble Bar 54.84 267 P P 20 32 22.8 +0.9
QSPA South Pole Qui 55.11 180 P 20 32 28.0 +4.6
QSPA IAmb IAmb 20 32 59.9
comp=Z,31nm,0.9s
QSPA South Pole Qui 55.11 180 P P 20 32 27.2 +3.8
comp=Z,30nm,1.0s,baz=30,slow=4.1,SNR=42
comp=Z,30nm,1.0s
FAKI Fak Fak 55.12 294 P P 20 32 26.7 +2.7
SOEI Soe 57.14 282 P 20 32 37.7 -0.9
SOEI Soe 57.14 282 P P 20 32 38.6 0.0
comp=Z,1μmcomp=Z,73nm,0.9s
SWI Sorong 57.22 295 P P 20 32 37.5 -1.5
comp=Z,1μmcomp=Z,29nm,2.2s
MSAI Masohi 57.36 291 P P 20 32 40.8 +0.8
comp=Z,55nm,0.7s
BATI Bamata 57.37 281 LR LR 20 58 41.2
comp=Z,6μm,18.3s,baz=159,slow=38
BATI Baumata 57.37 281 P P 20 32 41.9 +1.8
comp=Z,3μmcomp=Z,1μmcomp=Z,34nm,0.9s
NLAI Namlea 58.84 290 P P 20 32 49.6 -0.7
comp=Z,2μmcomp=Z,1μmcomp=Z,47nm,0.9s
GUMO Guam 59.13 318 LR LR 20 54 18.6
comp=Z,896nm,21.8s,baz=142,slow=32
VA02 Isla de Pascua 59.20 103 IAMs_20 IAMs_20 20 53 49.6
comp=Z,4μm,19.0s
MMRI Maumere 59.42 282 P 20 32 52.5 -1.8
MMRI Maumere 59.42 282 P P 20 32 52.9 -1.5
EDFI Ende, Flores 59.79 281 P P 20 32 55.1 -2.0
comp=Z,3μmcomp=Z,729nmcomp=Z,29nm,1.2s
SANI Sanana 60.44 290 P P 20 33 03.7 +2.3
SANI Sanana 60.44 290 P P 20 33 00.2 -1.2
comp=Z,3μmcomp=Z,1μmcomp=Z,51nm,1.4s
MIDW Midway 62.91 2 IAMs_20 IAMs_20 20 57 47.3
comp=Z,3μm,20.0s
KAPI Kappang 63.53 283 LR LR 21 01 31.3
comp=Z,2μm,20.4s,baz=128,slow=37
LUWI Luwuk 63.57 289 P 20 33 23.6 +1.2
LUWI Luwuk 63.57 289 P P 20 33 23.0 +0.6
comp=Z,1μmcomp=Z,52nm,1.2s
TWSI Taliwang, Sumb 63.69 278 P P 20 33 21.5 -1.7
comp=Z,2μmcomp=Z,48nm,1.1s
SPSI Sidrap Palu 64.14 284 P P 20 33 25.8 -0.4
comp=Z,572nmcomp=Z,21nm,1.2s
BELA Belgrano 2 65.36 172 P P 20 33 34.5 +1.2
BELA IAmb IAmb 20 33 53.4
comp=Z,23nm,1.0s
SMAI San Martin Ant 65.56 158 IAmb IAmb 20 34 16.6
comp=Z,14nm,1.0s
JAGI Jajag, Banyuwa 66.06 277 IAMs_20 IAMs_20 21 03 15.1
comp=Z,3μm,18.0s
TOLI2 Tolitoli 66.46 289 P 20 33 38.5 -2.7
TOLI2 IAmb IAmb 20 33 53.8
comp=Z,15nm,1.1s
DAV Davao City (W) 66.73 297 LR LR 21 03 16.8
comp=Z,758nm,18.4s,baz=160,slow=36
MAW Mawson 67.64 201 P P 20 33 47.8 -0.2
comp=Z,3.4nm,1.0s,baz=118,slow=4.1,SNR=7.7
MAW LR LR 21 02 23.2
comp=Z,710nm,20.1s,baz=116,slow=35
comp=Z,3.4nm,1.0s
BBKI Banjar Baru 68.39 281 P P 20 33 53.8 +0.3
comp=Z,48nm,0.8s
PMSA Palmer Station 68.50 155 IAMs_20 IAMs_20 21 05 22.2
comp=Z,2μm,18.0s
PMSA Palmer Station 68.50 155 LR LR 20 58 06.9
comp=Z,2μm,20.2s,baz=233,slow=31
PBKI Pangkalan Bun 71.39 280 P P 20 34 15.0 +3.1
ESPZ Base Esperanza 71.76 156 IAmb IAmb 20 34 37.2
comp=Z,34nm,1.0s
LEM Lembang 72.33 274 LR LR 21 08 48.1
comp=Z,4μm,18.0s,baz=159,slow=38
SYO Syowa Base 72.40 194⇑ *e*P **P 20 34 16.2 -0.9**
SYO Syowa Base 72.40 194⇑ *e*pP pP 20 34 18.9 +0.3
TROLL Troll, Antarti 73.26 181⇑P **P 20 34 24.6 +2.2**
comp=Z,737nm,1.2s
TROLL ⇑S **SKiKP 20 43 52.4 -1.5**
SNAA Sanae 73.58 179⇓P **P 20 34 26.4 +2.2**
comp=Z,221nm,1.0s
SNAA ⇑S **SKiKP 20 43 55.7 +1.4**
SNAA Sanae 73.58 179 P P 20 34 24.5 +0.3
SNAA IAmb IAmb 20 35 01.7
comp=Z,52nm,1.4s
SNAA Sanae 73.58 179 P P 20 34 25.2 +1.0
comp=Z,14nm,1.1s,baz=187,slow=4.9,SNR=18
comp=Z,14nm,1.1s
SNAA Sanae 73.58 179⇑ *e*P **P 20 34 24.9 +0.7**
SNAA pmax pmax
comp=Z,33nm,1.3s
VNA3 Neumayer Olymp 73.78 176⇑P **P 20 34 27.1 +1.7**
comp=Z,19nm,0.8s
SBUM Sibu 74.00 285 P P 20 34 26.6 -0.9
VNA2 Neumayer--Watz 74.20 177⇑P **P 20 34 29.8 +2.0**
comp=Z,20nm,0.8s,baz=174,slow=6.7
VNA2 ⇓S **S 20 44 01.1 +0.3**
comp=E,67μm,0.0s,baz=22,slow=32
NVL N'lazarevskaya 74.22 184 *e*P **P 20 34 23.1 -4.7**
NVL *e* 20 34 37.9
NVL *e*S **SKiKP 20 43 57.5 +2.4**
NVL *e* 20 44 33.2
NVL *e*SS **SS 20 48 42.6 -2.6**
NVL *e*SSS SSS 20 52 04.1
NVL pmax pmax
comp=Z,5.0nm,0.7s
NVL smax smax
comp=N,339nm,13.0s
NVL MLR MLR
comp=Z,113nm,20.0s
VNA1 Neumayer--Stat 74.43 177⇑P **P 20 34 31.3 +2.2**
comp=Z,27nm,0.9s
TGY Tagaytay City 74.82 300 LR LR 21 03 27.8
comp=Z,372nm,20.9s,baz=120,slow=33
AY03 Cochrane 75.04 137 IAMs_20 IAMs_20 21 01 19.9
comp=Z,2μm,19.0s
COYC Coyhaique 76.31 136 P P 20 34 40.6 +0.2
COYC IAmb IAmb 20 34 44.3
comp=Z,32nm,1.1s
COYC Coyhaique 76.31 136 IAMs_20 IAMs_20 21 04 11.7
comp=Z,2μm,19.0s
MDSI Maura Dua 76.46 274 P P 20 34 39.7 -2.0
comp=Z,13nm,0.9s
GO07 Milladeo Hill, 76.83 134 IAMs_20 IAMs_20 21 04 40.8
comp=Z,2μm,18.0s
MNAI Manna 77.54 273 IAMs_20 IAMs_20 21 08 45.5
comp=Z,3μm,20.0s
LL02 Futaleuf 77.86 134 P P 20 34 50.5 +1.4
LL02 IAmb IAmb 20 34 52.8
comp=Z,20nm,1.1s
LL02 IAMs_20 IAMs_20 21 04 39.9
comp=Z,2μm,18.0s
JHJ Hachijo jima 2 77.92 326 LR LR 21 05 55.6
comp=Z,586nm,21.2s,baz=112,slow=33
LL05 Los Muermos 77.95 132 IAMs_20 IAMs_20 21 06 17.5
comp=Z,2μm,18.0s
LL03 Petrohue 78.76 133 IAMs_20 IAMs_20 21 05 38.9
comp=Z,2μm,18.0s
H03S2 Juan Fernandez 78.79 123 T T 22 01 50.1
baz=250,slow=75,SNR=10.0
H03S1 Juan Fernandez 78.80 123 T T 22 01 38.8
baz=250,slow=75,SNR=11
H03S3 Juan Fernandez 78.80 123 T T 22 01 39.9
baz=250,slow=75,SNR=9.2
H03N3 Juan Fernandez 79.00 123 T T 22 01 52.0
baz=238,slow=72,SNR=11
H03N2 Juan Fernandez 79.01 123 T T 22 02 05.0
baz=238,slow=72,SNR=9.7
H03N1 Juan Fernandez 79.02 123 T T 22 01 52.4
baz=238,slow=72,SNR=12
JOW Kunigami 79.05 314 LR LR 21 06 16.4
comp=Z,1μm,18.9s,baz=123,slow=33
EFI East Falkland 79.48 147 *i* P **P 20 34 58.1 +0.2**
EFI pmax pmax
comp=Z,89nm,1.0s
LR03 Panguipulli 79.70 131 IAMs_20 IAMs_20 21 06 31.8
comp=Z,2μm,18.0s
KRJI Kerinci 80.05 274 P P 20 35 01.5 -0.2
PLCA Paso Flores 80.12 133 P P 20 35 03.8 +2.2
comp=Z,5.4nm,1.0s,baz=194,slow=5.3,SNR=6.4
PLCA LR LR 21 05 34.2
comp=Z,1μm,18.1s,baz=236,slow=32
comp=Z,5.4nm,1.0s
SSLB Suanglung 81.44 307 P P 20 35 07.7 -1.0
SSLB IAMs_20 IAMs_20 21 08 44.1
comp=Z,2μm,19.0s
MJAR Matsushiro Arr 81.48 327 P P 20 35 08.3 -0.3
MJAR Matsushiro Arr 81.48 327 P P 20 35 05.9 -2.7
comp=Z,2.4nm,0.8s,baz=165,slow=6.2,SNR=7.4
MJAR LR LR 21 11 11.5
comp=Z,576nm,18.1s,baz=132,slow=36
comp=Z,2.4nm,0.8s
MJAR Matsushiro Arr 81.48 327 P P 20 35 08.3 -0.3
MJAR pmax pmax
comp=Z,4.0nm,1.0s
BI02 San Fabin de 82.17 129 P P 20 35 13.3 +0.6
BI02 IAMs_20 IAMs_20 21 02 46.7
comp=Z,2μm,21.0s
JNU Nakatsue 82.35 320 LR LR 21 11 55.2
comp=Z,333nm,18.3s,baz=130,slow=36
BO02 Sierra Bellavi 83.64 128 IAmb IAmb 20 35 28.4
comp=Z,23nm,0.9s
BO02 IAMs_20 IAMs_20 21 06 58.8
comp=Z,1μm,18.0s
QZH Quanzhou 83.79 306 *e*P **P 20 35 18.8 -2.1**
QZH S **SKSac 20 45 43.2 -0.7**
QZH pmax pmax
comp=Z,620nm,13.1s
QZH LR LR
comp=Z,430nm,8.3s
QZH LR LR
comp=Z,630nm,17.5s
QZH LR LR
comp=Z,1μm,19.6s
ERM Erimo 84.05 333 IAMs_20 IAMs_20 21 09 20.0
comp=Z,2μm,19.0s
MT09 Talagante 84.14 127 IAMs_20 IAMs_20 21 08 30.0
comp=Z,2μm,18.0s
BO04 La Punta 84.25 128 IAMs_20 IAMs_20 21 07 51.0
comp=Z,2μm,18.0s
MT02 Curacav 84.36 127 IAMs_20 IAMs_20 21 09 50.9
comp=Z,2μm,18.0s
MT05 Renca 84.54 127 IAMs_20 IAMs_20 21 10 11.6
comp=Z,2μm,18.0s
MT16 CCHEN 84.66 127 IAMs_20 IAMs_20 21 07 55.7
comp=Z,1μm,19.0s
PSI Prapat 84.92 277 LR LR 21 13 36.5
comp=Z,4μm,21.9s,baz=156,slow=36
GSI Gunungsitoli 85.17 275 P P 20 35 27.3 -0.9
GSI Gunungsitoli 85.17 275 P P 20 35 27.4 -0.8
CO06 Fray Jorge 85.63 125 IAMs_20 IAMs_20 21 04 16.7
comp=Z,2μm,21.0s
CO02 Combarbal 85.72 125 IAMs_20 IAMs_20 21 05 49.3
comp=Z,2μm,20.0s
QIZ Qiongzhong 86.07 296 P P 20 35 33.1 +0.6
QIZ PP **PP 20 38 55.4 +2.3**
QIZ SKS **SKSac 20 45 55.9 -2.9**
QIZ S **S 20 46 10.7 +3.6**
QIZ pmax pmax
comp=Z,490nm,7.3s
QIZ LR LR
comp=Z,460nm,15.9s
QIZ LR LR
comp=Z,360nm,15.5s
QIZ LR LR
comp=Z,960nm,16.1s
ASAJ Asahikawa 86.07 333 LR LR 21 07 38.6
comp=Z,2μm,21.5s,baz=160,slow=31
CO03 El Pedregal 86.16 125 IAmb IAmb 20 35 36.4
comp=Z,31nm,1.2s
CO03 IAMs_20 IAMs_20 21 07 52.9
comp=Z,2μm,19.0s
CO05 La Serena 86.36 124 IAMs_20 IAMs_20 21 04 50.3
comp=Z,2μm,20.0s
SSE Sheshan 86.40 312 P P 20 35 35.3 +1.5
SSE S **S 20 46 05.3 -4.4**
SSE pmax pmax
comp=Z,5.0nm,0.7s
SSE pmax pmax
comp=Z,200nm,11.9s
SSE LR LR
comp=Z,290nm,19.3s
SSE LR LR
comp=Z,310nm,19.9s
ADK Adak 86.56 2 IAMs_20 IAMs_20 21 10 32.1
comp=Z,2μm,20.0s
TRQA Tornquist 86.90 135 P P 20 35 37.0 +0.5
TRQA IAmb IAmb 20 35 39.7
comp=Z,18nm,1.2s
TRQA IAMs_20 IAMs_20 21 10 55.1
comp=Z,2μm,18.0s
TRQA Tornquist 86.90 135 P P 20 35 37.0 +0.5
TRQA pmax pmax
comp=Z,17nm,1.3s
TRQA MLR MLR
comp=Z,2μm,18.0s
ZON Zonda 87.05 127 IAmb IAmb 20 35 45.1
comp=Z,22nm,1.2s
KSRS Korea Array 87.22 321 P P 20 35 37.4 -0.3
comp=Z,2.9nm,0.6s,baz=141,slow=5.7,SNR=9.5
comp=Z,2.9nm,0.6s
LCO Las Campanas 87.29 124 IAMs_20 IAMs_20 21 05 47.1
comp=Z,2μm,20.0s
CFA Coronel Fontan 87.30 127 LR LR 21 07 59.0
comp=Z,427nm,18.7s,baz=222,slow=31
AC04 Llanos de Chal 87.54 123 IAMs_20 IAMs_20 21 07 09.7
comp=Z,2μm,19.0s
SHEM Shemya Is, Ala 87.57 356 LR LR 21 11 23.1
comp=Z,2μm,19.0s,baz=131,slow=33
SLBS Sierra La Lagu 87.82 59 IAMs_20 IAMs_20 21 13 32.3
comp=Z,2μm,18.0s
LPIG La Paz 87.83 59 LR LR 21 05 30.9
comp=Z,1μm,20.6s,baz=228,slow=29
SKR Severo-Kuril's 88.06 345 *e*P **P 20 35 38.4 -3.0**
SKR *e*S **S 20 46 29.0 +4.2**
SKR pmax pmax
comp=Z,600nm,14.9s
SKR MLR MLR
comp=Z,1μm,17.0s
YSS Yuzhno-Sakhali 88.46 335 IAMs_20 IAMs_20 21 09 55.8
comp=Z,2μm,20.0s
YSS Yuzhno-Sakhali 88.46 335 *e*P **P 20 35 43.3 -0.1**
YSS *e*S **S 20 46 27.9 -0.9**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=N,1μm,14.0s
NJ2 Nanjing 88.49 311 *e*P **P 20 35 45.5 +1.6**
NJ2 pmax pmax
comp=N,7.0nm,0.5s
HULI Fort Hunter Li 88.95 43 IAMs_20 IAMs_20 21 07 32.4
comp=Z,2μm,20.0s
CPE Camp Elliot 89.18 48 IAMs_20 IAMs_20 21 16 20.5
comp=Z,2μm,18.0s
PKD Bear Valley Ra 89.29 44 IAMs_20 IAMs_20 21 19 25.3
comp=Z,2μm,18.0s
ESJX Sierra Juarez 89.29 49 IAmb IAmb 20 36 07.3
comp=Z,20nm,1.3s
BAR Barrett 89.31 48 IAMs_20 IAMs_20 21 15 33.7
comp=Z,2μm,18.0s
OSI Osito Audit: C 89.41 46 IAMs_20 IAMs_20 21 16 48.4
comp=Z,2μm,18.0s
PASC Pasadena Art C 89.42 47 IAMs_20 IAMs_20 21 16 56.7
comp=Z,2μm,18.0s
MWC Mount Wilson 89.53 47 IAMs_20 IAMs_20 21 17 25.6
comp=Z,2μm,18.0s
PET Petropavlovsk 89.77 347 *e*P **P 20 35 52.0 +2.7**
PET *e*S **S 20 46 46.7 +6.0**
PET *e*PS **PS 20 47 53.4 +5.6**
PET pmax pmax
comp=Z,200nm,9.1s
PET MLR MLR
comp=Z,1μm,16.0s
BFSC Mount Baldy Ra 89.78 47 IAmb IAmb 20 36 14.0
comp=Z,28nm,1.2s
BFSC IAMs_20 IAMs_20 21 13 09.2
comp=Z,1μm,18.0s
BORC Borrego Spring 89.86 48 IAmb IAmb 20 36 18.5
comp=Z,32nm,1.5s
PEA0B Petropavlovsk- 90.03 346⇓ *e*P **P 20 35 51.6 +1.0**
PETK Petropavlovsk- 90.03 346 P 20 35 50.9 +0.3
PETK Petropavlovsk- 90.03 346 P P 20 35 51.6 +1.0
comp=Z,27nm,0.8s,baz=160,slow=5.6,SNR=15
PETK LR LR 21 08 38.6
comp=Z,783nm,21.9s,baz=166,slow=31
comp=Z,27nm,0.8s
PETK Petropavlovsk- 90.03 346 P P 20 35 50.9 +0.3
PFO Pinyon Flats O 90.07 48 P P 20 35 52.3 +0.8
PFO IAmb IAmb 20 36 00.8
comp=Z,21nm,1.4s
PFO Pinyon Flats O 90.07 48 IAMs_20 IAMs_20 21 15 06.0
comp=Z,2μm,18.0s
PFO Pinyon Flats O 90.07 48 LR LR 21 06 45.3
comp=Z,1μm,20.7s,baz=236,slow=29
PFO Pinyon Flats O 90.07 48 P P 20 35 52.3 +0.8
PFO pmax pmax
comp=Z,21nm,1.5s
PFO MLR MLR
comp=Z,2μm,18.0s
PMD Palm Desert 90.15 48 IAmb IAmb 20 36 20.6
comp=Z,16nm,1.4s
PB14 IPOC Station P 90.25 121 IAMs_20 IAMs_20 21 09 05.7
comp=Z,1μm,18.0s

ISA	Isabella, Lake	90.28	45	IAMs_20	IAMs_20	21 18 00.6	
	comp=Z,2µm,18.0s						
WHN	Wuhan	90.32	308	P	P	20 35 55.0	+2.5
WHN				PP	PP	20 39 27.3	+0.2
WHN				SKS	SKSac	20 46 22.7	-1.1
WHN				S	S	20 46 47.0	0.0
WHN				SS	SS	20 52 44.5	-3.1
WHN				pmax	pmax		
	comp=Z,20nm,0.6s						
WHN				LR	LR		
	comp=Z,2µm,24.6s						
USRK	Ussuriysk Ar.	90.45	327	P	P	20 35 51.2	-1.6
	comp=Z,4.0nm,0.8s,baz=107,slow=1.5,SNR=2.5						
	comp=Z,4.0nm,0.8s						
FALS	False Pass	90.54	9	IAMs_20	IAMs_20	21 17 19.6	
	comp=Z,2µm,19.0s						
BELC	Belle Mtn. Jos	90.62	48	P	P	20 35 55.7	+1.6
BELC				IAmb	IAmb	20 36 13.3	
	comp=Z,31nm,1.4s						
BELC				IAMs_20	IAMs_20	21 15 34.4	
	comp=Z,1µm,18.0s						
LRMC	Laurel Mtn Rad	90.62	46	IAMs_20	IAMs_20	21 18 20.5	
	comp=Z,2µm,18.0s						
GLA	Glamis	90.70	49	IAMs_20	IAMs_20	21 15 28.6	
	comp=Z,2µm,18.0s						
BC3	Big Chuckawall	90.72	48	P	P	20 35 57.1	+2.6
BC3				IAMs_20	IAMs_20	21 15 19.1	
	comp=Z,1µm,18.0s						
WSHM	Spangler Hills	90.81	46	IAMs_20	IAMs_20	21 18 49.7	
	comp=Z,2µm,18.0s						
PB10	IPOC Station P	90.83	120	IAMs_20	IAMs_20	21 09 30.5	
	comp=Z,2µm,19.0s						
CMB	Columbia Colle	90.86	43	IAMs_20	IAMs_20	21 11 29.9	
	comp=Z,2µm,19.0s						
CWC	Cottonwood Cre	91.05	45	IAMs_20	IAMs_20	21 18 44.0	
	comp=Z,2µm,18.0s						
CNBA	Chernabura Isl	91.06	11	IAMs_20	IAMs_20	21 17 27.7	
	comp=Z,1µm,19.0s						
IRM	Iron Mountain	91.24	48	IAMs_20	IAMs_20	21 15 44.0	
	comp=Z,2µm,18.0s						
DANC	Danby, Needles	91.42	48	IAMs_20	IAMs_20	21 22 27.8	
	comp=Z,2µm,18.0s						
S12K	Black Hills	91.54	10	IAMs_20	IAMs_20	21 18 00.3	
	comp=Z,2µm,18.0s						
P08K	Saint George I	91.63	5	IAMs_20	IAMs_20	21 12 04.3	
	comp=Z,2µm,20.0s						
DL2	Dalian	91.65	318	P	P	20 36 01.2	+2.7
DL2				SKS	SKSac	20 46 35.4	+4.4
DL2				S	ScS	20 47 02.2	+0.8
DL2				pmax	pmax		
	comp=Z,65nm,1.5s						
DL2				pmax	pmax		
	comp=Z,310nm,6.8s						
DL2				LR	LR		
	comp=Z,1µm,18.1s						
DL2				LR	LR		
	comp=Z,950nm,17.1s						
DL2				LR	LR		
	comp=Z,1µm,18.0s						
N02D	Trinity Center	91.73	39	IAMs_20	IAMs_20	21 20 26.9	
	comp=Z,2µm,18.0s						
SHOC	Shoshone, Teco	91.74	46	IAMs_20	IAMs_20	21 18 21.2	
	comp=Z,2µm,18.0s						
KSXB	Camp Six Broad	91.76	38	IAMs_20	IAMs_20	21 10 00.6	
	comp=Z,1µm,20.0s						
FURC	Furnace Creek,	91.78	46	IAMs_20	IAMs_20	21 18 59.3	
	comp=Z,2µm,18.0s						
M02C	Callahan	91.96	39	IAMs_20	IAMs_20	21 20 41.9	
	comp=Z,1µm,18.0s						
NEE2	Needles Airpor	91.97	48	IAMs_20	IAMs_20	21 17 24.4	
	comp=Z,1µm,18.0s						
PB06	IPOC Station P	92.04	120	IAMs_20	IAMs_20	21 11 48.5	
	comp=Z,2µm,18.0s						
YBH	Yreka Blue Hor	92.28	39	LR	LR	21 10 01.0	
	comp=Z,58nm,20.0s,baz=246,slow=31						
NVAR	Mina Array Bea	92.31	43	P	P	20 36 03.3	+1.4
	comp=Z,0.6nm,0.7s,baz=219,slow=11,SNR=6.2						
NVAR				LR	LR	21 13 30.5	
	comp=Z,1µm,18.5s,baz=256,slow=33						
	comp=Z,0.6nm,0.7s						
PB03	IPOC Station P	92.33	119	IAMs_20	IAMs_20	21 10 34.2	
	comp=Z,2µm,19.0s						
TIA	Tai'an	92.37	314	P	P	20 36 04.7	+2.8
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TIA				pmax	pmax		
	comp=Z,430nm,6.9s						
TIA				LR	LR		
	comp=Z,890nm,18.1s						
TIA				LR	LR		
	comp=Z,440nm,15.7s						
TIA				LR	LR		
	comp=Z,1µm,18.1s						
TPNV	Topopah Spring	92.47	46	IAMs_20	IAMs_20	21 19 30.5	
	comp=Z,2µm,18.0s						
W13A	Hualapai Mount	92.64	48	IAmb	IAmb	20 36 31.7	
	comp=Z,12nm,1.5s						
PB02	IPOC Station P	92.68	118	IAMs_20	IAMs_20	21 10 27.7	
	comp=Z,2µm,20.0s						
TUC	Tucson	92.78	52	IAMs_20	IAMs_20	21 14 53.6	
	comp=Z,1µm,18.0s						
TUC	Tucson	92.78	52	P	P	20 36 09.0	+5.0
PATCX	Punta Patache	92.81	118	IAMs_20	IAMs_20	21 16 46.1	
	comp=Z,1µm,18.0s						
PB09	IPOC Station P	92.86	119	IAMs_20	IAMs_20	21 11 29.1	
	comp=Z,2µm,19.0s						
AF01	San Pedro de A	92.88	121	IAMs_20	IAMs_20	21 10 24.5	
	comp=Z,2µm,20.0s						
UNM	Universidad Na	93.09	69	IAMs_20	IAMs_20	21 10 45.2	
	comp=Z,1µm,19.0s						
NNA	Nana	93.11	107	IAMs_20	IAMs_20	21 09 28.8	
	comp=Z,2µm,20.0s						
NNA	Nana	93.11	107	LR	LR	21 09 11.3	
	comp=Z,2µm,19.6s,baz=214,slow=30						
PB01	IPOC Station P	93.15	118	IAMs_20	IAMs_20	21 09 35.1	
	comp=Z,1µm,19.0s						
CN2	Changchun	93.20	323	P	P	20 36 06.1	+0.5
CN2				S	S	20 47 11.2	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,400nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,20.0s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
PB11	IPOC Station P	93.84	117		P	20 36 09.8	+0.4
PB11				IAmb	IAmb	20 36 25.2	
	comp=Z,16nm,1.0s						
CMAR	Chiang Mai Arr	93.96	290		P	20 36 08.0	-1.7
CMAR	Chiang Mai Arr	93.96	290	P	P	20 36 09.2	-0.5
	comp=Z,2.9nm,0.8s,baz=152,slow=3.1,SNR=17						
CMAR				PP	PP	20 39 54.0	-2.0
	comp=Z,1.2nm,0.4s,baz=133,slow=8.4,SNR=7.3						
CMAR				LR	LR	21 22 51.8	
	comp=Z,488nm,18.1s,baz=115,slow=38						
	comp=Z,2.9nm,0.8s						
LYN	LuoYang	94.13	310	P	P	20 36 13.4	+3.3
LYN				SKS	SKSac	20 46 46.4	+1.4
LYN				S	ScS	20 47 27.3	+5.0
LYN				SS	SS	20 53 38.1	-4.2
LYN				pmax	pmax		
	comp=Z,510nm,8.8s						
LYN				LR	LR		
	comp=Z,740nm,17.9s						
LYN				LR	LR		
	comp=Z,570nm,17.9s						
LYN				LR	LR		
	comp=Z,1µm,22.0s						
GO01	Chusmiza	94.23	117	IAMs_20	IAMs_20	21 15 45.9	
	comp=Z,1µm,18.0s						
PLK4	Peulik 4	94.28	12	IAMs_20	IAMs_20	21 15 17.8	
	comp=Z,1µm,19.0s						
WUAZ	Wupatki	94.47	49	IAMs_20	IAMs_20	21 18 04.1	
	comp=Z,2µm,18.0s						
HNS	HongShan	94.61	313	⇓P	P	20 36 15.7	+3.5
HNS				SKS	SKSac	20 46 52.2	+4.8
HNS				S	S	20 47 24.3	-0.7
HNS				LR	LR		
	comp=Z,640nm,21.6s						
HNS				LR	LR		
	comp=Z,640nm,20.0s						
HNS				LR	LR		
	comp=Z,1µm,20.0s						
ATAH	Atahualpa	94.73	102	LR	LR	21 11 57.0	
	comp=Z,955nm,18.2s,baz=231,slow=31						
PB16	IPOC Station P	94.84	116		P	20 36 12.4	-2.1
PB16				IAmb	IAmb	20 36 29.3	
	comp=Z,10nm,1.2s						
KMI	Kunming	94.99	297	P	P	20 36 11.7	-2.8
KMI				PP	PP	20 40 05.7	+1.5
KMI				SKS	SKSac	20 46 53.0	+2.4
KMI				LR	LR		
	comp=Z,570nm,19.7s						
KMI				LR	LR		
	comp=Z,710nm,18.2s						
KMI				LR	LR		
	comp=Z,860nm,19.4s						
O14K	Tigyukauivet M	95.10	9	IAMs_20	IAMs_20	21 20 03.3	
	comp=Z,1µm,19.0s						
KDAK	Kodiak Island	95.12	14	IAMs_20	IAMs_20	21 15 48.1	
	comp=Z,1µm,19.0s						
KDAK	Kodiak Island	95.12	14	LR	LR	21 16 36.6	
	comp=Z,695nm,18.1s,baz=205,slow=34						
CMIG	Matias Romero	95.13	73	LR	LR	21 13 38.6	
	comp=Z,853nm,18.0s,baz=221,slow=32						
EPT	El Paso	95.26	55	IAMs_20	IAMs_20	21 18 05.3	
	comp=Z,1µm,18.0s						
PB18	Visviri	95.33	116	IAMs_20	IAMs_20	21 15 02.2	
	comp=Z,1µm,18.0s						
P16K	Nushagak River	95.35	11	IAMs_20	IAMs_20	21 23 12.0	
	comp=Z,1µm,18.0s						
ELK	Elko	95.61	43	IAMs_20	IAMs_20	21 14 44.7	
	comp=Z,2µm,20.0s						
M11K	Mekoryuk	95.66	6	IAMs_20	IAMs_20	21 20 03.9	
	comp=Z,1µm,19.0s						
TXAR	Lajitas Array	95.72	58		P	20 36 17.1	-0.5
TXAR	Lajitas Array	95.72	58	P	P	20 36 20.1	+2.5
	comp=Z,2.0nm,1.1s,baz=279,slow=4.1,SNR=8.4						
TXAR				LR	LR	21 10 09.2	
	comp=Z,585nm,21.1s,baz=227,slow=30						
	comp=Z,2.0nm,1.1s						
TXAR	Lajitas Array	95.72	58	P	P	20 36 17.1	-0.5
NLWA	Neilton Lookou	95.86	34	IAMs_20	IAMs_20	21 23 50.0	
	comp=Z,2µm,18.0s						
MNTX	Cornudas Mount	95.97	55	IAMs_20	IAMs_20	21 18 31.1	
	comp=Z,1µm,18.0s						
M13K	Dall Lake	95.98	8	IAMs_20	IAMs_20	21 20 47.4	
	comp=Z,2µm,18.0s						
XAN	Xi'an	96.08	307	⇑P	P	20 36 19.3	+0.2
XAN				SKS	SKSac	20 46 57.2	+1.6
XAN				S	S	20 47 37.4	-0.7
XAN				SS	SS	20 54 15.6	+5.4
XAN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
XAN				pmax	pmax		
	comp=Z,380nm,8.8s						
XAN				LR	LR		
	comp=Z,780nm,15.8s						
XAN				LR	LR		
	comp=Z,360nm,15.1s						
XAN				LR	LR		
	comp=Z,1µm,19.9s						
N15K	Kwethluk River	96.14	9	IAMs_20	IAMs_20	21 20 34.8	
	comp=Z,1µm,19.0s						
Y22D	CIS PASSCAL I	96.40	53	IAMs_20	IAMs_20	21 23 31.5	
	comp=Z,1µm,18.0s						
PZH	PanZhiHua	96.52	298	P	P	20 36 22.3	+0.9
PZH				PP	PP	20 40 21.1	+5.2
PZH				SKS	SKSac	20 46 58.6	+0.2
PZH				S	ScS	20 47 42.6	-0.3
PZH				LR	LR		
	comp=Z,420nm,15.3s						
PZH				LR	LR		
	comp=Z,460nm,15.7s						
PZH				LR	LR		
	comp=Z,720nm,18.4s						
L14K	Kuka Creek	96.96	8	IAMs_20	IAMs_20	21 21 27.4	
	comp=Z,1µm,19.0s						
CNPM	China Poot	97.01	14	IAMs_20	IAMs_20	21 16 50.9	
	comp=Z,1µm,20.0s						
MFID	Camas Ranch	97.08	41	IAMs_20	IAMs_20	21 16 15.6	
	comp=Z,1µm,19.0s						
M16K	Timber Creek	97.12	10	IAMs_20	IAMs_20	21 21 14.7	
	comp=Z,1µm,19.0s						
LPAZ	La Paz	97.15	115	P	Pdif	20 36 25.7	+0.4
	comp=Z,1.3nm,0.8s,baz=182,slow=8.6,SNR=4.3						
LPAZ				LR	LR	21 13 44.7	
	comp=Z,506nm,19.0s,baz=198,slow=31						
	comp=Z,1.3nm,0.8s						
HAWA	Hanford	97.21	37	IAMs_20	IAMs_20	21 13 41.9	
	comp=Z,2µm,20.0s						
ANMO	Albuquerque	97.23	52	IAMs_20	IAMs_20	21 17 39.7	
	comp=Z,2µm,18.0s						
ANMO	Albuquerque	97.23	52	LR	LR	21 17 06.8	
	comp=Z,1µm,18.0s,baz=322,slow=34						
BRLK	Bradley Lake	97.30	14	IAMs_20	IAMs_20	21 17 09.2	
	comp=Z,1µm,20.0s						
K13K	Kusilvak Mount	97.33	7	IAMs_20	IAMs_20	21 28 58.1	
	comp=Z,1µm,18.0s						
APG	El Apazote	97.46	77	LR	LR	21 13 28.7	
	comp=Z,55nm,18.3s,baz=359,slow=31						
MA2	Magadan	97.47	345	LR	LR	21 21 28.5	
	comp=Z,755nm,18.1s,baz=142,slow=36						
BBB	Bella Bella	97.63	29	LR	LR	21 19 13.0	
	comp=Z,500nm,18.1s,baz=223,slow=35						
CPUP	Villa Florida	97.89	130	PKKPbc	PKKPbc	20 53 01.5	+0.8
	comp=Z,0.3nm,0.3s,baz=173,slow=0.5,SNR=3.5						
CPUP				LR	LR	21 15 18.2	
	comp=Z,479nm,19.2s,baz=85,slow=32						
SEW	Seward	97.90	15	IAMs_20	IAMs_20	21 24 04.6	
	comp=Z,1µm,19.0s						
HLID	Hailey	97.95	42	IAMs_20	IAMs_20	21 16 16.5	
	comp=Z,1µm,19.0s						
MID	Middleton Isla	97.97	16	IAMs_20	IAMs_20	21 23 05.5	
	comp=Z,1µm,19.0s						
TNCH	TengChong	98.05	295	P	Pdif	20 36 29.9	+1.5
TNCH				PP	PP	20 40 27.8	0.0
TNCH				SKS	SKSac	20 47 06.2	-0.3
TNCH				S	S	20 47 54.0	-1.7
TNCH				SS	SS	20 54 40.4	+1.9
TNCH				LR	LR		
	comp=Z,590nm,15.9s						
TNCH				LR	LR		
	comp=Z,710nm,17.6s						
TNCH				LR	LR		
	comp=Z,1µm,19.0s						
J14K	Nanvaranak Lak	98.24	7	IAMs_20	IAMs_20	21 22 01.2	
	comp=Z,1µm,19.0s						
P23K	Montague Islan	98.24	16	IAMs_20	IAMs_20	21 23 49.6	
	comp=Z,1µm,18.0s						
HWUT	Hardware Ranch	98.27	45	IAMs_20	IAMs_20	21 15 55.1	
	comp=Z,2µm,19.0s						
M19K	Big River Lodg	98.66	12	IAMs_20	IAMs_20	21 24 57.4	
	comp=Z,1µm,18.0s						
HHC	Hu-ho-hao-te	98.70	314	eP	Pdif	20 36 32.4	+1.6
HHC				SKS	SKSac	20 47 11.6	+2.7
HHC				S	ScS	20 48 00.4	0.0
HHC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,230nm,4.9s						
HHC				LR	LR		
	comp=Z,600nm,16.0s						
HHC				LR	LR		
	comp=Z,330nm,16.8s						
HHC				LR	LR		
	comp=Z,930nm,19.5s						
KVTX	Kingsville	98.80	63	IAMs_20	IAMs_20	21 18 29.0	
	comp=Z,2µm,18.0s						
HIN	Hinchinbrook I	98.80	16	IAMs_20	IAMs_20	21 23 46.4	
	comp=Z,1µm,19.0s						
PWL	Port Wells	98.82	15	IAMs_20	IAMs_20	21 27 23.9	
	comp=Z,1µm,19.0s						
K17K	Iditarod	98.84	10	IAMs_20	IAMs_20	21 22 27.1	
	comp=Z,1µm,19.0s						
M20K	Styx River	98.85	12	IAMs_20	IAMs_20	21 19 35.5	
	comp=Z,1µm,19.0s						
SUA	Susitna One	98.89	13	IAMs_20	IAMs_20	21 18 13.7	
	comp=Z,1µm,19.0s						
EYAK	Cordova Ski Ar	99.10	16	IAMs_20	IAMs_20	21 28 56.5	
	comp=Z,1µm,18.0s						
SUCK	Suckling Hills	99.14	17	IAMs_20	IAMs_20	21 23 51.5	
	comp=Z,1µm,20.0s						
RAGM	Ragged Mountai	99.21	17	IAMs_20	IAMs_20	21 26 38.2	
	comp=Z,2µm,19.0s						
SKT	Skwentna	99.22	13	IAMs_20	IAMs_20	21 26 50.5	
	comp=Z,1µm,19.0s						
HMT	Hamilton	99.26	17	IAMs_20	IAMs_20	21 26 19.6	
	comp=Z,2µm,19.0s						
AHID	Auburn Hatcher	99.28	44	IAMs_20	IAMs_20	21 17 12.5	
	comp=Z,2µm,19.0s						
M22K	Willow	99.28	14	IAMs_20	IAMs_20	21 18 25.9	
	comp=Z,1µm,20.0s						
JTS	Las Juntas de	99.30	84	IAMs_20	IAMs_20	21 14 55.4	
	comp=Z,1µm,18.0s						
JTS	Las Juntas de	99.30	84	LR	LR	21 14 48.6	
	comp=Z,1µm,18.1s,baz=240,slow=31						
WRAK	Wrangell Islan	99.39	24	IAMs_20	IAMs_20	21 27 38.4	
	comp=Z,1µm,18.0s						
BERG	Berg Lake	99.44	17	IAMs_20	IAMs_20	21 26 25.5	
	comp=Z,1µm,18.0s						
SDCO	Great Sand Dun	99.55	50	IAMs_20	IAMs_20	21 20 06.8	
	comp=Z,1µm,18.0s						
735A	Kenedy	99.60	62	IAMs_20	IAMs_20	21 21 58.3	
	comp=Z,2µm,18.0s						
MESA	MESA	99.69	18	IAMs_20	IAMs_20	21 26 48.0	
	comp=Z,2µm,18.0s						
NEW	Newport	99.69	37	IAMs_20	IAMs_20	21 14 47.5	
	comp=Z,2µm,20.0s						
NEW	Newport	99.69	37	LR	LR	21 14 58.0	
	comp=Z,2µm,19.8s,baz=226,slow=31						
WAX	Waxell Ridge	99.70	17	IAMs_20	IAMs_20	21 26 41.2	
	comp=Z,2µm,18.0s						
BMRM	Bremner River	99.74	16	IAMs_20	IAMs_20	21 26 11.2	
	comp=Z,1µm,18.0s						
HDC	Heredia	99.82	85	IAMs_20	IAMs_20	21 15 30.3	
	comp=Z,2µm,18.0s						
TPAW	Teton Pass	99.82	43	IAMs_20	IAMs_20	21 17 19.0	
	comp=Z,1µm,19.0s						
ANM	Nome	99.85	6	IAMs_20	IAMs_20	21 16 49.7	
	comp=Z,1µm,20.0s						
CUT	Chulitna	99.85	13	IAMs_20	IAMs_20	21 19 14.1	
	comp=Z,1µm,19.0s						
FXWY	Fox Creek	99.87	43	IAMs_20	IAMs_20	21 30 29.4	
	comp=Z,1µm,18.0s						
T25A	Trinidad	99.88	52	IAMs_20	IAMs_20	21 20 22.7	
	comp=Z,1µm,18.0s						
CRQM	Cirque	99.90	17	IAMs_20	IAMs_20	21 26 57.7	
	comp=Z,1µm,18.0s						
YAH	Yahtse	99.90	18	IAMs_20	IAMs_20	21 26 46.4	
	comp=Z,2µm,18.0s						
SNOW	Snow King Moun	99.92	43	IAMs_20	IAMs_20	21 17 23.5	
	comp=Z,1µm,20.0s						
PPLA	Purkeypile	99.96	12	IAMs_20	IAMs_20	21 20 38.8	
	comp=Z,1µm,19.0s						
ISLE	Juniper Island	99.96	17	IAMs_20	IAMs_20	21 26 49.1	
	comp=Z,2µm,18.0s						
TGL	Tana Glacier	99.97	17	IAMs_20	IAMs_20	21 26 42.4	
	comp=Z,1µm,18.0s						
PCA	Pinnacle	100.05	19	IAMs_20	IAMs_20	21 23 55.7	
	comp=Z,1µm,18.0s						
LOHW	Long Hollow	100.09	43	IAMs_20	IAMs_20	21 17 29.3	
	comp=Z,1µm,20.0s						
DLMT	Dillon	100.11	41	IAMs_20	IAMs_20	21 17 18.6	
	comp=Z,2µm,20.0s						
TABL	Table Mountain	100.12	18	IAMs_20	IAMs_20	21 23 16.4	
	comp=Z,1µm,18.0s						
BW06	Boulder Array	100.16	45	IAMs_20	IAMs_20	21 17 26.0	
	comp=Z,2µm,19.0s						
GRNC	Granite Creek	100.22	18	IAMs_20	IAMs_20	21 26 38.9	
	comp=Z,1µm,18.0s						
SEY	Seymchan	100.23	347	LR	LR	21 19 19.7	
	comp=Z,1µm,19.3s,baz=158,slow=34						
P29M	Windy Craggy	100.34	20	IAMs_20	IAMs_20	21 24 21.4	
	comp=Z,1µm,18.0s						
AMTX	Amarillo	100.35	55	IAMs_20	IAMs_20	21 19 48.1	
	comp=Z,1µm,19.0s						
J19K	Poorman	100.44	10	IAMs_20	IAMs_20	21 19 14.4	
	comp=Z,1µm,20.0s						
ABTX	Abilene, Hawle	100.44	58	IAMs_20	IAMs_20	21 18 58.6	
	comp=Z,1µm,19.0s						
MCARA	McCarthy VSAT	100.47	17	IAMs_20	IAMs_20	21 27 08.7	
	comp=Z,1µm,18.0s						
LOGN	Logan Glacier	100.48	18	IAMs_20	IAMs_20	21 27 06.0	
	comp=Z,1µm,18.0s						
BARN	Barnard Glacie	100.52	18	IAMs_20	IAMs_20	21 27 07.0	
	comp=Z,1µm,18.0s						
T35M	Bob Quinn	100.55	25	IAMs_20	IAMs_20	21 28 18.0	
	comp=Z,1µm,18.0s						
LZH	Lanzhou	100.64	307	eP	Pdif	20 36 38.2	-1.5
LZH				SKS	SKSac	20 47 20.9	+2.1
LZH				S	Sdif	20 48 20.9	+3.9
LZH				pmax	pmax		
	comp=Z,160nm,4.5s						
LZH				LR	LR		
	comp=Z,420nm,21.6s						
LZH				LR	LR		
	comp=Z,610nm,20.3s						
LZH				LR	LR		
	comp=Z,1µm,20.6s						
O28M	Mount Upton	100.65	18	IAMs_20	IAMs_20	21 23 16.4	
	comp=Z,2µm,18.0s						
O29M	Mount Kennedy	100.68	19	IAMs_20	IAMs_20	21 28 38.2	
	comp=Z,1µm,18.0s						
ISCO	Idaho Springs	100.70	49	IAMs_20	IAMs_20	21 13 19.5	
	comp=Z,1µm,20.0s						
BOZ	Bozeman (W)	100.78	41	IAMs_20	IAMs_20	21 18 08.4	
	comp=Z,2µm,20.0s						
KTH	Kantishna Hill	100.79	12	IAMs_20	IAMs_20	21 26 23.7	
	comp=Z,1µm,18.0s						
TRF	Thorofare Moun	100.81	13	IAMs_20	IAMs_20	21 19 26.3	
	comp=Z,2µm,20.0s						
G16K	Koyuk River	100.94	7	IAMs_20	IAMs_20	21 23 35.7	
	comp=Z,2µm,18.0s						
S34M	Telegraph Cree	100.98	24	IAMs_20	IAMs_20	21 21 29.3	
	comp=Z,2µm,18.0s						
RND	Reindeer	101.03	13	IAMs_20	IAMs_20	21 19 21.2	
	comp=Z,1µm,20.0s						
F15K	North Star Dit	101.03	6	IAMs_20	IAMs_20	21 17 06.0	
	comp=Z,1µm,20.0s						
BPAW	Bear Paw Mtn.	101.28	12	IAMs_20	IAMs_20	21 26 40.8	
	comp=Z,1µm,19.0s						
MCK	McKinley	101.31	13	IAMs_20	IAMs_20	21 19 30.7	
	comp=Z,2µm,20.0s						
Q32M	Nakina River	101.43	23	IAMs_20	IAMs_20	21 18 54.4	
	comp=Z,2µm,19.0s						
P32M	Atlin	101.49	22	IAMs_20	IAMs_20	21 19 01.8	
	comp=Z,2µm,18.0s						
M27K	Edge Creek, AK	101.59	17	IAMs_20	IAMs_20	21 27 56.3	
	comp=Z,1µm,18.0s						
HKT	Hockley	101.64	62	IAMs_20	IAMs_20	21 17 43.4	
	comp=Z,2µm,19.0s						
O30N	Mendenhall	101.75	20	IAMs_20	IAMs_20	21 21 50.7	
	comp=Z,2µm,18.0s						
RLMT	Red Lodge	101.78	43	IAMs_20	IAMs_20	21 18 52.0	
	comp=Z,1µm,19.0s						
G18K	Tagagawik	101.84	8	IAMs_20	IAMs_20	21 27 43.4	
	comp=Z,1µm,18.0s						
K22A	Casper	101.86	46	IAMs_20	IAMs_20	21 28 16.0	
	comp=Z,1µm,18.0s						
K24K	Donnelly Dome	102.00	14	IAMs_20	IAMs_20	21 26 04.9	
	comp=Z,1µm,18.0s						
N30M	Aishikik Lake	102.05	19	IAMs_20	IAMs_20	21 23 29.4	
	comp=Z,2µm,18.0s						
NEA2	Nenana	102.07	13	IAMs_20	IAMs_20	21 20 04.8	
	comp=Z,2µm,20.0s						
F17K	Baldwin Pennin	102.08	7	IAMs_20	IAMs_20	21 23 26.6	
	comp=Z,1µm,19.0s						

comp=Z,1µm,19.0s
H23K Yukon River 103.11 12 IAMs_20 IAMs_20 21 29 15.2
comp=Z,1µm,19.0s
L29M L29M 103.15 18 IAMs_20 IAMs_20 21 25 50.4
comp=Z,1µm,18.0s
OK038 West end E0370 103.22 55 IAMs_20 IAMs_20 21 27 06.2
comp=Z,2µm,19.0s
EGMT Eagleton 103.30 40 IAMs_20 IAMs_20 21 21 01.1
comp=Z,2µm,19.0s
BILL Bilibino 103.32 354 IAMs_20 IAMs_20 21 20 24.3
comp=Z,1µm,20.0s
M31M Drury Creek, Y 103.39 20 IAMs_20 IAMs_20 21 23 11.1
comp=Z,2µm,18.0s
RDOG Red Dog Mine 103.49 6 IAMs_20 IAMs_20 21 20 24.8
comp=Z,1µm,20.0s
C16K Lisburne Hills 103.50 5 IAMs_20 IAMs_20 21 20 34.2
comp=Z,2µm,20.0s
CBKS Cedar Bluff 103.86 52 IAMs_20 IAMs_20 21 21 32.1
comp=Z,1µm,19.0s
I26K Coal Creek Min 103.87 15 IAMs_20 IAMs_20 21 23 12.3
comp=Z,1µm,19.0s
K29M Barlow Dome 103.91 18 IAMs_20 IAMs_20 21 31 04.6
comp=Z,1µm,19.0s
RSSD Black Hills 104.19 46 IAMs_20 IAMs_20 21 27 01.7
comp=Z,1µm,18.0s
C18K Utukok River 104.22 7 IAMs_20 IAMs_20 21 26 18.3
comp=Z,1µm,19.0s
G24K Hadweenzic Riv 104.27 12 IAMs_20 IAMs_20 21 30 24.7
comp=Z,2µm,18.0s
COLD Coldfoot 104.28 11 IAMs_20 IAMs_20 21 21 24.1
comp=Z,1µm,20.0s
R32A Long Quarter, 104.31 53 IAMs_20 IAMs_20 21 22 51.1
comp=Z,2µm,18.0s
D19K Kuna River 104.40 8 IAMs_20 IAMs_20 21 29 17.9
comp=Z,1µm,18.0s
I28M Miner Creek 104.69 16 IAMs_20 IAMs_20 21 29 37.0
comp=Z,1µm,19.0s
D20K Etivluk River 104.78 8 IAMs_20 IAMs_20 21 26 29.1
comp=Z,1µm,19.0s
KAAM Kaadhehdhoo 104.81 260 IAMs_20 IAMs_20 21 29 10.6
comp=Z,2µm,19.0s
J30M Hart River 104.81 18 IAMs_20 IAMs_20 21 26 54.4
comp=Z,1µm,19.0s
C19K Lookout Ridge 104.82 7 IAMs_20 IAMs_20 21 26 38.2
comp=Z,1µm,19.0s
E21K Killik River 104.86 9 IAMs_20 IAMs_20 21 27 55.2
comp=Z,995nm,18.0s
F24K Squaw Lake 104.93 12 IAMs_20 IAMs_20 21 28 54.3
comp=Z,2µm,19.0s
H27K Steamboat Moun 105.01 15 IAMs_20 IAMs_20 21 23 48.4
comp=Z,1µm,19.0s
E24K Your Creek 105.33 11 IAMs_20 IAMs_20 21 32 37.9
comp=Z,1µm,18.0s
F25K Christian Rive 105.39 13 IAMs_20 IAMs_20 21 24 16.5
comp=Z,1µm,19.0s
D22K Ayikyak River 105.44 10 IAMs_20 IAMs_20 21 26 35.6
comp=Z,1µm,19.0s
TOLK Toolik Lake Re 105.67 11 IAMs_20 IAMs_20 21 26 24.9
comp=Z,1µm,19.0s
H29M Whitestone 105.69 16 IAMs_20 IAMs_20 21 29 07.5
comp=Z,1µm,19.0s
F26K Sheenjek River 105.76 13 IAMs_20 IAMs_20 21 29 31.1
comp=Z,1µm,18.0s
D23K Nanushuk River 105.81 10 IAMs_20 IAMs_20 21 23 07.3
comp=Z,1µm,19.0s
SONM Songino Array 105.86 318 PKKP 20 52 54.4
comp=Z,1.1nm,1.1s,baz=328,slow=5.1,SNR=3.8
E25K Arctic Village 105.87 12 IAMs_20 IAMs_20 21 24 50.2
comp=Z,1µm,19.0s
B21K Ikpikpuk River 105.88 9 IAMs_20 IAMs_20 21 23 05.2
comp=Z,1µm,20.0s
SPB Sao Paulo 105.93 135 IAMs_20 IAMs_20 21 23 25.4
comp=Z,1µm,18.0s
B20K Meade River 105.95 8 IAMs_20 IAMs_20 21 24 51.9
comp=Z,1µm,19.0s
FOMA Nahampoana Res 106.01 223 IAMs_20 IAMs_20 21 29 11.0
comp=Z,961nm,18.0s
KSU1 Kansas State U 106.06 53 IAMs_20 IAMs_20 21 23 31.4
comp=Z,1µm,18.0s
EPYK Eagle Plains 106.19 16 IAMs_20 IAMs_20 21 30 41.8
comp=Z,952nm,18.0s
BGNE Belgrade 106.29 51 IAMs_20 IAMs_20 21 24 36.5
comp=Z,1µm,18.0s
H31M Peel River 106.30 18 IAMs_20 IAMs_20 21 30 51.9
comp=Z,1µm,18.0s
143A Socs Landing, 106.31 61 IAMs_20 IAMs_20 21 25 28.9
comp=Z,1µm,18.0s
DGMT Dagmar 106.57 42 IAMs_20 IAMs_20 21 20 54.6
comp=Z,1µm,19.0s
C23K Itkillik River 106.61 10 IAMs_20 IAMs_20 21 23 16.6
comp=Z,997nm,19.0s
C24K Franklin Bluff 106.79 11 IAMs_20 IAMs_20 21 29 20.3
comp=Z,1µm,18.0s
D25K Kavik River 106.80 12 IAMs_20 IAMs_20 21 23 37.6
comp=Z,1µm,20.0s
G31M Satah River 107.22 17 IAMs_20 IAMs_20 21 31 40.9
comp=Z,1µm,19.0s
E28M Babbage River 107.43 14 IAMs_20 IAMs_20 21 29 15.5
comp=Z,1µm,18.0s
E28A Huff 107.51 45 IAMs_20 IAMs_20 21 22 00.6
comp=Z,1µm,19.0s
C27K Jago River 107.52 12 IAMs_20 IAMs_20 21 23 29.7
comp=Z,1µm,19.0s
N35A Tabor 107.62 52 IAMs_20 IAMs_20 21 25 16.5
comp=Z,1µm,19.0s
F31M Tsiigehtchic 107.75 17 IAMs_20 IAMs_20 21 31 49.1
comp=Z,917nm,18.0s
P38A Dawn 108.37 54 IAMs_20 IAMs_20 21 24 54.6
comp=Z,1µm,18.0s
ECSD EROS Data Cent 108.48 49 IAMs_20 IAMs_20 21 28 17.3
comp=Z,1µm,18.0s
VOI Vohitsoka 108.51 225 IAMs_20 IAMs_20 21 25 48.5
comp=Z,1µm,18.0s
MDND Maddock 108.82 44 IAMs_20 IAMs_20 21 27 59.1
comp=Z,1µm,18.0s
Z47A Carrollton 108.97 62 IAMs_20 IAMs_20 21 27 35.5
comp=Z,1µm,18.0s
N38A Joes South For 109.16 53 IAMs_20 IAMs_20 21 25 15.3
comp=Z,1µm,18.0s
P40A Paris 109.32 55 IAMs_20 IAMs_20 21 23 54.6
comp=Z,1µm,19.0s
HYB Hyderabad 109.62 278 ePKiKP PKiKP 20 41 21.3 -1.5
HYB ePP PP 20 41 52.4 -1.7
HYB eSKSdf SKSdf 20 48 35.3 +0.1
HYB eSKKSac SKKSac 20 48 54.0 -3.4
HYB eSS SS 20 57 15.8 -1.7
LRAL Lakeview Retre 109.68 63 IAMs_20 IAMs_20 21 30 01.1
comp=Z,954nm,18.0s
SCIA State Center 109.72 52 IAMs_20 IAMs_20 21 29 15.2
comp=Z,1µm,18.0s
F33A 5 Mile Ranch, 109.74 47 IAMs_20 IAMs_20 21 31 51.7
comp=Z,1µm,18.0s
SDV Santo Domingo 110.26 93 IAMs_20 IAMs_20 21 23 03.9
comp=Z,1µm,19.0s
S44A Carbondale 110.33 58 IAMs_20 IAMs_20 21 25 50.4
comp=Z,1µm,18.0s
T45A Paducah 110.43 59 IAMs_20 IAMs_20 21 29 37.0
comp=Z,1µm,18.0s
ABPO Ambohimpanom 110.49 227 IAMs_20 IAMs_20 21 38 20.2
comp=Z,1µm,18.0s
I37A Lemond, Waseca 110.63 50 IAMs_20 IAMs_20 21 27 26.3
comp=Z,2µm,20.0s
N41A Harden Midland 110.69 54 IAMs_20 IAMs_20 21 26 07.9
comp=Z,1µm,18.0s
061Z Ochoppi 110.78 72 IAMs_20 IAMs_20 21 20 25.5
comp=Z,1µm,20.0s
P43A Skaggs, Pawnee 111.08 56 IAMs_20 IAMs_20 21 26 30.2
comp=Z,1µm,18.0s
L40A Anamosa 111.10 53 IAMs_20 IAMs_20 21 30 40.6
comp=Z,1µm,18.0s
FFC Flin Flon 111.11 37 IAMs_20 IAMs_20 21 22 13.5
comp=Z,1µm,21.0s
AGMN Agassiz Nation 111.21 45 IAMs_20 IAMs_20 21 24 50.5
comp=Z,1µm,19.0s
T47A Sharon Grove 111.50 59 IAMs_20 IAMs_20 21 25 36.3
comp=Z,922nm,19.0s
C36M Paulatuk 111.57 18 IAMs_20 IAMs_20 21 30 59.1
comp=Z,1µm,18.0s
SPMN Marine on St. 111.59 49 IAMs_20 IAMs_20 21 38 10.5
comp=Z,965nm,18.0s
HDIL Hopedale 111.67 55 IAMs_20 IAMs_20 21 25 25.7
comp=Z,1µm,18.0s
W50A Signal Mountai 111.94 62 IAMs_20 IAMs_20 21 28 54.0
comp=Z,1µm,18.0s
X51A Calhoun 111.97 63 IAMs_20 IAMs_20 21 29 37.9
comp=Z,977nm,18.0s
Y52A Lilburn 112.22 64 IAMs_20 IAMs_20 21 29 22.6
comp=Z,1µm,19.0s

KNGR Kungurtug, Tuv 112.26 317⇑ iPKIKP PKiKP 20 41 29.1 +2.2
I40A Norwalk 112.35 51 IAMs_20 IAMs_20 21 32 30.6
comp=Z,1µm,18.0s
TIXI Tiksi 112.42 344⇑ iPKIKP PKiKP 20 41 27.1 +0.7
GTBY Guantanamo Bay 112.45 81 IAMs_20 IAMs_20 21 25 14.1
comp=Z,1µm,18.0s
WCI Wyandotte Cave 112.65 58 IAMs_20 IAMs_20 21 25 53.7
comp=Z,1µm,19.0s
M44A Midewin, Midew 112.89 55 IAMs_20 IAMs_20 21 26 14.1
comp=Z,1µm,19.0s
W52A Murphy 112.89 62 IAMs_20 IAMs_20 21 29 55.3
comp=Z,1µm,18.0s
K43A Burlington 113.29 53 IAMs_20 IAMs_20 21 29 11.7
comp=Z,1µm,18.0s
I42A Draeger Farm, 113.44 52 IAMs_20 IAMs_20 21 35 03.7
comp=Z,1µm,18.0s
EYMN Ely 113.64 47 IAMs_20 IAMs_20 21 21 15.7
comp=Z,1µm,21.0s
P48A Milroy 113.81 58 IAMs_20 IAMs_20 21 27 23.4
comp=Z,1µm,20.0s
V53A Saluda 113.97 62 IAMs_20 IAMs_20 21 23 39.7
comp=Z,1µm,20.0s
R50A Paris 114.05 59 IAMs_20 IAMs_20 21 35 19.9
comp=Z,1µm,18.0s
H43A Windswept, Lux 114.44 52 IAMs_20 IAMs_20 21 28 10.0
comp=Z,1µm,18.0s
F42A Maple Grove Fa 114.76 50 IAMs_20 IAMs_20 21 32 35.5
comp=Z,1µm,18.0s
KMSC Kings Mountain 114.81 63 IAMs_20 IAMs_20 21 31 11.1
comp=Z,1µm,18.0s
Y57A Sumter 115.01 65 IAMs_20 IAMs_20 21 34 10.3
comp=Z,1µm,18.0s
U54A Nelsons Funny 115.06 62 IAMs_20 IAMs_20 21 31 00.8
comp=Z,1µm,18.0s
Q51A Peebles 115.07 59 IAMs_20 IAMs_20 21 33 59.8
comp=Z,1µm,18.0s
V55A Taylorsville 115.21 63 IAMs_20 IAMs_20 21 34 26.7
comp=Z,1µm,18.0s
WMQ Urumqi 115.22 307 ePKP PKiKP 20 41 34.4 +1.7
WMQ LR LR
comp=Z,600nm,21.3s
WMQ LR LR
comp=Z,550nm,16.5s
WMQ LR LR
comp=Z,350nm,23.9s
I45A Fountain 115.25 53 IAMs_20 IAMs_20 21 30 03.5
comp=Z,957nm,20.0s
Y58A Scranton 115.50 65 IAMs_20 IAMs_20 21 33 33.3
comp=Z,1µm,18.0s
LBTB Lobatse 115.83 205 PKKP 20 52 32.0
comp=Z,3.2nm,1.0s,baz=51,slow=6.5,SNR=1.4
ACSO Alum Creek Sta 115.84 58 IAMs_20 IAMs_20 21 21 58.1
comp=Z,1µm,21.0s
J47A Sunmer 115.84 54 IAMs_20 IAMs_20 21 30 15.3
comp=Z,1µm,18.0s
X58A Rowland 116.03 65 IAMs_20 IAMs_20 21 35 10.3
comp=Z,994nm,18.0s
U56A King 116.03 63 IAMs_20 IAMs_20 21 35 45.4
comp=Z,1µm,18.0s
O52A Adamsville 116.59 58 IAMs_20 IAMs_20 21 23 05.4
comp=Z,1µm,21.0s
Y60A Bolivia 116.63 66 IAMs_20 IAMs_20 21 24 20.1
comp=Z,948nm,20.0s
GLMI Grayling 116.63 53 IAMs_20 IAMs_20 21 36 46.0
comp=Z,1µm,18.0s
V58A Windy Hill, Pi 116.73 64 IAMs_20 IAMs_20 21 34 30.7
comp=Z,1µm,18.0s
Q54A Coxs Mills 116.82 60 IAMs_20 IAMs_20 21 32 15.3
comp=Z,1µm,18.0s
K50A Casco 117.13 55 IAMs_20 IAMs_20 21 28 53.3
comp=Z,1µm,18.0s
T57A Hurt 117.13 62 IAMs_20 IAMs_20 21 31 26.5
comp=Z,1µm,18.0s
E46A Sault Ste Mari 117.44 51 IAMs_20 IAMs_20 21 31 47.4
comp=Z,1µm,18.0s
S57A Dark Hollow, R 117.67 62 IAMs_20 IAMs_20 21 42 51.6
comp=Z,1µm,18.0s
ZSN Zaisan 118.48 310 ePKP PKiKP 20 41 39.2 +0.3
ZSN Zaisan 118.48 310 ePKIKP PKiKP 20 41 39.1 +0.3
KOOLE Kule 119.44 201 PKPdf 20 41 39.9 -1.8
MK31 Makanchi Array 119.89 308 d iPKIKP PKPdf 20 41 41.2 -0.4
MKAR Makanchi Array 119.89 308 PKPdf 20 41 40.7 -0.9
MKAR Makanchi Array 119.89 308 PKP PKPdf 20 41 41.3 -0.3
comp=Z,1.4nm,0.6s,baz=107,slow=1.5,SNR=13
MKAR PKKPab PKKPbc 20 51 52.6 +1.5
comp=Z,0.5nm,0.8s,baz=322,slow=4.2,SNR=4.4
MKAR Makanchi Array 119.89 308 PKIKP PKPdf 20 41 40.7 -0.9
SHLS Shalkode 120.47 304 ePKP PKPdf 20 41 42.5 -0.5
SHLS Shalkode 120.47 304 ePKIKP PKPdf 20 41 42.4 -0.5
ZALV Zalesovo Beam 120.74 317 PKPdf 20 41 42.7 -0.2
ZALV Zalesovo Beam 120.74 317 PKP PKPdf 20 41 42.9 0.0
comp=Z,3.6nm,0.7s,baz=154,slow=1.7,SNR=12
ZALV Zalesovo Beam 120.74 317 PKIKP PKPdf 20 41 42.7 -0.2
UZB Uzynbulak 120.77 303 ePKP PKPdf 20 41 43.6 0.0
UZB Uzynbulak 120.77 303 ePKIKP PKPdf 20 41 43.5 0.0
SATY Saty 121.16 303 ePKP PKPdf 20 41 44.3 0.0
SATY Saty 121.16 303 ePKIKP PKPdf 20 41 44.3 0.0
MPOM Morne Pois Mar 121.29 94 IAMs_20 IAMs_20 21 34 52.2
comp=Z,933nm,20.0s
GDHS Morne Mazeau, 121.50 92 IAMs_20 IAMs_20 21 32 26.4
comp=Z,1µm,18.0s
KSH Kashi 121.62 299 PKP PKPdf 20 41 44.5 -0.8
KSH SKS SKSac 20 48 50.4 +5.8
KSH AMB AMB
comp=Z,230nm,12.3s
KSH LR LR
comp=Z,440nm,20.6s
KSH LR LR
comp=Z,390nm,15.8s
KSH LR LR
comp=Z,520nm,18.9s
TDK Taldyqorghan 121.82 305 ePKP PKiKP 20 41 45.6 0.0
TDK Taldyqorghan 121.82 305 ePKIKP PKiKP 20 41 45.5 0.0
MDOK Medeo 122.13 303 ePKP PKPdf 20 41 46.2 0.0
MDOK Medeo 122.13 303 ePKIKP PKPdf 20 41 46.1 0.0
KURK Kurchatov 123.42 312 PKPdf 20 41 47.3 -0.9
KURK Kurchatov 123.42 312 d iPKIKP PKPdf 20 41 48.0 -0.2
KURBB Kurchatov Arra 123.45 312 PKP PKPdf 20 41 48.2 0.0
comp=Z,6.5nm,0.7s,baz=118,slow=1.7,SNR=51
LSZ Lusaka 123.62 212 IAMs_20 IAMs_20 21 30 56.6
comp=Z,1µm,20.0s
AAK Ala-Archa 123.73 302 i PKIKP PKiKP 20 41 49.7 +0.2
TSUM Tsumeb 123.77 199 IAMs_20 IAMs_20 21 34 20.7
comp=Z,1µm,18.0s
SGDS Sogindy 123.90 303 ePKP PKPdf 20 41 49.4 -0.1
SGDS ePP PP 20 43 32.9 -0.6
BTLS Baital 124.78 304 ePKP PKPdf 20 41 51.0 0.0
BTLS ePP PP 20 43 38.9 -0.4
BTLS Baital 124.78 304 ePKIKP PKPdf 20 41 51.0 0.0
BTLS e 20 43 38.8
KKAR Karatay Array 126.67 301 PKPdf 20 41 53.8 -0.9
KKAR Karatay Array 126.67 301 PKIKP PKPdf 20 41 53.8 -0.9
IUG Iuzhnay 126.73 300 ePKP PKPdf 20 41 54.8 -0.2
IUG Iuzhnay 126.73 300 ePKIKP PKPdf 20 41 54.7 -0.2
BRLS Borolday 127.12 301 ePKP PKPdf 20 41 55.6 0.0
BRLS Borolday 127.12 301 ePKIKP PKPdf 20 41 55.5 0.0
TULEG Thule 128.49 16 IAMs_20 IAMs_20 21 46 16.9
comp=Z,1µm,19.0s
BVAR Borovoye Array 128.90 313 PKP PKPdf 20 41 58.9 +0.2
comp=Z,6.2nm,0.6s,baz=81,slow=1.7,SNR=19
BORK Borovoye 128.94 313⇓ iPKIKP PKPdf 20 41 58.9 +0.2
KIBK Kibwezi 129.01 231 IAMs_20 IAMs_20 21 39 37.2
comp=Z,1µm,19.0s
SVE Sverdlovsk 134.73 318 ePKIKP PKiKP 20 42 13.0 +2.1
MBAR Mbarara 134.84 225 IAMs_20 IAMs_20 21 38 12.3
comp=Z,855nm,20.0s
ABKAR Akbulak array 135.00 307 PKPdf 20 42 08.2 -2.0
LODK Lodwar 135.11 233 IAMs_20 IAMs_20 21 51 36.4
comp=Z,726nm,18.0s
ATD Arta Tunnel 135.28 249 IAMs_20 IAMs_20 21 46 47.2
comp=Z,788nm,18.0s
ARTI Arti 135.99 317 PKPdf 20 42 09.8 -2.1
ARTI Arti 135.99 317 i PKIKP PKPdf 20 42 12.1 +0.2
ARTI 20 44 51.2
ARTI PPP PPP 20 47 47.6
FURI Furi 136.70 242 IAMs_20 IAMs_20 21 46 17.8
comp=Z,1µm,18.0s
RAYN Ar Rayn 139.64 266 IAMs_20 IAMs_20 21 42 52.4
comp=Z,1µm,20.0s
KIRV Kirov 140.41 322 cePKIKP PKPdf 20 42 19.5 -0.4
APA Apatity 142.44 340⇓ iPKHKP PKPpre 20 42 18.5
APA e 20 45 28.4
BELG Belogornoye 142.69 312 d iPKIKP PKPdf 20 42 22.1 -2.0
ARA0 ARCESS Array S 142.84 346 ePKPdf PKPdf 20 42 22.8 -1.2
ARCES ARCESS Array B 142.84 346 PKPdf 20 42 22.9 -1.1

ARCES ARCESS Array B 142.84 346 PKhKP PKPpre 20 42 21.5
comp=Z,3.9nm,0.8s,baz=349,slow=0.9,SNR=12
ARCES ARCESS Array B 142.84 346 PKIKP PKPdf 20 42 22.9 -1.1
AKT Akhty 142.93 294 ePKIKP PKPdf 20 42 23.0 -2.1
AKT e 20 45 36.5
AKT pmax pmax
comp=Z,19nm,0.9s
MAK Makhachkala 143.22 297 eP Pdif 20 39 38.3 -10
MAK i 20 42 24.8
MAK e 20 45 33.9
MAK e 20 49 37.1
MAK e 20 58 09.6
KTK1 Kautokeino 143.72 347 ePKPdf PKPdf 20 42 25.7 +0.2
KLMR Klimovskoe 144.24 328 ePKIKP PKPdf 20 42 27.0 +0.4
KLMR pmax pmax
comp=Z,48nm,1.4s
GNI Garni 145.05 292 PKPbc 20 42 25.3 -3.1
GNI Garni 145.05 292 c iPKIKP PKPbc 20 42 27.7 -0.7
STEI Steigen 146.02 350 ePKPab PKPab 20 42 30.9 +0.1
LOF Lofoten 146.05 351 epPKPdf PKiKP 20 42 32.8 -1.0
NCK Nalchik 146.09 298⇑ ePKIKP PKPdf 20 42 29.5 -0.9
GOF Gofitskoye 146.46 300 cePKP2 PKPbc 20 42 32.1 -0.3
VRH Novokhopyorsk 146.52 312 ePKIKP PKPdf 20 42 31.0 +0.2
VRH pmax pmax
comp=Z,150nm,0.9s
FAUS Fauske 146.52 350 ePKPab PKPab 20 42 32.8 0.0
KBZ Khabaz 146.60 298 PKPbc PKPbc 20 42 32.0 -0.7
comp=Z,19nm,0.9s,baz=149,slow=2.2,SNR=22
KBZ Khabaz 146.60 298 c iPKP2 PKPdf 20 42 31.7 +0.5
NEUR Neytrino 146.74 297 i PKP2 PKPbc 20 42 33.5 0.0
KIV Kislovodsk 146.75 298 PKPdf 20 42 31.0 -0.6
KIV IAMs_20 IAMs_20 21 55 10.7
comp=Z,557nm,18.0s
KIV Kislovodsk 146.75 298 i PKP2 PKPbc 20 42 32.8 -0.6
KIV pmax pmax
comp=Z,18nm,1.1s
SHA1 Shidzhatmaz 146.77 298 dePKP2 PKPdf 20 42 32.2 +0.3
MOS Moscow 147.41 321 i PKP2 PKPbc 20 42 34.0 -0.7
VAGH Vaagaholmen 147.41 351 epPKPdf PKPbc 20 42 35.3 +0.9
RAUS Rausandaksla 147.59 350 epPKPdf PKPbc 20 42 35.6 +0.7
EDA Edea 147.72 198 PKPbc 20 42 37.8 +0.9
MOR8 Moi Rana 147.78 350 epPKPdf PKPbc 20 42 35.7 +0.3
LPSR Galich'ya Gora 147.82 315 ePKIKP PKPdf 20 42 34.4 +1.4
LPSR pmax pmax
comp=Z,50nm,1.0s
STOK Stokkvaagen 147.82 351 epPKPdf PKPbc 20 42 36.2 +0.8
VORR Voronezh 147.92 313 ePKIKP PKPbc 20 42 34.8 -1.4
VORR pmax pmax
comp=Z,70nm,1.0s
LEIR Leirfjorden 148.02 351 e PKiKP 20 42 37.3 -0.6
VORD Divnogorie 148.06 312 ePKIKP PKPdf 20 42 34.4 +1.0
VORD pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 148.07 312 ePKIKP PKPdf 20 42 34.8 +1.4
VSR pmax pmax
comp=Z,60nm,1.0s
LABN Labinsk 148.13 300 i PKP2 PKPbc 20 42 37.7 +0.7
LABN pmax pmax
comp=Z,20nm,0.8s
ERBR Yeremizino-Bor 148.21 302 i PKP2 PKiKP 20 42 38.0 -0.9
ERBR pmax pmax
comp=Z,29nm,0.7s
OBN Obninsk 148.22 320 PKPdf 20 42 34.4 +0.8
OBN Obninsk 148.22 320 ePKIKP PKPbc 20 42 35.6 -1.3
OBN e 20 46 06.4
OBN ePPP PPP 20 49 23.7
OBN pmax pmax
comp=Z,56nm,1.1s
VSLR Vesyoloye 148.68 298 c iPKP2 PKPbc 20 42 38.0 -0.5
SOC Sochi 148.91 298 ePKIKP PKPdf 20 42 36.4 +1.3
SOC e 20 46 17.1
SOC ePPP PPP 20 49 27.2
SOC eSSS SSS 21 11 00.5
SOC pmax pmax
comp=Z,35nm,0.9s
FIA1 FINESS Array S 149.04 336 PKPdf 20 42 36.0 +1.3
FINES FINESS Array B 149.04 336 PKPdf 20 42 35.7 +1.0
FINES FINESS Array B 149.04 336 PKPbc PKPbc 20 42 39.0 +0.2
comp=Z,34nm,0.7s,baz=80,slow=2.7,SNR=57
FINES FINESS Array B 149.04 336 PKP2 PKPbc 20 42 39.0 +0.2
NSS Namsos 149.68 350 e PKiKP 20 42 41.2 -0.1
ARPR Arapgir-MALATY 149.89 289 IAMs_20 IAMs_20 21 56 38.8
comp=Z,721nm,18.0s
ANN Anapa 150.45 300 i PKIKP PKPbc 20 42 42.6 -0.2
ANN e 20 42 45.4
ANN e 20 46 17.9
ANN pmax pmax
comp=Z,31nm,0.8s
VSU Vasula 150.91 332 c iPKIKP PKPbc 20 42 43.1 -0.3
HWQ Hawqa 151.15 279 eP PKPdf 20 42 34.8 -4.3
BHL Bhannes 151.31 278 eP PKPdf 20 42 41.6 +2.3
MMAI Mount Meron Ar 151.31 276 PKPbc PKiKP 20 42 45.8 0.0
comp=Z,13nm,0.6s,baz=101,slow=2.7,SNR=22
DBIC Dimbokro 151.32 168 PKPdf 20 42 38.5 -1.3
DBIC Dimbokro 151.32 168 PKPbc PKiKP 20 42 47.5 +1.3
comp=Z,20nm,1.0s,baz=212,slow=2.4,SNR=11
DBIC Dimbokro 151.32 168 PKIKP PKPdf 20 42 38.5 -1.3
MOL Molde 152.10 353 epPKPbc pPKPbc 20 42 49.7 +2.1
DOMB Dombas 152.45 352 e PKiKP 20 42 49.3 +2.1
AKN Aaknes 152.53 354 ePKPbc PKiKP 20 42 47.6 +0.2
MNK Minsk 152.89 324 i PKIKP PKiKP 20 42 49.2 +1.0
MNK i 20 46 33.6
MNK i PPP PPP 20 50 00.4
MNK i SS SS 21 06 07.7 +3.4
MNK i SSS SSS 21 11 56.4
MNK pmax pmax
comp=Z,40nm,0.8s
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
NB2 NORSAR Subarra 153.11 349 PKP PKiKP 20 42 48.8 +0.2
comp=Z,4.9nm,0.7s,baz=19,slow=2.5
NOA NORSAR Array B 153.11 349 PKPbc PKiKP 20 42 49.6 +1.1
comp=Z,2.2nm,0.9s,baz=21,slow=4.8,SNR=28
NC602 NORSAR Array S 153.34 348 ePKPbc PKPbc 20 42 49.0 +0.1
CSS Mathiatis 153.39 279 PKPbc 20 42 48.9 -1.0
HFS Hagfors 153.50 345 PKPbc PKPbc 20 42 49.0 -0.2
comp=Z,11nm,0.8s,baz=112,slow=1.6,SNR=15
HFS Hagfors 153.50 345 PKIKP PKPbc 20 42 49.0 -0.2
BRTR Keskin Array B 153.55 290 PKPbc 20 42 49.0 -1.2
BRTR Keskin Array B 153.55 290 PKPbc PKiKP 20 42 50.3 0.0
comp=Z,5.9nm,0.7s,baz=145,slow=3.0,SNR=28
BRTR Keskin Array B 153.55 290 PKIKP PKPbc 20 42 49.0 -1.2
PABE Paberze 154.03 329 PKiKP 20 42 50.8 +0.2
AKASG Malin Array Be 154.13 316 PKPbc PKPbc 20 42 50.6 -0.3
comp=Z,7.7nm,0.6s,baz=62,slow=2.5,SNR=22
KIEV Kiev 154.14 316 PKPbc 20 42 49.8 -1.1
KIEV Kiev 154.14 316 PKIKP PKPbc 20 42 49.8 -1.1
ANTO Ankara 154.20 290 PKPbc 20 42 49.3 -2.2
ANTO Ankara 154.20 290 IAMs_20 IAMs_20 21 58 26.1
comp=Z,668nm,20.0s
ANTO Ankara 154.20 290 PKIKP PKPbc 20 42 49.3 -2.2
ANTO MLR MLR
comp=Z,700nm,20.0s
ISP Isparta 155.95 285 IAMs_20 IAMs_20 21 53 49.0
comp=Z,888nm,20.0s
TORD Torodi Ar. Bea 158.21 182 PKPdf 20 42 48.1 -1.1
TORD Torodi Ar. Bea 158.21 182 PKP PKPdf 20 42 50.7 +1.5
comp=Z,1.4nm,0.8s,baz=238,slow=0.7,SNR=5.9
TORD PKPab pPKPab 20 43 24.5 +0.1
comp=Z,4.8nm,0.7s,baz=152,slow=3.0,SNR=10
KARP Karpathos 158.47 279 IAMs_20 IAMs_20 22 00 31.5
comp=Z,736nm,20.0s
RGN Rugen 158.60 340 IAMs_20 IAMs_20 21 49 20.7
comp=Z,799nm,20.0s
EKA Eskdalemuir Ar 159.50 6 PKPab PKPab 20 43 25.8 -1.7
comp=Z,2.5nm,0.8s,baz=360,slow=5.4,SNR=3.8
OKC Ostrava-Krasne 160.48 325 AMS AMS 22 15 00.0
comp=Z,900nm,21.2s
OSTC Ostas 160.84 329 AMS AMS 22 00 00.0
comp=Z,900nm,21.2s
KRLC Kraliky 160.94 327 AMS AMS 22 13 20.0
comp=Z,800nm,16.4s
DPC Dobruska-Polom 160.94 328 ePKP2 PKPab 20 43 35.8 +1.7
DPC MLR MLR
comp=Z,600nm,16.7s
DPC Dobruska-Polom 160.94 328 ePKPAB PKPab 20 43 35.8 +1.7
DPC AMS AMS 22 13 40.0
comp=Z,600nm,16.7s
UPC Upice 160.96 329 AMS AMS 22 00 20.0
comp=Z,800nm,21.2s
CLL Collm 161.48 335 i PKP2 PKPab 20 43 37.7 +1.5
CLL pmax pmax

comp=Z,59nm,2.2s
CLL Collm 161.48 335 *e*PKPdf **PKPdf 20 42 51.0 -0.8**
CLL *i* PKPab **PKPab 20 43 37.7 +1.5**
comp=Z,59nm,2.2s
CLL *e*PP **PP 20 47 21.0 +1.6**
CLL *ex* x 20 54 19.0
CLL *e*PSKS 20 57 43.0
CLL LmV 22 09 00.0
comp=Z,800nm,18.7s
BRG Berggiesshubel 161.50 333 *e*PKP PKPdf 20 43 00.5 +8.7
BRG Amp 20 43 02.5
comp=Z,2.6nm,0.9s
BRG Berggiesshubel 161.50 333 PP PP 20 47 21.0 +1.4
VRAC Vranov 161.58 326 *e*PKP **PKPab 20 43 38.2 +1.4**
KRUC Moravsky 161.84 325 *e*PKP **PKPab 20 43 38.5 +0.5**
HSKC Hora Svate Kat 161.90 333 AMS AMS 22 14 40.0
comp=Z,800nm,18.5s
PRA Prague 161.95 331 AMS AMS 22 09 50.0
comp=Z,800nm,18.0s
PRU Pruhonice 161.97 330 AMS AMS 22 13 30.0
comp=Z,800nm,19.3s
TREC Trest 162.09 327 AMS AMS 22 08 10.0
comp=Z,800nm,18.7s
ZVC Zvikov 162.53 330 *e*PKPAB **PKPab 20 43 42.6 +1.6**
ZVC AMS AMS 22 08 30.0
comp=Z,800nm,19.6s
CKRC Cesky Krumlov 162.96 328 AMS AMS 22 09 10.0
comp=Z,900nm,18.8s
KHC Kasperske Hory 163.03 330 *e*PKP2 **PKPab 20 43 44.5 +1.3**
KHC MLR MLR
comp=Z,700nm,18.4s
KHC Kasperske Hory 163.03 330 *e*PKPAB **PKPab 20 43 44.5 +1.3**
KHC AMS AMS 22 17 10.0
comp=Z,700nm,18.4s
GERES GERESS Array B 163.20 329 PKPab **PKPab 20 43 43.2 -0.9**
comp=Z,1.6nm,1.0s,baz=307,slow=3.6,SNR=2.7
KEST Kesra 172.96 278 PKPab **PKPab 20 44 27.6 -0.2**
comp=Z,5.9nm,0.8s,baz=41,slow=11,SNR=4.6
ESDC Sonseca Array 174.01 38 PKP **PKPdf 20 43 01.9 +0.8**
comp=Z,1.0nm,0.9s,baz=331,slow=2.6,SNR=3.2

WEL ***09*** *21:16:25.7±0.8, 35°S±6°×17°9W±1°, h12km, M4.6/19, mB4.8/5, ML5.0/18, MLv4.8/19, Mw(mB)4.0/5, Error ellipse: s-maj=15.1km s-min=4.5km az=114.3, confirmed*
NEIC ***09*** *21:16:29.4±1.8, 35.°08S±0.°09×179.°3W±0.°1, h10km±1km, mb4.5/16, Error ellipse: s-maj=18.5km s-min=14.7km az=76.0*
IDC ***09*** *21:16:33.5±3.4, 34.°66S×179.°40W, h42km±29km, mb4.2/8, mbtmp4.4/9, ML3.8/1, MS4.3/4, Error ellipse: s-maj=21.8km s-min=18.2km az=35.0*
NOU ***09*** *21:16:35.6, 35.°43S×179.°29W, h89km, MLv4.7/8, East of North Island, N.Z.*
GCMT ***09*** *21:16:36.4±0.3, 34.°93S±0.°03×178.°75W±0.°03, h22km±1km, MW5.0/87, Moment Tensor Solution. s39,c48; s87,c116; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.04±.28; Mθθ-0.48±.17; Mϕϕ-3.56±.18; Mrθ-0.20±.27; Mθϕ-1.15±.10; Mϕr2.69±.26; Best double couple: M0 4.81200×10^16 NP1:ϕs209.00000°, δ30.00000°, λ110.00000°. NP2: ϕs6.00000°, δ62.00000°, λ79.00000°. Principal axes: T 4.9500, Plg71.0000°, Azm252.0000°; N -0.2760, Plg10.0000°, Azm12.0000°; P -4.6730, Plg16.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 21:16:29.6±0.5, 34°95S±0.°05×179°23W±0.°08, h10km, n103, σ2°59/90, mb4.5/17, MS4.6/3, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.28**	**217**		Pn	21 17 18.6	-2.4
MXZ	**Matakaoa Point**	**3.28**	**217**	P	**Pn**	**21 17 19.0**	**-2.0**
MXZ	**Matakaoa Point**	**3.28**	**217**	P	**Pn**	**21 17 19.1**	**-1.9**
MXZ				S	**Sn**	**21 17 58.7**	**-1.4**
MXZ				T		21 20 42.1	
WMGZ	**Waiomatatini S**	**3.44**	**213**	P	**Pn**	**21 17 22.4**	**-0.8**
WMGZ				S	**Sn**	**21 18 03.8**	**-0.1**
HAZ	**Te Kaha**	**3.69**	**220**	P	**Pn**	**21 17 25.4**	**-1.4**
HAZ				S	**Sn**	**21 18 11.5**	**+1.2**
PUZ	**Puketiti**	**3.71**	**212**	P	**Pn**	**21 17 25.5**	**-1.6**
PUZ				S	**Sn**	**21 18 09.2**	**-1.7**
RUGZ	**Raukumara Rang**	**3.91**	**219**	P	**Pn**	**21 17 29.0**	**-0.8**
RUGZ				S	**Sn**	**21 18 16.3**	**+0.6**
TWGZ	**Tauwhareparae**	**3.92**	**214**	P	**Pn**	**21 17 29.6**	**-0.3**
TWGZ				S	**Sn**	**21 18 16.0**	**-0.1**
CNGZ	**Carnagh Statio**	**4.08**	**209**	P	**Pn**	**21 17 31.2**	**-0.9**
CNGZ				S	**Sn**	**21 18 17.9**	**-2.0**
TKGZ	**Te Karaka**	**4.20**	**213**	P	**Pn**	**21 17 32.6**	**-1.1**
TKGZ				S	**Sn**	**21 18 20.8**	**-2.0**
MWZ	**Matawai**	**4.27**	**217**	P	**Pn**	**21 17 33.1**	**-1.6**
MWZ				S	**Sn**	**21 18 23.7**	**-0.8**
MYRZ	**Mayor Island**	**4.34**	**236**	P	**Pn**	**21 17 36.4**	**+0.8**
URZ	**Urewera**	**4.42**	**221**	P	**Pn**	**21 17 35.3**	**-1.4**
	123nm,0.7s,baz=237,slow=1.3,SNR=71						
URZ				S	**Sn**	**21 18 26.9**	**-1.3**
	123nm,0.5s,baz=266,slow=6.7,SNR=7.4						
URZ				LR	LR	21 19 31.3	
	comp=Z,1μm,21.9s,baz=59,slow=39						
URZ	**Urewera**	**4.42**	**221**	P	**Pn**	**21 17 35.1**	**-1.6**
URZ	**Urewera**	**4.42**	**221**	P	**Pn**	**21 17 35.0**	**-1.8**
URZ				S	**Sn**	**21 18 26.5**	**-1.8**
RIGZ	**Rimuhau**	**4.46**	**212**	P	**Pn**	**21 17 36.1**	**-1.2**
RIGZ				S	**Sn**	**21 18 25.2**	**-4.0**
OPRZ	**Ohinepanea**	**4.46**	**228**	P	**Pn**	**21 17 36.6**	**-0.6**
KUZ	**Kuaotunu**	**4.47**	**245**	P	**Pn**	**21 17 38.0**	**+0.6**
KUZ	**Kuaotunu**	**4.47**	**245**	P	**Pn**	**21 17 38.0**	**+0.6**
GRZ	**Great Barrier**	**4.52**	**252**	P	**Pn**	**21 17 39.3**	**+1.3**
RTZ	**Ruatahuna**	**4.76**	**219**		Pn	21 17 38.6	-2.8
TOZ	**Tahuroa Road**	**5.08**	**235**		**Pn**	**21 17 44.7**	**-1.0**
MBAZ	**Motutapu North**	**5.10**	**247**	P	**Pn**	**21 17 46.8**	**+0.8**
ETAZ	**East Tamaki Re**	**5.14**	**245**	P	**Pn**	**21 17 47.3**	**+0.7**
WCZ	**Waipu Caves**	**5.33**	**257**	P	**Pn**	**21 17 48.8**	**-0.5**
AWAZ	**Awhitu Peninsu**	**5.39**	**245**	P	**Pn**	**21 17 50.7**	**+0.7**
WTAZ	**Waiatarua**	**5.40**	**247**	P	Pn	21 17 47.3	-2.9
BKZ	**Black Stump Fm**	**5.42**	**218**		Pn	21 17 47.5	-3.0
BKZ	**Black Stump Fm**	**5.42**	**218**	P	**Pn**	**21 17 48.8**	**-1.7**
GLKZ	**Green Lake**	**5.78**	**11**	P	Pn	21 17 48.3	-7.1
GLKZ				S	**Sn**	**21 18 55.6**	**-6.1**
RAO	**Raoul Island**	**5.79**	**11**	P	Pn	21 17 48.3	-7.2
	231nm,0.3s,baz=151,slow=20,SNR=2.7						
RAO				S	**Sn**	**21 18 56.4**	**-5.6**
	275nm,0.6s,baz=93,slow=22,SNR=1.7						
RIZ	**Raoul Island**	**5.79**	**11**	P	Pn	21 17 49.3	-6.2
OUZ	**Omahuta**	**5.88**	**265**	P	**Pn**	**21 17 59.1**	**+2.3**
OUZ	**Omahuta**	**5.88**	**265**	P	**Pn**	**21 17 59.2**	**+2.4**
HIZ	**Hauiti**	**5.93**	**231**		Pn	21 17 55.0	-2.4
HIZ	**Hauiti**	**5.93**	**231**	P	**Pn**	**21 17 56.9**	**-0.6**
BFZ	**Birch Farm**	**6.75**	**211**		Pn	21 18 04.1	-4.6
MRZ	**Mangatainoka R**	**7.03**	**214**		Pn	21 18 07.5	-5.0
CTZ	**Chatham Island**	**9.01**	**168**		**Pn**	**21 18 36.3**	**-3.3**
CTZ	**Chatham Island**	**9.01**	**168**	P	**Pn**	**21 18 36.5**	**-3.1**
CTZ	**Chatham Island**	**9.01**	**168**	P	Pn	21 18 35.9	-3.7
CTZ				S	Sn	21 20 05.7	-15
KHZ	**Kahutara**	**9.35**	**215**	Pn	Pn	21 18 40.7	-3.7
KHZ	**Kahutara**	**9.35**	**215**	P	Pn	21 18 41.1	-3.3
LTZ	**Lake Taylor**	**10.24**	**218**	Pn	Pn	21 18 52.4	-4.3
RPZ	**Rata Peaks**	**11.53**	**218**	Pn	Pn	21 19 09.2	-5.1
RPZ	**Rata Peaks**	**11.53**	**218**	P	Pn	21 19 10.2	-4.0
	5.3nm,0.4s,baz=46,slow=13,SNR=1.9						
RPZ				S	Sn	21 21 07.3	-16
	8.9nm,0.7s,baz=107,slow=15,SNR=1.4						
ODZ	**Otahua Downs**	**12.71**	**214**	Pn	Pn	21 19 26.4	-3.9
MSVF	**Nonsavu**	**17.32**	**351**		**Pn**	**21 20 32.0**	**+0.5**
ONTNC	**Ouen Toro**	**17.76**	**311**		**Pn**	**21 20 38.4**	**+1.4**
ONTNC				IAmb	IAmb	21 20 59.4	
	comp=Z,46nm,1.1s						
DZM	**Mont Dzumac**	**17.95**	**312**	*e*P	Pn	21 20 31.1	-8.3
	comp=Z,262nm,24.4s						
DZM				*e*LR	LR	21 24 44.3	
	comp=Z,2μm,23.4s						
DZM	**Mont Dzumac**	**17.95**	**312**		**Pn**	**21 20 40.1**	**+0.7**
DZM				IAmb	IAmb	21 20 57.1	
	comp=Z,35nm,1.4s						
DZM	**Mont Dzumac**	**17.95**	**312**	P	Pn	21 20 35.4	-3.9
	comp=Z,0.4nm,0.3s,baz=131,slow=16,SNR=3.7						
DZM				LR	LR	21 26 40.2	
	comp=Z,2μm,19.0s,baz=104,slow=34						
	comp=Z,8.4nm,1.1s						
EIDS	**Eidsvold**	**27.30**	**282**	P	**P**	**21 22 13.9**	**-0.6**
EIDS				IAmb	IAmb	21 22 30.2	
	comp=Z,18nm,1.3s						
PPT2	**Papeete2**	**31.55**	**64**	*e*LR	LR	21 31 00.3	
	comp=Z,712nm,25.8s						
PPT2				*e*LR	LR	21 31 01.8	
	comp=Z,631nm,29.0s						
STKA	**Stephens Creek**	**32.70**	**264**	P	**P**	**21 23 01.2**	**-1.0**
STKA	**Stephens Creek**	**32.70**	**264**	P	**P**	**21 23 01.0**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=124,slow=11,SNR=6.1						
STKA				LR	LR	21 34 54.5	
	comp=Z,339nm,18.5s,baz=76,slow=34						
	comp=Z,4.2nm,0.8s						
CTAO	**Charters Tower**	**33.81**	**287**	P	**P**	**21 23 11.2**	**-0.8**
INKA	**Innaminka**	**34.75**	**271**	P	**P**	**21 23 18.8**	**-1.3**
INKA				IAmb	IAmb	21 23 21.4	
	comp=Z,6.8nm,1.1s						
RABL	**Rabaul**	**40.47**	**313**	P	**P**	**21 24 07.2**	**-1.5**
AS31	**Alice Springs**	**42.04**	**273**	P	**P**	**21 24 20.2**	**-1.4**
AS31				IAmb	IAmb	21 24 21.1	
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**42.05**	**273**	P	P	21 24 19.9	-1.7
	comp=Z,9.9nm,0.7s,baz=114,slow=7.5,SNR=90						
ASAR				PcP	**PcP**	**21 26 13.9**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=116,slow=6.9,SNR=1.9						
ASAR				S	**S**	**21 30 36.0**	**-4.9**
	comp=Z,0.8nm,0.9s,baz=112,slow=14,SNR=6.1						
	comp=Z,9.9nm,0.7s						
WRA	**Warramunga Arr**	**43.45**	**278**		P	21 24 31.1	-1.9
WRA	**Warramunga Arr**	**43.45**	**278**	P	P	21 24 30.9	-2.0
	comp=Z,7.7nm,0.8s,baz=123,slow=7.4,SNR=28						
WRA				PcP	**PP**	**21 26 18.7**	**+4.8**
	comp=Z,0.8nm,0.8s,baz=133,slow=4.9,SNR=1.5						
	comp=Z,7.7nm,0.8s						
VNDA	**Vanda**	**43.48**	**186**	P	**P**	**21 24 34.0**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=313,slow=5.3,SNR=2.4						
WB0	**Warramunga Arr**	**43.49**	**278**		P	21 24 31.6	-1.7
FORT	**Forrest**	**44.05**	**260**	P	P	21 24 35.1	-2.6
FORT				IAmb	IAmb	21 24 48.7	
	comp=Z,9.5nm,0.8s						
TAOE	**Nuku Hiva Isla**	**44.16**	**63**	*e*LR	LR	21 36 51.1	
	comp=Z,328nm,27.6s						
FITZ	**Fitzroy Crossi**	**51.48**	**274**	P	**P**	**21 25 33.9**	**-1.5**
QSPA	**South Pole Qui**	**55.17**	**180**		**P**	**21 26 03.8**	**+1.6**
QSPA				IAmb	IAmb	21 26 24.0	
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**55.17**	**180**	P	**P**	**21 26 04.2**	**+2.0**
	comp=Z,2.7nm,0.7s,baz=24,slow=1.8,SNR=19						
	comp=Z,2.7nm,0.7s						
BELA	**Belgrano 2**	**65.43**	**172**	P	**P**	**21 27 11.1**	**-0.9**
BELA				IAmb	IAmb	21 27 29.9	
	comp=Z,3.8nm,1.0s						
MAW	**Mawson**	**67.70**	**201**	P	**P**	**21 27 27.6**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=108,slow=7.6,SNR=5.4						
	comp=Z,1.8nm,0.8s						
TROLL	**Troll, Antarti**	**73.33**	**181**	⇑P	P	21 27 58.2	-2.9
	comp=Z,98nm,0.8s						
SNAA	**Sanae**	**73.65**	**179**	⇑P	P	21 27 55.6	-7.3
	comp=Z,23nm,0.4s						
VNA3	**Neumayer Olymp**	**73.84**	**177**	⇑P	**P**	**21 28 03.3**	**-0.7**
	comp=Z,5.5nm,0.8s						
SBUM	**Sibu**	**73.98**	**285**	P	P	21 28 03.3	-2.3
VNA2	**Neumayer--Watz**	**74.26**	**177**	⇑P	**P**	**21 28 05.7**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=174,slow=5.9						
PSI	**Prapat**	**84.91**	**277**	LR	LR	22 06 40.4	
	comp=Z,273nm,21.9s,slow=36						
KSRS	**Korea Array**	**87.16**	**321**	P	P	21 29 12.3	-3.4
	comp=Z,0.8nm,0.7s,baz=136,slow=8.3,SNR=4.4						
	comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**89.96**	**346**	P	**P**	**21 29 27.9**	**-0.6**
	comp=Z,14nm,0.9s,baz=182,slow=6.8,SNR=6.8						
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.93**	**290**	P	**P**	**21 29 46.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=140,slow=3.3,SNR=7.9						
CMAR				PP	**PP**	**21 33 31.9**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=120,slow=8.7,SNR=5.0						
	comp=Z,0.7nm,0.6s						
PZH	**PanZhiHua**	**96.48**	**298**	P	**P**	**21 30 00.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**98.64**	**314**	*e*P	**P**	**21 30 10.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
WMQ	**Urumqi**	**115.17**	**307**	*e*PKP	**PKPdf**	**21 35 09.0**	**-1.9**
WMQ				LR	LR		
	comp=Z,170nm,21.5s						
MKAR	**Makanchi Array**	**119.84**	**308**	PKP	**PKPdf**	**21 35 16.3**	**-3.5**
	comp=Z,1.1nm,0.9s,baz=64,slow=3.4,SNR=7.2						
ZALV	**Zalesovo Beam**	**120.68**	**317**	PKP	**PKPdf**	**21 35 18.9**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=143,slow=0.7,SNR=6.0						
KURBB	**Kurchatov Arra**	**123.40**	**312**	PKP	**PKPdf**	**21 35 24.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=107,slow=1.8,SNR=5.0						
BVAR	**Borovoye Array**	**128.85**	**313**	PKP	**PKPdf**	**21 35 36.0**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=100,slow=3.5,SNR=5.8						
ARCES	**ARCESS Array B**	**142.77**	**346**	PKP	**PKPdf**	**21 35 58.7**	**-3.4**
	comp=Z,2.4nm,0.8s,baz=51,slow=1.9,SNR=5.3						
KBZ	**Khabaz**	**146.56**	**298**	PKPbc	**PKPdf**	**21 36 08.8**	**-0.7**
	comp=Z,7.4nm,1.0s,baz=155,slow=3.2,SNR=14						
GURO	**Guroymak-BITLI**	**146.94**	**289**	PKPbc	**PKPdf**	**21 36 10.9**	**+0.5**
FINES	**FINESS Array B**	**148.97**	**337**	PKPbc	**PKPdf**	**21 36 15.7**	**+2.9**
	comp=Z,12nm,0.7s,baz=90,slow=4.4,SNR=40						
MMAI	**Mount Meron Ar**	**151.29**	**276**	PKPbc	**PKPdf**	**21 36 22.5**	**+4.9**
	comp=Z,14nm,0.9s,baz=101,slow=3.0,SNR=9.7						
DBIC	**Dimbokro**	**151.38**	**168**	PKPbc	**PKPdf**	**21 36 23.1**	**+4.9**
	comp=Z,5.8nm,0.9s,baz=168,slow=2.6,SNR=3.6						
BNN	**Bunyan**	**151.78**	**288**	PKPbc	**PKPdf**	**21 36 23.1**	**+4.9**
NB2	**NORSAR Subarra**	**153.04**	**349**	PKP	**PKPbc**	**21 36 25.5**	**-1.1**
	comp=Z,13nm,1.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.04**	**349**	PKPbc	**PKPdf**	**21 36 24.1**	**+4.9**
	comp=Z,2.7nm,0.8s,baz=13,slow=4.0,SNR=9.3						
HFS	**Hagfors**	**153.43**	**346**	PKPbc	**PKPdf**	**21 36 25.7**	**+5.9**
	comp=Z,3.2nm,0.8s,baz=60,slow=3.9,SNR=5.1						
ILGA	**Ilgaz**	**153.43**	**293**	PKPbc	**PKPdf**	**21 36 26.9**	**+6.2**
BRTR	**Keskin Array B**	**153.52**	**290**	PKPbc	**PKPdf**	**21 36 26.9**	**+6.1**
BRTR	**Keskin Array B**	**153.52**	**290**	PKPbc	**PKPdf**	**21 36 26.4**	**+5.7**
	comp=Z,2.9nm,0.9s,baz=143,slow=3.3,SNR=14						
AKASG	**Malin Array Be**	**154.07**	**316**	PKPbc	**PKPdf**	**21 36 27.0**	**+6.0**
	comp=Z,1.8nm,0.7s,baz=68,slow=2.2,SNR=7.4						
TORD	**Torodi Ar. Bea**	**158.28**	**182**	PKPab	**PKPab**	**21 37 00.4**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=132,slow=3.2,SNR=4.3						

IDC ***09*** *21:26:06.9±0.5, 15.°52S×173.°24W, h0km, mb4.7/19, mbtmp4.7/19, MS4.5/42, Error ellipse: s-maj=20.6km s-min=14.7km az=131.0*
MOS ***09*** *21:26:07.9±1.1, 15.°42S×173.°09W, h10km, mb5.2/24, Error ellipse: s-maj=16.7km s-min=10.1km az=95.6*
NEIC ***09*** *21:26:08.2, 15.°52S×173.°01W, h26km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16 Nm; Mrr4.74; Mθθ 1.04; Mϕϕ-5.77; Mrθ4.37; Mθϕ-0.93; Mϕr4.84; Fault plane solution: M0 8.48000×10^16 NP1: ϕs163.31000°, δ26.79000°, λ43.24000°. NP2: ϕs33.30000°, δ72.01000°, λ110.20000°. Principal axes: T 8.5724, Plg58.0000°, Azm331.0000°; N -0.1952, Plg19.0000°, Azm207.0000°; P -8.3773, Plg24.0000°, Azm108.0000°;*
NEIC ***09*** *21:26:08.2, 15.°52S×173.°01W, h26km*
BJI ***09*** *21:26:08.4, 14.°59S×172.°38W, h10km, mB5.6/6, mb5.0/19, Ms5.2/5, Ms7 4.9/6*
NEIC ***09*** *21:26:09.4±2.2, 15.°31S±0.°06×172.°82W±0.°07, h10km±1km, mb5.1/70, Mww5.2/10, Error ellipse: s-maj=11.7km s-min=9.3km az=124.0*
NOU ***09*** *21:26:12.1, 14.°16S×172.°87W, h111km, mb4.9/10, Samoa Islands*
GCMT ***09*** *21:26:15.4±0.2, 15.°37S±0.°01×172.°94W±0.°01, h34km, MW5.2/130, Moment Tensor Solution. s92,c125; s130,c207; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.61±.02; Mθθ0.17±.01; Mϕϕ-0.78±.01; Mrθ0.44±.02; Mθϕ-0.22±.01; Mϕr0.39±.02; Best double couple: M0 0.95000×10^17 NP1: ϕs166.00000°, δ34.00000°, λ46.00000°. NP2: ϕs36.00000°, δ66.00000°, λ115.00000°. Principal axes: T 0.9130, Plg61.0000°, Azm343.0000°; N 0.0730, Plg23.0000°, Azm205.0000°; P -0.9870, Plg18.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 21:26:11.0±0.3, 15.°39S±0.°06×172.°93W±0.°05, h29km, n551, σ1°85/511, mb5.0/71, MS4.6/46, 63C-17D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.85**	**37**	Pn	**Pn**	**21 26 37.7**	**-3.2**
AFI					**Sn**	**21 26 59.0**	**-4.3**
AFI	**Afiamalu**	**1.85**	**37**	P	**Pn**	**21 26 37.7**	**-3.2**
AFI						21 26 59.0	
NIUE	**Niue**	**4.65**	**142**	Pn	**Pn**	**21 27 17.4**	**-2.0**
FUTU	**Fugatoga**	**5.13**	**281**		**Pn**	**21 27 25.6**	**-0.4**
TAVE	**Taveuni**	**6.83**	**258**	P	Pn	21 27 56.3	+7.0
DGTI	**Dogotuki**	**7.12**	**262**	P	**Pn**	**21 27 57.4**	**+4.2**
MSVF	**Nonsavu**	**8.96**	**254**		Pn	21 28 23.1	+4.6
MSVF	**Nonsavu**	**8.96**	**254**	P	Pn	21 28 24.7	+6.1
MSVF	**Nonsavu**	**8.96**	**254**	*d* *i*P	Pn	21 28 23.5	+4.9
FUNA	**Funafuti**	**10.29**	**311**	Pn	**Pn**	**21 28 35.8**	**-0.9**
RAR	**Rarotonga**	**13.77**	**117**	Pn	**Pn**	**21 29 22.1**	**-2.2**
RAR	**Rarotonga**	**13.77**	**117**	Pn	**Pn**	**21 29 23.0**	**-1.3**
	7.2nm,0.3s,baz=259,slow=11,SNR=9.2						
RAR				LR	LR	21 33 40.1	
	comp=Z,2μm,18.6s,baz=304,slow=32						
RAR	**Rarotonga**	**13.77**	**117**	P	**Pn**	**21 29 22.1**	**-2.2**
RAO	**Raoul Island**	**14.54**	**198**	LR	LR	21 33 56.5	
	comp=Z,1μm,19.6s,baz=50,slow=33						
SANVU	**Saraoutou**	**19.16**	**267**	P	**Pn**	**21 30 33.1**	**-0.1**
SANVU				IAmb	IAmb	21 30 35.6	
	comp=Z,68nm,0.9s						
PINNC	**Pines Island,**	**19.88**	**246**	P	**P**	**21 30 39.1**	**-1.1**
PINNC				IAmb	IAmb	21 30 53.1	
	comp=Z,70nm,0.8s						
YATNC	**Mamie plateau,**	**20.22**	**248**	P	Pn	21 30 45.5	-0.4
OUENC	**Ouen Island, N**	**20.36**	**247**	P	Pn	21 30 45.8	-1.7
DZM	**Mont Dzumac**	**20.62**	**248**	*e*P	**P**	**21 30 47.3**	**-1.0**
	comp=Z,110nm,1.1s						
DZM				*e*S	**S**	**21 34 38.1**	**+0.6**
	comp=Z,551nm,28.4s						
DZM				*e*LR	LR	21 35 48.7	
	comp=Z,3μm,24.6s						
DZM	**Mont Dzumac**	**20.62**	**248**		**P**	**21 30 46.9**	**-1.4**
DZM	**Mont Dzumac**	**20.62**	**248**	P	**P**	**21 30 44.9**	**-3.4**
	comp=Z,6.2nm,0.6s,baz=95,slow=18,SNR=15						
	comp=Z,6.2nm,0.6s						
DZM	**Mont Dzumac**	**20.62**	**248**	P	**P**	**21 30 47.9**	**-0.4**
ONTNC	**Ouen Toro**	**20.68**	**247**		**P**	**21 30 47.2**	**-1.5**
TARA	**Tarawa**	**21.74**	**319**	P	**P**	**21 31 00.2**	**0.0**
TARA				IAmb	IAmb	21 31 02.7	
	comp=Z,92nm,1.0s						
PPT	**Papeete**	**22.50**	**99**	LR	LR	21 37 31.1	
	comp=Z,1μm,20.8s,baz=282,slow=30						
PPT2	**Papeete2**	**22.50**	**99**	*e*S	**S**	**21 35 08.4**	**-5.4**
	comp=Z,1μm,29.0s						
PPT2				*e*LR	LR	21 36 27.1	
	comp=Z,3μm,25.0s						
PPT2				*e*LR	LR	21 36 32.9	
	comp=Z,2μm,27.5s						
OUZ	**Omahuta**	**23.15**	**209**	P	**P**	**21 31 18.2**	**+3.2**
MXZ	**Matakaoa Point**	**23.41**	**198**	P	**P**	**21 31 22.1**	**+4.6**
RTZ	**Ruatahuna**	**24.78**	**199**	P	**P**	**21 31 31.7**	**+1.2**
HNR	**Honiara**	**27.13**	**279**	LR	LR	21 41 06.2	
	comp=Z,2μm,18.8s,baz=117,slow=34						
TCW	**Tory Channel**	**28.02**	**201**	P	**P**	**21 31 59.8**	**+0.3**
QRZ	**Quartz Range**	**28.32**	**204**	P	**P**	**21 32 05.7**	**+3.5**
KHZ	**Kahutara**	**29.34**	**201**	P	**P**	**21 32 14.8**	**+3.6**
RPZ	**Rata Peaks**	**31.36**	**203**	LR	LR	21 44 43.1	
	comp=Z,1μm,18.1s,baz=40,slow=36						
TAOE	**Nuku Hiva Isla**	**32.67**	**82**	*e*LR	LR	21 41 12.5	
	comp=Z,1μm,26.3s						
EIDS	**Eidsvold**	**35.07**	**248**	P	**P**	**21 32 58.7**	**-3.0**
EIDS				IAmb	IAmb	21 33 17.0	
	comp=Z,30nm,1.6s						
ARMA	**Armidale**	**35.73**	**239**	P	**P**	**21 33 04.8**	**-2.7**
ARMA				IAmb	IAmb	21 33 07.4	
	comp=Z,78nm,2.0s						
CTA	**Charters Tower**	**39.09**	**257**	LR	LR	21 47 22.6	
	comp=Z,23nm,19.8s,baz=64,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.19**	**328**	T	T	22 14 55.6	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.21**	**328**	T	T	22 14 57.3	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.21**	**328**	T	T	22 14 57.9	
	baz=149,slow=76						
WAKE	**Wake Island**	**39.89**	**329**	P	**P**	**21 33 42.4**	**-0.1**
H11N3	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	22 16 24.7	
	baz=150,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	22 16 12.3	
	baz=150,slow=76						
H11N2	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	22 16 13.5	
	baz=150,slow=76						
COEN	**Coen**	**42.44**	**266**	P	**P**	**21 34 02.0**	**-1.6**
COEN				IAmb	IAmb	21 34 03.6	
	comp=Z,35nm,1.0s						
TOO	**Toolangi**	**42.82**	**231**	P	**P**	**21 34 06.2**	**-0.3**
TOO	**Toolangi**	**42.82**	**231**	P	**P**	**21 34 06.3**	**-0.3**
TOO				pmax	pmax		
	comp=Z,

NIKH	Nikolski High	68.17	3	P	P	21 37 10.6 +2.3
	baz=184					
UNV	Unalaska Valle	69.18	4	P	P	21 37 16.6 +2.1
	baz=186					
MJA0	Matsu Arr-Jizo	69.20	320	*e*P	P	21 37 18.0 +2.8
MJA0				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MJAR	Matsushiro Arr	69.23	320	P	P	21 37 13.6 -1.8
MJAR				IAmb	IAmb	21 37 31.9
	comp=Z,19nm,2.0s					
MJAR	Matsushiro Arr	69.23	320	P	P	21 37 15.3 -0.1
	comp=Z,3.9nm,1.0s,baz=167,slow=6.0,SNR=5.4					
MJAR				LR	LR	22 01 42.1
	comp=Z,634nm,22.0s,baz=124,slow=31					
	comp=Z,3.9nm,1.0s					
MAJO	Matsushiro	69.23	320⇓	*e*P	P	21 37 16.9 +1.6
CASY	Casey	70.60	205	P	P	21 37 22.3 -1.0
CASY				IAmb	IAmb	21 37 52.6
	comp=Z,33nm,1.8s					
JOW	Kunigami	70.85	306	LR	LR	22 02 06.1
	comp=Z,554nm,21.4s,baz=116,slow=30					
CHNA	Chernabura Isl	70.86	8	P	P	21 37 26.9 +2.0
	baz=194					
S12K	Black Hills	71.41	6	P	P	21 37 30.6 +2.3
	baz=191					
TGY	Tagaytay City	71.65	291	LR	LR	22 04 16.9
	comp=Z,540nm,20.9s,baz=112,slow=32					
ASAJ	Asahikawa	71.78	328	P	P	21 37 31.0 +0.4
	comp=Z,14nm,1.0s,baz=87,slow=1.4,SNR=2.7					
	comp=Z,14nm,1.0s					
JNU	Nakatsue	72.13	313	P	P	21 37 34.6 +1.5
	comp=Z,6.3nm,0.7s,baz=51,slow=6.5,SNR=2.6					
JNU				LR	LR	22 02 49.0
	comp=Z,265nm,21.8s,baz=120,slow=31					
	comp=Z,6.3nm,0.7s					
S14K	Fog Glacier	72.28	8	P	P	21 37 35.5 +2.0
	baz=193					
PFO	Pinyon Flats O	72.58	47⇑	*e*P	P	21 37 38.0 +2.1
PFO				pmax	pmax	
	comp=Z,9.0nm,1.1s					
PEA0B	Petropavlovsk-	72.76	342	P	P	21 37 36.9 +0.5
PEA0B	Petropavlovsk-	72.76	342	P	P	21 37 36.9 +0.5
PEA0B				pmax	pmax	
	comp=Z,184nm,1.7s					
PETK	Petropavlovsk-	72.76	342	P	P	21 37 37.5 +1.2
PETK	Petropavlovsk-	72.76	342	P	P	21 37 37.0 +0.6
	comp=Z,19nm,1.0s,baz=134,slow=6.4,SNR=8.2					
	comp=Z,19nm,1.0s					
PETK	Petropavlovsk-	72.76	342	P	P	21 37 37.6 +1.2
YBH	Yreka Blue Hor	73.32	37	P	P	21 37 41.3 +1.2
YBH	Yreka Blue Hor	73.32	37	P	P	21 37 41.3 +1.2
YBH				pmax	pmax	
	comp=Z,7.0nm,0.9s					
YSS	Yuzhno-Sakhali	73.70	330	*e*P	P	21 37 43.3 +1.3
YSS				pmax	pmax	
	comp=Z,50nm,1.1s					
R16K	Pilot Point	73.80	9	P	P	21 37 44.7 +2.4
	baz=195					
GRAC	Grapevine Rang	73.82	43	P	P	21 37 43.7 +0.7
GRAC				IAmb	IAmb	21 37 47.8
	comp=Z,15nm,1.2s					
NVAR	Mina Array Bea	74.02	42	P	P	21 37 45.6 +1.1
NVAR	Mina Array Bea	74.02	42	P	P	21 37 46.6 +2.2
	comp=Z,1.7nm,0.7s,baz=227,slow=9.4,SNR=8.8					
	comp=Z,1.7nm,0.7s					
R17L	Mt. Peulik Vol	74.04	9	P	P	21 37 46.1 +2.3
	baz=196					
OHAK	Old Harbor	74.17	11	P	P	21 37 46.9 +2.4
	baz=200					
R18K	Karluk	74.29	10	P	P	21 37 47.2 +2.0
	baz=198					
QSPA	South Pole Qui	74.65	180	P	P	21 37 49.0 +1.4
QSPA				IAmb	IAmb	21 37 53.0
	comp=Z,19nm,1.0s					
QSPA	South Pole Qui	74.65	180	P	P	21 37 50.6 +3.1
	comp=Z,14nm,0.9s,baz=81,slow=4.9,SNR=34					
QSPA				LR	LR	22 09 03.8
	comp=Z,128nm,18.1s,baz=46,slow=35					
Q17K	Contact Creek	74.72	9	P	P	21 37 50.0 +2.2
	baz=197					
KDAK	Kodiak Island	74.83	11	P	P	21 37 49.9 +1.5
KDAK				IAmb	IAmb	21 37 51.6
	comp=Z,24nm,0.9s					
KDAK	Kodiak Island	74.83	11	*i* P	P	21 37 48.5 +0.2
KDAK				pmax	pmax	
	comp=Z,37nm,1.0s					
KDAK	Kodiak Island	74.83	11	P	P	21 37 50.4 +2.1
	baz=200					
O14K	Tigyukauivet M	74.99	6	P	P	21 37 51.6 +2.4
	baz=192					
Q16K	King Salmon	75.00	9	P	P	21 37 51.3 +2.0
	baz=196					
SHPR	Sheep Range	75.03	45	P	P	21 37 51.5 +1.2
O15K	Ungalikthiuk R	75.07	7	P	P	21 37 51.6 +1.9
	baz=193					
P16K	Nushagak River	75.16	8	P	P	21 37 51.9 +1.7
	baz=195					
Y14A	Wickenburg	75.21	48	P	P	21 37 52.2 +1.0
Q18K	Katmai Hardscr	75.23	10	P	P	21 37 52.5 +1.7
	baz=198					
H04A	Detroit Lake	75.49	35	P	P	21 37 53.5 +0.9
H04A				IAmb	IAmb	21 37 56.3
	comp=Z,19nm,1.0s					
P17K	Kvichak River	75.53	9	P	P	21 37 53.9 +1.5
	baz=196					
PRN	Pahroc Range	75.59	44	P	P	21 37 54.6 +1.2
N14K	Kuskokwak Cree	75.60	6	P	P	21 37 54.5 +1.7
	baz=191					
O16K	Kokwok River B	75.69	8	P	P	21 37 54.8 +1.5
	baz=195					
P18K	Big Mountain,	75.90	9	P	P	21 37 55.5 +0.9
P18K	Big Mountain,	75.90	9	P	P	21 37 55.5 +0.9
	baz=198					
M13K	Dall Lake	75.94	5	P	P	21 37 56.7 +2.1
	baz=189					
O17K	Koliganek Bris	76.00	8	P	P	21 37 56.9 +1.9
	baz=196					
WVOR	Wild Horse Val	76.15	38	P	P	21 37 57.9 +1.4
WVOR				IAmb	IAmb	21 38 00.8
	comp=Z,18nm,1.2s					
WVOR	Wild Horse Val	76.15	38	P	P	21 37 57.9 +1.4
WVOR				pmax	pmax	
	comp=Z,18nm,1.3s					
O18K	Koktuh Hills	76.35	9	P	P	21 37 59.1 +2.0
	baz=198					
M14K	Bethel	76.39	6	P	P	21 37 58.6 +1.4
M14K	Bethel	76.39	6	P	P	21 37 59.7 +2.5
	baz=191,SNR=5.7					
M15K	Kasigluk River	76.46	6	P	P	21 38 00.3 +2.7
	baz=192,SNR=5.4					
KSRS	Korea Array	76.47	315	P	P	21 37 59.6 +1.4
	comp=Z,1.4nm,0.8s,baz=98,slow=7.5,SNR=5.2					
	comp=Z,1.4nm,0.8s					
N17K	Nushagak Hills	76.71	8	P	P	21 38 01.0 +2.0
	baz=196					
J08A	Circle Bar Ran	76.79	38		P	21 38 01.8 +1.7
J08A				IAmb	IAmb	21 38 04.3
	comp=Z,22nm,1.1s					
O19K	Port Alsworth	76.81	9	P	P	21 37 59.8 +0.2
O19K	Port Alsworth	76.81	9	P	P	21 38 01.7 +2.1
	baz=198					
L14K	Kuka Creek	76.91	5	P	P	21 38 02.3 +2.2
	baz=190					
M16K	Timber Creek	76.97	7	P	P	21 38 03.3 +2.8
	baz=194					
BRSE	Bradley Lake S	77.01	11	P	P	21 38 03.2 +2.4
	baz=202					
ELK	Elko	77.28	41	P	P	21 38 04.1 +1.0
ELK	Elko	77.28	41	P	P	21 38 04.1 +1.0
ELK				pmax	pmax	
	comp=Z,12nm,1.3s					
K13K	Kusilvak Mount	77.35	4	P	P	21 38 05.2 +2.6
	baz=188					
L15K	Ungalak Mounta	77.35	6	P	P	21 38 05.3 +2.7
	baz=191					
M17K	Holitna River	77.53	8	P	P	21 38 05.8 +2.2
	baz=195					
L16K	Owhat River	77.59	7	P	P	21 38 06.1 +2.1
L16K				IAmb	IAmb	21 38 08.0
	comp=Z,23nm,1.2s					
L16K	Owhat River	77.59	7	P	P	21 38 06.6 +2.7
	baz=193					
SEW	Seward	77.59	12	P	P	21 38 05.8 +1.8
	baz=203					
KSM	Kuching	77.64	275	P	P	21 38 04.3 -1.1
KSM				IAmb	IAmb	21 38 07.6
	comp=Z,9.7nm,0.9s					
USRK	Ussuriysk Ar.	77.65	323	P	P	21 38 05.7 +1.0
	comp=Z,13nm,1.2s,baz=113,slow=11,SNR=7.7					
	comp=Z,13nm,1.2s					
M18K	Stony River	77.83	8	P	P	21 38 07.7 +2.4
	baz=197					
K15K	Wolf Creek Mou	77.95	5	P	P	21 38 06.9 +0.9
K15K	Wolf Creek Mou	77.95	5	P	P	21 38 09.0 +3.0
	baz=191,SNR=6.2					
HAWA	Hanford	78.01	35	P	P	21 38 08.2 +1.5
HAWA				IAmb	IAmb	21 38 10.8
	comp=Z,21nm,1.1s					
N20K	Mount Spurr	78.11	10	P	P	21 38 09.4 +2.4
	baz=200					
SPCR	Spurr Chakacha	78.11	10	P	P	21 38 09.0 +2.0
	baz=200					
L17K	Donlin	78.13	7	P	P	21 38 10.2 +3.2
	baz=194					
J14K	Nanvaranak Lak	78.23	4	P	P	21 38 10.4 +2.8
	baz=189					
STLK	Strandline Lak	78.45	10	P	P	21 38 09.6 +0.7
STLK				IAmb	IAmb	21 38 10.9
	comp=Z,12nm,1.1s					
PWL	Port Wells	78.51	12	P	P	21 38 11.6 +2.5
	baz=204					
M20K	Styx River	78.60	9	P	P	21 38 12.4 +2.7
	baz=199					
V35K	Ketchikan	78.61	23	P	P	21 38 11.6 +1.8
	baz=220					
SUA	Susitna One	78.61	11	P	P	21 38 12.0 +2.2
	baz=202					
SIT	Sitka	78.66	20	P	P	21 38 12.1 +2.2
	baz=217					
U33K	Whale Pass	78.67	21	P	P	21 38 11.8 +1.8
	baz=219					
K17K	Iditarod	78.70	7	P	P	21 38 12.4 +2.3
	baz=194					
D08A	Wollman Farm,	78.75	34	P	P	21 38 12.1 +1.3
D08A				IAmb	IAmb	21 38 14.8
	comp=Z,22nm,1.1s					
EYAK	Cordova Ski Ar	78.77	13	P	P	21 38 13.0 +2.4
	baz=207					
GLI	Glacier Island	78.78	13	P	P	21 38 12.2 +1.6
	baz=205					
GAMB	Gambell	78.92	1	P	P	21 38 13.9 +2.7
	baz=181					
SKT	Skwentna	78.95	10	P	P	21 38 13.5 +2.0
	baz=201					
BGLC	Bering Glacier	78.97	15	P	P	21 38 14.0 +2.4
	baz=209					
KNK	Knik Glacier	78.99	12	P	P	21 38 13.6 +1.8
	baz=204					
M22K	Willow	78.99	11	P	P	21 38 14.2 +2.5
	baz=202					
J16K	Anvik River	79.01	6	P	P	21 38 13.7 +1.9
J16K	Anvik River	79.01	6	P	P	21 38 14.2 +2.4
	baz=192					
PMR	Palmer	79.03	11	P	P	21 38 14.4 +2.5
	baz=203					
PLID	Pearl Lake	79.24	37		P	21 38 15.6 +1.8
SML	Sawmill	79.38	12	P	P	21 38 15.6 +1.7
	baz=204					
BMRM	Bremner River	79.40	14	P	P	21 38 15.7 +1.6
	baz=208					
M23K	Glacier View	79.48	12	P	P	21 38 16.0 +1.6
	baz=205					
CRQE	Cirque	79.56	14	P	P	21 38 16.9 +1.8
	baz=209					
CUT	Chulitna	79.57	11	P	P	21 38 17.0 +2.1
	baz=202					
KLU	Klutina	79.58	13	P	P	21 38 17.5 +2.4
	baz=206					
PNL	Peninsula	79.58	17	P	P	21 38 16.9 +1.8
	baz=213					
I17K	Unalakleet	79.59	5	P	P	21 38 17.4 +2.5
	baz=192					
SCM	Shep Creek Mo	79.60	12	P	P	21 38 17.1 +1.9
	baz=205					
J18K	Innoko River	79.61	7		P	21 38 16.2 +1.1
J18K				IAmb	IAmb	21 38 18.9
	comp=Z,34nm,1.5s					
J18K	Innoko River	79.61	7	P	P	21 38 17.4 +2.2
	baz=196,SNR=5.5					
PPLA	Purkeypile	79.71	9	P	P	21 38 18.0 +2.2
	baz=200					
PINM	Pinnacle	79.72	16	P	P	21 38 17.8 +2.0
	baz=212					
MNTX	Cornudas Mount	79.86	53	P	P	21 38 18.5 +1.3
TCUT	Toone Canyon	79.94	42	P	P	21 38 19.3 +1.5
TCUT				IAmb	IAmb	21 38 22.0
	comp=Z,32nm,1.0s					
N25K	Chitina, Valde	79.97	13	P	P	21 38 19.1 +1.9
	baz=208					
P29M	Windy Craggy	80.02	17	P	P	21 38 20.0 +2.6
	baz=214					
M24K	Tolsona, Glenn	80.08	12	P	P	21 38 20.2 +2.4
	baz=206					
MCARA	McCarthy VSAT	80.14	14	P	P	21 38 20.0 +2.0
	baz=209					
CTG	Chitna Glacier	80.18	15	P	P	21 38 20.7 +2.2
	baz=211					
WAT6	Susitna Watana	80.20	12	P	P	21 38 20.6 +2.1
	baz=204					
H16K	Elim	80.20	5	P	P	21 38 20.6 +2.3
	baz=190					
TXAR	Lajitas Array	80.23	56	P	P	21 38 19.8 +0.5
TXAR	Lajitas Array	80.23	56	P	P	21 38 21.4 +2.0
	comp=Z,4.3nm,1.0s,baz=224,slow=5.2,SNR=32					
TXAR				LR	LR	22 06 40.0
	comp=Z,159nm,19.0s,baz=270,slow=30					
	comp=Z,4.3nm,1.0s					
WAT1	Susitna Watana	80.27	11	P	P	21 38 21.0 +2.2
	baz=204					
O28M	Mount Upton	80.31	16	P	P	21 38 21.5 +2.2
	baz=212					
O29M	Mount Kennedy	80.34	17	P	P	21 38 21.1 +1.8
	baz=213					
T35M	Bob Quinn	80.36	22	P	P	21 38 21.9 +2.5
	baz=221					
G15K	Niukluk	80.43	4	P	P	21 38 21.6 +2.1
	baz=189					
ANMO	Albuquerque	80.45	50	*ce*P	P	21 38 23.6 +3.0
ANMO				pmax	pmax	
	comp=Z,13nm,1.3s					
NJ2	Nanjing	80.52	307	*e*P	P	21 38 22.5 +1.8
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
TRF	Thorofare Moun	80.54	10	P	P	21 38 22.3 +2.0
	baz=202					
HARP	HAARP	80.56	13	P	P	21 38 22.6 +2.3
	baz=207					
SKAG	Skagway	80.59	18	P	P	21 38 22.4 +1.9
	baz=216					
CHUM	Lake Minchumin	80.62	9	P	P	21 38 22.4 +1.9
	baz=200					
P30M	Million Dollar	80.65	17	P	P	21 38 22.7 +1.8
	baz=215					
DHY	Denali Highway	80.72	11	P	P	21 38 23.4 +2.1
	baz=205					
S34M	Telegraph Cree	80.75	21	P	P	21 38 23.8 +2.5
	baz=220					
F14K	Arctic Creek	80.78	3	P	P	21 38 23.8 +2.4
	baz=186					
YUK8	Steele Glacier	80.85	16	P	P	21 38 24.1 +2.0
	baz=212					
YUK6	Outpost Mounta	80.94	16	P	P	21 38 24.2 +1.6
	baz=214					
G16K	Koyuk River	80.94	4	P	P	21 38 24.2 +2.0
	baz=190					
MCMT	McKenzie Canyo	80.97	39	P	P	21 38 24.8 +1.7
PAX	Paxson	81.00	12	P	P	21 38 24.5 +1.8
	baz=207					
BPAW	Bear Paw Mtn.	81.03	10	P	P	21 38 24.0 +1.2
	baz=201					
MCK	McKinley	81.03	11		P	21 38 23.8 +1.0
MCK				IAmb	IAmb	21 38 25.5
	comp=Z,28nm,1.2s					
MCK	McKinley	81.03	11	P	P	21 38 23.8 +1.0
MCK				pmax	pmax	
	comp=Z,29nm,1.2s					
MCK	McKinley	81.03	11	P	P	21 38 24.2 +1.4
	baz=203,SNR=9.3					
H18K	Honhosa River	81.06	6	P	P	21 38 25.4 +2.5
	baz=194					
HYT	Haines Junctio	81.07	17	P	P	21 38 25.2 +2.0
	baz=214					
Q32M	Nakina River	81.17	20	P	P	21 38 25.5 +1.7
	baz=219					
I20K	Naaghedeneel	81.18	8	P	P	21 38 26.3 +2.8
	baz=198					
G17K	Kiwalik Mounta	81.18	5	P	P	21 38 26.4 +2.8
	baz=192					
P32M	Atlin	81.19	19	P	P	21 38 25.9 +2.1
	baz=218					
YUK4	Talbot Arm	81.20	16	P	P	21 38 26.9 +3.0
	baz=213					
BNX	BinXian	81.21	322	⇑P	P	21 38 25.1 +1.0
BNX				pmax	pmax	
	comp=Z,15nm,1.0s					
CN2	Changchun	81.37	320	P	P	21 38 27.3 +2.3
CN2				pmax	pmax	
	comp=Z,10.0nm,1.0s					
MSO	Missoula	81.41	37		P	21 38 26.5 +1.3
MSO				IAmb	IAmb	21 38 28.6
	comp=Z,22nm,1.1s					
O30N	Mendenhall	81.43	17	P	P	21 38 27.7 +2.7
	baz=216					
L26K	Log Cabin Wild	81.50	13	P	P	21 38 26.5 +1.2
DLBC	Dease Lake	81.53	21	P	P	21 38 27.4 +1.8
	comp=Z,25nm,0.8s,baz=198,slow=11,SNR=5.0					
DLBC				LR	LR	22 08 28.3
	comp=Z,3μm,20.0s,baz=245,slow=31					
	comp=Z,25nm,0.8s					
DLBC	Dease Lake	81.53	21	P	P	21 38 28.0 +2.4
	baz=222					
SMAI	San Martin Ant	81.60	159	P	P	21 38 26.6 +0.8
SMAI				IAmb	IAmb	21 38 29.4
	comp=Z,18nm,1.2s					
H19K	Roundabout Mou	81.63	7	P	P	21 38 28.6 +2.7
	baz=196					
WHY	Whitehorse	81.69	18	P	P	21 38 29.0 +2.5
	baz=217					
N30M	Aishikik Lake	81.71	17	P	P	21 38 28.6 +2.2
	baz=215					
LOHW	Long Hollow	81.72	41	P	P	21 38 28.3 +1.1
LOHW				IAmb	IAmb	21 38 31.2
	comp=Z,12nm,1.1s					
LRM	Limekiln Ridge	81.73	38	P	P	21 38 28.6 +1.4
G18K	Tagagawik	81.75	6	P	P	21 38 28.8 +2.2
	baz=194					
H20K	Anotleneega Mo	81.79	8	P	P	21 38 29.2 +2.4
	baz=198					
NEA2	Nenana	81.80	10	P	P	21 38 29.1 +2.3
	baz=203					
RIDG	Independent Ri	81.82	12	P	P	21 38 29.5 +2.5
	baz=207					
WRH	Wood River Hil	81.86	11		P	21 38 27.9 +0.8
L27K	Beaver Creek,	81.88	14	P	P	21 38 29.3 +2.0
	baz=210					
BCAR	Beaver Creek A	81.89	14	P	P	21 38 28.6 +1.2
DOT	Dot Lake	81.90	13	P	P	21 38 28.7 +1.3
DOT				IAmb	IAmb	21 38 30.4
	comp=Z,15nm,1.2s					
R33M	Jennings River	81.93	20	P	P	21 38 30.3 +2.5
	baz=220					
PDAR	Pinedale Array	81.96	42		P	21 38 29.1 +0.6
PDAR	Pinedale Array	81.96	42	P	P	21 38 30.1 +1.7
	comp=Z,7.6nm,1.1s,baz=197,slow=3.1,SNR=24					
PDAR				LR	LR	22 11 01.5
	comp=Z,195nm,18.2s,baz=266,slow=33					
	comp=Z,7.6nm,1.1s					
P33M	Teslin, Yukon	81.96	19	P	P	21 38 30.4 +2.5
	baz=219					
HDA	Harding Lake	82.01	11	P	P	21 38 30.2 +2.3
	baz=205,SNR=5.9					
F17K	Baldwin Pennin	82.06	5	P	P	21 38 30.7 +2.7
	baz=191					
OVMT	Ovando	82.08	37	P	P	21 38 30.1 +1.3
N31M	Braeburn, Yuko	82.10	17	P	P	21 38 30.8 +2.3
	baz=216					
YHH	Holmes Hill	82.16	39		P	21 38 30.7 +1.1
M29M	Somme Creek	82.17	15	P	P	21 38 30.9 +2.0
	baz=213					
SCRK	Sand Creek	82.21	12	P	P	21 38 31.0 +1.9
	baz=208,SNR=6.3					
I23K	Minto, Yukon-K	82.27	10	P	P	21 38 30.9 +1.8
	baz=203					
COLA	College	82.27	11		P	21 38 29.9 +0.7
COLA	College	82.27	11	*ce*P	P	21 38 29.7 +0.5
COLA				pmax	pmax	
	comp=Z,27nm,1.1s					
COLA	College	82.27	11	P	P	21 38 31.1 +1.9
	baz=204					
F18K	Selawik	82.35	5	P	P	21 38 31.7 +2.1
	baz=193					
IL31		82.35	11	P	P	21 38 30.5 +0.9
IL31				IAmb	IAmb	21 38 32.5
	comp=Z,24nm,1.5s					
ILAR	Eielson Array	82.35	11	P	P	21 38 30.1 +0.5
	comp=Z,3.8nm,1.1s,baz=221,slow=6.1,SNR=16					
ILAR				LR	LR	22 12 50.2
	comp=Z,174nm,18.1s,baz=199,slow=34					
	comp=Z,3.8nm,1.1s					
ILAR	Eielson Array	82.35	11	*e*P	P	21 38 31.3 +1.6
ILAR				pmax	pmax	
	comp=Z,4.0nm,1.1s					
IMAR	Indian Mountai	82.40	8	P	P	21 38 30.8 +0.9
POKR	Poker Plat Res	82.57	11	P	P	21 38 32.3 +1.4
	baz=205					
N32M	Quiet Lake	82.62	18	P	P	21 38 33.3 +2.1
	baz=218					
SEY	Seymchan	82.63	345	*e*P	P	21 38 30.5 -0.7
SEY				pmax	pmax	
	comp=Z,19nm,1.0s					
E17K	Hotham Inlet	82.65	4	P	P	21 38 33.7 +2.5
	baz=191					
K27K	Chicken	82.66	13	P	P	21 38 33.4 +2.1
	baz=210					
M30M	Minto, Yukon	82.71	16	P	P	21 38 33.9 +2.2
	baz=215					
F19K	Shaleruckik Mo	82.76	6	P	P	21 38 34.1 +2.4
	baz=195					
L29M	L29M	82.81	15	P	P	21 38 34.0 +1.8
	baz=214,SNR=14					
H23K	Yukon River	82.86	9	P	P	21 38 34.3 +1.9
	baz=203					
G21K	Allakaket	82.94	8	P	P	21 38 33.8 +1.1
G21K	Allakaket	82.94	8	P	P	21 38 34.9 +2.2
	baz=199					
M31M	Drury Creek, Y	83.07	17	P	P	21 38 35.3 +1.8
	baz=217					
E18K	Tukpahlearik C	83.08	5	P	P	21 38 35.7 +2.4
	baz=192					
D17K	Noatak River	83.17	4	P	P	21 38 36.0 +2.2
	baz=190					
F20K	Avaraart Lake	83.18	7	P	P	21 38 36.0 +2.1
	baz=197					
WTLY	Watson Lake, Y	83.20	21	P	P	21 38 36.1 +1.8
	baz=222					
PRP	Porcupine Dome	83.28	11	P	P	21 38 36.5 +1.8
	baz=206,SNR=7.4					
DAWY	Dawson	83.30	14	P	P	21 38 35.6 +0.9
DAWY				IAmb	IAmb	21 38 38.2
	comp=Z,18nm,1.3s					
DAWY	Dawson	83.30	14	P	P	21 38 36.3 +1.6
	baz=212,SNR=6.6					
QIZ	Qiongzhong	83.33	292	P	P	21 38 38.1 +2.3
QIZ				S	SKSac	21 49 02.0 +5.5
QIZ				LR	LR	
	comp=Z,140nm,11.3s					
QIZ				LR	LR	
	comp=Z,250nm,10.8s					
QIZ				LR	LR	
	comp=Z,410nm,22.8s					
E19K	Redstone River	83.42	6	P	P	21 38 37.6 +2.4
	baz=195					
CMIG	Matias Romero	83.45	70	LR	LR	22 09 07.6
	comp=Z,249nm,18.2s,baz=230,slow=31					
EGAK	Eagle	83.51	13	P	P	21 38 37.9 +2.2
	baz=211					
I26K	Coal Creek Min	83.55	12	P	P	21 38 37.9 +2.0
	baz=209					
TOAD	Toad River Com	83.56	23	P	P	21 38 37.7 +1.6
	baz=226,SNR=14					
K29M	Barlow Dome	83.57	15	P	P	21 38 38.6 +2.4
	baz=214,SNR=7.2					
G22K	Bettles	83.59	8	P	P	21 38 38.6 +2.5
	baz=201					
G23K	Bananza Creek	83.61	9	P	P	21 38 38.6 +2.3
	baz=202					
F21K	Alatna River	83.62	7	P	P	21 38 38.5 +2.3
	baz=199					
LIRD	Liard River Hi	83.64	22	P	P	21 38 38.5 +2.1
	baz=225					
C17K	DeLong Mountai	83.94	4	P	P	21 38 40.0 +2.2
	baz=189					

BELA Belgrano 2 83.94 172 P P 21 38 38.3 +0.4
BELA IAmb IAmb 21 38 52.2
comp=Z,7.8nm,1.0s
PMSA Palmer Station 84.00 156 LR LR 22 07 35.4
comp=Z,318nm,19.9s,baz=228,slow=30
G24K Hadweenzic Riv 84.01 10 P P 21 38 40.3 +2.1
baz=204
F22K John River 84.06 8 P P 21 38 40.7 +2.2
baz=200
COLD Coldfoot 84.07 9 P P 21 38 40.9 +2.4
baz=202
C18K Utukok River 84.24 4 P P 21 38 41.5 +2.1
baz=191
E20K Nigu River 84.30 6 P P 21 38 41.5 +1.8
baz=196
G25K Bearman Lake 84.30 10 P P 21 38 42.0 +2.4
baz=206
MMPY Sheldon Lake, 84.30 18 P P 21 38 42.3 +2.4
baz=220,SNR=10
D19K Kuna River 84.34 5 P P 21 38 42.2 +2.3
baz=194
I28M Miner Creek 84.36 13 P P 21 38 41.7 +1.6
baz=212
TGTN Hyland Airport 84.42 20 P P 21 38 42.6 +2.1
baz=223
J30M Hart River 84.47 15 P P 21 38 42.7 +1.9
baz=215
BILL Bilibino 84.56 352⇓ *e*P **P 21 38 43.0 +2.0**
BILL pmax pmax
comp=Z,36nm,2.4s
I29M Ogilvie Camp, 84.65 14 P P 21 38 43.2 +1.7
baz=213
F24K Squaw Lake 84.69 9 P P 21 38 43.6 +1.9
baz=204
H27K Steamboat Moun 84.69 12 P P 21 38 44.1 +2.3
baz=210,SNR=5.7
E22K Anaktuvuk Pass 84.69 8 P P 21 38 43.8 +2.1
baz=200
D20K Etivluk River 84.69 6 P P 21 38 42.9 +1.2
D20K Etivluk River 84.69 6 P P 21 38 43.8 +2.1
baz=196
E21K Killik River 84.72 7 P P 21 38 43.9 +2.1
baz=198
C19K Lookout Ridge 84.81 5 P P 21 38 44.9 +2.6
baz=193
H03S2 Juan Fernandez 84.83 124 T T 23 12 35.3
baz=252,slow=75,SNR=9.1
H03S1 Juan Fernandez 84.84 124 T T 23 12 33.9
baz=252,slow=75,SNR=7.5
H03S3 Juan Fernandez 84.84 124 T T 23 12 42.1
baz=252,slow=75,SNR=12
G26K Porcupine Rive 84.88 11 P P 21 38 43.8 +1.2
G26K IAmb IAmb 21 38 46.4
comp=Z,20nm,1.1s
G26K Porcupine Rive 84.88 11 P P 21 38 44.6 +2.1
baz=208,SNR=16
KOTAN Kotaneelee Air 84.88 22 P P 21 38 45.0 +2.3
baz=227
B18K Kokolik River 84.90 4 P P 21 38 45.2 +2.6
baz=191
E23K Chandalar 84.92 9 P P 21 38 45.3 +2.4
baz=202
I30M Mount Dempster 84.99 15 P P 21 38 45.2 +1.9
baz=215,SNR=8.2
E24K Your Creek 85.11 9 P P 21 38 46.2 +2.4
baz=204
F25K Christian Rive 85.12 10 P P 21 38 45.9 +2.0
baz=206
BMAR Burnt Mountain 85.16 11 P P 21 38 45.5 +1.5
G27K Doyon Strip 85.17 12 P P 21 38 46.3 +2.2
baz=210
D22K Ayikyak River 85.29 7 P P 21 38 46.9 +2.2
baz=200
C21K Knifeblade Rid 85.31 6 P P 21 38 47.0 +2.3
baz=197
H29M Whitestone 85.35 13 P P 21 38 46.0 +1.0
H29M Whitestone 85.35 13 P P 21 38 47.5 +2.5
baz=213,SNR=5.7
TOLK Toolik Lake Re 85.47 8 P P 21 38 47.8 +2.2
baz=202
F26K Sheenjek River 85.47 11 P P 21 38 47.5 +1.9
baz=208
E25K Arctic Village 85.61 10 P P 21 38 48.9 +2.6
baz=206
D23K Nanushuk River 85.62 8 P P 21 38 48.8 +2.5
baz=201
B21K Ikpikpuk River 85.77 6 P P 21 38 48.8 +1.9
baz=198
A19K Wainwright 85.78 4 P P 21 38 49.6 +2.6
baz=191
EPYK Eagle Plains 85.85 14 P P 21 38 49.1 +1.6
baz=215
B20K Meade River 85.90 5 P P 21 38 49.2 +1.6
baz=195
H31M Peel River 85.96 15 P P 21 38 50.0 +1.9
baz=217
G29M Pine Creek 86.01 13 P P 21 38 50.2 +1.9
baz=214
D24K Happy Valley 86.05 8 P P 21 38 50.7 +2.3
baz=203
F28M Old Crow 86.22 12 P P 21 38 51.4 +2.1
baz=212
E27K Coleen River 86.37 11 P P 21 38 52.6 +2.6
baz=210
C23K Itkillik River 86.45 8 P P 21 38 52.6 +2.3
baz=201
G30M tAoh Zraii Nji 86.47 14 P P 21 38 52.7 +2.2
baz=215
G31M Satah River 86.88 14 P P 21 38 54.6 +2.1
baz=217
F31M Tsiigehtchic 87.42 14 P P 21 38 57.4 +2.4
baz=218
HIA Hailar 87.47 323⇓ *e*P **P 21 38 57.8 +2.0**
HIA pmax pmax
comp=Z,14nm,1.0s
MAW Mawson 87.94 198 P P 21 38 58.0 +0.2
comp=Z,6.9nm,1.0s,baz=124,slow=4.7,SNR=15
MAW LR LR 22 14 24.4
comp=Z,420nm,21.9s,baz=112,slow=33
comp=Z,6.9nm,1.0s
MAW Mawson 87.94 198 P P 21 38 58.0 +0.2
INK Inuvik 88.15 14 P P 21 38 59.8 +1.2
INK IAmb IAmb 21 39 01.4
comp=Z,8.0nm,1.1s
INK Inuvik 88.15 14 LR LR 22 13 26.6
comp=Z,259nm,19.7s,baz=200,slow=32
INK Inuvik 88.15 14 P P 21 38 59.8 +1.2
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 88.15 14 P P 21 39 00.7 +2.1
baz=218
PLCA Paso Flores 89.18 132 LR LR 22 10 17.8
comp=Z,372nm,20.4s,baz=242,slow=30
YAK Yakutsk 89.29 337 P P 21 39 03.4 -0.6
YAK Yakutsk 89.29 337 LR LR 22 12 16.3
comp=Z,185nm,21.9s,baz=122,slow=31
YAK Yakutsk 89.29 337 *e*P **P 21 39 03.7 -0.3**
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.4s
HHC Hu-ho-hao-te 89.36 313 *e*P **P 21 39 06.7 +1.6**
HHC pmax pmax
comp=E,16nm,0.7s
YKA Yellowknife Ar 89.91 23 LR LR 22 13 04.0
comp=E,318nm,20.1s,baz=250,slow=31
BTO Baotou 90.37 312 *e*P **P 21 39 09.9 +0.1**
BTO pP **pP 21 39 14.8 -3.5**
BTO sP **sP 21 39 16.9 -4.5**
BTO pmax pmax
comp=E,14nm,1.0s
BTO pmax pmax
comp=E,510nm,5.1s
JTS Las Juntas de 90.76 80 LR LR 22 11 49.6
comp=E,250nm,18.7s,baz=319,slow=30
C36M Paulatuk 91.23 16 P P 21 39 14.4 +1.4
baz=226
ATAH Atahualpa 92.47 98 LR LR 22 10 59.5
comp=E,567nm,21.9s,baz=282,slow=29
PZH PanZhiHua 92.68 297 P P 21 39 25.3 +4.5
SYO Syowa Base 92.69 191⇑ *e*P **P 21 39 20.6 +0.7**
TROLL Troll, Antarti 92.76 179 ⇑P P 21 39 21.9 +1.5
comp=Z,244nm,0.8s
A36M Sachs Harbour 92.79 13 P P 21 39 22.0 +1.9
baz=226

VNA3 Neumayer Olymp 92.82 175 ⇑P P 21 39 21.7 +1.2
comp=Z,6.4nm,1.0s
SNAA Sanae 92.89 177 ⇑P P 21 39 21.1 +0.1
comp=Z,102nm,0.9s
SNAA Sanae 92.89 177 P P 21 39 22.2 +1.2
SNAA IAmb IAmb 21 39 26.4
comp=Z,7.2nm,1.0s
SNAA Sanae 92.89 177 P P 21 39 21.1 +0.1
comp=Z,6.2nm,1.0s,baz=208,slow=4.2,SNR=8.4
SNAA LR LR 22 15 21.5
comp=Z,231nm,21.8s,baz=190,slow=32
comp=Z,6.2nm,1.0s
SNAA Sanae 92.89 177 *i* **P P 21 39 22.1 +1.2**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 93.04 288 P P 21 39 23.1 +0.5
comp=Z,0.7nm,0.3s,baz=110,slow=3.1,SNR=4.7
CMAR LR LR 22 16 22.3
comp=Z,155nm,21.6s,baz=100,slow=32
comp=Z,0.7nm,0.3s
ULM Lac du Bonnet 93.64 39 LR LR 22 17 21.8
comp=Z,276nm,18.2s,baz=328,slow=33
LZDM Lanzhou Array 93.67 306 LR LR 22 19 29.4
comp=Z,132nm,19.9s,baz=300,slow=34
NVL N'lazarevskaya 94.00 182 *e*P **P 21 39 26.2 +0.3**
NVL *e* 21 43 12.2
NVL *e*PPP PPP 21 45 13.0
NVL *e*S **SKSac 21 50 00.7 +2.2**
NVL *e* 21 50 38.0
NVL *e*SS **SS 21 56 58.5 +5.8**
NVL *e*SSS SSS 22 00 40.3
NVL pmax pmax
comp=Z,5.0nm,0.9s
NVL smax smax
comp=N,348nm,15.4s
NVL MLR MLR
comp=Z,77nm,18.0s
CFA Coronel Fontan 94.08 124 LR LR 22 12 10.9
comp=Z,267nm,21.5s,baz=314,slow=29
ULN Ulaanbaatar 94.73 318⇑ *i*P **P 21 39 32.1 +2.3**
ULN pmax pmax
comp=Z,5.0nm,1.5s
TIXI Tiksi 95.12 344 LR LR 22 18 25.2
comp=Z,352nm,20.9s,baz=132,slow=33
TIXI Tiksi 95.12 344⇓ *e*P **P 21 39 31.9 +1.1**
TIXI pmax pmax
comp=Z,17nm,2.5s
SONM Songino Array 95.14 318 P P 21 39 32.6 +0.9
comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=1.5
SONM LR LR 22 17 07.7
comp=Z,223nm,21.8s,baz=80,slow=32
GTA Gaotai 97.53 309 *e*P Pdif 21 39 44.9 +2.1
GTA sP sP 21 39 52.9 -1.4
GTA pmax pmax
comp=Z,1.0nm,1.4s
GTA LR LR
comp=Z,240nm,21.5s
GTA LR LR
comp=Z,360nm,20.7s
GTA LR LR
comp=Z,510nm,20.7s
ROSC El Rosal 99.56 88 LR LR 22 15 54.3
comp=Z,192nm,19.2s,baz=166,slow=30
WMQ Urumqi 107.20 312 Pdif Pdif 21 40 27.7 +2.0
WMQ LR LR
comp=Z,270nm,23.8s
MK31 Makanchi Array 111.15 315 ⇑Pg PKiKP 21 44 41.8 -0.2
comp=Z,0.1nm,0.2s,baz=165,slow=15,SNR=4.2
MK31 ⇓Lg Lg 21 45 04.8
comp=Z,1.1nm,0.3s,baz=164,slow=28,SNR=7.8
PDGK Podgornoye 113.14 311 ⇑Pg PKiKP 21 44 45.9 -0.1
comp=Z,0.2nm,0.4s
PDGK ⇓Lg Lg 21 45 14.5
comp=Z,0.7nm,0.3s
BVAR Borovoye Array 118.16 322 PKP PKPdf 21 44 53.4 -1.7
comp=Z,1.2nm,0.8s,baz=50,slow=2.3,SNR=4.6
ARTI Arti 123.68 329 PKiKP 21 45 05.7 -0.2
ARTI Arti 123.68 329 *i* PKIKP **PKPdf 21 45 04.8 -0.8**
ARTI 21 46 45.4
ARTI 21 52 16.6
ARTI SP SP 21 56 40.6 -0.7
ARCES ARCESS Array B 124.67 352 PKP PKiKP 21 45 07.4 -0.1
comp=Z,5.7nm,1.1s,baz=39,slow=2.2,SNR=5.4
APA Apatity 125.12 348⇓ *i* PKIKP **PKPdf 21 45 03.1 -5.0**
APA *e* 21 46 56.1
AB31 Akbulak array 125.50 320 PKPdf PKiKP 21 45 10.2 +0.5
ABKAR Akbulak array 125.50 320 PKiKP 21 45 09.7 0.0
KIRV Kirov 126.74 334 *c i* PKIKP **PKiKP 21 45 12.3 +0.4**
KLMR Klimovskoe 128.94 340 *e*PKIKP **PKPdf 21 45 15.1 -0.5**
KLMR pmax pmax
comp=Z,19nm,1.6s
BELG Belogornoye 131.12 328 *i* PKIKP **PKiKP 21 45 20.8 0.0**
FINES FINESS Array B 132.03 348 PKPdf PKiKP 21 45 23.0 +0.5
FINES FINESS Array B 132.03 348 PKP PKiKP 21 45 21.4 -1.0
comp=Z,1.6nm,0.9s,baz=20,slow=4.4,SNR=4.0
PUL Pulkovo 132.53 344 *i* PKIKP **PKiKP 21 45 24.5 +1.0**
OBN Obninsk 134.29 337 *e*PKIKP **PKiKP 21 45 27.1 -0.1**
OBN *e* 21 47 58.9
OBN *e*PPP PPP 21 50 53.1
OBN *e* 21 52 38.3
OBN pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 138.47 320⇓ *e*PKIKP **PKPdf 21 45 31.2 -2.8**
GNI Garni 138.99 314⇓ *e*PKIKP **PKPdf 21 45 35.4 +0.1**
AKASG Malin Array Be 140.51 338 PKP PKPdf 21 45 37.9 +0.4
comp=Z,0.9nm,0.6s,baz=33,slow=2.5,SNR=6.8
AKBB Malin Array Si 140.51 338⇓ *e*PKIKP **PKiKP 21 45 38.6 -1.4**
OJC Ojcow 143.76 346 PKPdf 21 45 42.5 -0.8
OJC Ojcow 143.76 346 PKiKP PKPdf 21 45 42.5 -0.8
CLL Collm 143.86 354 *i* PKIKP **PKPdf 21 45 43.4 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 143.86 354 *i* PKPdf **PKPdf 21 45 42.4 -1.0**
comp=Z,8.0nm,1.1s
STHS Stebnicka Huta 144.15 344 *e*PKP **PKPdf 21 45 43.7 -0.3**
DPC Dobruska-Polom 144.34 350 *e*PKIKP PKPbc 21 45 42.7 0.0
DPC Dobruska-Polom 144.34 350 *e*PKP PKPbc 21 45 42.7 0.0
STEB Steborice 144.47 348 *e*PKP **PKPdf 21 45 45.0 +0.4**
BUR08 Bucovina Ar. S 144.51 339 PKPdf 21 45 43.6 -1.2
BURAR Bucovina Array 144.53 339 PKPdf 21 45 44.0 -0.9
BURAR Bucovina Array 144.53 339 ⇑P PKPdf 21 45 44.6 -0.3
BURAR Bucovina Array 144.53 339 ⇑PKIKP PKPdf 21 45 44.6 -0.3
KIBK Kibwezi 144.65 243 PKPbc 21 45 44.2 -0.7
MORC Moravsky Berou 144.66 348 PKPdf 21 45 43.8 -1.2
MORC Moravsky Berou 144.66 348 ⇑P PKPdf 21 45 45.3 +0.3
MORC Moravsky Berou 144.66 348 *e*PKP **PKPdf 21 45 44.8 -0.2**
MORC Moravsky Berou 144.66 348 PKIKP PKPdf 21 45 43.8 -1.2
LANS Liptovska Anna 144.84 346 *e*PKP **PKPdf 21 45 46.1 +0.8**
TESR Tescani 144.93 336 ⇑P PKPdf 21 45 46.3 +0.8
PRU Pruhonice 144.97 352 *e*PKIKP **PKPdf 21 45 46.2 +0.8**
PRU Pruhonice 144.97 352 *e*PKP **PKPdf 21 45 46.2 +0.8**
GHRR 145.00 335 ⇑P PKPdf 21 45 46.0 +0.4
MAUC Maruska 145.00 348 *e*PKP **PKiKP 21 45 47.0 -2.4**
BMR Baia Mare 145.06 341 ⇑P PKPdf 21 45 46.1 +0.4
BMR Baia Mare 145.06 341 ⇑PKIKP PKPdf 21 45 46.1 +0.4
ONER Baraj Valea Uz 145.17 336 ⇑P PKiKP 21 45 48.2 -1.6
KECS Kecovo 145.20 344 *e*PKP **PKiKP 21 45 47.3 -2.5**
ARCR ARCALIA 145.28 339 ⇑P PKPdf 21 45 46.5 +0.5
VRAC Vranov 145.29 349 ⇑P PKPdf 21 45 47.3 +1.3
VRAC Vranov 145.29 349 *e*PKP **PKPdf 21 45 45.8 -0.2**
VRAC Vranov 145.29 349 ⇑PKIKP PKPdf 21 45 47.3 +1.3
ODBI Odobesti 145.38 335 ⇑P PKPab 21 45 46.5 +0.2
CFR Carcaliu 145.40 333 ⇓P PKPab 21 45 46.7 +0.4
CFR Carcaliu 145.40 333 ⇓PKIKP PKPab 21 45 46.7 +0.4
VRI Vrincioaia 145.43 336 ⇑P PKPab 21 45 47.4 +0.9
VRI Vrincioaia 145.43 336 ⇑PKIKP PKPab 21 45 47.4 +0.9
PLOR Plostina 145.47 336 ⇑P PKPab 21 45 46.9 +0.2
PLOR Plostina 145.47 336 ⇑PKIKP PKPab 21 45 46.9 +0.2
TREC Trest 145.50 350 *e*PKIKP **PKPab 21 45 47.3 +0.6**
TREC Trest 145.50 350 *e*PKP **PKPab 21 45 47.3 +0.6**
JAVC Velka Javorina 145.51 348 *e*PKP **PKPab 21 45 47.9 +1.1**
TPGR Topolog 145.53 333 ⇑P PKPab 21 45 47.8 +0.9
ZVC Zvikov 145.55 352 *e*PKP **PKPab 21 45 47.2 +0.4**
TURR Turia 145.55 336 ⇑P PKPab 21 45 47.9 +0.9
KRUC Moravsky 145.56 349 *e*PKP **PKPab 21 45 46.5 -0.4**
BNN Bunyan 145.59 318 PKPdf 21 45 46.2 -0.8
GAZ Gaziantep 145.59 315 PKPdf 21 45 46.0 -1.0
OZUR 145.61 337 ⇓P PKPab 21 45 48.1 +0.9
TIRR Tirgusor 145.84 332 ⇑P PKPab 21 45 49.0 +1.0
TIRR Tirgusor 145.84 332 ⇑PKP2 PKPab 21 45 49.0 +1.0
CJR Cluj-Napoca 145.86 340 ⇑P PKPab 21 45 47.9 -0.3
CJR Cluj-Napoca 145.86 340 ⇑PKP2 PKPab 21 45 47.9 -0.3
DOPR Dopca 145.87 337 ⇑P PKPab 21 45 48.6 +0.5

HARR Harsova 145.87 333 ⇑P PKiKP 21 45 49.2 -2.0
HARR Harsova 145.87 333 ⇑PKP2 PKiKP 21 45 49.2 -2.0
PSZ Piszkesteto 145.88 345 PKPdf PKPbc 21 45 46.9 -0.8
PSZ Piszkesteto 145.88 345 PKIKP PKPbc 21 45 46.9 -0.8
KHC Kasperske Hory 145.94 352 *e*PKP2 **PKPab 21 45 48.7 +0.4**
KHC Kasperske Hory 145.94 352 *e*PKP **PKPab 21 45 48.7 +0.4**
TLBR Topalu 145.94 333 ⇑P PKiKP 21 45 49.4 -2.0
KMBO Kilima Mbogo 145.95 244 PKPbc PKPdf 21 45 47.9 -0.6
comp=Z,11nm,0.8s,baz=116,slow=2.3,SNR=12
NEHR Nehoiu 145.96 336 ⇑P PKPab 21 45 49.0 +0.4
MLR Muntele Rosu 146.05 336 PKPdf 21 45 45.6 -2.0
MLR Muntele Rosu 146.05 336 ⇑P PKPab 21 45 49.4 +0.4
MLR Muntele Rosu 146.05 336 PKIKP PKPdf 21 45 45.6 -2.0
MODS Modra-Piesok 146.05 348 *e*PKP **PKiKP 21 45 50.0 -1.5**
MARR Marisel-Cluj 146.06 340 ⇑P PKPab 21 45 48.4 -0.6
DRGR 146.09 341 ⇑P PKPbc 21 45 48.0 -0.4
DRGR 146.09 341 ⇑PKP2 PKPbc 21 45 48.0 -0.4
ISR Istrita 146.12 335 ⇓P PKiKP 21 45 50.9 -0.9
ISR Istrita 146.12 335 PKP2 PKiKP 21 45 50.9 -0.9
CKRC Cesky Krumlov 146.14 351 *e*PKP2 **PKPab 21 45 49.1 0.0**
CKRC Cesky Krumlov 146.14 351 *e*PKP **PKPab 21 45 49.1 0.0**
GERES GERESS Array B 146.20 352 PKPbc PKPab 21 45 49.4 0.0
comp=Z,4.1nm,0.9s,baz=46,slow=5.8,SNR=11
BR131 Keskin Array S 146.44 321 PKPbc PKPbc 21 45 49.1 -0.7
BR131 Keskin Array S 146.44 321 *c e*PKP2 **PKPab 21 45 50.0 -0.7**
BRTR Keskin Array B 146.44 321 PKPdf 21 45 48.1 -0.4
BRTR Keskin Array B 146.44 321 PKPbc PKPab 21 45 50.0 -0.7
comp=Z,11nm,0.9s,baz=104,slow=1.4,SNR=30
BRTR Keskin Array B 146.44 321 PKIKP PKPdf 21 45 48.1 -0.4
KIRS Kirsehir-Merke 146.63 320 ⇓P PKPab 21 45 50.8 -0.6
ARR Arges 146.66 337 ⇓P PKiKP 21 45 51.5 -1.4
CONA Conrad Observa 146.75 349 *i* pPKP **PKiKP 21 45 52.1 -1.0**
comp=Z,19nm,1.3s,SNR=6.0
DEV Deva 146.82 340 ⇓P PKPab 21 45 51.7 0.0
DEV Deva 146.82 340 PKP2 PKPab 21 45 51.7 0.0
ANTO Ankara 146.85 322 PKPbc PKPbc 21 45 49.9 -1.0
ANTO Ankara 146.85 322 ⇑P PKiKP 21 45 52.3 -1.2
ANTO Ankara 146.85 322 PKIKP PKPbc 21 45 49.9 -1.0
SIRR Siria 146.88 341 ⇑P PKPab 21 45 51.9 -0.1
RONA Rosalia, Austr 146.89 349 *i* pPKP **PKiKP 21 45 52.4 -1.0**
comp=Z,20nm,1.3s,SNR=6.7
LOT Lotru 146.90 338 ⇑P PKPab 21 45 51.5 -0.8
MOA Molln 147.09 351 *e*PKiKP **PKiKP 21 45 54.1 +0.4**
comp=Z,15nm,1.4s
SURR Surduc 147.19 340 ⇑P PKPab 21 45 51.8 -1.4
GZR Gura Zlata 147.30 339 ⇑P PKPab 21 45 53.0 -0.8
GZR Gura Zlata 147.30 339 ⇑PKP2 PKPab 21 45 53.0 -0.8
BIOA Bad Ischl, Aus 147.34 352 *e*pPKP **PKiKP 21 45 55.4 +1.2**
comp=Z,15nm,1.5s
MDUB Mudurnu 147.37 325 PKPbc PKPbc 21 45 51.7 -0.6
ARSA Arzberg 147.47 349 *e*PKiKP **PKiKP 21 45 54.9 +0.4**
comp=Z,12nm,1.3s
BZS Buzias 147.48 341 ⇑P PKPbc 21 45 50.8 -1.6
BZS Buzias 147.48 341 ⇑PKIKP PKPbc 21 45 50.8 -1.6
LESA Schwarzleotal 147.72 353 *e*PKiKP **PKPab 21 45 55.5 +0.1**
comp=Z,8.4nm,1.1s
MORH Mrgy, Hungar 147.78 345 ⇑P PKPbc 21 45 52.0 -1.1
RETA Reutte 147.85 355 *e*PKP **PKiKP 21 45 54.8 -0.6**
comp=Z,19nm,1.4s
HERR Herculane 147.87 339 ⇑P PKPbc 21 45 53.4 0.0
VLAD Vladila 147.90 336 ⇑P PKiKP 21 45 54.2 -1.3
WATA Walderalm 147.93 354 *e*PKP **PKiKP 21 45 54.9 -0.7**
comp=Z,15nm,1.3s
MOTA Moosalm 147.97 355 *e*PKP **PKiKP 21 45 54.9 -0.8**
comp=Z,19nm,1.1s
KBA Koelnbreinsper 147.98 352 *e*pPKP **PKPab 21 45 56.8 +0.3**
comp=Z,13nm,1.2s
WTTA Wattenberg 148.00 354 *e*PKP **PKiKP 21 45 55.2 -0.6**
comp=Z,6.9nm,0.7s
SQTA Sankt Quirin 148.08 355 *e*pPKP **PKiKP 21 45 54.6 -1.3**
comp=Z,17nm,1.6s
DAVA Damuels 148.12 356 *e*pPKP **PKiKP 21 45 55.2 -0.8**
comp=Z,17nm,1.1s
BORA Eskisehir 148.19 325 PKPdf PKPdf 21 45 51.0 -0.3
FETA Feichten 148.32 355 *e*PKiKP **PKiKP 21 45 56.3 -0.1**
comp=Z,12nm,1.2s
PLVB Pleven 148.32 335 ⇑P PKPbc 21 45 54.8 +0.2
OBKA Obir 148.35 350 *e*PKP **PKPbc 21 45 53.8 -1.0**
comp=Z,11nm,1.4s
MYKA Terra Mystica 148.38 351 *e*pPKP **PKPbc 21 45 54.7 -0.1**
comp=Z,5.9nm,0.9s
ABTA Abfaltersbach 148.41 353 *e*pPKP **PKiKP 21 45 55.6 -1.0**
comp=Z,20nm,1.5s
FUORN Ofenpass-Fuorn 148.75 356 PKPbc 21 45 55.6 -0.4
MMAI Mount Meron Ar 148.91 309 PKPbc PKPbc 21 45 55.3 -1.4
comp=Z,3.8nm,0.8s,baz=95,slow=4.9,SNR=3.7
BOVS Bovan 149.21 339 ⇑P PKPbc 21 45 55.9 -1.0
BLY Banja Luka 149.51 346 ⇑P PKPbc 21 45 56.7 -1.0
LODK Lodwar 149.71 250 PKPbc 21 45 57.1 -2.1
MANT Manisa 150.21 325 PKPbc 21 45 58.7 -1.2
PDG Podgorica 151.09 341 ⇑P PKPbc 21 45 59.4 -2.1
MBAR Mbarara 151.72 238 *c i* PKIKP **PKiKP 21 46 05.6 +1.1**
MBAR pmax pmax
comp=Z,11nm,1.7s
ESDC Sonseca Array 153.95 20 PKPbc PKiKP 21 46 08.4 +0.3
comp=Z,0.4nm,0.8s,baz=332,slow=4.3,SNR=1.7
TORD Torodi Ar. Bea 174.33 113 PKPab PKPab 21 47 52.9 +1.6
comp=Z,0.6nm,1.0s,baz=244,slow=5.2,SNR=1.9

NOU 09 21:44:21.4, 17°.62S×168°.38E, h0km, MLv3.5/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	0.18	166	P	Pg	21 44 24.9	+0.1
DVP	Devils Point	0.21	240	P	Pg	21 44 26.1	+0.6
YATNC	Mamie plateau,	4.63	197	P	Pn	21 45 32.6	-0.1
DZM	Mont Dzumac	4.79	202	P	Pn	21 45 34.3	-0.6
ONTNC	Ouen Toro	5.00	201	P	Pn	21 45 38.1	+0.3

IDC 09 21:49:48.9±7.6, 18°.29S×178°.16W, h596km±84km, mb3.0/6, mbtmp4.0/6, Error ellipse: s-maj=44.5km s-min=27.8km az=45.0

ISC 09 21:49:45.5±1.1, 18°.3S±0°.3×178°.1W±0°.2, h557km, n7, σ0874/9, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.74	242	P	P	21 56 23.2	+0.7
	1.4nm,0.4s,baz=80,slow=6.8,SNR=5.4						
	1.4nm,0.4s						
WRA	Warramunga Arr	44.88	260	P	P	21 57 11.1	-0.1
	1.6nm,0.5s,baz=96,slow=7.4,SNR=29						
WRA				PcP	PcP	21 58 39.9	-0.9
	0.3nm,0.5s,baz=98,slow=2.7,SNR=2.0						
	1.6nm,0.5s						
ASAR	Alice Springs	45.00	255	P	P	21 57 12.2	+0.1
	3.3nm,0.4s,baz=91,slow=7.8,SNR=63						
ASAR				PcP	PcP	21 58 40.3	-0.9
	0.5nm,0.5s,baz=94,slow=2.9,SNR=4.7						
	3.3nm,0.4s						
VNDA	Vanda	60.12	185	P	P	21 58 58.1	-0.8
	0.3nm,0.5s,baz=345,slow=7.7,SNR=2.3						
	0.3nm,0.5s						
QSPA	South Pole Qui	71.79	180	P	P	22 00 12.5	+0.7
	0.9nm,0.5s,baz=316,slow=0.9,SNR=7.3						
	0.9nm,0.5s						
TXAR	Lajitas Array	85.92	57	P	P	22 01 27.7	+0.3
	0.2nm,0.6s,baz=206,slow=4.5,SNR=2.8						
	0.2nm,0.6s						
BRTR	Keskin Array B	145.26	315	PKPbc	PKPdf	22 08 20.4	-0.1
	0.5nm,0.7s,baz=46,slow=6.2,SNR=2.3						

IDC 09 21:59:34.4±2.3, 8°.53S×130°.06E, h0km, mb3.3/1, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=117.1km s-min=27.5km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.08	160	Pn	Pn	22 02 28.6	+0.7
	0.2nm,0.3s,baz=344,slow=13,SNR=2.5						
WRA				Sn	Sn	22 04 42.2	-1.3
	0.2nm,0.3s,baz=326,slow=23,SNR=3.0						
	0.3nm,0.6s						
ASAR	Alice Springs	15.49	167	Pn	Pn	22 03 15.7	+1.2
	0.1nm,0.3s,baz=344,slow=7.5,SNR=4.5						
ASAR				Sn	Sn	22 06 06.4	-0.5
	0.1nm,0.3s,baz=357,slow=29,SNR=2.0						
	0.1nm,0.4s						
MKAR	Makanchi Array	69.53	327	P	P	22 10 45.0	-0.1
	0.1nm,0.4s,baz=136,slow=7.0,SNR=2.4						
	0.1nm,0.4s						

*SOME **09** 22:03:50.7, 42°.03N×72°.53E, h10km*
*KRNET **09** 22:03:50.7±0.1, 41°.94N×72°.49E, h26km, mb2.1*
*NNC **09** 22:03:52.3±1.9, 42°.07N×72°.55E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=21.1km s-min=6.7km az=157.0*
ISC 09 22:03:50.0±1.1, 42°.00N±0°.03×72°.54E±0°.03, h7km±11km, n16, σ0s64/30, 6C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.47**	**245**	⇓*i*P	**Pg**	**22 03 59.4**	**+0.2**
ARK				⇓*i*S	**Sg**	**22 04 05.6**	**+0.2**
ARSB	**Arslanbob**	**0.75**	**154**	⇓*i*P	**Pg**	**22 04 04.2**	**-0.3**
ARSB				⇓*i*S	**Sg**	**22 04 14.3**	**0.0**
MRKS	**Merke**	**0.90**	**34**	P	**Pn**	**22 04 08.8**	**-0.3**
	1.7nm,0.4s						
MRKS				S	**Sn**	**22 04 21.6**	**-0.9**
	6.1nm,0.2s						
MRKS	**Merke**	**0.90**	**34**	*e*P	**Pn**	**22 04 08.8**	**-0.3**
	1.1nm,0.3s						
MRKS				*e*S	**Sn**	**22 04 21.4**	**-1.1**
	9.9nm,0.3s						
EKS2	**Erkin-Say**	**1.13**	**54**	⇓*i*P	**Pn**	**22 04 12.9**	**+0.6**
EKS2				⇓*i*S	**Sn**	**22 04 28.9**	**+0.7**
TRKS	**Terek-Say**	**1.15**	**246**	⇓*i*P	**Pb**	**22 04 11.2**	**-1.0**
TRKS				⇓*i*S	**Sg**	**22 04 25.8**	**-1.1**
SALK	**Salom-Alik**	**1.48**	**139**	⇑*i*P	**Pn**	**22 04 17.2**	**+0.1**
SALK				⇑*i*S	**Sn**	**22 04 36.5**	**-0.2**
KK31	**Karatay Array**	**1.86**	**307**	⇓Pn	**Pb**	**22 04 24.3**	**0.0**
	0.7nm,0.2s,baz=126,slow=16,SNR=15						
KK31				Sn	**Sg**	**22 04 49.8**	**+0.1**
	1.8nm,0.2s,baz=118,slow=29,SNR=15						
IUG	**Iuzhnay**	**1.87**	**275**	P	**Pg**	**22 04 26.1**	**+0.2**
	4.4nm,0.3s						
IUG				S	**Sg**	**22 04 51.3**	**+1.2**
	22nm,0.4s						
KBK	**Karagaybulak**	**1.90**	**69**	⇑*i*P	**Pb**	**22 04 24.9**	**-0.2**
KBK				⇑*i*S	**Sb**	**22 04 49.6**	**+0.5**
USP	**Ospenovka**	**1.92**	**48**	⇓*i*P	**Pb**	**22 04 25.2**	**-0.1**
USP				⇓*i*S	**Sb**	**22 04 50.2**	**+0.7**
SFK	**Sufi-Kurgan**	**2.12**	**160**	⇑*i*P	**Pn**	**22 04 26.5**	**+0.5**
SFK				⇑*i*S	**Sn**	**22 04 52.5**	**-0.1**
BRLS	**Borolday**	**2.25**	**298**	Pg	**Pg**	**22 04 32.5**	**-0.5**
	0.8nm,0.5s						
BRLS				Lg	Lg	22 05 02.2	
	3.1nm,0.3s						
BRLS	**Borolday**	**2.25**	**298**	*e*P	**Pg**	**22 04 32.9**	**-0.1**
	0.5nm,0.2s						
BRLS				*e*S	**Sg**	**22 05 02.6**	**+0.5**
	3.1nm,0.2s						
KST	**Kastek**	**2.74**	**67**	Pg	**Pb**	**22 04 40.5**	**+1.2**
	0.7nm,0.5s						
KST				Lg	Lg	22 05 15.7	
	2.5nm,0.6s						
KST	**Kastek**	**2.74**	**67**	*e*P	**Pg**	**22 04 41.6**	**-0.8**
	0.3nm,0.1s						
KST				*e*S	**Sg**	**22 05 17.6**	**-0.3**
	4.9nm,0.5s						

*IDC **09** 22:06:38.3±1.4, 5°.62N×126°.41E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=145.2km s-min=16.6km az=66.0*
ISC 09 22:06:39.9±1.9, 5°.6N±0°.7×12°.6E±°, h10km, n8, σ0s88/9, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.63**	**331**	Pn	**Pn**	**22 07 07.3**	**-1.4**
	47nm,0.3s,baz=277,slow=6.5,SNR=2.2						
DAV				Sn	**Sb**	**22 07 31.4**	**+0.6**
	39nm,0.3s,baz=257,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**22 12 17.6**	**-0.9**
	0.6nm,0.5s,baz=343,slow=10,SNR=9.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**30.03**	**166**	P	**P**	**22 12 49.5**	**+0.2**
	0.3nm,0.5s,baz=353,slow=8.0,SNR=6.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**55.80**	**325**	P	**P**	**22 16 18.1**	**+0.7**
	0.6nm,0.5s,baz=122,slow=7.3,SNR=11						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**58.74**	**333**	P	**P**	**22 16 38.1**	**+0.2**
	0.3nm,0.4s,baz=140,slow=7.4,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**59.96**	**327**	P	**P**	**22 16 46.5**	**+0.1**
	0.5nm,0.5s,baz=126,slow=6.5,SNR=7.0						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**65.54**	**327**	P	**P**	**22 17 23.8**	**+0.2**
	0.3nm,0.6s,baz=110,slow=6.3,SNR=1.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**90.00**	**332**	P	**P**	**22 19 40.4**	**+0.9**
	0.5nm,0.6s,baz=92,slow=7.0,SNR=4.3						
	0.5nm,0.6s						

*AEIC **09** 22:13:04.9±1.8, 53°.4N±0°.2×170°.1W±0°.1, h210km±8km, Error ellipse: s-maj=25.7km s-min=7.9km az=156.0*
NEIC 09 22:13:03.2±1.2, 53°.2N±0°.4×170°.0W±0°.2, h227km±11km, ML3.5/16, ML3.0(AEIC), Error ellipse: s-maj=55.9km s-min=7.7km az=160.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.37**	**173**	Pn	Pn	22 13 32.3	-0.9
CLES				Sn	S	22 13 56.8	+0.3
CLES				IAML		22 14 00.8	
	comp=N,290nm,0.9s						
CLES				IAML		22 14 16.2	
	comp=E,234nm,1.1s						
CLCO	**Concord Point,**	**0.43**	**160**		Pn	22 13 33.2	-0.1
CLCO					S	22 13 57.0	+0.2
NIKH	**Nikolski High**	**0.71**	**108**		Pn	22 13 33.4	-0.9
NIKH					S	22 13 56.3	-2.2
NIKH				IAML		22 13 57.1	
	comp=N,252nm,0.6s						
NIKH				IAML		22 13 57.3	
	comp=E,178nm,0.6s						
OKSP	**Okmok Steeple**	**1.01**	**86**		Pn	22 13 35.6	-0.3
OKSP					S	22 14 01.9	+0.5
OKWE	**Okmok W'ng Wal**	**1.07**	**74**		Pn	22 13 36.3	0.0
OKTU	**Okmok Mt. Tuli**	**1.17**	**80**		Pn	22 13 37.1	+0.1
MAPS	**Pakushin South**	**1.91**	**70**		Pn	22 13 43.0	+0.1
MAPS					S	22 14 12.3	-1.7
MGOD	**Makushin Gods**	**1.94**	**71**		Pn	22 13 43.4	+0.1
MREP	**Makushin Rep't**	**2.02**	**71**		Pn	22 13 44.4	+0.3
UNV	**Unalaska Valle**	**2.17**	**71**		Pn	22 13 45.4	0.0
UNV					S	22 14 17.1	-1.2
AKRB	**Akutan Reef Bi**	**2.50**	**66**		Pn	22 13 49.7	+0.9
AKMO	**Akutan Morgan**	**2.52**	**67**		Pn	22 13 49.7	+0.6
LVA	**Lava Point**	**2.53**	**66**	Pn	Pn	22 13 49.5	+0.3
LVA				IAML		22 15 35.1	
	comp=E,145nm,1.1s						
ZRO	**Akutan Zero**	**2.54**	**68**		Pn	22 13 50.0	+0.7
AHB	**Akutan Harbor**	**2.64**	**68**		Pn	22 13 50.8	+0.5
AKUT	**Akutan**	**2.67**	**68**	Pn	Pn	22 13 50.9	+0.4
GSTR	**Great Sitkin T**	**3.87**	**256**	Pn	Pn	22 14 03.9	-0.5
GSTR				Sn	S	22 14 52.7	0.0
ADK	**Adak**	**4.30**	**255**	Pn	Pn	22 14 08.6	-1.1
ADK	**Adak**	**4.30**	**255**	IAML		22 15 00.9	
	comp=E,48nm,0.2s						
KIWB	**Kanaga Island**	**4.59**	**256**	Pn	Pn	22 14 12.3	-0.9
KIWB				IAML		22 15 07.0	
	comp=N,28nm,1.1s						
KIWB				IAML		22 15 17.4	
	comp=E,30nm,1.2s						
SDPT	**Sand Point**	**5.97**	**65**	Pn	Pn	22 14 29.5	-0.9
CNBA	**Chernabura Isl**	**6.33**	**71**	Pn	Pn	22 14 34.5	-0.5
AMKA	**Amchitka**	**6.83**	**259**	Pn	Pn	22 14 39.6	-1.7
PLK4	**Peulik 4**	**8.92**	**55**	Pn	Pn	22 15 08.0	-0.2
OHAK	**Old Harbor**	**10.35**	**60**	Pn	Pn	22 15 24.3	-1.9
KDAK	**Kodiak Island**	**10.87**	**58**	Pn	Pn	22 15 31.6	-1.4
N19K	**Bonanza Creek**	**11.36**	**42**	Pn	Pn	22 15 38.9	-0.2

*IDC **09** 22:15:41.2±0.9, 34°.34N×7°.97E, h0km, mb3.7/13, mbtmp3.6/17, ML3.5/3, Error ellipse: s-maj=22.7km s-min=12.9km az=124.0*
*TUN **09** 22:15:43.1, 34°.19N×8°.22E, h0km, MD3.8*
ISC 09 22:15:42.2±0.8, 34°.21N±0°.07×8°.09E±0°.07, h10km, n26, σ1s23/27, mb3.7/13, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OAR	**Oum El Arais**	**0.41**	**38**	*i*P	**Pg**	**22 15 49.7**	**-0.5**
BERT	**Berda**	**0.76**	**87**	*i*P	**Pg**	**22 15 54.8**	**-2.1**
SYA	**Sidi Yaiche**	**0.80**	**48**	*i*P	**Pg**	**22 15 57.2**	**-0.4**
THTN	**Thala**	**1.44**	**20**	*i*P	**Pg**	**22 16 10.2**	**+0.4**
TROT	**Trozza**	**1.83**	**42**	*i*P	**Pn**	**22 16 14.4**	**+0.5**
KEST	**Kesra**	**1.84**	**34**	Pg	**Pn**	**22 16 14.9**	**+1.1**
	12nm,0.3s,baz=145,slow=7.6,SNR=409						
KEST				Lg	Lg	22 16 38.0	
	21nm,0.3s,baz=11,slow=21,SNR=7.1						
BTHT	**Jabal bu Thady**	**2.03**	**62**	*i*P	**Pb**	**22 16 18.9**	**-0.3**
KRIT	**Krib**	**2.27**	**20**	*i*P	**Pn**	**22 16 21.3**	**+1.4**
VAE	**Valguarnera**	**6.08**	**56**	Pn	**Pn**	**22 17 12.8**	**+0.6**
	8.8nm,0.8s,baz=347,slow=9.4,SNR=2.1						
VAE				Sn	**Sn**	**22 18 24.3**	**+2.4**
	0.4nm,0.3s,baz=298,slow=18,SNR=1.7						
ESDC	**Sonseca Array**	**11.08**	**303**	Pn	**Pn**	**22 18 19.0**	**-1.7**
	baz=340,slow=10.0,SNR=1.2						
	0.3nm,0.9s						
GERES	**GERESS Array B**	**15.21**	**14**	Pn	**Pn**	**22 19 14.9**	**-2.2**
	baz=184,slow=11,SNR=1.6						
	0.3nm,0.4s						
VRAC	**Vranov**	**16.35**	**20**	Pn	**Pn**	**22 19 31.7**	**0.0**
	0.3nm,0.3s,baz=239,slow=8.9,SNR=4.5						
	0.8nm,0.3s						
BRTR	**Keskin Array B**	**21.11**	**67**	P	**P**	**22 20 28.1**	**+1.0**
	0.5nm,0.8s,baz=268,slow=9.9,SNR=1.8						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**21.76**	**197**	P	**P**	**22 20 35.9**	**+1.9**
	1.5nm,0.7s,baz=19,slow=9.7,SNR=11						
	1.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**22.53**	**343**	P	**P**	**22 20 40.6**	**-1.4**
	1.1nm,0.7s,baz=148,slow=11,SNR=3.5						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**22.56**	**37**	P	**P**	**22 20 41.1**	**-1.3**
	1.0nm,0.5s,baz=237,slow=9.0,SNR=5.1						
	1.0nm,0.5s						
HFS	**Hagfors**	**26.20**	**6**	P	**P**	**22 21 16.4**	**-0.4**
	0.9nm,0.5s,baz=187,slow=11,SNR=1.6						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**26.92**	**3**	P	**P**	**22 21 22.9**	**-0.5**
	0.3nm,0.7s,baz=185,slow=8.6,SNR=1.6						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**29.59**	**17**	P	**P**	**22 21 46.1**	**-1.0**
	3.3nm,0.9s,baz=218,slow=6.5,SNR=7.9						
	3.3nm,0.9s						
ARCES	**ARCESS Array B**	**36.68**	**10**	P	**P**	**22 22 47.9**	**-0.9**
	2.1nm,0.9s,baz=67,slow=9.3,SNR=7.1						
	2.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**44.22**	**2**	P	**P**	**22 23 50.9**	**-0.2**
	4.8nm,0.8s,baz=198,slow=10.0,SNR=1.6						
	4.8nm,0.8s						
BVAR	**Borovoye Array**	**47.26**	**47**	P	**P**	**22 24 15.8**	**+0.4**
	0.4nm,0.6s,baz=282,slow=7.2,SNR=2.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**52.54**	**49**	P	**P**	**22 24 56.2**	**+0.6**
	0.6nm,0.3s,baz=295,slow=9.1,SNR=1.3						
MKAR	**Makanchi Array**	**55.83**	**53**	P	**P**	**22 25 19.9**	**+0.3**
	0.3nm,0.5s,baz=306,slow=4.2,SNR=4.1						
	0.3nm,0.5s						
BOSA	**Boshof**	**64.56**	**163**	P	**P**	**22 26 21.2**	**+1.6**
	1.8nm,0.9s,baz=109,slow=18,SNR=1.1						
	1.8nm,0.9s						
PDAR	**Pinedale Array**	**84.53**	**319**	P	**P**	**22 28 16.3**	**+0.5**
	0.2nm,0.6s,baz=336,slow=5.8,SNR=1.5						
	0.2nm,0.6s						

IDC 09 22:16:10.3±5.0, 4°.68S×152°.29E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/2, Error ellipse: s-maj=161.5km s-min=33.0km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.94**	**122**	LR	LR	22 22 11.9	
	comp=Z,188nm,18.6s,baz=309,slow=40						
GUMO	**Guam**	**19.59**	**338**	LR	LR	22 27 57.7	
	comp=Z,69nm,19.7s,baz=204,slow=36						
WRA	**Warramunga Arr**	**23.15**	**228**	P	P	22 21 18.5	0.0
	0.6nm,0.3s,baz=52,slow=9.8,SNR=12						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.90**	**221**	P	P	22 21 44.4	+0.1
	0.4nm,0.6s,baz=54,slow=9.1,SNR=5.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**79.90**	**319**	P	P	22 28 22.9	+1.8
	0.2nm,0.7s,baz=98,slow=4.4,SNR=1.6						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**88.84**	**323**	P	P	22 29 04.4	-2.0
	0.5nm,0.7s,baz=92,slow=4.8,SNR=3.5						
	0.5nm,0.7s						

IDC 09 22:22:55.9±16.0, 7°.17S×129°.60E, h339km±199km, mb2.6/1, mbtmp3.3/4, Error ellipse: s-maj=122.7km s-min=56.2km az=28.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**199**	P	Pn	22 25 30.2	-2.0
	0.2nm,0.3s,baz=359,slow=11,SNR=6.4						
FITZ				S	S	22 27 36.5	-4.6
	0.6nm,0.4s,baz=97,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.51**	**161**	P	P	22 25 54.6	-0.1
	0.4nm,0.5s,baz=342,slow=11,SNR=5.3						
WRA				S	S	22 28 14.5	-8.4
	0.4nm,0.9s,baz=345,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**16.92**	**166**	P	P	22 26 32.8	+0.9
	0.6nm,0.6s,baz=341,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**68.15**	**327**	P	P	22 33 20.5	+0.3
	0.1nm,0.5s,baz=123,slow=6.1,SNR=2.3						
	0.1nm,0.5s						

*IDC **09** 22:24:42.4±1.1, 28°.76N×143°.57E, h0km, mb3.8/6, mbtmp3.7/6, Error ellipse: s-maj=64.6km s-min=25.1km az=107.0*
ISC 09 22:24:47.8±1.1, 28°.7N±0°.2×143°.6E±0°.4, h35km, n6, σ0s40/6, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.21**	**192**	P	**P**	**22 33 32.8**	**+0.1**
	0.6nm,0.4s,baz=11,slow=8.4,SNR=7.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**52.92**	**191**	P	**P**	**22 34 00.4**	**-0.3**
	0.2nm,0.5s,baz=13,slow=7.9,SNR=1.9						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**55.69**	**29**	P	**P**	**22 34 19.8**	**-0.5**
	0.3nm,0.6s,baz=278,slow=7.3,SNR=2.4						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**77.02**	**334**	P	**P**	**22 36 36.9**	**+0.1**
	3.1nm,1.0s,baz=52,slow=5.4,SNR=4.2						
	3.1nm,1.0s						
PDAR	**Pinedale Array**	**82.19**	**45**	P	**P**	**22 37 05.6**	**0.0**
	0.6nm,0.8s,baz=286,slow=9.0,SNR=4.1						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**93.64**	**54**	P	**P**	**22 38 01.4**	**+0.4**
	0.5nm,0.8s,baz=270,slow=1.3,SNR=5.9						
	0.5nm,0.8s						

*IDC **09** 23:00:43.1±1.7, 1°.29N×125°.95E, h0km, mb3.4/4, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=128.7km s-min=22.3km az=68.0*
*DJA **09** 23:00:51.3±1.3, 1°.N±3°×12°.6E±°, h18km±11km, M3.3/11, mb3.4/4, MLv3.2/11*
ISC 09 23:00:50.0±1.3, 1°.5N±0°.1×126°.32E±0°.09, h47km, n11, σ2s57/12, mb3.3/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.30**	**126**	P	**Pn**	**23 01 12.8**	**+1.1**
TNTI				S	**Sn**	**23 01 29.3**	**+1.4**
LBMI	**Labuha**	**2.46**	**151**	P	**Pn**	**23 01 28.9**	**+1.2**
SANI	**Sanana**	**3.58**	**185**	P	**Pn**	**23 01 43.6**	**+0.6**
LUWI	**Luwuk**	**4.37**	**234**	P	**Pn**	**23 01 58.3**	**+4.4**
KDI	**Kendari**	**6.59**	**214**	P	**Pn**	**23 02 26.7**	**+2.3**
	0.0nm0.4nm,0.8s						
FAKI	**Fak Fak**	**7.40**	**127**	P	**Pn**	**23 02 38.2**	**+2.7**
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**23 05 10.5**	**-3.1**
	0.1nm,0.3s,baz=0.0,slow=8.1,SNR=1.2						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**22.75**	**160**	P	**P**	**23 05 45.5**	**-2.9**
	0.4nm,0.3s,baz=336,slow=11,SNR=5.0						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**26.11**	**164**	P	**P**	**23 06 17.6**	**-2.2**
	0.2nm,0.3s,baz=341,slow=8.2,SNR=4.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.12**	**326**	P	**P**	**23 10 45.6**	**-0.2**
	0.1nm,0.4s,baz=118,slow=7.8,SNR=3.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**63.36**	**328**	P	**P**	**23 11 14.4**	**0.0**
	0.2nm,0.3s,baz=122,slow=6.0,SNR=1.4						
	0.2nm,0.3s						

*SCB **09** 23:03:23.8±1.4, 22°.75S×67°.81W, h169km±18km, MB5.5, ML3.8/3, Error ellipse: s-maj=6.6km s-min=3.7km az=1.0*
*SJA **09** 23:03:23.8±1.1, 22°.81S×67°.81W, h165km, ML3.5, MW3.4*
*GUC **09** 23:03:24.4±0.7, 22°.79S×67°.88W, h178km±5km, ML3.7*
*NEIC **09** 23:03:25.0±1.4, 22°.77S±0°.06×67°.9W±0°.2, h160km±6km, mb4.2/7, ML3.7(GUC), Error ellipse: s-maj=20.3km s-min=8.7km az=91.0*
*IDC **09** 23:03:25.1±4.6, 22°.61S×67°.24W, h149km±56km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=80.0km s-min=24.8km az=105.0*
ISC 09 23:03:24.0±0.7, 22°.79S±0°.03×67°.77W±0°.04, h159km±6km, n89, σ1s40/114, mb3.9/3, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.41**	**247**		**Pn**	**23 03 47.4**	**+1.0**
AF01				Sn	**Sn**	**23 04 04.4**	**+0.9**
AF01	**San Pedro de A**	**0.41**	**247**	*e*P	**Pn**	**23 03 47.4**	**+1.0**
AF01	**San Pedro de A**	**0.41**	**247**	*e*P	**Pn**	**23 03 48.1**	**+1.7**
AF01				*e*S	Sn	23 03 55.9	-7.6
AF01				IAML		23 04 24.7	
	comp=Z,402nm,0.8s						
PB06	**IPOC Station P**	**1.66**	**273**		**Pn**	**23 03 56.9**	**+0.8**
PB06	**IPOC Station P**	**1.66**	**273**	*e*P	**Pn**	**23 03 57.0**	**+0.8**
PB06				*e*S	**Sn**	**23 04 21.1**	**+0.2**
PB06	**IPOC Station P**	**1.66**	**273**	Pg	**Pn**	**23 03 57.1**	**+0.8**
PB06	**IPOC Station P**	**1.66**	**273**	*e*P	**Pn**	**23 03 57.0**	**+0.8**
PB06				IAML		23 04 23.4	
	comp=Z,566nm,0.3s						
PB09	**IPOC Station P**	**1.68**	**306**		**Pn**	**23 03 57.6**	**+1.1**
PB09	**IPOC Station P**	**1.68**	**306**	*e*P	**Pn**	**23 03 57.6**	**+1.1**
PB09				*e*S	**Sn**	**23 04 22.3**	**+1.0**
PB09				IAML		23 04 24.2	
	comp=E,322nm,0.3s						
PB09	**IPOC Station P**	**1.68**	**306**	Pg	**Pn**	**23 03 57.5**	**+1.1**
PB09	**IPOC Station P**	**1.68**	**306**	*e*P	**Pn**	**23 03 57.4**	**+1.0**
PB09				*e*S	**Sn**	**23 04 23.0**	**+1.7**
PB09				IAML		23 04 23.8	
	comp=Z,304nm,0.6s						
SALTA		**1.94**	**138**	*e*P	**Pn**	**23 04 01.0**	**+1.5**
SALTA				*e*P		23 04 01.3	
PB03	**IPOC Station P**	**1.98**	**292**		**Pn**	**23 04 00.3**	**+0.6**
PB03	**IPOC Station P**	**1.98**	**292**	⇓*e*P	**Pn**	**23 04 00.3**	**+0.6**
PB03	**IPOC Station P**	**1.98**	**292**	*e*P	**Pn**	**23 04 00.2**	**+0.6**
PB03				*e*S	**Sn**	**23 04 26.9**	**-0.2**
PB03				IAML		23 04 28.0	
	comp=Z,856nm,0.3s						
YJA	**Yavi**	**2.17**	**74**	Pg	**Pn**	**23 04 04.0**	**+1.8**
YJA	**Yavi**	**2.17**	**74**	*e*P	**Pn**	**23 04 04.0**	**+1.8**
YJA				*e*S	**Sn**	**23 04 26.9**	**-4.7**
HJA	**Humahuaca**	**2.22**	**101**	*e*P	**Pn**	**23 04 03.9**	**+1.2**
PB01	**IPOC Station P**	**2.36**	**317**		**Pn**	**23 04 04.3**	**+0.3**
PB01	**IPOC Station P**	**2.36**	**317**	*e*P	**Pn**	**23 04 04.3**	**+0.3**
PB01				*e*S	**Sn**	**23 04 34.5**	**-0.3**
PB01				IAML		23 04 36.3	
	comp=N,431nm,0.2s						
PB01	**IPOC Station P**	**2.36**	**317**	Pg	**Pn**	**23 04 04.3**	**+0.3**
PB01				Sg	**Sn**	**23 04 35.2**	**+0.3**
PB01				IAML		23 04 36.4	
	comp=N,466nm,0.2s						
PB01	**IPOC Station P**	**2.36**	**317**	*e*P	**Pn**	**23 04 03.9**	**-0.1**
PB01				*e*S	**Sn**	**23 04 35.2**	**+0.3**
PB01				IAML		23 04 36.6	
	comp=Z,276nm,0.1s						
PB02	**IPOC Station P**	**2.45**	**306**		**Pn**	**23 04 05.6**	**+0.4**
PB02	**IPOC Station P**	**2.45**	**306**	*e*P	**Pn**	**23 04 05.5**	**+0.4**
PB02				IAML		23 04 37.3	
	comp=N,360nm,0.1s						
PB02	**IPOC Station P**	**2.45**	**306**	Pg	**Pn**	**23 04 05.7**	**+0.5**
PB02				Sg	**Sn**	**23 04 36.5**	**-0.5**
PB02				IAML		23 04 37.3	
	comp=N,338nm,0.2s						
PB02	**IPOC Station P**	**2.45**	**306**	*e*P	**Pn**	**23 04 05.4**	**+0.2**
PB02				*e*S	**Sn**	**23 04 36.7**	**-0.3**
PB02				IAML		23 04 37.8	
	comp=Z,528nm,0.4s						
MOCB	**Mochara**	**2.50**	**53**	Pg	**Pn**	**23 04 06.3**	**+0.2**
PB10	**IPOC Station P**	**2.66**	**254**		**Pn**	**23 04 07.9**	**+0.4**
PB10	**IPOC Station P**	**2.66**	**254**	⇑*e*P	**Pn**	**23 04 07.9**	**+0.4**
PB10				*e*S	**Sn**	**23 04 40.2**	**-1.0**
PB10				IAML		23 04 41.2	
	comp=N,162nm,0.2s						
PB10	**IPOC Station P**	**2.66**	**254**	*e*P	**Pn**	**23 04 07.8**	**+0.3**
PB10				*e*S	**Sn**	**23 04 40.6**	**-0.6**
PB10				IAML		23 04 42.8	
	comp=Z,143nm,0.3s						
SLA	**San Lorenzo**	**2.83**	**133**	*e*P	**Pn**	**23 04 11.6**	**+1.8**
AZAP	**Zapla**	**2.87**	**120**	*e*P	**Pn**	**23 04 10.9**	**+0.6**
GO02	**Mina Guanaco**	**2.89**	**215**		**Pn**	**23 04 11.1**	**+0.4**
GO02	**Mina Guanaco**	**2.89**	**215**	⇑*e*P	**Pn**	**23 04 11.4**	**+0.7**
GO02	**Mina Guanaco**	**2.89**	**215**	Pg	**Pn**	**23 04 11.8**	**+1.1**
GO02	**Mina Guanaco**	**2.89**	**215**	*e*P	**Pn**	**23 04 10.7**	**0.0**
GO02				*e*S	**Sn**	**23 04 47.2**	**+0.3**
GO02				IAML		23 04 50.9	
	comp=Z,210nm,0.2s						
PB08	**IPOC Station P**	**2.93**	**334**		**Pn**	**23 04 12.3**	**+1.0**
PB08	**IPOC Station P**	**2.93**	**334**	Pg	**Pn**	**23 04 12.4**	**+1.1**
PB08	**IPOC

AC06	**Mina Casimiro**	**5.12 207**		**Pn**	**23 04 37.0**	**-2.2**
GO03	**Copiapo**	**5.28 204**		**Pn**	**23 04 39.4**	**-2.0**
GO03	**Copiapo**	**5.28 204**	*e*S	**Sn**	**23 05 40.0**	**-1.8**
GO03			IAML		23 05 41.4	
	comp=Z,20nm,0.2s					
BBOE	**La Paz, Chanca**	**5.95 358**	Pg	**Pn**	**23 04 50.9**	**+0.2**
LPAZ	**La Paz**	**6.48 357**		**Pn**	**23 04 58.3**	**+0.5**
LPAZ	**La Paz**	**6.48 357**	P	**Pn**	**23 04 58.5**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=123,slow=4.6,SNR=23					
LPAZ			S	**Sn**	**23 06 07.9**	**-3.3**
	comp=Z,1.3nm,0.5s,baz=294,slow=22,SNR=4.7					
LPAZ	**La Paz**	**6.48 357**	Pg	**Pn**	**23 04 57.3**	**-0.5**
BBOB	**La Paz, Bander**	**6.62 357**	Pg	**Pn**	**23 04 59.2**	**-0.4**
LCO	**Las Campanas**	**6.73 202**	Pn	**Pn**	**23 04 58.7**	**-2.1**
GO04	**Tololo Observa**	**7.84 200**	Pn	**Pn**	**23 05 13.3**	**-2.1**
CO03	**El Pedregal**	**8.43 197**	Pn	**Pn**	**23 05 20.6**	**-2.6**
CO02	**Combarbal**	**8.86 198**	Pn	**Pn**	**23 05 24.9**	**-4.0**
PTLB	**Pontes e Lacer**	**10.95 50**		**Pn**	**23 05 54.2**	**-2.2**
VILB	**Vilhena**	**12.15 38**	Pn	**Pn**	**23 06 10.3**	**-1.8**
TRQA	**Tornquist**	**16.01 163**		**Pn**	**23 07 00.3**	**-0.1**
TRQA			IAmb	IAmb	23 07 08.1	
	comp=Z,9.1nm,1.4s					
MACA	**Manacapuru-AM**	**20.69 20**	P	**P**	**23 07 50.4**	**-1.4**
MACA			IAmb	IAmb	23 08 01.7	
	comp=Z,8.1nm,0.7s					
MAL2	**Monte Alegre,**	**24.50 34**	P	**P**	**23 08 29.3**	**+0.5**
MAL2			IAmb	IAmb	23 08 30.8	
	comp=Z,14nm,0.8s					
BOAV	**Boa Vista**	**26.01 17**	P	**P**	**23 08 40.4**	**-2.0**
SOCE	**Pocosol**	**36.87 332**	P	**P**	**23 10 16.8**	**-0.6**
SNAA	**Sanae**	**60.72 161**	P	**P**	**23 13 19.5**	**+1.2**
SNAA			IAmb	IAmb	23 13 20.9	
	comp=Z,5.2nm,1.5s					
SNAA	**Sanae**	**60.72 161**	P	**P**	**23 13 19.5**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=285,slow=6.6,SNR=8.8					
	comp=Z,0.6nm,0.6s					
QSPA	**South Pole Qui**	**67.41 180**	P	**P**	**23 14 06.0**	**+3.9**
QSPA			IAmb	IAmb	23 14 28.2	
	comp=Z,4.7nm,1.4s					
QSPA	**South Pole Qui**	**67.41 180**	P	**P**	**23 14 06.2**	**+4.1**
	comp=Z,0.6nm,0.5s,baz=153,slow=9.0,SNR=9.9					
	comp=Z,0.6nm,0.5s					
TORD	**Torodi Ar. Bea**	**76.80 70**	P	**P**	**23 14 58.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=262,slow=5.4,SNR=9.1					
	comp=Z,0.3nm,0.4s					
MKAR	**Makanchi Array**	**146.03 38**	PKPbc	**PKPbc**	**23 22 44.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=289,slow=4.4,SNR=1.8					

*SFS **09** 23:10:24.0, 36°.78N×6°.87W, h45km, ML2.8/12, ML3.0/13, MLv2.8/13*
*CNRM **09** 23:10:25.5, 36°.63N×7°.22W, h53km, ML1.6*
*MDD **09** 23:10:26.2±0.3, 36°.79N×6°.90W, h40km±9km, mb_Lg2.8/23, Error ellipse: s-maj=3.3km s-min=2.3km az=12.0*
*INMG **09** 23:10:27.2±1.6, 36°.81N×6°.89W, h38km±11km, ML2.0, Error ellipse: s-maj=3.6km s-min=2.1km az=26.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*IGIL **09** 23:10:27.1, 36°.82N×6°.91W, h40km, ML2.0*

ISC 09 23:10:24.7±1.1, 36°.81N±0°.03×6°.87W±0°.02, h54km±10km, n80, σ1°.40/133, 1C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARNO	**Arenosillo**	**0.31**	**22**	P	**Pn**		**23 10 34.4**	**+0.1**
ARNO				S	**Sn**		**23 10 41.3**	**0.0**
CNIL	**Conil**	**0.79**	**123**	P	**Pn**		**23 10 39.3**	**-0.6**
ESPR	**Espera**	**0.82**	**86**	P	**Pn**		**23 10 41.1**	**+0.9**
ESPR				S	**Sn**		**23 10 52.4**	**+0.9**
ESPR	**Espera**	**0.82**	**86**	⇑P	**Pn**		**23 10 41.2**	**+1.0**
ESPR				S	**Sn**		**23 10 51.6**	**+0.1**
ESPR				*i* IVmb_Lg			23 10 53.3	
EGRO	**El Granado**	**0.87**	**326**	⇓P	**Pn**		**23 10 41.8**	**+1.0**
EGRO				S	**Sn**		**23 10 52.1**	**-0.5**
EGRO				*i* IVmb_Lg			23 10 54.6	
PVAQ	**Vaqueiros**	**0.90**	**312**	⇓*e*P	**Pn**		**23 10 42.0**	**+0.8**
PVAQ				*e*S	**Sn**		**23 10 53.3**	**0.0**
PVAQ				*i* IAML			23 10 53.8	
PVAQ				*i* IAML			23 10 53.8	
PVAQ				*i* IAML			23 10 53.9	
PVAQ	**Vaqueiros**	**0.90**	**312**	P	**Pn**		**23 10 42.0**	**+0.8**
PBDV	**Barranco-do-Ve**	**0.95**	**297**	P	**Pn**		**23 10 42.5**	**+0.6**
PBDV				S	**Sn**		**23 10 54.5**	**-0.1**
PBDV	**Barranco-do-Ve**	**0.95**	**297**	⇓*e*P	**Pn**		**23 10 42.8**	**+0.8**
PBDV				*e*S	**Sn**		**23 10 54.8**	**+0.2**
PBDV				*i* IAML			23 10 55.0	
PBDV				*i* IAML			23 10 55.2	
EMIN	**Mina Concepcio**	**0.97**	**10**	P	**Pn**		**23 10 43.0**	**+0.9**
EMIN				S	**Sn**		**23 10 55.1**	**+0.1**
EMIN	**Mina Concepcio**	**0.97**	**10**	P	**Pn**		**23 10 43.1**	**+0.9**
EMIN				S	**Sn**		**23 10 55.1**	**+0.1**
EMIN				*i* IVmb_Lg			23 10 56.2	
EJIF	**Jimena Fronter**	**1.19**	**107**	P	**Pn**		**23 10 47.1**	**+2.1**
EJIF				S	**Sn**		**23 11 01.6**	**+1.5**
PCVE	**Castro Verde**	**1.24**	**312**	P	**Pn**		**23 10 46.0**	**+0.3**
PCVE				S	**Sn**		**23 11 01.0**	**-0.4**
PCVE	**Castro Verde**	**1.24**	**312**	*e*P	**Pn**		**23 10 46.7**	**+1.0**
PCVE				*e*S	**Sn**		**23 11 01.8**	**+0.3**
PCVE				*i* IAML			23 11 04.0	
PCVE				*i* IAML			23 11 07.4	
PCVE				*i* IAML			23 11 08.2	
E1302	**La Puebla de C**	**1.34**	**76**	P	**Pn**		**23 10 49.0**	**+1.8**
E1302				S	**Sn**		**23 11 03.9**	**-0.1**
E1302				*i* IVmb_Lg			23 11 07.1	
PBAR	**Barrancos**	**1.37**	**355**	P	**Pn**		**23 10 48.5**	**+1.0**
PBAR				S	**Sn**		**23 11 04.6**	**0.0**
PBAR	**Barrancos**	**1.37**	**355**	*e*P	**Pn**		**23 10 48.7**	**+1.2**
PBAR				*e*S	**Sn**		**23 11 04.9**	**+0.4**
PBAR				*i* IAML			23 11 05.6	
PBAR				*i* IAML			23 11 06.1	
PBAR				*i* IAML			23 11 06.2	
PBEJ	**Beja**	**1.45**	**327**	*e*P	**Pn**		**23 10 49.7**	**+1.1**
PBEJ				*e*S	**Sn**		**23 11 06.6**	**+0.1**
PBEJ				*i* IAML			23 11 07.1	
PBEJ				*i* IAML			23 11 07.2	
PBEJ				*i* IAML			23 11 07.3	
MESJ	**Messejana**	**1.48**	**314**	*e*P	**Pn**		**23 10 50.2**	**+1.1**
MESJ				*e*S	**Sn**		**23 11 06.7**	**-0.7**
MESJ				IAML			23 11 08.2	
	comp=N,12nm,0.1s							
MESJ	**Messejana**	**1.48**	**314**	*e*P	**Pn**		**23 10 50.2**	**+1.1**
MESJ				*e*S	**Sn**		**23 11 07.0**	**-0.4**
MESJ				*i* IAML			23 11 08.1	
MESJ				*i* IAML			23 11 08.2	
MESJ				*i* IAML			23 11 08.3	
MORF	**Marmelete**	**1.51**	**290**	*e*S	**Sn**		**23 11 07.1**	**-0.8**
MORF				IAML			23 11 08.2	
	comp=N,17nm,0.2s							
MORF	**Marmelete**	**1.51**	**290**	*e*S	**Sn**		**23 11 07.8**	**-0.2**
MORF				*i* IAML			23 11 08.9	
MORF				*i* IAML			23 11 09.0	
MORF				*i* IAML			23 11 09.6	
PFVI	**Vila Bisbo**	**1.60**	**282**	S	**Sn**		**23 11 08.2**	**-1.9**
PFVI	**Vila Bisbo**	**1.60**	**282**	*e*S	**Sn**		**23 11 09.4**	**-0.7**
PTEO	**Sao Teotonio**	**1.65**	**297**	*e*P	**Pn**		**23 10 52.8**	**+1.5**
PTEO				*e*S	**Sn**		**23 11 11.9**	**+0.5**
PTEO				*i* IAML			23 11 12.6	
PTEO				*i* IAML			23 11 12.9	
PTEO				*i* IAML			23 11 13.3	
SMIR	**Smir Dam**	**1.65**	**133**	P	**Pn**		**23 10 52.8**	**+1.5**
ECAB	**El Cabril**	**1.71**	**42**	P	**Pn**		**23 10 52.9**	**+0.7**
ECAB				S	**Sn**		**23 11 11.8**	**-1.2**
ECAB	**El Cabril**	**1.71**	**42**	P	**Pn**		**23 10 53.0**	**+0.7**
ECAB				S	**Sn**		**23 11 11.8**	**-1.2**
ECAB				*i* IVmb_Lg			23 11 14.1	
EVO	**Evora**	**1.94**	**333**	P	**Pn**		**23 10 56.4**	**+1.1**
EVO				S	**Sn**		**23 11 18.6**	**+0.1**
EVO	**Evora**	**1.94**	**333**	*e*P	**Pn**		**23 10 56.7**	**+1.4**
EVO				*e*S	**Sn**		**23 11 18.4**	**-0.1**
EVO				*i* IAML			23 11 19.6	
EVO				*i* IAML			23 11 19.6	
EVO				*i* IAML			23 11 19.9	
EBAD	**Badajoz**	**1.94**	**357**	P	**Pn**		**23 10 56.0**	**+0.7**
EBAD				S	**Sn**		**23 11 18.6**	**0.0**
EBAD	**Badajoz**	**1.94**	**357**	⇓P	**Pn**		**23 10 56.6**	**+1.2**
EBAD				S	**Sn**		**23 11 18.0**	**-0.6**
EBAD				*i* IVmb_Lg			23 11 19.2	
PESTR	**Estremoz**	**2.13**	**345**	P	**Pn**		**23 10 58.0**	**+0.1**
PESTR				S	**Sn**		**23 11 22.4**	**-0.8**
PESTR	**Estremoz**	**2.13**	**345**	*e*P	**Pn**		**23 10 59.2**	**+1.3**
PESTR				*i* IAML			23 11 22.9	
PESTR				*e*S	**Sn**		**23 11 23.0**	**-0.2**
PESTR				*i* IAML			23 11 24.7	
PESTR				*i* IAML			23 11 25.1	
PESTR	**Estremoz**	**2.13**	**345**	P	**Pn**		**23 11 00.7**	**+2.8**
PESTR	**Estremoz**	**2.13**	**345**	S	**Sn**		**23 11 27.1**	**+3.9**
EADA	**Adamuz**	**2.27**	**53**	P	**Pn**		**23 11 01.0**	**+1.2**
EADA				S	**Sn**		**23 11 25.4**	**-1.3**
EADA	**Adamuz**	**2.27**	**53**	P	**Pn**		**23 11 01.5**	**+1.6**
EADA				S	**Sn**		**23 11 25.2**	**-1.5**
EADA				*i* IVmb_Lg			23 11 28.6	
PMTG	**Montargil**	**2.49**	**335**	*e*P	**Pn**		**23 11 04.1**	**+1.2**
PMTG				*e*S	**Sn**		**23 11 31.3**	**-0.7**
PMTG				*i* IAML			23 11 33.8	
PMTG				*i* IAML			23 11 34.9	
PMTG				*i* IAML			23 11 34.9	
ELGU	**Los Guajares,**	**2.61**	**88**	S	**Sn**		**23 11 33.8**	**-1.2**
ELGU	**Los Guajares,**	**2.61**	**88**	P	**Pn**		**23 11 06.1**	**+1.7**
ELGU				S	**Sn**		**23 11 34.7**	**-0.2**
ELGU				*i* IVmb_Lg			23 11 37.4	
PARRA	**Arraiolos**	**2.63**	**320**	*e*P	Pn		23 11 00.4	-4.4
PARRA				*e*S	Sn		23 11 24.6	-11
PARRA				*i* IAML			23 11 26.5	
PMRV	**Marv??o**	**2.64**	**351**	*e*P	**Pn**		**23 11 06.3**	**+1.4**
PMRV				*e*S	**Sn**		**23 11 34.7**	**-1.1**
PMRV				*i* IAML			23 11 35.1	
PMRV				*i* IAML			23 11 37.1	
PMAFR	**Mafra**	**2.87**	**319**	P	**Pn**		**23 11 06.7**	**-1.2**
PMAFR				S	**Sn**		**23 11 41.1**	**-0.1**
E0803	**Jimena (Jaen)**	**2.90**	**68**	P	**Pn**		**23 11 08.5**	**+0.1**
E0803				S	**Sn**		**23 11 41.6**	**-0.5**
PSARD	**Sardoal**	**2.96**	**340**	*e*P	**Pn**		**23 11 10.7**	**+1.4**
PSARD				*e*S	**Sn**		**23 11 42.6**	**-1.0**
PSARD				*i* IAML			23 11 44.7	
PSARD				*i* IAML			23 11 44.8	
PSARD				*i* IAML			23 11 45.1	
PCBR	**Castelo Branco**	**3.06**	**351**	*e*P	**Pn**		**23 11 12.2**	**+1.6**
PCBR				*e*S	**Sn**		**23 11 44.8**	**-1.1**
PSBE	**So Bento**	**3.09**	**331**	*e*P	**Pn**		**23 11 13.2**	**+2.1**
PSBE				*e*S	**Sn**		**23 11 46.4**	**-0.5**
PSIM	**Granatula de C**	**3.18**	**50**	P	**Pn**		**23 11 13.7**	**+1.4**
PSIM				S	**Sn**		**23 11 46.9**	**-2.1**
EQES	**Quesada**	**3.19**	**71**	P	**Pn**		**23 11 13.0**	**+0.5**
EQES				S	**Sn**		**23 11 48.9**	**-0.4**
EQES				*i* IVmb_Lg			23 11 50.7	
EPLA	**Plasencia**	**3.31**	**11**	P	**Pn**		**23 11 15.8**	**+1.8**
EPLA				S	**Sn**		**23 11 52.0**	**-0.1**
EPLA				*i* IVmb_Lg			23 11 53.3	
AKLM	**AKL**	**3.36**	**132**	P	**Pn**		**23 11 15.1**	**+0.3**
AKLM	**AKL**	**3.36**	**132**	S	**Sn**		**23 11 54.4**	**+0.9**
PAB	**San Pablo**	**3.38**	**35**	P	**Pn**		**23 11 16.6**	**+1.6**
PAB				S	**Sn**		**23 11 51.6**	**-2.3**
PAB				*i* IVmb_Lg			23 11 55.4	
PCAS	**Casmilo, Conde**	**3.48**	**339**	*e*P	**Pn**		**23 11 18.1**	**+1.7**
PCAS				*e*S	**Sn**		**23 11 54.4**	**-1.8**
MTE	**Manteigas**	**3.62**	**352**	*e*P	**Pn**		**23 11 20.0**	**+1.7**
MTE				*e*S	**Sn**		**23 11 58.5**	**-1.4**
MTE				*i* IAML			23 12 01.4	
MTE				*i* IAML			23 12 02.0	
ESBB	**Sonseca Array**	**3.67**	**38**	S	**Sn**		**23 11 59.0**	**-1.9**
PVIS	**Viseu**	**3.98**	**349**	*e*S	**Sn**		**23 12 07.5**	**-1.1**
MD31	**MD31**	**4.30**	**156**	P	**Pn**		**23 11 28.1**	**+0.4**
MD31	**MD31**	**4.30**	**156**	S	**Sn**		**23 12 17.6**	**+0.9**
MVO	**Moncorvo**	**4.35**	**358**	*e*P	**Pn**		**23 11 30.0**	**+1.7**
MVO				*e*S	**Sn**		**23 12 15.9**	**-1.8**
MVO				*i* IAML			23 12 18.3	
MVO				*i* IAML			23 12 18.7	
MVO				*i* IAML			23 12 18.7	
GUD	**Guadarrama**	**4.38**	**28**	P	**Pn**		**23 11 30.6**	**+1.8**
GUD				S	**Sn**		**23 12 15.3**	**-3.3**
MDT	**Midelt**	**4.40**	**154**	P	**Pn**		**23 11 29.0**	**-0.1**
MDT	**Midelt**	**4.40**	**154**	S	**Sn**		**23 12 20.2**	**+1.0**
UCM	**Universidad Co**	**4.50**	**38**	P	**Pn**		**23 11 32.0**	**+1.6**
UCM				S	**Sn**		**23 12 19.7**	**-1.8**
ETOB	**Tobarra**	**4.60**	**65**	P	**Pn**		**23 11 31.8**	**0.0**
ETOB				S	**Sn**		**23 12 22.3**	**-1.6**
ETOB				*i* IVmb_Lg			23 12 25.1	
POLO	**Lamas de Olo**	**4.61**	**351**	*e*P	**Pn**		**23 11 33.3**	**+1.4**
POLO				*e*S	**Sn**		**23 12 22.0**	**-2.3**
POLO				*i* IAML			23 12 25.3	
PBRG	**Braganca**	**4.99**	**1**	*e*P	**Pn**		**23 11 38.5**	**+1.5**
PBRG				*e*S	**Sn**		**23 12 31.7**	**-1.7**
PBRG				*i* IAML			23 12 33.9	
PBRG				*i* IAML			23 12 34.2	
ECAL	**Calabor**	**5.12**	**1**	P	**Pn**		**23 11 40.1**	**+1.2**
ECAL				S	**Sn**		**23 12 34.6**	**-2.2**
ECAL	**Calabor**	**5.12**	**1**	P	**Pn**		**23 11 40.2**	**+1.2**
ECAL				*i* IVmb_Lg			23 12 34.3	
ECAL				S	**Sn**		**23 12 34.4**	**-2.4**
ELOB	**Lobios**	**5.13**	**350**	P	**Pn**		**23 11 39.9**	**+0.9**
ELOB				S	**Sn**		**23 12 35.3**	**-1.7**
ELOB				*i* IVmb_Lg			23 12 37.8	
EVIV	**Cofrentes, Val**	**5.16**	**60**	S	**Sn**		**23 12 36.0**	**-1.7**
EVIV				*i* IVmb_Lg			23 12 37.9	
ETOR	**Torete**	**5.49**	**42**	P	**Pn**		**23 11 45.3**	**+1.3**
ETOR				S	**Sn**		**23 12 43.8**	**-2.1**
ETOR				*i* IVmb_Lg			23 12 51.5	
TIO	**Tiouine**	**5.88**	**183**	P	**Pn**		**23 11 49.5**	**+0.1**
TIO				S	**Sn**		**23 12 50.7**	**-4.8**
TIO	**Tiouine**	**5.88**	**183**	P	**Pn**		**23 11 48.0**	**-1.4**
TIO	**Tiouine**	**5.88**	**183**	S	**Sn**		**23 12 52.8**	**-2.7**
OUZM	**OUZ**	**5.89**	**179**	P	**Pn**		**23 11 49.7**	**+0.2**
OUZM	**OUZ**	**5.89**	**179**	S	**Sn**		**23 12 55.7**	**0.0**
TTIG	**Tnine Tigouga,**	**6.38**	**192**	P	**Pn**		**23 11 53.6**	**-2.7**
TTIG	**Tnine Tigouga,**	**6.38**	**192**	S	**Sn**		**23 13 05.2**	**-2.7**

*DSN **09** 23:39:42.4±1.1, 27°.83N×56°.43E, h10km, ML2.9/7, Error ellipse: s-maj=64.0km s-min=9.5km az=96.0*
*TEH **09** 23:39:43.0, 27°.66N×56°.52E, h6km±34km*
*OMAN **09** 23:39:45.5±0.1, 27°.62N×56°.52E, h10km, mb3.7/4, ml3.3/15, Error ellipse: s-maj=1.2km s-min=1.0km az=350.0*

ISC 09 23:39:44.7±1.8, 27°.62N±0°.05×56°.54E±0°.06, h2km±12km, n53, σ0°.99/72, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GENO	**Geno**	**0.40**	**236**	Pg	**Pg**		**23 39 52.1**	**-0.2**
BNDS	**Bandar-Abbas**	**0.40**	**236**	Pg	**Pg**		**23 39 51.9**	**-0.4**
BNDS				Sg	**Sg**		**23 39 59.1**	**+1.5**
KHNJ	**Kahnooj**	**1.08**	**72**	Pg	**Pn**		**23 40 04.8**	**-2.1**
SHME	**Shamm**	**1.61**	**193**	P	**Pn**		**23 40 15.0**	**+0.9**
SHME				S	**Sn**		**23 40 35.1**	**-0.3**
SHME	**Shamm**	**1.61**	**193**	P	**Pn**		**23 40 13.5**	**-0.6**
SHME				S	**Sb**		**23 40 37.3**	**+1.4**
BANOM	**Banah**	**1.71**	**187**	P	**Pn**		**23 40 15.5**	**0.0**
BANOM				S	**Sn**		**23 40 37.5**	**-0.4**
BANOM	**Banah**	**1.71**	**187**	P	**Pn**		**23 40 15.3**	**-0.2**
BANOM				S	**Sb**		**23 40 39.9**	**+1.1**
LAR1	**LAR**	**1.92**	**272**	Pn	**Pb**		**23 40 19.0**	**-1.5**
NGRK	**Negar Kerman**	**2.02**	**5**	Pn	**Pn**		**23 40 20.4**	**+0.2**
KBAM	**BAM**	**2.26**	**48**	Pn	**Pn**		**23 40 23.8**	**+0.6**
MASF	**Masafi**	**2.27**	**189**	P	**Pn**		**23 40 23.0**	**-0.2**
MASF				S	**Sn**		**23 40 51.5**	**-0.4**
MSFE	**Esma-Masafi**	**2.28**	**189**	P	**Pn**		**23 40 21.9**	**-1.5**
MDH	**Madha**	**2.33**	**185**	P	**Pn**		**23 40 24.3**	**+0.3**
MDH				S	**Sn**		**23 40 53.9**	**+0.7**
MDH	**Madha**	**2.33**	**185**	P	**Pn**		**23 40 22.7**	**-1.2**
KRBR	**Kerman**	**2.36**	**5**	Pn	**Pn**		**23 40 25.2**	**+0.5**
CHMN	**Cheshme madani**	**2.40**	**21**	Pn	**Pn**		**23 40 25.7**	**+0.4**
UOSS	**Minazif**	**2.69**	**187**	P	**Pn**		**23 40 29.1**	**+0.2**
UOSS				S	**Sn**		**23 41 03.6**	**+1.6**
UOSS	**Minazif**	**2.69**	**187**	P	**Pn**		**23 40 28.9**	**0.0**
NAZ	**Nazwa, Dubai**	**2.74**	**197**	P	**Pn**		**23 40 30.5**	**+0.8**
NAZ				S	**Sn**		**23 41 05.6**	**+2.2**
KHGB	**Koh Gabri**	**2.74**	**359**	Pn	**Pn**		**23 40 29.5**	**-0.4**
HATD	**Hatta, Dubai**	**2.81**	**188**	P	**Pn**		**23 40 31.5**	**+0.9**
HATD				S	**Sn**		**23 41 05.9**	**+0.8**
HATD	**Hatta, Dubai**	**2.81**	**188**	P	**Pn**		**23 40 31.4**	**+0.7**
KRM1	**Kerman Provinc**	**2.94**	**12**	Pn	**Pn**		**23 40 33.0**	**+0.4**
ASHO	**Ashiyiah**	**2.96**	**189**	P	**Pn**		**23 40 34.0**	**+1.2**
	SNR=7.4							
ASHO				S	**Sn**		**23 41 09.6**	**+0.7**
ASHO	**Ashiyiah**	**2.96**	**189**	P	**Pn**		**23 40 32.5**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.99**	**197**	P	**Pn**		**23 40 34.0**	**+0.9**
	SNR=6.7							
ASUD	**Al Ashush, Dub**	**3.18**	**200**	P	**Pn**		**23 40 37.0**	**+1.3**
	SNR=8.0							
ASUD				S	**Sn**		**23 41 14.4**	**+0.3**
ZRDN	**Zarand Kerman**	**3.33**	**360**	Pn	**Pn**		**23 40 38.5**	**+0.5**
SOHO	**SOHO**	**3.48**	**180**	P	**Pn**		**23 40 40.2**	**+0.4**
ALNE	**Al Ain**	**3.62**	**192**	P	**Pn**		**23 40 41.7**	**-0.1**
ALNE				S	**Sn**		**23 41 25.6**	**+0.4**
ALNE	**Al Ain**	**3.62**	**192**	P	**Pn**		**23 40 40.6**	**-1.2**
IBAF	**Bafgh**	**4.04**	**348**	Pn	**Pn**		**23 40 47.9**	**+0.2**
IMEH	**Mehriz**	**4.11**	**336**	Pn	**Pn**		**23 40 48.7**	**0.0**
ARQ	**Araqi**	**4.27**	**180**	P	**Pn**		**23 40 51.2**	**+0.5**
NGCH	**Negor - Chabah**	**4.70**	**118**	P	**Pn**		**23 40 56.4**	**-0.1**
SMDO	**Samad**	**4.75**	**163**	P	**Pn**		**23 40 58.8**	**+1.4**
SMDO				S	**Sn**		**23 41 53.3**	**+0.2**
WSAR	**Wadi Sarin**	**4.76**	**156**	P	**Pn**		**23 40 57.8**	**+0.3**
WSAR				S	**Sn**		**23 41 51.1**	**-2.1**
NHDN	**Nehbandan**	**4.84**	**38**	Pn	**Pn**		**23 40 59.1**	**+0.4**
SRVN	**Saravan**	**5.21**	**91**	Pn	**Pn**		**23 41 04.4**	**+0.7**
MZR	**Muzera**	**5.37**	**212**	P	**Pn**		**23 41 06.0**	**+0.1**
MZR				S	**Sn**		**23 42 06.3**	**-2.0**
JMDO	**Jabal Madar**	**5.42**	**165**	P	**Pn**		**23 41 06.2**	**-0.3**
JMDO				S	**Sn**		**23 42 10.7**	**+1.2**
KLNJ	**Kolanjah**	**5.48**	**309**	Pn	**Pn**		**23 41 08.1**	**+0.4**
IRAM	**Ramesheh**	**5.52**	**320**	Pn	**Pn**		**23 41 08.6**	**+0.5**
SMRA	**Abu-Samra**	**5.88**	**242**	P	**Pn**		**23 41 12.5**	**-0.4**
SMRA				S	**Sn**		**23 42 19.8**	**-1.1**
JLN	**Jalan Bani Buh**	**6.04**	**154**	P	**Pn**		**23 41 14.6**	**-0.5**
IZEF	**Zefreh**	**6.39**	**326**	Pn	**Pn**		**23 41 19.8**	**-0.4**
ZNGN	**Zangian**	**6.67**	**314**	Pn	**Pn**		**23 41 24.3**	**+0.3**
MHTO	**MHTO**	**6.74**	**169**	P	**Pn**		**23 41 23.9**	**-0.7**
MHTO				S	**Sn**		**23 42 41.9**	**0.0**
DOK	**Doka**	**9.23**	**194**	P	**Pn**		**23 41 57.0**	**-1.9**
SHAO	**Shalim**	**9.59**	**185**	P	**Pn**		**23 42 02.4**	**-1.5**
DMTO	**DMTO**	**9.97**	**189**	P	**Pn**		**23 42 07.8**	**-1.2**
WHFO	**Wadi Hawf**	**9.99**	**195**	P	**Pn**		**23 42 08.3**	**-1.0**
	SNR=7.2							
ABTO	**Aybut**	**10.65**	**197**	P	**Pn**		**23 42 16.1**	**-2.3**

*NOU **10** 00:12:45.7, 37°.24S×177°.33E, h261km, MLv3.6/15, Off E. Coast of N. Island, N.Z.*
*WEL **10** 00:12:46.4±0.5, 37°.3S±3°×17°.7E±°, h240km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=5.6km s-min=4.0km az=118.6, confirmed*

ISC 10 00:12:40.1±2.7, 36°.81S±0°.10×177°.18E±0°.07, h285km±13km, n93, σ1°.67/138, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.06**	**153**	P	**Pn**		**00 13 19.8**	**+0.8**
HAZ				S	**S**		**00 13 47.7**	**-2.2**
OPRZ	**Ohinepanea**	**1.15**	**206**	P	**Pn**		**00 13 20.9**	**+1.4**
MXZ	**Matakaoa Point**	**1.17**	**130**	P	**Pn**		**00 13 21.7**	**+2.1**
MXZ	**Matakaoa Point**	**1.17**	**130**	S	**S**		**00 13 49.7**	**-1.3**
MXZ	**Matakaoa Point**	**1.17**	**130**	P	**Pn**		**00 13 21.0**	**+1.4**
MXZ				S	**S**		**00 13 49.3**	**-1.7**
KUZ	**Kuaotunu**	**1.18**	**273**	P	**Pn**		**00 13 19.6**	**-0.1**
RUGZ	**Raukumara Rang**	**1.22**	**161**	P	**Pn**		**00 13 20.4**	**+0.3**
RUGZ				S	**S**		**00 13 48.6**	**-3.1**
PKGZ	**Pakihiroa**	**1.27**	**146**	P	**Pn**		**00 13 22.0**	**+1.7**
PKGZ				S	**S**		**00 13 50.4**	**-1.7**
WMGZ	**Waiomatatini S**	**1.41**	**136**	P	**Pn**		**00 13 22.7**	**+1.7**
WMGZ				S	**S**		**00 13 52.5**	**-1.1**
URZ	**Urewera**	**1.45**	**182**	P	**Pn**		**00 13 22.0**	**+0.8**
URZ	**Urewera**	**1.45**	**182**	S	**S**		**00 13 51.2**	**-2.8**
URZ	**Urewera**	**1.45**	**

BFZ			S	S	00 14 36.1	-0.2
MRZ	**Mangatainoka R**	**4.04 198**	P	Pn	00 13 46.2	+0.3
MRZ			S	S	00 14 37.1	-1.4
TIWZ	**Tintock**	**4.09 194**	P	Pn	00 13 47.6	+1.2
HOWZ	**Holdsworth Sta**	**4.28 197**	P	Pn	00 13 48.8	+0.2
HOWZ			S	S	00 14 40.9	-2.6
OGWZ	**Otaki Gorge**	**4.30 201**	P	Pn	00 13 49.1	+0.3
OGWZ			S	S	00 14 42.8	-1.0
KIW	**Kapiti Island**	**4.42 203**	P	Pn	00 13 50.4	+0.2
KIW			S	S	00 14 43.3	-3.0
MTW	**Mount Morrison**	**4.53 196**	P	Pn	00 13 51.9	+0.4
MTW			S	S	00 14 46.4	-2.3
CAW	**Cannon Point**	**4.60 200**	P	Pn	00 13 52.1	-0.1
CAW			S	S	00 14 48.3	-1.7
TRWZ	**Traveller**	**4.73 194**	P	Pn	00 13 54.2	+0.4
TRWZ			S	S	00 14 50.1	-2.7
DUWZ	**D'Urville Isla**	**4.73 212**	P	Pn	00 13 53.8	0.0
DUWZ			S	S	00 14 51.6	-1.2
WEL	**Wellington**	**4.85 202**	P	Pn	00 13 55.3	+0.2
SNZO	**South Karori**	**4.89 202**	P	Pn	00 13 55.8	+0.2
SNZO	**South Karori**	**4.89 202**	S	S	00 14 53.4	-2.7
QRZ	**Quartz Range**	**5.41 221**	P	Pn	00 14 03.6	+1.8
KHZ	**Kahutara**	**6.26 206**	P	Pn	00 14 12.3	+0.2
KHZ	**Kahutara**	**6.26 206**	S	S	00 15 23.4	-2.7
RPZ	**Rata Peaks**	**8.34 212**	P	Pn	00 14 39.6	+2.0
ODZ	**Otahua Downs**	**9.60 209**	P	Pn	00 14 55.3	+2.1

*GRAL **10** 00:18:28.8±0.3, 33°.22N×34°.29E, h13km±7km, MD2.8*
*GII **10** 00:18:29.2±0.0, 33°.059N±0°.002×34°.345E±0°.001, h30km, Mws2.1, confirmed*
*JSO **10** 00:18:29.1±1.0, 33°N±3°×3°4E±°, h19km±10km, M2.8/19, Md3.1/19, ML2.7/17, MLv2.8/19, MLv2.8/19*

ISC 10 00:18:28.2±1.5, 33°.08N±0°.04×34°.33E±0°.06, h26km±13km, n60, σ0°65/66, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.70**	**90**	P	**Pb**	**00 18 42.1**	**+0.2**
HNTI	**Hanita**	**0.70**	**90**	S	**Sn**	**00 18 52.7**	**+0.2**
OFRI	**`Ofer**	**0.72**	**130**	P	**Pb**	**00 18 42.7**	**+0.6**
OFRI	**`Ofer**	**0.72**	**130**	S	**Sb**	**00 18 52.6**	**+1.1**
MMC7	**Mount Meron ar**	**0.89**	**94**	P	**Pb**	**00 18 45.3**	**+0.2**
MMA0B	**Mount Meron ar**	**0.90**	**94**	P	**Pb**	**00 18 45.3**	**0.0**
MMA0B	**Mount Meron ar**	**0.90**	**94**	S	**Sb**	**00 18 57.6**	**+0.7**
SLTI	**Sal'it**	**1.03**	**145**	P	**Pb**	**00 18 46.6**	**-0.8**
SLTI	**Sal'it**	**1.03**	**145**	S	**Sb**	**00 18 59.8**	**-0.7**
MMLI	**Mount Malkishu**	**1.12**	**125**	P	**Pn**	**00 18 48.1**	**-0.1**
MMLI				S	**Sb**	**00 19 02.7**	**-0.4**
MMLI	**Mount Malkishu**	**1.12**	**125**	P	**Pn**	**00 18 47.9**	**-0.3**
GEM	**Giv'at Ha'Em**	**1.12**	**83**	P	**Pn**	**00 18 48.7**	**+0.5**
GEM				S	**Sb**	**00 19 01.7**	**-1.4**
GEM	**Giv'at Ha'Em**	**1.12**	**83**	P	**Pn**	**00 18 48.4**	**+0.2**
GEM	**Giv'at Ha'Em**	**1.12**	**83**	S	**Sb**	**00 19 02.9**	**-0.2**
NATI	**Neve Ativ**	**1.19**	**81**	P	**Pn**	**00 18 49.4**	**+0.3**
NATI	**Neve Ativ**	**1.19**	**81**	S	**Sb**	**00 19 04.9**	**-0.2**
DQRL	**Deir Qamar**	**1.21**	**59**	*eP*	**Pn**	**00 18 49.0**	**-0.5**
SHBL	**Chebaa**	**1.21**	**77**	*eP*	**Pn**	**00 18 49.8**	**+0.2**
SHBL				*eS*	**Sb**	**00 19 05.6**	**-0.2**
QRWL	**Qaraoun**	**1.22**	**67**	*eP*	**Pn**	**00 18 49.6**	**0.0**
QRWL				*eS*	**Sb**	**00 19 05.0**	**-1.1**
KSHT	**Keshet**	**1.25**	**94**	P	**Pn**	**00 18 50.4**	**+0.4**
KSHT	**Keshet**	**1.25**	**94**	S	**Sn**	**00 19 06.1**	**+0.1**
SALP	**Salfit**	**1.25**	**144**	P	**Pn**	**00 18 50.0**	**+0.1**
SALP				S	**Sn**	**00 19 06.1**	**+0.2**
SHMJ	**Saham**	**1.25**	**106**	P	**Pb**	**00 18 51.3**	**+0.1**
QRNJ	**Al-Qirein**	**1.28**	**125**	P	**Pn**	**00 18 50.9**	**+0.5**
QRNJ				S	**Sn**	**00 19 07.8**	**+1.0**
HMDT	**Nahal Hemdat**	**1.30**	**129**	P	**Pn**	**00 18 50.9**	**+0.2**
HMDT	**Nahal Hemdat**	**1.30**	**129**	S	**Sn**	**00 19 07.0**	**-0.3**
RCY	**Rachaya**	**1.32**	**71**	*eP*	**Pn**	**00 18 51.5**	**+0.4**
BHL	**Bhannes**	**1.37**	**53**	*eP*	**Pn**	**00 18 51.6**	**-0.2**
UJAP	**Al Uja**	**1.48**	**139**	P	**Pn**	**00 18 53.7**	**+0.6**
ZAHL	**Zahle**	**1.51**	**59**	*eP*	**Pn**	**00 18 54.1**	**+0.5**
AMAZ	**Amatzia**	**1.62**	**162**	P	**Pn**	**00 18 56.6**	**+1.5**
AMAZ	**Amatzia**	**1.62**	**162**	P	**Pn**	**00 18 55.3**	**+0.1**
AMAZ	**Amatzia**	**1.62**	**162**	S	**Sn**	**00 19 15.3**	**+0.1**
DSI	**Dead Sea**	**1.75**	**149**	P	**Pn**	**00 18 56.8**	**-0.1**
DSI	**Dead Sea**	**1.75**	**149**	S	**Sn**	**00 19 17.7**	**-0.6**
HWQ	**Hawqa**	**1.80**	**48**	*eP*	**Pn**	**00 18 57.6**	**0.0**
YTIR	**Yattir**	**1.84**	**159**	P	**Pn**	**00 18 58.5**	**+0.3**
YTIR	**Yattir**	**1.84**	**159**	S	**Sn**	**00 19 20.9**	**+0.2**
MSBI	**Mazada**	**1.97**	**154**	P	**Pn**	**00 19 01.0**	**+1.2**
MSBI	**Mazada**	**1.97**	**154**	P	**Pn**	**00 19 00.2**	**+0.4**
MSBI	**Mazada**	**1.97**	**154**	S	**Sn**	**00 19 23.6**	**0.0**
CSS	**Mathiatis**	**2.05**	**336**	P	**Pn**	**00 19 01.9**	**+0.9**
GHAJ	**Ghor Haditha**	**2.06**	**149**	P	**Pn**	**00 19 02.8**	**+1.7**
GHAJ	**Ghor Haditha**	**2.06**	**149**	P	**Pn**	**00 19 01.3**	**+0.2**
GHAJ	**Ghor Haditha**	**2.06**	**149**	S	**Sn**	**00 19 25.7**	**-0.2**
LISJ	**El Lisan**	**2.08**	**152**	P	**Pb**	**00 19 03.9**	**-1.3**
BEIL	**Beino**	**2.12**	**46**	*eP*	**Pn**	**00 19 02.0**	**+0.1**
KZIT	**Kziot**	**2.17**	**179**	P	**Pn**	**00 19 03.5**	**+0.8**
KZIT	**Kziot**	**2.17**	**179**	P	**Pn**	**00 19 03.0**	**+0.3**
KZIT	**Kziot**	**2.17**	**179**	S	**Sn**	**00 19 28.7**	**-0.1**
ASF	**Jabal al Asfar**	**2.35**	**112**	P	**Pn**	**00 19 06.5**	**+1.4**
PRNI	**Paran**	**2.78**	**168**	P	**Pn**	**00 19 11.5**	**+0.4**
PRNI	**Paran**	**2.78**	**168**	S	**Sn**	**00 19 43.0**	**-0.9**
KRMI	**Paran Flat**	**2.98**	**173**	P	**Pn**	**00 19 14.3**	**+0.6**
KRMI	**Paran Flat**	**2.98**	**173**	S	**Sn**	**00 19 49.0**	**+0.3**
HRFI	**Mount Harif**	**3.10**	**169**	P	**Pn**	**00 19 16.2**	**+0.8**
HRFI	**Mount Harif**	**3.10**	**169**	P	**Pn**	**00 19 15.8**	**+0.4**
HRFI	**Mount Harif**	**3.10**	**169**	S	**Sn**	**00 19 50.5**	**-1.1**
MBRI	**Mt Berech**	**3.32**	**171**	P	**Pn**	**00 19 19.1**	**+0.6**
MBRI	**Mt Berech**	**3.32**	**171**	S	**Sn**	**00 19 56.7**	**-0.5**

*IDC **10** 00:40:43.8±6.2, 22°.27N×93°.89E, h82km±50km, mb3.3/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=131.5km s-min=24.6km az=60.0*

ISC 10 00:40:45.6±1.5, 22°.4N±0°.4×94°.0E±0°.3, h88km, n13, σ3°00/12, mb3.7/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.06**	**129**	P	Pn	00 42 11.1	-1.6
	0.8nm,0.3s,baz=306,slow=17,SNR=2.0 1.5nm,0.3s						
ODAN	**Odare**	**7.49**	**308**	Pn	**Pn**	**00 42 35.3**	**+2.9**
	baz=283,slow=0.0						
ODAN				Sn	Sn	00 43 49.4	-6.5
	33nm,0.2s,baz=283,slow=0.0						
RAMN	**Ramite**	**8.13**	**306**	Pn	**Pn**	**00 42 44.9**	**+3.8**
	baz=283,slow=0.0						
RAMN				Sn	**Sn**	**00 44 06.8**	**-4.7**
	13nm,0.2s,baz=283,slow=0.0						
GUN	**Gumba**	**9.19**	**308**	Pn	**Pn**	**00 42 57.8**	**+2.1**
	baz=288,slow=0.0						
GUN				Sn	Sn	00 44 27.5	-10
	21nm,0.3s,baz=288,slow=0.0						
PKI	**Pulchoki**	**9.35**	**305**	Pn	**Pn**	**00 43 00.3**	**+2.4**
	baz=286,slow=0.0						
PKI				Sn	Sn	00 44 34.4	-7.1
	11nm,0.3s,baz=286,slow=0.0						
PKIN	**Phulchoki**	**9.37**	**305**	Pn	**Pn**	**00 43 00.5**	**+2.5**
	baz=286,slow=0.0						
PKIN				Sn	Sn	00 44 34.5	-7.2
	12nm,0.2s,baz=286,slow=0.0						
KKN	**Kakani**	**9.56**	**306**	Pn	**Pn**	**00 43 03.6**	**+2.9**
	baz=287,slow=0.0						
KKN				Sn	Sn	00 44 38.3	-8.2
	17nm,0.2s,baz=287,slow=0.0						
DMN	**Daman**	**9.60**	**305**	Pn	**Pn**	**00 43 03.4**	**+2.2**
	baz=286,slow=0.0						
GKN	**Gorkha**	**10.16**	**305**	Pn	**Pn**	**00 43 10.5**	**+1.7**
	baz=287,slow=0.0						
GKN				Sn	Sn	00 44 52.2	-8.8
	41nm,0.3s,baz=287,slow=0.0						
DANN	**Dangsing**	**11.00**	**305**	Pn	**Pn**	**00 43 21.9**	**+1.5**
	baz=288,slow=0.0						
MKAR	**Makanchi Array**	**26.14**	**342**	P	**P**	**00 46 10.8**	**-0.7**
	0.6nm,0.7s,baz=141,slow=11,SNR=5.6 0.6nm,0.7s						
WRA	**Warramunga Arr**	**57.63**	**134**	P	P	00 50 25.6	-1.3
	0.3nm,0.4s,baz=321,slow=7.5,SNR=4.5 0.3nm,0.4s						
ASAR	**Alice Springs**	**60.00**	**137**	P	**P**	**00 50 42.2**	**-1.2**
	0.3nm,0.5s,baz=325,slow=7.3,SNR=2.3 0.3nm,0.5s						

DJA 10 00:54:57.3±0.5, 0°S±4°×12°3E±°, h137km±7km, M4.0/11, mB5.3/1, mb4.5/4, MLv3.8/11, Mw(mB)4.7/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.03**	**52**	P	Pn	00 55 22.0	+0.9
LUWI	**Luwuk**	**1.05**	**202**	P	Pn	00 55 21.8	+0.5
LUWI				S	Sn	00 55 40.5	+0.8
MRSI	**Marisa**	**1.34**	**293**	P	Pn	00 55 24.3	+0.1
MRSI				S	Sn	00 55 44.9	+0.3
APSI	**Ampana**	**1.74**	**241**	P	Pn	00 55 29.6	+1.0
SANI	**Sanana**	**3.44**	**125**	P	Pn	00 55 47.3	-2.6
NLAI	**Namlea**	**5.04**	**129**	P	Pn	00 56 10.7	-0.4
	0.2nm14nm,0.4s						
AAI	**Ambon**	**6.18**	**126**	P	Pn	00 56 28.5	+2.2
	4um26nm,0.5s						
MSAI	**Masohi**	**6.62**	**120**	P	Pn	00 56 31.4	-0.8

*IDC **10** 01:00:11.7±1.6, 34°.86S×179°.41W, h0km, mb3.9/3, mbtmp3.9/4, ML4.1/1, MS3.4/5, Error ellipse: s-maj=40.4km s-min=32.7km az=107.0*

ISC 10 01:00:18.0±1.5, 34°.9S±0°.2×179°.5W±0°.2, h43km, n12, σ1°09/7, mb3.8/3, MS3.3/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.29**	**218**	Pn	**Pn**	**01 01 19.2**	**-1.5**
	9.4nm,0.3s,baz=324,slow=4.1,SNR=7.0						
URZ				Sn	**Sn**	**01 02 10.4**	**+0.9**
	10nm,0.3s,baz=183,slow=22,SNR=9.6 24nm,0.3s						
RPZ	**Rata Peaks**	**11.41**	**217**	Sn	Sn	01 04 52.8	-12
	0.9nm,0.3s,baz=326,slow=22,SNR=5.6						
DZM	**Mont Dzumac**	**17.75**	**312**	LR	LR	01 10 22.9	
	comp=Z,117nm,19.2s,baz=160,slow=34						
RAR	**Rarotonga**	**22.09**	**57**	LR	LR	01 14 40.0	
	comp=Z,63nm,18.2s,baz=316,slow=40						
STKA	**Stephens Creek**	**32.47**	**264**	LR	LR	01 18 51.1	
	comp=Z,42nm,18.5s,baz=24,slow=34						
PMG	**Port Moresby**	**39.64**	**302**	LR	LR	01 21 57.0	
	comp=Z,68nm,18.3s,baz=176,slow=33						
ASAR	**Alice Springs**	**41.81**	**273**	P	**P**	**01 08 04.3**	**+0.7**
	1.5nm,0.8s,baz=121,slow=8.2,SNR=10 1.5nm,0.8s						
WRA	**Warramunga Arr**	**43.21**	**278**	P	**P**	**01 08 15.4**	**+0.4**
	1.4nm,0.7s,baz=118,slow=7.8,SNR=4.7 1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.24**	**274**	LR	LR	01 30 47.8	
	comp=Z,55nm,18.4s,baz=134,slow=36						
QSPA	**South Pole Qui**	**55.20**	**180**	P	**P**	**01 09 47.0**	**+0.8**
	0.9nm,0.8s,baz=25,slow=4.3,SNR=2.3 0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**123.21**	**312**	PKP	**PKPdf**	**01 19 09.0**	**-0.4**
	0.2nm,0.3s,baz=117,slow=2.3,SNR=5.3						
FINES	**FINESS Array B**	**148.86**	**336**	PKPbc	**PKPbc**	**01 19 59.6**	**-0.4**
	2.4nm,0.8s,baz=48,slow=3.1,SNR=6.3						

*TAP **10** 01:15:23.9, 24°.86N×122°.95E, h147km±1km, ML2.9, D*
*JMA **10** 01:15:25.0±0.3, 25°N±4°×122°.9E±0°.9, h140km, MV2.3/10, NW OFF ISHIGAKIJIMA IS*

ISC 10 01:15:23.4±2.2, 24°.88N±0°.08×122°.94E±0°.04, h149km±13km, n52, σ0°89/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**172**	*eP*	**Pn**	**01 15 44.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.42**	**172**	P	**Pn**	**01 15 44.5**	**+0.1**
YOJ				S	**Sn**	**01 15 59.1**	**-1.0**
EOS2	**EOS2**	**0.79**	**235**	P	**Pn**	**01 15 47.1**	**+0.8**
EOS2				S	**Sn**	**01 16 04.2**	**+0.4**
EOS3	**EOS3**	**0.82**	**224**	*i* P	**Pn**	**01 15 47.2**	**+0.7**
EOS3				S	**Sn**	**01 16 04.9**	**+0.8**
TWB1	**Santiao Chiao**	**0.88**	**279**	*eP*	**Pn**	**01 15 47.4**	**+0.4**
IRIF	**Iriomote-Funau**	**0.90**	**127**	*eP*	**Pn**	**01 15 47.7**	**+0.4**
IRIF				S	**Sn**	**01 16 04.9**	**-0.5**
EOS4	**EOS4**	**0.94**	**217**	*i* P	**Pn**	**01 15 47.7**	**+0.5**
EOS4				*i* S	**Sn**	**01 16 05.8**	**+0.4**
TIPB	**Shuangxi**	**1.02**	**276**	*i* P	**Pn**	**01 15 48.9**	**+0.6**
TIPB				*i* S	**Sn**	**01 16 07.1**	**-0.2**
TWC	**Suao**	**1.03**	**255**	P	**Pn**	**01 15 48.2**	**-0.1**
TWC				S	**Sn**	**01 16 06.2**	**-1.1**
ESAO	**Su ao**	**1.04**	**254**	*eP*	**Pn**	**01 15 48.4**	**0.0**
EWUT	**Wuta**	**1.14**	**248**	P	**Pn**	**01 15 50.2**	**+0.8**
EWUT				S	**Sn**	**01 16 09.0**	**-0.2**
JKRS	**Kuro-shima**	**1.16**	**123**	*eP*	**Pn**	**01 15 50.5**	**+1.0**
JKRS				*eS*	**Sn**	**01 16 09.4**	**0.0**
TWE	**Neicheng**	**1.17**	**263**	*eP*	**Pn**	**01 15 50.4**	**+0.8**
TWE				*eS*	**Sn**	**01 16 09.1**	**-0.5**
ENA	**Nanau**	**1.18**	**248**	P	**Pn**	**01 15 50.6**	**+0.9**
ENA				S	**Sn**	**01 16 09.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.21**	**115**	*eP*	**Pn**	**01 15 50.3**	**+0.3**
JIJ				*eS*	**Sn**	**01 16 08.9**	**-1.3**
EAHA	**Aohua**	**1.22**	**244**	*eP*	**Pn**	**01 15 50.7**	**+0.6**
FUSB	**Fushanzhiwuyua**	**1.24**	**265**	*eP*	**Pn**	**01 15 50.8**	**+0.5**
FUSB				*eS*	**Sn**	**01 16 09.6**	**-1.3**
ENTT	**Nioudou**	**1.27**	**260**	*eP*	**Pn**	**01 15 52.2**	**+1.6**
ENTT				*eS*	**Sn**	**01 16 12.3**	**+0.9**
JISG	**Ishigakijimahi**	**1.28**	**103**	S	**Sn**	**01 16 10.6**	**-0.8**
NWLT	**Wulai**	**1.31**	**266**	*eS*	**Sn**	**01 16 11.8**	**-0.3**
LATG	**Datong**	**1.33**	**256**	P	**Pn**	**01 15 51.7**	**+0.4**
LATG				*eS*	**Sn**	**01 16 12.7**	**+0.1**
NACB	**Ninganchiao**	**1.41**	**241**	*eP*	**Pn**	**01 15 52.2**	**+0.1**
NACB				*eS*	**Sn**	**01 16 12.9**	**-1.0**
YHNB	**Yeheng**	**1.44**	**262**	*eP*	**Pn**	**01 15 53.0**	**+0.6**
YHNB				*i* S	**Sn**	**01 16 14.2**	**-0.3**
NSK	**Sanguang**	**1.46**	**262**	P	**Pn**	**01 15 53.3**	**+0.7**
NSK				*eS*	**Sn**	**01 16 14.7**	**-0.1**
ETLH	**Xiulin Townshi**	**1.49**	**244**	*eP*	**Pn**	**01 15 53.1**	**+0.2**
ETLH				S	**Sn**	**01 16 14.6**	**-0.9**
NNSB	**Datong**	**1.49**	**253**	P	**Pn**	**01 15 53.5**	**+0.6**
NNSB				*eS*	**Sn**	**01 16 14.3**	**-1.2**
NNS	**Nan Shan**	**1.49**	**253**	P	**Pn**	**01 15 53.5**	**+0.5**
KSHI	**Guanxi Townshi**	**1.61**	**267**	*eP*	**Pn**	**01 15 53.4**	**-0.7**
JTJ	**Tarama**	**1.62**	**98**	*eS*	**Sn**	**01 16 17.1**	**-0.5**
LXIB	**Xiulin Townshi**	**1.63**	**239**	*i* P	**Pn**	**01 15 54.5**	**-0.1**
LXIB				*i* S	**Sn**	**01 16 17.5**	**-0.8**
SHUL	**Shoufeng**	**1.66**	**230**	*eP*	**Pn**	**01 15 55.7**	**+1.0**
SHUL				*eS*	**Sn**	**01 16 19.2**	**+0.6**
NFF	**Wufeng Townshi**	**1.68**	**262**	*eP*	**Pn**	**01 15 55.0**	**+0.1**
NFF				*eS*	**Sn**	**01 16 17.8**	**-1.2**
WHF	**Hehuan Shan**	**1.69**	**245**	*eP*	**Pn**	**01 15 55.9**	**+0.4**
WHF				*eS*	**Sn**	**01 16 19.5**	**-0.5**
TWT	**Tachien**	**1.73**	**249**	*eP*	**Pn**	**01 15 57.0**	**+1.5**
TDCB	**Techi**	**1.74**	**249**	*eP*	**Pn**	**01 15 56.9**	**+1.2**
LIOB	**Emei**	**1.77**	**263**	*eP*	**Pn**	**01 15 56.3**	**+0.5**
LIOB				*eS*	**Sn**	**01 16 19.1**	**-1.6**
NSTT	**Nanjuang**	**1.78**	**263**	*eS*	**Sn**	**01 16 20.2**	**-0.8**
WARBT	**Fenglin Townsh**	**1.83**	**231**	*eP*	**Pn**	**01 15 56.6**	**0.0**
WARBT				*i* S	**Sn**	**01 16 20.6**	**-1.4**
OWD	**Renai**	**1.85**	**241**	P	**Pn**	**01 15 56.7**	**-0.3**
OWD				*i* S	**Sn**	**01 16 20.2**	**-2.5**
WUSB	**Renai**	**1.88**	**243**	*eP*	**Pn**	**01 15 58.3**	**+1.1**
WUSB				S	**Sn**	**01 16 23.6**	**+0.4**
WHP	**Taichung City**	**1.91**	**252**	*eP*	**Pn**	**01 15 58.1**	**+0.5**
WHP				*eS*	**Sn**	**01 16 23.5**	**-0.2**
HGSD	**Ruisui**	**1.96**	**226**	*eP*	**Pn**	**01 15 58.6**	**+0.6**
HGSD				*eS*	**Sn**	**01 16 25.0**	**+0.5**
VWDT	**VWDT**	**1.99**	**236**	*eP*	**Pn**	**01 15 59.4**	**+1.1**
VWDT				*eS*	**Sn**	**01 16 23.8**	**-1.4**
EHY	**Hungye**	**2.01**	**228**	*eP*	**Pn**	**01 15 58.5**	**-0.2**
EHY				*eS*	**Sn**	**01 16 23.6**	**-2.1**
YULB	**Yu-li**	**2.11**	**226**	*eP*	**Pn**	**01 16 00.1**	**+0.3**
SSLB	**Suanglung**	**2.11**	**240**	*eP*	**Pn**	**01 16 01.6**	**+1.7**
TYC	**Yuchr**	**2.13**	**243**	*eP*	**Pn**	**01 16 02.1**	**+2.1**
TWF1	**Yuli**	**2.14**	**225**	*eP*	**Pn**	**01 16 00.8**	**+0.7**
FULB	**Fuli**	**2.25**	**222**	*eP*	**Pn**	**01 16 02.1**	**+0.6**
EHD	**Haiduan**	**2.34**	**223**	*eP*	**Pn**	**01 16 02.8**	**+0.2**
EDH	**Donghe**	**2.42**	**219**	*eP*	**Pn**	**01 16 02.8**	**-0.7**
SLIU	**Shizi**	**3.30**	**217**	P	**Pn**	**01 16 16.1**	**+1.5**
SLIU				*i* S	**Sn**	**01 16 53.0**	**-1.2**

*CATAC **10** 01:15:44.4±0.3, 13°N±2°×8°1W±°, h4km±2km, M4.0/14, MLv4.0/14, Error ellipse: s-maj=4.0km s-min=3.4km az=42.4, confirmed*
*RSNC **10** 01:15:46.8±0.0, 13°N±1°×8°1W±°, h2km±1km, mB5.9, mb4.1, ML3.1, MLv3.7, Mw(mB)5.5*

ISC 10 01:15:45.1±0.9, 13°.07N±0°.05×81°.08W±0°.04, h10km, n20, σ1°01/26, 3C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.41**	**318**	⇑P	**Pg**	**01 15 53.0**	**-0.1**
PRVC				S	**Sg**	**01 15 57.3**	**-1.2**
PRVC	**Isla de Provid**	**0.41**	**318**	P	**Pg**	**01 15 52.9**	**-0.3**
PRVC				S	**Sg**	**01 15 57.1**	**-1.5**
SAIC	**Isla e San And**	**0.81**	**229**	P	**Pn**	**01 16 02.4**	**-0.2**
SAIC				S	**Sn**	**01 16 14.1**	**-0.7**
SERC	**Banco Serrana,**	**1.39**	**30**	P	**Pg**	**01 16 11.2**	**-0.7**
SERC				S	**Sg**	**01 16 30.6**	**+0.6**
BILN	**Bilwi Airport**	**2.43**	**294**	⇑P	**Pn**	**01 16 24.0**	**-0.9**
TRT2	**Tortugero**	**3.60**	**226**	⇓P	**Pn**	**01 16 43.8**	**+2.8**
SIUN	**Universidad Ur**	**3.65**	**281**	P	**Pn**	**01 16 41.2**	**-0.5**
SIUN				S	**Sn**	**01 17 26.5**	**+1.6**
COVE	**Coope Vega, Sa**	**4.00**	**235**	P	**Pn**	**01 16 46.2**	**-0.4**
COVE	**Coope Vega, Sa**	**4.00**	**235**	S	**Sn**	**01 17 34.3**	**+0.7**
BCIP	**Isla Barro Col**	**4.07**	**162**	P	**Pn**	**01 16 47.1**	**-0.3**
ACON	**Acoyapa**	**4.14**	**255**	P	**Pn**	**01 16 48.7**	**+0.2**
SOCE	**Pocosol**	**4.38**	**233**	P	**Pn**	**01 16 50.3**	**-1.4**
LCR2	**La Lucha 2**	**4.38**	**221**	P	**Pn**	**01 16 53.0**	**+1.1**
UPAL	**Upala**	**4.41**	**241**	P	**Pn**	**01 16 51.7**	**-0.5**
OMEN	**Al SSO del Vol**	**4.71**	**251**	P	**Pn**	**01 16 55.3**	**-0.9**
MATN	**Matagalpa**	**4.72**	**269**	P	**Pn**	**01 16 56.0**	**-0.5**
RCPN	**Sur Rio San Ju**	**4.90**	**276**	⇑P	**Pn**	**01 16 60.0**	**+0.9**
RCVN	**Varillal2**	**5.00**	**276**	P	**Pn**	**01 17 00.7**	**+0.3**
SJCC	**San Jacinto, C**	**6.59**	**118**	P	**Pn**	**01 17 22.5**	**+0.3**
	14nm,0.9s						
SJCC				S	**Sn**	**01 18 36.7**	**-0.8**
	14nm,0.9s						
UREC	**San Jos de Ur**	**7.60**	**134**	P	Pn	01 17 40.8	+4.8
UREC				S	**Sn**	**01 19 02.7**	**+0.4**

*DJA **10** 01:31:45.1±0.3, 3°N±2°×9°7E±°, h10km, M3.8/12, MLv3.8/12*
*IDC **10** 01:31:45.1±3.1, 3°.92N×97°.62E, h0km, mb3.4/2, mbtmp3.5/3, ML4.3/1, Error ellipse: s-maj=106.2km s-min=15.1km az=52.0*

ISC 10 01:31:44.8±1.0, 3°.24N±0°.05×97°.23E±0°.05, h10km, n14, σ1°78/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.61**	**63**	P	**Pg**	**01 31 57.0**	**+0.4**
KCSI				S	**Sg**	**01 32 05.0**	**+0.4**
SNSI	**Sinabang, Aceh**	**1.23**	**228**	P	**Pn**	**01 32 08.1**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.31**	**321**	P	**Pn**	**01 32 08.7**	**-0.5**
MLSI				S	**Sb**	**01 32 27.8**	**+1.3**
TSI	**Tuntungan**	**1.36**	**79**	P	**Pg**	**01 32 10.8**	**-0.1**
TSI				S	**Sb**	**01 32 27.1**	**-0.6**
PSI	**Prapat**	**1.75**	**104**	Pg	**Pb**	**01 32 17.2**	**+0.1**
	7.2nm,0.3s,baz=313,slow=15,SNR=20						
PSI				Lg	Lg	01 32 40.8	
	27nm,0.3s,baz=329,slow=19,SNR=18						
PSI				LR	LR	01 33 08.1	
	comp=Z,82nm,18.7s,baz=210,slow=46						
GSI	**Gunungsitoli**	**1.96**	**170**	P	**Pn**	**01 32 17.3**	**-0.8**
LHMI	**Lhok Sumawe**	**1.99**	**352**	P	**Pn**	**01 32 19.1**	**+0.5**
MNSI	**Mandailing Nat**	**3.38**	**136**	P	**Pn**	**01 32 35.9**	**-1.8**
PBSI	**Pulau Batu**	**3.44**	**162**	P	**Pn**	**01 32 37.2**	**-1.3**
PPI	**Padang Panjang**	**4.85**	**139**	P	**Pn**	**01 32 59.1**	**+1.2**
SISI	**Saibi**	**4.90**	**158**	P	**Pn**	**01 32 59.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**15.21**	**6**	Pn	Pn	01 35 13.1	-6.9
	0.4nm,0.3s,baz=188,slow=13,SNR=1.1 0.7nm,0.3s						
WRA	**Warramunga Arr**	**43.

PNHZ				S	S	01 56 40.5	-1.0
WPHZ	**Waipukurau**	**5.24**	**196**	P	Pn	01 55 37.9	-1.7
WPHZ				S	S	01 56 45.4	+2.2
PRHZ	**Porangahau**	**5.40**	**194**	P	Pn	01 55 40.9	-0.4
PRHZ				S	S	01 56 47.8	+1.3
DVHZ	**Dannevirke**	**5.53**	**197**	P	Pn	01 55 43.5	+0.5
DVHZ				S	S	01 56 49.1	-0.4
PRWZ	**Pori Road**	**5.82**	**198**	P	Pn	01 55 47.5	+1.0
PRWZ				S	S	01 56 56.4	+0.5
BFZ	**Birch Farm**	**5.88**	**196**	P	Pn	01 55 47.5	+0.4
BFZ				S	S	01 56 54.1	-3.0
MRZ	**Mangatainoka R**	**6.03**	**200**	P	Pn	01 55 49.2	+0.2
MRZ				S	S	01 57 00.4	0.0
HOWZ	**Holdsworth Sta**	**6.26**	**200**	P	Pn	01 55 51.7	-0.3
HOWZ				S	S	01 57 04.7	-1.1
OGWZ	**Otaki Gorge**	**6.29**	**202**	P	Pn	01 55 52.4	+0.2
OGWZ				S	S	01 57 06.5	+0.2
CAW	**Cannon Point**	**6.59**	**202**	P	Pn	01 55 55.7	-0.2
CAW				S	S	01 57 11.4	-1.6
TRWZ	**Traveller**	**6.69**	**197**	P	Pn	01 55 57.3	+0.2
TRWZ				S	S	01 57 14.4	-0.9
MSWZ	**Moikau Station**	**6.82**	**200**	P	Pn	01 55 58.0	-0.8
MSWZ				S	S	01 57 17.4	-0.8
BHW	**Baring Head**	**6.92**	**202**	P	Pn	01 55 59.4	-0.6
BHW				S	S	01 57 20.1	-0.4
TCW	**Tory Channel**	**6.94**	**206**	P	Pn	01 56 00.2	-0.1
TCW				S	S	01 57 20.2	-0.8

*NEIC **10** 01:55:01.8±1.4, 51°.30N±0°.05×178°.32W±0°.04, h35km±2km, mb4.1/31, ML3.9/6, ML3.6(AEIC), Error ellipse: s-maj=8.7km s-min=4.3km az=187.0*
*AEIC **10** 01:55:01.8±1.6, 51°.34N±0°.04×178°.31W±0°.03, h34km±5km, Error ellipse: s-maj=6.1km s-min=2.2km az=162.0*
*IDC **10** 01:55:19.8±8.5, 52°.07N×176°.44W, h123km±80km, mb3.5/4, mbtmp3.8/6, Error ellipse: s-maj=49.8km s-min=21.6km az=1.0*

ISC 10 01:55:02.1±0.9, 51°.28N±0°.08×178°.34W±0°.03, h45km, n85, σ1§17/85, mb4.1/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.40**	**313**		**Pn**	**01 55 10.5**	**-1.3**
GAKI					**Sn**	**01 55 17.5**	**-1.2**
TAFL	**Tanaga Flats**	**0.55**	**30**		**Pn**	**01 55 12.5**	**-1.2**
TAFL					**Sn**	**01 55 21.1**	**-0.8**
GALAA	**Gareloi Lava P**	**0.55**	**331**		**Pn**	**01 55 13.0**	**-0.7**
GALAA					**Sn**	**01 55 21.8**	**-0.2**
TASE	**Tanaga Southea**	**0.58**	**19**		**Pn**	**01 55 13.2**	**-1.0**
TASE					**Sn**	**01 55 22.4**	**-0.5**
GASW	**Gareloi Southw**	**0.59**	**327**		**Pn**	**01 55 13.3**	**-0.9**
GANE	**Gareloi Northe**	**0.60**	**333**		**Pn**	**01 55 13.5**	**-0.9**
GANE					**Sn**	**01 55 22.7**	**-0.5**
GANO	**Gareloi North**	**0.61**	**332**		**Pn**	**01 55 13.4**	**-1.1**
GANO					**Sn**	**01 55 22.6**	**-0.8**
TAPA	**Tanaga Point A**	**0.63**	**31**		**Pn**	**01 55 13.6**	**-1.1**
TAPA					**Sn**	**01 55 22.8**	**-1.0**
TANO	**Tanaga North**	**0.65**	**12**		**Pn**	**01 55 14.1**	**-0.9**
TAFP	**Tanaga Falls P**	**0.66**	**20**		**Pn**	**01 55 13.9**	**-1.1**
KIMD	**Kanaga Island**	**0.84**	**55**		**Pn**	**01 55 16.5**	**-1.0**
KIMD					**Sn**	**01 55 27.9**	**-0.9**
KIWB	**Kanaga Island**	**0.94**	**52**		**Pn**	**01 55 17.6**	**-1.3**
KIWB				IAML		01 55 31.3	
	comp=E,3μm,0.5s						
KIKV	**Kanaga Island**	**0.94**	**50**		**Pn**	**01 55 17.9**	**-1.0**
KIKV					**Sn**	**01 55 30.6**	**-0.6**
KIRH	**Kanaga Island**	**0.99**	**51**		**Pn**	**01 55 18.8**	**-0.7**
ADK	**Adak**	**1.20**	**59**		**Sn**	**01 55 37.0**	**-0.4**
ADK	**Adak**	**1.20**	**59**		**Pn**	**01 55 21.4**	**-0.9**
ADK				IAML		01 55 39.7	
	comp=E,3μm,0.6s						
ADK				IAML		01 55 40.0	
	comp=E,3μm,0.5s						
ADAG	**Mount Adagdak**	**1.29**	**57**		**Pn**	**01 55 23.5**	**-0.1**
ETKA	**Kagalaska Isla**	**1.34**	**64**		**Pn**	**01 55 23.5**	**-0.8**
ETKA					**Sn**	**01 55 40.6**	**-0.3**
CERB	**Semis' Cerberu**	**1.42**	**298**		**Pn**	**01 55 26.0**	**+0.5**
CEPE	**Semis' Perret**	**1.43**	**299**		**Pn**	**01 55 25.1**	**-0.4**
CESW	**Semis' Southwe**	**1.45**	**296**		**Pn**	**01 55 25.1**	**-0.7**
AMKA	**Amchitka**	**1.48**	**275**		**Pn**	**01 55 25.4**	**-0.9**
GSCK	**Great Sitkin C**	**1.54**	**61**		**Pn**	**01 55 26.9**	**-0.2**
GSTD	**Great Sitkin T**	**1.57**	**60**		**Pn**	**01 55 27.1**	**-0.4**
GSMY	**Great Sitkin M**	**1.61**	**61**		**Pn**	**01 55 27.7**	**-0.4**
GSTR	**Great Sitkin T**	**1.64**	**59**		**Pn**	**01 55 27.6**	**-0.8**
GSTR				IAML		01 55 54.5	
	comp=E,2μm,0.5s						
GSIG	**Igitkin Island**	**1.66**	**64**		**Pn**	**01 55 28.3**	**-0.5**
LSPA	**Little Sitkin**	**2.04**	**291**		**Pn**	**01 55 34.4**	**+0.5**
KOWE	**Korovin West**	**2.76**	**65**		**Pn**	**01 55 44.4**	**+0.6**
KOKL	**Mount Kliuchef**	**2.77**	**66**		**Pn**	**01 55 44.6**	**+0.6**
KOFP	**Korovin Flat P**	**2.82**	**68**		**Pn**	**01 55 45.7**	**+1.1**
MREP	**Makushin Rep't**	**7.51**	**66**		**Pn**	**01 56 50.0**	**+1.1**
SPIA	**Saint Paul Isl**	**7.57**	**36**	Pn	**Pn**	**01 56 51.2**	**+1.5**
UNV	**Unalaska Valle**	**7.66**	**66**		**Pn**	**01 56 52.1**	**+1.3**
M11K	**Mekoryuk**	**11.37**	**32**	Pn	**Pn**	**01 57 42.6**	**+0.9**
SDPT	**Sand Point**	**11.43**	**62**	Pn	**Pn**	**01 57 42.3**	**-0.1**
O15K	**Ungalikthiuk R**	**13.16**	**46**	Pn	**Pn**	**01 58 08.1**	**+2.0**
O16K	**Kokwok River B**	**14.14**	**46**	Pn	**Pn**	**01 58 21.3**	**+1.9**
M17K	**Holitna River**	**15.32**	**41**	Pn	**Pn**	**01 58 36.3**	**+1.4**
M17K				IAmb	IAmb	01 58 39.2	
	comp=Z,15nm,1.3s						
P18K	**Big Mountain,**	**15.38**	**49**	Pn	**Pn**	**01 58 36.6**	**+0.8**
P18K				IAmb	IAmb	01 59 11.4	
	comp=Z,16nm,1.4s						
KDAK	**Kodiak Island**	**16.23**	**56**	P	**Pn**	**01 58 40.9**	**-5.8**
	comp=Z,6.5nm,0.8s,baz=258,slow=20,SNR=18						
SEW	**Seward**	**18.38**	**50**	P	**P**	**01 59 11.8**	**-1.1**
SEW				IAmb	IAmb	01 59 51.0	
	comp=Z,19nm,1.2s						
G21K	**Allakaket**	**19.72**	**30**	P	**P**	**01 59 27.7**	**+0.2**
MCK	**McKinley**	**19.89**	**40**	P	**P**	**01 59 28.5**	**-0.9**
MCK				IAmb	IAmb	01 59 50.7	
	comp=Z,17nm,1.5s						
F21K	**Alatna River**	**20.17**	**28**	P	**P**	**01 59 32.4**	**0.0**
F21K				IAmb	IAmb	02 00 06.9	
	comp=Z,8.3nm,1.4s						
D20K	**Etivluk River**	**20.37**	**23**	P	**P**	**01 59 34.4**	**-0.1**
D20K				IAmb	IAmb	02 00 08.3	
	comp=Z,19nm,1.4s						
G23K	**Bananza Creek**	**20.95**	**32**	P	**P**	**01 59 41.5**	**+0.6**
G23K				IAmb	IAmb	02 00 22.9	
	comp=Z,8.3nm,1.4s						
PAX	**Paxson**	**21.06**	**44**	P	**P**	**01 59 42.2**	**+0.1**
PAX				IAmb	IAmb	02 00 14.0	
	comp=Z,7.1nm,1.4s						
ILAR	**Eielson Array**	**21.14**	**38**	P	**P**	**01 59 41.3**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=241,slow=9.0,SNR=5.3						
B20K	**Meade River**	**21.23**	**20**	P	**P**	**01 59 44.8**	**+1.1**
J25K	**Salcha River,**	**21.67**	**39**	P	**P**	**01 59 48.5**	**-0.2**
DOT	**Dot Lake**	**21.88**	**42**	P	**P**	**01 59 50.2**	**-0.6**
DOT				IAmb	IAmb	02 00 25.9	
	comp=Z,5.3nm,1.4s						
SCRK	**Sand Creek**	**22.01**	**42**	P	**P**	**01 59 52.0**	**-0.3**
J26L	**Joseph Creek**	**22.36**	**40**	P	**P**	**01 59 55.5**	**-0.6**
K27K	**Chicken**	**22.83**	**42**	P	**P**	**02 00 01.0**	**+0.1**
K27K				IAmb	IAmb	02 00 10.4	
	comp=Z,7.4nm,1.5s						
PCA	**Pinnacle**	**22.91**	**53**	P	**P**	**02 00 03.0**	**+1.2**
PCA				IAmb	IAmb	02 00 18.3	
	comp=Z,22nm,1.2s						
E25K	**Arctic Village**	**23.16**	**31**	P	**P**	**02 00 05.2**	**+0.9**
E25K				IAmb	IAmb	02 00 25.3	
	comp=Z,8.6nm,1.4s						
EGAK	**Eagle**	**23.43**	**41**	P	**P**	**02 00 05.4**	**-1.4**
EGAK				IAmb	IAmb	02 00 47.8	
	comp=Z,8.0nm,1.4s						
M29M	**Somme Creek**	**24.07**	**47**	P	**P**	**02 00 11.5**	**-1.4**
L29M	**L29M**	**24.33**	**45**	P	**P**	**02 00 13.9**	**-1.3**
L29M				IAmb	IAmb	02 00 38.9	
	comp=Z,10.0nm,1.5s						
K29M	**Barlow Dome**	**24.74**	**44**	P	**P**	**02 00 17.1**	**-1.9**
S34M	**Telegraph Cree**	**27.65**	**58**	P	**P**	**02 00 46.3**	**+1.1**
S34M				IAmb	IAmb	02 00 55.3	
	comp=Z,9.3nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**33.57**	**206**	T	T	02 37 57.4	
	baz=17,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**33.58**	**206**	T	T	02 37 30.2	
	baz=17,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**33.59**	**206**	T	T	02 37 58.8	
	baz=17,slow=76,SNR=36						
USRK	**Ussuriysk Ar.**	**33.59**	**278**	P	P	02 01 57.3	+20
	comp=Z,0.9nm,0.3s,baz=55,slow=9.4,SNR=5.4						
	comp=Z,0.9nm,0.3s						
H11S1	**WAKE ISLAND Hy**	**34.79**	**205**	T	T	02 39 01.4	
	baz=17,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**34.80**	**205**	T	T	02 39 03.7	
	baz=17,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**34.80**	**205**	T	T	02 39 03.3	
	baz=17,slow=76,SNR=28						
ELK	**Elko**	**43.79**	**78**		**P**	**02 03 04.1**	**+0.6**
PD31	**Pinedale Array**	**46.06**	**72**	P	**P**	**02 03 21.9**	**+0.4**
PD31				IAmb	IAmb	02 03 22.1	
	comp=Z,4.7nm,1.4s						
PDAR	**Pinedale Array**	**46.06**	**72**	P	**P**	**02 03 21.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=322,slow=3.2,SNR=13						
	comp=Z,1.2nm,0.6s						
PV18	**Skein Mesa, Pa**	**49.20**	**77**	P	**P**	**02 03 45.9**	**+0.1**
PV03	**Paradox Valley**	**49.23**	**77**	P	**P**	**02 03 46.0**	**0.0**
PV03				IAmb	IAmb	02 03 46.5	
	comp=Z,3.2nm,1.0s						
PV13	**Radium Mtn., P**	**49.30**	**77**	P	**P**	**02 03 46.9**	**+0.2**
PV02	**Paradox Valley**	**49.33**	**77**	P	**P**	**02 03 47.0**	**+0.2**
SPITS	**Spitsbergen Ar**	**50.49**	**356**	P	**P**	**02 03 58.4**	**+3.6**
	comp=Z,1.6nm,0.5s,baz=12,slow=7.7,SNR=5.5						
	comp=Z,1.6nm,0.5s						
TXAR	**Lajitas Array**	**58.38**	**81**	P	**P**	**02 04 52.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=324,slow=7.2,SNR=4.6						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.32**	**309**	P	**P**	**02 05 05.5**	**-0.4**
GOGA	**Godfrey**	**67.55**	**64**	P	**P**	**02 05 52.6**	**-0.9**
HODGE	**Hodges**	**67.63**	**63**	P	**P**	**02 05 53.4**	**-0.6**
R61A	**Willards**	**68.31**	**56**	P	**P**	**02 05 58.7**	**+0.4**
H03N2	**Juan Fernandez**	**120.84**	**106**	T	T	04 26 21.9	
	baz=317,slow=77,SNR=6.2						
H03N1	**Juan Fernandez**	**120.85**	**106**	T	T	04 26 28.4	
	baz=317,slow=77,SNR=4.9						
H03N3	**Juan Fernandez**	**120.86**	**106**	T	T	04 26 24.8	
	baz=317,slow=77,SNR=6.5						

*IDC **10** 02:25:07.3±2.3, 24°.19N×124°.98E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=170.0km s-min=21.0km az=64.0*
*JMA **10** 02:25:12.4±0.2, 24°.N±1°×125°.1E±0°.5, h34km±4km, MV3.3/9, NEAR MIYAKOJIMA ISLAND*

ISC 10 02:25:12.5±1.3, 24°.30N±0°.09×125°.14E±0°.07, h36km±2km, n15, σ0§49/22, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.47**	**21**	*eP*	**Pn**	**02 25 22.7**	**0.0**
JMJ2				*eS*	**Sn**	**02 25 29.6**	**-0.2**
JOGS	**Gusukube**	**0.52**	**28**	*eP*	**Pn**	**02 25 23.5**	**0.0**
JOGS				*eS*	**Sn**	**02 25 31.8**	**+0.8**
JTJ	**Tarama**	**0.52**	**310**	*eP*	**Pn**	**02 25 23.1**	**-0.4**
JTJ				*eS*	**Sn**	**02 25 31.4**	**+0.2**
JIRB	**Irabujima**	**0.53**	**3**	*eP*	**Pn**	**02 25 23.6**	**0.0**
JIRB				*eS*	**Sn**	**02 25 31.2**	**-0.1**
JIKM	**Ikemajima**	**0.63**	**9**	*eP*	**Pn**	**02 25 24.9**	**-0.1**
JIKM				*eS*	**Sn**	**02 25 34.5**	**+0.6**
JISG	**Ishigakijimahi**	**0.81**	**291**	*eP*	**Pn**	**02 25 27.0**	**-0.4**
JISG				*eS*	**Sn**	**02 25 37.7**	**-0.4**
JIJ	**Ishigaki jima**	**0.91**	**274**	*eP*	**Pn**	**02 25 28.7**	**-0.1**
JIJ				*eS*	**Sn**	**02 25 40.9**	**+0.2**
JKRS	**Kuro-shima**	**1.03**	**267**	*eP*	**Pn**	**02 25 31.1**	**+0.6**
IRIF	**Iriomote-Funau**	**1.29**	**272**	*eP*	**Pn**	**02 25 34.8**	**+0.9**
MKAR	**Makanchi Array**	**40.80**	**314**	P	**P**	**02 32 50.2**	**-0.1**
	0.3nm,0.4s,baz=97,slow=10.0,SNR=5.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.38**	**319**	P	**P**	**02 33 19.2**	**-0.1**
	0.3nm,0.5s,baz=110,slow=8.3,SNR=4.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.88**	**168**	P	**P**	**02 33 22.6**	**-1.0**
	0.7nm,0.5s,baz=348,slow=8.8,SNR=7.0						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**48.44**	**169**	P	**P**	**02 33 51.3**	**-0.1**
	0.3nm,0.6s,baz=351,slow=9.1,SNR=4.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**49.89**	**320**	P	**P**	**02 34 02.8**	**+0.5**
	0.3nm,0.4s,baz=111,slow=8.2,SNR=2.3						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**73.15**	**330**	P	**P**	**02 36 39.4**	**+0.3**
	1.6nm,1.0s,baz=67,slow=5.0,SNR=5.2						
	1.6nm,1.0s						

CATAC 10 02:42:58.6±0.6, 11°N±4°×8°7W±°, h10km±5km, M3.4/13, MLv3.4/13, 1C-4D, Error ellipse: s-maj=10.5km s-min=4.7km az=40.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.29**	**25**	P	Pn	02 43 22.5	-0.3
UNAN	**Cigeo UNAN**	**1.40**	**38**	P	Pn	02 43 23.4	-0.9
UNAN				S	Sg	02 43 43.7	+0.1
TISN	**Laguna Tiscapa**	**1.42**	**37**	P	Pn	02 43 23.9	-0.7
MGAN	**Managua**	**1.44**	**38**	P	Pn	02 43 24.1	-0.7
APYN	**Apoyeque**	**1.45**	**32**	P	Pn	02 43 25.1	+0.1
CNGA	**Al SSO del Vol**	**1.54**	**16**	↓P	Pn	02 43 26.3	0.0
CNGN	**Cerro Negro**	**1.55**	**16**	P	Pn	02 43 26.3	-0.1
CNGN	**Cerro Negro**	**1.55**	**16**	S	Sn	02 43 46.5	-0.2
MORN	**Al O del Volca**	**1.57**	**70**	↓P	Pn	02 43 25.3	-1.3
MORN				S	Sn	02 43 47.0	0.0
CONN	**Concepcion**	**1.59**	**69**	↓P	Pn	02 43 25.6	-1.4
CONN				S	Sn	02 43 47.8	+0.1
CARN	**Rivas**	**1.60**	**83**	P	Pn	02 43 27.7	+0.6
CARN				S	Sb	02 43 49.5	+0.7
MOM3	**MOM3**	**1.62**	**22**	P	Pn	02 43 27.1	-0.3
PKGN	**Cerro Pekin**	**1.66**	**6**	↓P	Pn	02 43 28.6	+0.7
PKGN				S	Sn	02 43 49.0	-0.3
POLN	**Al Sur del Vol**	**1.67**	**11**	↑P	Pn	02 43 28.1	+0.1
POLN				S	Sn	02 43 49.3	-0.2
CSGN	**Cosiguina Volc**	**2.00**	**348**	P	Pn	02 43 30.9	-1.7
ACON	**Acoyapa**	**2.16**	**63**	P	Pn	02 43 33.8	-0.9
ACON	**Acoyapa**	**2.16**	**63**	S	Sn	02 44 02.6	+1.0
LIMN	**Finca el Limon**	**2.18**	**20**	P	Pn	02 43 34.5	-0.7
LIMN				S	Sn	02 44 03.4	+1.0
IZABA	**Izabal, Puerto**	**4.90**	**344**	P	Pn	02 44 14.5	+2.0

*IDC **10** 02:46:44.6±0.6, 11°.65N×86°.44W, h0km, mb4.0/10, mbtmp4.0/11, ML3.8/1, MS3.8/12, Error ellipse: s-maj=35.9km s-min=12.4km az=54.0*
*CATAC **10** 02:46:45.3±0.6, 11°.N±3°×8°.7W±°, h11km±4km, M4.6/25, MLv4.6/25, Error ellipse: s-maj=7.7km s-min=4.8km az=45.5, confirmed*
*UCR **10** 02:46:48.1±1.1, 11°.13N×86°.88W, h35km±21km, MW5.0*
*NEIC **10** 02:46:49.1±1.9, 11°.32N±0°.05×86°.69W±0°.04, h24km±5km, mb4.6/162, Error ellipse: s-maj=8.8km s-min=2.6km az=221.0*

ISC 10 02:46:48.6±1.3, 11°.22N±0°.04×86°.83W±0°.05, h29km±9km, n262, σ1§28/222, mb4.6/78, MS3.7/11, 38C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.92**	**34**	P	**Pn**	**02 47 07.1**	**+1.4**
NADN	**Granada**	**0.94**	**56**	↑P	**Pn**	**02 47 06.3**	**+0.5**
SABN	**Sabanita**	**0.98**	**42**	↑P	**Pn**	**02 47 05.4**	**-1.0**
COPN	**Copaltepe**	**0.98**	**14**	↑P	**Pn**	**02 47 07.4**	**+1.0**
COPN	**Copaltepe**	**0.98**	**14**	↑*eP*	**Pn**	**02 47 07.3**	**+0.9**
MASN	**Masaya**	**1.01**	**41**	P	**Pn**	**02 47 08.0**	**+1.1**
MASN	**Masaya**	**1.01**	**41**	*eP*	**Pn**	**02 47 08.0**	**+1.1**
MAS3	**Al N del Volca**	**1.03**	**38**	P	**Pn**	**02 47 07.6**	**+0.5**
MAS3				S	**Sn**	**02 47 25.0**	**+4.6**
ABCN	**Banco Central**	**1.03**	**29**	P	**Pn**	**02 47 08.5**	**+1.4**
UNAN	**Cigeo UNAN**	**1.04**	**32**	↑P	**Pn**	**02 47 08.3**	**+1.1**
UNAN				S	**Sn**	**02 47 25.0**	**+4.2**
USIM	**UNAN**	**1.05**	**31**		**Pn**	**02 47 07.3**	**+0.1**
USIM				Sn	**Sn**	**02 47 17.8**	**-3.1**
TISN	**Laguna Tiscapa**	**1.07**	**31**	↑P	**Pn**	**02 47 08.7**	**+1.0**
ALLN	**Telcor Managua**	**1.08**	**30**	P	**Pn**	**02 47 08.8**	**+1.1**
AMTN	**Mateare**	**1.08**	**21**	S	**Sn**	**02 47 26.7**	**+4.9**
AMTN	**Mateare**	**1.08**	**21**	P	**Pn**	**02 47 09.2**	**+1.4**
MGAN	**Managua**	**1.08**	**32**		**Pn**	**02 47 08.7**	**+0.9**
MGAN	**Managua**	**1.08**	**32**	↑P	**Pn**	**02 47 09.0**	**+1.2**
MGAN	**Managua**	**1.08**	**32**	↑*eP*	**Pn**	**02 47 09.0**	**+1.2**
APQ2	**Apoyeque**	**1.09**	**27**	P	**Pn**	**02 47 08.6**	**+0.7**
APYN	**Apoyeque**	**1.11**	**25**	P	**Pn**	**02 47 09.5**	**+1.3**
AERN	**Aeropuerto Man**	**1.13**	**35**	P	**Pn**	**02 47 09.4**	**+1.1**
WILN	**Americas 2**	**1.13**	**34**	↑P	**Pn**	**02 47 09.4**	**+1.0**
LCRUZ	**La Cruz**	**1.18**	**97**	↑P	**Pb**	**02 47 09.2**	**-1.2**
MORN	**Al O del Volca**	**1.20**	**74**	↑P	**Pb**	**02 47 10.2**	**-0.6**
CONN	**Concepcion**	**1.23**	**74**	↑P	**Pb**	**02 47 10.4**	**-0.8**
ALEN	**Leon**	**1.23**	**358**	P	**Pb**	**02 47 10.0**	**-1.3**
CNGA	**Al SSO del Vol**	**1.28**	**6**	↑P	**Pb**	**02 47 11.1**	**-1.0**
CARN	**Rivas**	**1.28**	**91**	↑P	**Pb**	**02 47 11.0**	**-1.1**
CARN				S	**Sb**	**02 47 31.3**	**+3.1**
CARN	**Rivas**	**1.28**	**91**	↑*eP*	**Pb**	**02 47 11.0**	**-1.1**
CNGN	**Cerro Negro**	**1.28**	**6**		**Pb**	**02 47 11.1**	**-1.0**
CNGN	**Cerro Negro**	**1.28**	**6**	↑P	**Pb**	**02 47 11.1**	**-1.0**
CNGN	**Cerro Negro**	**1.28**	**6**	↑*eP*	**Pb**	**02 47 10.9**	**-1.2**
MOM3	**MOM3**	**1.32**	**13**	↑P	**Pb**	**02 47 11.8**	**-0.9**
PLRN	**Geotermica Pol**	**1.36**	**2**	↑P	**Pb**	**02 47 12.0**	**-1.5**
PLRN				S	**Sb**	**02 47 32.2**	**+1.8**
ELI1	**Hacienda Flor**	**1.38**	**114**	P	**Pn**	**02 47 12.0**	**+0.2**
ELI1	**Hacienda Flor**	**1.38**	**114**	*eP*	**Pn**	**02 47 11.9**	**+0.2**
HERN	**Volcan Telica**	**1.38**	**360**		**Pn**	**02 47 11.1**	**-0.9**
ALIBA	**Liberia Airpor**	**1.40**	**116**	↑*eP*	**Pn**	**02 47 12.1**	**-0.1**
POLN	**Al Sur del Vol**	**1.42**	**1**	↑P	**Pb**	**02 47 12.8**	**-1.7**
LAPC	**Finca la Perla**	**1.44**	**108**	↑*eP*	**Pn**	**02 47 12.3**	**-0.4**
PKGN	**Cerro Pekin**	**1.45**	**354**	↑P	**Pn**	**02 47 13.3**	**+0.4**
PKGN				S	**Sb**	**02 47 35.1**	**+2.0**
DELF	**Filadelfia**	**1.47**	**121**	*eP*	**Pn**	**02 47 12.2**	**-0.8**
DELF				*eS*	**Sn**	**02 47 30.2**	**-1.1**
CRIN	**San Cristobal**	**1.49**	**352**		**Pn**	**02 47 13.7**	**+0.2**
CRIN	**San Cristobal**	**1.49**	**352**	S	**Sb**	**02 47 35.5**	**+1.3**
CRIN	**San Cristobal**	**1.49**	**352**	↑P	**Pn**	**02 47 13.9**	**+0.4**
CRIN	**San Cristobal**	**1.49**	**352**	↑*eP*	**Pn**	**02 47 13.8**	**+0.4**
VRLE	**La Escondida,**	**1.50**	**106**	↑/P	**Pn**	**02 47 13.5**	**-0.1**
BUAI	**Buenos Aires**	**1.51**	**103**	↑/P	**Pn**	**02 47 13.9**	**+0.3**
GPS3	**Bodega del ICE**	**1.51**	**108**	↑*eP*	**Pb**	**02 47 15.1**	**-0.8**
VORI	**VORI**	**1.51**	**105**	↑/P	**Pn**	**02 47 13.8**	**0.0**
GPS1	**Guardaparques**	**1.52**	**107**	↑*eP*	**Pn**	**02 47 13.8**	**0.0**
GPS2	**Hotel Rincn d**	**1.52**	**108**	↑*eP*	**Pn**	**02 47 13.8**	**-0.1**
PEJA	**Penjamo Buenos**	**1.52**	**102**	*eP*	**Pb**	**02 47 14.2**	**-2.0**
JUD3	**Juan Diaz 3**	**1.64**	**129**	*eP*	**Pn**	**02 47 13.8**	**-1.8**
AESN	**El Sauce Leon**	**1.69**	**10**	P	**Pb**	**02 47 16.8**	**-2.2**
BAGA	**Bagaces**	**1.69**	**114**	*eP*	**Pn**	**02 47 15.9**	**-0.1**
COLC	**Colonia**	**1.69**	**109**	*eP*	**Pn**	**02 47 16.1**	**0.0**
PLVR	**Palo Verde**	**1.69**	**121**	*eP*	**Pn**	**02 47 15.3**	**-1.0**
HORNC	**Hornillas**	**1.70**	**107**	*eP*	**Pn**	**02 47 16.5**	**+0.2**
VMAR	**Armenia, Volca**	**1.73**	**103**	↑*eP*	**Pn**	**02 47 17.1**	**+0.4**
ACON	**Acoyapa**	**1.79**	**65**		**Pn**	**02 47 16.1**	**-1.3**
ACON	**Acoyapa**	**1.79**	**65**	↑*eP*	**Pn**	**02 47 16.5**	**-0.9**
MOTZ	**Rio Naranjo**	**1.80**	**107**	*eP*	**Pn**	**02 47 18.4**	**+0.7**
UPAL	**Upala**	**1.81**	**100**	↑P	**Pn**	**02 47 18.2**	**+0.4**
UPAL	**Upala**	**1.81**	**100**	*eP*	**Pn**	**02 47 17.9**	**+0.2**
INVE	**Universidad In**	**1.88**	**113**	*eP*	**Pn**	**02 47 19.2**	**+0.4**
TENO	**El Achiote**	**1.89**	**105**	↑*eP*	**Pn**	**02 47 19.0**	**+0.1**
CSGN	**Cosiguina Volc**	**1.89**	**338**	↑P	**Pn**	**02 47 18.4**	**-0.5**
CSGN				S	**Sb**	**02 47 44.2**	**-1.5**
CSGN	**Cosiguina Volc**	**1.89**	**338**	↑/P	**Pn**	**02 47 18.5**	**-0.5**
TILA	**Tilaran**	**1.97**	**112**	*eP*	**Pn**	**02 47 21.1**	**+1.0**
QUEB	**Quebradon, Cot**	**1.99**	**107**	*eP*	**Pn**	**02 47 20.6**	**+0.3**
JTS	**Las Juntas de**	**2.06**	**116**		**Pn**	**02 47 21.2**	**0.0**
JTS	**Las Juntas de**	**2.06**	**116**	Pn	**Pn**	**02 47 20.9

PLPT	Palo Pinto	23.95	336	IAmb	IAmb	02 52 14.0
	comp=Z,18nm,0.8s					
UALR	University of	23.98	349	IAmb	IAmb	02 52 00.2
	comp=Z,15nm,0.9s					
Z35A	Perchaven, San	24.00	338	IAmb	IAmb	02 52 02.7
	comp=Z,18nm,0.7s					
MIAR	Mount Ida	24.02	346	IAmb	IAmb	02 52 02.7
	comp=Z,11nm,0.8s					
CPCT	Cooper Cave	24.21	5	IAmb	IAmb	02 52 04.8
	comp=Z,22nm,0.8s					
ABTX	Abilene, Hawle	24.35	333	IAmb	IAmb	02 52 17.7
	comp=Z,12nm,0.7s					
V48A	Smith Brothers	24.41	0	IAmb	IAmb	02 52 05.8
	comp=Z,11nm,0.8s					
WHAR	Wooly Hollow	24.47	349	IAmb	IAmb	02 52 04.5
	comp=Z,12nm,0.8s					
CLTN	Cedars of Leba	24.77	1	IAmb	IAmb	02 52 09.5
	comp=Z,10nm,0.7s					
WTFS	Witchita Falls	24.84	336	IAmb	IAmb	02 52 10.4
	comp=Z,13nm,0.6s					
MNHN	Monahans	24.87	326	IAmb	IAmb	02 52 10.9
	comp=Z,15nm,0.9s					
LCAR	Lake Charles	25.05	352	IAmb	IAmb	02 52 09.4
	comp=Z,12nm,0.8s					
APMT	Aspermont	25.16	333	IAmb	IAmb	02 52 18.9
	comp=Z,12nm,0.9s					
U49A	Red Boiling Sp	25.20	2	IAmb	IAmb	02 52 12.9
	comp=Z,27nm,1.5s					
X34A	Smith Ranch, M	25.35	338	IAmb	IAmb	02 52 26.6
	comp=Z,21nm,1.0s					
V58A	Windy Hill, Pi	25.45	15	P	P	02 52 13.7 -0.2
V58A				IAmb	IAmb	02 52 24.4
	comp=Z,14nm,0.7s					
POST	Post	25.58	330	IAmb	IAmb	02 52 27.7
	comp=Z,9.3nm,0.8s					
PBMO	Poplar Bluff	25.66	353	IAmb	IAmb	02 52 15.1
	comp=Z,12nm,0.9s					
T47A	Sharon Grove	25.66	359	IAmb	IAmb	02 52 15.4
	comp=Z,14nm,0.8s					
DKNS	Dickens	25.81	332	IAmb	IAmb	02 52 18.5
	comp=Z,11nm,0.9s					
WMOK	Wichita Mounta	25.82	337	IAmb	IAmb	02 52 27.3
	comp=Z,28nm,1.1s					
TUL3	Leonard	25.89	343	IAmb	IAmb	02 52 17.6
	comp=Z,14nm,0.8s					
U38A	Gravette	26.02	346	IAmb	IAmb	02 52 18.9
	comp=Z,11nm,0.9s					
CGM3	Cape Girardeau	26.09	355	IAmb	IAmb	02 52 19.1
	comp=Z,8.6nm,0.7s					
OK029	Liberty Lake	26.30	340	IAmb	IAmb	02 52 21.1
	comp=Z,17nm,0.8s					
S44A	Carbondale	26.45	356	IAmb	IAmb	02 52 22.4
	comp=Z,14nm,0.8s					
SIUC	Southern Illin	26.47	356	IAmb	IAmb	02 52 22.6
	comp=Z,14nm,0.8s					
TEFE	Tefe	26.49	122	eP	P	02 52 22.7 -0.9
SMWD	Samnorwood	26.73	335	IAmb	IAmb	02 52 36.2
	comp=Z,12nm,0.9s					
MSTX	Muleshoe	26.93	330	IAmb	IAmb	02 52 37.9
	comp=Z,12nm,0.8s					
R49A	Shelbyville	27.00	3	IAmb	IAmb	02 52 27.9
	comp=Z,11nm,0.8s					
CCM	Cathedral Cave	27.02	352		P	02 52 26.9 -1.2
CCM				IAmb	IAmb	02 52 27.2
	comp=Z,14nm,1.1s					
AMTX	Amarillo	27.16	333	IAmb	IAmb	02 52 40.8
	comp=Z,12nm,0.8s					
Q44A	Meyer Farm, Va	27.64	356	IAmb	IAmb	02 52 32.9
	comp=Z,18nm,0.8s					
Q52A	Bidwell	27.93	8	P	P	02 52 36.0 -0.3
P48A	Milroy	28.16	2		P	02 52 37.1 -1.2
P53A	Whipple	28.57	9	P	P	02 52 41.7 -0.2
P52A	Corning	28.61	8		P	02 52 41.9 -0.4
121A	Cookes Peak, D	28.67	321		P	02 52 43.8 +0.6
121A				IAmb	IAmb	02 52 52.6
	comp=Z,12nm,1.3s					
121A					PcP	02 55 54.2 +0.6
P38A	Dawn	28.91	349	IAmb	IAmb	02 52 43.8
	comp=Z,14nm,0.7s					
O49A	Covington	28.94	4	P	P	02 52 44.7 -0.6
O49A				IAmb	IAmb	02 52 45.4
	comp=Z,21nm,1.1s					
O48B	Farmland	28.96	3	P	P	02 52 44.1 -1.3
O48B				IAmb	IAmb	02 52 45.2
	comp=Z,16nm,1.0s					
SFIN	Lafayette	29.05	360	IAmb	IAmb	02 52 45.1
	comp=Z,11nm,0.8s					
ACSO	Alum Creek Sta	29.10	6		P	02 52 46.6 -0.1
O52A	Adamsville	29.12	8	P	P	02 52 46.5 -0.4
ANMO	Albuquerque	29.61	326		P	02 52 51.5 -0.1
MACA	Manacapuru-AM	29.68	117		P	02 52 51.4 -0.7
MACA	Manacapuru-AM	29.68	117	eP	P	02 52 50.2 -1.9
N49A	Columbus Grove	29.68	4	P	P	02 52 50.6 -1.2
N53A	Lisbon	29.94	9	P	P	02 52 53.6 -0.6
N38A	Joes South For	30.00	350	P	P	02 52 52.2 -2.4
L42A	Oliver, Polo	30.77	356		P	02 52 59.7 -1.8
SDCO	Great Sand Dun	31.28	331		P	02 53 06.3 0.0
X16A	Lo Mia Camp, P	32.20	320		P	02 53 15.3 +0.9
BINY	Binghamton	32.29	15	P	P	02 53 14.8 0.0
MVCO	Mesa Verde	32.40	327		P	02 53 15.9 -0.3
MVCO				IAmb	IAmb	02 53 18.0
	comp=Z,6.3nm,0.9s					
MVCO				PcP	PcP	02 56 04.6 +1.2
I42A	Draeger Farm,	32.60	357	P	P	02 53 15.9 -1.7
I45A	Fountain	32.70	1	P	P	02 53 16.2 -2.3
I40A	Norwalk	32.72	355		P	02 53 16.6 -2.0
LPAZ	La Paz	33.00	146		P	02 53 23.5 +1.5
	comp=Z,0.6nm,0.7s,baz=333,slow=9.0,SNR=2.1					
LPAZ				LR	LR	03 06 51.8
	comp=Z,107nm,18.1s,baz=357,slow=36					
	comp=Z,0.6nm,0.7s					
I37A	Lemond, Waseca	33.17	351	P	P	02 53 20.6 -1.9
K30B	Basset	33.26	343		P	02 53 22.8 -0.6
PV18	Skein Mesa, Pa	33.38	327		P	02 53 24.7 0.0
ECSD	EROS Data Cent	33.49	347		P	02 53 23.0 -2.3
ECSD				IAmb	IAmb	02 53 23.7
	comp=Z,11nm,0.8s					
GLMI	Grayling	33.54	3	P	P	02 53 23.5 -2.3
PB16	IPOC Station P	33.98	150		P	02 53 31.5 +1.1
SADO	Sadowa	34.08	10	LR	LR	03 08 09.6
	comp=Z,542nm,18.6s,baz=230,slow=38					
MDP	Montagnes des	34.36	97	LR	LR	03 08 43.6
	comp=Z,134nm,18.2s,baz=280,slow=39					
O20A	White River Ci	34.48	330		P	02 53 35.1 +1.0
O20A				IAmb	IAmb	02 53 41.1
	comp=Z,6.8nm,0.9s					
KNB	Kanab	34.74	322		P	02 53 36.5 0.0
E38A	The Farm, Brul	35.50	354		P	02 53 40.2 -2.4
VILB	Vilhena	35.71	132		P	02 53 45.1 +0.3
VILB				IAmb	IAmb	02 53 51.4
	comp=Z,9.4nm,0.8s					
MPU	Maple Canyon	36.12	327		P	02 53 49.5 +1.2
MPU				IAmb	IAmb	02 53 54.1
	comp=Z,5.0nm,0.8s					
NPGB	Novo Progresso	36.19	119	eP	P	02 53 47.1 -2.0
SPR3	Spring Creek 3	36.94	323	P	P	02 53 55.5 -0.1
SPR3					PcP	02 56 16.6 +0.1
PD31	Pinedale Array	37.14	332		P	02 53 56.1 -1.0
PDAR	Pinedale Array	37.14	332	P	P	02 53 55.6 -1.4
	comp=Z,1.4nm,0.7s,baz=125,slow=11,SNR=17					
PDAR				PcP	PcP	02 56 16.7 -0.3
	comp=Z,0.7nm,0.6s,baz=131,slow=4.5,SNR=5.0					
	comp=Z,1.4nm,0.7s					
HWUT	Hardware Ranch	37.24	329		P	02 53 57.1 -0.8
HWUT				IAmb	IAmb	02 54 03.2
	comp=Z,6.8nm,0.7s					
HWUT					PcP	02 56 17.1 -0.2
PDRB	Porto dos Gac	37.53	126	eP	P	02 53 59.8 -0.6
AGMN	Agassiz Nation	37.73	350		P	02 54 00.1 -1.5
AGMN				IAmb	IAmb	02 54 00.7
	comp=Z,18nm,1.1s					
PTLB	Pontes e Lacer	38.13	133		P	02 54 05.4 +0.1
PTLB	Pontes e Lacer	38.13	133	eP	P	02 54 05.7 +0.3
LOHW	Long Hollow	38.28	332	P	P	02 54 07.3 +0.7
TPAW	Teton Pass	38.35	331		P	02 54 07.4 +0.1
FXWY	Fox Creek	38.50	331		P	02 54 08.2 -0.3
FXWY				PcP	PcP	02 56 22.4 +1.2
AF01	San Pedro de A	38.56	152	P	P	02 54 10.6 +1.3
ELK	Elko	38.62	325		P	02 54 10.6 +1.0
NVAR	Mina Array Bea	39.03	319	P	P	02 54 14.0 +1.0
NVAR					PcP	02 56 24.0 +1.1
NVAR	Mina Array Bea	39.03	319	P	P	02 54 13.5 +0.5
	comp=Z,1.0nm,0.7s,baz=139,slow=7.6,SNR=7.3					
NVAR				PcP	PcP	02 56 23.7 +0.8
	comp=Z,3.8nm,0.7s,baz=81,slow=3.6,SNR=17					
	comp=Z,1.0nm,0.7s					
ULM	Lac du Bonnet	39.63	351	P	P	02 54 14.7 -2.8
	comp=Z,8.3nm,0.7s,baz=175,slow=8.3,SNR=4.7					
ULM				LR	LR	03 13 22.3
	comp=Z,66nm,18.5s,baz=164,slow=41					
	comp=Z,8.3nm,0.7s					
HLID	Hailey	40.10	328		P	02 54 22.7 +0.8
SALV	Santo Antonio	40.93	131	eP	P	02 54 28.8 0.0
AC02	Maricunga	41.55	156	P	P	02 54 34.8 +0.6
PLID	Pearl Lake	41.99	329		P	02 54 36.9 -0.5
SNDB	Serra Nova Dou	42.15	122	eP	P	02 54 38.2 -0.6
BMO	Blue Mountains	42.50	328		P	02 54 41.5 +0.1
ARAG	Araguaiana, MT	43.79	127	eP	P	02 54 51.1 -0.9
AQDB	Aquidauana	43.93	136	eP	P	02 54 53.8 +0.7
H03N2	Juan Fernandez	45.04	171	T	T	03 43 06.8
	baz=348,slow=76,SNR=18					
H03N1	Juan Fernandez	45.05	171	T	T	03 43 05.7
	baz=348,slow=76,SNR=19					
H03N3	Juan Fernandez	45.06	171	T	T	03 43 08.6
	baz=348,slow=76,SNR=20					
MXC	Moxie City	45.21	328		P	02 55 02.5 -0.5
MXC				IAmb	IAmb	02 55 15.4
	comp=Z,4.8nm,0.8s					
AMBA	Amambai (Brazi	46.08	138	eP	P	02 55 12.0 +1.7
SCHQ	Schefferville	46.28	16	P	P	02 55 08.2 -3.2
	comp=Z,57nm,0.8s,baz=217,slow=10,SNR=4.7					
SCHQ				LR	LR	03 13 58.8
	comp=Z,896nm,19.8s,baz=104,slow=36					
BDFB	Brasilia	46.78	124	P	P	02 55 15.1 -0.9
	comp=Z,3.2nm,0.5s,baz=276,slow=9.3,SNR=9.1					
	comp=Z,3.2nm,0.5s					
CPUP	Villa Florida	47.07	143	P	P	02 55 18.4 +0.5
	comp=Z,0.6nm,0.7s,baz=301,slow=18,SNR=5.0					
CPUP				LR	LR	03 13 59.9
	comp=Z,8.8nm,19.2s,baz=210,slow=35					
	comp=Z,0.6nm,0.7s					
IPMB	Ipameri, GO	47.91	127	eP	P	02 55 23.7 -0.9
PSAL	Palomas, Salto	50.55	147	eP	P	02 55 48.0 +3.5
PLCA	Paso Flores	53.84	165	P	P	02 56 11.6 +2.7
	comp=Z,3.0nm,0.9s,baz=325,slow=11,SNR=6.7					
	comp=Z,3.0nm,0.9s					
FRB	Frobisher Bay	54.02	10	LR	LR	03 20 52.8
	comp=Z,111nm,18.9s,baz=220,slow=38					
YKA	Yellowknife Ar	54.95	345	LR	LR	03 20 45.8
	comp=Z,40nm,18.3s,baz=176,slow=37					
SFJD	Kangerlussuaq	60.73	15	LR	LR	03 22 08.9
	comp=Z,66nm,21.0s,baz=207,slow=35					
H27K	Steamboat Moun	66.02	339		P	02 57 31.4 -0.9
H27K				IAmb	IAmb	02 57 34.2
	comp=Z,8.5nm,1.2s					
ILAR	Eielson Array	67.39	336	P	P	02 57 38.9 -2.0
	comp=Z,1.1nm,1.0s,baz=109,slow=4.9,SNR=11					
	comp=Z,1.1nm,1.0s					
F21K	Alatna River	70.77	338		P	02 58 01.3 -0.6
F21K				IAmb	IAmb	02 58 11.9
	comp=Z,7.2nm,1.2s					
ESDC	Sonseca Array	77.47	52	P	P	02 58 39.9 -1.7
	comp=Z,1.1nm,0.9s,baz=273,slow=4.9,SNR=2.8					
	comp=Z,1.1nm,0.9s					
PMSA	Palmer Station	77.70	170	P	P	02 58 43.9 +1.8
SPITS	Spitsbergen Ar	81.78	12	LR	LR	03 35 56.2
	comp=Z,118nm,18.4s,baz=26,slow=36					
SNAA	Sanae	98.68	161	P	P	03 00 24.8 +0.1
MKAR	Makanchi Array	121.44	9	PKP	PKPdf	03 05 37.6 -1.8
	comp=Z,0.3nm,0.6s,baz=356,slow=1.9,SNR=3.5					
KSRS	Korea Array	121.64	328	PKP	PKPdf	03 05 39.6 -0.4
	comp=Z,2.2nm,0.7s,baz=10.0,slow=1.2,SNR=10					
VOI	Vohitsoka	134.45	110	PKPdf	PKPdf	03 06 05.3 +0.4
BBOO	Buckleboo	135.20	234	PKPdf	PKPdf	03 06 06.5 +0.6
ASAR	Alice Springs	139.36	247	PKPdf	PKPdf	03 06 13.3 -0.6
ASAR	Alice Springs	139.36	247	PKhKP	PKPpre	03 06 10.3
	comp=Z,0.2nm,0.4s,baz=200,slow=33,SNR=4.3					
ASAR				PKP	PKPdf	03 06 16.6 +2.8
	comp=Z,0.8nm,0.8s,baz=106,slow=1.9,SNR=6.4					
WRA	Warramunga Arr	139.50	252	PKhKP	PKPpre	03 06 10.5
	comp=Z,0.4nm,0.6s,baz=95,slow=2.6,SNR=5.7					
WRA				PKP	PKiKP	03 06 17.6 +1.1
	comp=Z,0.8nm,0.7s,baz=93,slow=2.0,SNR=6.6					
TOLI2	Tolitoli	149.94	292	PKPdf	PKPdf	03 06 32.3 0.0
CMAR	Chiang Mai Arr	149.97	349	PKPdf	PKPdf	03 06 31.4 -0.8
CMAR	Chiang Mai Arr	149.97	349	PKPbc	PKPbc	03 06 36.8 -0.4
	comp=Z,3.9nm,0.7s,baz=322,slow=1.4,SNR=4.2					

*SDD **10** 02:48:47.7±2.0, 19°.81N×70°.70W, h15km±44km, MD3.4, ML2.7, MW3.0*
*OSPL **10** 02:48:48.9±1.8, 19°.69N×70°.71W, h0km±10km, ML2.6*
ISC 10 02:48:45.6±1.3, 19°.76N±0°.03×70°.71W±0°.03, h16km±11km, n18, σ0°.63/28, 8C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	Santiago de lo	0.33	183	iePg	Pb	02 48 53.8	+0.6
SC01				⇑eSg	Sb	02 48 59.5	+1.3
SC01				IAML		02 49 05.5	
	comp=N,706nm,0.3s						
SC01	Santiago de lo	0.33	183	i P	Pb	02 48 53.8	+0.6
MADR	Mao Valverde	0.42	243	⇑ePg	Pb	02 48 55.7	+1.0
MADR				⇑eSg	Sn	02 49 03.5	-1.0
MADR				IAML		02 49 10.3	
	comp=N,780nm,0.4s						
LOPP1	Punta Rusia, P	0.47	282	i P	Pn	02 48 57.8	0.0
LOPP1				eS	Sn	02 49 04.7	-1.2
LOPP1				IAML		02 49 08.5	
	comp=Z,212nm,0.5s						
SFDR	San Fco. de Ma	0.64	137	⇓ePg	Pn	02 48 59.8	-0.4
NADR	Nagua	0.90	116	⇓ePg	Pn	02 49 04.2	+0.5
NADR				⇓eSg	Sn	02 49 16.0	-0.3
NADR				IAML		02 49 23.2	
	comp=N,558nm,0.2s						
MCDR	Montecristi	0.90	279	⇑ePg	Pn	02 49 04.0	+0.2
MCDR				IAML		02 49 22.9	
	comp=N,280nm,0.1s						
SDDR	Presa de Saban	0.95	216	i P	Pn	02 49 04.1	-0.3
SDDR				eS	Sg	02 49 16.4	0.0
SDDR				IAML		02 49 17.3	
	comp=Z,180nm,0.2s						
LONE3	El Aguacate, B	1.35	212	i P	Pb	02 49 11.0	+0.3
LONE3				eS	Sg	02 49 28.8	-0.4
LONE3				IAML		02 49 30.4	
	comp=Z,112nm,0.4s						
LODU1	El Espartillar	1.57	208	i P	Pg	02 49 15.4	-0.5
LODU1				IAML		02 49 37.4	
	comp=Z,300nm,0.4s						
HATOM	Hato Mayor del	1.58	127	⇑ePg	Pb	02 49 14.3	-0.3
HATOM				⇓eSg	Sg	02 49 36.8	+0.2
HATOM				IAML		02 49 39.5	
	comp=N,59nm,0.1s						
PODR	Polo	1.67	199	⇑ePg	Pb	02 49 16.9	+0.7
PODR				⇓eSg	Sg	02 49 40.3	+0.7
PODR				IAML		02 49 43.2	
	comp=N,115nm,0.4s						
PODR	Polo	1.67	199	i P	Pb	02 49 16.9	+0.7
MIDR	Miches	1.74	116	⇑ePg	Pb	02 49 17.5	+0.2
MIDR				⇑eSg	Sg	02 49 41.4	-0.4
MIDR				IAML		02 49 42.5	
	comp=N,45nm,0.4s						
MIDR				IAML		02 49 48.5	
	comp=N,23nm,0.5s						
GRTK	Grand Turk	1.79	347	i P	Pb	02 49 19.0	+0.8
GRTK				eS	Sg	02 49 43.1	-0.2
GRTK				IAML		02 49 45.3	
	comp=Z,58nm,1.3s						
PAPH	Port-au-Prince	1.94	231	i P	Pb	02 49 20.4	-0.3
LOVI	El Cajuil, Ovi	2.05	198	⇓iP	Pb	02 49 22.9	+0.4
LOVI				IAML		02 49 56.1	
	comp=Z,52nm,0.7s						
LOBH	Bahia de las A	2.08	205	i P	Pb	02 49 23.5	+0.4
LOBH				IAML		02 50 03.1	
	comp=Z,57nm,1.2s						

*UCR **10** 02:53:14.1±1.3, 11°.02N×86°.99W, h0km±54km, MW4.7*
*IDC **10** 02:53:17.0±1.1, 11°.84N×86°.45W, h0km, mb3.4/3, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=79.6km s-min=19.1km az=47.0*
*CATAC **10** 02:53:17.8±0.5, 11°.N±3°.×8°.7W±°., h27km, M4.2/19, MLv4.2/19, Error ellipse: s-maj=8.5km s-min=4.7km az=51.2, confirmed*
*NEIC **10** 02:53:21.0±1.0, 11°.36N±0°.05×86°.76W±0°.07, h35km±1km, mb4.0/6, Error ellipse: s-maj=13.5km s-min=5.4km az=51.0*
ISC 10 02:53:19.5±1.5, 11°.14N±0°.04×86°.88W±0°.06, h29km±11km, n82, σ1°.25/96, mb3.8/6, 18C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.01	34	P	Pb	02 53 37.8	-0.8
NADN	Granada	1.03	54	P	Pn	02 53 37.3	-0.7
NADN				S	Sb	02 53 54.1	+2.1
COPN	Copaltepe	1.07	15	⇑P	Pn	02 53 38.0	-0.6
COPN				S	Sb	02 53 57.3	+4.0
COPN	Copaltepe	1.07	15	⇑eP	Pn	02 53 38.0	-0.6
MASN	Masaya	1.10	40	P	Pn	02 53 39.0	-0.1
MASN	Masaya	1.10	40	eP	Pn	02 53 38.0	-1.1
MAS3	Al N del Volca	1.12	38	P	Pn	02 53 38.6	-0.7
ABCN	Banco Central	1.12	30	P	Pn	02 53 38.6	-0.7
UNAN	Cigeo UNAN	1.14	32	⇑P	Pn	02 53 38.9	-0.6
USIM	UNAN	1.14	31		Pn	02 53 36.5	-3.0
TISN	Laguna Tiscapa	1.16	31	⇑P	Pn	02 53 39.4	-0.5
ALLN	Telcor Managua	1.17	30	P	Pn	02 53 39.5	-0.4
AMTN	Mateare	1.18	22	S	Pn	02 53 39.7	-0.4
MGAN	Managua	1.18	32		Pn	02 53 37.7	-2.4
MGAN	Managua	1.18	32	⇑P	Pn	02 53 39.7	-0.3
MGAN	Managua	1.18	32	⇑eP	Pn	02 53 39.5	-0.6
APQ2	Apoyeque	1.18	27	P	Pn	02 53 39.3	-0.9
APYN	Apoyeque	1.21	25	P	Pn	02 53 40.1	-0.4
APYN				S	Sn	02 53 56.0	+0.2
AERN	Aeropuerto Man	1.22	35	P	Pn	02 53 39.5	-1.1
WILN	Americas 2	1.22	34	P	Pn	02 53 40.2	-0.4
WILN				S	Sn	02 53 56.1	-0.1
LCRUZ	La Cruz	1.23	93	⇑eP	Pn	02 53 39.8	-1.0
MORN	Al O del Volca	1.27	71	⇑P	Pn	02 53 40.7	-0.7
CONN	Concepcion	1.30	71	⇓P	Pn	02 53 41.2	-0.5
CONN				S	Sn	02 53 58.2	0.0
ALEN	Leon	1.31	0	P	Pn	02 53 40.8	-1.1
ALEN	Leon	1.31	0	S	Sn	02 53 58.3	-0.2
CARN	Rivas	1.33	88	⇑P	Pn	02 53 41.4	-0.8
CNGA	Al SSO del Vol	1.36	7	⇓P	Pn	02 53 41.8	-0.8
CNGA				S	Sn	02 53 59.8	+0.1
CNGN	Cerro Negro	1.36	7	Pn	Pn	02 53 40.3	-2.4
CNGN	Cerro Negro	1.36	7	⇑P	Pn	02 53 41.7	-1.0
CNGN	Cerro Negro	1.36	7	⇑eP	Pn	02 53 41.7	-1.0
ELI1	Hacienda Flor	1.39	111	eP	Pb	02 53 43.7	-1.3
MOM3	MOM3	1.41	15	⇓P	Pn	02 53 42.7	-0.6
ALIBA	Liberia Airpor	1.42	112	eP	Pn	02 53 41.8	-1.6
PLRN	Geotermica Pol	1.44	4	⇑P	Pn	02 53 42.7	-1.0
PLRN				S	Sn	02 54 01.5	-0.1
HERN	Volcan Telica	1.46	2	Pn	Pn	02 53 41.8	-2.2
LAPC	Finca la Perla	1.47	104	eP	Pn	02 53 42.9	-1.1
POLN	Al Sur del Vol	1.50	2	⇑P	Pn	02 53 43.5	-1.0
POLN				S	Sn	02 54 03.5	+0.3
PKGN	Cerro Pekin	1.52	356	⇑P	Pn	02 53 44.3	-0.6
PKGN				S	Sn	02 54 04.5	+0.8
GPS3	Bodega del ICE	1.54	104	eP	Pn	02 53 44.3	-0.7
VORI	VORI	1.54	102	eP	Pn	02 53 44.2	-1.0
BUAI	Buenos Aires	1.54	100	eP	Pn	02 53 44.4	-0.7
GPS1	Guardaparques	1.55	103	eP	Pn	02 53 44.6	-0.6
CRIN	San Cristobal	1.56	354	Pn	Pn	02 53 43.2	-2.2
CRIN	San Cristobal	1.56	354	S	Sn	02 54 04.0	-0.6
CRIN	San Cristobal	1.56	354	⇑P	Pn	02 53 44.8	-0.6
CRIN	San Cristobal	1.56	354	eP	Pn	02 53 44.5	-0.9
JUD3	Juan Diaz 3	1.64	126	Pn	Pn	02 53 44.6	-1.8
JUD3	Juan Diaz 3	1.64	126	eP	Pn	02 53 44.5	-1.9
CUI	Cuipilapa	1.75	106	eP	Pb	02 53 49.8	-1.3
VMAR	Armenia, Volca	1.76	100	⇑eP	Pn	02 53 47.7	-0.5
ACON	Acoyapa	1.86	64		Pn	02 53 47.6	-1.9
ACON	Acoyapa	1.86	64	P	Pn	02 53 47.7	-1.8
ACON	Acoyapa	1.86	64	eP	Pn	02 53 48.9	-0.6
TENO	El Achiote	1.92	103	eP	Pn	02 53 49.4	-0.9
CSGN	Cosiguina Volc	1.94	340	⇑P	Pn	02 53 49.8	-0.9
CSGN	Cosiguina Volc	1.94	340	eP	Pn	02 53 49.5	-1.1
LIMN	Finca el Limon	1.98	15	⇓P	Pn	02 53 50.4	-0.8
LIMN				S	Sn	02 54 16.7	+1.7
MATN	Matagalpa	2.01	28	⇑P	Pn	02 53 49.8	-1.8
QUEB	Quebradon, Cot	2.02	105	eP	Pn	02 53 51.4	-0.2
JTS	Las Juntas de	2.07	114		Pn	02 53 53.3	+0.9
JTS	Las Juntas de	2.07	114	Pn	Pb	02 53 54.3	-2.2
	28nm,0.3s,baz=314,slow=16,SNR=22						
JTS				Sn	Sb	02 54 22.4	+0.5
	22nm,0.3s,baz=198,slow=20,SNR=3.5						
	70nm,0.3s						
ARE1	Arenal 1	2.23	107	eP	Pn	02 53 54.3	-0.3
SOCE	Pocosol	2.35	108	Pn	Pn	02 53 55.9	-0.3
TGUH	Tegucigalpa,Un	2.93	353		Pn	02 54 02.2	-2.0
HDC	Heredia	2.94	112	Pn	Pn	02 54 06.4	+1.9
SIUN	Universidad Ur	3.29	39	Pn	Pn	02 54 08.2	-0.8
MTO3	Montecristo	4.04	324		Pn	02 54 19.8	0.0
PIRO	Carate, Puerto	4.42	128		Pn	02 54 25.5	+0.7
BRU2	Volcan	4.74	119	Pn	Pn	02 54 30.1	+0.9
PRVC	Isla de Provid	5.83	67	Pn	Pn	02 54 43.4	-0.7
CMIG	Matias Romero	9.76	308	Pn	Pn	02 55 37.6	-0.5
	0.7nm,0.3s,baz=127,slow=11,SNR=10						
	2.0nm,0.4s						
BAUV	El Baul	18.68	95	P	P	02 57 34.0	-1.6
BAUV				IAmb	IAmb	02 57 50.7	
	comp=Z,11nm,1.1s						
BRDY	Brady	22.98	333	P	P	02 58 20.9	-1.0
TXAR	Lajitas Array	23.94	322	P	P	02 58 30.4	-1.0
TXAR

LOVI IAML 02 54 28.6
comp=Z,130nm,1.1s
SDDR Presa de Saban 0.76 37⇑ePg Pb 02 54 12.7 -0.3
SDDR ⇑eSg Sn 02 54 26.8 +1.7
SDDR IAML 02 54 29.7
comp=N,38nm,0.8s
SDDR Presa de Saban 0.76 37 iP Pb 02 54 12.5 -0.6
SDDR IAML 02 54 27.9
comp=Z,29nm,0.8s

CATAC 10 03:04:36.2±0.7, 11°N±3°×8°7W±°, h24km±6km, M3.8/25, MLv3.8/25, 5C-13D, Error ellipse: s-maj=7.1km s-min=4.3km az=34.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.98**	**57**	⇑P	Pn	03 04 54.1	-0.4
NADN				S	Sn	03 05 07.6	-0.1
COPN	**Copaltepe**	**1.01**	**16**	⇑P	Pn	03 04 54.7	-0.1
SABN	**Sabanita**	**1.02**	**43**	P	Pn	03 04 54.0	-1.0
MASN	**Masaya**	**1.05**	**42**	P	Pn	03 04 54.8	-0.7
MASN				S	Sn	03 05 09.6	+0.2
MAS3	**Al N del Volca**	**1.06**	**40**	P	Pn	03 04 54.9	-0.7
ABCN	**Banco Central**	**1.06**	**31**	P	Pn	03 04 55.1	-0.5
ABCN	**Banco Central**	**1.06**	**31**	S	Sn	03 05 09.8	+0.1
TISN	**Laguna Tiscapa**	**1.10**	**32**	⇓P	Pn	03 04 56.3	+0.1
AMTN	**Mateare**	**1.11**	**23**	P	Pb	03 04 57.1	+0.3
MGAN	**Managua**	**1.12**	**33**	⇑P	Pn	03 04 56.5	+0.1
APYN	**Apoyeque**	**1.14**	**26**	P	Pb	03 04 57.5	+0.2
APYN				S	Sb	03 05 13.6	+1.8
WILN	**Americas 2**	**1.16**	**35**	⇓P	Pn	03 04 57.2	+0.3
MORN	**Al O del Volca**	**1.25**	**74**	⇓P	Pn	03 04 57.7	-0.4
CONN	**Concepcion**	**1.27**	**74**	P	Pb	03 04 59.4	-0.1
CNGA	**Al SSO del Vol**	**1.29**	**7**	P	Pn	03 04 58.6	-0.2
CNGN	**Cerro Negro**	**1.30**	**7**	⇑P	Pn	03 04 58.5	-0.4
CARN	**Rivas**	**1.32**	**91**	⇓P	Pn	03 04 58.1	-1.1
MOM3	**MOM3**	**1.34**	**15**	⇓P	Pn	03 04 59.5	0.0
POLN	**Al Sur del Vol**	**1.44**	**2**	⇓P	Pn	03 05 00.5	-0.3
PKGN	**Cerro Pekin**	**1.46**	**356**	⇓P	Pn	03 05 01.0	-0.1
ACON	**Acoyapa**	**1.83**	**65**	P	Pn	03 05 04.6	-1.5
CSGN	**Cosiguina Volc**	**1.89**	**339**	⇓P	Pn	03 05 06.3	-0.7
CSGN				S	Sn	03 05 31.4	+1.4
LIMN	**Finca el Limon**	**1.91**	**15**	⇓P	Pn	03 05 07.1	-0.2
MATN	**Matagalpa**	**1.95**	**28**	⇑P	Pn	03 05 06.7	-1.2
JTS	**Las Juntas de**	**2.09**	**116**	⇓P	Pb	03 05 12.5	-1.1
RCPN	**Sur Rio San Ju**	**2.43**	**18**	⇓P	Pn	03 05 15.4	+0.8
RCVN	**Varilla2**	**2.46**	**16**	P	Pn	03 05 15.4	+0.5
PACA	**Pacayal**	**2.66**	**328**	P	Pn	03 05 17.8	+0.1
PACA	**Pacayal**	**2.66**	**328**	S	Sn	03 05 49.8	+0.4
SCLA	**Alcaldia de Sa**	**3.08**	**324**	S	Sn	03 05 59.1	-0.3
SCLA	**Alcaldia de Sa**	**3.08**	**324**	⇓P	Pn	03 05 22.9	-0.5
PIRO	**Carate, Puerto**	**4.46**	**128**	⇓P	Pn	03 05 42.3	-0.1

*CATAC **10** 03:11:25.3±0.9, 11°N±4°×8°7W±°, h26km±9km, M3.4/15, MLv3.4/15, Error ellipse: s-maj=11.4km s-min=4.6km az=42.9, confirmed*
*UCR **10** 03:11:25.1±1.4, 11°.16N×86°.89W, h28km±.94km, MW4.2*
ISC 10 03:11:25.4±1.7, 11°.16N±0°.05×86°.90W±0°.07, h34km±3km, n59, σ1§17/65, 9C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**1.03**	**55**	⇑P	**Pn**	**03 11 43.9**	**+0.3**
NADN				S	**Sb**	**03 11 60.0**	**+1.8**
NADN	**Granada**	**1.03**	**55**	*e*P	**Pn**	**03 11 43.8**	**+0.3**
COPN	**Copaltepe**	**1.06**	**17**	⇑*i*P	**Pn**	**03 11 44.6**	**+0.7**
SABN	**Sabanita**	**1.07**	**42**	⇑P	**Pn**	**03 11 44.6**	**+0.5**
MAS3	**Al N del Volca**	**1.11**	**40**	⇓P	**Pn**	**03 11 45.2**	**+0.5**
UNAN	**Cigeo UNAN**	**1.13**	**33**	⇓P	**Pn**	**03 11 45.8**	**+0.9**
TISN	**Laguna Tiscapa**	**1.16**	**32**	⇑P	**Pn**	**03 11 46.0**	**+0.7**
MGAN	**Managua**	**1.17**	**33**	⇑*i*P	**Pn**	**03 11 46.1**	**+0.6**
MGAN				*e*S	**Sn**	**03 11 57.9**	**-2.3**
APYN	**Apoyeque**	**1.20**	**27**	P	**Pb**	**03 11 47.7**	**+0.1**
LCRUZ	**La Cruz**	**1.25**	**94**	*e*P	**Pn**	**03 11 46.2**	**-0.4**
MORN	**Al O del Volca**	**1.29**	**73**	⇓P	**Pn**	**03 11 47.4**	**+0.4**
CONN	**Concepcion**	**1.31**	**72**	⇓P	**Pn**	**03 11 47.6**	**+0.3**
CNGA	**Al SSO del Vol**	**1.34**	**8**	⇓P	**Pn**	**03 11 48.4**	**+0.6**
CNGN	**Cerro Negro**	**1.35**	**8**	⇑P	**Pn**	**03 11 48.2**	**+0.4**
CNGN	**Cerro Negro**	**1.35**	**8**	*e*P	**Pn**	**03 11 48.1**	**+0.2**
CARN	**Rivas**	**1.35**	**89**	⇑P	**Pb**	**03 11 50.2**	**0.0**
CARN				S	**Sb**	**03 12 07.6**	**+0.3**
CARN	**Rivas**	**1.35**	**89**	*e*P	**Pn**	**03 11 48.3**	**+0.4**
MOM3	**MOM3**	**1.39**	**16**	⇓P	**Pn**	**03 11 49.3**	**+0.8**
MOM3				S	**Sb**	**03 12 07.6**	**-0.8**
ALIBA	**Liberia Airpor**	**1.45**	**113**	*e*P	**Pn**	**03 11 48.8**	**-0.4**
POLN	**Al Sur del Vol**	**1.48**	**3**	⇑P	**Pn**	**03 11 49.9**	**+0.2**
LAPC	**Finca la Perla**	**1.49**	**105**	*e*P	**Pn**	**03 11 49.0**	**-0.9**
PKGN	**Cerro Pekin**	**1.50**	**357**	⇓P	**Pn**	**03 11 50.7**	**+0.7**
PKGN				S	**Sb**	**03 12 10.8**	**-0.7**
VRLE	**La Escondida,**	**1.55**	**104**	*e*P	**Pn**	**03 11 50.5**	**-0.2**
GPS3	**Bodega del ICE**	**1.56**	**105**	*e*P	**Pb**	**03 11 54.5**	**+0.7**
VORI	**VORI**	**1.56**	**102**	*e*P	**Pn**	**03 11 51.1**	**+0.1**
BUAI	**Buenos Aires**	**1.57**	**100**	*e*P	**Pn**	**03 11 51.3**	**+0.4**
JUD3	**Juan Diaz 3**	**1.67**	**126**	*e*P	**Pn**	**03 11 50.8**	**-1.5**
PLVR	**Palo Verde**	**1.73**	**118**	*e*P	**Pn**	**03 11 54.9**	**+1.7**
HORNC	**Hornillas**	**1.75**	**105**	*e*P	**Pb**	**03 11 56.2**	**-0.8**
NICO	**Nicoya**	**1.76**	**125**	*e*P	**Pn**	**03 11 52.7**	**-0.8**
CUI	**Cuipilapa**	**1.78**	**106**	*e*P	**Pb**	**03 11 56.4**	**-1.1**
VMAR	**Armenia, Volca**	**1.79**	**101**	*e*P	**Pn**	**03 11 54.2**	**+0.2**
MOTZ	**Rio Naranjo**	**1.86**	**105**	*e*P	**Pn**	**03 11 54.7**	**-0.2**
ACON	**Acoyapa**	**1.87**	**64**	P	**Pn**	**03 11 55.9**	**+0.8**
ACON	**Acoyapa**	**1.87**	**64**	*e*P	**Pn**	**03 11 53.7**	**-1.3**
CSGN	**Cosiguina Volc**	**1.92**	**340**	P	**Pn**	**03 11 55.9**	**+0.1**
CSGN				S	**Sn**	**03 12 19.4**	**+0.7**
CSGN	**Cosiguina Volc**	**1.92**	**340**	*e*P	**Pn**	**03 11 55.8**	**+0.1**
INVE	**Universidad In**	**1.93**	**110**	*e*P	**Pn**	**03 11 59.9**	**-0.1**
TENO	**El Achiote**	**1.94**	**103**	*e*P	**Pn**	**03 11 55.8**	**-0.3**
LIMN	**Finca el Limon**	**1.96**	**15**	⇓P	**Pn**	**03 11 56.9**	**+0.6**
MATN	**Matagalpa**	**2.00**	**28**	⇑P	**Pn**	**03 11 56.4**	**-0.5**
TILA	**Tilaran**	**2.02**	**110**	*e*P	**Pn**	**03 11 57.0**	**-0.1**
QUEB	**Quebradon, Cot**	**2.04**	**105**	*e*P	**Pb**	**03 12 00.1**	**-1.8**
JUNT	**Juntas**	**2.10**	**114**	*e*P	**Pb**	**03 12 01.8**	**-1.0**
JTS	**Las Juntas de**	**2.10**	**114**	P	**Pn**	**03 11 59.7**	**+1.4**
JTS	**Las Juntas de**	**2.10**	**114**	*e*P	**Pn**	**03 11 59.7**	**+1.4**
TABAC	**Tabacon**	**2.20**	**107**	*e*P	**Pb**	**03 12 04.6**	**0.0**
VARE2	**V. Arenal**	**2.25**	**108**	*e*P	**Pn**	**03 12 03.1**	**+2.7**
ARE1	**Arenal 1**	**2.25**	**108**	*e*P	**Pn**	**03 12 03.2**	**+2.8**
CEDE	**Laguna Cedeo**	**2.26**	**107**	*e*P	**Pb**	**03 12 05.0**	**-0.6**
VACR	**Volcan Arenal**	**2.29**	**107**	*e*P	**Pb**	**03 12 05.2**	**-0.9**
SOCE	**Pocosol**	**2.37**	**109**	P	**Pn**	**03 12 03.8**	**+1.8**
RCPN	**Sur Rio San Ju**	**2.48**	**18**	⇓P	**Pn**	**03 12 05.1**	**+1.5**
RCVN	**Varilla2**	**2.51**	**16**	P	**Pn**	**03 12 05.5**	**+1.6**
VPL2	**V. Platanar**	**2.62**	**105**	*e*P	**Pb**	**03 12 10.3**	**-1.4**
PAR1A	**Puntarenas Pro**	**3.04**	**121**	*e*P	**Pn**	**03 12 12.8**	**+1.8**
PICV	**PH. Pirrs**	**3.07**	**120**	*e*P	**Pn**	**03 12 13.9**	**+2.4**
ABRB	**Las Abras (San**	**3.33**	**110**	*e*P	**Pn**	**03 12 18.7**	**+3.3**
PIRO	**Carate, Puerto**	**4.46**	**128**	*e*P	**Pn**	**03 12 31.4**	**+0.8**

*IDC **10** 03:12:40.7±1.2, 0°.94S×134°.60E, h0km, mb3.7/6, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=55.8km s-min=14.9km az=84.0*
*DJA **10** 03:12:44.4±0.4, 1°S±3°×13°4E±°, h10km, M4.4/9, mb4.5/3, MLv4.4/9*
*NEIC **10** 03:45.7±1.8, 0°.9S±0°.1×134°.6E±0°.1, h35km±2km, mb4.2/11, Error ellipse: s-maj=20.8km s-min=16.1km az=311.0*
ISC 10 03:12:44.8±0.7, 1°.00S±0°.06×134°.48E±0°.05, h27km, n29, σ1§90/35, mb3.8/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.59**	**211**	P	**Pb**	**03 12 56.7**	**+0.1**
RKPI				S	**Sb**	**03 13 05.4**	**+0.7**
BAKI	**Biak**	**1.64**	**97**	P	**Pb**	**03 13 14.9**	**+0.5**
BAKI				S	**Sb**	**03 13 35.7**	**+1.0**
SRPI	**Serui, Papua**	**1.96**	**116**	P	**Pb**	**03 13 20.1**	**+0.2**
SRPI				S	**Sb**	**03 13 47.3**	**+3.3**
KMPI	**Kaimana, Papua**	**2.75**	**196**	P	**Pn**	**03 13 28.1**	**+0.8**
FAKI	**Fak Fak**	**2.93**	**229**		**Pn**	**03 13 30.1**	**+0.4**
FAKI				Sn	**Sn**	**03 14 04.9**	**+0.8**
FAKI	**Fak Fak**	**2.93**	**229**	P	**Pn**	**03 13 30.4**	**+0.7**
SWI	**Sorong**	**3.22**	**272**	P	**Pn**	**03 13 34.7**	**+1.0**
MTN	**Manton Dam**	**12.22**	**196**		**Pn**	**03 15 38.0**	**+0.7**
KAPI	**Kappang**	**15.23**	**255**	Pn	**Pn**	**03 16 19.8**	**+1.5**
KAPI				IAmb	IAmb	03 16 22.3	
	comp=Z,24nm,1.2s						
COEN	**Coen**	**15.48**	**147**	Pn	**Pn**	**03 16 21.1**	**-0.5**
COEN				IAmb	IAmb	03 16 23.7	
	comp=Z,4.8nm,0.9s						
KNRA	**Kununurra**	**15.64**	**201**	Pn	**Pn**	**03 16 22.7**	**-0.8**
KNRA				IAmb	IAmb	03 16 38.3	
	comp=Z,14nm,0.7s						
WB0	**Warramunga Arr**	**18.65**	**180**	P	**P**	**03 17 01.2**	**+0.4**
WB0				IAmb	IAmb	03 17 10.8	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**18.83**	**180**		**P**	**03 17 02.5**	**-0.2**
WRA	**Warramunga Arr**	**18.83**	**180**	P	**P**	**03 17 02.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=0.1,slow=11,SNR=23						
WRA				S	**Sn**	**03 20 26.0**	**-7.4**
	comp=Z,0.4nm,0.6s,baz=2.9,slow=24,SNR=2.1						
	comp=Z,1.6nm,0.4s						
WR8	**Warramunga Arr**	**18.84**	**180**		**P**	**03 17 03.1**	**+0.3**
WR8				IAmb	IAmb	03 17 12.6	
	comp=Z,9.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.08**	**207**	P	**P**	**03 17 06.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.08**	**207**	P	**P**	**03 17 06.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=36,slow=10,SNR=9.1						
FITZ				S	Sn	03 20 25.6	-14
	comp=Z,1.3nm,0.4s,baz=181,slow=14,SNR=3.7						
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**22.54**	**181**		**P**	**03 17 44.0**	**+1.1**
AS31				IAmb	IAmb	03 17 54.0	
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**22.54**	**181**		**P**	**03 17 43.9**	**+0.9**
ASAR	**Alice Springs**	**22.54**	**181**	P	**P**	**03 17 43.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=9.4,slow=11,SNR=18						
ASAR				S	**S**	**03 21 52.9**	**+4.1**
	comp=Z,0.4nm,0.5s,baz=7.1,slow=23,SNR=1.7						
	comp=Z,2.1nm,0.7s						
STKA	**Stephens Creek**	**31.44**	**168**	P	**P**	**03 19 04.7**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=331,slow=9.3,SNR=3.7						
	comp=Z,0.6nm,0.3s						
MQZ	**McQueen's Vall**	**54.41**	**147**	P	**P**	**03 22 06.2**	**-3.4**
CTZ	**Chatham Island**	**60.77**	**141**	P	**P**	**03 22 53.4**	**-1.0**
MKAR	**Makanchi Array**	**65.89**	**324**	P	**P**	**03 23 27.5**	**-0.7**
MKAR	**Makanchi Array**	**65.89**	**324**	P	**P**	**03 23 28.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=110,slow=8.1,SNR=5.2						
	comp=Z,0.5nm,0.6s						
ADK	**Adak**	**66.78**	**31**	P	**P**	**03 23 31.8**	**-2.0**
ADK				IAmb	IAmb	03 23 44.9	
	comp=Z,28nm,1.1s						
KURBB	**Kurchatov Arra**	**69.92**	**326**	P	**P**	**03 23 53.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=122,slow=6.4,SNR=2.8						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**75.52**	**326**	P	**P**	**03 24 28.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=132,slow=10,SNR=1.5						
	comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**03 25 22.5**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=246,slow=5.8,SNR=2.4						
	comp=Z,0.3nm,0.8s						

*IDC **10** 03:18:01.7±0.5, 57°.90S×157°.61E, h0km, mb4.9/16, mbtmp4.8/18, ML4.2/2, MS4.7/40, Error ellipse: s-maj=24.5km s-min=11.9km az=71.0*
*BJI **10** 03:18:01.8, 57°.80S×157°.96E, h10km, mB5.9/8, mb5.5/11, Ms5.5/15, Ms7 5.1/18*
*MOS **10** 03:18:02.5±0.9, 57°.96S×157°.36E, h10km, mb5.6/14, MS5.0/5, Error ellipse: s-maj=23.9km s-min=7.8km az=99.0*
*ISC-PP **10** 03:18:03, 57°.96S×157°.38E, h3km, Mwppsm5.7, Moment Tensor Solution. s32 Moment tensor: Scale 10^17^Nm; M_{rr}0.79±.10; $M_{\theta\theta}$0.33±.14; $M_{\phi\phi}$-0.24±.13; $M_{r\theta}$0.05±.08; $M_{\theta\phi}$-0.23±.17; $M_{\phi r}$0.22±.07; Fault plane solution: $M_0$4.57000×10^17^ NP1:ϕ_s164.30000°, δ56.40000°, λ93.90000°. NP2:ϕ_s337.40000°, δ33.80000°, λ84.20000°.*
*NEIC **10** 03:18:03.7±1.5, 57°.96S±0°.09×157°.4E±0°.2, h10km±1km, mb5.5/84, Ms_20 5.2/392, Mwb5.4/25, Mww5.6/14 Error ellipse: s-maj=16.7km s-min=14.5km az=90.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.68; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.57; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.58; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.76000×10^17^ NP1: ϕ_s332.62000°, δ41.28000°, λ77.69000°. NP2: ϕ_s168.82000°, δ49.87000°, λ100.60000°. Principal axes: T 1.7357, Plg81.0000°, Azm133.0000°; N 0.0523, Plg8.0000°, Azm342.0000°; P -1.7880, Plg4.0000°, Azm251.0000°;*
*NEIC **10** 03:18:04.4, 57°.97S×157°.41E, h24km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10^17^Nm; M_{rr}3.12; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$-2.41; $M_{r\theta}$0.25; $M_{\theta\phi}$1.31; $M_{\phi r}$-0.17; Fault plane solution: $M_0$3.14000×10^17^ NP1: ϕ_s333.94000°, δ42.57000°, λ93.62000°. NP2: ϕ_s149.02000°, δ47.54000°, λ86.68000°. Principal axes: T 3.1407, Plg87.0000°, Azm17.0000°; N -0.0102, Plg2.0000°, Azm151.0000°; P -3.1305, Plg2.0000°, Azm241.0000°;*
*NEIC **10** 03:18:04.4, 57°.97S×157°.42E, h10km*
*NEIC **10** 03:18:04.4, 57°.97S×157°.41E, h24km*
*GCMT **10** 03:18:07.7±0.1, 57°.91S±0°.01×157°.37E±0°.01, h12km, MW5.5/147, Moment Tensor Solution. s143, c265; s147, c293; Duration: 1§4 Moment tensor: Scale 10^17^ Nm; M_{rr}2.06±.02; $M_{\theta\theta}$-0.05±.02; $M_{\phi\phi}$-2.01±.02; $M_{r\theta}$0.31±.05; $M_{\theta\phi}$0.68±.02; $M_{\phi r}$-0.75±.04; Best double couple: $M_0$2.29000×10^17^ NP1:ϕ_s345.00000°, δ35.00000°, λ93.00000°. NP2:ϕ_s161.00000°, δ55.00000°, λ88.00000°. Principal axes: T 2.2100, Plg79.0000°, Azm62.0000°; N 0.1580, Plg2.0000°, Azm162.0000°; P -2.3710, Plg10.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 03:18:02.3±0.2, 57°.91S±0°.04×157°.64E±0°.05, h3km, h4km: pP-P, n745, σ1§70/537, mb5.3/97, MS5.2/234, 46C-25D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**11.96**	**216**	P	**Pn**	**03 20 53.8**	**+0.4**
DRV				S	**Sn**	**03 23 03.8**	**-3.4**
APZ	**The Paps**	**12.75**	**34**	P	**Pn**	**03 21 04.2**	**-0.2**
APZ				S	**Sn**	**03 23 21.3**	**-5.4**
PYZ	**Puysegur Point**	**13.00**	**29**	Pn	**Pn**	**03 21 11.7**	**+4.0**
SYZ	**Scrubby Hill**	**13.37**	**37**	P	**Pn**	**03 21 16.6**	**+3.9**
SYZ	**Scrubby Hill**	**13.37**	**37**	P	**Pn**	**03 21 13.4**	**+0.7**
SYZ				S	**Sn**	**03 23 36.2**	**-5.5**
WHZ	**Wether Hill Ro**	**13.59**	**32**		**Pn**	**03 21 18.9**	**+3.1**
WHZ	**Wether Hill Ro**	**13.59**	**32**	P	**Pn**	**03 21 17.0**	**+1.2**
WHZ				S	**Sn**	**03 23 41.9**	**-5.3**
DCZ	**Deep Cove**	**13.77**	**29**		**Pn**	**03 21 21.0**	**+2.8**
DCZ	**Deep Cove**	**13.77**	**29**	P	**Pn**	**03 21 21.6**	**+3.4**
TUZ	**Tuapeka**	**14.04**	**37**	P	**Pn**	**03 21 22.6**	**+0.7**
TUZ				S	**Sn**	**03 23 53.5**	**-4.7**
MLZ	**Mavora Lakes**	**14.12**	**32**		**Pn**	**03 21 25.1**	**+2.0**
MLZ	**Mavora Lakes**	**14.12**	**32**	P	**Pn**	**03 21 25.2**	**+2.1**
MLZ				S	**Sn**	**03 23 58.1**	**-2.1**
MSZ	**Milford Sound**	**14.71**	**30**	P	**Pn**	**03 21 33.2**	**+2.2**
WKZ	**Wanaka**	**14.87**	**33**	Pn	**Pn**	**03 21 36.7**	**+3.4**
WKZ	**Wanaka**	**14.87**	**33**	P	**Pn**	**03 21 38.0**	**+4.6**
ODZ	**Otahua Downs**	**15.18**	**38**		**Pn**	**03 21 38.6**	**+1.2**
ODZ	**Otahua Downs**	**15.18**	**38**	P	**Pn**	**03 21 41.4**	**+4.0**
ODZ	**Otahua Downs**	**15.18**	**38**	P	**Pn**	**03 21 39.6**	**+2.2**
JCZ	**Jackson Bay**	**15.50**	**31**	P	**Pn**	**03 21 46.1**	**+4.4**
JCZ	**Jackson Bay**	**15.50**	**31**	P	**Pn**	**03 21 46.3**	**+4.6**
LBZ	**Lake Benmore**	**15.62**	**35**		**Pn**	**03 21 45.6**	**+2.4**
LBZ				IAmb	IAmb	03 21 52.4	
	comp=Z,486nm,1.8s						
TMZ	**Timaru**	**15.89**	**37**	P	**Pn**	**03 21 50.9**	**+4.2**
FOZ	**Fox Glacier**	**16.29**	**33**		**Pn**	**03 21 55.5**	**+3.7**
TAU	**Tasmania Unive**	**16.36**	**332**	Pn	**Pn**	**03 21 52.5**	**-0.3**
TAU				IAmb	IAmb	03 21 58.2	
	comp=Z,461nm,1.6s						
TAU	**Tasmania Unive**	**16.36**	**332**	P	**Pn**	**03 21 53.4**	**+0.6**
TAU	**Tasmania Unive**	**16.36**	**332**	P	**Pn**	**03 21 52.5**	**-0.3**
TAU				pmax	pmax		
	comp=Z,461nm,1.7s						
RPZ	**Rata Peaks**	**16.50**	**36**		**Pn**	**03 21 57.4**	**+2.9**
RPZ	**Rata Peaks**	**16.50**	**36**	Pn	**Pn**	**03 21 55.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=197,slow=9.6,SNR=11						
RPZ				Sn	**Sn**	**03 24 54.4**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=50,slow=16,SNR=3.8						
RPZ				LR	LR	03 27 10.1	
	comp=Z,4μm,19.6s,baz=188,slow=33						
	comp=Z,9.6nm,0.6s						
MOO	**Moorlands**	**16.84**	**332**	P	**Pn**	**03 21 59.6**	**+0.8**
	comp=Z,196nm,1.9s						
MOO	**Moorlands**	**16.84**	**332**	P	**Pn**	**03 21 59.5**	**+0.7**
MOO	**Moorlands**	**16.84**	**332**	P	**Pn**	**03 21 59.1**	**+0.3**
MQZ	**McQueen's Vall**	**17.04**	**40**	Pn	**Pn**	**03 22 02.7**	**+1.5**
MQZ				IAmb	IAmb	03 22 09.0	
	comp=Z,520nm,1.8s						
OXZ	**Oxford**	**17.17**	**38**		**Pn**	**03 22 06.2**	**+3.2**
OXZ				IAmb	IAmb	03 22 10.8	
	comp=Z,449nm,1.5s						
AMCZ	**Amberley**	**17.50**	**39**		**Pn**	**03 22 09.8**	**+2.7**
INZ	**Inchbonnie**	**17.52**	**36**		**Pn**	**03 22 09.4**	**+2.1**
LTZ	**Lake Taylor**	**17.73**	**38**		**P**	**03 22 13.1**	**+2.1**
CORO	**Coronation Par**	**17.78**	**333**	P	**Pn**	**03 22 11.4**	**+0.8**
GVZ	**Greta Valley S**	**17.82**	**40**	Pn	**Pn**	**03 22 10.7**	**-0.4**
GLAD	**Gladstone**	**18.03**	**336**	P	**Pn**	**03 22 15.3**	**+1.6**
KHZ	**Kahutara**	**18.48**	**40**		**P**	**03 22 19.7**	**+0.6**
THZ	**Tophouse**	**18.85**	**38**	P	**P**	**03 22 25.2**	**+2.0**
NNZ	**Nelson**	**19.50**	**38**	IAmb	IAmb	03 22 37.6	
	comp=Z,790nm,1.9s						
TKNZ	**Takaka Hill**	**19.53**	**37**	P	**P**	**03 22 33.5**	**+2.8**
QRZ	**Quartz Range**	**19.58**	**36**		**P**	**03 22 32.8**	**+1.6**
QRZ				IAmb	IAmb	03 22 39.2	
	comp=Z,426nm,1.6s						
VNDA	**Vanda**	**19.75**	**177**		**P**	**03 22 33.1**	**+0.3**
VNDA	**Vanda**	**19.75**	**177**	P	**P**	**03 22 32.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=350,slow=10,SNR=65						
VNDA				LR	LR	03 29 12.4	
	comp=Z,3μm,18.8s,baz=2.0,slow=34						
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**19.75**	**177**	P	**P**	**03 22 33.1**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,122nm,1.7s						
TCW	**Tory Channel**	**19.80**	**40**	P	**P**	**03 22 35.3**	**+1.7**
PLWZ	**Palliser**	**19.83**	**42**		**P**	**03 22 37.2**	**+3.2**
BHW	**Baring Head**	**19.83**	**41**	P	**P**	**03 22 36.1**	**+2.2**
SNZO	**South Karori**	**19.86**	**41**	P	**P**	**03 22 36.9**	**+2.6**
SNZO				IAmb	IAmb	03 22 50.9	
	comp=Z,312nm,1.4s						
SNZO	**South Karori**	**19.86**	**41**	P	**P**	**03 22 37.3**	**+3.1**
MSWZ	**Moikau Station**	**19.96**	**42**	P	**Pn**	**03 22 38.8**	**+1.9**
SBA	**Scott Base**	**20.27**	**174**		**P**	**03 22 38.7**	**+0.3**
SBA				IAmb	IAmb	03 22 49.3	
	comp=Z,307nm,1.7s						
SBA	**Scott Base**	**20.27**	**174**	P	**P**	**03 22 38.7**	**+0.3**
SBA				pmax	pmax		
	comp=Z,307nm,1.7s						
SBA				MLR	MLR		
	comp=Z,4μm,20.0s						
MRZ	**Mangatainoka R**	**20.74**	**41**		**P**	**03 22 46.4**	**+2.6**
MRZ				IAmb	IAmb	03 23 01.9	
	comp=Z,277nm,1.4s						
BFZ	**Birch Farm**	**20.96**	**43**	P	**P**	**03 22 49.3**	**+3.0**
BFZ				IAmb	IAmb	03 22 54.5	
	comp=Z,384nm,1.7s						
BFZ				IAMs_20	IAMs_20	03 31 13.0	
	comp=Z,8μm,18.0s						
BFZ	**Birch Farm**	**20.96**	**43**	P	Pn	03 22 50.6	+1.9
CTZ	**Chatham Island**	**21.40**	**60**	P	**P**	**03 22 54.4**	**+3.5**
CTZ				IAmb	IAmb	03 23 06.3	
	comp=Z,153nm,1.4s						
CTZ				IAMs_20	IAMs_20	03 29 35.7	
	comp=Z,9μm,20.0s						
MILA	**Mila**	**21.61**	**341**	P	**P**	**03 22 54.7**	**+1.4**
	comp=Z,61nm,1.7s						
TOO	**Toolangi**	**21.86**	**333**	P	**P**	**03 22 56.6**	**+0.6**
	comp=Z,0.0nmcomp=Z,74nm,2.1s						
TOO	**Toolangi**	**21.86**	**333**		**P**	**03 22 55.4**	**-0.6**
TOO				IAmb	IAmb	03 23 10.1	
	comp=Z,245nm,1.7s				

baz=141,slow=75,SNR=109
NWAO Narrogin (SRO) 36.93 295 P **P** **03 25 11.8 -0.4**
comp=Z,45nm,2.2s
NWAO Narrogin (SRO) 36.93 295 **P** **03 25 11.2 -1.1**
NWAO IAmb IAmb 03 25 13.0
comp=Z,139nm,1.9s
NWAO Narrogin (SRO) 36.93 295 LR LR 03 36 56.1
comp=Z,1μm,18.4s,baz=122,slow=31
NWAO Narrogin (SRO) 36.93 295 P **P** **03 25 12.1 -0.2**
NWAO Narrogin (SRO) 36.93 295 P **P** **03 25 11.9 -0.4**
NWAO Narrogin (SRO) 36.93 295 P **P** **03 25 11.2 -1.1**
NWAO pmax pmax
comp=Z,139nm,1.9s
MUN Mundaring 38.21 295 P **P** **03 25 23.0 0.0**
comp=Z,107nm,2.1s
MUN Mundaring 38.21 295 P **P** **03 25 23.1 0.0**
MUN Mundaring 38.21 295 P **P** **03 25 23.0 0.0**
ASAR Alice Springs 38.23 323 **P** **03 25 22.6 -0.8**
ASAR Alice Springs 38.23 323 P **P** **03 25 22.9 -0.4**
comp=Z,41nm,1.1s,baz=161,slow=8.0,SNR=84
ASAR PcP **PcP** **03 27 36.6 -1.1**
comp=Z,2.2nm,0.8s,baz=153,slow=3.7,SNR=2.5
ASAR LR LR 03 39 23.9
comp=Z,1μm,18.3s,baz=150,slow=34
comp=Z,41nm,1.1s
AS31 Alice Springs 38.23 323 P **P** **03 25 23.4 +0.1**
comp=Z,13nm,1.4s
AS31 Alice Springs 38.23 323 **P** **03 25 23.2 -0.1**
WRKA Warakurna 38.92 315 P **P** **03 25 28.8 -0.3**
comp=Z,32nm,1.9s
BLDU Ballidu 39.09 296 P **P** **03 25 30.1 -0.3**
comp=Z,80nm,2.0s
BLDU Ballidu 39.09 296 P **P** **03 25 30.2 -0.3**
TV1H Townsville Har 39.42 344 P **P** **03 25 34.5 +1.3**
QIS Mount Isa 39.57 333 P **P** **03 25 34.3 -0.3**
comp=Z,37nm,1.8s
QIS Mount Isa 39.57 333 P **P** **03 25 34.5 -0.1**
MAW Mawson 40.18 216 P **P** **03 25 40.1 +1.0**
comp=Z,5.6nm,1.8s
MAW Mawson 40.18 216 P **P** **03 25 39.7 +0.6**
comp=Z,8.0nm,0.9s,baz=113,slow=9.9,SNR=10
MAW PcP **PcP** **03 27 42.4 -0.6**
comp=Z,6.6nm,1.0s,baz=150,slow=5.2,SNR=2.6
MAW LR LR 03 41 23.5
comp=Z,4μm,20.9s,baz=114,slow=35
comp=Z,8.0nm,0.9s
MORW Morawa 40.70 297 P **P** **03 25 44.1 +0.2**
comp=Z,114nm,2.0s
MORW Morawa 40.70 297 **P** **03 25 43.1 -0.8**
MORW Morawa 40.70 297 P **P** **03 25 44.1 +0.2**
MTSU Mount Surprise 40.93 340 P **P** **03 25 46.5 +0.7**
comp=Z,34nm,1.4s
MTSU Mount Surprise 40.93 340 P **P** **03 25 46.7 +0.9**
WR8 Warramunga Arr 41.53 326 IAmb IAmb 03 26 11.0
comp=Z,99nm,1.2s
MEEK Meekatharra 41.56 302 P **P** **03 25 50.4 -0.6**
comp=Z,68nm,1.4s
MEEK Meekatharra 41.56 302 P **P** **03 25 51.1 +0.1**
WRA Warramunga Arr 41.59 326 **P** **03 25 49.9 -1.4**
WRA Warramunga Arr 41.59 326 P **P** **03 25 50.3 -0.9**
comp=Z,22nm,1.0s,baz=161,slow=7.0,SNR=66
WRA PcP **PcP** **03 27 47.0 -1.4**
comp=Z,15nm,1.3s,baz=161,slow=9.4,SNR=4.9
WRA LR LR 03 43 45.1
comp=Z,1μm,18.0s,baz=166,slow=37
comp=Z,22nm,1.0s
WRAB Tennant Creek 41.59 326 **P** **03 25 50.4 -0.8**
WRAB IAmb IAmb 03 26 02.9
comp=Z,227nm,1.9s
WRAB Tennant Creek 41.59 326 P **P** **03 25 50.5 -0.8**
WRAB Tennant Creek 41.59 326*c iP* **P** **03 25 50.3 -1.0**
WRAB pmax pmax
comp=Z,89nm,1.7s
WB0 Warramunga Arr 41.74 326 IAmb IAmb 03 25 52.9
comp=Z,129nm,1.6s
MSVF Nonsavu 42.88 29 IAMs_20 IAMs_20 03 42 19.0
comp=Z,2μm,18.0s
MSVF Nonsavu 42.88 29*de*P **P** **03 26 00.5 -1.3**
BELA Belgrano 2 44.26 176 **P** **03 26 12.2 -0.1**
BELA IAmb IAmb 03 26 26.8
comp=Z,141nm,2.0s
COEN Coen 45.21 340 P **P** **03 26 20.7 +0.2**
comp=Z,0.0nmcomp=Z,65nm,1.3s
COEN Coen 45.21 340 **P** **03 26 20.3 -0.2**
COEN IAmb IAmb 03 26 33.1
comp=Z,89nm,1.2s
COEN Coen 45.21 340 P **P** **03 26 20.9 +0.4**
PSAB3 Pilbara Seismi 45.41 307 P **P** **03 26 21.6 -0.4**
comp=Z,83nm,2.1s
PSAC2 Pilbara Seismi 45.42 307 P **P** **03 26 21.9 -0.2**
comp=Z,81nm,2.1s
PSA00 Pilbara Seismi 45.43 307 **P** **03 26 21.3 -0.9**
PSA00 IAmb IAmb 03 26 34.2
comp=Z,160nm,1.8s
PSA00 Pilbara Seismi 45.43 307 IAmb IAmb 03 26 23.3
comp=Z,145nm,1.6s
PSA00 Pilbara Seismi 45.43 307 P **P** **03 26 22.2 0.0**
SYO Syowa Base 45.70 206*ℓ epP* pP 03 26 24.2 +1.3
MBWA Marble Bar 45.85 307 P **P** **03 26 25.2 -0.3**
comp=Z,71nm,2.0s
MBWA Marble Bar 45.85 307 **P** **03 26 24.9 -0.6**
MBWA Marble Bar 45.85 307 IAMs_20 IAMs_20 03 45 24.0
comp=Z,2μm,18.0s
MBWA Marble Bar 45.85 307 P **P** **03 26 25.5 0.0**
FITZ Fitzroy Crossi 46.24 316 P **P** **03 26 28.2 -0.4**
comp=Z,28nm,0.9s,baz=176,slow=9.5,SNR=36
FITZ LR LR 03 45 40.5
comp=Z,646nm,19.1s,baz=166,slow=36
comp=Z,28nm,0.9s
KNRA Kununurra 47.37 321 P **P** **03 26 37.0 -0.4**
comp=Z,0.0nmcomp=Z,51nm,1.6s
RAR Rarotonga 47.87 58 IAMs_20 IAMs_20 03 42 30.8
comp=Z,4μm,22.0s
RAR Rarotonga 47.87 58 LR LR 03 42 41.5
comp=Z,2μm,21.5s,baz=208,slow=31
HNR Honiara 48.40 3 IAMs_20 IAMs_20 03 45 59.2
comp=Z,2μm,18.0s
HNR Honiara 48.40 3 LR LR 03 44 08.8
comp=Z,883nm,18.4s,baz=184,slow=32
SAVO Savo Central 48.68 3 P **P** **03 26 48.9 +1.3**
PMG Port Moresby 49.06 346 **P** **03 26 51.3 +0.8**
PMG Port Moresby 49.06 346 IAMs_20 IAMs_20 03 47 42.0
comp=Z,2μm,19.0s
PMG Port Moresby 49.06 346 P **P** **03 26 50.6 0.0**
comp=Z,18nm,0.5s,baz=161,slow=12,SNR=11
PMG LR LR 03 46 11.8
comp=Z,983nm,18.1s,baz=156,slow=34
comp=Z,18nm,0.5s
PMG Port Moresby 49.06 346 P **P** **03 26 52.2 +1.7**
PMG Port Moresby 49.06 346*c iP* **P** **03 26 51.3 +0.8**
PMG pmax pmax
comp=Z,100nm,1.5s
ALEG Aligegeo Malai 49.10 4 P **P** **03 26 50.8 0.0**
TROLL Troll, Antarti 49.21 190 ⇑P **P** **03 26 51.1 -0.2**
comp=Z,537nm,0.8s
MTN Manton Dam 49.26 325 P **P** **03 26 51.4 -0.7**
comp=Z,0.0nmcomp=Z,43nm,1.5s
MTN Manton Dam 49.26 325 IAmb IAmb 03 27 14.8
comp=Z,72nm,1.3s
NVL N'lazarevskaya 49.34 194 *e*P **P** **03 26 53.1 +1.0**
NVL *e* 03 28 15.8
NVL *e* 03 28 47.1
NVL *e*S **S** **03 34 00.0 +1.3**
NVL *e* 03 36 45.2
NVL *e*SS **SS** **03 37 32.8 +3.4**
NVL *e*SSS SSS 03 38 49.5
NVL pmax pmax
comp=Z,6.0nm,0.9s
NVL smax smax
comp=N,268nm,10.8s
NVL MLR MLR
comp=Z,104nm,20.0s
TATA Tatamba Isabel 49.44 3 P **P** **03 26 53.8 +0.4**
DRS Darwin Rock St 49.72 325 P **P** **03 26 56.2 +0.7**
SNAA Sanae 49.98 188 ⇑P **P** **03 26 57.0 -0.1**
comp=Z,316nm,1.0s
SNAA Sanae 49.98 188 **P** **03 26 56.6 -0.5**
SNAA IAmb IAmb 03 27 09.6
comp=Z,175nm,1.9s
SNAA IAMs_20 IAMs_20 03 49 07.3
comp=Z,2μm,20.0s
SNAA Sanae 49.98 188 P **P** **03 26 56.7 -0.4**
comp=Z,13nm,1.0s,baz=174,slow=9.7,SNR=26
SNAA LR LR 03 47 55.1
comp=Z,592nm,20.0s,baz=164,slow=36
comp=Z,13nm,1.0s
SNAA Sanae 49.98 188*c iP* **P** **03 26 56.7 -0.4**
SNAA pmax pmax
comp=Z,87nm,1.9s
SMAI San Martin Ant 50.06 160 **P** **03 26 57.7 +0.1**
VNA3 Neumayer Olymp 50.83 185 ⇑P **P** **03 27 03.2 -0.2**
comp=Z,14nm,0.8s
VNA2 Neumayer--Watz 51.02 186 ⇑P **P** **03 27 04.3 -0.5**
comp=Z,7.9nm,0.6s,baz=153,slow=7.3
VNA1 Neumayer--Stat 51.34 186 ⇑P **P** **03 27 07.4 +0.2**
comp=Z,35nm,1.1s
PMSA Palmer Station 53.61 159 IAMs_20 IAMs_20 03 49 11.1
comp=Z,2μm,18.0s
PMSA Palmer Station 53.61 159 LR LR 03 47 50.6
comp=Z,396nm,18.3s,baz=218,slow=33
BATI Baumata 54.23 317 LR LR 03 50 43.5
comp=Z,1μm,18.4s,baz=176,slow=36
SOEI Soe 54.43 318 P **P** **03 27 31.9 +1.2**
SOEI Soe 54.43 318 P **P** **03 27 32.0 +1.2**
PPT2 Papeete2 55.81 67 *e*P P 03 27 36.1 -4.6
comp=Z,215nm,24.0s
PPT2 Papeete2 55.81 67 *e*PP **PP** **03 29 40.0 -5.1**
comp=Z,101nm,26.5s
PPT2 *e*S **S** **03 35 26.8 -1.7**
comp=Z,2μm,27.5s
PPT2 *e*SS **SS** **03 39 12.0 -1.8**
comp=Z,588nm,25.5s
PPT2 *e*LQ LQ 03 41 33.8
comp=Z,242nm,21.8s
PPT2 *e*LR LR 03 43 35.8
comp=Z,5μm,30.8s
PPT2 *e*LR LR 03 43 45.5
comp=Z,2μm,44.2s
PPT Papeete 55.83 67 LR LR 03 46 41.9
comp=Z,631nm,19.7s,baz=197,slow=31
WBSI Waikababubak, Su 56.35 313 P **P** **03 27 44.6 0.0**
comp=Z,2μmcomp=Z,72nm,2.2s
JAY Jayapura 56.84 340 P **P** **03 27 47.9 -0.1**
PLAI Plampang 57.73 311 P **P** **03 27 55.3 +1.0**
PLAI Plampang 57.73 311 P **P** **03 27 54.8 +0.5**
comp=Z,1μmcomp=Z,63nm,1.6s
SMPI Sarmi 57.74 337 P **P** **03 27 54.2 -0.1**
comp=Z,44nm,1.6s
TWSI Taliwang, Sumb 58.17 311 P **P** **03 27 58.1 +0.7**
comp=Z,2μmcomp=Z,73nm,1.8s
FAKI Fak Fak 58.37 330 P **P** **03 27 59.5 +0.7**
FAKI Fak Fak 58.37 330 P **P** **03 27 59.3 +0.5**
comp=Z,2μmcomp=Z,77nm,1.6s
RKT Rikitea 58.73 84 *e*S **S** **03 36 10.7 +4.1**
comp=Z,9μm,27.8s
RKT *e*LR LR 03 45 06.7
comp=Z,13μm,28.0s
BAKI Biak 59.08 335 P **P** **03 28 04.8 +1.2**
comp=Z,3μmcomp=Z,95nm,1.9s
BSSI Bau Bau, Buton 59.14 316 P **P** **03 28 03.7 -0.4**
JAGI Jajag, Banyuwa 59.55 308 P **P** **03 28 06.8 -0.1**
JAGI Jajag, Banyuwa 59.55 308 P **P** **03 28 07.4 +0.5**
JAGI Jajag, Banyuwa 59.55 308 P **P** **03 28 07.4 +0.5**
comp=Z,1μmcomp=Z,43nm,2.3s
NLAI Namlea 59.57 324 P **P** **03 28 07.4 +0.3**
BKSI Bulukumba 60.03 316 P **P** **03 28 10.4 +0.1**
comp=Z,1μmcomp=Z,40nm,1.5s
TARA Tarawa 60.34 18 IAMs_20 IAMs_20 03 53 35.5
comp=Z,1μm,18.0s
KAPI Kappang 60.46 315 P **P** **03 28 13.4 +0.3**
comp=Z,24nm,1.0s,baz=155,slow=10,SNR=7.1
KAPI LR LR 03 54 08.5
comp=Z,446nm,19.2s,baz=162,slow=36
comp=Z,24nm,1.0s
KAPI Kappang 60.46 315 P **P** **03 28 14.3 +1.2**
KAPI Kappang 60.46 315*c iP* **P** **03 28 13.3 +0.2**
KAPI pmax pmax
comp=Z,107nm,1.7s
SWI Sorong 60.61 329 P **P** **03 28 14.9 +0.7**
comp=Z,59nm,1.9s
BNSI Bone 60.89 316 P **P** **03 28 16.3 +0.2**
comp=Z,2μmcomp=Z,71nm,1.5s
SANI Sanana 61.04 323 P **P** **03 28 16.3 -0.8**
SANI Sanana 61.04 323 P **P** **03 28 15.6 -1.5**
comp=Z,914nmcomp=Z,54nm,1.3s
SPSI Sidrap Palu 61.42 316 P **P** **03 28 19.9 +0.2**
comp=Z,3μmcomp=Z,95nm,2.0s
NGJI Ngawi 61.69 306 P **P** **03 28 23.9 +2.4**
KPJI Karang Pucung 62.83 303 P **P** **03 28 30.1 +0.9**
comp=Z,2μmcomp=Z,101nm,1.9s
BBKI Banjar Baru 63.79 311 P **P** **03 28 36.2 +0.7**
LEM Lembang 63.87 302 P **P** **03 28 37.0 +0.7**
comp=Z,18nm,0.5s,baz=180,slow=10,SNR=13
LEM LR LR 03 55 13.3
comp=Z,220nm,18.7s,baz=161,slow=35
comp=Z,18nm,0.5s
CGJI Cibinong 64.94 300 P **P** **03 28 44.1 +1.0**
TOLI2 Tolitoli 65.75 319 IAmb IAmb 03 29 00.7
comp=Z,52nm,1.2s
TOLI2 Tolitoli 65.75 319 P **P** **03 28 47.4 -0.9**
MTKI Muara Teweh, K 66.06 312 P **P** **03 28 51.4 +1.1**
TPI Tanjungpandan 67.47 304 P **P** **03 28 59.5 +0.2**
comp=Z,1μmcomp=Z,28nm,1.7s
MDSI Maura Dua 67.51 300 P **P** **03 29 00.0 +0.4**
comp=Z,1μmcomp=Z,43nm,2.0s
TAOE Nuku Hiva Isla 67.96 71 *e*P P 03 28 58.2 -4.4
comp=Z,149nm,25.4s
TAOE Nuku Hiva Isla 67.96 71 *e*PP **PP** **03 31 28.2 -4.1**
comp=Z,37nm,23.9s
TAOE *e*S **S** **03 38 02.9 +0.6**
comp=Z,402nm,25.3s
TAOE *e*SS **SS** **03 42 30.4 +6.4**
comp=Z,297nm,26.3s
TAOE *e*LQ LQ 03 46 43.2
comp=Z,387nm,41.3s
TAOE *e*LR LR 03 49 27.3
comp=Z,2μm,24.6s
RPN Rapa Nui 69.00 108 LR LR 03 52 02.1
comp=Z,534nm,20.1s,baz=219,slow=30
DAV Davao City (W) 69.78 326 LR LR 04 00 03.6
comp=Z,275nm,18.7s,baz=166,slow=36
KSM Kuching 70.12 309 P **P** **03 29 15.5 -0.3**
KSM **sP** **03 29 16.4 +1.7**
KSM IAmb IAmb 03 29 37.0
comp=Z,66nm,1.2s
KSM Kuching 70.12 309 P **P** **03 29 16.7 +0.9**
SBUM Sibu 70.22 311 **P** **03 29 16.8 +0.3**
SBUM IAmb IAmb 03 29 28.3
comp=Z,68nm,2.0s
SBUM Sibu 70.22 311 P **P** **03 29 17.2 +0.8**
MYLDM Lahad Datu 70.34 318 P **P** **03 29 17.4 +0.3**
DSRI Dabo 70.86 302 P **P** **03 29 20.4 0.0**
comp=Z,43nm,2.2s
KKM Kota Kinabalu 71.97 316 **P** **03 29 26.3 -0.8**
KKM IAmb IAmb 03 29 28.0
comp=Z,106nm,1.5s
KKM Kota Kinabalu 71.97 316 P **P** **03 29 26.8 -0.3**
GUMO Guam 72.02 347 LR LR 04 01 59.2
comp=Z,174nm,18.0s,baz=193,slow=37
PDSI Padang 72.38 298 P **P** **03 29 29.4 -0.2**
comp=Z,31nm,1.4s
PPI Padang Panjang 72.81 298 P **P** **03 29 31.6 -0.5**
comp=Z,2μmcomp=Z,37nm,1.5s
MYKOM Kota Tinggi 73.20 303 **P** **03 29 34.6 +0.2**
MYKOM IAmb IAmb 03 29 48.6
comp=Z,99nm,1.5s
MYKOM Kota Tinggi 73.20 303 P **P** **03 29 35.2 +0.8**
LR05 Currie 73.78 143 IAmb IAmb 03 29 52.5
comp=Z,97nm,1.7s
PLCA Paso Flores 73.78 144 P **P** **03 29 37.6 0.0**
comp=Z,4.0nm,0.7s,baz=209,slow=6.5,SNR=15
PLCA LR LR 03 57 07.0
comp=Z,312nm,18.2s,baz=204,slow=32
comp=Z,4.0nm,0.7s
GSI Gunungsitoli 75.69 297 **P** **03 29 48.9 0.0**
GSI Gunungsitoli 75.69 297 P **P** **03 29 50.1 +1.2**
GSI Gunungsitoli 75.69 297 P **P** **03 29 50.1 +1.2**
PSI Prapat 76.36 299 LR LR 03 57 43.4
comp=Z,501nm,21.6s,baz=158,slow=31
PSI Prapat 76.36 299 P **P** **03 29 51.2 -1.6**
IPM Ipoh 76.87 301 P **P** **03 29 55.4 -0.2**
H03S2 Juan Fernandez 77.06 135 T T 04 55 22.9
baz=206,slow=74,SNR=23
H03S1 Juan Fernandez 77.06 135 T T 04 55 24.2
baz=206,slow=74,SNR=25
H03S3 Juan Fernandez 77.08 135 T T 04 55 23.6
baz=206,slow=74,SNR=30
KCSI Kotacane, Aceh 77.53 298 P **P** **03 29 59.0 -0.3**
comp=Z,892nmcomp=Z,29nm,1.7s
KULM Kulim 77.75 301 P **P** **03 30 00.5 0.0**
TGY Tagaytay City 77.85 324 LR LR 04 06 49.8
comp=Z,152nm,18.2s,baz=256,slow=38
TRQA Tornquist 78.78 149 **P** **03 30 05.2 -0.9**
TRQA IAmb IAmb 03 30 08.3
comp=Z,100nm,1.8s
TRQA Tornquist 78.78 149 P **P** **03 30 05.2 -0.9**
TRQA pmax pmax
comp=Z,100nm,1.8s
MLSI Meulaboh, Aceh 78.83 297 P **P** **03 30 06.5 0.0**
BO02 Sierra Bellavi 79.12 141 IAmb IAmb 03 30 30.5
comp=Z,49nm,1.1s
LHMI Lhok Sumawe 79.42 298 P **P** **03 30 10.6 +0.9**
MT05 Renca 80.41 141 IAmb IAmb 03 30 37.2
comp=Z,153nm,1.6s
MT05 IAMs_20 IAMs_20 04 06 09.5
comp=Z,1μm,18.0s
MT08 Bocatoma Ro 80.60 141 IAMs_20 IAMs_20 04 07 42.5
comp=Z,1μm,19.0s
H08S2 Diego Garcia H 81.00 270 T T 04 59 34.3
baz=147,slow=76,SNR=77
H08S1 Diego Carcia H 81.00 270 T T 04 59 34.9
baz=147,slow=76,SNR=72
H08S3 Diego Garcia H 81.02 270 T T 04 59 36.1
baz=147,slow=76,SNR=68
VA03 San Esteban 81.05 141 IAMs_20 IAMs_20 04 08 34.4
comp=Z,683nm,18.0s
ZON Zonda 82.79 142 IAmb IAmb 03 30 29.0
comp=Z,86nm,1.9s
CO05 La Serena 83.40 139 IAMs_20 IAMs_20 04 03 45.0
comp=Z,794nm,18.0s
ABPO Ambohimpanom 84.39 243 **P** **03 30 35.8 -0.3**
ABPO Ambohimpanom 84.39 243 IAMs_20 IAMs_20 04 04 28.5
comp=Z,641nm,18.0s
ABPO Ambohimpanom 84.39 243 P **P** **03 30 35.8 -0.3**
ABPO pmax pmax
comp=Z,277nm,2.0s
LCO Las Campanas 84.42 139 **P** **03 30 36.0 -0.3**
LCO Las Campanas 84.42 139 P **P** **03 30 36.0 -0.3**
LCO pmax pmax
comp=Z,19nm,1.1s
OPO Ambohidratompo 84.79 243 LR LR 04 00 11.7
comp=Z,219nm,20.8s,baz=22,slow=30
AC04 Llanos de Chal 85.03 138 P **P** **03 30 39.4 +0.3**
BOSA Boshof 85.04 221 P **P** **03 30 38.8 -0.4**
BOSA Boshof 85.04 221 P **P** **03 30 38.7 -0.6**
comp=Z,5.1nm,0.8s,baz=156,slow=3.8,SNR=8.1
BOSA LR LR 04 03 18.8
comp=Z,852nm,20.6s,baz=160,slow=32
comp=Z,5.1nm,0.8s
GO03 Copiapo 85.88 139 **P** **03 30 43.6 +0.2**
GO03 IAMs_20 IAMs_20 04 05 53.5
comp=Z,756nm,18.0s
AC06 Mina Casimiro 86.05 139 IAMs_20 IAMs_20 04 07 34.2
comp=Z,645nm,18.0s
QIZ Qiongzhong 86.26 315 P **P** **03 30 46.9 +1.9**
QIZ PP **PP** **03 34 07.3 +1.1**
QIZ S **S** **03 41 23.8 +3.0**
QIZ pmax pmax
comp=Z,410nm,10.3s
QIZ LR LR
comp=Z,220nm,16.5s
QIZ LR LR
comp=Z,200nm,16.7s
QIZ LR LR
comp=Z,360nm,16.1s
PLTB Pedras Altas 86.89 154 **P** **03 30 48.2 0.0**
PLTB IAmb IAmb 03 31 02.1
comp=Z,37nm,1.3s
AC01 Pan de Azucar 87.07 138 IAMs_20 IAMs_20 04 05 44.2
comp=Z,672nm,18.0s
JOW Kunigami 87.94 334 LR LR 04 11 50.7
comp=Z,231nm,18.3s,baz=310,slow=37
LBTB Lobatse 88.21 222 P **P** **03 30 54.6 -0.2**
LBTB Lobatse 88.21 222 LR LR 04 05 33.3
comp=Z,360nm,21.6s,baz=162,slow=32
LBTB Lobatse 88.21 222 P **P** **03 30 54.6 -0.2**
LBTB pmax pmax
comp=Z,116nm,1.9s
PB14 IPOC Station P 88.53 137 IAmb IAmb 03 30 59.8
comp=Z,17nm,0.9s
PALK Pallekele 89.24 285 IAMs_20 IAMs_20 04 01 52.7
comp=Z,927nm,21.0s
PALK Pallekele 89.24 285 LR LR 04 02 04.3
comp=Z,843nm,21.8s,baz=152,slow=30
PB10 IPOC Station P 89.49 137 IAmb IAmb 03 31 23.6
comp=Z,63nm,1.6s
CMAR Chiang Mai Arr 90.16 306 **P** **03 31 03.4 -0.3**
CMAR Chiang Mai Arr 90.16 306 P **P** **03 31 04.3 +0.6**
comp=Z,1.3nm,0.3s,baz=172,slow=3.6,SNR=19
CMAR PP **PP** **03 34 36.9 -0.5**
comp=Z,1.9nm,0.3s,baz=147,slow=7.0,SNR=4.1
CMAR LR LR 04 07 23.8
comp=Z,387nm,22.0s,baz=170,slow=33
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 90.16 306*ce*P **P** **03 31 04.5 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SLVN Son La 90.66 311 **P** **03 31 06.6 +0.6**
SLVN IAmb IAmb 03 31 19.5
comp=Z,84nm,2.0s
CPUP Villa Florida 91.12 149 **P** **03 31 08.3 0.0**
CPUP IAmb IAmb 03 31 10.2
comp=Z,38nm,2.0s
CPUP Villa Florida 91.12 149 P **P** **03 31 08.1 -0.1**
comp=Z,4.1nm,1.2s,baz=289,slow=1.1,SNR=9.2
CPUP LR LR 04 08 20.8
comp=Z,107nm,18.7s,baz=47,slow=33
comp=Z,4.1nm,1.2s
CPUP Villa Florida 91.12 149 *e*P **P** **03 31 08.7 +0.5**
PB09 IPOC Station P 91.54 137 **P** **03 31 11.0 +0.6**
PB02 IPOC Station P 91.74 137 IAMs_20 IAMs_20 04 08 16.0
comp=Z,615nm,19.0s
JHJ Hachijo jima 2 91.92 345 LR LR 04 08 26.7
comp=Z,190nm,18.2s,baz=318,slow=33
TA01 Diego Aracena 92.32 136 IAMs_20 IAMs_20 04 10 17.5
comp=Z,578nm,18.0s
MSEY Mahe Island 92.50 257 IAMs_20 IAMs_20 04 03 05.5
comp=Z,1μm,22.0s
HMDM Hanimaadhoo 92.74 278 IAMs_20 IAMs_20 04 10 08.2
comp=Z,562nm,18.0s
PB08 IPOC Station P 93.09 137 IAMs_20 IAMs_20 04 08 36.8
comp=Z,658nm,18.0s
PB11 IPOC Station P 93.25 136 **P** **03 31 19.3 +0.9**
JNU Nakatsue 93.44 338 LR LR 04 13 19.1
comp=Z,121nm,18.3s,baz=178,slow=36
GYA Guiyang 94.21 316 ⇓P **P** **03 31 23.4 +1.0**
GYA SKS **SKSac** **03 41 55.6 -2.4**
GYA S **S** **03 42 30.0 -4.2**
GYA pmax pmax
comp=Z,16nm,1.1s
GYA pmax pmax
comp=Z,310nm,4.5s
GYA LR LR
comp=Z,320nm,9.9s
GYA LR LR
comp=Z,180nm,4.6s
GYA LR LR
comp=Z,340nm,9.3s
KMI Kunming 94.52 312 P **P** **03 31 27.2 +3.2**
KMI pmax pmax
comp=Z,16nm,1.0s
KMI LR LR
comp=Z,320nm,15.9s
KMI LR LR
comp=Z,300nm,21.8s
KMI LR LR
comp=Z,250nm,15.7s
WHN Wuhan 95.30 324 P **P** **03 31 27.5 +0.4**
NJ2 Nanjing 95.35 328 ⇓P **P** **03 31 27.6 +0.3**
NJ2 sP **pwP** **03 31 38.1 +4.2**
NJ2 pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 95.50 344 **P** **03 31 29.2 +1.3**
MJAR IAmb IAmb 03 31 29.7
comp=Z,32nm,1.7s
MJAR Matsushiro Arr 95.50 344 P **P** **03 31 28.2 +0.3**
comp=Z,1.0nm,0.6s,baz=164,slow=4.5,SNR=6.2
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 95.50 344 P **P** **03 31 29.2 +1.3**
MJAR pmax pmax
comp=Z,32nm,1.7s
MAJO Matsushiro 95.50 344⇓*e*P **P** **03 31 28.5 +0.6**
MAJO pmax pmax
comp=Z,20nm,1.5s
LSZ Lusaka 96.08 229 IAMs_20 IAMs_20 04 09 12.0
comp=Z,1μm,20.0s
LSZ Lusaka 96.08 229 LR LR 04 09 34.3
comp=Z,999nm,20.1s,baz=158,slow=32
PZH PanZhiHua 96.15 312 P **P** **03 31 33.7 +2.5**
TNCH TengChong 96.16 308 ⇑P **P** **03 31 30.4 -1.0**

TNCH sP pwP 03 31 40.7 +2.7
TNCH S **S** **03 42 49.5 -1.8**
TNCH SS **SS** **03 49 20.9 -2.6**
TNCH pmax pmax
comp=Z,330nm,4.4s
TNCH LR LR
comp=Z,1µm,18.4s
TNCH LR LR
comp=Z,1µm,29.1s
TNCH LR LR
comp=Z,740nm,20.9s
TSUM Tsumeb 96.33 218 LR LR 04 12 06.3
comp=Z,717nm,19.5s,baz=154,slow=34
LPAZ La Paz 97.00 136 P **P** **03 31 35.9 -0.2**
comp=Z,1.0nm,0.7s,baz=193,slow=6.4,SNR=4.3
LPAZ LR LR 04 07 23.0
comp=Z,128nm,18.0s,baz=183,slow=30
comp=Z,1.0nm,0.7s
BRDH Bariadhala 97.10 302 LR LR 04 17 31.6
comp=Z,123nm,18.5s,baz=148,slow=37
NNA Nana 97.41 127 LR LR 04 05 37.4
comp=Z,175nm,19.2s,baz=216,slow=29
KSRS Korea Array 98.23 337 PKKPbc PKKPbc 03 48 08.7 -2.2
comp=Z,1.4nm,0.7s,baz=126,slow=8.5,SNR=5.3
HYB Hyderabad 98.92 288 *e*PKiKP **PKiKP** **03 36 15.5 +0.8**
CD2 Chengdu 99.31 315 P **Pdif** **03 31 46.7 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
SIV San Ignacio 99.73 142 LR LR 04 13 03.4
comp=Z,119nm,18.0s,baz=125,slow=33
XAN Xi'an 100.30 321 ||P **Pdif** **03 31 50.1 +0.5**
XAN pmax pmax
comp=Z,11nm,1.4s
PAYG Puerto Ayora 100.99 109 IAMs_20 IAMs_20 04 12 44.4
comp=Z,496nm,18.0s
DL2 Dalian 101.07 332 Pdif **Pdif** **03 31 48.9 -3.9**
DL2 PP **PP** **03 36 02.1 +0.2**
DL2 AMB AMB
comp=Z,470nm,9.2s
DL2 LR LR
comp=Z,480nm,16.1s
DL2 LR LR
comp=Z,920nm,20.4s
DL2 LR LR
comp=Z,1µm,16.9s
CN2 Changchun 104.84 336 Pdif **Pdif** **03 32 15.4 +5.9**
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,400nm,22.0s
MBAR Mbarara 108.16 237 IAMs_20 IAMs_20 04 16 37.9
comp=Z,517nm,20.0s
LODK Lodwar 109.55 244 IAMs_20 IAMs_20 04 18 43.4
comp=Z,433nm,19.0s
FURI Furi 112.66 250 IAMs_20 IAMs_20 04 15 04.9
comp=Z,705nm,21.0s
ATD Arta Tunnel 112.79 255 IAMs_20 IAMs_20 04 14 34.7
comp=Z,570nm,22.0s
JTS Las Juntas de 113.07 108 IAMs_20 IAMs_20 04 21 54.4
comp=Z,479nm,18.0s
UNM Universidad Na 113.15 90 IAMs_20 IAMs_20 04 19 22.9
comp=Z,753nm,18.0s
HDC Heredia 113.25 109 IAMs_20 IAMs_20 04 15 06.1
comp=Z,715nm,18.0s
ULN Ulaanbaatar 113.39 325 IAMs_20 IAMs_20 04 14 01.5
comp=Z,917nm,18.0s
NIKH Nikolski High 113.84 21 IAMs_20 IAMs_20 04 10 42.7
comp=Z,585nm,18.0s
PASC Pasadena Art C 115.33 66 IAMs_20 IAMs_20 04 15 44.4
comp=Z,877nm,20.0s
MWC Mount Wilson 115.44 66 IAMs_20 IAMs_20 04 17 05.1
comp=Z,819nm,20.0s
BFSC Mount Baldy Ra 115.64 66 IAMs_20 IAMs_20 04 15 54.6
comp=Z,817nm,19.0s
BC3 Big Chuckawall 116.26 68 IAMs_20 IAMs_20 04 15 29.9
comp=Z,862nm,20.0s
LRMC Laurel Mtn Rad 116.63 65 IAMs_20 IAMs_20 04 14 56.7
comp=Z,991nm,21.0s
FALS False Pass 116.74 24 IAMs_20 IAMs_20 04 29 48.3
comp=Z,631nm,19.0s
UOSS Minazif 116.79 275 IAMs_20 IAMs_20 04 17 16.9
comp=Z,458nm,20.0s
WMQ Urumqi 116.81 310 *e*PKP **PKPdf** **03 36 49.8 +2.6**
WMQ LR LR
comp=Z,280nm,23.3s
DANC Danby, Needles 117.08 68 IAMs_20 IAMs_20 04 17 50.7
comp=Z,880nm,20.0s
TUC Tucson 117.53 73 IAMs_20 IAMs_20 04 14 40.6
comp=Z,484nm,20.0s
WELL Weller Preserv 117.55 61 IAMs_20 IAMs_20 04 14 54.2
comp=Z,849nm,22.0s
NEE2 Needles Airpor 117.56 68 IAMs_20 IAMs_20 04 18 07.4
comp=Z,820nm,19.0s
KHBM Hayfork Bally 118.19 58 IAMs_20 IAMs_20 04 28 50.9
comp=Z,734nm,18.0s
O03E Paynes Creek 118.54 59 IAMs_20 IAMs_20 04 17 48.2
comp=Z,940nm,20.0s
NVAR Mina Array Bea 118.69 63 PKP **PKPdf** **03 36 51.1 -0.1**
comp=Z,0.5nm,0.5s,baz=211,slow=5.8,SNR=3.6
KNGR Kungurtug, Tuv 118.83 321↑*i*PKiKP **PKPdf** **03 36 50.5 -0.4**
TXAR Lajitas Array 118.86 80 PKP **PKPdf** **03 36 51.9 +0.2**
comp=Z,0.2nm,0.8s,baz=174,slow=4.2,SNR=2.3
TXAR PKKPbc **PKKPbc** **03 47 04.6 -0.2**
comp=Z,0.3nm,0.7s,baz=99,slow=4.4,SNR=4.0
EPT El Paso 119.31 76 IAMs_20 IAMs_20 04 26 16.4
comp=Z,501nm,18.0s
WUAZ Wupatki 119.77 70 IAMs_20 IAMs_20 04 17 33.2
comp=Z,782nm,20.0s
MNTX Cornudas Mount 119.83 77 **PKPdf** **03 36 53.2 -0.2**
MNTX IAMs_20 IAMs_20 04 24 08.4
comp=Z,414nm,18.0s
R11B Troy Canyon, C 119.93 65 PKPdf **PKPdf** **03 36 53.2 -0.3**
R11B **PP** **03 38 18.7 +0.4**
UZB Uzynbulak 119.94 304 *e*PKP **PKPdf** **03 36 53.1 -0.3**
UZB Uzynbulak 119.94 304 *e*PKiKP **PKPdf** **03 36 53.0 -0.3**
SATY Saty 120.14 304 *e*PKP **PKPdf** **03 36 53.4 -0.3**
SATY Saty 120.14 304 *e*PKiKP **PKPdf** **03 36 53.3 -0.4**
EDA Edea 120.30 218 IAMs_20 IAMs_20 04 22 44.2
comp=Z,822nm,22.0s
SEY Seymchan 120.58 357||*i*PKiKP **PKPdf** **03 36 54.4 +0.7**
MDOK Medeo 120.83 303 *e*PKP **PKPdf** **03 36 54.7 -0.5**
MDOK Medeo 120.83 303 *e*PKiKP **PKPdf** **03 36 54.6 -0.5**
Y22D IRIS PASSCAL I 120.90 74 IAMs_20 IAMs_20 04 16 04.8
comp=Z,661nm,22.0s
ZSN Zaisan 120.91 311 *e*PKP **PKPdf** **03 36 55.0 0.0**
ZSN Zaisan 120.91 311 *e*PKiKP **PKPdf** **03 36 54.9 0.0**
RAYN Ar Rayn 121.35 265 PKPdf **PKPdf** **03 36 55.1 -1.4**
RAYN PP **PP** **03 38 25.2 -2.6**
RAYN Ar Rayn 121.35 265 IAMs_20 IAMs_20 04 18 27.0
comp=Z,525nm,22.0s
RAYN Ar Rayn 121.35 265 PKiKP **PKPdf** **03 36 55.1 -1.4**
MK31 Makanchi Array 121.44 309||*i*PKiKP **PKPdf** **03 36 54.8 -1.2**
MKAR Makanchi Array 121.44 309 **PKPdf** **03 36 55.4 -0.6**
MKAR Makanchi Array 121.44 309 PKP **PKPdf** **03 36 55.2 -0.8**
comp=Z,1.0nm,0.9s,baz=177,slow=4.9,SNR=8.2
MKAR PP **PP** **03 38 28.4 +0.1**
comp=Z,0.6nm,0.9s,baz=140,slow=4.6,SNR=4.6
735A Kenedy 121.58 85 IAMs_20 IAMs_20 04 26 56.3
comp=Z,454nm,18.0s
AAK Ala-Archa 121.58 301||*i*PKiKP **PKPdf** **03 36 56.4 -0.2**
WVOR Wild Horse Val 121.69 60 IAMs_20 IAMs_20 04 18 50.6
comp=Z,749nm,21.0s
JCT Junction City 121.80 83 IAMs_20 IAMs_20 04 27 31.4
comp=Z,423nm,18.0s
ANMO Albuquerque 121.82 74 IAMs_20 IAMs_20 04 16 58.1
comp=Z,434nm,20.0s
ELK Elko 121.97 63 IAMs_20 IAMs_20 04 20 20.0
comp=Z,789nm,20.0s
O16K Kokwok River B 122.25 25 IAMs_20 IAMs_20 04 39 09.2
comp=Z,342nm,18.0s
J08A Circle Bar Ran 122.48 59 **PKPdf** **03 36 58.1 -0.1**
MVCO Mesa Verde 122.54 71 IAMs_20 IAMs_20 04 18 41.1
comp=Z,712nm,22.0s
MSTX Muleshoe 122.97 78 IAMs_20 IAMs_20 04 17 43.4
comp=Z,730nm,21.0s
NLWA Neilton Lookou 123.24 53 IAMs_20 IAMs_20 04 34 22.5
comp=Z,576nm,18.0s
DZA Taraz 123.24 299 *e*PKP **PKPdf** **03 36 59.3 -0.3**
DZA Taraz 123.24 299 *e*PKiKP **PKPdf** **03 36 59.3 -0.3**
IUG Iuzhnay 123.28 297 *e*PKP **PKPdf** **03 36 59.5 -0.3**
IUG Iuzhnay 123.28 297 *e*PKiKP **PKPdf** **03 36 59.4 -0.3**
N17K Nushagak Hills 123.29 25 IAMs_20 IAMs_20 04 41 49.7
comp=Z,358nm,18.0s

HKT Hockley 123.49 86 IAMs_20 IAMs_20 04 28 59.2
comp=Z,730nm,18.0s
MTDJ Mount Denham 123.55 111 IAMs_20 IAMs_20 04 21 53.8
comp=Z,498nm,19.0s
ABTX Abilene, Hawle 123.56 81 IAMs_20 IAMs_20 04 19 02.1
comp=Z,680nm,21.0s
BTLS Baital 123.65 302 *e*PKP **PKPdf** **03 37 00.1 -0.2**
BTLS Baital 123.65 302 *e*PKiKP **PKPdf** **03 37 00.0 -0.2**
O19K Port Alsworth 123.66 27 IAMs_20 IAMs_20 04 37 58.5
comp=Z,372nm,19.0s
N18K Kilae Creek 123.72 25 IAMs_20 IAMs_20 04 40 47.1
comp=Z,398nm,18.0s
MFID Camas Ranch 123.75 61 **PKPdf** **03 37 00.7 +0.1**
MFID IAMs_20 IAMs_20 04 29 01.2
comp=Z,505nm,18.0s
KKAR Karatay Array 123.79 298 **PKPdf** **03 36 59.6 -0.9**
KKAR Karatay Array 123.79 298 PKiKP **PKPdf** **03 36 59.7 -0.9**
BRLS Borolday 124.05 298 *e*PKP **PKPdf** **03 37 00.6 -0.5**
BRLS *e*PP **PP** **03 38 44.2 -1.9**
BRLS Borolday 124.05 298 *e*PKiKP **PKPdf** **03 37 00.6 -0.5**
BRLS *e* 03 38 44.1
AMTX Amarillo 124.25 78 IAMs_20 IAMs_20 04 26 17.2
comp=Z,674nm,18.0s
SDCO Great Sand Dun 124.47 73 IAMs_20 IAMs_20 04 19 17.3
comp=Z,409nm,21.0s
HLID Hailey 124.53 62 IAMs_20 IAMs_20 04 29 01.8
comp=Z,767nm,18.0s
T25A Trinidad 124.57 74 IAMs_20 IAMs_20 04 30 31.8
comp=Z,584nm,18.0s
L18K Granite Mounta 124.91 24 IAMs_20 IAMs_20 04 43 00.5
comp=Z,390nm,19.0s
O20A White River Ci 124.91 69 IAMs_20 IAMs_20 04 20 56.0
comp=Z,818nm,20.0s
PLID Pearl Lake 124.95 60 IAMs_20 IAMs_20 04 19 41.9
comp=Z,606nm,21.0s
D08A Wollman Farm, 125.13 56 **PKPdf** **03 37 03.6 +0.6**
P23K Montague Islan 125.24 30 IAMs_20 IAMs_20 04 41 15.6
comp=Z,515nm,18.0s
Z35A Perchaven, San 125.38 82 IAMs_20 IAMs_20 04 24 03.0
comp=Z,448nm,19.0s
NATX Nacogdoches 125.53 86 IAMs_20 IAMs_20 04 29 28.1
comp=Z,524nm,18.0s
WMOK Wichita Mounta 125.65 80 IAMs_20 IAMs_20 04 20 40.4
comp=Z,600nm,20.0s
HAYD Hayden 125.69 69 IAMs_20 IAMs_20 04 20 50.8
comp=Z,530nm,22.0s
BILL Bilibino 125.80 4 IAMs_20 IAMs_20 04 24 50.7
comp=Z,390nm,21.0s
BILL Bilibino 125.80 4||*e*PKiKP **PKPdf** **03 37 04.6 +1.0**
ISCO Idaho Springs 125.98 71 IAMs_20 IAMs_20 04 21 39.1
comp=Z,835nm,20.0s
KURBB Kurchatov Arra 125.99 309 PKP **PKPdf** **03 37 03.5 -1.0**
comp=Z,0.7nm,0.2s,baz=155,slow=1.8,SNR=18
J18K Innoko River 126.01 23 IAMs_20 IAMs_20 04 43 31.5
comp=Z,444nm,18.0s
KURK Kurchatov 126.02 309 **PKPdf** **03 37 03.8 -0.7**
KURK Kurchatov 126.02 309 *de*PKiKP **PKPdf** **03 37 04.4 -0.1**
ZALV Zalesovo Beam 126.08 316 PKP **PKPdf** **03 37 04.8 +0.3**
comp=Z,0.4nm,0.4s,baz=111,slow=6.3,SNR=1.6
PDAR Pinedale Array 126.25 66 **PKPdf** **03 37 05.5 -0.1**
PDAR Pinedale Array 126.25 66 PKP **PKPdf** **03 37 05.1 -0.5**
comp=Z,0.8nm,0.8s,baz=149,slow=3.5,SNR=7.8
V35K Ketchikan 126.39 42 IAMs_20 IAMs_20 04 22 11.6
comp=Z,359nm,19.0s
K20K Telida 126.49 25 IAMs_20 IAMs_20 04 40 43.3
comp=Z,375nm,18.0s
Z38A Mt. Pleasant 126.52 84 IAMs_20 IAMs_20 04 23 46.3
comp=Z,499nm,22.0s
BERG Berg Lake 126.59 32 IAMs_20 IAMs_20 04 40 43.4
comp=Z,563nm,18.0s
BMRM Bremner River 126.82 31 IAMs_20 IAMs_20 04 36 24.3
comp=Z,342nm,18.0s
NEW Newport 126.84 56 IAMs_20 IAMs_20 04 34 24.8
comp=Z,451nm,18.0s
S31K Pelican 126.89 38 IAMs_20 IAMs_20 04 37 34.6
comp=Z,584nm,18.0s
KSCO Kaye Shedlock' 126.90 74 IAMs_20 IAMs_20 04 32 49.6
comp=Z,725nm,18.0s
WRAK Wrangell Islan 126.99 41 IAMs_20 IAMs_20 04 36 29.3
comp=Z,392nm,18.0s
CRQM Cirque 127.05 32 IAMs_20 IAMs_20 04 39 21.8
comp=Z,560nm,18.0s
DBIC Dimbokro 127.10 202 PKP **PKPdf** **03 37 06.3 -1.5**
comp=Z,3.2nm,0.7s,baz=192,slow=4.5,SNR=2.5
YAH Yahtse 127.13 33 IAMs_20 IAMs_20 04 39 42.5
comp=Z,523nm,18.0s
TGL Tana Glacier 127.14 32 IAMs_20 IAMs_20 04 38 14.8
comp=Z,475nm,18.0s
ISLE Juniper Island 127.15 32 IAMs_20 IAMs_20 04 38 32.3
comp=Z,415nm,19.0s
VRDI Verde Repeater 127.35 31 IAMs_20 IAMs_20 04 38 44.4
comp=Z,343nm,19.0s
TABL Table Mountain 127.37 33 IAMs_20 IAMs_20 04 35 56.9
comp=Z,443nm,18.0s
U35K Hyder 127.42 42 IAMs_20 IAMs_20 04 41 09.8
comp=Z,469nm,18.0s
GLB Gilahina Butte 127.43 31 IAMs_20 IAMs_20 04 43 06.4
comp=Z,434nm,18.0s
TRF Thorofare Moun 127.44 27 IAMs_20 IAMs_20 04 33 28.6
comp=Z,355nm,18.0s
K22A Casper 127.65 68 IAMs_20 IAMs_20 04 23 08.6
comp=Z,828nm,20.0s
LOGN Logan Glacier 127.72 33 IAMs_20 IAMs_20 04 21 22.2
comp=Z,383nm,21.0s
BARN Barnard Glacie 127.72 32 IAMs_20 IAMs_20 04 44 44.2
comp=Z,381nm,18.0s
P29M Windy Craggy 127.74 35 IAMs_20 IAMs_20 04 23 52.9
comp=Z,396nm,22.0s
RND Reindeer 127.75 27 IAMs_20 IAMs_20 04 24 46.7
comp=Z,378nm,20.0s
BESE Bessie Mountai 127.83 38 IAMs_20 IAMs_20 04 34 43.4
comp=Z,490nm,18.0s
BRZS Berezniki 127.99 305 *e*PKP **PKPdf** **03 37 08.4 -0.1**
BRZS Berezniki 127.99 305 *e*PKiKP **PKPdf** **03 37 08.3 -0.1**
346A Big Creek Wild 128.01 90 IAMs_20 IAMs_20 04 23 04.6
comp=Z,455nm,19.0s
O29M Mount Kennedy 128.02 35 IAMs_20 IAMs_20 04 39 35.2
comp=Z,358nm,18.0s
TUL3 Leonard 128.12 82 IAMs_20 IAMs_20 04 28 07.8
comp=Z,618nm,19.0s
PAX Paxson 128.24 29 IAMs_20 IAMs_20 04 41 04.8
comp=Z,323nm,18.0s
CBKS Cedar Bluff 128.24 76 IAMs_20 IAMs_20 04 37 29.1
comp=Z,366nm,18.0s
MIAR Mount Ida 128.26 84 IAMs_20 IAMs_20 04 25 29.3
comp=Z,433nm,19.0s
T35A Sooner Cattle 128.50 80 IAMs_20 IAMs_20 04 21 02.9
comp=Z,774nm,22.0s
OGNE Ogallala 128.65 73 IAMs_20 IAMs_20 04 23 16.8
comp=Z,572nm,20.0s
WRH Wood River Hil 128.83 27 IAMs_20 IAMs_20 04 42 12.3
comp=Z,311nm,18.0s
P32M Atlin 128.99 38 IAMs_20 IAMs_20 04 35 45.0
comp=Z,529nm,18.0s
RIDG Independent Ri 129.04 29 IAMs_20 IAMs_20 04 43 25.8
comp=Z,397nm,18.0s
I23K Minto, Yukon-K 129.10 26 IAMs_20 IAMs_20 04 46 03.2
comp=Z,402nm,18.0s
BRAL Brewton 129.13 93 IAMs_20 IAMs_20 04 21 44.0
comp=Z,485nm,18.0s
O30N Mendenhall 129.15 35 IAMs_20 IAMs_20 04 31 05.1
comp=Z,344nm,19.0s
U38A Gravette 129.27 82 IAMs_20 IAMs_20 04 41 25.0
comp=Z,431nm,19.0s
ILAR Eielson Array 129.37 27 PKP **PKPdf** **03 37 10.1 -0.4**
comp=Z,1.4nm,0.8s,baz=250,slow=2.7,SNR=13
N30M Aishikik Lake 129.38 34 IAMs_20 IAMs_20 04 36 27.2
comp=Z,313nm,18.0s
M29M Somme Creek 129.75 33 IAMs_20 IAMs_20 04 35 41.8
comp=Z,361nm,18.0s
P33M Teslin, Yukon 129.75 37 IAMs_20 IAMs_20 04 36 18.3
comp=Z,584nm,18.0s
N31M Braeburn, Yuko 129.80 35 IAMs_20 IAMs_20 04 32 11.3
comp=Z,376nm,18.0s
Y45A Yeager Farm, C 129.89 88 IAMs_20 IAMs_20 04 38 57.2
comp=Z,592nm,18.0s
RSSD Black Hills 129.97 68 **PKPdf** **03 37 11.3 -1.2**
RSSD Black Hills 129.97 68 PKiKP **PKPdf** **03 37 11.4 -1.2**
EGMT Eagleton 130.02 61 IAMs_20 IAMs_20 04 39 51.1
comp=Z,688nm,18.0s
Z47A Carrollton 130.16 90 IAMs_20 IAMs_20 04 38 41.4
comp=Z,371nm,19.0s
250A Grady 130.18 93 IAMs_20 IAMs_20 04 41 31.8
comp=Z,342nm,18.0s
SMRT St. Maarten 130.19 126 IAMs_20 IAMs_20 04 25 55.3
comp=Z,490nm,19.0s
PRP Porcupine Dome 130.32 27 **PKPdf** **03 37 12.8 +0.3**

L29M L29M 130.36 33 **PKPdf** **03 37 12.7 +0.2**
L29M IAMs_20 IAMs_20 04 37 10.1
comp=Z,344nm,18.0s
N32M Quiet Lake 130.38 37 IAMs_20 IAMs_20 04 38 43.9
comp=Z,414nm,20.0s
OXF Oxford 130.45 88 IAMs_20 IAMs_20 04 36 38.2
comp=Z,446nm,18.0s
LRAL Lakeview Retre 130.61 91 IAMs_20 IAMs_20 04 39 23.3
comp=Z,469nm,19.0s
I26K Coal Creek Min 130.74 28 IAMs_20 IAMs_20 04 45 16.8
comp=Z,401nm,18.0s
M31M Drury Creek, Y 130.77 35 IAMs_20 IAMs_20 04 32 24.1
comp=Z,465nm,19.0s
TIXI Tiksi 130.84 348 **PKPdf** **03 37 12.1 -1.1**
TIXI Tiksi 130.84 348||*e*PKiKP **PKPdf** **03 37 12.0 -1.1**
BGNE Belgrade 130.98 75 IAMs_20 IAMs_20 04 43 28.5
comp=Z,691nm,18.0s
E22K Anaktuvuk Pass 131.07 23 IAMs_20 IAMs_20 04 46 26.2
comp=Z,330nm,19.0s
BVAR Borovoye Array 131.18 307 PKP **PKPdf** **03 37 13.6 -0.7**
comp=Z,0.5nm,0.5s,baz=146,slow=2.8,SNR=2.8
BORK Borovoye 131.23 307 *ce*PKiKP **PKPdf** **03 37 13.6 -0.8**
PLAL Pickwick Lake 131.52 89 **PKPdf** **03 37 14.6 -1.0**
PLAL IAMs_20 IAMs_20 04 37 33.5
comp=Z,527nm,18.0s
X48A Hartselle 131.67 90 IAMs_20 IAMs_20 04 25 10.3
comp=Z,371nm,22.0s
I28M Miner Creek 131.68 30 IAMs_20 IAMs_20 04 46 04.8
comp=Z,431nm,18.0s
TORD Torodi Ar. Bea 131.75 212 **PKPdf** **03 37 14.2 -2.4**
TORD Torodi Ar. Bea 131.75 212 PKP **PKPdf** **03 37 15.3 -1.3**
comp=Z,2.6nm,1.0s,baz=109,slow=1.0,SNR=14
R40A Maddies Statio 131.77 82 IAMs_20 IAMs_20 04 33 22.2
comp=Z,500nm,18.0s
J30M Hart River 132.00 32 IAMs_20 IAMs_20 04 41 25.4
comp=Z,422nm,18.0s
P38A Dawn 132.08 80 IAMs_20 IAMs_20 04 24 39.6
comp=Z,748nm,21.0s
CCM Cathedral Cave 132.14 83 IAMs_20 IAMs_20 04 40 54.0
comp=Z,643nm,18.0s
L34A Svendsen Farm, 132.30 76 IAMs_20 IAMs_20 04 31 38.4
comp=Z,461nm,20.0s
I30M Mount Dempster 132.48 31 IAMs_20 IAMs_20 04 45 43.9
comp=Z,463nm,18.0s
WVT Waverly 132.52 88 IAMs_20 IAMs_20 04 34 31.9
comp=Z,535nm,18.0s
T45A Paducah 132.75 86 IAMs_20 IAMs_20 04 34 07.0
comp=Z,390nm,18.0s
V48A Smith Brothers 132.76 89 IAMs_20 IAMs_20 04 21 56.3
comp=Z,348nm,19.0s
GOGA Godfrey 132.78 94 IAMs_20 IAMs_20 04 34 08.6
comp=Z,318nm,18.0s
Y52A Lilburn 132.81 93 IAMs_20 IAMs_20 04 24 30.4
comp=Z,426nm,22.0s
GHAJ Ghor Haditha 132.83 262 IAMs_20 IAMs_20 04 30 59.0
comp=Z,421nm,18.0s
S44A Carbondale 132.93 85 IAMs_20 IAMs_20 04 26 29.8
comp=Z,364nm,19.0s
ABKAR Akbulak array 133.29 297 **PKPdf** **03 37 17.7 -0.7**
CLTN Cedars of Leba 133.29 89 **PKPdf** **03 37 18.4 -0.5**
E27K Coleen River 133.38 27 IAMs_20 IAMs_20 04 45 39.7
comp=Z,336nm,18.0s
H31M Peel River 133.48 32 IAMs_20 IAMs_20 04 42 29.5
comp=Z,306nm,18.0s
T47A Sharon Grove 133.55 88 IAMs_20 IAMs_20 04 36 41.1
comp=Z,378nm,18.0s
W52A Murphy 133.82 92 IAMs_20 IAMs_20 04 38 09.1
comp=Z,611nm,18.0s
U49A Red Boiling Sp 133.90 89 IAMs_20 IAMs_20 04 36 04.4
comp=Z,498nm,18.0s
AKT Akhty 133.99 281 *e*PKiKP **PKPdf** **03 37 20.6 +0.4**
AKT *e* 03 39 49.5
AKT pmax pmax
comp=Z,32nm,2.2s
N41A Harden Midland 134.28 81 IAMs_20 IAMs_20 04 25 14.7
comp=Z,627nm,21.0s
G31M Satah River 134.32 31 IAMs_20 IAMs_20 04 43 34.5
comp=Z,445nm,18.0s
F30M Barrier River 134.41 29 IAMs_20 IAMs_20 04 46 56.9
comp=Z,338nm,18.0s
E29M Blow River 134.44 28 IAMs_20 IAMs_20 04 49 55.7
comp=Z,445nm,18.0s
GNI Garni 134.61 277 IAMs_20 IAMs_20 04 33 03.8
comp=Z,343nm,19.0s
GNI Garni 134.61 277↑*e*PKiKP **PKPdf** **03 37 20.3 -1.2**
T50A Nancy 134.78 89 IAMs_20 IAMs_20 04 34 46.7
comp=Z,493nm,18.0s
F31M Tsiigehtchic 134.83 30 IAMs_20 IAMs_20 04 46 39.2
comp=Z,484nm,18.0s
WCI Wyandotte Cave 134.90 87 **PKPdf** **03 37 21.0 -0.8**
WCI Wyandotte Cave 134.90 87 IAMs_20 IAMs_20 04 36 05.9
comp=Z,555nm,19.0s
WCI Wyandotte Cave 134.90 87 PKiKP **PKPdf** **03 37 21.0 -0.8**
WCI MLR MLR
comp=Z,600nm,19.0s
HDIL Hopedale 134.99 82 IAMs_20 IAMs_20 04 29 33.9
comp=Z,428nm,19.0s
MAK Makhachkala 135.16 282 *e*P **Pdif** **03 34 18.5 -5.8**
MAK *i* 03 37 19.9
MAK *e* 03 39 54.9
MAK *e* 03 44 31.1
MAK *e*SS SS 03 57 46.5 -7.3
MAK *e*SSS SSS 04 02 47.0
X58A Rowland 135.85 97 IAMs_20 IAMs_20 04 31 22.7
comp=Z,394nm,18.0s
S51A Beattyville 135.90 90 IAMs_20 IAMs_20 04 41 34.4
comp=Z,674nm,18.0s
R50A Paris 135.98 89 IAMs_20 IAMs_20 04 30 46.6
comp=Z,407nm,19.0s
SFIN Lafayette 136.03 84 IAMs_20 IAMs_20 04 32 24.0
comp=Z,490nm,20.0s
M44A Midewin, Midew 136.25 83 IAMs_20 IAMs_20 04 24 14.8
comp=Z,460nm,22.0s
SPMN Marine on St. 136.43 75 IAMs_20 IAMs_20 04 28 02.8
comp=Z,622nm,20.0s
L44A Lake County Fo 136.88 82 IAMs_20 IAMs_20 04 28 09.5
comp=Z,535nm,20.0s
Q51A Peebles 137.05 89 IAMs_20 IAMs_20 04 26 33.9
comp=Z,465nm,22.0s
ARPR Arapgir-MALATY 137.25 271 IAMs_20 IAMs_20 04 29 15.6
comp=Z,399nm,22.0s
NCK Nalchik 137.58 280↑*e*PKiKP **PKPdf** **03 37 26.5 -0.2**
G40A Rib Lake 137.81 77 IAMs_20 IAMs_20 04 35 31.2
comp=Z,634nm,18.0s
NEUR Neytrino 137.89 279↑*e*PKiKP **PKPdf** **03 37 28.4 +0.9**
KBZ Khabaz 138.11 280 PKP **PKPdf** **03 37 28.9 +1.3**
comp=Z,1.1nm,0.7s,baz=146,slow=3.6,SNR=4.4
KBZ Khabaz 138.11 280 *de*PKiKP **PKPdf** **03 37 28.6 +1.0**
ACSO Alum Creek Sta 138.12 88 IAMs_20 IAMs_20 04 27 33.4
comp=Z,627nm,21.0s
R55A Marlinton 138.23 92 IAMs_20 IAMs_20 04 33 29.9
comp=Z,368nm,19.0s
SHA1 Shidzhatmaz 138.24 279||*e*PKiKP **PKPdf** **03 37 27.7 -0.5**
KIV Kislovodsk 138.38 280 IAMs_20 IAMs_20 04 31 54.6
comp=Z,350nm,22.0s
KIV Kislovodsk 138.38 280 *i* PKiKP **PKPdf** **03 37 27.3 -0.9**
KIV *e* 03 40 14.7
KIV *e*SS SS 03 58 29.5 -2.9
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,311nm,24.0s
S57A Dark Hollow, R 138.47 94 IAMs_20 IAMs_20 04 38 30.1
comp=Z,553nm,18.0s
ARTI Arti 138.64 304 **PKPdf** **03 37 28.4 +0.2**
ARTI Arti 138.64 304 *i* PKiKP **PKPdf** **03 37 28.0 -0.1**
ARTI 03 40 16.1
ARTI SS SS 03 58 28.7 -6.2
F42A Maple Grove Fa 139.22 78 IAMs_20 IAMs_20 04 29 44.4
comp=Z,612nm,20.0s
TAM Tamanrasset 139.56 222 **PKPdf** **03 37 30.2 -0.9**
TAM IAMs_20 IAMs_20 04 40 39.7
comp=Z,393nm,18.0s
TAM Tamanrasset 139.56 222 PKiKP **PKPdf** **03 37 30.2 -0.9**
TAM MLR MLR
comp=Z,400nm,18.0s
SOC Sochi 139.69 277 *e*PKiKP **PKPdf** **03 37 29.6 -0.9**
SOC *e* 03 40 24.7
SOC *e*PPP PPP 03 43 27.2
SOC *e*SSS SSS 04 03 56.6
LABN Labinsk 139.88 279 *e*PKiKP **PKPdf** **03 37 29.6 -1.2**
LABN *i* 03 37 31.6
LABN *e* 03 44 42.2
LABN pmax pmax
comp=Z,32nm,0.7s
K50A Casco 140.10 85 IAMs_20 IAMs_20 04 41 42.6

comp=Z,477nm,18.0s
BRTR Keskin Array B 140.22 268 PKhKP PKPpre 03 37 20.7
baz=309,slow=35,SNR=2.5
BRTR PKP sPKPdf 03 37 32.1 +1.5
comp=Z,0.7nm,0.8s,baz=129,slow=2.0,SNR=5.0
KARP Karpathos 140.53 257 IAMs_20 IAMs_20 04 41 09.8
comp=Z,320nm,20.0s
ERBR Yeremizino-Bor 140.72 280 *i* PKIKP **PKPdf 03 37 29.2 -3.1**
ERBR *e* 03 40 30.1
ERBR *e* 03 44 36.4
ERBR pmax pmax
comp=Z,7.0nm,0.5s
ANTO Ankara 140.77 267 IAMs_20 IAMs_20 04 39 53.5
comp=Z,359nm,18.0s
ANN Anapa 141.72 277 *e*PKIKP **PKPdf 03 37 29.3 -4.8**
ANN *i* 03 37 35.4
ANN *e* 03 40 41.6
ANN *e*PPP PPP 03 43 47.2
ANN *e* 03 44 41.7
ANN pmax pmax
comp=Z,11nm,0.8s
APE Apeiranthos 142.54 257 P **PKPdf 03 37 32.3 -3.7**
ANKY Antikythira Is 142.78 254 P **PKPdf 03 37 32.7 -3.6**
CHOS Chios island 143.26 259 P PKPab 03 37 32.2 -0.8
VRH Novokhopyorsk 143.52 288 *e*PKIKP PKPab 03 37 33.1 -0.4
VRH pmax pmax
comp=Z,6.0nm,1.0s
SIM Simferopol' 143.59 274 *e*PKIKP PKPab 03 37 34.5 +0.5
SIM *e* 03 40 51.8
SIM pmax pmax
comp=Z,96nm,14.5s
SIM pmax pmax
comp=Z,56nm,15.2s
KIRV Kirov 143.88 302 *d i* PKIKP PKPab 03 37 35.1 +0.5
DION Dionisos Attik 144.14 257 P **PKPab 03 37 35.1 -1.2**
PTL Penteli 144.15 257 P **PKPab 03 37 34.4 -2.0**
ATH Athens Observa 144.17 257 P **PKPab 03 37 34.8 -1.6**
EZN Ezine 144.18 261 P **PKPab 03 37 35.4 -0.9**
EZN Ezine 144.18 261 ⇑P **PKPab 03 37 36.3 0.0**
CTYL Yalikoy Yolu 144.32 265 ⇓P **PKPab 03 37 36.0 -0.8**
VLX Vlachokerasia 144.41 254 P **PKPab 03 37 35.9 -1.5**
KYMI Kymi, Euboea I 144.47 258 P **PKPab 03 37 35.2 -2.3**
ITM Ithomi 144.49 254 **PKPab 03 37 37.4 -0.3**
ITM Ithomi 144.49 254 P **PKPab 03 37 36.2 -1.5**
VILL Villia 144.52 256 P **PKPab 03 37 35.4 -2.4**
LTK Loutraki 144.60 256 P **PKPab 03 37 36.0 -2.0**
VORD Divnogorie 144.62 286 *e*PKHKP PKPpre 03 37 35.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
GADA Gvkgeada 144.67 261 P **PKPab 03 37 37.0 -1.2**
LIA Limnos Island 144.83 260 P **PKPab 03 37 37.3 -1.5**
PHSR Pinarhisar 144.83 265 ⇓P **PKPab 03 37 38.0 -0.7**
VSR Storozhevoye 144.83 286 *e*PKHKP PKPpre 03 37 35.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
GUR Goura 144.85 255 P **PKPab 03 37 37.8 -1.3**
ENEZ Enez 144.93 262 P **PKPab 03 37 37.4 -1.7**
AOS Alonnisos 144.98 258 P PKPbc 03 37 37.2 -2.2
LKR Lokris 145.05 257 P **PKPbc 03 37 37.4 -2.2**
SMTH Samothraki Isl 145.06 261 P **PKPbc 03 37 37.6 -2.1**
ATAL Atalanti 145.07 257 P **PKPbc 03 37 36.8 -2.9**
VORR Voronezh 145.07 287 *e*PKIKP **PKPbc 03 37 37.2 -2.1**
VORR pmax pmax
comp=Z,20nm,1.0s
KALE Kalithea 145.30 255 P **PKPbc 03 37 38.9 -1.6**
AXAR Agios Charalam 145.31 256 P **PKPbc 03 37 38.7 -1.8**
RLS Riolos of Patr 145.40 254 P **PKPbc 03 37 40.8 +0.1**
RDO Rodhopi 145.54 262 **PKPdf 03 37 40.1 -0.8**
RDO Rodhopi 145.54 262 P **PKPdf 03 37 39.5 -1.4**
ANX Ano Chora 145.57 255 P **PKPdf 03 37 39.4 -1.8**
THAS Thassos island 145.59 261 P **PKPdf 03 37 38.9 -2.2**
LONY Lake Ozonia 145.63 90 **PKPdf 03 37 40.7 -0.4**
AGG Agios Georgios 145.68 256 P **PKPdf 03 37 38.9 -2.4**
LPSR Galich'ya Gora 145.74 288 *e*PKP2 **PKPdf 03 37 39.2 -1.7**
LPSR pmax pmax
comp=Z,60nm,1.0s
RTZL Ratzakli, Kefa 145.77 254 P **PKPdf 03 37 42.2 +0.8**
MAKR Makrakomi, Fth 145.77 256 P **PKPdf 03 37 41.5 +0.1**
OUR Ouranopolis 145.78 260 P **PKPdf 03 37 39.1 -2.3**
PVO Paravola 145.79 255 P **PKPdf 03 37 41.9 +0.4**
EVR Evrytania 145.87 256 P **PKPdf 03 37 42.6 +0.9**
PSN Preselentsi 145.90 268 P **PKPdf 03 37 43.3 +1.8**
PRD Provadia 145.96 266 P **PKPdf 03 37 42.2 +0.6**
JMB Yambol 145.97 265 P **PKPdf 03 37 41.8 +0.2**
JMB Yambol 145.97 265 P **PKPdf 03 37 40.8 -0.8**
KAVA Kavala 145.98 261 P **PKPdf 03 37 41.2 -0.5**
KDZ Kurdzhali 145.99 262 P **PKPdf 03 37 43.6 +1.9**
KDZ Kurdzhali 145.99 262 P **PKPdf 03 37 41.0 -0.7**
FSK Fiskardo 146.16 254 P **PKPdf 03 37 42.7 +0.6**
AMPL Ampelaki 146.18 255 P **PKPdf 03 37 42.3 +0.2**
THL Klokotos Trika 146.24 257 P **PKPdf 03 37 41.9 -0.3**
TIRR Tirgusor 146.30 269 ⇑P **PKPdf 03 37 40.6 -1.5**
LIT Litokhoron 146.39 258 P **PKPdf 03 37 42.2 -0.3**
HORT Hortiatis 146.43 259 P **PKPdf 03 37 42.1 -0.5**
TETR Tetrakomo, Epi 146.46 256 P **PKPdf 03 37 42.8 +0.1**
SRS Serrai 146.55 260 P **PKPdf 03 37 42.2 -0.5**
ELND Elena 146.62 265 ⇑P **PKPdf 03 37 43.3 +0.6**
PLD Plovdiv 146.67 263 P **PKPdf 03 37 43.9 +1.1**
TRQ Mont Tremblant 146.69 87 **PKPdf 03 37 43.5 +0.7**
HARR Harsova 146.71 269 ⇑P **PKPdf 03 37 42.6 -0.2**
MMB Musomishta 146.77 261 P **PKPdf 03 37 43.3 +0.2**
SZH Strazhitsa 146.79 265 P **PKPdf 03 37 43.3 +0.2**
PURM Purcari 146.87 273 ⇑P **PKPdf 03 37 44.2 +1.3**
KZN Kozani 146.91 257 P **PKPdf 03 37 43.7 +0.3**
CFR Carcaliu 146.93 270 ⇑P **PKPdf 03 37 44.2 +1.1**
KNT Kendrikon 146.95 259 P **PKPdf 03 37 43.3 -0.1**
IGT Igoumenitsa 147.09 255 P **PKPdf 03 37 44.0 +0.4**
PVL Pavlikeni 147.12 264 P **PKPbc 03 37 47.7 +2.0**
PGB Panagyurishte 147.23 262 P **PKPdf 03 37 45.1 +1.3**
VAY Valandovo 147.23 259 *i* P **PKPdf 03 37 44.7 +0.9**
KKB Krupnik 147.31 261 P **PKPdf 03 37 45.5 +1.5**
KKB Krupnik 147.31 261 P **PKPdf 03 37 44.4 +0.5**
NEST Nestorio 147.37 257 P **PKPdf 03 37 43.8 -0.4**
KBN Korca 147.66 257 P **PKPdf 03 37 45.4 +0.7**
MILM Milestii Mici 147.68 273 ⇑P **PKPdf 03 37 44.7 +0.4**
VTS Vitosha 147.80 262 P **PKPdf 03 37 47.3 +2.4**
OHR Ohrid 148.01 257 *i* P **PKPdf 03 37 48.0 +2.8**
MOS Moscow 148.04 292 *i* PKIKP **PKPdf 03 37 44.1 -0.5**
MOS *e* 03 41 12.5
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,154nm,2.0s
MPEP Malo Peshtene 148.04 263 P **PKPdf 03 37 47.5 +2.4**
NEHR Nehoiu 148.07 268 ⇑P **PKPdf 03 37 47.5 +2.4**
VRI Vrincioaia 148.12 269 ⇑P **PKPdf 03 37 47.5 +2.4**
PLOR Plostina 148.16 269 ⇑P **PKPdf 03 37 47.4 +2.2**
OBN Obninsk 148.25 291 **PKPdf 03 37 46.3 +1.3**
OBN Obninsk 148.25 291 *c i* PKP2 **PKPdf 03 37 47.8 +2.8**
OBN *e* 03 41 15.7
OBN *e* 03 44 41.1
OBN pmax pmax
comp=Z,169nm,1.4s
SKO Skopje 148.29 259 *i* P **PKPdf 03 37 47.9 +2.3**
MLR Muntele Rosu 148.30 268 ⇑P **PKPdf 03 37 47.7 +2.1**
VALD Valchedram 148.43 263 P **PKPdf 03 37 48.7 +3.0**
TESR Tescani 148.58 270 ⇓P **PKPdf 03 37 48.7 +2.8**
ONER Baraj Valea Uz 148.60 270 ⇑P **PKPdf 03 37 48.6 +2.7**
TURR Turia 148.63 269 ⇓P **PKPdf 03 37 47.5 +1.5**
SORM Soroca 148.68 274 ⇑P **PKPdf 03 37 47.4 +1.4**
OZUR 148.78 269 ⇑P **PKPdf 03 37 49.3 +3.0**
DOPR Dopca 148.90 268 ⇑P **PKPdf 03 37 48.9 +2.5**
ARR Arges 148.92 267 ⇑P **PKPdf 03 37 48.8 +2.3**
BOVS Bovan 149.31 262 ⇑P **PKPdf 03 37 51.4 +4.2**
KLMR Klimovskoe 149.38 302 *e*PKIKP **PKPdf 03 37 48.2 +1.6**
KLMR pmax pmax
comp=Z,183nm,1.7s
LOT Lotru 149.43 266 ⇑P **PKPdf 03 37 51.1 +3.7**
KEST Kesra 149.44 237 PKPdf **PKPdf 03 37 48.0 +0.3**
KEST Kesra 149.44 237 PKPbc **PKPdf 03 37 52.0 +4.3**
comp=Z,17nm,1.2s,baz=148,slow=5.3,SNR=6.9
E62A Clayton Lake 149.63 91 PKPdf **PKPdf 03 37 48.1 +0.5**
AKASG Malin Array Be 149.72 279 PKPbc **PKPdf 03 37 51.2 +3.7**
comp=Z,1.9nm,0.6s,baz=111,slow=1.8,SNR=5.9
AKBB Malin Array Si 149.72 279 *d i* PKHKP PKPpre 03 37 49.8
KIEV Kiev 149.72 279 PKPdf **PKPdf 03 37 48.7 +1.2**
KIEV Kiev 149.72 279 ⇑P **PKPdf 03 37 48.1 +0.6**
KIEV Kiev 149.72 279 PKHKP PKPpre 03 37 48.7
HERR Herculane 149.78 264 ⇑P **PKPdf 03 37 51.6 +3.8**
GZR Gura Zlata 149.92 265 ⇑P **PKPdf 03 37 51.8 +3.6**
BURAR Bucovina Array 150.03 271 PKPdf **PKPdf 03 37 48.3 0.0**
MDVR Moldovita 150.08 263 ⇑P **PKPdf 03 37 52.5 +4.1**
DEV Deva 150.18 266 ⇑P **PKPdf 03 37 52.1 +3.7**
SURR Surduc 150.51 265 ⇑P **PKPdf 03 37 52.6 +3.6**
SIRR Siria 151.09 266 ⇑P **PKPdf 03 37 54.4 +4.5**
MD31 MD31 152.24 213 PKPdf **PKPdf 03 37 51.3 -0.9**
MD01 Midelt array s 152.24 213 **PKPdf 03 37 51.0 -1.2**
MNK Minsk 152.37 285 *i* PKIKP **PKPbc 03 37 58.2 -0.1**
MNK *i* 03 41 39.0
MNK *i* 03 45 02.0
MNK *i* PPP PPP 03 45 04.4
MNK *i* SS SS 04 01 09.2 -2.5
MNK *i* SSS SSS 04 06 55.7
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,28nm,0.7s
BLY Banja Luka 152.45 259 ⇑P **PKPbc 03 37 58.3 -0.5**
VSL Villasalto 152.49 242 IAMs_20 IAMs_20 05 00 15.7
comp=Z,491nm,18.0s
MORH Mrgy, Hungar 152.65 263 ⇑P **PKPdf 03 37 57.2 +5.1**
STHS Stebnicka Huta 153.23 271 *e*PKP **PKPbc 03 38 02.3 +1.9**
LANS Liptovska Anna 154.02 269 *e*PKP **PKPbc 03 38 02.9 +0.7**
LANS *e* 03 38 12.3
MODS Modra-Piesok 154.73 265 *e*PKP **PKPbc 03 38 04.6 +0.9**
MODS *e* 03 38 18.3
JAVC Velka Javorina 154.81 266 *e*PKP **PKPdf 03 37 55.3 0.0**
RONA Rosalia, Austr 154.84 263 *e*PKP **PKPab 03 38 19.9 +0.6**
comp=Z,22nm,1.7s
PABE Paberze 154.84 285 IAMs_20 IAMs_20 04 53 04.3
comp=Z,485nm,20.0s
SOKA Soboth 154.86 260 *e*PKP **PKPdf 03 37 54.7 -0.8**
comp=Z,14nm,1.5s
SOKA *e*PKP **sPKPab 03 38 19.9 +1.6**
comp=Z,14nm,1.4s
ARSA Arzberg 154.96 261 *e*PKP **PKPdf 03 37 54.6 -0.9**
comp=Z,5.0nm,1.1s
ARSA *e*PKP **sPKPab 03 38 20.1 +1.5**
comp=Z,30nm,1.7s
OBKA Obir 155.00 259 *e*PKP **PKPab 03 38 20.2 +0.1**
comp=Z,23nm,1.8s
CONA Conrad Observa 155.21 263 *e*PKP **PKPab 03 38 20.9 -0.1**
comp=Z,13nm,1.5s
MORC Moravsky Berou 155.41 268 *e*PKP **PKPdf 03 37 54.8 -1.2**
MYKA Terra Mystica 155.55 258 *e*PKP **PKPab 03 38 23.9 +1.4**
comp=Z,28nm,1.7s
KRUC Moravsky 155.61 266 *e*PKP **PKPdf 03 37 55.0 -1.3**
VRAC Vranov 155.65 266 *e*PKP PKPdf 03 38 05.1 +8.8
FINES FINESS Array B 155.75 299 PKPbc PKPdf 03 38 04.1 +8.1
comp=Z,1.3nm,0.8s,baz=122,slow=1.8,SNR=2.5
FINES PKPab sPKPab 03 38 21.6 +0.1
comp=Z,2.9nm,0.8s,baz=104,slow=5.9,SNR=4.6
KBA Koelnbreinsper 156.00 259 *e*PKP **PKPdf 03 37 54.7 -2.4**
comp=Z,8.0nm,1.3s
KBA *e*PKP **sPKPab 03 38 24.7 +1.5**
comp=Z,8.0nm,1.5s
MOA Molln 156.00 261 *e*PKP **PKPab 03 38 24.8 +0.5**
comp=Z,16nm,1.4s
ABTA Abfaltersbach 156.22 257 *e*PKP **PKPab 03 38 25.4 +0.1**
comp=Z,23nm,1.4s
BIOA Bad Ischl, Aus 156.24 260 *e*PKP **PKPab 03 38 25.6 +0.3**
comp=Z,19nm,1.3s
ARCES ARCESS Array B 156.57 319 PKPab **PKPab 03 38 25.4 -0.7**
comp=Z,4.2nm,0.6s,baz=75,slow=5.1,SNR=9.3
LESA Schwarzleotal 156.57 259 *ep*PKP **PKPdf 03 38 03.0 +5.3**
comp=Z,10nm,1.9s
LESA *e*PKP **sPKPab 03 38 26.7 +1.1**
comp=Z,17nm,1.7s
GERES GERESS Array B 156.91 263 PKPab **PKPab 03 38 25.4 -2.8**
comp=Z,0.6nm,0.5s,baz=138,slow=7.3,SNR=2.7
WTTA Wattenberg 157.01 257 *i* PKP **PKPab 03 38 28.6 -0.2**
comp=Z,57nm,1.7s
WATA Walderalm 157.09 257 *e*PKP **PKPab 03 38 28.8 -0.3**
comp=Z,36nm,1.4s
KHC Kasperske Hory 157.15 263 *e*PKP2 **PKPab 03 38 27.4 -1.8**
KHC Kasperske Hory 157.15 263 *e*PKPAB **PKPab 03 38 27.4 -1.8**
KHC *ex* x 03 38 38.3
SQTA Sankt Quirin 157.21 257 *e*PKP **PKPab 03 38 29.5 -0.1**
comp=Z,39nm,1.8s
FETA Feichten 157.32 256 *e*PKP **PKPdf 03 37 60.0 +1.2**
comp=Z,5.7nm,1.8s
FETA *e*PKP **sPKPab 03 38 30.4 +1.5**
comp=Z,35nm,1.6s
MOTA Moosalm 157.34 257 *e*PKP **PKPdf 03 37 58.0 -0.8**
comp=Z,12nm,1.7s
MOTA *e*PKP **sPKPab 03 38 29.8 +0.8**
comp=Z,30nm,1.5s
RETA Reutte 157.61 257 *e*PKP **PKPab 03 38 31.4 +0.1**
comp=Z,33nm,1.6s
BRG Berggiesshubel 157.94 267 *e*PKP **PKPab 03 38 32.3 -0.2**
BRG Amp 03 38 34.2
comp=Z,40nm,1.8s
ESDC Sonseca Array 158.22 221 PKPdf **PKPdf 03 37 59.0 -1.0**
ESDC Sonseca Array 158.22 221 PKPab **PKPab 03 38 33.2 -0.9**
comp=Z,2.3nm,1.0s,baz=155,slow=3.0,SNR=5.2
CLL Collm 158.67 267 *i* PKP2 **PKPab 03 38 35.3 -0.3**
CLL Collm 158.67 267 *e*PKPdf **PKPdf 03 38 02.0 +2.0**
CLL *e*PKPdif pPKPdf 03 38 17.0 +18
CLL *i* PKPab **PKPab 03 38 35.3 -0.3**
comp=Z,31nm,1.5s
CLL *i* x x 03 38 46.0
comp=Z,71nm,2.0s
CLL *i* x x 03 38 54.1
comp=Z,87nm,2.2s
CLL *es*PP 03 42 27.0
CLL *e*PSKS 03 52 43.0
CLL *e*PSPS 04 03 42.0
CLL Lm MLR 04 52 00.0
comp=Z,200nm,20.8s
CLL LmV 05 54 00.0
comp=Z,200nm,18.8s
BFO Black Forest 159.41 256 PKPdf **PKPdf 03 38 00.6 -0.5**
BFO Black Forest 159.41 256 PKIKP **PKPdf 03 38 00.6 -0.5**
WLF Walferdange 161.36 256 *d*PKP **PKPab 03 38 47.6 +0.2**
HFS Hagfors 161.45 292 PKPab **PKPab 03 38 46.5 -1.0**
comp=Z,6.5nm,0.9s,baz=122,slow=5.4,SNR=6.1
BHOU Houvegnez 161.85 258 *d*PKP **PKPab 03 38 50.2 +0.7**
RCHB Rochefort 162.13 256 *d*PKP **PKPab 03 38 51.0 +0.2**
BSTI Sart Tilman 162.21 258 *d*PKP **PKPab 03 38 52.0 +0.9**
DOU Dourbes 162.43 255 *d*PKP **PKPab 03 38 52.6 +0.6**
BMRD Maredsous 162.46 256 *d*PKP **PKPab 03 38 52.6 +0.4**
NOA NORSAR Array B 162.78 295 PKPab **PKPab 03 38 52.0 -1.4**
comp=Z,1.8nm,1.0s,baz=94,slow=4.5,SNR=3.6

IDC ***10*** *03:22:57.6±0.8, 9°.53N×84°.57W, h0km, mb3.9/10, mbtmp3.9/11, ML3.6/1, MS4.0/8, Error ellipse: s-maj=31.8km s-min=9.9km az=57.0*
NEIC ***10*** *03:22:59.9±1.1, 9°.53N±0°.04×84°.91W±0°.06, h26km±4km, mb4.4/40, Error ellipse: s-maj=9.0km s-min=5.6km az=63.0*
CATAC ***10*** *03:23:01.0±0.5, 10°N×3°×8°5W±°, h9km±2km, M4.6/20, mB4.8/1, mb4.7/1, MLv4.5/20, Mw(mB)4.0/1, Error ellipse: s-maj=6.7km s-min=2.7km az=40.4, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.40; Mθθ-3.11; Mφφ1.71; Mrθ1.26; Mrφ0.26; Mθφ-2.05; Fault plane solution: M0 3.62648×10^15 NP1:φs130.09471°, δ73.97552°, λ132.46341°. NP2:φs236.88012°, δ44.84281°, λ23.04577°. Principal axes: T 3.6812, Plg44.1521°, Azm81.8036°; N -0.1121, Plg40.4577°, Azm295.9169°; P -3.5691, Plg17.8288°, Azm189.9978°; confirmed*
UCR ***10*** *03:23:00.7±0.9, 9°.55N×84°.84W, h22km±1km, MW4.8, Fault plane solution: NP1:φs289.07000°, δ40.26000°, λ82.25000°.*

ISC 10 03:23:00.3±0.8, 9°.53N±0°.03×84°.85W±0°.02, h23km±5km, n269, σ1$37/266, mb4.4/27, MS4.2/6, 18C-77D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BITO	**Garabito Jaco**	**0.24**	**68**	‖*eP*	**Pb**	**03 23 06.1**	**-0.2**
BITO				*eS*	**Sb**	**03 23 10.9**	**+0.5**
CBL1	**Cabuya**	**0.25**	**283**	‖*eP*	**Pb**	**03 23 06.3**	**-0.1**
CBL1				*eS*	**Sb**	**03 23 11.4**	**+0.8**
PAQE	**Paquera**	**0.30**	**343**	‖*eP*	**Pb**	**03 23 07.0**	**-0.2**
PAQE				*eS*	**Sb**	**03 23 12.4**	**+0.5**
ENAS	**Puntarenas**	**0.45**	**1**	‖*eP*	**Pb**	**03 23 09.7**	**+0.1**
ROBF	**Roble, Puntare**	**0.46**	**14**	‖*eP*	**Pb**	**03 23 09.8**	**-0.1**
ARZA	**Esparza**	**0.49**	**21**	‖*eP*	**Pb**	**03 23 10.0**	**-0.3**
OROT	**Orotina**	**0.49**	**40**	‖*eP*	**Pb**	**03 23 10.0**	**-0.4**
PAR1A	**Puntarenas Pro**	**0.59**	**84**	*eP*	**Pb**	**03 23 12.0**	**0.0**
PURI	**Puriscal**	**0.61**	**59**	‖*eP*	**Pb**	**03 23 12.2**	**-0.3**
ATEO	**Atenas**	**0.64**	**46**	‖*eP*	**Pb**	**03 23 12.5**	**-0.4**
PICV	**PH. Pirrs**	**0.65**	**81**	‖*eP*	**Pb**	**03 23 12.9**	**-0.2**
PALD	**Palmares**	**0.66**	**38**	‖*eP*	**Pb**	**03 23 12.9**	**-0.4**
RAMO	**San Ramon**	**0.67**	**34**	‖*eP*	**Pb**	**03 23 13.0**	**-0.4**
SVQ2	**Quepos**	**0.68**	**98**	⇑*eP*	**Pb**	**03 23 13.4**	**-0.1**
QUEP	**Quepos**	**0.68**	**98**	P	**Pb**	**03 23 13.9**	**+0.3**
QUEP	**Quepos**	**0.68**	**98**	S	**Sn**	**03 23 24.6**	**+0.2**
QUEP	**Quepos**	**0.68**	**98**	‖*eP*	**Pb**	**03 23 13.8**	**+0.3**
ACOS	**Acosta**	**0.72**	**69**	‖*eP*	**Pb**	**03 23 13.7**	**-0.6**
NARAN	**Naranjo de Ala**	**0.73**	**39**	*eP*	**Pb**	**03 23 14.4**	**0.0**
LLNJ	**Naranjito**	**0.74**	**94**	⇑*eP*	**Pb**	**03 23 14.5**	**0.0**
SARCI	**Sarchi**	**0.74**	**42**	*eP*	**Pb**	**03 23 14.9**	**+0.2**
JUNT	**Juntas**	**0.76**	**352**	‖*eP*	**Pb**	**03 23 14.4**	**-0.5**
GREC	**Grecia**	**0.76**	**44**	‖*eP*	**Pn**	**03 23 16.1**	**+0.4**
JTS	**Las Juntas de**	**0.76**	**352**	Pg	**Pb**	**03 23 14.5**	**-0.5**
	217nm,0.3s,baz=143,slow=13,SNR=1501						
JTS				Lg	Lg	03 23 25.4	
	690nm,0.3s,baz=198,slow=20,SNR=10						
JTS	**Las Juntas de**	**0.76**	**352**	P	**Pb**	**03 23 14.5**	**-0.5**
JTS	**Las Juntas de**	**0.76**	**352**	‖*eP*	**Pb**	**03 23 14.5**	**-0.5**
SANTA	**Santa Ana**	**0.77**	**58**	‖*eP*	**Pb**	**03 23 14.5**	**-0.6**
MTEVE	**Monteverde**	**0.78**	**1**	‖*eP*	**Pb**	**03 23 15.0**	**-0.4**
BELE	**Belen**	**0.79**	**56**	‖*eP*	**Pb**	**03 23 14.9**	**-0.5**
ZARE	**Zarcero**	**0.79**	**35**	*eP*	**Pb**	**03 23 15.8**	**+0.2**
UELA	**Alajuela**	**0.79**	**52**	‖*eP*	**Pb**	**03 23 13.3**	**-2.2**
POAS	**San Pedro de P**	**0.81**	**48**	*eP*	**Pb**	**03 23 15.9**	**+0.2**
PITB	**Pirrs, San**	**0.82**	**81**	*eP*	**Pb**	**03 23 15.6**	**-0.5**
RAZU	**San Marcos de**	**0.82**	**81**	*eP*	**Pb**	**03 23 15.6**	**-0.5**
HEME	**Heredia, Merce**	**0.84**	**56**	‖*eP*	**Pn**	**03 23 17.1**	**+0.3**
NICO	**Nicoya**	**0.84**	**315**	*eP*	**Pb**	**03 23 16.5**	**-0.2**
CENT	**San Jose**	**0.85**	**62**	*eP*	**Pn**	**03 23 17.1**	**0.0**
MEXI	**Barrio Mexico**	**0.85**	**61**	*eP*	**Pb**	**03 23 16.3**	**-0.3**
AMPA	**Desamparados**	**0.85**	**65**	‖*eP*	**Pb**	**03 23 15.7**	**-0.9**
LCR2	**La Lucha 2**	**0.86**	**76**	P	**Pb**	**03 23 16.4**	**-0.3**
LCR2	**La Lucha 2**	**0.86**	**76**	S	**Sb**	**03 23 28.5**	**+0.7**
LUJA	**Lujan**	**0.86**	**63**	‖*eP*	**Pb**	**03 23 16.1**	**-0.5**
HDC	**Heredia**	**0.86**	**57**	Pn	**Pb**	**03 23 16.7**	**0.0**
HDC				Sn	**Sn**	**03 23 29.6**	**+0.6**
HDC	**Heredia**	**0.86**	**57**	‖*eP*	**Pb**	**03 23 16.4**	**-0.3**
VPL1	**V. Platanar**	**0.86**	**33**	‖*eP*	**Pb**	**03 23 16.5**	**-0.3**
DOMI	**Santo Domingo**	**0.87**	**59**	‖*eP*	**Pb**	**03 23 16.7**	**-0.2**
TIBA	**Tibas**	**0.88**	**61**	*eP*	**Pb**	**03 23 16.2**	**-0.8**
SOCE	**Pocosol**	**0.88**	**15**		**Pb**	**03 23 16.8**	**-0.2**
SOCE	**Pocosol**	**0.88**	**15**	P	**Pb**	**03 23 16.9**	**0.0**
SOCE	**Pocosol**	**0.88**	**15**	‖*eP*	**Pb**	**03 23 16.9**	**0.0**
VPS8	**V Poas**	**0.88**	**43**	‖*eP*	**Pb**	**03 23 17.1**	**0.0**
SJS	**Escuela Geolog**	**0.88**	**62**	*eP*	**Pb**	**03 23 16.6**	**-0.4**
PIEC	**Cerro El Cedra**	**0.88**	**84**	‖*eP*	**Pb**	**03 23 16.6**	**-0.5**
ECI	**Escuela Centro**	**0.88**	**63**	‖*eP*	**Pb**	**03 23 16.5**	**-0.5**
SJS3	**Mercedes San J**	**0.88**	**63**	‖*eP*	**Pb**	**03 23 16.6**	**-0.4**
LUPE	**Guadalupe**	**0.88**	**62**	*eP*	**Pb**	**03 23 16.6**	**-0.5**
QUEU	**Ciudad Quesada**	**0.89**	**27**	‖*eP*	**Pn**	**03 23 17.7**	**+0.3**
VPS5	**V. Poas**	**0.89**	**43**	‖*eP*	**Pb**	**03 23 17.2**	**-0.2**
VPL2	**V. Platanar**	**0.90**	**31**	‖*eP*	**Pb**	**03 23 17.4**	**+0.1**
CASO	**Castillo**	**0.91**	**7**	*eP*	**Pb**	**03 23 17.3**	**-0.1**
CHIK	**Chiripa**	**0.91**	**356**	‖*eP*	**Pb**	**03 23 17.4**	**-0.2**
TRIO	**Tres Rios**	**0.92**	**66**	‖*eP*	**Pb**	**03 23 16.9**	**-0.8**
CNAS	**Canas**	**0.93**	**345**	‖*eP*	**Pb**	**03 23 17.6**	**-0.1**
JUD3	**Juan Diaz 3**	**0.93**	**313**	Pn	**Pb**	**03 23 17.0**	**-0.8**
JUD3	**Juan Diaz 3**	**0.93**	**313**	‖*eP*	**Pb**	**03 23 17.3**	**-0.5**
ARE1	**Arenal 1**	**0.93**	**8**	‖*eP*	**Pb**	**03 23 17.9**	**0.0**
VARE2	**V. Arenal**	**0.93**	**8**	‖*eP*	**Pb**	**03 23 18.0**	**+0.1**
CORON	**Coronado**	**0.94**	**62**	‖*eP*	**Pb**	**03 23 17.9**	**-0.2**
TILA	**Tilaran**	**0.94**	**353**	‖*eP*	**Pb**	**03 23 17.6**	**-0.4**
FORC	**Fortuna**	**0.95**	**11**	‖*eP*	**Pb**	**03 23 18.1**	**0.0**
VACR	**Volcan Arenal**	**0.95**	**10**	‖*eP*	**Pb**	**03 23 18.1**	**-0.1**
PLVR	**Palo Verde**	**0.95**	**329**	‖*eP*	**Pb**	**03 23 18.0**	**-0.3**
CEDE	**Laguna Cedeo**	**0.96**	**8**	‖*eP*	**Pn**	**03 23 18.5**	**0.0**
INVE	**Universidad In**	**0.96**	**347**	‖*eP*	**Pb**	**03 23 18.2**	**-0.2**
TABAC	**Tabacon**	**0.96**	**5**	‖*eP*	**Pb**	**03 23 18.5**	**0.0**
TAGO	**Cartago**	**0.97**	**70**	*eP*	**Pb**	**03 23 18.2**	**-0.3**
REZ	**Monterrey de S**	**1.00**	**8**	‖*eP*	**Pn**	**03 23 19.4**	**+0.4**
REPA	**Paraso**	**1.01**	**73**	‖*eP*	**Pb**	**03 23 18.5**	**-0.7**
CVIMO	**Finca Echandi**	**1.02**	**61**	‖*eP*	**Pb**	**03 23 19.2**	**-0.2**
ARTO	**Ro Cuarto**	**1.02**	**38**	‖*eP*	**Pb**	**03 23 19.3**	**-0.1**
SACU	**Santa Cruz**	**1.03**	**315**	*eP*	**Pb**	**03 23 20.1**	**+0.7**
BAGA	**Bagaces**	**1.07**	**338**	‖*eP*	**Pn**	**03 23 20.1**	**+0.2**
ITAL	**Pital**	**1.08**	**32**	‖*eP*	**Pn**	**03 23 20.1**	**+0.1**
VICA	**Volcano Irazu**	**1.09**	**65**	‖*eP*	**Pn**	**03 23 20.1**	**-0.4**
QUEB	**Quebradon, Cot**	**1.09**	**357**	‖*eP*	**Pn**	**03 23 20.1**	**-0.1**
PCAYA	**Pacayas**	**1.09**	**69**	‖*eP*	**Pn**	**03 23 20.2**	**-0.2**
VIJUA	**Juan Vinas**	**1.14**	**71**	‖*eP*	**Pn**	**03 23 21.1**	**+0.1**
DELF	**Filadelfia**	**1.15**	**323**	‖*eP*	**Pn**	**03 23 21.0**	**+0.1**
ZEDO	**Perez Zeledon**	**1.16**	**99**	*eP*	**Pn**	**03 23 21.3**	**0.0**
CUI	**Cuipilapa**	**1.16**	**344**	‖*eP*	**Pb**	**03 23 23.8**	**+2.0**
CVTQ	**Turrialba Volc**	**1.16**	**66**	‖*eP*	**Pn**	**03 23 21.8**	**+0.2**
MOTZ	**Rio Naranjo**	**1.17**	**349**	‖*eP*	**Pb**	**03 23 21.8**	**-0.1**
TENO	**El Achiote**	**1.17**	**354**	‖*eP*	**Pn**	**03 23 21.0**	**-0.4**
VTR0	**Volcan Turrial**	**1.18**	**66**	‖*eP*	**Pn**	**03 23 22.1**	**+0.4**
CVTR	**Volcan Turrial**	**1.18**	**65**	‖*eP*	**Pn**	**03 23 22.1**	**+0.4**
CVTV	**Tajo**	**1.18**	**66**	‖*eP*	**Pn**	**03 23 22.1**	**+0.4**
COLC	**Colonia**	**1.18**	**343**	*eP*	**Pn**	**03 23 21.6**	**+0.1**
TURIB	**Turrialba**	**1.20**	**72**	*eP*	**Pn**	**03 23 22.0**	**+0.2**
VERB	**Verbena**	**1.21**	**70**	*eP*	**Pn**	**03 23 22.5**	**+0.5**
ABRB	**Las Abras (San**	**1.21**	**67**	‖*eP*	**Pb**	**03 23 22.6**	**

SABN	Sabanita	2.74	332	P		Pb	03 23 45.9 -2.7
RBALA	Bur	2.74	103	eP		Pn	03 23 43.4 +0.5
UNAN	Cigeo UNAN	2.92	332	P		Pb	03 23 49.1 -2.6
MGAN	Managua	2.94	332			Pn	03 23 47.0 +1.4
COPN	Copaltepe	3.14	327	P		Pb	03 23 53.3 -2.2
COPN	Copaltepe	3.14	327	eP		Pb	03 23 52.4 -3.1
MOM3	MOM3	3.39	331	P		Pn	03 23 55.1 +3.3
CNGN	Cerro Negro	3.47	329			Pn	03 23 52.8 -0.2
CNGN	Cerro Negro	3.47	329	P		Pn	03 23 56.4 +3.4
MATN	Matagalpa	3.54	343	P		Pn	03 23 54.2 +0.2
PKGN	Cerro Pekin	3.76	326	P		Pn	03 24 00.0 +3.2
LIMN	Finca el Limon	3.81	337	P		Pn	03 24 00.5 +2.7
CRIN	San Cristobal	3.82	326			Pn	03 23 56.7 -1.1
RCPN	Sur Rio San Ju	4.16	343	P		Pb	03 24 08.1 -4.8
SIUN	Universidad Ur	4.16	1			Pn	03 24 01.5 -1.0
SIUN	Universidad Ur	4.16	1	P		Pn	03 24 04.9 +2.4
RCVN	Varillal2	4.24	342	P		Pn	03 24 08.3 +4.7
CSGN	Cosiguina Volc	4.34	322	P		Pn	03 24 08.7 +3.8
OCON	Estacion meteo	4.38	339	P		Pn	03 24 08.0 +2.5
BILN	Bilwi Airport	4.72	18	Pn		Pn	03 24 08.7 -1.3
BCIP	Isla Barro Col	4.96	94			Pn	03 24 13.5 +0.1
TGUH	Tegucigalpa,Un	5.09	332			Pn	03 24 14.3 -1.0
PRVC	Isla de Provid	5.12	41			Pn	03 24 14.8 -0.9
MTO3	Montecristo	6.55	318			Pn	03 24 32.5 -3.0
OTAV	Otavalo	11.21	145	eP		Pn	03 25 42.8 +3.1
CMIG	Matias Romero	12.32	309	Pn		Pn	03 25 57.8 +3.3
	0.3nm,0.3s,baz=131,slow=12,SNR=6.0						
	1.1nm,0.3s						
SDV	Santo Domingo	14.05	91	LR		LR	03 32 47.6
	comp=Z,201nm,20.0s,baz=300,slow=43						
TLIG	Tlapa	15.54	302	Pn		Pn	03 26 34.5 -3.6
BAUV	El Baul	16.60	91	Pn		Pn	03 26 50.3 -1.4
BAUV				IAmb		IAmb	03 27 06.7
	comp=Z,21nm,0.7s						
ATAH	Atahualpa	17.76	159	LR		LR	03 33 10.9
	comp=Z,382nm,18.6s,baz=331,slow=35						
SJG	San Juan	20.04	63	LR		LR	03 34 40.4
	comp=Z,116nm,18.4s,baz=240,slow=36						
352A	Blakely	21.84	360	P		P	03 27 49.2 -2.0
250A	Grady	22.38	357	P		P	03 27 55.5 -1.5
152A	Waverly Hall	23.03	0	P		P	03 28 04.1 +0.3
152A				IAmb		IAmb	03 28 07.1
	comp=Z,17nm,0.7s						
833A	Chaparral WMA,	23.17	326	P		P	03 28 03.2 -2.1
833A				IAmb		IAmb	03 28 07.5
	comp=Z,16nm,1.1s						
GOGA	Godfrey	23.80	3	P		P	03 28 09.3 -2.2
GOGA				IAmb		IAmb	03 28 13.2
	comp=Z,16nm,0.9s						
TEFE	Tefe	23.95	122	eP		P	03 28 14.6 +1.6
Y52A	Lilburn	24.23	2	P		P	03 28 13.4 -2.0
Y52A				IAmb		IAmb	03 28 18.3
	comp=Z,18nm,0.8s						
Y45A	Yeager Farm, C	24.60	351	P		P	03 28 17.3 -1.6
DRIO	Del Rio	24.70	325			P	03 28 16.1 -3.7
DRIO				IAmb		IAmb	03 28 28.7
	comp=Z,8.4nm,0.7s						
HODGE	Hodges	24.70	5			P	03 28 17.6 -2.1
HODGE				IAmb		IAmb	03 28 21.2
	comp=Z,14nm,0.9s						
BOAV	Boa Vista	25.19	105	eP		P	03 28 25.7 +1.3
WLAR	White Oak Lake	25.22	344	P		P	03 28 22.6 -1.8
WLAR				IAmb		IAmb	03 28 35.0
	comp=Z,9.3nm,0.8s						
BRDY	Brady	25.33	331			P	03 28 23.8 -1.7
BRDY				IAmb		IAmb	03 28 35.7
	comp=Z,16nm,1.4s						
W50A	Signal Mountai	25.55	359	P		P	03 28 26.0 -1.5
CPCT	Cooper Cave	25.80	1	P		P	03 28 28.5 -1.2
TKL	Tuckaleechee C	26.03	2	LR		LR	03 38 42.0
	comp=Z,143nm,20.5s,baz=166,slow=36						
MIAR	Mount Ida	26.15	343	P		P	03 28 31.4 -1.5
TXAR	Lajitas Array	26.44	321	P		P	03 28 37.2 +1.5
	comp=Z,1.1nm,0.9s,baz=134,slow=9.2,SNR=10						
TXAR				PcP		PcP	03 32 03.1 +2.3
	comp=Z,0.4nm,0.8s,baz=103,slow=2.6,SNR=3.7						
	comp=Z,1.1nm,0.9s						
TX31	Lajitas Ar. Si	26.44	321	P		P	03 28 34.1 -1.6
LCAR	Lake Charles	27.04	349	P		P	03 28 38.4 -2.4
LCAR				IAmb		IAmb	03 28 41.4
	comp=Z,7.4nm,1.0s						
ALPN	Alpine	27.16	322			P	03 28 38.3 -3.9
MACA	Manacapuru-AM	27.18	117			P	03 28 41.2 -1.2
MACA				IAmb		IAmb	03 28 46.6
	comp=Z,14nm,0.8s						
MACA	Manacapuru-AM	27.18	117	eP		P	03 28 44.1 +1.7
MNHN	Monahans	27.35	325	P		P	03 28 40.9 -2.9
VHRN	Van Horn	28.27	321			P	03 28 49.9 -2.3
CCM	Cathedral Cave	28.98	350	P		P	03 28 56.9 -1.3
CCM				IAmb		IAmb	03 28 58.2
	comp=Z,7.9nm,1.1s						
PB16	IPOC Station P	31.56	151			P	03 29 19.6 -2.3
PB16				IAmb		IAmb	03 30 02.3
	comp=Z,7.3nm,1.4s						
Y22A	Socorro	31.67	323	P		P	03 29 20.1 -2.2
Y22A				IAmb		IAmb	03 29 35.7
	comp=Z,7.2nm,1.1s						
ITTB	Itaituba	32.13	114	eP		P	03 29 27.5 +1.1
MDP	Montagnes des	32.23	96	LR		LR	03 43 20.8
	comp=Z,204nm,18.5s,baz=287,slow=38						
GO01	Chusmiza	32.86	152	P		P	03 29 29.1 -4.1
GO01				IAmb		IAmb	03 29 39.3
	comp=Z,3.3nm,0.7s						
VILB	Vilhena	33.14	132	eP		P	03 29 36.5 +1.3
NPGB	Novo Progresso	33.68	118	eP		P	03 29 40.5 +0.6
SDCO	Great Sand Dun	33.70	330			P	03 29 36.9 -3.3
X16A	Lo Mia Camp, P	34.74	320	P		P	03 29 46.4 -2.8
X16A				IAmb		IAmb	03 30 03.0
	comp=Z,3.4nm,0.9s						
PDRB	Porto dos Gac	34.97	126	eP		P	03 29 51.4 +0.3
CLDB	Colider	35.30	124	eP		P	03 29 54.0 +0.1
SADO	Sadowa	35.45	7	LR		LR	03 44 16.7
	comp=Z,1μm,21.0s,baz=194,slow=36						
PV12	Saucer Basin,	35.84	327	P		P	03 29 56.6 -2.0
PV18	Skein Mesa, Pa	35.85	327			P	03 29 56.5 -2.1
PV17	East Wray Mesa	35.90	327	P		P	03 29 56.8 -2.3
KNB	Kanab	37.27	322			P	03 30 08.0 -2.7
KNB				IAmb		IAmb	03 30 20.3
	comp=Z,4.3nm,1.0s						
TMUT	Trail Mountain	37.86	326			P	03 30 14.1 -1.7
GSC	Goldstone, Bar	38.82	316	P		P	03 30 21.7 -2.0
AC02	Maricunga	39.24	158			P	03 30 26.4 -1.3
SPR3	Spring Creek 3	39.45	323			P	03 30 27.3 -1.9
PDAR	Pinedale Array	39.54	331	P		P	03 30 31.6 +1.8
	comp=Z,0.4nm,0.7s,baz=145,slow=10,SNR=4.4						
PDAR				PcP		PcP	03 32 38.2 +1.1
	comp=Z,0.3nm,0.7s,baz=145,slow=5.4,SNR=3.7						
	comp=Z,0.4nm,0.7s						
SNDB	Serra Nova Dou	39.60	122	eP		P	03 30 31.4 +1.0
AC04	Llanos de Chal	39.81	161	P		P	03 30 30.4 -1.5
AC04				IAmb		IAmb	03 31 01.6
	comp=Z,17nm,1.0s						
MURT	Porto Murtinho	40.93	139	eP		P	03 30 42.5 +1.3
SMTB	Santa Maria do	41.35	115	eP		P	03 30 45.8 +0.9
AQDB	Aquidauana	41.37	136	eP		P	03 30 46.6 +1.7
NVAR	Mina Array Bea	41.57	319	P		P	03 30 44.9 -1.7
NVAR	Mina Array Bea	41.57	319	P		P	03 30 48.2 +1.6
	comp=Z,1.0nm,0.6s,baz=129,slow=6.1,SNR=8.1						
NVAR				PcP		PcP	03 32 46.4 +2.7
	comp=Z,0.3nm,0.4s,baz=127,slow=1.4,SNR=2.8						
	comp=Z,1.0nm,0.6s						
H03N2	Juan Fernandez	43.10	173	T		T	04 17 06.7
	baz=350,slow=74						
H03N1	Juan Fernandez	43.10	173	T		T	04 17 06.2
	baz=350,slow=74						
H03N3	Juan Fernandez	43.12	173	T		T	04 17 02.7
	baz=350,slow=74						
AMBA	Amambai (Brazi	43.53	138	eP		P	03 31 03.7 +1.2
WVOR	Wild Horse Val	44.16	324	P		P	03 31 05.9 -1.5
WVOR				IAmb		IAmb	03 31 17.0
	comp=Z,3.4nm,0.6s						
BDFB	Brasilia	44.23	124	P		P	03 31 06.7 -1.7
	comp=Z,0.9nm,0.3s,baz=304,slow=8.7,SNR=3.0						
	comp=Z,0.9nm,0.3s						
IPMB	Ipameri, GO	45.34	127	eP		P	03 31 17.8 +0.7
LDASE	Londrina, Braz	46.47	135	eP		P	03 31 25.8 -0.1
SCHQ	Schefferville	47.40	14	P		P	03 31 31.2 -1.5
	comp=Z,58nm,0.8s,baz=233,slow=10,SNR=6.4						
PLCA	Paso Flores	51.73	166	P		P	03 32 06.7 +0.8
	comp=Z,1.9nm,0.8s,baz=327,slow=6.3,SNR=3.3						
	comp=Z,1.9nm,0.8s						
ILAR	Eielson Array	69.71	336	P		P	03 34 09.9 +1.9
	comp=Z,0.2nm,0.6s,baz=106,slow=4.6,SNR=4.1						
	comp=Z,0.2nm,0.6s						
ESDC	Sonseca Array	76.98	51	P		P	03 34 51.7 +0.2
	comp=Z,2.4nm,0.8s,baz=283,slow=6.0,SNR=12						
	comp=Z,2.4nm,0.8s						
SPITS	Spitsbergen Ar	83.03	12	P		P	03 35 25.7 +2.3
	comp=Z,9.1nm,1.1s,baz=301,slow=6.1,SNR=8.0						
	comp=Z,9.1nm,1.1s						
TORD	Torodi Ar. Bea	84.54	78	P		P	03 35 32.7 +0.4
	comp=Z,0.3nm,0.6s,baz=293,slow=4.0,SNR=4.4						
	comp=Z,0.3nm,0.6s						
HFS	Hagfors	86.04	30	P		P	03 35 38.8 -0.1
	comp=Z,0.6nm,0.7s,baz=292,slow=9.2,SNR=0.9						
	comp=Z,0.6nm,0.7s						
SHEM	Shemya Is, Ala	89.11	323	LR		LR	04 15 05.2
	comp=Z,220nm,21.9s,baz=298,slow=35						
MA2	Magadan	98.16	335	LR		LR	04 28 42.2
	comp=Z,133nm,18.5s,baz=142,slow=40						
KSRS	Korea Array	124.09	329	PKP		PKPdf	03 41 57.5 +0.2
	comp=Z,0.5nm,0.3s,baz=19,slow=0.8,SNR=4.3						
ASAR	Alice Springs	140.44	244	PKP		PKPdf	03 42 28.9 +0.3
	comp=Z,0.5nm,0.6s,baz=103,slow=1.8,SNR=5.2						
WRA	Warramunga Arr	140.81	250	PKP		PKPdf	03 42 30.3 +1.0
	comp=Z,1.3nm,0.9s,baz=93,slow=2.2,SNR=8.0						
FITZ	Fitzroy Crossi	149.23	251	PKPdf		PKPdf	03 42 40.6 -3.1
CMAR	Chiang Mai Arr	151.94	352	PKPbc		PKPbc	03 42 54.9 +0.4
	comp=Z,1.2nm,0.3s,baz=338,slow=2.3,SNR=7.8						

*IGQ **10** 03:44:06.2±0.4, 1°S±2°×8°0W±°, h87km±5km, MLv3.6/26*
*RSNC **10** 03:44:06.8±0.5, 1°S±2°×8°0W±°, h60km±14km, M3.4, ML3.0, MLv3.8*

ISC 10 03:44:07.8±1.3, 0°.85S±0°.03×79°.81W±0°.03, h64km±16km, n93, σ1°35/108, 37C-12D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH3	Manabi, Bahia	0.66	292	S	Sn	03 44 35.9	+3.8
ABH3				P	Pn	03 44 22.4	+0.5
ASDO	Santo Domingo	0.90	50	⇓P	Pn	03 44 22.7	-2.2
AMNT	Manta-Manabi	0.93	264	P	Pn	03 44 25.2	+0.1
AMNT				S	Sn	03 44 40.5	+2.6
ILLI	Illinizas Sur	1.09	83	⇑P	Pn	03 44 26.6	-1.1
CHSH	Refugio Sur-Vo	1.14	124	⇑P	Pn	03 44 28.2	-0.2
CHSH				S	Sn	03 44 45.0	+1.4
BV15	Puerto Quito-O	1.16	31	S	Sn	03 44 42.5	-0.7
BV15				⇑P	Pn	03 44 26.2	-2.0
PAST	Pastocalle	1.18	83	P	Pn	03 44 28.4	-0.4
PPLP	Puerto Lpez	1.19	234	P	Pn	03 44 27.9	-0.7
PPLP	Puerto Lpez	1.19	234	⇓P	Pn	03 44 27.0	-1.5
PPLP				S	Sn	03 44 44.8	+0.8
PPLP	Puerto Lpez	1.19	234	P	Pn	03 44 26.7	-1.8
PPLP				S	Sn	03 44 43.5	-0.5
AV18	Acelerografo,	1.20	16	P	Pn	03 44 27.9	-0.7
AGUAY	Guayaquil	1.21	187	P	Pn	03 44 26.7	-2.1
ASLC	Ecuador-Salced	1.23	99	⇓P	Pn	03 44 29.7	+0.3
APR2	Miler	1.25	43	⇓P	Pn	03 44 27.4	-2.0
AMAC	Ecuador-Machac	1.27	76	⇑P	Pn	03 44 29.1	-0.7
GYE3	Ecuador-Guayaq	1.30	184	P	Pn	03 44 28.3	-1.7
CAMI	Rancho Maria	1.32	83	⇓P	Pn	03 44 30.7	+0.1
SLOR	San Lorenzo -	1.32	85	⇑P	Pn	03 44 30.7	+0.1
ISPT	Isla de la Pla	1.33	252	S	Sn	03 44 50.2	+3.0
ISPT				⇓P	Pn	03 44 28.2	-2.1
GGPT	Toaza - Volcan	1.34	63	⇑P	Pn	03 44 29.8	-1.1
BMOR	Cotopaxi Volca	1.36	85	P	Pn	03 44 31.1	-0.1
JUA2	San Juan 2	1.36	63	⇓P	Pn	03 44 30.5	-0.7
TERV	Terraza Guagua	1.38	61	⇑P	Pn	03 44 30.5	-1.0
BREF	Cotopaxi Volca	1.38	83	⇑P	Pn	03 44 32.0	+0.4
GGPC	Guagua Pichinc	1.38	61	⇑P	Pn	03 44 30.8	-0.8
PINO	Pino	1.38	60	⇑P	Pn	03 44 30.5	-1.1
PITA	Cotopaxi Volc	1.41	78	⇑P	Pn	03 44 32.0	+0.1
BVC2	Cotopaxi Volca	1.41	82	⇑P	Pn	03 44 32.2	+0.2
TOMA	Boca Toma-Volc	1.42	76	⇑P	Pn	03 44 32.2	+0.3
VC1	Cotopaxi 1	1.42	82	⇑P	Pn	03 44 32.4	+0.3
BTAM	Cotopaxi Volca	1.42	83	⇑P	Pn	03 44 32.3	+0.2
YANA	Yana	1.44	60	⇑P	Pn	03 44 31.1	-1.1
TAMB	Tambo	1.45	84	⇑P	Pn	03 44 32.7	+0.2
TING	Casa Alexandra	1.47	68	⇑P	Pn	03 44 32.8	+0.2
FENY	Casa Vinicio C	1.50	62	⇓P	Pn	03 44 33.1	+0.2
PAC1	Pacto, Paraso	1.50	43	⇑P	Pn	03 44 30.9	-1.9
PAC1	Pacto, Paraso	1.50	43	P	Pn	03 44 30.9	-1.9
PAC1				S	Sn	03 44 49.7	-1.9
PIAT	Ana Tenorio	1.56	96	⇓P	Pn	03 44 34.1	+0.4
PIAT	Ana Tenorio	1.56	96	P	Pn	03 44 33.8	+0.1
PIAT				S	Sn	03 44 54.6	+1.4
PULU	Pululahua	1.57	57	⇑P	Pn	03 44 32.7	-1.1
ANTG	Antisana-Guama	1.59	78	⇑P	Pn	03 44 34.5	+0.1
ANTM	Antisana-La Mi	1.62	79	⇑P	Pn	03 44 34.8	+0.1
AV11	Acelerografo,	1.63	62	P	Pn	03 44 35.0	+0.4
ANTS	Antisana-Sarah	1.68	78	⇑P	Pn	03 44 36.0	+0.4
ANTI	Antisana	1.70	77	⇑P	Pn	03 44 36.2	+0.4
COHC	Cochancay	1.70	161	P	Pn	03 44 33.3	-2.1
COHC	Cochancay	1.70	161	P	Pn	03 44 33.2	-2.1
COHC				S	Sn	03 44 53.8	-2.4
OTAV	Otavalo	1.73	52	⇑P	Pn	03 44 34.9	-1.3
SALI	Salinas	1.78	222	P	Pn	03 44 36.0	-0.3
CUSE	Cuicocha Este	1.82	51	⇑P	Pn	03 44 36.5	-0.8
CUSE	Cuicocha Este	1.82	51	P	Pn	03 44 36.5	-0.8
CUSE				S	Sn	03 44 58.5	-1.1
CUSW	Cuicocha Oeste	1.84	52	⇑P	Pn	03 44 42.9	+5.3
CUIC	Cuicocha-Domo	1.85	52	⇑P	Pn	03 44 37.1	-0.6
MORR	Playas El Morr	1.86	196	P	Pn	03 44 37.2	-0.2
COTA	Cotacachi	1.88	51	⇑P	Pn	03 44 37.9	-0.3
PUYO	Puyo, Santa Ro	1.90	110	P	Pn	03 44 38.8	+0.7
ACOT	Cotacachi (Cas	1.91	54	⇓P	Pn	03 44 39.0	+0.5
RVRD	Rio Verde	1.95	13	⇓P	Pn	03 44 38.5	-0.1
IMBA	Imbabura, San	1.96	55	⇑P	Pn	03 44 39.9	+0.7
CAYR	Refugio Cayamb	2.00	65	⇑P	Pn	03 44 40.5	+0.6
ANGU	Angureal	2.01	64	⇑P	Pn	03 44 40.3	+0.3
URCU	Urcuqui	2.01	51	⇑P	Pn	03 44 39.6	-0.3
ARDO	Archidona, Ten	2.02	94	P	Pn	03 44 42.1	+2.4
YAHU	Yahuarcocha	2.12	55	P	Pn	03 44 42.1	+0.7
ISPG	Isla Puna-Puer	2.14	190	P	Pn	03 44 42.2	+0.8
ALIT	Ecuador-Imbabu	2.18	42	P	Pn	03 44 41.3	-0.7
LITE1	Lita	2.18	42	P	Pn	03 44 40.5	-1.5
LAV4	Lava4-Reventad	2.31	71	P	Pn	03 44 44.7	+0.9
REVN	San Rafael	2.32	71	P	Pn	03 44 44.6	+0.7
SNLR	San Lorenzo-Es	2.33	24	P	Pn	03 44 43.2	-0.7
PKYU	Pakayacu	2.35	110	⇑P	Pn	03 44 44.9	+0.7
PCRA	Pucara 2	2.37	173	P	Pn	03 44 42.9	-1.9
LNGL	El Angel-Carch	2.40	49	P	Pn	03 44 45.4	+0.1
CHMA	Chilma	2.44	46	⇑P	Pn	03 44 45.4	-0.1
CHL1	Volc¡n Chiles	2.48	49	⇑P	Pn	03 44 47.2	+0.9
ECEN	Cerro Negro	2.48	48	⇓P	Pn	03 44 47.2	+0.9
CHL2	Volc¡n Chiles	2.50	49	⇑P	Pn	03 44 47.5	+0.8
TULM	Tulcn-Chalpat	2.55	53	P	Pn	03 44 48.1	+0.8
TULM	Tulcn-Chalpat	2.55	53	P	Pn	03 44 47.8	+0.5
BONI	La Bonita	2.62	61	P	Pn	03 44 50.7	+2.6
BONI	La Bonita	2.62	61	P	Pn	03 44 50.1	+2.6
BOSC	San Juan Bosco	2.64	150	P	Pn	03 44 49.8	+1.6
CASC	Dorado de Casc	2.66	68	P	Pn	03 44 48.9	+0.5
CMBC	Cumbal	2.66	48	P	Pn	03 44 50.8	+2.0
CMBC	Cumbal	2.66	48	P	Pn	03 44 51.1	+2.3
CMBC				S	Sn	03 45 24.0	+3.8
ARNL	Arenillas	2.70	185	P	Pn	03 44 47.8	-1.1
MCRA	Macar, Loja	3.50	182	P	Pn	03 44 59.3	-0.6
MCRA	Macar, Loja	3.50	182	P	Pn	03 44 58.5	-1.4
MCRA				S	Sn	03 45 38.8	-1.4
BBAC	Balboa, Cauca	3.83	42	P	Pn	03 45 04.8	+0.2
BBAC	Balboa, Cauca	3.83	42	P	Pn	03 45 04.1	-0.5
BBAC				S	Sn	03 45 49.4	+0.9
ZUMB	Zumba	4.05	171	P	Pn	03 45 08.6	+1.2
POPC	Popayan, Colom	4.60	43	P	Pn	03 45 13.4	-1.7
POPC				S	Sn	03 46 06.5	-0.8
YOTC	Yotoco, Valle	5.92	36	P	Pn	03 45 30.3	-2.7
YOTC				S	Sn	03 46 37.5	-2.1

*NEIC **10** 03:54:51.8±1.3, 55°.9S±0°.1×27°.1W±0°.2, h38km±9km, mb4.6/35, Error ellipse: s-maj=15.6km s-min=13.0km az=184.0*
*IDC **10** 03:54:51.9±6.7, 55°.90S×26°.92W, h45km±66km, mb4.0/9, mbtmp4.2/10, ML3.7/1, Error ellipse: s-maj=31.2km s-min=16.2km az=61.0*

ISC 10 03:54:53.6±0.6, 55°.93S±0°.09×27°.22W±0°.08, h63km, n57, σ1°08/52, mb4.5/23, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.57	283	Pn	Pn	03 56 11.9	-1.8
HOPE					Sn	03 57 13.4	-3.0
VNA1	Neumayer--Stat	16.92	158	⇑P	P	03 58 45.9	-0.9
	comp=Z,1.0nm,0.2s						
VNA3	Neumayer Olymp	17.11	161	⇑P	Pn	03 58 47.9	-0.3
	comp=Z,1.4nm,0.2s						
VNA2	Neumayer--Watz	17.31	158	⇑P	Pn	03 58 50.1	-0.5
	comp=Z,4.6nm,0.6s,baz=315,slow=14						
SNAA	Sanae	18.86	156	⇑P	P	03 59 06.5	-1.8
	comp=Z,15nm,0.3s						
SNAA	Sanae	18.86	156		P	03 59 06.4	-1.8
SNAA	Sanae	18.86	156	P	P	03 59 06.4	-1.8
	comp=Z,0.3nm,0.3s,baz=346,slow=16,SNR=19						
	comp=Z,1.2nm,0.4s						
PMSA	Palmer Station	19.97	229	Pn	Pn	03 59 24.4	+2.0
PMSA				IAmb	IAmb	03 59 29.8	
	comp=Z,16nm,0.9s						
PMSA	Palmer Station	19.97	229	P	Pn	03 59 22.5	+0.1
	comp=Z,7.2nm,0.5s,baz=45,slow=7.1,SNR=7.2						
	comp=Z,7.2nm,0.5s						
SMAI	San Martin Ant	21.85	220	P	P	03 59 42.7	+2.3
MG02	Cerro Sombrero	24.41	260	P	P	04 00 05.6	-0.1
TRQA	Tornquist	29.26	293	P	P	04 00 49.7	+0.3
PLTB	Pedras Altas	30.40	312	P	P	04 01 00.8	+1.2
PLTB				IAmb	IAmb	04 01 01.6	
	comp=Z,5.6nm,0.5s						
QSPA	South Pole Qui	34.33	180	P	P	04 01 35.2	+1.4
QSPA				IAmb	IAmb	04 01 37.3	
	comp=Z,3.7nm,0.7s						
QSPA	South Pole Qui	34.33	180	P	P	04 01 34.2	+0.4
	comp=Z,2.8nm,0.5s,baz=191,slow=2.7,SNR=52						
	comp=Z,2.8nm,0.5s						
CPUP	Villa Florida	36.72	311	P	P	04 01 54.8	+0.3
CPUP	Villa Florida	36.72	311	P	P	04 01 54.7	+0.3
	comp=Z,0.8nm,0.6s,baz=8.9,slow=5.1,SNR=6.5						
	comp=Z,0.8nm,0.6s						
MT09	Talagante	37.26	288	P	P	04 01 58.5	-0.6
CO02	Combarbal	39.26	290	P	P	04 02 16.4	+0.5
MAW	Mawson	40.26	144	P	P	04 02 22.6	-1.1
	comp=Z,1.2nm,0.6s,baz=230,slow=7.6,SNR=8.6						
	comp=Z,1.2nm,0.6s						
AQDB	Aquidauana	41.30	317	P	P	04 02 32.9	+0.2
AC04	Llanos de Chal	41.69	293		P	04 02 36.2	+0.3
AC04				IAmb	IAmb	04 02 38.9	
	comp=Z,24nm,1.4s						
AC02	Maricunga	41.81	296		P	04 02 38.8	+1.4
AC02				IAmb	IAmb	04 02 39.5	
	comp=Z,8.7nm,0.8s						
AC06	Mina Casimiro	42.00	295	P	P	04 02 38.3	-0.1
AC06				IAmb	IAmb	04 02 38.8	
	comp=Z,5.5nm,0.6s						
AC01	Pan de Azucar	43.12	295	P	P	04 02 47.6	+0.1
AC01				IAmb	IAmb	04 02 50.2	
	comp=Z,12nm,1.2s						
BDFB	Brasilia	43.25	330	P	P	04 02 49.2	+0.5
	comp=Z,1.1nm,0.5s,baz=159,slow=14,SNR=3.9						
	comp=Z,1.1nm,0.5s						
GO02	Mina Guanaco	43.42	297		P	04 02 51.1	+0.8
PB14	IPOC Station P	44.27	297	P	P	04 02 56.6	-0.6
PB14				IAmb	IAmb	04 02 57.4	
	comp=Z,4.6nm,0.6s						
PB10	IPOC Station P	45.28	298	P	P	04 03 05.2	+0.4
PB06	IPOC Station P	45.47	299	P	P	04 03 07.1	+0.7
PB06				IAmb	IAmb	04 03 12.8	
	comp=Z,7.1nm,0.6s						
BOSA	Boshof	45.95	76	P	P	04 03 09.7	-0.5
BOSA				IAmb	IAmb	04 03 15.4	
	comp=Z,8.8nm,1.2s						
PB09	IPOC Station P	46.08	300	P	P	04 03 12.4	+1.2
PB09				IAmb	IAmb	04 03 21.4	
	comp=Z,4.9nm,0.8s						
PB03	IPOC Station P	46.11	300	P	P	04 03 12.2	+0.7
PB03				IAmb	IAmb	04 03 12.6	
	comp=Z,5

az=139.0
NNC ***10*** *04:02:19.6±2.5, 37°.76N×71°.75E, h189km±29km, mb2.6, mpv3.7, Error ellipse: s-maj=24.9km s-min=15.7km az=30.0*
ISC 10 04:02:13.2±1.7, 37°.4N±0°.1×71°.6E±0°.1, h150km, n10, σ1§27/15, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.70**	**22**	P	**Pn**	**04 03 36.3**	**+0.4**
	7.6nm,0.3s,baz=204,slow=15,SNR=26						
AAK				S	**Sn**	04 04 40.4	-0.2
	3.2nm,0.4s,baz=311,slow=19,SNR=7.2						
AAK	**Ala-Archa**	**5.70**	**22**	⇑P	**Pn**	**04 03 36.9**	**+1.0**
	6.7nm,0.7s						
AAK				⇑S	**Sn**	**04 04 40.1**	**-0.5**
	3.9nm,0.6s						
KK31	**Karatay Array**	**5.77**	**352**	P	**Pn**	**04 03 39.6**	**+2.8**
	3.6nm,0.3s,baz=174,slow=16,SNR=37						
KK31				⇑S	**Sn**	**04 04 42.3**	**+0.3**
	3.8nm,0.2s,baz=171,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**12.29**	**37**	P	**Pn**	**04 05 02.2**	**-1.0**
	0.4nm,0.7s,baz=224,slow=14,SNR=5.3						
KURBB	**Kurchatov Arra**	**14.13**	**18**	P	**Pn**	**04 05 26.8**	**+0.3**
	0.6nm,0.3s,baz=199,slow=11,SNR=4.2						
AB31	**Akbulak array**	**14.55**	**328**	⇓P	**P**	**04 05 34.4**	**+0.1**
	0.6nm,0.4s,baz=136,slow=9.7,SNR=28						
AB31				⇑S	**Sn**	**04 08 11.3**	**-1.9**
	0.7nm,0.6s,baz=154,slow=24,SNR=6.2						
BVAR	**Borovoye Array**	**15.66**	**357**	P	**Pn**	**04 05 45.7**	**+0.2**
	1.3nm,0.6s,baz=171,slow=13,SNR=6.6						
AKTO	**Aktyubinsk**	**16.26**	**328**	⇓P	**P**	**04 05 55.1**	**+2.0**
	0.6nm,0.6s						
AKTO				⇑S	**S**	**04 08 52.7**	**-0.8**
	1.3nm,1.2s						
ZALV	**Zalesovo Beam**	**18.91**	**25**	P	**P**	**04 06 21.8**	**-0.3**
	1.3nm,0.3s,baz=208,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**66.21**	**269**	P	**P**	**04 12 44.5**	**-0.7**
	0.2nm,0.5s,baz=51,slow=6.3,SNR=5.1						
	0.2nm,0.5s						

IDC ***10*** *04:11:09.6±0.7, 52°.03N×105°.70E, h0km, mb3.8/10, mbtmp3.9/16, ML3.9/4, MS3.9/3, Error ellipse: s-maj=16.5km s-min=12.6km az=50.0*
NEIC ***10*** *04:11:10.8±2.0, 52°.0N±0°.1×105°.68E±0°.10, h10km±1km, mb4.3/11, Error ellipse: s-maj=17.2km s-min=9.8km az=8.0*
MOS ***10*** *04:11:10.0±0.9, 52°.04N×105°.74E, h12km, mb4.3/9, MS3.7/8, Error ellipse: s-maj=8.7km s-min=6.9km az=158.8*
MOS Felt (IV) at Bozoy, Bol'shoye Goloustnoye, Irkutsk, Lugovoye, Pad' Melnichnaya; (III-IV) at Angarsk, Bayanday, Berezoviy, Burdakovka, Listvyanka, Markova, Novolisikha, Smolenshchina, Suzha, Urik, Shelekhov; (II-III) at Moty, Tyrgan, Ulan-Ude, Usol'e-Sibirskoye, Khomutovo.
BYKL ***10*** *04:11:11.9±0.1, 52°.05N×105°.64E, h22km±2km, FELT I=IV MSK at Bolshoye Goloustnoye, Shigaevo, Melnichnaya Pad, Tugutuy, Irkutsk, Lugovoe, Bozoy; III-IV at Babushkin, Goryachy Klyuch, Listvyanka, Burdakovka, Shishkin, Novolisikha, Dzerzhinsk, Berezovy, Markova, Urik.*
ISC 10 04:11:10.7±0.9, 52°.09N±0°.02×105°.71E±0°.02, h8km±6km, n111, σ1§95/179, mb4.0/18, MS3.7/7, 15C-10D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGT	**Bolshoye Golou**	**0.19**	**256**	⇓*i*Pg	**Pg**	**04 11 16.5**	**+2.0**
BGT				Pmax		04 11 16.6	
	6μm,0.2s						
BGT				*e*		04 11 17.3	
BGT				*e*Sg	**Sg**	**04 11 19.5**	**+2.4**
BGT				Smax		04 11 19.8	
	73μm,0.3s						
VBR	**Suhoy Ruchey**	**0.35**	**147**	⇑*i*Pg	**Pb**	**04 11 19.0**	**-0.2**
VBR				*e*		04 11 19.6	
VBR				*e*Sg	**Sb**	**04 11 24.2**	**-0.7**
VBR				*e*		04 11 26.6	
LSTR	**Listvyanka**	**0.58**	**248**	⇑*i*Pg	**Pg**	**04 11 22.3**	**+0.4**
LSTR				*e*		04 11 23.1	
LSTR				max		04 11 23.1	
	955nm,0.2s						
LSTR				*e*Sg	**Sg**	**04 11 29.6**	**0.0**
LSTR				Smax		04 11 29.8	
	12μm,0.2s						
LSTR	**Listvyanka**	**0.58**	**248**	⇑*i*PG	**Pg**	**04 11 22.3**	**+0.4**
LSTR				*e*		04 11 29.6	
LSTR				pmax	pmax		
	comp=Z,864nm,0.2s						
LSTR				smax	smax		
	comp=E,6μm,0.2s						
KAB	**Kabansk**	**0.59**	**94**	⇑*i*Pg	**Pb**	**04 11 24.0**	**+0.8**
KAB				Pmax		04 11 24.3	
	comp=E,4μm,0.3s						
KAB				*e*Sg	**Sb**	**04 11 32.8**	**+1.1**
KAB				Smax		04 11 33.7	
	comp=E,52μm,0.5s						
KAB	**Kabansk**	**0.59**	**94**	*e*PG	**Pb**	**04 11 24.0**	**+0.8**
KAB				*e*		04 11 32.2	
KAB				pmax	pmax		
	comp=Z,4μm,0.2s						
KAB				smax	smax		
	comp=N,52μm,0.6s						
FFNB	**Fofonovo**	**0.66**	**94**	⇑*i*Pg	**Pb**	**04 11 24.9**	**+0.5**
FFNB				*e*Sg	**Sb**	**04 11 34.2**	**+0.5**
FFNB				*e*Sb	**Sn**	**04 11 36.4**	**-0.5**
TRG	**Tyrgan**	**0.78**	**30**	⇓*i*Pg	**Pb**	**04 11 27.5**	**+1.0**
TRG				*e*Pb	**Pn**	**04 11 29.5**	**+1.5**
TRG				max		04 11 31.6	
	comp=N,1μm,0.1s						
TRG				*e*Sg	**Sb**	**04 11 38.8**	**+1.6**
TRG				Smax		04 11 43.9	
	comp=N,45μm,0.2s						
TRG	**Tyrgan**	**0.78**	**30**	⇓*i*PG	**Pb**	**04 11 27.5**	**+1.0**
TRG				*e*		04 11 39.2	
TRG				pmax	pmax		
	comp=Z,77μm,0.1s						
TRG				smax	smax		
	comp=N,20μm,0.2s						
IVK	**Ivanovka**	**0.85**	**250**	⇑*i*Pg	**Pg**	**04 11 26.9**	**-0.1**
IVK				*e*Pb	**Pb**	**04 11 27.7**	**0.0**
IVK				max		04 11 29.0	
	comp=N,3μm,0.1s						
IVK				*e*Sg	**Sg**	**04 11 37.6**	**-0.4**
IVK				Smax		04 11 38.3	
	comp=N,13μm,0.2s						
IVK	**Ivanovka**	**0.85**	**250**	⇑*i*PG	**Pg**	**04 11 26.9**	**-0.1**
IVK				*e*		04 11 37.6	
IVK				pmax	pmax		
	comp=Z,3μm,0.2s						
IVK				smax	smax		
	comp=N,13μm,0.2s						
IRK	**Irkutsk**	**0.90**	**280**	⇑*i*Pg	**Pb**	**04 11 28.6**	**+0.1**
IRK				*e*Pb	**Pn**	**04 11 29.3**	**-0.3**
IRK				max		04 11 31.1	
	comp=N,6μm,0.2s						
IRK				*e*Sg	**Sg**	**04 11 40.1**	**+0.6**
IRK				*e*Sb	**Sn**	**04 11 43.1**	**+0.3**
IRK				max		04 11 45.2	
	comp=N,41μm,0.3s						
IRK	**Irkutsk**	**0.90**	**280**	*e*PG	**Pb**	**04 11 28.6**	**+0.1**
IRK				*e*		04 11 40.2	
IRK				pmax	pmax		
	comp=Z,6μm,0.2s						
IRK				smax	smax		
	comp=N,41μm,0.5s						
HRMR	**Khuramsha**	**0.90**	**120**	⇑*i*Pg	**Pb**	**04 11 28.5**	**-0.1**
HRMR				Pmax		04 11 30.0	
	comp=N,3μm,0.4s						
HRMR				*e*Sg	**Sb**	**04 11 40.8**	**0.0**
HRMR				Smax		04 11 42.9	
	comp=N,22μm,0.5s						
ZRHB	**Zarechye**	**1.00**	**62**	*e*Pg	**Pn**	**04 11 31.9**	**+0.8**
ZRHB				Pmax		04 11 32.8	
	comp=N,3μm,0.8s						
ZRHB				*e*Sg	**Sn**	**04 11 46.1**	**+0.7**
ZRHB				Smax		04 11 49.4	
	comp=N,32μm,0.8s						
UUDB	**Ulan-Yde**	**1.23**	**100**	⇑*i*Pg	**Pn**	**04 11 34.6**	**+0.4**
UUDB				Pmax		04 11 35.2	
	comp=N,1μm,0.3s						
UUDB				*e*Pb	**Pg**	**04 11 37.0**	**+2.7**
UUDB				*e*Sg	**Sn**	**04 11 51.0**	**-0.1**
UUDB				Smax		04 11 52.8	
	comp=N,12μm,1.1s						
TLY	**Talaya**	**1.34**	**253**	Pn	**Pn**	**04 11 35.2**	**-0.5**
TLY				Sn	**Sb**	**04 11 52.8**	**-0.7**
TLY	**Talaya**	**1.34**	**253**	⇑*i*Pg	**Pn**	**04 11 35.5**	**-0.3**
TLY				*e*Pb	**Pb**	**04 11 36.2**	**+0.1**
TLY				max		04 11 37.0	
	comp=N,826nm,0.2s						
TLY				*e*Sg	**Sb**	**04 11 52.7**	**-0.7**
TLY				Smax		04 11 56.0	
	comp=N,14μm,0.2s						
TLY				*e*Sb	**Sn**	**04 11 58.9**	**+5.1**
TLY	**Talaya**	**1.34**	**253**	*c i*PG	**Pn**	**04 11 35.4**	**-0.3**
KELR	**Kotokel**	**1.60**	**64**	*e*Pn	**Pb**	**04 11 40.2**	**-0.3**
KELR				*e*Pg	**Pg**	**04 11 41.6**	**+0.3**
KELR				*e*Sg	**Sg**	**04 12 02.7**	**+0.6**
GORB	**Goryachinsk**	**1.81**	**59**	*e*Pn	**Pb**	**04 11 43.6**	**-0.5**
GORB				*e*Pg	**Pg**	**04 11 45.8**	**+0.4**
GORB				*e*Sn	**Sb**	**04 12 07.2**	**+0.2**
GORB				*e*Sg	**Sg**	**04 12 09.8**	**+0.9**
OGRR	**Ongureny**	**1.93**	**36**	*e*Pn	**Pb**	**04 11 45.9**	**-0.2**
OGRR				*e*Pg	**Pg**	**04 11 48.1**	**+0.5**
OGRR				*e*		04 11 54.4	
OGRR				max		04 11 54.9	
	comp=N,900nm,0.9s						
OGRR				*e*Sn	**Sb**	**04 12 10.3**	**-0.1**
OGRR				*e*Sg	**Sg**	**04 12 14.1**	**+1.4**
OGRR				Smax		04 12 16.4	
	comp=N,5μm,0.8s						
ARS	**Arshan**	**2.04**	**266**	*e*Pn	**Pn**	**04 11 46.0**	**+0.7**
ARS				*e*Pg	**Pb**	**04 11 47.6**	**-0.3**
ARS				*e*		04 11 49.2	
ARS				max		04 11 50.5	
	comp=N,1μm,0.5s						
ARS				*e*Sn	**Sn**	**04 12 09.7**	**-1.3**
ARS				*e*Sg	**Sb**	**04 12 13.5**	**0.0**
ARS				Smax		04 12 17.8	
	comp=N,9μm,0.4s						
ARS	**Arshan**	**2.04**	**266**	*e*PN	**Pn**	**04 11 45.8**	**+0.5**
ARS				*e*		04 11 47.6	
ARS				*e*		04 12 13.3	
ARS				pmax	pmax		
	comp=Z,945nm,0.2s						
ARS				smax	smax		
	comp=E,9μm,0.4s						
MXMB	**Maximikha**	**2.19**	**56**	*e*Pg	**Pb**	**04 11 51.5**	**+0.9**
MXMB				*e*		04 11 55.2	
MXMB				*e*Sn	**Sn**	**04 12 16.6**	**+1.9**
MXMB				*e*Sg	**Sg**	**04 12 22.2**	**+1.2**
MXMB				*e*SgSg	**SnSn**	**04 12 34.0**	**+8.4**
ZAK	**Zakamensk**	**2.29**	**223**	*e*Pn	**Pn**	**04 11 49.3**	**+0.4**
ZAK				*e*Pg	**Pb**	**04 11 51.8**	**-0.5**
ZAK				Pmax		04 11 53.8	
	comp=E,197nm,0.3s						
ZAK				*e*Sg	**Sb**	**04 12 21.5**	**+0.6**
ZAK				Smax		04 12 23.8	
	comp=E,2μm,0.2s						
ZAK	**Zakamensk**	**2.29**	**223**	*e*PN	**Pn**	**04 11 49.5**	**+0.6**
ZAK				*e*		04 11 51.9	
ZAK				*e*		04 12 21.5	
ZAK				pmax	pmax		
	comp=Z,197nm,0.2s						
ZAK				smax	smax		
	comp=N,2μm,0.2s						
MOY	**Mondy**	**2.95**	**264**	*e*	**Pn**	**04 11 59.6**	**+1.6**
MOY				*e*		04 12 01.8	
MOY				*e*Pg	**Pb**	**04 12 03.9**	**+0.3**
MOY				Pmax		04 12 05.3	
	comp=N,432nm,0.8s						
MOY				*e*		04 12 33.4	
MOY				*e*Sg	**Sb**	**04 12 41.3**	**+1.5**
MOY				Smax		04 12 51.1	
	comp=N,3μm,0.5s						
MOY	**Mondy**	**2.95**	**264**	⇓*i*PN	**Pn**	**04 12 00.6**	**+2.6**
MOY				*e*		04 12 03.8	
MOY				*e*		04 12 40.1	
MOY				pmax	pmax		
	comp=Z,366nm,0.4s						
MOY				smax	smax		
	comp=E,3μm,0.4s						
SYVR	**Suvo**	**3.04**	**57**	*e*Pn	**Pn**	**04 12 00.4**	**+1.3**
SYVR				*e*Pg	**Pg**	**04 12 08.0**	**-0.8**
SYVR				Pmax		04 12 13.2	
	comp=E,165nm,0.8s						
SYVR				*e*Sg	**Sg**	**04 12 48.1**	**-0.1**
SYVR				Smax		04 12 53.6	
	comp=E,954nm,1.3s						
SYVR	**Suvo**	**3.04**	**57**	*e*PN	**Pn**	**04 12 00.4**	**+1.3**
SYVR				*e*		04 12 08.9	
SYVR				*e*		04 12 47.8	
SYVR				pmax	pmax		
	comp=Z,173nm,0.6s						
SYVR				smax	smax		
	comp=E,806nm,0.4s						
ORL	**Orlik**	**3.65**	**279**	*e*	**Pn**	**04 12 09.3**	**+1.8**
ORL				*e*Pg	**Pb**	**04 12 16.4**	**+1.0**
ORL				Pmax		04 12 20.0	
	comp=E,250nm,0.6s						
ORL				*e*		04 12 54.4	
ORL				*e*Sg	**Sg**	**04 13 04.3**	**-3.4**
ORL				Smax		04 13 08.1	
	comp=E,1μm,1.0s						
ORL	**Orlik**	**3.65**	**279**	*e*PN	**Pn**	**04 12 09.3**	**+1.8**
ORL				*e*		04 12 16.0	
ORL				*e*		04 13 03.1	
ORL				pmax	pmax		
	comp=Z,258nm,0.5s						
ORL				smax	smax		
	comp=N,1μm,1.1s						
SONM	**Songino Array**	**4.29**	**174**		**Pn**	**04 12 14.4**	**-1.9**
SONM	**Songino Array**	**4.29**	**174**	Pn	**Pn**	**04 12 16.4**	**+0.1**
	comp=N,8.6nm,0.3s,baz=344,slow=13,SNR=67						
SONM				Pg	**Pb**	**04 12 27.3**	**+1.0**
	comp=N,33nm,0.3s,baz=350,slow=17,SNR=33						
SONM				Lg	Lg	04 13 22.6	
	comp=N,32nm,0.3s,baz=22,slow=12,SNR=4.1						
SONM				LR	LR	04 14 14.5	
	comp=N,547nm,20.6s,baz=350,slow=44						
	comp=N,11nm,0.4s						
YLYR	**Ulyunkhan**	**4.29**	**47**	*e*Pn	**Pn**	**04 12 17.6**	**+1.4**
YLYR				*e*Pg	**Pb**	**04 12 29.7**	**+3.4**
YLYR				Pmax		04 12 42.8	
	comp=N,37nm,0.7s						
YLYR				*e*Sg	**Sg**	**04 13 26.5**	**-1.8**
YLYR				Smax		04 13 38.2	
	comp=N,570nm,1.2s						
YLYR				*e*		04 13 40.1	
ULN	**Ulaanbaatar**	**4.32**	**168**		**Pn**	**04 12 14.0**	**-2.8**
ULN	**Ulaanbaatar**	**4.32**	**168**	*e*Pn	**Pn**	**04 12 16.7**	**-0.1**
ULN				*e*Pg	**Pb**	**04 12 28.7**	**+1.8**
ULN				Pmax		04 12 29.8	
	comp=N,115nm,0.8s						
ULN				*e*		04 13 22.0	
ULN				*e*Sg	**Sg**	**04 13 25.1**	**-4.2**
ULN				Smax		04 13 27.2	
	comp=N,3μm,1.9s						
ULN	**Ulaanbaatar**	**4.32**	**168**	*d i*PN	**Pn**	**04 12 16.5**	**-0.3**
NIZB	**Nizh Angarsk**	**4.33**	**30**	*e*Pn	**Pn**	**04 12 18.2**	**+1.4**
NIZB				max		04 12 40.3	
	comp=N,77nm,0.6s						
NIZB				*e*Sn	**Sn**	**04 13 07.3**	**-0.1**
NIZB				*e*		04 13 11.2	
NIZB				*e*Sg	**Sg**	**04 13 26.8**	**-2.7**
NIZB				Smax		04 13 40.0	
	comp=N,1μm,1.2s						
CIT	**Chita**	**4.84**	**88**	*e*Sg	**Sg**	**04 13 42.2**	**-3.9**
CIT				Smax		04 13 48.1	
	comp=N,2μm,0.8s						
CIT	**Chita**	**4.84**	**88**	*e*PN	**Pn**	**04 12 23.3**	**-0.6**
CIT				*e*		04 12 37.7	
CIT				*e*S	**Sn**	**04 13 19.4**	**-0.8**
CIT				*e*		04 13 41.7	
CIT				pmax	pmax		
	comp=Z,119nm,0.2s						
CIT				smax	smax		
	comp=N,2μm,1.6s						
KPC	**Khapcheranga**	**4.85**	**117**	*e*Pn	**Pn**	**04 12 23.4**	**-0.6**
KPC				*e*Pg	**Pb**	**04 12 38.8**	**+2.9**
KPC				Pmax		04 12 46.1	
	comp=N,83nm,0.5s						
KPC				*e*		04 13 37.5	
KPC				*e*Sg	**Sg**	**04 13 43.1**	**-3.3**
KPC				Smax		04 13 46.0	
	comp=N,2μm,1.2s						
KPC	**Khapcheranga**	**4.85**	**117**	*e*PN	**Pn**	**04 12 23.4**	**-0.6**
KPC				*e*		04 12 38.8	
KPC				*e*		04 13 42.4	
KPC				pmax	pmax		
	comp=Z,84nm,0.5s						
KPC				smax	smax		
	comp=E,2μm,1.3s						
KMO	**Kumora**	**5.00**	**38**	*e*Pn	**Pn**	**04 12 27.8**	**+1.9**
KMO				*e*Pg	**Pg**	**04 12 43.2**	**-3.1**
KMO				Pmax		04 13 00.4	
	comp=E,52nm,0.4s						
KMO				*e*Sn	**Sn**	**04 13 23.3**	**-0.6**
KMO				*e*Sg	**Sg**	**04 13 48.2**	**-2.8**
KMO				Smax		04 14 07.0	
	comp=E,1μm,1.3s						
KMO				*e*		04 14 22.9	
KNGR	**Kungurtug, Tuv**	**5.34**	**257**	*e*	**Pb**	**04 12 41.5**	**-2.8**
KNGR				*e*Pg	Pg	04 12 46.6	-6.4
KNGR				*e*		04 13 47.1	
KNGR				*e*Sg	**Sg**	**04 13 55.9**	**-6.2**
KNGR	**Kungurtug, Tuv**	**5.34**	**257**	⇓*e*PN	**Pn**	**04 12 31.5**	**+0.7**
KNGR				MLR	MLR		
	comp=Z,438nm,10.0s						
UKT	**Uakit**	**5.80**	**51**	*e*Pn	**Pn**	**04 12 38.8**	**+1.8**
UKT				*e*		04 12 55.2	
UKT				max		04 13 09.8	
	comp=Z,43nm,1.2s						
UKT				*e*		04 13 35.6	
UKT				*e*Sg	**Sg**	**04 14 13.6**	**-3.1**
UKT				Smax		04 14 30.1	
	comp=Z,336nm,1.3s						
UKT				*e*		04 14 38.2	
KZLR	**Kyzyl**	**6.97**	**271**	*e*Sg	Sg	04 14 45.4	-9.0
NLYR	**Nelyaty**	**7.32**	**49**	*e*Sg	**Sg**	**04 14 59.4**	**-6.1**
NLYR				Smax		04 15 30.5	
	comp=Z,624nm,1.5s						
MINR	**Mina**	**7.42**	**297**	*e*Pn	**Pn**	**04 13 00.0**	**+0.8**
MINR				*e*		04 13 03.7	
MINR				*e*Pg	Pb	04 13 25.7	+6.2
MINR				Pmax		04 13 29.5	
	comp=Z,36nm,0.3s						
MINR				*e*		04 14 29.1	
MINR				*e*Sg	**Sg**	**04 15 02.3**	**-6.2**
MINR				Smax		04 15 10.1	
	comp=Z,686nm,1.4s						
MINR				*e*		04 15 14.2	
BOD	**Bodaibo**	**7.46**	**36**	*e*Pn	**Pn**	**04 13 01.2**	**+1.4**
BOD				*e*Pg	Pg	04 13 27.7	-5.7
BOD				Pmax		04 13 32.3	
	comp=Z,22nm,1.4s						
BOD				*e*Sn	**Sn**	**04 14 20.9**	**-3.6**
BOD				*e*Sg	**Sg**	**04 15 04.8**	**-5.2**
BOD				Smax		04 15 15.7	
	comp=Z,490nm,1.5s						
ARDR	**Aradan**	**7.54**	**279**	*e*	Pb	04 13 12.8	-8.8
ARDR				*e*Pg	Pg	04 13 27.0	-7.9
ARDR				*e*Sg	Sg	04 15 03.0	-9.5
VTMR	**Vitim**	**8.31**	**25**	*e*Sn	**Sn**	**04 14 42.2**	**-3.1**
VTMR				*e*Sg	**Sg**	**04 15 31.7**	**-5.4**
TUP	**Tupik**	**8.86**	**69**	*e*Pn	**Pn**	**04 13 19.5**	**+0.6**
TUP				*e*		04 13 27.6	
TUP				*e*Pg	Pg	04 13 51.6	-8.5
TUP				Pmax		04 14 08.5	
	comp=Z,16nm,0.9s						
TUP				*e*		04 14 50.2	
TUP				*e*Sg	**Sg**	**04 15 47.6**	**-7.0**
TUP				Smax		04 15 52.6	
	comp=Z,1μm,1.6s						
TUP	**Tupik**	**8.86**	**69**	*e*PN	**Pn**	**04 13 19.3**	**+0.4**
TUP				*e*		04 13 51.5	
TUP				*e*S	**Sn**	**04 14 59.7**	**+0.9**
TUP				*e*		04 15 47.4	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.2s						
TUP				smax	smax		
	comp=N,1μm,2.1s						
HIA	**Hailar**	**9.35**	**102**	*e*		04 15 18.7	
HIA				*e*Sg	Sn	04 16 02.6	+52
HIA				Smax		04 16 09.1	
	comp=N,647nm,1.9s						
ZAA0	**Zalesovo Array**	**12.71**	**287**		**Pn**	**04 14 12.2**	**+0.7**
ZALV	**Zalesovo Beam**	**12.71**	**287**		**Pn**	**04 14 11.9**	**+0.4**
ZALV	**Zalesovo Beam**	**12.71**	**287**	Pn	**Pn**	**04 14 13.4**	**+1.9**
	comp=N,11nm,0.9s,baz=90,slow=10,SNR=29						
ZALV				Lg	Lg	04 17 46.8	
	comp=N,0.3nm,0.3s,baz=97,slow=24,SNR=10						
ZALV				LR	LR	04 19 05.5	
	comp=N,522nm,18.0s,baz=138,slow=37						
ZALV	**Zalesovo Beam**	**12.71**	**287**	*i* P	**Pn**	**04 14 14.5**	**+3.0**
ZALV				pmax	pmax		
	comp=Z,11nm,0.9s						
ZEA	**Zeya**	**13.10**	**74**	*e*P	**P**	**04 14 26.4**	**-0.8**
ZEA				MLR	MLR		
	comp=Z,300nm,11.0s						
LZH	**Lanzhou**	**16.06**	**185**	*e*P	**P**	**04 15 01.6**	**+1.3**
LZH				pP	sP	04 15 10.1	+6.4
LZH				sP	pP	04 15 16.0	+13
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
MK31	**Makanchi Array**	**16.09**	**260**	⇑*e*P	**P**	**04 14 59.2**	**-1.3**
MKAR	**Makanchi Array**	**16.09**	**260**	P	**P**	**04 14 59.1**	**-1.5**
MKAR	**Makanchi Array**	**16.09**	**260**	Pn	**Pn**	**04 14 58.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=80,slow=8.7,SNR=7.7						
MKAR				Lg	Lg	04 19 36.5	
	comp=Z,0.1nm,0.3s,baz=79,slow=27,SNR=10						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**16.09**	**260**	P	**P**	**04 14 59.1**	**-1.5**
LZDM	**Lanzhou Array**	**16.20**	**186**	Pn	**Pn**	**04 14 59.3**	**+0.5**
	baz=308,slow=7.4						
LZDM				Lg	Lg	04 19 38.6	
	baz=275,slow=25						
	comp=Z,0.9nm,0.3s						
MAKZ	**Makanchi**	**16.28**	**260**		**Pn**	**04 15 00.5**	**+1.0**
MAKZ	**Makanchi**	**16.28**	**260**	P	**Pn**	**04 15 00.5**	**+1.0**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KURK	**Kurchatov**	**16.92**	**276**	⇓*e*P	**P**	**04 15 09.4**	**-0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK				MLR	MLR		
	comp=Z,262nm,12.0s						
KURBB	**Kurchatov Arra**	**17.00**	**276**	P	**Pn**	**04 15 08.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=72,slow=12,SNR=6.0						
KURBB				Lg	Lg	04 20 06.8	
	comp=Z,0.1nm,0.3s,baz=81,slow=30,SNR=4.9						
USRK	**Ussuriysk Ar.**	**19.16**	**104**	P	**P**	**04 15 34.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=146,slow=41,SNR=1.7						
	comp=Z,1.0nm,0.4s						
PRZ	**Przheval'sk**	**20.75**	**253**	P	**P**	**04 15 48.9**	**-3.0**
PRZ				IAmb	IAmb	04 16 04.4	
	comp=Z,31nm,1.3s						
PRZ	**Przheval'sk**	**20.75**	**253**	P	**P**	**04 15 48.9**	**-3.0**
PRZ				pmax	pmax		
	comp=Z,31nm,1.3s						
BVAR	**Borovoye Array**	**21.36**	**287**	P	**P**	**04 15 58.5**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=75,slow=13,SNR=8.2						
	comp=Z,2.8nm,0.7s						
KSRS	**Korea Array**	**21.39**	**124**	P	**P**	**04 15 58.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=323,slow=9.5,SNR=6.7						
	comp=Z,1.1nm,0.5s						
BORK	**Borovoye**	**21.40**	**287**	⇓*i*P	**P**	**04 15 58.4**	**-0.2**
BORK				pmax	pmax		
	comp=Z,20nm,3.6s						
BORK				MLR	MLR		
	comp=Z,259nm,19.0s						
TIXI	**Tiksi**	**22.16**	**19**	P	**P**	**04 16 07.0**	**+0.4**
TIXI				IAmb	IAmb	04 16 15.3	
	comp=Z,6.7nm,0.8s						

BOOM pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 23.00 258⇑ *e*P P 04 16 15.0 -0.9
AAK pmax pmax
comp=Z,4.0nm,1.1s
AAK MLR MLR
comp=Z,258nm,17.0s
YSS Yuzhno-Sakhali 24.41 87 *e*P P 04 16 30.2 +0.9
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,500nm,14.0s
KK31 Karatay Array 25.16 263 P **P 04 16 35.4 -0.9**
KK31 IAmb IAmb 04 16 47.3
comp=Z,6.4nm,1.4s
KK31 Karatay Array 25.16 263 P **P 04 16 35.4 -0.9**
KK31 pmax pmax
comp=Z,6.0nm,1.4s
KKAR Karatay Array 25.16 263 P **P 04 16 35.4 -0.9**
KKAR Karatay Array 25.16 263 P **P 04 16 35.4 -0.9**
SEY Seymchan 26.69 48⇓ *e*P P 04 16 51.8 +1.9
SEY pmax pmax
comp=Z,57nm,2.3s
SEY MLR MLR
comp=Z,200nm,18.0s
ARTI Arti 27.54 298 P **P 04 16 57.6 0.0**
comp=Z,2.1nm,0.5s,baz=104,slow=17,SNR=3.9
comp=Z,2.1nm,0.5s
ARTI Arti 27.54 298 P **P 04 16 56.0 -1.6**
ARTI S **S 04 21 37.5 -1.2**
AB31 Akbulak array 28.77 283 P **P 04 17 06.9 -1.7**
AB31 IAmb IAmb 04 17 17.8
comp=Z,1.6nm,0.9s
ABKAR Akbulak array 28.77 283 P **P 04 17 06.4 -2.2**
JYT Yasato 29.04 109 P **P 04 17 08.4 -2.7**
PEA0B Petropavlovsk- 31.03 67⇓ *e*P P 04 17 30.7 +2.1
FINES FINESS Array B 41.97 315 P **P 04 19 01.2 -0.4**
FINES FINESS Array B 41.97 315 P **P 04 19 01.4 -0.2**
comp=Z,1.1nm,0.7s,baz=69,slow=10,SNR=7.4
comp=Z,1.1nm,0.7s
MNK Minsk 44.34 305 *i* P **P 04 19 21.0 0.0**
comp=E,21nm,0.6s
MNK *i* P **P 04 19 21.0 0.0**
comp=N,24nm,0.9s
MNK *i* P **P 04 19 21.0 0.0**
comp=Z,6.0nm,0.7s,baz=60
MNK *i* PP **PcP 04 21 04.7 -0.1**
MNK *i* PPP PPP 04 21 40.8
MNK *i* S **S 04 25 56.5 +1.5**
MNK *i* SS **ScS 04 29 16.9 -2.1**
MNK *i* SSS SSS 04 29 58.1
MNK *i* LQ LQ 04 34 09.3
MNK *i* LR LR 04 38 04.2
MNK *i* LRM MLR 04 39 54.0
comp=E,667nm,20.3s
MNK *i* LRM MLR 04 39 57.8
comp=Z,258nm,19.5s
MNK *i* LRM MLR 04 40 07.4
comp=N,589nm,17.9s
MNK Minsk 44.34 305 *i* P **P 04 19 20.9 0.0**
MNK *i* 04 21 04.6
MNK *i* PPP PPP 04 21 40.7
MNK *i* S **S 04 25 56.5 +1.5**
MNK *i* SS **ScS 04 29 16.9 -2.1**
MNK *i* SSS SSS 04 29 58.1
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=E,21nm,0.6s
MNK pmax pmax
comp=N,24nm,0.9s
MNK MLR MLR
comp=E,667nm,20.0s
MNK MLR MLR
comp=Z,258nm,19.0s
MNK MLR MLR
comp=N,589nm,18.0s
D19K Kuna River 45.01 31 P **P 04 19 27.0 +0.9**
B22K Teshekpuk Lake 45.48 28 P **P 04 19 31.3 +1.5**
AKASG Malin Array Be 45.65 300 P **P 04 19 30.5 -0.9**
comp=N,0.2nm,0.4s,baz=53,slow=8.3,SNR=2.0
comp=N,0.2nm,0.4s
G23K Bananza Creek 48.58 31 P **P 04 19 55.4 +1.4**
G23K IAmb IAmb 04 20 26.7
comp=Z,7.1nm,1.5s
H23K Yukon River 49.27 32 P **P 04 20 01.1 +1.7**
H23K IAmb IAmb 04 20 43.3
comp=Z,5.2nm,1.2s
ILAR Eielson Array 50.81 32 P **P 04 20 12.2 +1.2**
comp=Z,0.9nm,0.8s,baz=311,slow=6.6,SNR=10
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 75.96 152 P **P 04 22 57.2 -0.8**
comp=Z,0.6nm,0.6s,baz=344,slow=6.7,SNR=5.0
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 75.96 152 *i* P **P 04 22 58.9 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 79.37 154 P **P 04 23 16.5 -0.5**
comp=Z,1.3nm,0.8s,baz=337,slow=5.2,SNR=8.3
comp=Z,1.3nm,0.8s
TORD Torodi Ar. Bea 88.14 289 P **P 04 24 02.1 -0.1**
comp=Z,0.9nm,1.0s,baz=20,slow=4.6,SNR=3.7
comp=Z,0.9nm,1.0s
DBIC Dimbokro 97.15 290 LR LR 05 15 34.3
comp=Z,94nm,18.1s,baz=358,slow=40

*UCR **10** 04:21:33.5±1.4, 10°.97N×87°.11W, h0km±12km, MW4.1*
*CATAC **10** 04:21:35.3±0.7, 11°.N±3°×.8°.7W±°, h9km±5km, M3.5/15, MLv3.5/15, Error ellipse: s-maj=10.8km s-min=6.1km az=73.0, confirmed*
ISC 10 04:21:33.7±2.0, 11°.04N±0°.05×87°.17W±0°.08, h16km±13km, n47, σ0°75/54, 5C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.26**	**26**	⇑P	**Pg**	**04 21 58.3**	**+0.2**
NADN	**Granada**	**1.31**	**58**	P	**Pn**	**04 21 57.8**	**+0.3**
NADN				S	**Sg**	**04 22 18.6**	**+2.4**
MASN	**Masaya**	**1.37**	**47**	P	**Pg**	**04 22 00.1**	**0.0**
UNAN	**Cigeo UNAN**	**1.38**	**40**	P	**Pb**	**04 21 59.4**	**+0.3**
UNAN				S	**Sg**	**04 22 18.8**	**+0.6**
TISN	**Laguna Tiscapa**	**1.40**	**39**	⇑P	**Pb**	**04 21 59.8**	**+0.3**
APQ2	**Apoyeque**	**1.41**	**36**	P	**Pg**	**04 22 00.2**	**-0.7**
MGAN	**Managua**	**1.42**	**39**	P	**Pb**	**04 22 00.1**	**+0.2**
MGAN	**Managua**	**1.42**	**39**	*e*P	**Pb**	**04 21 59.9**	**+0.1**
APYN	**Apoyeque**	**1.43**	**34**	P	**Pg**	**04 22 01.0**	**-0.2**
LCRUZ	**La Cruz**	**1.51**	**89**	*e*P	**Pn**	**04 21 59.8**	**-0.4**
LCRUZ				*e*S	**Sg**	**04 22 22.3**	**-0.1**
CNGA	**Al SSO del Vol**	**1.51**	**17**	⇓P	**Pg**	**04 22 02.5**	**-0.4**
CNGN	**Cerro Negro**	**1.52**	**18**	P	**Pg**	**04 22 02.2**	**-0.7**
CNGN	**Cerro Negro**	**1.52**	**18**	S	**Sg**	**04 22 21.8**	**-0.9**
CNGN	**Cerro Negro**	**1.52**	**18**	*e*P	**Pb**	**04 22 01.6**	**+0.1**
PLRN	**Geotermica Pol**	**1.58**	**14**	P	**Pb**	**04 22 03.1**	**+0.5**
PLRN				S	**Sb**	**04 22 22.5**	**+0.1**
MOM3	**MOM3**	**1.59**	**23**	⇓P	**Pb**	**04 22 02.9**	**+0.2**
MOM3				S	**Sb**	**04 22 22.6**	**0.0**
CONN	**Concepcion**	**1.60**	**71**	⇑P	**Pg**	**04 22 03.6**	**-0.8**
CARN	**Rivas**	**1.62**	**85**	⇓P	**Pg**	**04 22 05.6**	**+0.8**
CARN	**Rivas**	**1.62**	**85**	*e*P	**Pn**	**04 22 00.9**	**-0.7**
CARN				*e*S	**Sg**	**04 22 25.1**	**-0.8**
PKGN	**Cerro Pekin**	**1.63**	**7**	⇑P	**Pg**	**04 22 04.6**	**-0.4**
ALIBA	**Liberia Airpor**	**1.65**	**106**	*e*P	**Pn**	**04 22 02.6**	**+0.5**
LAPC	**Finca la Perla**	**1.73**	**99**	*e*P	**Pn**	**04 22 03.3**	**+0.2**
GPS3	**Bodega del ICE**	**1.79**	**99**	*e*P	**Pb**	**04 22 06.8**	**+0.6**
VORI	**VORI**	**1.80**	**97**	*e*P	**Pb**	**04 22 05.9**	**-0.5**
GPS2	**Hotel Rincn d**	**1.81**	**99**	*e*P	**Pn**	**04 22 04.3**	**+0.1**
BUAI	**Buenos Aires**	**1.81**	**95**	*e*P	**Pn**	**04 22 04.8**	**+0.5**
JUD3	**Juan Diaz 3**	**1.82**	**118**	*e*P	**Pn**	**04 22 04.8**	**+0.3**
PLVR	**Palo Verde**	**1.91**	**111**	*e*P	**Pg**	**04 22 10.2**	**-0.3**
CSGN	**Cosiguina Volc**	**1.96**	**349**	*e*P	**Pb**	**04 22 10.0**	**+0.9**
CUI	**Cuipilapa**	**2.00**	**101**	*e*P	**Pb**	**04 22 10.0**	**+0.1**
VMAR	**Armenia, Volca**	**2.03**	**96**	*e*P	**Pn**	**04 22 07.9**	**+0.5**
MOTZ	**Rio Naranjo**	**2.09**	**100**	*e*P	**Pb**	**04 22 12.4**	**+1.2**
INVE	**Universidad In**	**2.14**	**105**	*e*P	**Pg**	**04 22 13.7**	**-1.1**
LIMN	**Finca el Limon**	**2.15**	**21**	⇓P	**Pb**	**04 22 11.0**	**-1.4**
LIMN				S	**Sb**	**04 22 38.8**	**-0.2**
TENO	**El Achiote**	**2.18**	**99**	*e*P	**Pn**	**04 22 10.2**	**+0.8**
MATN	**Matagalpa**	**2.23**	**33**	S	**Sb**	**04 22 40.3**	**-1.0**
MATN	**Matagalpa**	**2.23**	**33**	⇑P	**Pn**	**04 22 10.5**	**+0.3**
QUEB	**Quebradon, Cot**	**2.27**	**100**	*e*P	**Pb**	**04 22 14.9**	**+0.6**
JTS	**Las Juntas de**	**2.30**	**109**	P	**Pb**	**04 22 13.4**	**-1.5**
JTS	**Las Juntas de**	**2.30**	**109**	*e*P	**Pb**	**04 22 15.5**	**+0.6**
TABAC	**Tabacon**	**2.42**	**103**	*e*P	**Pb**	**04 22 17.6**	**+0.7**
CASO	**Castillo**	**2.47**	**104**	*e*P	**Pb**	**04 22 17.7**	**0.0**
ARE1	**Arenal 1**	**2.47**	**103**	*e*P	**Pb**	**04 22 16.8**	**-1.0**
VARE2	**V. Arenal**	**2.47**	**103**	*e*P	**Pb**	**04 22 18.6**	**+0.7**
CEDE	**Laguna Cedeo**	**2.48**	**103**	*e*P	**Pb**	**04 22 18.9**	**+0.9**
FORC	**Fortuna**	**2.52**	**103**	*e*P	**Pb**	**04 22 19.7**	**+1.1**
SOCE	**Pocosol**	**2.59**	**104**	P	**Pb**	**04 22 19.0**	**-0.8**

*ISK **10** 04:24:54.0, 36°.34N×29°.10E, h23km, ML2.8/18*
*AFAD **10** 04:24:55.2, 36°.35N×29°.10E, h13km, ML2.5*
ISC 10 04:24:54.5±1.0, 36°.35N±0°.03×29°.10E±0°.02, h26km±7km, n38, σ0°63/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.14**	**48**	P	**Pb**	**04 24 59.5**	**-0.2**
IZZE				S	**Sb**	**04 25 03.1**	**-0.1**
AKAS	**Kas**	**0.43**	**105**	Pg	**Pb**	**04 25 03.5**	**-0.2**
AKAS				Sg	**Sb**	**04 25 10.4**	**+0.5**
AKAS	**Kas**	**0.43**	**105**	P	**Pb**	**04 25 03.4**	**-0.2**
AKAS				S	**Sb**	**04 25 09.7**	**-0.2**
SABU	**Mula-Dalaman**	**0.49**	**348**	P	**Pb**	**04 25 04.3**	**-0.4**
SABU				S	**Sb**	**04 25 11.5**	**-0.1**
DALY	**Dalyan (Mula)**	**0.59**	**323**	Pg	**Pb**	**04 25 06.3**	**0.0**
DALY				Sg	**Sn**	**04 25 15.8**	**-0.2**
CAME	**Cameli-Denizli**	**0.62**	**15**	Pg	**Pb**	**04 25 06.6**	**-0.3**
CAME				Sg	**Sn**	**04 25 16.2**	**-0.8**
KNIK	**Mula-Seydike**	**0.63**	**37**	P	**Pb**	**04 25 06.6**	**-0.5**
KNIK				S	**Sb**	**04 25 15.4**	**-0.2**
DEMR	**Demre-Antalya**	**0.66**	**99**	Pg	**Pn**	**04 25 07.7**	**-0.5**
ELL	**Elmali**	**0.77**	**58**	Pg	**Pn**	**04 25 09.6**	**-0.2**
ARG	**Arkhangelos**	**0.80**	**261**	Pg	**Pn**	**04 25 09.8**	**-0.2**
CAEL	**Denizli, Camel**	**0.80**	**13**	P	**Pb**	**04 25 09.1**	**-0.8**
CAEL				*i* IAML		04 25 26.0	
comp=E,214nm,0.5s							
TURN	**Turunc**	**0.81**	**302**	Pg	**Pn**	**04 25 10.3**	**+0.1**
TURN	**Turunc**	**0.81**	**302**	P	**Pn**	**04 25 10.1**	**-0.1**
TURN				S	**Sn**	**04 25 21.1**	**-0.3**
TURN				*i* IAML		04 25 23.0	
comp=N,162nm,0.2s							
DNZT	**Denizli-Tavas-**	**0.93**	**356**	P	**Pn**	**04 25 12.0**	**0.0**
DNZT				S	**Sn**	**04 25 25.6**	**+1.0**
GOLH	**Golhisar**	**0.96**	**23**	P	**Pn**	**04 25 12.5**	**0.0**
GOLH				S	**Sn**	**04 25 26.4**	**+0.9**
GOLH				*i* IAML		04 25 34.0	
comp=E,128nm,0.4s							
AKUM	**Antalya-Kumluc**	**1.01**	**91**	P	**Pn**	**04 25 12.5**	**-0.5**
AKUM				S	**Sn**	**04 25 27.0**	**+0.8**
AKUM				*i* IAML		04 25 29.0	
comp=N,129nm,0.4s							
AKUM				*i* IAML		04 25 30.0	
comp=E,137nm,0.4s							
YER	**Yerkesik**	**1.02**	**321**	Pg	**Pb**	**04 25 14.1**	**+0.4**
MULA	**Mugla, Merkez-**	**1.10**	**326**	P	**Pb**	**04 25 15.1**	**+0.1**
MULA				S	**Sb**	**04 25 28.5**	**-0.5**
MULA				*i* IAML		04 25 31.0	
comp=E,116nm,0.4s							
MULA				*i* IAML		04 25 32.0	
comp=N,121nm,0.4s							
TAVA	**DENIZLI_Tavas**	**1.13**	**353**	P	**Pb**	**04 25 15.2**	**-0.3**
TAVA				*i* IAML		04 25 32.0	
comp=N,176nm,0.5s							
TAVA				*i* IAML		04 25 33.0	
comp=E,148nm,0.7s							
APMY	**Acipayam-Deniz**	**1.14**	**8**	Pn	**Pb**	**04 25 15.0**	**-0.6**
KORT	**Korkueli**	**1.20**	**57**	Pn	**Pb**	**04 25 15.9**	**-0.8**
KORT	**Korkueli**	**1.20**	**57**	P	**Pb**	**04 25 16.7**	**-0.1**
KORT				S	**Sb**	**04 25 33.9**	**+2.0**
KORT				*i* IAML		04 25 36.0	
comp=N,107nm,0.3s							
KORT				*i* IAML		04 25 38.0	
comp=E,99nm,0.4s							
DNIZ	**Denizli-Tavas-**	**1.28**	**358**	P	**Pb**	**04 25 17.4**	**-0.6**
DAT	**Datca**	**1.28**	**288**	Pn	**Pb**	**04 25 17.3**	**-0.8**
DAT	**Datca**	**1.28**	**288**	P	**Pb**	**04 25 17.4**	**-0.6**
DAT				S	**Sb**	**04 25 34.4**	**+0.2**
DAT				*i* IAML		04 25 39.0	
comp=N,149nm,0.3s							
DAT				*i* IAML		04 25 39.0	
comp=E,92nm,0.2s							
YAZI	**Mula-Dat§a-**	**1.37**	**285**	P	**Pn**	**04 25 18.1**	**+0.2**
INCE	**Denizli-Bozkur**	**1.42**	**16**	P	**Pb**	**04 25 19.6**	**-0.8**
INCE				S	**Sb**	**04 25 38.1**	**+0.1**
INCE				*i* IAML		04 25 40.0	
comp=E,103nm,0.8s							
BDRM	**Kayabasi**	**1.51**	**299**	P	**Pn**	**04 25 20.2**	**+0.3**
BUCA	**Burdur, Bucak-**	**1.53**	**50**	P	**Pb**	**04 25 21.2**	**-1.0**
ESEN	**Aydn-Nazilli**	**1.57**	**338**	P	**Pb**	**04 25 21.6**	**-1.2**
ESEN				*i* IAML		04 25 44.0	
comp=N,64nm,0.2s							
ESEN				*i* IAML		04 25 45.0	
comp=E,74nm,0.3s							
BODT	**Bodrum**	**1.60**	**297**	Pn	**Pb**	**04 25 22.1**	**-1.4**
NAZL	**Nazilli-Aydin**	**1.74**	**339**	Pn	**Pb**	**04 25 23.5**	**+0.4**
BASM	**Basmaki-Afyon**	**1.75**	**26**	Pn	**Pn**	**04 25 23.2**	**0.0**
KARP	**Karpathos**	**1.76**	**244**	Pn	**Pn**	**04 25 23.9**	**+0.5**
KARP				Sn	**Sn**	**04 25 45.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.87**	**329**	Pn	**Pn**	**04 25 25.5**	**+0.6**
GCAM	**G?zelcaml?**	**2.01**	**313**	Pn	**Pn**	**04 25 27.7**	**+0.9**
ODEM	**Odemis-Izmir**	**2.09**	**337**	Pn	**Pn**	**04 25 28.4**	**+0.4**
KULA	**Kula-Manisa**	**2.19**	**351**	Pn	**Pn**	**04 25 29.9**	**+0.5**

IDC 10 04:38:59.9±2.0, 1°.47S×127°.50E, h0km, mb3.8/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=206.0km s-min=22.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.87**	**142**	P	Pg	04 40 14.2	+0.1
WRA	**Warramunga Arr**	**19.54**	**160**	P	P	04 43 27.4	-1.9
0.2nm,0.3s,baz=341,slow=12,SNR=12							
0.5nm,0.5s							
ASAR	**Alice Springs**	**22.92**	**165**	P	P	04 44 07.2	+1.4
1.2nm,0.5s,baz=347,slow=11,SNR=12							
1.2nm,0.5s							
MKAR	**Makanchi Array**	**62.26**	**327**	P	P	04 49 24.5	+0.8
0.5nm,0.5s,baz=109,slow=7.8,SNR=5.5							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**66.52**	**328**	P	P	04 49 50.9	-0.7
0.7nm,0.5s,baz=123,slow=6.1,SNR=11							
0.7nm,0.5s							

*MOS **10** 04:39:43.7±1.0, 3°.69S×128°.16E, h36km, mb5.1/28, Error ellipse: s-maj=9.6km s-min=6.2km az=128.2*
*DJA **10** 04:39:43.6±0.1, 4°S±2°×12°8E±°, h10km, M5.0/67, mb5.2/67, mB5.5/44, MLv5.3/24, Mw(mB)5.0/44, MwMwp5.0/15, Mwp5.3/15*
*GCMT **10** 04:39:44.6±0.1, 3°.56S±0°.01×128°.28E±0°.01, h14km, MW5.2/136, Moment Tensor Solution. s89,c131; s136,c233; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr=1.82±.15; Mθθ=0.30±.13; Mφφ2.12±.15; Mrθ1.29±.29; Mφφ7.63±.13; Mφr=2.67±.35; Best double couple: M0=8.39800×10^16 NP1:φ=263.00000°, δ68.00000°, λ=13.00000°. NP2:φ=358.00000°, δ78.00000°, λ=158.00000°. Principal axes: T 8.7750, Plg7.0000°, Azm129.0000°; N -0.7560, Plg65.0000°, Azm25.0000°; P -8.0220, Plg24.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 04:39:46.3±1.9, 3°.59S±0°.06×128°.22E±0°.06, h35km±1km, mb5.0/61, Mww5.2/16 Error ellipse: s-maj=10.0km s-min=8.8km az=143.0*
*NEIC **10** 04:39:47.6, 3°.61S×128°.24E, h30km*
*NEIC **10** 04:39:47.6, 3°.71S×128°.44E, h30km, Moment Tensor Solution. Duration: 2§0 Moment tensor: Scale 10^16Nm; Mrr=2.10; Mθθ=0.16; Mφφ2.26; Mrθ0.10; Mφφ7.36; Mφr1.90; Fault plane solution: M0=7.91000×10^16 NP1:φ=85.10000°, δ74.01000°, λ=4.65000°. NP2:φ=176.39000°, δ85.53000°, λ=163.96000°. Principal axes: T 8.7204, Plg8.0000°, Azm310.0000°; N -2.0194, Plg73.0000°, Azm192.0000°; P -6.7010, Plg14.0000°, Azm42.0000°;*
*IDC **10** 04:39:49.4±2.5, 3°.56S×128°.15E, h75km±23km, mb4.2/23, mbtmp4.5/26, MS4.4/21 Error ellipse: s-maj=17.7km s-min=10.4km az=73.0*
ISC 10 04:39:46.7±0.4, 3°.68S±0°.04×128°.27E±0°.04, h47km±3km, h48km:pP-P, n319, σ1§86/334, mb4.8/91, MS4.4/36,

14C-10D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.08**	**265**	P	Pn	04 39 45.8	-8.3
MSAI	**Masohi**	**0.73**	**63**	P	**Pn**	**04 39 56.7**	**-4.1**
NLAI	**Namlea**	**1.25**	**290**	P	**Pn**	**04 40 03.8**	**-4.0**
BNDI	**Bandanaira**	**1.83**	**117**	P	**Pn**	**04 40 13.6**	**-2.1**
SANI	**Sanana**	**2.80**	**305**	P	**Pn**	**04 40 27.3**	**-1.7**
SANI	**Sanana**	**2.80**	**305**	P	**Pn**	**04 40 26.8**	**-2.2**
FAKI	**Fak Fak**	**4.04**	**79**	Pn	**Pn**	**04 40 47.1**	**+1.1**
FAKI	**Fak Fak**	**4.04**	**79**	P	**Pn**	**04 40 47.2**	**+1.1**
SWI	**Sorong**	**4.09**	**47**	P	**Pn**	**04 40 45.9**	**-0.8**
SWI	**Sorong**	**4.09**	**47**	P	**Pn**	**04 40 46.9**	**+0.2**
TNTI	**Ternate**	**4.51**	**348**		**Pn**	**04 40 50.4**	**-2.2**
TNTI	**Ternate**	**4.51**	**348**	P	**Pn**	**04 40 48.9**	**-3.7**
SAUI	**Saumlaki**	**5.23**	**145**	Pn	**Pn**	**04 41 04.4**	**+2.0**
SAUI	**Saumlaki**	**5.23**	**145**	P	**Pn**	**04 41 03.9**	**+1.5**
KMPI	**Kaimana, Papua**	**5.42**	**90**	P	**Pn**	**04 41 05.3**	**+0.3**
2.6nm6μm6μm358nm,1.1s							
KDI	**Kendari**	**5.65**	**267**	P	**Pn**	**04 41 08.6**	**+0.4**
KMSI	**Cibinong**	**6.02**	**314**	P	**Pn**	**04 41 12.0**	**-1.3**
LUWI	**Luwuk**	**6.09**	**295**		**Pn**	**04 41 13.4**	**-0.8**
LUWI	**Luwuk**	**6.09**	**295**	P	**Pn**	**04 41 14.5**	**+0.3**
LUWI	**Luwuk**	**6.09**	**295**	P	**Pn**	**04 41 14.0**	**-0.2**
RKPI	**Ransiki, Papua**	**6.28**	**70**	P	**Pn**	**04 41 16.8**	**0.0**
APSI	**Ampana**	**7.17**	**292**	P	**Pn**	**04 41 29.7**	**+0.7**
SOEI	**Soe**	**7.23**	**213**		**Pn**	**04 41 30.6**	**+0.7**
SOEI	**Soe**	**7.23**	**213**	P	**Pn**	**04 41 33.3**	**+3.3**
1.2nm6μm314nm,1.1s							
MRSI	**Marisa**	**7.56**	**303**	P	**Pn**	**04 41 34.2**	**-0.1**
1.1nm4μm331nm,0.9s							
MMRI	**Maumere**	**7.76**	**230**	Pn	**Pn**	**04 41 37.8**	**+0.7**
SGSI	**Sangihe**	**7.81**	**339**	P	**Pn**	**04 41 36.9**	**-1.0**
BATI	**Baumata**	**7.94**	**215**	P	**Pn**	**04 41 43.1**	**+3.5**
78nm,0.8s,baz=64,slow=1.3,SNR=5.8							
BATI				LR	LR	04 45 50.9	
comp=Z,6μm,18.3s,baz=38,slow=45							
BATI	**Baumata**	**7.94**	**215**	P	**Pn**	**04 41 41.6**	**+2.0**
5μm2μm119nm,0.9s							
BSSI	**Bau Bau, Buton**	**8.13**	**252**	P	**Pn**	**04 41 42.0**	**-0.2**
SRPI	**Serui, Papua**	**8.16**	**77**	P	**Pn**	**04 41 42.4**	**-0.2**
18nm,0.7s							
BNSI	**Bone**	**8.18**	**265**	P	**Pn**	**04 41 43.4**	**+0.5**
1μm77nm,0.7s							
BAKI	**Biak**	**8.21**	**73**	P	**Pn**	**04 41 43.6**	**+0.3**
3μm330nm,1.0s							
EDFI	**Ende, Flores**	**8.26**	**232**	P	**Pn**	**04 41 45.4**	**+1.3**
6μm2μm109nm,1.7s							
BKSI	**Bulukumba**	**8.29**	**258**	P	**Pn**	**04 41 46.0**	**+1.6**
3μm2μm160nm,1.4s							
SPSI	**Sidrap Palu**	**8.49**	**268**	P	**Pn**	**04 41 49.1**	**+1.9**
107nm,0.7s							
KAPI	**Kappang**	**8.60**	**261**		**Pn**	**04 41 48.2**	**-0.5**
KAPI	**Kappang**	**8.60**	**261**	P	**Pn**	**04 41 50.5**	**+1.9**
88nm,0.7s,baz=92,slow=6.3,SNR=32							
KAPI				LR	LR	04 45 59.1	
comp=Z,2μm,18.8s,baz=72,slow=44							
KAPI	**Kappang**	**8.60**	**261**	P	**Pn**	**04 41 51.7**	**+3.0**
KAPI	**Kappang**	**8.60**	**261**	P	**Pn**	**04 41 48.2**	**-0.5**
TOLI2	**Tolitoli**	**8.87**	**302**		**Pn**	**04 41 50.6**	**-1.8**
TOLI2	**Tolitoli**	**8.87**	**302**	P	**Pn**	**04 41 52.7**	**+0.3**
DRS	**Darwin Rock St**	**9.07**	**164**	P	**Pn**	**04 41 57.4**	**+2.3**
MTN	**Manton Dam**	**9.53**	**163**	Pn	**Pn**	**04 42 02.2**	**+0.8**
SMPI	**Sarmi**	**10.56**	**81**	P	**Pn**	**04 42 14.5**	**-1.0**
2μm70nm,1.1s							
WBSI	**Waikabubak, Su**	**10.62**	**236**	P	**Pn**	**04 42 17.0**	**+0.6**
4μm2μm115nm,1.6s							
DAV	**Davao City (W)**	**11.01**	**346**	LR	LR	04 46 57.2	
comp=Z,2μm,20.7s,baz=50,slow=39							
PLAI	**Plampang**	**11.62**	**243**	P	**Pn**	**04 42 33.9**	**+3.9**
PLAI	**Plampang**	**11.62**	**243**	P	**Pn**	**04 42 32.1**	**+2.1**
4μm1μm72nm,0.8s							
KNRA	**Kununurra**	**11.93**	**178**	P	**Pn**	**04 42 34.2**	**0.0**
comp=Z,61nm,0.8s							
KNRA	**Kununurra**	**11.93**	**178**		**Pn**	**04 42 33.1**	**-1.1**
TWSI	**Taliwang, Sumb**	**12.39**	**246**	P	**Pn**	**04 42 41.9**	**+1.4**
comp=Z,46nm,0.8s							
JAY	**Jayapura**	**12.47**	**85**	P	**Pn**	**04 42 42.5**	**+0.9**
comp=Z,4.3nm,0.5s,baz=218,slow=12,SNR=5.0							
JAY	**Jayapura**	**12.47**	**85**	P	**Pn**	**04 42 42.0**	**+0.4**
MYLDM	**Lahad Datu**	**13.14**	**312**		**Pn**	**04 42 50.1**	**-0.7**
MYLDM	**Lahad Datu**	**13.14**	**312**	P	**Pn**	**04 42 52.2**	**+1.4**
MTKI	**Muara Teweh, K**	**13.64**	**281**	P	**Pn**	**04 42 56.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.56**	**190**	P	**Pn**	**04 43 08.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**14.56**	**190**		**Pn**	**04 43 08.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**14.56**	**190**	P	**Pn**	**04 43 08.6**	**-1.4**
comp=Z,9.6nm,0.7s,baz=22,slow=10,SNR=29							
KMMI	**Kalianget**	**14.63**	**256**	P	**Pn**	**04 43 12.9**	**+2.0**
comp=Z,70nm,0.7s							
JAGI	**Jajag, Banyuwa**	**14.82**	**251**	Pn	**Pn**	**04 43 14.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**14.82**	**251**	P	**Pn**	**04 43 15.5**	**+2.0**
comp=Z,2μmcomp=Z,76nm,2.1s							
BLJI	**Banyuglugur**	**15.15**	**254**	P	**Pn**	**04 43 18.3**	**+0.5**
KKM	**Kota Kinabalu**	**15.44**	**309**		**Pn**	**04 43 20.2**	**-1.3**
WB0	**Warramunga Arr**	**17.07**	**160**	Pn	**Pn**	**04 43 38.5**	**-3.6**
SBUM	**Sibu**	**17.16**	**291**	Pn	**Pn**	**04 43 41.3**	**-2.0**
WRAB	**Tennant Creek**	**17.21**	**160⇓ *e*P**		**Pn**	**04 43 39.8**	**-4.0**
WRAB				pmax	pmax		
comp=Z,146nm,1.5s							
WRA	**Warramunga Arr**	**17.21**	**160**	Pn	**Pn**	**04 43 41.8**	**-2.1**
WRA	**Warramunga Arr**	**17.21**	**160**	P	**Pn**	**04 43 40.5**	**-3.4**
comp=Z,9.6nm,0.9s,baz=338,slow=12,SNR=23							
WRA	**Warramunga Arr**	**17.21**	**160**	P	**Pn**	**04 43 41.8**	**-2.1**
WRA				pmax	pmax		
comp=Z,12nm,0.9s							
PCJI	**Pacitan**	**17.58**	**254**	P	**P**	**04 43 48.6**	**-0.4**
comp=Z,134nm,0.8s							
WOJI	**Wonogiri, Jawa**	**17.75**	**256**	P	**P**	**04 43 51.3**	**+0.5**
comp=Z,4μmcomp=Z,258nm,1.

comp=Z,2μm,21.9s,baz=341,slow=35
TPI Tanjungpandan 20.61 272 P **P 04 44 22.4 +0.2**
LEM Lembang 20.80 261 P **P 04 44 23.6 -0.8**
comp=Z,14nm,0.4s,baz=63,slow=14,SNR=1.4
comp=Z,14nm,0.4s
BBJI Bungbulang 20.86 259 P **P 04 44 25.6 +0.6**
WRKA Warakurna 21.23 180 P **P 04 44 30.7 +1.8**
comp=Z,54nm,1.6s
MTSU Mount Surprise 21.29 134 P **P 04 44 30.9 +1.4**
comp=Z,29nm,0.9s
CNJI Cibinong 21.35 259 P **P 04 44 30.7 +0.6**
comp=Z,46nm,0.8s
GIRL Giralia 23.25 215 P **P 04 44 51.2 +1.2**
GUMO Guam 23.78 44 LR LR 04 54 36.0
comp=Z,626nm,20.5s,baz=222,slow=37
RABL Rabaul 23.84 92 P **P 04 44 56.5 +0.6**
CTAO Charters Tower 23.94 134 P **P 04 44 57.0 +0.3**
CTAO Charters Tower 23.94 134 P **P 04 44 57.0 +0.3**
CTAO pmax pmax
comp=Z,130nm,1.4s
MDSI Maura Dua 24.05 267 P **P 04 44 59.7 +2.0**
MEEK Meekatharra 24.63 201 P **P 04 45 03.6 +0.6**
comp=Z,147nm,0.8s
MEEK Meekatharra 24.63 201 P **P 04 45 04.3 +1.4**
MYKOM Kota Tinggi 25.01 282 P **P 04 45 06.9 +0.5**
MYKOM IAmb IAmb 04 45 14.9
comp=Z,30nm,0.9s
MNAI Manna 25.27 268 P **P 04 45 09.1 +0.3**
INKA Innaminka 26.72 155 P **P 04 45 23.4 +1.6**
QLP Quilpie 27.43 148 P **P 04 45 31.9 +3.7**
comp=Z,52nm,1.0s
MORW Morawa 27.80 203 P **P 04 45 33.9 +2.5**
comp=Z,28nm,2.0s
MORW Morawa 27.80 203 P **P 04 45 31.9 +0.5**
MORW IAmb IAmb 04 45 40.0
comp=Z,66nm,1.6s
MORW Morawa 27.80 203 P **P 04 45 34.0 +2.5**
TPUB Ta-pu 27.83 345 P **P 04 45 31.3 -0.5**
TPUB Ta-pu 27.83 345 P **P 04 45 31.6 -0.2**
KMBL Kambalda 28.19 192 P **P 04 45 35.1 +0.1**
comp=Z,22nm,1.0s
IPM Ipoh 28.41 286 P **P 04 45 37.5 +0.5**
IPM IAmb IAmb 04 45 44.7
comp=Z,19nm,0.7s
BLDU Ballidu 28.93 201 P **P 04 45 42.6 +1.1**
comp=Z,29nm,1.6s
BLDU Ballidu 28.93 201 P **P 04 45 43.8 +2.3**
QIZ Qiongzhong 28.95 322 P **P 04 45 42.8 +1.0**
QIZ pP **pP 04 45 54.5 +0.3**
QIZ S **S 04 50 31.2 +1.6**
QIZ pmax pmax
comp=Z,27nm,2.1s
QIZ LR LR
comp=Z,660nm,10.8s
QIZ LR LR
comp=Z,590nm,9.8s
QIZ LR LR
comp=Z,710nm,16.1s
KULM Kulim 29.00 288 **P 04 45 42.4 +0.1**
BBOO Buckleboo 29.88 167 P **P 04 45 50.3 +0.4**
comp=Z,15nm,0.7s
BBOO Buckleboo 29.88 167 P **P 04 45 50.5 +0.5**
BBOO IAmb IAmb 04 45 54.8
comp=Z,63nm,1.6s
BBOO Buckleboo 29.88 167 P **P 04 45 51.7 +1.8**
RPSI Rantau Prapat 30.01 282 P **P 04 45 50.1 -1.2**
RPSI IAmb IAmb 04 45 58.8
comp=Z,28nm,0.9s
RPSI Rantau Prapat 30.01 282 P **P 04 45 49.9 -1.4**
PSI Prapat 30.03 282 P **P 04 45 49.9 -1.7**
comp=Z,8.7nm,0.8s,baz=131,slow=5.0,SNR=7.4
comp=Z,8.7nm,0.8s
PSI Prapat 30.03 282 P **P 04 45 49.9 -1.7**
PSI pmax pmax
comp=Z,28nm,0.9s
JOW Kunigami 30.33 0 LR LR 04 57 45.9
comp=Z,520nm,21.0s,baz=149,slow=36
STKA Stephens Creek 30.72 157 P **P 04 45 57.9 +0.6**
STKA Stephens Creek 30.72 157 P **P 04 45 57.8 +0.4**
comp=Z,13nm,0.9s,baz=336,slow=9.9,SNR=13
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 30.88 198 P **P 04 45 59.6 +0.8**
comp=Z,42nm,1.5s
NWAO Narrogin (SRO) 30.88 198 P **P 04 45 59.0 +0.3**
NWAO IAmb IAmb 04 46 04.6
comp=Z,48nm,1.2s
NWAO Narrogin (SRO) 30.88 198 P **P 04 46 01.3 +2.6**
NWAO Narrogin (SRO) 30.88 198 P **P 04 45 59.0 +0.3**
NWAO pmax pmax
comp=Z,48nm,1.2s
GSI Gunungsitoli 31.08 279 P **P 04 45 59.4 -1.3**
GSI Gunungsitoli 31.08 279 P **P 04 46 00.0 -0.8**
comp=Z,54nm,0.8s
HTT Hallett 31.23 163 P **P 04 46 03.8 +1.9**
comp=Z,3.7nm,1.6s
HTT Hallett 31.23 163 P **P 04 46 05.8 +4.0**
SLVN Son La 34.47 317 P **P 04 46 30.6 +0.3**
SLVN IAmb IAmb 04 46 46.6
comp=Z,30nm,1.8s
ARMA Armidale 34.56 143 P **P 04 46 32.3 +1.2**
CMAR Chiang Mai Arr 36.32 308 P **P 04 46 45.8 -0.4**
CMAR Chiang Mai Arr 36.32 308 P **P 04 46 44.2 -2.0**
comp=Z,2.1nm,0.3s,baz=142,slow=6.6,SNR=7.9
CMAR LR LR 05 04 11.7
comp=Z,434nm,18.5s,baz=105,slow=40
comp=Z,2.1nm,0.3s
CMAR Chiang Mai Arr 36.32 308 P **P 04 46 45.8 -0.4**
CHTO Chiang Mai 36.52 309 P **P 04 46 48.0 +0.1**
CHTO IAmb IAmb 04 47 16.5
comp=Z,56nm,2.0s
CHTO Chiang Mai 36.52 309 P **P 04 46 48.0 +0.1**
CHTO pmax pmax
comp=Z,56nm,2.0s
GYA Guiyang 36.54 326 ⇓P **P 04 46 50.4 +2.3**
GYA pmax pmax
comp=Z,5.0nm,1.1s
WHN Wuhan 36.54 340 P **P 04 46 52.3 +4.4**
NJ2 Nanjing 36.65 347 *e*P **P 04 46 52.6 +3.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
JNU Nakatsue 36.68 4 LR LR 05 04 39.8
comp=Z,308nm,18.1s,baz=182,slow=41
TOO Toolangi 37.24 157 P **P 04 46 56.1 +2.2**
comp=Z,9.0nm,2.2s
TOO Toolangi 37.24 157 P **P 04 46 55.5 +1.7**
TOO Toolangi 37.24 157 P **P 04 46 55.5 +1.7**
TOO pmax pmax
comp=Z,16nm,1.4s
KMI Kunming 37.87 320 P **P 04 47 01.2 +1.6**
KMI S **S 04 52 55.7 +7.7**
KMI pmax pmax
comp=Z,15nm,1.1s
KMI LR LR
comp=Z,490nm,19.2s
KMI LR LR
comp=Z,390nm,18.3s
KMI LR LR
comp=Z,550nm,20.6s
JHJ Hachijo jima 2 38.19 16 LR LR 05 00 30.3
comp=Z,653nm,21.6s,baz=246,slow=33
PZH PanZhiHua 39.48 321 P **P 04 47 14.5 +1.5**
TNCH TengChong 40.61 316 ⇑P **P 04 47 24.8 +2.4**
TNCH pP sP 04 47 37.6 -3.1
TNCH sP pP 04 47 44.7 +10
TNCH PP **PnPn 04 49 00.0 -1.0**
TNCH S **S 04 53 30.4 +1.3**
TNCH SS **SS 04 56 27.4 -3.3**
TNCH pmax pmax
comp=Z,240nm,4.9s
TNCH LR LR
comp=Z,750nm,15.7s
TNCH LR LR
comp=Z,880nm,15.7s
TNCH LR LR
comp=Z,600nm,27.0s
LYN LuoYang 40.84 340 P **P 04 47 27.4 +3.5**
LYN S **S 04 53 35.6 +3.8**
LYN pmax pmax
comp=Z,17nm,0.5s
LYN LR LR
comp=Z,580nm,20.2s
LYN LR LR
comp=Z,790nm,24.0s
LYN LR LR
comp=Z,1μm,23.1s
KSAR Wonju Array Be 40.91 360 P **P 04 47 25.6 +1.2**

KSAR Wonju Array Be 40.91 360 P **P 04 47 25.7 +1.2**
KSRS Korea Array 40.92 360 P **P 04 47 23.6 -0.9**
comp=Z,4.5nm,0.8s,baz=178,slow=8.0,SNR=12
comp=Z,4.5nm,0.8s
TIA Tai'an 41.03 346 P **P 04 47 28.1 +2.6**
TIA pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 41.08 12 P **P 04 47 26.2 +0.3**
MAJO IAmb IAmb 04 47 35.7
comp=Z,53nm,1.4s
MAJO Matsushiro 41.08 12*d i*P **P 04 47 28.1 +2.3**
MAJO pmax pmax
comp=Z,41nm,1.5s
MJAR Matsushiro Arr 41.08 12 P **P 04 47 23.9 -1.9**
comp=Z,3.1nm,0.7s,baz=187,slow=9.9,SNR=7.7
comp=Z,3.1nm,0.7s
MJB9 Matsu-Tunnel 41.08 12 P **P 04 47 26.4 +0.6**
MJB9 IAmb IAmb 04 47 37.0
comp=Z,52nm,1.4s
DZM Mont Dzumac 41.27 120 *e*P **P 04 47 29.8 +2.0**
comp=Z,54nm,1.2s
DZM *e*S **S 04 53 34.1 -4.8**
comp=Z,415nm,30.4s
DZM *e*SS **SS 04 56 45.5 +1.7**
comp=Z,298nm,28.6s
DZM *e*LR LR 04 58 57.3
comp=Z,1μm,33.9s
DZM Mont Dzumac 41.27 120 P **P 04 47 28.6 +0.8**
DZM IAmb IAmb 04 47 33.0
comp=Z,32nm,1.2s
CD2 Chengdu 41.60 328 P **P 04 47 32.3 +2.0**
CD2 S **S 04 53 45.3 +1.9**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,650nm,13.3s
CD2 LR LR
comp=Z,1μm,22.9s
CD2 LR LR
comp=Z,630nm,15.2s
XAN Xi'an 41.73 336 ⇑P **P 04 47 27.8 -3.5**
XAN pP pP 04 47 41.0 -3.0
XAN sP sP 04 47 48.3 -1.2
XAN S **S 04 53 37.1 -8.0**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,330nm,6.5s
XAN LR LR
comp=Z,620nm,17.2s
XAN LR LR
comp=Z,810nm,19.2s
XAN LR LR
comp=Z,920nm,19.2s
HNS HongShan 42.77 344 ⇑P **P 04 47 40.2 +0.6**
HNS S **S 04 53 58.4 -2.0**
HNS LR LR
comp=Z,700nm,17.1s
HNS LR LR
comp=Z,540nm,15.1s
DL2 Dalian 42.82 352 P **P 04 47 43.0 +3.0**
DL2 S **S 04 54 06.4 +5.5**
DL2 pmax pmax
comp=Z,30nm,1.0s
DL2 pmax pmax
comp=Z,730nm,7.1s
DL2 LR LR
comp=Z,770nm,15.0s
DL2 LR LR
comp=Z,660nm,15.9s
DL2 LR LR
comp=Z,1μm,17.1s
BRDH Bariadhala 44.34 308 LR LR 05 09 42.0
comp=Z,456nm,18.5s,baz=145,slow=41
BJI Beijing 44.91 347 P **P 04 47 59.0 +2.3**
BJI S **S 04 54 36.8 +5.4**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI pmax pmax
comp=Z,86nm,4.5s
BJI LR LR
comp=Z,170nm,13.5s
BJI LR LR
comp=Z,180nm,11.8s
BJI LR LR
comp=Z,200nm,15.1s
LZDM Lanzhou Array 45.65 332 P **P 04 48 02.3 -0.8**
comp=Z,1.2nm,0.3s,baz=169,slow=8.6,SNR=4.7
comp=Z,1.2nm,0.3s
LZH Lanzhou 45.69 332 *e*P P 04 48 12.0 +8.8
LZH pP sP 04 48 29.2 +7.6
LZH sP pP 04 48 38.4 +22
LZH S **S 04 54 43.6 +0.4**
LZH sS sS 04 55 13.8 +10
LZH Lanzhou 45.69 332 SS SS 04 58 14.1 +5.9
LZH pmax pmax
comp=Z,35nm,1.3s
LZH LR LR
comp=N,550nm,15.5s
LZH LR LR
comp=E,660nm,15.5s
LZH LR LR
comp=Z,860nm,15.1s
SHL Shillong 45.72 312 P **P 04 48 03.0 -0.6**
SHL IAmb IAmb 04 48 27.5
comp=Z,23nm,1.0s
SHL Shillong 45.72 312 P **P 04 48 03.0 -0.6**
SHL pmax pmax
comp=Z,23nm,1.0s
HHC Hu-ho-hao-te 46.88 343 *e*P **P 04 48 14.7 +2.3**
HHC sP sP 04 48 37.3 +6.5
HHC S **S 04 55 03.6 +3.6**
HHC sS sS 04 55 27.3 +6.7
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.0s
HHC LR LR
comp=Z,180nm,16.8s
HHC LR LR
comp=Z,390nm,17.6s
HHC LR LR
comp=Z,470nm,16.8s
BTO Baotou 47.14 341 *e*P **P 04 48 17.6 +3.1**
BTO pP **sP 04 48 30.4 -2.5**
BTO sP pP 04 48 35.4 +8.0
BTO S **S 04 55 05.0 +1.3**
BTO sS **sS 04 55 28.2 +3.9**
BTO pmax pmax
comp=Z,7.0nm,0.6s
BTO pmax pmax
comp=Z,440nm,8.6s
BTO LR LR
comp=Z,1μm,24.9s
BTO LR LR
comp=Z,720nm,24.1s
BTO LR LR
comp=Z,1μm,24.1s
CN2 Changchun 47.33 357 *e*P **P 04 48 20.1 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 47.78 4 P **P 04 48 18.6 -0.6**
comp=Z,5.4nm,0.6s,baz=194,slow=6.9,SNR=8.1
comp=Z,5.4nm,0.6s
MDJ Mudanjiang 48.09 1 P **P 04 48 25.2 +3.5**
MDJ S **S 04 55 18.8 +1.9**
MDJ pmax pmax
comp=Z,20nm,1.7s
MDJ LR LR
comp=Z,760nm,22.7s
XLT XiLinHaoTe 48.62 348 *e*P **P 04 48 26.4 +0.6**
XLT pP pP 04 48 37.8 -1.0
XLT S **S 04 55 23.3 -1.2**
XLT pmax pmax
comp=Z,11nm,0.9s
XLT LR LR
comp=Z,620nm,18.0s
XLT LR LR
comp=Z,300nm,17.2s
LSA Lhasa 48.63 316 P **P 04 48 25.0 -1.7**
LSA S **S 04 55 25.1 -0.9**
LSA LR LR
comp=Z,210nm,14.7s
LSA LR LR
comp=Z,350nm,18.6s
PALK Pallekele 48.70 283*de*P **P 04 48 25.6 -1.4**

PALK pmax pmax
comp=Z,13nm,1.1s
BNX BinXian 49.21 359 ⇓P **P 04 48 32.5 +2.3**
BNX pmax pmax
comp=Z,8.0nm,1.4s
ASAJ Asahikawa 49.29 14 LR LR 05 09 43.4
comp=Z,330nm,21.1s,baz=192,slow=36
GTA Gaotai 50.25 331 *e*P **P 04 48 38.9 +0.4**
GTA S **S 04 55 50.0 +2.3**
GTA sS sS 04 56 16.6 +8.3
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,280nm,16.4s
GTA LR LR
comp=Z,420nm,19.3s
GTA LR LR
comp=Z,580nm,18.9s
HYB Hyderabad 53.34 295 *e*P **P 04 49 00.9 -0.9**
HYB IVmB_BB 04 49 00.9
comp=Z,60nm,0.3s
HYB *e*pP **pP 04 49 11.8 -3.2**
HEH HeiHe 53.73 359 *e*P **P 04 49 06.2 +2.3**
HEH pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 54.60 343 P **P 04 49 10.5 0.0**
ULN IAmb IAmb 04 49 19.8
comp=Z,39nm,1.6s
ULN Ulaanbaatar 54.60 343⇓*e*P **P 04 49 10.9 +0.4**
ULN pmax pmax
comp=Z,24nm,1.6s
SONM Songino Array 54.77 342 P **P 04 49 11.6 -0.2**
SONM Songino Array 54.77 342 P **P 04 49 11.1 -0.7**
comp=Z,3.4nm,0.9s,baz=148,slow=6.6,SNR=10
comp=Z,3.4nm,0.9s
SONM Songino Array 54.77 342 P **P 04 49 11.6 -0.2**
SONM pmax pmax
comp=Z,15nm,1.4s
ZEA Zeya 57.22 359 *e*P P 04 49 42.8 +14
ZEA pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 59.01 342⇑*e*P **P 04 49 40.8 -0.8**
TLY pmax pmax
comp=Z,5.0nm,0.7s
WMQ Urumqi 59.69 327 *e*P **P 04 49 45.4 -1.1**
WMQ pP sP 04 50 01.5 -3.9
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,730nm,20.5s
WMQ LR LR
comp=Z,400nm,15.1s
WMQ LR LR
comp=Z,270nm,24.2s
KNGR Kungurtug, Tuv 60.18 338⇓*e*P **P 04 49 49.7 0.0**
PETK Petropavlovsk- 61.76 20 P **P 04 50 00.1 -0.2**
comp=Z,2.7nm,0.8s,baz=199,slow=8.8,SNR=3.9
comp=Z,2.7nm,0.8s
PET Petropavlovsk 62.01 20⇓*e*P **P 04 50 03.7 +1.7**
PET pmax pmax
comp=Z,88nm,1.5s
DRV Dumont d'Urvil 63.40 175 P **P 04 50 11.3 +0.3**
DRV sP **pwP 04 50 25.7 -2.7**
ZSN Zaisan 63.56 329 *e*P **P 04 50 12.2 -0.3**
ZSN Zaisan 63.56 329 *e*P **P 04 50 12.1 -0.3**
SHLS Shalkode 64.06 322 *e*P **P 04 50 13.8 -2.2**
SHLS Shalkode 64.06 322 *e*P **P 04 50 13.7 -2.2**
UZB Uzynbulak 64.32 322 *e*P **P 04 50 17.0 -0.8**
UZB Uzynbulak 64.32 322 *e*P **P 04 50 16.9 -0.8**
KSH Kashi 64.43 317 P **P 04 50 22.1 +3.7**
KSH pP sP 04 50 37.4 +0.1
KSH pmax pmax
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 64.53 327*c i*P **P 04 50 18.1 -0.7**
MKAR Makanchi Array 64.53 327 **P 04 50 17.9 -0.9**
MKAR Makanchi Array 64.53 327 P **P 04 50 18.3 -0.5**
comp=Z,7.1nm,0.7s,baz=123,slow=8.1,SNR=40
comp=Z,7.1nm,0.7s
MKAR Makanchi Array 64.53 327 P **P 04 50 17.9 -0.9**
SATY Saty 64.65 322 *e*P **P 04 50 19.3 -0.6**
comp=Z,8.2nm,0.8s
SATY Saty 64.65 322 *e*P **P 04 50 19.2 -0.6**
SATY pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 64.70 327 P **P 04 50 19.6 -0.3**
MAKZ pP **pP 04 50 30.8 -2.7**
MA2 Magadan 65.52 12 LR LR 05 18 02.5
comp=Z,194nm,21.1s,baz=226,slow=35
YAK Yakutsk 65.54 1 *e*P **P 04 50 24.0 -1.0**
YAK *e**PP **sP 04 50 41.3 -2.5**
YAK *e* 04 50 50.9
YAK *e* 04 52 48.4
YAK *e*PPP PPP 04 54 23.1
YAK *e*S **S 04 59 05.7 -0.7**
YAK *e**SS **sS 04 59 34.0 +4.8**
YAK *e* 05 00 12.9
YAK *e*SS **SS 05 03 21.1 +0.1**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,636nm,10.6s
YAK pmax pmax
comp=N,234nm,4.3s
YAK pmax pmax
comp=E,324nm,8.1s
YAK smax smax
comp=E,458nm,6.5s
YAK smax smax
comp=N,312nm,6.3s
TNSS Tian-Shan 65.55 321 *e*P **P 04 50 25.2 -0.9**
TNSS Tian-Shan 65.55 321 *e*P **P 04 50 25.1 -0.9**
MDOK Medeo 65.55 321 *e*P **P 04 50 25.2 -0.5**
MDOK Medeo 65.55 321 *e*P **P 04 50 25.2 -0.5**
AAK Ala-Archa 66.91 320 P **P 04 50 34.1 -0.3**
AAK IAmb IAmb 04 50 58.4
comp=Z,26nm,1.9s
AAK Ala-Archa 66.91 320⇑*e*P **P 04 50 34.5 0.0**
AAK pmax pmax
comp=Z,6.0nm,1.0s
SGDS Sogindy 67.22 320 *e*P **P 04 50 35.6 -0.7**
KBL Kabul 67.33 310 P **P 04 50 36.0 -1.3**
KBL IAmb IAmb 04 50 51.1
comp=Z,6.9nm,0.7s
KBL Kabul 67.33 310 P **P 04 50 36.0 -1.3**
KBL pmax pmax
comp=Z,7.0nm,0.7s
ZAA0 Zalesovo Array 67.86 334 **P 04 50 39.4 -0.6**
ZALV Zalesovo Beam 67.86 334 **P 04 50 38.5 -1.5**
ZALV Zalesovo Beam 67.86 334 P **P 04 50 38.4 -1.6**
comp=Z,3.6nm,0.7s,baz=119,slow=5.8,SNR=9.3
ZALV LR LR 05 22 55.5
comp=Z,188nm,19.3s,baz=144,slow=38
comp=Z,3.6nm,0.7s
ZALV Zalesovo Beam 67.86 334 *i* P **P 04 50 41.0 +1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
GAR Garm 68.12 315 P **P 04 50 40.7 -1.4**
GAR IAmb IAmb 04 50 50.3
comp=Z,24nm,1.2s
BTLS Baital 68.37 322 *e*P **P 04 50 42.9 -0.5**
BTLS Baital 68.37 322 *e*P **P 04 50 42.8 -0.5**
KURBB Kurchatov Arra 68.80 329 P **P 04 50 44.9 -1.0**
comp=Z,7.9nm,0.7s,baz=129,slow=5.8,SNR=43
KURBB LR LR 05 24 23.0
comp=Z,132nm,19.1s,baz=171,slow=39
comp=Z,7.9nm,0.7s
KURK Kurchatov 68.81 329 **P 04 50 45.0 -0.9**
KURK IAmb IAmb 04 50 49.6
comp=Z,14nm,0.8s
KURK Kurchatov 68.81 329*c i*P **P 04 50 45.2 -0.8**
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 68.81 329 P **P 04 50 45.4 -0.5**
KURK pP **pP 04 50 57.6 -2.0**
CHGR Chuyangaron 68.81 314 **P 04 50 45.7 -0.7**
CHGR IAmb IAmb 04 50 53.9
comp=Z,12nm,0.8s
CHGR Chuyangaron 68.81 314 P **P 04 50 45.7 -0.7**
CHGR pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 68.90 12 *e*P **P 04 50 46.8 +0.5**

SEY pmax pmax
comp=Z,30nm,1.6s
KKAR Karatay Array 69.73 319 P 04 50 50.9 -1.0
KKAR Karatay Array 69.73 319 P P 04 50 50.9 -1.0
CHM Chimkent 70.00 318 *eP* **P 04 50 53.0 -0.6**
CHM Chimkent 70.00 318 *eP* **P 04 50 53.0 -0.6**
BVAR Borovoye Array 74.36 328 P P 04 51 16.8 -2.6
comp=Z,1.8nm,0.7s,baz=116,slow=10,SNR=10
BVAR LR LR 05 25 39.9
comp=Z,127nm,21.8s,baz=90,slow=37
comp=Z,1.8nm,0.7s
BORK Borovoye 74.40 328 *ceP* **P 04 51 21.4 +1.8**
BORK pmax pmax
comp=Z,31nm,2.0s
TIXI Tiksi 75.19 0 P 04 51 22.5 -1.2
TIXI IAmb IAmb 04 51 24.7
comp=Z,9.9nm,0.6s
TIXI Tiksi 75.19 0⇑ *eP* **P 04 51 23.6 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
VNDA Vanda 75.93 173 P P 04 51 27.8 -0.2
VNDA Vanda 75.93 173 P P 04 51 28.1 +0.1
comp=Z,1.2nm,0.5s,baz=316,slow=6.7,SNR=19
comp=Z,1.2nm,0.5s
VNDA Vanda 75.93 173 P P 04 51 27.8 -0.2
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 75.93 173 P P 04 51 28.3 +0.3
VNDA pP **pP 04 51 39.5 -0.8**
SBA Scott Base 76.83 172 P 04 51 33.2 +0.2
SBA Scott Base 76.83 172 P 04 51 33.3 +0.2
SBA pmax pmax
comp=Z,13nm,1.4s
SBA Scott Base 76.83 172 P P 04 51 34.4 +1.3
MAW Mawson 77.41 201 P P 04 51 36.2 -0.2
comp=Z,4.0nm,0.9s,baz=56,slow=5.8,SNR=7.2
comp=Z,4.0nm,0.9s
AB31 Abkulak array 78.86 322 P P 04 51 43.5 -1.3
ABKAR Abkulak array 78.86 322 P P 04 51 43.3 -1.5
AKTO Aktyubinsk 80.41 322 LR LR 05 30 57.3
comp=Z,306nm,19.0s,baz=87,slow=38
PPT2 Papeete2 81.42 107 *eS* **S 05 02 09.7 +1.9**
comp=Z,74nm,20.8s
PPT2 *e*SS **SS 05 07 20.9 -4.1**
comp=Z,175nm,24.5s
PPT2 Papeete2 81.42 107 *e*LR LR 05 17 28.3
comp=Z,237nm,23.0s
PPT2 *e*LR LR 05 17 32.8
comp=Z,358nm,38.8s
ARTI Arti 82.08 328 P **P 04 52 00.0 -1.9**
ARTI IAmb IAmb 04 52 11.6
comp=Z,14nm,0.8s
ARTI Arti 82.08 328 *c iP* **P 04 52 01.2 -0.8**
ARTI S **S 05 02 13.9 +1.0**
ARTI pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 84.84 294 P **P 04 52 16.3 -0.7**
RAYN IAmb IAmb 04 52 20.8
comp=Z,8.2nm,0.8s
RAYN Ar Rayn 84.84 294 P **P 04 52 16.3 -0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
MAK Makhachkala 85.74 313 *eP* **P 04 52 19.6 -1.4**
MAK *e**PP **pP 04 52 35.1 +0.1**
MAK *e* 04 55 37.0
MAK *e* 05 02 39.8
MAK *e*SS SS 05 08 28.1 +0.3
MAK *e*SSS SSS 05 12 00.2
MAK pmax pmax
comp=Z,33nm,0.4s
SYO Syowa Base 86.12 201⇑ *e*PcP **PcP 04 52 29.0 +4.2**
QSPA South Pole Qui 86.28 180 P **P 04 52 24.7 +1.4**
QSPA South Pole Qui 86.28 180 P **P 04 52 24.4 +1.1**
comp=Z,12nm,0.8s,baz=327,slow=2.5,SNR=17
comp=Z,12nm,0.8s
BELG Belogornoye 87.19 323 *c iP* **P 04 52 27.6 -0.2**
BELG pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 87.32 329 *ceP* **P 04 52 28.5 +0.2**
GNI Garni 87.41 310 LR LR 05 38 45.4
comp=Z,68nm,19.9s,baz=90,slow=40
KBZ Khabaz 89.17 314 P **P 04 52 36.2 -1.2**
comp=Z,1.1nm,0.7s,baz=84,slow=5.5,SNR=7.6
comp=Z,1.1nm,0.7s
KBZ Khabaz 89.17 314⇓ *eP* **P 04 52 38.0 +0.5**
KBZ pmax pmax
comp=Z,15nm,2.4s
GURO Guroymak-BITLI 89.33 309 P **P 04 52 37.8 -0.8**
SHA1 Shidzhatmaz 89.35 314⇑ *eP* **P 04 52 39.9 +1.3**
KIV Kislovodsk 89.35 314 *eP* **P 04 52 37.8 -0.6**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KOPT Kop Dagi 90.64 310 P **P 04 52 43.6 -1.2**
KOPT IAmb IAmb 04 52 60.0
comp=Z,12nm,0.9s
CCB Clear Creek Bu 90.69 25 P 04 52 42.5 -1.6
CCB IAmb IAmb 04 56 17.9
comp=Z,23nm,2.0s
TAOE Nuku Hiva Isla 91.00 99 *eS* **S 05 03 34.7 -6.7**
comp=Z,113nm,25.0s
TAOE Nuku Hiva Isla 91.00 99 *e*LR LR 05 21 55.7
comp=Z,354nm,21.5s
ILAR Eielson Array 91.10 25 P **P 04 52 44.9 -1.1**
comp=Z,0.9nm,0.6s,baz=243,slow=5.2,SNR=15
comp=Z,0.9nm,0.6s
SOC Sochi 91.46 313 *eP* **P 04 52 47.0 -1.2**
SOC *e* 04 56 27.1
SOC *e*PPP PPP 04 58 23.9
SOC *e*S **SKSac 05 03 13.6 -3.3**
SOC *e*SS **SS 05 09 52.1 +1.1**
SOC *e*SSS SSS 05 13 26.0
SOC MLR MLR
comp=Z,93nm,14.0s
I28M Miner Creek 94.07 25 P 04 53 00.4 +0.6
I28M IAmb IAmb 04 53 04.9
comp=Z,6.8nm,0.8s
DAWY Dawson 94.31 26 P 04 52 59.5 -1.4
I29M Ogilvie Camp, 94.75 25 P **P 04 53 01.4 -1.5**
APA Apatity 95.24 337⇓ *eP* **P 04 53 06.6 +1.6**
APA pmax pmax
comp=Z,7.0nm,1.2s
APA MLR MLR
comp=Z,911nm,7.0s
BRTR Keskin Array B 95.90 309 P **P 04 53 05.8 -3.0**
comp=Z,0.2nm,0.5s,baz=134,slow=5.4,SNR=4.8
comp=Z,0.2nm,0.5s
ARCES ARCESS Array B 97.89 340 P **P 04 53 14.5 -2.5**
comp=Z,4.0nm,1.0s,baz=66,slow=6.8,SNR=6.3
comp=Z,4.0nm,1.0s
BELA Belgrano 2 98.01 184 Pdif 04 53 18.2 +0.7
SNAA Sanae 98.46 194 P **P 04 53 19.7 +0.1**
comp=Z,0.8nm,0.9s,baz=124,slow=3.6,SNR=2.0
comp=Z,0.8nm,0.9s
MNK Minsk 99.02 324 *i* P 04 53 21.3
MNK *i* *PP sP 04 53 38.4 -3.3
MNK *i* 04 57 24.2
MNK *i* PPP PPP 04 59 30.6
MNK *i* S **SKSac 05 03 54.1 -2.6**
MNK *i* SS **SS 05 11 38.2 +0.6**
MNK *i* SSS SSS 05 15 27.1
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=E,14nm,0.7s
MNK pmax pmax
comp=N,16nm,1.1s
MNK MLR MLR
comp=N,202nm,18.0s
MNK MLR MLR
comp=Z,194nm,22.0s
MNK MLR MLR
comp=E,369nm,23.0s
FINES FINESS Array B 99.05 332 P **Pdif 04 53 20.2 -2.1**
comp=E,1.3nm,0.8s,baz=111,slow=7.7,SNR=2.2
comp=E,1.3nm,0.8s
DLBC Dease Lake 99.25 31 LR LR 05 42 26.6
comp=E,964nm,18.6s,baz=298,slow=38
BOSA Boshof 99.63 240 LR LR 05 37 31.4
comp=E,100nm,18.0s,baz=44,slow=35
LBTB Lobatse 99.90 244 LR LR 05 33 51.6
comp=E,122nm,20.5s,baz=80,slow=32
113A Mohawk Valley, 115.38 55 PKiKP 04 58 20.9 -2.9
TXAR Lajitas Array 124.63 57 PKP **PKPdf 04 58 41.0 -0.9**
comp=E,0.3nm,0.6s,baz=250,slow=2.5,SNR=6.0
TORD Torodi Ar. Bea 126.42 284 PKP **PKPdf 04 58 43.8 -1.7**
comp=E,1.2nm,0.6s,baz=70,slow=2.8,SNR=7.6
PLCA Paso Flores 132.56 161 PKP **PKPdf 04 58 56.8 +0.2**
comp=E,2.5nm,1.0s,baz=182,slow=6.2,SNR=4.3
DBIC Dimbokro 133.24 276 PKP **PKPdf 04 58 58.0 -0.5**
comp=E,3.2nm,0.8s,baz=101,slow=10,SNR=3.9
AC06 Mina Casimiro 144.29 151 PKPab 04 59 16.7 +0.4
PLTB Pedras Altas 144.71 177 PKPab 04 59 18.1 +0.4
PB03 IPOC Station P 148.94 146 PKiKP 04 59 32.9 +1.0
PATCX Punta Patache 149.68 144 PKiKP 04 59 35.4 +2.1
CPUP Villa Florida 149.68 170 PKPbc **PKPbc 04 59 32.4 +0.4**
comp=E,5.8nm,1.2s,baz=146,slow=1.8,SNR=15
PB11 IPOC Station P 150.79 144 PKPbc 04 59 33.5 -1.6
LPAZ La Paz 154.37 141 PKPbc **PKPbc 04 59 44.0 +0.3**
comp=E,2.2nm,1.1s,baz=206,slow=2.3,SNR=3.8

*DJA **10** 04:42:26.1±0.4,4°S±4°×12°8E±°, h10km, M4.6/6, mb4.5/1, MLv4.7/6*
*NEIC **10** 04:42:30.4±0.8,3°61S±0°07×128°28E±0°06, h50km±7km, mb4.6/17, Error ellipse: s-maj=11.3km s-min=7.5km az=200.0*
*IDC **10** 04:42:31.1±2.9,3°51S×128°24E, h63km±26km, mb4.0/16, mbtmp4.4/20, ML4.2/3, Error ellipse: s-maj=19.7km s-min=10.2km az=75.0*
ISC 10 04:42:25.0±0.4,3°54S±0°05×128°28E±0°05, h10km, n70, σ1°99/73, mb4.5/22, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.17**	**208**	P		**Pg**	**04 42 28.1**	**-0.7**
NLAI	**Namlea**	**1.21**	**284**	P		**Pb**	**04 42 47.2**	**-0.8**
SWI	**Sorong**	**3.39**	**48**	P		**Pn**	**04 43 29.3**	**+3.0**
FAKI	**Fak Fak**	**4.01**	**81**	Pn		**Pn**	**04 43 30.0**	**+3.4**
FAKI	**Fak Fak**	**4.01**	**81**	P		**Pn**	**04 43 29.8**	**+3.1**
TNTI	**Ternate**	**4.37**	**348**	Pn		**Pn**	**04 43 35.2**	**+3.6**
TNTI	**Ternate**	**4.37**	**348**	P		**Pn**	**04 43 34.5**	**+2.9**
SAUI	**Saumlaki**	**5.35**	**146**	Pn		**Pn**	**04 43 46.3**	**+1.3**
KMPI	**Kaimana, Papua**	**5.42**	**92**	P		**Pn**	**04 43 49.8**	**+3.8**
KMSI	**Cibinong**	**5.92**	**313**	P		**Pn**	**04 43 57.5**	**+4.6**
LUWI	**Luwuk**	**6.03**	**294**	Pn		**Pn**	**04 43 57.1**	**+2.7**
LUWI	**Luwuk**	**6.03**	**294**	P		**Pn**	**04 43 55.7**	**+1.3**
RKPI	**Ransiki, Papua**	**6.23**	**71**	P		**Pn**	**04 43 59.7**	**+2.6**
APSI	**Ampana**	**7.12**	**291**	P		**Pn**	**04 44 12.6**	**+3.3**
SOEI	**Soe**	**7.35**	**213**	Pn		**Pn**	**04 44 13.9**	**+1.3**
MRSI	**Marisa**	**7.48**	**302**	P		**Pn**	**04 44 16.9**	**+2.6**
SGSI	**Sangihe**	**7.68**	**339**	P		**Pn**	**04 44 20.7**	**+3.6**
MMRI	**Maumere**	**7.86**	**230**	Pn		**Pn**	**04 44 22.9**	**+3.5**
MMRI	**Maumere**	**7.86**	**230**	P		**Pn**	**04 44 22.3**	**+2.8**
BAKI	**Biak**	**8.16**	**74**	P		**Pn**	**04 44 26.9**	**+3.2**
BSSI	**Bau Bau, Buton**	**8.18**	**251**	P		**Pn**	**04 44 26.6**	**+2.7**
BNSI	**Bone**	**8.19**	**264**	P		**Pn**	**04 44 27.6**	**+3.5**
BKSI	**Bulukumba**	**8.32**	**257**	P		Pn	04 44 30.7	+4.9
EDFI	**Ende, Flores**	**8.35**	**231**	P		**Pn**	**04 44 28.8**	**+2.5**
KAPI	**Kappang**	**8.63**	**260**	P		**Pn**	**04 44 33.8**	**+3.8**
	8.2nm,0.3s,baz=102,slow=6.9,SNR=7.2							
KAPI				S		**Sn**	**04 46 08.7**	**+1.3**
	2.0nm,0.3s,baz=84,slow=23,SNR=0.7							
	45nm,0.7s							
KNRA	**Kununurra**	**12.08**	**178**	Pn		**Pn**	**04 45 18.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**14.70**	**190**	P		**Pn**	**04 45 56.0**	**+2.8**
	0.3nm,0.3s,baz=20,slow=12,SNR=2.8							
	9.7nm,0.6s							
WRA	**Warramunga Arr**	**17.35**	**161**	P		**Pn**	**04 46 28.6**	**+1.1**
	1.0nm,0.3s,baz=343,slow=12,SNR=6.3							
WRA				PcP		**PcP**	**04 51 07.2**	**-2.6**
	0.7nm,0.6s,baz=323,slow=1.9,SNR=1.7							
	18nm,0.9s							
WR8	**Warramunga Arr**	**17.41**	**160**			**Pn**	**04 46 29.2**	**+0.9**
COEN	**Coen**	**17.99**	**126**	P		**Pn**	**04 46 35.7**	**+0.2**
SMRI	**Semarang**	**18.10**	**258**	P		**P**	**04 46 37.5**	**+0.3**
KSM	**Kuching**	**18.63**	**285**			**P**	**04 46 42.9**	**-0.2**
KSM				IAmb		IAmb	04 46 46.7	
	comp=Z,35nm,0.9s							
MBWA	**Marble Bar**	**19.39**	**205**	P		**Pn**	**04 46 51.6**	**-0.8**
PMG	**Port Moresby**	**19.64**	**108**	P		**P**	**04 46 54.8**	**+0.7**
	comp=Z,17nm,0.6s,baz=288,slow=13,SNR=1.8							
PSA00	**Pilbara Seismi**	**19.71**	**204**	P		**P**	**04 46 54.5**	**-0.4**
PSA00	**Pilbara Seismi**	**19.71**	**204**	P		**P**	**04 46 54.3**	**-0.5**
PSA00				IAmb		IAmb	04 47 09.2	
	comp=Z,21nm,1.0s							
AS31	**Alice Springs**	**20.74**	**165**	P		**P**	**04 47 06.7**	**+0.7**
AS31				IAmb		IAmb	04 47 09.9	
	comp=Z,25nm,0.8s							
ASAR	**Alice Springs**	**20.74**	**165**			**P**	**04 47 06.0**	**0.0**
ASAR	**Alice Springs**	**20.74**	**165**	P		**P**	**04 47 06.4**	**+0.3**
	comp=Z,64nm,0.7s,baz=347,slow=11,SNR=19							
ASAR				S		**S**	**04 50 57.0**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=349,slow=23,SNR=4.0							
ASAR				PcP		**PcP**	**04 51 13.7**	**-2.1**
	comp=Z,1.9nm,0.5s,baz=341,slow=2.0,SNR=9.6							
	comp=Z,64nm,0.7s							
GIRL	**Giralia**	**23.37**	**214**	P		**P**	**04 47 35.2**	**+1.3**
CTAO	**Charters Tower**	**24.04**	**135**	P		**P**	**04 47 40.0**	**-0.5**
CTAO				IAmb		IAmb	04 47 53.7	
	comp=Z,13nm,0.9s							
FORT	**Forrest**	**27.10**	**180**	P		**P**	**04 48 08.1**	**0.0**
FORT				IAmb		IAmb	04 48 41.8	
	comp=Z,12nm,0.9s							
RPSI	**Rantau Prapat**	**29.98**	**282**	P		**P**	**04 48 33.6**	**-0.5**
PSI	**Prapat**	**30.00**	**282**	P		**P**	**04 48 33.6**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=237,slow=3.4,SNR=4.4							
	comp=Z,3.3nm,0.5s							
BBOO	**Buckleboo**	**30.02**	**167**	P		**P**	**04 48 33.2**	**-1.0**
BBOO				IAmb		IAmb	04 49 05.9	
	comp=Z,17nm,1.1s							
STKA	**Stephens Creek**	**30.85**	**158**	P		**P**	**04 48 43.0**	**+1.5**
	comp=Z,4.0nm,0.9s,baz=309,slow=13,SNR=1.7							
	comp=Z,4.0nm,0.9s							
KSRS	**Korea Array**	**40.78**	**360**	P		**P**	**04 50 07.6**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=185,slow=9.6,SNR=4.2							
	comp=Z,1.4nm,0.5s							
MJAR	**Matsushiro Arr**	**40.93**	**12**	P		**P**	**04 50 07.0**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=175,slow=8.5,SNR=4.3							
	comp=Z,0.7nm,0.3s							
DZM	**Mont Dzumac**	**41.34**	**120**	P		**P**	**04 50 10.5**	**-1.0**
DZM				IAmb		IAmb	04 50 18.5	
	comp=Z,23nm,1.4s							
USRK	**Ussuriysk Ar.**	**47.64**	**4**	P		**P**	**04 51 00.5**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=189,slow=7.6,SNR=2.7							
	comp=Z,2.9nm,0.6s							
SONM	**Songino Array**	**54.63**	**342**	P		**P**	**04 51 54.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=152,slow=6.5,SNR=3.4							
	comp=Z,1.4nm,0.8s							
PETK	**Petropavlovsk-**	**61.62**	**20**	P		**P**	**04 52 41.0**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=236,slow=6.6,SNR=3.6							
	comp=Z,2.1nm,0.8s							
MKAR	**Makanchi Array**	**64.40**	**327**			**P**	**04 53 01.1**	**-0.4**
MKAR	**Makanchi Array**	**64.40**	**327**	P		**P**	**04 53 00.7**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=114,slow=8.1,SNR=9.1							
	comp=Z,3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**67.74**	**334**	P		**P**	**04 53 21.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=117,slow=3.7,SNR=4.8							
	comp=Z,0.9nm,0.3s							
KURBB	**Kurchatov Arra**	**68.68**	**329**	P		**P**	**04 53 27.7**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=132,slow=5.8,SNR=13							
	comp=Z,3.3nm,0.6s							
KURK	**Kurchatov**	**68.68**	**329**			**P**	**04 53 28.6**	**-0.1**
KURK				IAmb		IAmb	04 53 28.9	
	comp=Z,5.9nm,0.7s							
BVAR	**Borovoye Array**	**74.23**	**328**	P		**P**	**04 53 59.6**	**-2.6**
	comp=Z,1.0nm,0.5s,baz=127,slow=7.9,SNR=3.4							
	comp=Z,1.0nm,0.5s							
TIXI	**Tiksi**	**75.05**	**0**			**P**	**04 54 06.7**	**+0.2**
TIXI				IAmb		IAmb	04 54 07.4	
	comp=Z,6.2nm,0.6s							
VNDA	**Vanda**	**76.07**	**173**	P		**P**	**04 54 10.8**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=320,slow=7.3,SNR=4.5							
	comp=Z,1.5nm,0.8s							
MAW	**Mawson**	**77.54**	**201**	P		**P**	**04 54 19.4**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=74,slow=7.9,SNR=3.8							
	comp=Z,1.3nm,0.9s							
AB31	**Akbulak array**	**78.74**	**322**			**P**	**04 54 27.4**	**-0.4**
AB31				IAmb		IAmb	04 54 39.8	
	comp=Z,5.0nm,0.8s							
ABKAR	**Akbulak array**	**78.74**	**322**			**P**	**04 54 27.1**	**-0.7**
RAYN	**Ar Rayn**	**84.78**	**294**			**P**	**04 55 00.6**	**+0.3**
QSPA	**South Pole Qui**	**86.42**	**180**	P		**P**	**04 55 06.8**	**-0.9**
QSPA	**South Pole Qui**	**86.42**	**180**	P		**P**	**04 55 07.8**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=350,slow=1.9,SNR=7.6							
	comp=Z,3.9nm,0.7s							
ILAR	**Eielson Array**	**90.97**	**25**	P		**P**	**04 55 27.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=245,slow=4.9,SNR=6.5							
	comp=Z,0.4nm,0.6s							
TXAR	**Lajitas Array**	**124.55**	**57**	PKP		**PKPdf**	**05 01 24.7**	**-0.9**
	comp=Z,0.1nm,0.7s,baz=302,slow=5.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**126.39**	**284**	PKP		**PKPdf**	**05 01 28.1**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=66,slow=2.4,SNR=3.8							
CPUP	**Villa Florida**	**149.82**	**170**	PKPbc		**PKPdf**	**05 02 14.3**	**+2.8**
	comp=Z,1.0nm,0.8s,baz=55,slow=3.7,SNR=3.2							

DJA 10 04:50:34.8±0.4,4°S±3°×12°8E±°, h10km, M4.1/5, mb5.0/1, MLv3.7/5, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.12**	**212**	P		**Pg**	04 50 38.5	+0.7
AAI				S		Sg	04 50 41.0	+1.1
MSAI	**Masohi**	**0.71**	**71**	P		Pb	04 50 49.5	+0.3
MSAI				S		Sb	04 50 59.3	+0.3
NLAI	**Namlea**	**1.21**	**286**	P		Pn	04 50 57.0	-0.7

*SJA **10** 05:16:22.1±1.4,22°41S×68°17W, h135km, ML3.2, MW3.5*
*GUC **10** 05:16:24.3±0.7,22°36S×68°35W, h147km±4km, ML3.4*
ISC 10 05:16:23.2±1.8,22°40S±0°04×68°4W±0°1, h152km±13km, n24, σ0°57/33, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.57**	**164**	*eS*		**Sn**	**05 17 01.6**	**-1.0**
PB09	**IPOC Station P**	**1.02**	**306⇓**	*iP*		**Pn**	**05 16 49.1**	**+0.6**
PB09				*eS*		**Sn**	**05 17 07.6**	**-0.2**
PB09	**IPOC Station P**	**1.02**	**306**	*i P*		**Pn**	**05 16 48.6**	**0.0**
PB09				*eS*		**Sn**	**05 17 07.8**	**0.0**
PB09				IAML			05 17 09.0	
	comp=Z,199nm,0.3s							
PB06	**IPOC Station P**	**1.17**	**255**	*eP*		**Pn**	**05 16 50.6**	**+0.8**
PB06				*eS*		**Sn**	**05 17 10.1**	**0.0**
PB06				IAML			05 17 12.9	
	comp=E,714nm,0.1s							
PB06	**IPOC Station P**	**1.17**	**255**	*i P*		**Pn**	**05 16 50.0**	**+0.2**
PB06				*eS*		**Sn**	**05 17 10.9**	**+0.8**
PB06				IAML			05 17 14.7	
	comp=Z,445nm,0.3s							
PB03	**IPOC Station P**	**1.34**	**285⇓**	*iP*		**Pn**	**05 16 52.1**	**+0.6**
PB03				*eS*		**Sn**	**05 17 12.7**	**-0.4**
PB03				IAML			05 17 14.5	
	comp=N,586nm,0.3s							
PB03	**IPOC Station P**	**1.34**	**285**	*i P*		**Pn**	**05 16 51.5**	**0.0**
PB03				*eS*		**Sn**	**05 17 12.8**	**-0.4**
PB03				IAML			05 17 14.8	
	comp=Z,615nm,0.3s							
PB01	**IPOC Station P**	**1.71**	**322⇓**	*iP*		**Pn**	**05 16 55.5**	**+0.2**
PB01				*eS*		**Sn**	**05 17 19.0**	**-0.9**
PB01				IAML			05 17 20.4	
	comp=E,211nm,0.2s							
PB01	**IPOC Station P**	**1.71**	**322**	*i P*		**Pn**	**05 16 55.3**	**0.0**
PB01				IAML			05 17 20.6	
	comp=Z,157nm,0.2s							
PB02	**IPOC Station P**	**1.79**	**307**	*eP*		**Pn**	**05 16 56.5**	**+0.3**
PB02				*eS*		**Sn**	**05 17 20.8**	**-0.6**
PB02				IAML			05 17 22.1	
	comp=N,292nm,0.2s							
PB02	**IPOC Station P**	**1.79**	**307**	*i P*		**Pn**	**05 16 56.5**	**+0.3**
PB02				IAML			05 17 23.0	
	comp=Z,302nm,0.3s							
PB10	**IPOC Station P**	**2.31**	**241**	*eP*		**Pn**	**05 17 02.7**	**+0.6**
PB10				IAML			05 17 32.4	
	comp=E,99nm,0.3s							
PB10	**IPOC Station P**	**2.31**	**241**	*i P*		**Pn**	**05 17 02.4**	**+0.2**
PB10				IAML			05 17 35.6	
	comp=Z,63nm,0.5s							
PB08	**IPOC Station P**	**2.37**	**342**	*i P*		**Pn**	**05 17 04.2**	**+0.9**
PB08				IAML			05 17 36.4	
	comp=E,126nm,0.3s							
TA01	**Diego Aracena**	**2.49**	**317**	*i P*		**Pn**	**05 17 04.0**	**-0.3**
TA01				IAML			05 17 40.4	
	comp=Z,31nm,0.7s							
GO01	**Chusmiza**	**2.83**	**344**	*eP*		**Pn**	**05 17 09.5**	**+0.5**
GO01				*eS*		**Sn**	**05 17 44.0**	**-0.3**
GO01	**Chusmiza**	**2.83**	**344**	*i P*		**Pn**	**05 17 09.3**	**+0.3**
GO01				IAML			05 17 51.8	
	comp=Z,37nm,0.6s							
PB11	**IPOC Station P**	**2.89**	**335**	*eP*		**Pn**	**05 17 09.1**	**-0.5**
PB11				IAML			05 17 46.2	
	comp=E,165nm,0.3s							
PB11	**IPOC Station P**	**2.89**	**335**	*i P*		**Pn**	**05 17 09.2**	**-0.3**
PB11				IAML			05 17 47.9	
	comp=Z,59nm,0.3s							
PB14	**IPOC Station P**	**2.91**	**220**	*i P*		**Pn**	**05 17 10.4**	**+0.6**
PB14				IAML			05 17 47.3	
	comp=Z,43nm,0.2s							
GO02	**Mina Guanaco**	**2.98**	**202**	*i P*		**Pn**	**05 17 11.0**	**+0.3**
GO02				IAML			05 17 52.3	
	comp=Z,119nm,0.1s							
PB16	**IPOC Station P**	**4.18**	**345**	*i P*		**Pn**	**05 17 27.6**	**+1.1**
PB16				IAML			05 18 20.0	
	comp=Z,8.5nm,0.4s							
AC01	**Pan de Azucar**	**4.26**	**208**	*i P*		**Pn**	**05 17 26.0**	**-0.9**
AC01				IAML			05 18 16.3	
	comp=Z,19nm,0.1s							
AC02	**Maricunga**	**4.47**	**189**	*i P*		**Pn**	**05 17 30.6**	**+0.4**
AC02				IAML			05 18 45.2	
	comp=Z,6.6nm,2.1s							

*NNC **10** 05:20:54.8±0.3,43°52N×74°92E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=3.5km s-min=2.0km az=165.0*
*SOME **10** 05:20:55.6,43°48N×74°93E, h15km*
*KRNET **10** 05:20:55.1±0.1,43°49N×74°92E, h13km, mb3.6*
*KNET **10** 05:20:55.2±0.7,43°44N×74°94E, h14km±2km, ml2.7, Error ellipse: s-maj=4.4km s-min=1.7km az=6.0*
ISC 10 05:20:55.2±1.0,43°52N±0°02×74°91E±0°01, h4km±8km, n86, σ0°97/156, 45C-29D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**0.21**	**252**	P		**Pg**	**05 20 59.1**	**-0.2**
	154nm,0.1s							
SGDS				S		**Sg**	**05 21 01.9**	**-0.2**
	2μm,0.1s							
USP	**Ospenovka**	**0.39**	**230**	P		**Pg**	**05 21 02.4**	**-0.3**
	172nm,0.1s,SNR=220							
USP				⇓S		**Sg**	**05 21 07.6**	**-0.1**
	952nm,0.2s							
USP	**Ospenovka**	**0.39**	**230⇑**	*iP*		**Pg**	**05 21 02.4**	**-0.3**
USP				⇑*iS*		**Sg**	**05 21 07.7**	**-0.1**
CHMS	**Chumysh**	**0.53**	**193**	P		**Pg**	**05 21 05.1**	**-0.3**
	128nm,0.2s,SNR=92							
CHMS				⇓S		**Sg**	**05 21 12.3**	**0.0**
	620nm,0.3s							
CHMS	**Chumysh**	**0.53**	**193⇓**	*iP*		**Pg**	**05 21 04.9**	**-0.5**
CHMS				⇓*iS*		**Sg**	**05 21 12.2**	**0.0**
KRBS	**Karabastau**	**0.58**	**72**	P		**Pg**	**05 21 06.5**	**+0.1**
	42nm,0.1s							
KRBS				S		**Sg**	**05 21 14.2**	**+0.2**
	225nm,0.2s							
KRBS	**Karabastau**	**0.58**	**72**	*eP*		**Pg**	**05 21 06.5**	**+0.1**
KRBS				*eS*		**Sg**	**05 21 14.2**	**+0.2**
FRU1	**Bishkek**	**0.74**	**196⇓**	*iP*		**Pg**	**05 21 08.3**	**-1.0**
FRU1				⇓*iS*		**Sg**	**05 21 18.1**	**-0.7**
TKM2	**Tokmak 2**	**0.78**	**140**	P		**Pg**	**05 21 09.3**	**-0.8**
	53nm,0.1s,SNR=238

AAK ⇓iS **Sg** **05 21 25.1 0.0**
KUU Kurty 1.10 70 P **Pg** **05 21 14.7 -1.6**
21nm,0.1s
KUU S **Sg** **05 21 28.3 -2.3**
129nm,0.2s
KUU Kurty 1.10 70 *e*P **Pg** **05 21 14.7 -1.6**
21nm,0.1s
KUU *e*S **Sg** **05 21 28.3 -2.3**
129nm,0.2s
MTBS Maitube 1.18 109 P **Pg** **05 21 17.4 -0.2**
40nm,0.1s
MTBS S **Sg** **05 21 32.8 -0.2**
135nm,0.3s
MTBS Maitube 1.18 109 *e*P **Pg** **05 21 17.5 -0.2**
MTBS *e*S **Sg** **05 21 32.8 -0.2**
MTBS Maitube 1.18 109 *e*P **Pg** **05 21 17.4 -0.2**
40nm,0.1s
MTBS *e*S **Sg** **05 21 32.8 -0.2**
135nm,0.3s
EKS2 Erkin-Say 1.19 224 ⇓P **Pg** **05 21 17.3 -0.7**
27nm,0.2s,SNR=64
EKS2 ⇑S **Sg** **05 21 33.4 0.0**
112nm,0.3s
EKS2 Erkin-Say 1.19 224 ⇑*i*P **Pg** **05 21 17.0 -1.0**
EKS2 ⇑*i*S **Sg** **05 21 33.1 -0.3**
BOOM Boomskoye usch 1.28 143 ⇓*i*P **Pg** **05 21 18.3 -1.3**
BOOM ⇓*i*S **Sg** **05 21 35.4 -0.8**
KTBS Karatobe 1.30 81 P **Pn** **05 21 19.8 -0.4**
30nm,0.1s
KTBS S **Sg** **05 21 37.0 0.0**
99nm,0.2s
KTBS Karatobe 1.30 81 *e*P **Pn** **05 21 19.8 -0.4**
KTBS *e*S **Sg** **05 21 37.0 0.0**
UCH Uchtor 1.32 193 ⇓P **Pg** **05 21 19.6 -0.9**
24nm,0.2s,SNR=84
UCH ⇓S **Sg** **05 21 37.2 -0.5**
64nm,0.2s
UCH Uchtor 1.32 193 ⇑*i*P **Pg** **05 21 19.3 -1.2**
UCH ⇑*i*S **Sg** **05 21 37.2 -0.5**
MRKS Merke 1.45 238 P **Pn** **05 21 22.5 +0.2**
12nm,0.2s
MRKS S **Sn** **05 21 41.7 -0.1**
82nm,0.3s
MRKS Merke 1.45 238 *e*P **Pn** **05 21 22.5 +0.2**
MRKS *e*S **Sn** **05 21 41.7 -0.1**
MRKS Merke 1.45 238 *e*P **Pn** **05 21 22.5 +0.2**
12nm,0.2s
MRKS *e*S **Sn** **05 21 41.7 -0.1**
82nm,0.3s
AAA Alma-Ata 1.50 101 P **Pb** **05 21 23.7 +0.2**
98nm,0.1s
AAA S **Sg** **05 21 43.5 +0.3**
16nm,0.2s
AAA Alma-Ata 1.50 101 *e*P **Pb** **05 21 23.7 +0.2**
98nm,0.1s
AAA *e*S **Sg** **05 21 43.5 +0.3**
16nm,0.2s
KNDC Almaty 1.53 101 ⇑P **Pb** **05 21 24.2 +0.1**
59nm,0.2s
KNDC ⇑S **Sb** **05 21 44.1 +0.2**
163nm,0.3s
CHKK Chushkaly 1.55 77 P **Pb** **05 21 24.2 -0.2**
21nm,0.1s
CHKK S **Sg** **05 21 44.9 +0.1**
212nm,0.2s
CHKK Chushkaly 1.55 77 *e*P **Pb** **05 21 24.2 -0.2**
CHKK *e*S **Sg** **05 21 45.0 +0.1**
CHKK Chushkaly 1.55 77 *e*P **Pb** **05 21 24.2 -0.2**
21nm,0.1s
CHKK *e*S **Sg** **05 21 44.9 +0.1**
212nm,0.2s
TNSS Tian-Shan 1.56 107 P **Pn** **05 21 24.2 +0.1**
23nm,0.2s
TNSS S **Sn** **05 21 44.9 -0.1**
32nm,0.2s
TNSS Tian-Shan 1.56 107 *e*P **Pn** **05 21 24.2 +0.1**
TNSS *e*S **Sn** **05 21 44.9 -0.1**
TNSS Tian-Shan 1.56 107 *e*P **Pn** **05 21 24.2 +0.1**
23nm,0.2s
TNSS *e*S **Sn** **05 21 44.9 -0.1**
32nm,0.2s
MDOK Medeo 1.60 102 Pg **Pn** **05 21 24.9 +0.5**
35nm,0.2s
MDOK Lg Lg 05 21 45.7
73nm,0.4s
MDOK Medeo 1.60 102 *e*P **Pn** **05 21 24.9 +0.5**
MDOK *e*S **Sb** **05 21 45.8 -0.2**
ULHL Ulahol 1.60 142 ⇑P **Pn** **05 21 24.5 0.0**
17nm,0.1s
ULHL ⇑S **Sb** **05 21 46.0 -0.1**
112nm,0.3s
ULHL Ulahol 1.60 142 ⇑*i*P **Pn** **05 21 24.0 -0.5**
ULHL ⇑*i*S **Sn** **05 21 45.4 -0.3**
KOTS Kotyrbulak 1.63 99 P **Pb** **05 21 25.8 -0.1**
41nm,0.1s
KOTS S **Sb** **05 21 47.1 +0.3**
185nm,0.2s
KOTS Kotyrbulak 1.63 99 *e*P **Pb** **05 21 25.8 -0.1**
KOTS *e*S **Sb** **05 21 47.2 +0.3**
KOTS Kotyrbulak 1.63 99 *e*P **Pb** **05 21 25.8 -0.1**
41nm,0.1s
KOTS *e*S **Sb** **05 21 47.1 +0.3**
185nm,0.2s
BTLS Baital 1.64 338 P **Pb** **05 21 26.3 +0.2**
98nm,0.2s
BTLS S **Sb** **05 21 47.6 +0.5**
41nm,0.2s
BTLS Baital 1.64 338 *e*P **Pb** **05 21 26.2 +0.2**
98nm,0.2s
BTLS *e*S **Sb** **05 21 47.6 +0.5**
41nm,0.2s
KDJ Kajisay 2.17 129 ⇑*i*P **Pn** **05 21 33.2 +1.0**
KDJ ⇑*i*S **Sb** **05 22 01.0 -1.4**
ARXS Arharly 2.22 71 Pg **Pb** **05 21 35.1 -0.8**
28nm,0.3s
ARXS Lg Lg 05 22 03.7
80nm,0.4s
ARXS Arharly 2.22 71 *e*P **Pb** **05 21 35.1 -0.8**
28nm,0.3s
ARXS *e*S **Sb** **05 22 03.8 0.0**
80nm,0.4s
KURS Kuram 2.37 90 Pg **Pb** **05 21 38.4 -0.1**
16nm,0.2s
KURS Lg Lg 05 22 09.2
54nm,0.4s
JNKS Jany-Kuch 2.52 167 ⇓*e*P **Pn** **05 21 37.7 +0.6**
JNKS ⇓*e*S **Sn** **05 22 09.6 +1.3**
SATY Saty 2.59 99 Pg **Pb** **05 21 42.2 -0.1**
13nm,0.2s
SATY Lg Lg 05 22 16.0
365nm,0.1s
ARSB Arslanbob 2.62 214 ⇓*e*P **Pn** **05 21 39.2 +0.9**
ARSB ⇓*e*S **Sn** **05 22 11.5 +1.0**
DZA Taraz 2.69 258 Pg **Pb** **05 21 44.3 +0.4**
82nm,0.1s
DZA Lg Lg 05 22 18.8
106nm,0.3s
DZA Taraz 2.69 258 *e*P **Pb** **05 21 44.2 +0.4**
82nm,0.1s
DZA *e*S **Sb** **05 22 18.8 +1.7**
106nm,0.3s
KPKS Kokpek 2.75 90 Pg **Pb** **05 21 44.6 -0.3**
3.7nm,0.2s
KPKS Lg Lg 05 22 19.5
160nm,0.2s
SALK Salom-Alik 2.75 197 ⇑*i*P **Pn** **05 21 41.1 +0.9**
SALK ⇑*i*S **Sn** **05 22 14.8 +0.8**
PRZ Przheval'sk 2.76 111 ⇓*i*P **Pn** **05 21 41.1 +0.8**
PRZ ⇓*i*S **Sn** **05 22 14.8 +0.6**
ARK Arkit 2.77 233 ⇑*i*P **Pn** **05 21 41.4 +1.0**
ARK ⇑*i*S **Sn** **05 22 15.4 +1.1**
TDK Taldyqorghan 2.92 58 Pg **Pn** **05 21 45.3 +2.9**
45nm,0.3s
TDK Lg Lg 05 22 21.0
0.6nm,0.4s
TDK Taldyqorghan 2.92 58 *e*P **Pb** **05 21 48.8 +1.0**
40nm,0.3s
TDK *e*S **Sb** **05 22 26.5 +2.7**
77nm,0.3s
UZB Uzynbulak 3.02 96 Pg **Pb** **05 21 49.4 -0.2**
7.2nm,0.2s
UZB Lg Lg 05 22 28.0
41nm,0.2s
UZB Uzynbulak 3.02 96 *e*P **Pb** **05 21 49.4 -0.2**
7.2nm,0.2s
UZB *e*S **Sb** **05 22 28.0 +1.1**
41nm,0.2s
KNOS Konyrlen 3.20 73 Pg **Pb** **05 21 52.2 -0.4**
14nm,0.4s
KNOS Lg Lg 05 22 32.6
15nm,0.3s
KK31 Karatay Array 3.24 264 ⇑Pg **Pb** **05 21 54.5 +1.4**
2.0nm,0.2s,baz=83,slow=17,SNR=15
KK31 ⇑Lg Lg 05 22 34.8
9.0nm,0.3s,baz=78,slow=29,SNR=15
SHLS Shalkode 3.34 95 Pg **Pg** **05 22 00.6 +1.5**
16nm,0.2s
SHLS Lg Lg 05 22 47.2
32nm,0.5s
SHLS Shalkode 3.34 95 *e*P **Pg** **05 22 00.7 +1.5**
16nm,0.2s
SHLS *e*S **Sg** **05 22 47.2 +4.7**
32nm,0.5s
PDGK Podgornoye 3.34 92 ⇑Pg **Pg** **05 21 57.4 -1.8**
8.7nm,0.4s
PDGK ⇑Lg Lg 05 22 40.5
37nm,0.7s
OHH Osh 3.38 209 ⇑*i*P **Pn** **05 21 49.9 +1.1**
OHH ⇑*i*S **Sn** **05 22 30.0 +0.6**
TRKS Terek-Say 3.42 236 ⇑*i*P **Pn** **05 21 50.8 +1.4**
TRKS ⇑*i*S **Sn** **05 22 31.8 +1.4**
KAPS Kapalarasan 3.65 59 Pg **Pb** **05 22 01.6 +1.5**
7.0nm,0.3s
KAPS Lg Lg 05 22 48.7
35nm,0.2s
SFK Sufi-Kurgan 3.66 197 ⇓*i*P **Pn** **05 21 53.7 +1.0**
SFK ⇓*i*S **Sn** **05 22 36.7 +0.4**
BRLS Borolday 3.74 264 Pg **Pg** **05 22 05.6 -1.1**
3.3nm,0.3s
BRLS Lg Lg 05 22 55.3
7.2nm,0.3s
BRLS Borolday 3.74 264 *e*P **Pg** **05 22 05.6 -1.1**
3.3nm,0.3s
BRLS *e*S **Sg** **05 22 55.3 +0.2**
7.2nm,0.3s
IUG Iuzhnay 3.84 251 Pg **Pb** **05 22 04.8 +1.3**
19nm,0.3s
IUG Lg Lg 05 22 54.0
75nm,0.8s
CHM Chimkent 4.08 255 *e*P **Pg** **05 22 11.4 -1.8**
94nm,0.2s
CHM *e*S **Sg** **05 23 05.3 -0.8**
177nm,0.3s
GAR Garm 5.69 219 ⇑*i*P **Pn** **05 22 21.6 +1.1**
GAR ⇑*i*S **Sn** **05 23 25.1 -1.1**
MK31 Makanchi Array 6.16 55 ⇑Pn **Pn** **05 22 28.6 +1.7**
0.6nm,0.2s,baz=231,slow=11,SNR=42
MK31 ⇑Sn **Sn** **05 23 36.9 -0.9**
1.3nm,0.3s,baz=228,slow=24,SNR=12
MK31 ⇑Lg Lg 05 24 11.8
5.0nm,0.7s,baz=236,slow=30,SNR=3.8
CHGR Chuyangaron 6.51 224 ⇑*i*P **Pn** **05 22 33.0 +1.2**
CHGR ⇑*i*S **Sn** **05 23 44.6 -2.0**
KURBB Kurchatov Arra 7.53 18 ⇑Pn **Pn** **05 22 45.2 -0.3**
1.1nm,0.5s
KURBB ⇓Sn **Sn** **05 24 09.3 -1.9**
12nm,0.9s
KURBB ⇓Lg Lg 05 24 52.8
22nm,0.6s
KURK Kurchatov 7.63 18 ⇑Pn **Pn** **05 22 48.1 +1.1**
0.2nm,0.6s
KURK ⇑Sn **Sn** **05 24 11.5 -2.4**
1.0nm,0.6s
KURK ⇓Lg Lg 05 24 55.2
10nm,0.8s
BVA0 Borovoye Array 9.98 344 ⇓Sn **Sn** **05 25 09.0 -2.4**
3.1nm,0.7s
BVA0 ⇑Lg Lg 05 26 13.1
5.8nm,0.8s,baz=146,slow=26,SNR=3.7

*IDC **10** 05:27:15.8±1.9, 3°.29S×128°.67E, h0km, mb3.8/3, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=120.8km s-min=23.8km az=72.0*
*DJA **10** 05:27:18.5±0.3, 4°.S±3°×12°.8E±°, h10km, M3.9/8, mB5.3/1, mb4.0/1, MLv3.9/8, Mw(mB)4.7/1*
ISC 10 05:27:18.2±0.8, 3°.55S±0°.06×128°.20E±0°.05, h10km, n11, σ1§21/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.14**	**184**	P	**Pg**	**05 27 22.0**	**+0.6**
AAI				S	**Sg**	**05 27 24.6**	**+1.0**
MSAI	**Masohi**	**0.75**	**75**	P	**Pg**	**05 27 32.8**	**0.0**
MSAI				S	**Sg**	**05 27 42.4**	**-0.2**
NLAI	**Namlea**	**1.14**	**286**	P	**Pb**	**05 27 39.7**	**-0.4**
SANI	**Sanana**	**2.67**	**304**	P	**Pn**	**05 28 02.8**	**+1.5**
SWI	**Sorong**	**4.05**	**49**	P	**Pn**	**05 28 22.0**	**+1.6**
FAKI	**Fak Fak**	**4.09**	**81**	P	**Pn**	**05 28 22.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**14.68**	**190**	Pn	**P**	**05 30 50.9**	**-1.5**
	0.1nm,0.3s,baz=6.5,slow=5.4,SNR=2.7						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**17.36**	**160**	P	**Pn**	**05 31 19.3**	**-1.6**
	0.2nm,0.3s,baz=343,slow=12,SNR=6.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**20.75**	**165**	P	**P**	**05 32 00.1**	**+0.9**
	8.3nm,0.9s,baz=345,slow=11,SNR=53						
	8.3nm,0.9s						
MKAR	**Makanchi Array**	**64.38**	**327**	P	**P**	**05 37 53.9**	**-0.6**
	0.3nm,0.5s,baz=133,slow=6.3,SNR=4.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**68.65**	**329**	P	**P**	**05 38 21.2**	**-0.5**
	0.4nm,0.5s,baz=126,slow=6.1,SNR=4.1						
	0.4nm,0.5s						

*ASRS **10** 05:30:12.0±0.7, 54°.17N×86°.40E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 05:30:13.0±3.0, 54°.18N×86°.61E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.7km s-min=14.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**259**	I	I	05 35 40.0	
	baz=80,slow=329,SNR=10						
ZALV	**Zalesovo Beam**	**1.08**	**259**	Pg	Pg	05 30 32.1	-1.5
	0.8nm,0.3s,baz=80,slow=17,SNR=6.0						
ZALV				Lg	Lg	05 30 49.6	
	2.1nm,0.3s,baz=75,slow=28,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.09**	**238**	Pn	Pn	05 31 44.3	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=4.7						
KURBB				Lg	Lg	05 33 27.7	
	baz=52,slow=31,SNR=1.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.89**	**202**	Pn	Pn	05 32 10.6	+1.7
	0.2nm,0.3s,baz=20,slow=13,SNR=3.3						
	0.2nm,0.3s						

*IDC **10** 05:34:23.8±1.5, 57°.90S×157°.79E, h0km, mb4.2/6, mbtmp4.2/7, ML3.4/1, MS3.7/8, Error ellipse: s-maj=65.0km s-min=19.6km az=78.0*
*NEIC **10** 05:34:24.9±0.6, 58°.0S±0°.1×157°.9E±0°.4, h10km±2km, mb4.2/15, Error ellipse: s-maj=32.2km s-min=17.8km az=79.0*
ISC 10 05:34:25.0±0.6, 57°.94S±0°.07×157°.7E±0°.2, h10km, n48, σ0§58/33, mb4.2/15, MS3.9/8, 5C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**13.59**	**32**	Pn	**Pn**	**05 37 37.0**	**-0.6**
MLZ	**Mavora Lakes**	**14.12**	**31**	Pn	**Pn**	**05 37 46.2**	**+1.3**
TAU	**Tasmania Unive**	**16.40**	**332**	Pn	**Pn**	**05 38 13.9**	**-1.2**
TAU				IAmb	IAmb	05 38 30.2	
	comp=Z,33nm,1.4s						
VNDA	**Vanda**	**19.73**	**177**		**P**	**05 38 53.8**	**-0.5**
VNDA	**Vanda**	**19.73**	**177**	P	**P**	**05 38 54.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=351,slow=10,SNR=13						
	comp=Z,2.0nm,0.8s						
SBA	**Scott Base**	**20.24**	**174**		**P**	**05 38 58.7**	**-1.2**
SBA				IAmb	IAmb	05 39 07.8	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**21.90**	**333**	P	**P**	**05 39 18.7**	**+0.6**
CASY	**Casey**	**23.04**	**229**	P	**P**	**05 39 29.9**	**-0.1**
CASY				IAmb	IAmb	05 39 42.4	
	comp=Z,8.0nm,1.1s						
URZ	**Urewera**	**23.41**	**41**	LR	LR	05 47 02.0	
	comp=Z,140nm,21.0s,baz=198,slow=32						
STKA Stephens Creek 28.30 330 LR LR 05 49 25.0
comp=Z,66nm,18.4s,baz=201,slow=32
QSPA South Pole Qui 32.17 180 P **P** **05 40 52.5 -0.1**
QSPA IAmb IAmb 05 40 57.1
comp=Z,4.3nm,0.9s
H01W1 Cape Leeuwin H 36.92 289 T T 06 20 49.4
baz=142,slow=76,SNR=19
H01W2 Cape Leeuwin H 36.93 289 T T 06 20 50.0
baz=142,slow=76,SNR=18
H01W3 Cape Leeuwin H 36.94 289 T T 06 20 47.0
baz=142,slow=76,SNR=19
ASAR Alice Springs 38.27 323 **P** **05 41 44.9 -0.5**
ASAR Alice Springs 38.27 323 P **P** **05 41 45.8 +0.4**
comp=Z,3.1nm,0.9s,baz=160,slow=8.0,SNR=16
comp=Z,3.1nm,0.9s
AS31 Alice Springs 38.27 323 **P** **05 41 45.3 0.0**
CTAO Charters Tower 38.72 343 P **P** **05 41 48.8 -0.2**
CTAO IAmb IAmb 05 41 50.6
comp=Z,6.1nm,1.1s
MAW Mawson 40.18 216 P **P** **05 42 01.8 +1.0**
comp=Z,1.8nm,0.9s,baz=133,slow=7.1,SNR=4.8
MAW LR LR 05 56 56.2
comp=Z,168nm,20.1s,baz=116,slow=34
comp=Z,1.8nm,0.9s
WR0 Warramunga Arr 41.55 326 P **P** **05 42 12.7 +0.1**
WR8 Warramunga Arr 41.57 326 P **P** **05 42 12.7 -0.1**
WB2 Warramunga Arr 41.63 326 P **P** **05 42 13.2 +0.1**
WB2 IAmb IAmb 05 42 13.8
comp=Z,5.8nm,0.9s
WRA Warramunga Arr 41.63 326 P **P** **05 42 12.8 -0.4**
comp=Z,3.3nm,0.8s,baz=163,slow=7.1,SNR=11
comp=Z,3.3nm,0.8s
WB0 Warramunga Arr 41.78 326 P **P** **05 42 14.1 -0.3**
WB0 IAmb IAmb 05 42 25.3
comp=Z,7.4nm,1.1s
BELA Belgrano 2 44.23 176 P **P** **05 42 33.2 -0.4**
BELA IAmb IAmb 05 42 45.9
comp=Z,3.1nm,1.1s
FITZ Fitzroy Crossi 46.28 316 P **P** **05 42 49.9 -0.7**
FITZ IAmb IAmb 05 42 52.4
comp=Z,1.2nm,1.1s
FITZ Fitzroy Crossi 46.28 316 P **P** **05 42 50.7 +0.1**
comp=Z,4.4nm,0.9s,baz=175,slow=13,SNR=5.0
comp=Z,4.4nm,0.9s
RAR Rarotonga 47.84 58 LR LR 06 00 21.3
comp=Z,116nm,18.0s,baz=224,slow=33
TROLL Troll, Antarti 49.20 190 ⇑P **P** **05 43 12.3 -0.4**
comp=Z,108nm,0.8s
SNAA Sanae 49.97 188 ⇑P **P** **05 43 19.1 +0.5**
comp=Z,70nm,1.3s
SNAA Sanae 49.97 188 P **P** **05 43 18.7 +0.2**
SNAA Sanae 49.97 188 P **P** **05 43 18.9 +0.4**
comp=Z,2.7nm,1.0s,baz=157,slow=10,SNR=6.8
comp=Z,2.7nm,1.0s
VNA3 Neumayer Olymp 50.81 185 ⇑P **P** **05 43 25.2 +0.4**
comp=Z,2.8nm,0.8s
VNA2 Neumayer--Watz 51.00 186 ⇑P **P** **05 43 26.6 +0.4**
comp=Z,2.1nm,0.7s,baz=156,slow=5.7
VNA1 Neumayer--Stat 51.32 186 ⇑P **P** **05 43 28.5 -0.1**
comp=Z,6.9nm,0.9s
H03S2 Juan Fernandez 77.02 134 T T 07 11 48.8
baz=206
H03S1 Juan Fernandez 77.02 135 T T 07 11 50.3
baz=206
H03S3 Juan Fernandez 77.03 134 T T 07 11 51.1
baz=206
H08S2 Diego Garcia H 81.03 270 T T 07 15 58.1
baz=147,slow=76,SNR=15
H08S1 Diego Carcia H 81.05 270 T T 07 15 58.9
baz=147,slow=76,SNR=15
H08S3 Diego Garcia H 81.06 270 T T 07 15 59.7
baz=147,slow=76,SNR=19
LBTB Lobatse 88.22 222 LR LR 06 22 23.2
comp=Z,42nm,20.7s,baz=195,slow=33
PALK Pallekele 89.28 285 LR LR 06 17 38.8
comp=Z,46nm,21.5s,baz=126,slow=29
CMAR Chiang Mai Arr 90.21 306 P **P** **05 47 26.1 +0.6**
comp=Z,1.0nm,0.3s,baz=142,slow=4.0,SNR=5.6
CMAR LR LR 06 23 56.5
comp=Z,12nm,22.0s,baz=85,slow=33
comp=Z,1.0nm,0.3s
LSZ Lusaka 96.10 228 LR LR 06 28 23.1
comp=Z,58nm,18.3s,baz=144,slow=34
ZALV Zalesovo Beam 126.12 316 PKP **PKiKP** **05 53 27.1 +0.5**
comp=Z,0.5nm,0.3s,baz=132,slow=2.1,SNR=1.6
ILAR Eielson Array 129.37 27 PKP **PKiKP** **05 53 32.3 -0.5**
comp=Z,0.5nm,0.9s,baz=205,slow=3.9,SNR=3.8
AKASG Malin Array Be 149.76 279 PKPbc **PKPbc** **05 54 13.4 -0.4**
comp=Z,1.2nm,0.7s,baz=103,slow=1.9,SNR=4.2

IDC 10 05:45:13.1±5.1, 8°.31S×127°.72E, h163km±35km, mb3.4/2, mbtmp4.2/6, Error ellipse: s-maj=51.3km s-min=22.3km az=30.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.43**	**244**	P	Pn	05 46 18.6	-0.7
	17nm,0.3s,baz=82,slow=7.1,SNR=1.9						
BATI				S	Sn	05 47 11.8	+0.9
	47nm,0.3s,baz=2.8,slow=22,SNR=10.0						
FITZ	**Fitzroy Crossi**	**9.94**	**192**	P	Pn	05 47 31.6	-0.5
	6.6nm,0.4s,baz=11,slow=12,SNR=28						
FITZ				S	Sn	05 49 21.8	-0.6
	6.3nm,0.3s,baz=74,slow=20,SNR=8.8						
WRA	**Warramunga Arr**	**13.22**	**152**	P	Pn	05 48 15.5	+0.8
	3.3nm,0.3s,baz=324,slow=14,SNR=29						
WRA				S	Sn	05 50 39.2	-2.2
	1.7nm,0.5s,baz=330,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**16.38**	**159**	P	Pn	05 48 55.2	+1.4
	2.9nm,0.4s,baz=336,slow=10,SNR=47						
ASAR				S	Sn	05 51 59.9	+2.7
	1.3nm,0.7s,baz=341,slow=23,SNR=5.2						
VNDA	**Vanda**	**71.44**	**173**	P	P	05 56 14.2	-0.9
	0.5nm,0.6s,baz=314,slow=6.1,SNR=6.2						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**81.68**	**180**	P	P	05 57 13.8	+0.8
	1.3nm,1.0s,baz=359,slow=6.8,SNR=5.2						
	1.3nm,1.0s						

*CATAC **10** 05:55:02.0±0.8, 10°.N±7°.7×84°.7W±°, h29km±15km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=18.1km s-min=4.8km az=30.6, confirmed*
*UCR **10** 05:55:01.1±1.3, 10°.08N×86°.53W, h0km±3km, MW3.7*
ISC 10 05:54:59.6±1.9, 9°.99N±0°.05×86°.57W±0°.06, h4km±10km, n113, σ1§24/156, 17C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**1.03**	**80**	⇑*i*P	**Pb**	**05 55 20.0**	**0.0**
JUD3				*e*S	**Sb**	**05 55 33.4**	**-0.6**
DELF	**Filadelfia**	**1.10**	**65**	*e*P	**Pn**	**05 55 21.4**	**-0.4**
DELF				*e*S	**Sn**	**05 55 37.2**	**-0.2**
NICO	**Nicoya**	**1.12**	**82**	*e*P	**Pg**	**05 55 21.0**	**0.0**
NICO				*e*S	**Sb**	**05 55 36.0**	**-0.3**
ALIBA	**Liberia Airpor**	**1.18**	**59**	⇑*i*P	**Pn**	**05 55 23.1**	**+0.3**
ALIBA				*e*S	**Sn**	**05 55 39.8**	**+0.6**
ELI1	**Hacienda Flor**	**1.20**	**57**	S	**Sn**	**05 55 40.7**	**+0.9**
ELI1	**Hacienda Flor**	**1.20**	**57**	P	**Pn**	**05 55 23.7**	**+0.6**
ELI1	**Hacienda Flor**	**1.20**	**57**	⇑*e*P	**Pn**	**05 55 23.6**	**+0.6**
ELI1				*e*S	**Sn**	**05 55 41.3**	**+1.6**
PLVR	**Palo Verde**	**1.25**	**73**	⇑*i*P	**Pb**	**05 55 23.3**	**-0.6**
PLVR				*e*S	**Sn**	**05 55 40.4**	**-1.0**
NYURE	**Nandayure**	**1.30**	**89**	⇑*i*P	**Pn**	**05 55 23.6**	**-0.9**
NYURE				*e*S	**Sb**	**05 55 40.3**	**-1.3**
LAPC	**Finca la Perla**	**1.36**	**55**	⇑*i*P	**Pb**	**05 55 25.2**	**-0.4**
LAPC				*e*S	**Sg**	**05 55 43.5**	**+0.1**
BAGA	**Bagaces**	**1.40**	**67**	*e*P	**Pg**	**05 55 26.6**	**+0.3**
GPS3	**Bodega del ICE**	**1.41**	**57**	⇓*i*P	**Pg**	**05 55 26.8**	**+0.1**
GPS3				*e*S	**Sg**	**05 55 48.1**	**+3.1**
GPS2	**Hotel Rincn d**	**1.42**	**57**	⇑*e*P	**Pb**	**05 55 26.2**	**-0.4**
GPS2				*e*S	**Sg**	**05 55 45.6**	**+0.3**
LCRUZ	**La Cruz**	**1.43**	**40**	⇑*i*P	**Pb**	**05 55 26.4**	**-0.3**
LCRUZ				*e*S	**Sg**	**05 55 46.9**	**+1.5**
VRLE	**La Escondida,**	**1.43**	**56**	⇑*i*P	**Pn**	**05 55 26.2**	**-0.2**
GPS1	**Guardaparques**	**1.43**	**57**	⇑*e*P	**Pb**	**05 55 26.5**	**-0.4**
GPS1				*e*S	**Sg**	**05 55 45.6**	**-0.1**
VORI	**VORI**	**1.46**	**55**	⇑*e*P	**Pb**	**05 55 26.8**	**-0.6**
VORI				*e*S	**Sg**	**05 55 47.5**	**+0.9**
COLC	**Colonia**	**1.50**	**63**	*e*P	**Pb**	**05 55 27.6**	**-0.5**
BUAI	**Buenos Aires**	**1.51**	**54**	*e*P	**Pg**	**05 55 28.3**	**-0.2**
CBL1	**Cabuya**	**1.51**	**105**	*e*P	**Pn**	**05 55 26.8**	**-0.5**
CBL1				⇓*i*P	**Pb**	**05 55 28.3**	**+0.2**
CBL1				*e*S	**Sn**	**05 55 45.6**	**-1.9**
CNAS	**Canas**	**1.52**	**73**	*e*P	**Pn**	**05 55 27.4**	**-0.1**

PEJA	Penjamo Buenos	1.53	54	eP	Pb	05 55 28.3	-0.3
CUI	Cuipilapa	1.54	64	eP	Pg	05 55 30.3	+1.2
CUI				eS	Sg	05 55 50.6	+1.7
HORNC	Hornillas	1.55	62	eP	Pb	05 55 28.3	-0.6
HORNC				eS	Sg	05 55 48.8	-0.6
INVE	Universidad In	1.56	72	⇑iP	Pb	05 55 28.4	-0.6
INVE				eS	Sg	05 55 49.7	-0.1
CARN	Rivas	1.58	41	P	Pb	05 55 28.5	-0.8
CARN				S	Sg	05 55 50.8	+0.5
JUNT	Juntas	1.61	79	eP	Pn	05 55 28.2	-0.6
JTS	Las Juntas de	1.62	79	P	Pn	05 55 28.7	-0.3
JTS				S	Sb	05 55 50.3	-0.5
JTS	Las Juntas de	1.62	79	eP	Pn	05 55 28.6	-0.3
JTS				eS	Sb	05 55 50.1	-0.8
MOTZ	Rio Naranjo	1.63	65	eP	Pb	05 55 29.6	-0.6
TILA	Tilaran	1.65	73	eP	Pn	05 55 29.4	+0.1
TILA				eS	Sb	05 55 51.2	-0.5
VMAR	Armenia, Volca	1.65	60	⇑eP	Pb	05 55 29.8	-0.8
VMAR				eS	Sg	05 55 52.0	-0.7
TENO	El Achiote	1.72	65	eP	Pn	05 55 29.8	-0.5
MTEVE	Monteverde	1.75	79	eP	Pn	05 55 30.8	0.0
MTEVE				eS	Sb	05 55 54.2	-0.5
QUEB	Quebradon, Cot	1.77	69	eP	Pb	05 55 31.7	-0.8
UPAL	Upala	1.78	59	S	Sg	05 55 56.8	-0.1
UPAL	Upala	1.78	59	P	Pb	05 55 32.0	-0.7
UPAL	Upala	1.78	59	eP	Pb	05 55 31.7	-1.1
MORN	Al O del Volca	1.80	30	P	Pb	05 55 32.3	-0.8
MORN				S	Sb	05 55 55.3	-0.6
CONN	Concepcion	1.82	31	P	Pb	05 55 32.5	-1.0
CONN				S	Sb	05 55 56.2	-0.5
NADN	Granada	1.83	17	P	Pb	05 55 32.3	-1.3
NADN				S	Sb	05 55 56.3	-0.5
NADN	Granada	1.83	17	eP	Pb	05 55 32.3	-1.3
TABAC	Tabacon	1.85	74	eP	Pb	05 55 33.3	-0.7
TABAC				eS	Sg	05 55 58.2	-0.8
CASO	Castillo	1.86	76	eP	Pb	05 55 33.4	-0.8
CASO				eS	Sb	05 55 57.7	-0.2
ARE1	Arenal 1	1.88	75	eP	Pb	05 55 33.4	-1.1
ARE1				eS	Sb	05 55 58.7	+0.3
VARE2	V. Arenal	1.88	75	eP	Pb	05 55 33.5	-1.0
VARE2				eS	Sg	05 55 59.1	-1.0
CEDE	Laguna Cedeo	1.90	75	eP	Pb	05 55 34.4	-0.5
CEDE				eS	Sg	05 56 00.3	-0.5
REZ	Monterrey de S	1.92	74	eP	Pb	05 55 34.4	-0.8
VACR	Volcan Arenal	1.93	75	eP	Pb	05 55 35.1	-0.1
FORC	Fortuna	1.93	76	eP	Pb	05 55 34.3	-1.0
FORC				eS	Sb	05 55 59.0	-0.8
SOCE	Pocosol	1.96	78	S	Sb	05 55 59.8	-0.9
SOCE	Pocosol	1.96	78	P	Pn	05 55 34.3	+0.7
SOCE	Pocosol	1.96	78	eP	Pn	05 55 34.1	+0.5
RAMO	San Ramon	2.07	87	eP	Pb	05 55 37.4	-0.4
PALD	Palmares	2.10	88	⇓iP	Pb	05 55 37.8	-0.6
PALD				eS	Sn	05 56 02.7	+0.4
ATEO	Atenas	2.15	90	eP	Pn	05 55 37.3	+1.0
NARAN	Naranjo de Ala	2.16	87	eP	Pn	05 55 37.7	+1.3
VPL2	V. Platanar	2.18	81	eP	Pb	05 55 38.4	-1.2
COPN	Copaltepe	2.18	359	P	Pn	05 55 37.5	+0.9
COPN	Copaltepe	2.18	359	⇑iP	Pn	05 55 37.5	+0.9
COPN				eS	Sn	05 56 04.0	0.0
VPL1	V. Platanar	2.19	83	eP	Pb	05 55 38.5	-1.4
SARCI	Sarchi	2.19	87	eP	Pb	05 55 39.4	-0.4
PURI	Puriscal	2.23	93	eP	Pn	05 55 38.8	+1.4
VPS8	V Poas	2.30	85	eP	Pb	05 55 41.1	-0.7
ITAL	Pital	2.31	78	eP	Pn	05 55 39.7	+1.3
PAR1A	Puntarenas Pro	2.32	99	eP	Pn	05 55 39.4	+1.0
BELE	Belen	2.35	90	⇑eP	Pb	05 55 40.9	-1.6
SANTA	Santa Ana	2.35	91	eP	Pn	05 55 40.6	+1.6
PICV	PH. Pirrs	2.37	98	eP	Pn	05 55 40.8	+1.6
ACOS	Acosta	2.38	94	eP	Pn	05 55 40.9	+1.4
ACOS				eS	Sb	05 56 11.0	-1.8
HEME	Heredia, Merce	2.40	90	eP	Pb	05 55 43.1	-0.3
ACON	Acoyapa	2.40	35	S	Sn	05 56 09.2	-0.2
ACON	Acoyapa	2.40	35	P	Pn	05 55 39.1	-0.6
ACON	Acoyapa	2.40	35	⇑iP	Pn	05 55 39.0	-0.6
HDC	Heredia	2.42	89	eP	Pb	05 55 42.1	-1.6
DOMI	Santo Domingo	2.44	90	eP	Pb	05 55 42.5	-1.7
AMPA	Desamparados	2.47	92	eP	Pb	05 55 42.9	-1.8
LLNJ	Naranjito	2.49	102	eP	Pb	05 55 43.0	-1.8
LLNJ				eS	Sn	05 56 11.9	+0.3
CNGA	Al SSO del Vol	2.50	357	P	Pn	05 55 42.1	+1.1
CNGA				S	Sn	05 56 11.0	-0.9
CNGN	Cerro Negro	2.50	357	S	Sn	05 56 12.6	+0.6
CNGN	Cerro Negro	2.50	357	P	Pn	05 55 41.9	+0.9
CNGN	Cerro Negro	2.50	357	eP	Pn	05 55 42.0	+1.0
PITB	Pirrs, San	2.53	97	eP	Pn	05 55 42.9	+1.3
TRIO	Tres Rios	2.54	92	eP	Pb	05 55 43.2	-1.9
SARA	Sarapiqui	2.55	79	eP	Pn	05 55 43.5	+1.8
CVIMO	Finca Echandi	2.59	89	eP	Pb	05 55 44.8	-1.9
PLRN	Geotermica Pol	2.59	356	P	Pn	05 55 43.1	+0.9
PLRN				S	Sn	05 56 13.4	-0.8
PIEC	Cerro El Cedra	2.60	98	eP	Pn	05 55 43.8	+1.2
POLN	Al Sur del Vol	2.66	355	P	Pn	05 55 43.9	+0.7
REPA	Paraso	2.67	93	eP	Pn	05 55 45.3	+1.8
VICA	Volcano Irazu	2.69	90	eP	Pn	05 55 46.0	+2.1
VICA				eS	Sn	05 56 19.0	+1.9
PKGN	Cerro Pekin	2.70	352	P	Pn	05 55 44.9	+1.1
PKGN				S	Sn	05 56 16.4	-0.4
PILE	Guapiles	2.75	85	eP	Pb	05 55 46.8	-2.5
CVTQ	Turrialba Volc	2.76	89	eP	Pb	05 55 48.0	-1.7
VTR0	Volcan Turrial	2.77	89	⇓iP	Pb	05 55 48.0	-1.8
VTR0				eS	Sb	05 56 23.1	-1.2
CVTR	Volcan Turrial	2.77	89	⇓iP	Pb	05 55 48.0	-1.9
CVTV	Tajo	2.78	89	eP	Pb	05 55 47.8	-2.2
VINA	Juan Vinas	2.78	97	eP	Pb	05 55 47.4	-2.4
ABRB	Las Abras (San	2.81	89	eP	Pn	05 55 47.8	+2.3
VERB	Verbena	2.83	91	eP	Pn	05 55 47.9	+2.2
TRT2	Tortugero	2.85	78	eP	Pn	05 55 47.5	+1.7
RESJ	San Isidro (Tu	2.88	89	eP	Pn	05 55 48.6	+2.2
RVLA	Villa Bonita	2.94	87	eP	Pb	05 55 49.9	-2.7
LCOCO	El Coco	2.97	88	eP	Pb	05 55 50.2	-2.8
EDPE	Pejibaye, P	3.07	105	eP	Pb	05 55 52.2	-2.6
SAJE	San Jernim	3.08	102	eP	Pn	05 55 50.2	+1.0
VERH	Veragua Rainfo	3.33	91	eP	Pn	05 55 54.3	+1.8
LAES	El Progreso Va	3.48	93	eP	Pn	05 55 56.9	+2.5
LAES				eS	Sn	05 56 38.6	+2.5
PIRO	Carate, Puerto	3.56	116	⇑eP	Pn	05 55 57.3	+1.7
BANCO	falda S V. Bar	4.18	107	eP	Pn	05 56 06.8	+2.4
WILLF	Boquete	4.26	106	eP	Pn	05 56 07.5	+2.1
PBNVO	Pueblo Nuevo,	4.45	104	eP	Pn	05 56 09.7	+1.8
KKNTU	Kakint^{g}	4.84	103	eP	Pn	05 56 15.8	+2.7

*ASRS **10** 06:00:14.0±0.6, 54°.30N×86°.11E, h0^{km}, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 06:00:22.6±3.9, 54°.18N×85°.65E, h0^{km}, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=35.0km s-min=10.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.55	245	I	I	06 04 50.0	
	baz=64, slow=327, SNR=12						
ZALV	Zalesovo Beam	0.55	245	Pg	Pg	06 00 32.9	-0.1
	0.6nm, 0.3s, baz=65, slow=18, SNR=6.2						
ZALV				Lg	Lg	06 00 44.2	
	1.9nm, 0.3s, baz=61, slow=25, SNR=10						
KURBB	Kurchatov Arra	5.63	234	Pn	Pn	06 01 47.5	0.0
	0.1nm, 0.3s, baz=50, slow=13, SNR=3.6						
KURBB				Lg	Lg	06 03 21.7	
	0.1nm, 0.3s, baz=113, slow=38, SNR=2.2						
	0.3nm, 0.3s						
MKAR	Makanchi Array	7.70	198	Pn	Pn	06 02 17.3	+1.3
	0.1nm, 0.3s, baz=20, slow=16, SNR=3.2						
	0.2nm, 0.4s						

DJA 10 06:11:56.1±0.4, 8°.5±4°.×10°.8E±°, h10^{km}, M3.7/13, mB4.9/1, MLv3.7/13, Mw(mB)4.2/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	1.17	318	P	Pb	06 12 17.3	-1.1
KPJI	Karang Pucung	1.31	50	P	Pn	06 12 19.7	-0.7
LEM	Lembang	1.38	347	P	Pn	06 12 20.7	-0.9
SKJI	Sukabumi	1.79	311	P	Pn	06 12 26.8	-0.2
UGM	Wanagama	2.59	84	P	Pn	06 12 37.6	-0.6
CGJI	Cibinong	2.70	305	P	Pn	06 12 39.7	+0.1
SMRI	Semarang	2.74	66	P	Pn	06 12 39.8	-0.4
WOJI	Wonogiri, Jawa	2.99	84	P	Pn	06 12 43.2	-0.5
PCJI	Pacitan	3.22	90	P	Pn	06 12 47.2	+0.4

MDSI	Maura Dua	5.22	314	P	Pn	06 13 16.1	+1.8

*IDC **10** 06:26:31.7±1.8, 0°.94N×126°.45E, h0^{km}, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=186.2km s-min=22.2km az=66.0*

*DJA **10** 06:26:33.4±0.6, 0°.N±6°.×12°.7E±°, h61^{km}±17^{km}, M3.4/7, MLv3.4/7*

ISC 10 06:26:37.0±1.3, 0°.9N±0°.2×126°.6E±0°.1, h39^{km}, n5, σ0^{s}89/6, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.82	102	P	Pn	06 26 51.5	-0.5
TNTI				S	Sn	06 27 03.5	+0.6
WRA	Warramunga Arr	22.11	160	P	P	06 31 28.5	-0.7
	0.6nm, 0.3s, baz=338, slow=11, SNR=8.1						
	0.6nm, 0.3s						
ASAR	Alice Springs	25.48	164	P	P	06 32 02.7	+0.9
	0.6nm, 0.5s, baz=344, slow=11, SNR=9.1						
	0.6nm, 0.5s						
MKAR	Makanchi Array	59.75	326	P	P	06 36 37.6	-0.4
	0.3nm, 0.5s, baz=129, slow=7.7, SNR=4.1						
	0.3nm, 0.5s						
KURBB	Kurchatov Arra	63.99	328	P	P	06 37 06.9	+0.5
	0.5nm, 0.3s, baz=124, slow=6.1, SNR=4.8						
	0.5nm, 0.3s						

IDC 10 06:53:22.8±2.1, 0°.85N×126°.09E, h0^{km}, mb3.6/3, mbtmp3.7/3, MS3.3/1, Error ellipse: s-maj=170.3km s-min=27.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.20	159	P	P	06 58 19.8	-1.1
	1.6nm, 0.7s, baz=337, slow=11, SNR=14						
	1.6nm, 0.7s						
GUMO	Guam	22.49	55	LR	LR	07 06 52.3	
	comp=Z, 67nm, 18.7s, baz=265, slow=36						
ASAR	Alice Springs	25.53	163	P	P	06 58 54.2	+0.8
	0.6nm, 0.4s, baz=345, slow=11, SNR=8.9						
	0.6nm, 0.4s						
MKAR	Makanchi Array	59.56	327	P	P	07 03 28.2	-0.1
	0.5nm, 0.6s, baz=121, slow=5.4, SNR=2.9						
	0.5nm, 0.6s						

*NNC **10** 06:57:28.0±0.8, 52°.06N×74°.42E, h0^{km}, mb3.2, mpv2.8, Error ellipse: s-maj=64.8km s-min=4.8km az=25.0, Suspected Mining explosion.*

*IDC **10** 06:57:29.2±1.0, 51°.76N×74°.36E, h0^{km}, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=28.6km s-min=8.1km az=29.0*

ISC 10 06:57:27.5±1.0, 51°.64N±0°.10×74°.32E±0°.05, h0^{km}, n10, σ1^{s}07/10, 3C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	Borovoye Array	2.78	302	⇓Pg	Pb	06 58 16.5	-1.6
	4.2nm, 0.6s, baz=110, slow=19, SNR=22						
BVA0				⇑Lg	Lg	06 58 50.6	
	12nm, 0.6s, baz=109, slow=24, SNR=16						
BVAR	Borovoye Array	2.78	302	Pn	Pn	06 58 14.0	+0.6
	0.3nm, 0.3s, baz=113, slow=18, SNR=18						
BVAR				Sn	Sn	06 58 48.5	+0.9
	1.3nm, 0.3s, baz=114, slow=28, SNR=37						
	3.8nm, 0.4s						
KURBB	Kurchatov Arra	2.84	109	Pn	Pb	06 58 17.5	-1.6
	0.5nm, 0.3s, baz=299, slow=15, SNR=5.6						
KURBB				Lg	Lg	06 58 58.3	
	0.8nm, 0.3s, baz=302, slow=32, SNR=14						
	2.8nm, 0.2s						
KURBB	Kurchatov Arra	2.84	109	⇓Pg	Pg	06 58 22.2	+0.2
	3.3nm, 0.3s						
KURBB				⇑Lg	Lg	06 58 59.9	
	36nm, 0.6s						
KURK	Kurchatov	2.86	107	⇓Pg	Pg	06 58 22.5	+0.2
	0.8nm, 0.6s						
KURK				⇓Lg	Lg	06 59 01.0	
	6.7nm, 0.8s						
I46RU	ZALESOVO INFRA	6.78	66	I	I	07 35 45.0	
	baz=256, slow=323, SNR=7.6						
ZALV	Zalesovo Beam	6.78	66	Pn	Pn	06 59 09.1	+1.0
	0.5nm, 0.3s, baz=257, slow=15, SNR=7.6						
ZALV				Sn	Sn	07 00 26.0	0.0
	0.3nm, 0.3s, baz=258, slow=24, SNR=1.8						
	1.7nm, 0.6s						
MK31	Makanchi Array	7.12	130	⇑Lg	Lg	07 01 23.5	
	3.0nm, 0.7s, baz=318, slow=22, SNR=3.7						
MKAR	Makanchi Array	7.12	130	Pn	Pn	06 59 13.8	+0.8
	0.1nm, 0.3s, baz=317, slow=10.0, SNR=1.6						
MKAR				Sn	Sn	07 00 34.6	+0.1
	0.2nm, 0.3s, baz=321, slow=26, SNR=1.9						
MKAR				Lg	Lg	07 01 16.2	
	0.2nm, 0.3s, baz=317, slow=27, SNR=8.0						
	0.1nm, 0.5s						
AAK	Ala-Archa	9.00	179	Lg	Lg	07 02 22.0	
	0.2nm, 0.3s, baz=51, slow=23, SNR=3.9						

*NEIC **10** 07:01:45.7, 62°.90N×143°.61W, h18^{km}*

*ANF **10** 07:01:45.7±0.1, 62°.90N×143°.59W, h0^{km}, ML4.4/88, Error ellipse: s-maj=1.4km s-min=1.2km az=145.0*

*NEIC **10** 07:01:46.8±2.2, 62°.90N±0°.01×143°.66W±0°.04, h11^{km}±2^{km}, Error ellipse: s-maj=2.6km s-min=1.9km az=94.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.42; $M_{\theta\theta}$-4.15; $M_{\phi\phi}$3.74; $M_{r\theta}$0.22; $M_{\theta\phi}$5.13; $M_{\phi r}$-1.91; Fault plane solution: $M_0$6.76000×10^{14} NP1: ϕ_s160.55000°, δ85.68000°, λ163.60000°. NP2: ϕ_s251.82000°, δ73.65000°, λ4.50000°. Principal axes: T 6.6840, Plg15.0000°, Azm115.0000°; N 0.1489, Plg73.0000°, Azm326.0000°; P -6.8330, Plg8.0000°, Azm207.0000°;*

*AEIC **10** 07:01:46.3±1.9, 62°.92N±0°.01×143°.68W±0°.02, h7^{km}±6^{km}, ML4.0, ML4.1/200(NEIC), Mwr3.8/82(NEIC) Error ellipse: s-maj=2.1km s-min=1.3km az=192.0*

ISC 10 07:01:46.5±0.9, 62°.91N±0°.02×143°.64W±0°.02, h12^{km}±6^{km}, n402, σ1^{s}16/410, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	Mentasta	0.05	310		Pg	07 01 49.2	+0.4
MENT				IAML		07 01 51.4	
	comp=E, 251μm, 0.4s						
L26K	Log Cabin Wild	0.18	47		Pg	07 01 51.2	+0.7
L26K				IAML		07 01 54.3	
	comp=E, 64μm, 0.4s						
DOT	Dot Lake	0.77	346		Pb	07 02 01.6	-0.3
DOT				IAML		07 02 11.7	
	comp=E, 13μm, 0.6s						
DOT				IAML		07 02 14.9	
	comp=N, 11μm, 0.2s						
DOT	Dot Lake	0.77	346		Sg	07 02 11.3	-0.2
BC01	Beaver Creek A	0.84	78		Pg	07 02 02.3	-0.4
L27K	Beaver Creek,	0.84	78		Pg	07 02 02.6	-0.1
L27K	Beaver Creek,	0.84	78	P	Pg	07 02 02.3	-0.4
	baz=261						
L27K				S	Sg	07 02 13.4	-0.3
	baz=261						
PAX	Paxson	0.84	275		Pg	07 02 01.5	-1.3
PAX					Sg	07 02 12.2	-1.5
PAX	Paxson	0.84	275	IAML		07 02 12.8	
	comp=N, 4μm, 0.6s						
PAX	Paxson	0.84	275	P	Pg	07 02 01.4	-1.3
	baz=92, SNR=913						
PAX				S	Sg	07 02 12.3	-1.5
	baz=92						
BCAR	Beaver Creek A	0.86	78		Pg	07 02 02.6	-0.4
HARP	HAARP	0.87	235		Pg	07 02 02.5	-0.7
HARP					Sg	07 02 14.5	0.0
HARP	HAARP	0.87	235	P	Pg	07 02 02.5	-0.7
	baz=55, SNR=299						
HARP				S	Sg	07 02 14.5	0.0
	baz=55						
WAZA	Wrangell Mount	0.87	196		Pg	07 02 02.5	-0.7
WAZA					Sg	07 02 14.3	-0.3
WACK	Wrangell Chich	0.98	200		Pg	07 02 04.1	-1.3
WACK					Sg	07 02 17.2	-0.9
M27K	Edge Creek, AK	0.98	123		Pg	07 02 04.5	-0.9
M27K	Edge Creek, AK	0.98	123	IAML		07 02 22.9	
	comp=N, 7μm, 0.3s						
M27K				IAML		07 02 22.9	
	comp=E, 8μm, 0.4s						
RIDG	Independent Ri	1.00	327		Pg	07 02 05.3	-0.4
RIDG				IAML		07 02 19.8	
	comp=N, 3μm, 0.6s						
RIDG				IAML		07 02 21.2	
	comp=E, 6μm, 1.1s						
RIDG	Independent Ri	1.00	327		Sg	07 02 17.9	-0.9
RIDG	Independent Ri	1.00	327	P	Pg	07 02 05.5	-0.2
	baz=143, SNR=1000						
RIDG				S	Sg	07 02 17.9	-0.9
	baz=143						
WASW	Wrangell South	1.01	195		Pg	07 02 04.7	-1.3
SCRK	Sand Creek	1.09	352		Pg	07 02 07.2	-0.2
SCRK				IAML		07 02 23.3	
	comp=N, 3μm, 0.6s						
SCRK				IAML		07 02 23.8	
	comp=E, 4μm, 0.7s						
SCRK	Sand Creek	1.09	352		Sg	07 02 20.9	-0.7
SCRK	Sand Creek	1.09	352	P	Pg	07 02 07.3	-0.1
	baz=168, SNR=1000						
SCRK				S	Sg	07 02 21.2	-0.4
	baz=168						
K24K	Donnelly Dome	1.32	314		Pn	07 02 11.0	+0.1
K24K	Donnelly Dome	1.32	314	P	Pn	07 02 11.2	+0.3
	baz=130, SNR=1000						
K24K				S	Sn	07 02 29.3	+0.9
	baz=130						
K27K	Chicken	1.33	31		Pn	07 02 10.5	-0.4
K27K	Chicken	1.33	31	IAML		07 02 31.1	
	comp=E, 5μm, 0.4s						
K27K	Chicken	1.33	31	P	Pn	07 02 10.3	-0.6
	baz=210						
N25K	Chitina, Valde	1.38	199		Pn	07 02 10.4	-1.3
N25K	Chitina, Valde	1.38	199	P	Pn	07 02 10.7	-1.0
	baz=21, SNR=238						
N25K				S	Sb	07 02 28.8	-1.1
	baz=21						
M24K	Tolsona, Glenn	1.43	237		Pn	07 02 12.2	-0.1
M24K				IAML		07 02 32.2	
	comp=N, 5μm, 0.8s						
M24K				IAML		07 02 32.2	
	comp=E, 4μm, 0.6s						
M24K	Tolsona, Glenn	1.43	237	P	Pn	07 02 12.2	-0.1
	baz=55, SNR=220						
M24K				S	Sg	07 02 31.7	-0.6
	baz=55						
GLB	Gilahina Butte	1.47	183		Pn	07 02 12.5	-0.4
MCARA	McCarthy VSAT	1.56	169		Pn	07 02 14.5	+0.5
MCARA				IAML		07 02 39.5	
	comp=E, 2μm, 1.0s						
MCARA				IAML		07 02 41.4	
	comp=N, 2μm, 1.1s						
MCARA	McCarthy VSAT	1.56	169	P	Pn	07 02 14.2	+0.2
	baz=352, SNR=175						
MCARA				S	Sn	07 02 34.8	+0.7
	baz=352						
J26L	Joseph Creek	1.60	1		Pn	07 02 14.9	+0.2
VRDI	Verde Repeater	1.69	177		Pn	07 02 16.2	+0.2
VRDI				IAML		07 02 39.6	
	comp=E, 2μm, 0.6s						
DHY	Denali Highway	1.72	277		Pn	07 02 16.9	+0.5
DHY				IAML		07 02 41.3	
	comp=E, 1μm, 0.3s						
DHY				IAML		07 02 42.4	
	comp=N, 2μm, 0.7s						
DHY	Denali Highway	1.72	277	P	Pn	07 02 16.3	0.0
	baz=93, SNR=167						
DHY				S	Sn	07 02 38.9	+0.7
	baz=93						
KLU	Klutina	1.78	218		Pn	07 02 16.9	-0.3
KLU				IAML		07 02 41.4	
	comp=E, 2μm, 0.5s						
KLU				IAML		07 02 42.5	
	comp=N, 2μm, 0.5s						
KLU	Klutina	1.78	218	P	Pn	07 02 17.1	0.0
	baz=37, SNR=277						
KLU				S	Sn	07 02 40.4	+0.7
	baz=37						
PTPK	Patty Peak	1.81	162		Pn	07 02 18.6	+0.9
PTPK					Pb	07 02 18.9	-0.8
WAT6	Susitna Watana	1.92	262		Pn	07 02 19.1	0.0
WAT6	Susitna Watana	1.92	262	P	Pn	07 02 19.2	0.0
	baz=78, SNR=194						
WAT6				S	Sn	07 02 43.8	+0.5
	baz=78						
BALM	Baldy	1.97	161		Pn	07 02 20.7	+0.8
BALM					Pb	07 02 20.9	-1.4
BMRM	Bremner River	2.00	194		Pn	07 02 20.2	0.0
BMRM	Bremner River	2.00	194	P	Pn	07 02 19.7	-0.4
	baz=14, SNR=79						
SCM	Sheep Creek Mo	2.03	240		Pn	07 02 21.5	+0.9
SCM				IAML		07 02 48.7	
	comp=E, 2μm, 0.7s						
SCM	Sheep Creek Mo	2.03	240	P	Pn	07 02 21.4	+0.8
	baz=57, SNR=176						
SCM				S	Sb	07 02 47.8	-0.8
	baz=57						
DIV	Divide	2.05	210		Pn	07 02 21.3	+0.5
DIV				IAML		07 02 56.3	
	comp=N, 1μm, 0.5s						
BARN	Barnard Glacie	2.07	152		Pn	07 02 21.7	+0.4
BARN				IAML		07 02 52.0	
	comp=E, 866nm, 0.4s						
KIAG	Kiagna River	2.08	163		Pn	07 02 22.3	+0.9
HDA	Harding Lake	2.11	317	P	Pn	07 02 21.0	-0.7
	baz=132, SNR=602						
CRQM	Cirque	2.17	174		Pn	07 02 24.2	+1.6
CRQM				IAML		07 03 00.5	
	comp=E, 900nm, 0.9s						
CRQM				IAML		07 03 07.3	
	comp=N, 767nm, 0.7s						
EGAK	Eagle	2.18	29		Pn	07 02 22.9	+0.4
EGAK				IAML		07 03 03.1	
	comp=N, 2μm, 0.8s						
EGAK	Eagle	2.18	29	P	Pn	07 02 22.7	+0.2
	baz=210, SNR=664						
CRQE	Cirque	2.18	173	P	Pn	07 02 23.8	+1.1
	baz=355, SNR=60						
TGL	Tana Glacier	2.19	170		Pn	07 02 23.9	+1.0
M23K	Glacier View	2.21	241		Pn	07 02 24.0	+0.9
M23K	Glacier View	2.21	241	P	Pn	07 02 23.6	+0.6
	baz=58, SNR=116						
M23K				S	Sb	07 02 53.0	-0.7
	baz=58						
CTG	Chitna Glacier	2.23	150	P

WAX			IAML			07 03 05.0
	comp=N,748nm,0.8s					
WAX			IAML			07 03 06.3
	comp=E,647nm,0.4s					
L29M	**L29M**	**2.52 83**		**Pn**		**07 02 27.5 +0.2**
L29M	**L29M**	**2.52 83**	P	**Pn**		**07 02 27.1 -0.2**
	baz=268,SNR=118					
MCK	**McKinley**	**2.53 291**		**Pn**		**07 02 28.3 +0.8**
MCK			IAML			07 03 11.0
	comp=E,695nm,1.1s					
MCK			IAML			07 03 12.9
	comp=N,922nm,1.0s					
MCK	**McKinley**	**2.53 291**	P	**Pn**		**07 02 29.0 +1.5**
	baz=106,SNR=696					
BAGL	**Bagley Icefiel**	**2.53 162**		**Pn**		**07 02 29.3 +1.9**
CCB	**Clear Creek Bu**	**2.55 315**		**Pn**		**07 02 26.6 -1.0**
CCB	**Clear Creek Bu**	**2.55 315**	IAML			07 03 08.9
	comp=E,710nm,0.4s					
CCB			IAML			07 03 12.2
	comp=N,618nm,0.5s					
FID	**Port Fidalgo**	**2.55 213**		**Pn**		**07 02 29.5 +1.8**
BARK	**Barkley Ridge**	**2.57 167**		**Pn**		**07 02 30.3 +2.3**
EYAK	**Cordova Ski Ar**	**2.57 204**		**Pn**		**07 02 30.1 +2.2**
EYAK	**Cordova Ski Ar**	**2.57 204**	P	**Pn**		**07 02 29.1 +1.2**
	baz=23,SNR=12					
HMT	**Hamilton**	**2.60 187**		**Pn**		**07 02 28.9 +0.5**
HMT			IAML			07 03 14.8
	comp=N,549nm,0.5s					
HMT			IAML			07 03 21.5
	comp=E,1µm,0.8s					
GLI	**Glacier Island**	**2.61 220**		**Pn**		**07 02 29.7 +1.2**
GLI			IAML			07 03 11.4
	comp=E,560nm,0.5s					
GLI	**Glacier Island**	**2.61 220**	P	**Pn**		**07 02 29.1 +0.6**
	baz=38,SNR=6.2					
GLI			S	**Sn**		**07 03 02.7 +2.5**
	baz=38					
GRIN	**Grindle Hills**	**2.64 177**		**Pn**		**07 02 30.8 +1.9**
NICHA	**Nichawak Mount**	**2.68 184**		**Pn**		**07 02 31.4 +1.8**
O28M	**Mount Upton**	**2.69 141**		**Pn**		**07 02 30.5 +0.5**
O28M	**Mount Upton**	**2.69 141**	P	**Pn**		**07 02 30.4 +0.5**
	baz=326					
YAH	**Yahtse**	**2.71 160**		**Pn**		**07 02 30.6 +0.5**
KNK	**Knik Glacier**	**2.71 239**		**Pn**		**07 02 31.8 +1.8**
KNK			IAML			07 03 10.8
	comp=N,727nm,0.6s					
KNK			IAML			07 03 15.0
	comp=E,864nm,0.8s					
KNK	**Knik Glacier**	**2.71 239**	P	**Pn**		**07 02 31.7 +1.8**
	baz=55,SNR=59					
COLA	**College**	**2.72 319**		**Pn**		**07 02 30.0 +0.1**
COLA	**College**	**2.72 319**	P	**Pn**		**07 02 30.3 +0.4**
	baz=133					
GHO	**Glory Hole Cre**	**2.72 248**		**Pn**		**07 02 31.8 +1.8**
GHO			IAML			07 03 12.1
	comp=E,1µm,0.6s					
GHO			IAML			07 03 12.6
	comp=N,1µm,0.5s					
TABL	**Table Mountain**	**2.75 153**		**Pn**		**07 02 32.4 +1.9**
PRP	**Porcupine Dome**	**2.75 343**		**Pn**		**07 02 31.1 +0.6**
PRP	**Porcupine Dome**	**2.75 343**	P	**Pn**		**07 02 30.8 +0.2**
	baz=160,SNR=56					
SNH	**Sunshine Point**	**2.76 172**	Pn	**Pn**		**07 02 32.5 +1.9**
POKR	**Poker Plat Res**	**2.78 325**		**Pn**		**07 02 30.9 0.0**
POKR			IAML			07 03 14.7
	comp=N,1µm,0.5s					
POKR	**Poker Plat Res**	**2.78 325**	P	**Pn**		**07 02 30.2 -0.6**
	baz=140					
YUK4	**Talbot Arm**	**2.82 122**	P	**Pn**		**07 02 31.0 -0.6**
	baz=305,SNR=73					
RKAV	**Rock Avalanche**	**2.83 156**		**Pn**		**07 02 33.6 +1.9**
SUCK	**Suckling Hills**	**2.84 181**		**Pn**		**07 02 32.7 +1.0**
SUCK			IAML			07 03 24.6
	comp=E,338nm,1.5s					
I27K	**Kandik River**	**2.85 17**		**Pn**		**07 02 32.4 +0.6**
MESA	**MESA**	**2.85 163**		**Pn**		**07 02 33.0 +1.0**
MESA			IAML			07 03 23.2
	comp=N,402nm,1.1s					
MESA	**MESA**	**2.85 163**	P	**Pn**		**07 02 33.3 +1.3**
	baz=346					
HIN	**Hinchinbrook I**	**2.87 210**		**Pn**		**07 02 33.4 +1.3**
HIN			IAML			07 03 23.2
	comp=E,444nm,1.3s					
J29N	**Klondike Camp**	**2.87 55**		**Pn**		**07 02 32.5 +0.4**
J29N	**Klondike Camp**	**2.87 55**	P	**Pn**		**07 02 32.3 +0.2**
	baz=239,SNR=86					
PMR	**Palmer**	**2.89 245**		**Pn**		**07 02 34.2 +1.9**
PMR	**Palmer**	**2.89 245**	P	**Pn**		**07 02 34.0 +1.7**
	baz=61,SNR=28					
K29M	**Barlow Dome**	**2.91 68**		**Pn**		**07 02 32.5 -0.3**
K29M	**Barlow Dome**	**2.91 68**	IAML			07 03 19.2
	comp=E,922nm,0.5s					
K29M	**Barlow Dome**	**2.91 68**	P	**Pn**		**07 02 32.4 -0.4**
	baz=254,SNR=60					
NEA2	**Nenana**	**2.95 307**		**Pn**		**07 02 32.5 -0.7**
NEA2	**Nenana**	**2.95 307**	IAML			07 03 25.9
	comp=E,571nm,0.6s					
NEA2	**Nenana**	**2.95 307**	P	**Pn**		**07 02 32.7 -0.4**
	baz=122,SNR=57					
KAIM	**Kayak Island**	**3.01 188**		**Pn**		**07 02 36.3 +2.2**
I28M	**Miner Creek**	**3.02 31**		**Pn**		**07 02 34.5 +0.3**
I28M			IAML			07 03 27.2
	comp=E,579nm,0.8s					
I28M			IAML			07 03 32.4
	comp=N,476nm,0.6s					
I28M	**Miner Creek**	**3.02 31**	P	**Pn**		**07 02 34.5 +0.3**
	baz=213,SNR=191					
PWL	**Port Wells**	**3.03 229**		**Pn**		**07 02 36.4 +2.2**
PWL			IAML			07 03 25.8
	comp=E,363nm,0.7s					
PWL			IAML			07 03 30.0
	comp=N,420nm,0.8s					
PWL	**Port Wells**	**3.03 229**	P	**Pn**		**07 02 35.9 +1.6**
	baz=46					
TRF	**Thorofare Moun**	**3.07 283**		**Pn**		**07 02 37.2 +2.3**
TRF			IAML			07 03 25.9
	comp=N,764nm,0.7s					
TRF	**Thorofare Moun**	**3.07 283**	P	**Pn**		**07 02 37.1 +2.3**
	baz=97,SNR=125					
CHX	**Chaix Hills**	**3.10 156**		**Pn**		**07 02 37.7 +2.4**
CUT	**Chulitna**	**3.10 264**		**Pn**		**07 02 37.1 +1.8**
CUT	**Chulitna**	**3.10 264**	P	**Pn**		**07 02 37.2 +2.0**
	baz=78,SNR=54					
SAMH	**Samovar Hills**	**3.10 153**		**Pn**		**07 02 37.7 +2.4**
M30M	**Minto, Yukon**	**3.17 93**		**Pn**		**07 02 36.6 +0.4**
M30M			IAML			07 03 34.5
	comp=E,705nm,0.8s					
M30M	**Minto, Yukon**	**3.17 93**	P	**Pn**		**07 02 35.3 -0.9**
	baz=280,SNR=23					
YUK6	**Outpost Mounta**	**3.18 126**	P	**Pn**		**07 02 35.9 -0.6**
	baz=312,SNR=17					
M22K	**Willow**	**3.24 252**	P	**Pn**		**07 02 39.5 +2.4**
	baz=66,SNR=24					
PCA	**Pinnacle**	**3.25 149**		**Pn**		**07 02 38.8 +1.4**
PCA			IAML			07 03 31.1
	comp=E,569nm,0.7s					
PCA			IAML			07 03 40.3
	comp=N,565nm,0.6s					
PINM	**Pinnacle**	**3.25 149**	P	**Pn**		**07 02 37.6 +0.2**
	baz=333,SNR=20					
YUK5	**Granite Creek**	**3.25 121**		**Pn**		**07 02 37.1 -0.3**
KTH	**Kantishna Hill**	**3.36 284**		**Pn**		**07 02 40.3 +1.4**
KTH			IAML			07 03 31.4
	comp=N,554nm,1.0s					
KTH			IAML			07 03 36.3
	comp=E,640nm,1.5s					
I23K	**Minto, Yukon-K**	**3.38 314**		**Pn**		**07 02 39.4 +0.3**
I23K			IAML			07 03 33.4
	comp=N,454nm,0.8s					
I23K			IAML			07 03 37.7
	comp=E,594nm,0.6s					
I23K	**Minto, Yukon-K**	**3.38 314**	P	**Pn**		**07 02 39.3 +0.3**
	baz=128,SNR=17					
I29M	**Ogilvie Camp,**	**3.40 41**		**Pn**		**07 02 39.5 +0.2**
I29M			IAML			07 03 39.0
	comp=E,602nm,0.5s					
I29M	**Ogilvie Camp,**	**3.40 41**	P	**Pn**		**07 02 39.5 +0.2**
	baz=225					
N30M	**Aishikik Lake**	**3.40 112**		**Pn**		**07 02 39.2 -0.1**
N30M			IAML			07 03 33.8
	comp=E,238nm,0.5s					
N30M			IAML			07 03 34.1
	comp=N,477nm,0.6s					
N30M	**Aishikik Lake**	**3.40 112**	P	**Pn**		**07 02 39.4 +0.1**
	baz=299,SNR=651					
RC01	**Rabbit Creek A**	**3.41 240**		**Pn**		**07 02 41.3 +1.9**
RC01			IAML			07 03 39.7
	comp=E,382nm,0.8s					
RC01			IAML			07 03 42.0
	comp=N,338nm,0.8s					
RC01	**Rabbit Creek A**	**3.41 240**	P	**Pn**		**07 02 41.3 +1.9**
	baz=55,SNR=23					
P23K	**Montague Islan**	**3.43 213**		**Pn**		**07 02 41.2 +1.4**
P23K			IAML			07 03 33.9
	comp=N,296nm,0.9s					
P23K			IAML			07 03 40.1
	comp=E,408nm,1.0s					
P23K	**Montague Islan**	**3.43 213**	P	**Pn**		**07 02 41.0 +1.2**
	baz=31					
H27K	**Steamboat Moun**	**3.46 14**		**Pn**		**07 02 41.0 +0.8**
H27K			IAML			07 03 42.2
	comp=N,413nm,0.7s					
H27K	**Steamboat Moun**	**3.46 14**	P	**Pn**		**07 02 40.4 +0.2**
	baz=195,SNR=33					
H24K	**Noodor Dome**	**3.47 330**		**Pn**		**07 02 40.6 +0.2**
H25L	**Birch Creek**	**3.50 345**		**Pn**		**07 02 41.6 +0.8**
H25L	**Birch Creek**	**3.50 345**	P	**Pn**		**07 02 41.5 +0.8**
	baz=162,SNR=17					
BPAW	**Bear Paw Mtn.**	**3.51 293**	P	**Pn**		**07 02 40.8 0.0**
	baz=106,SNR=26					
BCPM	**Bancas Point**	**3.53 145**		**Pn**		**07 02 42.6 +1.4**
YUK7	**Dusty Glacier**	**3.54 130**		**Pn**		**07 02 41.8 +0.4**
O29M	**Mount Kennedy**	**3.56 135**		**Pn**		**07 02 42.4 +0.7**
O29M	**Mount Kennedy**	**3.56 135**	P	**Pn**		**07 02 42.1 +0.4**
	baz=320,SNR=24					
MAYO	**Mayo, Yukon**	**3.57 75**	P	**Pn**		**07 02 41.6 -0.1**
	baz=262					
HYT	**Haines Junctio**	**3.58 123**		**Pn**		**07 02 41.4 -0.5**
HYT	**Haines Junctio**	**3.58 123**	IAML			07 03 46.5
	comp=N,434nm,0.8s					
HYT			IAML			07 03 47.6
	comp=E,295nm,0.8s					
HYT	**Haines Junctio**	**3.58 123**	P	**Pn**		**07 02 41.4 -0.5**
	baz=309,SNR=30					
SUA	**Susitna One**	**3.63 250**	P	**Pn**		**07 02 45.4 +2.8**
	baz=63,SNR=19					
J30M	**Hart River**	**3.65 59**	P	**Pn**		**07 02 43.9 +0.9**
	baz=246,SNR=75					
SKT	**Skwentna**	**3.79 259**		**Pn**		**07 02 47.3 +2.7**
SKT			IAML			07 03 43.2
	comp=E,224nm,0.9s					
SKT			IAML			07 03 46.2
	comp=N,354nm,0.8s					
SKT	**Skwentna**	**3.79 259**	P	**Pn**		**07 02 46.7 +2.1**
	baz=72,SNR=27					
PNL	**Peninsula**	**3.84 146**	P	**Pn**		**07 02 46.3 +0.9**
	baz=331					
H23K	**Yukon River**	**3.90 321**		**Pn**		**07 02 45.7 -0.5**
H23K	**Yukon River**	**3.90 321**	IAML			07 03 53.0
	comp=E,351nm,0.9s					
H23K			IAML			07 03 55.8
	comp=N,345nm,0.7s					
H23K	**Yukon River**	**3.90 321**	P	**Pn**		**07 02 45.9 -0.3**
	baz=135					
PPLA	**Purkeypile**	**3.91 274**		**Pn**		**07 02 49.2 +2.6**
PPLA			IAML			07 03 52.1
	comp=N,392nm,0.9s					
PPLA			IAML			07 04 07.3
	comp=E,260nm,1.2s					
PPLA	**Purkeypile**	**3.91 274**	P	**Pn**		**07 02 48.5 +2.0**
	baz=86,SNR=39					
I30M	**Mount Dempster**	**3.95 51**		**Pn**		**07 02 47.4 +0.5**
I30M	**Mount Dempster**	**3.95 51**	P	**Pn**		**07 02 47.4 +0.5**
	baz=237,SNR=12					
N31M	**Braeburn, Yuko**	**3.95 108**		**Pn**		**07 02 47.0 +0.1**
N31M	**Braeburn, Yuko**	**3.95 108**	P	**Pn**		**07 02 46.9 0.0**
	baz=295,SNR=79					
SEW	**Seward**	**3.96 227**		**Pn**		**07 02 48.8 +1.8**
SEW	**Seward**	**3.96 227**	P	**Pn**		**07 02 48.6 +1.6**
	baz=43					
G27K	**Doyon Strip**	**4.01 11**		**Pn**		**07 02 48.0 +0.3**
G27K			IAML			07 03 59.1
	comp=N,141nm,0.9s					
G27K			IAML			07 03 59.3
	comp=E,245nm,1.2s					
G27K	**Doyon Strip**	**4.01 11**	P	**Pn**		**07 02 48.1 +0.3**
	baz=192,SNR=21					
G25K	**Bearman Lake**	**4.02 346**		**Pn**		**07 02 48.2 +0.5**
G25K	**Bearman Lake**	**4.02 346**	P	**Pn**		**07 02 48.4 +0.6**
	baz=163,SNR=18					
CHUM	**Lake Minchumin**	**4.03 288**		**Pn**		**07 02 48.4 +0.5**
CHUM	**Lake Minchumin**	**4.03 288**	P	**Pn**		**07 02 48.4 +0.5**
	baz=100,SNR=24					
H29M	**Whitestone**	**4.03 32**		**Pn**		**07 02 47.9 -0.1**
H29M	**Whitestone**	**4.03 32**	IAML			07 04 00.6
	comp=N,256nm,0.8s					
H29M			IAML			07 04 04.8
	comp=E,414nm,0.7s					
H29M	**Whitestone**	**4.03 32**	P	**Pn**		**07 02 47.9 -0.1**
	baz=216					
G26K	**Porcupine Rive**	**4.06 359**		**Pn**		**07 02 48.9 +0.5**
G26K	**Porcupine Rive**	**4.06 359**	P	**Pn**		**07 02 48.7 +0.3**
	baz=178,SNR=17					
STLK	**Strandline Lak**	**4.09 253**		**Pn**		**07 02 51.0 +2.1**
STLK			IAML			07 03 54.3
	comp=N,160nm,1.1s					
STLK			IAML			07 03 58.3
	comp=E,162nm,0.8s					
G24K	**Hadweenzic Riv**	**4.15 338**		**Pn**		**07 02 49.6 0.0**
G24K	**Hadweenzic Riv**	**4.15 338**	P	**Pn**		**07 02 49.8 +0.2**
	baz=154					
O30N	**Mendenhall**	**4.17 118**		**Pn**		**07 02 49.5 -0.5**
O30N	**Mendenhall**	**4.17 118**	IAML			07 04 05.9
	comp=N,365nm,0.6s					
O30N	**Mendenhall**	**4.17 118**	P	**Pn**		**07 02 49.2 -0.7**
	baz=305,SNR=81					
P30M	**Million Dollar**	**4.25 128**		**Pn**		**07 02 50.6 -0.4**
P30M	**Million Dollar**	**4.25 128**	P	**Pn**		**07 02 50.5 -0.5**
	baz=315					
SPCG	**Spurr Capps Gl**	**4.26 251**		**Pn**		**07 02 53.4 +2.1**
SPU	**Mount Spurr**	**4.32 250**		**Pn**		**07 02 53.1 +1.1**
M31M	**Drury Creek, Y**	**4.34 95**		**Pn**		**07 02 52.0 -0.2**
M31M	**Drury Creek, Y**	**4.34 95**	P	**Pn**		**07 02 51.7 -0.5**
	baz=284,SNR=28					
P29M	**Windy Craggy**	**4.35 136**		**Pn**		**07 02 53.2 +0.8**
P29M	**Windy Craggy**	**4.35 136**	P	**Pn**		**07 02 53.1 +0.7**
	baz=322,SNR=10					
N20K	**Mount Spurr**	**4.38 251**	P	**Pn**		**07 02 53.6 +0.7**
	baz=63					
SPCR	**Spurr Chakacha**	**4.38 251**	P	**Pn**		**07 02 53.8 +0.9**
	baz=63					
SPNN	**North Nagishla**	**4.53 254**		**Pn**		**07 02 57.6 +2.7**
M20K	**Styx River**	**4.54 261**	P	**Pn**		**07 02 56.3 +1.2**
	baz=73,SNR=28					
EPYK	**Eagle Plains**	**4.58 37**	P	**Pn**		**07 02 55.5 0.0**
	baz=223					
BM01	**Burnt Mountain**	**4.58 356**		**Pn**		**07 02 56.1 +0.6**
BRSE	**Bradley Lake S**	**4.67 230**		**Pn**		**07 02 58.2 +1.5**
BRSE	**Bradley Lake S**	**4.67 230**	P	**Pn**		**07 02 58.0 +1.3**
	baz=44,SNR=8.4					
G29M	**Pine Creek**	**4.68 28**		**Pn**		**07 02 57.4 +0.6**
G29M	**Pine Creek**	**4.68 28**	P	**Pn**		**07 02 57.1 +0.2**
	baz=213,SNR=6.3					
G23K	**Bananza Creek**	**4.69 327**	P	**Pn**		**07 02 57.8 +0.7**
	baz=141,SNR=16					
WHY	**Whitehorse**	**4.73 115**		**Pn**		**07 02 57.8 +0.1**
WHY	**Whitehorse**	**4.73 115**	P	**Pn**		**07 02 57.2 -0.5**
	baz=303,SNR=39					
L20K	**Farewell, AK**	**4.74 269**		**Pn**		**07 02 59.8 +2.1**
K20K	**Telida**	**4.76 280**		**Pn**		**07 02 59.3 +1.3**
K20K	**Telida**	**4.76 280**	IAML			07 04 17.5
	comp=N,143nm,0.7s					
K20K			IAML			07 04 23.1
	comp=E,165nm,1.0s					
RDT	**Redoubt**	**4.78 245**		**Pn**		**07 02 59.4 +1.0**
F25K	**Christian Rive**	**4.78 351**	P	**Pn**		**07 02 59.0 +0.7**
	baz=168,SNR=18					
F26K	**Sheenjek River**	**4.81 358**	P	**Pn**		**07 02 59.2 +0.4**
	baz=176,SNR=32					
H21K	**Melozitna Rive**	**4.86 309**		**Pn**		**07 02 59.1 -0.2**
H21K	**Melozitna Rive**	**4.86 309**	IAML			07 04 22.6
	comp=E,161nm,0.8s					
H21K			IAML			07 04 38.4
	comp=N,80nm,1.0s					
F24K	**Squaw Lake**	**4.96 341**	P	**Pn**		**07 03 01.7 +0.8**
	baz=156,SNR=24					
H31M	**Peel River**	**4.97 50**	P	**Pn**		**07 03 01.0 0.0**
	baz=238					
F28M	**Old Crow**	**4.99 17**		**Pn**		**07 03 01.6 +0.5**
F28M			IAML			07 04 28.8
	comp=N,122nm,1.4s					
F28M			IAML			07 04 36.4
	comp=E,151nm,1.0s					
F28M	**Old Crow**	**4.99 17**	P	**Pn**		**07 03 01.5 +0.4**
	baz=200,SNR=32					
CNPM	**China Poot**	**5.00 231**		**Pn**		**07 03 02.6 +1.3**
CNPM			IAML			07 04 36.1
	comp=E,84nm,0.9s					
M19K	**Big River Lodg**	**5.10 263**		**Pn**		**07 03 04.0 +1.3**
M19K	**Big River Lodg**	**5.10 263**	IAML			07 04 27.1
	comp=N,111nm,0.7s					
M19K			IAML			07 04 35.5
	comp=E,120nm,1.3s					
M19K	**Big River Lodg**	**5.10 263**	P	**Pn**		**07 03 03.6 +0.9**
	baz=74					
COLD	**Coldfoot**	**5.15 330**	P	**Pn**		**07 03 03.9 +0.5**
	baz=144,SNR=27					
O20K	**Slope Mountain**	**5.15 241**		**Pn**		**07 03 05.7 +2.2**
I20K	**Naaghedeneel**	**5.16 296**		**Pn**		**07 03 03.8 +0.3**
I20K	**Naaghedeneel**	**5.16 296**	P	**Pn**		**07 03 04.2 +0.8**
	baz=106					
G30M	**tAoh Zraii Nji**	**5.16 34**	P	**Pn**		**07 03 03.2 -0.3**
	baz=221					
G22K	**Bettles**	**5.24 324**	P	**Pn**		**07 03 05.5 +0.9**
	baz=136					
L19K	**White Mountain**	**5.24 267**		**Pn**		**07 03 06.3 +1.6**
L19K	**White Mountain**	**5.24 267**	IAML			07 04 42.6
	comp=E,118nm,1.2s					
L19K			IAML			07 04 51.6
	comp=N,96nm,1.1s					
N32M	**Quiet Lake**	**5.27 105**		**Pn**		**07 03 05.0 -0.1**
N32M	**Quiet Lake**	**5.27 105**	P	**Pn**		**07 03 05.1 0.0**
	baz=294					
E25K	**Arctic Village**	**5.30 352**	P	**Pn**		**07 03 06.1 +0.7**
	baz=170,SNR=19					
IMAR	**Indian Mountai**	**5.36 310**		**Pn**		**07 03 06.3 +0.2**
E27K	**Coleen River**	**5.37 8**		**Pn**		**07 03 07.1 +0.7**
E27K	**Coleen River**	**5.37 8**	IAML			07 04 47.6
	comp=E,102nm,1.4s					
E27K			IAML			07 04 51.9
	comp=N,81nm,1.0s					
E27K	**Coleen River**	**5.37 8**	P	**Pn**		**07 03 06.9 +0.5**
	baz=189,SNR=7.6					
IM02	**Indian Mountai**	**5.38 310**		**Pn**		**07 03 06.5 -0.1**
ILS	**Iliamna Low So**	**5.41 241**		**Pn**		**07 03 08.5 +1.5**
ILSW	**Iliamna Southw**	**5.42 242**		**Pn**		**07 03 08.3 +1.2**
J19K	**Poorman**	**5.49 287**		**Pn**		**07 03 09.0 +1.0**
H20K	**Anotleneega Mo**	**5.55 303**	P	**Pn**		**07 03 09.3 +0.4**
	baz=112,SNR=8.6					
G21K	**Allakaket**	**5.57 315**		**Pn**		**07 03 09.6 +0.5**
G21K	**Allakaket**	**5.57 315**	P	**Pn**		**07 03 09.3 +0.2**
	baz=125					
E24K	**Your Creek**	**5.57 341**		**Pn**		**07 03 10.2 +1.0**
E24K	**Your Creek**	**5.57 341**	P	**Pn**		**07 03 10.3 +1.1**
	baz=156,SNR=40					
G31M	**Satah River**	**5.67 41**		**Pn**		**07 03 09.4 -1.0**
G31M	**Satah River**	**5.67 41**	P	**Pn**		**07 03 09.8 -0.6**
	baz=229					
MMPY	**Sheldon Lake,**	**5.69 87**		**Pn**		**07 03 10.8 -0.1**
MMPY	**Sheldon Lake,**	**5.69 87**	P	**Pn**		**07 03 10.9 0.0**
	baz=279,SNR=12					
E23K	**Chandalar**	**5.74 337**		**Pn**		**07 03 12.3 +0.8**
E23K	**Chandalar**	**5.74 337**	P	**Pn**		**07 03 12.5 +1.0**
	baz=151,SNR=9.2					
F30M	**Barrier River**	**5.76 31**		**Pn**		**07 03 11.5 -0.2**
F30M	**Barrier River**	**5.76 31**	P	**Pn**		**07 03 11.3 -0.4**
	baz=218					
P32M	**Atlin**	**5.83 120**		**Pn**		**07 03 12.5 -0.2**
P32M	**Atlin**	**5.83 120**	P	**Pn**		**07 03 13.0 +0.3**
	baz=310					
P33M	**Teslin, Yukon**	**5.83 113**	P	**Pn**		**07 03 12.5 -0.3**
	baz=303,SNR=46					
F22K	**John River**	**5.85 326**	P	**Pn**		**07 03 13.4 +0.5**
	baz=138					
M18K	**Stony River**	**5.88 261**		**Pn**		**07 03 14.6 +1.3**
M18K	**Stony River**	**5.88 261**	P	**Pn**		**07 03 14.3 +0.9**
	baz=71,SNR=15					
J18K	**Innoko River**	**5.95 281**		**Pn**		**07 03 15.4 +1.1**
J18K	**Innoko River**	**5.95 281**	P	**Pn**		**07 03 15.2 +0.9**
	baz=89					
E28M	**Babbage River**	**5.97 15**	P	**Pn**		**07 03 14.8 +0.3**
	baz=198,SNR=27					
E29M	**Blow River**	**5.99 21**		**Pn**		**07 03 15.5 +0.5**
E29M	**Blow River**	**5.99 21**	P	**Pn**		**07 03 15.4 +0.5**
	baz=206,SNR=6.6					
F21K	**Alatna River**	**6.00 320**		**Pn**		**07 03 15.6 +0.5**
F21K	**Alatna River**	**6.00 320**	P	**Pn**		**07 03 16.0 +0.9**
	baz=131					
L18K	**Granite Mounta**	**6.08 269**		**Pn**		**07 03 17.6 +1.6**
GCSA	**Galena City Sc**	**6.14 293**	P	**Pn**		**07 03 17.0 0.0**
	baz=101					
S31K	**Pelican**	**6.16 140**		**Pn**		**07 03 18.8 +1.5**
F31M	**Tsiigehtchic**	**6.17 38**		**Pn**		**07 03 16.3 -1.0**
F31M	**Tsiigehtchic**	**6.17 38**	P	**Pn**		**07 03 16.5 -0.8**
	baz=227,SNR=16					
H19K	**Roundabout Mou**	**6.18 301**		**Pn**		**07 03 17.4 0.0**
H19K	**Roundabout Mou**	**6.18 301**	P	**Pn**		**07 03 17.7 +0.3**
	baz=109					
N18K	**Kilae Creek**	**6.22 254**		**Pn**		**07 03 18.8 +0.6**
E22K	**Anaktuvuk Pass**	**6.25 331**		**Pn**		**07 03 20.0 +1.6**
E22K	**Anaktuvuk Pass**	**6.25 331**	P	**Pn**		**07 03 19.8 +1.4**
	baz=143					
TOLK	**Toolik Lake Re**	**6.25 340**		**Pn**		**07 03 20.3 +1.7**
TOLK	**Toolik Lake Re**	**6.25 340**	P	**Pn**		**07 03 20.1 +1.6**
	baz=154,SNR=13					
O18K	**Koktuh Hills**	**6.34 246**	P	**Pn**		**07 03 21.9 +2.1**
	baz=56					
D27M	**Malcolm River**	**6.46 8**	P	**Pn**		**07 03 22.5 +1.2**
	baz=190,SNR=6.9					
JIS	**Juneau Island**	**6.50 131**		**Pn**		**07 03 21.9 0.0**
D25K	**Kavik River**	**6.54 351**	P	**Pn**		**07 03 24.2 +1.7**
	baz=168,SNR=25					
F20K	**Avaraart Lake**	**6.59 314**		**Pn**		**07 03 23.9 +0.7**
F20K	**Avaraart Lake**	**6.59 314**	P	**Pn**		**07 03 24.1 +1.0**
	baz=123,SNR=7.1					
D24K	**Happy Valley**	**6.62 344**	P	**Pn**		**07 03 25.9 +2.5**
	baz=158					
M17K	**Holitna River**	**6.64 263**		**Pn**		**07 03 25.3 +1.4**
M17K	**Holitna River**	**6.64 263**	P	**Pn**		**07 03 25.2 +1.4**
	baz=71					
K17K	**Iditarod**	**6.72 275**		**Pn**		**07 03 26.8 +1.8**
K17K	**Iditarod**	**6.72 275**	P	**Pn**		**07 03 27.0 +2.0**
	baz=82					
D23K	**Nanushuk River**	**6.73 338**		**Pn**		**07 03 27.1 +2.1**
D23K	**Nanushuk River**	**6.73 338**	P	**Pn**		**07 03 26.8 +1.8**
	baz=151					
D28M	**Stokes Point**	**6.75 15**	P	**Pn**		**07 03 27.1 +1.9

G18K	Tagagawik	7.16 301		Pn	07 03 31.6 +0.7
G18K	Tagagawik	7.16 301	P	Pn	07 03 31.4 +0.5
	baz=107				
F19K	Shaleruckik Mo	7.19 309	P	Pn	07 03 32.2 +1.0
	baz=116				
O17K	Koliganek Bris	7.19 250		Pn	07 03 32.6 +1.3
O17K	Koliganek Bris	7.19 250	P	Pn	07 03 32.4 +1.1
	baz=58				
P17K	Kvichak River	7.24 245		Pn	07 03 32.9 +0.9
P17K	Kvichak River	7.24 245	P	Pn	07 03 32.5 +0.5
	baz=54				
KAKN	Katmai Knife C	7.27 236		Pn	07 03 34.6 +2.1
E19K	Redstone River	7.31 315		Pn	07 03 34.5 +1.5
E19K	Redstone River	7.31 315	P	Pn	07 03 34.5 +1.5
	baz=122				
TGTN	Hyland Airport	7.31 94	P	Pn	07 03 33.2 +0.1
	baz=288				
H17K	Granite Mounta	7.45 293		Pn	07 03 36.2 +1.2
H17K	Granite Mounta	7.45 293	P	Pn	07 03 36.0 +1.1
	baz=98				
OHAK	Old Harbor	7.46 225	P	Pn	07 03 36.6 +1.5
	baz=36				
E20K	Nigu River	7.46 321		Pn	07 03 36.6 +1.5
E20K	Nigu River	7.46 321	P	Pn	07 03 37.2 +2.1
	baz=130				
L16K	Owhat River	7.48 268		Pn	07 03 36.4 +1.2
L16K	Owhat River	7.48 268	P	Pn	07 03 36.0 +0.8
	baz=74				
C23K	Itkillik River	7.50 341		Pn	07 03 36.9 +1.4
C23K	Itkillik River	7.50 341	P	Pn	07 03 36.5 +1.0
	baz=154				
R18K	Karluk	7.59 230	P	Pn	07 03 38.3 +1.5
	baz=41				
N16K	Nishlik Lake	7.59 258	P	Pn	07 03 38.4 +1.5
	baz=65				
CNTC	Contact Creek	7.61 238		Pn	07 03 39.1 +1.9
Q17K	Contact Creek	7.61 238	P	Pn	07 03 38.0 +0.7
	baz=47				
WTLY	Watson Lake, Y	7.63 105		Pn	07 03 36.7 -0.6
WTLY	Watson Lake, Y	7.63 105	P	Pn	07 03 37.5 +0.1
	baz=298,SNR=9.4				
Q16K	King Salmon	7.65 242	P	Pn	07 03 39.0 +1.4
	baz=51				
J16K	Anvik River	7.71 280		Pn	07 03 39.2 +0.8
J16K	Anvik River	7.71 280	P	Pn	07 03 39.3 +0.9
	baz=85				
O16K	Kokwok River B	7.72 251	P	Pn	07 03 40.4 +1.8
	baz=58				
I17K	Unalakleet	7.72 285		Pn	07 03 40.8 +2.3
I17K	Unalakleet	7.72 285	P	Pn	07 03 39.7 +1.1
	baz=89				
C21K	Knifeblade Rid	7.73 329	P	Pn	07 03 40.5 +1.7
	baz=138				
F18K	Selawik	7.78 305		Pn	07 03 39.9 +0.6
F18K	Selawik	7.78 305	P	Pn	07 03 40.4 +1.1
	baz=111				
G17K	Kiwalik Mounta	7.86 297		Pn	07 03 41.5 +1.0
G17K	Kiwalik Mounta	7.86 297	P	Pn	07 03 41.1 +0.6
	baz=101				
D20K	Etivluk River	7.88 323		Pn	07 03 42.3 +1.4
D20K	Etivluk River	7.88 323	P	Pn	07 03 42.1 +1.3
	baz=131				
S34M	Telegraph Cree	7.95 123		Pn	07 03 43.2 +1.4
S34M	Telegraph Cree	7.95 123	P	Pn	07 03 42.7 +0.9
	baz=315				
DLBC	Dease Lake	8.04 118	P	Pn	07 03 43.2 +0.1
	baz=310,SNR=12				
B21K	Ikpikpuk River	8.05 332		Pn	07 03 44.4 +1.3
R17L	Mt. Peulik Vol	8.23 236	P	Pn	07 03 47.1 +1.4
	baz=45				
K15K	Wolf Creek Mou	8.28 274		Pn	07 03 48.0 +1.8
K15K	Wolf Creek Mou	8.28 274	P	Pn	07 03 47.9 +1.7
	baz=78				
F17K	Baldwin Pennin	8.33 303		Pn	07 03 48.2 +1.3
B22K	Teshekpuk Lake	8.40 337		Pn	07 03 49.5 +1.6
L15K	Ungalak Mounta	8.41 270		Pn	07 03 49.6 +1.6
H16K	Elim	8.41 290	P	Pn	07 03 49.6 +1.5
	baz=93				
E18K	Tukpahlearik C	8.44 310		Pn	07 03 49.7 +1.3
E18K	Tukpahlearik C	8.44 310	P	Pn	07 03 49.5 +1.0
	baz=114				
G16K	Koyuk River	8.54 295		Pn	07 03 50.9 +1.1
WRAK	Wrangell Islan	8.65 134		Pn	07 03 51.7 +0.4
WRAK	Wrangell Islan	8.65 134	P	Pn	07 03 51.7 +0.4
	baz=324				
U33K	Whale Pass	8.65 137		Pn	07 03 52.6 +1.3
E17K	Hotham Inlet	8.75 307		Pn	07 03 53.2 +0.5
E17K	Hotham Inlet	8.75 307	P	Pn	07 03 53.7 +1.0
	baz=110				
T35M	Bob Quinn	8.96 125		Pn	07 03 57.6 +2.0
T35M	Bob Quinn	8.96 125	P	Pn	07 03 55.7 +0.1
	baz=318				
LIRD	Liard River Hi	9.16 105	P	Pn	07 03 58.0 -0.4
	baz=300,SNR=7.5				
V35K	Ketchikan	9.78 136	P	Pn	07 04 07.1 +0.3
	baz=326				
C36M	Paulatuk	10.18 42	P	Pn	07 04 10.3 -1.9
	baz=240,SNR=5.3				

*NNC **10** 07:03:05.6±3.5, 39°.16N×80°.59E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=23.6km s-min=20.2km az=12.0
*SOME **10** 07:03:06.7, 39°.12N×80°.12E, h5km*
*KRNET **10** 07:03:17.1±0.1, 39°.05N×79°.85E, mb3.5*

ISC 10 07:03:04.8±2.7, 39°.1N±0°.1×80°.14E±0°.08, h10km, n17, σ2°38/26, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	3.66	339	⇓eP	Pg	07 04 13.7	-1.3
PRZ				⇓eS	Sb	07 04 55.1	+0.8
KDJ	Kajisay	3.80	325	⇓eP	Pb	07 04 14.7	+2.6
KDJ				⇓eS	Sb	07 04 56.5	-1.8
JNKS	Jany-Kuch	3.98	301	⇓eP	Pb	07 04 16.1	+1.0
JNKS				⇓eS	Sb	07 04 59.3	-4.1
SHLS	Shalkode	4.12	353	Pg	Pg	07 04 22.9	-0.8
	7.5nm,0.4s						
SHLS				Lg	Lg	07 05 18.6	
	31nm,0.4s						
SHLS	Shalkode	4.12	353	eP	Pg	07 04 21.6	-2.2
	5.7nm,0.2s						
SHLS				eS	Sg	07 05 15.4	-1.8
	47nm,0.3s						
SATY	Saty	4.20	342	Pg	Pg	07 04 23.7	-1.6
	3.1nm,0.1s						
SATY				Lg	Lg	07 05 19.4	
	19nm,0.2s						
PDGK	Podgornoye	4.29	354	⇓Pg	Pb	07 04 21.4	+1.0
	1.8nm,0.5s						
PDGK				⇑Sn	Sn	07 05 03.9	+3.4
	14nm,0.6s						
PDGK				⇑Lg	Lg	07 05 24.9	
	33nm,0.9s						
KPKS	Kokpek	4.53	346	Pg	Pg	07 04 31.1	-0.6
	0.5nm,0.4s						
KPKS				Lg	Lg	07 05 31.5	
	17nm,0.5s						
BOOM	Boomskoye usch	4.68	318	⇑eP	Pb	07 04 26.6	-0.4
BOOM				⇑eS	Sn	07 05 17.2	+7.1
MDOK	Medeo	4.71	331	Pg	Pg	07 04 33.6	-1.5
	2.5nm,0.4s						
MDOK				Lg	Lg	07 05 36.2	
	8.4nm,0.4s						
KST	Kastek	5.08	323	Pg	Pg	07 04 40.2	-1.9
	1.8nm,0.3s						
KST				Lg	Lg	07 05 47.5	
	8.5nm,0.7s						
KST	Kastek	5.08	323	eP	Pg	07 04 40.2	-1.9
	1.8nm,0.3s						
KST				eS	Sg	07 05 47.5	-0.3
	8.5nm,0.7s						
KTBS	Karatobe	5.32	332	Pg	Pg	07 04 45.2	-1.5
	2.6nm,0.5s						
KTBS				Lg	Lg	07 05 56.1	
	6.9nm,0.5s						
ARXS	Arharly	5.43	342	Pg	Pg	07 04 46.7	-2.1
	1.0nm,0.3s						
ARXS				Lg	Lg	07 05 58.7	
	7.8nm,0.5s						
ARXS	Arharly	5.43	342	eP	Pg	07 04 46.7	-2.1
ARXS				eS	Sg	07 05 58.7	-0.4
KRBS	Karabastau	5.72	325	Pg	Pg	07 04 52.5	-1.8
	1.5nm,0.3s						
KRBS				Lg	Lg	07 06 08.6	
	5.2nm,0.5s						
MK31	Makanchi Array	7.89	11	⇑Pn	Pn	07 04 60.0	+0.4
	0.3nm,0.3s,baz=190,slow=13,SNR=25						
MK31				⇑Sn	Sn	07 06 27.8	-1.0
	0.8nm,0.3s,baz=186,slow=24,SNR=13						

IDC 10 07:20:11.7±1.3, 2°.55S×138°.31E, h0km, mb3.4/3, mbtmp3.4/5, ML3.4/2, MS3.3/2, Error ellipse: s-maj=27.7km s-min=25.8km az=152.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.39	89	Pn	Pn	07 20 52.3	+0.1
	5.7nm,0.3s,baz=250,slow=14,SNR=16						
JAY				Sn	Sn	07 21 22.6	+0.3
	4.5nm,0.3s,baz=306,slow=24,SNR=5.3						
	19nm,0.5s						
WRA	Warramunga Arr	17.72	192	P	P	07 24 20.7	-0.3
	0.2nm,0.3s,baz=9.2,slow=12,SNR=11						
	0.8nm,0.6s						
ASAR	Alice Springs	21.42	191	P	P	07 25 00.8	-0.8
	0.6nm,0.7s,baz=19,slow=11,SNR=9.9						
	0.6nm,0.7s						
TGY	Tagaytay City	23.89	314	LR	LR	07 35 43.2	
	comp=Z,83nm,20.0s,baz=12,slow=39						
CMAR	Chiang Mai Arr	44.02	300	LR	LR	07 48 22.5	
	comp=Z,28nm,18.2s,baz=75,slow=38						
MKAR	Makanchi Array	69.42	323	P	P	07 31 23.7	+1.9
	0.4nm,0.6s,baz=118,slow=8.0,SNR=5.5						
	0.4nm,0.6s						
ILAR	Eielson Array	85.85	24	P	P	07 32 51.1	-2.0
	0.2nm,0.6s,baz=268,slow=5.4,SNR=4.8						
	0.2nm,0.6s						

*IDC **10** 07:31:21.8±3.8, 9°.50S×118°.91E, h65km±35km, mb3.5/5, mbtmp4.0/9, ML4.2/4, MS3.0/1, Error ellipse: s-maj=38.8km s-min=11.6km az=63.0*
*DJA **10** 07:31:23.3±0.2, 10°.5S±3°.×11°.9E±°, h46km±6km, M4.3/19, mB5.5/1, mb4.2/7, MLv4.4/19, Mw(mB)5.0/1*

ISC 10 07:31:21.1±0.8, 9°.63S±0°.06×118°.88E±0°.05, h46km, n29, σ2°74/28, mb3.9/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.51	91	P	Pn	07 31 35.2	+3.0
WBSI				S	Sn	07 31 44.1	+3.9
PLAI	Plampang	1.35	306	P	Pn	07 31 46.5	+3.0
WSI	Waingapu	1.40	92	P	Pn	07 31 47.2	+3.0
BASI	Baing, Sumba	1.77	109	P	Pn	07 31 52.0	+2.7
TWSI	Taliwang, Sumb	2.16	294	P	Pn	07 31 57.9	+3.3
EDFI	Ende, Flores	2.91	73	P	Pn	07 32 06.8	+1.8
MMRI	Maumere	3.46	74	P	Pn	07 32 14.7	+2.2
DNP	Denpasar	3.74	284	P	Pn	07 32 19.4	+3.0
BSSI	Bau Bau, Buton	3.82	25	P	Pn	07 32 19.4	+2.0
SRBI	Singaraja	3.94	293	P	Pn	07 32 21.5	+2.5
BKSI	Bulukumba	4.46	16	P	Pn	07 32 28.3	+2.1
KAPI	Kappang	4.67	11	P	Pn	07 32 27.4	-1.7
	2.7nm,0.3s,baz=167,slow=14,SNR=10						
KAPI				S	Sn	07 33 20.6	-1.4
	37nm,0.3s,baz=7.7,slow=22,SNR=18						
	21nm,0.7s						
BATI	Baumata	4.75	97	P	Pn	07 32 31.3	+1.1
	48nm,0.3s,baz=282,slow=14,SNR=9.9						
BATI				S	Sn	07 33 24.6	+0.6
	67nm,0.4s,baz=41,slow=22,SNR=9.5						
	82nm,0.3s						
BATI	Baumata	4.75	97	P	Pn	07 32 32.9	+2.7
JAGI	Jajag, Banyuwa	4.81	284	P	Pn	07 32 32.4	+1.4
SOEI	Soe	5.32	92	P	Pn	07 32 40.4	+2.3
	0.2nm45nm,0.8s						
BNSI	Bone	5.34	13	P	Pn	07 32 40.2	+1.9
	0.3nm42nm,1.0s						
PCJI	Pacitan	7.74	280	P	Pn	07 33 14.2	+2.9
	59nm,1.4s						
FITZ	Fitzroy Crossi	10.67	143	P	Pn	07 33 52.1	+0.7
	2.8nm,0.3s,baz=336,slow=14,SNR=34						
FITZ				S	Sn	07 35 43.5	-6.1
	4.0nm,0.3s,baz=188,slow=17,SNR=7.1						
	9.8nm,0.4s						
LEM	Lembang	11.49	283	LR	LR	07 39 57.5	
	comp=Z,74nm,18.9s,baz=175,slow=45						
WRA	Warramunga Arr	18.11	126	P	P	07 35 29.1	-0.2
	0.5nm,0.3s,baz=297,slow=13,SNR=34						
WRA				S	Sn	07 38 39.2	-11
	0.2nm,0.3s,baz=331,slow=39,SNR=2.7						
	2.7nm,0.8s						
ASAR	Alice Springs	20.02	136	P	P	07 35 51.4	+1.1
	3.2nm,0.8s,baz=315,slow=10,SNR=16						
ASAR				S	S	07 39 28.4	-4.6
	0.4nm,0.5s,baz=306,slow=22,SNR=2.6						
	3.2nm,0.8s						
STKA	Stephens Creek	30.55	140	P	P	07 37 30.3	-0.1
	0.8nm,0.6s,baz=325,slow=17,SNR=3.6						
	0.8nm,0.6s						
H08S2	Diego Garcia H	45.88	269	T	T	08 29 03.5	
	baz=96,slow=76,SNR=22						
H08S3	Diego Garcia H	45.89	269	T	T	08 29 03.5	
	baz=96,slow=76,SNR=19						
H08S1	Diego Carcia H	45.89	269	T	T	08 29 03.5	
	baz=96,slow=76,SNR=12						
SONM	Songino Array	58.28	350	P	P	07 41 08.1	-3.0
	0.9nm,0.7s,baz=152,slow=6.5,SNR=4.3						
	0.9nm,0.7s						
MKAR	Makanchi Array	64.96	333	P	P	07 41 54.5	-1.7
	0.6nm,0.5s,baz=149,slow=7.0,SNR=8.0						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	69.59	339	P	P	07 42 22.5	-2.7
	0.7nm,0.5s,baz=134,slow=4.2,SNR=2.0						
	0.7nm,0.5s						

IDC 10 07:45:01.0±1.9, 1°.07N×124°.01E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=212.3km s-min=27.7km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.20	155	P	P	07 50 08.7	-1.0
	0.7nm,0.4s,baz=332,slow=10,SNR=8.6						
	0.7nm,0.4s						
ASAR	Alice Springs	26.40	159	P	P	07 50 40.6	+1.1
	0.1nm,0.4s,baz=334,slow=8.4,SNR=1.4						
	0.1nm,0.4s						
MKAR	Makanchi Array	58.26	327	P	P	07 54 57.4	-0.1
	0.2nm,0.4s,baz=124,slow=8.7,SNR=3.6						
	0.2nm,0.4s						

*BEO **10** 07:46:42.6±0.3, 41°.63N×20°.26E, h0km, ML1.9/10*
*SKO **10** 07:46:43.2, 41°.63N×20°.12E, h5km, ML2.2*
*PDG **10** 07:46:43.4±0.1, 41°.57N×19°.88E, h8km, ML2.6/10, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*TIR **10** 07:46:50.0, 41°.29N×19°.99E, h15km, Ml1.9/3*

ISC 10 07:46:42.4±1.1, 41°.63N±0°.02×20°.11E±0°.02, h4km±10km, n33, σ1°16/63, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.34	213	⇑Pg	Pg	07 46 49.0	0.0
TIR				Sg	Sb	07 46 55.5	-1.2
TIR				AML	AML	07 46 57.6	
	1.0nm,0.4s						
TIR	Tirane	0.34	213	i Pg	Pg	07 46 48.9	0.0
TIR				eSg	Sg	07 46 55.0	+1.7
ULC	Ulcinj	0.73	297	ePg	Pg	07 46 54.9	-1.4
ULC				i Sg	Sg	07 47 04.7	-1.1
OHR	Ohrid	0.73	135	ePg	Pg	07 46 55.6	-0.9
OHR				i Sg	Sg	07 47 06.8	+0.8
OHR				eLg	Lg	07 47 10.7	
	comp=E,76nm,0.8s						
OHR				eLg	Lg	07 47 10.8	
	comp=N,86nm,0.6s						
DRME	Dracevica, Mon	0.89	309	ePg	Pg	07 46 58.4	-1.0
DRME				i Sg	Sg	07 47 11.2	+0.4
PDG	Podgorica	1.02	322	ePg	Pg	07 47 01.4	-0.5
PDG				eSg	Sn	07 47 17.5	-0.7
PDG	Podgorica	1.02	322	ePg	Pg	07 47 01.4	-0.5
PDG				i Sg	Sb	07 47 17.0	+0.7
SKO	Skopje	1.05	71	i Pg	Pg	07 47 02.5	0.0
SKO				i Sg	Sg	07 47 16.0	-0.1
BUM	Brajici-Budva	1.13	307	⇑iPg	Pb	07 47 02.5	-1.9
BUM				i Sg	Sg	07 47 19.0	+0.4
KBN	Korca	1.13	153	Pg	Pn	07 47 06.9	+1.9
KBN				Sg	Sb	07 47 19.7	+0.1
IVA	Berane	1.25	353	ePg	Pg	07 47 07.6	+1.3
IVA				i Sg	Sn	07 47 28.1	+4.1
KOME	Kolasin	1.29	340	ePg	Pn	07 47 07.6	+0.3
KOME				i Sg	Sn	07 47 28.2	+3.1
NEST	Nestorio	1.41	149	⇑Pn	Pn	07 47 08.3	-0.6
NEST				Sn	Sg	07 47 29.4	+1.8
NEST				AML	AML	07 47 33.4	
	comp=N,0.1nm,0.6s						
NKME	Niksic	1.42	323	ePg	Pn	07 47 08.7	-0.3
NKME				i Sg	Sg	07 47 30.7	+2.6
HCY	Herceg Novi	1.45	305	ePg	Pn	07 47 08.5	-0.9
HCY				i Sg	Sg	07 47 29.7	+0.6
SJES	Sjenica	1.63	357	ePn	Pb	07 47 12.9	-0.2
SJES				eSn	Sb	07 47 34.3	+0.3
BRY	Bratogost	1.72	318	ePn	Pn	07 47 13.8	+0.6
BRY				i Sn	Sg	07 47 38.3	+0.6
BARS	Barje	1.73	46	i Pn	Pn	07 47 12.9	-0.4
BARS				i Sg	Sg	07 47 38.8	+0.7
BARS	Barje	1.73	46	ePn	Pn	07 47 12.5	-0.8
BARS				eSn	Sn	07 47 34.3	-1.5
SELS	Selova	1.75	25	ePn	Pn	07 47 12.6	-1.0
SELS				eSn	Sn	07 47 36.9	+0.6
UPM	Unac-Piva	1.81	331	ePn	Pn	07 47 15.6	+1.2
UPM				i Sn	Sg	07 47 41.2	+0.8
VAY	Valandovo	1.88	99	i Pn	Pn	07 47 15.7	+0.5
VAY				eSn	Sb	07 47 40.1	-0.8
VAY				eLg	Lg	07 47 43.7	
	comp=N,14nm,0.6s						
VAY				eLg	Lg	07 47 46.1	
	comp=E,13nm,0.5s						
IVAS	Ivanjica	1.94	1	ePn	Pn	07 47 16.5	+0.3
IVAS				eSn	Sb	07 47 43.0	0.0
BOSS	Bosilegrad	1.96	63	ePg	Pn	07 47 17.1	+0.7
BOSS				eSg	Sn	07 47 41.3	-0.2
GOCS	Kraljevo Serbi	2.01	16	ePn	Pn	07 47 16.9	-0.2
GOCS				eSn	Sn	07 47 42.9	+0.1
IGT	Igoumenitsa	2.10	175	Pn	Pg	07 47 23.0	+0.3
IGT				Sn	Sb	07 47 47.7	+0.1
IGT				AML	AML	07 48 08.5	
	comp=E,0.1nm,0.8s						
IGT	Igoumenitsa	2.10	175	ePn	Pn	07 47 18.8	+0.4
IGT				eSn	Sb	07 47 46.2	-1.4
KNT	Kendrikon	2.15	102	ePn	Pn	07 47 19.7	+0.7
KKB	Krupnik	2.27	84	ePn	Pn	07 47 21.0	+0.4
BBLS	Lazi&#263i	2.29	347	ePn	Pb	07 47 23.1	-1.2
BBLS				eSn	Sn	07 47 51.3	+1.6
BOVS	Bovan	2.32	30	ePn	Pn	07 47 21.6	+0.3
BOVS				eSn	Sn	07 47 51.0	+0.7
ZAPS	Zavoj	2.48	48	ePn	Pn	07 47 22.9	-0.7
ZAPS				eSn	Sn	07 47 52.4	-2.0
ZAGS	Zajecar	2.68	35	ePn	Pn	07 47 26.1	-0.2

*HEL **10** 07:56:53.8±0.3, 61°.89N×30°.57E, h0km, ML1.7, Explosion*
*IDC **10** 07:56:54.2±3.5, 61°.75N×30°.43E, h0km, mbtmp3.4/1, ML1.7/2, Error ellipse: s-maj=38.1km s-min=14.6km az=122.0*

ISC 10 07:56:51.4±1.4, 61°.89N±0°.05×30°.55E±0°.06, h0km, n15, σ1°27/25, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.90	239	PG	Pb	07 57 10.2	+0.4
RUF				MSG	Sb	07 57 21.8	-0.5
	comp=Z,4.5nm,0.2s						
RUF				SG	Sb	07 57 21.8	-0.5
JOF	Joensuu	1.09	19	PG	Pb	07 57 13.5	+0.3
JOF				SG	Sg	07 57 26.9	+0.5
NIF	Nilsia	1.97	321	PG	Pg	07 57 29.0	-0.1
NIF				MSG		07 57 52.4	
	comp=Z,4.7nm,0.2s						
NIF				SG	Sg	07 57 54.9	+0.4
VJF	Virojoki	1.99	228	MSG		07 57 53.1	
	comp=Z,4.8nm,0.2s						
VJF				SG	Sg	07 57 54.9	-0.2
KAF	Kangasniemi	2.02	278	PG	Pg	07 57 30.3	+0.2
KAF				MSG		07 57 53.9	
	comp=Z,4.4nm,0.2s						
KAF				SG	Sg	07 57 56.7	+0.6
FIA0	FINESS Array S	2.18	260	PG	Pb	07 57 32.2	+0.5
	baz=73						
FIA0				MSG		07 57 58.9	
	comp=Z,2.5nm,0.2s						
FIA0				SB	Sg	07 58 00.3	-1.1
FINES	FINESS Array B	2.18	260	Pn	Pg	07 57 32.7	-0.5
	comp=Z,0.4nm,0.3s,baz=80,slow=15,SNR=11						
FINES				Sn	Sg	07 58 00.6	-0.9
	comp=Z,1.4nm,0.3s,baz=78,slow=27,SNR=21						
SUF	Sumiainen	2.22	294	PG	Pg	07 57 33.4	-0.5
	baz=112						
SUF				MSG		07 57 59.6	
	comp=Z,3.7nm,0.2s						
SUF				SG	Sg	07 58 03.1	+0.5
RMF	Romuvaara	2.35	353	PG	Pb	07 57 35.1	+0.4
	baz=175						
RMF				MSG		07 58 03.2	
	comp=Z,1.7nm,0.2s						
RMF				SG	Sg	07 58 05.6	-1.4
KEF	Keuruu	2.69	278	PB	Pb	07 57 40.6	+0.2
KEF				MSG		07 58 13.3	
	comp=Z,2.7nm,0.2s						
KEF				SB	Sb	07 58 14.8	+0.8
HEL5	Espoo, Suvisaa	3.34	240	SB	Sb	07 58 30.3	-2.4
KU6	Riekki	4.16	356	SN	Sn	07 58 45.7	+0.3
OLKF	Oulanka, Finla	4.48	354	SG	Sg	07 59 10.9	-4.2
I43RU	DUBNA INFRASON	6.21	144	I	I	08 35 20.0	
	baz=335,slow=332,SNR=4.1						
ARCES	ARCESS Array B	7.95	347	Pn	Pn	07 58 50.0	+1.9
	baz=164,slow=14,SNR=1.6						
ARCES				Sn	Sn	08 00 17.6	-1.0
	comp=Z,0.1nm,0.3s,baz=159,slow=28,SNR=1.3						
	comp=Z,2.7nm,1.1s						

DJA 10 07:59:06.5±0.5, 4°.S±3°.×12°.8E±°, h10km, M4.5/5, mB6.5/1, mb5.2/1, MLv4.1/5, Mw(mB)6.2/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.16	171	P	Pg	07 59 11.5	+1.5
AAI				S	Sg	07 59 14.0	+1.6
MSAI	Masohi	0.78	76	P	Pb	07 59 22.0	-0.2
SWI	Sorong	4.07	49	P	Pn	08 00 08.5	-0.3

*ASRS **10** 08:00:24.0±1.0, 54°.09N×86°.55E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 08:00:23.6±3.0, 54°.11N×86°.89E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=26.4km s-min=17.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	263	I	I	08 05 40.0	
	baz=81,slow=325,SNR=1.1						
ZALV	Zalesovo Beam	1.23	263	Pg	Pg	08 00 46.4	-0.8
	1.5nm,0.3s,baz=81,slow=17,SNR=5.3						
ZALV				Lg	Lg	08 01 02.2	
	2.5nm,0.3s,baz=72,slow=28,SNR=5.7						
KURBB	Kurchatov Arra	6.20	239	Pn	Pn	08 01 58.6	+2.4
	0.1nm,0.3s,baz=54,slow=14,SNR=7.8						
KURBB				Lg	Lg	08 03 42.1	
	0.1nm,0.3s,baz=58,slow=34,SNR=4.1						
	1.0nm,0.4s						
MKAR	Makanchi Array	7.89	204	Pn	Pn	08 02 19.4	-0.2
	0.3nm,0.3s,baz=26,slow=14,SNR=8.6						
MKAR				Lg	Lg	08 04 36.4	
	baz=19,slow=29						
	0.3nm,0.3s

FAKI	**Fak Fak**	**7.18**	**147**	P		**Pn**	**08 02 57.2**	**+2.9**
WRA	**Warramunga Arr**	**23.67**	**166**	P		**P**	**08 06 20.2**	**-1.0**
	2.2nm,0.6s,baz=344,slow=10,SNR=31							
	2.2nm,0.6s							
ASAR	**Alice Springs**	**27.18**	**169**	P		**P**	**08 06 51.5**	**-1.7**
	0.4nm,0.5s,baz=353,slow=7.7,SNR=12							
	0.4nm,0.5s							
STKA	**Stephens Creek**	**37.03**	**161**	P		**P**	**08 08 17.0**	**-2.3**
	1.6nm,0.3s,baz=348,slow=8.3,SNR=5.9							
	1.6nm,0.3s							

*TRN **10** 08:05:37.8, 10.°87N×62.°28W, h77km, MD3.5, North of the Paria peninsula.*
*FUNV **10** 08:05:38.8, 10.°90N×62.°27W, h22km, MW3.4*

ISC 10 08:05:35.5±2.0, 10.°79N±0.°07×62.°21W±0.°10, h105km±21km, n15, σ1°73/29, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.65**	**98**	*eP*	**Pn**	**08 05 54.6**	**+1.6**
DMDM				*eS*	**Sn**	**08 06 05.2**	**-1.0**
PSMG	**Mucurapo Girls**	**0.68**	**100**	*eP*	**Pn**	**08 05 54.9**	**+1.7**
PSMG				*eS*	**Sn**	**08 06 05.5**	**-1.0**
TRN	**Trinidad (W)**	**0.80**	**100**	⇑*iP*	**Pn**	**08 05 55.8**	**+1.4**
TRN				*eS*	**Sn**	**08 06 07.6**	**-1.0**
GRFF	**Grenada Fort F**	**1.34**	**20**	*eP*	**Pn**	**08 06 00.8**	**+0.6**
GRFF				*eS*	**Sn**	**08 06 17.6**	**-1.3**
GRGR	**Grenville**	**1.44**	**22**	*eP*	**Pn**	**08 06 01.9**	**+0.5**
GRGR				*eS*	**Sn**	**08 06 19.4**	**-1.6**
GRHS	**Sauteurs**	**1.53**	**21**	*eP*	**Pn**	**08 06 03.4**	**+0.9**
GRHS				*eS*	**Sn**	**08 06 21.4**	**-1.6**
GCMP	**Grenada, Carri**	**1.85**	**24**	*eP*	**Pn**	**08 06 06.9**	**+0.4**
GCMP				*eS*	**Sn**	**08 06 28.2**	**-1.8**
SVB	**Belmont**	**2.64**	**21**	*eP*	**Pn**	**08 06 18.4**	**+1.7**
SVB				*eS*	**Sn**	**08 06 47.2**	**-1.1**
SLBI	**Saint Lucia, B**	**3.44**	**20**	*eP*	**Pn**	**08 06 28.8**	**+1.5**
SLBI				*eS*	**Sn**	**08 07 05.5**	**-1.6**
BIM	**Bigot**	**3.87**	**17**	*eP*	**Pn**	**08 06 35.2**	**+2.1**
BIM				*eS*	**Sn**	**08 07 15.8**	**-1.9**
TACV	**Tcata**	**4.78**	**263**	*eP*	**Pn**	**08 06 47.8**	**+2.3**
TACV				*eS*	**Sn**	**08 07 38.9**	**-1.0**
CACV	**CAICARA DEL OR**	**5.34**	**234**	*eP*	**Pn**	**08 06 50.8**	**-2.2**
CACV				*eS*	Sn	08 07 44.7	-8.6
BENV	**Beln**	**5.37**	**262**	*eP*	**Pn**	**08 06 56.4**	**+3.0**
BENV				*eS*	**Sn**	**08 07 52.4**	**-1.6**
BAUV	**El Baul**	**6.03**	**253**	*eP*	**Pn**	**08 07 03.9**	**+1.5**
BAUV				*eS*	**Sn**	**08 08 07.1**	**-3.0**
BAUV	**El Baul**	**6.03**	**253**	*eP*	**Pn**	**08 07 03.5**	**+1.2**
BAUV				*eS*	**Sn**	**08 08 10.7**	**+0.6**

GCG 10 08:08:36.1±0.9, 14.°12N×91.°30W, h63km±12km, MD3.6, ML3.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.33**	**348**	*eP*	Pn	08 08 50.9	+4.0
STG2				*eS*	Sn	08 09 01.2	+6.5
ESSG	**Sabana Grande**	**0.53**	**60**	*i S*	Sn	08 08 58.7	+0.8
SOKI	**Kika Raxquin**	**0.71**	**352**	*eP*	Pn	08 08 52.2	+1.1
FG8	**Yepocapa, Chim**	**0.73**	**79**	*i P*	Pn	08 08 48.9	-2.2
FG8				*eS*	Sn	08 08 57.9	-4.1
FG16	**Alotenango, Sa**	**0.78**	**78**	*i P*	Pn	08 08 49.7	-2.0
FG16				*eS*	Sn	08 08 59.9	-3.3
FG16				IAML		08 09 01.8	
	comp=N,3μm,0.3s						
PCG5	**San Vicente Pa**	**0.90**	**84**	*i P*	Pn	08 08 51.2	-2.0
PCG5				*eS*	Sn	08 09 02.4	-3.4
SMCA	**Catarina**	**1.05**	**315**	*eP*	Pn	08 08 55.3	+0.4
SMCA				*eS*	Sn	08 09 09.2	+0.3
NUBE	**Las Nubes**	**1.49**	**98**	*eP*	Pn	08 09 01.2	+0.3
JAYA	**Jayaque - finc**	**1.86**	**104**	*eP*	Pn	08 09 05.1	-0.7
JAYA				*eS*	Sn	08 09 28.5	0.0

*SNET **10** 08:13:03.9±11.0, 13.°83N×91.°45W, h35km, ML3.8*
*GCG **10** 08:13:19.9±1.9, 13.°86N×91.°44W, h36km±232km, MD4.2, ML4.2, MW3.5*
*CATAC **10** 08:13:19.5±0.5, 14.°N±2.°×9.°1W±.°, h19km±4km, M3.8/18, MLv3.8/18, Error ellipse: s-maj=5.5km s-min=3.2km az=36.8, confirmed*

ISC 10 08:13:16.3±1.6, 13.°77N±0.°05×91.°40W±0.°04, h1km±10km, n67, σ1°20/85, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.67**	**2**	*eP*	**Pn**	**08 13 35.5**	**+2.4**
STG2				*eS*	**Sn**	**08 13 46.6**	**+2.3**
RTAL	**Retalhuleu**	**0.81**	**339**	P	**Pb**	**08 13 33.7**	**+0.5**
RTAL	**Retalhuleu**	**0.81**	**339**	S	**Sg**	**08 13 43.8**	**+1.5**
ESSG	**Sabana Grande**	**0.82**	**42**	*eP*	**Pb**	**08 13 34.3**	**+0.7**
ESSG				*eS*	**Sb**	**08 13 45.5**	**+0.3**
ESSJ	**San Jos, E**	**0.90**	**103**	*i P*	**Pg**	**08 13 33.0**	**-0.5**
FG8	**Yepocapa, Chim**	**0.95**	**59**	*eP*	**Pg**	**08 13 34.4**	**-0.2**
FG8				*eS*	**Sg**	**08 13 44.8**	**-2.0**
FG16	**Alotenango, Sa**	**1.00**	**60**	*eP*	**Pg**	**08 13 35.3**	**-0.2**
FG16				*eS*	**Sg**	**08 13 47.0**	**-1.5**
FG16				IAML		08 13 48.6	
	comp=N,29μm,0.2s						
SOKI	**Kika Raxquin**	**1.05**	**360**	*eP*	**Pg**	**08 13 37.4**	**+0.9**
SOKI				*eS*	**Sg**	**08 13 50.4**	**+0.4**
SOKI				IAML		08 13 51.3	
	comp=N,2μm,0.6s						
PCG5	**San Vicente Pa**	**1.09**	**66**	*eP*	**Pg**	**08 13 36.7**	**-0.5**
PCG5				*eS*	**Sg**	**08 13 49.5**	**-1.9**
QUEO	**Labor Ovalle**	**1.10**	**354**	*eP*	**Pg**	**08 13 38.4**	**+0.9**
QUEO				*i S*	**Sg**	**08 13 52.9**	**+1.0**
QUEO				IAML		08 13 56.3	
	comp=N,2μm,0.7s						
GCG4	**OSOP**	**1.17**	**46**	*i P*	**Pn**	**08 13 40.8**	**+0.8**
GCG4				*eS*	**Sb**	**08 13 55.4**	**+0.1**
SMCA	**Catarina**	**1.27**	**329**	*eP*	**Pn**	**08 13 39.3**	**-1.9**
FAME	**Alcaldia de Sa**	**1.35**	**87**	S	**Sb**	**08 13 59.2**	**-1.0**
FAME	**Alcaldia de Sa**	**1.35**	**87**	P	**Pn**	**08 13 42.3**	**0.0**
THIG		**1.41**	**324**	*i P*	**Pn**	**08 13 42.0**	**-1.2**
THIG				*i S*	**Sb**	**08 13 59.0**	**-3.0**
APG	**El Apazote**	**1.53**	**36**	*i P*	**Pn**	**08 13 45.5**	**+0.5**
APG				*eS*	**Sn**	**08 14 04.7**	**-1.0**
QUIS	**Sacapulas**	**1.54**	**11**	*eP*	**Pn**	**08 13 45.8**	**+0.6**
QUIS				*eS*	**Sn**	**08 14 05.0**	**-1.0**
HUEH	**Huehuetenango**	**1.54**	**356**	*eP*	**Pn**	**08 13 45.5**	**+0.1**
HUEH				*eS*	**Sn**	**08 14 05.7**	**-0.4**
HUEH	**Huehuetenango**	**1.54**	**356**	*eP*	**Pn**	**08 13 45.3**	**+0.1**
HUEH				*eS*	**Sn**	**08 14 03.5**	**-2.6**
HUEH	**Huehuetenango**	**1.54**	**356**	P	**Pn**	**08 13 45.4**	**+0.1**
NUBE	**Las Nubes**	**1.58**	**85**	*eP*	**Pn**	**08 13 46.1**	**+0.5**
NUBE				*eS*	**Sn**	**08 14 05.8**	**-1.0**
NUBE	**Las Nubes**	**1.58**	**85**	*eP*	**Pn**	**08 13 46.1**	**+0.5**
NUBE				*eS*	**Sn**	**08 14 05.3**	**-1.5**
NUBE	**Las Nubes**	**1.58**	**85**	P	**Pn**	**08 13 46.1**	**+0.5**
LOAL	**Lomas de Alarc**	**1.59**	**81**	P	**Pn**	**08 13 46.6**	**+0.9**
LOAL	**Lomas de Alarc**	**1.59**	**81**	S	**Sn**	**08 14 07.3**	**+0.4**
CEVE	**Cerro Verde**	**1.73**	**88**	*eP*	**Pn**	**08 13 48.9**	**+1.1**
CEVE				*eS*	**Sn**	**08 14 10.7**	**+0.1**
CEVE	**Cerro Verde**	**1.73**	**88**	P	**Pn**	**08 13 48.9**	**+1.1**
CEVE	**Cerro Verde**	**1.73**	**88**	S	**Sb**	**08 14 11.7**	**+0.4**
JUAM	**Asuncion Mita**	**1.74**	**71**	*i P*	**Pn**	**08 13 48.4**	**+0.7**
JUAM				*eS*	**Sn**	**08 14 10.2**	**-0.5**
JUAM				IAML		08 14 12.7	
	comp=N,991nm,0.4s						
UNIC	**Universidad Ca**	**1.81**	**83**	P	**Pn**	**08 13 49.9**	**+1.1**
JAYA	**Jayaque - finc**	**1.90**	**93**	*eP*	**Pn**	**08 13 50.7**	**+0.7**
JAYA				*eS*	**Sn**	**08 14 14.2**	**-0.5**
JAYA	**Jayaque - finc**	**1.90**	**93**	*eP*	**Pn**	**08 13 50.7**	**+0.7**
JAYA				*eS*	**Sn**	**08 14 13.9**	**-0.8**
JAYA	**Jayaque - finc**	**1.90**	**93**	P	**Pn**	**08 13 50.7**	**+0.7**
PMON	**Piamonte**	**2.03**	**91**	P	**Pn**	**08 13 53.0**	**+1.2**
PMON	**Piamonte**	**2.03**	**91**	S	**Sn**	**08 14 18.0**	**+0.2**
LALI	**Alcalda de L**	**2.04**	**98**	*i P*	**Pn**	**08 13 52.9**	**+1.0**
LALI				*eS*	**Sn**	**08 14 16.9**	**-1.0**
LALI	**Alcalda de L**	**2.04**	**98**	P	**Pn**	**08 13 52.9**	**+1.0**
LALI	**Alcalda de L**	**2.04**	**98**	S	**Sn**	**08 14 18.0**	**0.0**
MTO3	**Montecristo**	**2.08**	**72**	*eP*	**Pn**	**08 13 53.1**	**+0.6**
MTO3	**Montecristo**	**2.08**	**72**	*eP*	**Pn**	**08 13 52.9**	**+0.4**
MTO3	**Montecristo**	**2.08**	**72**	P	**Pn**	**08 13 53.0**	**+0.4**
MTO3	**Montecristo**	**2.08**	**72**	S	**Sn**	**08 14 18.3**	**-0.9**
UEES	**Universidad Ev**	**2.10**	**91**	P	**Pn**	**08 13 54.2**	**+1.5**
ESQI	**Esquipulas**	**2.15**	**68**	⇑*iP*	**Pn**	**08 13 54.1**	**+0.7**
ESQI	**Esquipulas**	**2.15**	**68**	S	**Sb**	**08 14 23.0**	**-0.3**
ESQI	**Esquipulas**	**2.15**	**68**	P	**Pn**	**08 13 54.0**	**+0.6**
LOMA	**Loma Larga**	**2.17**	**93**	S	**Sn**	**08 14 21.6**	**+0.3**
LOMA	**Loma Larga**	**2.17**	**93**	P	**Pn**	**08 13 55.2**	**+1.5**
UDBS	**Universidad Do**	**2.18**	**91**	P	**Pn**	**08 13 55.6**	**+1.8**
PAVA	**Las Pavas**	**2.39**	**91**	P	**Pn**	**08 13 58.2**	**+1.4**
PAVA	**Las Pavas**	**2.39**	**91**	S	**Sn**	**08 14 29.2**	**+2.3**
TECO	**Alcaldia de Te**	**2.56**	**95**	P	**Pn**	**08 14 00.4**	**+1.4**
SCLA	**Alcaldia de Sa**	**2.60**	**91**	P	**Pn**	**08 14 01.1**	**+1.5**
CCIG	**Comitan**	**2.60**	**344**	P	**Pn**	**08 14 00.7**	**+0.9**
PACA	**Pacayal**	**3.00**	**95**	P	**Pb**	**08 14 09.8**	**-0.9**
PETF	**Flores**	**3.46**	**25**	*eP*	**Pn**	**08 14 11.6**	**+0.1**
PETF				IAML		08 15 11.9	
	comp=N,237nm,0.6s						
PETF	**Flores**	**3.46**	**25**	P	**Pn**	**08 14 11.7**	**+0.2**
CNCH	**Conchagua**	**3.50**	**98**	P	**Pn**	**08 14 13.4**	**+1.3**
CSGN	**Cosiguina Volc**	**3.82**	**101**	P	**Pn**	**08 14 17.4**	**+1.0**
YUSH	**Yuscaran**	**4.43**	**87**	P	**Pn**	**08 14 25.6**	**+0.8**
CNGA	**AI SSO del Vol**	**4.75**	**105**	P	**Pn**	**08 14 32.0**	**+2.8**
CNGN	**Cerro Negro**	**4.75**	**105**	P	Pn	08 14 35.0	+5.8
COPN	**Copaltepe**	**4.95**	**108**	P	**Pn**	**08 14 34.3**	**+2.4**
LIMN	**Finca el Limon**	**4.95**	**98**	P	**Pn**	**08 14 34.0**	**+2.0**
RCVN	**Varillal2**	**5.06**	**91**	P	**Pn**	**08 14 35.1**	**+1.5**
UNAN	**Cigeo UNAN**	**5.26**	**108**	P	Pn	08 14 41.4	+5.2
MATN	**Matagalpa**	**5.39**	**98**	P	**Pn**	**08 14 38.3**	**+0.3**

GCG 10 08:21:32.8±1.8, 13.°99N×91.°64W, h39km±70km, MD3.6, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.51**	**29**	*eP*	Pn	08 21 46.8	+2.9
STG2				*eS*	Sn	08 21 56.9	+5.3
SOKI	**Kika Raxquin**	**0.86**	**15**	*eP*	Pn	08 21 49.5	+0.6
SOKI				*eS*	Sn	08 22 01.7	+1.3
ESSG	**Sabana Grande**	**0.88**	**63**	*i P*	Pn	08 21 48.7	0.0
QUEO	**Labor Ovalle**	**0.89**	**8**	*eP*	Pn	08 21 50.0	+0.9
QUEO				*eS*	Sn	08 22 02.5	+1.5
QUEO				IAML		08 22 03.6	
	comp=N,614nm,0.1s						
SMCA	**Catarina**	**0.96**	**334**	*eP*	Pn	08 21 49.5	-0.4
SMCA				*eS*	Sn	08 22 02.5	+0.1
FG8	**Yepocapa, Chim**	**1.08**	**75**	*i P*	Pn	08 21 48.3	-3.2
FG8				*eS*	Sn	08 22 00.4	-4.9
FG16	**Alotenango, Sa**	**1.13**	**75**	*i P*	Pn	08 21 49.4	-2.9
FG16				*i S*	Sn	08 22 03.0	-3.7
FG16				IAML		08 22 09.7	
	comp=N,4μm,0.2s						
PCG5	**San Vicente Pa**	**1.24**	**79**	*eP*	Pn	08 21 51.6	-2.2
QUIS	**Sacapulas**	**1.40**	**22**	*eP*	Pn	08 21 57.8	+1.9
QUIS				*eS*	Sn	08 22 16.9	+3.6
QUIS				IAML		08 22 18.3	
	comp=E,215nm,0.5s						
APG	**El Apazote**	**1.52**	**48**	*eP*	Pn	08 21 59.4	+1.7
NUBE	**Las Nubes**	**1.80**	**92**	*eP*	Pn	08 22 01.3	-0.2
NUBE				*eS*	Sn	08 22 22.8	-0.4
JAYA	**Jayaque - finc**	**2.15**	**99**	*eP*	Pn	08 22 05.8	-0.5

*IDC **10** 08:29:49.6±22.0, 20.°71S×179.°42W, h650km±292km, mb2.8/6, mbtmp3.8/6, Error ellipse: s-maj=100.7km s-min=38.6km az=78.0*

ISC 10 08:29:49.6±1.1, 20.°7S±0.°3×179.°4W±0.°2, h650km, n6, σ0°61/6, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.50**	**244**	P	**P**	**08 36 03.1**	**+0.1**
	0.5nm,0.5s,baz=78,slow=14,SNR=3.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**43.17**	**257**	P	**P**	**08 36 56.2**	**+0.1**
	1.9nm,0.5s,baz=97,slow=7.7,SNR=38						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**43.25**	**263**	P	**P**	**08 36 56.8**	**+0.1**
	0.8nm,0.3s,baz=98,slow=8.5,SNR=20						
	0.8nm,0.3s						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**08 39 53.9**	**-0.3**
	0.4nm,0.5s,baz=319,slow=2.8,SNR=1.3						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**88.29**	**58**	P	**P**	**08 41 35.0**	**+0.7**
	0.4nm,0.8s,baz=224,slow=6.8,SNR=6.5						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**88.80**	**13**	P	**P**	**08 41 35.1**	**-0.7**
	0.2nm,0.5s,baz=217,slow=5.1,SNR=5.1						
	0.2nm,0.5s						

*FUNV **10** 08:31:11.2, 10.°21N×62.°91W, h8km, MW3.2*
*TRN **10** 08:31:15.7, 10.°38N×62.°71W, h8km, MD3.3, Venezuela.*

ISC 10 08:31:04.5±1.1, 10.°1N±0.°1×63.°23W±0.°05, h14km, n9, σ1°99/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.76**	**70**	*eP*	**Pb**	**08 31 37.8**	**+1.2**
DMDM				*eS*	**Sn**	**08 31 56.0**	**-0.8**
TRN	**Trinidad (W)**	**1.88**	**72**	*eP*	**Pg**	**08 31 41.2**	**+0.5**
TRN				*eS*	**Sn**	**08 31 58.3**	**-1.5**
GRGR	**Grenville**	**2.56**	**37**	*eP*	**Pb**	**08 31 50.6**	**+0.4**
GRGR				*eS*	**Sn**	**08 32 15.8**	**-0.7**
TACV	**Tcata**	**3.74**	**271**	*eP*	**Pb**	**08 32 13.2**	**+2.8**
TACV				*eS*	**Sb**	**08 32 57.0**	**+1.4**
CACV	**CAICARA DEL OR**	**4.12**	**233**	*eP*	Pn	08 32 12.2	+5.2
CACV				*eS*	**Sn**	**08 32 58.4**	**+3.4**
BENV	**Beln**	**4.30**	**269**	*eP*	**Pb**	**08 32 19.6**	**-0.5**
BENV				*eS*	**Sb**	**08 33 11.3**	**-0.6**
BAUV	**El Baul**	**4.88**	**257**	*eP*	**Pb**	**08 32 27.9**	**-1.9**
BAUV				*eS*	**Sb**	**08 33 24.2**	**-4.2**
BAUV	**El Baul**	**4.88**	**257**	*eP*	**Pb**	**08 32 28.5**	**-1.3**
BAUV				*eS*	**Sb**	**08 33 27.5**	**-0.9**
BAUV	**El Baul**	**4.88**	**257**	*eS*	**Sb**	**08 33 27.5**	**-0.9**

*IDC **10** 09:02:51.7±0.7, 57.°75S×157.°62E, h0km, mb4.3/9, mbtmp4.3/10, ML3.5/1, MS3.7/23, Error ellipse: s-maj=36.3km s-min=15.9km az=71.0*
*NEIC **10** 09:02:53.3±1.9, 57.°92S±0.°07×157.°5E±0.°2, h10km±1km, mb4.6/22, Error ellipse: s-maj=22.5km s-min=7.3km az=115.0*
*GCMT **10** 09:02:57.3±0.4, 57.°98S±0.°05×157.°41E±0.°05, h20km±1km, MW4.8/69, Moment Tensor Solution. s17,c18; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.51±.21; $M_{\theta\theta}$-0.47±.12; $M_{\phi\phi}$-2.05±.13; $M_{r\theta}$0.38±.34; $M_{\theta\phi}$0.46±.07; $M_{\phi r}$-0.06±.20; Best double couple: $M_0$2.36800×10^{16} NP1:ϕ_s352.00000°, δ44.00000°, λ100.00000°. NP2: ϕ_s158.00000°, δ47.00000°, λ81.00000°. Principal axes: T 2.5570, Plg83.0000°, Azm0.0000°; N -0.3840, Plg7.0000°, Azm164.0000°; P -2.1780, Plg2.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 09:02:53.4±0.5, 57.°89S±0.°07×157.°3E±0.°1, h10km, n74, σ1°02/50, mb4.5/21, MS3.6/22, 4C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**13.66**	**33**	Pn	**Pn**	**09 06 07.2**	**+0.1**
DCZ	**Deep Cove**	**13.83**	**30**	Pn	**Pn**	**09 06 11.7**	**+2.3**
MLZ	**Mavora Lakes**	**14.19**	**33**	Pn	**Pn**	**09 06 14.3**	**0.0**
VNDA	**Vanda**	**19.79**	**177**		**P**	**09 07 22.9**	**-0.4**
VNDA	**Vanda**	**19.79**	**177**	P	**P**	**09 07 23.1**	**-0.2**
	0.1nm,0.3s,baz=347,slow=11,SNR=21						
VNDA				LR	LR	09 14 00.6	
	comp=Z,156nm,19.6s,baz=40,slow=34						
	3.4nm,0.9s						
SBA	**Scott Base**	**20.31**	**174**		Pn	09 07 30.6	-0.4
SBA				IAmb	IAmb	09 07 54.0	
	comp=Z,35nm,1.4s						
TOO	**Toolangi**	**21.76**	**334**		**P**	**09 07 45.9**	**+0.9**
TOO				IAmb	IAmb	09 08 19.3	
	comp=Z,23nm,1.4s						
BKZ	**Black Stump Fm**	**22.48**	**42**		**P**	**09 07 54.0**	**+1.2**
BKZ				IAmb	IAmb	09 08 04.3	
	comp=Z,49nm,1.3s						
CASY	**Casey**	**22.91**	**229**	P	**P**	**09 07 58.5**	**+1.5**
CASY				IAmb	IAmb	09 08 10.3	
	comp=Z,24nm,1.2s						
URZ	**Urewera**	**23.51**	**42**	LR	LR	09 16 34.7	
	comp=Z,185nm,19.4s,baz=202,slow=35						
STKA	**Stephens Creek**	**28.15**	**331**	P	**P**	**09 08 46.2**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=184,slow=11,SNR=4.0						
STKA				LR	LR	09 17 51.3	
	comp=Z,104nm,21.0s,baz=193,slow=32						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**32.22**	**180**	P	**P**	**09 09 23.9**	**+2.4**
QSPA				IAmb	IAmb	09 09 36.9	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**32.22**	**180**	P	**P**	**09 09 23.4**	**+2.0**
	comp=Z,5.0nm,1.0s,baz=341,slow=2.3,SNR=15						
QSPA				PcP	**PcP**	**09 12 10.6**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=285,slow=1.0,SNR=17						
QSPA				LR	LR	09 21 26.3	
	comp=Z,62nm,18.6s,baz=96,slow=34						
	comp=Z,5.0nm,1.0s						
DZM	**Mont Dzumac**	**36.38**	**14**	*e*LR	LR	09 20 03.6	
	comp=Z,101nm,24.8s						
DZM	**Mont Dzumac**	**36.38**	**14**	LR	LR	09 21 22.6	
	comp=Z,97nm,18.4s,baz=148,slow=31						
H01W1	**Cape Leeuwin H**	**36.71**	**290**	T	T	09 49 16.4	
	baz=141,slow=74,SNR=36						
H01W2	**Cape Leeuwin H**	**36.71**	**290**	T	T	09 49 53.8	
	baz=141						
H01W3	**Cape Leeuwin H**	**36.73**	**290**	T	T	09 49 18.1	
	baz=141,slow=74,SNR=32						
NWAO	**Narrogin (SRO)**	**36.77**	**295**	LR	LR	09 21 33.8	
	comp=Z,100nm,20.1s,baz=48,slow=30						
ASAR	**Alice Springs**	**38.10**	**324**		**P**	**09 10 12.7**	**+0.3**
ASAR	**Alice Springs**	**38.10**	**324**	P	**P**	**09 10 12.8**	**+0.5**
	comp=Z,5.5nm,0.9s,baz=159,slow=8.0,SNR=35						
ASAR				PcP	**PcP**	**09 12 26.1**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=146,slow=3.8,SNR=2.8						
ASAR				LR	LR	09 24 13.3	
	comp=Z,49nm,19.3s,baz=132,slow=34						
	comp=Z,5.5nm,0.9s						
AS31	**Alice Springs**	**38.10**	**324**		**P**	**09 10 12.5**	**+0.2**
MAW	**Mawson**	**40.10**	**216**	P	**P**	**09 10 29.6**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=129,slow=8.1,SNR=7.3						
MAW				PcP	**PcP**	**09 12 33.9**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=323,slow=3.3,SNR=6.1						
MAW				LR	LR	09 26 41.9	
	comp=Z,213nm,18.7s,baz=138,slow=36						
	comp=Z,3.5nm,0.9s						
WR8	**Warramunga Arr**	**41.41**	**327**		**P**	**09 10 38.9**	**-0.9**
WR8				IAmb	IAmb	09 10 40.8	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**41.47**	**326**		**P**	**09 10 39.3**	**-1.1**
WRA	**Warramunga Arr**	**41.47**	**326**	P	**P**	**09 10 39.7**	**-0.7**
	comp=Z,6.6nm,0.8s,baz=162,slow=7.0,SNR=40						
WRA				PcP	**PcP**	**09 12 36.8**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=165,slow=3.0,SNR=1.7						
WRA				LR	LR	09 25 26.0	
	comp=Z,79nm,18.4s,baz=144,slow=33						
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**41.48**	**326**		**P**	**09 10 39.6**	**-0.8**
WRAB				IAmb	IAmb	09 10 40.8	
	comp=Z,8.8nm,0.9s						
WB0	**Warramunga Arr**	**41.62**	**326**		**P**	**09 10 40.8**	**-0.8**
WB0				IAmb	IAmb	09 10 41.9	
	comp=Z,9.7nm,0.9s						
BELA	**Belgrano 2**	**44.29**	**176**		**P**	**09 11 01.1**	**-1.4**
COEN	**Coen**	**45.13**	**340**	P	**P**	**09 11 09.5**	**-0.4**
PSA00	**Pilbara Seismi**	**45.28**	**307**		**P**	**09 11 09.7**	**-1.4**
PSA00	**Pilbara Seismi**	**45.28**	**307**		**P**	**09 11 10.6**	**-0.4**
PSA00				IAmb	IAmb	09 11 22.5	
	comp=Z,7.8nm,1.0s						
MBWA	**Marble Bar**	**45.70**	**307**	P	**P**	**09 11 14.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**46.10**	**316**		**P**	**09 11 17.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**46.10**	**316**	LR	LR	09 27 53.8	
	comp=Z,60nm,21.0s,baz=192,slow=33						
KNRA	**Kununurra**	**47.24**	**321**	P	**P**	**09 11 26.6**	**+0.1**
RAR	**Rarotonga**	**48.00**	**59**	LR	LR	09 26 46.7	
	comp=Z,180nm,21.9s,baz=222,slow=30						
HNR	**Honiara**	**48.38**	**3**	LR	LR	09 27 12.1	
	comp=Z,36nm,18.9s,baz=216,slow=30						
MTN	**Manton Dam**	**49.14**	**325**		**P**	**09 11 40.7**	**-0.4**
MTN				IAmb	IAmb	09 11 41.8	
	comp=Z,7.8nm,0.9s						
TROLL	**Troll, Antarti**	**49.21**	**190**	⇑P	**P**	**09 11 40.3**	**-1.0**
	comp=Z,232nm,1.1s						
SNAA	**Sanae**	**49.99**	**188**		**P**	**09 11 46.7**	**-0.4**
SNAA				IAmb	IAmb	09 12 00.0	
	comp=Z,9.8nm,1.1s						
SNAA	**Sanae**	**49.99**	**188

SDPT					Sn	09 06 41.9	+0.5
SDPT	**Sand Point**	**0.34**	**8**	IAML		09 06 42.5	
	comp=N,4μm,0.5s						
SDPT				IAML		09 06 42.5	
	comp=E,3μm,0.5s						
CNBA	**Chernabura Isl**	**0.59**	**109**		Pn	09 06 37.1	-0.6
CNBA					Sn	09 06 46.5	-0.1
DOL	**Dolgoi Island**	**0.76**	**281**		Pn	09 06 39.5	-0.4
DOL					Sn	09 06 50.4	0.0
PS1A	**Pavlof South-1**	**0.79**	**302**		Pn	09 06 40.0	-0.3
PS1A					Sn	09 06 51.5	+0.5
PVV	**Pavlof Volcano**	**0.79**	**298**		Pn	09 06 39.9	-0.4
PS4A	**Pavlof South-4**	**0.81**	**295**		Pn	09 06 40.2	-0.4
PS4A					Sn	09 06 51.8	+0.2
HAG	**Hague Volcano**	**0.83**	**292**		Pn	09 06 40.6	-0.1
PN7A	**Pavlof North-7**	**0.92**	**298**		Pn	09 06 42.1	0.0
DT1	**Dutton Round H**	**0.99**	**276**		Pn	09 06 42.3	-0.6
DT1					Sn	09 06 55.9	0.0
S12K	**Black Hills**	**1.10**	**310**		Pn	09 06 44.1	-0.3
S12K					Sn	09 06 57.2	-1.3
S12K	**Black Hills**	**1.10**	**310**	IAML		09 07 01.7	
	comp=N,610nm,0.3s						
VNKR	**Veniaminof 5**	**1.23**	**33**		Pn	09 06 46.0	-0.2
VNFG	**Fog Glacier, M**	**1.40**	**24**		Pn	09 06 48.8	+0.3
VNFG	**Fog Glacier, M**	**1.40**	**24**		Pn	09 06 48.8	+0.3
VNFG	**Fog Glacier, M**	**1.40**	**24**	IAML		09 07 27.6	
	comp=N,395nm,0.8s						
VNFG				IAML		09 07 28.0	
	comp=E,349nm,0.8s						
VNHG	**Veniaminof 1**	**1.45**	**33**		Pn	09 06 49.3	+0.1
FALS	**False Pass**	**1.66**	**266**		Pn	09 06 52.1	+0.2
ISNN	**Isanotski Nort**	**1.86**	**266**		Pn	09 06 55.7	+0.8
SSLS	**Shishaldin Sou**	**2.01**	**263**		Pn	09 06 57.6	+0.7
SSBA	**Shishaldin**	**2.07**	**265**		Pn	09 06 58.1	+0.4
ANPK	**Aniakchak Peak**	**2.29**	**36**		Pn	09 07 01.3	+0.6
WEBT	**Westdahl Beart**	**2.46**	**262**		Pn	09 07 03.4	+0.4
R16K	**Pilot Point**	**3.05**	**32**	Pn	Pn	09 07 11.5	+0.4
AKSA	**Akutan Strait**	**3.12**	**256**		Pn	09 07 12.8	+0.8
AKUT	**Akutan**	**3.16**	**256**	Pn	Pn	09 07 13.3	+0.8
AKUT				IAML		09 08 01.2	
	comp=N,95nm,0.3s						
AKUT				IAML		09 08 01.9	
	comp=E,75nm,0.7s						
ZRO	**Akutan Zero**	**3.29**	**256**		Pn	09 07 14.9	+0.6
PLK4	**Peulik 4**	**3.52**	**40**		Pn	09 07 18.2	+0.7
PLK4	**Peulik 4**	**3.52**	**40**	IAML		09 08 14.6	
	comp=E,51nm,1.0s						
PLK4				IAML		09 08 18.9	
	comp=N,53nm,0.8s						
PLK1	**Peulik 1**	**3.56**	**37**		Pn	09 07 18.3	+0.4
PLK3	**Peulik 3**	**3.59**	**40**		Pn	09 07 18.9	+0.4
PLK5	**Peulik 5**	**3.62**	**33**		Pn	09 07 19.4	+0.6
UNV	**Unalaska Valle**	**3.66**	**254**		Pn	09 07 19.4	0.0
UNV	**Unalaska Valle**	**3.66**	**254**	IAML		09 08 11.1	
	comp=E,44nm,1.3s						
UNV				IAML		09 08 17.5	
	comp=N,40nm,0.6s						
MNAT	**Makushin Natee**	**3.75**	**255**		Pn	09 07 20.6	0.0
MSW	**Makushin Switc**	**3.79**	**256**		Pn	09 07 21.3	0.0
CNTC	**Contact Creek**	**4.16**	**36**		Pn	09 07 26.4	+0.1
O15K	**Ungalikthiuk R**	**4.19**	**5**		Pn	09 07 25.8	-0.9
O15K	**Ungalikthiuk R**	**4.19**	**5**	IAML		09 08 15.0	
	comp=N,27nm,0.3s						
O15K				IAML		09 08 16.4	
	comp=E,27nm,1.0s						
ANCK	**Angle Creek**	**4.25**	**39**		Pn	09 07 27.9	+0.4
Q16K	**King Salmon**	**4.25**	**29**		Pn	09 07 27.6	+0.1
P16K	**Nushagak River**	**4.27**	**18**		Pn	09 07 27.5	-0.2
P16K	**Nushagak River**	**4.27**	**18**	IAML		09 08 14.8	
	comp=N,42nm,1.3s						
P16K				IAML		09 09 03.2	
	comp=E,62nm,1.5s						
O14K	**Tigyukauivet M**	**4.27**	**355**		Pn	09 07 27.5	-0.2
ACHA	**Angle Creek He**	**4.32**	**40**		Pn	09 07 28.9	+0.4
KABU	**Katmai Buttres**	**4.38**	**40**		Pn	09 07 29.9	+0.5
KAKN	**Katmai Knife C**	**4.48**	**40**		Pn	09 07 31.2	+0.4
KAWH	**Katmai**	**4.64**	**41**		Pn	09 07 32.2	-0.7
KAHC	**Katmai Hardscr**	**4.75**	**38**		Pn	09 07 34.8	+0.3
P17K	**Kvichak River**	**4.76**	**27**		Pn	09 07 34.8	+0.4
O16K	**Kokwok River B**	**4.78**	**15**		Pn	09 07 34.7	-0.1
N14K	**Kuskokwak Cree**	**4.96**	**353**		Pn	09 07 37.1	-0.1
O17K	**Koliganek Bris**	**5.13**	**20**		Pn	09 07 39.1	-0.4
N15K	**Kwethluk River**	**5.18**	**3**	IAML		09 08 38.6	
	comp=E,25nm,0.9s						
N15K				IAML		09 08 39.7	
	comp=N,19nm,0.5s						
KDAK	**Kodiak Island**	**5.23**	**55**		Pn	09 07 40.1	-0.8
KDAK	**Kodiak Island**	**5.23**	**55**	IAML		09 09 06.4	
	comp=N,20nm,1.1s						
KDAK				IAML		09 09 07.4	
	comp=N,23nm,1.3s						
N16K	**Nishlik Lake**	**5.56**	**9**		Pn	09 07 45.2	-0.3
N16K					Sn	09 08 46.7	-1.3
M15K	**Kasigluk River**	**5.70**	**359**		Pn	09 07 46.4	-0.9
M15K					Sn	09 08 48.8	-2.5
M14K	**Bethel**	**5.80**	**353**		Pn	09 07 48.4	-0.3
N17K	**Nushagak Hills**	**5.82**	**17**		Pn	09 07 48.5	-0.4
M16K	**Timber Creek**	**6.09**	**7**		Pn	09 07 52.1	-0.6
ILSW	**Iliamna Southw**	**6.39**	**36**		Pn	09 07 57.7	+0.8
L14K	**Kuka Creek**	**6.44**	**351**		Pn	09 07 57.1	-0.5
M17K	**Holitna River**	**6.61**	**13**		Pn	09 07 59.6	-0.3
N19K	**Bonanza Creek**	**6.65**	**27**	Pn	Pn	09 08 01.2	+0.7
L16K	**Owhat River**	**6.74**	**4**		Pn	09 08 01.2	-0.4
CNPM	**China Poot**	**6.78**	**44**	Pn	Pn	09 08 03.4	+1.2
M18K	**Stony River**	**6.96**	**19**		Pn	09 08 04.5	-0.1
L17K	**Donlin**	**7.24**	**8**		Pn	09 08 07.4	-1.1
L18K	**Granite Mounta**	**7.50**	**14**		Pn	09 08 11.5	-0.6
K17K	**Iditarod**	**7.81**	**8**		Pn	09 08 15.3	-1.0
J14K	**Nanvaranak Lak**	**7.91**	**350**		Pn	09 08 17.1	-0.5
SUA	**Susitna One**	**8.28**	**35**	Pn	Pn	09 08 24.6	+1.8
J16K	**Anvik River**	**8.30**	**360**		Pn	09 08 22.2	-0.7
SKT	**Skwentna**	**8.43**	**30**	Pn	Pn	09 08 26.4	+1.6
PPLA	**Purkeypile**	**9.00**	**25**	Pn	Pn	09 08 33.5	+0.8
J19K	**Poorman**	**9.35**	**14**	Pn	Pn	09 08 36.9	-0.5

*NEIC **10** 09:13:36.8±0.9, 19°.19N±0°.04×67°.11W±0°.03, h10km±1km, ML2.0/9, Md3.0/11(RSPR), Error ellipse: s-maj=6.5km s-min=3.9km az=206.0*
*SDD **10** 09:13:38.7±1.1, 19°.18N×67°.18W, h31km±34km, MD3.0, ML2.0, MW2.7*
*RSPR **10** 09:13:40.8, 19°.12N×67°.18W, h40km±12km, MD3.0/11*
ISC 10 09:13:39.4±1.4, **19°.06N**±0°.07×**67°.19W**±0°.04, **h22**km±8km, **n57**, σ0°**55**/74, **9C-15D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.60**	**173**		**Pb**	**09 13 51.5**	**+0.3**
AGPR					**Sn**	**09 14 01.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.60**	**173**	⇓*eP*	**Pb**	**09 13 51.5**	**+0.3**
AGPR	**Aguadilla, PR**	**0.60**	**173**	*eS*	**Sn**	**09 14 01.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.60**	**173**	⇑*ePg*	**Pb**	**09 13 51.5**	**+0.3**
AGPR				*eSg*	**Sn**	**09 14 00.9**	**-0.7**
AGPR				IAML		09 14 03.0	
	comp=E,99nm,0.3s						
AGPR				IAML		09 14 04.0	
	comp=N,77nm,1.6s						
AGPR	**Aguadilla, PR**	**0.60**	**173**	*ePg*	**Pb**	**09 13 51.8**	**+0.5**
AGPR				⇑*eSg*	**Sb**	**09 13 58.7**	**-0.6**
AGPR				IAML		09 14 03.7	
	comp=N,84nm,2.2s						
IDE	**Isla Desecheo**	**0.72**	**202**		**Pb**	**09 13 53.5**	**+0.1**
IDE					**Sn**	**09 14 05.0**	**+0.2**
IDE	**Isla Desecheo**	**0.72**	**202**	⇑*eP*	**Pb**	**09 13 53.5**	**+0.1**
IDE	**Isla Desecheo**	**0.72**	**202**	*eS*	**Sn**	**09 14 05.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.82**	**150**		**Pb**	**09 13 54.2**	**-0.9**
AOPR					**Sn**	**09 14 07.3**	**0.0**
AOPR	**Arecibo Observ**	**0.82**	**150**	⇑*eP*	**Pb**	**09 13 54.2**	**-0.9**
AOPR	**Arecibo Observ**	**0.82**	**150**	*eS*	**Sn**	**09 14 07.3**	**0.0**
AOPR	**Arecibo Observ**	**0.82**	**150**	*ePg*	**Pb**	**09 13 54.7**	**-0.4**
AOPR				IAML		09 14 14.3	
	comp=N,85nm,0.3s						
AOPR	**Arecibo Observ**	**0.82**	**150**	*ePg*	**Pb**	**09 13 55.4**	**+0.3**
AOPR				*eSg*	**Sb**	**09 14 06.3**	**+0.5**
AOPR				IAML		09 14 14.3	
	comp=N,85nm,0.3s						
PRSN	**Puerto Rico Se**	**0.84**	**177**	Pn	**Pn**	**09 13 56.5**	**+0.6**
EMPR	**Esperanza - Ma**	**0.85**	**133**	Pn	**Pb**	**09 13 55.0**	**-0.5**
LSP	**Las Mesas**	**0.89**	**174**		**Pb**	**09 13 56.0**	**-0.2**
LSP					**Sn**	**09 14 09.2**	**+0.4**
LSP	**Las Mesas**	**0.89**	**174**	⇓*eP*	**Pb**	**09 13 56.0**	**-0.2**
LSP	**Las Mesas**	**0.89**	**174**	*eS*	**Sn**	**09 14 09.2**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.92**	**151**		**Pb**	**09 13 56.4**	**-0.3**
UUPR					**Sn**	**09 14 10.0**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	⇓*eP*	**Pb**	**09 13 56.4**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	*eS*	**Sn**	**09 14 10.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**		**Pn**	**09 13 58.2**	**-0.7**
CRPR					**Sb**	**09 14 12.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	IAML		09 14 17.4	
	comp=E,33nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	⇓*eP*	**Pn**	**09 13 58.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	*eS*	**Sb**	**09 14 12.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	*ePg*	**Pn**	**09 13 58.1**	**-0.8**
CRPR				⇑*eSg*	**Sn**	**09 14 13.1**	**+0.3**
CRPR				IAML		09 14 16.8	
	comp=E,40nm,0.4s						
CRPR				IAML		09 14 18.2	
	comp=N,32nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	*ePg*	**Pn**	**09 13 58.5**	**-0.4**
CRPR				⇓*eSg*	**Sb**	**09 14 12.2**	**-0.1**
CRPR				IAML		09 14 18.2	
	comp=N,32nm,0.5s						
ECPR	**Experimental S**	**1.08**	**133**	⇓*eP*	**Pn**	**09 13 59.1**	**-0.2**
ECPR	**Experimental S**	**1.08**	**133**	*eS*	**Sn**	**09 14 14.0**	**+0.5**
MLPR	**Magueyes Islan**	**1.09**	**173**	⇑*eP*	**Pn**	**09 13 59.0**	**-0.5**
MLPR	**Magueyes Islan**	**1.09**	**173**	*eS*	**Sb**	**09 14 13.9**	**+0.4**
MLPR	**Magueyes Islan**	**1.09**	**173**	*ePg*	**Pn**	**09 13 59.0**	**-0.5**
MLPR				⇓*eSg*	**Sn**	**09 14 14.8**	**+0.9**
MLPR				IAML		09 14 14.8	
	comp=N,9.7nm,1.9s						
MLPR				IAML		09 14 15.1	
	comp=E,6.9nm,0.4s						
MLPR	**Magueyes Islan**	**1.09**	**173**	*ePg*	**Pn**	**09 13 59.2**	**-0.3**
MLPR				⇓*eSg*	**Sb**	**09 14 13.2**	**-0.3**
MLPR				IAML		09 14 19.1	
	comp=N,7.3nm,0.6s						
CELP	**Cerrillos**	**1.14**	**149**		**Pn**	**09 13 59.3**	**-0.8**
CELP					**Sn**	**09 14 15.5**	**+0.4**
CELP	**Cerrillos**	**1.14**	**149**	IAML		09 14 20.7	
	comp=N,29nm,0.3s						
CELP	**Cerrillos**	**1.14**	**149**	⇑*eP*	**Pn**	**09 13 59.3**	**-0.8**
CELP	**Cerrillos**	**1.14**	**149**	*eS*	**Sn**	**09 14 15.5**	**+0.4**
CELP	**Cerrillos**	**1.14**	**149**	⇑*ePg*	**Pn**	**09 13 59.8**	**-0.3**
CELP				*eSg*	**Sn**	**09 14 15.4**	**+0.4**
CELP				IAML		09 14 19.5	
	comp=E,18nm,0.7s						
CELP				IAML		09 14 20.6	
	comp=N,28nm,0.2s						
CELP	**Cerrillos**	**1.14**	**149**	*ePg*	**Pn**	**09 14 00.3**	**+0.2**
CELP				⇓*eSg*	**Sb**	**09 14 15.1**	**+0.3**
CELP				IAML		09 14 26.0	
	comp=N,22nm,0.2s						
OBIP	**Obispado Ponce**	**1.16**	**151**		**Pn**	**09 13 59.9**	**-0.4**
OBIP					**Sn**	**09 14 16.0**	**+0.6**
OBIP	**Obispado Ponce**	**1.16**	**151**	IAML		09 14 17.7	
	comp=N,30nm,2.8s						
OBIP				IAML		09 14 21.2	
	comp=E,26nm,0.5s						
OBIP	**Obispado Ponce**	**1.16**	**151**	⇓*eP*	**Pn**	**09 13 59.9**	**-0.4**
OBIP	**Obispado Ponce**	**1.16**	**151**	*eS*	**Sn**	**09 14 16.0**	**+0.6**
IGPR	**InterUniversit**	**1.50**	**137**		**Pn**	**09 14 05.3**	**+0.3**
IGPR					**Sn**	**09 14 23.9**	**0.0**
IGPR	**InterUniversit**	**1.50**	**137**	⇓*eP*	**Pn**	**09 14 05.3**	**+0.3**
IGPR	**InterUniversit**	**1.50**	**137**	*eS*	**Sn**	**09 14 23.9**	**0.0**
PDPR	**Patillas Dam,**	**1.52**	**133**	Pn	**Pn**	**09 14 05.6**	**+0.3**
PDPR				IAML		09 14 29.4	
	comp=N,18nm,0.2s						
PDPR	**Patillas Dam,**	**1.52**	**133**	⇓*eP*	**Pn**	**09 14 05.1**	**-0.2**
PDPR	**Patillas Dam,**	**1.52**	**133**	*eS*	**Sn**	**09 14 24.4**	**0.0**
HIDR	**Higuey Centro**	**1.52**	**252**	*ePg*	**Pn**	**09 14 04.6**	**-0.7**
HIDR				⇑*eSg*	**Sn**	**09 14 22.0**	**-2.4**
HIDR				IAML		09 14 27.0	
	comp=N,8.7nm,0.2s						
MIDR	**Miches**	**1.76**	**268**	⇓*eP*	**Pn**	**09 14 08.2**	**-0.4**
MIDR	**Miches**	**1.76**	**268**	*eS*	**Sn**	**09 14 30.9**	**+0.5**
MIDR	**Miches**	**1.76**	**268**	*ePg*	**Pn**	**09 14 09.1**	**+0.4**
MIDR				IAML		09 14 38.6	
	comp=N,6.2nm,0.8s						
MIDR				IAML		09 14 45.5	
	comp=N,22nm,1.3s						
MIDR	**Miches**	**1.76**	**268**	⇓*ePg*	**Pn**	**09 14 08.9**	**+0.3**
MIDR				IAML		09 14 38.2	
	comp=N,7.9nm,0.7s						
MIDR				IAML		09 14 45.5	
	comp=N,22nm,1.3s						
DR12	**Loma Pena Alta**	**2.09**	**263**	Pn	**Pn**	**09 14 13.3**	**+0.1**
HATOM	**Hato Mayor del**	**2.09**	**263**	*ePg*	**Pn**	**09 14 12.9**	**-0.3**
HATOM				IAML		09 14 54.6	
	comp=N,18nm,4.0s						
HATOM	**Hato Mayor del**	**2.09**	**263**	*ePg*	**Pn**	**09 14 13.3**	**+0.1**
HATOM				⇓*eSg*	**Sn**	**09 14 40.1**	**+1.5**
HATOM				IAML		09 14 54.6	
	comp=N,18nm,4.0s						

*IDC **10** 09:22:35.2±1.5, 54°.30N×163°.09E, h0km, mb3.4/4, mbtmp3.4/5, ML2.5/1, MS3.2/2, Error ellipse: s-maj=84.6km s-min=22.6km az=155.0*
*KRSC **10** 09:22:35.9±0.6, 55°.03N×162°.41E, h41km±12km, Ml4.1*
ISC 10 09:22:35.8±1.4, **55°.09N**±0°.05×**162°.36E**±0°.04, **h14**km±10km, **n43**, σ1°**27**/47, **mb3.4**/4, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.65**	**214**	*eP*	**Pb**	**09 22 49.2**	**+0.3**
MKZ				*eS*	**Sb**	**09 22 58.0**	**+0.3**
TUMD	**Tumrok D**	**1.13**	**276**	*eP*	**Pg**	**09 22 56.8**	**-0.7**
TUMD				*eS*	**Sg**	**09 23 11.3**	**-1.0**
KBTR	**Krutoberegovo**	**1.15**	**13**	*eP*	**Pg**	**09 22 57.2**	**-0.7**
KBTR				*eS*	**Sg**	**09 23 14.7**	**+1.9**
KBG	**Krutoberegovo**	**1.18**	**9**	*eP*	**Pg**	**09 22 58.3**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.27**	**313**	*eP*	**Pn**	**09 22 59.5**	**+0.3**
ZLN	**Zelenaya**	**1.28**	**317**	*eP*	**Pn**	**09 22 59.9**	**+0.6**
ZLN				*eS*	**Sg**	**09 23 17.3**	**+0.3**
BZMR	**Bezymyannaya**	**1.35**	**309**	*eP*	**Pn**	**09 23 00.7**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.37**	**310**	*eP*	**Pn**	**09 23 00.9**	**+0.3**
CIRR	**Tsirk**	**1.37**	**319**	*eP*	**Pn**	**09 23 01.2**	**+0.6**
KMNR	**Kamenistaya**	**1.38**	**300**	*eP*	**Pn**	**09 23 01.5**	**+0.9**
KIRR	**Kirishev**	**1.43**	**308**	*eP*	**Pn**	**09 23 02.0**	**+0.5**
KPT	**Kopyto**	**1.50**	**307**	*eP*	**Pn**	**09 23 03.0**	**+0.7**
KLY	**Klyuchi**	**1.56**	**322**	*eP*	**Pn**	**09 23 02.5**	**-0.5**
KOZ	**Kozyrevsk**	**1.71**	**305**	*eP*	**Pn**	**09 23 05.9**	**+0.8**
SRDR	**Sredinnyy**	**1.93**	**310**	*eP*	**Pn**	**09 23 08.9**	**+0.7**
KII	**Karymskiy**	**2.00**	**239**	*eP*	**Pn**	**09 23 09.5**	**+0.3**
BKI	**Bering**	**2.08**	**85**	*eP*	**Pn**	**09 23 10.3**	**+0.1**
BKI				*eS*	**Sn**	**09 23 33.7**	**-2.1**
ESO	**Esso**	**2.24**	**293**	*eP*	**Pn**	**09 23 12.7**	**+0.3**
SPN	**Mys Shipunski**	**2.43**	**215**	*eP*	**Pn**	**09 23 14.0**	**-0.9**
SPN				*eS*	**Sn**	**09 23 41.6**	**-2.8**
NLC	**Nalytchevo**	**2.62**	**224**	*eP*	**Pn**	**09 23 18.6**	**+1.0**
SDLR	**Sedlovina**	**2.73**	**230**	*eP*	**Pn**	**09 23 20.1**	**+0.8**
KRER	**Koryakskii**	**2.78**	**231**	*eP*	**Pn**	**09 23 21.6**	**+1.6**
SMAR	**Somma**	**2.78**	**230**	*eP*	**Pn**	**09 23 20.9**	**+0.9**
KRX	**Arik**	**2.79**	**233**	*eP*	**Pn**	**09 23 21.8**	**+1.8**
AVH	**Avacha**	**2.81**	**231**	*eP*	**Pn**	**09 23 21.4**	**+1.1**
KOK	**Koryaka**	**2.83**	**232**	*eP*	**Pn**	**09 23 22.9**	**+2.2**
GNL	**Ganaly**	**2.94**	**243**	*eP*	**Pn**	**09 23 23.2**	**+1.0**
DALK	**Dalny**	**2.96**	**227**	*eP*	**Pn**	**09 23 23.0**	**+0.7**
PET	**Petropavlovsk**	**3.01**	**228**	*eP*	**Pn**	**09 23 24.1**	**+1.1**
PET				*eS*	**Sn**	**09 23 59.4**	**+0.6**
KRMR	**Karymshinskiy**	**3.37**	**229**	*eP*	**Pn**	**09 23 29.7**	**+1.8**
KRMR				*eS*	**Sn**	**09 24 09.0**	**+1.3**
PETK	**Petropavlovsk-**	**3.39**	**236**	Pn	**Pn**	**09 23 29.4**	**+1.2**
	2.2nm,0.3s,baz=67,slow=18,SNR=36						
PETK				Sn	**Sb**	**09 24 13.6**	**-2.9**
	1.7nm,0.3s,baz=78,slow=30,SNR=3.6						
	4.5nm,0.4s						
RUS	**Russkaya**	**3.51**	**222**	*eS*	**Sn**	**09 24 11.6**	**+0.5**
GRL	**Gorelyy**	**3.60**	**227**	*eP*	**Pn**	**09 23 33.6**	**+2.4**
MTVR	**Mutnovka**	**3.60**	**225**	*eP*	**Pn**	**09 23 32.8**	**+1.5**
MA2	**Magadan**	**7.71**	**310**	LR	LR	09 27 38.9	
	comp=Z,66nm,18.5s,baz=174,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.47**	**173**	T	T	10 06 51.8	
	baz=356,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**35.49**	**173**	T	T	10 06 50.9	
	baz=356,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**35.49**	**173**	T	T	10 06 52.5	
	baz=356,slow=76,SNR=18						
RES	**Resolute Bay**	**40.96**	**23**	LR	LR	09 48 40.8	
	comp=Z,73nm,18.4s,baz=358,slow=38						
NVAR	**Mina Array Bea**	**53.84**	**73**	P	**P**	**09 32 00.3**	**+2.1**
	0.2nm,0.5s,baz=314,slow=6.4,SNR=2.8						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**68.65**	**69**	P	**P**	**09 33 38.4**	**-0.2**
	0.3nm,0.6s,baz=303,slow=4.7,SNR=5.9						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**78.47**	**207**	P	**P**	**09 34 34.8**	**-1.2**
	0.3nm,0.9s,baz=24,slow=6.6,SNR=1.6						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**82.14**	**206**	P	**P**	**09 34 55.0**	**-0.8**
	0.2nm,0.6s,baz=12,slow=4.3,SNR=2.1						
	0.2nm,0.6s						

IDC 10 09:27:26.0±2.2, **1°.23N**×**127°.03E**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=165.1km s-min=27.0km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**162**	P	P	09 32 23.2	-1.2
	0.7nm,0.3s,baz=340,slow=11,SNR=15						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**25.63**	**165**	P	P	09 32 58.4	+0.9
	0.5nm,0.6s,baz=344,slow=12,SNR=12						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.77**	**326**	P	P	09 37 32.8	-0.1
	0.3nm,0.5s,baz=124,slow=7.7,SNR=3.7						
	0.3nm,0.5s						

*CATAC **10** 09:27:49.2±0.5, 13°.N±2°.×9°.0W±°, h8km±2km, M3.5/11, MLv3.5/11, Error ellipse: s-maj=5.5km s-min=4.6km az=29.3, confirmed*
*GCG **10** 09:27:50.7±1.3, 13°.22N×90°.16W, h22km±8km, MD4.1, ML3.5*
*SNET **10** 09:27:50.4±1.6, 13°.13N×90°.03W, h10km, ML3.3*
ISC 10 09:27:49.4±2.0, **13°.08N**±0°.08×**89°.98W**±0°.05, **h17**km±9km, **n54**, σ0°**49**/66, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.76**	**358**	P	**Pb**	**09 28 03.9**	**-0.4**
LALI	**Alcalda de L**	**0.77**	**57**	S	**Sg**	**09 28 14.5**	**-0.1**
LALI	**Alcalda de L**	**0.77**	**57**	P	**Pb**	**09 28 04.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.78**	**42**	*eP*	**Pb**	**09 28 05.0**	**+0.4**
JAYA				*eS*	**Sn**	**09 28 16.9**	**-0.1**
JAYA	**Jayaque - finc**	**0.78**	**42**	*i* P	**Pb**	**09 28 05.0**	**+0.4**
JAYA				*i* S	**Sn**	**09 28 16.4**	**-0.7**
JAYA	**Jayaque - finc**	**0.78**	**42**	P	**Pb**	**09 28 05.0**	**+0.4**
CEVE	**Cerro Verde**	**0.83**	**25**	P	**Pb**	**09 28 05.7**	**+0.3**
CEVE	**Cerro Verde**	**0.83**	**25**	S	**Sn**	**09 28 17.5**	**-0.9**
SBLS	**San Blas**	**0.84**	**25**	*eP*	**Pb**	**09 28 05.7**	**0.0**
SBLS				*eS*	**Sn**	**09 28 18.4**	**-0.3**
NUBE	**Las Nubes**	**0.84**	**14**	*eP*	**Pb**	**09 28 05.6**	**-0.2**
NUBE				*eS*	**Sb**	**09 28 17.3**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**14**	*eP*	**Pb**	**09 28 05.5**	**-0.2**
NUBE				*eS*	**Sb**	**09 28 17.0**	**+0.1**
NUBE	**Las Nubes**	**0.84**	**14**	S	**Sb**	**09 28 16.6**	**-0.3**
NUBE	**Las Nubes**	**0.84**	**14**	P	**Pb**	**09 28 05.5**	**-0.2**
ITCA	**Escuela Especi**	**0.91**	**49**	P	**Pn**	**09 28 07.4**	**-0.1**
ITCA	**Escuela Especi**	**0.91**	**49**	S	**Sn**	**09 28 19.9**	**-0.3**
PMON	**Piamonte**	**0.91**	**46**	*eP*	**Pg**	**09 28 07.2**	**+0.1**
PMON				*eS*	**Sn**	**09 28 20.9**	**+0.6**
PMON	**Piamonte**	**0.91**	**46**	P	**Pg**	**09 28 07.2**	**+0.1**
CEDA	**San Andres**	**0.92**	**38**	*eP*	**Pg**	**09 28 07.3**	**-0.1**
CEDA				*eS*	**Sn**	**09 28 20.8**	**+0.3**
CEDA	**San Andres**	**0.92**	**38**	P	**Pg**	**09 28 07.4**	**-0.1**
LOAL	**Lomas de Alarc**	**0.94**	**

KRBS S **Sg** **09 53 38.0 -0.8**
7.9nm,0.1s
KBK Karagaybulak 0.78 246 ⇑P **Pg** **09 53 28.9 -0.7**
3.3nm,0.1s
KBK ⇑S **Sg** **09 53 39.4 -0.6**
13nm,0.2s
KTBS Karatobe 0.93 37 P **Pb** **09 53 31.7 -0.5**
11nm,0.2s
KTBS S **Sb** **09 53 44.2 -0.2**
5.1nm,0.4s
USP Ospenovka 1.07 286 ⇓P **Pb** **09 53 34.1 -0.7**
0.7nm,0.1s
USP ⇓S **Sb** **09 53 48.3 -0.3**
5.0nm,0.2s
AAK Ala-Archa 1.10 253 ⇓P **Pb** **09 53 34.0 -1.2**
0.9nm,0.2s
AAK ⇓S **Sb** **09 53 48.9 -0.4**
1.7nm,0.2s
CHKK Chushkaly 1.18 41 P **Pn** **09 53 36.6 +0.2**
1.1nm,0.1s
CHKK S **Sb** **09 53 52.1 +0.5**
10nm,0.2s
CHKK Chushkaly 1.18 41 *e*P **Pn** **09 53 36.6 +0.2**
1.1nm,0.1s
CHKK *e*S **Sb** **09 53 52.1 +0.5**
10nm,0.2s
UCH Uchtor 1.27 235 ⇑P **Pn** **09 53 37.7 -0.4**
1.1nm,0.2s
UCH ⇑S **Sb** **09 53 54.5 -0.2**
1.7nm,0.2s
EKS2 Erkin-Say 1.60 260 ⇑P **Pn** **09 53 43.7 +1.4**
0.7nm,0.2s
EKS2 ⇓S **Sb** **09 54 04.9 +1.1**
1.3nm,0.1s
MRKS Merke 1.99 264 P **Pn** **09 53 50.2 +2.6**
1.9nm,0.4s
MRKS S **Sb** **09 54 15.8 +0.8**
2.1nm,0.4s
MRKS Merke 1.99 264 *e*P **Pn** **09 53 50.2 +2.6**
1.9nm,0.4s
MRKS *e*S **Sb** **09 54 15.8 +0.8**
2.1nm,0.4s

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*HEL **10** 10:00:30.1±0.2, 64°.73N×30°.75E, h0km, ML1.9, Explosion*
*IDC **10** 10:00:33.6±2.7, 64°.66N×30°.50E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=41.5km s-min=9.6km az=102.0*
*KOLA **10** 10:00:33.1, 64°.73N×30°.44E, h0km, ML2.1, Error ellipse: s-maj=13.3km s-min=10.4km az=170.0, Kostomuksha, Karelia*

ISC 10 10:00:31.0±0.9, 64°.73N±0°.02×30°.39E±0°.05, h0km, n36, σ19=68/49, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.56**	**201**	PG	**Pg**	**10 00 41.4**	**-0.2**
RMF				MSG		10 00 50.1	
	comp=Z,22nm,0.2s						
RMF				SG	**Sb**	**10 00 52.0**	**0.0**
KU1	**Kurvinen**	**0.90**	**338**	PB	**Pg**	**10 00 49.1**	**+0.8**
MSF	**Maaselka**	**1.31**	**335**	PN	**Pg**	**10 00 56.4**	**+0.3**
	baz=152						
MSF				SN	**Sn**	**10 01 14.8**	**+0.2**
KU6	**Riekki**	**1.31**	**351**	PN	**Pg**	**10 00 55.8**	**-0.3**
	baz=165						
KU6				MSG		10 01 10.8	
	comp=Z,9.9nm,0.2s						
KU6				SN	**Sb**	**10 01 14.3**	**+0.5**
KU2	**Taivalkoski**	**1.34**	**318**	PN	**Pn**	**10 00 57.3**	**+0.4**
OLKF	**Oulanka, Finla**	**1.65**	**346**	PG	**Pn**	**10 01 01.8**	**+0.7**
OLKF				MSG		10 01 20.6	
	comp=Z,8.6nm,0.2s						
NIF	**Nilsia**	**1.76**	**221**	PG	**Pb**	**10 01 04.0**	**-0.1**
	baz=38						
NIF				MSG		10 01 25.8	
	comp=Z,7.5nm,0.2s						
JOF	**Joensuu**	**1.87**	**167**	PG	**Pn**	**10 01 03.0**	**-1.1**
	baz=348						
JOF				SN	**Sn**	**10 01 27.3**	**-1.1**
OUL	**Oulu**	**1.95**	**282**	PG	**Pg**	**10 01 07.9**	**-0.3**
OUL				SG	**Sg**	**10 01 34.8**	**+1.4**
RANF	**Ranua**	**1.98**	**312**	PG	**Pb**	**10 01 07.6**	**-0.2**
RANF				SG	**Sg**	**10 01 36.2**	**+1.7**
KVDA	**Kovda**	**2.22**	**26**	P	**Pn**	**10 01 10.7**	**+1.8**
KVDA				S	**Sn**	**10 01 37.8**	**+0.8**
OBF4	**Vikkela, Lumij**	**2.26**	**274**	PG	**Pg**	**10 01 13.2**	**-1.1**
OBF4				MSG		10 01 41.6	
	comp=Z,6.8nm,0.2s						
OUF	**Merijarvi**	**2.47**	**264**	PB	**Pb**	**10 01 15.7**	**-0.4**
	baz=78						
OUF				MSG		10 01 47.6	
	comp=Z,11nm,0.2s						
OUF				SG	**Sg**	**10 01 50.0**	**-0.1**
RNF	**Rovaniemi**	**2.61**	**318**	PG	**Pb**	**10 01 18.6**	**0.0**
OBF0	**Syolatti, Pyha**	**2.66**	**268**	PG	**Pb**	**10 01 19.5**	**+0.1**
	baz=79						
OBF0				MSG		10 01 53.0	
	comp=Z,6.4nm,0.2s						
SUF	**Sumiainen**	**2.76**	**225**	PG	**Pb**	**10 01 20.5**	**-0.6**
SUF				MSG		10 01 54.8	
	comp=Z,1.8nm,0.2s						
TOF	**Tornio**	**2.87**	**301**	PG	**Pb**	**10 01 22.3**	**-0.7**
TOF				MSG		10 01 58.5	
	comp=Z,1.9nm,0.2s						
TOF				SG	**Sg**	**10 02 01.3**	**-1.8**
OBF8	**Ulkokalla**	**3.03**	**265**	PB	**Pb**	**10 01 24.7**	**-0.9**
	baz=84						
VRF	**Varrio**	**3.04**	**354**	PB	**Pn**	**10 01 22.6**	**+2.3**
VRF				MSG		10 02 00.3	
	comp=Z,2.7nm,0.2s						
APA0	**Apatity Array**	**3.07**	**19**	P	**Pn**	**10 01 23.5**	**+2.8**
APA0				S	**Sn**	**10 02 00.1**	**+2.1**
KALU	**Kalix**	**3.16**	**294**	PG	**Pb**	**10 01 28.9**	**+1.0**
KALU				SG	**Sg**	**10 02 09.5**	**-2.9**
KAF	**Kangasniemi**	**3.21**	**217**	PG	**Pb**	**10 01 28.9**	**+0.2**
RUF	**Ruokolahti**	**3.39**	**192**	PB	**Pn**	**10 01 28.1**	**+3.1**
KEF	**Keuruu**	**3.57**	**226**	PB	**Pn**	**10 01 30.5**	**+2.9**
PAJU	**Pajala**	**3.77**	**311**	PB	**Pb**	**10 01 35.3**	**-2.9**
FIA0	**FINESS Array S**	**3.84**	**213**	PB	**Pb**	**10 01 37.5**	**-2.0**
	baz=32						
FIA0				SG	**Sg**	**10 02 32.9**	**-1.2**
FINES	**FINESS Array B**	**3.84**	**213**	Pn	**Pn**	**10 01 34.0**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=28,slow=8.5,SNR=5.4						
FINES				Lg	Lg	10 02 30.6	
	comp=Z,0.8nm,0.3s,baz=33,slow=32,SNR=7.8						
	comp=Z,2.5nm,1.0s						
RAJF	**Raja-Jooseppi**	**3.85**	**349**	PN	**Pn**	**10 01 32.6**	**+1.3**
ERTU	**Ertsjaerv**	**3.85**	**302**	PB	**Pb**	**10 01 35.8**	**-3.9**
BURU	**Burvik**	**3.88**	**272**	PN	**Pn**	**10 01 34.2**	**+2.5**
HEF	**Hetta**	**4.56**	**327**	SG	**Sg**	**10 02 54.8**	**-2.5**
TERR	**Teriberka**	**4.85**	**20**	S	**Sn**	**10 02 38.6**	**-3.3**
ARCES	**ARCESS Array B**	**5.18**	**341**	Pn	**Pn**	**10 01 50.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=13						
ARCES				Sn	**Sn**	**10 02 50.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=156,slow=25,SNR=5.6						
ARCES				Lg	Lg	10 03 13.4	
	comp=Z,0.2nm,0.3s,baz=163,slow=38,SNR=1.6						
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**5.18**	**341**	P	**Pn**	**10 01 50.7**	**+1.0**
ARCES				S	**Sn**	**10 02 49.2**	**-0.9**
I43RU	**DUBNA INFRASON**	**8.70**	**154**	I	I	10 54 40.0	
	baz=344,slow=336,SNR=4.2						
HFS	**Hagfors**	**8.99**	**247**	Pn	**Pn**	**10 02 42.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=59,slow=17,SNR=1.5						
	comp=Z,0.8nm,0.6s						

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*IDC **10** 10:02:14.8±0.9, 57°.84S×157°.67E, h0km, mb4.0/7, mbtmp4.0/8, ML3.4/1, MS3.7/13, Error ellipse: s-maj=44.7km s-min=16.6km az=72.0*
*NEIC **10** 10:02:18.3±1.2, 57°.8S±0°.1×157°.5E±0°.5, h10km±2km, mb4.5/8, Error ellipse: s-maj=44.6km s-min=21.7km az=81.0*

ISC 10 10:02:16.7±0.6, 57°.87S±0°.09×157°.4E±0°.2, h10km, n46, σ19=20/25, mb4.1/10, MS3.8/12, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**13.63**	**33**	Pn	**Pn**	**10 05 30.1**	**+0.2**
MLZ	**Mavora Lakes**	**14.16**	**32**	Pn	**Pn**	**10 05 38.2**	**+1.0**
VNDA	**Vanda**	**19.80**	**177**		**P**	**10 06 47.3**	**+0.5**
VNDA	**Vanda**	**19.80**	**177**	P	**P**	**10 06 45.0**	**-1.8**
	0.1nm,0.3s,baz=358,slow=8.4,SNR=7.7						
VNDA				LR	LR	10 12 44.1	
	comp=Z,130nm,18.1s,baz=86,slow=32						
	1.5nm,0.9s						
SBA	**Scott Base**	**20.32**	**174**		Pn	10 06 55.1	+0.7
SBA				IAmb	IAmb	10 07 13.1	
	comp=Z,30nm,1.5s						
URZ	**Urewera**	**23.47**	**42**	LR	LR	10 15 28.7	
	comp=Z,195nm,19.2s,baz=196,slow=34						
QSPA	**South Pole Qui**	**32.23**	**180**		**P**	**10 08 48.2**	**+3.4**
QSPA	**South Pole Qui**	**32.23**	**180**	P	**P**	**10 08 46.3**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=354,slow=2.3,SNR=8.0						
QSPA				PcP	**PcP**	**10 11 34.3**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=20,slow=0.5,SNR=15						
	comp=Z,2.0nm,1.0s						
DZM	**Mont Dzumac**	**36.36**	**14**	*e*LR	LR	10 18 46.2	
	comp=Z,72nm,24.1s						
DZM	**Mont Dzumac**	**36.36**	**14**	LR	LR	10 20 46.2	
	comp=Z,46nm,18.6s,baz=202,slow=31						
H01W1	**Cape Leeuwin H**	**36.74**	**290**	T	T	10 48 39.2	
	baz=142,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**36.75**	**290**	T	T	10 48 35.2	
	baz=142,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**36.76**	**290**	T	T	10 48 39.9	
	baz=142,slow=76,SNR=20						
ASAR	**Alice Springs**	**38.12**	**324**	P	**P**	**10 09 36.4**	**+0.6**
ASAR	**Alice Springs**	**38.12**	**324**	P	**P**	**10 09 36.8**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=160,slow=7.9,SNR=15						
ASAR				PcP	**PcP**	**10 11 49.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=148,slow=4.7,SNR=1.7						
	comp=Z,2.4nm,0.9s						
MAW	**Mawson**	**40.13**	**216**	P	**P**	**10 09 51.9**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=125,slow=12,SNR=3.7						
MAW				LR	LR	10 25 25.5	
	comp=Z,252nm,20.4s,baz=136,slow=35						
	comp=Z,1.5nm,0.9s						
WR8	**Warramunga Arr**	**41.42**	**326**	P	**P**	**10 10 04.2**	**+1.0**
WR8				IAmb	IAmb	10 10 16.6	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**41.48**	**326**	P	**P**	**10 10 02.8**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=161,slow=8.0,SNR=18						
WRA				PcP	**PcP**	**10 12 00.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=161,slow=3.2,SNR=3.6						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**41.63**	**326**	P	**P**	**10 10 05.4**	**+0.5**
WB0				IAmb	IAmb	10 10 18.1	
	comp=Z,10nm,1.2s						
COEN	**Coen**	**45.13**	**340**	P	**P**	**10 10 33.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**46.12**	**316**	P	**P**	**10 10 42.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**46.12**	**316**	P	**P**	**10 10 41.4**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=171,slow=9.3,SNR=8.0						
	comp=Z,2.6nm,0.7s						
KNRA	**Kununurra**	**47.25**	**321**	P	**P**	**10 10 50.7**	**+0.9**
KNRA				IAmb	IAmb	10 11 34.2	
	comp=Z,10nm,1.2s						
RAR	**Rarotonga**	**47.96**	**59**	LR	LR	10 26 21.7	
	comp=Z,117nm,21.5s,baz=240,slow=30						
SNAA	**Sanae**	**50.01**	**188**		**P**	**10 11 09.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=176,slow=15,SNR=4.3						
	comp=Z,2.0nm,0.8s						
PPT2	**Papeete2**	**55.92**	**67**	*e*LR	LR	10 27 36.3	
	comp=Z,151nm,27.5s						
PPT2				*e*LR	LR	10 27 48.1	
	comp=Z,217nm,30.8s						
PPT	**Papeete**	**55.93**	**67**	LR	LR	10 31 34.1	
	comp=Z,60nm,19.5s,baz=146,slow=32						
KAPI	**Kappang**	**60.33**	**316**	LR	LR	10 35 59.2	
	comp=Z,40nm,21.7s,baz=186,slow=34						
TAOE	**Nuku Hiva Isla**	**68.07**	**71**	*e*LR	LR	10 33 25.7	
	comp=Z,80nm,24.3s						
RPN	**Rapa Nui**	**69.14**	**108**	LR	LR	10 36 15.0	
	comp=Z,79nm,18.4s,baz=166,slow=30						
DAV	**Davao City (W)**	**69.67**	**326**	LR	LR	10 43 05.3	
	comp=Z,55nm,21.2s,baz=212,slow=35						
PLCA	**Paso Flores**	**73.89**	**14**	P	**P**	**10 13 50.8**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=225,slow=4.3,SNR=3.1						
	comp=Z,1.4nm,0.9s						
H03S2	**Juan Fernandez**	**77.19**	**135**	T	T	11 39 44.9	
	baz=206,slow=74,SNR=4.1						
H03S1	**Juan Fernandez**	**77.19**	**135**	T	T	11 39 47.0	
	baz=206,slow=74,SNR=5.7						
H03S3	**Juan Fernandez**	**77.20**	**135**	T	T	11 39 40.6	
	baz=206,slow=74,SNR=5.1						
H08S2	**Diego Garcia H**	**80.86**	**270**	T	T	11 43 46.8	
	baz=147,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**80.87**	**270**	T	T	11 43 47.0	
	baz=147,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**80.88**	**270**	T	T	11 43 48.2	
	baz=147,slow=76,SNR=13						
BOSA	**Boshof**	**84.98**	**221**	LR	LR	10 51 04.0	
	comp=Z,41nm,18.3s,baz=205,slow=34						
LBTB	**Lobatse**	**88.15**	**223**	LR	LR	10 50 36.4	
	comp=Z,26nm,20.6s,baz=158,slow=33						
PALK	**Pallekele**	**89.10**	**285**	LR	LR	10 47 28.0	
	comp=Z,42nm,19.2s,baz=131,slow=30						
LSZ	**Lusaka**	**96.01**	**229**	LR	LR	10 53 56.9	
	comp=Z,57nm,18.6s,baz=208,slow=32						
PDAR	**Pinedale Array**	**126.36**	**66**	PKP	**PKPdf**	**10 21 18.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=203,slow=1.3,SNR=1.8						
ILAR	**Eielson Array**	**129.40**	**27**	PKP	**PKPdf**	**10 21 22.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=240,slow=3.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**131.72**	**212**	PKP	**PKPdf**	**10 21 28.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=159,slow=3.0,SNR=5.2						
AKASG	**Malin Array Be**	**149.58**	**279**	PKPbc	**PKPbc**	**10 22 04.8**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=81,slow=3.1,SNR=1.8						

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*IDC **10** 10:12:14.3±0.5, 9°.91S×119°.34E, h0km, mb4.2/17, mbtmp4.3/19, ML4.2/2, MS3.6/12, Error ellipse: s-maj=27.2km s-min=11.9km az=72.0*
*DJA **10** 10:12:17.7±0.2, 10°.S±2°.×11°.9E±°, h10km, M4.7/21, mB4.9/5, mb4.9/13, MLv4.8/21, Mw(mB)4.2/5*
*NEIC **10** 10:12:20.0±2.3, 10°.18S±0°.08×119°.31E±0°.07, h49km±11km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=10.3km az=195.0*

ISC 10 10:12:19.3±0.4, 10°.16S±0°.04×119°.31E±0°.04, h35km, n105, σ19=91/101, mb4.3/20, MS3.8/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.52**	**8**	P	**Pn**	**10 12 27.1**	**-3.2**
WBSI				S	**Sn**	**10 12 34.8**	**-3.1**
WSI	**Waingapu**	**1.08**	**64**	P	**Pn**	**10 12 37.9**	**-0.1**
BASI	**Baing, Sumba**	**1.25**	**93**	P	**Pn**	**10 12 42.4**	**+2.2**
PLAI	**Plampang**	**2.01**	**311**	P	**Pn**	**10 12 48.6**	**-2.2**
PLAI	**Plampang**	**2.01**	**311**	S	**Sn**	**10 13 17.7**	**+3.0**
PLAI	**Plampang**	**2.01**	**311**	P	**Pn**	**10 12 49.6**	**-1.2**
PLAI				S	**Sn**	**10 13 15.9**	**+1.2**
EDFI	**Ende, Flores**	**2.73**	**59**	P	**Pn**	**10 13 02.8**	**+2.1**
TWSI	**Taliwang, Sumb**	**2.78**	**300**	P	**Pn**	**10 13 00.6**	**-0.8**
TWSI				S	**Sn**	**10 13 36.0**	**+2.2**
MMRI	**Maumere**	**3.25**	**63**		**Pn**	**10 13 09.3**	**+1.4**
MMRI	**Maumere**	**3.25**	**63**	P	**Pn**	**10 13 10.4**	**+2.5**
BSSI	**Bau Bau, Buton**	**4.15**	**16**	P	**Pn**	**10 13 20.9**	**+0.6**
DNP	**Denpasar**	**4.31**	**290**	P	**Pn**	**10 13 22.3**	**-0.1**
SRBI	**Singaraja**	**4.54**	**297**	P	**Pn**	**10 13 26.5**	**+0.9**
BKSI	**Bulukumba**	**4.87**	**10**	P	**Pn**	**10 13 30.7**	**+0.6**
BKSI				S	**Sn**	**10 14 28.1**	**+2.8**
SOEI	**Soe**	**4.89**	**86**		**Pn**	**10 13 31.4**	**+0.8**
SOEI	**Soe**	**4.89**	**86**	S	**Sn**	**10 14 29.2**	**+3.1**
SOEI	**Soe**	**4.89**	**86**	P	**Pn**	**10 13 34.0**	**+3.4**
KAPI	**Kappang**	**5.12**	**5**		**Pn**	**10 13 34.5**	**+0.8**
KAPI	**Kappang**	**5.12**	**5**	Pn	**Pn**	**10 13 33.9**	**+0.3**
	7.0nm,0.3s,baz=184,slow=7.3,SNR=26						
KAPI				Sn	**Sn**	**10 14 29.7**	**-1.9**
	19nm,0.3s,baz=174,slow=19,SNR=7.5						
KAPI				LR	LR	10 15 49.1	
	comp=Z,651nm,18.8s,baz=206,slow=44						
KAPI	**Kappang**	**5.12**	**5**	P	**Pn**	**10 13 34.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.36**	**288**		**Pn**	**10 13 34.3**	**-2.6**
JAGI	**Jajag, Banyuwa**	**5.36**	**288**	P	**Pn**	**10 13 36.6**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.36**	**288**	P	**Pn**	**10 13 34.7**	**-2.2**
	0.7nm149nm,0.7s						
ABJI	**Asem Bagus**	**5.54**	**295**	P	**Pn**	**10 13 38.2**	**-1.1**
	0.7nm105nm,1.1s						
BBSI	**Bau Bau**	**5.65**	**35**	P	**Pn**	**10 13 44.1**	**+3.3**
	0.4nm135nm,0.8s						
BNSI	**Bone**	**5.77**	**8**	P	**Pn**	**10 13 44.3**	**+1.8**
	0.6nm1μm105nm,0.9s						
BLJI	**Banyuglugur**	**6.14**	**293**	P	**Pn**	**10 13 46.9**	**-0.6**
SPSI	**Sidrap Palu**	**6.17**	**4**	P	**Pn**	**10 13 50.1**	**+2.2**
	0.3nm918nm70nm,0.6s						
UGM	**Wanagama**	**8.96**	**284**	Pn	**Pn**	**10 14 27.8**	**+1.4**
UGM	**Wanagama**	**8.96**	**284**	P	**Pn**	**10 14 26.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.00**	**143**		**Pn**	**10 14 40.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.00**	**143**	Pn	**Pn**	**10 14 40.1**	**-0.4**
	1.8nm,0.3s,baz=332,slow=12,SNR=61						
FITZ				Sn	**Sn**	**10 16 26.1**	**-5.4**
	2.3nm,0.3s,baz=3.2,slow=18,SNR=6.6						
FITZ				LR	LR	10 18 46.7	
	comp=Z,150nm,21.7s,baz=302,slow=39						
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.00**	**143**	P	**Pn**	**10 14 40.3**	**-0.3**
KNRA	**Kununurra**	**10.72**	**122**		**Pn**	**10 14 51.0**	**+0.6**
MBWA	**Marble Bar**	**10.95**	**178**		**Pn**	**10 14 52.7**	**-0.9**
MBWA	**Marble Bar**	**10.95**	**178**	P	**Pn**	**10 14 52.7**	**-0.9**
TOLI2	**Tolitoli**	**11.29**	**8**	Pn	**Pn**	**10 15 00.5**	**+2.2**
PSA00	**Pilbara Seismi**	**11.37**	**177**		**Pn**	**10 14 57.5**	**-1.7**
PSA00	**Pilbara Seismi**	**11.37**	**177**		**Pn**	**10 14 57.2**	**-2.1**
PSA00	**Pilbara Seismi**	**11.37**	**177**	P	**Pn**	**10 14 58.3**	**-1.0**
DRS	**Darwin Rock St**	**11.59**	**102**	P	**Pn**	**10 15 02.6**	**+0.3**
BBJI	**Bungbulang**	**11.83**	**282**	P	**Pn**	**10 15 06.1**	**+0.3**
MTN	**Manton Dam**	**11.89**	**104**		**Pn**	**10 15 06.0**	**-0.4**
GIRL	**Giralia**	**13.34**	**201**	Pn	**Pn**	**10 15 24.9**	**-1.3**
FAKI	**Fak Fak**	**14.72**	**62**		**Pn**	**10 15 45.6**	**+0.5**
FAKI	**Fak Fak**	**14.72**	**62**	P	**Pn**	**10 15 45.5**	**+0.5**
FAKI	**Fak Fak**	**14.72**	**62**	P	**Pn**	**10 15 46.9**	**+1.8**
	43nm,0.8s						
SWI	**Sorong**	**15.04**	**53**	P	**Pn**	**10 15 51.2**	**+1.8**
	66nm,0.8s						
MEEK	**Meekatharra**	**16.41**	**182**	P	**Pn**	**10 16 05.4**	**-1.6**
WB0	**Warramunga Arr**	**17.41**	**125**		**Pn**	**10 16 18.6**	**-1.0**
WB0				IAmb	IAmb	10 16 34.6	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**17.46**	**126**	P	**Pn**	**10 16 20.0**	**-0.2**
WRA	**Warramunga Arr**	**17.46**	**126**	P	**Pn**	**10 16 18.1**	**-2.1**
	comp=Z,4.4nm,0.5s,baz=297,slow=14,SNR=62						
WRA				S	Sn	10 19 21.7	-12
	comp=Z,1.9nm,1.0s,baz=297,slow=22,SNR=1.9						
WRA				LR	LR	10 23 38.7	
	comp=Z,206nm,20.9s,baz=278,slow=39						
WRAB	**Tennant Creek**	**17.46**	**126**		**Pn**	**10 16 19.5**	**-0.7**
WRAB				IAmb	IAmb	10 16 30.9	
	comp=Z,11nm,0.7s						
WRAB	**Tennant Creek**	**17.46**	**126**	P	**Pn**	**10 16 19.2**	**-1.0**
WR8	**Warramunga Arr**	**17.59**	**125**		**Pn**	**10 16 21.6**	**-0.3**
WR8				IAmb	IAmb	10 16 25.6	
	comp=Z,12nm,0.7s						
DAV	**Davao City (W)**	**18.21**	**20**	LR	LR	10 23 48.6	
	comp=Z,129nm,20.1s,baz=192,slow=39						
BAKI	**Biak**	**18.92**	**63**	P	**Pn**	**10 16 39.8**	**+1.7**
MORW	**Morawa**	**19.07**	**189**		**Pn**	**10 16 38.5**	**-1.3**
MORW				IAmb	IAmb	10 16 40.6	
	comp=Z,36nm,1.5s						
MORW	**Morawa**	**19.07**	**189**	P	**Pn**	**10 16 38.4**	**-1.3**
AS31	**Alice Springs**	**19.35**	**136**		**Pn**	**10 16 42.8**	**-0.4**
ASAR	**Alice Springs**	**19.35**	**136**		**P**	**10 16 42.2**	**+0.2**
ASAR	**Alice Springs**	**19.35**	**136**	P	**Pn**	**10 16 43.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=308,slow=11,SNR=76						
ASAR				S	**S**	**10 20 10.3**	**-8.8**
	comp=Z,1.4nm,0.8s,baz=317,slow=26,SNR=4.4						
	comp=Z,6.0nm,0.6s						
BLDU	**Ballidu**	**20.50**	**186**	P	Pn	10 16 54.9	-1.9
MUN	**Mundaring**	**21.91**	**187**	P	**P**	**10 17 10.6**	**+1.1**
QIS	**Mount Isa**	**22.11**	**120**	P	**P**	**10 17 13.7**	**+1.9**
NWAO	**Narrogin (SRO)**	**22.75**	**185**	P	**P**	**10 17 18.6**	**+0.1**
COEN	**Coen**	**23.63**	**102**	P	**P**	**10 17 28.7**	**+1.1**
COEN	**Coen**	**23.63**	**102**	P	**P**	**10 17 29.0**	**+1.4**
RPSI	**Rantau Prapat**	**23.98**	**301**		**P**	**10 17 28.6**	**-2.2**
RPSI	**Rantau Prapat**	**23.98**	**301**	P	**P**	**10 17 30.0**	**-0.8**
PSI	**Prapat**	**24.04**	**301**	P	**P**	**10 17 30.0**	**-1.5**
	comp=Z,17nm,0.9s,baz=146,slow=9.3,SNR=13						
	comp=Z,17nm,0.9s						
TGY	**Tagaytay City**	**24.15**	**4**	P	**P**	**10 17 29.5**	**-2.9**
	comp=Z,217nm,0.4s,baz=186,slow=10,SNR=5.9						
MTSU	**Mount Surprise**	**25.48**	**111**	P	**P**	**10 17 46.1**	**+1.6**
PMG	**Port Moresby**	**27.45**	**91**	LR	LR	10 30 13.7	
	comp=Z,42nm,19.5s,baz=328,slow=39						
STKA	**Stephens Creek**	**29.87**	**140**	P	**P**	**10 18 24.7**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=315,slow=20,SNR=6.5						
	comp=Z,1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**34.82**	**325**	P	**P**	**10 19 06.0**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=142,slow=8.4,SNR=6.0						
CMAR				PcP	**PcP**	**10 21 42.1**	**+2.1**
	comp=Z,1.3nm,0.4s,baz=150,slow=2.5,SNR=4.0						
CMAR				LR	LR	10 34 43.0	
	comp=Z,79nm,18.2s,baz=160,slow=39						
	comp=Z,1.4nm,0.3s						
JNU	**Nakatsue**	**44.42**	**14**	LR	LR	10 40 49.1	
	comp=Z,59nm,18.1s,baz=133,slow=39						
H08S2	**Diego Garcia H**	**46.30**	**269**	T	T	11 10 09.8	
	baz=96,slow=75,SNR=134						
H08S3	**Diego Garcia H**	**46.31**	**269**	T	T	11 10 01.0	
	baz=96,slow=75,SNR=125						
H08S1	**Diego Carcia H**	**46.31**	**269**	T	T	11 10 05.7	
	baz=96,slow=75,SNR=82						
KSRS	**Korea Array**	**48.04**	**9**	P	**P**	**10 20 53.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=186,slow=8.7,SNR=6.9						
	comp=Z,0.9nm,0.5s					

az=29.1, confirmed
*GCG **10** 10:39:32.6±0.7, 13°.25N×89°.38W, h50km±4km, MD3.9, ML2.7*

ISC 10 10:39:31.7±1.6, 13°.14N±0°.07×89°.36W±0°.05, h50km±10km, n59, σ0°.43/75, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.35**	**7**	*eP*	**Pn**	**10 39 41.3**	**0.0**
LALI				*eS*	**Sn**	**10 39 48.2**	**+0.2**
LALI	**Alcalda de L**	**0.35**	**7**	*i P*	**Pn**	**10 39 41.3**	**0.0**
LALI				*eS*	**Sn**	**10 39 47.5**	**-0.5**
LALI				IAML		10 39 49.3	
	comp=E,556nm,0.5s						
LALI	**Alcalda de L**	**0.35**	**7**	P	**Pn**	**10 39 41.3**	**0.0**
PANCS	**Alcalda de**	**0.50**	**21**	P	**Pn**	**10 39 42.8**	**-0.2**
PANCS	**Alcalda de**	**0.50**	**21**	S	**Sn**	**10 39 50.9**	**-0.2**
JAYA	**Jayaque - finc**	**0.52**	**351**	*eP*	**Pn**	**10 39 43.1**	**-0.2**
JAYA				*eS*	**Sn**	**10 39 51.4**	**-0.2**
JAYA	**Jayaque - finc**	**0.52**	**351**	*eP*	**Pn**	**10 39 43.1**	**-0.2**
JAYA				*eS*	**Sn**	**10 39 50.9**	**-0.8**
JAYA	**Jayaque - finc**	**0.52**	**351**	P	**Pn**	**10 39 43.1**	**-0.2**
LOMA	**Loma Larga**	**0.53**	**20**	*eP*	**Pn**	**10 39 43.2**	**-0.3**
LOMA				*eS*	**Sn**	**10 39 52.3**	**+0.4**
LOMA	**Loma Larga**	**0.53**	**20**	P	**Pn**	**10 39 43.2**	**-0.3**
ITCA	**Escuela Especi**	**0.54**	**9**	P	**Pn**	**10 39 43.6**	**+0.1**
ITCA	**Escuela Especi**	**0.54**	**9**	S	**Sn**	**10 39 51.6**	**-0.3**
PMON	**Piamonte**	**0.57**	**5**	*eP*	**Pn**	**10 39 43.8**	**-0.1**
PMON				*eS*	**Sn**	**10 39 53.0**	**+0.3**
PMON	**Piamonte**	**0.57**	**5**	S	**Sn**	**10 39 53.3**	**+0.6**
PMON	**Piamonte**	**0.57**	**5**	P	**Pn**	**10 39 43.6**	**-0.3**
UEES	**Universidad Ev**	**0.58**	**12**	S	**Sn**	**10 39 53.5**	**+0.5**
UEES	**Universidad Ev**	**0.58**	**12**	P	**Pn**	**10 39 44.0**	**-0.1**
BOQS	**Boqueron**	**0.59**	**8**	*eP*	**Pn**	**10 39 44.3**	**0.0**
BOQS				*eS*	**Sn**	**10 39 53.8**	**+0.4**
UDBS	**Universidad Do**	**0.60**	**19**	P	**Pn**	**10 39 44.1**	**-0.2**
UDBS	**Universidad Do**	**0.60**	**19**	S	**Sn**	**10 39 53.9**	**+0.5**
PIC2	**El Picacho**	**0.61**	**10**	*eP*	**Pn**	**10 39 44.7**	**+0.1**
PIC2				*eS*	**Sn**	**10 39 55.0**	**+1.3**
LFU	**La Fuente**	**0.65**	**22**	*eP*	**Pn**	**10 39 45.0**	**+0.2**
LFU				*eS*	**Sn**	**10 39 55.2**	**+0.8**
TECO	**Alcaldia de Te**	**0.69**	**55**	S	**Sn**	**10 39 54.5**	**-0.7**
TECO	**Alcaldia de Te**	**0.69**	**55**	P	**Pn**	**10 39 44.6**	**-0.7**
PAVA	**Las Pavas**	**0.70**	**36**	*eP*	**Pn**	**10 39 45.3**	**-0.3**
PAVA				*eS*	**Sn**	**10 39 55.7**	**0.0**
PAVA	**Las Pavas**	**0.70**	**36**	P	**Pn**	**10 39 45.3**	**-0.3**
PAVA	**Las Pavas**	**0.70**	**36**	S	**Sn**	**10 39 56.1**	**+0.5**
CEVE	**Cerro Verde**	**0.73**	**339**	*eP*	**Pn**	**10 39 46.2**	**+0.2**
CEVE				*eS*	**Sn**	**10 39 57.4**	**+0.9**
CEVE	**Cerro Verde**	**0.73**	**339**	P	**Pn**	**10 39 45.9**	**-0.1**
CEVE	**Cerro Verde**	**0.73**	**339**	S	**Sn**	**10 39 56.8**	**+0.3**
SBLS	**San Blas**	**0.74**	**340**	*eP*	**Pn**	**10 39 46.3**	**+0.1**
SBLS				*eS*	**Sn**	**10 39 57.2**	**+0.6**
UESV	**Universidad de**	**0.74**	**49**	S	**Sn**	**10 39 56.3**	**-0.2**
UESV	**Universidad de**	**0.74**	**49**	P	**Pn**	**10 39 45.5**	**-0.5**
SNJE	**San Jose**	**0.76**	**342**	*eP*	**Pn**	**10 39 46.6**	**+0.2**
SNJE				*eS*	**Sn**	**10 39 58.1**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.83**	**48**	P	**Pn**	**10 39 46.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.83**	**48**	S	**Sn**	**10 39 58.5**	**0.0**
NUBE	**Las Nubes**	**0.86**	**332**	*eP*	**Pn**	**10 39 47.6**	**-0.1**
NUBE				*eS*	**Sn**	**10 39 59.6**	**+0.2**
NUBE	**Las Nubes**	**0.86**	**332**	*eP*	**Pn**	**10 39 47.5**	**-0.2**
NUBE				*eS*	**Sn**	**10 39 59.1**	**-0.2**
NUBE	**Las Nubes**	**0.86**	**332**	P	**Pn**	**10 39 47.5**	**-0.2**
TECA	**Tecapa**	**0.91**	**67**	*eP*	**Pn**	**10 39 47.8**	**-0.5**
FAME	**Alcaldia de Sa**	**0.94**	**318**	P	**Pn**	**10 39 48.5**	**-0.2**
FAME	**Alcaldia de Sa**	**0.94**	**318**	S	**Sn**	**10 40 00.7**	**-0.5**
PACA	**Pacayal**	**1.06**	**72**	*eP*	**Pn**	**10 39 50.6**	**+0.2**
PACA				*eS*	**Sn**	**10 40 04.9**	**+0.7**
PACA	**Pacayal**	**1.06**	**72**	P	**Pn**	**10 39 50.4**	**0.0**
LCY	**Lacayo**	**1.08**	**75**	*eP*	**Pn**	**10 39 50.7**	**+0.1**
LLGN	**La Laguna**	**1.09**	**22**	P	**Pn**	**10 39 50.3**	**-0.5**
LLGN	**La Laguna**	**1.09**	**22**	S	**Sn**	**10 40 04.8**	**-0.1**
MTO3	**Montecristo**	**1.25**	**0**	*eP*	**Pn**	**10 39 52.6**	**-0.4**
MTO3	**Montecristo**	**1.25**	**0**	*i P*	**Pn**	**10 39 52.6**	**-0.4**
MTO3	**Montecristo**	**1.25**	**0**	P	**Pn**	**10 39 52.6**	**-0.4**
MTO3	**Montecristo**	**1.25**	**0**	S	**Sn**	**10 40 07.2**	**-0.2**
ESQI	**Esquipulas**	**1.41**	**1**	S	**Sn**	**10 40 12.5**	**-0.1**
ESQI	**Esquipulas**	**1.41**	**1**	P	**Pn**	**10 39 55.1**	**0.0**
CNCH	**Conchagua**	**1.49**	**85**	P	**Pn**	**10 39 56.1**	**-0.1**
CNCH	**Conchagua**	**1.49**	**85**	S	**Sn**	**10 40 15.5**	**+0.8**
SARH	**Santa Rosa de**	**1.73**	**20**	*eP*	**Pn**	**10 39 59.3**	**-0.1**
CNGA	**AI SSO del Vol**	**2.67**	**104**	P	**Pn**	**10 40 11.8**	**-0.5**
CNGN	**Cerro Negro**	**2.67**	**104**	S	**Sn**	**10 40 43.1**	**-0.5**
CNGN	**Cerro Negro**	**2.67**	**104**	P	**Pn**	**10 40 13.1**	**+0.7**

*KRNET **10** 10:43:12.7±0.1, 43°.62N×69°.26E, mb2.6*
*SOME **10** 10:43:15.1, 43°.65N×69°.77E*
*NNC **10** 10:43:17.3±1.3, 43°.56N×69°.73E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=8.1km s-min=4.3km az=133.0, Suspected Mining explosion.*

ISC 10 10:43:20.1±1.9, 43°.52N±0°.07×69°.94E±0°.08, h0km, n12, σ2°.39/18, 8C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.50**	**189**	P	**Pb**	**10 43 31.9**	**+0.2**
	0.7nm,0.2s						
BRLS				S	**Sn**	**10 43 44.2**	**+8.1**
	13nm,0.5s						
KK31	**Karatay Array**	**0.59**	**135**	⇓P	**Pg**	**10 43 31.3**	**-0.1**
	0.6nm,0.2s,baz=306,slow=15,SNR=24						
KK31				⇓S	**Sb**	**10 43 41.8**	**-0.5**
	107nm,0.9s,baz=305,slow=30,SNR=86						
IUG	**Iuzhnay**	**1.38**	**177**	P	**Pg**	**10 43 44.5**	**-2.0**
	17nm,0.7s						
IUG				S	**Sb**	**10 44 05.5**	**+0.6**
	41nm,0.8s						
TRKS	**Terek-Say**	**2.18**	**156**	⇑*eP*	**Pn**	**10 43 58.1**	**+0.4**
TRKS				⇑*eS*	**Sg**	**10 44 31.1**	**+1.0**
ARK	**Arkit**	**2.28**	**138**	⇑*eP*	**Pn**	**10 43 59.6**	**+0.5**
ARK				⇑*eS*	**Sg**	**10 44 34.1**	**+0.8**
MRKS	**Merke**	**2.53**	**107**	Pg	**Pb**	**10 44 06.3**	**-0.1**
	2.8nm,0.4s						
MRKS				Lg	Lg	10 44 42.8	
	7.3nm,0.6s						
ARSB	**Arslanbob**	**3.15**	**133**	⇑*eP*	**Pn**	**10 44 12.1**	**+1.1**
ARSB				⇑*eS*	**Sb**	**10 44 55.3**	**-0.6**
BTLS	**Baital**	**3.32**	**61**	Pg	**Pb**	**10 44 20.4**	**+0.7**
	10nm,0.5s						
BTLS				Lg	Lg	10 45 07.3	
	2.4nm,0.4s						
AAK	**Ala-Archa**	**3.45**	**103**	⇑Pg	**Pb**	**10 44 21.5**	**-0.6**
	2.5nm,0.6s						
AAK				⇑Lg	Lg	10 45 13.2	
	2.1nm,0.7s						
KRBS	**Karabastau**	**4.17**	**86**	Pg	**Pb**	**10 44 35.4**	**+1.1**
	3.6nm,0.7s						
KRBS				Lg	Lg	10 45 32.7	
	1.2nm,0.4s						
KST	**Kastek**	**4.42**	**94**	Pg	**Pg**	**10 44 42.1**	**-2.7**
	3.4nm,0.7s						
KST				Lg	Lg	10 45 44.2	
	6.7nm,0.5s						
KTBS	**Karatobe**	**4.90**	**85**	Pg	**Pb**	**10 44 48.3**	**+1.5**
	3.5nm,0.5s						
KTBS				Lg	Lg	10 45 54.8	
	3.8nm,0.9s						

IDC 10 10:47:14.8±8.8, 12°.81N×94°.22E, h0km, mb3.3/2, mbtmp3.3/3, ML4.0/1, MS3.6/1, Error ellipse: s-maj=197.1km s-min=43.4km az=99.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**38**	Pn	Pn	10 49 01.8	0.0
	0.7nm,0.3s,baz=226,slow=14,SNR=9.6						
WRA	**Warramunga Arr**	**51.17**	**129**	P	P	10 56 19.6	-0.6
	1.6nm,0.5s						
	0.5nm,0.9s,baz=316,slow=7.7,SNR=2.1						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**53.11**	**133**	P	P	10 56 34.8	+0.2
	0.2nm,0.5s,baz=301,slow=7.6,SNR=7.1						
	0.2nm,0.5s						
KIRV	**Kirov**	**56.62**	**334**	LR	LR	11 25 44.8	
	comp=Z,50nm,18.1s,baz=350,slow=41						

*JMA **10** 11:05:20.1±0.2, 24°.N±1°.×125°.3E±0°.6, h66km, MV3.3/13, NEAR MIYAKOJIMA ISLAND*

ISC 10 11:05:16.9±2.6, 23°.7N±0°.1×125°.25E±0°.08, h10km±12km, n19, σ1°.16/24, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**1.02**	**4**	P	**Pn**	**11 05 37.9**	**+0.6**
JTJ	**Tarama**	**1.04**	**332**	P	**Pn**	**11 05 38.6**	**+1.0**
JOGS	**Gusukube**	**1.04**	**8**	P	**Pn**	**11 05 38.4**	**+0.7**
JMJ	**Miyako jima 2**	**1.09**	**2**	P	**Pg**	**11 05 38.2**	**+0.3**
JIRB	**Irabujima**	**1.10**	**356**	P	**Pn**	**11 05 39.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.20**	**303**	P	**Pg**	**11 05 40.8**	**+0.9**
JIJ				*eS*	**Sn**	**11 05 56.2**	**+0.2**
JIKM	**Ikemajima**	**1.20**	**0**	*eP*	**Pg**	**11 05 40.4**	**+0.5**
JISG	**Ishigakijimahi**	**1.22**	**315**	P	**Pg**	**11 05 41.0**	**+0.8**
JISG				*eS*	**Sn**	**11 05 56.5**	**+0.1**
JKRS	**Kuro-shima**	**1.24**	**295**	*eP*	**Pg**	**11 05 41.8**	**+1.0**
JKRS				S	**Sn**	**11 05 57.6**	**+0.4**
HATJ	**Hateruma jima**	**1.36**	**285**	*eS*	**Sg**	**11 06 00.4**	**-0.3**
IRIF	**Iriomote-Funau**	**1.52**	**294**	*eP*	**Pg**	**11 05 45.5**	**-0.5**
IRIF				*eS*	**Sb**	**11 06 04.4**	**0.0**
YOJ	**Yonaguni jima**	**2.17**	**290**	P	**Pb**	**11 05 55.0**	**-1.3**
YOJ	**Yonaguni jima**	**2.17**	**290**	*eP*	**Pb**	**11 05 54.5**	**-1.8**
JYNG	**Yonagunijimaku**	**2.23**	**290**	*eP*	**Pb**	**11 05 55.4**	**-1.9**
JYNG				*eS*	**Sn**	**11 06 20.4**	**-1.1**
NACB	**Ninganchiao**	**3.37**	**278**	P	**Pn**	**11 06 10.3**	**+0.6**
YULB	**Yu-li**	**3.64**	**266**	P	**Pn**	**11 06 13.1**	**-0.3**
YHNB	**Yeheng**	**3.66**	**286**	P	**Pn**	**11 06 15.9**	**+2.2**
SSLB	**Suanglung**	**3.93**	**272**	P	**Pn**	**11 06 19.5**	**+2.1**
TPUB	**Ta-pu**	**4.26**	**265**	P	**Pn**	**11 06 23.4**	**+1.5**

*IDC **10** 11:33:49.3±1.2, 9°.48S×117°.69E, h0km, mb3.9/6, mbtmp4.0/8, ML3.8/2, MS2.9/2, Error ellipse: s-maj=38.6km s-min=22.6km az=67.0*
*DJA **10** 11:33:55.7±0.2, 10°.5±3°.×11°.8E±°., h10km, M4.5/19, mB5.2/2, mb4.5/10, MLv4.5/19, Mw(mB)4.6/2*
*NEIC **10** 11:33:59.0±1.1, 9°.8S±0°.1×117°.92E±0°.07, h48km±14km, mb4.1/6, Error ellipse: s-maj=15.0km s-min=10.4km az=181.0*

ISC 10 11:33:55.4±0.6, 9°.63S±0°.05×118°.07E±0°.06, h35km, n61, σ2°.21/57, mb4.1/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.84**	**340**	P	**Pn**	**11 34 11.1**	**+0.3**
PLAI	**Plampang**	**0.84**	**340**	S	**Sn**	**11 34 21.4**	**-0.6**
PLAI	**Plampang**	**0.84**	**340**	P	**Pn**	**11 34 10.9**	**+0.1**
PLAI				S	**Sn**	**11 34 21.2**	**-0.8**
WBSI	**Waikabubak, Su**	**1.31**	**91**	P	**Pn**	**11 34 19.3**	**+2.1**
TWSI	**Taliwang, Sumb**	**1.46**	**307**	P	**Pn**	**11 34 19.7**	**+0.3**
TWSI				S	**Sn**	**11 34 35.6**	**-1.7**
WSI	**Waingapu**	**2.20**	**91**	P	**Pn**	**11 34 32.7**	**+3.2**
BASI	**Baing, Sumba**	**2.54**	**104**	P	Pn	11 34 39.3	+5.1
DNP	**Denpasar**	**2.97**	**288**	P	**Pn**	**11 34 41.6**	**+1.5**
SRBI	**Singaraja**	**3.21**	**298**	P	**Pn**	**11 34 44.7**	**+1.3**
EDFI	**Ende, Flores**	**3.68**	**77**	P	**Pn**	**11 34 53.3**	**+3.3**
JAGI	**Jajag, Banyuwa**	**4.03**	**286**		**Pn**	**11 34 55.8**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.03**	**286**	P	**Pn**	**11 34 56.7**	**+2.0**
JAGI	**Jajag, Banyuwa**	**4.03**	**286**	P	**Pn**	**11 34 55.4**	**+0.7**
ABJI	**Asem Bagus**	**4.20**	**295**	P	**Pn**	**11 34 58.7**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.21**	**35**	P	**Pn**	**11 34 59.5**	**+2.3**
MMRI	**Maumere**	**4.24**	**77**		Pn	11 35 03.2	+5.7
MMRI	**Maumere**	**4.24**	**77**	P	Pn	11 35 03.2	+5.7
BKSI	**Bulukumba**	**4.74**	**26**	P	**Pn**	**11 35 06.1**	**+1.7**
BLJI	**Banyuglugur**	**4.80**	**293**	P	**Pn**	**11 35 07.0**	**+1.8**
KAPI	**Kappang**	**4.88**	**20**	Pn	Pn	11 35 12.7	+6.4
KAPI	**Kappang**	**4.88**	**20**	Pn	**Pn**	**11 35 05.9**	**-0.5**
	3.5nm,0.3s,baz=187,slow=16,SNR=4.9						
KAPI				Sn	**Sn**	**11 36 00.9**	**-0.7**
	22nm,0.3s,baz=267,slow=21,SNR=12						
KAPI				LR	LR	11 37 19.5	
	comp=Z,132nm,20.6s,baz=209,slow=43						
	10nm,0.2s						
BNSI	**Bone**	**5.57**	**21**	P	**Pn**	**11 35 19.6**	**+3.7**
	0.3nm25nm,0.9s						
SPSI	**Sidrap Palu**	**5.87**	**17**	P	**Pn**	**11 35 22.3**	**+2.3**
	14nm,0.7s						
SOEI	**Soe**	**6.12**	**92**		**Pn**	**11 35 26.5**	**+3.0**
GRJI	**Gresik**	**6.15**	**296**	P	**Pn**	**11 35 26.3**	**+2.5**
WOJI	**Wonogiri, Jawa**	**7.28**	**284**	P	**Pn**	**11 35 43.3**	**+3.9**
	0.3nm3μm43nm,1.5s						
UGM	**Wanagama**	**7.65**	**282**	Pn	**Pn**	**11 35 46.6**	**+2.2**
UGM	**Wanagama**	**7.65**	**282**	P	**Pn**	**11 35 46.6**	**+2.2**
UGM	**Wanagama**	**7.65**	**282**	P	**Pn**	**11 35 47.4**	**+3.0**
	75nm,1.4s						
KPJI	**Karang Pucung**	**9.32**	**283**	P	**Pn**	**11 36 09.3**	**+2.0**
	16nm,0.9s						
BBJI	**Bungbulang**	**10.52**	**281**	P	**Pn**	**11 36 25.6**	**+1.7**
LEM	**Lembang**	**10.71**	**284**	LR	LR	11 41 04.7	
	comp=Z,82nm,19.7s,baz=180,slow=42						
MRSI	**Marisa**	**10.75**	**21**	P	**Pn**	**11 36 30.5**	**+3.5**
FITZ	**Fitzroy Crossi**	**11.18**	**140**		**Pn**	**11 36 34.9**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.18**	**140**	Pn	**Pn**	**11 36 34.6**	**+1.8**
	0.5nm,0.3s,baz=325,slow=8.2,SNR=18						
FITZ				Sn	**Sn**	**11 38 32.1**	**-4.5**
	1.2nm,0.3s,baz=176,slow=20,SNR=12						
	2.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.18**	**140**	P	**Pn**	**11 36 34.5**	**+1.7**
MBWA	**Marble Bar**	**11.58**	**172**		**Pn**	**11 36 39.3**	**+1.0**
MBWA	**Marble Bar**	**11.58**	**172**	P	**Pn**	**11 36 40.4**	**+2.1**
PSA00	**Pilbara Seismi**	**12.00**	**172**	Pn	**Pn**	**11 36 45.7**	**+1.6**
PSA00	**Pilbara Seismi**	**12.00**	**172**	P	**Pn**	**11 36 46.2**	**+2.1**
KNRA	**Kununurra**	**12.04**	**121**		**Pn**	**11 36 46.7**	**+2.0**
MTN	**Manton Dam**	**13.21**	**105**		**Pn**	**11 37 00.8**	**+0.1**
GIRL	**Giralia**	**13.46**	**195**	Pn	**Pn**	**11 37 05.2**	**+1.2**
WB0	**Warramunga Arr**	**18.72**	**124**	P	**Pn**	**11 38 13.4**	**+1.6**
WB0				IAmb	IAmb	11 38 16.2	
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**18.77**	**125**	P	**Pn**	**11 38 14.1**	**+1.8**
WRA	**Warramunga Arr**	**18.77**	**125**	P	**P**	**11 38 09.3**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=305,slow=13,SNR=24						
WRA				S	Sn	11 41 30.0	-11
	comp=Z,0.8nm,0.7s,baz=298,slow=23,SNR=5.7						
WR8	**Warramunga Arr**	**18.90**	**125**	P	**Pn**	**11 38 15.1**	**+1.1**
WR8				IAmb	IAmb	11 38 18.6	
	comp=Z,14nm,1.4s						
MORW	**Morawa**	**19.44**	**185**	P	**P**	**11 38 18.2**	**-0.8**
MORW				IAmb	IAmb	11 38 59.6	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**20.59**	**135**	P	Pn	11 38 34.2	+0.2
	comp=Z,1.2nm,0.7s,baz=316,slow=10,SNR=12						
ASAR				S	**S**	**11 42 14.8**	**-5.3**
	comp=Z,0.6nm,0.5s,baz=315,slow=25,SNR=5.2						
	comp=Z,1.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**23.20**	**182**	S	**S**	**11 43 08.8**	**0.0**
	comp=Z,3.9nm,0.7s,baz=82,slow=16,SNR=1.5						
COEN	**Coen**	**24.95**	**102**	P	**P**	**11 39 18.1**	**+2.3**
H08S2	**Diego Garcia H**	**45.08**	**269**	T	T	12 30 17.0	
	baz=96,slow=75,SNR=8.8						
H08S3	**Diego Garcia H**	**45.09**	**269**	T	T	12 30 17.8	
	baz=96,slow=75,SNR=6.9						
H08S1	**Diego Carcia H**	**45.09**	**269**	T	T	12 30 15.6	
	baz=96,slow=75,SNR=8.0						
MJAR	**Matsushiro Arr**	**49.68**	**21**	P	**P**	**11 42 42.3**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=193,slow=9.1,SNR=1.0						
	comp=Z,1.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**55.04**	**12**	P	**P**	**11 43 22.8**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=187,slow=5.1,SNR=4.0						
	comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**64.60**	**334**	P	**P**	**11 44 26.8**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=131,slow=6.8,SNR=6.2						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**69.30**	**340**	P	**P**	**11 44 55.8**	**-3.2**
	comp=Z,1.1nm,0.6s,baz=141,slow=5.9,SNR=4.5						
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**74.41**	**332**	P	**P**	**11 45 27.3**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=126,slow=6.1,SNR=3.0						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**80.37**	**180**	P	**P**	**11 46 03.9**	**+0.8**
QSPA				IAmb	IAmb	11 46 29.1	
	comp=Z,5.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**117.66**	**280**	PKP	**PKPdf**	**11 52 38.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=76,slow=2.4,SNR=1.6						

*IDC **10** 11:46:22.6±1.1, 4°.66S×147°.20E, h0km, mb4.1/6, mbtmp4.1/8, ML4.4/1, MS3.6/22, Error ellipse: s-maj=33.3km s-min=15.0km az=116.0*
*NEIC **10** 11:46:28.9±1.1, 4°.57S±0°.07×147°.32E±0°.08, h51km±17km, mb4.3/17, Error ellipse: s-maj=14.0km s-min=6.6km az=131.0*

ISC 10 11:46:27.5±0.7, 4°.61S±0°.06×147°.31E±0°.09, h35km, n54, σ1°.43/34, mb4.2/9, MS3.6/19, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.55**	**1**	Pn	**Pn**	**11 47 06.0**	**-0.4**
PMG	**Port Moresby**	**4.77**	**182**		**Pn**	**11 47 37.5**	**+0.5**
PMG	**Port Moresby**	**4.77**	**182**	Pn	**Pn**	**11 47 35.7**	**-1.3**
	9.0nm,0.3s,baz=6.2,slow=12,SNR=12						
PMG				Sn	**Sn**	**11 48 33.4**	**+2.3**
	4.7nm,0.3s,baz=0.0,slow=20,SNR=6.5						
RABL	**Rabaul**	**4.86**	**85**		**Pn**	**11 47 38.9**	**+0.7**
JAY	**Jayapura**	**6.91**	**287**	LR	LR	11 50 27.3	
	comp=Z,717nm,20.4s,baz=76,slow=36						
COEN	**Coen**	**10.14**	**203**	Pn	**Pn**	**11 48 51.3**	**+0.5**
HNR	**Honiara**	**13.43**	**112**	LR	LR	11 54 26.7	
	comp=Z,207nm,20.8s,baz=246,slow=36						
CTA	**Charters Tower**	**15.42**	**184**	LR	LR	11 55 37.0	
	comp=Z,4.8nm,20.5s,baz=342,slow=36						
CTAO	**Charters Tower**	**15.42**	**184**	P	**P**	**11 50 06.5**	**-0.3**
MTN	**Manton Dam**	**17.95**	**242**	P	**Pn**	**11 50 34.3**	**-0.2**
GUMO	**Guam**	**18.24**	**352**	LR	LR	11 56 41.8	
	comp=Z,125nm,18.4s,baz=192,slow=34						
WB0	**Warramunga Arr**	**19.63**	**219**		**P**	**11 50 53.8**	**+0.5**
WB0				IAmb	IAmb	11 50 54.9	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**19.68**	**218**	P	**P**	**11 50 54.1**	**+0.3**
WR0				IAmb	IAmb	11 50 55.4	
	comp=Z,26nm,1.1s						
WR8	**Warramunga Arr**	**19.71**	**218**		**P**	**11 50 54.2**	**+0.1**
WR8				IAmb	IAmb	11 50 55.6	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**19.78**	**219**		**P**	**11 50 55.0**	**+0.1**
WRAB				IAmb	IAmb	11 50 56.5	
	comp=Z,19nm,1.1s						
WB2	**Warramunga Arr**	**19.79**	**219**	P	**P**	**11 50 55.2**	**+0.2**
WB2				IAmb	IAmb	11 50 56.6	
	comp=Z,30nm,1.2s						
WRA	**Warramunga Arr**	**19.80**	**219**		**P**	**11 50 54.7**	**-0.4**
WRA	**Warramunga Arr**	**19.80**	**219**	P	**P**	**11 50 54.7**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=41,slow=11,SNR=60						
WRA				S	**S**	**11 54 33.4**	**-3.0**
	comp=Z,0.5nm,0.9s,baz=43,slow=18,SNR=2.4						
WRA				LR	LR	11 59 21.0	
	comp=Z,166nm,18.8s,baz=39,slow=40						
	comp=Z,13nm,0.8s						
EIDS	**Eidsvold**	**20.96**	**170**	P	**P**	**11 51 07.4**	**-0.2**
EIDS				IAmb	IAmb	11 51 08.5	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**21.29**	**238**	P	**P**	**11 51 13.6**	**+2.3**
AS31	**Alice Springs**	**22.94**	**213**	P	**P**	**11 51 28.8**	**-0.1**
AS31				IAmb	IAmb	11 51 29.9	
	comp=Z,7.1nm,0.9s						
ASAR	**Alice Springs**	**22.94**	**213**	P	**P**	**11 51 28.8**	**-0.1**
ASAR	**Alice Springs**	**22.94**	**213**	P	**P**	**11 51 28.6**	**-0.3**
	comp=Z,22nm,0.9s,baz=36,slow=9.8,SNR=151						
ASAR				S	**S**	**11 55 42.0**	**+5.3**
	comp=Z,1.2nm,1.0s,baz=28,slow=20,SNR=3.3						
ASAR				LR	LR	12 01 21.8	
	comp=Z,228nm,18.6s,baz=38,slow=39						
	comp=Z,22nm,0.9s						
INKA	**Innaminka**	**23.84**	**195**	P	**P**	**11 51 37.2**	**-0.4**
INKA				IAmb	IAmb	11 51 39.0	
	comp=Z,11nm,0.8s						
DAV	**Davao City (W)**	**24.59**	**298**	LR	LR	12 00 40.9	
	comp=Z,84nm,18.6s,baz=150,slow=35						
FITZ	**Fitzroy Crossi**	**25.07**	**236**	P	**P**	**11 51 47.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**25.07**	**236**	LR	LR	12 02 32.2	
	comp=Z,108nm,20.0s,baz=51,slow=39						
DZM	**Mont Dzumac**	**25.40**	**135**		**P**	**11 51 49.6**	**-2.4**
ARMA	**

comp=Z,3.5nm,1.0s
H01W1 Cape Leeuwin H 36.82 290 T T 12 34 41.2
baz=141,slow=75,SNR=20
H01W2 Cape Leeuwin H 36.82 290 T T 12 34 41.6
baz=141,slow=75,SNR=19
H01W3 Cape Leeuwin H 36.83 290 T T 12 34 42.4
baz=141,slow=75,SNR=19
ASAR Alice Springs 38.25 324 P **P** **11 54 59.3 -1.0**
comp=Z,4.2nm,1.0s,baz=161,slow=7.9,SNR=15
comp=Z,4.2nm,1.0s
AS31 Alice Springs 38.25 324 P **P** **11 55 02.1 +1.9**
CTAO Charters Tower 38.75 343 P **P** **11 55 05.3 +0.9**
CTAO IAmb IAmb 11 55 13.7
comp=Z,17nm,1.4s
MAW Mawson 40.03 216 P **P** **11 55 15.9 +1.3**
comp=Z,1.2nm,0.9s,baz=134,slow=9.5,SNR=2.3
MAW LR LR 12 10 24.6
comp=Z,213nm,21.3s,baz=128,slow=34
comp=Z,1.2nm,0.9s
WR8 Warramunga Arr 41.55 326 P **P** **11 55 27.7 0.0**
WR8 IAmb IAmb 11 55 28.4
comp=Z,7.1nm,1.0s
WRA Warramunga Arr 41.62 326 P **P** **11 55 26.5 -1.7**
comp=Z,3.8nm,0.9s,baz=161,slow=7.9,SNR=14
WRA PcP **PcP** **11 57 22.8 -2.3**
comp=Z,0.6nm,0.9s,baz=164,slow=3.2,SNR=2.9
comp=Z,3.8nm,0.9s
WB0 Warramunga Arr 41.77 326 P **P** **11 55 29.1 -0.4**
WB0 IAmb IAmb 11 55 30.2
comp=Z,4.9nm,0.9s
BELA Belgrano 2 44.16 176 P **P** **11 55 48.7 +0.5**
BELA IAmb IAmb 11 55 50.4
comp=Z,4.8nm,1.1s
PSA00 Pilbara Seismi 45.41 307 P **P** **11 55 59.4 +0.6**
PSA00 IAmb IAmb 11 56 18.8
comp=Z,5.7nm,1.1s
FITZ Fitzroy Crossi 46.24 316 P **P** **11 56 05.8 +0.5**
KNRA Kununurra 47.38 321 P **P** **11 56 14.2 0.0**
RAR Rarotonga 48.00 59 LR LR 12 11 55.5
comp=Z,107nm,21.2s,baz=232,slow=30
HNR Honiara 48.51 3 LR LR 12 12 03.1
comp=Z,40nm,19.5s,baz=90,slow=30
TROLL Troll, Antarti 49.09 190 ⇑P **P** **11 56 25.2 -1.9**
comp=Z,146nm,1.1s
PMG Port Moresby 49.14 347 P **P** **11 56 27.4 -0.5**
PMG Port Moresby 49.14 347 LR LR 12 16 06.9
comp=Z,57nm,18.2s,baz=166,slow=35
SNAA Sanae 49.87 188 P **P** **11 56 33.0 +0.2**
SNAA IAmb IAmb 11 56 54.1
comp=Z,8.7nm,1.2s
SNAA Sanae 49.87 188 P **P** **11 56 33.1 +0.2**
comp=Z,3.9nm,1.0s,baz=177,slow=11,SNR=7.3
SNAA LR LR 12 19 52.3
comp=Z,54nm,18.2s,baz=190,slow=39
comp=Z,3.9nm,1.0s
SMAI San Martin Ant 50.00 160 P **P** **11 56 33.7 -0.1**
VNA3 Neumayer Olymp 50.72 185 ⇑P **P** **11 56 39.8 +0.6**
comp=Z,3.0nm,0.8s
VNA2 Neumayer--Watz 50.91 186 ⇑P **P** **11 56 41.2 +0.5**
comp=Z,2.6nm,0.8s,baz=159,slow=7.5
VNA1 Neumayer--Stat 51.23 186 ⇑P **P** **11 56 43.6 +0.5**
comp=Z,7.3nm,0.9s
PPT2 Papeete2 55.94 67 *e*S S 12 04 49.9 -16
comp=Z,94nm,29.2s
PPT2 *e*LR LR 12 13 10.4
comp=Z,221nm,34.2s
PPT2 *e*LR LR 12 13 20.5
comp=Z,147nm,35.8s
PPT Papeete 55.96 67 LR LR 12 16 17.6
comp=Z,74nm,19.6s,baz=254,slow=31
KAPI Kappang 60.45 316 LR LR 12 23 43.9
comp=Z,38nm,18.2s,baz=182,slow=36
LEM Lembang 63.84 302 LR LR 12 24 11.4
comp=Z,37nm,18.1s,baz=184,slow=34
TAOE Nuku Hiva Isla 68.09 71 *e*LR LR 12 18 26.7
comp=Z,110nm,24.5s
H08S2 Diego Garcia H 80.89 270 T T 13 29 12.6
baz=147,slow=76,SNR=10
H08S1 Diego Carcia H 80.90 270 T T 13 29 13.5
baz=147,slow=76,SNR=9.4
H08S3 Diego Garcia H 80.91 270 T T 13 29 14.2
baz=147,slow=76,SNR=11
CFA Coronel Fontan 82.87 142 P **P** **12 00 03.4 -1.3**
comp=Z,1.9nm,0.8s,baz=186,slow=10,SNR=4.1
comp=Z,1.9nm,0.8s
BOSA Boshof 84.89 221 LR LR 12 35 31.7
comp=Z,37nm,18.8s,baz=200,slow=34
LBTB Lobatse 88.06 223 LR LR 12 35 49.2
comp=Z,38nm,21.9s,baz=167,slow=33
PALK Pallekele 89.16 285 LR LR 12 32 21.9
comp=Z,49nm,20.7s,baz=130,slow=30
CMAR Chiang Mai Arr 90.14 306 P **P** **12 00 39.4 -0.8**
comp=Z,0.5nm,0.6s,baz=159,slow=5.2,SNR=4.4
CMAR LR LR 12 37 10.8
comp=Z,22nm,22.0s,baz=130,slow=33
comp=Z,0.5nm,0.6s
LSZ Lusaka 95.94 229 LR LR 12 40 50.8
comp=Z,64nm,21.6s,baz=182,slow=33
KURBB Kurchatov Arra 125.97 309 PKP **PKPdf** **12 06 40.2 -0.9**
comp=Z,0.1nm,0.2s,baz=126,slow=4.7,SNR=1.4
ILAR Eielson Array 129.51 27 PKP **PKPdf** **12 06 46.7 -0.7**
comp=Z,0.4nm,0.9s,baz=208,slow=3.1,SNR=3.0
TORD Torodi Ar. Bea 131.62 212 PKP **PKPdf** **12 06 50.7 -2.3**
comp=Z,0.7nm,0.9s,baz=222,slow=1.9,SNR=2.3
AKASG Malin Array Be 149.63 279 PKPbc **PKPdf** **12 07 25.5 +1.5**
comp=Z,0.9nm,0.4s,baz=87,slow=2.5,SNR=6.0
ESDC Sonseca Array 158.08 221 PKPab **PKPab** **12 08 09.3 -0.7**
comp=Z,0.4nm,0.6s,baz=145,slow=3.9,SNR=2.7

*KRSC **10** 11:55:02.0±1.2, 51°.82N×159°.44E, h28km±18km, Ml3.9*
*MOS **10** 11:55:03.7±1.1, 51°.91N×159°.18E, h83km, mb4.1/3, Error ellipse: s-maj=17.8km s-min=5.5km az=94.3*
ISC 10 11:55:03.6±1.3, 51°.92N±0°.07×159°.28E±0°.07, h65km±10km, n51, σ1§81/57, mb4.0/3, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.70**	**318**	PN		**Pn**	**11 55 18.1**	**+0.1**
RUS				S		**Sn**	**11 55 28.5**	**-0.2**
RUS	**Russkaya**	**0.70**	**318**	*i* P		**Pn**	**11 55 18.2**	**+0.1**
RUS				*e*S		**Sn**	**11 55 28.5**	**-0.2**
MTVR	**Mutnovka**	**0.88**	**310**	PN		**Pn**	**11 55 21.5**	**+1.1**
MTVR				S		**Sn**	**11 55 33.5**	**+0.7**
MTVR	**Mutnovka**	**0.88**	**310**	*i* P		**Pn**	**11 55 21.5**	**+1.1**
MTVR				*e*S		**Sn**	**11 55 33.6**	**+0.7**
ASAK	**Asacha**	**0.97**	**299**	PN		**Pn**	**11 55 23.3**	**+1.9**
ASAK	**Asacha**	**0.97**	**299**	*e*P		**Pn**	**11 55 23.4**	**+1.9**
GRL	**Gorelyy**	**0.97**	**311**	PN		**Pn**	**11 55 23.4**	**+1.8**
GRL	**Gorelyy**	**0.97**	**311**	*e*P		**Pn**	**11 55 23.5**	**+1.8**
KRMR	**Karymshinskiy**	**1.15**	**323**	PN		**Pn**	**11 55 25.0**	**+1.3**
KRMR	**Karymshinskiy**	**1.15**	**323**	*e*P		**Pn**	**11 55 25.1**	**+1.3**
DALK	**Dalny**	**1.16**	**344**	PN		**Pn**	**11 55 24.7**	**+0.9**
DALK	**Dalny**	**1.16**	**344**	*e*P		**Pn**	**11 55 24.8**	**+0.9**
PET	**Petropavlovsk**	**1.17**	**341**	*e*PN		**Pn**	**11 55 25.0**	**+1.0**
PET				*e*S		**Sn**	**11 55 41.8**	**+2.6**
PET				pmax		pmax		
	comp=Z,163nm,0.5s							
PET				smax		smax		
	comp=N,186nm,0.4s							
PET				smax		smax		
	comp=E,369nm,0.6s							
PET	**Petropavlovsk**	**1.17**	**341**	*e*P		**Pn**	**11 55 24.9**	**+0.9**
PET				*e*S		**Sn**	**11 55 41.7**	**+2.6**
NLC	**Nalytchevo**	**1.25**	**2**	PN		**Pn**	**11 55 25.1**	**+0.1**
NLC	**Nalytchevo**	**1.25**	**2**	*e*P		**Pn**	**11 55 25.2**	**+0.1**
SPN	**Mys Shipunski**	**1.27**	**21**	PN		**Pn**	**11 55 26.4**	**+1.2**
SPN				S		**Sn**	**11 55 43.1**	**+1.7**
SPN	**Mys Shipunski**	**1.27**	**21**	*e*P		**Pn**	**11 55 26.4**	**+1.2**
SPN				*e*S		**Sn**	**11 55 43.2**	**+1.7**
SMAR	**Somma**	**1.38**	**348**	PN		**Pn**	**11 55 28.8**	**+1.9**
SMAR	**Somma**	**1.38**	**348**	*e*P		**Pn**	**11 55 28.8**	**+1.9**
SDLR	**Sedlovina**	**1.38**	**350**	PN		**Pn**	**11 55 27.8**	**+0.9**
SDLR	**Sedlovina**	**1.38**	**350**	*e*P		**Pn**	**11 55 27.8**	**+0.9**
AVH	**Avacha**	**1.39**	**346**	PN		**Pn**	**11 55 29.7**	**+2.8**
AVH	**Avacha**	**1.39**	**346**	*e*P		**Pn**	**11 55 29.8**	**+2.8**
KRER	**Koryakskii**	**1.42**	**347**	PN		**Pn**	**11 55 29.0**	**+1.5**
KRER	**Koryakskii**	**1.42**	**347**	*e*P		**Pn**	**11 55 29.1**	**+1.5**
KOK	**Koryaka**	**1.43**	**344**	PN		**Pn**	**11 55 29.2**	**+1.8**
KOK	**Koryaka**	**1.43**	**344**	*e*P		**Pn**	**11 55 29.3**	**+1.8**
KRX	**Arik**	**1.49**	**345**	PN		**Pn**	**11 55 29.7**	**+1.4**
KRX	**Arik**	**1.49**	**345**	*e*P		**Pn**	**11 55 29.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.53**	**322**	*d i* PN		**Pn**	**11 55 30.7**	**+1.9**
PAU	**Pauzhetka**	**1.60**	**255**	PN		**Pn**	**11 55 31.3**	**+1.6**
PAU	**Pauzhetka**	**1.60**	**255**	*e*P		**Pn**	**11 55 31.3**	**+1.6**
GNL	**Ganaly**	**1.96**	**336**	PN		**Pn**	**11 55 37.2**	**+2.7**
GNL	**Ganaly**	**1.96**	**336**	*e*P		**Pn**	**11 55 37.3**	**+2.7**
SKR	**Severo-Kuril's**	**2.34**	**239**	*e*PN		**Pn**	**11 55 41.8**	**+2.2**
SKR				*e*S		**Sn**	**11 56 08.9**	**+1.7**
SKR				pmax		pmax		
	comp=Z,68nm,1.0s							
SKR				smax		smax		
	comp=E,238nm,0.5s							
SKR				smax		smax		
	comp=N,303nm,0.8s							
SKR	**Severo-Kuril's**	**2.34**	**239**	*e*P		**Pn**	**11 55 41.1**	**+1.4**
SKR				*e*S		**Sn**	**11 56 09.7**	**+2.5**
MKZ	**Mys Kozlova**	**3.02**	**28**	PN		**Pn**	**11 55 51.0**	**+2.1**
MKZ	**Mys Kozlova**	**3.02**	**28**	*e*P		**Pn**	**11 55 51.0**	**+2.1**
TUMD	**Tumrok D**	**3.36**	**11**	PN		Pn	11 55 58.8	+5.3
TUMD	**Tumrok D**	**3.36**	**11**	*e*P		Pn	11 55 58.8	+5.3
KMNR	**Kamenistaya**	**3.88**	**8**	PN		Pn	11 56 05.7	+4.9
KMNR	**Kamenistaya**	**3.88**	**8**	*e*P		Pn	11 56 05.8	+4.9
ESO	**Esso**	**4.03**	**355**	PN		**Pn**	**11 56 06.5**	**+3.8**
ESO	**Esso**	**4.03**	**355**	*e*P		**Pn**	**11 56 06.5**	**+3.8**
SEY	**Seymchan**	**11.64**	**344**	*i* PN		**Pn**	**11 57 45.7**	**-0.9**
SEY				pmax		pmax		
	comp=Z,4.0nm,1.3s							
BILL	**Bilibino**	**16.52**	**9**	*i* P		**Pn**	**11 58 50.5**	**-0.3**
BILL				pmax		pmax		
	comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**18.86**	**314**	*i* P		**P**	**11 59 15.2**	**-2.9**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
TLY	**Talaya**	**33.69**	**292**	*i* P		**P**	**12 01 36.9**	**-1.2**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**47.94**	**302**	*i* P		**P**	**12 03 34.3**	**-0.8**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
OBN	**Obninsk**	**63.23**	**327**	⇑*e*P		**P**	**12 05 24.0**	**-0.6**
OBN				*e*			12 07 44.8	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,51nm,16.0s							

*AUST **10** 11:59:17.1±0.4, 28°.5S×11°.4E±°, h10km, mb4.4/2, ML3.0/7, Error ellipse: s-maj=10.9km s-min=4.1km az=78.1*
*CUPWA **10** 11:59:19.2±5.3, 28°.12S×113°.68E, h13km±31km, ML3.0, Region: WESTERN AUSTRALIA*
ISC 10 11:59:17.0±1.5, 28°.05S±0°.05×113°.9E±0°.1, h10km, n17, σ1§05/20, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**2.11**	**119**	P		**Pb**	**11 59 54.8**	**-0.6**
MORW	**Morawa**	**2.11**	**119**	P		**Pb**	**11 59 54.8**	**-0.6**
BLDU	**Ballidu**	**3.52**	**137**	P		**Pn**	**12 00 13.1**	**+1.4**
BLDU	**Ballidu**	**3.52**	**137**	P		**Pn**	**12 00 13.1**	**+1.4**
BLDU				S		**Sn**	**12 00 54.1**	**+0.6**
CVQOZ	**Cooralya Stati**	**3.59**	**2**	P		**Pn**	**12 00 13.8**	**+1.1**
CVQOZ				S		**Sn**	**12 00 54.6**	**-0.6**
MUN	**Mundaring**	**4.38**	**154**	P		**Pn**	**12 00 24.3**	**+0.7**
MUN	**Mundaring**	**4.38**	**154**	S		**Sn**	**12 01 14.1**	**-0.6**
MUN	**Mundaring**	**4.38**	**154**	P		**Pn**	**12 00 24.3**	**+0.7**
MUN	**Mundaring**	**4.38**	**154**	S		**Sn**	**12 01 14.2**	**-0.6**
MEEK	**Meekatharra**	**4.39**	**72**	P		**Pn**	**12 00 25.2**	**+1.4**
MEEK	**Meekatharra**	**4.39**	**72**	S		**Sn**	**12 01 14.2**	**-0.8**
MEEK	**Meekatharra**	**4.39**	**72**	P		**Pn**	**12 00 25.2**	**+1.4**
GIRL	**Giralia**	**5.39**	**3**	P		**Pn**	**12 00 38.6**	**+1.1**
	comp=Z,0.1nmcomp=Z,38nm,1.6s							
GIRL				S		**Sn**	**12 01 37.8**	**-1.8**
GIRL	**Giralia**	**5.39**	**3**	P		**Pn**	**12 00 38.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**5.63**	**150**	P		**Pn**	**12 00 40.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**5.63**	**150**	P		**Pn**	**12 00 40.6**	**-0.2**
RKGY	**Rocky Gully**	**7.04**	**159**	P		**Pn**	**12 00 59.7**	**-0.3**
	comp=Z,0.2nmcomp=Z,64nm,1.6s							

*BGSI **10** 12:13:24.3±1.0, 26°.01S×31°.76E, h80km±395km, ML3.5*
*PRE **10** 12:13:52.3±1.0, 25°.58S×28°.78E, h0km, ML2.6, Suspected explosion*
ISC 10 12:13:53.1±0.8, 25°.59S±0°.04×28°.78E±0°.03, h10km, n15, σ1§23/26, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**1.19**	**110**	*e*P		**Pg**	**12 14 15.9**	**-0.1**
CRLN				*e*S		**Sn**	**12 14 32.1**	**-0.3**
CRLN				IAML			12 14 42.2	
	comp=Z,34nm,0.6s							
WDLM	**Western Deep L**	**1.48**	**235**	*e*P		**Pg**	**12 14 20.5**	**-1.0**
WDLM				*e*S		**Sg**	**12 14 41.9**	**+1.2**
WDLM				IAML			12 14 44.5	
	comp=Z,212nm,0.2s							
PRYS	**Parys**	**1.84**	**223**	*e*P		**Pb**	**12 14 26.1**	**-1.0**
PRYS				*e*S		**Sg**	**12 14 51.1**	**-1.4**
PRYS				IAML			12 14 55.9	
	comp=Z,46nm,0.3s							
PILG	**Pilgrimsrest,**	**1.86**	**70**	*e*P		**Pb**	**12 14 26.4**	**-1.1**
PILG				*e*S		**Sb**	**12 14 50.7**	**-0.2**
PILG				IAML			12 14 56.5	
	comp=Z,70nm,0.6s							
LEPH	**Lephalale, Lim**	**1.94**	**332**	*e*P		**Pb**	**12 14 27.7**	**-1.0**
LEPH				*e*S		**Sb**	**12 14 53.0**	**+0.1**
LEPH				IAML			12 14 55.1	
	comp=Z,64nm,0.3s							
NWCL	**Newcastle**	**2.36**	**155**	*e*P		**Pb**	**12 14 33.7**	**-2.1**
NWCL				*e*S		**Sn**	**12 15 02.5**	**+1.4**
NWCL				IAML			12 15 13.7	
	comp=Z,51nm,0.6s							
LBTB	**Lobatse**	**2.94**	**281**	*e*P		**Pn**	**12 14 40.7**	**+0.8**
LBTB				*e*S		**Sn**	**12 15 16.2**	**+0.9**
LBTB				IAML			12 15 31.1	
	comp=Z,30nm,0.8s							
MOPA	**Mopani**	**3.15**	**50**	*e*P		**Pn**	**12 14 43.4**	**+0.6**
MOPA				*e*S		**Sn**	**12 15 21.5**	**+0.9**
MOPA				IAML			12 15 40.5	
	comp=Z,52nm,0.7s							
POGA	**Pongola**	**3.15**	**124**	*e*P		**Pn**	**12 14 44.5**	**+1.6**
POGA				*e*S		**Sn**	**12 15 22.2**	**+1.6**
POGA				IAML			12 15 37.7	
	comp=Z,45nm,0.6s							
LPHEP	**Lephephe**	**3.46**	**309**	*i* P		**Pn**	**12 14 48.0**	**+0.8**
LPHEP				AMP			12 15 45.0	
	comp=E,206nm,0.6s							
SWZ	**Schweizer**	**3.48**	**242**	*e*P		**Pn**	**12 14 49.4**	**+2.0**
SWZ				*e*S		**Sn**	**12 15 29.3**	**+0.6**
SWZ				IAML			12 15 45.8	
	comp=Z,26nm,0.3s							
MAKGR	**Makgori**	**3.60**	**266**	*i* P		**Pn**	**12 14 50.7**	**+1.7**
BOSA	**Boshof**	**4.35**	**225**	*e*P		**Pn**	**12 15 00.1**	**+0.7**
BOSA				*e*S		**Sn**	**12 15 49.9**	**-0.4**
BOSA				IAML			12 16 20.8	
	comp=Z,8.1nm,0.3s							
SKOMA	**Sekoma**	**4.52**	**283**	*i* P		**Pn**	**12 15 03.9**	**+2.1**
SKOMA				IAML			12 16 26.2	
	comp=N,83nm,0.9s							
BROLN	**Tlhalogang**	**4.66**	**343**	*i* P		Pn	12 14 51.9	-12
BROLN				*i* S		**Sn**	**12 15 57.1**	**-0.9**
BROLN				IAML			12 16 18.7	
	comp=E,38nm,0.8s							

*NOU **10** 12:16:32.8, 19°.77S×176°.09W, h566km, MLv4.3/4, Fiji Islands Region*
*NEIC **10** 12:16:55.7±1.4, 18°.9S±0°.1×177°.7W±0°.1, h405km±9km, mb4.1/21, Error ellipse: s-maj=17.9km s-min=15.6km az=133.0*
*IDC **10** 12:16:59.5±4.7, 19°.06S×178°.09W, h435km±49km, mb3.3/16, mbtmp4.1/17, Error ellipse: s-maj=20.5km s-min=16.3km az=86.0*
ISC 10 12:16:55.5±0.5, 19°.03S±0°.09×177°.78W±0°.08, h400km, n57, σ1§29/57, mb3.9/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.26**	**309**	P		**Pn**	**12 17 49.2**	**+1.5**
TAVE	**Taveuni**	**3.07**	**318**	P		**Pn**	**12 18 01.6**	**+2.2**
DGTI	**Dogotuki**	**3.60**	**318**	P		**Pn**	**12 18 05.9**	**+1.9**
	203nm,0.8s							
MSVF	**Nonsavu**	**4.17**	**287**			**Pn**	**12 18 11.5**	**+2.2**
MSVF	**Nonsavu**	**4.17**	**287**	P		**Pn**	**12 18 11.5**	**+2.2**
	67nm,0.9s							
FUTU	**Fugatoga**	**4.71**	**356**			**Pn**	**12 18 14.6**	**0.0**
NIUE	**Niue**	**7.42**	**92**			**Pn**	**12 18 41.9**	**-2.1**
AFI	**Afiamalu**	**7.68**	**49**			**Pn**	**12 18 44.4**	**-2.7**
DZM	**Mont Dzumac**	**15.09**	**256**	P		**P**	**12 20 08.5**	**-0.6**
	5.7nm,0.8s,baz=82,slow=18,SNR=5.3							
TOZ	**Tahuroa Road**	**19.54**	**196**	P		**P**	**12 20 56.0**	**+0.4**
ARMA	**Armidale**	**29.92**	**242**	P		**P**	**12 22 29.4**	**+0.7**
ARMA				IAmb		IAmb	12 22 30.1	
	comp=Z,13nm,1.1s							
CTAO	**Charters Tower**	**33.87**	**262**	P		**P**	**12 23 02.5**	**-0.3**
CTAO				IAmb		IAmb	12 23 03.0	
	comp=Z,8.8nm,0.8s							
COEN	**Coen**	**37.73**	**272**	P		**P**	**12 23 34.5**	**-0.7**
STKA	**Stephens Creek**	**38.63**	**243**	P		**P**	**12 23 42.7**	**+0.2**
STKA	**Stephens Creek**	**38.63**	**243**	P		**P**	**12 23 41.2**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=82,slow=7.1,SNR=5.6							
	comp=Z,2.6nm,0.6s							
BBOO	**Buckleboo**	**43.41**	**242**	P		**P**	**12 24 20.3**	**-0.6**
BBOO				IAmb		IAmb	12 24 42.2	
	comp=Z,13nm,1.3s							
JAY	**Jayapura**	**43.80**	**287**	P		**P**	**12 24 24.2**	**0.0**
	comp=Z,7.2nm,0.7s,baz=95,slow=13,SNR=1.5							
	comp=Z,7.2nm,0.7s							
WR8	**Warramunga Arr**	**44.88**	**261**	P		**P**	**12 24 30.9**	**-1.6**
WR8				IAmb		IAmb	12 24 31.4	
	comp=Z,9.3nm,1.4s							
WB0	**Warramunga Arr**	**45.00**	**261**	P		**P**	**12 24 31.9**	**-1.6**
WB0				IAmb		IAmb	12 24 32.5	
	comp=Z,3.1nm,0.8s							
WRA	**Warramunga Arr**	**45.03**	**261**	P		**P**	**12 24 32.2**	**-1.6**
WRA	**Warramunga Arr**	**45.03**	**261**	P		**P**	**12 24 31.9**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=96,slow=6.8,SNR=62							
WRA				PcP		**PcP**	**12 26 06.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=95,slow=3.5,SNR=1.7							
	comp=Z,1.2nm,0.3s							
AS31	**Alice Springs**	**45.08**	**255**			**P**	**12 24 33.4**	**-0.7**
ASAR	**Alice Springs**	**45.08**	**255**	P		**P**	**12 24 33.0**	**-1.1**
	comp=Z,4.6nm,0.5s,baz=93,slow=7.8,SNR=34							
	comp=Z,4.6nm,0.5s							
MTN	**Manton Dam**	**49.38**	**269**	P		**P**	**12 25 06.0**	**-0.9**
MTN				IAmb		IAmb	12 25 10.1	
	comp=Z,14nm,1.4s							
FORT	**Forrest**	**50.08**	**245**	P		**P**	**12 25 10.4**	**-1.5**
FORT				IAmb		IAmb	12 25 43.7	
	comp=Z,12nm,1.0s							
KNRA	**Kununurra**	**50.98**	**265**	P		**P**	**12 25 17.7**	**-1.1**
KNRA				IAmb		IAmb	12 25 26.1	
	comp=Z,9.3nm,1.3s							
FAKI	**Fak Fak**	**51.39**	**282**	P		**P**	**12 25 21.0**	**-0.8**
FAKI				IAmb		IAmb	12 25 23.2	
	comp=Z,10nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		**P**	**12 25 36.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		**P**	**12 25 35.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=100,slow=5.7,SNR=19							
	comp=Z,1.1nm,0.3s							
PSA00	**Pilbara Seismi**	**58.22**	**256**	P		**P**	**12 26 09.7**	**-0.3**
MBWA	**Marble Bar**	**58.39**	**256**	P		**P**	**12 26 10.3**	**-0.9**
MBWA				IAmb		IAmb	12 26 10.6	
	comp=Z,7.1nm,0.8s							
SBA	**Scott Base**	**59.35**	**184**	P		**P**	**12 26 18.3**	**+1.6**
VNDA	**Vanda**	**59.39**	**185**	P		**P**	**12 26 17.9**	**+0.9**
VNDA	**Vanda**	**59.39**	**185**	P		**P**	**12 26 17.1**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=16,slow=7.4,SNR=3.8							
	comp=Z,0.8nm,0.9s							
MORW	**Morawa**	**60.59**	**247**	P		**P**	**12 26 24.5**	**-1.4**
MJAR	**Matsushiro Arr**	**69.16**	**323**	P		**P**	**12 27 20.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=164,slow=14,SNR=4.9							
	comp=Z,0.7nm,0.5s							
QSPA	**South Pole Qui**	**71.03**	**180**	P		**P**	**12 27 33.3**	**+2.1**
QSPA				IAmb		IAmb	12 27 34.1	
	comp=Z,3.8nm,0.8s							
QSPA	**South Pole Qui**	**71.03**	**180**	P		**P**	**12 27 32.6**	**+1.4**
	comp=Z,3.9nm,0.8s,baz=48,slow=1.4,SNR=20							
	comp=Z,3.9nm,0.8s							
PETK	**Petropavlovsk-**	**74.91**	**345**	P		**P**	**12 27 55.5**	**+2.0**
	comp=Z,8.9nm,1.0s,baz=155,slow=9.5,SNR=5.6							
	comp=Z,8.9nm,1.0s							
KSRS	**Korea Array**	**75.93**	**318**	P		**P**	**12 27 58.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.4,SNR=2.4							
	comp=Z,0.5nm,0.6s							
NVAR	**Mina Array Bea**	**79.81**	**43**	P		**P**	**12 28 23.1**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=237,slow=5.0,SNR=5.3							
	comp=Z,0.5nm,0.6s							
MAW	**Mawson**	**83.02**	**200**	P		**P**	**12 28 36.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=113,slow=6.2,SNR=1.5							
	comp=Z,0.8nm,0.9s							
TRF	**Thorofare Moun**	**84.97**	**12**	P		**P**	**12 28 46.1**	**-0.6**
TXAR	**Lajitas Array**	**86.09**	**57**	P		**P**	**12 28 55.0**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=243,slow=4.8,SNR=5.0							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**86.84**	**13**	P		**P**	**12 28 54.8**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=215,slow=6.1,SNR=17							
	comp=Z,1.2nm,0.7s							
PDAR	**Pinedale Array**	**87.75**	**43**	P		**P**	**12 29 02.5**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=239,slow=5.7,SNR=4.3							
	comp=Z,0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.83**	**289**	P		**P**	**12 29 10.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=110,slow=3.8,SNR=4.8							
	comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**110.34**	**314**	PKiKP		**PKiKP**	**12 34 39.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=199,slow=1.0,SNR=4.2							
KURBB	**Kurchatov Arra**	**113.11**	**318**	PKiKP		**PKiKP**	**12 34 45.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=95,slow=2.0,SNR=2.5							
BVAR	**Borovoye Array**	**118.09**	**321**	PKP		**PKPdf**	**12 34 54.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=85,slow=3.0,SNR=3.0							
ARCES	**ARCESS Array B**	**127

comp=N,23nm,3.4s
CELP Cerrillos 1.38 152⇑ eP Pn 12 29 15.7 -1.8
CELP Cerrillos 1.38 152 eS Sn 12 29 33.4 -1.1
CELP Cerrillos 1.38 152 ePg Pn 12 29 22.5 +5.0
CELP eSg **Sn 12 29 38.4 +3.9**
CELP IAML 12 29 49.9
comp=N,18nm,2.7s
OBIP Obispado Ponce 1.40 154 Pn Pn 12 29 16.6 -1.1
OBIP IAML 12 29 33.6
comp=N,21nm,3.3s
HIDR Higuey Centro 1.55 243 ePg Pn 12 29 25.6 +5.7
HIDR eSg **Sn 12 29 39.7 +0.9**
HIDR IAML 12 29 58.8
comp=N,60nm,0.2s
MIDR Miches 1.73 260 ePg Pn 12 29 31.3 +9.1
MIDR eSg Sn 12 29 49.4 +6.3
MIDR IAML 12 29 52.9
comp=N,17nm,1.2s
PDPR Patillas Dam, 1.73 137 Pn Pn 12 29 22.7 +0.4
PDPR IAML 12 30 32.0
comp=E,14nm,2.9s
HATOM Hato Mayor del 2.08 256 ePg Pn 12 29 32.7 +5.6
HATOM eSg **Sn 12 29 54.5 +2.7**
HATOM IAML 12 30 06.8
comp=N,20nm,2.6s
DR08 Loma La Naviza 2.64 263 ePg Pn 12 29 41.4 +6.5
DR08 eSg Sn 12 30 10.3 +4.6
DR08 IAML 12 30 36.0
comp=N,150nm,1.2s

*IDC **10** 12:30:10.7±0.8, 49°.81N×157°.31E, h0km, mb3.8/14, mbtmp3.8/16, ML3.0/3, MS3.0/4, Error ellipse: s-maj=22.5km s-min=16.2km az=130.0*
*KRSC **10** 12:30:14.6±1.9, 49°.83N×157°.91E, h41km±26km, Ml4.1*
*MOS **10** 12:30:15.8±0.7, 49°.79N×157°.60E, h65km, mb4.3/5, Error ellipse: s-maj=20.2km s-min=4.7km az=84.7*
ISC 10 12:30:14.4±0.7, 49°.70N±0°.08×157°.73E±0°.06, h39km±3km, n76, σ2s 92/70, mb3.9/22, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.43**	**314**	⇑ *i* PN	**Pn**	**12 30 38.0**	**+0.3**
SKR				*e*S	**Sn**	**12 30 54.4**	**-0.8**
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax	smax		
	comp=N,5μm,0.7s						
SKR				smax	smax		
	comp=E,3μm,0.7s						
SKR	**Severo-Kuril's**	**1.43**	**314**	*e*P	**Pn**	**12 30 38.0**	**+0.3**
SKR				*e*S	**Sn**	**12 30 55.7**	**+0.5**
PAU	**Pauzhetka**	**1.86**	**342**	PN	**Pn**	**12 30 45.0**	**+1.3**
PAU				S	**Sn**	**12 31 07.7**	**+1.8**
PAU	**Pauzhetka**	**1.86**	**342**	*e*P	**Pn**	**12 30 45.0**	**+1.3**
PAU				*e*S	**Sn**	**12 31 07.7**	**+1.8**
RUS	**Russkaya**	**2.78**	**10**	PN	**Pn**	**12 30 56.7**	**+0.4**
RUS				S	**Sn**	**12 31 28.2**	**-0.3**
RUS	**Russkaya**	**2.78**	**10**	*e*P	**Pn**	**12 30 56.7**	**+0.4**
RUS				*e*S	**Sn**	**12 31 28.2**	**-0.3**
MTVR	**Mutnovka**	**2.80**	**6**	PN	**Pn**	**12 30 58.1**	**+1.4**
MTVR				S	**Sn**	**12 31 29.5**	**+0.2**
MTVR	**Mutnovka**	**2.80**	**6**	*e*P	**Pn**	**12 30 58.2**	**+1.4**
MTVR				*e*S	**Sn**	**12 31 29.5**	**+0.2**
GRL	**Gorelyy**	**2.86**	**4**	PN	**Pn**	**12 30 59.1**	**+1.5**
GRL	**Gorelyy**	**2.86**	**4**	*e*P	**Pn**	**12 30 59.1**	**+1.5**
KRMR	**Karymshinskiy**	**3.14**	**4**	PN	**Pn**	**12 31 03.5**	**+2.2**
KRMR	**Karymshinskiy**	**3.14**	**4**	*e*P	**Pn**	**12 31 03.5**	**+2.2**
PET	**Petropavlovsk**	**3.38**	**10**	*e*PN	**Pn**	**12 31 06.6**	**+2.1**
PET				*e*S	**Sn**	**12 31 46.9**	**+3.6**
PET				smax	smax		
	comp=E,102nm,0.6s						
PET				smax	smax		
	comp=N,148nm,0.6s						
PET	**Petropavlovsk**	**3.38**	**10**	*e*P	**Pn**	**12 31 05.9**	**+1.4**
PET				*e*S	**Sn**	**12 31 43.8**	**+0.5**
DALK	**Dalny**	**3.40**	**11**	PN	**Pn**	**12 31 06.0**	**+1.3**
DALK				S	**Sn**	**12 31 45.0**	**+1.3**
DALK	**Dalny**	**3.40**	**11**	*e*P	**Pn**	**12 31 06.0**	**+1.3**
DALK				*e*S	**Sn**	**12 31 45.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**3.41**	**360**	*e*PN	**Pn**	**12 31 07.4**	**+2.4**
PETK	**Petropavlovsk-**	**3.41**	**360**	Pn	**Pn**	**12 31 05.9**	**+0.8**
	comp=N,1.2nm,0.3s,baz=161,slow=16,SNR=3.2						
PETK				Sn	**Sn**	**12 31 46.5**	**+2.3**
	comp=N,2.8nm,0.3s,baz=153,slow=13,SNR=5.5						
PETK				LR	LR	12 32 32.6	
	comp=N,76nm,21.0s,baz=109,slow=43						
AVH	**Avacha**	**3.62**	**10**	PN	**Pn**	**12 31 10.8**	**+2.9**
AVH	**Avacha**	**3.62**	**10**	*e*P	**Pn**	**12 31 10.9**	**+2.9**
SMAR	**Somma**	**3.63**	**10**	PN	**Pn**	**12 31 11.0**	**+2.8**
SMAR	**Somma**	**3.63**	**10**	*e*P	**Pn**	**12 31 11.1**	**+2.8**
KOK	**Koryaka**	**3.64**	**9**	PN	**Pn**	**12 31 09.3**	**+1.1**
KOK	**Koryaka**	**3.64**	**9**	*e*P	**Pn**	**12 31 09.3**	**+1.1**
SDLR	**Sedlovina**	**3.66**	**11**	PN	Pn	12 31 11.5	+3.1
SDLR	**Sedlovina**	**3.66**	**11**	*e*P	Pn	12 31 11.6	+3.1
KRER	**Koryakskii**	**3.67**	**10**	PN	**Pn**	**12 31 11.5**	**+2.9**
KRER	**Koryakskii**	**3.67**	**10**	*e*P	**Pn**	**12 31 11.5**	**+2.9**
SPN	**Mys Shipunski**	**3.69**	**22**	PN	**Pn**	**12 31 11.3**	**+2.5**
SPN	**Mys Shipunski**	**3.69**	**22**	*e*P	**Pn**	**12 31 11.3**	**+2.5**
KRX	**Arik**	**3.71**	**9**	PN	**Pn**	**12 31 11.8**	**+2.6**
KRX	**Arik**	**3.71**	**9**	*e*P	**Pn**	**12 31 11.9**	**+2.6**
GNL	**Ganaly**	**4.00**	**2**	PN	Pn	12 31 16.8	+3.6
GNL	**Ganaly**	**4.00**	**2**	*e*P	Pn	12 31 16.8	+3.6
MKZ	**Mys Kozlova**	**5.45**	**25**	PN	**Pn**	**12 31 34.1**	**+1.2**
MKZ	**Mys Kozlova**	**5.45**	**25**	*e*P	**Pn**	**12 31 34.2**	**+1.2**
TUMD	**Tumrok D**	**5.75**	**15**	PN	Pn	12 31 40.4	+3.3
TUMD	**Tumrok D**	**5.75**	**15**	*e*P	Pn	12 31 40.5	+3.4
ESO	**Esso**	**6.26**	**5**	PN	**Pn**	**12 31 46.8**	**+2.7**
ESO	**Esso**	**6.26**	**5**	*e*P	**Pn**	**12 31 46.9**	**+2.7**
KBTR	**Krutoberegovo**	**7.21**	**23**	PN	**Pn**	**12 31 58.8**	**+1.8**
KBTR	**Krutoberegovo**	**7.21**	**23**	*e*P	**Pn**	**12 31 58.9**	**+1.8**
MA2	**Magadan**	**10.68**	**341**	LR	LR	12 36 20.4	
	comp=N,58nm,18.7s,baz=115,slow=35						
SHEM	**Shemya Is, Ala**	**10.71**	**67**	Pn	**Pn**	**12 32 46.9**	**+1.9**
	comp=N,7.7nm,0.3s,baz=258,slow=17,SNR=5.8						
SHEM				Sn	**Sn**	**12 34 38.2**	**-5.2**
	comp=N,4.4nm,0.3s,baz=287,slow=20,SNR=1.5						
ASAJ	**Asahikawa**	**11.75**	**247**	Pn	**Pn**	**12 32 58.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=61,slow=14,SNR=1.7						
	comp=N,8.9nm,1.2s						
SEY	**Seymchan**	**13.58**	**350**	LR	LR	12 39 38.5	
	comp=N,69nm,21.6s,baz=145,slow=42						
BILL	**Bilibino**	**18.88**	**10**	*i* P	**P**	**12 34 27.0**	**-4.0**
MJAR	**Matsushiro Arr**	**19.31**	**234**	P	**P**	**12 34 37.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=48,slow=8.7,SNR=5.0						
	comp=N,0.9nm,0.6s						
YAK	**Yakutsk**	**19.80**	**319**	P	**Pn**	**12 34 43.3**	**+0.5**
	comp=N,4.6nm,0.3s,baz=79,slow=19,SNR=4.1						
YAK	**Yakutsk**	**19.80**	**319**	*i* P	P	12 34 31.5	-10
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**24.64**	**252**	P	**P**	**12 35 32.8**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=50,slow=9.4,SNR=4.3						
	comp=Z,0.7nm,0.5s						
TIXI	**Tiksi**	**25.64**	**339**	*i* P	**P**	**12 35 33.9**	**-6.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**31.94**	**164**	T	T	13 11 07.8	
	baz=348,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**31.95**	**164**	T	T	13 10 54.2	
	baz=348						
H11S2	**WAKE ISLAND Hy**	**31.96**	**164**	T	T	13 11 29.9	
	baz=348						
ULN	**Ulaanbaatar**	**32.93**	**287**	*i* P	P	12 36 33.0	-12
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GUMO	**Guam**	**37.52**	**201**	P	**P**	**12 37 26.0**	**+1.4**
	comp=Z,57nm,0.4s,baz=36,slow=19,SNR=2.3						
GUMO	**Guam**	**37.52**	**201**	P	**P**	**12 37 26.0**	**+1.4**
KURK	**Kurchatov**	**48.31**	**303**	*i* P	P	12 38 43.3	-8.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**48.34**	**297**	P	**P**	**12 38 51.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=54,slow=5.8,SNR=13						
MKAR				LR	LR	13 00 11.5	
	comp=Z,81nm,20.0s,baz=350,slow=38						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**48.41**	**303**	P	**P**	**12 38 51.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=61,slow=8.1,SNR=4.2						
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	**51.37**	**309**	P	**P**	**12 39 13.8**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=61,slow=8.9,SNR=2.8						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**56.03**	**258**	P	**P**	**12 39 49.8**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=38,slow=6.7,SNR=1.6						
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**56.05**	**342**	P	**P**	**12 39 48.0**	**-0.7**
	comp=Z,3.7nm,0.9s,baz=50,slow=6.9,SNR=1.9						
	comp=Z,3.7nm,0.9s						
PDAR	**Pinedale Array**	**60.54**	**58**	P	P	12 40 25.2	+4.4
	comp=Z,0.5nm,0.9s,baz=329,slow=6.7,SNR=3.5						
	comp=Z,0.5nm,0.9s						
BELG	**Belogornoye**	**62.34**	**319**	*i* P	P	12 40 24.0	-8.4
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**64.57**	**327⇑**	*e*P	P	12 40 38.4	-8.7
OBN				*e**PP	pwP	12 41 05.7	+3.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA	**NORSAR Array B**	**66.37**	**343**	P	**P**	**12 40 59.9**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=26,slow=6.5,SNR=2.6						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**70.74**	**328**	P	**P**	**12 41 26.7**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=34,slow=7.1,SNR=3.3						
	comp=Z,0.6nm,0.4s						
KIV	**Kislovodsk**	**70.88**	**316**	*e*P	P	12 41 18.6	-8.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**70.96**	**316**	*i* P	P	12 41 17.6	-10
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**72.37**	**203**	P	**P**	**12 41 36.9**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=16,slow=6.0,SNR=2.6						
	comp=Z,0.4nm,0.9s						
TXAR	**Lajitas Array**	**73.39**	**64**	P	P	12 41 46.5	+4.0
	comp=Z,0.3nm,0.4s,baz=320,slow=6.7,SNR=5.5						
	comp=Z,0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**74.12**	**349**	P	**P**	**12 41 46.3**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=4.3,slow=6.2,SNR=1.7						
	comp=Z,1.3nm,0.7s						
GERES	**GERESS Array B**	**77.06**	**337**	P	**P**	**12 42 05.2**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.8,SNR=2.1						
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**78.26**	**319**	P	**P**	**12 42 09.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=15,slow=6.7,SNR=1.8						
	comp=Z,0.3nm,0.4s						

*IDC **10** 12:37:44.7±0.7, 4°.19N×147°.29E, h0km, mb4.3/16, mbtmp4.3/16, MS3.5/21, Error ellipse: s-maj=30.7km s-min=14.4km az=83.0*
*NEIC **10** 12:37:47.2±2.6, 4°.09N±0°.10×147°.15E±0°.07, h10km±1km, mb4.6/16, Error ellipse: s-maj=18.3km s-min=8.5km az=151.0*
ISC 10 12:37:46.1±0.5, 4°.06N±0°.07×147°.16E±0°.09, h10km, n62, σ1s 31/48, mb4.5/25, MS3.6/18, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.06**	**178**		**Pn**	**12 39 15.9**	**0.0**
JAY	**Jayapura**	**9.18**	**225**	Pn	**Pn**	**12 39 57.4**	**-1.3**
	4.5nm,0.3s,baz=31,slow=12,SNR=29						
JAY				Sn	**Sn**	**12 41 37.9**	**-4.3**
	0.8nm,0.3s,baz=50,slow=18,SNR=1.3						
JAY				LR	LR	12 42 53.2	
	comp=Z,247nm,19.6s,baz=9.5,slow=33						
GUMO	**Guam**	**9.74**	**347**	Pn	Pn	12 40 01.9	-4.4
	6.7nm,0.3s,baz=180,slow=20,SNR=1.5						
GUMO				Sn	Sn	12 41 39.6	-16
	5.4nm,0.3s,baz=163,slow=19,SNR=1.2						
PATS	**Pohnpei**	**11.44**	**76**	Pn	**Pn**	**12 40 27.4**	**-2.2**
PMG	**Port Moresby**	**13.37**	**180**	LR	LR	12 45 24.8	
	comp=Z,86nm,19.4s,baz=318,slow=34						
FAKI	**Fak Fak**	**16.43**	**245**	Pn	**Pn**	**12 41 37.0**	**0.0**
FAKI				IAmb	IAmb	12 41 50.1	
	comp=Z,26nm,0.8s						
HNR	**Honiara**	**18.49**	**136**	LR	LR	12 48 54.6	
	comp=Z,69nm,18.8s,baz=258,slow=36						
MTN	**Manton Dam**	**23.14**	**223**	P	**P**	**12 42 51.4**	**-1.4**
MTN				IAmb	IAmb	12 43 00.2	
	comp=Z,12nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**24.75**	**49**	T	T	13 08 41.8	
	baz=233,slow=74,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**24.76**	**49**	T	T	13 08 53.8	
	baz=233						
H11N3	**WAKE ISLAND Hy**	**24.76**	**49**	T	T	13 08 42.6	
	baz=233,slow=74,SNR=3.4						
LUWI	**Luwuk**	**24.89**	**259**	P	**P**	**12 43 09.6**	**+0.1**
WB0	**Warramunga Arr**	**26.80**	**207**	P	**P**	**12 43 27.0**	**+0.4**
WR8	**Warramunga Arr**	**26.91**	**207**	P	**P**	**12 43 28.0**	**+0.4**
WB2	**Warramunga Arr**	**26.97**	**207**	P	**P**	**12 43 28.7**	**+0.6**
WRA	**Warramunga Arr**	**26.97**	**207**	P	**P**	**12 43 28.8**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=29,slow=10,SNR=16						
WRA				PcP	**PcP**	**12 46 50.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=22,slow=2.7,SNR=5.8						
WRA				LR	LR	12 54 35.1	
	comp=Z,67nm,19.6s,baz=360,slow=37						
	comp=Z,3.7nm,0.9s						
ASAR	**Alice Springs**	**30.44**	**205**	P	**P**	**12 43 59.9**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=25,slow=9.0,SNR=19						
ASAR				PcP	**PcP**	**12 46 59.6**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=29,slow=2.1,SNR=5.6						
ASAR				LR	LR	12 55 38.1	
	comp=Z,82nm,20.0s,baz=19,slow=35						
	comp=Z,1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.58**	**223**	P	**P**	**12 44 00.9**	**+0.6**
YULB	**Yu-li**	**31.52**	**310**	P	**P**	**12 44 09.9**	**+1.3**
DZM	**Mont Dzumac**	**32.10**	**145**	LR	LR	12 55 32.9	
	comp=Z,90nm,20.3s,baz=173,slow=33						
JNU	**Nakatsue**	**32.67**	**334**	P	**P**	**12 44 19.1**	**+0.5**
JNU	**Nakatsue**	**32.67**	**334**	P	**P**	**12 44 18.7**	**0.0**
	comp=Z,13nm,0.8s,baz=80,slow=9.0,SNR=7.6						
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**33.36**	**347**	P	**P**	**12 44 22.5**	**-2.1**
	comp=Z,2.0nm,0.9s,baz=170,slow=8.1,SNR=4.1						
MJAR				LR	LR	12 56 30.4	
	comp=Z,147nm,18.4s,baz=174,slow=34						
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**36.12**	**188**	LR	LR	12 59 15.9	
	comp=Z,65nm,19.4s,baz=22,slow=36						
KSRS	**Korea Array**	**37.62**	**335**	P	**P**	**12 45 00.3**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=154,slow=8.7,SNR=7.2						
KSRS				PcP	**PcP**	**12 47 19.7**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=160,slow=3.9,SNR=4.1						
	comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**42.16**	**344**	P	**P**	**12 45 38.5**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=148,slow=12,SNR=2.5						
	comp=Z,2.7nm,0.9s						
MORW	**Morawa**	**44.47**	**220**	P	**P**	**12 45 58.6**	**+0.8**
MORW				IAmb	IAmb	12 46 02.5	
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.23**	**291**		**P**	**12 46 36.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**49.23**	**291**	P	**P**	**12 46 37.2**	**+2.0**
	comp=Z,6.4nm,0.8s,baz=105,slow=6.8,SNR=43						
CMAR				PcP	**PcP**	**12 47 59.5**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=94,slow=2.4,SNR=1.6						
CMAR				LR	LR	13 04 24.2	
	comp=Z,18nm,21.3s,baz=295,slow=32						
	comp=Z,6.4nm,0.8s						
CHTO	**Chiang Mai**	**49.30**	**291**	P	**P**	**12 46 37.1**	**+1.4**
CHTO				IAmb	IAmb	12 46 38.3	
	comp=Z,4.8nm,0.9s						
URZ	**Urewera**	**50.42**	**149**	LR	LR	13 05 60.0	
	comp=Z,72nm,19.4s,baz=301,slow=34						
LZDM	**Lanzhou Array**	**51.06**	**314**	P	**P**	**12 46 47.8**	**-1.5**
	comp=Z,1.9nm,0.3s,baz=101,slow=13,SNR=1.4						
LZDM				LR	LR	13 07 39.4	
	comp=Z,80nm,21.9s,baz=130,slow=35						
	comp=Z,1.9nm,0.3s						
SHEM	**Shemya Is, Ala**	**53.37**	**20**	LR	LR	13 05 15.9	
	comp=Z,24nm,21.7s,baz=274,slow=31						
MA2	**Magadan**	**55.45**	**2**	LR	LR	13 12 16.2	
	comp=Z,20nm,18.7s,baz=150,slow=38						
ULN	**Ulaanbaatar**	**55.55**	**328**	P	**P**	**12 47 23.0**	**+1.1**
ULN				IAmb	IAmb	12 47 23.3	
	comp=Z,5.7nm,0.7s						
SONM	**Songino Array**	**55.88**	**328**	P	**P**	**12 47 24.8**	**+0.6**
	comp=Z,4.8nm,0.9s,baz=134,slow=8.2,SNR=14						
SONM				PcP	**PcP**	**12 48 23.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=141,slow=4.8,SNR=2.6						
	comp=Z,4.8nm,0.9s						
MKAR	**Makanchi Array**	**70.00**	**319**	P	**P**	**12 48 58.2**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=100,slow=7.2,SNR=16						
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**70.71**	**326**	P	**P**	**12 49 01.5**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=112,slow=6.1,SNR=10						
	comp=Z,2.1nm,0.6s						
KDAK	**Kodiak Island**	**71.07**	**29**	LR	LR	13 14 27.9	
	comp=Z,36nm,20.1s,baz=245,slow=31						
KURK	**Kurchatov**	**73.37**	**322**		**P**	**12 49 18.5**	**+0.3**
KURBB	**Kurchatov Arra**	**73.40**	**322**	P	**P**	**12 49 18.0**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=105,slow=5.3,SNR=29						
	comp=Z,2.0nm,0.3s						
NIL	**Nilore**	**74.37**	**304**	P	**P**	**12 49 23.7**	**-0.8**
NIL				IAmb	IAmb	12 49 26.3	
	comp=Z,9.5nm,0.8s						
ARSB	**Arslanbob**	**75.46**	**312**	P	**P**	**12 49 31.7**	**+0.9**
ARSB				IAmb	IAmb	12 49 32.1	
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**76.25**	**24**	P	**P**	**12 49 33.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=254,slow=5.9,SNR=12						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**78.82**	**323**	P	**P**	**12 49 49.3**	**0.0**
	comp=Z,7.2nm,0.8s,baz=111,slow=6.3,SNR=20						
	comp=Z,7.2nm,0.8s						
VNDA	**Vanda**	**81.88**	**177**	P	**P**	**12 50 06.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=351,slow=3.7,SNR=5.4						
	comp=Z,0.7nm,0.7s						
BBB	**Bella Bella**	**83.58**	**38**	LR	LR	13 21 14.6	
	comp=Z,32nm,19.6s,baz=244,slow=31						
AB31	**Akbulak array**	**85.14**	**319**		**P**	**12 50 22.5**	**-0.1**
AB31				IAmb	IAmb	12 50 23.4	
	comp=Z,3.5nm,0.9s						
ABKAR	**Akbulak array**	**85.14**	**319**		**P**	**12 50 21.3**	**-1.2**
ARTI	**Arti**	**85.97**	**326**	P	**P**	**12 50 24.2**	**-2.4**
	comp=Z,5.6nm,0.8s,baz=76,slow=4.2,SNR=5.8						
AKTO	**Aktyubinsk**	**86.36**	**320**	P	**P**	**12 50 25.9**	**-2.7**
	comp=Z,1.1nm,0.7s,baz=90,slow=4.0,SNR=4.4						
NEW	**Newport**	**90.81**	**42**	LR	LR	13 33 40.6	
	comp=Z,17nm,18.3s,baz=315,slow=37						
NVAR	**Mina Array Bea**	**91.06**	**52**	LR	LR	13 24 00.3	
	comp=Z,23nm,19.8s,baz=274,slow=30						
MAW	**Mawson**	**91.54**	**202**	LR	LR	13 29 35.1	
	comp=Z,79nm,18.1s,baz=204,slow=34						
PFO	**Pinyon Flats O**	**93.08**	**56**	LR	LR	13 27 34.6	
	comp=Z,20nm,18.3s,baz=30,slow=32						
QSPA	**South Pole Qui**	**93.96**	**180**	P	**P**	**12 51 06.0**	**+2.0**
	comp=Z,2.3nm,1.0s,baz=348,slow=2.2,SNR=9.2						
	comp=Z,2.3nm,1.0s						
PDAR	**Pinedale Array**	**96.96**	**46**	LR	LR	13 27 26.9	
	comp=Z,15nm,19.5s,baz=268,slow=31						
KVAR	**Kislovodsk Arr**	**97.55**	**315**	LR	LR	13 38 08.7	
	comp=Z,26nm,21.9s,slow=37						
TORD	**Torodi Ar. Bea**	**141.69**	**297**	PKhKP	PKPpre	12 57 14.1	
	comp=Z,0.4nm,0.7s,baz=106,slow=4.7,SNR=3.5						
TORD				PKP	**PKPdf**	**12 57 20.5**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=62,slow=3.3,SNR=2.2						
LPAZ	**La Paz**	**143.28**	**112**	PKP	PKPbc	12 57 20.9	+1.4
	comp=Z,1.6nm,1.0s,baz=291,slow=4.7,SNR=4.3						
SIV	**San Ignacio**	**149.83**	**115**	PKPbc	**PKPbc**	**12 57 37.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=259,slow=5.2,SNR=4.5						
DBIC	**Dimbokro**	**150.10**	**291**	PKPbc	**PKPbc**	**12 57 38.9**	**+0.6**
	comp=Z,9.8nm,0.7s,baz=68,slow=2.2,SNR=11						

NNC 10 12:39:51.6±0.8, 50°.96N×73°.73E, h32km±40km, mb3.8, mpv3.1, 5C-2D, Error ellipse: s-maj=22.0km s-min=5.9km az=25.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.19**	**215**	P	Pn	12 40 11.5	-0.4
	0.4nm,0.2s						
BRZS				S	Sn	12 40 27.2	+0.2
	64nm,0.8s						
BVA0	**Borovoye Array**	**2.92**	**316**	⇑Pg	Pb	12 40 46.1	+3.2
	5.7nm,0.7s,baz=131,slow=17,SNR=19						
BVA0				⇑Lg	Lg	12 41 22.0	
	14nm,0.7s,baz=124,slow=22,SNR=9.7						
KURBB	**Kurchatov Arra**	**3.06**	**94**	⇑Pg	Pb	12 40 47.8	+2.5
	9.9nm,0.6s						
KURBB				⇑Lg	Lg	12 41 29.0	
	137nm,0.7s						
KURK	**Kurchatov**	**3.11**	**93**	⇓Pg	Pb	12 40 48.3	+2.2
	2.3nm,0.8s						
KURK				⇑Lg	Lg	12 41 29.2	
	13nm,0.7s						
SEM	**Semipalatinsk**	**4.18**	**95**	Pg	Pb	12 41 09.5	+4.9
	5.1nm,0.2s						
SEM				Lg	Lg	12 42 06.5	
	39nm,0.6s						
MK31	**Makanchi Array**	**7.02**	**123**	⇓Lg	Lg	12 43 32.6	
	7.0nm,0.7s,baz=315,slow=27,SNR=8.1						
KST	**Kastek**	**8.07**	**168**	Pg	Pb	12 42 18.7	+8.2
	1.6nm,0.5s						
KST				Lg	Lg	12 44 04.8	
	19nm,0.8s						

**IDC 10 12:45:41.5±6.9, 19°.29S×176°.81W, h0km, mb3.3/2, mbtmp3.

MT12 IAML 12 49 40.6
comp=E,189nm,0.6s
MT08 Bocatoma Ro 2.06 131 *eP* **Pn 12 49 08.4 +0.4**
MT08 *eS* **Sb 12 49 36.1 -0.4**
AUSP Uspallata 2.11 94 *eP* **Pg 12 49 13.5 -0.1**
AUSP *eS* **Sg 12 49 40.2 -0.9**
GO04 Tololo Observa 2.13 26 *eP* **Pb 12 49 10.9 -1.0**
GO04 *eS* **Sb 12 49 37.7 -0.8**
GO04 IAML 12 49 46.1
comp=E,427nm,0.3s
RTLS Leoncito 2.21 83 *eP* **Pg 12 49 14.9 -0.6**
RTLS *eS* **Sg 12 49 43.5 -0.7**
RTLS IAML 12 49 46.9
comp=Z,147nm,0.9s
ASAL Salagasta 2.62 102 *eP* **Pg 12 49 22.7 -0.6**
ASAL *eS* **Sb 12 49 54.0 +1.6**
AAGR Agrelo 2.75 112 *eP* **Pb 12 49 23.9 +1.4**
AAGR *eS* **Sg 12 50 02.0 +0.5**
AROD Rodeo 2.82 48 *eP* **Pb 12 49 24.6 +0.9**
AROD *eS* **Sn 12 49 53.1 +0.4**
ACCO Cerro Coronel 2.83 59 *eP* **Pb 12 49 24.7 +0.7**
ACCO *eS* **Sb 12 49 58.5 -0.4**
ACDV Cuesta del Vie 3.04 52 *eP* **Pb 12 49 27.8 +0.4**
ACDV *eS* **Sb 12 50 04.5 -0.2**
AGUA GUANDACOL 3.90 49 *eP* **Pb 12 49 38.7 -3.5**

IDC 10 13:09:56.7±8.1, 1°.84S×122°.46E, h67km±81km, mb3.0/3, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=57.3km s-min=26.8km az=47.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.15**	**221**	P	Pn	13 10 56.6	-1.0
	8.9nm,0.3s,baz=24,slow=3.2,SNR=13						
KAPI				S	Sn	13 11 45.8	+0.8
	9.4nm,0.3s,baz=204,slow=22,SNR=6.0						
	26nm,0.5s						
WRA	**Warramunga Arr**	**21.41**	**148**	P	P	13 14 39.4	+0.1
	0.8nm,0.8s,baz=332,slow=9.8,SNR=8.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**24.36**	**154**	P	P	13 15 08.8	+0.1
	0.5nm,0.7s,baz=330,slow=8.7,SNR=8.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.90**	**329**	P	P	13 19 55.7	0.0
	0.3nm,0.6s,baz=130,slow=6.6,SNR=2.7						
	0.3nm,0.6s						

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*JMA **10** 13:22:24.3±0.1, 29°.3N±0°.4×130°.0E±0°.8, h48km±1km, MV3.4/16, NEAR AMAMI-OSHIMA ISLAND*
*IDC **10** 13:22:26.1±1.5, 29°.29N×129°.84E, h64km±15km, mb3.5/7, mbtmp3.7/10, MS3.3/6, Error ellipse: s-maj=27.7km s-min=9.2km az=103.0*
ISC 10 13:22:24.6±1.1, 29°.28N±0°.05×129°.99E±0°.10, h49km±11km, n24, σ1§08/26, mb3.9/7, MS3.1/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.56**	**350**	P	Pn	13 22 36.3	-0.3
JNN				*eS*	Sn	13 22 44.8	-0.3
JTAJ	**Takarajima**	**0.70**	**259**	P	Pn	13 22 38.6	+0.4
JAM	**Amami Oshima**	**0.93**	**201**	*eP*	Pn	13 22 41.6	+0.3
JAM				*eS*	Sn	13 22 53.6	0.0
JYAK	**Yakushimahirau**	**1.05**	**25**	P	Pn	13 22 42.6	-0.3
JYAK				*eS*	Sn	13 22 55.9	-0.7
JKC	**Kuchinoerabu**	**1.19**	**9**	P	Pn	13 22 44.6	-0.2
JKC				*eS*	Sn	13 22 59.1	-0.7
JAMN	**Amaminishikomi**	**1.26**	**215**	*i* P	Pn	13 22 46.0	+0.3
JAMN				S	Sn	13 23 01.6	0.0
JMTN	**Minamitane**	**1.36**	**35**	*eP*	Pn	13 22 47.4	+0.2
JTK	**Tokunoshima**	**1.75**	**212**	*eP*	Pn	13 22 53.0	+0.5
JOW	**Kunigami**	**2.87**	**212**	P	Pn	13 23 08.2	+0.2
	17nm,0.3s,baz=109,slow=22,SNR=6.3						
JOW				S	Sn	13 23 42.0	+0.8
	26nm,0.4s,baz=52,slow=27,SNR=2.1						
JOW	**Kunigami**	**2.87**	**212**	*eP*	Pn	13 23 08.9	+1.0
JNU	**Nakatsue**	**3.90**	**11**	P	Pn	13 23 25.1	+3.1
	8.1nm,0.3s,baz=192,slow=14,SNR=21						
JNU				S	Sn	13 24 08.6	+2.0
	19nm,0.9s,baz=247,slow=20,SNR=1.7						
KSRS	**Korea Array**	**8.33**	**349**	P	Pn	13 24 24.4	+1.7
	1.0nm,0.6s,baz=178,slow=14,SNR=7.4						
DAV	**Davao City (W)**	**22.48**	**192**	LR	LR	13 37 13.9	
	comp=Z,45nm,19.3s,baz=354,slow=40						
SONM	**Songino Array**	**25.97**	**322**	P	P	13 27 52.6	-0.1
	0.9nm,0.5s,baz=131,slow=7.9,SNR=3.0						
SONM				LR	LR	13 40 46.9	
	comp=Z,39nm,18.2s,baz=198,slow=42						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.28**	**256**	LR	LR	13 41 22.0	
	comp=Z,31nm,21.4s,baz=115,slow=38						
ZALV	**Zalesovo Beam**	**40.84**	**320**	P	P	13 30 00.7	-0.6
	0.4nm,0.4s,baz=125,slow=7.6,SNR=2.4						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.09**	**316**	P	P	13 31 07.0	+0.1
	0.8nm,0.6s,baz=67,slow=8.6,SNR=2.3						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**49.12**	**175**	P	P	13 31 07.5	0.0
	1.8nm,0.7s,baz=354,slow=8.1,SNR=22						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**52.78**	**175**	P	P	13 31 35.3	+0.4
	0.8nm,0.7s,baz=354,slow=8.0,SNR=28						
	0.8nm,0.7s						
ARTI	**Arti**	**56.10**	**321**	LR	LR	13 56 44.1	
	comp=Z,56nm,18.5s,baz=27,slow=37						
AKTO	**Aktyubinsk**	**56.84**	**313**	LR	LR	14 00 32.1	
	comp=Z,53nm,19.0s,baz=179,slow=40						
ILAR	**Eielson Array**	**61.02**	**29**	P	P	13 32 33.1	+0.4
	0.3nm,0.6s,baz=280,slow=7.9,SNR=4.8						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**70.98**	**330**	P	P	13 33 34.6	-2.1
	0.9nm,0.7s,baz=74,slow=4.4,SNR=1.8						
	0.9nm,0.7s						
BBB	**Bella Bella**	**74.18**	**39**	LR	LR	14 07 14.6	
	comp=Z,15nm,18.9s,baz=246,slow=36						

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*IDC **10** 13:37:44.1±0.8, 54°.72N×164°.71E, h0km, mb3.8/9, mbtmp3.8/10, ML2.5/1, MS2.7/1, Error ellipse: s-maj=26.8km s-min=18.1km az=158.0*
*KRSC **10** 13:37:45.3±0.9, 54°.69N×164°.71E, h41km±21km, Ml4.0*
*MOS **10** 13:37:47.1±0.7, 54°.72N×164°.79E, h43km, mb3.7/1, Error ellipse: s-maj=8.3km s-min=7.3km az=5.4*
ISC 10 13:37:48.8±0.7, 54°.74N±0°.06×164°.78E±0°.04, h35km, n78, σ1§12/79, mb3.8/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.83**	**55**	PN	Pn	13 38 02.4	-1.5
BKI				S	Sn	13 38 13.6	-1.3
BKI	**Bering**	**0.83**	**55**	*eP*	Pn	13 38 02.4	-1.5
BKI				*eS*	Sn	13 38 13.7	-1.3
MKZ	**Mys Kozlova**	**1.78**	**265**	PN	Pn	13 38 15.4	-1.6
MKZ				S	Sn	13 38 35.1	-3.3
MKZ	**Mys Kozlova**	**1.78**	**265**	*eP*	Pn	13 38 15.5	-1.6
MKZ				*eS*	Sn	13 38 35.1	-3.3
KBTR	**Krutoberegovo**	**1.85**	**324**	PN	Pn	13 38 15.9	-2.0
KBTR	**Krutoberegovo**	**1.85**	**324**	*eP*	Pn	13 38 16.0	-2.0
KBG	**Krutoberegovo**	**1.92**	**323**	*eS*	Sn	13 38 40.0	-1.9
TUMD	**Tumrok D**	**2.57**	**282**	PN	Pn	13 38 27.0	-0.8
TUMD				S	Sn	13 38 55.3	-2.6
TUMD	**Tumrok D**	**2.57**	**282**	*eP*	Pn	13 38 27.1	-0.8
TUMD				*eS*	Sn	13 38 55.3	-2.6
ZLN	**Zelenaya**	**2.60**	**301**	*eS*	Sn	13 38 60.0	+1.1
BZGR	**Bezymyannyi-Gr**	**2.62**	**299**	PN	Pn	13 38 28.7	0.0
BZGR	**Bezymyannyi-Gr**	**2.62**	**299**	*eP*	Pn	13 38 28.7	0.0
SMKR	**Semkarok**	**2.63**	**316**	PN	Pn	13 38 28.9	+0.1
SMKR	**Semkarok**	**2.63**	**316**	*eP*	Pn	13 38 28.9	+0.1
CIRR	**Tsirk**	**2.68**	**303**	*eS*	Sn	13 39 01.9	+1.1
BZMR	**Bezymyannaya**	**2.73**	**298**	PN	Pn	13 38 30.2	+0.1
BZMR	**Bezymyannaya**	**2.73**	**298**	*eP*	Pn	13 38 30.3	+0.1
BZWR	**Bezymyannyi-We**	**2.74**	**298**	PN	Pn	13 38 30.5	+0.2
BZWR	**Bezymyannyi-We**	**2.74**	**298**	*eP*	Pn	13 38 30.5	+0.2
KMNR	**Kamenistaya**	**2.79**	**293**	PN	Pn	13 38 31.6	+0.6
KMNR	**Kamenistaya**	**2.79**	**293**	*eP*	Pn	13 38 31.7	+0.6
KIRR	**Kirishev**	**2.81**	**297**	PN	Pn	13 38 30.6	-0.7
KIRR	**Kirishev**	**2.81**	**297**	*eP*	Pn	13 38 30.6	-0.7
KLY	**Klyuchi**	**2.83**	**306**	PN	Pn	13 38 29.4	-2.0
KLY	**Klyuchi**	**2.83**	**306**	*eP*	Pn	13 38 29.5	-2.0
KPT	**Kopyto**	**2.88**	**297**	PN	Pn	13 38 32.4	+0.2
KPT	**Kopyto**	**2.88**	**297**	*eP*	Pn	13 38 32.4	+0.2
KOZ	**Kozyrevsk**	**3.10**	**297**	PN	Pn	13 38 34.4	-0.7
KOZ	**Kozyrevsk**	**3.10**	**297**	*eP*	Pn	13 38 34.4	-0.7
SPN	**Mys Shipunski**	**3.26**	**242**	PN	Pn	13 38 36.1	-1.2
SPN	**Mys Shipunski**	**3.26**	**242**	*eP*	Pn	13 38 36.2	-1.2
SRDR	**Sredinnyy**	**3.28**	**301**	PN	Pn	13 38 38.4	+0.7
SRDR	**Sredinnyy**	**3.28**	**301**	*eP*	Pn	13 38 38.4	+0.7
ESO	**Esso**	**3.67**	**291**	PN	Pn	13 38 42.2	-0.8
ESO	**Esso**	**3.67**	**291**	*eP*	Pn	13 38 42.2	-0.8
SDLR	**Sedlovina**	**3.77**	**250**	PN	Pn	13 38 44.7	+0.2
SDLR	**Sedlovina**	**3.77**	**250**	*eP*	Pn	13 38 44.8	+0.2
SMAR	**Somma**	**3.83**	**250**	PN	Pn	13 38 44.9	-0.4
SMAR	**Somma**	**3.83**	**250**	*eP*	Pn	13 38 45.0	-0.4
KRER	**Koryakskii**	**3.84**	**250**	PN	Pn	13 38 45.9	+0.4
KRER	**Koryakskii**	**3.84**	**250**	*eP*	Pn	13 38 45.9	+0.4
AVH	**Avacha**	**3.86**	**250**	PN	Pn	13 38 45.7	+0.1
AVH	**Avacha**	**3.86**	**250**	*eP*	Pn	13 38 45.8	+0.1
KRX	**Arik**	**3.87**	**252**	PN	Pn	13 38 45.7	-0.1
KRX	**Arik**	**3.87**	**252**	*eP*	Pn	13 38 45.8	-0.1
KOK	**Koryaka**	**3.90**	**251**	PN	Pn	13 38 46.8	+0.5
KOK	**Koryaka**	**3.90**	**251**	*eP*	Pn	13 38 46.8	+0.5
DALK	**Dalny**	**3.96**	**247**	PN	Pn	13 38 46.5	-0.4
DALK	**Dalny**	**3.96**	**247**	*eP*	Pn	13 38 46.5	-0.4
PET	**Petropavlovsk**	**4.01**	**247**	*e*PN	Pn	13 38 48.1	+0.4
PET	**Petropavlovsk**	**4.01**	**247**	*eP*	Pn	13 38 47.6	-0.1
GNL	**Ganaly**	**4.15**	**258**	PN	Pn	13 38 50.1	+0.4
GNL	**Ganaly**	**4.15**	**258**	*eP*	Pn	13 38 50.2	+0.4
KRMR	**Karymshinskiy**	**4.38**	**247**	PN	Pn	13 38 52.9	+0.1
KRMR	**Karymshinskiy**	**4.38**	**247**	*eP*	Pn	13 38 52.9	+0.1
KRMR				*eS*	Sn	13 39 40.2	-2.4
PEA0B	**Petropavlovsk-**	**4.49**	**252**	PN	Pn	13 38 54.4	+0.1
PETK	**Petropavlovsk-**	**4.49**	**252**	Pn	Pn	13 38 54.0	-0.3
	1.3nm,0.3s,baz=68,slow=18,SNR=35						
PETK				Sn	Sn	13 39 45.0	-0.4
	1.3nm,0.3s,baz=52,slow=24,SNR=5.1						
	2.6nm,0.4s						
MTVR	**Mutnovka**	**4.53**	**243**	PN	Pn	13 38 54.7	-0.2
MTVR	**Mutnovka**	**4.53**	**243**	*eP*	Pn	13 38 54.8	-0.2
SHEM	**Shemya Is, Ala**	**5.89**	**106**	LR	LR	13 41 13.6	
	comp=Z,62nm,18.4s,baz=96,slow=35						
ILAR	**Eielson Array**	**25.67**	**48**	P	P	13 43 14.9	0.0
	1.1nm,0.9s,baz=264,slow=8.5,SNR=8.2						
	1.1nm,0.9s						
KSRS	**Korea Array**	**30.39**	**251**	P	P	13 43 57.8	+0.5
	0.7nm,0.7s,baz=44,slow=8.5,SNR=2.4						
	0.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.99**	**177**	T	T	14 23 10.3	
	baz=359,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**35.00**	**177**	T	T	14 23 06.0	
	baz=359,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**35.00**	**177**	T	T	14 23 06.3	
	baz=359,slow=76,SNR=61						
H11S1	**WAKE ISLAND Hy**	**36.20**	**177**	T	T	14 24 40.0	
	baz=359,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.21**	**177**	T	T	14 24 34.7	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**36.21**	**177**	T	T	14 24 39.8	
	baz=359						
KURK	**Kurchatov**	**49.19**	**303**	P	P	13 46 34.2	+1.2
KURBB	**Kurchatov Arra**	**49.29**	**303**	P	P	13 46 34.2	+0.5
	1.7nm,0.6s,baz=56,slow=8.0,SNR=17						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**49.91**	**297**	P	P	13 46 38.9	+0.3
	0.7nm,0.7s,baz=56,slow=7.4,SNR=7.6						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**51.50**	**310**	P	P	13 46 51.0	+0.6
	0.7nm,0.5s,baz=64,slow=6.8,SNR=5.0						
	0.7nm,0.5s						
HFS	**Hagfors**	**63.17**	**344**	P	P	13 48 12.6	0.0
	1.3nm,0.6s,baz=15,slow=6.2,SNR=4.3						
	1.3nm,0.6s						
TXAR	**Lajitas Array**	**67.46**	**71**	P	P	13 48 42.8	+1.8
	0.6nm,0.5s,baz=294,slow=5.2,SNR=13						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**78.81**	**209**	P	P	13 49 47.0	-0.8
	0.7nm,0.9s,baz=20,slow=6.0,SNR=4.9						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**78.81**	**209**	P	P	13 49 47.0	-0.8
ASAR	**Alice Springs**	**82.47**	**208**	P	P	13 50 08.6	+1.3
	0.9nm,0.9s,baz=16,slow=5.0,SNR=8.7						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**144.49**	**180**	PKP	PKPdf	13 57 19.8	0.0
	1.7nm,1.1s,baz=322,slow=1.0,SNR=9.4						

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*IDC **10** 13:41:08.1±1.1, 49°.83N×19°.07E, h0km, mbtmp3.4/6, ML2.6/5, Error ellipse: s-maj=15.7km s-min=8.6km az=148.0*
*DNK **10** 13:41:09.7±2.1, 49°.97N×17°.60E, h0km, ML3.3*
*MCSM **10** 13:41:11.1±0.4, 50°.N±8°.×1°.9E±°, h4km±5km, MLv3.2*
*IPEC **10** 13:41:11.0±0.1, 50°.22N×18°.70E, h1km, ML3.0/5, Error ellipse: s-maj=1.7km s-min=0.6km az=167.0*
*PRU **10** 13:41:12.1, 50°.24N×18°.61E, h0km*
ISC 10 13:41:08.8±0.6, 50°.31N±0°.03×18°.72E±0°.02, h0km, n58, σ1§58/93, 7C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.41**	**237**	*e*PG	Pb	13 41 19.0	+0.1
RAC				*e*SG	Sb	13 41 24.8	-0.8
OKC	**Ostrava-Krasne**	**0.60**	**219**	*e*PG	Pb	13 41 21.6	-0.6
OKC				*e*SG	Sg	13 41 28.8	+0.8
	comp=Z,372nm,0.8s						
OJC	**Ojcow**	**0.70**	**97**	*e*Pg	Pb	13 41 24.6	+0.7
OJC				*e*Sg	Sb	13 41 34.2	+0.3
OJC	**Ojcow**	**0.70**	**97**	P	Pb	13 41 24.8	+1.0
OJC				S	Sb	13 41 34.3	+0.3
STEB	**Steborice**	**0.72**	**239**	*e*PG	Pb	13 41 24.1	-0.1
STEB				*e*SG	Sg	13 41 32.8	+1.0
	comp=Z,543nm,0.7s						
MORC	**Moravsky Berou**	**0.93**	**236**	⇓P	Pb	13 41 27.7	-0.1
MORC				⇑S	Sg	13 41 39.1	+0.5
MORC	**Moravsky Berou**	**0.93**	**236**	*e*Pg	Pb	13 41 27.5	-0.3
	baz=59						
MORC				*e*Sg	Sg	13 41 38.1	-0.5
	305nm,0.8s,baz=59						
LOSC	**Losov**	**1.11**	**232**	*e*Pg	Pb	13 41 30.8	-0.1
	baz=54						
LOSC				*e*Sg	Sg	13 41 43.6	-0.8
	342nm,0.5s,baz=54						
LANS	**Liptovska Anna**	**1.25**	**157**	*e*PG	Pn	13 41 33.7	+0.1
LANS				*e*SG	Sb	13 41 50.8	+0.7
LANS				*e*LG	Lg	13 41 56.7	
KRLC	**Kraliky**	**1.27**	**260**	*e*PG	Pb	13 41 33.6	0.0
KRLC				*e*SG	Sg	13 41 49.4	-0.2
	comp=Z,218nm,0.7s						
NIE	**Niedzica**	**1.35**	**130**	*e*Pg	Pb	13 41 35.7	+0.7
NIE				*e*Sg	Sn	13 41 53.7	0.0
NIE				*e*Sg	Sb	13 41 54.2	+1.3
NIE	**Niedzica**	**1.35**	**130**	P	Pb	13 41 35.5	+0.4
DPC	**Dobruska-Polom**	**1.54**	**273**	*e*PG	Pg	13 41 38.9	+0.6
DPC				*e*SG	Sb	13 41 59.7	+1.4
	comp=Z,134nm,0.7s						
DPC	**Dobruska-Polom**	**1.54**	**273**	Pn	Pg	13 41 39.4	+1.1
DPC				S	Sb	13 41 59.6	+1.3
JAVC	**Velka Javorina**	**1.60**	**206**	*e*Pg	Pn	13 41 38.7	+0.3
	baz=26						
OSTC	**Ostas**	**1.62**	**280**	*e*PG	Pg	13 41 40.9	+1.0
OSTC				*e*SG	Sg	13 42 02.0	+1.1
KSP	**Ksiaz**	**1.64**	**290**	*e*Pg	Pg	13 41 42.4	+2.2
KSP				*e*Sg	Sg	13 42 04.4	+2.9
KSP	**Ksiaz**	**1.64**	**290**	Pn	Pg	13 41 41.3	+1.1
VRAC	**Vranov**	**1.70**	**235**	Pg	Pn	13 41 40.0	+0.2
	9.1nm,0.3s,baz=57,slow=15,SNR=40						
VRAC				Lg	Lg	13 42 01.9	
	22nm,0.3s,baz=145,slow=21,SNR=25						
VRAC	**Vranov**	**1.70**	**235**	⇑P	Pb	13 41 40.7	-0.3
VRAC				⇓S	Sn	13 42 02.1	-0.1
VRAC	**Vranov**	**1.70**	**235**	*e*Pn	Pb	13 41 40.9	-0.1
	baz=55						
VRAC				*e*Sg	Sn	13 42 02.3	0.0
	114nm,0.6s,baz=55						
CHVC	**Chvalec**	**1.73**	**280**	*e*PG	Pg	13 41 42.1	+0.2
STHS	**Stebnicka Huta**	**1.86**	**118**	*e*PG	Pg	13 41 44.9	+0.5
STHS				*e*SG	Sg	13 42 11.6	+3.1
STHS				*e*LG	Lg	13 42 22.6	
KRUC	**Moravsky**	**1.96**	**231**	*e*Pn	Pn	13 41 44.4	+1.1
	baz=51						
KRUC				*e*Sg	Sb	13 42 09.9	-0.4
	75nm,0.5s,baz=51						
MODS	**Modra-Piesok**	**2.15**	**207**	*e*PN	Pn	13 41 46.5	+0.5
MODS				*e*SN	Sb	13 42 16.8	+0.9
MODS				*e*LG	Lg	13 42 26.5	
KECS	**Kecovo**	**2.16**	**147**	*e*PN	Pn	13 41 46.3	+0.3
KECS				*e*SN	Sb	13 42 16.7	+0.7
KECS				*e*LG	Lg	13 42 22.0	
PSZ	**Piszkesteto**	**2.51**	**162**	⇑P	Pn	13 41 51.5	+0.6
KWP	**Kalwaria Pacla**	**2.66**	**103**	Pn	Pn	13 41 54.3	+1.4
PRU	**Pruhonice**	**2.71**	**265**	*e*PG	Pb	13 41 59.3	+1.2
PRU				*e*SG	Sb	13 42 33.7	+1.8
	comp=Z,30nm,0.4s						
CONA	**Conrad Observa**	**3.03**	**219**	*e*Pn	Pn	13 41 58.2	+0.1
	1.8nm,0.2s						
CONA				Sn	Sn	13 42 34.1	-1.0
	6.6nm,0.3s						
ZVC	**Zvikov**	**3.06**	**255**	*e*SG	Sg	13 42 46.3	-0.7
RONA	**Rosalia, Austr**	**3.06**	**212**	*e*Pn	Pn	13 41 59.0	+0.6
	5.4nm,0.4s						
RONA				*e*Sn	Sn	13 42 35.9	+0.2
	18nm,0.6s						
BRG	**Berggiesshubel**	**3.10**	**282**	Pg	Pg	13 42 09.5	+1.3
BRG				Sg	Sg	13 42 49.5	+1.2
BRG				Amp		13 42 56.0	
	comp=Z,24nm,0.4s						
CKRC	**Cesky Krumlov**	**3.23**	**244**	*e*SG	Sg	13 42 50.8	-1.9
	comp=Z,70nm,0.9s						
KHC	**Kasperske Hory**	**3.54**	**253**	*e*PN	Pn	13 42 06.0	+0.9
KHC				*e*PG	Pb	13 42 13.8	+1.5
KHC				*e*SG	Sg	13 43 00.9	-1.6
	comp=Z,58nm,0.6s						
KHC	**Kasperske Hory**	**3.54**	**253**	P	Pn	13 42 05.6	+0.5
GERES	**GERESS Array B**	**3.58**	**248**	Pn	Pn	13 42 05.9	+0.2
	comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=3.7						
GERES				Pg	Pb	13 42 14.5	+1.5
	comp=Z,0.3nm,0.3s,baz=73,slow=18,SNR=12						
GERES				Sn	Sn	13 42 48.0	-0.7
	comp=Z,0.2nm,0.3s,baz=73,slow=21,SNR=4.7						
GERES				Lg	Lg	13 43 00.9	
	comp=Z,1.2nm,0.3s,baz=62,slow=29,SNR=16						
	comp=Z,0.8nm,0.2s						
CLL	**Collm**	**3.76**	**288**	*e*Pg	Pg	13 42 24.0	+3.1
CLL				*e*Sg	Sg	13 43 10.0	+0.3
	comp=Z,29nm,0.6s						
MOA	**Molln**	**3.82**	**232**	*e*Pn	Pn	13 42 11.6	+2.7
	comp=Z,1.4nm,0.3s						
MOA				Sg	Sb	13 43 05.8	+1.8
	comp=Z,25nm,0.6s						
MORH	**Mrgy, Hungar**	**4.09**	**181**	⇑P	Pn	13 42 12.9	+0.3
MORH	**Mrgy, Hungar**	**4.09**	**181**	P	Pn	13 42 12.6	0.0
BIOA	**Bad Ischl, Aus**	**4.25**	**234**	*e*Pn	Pb	13 42 24.3	-0.1
	comp=Z,4.7nm,0.3s						
DRGR		**4.40**	**141**	⇓P	Pn	13 42 18.8	+1.9
MARR	**Marisel-Cluj**	**4.66**	**140**	⇓P	Pn	13 42 22.2	+1.6
BURAR	**Bucovina Array**	**5.05**	**120**	⇓P	Pn	13 42 27.0	+1.1
BZS	**Buzias**	**5.08**	**156**	⇑P	Pn	13 42 27.0	+0.8
SURR	**Surduc**	**5.09**	**152**	⇑P	Pn	13 42 27.2	+0.9
GZR	**Gura Zlata**	**5.62**	**149**	⇑P	Pn	13 42 34.9	+1.2
LUNU	**Lund**	**6.21**	**331**	*e*P	Pn	13 42 41.6	-0.1
LUNU				*e*S	Sn	13 43 51.2	-2.1
AKASG	**Malin Array Be**	**6.71**	**83**	Sn	Sn	13 44 01.7	-4.0
	comp=Z,1.7nm,0.3s,baz=261,slow=23,SNR=1.4						
AKASG				Lg	Lg	13 44 38.8	
	comp=Z,1.9nm,0.3s,baz=272,slow=27,SNR=5.2						
BJUU	**Bjuv**	**6.71**	**332**	*e*P	Pn	13 42 48.2	-0.4
BJUU				*e*S	Sn	13 44 00.3	-5.3
NACGM	**Naroch**	**6.73**	**44**	*e*P	Pn	13 42 51.2	+2.4
	comp=Z,11nm,0.5s,baz=230						
DEL	**Delary**	**6.82**	**337**	*i* P	Pn	13 42 52.1	+2.0
DEL				*i* S	Sn	13 44 06.1	-2.2
MLR	**Muntele Rosu**	**6.84**	**132**	Pn	Pn	13 42 43.9	-6.5
	comp=Z,0.2nm,0.3s,baz=315,slow=19,SNR=1.6						
	comp=Z,0.8nm,0.3s						
HFS	**Hagfors**	**10.26**	**346**	Pn	Pn	13 43 37.7	+0.6
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=1.9						
	comp=Z,2.2nm,0.9s						
NOA	**NORSAR Array B**	**11.55**	**341**	Pn	Pn	13 43 55.2	+0.3
	baz=155,slow=12,SNR=2.6						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**11.89**	**17**	Pn	Pn	13 43 58.7	-0.7
	comp=Z,0.3nm,0.3s,baz=198,slow=11,SNR=10						
FINES				Sn	Sn	13 46 04.9	-7.8
	comp=Z,0.5nm,0.3s,baz=192,slow=26,SNR=6.4						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**19.56**	**7**	Pn	P	13 45 37.2	-0.6
	comp=Z,1.9nm,0.9s,baz=185,slow=13,SNR=4.2						

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*UCR **10** 13:44:09.3±1.2, 14°.33N×87°.01W, h6km±240km, MW3.8*
*CATAC **10** 13:44:13.8±0.4, 13°.N±2°.×8°.8W±°, h158km±2km, M3.3/26, MLv3.3/26, Error ellipse: s-maj=4.7km

MAS3				S	Sn	13 45 16.3	-0.5
ESQI	Esquipulas	2.02	312	S	Sn	13 45 17.6	-0.3
NUBE	Las Nubes	2.05	290	*i* P	Pn	13 44 50.3	-0.5
NUBE	Las Nubes	2.05	290	P	Pn	13 44 50.4	-0.5
NUBE	Las Nubes	2.05	290	S	Sn	13 45 18.2	-0.4
FAME	Alcaldia de Sa	2.25	287	P	Pn	13 44 52.3	-0.8
FAME	Alcaldia de Sa	2.25	287	S	Sn	13 45 21.6	-0.9
LAPC	Finca la Perla	3.35	136	*e*P	Pn	13 45 07.0	+0.2
VRLE	La Escondida,	3.38	135	*e*P	Pn	13 45 09.9	+2.7
JTS	Las Juntas de	4.02	136	*e*P	Pn	13 45 15.7	+0.3

MOS ***10*** *14:16:37.5±0.9, 6°.94S×129°.48E, h143km, mb5.0/24, Error ellipse: s-maj=14.9km s-min=6.1km az=119.2*
BJI ***10*** *14:16:38.7, 7°.09S×129°.58E, h166km, mB5.1/13, mb4.6/48*
DJA ***10*** *14:16:40.7±0.1, 7°S±2°×13°0E±°, h164km±2km, M4.8/75, mb5.0/75, mB5.3/37, MLv5.6/13, Mw(mB)4.7/37*
NEIC ***10*** *14:16:40.0±1.8, 6°.86S±0°.07×129°.52E±0°.06, h144km±6km, mb5.0/50, Error ellipse: s-maj=10.2km s-min=9.0km az=211.0*
IDC ***10*** *14:16:41.0±0.7, 6°.79S×129°.58E, h153km±5km, mb4.3/20, mbtmp4.8/24, MS3.6/9, Error ellipse: s-maj=13.9km s-min=9.4km az=71.0*
GCMT ***10*** *14:16:43.3±0.4, 6°.80S±0°.03×129°.65E±0°.03, h182km±4km, MW4.9/77, Moment Tensor Solution. s10,c10; s77,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.21±.13; $M_{\theta\theta}$-0.96±.14; $M_{\phi\phi}$-0.24±.16; $M_{r\theta}$-0.08±.10; $M_{\theta\phi}$-1.48±.12; $M_{r\phi}$2.09±.12; Best double couple: $M_0$2.77900×10^{16} NP1:ϕ_s264.00000°, δ37.00000°, λ154.00000°. NP2: ϕ_s15.00000°, δ74.00000°, λ56.00000°. Principal axes: T 2.9290, Plg49.0000°, Azm248.0000°; N -0.3000, Plg33.0000°, Azm26.0000°; P -2.6290, Plg22.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 14:16:40.4±0.3, 6°.93S±0°.03×129°.57E±0°.04, h155km±3km, h155km:pP-P,n371,σ1°.49/403, mb4.8/82, 19C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**121**		**Pn**	**14 17 17.6**	**+1.6**
SAUI				Sn	**Sn**	14 17 42.5	-0.8
SAUI	**Saumlaki**	**2.01**	**121**	P	**Pn**	**14 17 18.2**	**+2.2**
SAUI	**Saumlaki**	**2.01**	**121**	P	**Pn**	**14 17 17.6**	**+1.6**
SAUI				S	**Sn**	**14 17 43.7**	**+0.4**
BNDI	**Bandanaira**	**2.42**	**8**	P	**Pn**	**14 17 23.1**	**+2.3**
BNDI	**Bandanaira**	**2.42**	**8**	P	**Pn**	**14 17 22.6**	**+1.8**
BNDI				S	**Sn**	**14 17 53.8**	**+1.8**
AAI	**Ambon**	**3.50**	**337**	P	**Pn**	**14 17 35.9**	**+1.5**
MSAI	**Masohi**	**3.62**	**350**	P	**Pn**	**14 17 38.0**	**+2.1**
NLAI	**Namlea**	**4.42**	**326**	P	**Pn**	**14 17 48.5**	**+2.2**
FAKI	**Fak Fak**	**4.80**	**34**		**Pn**	**14 17 49.1**	**-2.2**
FAKI	**Fak Fak**	**4.80**	**34**	P	**Pn**	**14 17 49.1**	**-2.2**
DRS	**Darwin Rock St**	**5.62**	**167**	P	**Pn**	**14 18 02.5**	**+0.3**
DRS	**Darwin Rock St**	**5.62**	**167**	S	**Sn**	**14 19 04.7**	**-1.4**
SOEI	**Soe**	**5.95**	**241**		**Pn**	**14 18 07.2**	**+0.5**
SOEI	**Soe**	**5.95**	**241**	P	**Pn**	**14 18 07.7**	**+1.0**
SOEI	**Soe**	**5.95**	**241**	S	**Sn**	**14 19 13.6**	**-0.5**
SOEI	**Soe**	**5.95**	**241**	P	**Pn**	**14 18 07.5**	**+0.8**
SANI	**Sanana**	**6.02**	**323**	P	**Pn**	**14 18 09.6**	**+2.1**
SANI	**Sanana**	**6.02**	**323**	P	**Pn**	**14 18 09.4**	**+1.9**
	1.2nm3μm315nm,1.4s						
MTN	**Manton Dam**	**6.07**	**165**	P	**Pn**	**14 18 08.0**	**-0.2**
	comp=Z,1μm,0.6s						
MTN				S	**Sn**	**14 19 13.8**	**-3.2**
MTN	**Manton Dam**	**6.07**	**165**		**Pn**	**14 18 08.0**	**-0.2**
SWI	**Sorong**	**6.26**	**16**	P	**Pn**	**14 18 09.4**	**-1.3**
	comp=Z,3.6nmcomp=Z,5μmcomp=Z,82nm,0.6s						
SWI	**Sorong**	**6.26**	**16**	P	**Pn**	**14 18 09.4**	**-1.3**
RKPI	**Ransiki, Papua**	**7.08**	**41**	P	**Pn**	**14 18 20.3**	**-1.3**
BBSI	**Bau Bau**	**7.10**	**281**	P	**Pn**	**14 18 25.0**	**+3.1**
	comp=Z,0.7nmcomp=Z,185nm,0.9s						
MMRI	**Maumere**	**7.46**	**256**		**Pn**	**14 18 27.5**	**+0.9**
MMRI	**Maumere**	**7.46**	**256**	P	**Pn**	**14 18 27.8**	**+1.1**
MMRI	**Maumere**	**7.46**	**256**	P	**Pn**	**14 18 27.6**	**+0.9**
	comp=Z,1.2nmcomp=Z,3μmcomp=Z,236nm,0.8s						
TNTI	**Ternate**	**7.96**	**344**		**Pn**	**14 18 34.0**	**+0.7**
TNTI	**Ternate**	**7.96**	**344**	P	**Pn**	**14 18 34.7**	**+1.3**
TNTI	**Ternate**	**7.96**	**344**	P	**Pn**	**14 18 34.1**	**+0.7**
	comp=Z,0.5nmcomp=Z,160nm,0.8s						
EDFI	**Ende, Flores**	**8.01**	**256**	P	**Pn**	**14 18 34.9**	**+0.8**
	comp=Z,1μmcomp=Z,170nm,1.0s						
SRPI	**Serui, Papua**	**8.34**	**53**	P	**Pn**	**14 18 37.4**	**-1.0**
	comp=Z,2μmcomp=Z,155nm,0.8s						
BAKI	**Biak**	**8.66**	**49**	P	**Pn**	**14 18 43.3**	**+0.6**
KNRA	**Kununurra**	**8.73**	**185**	P	**Pn**	**14 18 42.3**	**-1.2**
	comp=Z,318nm,0.5s						
KNRA	**Kununurra**	**8.73**	**185**		**Pn**	**14 18 42.5**	**-1.1**
LUWI	**Luwuk**	**8.95**	**311**		**Pn**	**14 18 47.3**	**+0.7**
LUWI	**Luwuk**	**8.95**	**311**	P	**Pn**	**14 18 47.9**	**+1.3**
LUWI	**Luwuk**	**8.95**	**311**	P	**Pn**	**14 18 48.3**	**+1.7**
	comp=Z,3μmcomp=Z,214nm,1.0s						
BSSI	**Bau Bau, Buton**	**9.05**	**274**	P	**Pn**	**14 18 49.1**	**+1.2**
	comp=Z,63nm,0.7s						
KMSI	**Cibinong**	**9.31**	**323**	P	**Pn**	**14 18 52.4**	**+1.1**
	comp=Z,3μmcomp=Z,372nm,1.1s						
BASI	**Baing, Sumba**	**9.47**	**249**	P	**Pn**	**14 18 53.7**	**+0.3**
BKSI	**Bulukumba**	**9.53**	**279**	P	**Pn**	**14 18 57.2**	**+3.0**
	comp=Z,58nm,1.0s						
WSI	**Waingapu**	**9.57**	**253**	P	**Pn**	**14 18 53.2**	**-1.5**
WAMI	**Wamena**	**9.59**	**72**	P	**Pn**	**14 18 57.6**	**+2.5**
BNSI	**Bone**	**9.74**	**284**	P	**Pn**	**14 18 57.2**	**+0.1**
	comp=Z,849nmcomp=Z,81nm,0.9s						
APSI	**Ampana**	**9.91**	**307**	P	**Pn**	**14 19 01.9**	**+2.7**
	comp=Z,1μmcomp=Z,92nm,0.9s						
KAPI	**Kappang**	**9.95**	**281**	P	**Pn**	**14 19 00.5**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=84,slow=3.0,SNR=10						
KAPI	**Kappang**	**9.95**	**281**	P	**Pn**	**14 19 01.8**	**+2.0**
SPSI	**Sidrap Palu**	**10.19**	**286**	P	**Pn**	**14 19 04.4**	**+1.4**
	comp=Z,47nm,0.9s						
SMPI	**Sarmi**	**10.35**	**62**	P	**Pn**	**14 19 03.6**	**-1.5**
	comp=Z,107nm,1.0s						
WBSI	**Waikabubak, Su**	**10.42**	**254**	P	**Pn**	**14 19 04.6**	**-1.5**
	comp=Z,2μmcomp=Z,256nm,0.9s						
MRSI	**Marisa**	**10.59**	**314**	P	**Pn**	**14 19 09.8**	**+1.6**
	comp=Z,2μmcomp=Z,298nm,0.9s						
SGSI	**Sangihe**	**11.29**	**339**	P	**Pn**	**14 19 17.0**	**-0.5**
GENI	**Genyem**	**11.41**	**68**	P	**Pn**	**14 19 21.4**	**+2.4**
GENI	**Genyem**	**11.41**	**68**	S	**Sn**	**14 21 28.3**	**+3.0**
GENI	**Genyem**	**11.41**	**68**	P	**Pn**	**14 19 16.8**	**-2.2**
	comp=Z,2μmcomp=Z,180nm,0.6s						
TABU	**Tabubil**	**11.71**	**83**	P	**Pn**	**14 19 26.5**	**+3.6**
FITZ	**Fitzroy Crossi**	**11.74**	**199**	P	**Pn**	**14 19 20.4**	**-2.9**
FITZ	**Fitzroy Crossi**	**11.74**	**199**		**Pn**	**14 19 21.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**11.74**	**199**	P	**Pn**	**14 19 21.7**	**-1.6**
	comp=Z,38nm,0.5s,baz=23,slow=9.3,SNR=172						
FITZ				S	Sn	14 21 23.4	-10
	comp=Z,415nm,0.9s,baz=88,slow=19,SNR=10						
FITZ	**Fitzroy Crossi**	**11.74**	**199**	P	**Pn**	**14 19 21.8**	**-1.5**
PLAI	**Plampang**	**11.83**	**260**	P	**Pn**	**14 19 23.4**	**-1.1**
PLAI	**Plampang**	**11.83**	**260**	P	**Pn**	**14 19 22.4**	**-2.1**
TOLI2	**Tolitoli**	**11.86**	**312**		**Pn**	**14 19 25.5**	**+0.6**
TOLI2	**Tolitoli**	**11.86**	**312**	P	**Pn**	**14 19 26.6**	**+1.7**
JAY	**Jayapura**	**11.93**	**69**	P	**Pn**	**14 19 24.5**	**-1.4**
	comp=Z,36nm,0.8s,baz=224,slow=10.0,SNR=20						
JAY				S	**Sn**	**14 21 35.7**	**-2.3**
	comp=Z,87nm,1.0s,baz=254,slow=22,SNR=4.7						
JAY				LR	LR	14 25 48.5	
	comp=Z,85nm,18.3s,baz=292,slow=46						
JAY	**Jayapura**	**11.93**	**69**	P	**Pn**	**14 19 25.3**	**-0.6**
	comp=Z,36nm,0.7s						
TWSI	**Taliwang, Sumb**	**12.70**	**261**	P	**Pn**	**14 19 33.3**	**-2.4**
	comp=Z,1μmcomp=Z,69nm,0.9s						
WB0	**Warramunga Arr**	**13.59**	**160**		**Pn**	**14 19 44.0**	**-3.1**
WRAB	**Tennant Creek**	**13.73**	**161**		**Pn**	**14 19 45.9**	**-3.0**
WRAB	**Tennant Creek**	**13.73**	**161**	*de*P	**Pn**	**14 19 45.9**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,272nm,1.3s						
WRA	**Warramunga Arr**	**13.74**	**161**		**Pn**	**14 19 45.5**	**-3.4**
WRA	**Warramunga Arr**	**13.74**	**161**	P	**Pn**	**14 19 46.2**	**-2.8**
	comp=Z,86nm,0.8s,baz=348,slow=13,SNR=220						
WRA				S	**Sn**	**14 22 12.6**	**-8.7**
	comp=Z,55nm,0.5s,baz=331,slow=22,SNR=12						
WRA				LR	LR	14 26 14.6	
	comp=Z,462nm,18.0s,baz=0.5,slow=41						
WRA	**Warramunga Arr**	**13.74**	**161**	P	**Pn**	**14 19 45.5**	**-3.4**
WR8	**Warramunga Arr**	**13.80**	**160**		**Pn**	**14 19 46.6**	**-3.1**
DAV	**Davao City (W)**	**14.47**	**344**	LR	LR	14 25 50.5	
	comp=Z,183nm,18.9s,baz=92,slow=38						
COEN	**Coen**	**15.09**	**119**	P	**Pn**	**14 20 03.8**	**-2.1**
	comp=Z,377nm,1.1s						
COEN	**Coen**	**15.09**	**119**		**Pn**	**14 20 04.2**	**-1.6**
ABJI	**Asem Bagus**	**15.23**	**266**	P	**Pn**	**14 20 06.4**	**-1.2**
	comp=Z,96nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.35**	**263**		**Pn**	**14 20 08.2**	**-1.0**
JAGI	**Jajag, Banyuwa**	**15.35**	**263**	P	**Pn**	**14 20 09.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**15.35**	**263**	P	**Pn**	**14 20 09.2**	**0.0**
	comp=Z,2μmcomp=Z,118nm,0.6s						
KMMI	**Kalianget**	**15.49**	**269**	P	**P**	**14 20 13.1**	**+1.3**
	comp=Z,126nm,0.8s						
MYLDM	**Lahad Datu**	**16.33**	**317**	P	**P**	**14 20 21.3**	**+0.1**
MYLDM				IAmb	IAmb	14 20 36.6	
	comp=Z,54nm,1.0s						
MYLDM	**Lahad Datu**	**16.33**	**317**	P	**P**	**14 20 23.8**	**+2.6**
QIS	**Mount Isa**	**16.68**	**145**	P	**P**	**14 20 24.5**	**-0.5**
	comp=Z,150nm,0.9s						
QIS	**Mount Isa**	**16.68**	**145**	P	**P**	**14 20 24.7**	**-0.3**
MBWA	**Marble Bar**	**17.05**	**213**	P	**P**	**14 20 28.5**	**-0.5**
	comp=Z,130nm,1.1s						
MBWA	**Marble Bar**	**17.05**	**213**	P	**P**	**14 20 29.2**	**+0.1**
MBWA				IAmb	IAmb	14 20 31.5	
	comp=Z,91nm,0.8s						
MBWA	**Marble Bar**	**17.05**	**213**	P	**P**	**14 20 28.7**	**-0.3**
MBWA				S	S	14 23 26.1	-13
MBWA	**Marble Bar**	**17.05**	**213**	P	**Pn**	**14 20 29.6**	**-0.1**
AS31	**Alice Springs**	**17.15**	**166**	P	**P**	**14 20 30.1**	**-0.1**
	comp=Z,90nm,0.6s						
AS31	**Alice Springs**	**17.15**	**166**	P	**P**	**14 20 30.3**	**+0.1**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**14 20 30.9**	**-0.1**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**14 20 31.6**	**+0.6**
	comp=Z,137nm,0.6s,baz=344,slow=10,SNR=1307						
ASAR				S	**S**	**14 23 38.2**	**-3.1**
	comp=Z,16nm,0.6s,baz=321,slow=18,SNR=5.8						
ASAR				LR	LR	14 27 51.4	
	comp=Z,234nm,19.6s,baz=342,slow=39						
ASAR				ScP	**ScP**	**14 28 25.7**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=6.2,slow=1.3,SNR=2.4						
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**14 20 30.9**	**-0.1**
PSAC2	**Pilbara Seismi**	**17.29**	**212**	P	**P**	**14 20 31.9**	**+0.2**
	comp=Z,275nm,0.8s						
PSAC1	**Pilbara Seismi**	**17.31**	**212**	P	**P**	**14 20 31.8**	**-0.2**
	comp=Z,330nm,0.7s						
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**P**	**14 20 32.4**	**+0.4**
	comp=Z,352nm,0.7s						
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**Pn**	**14 20 32.9**	**-0.2**
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**Pn**	**14 20 33.8**	**+0.8**
PSAB3	**Pilbara Seismi**	**17.34**	**212**	P	**P**	**14 20 32.6**	**+0.4**
	comp=Z,384nm,0.7s						
PMG	**Port Moresby**	**17.59**	**99**	P	**Pn**	**14 20 36.6**	**+0.4**
PMG	**Port Moresby**	**17.59**	**99**	P	**Pn**	**14 20 36.2**	**0.0**
	comp=Z,158nm,1.1s,baz=298,slow=8.0,SNR=33						
PMG				S	**S**	**14 23 43.1**	**-6.9**
	comp=Z,24nm,0.7s,baz=290,slow=18,SNR=7.5						
PMG				LR	LR	14 28 44.3	
	comp=Z,238nm,18.3s,baz=260,slow=41						
PMG	**Port Moresby**	**17.59**	**99**	P	**Pn**	**14 20 37.9**	**+1.7**
PMG	**Port Moresby**	**17.59**	**99**	P	**Pn**	**14 20 38.2**	**+2.0**
PMG	**Port Moresby**	**17.59**	**99**	P	**Pn**	**14 20 36.6**	**+0.4**
PMG				pmax	pmax		
	comp=Z,220nm,1.2s						
WRKA	**Warakurna**	**18.05**	**184**	P	**P**	**14 20 40.9**	**+0.9**
	comp=Z,50nm,0.8s						
MTSU	**Mount Surprise**	**18.18**	**129**	P	**P**	**14 20 42.3**	**+0.7**
	comp=Z,99nm,0.6s						
MTSU	**Mount Surprise**	**18.18**	**129**	P	**Pn**	**14 20 43.3**	**0.0**
MANU	**Manus Island**	**18.39**	**76**		**Pn**	**14 20 46.8**	**+1.0**
MANU				IAmb	IAmb	14 20 47.9	
	comp=Z,80nm,0.8s						
WOJI	**Wonogiri, Jawa**	**18.51**	**266**	P	**P**	**14 20 43.0**	**-2.1**
	comp=Z,106nm,0.7s						
KKM	**Kota Kinabalu**	**18.54**	**314**	P	**Pn**	**14 20 47.4**	**-0.2**
UGM	**Wanagama**	**18.91**	**266**	P	**P**	**14 20 47.3**	**-2.2**
UGM				IAmb	IAmb	14 20 57.1	
	comp=Z,43nm,0.6s						
SMRI	**Semarang**	**18.99**	**268**	P	**P**	**14 20 51.2**	**+0.9**
SBUM	**Sibu**	**19.66**	**298**	P	**P**	**14 20 57.6**	**0.0**
SBUM	**Sibu**	**19.66**	**298**	P	**Pn**	**14 21 00.1**	**-0.6**
KPJI	**Karang Pucung**	**20.48**	**268**	P	**P**	**14 21 05.3**	**-1.1**
	comp=Z,85nm,0.6s						
TV1H	**Townsville Har**	**20.75**	**128**	P	**P**	**14 21 10.9**	**+1.7**
CTAO	**Charters Tower**	**20.81**	**131**	P	**P**	**14 21 11.2**	**+1.4**
CTAO				IAmb	IAmb	14 21 19.1	
	comp=Z,41nm,0.9s						
CTAO	**Charters Tower**	**20.81**	**131**	P	**P**	**14 21 11.3**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,41nm,0.9s						
KSM	**Kuching**	**20.96**	**293**	P	**P**	**14 21 13.6**	**+2.1**
GIRL	**Giralia**	**21.50**	**222**	P	**P**	**14 21 18.7**	**+1.5**
	comp=Z,92nm,1.1s						
GIRL	**Giralia**	**21.50**	**222**	P	**P**	**14 21 17.7**	**+0.5**
GIRL				IAmb	IAmb	14 21 20.9	
	comp=Z,76nm,0.9s						
BBJI	**Bungbulang**	**21.75**	**267**	P	**P**	**14 21 18.6**	**-1.4**
LEM	**Lembang**	**21.79**	**269**	P	**P**	**14 21 19.8**	**-0.7**
	comp=Z,56nm,0.6s,baz=115,slow=3.4,SNR=14						
	comp=Z,56nm,0.6s						
LEM	**Lembang**	**21.79**	**269**	P	**P**	**14 21 19.6**	**-1.0**
	comp=Z,82nm,0.7s						
MEEK	**Meekatharra**	**22.20**	**207**	P	**P**	**14 21 25.5**	**+1.1**
TPI	**Tanjungpandan**	**22.22**	**280**	P	**P**	**14 21 24.9**	**+0.2**
	comp=Z,846nmcomp=Z,78nm,1.1s						
DBJI	**Dramaga**	**22.66**	**270**	P	**P**	**14 21 27.9**	**-1.0**
	comp=Z,68nm,0.5s						
SKJI	**Sukabumi**	**22.84**	**268**	P	**P**	**14 21 29.5**	**-1.0**
INKA	**Innaminka**	**23.25**	**154**	P	**P**	**14 21 35.8**	**+1.6**
INKA				IAmb	IAmb	14 21 37.9	
	comp=Z,88nm,1.0s						
CGJI	**Cibinong**	**23.71**	**269**	P	**P**	**14 21 36.0**	**-2.5**
	comp=Z,1μmcomp=Z,159nm,0.8s						
FORT	**Forrest**	**23.77**	**183**	P	**P**	**14 21 39.3**	**+0.5**
FORT				IAmb	IAmb	14 21 52.3	
	comp=Z,27nm,0.8s						
QLP	**Quilpie**	**24.02**	**146**	P	**P**	**14 21 42.8**	**+1.7**
MORW	**Morawa**	**25.45**	**208**	P	**P**	**14 21 54.8**	**+0.7**
MORW				IAmb	IAmb	14 21 58.2	
	comp=Z,28nm,0.7s						
MORW	**Morawa**	**25.45**	**208**	P	**P**	**14 21 55.2**	**+1.1**
DSRI	**Dabo**	**25.73**	**283**	P	**P**	**14 21 58.0**	**+1.1**
	comp=Z,40nm,1.0s						
BBOO	**Buckleboo**	**26.45**	**168**	P	**P**	**14 22 03.3**	**+0.3**
BBOO				IAmb	IAmb	14 22 08.0	
	comp=Z,23nm,0.7s						
BBOO	**Buckleboo**	**26.45**	**168**	P	**P**	**14 22 04.7**	**+1.7**
BLDU	**Ballidu**	**26.47**	**205**	P	**P**	**14 22 04.2**	**+0.9**
MNAI	**Manna**	**26.60**	**274**	P	**P**	**14 22 04.8**	**+0.1**
	comp=Z,169nm,1.1s						
MYKOM	**Kota Tinggi**	**27.09**	**288**	P	**P**	**14 22 08.3**	**-0.6**
MYKOM				IAmb	IAmb	14 22 13.9	
	comp=Z,30nm,1.0s						
MYKOM	**Kota Tinggi**	**27.09**	**288**	P	**P**	**14 22 11.3**	**+2.3**
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**14 22 10.4**	**+0.3**
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**14 22 11.4**	**+1.3**
	comp=Z,16nm,0.5s,baz=325,slow=9.1,SNR=36						
STKA				LR	LR	14 33 59.4	
	comp=Z,146nm,18.6s,baz=18,slow=38						
	comp=Z,16nm,0.5s						
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**14 22 11.3**	**+1.2**
STKA	**Stephens Creek**	**27.24**	**157**	*i* P	**P**	**14 22 10.6**	**+0.5**
MUN	**Mundaring**	**27.86**	**205**	P	**P**	**14 22 17.1**	**+1.4**
CMSA	**Cobar Meteorol**	**28.75**	**150**	P	**P**	**14 22 25.0**	**+1.5**
PPI	**Padang Panjang**	**29.80**	**281**	P	**P**	**14 22 32.0**	**-1.0**
	comp=Z,64nm,1.1s						
TATA	**Tatamba Isabel**	**30.00**	**95**	P	**P**	**14 22 36.1**	**+1.3**
SAVO	**Savo Central**	**30.02**	**96**	P	**P**	**14 22 35.3**	**+0.2**
HNR	**Honiara**	**30.17**	**97**	P	**P**	**14 22 38.7**	**+2.4**
HNR	**Honiara**	**30.17**	**97**	P	**P**	**14 22 37.0**	**+0.7**
IPM	**Ipoh**	**30.66**	**291**	P	**P**	**14 22 42.4**	**+1.7**
ALEG	**Aligegeo Malai**	**30.89**	**95**	P	**P**	**14 22 42.3**	**-0.3**
ARMA	**Armidale**	**31.22**	**141**	P	**P**	**14 22 46.6**	**+1.1**
ARMA				IAmb	IAmb	14 22 48.6	
	comp=Z,17nm,0.9s						
ARMA	**Armidale**	**31.22**	**141**	P	**P**	**14 22 48.2**	**+2.7**
TPUB	**Ta-pu**	**31.29**	**344**	P	**P**	**14 22 44.3**	**-1.8**
TPUB				IAmb	IAmb	14 22 51.6	
	comp=Z,18nm,1.0s						
KULM	**Kulim**	**31.31**	**292**	P	**P**	**14 22 45.2**	**-1.2**
KULM				IAmb	IAmb	14 22 49.4	
	comp=Z,13nm,0.8s						
KULM	**Kulim**	**31.31**	**292**	P	**P**	**14 22 48.3**	**+2.0**
RPSI	**Rantau Prapat**	**32.05**	**286**	P	**P**	**14 22 51.9**	**-0.9**
PSI	**Prapat**	**32.08**	**287**	P	**P**	**14 22 52.1**	**-1.1**
PSI	**Prapat**	**32.08**	**287**	P	**P**	**14 22 51.9**	**-1.3**
PSI				pmax	pmax		
	comp=Z,56nm,0.7s						
MGBR	**Mount Gambier**	**32.24**	**164**	P	**P**	**14 22 54.0**	**-0.2**
MGBR				IAmb	IAmb	14 22 58.4	
	comp=Z,26nm,0.7s						
GSI	**Gunungsitoli**	**32.96**	**283**	P	**P**	**14 22 58.6**	**-2.2**
GSI	**Gunungsitoli**	**32.96**	**283**	P	**P**	**14 23 00.8**	**0.0**
GSI	**Gunungsitoli**	**32.96**	**283**	P	**P**	**14 23 00.0**	**-0.8**
	comp=Z,105nm,0.9s						
KCSI	**Kotacane, Aceh**	**33.39**	**287**	P	**P**	**14 23 03.8**	**-0.8**
CAN	**Canberra**	**33.42**	**150**	P	**P**	**14 23 05.3**	**+0.7**
CAN				IAmb	IAmb	14 23 08.1	
	comp=Z,48nm,1.0s						
CAN	**Canberra**	**33.42**	**150**	P	**P**	**14 23 07.2**	**+2.6**
CAN	**Canberra**	**33.42**	**150**	P	**P**	**14 23 05.3**	**+0.7**
CAN				pmax	pmax		
	comp=Z,49nm,1.0s						
CAN	**Canberra**	**33.42**	**150**	P	**P**	**14 23 07.3**	**+2.8**
TOO	**Toolangi**	**33.76**	**157**	P	**P**	**14 23 07.5**	**0.0**
TOO	**Toolangi**	**33.76**	**157**	P	**P**	**14 23 07.5**	**0.0**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LHMI	**Lhok Sumawe**	**34.73**	**290**	P	**P**	**14 23 17.6**	**+1.6**
MLSI	**Meulaboh, Aceh**	**34.92**	**288**	P	**P**	**14 23 15.9**	**-1.8**
SLVN	**Son La**	**37.73**	**319**	P	**P**	**14 23 43.4**	**+1.9**
SANVU	**Saraoutou**	**37.83**	**106**	P	**P**	**14 23 42.0**	**-0.3**
SANVU	**Saraoutou**	**37.83**	**106**	P	**P**	**14 23 43.8**	**+1.5**
SANVU	**Saraoutou**	**37.83**	**106**	P	**P**	**14 23 44.1**	**+1.8**
NOUC	**Port Laguerre**	**38.49**	**117**	P	**P**	**14 23 49.2**	**+1.3**
NOUC				pP	**pP**	**14 24 18.4**	**-2.6**
DZM	**Mont Dzumac**	**38.61**	**117**	P	**P**	**14 23 50.8**	**+1.9**
DZM	**Mont Dzumac**	**38.61**	**117**	P	**P**	**14 23 50.5**	**+1.6**
DZM				sP	**sP**	**14 24 38.8**	**-0.1**
ONTNC	**Ouen Toro**	**38.69**	**117**	P	**P**	**14 23 50.0**	**+0.5**
ONTNC				IAmb	IAmb	14 23 51.7	
	comp=Z,39nm,0.9s						
YATNC	**Mamie plateau,**	**39.00**	**117**	P	**P**	**14 23 54.5**	**+2.4**
CM31	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**14 23 54.0**	**-1.1**
CM31				IAmb	IAmb	14 23 56.4	
	comp=Z,21nm,0.9s						
CM31	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**14 23 55.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**14 23 54.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**14 23 55.5**	**+0.4**
	comp=Z,14nm,0.7s,baz=141,slow=6.2,SNR=94						
CMAR				PcP	**PcP**	**14 26 01.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=126,slow=3.6,SNR=4.2						
CMAR				ScP	**ScP**	**14 29 34.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=183,slow=2.9,SNR=5.8						
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.36**	**310**	*ce*P	**P**	**14 23 55.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,16nm,0.7s						
CHTO	**Chiang Mai**	**39.57**	**311**	P	**P**	**14 23 56.4**	**-0.5**
CHTO				IAmb	IAmb	14 23 58.1	
	comp=Z,31nm,0.7s						
CHTO	**Chiang Mai**	**39.57**	**311**	P	**P**	**14 23 57.0**	**+0.1**
CHTO	**Chiang Mai**	**39.57**	**311**	P	**P**	**14 23 56.4**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,31nm,0.7s						

TLY	Talaya	62.48	342	*i* P		P	14 26 46.7 -0.6
TLY				pmax	pmax		
comp=Z,3.0nm,0.9s							
WMQ	Urumqi	63.10	327	*e*P		P	14 26 53.4 +1.8
PETK	Petropavlovsk-	64.39	18	P		P	14 26 59.9 +0.1
comp=Z,5.6nm,1.0s,baz=207,slow=1.7,SNR=4.5							
comp=Z,5.6nm,1.0s							
ZSN	Zaisan	66.99	329	*e*P		P	14 27 16.9 +0.2
ZSN	Zaisan	66.99	329	*e*P		P	14 27 16.8 +0.2
PDGK	Podgornoye	67.48	323	P		P	14 27 19.6 -0.3
UZB	Uzynbulak	67.66	322	*e*P		P	14 27 21.1 0.0
UZB	Uzynbulak	67.66	322	*e*P		P	14 27 21.1 0.0
KSH	Kashi	67.68	318	P		P	14 27 21.8 +0.6
KSH				PcP		PcP	14 27 49.0 +2.0
KSH				pmax	pmax		
comp=Z,6.0nm,1.0s							
MK31	Makanchi Array	67.93	327	*ce*P		P	14 27 22.5 0.0
MKAR	Makanchi Array	67.93	327	P		P	14 27 22.3 -0.2
MKAR	Makanchi Array	67.93	327	P		P	14 27 22.9 +0.4
comp=Z,12nm,0.4s,baz=118,slow=8.3,SNR=157							
MKAR				S		S	14 36 05.4 -3.5
comp=Z,0.1nm,0.4s,baz=125,slow=9.0,SNR=1.9							
comp=Z,12nm,0.4s							
MKAR	Makanchi Array	67.93	327	*ce*P		P	14 27 23.0 +0.4
MKAR				pmax	pmax		
comp=Z,13nm,0.4s							
SATY	Saty	67.99	322	*e*P		P	14 27 23.1 0.0
SATY	Saty	67.99	322	*e*P		P	14 27 23.1 0.0
MAKZ	Makanchi	68.11	327	P		P	14 27 24.1 +0.4
CCD	Concordia, Ant	68.22	182	P		P	14 27 26.2 +1.8
CCD				PcP		PcP	14 27 50.8 +1.8
YAK	Yakutsk	68.76	0	*e*P		P	14 27 25.5 -1.7
YAK				*e*			14 27 47.7
YAK				*e**PP		pP	14 28 01.6 -1.8
YAK				*e*PPP		PPP	14 31 39.3
YAK				*e*S		S	14 36 17.2 -0.7
YAK				*e*			14 37 07.9
YAK				*e*SS		SS	14 40 45.9 -0.3
YAK				*e*SSS		SSS	14 43 55.2
YAK				pmax	pmax		
comp=Z,28nm,1.0s							
YAK				pmax	pmax		
comp=N,10.0nm,2.0s							
YAK				pmax	pmax		
comp=E,11nm,2.0s							
YAK				smax	smax		
comp=E,332nm,5.1s							
YAK				smax	smax		
comp=N,217nm,3.8s							
TNSS	Tian-Shan	68.88	321	*e*P		P	14 27 28.8 -0.2
TNSS	Tian-Shan	68.88	321	*e*P		P	14 27 28.7 -0.2
MDOK	Medeo	68.88	322	*e*P		P	14 27 28.6 -0.1
MDOK	Medeo	68.88	322	*e*P		P	14 27 28.5 -0.1
AAK	Ala-Archa	70.21	320	*ce*P		P	14 27 38.1 +1.2
AAK				pmax	pmax		
comp=Z,11nm,1.7s							
SGDS	Sogindy	70.54	321	*e*P		P	14 27 38.8 +0.1
ARSB	Arslanbob	70.55	318			P	14 27 38.5 -0.4
ARSB				IAmb	IAmb		14 27 41.0
comp=Z,16nm,0.6s							
ARSB	Arslanbob	70.55	318	P		P	14 27 38.5 -0.4
ARSB				pmax	pmax		
comp=Z,16nm,0.6s							
GAR	Garm	71.31	315			P	14 27 43.5 -0.1
GAR				IAmb	IAmb		14 27 46.3
comp=Z,17nm,0.6s							
ZAA0	Zalesovo Array	71.33	334	P		P	14 27 42.7 -0.4
ZALV	Zalesovo Beam	71.33	334	P		P	14 27 42.6 -0.5
comp=Z,9.0nm,0.7s,baz=119,slow=5.0,SNR=36							
ZALV				S		S	14 36 45.9 -2.4
comp=Z,0.8nm,0.6s,baz=150,slow=12,SNR=2.3							
ZALV				LR	LR		15 02 32.0
comp=Z,28nm,18.3s,baz=174,slow=39							
comp=Z,9.0nm,0.7s							
BTLS	Baital	71.71	322	*e*P		P	14 27 45.8 +0.1
BTLS	Baital	71.71	322	*e*P		P	14 27 45.7 +0.1
SEY	Seymchan	71.82	11	*i* P		P	14 27 45.6 -0.3
SEY				pmax	pmax		
comp=Z,6.0nm,0.8s							
CHGR	Chuyangaron	71.99	314			P	14 27 47.1 -0.4
CHGR				IAmb	IAmb		14 27 49.2
comp=Z,20nm,0.7s							
CHGR	Chuyangaron	71.99	314	P		P	14 27 47.1 -0.4
CHGR				pmax	pmax		
comp=Z,20nm,0.7s							
SIMJ	Simiganj	72.09	314	P		P	14 27 48.3 0.0
KURBB	Kurchatov Arra	72.23	329	P		P	14 27 48.9 +0.3
comp=Z,9.0nm,0.6s,baz=130,slow=4.8,SNR=46							
KURBB				pP		pP	14 28 25.6 +0.6
comp=Z,1.8nm,0.4s,baz=138,slow=5.6,SNR=2.6							
KURBB				S		S	14 36 58.3 -0.3
comp=Z,0.2nm,0.2s,baz=133,slow=7.7,SNR=1.1							
comp=Z,9.0nm,0.6s							
KURBB	Kurchatov Arra	72.23	329	P		P	14 27 48.1 -0.5
KURK	Kurchatov	72.24	329			P	14 27 48.2 -0.4
KURK				IAmb	IAmb		14 27 49.7
comp=Z,19nm,1.1s							
KURK	Kurchatov	72.24	329	*ce*P		P	14 27 48.8 +0.2
KURK				pmax	pmax		
comp=Z,25nm,1.3s							
KURK	Kurchatov	72.24	329	P		P	14 27 49.0 +0.4
VNDA	Vanda	72.57	173			P	14 27 51.4 +1.2
VNDA	Vanda	72.57	173	P		P	14 27 51.6 +1.4
comp=Z,2.1nm,0.5s,baz=321,slow=6.5,SNR=18							
comp=Z,2.1nm,0.5s							
VNDA	Vanda	72.57	173	P		P	14 27 51.4 +1.2
VNDA				pmax	pmax		
comp=Z,4.0nm,1.0s							
VNDA	Vanda	72.57	173	P		P	14 27 51.3 +1.1
IUG	luzhnay	72.89	318	*e*P		P	14 27 53.2 +0.3
comp=Z,13nm,1.0s							
IUG	luzhnay	72.89	318	*e*P		P	14 27 53.1 +0.3
IUG				pmax	pmax		
comp=Z,13nm,1.0s							
KK31	Karatay Array	73.01	319	*i* P		P	14 27 53.2 -0.2
KKAR	Karatay Array	73.01	319			P	14 27 53.4 0.0
KKAR	Karatay Array	73.01	319	P		P	14 27 53.4 0.0
CHM	Chimkent	73.25	318	*e*P		P	14 27 54.1 -0.8
comp=Z,8.2nm,0.4s							
CHM	Chimkent	73.25	318	*e*P		P	14 27 54.9 0.0
CHM				pmax	pmax		
comp=Z,8.0nm,0.4s							
BRLS	Borolday	73.42	319	*e*P		P	14 27 56.1 +0.2
BRLS	Borolday	73.42	319	*e*P		P	14 27 56.0 +0.2
NGCH	Negor - Chabah	73.79	299	P		P	14 27 59.9 +1.6
JLN	Jalan Bani Buh	74.49	295	P		P	14 28 02.8 +0.4
MAW	Mawson	74.86	201	P		P	14 28 05.3 +1.7
comp=Z,9.3nm,0.6s,baz=76,slow=5.3,SNR=40							
comp=Z,9.3nm,0.6s							
BRZS	Berezniki	75.02	326	*e*P		P	14 28 05.2 +0.3
BRZS	Berezniki	75.02	326	*e*P		P	14 28 05.2 +0.3
WSAR	Wadi Sarin	75.45	296	P		P	14 28 09.2 +1.2
MHTO	MHTO	75.51	294	P		P	14 28 08.5 +0.2
DQM	DQM	75.67	293	P		P	14 28 10.0 +0.8
JMDO	Jabal Madar	75.71	295	P		P	14 28 10.3 +0.9
SMDO	Samad	75.93	296	P		P	14 28 11.8 +1.0
BIDO	Bidbid	75.97	296	P		P	14 28 12.2 +1.3
HOQ	Hoqain	76.71	296	P		P	14 28 16.6 +1.6
SHAO	Shalim	77.03	290	P		P	14 28 17.6 +0.7
ARQ	Araqi	77.36	296	P		P	14 28 20.0 +1.3
SOHO	SOHO	77.53	296	P		P	14 28 21.6 +2.0
DMTO	DMTO	77.60	290	P		P	14 28 20.3 +0.2
BVA0	Borovoye Array	77.78	328	*i* P		P	14 28 20.0 -0.4
BVAR	Borovoye Array	77.78	328	P		P	14 28 20.4 0.0
comp=Z,11nm,0.9s,baz=123,slow=5.5,SNR=34							
comp=Z,11nm,0.9s							
BORK	Borovoye	77.83	328	⇑*i* P		P	14 28 19.8 -0.8
BORK				pmax	pmax		
comp=Z,12nm,0.9s							
BORK	Borovoye	77.83	328	P		P	14 28 20.8 +0.2
BORK				sP		pwP	14 29 04.5 +1.8
UOSS	Minazif	78.01	297	P		P	14 28 23.8 +1.6
HATD	Hatta, Dubai	78.05	297	P		P	14 28 25.0 +2.5
SNR=5.2							
ASHO	Ashiyiah	78.08	297	P		P	14 28 23.7 +1.0
SNR=6.2							
MASF	Masafi	78.15	298	P		P	14 28 24.6 +1.5
SNR=9.8							
BANOM	Banah	78.16	298	P		P	14 28 24.3 +1.2
RBK	Rabkut	78.25	289	P		P	14 28 24.2 +0.4
SHME	Shamm	78.32	298	P		P	14 28 25.0 +1.0
SNR=9.0							
TIXI	Tiksi	78.42	360			P	14 28 22.4 -1.1
TIXI	Tiksi	78.42	360	*ce*P		P	14 28 22.3 -1.2
TIXI				pmax	pmax		
comp=Z,3.0nm,0.6s							
UMZA	Um Al Zommool	78.44	295	P		P	14 28 24.9 +0.3
DOK	Doka	78.54	291	P		P	14 28 25.1 -0.2
ASUD	Al Ashush, Dub	78.71	297	P		P	14 28 27.7 +1.5
WHFO	Wadi Hawf	78.74	290	P		P	14 28 26.1 -0.3
SNR=9.3							
ABTO	Aybut	79.08	289	P		P	14 28 28.5 +0.2
BILL	Bilibino	79.15	13	*i* P		P	14 28 26.1 -1.4
BILL				pmax	pmax		
comp=Z,6.0nm,1.5s							
MZR	Muzera	80.02	295	P		P	14 28 34.0 +0.8
VOI	Vohitsoka	80.77	249	P		P	14 28 38.3 +0.9
AB31	Akbulak array	82.19	322	*i* P		P	14 28 43.8 -0.3
ABKAR	Akbulak array	82.19	322			P	14 28 44.0 -0.1
SHMA	Al-Shehemyia	82.83	297	P		P	14 28 49.8 +1.9
QSPA	South Pole Qui	83.04	180			P	14 28 50.0 +1.5
QSPA	South Pole Qui	83.04	180	P		P	14 28 50.8 +2.4
comp=Z,5.4nm,0.7s,baz=289,slow=0.7,SNR=54							
comp=Z,5.4nm,0.7s							
SYO	Syowa Base	83.57	201⇓	*e*P		P	14 28 51.1 +0.2
SYO	Syowa Base	83.57	201⇑	*e*PcP		PcP	14 28 54.8 0.0
AKTO	Aktyubinsk	83.76	322	P		P	14 28 51.9 -0.3
ARTI	Arti	85.50	328			P	14 28 59.9 -0.9
ARTI	Arti	85.50	328	*c i* P		P	14 29 00.4 -0.4
ARTI				*PP		pP	14 29 34.5 -4.0
ARTI							14 32 15.7
ARTI				S		SKSac	14 39 10.3 -1.0
ARTI				pmax	pmax		
comp=Z,20nm,0.7s							
RAYN	Ar Rayn	87.33	294	P		P	14 29 11.5 +1.0
RAYN	Ar Rayn	87.33	294	P		P	14 29 11.0 +0.5
AKT	Akhty	88.46	312	*e*P		P	14 29 16.2 +0.6
AKT				pmax	pmax		
comp=Z,14nm,0.7s							
GNI	Garni	90.48	310	P		P	14 29 30.3 +5.2
BELG	Belogornoye	90.54	323	*i* P		P	14 29 24.5 -0.3
BELG				pmax	pmax		
comp=Z,2.0nm,1.0s							
NVL	N'lazarevskaya	92.29	197	*e*P		P	14 29 25.8 -6.8
NVL				*e*			14 33 12.1
NVL				*e*S		SKSac	14 39 48.0 -3.1
NVL				*e*			14 40 21.2
NVL				*e*SS		SS	14 46 34.6 -0.9
NVL				*e*SSS		SSS	14 50 14.6
NVL				pmax	pmax		
comp=Z,10.0nm,0.9s							
NVL				smax	smax		
comp=N,476nm,23.1s							
KBZ	Khabaz	92.34	314	P		P	14 29 32.8 -0.5
comp=N,1.9nm,0.7s,baz=98,slow=3.5,SNR=5.3							
comp=N,1.9nm,0.7s							
KIV	Kislovodsk	92.52	314	*e*P		P	14 29 33.4 -0.9
KIV				pmax	pmax		
comp=Z,8.0nm,1.0s							
ILAR	Eielson Array	93.47	25	P		P	14 29 36.5 -1.6
comp=Z,0.8nm,0.8s,baz=247,slow=4.7,SNR=13							
comp=Z,0.8nm,0.8s							
TROLL	Troll, Antarti	94.12	194	⇑P		P	14 29 41.7 +0.5
comp=Z,212nm,0.8s							
BELA	Belgrano 2	94.86	183	IAmb	IAmb		14 29 45.3
comp=Z,3.8nm,0.7s							
SNAA	Sanae	95.63	194	⇑P		P	14 29 48.7 +0.7
comp=Z,44nm,0.7s							
SNAA	Sanae	95.63	194	P		P	14 29 49.3 +1.3
comp=Z,2.5nm,0.9s,baz=118,slow=4.4,SNR=8.2							
comp=Z,2.5nm,0.9s							
SNAA	Sanae	95.63	194	*ce*P		P	14 29 48.0 -0.1
SNAA				pmax	pmax		
comp=Z,4.0nm,1.1s							
VNA2	Neumayer--Watz	97.20	193	⇑P		Pdif	14 29 56.4 +1.2
comp=Z,1.6nm,0.6s,baz=121,slow=4.1							
MMAI	Mount Meron Ar	97.22	302	P		P	14 29 56.0 0.0
comp=Z,0.7nm,0.4s,baz=132,slow=2.1,SNR=1.9							
comp=Z,0.7nm,0.4s							
OBN	Obninsk	97.35	325⇑	*e*P		P	14 29 54.4 -1.6
OBN				*e**PP		pP	14 30 33.0 -1.3
OBN				*e*			14 33 59.2
OBN				pmax	pmax		
comp=Z,5.0nm,0.8s							
VNA3	Neumayer Olymp	97.46	192	⇑P		P	14 29 53.8 -2.5
comp=Z,1.3nm,0.8s							
VNA1	Neumayer--Stat	97.60	193	⇑P		Pdif	14 29 57.1 +0.3
comp=Z,3.2nm,0.9s							
APA	Apatity	98.72	337	*e*P		Pdif	14 30 04.3 +2.4
APA				pmax	pmax		
comp=Z,8.0nm,1.3s							
APA				MLR	MLR		
comp=Z,479nm,4.7s							
BRTR	Keskin Array B	98.94	309	P		P	14 30 03.3 -0.4
comp=Z,0.4nm,0.3s,baz=126,slow=7.3,SNR=2.7							
comp=Z,0.4nm,0.3s							
ARCES	ARCESS Array B	101.37	340	P		Pdif	14 30 12.8 -0.8
comp=Z,2.6nm,0.8s,baz=63,slow=6.0,SNR=5.0							
MNK	Minsk	102.39	324	*i* P		Pdif	14 30 17.8 -0.7
MNK				*i*			14 34 32.3
MNK				*i* PPP		PPP	14 36 43.1
MNK				*i* S		SKSac	14 40 42.9 -0.4
MNK				*i* *SS		Sdif	14 41 52.8 +3.9
MNK				*i* SS		SS	14 48 53.8 -4.9
MNK				*i* SSS		SSS	14 52 55.0
MNK				pmax	pmax		
comp=E,13nm,0.8s							
MNK				pmax	pmax		
comp=N,9.0nm,0.9s							
MNK				pmax	pmax		
comp=Z,8.0nm,0.6s							
MNK				MLR	MLR		
comp=Z,46nm,14.0s							
MNK				MLR	MLR		
comp=E,109nm,19.0s							
MNK				MLR	MLR		
comp=N,74nm,20.0s							
FINES	FINESS Array B	102.50	331	P		Pdif	14 30 17.1 -1.7
comp=N,0.9nm,0.7s,baz=57,slow=5.1,SNR=1.8							
FINES				PP		PP	14 34 33.3 -0.2
comp=N,1.2nm,0.6s,baz=29,slow=4.4,SNR=4.5							
FINES				PKiKP		PKiKP	14 34 39.6 +0.3
comp=N,1.2nm,0.6s,baz=5.2,slow=1.5,SNR=2.1							
NVAR	Mina Array Bea	111.59	51	PKiKP		PKiKP	14 34 58.2 +0.9
comp=N,0.2nm,0.3s,baz=316,slow=3.8,SNR=1.7							
GERES	GERESS Array B	112.09	320	PKiKP		PKiKP	14 34 57.7 0.0
comp=N,1.0nm,0.6s,baz=93,slow=2.0,SNR=5.3							
PDAR	Pinedale Array	117.15	45	PKP		PKiKP	14 35 08.5 +0.7
comp=N,0.8nm,0.6s,baz=207,slow=1.0,SNR=7.9							
EKA	Eskdalemuir Ar	118.90	331	PKP		PKPdf	14 35 10.3 -0.1
comp=N,0.7nm,0.4s,baz=25,slow=3.3,SNR=4.4							
ANMO	Albuquerque	121.61	53	*c i* PKiKP		PKiKP	14 35 17.2 +0.5
ANMO				pmax	pmax		
comp=Z,1.0nm,0.8s							
TXAR	Lajitas Array	125.26	59	PKP		PKiKP	14 35 24.1 +0.1
comp=Z,0.6nm,0.4s,baz=225,slow=0.8,SNR=10							
TORD	Torodi Ar. Bea	128.38	281	PKP		PKiKP	14 35 30.6 +0.2
comp=Z,2.6nm,0.7s,baz=55,slow=3.0,SNR=18							
TORD				SKPbc	SKPbc		14 38 34.5
comp=Z,1.1nm,0.9s,baz=78,slow=5.4,SNR=3.9							
TORD				SKP			14 38 52.1
comp=Z,0.5nm,0.4s,baz=78,slow=3.9,SNR=6.3							
SCHQ	Schefferville	130.45	12	PKP		PKPdf	14 35 32.4 -0.2
comp=Z,32nm,1.0s,baz=5.7,slow=4.0,SNR=1.3							
SCHQ				SKPbc		SKPab	14 38 40.5 -1.3
comp=Z,33nm,0.8s,baz=90,slow=6.9,SNR=1.9							
DBIC	Dimbokro	134.76	273	PKP		PKPdf	14 35 42.3 +0.4
comp=Z,3.5nm,0.6s,baz=114,slow=4.2,SNR=5.3							
DBIC				SKPbc		SKPbc	14 38 57.6 -0.3
comp=Z,5.4nm,0.8s,baz=109,slow=7.8,SNR=4.5							
TKL	Tuckaleechee C	138.16	42	PKP		PKPdf	14 35 48.5 +0.9
comp=Z,5.0nm,0.7s,baz=148,slow=7.2,SNR=5.5							
CPUP	Villa Florida	146.26	169	PKPdf		PKPab	14 36 04.3 -0.2
CPUP	Villa Florida	146.26	169	PKPbc		PKPab	14 36 04.8 +0.3
comp=Z,3.4nm,0.9s,baz=58,slow=2.8,SNR=18							
CPUP				PP		PP	14 39 27.7 +2.3
comp=Z,1.9nm,0.9s,baz=3.4,slow=5.6,SNR=6.8							
CPUP	Villa Florida	146.26	169	PKP2		PKPab	14 36 04.3 -0.2
NNA	Nana	147.70	125	PKPbc		PKPbc	14 36 08.5 +0.5
comp=Z,3.7nm,0.3s,baz=144,slow=2.5,SNR=1.4							
ATAH	Atahualpa	148.80	116	PKPbc		PKPbc	14 36 11.7 +0.4
comp=Z,3.1nm,0.6s,baz=252,slow=3.2,SNR=4.9							
LPAZ	La Paz	151.03	143	PKPbc		PKiKP	14 36 18.5 +1.1
comp=Z,2.8nm,0.4s,baz=14,slow=4.2,SNR=3.9							

AUST 10 14:28:36.6±0.9, 18°S±8°×12°0E±°, h10km, mb4.0/3, ML2.1/4, Error ellipse: s-maj=17.2km s-min=8.9km az=177.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	Eighty Mile Be	1.59	131	P	Pb	14 29 05.7	-0.4
CAAN				S	Sn	14 29 25.7	+0.2
MBWA	Marble Bar	2.97	189	P	Pn	14 29 23.1	-0.7
PSA00	Pilbara Seismi	3.37	186	P	Pn	14 29 28.9	-0.4
PSA00				S	Sn	14 30 06.6	-2.7
FITZ	Fitzroy Crossi	5.13	90	P	Pn	14 29 52.9	-0.6
comp=Z,0.0nmcomp=Z,2.8nm,1.1s							
GIRL	Giralia	7.16	231	P	Pn	14 30 22.0	+0.7
comp=Z,50nm,1.3s,comp=Z,0.1nm							
MEEK	Meekatharra	8.52	190	P	Pn	14 30 39.8	-0.3
comp=Z,19nm,2.3s,comp=Z,0.1nm							

*CATAC **10** 14:32:33.8±0.3, 13°N±2°×8°1W±°, h12km±2km, M4.7/22, mB5.0/1, mb5.0/1, MLv4.5/22, Mw(mB)4.4/1, Error ellipse: s-maj=4.0km s-min=3.4km az=39.4, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.22; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$0.87; $M_{r\theta}$-0.26; $M_{\theta\phi}$1.95; $M_{\phi r}$-0.20; Fault plane solution: $M_0$2.12381×10^{15} NP1:φs169.14208°, δ82.44099°, λ177.40030°. NP2:φs259.48429°, δ87.42290°, λ7.56671°. Principal axes: T 2.2397, Plg7.1699°, Azm124.5356°; N -0.2547, Plg82.0089°, Azm278.1846°; P -1.9850, Plg3.5101°, Azm234.0935°; confirmed*

*IDC **10** 14:32:34.8±1.2, 13°17N±81°19W, h0km, mb3.8/5, mbtmp3.8/6, ML2.8/3, MS3.2/15 Error ellipse: s-maj=28.2km s-min=27.0km az=10.0*

*RSNC **10** 14:32:34.3±0.0, 13°N±2°×8°1W±°, h0km±2km, M3.8, mB5.2, mb4.3, ML3.8, Mw(mB)4.6*

*UCR **10** 14:32:35.9±1.3, 13°13N×80°90W, h29km±28km, MW4.6*

ISC 10 14:32:34.6±1.2, 13°23N±0°04×81°00W±0°03, h10km±8km, n104, σ2s00/119, mb3.7/4, MS3.3/13, 4C-5D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.38	292	⇑P	Pg	14 32 41.5	-0.6
PRVC				S	Sg	14 32 46.3	-0.9
PRVC	Isla de Provid	0.38	292	P	Pg	14 32 41.5	-0.6
PRVC				S	Sg	14 32 45.4	-1.8
SAIC	Isla e San And	0.98	225	P	Pg	14 32 52.7	-0.8
SAIC				S	Sb	14 33 06.9	+0.3
SERC	Banco Serrana,	1.22	31	P	Pg	14 32 58.0	-0.1
SERC				S	Sn	14 33 16.4	+2.1
CORNA	Casa Canada	2.25	242	*e*P	Pn	14 33 11.1	-0.9
CORNA				*e*S	Sn	14 33 39.1	-0.8
BILN	Bilwi Airport	2.44	290	⇓P	Pn	14 33 13.3	-1.3
BILN				S	Sn	14 33 43.8	-0.8
BILN	Bilwi Airport	2.44	290	*e*P	Pn	14 33 13.2	-1.3
SIUN	Universidad Ur	3.70	278	⇑P	Pn	14 33 30.4	-1.5
TRT2	Tortugero	3.77	225	⇓P	Pn	14 33 31.9	-0.9
TRT2	Tortugero	3.77	225	S	Sn	14 34 13.5	-3.8
TRT2	Tortugero	3.77	225	*e*P	Pn	14 33 31.4	-1.5
VERH	Veragua Rainfo	3.92	213	⇓*i*P	Pn	14 33 34.3	-0.6
VERH				*e*S	Sn	14 34 18.5	-2.6
RGM0	Gandoca	3.94	204	S	Sn	14 34 20.6	-1.0
LCOCO	El Coco	4.00	219	*e*P	Pn	14 33 35.2	-0.9
COVE	Coope Vega, Sa	4.16	233	P	Pn	14 33 37.6	-0.6
ABRB	Las Abras (San	4.16	220	⇑*i*P	Pn	14 33 38.2	-0.3
CVTR	Volcan Turrial	4.18	221	*e*P	Pn	14 33 38.1	-0.8
VTR0	Volcan Turrial	4.18	220	*e*P	Pn	14 33 38.5	-0.4
CVTV	Tajo	4.19	220	*e*P	Pn	14 33 37.9	-1.0
CVTQ	Turrialba Volc	4.20	220	*e*P	Pn	14 33 37.8	-1.3
BCIP	Isla Barro Col	4.20	164	P	Pn	14 33 36.8	-2.0
BCIP				S	Sn	14 34 23.7	-4.2
BCIP	Isla Barro Col	4.20	164	*e*P	Pn	14 33 36.8	-2.0
BCIP				*e*S	Sn	14 34 23.7	-4.2
BCIP	Isla Barro Col	4.20	164	P	Pn	14 33 36.7	-2.1
BCIP				S	Sn	14 34 24.9	-3.0
ACON	Acoyapa	4.26	253	*e*P	Pn	14 33 41.2	+1.6
VICA	Volcano Irazu	4.26	221	⇓*i*P	Pn	14 33 39.3	-0.7
VICA				*e*S	Sn	14 34 29.3	-0.7
CAZU	Cerro Azul, Pa	4.27	158	*e*P	Pn	14 33 37.7	-2.1
CVIMO	Finca Echandi	4.29	222	*e*P	Pn	14 33 39.6	-0.7
ZANG	Zanguenga, Cho	4.39	165	*e*P	Pn	14 33 35.6	-5.8
KKNTU	Kakint²	4.43	190	*e*P	Pn	14 33 42.2	+0.2
PBNVO	Pueblo Nuevo,	4.47	195	*e*P	Pn	14 33 40.3	-2.1
PBNVO				*e*S	Sn	14 34 30.9	-3.6
RBALA	Bur	4.47	195	*e*P	Pn	14 33 40.9	-1.6
SOCE	Pocosol	4.53	232	P	Pn	14 33 43.7	+0.3
LCR2	La Lucha 2	4.55	221	S	Sn	14 34 36.2	-0.6
LCR2	La Lucha 2	4.55	221	P	Pn	14 33 44.6	+0.8
ARE1	Arenal 1	4.56	233	*e*P	Pn	14 33 42.2	-1.5
VARE2	V. Arenal	4.56	233	*e*P	Pn	14 33 46.0	+2.2
SAJE	San Jernim	4.58	213	*e*P	Pn	14 33 43.1	-1.0
TABAC	Tabacon	4.58	234	*e*P	Pn	14 33 45.6	+1.5
PIEC	Cerro El Cedra	4.61	219	*e*P	Pn	14 33 44.3	-0.4
ALCO	Alturas Coton,	4.62	203	⇑*e*P	Pn	14 33 43.9	-0.8
ALCO				*e*S	Sn	14 34 36.9	-1.6
VMAR	Armenia, Volca	4.68	240	*e*P	Pn	14 33 46.7	+1.2
EDP2	Potrero Grande	4.70	207	*e*P	Pn	14 33 45.1	-0.6
BRU2	Volcan	4.71	201	P	Pn	14 33 44.7	-1.3
BRU2	Volcan	4.71	201	S	Sn	14 34 38.4	-2.3
BRU2	Volcan	4.71	201	*e*P	Pn	14 33 48.1	+2.1
BRU2

	4.5nm,0.7s					
TEIG	**Tepich**	**9.84 316**	Pn	**Pn**	**14 34 55.7**	**-0.6**
	baz=132,slow=24,SNR=14					
TEIG			Sn	**Sn**	**14 36 41.9**	**-5.0**
	baz=311,slow=24,SNR=1.6					
TEIG	**Tepich**	**9.84 316**	P	**Pn**	**14 34 55.8**	**-0.5**
	77nm,1.1s					
PAMC	**Pamplona, Colo**	**10.05 125**	P	**Pn**	**14 35 00.9**	**+1.3**
	186nm14nm,0.6s					
PAMC			S	**Sn**	**14 36 51.0**	**-1.7**
	186nm14nm,0.6s					
ROSC	**El Rosal**	**10.63 141**	LR	LR	14 39 27.3	
	comp=Z,202nm,20.1s,baz=351,slow=39					
RUSC	**La Rusia**	**10.68 132**	P	**Pn**	**14 35 10.7**	**+2.4**
RUSC			S	**Sn**	**14 37 06.5**	**-1.8**
SDV	**Santo Domingo**	**11.06 112**	Sn	**Sn**	**14 37 11.9**	**-5.1**
	6.9nm,0.3s,baz=30,slow=18,SNR=13					
CMIG	**Matias Romero**	**13.94 288**	LR	LR	14 41 39.2	
	comp=Z,166nm,18.3s,baz=126,slow=40					
ATAH	**Atahualpa**	**20.40 173**	LR	LR	14 46 06.3	
	comp=Z,47nm,19.9s,baz=334,slow=40					
TKL	**Tuckaleechee C**	**22.47 354**	LR	LR	14 46 03.3	
	comp=Z,66nm,18.7s,baz=188,slow=36					
TXAR	**Lajitas Array**	**26.43 311**	P	**P**	**14 38 12.9**	**+1.0**
	4.1nm,0.8s,baz=130,slow=8.4,SNR=30					
TXAR			LR	LR	14 49 44.9	
	comp=Z,22nm,20.8s,baz=163,slow=39					
	4.1nm,0.8s					
MDP	**Montagnes des**	**29.12 103**	LR	LR	14 50 57.5	
	comp=Z,76nm,18.0s,baz=90,slow=38					
LPIG	**La Paz**	**29.73 296**	LR	LR	14 51 20.6	
	comp=Z,67nm,18.9s,baz=128,slow=38					
SADO	**Sadowa**	**31.47 3**	LR	LR	14 51 57.0	
	comp=Z,768nm,19.5s,baz=206,slow=37					
ANMO	**Albuquerque**	**31.57 318**	LR	LR	14 53 43.5	
	comp=Z,59nm,18.1s,baz=230,slow=40					
LPAZ	**La Paz**	**31.97 156**	LR	LR	14 53 44.2	
	comp=Z,39nm,18.5s,baz=212,slow=40					
PFO	**Pinyon Flats O**	**38.07 308**	LR	LR	14 57 30.2	
	comp=Z,33nm,18.5s,baz=106,slow=39					
PDAR	**Pinedale Array**	**38.40 325**	P	**P**	**14 39 58.0**	**+1.6**
	1.0nm,0.8s,baz=128,slow=9.6,SNR=6.7					
PDAR			LR	LR	14 57 05.4	
	comp=Z,15nm,20.7s,baz=132,slow=38					
	1.0nm,0.8s					
NVAR	**Mina Array Bea**	**41.48 314**	P	**P**	**14 40 24.0**	**+1.7**
	1.0nm,0.7s,baz=134,slow=7.4,SNR=5.3					
NVAR			LR	LR	15 00 46.3	
	comp=Z,56nm,20.0s,baz=152,slow=41					
	1.0nm,0.7s					
RPN	**Rapa Nui**	**48.64 214**	LR	LR	14 56 52.9	
	comp=Z,72nm,19.5s,baz=94,slow=30					
ILAR	**Eielson Array**	**67.91 335**	P	**P**	**14 43 34.5**	**+1.3**
	0.4nm,0.7s,baz=107,slow=5.6,SNR=3.6					
	0.4nm,0.7s					
NOA	**NORSAR Array B**	**79.61 30**	LR	LR	15 19 37.1	
	comp=Z,12nm,18.3s,baz=45,slow=35					
TORD	**Torodi Ar. Bea**	**80.10 79**	P	**P**	**14 44 48.4**	**+2.9**
	0.3nm,0.6s,baz=297,slow=6.3,SNR=1.8					
	0.3nm,0.6s					
ASAR	**Alice Springs**	**145.38 247**	PKPbc	**PKPab**	**14 52 13.6**	**-0.2**
	1.0nm,0.7s,baz=109,slow=3.8,SNR=11					
WRA	**Warramunga Arr**	**145.53 254**	PKPbc	**PKPab**	**14 52 14.6**	**+0.2**
	1.0nm,0.9s,baz=94,slow=2.9,SNR=7.1					
CMAR	**Chiang Mai Arr**	**148.51 0**	PKPbc	**PKiKP**	**14 52 23.9**	**-0.3**
	0.4nm,0.4s,baz=64,slow=1.6,SNR=1.7					

IDC 10 14:44:18.3±3.5, 38°.96S×46°.20E, h0^km, mb3.9/4, mbtmp3.9/4, MS3.3/4, Error ellipse: s-maj=122.9km s-min=56.1km az=59.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.29**	**152**	T	T	14 54 58.1	
	baz=329,slow=76,SNR=1572						
H04N2	**CROZET ISLANDS**	**8.30**	**152**	T	T	14 54 55.4	
	baz=329,slow=76,SNR=1338						
H04N3	**CROZET ISLANDS**	**8.31**	**152**	T	T	14 55 03.5	
	baz=329,slow=76,SNR=1043						
BOSA	**Boshof**	**20.19**	**294**	LR	LR	14 54 29.0	
	comp=Z,61nm,18.8s,baz=191,slow=30						
LBTB	**Lobatse**	**22.26**	**303**	LR	LR	14 55 58.0	
	comp=Z,53nm,18.6s,baz=138,slow=31						
H08S1	**Diego Carcia H**	**39.13**	**44**	T	T	15 33 10.9	
	baz=212,slow=75						
H08S2	**Diego Garcia H**	**39.14**	**44**	T	T	15 33 10.4	
	baz=212						
H08S3	**Diego Garcia H**	**39.15**	**44**	T	T	15 33 12.0	
	baz=212						
H01W2	**Cape Leeuwin H**	**53.32**	**108**	T	T	15 51 07.9	
	baz=245,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**53.33**	**108**	T	T	15 51 04.8	
	baz=245,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**53.34**	**108**	T	T	15 51 08.2	
	baz=245,slow=75,SNR=12						
PSI	**Prapat**	**63.82**	**62**	LR	LR	15 17 55.9	
	comp=Z,35nm,19.3s,baz=339,slow=32						
ASAR	**Alice Springs**	**73.83**	**107**	P	P	14 55 55.5	+0.5
	0.7nm,0.7s,baz=228,slow=5.6,SNR=11						
ASAR				LR	LR	15 22 56.2	
	comp=Z,19nm,18.9s,baz=170,slow=31						
	0.7nm,0.7s						
STKA	**Stephens Creek**	**74.53**	**118**	P	P	14 55 59.8	+0.8
	1.3nm,0.5s,baz=231,slow=6.5,SNR=4.9						
	1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**75.47**	**51**	P	P	14 56 05.0	+0.6
	0.4nm,0.3s,baz=220,slow=6.4,SNR=2.6						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**76.34**	**105**	P	P	14 56 08.2	-1.4
	0.6nm,0.7s,baz=235,slow=5.9,SNR=5.7						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**153.03**	**12**	PKPbc	PKPbc	15 04 16.3	-0.4
	0.2nm,0.6s,baz=337,slow=2.1,SNR=2.5						

IDC 10 14:44:23.5±3.6, 19°.52S×175°.31W, h0^km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=102.5km s-min=35.7km az=36.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.21**	**255**	P	P	14 52 58.3	-0.2
	0.6nm,0.6s,baz=102,slow=8.1,SNR=13						
ASAR				PcP	PcP	14 54 29.5	-0.6
	0.4nm,0.6s,baz=109,slow=3.9,SNR=5.5						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**47.25**	**261**	P	P	14 52 58.9	+0.1
	0.4nm,0.3s,baz=95,slow=7.6,SNR=21						
WRA				PcP	PcP	14 54 30.1	-0.2
	0.2nm,0.5s,baz=101,slow=2.9,SNR=1.6						
	0.4nm,0.3s						
VNDA	**Vanda**	**59.12**	**186**	P	P	14 54 24.4	-1.0
	0.4nm,0.7s,baz=72,slow=17,SNR=2.2						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**70.54**	**180**	P	P	14 55 40.8	+0.6
	0.7nm,0.6s,baz=316,slow=1.0,SNR=8.8						
	0.7nm,0.6s						
H03S2	**Juan Fernandez**	**84.45**	**124**	T	T	16 29 29.2	
	baz=248,slow=74,SNR=50						
H03S1	**Juan Fernandez**	**84.46**	**124**	T	T	16 29 31.3	
	baz=248,slow=74,SNR=47						
H03S3	**Juan Fernandez**	**84.46**	**124**	T	T	16 29 30.1	
	baz=248,slow=74,SNR=45						
H03N2	**Juan Fernandez**	**84.57**	**123**	T	T	16 29 30.6	
	baz=257,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**84.58**	**123**	T	T	16 29 30.8	
	baz=257,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**84.59**	**123**	T	T	16 29 29.5	
	baz=257,slow=72,SNR=7.5						

*DJA **10** 14:56:09.7±0.4, 7°.S±4°.×10°.5E±°, h10^km, M3.8/10, MLv3.8/10*
*IDC **10** 14:56:13.2±1.3, 4°.52S×107°.40E, h0^km, mb3.4/4, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=55.5km s-min=20.3km az=67.0*
ISC 10 14:56:09.2±1.1, 6°.94S±0°.10×105°.06E±0°.06, h23^km, n22, σ1°.78/20, mb3.5/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.71**	**63**	P	**Pn**	**14 56 23.7**	**-0.1**
CGJI				S	**Sb**	**14 56 31.9**	**-0.3**
SBJI	**Serang**	**1.34**	**53**	P	**Pn**	**14 56 33.2**	**+0.7**
SKJI	**Sukabumi**	**1.49**	**93**	P	**Pn**	**14 56 34.5**	**-0.1**
SKJI				S	**Sb**	**14 56 55.8**	**+1.1**
DBJI	**Dramaga**	**1.72**	**77**	P	**Pn**	**14 56 38.5**	**+0.7**
KLI	**Kotabumi**	**2.07**	**354**	P	**Pn**	**14 56 44.0**	**+1.4**
LWLI	**Liwa**	**2.15**	**332**	P	**Pb**	**14 56 47.7**	**+0.1**
LEM	**Lembang**	**2.54**	**88**	Pn	**Pb**	**14 56 53.1**	**-1.2**
	12nm,0.3s,baz=325,slow=19,SNR=9.2						
LEM				Sn	**Sn**	**14 57 22.6**	**+3.0**
	6.6nm,0.3s,baz=126,slow=23,SNR=3.7						
	46nm,0.5s						
LEM	**Lembang**	**2.54**	**88**	P	**Pn**	**14 56 51.0**	**+1.7**
MNAI	**Manna**	**3.31**	**321**	P	**Pn**	**14 57 00.9**	**+1.3**
KPJI	**Karang Pucung**	**3.86**	**96**	P	**Pn**	**14 57 09.5**	**+2.2**
TPI	**Tanjungpandan**	**4.89**	**32**	P	**Pn**	**14 57 22.8**	**+1.4**
JAGI	**Jajag, Banyuwa**	**9.14**	**100**	P		14 59 34.0	
TWSI	**Taliwang, Sumb**	**11.85**	**99**	P	Pn	14 59 03.3	+6.3
PLAI	**Plampang**	**12.74**	**99**	P	**Pn**	**14 59 07.1**	**-2.0**
WBSI	**Waikabubak, Su**	**14.44**	**102**	P	Pn	14 59 25.9	-6.5
EDFI	**Ende, Flores**	**16.57**	**97**	P	**Pn**	**14 59 58.2**	**-2.3**
SANI	**Sanana**	**21.42**	**78**	P	P	15 01 32.1	+36
WRA	**Warramunga Arr**	**31.20**	**117**	P	**P**	**15 02 27.6**	**+0.5**
	0.5nm,1.0s,baz=317,slow=9.9,SNR=2.2						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**32.31**	**124**	P	**P**	**15 02 40.2**	**+3.4**
	0.2nm,0.7s,baz=297,slow=7.8,SNR=4.4						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.20**	**342**	P	**P**	**15 05 52.1**	**-2.3**
	0.2nm,0.3s,baz=150,slow=8.5,SNR=4.5						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**66.57**	**338**	P	**P**	**15 06 56.2**	**-1.2**
	0.2nm,0.3s,baz=126,slow=6.6,SNR=2.0						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**144.95**	**47**	PKP	PKPbc	15 15 44.9	+0.2
	0.4nm,0.5s,baz=341,slow=4.1,SNR=4.6						

IDC 10 15:07:17.8±4.3, 4°.07S×150°.19E, h0^km, mb2.8/2, mbtmp2.9/2, Error ellipse: s-maj=160.3km s-min=54.4km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**223**	P	P	15 12 13.5	-1.3
	0.1nm,0.4s,baz=49,slow=11,SNR=1.3						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**25.04**	**217**	P	P	15 12 44.6	+0.7
	0.3nm,0.6s,baz=53,slow=9.2,SNR=9.7						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.61**	**288**	PKPbc	PKPbc	15 27 04.4	-0.9
	0.3nm,0.5s,baz=78,slow=2.9,SNR=2.2						

*KEA **10** 15:12:45.8, 44°.82N×124°.97E, h17^km, ML3.3/2*
*IDC **10** 15:12:54.4±3.7, 45°.00N×125°.69E, h0^km, mb3.9/1, mbtmp3.4/3, ML2.6/2, MS3.0/1, Error ellipse: s-maj=36.8km s-min=25.4km az=113.0*
ISC 10 15:12:55.5±2.5, 44°.9N±0°.1×125°.8E±0°.2, h10^km, n7, σ3°.28/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**4.46**	**97**	Pn	**Pn**	**15 14 03.5**	**+0.4**
	0.2nm,0.3s,baz=282,slow=14,SNR=2.7						
USRK				Pg	**Pg**	**15 14 18.6**	**-2.2**
	0.8nm,0.3s,baz=282,slow=16,SNR=7.3						
USRK				Lg	Lg	15 15 19.8	
	3.0nm,0.3s,baz=285,slow=28,SNR=8.4						
	1.1nm,0.6s						
HHU	**Hamhung**	**5.10**	**165**	Pg	**Pb**	**15 14 27.5**	**+2.8**
HHU				Sg	**Sg**	**15 15 42.0**	**+2.8**
HHU				AML	AML		
	comp=N,16nm,0.3s						
HHU				AML	AML		
	comp=E,34nm,0.9s						
PYS	**Pyongsong**	**5.62**	**180**	Pg	**Pb**	**15 14 31.9**	**-1.7**
PYS				Sg	**Sg**	**15 15 52.1**	**-3.7**
PYS				AML	AML		
	comp=N,70nm,1.5s						
PYS				AML	AML		
	comp=E,95nm,0.9s						
PYS				AML	AML		
	comp=Z,23nm,0.8s						
PYAG	**Pyongyang**	**5.82**	**181**	Sg	**Sg**	**15 15 58.2**	**-4.0**
KSRS	**Korea Array**	**7.58**	**167**	Pn	**Pn**	**15 14 49.3**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=3.1						
KSRS				Pg	Pb	15 15 13.7	+6.8
	comp=Z,0.3nm,0.3s,baz=345,slow=18,SNR=4.2						
KSRS				Lg	Lg	15 16 59.6	
	comp=Z,0.7nm,0.3s,baz=349,slow=27,SNR=10						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**13.74**	**289**	LR	LR	15 22 29.3	
	comp=Z,66nm,19.0s,baz=114,slow=42						
PETK	**Petropavlovsk-**	**22.33**	**57**	P	**P**	**15 17 53.7**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=264,slow=11,SNR=0.8						
	comp=Z,5.3nm,0.9s						

*CATAC **10** 15:27:35.6±0.5, 14°.N±3°.×9°.1W±°, h32^km±4^km, M3.8/17, MLv3.8/17, Error ellipse: s-maj=6.6km s-min=2.4km az=29.0, confirmed*
*GCG **10** 15:27:36.3±1.7, 14°.08N×91°.29W, h62^km±10^km, MD3.8, ML4.3, MW3.5*
ISC 10 15:27:37.3±1.5, 13°.96N±0°.07×91°.24W±0°.05, h46^km±19^km, n39, σ1°.88/49, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.50**	**345**	*eP*	**Pn**	**15 27 51.4**	**+3.0**
STG2				*eS*	**Sn**	**15 28 02.0**	**+5.7**
ESSG	**Sabana Grande**	**0.58**	**43**	*i P*	**Pn**	**15 27 49.1**	**-0.4**
ESSG				*eS*	**Sn**	**15 27 58.7**	**+0.5**
RTAL	**Retalhuleu**	**0.72**	**322**	S	**Sn**	**15 27 59.6**	**-1.5**
RTAL	**Retalhuleu**	**0.72**	**322**	P	**Pn**	**15 27 49.3**	**-1.9**
FG8	**Yepocapa, Chim**	**0.73**	**65**	*i P*	**Pn**	**15 27 48.9**	**-2.4**
FG8				*i S*	**Sn**	**15 27 58.1**	**-3.4**
FG16	**Alotenango, Sa**	**0.78**	**66**	*i P*	**Pn**	**15 27 49.8**	**-2.4**
FG16				*i S*	**Sn**	**15 28 00.4**	**-2.4**
FG16				IAML		15 28 01.7	
	comp=N,47μm,0.3s						
ESSJ	**San Jos, E**	**0.82**	**118**	*i P*	Pn	15 27 48.3	-4.1
ESSJ				*eS*	**Sn**	**15 27 59.0**	**-4.5**
SOKI	**Kika Raxquin**	**0.87**	**350**	*eP*	**Pn**	**15 27 52.4**	**-1.3**
SOKI				*eS*	**Sn**	**15 28 04.6**	**-0.9**
SOKI				IAML		15 28 09.2	
	comp=N,6μm,0.7s						
PCG5	**San Vicente Pa**	**0.88**	**73**	*i P*	**Pn**	**15 27 51.1**	**-2.3**
PCG5				*i S*	**Sn**	**15 28 02.3**	**-3.0**
QUEO	**Labor Ovalle**	**0.95**	**344**	*i P*	**Pn**	**15 27 54.2**	**-0.3**
FAME	**Alcaldia de Sa**	**1.20**	**95**	S	**Sn**	**15 28 12.0**	**-0.8**
FAME	**Alcaldia de Sa**	**1.20**	**95**	P	**Pn**	**15 27 57.7**	**0.0**
APG	**El Apazote**	**1.29**	**36**	*i P*	**Pn**	**15 27 58.5**	**-0.6**
APG				*eS*	**Sn**	**15 28 17.4**	**+2.2**
THIG		**1.37**	**314**	*eS*	**Sn**	**15 28 14.7**	**-2.3**
THIG				IAML		15 28 19.0	
	comp=E,2μm,0.4s						
LOAL	**Lomas de Alarc**	**1.42**	**88**	S	**Sn**	**15 28 20.1**	**+1.8**
LOAL	**Lomas de Alarc**	**1.42**	**88**	P	**Pn**	**15 28 01.5**	**+0.7**
NUBE	**Las Nubes**	**1.42**	**92**	*eP*	**Pn**	**15 28 01.1**	**+0.2**
NUBE				*i S*	**Sn**	**15 28 18.8**	**+0.3**
NUBE	**Las Nubes**	**1.42**	**92**	S	**Sn**	**15 28 19.1**	**+0.7**
NUBE	**Las Nubes**	**1.42**	**92**	P	**Pn**	**15 28 00.9**	**+0.1**
CEVE	**Cerro Verde**	**1.58**	**94**	S	**Sn**	**15 28 24.3**	**+1.9**
CEVE	**Cerro Verde**	**1.58**	**94**	P	**Pn**	**15 28 03.8**	**+0.7**
UNIC	**Universidad Ca**	**1.65**	**89**	P	**Pn**	**15 28 03.7**	**-0.1**
UNIC	**Universidad Ca**	**1.65**	**89**	S	**Sn**	**15 28 26.0**	**+2.2**
JAYA	**Jayaque - finc**	**1.77**	**100**	*eP*	**Pn**	**15 28 06.0**	**+0.4**
JAYA	**Jayaque - finc**	**1.77**	**100**	S	**Sn**	**15 28 28.0**	**+1.0**
JAYA	**Jayaque - finc**	**1.77**	**100**	P	**Pn**	**15 28 06.1**	**+0.5**
MTO3	**Montecristo**	**1.88**	**76**	*eP*	**Pn**	**15 28 06.5**	**-0.7**
MTO3	**Montecristo**	**1.88**	**76**	S	**Sn**	**15 28 30.3**	**+0.5**
MTO3	**Montecristo**	**1.88**	**76**	P	**Pn**	**15 28 06.7**	**-0.5**
PMON	**Piamonte**	**1.89**	**97**	S	**Sn**	**15 28 32.0**	**+2.1**
PMON	**Piamonte**	**1.89**	**97**	P	**Pn**	**15 28 07.1**	**-0.1**
ESQI	**Esquipulas**	**1.94**	**72**	P	**Pn**	**15 28 07.7**	**-0.2**
PACA	**Pacayal**	**2.88**	**99**	S	**Sn**	**15 28 55.9**	**+1.6**
CNCH	**Conchagua**	**3.38**	**101**	P	**Pn**	**15 28 28.1**	**+0.4**
CNCH	**Conchagua**	**3.38**	**101**	S	**Sn**	**15 29 07.7**	**+1.0**
CSGN	**Cosiguina Volc**	**3.71**	**105**	S	**Sn**	**15 29 17.1**	**+2.3**
YUSH	**Yuscaran**	**4.27**	**89**	P	**Pn**	**15 28 39.6**	**-0.3**
PKGN	**Cerro Pekin**	**4.34**	**107**	P	**Pn**	**15 28 41.2**	**+0.4**
PKGN				S	**Sn**	**15 29 31.4**	**+1.1**
POLN	**Al Sur del Vol**	**4.50**	**106**	P	**Pn**	**15 28 42.9**	**-0.1**
POLN				S	**Sn**	**15 29 32.3**	**-1.9**

*IDC **10** 15:47:03.6±1.4, 19°.68N×95°.78E, h0^km, mb3.4/4, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=24.2km s-min=16.3km az=52.0*
*BKK **10** 15:47:06.3±0.7, 20°.N±3°.×9°.6E±°, h10^km, M3.8/6, MLv3.8/6*
ISC 10 15:47:05.3±1.4, 19°.7N±0°.1×95°.9E±0°.1, h10^km, n9, σ1°.04/11, mb3.4/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**2.95**	**86**	P	**Pn**	**15 47 53.1**	**+0.6**
CMAI				Pg	**Pg**	**15 48 01.4**	**-0.5**
CHTO	**Chiang Mai**	**3.00**	**107**	Pg	**Pg**	**15 48 02.9**	**0.0**
CM15	**Chiang Mai Arr**	**3.12**	**114**	Pg	**Pg**	**15 48 03.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**3.13**	**114**	Pn	**Pn**	**15 47 56.3**	**+1.5**
	0.6nm,0.3s,baz=289,slow=11,SNR=4.8						
CMAR				Pg	**Pg**	**15 48 03.9**	**-1.6**
	2.8nm,0.3s,baz=290,slow=18,SNR=17						
CMAR				Lg	Lg	15 48 44.3	
	7.6nm,0.3s,baz=292,slow=38,SNR=3.0						
	1.0nm,0.3s						
CM02	**Chiang Mai Arr**	**3.15**	**114**	Pg	**Pg**	**15 48 05.0**	**-0.7**
MKAR	**Makanchi Array**	**29.20**	**341**	P	**P**	**15 53 07.0**	**-0.1**
	0.2nm,0.6s,baz=143,slow=9.9,SNR=2.8						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**33.76**	**340**	P	**P**	**15 53 46.4**	**-0.6**
	0.5nm,0.6s,baz=153,slow=8.6,SNR=4.2						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**54.52**	**134**	P	**P**	**15 56 33.7**	**-0.1**
	0.3nm,0.7s,baz=296,slow=6.4,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**56.86**	**138**	P	**P**	**15 56 51.0**	**+0.5**
	0.2nm,0.6s,baz=317,slow=6.7,SNR=1.9						
	0.2nm,0.6s						

*IDC **10** 15:50:06.0±1.8, 1°.58N×126°.93E, h0^km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=102.2km s-min=25.9km az=69.0*
*DJA **10** 15:50:19.7±0.5, 2°.N±4°.×12°.7E±°, h92^km±7^km, M3.9/9, mb4.3/3, MLv3.7/9*
ISC 10 15:50:17.3±1.2, 1°.77N±0°.09×127°.4E±0°.1, h100^km, n12, σ1°.71/12, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.99**	**184**	P	**Pn**	**15 50 40.0**	**+2.3**
SGSI	**Sangihe**	**2.70**	**315**	P	**Pn**	**15 51 00.3**	**+1.3**
KMSI	**Cibinong**	**3.66**	**251**	P	**Pn**	**15 51 13.3**	**+1.5**
SANI	**Sanana**	**4.06**	**201**	P	**Pn**	**15 51 17.7**	**+0.4**
NLAI	**Namlea**	**4.99**	**184**	P	**Pn**	**15 51 31.2**	**+1.4**
APSI	**Ampana**	**6.37**	**245**	P	**Pn**	**15 51 49.9**	**+1.2**
	0.1nm16nm,1.2s						
SAUI	**Saumlaki**	**10.43**	**158**	P	**Pn**	**15 52 45.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**19.82**	**185**	P	**P**	**15 54 37.6**	**-2.5**
	0.1nm,0.3s,baz=11,slow=9.6,SNR=7.5						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**22.61**	**163**	P	**P**	**15 55 08.5**	**-1.4**
	2.6nm,0.5s,baz=339,slow=11,SNR=29						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**26.05**	**166**	P	**P**	**15 55 40.3**	**-1.2**
	0.3nm,0.3s,baz=342,slow=7.5,SNR=28						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**36.06**	**159**	P	**P**	**15 57 08.5**	**-0.7**
	1.0nm,0.5s,baz=309,slow=9.9,SNR=3.0						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**63.76**	**328**	P	**P**	**16 00 39.2**	**+0.7**
	0.2nm,0.4s,baz=132,slow=6.4,SNR=3.1						
	0.2nm,0.4s						

*NOU **10** 16:43:15.9, 17°.77S×168°.80E, h244^km, MLv4.8/10, Vanuatu Islands*
*IDC **10** 16:43:24.1±1.0, 18°.43S×168°.47E, h0^km, mb4.3/10, mbtmp4.3/11, ML4.9/2, MS3.1/6, Error ellipse: s-maj=26.2km s-min=21.2km az=59.0*
*NEIC **10** 16:43:30.4±1.8, 18°.61S±0°.06×168°.4E±0°.1, h40^km±5^km, mb4.5/32, Error ellipse: s-maj=15.4km s-min=9.0km az=80.0*
ISC 10 16:43:29.8±0.5, 18°.64S±0°.04×168°.38E±0°.09, h37^km, n78, σ1°.37/78, mb4.5/28, MS3.1/4, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.84**	**3**	P	**Pn**	**16 43 47.9**	**+2.8**
DVP	**Devils Point**	**0.92**	**349**	P	**Pn**	**16 43 49.5**	**+3.2**
SANVU	**Saraoutou**	**3.36**	**340**		**Pn**	**16 44 20.8**	**+0.9**
YATNC	**Mamie plateau,**	**3.68**	**202**	P	**Pn**	**16 44 26.5**	**+2.3**
DZM	**Mont Dzumac**	**3.87**	**208**		**Pn**	**16 44 28.5**	**+1.6**
DZM				Sn	**Sn**	**16 45 11.2**	**0.0**
DZM	**Mont Dzumac**	**3.87**	**208**	Pn	**Pn**	**16 44 29.5**	**+2.6**
	26nm,0.3s,baz=78,slow=8.4,SNR=628						
DZM				Sn	**Sn**	**16 45 11.7**	**+0.5**
	86nm,0.3s,baz=310,slow=23,SNR=18						
DZM				LR	LR	16 45 47.3	
	comp=Z,115nm,21.2s,baz=261,slow=35						
	56nm,0.3s						
DZM	**Mont Dzumac**	**3.87**	**208**	P	**Pn**	**16 44 29.0**	**+2.1**
OUENC	**Ouen Island, N**	**4.03**	**201**	P	**Pn**	**16 44 31.9**	**+2.9**
PINNC	**Pines Island,**	**4.05**	**192**		**Pn**	**16 44 30.8**	**+1.5**
PINNC	**Pines Island,**	**4.05**	**192**	P	**Pn**	**16 44 31.2**	**+1.9**
ONTNC	**Ouen Toro**	**4.08**	**206**		**Pn**	**16 44 29.9**	**+0.2**
ONTNC				Sn	**Sn**	**16 45 15.2**	**-0.8**
**ONTNC

comp=Z,8.1nm,1.1s
FORT Forrest 38.38 244 P P 16 50 47.6 -0.1
FORT IAmb IAmb 16 51 16.4
comp=Z,9.3nm,0.9s
FAKI Fak Fak 38.65 289 P P 16 50 49.8 -0.4
FITZ Fitzroy Crossi 40.49 264 P P 16 51 05.8 +0.3
FITZ Fitzroy Crossi 40.49 264 LR LR 17 06 41.7
comp=Z,57nm,18.7s,baz=188,slow=34
PSA00 Pilbara Seismi 45.53 258 P P 16 51 45.8 -0.4
MBWA Marble Bar 45.68 258 P P 16 51 47.7 +0.4
MBWA IAmb IAmb 16 52 19.9
comp=Z,14nm,1.5s
MORW Morawa 48.65 247 P P 16 52 09.8 -0.6
MORW IAmb IAmb 16 52 35.6
comp=Z,6.1nm,1.1s
TOLI2 Tolitoli 50.72 287 P P 16 52 25.5 -0.8
TOLI2 IAmb IAmb 16 52 27.5
comp=Z,4.3nm,0.8s
JMZ Minamidaito 2 57.07 320 P P 16 53 11.9 -0.6
SBA Scott Base 59.26 180 P P 16 53 27.0 0.0
SBA IAmb IAmb 16 53 37.5
comp=Z,2.6nm,1.1s
LEM Lembang 60.17 273 P P 16 53 35.3 +0.7
comp=Z,10nm,0.5s,baz=328,slow=22,SNR=2.4
comp=Z,10nm,0.5s
JGF Kuroka 61.44 331 P P 16 53 42.3 -0.3
MAJO Matsushiro 61.84 333 P P 16 53 44.8 -0.5
NJ2 Nanjing 69.21 316 *eP* **P 16 54 36.6 +3.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
QSPA South Pole Qui 71.41 180 P P 16 54 47.2 +1.0
QSPA South Pole Qui 71.41 180 P P 16 54 47.3 +1.1
comp=Z,3.2nm,1.1s,baz=328,slow=1.4,SNR=11
comp=Z,3.2nm,1.1s
XAN Xi'an 77.11 313 ⇓P **P 16 55 19.0 -0.7**
XAN pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 77.52 294 P P 16 55 23.6 +1.3
comp=Z,1.1nm,0.6s,baz=131,slow=3.4,SNR=9.0
comp=Z,1.1nm,0.6s
CHTO Chiang Mai 77.66 295 P P 16 55 23.7 +0.6
PZH PanZhiHua 78.70 303 P P 16 55 30.5 +1.7
HHC Hu-ho-hao-te 79.24 320 *eP* **P 16 55 34.2 +2.8**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.3s
CHIR Chirikof Islan 80.17 20 P P 16 55 37.1 +1.2
KDAK Kodiak Island 82.74 20 P P 16 55 48.7 -0.8
BELA Belgrano 2 82.77 175 P P 16 55 47.0 -2.6
J16K Anvik River 85.18 14 P P 16 56 01.4 -0.4
YAK Yakutsk 86.06 343 P P 16 56 05.6 -0.6
YAK IAmb IAmb 16 56 06.1
comp=Z,4.8nm,0.7s
SONM Songino Array 86.25 323 P P 16 56 07.2 -0.5
comp=Z,0.5nm,0.4s,baz=145,slow=5.3,SNR=2.6
comp=Z,0.5nm,0.4s
ILAR Eielson Array 89.90 18 P P 16 56 22.5 -2.0
comp=Z,0.3nm,0.8s,baz=209,slow=4.8,SNR=2.1
comp=Z,0.3nm,0.8s
WMQ Urumqi 96.20 314 *eP* **P 16 56 55.6 +1.4**
WMQ pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 100.74 316 P Pdif 16 57 14.6 +0.2
comp=Z,0.1nm,0.4s,baz=90,slow=5.8,SNR=2.2
ARCES ARCESS Array B 124.28 345 PKP **PKPdf 17 02 23.4 -0.6**
comp=Z,0.8nm,0.5s,baz=62,slow=2.1,SNR=9.3
CONA Conrad Observa 143.21 329 *e*PKP **PKPdf 17 02 59.5 -0.7**
comp=Z,1.2nm,0.4s
IDI Anoyia 143.72 305 PKPdf **PKPdf 17 03 00.3 -1.0**
KBA Koelnbreinsper 145.02 330 *e*PKP **PKPab 17 03 01.6 -1.2**
comp=Z,2.3nm,0.6s
LESA Schwarzleotal 145.09 331 *e*PKP **PKPbc 17 03 01.7 -1.1**
comp=Z,4.0nm,0.5s
ITM Ithomi 145.32 309 PKPbc 17 03 00.9 -3.0
ABTA Abfaltersbach 145.66 330 *e*PKP **PKPdf 17 03 03.4 -1.0**
comp=Z,0.9nm,0.3s
MOTA Moosalm 145.86 332 *e*PKP **PKPbc 17 03 05.3 -0.1**
comp=Z,2.0nm,0.6s
FETA Feichten 146.27 332 *e*PKP **PKPab 17 03 07.3 -0.2**
comp=Z,1.1nm,0.5s
DAVA Damuels 146.44 333 *e*PKP **PKPdf 17 03 06.2 +0.4**
comp=Z,2.5nm,0.5s
FUORN Ofenpass-Fuorn 146.78 332 PKPbc 17 03 07.3 -1.1
TUE Stuetta 147.30 333 PKPdf **PKPdf 17 03 05.0 -2.4**

IDC ***10*** *16:52:02.6±0.9, 40°.69N×29°.35E, h0km, mb3.4/7, mbtmp3.5/15, ML3.5/7, MS2.9/7, Error ellipse: s-maj=14.5km s-min=8.3km az=34.0*
MOS ***10*** *16:52:02.1±1.2, 40°.72N×29°.33E, h12km, mb4.3/5, Error ellipse: s-maj=5.4km s-min=3.7km az=87.9*
NEIC ***10*** *16:52:03.2±1.4, 40°.73N±0°.03×29°.21E±0°.05, h10km±1km, mb4.3/3, Error ellipse: s-maj=7.1km s-min=4.6km az=291.0*
ISK ***10*** *16:52:03.3, 40°.70N×29°.26E, h10km, ML4.1/47*
AFAD ***10*** *16:52:03.3, 40°.68N×29°.25E, h14km, MW4.0*
SOF ***10*** *16:52:03.2, 40°.61N±0°.02×29°.32E±0°.04, h29km±6km, MD3.9/11*
MCSM ***10*** *16:52:05.9±0.6, 41°.N±5°.×3°.0E±°, h10km±3km, mb4.4, mB5.4, MLv4.2, Mw(mB)4.8*
ISC 10 16:52:03.4±0.8,**40°.72N**±0°.02×**29°.25E**±0°.01,**h12**km±5km, **n281**,σ1$**49**/338,**mb3.6**/15,**MS3.1**/3,**35C-19D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURT	**Yalova, Merkez**	**0.13**	**194**	P	**Pg**		**16 52 06.8**	**+0.2**
KURT				P	**Pg**		**16 52 06.9**	**+0.2**
KURT				S	**Sg**		**16 52 08.9**	**0.0**
KURT				*i* IAML			16 52 09.0	
comp=N,2μm,0.5s								
YLV	**Yalova**	**0.18**	**149**	Pg	**Pg**		**16 52 07.5**	**+0.1**
YLV				Sg	**Sg**		**16 52 09.9**	**-0.3**
YLV	**Yalova**	**0.18**	**149**	P	**Pg**		**16 52 07.5**	**+0.1**
YLV				S	**Sg**		**16 52 10.2**	**0.0**
HRT	**Hereke**	**0.33**	**72**	Pg	**Pg**		**16 52 10.3**	**+0.2**
HRT				Sg	**Sg**		**16 52 15.4**	**+0.8**
HRT	**Hereke**	**0.33**	**72**	P	**Pg**		**16 52 10.3**	**+0.2**
HRT				S	**Sg**		**16 52 15.4**	**+0.8**
ARMT	**Armutlu**	**0.34**	**243**	Pg	**Pg**		**16 52 10.4**	**+0.3**
ARMT				Sg	**Sg**		**16 52 15.4**	**+0.8**
OSMT	**Osmaniye**	**0.36**	**109**	Pg	**Pg**		**16 52 10.6**	**0.0**
OSMT				Sg	**Sg**		**16 52 15.6**	**+0.2**
KAVV	**Kandilli-Istan**	**0.37**	**337**	Pg	**Pg**		**16 52 10.6**	**-0.2**
SEMS	**Kocaeli-K¶rfe**	**0.40**	**68**	P	**Pg**		**16 52 11.8**	**+0.5**
SEMS				S	**Sg**		**16 52 17.0**	**+0.4**
SEMS				*i* IAML			16 52 18.0	
comp=E,2μm,0.5s								
SEMS				*i* IAML			16 52 19.0	
comp=N,2μm,0.3s								
MDNY	**Mudanya-Bursa**	**0.45**	**219**	Pg	**Pg**		**16 52 12.6**	**+0.4**
ADVT	**Abdulvahap**	**0.47**	**128**	Pg	**Pg**		**16 52 12.6**	**+0.1**
ADVT				Sg	**Sg**		**16 52 19.1**	**+0.4**
SILT	**Sile**	**0.52**	**34**	Pg	**Pb**		**16 52 14.6**	**+0.1**
SILT	**Sile**	**0.52**	**34**	⇑P	**Pb**		**16 52 14.8**	**+0.2**
SILT				⇑S	**Sb**		**16 52 22.4**	**+0.3**
KLYT	**Kilyos**	**0.56**	**343**	Pg	**Pb**		**16 52 15.4**	**+0.3**
KLYT	**Kilyos**	**0.56**	**343**	⇓P	**Pb**		**16 52 15.4**	**+0.3**
HISA	**Bilecik-Osmane**	**0.57**	**116**	P	**Pg**		**16 52 14.6**	**+0.1**
HISA				S	**Sg**		**16 52 22.5**	**+0.5**
HISA				*i* IAML			16 52 25.0	
comp=N,9μm,0.4s								
HISA				*i* IAML			16 52 25.0	
comp=E,1μm,0.4s								
ULDT	**Uludag**	**0.58**	**189**	P	**Pg**		**16 52 14.7**	**-0.1**
ULDT				S	**Sg**		**16 52 22.0**	**-0.5**
ULDT				*i* IAML			16 52 22.0	
comp=E,5μm,0.5s								
BGKT	**Bogazkoy**	**0.59**	**322**	Pg	**Pb**		**16 52 15.8**	**+0.2**
ORLT	**Orhaneli**	**0.73**	**202**	Pg	**Pg**		**16 52 17.5**	**+0.1**
BILE	**Bilecik/Merkez**	**0.73**	**139**	P	**Pg**		**16 52 17.6**	**0.0**
BILE				S	**Sg**		**16 52 27.2**	**0.0**
BILE				*i* IAML			16 52 28.0	
comp=E,4μm,0.2s								
ELBA	**Catalca**	**0.76**	**305**	P	**Pb**		**16 52 18.5**	**0.0**
ELBA				S	**Sb**		**16 52 28.8**	**0.0**
ELBA				*i* IAML			16 52 30.0	
comp=N,3μm,0.1s								
ELBA				*i* IAML			16 52 31.0	
comp=E,3μm,0.1s								
CTKS	**Kestanelik-??a**	**0.77**	**313**	Pg	**Pb**		**16 52 18.8**	**+0.2**
KAND	**Kocaeli-Kandir**	**0.80**	**62**	P	**Pb**		**16 52 19.2**	**-0.1**
KAND				S	**Sg**		**16 52 29.4**	**0.0**
KAND				*i* IAML			16 52 30.0	
comp=N,6μm,0.3s								
KAND				*i* IAML			16 52 31.0	
comp=E,6μm,0.2s								
SAUV	**Serdivan-Sakar**	**0.82**	**88**	Pg	**Pb**		**16 52 19.5**	**0.0**
GEYV	**SAKARYA_Geyve**	**0.83**	**106**	P	**Pg**		**16 52 19.2**	**-0.2**
GEYV				S	**Sb**		**16 52 30.5**	**-0.4**
GEYV				*i* IAML			16 52 34.0	
comp=E,5μm,0.4s								
KAYN	**Sakarya, Kayna**	**0.86**	**73**	P	**Pg**		**16 52 20.0**	**0.0**
KAYN				S	**Sg**		**16 52 30.7**	**-0.5**
KAYN				*i* IAML			16 52 33.0	
comp=N,6μm,0.3s								
GPA	**Golpazari**	**0.91**	**118**	Pg	**Pb**		**16 52 21.4**	**+0.2**
GPA	**Golpazari**	**0.91**	**118**	P	**Pb**		**16 52 21.3**	**+0.1**
SLVT	**Silivri**	**0.94**	**303**	Pg	**Pn**		**16 52 22.3**	**-0.1**
BAND	**Balkesir-Ban**	**0.95**	**248**	P	**Pg**		**16 52 21.7**	**0.0**
BAND				S	**Sb**		**16 52 34.5**	**+0.1**
BAND				*i* IAML			16 52 36.0	
comp=N,4μm,1.0s								
BAND				*i* IAML			16 52 37.0	
comp=E,7μm,0.4s								
DOMA	**Ktahya-Doman**	**0.99**	**160**	P	**Pn**		**16 52 23.1**	**-0.1**
DOMA				S	**Sg**		**16 52 34.8**	**-0.6**
GULT	**Gulveren**	**1.00**	**106**	Pg	**Pb**		**16 52 22.7**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.05**	**316**	Pg	**Pg**		**16 52 23.9**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.05**	**316**	⇑P	**Pn**		**16 52 24.1**	**+0.1**
CTYL				⇑S	**Sn**		**16 52 38.7**	**+0.2**
EDC	**Edincik**	**1.12**	**251**	Pn	**Pb**		**16 52 24.7**	**0.0**
EDC	**Edincik**	**1.12**	**251**	P	**Pb**		**16 52 24.7**	**0.0**
DST	**Dursunbey**	**1.22**	**204**	Pn	**Pg**		**16 52 27.0**	**+0.3**
DST	**Dursunbey**	**1.22**	**204**	P	**Pg**		**16 52 27.0**	**+0.3**
CRLT	**Corlu**	**1.22**	**290**	Pn	**Pg**		**16 52 27.1**	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.22**	**83**	P	**Pg**		**16 52 26.8**	**-0.1**
SAHE				S	**Sg**		**16 52 42.7**	**-0.1**
SAHE				*i* IAML			16 52 46.0	
comp=N,7μm,0.4s								
BORA	**Eskisehir**	**1.24**	**132**		**Pn**		**16 52 26.0**	**-0.7**
BORA				Sn	**Sb**		**16 52 42.8**	**-0.1**
BORA	**Eskisehir**	**1.24**	**132**	P	**Pg**		**16 52 27.3**	**0.0**
MRMT	**Marmara Adasi**	**1.27**	**265**	Pn	**Pb**		**16 52 27.3**	**+0.1**
DURS	**Dursunbey**	**1.27**	**208**	P	**Pb**		**16 52 27.3**	**0.0**
SUSU	**Bolu-G¶ynk-**	**1.27**	**107**	P	**Pb**		**16 52 27.4**	**+0.1**
SUSU				S	**Sg**		**16 52 44.8**	**+0.4**
SUSU				*i* IAML			16 52 47.0	
comp=N,2μm,1.1s								
SUSU				*i* IAML			16 52 47.0	
comp=E,2μm,0.5s								
TVSB	**Tavsanli**	**1.28**	**173**	Pn	**Pb**		**16 52 27.4**	**-0.1**
BLKS	**Balkesir-Sus**	**1.29**	**230**	P	**Pn**		**16 52 26.7**	**-0.7**
BLKS				P	**Pb**		**16 52 26.9**	**-0.8**
BLKS				S	**Sb**		**16 52 43.2**	**-1.1**
BLKS				S	**Sn**		**16 52 43.9**	**-0.7**
BLKS				*i* IAML			16 52 51.0	
comp=N,1μm,0.7s								
BLKS				*i* IAML			16 52 51.0	
comp=N,1μm,0.8s								
ANDZ	**Kutahya, Merke**	**1.31**	**158**	P	**Pb**		**16 52 27.9**	**0.0**
ANDZ				S	**Sb**		**16 52 44.1**	**-0.6**
ANDZ				*i* IAML			16 52 48.0	
comp=E,2μm,0.6s								
TKR	**Tekirdag**	**1.33**	**282**	Pn	**Pb**		**16 52 28.7**	**+0.4**
BTAS	**Taskesti**	**1.34**	**96**	P	**Pg**		**16 52 28.8**	**-0.3**
BTAS				S	**Sg**		**16 52 46.4**	**0.0**
BTAS				*i* IAML			16 52 49.0	
comp=N,5μm,0.4s								
EMET	**Ktahya-Emet**	**1.34**	**178**	P	**Pb**		**16 52 28.4**	**-0.2**
EMET				S	**Sn**		**16 52 45.8**	**-0.2**
EMET				*i* IAML			16 52 48.0	
comp=N,3μm,0.3s								
EMET				*i* IAML			16 52 49.0	
comp=E,4μm,0.9s								
VIZE	**Kirklareli, Vi**	**1.37**	**309**	P	**Pb**		**16 52 29.2**	**+0.2**
VIZE				S	**Sn**		**16 52 46.3**	**-0.1**
VIZE				*i* IAML			16 52 49.0	
comp=E,2μm,0.6s								
VIZE				*i* IAML			16 52 50.0	
comp=N,2μm,0.2s								
GONE	**Gonen-Balikesi**	**1.37**	**241**	Pn	**Pn**		**16 52 28.3**	**-0.1**
BKES	**Balkesir-Mer**	**1.41**	**226**	P	**Pn**		**16 52 29.0**	**0.0**
BKES				S	**Sb**		**16 52 47.8**	**+0.1**
BKES				*i* IAML			16 52 52.0	
comp=N,3μm,0.8s								
MDUB	**Mudurnu**	**1.50**	**99**	Pn	**Pb**		**16 52 31.3**	**0.0**
MDUB	**Mudurnu**	**1.50**	**99**	Pn	**Pg**		**16 52 31.8**	**-0.5**
MDUB				Sn	**Sg**		**16 52 53.4**	**+1.7**
KRBG	**Karabiga-Canak**	**1.52**	**258**	Pn	**Pb**		**16 52 31.3**	**-0.3**
SART	**Tekirdag**	**1.58**	**270**	P	**Pn**		**16 52 31.8**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.58**	**270**	Pn	**Pn**		**16 52 32.0**	**+0.7**
BALY	**Balya**	**1.59**	**232**	P	**Pn**		**16 52 31.0**	**-0.4**
BALY				S	**Sn**		**16 52 51.2**	**-0.7**
PHSR	**Pinarhisar**	**1.59**	**305**	Pn	**Pb**		**16 52 32.4**	**-0.3**
PHSR	**Pinarhisar**	**1.59**	**305**	⇓P	**Pb**		**16 52 33.3**	**+0.5**
PHSR				⇓S	**Sg**		**16 52 54.0**	**-0.6**
SMAA	**Simav-Kutahya**	**1.63**	**187**	Pn	**Pn**		**16 52 32.5**	**+0.5**
GDZ	**Gediz**	**1.64**	**174**	P	**Pn**		**16 52 32.3**	**+0.1**
GDZ				S	**Sb**		**16 52 53.8**	**-0.5**
GDZ				*i* IAML			16 53 00.0	
comp=N,1μm,0.9s								
GDZ				*i* IAML			16 53 06.0	
comp=E,1μm,0.9s								
GEDZ	**Gediz**	**1.68**	**176**	Pn	**Pn**		**16 52 33.1**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.69**	**181**	Pn	**Pn**		**16 52 33.4**	**+0.5**
SGAZ	**Eskisehir, Sey**	**1.70**	**134**	P	**Pn**		**16 52 32.8**	**-0.2**
DEMI	**Demirci**	**1.73**	**194**	P	**Pb**		**16 52 35.7**	**+0.6**
DEMI				S	**Sb**		**16 52 56.2**	**-0.6**
DEMI				*i* IAML			16 52 59.0	
comp=N,2μm,0.5s								
STEP	**BALIKESIR_Sava**	**1.79**	**222**	P	**Pn**		**16 52 33.6**	**-0.5**
ARMN	**Kirklareli, Me**	**1.79**	**310**	P	**Pb**		**16 52 35.9**	**-0.2**
CANM	**Can-anakkale**	**1.82**	**248**	Pn	**Pn**		**16 52 35.4**	**+0.8**
YUVA	**Yuva-Kibriscik**	**1.88**	**99**	Pn	**Pn**		**16 52 36.5**	**+1.0**
LPK	**Lapseki**	**1.93**	**260**	Pn	**Pn**		**16 52 37.0**	**+0.9**
CIFT	**Cifteler, Eski**	**1.94**	**134**	Pn	**Pn**		**16 52 36.6**	**+0.3**
GORD	**Gordes-Manisa**	**1.99**	**205**	Pn	**Pn**		**16 52 37.6**	**+0.7**
YAYO	**Edremit-Balk**	**2.00**	**237**	Pn	**Pn**		**16 52 38.1**	**+1.0**
UKOP	**Uzunkopru-Edir**	**2.03**	**282**	Pn	**Pn**		**16 52 38.5**	**+1.1**
SOMA	**Soma-Manisa**	**2.05**	**221**	Pn	**Pn**		**16 52 38.4**	**+0.8**
ERIK	**Erikli-Kesan**	**2.08**	**270**	Pn	**Pn**		**16 52 39.3**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.14**	**262**	Pn	**Pn**		**16 52 40.1**	**+1.2**
AKS	**Akhisar**	**2.15**	**212**	Pn	**Pn**		**16 52 38.7**	**-0.4**
KULA	**Kula-Manisa**	**2.25**	**192**	Pn	**Pn**		**16 52 41.3**	**+0.8**
GOMA	**Golmarmara-Man**	**2.26**	**208**	Pn	**Pn**		**16 52 41.5**	**+0.9**
MANT	**Manisa**	**2.29**	**194**	Pn	**Pn**		**16 52 41.0**	**-0.3**
MANT					**Sb**		**16 53 13.0**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**2.35**	**270**	⇑P	**Pb**		**16 52 45.9**	**+0.3**
SHUT	**Suhut-Afyon**	**2.38**	**155**	Pn	**Pn**		**16 52 43.1**	**+0.7**
EZN	**Ezine**	**2.41**	**249**	⇑P	**Pb**		**16 52 45.8**	**-1.0**
EZN	**Ezine**	**2.41**	**249**	P	**Pb**		**16 52 45.7**	**-1.0**
ALN	**Alexandroupoli**	**2.44**	**275**	Pn	**Pn**		**16 52 43.1**	**0.0**
ALN	**Alexandroupoli**	**2.44**	**275**	P	**Pn**		**16 52 43.1**	**0.0**
JMB	**Yambol**	**2.70**	**312**	*eP*	**Pn**		**16 52 47.6**	**+0.9**
JMB	**Yambol**	**2.70**	**312**	P	**Pn**		**16 52 47.4**	**+0.7**
PRK	**Paraskevi**	**2.72**	**238**	P	**Pn**		**16 52 47.0**	**+0.1**
KALB	**Balgarevo**	**2.76**	**347**	⇑P	**Pn**		**16 52 50.0**	**+2.6**
PRD	**Provadia**	**2.80**	**331**	*eP*	**Pn**		**16 52 49.5**	**+1.5**
ANTO	**Ankara**	**2.84**	**106**	Pn	**Pn**		**16 52 48.5**	**-0.1**
ANTO	**Ankara**	**2.84**	**106**	P	**Pn**		**16 52 48.5**	**-0.1**
ANTO	**Ankara**	**2.84**	**106**	P	**Pn**		**16 52 49.0**	**+0.4**
RDO	**Rodhopi**	**2.85**	**280**	Pn	**Pn**		**16 52 48.9**	**+0.3**
NEF	**NEVSHA**	**2.94**	**331**	*eP*	**Pn**		**16 52 51.6**	**+1.7**
CIDE	**Kastamonu/Cide**	**3.02**	**66**	⇓P	**Pn**		**16 52 52.8**	**+1.8**
PSN	**Preselentsi**	**3.03**	**344**	*eP*	**Pn**		**16 52 52.7**	**+1.5**
ISP	**Isparta**	**3.06**	**161**	Pn	**Pn**		**16 52 51.5**	**-0.1**
ISP	**Isparta**	**3.06**	**161**	*i P*	**Pn**		**16 52 51.9**	**+0.3**
DIM	**Dimitrovgrad**	**3.07**	**297**	*eP*	**Pn**		**16 52 52.3**	**+0.6**
MANR	**Mangalia**	**3.13**	**351**	⇑P	**Pn**		**16 52 54.4**	**+1.8**
LOZB	**Loznitsa**	**3.31**	**324**	⇑P	**Pn**		**16 52 56.5**	**+1.5**
ELND	**Elena**	**3.35**	**312**	⇑P	**Pn**		**16 52 56.7**	**+1.1**
ILGA	**Ilgaz**	**3.40**	**83**	Pn	**Pn**		**16 52 57.2**	**+0.7**
BR106	**Keskin Array S**	**3.48**	**105**	P	**Pn**		**16 52 57.9**	**+0.3**
BR105	**Keskin Array S**	**3.49**	**105**	P	**Pn**		**16 52 58.0**	**+0.4**
RAZG	**Razgrad**	**3.50**	**325**	⇑P	**Pn**		**16 52 59.2**	**+1.6**
BR131	**Keskin Array S**	**3.50**	**105**	Pn	**Pn**		**16 52 58.1**	**+0.3**
BR131	**Keskin Array S**	**3.50**	**105**	*d iP*	**Pn**		**16 52 57.9**	**+0.1**
BRTR	**Keskin Array B**	**3.50**	**105**	Pn	**Pn**		**16 52 57.8**	**0.0**
BRTR	**Keskin Array B**	**3.50**	**105**	Pn	**Pn**		**16 52 58.0**	**+0.3**
2.4nm,0.3s,baz=279,slow=15,SNR=51								
BRTR				Pg	**Pb**		**16 53 06.9**	**+1.5**
6.6nm,0.3s,baz=280,slow=15,SNR=50								
BRTR				Sn	**Sn**		**16 53 38.5**	**-0.8**
6.2nm,0.3s,baz=288,slow=25,SNR=8.2								
BRTR				Lg	Lg		16 53 51.8	
3.2nm,0.3s,baz=322,slow=12,SNR=3.8								
6.8nm,0.5s								
BR104	**Keskin Array S**	**3.51**	**105**	P	**Pn**		**16 52 58.2**	**+0.3**
MFTR	**Murfatlar**	**3.51**	**350**	⇓P	**Pn**		**16 52 59.6**	**+1.9**
SZH	**Strazhitsa**	**3.53**	**317**	P	**Pn**		**16 52 58.9**	**+0.9**
RZN	**Rozhen**	**3.54**	**287**	*i P*	**Pn**		**16 52 59.0**	**+0.6**
ICOR	**Ion Corvin**	**3.56**	**343**	⇓P	**Pn**		**16 53 01.5**	**+3.0**
PLD	**Plovdiv**	**3.67**	**294**	P	**Pn**		**16 53 01.6**	**+1.6**
BZK	**Bozkurt**	**3.79**	**69**	Pn	**Pn**		**16 53 02.9**	**+1.3**
BZK	**Bozkurt**	**3.79**	**69**	⇑P	**Pn**		**16 53 03.6**	**+2.1**
TIRR	**Tirgusor**	**3.79**	**351**	Pn	**Pn**		**16 53 01.8**	**+0.3**
TIRR	**Tirgusor**	**3.79**	**351**	⇑P	**Pn**		**16 53 02.9**	**+1.4**
TIRR	**Tirgusor**	**3.79**	**351**	P	**Pn**		**16 53 02.9**	**+1.4**
TIRR	**Tirgusor**	**3.79**	**351**	P	**Pn**		**16 53 01.5**	**-0.1**
CICN	**Ciocanesti**	**3.85**	**335**	⇓P	**Pn**		**16 53 04.8**	**+2.5**
TLBR	**Topalu**	**3.92**	**347**	⇑P	**Pn**		**16 53 05.0**	**+1.6**
ELL	**Elmali**	**4.00**	**172**		**Pn**		**16 53 03.8**	**-0.8**
ELL	**Elmali**	**4.00**	**172**	P	**Pn**		**16 53 03.8**	**-0.8**
JURR	**Jurilovca**	**4.05**	**356**	⇑P	**Pn**		**16 53 07.1**	**+1.9**
HARR	**Harsova**	**4.09**	**347**	⇑P	**Pn**		**16 53 07.3**	**+1.6**
HARR	**Harsova**	**4.09**	**347**	P	**Pn**		**16 53 07.2**	**+1.6**
TPGR	**Topolog**	**4.18**	**352**	⇑P	**Pn**		**16 53 08.3**	**+1.3**
PGB	**Panagyurishte**	**4.21**	**297**	*i P*	**Pn**		**16 53 08.8**	**+1.4**
MMB	**Musomishta**	**4.24**	**283**	*i P*	**Pn**		**16 53 08.9**	**+1.1**
MMB	**Musomishta**	**4.24**	**283**	P	**Pn**		**16 53 08.7**	**+0.9**
TLCR		**4.48**	**356**	⇑P	**Pn**		**16 53 12.8**	**+1.8**
TLCR		**4.48**	**356**	P	**Pn**		**16 53 12.8**	**+1.8**
AKAS	**Kas**	**4.49**	**176**	Pn	**Pn**		**16 53 11.8**	**+0.5**
CFR	**Carcaliu**	**4.53**	**350**	⇑P	**Pn**		**16 53 13.1**	**+1.3**
CFR	**Carcaliu**	**4.53**	**350**	P	**Pn**		**16 53 13.0**	**+1.3**
ARG	**Arkhangelos**	**4.58**	**191**	Pn	**Pn**		**16 53 12.3**	**-0.2**
ARG	**Arkhangelos**	**4.58**	**191**	P	**Pn**		**16 53 12.3**	**-0.2**
APE	**Apeiranthos**	**4.66**	**220**	*i P*	**Pn**		**16 53 13.2**	**-0.4**
PLNA	**Plana**	**4.71**	**294**	*i P*	**Pn**		**16 53 15.4**	**+1.0**
KKB	**Krupnik**	**4.75**	**286**	*i P*	**Pn**		**16 53 16.2**	**+1.4**
KKB	**Krupnik**	**4.75**	**286**	P	**Pn**		**16 53 16.7**	**+1.9**
ISR	**Istrita**	**4.83**	**337**	⇑P	**Pn**		**16 53 18.0**	**+2.0**
ISR	**Istrita**	**4.83**	**337**	P	**Pn**		**16 53 17.9**	**+2.0**
VTS	**Vitosha**	**4.89**	**295**	*i P*	**Pn**		**16 53 17.8**	**+0.9**
VTS	**Vitosha**	**4.89**	**295**	P	**Pn**		**16 53 18.0**	**+1.1**
NEGRR	**Negrea**	**4.92**	**349**	⇑P	**Pn**		**16 53 20.1**	**+3.0**
IZVR	**Izvoarele**	**4.94**	**348**	⇓P	**Pn**		**16 53 18.7**	**+1.2**
SEV	**Sevastopol'**	**5.02**	**39**	*eP*	**Pn**		**16 53 18.5**	**0.0**
SEV				*eS*	**Sn**		**16 54 14.3**	**-2.2**
SCTR	**Scanteiesti**	**5.04**	**350**	⇑P	**Pn**		**16 53 21.1**	**+2.4**
VAY	**Valandovo**	**5.09**	**279**	*e*Pn	**Pn**		**16 53 18.8**	**-0.7**
VAY				*e*Sn	**Sg**		**16 54 47.5**	**+0.8**
VLDR	**Vladesti**	**5.19**	**351**	⇑P	**Pn**		**16 53 24.2**	**+3.3**
LIT	**Litokhoron**	**5.20**	**265**	Pn	**Pn**		**16 53 20.3**	**-0.7**
LIT	**Litokhoron**	**5.20**	**265**	P	**Pn**		**16 53 20.3**	**-0.7**
YAL	**Yalta**	**5.22**	**42**	*eP*	**Pn**		**16 53 21.9**	**+0.7**
YAL				*eS*	**Sn**		**16 54 18.9**	**-2.5**
VARL	**Varlezi**	**5.28**	**349**	⇓P	**Pn**		**16 53 24.5**	**+2.4**
ODBI	**Odobesti**	**5.29**	**343**	P	**Pn**		**16 53 23.8**	**+1.6**
0.2nm18nm,0.6s								
MLR	**Muntele Rosu**	**5.35**	**334**	Pn	**Pn**		**16 53 22.7**	**-0.5**
MLR	**Muntele Rosu**	**5.35**	**334**	Pn	**Pn**		**16 53 26.2**	**+3.0**
0.7nm,0.3s,baz=100,slow=3.6,SNR=9.2								
MLR				Sn	**Sn**		**16 54 23.7**	**-1.0**
1.5nm,0.3s,baz=169,slow=18,SNR=3.9								
MLR				Lg	Lg		16 54

KIEV	Kiev	9.98	360	Pn	Pn	16 54 25.7	-0.8
KIEV	Kiev	9.98	360	P	Pn	16 54 25.7	-0.8
AKASG	Malin Array Be	9.98	360	Pn	Pn	16 54 25.7	-0.9
	comp=Z,2.3nm,0.3s,baz=181,slow=12,SNR=7.1						
AKASG				Sn	Sn	16 56 12.3	-6.2
	comp=Z,3.1nm,0.3s,baz=231,slow=21,SNR=5.4						
	comp=Z,0.6nm,0.3s						
AKBB	Malin Array Si	9.98	360	Pn	Pn	16 54 25.5	-1.1
AKBB	Malin Array Si	9.98	360	*i* P	Pn	16 54 27.4	+0.8
MI28	MI28,Pidlybu	10.27	354	P	Pn	16 54 29.2	-1.3
SHA1	Shidzhatmaz	10.39	69	*i* P	Pn	16 54 33.0	+0.6
KIV	Kislovodsk	10.46	68	*e*P	Pn	16 54 34.1	+0.9
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVAR	Kislovodsk Arr	10.46	68	Sn	Sn	16 56 26.2	-4.3
	baz=298,slow=17						
ASF	Jabal al Asfar	10.52	142	Pn	Pn	16 54 32.7	-1.3
	comp=Z,0.2nm,0.3s,baz=287,slow=12,SNR=1.5						
	comp=Z,0.7nm,0.4s						
KBZ	Khabaz	10.56	69	Pn	Pn	16 54 35.7	+1.3
	comp=Z,0.1nm,0.3s,baz=300,slow=18,SNR=1.8						
KBZ				Sn	Sn	16 56 31.2	-1.4
	comp=Z,0.2nm,0.3s,baz=101,slow=14,SNR=1.8						
	comp=Z,0.6nm,0.5s						
RNPP5	Staryi Chortor	10.77	349	P	Pn	16 54 37.8	+0.5
RNPP8	Varash	10.88	349	P	Pn	16 54 39.2	+0.4
RNPP9	Sopachiv	10.95	349	P	Pn	16 54 40.6	+0.9
GNI	Garni	11.82	88	LR	LR	16 59 40.5	
	comp=Z,47nm,20.9s,baz=294,slow=39						
EIL	Elat	11.96	155	LR	LR	17 00 31.0	
	comp=Z,43nm,19.5s,baz=346,slow=43						
VRAC	Vranov	12.39	318	LR	LR	17 00 25.2	
	comp=Z,58nm,18.5s,baz=98,slow=40						
VSR	Storozhevoye	12.55	30	*e*P	Pn	16 54 58.7	-2.9
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORR	Voronezh	12.93	29	*e*P	Pn	16 55 05.2	-1.6
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPSR	Galich'ya Gora	13.60	26	*e*P	Pn	16 55 13.1	-2.9
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
MNK	Minsk	13.82	357	*i* P	Pn	16 55 15.6	-3.4
	comp=E,12nm,0.8s						
MNK				*i* P	Pn	16 55 15.6	-3.4
	comp=N,18nm,0.8s						
MNK				*i* P	Pn	16 55 15.6	-3.4
	comp=Z,11nm,0.9s,baz=175						
MNK				*i* PP	PnPn	16 55 23.5	-3.4
MNK				*i* PPP	PPP	16 55 31.1	
MNK				*i* S	Sn	16 57 49.2	-3.1
MNK				*i* SS	SnSn	16 58 02.8	-1.9
MNK				*i* SSS	SSS	16 58 15.2	
MNK				*i* LQ	LQ	16 59 17.0	
MNK				*i* LR	LR	17 00 29.8	
MNK				*i* LRM	MLR	17 01 19.5	
	comp=E,70nm,18.8s						
MNK				*i* LRM	MLR	17 01 30.1	
	comp=Z,68nm,15.8s						
MNK				*i* LRM	MLR	17 01 34.8	
	comp=N,89nm,16.5s						
MNK	Minsk	13.82	357	*i* P	Pn	16 55 15.5	-3.4
MNK				*i* S	Sn	16 57 49.2	-3.1
MNK				pmax	pmax		
	comp=E,12nm,0.8s						
MNK				pmax	pmax		
	comp=Z,11nm,0.9s						
MNK				pmax	pmax		
	comp=N,18nm,0.8s						
MNK				MLR	MLR		
	comp=E,70nm,19.0s						
MNK				MLR	MLR		
	comp=Z,68nm,16.0s						
MNK				MLR	MLR		
	comp=N,89nm,17.0s						
NACGM	Naroch	14.29	354	*e*P	Pn	16 55 23.7	-1.7
	comp=Z,14nm,0.8s,baz=172						
OBN	Obninsk	15.20	16	⇓*e*P	Pn	16 55 33.8	-3.9
OBN				*i* S	Sn	16 58 19.2	-6.7
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,58nm,15.0s						
MOS	Moscow	16.01	17	*e*P	Pn	16 55 34.1	-14
BELG	Belogornoye	17.14	41	P	P	16 56 04.2	-0.1
	comp=Z,0.5nm,0.3s,baz=261,slow=5.6,SNR=3.7						
	comp=Z,1.9nm,0.3s						
FIA1	FINESS Array S	20.84	356	P	P	16 56 44.8	0.0
FIA1				IAmb	IAmb	16 56 51.8	
	comp=Z,25nm,1.2s						
FINES	FINESS Array B	20.84	356	P	P	16 56 44.0	-0.7
FINES	FINESS Array B	20.84	356	P	P	16 56 45.5	+0.8
	comp=Z,1.5nm,0.7s,baz=168,slow=16,SNR=8.3						
	comp=Z,1.5nm,0.7s						
FINES	FINESS Array B	20.84	356	*i* P	Pn	16 56 49.2	+2.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KLMR	Klimovskoe	21.13	14	*e*P	P	16 56 47.7	-0.1
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HFS	Hagfors	21.71	339	P	P	16 56 55.9	+1.8
	comp=Z,2.1nm,0.9s,baz=133,slow=14,SNR=1.6						
	comp=Z,2.1nm,0.9s						
AKTO	Aktyubinsk	22.23	54	P	P	16 57 00.6	+0.8
	comp=Z,0.7nm,0.5s,baz=256,slow=15,SNR=2.6						
	comp=Z,0.7nm,0.5s						
NOA	NORSAR Array B	23.16	337	LR	LR	17 07 28.9	
	comp=Z,42nm,18.2s,baz=15,slow=40						
AB31	Akbulak array	23.19	58	P	P	16 57 10.1	+0.2
AB31				IAmb	IAmb	16 57 54.9	
	comp=Z,1.6nm,0.8s						
ABKAR	Akbulak array	23.19	58	P	P	16 57 09.9	0.0
NC204	NORSAR Array S	23.48	337	P	P	16 57 11.4	-1.3
NC204				IAmb	IAmb	16 57 40.1	
	comp=Z,14nm,1.2s						
ARTI	Arti	24.59	41	P	P	16 57 24.1	+1.0
ARTI						16 57 53.6	
ARTI				S	S	17 01 46.9	+3.1
ARTI				SS	SnSn	17 02 28.5	-0.3
ESDC	Sonseca Array	25.31	279	P	P	16 57 31.0	+1.0
	comp=Z,0.3nm,0.5s,baz=83,slow=9.7,SNR=2.2						
	comp=Z,0.3nm,0.5s						
KURBB	Kurchatov Arra	35.23	57	P	P	16 58 58.5	+1.0
	comp=Z,0.4nm,0.8s,baz=270,slow=8.3,SNR=2.3						
	comp=Z,0.4nm,0.8s						
KURK	Kurchatov	35.28	57	*i* P	P	16 59 00.7	+2.8
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	Makanchi Array	38.17	63	P	P	16 59 22.8	+0.2
MKAR	Makanchi Array	38.17	63	P	P	16 59 23.6	+1.0
	comp=Z,0.3nm,0.5s,baz=282,slow=7.2,SNR=4.5						
	comp=Z,0.3nm,0.5s						
ZALV	Zalesovo Beam	38.90	51	P	P	16 59 27.5	-1.2
ZALV	Zalesovo Beam	38.90	51	P	P	16 59 28.4	-0.2
	comp=Z,0.3nm,0.3s,baz=254,slow=10,SNR=1.8						
ZALV				LR	LR	17 17 28.6	
	comp=Z,26nm,19.1s,baz=236,slow=39						
	comp=Z,0.3nm,0.3s						
WMQ	Urumqi	42.58	66	*e*P	P	17 00 01.5	+2.3
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
DBIC	Dimbokro	45.57	231	LR	LR	17 21 11.2	
	comp=Z,43nm,18.3s,baz=210,slow=38						
YAK	Yakutsk	59.45	33	*i* P	P	17 02 08.7	+3.0
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HHC	Hu-ho-hao-te	59.96	60	*e*P	P	17 02 09.8	+0.1
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
PZH	PanZhiHua	60.44	79	P	P	17 02 14.1	+0.9
BILL	Bilibino	66.86	16	*i* P	P	17 02 57.0	+2.3
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YSS	Yuzhno-Sakhali	74.59	41	*e*P	P	17 03 45.8	+3.7
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						

UPP 10 17:01:59.6±0.1, 67°.08N×20°.95E, h0km, ML2.1, 1C,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	285	⇑P	Pg	17 02 02.8	+0.2
DUNU				S	Sg	17 02 04.8	+0.2
ERTU	Ertsjaerv	0.72	137	P	Pg	17 02 13.2	-0.2
ERTU				S	Sg	17 02 23.2	+0.4
PAJU	Pajala	0.85	93	P	Pg	17 02 15.6	-0.3
PAJU				S	Sg	17 02 27.4	+0.5
KUA	Kurravaara	0.91	345	P	Pg	17 02 16.5	-0.4
RATU	Laukkuluspa	0.91	325	P	Pg	17 02 16.5	-0.5
RATU				S	Sg	17 02 28.8	0.0
HARU	Harads	0.92	179	P	Pg	17 02 16.7	-0.6
SALU	Saltoluokta	1.00	289	P	Pg	17 02 18.1	-0.5
SALU				S	Sg	17 02 31.6	+0.1
SALU	Saltoluokta	1.00	289	*e*P	Pg	17 02 18.2	-0.4
LANU	Lannavaara	1.05	22	P	Pg	17 02 18.9	-0.7
LANU	Lannavaara	1.05	22	*e*P	Pg	17 02 18.6	-1.1
NIKU	Nikkaluokta	1.08	318	P	Pg	17 02 19.6	-0.7
NIKU				S	Sg	17 02 34.7	+0.5
KOVU	Salmi	1.18	346	P	Pg	17 02 21.5	-0.8
KALU	Kalix	1.56	141	P	Pn	17 02 28.2	-0.3
SJUU	Sjulsmark	1.60	170	P	Pn	17 02 28.9	-0.2
SJUU	Sjulsmark	1.60	170	*e*P	Pn	17 02 29.2	+0.1
HEF	Hetta	1.68	37	*e*P	Pn	17 02 30.3	0.0
VAF	Ylistaro	4.12	169	*e*P	Pn	17 03 04.9	+1.2
KEF	Keuruu	5.21	159	*e*P	Pn	17 03 20.6	+1.9
JOF	Joensuu	6.06	129	*e*P	Pn	17 03 30.5	+0.2
RAF	Rauma	6.09	176	*e*P	Pn	17 03 30.8	0.0
AAL	Aland	6.95	184	*e*P	Pn	17 03 41.4	-1.0

ISK 10 17:04:38.7, 40°.71N×29°.27E, h5km, ML3.3/47
AFAD 10 17:04:38.8, 40°.69N×29°.25E, h11km, ML3.0

ISC 10 17:04:39.2±0.8, 40°.70N±0°.02×29°.26E±0°.02, h12km±6km,
n88, σ0°.71/109, 17C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURT	Yalova, Merkez	0.12	201	*i* IAML		17 04 42.0	
	comp=N,2μm,1.2s						
KURT				P	Pg	17 04 42.2	+0.1
KURT				P	Pg	17 04 42.2	+0.1
KURT				S	Sg	17 04 44.1	-0.2
YLV	Yalova	0.16	148	Pg	Pg	17 04 42.6	-0.2
YLV				Sg	Sg	17 04 45.4	0.0
HRT	Hereke	0.33	68	Pg	Pg	17 04 45.8	-0.1
HRT				Sg	Sg	17 04 50.3	0.0
ARMT	Armutlu	0.33	247	Pg	Pg	17 04 45.8	-0.1
ARMT				Sg	Sg	17 04 50.7	+0.3
OSMT	Osmaniye	0.35	106	Pg	Pg	17 04 45.9	-0.2
OSMT				Sg	Sg	17 04 51.1	+0.3
KAVV	Kandilli-Istan	0.40	337	Pg	Pg	17 04 45.9	-1.1
SEMS	Kocaeli-K¶rfe	0.40	64	P	Pg	17 04 46.9	-0.2
SEMS				S	Sg	17 04 52.4	0.0
SEMS				*i* IAML		17 04 53.0	
	comp=N,2μm,0.2s						
MDNY	Mudanya-Bursa	0.44	221	Pg	Pg	17 04 47.9	+0.1
MDNY				Sg	Sb	17 04 54.5	-0.9
ADVT	Abdulvahap	0.45	126	Pg	Pg	17 04 47.9	-0.1
ADVT				Sg	Sg	17 04 54.1	+0.2
SILT	Sile	0.54	32	Pg	Pg	17 04 49.5	-0.2
SILT	Sile	0.54	32	⇑P	Pb	17 04 49.8	-0.7
SILT				⇓S	Sg	17 04 56.9	+0.1
HISA	Bilecik-Osmane	0.55	115	P	Pg	17 04 49.9	0.0
HISA				S	Sg	17 04 57.0	-0.3
HISA				*i* IAML		17 04 59.0	
	comp=E,989nm,0.4s						
ULDT	Uludag	0.56	190	P	Pg	17 04 50.2	0.0
KLYT	Kilyos	0.58	343	Pg	Pb	17 04 50.6	-0.6
KLYT	Kilyos	0.58	343	⇑P	Pb	17 04 50.7	-0.6
BGKT	Bogazkoy	0.61	323	Pg	Pb	17 04 51.2	-0.6
ORLT	Orhaneli	0.71	203	Pg	Pb	17 04 53.0	-0.5
BILE	Bilecik/Merkez	0.71	139	P	Pg	17 04 52.8	-0.2
BILE				S	Sg	17 05 01.8	-0.5
BILE				*i* IAML		17 05 03.0	
	comp=E,466nm,0.3s						
ELBA	Catalca	0.77	306	P	Pg	17 04 53.7	-0.4
ELBA				S	Sg	17 05 04.3	0.0
ELBA				*i* IAML		17 05 06.0	
	comp=E,1μm,0.1s						
CTKS	Kestanelik-??a	0.79	313	Pg	Pg	17 04 53.9	-0.4
KAND	Kocaeli-Kandir	0.81	60	P	Pb	17 04 54.7	-0.4
KAND				S	Sg	17 05 04.7	-0.6
KAND				*i* IAML		17 05 06.0	
	comp=N,400nm,0.9s						
KAND				*i* IAML		17 05 07.0	
	comp=E,413nm,0.5s						
SAUV	Serdivan-Sakar	0.81	87	Pg	Pb	17 04 54.8	-0.4
GEYV	SAKARYA_Geyve	0.81	105	P	Pg	17 04 54.7	-0.2
KAYN	Sakarya, Kayna	0.86	72	P	Pg	17 04 55.2	-0.6
KAYN				S	Sg	17 05 05.8	-1.2
GPA	Golpazari	0.90	117	Pg	Pb	17 04 56.7	0.0
BAND	Balkesir-Ban	0.95	249	P	Pg	17 04 56.8	-0.6
BAND				S	Sb	17 05 11.0	+0.8
BAND				*i* IAML		17 05 12.0	
	comp=E,1μm,0.3s						
BAND				*i* IAML		17 05 13.0	
	comp=N,987nm,0.2s						
SLVT	Silivri	0.96	304	Pg	Pb	17 04 57.5	-0.2
DOMA	Ktahya-Doman	0.97	160	P	Pg	17 04 57.3	-0.6
GULT	Gulveren	0.99	105	Pg	Pg	17 04 58.0	-0.2
CTYL	Yalikoy Yolu	1.07	317	Pg	Pb	17 04 59.4	-0.2
CTYL	Yalikoy Yolu	1.07	317	⇓P	Pb	17 04 59.5	-0.2
CTYL				⇑S	Sb	17 05 14.1	+0.5
EDC	Edincik	1.12	252	Pn	Pb	17 05 00.4	-0.1
DST	Dursunbey	1.20	205	Pn	Pn	17 05 02.2	+0.4
BORA	Eskisehir	1.22	132	P	Pb	17 05 02.0	-0.3
CRLT	Corlu	1.23	291	Pn	Pg	17 05 02.5	-0.4
DURS	Dursunbey	1.25	209	P	Pg	17 05 03.7	+0.5
DURS				S	Sn	17 05 19.8	+0.4
DURS				*i* IAML		17 05 21.0	
	comp=N,393nm,0.2s						
DURS				*i* IAML		17 05 21.0	
	comp=E,715nm,0.8s						
TVSB	Tavsanli	1.26	173	Pn	Pb	17 05 02.8	-0.1
SUSU	Bolu-G¶lynk-	1.26	106	P	Pg	17 05 03.0	-0.3
SUSU				S	Sn	17 05 19.9	+0.3
SUSU				*i* IAML		17 05 22.0	
	comp=N,173nm,0.5s						
MRMT	Marmara Adasi	1.27	266	Pn	Pn	17 05 02.7	-0.2
ANDZ	Kutahya, Merke	1.28	157	P	Pn	17 05 02.6	-0.4
BLKS	Balkesir-Sus	1.29	231	P	Pg	17 05 04.0	+0.1
BLKS				S	Sg	17 05 20.0	-0.6
EMET	Ktahya-Emet	1.32	178	P	Pn	17 05 03.8	+0.2
EMET				S	Sb	17 05 20.9	-0.1
EMET				*i* IAML		17 05 23.0	
	comp=N,174nm,0.4s						
EMET				*i* IAML		17 05 24.0	
	comp=E,253nm,0.5s						
TKR	Tekirdag	1.34	283	Pn	Pg	17 05 04.7	-0.2
GONE	Gonen-Balikesi	1.37	242	Pn	Pn	17 05 03.5	-0.6
MDUB	Mudurnu	1.49	98	Pn	Pb	17 05 06.9	0.0
KRBG	Karabiga-Canak	1.53	259	Pn	Pb	17 05 07.3	-0.1
RKY	Sarkoy-Tekirda	1.59	270	Pn	Pn	17 05 07.6	+0.4
PHSR	Pinarhisar	1.61	306	Pn	Pb	17 05 08.9	+0.1
PHSR	Pinarhisar	1.61	306	⇓P	Pg	17 05 09.2	-0.9
SMAA	Simav-Kutahya	1.61	188	Pn	Pb	17 05 08.7	-0.2
GEDZ	Gediz	1.66	176	Pn	Pb	17 05 09.2	-0.5
SHAP	Saphane-Kutahy	1.67	181	Pn	Pn	17 05 08.7	+0.3
CANM	Can-anakkale	1.82	249	Pn	Pb	17 05 11.6	-0.9
YUVA	Yuva-Kibriscik	1.87	99	Pn	Pn	17 05 12.2	+1.0
CIFT	Cifteler, Eski	1.92	133	Pn	Pb	17 05 13.7	-0.5
LPK	Lapseki	1.94	261	Pn	Pb	17 05 13.1	-1.3
GORD	Gordes-Manisa	1.97	205	Pn	Pb	17 05 13.9	-1.2
YAYO	Edremit-Balk	2.00	238	Pn	Pb	17 05 14.1	-1.4
SOMA	Soma-Manisa	2.03	221	Pn	Pb	17 05 14.9	-1.2
UKOP	Uzunkopru-Edir	2.04	283	Pn	Pn	17 05 13.4	+0.1
ERIK	Erikli-Kesan	2.09	270	Pn	Pn	17 05 15.4	+1.4
AKS	Akhisar	2.13	212	Pn	Pn	17 05 16.0	+1.3
GELI	Tayfur-Gelibol	2.15	263	Pn	Pn	17 05 16.1	+1.3
KULA	Kula-Manisa	2.23	192	Pn	Pb	17 05 17.8	-1.7
GOMA	Golmarmara-Man	2.24	208	Pn	Pn	17 05 17.7	+1.6
CAVK	Edirne/Enez-Ca	2.35	271	⇓P	Pb	17 05 21.5	0.0
SHUT	Suhut-Afyon	2.36	155	Pn	Pn	17 05 19.4	+1.5
EZN	Ezine	2.41	250	⇑P	Pb	17 05 22.4	-0.1
ELND	Elena	3.37	312	⇑P	Pn	17 05 32.7	+1.0
EFOR	EFORIE	3.41	352	⇓P	Pn	17 05 32.1	-0.1
RAZG	Razgrad	3.52	325	⇑P	Pn	17 05 35.6	+1.8
TIRR	Tirgusor	3.81	351	⇑P	Pn	17 05 38.7	+1.0
JURR	Jurilovca	4.08	356	⇓P	Pn	17 05 42.5	+1.2
TPGR	Topolog	4.20	352	⇑P	Pn	17 05 43.6	+0.5
TLCR		4.50	356	⇑P	Pn	17 05 47.7	+0.6
CFR	Carcaliu	4.55	350	⇓P	Pn	17 05 48.2	+0.4
SCTR	Scanteiesti	5.06	350	⇓P	Pn	17 05 56.0	+1.2
MLR	Muntele Rosu	5.37	334	⇑P	Pn	17 06 00.3	+1.0
VRI	Vrincioaia	5.49	341	⇑P	Pn	17 06 01.4	+0.6
PLOR	Plostina	5.49	341	⇑P	Pn	17 06 02.2	+1.3
ARR	Arges	5.77	326	⇑P	Pn	17 06 05.6	+1.0
TURR	Turia	5.85	337	⇑P	Pn	17 06 07.1	+1.3
DOPR	Dopca	5.98	333	⇓P	Pn	17 06 08.8	+1.4
TESR	Tescani	6.11	343	⇑P	Pn	17 06 10.1	+0.8
LOT	Lotru	6.22	322	⇑P	Pn	17 06 11.3	+0.4
MILM	Milestii Mici	6.23	357	⇓P	Pn	17 06 10.6	-0.3
GZR	Gura Zlata	6.68	317	⇑P	Pn	17 06 18.2	+1.1
SORM	Soroca	7.46	355	⇓P	Pn	17 06 27.8	0.0

IDC 10 17:09:30.9±3.7, 40°.20N×28°.50E, h0km, mb3.4/1,
mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=52.3km
s-min=11.1km az=41.0
ISK 10 17:09:39.9, 40°.71N×29°.27E, h5km, ML3.5/38
AFAD 10 17:09:39.7, 40°.72N×29°.22E, h10km, ML3.2

ISC 10 17:09:40.5±0.8, 40°.72N±0°.02×29°.24E±0°.02, h11km±6km,
n89, σ1°.08/114, 13C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURT	Yalova, Merkez	0.13	192	P	Pg	17 09 43.4	-0.2
KURT				P		17 09 43.5	
KURT				S	Sg	17 09 45.4	-0.5
KURT				S		17 09 45.6	
YLV	Yalova	0.18	147	Pg	Pg	17 09 44.0	-0.5
YLV				Sg	Sg	17 09 47.1	-0.1
ARMT	Armutlu	0.33	243	Pg	Pg	17 09 47.2	+0.1
ARMT				Sg	Sg	17 09 52.1	+0.6
HRT	Hereke	0.34	72	Pg	Pg	17 09 47.1	-0.2
HRT				Sg	Sg	17 09 51.9	+0.1
OSMT	Osmaniye	0.37	108	Pg	Pg	17 09 47.2	-0.6
OSMT				Sg	Sg	17 09 52.0	-0.7
KAVV	Kandilli-Istan	0.37	338	Pg	Pg	17 09 47.2	-0.7
SEMS	Kocaeli-K¶rfe	0.41	68	P	Pg	17 09 48.5	0.0
SEMS				S	Sg	17 09 53.2	-0.7
SEMS				*i* IAML		17 09 54.0	
	comp=N,2μm,0.3s						
SEMS				*i* IAML		17 09 54.0	
	comp=E,2μm,0.5s						
MDNY	Mudanya-Bursa	0.44	218	Pg	Pg	17 09 49.2	0.0
MDNY				Sg	Sg	17 09 55.9	+0.8
ADVT	Abdulvahap	0.47	127	Pg	Pg	17 09 49.3	-0.4
ADVT				Sg	Sg	17 09 55.6	-0.4
KLYT	Kilyos	0.56	344	Pg	Pb	17 09 52.0	-0.1
KLYT				Sg	Sb	17 10 00.1	0.0
KLYT	Kilyos	0.56	344	⇑P	Pb	17 09 52.1	-0.1
HISA	Bilecik-Osmane	0.57	116	P	Pg	17 09 51.3	-0.3
HISA				S	Sg	17 09 58.5	-0.7
HISA				*i* IAML		17 10 00.0	
	comp=N,1μm,0.3s						
HISA				*i* IAML		17 10 01.0	
	comp=E,1μm,0.4s						
ULDT	Uludag	0.58	188	P	Pg	17 09 51.0	-0.8
ULDT				S	Sg	17 09 58.7	-0.8
BGKT	Bogazkoy	0.58	323	Pg	Pg	17 09 51.7	-0.1
BGKT				Sg	Sb	17 10 00.7	-0.3
ORLT	Orhaneli	0.72	202	Pg	Pg	17 09 54.2	-0.2
BILE	Bilecik/Merkez	0.73	139	P	Pg	17 09 54.4	-0.3
ELBA	Catalca	0.75	305	P	Pb	17 09 55.3	-0.2
ELBA				S	Sg	17 10 04.6	-0.2
CTKS	Kestanelik-??a	0.76	313	Pg	Pb	17 09 55.5	-0.2
KAND	Kocaeli-Kandir	0.81	62	P	Pg	17 09 55.3	-0.8
KAND				S	Sg	17 10 06.1	-0.6
KAND				*i* IAML		17 10 08.0	
	comp=E,631nm,0.4s						
SAUV	Serdivan-Sakar	0.82	88	Pg	Pg	17 09 55.5	-0.9
GEYV	SAKARYA_Geyve	0.83	106	P	Pg	17 09 55.8	-0.7
GEYV				S	Sg	17 10 07.1	-0.3
GEYV				*i* IAML		17 10 10.0	
	comp=N,786nm,0.5s						
KAYN	Sakarya, Kayna	0.87	73	P	Pg	17 09 56.6	-0.6
GPA	Golpazari	0.92	117	Pg	Pg	17 09 57.9	-0.3
SLVT	Silivri	0.94	304	Pg	Pb	17 09 59.0	+0.3
BAND	Balkesir-Ban	0.94	248	P	Pg	17 09 57.9	-0.8
BAND				S	Sg	17 10 11.0	0.0
BAND				*i* IAML		17 10 13.0	
	comp=E,2μm,0.4s						
BAND				*i* IAML		17 10 14.0	
	comp=N,1μm,0.4s						
DOMA	Ktahya-Doman	0.99	160	P	Pg	17 09 59.3	-0.3
DOMA				S	Sg	17 10 12.6	+0.1
DOMA				*i* IAML		17 10 14.0	
	comp=E,2μm,0.3s						
DOMA				*i* IAML		17 10 15.0	
	comp=N,1μm,0.6s						
GULT	Gulveren	1.01	106	Pg	Pg	17 09 59.3	-0.6
CTYL	Yalikoy Yolu	1.05	317	Pg	Pn	17 10 01.0	0.0
CTYL	Yalikoy Yolu	1.05	317	⇑P	Pn	17 10 01.1	+0.1
CTYL				⇑S	Sn	17 10 15.6	0.0
EDC	Edincik	1.12	251	Pn	Pg	17 10 01.4	-0.5
DST	Dursunbey	1.21	203	Pn	Pn	17 10 03.9	+0.6
CRLT	Corlu	1.21	290	Pn	Pn	17 10 04.1	+0.8
SAHE	Sakarya_HENDEK	1.23	83	⇓P	Pg	17 10 03.3	-0.8
SAHE				⇑S	Sb	17 10 20.1	+0.5
MRMT	Marmara Adasi	1.26	265	Pn	Pn	17 10 04.6	+0.6
DURS	Dursunbey	1.26	208	P	Pg	17 10 04.2	-0.6
TVSB	Tavsanli	1.28	172	Pn	Pg	17 10 03.9	-1.1
BLKS	Balkesir-Sus	1.29	230	P	Pg	17 10 03.6	-1.6

1.1nm,0.6s
MLR Muntele Rosu 5.35 334 ⇓P Pn 17 11 02.7 +2.5
VRI Vrincioaia 5.46 341 ⇑P Pn 17 11 03.8 +2.1
PLOR Plostina 5.47 341 ⇓P Pn 17 11 03.0 +1.1
ARR Arges 5.74 326 ⇑P Pn 17 11 07.1 +1.4
TURR Turia 5.83 337 ⇓P Pn 17 11 08.7 +1.9
OZUR 5.94 336 ⇓P Pn 17 11 10.7 +2.4
DOPR Dopca 5.95 333 ⇑P Pn 17 11 11.3 +2.8
TESR Tescani 6.09 343 ⇑P Pn 17 11 12.7 +2.4
LOT Lotru 6.20 322 ⇑P Pn 17 11 12.9 +1.0
MILM Milestii Mici 6.21 357 ⇑P Pn 17 11 11.9 0.0
MARR Marisel-Cluj 7.43 325 ⇓P Pn 17 11 30.5 +1.8
SORM Soroca 7.44 355 ⇓P Pn 17 11 29.2 +0.3
BURAR Bucovina Array 7.48 339 ⇓P Pn 17 11 32.3 +2.9
AKASG Malin Array Be 9.98 360 Pn **Pn 17 12 01.8 -1.9**
1.0nm,0.3s,baz=180,slow=15,SNR=4.4
0.2nm,0.3s
FINES FINESS Array B 20.84 356 P **P 17 14 20.7 -1.2**
1.7nm,0.9s,baz=169,slow=7.8,SNR=2.2
1.7nm,0.9s

*AEIC **10** 17:15:03.3±0.6, 54°.0N±0°.2×165°.3W±0°.2, h78km±7km, Error ellipse: s-maj=37.3km s-min=3.1km az=153.0*
NEIC 10 17:15:03.2±0.6, 54°.0N±0°.2×165°.2W±0°.1, h74km±12km, ML2.9/8, ML2.3(AEIC), Error ellipse: s-maj=24.0km s-min=5.7km az=157.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.37 300**			Pn	17 15 15.5	+0.1
AKSA					Sn	17 15 24.5	+0.2
AKUT	**Akutan**	**0.41 296**			Pn	17 15 15.7	+0.1
AKUT				IAML		17 15 25.2	
	comp=E,694nm,0.2s						
AKUT	**Akutan**	**0.41 296**			Sn	17 15 25.0	+0.3
AHB	**Akutan Harbor**	**0.42 292**			Pn	17 15 15.9	0.0
AHB					Sn	17 15 25.4	+0.3
AKBBA	**Akutan Broad B**	**0.48 288**			Pn	17 15 16.2	-0.1
ZRO	**Akutan Zero**	**0.51 286**			Pn	17 15 16.4	-0.2
AKV	**Akutan Volcano**	**0.51 290**			Pn	17 15 16.4	-0.2
AKLV	**Akutan Long Va**	**0.52 294**			Pn	17 15 16.4	-0.3
AKMO	**Akutan Morgan**	**0.53 285**			Pn	17 15 16.6	0.0
AKGG	**Akutan Green G**	**0.55 297**			Pn	17 15 16.8	-0.1
LVA	**Lava Point**	**0.56 292**			Pn	17 15 16.9	-0.1
LVA					Sn	17 15 27.1	-0.1
LVA	**Lava Point**	**0.56 292**		IAML		17 15 27.9	
	comp=N,347nm,0.6s						
AKRB	**Akutan Reef Bi**	**0.57 288**			Pn	17 15 17.0	-0.1
AKRB					Sn	17 15 27.5	+0.2
WEBT	**Westdahl Beart**	**0.68 20**			Pn	17 15 18.5	+0.3
WEBT					Sn	17 15 29.7	+0.4
UNV	**Unalaska Valle**	**0.81 263**			Pn	17 15 19.4	-0.2
UNV					Sn	17 15 31.2	-0.6
UNV	**Unalaska Valle**	**0.81 263**		IAML		17 15 31.6	
	comp=E,258nm,0.3s						
MNAT	**Makushin Natee**	**0.91 266**			Pn	17 15 20.5	-0.4
MSW	**Makushin Switc**	**0.97 268**			Sn	17 15 34.6	-0.5
SSBA	**Shishaldin**	**1.01 36**			Pn	17 15 22.6	+0.4
MAPS	**Pakushin South**	**1.07 263**			Pn	17 15 22.8	0.0
ISNN	**Isanotski Nort**	**1.19 42**			Pn	17 15 25.6	+1.3
FALS	**False Pass**	**1.36 48**		Pn	Pn	17 15 24.4	-2.0
FALS				Sn	Sn	17 15 43.7	-0.1
FALS				IAML		17 15 48.8	
	comp=E,222nm,0.5s						
DT1	**Dutton Round H**	**2.03 54**			Pn	17 15 36.6	+1.3
DOL	**Dolgoi Island**	**2.26 57**			Pn	17 15 39.7	+1.3
N15K	**Kwethluk River**	**6.81 22**		Pn	Pn	17 16 41.2	+0.8
KDAK	**Kodiak Island**	**8.04 56**		Pn	Pn	17 16 57.1	0.0
L16K	**Owhat River**	**8.34 19**		Pn	Pn	17 17 00.4	-0.8

*IPEC **10** 17:18:42.8±0.1, 50°.18N×18°.63E, h1km, ML2.5/5, Error ellipse: s-maj=1.6km s-min=0.6km az=166.0*
*VIE **10** 17:18:42.7±0.8, 50°.21N×18°.56E, h0km, mb2.5/9, ml2.7/8, ms3.6/3, Error ellipse: s-maj=7.0km s-min=3.8km az=162.0*
31 km W of Katowice Suspected Mining induced.
*PRU **10** 17:18:44.3, 50°.15N×18°.55E, h0km*
ISC 10 17:18:43.1±0.8, 50°.18N±0°.03×18°.62E±0°.02, h0km, n38, σ1.9 30/58, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.29 250**		*e*PG	**Pg**	17 18 49.5	+0.9
RAC				*e*SG	**Sb**	17 18 54.7	-1.8
OKC	**Ostrava-Krasne**	**0.46 221**		*e*PG	**Pg**	17 18 52.2	+0.3
OKC				*e*SG	**Sg**	17 18 58.8	+1.0
	comp=Z,135nm,0.4s						
STEB	**Steborice**	**0.60 246**		*e*PG	**Pg**	17 18 54.9	+0.4
STEB				*e*SG	**Sg**	17 19 02.5	+0.2
	comp=Z,188nm,0.4s						
OJC	**Ojcow**	**0.76 87**		*e*Pg	**Pg**	17 18 57.3	-0.4
OJC				*e*Sg	**Sg**	17 19 08.0	+0.6
MORC	**Moravsky Berou**	**0.80 240**		*e*Pg	**Pg**	17 18 58.2	-0.3
	baz=60						
MORC				*e*Sg	**Sg**	17 19 08.2	-0.7
	119nm,0.7s,baz=60						
MAUC	**Maruska**	**0.96 212**		*e*PG	**Pg**	17 19 01.7	+0.2
LOSC	**Losov**	**0.98 236**		*e*Pg	**Pg**	17 19 01.5	-0.4
	baz=55						
LOSC				*e*Sg	**Sg**	17 19 13.6	-1.0
	98nm,0.6s,baz=55						
LANS	**Liptovska Anna**	**1.17 152**		*e*PG	**Pg**	17 19 05.6	+0.1
LANS				*e*SG	**Sb**	17 19 22.3	+0.4
LANS				*e*LG	Lg	17 19 24.4	
KRLC	**Kraliky**	**1.19 266**		*e*SG	**Sg**	17 19 20.9	-0.3
	comp=Z,78nm,0.4s						
NIE	**Niedzica**	**1.33 124**		*e*Pg	**Pg**	17 19 08.4	-0.2
NIE				*e*Sg	**Sn**	17 19 28.2	+0.8
JAVC	**Velka Javorina**	**1.46 205**		*e*Pn	**Pn**	17 19 10.3	-0.5
	baz=25						
DPC	**Dobruska-Polom**	**1.48 277**		*e*PG	**Pn**	17 19 10.4	-0.6
DPC				*e*SG	**Sg**	17 19 30.5	-0.2
	comp=Z,42nm,0.4s						
VRAC	**Vranov**	**1.58 237**		*e*Pn	**Pn**	17 19 11.9	-0.4
	baz=56						
VRAC				*e*Sg	**Sn**	17 19 32.3	-1.1
	27nm,0.4s,baz=56						
OSTC	**Ostas**	**1.58 285**		*e*PG	**Pg**	17 19 13.6	+0.2
OSTC				*e*SG	**Sg**	17 19 34.3	+0.4
	comp=Z,46nm,1.1s						
KSP	**Ksiaz**	**1.62 295**		*e*Pg	**Pb**	17 19 13.8	-0.1
KSP				*e*Sg	**Sg**	17 19 35.3	0.0
CHVC	**Chvalec**	**1.69 285**		*e*SG	**Sn**	17 19 35.8	-0.4
UPC	**Upice**	**1.70 282**		*e*SG	**Sg**	17 19 37.8	+0.1
KRUC	**Moravsky**	**1.83 233**		*e*Pn	**Pn**	17 19 15.3	-0.5
	baz=52						
KRUC				*e*Sg	**Sn**	17 19 40.0	+0.4
	24nm,0.6s,baz=52						
STHS	**Stebnicka Huta**	**1.87 113**		*e*PG	**Pb**	17 19 17.9	-0.1
STHS				*e*SG	**Sb**	17 19 41.4	-0.5
MODS	**Modra-Piesok**	**2.01 206**		*e*SN	**Sn**	17 19 44.5	+0.4
KECS	**Kecovo**	**2.09 144**		*e*PN	**Pn**	17 19 19.7	+0.3
KECS				*e*SN	**Sn**	17 19 45.9	-0.2
KECS				*e*LG	Lg	17 19 53.3	
TREC	**Trest**	**2.22 248**		*e*SG	**Sb**	17 19 51.3	-0.7
PVCC	**Panska Ves**	**2.62 279**		*e*SG	**Sg**	17 20 06.6	-0.5
	comp=Z,21nm,0.5s						
PRU	**Pruhonice**	**2.63 267**		*e*SG	**Sb**	17 20 04.7	+0.8
	comp=Z,9.5nm,0.4s						
CONA	**Conrad Observa**	**2.89 220**		*i* Pn	**Pn**	17 19 30.9	+0.4
	0.3nm,0.2s						
CONA				*e*Sn	**Sn**	17 20 04.1	-1.9
	2.4nm,0.3s						
RONA	**Rosalia, Austr**	**2.92 213**		Pn	**Pn**	17 19 32.2	+1.4
	1.4nm,0.3s						
RONA				*e*Sn	**Sn**	17 20 07.2	+0.6
	3.5nm,0.4s						
BRG	**Berggiesshubel**	**3.06 285**		Pg	**Pg**	17 19 42.0	+0.3
BRG				Sg	**Sg**	17 20 20.7	-0.7
BRG				Amp		17 20 25.2	
	comp=Z,8.3nm,0.4s						
CKRC	**Cesky Krumlov**	**3.12 246**		*e*SG	**Sb**	17 20 18.8	+0.8
	comp=Z,8.5nm,0.4s						
KHC	**Kasperske Hory**	**3.44 254**		*e*PN	**Pn**	17 19 37.0	-0.9
KHC				*e*PG	**Pb**	17 19 46.5	+1.6
KHC				*e*SG	**Sg**	17 20 32.6	-0.9
	comp=Z,21nm,0.6s						
MOA	**Molln**	**3.69 232**		*e*Sg	**Sg**	17 20 38.4	-3.3
	comp=Z,6.4nm,0.4s						
CLL	**Collm**	**3.74 290**		*e*Sg	**Sg**	17 20 42.0	-1.1
BIOA	**Bad Ischl, Aus**	**4.12 235**		*e*Sg	**Sb**	17 20 51.0	+4.2
	comp=Z,4.6nm,0.4s						
LESA	**Schwarzleotal**	**4.80 237**		*e*Sg	**Sg**	17 21 13.5	-3.6
	comp=Z,5.0nm,0.6s						
WATA	**Walderalm**	**5.46 241**		*e*Sg	**Sg**	17 21 36.0	-2.3
	comp=Z,4.5nm,0.4s						
WTTA	**Wattenberg**	**5.46 240**		*e*Sg	**Sg**	17 21 35.7	-2.8
	comp=Z,8.1nm,0.6s						
MOTA	**Moosalm**	**5.72 243**		*e*Sg	**Sg**	17 21 45.4	-1.4
	comp=Z,7.6nm,0.5s						
FETA	**Feichten**	**6.11 242**		*e*Sg	**Sg**	17 21 59.5	+0.1
	comp=Z,1.1nm,0.5s						
DAVA	**Damuels**	**6.46 247**		Sg	**Sg**	17 22 13.7	+3.1
	comp=Z,3.5nm,0.4s						

*RSNC **10** 17:26:31.2±3.2, 17°.S±32°.×7°.3W±1°.6, h10km, M4.8, mB5.4, mb4.9, ML4.0, Mw(mB)4.8*
*VAO **10** 17:26:39.5±1.0, 15°.98S×73°.55W, h60km±8km, mb4.4*
*NEIC **10** 17:26:42.3±1.7, 16°.09S±0°.08×73°.36W±0°.10, h64km±7km, mb4.6/34, Mww4.7/11, Mww4.8(GUC), Error ellipse: s-maj=15.0km s-min=9.7km az=58.0*
*GUC **10** 17:26:42.0±0.7, 15°.86S×73°.22W, h47km±12km, ML4.4*
*IDC **10** 17:26:43.7±0.4, 15°.93S×73°.19W, h77km±3km, mb3.9/14, mbtmp4.2/18, MS3.3/12, Error ellipse: s-maj=17.9km s-min=9.8km az=68.0*
ISC 10 17:26:43.2±0.3, 16°.02S±0°.04×73°.16W±0°.06, h77km±3km, h77km:pP-P, n143, σ1.9 78/147, mb4.5/29, 10C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**3.85 114**			**Pn**	17 27 42.6	+2.0
PB16	**IPOC Station P**	**4.18 124**			**Pn**	17 27 46.0	+0.9
PB16	**IPOC Station P**	**4.18 124**		⇓*i*P	**Pn**	17 27 46.5	+1.4
PB16				*i* S	**Sn**	17 28 34.6	+1.6
LPAZ	**La Paz**	**4.84 94**			**Pn**	17 27 58.8	+4.7
LPAZ	**La Paz**	**4.84 94**	P		Pn	17 27 59.3	+5.1
	59nm,0.4s,baz=266,slow=8.1,SNR=134						
LPAZ				S	**Sn**	17 28 52.9	+3.6
	35nm,0.6s,baz=204,slow=8.8,SNR=1.1						
LPAZ	**La Paz**	**4.84 94**	*e*P		**Pn**	17 27 56.1	+2.0
LPAZ	**La Paz**	**4.84 94**	P		**Pn**	17 27 58.8	+4.6
PB11	**IPOC Station P**	**4.99 139**			**Pn**	17 27 55.9	+0.1
PB11	**IPOC Station P**	**4.99 139**		⇓*i*P	**Pn**	17 27 55.9	+0.1
PB11				*i* S	**Sn**	17 28 48.8	-3.5
GO01	**Chusmiza**	**5.23 134**			**Pn**	17 27 59.9	+0.5
GO01	**Chusmiza**	**5.23 134**		⇓*i*P	**Pn**	17 28 00.3	+0.9
GO01				*i* S	**Sn**	17 28 57.0	-1.7
HMBC	**Humberstone**	**5.25 144**			**Pn**	17 27 59.0	-0.3
TA01	**Diego Aracena**	**5.33 148**			**Pn**	17 27 59.5	-0.8
NNA	**Nana**	**5.37 318**			**Pn**	17 27 58.7	-2.3
NNA	**Nana**	**5.37 318**	P		**Pn**	17 28 00.9	0.0
	346nm,0.3s,baz=152,slow=12,SNR=28						
NNA				S	**Sn**	17 29 07.5	+6.0
	258nm,0.4s,baz=62,slow=21,SNR=8.0						
NNA	**Nana**	**5.37 318**	P		**Pn**	17 28 00.3	-0.7
	8μm460nm,0.5s						
NNA				S	**Sn**	17 29 09.8	+8.3
	8μm460nm,0.5s						
PATCX	**Punta Patache**	**5.56 150**			**Pn**	17 28 02.3	-1.2
PB08	**IPOC Station P**	**5.59 138**			**Pn**	17 28 04.3	+0.1
PB01	**IPOC Station P**	**6.09 146**			**Pn**	17 28 10.1	-0.6
PB02	**IPOC Station P**	**6.11 150**			**Pn**	17 28 10.0	-1.0
PB03	**IPOC Station P**	**6.80 152**			**Pn**	17 28 19.3	-1.2
PB09	**IPOC Station P**	**6.83 148**			**Pn**	17 28 21.0	0.0
PB05	**IPOC Station P**	**7.34 158**			**Pn**	17 28 25.7	-2.2
PB06	**IPOC Station P**	**7.46 154**			**Pn**	17 28 28.1	-1.4
PB10	**IPOC Station P**	**7.84 162**			**Pn**	17 28 31.9	-2.7
CZSB	**Cruzeiro do Su**	**8.26 3**			**Pn**	17 28 37.5	-2.8
CZSB	**Cruzeiro do Su**	**8.26 3**	*e*P		**Pn**	17 28 36.8	-3.5
CZSB	**Cruzeiro do Su**	**8.26 3**	P		**Pn**	17 28 39.2	-1.1
	2μm129nm,0.6s						
CZSB				S	**Sn**	17 30 09.8	-2.2
	2μm129nm,0.6s						
AF01	**San Pedro de A**	**8.34 147**	Pn		**Pn**	17 28 41.5	-0.2
PB14	**IPOC Station P**	**8.94 164**			**Pn**	17 28 47.1	-2.8
GO02	**Mina Guanaco**	**9.69 160**			**Pn**	17 28 58.9	-1.2
ATAH	**Atahualpa**	**10.21 329**	P		**Pn**	17 29 08.0	+0.6
	32nm,0.6s,baz=146,slow=8.9,SNR=31						
ATAH				S	**Sn**	17 30 58.9	-1.6
	11nm,0.6s,baz=21,slow=17,SNR=1.7						
AC01	**Pan de Azucar**	**10.35 167**			**Pn**	17 29 06.0	-2.9
AC02	**Maricunga**	**11.39 161**			**Pn**	17 29 22.9	-0.5
SIV	**San Ignacio**	**11.62 92**	P		**Pn**	17 29 26.3	0.0
	5.3nm,0.5s,baz=299,slow=10,SNR=16						
GO03	**Copiapo**	**11.83 167**	Pn		**Pn**	17 29 24.6	-4.4
VILB	**Vilhena**	**12.91 78**			**Pn**	17 29 46.0	+2.1
MCRA	**Macar, Loja**	**13.37 329**	P		**Pn**	17 29 50.4	+0.5
	34nm,0.6s						
PTLB	**Pontes e Lacer**	**13.51 89**	Pn		**Pn**	17 29 54.8	+3.1
PTLB	**Pontes e Lacer**	**13.51 89**	*e*P		**Pn**	17 29 54.5	+2.8
CO06	**Fray Jorge**	**14.65 175**	Pn		**Pn**	17 30 04.3	-2.2
COHC	**Cochancay**	**14.75 335**			**Pn**	17 30 07.6	-0.2
COHC	**Cochancay**	**14.75 335**	P		**Pn**	17 30 07.8	0.0
	890nm103nm,0.7s						
CO03	**El Pedregal**	**14.92 172**			**Pn**	17 30 08.5	-1.5
MURT	**Porto Murtinho**	**15.75 113**	*e*P		**Pn**	17 30 19.5	-1.0
PIAT	**Ana Tenorio**	**15.76 341**	P		**Pn**	17 30 22.0	+0.9
	1μm12nm,1.0s						
CFA	**Coronel Fontan**	**16.15 165**	P		**P**	17 30 27.4	0.0
	4.3nm,0.5s,baz=343,slow=12,SNR=13						
SALV	**Santo Antonio**	**16.80 92**	*e*P		**P**	17 30 35.0	+0.3
OTAV	**Otavalo**	**16.98 342**	*e*P		**Pn**	17 30 30.5	-5.9
CLDB	**Colider**	**17.64 75**	*e*P		**Pn**	17 30 45.0	+0.9
FLOC	**Florencia**	**17.67 352**			**P**	17 30 42.4	-1.9
LMEL	**Las Melosas**	**17.95 172**	P		**P**	17 30 44.5	-2.9
LMEL				IAmb	IAmb	17 30 49.6	
	comp=Z,13nm,0.6s						
CPUP	**Villa Florida**	**17.96 127**	P		**P**	17 30 47.5	+0.1
CPUP	**Villa Florida**	**17.96 127**	P		**Pn**	17 30 48.0	+0.2
	comp=Z,0.3nm,0.3s,baz=147,slow=11,SNR=4.1						
CPUP				LR	LR	17 38 38.8	
	comp=Z,13nm,20.1s,baz=88,slow=40						
BO04	**La Punta**	**18.04 173**	P		**P**	17 30 44.4	-3.8
H03N1	**Juan Fernandez**	**18.10 196**	T		T	17 49 19.9	
	baz=17,slow=74,SNR=1833						
H03N2	**Juan Fernandez**	**18.11 196**	T		T	17 49 18.5	
	baz=17,slow=74,SNR=1613						
H03N3	**Juan Fernandez**	**18.12 196**	T		T	17 49 19.9	
	baz=17,slow=74,SNR=1618						
BBAC	**Balboa, Cauca**	**18.38 347**	P		**Pn**	17 30 53.9	+0.7
	comp=Z,21nm,1.0s						
BO01	**Tunca**	**18.39 175**	P		**Pn**	17 30 53.2	+0.3
AMBA	**Amambai (Brazi**	**18.45 115**	*e*P		**Pn**	17 30 54.7	+1.0
POPC	**Popayan, Colom**	**18.77 349**	P		**Pn**	17 30 58.2	+0.3
	comp=Z,16nm,1.2s						
BO02	**Sierra Bellavi**	**18.81 174**	IAmb		IAmb	17 31 00.1	
	comp=Z,16nm,0.7s						
NPGB	**Novo Progresso**	**19.58 65**	*e*P		**Pn**	17 31 07.7	+0.4
ORTC	**Ortega, Tolima**	**19.91 354**	P		**Pn**	17 31 10.7	-0.5
	comp=Z,1μmcomp=Z,110nm,0.8s						
BI02	**San Fabin de**	**20.62 176**	P		**P**	17 31 15.5	-0.9
BI02				IAmb	IAmb	17 31 27.3	
	comp=Z,12nm,0.8s						
ITTB	**Itaituba**	**20.67 58**	*e*P		**P**	17 31 16.9	-0.2
ROSC	**El Rosal**	**20.76 357**	P		**P**	17 31 19.5	+1.1
ROSC				IAmb	IAmb	17 31 23.8	
	comp=Z,20nm,0.8s						
ROSC	**El Rosal**	**20.76 357**	P		**P**	17 31 18.6	+0.2
	comp=Z,15nm,0.6s,baz=202,slow=19,SNR=7.2						
ROSC				LR	LR	17 41 20.4	
	comp=Z,68nm,19.5s,baz=81,slow=42						
	comp=Z,15nm,0.6s						
PTGB	**Pitanga**	**21.56 117**	*e*P		**P**	17 31 29.0	+2.4
SNDB	**Serra Nova Dou**	**21.59 82**	*e*P		**P**	17 31 28.9	+2.0
RUSC	**La Rusia**	**21.78 0**			**P**	17 31 27.6	-1.7
RUSC				IAmb	IAmb	17 31 32.4	
	comp=Z,25nm,0.7s						
BOAV	**Boa Vista**	**22.16 35**			**P**	17 31 32.4	-0.6
BOAV	**Boa Vista**	**22.16 35**	*e*P		**P**	17 31 32.3	-0.6
FRTB	**Fartura**	**23.36 112**	*e*P		**P**	17 31 46.8	+1.5
IPMB	**Ipameri, GO**	**23.93 98**	*e*P		**P**	17 31 51.1	+0.6
LR05	**Currie**	**24.14 178**			**P**	17 31 52.0	0.0
LR05				IAmb	IAmb	17 31 54.0	
	comp=Z,25nm,0.8s						
BDFB	**Brasilia**	**24.19 93**	P		**P**	17 31 54.6	+1.8
	comp=Z,2.1nm,0.4s,baz=246,slow=4.2,SNR=3.1						
	comp=Z,2.1nm,0.4s						
PLCA	**Paso Flores**	**24.72 175**			**P**	17 31 57.6	+0.2
PLCA				IAmb	IAmb	17 31 59.1	
	comp=Z,14nm,0.8s						
PLCA	**Paso Flores**	**24.72 175**	P		**P**	17 31 58.3	+0.9
	comp=Z,13nm,0.9s,baz=346,slow=11,SNR=18						
PLCA				LR	LR	17 39 48.2	
	comp=Z,95nm,21.0s,baz=282,slow=32						
	comp=Z,13nm,0.9s						
PLCA	**Paso Flores**	**24.72 175**	*e*P		**P**	17 31 56.2	-1.2
SDV	**Santo Domingo**	**24.88 6**			**P**	17 31 58.8	-0.4
SDV				IAmb	IAmb	17 32 02.5	
	comp=Z,8.0nm,0.6s						
SDV	**Santo Domingo**	**24.88 6**	*e*P		**P**	17 31 56.5	-2.6
SDV	**Santo Domingo**	**24.88 6**	P		**P**	17 31 58.7	-0.4
BAUV	**El Baul**	**25.32 12**			**P**	17 32 02.1	-0.8
JTS	**Las Juntas de**	**28.63 335**	LR		LR	17 44 21.5	
	comp=Z,47nm,19.7s,baz=86,slow=37						
MDP	**Montagnes des**	**29.20 46**	LR		LR	17 45 18.2	
	comp=Z,148nm,19.3s,baz=296,slow=38						
SJG	**San Juan**	**34.62 12**	LR		LR	17 48 26.2	
	comp=Z,50nm,19.3s,baz=196,slow=38						
RPN	**Rapa Nui**	**35.29 246**	LR		LR	17 44 42.8	
	comp=Z,58nm,20.6s,baz=126,slow=31						
CMIG	**Matias Romero**	**39.26 326**	LR		LR	17 47 27.9	
	comp=Z,45nm,21.3s,baz=166,slow=32						
CAMR	**Camarioca**	**39.67 348**	P		**P**	17 34 07.0	-0.8
CAMR				IAmb	IAmb	17 34 09.6	
	comp=Z,50nm,0.6s						
HNDO	**Hondo**	**51.83 331**	P		**P**	17 35 43.5	-0.2
SMAI	**San Martin Ant**	**52.22 177**	P		**P**	17 35 46.1	+0.1
TXAR	**Lajitas Array**	**53.86 327**	P		**P**	17 35 57.6	-1.1
	comp=Z,0.9nm,0.7s,baz=150,slow=8.3,SNR=8.3						
TXAR				pP	**pP**	17 36 17.2	-1.6
	comp=Z,0.2nm,0.3s,baz=144,slow=8.5,SNR=2.4						
TXAR				sP	**sP**	17 36 26.1	-1.8
	comp=Z,0.6nm,0.6s,baz=152,slow=9.9,SNR=3.4						
	comp=Z,0.9nm,0.7s						
S44A	**Carbondale**	**55.53 345**	P		**P**	17 36 09.5	-1.1
SIUC	**Southern Illin**	**55.55 345**	P		**P**	17 36 09.2	-1.4
SMWD	**Samnorwood**	**56.98 334**			**P**	17 36 20.1	-0.9
ANMO	**Albuquerque**	**59.74 329**	LR		LR	18 05 15.8	
	comp=Z,22nm,18.1s,baz=240,slow=39						
SADO	**Sadowa**	**60.74 355**	LR		LR	18 09 13.7	
	comp=Z,186nm,18.1s,baz=359,slow=42						
SDCO	**Great Sand Dun**	**61.52 331**	P		**P**	17 36 52.3	-0.2
SDCO				IAmb	IAmb	17 36 53.1	
	comp=Z,3.8nm,0.8s						
BELA	**Belgrano 2**	**64.71 172**	P		**P**	17 37 12.8	+0.1
BELA				IAmb	IAmb	17 37 42.5	
	comp=Z,5.7nm,0.8s						
F33A	**5 Mile Ranch,**	**65.04 342**	IAmb		IAmb	17 37 14.9	
	comp=Z,6.7nm,0.6s						
VNA3	**Neumayer Olymp**	**66.52 162**	⇑P		**P**	17 37 25.3	+0.8
	comp=Z,5.7nm,0.9s						
VNA3				⇑PcP	**PcP**	17 37 52.7	-0.8
	comp=Z,5.6nm,0.8s						
VNA1	**Neumayer--Stat**	**66.76 161**	⇑P		**P**	17 37 27.0	+1.0
	comp=Z,7.5nm,0.9s						
VNA1				⇑PcP	**sP**	17 37 54.9	-0.3
	comp=Z,6.7nm,0.8s						
VNA2	**Neumayer--Watz**	**67.12 161**	⇑P		**P**	17 37 29.0	+0.7
	comp=Z,5.3nm,0.6s,baz=289,slow=6.8						
VNA2				⇑PcP	**PcP**	17 37 55.4	-0.5
	comp=Z,4.4nm,0.8s,baz=3.9,slow=27						
PDAR	**Pinedale Array**	**67.39 332**	P		**P**	17 37 30.4	-0.3
	comp=Z,0.4nm,0.6s,baz=160,slow=6.0,SNR=4.7						
	comp=Z,0.4nm,0.6s						
ELK	**Elko**	**68.66 327**	P		**P**	17 37 38.4	-0.3
	comp=Z,0.8nm,0.6s,baz=164,slow=11,SNR=3.6						
ELK				pP	**pP**	17 37 58.9	-0.6
	comp=Z,0.6nm,0.6s,baz=142,slow=16,SNR=1.9						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**68.72 323**	P		**P**	17 37 39.2	+0.1
	comp=Z,0.6nm,0.7s,baz=98,slow=7.3,SNR=2.3						
	comp=Z,0.6nm,0.7s						
SNAA	**Sanae**	**68.73 161**	⇑P		**P**	17 37 39.1	+0.6
	comp=Z,182nm,0.7s						
SNAA				⇑PcP	**sP**	17 38 07.3	-0.5
	comp=Z,265nm,1.0s						
SNAA	**Sanae**	**68.73 161**	P		**P**	17 37 38.9	+0.4
SNAA				IAmb	IAmb	17 38 08.0	
	comp=Z,8.5nm,0.8s						
SNAA	**Sanae**	**68.73 161**	P		**P**	17 37 39.2	+0.6
	comp=Z,6.8nm,0.6s,baz=283,slow=7.7,SNR=70						
SNAA				pP	**pP**	17 38 00.0	+0.9
	comp=Z,1.6nm,0.6s,baz=276,slow=8.6,SNR=2.5						
SNAA			

ZALV pPKP **pPKPdf** **17 46 21.5** **-0.4**
comp=Z,0.2nm,0.3s,baz=305,slow=5.2,SNR=2.8
MKAR **Makanchi Array** **143.16** **28** pPKP pPKPdf 17 46 30.5 -0.2
comp=Z,0.3nm,0.7s,baz=270,slow=2.9,SNR=2.5
SONM **Songino Array** **148.28** **1** PKPbc **PKPbc** **17 46 21.2** **+0.4**
comp=Z,0.9nm,0.5s,baz=328,slow=4.3,SNR=4.4
SONM pPKPbc **pPKPbc** **17 46 42.1** **-0.7**
comp=Z,4.5nm,1.2s,baz=343,slow=3.1,SNR=4.0
KSRS **Korea Array** **151.66** **323** PKPbc **PKiKP** **17 46 29.6** **+0.1**
comp=Z,0.8nm,0.6s,baz=348,slow=2.0,SNR=5.1
KSRS pPKPbc **pPKPbc** **17 46 51.1** **-0.2**
comp=Z,0.4nm,0.5s,baz=32,slow=1.5,SNR=3.4

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*IDC **10** 17:31:11.3±1.7,2°.57S×138°.51E, $h0^{km}$, mb3.1/2, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=32.4km s-min=18.1km az=173.0*
*DJA **10** 17:31:14.1±0.9,3°.5±5°×13°.8E±°, $h11^{km}$±8^{km}, M3.1/6, MLv3.1/6*
ISC 10 17:31:15.6±1.0,**2°.5S**±0°.1×**138°.54E**±0°.06,**h32**km,**n9**, σ**1**§**33**/10,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.53**	**19**	P	**Pb**	**17 31 25.1**	**-1.5**
GENI	**Genyem**	**1.63**	**93**	P	**Pn**	**17 31 43.5**	**+1.5**
JAY	**Jayapura**	**2.16**	**91**	Pn	**Pn**	**17 31 49.9**	**+0.5**
	2.1nm,0.3s,baz=239,slow=11,SNR=17						
JAY				Lg	Lg	17 32 20.7	
	2.6nm,0.3s,baz=117,slow=21,SNR=4.9 5.4nm,0.3s						
JAY	**Jayapura**	**2.16**	**91**	P	**Pn**	**17 31 51.0**	**+1.6**
SRPI	**Serui, Papua**	**2.38**	**285**	P	**Pn**	**17 31 53.2**	**+0.8**
SRPI				S	**Sn**	**17 32 20.7**	**+0.2**
BAKI	**Biak**	**2.75**	**298**	P	**Pn**	**17 31 58.8**	**+1.3**
WRA	**Warramunga Arr**	**17.82**	**193**	P	**Pn**	**17 35 20.8**	**-0.4**
	0.1nm,0.3s,baz=17,slow=13,SNR=5.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**21.52**	**192**	P	**P**	**17 36 00.7**	**-1.4**
	0.1nm,0.3s,baz=15,slow=11,SNR=4.1 0.1nm,0.3s						
MKAR	**Makanchi Array**	**69.52**	**322**	P	**P**	**17 42 22.1**	**+0.9**
	0.2nm,0.6s,baz=107,slow=7.7,SNR=2.7 0.2nm,0.6s						

IDC 10 17:34:08.1±1.6,**2°.60S**×**138°.53E**,**h0**km,**mb3.2**/2, **mbtmp3.2**/3,**ML3.1**/1,**Error ellipse: s-maj=31.7km s-min=17.1km az=173.0**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**88**	Pg	Pb	17 34 47.9	-0.5
	1.6nm,0.3s,baz=227,slow=13,SNR=13						
JAY				Lg	Lg	17 35 17.0	
	0.7nm,0.3s,baz=305,slow=23,SNR=1.3						
WRA	**Warramunga Arr**	**17.72**	**193**	P	Pn	17 38 16.7	+0.3
	0.1nm,0.3s,baz=16,slow=12,SNR=2.0 0.2nm,0.5s						
ASAR	**Alice Springs**	**21.42**	**192**	P	P	17 38 57.5	-0.3
	0.2nm,0.6s,baz=19,slow=11,SNR=7.4 0.2nm,0.6s						
MKAR	**Makanchi Array**	**69.59**	**322**	P	P	17 45 19.2	0.0
	0.4nm,0.7s,baz=109,slow=7.8,SNR=4.0 0.4nm,0.7s						

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*GII **10** 17:34:30.7±0.0,33°.604N±0°.002×35°.609E±0°.001, $h0^{km}$, confirmed*
*GRAL **10** 17:34:30.3±0.3,33°.63N×35°.49E, $h0^{km}$±40^{km}, MD2.6*
ISC 10 17:34:31.4±1.3,**33°.66N**±0°.02×**35°.60E**±0°.05,**h0**km,**n20**, σ**0**§**71**/22,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.05**	**333**	*e*P	**Pg**	**17 34 32.2**	**-0.3**
QRWL	**Qaraoun**	**0.13**	**148**	*e*P	**Pg**	**17 34 33.5**	**-0.4**
QRWL				*e*S	**Sg**	**17 34 36.1**	**+0.6**
BHL	**Bhannes**	**0.25**	**11**	*e*P	**Pg**	**17 34 35.9**	**-0.3**
BHL				*e*S	**Sg**	**17 34 39.9**	**+0.4**
RCY	**Rachaya**	**0.26**	**129**	*e*P	**Pg**	**17 34 36.0**	**-0.3**
SHBL	**Chebaa**	**0.33**	**159**	*e*P	**Pg**	**17 34 36.7**	**-1.0**
NATI	**Neve Ativ**	**0.41**	**164**	P	**Pg**	**17 34 39.1**	**-0.2**
NATI	**Neve Ativ**	**0.41**	**164**	S	**Sg**	**17 34 45.3**	**+0.7**
GEM	**Giv'at Ha'Em**	**0.45**	**173**	P	**Pg**	**17 34 39.3**	**-0.7**
GEM	**Giv'at Ha'Em**	**0.45**	**173**	S	**Sg**	**17 34 46.4**	**+0.5**
MMC7	**Mount Meron ar**	**0.66**	**195**	P	**Pg**	**17 34 43.3**	**-0.8**
MMC7	**Mount Meron ar**	**0.66**	**195**	S	**Sg**	**17 34 53.7**	**+1.1**
MMA0B	**Mount Meron ar**	**0.66**	**194**	P	**Pg**	**17 34 44.0**	**-0.1**
MMA0B	**Mount Meron ar**	**0.66**	**194**	S	**Sg**	**17 34 53.9**	**+1.2**
HWQ	**Hawqa**	**0.68**	**25**	*e*P	**Pg**	**17 34 43.9**	**-0.6**
KSHT	**Keshet**	**0.70**	**165**	P	**Pg**	**17 34 44.4**	**-0.3**
KSHT	**Keshet**	**0.70**	**165**	S	**Sg**	**17 34 54.7**	**+0.9**
OFRI	**`Ofer**	**1.16**	**207**	P	**Pg**	**17 34 52.8**	**-0.8**
OFRI	**`Ofer**	**1.16**	**207**	S	**Sg**	**17 35 09.1**	**+0.5**
MMLI	**Mount Malkishu**	**1.23**	**187**	P	**Pg**	**17 34 54.1**	**-0.9**
MMLI	**Mount Malkishu**	**1.23**	**187**	S	**Sg**	**17 35 10.9**	**+0.1**

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*AEIC **10** 17:42:25.8±0.6,54°.73N±0°.10×164°.78W±0°.08, $h133^{km}$±5^{km}, Error ellipse: s-maj=15.6km s-min=2.3km az=154.0*
NEIC 10 17:42:25.8±0.8,**54°.64N**±0°.06×**164°.7W**±0°.1,**h128**km±6km, **ML2.8**/16,**ML2.7**(AEIC),**Error ellipse: s-maj=11.9km s-min=3.8km az=136.0**,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.07**	**231**		Pn	17 42 43.0	-0.1
SSBA	**Shishaldin**	**0.34**	**66**		Pn	17 42 43.7	-0.2
SSBA					Sn	17 42 58.1	+0.6
SSLS	**Shishaldin Sou**	**0.39**	**78**		Pn	17 42 44.3	+0.3
ISNN	**Isanotski Nort**	**0.55**	**68**		Pn	17 42 45.2	+0.4
FALS	**False Pass**	**0.75**	**72**		Pn	17 42 46.4	+0.1
FALS					Sn	17 43 02.7	+0.9
AKSA	**Akutan Strait**	**0.79**	**231**		Pn	17 42 46.7	+0.1
AKUT	**Akutan**	**0.82**	**233**	Pn	Pn	17 42 46.8	-0.1
AHB	**Akutan Harbor**	**0.85**	**233**		Pn	17 42 47.1	-0.1
AHB					Sn	17 43 03.9	+0.6
AKV	**Akutan Volcano**	**0.92**	**237**		Pn	17 42 47.4	-0.4
AKBBA	**Akutan Broad B**	**0.92**	**235**		Pn	17 42 47.4	-0.3
LVA	**Lava Point**	**0.94**	**240**		Pn	17 42 47.4	-0.4
LVA	**Lava Point**	**0.94**	**240**	IAML		17 43 35.4	
	comp=N,162nm,1.2s						
LVA				IAML		17 43 39.6	
	comp=E,90nm,1.1s						
ZRO	**Akutan Zero**	**0.94**	**235**		Pn	17 42 47.6	-0.4
ZRO					Sn	17 43 05.3	+0.5
AKMO	**Akutan Morgan**	**0.96**	**236**		Pn	17 42 47.6	-0.5
AKRB	**Akutan Reef Bi**	**0.97**	**239**		Pn	17 42 47.8	-0.3
AKRB					Sn	17 43 05.5	+0.4
UNV	**Unalaska Valle**	**1.34**	**235**		Pn	17 42 51.6	-0.2
UNV					Sn	17 43 12.2	+0.4
MSW	**Makushin Switc**	**1.44**	**241**		Pn	17 42 52.2	-0.9
MGOD	**Makushin Gods**	**1.55**	**238**		Pn	17 42 54.0	-0.3
DOL	**Dolgoi Island**	**1.69**	**71**		Pn	17 42 56.0	+0.1
DOL					Sn	17 43 19.9	+1.0
PN7A	**Pavlof North-7**	**1.73**	**61**		Pn	17 42 56.4	0.0
PS4A	**Pavlof South-4**	**1.77**	**65**		Pn	17 42 57.0	+0.3
S12K	**Black Hills**	**1.83**	**53**		Pn	17 42 57.2	-0.3
S12K	**Black Hills**	**1.83**	**53**	IAML		17 43 23.1	
	comp=N,56nm,0.7s						
S12K				IAML		17 43 24.4	
	comp=E,49nm,1.2s						
PS1A	**Pavlof South-1**	**1.85**	**64**		Pn	17 42 58.5	+0.8
OKTU	**Okmok Mt. Tuli**	**2.36**	**239**		Pn	17 43 04.2	+0.1
SDPT	**Sand Point**	**2.51**	**72**		Pn	17 43 06.0	+0.1
SDPT	**Sand Point**	**2.51**	**72**	IAML		17 43 39.8	
	comp=N,61nm,0.8s						
SDPT				IAML		17 43 41.5	
	comp=E,60nm,0.5s						
OKSP	**Okmok Steeple**	**2.56**	**239**		Pn	17 43 06.6	0.0
CNBA	**Chernabura Isl**	**2.94**	**84**		Pn	17 43 10.7	-0.8
CNBA	**Chernabura Isl**	**2.94**	**84**	IAML		17 43 55.9	
	comp=E,32nm,0.7s						
CNBA				IAML		17 43 57.7	
	comp=N,28nm,0.6s						
VNKR	**Veniaminof 5**	**3.33**	**63**		Pn	17 43 17.2	+0.6
CLCO	**Concord Point,**	**3.53**	**240**		Pn	17 43 19.0	-0.2
SPIA	**Saint Paul Isl**	**4.05**	**311**		Pn	17 43 26.2	+0.2

DJA 10 17:46:33.0±1.6,**3°.5S**±5°×**13°.4E**±°,**h26**km±18km,**M3.7**/8, **mb3.8**/2,**MLv3.6**/8,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.91**	**351**	P	Pn	17 47 04.0	+0.1
RKPI				S	Sn	17 47 28.0	+0.8
FAKI	**Fak Fak**	**2.29**	**282**	P	Pn	17 47 09.6	+0.5
SRPI	**Serui, Papua**	**2.32**	**49**	P	Pn	17 47 08.5	-1.1
BAKI	**Biak**	**2.73**	**36**	P	Pn	17 47 16.2	+1.0
BAKI				S	Sn	17 47 47.6	+0.2
SWI	**Sorong**	**4.10**	**308**	P	Pn	17 47 33.6	-0.4
JAY	**Jayapura**	**6.27**	**82**	P	Pn	17 48 03.6	-0.3
	0.0nm12nm,0.9s						

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*IDC **10** 17:53:31.6±23.0,21°.54S×179°.31W, $h510^{km}$±227^{km}, mb3.2/3, mbtmp4.1/3, Error ellipse: s-maj=153.3km s-min=28.7km az=51.0*
ISC 10 17:53:30.3±2.0,**21°.4S**±0°.4×**179°.2W**±0°.3,**h500**km,**n7**, σ**0**§**91**/6,**mb3.8**/3,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.24**	**258**	P	**P**	**18 00 46.5**	**-0.5**
	2.3nm,0.7s,baz=95,slow=7.9,SNR=33						
ASAR				PcP	**pwP**	**18 02 24.2**	**+1.1**
	0.2nm,0.5s,baz=97,slow=4.5,SNR=4.2 2.3nm,0.7s						
WRA	**Warramunga Arr**	**43.39**	**263**	P	**P**	**18 00 47.6**	**-0.7**
	0.8nm,0.3s,baz=101,slow=8.6,SNR=63 0.8nm,0.3s						
QSPA	**South Pole Qui**	**68.63**	**180**	P	**P**	**18 03 42.7**	**0.0**
	2.5nm,0.9s,baz=187,slow=0.5,SNR=11 2.5nm,0.9s						
BVAR	**Borovoye Array**	**119.08**	**320**	PKP	**PKPdf**	**18 11 21.2**	**-0.4**
	0.4nm,0.3s,baz=146,slow=1.4,SNR=5.3						
HFS	**Hagfors**	**140.28**	**350**	PKhKP	PKPpre	18 11 56.1	
	24nm,1.4s,baz=77,slow=6.2,SNR=4.9						
AKASG	**Malin Array Be**	**143.28**	**330**	PKP	PKPab	18 12 05.8	+0.9
	0.2nm,0.4s,baz=44,slow=4.2,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.30**	**298**	PKPbc	**PKPbc**	**18 12 18.4**	**+0.6**
	0.7nm,0.4s,baz=67,slow=4.8,SNR=4.5						

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*RSPR **10** 17:58:35.5,19°.14N×67°.07W, $h82^{km}$±11^{km}, MD3.0/3*
NEIC 10 17:58:34.4±1.0,**19°.14N**±0°.02×**66°.97W**±0°.08,**h10**km±2km, **ML2.0**/8,**Md3.0**/3(RSPR),**4C**,**Error ellipse: s-maj=13.0km s-min=4.1km az=277.0**,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.82**	**165**	Pn	Pn	17 58 52.1	+0.1
LSP	**Las Mesas**	**0.97**	**186**		Pb	17 58 53.4	+0.2
LSP					Sn	17 59 07.8	0.0
LSP	**Las Mesas**	**0.97**	**186**∩	*e*P	Pb	17 58 53.4	+0.2
LSP	**Las Mesas**	**0.97**	**186**	*e*S	Sn	17 59 07.8	0.0
CELP	**Cerrillos**	**1.12**	**161**		Pb	17 58 53.6	-2.4
CELP				IAML		17 59 16.4	
	comp=E,20nm,2.5s						
CELP				IAML		17 59 30.8	
	comp=N,24nm,3.6s						
CELP	**Cerrillos**	**1.12**	**161**		Sn	17 59 11.8	+0.1
CELP	**Cerrillos**	**1.12**	**161**∩	*e*P	Pn	17 58 56.5	+0.3
CELP	**Cerrillos**	**1.12**	**161**	*e*S	Sn	17 59 11.8	+0.1
CRPR	**Cabo Rojo, PR**	**1.14**	**187**		Pb	17 58 55.4	-0.7
CRPR					Sn	17 59 11.8	-0.2
CRPR	**Cabo Rojo, PR**	**1.14**	**187**	IAML		17 59 17.0	
	comp=E,42nm,2.9s						
CRPR				IAML		17 59 22.5	
	comp=N,40nm,3.4s						
CRPR	**Cabo Rojo, PR**	**1.14**	**187**∩	*e*P	Pb	17 58 55.4	-0.7
CRPR	**Cabo Rojo, PR**	**1.14**	**187**	*e*S	Sn	17 59 11.8	-0.2
MLPR	**Magueyes Islan**	**1.17**	**183**∩	*e*P	Pb	17 58 56.0	-0.6
MLPR	**Magueyes Islan**	**1.17**	**183**	*e*S	Sb	17 59 11.9	0.0
PDPR	**Patillas Dam,**	**1.44**	**141**	Pn	Pn	17 58 59.6	-0.9

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*WEL **10** 18:32:14.2±0.5,35°.5±4°×17°.9W±°, h12km, M4.8/42, mB5.3/19, ML5.2/41, MLv5.0/42, Mw(mB)4.7/19, Error ellipse: s-maj=9.7km s-min=2.9km az=115.0, confirmed*
*NEIC **10** 18:32:14.4±2.3,35°.25S±0°.09×179°.4W±0°.1, h10km±1km, mb4.8/19, Error ellipse: s-maj=16.5km s-min=15.9km az=101.0*
*NOU **10** 18:32:17.7,35°.42S×179°.20W, $h26^{km}$, mb4.9/27, East of North Island, N.Z.*
*GCMT **10** 18:32:21.4±0.2,35°.14S±0°.02×179°.14W±0°.01, $h20^{km}$, MW5.1/117, Moment Tensor Solution. s72,c90; s117,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.26±.16; $M_{\theta\theta}$-0.45±.11; $M_{\phi\phi}$-3.81±.11; $M_{r\theta}$0.35±.23; $M_{\theta\phi}$-1.09±.07; $M_{\phi r}$3.36±.21; Best double couple: $M_0$5.38600×10^{16} NP1:ϕ_s202.00000°, δ26.00000°, λ101.00000°. NP2:ϕ_s10.00000°, δ64.00000°, λ85.00000°. Principal axes: T 5.4760, Plg70.0000°, Azm269.0000°; N -0.1760, Plg5.0000°, Azm12.0000°; P -5.2950, Plg19.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **10** 18:32:22.0±2.6,34°.84S×179°.76W, $h51^{km}$±21^{km}, mb3.9/13, mbtmp4.1/13, MS4.3/39 Error ellipse: s-maj=19.9km s-min=16.6km az=35.0*
ISC 10 18:32:18.6±0.4,**35°.29S**±0°.05×**179°.27W**±0°.06,**h41**km, **n229**, σ**1**§**94**/225,**mb4.6**/29,**MS4.3**/39,**6C-2D**,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.00**	**220**		**Pn**	**18 33 01.9**	**-1.7**
MXZ	**Matakaoa Point**	**3.00**	**220**	P	**Pn**	**18 33 02.5**	**-1.1**
MXZ	**Matakaoa Point**	**3.00**	**220**	P	**Pn**	**18 33 01.7**	**-1.9**
MXZ				S	**Sn**	**18 33 39.3**	**+1.1**
WMGZ	**Waiomatatini S**	**3.14**	**216**	P	**Pn**	**18 33 05.8**	**+0.3**
WMGZ				S	**Sn**	**18 33 46.1**	**+4.3**
PKGZ	**Pakihiroa**	**3.34**	**219**	P	**Pn**	**18 33 08.8**	**+0.4**
PKGZ				S	**Sn**	**18 33 47.6**	**+0.8**
PUZ	**Puketiti**	**3.42**	**215**	P	**Pn**	**18 33 08.7**	**-0.7**
PUZ				S	**Sn**	**18 33 51.2**	**+2.6**
HAZ	**Te Kaha**	**3.42**	**223**	P	**Pn**	**18 33 09.5**	**+0.2**
HAZ				S	**Sn**	**18 33 52.6**	**+3.9**
RUGZ	**Raukumara Rang**	**3.63**	**222**	P	**Pn**	**18 33 12.3**	**-0.1**
TWGZ	**Tauwhareparae**	**3.63**	**217**	P	**Pn**	**18 33 12.4**	**0.0**
TWGZ				S	**Sn**	**18 33 56.1**	**+2.1**
CNGZ	**Carnagh Statio**	**3.78**	**212**	P	**Pn**	**18 33 14.6**	**+0.3**
TKGZ	**Te Karaka**	**3.90**	**215**	P	**Pn**	**18 33 16.4**	**+0.4**
TKGZ				S	**Sn**	**18 34 01.5**	**+1.0**
MWZ	**Matawai**	**3.98**	**219**	P	**Pn**	**18 33 16.4**	**-0.8**
MWZ				S	**Sn**	**18 34 04.7**	**+2.1**
URZ	**Urewera**	**4.15**	**223**	P	**Pn**	**18 33 19.1**	**-0.4**
	90nm,0.4s,baz=276,slow=3.1,SNR=48						
URZ				S	**Sn**	**18 34 06.7**	**0.0**
	309nm,0.8s,baz=335,slow=14,SNR=4.0						
URZ	**Urewera**	**4.15**	**223**	P	**Pn**	**18 33 18.4**	**-1.0**
URZ	**Urewera**	**4.15**	**223**	P	**Pn**	**18 33 18.4**	**-1.0**
URZ				S	**Sn**	**18 34 07.0**	**+0.3**
RIGZ	**Rimuhau**	**4.16**	**214**	P	**Pn**	**18 33 19.2**	**-0.4**
RIGZ				S	**Sn**	**18 34 07.7**	**+0.8**
RAGZ	**Rawiri**	**4.16**	**219**	S	**Sn**	**18 34 08.8**	**+1.8**
OPRZ	**Ohinepanea**	**4.22**	**232**	P	**Pn**	**18 33 19.9**	**-0.5**
OPRZ				S	**Sn**	**18 34 10.2**	**+1.8**
PRGZ	**Paritu Road**	**4.28**	**211**	P	**Pn**	**18 33 20.9**	**-0.4**
PRGZ				S	**Sn**	**18 34 10.6**	**+0.6**
KUZ	**Kuaotunu**	**4.31**	**249**	P	**Pn**	**18 33 21.6**	**0.0**
TGRZ	**Tauranga**	**4.35**	**235**	P	**Pn**	**18 33 22.3**	**+0.2**
SNGZ	**Shannon Statio**	**4.42**	**217**	P	**Pn**	**18 33 22.9**	**-0.2**
SNGZ				S	**Sn**	**18 34 13.8**	**+0.4**
KNZ	**Kokohu**	**4.46**	**212**	P	**Pn**	**18 33 21.9**	**-1.7**
KNZ				S	**Sn**	**18 34 13.1**	**-1.1**
MHGZ	**Mahia Peninsul**	**4.47**	**209**	P	**Pn**	**18 33 23.6**	**-0.2**
MHGZ				S	**Sn**	**18 34 13.6**	**-1.0**
RTZ	**Ruatahuna**	**4.48**	**221**		**Pn**	**18 33 21.9**	**-2.1**
MUGZ	**Murupara**	**4.50**	**224**	S	**Sn**	**18 34 15.0**	**-0.2**
KARZ	**Kaharoa**	**4.52**	**232**	P	**Pn**	**18 33 24.2**	**-0.3**
RRRZ	**Republican Roa**	**4.55**	**227**	P	**Pn**	**18 33 25.7**	**+0.7**
RRRZ				S	**Sn**	**18 34 18.3**	**+1.7**
KMRZ	**Kaimai**	**4.62**	**235**	P	**Pn**	**18 33 25.9**	**0.0**
RAHZ	**Arahi**	**4.65**	**218**	P	**Pn**	**18 33 27.3**	**+1.0**
RAHZ				S	**Sn**	**18 34 20.5**	**+1.5**
WHHZ	**Waihua**	**4.70**	**215**	P	**Pn**	**18 33 27.4**	**+0.5**
WHHZ				S	**Sn**	**18 34 20.6**	**+0.4**
WIAZ	**Waiheke Island**	**4.78**	**250**	P	**Pn**	**18 33 28.6**	**+0.6**
MKAZ	**Moumakai**	**4.86**	**246**	P	**Pn**	**18 33 29.1**	**0.0**
TOZ	**Tahuroa Road**	**4.87**	**238**		**Pn**	**18 33 28.2**	**-1.1**
TOZ	**Tahuroa Road**	**4.87**	**238**	P	**Pn**	**18 33 29.5**	**+0.2**
NMHZ	**Naumai**	**4.93**	**218**	P	**Pn**	**18 33 29.9**	**-0.2**
NMHZ				S	**Sn**	**18 34 26.5**	**+0.6**
MBAZ	**Motutapu North**	**4.95**	**251**	P	**Pn**	**18 33 30.5**	**0.0**
ABAZ	**Army Bay**	**4.96**	**253**	P	**Pn**	**18 33 31.4**	**+0.8**
ARHZ	**Aropaoanui**	**4.96**	**216**	P	**Pn**	**18 33 30.5**	**-0.1**
ARHZ				S	**Sn**	**18 34 26.5**	**-0.2**
ETAZ	**East Tamaki Re**	**4.98**	**249**	P	Pn	18 33 37.0	+6.1
BKZ	**Black Stump Fm**	**5.14**	**220**		**Pn**	**18 33 30.6**	**-2.5**
BKZ	**Black Stump Fm**	**5.14**	**220**	P	**Pn**	**18 33 32.1**	**-1.0**
BKZ	**Black Stump Fm**	**5.14**	**220**	P	**Pn**	**18 33 31.9**	**-1.1**
BKZ				S	**Sn**	**18 34 29.7**	**-1.4**
RVAZ	**Riverhead Bore**	**5.20**	**252**	P	**Pn**	**18 33 35.3**	**+1.5**
AWAZ	**Awhitu Peninsu**	**5.23**	**248**	P	**Pn**	**18 33 34.9**	**+0.6**
CKHZ	**Cape Kidnapper**	**5.24**	**213**	P	**Pn**	**18 33 31.1**	**-3.3**
CKHZ				S	**Sn**	**18 34 31.2**	**-2.4**
WCZ	**Waipu Caves**	**5.24**	**261**	P	**Pn**	**18 33 35.0**	**+0.6**
MCHZ	**McNeill Hill**	**5.25**	**217**	P	**Pn**	**18 33 34.1**	**-0.4**
MCHZ				S	**Sn**	**18 34 34.7**	**+1.0**
WTAZ	**Waiatarua**	**5.25**	**250**	P	**Pn**	**18 33 36.6**	**+2.1**
RATZ	**Rangitukua**	**5.34**	**226**	P	**Pn**	**18 33 35.8**	**0.0**
RITZ	**Rihia Road**	**5.36**	**225**	P	**Pn**	**18 33 36.1**	**0.0**
KWHZ	**Kaweka Forest**	**5.37**	**218**	P	**Pn**	**18 33 35.9**	**-0.3**
KWHZ				S	**Sn**	**18 34 37.1**	**+0.3**
KAHZ	**Kahuranaki**	**5.44**	**213**	P	**Pn**	**18 33 34.7**	**-2.5**
TMVZ	**Te Maari**	**5.54**	**225**	P	**Pn**	**18 33 37.7**	**-0.9**
TMVZ				S	**Sn**	**18 34 38.1**	**-3.0**
NTVZ	**North Tongarir**	**5.54**	**225**	P	**Pn**	**18 33 38.0**	**-0.7**
NTVZ				S	**Sn**	**18 34 40.1**	**-1.2**
ETVZ	**East Tongariro**	**5.55**	**225**	P	**Pn**	**18 33 38.1**	**-0.7**
ETVZ				S	**Sn**	**18 34 39.3**	**-2.0**
KRHZ	**Kereru**	**5.56**	**217**	P	**Pn**	**18 33 37.2**	**-1.6**
KRHZ				S	**Sn**	**18 34 40.4**	**-1.1**
KRVZ	**Karewarewa**	**5.56**	**225**	P	**Pn**	**18 33 38.2**	**-0.7**
NNVZ	**North Ngauruho**	**5.60**	**225**	P	**Pn**	**18 33 39.0**	**-0.5**
WTVZ	**West Tongariro**	**5.61**	**226**	P	**Pn**	**18 33 39.1**	**-0.4**
WTVZ				S	**Sn**	**18 34 43.5**	**+0.8**
NGZ	**Ngauruhoe**	**5.64**	**225**	S	**Sn**	**18 34 42.4**	**-1.2**
PXZ	**Pawanui**	**5.64**	**212**	P	**Pn**	**18 33 37.9**	**-2.0**
PXZ				S	**Sn**	**18 34 41.1**	**-2.3**
COVZ	**Chateau Observ**	**5.69**	**225**	P	**Pn**	**18 33 40.3**	**-0.4**
HIZ	**Hauiti**	**5.70**	**234**		**Pn**	**18 33 38.9**	**-1.9**
HIZ	**Hauiti**	**5.70**	**234**	P	**Pn**	**18 33 40.6**	**-0.1**
HIZ	**Hauiti**	**5.70**	**234**	P	**Pn**	**18 33 42.3**	**+1.6**
MOVZ	**Moawhango**	**5.71**	**222**	P	**Pn**	**18 33 39.0**	**-1.9**
MOVZ				S	**Sn**	**18 34 41.4**	**-3.9**
WNVZ	**Wahianoa**	**5.74**	**224**	P	**Pn**	**18 33 40.1**	**-1.3**
WNVZ				S	**Sn**	**18 34 44.2**	**-2.0**
OUZ	**Omahuta**	**5.84**	**269**	P	**Pn**	**18 33 42.6**	**0.0**
OUZ	**Omahuta**	**5.84**	**269**	P	**Pn**	**18 33 43.0**	**+0.4**
TSZ	**Takapari Road**	**6.08**	**217**	P	**Pn**	**18 33 43.6**	**-2.4**
TSZ				S	**Sn**	**18 34 52.3**	**-2.0**
GLKZ	**Green Lake**	**6.11**	**11**	P	Pn	18 33 40.0	-6.4
GLKZ				S	**Sn**	**18 34 47.2**	**-7.8**
RAO	**Raoul Island**	**6.12**	**11**	S	**Sn**	**18 34 51.9**	**-3.5**
	221nm,0.3s,baz=71,slow=22,SNR=2.1						
RAO				LR	LR	18 35 51.7	
	comp=Z,2μm,19.6s,baz=206,slow=36						
RIZ	**Raoul Island**	**6.13**	**11**	S	**Sn**	**18 34 52.2**	**-3.2**
WAZ	**Wanganui**	**6.38**	**224**	S	**Sn**	**18 35 00.3**	**-1.3**
BFZ	**Birch Farm**	**6.45**	**212**		**Pn**	**18 33 46.8**	**-4.1**
BFZ	**Birch Farm**	**6.45**	**212**	P	**Pn**	**18 33 49.0**	**-1.9**
BFZ	**Birch Farm**	**6.45**	**212**	S	**Sn**	**18 35 01.0**	**-2.2**
BFZ	**Birch Farm**	**6.45**	**212**	P	**Pn**	**18 33 48.0**	**-2.9**
BFZ				S	**Sn**	**18 34 59.0**	**-4.2**
NEZ	**North Egmont**	**6.62**	**231**	P	**Pn**	**18 33 55.2**	**+1.8**
KHEZ	**Kahui Hut**	**6.68**	**231**	P	**Pn**	**18 33 54.2**	**0.0**
MRZ	**Mangatainoka R**	**6.73**	**216**		**Pn**	**18 33 50.6**	**-4.2**
MRZ	**Mangatainoka R**	**6.73**	**216**	P	**Pn**	**18 33 51.7**	**-3.1**
MRZ				S	**Sn**	**18 35 05.3**	**-4.9**
MSWZ	**Moikau Station**	**7.48**	**213**	Pn	**Pn**	**18 34 00.4**	**-4.8**
PLWZ	**Palliser**	**7.60**	**213**	Pn	**Pn**	**18 34 02.4**	**-4.4**
BHW	**Baring Head**	**7.65**	**215**	Pn	**Pn**	**18 34 03.1**	**-4.3**

WRA Warramunga Arr 43.46 278 P **P 18 40 16.5 -1.4**
comp=Z,5.4nm,0.5s,baz=119,slow=7.7,SNR=39
WRA PcP **PcP 18 42 06.3 +0.7**
comp=Z,0.5nm,0.6s,baz=106,slow=2.9,SNR=1.3
WRA ScP **ScP 18 45 53.2 -0.5**
comp=Z,0.6nm,1.2s,baz=114,slow=3.6,SNR=1.7
WRA LR LR 18 58 50.8
comp=Z,934nm,18.4s,baz=135,slow=37
comp=Z,5.4nm,0.5s
WB0 Warramunga Arr 43.51 278 **P 18 40 16.7 -1.6**
WB0 IAmb IAmb 18 40 19.3
comp=Z,21nm,1.1s
FORT Forrest 43.96 260 P **P 18 40 20.2 -1.6**
FORT IAmb IAmb 18 40 32.4
comp=Z,11nm,0.8s
TAOE Nuku Hiva Isla 44.34 63 *e*LR LR 18 52 44.6
comp=Z,503nm,24.0s
JAY Jayapura 49.39 302 LR LR 18 59 22.7
comp=Z,325nm,22.0s,baz=143,slow=33
MTN Manton Dam 49.90 284 P **P 18 41 05.2 -3.0**
MTN IAmb IAmb 18 41 24.5
comp=Z,11nm,1.1s
KNRA Kununurra 50.21 279 P **P 18 41 08.8 -1.8**
KNRA IAmb IAmb 18 41 22.4
comp=Z,33nm,1.6s
CASY Casey 50.35 210 P **P 18 41 12.3 +1.3**
FITZ Fitzroy Crossi 51.47 274 **P 18 41 18.9 -1.3**
MORW Morawa 54.26 257 P **P 18 41 38.6 -2.0**
PSA00 Pilbara Seismi 54.50 267 **P 18 41 38.9 -3.5**
PSA00 IAmb IAmb 18 41 52.5
comp=Z,8.7nm,1.1s
QSPA South Pole Qui 54.84 180 P P 18 41 49.1 +4.7
comp=Z,2.4nm,0.9s,baz=42,slow=22,SNR=6.8
QSPA LR LR 19 02 16.0
comp=Z,162nm,19.6s,baz=44,slow=32
comp=Z,2.4nm,0.9s
SOEI Soe 57.16 282 P **P 18 42 00.5 -1.1**
BATI Baumata 57.38 281 LR LR 19 08 09.0
comp=Z,678nm,18.3s,baz=140,slow=38
RPN Rapa Nui 59.27 103 LR LR 19 01 31.2
comp=Z,242nm,20.0s,baz=238,slow=29
GUMO Guam 59.31 319 LR LR 19 03 41.5
comp=Z,141nm,22.0s,baz=140,slow=32
TNTI Ternate 61.28 294 P P 18 42 24.7 -5.3
KAPI Kappang 63.55 283 LR LR 19 11 31.3
comp=Z,372nm,18.6s,baz=126,slow=37
SMAI San Martin Ant 65.32 158 P **P 18 42 57.0 +1.1**
SMAI IAmb IAmb 18 43 28.9
comp=Z,26nm,2.0s
DAV Davao City (W) 66.82 298 LR LR 19 13 58.6
comp=Z,103nm,18.2s,baz=152,slow=38
MAW Mawson 67.38 202 P **P 18 43 13.5 +4.4**
comp=Z,1.1nm,0.6s,baz=114,slow=7.0,SNR=8.6
comp=Z,1.1nm,0.6s
PMSA Palmer Station 68.27 155 LR LR 19 07 06.8
comp=Z,172nm,18.8s,baz=242,slow=30
SYO Syowa Base 72.13 194⇓ *e*P **P 18 43 37.4 -0.9**
SYO Syowa Base 72.13 194⇓ *es*P **P 18 43 42.4 +4.1**
LEM Lembang 72.31 274 LR LR 19 17 48.4
comp=Z,428nm,18.0s,baz=170,slow=38
TROLL Troll, Antarti 72.99 181 ⇑P **P 18 43 44.8 +1.1**
comp=Z,113nm,1.1s
SNAA Sanae 73.31 179 ⇑P **P 18 43 44.9 -0.6**
comp=Z,43nm,1.2s
SNAA Sanae 73.31 179 **P 18 43 43.8 -1.6**
SNAA IAmb IAmb 18 44 18.4
comp=Z,6.6nm,1.0s
SNAA Sanae 73.31 179 P 18 43 50.8 +5.4
comp=Z,1.5nm,0.9s,baz=190,slow=14,SNR=8.2
SNAA LR LR 19 14 20.0
comp=Z,75nm,18.8s,baz=194,slow=34
comp=Z,1.5nm,0.9s
VNA3 Neumayer Olymp 73.51 177 ⇑P **P 18 43 47.4 +0.9**
comp=Z,3.4nm,0.9s
VNA2 Neumayer--Watz 73.93 177 ⇑P **P 18 43 49.7 +0.7**
comp=Z,2.5nm,1.0s,baz=178,slow=5.0
VNA1 Neumayer--Stat 74.17 177 ⇑P **P 18 43 51.8 +1.5**
comp=Z,6.4nm,1.1s
TGY Tagaytay City 74.92 300 LR LR 19 19 45.1
comp=Z,67nm,18.0s,baz=118,slow=38
JHJ Hachijo jima 2 78.12 326 LR LR 19 20 25.7
comp=Z,127nm,18.1s,baz=300,slow=37
H03S2 Juan Fernandez 78.67 123 T T 20 11 18.2
baz=233
H03S1 Juan Fernandez 78.68 123 T T 20 11 14.2
baz=233
H03S3 Juan Fernandez 78.69 123 T T 20 11 40.5
baz=233
H03N3 Juan Fernandez 78.89 123 T T 20 11 31.6
baz=237,slow=72,SNR=6.2
H03N2 Juan Fernandez 78.89 123 T T 20 11 24.4
baz=237,slow=72,SNR=6.0
H03N1 Juan Fernandez 78.91 123 T T 20 11 38.6
baz=237,slow=72,SNR=6.4
PLCA Paso Flores 79.96 133 P P 18 44 29.1 +5.5
comp=Z,2.0nm,0.8s,baz=204,slow=19,SNR=2.4
PLCA LR LR 19 17 37.4
comp=Z,144nm,18.0s,baz=230,slow=34
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 81.68 327 P **P 18 44 31.9 -0.6**
comp=Z,0.9nm,0.7s,baz=142,slow=6.2,SNR=2.1
comp=Z,0.9nm,0.7s
JNU Nakatsue 82.53 320 LR LR 19 18 43.1
comp=Z,119nm,18.5s,baz=124,slow=34
PSI Prapat 84.92 277 LR LR 19 23 06.5
comp=Z,580nm,21.8s,baz=154,slow=36
ASAJ Asahikawa 86.30 334 LR LR 19 16 20.4
comp=Z,278nm,21.8s,baz=162,slow=31
KSRS Korea Array 87.40 321 P **P 18 45 00.1 -1.1**
comp=Z,0.3nm,0.6s,baz=143,slow=4.8,SNR=2.1
comp=Z,0.3nm,0.6s
SHEM Shemya Is, Ala 87.84 356 LR LR 19 20 59.2
comp=Z,191nm,18.6s,baz=142,slow=33
LPIG La Paz 88.00 59 LR LR 19 14 59.6
comp=Z,176nm,21.1s,baz=220,slow=29
NJ2 Nanjing 88.64 311 *e*P **P 18 45 07.4 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
PETK Petropavlovsk- 90.28 346 P **P 18 45 14.5 0.0**
comp=Z,4.4nm,0.8s,baz=143,slow=7.7,SNR=4.2
PETK LR LR 19 20 11.9
comp=Z,79nm,20.8s,baz=169,slow=32
comp=Z,4.4nm,0.8s
PFO Pinyon Flats O 90.28 48 LR LR 19 16 13.7
comp=Z,125nm,21.2s,baz=244,slow=29
YBH Yreka Blue Hor 92.52 39 LR LR 19 19 19.0
comp=Z,6.6nm,20.4s,baz=236,slow=30
NVAR Mina Array Bea 92.53 43 P **P 18 45 27.4 +1.8**
comp=Z,0.3nm,0.5s,baz=244,slow=4.5,SNR=2.0
comp=Z,0.3nm,0.5s
NNA Nana 93.07 107 LR LR 19 18 36.9
comp=Z,216nm,20.3s,baz=232,slow=30
CMAR Chiang Mai Arr 94.02 290 P **P 18 45 32.7 +0.1**
comp=Z,0.3nm,0.4s,baz=116,slow=6.5,SNR=4.1
CMAR LR LR 19 30 08.3
comp=Z,74nm,20.2s,baz=140,slow=37
comp=Z,0.3nm,0.4s
CMIG Matias Romero 95.25 73 LR LR 19 21 27.2
comp=Z,160nm,20.2s,baz=169,slow=31
KDAK Kodiak Island 95.39 14 LR LR 19 21 49.6
comp=Z,124nm,21.2s,baz=201,slow=31
XAN Xi'an 96.22 307 ⇓P **P 18 45 42.8 +0.4**
XAN pmax pmax
comp=Z,5.0nm,0.5s
PZH PanZhiHua 96.61 298 P **P 18 45 46.2 +1.7**
LPAZ La Paz 97.07 115 LR LR 19 23 07.7
comp=Z,43nm,18.1s,baz=276,slow=31
ANMO Albuquerque 97.43 52 LR LR 19 27 01.4
comp=Z,146nm,18.2s,baz=335,slow=34
MA2 Magadan 97.72 345 LR LR 19 29 33.0
comp=Z,92nm,18.0s,baz=142,slow=35
CPUP Villa Florida 97.74 130 LR LR 19 22 03.5
comp=Z,52nm,21.2s,baz=78,slow=30
BBB Bella Bella 97.89 29 LR LR 19 20 39.8
comp=Z,65nm,20.7s,baz=226,slow=30
HHC Hu-ho-hao-te 98.86 314 *e*P Pdif 18 45 54.9 +0.7
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,270nm,6.1s
NEW Newport 99.93 37 LR LR 19 24 16.3
comp=Z,181nm,20.1s,baz=194,slow=31
SEY Seymchan 100.49 347 LR LR 19 26 30.7
comp=Z,154nm,20.8s,baz=154,slow=32
MKAR Makanchi Array 120.02 308 **PKPdf 18 51 03.9 -0.5**
MKAR Makanchi Array 120.02 308 PKP **PKPdf 18 51 03.8 -0.6**
comp=Z,0.5nm,0.6s,baz=211,slow=1.5,SNR=6.9
ZALV Zalesovo Beam 120.91 317 PKP **PKiKP 18 51 06.6 +0.7**
comp=Z,0.6nm,0.4s,baz=137,slow=1.3,SNR=4.6
KURBB Kurchatov Arra 123.60 312 PKP **PKPdf 18 51 10.5 -0.5**
comp=Z,1.3nm,0.5s,baz=116,slow=2.0,SNR=20
BVAR Borovoye Array 129.06 313 PKP **PKiKP 18 51 21.7 -0.4**
comp=Z,1.3nm,0.5s,baz=176,slow=0.8,SNR=10
SPITS Spitsbergen Ar 136.48 355 PKP **PKiKP 18 51 36.4 -0.1**
comp=Z,5.5nm,0.7s,baz=35,slow=5.3,SNR=2.6
ARCES ARCESS Array B 143.09 346 PKP **PKPdf 18 51 46.5 -0.5**
comp=Z,1.6nm,0.7s,baz=29,slow=3.0,SNR=9.8
GNI Garni 145.12 291 **PKPbc 18 51 48.6 -2.6**
KBZ Khabaz 146.69 298 PKPbc **PKPbc 18 51 55.5 -0.1**
comp=Z,2.6nm,0.9s,baz=162,slow=7.7,SNR=5.0
KIV Kislovodsk 146.84 298 PKPdf **PKPdf 18 51 53.0 -1.4**
GURO Guroymak-BITLI 147.01 288 PKPdf **PKPdf 18 51 53.9 -0.9**
EDA Edea 147.46 198 **PKPbc 18 51 57.7 -1.0**
MARD Mardin 147.82 286 PKPdf **PKPdf 18 51 56.0 -0.2**
KOPT Kop Dagi 148.35 291 PKPdf **PKPdf 18 51 54.1 -3.0**
OBN Obninsk 148.40 320 PKPdf **PKPdf 18 51 52.0 -4.4**
FIA1 FINESS Array S 149.27 336 PKPdf **PKPdf 18 51 58.6 +1.0**
FINES FINESS Array B 149.27 336 PKPdf **PKPdf 18 51 58.2 +0.6**
FINES FINESS Array B 149.27 336 PKPbc **PKPbc 18 52 02.2 +0.3**
comp=Z,6.2nm,0.5s,baz=36,slow=4.2,SNR=64
GAZ Gaziantep 150.62 285 **PKPbc 18 52 04.1 -2.0**
DBIC Dimbokro 151.06 168 PKPbc **PKiKP 18 52 09.6 +1.3**
comp=Z,2.6nm,0.7s,baz=133,slow=5.3,SNR=1.8
MMAI Mount Meron Ar 151.30 276 PKPbc **PKiKP 18 52 09.6 +1.3**
comp=Z,2.3nm,0.6s,baz=74,slow=6.2,SNR=5.7
NB2 NORSAR Subarra 153.37 349 PKP **PKiKP 18 52 13.5 +1.9**
comp=Z,6.5nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 153.37 349 PKPbc **PKiKP 18 52 12.4 +0.7**
comp=Z,1.0nm,0.9s,baz=6.3,slow=4.0,SNR=6.0
BRTR Keskin Array B 153.61 290 PKPbc **PKPbc 18 52 12.6 -0.3**
comp=Z,1.8nm,0.8s,baz=142,slow=3.2,SNR=11
HFS Hagfors 153.75 345 PKPbc **PKiKP 18 52 14.4 +2.0**
comp=Z,3.1nm,0.7s,baz=170,slow=4.5,SNR=4.3
AKASG Malin Array Be 154.29 316 PKPbc **PKiKP 18 52 15.7 +1.9**
comp=Z,1.9nm,0.6s,baz=71,slow=1.8,SNR=4.7
TORD Torodi Ar. Bea 157.94 183 **PKPdf 18 52 14.1 +2.7**
comp=Z,0.8nm,1.1s,baz=263,slow=1.5,SNR=3.7
TORD PKPab **PKPab 18 52 47.9 +3.5**
comp=Z,1.3nm,0.7s,baz=137,slow=1.5,SNR=6.4
LANS Liptovska Anna 160.46 321 *e*PKP **PKPab 18 52 54.1 -0.6**
KEST Kesra 172.96 276 PKPab **PKPab 18 53 49.4 -1.0**
comp=Z,2.4nm,0.7s,baz=280,slow=22,SNR=2.1

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*SJA **10** 18:34:03.1±0.7,26°.30S×71°.06W,h32km±4km, ML3.5, MW3.6*
*GUC **10** 18:34:07.5±0.3,26°.33S×70°.65W,h38km±1km, ML3.4*
ISC 10 18:34:02.0±1.3,**26°.43S**±0°.02×**71°.13W**±0°.06,**h19**km±3km,
n25,σ1§**81**/42,**5D**,**Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.55**	**59**	⇓*i*P	**Pb**	**18 34 13.8**	**+0.8**
AC01				*i* S	**Sg**	18 34 18.3	-2.3
AC01	**Pan de Azucar**	**0.55**	**59**	*e*P	**Pg**	**18 34 13.3**	**+0.2**
AC01				IAML		18 34 20.7	
comp=Z,3μm,0.2s							
AC06	**Mina Casimiro**	**1.15**	**143**	*e*P	**Pg**	**18 34 26.2**	**+1.9**
AC06				*i* S	**Sn**	**18 34 40.1**	**+1.9**
GO03	**Copiapo**	**1.40**	**146**	⇓*i*P	**Pg**	**18 34 30.2**	**+1.1**
GO03				*i* S	**Sb**	**18 34 47.4**	**+2.3**
GO03				IAML		18 34 51.4	
comp=E,844nm,0.3s							
GO03	**Copiapo**	**1.40**	**146**	*e*P	**Pg**	**18 34 29.9**	**+0.8**
GO03				*e*S	**Sg**	**18 34 48.1**	**+0.6**
GO03				IAML		18 34 49.5	
comp=Z,743nm,0.3s							
AC04	**Llanos de Chal**	**1.76**	**179**	⇓*i*P	**Pg**	**18 34 36.3**	**+0.3**
AC04				*i* S	**Sb**	**18 34 57.9**	**+2.4**
AC04	**Llanos de Chal**	**1.76**	**179**	*e*P	**Pg**	**18 34 36.3**	**+0.3**
AC04				*e*S	**Sg**	**18 34 59.2**	**+0.2**
AC02	**Maricunga**	**1.83**	**103**	⇓*i*P	**Pn**	**18 34 34.3**	**+1.4**
AC02				*i* S	**Sn**	**18 34 53.0**	**-2.7**
AC02				IAML		18 34 58.0	
comp=E,905nm,0.3s							
AC02	**Maricunga**	**1.83**	**103**	*e*P	**Pn**	**18 34 34.5**	**+1.6**
AC02				*e*S	**Sn**	**18 34 55.5**	**-0.3**
AC02				IAML		18 34 56.3	
comp=Z,423nm,0.2s							
GO02	**Mina Guanaco**	**1.88**	**48**	⇓*i*P	**Pn**	**18 34 33.8**	**+0.5**
GO02				*i* S	**Sn**	**18 34 53.9**	**-2.7**
GO02				IAML		18 35 00.8	
comp=E,1μm,0.1s							
GO02	**Mina Guanaco**	**1.88**	**48**	*e*P	**Pn**	**18 34 33.4**	**+0.1**
GO02				*e*S	**Sn**	**18 34 57.1**	**+0.5**
GO02				IAML		18 35 00.2	
comp=Z,614nm,0.1s							
PB14	**IPOC Station P**	**1.92**	**20**	*i* P	**Pn**	**18 34 34.9**	**+1.0**
PB14	**IPOC Station P**	**1.92**	**20**	*e*P	**Pn**	**18 34 34.3**	**+0.5**
PB14				*e*S	**Sn**	**18 34 58.8**	**+1.3**
PB14				IAML		18 35 00.9	
comp=Z,524nm,0.4s							
LCO	**Las Campanas**	**2.59**	**172**	*e*P	**Pb**	**18 34 49.4**	**+1.4**
LCO				*e*S	**Sb**	**18 35 18.7**	**-0.9**
LCO				IAML		18 35 35.1	
comp=Z,256nm,0.5s							
PB10	**IPOC Station P**	**2.95**	**10**	*e*P	**Pn**	**18 34 48.4**	**+0.6**
PB10				IAML		18 35 39.5	
comp=N,86nm,0.6s							
PB10	**IPOC Station P**	**2.95**	**10**	*e*P	**Pn**	**18 34 48.4**	**+0.6**
PB10				*e*S	Sn	18 35 04.2	-19
PB05	**IPOC Station P**	**3.66**	**13**	*e*P	**Pn**	**18 34 58.2**	**+0.4**
PB05				IAML		18 36 02.3	
comp=E,94nm,0.5s							
PB05	**IPOC Station P**	**3.66**	**13**	*e*P	**Pn**	**18 34 58.1**	**+0.4**
PB05				*e*S	**Sb**	**18 35 51.2**	**+0.9**
PB05				IAML		18 36 04.4	
comp=Z,52nm,0.7s							
GO04	**Tololo Observa**	**3.74**	**176**	*e*P	**Pb**	**18 35 04.4**	**-3.1**
GO04				*e*S	**Sb**	**18 35 49.9**	**-2.6**
AGUA	**GUANDACOL**	**3.83**	**143**	*e*P	**Pb**	**18 35 07.0**	**-2.1**
AGUA				*e*S	**Sg**	**18 36 02.2**	**-2.9**
PB06	**IPOC Station P**	**3.97**	**21**	*e*P	**Pn**	**18 35 02.6**	**+0.6**
PB06	**IPOC Station P**	**3.97**	**21**	*e*P	**Pn**	**18 35 02.8**	**+0.8**
PB06				*e*S	**Sb**	**18 35 59.8**	**+0.6**
ACCO	**Cerro Coronel**	**4.52**	**157**	*e*P	**Pb**	**18 35 17.2**	**-3.7**
ACCO				*e*S	**Sb**	**18 36 13.2**	**-1.8**
ACLC	**CERRO LA CRUZ**	**4.75**	**130**	*e*P	Pn	18 35 17.8	+5.2
ACLC				*e*S	**Sb**	**18 36 19.2**	**-2.2**
CYA	**Choya**	**5.14**	**114**	*e*P	**Pn**	**18 35 22.2**	**+4.3**

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*NEIC **10** 18:52:37.9±1.4,24°.6S±0°.1×179°.5W±0°.2,h502km±7km, mb4.3/22, Error ellipse: s-maj=20.8km s-min=17.8km az=123.0*
*IDC **10** 18:52:37.7±2.8,24°.43S×179°.88W,h475km±28km, mb3.4/13, mbtmp4.2/14, Error ellipse: s-maj=21.2km s-min=15.0km az=60.0*
*NOU **10** 18:52:43.3,24°.85S×179°.93W,h537km, mb3.9/20, South of Fiji Islands*
ISC 10 18:52:39.7±0.6,**24°.62S**±0°.06×**179°.80W**±0°.09,**h505**km,
n102,σ1§**66**/118,**mb4.1**/23,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.92**	**161**	P	**P**	**18 54 06.1**	**+0.1**
GLKZ				S	**S**	**18 55 14.6**	**-2.1**
MSVF	**Nonsavu**	**7.14**	**343**	P	**P**	**18 54 26.1**	**-1.6**
PINNC	**Pines Island,**	**11.87**	**277**	P	**P**	**18 55 18.9**	**+2.1**
OUZ	**Omahuta**	**12.01**	**207**	P	**P**	**18 55 20.0**	**+1.8**
OUZ	**Omahuta**	**12.01**	**207**	P	**P**	**18 55 20.4**	**+2.1**
YATNC	**Mamie plateau,**	**12.49**	**279**	P	**P**	**18 55 25.7**	**+2.2**
DZM	**Mont Dzumac**	**12.89**	**279**	P	**P**	**18 55 28.6**	**+0.8**
DZM	**Mont Dzumac**	**12.89**	**279**	P	**P**	**18 55 28.1**	**+0.3**
4.2nm,0.7s,baz=66,slow=20,SNR=8.6							
DZM	**Mont Dzumac**	**12.89**	**279**	P	**P**	**18 55 29.7**	**+1.8**
HAZ	**Te Kaha**	**13.26**	**188**	P	**P**	**18 55 30.9**	**-0.4**
URZ	**Urewera**	**13.85**	**190**	P	**P**	**18 55 38.0**	**+0.5**
6.6nm,0.3s,baz=25,slow=4.2,SNR=5.5							
URZ				S	**S**	**18 58 03.4**	**-0.8**
12nm,0.7s,baz=65,slow=22,SNR=7.9							
URZ	**Urewera**	**13.85**	**190**	P	**P**	**18 55 38.5**	**+0.9**
URZ	**Urewera**	**13.85**	**190**	P	**P**	**18 55 38.3**	**+0.7**
URZ				S	**S**	**18 58 07.4**	**+3.2**
MWZ	**Matawai**	**13.86**	**189**	P	**P**	**18 55 40.8**	**+3.1**
MWZ				S	**S**	**18 58 07.0**	**+2.5**
MTHZ	**Maungataniwha**	**14.47**	**191**	P	**P**	**18 55 48.1**	**+3.9**
MTHZ				S	**S**	**18 58 19.9**	**+3.6**
NMHZ	**Naumai**	**14.72**	**190**	P	**P**	**18 55 49.2**	**+2.4**
BKZ	**Black Stump Fm**	**14.84**	**191**	P	**P**	**18 55 48.9**	**+0.9**
BKZ	**Black Stump Fm**	**14.84**	**191**	S	**S**	**18 58 20.7**	**-2.6**
BKZ	**Black Stump Fm**	**14.84**	**191**	P	**P**	**18 55 48.5**	**+0.5**
BKZ				S	**S**	**18 58 19.0**	**-4.3**
TWVZ	**Taurewa**	**14.96**	**195**	P	**P**	**18 55 51.5**	**+2.1**
NGZ	**Ngauruhoe**	**15.03**	**194**	P	**P**	**18 55 52.2**	**+2.1**
MOVZ	**Moawhango**	**15.21**	**193**	P	**P**	**18 55 52.0**	**0.0**
SANVU	**Saraoutou**	**15.24**	**304**	P	**P**	**18 55 56.6**	**+4.2**
KRHZ	**Kereru**	**15.32**	**191**	P	**P**	**18 55 53.3**	**+0.2**
KRHZ				S	**S**	**18 58 30.0**	**-2.5**
PXZ	**Pawanui**	**15.62**	**190**	P	**P**	**18 55 56.3**	**+0.2**
PXZ				S	**S**	**18 58 34.4**	**-3.7**
TSZ	**Takapari Road**	**15.80**	**192**	P	**P**	**18 55 58.7**	**+0.7**
DVHZ	**Dannevirke**	**16.00**	**191**	P	**P**	**18 55 58.6**	**-1.4**
BFZ	**Birch Farm**	**16.36**	**191**	P	**P**	**18 56 02.8**	**-1.0**
BFZ	**Birch Farm**	**16.36**	**191**	S	**S**	**18 58 48.6**	**-2.9**
BFZ	**Birch Farm**	**16.36**	**191**	P	**P**	**18 56 01.9**	**-1.8**
BFZ				S	**S**	**18 58 49.9**	**-1.7**
MRZ	**Mangatainoka R**	**16.46**	**193**	P	**P**	**18 56 03.3**	**-1.6**
MRZ				S	**S**	**18 58 49.9**	**-3.5**
OGWZ	**Otaki Gorge**	**16.69**	**193**	P	**P**	**18 56 04.3**	**-2.9**
KIW	**Kapiti Island**	**16.79**	**194**	P	**P**	**18 56 07.1**	**-1.2**
DUWZ	**D'Urville Isla**	**16.97**	**197**	P	**P**	**18 56 09.2**	**-0.8**
DUWZ				S	**S**	**18 59 05.1**	**+2.8**
TRWZ	**Traveller**	**17.15**	**192**	P	**P**	**18 56 10.7**	**-1.1**
PAWZ	**Paruwai Farm**	**17.18**	**192**	P	**P**	**18 56 11.2**	**-0.9**
PAWZ				S	**S**	**18 59 05.1**	**-0.7**
TCW	**Tory Channel**	**17.27**	**195**	P	**P**	**18 56 12.0**	**-0.9**
TCW	**Tory Channel**	**17.27**	**195**	P	**P**	**18 56 11.7**	**-1.1**
TCW				S	**S**	**18 59 05.3**	**-1.8**
QRZ	**Quartz Range**	**17.39**	**200**	P	**P**	**18 56 12.6**	**-1.4**
QRZ	**Quartz Range**	**17.39**	**200**	P	**P**	**18 56 13.0**	**-1.0**
QRZ	**Quartz Range**	**17.39**	**200**	P	**P**	**18 56 12.8**	**-1.2**
PLWZ	**Palliser**	**17.40**	**193**	P	**P**	**18 56 12.1**	**-2.0**
PLWZ	**Palliser**	**17.40**	**193**	P	**P**	**18 56 12.7**	**-1.4**
PLWZ				S	**S**	**18 59 06.2**	**-3.1**
NNZ	**Nelson**	**17.50**	**197**	P	**P**	**18 56 14.2**	**-0.9**
NNZ	**Nelson**	**17.50**	**197**	P	**P**	**18 56 14.1**	**-0.9**
THZ	**Tophouse**	**18.14**	**198**	P	**P**	**18 56 20.0**	**-0.9**
DSZ	**Denniston Nort**	**18.45**	**200**	P	**P**	**18 56 24.0**	**+0.2**
KHZ	**Kahutara**	**18.59**	**196**	P	**P**	**18 56 24.1**	**-0.8**
KHZ	**Kahutara**	**18.59**	**196**	S	**S**	**18 59 26.2**	**-2.3**
KHZ	**Kahutara**	**18.59**	**196**	P	**P**	**18 56 23.9**	**-1.1**
GVZ	**Greta Valley S**	**19.23**	**196**	P	**P**	**18 56 29.3**	**-1.5**
LTZ	**Lake Taylor**	**19.26**	**198**	P	**P**	**18 56 29.4**	**-1.8**
LTZ	**Lake Taylor**	**19.26**	**198**	P	**P**	**18 56 31.3**	**+0.1**
RPZ	**Rata Peaks**	**20.47**	**199**	P	**P**	**18 56 41.9**	**-0.3**
6.8nm,0.5s,baz=72,slow=20,SNR=1.7							
6.8nm,0.5s							
EIDS	**Eidsvold**	**26.39**	**262**	P	**P**	**18 57 35.3**	**+0.1**
EIDS				IAmb	IAmb	18 58 00.7	
comp=Z,26nm,1.5s							
CMSA	**Cobar Meteorol**	**31.13**	**249**	P	**P**	**18 58 17.0**	**+0.5**
CTAO	**Charters Tower**	**31.67**	**271**	P	**P**	**18 58 21.8**	**+0.5**
CTAO				IAmb	IAmb	18 58 22.7	
comp=Z,9.9nm,0.6s							
MTSU	**Mount Surprise**	**33.97**	**274**	P	**P**	**18 58 41.5**	**+0.6**
STKA	**Stephens Creek**	**34.63**	**249**	P	**P**	**18 58 46.7**	**+0.4**
STKA				IAmb	IAmb	18 59 23.8	
comp=Z,20nm,1.2s							
STKA	**Stephens Creek**	**34.63**	**249**	P	**P**	**18 58 46.3**	**0.0**
comp=Z,1.8nm,0.4s,baz=98,slow=9.7,SNR=10.0							
comp=Z,1.8nm,0.4s							
STKA	**Stephens Creek**	**34.63**	**249**	P	**P**	**18 58 46.8**	**+0.5**
INKA	**Innaminka**	**35.45**	**256**	P	**P**	**18 58 54.0**	**+0.9**
COEN	**Coen**	**36.42**	**280**	P	**P**	**18 59 02.1**	**+0.8**
HTT	**Hallett**	**36.95**	**247**	P	**P**	**18 59 05.7**	**+0.1**
BBOO	**Buckleboo**	**39.34**	**248**	P	**P**	**18 59 24.5**	**-0.5**
BBOO				IAmb	IAmb	18 59 55.5	
comp=Z,21nm,1.2s							
BBOO	**Buckleboo**	**39.34**	**248**	P	**P**	**18 59 24.3**	**-0.7**
AS31	**Alice Springs**	**42.11**	**261**		**P**	**18 59 46.8**	**-0.4**
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**18 59 46.5**	**-0.8**
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**18 59 47.1**	**-0.1**
comp=Z,2.8nm,0.9s,baz=90,slow=6.9,SNR=38							
ASAR				PcP	**PcP**	**19 01 30.6**	**+0.3**
comp=Z,0.6nm,0.7s,baz=100,slow=5.4,SNR=4.4							
comp=Z,2.8nm,0.9s							
WR8	**Warramunga Arr**	**42.40**	**267**		**P**	**18 59 49.0**	**-0.6**
WR8				IAmb	IAmb	18 59 49.7	
comp=Z,3.7nm,0.8s							
WB1	**Warramunga Ar.**	**42.54**	**267**	P	**P**	**18 59 50.1**	**-0.6**
WRAB	**Tennant Creek**	**42.54**	**267**	P	**P**	**18 59 49.9**	**-0.7**
WRAB				IAmb	IAmb	18 59 50.4	
comp=Z,5.2nm,0.5s							
WRAB	**Tennant Creek**	**42.54**	**267**	P	**P**	**18 59 50.0**	**-0.7**
WB0	**Warramunga Arr**	**42.55**	**267**	P	**P**	**18 59 49.9**	**-0.8**
WB0				IAmb	IAmb	18 59 50.9	
comp=Z,7.0nm,0.6s							
WRA	**Warramunga Arr**	**42.55**	**267**	P	**P**	**18 59 50.2**	**-0.6**
comp=Z,5.5nm,0.5s,baz=102,slow=8.2,SNR=98							
WRA				PcP	**PcP**	**19 01 32.1**	**+0.2**
comp=Z,0.5nm,0.7s,baz=110,slow=2.7,SNR=2.8							
WRA				ScP	**ScP**	**19 04 37.8**	**+3.3**
comp=Z,0.6nm,0.8s,baz=100,slow=4.0,SNR=5.2							
WRA				S	**S**	**19 05 34.4**	**-2.1**
comp=Z,0.4nm,1.0s,baz=100,slow=14,SNR=2.8							
comp=Z,5.5nm,0.5s							
JAY	**Jayapura**	**43.97**	**294**	P	**P**	**19 00 00.3**	**-1.7**
comp=Z,3.1nm,0.5s,baz=131,slow=21,SNR=4.0							
comp=Z,3.1nm,0.5s							
FORT	**Forrest**	**46.24**	**250**	P	**P**	**19 00 17.8**	**-1.4**
FORT				IAmb	IAmb	19 00 19.3	
comp=Z,7.4nm,0.7s							
MTN	**Manton Dam**	**47.70**	**275**	P	**P**	**19 00 29.3**	**-1.1**
MTN				IAmb	IAmb	19 00 55.9	
comp=Z,11nm,1.2s							
KNRA	**Kununurra**	**48.87**	**270**	P	**P**	**19 00 39.1**	**0.0**
KNRA				IAmb	IAmb	19 00 39.9	
comp=Z,8.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**19 00 54.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**19 00 54.0**	**-0.5**
comp=Z,4.8nm,0.6s,baz=115,slow=8.2,SNR=21							
comp=Z,4.8nm,0.6s							
MBWA	**Marble Bar**	**55.44**	**260**	P	**P**	**19 01 25.1**	**-1.2**
MORW	**Morawa**	**56.81**	**250**	P	**P**	**19 01 35.3**	**-0.4**
MORW				IAmb	IAmb	19 01 46.3	
comp=Z,16nm,1.5s							
QSPA	**South Pole Qui**	**65.47**	**180**	P	**P**	**19 02 34.4**	**+2.2**
QSPA	**South Pole Qui**	**65.47**	**180**	P	**P**	**19 02

GII 10 18:53:35.6±0.0, 33°052N±0°003×35°553E±0°001, h0km, Mws0.7, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMID	**Amiad**	**0.12**	**185**	P	Pg	18 53 38.6	+0.6
AMID	**Amiad**	**0.12**	**185**	S	Sg	18 53 41.4	+1.7
MMA0B	**Mount Meron ar**	**0.13**	**254**	P	Pg	18 53 39.3	+1.1
MMA0B	**Mount Meron ar**	**0.13**	**254**	S	Sg	18 53 42.2	+2.3
MMC7	**Mount Meron ar**	**0.14**	**258**	P	Pg	18 53 39.2	+0.9
HDNS	**Had-Ness**	**0.14**	**149**	P	Pg	18 53 39.8	+1.4
HDNS	**Had-Ness**	**0.14**	**149**	S	Sg	18 53 42.5	+2.3
GEM	**Giv'at Ha'Em**	**0.18**	**30**	P	Pg	18 53 40.0	+0.8
GEM	**Giv'at Ha'Em**	**0.18**	**30**	S	Sg	18 53 43.8	+2.2
KSHT	**Keshet**	**0.23**	**108**	P	Pg	18 53 41.2	+1.2
KSHT	**Keshet**	**0.23**	**108**	S	Sg	18 53 45.3	+2.3

*CATAC **10** 19:08:24.9±0.3, 7°N±2°×7°7W±°, h123km±9km, M4.6/17, mb4.9/3, mB4.6/2, MLv4.5/17, Mw(mB)3.8/2, MwMwp6.4/1, Mwp6.4/1, Error ellipse: s-maj=5.5km s-min=3.9km az=29.1, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.94; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-1.34; $M_{r\theta}$0.83; $M_{\theta\phi}$-3.29; $M_{\phi r}$0.09; Fault plane solution: $M_0$3.59297×10^{15} NP1: ϕ_s173.18562°, δ73.93648°, λ6.52822°. NP2:ϕ_s81.37199°, δ83.72771°, λ163.83710°. Principal axes: T 3.0976, Plg15.8376°, Azm36.2789°; N 0.8414, Plg72.6930°, Azm240.7174°; P -3.9390, Plg6.8000°, Azm128.2174°; confirmed*

*RSNC **10** 19:08:26.3±0.0, 7°N±1°×7°7W±°, h8km±3km, M4.1, mB5.0, mb5.0, ML3.7, Mw(mB)4.4*

*NEIC **10** 19:08:28.5±1.6, 7°.14N±0°.06×77°.11W±0°.07, h40km±8km, mb4.5/17, Error ellipse: s-maj=11.0km s-min=8.6km az=65.0*

*IDC **10** 19:08:30.2±2.1, 7°.19N×77°.00W, h67km±19km, mb3.7/13, mbtmp4.0/17, MS3.7/5, Error ellipse: s-maj=20.1km s-min=14.5km az=60.0*

*VAO **10** 19:08:32.8±0.4, 7°.56N×76°.64W, h10km, mb4.7*

ISC 10 19:08:27.4±0.8, 7°13N±0°03×77°08W±0°03, h41km±7km, n126, σ1$97/149, mb4.3/18, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.72**	**271**	P	**Pn**	**19 08 39.8**	**-1.4**
PTAC				S	**Sn**	**19 08 51.0**	**-0.2**
DBBC	**Dabeiba**	**0.87**	**97**	P	**Pn**	**19 08 41.3**	**-2.0**
DBBC				S	**Sn**	**19 08 53.5**	**-1.4**
APAC	**Apartado, Choc**	**0.91**	**33**	P	**Pn**	**19 08 44.0**	**+0.2**
APAC				S	**Sn**	**19 08 57.2**	**+1.5**
SOLC	**Bahia Solano**	**0.96**	**200**	P	**Pn**	**19 08 42.7**	**-1.7**
SOLC				S	**Sn**	**19 08 56.1**	**-0.8**
CBOC	**Ciudad Bolivar**	**1.65**	**140**	P	**Pn**	**19 08 51.6**	**-2.5**
CBOC				S	**Sn**	**19 09 10.1**	**-4.0**
UREC	**San Jos de Ur**	**1.65**	**68**	P	**Pn**	**19 08 54.5**	**+0.5**
UREC				S	**Sn**	**19 09 14.9**	**+0.8**
HELC	**Santa Helena**	**1.80**	**121**	P	**Pn**	**19 08 55.3**	**-1.0**
HELC				S	**Sn**	**19 09 17.2**	**-1.0**
HELC	**Santa Helena**	**1.80**	**121**	P	**Pn**	**19 08 55.4**	**-1.0**
HELC				S	**Sn**	**19 09 18.3**	**+0.1**
ZARC	**Zaragoza, Cauc**	**2.23**	**81**	P	**Pn**	**19 09 02.8**	**+0.8**
ZARC				S	**Sn**	**19 09 29.1**	**+0.8**
GUY2C	**Guyana, Caldas**	**2.55**	**138**	P	**Pn**	**19 09 06.2**	**-0.5**
GUY2C				S	**Sn**	**19 09 37.2**	**+0.4**
PTBC	**PUERTO BERRIO,**	**2.67**	**103**	P	**Pn**	**19 09 08.7**	**+0.7**
PTBC				S	**Sn**	**19 09 39.5**	**+0.3**
NORC	**Norcasia**	**2.69**	**125**	P	**Pn**	**19 09 09.0**	**+0.7**
NORC				S	**Sn**	**19 09 41.6**	**+1.8**
ANIL	**Santa Ana**	**3.11**	**147**	P	**Pn**	**19 09 14.7**	**+0.4**
ANIL				S	**Sn**	**19 09 54.4**	**+4.1**
YOTC	**Yotoco, Valle**	**3.21**	**167**	P	**Pn**	**19 09 12.5**	**-3.0**
YOTC				S	**Sn**	**19 09 48.9**	**-3.8**
BRJC	**Barrancabermej**	**3.31**	**93**	P	**Pn**	**19 09 19.3**	**+2.5**
BRJC				S	**Sn**	**19 09 57.2**	**+2.2**
SJCC	**San Jacinto, C**	**3.33**	**34**	P	**Pn**	**19 09 16.6**	**-0.5**
SJCC	**San Jacinto, C**	**3.33**	**34**	P	**Pn**	**19 09 18.8**	**+1.7**
SJCC				S	**Sn**	**19 10 00.2**	**+4.7**
SPBC	**San Pablo de B**	**3.33**	**116**	P	**Pn**	**19 09 18.7**	**+1.6**
SPBC				S	**Sn**	**19 09 59.3**	**+3.7**
BCIP	**Isla Barro Col**	**3.40**	**307**	Pn	**Pn**	**19 09 17.5**	**-0.5**
BCIP	**Isla Barro Col**	**3.40**	**307**	P	**Pn**	**19 09 17.2**	**-0.8**
BCIP	**Isla Barro Col**	**3.40**	**307**	P	**Pn**	**19 09 17.7**	**-0.3**
BCIP				S	**Sn**	**19 09 58.2**	**+1.1**
ROSC	**El Rosal**	**3.57**	**130**		**Pn**	**19 09 22.5**	**+1.9**
ROSC	**El Rosal**	**3.57**	**130**	P	**Pn**	**19 09 22.9**	**+2.3**
	172nm,0.5s,baz=320,slow=3.3,SNR=45						
ROSC				S	**Sn**	**19 10 01.6**	**-0.2**
	199nm,0.6s,baz=174,slow=20,SNR=3.7						
ROSC	**El Rosal**	**3.57**	**130**	P	**Pn**	**19 09 22.8**	**+2.2**
ROSC	**El Rosal**	**3.57**	**130**	P	**Pn**	**19 09 22.8**	**+2.2**
ROSC				S	**Sn**	**19 10 08.3**	**+6.5**
ORTC	**Ortega, Tolima**	**3.69**	**150**	P	**Pn**	**19 09 22.8**	**+0.8**
ORTC				S	**Sn**	**19 10 08.3**	**+4.1**
OCAC	**Ocana**	**3.89**	**73**	P	**Pn**	**19 09 26.2**	**+1.4**
OCAC				S	**Sn**	**19 10 09.6**	**+0.3**
ARGC	**Ariguani, Magd**	**3.90**	**46**	P	**Pn**	**19 09 27.6**	**+2.7**
ARGC				S	**Sn**	**19 10 12.4**	**+3.0**
BARC	**Barichara**	**3.91**	**98**	P	**Pn**	**19 09 27.4**	**+2.2**
BARC				S	**Sn**	**19 10 11.8**	**+1.8**
CVER	**Cruz Verde, Cu**	**3.96**	**131**	P	**Pn**	**19 09 28.8**	**+2.7**
PRAC	**Prado**	**4.04**	**147**	P	**Pn**	**19 09 27.0**	**+0.1**
PRAC	**Prado**	**4.04**	**147**	P	**Pn**	**19 09 27.8**	**+1.0**
PRAC				S	**Sn**	**19 10 17.7**	**+4.8**
RUSC	**La Rusia**	**4.16**	**107**		**Pn**	**19 09 30.1**	**+1.2**
RUSC	**La Rusia**	**4.16**	**107**	P	**Pn**	**19 09 30.3**	**+1.4**
RUSC				S	**Sn**	**19 10 15.9**	**-0.6**
RUSC	**La Rusia**	**4.16**	**107**	P	**Pn**	**19 09 30.4**	**+1.5**
RUSC				S	**Sn**	**19 10 18.2**	**+1.7**
GR1C	**Gorgona, Isla**	**4.24**	**195**	P	**Pn**	**19 09 29.8**	**+0.2**
PAMC	**Pamplona, Colo**	**4.35**	**87**	P	**Pn**	**19 09 33.3**	**+1.8**
PAMC				S	**Sn**	**19 10 22.9**	**+1.6**
POPC	**Popayan, Colom**	**4.58**	**175**	P	**Pn**	**19 09 35.4**	**+1.0**
URMC	**La Uribe, Meta**	**4.70**	**145**	P	**Pn**	**19 09 36.4**	**+0.4**
SMRC	**Santa Marta, M**	**4.90**	**35**		**Pn**	**19 09 39.8**	**+1.2**
BBAC	**Balboa, Cauca**	**5.08**	**182**	P	**Pn**	**19 09 42.8**	**+1.5**
	823nm96nm,0.8s						
BBAC				S	**Sn**	**19 10 43.3**	**+4.5**
	823nm96nm,0.8s						
CRJC	**Cerrejon, Guaj**	**5.67**	**47**	P	**Pn**	**19 09 48.8**	**-0.5**
	4μm262nm,0.6s						
CRJC				S	**Sn**	**19 10 50.3**	**-2.9**
	4μm262nm,0.6s						
FLOC	**Florencia**	**5.69**	**165**		**Pn**	**19 09 49.6**	**0.0**
FLOC	**Florencia**	**5.69**	**165**	P	**Pn**	**19 09 49.5**	**0.0**
FLOC	**Florencia**	**5.69**	**165**	P	**Pn**	**19 09 50.4**	**+0.8**
	712nm82nm,0.8s						
FLOC				S	**Sn**	**19 10 57.5**	**+3.8**
	712nm82nm,0.8s						
PTGC	**Puerto Gaitan,**	**5.72**	**120**	P	**Pn**	**19 09 52.4**	**+2.5**
	88nm,0.7s						
BRU2	**Volcan**	**5.80**	**287**		**Pn**	**19 09 49.0**	**-2.1**
MACC	**Macarena, Meta**	**5.91**	**147**	P	**Pn**	**19 09 53.6**	**+1.1**
	3μm284nm,0.6s						
DRK0	**Durika**	**6.46**	**290**	P	**Pn**	**19 10 00.3**	**+0.1**
SDV	**Santo Domingo**	**6.62**	**74**		**Pn**	**19 10 03.0**	**+0.6**
SDV	**Santo Domingo**	**6.62**	**74**	P	**Pn**	**19 10 03.9**	**+1.5**
	38nm,0.4s,baz=239,slow=9.5,SNR=48						
SDV				S	**Sn**	**19 11 13.8**	**-3.0**
	116nm,0.5s,baz=308,slow=19,SNR=9.4						
SDV				LR	LR	19 13 00.9	
	comp=Z,634nm,18.4s,baz=245,slow=42						
SDV	**Santo Domingo**	**6.62**	**74**	*eP*	**Pn**	**19 10 03.9**	**+1.5**
SDV	**Santo Domingo**	**6.62**	**74**	P	**Pn**	**19 10 04.0**	**+1.6**
	1μm86nm,0.7s						
SDV				S	**Sn**	**19 11 14.5**	**-2.2**
	1μm86nm,0.7s						
URIC	**Uribia, Colomb**	**6.77**	**47**	P	**Pn**	**19 10 04.1**	**-0.2**
	1μm142nm,0.8s						
URIC				S	**Sn**	**19 11 16.8**	**-3.4**
	1μm142nm,0.8s						
URI	**Uribia**	**6.77**	**47**	P	**Pn**	**19 10 04.9**	**+0.6**
URI				S	**Sn**	**19 11 16.7**	**-3.5**
OTAV	**Otavalo**	**6.98**	**191**	P	**Pn**	**19 10 07.1**	**-0.6**
OTAV	**Otavalo**	**6.98**	**191**	P	**Pn**	**19 10 07.9**	**+0.2**
OTAV				S	**Sn**	**19 11 23.8**	**-2.3**
HDC	**Heredia**	**7.52**	**293**	*eP*	Pn	19 10 25.7	+11
SLOR	**San Lorenzo -**	**7.94**	**190**		**Pn**	**19 10 21.1**	**+0.4**
SOCE	**Pocosol**	**8.12**	**294**	Pn	**Pn**	**19 10 23.2**	**+0.2**
JTS	**Las Juntas de**	**8.39**	**293**	Pn	**Pn**	**19 10 27.5**	**+0.9**
JTS	**Las Juntas de**	**8.39**	**293**	P	**Pn**	**19 10 30.2**	**+3.6**
	3.4nm,0.4s,baz=232,slow=16,SNR=3.5						
JTS				LR	LR	19 13 51.8	
	comp=Z,395nm,19.7s,baz=138,slow=38						
BAUV	**El Baul**	**9.13**	**78**		**Pn**	**19 10 34.0**	**-2.8**
BAUV				Sn	Sn	19 12 09.5	-8.7
ACON	**Acoyapa**	**9.32**	**302**	Pn	**Pn**	**19 10 40.7**	**+1.4**
COHC	**Cochancay**	**9.78**	**193**	Pn	**Pn**	**19 10 46.2**	**+0.6**
SIUN	**Universidad Ur**	**10.00**	**311**		**Pn**	**19 10 48.4**	**-0.3**
MTDJ	**Mount Denham**	**11.04**	**358**	Pn	**Pn**	**19 11 00.6**	**-2.4**
SDDR	**Presa de Saban**	**13.06**	**25**		**Pn**	**19 11 31.5**	**+1.0**
ATAH	**Atahualpa**	**14.23**	**185**	P	**P**	**19 11 51.8**	**-1.7**
	3.6nm,0.6s,baz=330,slow=14,SNR=1.9						
CRPR	**Cabo Rojo, PR**	**14.54**	**41**	Pn	**Pn**	**19 11 46.4**	**-4.1**
SJG	**San Juan**	**15.25**	**43**	Pn	**Pn**	**19 11 57.4**	**-2.6**
SJG				IAmb	IAmb	19 12 14.1	
	comp=Z,16nm,0.7s						
SJG	**San Juan**	**15.25**	**43**	P	**Pn**	**19 11 56.6**	**-3.4**
	comp=Z,5.6nm,0.3s,baz=211,slow=12,SNR=3.8						
SJG				LR	LR	19 18 11.2	
	comp=Z,134nm,21.7s,baz=225,slow=38						
PDPR	**Patillas Dam,**	**15.27**	**44**	Pn	**Pn**	**19 11 56.4**	**-3.9**
PDPR				IAmb	IAmb	19 11 58.1	
	comp=Z,19nm,0.7s						
APG	**El Apazote**	**15.28**	**302**	LR	LR	19 18 06.6	
	comp=Z,19nm,21.1s,baz=166,slow=38						
GCPR	**Guaynabo City**	**15.43**	**43**	Pn	**Pn**	**19 11 59.2**	**-3.1**
GCPR				IAmb	IAmb	19 12 16.2	
	comp=Z,15nm,0.6s						
HUMP	**Col San Antoni**	**15.47**	**44**		**Pn**	**19 11 59.3**	**-3.6**
PETF	**Flores**	**15.83**	**309**		**P**	**19 12 12.2**	**+1.4**
SABA	**Saba**	**17.05**	**51**	Pn	**Pn**	**19 12 20.7**	**-2.3**
SABA				IAmb	IAmb	19 12 29.8	
	comp=Z,33nm,0.7s						
BOAV	**Boa Vista**	**17.15**	**105**		**Pn**	**19 12 22.2**	**-2.1**
MACA	**Manacapuru-AM**	**19.30**	**121**	*eP*	**Pn**	**19 12 55.1**	**+4.7**
ITTB	**Itaituba**	**24.17**	**118**	*eP*	P	19 13 47.3	+7.1
LPAZ	**La Paz**	**24.90**	**159**	P	**P**	**19 13 48.7**	**+1.3**
LPAZ	**La Paz**	**24.90**	**159**	P	**P**	**19 13 46.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=352,slow=5.2,SNR=5.3						
	comp=Z,1.3nm,0.6s						
VILB	**Vilhena**	**26.07**	**140**	*eP*	P	19 14 07.4	+10
PDRB	**Porto dos Gac**	**27.50**	**132**	*eP*	P	19 14 18.1	+7.7
PRPB	**Parauapebas**	**30.24**	**115**	*eP*	P	19 14 42.9	+8.2
TXAR	**Lajitas Array**	**33.38**	**315**	P	**P**	**19 15 01.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=122,slow=9.1,SNR=4.4						
TXAR				PcP	**PcP**	**19 17 43.5**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=142,slow=4.3,SNR=4.6						
	comp=Z,0.5nm,0.9s						
SMTB	**Santa Maria do**	**33.41**	**118**	*eP*	P	19 15 10.5	+7.9
ARAG	**Araguaiana, MT**	**33.78**	**132**	*eP*	P	19 15 13.7	+7.9
MURT	**Porto Murtinho**	**34.40**	**147**	*eP*	P	19 15 19.6	+8.6
SDBA	**SAO DESIDERIO**	**37.41**	**121**	*eP*	P	19 15 45.7	+8.7
IPMB	**Ipameri, GO**	**37.88**	**132**	*eP*	P	19 15 49.0	+8.1
ITAB	**Concordia**	**41.84**	**146**	*eP*	P	19 16 25.6	+12
PV15	**Paradox Valley**	**42.08**	**322**	P	**P**	**19 16 16.7**	**+0.9**
PV15				IAmb	IAmb	19 16 49.8	
	comp=Z,8.0nm,0.9s						
BO02	**Sierra Bellavi**	**42.12**	**172**	P	**P**	**19 16 16.8**	**+0.9**
BO02				IAmb	IAmb	19 16 28.6	
	comp=Z,8.1nm,1.0s						
PV13	**Radium Mtn., P**	**42.17**	**322**	P	**P**	**19 16 17.6**	**+1.1**
CMC01	**Camacan, BA**	**43.41**	**121**	*eP*	P	19 16 33.8	+7.3
IRM	**Iron Mountain**	**44.21**	**313**	P	**P**	**19 16 35.0**	**+2.2**
PDAR	**Pinedale Array**	**45.58**	**326**	P	**P**	**19 16 43.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=141,slow=8.3,SNR=3.1						
PDAR				PcP	**PcP**	**19 18 21.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=91,slow=4.0,SNR=2.8						
	comp=Z,0.4nm,0.7s						
RPN	**Rapa Nui**	**46.21**	**221**	LR	LR	19 31 02.3	
	comp=Z,83nm,19.1s,baz=74,slow=29						
PLCA	**Paso Flores**	**48.01**	**173**	P	**P**	**19 17 03.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=16,slow=8.3,SNR=1.7						
	comp=Z,1.0nm,0.6s						
SCHQ	**Schefferville**	**48.27**	**8**	P	**P**	**19 17 04.8**	**+0.4**
	comp=Z,45nm,0.7s,baz=186,slow=7.0,SNR=6.0						
NVAR	**Mina Array Bea**	**48.51**	**316**	P	**P**	**19 17 06.8**	**0.0**
	comp=Z,0.9nm,0.8s,baz=145,slow=5.4,SNR=4.9						
	comp=Z,0.9nm,0.8s						
B08A	**Colville Reser**	**54.42**	**327**	P	**P**	**19 17 51.0**	**+0.4**
B08A				IAmb	IAmb	19 17 51.9	
	comp=Z,3.3nm,0.9s						
YKA	**Yellowknife Ar**	**61.66**	**341**	P	**P**	**19 18 40.0**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=138,slow=5.6,SNR=6.1						
	comp=Z,2.2nm,0.8s						
DLBC	**Dease Lake**	**65.20**	**332**	P	**P**	**19 19 04.5**	**-0.1**
	comp=Z,18nm,0.6s,baz=125,slow=6.6,SNR=3.8						
SUMG	**Summit**	**69.44**	**12**	P	**P**	**19 19 32.3**	**+0.7**
M30M	**Minto, Yukon**	**70.06**	**335**	P	**P**	**19 19 35.4**	**+0.3**
M30M				IAmb	IAmb	19 19 36.8	
	comp=Z,7.2nm,0.8s						
ESDC	**Sonseca Array**	**72.49**	**51**	P	**P**	**19 19 49.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=259,slow=5.0,SNR=4.2						
	comp=Z,0.8nm,0.8s						
DOT	**Dot Lake**	**73.53**	**335**	P	**P**	**19 19 56.6**	**+0.7**
DOT				IAmb	IAmb	19 19 58.1	
	comp=Z,8.4nm,0.8s						
ILAR	**Eielson Array**	**75.03**	**335**	P	**P**	**19 20 04.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=116,slow=4.6,SNR=13						
	comp=Z,1.3nm,0.7s						
RND	**Reindeer**	**75.53**	**334**	P	**P**	**19 20 08.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**77.52**	**78**	P	**P**	**19 20 18.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=294,slow=6.4,SNR=4.5						
	comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B**	**82.99**	**29**	P	**P**	**19 20 48.2**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=278,slow=5.1,SNR=2.1						
	comp=Z,1.2nm,0.9s						
ARCES	**ARCESS Array B**	**87.74**	**20**	P	**P**	**19 21 09.9**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=286,slow=4.8,SNR=14						
	comp=Z,2.4nm,0.6s						
FINES	**FINESS Array B**	**90.02**	**28**	P	**P**	**19 21 21.8**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=282,slow=7.0,SNR=2.8						
	comp=Z,2.1nm,0.9s						
AKASG	**Malin Array Be**	**94.70**	**38**	LR	LR	19 58 31.5	
	comp=Z,76nm,21.6s,baz=41,slow=32						
QSPA	**South Pole Qui**	**97.14**	**180**	P	Pdif	19 21 56.0	+0.7
	comp=Z,1.4nm,1.0s,baz=219,slow=5.6,SNR=2.8						
	comp=Z,1.4nm,1.0s						
KURBB	**Kurchatov Arra**	**118.73**	**17**	PKP	**PKPdf**	**19 27 10.3**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=319,slow=3.1,SNR=2.7						
MKAR	**Makanchi Array**	**123.26**	**17**	PKP	**PKPdf**	**19 27 19.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=5.2,slow=1.6,SNR=1.9						
HHC	**Hu-ho-hao-te**	**131.60**	**351**	*eP*	**PKPdf**	**19 27 36.5**	**+0.1**
NJ2	**Nanjing**	**138.17**	**340**	*eP*	**PKiKP**	**19 27 50.6**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**146.03**	**238**	PKPbc	**PKPdf**	**19 28 03.4**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=116,slow=3.6,SNR=28						
PZH	**PanZhiHua**	**146.55**	**2**	PKPbc	**PKPdf**	**19 28 03.3**	**-0.7**
WRA	**Warramunga Arr**	**146.98**	**244**	PKPbc	**PKPdf**	**19 28 04.6**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=101,slow=2.4,SNR=32						
CMAR	**Chiang Mai Arr**	**154.27**	**9**	PKPbc	**PKPbc**	**19 28 24.3**	**0.0**
	comp=Z,0.9nm,0.7s,baz=286,slow=0.6,SNR=6.1						
CMAR				PKPab	**pPKPbc**	**19 28 36.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=322,slow=4.6,SNR=9.1						

*NEIC **10** 19:10:13.1±0.6, 19°.27N±0°.01×67°.15W±0°.04, h10km±1km, ML2.2/10, Md3.2/6(RSPR), Error ellipse: s-maj=6.8km s-min=3.1km az=275.0*

*SDD **10** 19:10:14.5±0.6, 19°.27N×67°.25W, h20km±30km, MD3.0, ML2.1, MW2.7*

*RSPR **10** 19:10:16.1, 19°.27N×67°.36W, h43km±10km, MD3.2/6*

ISC 10 19:10:12.1±2.0, 19°32N±0°08×67°25W±0°05, h16km±9km, n35, σ0$47/42, 7C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.86**	**171**		**Pn**	**19 10 29.9**	**+0.4**
AGPR					**Sn**	**19 10 40.9**	**-0.9**
AGPR	**Aguadilla, PR**	**0.86**	**171**	‖*eP*	**Pn**	**19 10 29.9**	**+0.4**
AGPR	**Aguadilla, PR**	**0.86**	**171**	*eS*	**Sn**	**19 10 40.9**	**-0.9**
AGPR	**Aguadilla, PR**	**0.86**	**171**	*eP*g	**Pb**	**19 10 29.3**	**+0.6**
AGPR				*eS*g	**Sg**	**19 10 39.5**	**-0.7**
AGPR				IAML		19 10 41.4	
	comp=N,90nm,0.3s						
AGPR				IAML		19 10 44.8	
	comp=E,68nm,0.5s						
IDE	**Isla Desecheo**	**0.96**	**193**		**Pn**	**19 10 31.1**	**+0.2**
IDE					**Sg**	**19 10 43.4**	**+0.1**
IDE	**Isla Desecheo**	**0.96**	**193**	‖*eP*	**Pn**	**19 10 31.1**	**+0.2**
IDE	**Isla Desecheo**	**0.96**	**193**	*eS*	**Sg**	**19 10 43.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.08**	**154**		**Pb**	**19 10 32.2**	**-0.2**
AOPR	**Arecibo Observ**	**1.08**	**154**	*eP*g	**Pb**	**19 10 32.6**	**+0.2**
AOPR				IAML		19 10 51.3	
	comp=N,74nm,0.2s						
LSP	**Las Mesas**	**1.15**	**172**		**Pg**	**19 10 34.2**	**-0.1**
LSP					**Sn**	**19 10 49.8**	**+0.8**
LSP	**Las Mesas**	**1.15**	**172**	‖*eP*	**Pg**	**19 10 34.2**	**-0.1**
LSP	**Las Mesas**	**1.15**	**172**	*eS*	**Sn**	**19 10 49.8**	**+0.8**
ECPR	**Experimental S**	**1.30**	**140**	‖*eP*	**Pg**	**19 10 37.4**	**+0.2**
ECPR	**Experimental S**	**1.30**	**140**	*eS*	**Sg**	**19 10 54.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.32**	**174**		**Pb**	**19 10 36.7**	**+0.2**
CRPR					**Sb**	**19 10 52.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.32**	**174**	IAML		19 10 55.4	
	comp=E,48nm,0.4s						
CRPR				IAML		19 10 57.2	
	comp=N,47nm,1.3s						
CRPR	**Cabo Rojo, PR**	**1.32**	**174**	‖*eP*	**Pb**	**19 10 36.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.32**	**174**	*eS*	**Sb**	**19 10 52.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.32**	**174**	*eP*g	**Pb**	**19 10 36.6**	**+0.2**
CRPR				‖*eS*g	**Sb**	**19 10 52.8**	**-0.3**
CRPR				IAML		19 10 55.2	
	comp=E,55nm,0.3s						
CRPR				IAML		19 10 58.6	
	comp=N,40nm,0.2s						
MLPR	**Magueyes Islan**	**1.36**	**172**	‖*iP*	**Pn**	**19 10 36.9**	**+0.5**
MLPR	**Magueyes Islan**	**1.36**	**172**	*eS*	**Sb**	**19 10 53.1**	**-1.2**
MLPR	**Magueyes Islan**	**1.36**	**172**	*eP*g	**Pn**	**19 10 36.8**	**+0.5**
MLPR				IAML		19 10 55.6	
	comp=N,8.9nm,0.5s						
MLPR				IAML		19 10 55.9	
	comp=E,9.8nm,0.1s						
CELP	**Cerrillos**	**1.39**	**153**		**Pb**	**19 10 38.0**	**+0.3**
CELP					**Sn**	**19 10 54.9**	**0.0**
CELP	**Cerrillos**	**1.39**	**153**	‖*iP*	**Pb**	**19 10 38.0**	**+0.3**
CELP	**Cerrillos**	**1.39**	**153**	*eS*	**Sn**	**19 10 54.9**	**0.0**
CELP	**Cerrillos**	**1.39**	**153**	‖*eP*g	**Pb**	**19 10 38.0**	**+0.3**
CELP				‖*eS*g	**Sb**	**19 10 55.2**	**-0.1**
CELP				IAML		19 10 56.0	
	comp=N,37nm,0.2s						
CELP				IAML		19 10 56.5	
	comp=E,35nm,0.2s						
OBIP	**Obispado Ponce**	**1.41**	**154**		**Pb**	**19 10 38.4**	**+0.3**
OBIP					**Sn**	**19 10 55.2**	**-0.1**
OBIP	**Obispado Ponce**	**1.41**	**154**	IAML		19 10 59.5	
	comp=E,37nm,2.2s						
OBIP	**Obispado Ponce**	**1.41**	**154**	‖*eP*	**Pb**	**19 10 38.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.41**	**154**	*eS*	**Sn**	**19 10 55.2**	**-0.1**
PDPR	**Patillas Dam,**	**1.74**	**138**	Pn	**Pb**	**19 10 43.2**	**-0.5**
PDPR				IAML		19 11 06.8	
	comp=E,19nm,0.2s						
PDPR	**Patillas Dam,**	**1.74**	**138**	‖*eP*	**Pb**	**19 10 43.9**	**+0.2**
PDPR	**Patillas Dam,**	**1.74**	**138**	*eS*	**Sn**	**19 11 02.7**	**-0.8**
DR12	**Loma Pena Alta**	**2.09**	**256**	Pn	**Pb**	**19 10 49.1**	**-0.5**
HATOM	**Hato Mayor del**	**2.09**	**256**	*eP*g	**Pb**	**19 10 50.1**	**+0.5**
HATOM				IAML		19 11 36.9	
	comp=N,21nm,2.4s						

*TAP **10** 19:17:49.8, 24°.71N×122°.40E, h103km, ML2.9, C*

*JMA **10** 19:17:50.1±0.1, 24°.5N±0°.9×122°.4E±0°.2, h101km±1km, MV2.0/11, NW OFF ISHIGAKIJIMA IS*

ISC 10 19:17:49.9±1.5, 24°67N±0°04×122°44E±0°03, h101km±8km, n81, σ0$90/142, Taiwan region

| Code | Station Name | Δ° | AZ° |

HGSD	Ruisui	1.49 219	eP	Pn	19 18 15.9	-0.3
HGSD			eS	Sn	19 18 35.5	-0.6
VWDT	VWDT	1.49 233	eP	Pn	19 18 16.2	+0.1
VWDT			eS	Sn	19 18 35.6	-0.4
JKRS	Kuro-shima	1.50 106	eP	Pn	19 18 16.6	+0.5
JKRS			eS	Sn	19 18 36.2	+0.1
WCS	Beigang Elemen	1.52 247	eS	Sn	19 18 38.0	+1.4
EHYH	Wanrong	1.54 221	eS	Sn	19 18 35.2	-1.8
EHY	Hungye	1.54 222	eP	Pn	19 18 16.4	-0.4
EHY			eS	Sn	19 18 35.2	-2.0
JIJ	Ishigaki jima	1.58 101	eP	Pn	19 18 17.5	+0.3
JIJ			eS	Sn	19 18 37.4	-0.6
SMLT	Sun Moon Lake	1.61 241	eP	Pn	19 18 19.1	+1.5
SMLT			eS	Sn	19 18 41.1	+2.3
SSLB	Suanglung	1.61 237	eP	Pn	19 18 18.9	+1.2
SSLB			eS	Sn	19 18 40.2	+1.4
TYC	Yuchr	1.63 242	eP	Pn	19 18 19.3	+1.5
TYC			eS	Sn	19 18 40.5	+1.5
YULB	Yu-li	1.64 220	eP	Pn	19 18 17.2	-0.9
YULB			eS	Sn	19 18 37.5	-1.9
TWF1	Yuli	1.68 219	eP	Pn	19 18 17.8	-0.6
TWF1			eS	Sn	19 18 38.4	-1.7
TCU	Taichung	1.69 252	eP	Pn	19 18 16.5	-2.1
JISG	Ishigakijimahi	1.71 92	eP	Pn	19 18 19.1	+0.3
JISG			eS	Sn	19 18 40.8	+0.1
WHYT	Xinyi Township	1.74 237	eS	Sn	19 18 42.9	+1.3
WNT	Mingjian	1.78 244	eS	Sn	19 18 44.0	+1.5
YUS	Yu-Shan	1.80 229	eP	Pn	19 18 20.9	+0.5
YUS			eS	Sn	19 18 42.9	-0.6
FULB	Fuli	1.80 216	eP	Pn	19 18 19.9	-0.2
FULB			eS	Sn	19 18 42.6	-0.3
ALS	Alishan	1.89 233	eP	Pn	19 18 22.4	+1.0
ALS			eS	Sn	19 18 47.1	+1.8
CHN5	Tsauling	1.93 237	eP	Pn	19 18 22.8	+1.1
CHN5			eS	Sn	19 18 47.7	+1.7
ELDTW	Lidau	1.96 222	eP	Pn	19 18 22.1	-0.1
ELDTW			eS	Sn	19 18 45.4	-1.4
LONT	Longtian	2.12 215	eP	Pn	19 18 23.6	-0.5
STYH	Taoyuan	2.13 226	eP	Pn	19 18 25.6	+1.4
STYH			eS	Sn	19 18 50.7	+0.3
TPUB	Ta-pu	2.14 231	eP	Pn	19 18 25.5	+1.1
TPUB			eS	Sn	19 18 52.4	+1.6
LDUT	Ludao	2.18 204	eP	Pn	19 18 24.1	-0.7
LDUT			eS	Sn	19 18 49.9	-1.6

*SOF **10** 19:32:05.7, 40.°66N±0.°02×29.°17E±0.°01, h8km±2km, MD3.5/8*
*AFAD **10** 19:32:06.9, 40.°69N×29.°25E, h11km, MW3.5*
*ISK **10** 19:32:06.7, 40.°70N×29.°27E, h11km, ML3.7/32*
*IDC **10** 19:32:07.3±1.6, 40.°82N×29.°39E, h0km, mb3.1/3, mbtmp3.2/7, ML3.4/4, MS2.6/1, Error ellipse: s-maj=28.3km s-min=7.5km az=44.0*
*MCSM **10** 19:32:10.0±1.1, 41.°8°×2.°9E±.°, h11km±10km, mb3.8, MLv3.7*

ISC 10 19:32:07.3±0.8, 40.°70N±0.°02×29.°25E±0.°02, h12km±5km, n134, σ1°00/162, 20C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURT	Yalova, Merkez	0.12	196	P	Pg	19 32 10.2	-0.2
KURT				P	Pg	19 32 10.2	-0.2
KURT	comp=N,2μm,0.1s			i IAML		19 32 12.0	
KURT	comp=N,2μm,0.3s			i IAML		19 32 12.0	
KURT				S	Sg	19 32 12.3	-0.2
KURT				S		19 32 12.3	
YLV	Yalova	0.16	146	Pg	Pg	19 32 10.6	-0.5
YLV				Sg	Sg	19 32 13.4	-0.4
ARMT	Armutlu	0.33	245	Pg	Pg	19 32 13.8	-0.2
ARMT				Sg	Sg	19 32 18.7	+0.3
HRT	Hereke	0.34	69	Pg	Pg	19 32 13.8	-0.4
HRT				Sg	Sg	19 32 18.4	-0.3
OSMT	Osmaniye	0.35	106	Pg	Pg	19 32 14.0	-0.5
OSMT				Sg	Sg	19 32 19.0	-0.3
SEMS	Kocaeli-K¶rfe	0.41	65	P	Pg	19 32 15.2	-0.2
SEMS				S	Sg	19 32 20.5	-0.4
SEMS	comp=N,6μm,0.5s			i IAML		19 32 21.0	
SEMS	comp=E,8μm,0.5s			i IAML		19 32 21.0	
MDNY	Mudanya-Bursa	0.44	220	Pg	Pg	19 32 15.9	0.0
ADVT	Abdulvahap	0.46	126	Pg	Pg	19 32 15.9	-0.4
ADVT				Sg	Sg	19 32 22.3	-0.1
SILT	Sile	0.54	33	Pg	Pg	19 32 17.8	-0.1
SILT	Sile	0.54	33	⇑P	Pb	19 32 18.1	-0.6
HISA	Bilecik-Osmane	0.56	115	P	Pg	19 32 17.9	-0.4
ULDT	Uludag	0.57	189	P	Pg	19 32 18.1	-0.3
ULDT				S	Sg	19 32 25.5	-0.4
ULDT	comp=E,2μm,0.5s			i IAML		19 32 26.0	
KLYT	Kilyos	0.57	344	Pg	Pg	19 32 18.6	+0.1
KLYT	Kilyos	0.57	344	⇓P	Pb	19 32 18.8	-0.5
KLYT				⇑S	Sb	19 32 26.8	-0.6
BGKT	Bogazkoy	0.60	323	Pg	Pg	19 32 19.1	+0.1
ORLT	Orhaneli	0.71	203	Pg	Pg	19 32 20.8	-0.3
BILE	Bilecik/Merkez	0.72	138	P	Pg	19 32 20.9	-0.4
BILE				S	Sg	19 32 30.4	-0.4
BILE	comp=E,2μm,0.3s			i IAML		19 32 32.0	
ELBA	Catalca	0.77	306	P	Pg	19 32 21.8	-0.3
ELBA				S	Sg	19 32 31.9	-0.2
ELBA	comp=N,1μm,0.4s			i IAML		19 32 32.0	
ELBA	comp=E,854nm,0.3s			i IAML		19 32 33.0	
CTKS	Kestanelik-??a	0.78	314	Pg	Pg	19 32 22.4	0.0
KCTX	Karacabey (Bur	0.81	238	Pg	Pb	19 32 23.1	-0.3
KAND	Kocaeli-Kandir	0.81	61	P	Pg	19 32 22.7	-0.4
KAND	comp=N,2μm,0.5s			i IAML		19 32 33.0	
KAND				S	Sg	19 32 33.1	-0.6
KAND	comp=E,2μm,0.5s			i IAML		19 32 35.0	
SAUV	Serdivan-Sakar	0.82	87	Pg	Pg	19 32 22.5	-0.6
GEYV	SAKARYA_Geyve	0.82	105	P	Pg	19 32 22.8	-0.5
KAYN	Sakarya, Kayna	0.87	72	P	Pg	19 32 23.4	-0.7
KAYN				S	Sg	19 32 34.3	-1.1
KAYN	comp=E,986nm,0.5s			i IAML		19 32 37.0	
GPA	Golpazari	0.91	117	Pg	Pb	19 32 24.5	-0.5
BAND	Balkesir-Ban	0.94	249	P	Pg	19 32 24.9	-0.6
BAND				S	Sb	19 32 38.9	+0.7
BAND	comp=E,4μm,0.4s			i IAML		19 32 40.0	
BAND	comp=N,3μm,0.2s			i IAML		19 32 41.0	
SLVT	Silivri	0.95	304	Pg	Pb	19 32 25.6	-0.1
DOMA	Ktahya-Doman	0.98	160	P	Pg	19 32 25.6	-0.6
GULT	Gulveren	1.00	105	Pg	Pb	19 32 26.2	-0.4
CTYL	Yalikoy Yolu	1.06	317	Pg	Pb	19 32 27.4	-0.2
CTYL	Yalikoy Yolu	1.06	317	⇓S	Sn	19 32 42.6	-0.2
EDC	Edincik	1.12	252	Pn	Pb	19 32 28.4	-0.2
DST	Dursunbey	1.20	204	Pn	Pg	19 32 29.8	-0.6
SAHE	Sakarya_HENDEK	1.23	82	⇑P	Pg	19 32 31.0	+0.1
CRLT	Corlu	1.23	291	Pn	Pb	19 32 30.5	0.0
BORA	Eskisehir	1.23	131	P	Pg	19 32 30.3	-0.8
DURS	Dursunbey	1.25	209	P	Pg	19 32 31.0	-0.4
DURS				S	Sn	19 32 47.5	-0.1
TVSB	Tavsanli	1.26	173	Pn	Pb	19 32 30.7	-0.4
MRMT	Marmara Adasi	1.26	266	Pn	Pb	19 32 31.1	-0.1
BLKS	Balkesir-Sus	1.28	230	P	Pn	19 32 30.2	-0.9
BLKS				S	Sb	19 32 47.5	-0.4
BLKS				S	Sn	19 32 48.1	-0.2
ANDZ	Kutahya, Merke	1.29	157	P	Pb	19 32 31.1	-0.5
ANDZ				S	Sb	19 32 47.5	-0.7
ANDZ	comp=E,819nm,0.8s			i IAML		19 32 52.0	
EMET	Ktahya-Emet	1.33	178	P	Pb	19 32 31.7	-0.6
EMET				S	Sg	19 32 49.9	-0.1
EMET	comp=N,1μm,0.3s			i IAML		19 32 52.0	
TKR	Tekirdag	1.33	283	Pn	Pb	19 32 32.0	-0.3
GONE	Gonen-Balikesi	1.36	242	Pn	Pn	19 32 31.8	-0.4
MDUB	Mudurnu	1.50	98	Pn	Pg	19 32 35.1	-1.0
KRBG	Karabiga-Canak	1.52	259	Pn	Pn	19 32 34.7	+0.3
RKY	Sarkoy-Tekirda	1.58	270	Pn	Pn	19 32 35.5	+0.3
PHSR	Pinarhisar	1.60	306	Pn	Pn	19 32 35.9	+0.4
PHSR	Pinarhisar	1.60	306	⇓P	Pg	19 32 37.4	-0.7
SMAA	Simav-Kutahya	1.61	188	Pn	Pn	19 32 35.9	+0.2
GEDZ	Gediz	1.66	176	Pn	Pn	19 32 36.3	-0.1
SHAP	Saphane-Kutahy	1.68	181	Pn	Pn	19 32 36.6	0.0
CANM	Can-anakkale	1.82	248	Pn	Pn	19 32 38.8	+0.4
YUVA	Yuva-Kibriscik	1.88	99	Pn	Pn	19 32 39.6	+0.2
LPK	Lapseki	1.93	261	Pn	Pn	19 32 40.4	+0.4
CIFT	Cifteler, Eski	1.93	133	Pn	Pn	19 32 40.2	+0.1
GORD	Gordes-Manisa	1.97	205	Pn	Pn	19 32 40.9	+0.2
YAYO	Edremit-Balk	1.99	238	Pn	Pn	19 32 41.2	+0.3
UKOP	Uzunkopru-Edir	2.03	283	Pn	Pn	19 32 41.8	+0.4
SOMA	Soma-Manisa	2.03	221	Pn	Pn	19 32 41.9	+0.5
ERIK	Erikli-Kesan	2.08	270	Pn	Pn	19 32 42.7	+0.6
AKS	Akhisar	2.13	212	Pn	Pn	19 32 43.1	+0.3
GELI	Tayfur-Gelibol	2.14	263	Pn	Pn	19 32 43.4	+0.5
KULA	Kula-Manisa	2.23	192	Pn	Pn	19 32 44.6	+0.4
GOMA	Golmarmara-Man	2.24	208	Pn	Pn	19 32 44.9	+0.6
CAVK	Edirne/Enez-Ca	2.34	271	⇓P	Pb	19 32 50.5	+0.9
SHUT	Suhut-Afyon	2.37	155	Pn	Pn	19 32 46.4	+0.2
EZN	Ezine	2.41	250	⇓P	Pb	19 32 51.4	+0.9
EZN				⇑S	Sg	19 33 23.2	-1.4
JMB	Yambol	2.71	312	i P	Pn	19 32 51.2	+0.4
KALB	Balgarevo	2.77	347	⇑P	Pn	19 32 53.5	+1.9
PRD	Provadia	2.81	331	eP	Pb	19 32 56.3	-1.2
NEF	NEVSHA	2.95	331	eP	Pn	19 32 54.9	+0.8
CIDE	Kastamonu/Cide	3.02	66	⇓P	Pn	19 32 56.7	+1.7
PSN	Preselentsi	3.05	345	eP	Pn	19 32 56.8	+1.4
MANR	Mangalia	3.15	351	⇓P	Pn	19 32 58.5	+1.8
LOZB	Loznitsa	3.32	324	⇑P	Pn	19 33 01.7	+2.6
BR106	Keskin Array S	3.48	105	Pn	Pn	19 33 03.4	+2.0
BR106				Sn	Sn	19 33 44.7	+2.1
BR105	Keskin Array S	3.48	105	Pn	Pn	19 33 03.4	+1.9
BRTR	Keskin Array B	3.50	105	Pn	Pn	19 33 01.9	+0.2
BRTR	0.5nm,0.3s,baz=288,slow=10,SNR=11			Pg	Pb	19 33 11.2	+1.9
BRTR	2.0nm,0.3s,baz=290,slow=14,SNR=35			Sn	Sn	19 33 43.0	-0.2
BRTR	1.2nm,0.3s,baz=292,slow=16,SNR=5.4			Lg	Lg	19 33 57.0	
BR104	1.3nm,0.3s,baz=290,slow=23,SNR=5.9 1.0nm,0.3s Keskin Array S	3.50	105	Pn	Pn	19 33 03.5	+1.7
RAZG	Razgrad	3.52	325	⇓P	Pn	19 33 03.1	+1.3
SZH	Strazhitsa	3.54	317	i P	Pn	19 33 02.7	+0.6
RZN	Rozhen	3.55	288	i P	Pn	19 33 02.5	+0.1
TIRR	Tirgusor	3.80	351	⇓P	Pn	19 33 06.7	+0.9
TIRR	Tirgusor	3.80	351	Pn	Pn	19 33 06.1	+0.4
TIRR				Sn	Sn	19 33 49.6	-0.8
PVL	Pavlikeni	3.89	310	i P	Pn	19 33 07.3	+0.4
TLBR	Topalu	3.94	347	⇑P	Pn	19 33 08.6	+1.0
TPGR	Topolog	4.20	352	⇑P	Pn	19 33 11.8	+0.6
MMB	Musomishta	4.24	283	i P	Pn	19 33 12.4	+0.6
PLVB	Pleven	4.37	309	⇑P	Pn	19 33 16.8	+3.3
TLCR		4.49	356	⇓P	Pn	19 33 16.5	+1.3
CFR	Carcaliu	4.55	350	⇓P	Pn	19 33 16.3	+0.3
PLNA	Plana	4.71	294	i P	Pn	19 33 19.0	+0.6
KKB	Krupnik	4.75	286	i P	Pn	19 33 19.5	+0.7
ISR	Istrita	4.84	337	⇑P	Pn	19 33 21.3	+1.2
VTS	Vitosha	4.90	295	i P	Pn	19 33 21.3	+0.4
NEGRR	Negrea	4.94	349	⇑P	Pn	19 33 22.8	+1.5
HUMR	Humele	4.96	322	⇓P	Pn	19 33 22.2	+0.7
SCTR	Scanteiesti	5.05	350	⇓P	Pn	19 33 24.6	+1.7
VLDR	Vladesti	5.21	351	⇑P	Pn	19 33 26.2	+1.1
MLR	Muntele Rosu	5.36	334	Pn	Pn	19 33 28.9	+1.6
MLR	0.8nm,0.3s,baz=106,slow=2.8,SNR=17			Sn	Sn	19 34 28.6	-0.4
MLR	0.7nm,0.3s,baz=136,slow=16,SNR=1.5			Lg	Lg	19 34 55.1	
MLR	0.7nm,0.3s,baz=117,slow=4.2,SNR=3.5 2.7nm,0.4s Muntele Rosu	5.36	334	⇓P	Pn	19 33 29.1	+1.7
MLR	0.1nm10nm,0.7s Muntele Rosu	5.36	334	Pn	Pn	19 33 28.0	+0.7
PLOR5	Plostina Array	5.48	341	Pn	Pn	19 33 29.3	+0.5
VRI	0.1nm16nm,1.2s Vrincioaia	5.48	341	⇑P	Pn	19 33 30.9	+2.1
VRI	Vrincioaia	5.48	341	Pn	Pn	19 33 29.4	+0.6
PLOR	0.1nm6.6nm,0.6s Plostina	5.49	341	⇓P	Pn	19 33 30.5	+1.6
GHRR		5.52	347	Pn	Pn	19 33 29.8	+0.5
GHRR				Sn	Sn	19 34 32.5	-0.2
ARR	Arges	5.76	326	⇓P	Pn	19 33 33.9	+1.2
TURR	Turia	5.85	337	⇑P	Pn	19 33 35.7	+1.9
OZUR		5.95	336	⇑P	Pn	19 33 36.6	+1.3
DOPR	Dopca	5.97	333	⇑P	Pn	19 33 36.8	+1.2
VASR	Vaslui	6.03	350	⇑P	Pn	19 33 38.3	+2.0
TESR	Tescani	6.11	343	⇓P	Pn	19 33 38.4	+1.0
TESR	Tescani	6.11	343	Pn	Pn	19 33 37.7	+0.3
MILM	0.1nm11nm,1.6s Milestii Mici	6.22	357	⇓P	Pn	19 33 39.1	+0.2
GZR	Gura Zlata	6.67	317	⇑P	Pn	19 33 46.2	+1.0
MDVR	Moldovita	6.88	309	⇓P	Pn	19 33 50.3	+2.2
MARR	Marisel-Cluj	7.44	325	⇑P	Pn	19 33 57.4	+1.6
SORM	Soroca	7.46	355	⇓P	Pn	19 33 56.0	+0.1
BURAR	Bucovina Array	7.49	339	⇑P	Pn	19 33 58.1	+1.6
MMAI	Mount Meron Ar	9.12	145	Pn	Pn	19 34 20.5	+1.8
MMAI	0.5nm,0.3s,baz=329,slow=14,SNR=1.4			LR	LR	19 38 17.6	
LUBAR	comp=Z,38nm,18.7s,baz=334,slow=40 0.5nm,0.4s Lubar, Ukraine	9.28	354	Pn	Pn	19 34 20.9	0.0
AK07	Malin Array Si	9.85	360	Pn	Pn	19 34 28.6	-0.1
AK06	Malin Array Si	9.88	360	Pn	Pn	19 34 29.3	+0.1
AK10	Malin Array Si	9.90	360	Pn	Pn	19 34 29.7	+0.4
AK05	Malin Array Si	9.92	360	Pn	Pn	19 34 29.4	-0.2
AK11	Malin Array Si	9.98	360	Pn	Pn	19 34 30.6	+0.2
AKASG	Malin Array Be	10.00	360	Pn	Pn	19 34 29.1	-1.7
AKASG	1.8nm,0.3s,baz=186,slow=12,SNR=8.5			Sn	Sn	19 36 17.9	-4.9
RNPP5	1.1nm,0.3s,baz=183,slow=13,SNR=4.3 0.4nm,0.3s Staryi Chortor	10.79	349	Pn	Pn	19 34 41.8	+0.3
RNPP9	Sopachiv	10.96	349	Pn	Pn	19 34 44.3	+0.4
FINES	FINESS Array B	20.86	356	P	P	19 36 48.0	-0.9
NOA	1.3nm,0.8s,baz=184,slow=10,SNR=5.3 1.3nm,0.8s NORSAR Array B	23.17	337	P	P	19 37 14.2	+0.6
MKAR	0.7nm,0.9s,baz=148,slow=11,SNR=2.6 0.7nm,0.9s Makanchi Array	38.18	63	P	P	19 39 28.4	+1.8
	0.1nm,0.3s,baz=273,slow=7.3,SNR=2.1 0.1nm,0.3s						

IDC 10 19:35:41.8±1.3, 46.°93S×10.°66W, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/8, Error ellipse: s-maj=85.4km s-min=26.2km az=85.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	25.10	174	P	P	19 41 08.1	+0.4
SNAA	2.4nm,0.9s,baz=344,slow=8.5,SNR=5.8			LR	LR	19 48 26.6	
BOSA	comp=Z,62nm,21.6s,baz=356,slow=30 2.4nm,0.9s Boshof	33.39	70	LR	LR	19 53 00.1	
PMSA	comp=Z,97nm,19.1s,baz=205,slow=31 Palmer Station	33.58	218	LR	LR	19 52 48.5	
LBTB	comp=Z,176nm,19.9s,baz=69,slow=31 Lobatse	36.13	66	LR	LR	19 55 28.9	
MAW	comp=Z,110nm,18.3s,baz=176,slow=33 Mawson	41.66	146	P	P	19 43 30.9	-0.5
H04S2	1.3nm,0.9s,baz=350,slow=5.3,SNR=2.8 1.3nm,0.9s CROZET ISLANDS	41.72	114	T	T	20 28 13.1	
H04S3	baz=247,slow=76,SNR=9.3 CROZET ISLANDS	41.72	114	T	T	20 28 19.2	
H04S1	baz=247,slow=76,SNR=10 CROZET ISLANDS	41.74	114	T	T	20 28 17.9	
QSPA	baz=247,slow=76,SNR=7.6 South Pole Qui	43.33	180	P	P	19 43 45.2	-0.1
LSZ	1.1nm,0.7s,baz=234,slow=3.6,SNR=5.8 1.1nm,0.7s Lusaka	45.10	59	LR	LR	20 00 44.5	
DBIC	comp=Z,82nm,18.9s,baz=166,slow=33 Dimbokro	53.61	7	LR	LR	20 03 46.3	
VNDA	comp=Z,90nm,18.2s,baz=188,slow=31 Vanda	55.74	178	LR	LR	20 07 07.6	
LPAZ	comp=Z,63nm,20.5s,baz=166,slow=34 La Paz	56.16	283	LR	LR	20 08 54.1	
TORD	comp=Z,33nm,18.5s,baz=131,slow=36 Torodi Ar. Bea	60.81	14	P	P	19 45 56.0	+0.3
H01W2	0.5nm,0.8s,baz=196,slow=7.3,SNR=2.4 0.5nm,0.8s Cape Leeuwin H baz=216	84.65	137	T	T	21 22 36.5	
H01W1	Cape Leeuwin H baz=216	84.66	137	T	T	21 22 38.2	
H01W3	Cape Leeuwin H baz=216	84.66	137	T	T	21 23 05.4	
ILAR	Eielson Array 0.5nm,0.7s,baz=56,slow=0.9,SNR=7.8	150.46	323	PKPbc	PKPbc	19 55 33.3	-0.7

*NEIC **10** 20:01:06.9±1.3, 43.°78N±0.°03×105.°26W±0.°05, h0km±2km, ML3.6/74, Error ellipse: s-maj=7.5km s-min=3.0km az=228.0*
*IDC **10** 20:01:07.8±1.6, 43.°70N×105.°51W, h0km, mb3.9/2, mbtmp3.7/6, ML2.8/3, MS3.3/2, Error ellipse: s-maj=44.2km s-min=7.6km az=148.0*

ISC 10 20:01:07.3±1.0, 43.°75N±0.°06×105.°24W±0.°07, h0km, n33, σ0°95/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	67	Pn	Pb	20 01 26.6	-0.1
K22A	Casper	1.44	221		Pn	20 01 32.5	-2.4
K22A	519nm,0.3s			IAML		20 01 57.6	
K22A	493nm,0.6s			IAML		20 01 58.9	
LAO	LASA Array	3.02	347		Pn	20 01 55.4	-1.0
LAO	188nm,0.7s			IAML		20 02 55.9	
LAO	260nm,1.0s			IAML		20 02 57.1	
RLMT	Red Lodge	3.19	297		Pn	20 01 59.3	+0.3
RLMT	97nm,1.1s			IAML		20 02 54.3	
PD31	Pinedale Array	3.30	254		Pn	20 02 00.2	-0.2
PDAR	Pinedale Array	3.30	254		Pn	20 01 59.6	-0.9
PDAR	Pinedale Array	3.30	254	Pn	Pn	20 02 01.0	+0.5
PDAR	9.8nm,0.3s,baz=78,slow=17,SNR=97			Lg	Lg	20 02 44.9	
PDAR	23nm,0.3s,baz=74,slow=29,SNR=18			LR	LR	20 03 39.4	
BW06	comp=Z,76nm,21.5s,baz=20,slow=49 Boulder Array	3.30	254		Pn	20 01 59.6	-0.9
BW06	132nm,0.7s			IAML		20 02 48.1	
HAYD	Hayden	3.56	206		Pn	20 02 04.9	+0.9
HAYD	comp=N,108nm,1.1s			IAML		20 03 07.3	
HAYD	comp=E,117nm,0.9s			IAML		20 03 08.1	
YNE	Yellowstone No	3.64	292		Pn	20 02 05.3	+0.2
YNE	comp=N,111nm,0.9s			IAML		20 03 07.3	
YNE	comp=E,100nm,0.9s			IAML		20 03 15.0	
YMP	Mirror Lake Pl	3.67	287		Pn	20 02 04.7	-0.8
YMP	comp=N,139nm,0.8s			IAML		20 03 06.0	
YMP	comp=E,150nm,0.9s			IAML		20 03 16.8	
OGNE	Ogallala	3.68	139		Pn	20 02 05.8	+0.4
LOHW	Long Hollow	3.89	270		Pn	20 02 07.9	-0.7
LOHW	comp=E,55nm,0.9s			IAML		20 03 27.2	
H17A	Grant Village	3.90	281		Pn	20 02 07.8	-0.9
H17A	comp=N,54nm,1.1s			IAML		20 03 13.1	
ISCO	Idaho Springs	3.96	184		Pn	20 02 08.9	-0.6
ISCO	comp=N,53nm,1.5s			IAML		20 03 15.5	
SNOW	Snow King Moun	4.01	268		Pn	20 02 09.5	-0.8
SNOW	comp=N,88nm,1.1s			IAML		20 03 27.6	
SNOW	comp=N,102nm,1.0s			IAML		20 03 28.0	
YNR	Norris Junctio	4.03	286		Pn	20 02 09.5	-0.9
YFT	Old Faithful	4.09	282	IAML		20 03 28.8	
TPAW	comp=N,47nm,1.0s Teton Pass	4.15	268	IAML		20 03 41.1	
TPAW	comp=N,90nm,0.9s			IAML		20 03 50.2	
YMR	comp=N,50nm,0.9s Madison River	4.22	285	IAML		20 03 28.6	
YMR	comp=E,90nm,1.0s			IAML		20 03 28.7	
YHL	comp=N,109nm,0.9s Hebgen Lake	4.40	287	IAML		20 03 39.4	
YHL	comp=E,59nm,1.6s			IAML		20 03 42.9	
Q24A	comp=N,54nm,1.0s Divide	4.78	179	IAML		20 03 37.2	
BOZ	comp=N,35nm,0.7s Bozeman (W)	4.92	294	IAML		20 03 42.8	
BOZ	comp=N,30nm,1.1s			IAML		20 03 43.0	
HWUT	comp=N,25nm,1.6s Hardware Ranch	5.13	247	IAML		20 03 48.0	
HWUT	comp=N,49nm,1.0s			IAML		20 03 58.1	
BSUT	comp=N,63nm,1.1s Blindstream Ca	5.21	234	IAML		20 03 56.8	
BSUT	comp=E,34nm,0.8s			IAML		20 04 01.6	
EGMT	comp=N,28nm,0.8s Eagleton	5.31	325	IAML		20 04 25.8	
ELK	comp=N,67nm,1.0s Elko	8.00	251	Pn	Pn	20 03 05.3	+0.3
ELK	comp=N,0.1nm,0.3s,baz=68,slow=12,SNR=4.7			Lg	Lg	20 05 10.2	
ULM	comp=N,0.1nm,0.3s,baz=37,slow=8.5,SNR=2.3 comp=N,1.0nm,0.8s Lac du Bonnet	9.12	41	Pn	Pn	20 03 20.0	-0.1
ULM	comp=N,1.4nm,0.3s,baz=225,slow=9.5,SNR=3.9			Pg		20 03 49.0	
ULM	comp=N,0.8nm,0.3s,baz=222,slow=12,SNR=3.6			Sn	Sn	20 05 02.2	-1.1
ULM	comp=N,0.4nm,0.3s,baz=184,slow=13,SNR=3.4			Lg	Lg	20 05 53.9	
NEW	comp=N,0.7nm,0.3s,baz=341,slow=14,SNR=1.3 comp=N,5.8nm,0.5s Newport	9.42	303	Lg	Lg	20 05 54.4	
NVAR	comp=N,0.1nm,0.3s,baz=33,slow=23,SNR=1.3 Mina Array Bea	11.19	246	Pn	Pn	20 03 49.8	+1.0
	comp=N,0.1nm,0.3s,baz=61,slow=11,SNR=4.7 comp=N,0.8nm,0.7s						
SADO	Sadowa comp=N,598nm,20.3s,baz=28,slow=39	18.70	78	LR	LR	20 13 21.1	
ZALV	Zalesovo Beam comp=N,0.6nm,0.5s,baz=342,slow=3.3,SNR=4.2 comp=N,0.6nm,0.5s	82.30	354	P	P	20 13 31.6	+1.3
MKAR	Makanchi Array comp=N,0.4nm,0.8s,baz=28,slow=5.5,SNR=4.4 comp=N,0.4nm,0.8s	89.59	355	P	P	20 14 07.4	+0.7

IDC 10 20:09:26.9±1.5, 3.°06S×138.°88E, h0km, mb3.6/2, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=24.8km s-min=12.9km az=142.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.90	73	Pg	Pb	20 10 02.3	-0.2
JAY	5.9nm,0.3s,baz=245

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.96	330	P	Pn	20 10 03.0	+0.1
TNTI				S	Sn	20 10 28.5	+0.9
MSAI	Masohi	2.47	167	P	Pn	20 10 10.7	+0.8
NLAI	Namlea	2.62	209	P	Pn	20 10 12.3	+0.3
SANI	Sanana	2.62	245	P	Pn	20 10 11.9	-0.1
SANI				S	Sn	20 10 43.8	-0.1
AAI	Ambon	2.74	183	P	Pn	20 10 14.4	+0.7
SWI	Sorong	2.90	89	P	Pn	20 10 14.3	-1.6
FAKI	Fak Fak	4.36	117	P	Pn	20 10 34.9	-1.1
KMSI	Cibinong	4.63	289	P	Pn	20 10 39.2	-0.4
LUWI	Luwuk	5.59	269	P	Pn	20 10 52.4	-0.5
MRSI	Marisa	6.57	282	P	Pn	20 11 06.4	+0.1
	0.1nm14nm,0.6s						
BBSI	Bau Bau	7.34	232	P	Pn	20 11 16.9	-0.1

MOS ***10*** *20:13:07.1±1.3, 42°.23N×142°.96E, h64km, mb4.3/1, Error ellipse: s-maj=16.9km s-min=10.1km az=66.1*
IDC ***10*** *20:13:09.0±2.7, 42°.31N×143°.10E, h67km±17km, mb3.6/10, mbtmp3.8/11, Error ellipse: s-maj=41.3km s-min=16.7km az=92.0*
SKHL ***10*** *20:13:08.8±0.2, 42°.30N×143°.00E, h78km±6km, mb4.5/2*
NIED ***10*** *20:13:09.5, 42°.34N×143°.00E, h51km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.09; Mθθ-1.69; Mφφ-2.40; Mrθ1.86; Mθφ-0.67; Mφr1.93; Fault plane solution: M₀4.36000×10¹⁴ NP1: φs210.00000°, δ26.00000°, λ82.00000°. NP2:φs39.00000°, δ64.00000°, λ94.00000°.*
JMA ***10*** *20:13:09.5±0.1, 42°.3N±0°.4×143°.0E±0°.5, h51km±1km, MV3.6/40, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .
ISC 10 20:13:08.6±0.8, 42°26N±0°.05×143°00E±0°.04, h59km±6km, n44, σ1°08/55, mb4.0/10, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.18	276	P	Pn	20 13 17.8	0.0
JNBK				S	Sn	20 13 24.5	0.0
JTHR	Tokachihiroo	0.22	82	P	Pn	20 13 18.1	+0.1
JTHR				S	Sn	20 13 24.9	+0.1
JEM	Erimo	0.27	155	P	Pn	20 13 19.2	+0.8
JEM				eS	Sn	20 13 26.0	+0.6
JSHD	Hidakashinhida	0.42	291	||iP	Pn	20 13 20.0	+0.4
JCH	Churui	0.44	37	i P	Pn	20 13 19.7	-0.2
JCH				S	Sn	20 13 27.7	-0.3
JBT2	Biratori 2	0.70	318	||iP	Pn	20 13 22.8	0.0
JBT2				||eS	Sn	20 13 32.2	-0.9
JIAM	Iburiatsuma	0.88	295	||P	Pn	20 13 26.2	+1.3
JOB	Onbets	0.89	44	P	Pn	20 13 25.7	+0.6
JFR	Furan	0.95	342	P	Pn	20 13 25.0	-1.0
JFR				eS	Sn	20 13 37.4	-1.4
JAR	Ashorobuto	1.18	28	P	Pn	20 13 28.5	-0.4
JAR				eS	Sn	20 13 43.2	-0.9
JEW	Eniwo	1.28	297	||iP	Pn	20 13 31.0	+0.7
JAB	Ashibetsu	1.37	336	P	Pn	20 13 32.0	+0.5
JAK	Akkeshi	1.45	59	i P	Pn	20 13 32.6	0.0
AKK	Akkeshi	1.55	60	eP	Pn	20 13 34.0	+0.1
JKA	Kamikawa-asahi	1.88	351	eP	Pn	20 13 39.2	+0.9
ASAJ	Asahikawa	1.88	351	P	Pn	20 13 39.1	+0.8
	52nm,0.3s,baz=200,slow=16,SNR=249						
ASAJ				S	Sn	20 14 01.3	+0.3
	42nm,0.3s,baz=6.9,slow=29,SNR=12						
NMR	Nemuro--Hokkai	2.29	60	ePN	Pn	20 13 43.1	-0.8
NMR				eS	Sn	20 14 08.9	-2.1
NMR	Nemuro--Hokkai	2.29	60	eP	Pn	20 13 43.1	-0.8
NMR				eS	Sn	20 14 08.9	-2.1
GLVR	Golovnino	2.36	51	||iPN	Pn	20 13 45.7	+0.8
GLVR				eS	Sn	20 14 13.3	+0.5
GLVR				pmax	pmax		
	comp=Z,175nm,0.1s						
GLVR				pmax	pmax		
	comp=N,69nm,0.2s						
GLVR				smax	smax		
	comp=N,803nm,0.3s						
GLVR				smax	smax		
	comp=E,884nm,0.3s						
GLVR	Golovnino	2.36	51	i P	Pn	20 13 45.7	+0.8
GLVR				AMB	AMB	20 13 46.0	
	comp=E,180nm,0.2s						
GLVR				eS	Sn	20 14 13.3	+0.5
GLVR				A	A	20 14 15.4	
	comp=E,800nm,0.3s						
GLVR				A	A	20 14 15.4	
	comp=E,880nm,0.3s						
RUSJ	Misakicho	2.47	41	ePN	Pn	20 13 48.3	+1.9
RUSJ				eS	Sn	20 14 18.6	+3.3
YUK	Yuzh-Kuril'sk	2.74	49	ePN	Pn	20 13 51.1	+0.9
YUK				eS	Sn	20 14 22.4	+0.4
YUK				pmax	pmax		
	comp=N,82nm,0.2s						
YUK				pmax	pmax		
	comp=Z,139nm,0.2s						
YUK				pmax	pmax		
	comp=E,97nm,0.1s						
YUK				smax	smax		
	comp=N,407nm,0.3s						
YUK				smax	smax		
	comp=E,253nm,0.3s						
YUK	Yuzh-Kuril'sk	2.74	49	eP	Pn	20 13 51.0	+0.9
YUK				AMB	AMB	20 13 56.7	
	comp=E,90nm,0.4s						
YUK				eS	Sn	20 14 22.5	+0.4
YUK				A	A	20 14 26.7	
	comp=E,150nm,0.5s						
YUK				A	A	20 14 26.7	
	comp=E,250nm,0.5s						
KUR	Kuril'sk	4.61	48	ePN	Pn	20 14 15.8	+0.2
KUR				i S	Sn	20 15 11.6	+3.8
KUR				smax	smax		
	comp=E,35nm,0.4s						
KUR				smax	smax		
	comp=N,24nm,0.2s						
KUR	Kuril'sk	4.61	48	eP	Pn	20 14 17.2	+1.6
KUR				AMB	AMB	20 14 20.5	
	comp=N,40nm,0.4s						
KUR				i S	Sn	20 15 08.6	+0.8
KUR				A	A	20 15 14.1	
	comp=N,120nm,0.6s						
KUR				A	A	20 15 14.1	
	comp=N,40nm,0.6s						
MJAR	Matsushiro Arr	6.81	215	P	Pn	20 14 46.3	+0.4
	comp=N,0.5nm,0.4s,baz=26,slow=14,SNR=2.0						
SONM	Songino Array	26.28	295	P	P	20 18 38.4	-0.1
	comp=N,0.6nm,0.5s,baz=94,slow=14,SNR=3.8						
	comp=N,0.6nm,0.5s						
H11N2	WAKE ISLAND Hy 30.21	131		T	T	20 50 49.1	
	baz=324,slow=75,SNR=54						
H11N1	WAKE ISLAND Hy 30.22	131		T	T	20 50 44.9	
	baz=324,slow=75,SNR=49						
H11N3	WAKE ISLAND Hy 30.23	131		T	T	20 50 50.5	
	baz=324,slow=75,SNR=51						
H11S1	WAKE ISLAND Hy 31.08	132		T	T	20 51 52.4	
	baz=325,slow=76,SNR=55						
H11S3	WAKE ISLAND Hy 31.09	132		T	T	20 51 54.4	
	baz=325,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy 31.10	132		T	T	20 51 55.2	
	baz=325,slow=76,SNR=44						
ZALV	Zalesovo Beam	39.48	308	P	P	20 20 32.9	-0.1
	comp=N,0.9nm,0.5s,baz=81,slow=6.5,SNR=5.8						
	comp=N,0.9nm,0.5s						
MKAR	Makanchi Array	42.58	298	P	P	20 20 58.5	-0.1
	comp=N,0.9nm,0.6s,baz=84,slow=9.8,SNR=8.2						
	comp=N,0.9nm,0.6s						
KURK	Kurchatov	43.84	304	P	P	20 21 09.1	+0.5
KURK	Kurchatov	43.84	304	eP	P	20 21 09.1	+0.5
KURBB	Kurchatov Arra	43.92	304	P	P	20 21 09.1	-0.2
	comp=N,1.8nm,0.6s,baz=77,slow=8.9,SNR=14						
	comp=N,1.8nm,0.6s						
BVAR	Borovoye Array	48.09	309	P	P	20 21 41.9	-0.1
	comp=N,0.8nm,0.4s,baz=79,slow=8.8,SNR=9.6						
	comp=N,0.8nm,0.4s						
ARCES	ARCESS Array B	59.55	339	P	P	20 23 05.6	+0.2
	comp=N,2.3nm,0.9s,baz=76,slow=6.0,SNR=1.4						
	comp=N,2.3nm,0.9s						
WRA	Warramunga Arr	62.41	189	P	P	20 23 25.5	+0.2
	comp=N,0.2nm,0.5s,baz=5.6,slow=6.7,SNR=1.6						
	comp=N,0.2nm,0.5s						
FINES	FINESS Array B	64.78	332	P	P	20 23 39.6	-0.9
	comp=N,0.9nm,0.5s,baz=52,slow=8.2,SNR=14						
	comp=N,0.9nm,0.5s						
HFS	Hagfors	69.83	336	P	P	20 24 11.4	-1.1
	comp=N,1.0nm,0.4s,baz=56,slow=7.7,SNR=7.4						
	comp=N,1.0nm,0.4s						
NOA	NORSAR Array B	69.84	337	P	P	20 24 11.6	-1.0
	comp=N,0.7nm,0.8s,baz=34,slow=6.4,SNR=1.7						
	comp=N,0.7nm,0.8s						

IDC ***10*** *20:19:44.8±1.9, 4°.61N×125°.54E, h176km±24km, mb3.2/6, mbtmp3.7/7, MS2.7/1, Error ellipse: s-maj=77.2km s-min=13.0km az=70.0*
ISC 10 20:19:44.9±0.9, 4°.6N±0°.1×125°.6E±0°.4, h176km, n8, σ0°59/10, mb3.4/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.43	360	P	Pn	20 20 26.3	-0.3
	137nm,0.4s,baz=162,slow=20,SNR=1.4						
DAV				S	Sn	20 20 59.8	+0.8
	125nm,0.4s,baz=246,slow=20,SNR=1.1						
KAPI	Kappang	11.21	211	LR	LR	20 26 40.9	
	comp=Z,40nm,20.1s,baz=67,slow=37						
FITZ	Fitzroy Crossi	22.58	180	P	P	20 24 31.4	+0.7
	2.1nm,0.4s,baz=8.8,slow=8.8,SNR=33						
	2.1nm,0.4s						
WRA	Warramunga Arr	25.89	161	P	P	20 24 59.8	-0.8
	0.3nm,0.4s,baz=338,slow=10,SNR=17						
	0.3nm,0.4s						
ASAR	Alice Springs	29.27	164	P	P	20 25 30.4	-0.3
	0.5nm,0.5s,baz=345,slow=7.3,SNR=15						
ASAR				PcP	PcP	20 28 33.4	+0.1
	0.2nm,0.8s,baz=335,slow=2.3,SNR=1.8						
	0.5nm,0.5s						
STKA	Stephens Creek	39.37	158	P	P	20 26 57.6	+0.2
	1.8nm,0.6s,baz=338,slow=8.0,SNR=5.2						
	1.8nm,0.6s						
MKAR	Makanchi Array	56.17	325	P	P	20 29 06.2	-0.2
	0.2nm,0.3s,baz=127,slow=6.9,SNR=5.9						
MKAR				PcP	PcP	20 30 02.2	+0.1
	0.1nm,0.4s,baz=139,slow=2.9,SNR=1.8						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	60.37	328	P	P	20 29 34.8	-0.6
	0.3nm,0.5s,baz=123,slow=7.0,SNR=3.7						
	0.3nm,0.5s						

AUST 10 20:29:51.6±0.6, 28°S±3°×11°4E±°, h10km, mb4.3/3, ML3.0/6, Error ellipse: s-maj=15.6km s-min=5.7km az=70.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORW	Morawa	2.26	118	P	Pn	20 30 29.8	+0.7
MORW	Morawa	2.26	118	S	Sn	20 30 58.3	+1.2
CVQOZ	Cooralya Stati	3.56	5	P	Pn	20 30 47.5	+0.5
BLDU	Ballidu	3.65	136	P	Pn	20 30 48.6	+0.3
BLDU	Ballidu	3.65	136	S	Sn	20 31 29.0	-2.3
MUN	Mundaring	4.48	152	P	Pn	20 30 59.6	-0.1
MUN	Mundaring	4.48	152	S	Sn	20 31 48.3	-3.6
MEEK	Meekatharra	4.53	73	P	Pn	20 31 00.6	+0.3
MEEK	Meekatharra	4.53	73	S	Sn	20 31 49.8	-3.2
GIRL	Giralia	5.37	5	P	Pn	20 31 13.7	+1.9
	comp=Z,0.1nmcomp=Z,46nm,1.6s						
GIRL				S	Sn	20 32 13.0	-0.7
RKGY	Rocky Gully	7.12	158	P	Pn	20 31 34.9	-1.1
	comp=Z,0.2nmcomp=Z,48nm,1.8s						
FORT	Forrest	12.77	106	P	Pn	20 32 51.6	-1.6
	comp=Z,12nm,1.2s						

IDC ***10*** *20:50:33.6±0.9, 22°.73S×171°.60E, h0km, mb4.0/8, mbtmp4.0/9, ML4.0/1, MS3.0/2, Error ellipse: s-maj=31.5km s-min=23.8km az=180.0*
NOU ***10*** *20:50:48.8, 22°.47S×170°.55E, h0km, MLv4.3/11, Southeast of Loyalty Islands*
ISC 10 20:50:41.0±0.7, 22°9S±0°.1×171°20E±0°.08, h35km, n35, σ2°62/34, mb4.0/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	3.47	274	P	Pn	20 51 35.5	+3.0
OUENC	Ouen Island, N	4.05	276	P	Pn	20 51 43.1	+2.6
OUENC	Ouen Island, N	4.05	276	S	Sn	20 52 25.4	-1.3
YATNC	Mamie plateau,	4.07	281	P	Pn	20 51 42.7	+1.9
YATNC	Mamie plateau,	4.07	281	S	Sn	20 52 24.4	-2.8
ONTNC	Ouen Toro	4.42	277	P	Pn	20 51 49.7	+4.1
ONTNC	Ouen Toro	4.42	277	S	Sn	20 52 35.1	-0.8
DZM	Mont Dzumac	4.47	280	Pn	Pn	20 51 48.8	+2.4
	6.3nm,0.3s,baz=123,slow=13,SNR=63						
DZM				Sn	Sn	20 52 30.5	-6.8
	4.8nm,0.3s,baz=114,slow=20,SNR=1.9						
DZM				LR	LR	20 53 08.8	
	comp=Z,65nm,18.0s,baz=136,slow=32						
	16nm,0.3s						
DZM	Mont Dzumac	4.47	280	P	Pn	20 51 48.5	+2.1
RTV	Rentapao	5.70	332	P	Pn	20 52 05.6	+2.4
DVP	Devils Point	5.87	331	P	Pn	20 52 08.4	+2.9
ASAR	Alice Springs	34.20	261	P	P	20 57 24.2	+0.7
	1.7nm,0.7s,baz=90,slow=10,SNR=14						
	1.7nm,0.7s						
WRA	Warramunga Arr	34.38	268	P	P	20 57 25.1	0.0
	0.6nm,0.4s,baz=97,slow=8.3,SNR=13						
	0.6nm,0.4s						
FITZ	Fitzroy Crossi	42.81	268	P	P	20 58 37.1	+1.3
	3.9nm,0.7s,baz=116,slow=7.1,SNR=12						
	3.9nm,0.7s						
NWAO	Narrogin (SRO)	48.28	246	LR	LR	21 19 10.2	
	comp=Z,38nm,19.0s,baz=44,slow=35						
QSPA	South Pole Qui	67.18	180	P	P	21 01 32.0	+0.7
	0.7nm,0.7s,baz=344,slow=4.0,SNR=5.2						
	0.7nm,0.7s						
CMAR	Chiang Mai Arr	81.66	294	P	P	21 02 55.8	-0.3
	0.8nm,0.5s,baz=139,slow=3.4,SNR=7.0						
	0.8nm,0.5s						
SNAA	Sanae	85.60	182	P	P	21 03 12.9	-2.6
	0.4nm,0.5s,baz=185,slow=12,SNR=7.9						
	0.4nm,0.5s						
NVAR	Mina Array Bea	89.86	48	P	P	21 03 33.3	-3.3
	0.9nm,0.6s,baz=226,slow=8.6,SNR=7.8						
	0.9nm,0.6s						
SONM	Songino Array	91.22	322	P	P	21 03 41.8	-0.7
	0.8nm,0.8s,baz=126,slow=4.0,SNR=3.7						
	0.8nm,0.8s						
BVAR	Borovoye Array	114.38	319	PKiKP	PKPdf	21 09 13.7	-3.1
	0.3nm,0.3s,baz=17,slow=2.0,SNR=5.4						
BRTR	Keskin Array B	140.45	305	PKP	PKPdf	21 10 06.3	-0.5
	0.2nm,0.4s,baz=117,slow=4.0,SNR=1.6						
EKA	Eskdalemuir Ar	147.33	354	PKPbc	PKPdf	21 10 17.1	-1.1
	0.8nm,0.5s,baz=2.4,slow=3.2,SNR=4.8						
RONA	Rosalia, Austr	148.13	327	i PKP	PKPdf	21 10 21.7	+1.9
	2.2nm,0.5s						
CONA	Conrad Observa	148.20	328	i PKP	PKPdf	21 10 21.9	+1.9
	0.9nm,0.4s						
IDI	Anoyia	148.22	300	PKPbc	PKPdf	21 10 22.1	+1.7
	3.2nm,0.5s,baz=6.2,slow=6.1,SNR=9.9						
GERES	GERESS Array B	148.56	331	PKPbc	PKPdf	21 10 22.2	+1.6
	0.6nm,0.5s,baz=55,slow=5.6,SNR=4.0						
MOA	Molln	149.02	329	ePKP	PKPdf	21 10 23.4	+2.2
	1.5nm,0.4s						
KBA	Koelnbreinsper	150.01	329	i PKP	PKPdf	21 10 25.4	+2.4
	1.1nm,0.3s						
LESA	Schwarzleotal	150.07	330	ePKP	PKPdf	21 10 25.3	+2.3
	2.4nm,0.4s						
WATA	Walderalm	150.63	331	ePKP	PKPbc	21 10 28.0	-1.4
	1.1nm,0.3s						
ABTA	Abfaltersbach	150.64	329	ePKP	PKPdf	21 10 26.8	+2.9
	1.1nm,0.4s						
WTTA	Wattenberg	150.66	331	ePKP	PKPdf	21 10 27.4	+3.4
	1.1nm,0.4s						
MOTA	Moosalm	150.84	332	ePKP	PKPdf	21 10 27.6	+3.3
	1.4nm,0.4s						
SQTA	Sankt Quirin	150.88	331	ePKP	PKPdf	21 10 27.9	+3.6
	2.4nm,0.5s						

IDC 10 20:51:13.5±18.0, 4°.75S×127°.44E, h367km±227km, mb2.9/1, mbtmp3.5/4, MS3.1/1, Error ellipse: s-maj=114.8km s-min=66.1km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.38	187	P	P	20 54 10.4	+0.7
	0.4nm,0.4s,baz=13,slow=10,SNR=1.4						
WRA	Warramunga Arr	16.53	157	P	P	20 54 43.2	-0.8
	0.5nm,0.4s,baz=334,slow=12,SNR=12						
ASAR	Alice Springs	19.82	162	P	P	20 55 18.5	-0.1
	0.3nm,0.3s,baz=332,slow=8.9,SNR=8.1						
ASAR				LR	LR	21 03 29.2	
	comp=Z,50nm,19.9s,baz=103,slow=37						
MKAR	Makanchi Array	64.96	327	P	P	21 01 15.2	0.0
	0.4nm,0.5s,baz=121,slow=7.3,SNR=7.7						
	0.4nm,0.5s						

NEIC ***10*** *21:14:07.2±1.4, 20°.8S±0°.1×178°.7W±0°.1, h593km±9km, mb4.0/27, Error ellipse: s-maj=18.6km s-min=17.4km az=140.0*
IDC ***10*** *21:14:08.3±2.9, 20°.64S×178°.80W, h603km±33km, mb3.2/11, mbtmp4.1/12, Error ellipse: s-maj=19.9km s-min=14.8km az=153.0*
ISC 10 21:14:06.4±0.5, 20°73S±0°.09×178°72W±0°.08, h587km, n55, σ1°01/55, mb3.9/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.26	314	P	P	21 15 34.1	+1.1
FUTU	Fugatoga	6.41	5	P	P	21 15 50.6	0.0
NIUE	Niue	8.44	80	P	P	21 16 11.1	+1.5
PINNC	Pines Island,	13.00	259	P	P	21 16 55.1	-0.2
DZM	Mont Dzumac	13.88	262	P	P	21 17 05.5	+1.0
DZM	Mont Dzumac	13.88	262	P	P	21 17 07.3	+2.9
	2.0nm,0.5s,baz=97,slow=18,SNR=2.3						
SANVU	Saraoutou	14.37	289	P	P	21 17 10.6	+1.4
URZ	Urewera	17.84	191	P	P	21 17 38.3	-2.6
	15nm,0.8s,baz=62,slow=15,SNR=5.9						
FOZ	Fox Glacier	24.68	200	P	P	21 18 41.3	-0.8
WHZ	Wether Hill Ro	27.38	200	P	P	21 19 05.7	-0.2
WHZ				IAmb	IAmb	21 19 24.2	
	comp=Z,6.0nm,0.8s						
ARMA	Armidale	28.36	244	P	P	21 19 15.1	+0.3
ARMA				IAmb	IAmb	21 19 26.4	
	comp=Z,5.4nm,1.0s						
CTAO	Charters Tower	32.79	265	P	P	21 19 53.7	+0.9
CTAO				IAmb	IAmb	21 19 54.5	
	comp=Z,2.8nm,0.5s						
COEN	Coen	36.92	274	P	P	21 20 25.6	-1.5
COEN				IAmb	IAmb	21 20 45.4	
	comp=Z,5.4nm,1.0s						
STKA	Stephens Creek	37.08	244	P	P	21 20 29.0	+0.8
BBOO	Buckleboo	41.84	244	P	P	21 21 05.0	-1.2
BBOO				IAmb	IAmb	21 21 09.3	
	comp=Z,8.3nm,1.1s						
WR8	Warramunga Arr	43.75	262	P	P	21 21 21.3	0.0
WR8				IAmb	IAmb	21 21 22.4	
	comp=Z,3.5nm,0.3s						
AS31	Alice Springs	43.81	257	P	P	21 21 22.2	+0.5
ASAR	Alice Springs	43.81	257	P	P	21 21 22.0	+0.2
ASAR	Alice Springs	43.81	257	P	P	21 21 21.8	0.0
	comp=Z,4.6nm,0.5s,baz=96,slow=7.5,SNR=72						
ASAR				PcP	PcP	21 22 54.7	-0.3
	comp=Z,0.4nm,0.6s,baz=92,slow=3.6,SNR=3.1						
ASAR				S	S	21 27 10.5	-0.5
	comp=Z,0.7nm,0.8s,baz=94,slow=16,SNR=5.3						
	comp=Z,4.6nm,0.5s						
WB0	Warramunga Arr	43.88	263	P	P	21 21 22.5	+0.2
WRAB	Tennant Creek	43.89	262	P	P	21 21 22.4	0.0
WRAB				IAmb	IAmb	21 21 23.0	
	comp=Z,3.3nm,0.9s						
WRA	Warramunga Arr	43.90	262	P	P	21 21 22.6	+0.2
WRA	Warramunga Arr	43.90	262	P	P	21 21 22.4	-0.1
	comp=Z,2.5nm,0.3s,baz=97,slow=7.7,SNR=85						
WRA				PcP	PcP	21 22 55.5	+0.1
	comp=Z,0.1nm,0.4s,baz=119,slow=2.7,SNR=1.6						
	comp=Z,2.5nm,0.3s						
MTN	Manton Dam	48.49	271	P	P	21 21 57.4	+0.2
MTN				IAmb	IAmb	21 21 58.1	
	comp=Z,6.4nm,0.8s						
FORT	Forrest	48.58	247	P	P	21 21 57.6	-0.1
KNRA	Kununurra	49.97	267	P	P	21 22 08.7	+0.6
KNRA				IAmb	IAmb	21 22 12.6	
	comp=Z,3.9nm,0.9s						
FITZ	Fitzroy Crossi	52.33	263	P	P	21 22 25.4	+0.4
PSA00	Pilbara Seismi	56.96	257	P	P	21 22 56.9	-0.4
PSA00				IAmb	IAmb	21 23 14.4	
	comp=Z,5.9nm,1.1s						
MBWA	Marble Bar	57.14	258	P	P	21 22 58.0	-0.5
MBWA				IAmb	IAmb	21 22 59.0	
	comp=Z,4.5nm,0.9s						
SBA	Scott Base	57.60	184	P	P	21 23 01.7	+1.0
VNDA	Vanda	57.63	185	P	P	21 23 01.3	+0.4
VNDA	Vanda	57.63	185	P	P	21 23 01.5	+0.6
	comp=Z,0.8nm,0.7s,baz=18,slow=7.0,SNR=3.0						
	comp=Z,0.8nm,0.7s						
CASY	Casey	63.47	205	P	P	21 23 39.1	-0.4
CASY				IAmb	IAmb	21 23 42.2	
	comp=Z,3.1nm,1.1s						
KKM	Kota Kinabalu	69.16	285	P	P	21 24 15.6	-0.1
KKM				IAmb	IAmb	21 24 34.4	
	comp=Z,9.6nm,0.9s						
QSPA	South Pole Qui	69.34	180	P	P	21 24 17.6	+1.8
QSPA				IAmb	IAmb	21 24 18.2	
	comp=Z,1.5nm,0.6s						
QSPA	South Pole Qui	69.34	180	P	P	21 24 17.6	+1.8
	comp=Z,1.0nm,0.4s,baz=243,slow=2.3,SNR=12						
	comp=Z,1.0nm,0.4s						
MJAR	Matsushiro Arr	69.99	324	P	P	21 24 20.6	+0.6
	comp=Z,0.9nm,0.5s,baz=115,slow=5.5,SNR=1.8						
	comp=Z,0.9nm,0.5s						
TPUB	Ta-pu	73.53	303	P	P	21 24 40.0	-0.8
JKA	Kamikawa-asahi	73.60	332	P	P	21 24 38.0	-2.7
PETK	Petropavlovsk-	76.32	346	P	P	21 24 56.1	+0.4
	comp=Z,6.5nm,1.0s,baz=201,slow=2.9,SNR=2.9						
	comp=Z,6.5nm,1.0s						
HOPS	Hopland Field	78.98	41	P	P	21 25 10.2	-0.1
HOPS				IAmb	IAmb	21 25 20.7	
	comp=Z,12nm,1.1s						
BELA	Belgrano 2	79.42	173	P	P	21 25 10.6	-1.4
NVAR	Mina Array Bea	81.66	44	P	P	21 25 25.0	+0.5
	comp=Z,0.4nm,0.4s,baz=242,slow=8.2,SNR=5.2						
	comp=Z,0.4nm,0.4s						
TXAR	Lajitas Array	87.75	58	P	P	21 25 54.5	+0.4
	comp=Z,0.5nm,0.9s,baz=255,slow=2.3,SNR=1.2						
	comp=Z,0.5nm,0.9s						
ILAR	Eielson Array	88.69	13	P	P	21 25 56.8	-0.8
	comp=Z,0.5nm,0.5s,baz=220,slow=4.8,SNR=6.0						
	comp=Z,0.5nm,0.5s						
CMAR	Chiang Mai Arr	89.55	290	P	P	21 26 03.8	+1.1
	comp=Z,0.6nm,0.7s,baz=132,slow=3.0,SNR=5.9						
	comp=Z,0.6nm,0.7s						
PDAR	Pinedale Array	89.59	43	P	P	21 26 02.5	-0.1
	comp=Z,0.5nm,0.6s,baz=191,slow

CEVE	Cerro Verde	0.70	353	eP	Pn	21 17 00.2	+0.1
CEVE	Cerro Verde	0.70	353	P	Pn	21 17 00.4	+0.2
CEVE	Cerro Verde	0.70	353	S	Sn	21 17 11.4	+1.2
SBLS	San Blas	0.71	353	eP	Pn	21 17 01.6	+1.2
SNJE	San Jose	0.73	355⇑	eP	Pn	21 17 00.6	-0.1
LFU	La Fuente	0.74	34	eP	Pn	21 17 01.4	+0.8
LBRS	Las Brisas	0.77	38	eP	Pn	21 17 01.6	+0.5
NUBE	Las Nubes	0.80	343	eP	Pn	21 17 01.3	-0.2
NUBE	Las Nubes	0.80	343	S	Sn	21 17 13.0	+0.4
NUBE	Las Nubes	0.80	343	P	Pn	21 17 01.2	-0.4
PAVA	Las Pavas	0.82	45	eP	Pb	21 17 02.5	+0.6
PAVA	Las Pavas	0.82	45	P	Pb	21 17 01.9	+0.1
PAVA	Las Pavas	0.82	45	S	Sn	21 17 14.0	+1.0
TECO	Alcaldia de Te	0.84	61	P	Pn	21 17 01.2	-0.7
TECO	Alcaldia de Te	0.84	61	S	Sb	21 17 12.5	-0.6
FAME	Alcaldia de Sa	0.85	327	P	Pn	21 17 01.7	-0.3
FAME	Alcaldia de Sa	0.85	327	S	Sn	21 17 13.7	+0.2
UESV	Universidad de	0.88	55	S	Sn	21 17 14.6	+0.1
UESV	Universidad de	0.88	55	P	Pn	21 17 02.3	-0.3
LOAL	Lomas de Alarc	0.89	345	S	Sn	21 17 15.1	+0.3
LOAL	Lomas de Alarc	0.89	345	P	Pb	21 17 03.3	+0.2
SCLA	Alcaldia de Sa	0.97	54	P	Pn	21 17 03.9	+0.1
RBDL	Robledal	0.99	351	eP	Pn	21 17 04.1	0.0
TECA	Tecapa	1.07	70	eP	Pn	21 17 04.9	-0.4
LLGN	La Laguna	1.18	29	P	Pn	21 17 05.8	-0.8
PACA	Pacayal	1.23	74	eP	Pn	21 17 07.4	+0.1
PACA	Pacayal	1.23	74	S	Sb	21 17 23.9	-0.4
PACA	Pacayal	1.23	74	P	Pn	21 17 07.2	-0.2
LCY	Lacayo	1.24	76	eP	Pn	21 17 07.6	0.0
RANC	El Ranchito	1.25	76	eP	Pn	21 17 07.7	0.0
RANC	El Ranchito	1.25	76	P	Pn	21 17 07.7	0.0
RANC	El Ranchito	1.25	76	S	Sn	21 17 19.7	-3.9
MTO3	Montecristo	1.27	8⇑	eP	Pn	21 17 07.9	-0.2
MTO3	Montecristo	1.27	8	S	Sn	21 17 24.4	+0.2
MTO3	Montecristo	1.27	8	P	Pn	21 17 07.8	-0.2
ESQI	Esquipulas	1.43	8	P	Pn	21 17 10.1	-0.1
CNCH	Conchagua	1.66	85	eP	Pn	21 17 13.4	0.0
CNCH	Conchagua	1.66	85	S	Sn	21 17 34.6	+0.7
CNCH	Conchagua	1.66	85	P	Pn	21 17 13.3	-0.1
SARH	Santa Rosa de	1.80	25	P	Pn	21 17 15.7	+0.5
CSGN	Cosiguina Volc	1.93	94	P	Pn	21 17 17.0	-0.1

*IDC **10** 21:25:00.0±1.1, 30°.35S×178°.32W, h112km±7km, mb4.0/7, mbtmp4.4/9, MS3.1/1, Error ellipse: s-maj=26.1km s-min=13.3km az=124.0*

*NEIC **10** 21:25:03.0±1.0, 30°.0S±0°.1×178°.5W±0°.2, h120km±8km, mb4.4/15, Error ellipse: s-maj=21.2km s-min=18.1km az=102.0*

ISC 10 21:24:59.8±0.5, 30°.30S±0°.06×178°.50W±0°.10, h100km, n62, σ1§58/67, mb4.4/15, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.15	26	P	Pn	21 25 23.5	+1.6
GLKZ				S	Sn	21 25 40.2	+1.6
RAO	Raoul Island	1.16	26		Pn	21 25 23.7	+1.6
RAO				Sn	Sn	21 25 39.2	+0.4
RAO	Raoul Island	1.16	26	P	Pn	21 25 23.6	+1.6
	5μm,0.2s,baz=114,slow=7.9,SNR=104						
RAO				S	Sn	21 25 40.2	+1.4
	2μm,0.3s,baz=180,slow=20,SNR=11						
RAO				LR	LR	21 25 45.2	
	comp=Z,233nm,20.1s,baz=82,slow=40						
RIZ	Raoul Island	1.17	25	P	Pn	21 25 23.6	+1.5
RIZ				S	Sn	21 25 40.0	+1.1
WMGZ	Waiomatatini S	7.92	198	P	Pn	21 26 49.3	-2.9
WMGZ				S	Sn	21 28 23.5	+3.4
HAZ	Te Kaha	8.05	202	P	Pn	21 26 53.7	-0.2
PUZ	Puketiti	8.20	198	P	Pn	21 26 55.1	-0.9
PUZ				S	Sn	21 28 26.4	-0.6
RUGZ	Raukumara Rang	8.27	202	P	Pn	21 26 56.8	-0.2
RUGZ				S	Sn	21 28 28.6	-0.2
TWGZ	Tauwhareparae	8.38	199	P	Pn	21 26 57.8	-0.6
TWGZ				S	Sn	21 28 33.3	+2.1
CNGZ	Carnagh Statio	8.60	198	P	Pn	21 26 59.7	-1.7
MWZ	Matawai	8.66	201	P	Pn	21 26 58.9	-3.3
MWZ				S	Sn	21 28 40.6	+2.5
URZ	Urewera	8.73	203	P	Pn	21 27 01.7	-1.4
	4.9nm,0.3s,baz=315,slow=8.6,SNR=8.8						
URZ				S	Sn	21 28 40.4	+0.8
	12nm,0.4s,baz=0.4,slow=22,SNR=18						
URZ	Urewera	8.73	203	P	Pn	21 27 03.4	+0.3
URZ				S	Sn	21 28 40.5	+0.8
TOZ	Tahuroa Road	8.92	212	P	Pn	21 27 05.1	-0.7
RIGZ	Rimuhau	8.93	199	P	Pn	21 27 04.7	-1.2
RIGZ				S	Sn	21 28 45.2	+0.5
BKZ	Black Stump Fm	9.75	204	P	Pn	21 27 15.4	-1.7
BKZ				S	Sn	21 29 06.3	+1.6
MRZ	Mangatainoka R	11.40	203	P	Pn	21 27 33.5	-5.9
MRZ				S	Sn	21 29 39.0	-5.8
TIWZ	Tintock	11.40	202	S	Sn	21 29 39.4	-5.4
MSWZ	Moikau Station	12.19	203	P	Pn	21 27 46.2	-3.7
MSWZ				P	Sn	21 29 56.3	-7.5
DZM	Mont Dzumac	15.80	298	P	P	21 28 39.5	+0.9
	7.1nm,0.9s,baz=94,slow=15,SNR=4.6						
DZM				LR	LR	21 32 45.8	
	comp=Z,60nm,18.6s,baz=74,slow=29						
RAR	Rarotonga	19.12	66	P	P	21 29 14.6	-0.3
RAR				IAmb	IAmb	21 29 27.8	
	comp=Z,44nm,1.1s						
CTAO	Charters Tower	33.36	279	P	P	21 31 30.2	+1.6
STKA	Stephens Creek	34.08	257	P	P	21 31 36.9	+2.1
STKA	Stephens Creek	34.08	257	P	P	21 31 36.0	+1.2
	comp=Z,3.7nm,0.7s,baz=117,slow=10,SNR=6.1						
	comp=Z,3.7nm,0.7s						
INKA	Innaminka	35.60	264	P	P	21 31 49.8	+2.0
INKA				IAmb	IAmb	21 31 50.7	
	comp=Z,4.3nm,0.8s						
BBOO	Buckleboo	38.58	254	P	P	21 32 14.3	+1.3
BBOO				IAmb	IAmb	21 32 30.9	
	comp=Z,9.6nm,1.1s						
COEN	Coen	38.83	286	P	P	21 32 14.1	-1.2
COEN				IAmb	IAmb	21 32 33.5	
	comp=Z,8.4nm,1.1s						
AS31	Alice Springs	42.68	267	P	P	21 32 47.8	+0.8
ASAR	Alice Springs	42.69	267	P	P	21 32 46.7	-0.3
ASAR	Alice Springs	42.69	267	P	P	21 32 47.0	0.0
	comp=Z,3.4nm,0.6s,baz=102,slow=7.4,SNR=45						
ASAR				PcP	PcP	21 34 35.9	-1.3
	comp=Z,0.9nm,0.7s,baz=106,slow=3.7,SNR=5.3						
ASAR				ScP	ScP	21 38 16.7	-2.2
	comp=Z,0.3nm,0.7s,baz=101,slow=3.8,SNR=2.3						
	comp=Z,3.4nm,0.6s						
WR8	Warramunga Arr	43.52	272	P	P	21 32 53.9	+0.2
WR8				IAmb	IAmb	21 32 54.6	
	comp=Z,11nm,0.8s						
WRAB	Tennant Creek	43.66	272	P	P	21 32 54.5	-0.3
WRAB				IAmb	IAmb	21 32 55.6	
	comp=Z,8.9nm,0.8s						
WRA	Warramunga Arr	43.66	272	P	P	21 32 54.8	0.0
WRA	Warramunga Arr	43.66	272	P	P	21 32 54.8	0.0
	comp=Z,12nm,0.8s,baz=110,slow=7.8,SNR=73						
WRA				PcP	PP	21 34 38.9	+0.6
	comp=Z,1.9nm,1.0s,baz=114,slow=3.6,SNR=5.0						
	comp=Z,12nm,0.8s						
WB0	Warramunga Arr	43.69	273	P	P	21 32 54.9	-0.1
SBA	Scott Base	48.10	184	P	P	21 33 34.3	+5.4
SBA				IAmb	IAmb	21 33 34.8	
	comp=Z,5.5nm,0.9s						
VNDA	Vanda	48.15	186	P	P	21 33 32.6	+3.3
VNDA				IAmb	IAmb	21 33 40.2	
	comp=Z,1.5nm,1.0s						
KNRA	Kununurra	50.27	275	P	P	21 33 46.4	+0.1
KNRA				IAmb	IAmb	21 33 47.2	
	comp=Z,4.8nm,1.0s						
FITZ	Fitzroy Crossi	51.93	270	P	P	21 33 58.9	+0.3
MJAR	Matsushiro Arr	77.92	326	P	P	21 36 45.3	-1.4
	comp=Z,2.0nm,0.9s,baz=157,slow=6.6,SNR=2.2						
	comp=Z,2.0nm,0.9s						
H03S2	Juan Fernandez	80.88	124	T	T	23 06 21.6	
	baz=238,slow=74,SNR=8.6						
H03S1	Juan Fernandez	80.89	124	T	T	23 06 19.9	
	baz=238,slow=74,SNR=9.6						
H03S3	Juan Fernandez	80.89	124	T	T	23 06 20.5	
	baz=238,slow=74,SNR=8.5						
H03N3	Juan Fernandez	81.07	123	T	T	23 06 36.1	
	baz=241,slow=72,SNR=5.0						
H03N2	Juan Fernandez	81.07	123	T	T	23 06 35.0	
	baz=241,slow=72,SNR=5.3						
H03N1	Juan Fernandez	81.08	123	T	T	23 06 29.8	
	baz=241,slow=72,SNR=6.5						
PETK	Petropavlovsk-	85.61	346	P	P	21 37 26.1	-0.5
	comp=Z,6.2nm,0.7s,baz=134,slow=6.4,SNR=6.2						
	comp=Z,6.2nm,0.7s						
NVAR	Mina Array Bea	88.46	43	P	P	21 37 40.5	-0.6
	comp=Z,0.8nm,0.7s,baz=238,slow=8.4,SNR=2.4						
	comp=Z,0.8nm,0.7s						
CMAR	Chiang Mai Arr	92.96	290	P	P	21 38 02.5	+0.3
	comp=Z,0.7nm,0.8s,baz=123,slow=3.3,SNR=5.5						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	117.38	310	PKP	PKPdf	21 43 31.4	-2.1
	comp=Z,0.4nm,0.6s,baz=32,slow=0.8,SNR=5.0						
KURBB	Kurchatov Arra	120.71	314	PKP	PKPdf	21 43 38.1	-1.5
	comp=Z,1.3nm,0.5s,baz=107,slow=2.1,SNR=12						
BVAR	Borovoye Array	126.04	316	PKP	PKPdf	21 43 48.2	-1.6
	comp=Z,1.5nm,0.4s,baz=92,slow=1.8,SNR=12						
ARCES	ARCESS Array B	138.41	348	PKhKP	PKPpre	21 44 03.1	
	comp=Z,2.5nm,0.9s,baz=54,slow=2.2,SNR=6.3						
ARCES				PKP	PKPdf	21 44 10.6	-2.0
	comp=Z,2.9nm,1.0s,baz=44,slow=2.1,SNR=6.3						
KBZ	Khabaz	144.70	304	PKP	PKPab	21 44 23.1	-0.6
	comp=Z,3.8nm,0.8s,baz=67,slow=6.6,SNR=5.9						
FINES	FINESS Array B	144.91	340	PKPbc	PKPab	21 44 21.6	-2.3
	comp=Z,11nm,0.7s,baz=67,slow=3.4,SNR=48						
NB2	NORSAR Subarra	148.59	351	PKP	PKPdf	21 44 33.2	+2.5
	comp=Z,5.4nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.59	351	PKPbc	PKPdf	21 44 32.4	+1.7
	comp=Z,2.7nm,0.7s,baz=14,slow=4.2,SNR=8.9						
HFS	Hagfors	149.06	348	PKPbc	PKPdf	21 44 33.7	+2.3
	comp=Z,2.8nm,0.4s,baz=64,slow=3.3,SNR=25						
AKASG	Malin Array Be	150.96	322	PKPbc	PKPbc	21 44 38.6	-1.9
	comp=Z,5.8nm,0.7s,baz=50,slow=2.9,SNR=17						
MMAI	Mount Meron Ar	151.09	284	PKPbc	PKPbc	21 44 41.4	-0.1
	comp=Z,9.9nm,0.8s,baz=79,slow=4.3,SNR=12						
BRTR	Keskin Array B	152.18	298	PKPbc	PKPbc	21 44 42.3	-1.6
	comp=Z,1.9nm,0.8s,baz=128,slow=3.7,SNR=10						
TORD	Torodi Ar. Bea	162.93	181	PKPab	PKPab	21 45 40.2	-0.3
	comp=Z,0.8nm,0.6s,baz=161,slow=3.0,SNR=8.0						

*MOS **10** 21:26:25.2±0.9, 46°.95S×10°.42W, h10km, mb5.3/18, Error ellipse: s-maj=14.8km s-min=10.4km az=70.0*

*IDC **10** 21:26:25.1±0.4, 46°.85S×10°.42W, h0km, mb4.4/15, mbtmp4.4/15, MS4.5/37, Error ellipse: s-maj=16.1km s-min=14.6km az=51.0*

*NEIC **10** 21:26:26.7, 46°.86S×9°.83W, h12km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.60; $M_{\theta\theta}$=4.10; $M_{r\theta}$=0.50; $M_{r\phi}$=-7.62; $M_{\theta\phi}$=-2.84; $M_{\phi\phi}$=2.25; Fault plane solution: M_0=9.50000×10^{16} NP1: ϕ_s=313.67000°, δ17.77000°, λ-65.24000°. NP2: ϕ_s=107.82000°, δ73.91000°, λ-97.65000°. Principal axes: T 9.8938, Plg29.0000°, Azm204.0000°; N -0.8444, Plg7.0000°, Azm110.0000°; P -9.0493, Plg60.0000°, Azm7.0000°;*

*NEIC **10** 21:26:26.7, 46°.96S×10°.41W, h12km*

*NEIC **10** 21:26:26.7±1.3, 47°.0S±0°.1×10°.4W±0°.1, h10km±1km, mb5.2/113, Mww5.3/12, Error ellipse: s-maj=19.2km s-min=16.4km az=149.0*

*GCMT **10** 21:26:29.7±0.1, 47°.01S±0°.01×10°.23W±0°.02, h12km, MW5.1/117, Moment Tensor Solution. s59,c84; s117,c198; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-5.08±.13; $M_{\theta\theta}$5.14±.11; $M_{\phi\phi}$-0.05±.13; $M_{r\theta}$1.00±.32; $M_{r\phi}$-3.99±.11; $M_{\theta\phi}$0.44±.45; Best double couple: M_0=6.34600×10^{16} NP1:ϕ_s134.00000°, δ44.00000°, λ-68.00000°. NP2:ϕ_s284.00000°, δ50.00000°, λ-110.00000°. Principal axes: T 7.3390, Plg3.0000°, Azm28.0000°; N -1.9830, Plg15.0000°, Azm297.0000°; P -5.3530, Plg74.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 21:26:26.7±0.3, 46°.89S±0°.06×10°.34W±0°.06, h10km, n520, σ1§11/485, mb5.2/96, MS4.6/41, 6C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HOPE	Hope Point	18.10	236		Pn	21 30 36.4	-1.5
HOPE	Hope Point	18.10	236	P	Pn	21 30 36.4	-1.5
HOPE				pmax	pmax		
	comp=Z,184nm,1.5s						
VNA1	Neumayer--Stat	23.85	178	⇑P	P	21 31 39.9	+0.3
	comp=Z,18nm,0.9s						
VNA2	Neumayer--Watz	24.15	178	⇑P	P	21 31 42.1	-0.4
	comp=Z,25nm,0.7s,baz=352,slow=11						
VNA3	Neumayer Olymp	24.43	179	⇑P	P	21 31 44.4	-0.7
	comp=Z,19nm,0.8s						
SNAA	Sanae	25.11	174	⇑P	P	21 31 50.8	-0.4
	comp=Z,571nm,0.9s						
SNAA	Sanae	25.11	174		P	21 31 49.7	-1.5
SNAA				IAmb	IAmb	21 31 60.0	
	comp=Z,53nm,1.2s						
SNAA	Sanae	25.11	174	P	P	21 31 50.9	-0.3
	comp=Z,23nm,0.9s,baz=325,slow=9.8,SNR=41						
SNAA				PcP	PcP	21 35 24.4	-0.7
	comp=Z,1.5nm,0.9s,baz=315,slow=7.4,SNR=5.2						
SNAA				LR	LR	21 39 11.0	
	comp=Z,1μm,20.8s,baz=348,slow=30						
	comp=Z,23nm,0.9s						
SNAA	Sanae	25.11	174	*i* P	P	21 31 50.5	-0.8
SNAA				pmax	pmax		
	comp=Z,33nm,1.0s						
TROLL	Troll, Antarti	25.91	171	⇑P	P	21 31 58.6	0.0
	comp=Z,1μm,0.8s						
NVL	N'lazarevskaya	26.22	164	*e*P	P	21 32 01.7	+0.5
NVL				*e*		21 32 40.1	
NVL				*e*PPP	PPP	21 32 48.1	
NVL				*e*S	S	21 36 34.4	+1.4
NVL				*e*SS	SnSn	21 37 34.5	+2.7
NVL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVL				smax	smax		
	comp=N,270nm,14.1s						
NVL				MLR	MLR		
	comp=Z,117nm,22.0s						
SUR	Sutherland	27.81	70	P	P	21 32 13.8	-2.4
SUR				IAmb	IAmb	21 32 46.4	
	comp=Z,74nm,1.4s						
EFI	East Falkland	31.05	243	*i* P	P	21 32 45.1	+0.7
EFI				pmax	pmax		
	comp=Z,61nm,1.0s						
BELA	Belgrano 2	32.49	189		P	21 32 56.0	-0.9
BELA				IAmb	IAmb	21 33 05.8	
	comp=Z,18nm,0.8s						
WIN	Windhoek	32.83	52	P	P	21 32 58.2	-2.4
WIN				IAmb	IAmb	21 33 02.3	
	comp=Z,54nm,1.6s						
WIN	Windhoek	32.83	52	P	P	21 32 58.2	-2.4
WIN				pmax	pmax		
	comp=Z,54nm,1.6s						
SYO	Syowa Base	33.08	150⇓	*i*pP	P	21 33 01.6	-0.4
SYO	Syowa Base	33.08	150⇓	*i*PP	PP	21 34 14.0	-2.6
BOSA	Boshof	33.17	69		P	21 33 01.8	-1.6
BOSA				IAmb	IAmb	21 33 04.7	
	comp=Z,33nm,1.4s						
BOSA	Boshof	33.17	69	P	P	21 33 03.6	+0.1
	comp=Z,12nm,1.1s,baz=214,slow=7.6,SNR=6.3						
BOSA				LR	LR	21 44 22.2	
	comp=Z,972nm,18.0s,baz=230,slow=32						
	comp=Z,12nm,1.1s						
PMSA	Palmer Station	33.74	218	P	P	21 33 06.2	-1.6
PMSA				IAmb	IAmb	21 34 12.0	
	comp=Z,29nm,1.4s						
PMSA	Palmer Station	33.74	218	LR	LR	21 43 56.7	
	comp=Z,2μm,21.6s,baz=82,slow=31						
PMSA	Palmer Station	33.74	218	*e*P	P	21 33 11.4	+3.5
KOOLE	Kule	34.21	56		P	21 33 11.7	-0.8
KOOLE				IAmb	IAmb	21 33 15.4	
	comp=Z,85nm,1.8s						
SMAI	San Martin Ant	35.35	213	P	P	21 33 20.9	-0.8
SMAI				IAmb	IAmb	21 33 35.1	
	comp=Z,60nm,1.8s						
KGCAE	Kacgae	35.48	59		P	21 33 23.3	-0.2
TSUM	Tsumeb	35.85	49		P	21 33 26.5	-0.2
TSUM				IAmb	IAmb	21 33 30.5	
	comp=Z,37nm,1.4s						
TSUM	Tsumeb	35.85	49	LR	LR	21 44 49.0	
	comp=Z,978nm,19.9s,baz=220,slow=31						
LBTB	Lobatse	35.92	65	P	P	21 33 26.2	-1.0
LBTB				IAmb	IAmb	21 33 28.0	
	comp=Z,83nm,2.0s						
LBTB	Lobatse	35.92	65	LR	LR	21 46 04.3	
	comp=Z,806nm,18.5s,baz=221,slow=33						
LBTB	Lobatse	35.92	65	P	P	21 33 26.3	-1.0
LBTB				pmax	pmax		
	comp=Z,83nm,2.0s						
MAJ01	Sao Joao Batis	35.98	289	*e*P	P	21 33 29.1	+1.5
GRTLG	Ghanzi	36.07	56		P	21 33 28.3	-0.3
GRTLG				IAmb	IAmb	21 33 33.0	
	comp=Z,116nm,2.0s						
PLTB	Pedras Altas	36.23	279		P	21 33 28.9	-0.8
PLTB	Pedras Altas	36.23	279	*e*P	P	21 33 30.7	+1.0
KDWAN	Kaudwane	36.55	62	P	P	21 33 31.5	-1.1
RIB01	Linhares ES	36.88	308	*e*P	P	21 33 37.8	+2.4
CPSB	Cacapava Do Su	36.95	281	*e*P	P	21 33 38.0	+2.2
SJMB	Sao Joao De Ma	37.80	308	*e*P	P	21 33 44.8	+1.6
VAO	Valinhos	37.82	296	P	P	21 33 43.4	+0.1
KHWEE	KHWEE	38.10	62	P	P	21 33 45.4	-0.4
KHWEE				IAmb	IAmb	21 33 47.5	
	comp=Z,39nm,1.0s						
ITAB	Concordia	38.13	286	P	P	21 33 44.9	-1.0
ITAB				IAmb	IAmb	21 34 02.9	
	comp=Z,47nm,1.5s						
XAUDM	Khaudum	38.40	53		P	21 33 48.9	+0.6
TRQA	Tornquist	38.48	264		P	21 33 47.9	-0.9
TRQA	Tornquist	38.48	264	P	P	21 33 47.9	-0.9
TRQA				pmax	pmax		
	comp=Z,48nm,1.6s						
GUA01	Guaratinga, BA	38.83	311	*e*P	P	21 33 53.9	+2.1
MREMI	Moremi	38.86	65	P	P	21 33 51.3	-0.8
MREMI				IAmb	IAmb	21 33 54.0	
	comp=Z,120nm,1.9s						
PHDHD	Phuduhudu	38.90	59		P	21 33 52.0	-0.5
PSAL	Palomas, Salto	39.36	276	*e*P	P	21 33 57.6	+1.4
DIAM	Diamantina, MG	39.51	305	*e*P	P	21 33 57.6	-0.1
PTGB	Pitanga	39.81	289	*e*P	P	21 34 01.7	+1.6
LDASE	Londrina, Braz	40.14	291	*e*P	P	21 34 04.7	+1.9
BB19B	Bebedouro	40.22	297	*e*P	P	21 34 04.4	+0.9
PMNB	Patos De Minas	40.91	301	*e*P	P	21 34 09.5	+0.3
H04S2	CROZET ISLANDS	41.53	114	T	T	22 18 57.1	
	baz=246,slow=76,SNR=51						
H04S3	CROZET ISLANDS	41.54	114	T	T	22 18 59.0	
	baz=246,slow=76,SNR=48						
H04S1	CROZET ISLANDS	41.55	114	T	T	22 18 59.8	
	baz=246,slow=76,SNR=39						
MAW	Mawson	41.57	146	P	P	21 34 14.3	+0.3
	comp=Z,13nm,1.0s,baz=262,slow=7.4,SNR=22						
MAW				LR	LR	21 47 46.4	
	comp=Z,304nm,21.7s,baz=268,slow=31						
	comp=Z,13nm,1.0s						
CPUP	Villa Florida	42.19	282		P	21 34 19.1	-0.5
CPUP	Villa Florida	42.19	282	P	P	21 34 19.2	-0.3
	comp=Z,1.1nm,0.7s,baz=349,slow=2.7,SNR=7.5						
CPUP				PcP	PcP	21 36 13.3	-0.3
	comp=Z,0.9nm,1.0s,baz=35,slow=4.4,SNR=3.6						
CPUP				LR	LR	21 48 46.3	
	comp=Z,49nm,21.3s,baz=359,slow=32						
	comp=Z,1.1nm,0.7s						
CPUP	Villa Florida	42.19	282	*e*P	P	21 34 20.8	+1.2
ITRB	Iturama	42.37	296	*e*P	P	21 34 23.5	+2.3
IPMB	Ipameri, GO	42.39	300	*e*P	P	21 34 23.7	+2.4
JANB	Januaria	42.49	307	*e*P	P	21 34 24.5	+2.4
LL02	Futaleuf	42.64	252		P	21 34 22.5	-0.6
LL02				IAmb	IAmb	21 34 29.1	
	comp=Z,75nm,1.2s						
PLCA	Paso Flores	42.95	255		P	21 34 24.7	-1.0
PLCA	Paso Flores	42.95	255	P	P	21 34 25.2	-0.5
	comp=Z,3.4nm,0.5s,baz=127,slow=4.4,SNR=18						
PLCA				LR	LR	21 49 14.9	
	comp=Z,302nm,19.8s,baz=120,slow=32						
	comp=Z,3.4nm,0.5s						
PLCA	Paso Flores	42.95	255	*e*P	P	21 34 25.6	-0.1
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PLCA	Paso Flores	42.95	255	*e*P	P	21 34 26.6	+1.0
AMBA	Amambai (Brazi	42.97	288	*e*P	P	21 34 28.0	+2.0
QSPA	South Pole Qui	43.37	180	P	P	21 34 30.6	+1.8
	comp=Z,10nm,0.7s,baz=222,slow=2.2,SNR=107						
QSPA				PcP	PcP	21 36 18.4	+1.2
	comp=Z,3.8nm,0.7s,baz=236,slow=5.2,SNR=3.4						
QSPA				LR	LR	21 50 38.9	
	comp=Z,1μm,21.4s,baz=208,slow=34						
	comp=Z,10nm,0.7s						
LL01	San Ignacio de	43.38	252	P	P	21 34 27.0	-2.1
LL01				IAmb	IAmb	21 34 37.9	
	comp=Z,64nm,1.9s						
LL03	Petrohue	43.97	254	P	P	21 34 33.6	-0.3
LL03				IAmb	IAmb	21 34 46.8	
	comp=Z,65nm,1.1s						
BDFB	Brasilia	44.11	302	P	P	21 34 35.4	+0.1
BDFB	Brasilia	44.11	302	P	P	21 34 35.4	+0.1
	comp=Z,52nm,1.5s,baz=156,slow=6.4,SNR=9.2						
BDFB				LR	LR	21 49 27.8	
	comp=Z,370nm,19.5s,baz=140,slow=31						
	comp=Z,52nm,1.5s						
LR05	Currie	44.16	255	P	P	21 34 34.5	-0.8
LR05				IAmb	IAmb	21 34 40.3	
	comp=Z,103nm,1.9s						
C2SB	Chapadao do Su	44.61	294	*e*P	P	21 34 42.4	+3.2
LSZ	Lusaka	44.90	58	P	P	21 34 40.6	-1.0
LSZ	Lusaka	44.90	58	LR	LR	21 51 08.3	
	comp=Z,1μm,19.5s,baz=220,slow=33						
LSZ	Lusaka	44.90	58	P	P

AC06 Mina Casimiro 50.39 271 P P 21 35 23.0 -1.1
AC06 IAmb IAmb 21 35 26.7
comp=Z,80nm,1.8s
PTLB Pontes e Lacer 51.07 291 P P 21 35 28.4 -0.8
GO02 Mina Guanaco 51.28 273 P P 21 35 31.6 +0.4
AC01 Pan de Azucar 51.33 272 P P 21 35 30.4 -0.8
SIV San Ignacio 51.92 289 P P 21 35 35.0 -0.7
comp=Z,1.8nm,0.7s,baz=126,slow=7.4,SNR=8.1
SIV LR LR 21 55 13.3
comp=Z,244nm,18.8s,baz=132,slow=33
comp=Z,1.8nm,0.7s
PDRB Porto dos Gac 52.48 297 *eP* **P 21 35 40.6 +0.8**
CLDB Colider 52.48 298 *eP* **P 21 35 41.9 +2.1**
PRPB Parauapebas 52.83 308 *eP* **P 21 35 45.1 +2.6**
PB06 IPOC Station P 52.89 276 P 21 35 43.3 +0.3
PB10 IPOC Station P 53.02 274 P P 21 35 43.7 -0.1
PB10 IAmb IAmb 21 35 47.0
comp=Z,48nm,1.2s
PB09 IPOC Station P 53.28 277 P 21 35 46.0 +0.1
PB03 IPOC Station P 53.46 276 P **P 21 35 46.3 -0.9**
DBIC Dimbokro 53.55 7 P **P 21 35 47.3 -0.3**
DBIC IAmb IAmb 21 35 51.1
comp=Z,55nm,1.6s
DBIC Dimbokro 53.55 7 P **P 21 35 47.7 +0.1**
comp=Z,4.6nm,0.8s,baz=176,slow=7.2,SNR=4.1
DBIC LR LR 21 53 03.7
comp=Z,610nm,19.8s,baz=184,slow=30
comp=Z,4.6nm,0.8s
EDA Edea 53.60 26 P **P 21 35 47.1 -0.9**
EDA IAmb IAmb 21 35 50.4
comp=Z,26nm,1.4s
VILB Vilhena 53.62 292 P **P 21 35 47.5 -0.7**
VILB Vilhena 53.62 292 *eP* **P 21 35 50.6 +2.4**
PB01 IPOC Station P 53.96 277 P 21 35 50.7 -0.1
PB02 IPOC Station P 54.05 277 P **P 21 35 51.5 0.0**
PB02 IAmb IAmb 21 35 54.6
comp=Z,32nm,1.0s
PB08 IPOC Station P 54.35 278 P **P 21 35 53.4 -0.6**
PB08 IAmb IAmb 21 35 57.3
comp=Z,72nm,1.8s
PATCX Punta Patache 54.56 277 P **P 21 35 54.9 -0.3**
OPO Ambohidratompo 54.58 79 LR LR 21 54 51.5
comp=Z,230nm,19.6s,baz=324,slow=31
GO01 Chusmiza 54.70 279 P **P 21 35 55.7 -1.0**
HMBC Humberstone 54.76 278 P **P 21 35 56.1 -0.5**
HMBC IAmb IAmb 21 35 59.2
comp=Z,39nm,1.1s
TA01 Diego Aracena 54.76 277 P **P 21 35 55.2 -1.2**
PB11 IPOC Station P 54.95 278 P **P 21 35 58.1 0.0**
PB11 IAmb IAmb 21 36 00.6
comp=Z,37nm,1.0s
NPGB Novo Progresso 55.26 301 *eP* **P 21 36 02.1 +1.9**
SBA Scott Base 55.52 179 P **P 21 36 01.1 -0.1**
SBA Scott Base 55.52 179 P **P 21 36 01.1 -0.1**
SBA pmax pmax
comp=Z,18nm,1.3s
VNDA Vanda 55.77 178 P 21 36 02.3 -0.7
VNDA Vanda 55.77 178 P **P 21 36 03.2 +0.2**
comp=Z,2.1nm,0.8s,baz=214,slow=8.1,SNR=11
VNDA LR LR 21 58 22.1
comp=Z,933nm,19.4s,baz=180,slow=34
comp=Z,2.1nm,0.8s
PB16 IPOC Station P 55.84 280 P **P 21 36 03.7 -1.4**
PB16 IAmb IAmb 21 36 08.8
comp=Z,42nm,1.7s
PB18 Visviri 56.35 280 P 21 36 08.8 +0.2
PB18 IAmb IAmb 21 36 40.9
comp=Z,23nm,0.6s
LPAZ La Paz 56.36 283 P 21 36 07.7 -1.1
LPAZ La Paz 56.36 283 P **P 21 36 07.5 -1.3**
comp=Z,1.5nm,0.6s,baz=118,slow=4.5,SNR=5.2
LPAZ LR LR 21 57 44.2
comp=Z,118nm,21.9s,baz=122,slow=33
comp=Z,1.5nm,0.6s
LPAZ La Paz 56.36 283 *eP* **P 21 36 08.7 -0.1**
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ La Paz 56.36 283 *eP* **P 21 36 09.8 +1.0**
ITTB Itaituba 57.63 303 *eP* **P 21 36 18.8 +1.8**
MBAR Mbarara 58.36 51 P **P 21 36 23.0 +0.7**
MBAR Mbarara 58.36 51 P **P 21 36 23.0 +0.7**
MBAR pmax pmax
comp=Z,17nm,1.2s
TORD Torodi Ar. Bea 60.73 13 P 21 36 38.0 -0.4
TORD Torodi Ar. Bea 60.73 13 P **P 21 36 38.7 +0.3**
comp=Z,1.5nm,0.5s,baz=192,slow=6.4,SNR=23
TORD LR LR 21 57 29.4
comp=Z,936nm,21.1s,baz=160,slow=31
comp=Z,1.5nm,0.5s
KIBK Kibwezi 61.02 59 P 21 36 40.6 0.0
KIBK IAmb IAmb 21 36 45.1
comp=Z,28nm,1.4s
MACA Manacapuru-AM 61.52 299 P **P 21 36 43.0 -0.8**
MACA IAmb IAmb 21 36 47.7
comp=Z,29nm,1.4s
MACA Manacapuru-AM 61.52 299 *eP* **P 21 36 44.1 +0.2**
KMBO Kilima Mbogo 61.53 57 LR LR 22 01 18.6
comp=Z,715nm,20.4s,baz=254,slow=34
MDP Montagnes des 63.83 312 LR LR 22 02 08.7
comp=Z,146nm,19.0s,baz=156,slow=34
LODK Lodwar 64.22 53 P **P 21 37 01.9 0.0**
LODK IAmb IAmb 21 37 06.1
comp=Z,18nm,1.5s
NNA Nana 65.31 279 P **P 21 37 08.5 -0.5**
NNA IAmb IAmb 21 37 20.5
comp=Z,16nm,1.1s
NNA Nana 65.31 279 LR LR 22 06 34.4
comp=Z,64nm,18.5s,baz=154,slow=37
NNA Nana 65.31 279 *i P* **P 21 37 08.9 -0.1**
NNA pmax pmax
comp=Z,13nm,1.2s
CZSB Cruzeiro do Su 65.64 285 P **P 21 37 09.9 -1.2**
BOAV Boa Vista 65.88 303 P **P 21 37 11.9 -0.8**
ATAH Atahualpa 69.87 281 LR LR 22 06 06.1
comp=Z,68nm,20.1s,baz=154,slow=34
TAM Tamanrasset 70.82 15 P **P 21 37 44.4 +0.9**
TAM IAmb IAmb 21 37 46.4
comp=Z,12nm,0.8s
TAM Tamanrasset 70.82 15 P **P 21 37 44.4 +0.9**
TAM pmax pmax
comp=Z,12nm,0.8s
COHC Cochancay 73.88 284 P 21 38 00.7 -1.2
FLOC Florencia 74.55 290 P **P 21 38 04.9 -1.0**
SLOR San Lorenzo - 74.67 286 P **P 21 38 05.7 -1.4**
ATD Arta Tunnel 75.04 54 LR LR 22 09 34.2
comp=Z,32nm,20.9s,baz=196,slow=34
OTAV Otavalo 75.36 286 *eP* **P 21 38 12.0 +1.0**
BAUV El Baul 75.54 300 P 21 38 10.7 -0.8
ROSC El Rosal 76.18 293 LR LR 22 10 56.3
comp=Z,196nm,18.1s,baz=177,slow=35
RUSC La Rusia 76.22 294 P **P 21 38 14.2 -1.7**
RUSC IAmb IAmb 21 38 21.7
comp=Z,34nm,1.3s
SDV Santo Domingo 77.04 298 P **P 21 38 19.5 -0.7**
SDV IAmb IAmb 21 38 26.9
comp=Z,33nm,1.9s
SDV Santo Domingo 77.04 298 *eP* **P 21 38 20.3 +0.1**
MDT Midelt 79.51 5 LR LR 22 10 24.4
comp=Z,820nm,18.1s,baz=200,slow=33
MD31 MD31 79.55 5 P **P 21 38 34.2 +0.7**
MD01 Midelt array s 79.55 5 P **P 21 38 33.4 -0.2**
SMRC Santa Marta, M 81.01 297 P **P 21 38 40.1 -1.6**
SJG San Juan 81.85 307 P **P 21 38 44.4 -1.7**
SJG San Juan 81.85 307 P **P 21 38 44.4 -1.7**
SJG pmax pmax
comp=Z,34nm,0.3s
MORF Marmelete 83.83 1 *eP* **P 21 38 58.2 +2.3**
MORF Marmelete 83.83 1 *eP* **P 21 38 58.6 +2.7**
PVAQ Vaqueiros 83.95 2 *eP* **P 21 39 59.1 +2.7**
PVAQ *i* IAmb IAmb 21 39 00.8
comp=Z,63nm,1.6s
PVAQ *e*LR LR 22 07 38.2
PVAQ *i* IAMs_20 IAMs_20 22 11 26.1
comp=Z,416nm,20.0s
KEST Kesra 84.13 16 LR LR 22 14 17.1
comp=Z,480nm,18.0s,baz=226,slow=34
PCVE Castro Verde 84.17 2 *eP* **P 21 38 59.8 +2.2**
H01W2 Cape Leeuwin H 84.53 137 T T 23 13 24.2
baz=216,slow=75,SNR=9.7
H01W1 Cape Leeuwin H 84.54 137 T T 23 13 34.0
baz=216,slow=75,SNR=10
H01W3 Cape Leeuwin H 84.54 137 T T 23 13 37.5
baz=216,slow=75,SNR=8.8
PARRA Arraiolos 85.33 1 *eP* **P 21 39 06.2 +2.8**
PARRA *i* IAmb IAmb 21 39 08.0
comp=Z,29nm,1.8s
PESTR Estremoz 85.41 2 *eP* **P 21 39 06.9 +3.0**
PMTG Montargil 85.60 2 *eP* **P 21 39 08.3 +3.5**
PMTG *i* IAmb IAmb 21 39 10.0
comp=Z,39nm,1.9s
PMRV Marv??o 85.98 2 *eP* **P 21 39 08.6 +1.9**
PMRV *i* IAmb IAmb 21 39 10.3
comp=Z,46nm,1.4s
PMRV *e*LR LR 22 10 29.6
PMRV *i* IAMs_20 IAMs_20 22 12 46.6
comp=Z,300nm,20.0s
PAB San Pablo 86.22 5 P 21 39 09.0 +1.1
PAB IAmb IAmb 21 39 10.8
comp=Z,40nm,1.6s
PAB San Pablo 86.22 5 P **P 21 39 09.0 +1.1**
PAB pmax pmax
comp=Z,40nm,1.6s
RAYN Ar Rayn 86.30 50 P 21 39 09.7 +1.0
RAYN Ar Rayn 86.30 50 P **P 21 39 09.7 +1.0**
RAYN pmax pmax
comp=Z,13nm,1.2s
ESDC Sonseca Array 86.37 5 P 21 39 08.9 +0.3
ESDC Sonseca Array 86.37 5 P **P 21 39 09.0 +0.3**
comp=Z,5.1nm,1.1s,baz=187,slow=5.0,SNR=15
ESDC LR LR 22 13 48.8
comp=Z,232nm,20.9s,baz=166,slow=33
comp=Z,5.1nm,1.1s
ESBB Sonseca Array 86.37 5 P **P 21 39 07.3 -1.4**
ESBB IAmb IAmb 21 39 20.6
comp=Z,17nm,1.4s
PCBR Castelo Branco 86.39 2 *eP* **P 21 39 11.4 +2.8**
EIL Elat 86.47 38 LR LR 22 16 32.7
comp=Z,718nm,18.1s,baz=210,slow=35
VAE Valguarnera 86.87 19 LR LR 22 14 28.6
comp=Z,546nm,18.4s,baz=139,slow=33
MTE Manteigas 86.94 2 P **P 21 39 10.8 -0.6**
MTE Manteigas 86.94 2 *eP* **P 21 39 13.2 +1.7**
MTE *i* IAmb IAmb 21 39 21.5
comp=Z,56nm,1.7s
MTE *e*LR LR 22 10 32.0
MTE *i* IAMs_20 IAMs_20 22 12 07.6
comp=Z,262nm,24.0s
JTS Las Juntas de 87.14 288 P **P 21 39 11.9 -1.1**
JTS IAmb IAmb 21 39 14.2
comp=Z,13nm,0.9s
JTS Las Juntas de 87.14 288 *i P* **P 21 39 13.2 +0.2**
JTS pmax pmax
comp=Z,15nm,1.0s
PVIS Viseu 87.25 2 *eP* **P 21 39 14.6 +1.7**
IDI Anoyia 87.72 28 LR LR 22 16 02.0
comp=Z,83nm,20.8s,baz=147,slow=34
MVO Moncorvo 87.72 3 *eP* **P 21 39 17.6 +2.5**
MVO *i* IAmb IAmb 21 39 19.0
comp=Z,36nm,1.5s
MVO *i* IAMs_20 IAMs_20 22 13 17.8
comp=Z,342nm,20.0s
POLO Lamas de Olo 87.91 2 *eP* **P 21 39 14.0 -2.1**
PBRG Braganca 88.37 3 *eP* **P 21 39 20.5 +2.3**
PBRG *i* IAmb IAmb 21 39 28.8
comp=Z,35nm,1.5s
PGAV Gavieira, Arco 88.49 2 *i* IAMs_20 IAMs_20 22 14 50.0
comp=Z,187nm,20.0s
KARP Karpathos 88.71 30 P **P 21 39 20.7 +0.7**
KARP Karpathos 88.71 30 P **P 21 39 19.9 -0.1**
comp=Z,738nmcomp=Z,56nm,1.3s
CHIV Chivirico 89.17 301 P **P 21 39 21.5 -0.9**
CHIV IAmb IAmb 21 39 29.9
comp=Z,52nm,1.7s
ASF Jabal al Asfar 89.47 39 LR LR 22 18 08.1
comp=Z,328nm,18.1s,baz=234,slow=35
MMAI Mount Meron Ar 89.57 37 LR LR 22 17 22.3
comp=Z,544nm,19.5s,baz=208,slow=34
CEST Esterri de Car 89.70 9 P **P 21 39 24.8 +0.3**
CEST IAmb IAmb 21 42 10.7
comp=Z,28nm,1.5s
CSS Mathiatis 90.44 35 P **P 21 39 28.2 +0.1**
ELL Elmali 90.75 31 P 21 39 30.6 +1.0
ELL IAmb IAmb 21 39 33.6
comp=Z,24nm,1.5s
ELL Elmali 90.75 31 P **P 21 39 30.6 +1.0**
ELL pmax pmax
comp=Z,24nm,1.5s
LIT Litokhoron 91.43 25 P 21 39 33.0 +0.5
LIT IAmb IAmb 21 39 34.8
comp=Z,25nm,1.3s
LIT Litokhoron 91.43 25 P **P 21 39 33.0 +0.5**
LIT pmax pmax
comp=Z,25nm,1.3s
RDO Rodhopi 93.29 26 P **P 21 39 42.2 +1.1**
RDO IAmb IAmb 21 39 49.4
comp=Z,8.3nm,1.1s
RKT Rikitea 94.28 229 *e*LR LR 22 10 00.0
comp=Z,2µm,29.0s
CTI Castel Tesino 94.55 15 P 21 39 47.2 +0.3
CTI IAmb IAmb 21 39 55.0
comp=Z,13nm,1.2s
CTI Castel Tesino 94.55 15 P **P 21 39 47.2 +0.3**
CTI pmax pmax
comp=Z,13nm,1.2s
TUE Stuetta 94.57 14 P **P 21 39 46.6 -0.5**
TUE IAmb IAmb 21 40 53.5
comp=Z,24nm,2.0s
BRTR Keskin Array B 94.74 33 P **P 21 39 48.0 0.0**
comp=Z,0.3nm,0.7s,baz=212,slow=5.8,SNR=4.8
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 94.74 33 P **P 21 39 48.0 0.0**
URZ Urewera 94.97 186 LR LR 22 20 10.6
comp=Z,193nm,18.1s,baz=163,slow=34
ABTA Abfaltersbach 95.38 16 *eP* **P 21 39 52.8 +2.1**
comp=Z,7.6nm,1.2s
DAVA Damuels 95.45 14 *eP* **P 21 39 52.2 +1.1**
comp=Z,11nm,1.7s
OBKA Obir 95.54 17 *e*PcP **PcP 21 39 54.8 +3.2**
comp=Z,4.1nm,1.1s
SQTA Sankt Quirin 95.61 15 *eP* **P 21 39 53.9 +2.2**
comp=Z,6.1nm,1.4s
MOTA Moosalm 95.71 14 *eP* **P 21 39 54.4 +2.2**
comp=Z,5.8nm,1.1s
WTTA Wattenberg 95.72 15 *eP* **P 21 39 53.8 +1.4**
comp=Z,7.0nm,1.1s
RETA Reutte 95.79 14 *eP* **P 21 39 54.1 +1.7**
comp=Z,3.9nm,1.3s
SOKA Soboth 95.80 17 *eP* **P 21 39 54.6 +2.0**
comp=Z,7.6nm,1.3s
PALK Pallekele 95.97 86 LR LR 22 14 34.3
comp=Z,225nm,20.2s,baz=234,slow=30
LESA Schwarzleotal 96.06 15 *eP* **P 21 39 54.6 +0.9**
comp=Z,5.0nm,1.4s
ARSA Arzberg 96.45 17 *eP* **P 21 39 57.6 +2.1**
comp=Z,6.6nm,1.6s
RONA Rosalia, Austr 97.04 18 *e*pP pP 21 40 04.7 +4.3
comp=Z,7.0nm,1.4s
CONA Conrad Observa 97.17 17 *eP* Pdif 21 40 00.8 +1.9
comp=Z,8.0nm,1.6s
MLR Muntele Rosu 97.38 25 P 21 39 58.5 -1.3
MLR Muntele Rosu 97.38 25 LR LR 22 21 34.4
comp=Z,225nm,20.5s,baz=205,slow=34
MLR Muntele Rosu 97.38 25 P **P 21 39 58.5 -1.3**
MLR pmax pmax
comp=Z,26nm,1.7s
STKA Stephens Creek 97.61 156 LR LR 22 20 28.4
comp=Z,137nm,20.3s,baz=202,slow=33
STKA Stephens Creek 97.61 156 *i P* **P 21 39 59.8 -1.6**
GERES GERESS Array B 97.62 16 LR LR 22 21 01.8
comp=Z,342nm,19.7s,baz=238,slow=34
ZST Bratislava 97.68 18 *e*PDIFF Pdif 21 40 03.9 +2.9
VRAC Vranov 98.63 17 LR LR 22 22 26.1
comp=Z,285nm,19.5s,baz=212,slow=34
GNI Garni 99.58 40 LR LR 22 25 19.4
comp=Z,267nm,18.1s,baz=214,slow=36
SHA1 Shidzhatmaz 101.67 36 *i P* **Pdif 21 40 19.4 +0.2**
KBZ Khabaz 101.76 36 *i P* **Pdif 21 40 21.4 +2.2**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 101.86 36 *eP* **Pdif 21 40 20.7 +0.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s
RNPP5 Staryi Chortor 102.59 22 P **Pdif 21 40 23.4 +0.7**
PPT2 Papeete2 106.07 220 *e*S **Sdif 21 52 42.2 +4.3**
comp=Z,76nm,26.2s
PPT2 *e*SS **SS 22 00 05.3 +3.0**
comp=Z,96nm,26.8s
PPT2 Papeete2 106.07 220 *e*LR LR 22 15 29.4
comp=Z,846nm,29.8s
PPT2 *e*LR LR 22 15 36.3
comp=Z,597nm,31.0s
MNK Minsk 106.08 22 *i* P **Pdif 21 40 35.8 -2.3**
MNK *i* 21 44 59.5
MNK *i* 21 51 59.8
MNK *i* SS SS 22 00 02.3 -1.0
MNK *i* SSS SSS 22 04 01.8
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK MLR MLR
comp=N,98nm,19.0s
MNK MLR MLR
comp=Z,128nm,18.0s
MNK MLR MLR
comp=E,119nm,24.0s
TAOE Nuku Hiva Isla 108.82 233 *e*SS SS 22 00 45.1 +4.9
comp=E,85nm,26.7s
TAOE Nuku Hiva Isla 108.82 233 *e*LR LR 22 16 51.4
comp=E,289nm,29.4s
DZM Mont Dzumac 111.30 177 *e*LR LR 22 17 58.7
comp=E,427nm,22.8s
CMAR Chiang Mai Arr 116.36 91 PKP **PKPdf 21 45 10.2 -0.4**
comp=E,0.4nm,0.5s,baz=264,slow=4.5,SNR=4.6
BORK Borovoye 120.86 44 *i* PKIKP **PKPdf 21 45 17.6 -0.5**
BVAR Borovoye Array 120.88 44 PKP **PKPdf 21 45 18.2 0.0**
comp=E,1.3nm,0.5s,baz=225,slow=2.3,SNR=7.1
MK31 Makanchi Array 123.40 55 *i* PKIKP **PKPdf 21 45 21.9 -1.4**
MKAR Makanchi Array 123.40 55 PKP **PKPdf 21 45 22.4 -0.9**
comp=E,1.0nm,0.7s,baz=208,slow=1.4,SNR=9.6
KURBB Kurchatov Arra 123.53 50 PKP **PKPdf 21 45 23.0 -0.4**
comp=E,1.4nm,0.7s,baz=232,slow=2.4,SNR=12
KURK Kurchatov 123.63 50 PKIKP **PKPdf 21 45 23.0 -0.5**
PZH PanZhiHua 123.65 86 PKP **PKPdf 21 45 24.5 0.0**
WMQ Urumqi 124.86 61 *e*PKP **PKiKP 21 45 27.6 +1.0**
WMQ LR LR
comp=E,180nm,24.3s
PD31 Pinedale Array 124.98 297 PKPdf 21 45 25.4 -1.3
PDAR Pinedale Array 124.98 297 PKP **PKPdf 21 45 25.1 -1.6**
comp=E,1.2nm,0.7s,baz=114,slow=3.6,SNR=9.1
HWUT Hardware Ranch 125.56 295 PKPdf 21 45 27.3 -0.5
NVAR Mina Array Bea 128.07 288 PKiKP 21 45 33.4 +0.1
NVAR Mina Array Bea 128.07 288 PKP **PKPdf 21 45 33.0 +0.3**
comp=E,0.8nm,0.6s,baz=50,slow=2.3,SNR=5.9
ZALV Zalesovo Beam 128.57 49 PKP **PKPdf 21 45 32.6 -0.2**
comp=E,1.0nm,0.7s,baz=270,slow=3.0,SNR=4.4
GTA Gaotai 130.04 72 *e*PKP **PKPdf 21 45 36.6 +0.2**
J08A Circle Bar Ran 130.81 294 PKiKP 21 45 38.1 -0.4
XAN Xi'an 133.15 83 PKP **PKPdf 21 45 42.5 +0.2**
B08A Colville Reser 133.72 299 PKPdf 21 45 43.3 +0.4
HOOD Mount Hood Mea 133.76 294 PKPdf **PKPdf 21 45 43.7 +0.5**
YKA Yellowknife Ar 136.30 319 PKP **PKPdf 21 45 46.6 -0.6**
comp=E,1.6nm,0.8s,baz=150,slow=2.1,SNR=4.3
SONM Songjino Array 138.22 65 PKP **PKPdf 21 45 52.0 +0.6**
comp=E,1.3nm,0.6s,baz=226,slow=3.6,SNR=5.6
HHC Hu-ho-hao-te 138.52 76 *e*PKP **PKPdf 21 45 47.6 -4.6**
ULN Ulaanbaatar 138.64 65 *i* PKIKP **PKPdf 21 45 51.3 -0.9**
NJ2 Nanjing 138.80 92 *e*PKP **PKiKP 21 45 54.5 -0.5**
DLBC Dease Lake 142.90 311 P **PKPdf 21 45 59.5 +0.1**
baz=99
V35K Ketchikan 143.19 305 P **PKPdf 21 46 00.3 +0.4**
baz=102
S34M Telegraph Cree 143.40 310 P **PKPdf 21 46 00.7 +0.5**
baz=99
R33M Jennings River 143.52 312 P **PKPdf 21 46 00.4 -0.2**
baz=97
CRAG Craig 144.06 305 P **PKPdf 21 46 01.7 +0.2**
baz=101
U33K Whale Pass 144.18 306 P **PKPdf 21 46 02.0 +0.4**
baz=100
P33M Teslin, Yukon 144.53 313 P **PKPab 21 46 00.5 -0.2**
baz=94
INK Inuvik 144.60 328 P **PKPab 21 45 59.8 -0.8**
baz=82
N32M Quiet Lake 144.72 315 P **PKPab 21 46 00.8 -0.5**
baz=93
F31M Tsiigehtchic 144.79 326 P **PKPab 21 46 00.8 -0.6**
baz=83
P32M Atlin 144.93 312 P **PKPab 21 46 01.8 -0.4**
baz=95
G31M Satah River 145.06 325 P **PKPbc 21 46 01.6 -0.7**
baz=84
H31M Peel River 145.20 323 P **PKPbc 21 46 02.2 -0.6**
baz=85
R32K Eaglecrest 145.23 310 P **PKPbc 21 46 03.1 0.0**
baz=96
BOD Bodaibo 145.27 51 *e*PKIKP **PKPbc 21 46 02.7 -0.6**
BOD pmax pmax
comp=Z,41nm,1.6s
M31M Drury Creek, Y 145.37 317 P **PKPbc 21 46 02.9 -0.6**
baz=90
SIT Sitka 145.52 308 P **PKPbc 21 46 04.1 +0.1**
baz=97
F30M Barrier River 145.55 327 P **PKPdf 21 46 03.6 -0.1**
baz=81
WHY Whitehorse 145.58 314 PKPab 21 46 05.3 +0.7
WHY Whitehorse 145.58 314 P **PKPdf 21 46 03.9 -0.2**
baz=92
G30M tAoh Zraii Nji 145.81 325 P **PKPdf 21 46 04.2 -0.1**
baz=82
N31M Braeburn, Yuko 146.03 316 P **PKPdf 21 46 04.5 -0.2**
baz=90
EPYK Eagle Plains 146.10 324 P **PKPdf 21 46 04.6 -0.1**
baz=82
I30M Mount Dempster 146.10 322 P **PKPdf 21 46 05.1 +0.2**
baz=84,SNR=8.0
S31K Pelican 146.10 309 P **PKPdf 21 46 04.0 -0.9**
baz=95
J30M Hart River 146.14 321 P **PKPdf 21 46 05.1 +0.2**
baz=85
O30N Mendenhall 146.17 314 P **PKPbc 21 46 05.9 -0.2**
baz=91,SNR=6.0
E29M Blow River 146.19 328 PKPdf 21 46 04.4 -0.4
E29M Blow River 146.19 328 P **PKPdf 21 46 04.9 +0.1**
baz=78,SNR=8.8
D28M Stokes Point 146.26 330 P **PKPbc 21 46 05.7 -0.3**
baz=76
M30M Minto, Yukon 146.48 318 P **PKPdf 21 46 06.2 +0.7**
baz=88,SNR=5.7
G29M Pine Creek 146.52 326 P **PKPdf 21 46 05.9 +0.5**
baz=80,SNR=6.9
P30M Million Dollar 146.59 313 P **PKPbc 21 46 06.6 -0.8**
baz=91
N30M Aishikik Lake 146.66 316 P **PKPdf 21 46 06.2 +0.4**
baz=89
E28M Babbage River 146.72 329 P **PKPdf 21 46 06.5 +0.8**
baz=76,SNR=9.8
K29M Barlow Dome 146.73 320 P **PKPdf 21 46 06.3 +0.4**
baz=85,SNR=6.2
H29M Whitestone 146.78 324 P **PKPdf 21 46 06.7 +0.9**
baz=80,SNR=11
HYT Haines Junctio 146.87 314 PKPab 21 46 09.2 -0.4
HYT Haines Junctio 146.87 314 P **PKPbc 21 46 07.8 -0.4**
baz=90,SNR=5.2
I29M Ogilvie Camp, 146.89 323 P **PKPbc 21 46 07.2 -0.8**
baz=82,SNR=6.7
P29M Windy Craggy 146.98 312 P **PKPbc 21 46 07.8 -0.7**
baz=91
D27M Malcolm River 147.05 330 P **PKPbc 21 46 08.0 -0.4**
baz=73
L29M L29M 147.06 319 P **PKPbc 21 46 08.1 -0.5**
baz=86,SNR=6.7
F28M Old Crow 147.08 327 P **PKPbc 21 46 07.8 -0.7**
baz=77,SNR=8.6
M29M Somme Creek 147.26 317 P **PKPbc 21 46 08.3 -0.9**
baz=86,SNR=5.4
YUK6 Outpost Mounta 147.28 315 P **PKPdf 21 46 07.6 +0.4**
baz=89
O29M Mount Kennedy 147.40 313 P **PKPdf 21 46 08.4 +1.2**
baz=90
DAWY Dawson 147.52 321 PKPbc 21 46 09.2 -0.6
DAWY Dawson 147.52 321 P **PKPbc 21 46 08.9 -0.9**
baz=83,SNR=6.8
I28M Miner Creek 147.55 323 PKPbc 21 46 09.0 -0.9
I28M Miner Creek 147.55 323 P **PKPbc 21 46 09.1 -0.9**
baz=80,SNR=13
E27K Coleen River 147.57 328 P **PKPbc 21 46 08.7 -1.2**
baz=74,SNR=9.5
PNL Peninsula 147.82 312 P **PKPbc 21 46 09.5 -1.2**
baz=90
C27K Jago River 147.84 331 P **PKPbc 21 46 09.9 -0.6**
baz=70,SNR=5.6
G27K Doyon Strip 147.95 326 P **PKPbc 21 46 10.4 -0.5**
baz=76,SNR=8.3
YUK8 Steele Glacier 147.95 315 P **PKPbc 21 46 09.9 -1.4**
baz=87

KSAR	Wonju Array Be	147.96 92		PKPdf	21 46 08.0	-0.7
KSAR	Wonju Array Be	147.96 92	PKIKP	PKPdf	21 46 08.0	-0.7
KSRS	Korea Array	147.99 92	PKPbc	PKPbc	21 46 11.3	-0.5
	comp=Z,3.1nm,0.7s,baz=266,slow=3.6,SNR=12					
H27K	Steamboat Moun	148.03 325	P	PKPbc	21 46 11.7	+0.5
	baz=77,SNR=10					
C26K	Camden Bay	148.13 332	P	PKPbc	21 46 10.1	-1.1
	baz=68					
EGAK	Eagle	148.17 322	P	PKPbc	21 46 10.6	-0.9
	baz=80,SNR=9.1					
O28M	Mount Upton	148.19 314	P	PKPbc	21 46 11.6	-0.4
	baz=87,SNR=5.8					
PINM	Pinnacle	148.24 313	P	PKPbc	21 46 11.2	-0.7
	baz=88					
F26K	Sheenjek River	148.63 328	P	PKPbc	21 46 13.0	+0.3
	baz=72					
K27K	Chicken	148.70 321	P	PKPbc	21 46 12.8	-0.1
	baz=80					
BCAR	Beaver Creek A	148.72 319		PKPbc	21 46 12.6	-0.4
G26K	Porcupine Rive	148.72 327	P	PKPbc	21 46 12.6	-0.2
	baz=74					
TIXI	Tiksi	148.73 23		PKPbc	21 46 11.9	-0.8
TIXI	Tiksi	148.73 23	*i* PKIKP	PKPdf	21 46 10.2	+1.3
CTG	Chitna Glacier	148.74 315	P	PKPbc	21 46 13.1	-0.1
	baz=86					
L27K	Beaver Creek,	148.74 319	P	PKPbc	21 46 12.8	-0.2
	baz=82					
D25K	Kavik River	148.83 332	P	PKPbc	21 46 12.8	-0.3
	baz=67					
BMAR	Burnt Mountain	148.88 328		PKPbc	21 46 13.2	-0.1
I26K	Coal Creek Min	148.90 323	P	PKPbc	21 46 13.1	-0.2
	baz=77,SNR=14					
E25K	Arctic Village	149.00 329	P	PKPbc	21 46 13.4	-0.2
	baz=70					
CN2	Changchun	149.08 79	*e*PKPbc	PKPdf	21 46 06.7	-3.6
MESA	MESA	149.09 313	P	PKPbc	21 46 13.5	-0.7
	baz=87					
F25K	Christian Rive	149.21 328	P	PKPbc	21 46 13.9	-0.2
	baz=70					
C24K	Franklin Bluff	149.41 333	P	PKPbc	21 46 13.6	-0.9
	baz=64					
MCARA	McCarthy VSAT	149.51 316	P	PKPbc	21 46 14.2	-0.8
	baz=84					
SCRK	Sand Creek	149.53 321	P	PKPbc	21 46 14.9	-0.2
	baz=78					
CRQE	Cirque	149.61 315	P	PKPbc	21 46 14.7	-0.7
	baz=85					
G25K	Bearman Lake	149.65 327	P	PKPbc	21 46 14.8	-0.4
	baz=71					
D24K	Happy Valley	149.69 332	P	PKPbc	21 46 15.0	-0.2
	baz=64					
H25L	Birch Creek	149.70 326	P	PKPbc	21 46 15.2	-0.1
	baz=72					
BGLC	Bering Glacier	149.76 313	P	PKPbc	21 46 15.1	-0.5
	baz=86					
PRP	Porcupine Dome	149.80 324	P	PKPbc	21 46 15.8	0.0
	baz=74					
C23K	Itkillik River	149.94 334		PKPbc	21 46 16.1	+0.4
C23K	Itkillik River	149.94 334	P	PKPbc	21 46 15.5	-0.2
	baz=61					
RIDG	Independent Ri	149.96 321	P	PKiKP	21 46 16.6	-0.3
	baz=78					
E24K	Your Creek	150.03 330	P	PKPbc	21 46 16.5	+0.4
	baz=66					
F24K	Squaw Lake	150.04 329	P	PKPbc	21 46 15.9	-0.3
	baz=68					
TOLK	Toolik Lake Re	150.16 331	P	PKPbc	21 46 15.7	-0.7
	baz=64					
G24K	Hadweenzic Riv	150.19 327	P	PKPbc	21 46 16.6	+0.1
	baz=70					
N25K	Chitina, Valde	150.23 316	P	PKPbc	21 46 16.9	+0.1
	baz=82					
BMRM	Bremner River	150.32 315	P	PKiKP	21 46 17.7	-0.1
	baz=83					
KAIM	Kayak Island	150.34 313	P	PKPbc	21 46 16.9	-0.1
	baz=85					
K24K	Donnelly Dome	150.34 321	P	PKPbc	21 46 16.6	-0.3
	baz=77					
HARP	HAARP	150.36 318	P	PKPbc	21 46 17.1	+0.1
	baz=80					
D23K	Nanushuk River	150.38 332	P	PKiKP	21 46 17.8	+0.1
	baz=62					
PAX	Paxson	150.39 319	P	PKiKP	21 46 18.2	+0.2
	baz=78					
E23K	Chandalar	150.43 330	P	PKiKP	21 46 18.5	+0.6
	baz=65					
B22K	Teshekpuk Lake	150.50 336	P	PKiKP	21 46 18.5	+0.7
	baz=57					
A22K	Sinclair Lake	150.55 337	P	PKiKP	21 46 18.2	+0.4
	baz=54					
ILAR	Eielson Array	150.56 323	PKPbc	PKPbc	21 46 16.4	-1.0
	comp=Z,5.2nm,0.7s,baz=358,slow=1.3,SNR=36					
POKR	Poker Plat Res	150.69 324	P	PKPbc	21 46 17.8	+0.1
	baz=73					
HDA	Harding Lake	150.69 322	P	PKPbc	21 46 17.3	-0.4
	baz=74					
A21K	Barrow	150.78 339	P	PKiKP	21 46 18.3	-0.1
	baz=51					
KLU	Klutina	150.87 316	P	PKPbc	21 46 18.6	+0.2
	baz=80					
M24K	Tolsona, Glenn	150.88 318	P	PKPbc	21 46 18.3	-0.1
	baz=79					
COLA	College	150.93 324	P	PKPbc	21 46 18.5	+0.3
	baz=72					
EYAK	Cordova Ski Ar	150.93 314	P	PKPbc	21 46 17.4	-1.0
	baz=82					
COLD	Coldfoot	150.98 329	P	PKPbc	21 46 18.3	-0.1
	baz=66					
BNX	BinXian	151.05 77	⇑PKPbc	PKPbc	21 46 18.0	-1.1
D22K	Ayikyak River	151.05 333	P	PKiKP	21 46 19.1	+0.1
	baz=60					
G23K	Bananza Creek	151.12 328	P	PKPbc	21 46 18.6	-0.1
	baz=67					
E22K	Anaktuvuk Pass	151.13 331	P	PKPbc	21 46 18.7	-0.1
	baz=62					
DHY	Denali Highway	151.22 320	P	PKPbc	21 46 18.5	-0.8
	baz=76					
B21K	Ikpikpuk River	151.24 335	P	PKPbc	21 46 18.8	0.0
	baz=56					
H23K	Yukon River	151.28 326	P	PKPbc	21 46 18.7	-0.4
	baz=69					
I23K	Minto, Yukon-K	151.45 325	P	PKPbc	21 46 19.1	-0.3
	baz=70					
SCM	Sheep Creek Mo	151.47 317	P	PKPbc	21 46 18.8	-0.9
	baz=78					
WAT6	Susitna Watana	151.50 319	P	PKPbc	21 46 19.2	-0.7
	baz=77					
NEA2	Nenana	151.51 323	P	PKPbc	21 46 19.6	-0.1
	baz=72					
GLI	Glacier Island	151.53 315	P	PKPbc	21 46 19.9	+0.1
	baz=80					
F22K	John River	151.55 330	P	PKPbc	21 46 19.6	-0.1
	baz=63					
C21K	Knifeblade Rid	151.55 334	P	PKiKP	21 46 20.3	+0.3
	baz=57					
G22K	Bettles	151.57 329	P	PKPbc	21 46 19.8	+0.1
	baz=65					
M23K	Glacier View	151.66 317	P	PKiKP	21 46 21.1	+0.5
	baz=78					
E21K	Killik River	151.68 332	P	PKiKP	21 46 20.9	+0.5
	baz=59					
MCK	McKinley	151.72 322	P	PKiKP	21 46 20.7	+0.1
	baz=73					
B20K	Meade River	151.74 337	P	PKiKP	21 46 20.5	+0.2
	baz=52					
WAT1	Susitna Watana	151.80 320	P	PKPbc	21 46 20.1	-0.3
	baz=75					
P23K	Montague Islan	151.82 314	P	PKiKP	21 46 21.1	+0.2
	baz=82					
SML	Sawmill	151.94 317	P	PKiKP	21 46 21.0	-0.1
	baz=78					
KNK	Knik Glacier	152.08 317	P	PKPbc	21 46 21.2	+0.2
	baz=78					
HEH	HeiHe	152.12 67	*e*PKPbc	PKPdf	21 46 17.9	+3.1
F21K	Alatna River	152.13 330	P	PKPbc	21 46 21.0	-0.1
	baz=62					
PWL	Port Wells	152.14 316	P	PKPbc	21 46 20.8	-0.4
	baz=79					
MDJ	Mudanjiang	152.16 80	PKPbc	PKPbc	21 46 19.6	-2.1
D20K	Etivluk River	152.35 334	P	PKiKP	21 46 21.9	+0.1
	baz=55					
PMR	Palmer	152.36 317	P	PKPbc	21 46 21.3	-0.3
	baz=77					
TRF	Thorofare Moun	152.38 321	P	PKPbc	21 46 21.6	-0.3
	baz=72					
BPAW	Bear Paw Mtn.	152.46 323	P	PKPbc	21 46 21.6	-0.3
	baz=70					
G21K	Allakaket	152.47 329	P	PKiKP	21 46 22.3	+0.2
	baz=63					
E20K	Nigu River	152.48 333	P	PKiKP	21 46 22.3	+0.2
	baz=56					
A19K	Wainwright	152.63 339	P	PKiKP	21 46 23.0	+0.8
	baz=47					
CUT	Chulitna	152.68 319	P	PKiKP	21 46 23.0	+0.5
	baz=74					
RC01	Rabbit Creek A	152.76 316	P	PKiKP	21 46 23.1	+0.4
	baz=77					
M22K	Willow	152.78 318	P	PKiKP	21 46 23.0	+0.3
	baz=76					
SEW	Seward	152.82 314	P	PKiKP	21 46 23.3	+0.5
	baz=80					
D19K	Kuna River	152.92 334	P	PKiKP	21 46 23.4	+0.4
	baz=54					
C19K	Lookout Ridge	152.97 336	P	PKiKP	21 46 23.8	+0.7
	baz=51					
F20K	Avararart Lake	152.97 331	P	PKiKP	21 46 24.1	+1.1
	baz=59					
CHUM	Lake Minchumin	153.09 323	P	PKiKP	21 46 23.9	+0.6
	baz=69					
SUA	Susitna One	153.14 317	P	PKiKP	21 46 24.3	+0.6
	baz=76					
E19K	Redstone River	153.25 332	P	PKiKP	21 46 24.3	+0.7
	baz=56					
SKT	Skwentna	153.36 319	P	PKiKP	21 46 24.3	+0.3
	baz=74					
PPLA	Purkeypile	153.37 321	P	PKiKP	21 46 24.8	+0.6
	baz=71					
B18K	Kokolik River	153.39 338	P	PKiKP	21 46 24.7	+0.9
	baz=47					
H20K	Anotleneega Mo	153.44 327	P	PKiKP	21 46 24.8	+0.7
	baz=63					
BRSE	Bradley Lake S	153.53 314	P	PKiKP	21 46 26.1	+1.6
	baz=79					
I20K	Naaghedeneel	153.59 326	P	PKiKP	21 46 26.3	+2.0
	baz=65					
C18K	Utukok River	153.71 336	P	PKiKP	21 46 25.6	+1.0
	baz=49					
F19K	Shaleruckik Mo	153.77 331	P	PKiKP	21 46 25.1	+0.5
	baz=57					
SPCR	Spurr Chakacha	153.89 317	P	PKPbc	21 46 25.0	-0.2
	baz=74					
H19K	Roundabout Mou	154.00 328	P	PKiKP	21 46 26.0	+0.9
	baz=61					
M20K	Styx River	154.12 319	P	PKiKP	21 46 26.4	+0.8
	baz=72					
E18K	Tukpahlearik C	154.32 334	P	PKiKP	21 46 27.0	+1.2
	baz=52					
C17K	DeLong Mountai	154.37 337	P	PKiKP	21 46 26.7	+0.8
	baz=46					
O20K	Slope Mountain	154.38 315	P	PKiKP	21 46 26.8	+0.6
	baz=76					
MJAR	Matsushiro Arr	154.51 103		PKPab	21 46 42.9	+1.2
MJAR	Matsushiro Arr	154.51 103	PKPab	PKPab	21 46 41.4	-0.4
	comp=Z,7.4nm,1.3s,baz=233,slow=4.9,SNR=6.5					
F18K	Selawik	154.52 332	P	PKiKP	21 46 26.8	+0.6
	baz=54					
GCSA	Galena City Sc	154.53 327	P	PKiKP	21 46 26.8	+0.5
	baz=62					
RDOG	Red Dog Mine	154.58 336	P	PKiKP	21 46 27.4	+1.1
	baz=48					
G18K	Tagagawik	154.59 330	P	PKiKP	21 46 27.4	+1.0
	baz=57					
M19K	Big River Lodg	154.67 319	P	PKiKP	21 46 27.3	+0.6
	baz=70					
KDAK	Kodiak Island	154.82 310	P	PKPbc	21 46 26.6	-0.5
	baz=81					
D17K	Noatak River	154.87 336	P	PKiKP	21 46 28.3	+1.4
	baz=48					
H18K	Honhosa River	154.88 328	P	PKiKP	21 46 29.4	+2.4
	baz=59					
E17K	Hotham Inlet	154.91 334	P	PKPab	21 46 42.4	-0.1
	baz=51					
J18K	Innoko River	155.06 324	P	PKPab	21 46 43.1	-0.2
	baz=64					
C16K	Lisburne Hills	155.07 338	P	PKPab	21 46 42.5	-0.6
	baz=44					
F17K	Baldwin Pennin	155.13 332	P	PKPab	21 46 42.9	-0.5
	baz=52					
OHAK	Old Harbor	155.28 308	P	PKPab	21 46 44.2	-0.2
	baz=81					
M18K	Stony River	155.46 319	P	PKPab	21 46 44.8	-0.2
	baz=69					
G17K	Kiwalik Mounta	155.49 330	P	PKPab	21 46 45.3	+0.3
	baz=55					
H17K	Granite Mounta	155.55 329	P	PKPab	21 46 45.9	+0.6
	baz=57					
O18K	Koktuh Hills	155.69 315	P	PKPab	21 46 45.6	-0.5
	baz=74					
P18K	Big Mountain,	155.83 314	P	PKPab	21 46 46.2	-0.5
	baz=75					
SII	Sitkinak Islan	155.87 307	P	PKPab	21 46 46.8	-0.2
	baz=82					
Q18K	Katmai Hardscr	155.91 312	P	PKPab	21 46 46.7	-0.5
	baz=76					
K17K	Iditarod	156.03 323	P	PKPab	21 46 46.7	-0.8
	baz=64					
G16K	Koyuk River	156.13 331	P	PKPab	21 46 47.9	+0.2
	baz=53					
M17K	Holitna River	156.21 320	P	PKPab	21 46 48.8	+0.6
	baz=68					
L17K	Donlin	156.29 322	P	PKPab	21 46 48.8	+0.2
	baz=65					
I17K	Unalakleet	156.40 327	P	PKPab	21 46 49.3	+0.3
	baz=58					
N17K	Nushagak Hills	156.42 317	P	PKPab	21 46 49.6	+0.4
	baz=70					
P17K	Kvichak River	156.48 314	P	PKPab	21 46 50.6	+1.1
	baz=74					
H16K	Elim	156.54 329	P	PKPab	21 46 50.1	+0.6
	baz=54					
O17K	Koliganek Bris	156.63 316	P	PKPab	21 46 50.5	+0.5
	baz=72					
F15K	North Star Dit	156.67 333	P	PKPab	21 46 50.2	+0.2
	baz=49					
J16K	Anvik River	156.68 325	P	PKPab	21 46 50.4	+0.2
	baz=59					
CHIR	Chirikof Islan	156.77 305	P	PKPab	21 46 50.5	-0.3
	baz=82					
R17L	Mt. Peulik Vol	156.84 310	P	PKPab	21 46 50.7	-0.4
	baz=77					
G15K	Niukluk	156.94 331	P	PKPab	21 46 51.1	-0.1
	baz=51					
L16K	Owhat River	156.97 321	P	PKPab	21 46 52.6	+1.1
	baz=64					
O16K	Kokwok River B	157.16 316	P	PKPab	21 46 53.2	+0.9
	baz=71					
N16K	Nishlik Lake	157.17 318	P	PKPab	21 46 53.3	+0.8
	baz=68					
TNA	Tin City	157.75 335	P	PKPab	21 46 53.3	-1.4
	baz=44					
L15K	Ungalak Mounta	157.84 322	P	PKPab	21 46 54.3	-0.9
	baz=61					
M15K	Kasigluk River	157.94 320	P	PKPab	21 46 55.5	-0.2
	baz=65					
J14K	Nanvaranak Lak	158.11 326	P	PKPab	21 46 57.2	+0.8
	baz=56					
O15K	Ungalikthiuk R	158.14 315	P	PKPab	21 46 57.0	+0.3
	baz=69					
M14K	Bethel	158.48 320	P	PKPab	21 46 57.1	-0.8
	baz=63					
L14K	Kuka Creek	158.50 322	P	PKPab	21 46 57.5	-0.6
	baz=60					
N14K	Kuskokwak Cree	158.72 318	P	PKPab	21 46 58.7	-0.4
	baz=65					
O14K	Tigyukauivet M	158.80 316	P	PKPab	21 47 00.1	+0.7
	baz=67					
GAMB	Gambell	160.17 335	P	PKPab	21 47 06.5	+1.3
	baz=40					
S12K	Black Hills	160.36 307	P	PKPab	21 47 07.3	+0.9
	baz=75					
FALS	False Pass	161.32 305	P	PKPab	21 47 10.0	-0.6
	baz=76					
UNV	Unalaska Valle	163.33 303	P	PKPab	21 47 14.0	-5.4
	baz=75					

*IDC **10** 21:41:58.2±1.3, 5°.98N×127°.64E, h0km, mb3.7/6, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=54.1km s-min=16.9km az=62.0*

ISC 10 21:42:05.0±1.5, 5°.9N±0°.2×127°.5E±0°.2, h52km, n7, σ1§53/8, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.26	300	Pn	Pn	21 42 37.5	-2.4
	24nm,0.3s,baz=156,slow=10.0,SNR=1.6						
DAV				Sn	Sn	21 43 08.8	+2.3
	27nm,0.3s,baz=131,slow=20,SNR=1.3						
	109nm,0.4s						
FITZ	Fitzroy Crossi	23.94	184	P	P	21 47 14.7	+0.2
	1.2nm,0.6s,baz=353,slow=7.4,SNR=2.2						
	1.2nm,0.6s						
WRA	Warramunga Arr	26.56	166	P	P	21 47 38.6	+0.3
	0.5nm,0.5s,baz=346,slow=10,SNR=13						
	0.5nm,0.5s						
ASAR	Alice Springs	30.06	168	P	P	21 48 09.6	+0.1
	0.2nm,0.5s,baz=340,slow=6.8,SNR=5.9						
	0.2nm,0.5s						
MKAR	Makanchi Array	56.24	324	P	P	21 51 40.5	+0.4
	0.4nm,0.4s,baz=115,slow=7.9,SNR=9.5						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	60.35	326	P	P	21 52 09.2	+0.5
	0.6nm,0.5s,baz=127,slow=6.0,SNR=7.5						
	0.6nm,0.5s						
BVAR	Borovoye Array	65.94	326	P	P	21 52 46.2	+0.5
	0.6nm,0.5s,baz=81,slow=8.9,SNR=3.6						
	0.6nm,0.5s						

*IDC **10** 21:45:25.6±1.1, 0°.49N×125°.67E, h0km, mb3.9/6, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=114.9km s-min=17.0km az=67.0*

*DJA **10** 21:45:28.7±0.7, 1°.N±4°×12°.7E±°, h12km±6km, M4.0/9, mb4.5/1, MLv3.7/9*

ISC 10 21:45:30.5±0.9, 0.78N±0°.09×126°.57E±0°.06, h39km, n13, σ1§05/16, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.80	91	P	Pn	21 45 45.1	-0.1
TNTI				S	Sn	21 45 57.1	+1.2
KMSI	Cibinong	2.60	265	P	Pn	21 46 11.3	+1.3
SANI	Sanana	2.87	192	P	Pn	21 46 13.1	-0.7
NLAI	Namlea	4.03	172	P	Pn	21 46 31.0	+1.3
MRSI	Marisa	4.64	266	P	Pn	21 46 37.6	-0.5
APSI	Ampana	5.20	251	P	Pn	21 46 46.7	+0.9
FITZ	Fitzroy Crossi	18.79	183	P	P	21 49 44.7	-1.9
	0.1nm,0.3s,baz=0.0,slow=10,SNR=2.1						
	1.2nm,0.8s						
WRA	Warramunga Arr	21.96	160	P	P	21 50 20.9	-0.2
	2.1nm,0.5s,baz=334,slow=11,SNR=26						
WRA				PcP	PcP	21 54 20.7	+1.7
	0.3nm,0.8s,baz=337,slow=2.0,SNR=1.7						
	2.1nm,0.5s						
ASAR	Alice Springs	25.33	164	P	P	21 50 54.1	+0.3
	1.1nm,0.3s,baz=342,slow=11,SNR=23						
ASAR				PcP	PcP	21 54 26.4	+0.2
	0.2nm,0.6s,baz=349,slow=3.2,SNR=1.5						
	1.1nm,0.3s						
MKAR	Makanchi Array	59.89	326	P	P	21 55 31.9	-0.6
	0.8nm,0.5s,baz=122,slow=8.4,SNR=12						
	0.8nm,0.5s						
ZALV	Zalesovo Beam	63.13	334	P	P	21 55 54.0	-0.2
	0.5nm,0.5s,baz=129,slow=3.9,SNR=4.7						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	64.13	328	P	P	21 56 00.1	-0.7
	1.3nm,0.6s,baz=130,slow=6.1,SNR=14						
	1.3nm,0.6s						
BVAR	Borovoye Array	69.70	328	P	P	21 56 35.5	-0.8
	0.8nm,0.7s,baz=123,slow=10,SNR=3.3						
	0.8nm,0.7s						

*STR **10** 21:53:42.2±0.5, 46°.N±3°×°±°, h5km, MLv0.8/6, LOCSAT earthModelID alpes_taup-2.11 preliminary*

*LDG **10** 21:53:42.0±0.1, 45°.88N×6°.90E, h5km, Md1.7/2, Error ellipse: s-maj=1.6km s-min=1.1km az=98.0*

ZUR 10 21:53:42.0, 45°.89N×6°.91E, h0km, MLh0.9/7, 7C-4D, Error ellipse: s-maj=2139.6km s-min=623.3km az=218.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	P.ta Helbronne	0.05	161	⇑Pg	Pg	21 53 43.4	+0.4
BLANC				Sg	Sg	21 53 44.2	+0.5
BLANC	P.ta Helbronne	0.05	161	⇑Pg	Pg	21 53 43.4	+0.4
BLANC				Sg	Sg	21 53 44.2	+0.5
MFERR	Prayon, Val Fe	0.15	67	⇓Pg	Pg	21 53 45.5	+0.5
MFERR				Sg	Sg	21 53 47.6	+0.7
MFERR	Prayon, Val Fe	0.15	67	⇑Pg	Pg	21 53 45.5	+0.5
MFERR				Sg	Sg	21 53 47.7	+0.7
SEMOS	Emosson Stauma	0.18	5	⇑Pg	Pg	21 53 46.0	+0.5
SEMOS				Sg	Sg	21 53 48.4	+0.7
REMY	Saint-Rhmy-en	0.18	108	⇑Pg	Pg	21 53 46.1	+0.6
REMY				Sg	Sg	21 53 49.1	+1.3
REMY	Saint-Rhmy-en	0.18	108	⇑Pg	Pg	21 53 46.1	+0.6
REMY				Sg	Sg	21 53 49.1	+1.3
REMY	Saint-Rhmy-en	0.18	108	Pg	Pg	21 53 46.1	+0.6
REMY				Sg	Sg	21 53 49.0	+1.2
OGSI	Sixt	0.21	328	Sg	Sg	21 53 49.0	+0.3
OGSI	Sixt	0.21	328	⇑Pg	Pg	21 53 46.2	+0.2
OGSI				Sg	Sg	21 53 49.0	+0.3
OGSI	Sixt	0.21	328	Pg	Pg	21 53 46.3	+0.3
OGSI				Sg	Sg	21 53 49.0	+0.4
SMAO	Martigny, Rue	0.24	29	Pg	Pg	21 53 47.1	+0.6
SALAN	Lac Salanfe	0.26	10	⇓Pg	Pg	21 53 47.4	+0.5
SALAN				Sg	Sg	21 53 50.9	+0.6
SALAN	Lac Salanfe	0.26	10	⇓Pg	Pg	21 53 47.4	+0.5
SALAN				Sg	Sg	21 53 50.9	+0.6
RSL	Roselend	0.29	224	Pg	Pg	21 53 47.7	+0.2
RSL				Sg	Sg	21 53 51.3	+0.1
RSL	Roselend	0.29	224	Pg	Pg	21 53 47.5	0.0
RSL				Sg	Sg	21 53 51.2	0.0
FULLY	Reservoir Maze	0.31	31	⇓Pg	Pg	21 53 48.3	+0.4
LAVEY	Lavey les Bain	0.32	14	Pg	Pg	21 53 48.5	+0.4
LAVEY				Sg	Sg	21 53 52.7	+0.4
ILLEZ	Chalet Vouargn	0.33	4	Sg	Sg	21 53 53.2	+0.6
ILLEZ	Chalet Vouargn	0.33	4	Sg	Sg	21 53 53.2	+0.6
GRYON	Gryon	0.38	21	Sg	Sg	21 53 54.9	+0.5
LPL	La Plagne	0.40	198	*e*Pg	Pg	21 53 49.6	0.0
LPL				*e*Sg	Sg	21 53 54.9	+0.2
	1.0nm,0.2s						
LPG	La Plagne	0.41	196	*e*Pg	Pg	21 53 49.9	0.0
LPG				*e*Sg	Sg	21 53 55.2	0.0
	1.0nm,0.2s						
AIGLE	Aigle	0.45	4	Pg	Pg	21 53 51.2	+0.5
AIGLE				Sg	Sg	21 53 57.2	+0.6
CIRO	Champorcher	0.54	122	Pg	Pg	21 53 52.6	+0.2
CIRO				Sg	Sg	21 53 59.5	0.0
SATI	Passo dei Sala	0.67	91	Pg	Pg	21 53 55.3	+0.4
SATI				Sg	Sg	21 54 04.4	+0.9
EMBD	Embd, Matterta	0.72	63	Pg	Pg	21 53 56.6	+0.8
RSP	Reno Superiore	0.79	161	Pg	Pg	21 53 57.1	0.0
RSP				Sg	Sg	21 54 07.5	+0.3

*LJU **10** 21:55:06.7, 46°.34N×13°.30E, h12km, ML1.3*

ROM 10 21:55:06.5±0.0, 46°.341N±0°.003×13°.290E±0°.003, h10km, ML1.6/20, 11C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=164.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCC	Patocco-Chiusa	0.08	34	P	Pg	21 55 09.4	+0.6
PTCC				S	Sg	21 55 11.0	+0.4
PTCC				AML	AML		
	comp=N,1380μm,0.2s						
PTCC				AML	AML		
	comp=E,2245μm,0.2s						
PTCC				AML	AML		
	comp=E,1957μm,0.1s						
PTCC				AML	AML		
	comp=N,1120μm,0.1s						
VINO	Villanova	0.08	184	⇓*e*Pg	Pg	21 55 09.5	+0.7
VINO				*e*Sg	Sg	21 55 11.2	+0.6
BAD	Bernadia	0.11	197	⇓*e*Pg	Pg	21 55 09.8	+0.6
BAD				*e*Sg	Sg	21 55 12.1	+0.9
BAD	Bernadia	0.11	197	P	Pg	21 55 09.8	+0.6
BAD				S	Sg	21 55 11.9	+0.8
GEPF	Gemona	0.12	238	⇑P	Pg	21 55 10.0	+0.7
GEPF				S	Sg	21 55 12.3	+0.9
GEPF				AML	AML		
	comp=E,444μm,0.2s						
GEPF				AML	AML		
	comp=N,728μm,0.2s						
GEPF				AML	AML		
	comp=N,728μm,0.2s						

BOO				*e*Sg	Sg	21 55 12.3	+0.6
BOO	**Bordano**	**0.13**	**261**	P	Pg	21 55 10.1	+0.5
BOO				S	Sg	21 55 12.3	+0.6
BUA	**Buia**	**0.17**	**223⇑**	*e*Pg	Pg	21 55 11.5	+1.4
BUA				*e*Sg	Sg	21 55 13.7	+1.1
ROBS	**Robic**	**0.18**	**122⇑**	*i*Pg	Pg	21 55 10.8	+0.5
ROBS				*i* Sg	Sg	21 55 13.7	+0.8
ROBS				IAML		21 55 14.1	
	comp=Z,31nm,0.1s						
FUSE	**Fusea**	**0.21**	**290⇑**	*e*Pg	Pg	21 55 11.5	+0.6
FUSE				*e*Sg	Sg	21 55 15.1	+1.2
FUSE	**Fusea**	**0.21**	**290**	P	Pg	21 55 11.5	+0.6
FUSE				S	Sg	21 55 15.3	+1.3
LSR	**Lussari**	**0.21**	**51⇑**	*e*Pg	Pg	21 55 11.2	+0.2
LSR				*e*Sg	Sg	21 55 14.7	+0.6
COLI	**Coloredo**	**0.22**	**163⇑**	*e*Pg	Pg	21 55 11.7	+0.8
COLI				*e*Sg	Sg	21 55 14.9	+1.0
PRED	**Cave del Predi**	**0.22**	**62⇑**	*e*Pg	Pg	21 55 11.5	+0.5
PRED				*e*Sg	Sg	21 55 15.0	+0.9
PRED	**Cave del Predi**	**0.22**	**62**	P	Pg	21 55 11.5	+0.5
PRED				S	Sg	21 55 15.6	+1.5
MPRI	**Monte Prat**	**0.23**	**245⇑**	*e*Pg	Pg	21 55 11.9	+0.6
MPRI				*e*Sg	Sg	21 55 15.3	+0.9
MPRI	**Monte Prat**	**0.23**	**245**	P	Pg	21 55 11.9	+0.7
MPRI				S	Sg	21 55 16.1	+1.7
MPRI				AML	AML		
	comp=E,100μm,0.5s						
MPRI				AML	AML		
	comp=N,97μm,1.1s						
MPRI				AML	AML		
	comp=E,100μm,1.5s						
MPRI				AML	AML		
	comp=N,97μm,0.9s						
MPRI				AML	AML		
	comp=N,97μm,0.1s						
MPRI				AML	AML		
	comp=E,93μm,0.2s						
MPRI				AML	AML		
	comp=E,79μm,0.2s						
MPRI				AML	AML		
	comp=N,78μm,0.2s						
PLRO	**Paularo**	**0.23**	**335⇓**	*e*Pg	Pg	21 55 12.0	+0.7
PLRO				*e*Sg	Sg	21 55 15.7	+1.2
PLRO	**Paularo**	**0.23**	**335**	P	Pg	21 55 12.0	+0.7
PLRO				S	Sg	21 55 16.0	+1.4
ACOM	**Acomizza, Ital**	**0.26**	**37⇑**	*e*Pg	Pg	21 55 12.5	+0.7
ACOM				*e*Sg	Sg	21 55 16.6	+1.2
ACOM	**Acomizza, Ital**	**0.26**	**37**	P	Pg	21 55 12.5	+0.7
ACOM				S	Sb	21 55 16.7	-1.3
ACOM				AML	AML		
	comp=E,526μm,0.3s						
ACOM				AML	AML		
	comp=E,544μm,0.3s						
ACOM				AML	AML		
	comp=N,244μm,1.0s						
ACOM				AML	AML		
	comp=N,255μm,0.3s						
ACOM				AML	AML		
	comp=E,544μm,0.3s						
ACOM				AML	AML		
	comp=N,255μm,0.3s						
ACOM				AML	AML		
	comp=N,236μm,0.3s						
ACOM				AML	AML		
	comp=E,526μm,0.3s						
DST2	**Trieste**	**0.27**	**249**	P	Pg	21 55 12.6	+0.6
DST2				S	Sb	21 55 17.6	-0.5
DST2				AML	AML		
	comp=N,190μm,0.5s						
DST2				AML	AML		
	comp=N,190μm,1.5s						
DST2				AML	AML		
	comp=E,130μm,0.3s						
DST2				AML	AML		
	comp=N,167μm,0.2s						
DST2				AML	AML		
	comp=E,130μm,0.3s						
DRE	**Drenchia**	**0.30**	**124**	*e*Pg	Pg	21 55 12.9	+0.5
DRE				*e*Sg	Sg	21 55 17.4	+0.9
DRE	**Drenchia**	**0.30**	**124**	P	Pg	21 55 13.0	+0.5
DRE				S	Sg	21 55 17.7	+1.2
CLUD	**Cludinico**	**0.31**	**293**	*e*Pg	Pg	21 55 13.3	+0.7
CLUD				*e*Sg	Sb	21 55 18.1	-1.1
CLUD	**Cludinico**	**0.31**	**293**	P	Pg	21 55 13.4	+0.7
CLUD				S	Sb	21 55 18.4	-0.9
CLUD				AML	AML		
	comp=E,48μm,0.9s						
CLUD				AML	AML		
	comp=N,73μm,0.9s						
CLUD				AML	AML		
	comp=E,48μm,1.1s						
ZOU	**Zoufplan**	**0.31**	**315⇑**	*e*Pg	Pg	21 55 13.4	+0.7
ZOU				*e*Sg	Sg	21 55 18.2	+1.3
ZOU	**Zoufplan**	**0.31**	**315**	P	Pg	21 55 13.4	+0.7
ZOU				S	Sb	21 55 18.7	-0.8
ZOU				AML	AML		
	comp=E,128μm,0.3s						
ZOU				AML	AML		
	comp=N,92μm,0.5s						
ZOU				AML	AML		
	comp=E,128μm,1.7s						
ZOU				AML	AML		
	comp=E,128μm,0.3s						
ZOU				AML	AML		
	comp=E,128μm,0.3s						
CADS	**Cadrg**	**0.33**	**110**	*i* Pg	Pg	21 55 13.3	+0.2
CADS				*i* Sg	Sg	21 55 18.4	+0.9
CADS				IAML		21 55 19.9	
	comp=Z,6.4nm,0.1s						
MYKA	**Terra Mystica**	**0.38**	**40**	*i* Pg	Pb	21 55 14.7	-0.6
	comp=Z,0.7nm,0.1s						
MYKA				*i* Sg	Sb	21 55 20.3	-1.0
	comp=Z,9.8nm,0.2s						
STAL	**STALIGIAL**	**0.41**	**259**	P	Pg	21 55 14.6	0.0
STAL				S	Sg	21 55 21.0	+1.0
STAL				AML	AML		
	comp=E,46μm,1.4s						
STAL				AML	AML		
	comp=N,38μm,0.1s						
STAL				AML	AML		
	comp=E,46μm,0.6s						
SABO	**M.te Sabotino**	**0.42**	**149**	*e*Pg	Pb	21 55 15.5	-0.6
SABO	**M.te Sabotino**	**0.42**	**149**	P	Pb	21 55 15.5	-0.6
SABO				S	Sb	21 55 22.6	+0.1
SABO				AML	AML		
	comp=E,472μm,0.6s						
SABO				AML	AML		
	comp=N,338μm,0.7s						
SABO				AML	AML		
	comp=E,103μm,0.6s						
SABO				AML	AML		
	comp=N,87μm,0.7s						
SABO				AML	AML		
	comp=E,103μm,1.4s						
SABO				AML	AML		
	comp=E,472μm,1.4s						
SABO				AML	AML		
	comp=N,87μm,1.3s						
SABO				AML	AML		
	comp=N,338μm,1.3s						
SABO				AML	AML		
	comp=N,332μm,0.8s						
SABO				AML	AML		
	comp=E,472μm,0.6s						
FVI	**Forni Avoltri**	**0.43**	**306**	P	Pb	21 55 15.7	-0.7
FVI				S	Sb	21 55 22.2	-0.8
FVI				AML	AML		
	comp=E,92μm,0.5s						
FVI				AML	AML		
	comp=N,90μm,0.2s						
FVI				AML	AML		
	comp=E,92μm,1.5s						
FVI				AML	AML		
	comp=N,90μm,0.2s						
FVI				AML	AML		
	comp=E,89μm,0.1s						
CSMI	**Casera Mimoias**	**0.47**	**291**	*e*Pg	Pg	21 55 16.3	+0.5
GORS	**Gorjuse**	**0.49**	**92**	*i* Pg	Pg	21 55 16.1	0.0
GORS				*i* Sg	Sb	21 55 23.7	-0.9
GORS				IAML		21 55 25.8	
	comp=Z,4.0nm,0.1s						
MLNI	**Malnisio**	**0.51**	**248**	*e*Pg	Pb	21 55 17.0	-0.5
VOJS	**Vojsko**	**0.52**	**127**	*i* Pg	Pg	21 55 16.8	+0.2
VOJS				IAML		21 55 25.8	
	comp=Z,5.0nm,0.1s						
CIMO	**Cimolais**	**0.59**	**267**	*e*Pg	Pg	21 55 17.9	0.0
ABTA	**Abfaltersbach**	**0.67**	**307**	Pg	Pg	21 55 18.9	-0.6
	comp=Z,0.1nm,0.1s						
ABTA				*i* Sg	Sb	21 55 29.5	-0.3
	comp=Z,3.5nm,0.1s						
CSO	**Casso**	**0.67**	**265**	*e*Pg	Pg	21 55 19.6	+0.1
CAE	**Caneva**	**0.68**	**241**	*e*Pg	Pg	21 55 20.0	+0.4
KBA	**Koelnbreinsper**	**0.74**	**3**	*e*Pg	Pb	21 55 21.7	+0.1
	comp=Z,0.1nm,0.1s						
KBA				*e*Sg	Sb	21 55 31.6	-0.2
	comp=Z,1.0nm,0.1s						
OBKA	**Obir**	**0.89**	**79**	*e*Pg	Pb	21 55 24.3	+0.2
	comp=Z,0.6nm,0.1s						
OBKA				*i* Sg	Sn	21 55 37.7	-0.5
	comp=Z,3.2nm,0.3s						
LESA	**Schwarzleotal**	**1.16**	**339**	*e*Pg	Pn	21 55 29.4	+0.5
	comp=Z,0.7nm,0.2s						
LESA				*e*Sg	Sn	21 55 44.7	-0.3
	comp=Z,1.4nm,0.2s						
SOKA	**Soboth**	**1.25**	**74**	*i* Pg	Pg	21 55 30.4	-0.1
	comp=Z,0.1nm,0.1s						
BIOA	**Bad Ischl, Aus**	**1.37**	**10**	*e*Sg	Sg	21 55 51.3	+0.7
	comp=Z,2.5nm,0.3s						
WTTA	**Wattenberg**	**1.46**	**310**	Pg	Pg	21 55 36.4	+1.9
	comp=Z,0.5nm,0.3s						
WTTA				*e*Sg	Sn	21 55 51.9	-0.6
	comp=Z,1.3nm,0.2s						

*DJA **10** 21:55:24.1±0.7, 3°N±7°×12°8E±°, h10km, M4.3/9, mb4.3/2, MLv4.3/9*
*IDC **10** 21:55:33.7±11.0, 2°.42N×128°.19E, h105km±108km, mb3.4/7, mbtmp3.8/7, MS3.2/2, Error ellipse: s-maj=112.0km s-min=19.5km az=66.0*
ISC 10 21:55:22.7±1.1, **2°.7N**±0°.1×**128°.5E**±0°.1, **h10**km, **n20,** σ1$09/13, **mb3.9/6, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**209**	P	**Pn**	**21 55 59.6**	**+0.2**
SGSI	**Sangihe**	**3.07**	**289**	P	**Pn**	**21 56 11.7**	**+0.4**
SWI	**Sorong**	**4.52**	**142**	P	**Pn**	**21 56 32.2**	**+0.9**
KMSI	**Cibinong**	**4.94**	**245**	P	**Pn**	**21 56 38.0**	**+0.9**
DAV	**Davao City (W)**	**5.19**	**327**	LR	LR	21 59 11.4	
	comp=Z,184nm,19.5s,baz=141,slow=41						
FAKI	**Fak Fak**	**6.76**	**146**	P	**Pn**	**21 57 03.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.86**	**188**	P	**P**	**22 00 05.7**	**+0.8**
	1.0nm,0.7s,baz=357,slow=8.1,SNR=1.5						
	1.0nm,0.7s						
PMG	**Port Moresby**	**22.19**	**123**	LR	LR	22 09 26.4	
	comp=Z,66nm,18.5s,baz=338,slow=37						
WRA	**Warramunga Arr**	**23.24**	**166**	P	**P**	**22 00 28.6**	**-1.7**
	2.0nm,0.6s,baz=342,slow=10,SNR=16						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**22 01 01.2**	**-1.5**
	0.6nm,0.7s,baz=357,slow=7.9,SNR=8.6						
ASAR				PcP	**PcP**	**22 04 24.7**	**-1.4**
	0.4nm,0.5s,baz=356,slow=2.0,SNR=7.7						
	0.6nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.59**	**65**	T	T	22 46 19.9	
	baz=252,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**40.61**	**65**	T	T	22 46 14.8	
	baz=252,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.61**	**64**	T	T	22 46 17.8	
	baz=252,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**41.16**	**63**	T	T	22 46 55.1	
	baz=250,slow=75,SNR=58						
H11N2	**WAKE ISLAND Hy**	**41.18**	**63**	T	T	22 46 55.7	
	baz=250,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**41.18**	**63**	T	T	22 46 56.4	
	baz=250,slow=75,SNR=52						
MKAR	**Manchi Array**	**59.37**	**325**	P	**P**	**22 05 25.5**	**+0.2**
	0.7nm,0.5s,baz=112,slow=8.8,SNR=9.9						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**62.28**	**333**	P	**P**	**22 05 44.9**	**+0.1**
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.52**	**327**	P	**P**	**22 05 53.2**	**0.0**
	0.6nm,0.3s,baz=128,slow=5.9,SNR=10						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**69.11**	**327**	P	**P**	**22 06 29.9**	**+0.9**
	0.4nm,0.4s,baz=126,slow=9.1,SNR=4.2						
	0.4nm,0.4s						

*CATAC **10** 22:05:32.3±0.4, 13°N±2°×9°0W±°, h14km±1km, M4.5/35, mb4.3/1, MLv4.6/35, Error ellipse: s-maj=3.5km s-min=2.2km az=25.9, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.87; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-0.14; $M_{r\theta}$0.83; $M_{\theta\phi}$0.01; $M_{\phi r}$-1.04; Fault plane solution: $M_0$1.55708×10^{15} NP1:ϕ_s132.19823°, δ76.20442°, λ102.74828°. NP2:ϕ_s268.70371°, δ18.69956°, λ48.05399°. Principal axes: T 1.7250, Plg56.9711°, Azm58.8331°; N -0.4234, Plg12.3746°, Azm309.1101°; P -1.3016, Plg30.0771°, Azm211.8101°; confirmed*
*SNET **10** 22:05:33.0±0.9, 12°.96N×89°.90W, h15km±5km, ML4.4*
*GCG **10** 22:05:34.0±2.4, 13°.03N×90°.06W, h16km±18km, MD4.3, ML4.4*
*NEIC **10** 22:05:35.1±2.3, 12°.94N±0°.06×89°.88W±0°.06, h35km±2km, mb4.4/62, Error ellipse: s-maj=11.8km s-min=8.7km az=231.0*
*IDC **10** 22:05:37.6±1.9, 13°.29N×89°.37W, h62km±13km, mb4.0/7, mbtmp4.2/9, MS4.0/4, Error ellipse: s-maj=38.6km s-min=9.5km az=45.0*
ISC 10 22:05:33.2±1.3, **12°.93N**±0°.04×**89°.95W**±0°.03, **h32**km±8km, **n225,** σ1$33/227, **mb4.4**/29, **MS4.2**/4, **5C-26D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.83**	**48⇓**	*e*P	**Pn**	**22 05 48.6**	**-0.1**
LALI				*e*S	**Sb**	**22 05 59.9**	**-0.2**
LALI	**Alcalda de L**	**0.83**	**48**	*i* P	**Pn**	**22 05 48.5**	**-0.1**
LALI	**Alcalda de L**	**0.83**	**48**	S	**Sb**	**22 06 00.1**	**0.0**
LALI	**Alcalda de L**	**0.83**	**48**	⇓P	**Pn**	**22 05 48.6**	**-0.1**
JAYA	**Jayaque - finc**	**0.87**	**34⇓**	*i*P	**Pn**	**22 05 49.5**	**0.0**
JAYA	**Jayaque - finc**	**0.87**	**34**	*i* P	**Pn**	**22 05 49.4**	**0.0**
JAYA	**Jayaque - finc**	**0.87**	**34**	S	**Sb**	**22 06 01.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.87**	**34**	⇓P	**Pn**	**22 05 49.4**	**0.0**
FAME	**Alcaldia de Sa**	**0.91**	**356**	⇓P	**Pn**	**22 05 49.9**	**+0.1**
CEVE	**Cerro Verde**	**0.95**	**20⇓**	*e*P	**Pn**	**22 05 51.0**	**+0.3**
CEVE	**Cerro Verde**	**0.95**	**20**	S	**Sn**	**22 06 04.7**	**+1.6**
CEVE	**Cerro Verde**	**0.95**	**20**	⇓P	**Pn**	**22 05 50.9**	**+0.3**
SBLS	**San Blas**	**0.96**	**20⇓**	*e*P	**Pn**	**22 05 51.0**	**+0.3**
NUBE	**Las Nubes**	**0.98**	**10⇓**	*i*P	**Pn**	**22 05 51.1**	**+0.2**
NUBE	**Las Nubes**	**0.98**	**10**	*i* P	**Pn**	**22 05 51.2**	**+0.2**
NUBE	**Las Nubes**	**0.98**	**10**	S	**Sn**	**22 06 05.1**	**+1.3**
NUBE	**Las Nubes**	**0.98**	**10**	⇓P	**Pn**	**22 05 51.1**	**+0.2**
ITCA	**Escuela Especi**	**0.99**	**42**	*e*P	**Pb**	**22 05 51.0**	**-0.9**
ITCA	**Escuela Especi**	**0.99**	**42**	S	**Sn**	**22 06 05.2**	**+1.2**
ITCA	**Escuela Especi**	**0.99**	**42**	⇓P	**Pb**	**22 05 51.0**	**-0.9**
SNJE	**San Jose**	**0.99**	**20**	*e*P	**Pn**	**22 05 51.4**	**+0.3**
MAGS	**Ministerio de**	**0.99**	**41**	*e*P	**Pb**	**22 05 51.0**	**-1.0**
PMON	**Piamonte**	**0.99**	**39**	*e*P	**Pn**	**22 05 51.1**	**+0.1**
PMON	**Piamonte**	**0.99**	**39**	S	**Sn**	**22 06 06.1**	**+1.9**
PMON	**Piamonte**	**0.99**	**39**	⇓P	**Pn**	**22 05 51.2**	**+0.1**
RTR	**El Retiro**	**1.00**	**17⇓**	*i*P	**Pn**	**22 05 51.9**	**+0.6**
PANCS	**Alcalda de**	**1.01**	**48**	P	**Pb**	**22 05 51.3**	**-1.0**
PANCS	**Alcalda de**	**1.01**	**48**	S	**Sn**	**22 06 05.7**	**+1.2**
CEDA	**San Andres**	**1.02**	**32**	*e*P	**Pn**	**22 05 51.7**	**+0.3**
CEDA	**San Andres**	**1.02**	**32**	⇓P	**Pn**	**22 05 51.7**	**+0.3**
CEDA	**San Andres**	**1.02**	**32**	S	**Sn**	**22 06 06.9**	**+2.2**
BOQS	**Boqueron**	**1.03**	**39⇓**	*i*P	**Pn**	**22 05 52.0**	**+0.2**
LOMA	**Loma Larga**	**1.04**	**47**	*e*P	**Pn**	**22 05 51.8**	**0.0**
LOMA	**Loma Larga**	**1.04**	**47**	S	**Sn**	**22 06 06.9**	**+1.6**
LOMA	**Loma Larga**	**1.04**	**47**	⇓P	**Pn**	**22 05 51.7**	**0.0**
SEMO	**Seminario San**	**1.04**	**43**	P	**Pb**	**22 05 53.2**	**+0.4**
SEMO	**Seminario San**	**1.04**	**43**	S	**Sn**	**22 06 06.9**	**+1.6**
UEES	**Universidad Ev**	**1.04**	**42**	*e*P	**Pn**	**22 05 51.8**	**0.0**
UEES	**Universidad Ev**	**1.04**	**42**	⇓P	**Pb**	**22 05 51.9**	**-0.9**
UEES	**Universidad Ev**	**1.04**	**42**	S	**Sn**	**22 06 06.2**	**+0.9**
PIC2	**El Picacho**	**1.05**	**40**	*e*P	**Pb**	**22 05 52.2**	**-0.9**
LOAL	**Lomas de Alarc**	**1.07**	**9**	*e*P	**Pb**	**22 05 53.0**	**-0.3**
LOAL	**Lomas de Alarc**	**1.07**	**9**	S	**Sn**	**22 06 08.1**	**+2.1**
LOAL	**Lomas de Alarc**	**1.07**	**9**	⇓P	**Pb**	**22 05 53.0**	**-0.3**
UESS	**Universidad de**	**1.07**	**43**	*e*P	**Pb**	**22 05 52.6**	**-0.7**
IGN	**Direccin Gen**	**1.09**	**44**	*e*P	**Pb**	**22 05 52.8**	**-0.8**
IGN	**Direccin Gen**	**1.09**	**44**	P	**Pb**	**22 05 52.6**	**-1.0**
IGN	**Direccin Gen**	**1.09**	**44**	S	**Sn**	**22 06 07.9**	**+1.5**
UDBS	**Universidad Do**	**1.10**	**45**	*e*P	**Pb**	**22 05 52.8**	**-0.9**
UDBS	**Universidad Do**	**1.10**	**45**	S	**Sn**	**22 06 08.4**	**+1.7**
UDBS	**Universidad Do**	**1.10**	**45**	P	**Pb**	**22 05 52.9**	**-0.9**
UNIC	**Universidad Ca**	**1.11**	**21**	S	**Sn**	**22 06 09.1**	**+2.1**
UNIC	**Universidad Ca**	**1.11**	**21**	P	**Pb**	**22 05 53.4**	**-0.7**
LFU	**La Fuente**	**1.15**	**45**	*e*P	**Pb**	**22 05 53.8**	**-0.9**
LBRS	**Las Brisas**	**1.20**	**48**	*e*P	**Pb**	**22 05 54.5**	**-0.9**
RBDL	**Robledal**	**1.20**	**12⇓**	*i*P	**Pb**	**22 05 55.0**	**-0.6**
PAVA	**Las Pavas**	**1.26**	**52⇓**	*e*P	**Pb**	**22 05 55.5**	**-1.0**
PAVA	**Las Pavas**	**1.26**	**52**	S	**Sb**	**22 06 13.1**	**+0.7**
PAVA	**Las Pavas**	**1.26**	**52**	⇓P	**Pb**	**22 05 55.4**	**-1.0**
TECO	**Alcaldia de Te**	**1.29**	**62**	*e*P	**Pn**	**22 05 55.0**	**-0.1**
TECO	**Alcaldia de Te**	**1.29**	**62**	S	**Sn**	**22 06 12.5**	**+1.2**
TECO	**Alcaldia de Te**	**1.29**	**62**	⇓P	**Pn**	**22 05 55.0**	**-0.1**
UESV	**Universidad de**	**1.33**	**58**	S	**Sn**	**22 06 13.6**	**+1.2**
UESV	**Universidad de**	**1.33**	**58**	P	**Pn**	**22 05 55.9**	**+0.1**
JUAM	**Asunion Mita**	**1.42**	**10**	*i* P	**Pb**	**22 05 58.2**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.42**	**57⇓**	*e*P	**Pb**	**22 05 57.7**	**-1.5**
SCLA	**Alcaldia de Sa**	**1.42**	**57**	⇓P	**Pb**	**22 05 57.7**	**-1.5**
SCLA	**Alcaldia de Sa**	**1.42**	**57**	S	**Sb**	**22 06 16.8**	**-0.1**
FG16	**Alotenango, Sa**	**1.44**	**338**	*e*P	**Pb**	**22 06 01.4**	**+1.8**
FG16				IAML		22 06 27.5	
	comp=N,15μm,0.3s						
FG8	**Yepocapa, Chim**	**1.45**	**336**	*i* P	**Pb**	**22 06 01.9**	**+2.2**
TECA	**Tecapa**	**1.52**	**68**	*e*P	**Pn**	**22 05 58.4**	**0.0**
PQSS	**Presa 15 de Se**	**1.52**	**63**	S	**Sb**	**22 06 19.0**	**-0.8**
LLGN	**La Laguna**	**1.57**	**39**	*e*P	**Pb**	**22 06 00.3**	**-1.5**
LLGN	**La Laguna**	**1.57**	**39**	⇑P	**Pb**	**22 06 00.2**	**-1.5**
LLGN	**La Laguna**	**1.57**	**39**	S	**Sb**	**22 06 21.1**	**-0.2**
MTO3	**Montecristo**	**1.57**	**22**		**Pb**	**22 06 00.2**	**-1.6**
MTO3				Sn	**Sn**	**22 06 19.2**	**+0.7**
MTO3	**Montecristo**	**1.57**	**22⇓**	*e*P	**Pb**	**22 06 00.6**	**-1.2**
MTO3	**Montecristo**	**1.57**	**22**	*i* P	**Pb**	**22 06 00.6**	**-1.2**
MTO3	**Montecristo**	**1.57**	**22**	⇓P	**Pb**	**22 06 00.6**	**-1.2**
MTO3	**Montecristo**	**1.57**	**22**	S	**Sb**	**22 06 21.3**	**-0.1**
PACA	**Pacayal**	**1.68**	**71**	*e*P	**Pn**	**22 06 01.4**	**+0.9**
PACA	**Pacayal**	**1.68**	**71**	⇑P	**Pn**	**22 06 01.1**	**+0.6**
PACA	**Pacayal**	**1.68**	**71**	S	**Sn**	**22 06 22.7**	**+1.7**
ESSG	**Sabana Grande**	**1.68**	**330**	*e*P	**Pn**	**22 05 59.9**	**-0.5**
ESSG				*e*S	**Sn**	**22 06 19.8**	**-1.1**
LCY	**Lacayo**	**1.69**	**73**	*e*P	**Pn**	**22 06 01.2**	**+0.6**
RANC	**El Ranchito**	**1.70**	**73**	*e*P	**Pn**	**22 06 01.2**	**+0.4**
ESQI	**Esquipulas**	**1.72**	**20**		**Pb**	**22 06 02.6**	**-1.8**
ESQI				Sn	**Sb**	**22 06 25.3**	**-0.4**
ESQI	**Esquipulas**	**1.72**	**20**	*e*P	**Pb**	**22 06 02.9**	**-1.5**
ESQI	**Esquipulas**	**1.72**	**20**	P	**Pb**	**22 06 02.7**	**-1.7**
ESQI	**Esquipulas**	**1.72**	**20**	S	**Sb**	**22 06 26.0**	**+0.3**
GCG4	**OSOP**	**1.74**	**341**	*e*S	**Sb**	**22 06 24.8**	**-1.4**
BLLM	**Bellamira**	**1.75**	**73**	*e*P	**Pn**	**22 06 01.9**	**+0.5**
CNRM	**Centro Naciona**	**1.82**	**73**	S	**Sb**	**22 06 27.1**	**-1.2**
LCND	**La Caada**	**2.04**	**79**	*e*P	**Pn**	**22 06 06.2**	**+0.7**
LCND	**La Caada**	**2.04**	**79**	P	**Pn**	**22 06 06.0**	**+0.6**
CNCH	**Conchagua**	**2.09**	**80**	*e*P	**Pn**	**22 06 06.8**	**+0.6**
CNCH	**Conchagua**	**2.09**	**80**	S	**Sn**	**22 06 33.7**	**+2.4**
CNCH	**Conchagua**	**2.09**	**80**	P	**Pn**	**22 06 06.8**	**+0.6**
APG	**El Apazote**	**2.12**	**347**	P	**Pb**	**22 06 08.5**	**-2.6**
	comp=N,12nm,0.3s,baz=131,slow=10,SNR=130						
APG				S	**Sn**	**22 06 34.1**	**+2.1**
	comp=N,21nm,0.4s,baz=234,slow=22,SNR=14						
APG				LR	LR	22 06 54.2	
	comp=N,40nm,21.2s,baz=95,slow=38						
SARH	**Santa Rosa de**	**2.17**	**32**	*i* P	**Pb**	**22 06 09.4**	**-2.5**
SARH	**Santa Rosa de**	**2.17**	**32**	S	**Sb**	**22 06 36.8**	**-1.6**
SARH	**Santa Rosa de**	**2.17**	**32**	⇑P	**Pb**	**22 06 09.4**	**-2.5**
INTHN	**La Esperanza I**	**2.26**	**52**	⇑P	**Pn**	**22 06 10.1**	**+1.4**
RTAL	**Retalhuleu**	**2.32**	**313**		**Pb**	**22 06 11.6**	**-2.8**
RTAL	**Retalhuleu**	**2.32**	**313**	S	**Sb**	**22 06 39.8**	**-2.8**
CSGN	**Cosiguina Volc**	**2.33**	**89**	P	**Pn**	**22 06 10.0**	**+0.4**
CSGN				S	**Sn**	**22 06 39.1**	**+1.9**
QUIS	**Sacapulas**	**2.59**	**335**	*e*P	**Pb**	**22 06 16.2**	**-2.9**
QUIS				IAML		22 06 54.8	
	comp=E,2μm,0.4s						
HUEH	**Huehuetenango**	**2.81**	**328**	Pn	**Pn**	**22 06 18.7**	**+2.6**
SMCA	**Catarina**	**2.81**	**313**	*e*P	**Pn**	**22 06 17.1**	**+1.1**
SMCA				IAML		22 06 54.5	
	comp=E,574nm,0.3s						
TGUH	**Tegucigalpa,Un**	**2.84**	**66**		**Pn**	**22 06 16.6**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.84**	**66**	P	**Pn**	**22 06 17.2**	**+0.8**
CRIN	**San Cristobal**	**2.84**	**94**	Pn	**Pn**	**22 06 17.4**	**+0.9**
CRIN	**San Cristobal**	**2.84**	**94**	S	**Sn**	**22 06 51.1**	**+1.4**
CRIN	**San Cristobal**	**2.84**	**94**	P	**Pn**	**22 06 17.9**	**+1.4**
PKGN	**Cerro Pekin**	**2.92**	**95**	P	**Pn**	**22 06 18.3**	**+0.9**
PKGN				S	**Sn**	**22 06 53.5**	**+2.1**
HERN	**Volcan Telica**	**3.06**	**96**	Pn	**Pn**	**22 06 19.3**	**-0.3**
YUSH	**Yuscaran**	**3.19**	**71**	⇑P	**Pn**	**22 06 22.2**	**+0.9**
CNGN	**Cerro Negro**	**3.21**	**97**		**Pn**	**22 06 21.0**	**-0.5**
CNGN	**Cerro Negro**	**3.21**	**97**	S	**Sn**	**22 06 59.5**	**+0.9**

MNHN Monahans 21.79 329 P P 22 10 24.2 +1.6
MNHN IAmb IAmb 22 10 28.8
comp=Z,6.3nm,0.6s
UALR University of 21.85 355 P P 22 10 25.1 +1.9
UALR IAmb IAmb 22 10 26.4
comp=Z,9.0nm,0.7s
BAUV El Baul 21.87 98 P P 22 10 23.7 +0.1
BAUV IAmb IAmb 22 10 26.5
comp=Z,13nm,0.7s
LPIG La Paz 22.24 303 LR LR 22 19 21.5
comp=Z,153nm,19.7s,baz=58,slow=37
APMT Aspermont 22.32 337 P P 22 10 27.3 -1.0
APMT IAmb IAmb 22 10 33.6
comp=Z,6.7nm,0.8s
VHRN Van Horn 22.54 324 P 22 10 31.4 +0.5
VHRN IAmb IAmb 22 10 34.0
comp=Z,6.4nm,0.8s
LCAR Lake Charles 23.06 358 P P 22 10 36.4 +0.3
WMOK Wichita Mounta 23.14 341 P P 22 10 34.8 -2.1
MNTX Cornudas Mount 23.45 325 P 22 10 41.0 +1.0
SJG San Juan 23.50 74 P P 22 10 38.9 -1.6
SJG IAmb IAmb 22 10 40.4
comp=Z,23nm,1.2s
U49A Red Boiling Sp 23.78 8 P P 22 10 42.2 -0.9
U49A IAmb IAmb 22 10 44.1
comp=Z,12nm,1.0s
SMWD Samnorwood 23.96 339 P P 22 10 44.0 -0.9
SMWD IAmb IAmb 22 10 51.0
comp=Z,8.6nm,0.9s
T45A Paducah 24.02 3 P P 22 10 44.7 -0.5
T47A Sharon Grove 24.09 6 P P 22 10 45.4 -0.6
T47A IAmb IAmb 22 10 46.7
comp=Z,16nm,1.0s
U54A Nelsons Funny 24.60 16 P P 22 10 49.9 -0.8
U54A IAmb IAmb 22 11 18.1
comp=Z,29nm,1.4s
S44A Carbondale 24.67 1 P P 22 10 51.8 +0.6
SIUC Southern Illin 24.69 1 P P 22 10 51.3 -0.1
OK038 West end E0370 24.74 343 P P 22 10 53.0 +1.1
CCM Cathedral Cave 25.05 358 P 22 10 53.7 -0.9
CCM IAmb IAmb 22 10 55.1
comp=Z,12nm,1.0s
121A Cookes Peak, D 25.44 323 P P 22 11 00.7 +2.2
121A IAmb IAmb 22 11 15.0
comp=Z,7.7nm,0.9s
CRNM Carthage 25.90 327 P P 22 11 03.9 +1.2
S54A Dingess, Beckl 25.94 16 P P 22 11 03.6 +0.8
S54A IAmb IAmb 22 11 23.4
comp=Z,22nm,1.1s
BNM Barren Site 26.00 327 P P 22 11 04.6 +1.0
RTBA Rita Blanca 26.07 336 P P 22 11 06.8 +2.7
RTBA IAmb IAmb 22 11 27.1
comp=Z,12nm,1.4s
TUC Tucson 27.14 319 P P 22 11 13.7 0.0
Q54A Coxs Mills 27.18 16 P P 22 11 14.9 +1.0
ILAM Ilet Lapin Mar 28.29 83 P P 22 11 25.3 +1.3
X16A Lo Mia Camp, P 28.94 321 P P 22 11 31.1 +1.2
V12A Nelson 31.91 320 P P 22 11 56.2 +0.1
V12A IAmb IAmb 22 12 00.0
comp=Z,7.6nm,1.0s
CLC China Lake 33.75 317 P P 22 12 12.3 +0.2
MPMC Manual Prospec 33.81 318 P P 22 12 13.6 +0.8
MPMC IAmb IAmb 22 12 16.0
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 34.23 334 PcP **PcP 22 14 53.0 +0.3**
comp=Z,0.5nm,0.5s,baz=130,slow=6.6,SNR=4.9
DSP Deep Springs 34.90 319 P P 22 12 24.1 +2.2
AGMN Agassiz Nation 35.60 353 P 22 12 26.9 -1.0
TBO Thunder Bay 35.61 1 P P 22 12 26.7 -1.2
NV11 Mina Array Sit 35.66 320 P P 22 12 30.7 +2.0
NV11 IAmb IAmb 22 12 32.5
comp=Z,5.0nm,0.8s
MDND Maddock 35.73 349 P P 22 12 27.7 -1.2
NVAR Mina Array Bea 35.75 320 P P 22 12 30.9 +1.4
NVAR Mina Array Bea 35.75 320 P P 22 12 32.2 +2.7
comp=Z,8.2nm,0.9s,baz=139,slow=8.6,SNR=36
NVAR PcP **PcP 22 14 59.0 +1.9**
comp=Z,1.0nm,0.7s,baz=108,slow=5.7,SNR=3.6
comp=Z,8.2nm,0.9s
MDPB Devils Postpil 35.77 319 P P 22 12 30.1 +0.4
LHV Little Huntoon 35.77 320 P P 22 12 31.1 +1.7
WELL Weller Preserv 37.29 318 P P 22 12 43.0 +0.5
WELL IAmb IAmb 22 12 46.5
comp=Z,7.4nm,1.1s
DGMT Dagmar 37.36 344 P P 22 12 42.6 -0.3
ULM Lac du Bonnet 37.53 354 P P 22 12 42.2 -2.0
comp=Z,7.7nm,0.8s,baz=191,slow=7.7,SNR=4.2
comp=Z,7.7nm,0.8s
BEKR Beckworth 37.89 321 P P 22 12 47.7 0.0
BEKR IAmb IAmb 22 12 51.8
comp=Z,3.1nm,0.8s
LMQ La Malbaie 38.22 22 P P 22 12 49.8 -0.4
SCHQ Schefferville 45.56 19 P P 22 13 47.7 -2.3
comp=Z,56nm,0.5s,baz=213,slow=7.4,SNR=17
H03N2 Juan Fernandez 47.30 167 T T 23 04 59.2
baz=346,slow=76,SNR=9.8
H03N1 Juan Fernandez 47.30 167 T T 23 04 57.3
baz=346,slow=76,SNR=9.3
H03N3 Juan Fernandez 47.31 167 T T 23 04 51.1
baz=346,slow=76,SNR=10
YKA Yellowknife Ar 52.53 346 P P 22 14 42.5 -0.8
comp=Z,5.0nm,1.0s,baz=112,slow=16,SNR=14
comp=Z,5.0nm,1.0s
INK Inuvik 62.03 343 LR LR 22 46 42.3
comp=Z,146nm,18.6s,baz=130,slow=40
ILAR Eielson Array 64.60 337 P P 22 16 06.8 -0.5
comp=Z,1.4nm,1.0s,baz=135,slow=4.0,SNR=7.4
ILAR LR LR 22 48 56.2
comp=Z,127nm,18.9s,baz=87,slow=40
comp=Z,1.4nm,1.0s
PMSA Palmer Station 79.93 169 LR LR 22 47 04.5
comp=Z,188nm,18.9s,baz=48,slow=31
ARCES ARCESS Array B 86.52 19 P P 22 18 11.1 -1.7
comp=Z,3.5nm,1.0s,baz=284,slow=3.6,SNR=6.9
comp=Z,3.5nm,1.0s
TORD Torodi Ar. Bea 88.69 77 P P 22 18 21.0 -3.2
comp=Z,0.4nm,0.9s,baz=300,slow=5.3,SNR=2.1
comp=Z,0.4nm,0.9s
KSRS Korea Array 118.54 326 PKP **PKiKP 22 24 19.2 +0.9**
comp=Z,0.7nm,0.5s,baz=64,slow=2.8,SNR=2.2
MKAR Makanchi Array 120.14 6 PKP **PKPdf 22 24 20.4 -0.8**
comp=Z,0.1nm,0.3s,baz=332,slow=2.8,SNR=1.7
WRA Warramunga Arr 137.05 255 PKP **PKPdf 22 24 54.4 +0.5**
comp=Z,0.5nm,0.7s,baz=74,slow=1.7,SNR=5.5
ASAR Alice Springs 137.17 249 PKP **PKPdf 22 24 54.6 +0.5**
comp=Z,0.1nm,0.4s,baz=88,slow=3.6,SNR=2.2
CMAR Chiang Mai Arr 147.60 344 PKPbc **PKPdf 22 25 13.3 +0.7**
comp=Z,2.7nm,0.3s,baz=341,slow=4.3,SNR=16

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*IDC **10** 22:11:06.5±0.6, 15°.84N×96°.59W, h0km, mb4.3/17, mbtmp4.3/18, ML2.7/2, MS3.8/24, Error ellipse: s-maj=13.8km s-min=12.1km az=23.0*
*MEX **10** 22:11:08.5±0.7, 15°.61N×96°.88W, h23km±15km, MD5.0*
*NEIC **10** 22:11:12.0±2.6, 15°.88N±0°.05×96°.69W±0°.05, h36km±7km, mb4.8/371, Md5.0/187(MEX), Error ellipse: s-maj=8.3km s-min=6.0km az=205.0*

ISC 10 22:11:08.2±0.8, 15°.76N±0°.04×96°.82W±0°.02, h16km±4km, n586, σ2°23/648, mb4.8/143, MS3.8/23, 9C-2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.39**	**307**		**Pn**	**22 11 22.3**	**+3.0**
PEIG	**Puerto Escondi**	**0.39**	**307**	⇓*eP*	**Pg**	**22 11 16.2**	**+0.1**
PEIG				*i S*	**Pn**	**22 11 22.3**	**+3.0**
HUIG	**Huatulco**	**0.69**	**89**		**Pg**	**22 11 20.5**	**-1.2**
HUIG	**Huatulco**	**0.69**	**89**	⇑*eP*	**Pg**	**22 11 20.5**	**-1.2**
HUIG				*eS*	**Sg**	**22 11 30.1**	**-0.7**
YOIG	**Yosondua**	**1.29**	**328**		**Pn**	**22 11 31.0**	**-0.9**
YOIG					**Sb**	**22 11 47.4**	**-1.4**
YOIG	**Yosondua**	**1.29**	**328**	⇑*eP*	**Pn**	**22 11 31.0**	**-0.9**
YOIG				*eS*	**Sb**	**22 11 47.4**	**-1.4**
OXLC	**Oaxaca**	**1.30**	**5**		**Pn**	**22 11 31.3**	**-0.6**
OXLC					**Sb**	**22 11 48.7**	**-0.3**
OXLC	**Oaxaca**	**1.30**	**5**	⇑*eP*	**Pn**	**22 11 31.3**	**-0.6**
OXLC				*eS*	**Sb**	**22 11 48.7**	**-0.3**
OXBJ	**Oaxaca**	**1.30**	**4**		**Pn**	**22 11 31.6**	**-0.3**
OXBJ					**Sb**	**22 11 49.2**	**+0.1**
OXBJ	**Oaxaca**	**1.30**	**4**	⇑*eP*	**Pn**	**22 11 31.6**	**-0.3**
OXBJ				*eS*	**Sb**	**22 11 49.2**	**+0.1**
VHO	**Vista Hermosa**	**1.31**	**4**	⇑*eP*	**Pn**	**22 11 31.4**	**-0.6**
VHO				*eS*	**Sb**	**22 11 48.5**	**-0.7**
OXIG	**Oaxaca**	**1.31**	**4**		**Pn**	**22 11 31.4**	**-0.6**
OXIG					**Sb**	**22 11 48.5**	**-0.7**
TXIG	**Tlaxiaco**	**1.74**	**329**		**Pn**	**22 11 37.7**	**-0.3**
TXIG					**Sn**	**22 12 01.1**	**+1.1**
TXIG	**Tlaxiaco**	**1.74**	**329**	*eP*	**Pn**	**22 11 37.7**	**-0.3**
TXIG				*eS*	**Sn**	**22 12 01.1**	**+1.1**
NEUV	**Arroyo Zacate**	**2.17**	**27**		**Pn**	**22 11 43.4**	**-0.3**
NEUV					**Sn**	**22 12 10.9**	**+0.6**
NEUV	**Arroyo Zacate**	**2.17**	**27**	⇑*eP*	**Pn**	**22 11 43.4**	**-0.3**
NEUV				*eS*	**Sn**	**22 12 10.9**	**+0.6**
HLIG	**Huajuapan de L**	**2.26**	**336**		**Pn**	**22 11 45.6**	**+0.4**
HLIG					**Sn**	**22 12 11.3**	**-1.6**
HLIG	**Huajuapan de L**	**2.26**	**336**	*eP*	**Pn**	**22 11 45.6**	**+0.4**
HLIG				*eS*	**Sn**	**22 12 11.3**	**-1.6**
NILT	**Santiago Nilte**	**2.27**	**69**		**Pn**	**22 11 43.6**	**-1.4**
NILT	**Santiago Nilte**	**2.27**	**69**	*eP*	**Pn**	**22 11 43.6**	**-1.4**
NILT				*eS*	**Sn**	**22 12 09.6**	**-3.0**
CMIG	**Matias Romero**	**2.28**	**54**		**Pn**	**22 11 42.9**	**-2.3**
CMIG					**Sb**	**22 12 16.3**	**-0.8**
CMIG	**Matias Romero**	**2.28**	**54**	Pg	**Pn**	**22 11 43.5**	**-1.7**
69nm,0.3s,baz=232,slow=11,SNR=341							
CMIG				Lg	Lg	22 12 13.1	
513nm,0.3s,baz=221,slow=20,SNR=8.0							
CMIG	**Matias Romero**	**2.28**	**54**	⇑*eP*	**Pn**	**22 11 42.9**	**-2.3**
CMIG				*eS*	**Sb**	**22 12 16.3**	**-0.8**
TOIG	**Toxpalan**	**2.33**	**354**		**Pn**	**22 11 46.5**	**+0.5**
TOIG					**Sn**	**22 12 14.1**	**-0.4**
TOIG	**Toxpalan**	**2.33**	**354**	*eP*	**Pn**	**22 11 46.5**	**+0.5**
TOIG				*eS*	**Sn**	**22 12 14.1**	**-0.4**
CRIG	**Cruz Grande**	**2.42**	**294**		**Pn**	**22 11 46.7**	**-0.4**
CRIG	**Cruz Grande**	**2.42**	**294**	*eP*	**Pn**	**22 11 46.7**	**-0.4**
CRIG				*eS*	**Sn**	**22 12 09.3**	**-7.1**
TLIG	**Tlapa**	**2.45**	**317**	Pn	**Pn**	**22 11 48.5**	**+0.8**
TLIG				Sn	**Sn**	**22 12 19.8**	**+2.4**
TLIG	**Tlapa**	**2.45**	**317**	*eP*	**Pn**	**22 11 47.6**	**-0.1**
TLIG				*eS*	**Sn**	**22 12 17.2**	**-0.2**
FTIG	**Fresnillo de T**	**2.48**	**330**		**Pn**	**22 11 49.4**	**+1.4**
FTIG					**Sn**	**22 12 17.8**	**-0.3**
FTIG	**Fresnillo de T**	**2.48**	**330**	*eP*	**Pn**	**22 11 49.4**	**+1.4**
FTIG				*eS*	**Sn**	**22 12 17.8**	**-0.3**
HMTT	**Tlapaneco**	**2.62**	**321**		**Pb**	**22 11 53.1**	**-1.8**
HMTT					**Sn**	**22 12 23.2**	**+1.6**
HMTT	**Tlapaneco**	**2.62**	**321**	*eP*	**Pb**	**22 11 53.1**	**-1.8**
HMTT				*eS*	**Sn**	**22 12 23.2**	**+1.6**
TPIG	**Tehuac#an**	**2.69**	**349**		**Pb**	**22 11 54.5**	**-1.7**
TPIG					**Sn**	**22 12 25.2**	**+1.7**
TPIG	**Tehuac#an**	**2.69**	**349**	*eP*	**Pb**	**22 11 54.5**	**-1.7**
TPIG				*eS*	**Sn**	**22 12 25.2**	**+1.7**
DAIG	**Los Arroyos**	**2.99**	**295**		**Pn**	**22 11 54.8**	**-0.2**
DAIG	**Los Arroyos**	**2.99**	**295**	*eP*	**Pn**	**22 11 54.8**	**-0.2**
DAIG				*eS*	**Sn**	**22 12 24.8**	**-5.8**
UXUV	**UXUV**	**3.00**	**59**		**Pn**	**22 11 53.5**	**-1.6**
UXUV					**Sn**	**22 12 29.7**	**-1.0**
UXUV	**UXUV**	**3.00**	**59**	*eP*	**Pn**	**22 11 53.5**	**-1.6**
UXUV				*eS*	**Sn**	**22 12 29.7**	**-1.0**
VNTA	**La Mica**	**3.10**	**292**	*eS*	**Sn**	**22 12 27.1**	**-6.0**
MIHL	**Minatitlan**	**3.11**	**44**		**Pn**	**22 11 54.4**	**-2.2**
MIHL					**Sb**	**22 12 38.7**	**-2.2**
MIHL	**Minatitlan**	**3.11**	**44**	*eP*	**Pn**	**22 11 54.4**	**-2.2**
MIHL				*eS*	**Sb**	**22 12 38.7**	**-2.2**
PMUV	**Sontecomapan**	**3.21**	**30**		**Pn**	**22 11 56.4**	**-1.7**
PMUV	**Sontecomapan**	**3.21**	**30**	⇑*eP*	**Pn**	**22 11 56.4**	**-1.7**
PMUV				*eS*	**Sn**	**22 12 33.4**	**-2.7**
TUIG	**Tuzandepetl**	**3.22**	**45**		**Pn**	**22 11 56.6**	**-1.6**
TUIG					**Sn**	**22 12 39.5**	**+3.2**
TUIG	**Tuzandepetl**	**3.22**	**45**	*eP*	**Pn**	**22 11 56.6**	**-1.6**
TUIG				*eS*	**Sn**	**22 12 39.5**	**+3.2**
POHV	**Veracruz**	**3.32**	**353**		**Pn**	**22 12 02.2**	**+2.2**
POHV	**Veracruz**	**3.32**	**353**	*eP*	**Pn**	**22 12 02.2**	**+2.2**
MEIG	**Mezcala**	**3.44**	**309**		**Pn**	**22 12 04.5**	**+3.3**
MEIG					**Sn**	**22 12 44.5**	**+2.8**
MEIG	**Mezcala**	**3.44**	**309**	*eP*	**Pn**	**22 12 04.5**	**+3.3**
MEIG				*eS*	**Sn**	**22 12 44.5**	**+2.8**
PCIG		**3.47**	**90**		**Pn**	**22 11 59.0**	**-2.5**
PCIG		**3.47**	**90**	*eP*	**Pn**	**22 11 59.0**	**-2.5**
PCIG				*eS*	**Sn**	**22 12 37.0**	**-5.4**
PHPU	**Puebla**	**3.51**	**339**		**Pb**	**22 12 07.7**	**-2.5**
PHPU					**Sn**	**22 12 48.7**	**-3.9**
PHPU	**Puebla**	**3.51**	**339**	*eP*	**Pb**	**22 12 07.7**	**-2.5**
PHPU				*eS*	**Sb**	**22 12 48.7**	**-3.9**
CAIG	**El Cayaco**	**3.54**	**292**		**Pn**	**22 12 02.5**	**-0.1**
CAIG	**El Cayaco**	**3.54**	**292**	*eP*	**Pn**	**22 12 02.5**	**-0.1**
CAIG				*eS*	**Sn**	**22 12 37.1**	**-7.1**
PPCL	**Tochimilco**	**3.57**	**332**	*eP*	**Pb**	**22 12 08.9**	**-2.3**
PPCL				*eS*	**Sn**	**22 12 46.2**	**+0.9**
JAUV	**Jalcomulco**	**3.59**	**0**		**Pn**	**22 12 02.5**	**-0.7**
JAUV					**Sn**	**22 12 49.1**	**+3.8**
JAUV	**Jalcomulco**	**3.59**	**0**	⇑*eP*	**Pn**	**22 12 02.5**	**-0.7**
JAUV				*eS*	**Sn**	**22 12 49.1**	**+3.8**
PPPT	**Popocatepetl**	**3.63**	**332**	*eP*	**Pn**	**22 12 08.1**	**+3.9**
PPPT				*eS*	**Sn**	**22 12 50.0**	**+2.9**
PLIG	**Platanillo**	**3.66**	**316**		**Pn**	**22 12 05.7**	**+1.4**
PLIG					**Sn**	**22 12 47.2**	**-0.1**
PLIG	**Platanillo**	**3.66**	**316**	*eP*	**Pn**	**22 12 05.7**	**+1.4**
PLIG				*eS*	**Sn**	**22 12 47.2**	**-0.1**
PBXN	**Popocatepetl**	**3.67**	**332**	*eP*	**Pb**	**22 12 09.3**	**-3.7**
PBXN				*eS*	**Sn**	**22 12 50.0**	**+1.8**
PPSX	**Xalitzintla**	**3.68**	**334**	*eP*	**Pb**	**22 12 09.6**	**-3.4**
PPSX				*eS*	**Sn**	**22 12 52.4**	**+4.5**
TGIG		**3.69**	**74**		**Pn**	**22 12 03.0**	**-1.7**
TGIG					**Sn**	**22 12 49.6**	**+1.5**
TGIG		**3.69**	**74**	*eP*	**Pn**	**22 12 03.0**	**-1.7**
TGIG				*eS*	**Sn**	**22 12 49.6**	**+1.5**
TGBT	**Tuxtla Gutierr**	**3.73**	**74**		**Pn**	**22 12 07.2**	**+2.1**
TGBT	**Tuxtla Gutierr**	**3.73**	**74**	*eP*	**Pn**	**22 12 07.2**	**+2.1**
TGBT				*eS*	**Sn**	**22 12 45.3**	**-3.4**
ATYC	**Atoyac**	**3.75**	**293**		**Sn**	**22 12 44.4**	**-5.0**
ATYC	**Atoyac**	**3.75**	**293**	*eS*	**Sn**	**22 12 44.4**	**-5.0**
YAIG	**Yautepec**	**3.76**	**326**		**Pn**	**22 12 07.6**	**+1.9**
YAIG					**Sn**	**22 12 50.5**	**+0.8**
YAIG	**Yautepec**	**3.76**	**326**	*eP*	**Pn**	**22 12 07.6**	**+1.9**
YAIG				*eS*	**Sn**	**22 12 50.5**	**+0.8**
AMVM	**AMECAMECA**	**3.84**	**331**	*eP*	Pn	22 12 02.9	-4.1
AMVM				*eS*	**Sn**	**22 12 46.9**	**-5.1**
LVIG	**Laguna Verde**	**3.96**	**6**		**Pn**	**22 12 06.4**	**-1.9**
LVIG					**Sn**	**22 12 53.2**	**-1.3**
LVIG	**Laguna Verde**	**3.96**	**6**	*eP*	**Pn**	**22 12 06.4**	**-1.9**
LVIG				*eS*	**Sn**	**22 12 53.2**	**-1.3**
MAVM	**Malinalco, Edo**	**4.08**	**322**		**Pb**	**22 12 15.8**	**-3.9**
MAVM					**Sn**	**22 13 01.6**	**+3.9**
MAVM	**Malinalco, Edo**	**4.08**	**322**	*eP*	**Pb**	**22 12 15.8**	**-3.9**
MAVM				*eS*	**Sn**	**22 13 01.6**	**+3.9**
THVM	**De Xico**	**4.08**	**330**	*eP*	Pn	22 12 04.9	-5.4
THVM				*eS*	**Sn**	**22 12 53.2**	**-4.7**
TLVM	**San Miguel Top**	**4.09**	**327**		**Pn**	**22 12 13.6**	**+3.2**
TLVM	**San Miguel Top**	**4.09**	**327**	*eP*	**Pn**	**22 12 13.6**	**+3.2**
TLVM				*eS*	**Sn**	**22 12 52.6**	**-5.5**
XCVM	**Xochimilco**	**4.11**	**328**		**Pn**	**22 12 15.1**	**+4.5**
XCVM					**Sn**	**22 13 04.0**	**+5.6**
XCVM	**Xochimilco**	**4.11**	**328**	*eP*	**Pn**	**22 12 15.1**	**+4.5**
XCVM				*eS*	**Sn**	**22 13 04.0**	**+5.6**
MZVM		**4.11**	**326**		**Pb**	**22 12 15.8**	**-4.4**
MZVM					**Sn**	**22 13 03.4**	**+5.2**
MZVM		**4.11**	**326**	*eP*	**Pb**	**22 12 15.8**	**-4.4**
MZVM				*eS*	**Sn**	**22 13 03.4**	**+5.2**
TXVM	**Universitario**	**4.16**	**332**		**Sn**	**22 13 00.4**	**+0.5**
TXVM	**Universitario**	**4.16**	**332**	*eS*	**Sn**	**22 13 00.4**	**+0.5**
ARIG	**Puente Sto Nin**	**4.20**	**307**		**Pn**	**22 12 10.7**	**-0.9**
ARIG					**Sn**	**22 12 57.5**	**-3.0**
ARIG	**Puente Sto Nin**	**4.20**	**307**	*eP*	**Pn**	**22 12 10.7**	**-0.9**
ARIG				*eS*	**Sn**	**22 12 57.5**	**-3.0**
UNM	**Universidad Na**	**4.20**	**328**	Pn	**Pn**	**22 12 12.0**	**+0.2**
UNM	**Universidad Na**	**4.20**	**328**	*eP*	**Pn**	**22 12 10.0**	**-1.9**
UNM				*eS*	**Sn**	**22 13 01.2**	**+0.4**
CUP5	**Mexico City**	**4.20**	**328**		**Pn**	**22 12 14.2**	**+2.3**
CUP5					**Sn**	**22 13 04.9**	**+4.1**
CUP5	**Mexico City**	**4.20**	**328**	*eP*	**Pn**	**22 12 14.2**	**+2.3**
CUP5				*eS*	**Sn**	**22 13 04.9**	**+4.1**
COVM	**Coyoacan**	**4.21**	**328**		**Pn**	**22 12 15.6**	**+3.6**
COVM	**Coyoacan**	**4.21**	**328**	*eP*	**Pn**	**22 12 15.6**	**+3.6**
COVM				*eP*		22 12 16.2	
COVM				*eS*	**Sn**	**22 12 56.0**	**-5.0**
COVM				*eS*		22 13 05.9	
AOVM	**Tlapan**	**4.22**	**326**		**Pn**	**22 12 15.6**	**+3.2**
AOVM					**Sn**	**22 13 01.9**	**+0.2**
AOVM	**Tlapan**	**4.22**	**326**	*eP*	**Pn**	**22 12 15.6**	**+3.2**
AOVM				*eS*	**Sn**	**22 13 01.9**	**+0.2**
VRVM	**Mexico City**	**4.24**	**329**	*eS*	**Sn**	**22 12 55.6**	**-6.2**
PBVM	**Pinon**	**4.25**	**330**		**Pn**	**22 12 16.6**	**+4.3**
PBVM					**Sn**	**22 13 04.0**	**+2.5**
PBVM	**Pinon**	**4.25**	**330**	*eP*	**Pn**	**22 12 16.6**	**+4.3**
PBVM				*eS*	**Sn**	**22 13 04.0**	**+2.5**
TACY	**Mexico City**	**4.27**	**328**	*eS*	**Sb**	**22 13 09.6**	**-5.1**
INVM	**La Marquesa**	**4.28**	**326**		**Pn**	**22 12 15.0**	**+1.9**
INVM					**Sn**	**22 13 03.5**	**+0.7**
INVM	**La Marquesa**	**4.28**	**326**	*eP*	**Pn**	**22 12 15.0**	**+1.9**
INVM				*eS*	**Sn**	**22 13 03.5**	**+0.7**
MHVM	**Bosque de Chap**	**4.28**	**328**		**Pn**	**22 12 15.7**	**+2.7**
MHVM					**Sn**	**22 13 02.0**	**-0.8**
MHVM	**Bosque de Chap**	**4.28**	**328**	*eP*	**Pn**	**22 12 15.7**	**+2.7**
MHVM				*eS*	**Sn**	**22 13 02.0**	**-0.8**
CJVM	**Cuajimalpa**	**4.28**	**327**		**Pn**	**22 12 14.8**	**+1.8**
CJVM	**Cuajimalpa**	**4.28**	**327**	*eP*	**Pn**	**22 12 14.8**	**+1.8**
CJVM				*eS*	**Sn**	**22 12 59.4**	**-3.4**
CTVM	**Cuauhtemoc**	**4.29**	**329**		**Sn**	**22 13 02.4**	**-0.6**
CTVM	**Cuauhtemoc**	**4.29**	**329**	*eS*	**Sn**	**22 13 02.4**	**-0.6**
APVM	**Azcapotzalco**	**4.35**	**329**		**Sn**	**22 13 09.6**	**+5.1**
APVM	**Azcapotzalco**	**4.35**	**329**	*eS*	**Sn**	**22 13 09.6**	**+5.1**
PTVM	**Pico Tres Padr**	**4.39**	**331**		Pb	22 12 21.4	-3.8
PTVM					**Sn**	**22 13 09.8**	**+4.3**
PTVM	**Pico Tres Padr**	**4.39**	**331**	*eP*	Pb	22 12 21.4	-3.8
PTVM				*eS*	**Sn**	**22 13 09.8**	**+4.3**
VTVM	**Tizayuca**	**4.40**	**335**		**Pn**	**22 12 17.7**	**+3.1**
VTVM					**Sn**	**22 13 08.5**	**+2.7**
VTVM	**Tizayuca**	**4.40**	**335**	*eP*	**Pn**	**22 12 17.7**	**+3.1**
VTVM				*eS*	**Sn**	**22 13 08.5**	**+2.7**
TOVM	**TOLUCA**	**4.44**	**323**		**Pn**	**22 12 14.5**	**-0.7**
TOVM	**TOLUCA**	**4.44**	**323**	*eP*	**Pn**	**22 12 14.5**	**-0.7**
TOVM				*eS*	**Sn**	**22 13 02.4**	**-4.3**
CXUV	**Coxquihui**	**4.45**	**351**		**Pn**	**22 12 14.4**	**-0.7**
CXUV	**Coxquihui**	**4.45**	**351**	*eP*	**Pn**	**22 12 14.4**	**-0.7**
CXUV				*eS*	**Sn**	**22 13 01.2**	**-5.4**
AZVM	**Cuida Lopez Ma**	**4.47**	**329**		Pn	22 12 20.6	+5.1
AZVM					**Sn**	**22 13 06.7**	**-0.7**
AZVM	**Cuida Lopez Ma**	**4.47**	**329**	*eP*	Pn	22 12 20.6	+5.1
AZVM				*eS*	**Sn**	**22 13 06.7**	**-0.7**
PATR	**El Naranjo**	**4.47**	**98**		**Pn**	**22 12 14.3**	**-1.2**
PATR	**El Naranjo**	**4.47**	**98**	⇓*eP*	**Pn**	**22 12 14.3**	**-1.2**
PATR				*eS*	Sn	22 12 58.4	-9.0
THIG		**4.48**	**100**		**Pn**	**22 12 15.9**	**+0.5**
THIG		**4.48**	**100**	*eP*	**Pn**	**22 12 15.9**	**+0.5**
THIG				*eS*	**Sn**	**22 13 01.9**	**-5.3**
PAVE	**Pavencul**	**4.51**	**97**		**Pn**	**22 12 14.3**	**-1.9**
PAVE	**Pavencul**	**4.51**	**97**	*eP*	**Pn**	**22 12 14.3**	**-1.9**
PAVE				*eS*	**Sn**	**22 13 02.1**	**-6.4**
CCIG	**Comitan**	**4.54**	**83**	Pn	**Pn**	**22 12 15.4**	**-1.0**
CCIG	**Comitan**	**4.54**	**83**	*eP*	**Pn**	**22 12 12.7**	**-3.7**
CCIG				*eS*	**Sn**	**22 13 02.8**	**-6.1**
ZUVM	**ZUMPANGO**	**4.58**	**332**		**Pn**	**22 12 19.3**	**+2.2**
ZUVM					**Sn**	**22 13 15.5**	**+5.4**
ZUVM	**ZUMPANGO**	**4.58**	**332**	*eP*	**Pn**	**22 12 19.3**	**+2.2**
ZUVM				*eS*	**Sn**	**22 13 15.5**	**+5.4**
CHUJ	**Union Juarez**	**4.59**	**98**	*eP*	**Pn**	**22 12 16.1**	**-1.1**
CHUJ				*eS*	**Sn**	**22 13 06.1**	**-4.3**
ATVM	**ATLACOMULCO**	**4.91**	**325**		Pn	22 12 26.9	+5.3
ATVM					**Sn**	**22 13 16.6**	**-1.8**
ATVM	**ATLACOMULCO**	**4.91**	**325**	*eP*	Pn	22 12 26.9	+5.3
ATVM				*eS*	**Sn**	**22 13 16.6**	**-1.8**
RTAL	**Retalhuleu**	**5.10**	**103**		**Pn**	**22 12 24.1**	**+0.1**
RTAL	**Retalhuleu**	**5.10**	**103**	*eP*	**Pn**	**22 12 21.9**	**-2.1**
RTAL				*eS*	**Sn**	**22 13 26.8**	**+4.2**
HUEH	**Huehuetenango**	**5.15**	**94**		**Pn**	**22 12 23.6**	**-1.2**
HUEH	**Huehuetenango**	**5.15**	**94**	*eP*	Pn	22 12 29.7	+4.9
HUEH				*eS*	**Sn**	**22 13 30.2**	**+6.1**
MOIG	**Morelia**	**5.70**	**314**	Pn	**Pn**	**22 12 34.8**	**+2.4**
MOIG	**Morelia**	**5.70**	**314**	*eP*	Pn	22 12 39.8	+7.3
MOIG				*eS*	**Sn**	**22 13 39.0**	**+1.2**
CTUV	**Llano Grande**	**5.86**	**346**		**Pn**	**22 12 32.5**	**-2.0**
CTUV					**Sn**	**22 13 41.2**	**-0.3**
CTUV	**Llano Grande**	**5.86**	**346**	*eP*	**Pn**	**22 12 32.5**	**-2.0**
CTUV				*eS*	**Sn**	**22 13 41.2**	**-0.3**
JRQG	**Juriquilla Cam**	**6.00**	**326**		**Pn**	**22 12 39.1**	**+2.5**
JRQG	**Juriquilla Cam**	**6.00**	**326**	*eP*	**Pn**	**22 12 34.3**	**-2.4**
JRQG				*eS*	**Sn**	**22 13 41.7**	**-3.5**
APG	**El Apazote**	**6.18**	**96**	Pn	**Pn**	**22 12 38.0**	**-1.1**
0.5nm,0.3s,baz=229,slow=20,SNR=15							
AP

TXAR LR LR 22 21 05.4
comp=Z,225nm,19.7s,baz=140,slow=40
TX31 Lajitas Ar. Si 14.91 336 Pn 22 14 38.8 +0.3
SAND Sanderson 14.94 342 Pn 22 14 40.4 +1.4
435B Jarrell 14.97 357 Pn **Pn 22 14 39.1 -0.1**
PIRO Carate, Puerto 15.07 117 P **P 22 14 44.6 -1.3**
PIRO IAmb IAmb 22 14 48.1
comp=Z,70nm,0.9s
BRU2 Volcan 15.44 115 Pn **Pn 22 14 47.6 +1.9**
BRDY Brady 15.58 353 Pn 22 14 46.8 -0.6
OZNA Volcan 15.60 346 Pn 22 14 48.2 +0.7
ALPN Alpine 15.83 338 Pn 22 14 51.7 +1.1
WHTX Lake Whitney, 16.17 358 Pn 22 14 54.0 -0.8
237A Washetta, Mont 16.20 3 P **Pn 22 14 54.9 -0.2**
MNHN Monahans 16.43 342 Pn 22 14 58.4 +0.2
SGCY Sterling City 16.55 347 Pn 22 14 58.8 -0.9
VHRN Van Horn 16.72 335 P 22 15 04.2 0.0
PECS Pecos 16.82 339 P **P 22 15 04.9 -0.4**
346A Big Creek Wild 16.95 22 P **Pn 22 15 05.0 +0.3**
346A IAmb IAmb 22 15 12.4
comp=Z,84nm,1.2s
ABTX Abilene, Hawle 16.98 352 Pn 22 15 04.2 -0.9
PLPT Palo Pinto 17.03 356 Pn 22 15 04.8 -0.9
ODSA Odessa 17.10 343 Pn 22 15 07.2 +0.4
ODSA IAmb IAmb 22 15 11.6
comp=Z,56nm,0.8s
FW06 Azle 17.15 358 Pn 22 15 05.3 -2.0
VBMS Vicksburg 17.36 18 Pn 22 15 06.9 -2.9
VBMS IAmb IAmb 22 15 18.7
comp=Z,72nm,0.8s
Z35A Perchaven, San 17.50 359 Pn 22 15 12.2 +0.6
Z38A Mt. Pleasant 17.50 5 Pn 22 15 10.0 -1.6
Z38A IAmb IAmb 22 15 21.0
comp=Z,41nm,0.6s
143A Socs Landing, 17.57 15 Pn **Pn 22 15 11.2 -1.3**
143A IAmb IAmb 22 15 14.2
comp=Z,68nm,0.5s
MNTX Cornudas Mount 17.68 335 P 22 15 14.7 0.0
MNTX Cornudas Mount 17.68 335 *eP* **Pn 22 15 10.5 -3.4**
APMT Aspermont 17.74 351 Pn 22 15 12.7 -1.9
POST Post 17.74 347 Pn 22 15 13.8 -0.9
Z41A Richland Creek 17.80 11 P **Pn 22 15 13.1 -2.2**
061Z Ochoppi 17.94 53 Pn 22 15 15.1 -2.0
WTFS Witchita Falls 17.99 356 P **Pn 22 15 16.7 -1.0**
WLAR White Oak Lake 18.16 10 P **Pn 22 15 18.5 -1.2**
WLAR IAmb IAmb 22 15 22.0
comp=Z,41nm,0.9s
DKNS Dickens 18.21 349 P **Pn 22 15 19.7 -0.8**
146A Union 18.22 21 Pn 22 15 18.0 -2.5
146A IAmb IAmb 22 15 21.8
comp=Z,79nm,1.1s
HSIG 18.54 318 P **Pn 22 15 26.1 +1.7**
CCAR Cane Creek 18.64 13 P **P 22 15 23.5 -1.8**
CCAR IAmb IAmb 22 15 35.8
comp=Z,54nm,0.7s
X34A Smith Ranch, M 18.78 357 P **P 22 15 25.4 -1.5**
MSTX Muleshoe 18.91 345 P **P 22 15 28.3 0.0**
MSTX IAmb IAmb 22 15 30.9
comp=Z,47nm,0.9s
MIAR Mount Ida 18.93 8 P 22 15 26.1 -2.3
WMOK Wichita Mounta 18.98 355 P **P 22 15 27.6 -1.4**
X40A Basin Creek Fa 18.99 10 P **P 22 15 28.0 -1.1**
Z47A Carrollton 19.09 23 P **P 22 15 27.1 -3.1**
Z47A IAmb IAmb 22 15 38.7
comp=Z,32nm,0.9s
Y45A Yeager Farm, C 19.19 19 P **P 22 15 30.0 -1.3**
Y45A IAmb IAmb 22 15 43.7
comp=Z,36nm,0.6s
319A Douglas 19.26 326 P **Pn 22 15 35.1 +1.8**
UALR University of 19.36 11 P **P 22 15 31.6 -1.5**
UALR IAmb IAmb 22 15 34.5
comp=Z,59nm,0.8s
LRAL Lakeview Retre 19.37 26 P 22 15 31.6 -1.6
FNO Franklin 19.42 359 P **P 22 15 33.3 -0.6**
FNO IAmb IAmb 22 15 42.7
comp=Z,26nm,0.7s
121A Cookes Peak, D 19.44 331 P **Pn 22 15 36.3 +0.8**
SMWD Samnorwood 19.51 352 P 22 15 35.3 +0.5
SMWD IAmb IAmb 22 15 42.0
comp=Z,42nm,0.6s
AMTX Amarillo 19.54 348 P **P 22 15 34.5 -0.7**
AMTX IAmb IAmb 22 15 45.3
comp=Z,25nm,0.8s
OKCSW OKLAHOMA CITY 19.57 358 P **P 22 15 34.1 -1.4**
OXF Oxford 19.83 18 P **P 22 15 34.8 -3.5**
OXF IAmb IAmb 22 15 45.4
comp=Z,67nm,0.9s
CHIV Chivirico 19.87 75 P **P 22 15 37.2 -1.6**
CHIV IAmb IAmb 22 15 44.7
comp=Z,9.3nm,0.7s
WHAR Wooly Hollow 19.87 11 P 22 15 37.3 -1.4
WHAR IAmb IAmb 22 15 51.6
comp=Z,31nm,0.9s
CSTR Hydro, Custer 19.87 356 P **P 22 15 38.6 -0.2**
OK029 Liberty Lake 19.96 358 P **P 22 15 38.9 -0.8**
DEOK Depew 20.00 1 P **P 22 15 38.9 -1.3**
DEOK IAmb IAmb 22 15 48.8
comp=Z,52nm,0.7s
TUL3 Leonard 20.09 2 P **P 22 15 40.1 -1.0**
TUL3 IAmb IAmb 22 15 51.0
comp=Z,34nm,0.7s
DUN6 Lazy B Ranch 20.09 329 P Pn 22 15 42.6 -0.6
DUN6 IAmb IAmb 22 15 54.9
comp=Z,29nm,0.8s
152A Waverly Hall 20.10 31 P **P 22 15 39.4 -1.9**
152A IAmb IAmb 22 15 54.2
comp=Z,46nm,1.6s
OK052 Battle Ridge R 20.15 0 P 22 15 41.3 -0.5
OK052 IAmb IAmb 22 15 52.0
comp=Z,34nm,0.6s
CRNM Carthage 20.20 336 P Pn 22 15 43.9 -0.6
Y22A Socorro 20.28 335 P 22 15 44.7 +1.3
Y22A IAmb IAmb 22 15 51.2
comp=Z,24nm,0.9s
Y49A Blount Mountai 20.32 26 P 22 15 42.6 -1.1
Y49A IAmb IAmb 22 15 44.0
comp=Z,27nm,0.9s
QUOK Quay 20.33 0 P **P 22 15 40.7 -3.0**
QUOK IAmb IAmb 22 15 46.0
comp=Z,31nm,0.9s
BNM Barren Site 20.33 336 Pn 22 15 46.0 -0.1
ELIS Ellis County 20.36 354 P **P 22 15 42.9 -1.2**
ELIS IAmb IAmb 22 15 50.1
comp=Z,24nm,0.7s
Y22D IRIS PASSCAL I 20.38 335 P Pn 22 15 46.7 +0.1
Y22D IAmb IAmb 22 15 55.1
comp=Z,55nm,0.7s
RLO Rose Lookout 20.39 4 P 22 15 43.4 -1.0
RLO IAmb IAmb 22 15 56.0
comp=Z,29nm,0.8s
SBM South Baldy 20.40 335 P **P 22 15 45.2 +0.2**
HBAR Harrisburg 20.47 15 P 22 15 45.3 +0.1
FCAR Ozark Folk Cen 20.48 11 P **P 22 15 43.5 -1.9**
FCAR IAmb IAmb 22 15 46.5
comp=Z,38nm,0.6s
LENM Lemitar 20.48 335 P Pn 22 15 47.4 -0.3
OK048 Pawnee Station 20.57 360 P **P 22 15 46.0 -0.4**
OK048 IAmb IAmb 22 15 49.6
comp=Z,63nm,1.0s
X48A Hartselle 20.59 24 P 22 15 43.6 -2.9
X48A IAmb IAmb 22 15 46.7
comp=Z,26nm,0.7s
HHAR Hobbs 20.60 7 P 22 15 45.7 -1.0
HHAR IAmb IAmb 22 15 56.8
comp=Z,34nm,1.0s
CROK Carrier 20.69 357 P 22 15 47.3 -0.3
PLAL Pickwick Lake 20.69 21 P 22 15 45.6 -2.0
PLAL IAmb IAmb 22 15 54.3
comp=Z,58nm,0.8s
U38A Gravette 20.71 6 P 22 15 46.3 -1.6
U38A IAmb IAmb 22 15 52.4
comp=Z,39nm,0.8s
TUC Tucson 20.80 325 P Pn 22 15 51.6 +0.2
TUC Tucson 20.80 325 *eP* Pn 22 15 52.0 +0.6
LCAR Lake Charles 20.85 13 P 22 15 47.6 -1.7
LCAR IAmb IAmb 22 15 57.0
comp=Z,54nm,1.1s
NOKA Waynoka 20.88 355 P **P 22 15 49.8 +0.1**
154A Montrose 20.89 34 P **P 22 15 47.7 -2.1**
154A IAmb IAmb 22 16 06.5
comp=Z,61nm,1.1s
BLOK Blackwell 20.92 359 P **P 22 15 49.9 -0.2**
ANMO Albuquerque 20.97 337 P **P 22 15 50.7 -0.2**
ANMO Albuquerque 20.97 337 P **P 22 15 51.2 +0.3**
ANMO IAmb IAmb 22 16 03.9
comp=Z,21nm,1.2s
ANMO Albuquerque 20.97 337 P 22 15 51.5 +0.5
ANMO IAmb IAmb 22 16 03.9
comp=Z,26nm,1.4s
ANMO Albuquerque 20.97 337 P **P 22 15 51.9 +1.0**
ANMO IAmb IAmb 22 16 03.9
comp=Z,24nm,1.3s
ANMO Albuquerque 20.97 337 P Pn 22 15 52.9 -0.6
comp=Z,9.0nm,0.8s,baz=241,slow=12,SNR=23
ANMO LR LR 22 24 55.5
comp=Z,257nm,21.0s,baz=250,slow=40
comp=Z,9.0nm,0.8s
T35A Sooner Cattle 21.07 1 P 22 15 51.0 -0.8
GTBY Guantanamo Bay 21.07 75 P 22 15 55.1 +3.1
KAN14 Manchester OK 21.14 357 P **P 22 15 52.1 -0.4**
KAN14 IAmb IAmb 22 15 56.8
comp=Z,33nm,1.3s
FPAL Fort Paine 21.25 26 P 22 15 51.5 -2.2
RTBA Rita Blanca 21.26 347 P 22 15 54.0 +0.1
RTBA IAmb IAmb 22 15 56.5
comp=Z,40nm,1.0s
LNXT Lenox 21.29 17 P **P 22 15 52.2 -1.8**
GOGA Godfrey 21.32 32 P 22 15 52.0 -2.5
GOGA IAmb IAmb 22 16 05.6
comp=Z,29nm,1.1s
Y52A Lilburn 21.39 30 P 22 15 53.2 -2.0
Y52A IAmb IAmb 22 15 58.3
comp=Z,19nm,0.8s
GLAT Glass 21.50 17 P **P 22 15 53.6 -2.8**
X51A Calhoun 21.60 28 P **P 22 15 56.2 -1.2**
MGMO Mountain Grove 21.69 10 P 22 15 57.7 -0.7
UTMT University of 21.69 18 P **P 22 15 55.6 -2.7**
PBMO Poplar Bluff 21.69 14 P **P 22 15 57.4 -1.0**
SWET Sewanee 21.70 25 P **P 22 15 56.1 -2.4**
SWET IAmb IAmb 22 15 58.1
comp=Z,26nm,0.6s
214A Organ Pipe Nat 21.72 321 P **P 22 16 00.8 +1.9**
214A IAmb IAmb 22 16 02.9
comp=Z,50nm,1.6s
PARMO Parma 21.75 15 P **P 22 15 57.5 -1.4**
V48A Smith Brothers 21.81 22 P **P 22 15 57.7 -2.0**
WVT Waverly 21.82 20 P **P 22 15 57.5 -2.2**
W50A Signal Mountai 21.94 26 P **P 22 15 58.6 -2.5**
W50A IAmb IAmb 22 16 13.8
comp=Z,19nm,0.8s
X18A Snowflake 22.11 330 P **P 22 16 05.3 +2.2**
CLTN Cedars of Leba 22.31 23 P 22 16 02.8 -2.2
T25A Trinidad 22.33 344 P **P 22 16 06.7 +1.2**
CGM3 Cape Girardeau 22.37 15 P **P 22 16 04.6 -1.1**
CGM3 IAmb IAmb 22 16 14.1
comp=Z,32nm,0.8s
T45A Paducah 22.39 17 P **P 22 16 04.6 -1.2**
SMRC Santa Marta, M 22.44 99 P 22 16 07.7 +1.1
SMRC IAmb IAmb 22 16 12.5
comp=Z,38nm,1.2s
W52A Murphy 22.46 29 P **P 22 16 05.6 -1.1**
W52A IAmb IAmb 22 16 08.6
comp=Z,16nm,0.7s
W18A Petrified Fore 22.49 331 P **P 22 16 07.6 +0.5**
CPCT Cooper Cave 22.49 27 P **P 22 16 06.6 -0.4**
CPCT IAmb IAmb 22 16 08.4
comp=Z,35nm,0.8s
HODGE Hodges 22.59 33 P 22 16 04.5 -3.6
HODGE IAmb IAmb 22 16 17.6
comp=Z,33nm,1.3s
R32A Long Quarter, 22.64 356 P 22 16 08.4 -0.1
R32A IAmb IAmb 22 16 10.9
comp=Z,44nm,1.0s
CCM Cathedral Cave 22.75 11 P 22 16 08.5 -1.2
X16A Lo Mia Camp, P 22.76 327 P **P 22 16 12.9 +2.8**
R40A Maddies Statio 22.80 9 P 22 16 09.4 -0.9
T47A Sharon Grove 22.84 20 P **P 22 16 08.8 -1.8**
FVM French Village 22.85 13 P 22 16 08.9 -1.8
FVM IAmb IAmb 22 16 18.4
comp=Z,31nm,1.2s
S44A Carbondale 22.85 16 P **P 22 16 09.7 -1.1**
113A Mohawk Valley, 22.86 321 P **P 22 16 13.1 +2.2**
113A IAmb IAmb 22 16 22.3
comp=Z,50nm,1.9s
SIUC Southern Illin 22.88 16 P **P 22 16 10.2 -0.9**
U49A Red Boiling Sp 22.89 23 P **P 22 16 08.9 -2.3**
U49A IAmb IAmb 22 16 12.5
comp=Z,38nm,0.8s
TKL Tuckaleechee C 23.00 28 P **P 22 16 10.1 -2.3**
TKL IAmb IAmb 22 16 21.0
comp=Z,92nm,1.6s
CBKS Cedar Bluff 23.11 354 P 22 16 13.5 0.0
SDCO Great Sand Dun 23.20 342 P 22 16 15.7 +1.0
Y14A Wickenburg 23.25 324 IAmb IAmb 22 16 27.1
comp=Z,27nm,1.3s
KSU1 Kansas State U 23.25 0 P **P 22 16 13.9 -1.1**
KSU1 IAmb IAmb 22 16 16.3
comp=Z,36nm,0.8s
PAULI Pauline 23.28 33 P 22 16 12.2 -3.0
PAULI IAmb IAmb 22 16 23.8
comp=Z,21nm,0.9s
V53A Saluda 23.45 30 P 22 16 15.7 -1.3
V53A IAmb IAmb 22 16 25.7
comp=Z,39nm,1.3s
SLM Saint Louis 23.51 13 P **P 22 16 17.8 +0.3**
SLM IAmb IAmb 22 16 25.2
comp=Z,76nm,1.4s
USIN University of 23.55 18 P **P 22 16 16.4 -1.4**
T50A Nancy 23.70 24 IAmb IAmb 22 16 26.9
comp=Z,17nm,0.8s
GLA Glamis 23.71 320 P **P 22 16 20.7 +1.2**
GLA IAmb IAmb 22 16 23.1
comp=Z,16nm,0.9s
MVCO Mesa Verde 23.74 336 P 22 16 20.9 +0.9
MVCO IAmb IAmb 22 16 31.1
comp=Z,42nm,1.3s
KMSC Kings Mountain 23.77 33 P **P 22 16 17.6 -2.5**
TZTN Tazewell 23.83 27 P **P 22 16 18.2 -2.4**
TZTN IAmb IAmb 22 16 28.8
comp=Z,47nm,1.0s
P38A Dawn 23.95 6 P 22 16 20.5 -1.2
P38A IAmb IAmb 22 16 29.0
comp=Z,75nm,1.6s
P40A Paris 24.05 9 P 22 16 21.1 -1.5
Q44A Meyer Farm, Va 24.05 15 P 22 16 21.0 -1.6
Q44A IAmb IAmb 22 16 22.9
comp=Z,35nm,0.9s
OLIL Olney 24.14 17 P **P 22 16 21.9 -1.6**
OLIL IAmb IAmb 22 16 31.1
comp=Z,35nm,0.8s
WCI Wyandotte Cave 24.23 21 P 22 16 22.6 -1.7
V55A Taylorsville 24.39 32 P **P 22 16 23.3 -2.5**
V55A IAmb IAmb 22 16 47.7
comp=Z,32nm,1.1s
X58A Rowland 24.44 37 P **P 22 16 23.2 -3.0**
X58A IAmb IAmb 22 16 33.0
comp=Z,41nm,1.1s
W57A Gilead 24.50 35 P **P 22 16 23.8 -3.0**
W57A IAmb IAmb 22 16 32.4
comp=Z,23nm,1.0s
PV01 Paradox Valley 24.58 337 P **P 22 16 29.5 +1.7**
PV01 IAmb IAmb 22 16 31.9
comp=Z,34nm,1.0s
W13A Hualapai Mount 24.59 325 P 22 16 30.6 +2.6
U54A Nelsons Funny 24.61 30 P **P 22 16 25.7 -2.3**
U54A IAmb IAmb 22 16 35.8
comp=Z,41nm,0.8s
ROSC El Rosal 24.62 114 P **P 22 16 30.6 +2.0**
comp=Z,7.5nm,0.4s,baz=270,slow=6.5,SNR=6.5
P43A Skaggs, Pawnee 24.63 14 P 22 16 26.9 -1.1
IRM Iron Mountain 24.65 321 P 22 16 31.0 +2.7
IRM IAmb IAmb 22 16 33.0
comp=Z,16nm,1.0s
R49A Shelbyville 24.68 22 P **P 22 16 27.0 -1.5**
PV13 Radium Mtn., P 24.69 337 P **P 22 16 29.7 +0.8**
PV13 IAmb IAmb 22 16 32.5
comp=Z,17nm,0.8s
PV02 Paradox Valley 24.71 337 P **P 22 16 30.5 +1.6**
PV15 Paradox Valley 24.73 338 P **P 22 16 31.0 +1.8**
PV15 IAmb IAmb 22 16 33.5
comp=Z,28nm,1.0s
PV05 Paradox Valley 24.73 336 P **P 22 16 30.9 +1.7**
S51A Beattyville 24.74 26 P **P 22 16 27.2 -1.7**
S51A IAmb IAmb 22 16 29.1
comp=Z,41nm,0.9s
PV03 Paradox Valley 24.79 337 P **P 22 16 31.3 +1.6**
PV03 IAmb IAmb 22 16 33.5
comp=Z,40nm,1.3s
PV18 Skein Mesa, Pa 24.80 337 P **P 22 16 30.7 +0.9**
PV18 IAmb IAmb 22 16 33.0
comp=Z,28nm,0.9s
PV12 Saucer Basin, 24.83 337 P **P 22 16 31.3 +1.3**
PV11 David Mesa, Pa 24.84 337 P **P 22 16 30.9 +0.8**
PV11 IAmb IAmb 22 16 41.7
comp=Z,57nm,1.3s
PV17 East Wray Mesa 24.85 337 P **P 22 16 31.6 +1.3**
PV17 IAmb IAmb 22 16 34.1
comp=Z,29nm,1.2s
BORC Borrego Spring 24.86 318 P **P 22 16 32.4 +2.3**
PV16 Nyswonger Mesa 24.86 337 P **P 22 16 31.7 +1.3**
PV16 IAmb IAmb 22 16 34.2
comp=Z,46nm,1.5s
PV07 Paradox Valley 24.88 338 P **P 22 16 31.5 +1.0**
PV07 IAmb IAmb 22 16 34.8
comp=Z,25nm,1.0s
PV19 Morning Glory 24.89 337 P **P 22 16 31.9 +1.3**
PV19 IAmb IAmb 22 16 34.3
comp=Z,35nm,1.0s
PV20 West Nyswonger 24.91 337 P **P 22 16 32.5 +1.8**
PV20 IAmb IAmb 22 16 34.5
comp=Z,30nm,0.9s
PV04 Paradox Valley 24.93 337 P **P 22 16 32.0 +1.1**
PV04 IAmb IAmb 22 16 35.1
comp=Z,44nm,1.1s
PV14 Lion Creek, Pa 24.96 337 P **P 22 16 32.0 +0.8**
PV14 IAmb IAmb 22 16 35.1
comp=Z,18nm,1.0s
PV10 Paradox Valley 24.97 337 P **P 22 16 31.7 +0.3**
PV10 IAmb IAmb 22 16 34.4
comp=Z,43nm,1.0s
R50A Paris 24.99 24 P **P 22 16 29.8 -1.5**
BLO Bloomington 25.01 19 P **P 22 16 30.6 -0.8**
PV22 Blue Mesa, Par 25.01 337 P **P 22 16 33.4 +1.7**
PV22 IAmb IAmb 22 16 42.7
comp=Z,31nm,1.0s
PV23 Carpenter Ridg 25.02 337 P **P 22 16 33.5 +1.7**
PMD Palm Desert 25.08 319 P 22 16 35.2 +3.1
PMD IAmb IAmb 22 16 36.4
comp=Z,32nm,1.6s
COHC Cochancay 25.10 135 P **P 22 16 36.6 +4.2**
PV21 Cone Mtn., Par 25.11 337 P **P 22 16 33.9 +1.3**
PV21 IAmb IAmb 22 16 43.5
comp=Z,19nm,0.9s
N38A Joes South For 25.14 6 P **P 22 16 31.8 -0.7**
ISCO Idaho Springs 25.15 344 P 22 16 33.4 +0.4
ISCO IAmb IAmb 22 16 43.8
comp=Z,19nm,1.1s
FLOC Florencia 25.18 122 P 22 16 37.0 +3.7
FLOC IAmb IAmb 22 16 44.6
comp=Z,40nm,1.2s
P46A Rosedale 25.21 18 P **P 22 16 32.3 -0.9**
RUSC La Rusia 25.27 110 P 22 16 35.6 +1.1
HMU Henry Mountain 25.28 334 P **P 22 16 36.7 +2.5**
HMU IAmb IAmb 22 16 46.4
comp=Z,31nm,1.1s
N41A Harden Midland 25.39 11 P **P 22 16 33.4 -1.5**
OGNE Ogallala 25.50 351 P **P 22 16 36.3 +0.4**
HDIL Hopedale 25.56 13 P **P 22 16 35.0 -1.3**
HDIL IAmb IAmb 22 17 08.1
comp=Z,27nm,0.8s
V12A Nelson 25.59 324 P 22 16 38.5 +1.7
V12A IAmb IAmb 22 16 42.2
comp=Z,18nm,1.1s
P48A Milroy 25.63 21 P 22 16 35.5 -1.5
BLA Blacksburg 25.84 31 P **P 22 16 36.9 -2.2**
S54A Dingess, Beckl 25.88 29 P **P 22 16 37.1 -2.3**
SFIN Lafayette 25.95 17 P 22 16 38.0 -1.9
Q51A Peebles 26.02 24 P **P 22 16 38.9 -1.7**
CCUT Cedar City 26.18 329 P **P 22 16 42.8 +0.5**
SCIA State Center 26.24 6 P **P 22 16 41.1 -1.4**
O20A White River Ci 26.25 340 P 22 16 44.7 +1.8
O20A IAmb IAmb 22 16 46.1
comp=Z,16nm,1.0s
SHPR Sheep Range 26.33 325 P 22 16 45.6 +2.0
Q52A Bidwell 26.41 26 P **P 22 16 43.1 -1.0**
O48B Farmland 26.44 20 P **P 22 16 42.8 -1.6**
SDV Santo Domingo 26.46 102 P 22 16 45.4 +0.3
SDV IAmb IAmb 22 16 55.1
comp=Z,21nm,1.0s
SDV Santo Domingo 26.46 102 P **P 22 16 44.9 -0.2**
comp=Z,12nm,0.8s,baz=293,slow=2.9,SNR=20
SDV LR LR 22 28 49.6
comp=Z,152nm,18.8s,baz=314,slow=40
comp=Z,12nm,0.8s
TMUT Trail Mountain 26.62 335 P **P 22 16 48.1 +1.8**
O49A Covington 26.66 22 P 22 16 44.7 -1.6
N47A Urbana 26.83 19 P **P 22 16 45.9 -1.9**
R55A Marlinton 26.83 30 P **P 22 16 46.0 -2.0**
R55A IAmb IAmb 22 16 55.7
comp=Z,21nm,0.8s
GWY Greenwater Val 26.95 323 P **P 22 16 51.2 +2.0**
P52A Corning 27.03 26 P **P 22 16 48.3 -1.4**
Q54A Coxs Mills 27.06 28 P **P 22 16 48.7 -1.2**
Q54A IAmb IAmb 22 16 57.5
comp=Z,28nm,0.9s
ACSO Alum Creek Sta 27.20 24 P 22 16 49.7 -1.5
P53A Whipple 27.22 27 P **P 22 16 48.7 -2.7**
TPNV Topopah Spring 27.25 324 P 22 16 54.3 +2.4
MPMC Manual Prospec 27.35 322 P **P 22 16 54.1 +1.2**
WCT Wildcat Mounta 27.35 324 P **P 22 16 55.1 +2.4**
BSUT Blindstream Ca 27.50 337 P **P 22 16 56.1 +1.8**
O52A Adamsville 27.56 25 P **P 22 16 52.6 -1.8**
O52A IAmb IAmb 22 17 01.2
comp=Z,42nm,1.0s
JFWS Jewell Farm 27.64 10 P **P 22 16 53.7 -1.4**
K43A Burlington 27.82 13 P **P 22 16 55.3 -1.4**
ECSD EROS Data Cent 27.88 0 P 22 16 56.6 -0.7
ECSD IAmb IAmb 22 17 42.1
comp=Z,15nm,1.1s
R11B Troy Canyon, C 27.92 327 P 22 16 60.0 +2.1
GRAC Grapevine Rang 27.92 323 P **P 22 16 59.2 +1.4**
GRAC IAmb IAmb 22 17 06.8
comp=Z,21nm,1.4s
O53A New Philadelph 27.93 26 P **P 22 16 56.1 -1.7**
DUG Dugway, Tooele 28.05 333 P **P 22 16 59.8 +0.8**
MCWV Mont Chateau 28.05 29 P **P 22 16 57.9 -0.9**
MCWV IAmb IAmb 22 17 06.8
comp=Z,37nm,1.0s
K22A Casper 28.06 345 P **P 22 17 00.3 +1.2**
K22A IAmb IAmb 22 17 01.6
comp=Z,14nm,1.1s
GMN Gold Mountain 28.07 324 P **P 22 17 01.1 +1.8**
VES Vestal, Richgr 28.19 319 P **P 22 17 01.9 +1.8**
VES IAmb IAmb 22 17 04.0
comp=Z,53nm,1.7s
M50A Fremont 28.20 22 P **P 22 16 58.1 -2.0**
TCUT Toone Canyon 28.25 336 P **P 22 17 02.0 +1.1**
TCUT IAmb IAmb 22 17 04.4
comp=Z,19nm,1.0s
I37A Lemond, Waseca 28.31 5 P **P 22 16 59.9 -1.2**
DSP Deep Springs 28.53 323 P 22 17 04.8 +1.8
I40A Norwalk 28.53 9 P 22 17 01.4 -1.7
N53A Lisbon 28.55 26 P **P 22 17 01.3 -2.0**
BAUV El Baul 28.90 100 IAmb IAmb 22 17 14.7
comp=Z,18nm,0.9s
PAMR Moraine State 28.98 27 P **P 22 17 05.0 -2.2**
BW06 Boulder Array 29.05 340 P **P 22 17 08.4 +0.4**
PD31 Pinedale Array 29.05 340 P 22 17 08.2 +0.3
PDAR Pinedale Array 29.05 340 P 22 17 08.3 +0.3
PDAR Pinedale Array 29.05 340 P **P 22 17 08.9 +1.0**
comp=Z,2.3nm,0.7s,baz=138,slow=9.9,SNR=22
PDAR LR LR 22 29 55.5
comp=Z,98nm,21.2s,baz=150,slow=39
comp=Z,2.3nm,0.7s
ATAH Atahualpa 29.16 140 LR LR 22 26 55.8
comp=Z,119nm,18.9s,baz=322,slow=33
J47A Sunmer 29.24 18 P **P 22 17 07.6 -1.8**
MDPB Devils Postpil 29.35 322 P **P 22 17 13.2 +2.5**
MDPB IAmb IAmb 22 17 58.7
comp=Z,16nm,0.8s
NV11 Mina Array Sit 29.37 324 P **P 22 17 12.9 +2.2**
NV11 IAmb IAmb 22 17 14.9
comp=Z,13nm,1.1s
SJG San Juan 29.42 81 LR LR 22 30 17.5
comp=Z,132nm,18.1s,baz=273,slow=39
LHV Little Huntoon 29.44 324 P **P 22 17 13.4 +2.3**
NVAR Mina Array Bea 29.45 324 P 22 17 13.3 +1.8
NVAR Mina Array Bea 29.45 324 P **P 22 17 14.2 +2.7**
comp=Z,5.7nm,0.9s,baz=147,slow=9.4,SNR=22
comp=Z,5.7nm,0.9s
SPMN Marine on St. 29.57 6 P 22 17 10.6 -1.6

ELK	Elko	29.59 331		P		22 17 13.8 +1.1
ELK	Elko	29.59 331	LR	LR		22 29 37.0
comp=Z,269nm,19.2s,baz=135,slow=38						
PAOC	Oil Creek Stat	29.63 27	P	P		22 17 11.4 -1.4
RYN	Ryan	29.71 324	P	P		22 17 15.1 +1.3
SNOW	Snow King Moun	30.06 340	P	P		22 17 18.5 +1.5
LOHW	Long Hollow	30.14 340	P	P		22 17 18.6 +1.0
LOHW			IAmb	IAmb		22 17 20.4
comp=Z,17nm,0.8s						
TPAW	Teton Pass	30.15 339		P		22 17 18.3 +0.5
TPAW			IAmb	IAmb		22 17 30.4
comp=Z,37nm,1.6s						
FXWY	Fox Creek	30.31 339	P	P		22 17 20.0 +0.9
FXWY			IAmb	IAmb		22 17 28.9
comp=Z,11nm,1.2s						
WELL	Weller Preserv	30.86 322	P	P		22 17 25.5 +1.7
YMP	Mirror Lake Pl	31.01 341	P	P		22 17 26.6 +1.2
YMP			IAmb	IAmb		22 17 42.4
comp=Z,7.4nm,0.8s						
RLMT	Red Lodge	31.09 343		P		22 17 25.9 -0.1
RLMT			IAmb	IAmb		22 17 28.5
comp=Z,22nm,1.0s						
MMNY	Mt. Morris Dam	31.39 27	P	P		22 17 27.5 -0.8
YHL	Hebgen Lake	31.43 340	P	P		22 17 30.5 +1.4
YHL			IAmb	IAmb		22 17 33.5
comp=Z,11nm,0.9s						
QLMT	Earthquake Lak	31.50 340	P	P		22 17 30.7 +1.1
MEDO	Medina	31.50 26	P	P		22 17 27.6 -1.8
HLID	Hailey	31.51 335		P		22 17 30.6 +1.0
BEKR	Beckworth	31.60 324		P		22 17 31.9 +1.4
BEKR			IAmb	IAmb		22 17 34.4
comp=Z,13nm,1.4s						
J55A	Hilton	31.86 27	P	P		22 17 30.2 -2.2
MCMT	McKenzie Canyo	31.98 338	P	P		22 17 36.1 +2.2
BOZ	Bozeman (W)	32.24 340	P	P		22 17 37.5 +1.5
DLMT	Dillon	32.36 339	P	P		22 17 38.7 +1.6
AGMN	Agassiz Nation	32.46 1		P		22 17 36.6 -1.1
AGMN			IAmb	IAmb		22 17 45.3
comp=Z,14nm,0.9s						
WVOR	Wild Horse Val	32.52 329	P	P		22 17 40.2 +1.7
WVOR			IAmb	IAmb		22 17 41.7
comp=Z,30nm,1.7s						
SADO	Sadowa	32.55 24	P	P		22 17 35.4 -3.1
SADO	Sadowa	32.55 24	LR	LR		22 33 00.2
comp=Z,352nm,18.6s,baz=212,slow=41						
LRM	Limekiln Ridge	32.71 340	P	P		22 17 42.0 +1.7
PECO	Prince Edward	32.75 27	P	P		22 17 38.5 -1.8
J57A	Williamstown	32.79 29	P	P		22 17 38.8 -1.8
DELO	Deloro Mine	32.95 26	P	P		22 17 40.9 -1.2
J08A	Circle Bar Ran	33.13 331	P	P		22 17 44.9 +1.1
J08A			IAmb	IAmb		22 17 54.3
comp=Z,7.6nm,0.6s						
HRY	Holter Researc	33.30 341	P	P		22 17 46.2 +1.0
BPMT	Black Pine Rid	33.59 339	P	P		22 17 48.4 +0.5
LYMT	Lyon Mountain	33.67 341	P	P		22 17 48.6 0.0
EGMT	Eagleton	33.90 344	P	P		22 17 51.3 +0.9
EGMT			IAmb	IAmb		22 18 00.4
comp=Z,27nm,1.4s						
EPLO	Experimental L	33.92 4	P	P		22 17 49.3 -1.2
EPLO			IAmb	IAmb		22 17 51.5
comp=Z,28nm,1.3s						
MSO	Missoula	34.10 339		P		22 17 51.9 -0.3
MSO			IAmb	IAmb		22 17 54.5
comp=Z,9.8nm,0.8s						
LONY	Lake Ozonia	34.37 29		P		22 17 53.5 -0.9
ULM	Lac du Bonnet	34.41 1	P	P		22 17 53.5 -1.2
comp=Z,7.2nm,0.8s,baz=141,slow=7.9,SNR=4.1						
comp=Z,7.2nm,0.8s						
F10A	Beach Ranch, E	34.63 335	P	P		22 17 57.7 +0.9
G08A	Pilot Rock	34.84 332		P		22 17 59.1 +0.5
JTMT	Jette	35.01 339	P	P		22 18 00.6 +0.5
E09A	Wood Farm, Sta	35.45 334	P	P		22 18 04.5 +0.9
E09A			IAmb	IAmb		22 18 05.2
comp=Z,6.0nm,0.8s						
HOOD	Mount Hood Mea	36.12 330	P	P		22 18 11.8 +2.2
HOOD			IAmb	IAmb		22 18 13.0
comp=Z,22nm,1.2s						
NEW	Newport	36.46 337	P	P		22 18 13.3 +0.8
NEW	Newport	36.46 337	LR	LR		22 34 19.9
comp=Z,155nm,21.4s,baz=152,slow=38						
C09A	Chrisman Ranch	36.53 336	P	P		22 18 14.8 +1.8
C09A			IAmb	IAmb		22 18 23.2
comp=Z,7.7nm,0.7s						
LTY	Liberty	37.11 333	P	P		22 18 18.0 0.0
LTY			IAmb	IAmb		22 18 27.6
comp=Z,15nm,1.2s						
LON	Longmire	37.24 331	P	P		22 18 19.5 +0.4
LON			IAmb	IAmb		22 18 21.7
comp=Z,6.7nm,0.8s						
B08A	Colville Reser	37.40 335	P	P		22 18 20.7 +0.3
GNW	Green Mountain	38.31 331		P		22 18 29.2 +1.1
GNW			IAmb	IAmb		22 18 38.0
comp=Z,14nm,1.2s						
FFC	Flin Flon	39.09 355	P	P		22 18 33.8 -0.7
FFC			IAmb	IAmb		22 18 35.7
comp=Z,14nm,0.8s						
FFC	Flin Flon	39.09 355	P	P		22 18 34.6 +0.2
FFC			pP	sP		22 18 43.7 +2.3
LLLB	Lillooet	40.20 335	P	P		22 18 44.4 +0.5
LLLB			IAmb	IAmb		22 18 53.3
comp=Z,12nm,1.1s						
LPAZ	La Paz	42.61 137	P	P		22 19 05.3 +0.6
LPAZ	La Paz	42.61 137	P	P		22 19 05.0 +0.4
comp=Z,1.9nm,0.7s,baz=339,slow=5.4,SNR=4.2						
LPAZ			LR	LR		22 34 48.1
comp=Z,91nm,20.6s,baz=303,slow=33						
comp=Z,1.9nm,0.7s						
PB16	IPOC Station P	43.26 141		P		22 19 12.2 +2.4
PB11	IPOC Station P	44.27 142		P		22 19 20.6 +3.2
GO01	Chusmiza	44.47 141	P	P		22 19 22.7 +3.2
GO01			IAmb	IAmb		22 19 46.9
comp=Z,21nm,1.8s						
MDP	Montagnes des	44.63 99	LR	LR		22 38 52.2
comp=Z,70nm,18.2s,baz=266,slow=38						
PB02	IPOC Station P	45.34 144	P	P		22 19 30.4 +4.4
PB02			IAmb	IAmb		22 19 32.5
comp=Z,8.8nm,0.7s						
SCHQ	Schefferville	45.36 24	P	P		22 19 23.7 -1.9
SCHQ	Schefferville	45.36 24	P	P		22 19 24.4 -1.2
comp=Z,88nm,0.8s,baz=210,slow=7.4,SNR=6.6						
SCHQ			LR	LR		22 40 56.7
comp=Z,846nm,18.1s,baz=216,slow=40						
YKA	Yellowknife Ar	48.34 349	P	P		22 19 48.5 -0.3
comp=Z,3.1nm,0.9s,baz=161,slow=6.7,SNR=5.8						
YKA			LR	LR		22 40 15.8
comp=Z,143nm,19.4s,baz=133,slow=36						
comp=Z,3.1nm,0.9s						
WTLY	Watson Lake, Y	50.01 340	P	P		22 20 02.9 +1.3
WTLY			IAmb	IAmb		22 20 11.6
comp=Z,10nm,0.9s						
AC02	Maricunga	50.16 147	P	P		22 20 07.0 +3.2
AC02			IAmb	IAmb		22 20 13.8
comp=Z,6.5nm,0.9s						
R33M	Jennings River	50.23 338	P	P		22 20 04.9 +1.4
R33M			IAmb	IAmb		22 20 07.4
comp=Z,26nm,1.6s						
FRB	Frobisher Bay	51.77 16	LR	LR		22 46 04.2
comp=Z,87nm,19.8s,baz=148,slow=41						
L29M	L29M	55.30 339	P	P		22 20 42.1 +1.3
L29M			IAmb	IAmb		22 20 50.7
comp=Z,11nm,0.8s						
I30M	Mount Dempster	56.11 341	P	P		22 20 47.6 +1.0
I30M			IAmb	IAmb		22 20 55.7
comp=Z,4.4nm,0.8s						
G31M	Satah River	56.67 343	IAmb	IAmb		22 20 59.2
comp=Z,12nm,0.8s						
I29M	Ogilvie Camp,	56.81 341	IAmb	IAmb		22 21 02.9
comp=Z,5.5nm,0.9s						
EGAK	Eagle	57.38 339	IAmb	IAmb		22 21 04.2
comp=Z,7.5nm,0.8s						
BDFB	Brasilia	57.41 121	P	P		22 20 56.4 -0.2
comp=Z,2.1nm,0.7s,baz=270,slow=17,SNR=3.4						
comp=Z,2.1nm,0.7s						
INK	Inuvik	57.48 345	IAmb	IAmb		22 21 04.8
comp=Z,11nm,0.9s						
F30M	Barrier River	57.58 343	IAmb	IAmb		22 21 05.8
comp=Z,15nm,1.0s						
DOT	Dot Lake	57.77 337	IAmb	IAmb		22 21 08.2
comp=Z,12nm,1.0s						
SCRK	Sand Creek	57.92 338	IAmb	IAmb		22 21 08.9
comp=Z,12nm,1.3s						
J26L	Joseph Creek	58.06 338	IAmb	IAmb		22 21 11.0
comp=Z,14nm,1.0s						
RIDG	Independent Ri	58.11 337	IAmb	IAmb		22 21 11.2
comp=Z,17nm,1.1s						
E29M	Blow River	58.69 343	IAmb	IAmb		22 21 13.8
comp=Z,7.1nm,1.1s						
J25K	Salcha River,	58.78 338	IAmb	IAmb		22 21 14.9
comp=Z,13nm,1.2s						
G27K	Doyon Strip	58.78 341	IAmb	IAmb		22 21 14.1
comp=Z,3.7nm,0.8s						
E28M	Babbage River	59.29 343	IAmb	IAmb		22 21 20.2
comp=Z,6.2nm,1.1s						
PRP	Porcupine Dome	59.32 339	IAmb	IAmb		22 21 18.5
comp=Z,10.0nm,1.0s						
SFJD	Kangerlussuaq	59.33 19	LR	LR		22 50 50.2
comp=Z,53nm,18.7s,baz=195,slow=40						
IL31		59.42 338	P	P		22 21 10.8 +1.1
IL31			IAmb	IAmb		22 21 19.4
comp=Z,14nm,1.1s						
ILAR	Eielson Array	59.42 338		P		22 21 10.8 +1.0
ILAR	Eielson Array	59.42 338	P	P		22 21 11.1 +1.3
comp=Z,4.0nm,0.9s,baz=135,slow=4.7,SNR=24						
comp=Z,4.0nm,0.9s						
G26K	Porcupine Rive	59.54 340	P	P		22 21 10.9 +0.3
G26K			IAmb	IAmb		22 21 34.8
comp=Z,16nm,1.6s						
E27K	Coleen River	59.61 342	IAmb	IAmb		22 21 20.3
comp=Z,7.7nm,0.9s						
SKT	Skwentna	59.96 334	IAmb	IAmb		22 21 22.9
comp=Z,9.5nm,0.8s						
BMAR	Burnt Mountain	60.07 341		P		22 21 15.5 +1.2
TRF	Thorofare Moun	60.09 335	IAmb	IAmb		22 21 16.6
comp=Z,12nm,0.9s						
F25K	Christian Rive	60.51 341	P	P		22 21 18.1 +0.9
F25K			IAmb	IAmb		22 21 26.8
comp=Z,5.5nm,0.8s						
PPLA	Purkeypile	60.62 334	P	P		22 21 18.8 +0.5
G24K	Hadweenzic Riv	60.63 339	P	P		22 21 19.6 +1.5
G24K			IAmb	IAmb		22 21 27.9
comp=Z,13nm,1.2s						
BPAW	Bear Paw Mtn.	60.65 336	P	P		22 21 18.2 -0.1
BPAW			IAmb	IAmb		22 22 45.9
comp=Z,24nm,1.8s						
PLCA	Paso Flores	61.27 157	P	P		22 21 24.1 +1.3
comp=Z,2.3nm,0.7s,baz=337,slow=8.0,SNR=7.0						
PLCA			LR	LR		22 41 58.9
comp=Z,123nm,18.2s,baz=256,slow=30						
comp=Z,2.3nm,0.7s						
E23K	Chandalar	62.03 340	P	P		22 21 27.9 +0.3
J19K	Poorman	62.47 335	IAmb	IAmb		22 21 39.1
comp=Z,10nm,0.9s						
F21K	Alatna River	62.96 339		P		22 21 35.3 +1.5
F21K			IAmb	IAmb		22 21 43.9
comp=Z,13nm,1.0s						
C23K	Itkillik River	63.23 342	P	P		22 21 36.4 +1.0
SHEM	Shemya Is, Ala	77.07 321	LR	LR		22 57 23.4
comp=Z,61nm,19.0s,baz=134,slow=36						
PMAFR	Mafra	78.39 53	eP	P		22 23 11.3 +3.0
PCAS	Casmilo, Conde	78.78 51	eP	P		22 23 11.0 +0.6
PCAS			i IAmb	IAmb		22 23 25.2
comp=Z,57nm,1.8s						
POLO	Lamas de Olo	79.05 50	eP	P		22 23 14.7 +2.7
PVIS	Viseu	79.10 51	eP	P		22 23 12.3 0.0
PSARD	Sardoal	79.12 52	eP	P		22 23 19.0 +6.7
PSARD			i IAmb	IAmb		22 23 28.2
comp=Z,41nm,1.8s						
PMTG	Montargil	79.18 52	eP	P		22 23 13.2 +0.6
EKA	Eskdalemuir Ar	79.26 35	P	P		22 23 12.3 -0.4
comp=Z,1.8nm,0.7s,baz=297,slow=5.5,SNR=2.7						
comp=Z,1.8nm,0.7s						
SPITS	Spitsbergen Ar	79.28 11	LR	LR		23 00 28.8
comp=Z,81nm,21.1s,baz=252,slow=37						
MTE	Manteigas	79.42 51	eP	P		22 23 13.8 -0.2
MTE			i IAmb	IAmb		22 23 22.6
comp=Z,27nm,2.1s						
EVO	Evora	79.45 53	eP	P		22 23 14.2 +0.1
PCBR	Castelo Branco	79.59 52	eP	P		22 23 14.6 -0.3
MVO	Moncorvo	79.65 50	eP	P		22 23 15.7 +0.4
PMRV	Marv??o	79.74 52	eP	P		22 23 15.9 +0.2
NIUE	Niue	79.81 247	P	P		22 23 20.9 +4.6
PBAR	Barrancos	80.27 53	eP	P		22 23 18.4 -0.1
ESDC	Sonseca Array	82.27 51	P	P		22 23 28.5 -0.8
ESDC			IAmb	IAmb		22 23 29.7
comp=Z,14nm,1.7s						
ESDC	Sonseca Array	82.27 51	P	P		22 23 29.2 0.0
comp=Z,2.5nm,0.9s,baz=288,slow=4.8,SNR=10						
comp=Z,2.5nm,0.9s						
NOA	NORSAR Array B	84.80 28	P	P		22 23 42.4 +0.6
comp=Z,0.9nm,0.8s,baz=241,slow=3.7,SNR=3.4						
NOA			LR	LR		23 03 26.3
comp=Z,17nm,18.6s,baz=35,slow=37						
comp=Z,0.9nm,0.8s						
ARCES	ARCESS Array B	85.89 17	P	P		22 23 46.6 -0.5
comp=Z,2.7nm,0.9s,baz=30,slow=13,SNR=3.7						
comp=Z,2.7nm,0.9s						
PETK	Petropavlovsk-	86.53 324	LR	LR		23 01 46.0
comp=Z,131nm,19.8s,baz=353,slow=35						
TIXI	Tiksi	87.54 347	P	P		22 23 54.9 -0.1
TIXI			IAmb	IAmb		22 23 55.3
comp=Z,5.4nm,0.7s						
TIXI	Tiksi	87.54 347	P	P		22 23 55.0 0.0
DBIC	Dimbokro	90.10 83	LR	LR		23 02 22.4
comp=Z,28nm,20.0s,baz=191,slow=34						
GERES	GERESS Array B	91.17 38	P	P		22 24 12.5 -0.2
comp=Z,0.2nm,0.4s,baz=297,slow=4.3,SNR=3.9						
comp=Z,0.2nm,0.4s						
VRAC	Vranov	92.66 37	LR	LR		23 07 23.4
comp=Z,40nm,18.1s,baz=298,slow=36						
KEST	Kesra	93.51 52	LR	LR		23 02 58.5
comp=Z,47nm,18.8s,baz=322,slow=33						
TORD	Torodi Ar. Bea	94.47 75	P	P		22 24 27.1 -1.3
comp=Z,0.5nm,0.7s,baz=316,slow=6.1,SNR=2.9						
comp=Z,0.5nm,0.7s						
AKASG	Malin Array Be	98.74 31	P	P		22 24 47.3 +0.2
comp=Z,0.4nm,0.3s,baz=283,slow=21,SNR=5.0						
AKASG			LR	LR		23 13 31.4
comp=Z,48nm,18.3s,baz=18,slow=38						
comp=Z,0.4nm,0.3s						
XAN	Xi'an	124.74 334	Pdif	Pdif		22 26 43.9 +0.7
STKA	Stephens Creek	124.81 242	PKP	PKiKP		22 30 08.4 +0.3
comp=Z,1.3nm,0.6s,baz=222,slow=2.1,SNR=5.6						
MAW	Mawson	126.54 170	PKP	PKPdf		22 30 10.4 +0.4
comp=Z,0.6nm,0.6s,baz=230,slow=4.8,SNR=6.1						
WRA	Warramunga Arr	131.27 257	PKP	PKPdf		22 30 21.0 +0.5
comp=Z,1.9nm,0.9s,baz=85,slow=2.3,SNR=7.0						
ASAR	Alice Springs	131.81 252	PKP	PKiKP		22 30 22.3 -0.2
comp=Z,0.2nm,0.5s,baz=117,slow=2.5,SNR=6.6						
CMAR	Chiang Mai Arr	142.62 335	PKhKP	PKPpre		22 30 38.4
comp=Z,0.8nm,0.3s,baz=334,slow=3.8,SNR=4.1						

*CATAC **10** 22:14:28.5±0.8, 13°N±4°×9°0W±°, h5km±3km, M3.5/19, MLv3.5/19, Error ellipse: s-maj=9.4km s-min=3.9km az=25.8, confirmed*
*SNET **10** 22:14:30.6±0.9, 12°.93N×89°.95W, h24km±7km, ML3.4*
ISC 10 22:14:31.4±2.8,**13°.0N**±0°.1×**89°.94W**±0°.09,**h29**km,**n58,**
σ0°85/58,**1C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.79	49	P	Pn	22 14 44.8	-1.8
LALI	Alcalda de L	0.79	49	S	Sb	22 14 56.9	-0.2
JAYA	Jayaque - finc	0.83	35	eP	Pn	22 14 45.9	-1.5
JAYA	Jayaque - finc	0.83	35	P	Pn	22 14 45.8	-1.6
JAYA	Jayaque - finc	0.83	35	S	Sb	22 14 58.0	-0.4
FAME	Alcaldia de Sa	0.87	355	P	Pn	22 14 46.4	-1.4
CEVE	Cerro Verde	0.91	20	eP	Pn	22 14 48.0	-0.5
CEVE	Cerro Verde	0.91	20	P	Pn	22 14 48.1	-0.5
CEVE	Cerro Verde	0.91	20	S	Sb	22 15 01.3	+0.7
SBLS	San Blas	0.92	19	eP	Pn	22 14 47.6	-1.0
NUBE	Las Nubes	0.94	9	eP	Pn	22 14 47.6	-1.2
NUBE	Las Nubes	0.94	9	P	Pn	22 14 47.6	-1.2
ITCA	Escuela Especi	0.95	42	S	Sn	22 15 01.7	+0.1
SNJE	San Jose	0.95	20	eP	Pn	22 14 48.2	-0.9
PMON	Piamonte	0.96	39	eP	Pn	22 14 47.9	-1.2
PMON	Piamonte	0.96	39	P	Pn	22 14 47.7	-1.3
RTR	El Retiro	0.97	17	eP	Pn	22 14 48.5	-0.7
PANCS	Alcalda de	0.98	49	P	Pn	22 14 47.9	-1.3
PANCS	Alcalda de	0.98	49	S	Sn	22 15 02.3	+0.1
BOQS	Boqueron	1.00	40	eP	Pn	22 14 48.5	-1.1
LOMA	Loma Larga	1.00	48	eP	Pn	22 14 48.6	-1.2
LOMA	Loma Larga	1.00	48	P	Pn	22 14 48.5	-1.2
LOMA	Loma Larga	1.00	48	S	Sn	22 15 03.1	+0.1
UEES	Universidad Ev	1.01	42	S	Sn	22 15 03.2	+0.2
LOAL	Lomas de Alarc	1.04	9	eP	Pn	22 14 49.5	-0.5
LOAL	Lomas de Alarc	1.04	9	P	Pn	22 14 49.6	-0.5
LOAL	Lomas de Alarc	1.04	9	S	Sb	22 15 05.5	+1.4
IGN	Direccin Gen	1.05	45	S	Sn	22 15 04.7	+0.7
UDBS	Universidad Do	1.06	46	P	Pn	22 14 49.7	-0.7
UDBS	Universidad Do	1.06	46	S	Sn	22 15 04.9	+0.5
UNIC	Universidad Ca	1.08	21	S	Sb	22 15 05.7	+0.4
LFU	La Fuente	1.12	46	eP	Pn	22 14 50.5	-0.7
LBRS	Las Brisas	1.16	49	eP	Pn	22 14 51.4	-0.4
RBDL	Robledal	1.17	12	eP	Pn	22 14 51.4	-0.5
PAVA	Las Pavas	1.22	53	eP	Pn	22 14 52.4	-0.3
PAVA	Las Pavas	1.22	53	P	Pn	22 14 51.8	-0.9
PAVA	Las Pavas	1.22	53	S	Sb	22 15 10.1	+0.5
TECO	Alcaldia de Te	1.26	63	P	Pn	22 14 52.2	-0.9
TECO	Alcaldia de Te	1.26	63	S	Sn	22 15 09.5	+0.4
UESV	Universidad de	1.30	59	P	Pn	22 14 52.5	-1.2
UESV	Universidad de	1.30	59	S	Sn	22 15 10.9	+0.7
SCLA	Alcaldia de Sa	1.39	58	P	Pn	22 14 54.5	-0.3
SCLA	Alcaldia de Sa	1.39	58	S	Sb	22 15 13.6	-0.5
PQSS	Presa 15 de Se	1.49	64	S	Sn	22 15 15.1	+0.3
TECA	Tecapa	1.49	69	eP	Pn	22 14 55.2	-1.3
MTO3	Montecristo	1.53	21	eP	Pn	22 14 57.1	+0.1
MTO3	Montecristo	1.53	21	P	Pn	22 14 57.1	+0.1
MTO3	Montecristo	1.53	21	S	Sb	22 15 17.8	-0.5
LLGN	La Laguna	1.53	39	P	Pn	22 14 57.1	+0.2
LLGN	La Laguna	1.53	39	S	Sb	22 15 18.3	0.0
PACA	Pacayal	1.65	72	P	Pn	22 14 58.0	-0.5
PACA	Pacayal	1.65	72	S	Sn	22 15 19.9	+1.0
RANC	El Ranchito	1.67	74	P	Pn	22 14 58.6	-0.3
ESQI	Esquipulas	1.69	20	P	Pn	22 14 59.6	+0.5
ESQI	Esquipulas	1.69	20	S	Sb	22 15 23.7	+1.0
BLLM	Bellamira	1.72	74	eP	Pn	22 14 59.3	-0.2
CNCH	Conchagua	2.07	81	P	Pn	22 15 04.6	+0.2
CSGN	Cosiguina Volc	2.32	90	P	Pn	22 15 07.9	+0.2

*AEIC **10** 22:26:46.9±0.9, 54°.79N±0°.07×161°.65W±0°.06, h74km±6km, Error ellipse: s-maj=10.6km s-min=5.1km az=180.0*
NEIC 10 22:26:47.1±0.7,**54°.72N**±0°.06×**161°.59W**±0°.05,**h73**km±7km,
ML2.5/8,**ML2.3**(AEIC),**Error ellipse: s-maj=8.9km**
s-min=2.1km az=157.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.46	340		Pn	22 26 59.7	-0.1
DOL					Sn	22 27 09.3	+0.1
DT1	Dutton Round H	0.56	315		Pn	22 27 00.4	-0.3
DT1					Sn	22 27 10.7	0.0
PS4A	Pavlof South-4	0.65	347		Pn	22 27 01.6	0.0
PS4A					Sn	22 27 12.6	+0.2
PS1A	Pavlof South-1	0.71	353		Pn	22 27 02.3	-0.1
PS1A					Sn	22 27 14.2	+0.6
PN7A	Pavlof North-7	0.75	342		Pn	22 27 02.3	-0.6
SDPT	Sand Point	0.90	45		Pn	22 27 04.2	-0.3
SDPT				IAML		22 27 18.5	
comp=E,173nm,0.2s							
SDPT	Sand Point	0.90	45		Sn	22 27 17.9	+0.5
S12K	Black Hills	1.02	345		Sn	22 27 18.5	-1.7
S12K	Black Hills	1.02	345	Pn	Pn	22 27 05.4	-0.7
S12K				IAML		22 27 16.4	
comp=E,59nm,1.1s							
S12K				IAML		22 27 19.2	
comp=N,56nm,0.8s							
FALS	False Pass	1.07	278		Pn	22 27 06.1	-0.4
FALS	False Pass	1.07	278	IAML		22 27 22.7	
comp=E,184nm,0.5s							
CNBA	Chernabura Isl	1.17	84		Pn	22 27 07.8	+0.1
CNBA				Sn	Sn	22 27 23.2	0.0
ISNN	Isanotski Nort	1.27	276		Pn	22 27 09.5	+0.3
ISNN					Sn	22 27 26.1	+0.4
SSLS	Shishaldin Sou	1.40	271		Pn	22 27 11.1	+0.2
WEBT	Westdahl Beart	1.84	267		Pn	22 27 16.6	0.0
VNSG	Veniaminof 6	2.01	44		Pn	22 27 19.2	+0.2
VNHG	Veniaminof 1	2.04	42		Pn	22 27 19.8	+0.4
AKSA	Akutan Strait	2.47	258		Pn	22 27 25.1	+0.1
AHB	Akutan Harbor	2.54	258		Pn	22 27 26.1	+0.1
ZRO	Akutan Zero	2.64	258		Pn	22 27 27.4	0.0

*IDC **10** 22:30:12.0±3.4, 9°.41S×119°.01E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=288.8km s-min=29.7km az=50.0*
*DJA **10** 22:30:18.4±0.7, 10°S±4°×11°9E±°, h13km±5km, M3.8/11, MLv3.8/11*
ISC 10 22:30:16.3±1.1,**10°.02S**±0°.09×**118°.65E**±0°.04,**h10**km,**n12,**
σ1°27/15,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.82	63	P	Pg	22 30 33.1	+1.0
WBSI				S	Sb	22 30 43.6	-0.2
PLAI	Plampang	1.46	324	P	Pn	22 30 42.8	0.0
PLAI				S	Sb	22 31 00.0	-2.3
WSI	Waingapu	1.66	78	P	Pn	22 30 45.6	+0.2
WSI				S	Sn	22 31 07.1	+0.3
BASI	Baing, Sumba	1.91	96	P	Pb	22 30 52.6	+1.4
TWSI	Taliwang, Sumb	2.16	306	P	Pn	22 30 53.5	+1.2
TWSI				S	Sn	22 31 19.2	0.0
EDFI	Ende, Flores	3.25	67	P	Pn	22 31 06.8	-0.7
BSSI	Bau Bau, Buton	4.26	25	P	Pn	22 31 21.2	0.0
JAGI	Jajag, Banyuwa	4.70	289	P	Pn	22 31 28.4	+1.1
BKSI	Bulukumba	4.89	17	P	Pn	22 31 30.5	+0.6
WRA	Warramunga Arr	18.07	125	P	Pn	22 34 25.0	-2.7
0.1nm,0.3s,baz=303,slow=11,SNR=2.7							
WRA				S	Sn	22 37 34.4	-15
0.2nm,0.3s,baz=300,slow=25,SNR=2.0							
0.3nm,0.5s							
ASAR	Alice Springs	19.91	135	P	P	22 34 47.7	-0.5
1.1nm,0.7s,baz=312,slow=9.9,SNR=8.7							
ASAR				S	S	22 38 20.7	-12
0.1nm,0.3s,baz=312,slow=25,SNR=1.6							
1.1nm,

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KNRA Kununurra      21.48 238  P     P     22 39 58.9 -1.9
SANVU Saraoutou     22.20 121  P     P     22 40 06.0 -2.6
AS31 Alice Springs  23.09 213        P     22 40 17.8 -0.1
ASAR Alice Springs  23.09 213        P     22 40 18.0  0.0
ASAR Alice Springs  23.09 213        P     22 40 18.4 +0.4
     comp=Z,20nm,0.8s,baz=44,slow=8.7,SNR=162
ASAR                          LR    LR    22 50 28.0
     comp=Z,132nm,18.4s,baz=32,slow=40
     comp=Z,20nm,0.8s
SOEI Soe            23.61 256  P     P     22 40 23.2 -0.1
SOEI                          IAmb  IAmb  22 40 42.5
     comp=Z,13nm,0.8s
INKA Innaminka      23.94 195  P     P     22 40 26.0 -0.1
INKA                          IAmb  IAmb  22 40 28.3
     comp=Z,12nm,0.8s
BATI Baumata        24.28 255  LR    LR    22 50 28.6
     comp=Z,95nm,19.8s,baz=80,slow=38
DAV  Davao City (W) 24.73 298  LR    LR    22 51 14.6
     comp=Z,77nm,18.7s,baz=43,slow=39
LUWI Luwuk          24.93 277  P     P     22 40 34.2 -1.1
FITZ Fitzroy Crossi 25.26 236  P     P     22 40 37.7 -0.6
DZM  Mont Dzumac    25.30 135  P     P     22 40 39.0 +0.2
DZM                           IAmb  IAmb  22 40 48.9
     comp=Z,7.5nm,0.9s
DZM  Mont Dzumac    25.30 135  P     P     22 40 41.3 +2.6
     comp=Z,4.1nm,0.5s,baz=324,slow=12,SNR=6.3
     comp=Z,4.1nm,0.5s
MMRI Maumere        25.41 260  P     P     22 40 38.0 -1.7
ARMA Armidale       26.02 172  P     P     22 40 45.2  0.0
ARMA                          IAmb  IAmb  22 40 55.2
     comp=Z,12nm,1.1s
KAPI Kappang        27.65 268  P     P     22 40 58.2 -1.7
KAPI                          IAmb  IAmb  22 41 02.6
     comp=Z,16nm,1.1s
KAPI Kappang        27.65 268  LR    LR    22 52 19.2
     comp=Z,34nm,21.3s,baz=358,slow=37
STKA Stephens Creek 27.74 191  P     P     22 40 59.0 -1.5
STKA                          IAmb  IAmb  22 41 06.8
     comp=Z,12nm,0.8s
STKA Stephens Creek 27.74 191  P     P     22 41 00.5  0.0
     comp=Z,3.0nm,0.9s,baz=352,slow=4.7,SNR=3.9
     comp=Z,3.0nm,0.9s
H11S3 WAKE ISLAND Hy 29.70  39  T     T     23 12 27.5
     baz=220,slow=74,SNR=4.3
H11S2 WAKE ISLAND Hy 29.71  39  T     T     23 12 25.8
     baz=220,slow=74,SNR=6.8
H11S1 WAKE ISLAND Hy 29.72  39  T     T     23 12 26.4
     baz=220,slow=74,SNR=7.5
BBOO Buckleboo      30.08 199  P     P     22 41 19.3 -1.9
BBOO                          IAmb  IAmb  22 41 37.3
     comp=Z,8.1nm,0.9s
CAN  Canberra       30.65 178  P     P     22 41 26.2 -0.1
CAN                           IAmb  IAmb  22 41 45.7
     comp=Z,9.9nm,1.1s
MBWA Marble Bar     31.61 236  P     P     22 41 34.8 -0.1
MBWA                          IAmb  IAmb  22 41 38.5
     comp=Z,3.1nm,0.8s
PSA00 Pilbara Seismi 31.71 235 P     P     22 41 35.5 -0.3
FORT Forrest        31.87 213  P     P     22 41 37.0 -0.1
FORT                          IAmb  IAmb  22 41 42.4
     comp=Z,8.0nm,0.9s
GIRL Giralia        36.84 238  P     P     22 42 18.7 -1.6
MORW Morawa         38.50 227  P     P     22 42 32.8 -1.4
JSG  Sagara         39.99 348  P     P     22 42 45.6 -0.9
MRZ  Mangatainoka R 43.92 149  P     P     22 43 19.2 +0.6
MRZ                           IAmb  IAmb  22 43 22.1
     comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 53.02 297  P     P     22 44 31.6 +2.5
     comp=Z,0.4nm,0.3s,baz=144,slow=9.9,SNR=4.6
     comp=Z,0.4nm,0.3s
PZH  PanZhiHua      53.96 307  P     P     22 44 36.1 +0.1
WMQ  Urumqi         72.03 319  eP    P     22 46 37.4 +1.7
WMQ                           pmax  pmax
     comp=Z,15nm,0.7s
WMQ                           LR    LR
     comp=Z,130nm,20.9s
VNDA Vanda          73.32 177  P     P     22 46 43.1 +0.4
     comp=Z,0.8nm,0.8s,baz=338,slow=2.5,SNR=4.5
     comp=Z,0.8nm,0.8s
MKAR Makanchi Array 76.71 320  P     P     22 47 05.6 +2.8
     comp=Z,0.3nm,0.8s,baz=109,slow=8.9,SNR=2.6
     comp=Z,0.3nm,0.8s
ILAR Eielson Array  83.97  23  P     P     22 47 43.5 +2.1
     comp=Z,0.8nm,0.8s,baz=262,slow=6.0,SNR=6.4
     comp=Z,0.8nm,0.8s
QSPA South Pole Qui 85.41 180  P     P     22 47 50.4 +1.5
     comp=Z,1.9nm,1.0s,baz=320,slow=0.8,SNR=6.5
     comp=Z,1.9nm,1.0s
BVAR Borovoye Array 85.90 324  LR    LR    23 26 46.3
     comp=Z,28nm,19.1s,baz=35,slow=36
TORD Torodi Ar. Bea 145.19 286 PKPbc PKPbc 22 54 48.7 -1.1
     comp=Z,1.2nm,0.7s,baz=97,slow=3.4,SNR=6.3
```

*IDC **10** 22:38:53.7±4.2, 37.°30N×72.°23E, h163km±37km, mb3.3/8, mbtmp3.9/14, Error ellipse: s-maj=34.7km s-min=17.2km az=176.0*
*NEIC **10** 22:38:55.4±2.4, 37.°57N±0.°07×72.°13E±0.°05, h197km±5km, mb4.2/3, Error ellipse: s-maj=9.6km s-min=5.4km az=191.0*
*NNC **10** 22:39:02.1±5.6, 38.°02N×72.°10E, h221km±52km, mb2.7, mpv3.6, Error ellipse: s-maj=52.6km s-min=34.6km az=14.0*

ISC 10 22:38:56.7±0.7, 37.°62N±0.°06×72.°13E±0.°05, h200km, n48, σ1§96/59, mb3.7/9, 3C-5D, Tajikistan

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
GAR  Garm           1.99 315         Pn          22 39 34.4 -0.9
GAR                             Sn    Sn          22 40 02.5 -2.7
CHGR Chuyangaron    2.56 295         Pn          22 39 40.0 -1.4
CHGR                            Sn    Sn          22 40 13.1 -3.2
ARSB Arslanbob      3.76  10         Pn          22 39 54.8 -0.9
ARSB                            Sn    Sn          22 40 40.2 -1.7
KBL  Kabul          3.96 220         Pn          22 39 56.4 -1.9
NIL  Nilore         4.06 167         Pn          22 39 56.8 -2.6
UCH  Uchtor         4.96  21         Pn          22 40 11.0 +0.1
     SNR=42
EKS2 Erkin-Say      5.19  14         Pn          22 40 14.7 +1.0
     SNR=8.4
AAK  Ala-Archa      5.33  19         Pn          22 40 15.2 -0.2
AAK  Ala-Archa      5.33  19         Pn          22 40 16.4 +1.0
     13nm,0.4s,baz=165,slow=5.9,SNR=36
AAK                             S     Sn          22 41 17.2 -0.5
     10nm,0.4s,baz=144,slow=19,SNR=8.1
AAK  Ala-Archa      5.33  19         Pn          22 40 16.0 +0.6
     SNR=11
AAK  Ala-Archa      5.33  19         Pn          22 40 16.0 +0.6
     4.5nm,0.5s
AAK                             ⇑S    Sn          22 41 16.6 -1.1
     16nm,0.8s
FRU1 Bishkek        5.53  19         Pn          22 40 18.4 +0.5
KK31 Karatay Array  5.62 348         Pn          22 40 19.1 +0.1
KK31 Karatay Array  5.62 348         Pn          22 40 19.4 +0.4
     2.7nm,0.3s,baz=158,slow=11,SNR=105
KK31                            ⇓S    Sn          22 41 22.1 -2.0
     16nm,0.3s,baz=167,slow=22,SNR=17
KKAR Karatay Array  5.62 348         Pn          22 40 19.3 +0.3
KKAR                            Sn    Sn          22 41 22.0 -2.1
BOOM Boomskoye usch 5.68  30         Pn          22 40 19.8  0.0
BOOM                            Sn    Sn          22 41 23.1 -2.6
CHMS Chumysh        5.74  20         Pn          22 40 21.3 +0.8
     SNR=5.8
TKM2 Tokmak 2       5.92  25         Pn          22 40 23.6 +0.5
     SNR=12
USP  Ospenovka      5.92  17         Pn          22 40 23.6 +0.7
     SNR=5.3
KDJ  Kajisay        5.95  39         Pn          22 40 22.2 -1.2
TARG Taragay, Kyrgy 6.00  45         Pn          22 40 22.9 -1.4
PRZ  Przheval'sk    6.83  43         Pn          22 40 32.4 -2.5
HRA  Herat          8.64 251         Pn          22 40 55.9 -2.5
MAKZ Makanchi       11.72  35         Pn          22 41 37.8 -0.2
MKAR Makanchi Array 11.86  36         P           22 41 41.5 -3.1
MKAR Makanchi Array 11.86  36         Pn          22 41 41.0 +1.3
     0.2nm,0.4s,baz=209,slow=9.8,SNR=7.8
KURBB Kurchatov Arra 13.78  17        P           22 42 07.0 +1.1
     3.9nm,0.8s,baz=206,slow=11,SNR=13
KURK Kurchatov      13.89  17         P           22 42 05.9 -1.2
AB31 Abkulak array  14.60 327         P           22 42 13.9 -1.0
AB31 Abkulak array  14.60 327         ⇓P          22 42 14.9 -0.1
     3.5nm,0.7s,baz=132,slow=13,SNR=44
AB31                            ⇑S    S           22 44 48.3 -7.6
     1.8nm,0.5s,baz=150,slow=22,SNR=7.7
ABKAR Abkulak array 14.60 327         P           22 42 14.3 -0.6
BVAR Borovoye Array 15.46 356         P           22 42 27.1 +2.7
     1.1nm,0.5s,baz=155,slow=9.9,SNR=9.7
AKTO Aktyubinsk     16.31 326         P           Pn          22 42 37.0 +2.5
     2.8nm,0.3s,baz=140,slow=7.4,SNR=8.5
AKTO                            S     S           22 45 32.5 -2.0
     1.4nm,0.4s,baz=164,slow=18,SNR=3.8
AKTO Aktyubinsk     16.31 326 ⇑P          Pn          22 42 36.5 +1.9
     1.0nm,0.3s
AKTO                            ⇓S    S           22 45 32.4 -2.0
     1.7nm,0.8s
LSA  Lhasa          17.67 111         P           P           22 42 47.6 -1.9
LSA                             IAmb  IAmb        22 42 52.9
     comp=Z,4.4nm,0.6s
ZAA0 Zalesovo Array 18.53  24         P           P           22 42 58.4 +0.4
ZAA0                            IAmb  IAmb        22 43 00.4
     comp=Z,11nm,0.8s
ZALV Zalesovo Beam  18.53  24         P           P           22 42 58.0  0.0
ZALV Zalesovo Beam  18.53  24         P           Pn          22 42 59.9 -0.7
     comp=Z,8.9nm,0.4s,baz=221,slow=10,SNR=52
GTA  Gaotai         21.70  77         eP          P           22 43 32.2 +0.1
GTA                             pmax  pmax
     comp=Z,4.0nm,1.2s
KBZ  Khabaz         22.93 295         P           P           22 43 44.4 +1.2
     comp=Z,2.3nm,1.1s,baz=159,slow=8.6,SNR=3.2
     comp=Z,2.3nm,1.1s
SONM Songino Array  26.96  57         P           P           22 44 22.2 +2.4
     comp=Z,0.7nm,0.5s,baz=270,slow=9.5,SNR=4.2
     comp=Z,0.7nm,0.5s
BRTR Keskin Array B 29.98 286         P           P           22 44 49.5 +2.9
     comp=Z,0.5nm,0.5s,baz=92,slow=8.9,SNR=6.4
     comp=Z,0.5nm,0.5s
HHC  Hu-ho-hao-te   30.54  71         eP          P           22 44 51.3 -0.1
HHC                             pmax  pmax
     comp=Z,17nm,0.6s
HHC                             pmax  pmax
     comp=Z,190nm,6.1s
AKASG Malin Array Be 32.97 307        P           P           22 45 16.1 +3.6
     comp=Z,0.4nm,0.3s,baz=82,slow=1.1,SNR=4.2
     comp=Z,0.4nm,0.3s
FINES FINESS Array B 37.08 325        P           P           22 45 50.2 +2.9
     comp=Z,2.5nm,1.0s,baz=120,slow=11,SNR=4.4
     comp=Z,2.5nm,1.0s
TORD Torodi Ar. Bea 66.65 269         P           P           22 49 26.6 +0.4
     comp=Z,0.7nm,0.4s,baz=47,slow=6.6,SNR=17
     comp=Z,0.7nm,0.4s
ILAR Eielson Array  73.46  16         P           P           22 50 08.7 +1.9
     comp=Z,0.3nm,0.7s,baz=319,slow=5.2,SNR=2.9
     comp=Z,0.3nm,0.7s
WRA  Warramunga Arr 81.82 123         P           P           22 50 53.0 -0.6
     comp=Z,0.2nm,0.5s,baz=333,slow=5.5,SNR=1.4
     comp=Z,0.2nm,0.5s
```

*NEIC **10** 22:40:14.9±1.9, 21.°1S±0.°1×174.°20W±0.°08, h10km±2km, mb4.4/4, Error ellipse: s-maj=23.4km s-min=12.9km az=7.0*
*IDC **10** 22:40:19.1±0.7, 20.°93S×174.°62W, h0km, mb4.0/11, mbtmp4.0/11, MS3.5/9, Error ellipse: s-maj=29.8km s-min=21.8km az=140.0*

ISC 10 22:40:15.1±0.7, 21.°0S±0.°1×174.°12W±0.°08, h10km, n39, σ2§40/18, mb4.0/13, MS3.5/7, Tonga Islands

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
NIUE Niue           4.37  65         Pn          22 41 22.7 +1.1
AFI  Afiamalu       7.37  18         Pn          22 42 03.7 +0.8
FUTU Fugatoga       7.64 329         Pn          Pn          22 42 02.1 -4.4
MSVF Nonsavu        8.06 292         Pn          Pn          22 42 10.8 -1.6
RAR  Rarotonga      13.40  94         Pn          Pn          22 43 24.4 -1.0
RAR  Rarotonga      13.40  94         Pn          Pn          22 43 24.7 -0.7
     3.2nm,0.3s,baz=264,slow=9.8,SNR=7.8
RAR                             Sn    Sn          22 45 41.1 -13
     1.1nm,0.3s,baz=89,slow=20,SNR=1.8
RAR                             LR    LR          22 49 08.7
     comp=Z,103nm,18.0s,baz=278,slow=38
DZM  Mont Dzumac    18.11 263         eP          Pn          22 44 07.6 -19
     61nm,24.6s
DZM                             eLR   LR          22 48 06.7
     260nm,21.6s
DZM  Mont Dzumac    18.11 263         P           Pn          22 44 25.8 -1.2
DZM  Mont Dzumac    18.11 263         P           P           22 44 31.1 +3.7
     3.8nm,0.8s,baz=62,slow=19,SNR=5.8
URZ  Urewera        18.82 202         LR          LR          22 50 51.2
     comp=Z,145nm,18.6s,baz=358,slow=34
PPT2 Papeete2       23.41  86         eLR         LR          22 50 52.4
     161nm,26.0s
PPT2                            eLR   LR          22 50 56.9
     148nm,25.8s
PPT  Papeete        23.41  86         LR          LR          22 53 00.7
     comp=Z,96nm,18.5s,baz=322,slow=32
THZ  Tophouse       23.45 205         P           P           22 45 22.1 -2.6
HNR  Honiara        27.48 291         LR          LR          22 55 38.6
     comp=Z,54nm,18.8s,baz=348,slow=34
TAOE Nuku Hiva Isla 34.88  75         eLR         LR          22 56 13.3
     105nm,23.6s
PMG  Port Moresby   38.99 281         LR          LR          23 02 10.0
     comp=Z,68nm,18.3s,baz=360,slow=34
STKA Stephens Creek 40.87 245         P           P           22 47 57.1 -0.3
STKA                            IAmb  IAmb        22 48 09.1
     comp=Z,9.8nm,1.0s
STKA Stephens Creek 40.87 245         LR          LR          23 02 33.9
     comp=Z,56nm,18.4s,baz=32,slow=33
COEN Coen           41.23 273         P           P           22 47 59.9 -0.7
COEN                            IAmb  IAmb        22 48 04.3
     comp=Z,7.0nm,1.1s
ASAR Alice Springs  47.94 257         P           P           22 48 55.4 +1.2
     comp=Z,4.1nm,0.8s,baz=92,slow=8.0,SNR=37
ASAR                            PcP   PcP         22 50 27.0 +4.4
     comp=Z,0.7nm,0.8s,baz=94,slow=4.1,SNR=2.8
ASAR                            LR    LR          23 08 27.4
     comp=Z,71nm,18.2s,baz=104,slow=36
     comp=Z,4.1nm,0.8s
WRA  Warramunga Arr 48.12 262         P           P           22 48 56.2 +0.6
     comp=Z,1.9nm,0.8s,baz=97,slow=7.8,SNR=14
WRA                             PcP   PcP         22 50 27.2 +4.0
     comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=4.5
     comp=Z,1.9nm,0.8s
VNDA Vanda          57.79 186         P           P           22 50 12.2 +6.1
     comp=Z,0.8nm,0.9s,baz=16,slow=6.4,SNR=2.4
     comp=Z,0.8nm,0.9s
BATI Baumata        60.56 270         LR          LR          23 15 23.4
     comp=Z,49nm,19.4s,baz=144,slow=35
KAPI Kappang        65.94 274         LR          LR          23 20 00.4
     comp=Z,32nm,18.2s,baz=55,slow=36
QSPA South Pole Qui 69.10 180         P           P           22 51 28.1 +6.8
     comp=Z,1.0nm,0.9s,baz=340,slow=10.0,SNR=2.7
     comp=Z,1.0nm,0.9s
MJAR Matsushiro Arr 72.79 321         P           P           22 51 48.7 +4.9
     comp=Z,1.4nm,0.4s,baz=144,slow=8.4,SNR=6.5
     comp=Z,1.4nm,0.4s
NVAR Mina Array Bea 78.92  41         P           P           22 52 26.3 +7.1
     comp=Z,1.3nm,0.8s,baz=227,slow=10.0,SNR=5.4
     comp=Z,1.3nm,0.8s
KSRS Korea Array    79.68 317         P           P           22 52 28.3 +5.3
     comp=Z,1.3nm,0.8s,baz=103,slow=5.5,SNR=4.7
     comp=Z,1.3nm,0.8s
H03S2 Juan Fernandez 82.72 123        T           T           00 25 08.6
     baz=248,slow=75,SNR=3.3
H03S1 Juan Fernandez 82.73 123        T           T           00 25 04.4
     baz=248,slow=75,SNR=4.3
H03S3 Juan Fernandez 82.73 123        T           T           00 24 56.4
     baz=248,slow=75,SNR=3.0
TXAR Lajitas Array  84.29  56         P           P           22 52 54.8 +7.2
     comp=Z,0.3nm,0.8s,baz=241,slow=9.9,SNR=3.8
     comp=Z,0.3nm,0.8s
PDAR Pinedale Array 86.86  42         P           P           22 53 06.3 +6.0
     comp=Z,0.2nm,0.5s,baz=262,slow=8.4,SNR=2.9
     comp=Z,0.2nm,0.5s
ILAR Eielson Array  88.02  11         P           P           22 53 10.2 +5.1
     comp=Z,0.9nm,1.1s,baz=213,slow=5.1,SNR=4.5
     comp=Z,0.9nm,1.1s
CMAR Chiang Mai Arr 93.70 288         P           P           22 53 37.0 +4.5
     comp=Z,1.4nm,0.7s,baz=96,slow=1.9,SNR=9.0
     comp=Z,1.4nm,0.7s
EKA  Eskdalemuir Ar 145.02   9        PKPbc       PKiKP       22 59 57.4 +1.2
     comp=Z,1.5nm,0.8s,baz=36,slow=4.4,SNR=3.7
AKASG Malin Array Be 145.11 334       PKP         PKiKP       22 59 56.5  0.0
     comp=Z,2.6nm,0.6s,baz=42,slow=4.0,SNR=14
BRTR Keskin Array B 149.80 314        PKPbc       PKPab       23 00 08.9 -2.2
     comp=Z,1.1nm,0.8s,baz=132,slow=3.7,SNR=7.6
GERES GERESS Array B 151.49 349       PKPbc       PKPab       23 00 14.0 -3.7
     comp=Z,0.2nm,0.4s,baz=54,slow=5.3,SNR=3.5
```

*SDD **10** 22:54:21.0±1.9, 18.°65N×64.°32W, h212km±54km, MD3.7, ML3.0, MW3.0*
*NEIC **10** 22:54:21.2±0.6, 19.°52N±0.°10×64.°56W±0.°04, h10km±2km, ML3.2/28, Md3.2/9(RSPR), Error ellipse: s-maj=17.2km s-min=4.9km az=11.0*
*RSPR **10** 22:54:23.1, 19.°63N×64.°55W, h11km±3km, MD3.2/9*

ISC 10 22:54:24.4±3.4, 19.°6N±0.°1×64.°54W±0.°04, h24km±26km, n51, σ0§57/59, 11C-4D, Virgin Islands

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
HUMP Col San Antoni 1.87 222         Pn          22 54 52.6 -0.4
GCPR Guaynabo City  1.91 230         Pn          22 54 53.2 -0.4
GCPR                            Sn    Sn          22 55 16.7 -0.2
GCPR Guaynabo City  1.91 230 ⇓eP      Pn          22 54 53.5  0.0
GCPR Guaynabo City  1.91 230 eS       Sn          22 55 15.8 -1.1
SMRT St. Maarten    2.04 137         Pn          22 54 55.4  0.0
SMRT                            IAML              22 55 23.3
     comp=E,158nm,0.3s
SMRT                            IAML              22 55 23.5
     comp=N,134nm,0.2s
SMRT St. Maarten    2.04 137         Sn          22 55 20.5 +0.3
SMRT St. Maarten    2.04 137 ⇓eP      Pn          22 54 55.3  0.0
SMRT St. Maarten    2.04 137 eS       Sn          22 55 20.5 +0.3
PDPR Patillas Dam,  2.08 223         Pn          22 54 55.1 -0.7
PDPR Patillas Dam,  2.08 223 ⇑eP      Pn          22 54 55.7  0.0
PDPR Patillas Dam,  2.08 223 eS       Sn          22 55 21.3 +0.5
SJG  San Juan       2.09 227         Pn          22 54 55.6 -0.3
SJG  San Juan       2.09 227 ePg      Pn          22 54 56.9 +0.9
SJG                             ⇑eSg  Sb          22 55 25.2  0.0
ECPR Experimental S 2.12 235 ⇑iP      Pn          22 54 55.9 -0.4
ECPR Experimental S 2.12 235 eS       Sn          22 55 22.0 +0.1
EMPR Esperanza - Ma 2.16 241 Pn       Pn          22 54 56.7 -0.3
IGPR InterUniversit 2.17 223         Pn          22 54 57.4 +0.3
IGPR                            Sn    Sn          22 55 23.3 +0.1
IGPR InterUniversit 2.17 223 ⇑eP      Pn          22 54 57.4 +0.3
IGPR InterUniversit 2.17 223 eS       Sn          22 55 23.3 +0.1
AOPR Arecibo Observ 2.41 240 Pn       Pn          22 54 60.0 -0.4
AOPR                            IAML              22 55 32.4
     comp=N,116nm,0.5s
AOPR                            IAML              22 55 42.6
     comp=E,342nm,0.1s
CELP Cerrillos      2.43 233         Pn          22 55 00.4 -0.2
CELP                            Sn    Sn          22 55 29.4 -0.2
CELP Cerrillos      2.43 233 IAML                 22 55 43.6
     comp=N,43nm,0.9s
CELP Cerrillos      2.43 233 ⇑iP      Pn          22 55 00.4 -0.2
CELP Cerrillos      2.43 233 eS       Sn          22 55 29.4 -0.2
CELP Cerrillos      2.43 233 ePg      Pn          22 55 00.4 -0.2
CELP                            ⇓eSg  Sn          22 55 29.4 -0.2
CELP                            IAML              22 55 43.4
     comp=N,40nm,0.6s
UUPR Utuado, UPR, P 2.44 238         Pn          22 55 01.6 +0.9
UUPR                            Sn    Sn          22 55 30.2 +0.5
UUPR Utuado, UPR, P 2.44 238 Pn       Pn          22 55 00.5 -0.2
UUPR Utuado, UPR, P 2.44 238 ⇓eP      Pn          22 55 01.6 +0.9
UUPR Utuado, UPR, P 2.44 238 eS       Sn          22 55 30.2 +0.5
OBIP Obispado Ponce 2.47 233         Pn          22 55 01.4 +0.3
OBIP                            Sn    Sn          22 55 30.0 -0.6
     comp=E,40nm,0.3s
OBIP Obispado Ponce 2.47 233 IAML                 22 55 35.6
     comp=N,44nm,0.7s
OBIP Obispado Ponce 2.47 233 ⇑eP      Pn          22 55 01.4 +0.3
OBIP Obispado Ponce 2.47 233 eS       Sn          22 55 30.0 -0.6
PRSN Puerto Rico Se 2.80 242 Pn       Pn          22 55 05.8 +0.1
MLPR Magueyes Islan 2.85 237 ⇑eP      Pn          22 55 06.2 -0.2
MLPR Magueyes Islan 2.85 237 eS       Sn          22 55 39.9  0.0
MLPR Magueyes Islan 2.85 237 ⇑ePg     Pn          22 55 06.3  0.0
MLPR                            ⇑eSg  Sn          22 55 39.8 -0.1
MLPR                            IAML              22 55 46.8
     comp=N,13nm,3.5s
CRPR Cabo Rojo, PR  2.88 238         Pn          22 55 07.0 +0.2
CRPR                            Pb    Pb          22 55 07.4 -5.6
CRPR                            Sn    Sn          22 55 41.0 +0.3
CRPR                            IAML              22 55 51.5
     comp=N,43nm,3.0s
CRPR                            IAML              22 56 11.3
     comp=E,41nm,2.9s
CRPR Cabo Rojo, PR  2.88 238 ⇑eP      Pn          22 55 06.6 -0.2
CRPR Cabo Rojo, PR  2.88 238 eS       Sn          22 55 42.6 +1.9
CRPR Cabo Rojo, PR  2.88 238 ⇑ePg     Pn          22 55 06.6 -0.2
CRPR                            IAML              22 55 51.1
     comp=N,50nm,2.4s
GDHS Morne Mazeau,  4.20 141         Pn          22 55 25.9 +0.8
GDHS                            IAML              22 57 41.5
     comp=N,65nm,0.5s
ABD  La Joyeuse, An 4.22 136         Pn          22 55 24.0 -1.3
ABD                             IAML              22 56 44.9
     comp=N,104nm,2.5s
CBE  Ff, Capester   4.46 141         Pn          22 55 28.2 -0.3
CBE                             IAML              22 56 22.9
     comp=E,78nm,2.0s
TDBA Terre de Bas,  4.61 143         Pn          22 55 29.9 -0.7
GDSD La Dsirade Is  4.62 134         Pn          22 55 30.8  0.0
GDSD                            IAML              22 56 32.2
     comp=E,40nm,2.5s
GDSD                            IAML              22 58 30.7
     comp=N,48nm,1.9s
DR12 Loma Pena Alta 4.64 261         Pn          22 55 30.5 -0.5
HATOM Hato Mayor del 4.64 261 ⇑ePg    Pn          22 55 31.8 +0.7
HATOM                           ⇑eSg  Sn          22 56 23.0 -1.1
HATOM                           IAML              22 56 32.5
     comp=N,17nm,2.0s
SDD  Santo Domingo  5.20 259         Pn          22 55 39.0 +0.3
SVN  Savane Anatole 5.69 145         Pn          22 55 45.2 -0.3
SDDR Presa de Saban 6.40 266         Pn          22 55 56.4 +1.1
```

*NEIC **10** 23:10:12.3±1.6, 20.°5S±0.°1×178.°6W±0.°1, h594km±10km, mb4.1/32, Error ellipse: s-maj=22.2km s-min=17.6km az=149.0*
*IDC **10** 23:10:14.5±2.9, 20.°36S×178.°77W, h609km±33km, mb3.1/8, mbtmp4.1/9, Error ellipse: s-maj=21.9km s-min=15.7km az=164.0*

ISC 10 23:10:11.8±0.5, 20.°5S±0.°1×178.°60W±0.°09, h587km, n63, σ1§08/64, mb4.0/24, Fiji Islands region

```
Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
MSVF Nonsavu        4.20 310         P           P           23 11 38.5 +0.5
NIUE Niue           8.29  82         P           P           23 12 13.6 +0.1
PINNC Pines Island, 13.15 258         P           P           23 13 02.2 -0.1
DZM  Mont Dzumac    14.03 261         P           P           23 13 12.8 +1.4
DZM  Mont Dzumac    14.03 261         P           P           23 13 13.7 +2.4
     3.8nm,0.6s,baz=80,slow=21,SNR=7.8
TOZ  Tahuroa Road   17.92 195         P           P           23 13 47.6 +0.5
URZ  Urewera        18.09 191         P           P           23 13 46.1 -2.5
     15nm,0.8s,baz=7.1,slow=16,SNR=2.9
THZ  Tophouse       22.39 197         P           P           23 14 26.1 -1.3
KHZ  Kahutara       22.84 195         P           P           23 14 28.6 -2.6
ASAR Alice Springs  43.97 257         P           P           23 17 28.5 +0.1
     3.9nm,0.6s,baz=97,slow=7.8,SNR=54
ASAR                            PcP   PcP         23 19 01.3 +0.3
     0.9nm,0.5s,baz=101,slow=3.9,SNR=9.3
ASAR                            S     S           23 23 17.4 -1.3
     0.7nm,0.8s,baz=93,slow=14,SNR=6.1
     3.9nm,0.6s
WRA  Warramunga Arr 44.04 262         P           P           23 17 28.9 -0.2
     2.1nm,0.6s,baz=98,slow=8.5,SNR=32
WRA                             PcP   PcP         23 19 01.5 +0.2
     0.3nm,0.6s,baz=99,slow=3.0,SNR=2.2
     2.1nm,0.6s
MTN  Manton Dam     48.60 271         P           P           23 18 02.9 -0.5
MTN                             IAmb  IAmb        23 18 03.7
     comp=Z,4.1nm,0.8s
KNRA Kununurra      50.10 266         P           P           23 18 14.1 -0.2
FITZ Fitzroy Crossi 52.47 263         P           P           23 18 31.5  0.0
MBWA Marble Bar     57.30 257         P           P           23 19 04.1 -1.0
VNDA Vanda          57.86 185         P           P           23 19 09.0 +1.0
VNDA Vanda          57.86 185         P           P           23 19 08.9 +1.0
     comp=Z,0.4nm,0.6s,baz=12,slow=7.6,SNR=2.3
     comp=Z,0.4nm,0.6s
MORW Morawa         59.31 248         P           P           23 19 17.8 -0.7
QSPA South Pole Qui 69.57 180         P           P           23 20 24.6 +1.9
QSPA South Pole Qui 69.57 180         P           P           23 20 24.9 +2.2
     comp=Z,1.2nm,0.5s,baz=315,slow=1.4,SNR=15
     comp=Z,1.2nm,0.5s
J05D Fort Rock, OR  82.45  38         P           P           23 21 34.8 +1.0
J05D                            IAmb  IAmb        23 21 36.1
     comp=Z,3.5nm,0.7s
M16K Timber Creek   82.77   9         P           P           23 21 34.6 -0.1
M16K                            IAmb  IAmb        23 21 36.8
     comp=Z,7.8nm,1.0s
F03A Seaside        82.78  35         P           P           23 21 33.6 -1.6
319A Douglas        84.10  54         P           P           23 21 40.9 -1.3
319A                            IAmb  IAmb        23 21 43.0
```

comp=Z,3.6nm,0.6s
L18K Granite Mounta 84.26 10 P **P 23 21 43.3 +1.2**
L18K IAmb IAmb 23 21 43.6
comp=Z,6.7nm,1.2s
TABL Table Mountain 86.18 18 P **P 23 21 50.2 -1.4**
GLB Gilahina Butte 86.29 16 P **P 23 21 52.1 +0.2**
GLB IAmb IAmb 23 22 00.5
comp=Z,2.7nm,1.1s
PLID Pearl Lake 86.57 39 P **P 23 21 53.9 +0.1**
TCUT Toone Canyon 87.33 44 P **P 23 21 58.3 +0.8**
TCUT IAmb IAmb 23 22 07.2
comp=Z,3.1nm,0.9s
TXAR Lajitas Array 87.53 58 P **P 23 22 00.1 +1.6**
comp=Z,0.8nm,0.8s,baz=235,slow=4.1,SNR=8.0
comp=Z,0.8nm,0.8s
ANMO Albuquerque 87.84 51 P **P 23 22 00.9 +0.9**
WRH Wood River Hil 87.92 13 P **P 23 21 59.3 -0.1**
WRH IAmb IAmb 23 22 00.2
comp=Z,3.9nm,1.1s
SNAA Sanae 88.03 179 P **P 23 21 59.1 -1.0**
HDA Harding Lake 88.11 13 P **P 23 22 00.3 0.0**
HDA IAmb IAmb 23 22 00.8
comp=Z,2.0nm,0.6s
CCB Clear Creek Bu 88.14 13 P **P 23 21 59.6 -0.8**
CCB IAmb IAmb 23 22 00.6
comp=Z,2.3nm,0.7s
I23K Minto, Yukon-K 88.27 12 P **P 23 21 59.8 -1.1**
ILAR Eielson Array 88.44 13 P **P 23 22 01.4 -0.4**
comp=Z,0.7nm,0.7s,baz=221,slow=5.1,SNR=4.6
comp=Z,0.7nm,0.7s
M29M Somme Creek 88.56 17 P **P 23 22 00.3 -2.3**
M29M IAmb IAmb 23 22 04.8
comp=Z,2.7nm,1.0s
J25K Salcha River, 88.63 14 P **P 23 22 02.9 +0.1**
G21K Allakaket 88.78 10 P **P 23 22 03.0 -0.3**
G21K IAmb IAmb 23 22 04.3
comp=Z,2.3nm,0.9s
F20K Avaraart Lake 88.94 9 P **P 23 22 04.6 +0.6**
J26L Joseph Creek 88.94 14 P **P 23 22 05.1 +0.8**
J26L IAmb IAmb 23 22 18.0
comp=Z,1.5nm,1.0s
E19K Redstone River 89.12 8 P **P 23 22 04.3 -0.6**
E19K IAmb IAmb 23 22 21.6
comp=Z,2.3nm,1.1s
M30M Minto, Yukon 89.14 18 P **P 23 22 05.7 +0.5**
M30M IAmb IAmb 23 22 12.3
comp=Z,1.8nm,1.1s
PDAR Pinedale Array 89.35 43 P **P 23 22 07.3 +0.5**
comp=Z,0.7nm,0.7s,baz=211,slow=4.9,SNR=6.1
comp=Z,0.7nm,0.7s
F21K Alatna River 89.44 10 P **P 23 22 06.7 +0.3**
F21K IAmb IAmb 23 22 19.1
comp=Z,2.3nm,1.1s
ODSA Odessa 89.57 55 P **P 23 22 07.6 -0.4**
CMAR Chiang Mai Arr 89.58 290 P **P 23 22 09.4 +1.2**
comp=Z,0.6nm,0.6s,baz=142,slow=4.3,SNR=4.5
comp=Z,0.6nm,0.6s
K29M Barlow Dome 89.94 17 P **P 23 22 07.8 -1.1**
C19K Lookout Ridge 90.40 7 P **P 23 22 11.2 +0.3**
ZALV Zalesovo Beam 110.14 321 PKiKP **PKiKP 23 27 36.2 -1.1**
comp=Z,0.4nm,0.3s,baz=234,slow=7.6,SNR=2.2
MKAR Makanchi Array 110.79 313 PKiKP **PKiKP 23 27 37.8 -1.0**
comp=Z,0.3nm,0.7s,baz=54,slow=3.1,SNR=3.5
KURBB Kurchatov Arra 113.66 317 PKiKP **PKiKP 23 27 43.2 -0.9**
comp=Z,0.4nm,0.7s,baz=88,slow=2.0,SNR=5.6
BVAR Borovoye Array 118.72 320 PKP **PKPdf 23 27 53.2 -0.5**
comp=Z,1.3nm,0.4s,baz=116,slow=1.3,SNR=6.5
ARCES ARCESS Array B 128.82 349 PKP **PKPdf 23 28 12.4 -0.2**
comp=Z,2.3nm,0.8s,baz=29,slow=2.8,SNR=5.6
FINES FINESS Array B 135.61 343 PKP **PKPdf 23 28 23.9 -1.8**
comp=Z,1.2nm,0.8s,baz=76,slow=8.0,SNR=4.0
HFS Hagfors 139.45 351 PKhKP PKPpre 23 28 26.7
comp=Z,2.2nm,0.9s,baz=37,slow=3.7,SNR=5.6
AKASG Malin Array Be 142.74 331 PKhKP PKPpre 23 28 35.8
comp=Z,3.6nm,0.5s,baz=44,slow=4.3,SNR=19
BRTR Keskin Array B 146.42 312 PKPbc **PKPbc 23 28 47.8 -0.5**
comp=Z,1.0nm,0.6s,baz=133,slow=5.5,SNR=8.1
MMAI Mount Meron Ar 147.32 300 PKPbc **PKPbc 23 28 51.4 +0.6**
comp=Z,2.3nm,0.5s,baz=71,slow=5.6,SNR=7.5
GERES GERESS Array B 150.04 344 PKPbc **PKPbc 23 28 57.0 +0.1**
comp=Z,1.1nm,0.8s,baz=28,slow=3.2,SNR=6.0
CONA Conrad Observa 150.24 340 *e*PKP **PKiKP 23 28 58.1 +0.1**
comp=Z,0.7nm,0.4s
RONA Rosalia, Austr 150.30 339 *i* PKP **PKiKP 23 28 58.0 0.0**
comp=Z,1.7nm,0.5s

GEN ***10*** *23:16:31.9, 45.°90N×6.°90E, h0km±2km, MI1.1*
ROM ***10*** *23:16:32.6±0.3, 45.°87N±0.°02×6.°90E±0.°02, h8km, ML1.2/8, Error ellipse: s-maj=2.2km s-min=1.4km az=6.0*
LDG ***10*** *23:16:33.5±0.1, 45.°88N×6.°93E, h5km, Md2.3/2, MI1.9/10, Error ellipse: s-maj=1.1km s-min=0.9km az=114.0*
ZUR ***10*** *23:16:33.0, 45.°88N×6.°91E, h0km±1km, MLh0.0/4, Error ellipse: s-maj=2388.6km s-min=1244.7km az=229.0*

STR 10 23:16:33.5±0.3, 46.°N±2.°×.°±.°, h5km, MLv1.4/7, 19C-20D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.05**	**167**	⇑Pg	Pg	23 16 34.3	-0.9
BLANC	**P.ta Helbronne**	**0.05**	**167**	⇑Pg	Pg	23 16 34.7	-0.5
BLANC				Sg	Sg	23 16 35.6	-0.8
BLANC	**P.ta Helbronne**	**0.05**	**167**	⇑Pg	Pg	23 16 34.7	-0.4
BLANC				Sg	Sg	23 16 35.6	-0.8
BLANC	**P.ta Helbronne**	**0.05**	**167**	⇑Pg	Pg	23 16 34.7	-0.5
BLANC				Sg	Sg	23 16 35.6	-0.8
MFERR	**Prayon, Val Fe**	**0.15**	**66**	Sg	Sg	23 16 38.8	+0.2
MFERR	**Prayon, Val Fe**	**0.15**	**66**	⇑Pg	Pg	23 16 37.0	+0.4
MFERR				Sg	Sg	23 16 38.9	+0.3
MRGE	**Morge**	**0.16**	**141**	P	Pg	23 16 36.5	-0.3
MRGE				S	Sg	23 16 39.4	+0.5
MRGE	**Morge**	**0.16**	**141**	⇑P	Pg	23 16 36.5	-0.3
MRGE				S	Sg	23 16 39.3	+0.4
MRGE				AML	AML		
	comp=N,129μm,0.3s						
MRGE				AML	AML		
	comp=E,128μm,0.3s						
REMY	**Saint-Rhmy-en**	**0.17**	**108**	⇑Pg	Pg	23 16 37.0	-0.1
REMY	**Saint-Rhmy-en**	**0.17**	**108**	⇑Pg	Pg	23 16 37.4	+0.4
REMY				Sg	Sg	23 16 40.5	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**108**	⇑Pg	Pg	23 16 37.5	+0.4
REMY				Sg	Sg	23 16 40.5	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**108**	⇑Pg	Pg	23 16 37.4	+0.4
REMY				Sg	Sg	23 16 40.5	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**108**	P	Pg	23 16 37.0	-0.1
REMY				S	Sg	23 16 40.4	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**108**	⇑P	Pg	23 16 37.0	-0.1
REMY				S	Sg	23 16 40.4	+0.9
REMY				AML	AML		
	comp=N,234μm,0.5s						
REMY				AML	AML		
	comp=E,119μm,0.5s						
REMY	**Saint-Rhmy-en**	**0.17**	**108**	Pg	Pg	23 16 37.2	+0.1
REMY				Sg	Sg	23 16 40.3	+0.9
SEMOS	**Emosson Stauma**	**0.18**	**4**	Pg	Pg	23 16 37.2	+0.1
SEMOS				Sg	Sg	23 16 39.8	+0.3
SEMOS	**Emosson Stauma**	**0.18**	**4**	⇓Pg	Pg	23 16 37.3	+0.2
SEMOS				Sg	Sg	23 16 39.7	+0.3
SEMOS	**Emosson Stauma**	**0.18**	**4**	⇓Pg	Pg	23 16 37.3	+0.2
SEMOS				Sg	Sg	23 16 39.8	+0.3
OGSI	**Sixt**	**0.21**	**327**	⇑Pg	Pg	23 16 37.5	-0.1
OGSI	**Sixt**	**0.21**	**327**	⇑Pg	Pg	23 16 37.5	-0.1
OGSI				Sg	Sg	23 16 40.3	-0.1
OGSI	**Sixt**	**0.21**	**327**	⇑Pg	Pg	23 16 37.5	-0.1
OGSI				Sg	Sg	23 16 40.3	-0.1
OGSI	**Sixt**	**0.21**	**327**	⇑Pg	Pg	23 16 37.5	-0.1
OGSI				Sg	Sg	23 16 40.3	-0.1
OGSI	**Sixt**	**0.21**	**327**	Pg	Pg	23 16 37.5	-0.1
OGSI				Sg	Sg	23 16 40.2	-0.2
SMAO	**Martigny, Rue**	**0.23**	**28**	⇓Pg	Pg	23 16 38.4	+0.3
SMAO	**Martigny, Rue**	**0.23**	**28**	⇓Pg	Pg	23 16 38.4	+0.3
SMAO	**Martigny, Rue**	**0.23**	**28**	⇓Pg	Pg	23 16 38.4	+0.3
SMAO				Sg	Sg	23 16 41.6	+0.4
SMAO	**Martigny, Rue**	**0.23**	**28**	⇓Pg	Pg	23 16 38.4	+0.3
SMAO				Sg	Sg	23 16 41.7	+0.4
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	23 16 38.3	-0.2
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	23 16 38.8	+0.2
SALAN				Sg	Sg	23 16 42.2	+0.2
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	23 16 38.7	+0.2
SALAN				Sg	Sg	23 16 42.2	+0.2
SALAN	**Lac Salanfe**	**0.26**	**9**	⇓Pg	Pg	23 16 38.8	+0.2
SALAN				Sg	Sg	23 16 42.2	+0.2
RSL	**Roselend**	**0.29**	**225**	Pg	Pg	23 16 38.6	-0.6
RSL	**Roselend**	**0.29**	**225**	Pg	Pg	23 16 38.9	-0.3
RSL	**Roselend**	**0.29**	**225**	Pg	Pg	23 16 38.9	-0.3
RSL				Sg	Sg	23 16 42.5	-0.5
RSL	**Roselend**	**0.29**	**225**	Pg	Pg	23 16 38.9	-0.3
RSL				Sg	Sg	23 16 42.6	-0.5
RSL	**Roselend**	**0.29**	**225**	P	Pg	23 16 38.9	-0.3
RSL				S	Sg	23 16 42.5	-0.5
RSL	**Roselend**	**0.29**	**225**	Pg	Pg	23 16 38.6	-0.5
RSL				Sg	Sg	23 16 42.4	-0.6
FULLY	**Reservoir Maze**	**0.30**	**30**	⇓Pg	Pg	23 16 39.7	+0.2
FULLY	**Reservoir Maze**	**0.30**	**30**	⇓Pg	Pg	23 16 39.7	+0.2
FULLY	**Reservoir Maze**	**0.30**	**30**	⇓Pg	Pg	23 16 39.7	+0.2
LAVEY	**Lavey les Bain**	**0.32**	**13**	⇓Pg	Pg	23 16 39.8	+0.1
LAVEY	**Lavey les Bain**	**0.32**	**13**	Pg	Pg	23 16 39.8	+0.1
LAVEY				Sg	Sg	23 16 44.0	+0.1
LAVEY	**Lavey les Bain**	**0.32**	**13**	⇓Pg	Pg	23 16 39.8	+0.1
LAVEY				Sg	Sg	23 16 44.0	+0.1
ILLEZ	**Chalet Vouargn**	**0.33**	**3**	⇑Pg	Pg	23 16 40.1	+0.2
ILLEZ	**Chalet Vouargn**	**0.33**	**3**	⇓Pg	Pg	23 16 40.1	+0.1
ILLEZ				Sg	Sg	23 16 44.3	0.0
ILLEZ	**Chalet Vouargn**	**0.33**	**3**	⇓Pg	Pg	23 16 40.1	+0.2
ILLEZ				Sg	Sg	23 16 44.4	+0.1
GRYON	**Gryon**	**0.38**	**21**	Pg	Pg	23 16 41.2	+0.2
GRYON				Sg	Sg	23 16 46.2	+0.2
GRYON	**Gryon**	**0.38**	**21**	⇓Pg	Pg	23 16 41.2	+0.2
GRYON				Sg	Sg	23 16 46.2	+0.2
GRYON	**Gryon**	**0.38**	**21**	⇓Pg	Pg	23 16 41.2	+0.2
GRYON				Sg	Sg	23 16 46.2	+0.2
LPL	**La Plagne**	**0.40**	**199**	*e*Pg	Pg	23 16 40.9	-0.4
LPL				*e*Sg	Sg	23 16 46.2	-0.3
	comp=E,8.0nm,0.3s						
LPG	**La Plagne**	**0.41**	**197**	*e*Pg	Pg	23 16 41.4	-0.1
LPG				*e*Sg	Sg	23 16 46.9	-0.1
	comp=E,3.7nm,0.2s						
VET01	**Vtroz, Route**	**0.41**	**36**	Sg	Sg	23 16 47.8	+0.9
SHER	**Hrmence, R**	**0.44**	**48**	⇑Pg	Pg	23 16 42.4	+0.3
SHER				Sg	Sg	23 16 48.7	+0.8
SHER	**Hrmence, R**	**0.44**	**48**	⇑Pg	Pg	23 16 42.4	+0.3
SHER				Sg	Sg	23 16 48.7	+0.8
AIGLE	**Aigle**	**0.45**	**3**	Pg	Pg	23 16 42.3	+0.1
AIGLE				Sg	Sg	23 16 48.3	+0.1
AIGLE	**Aigle**	**0.45**	**3**	Pg	Pg	23 16 42.2	-0.1
AIGLE				Sg	Sg	23 16 48.3	+0.2
LEO01	**Saint Lonard,**	**0.50**	**44**	Pg	Pg	23 16 43.7	+0.5
RAW2	**Sanetsch, VS**	**0.51**	**33**	Pg	Pg	23 16 43.6	+0.3
RAW2	**Sanetsch, VS**	**0.51**	**33**	Pg	Pg	23 16 43.6	+0.3
RAW2				Sg	Sg	23 16 50.8	+0.9
CIRO	**Champorcher**	**0.54**	**122**	Pg	Pg	23 16 43.9	0.0
CIRO	**Champorcher**	**0.54**	**122**	P	Pg	23 16 43.7	-0.3
CIRO				S	Sg	23 16 50.5	-0.5
CIRO	**Champorcher**	**0.54**	**122**	⇑P	Pg	23 16 43.7	-0.3
CIRO				S	Sg	23 16 50.8	-0.2
CIRO				AML	AML		
	comp=E,19μm,1.4s						
CIRO				AML	AML		
	comp=N,24μm,1.2s						
CIRO				AML	AML		
	comp=E,19μm,0.6s						
CIRO				AML	AML		
	comp=N,24μm,0.8s						
CIRO	**Champorcher**	**0.54**	**122**	Pg	Pg	23 16 43.9	0.0
CIRO				Sg	Sg	23 16 50.7	-0.2
SENIN	**Lac Senin/Sane**	**0.54**	**29**	Pg	Pg	23 16 44.3	+0.3
SENIN	**Lac Senin/Sane**	**0.54**	**29**	P	Pg	23 16 44.2	+0.3
SENIN				S	Sg	23 16 51.3	+0.3
OG02	**Monnetier-Morn**	**0.55**	**299**	Pg	Pb	23 16 45.0	-0.8
ILL14	**Mittler Illalp**	**0.62**	**53**	Pg	Pg	23 16 46.0	+0.5
ILL12	**Sagenschleif I**	**0.63**	**51**	Pg	Pg	23 16 45.8	+0.1
SATI	**Passo dei Sala**	**0.66**	**91**	P	Pg	23 16 45.1	-1.2
SATI				S	Sg	23 16 54.7	-0.3
SATI	**Passo dei Sala**	**0.66**	**91**	Pg	Pg	23 16 46.1	-0.3
SATI				Sg	Sg	23 16 54.8	-0.2
TRAV	**Traversella**	**0.69**	**123**	⇓Pg	Pg	23 16 46.7	-0.2
TRAV	**Traversella**	**0.69**	**123**	Pg	Pg	23 16 46.7	-0.2
TRAV	**Traversella**	**0.69**	**123**	P	Pg	23 16 46.6	-0.3
TRAV				S	Sg	23 16 56.2	+0.4
TRAV	**Traversella**	**0.69**	**123**	P	Pg	23 16 46.6	-0.2
TRAV				S	Sg	23 16 56.1	+0.3
TRAV				AML	AML		
	comp=E,28μm,1.4s						
TRAV				AML	AML		
	comp=N,35μm,1.4s						
TRAV				AML	AML		
	comp=N,35μm,0.6s						
TRAV				AML	AML		
	comp=E,28μm,0.6s						
TRAV	**Traversella**	**0.69**	**123**	Pg	Pg	23 16 46.6	-0.2
TRAV				Sg	Sg	23 16 56.2	+0.4
OGMO	**Fort Saint-Gob**	**0.70**	**194**	P	Pg	23 16 46.5	-0.5
OGMO	**Fort Saint-Gob**	**0.70**	**194**	Pg	Pg	23 16 46.6	-0.4
OGMO				Sg	Sg	23 16 56.6	+0.5
EMBD	**Embd, Matterta**	**0.71**	**63**	Pg	Pg	23 16 47.1	-0.1
EMBD				Sg	Sg	23 16 57.2	+0.7
OGMY	**Moye**	**0.72**	**269**	Pg	Pg	23 16 47.0	-0.3
OGMY				Sg	Sg	23 16 56.9	+0.2
MMK	**Mattmark**	**0.75**	**77**	P	Pb	23 16 48.5	-0.6
MMK				S	Sg	23 16 57.8	+0.2
RSP	**Reno Superiore**	**0.78**	**162**	P	Pg	23 16 48.4	-0.2
RSP				S	Sb	23 16 59.9	-0.8
RSP	**Reno Superiore**	**0.78**	**162**	Pg	Pg	23 16 48.3	-0.2
RSP				Sg	Sg	23 16 59.3	+0.6
LAUCH	**Lauchernalp**	**0.79**	**48**	P	Pg	23 16 48.8	+0.1
SIMPL	**Simplonpass**	**0.84**	**65**	P	Pg	23 16 49.3	-0.4
SIMPL				S	Sg	23 17 01.2	+0.6
TORNY	**Torny/Romont**	**0.88**	**2**	Pg	Pg	23 16 50.3	-0.2
TORNY				Sg	Sg	23 17 02.6	+0.7
OGSM	**Saint Maurice**	**0.90**	**252**	Pg	Pg	23 16 50.8	+0.1
OGSM				Sg	Sg	23 17 03.2	+0.7
CABF	**La Chapelle**	**0.92**	**322**	*e*Pg	Pb	23 16 52.5	+0.4
CABF				*e*Sg	Sb	23 17 04.1	-0.6
	comp=E,18nm,0.4s						
OG35	**Corcelles**	**0.95**	**280**	Pg	Pg	23 16 51.7	-0.1
OG35				Sg	Sg	23 17 04.4	+0.3
RRL	**Rocca Remolon**	**0.97**	**185**	P	Pg	23 16 51.4	-0.9
RRL	**Rocca Remolon**	**0.97**	**185**	Pg	Pg	23 16 51.6	-0.7
RRL				Sg	Sg	23 17 05.5	+0.6
GRN	**Grenoble**	**1.05**	**232**	Pg	Pg	23 16 53.4	-0.2
GRN				Sg	Sb	23 17 08.3	0.0
BHB	**Bricherasio**	**1.08**	**167**	Pg	Pg	23 16 54.0	-0.1
MBDF	**Montbardon**	**1.17**	**185**	*e*Pg	Pg	23 16 55.1	-0.8
MBDF				*e*Sg	Sg	23 17 09.5	-1.6
	comp=E,1.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.22**	**217**	*e*Pg	Pg	23 16 55.7	-1.2
ORIF				*e*Sg	Sg	23 17 11.4	-1.2
	comp=E,1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**1.89**	**238**	*e*Pg	Pg	23 17 09.4	-0.4
VIVF				*e*Sg	Sb	23 17 32.7	+0.2
	comp=E,2.2nm,0.2s						
HINF	**Hinteralfeld**	**1.93**	**359**	*e*Pg	Pb	23 17 09.3	+0.1
HINF				*e*Sg	Sb	23 17 34.1	+0.6
	comp=E,1.0nm,0.2s						
HAU	**Haudompre**	**2.15**	**350**	*e*Sg	Sb	23 17 41.0	+1.1
	comp=E,2.9nm,0.4s						
SMF	**Signal de Mont**	**2.26**	**291**	*e*Pg	Pg	23 17 16.6	-0.3
SMF				*e*Sg	Sb	23 17 44.6	+1.4
	comp=E,4.0nm,0.3s						
AVF	**Avril sur Loir**	**2.63**	**291**	*e*Pg	Pg	23 17 22.8	-1.1
AVF				*e*Sg	Sb	23 17 55.7	+2.1
	comp=E,0.7nm,0.3s						
SSF	**Saint Saulge**	**2.63**	**298**	*e*Sg	Sg	23 17 56.8	-1.2
	comp=E,0.8nm,0.3s						

IDC ***10*** *23:28:53.4±0.8, 10.°85N×43.°57W, h0km, mb4.0/10, mbtmp4.0/10, ML5.9/1, MS3.7/38, Error ellipse: s-maj=24.7km s-min=18.0km az=148.0*
NEIC ***10*** *23:28:55.8±1.6, 10.°7N±0.°1×43.°60W±0.°10, h10km±1km, mb4.6/29, Error ellipse: s-maj=18.7km s-min=15.6km az=155.0*

ISC 10 23:28:56.1±0.5, 10.°80N±0.°07×43.°61W±0.°07, h16km, n99, σ1933/64, mb4.5/19, MS3.6/37, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**10.58**	**238**	Pn	**Pn**	**23 31 25.9**	**-1.3**
	95nm,0.3s,baz=44,slow=13,SNR=827						
MDP				Sn	Sn	23 33 15.9	-10
	4.1nm,0.3s,baz=352,slow=10,SNR=2.9						
MDP				LR	LR	23 35 00.4	
	comp=Z,385nm,21.3s,baz=92,slow=34						
MAL2	**Monte Alegre,**	**16.52**	**220**	Pn	**Pn**	**23 32 46.1**	**-1.1**
MPOM	**Morne Pois Mar**	**17.22**	**284**	Pn	**Pn**	**23 32 56.5**	**+0.4**
BIM	**Bigot**	**17.43**	**284**		**P**	**23 32 59.6**	**-0.3**
BIM				IAmb	IAmb	23 33 31.6	
	comp=Z,55nm,1.0s						
FDF	**Fort de France**	**17.55**	**285**		**P**	**23 33 01.1**	**-0.2**
SVN	**Savane Anatole**	**17.58**	**285**		**P**	**23 33 02.3**	**+0.6**
PRPB	**Parauapebas**	**17.95**	**200**	*e*P	**P**	**23 33 05.6**	**-0.1**
RCBR	**Riachuelo**	**18.21**	**155**		**P**	**23 33 09.4**	**+0.8**
RCBR				IAmb	IAmb	23 33 51.1	
	comp=Z,56nm,1.4s						
CBE	**Ff, Capester**	**18.27**	**289**		**P**	**23 33 10.3**	**+1.1**
CBE				IAmb	IAmb	23 33 45.3	
	comp=Z,68nm,0.9s						
GDHS	**Morne Mazeau,**	**18.46**	**289**	P	**Pn**	**23 33 13.0**	**+1.5**
GDHS				IAmb	IAmb	23 33 15.3	
	comp=Z,24nm,0.7s						
BOAV	**Boa Vista**	**18.75**	**245**		**P**	**23 33 14.2**	**-0.2**
BOAV	**Boa Vista**	**18.75**	**245**	*e*P	**Pn**	**23 33 15.1**	**+0.2**
ITTB	**Itaituba**	**19.30**	**219**	*e*P	**Pn**	**23 33 20.7**	**-1.0**
NPGB	**Novo Progresso**	**21.24**	**214**	*e*P	**P**	**23 33 41.0**	**-0.6**
MACA	**Manacapuru-AM**	**21.93**	**232**		**P**	**23 33 49.4**	**+0.3**
MACA	**Manacapuru-AM**	**21.93**	**232**	*e*P	**P**	**23 33 50.3**	**+1.2**
SJG	**San Juan**	**22.99**	**291**	LR	LR	23 41 25.4	
	comp=Z,104nm,19.5s,baz=100,slow=33						
SDBA	**SAO DESIDERIO**	**23.09**	**183**	*e*P	**P**	**23 34 01.8**	**+0.4**
CELP	**Cerrillos**	**23.37**	**291**	P	**P**	**23 34 03.5**	**-0.7**
CELP				IAmb	IAmb	23 34 27.2	
	comp=Z,24nm,1.4s						
CRPR	**Cabo Rojo, PR**	**23.84**	**290**	P	**P**	**23 34 07.1**	**-1.7**
SNDB	**Serra Nova Dou**	**23.88**	**199**	*e*P	**P**	**23 34 09.6**	**+0.5**
BAUV	**El Baul**	**24.14**	**268**		**P**	**23 34 11.0**	**-0.6**
BAUV				IAmb	IAmb	23 34 33.0	
	comp=Z,18nm,0.9s						
CLDB	**Colider**	**24.70**	**210**	*e*P	**P**	**23 34 18.0**	**+1.3**
TEFE	**Tefe**	**25.30**	**237**	*e*P	**P**	**23 34 24.2**	**+2.1**
JANB	**Januaria**	**25.70**	**182**	*e*P	**P**	**23 34 27.2**	**+1.5**
PDRB	**Porto dos Gac**	**25.80**	**211**	*e*P	**P**	**23 34 26.9**	**+0.3**
CMC01	**Camacan, BA**	**26.30**	**171**	*e*P	**P**	**23 34 33.4**	**+2.2**
BDFB	**Brasilia**	**26.63**	**189**	LR	LR	23 44 29.3	
	comp=Z,126nm,19.0s,baz=329,slow=35						
SDV	**Santo Domingo**	**26.69**	**268**	LR	LR	23 46 26.3	
	comp=Z,106nm,18.3s,baz=78,slow=39						
ARAG	**Araguaiana, MT**	**27.56**	**197**	*e*P	**P**	**23 34 43.3**	**+0.8**
VILB	**Vilhena**	**28.77**	**215**	*e*P	**P**	**23 34 52.6**	**-0.8**
RUSC	**La Rusia**	**29.55**	**263**		**P**	**23 35 00.1**	**-0.8**
RUSC				IAmb	IAmb	23 35 03.7	
	comp=Z,17nm,1.4s						
ROSC	**El Rosal**	**30.98**	**261**	LR	LR	23 48 40.9	
	comp=Z,424nm,18.0s,baz=84,slow=38						
SIV	**San Ignacio**	**31.74**	**213**	LR	LR	23 47 44.6	
	comp=Z,190nm,19.7s,baz=82,slow=36						
H10N3	**ASCENSION HYDR**	**34.38**	**121**	T	T	00 11 59.3	
	baz=302,slow=75,SNR=234						
H10N2	**ASCENSION HYDR**	**34.39**	**121**	T	T	00 11 59.6	
	baz=302,slow=75,SNR=201						
H10N1	**ASCENSION HYDR**	**34.40**	**121**	T	T	00 12 00.8	
	baz=302,slow=75,SNR=280						
H10S3	**ASCENSION HYDR**	**34.85**	**123**	T	T	00 12 33.7	
	baz=300,slow=74,SNR=55						
H10S2	**ASCENSION HYDR**	**34.87**	**123**	T	T	00 12 35.3	
	baz=280,slow=74,SNR=43						
PET01	**Itanhaem-SP**	**35.06**	**186**	*e*P	**P**	**23 35 50.1**	**+1.7**
MURT	**Porto Murtinho**	**35.06**	**203**	*e*P	**P**	**23 35 49.9**	**+1.5**
AMBA	**Amambai (Brazi**	**35.32**	**198**	*e*P	**P**	**23 35 53.1**	**+2.4**
OTAV	**Otavalo**	**36.18**	**255**	*e*P	**P**	**23 36 00.3**	**+1.5**
LPAZ	**La Paz**	**36.23**	**222**	P	**P**	**23 35 59.1**	**-0.2**
LPAZ				IAmb	IAmb	23 36 01.2	
	comp=Z,7.4nm,0.9s						
LPAZ	**La Paz**	**36.23**	**222**	P	**P**	**23 36 00.2**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=32,slow=8.2,SNR=19						
LPAZ				LR	LR	23 51 08.8	
	comp=Z,90nm,19.5s,baz=46,slow=37						
	comp=Z,5.8nm,0.9s						
LPAZ	**La Paz**	**36.23**	**222**	*e*P	**P**	**23 36 00.4**	**+1.0**
PTGB	**Pitanga**	**36.25**	**193**	*e*P	**P**	**23 35 59.7**	**+0.9**
COHC	**Cochancay**	**37.84**	**252**	P	**P**	**23 36 11.7**	**-0.6**
DBIC	**Dimbokro**	**38.50**	**93**	P	**P**	**23 36 17.4**	**-0.6**
DBIC				IAmb	IAmb	23 36 28.5	
	comp=Z,18nm,0.9s						
DBIC	**Dimbokro**	**38.50**	**93**	P	**P**	**23 36 17.8**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=294,slow=12,SNR=4.4						
DBIC				LR	LR	23 49 42.2	
	comp=Z,71nm,18.2s,baz=282,slow=32						
	comp=Z,6.1nm,0.8s						
ATAH	**Atahualpa**	**38.94**	**244**	LR	LR	23 54 11.8	
	comp=Z,57nm,18.4s,baz=47,slow=39						
L64A	**Middleborough**	**39.12**	**327**	P	**P**	**23 36 24.6**	**+1.8**
CPUP	**Villa Florida**	**39.24**	**200**

comp=Z,3.8nm,1.0s
PDAR Pinedale Array 65.11 312 LR LR 00 05 15.3
comp=Z,21nm,20.6s,baz=100,slow=34
TSUM Tsumeb 67.26 116 LR LR 00 03 02.4
comp=Z,66nm,21.1s,baz=318,slow=30
NEW Newport 71.05 317 LR LR 00 07 47.6
comp=Z,34nm,21.9s,baz=92,slow=33
NVAR Mina Array Bea 71.40 307 LR LR 00 11 26.1
comp=Z,20nm,18.7s,baz=260,slow=36
YKA Yellowknife Ar 71.73 332 LR LR 00 07 50.3
comp=Z,37nm,19.4s,baz=29,slow=33
RPN Rapa Nui 74.00 238 LR LR 00 11 08.3
comp=Z,24nm,18.1s,baz=46,slow=34
EIL Elat 74.86 62 LR LR 00 13 36.6
comp=Z,71nm,19.8s,baz=168,slow=36
LBTB Lobatse 76.22 119 LR LR 00 09 32.7
comp=Z,42nm,21.5s,baz=299,slow=32
BOSA Boshof 77.13 123 LR LR 00 06 41.5
comp=Z,55nm,19.1s,baz=206,slow=29
BBB Bella Bella 78.19 321 LR LR 00 13 29.2
comp=Z,19nm,19.5s,baz=47,slow=34
DLBC Dease Lake 79.01 328 LR LR 00 15 37.5
comp=Z,337nm,18.1s,baz=58,slow=36
ILAR Eielson Array 85.90 335 P **P 23 41 34.4 -0.6**
comp=Z,1.2nm,0.8s,baz=76,slow=4.7,SNR=9.5
comp=Z,1.2nm,0.8s
SNAA Sanae 86.63 168 P **P 23 41 38.4 0.0**
comp=Z,1.5nm,0.9s,baz=334,slow=6.4,SNR=7.8
comp=Z,1.5nm,0.9s
AKTO Aktyubinsk 89.06 39 LR LR 00 20 35.0
comp=Z,27nm,19.1s,baz=344,slow=35
BVAR Borovoye Array 95.34 34 LR LR 00 22 10.6
comp=Z,86nm,20.8s,baz=253,slow=34

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*IDC **10** 23:30:34.2±1.6, 62°.69N×151°.47W, h76km±17km, mb3.5/10, mbtmp3.8/13, Error ellipse: s-maj=22.4km s-min=10.0km az=111.0*
*AEIC **10** 23:30:35.4±0.7, 62°.58N±0°.03×151°.21W±0°.08, h88km±4km, ML3.4, ML3.6/222(NEIC), Error ellipse: s-maj=5.7km s-min=4.6km az=82.0*
*NEIC **10** 23:30:35.6±0.6, 62°.58N±0°.03×151°.25W±0°.06, h89km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=188.0*
ISC 10 23:30:35.4±0.7, 62°.60N±0°.03×151°.22W±0°.03, h92km±6km, n203, σ0°79/183, mb4.0/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.48**	**114**		**Pn**	**23 30 50.3**	**+0.2**
CUT					**Sn**	**23 31 01.2**	**+0.1**
CUT				IAML		23 31 06.1	
	comp=N,2μm,0.3s						
CUT				IAML		23 31 08.5	
	comp=E,2μm,0.3s						
PPLA	**Purkeypile**	**0.54**	**304**		**Pn**	**23 30 51.0**	**+0.3**
PPLA				Sn	**Sn**	**23 31 01.9**	**-0.3**
PPLA				IAML		23 31 03.2	
	comp=E,3μm,0.5s						
SKT	**Skwentna**	**0.64**	**193**		**Pn**	**23 30 51.2**	**-0.3**
SKT				Sn	**Sn**	**23 31 03.0**	**-0.5**
TRF	**Thorofare Moun**	**0.95**	**26**		**Sn**	**23 31 10.3**	**+0.9**
TRF	**Thorofare Moun**	**0.95**	**26**	Pn	**Pn**	**23 30 55.3**	**+0.5**
TRF				IAML		23 31 11.3	
	comp=N,2μm,0.8s						
TRF				IAML		23 31 11.3	
	comp=E,2μm,0.6s						
KTH	**Kantishna Hill**	**0.96**	**8**		**Pn**	**23 30 55.4**	**+0.6**
KTH				IAML		23 31 10.6	
	comp=E,1μm,0.6s						
KTH				IAML		23 31 10.6	
	comp=N,2μm,0.5s						
KTH	**Kantishna Hill**	**0.96**	**8**		**Sn**	**23 31 09.6**	**+0.2**
M22K	**Willow**	**1.00**	**148**		**Pn**	**23 30 54.6**	**-0.5**
M22K	**Willow**	**1.00**	**148**		**Sn**	**23 31 09.5**	**-0.3**
WAT7	**Susitna Watana**	**1.12**	**77**		**Pn**	**23 30 56.8**	**+0.2**
WAT7					**Sn**	**23 31 12.4**	**-0.2**
STLK	**Strandline Lak**	**1.15**	**195**		**Pn**	**23 30 56.6**	**-0.3**
STLK				IAML		23 31 12.9	
	comp=N,1μm,0.6s						
STLK				IAML		23 31 13.0	
	comp=E,1μm,0.4s						
STLK	**Strandline Lak**	**1.15**	**195**		**Sn**	**23 31 12.4**	**-0.7**
SUA	**Susitna One**	**1.17**	**169**		**Pn**	**23 30 57.0**	**-0.3**
SUA	**Susitna One**	**1.17**	**169**	IAML		23 31 17.3	
	comp=E,993nm,0.6s						
SUA				IAML		23 31 19.5	
	comp=N,656nm,0.5s						
WAT1	**Susitna Watana**	**1.25**	**78**		**Sn**	**23 31 15.3**	**0.0**
RND	**Reindeer**	**1.35**	**52**		**Pn**	**23 30 59.8**	**+0.5**
RND				IAML		23 31 18.7	
	comp=E,591nm,0.3s						
RND				IAML		23 31 18.9	
	comp=N,785nm,0.5s						
GHO	**Glory Hole Cre**	**1.36**	**127**		**Pn**	**23 31 00.1**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.37**	**196**		**Pn**	**23 30 59.3**	**-0.4**
CHUM	**Lake Minchumin**	**1.38**	**339**		**Pn**	**23 31 00.1**	**+0.5**
CHUM					**Sn**	**23 31 18.3**	**+0.4**
PMR	**Palmer**	**1.41**	**135**		**Pn**	**23 30 60.0**	**-0.1**
PMR				IAML		23 31 21.7	
	comp=E,1μm,0.4s						
PMR				IAML		23 31 21.9	
	comp=N,814nm,0.7s						
SPCP	**Crater Peak Br**	**1.41**	**199**		**Pn**	**23 31 00.0**	**-0.2**
SPCP					**Sn**	**23 31 19.2**	**+0.1**
SPNN	**North Nagishla**	**1.42**	**210**		**Pn**	**23 31 00.2**	**-0.2**
SPBG	**Spurr Blockage**	**1.45**	**203**		**Pn**	**23 31 00.9**	**+0.2**
SPWE	**Spurr West**	**1.48**	**206**		**Pn**	**23 31 01.0**	**0.0**
SPU	**Mount Spurr**	**1.48**	**196**		**Pn**	**23 31 00.6**	**-0.4**
SPCR	**Spurr Chakacha**	**1.48**	**199**		**Pn**	**23 31 00.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**1.51**	**4**		**Pn**	**23 31 01.5**	**+0.2**
BPAW				IAML		23 31 21.8	
	comp=N,699nm,0.8s						
BPAW				IAML		23 31 21.9	
	comp=E,1μm,0.5s						
BPAW	**Bear Paw Mtn.**	**1.51**	**4**		**Sn**	**23 31 20.4**	**-0.5**
K20K	**Telida**	**1.51**	**301**		**Pn**	**23 31 01.5**	**+0.2**
K20K					**Sn**	**23 31 19.9**	**-0.9**
K20K	**Telida**	**1.51**	**301**	IAML		23 31 21.2	
	comp=E,1μm,0.6s						
K20K				IAML		23 31 22.5	
	comp=N,402nm,0.7s						
CKL	**Chakachamna La**	**1.51**	**201**		**Pn**	**23 31 01.3**	**-0.1**
MCK	**McKinley**	**1.54**	**41**		**Pn**	**23 31 02.5**	**+0.8**
MCK				IAML		23 31 23.6	
	comp=N,458nm,0.9s						
MCK				IAML		23 31 24.2	
	comp=E,405nm,0.7s						
MCK	**McKinley**	**1.54**	**41**		**Sn**	**23 31 21.9**	**+0.3**
FIS	**Fire Island**	**1.54**	**162**		**Pn**	**23 31 02.7**	**+1.0**
SML	**Sawmill**	**1.57**	**119**		**Pn**	**23 31 02.2**	**+0.1**
M19K	**Big River Lodg**	**1.64**	**246**		**Pn**	**23 31 02.6**	**-0.3**
RC01	**Rabbit Creek A**	**1.67**	**155**		**Pn**	**23 31 03.0**	**-0.4**
RC01				IAML		23 31 30.4	
	comp=E,635nm,0.3s						
RC01				IAML		23 31 31.6	
	comp=N,910nm,0.4s						
L19K	**White Mountain**	**1.75**	**258**		**Pn**	**23 31 04.0**	**-0.3**
L19K	**White Mountain**	**1.75**	**258**	IAML		23 31 26.8	
	comp=N,337nm,0.8s						
L19K				IAML		23 31 27.2	
	comp=E,329nm,0.8s						
BWN	**Browne**	**1.76**	**26**		**Pn**	**23 31 05.4**	**+0.9**
BWN	**Browne**	**1.76**	**26**	IAML		23 31 29.1	
	comp=N,444nm,0.9s						
BWN				IAML		23 31 50.9	
	comp=E,407nm,0.8s						
KNK	**Knik Glacier**	**1.77**	**131**		**Pn**	**23 31 04.5**	**-0.1**
DHY	**Denali Highway**	**1.83**	**73**		**Pn**	**23 31 05.7**	**+0.2**
DHY				IAML		23 31 30.4	
	comp=E,540nm,0.4s						
DHY				IAML		23 31 31.6	
	comp=N,355nm,0.5s						
DHY	**Denali Highway**	**1.83**	**73**		**Sn**	**23 31 28.7**	**+0.4**
CAPN	**Captain Cook N**	**1.84**	**179**		**Pn**	**23 31 07.8**	**+2.3**
SCM	**Sheep Creek Mo**	**1.98**	**111**		**Pn**	**23 31 07.2**	**-0.2**
J20K	**Nowinta River**	**2.06**	**321**		**Pn**	**23 31 08.6**	**+0.2**
J20K				IAML		23 31 34.8	
	comp=E,235nm,0.7s						
J20K				IAML		23 31 36.7	
	comp=N,187nm,0.6s						
SLKM	**Skilak Lake**	**2.16**	**167**		**Pn**	**23 31 09.6**	**-0.1**
SLKM				IAML		23 31 41.8	
	comp=N,637nm,0.4s						
NEA2	**Nenana**	**2.22**	**25**		**Pn**	**23 31 10.4**	**-0.1**
NEA2				IAML		23 31 37.9	
	comp=N,172nm,0.4s						
PWL	**Port Wells**	**2.22**	**141**		**Pn**	**23 31 09.9**	**-0.6**
O22K	**Cooper Landing**	**2.25**	**161**		**Pn**	**23 31 10.2**	**-0.6**
RDWB	**Redoubt West**	**2.26**	**201**		**Pn**	**23 31 11.3**	**+0.1**
WRH	**Wood River Hil**	**2.34**	**35**		**Pn**	**23 31 12.3**	**+0.3**
N19K	**Bonanza Creek**	**2.38**	**222**		**Pn**	**23 31 12.8**	**+0.1**
M24K	**Tolsona, Glenn**	**2.40**	**100**		**Pn**	**23 31 13.4**	**+0.4**
J19K	**Poorman**	**2.43**	**307**		**Pn**	**23 31 13.4**	**+0.2**
J19K				IAML		23 31 43.3	
	comp=N,142nm,0.5s						
J19K				IAML		23 32 06.3	
	comp=E,137nm,0.8s						
CCB	**Clear Creek Bu**	**2.56**	**35**		**Pn**	**23 31 15.2**	**+0.3**
L18K	**Granite Mounta**	**2.58**	**264**		**Pn**	**23 31 14.9**	**-0.3**
I21K	**Tanana**	**2.61**	**353**		**Pn**	**23 31 16.2**	**+0.6**
GLI	**Glacier Island**	**2.62**	**130**		**Pn**	**23 31 15.2**	**-0.6**
O20K	**Slope Mountain**	**2.62**	**196**		**Pn**	**23 31 16.3**	**+0.5**
HDA	**Harding Lake**	**2.64**	**45**		**Pn**	**23 31 16.4**	**+0.4**
HDA				IAML		23 31 50.5	
	comp=E,176nm,0.4s						
HDA				IAML		23 31 52.6	
	comp=N,235nm,0.5s						
I20K	**Naaghedeneel**	**2.64**	**328**		**Pn**	**23 31 16.6**	**+0.6**
I20K				IAML		23 32 15.9	
	comp=N,330nm,0.6s						
I20K				IAML		23 32 23.6	
	comp=E,384nm,0.6s						
SEW	**Seward**	**2.65**	**160**		**Pn**	**23 31 16.1**	**-0.1**
J18K	**Innoko River**	**2.65**	**291**		**Pn**	**23 31 16.4**	**+0.2**
J18K				IAML		23 31 48.1	
	comp=E,124nm,0.9s						
PAX	**Paxson**	**2.67**	**80**		**Pn**	**23 31 17.4**	**+0.9**
PAX				IAML		23 31 56.2	
	comp=N,456nm,0.9s						
PAX				IAML		23 31 56.2	
	comp=E,418nm,0.5s						
I23K	**Minto, Yukon-K**	**2.68**	**17**	IAML		23 32 02.7	
	comp=N,126nm,0.9s						
COLA	**College**	**2.73**	**32**		**Pn**	**23 31 17.6**	**+0.5**
COLA				IAML		23 31 54.7	
	comp=N,368nm,0.5s						
COLA				IAML		23 31 54.8	
	comp=N,408nm,0.5s						
KLU	**Klutina**	**2.73**	**112**		**Pn**	**23 31 16.7**	**-0.7**
KLU				IAML		23 32 00.5	
	comp=E,370nm,0.4s						
KLU				IAML		23 32 06.3	
	comp=N,350nm,0.8s						
K24K	**Donnelly Dome**	**2.74**	**62**		**Pn**	**23 31 18.4**	**+0.9**
ILSW	**Iliamna Southw**	**2.79**	**200**		**Pn**	**23 31 18.4**	**+0.2**
ILS	**Iliamna Low So**	**2.80**	**199**		**Pn**	**23 31 18.9**	**+0.6**
O19K	**Port Alsworth**	**2.84**	**213**		**Pn**	**23 31 18.0**	**-0.7**
O19K				IAML		23 32 23.2	
	comp=E,168nm,0.5s						
O19K				IAML		23 32 27.3	
	comp=N,190nm,0.4s						
BRLK	**Bradley Lake**	**2.85**	**177**		**Pn**	**23 31 18.6**	**-0.4**
BRLK				IAML		23 31 59.0	
	comp=E,304nm,0.5s						
BRSE	**Bradley Lake S**	**2.88**	**175**		**Pn**	**23 31 19.4**	**+0.1**
IL31		**2.91**	**40**	Pn	**Pn**	**23 31 19.4**	**-0.2**
ILAR	**Eielson Array**	**2.91**	**40**	P	**Pn**	**23 31 20.0**	**+0.4**
	comp=E,11nm,0.6s,baz=224,slow=14,SNR=118						
ILAR				S	**Sn**	**23 31 52.6**	**-1.1**
	comp=E,13nm,0.4s,baz=225,slow=22,SNR=14						
FID	**Port Fidalgo**	**2.93**	**127**		**Pn**	**23 31 19.0**	**-0.9**
DIV	**Divide**	**2.97**	**117**		**Pn**	**23 31 19.6**	**-1.0**
DIV				IAML		23 32 10.7	
	comp=E,220nm,0.5s						
POKR	**Poker Plat Res**	**3.03**	**32**		**Pn**	**23 31 21.6**	**+0.3**
POKR				IAML		23 31 58.5	
	comp=N,131nm,0.6s						
POKR				IAML		23 31 59.3	
	comp=E,101nm,0.8s						
CNPM	**China Poot**	**3.09**	**180**		**Pn**	**23 31 22.2**	**+0.1**
CNPM				IAML		23 32 04.4	
	comp=E,296nm,0.9s						
RIDG	**Independent Ri**	**3.11**	**66**		**Pn**	**23 31 23.4**	**+1.1**
H21K	**Melozitna Rive**	**3.14**	**348**		**Pn**	**23 31 23.6**	**+0.8**
H21K	**Melozitna Rive**	**3.14**	**348**	IAML		23 32 01.3	
	comp=N,86nm,0.6s						
HIN	**Hinchinbrook I**	**3.16**	**132**		**Pn**	**23 31 22.7**	**-0.4**
M17K	**Holitna River**	**3.17**	**250**		**Pn**	**23 31 23.1**	**-0.1**
M17K				IAML		23 32 27.6	
	comp=N,105nm,1.0s						
M17K				IAML		23 32 46.3	
	comp=E,110nm,0.8s						
P23K	**Montague Islan**	**3.20**	**143**		**Pn**	**23 31 23.4**	**-0.1**
N25K	**Chitina, Valde**	**3.27**	**105**		**Pn**	**23 31 24.3**	**-0.3**
N25K				IAML		23 32 16.8	
	comp=E,225nm,0.7s						
N25K				IAML		23 32 17.9	
	comp=N,152nm,0.6s						
K17K	**Iditarod**	**3.27**	**275**		**Pn**	**23 31 24.5**	**0.0**
K17K				IAML		23 32 01.3	
	comp=N,79nm,1.0s						
K17K				IAML		23 32 14.5	
	comp=E,64nm,0.8s						
J25K	**Salcha River,**	**3.30**	**50**	IAML		23 32 09.1	
	comp=N,111nm,0.6s						
J25K				IAML		23 32 11.6	
	comp=E,133nm,0.9s						
H23K	**Yukon River**	**3.32**	**12**		**Pn**	**23 31 25.9**	**+0.8**
H23K	**Yukon River**	**3.32**	**12**	IAML		23 32 04.0	
	comp=E,69nm,1.1s						
EYAK	**Cordova Ski Ar**	**3.33**	**126**		**Pn**	**23 31 24.1**	**-1.1**
EYAK				IAML		23 32 20.5	
	comp=E,190nm,0.8s						
EYAK				IAML		23 32 20.6	
	comp=N,172nm,0.7s						
DOT	**Dot Lake**	**3.42**	**69**		**Pn**	**23 31 26.9**	**+0.4**
DOT	**Dot Lake**	**3.42**	**69**	IAML		23 32 14.9	
	comp=N,169nm,0.7s						
DOT				IAML		23 32 14.9	
	comp=E,125nm,0.7s						
MENT	**Mentasta**	**3.46**	**81**		**Pn**	**23 31 27.9**	**+0.8**
MENT				IAML		23 32 16.3	
	comp=E,201nm,1.2s						
MENT				IAML		23 32 23.9	
	comp=N,195nm,0.6s						
N17K	**Nushagak Hills**	**3.53**	**237**		**Pn**	**23 31 28.4**	**+0.3**
BMRM	**Bremner River**	**3.54**	**115**		**Pn**	**23 31 28.6**	**+0.4**
SCRK	**Sand Creek**	**3.54**	**64**	IAML		23 32 14.6	
	comp=E,86nm,1.1s						
SCRK				IAML		23 32 15.0	
	comp=N,83nm,0.8s						
IM02	**Indian Mountai**	**3.59**	**343**		**Pn**	**23 31 29.5**	**+0.7**
L26K	**Log Cabin Wild**	**3.64**	**80**	IAML		23 32 22.2	
	comp=N,185nm,0.4s						
L26K				IAML		23 32 28.1	
	comp=E,181nm,0.4s						
J17K	**VABM Dome**	**3.67**	**286**		**Pn**	**23 31 29.9**	**0.0**
J17K				IAML		23 32 10.8	
	comp=N,47nm,1.0s						
GLB	**Gilahina Butte**	**3.68**	**105**		**Pn**	**23 31 29.6**	**-0.5**
GLB				IAML		23 32 26.4	
	comp=E,111nm,0.7s						
GLB				IAML		23 32 27.3	
	comp=N,168nm,0.8s						
H19K	**Roundabout Mou**	**3.73**	**324**		**Pn**	**23 31 31.1**	**+0.5**
P18K	**Big Mountain,**	**3.77**	**213**		**Pn**	**23 31 31.4**	**+0.1**
M26K	**Nabesna, AK**	**3.82**	**89**		**Pn**	**23 31 32.3**	**+0.3**
M26K				IAML		23 32 38.5	
	comp=E,110nm,0.5s						
M26K				IAML		23 32 41.2	
	comp=N,129nm,0.6s						
PRP	**Porcupine Dome**	**3.85**	**38**	IAML		23 32 25.9	
	comp=N,56nm,0.5s						
PRP				IAML		23 32 26.5	
	comp=E,51nm,0.5s						
J26L	**Joseph Creek**	**3.92**	**58**		**Pn**	**23 31 33.5**	**+0.2**
J26L				IAML		23 32 24.1	
	comp=N,151nm,0.6s						
VRDI	**Verde Repeater**	**3.92**	**107**		**Pn**	**23 31 33.1**	**-0.4**
VRDI				IAML		23 32 33.4	
	comp=E,103nm,1.0s						
VRDI				IAML		23 32 36.2	
	comp=N,131nm,1.0s						
MID	**Middleton Isla**	**3.97**	**141**	Pn	**Pn**	**23 31 33.5**	**-0.5**
MID				IAML		23 32 19.9	
	comp=N,125nm,0.8s						
M16K	**Timber Creek**	**4.00**	**250**		**Pn**	**23 31 34.1**	**-0.3**
O17K	**Koliganek Bris**	**4.02**	**228**		**Pn**	**23 31 34.7**	**+0.1**
G21K	**Allakaket**	**4.05**	**347**	IAML		23 32 23.1	
	comp=E,40nm,0.7s						
G21K				IAML		23 32 24.8	
	comp=N,50nm,0.7s						
MCARA	**McCarthy VSAT**	**4.05**	**104**		**Pn**	**23 31 35.2**	**+0.1**
G23K	**Bananza Creek**	**4.16**	**7**	IAML		23 32 25.0	
	comp=E,38nm,0.8s						
G23K				IAML		23 32 25.4	
	comp=N,53nm,0.7s						
N16K	**Nishlik Lake**	**4.20**	**243**		**Pn**	**23 31 37.1**	**0.0**
P17K	**Kvichak River**	**4.26**	**219**		**Pn**	**23 31 37.9**	**0.0**
L27K	**Beaver Creek,**	**4.33**	**80**	IAML		23 32 52.2	
	comp=N,57nm,0.7s						
J16K	**Anvik River**	**4.34**	**283**	IAML		23 32 27.2	
	comp=E,32nm,1.0s						
M27K	**Edge Creek, AK**	**4.34**	**89**	IAML		23 32 58.4	
	comp=N,80nm,1.2s						
M27K				IAML		23 33 01.1	
	comp=E,39nm,1.0s						
BC04	**Beaver Creek A**	**4.36**	**80**		**Pn**	**23 31 39.2**	**0.0**
PTPK	**Patty Peak**	**4.38**	**105**		**Pn**	**23 31 39.3**	**-0.4**
KHIT	**Khitrov Hills**	**4.39**	**116**		**Pn**	**23 31 39.2**	**-0.5**
KARR	**Katmai Rainbow**	**4.46**	**204**		**Pn**	**23 31 41.5**	**+0.8**
I17K	**Unalakleet**	**4.47**	**291**		**Pn**	**23 31 41.4**	**+0.7**
I17K	**Unalakleet**	**4.47**	**291**	IAML		23 32 30.4	
	comp=N,56nm,0.7s						
I17K				IAML		23 32 31.4	
	comp=E,86nm,0.6s						
O16K	**Kokwok River B**	**4.50**	**231**		**Pn**	**23 31 41.0**	**-0.1**
H17K	**Granite Mounta**	**4.51**	**305**		**Pn**	**23 31 42.4**	**+1.1**
H17K	**Granite Mounta**	**4.51**	**305**	IAML		23 32 36.4	
	comp=E,29nm,0.7s						
WAX	**Waxell Ridge**	**4.55**	**115**		**Pn**	**23 31 41.6**	**-0.2**
G25K	**Bearman Lake**	**4.72**	**25**		**Pn**	**23 31 44.6**	**+0.5**
KAKN	**Katmai Knife C**	**4.72**	**205**		**Pn**	**23 31 44.0**	**-0.2**
F21K	**Alatna River**	**4.74**	**349**		**Pn**	**23 31 45.4**	**+1.0**
FYU	**Fort Yukon**	**4.74**	**30**	IAML		23 32 57.4	
	comp=N,34nm,0.7s						
FYU				IAML		23 33 26.2	
	comp=E,33nm,0.7s						
BARN	**Barnard Glacie**	**4.79**	**105**	IAML		23 32 59.6	
	comp=N,82nm,0.6s						
BARN				IAML		23 33 00.4	
	comp=E,79nm,0.7s						
ACHA	**Angle Creek He**	**4.85**	**207**		**Pn**	**23 31 45.9**	**-0.1**
F20K	**Avaraart Lake**	**4.86**	**339**		**Pn**	**23 31 46.9**	**+0.9**
F20K	**Avaraart Lake**	**4.86**	**339**	IAML		23 32 44.0	
	comp=E,20nm,0.6s						
GRNC	**Granite Creek**	**4.88**	**108**		**Pn**	**23 31 46.2**	**-0.3**
GRNC	**Granite Creek**	**4.88**	**108**	IAML		23 33 04.7	
	comp=E,62nm,1.0s						
KDAK	**Kodiak Island**	**4.88**	**189**		**Pn**	**23 31 44.7**	**-1.6**
KDAK	**Kodiak Island**	**4.88**	**189**	IAML		23 32 52.2	
	comp=E,34nm,0.8s						
KDAK				IAML		23 32 53.6	
	comp=E,37nm,1.1s						
KDAK	**Kodiak Island**	**4.88**	**189**	P	**Pn**	**23 31 44.8**	**-1.5**
	comp=E,3.9nm,0.3s,baz=35,slow=4.9,SNR=16						
KDAK				S	**Sn**	**23 32 42.2**	**+0.7**
	comp=E,12nm,0.4s,baz=15,slow=20,SNR=5.7						
ANCK	**Angle Creek**	**4.90**	**208**		**Pn**	**23 31 47.4**	**+0.7**
M15K	**Kasigluk River**	**4.90**	**251**		**Pn**	**23 31 46.6**	**0.0**
N15K	**Kwethluk River**	**4.92**	**244**		**Pn**	**23 31 46.7**	**-0.1**
N15K	**Kwethluk River**	**4.92**	**244**	IAML		23 33 22.8	
	comp=E,39nm,0.9s						
N15K				IAML		23 33 49.0	
	comp=N,24nm,0.9s						
F22K	**John River**	**4.94**	**356**		**Pn**	**23 31 48.3**	**+1.2**
CTGM	**Chitina Glacie**	**4.97**	**105**	IAML		23 33 05.2	
	comp=E,38nm,0.9s						
CTGM				IAML		23 33 07.5	
	comp=N,43nm,0.6s						
EGAK	**Eagle**	**4.98**	**60**	IAML		23 33 08.4	
	comp=N,64nm,0.7s						
G17K	**Kiwalik Mounta**	**5.06**	**309**		**Pn**	**23 31 49.4**	**+0.7**
MESA	**MESA**	**5.08**	**114**		**Pn**	**23 31 48.3**	**-0.8**
MESA	**MESA**	**5.08**	**114**	IAML		23 33 13.3	
	comp=E,57nm,0.7s						
F24K	**Squaw Lake**	**5.13**	**14**	IAML		23 32 50.8	
	comp=E,17nm,0.8s						
LOGN	**Logan Glacier**	**5.18**	**106**		**Pn**	**23 31 49.6**	**-0.9**
LOGN	**Logan Glacier**	**5.18**	**106**	IAML		23 33 23.2	
	comp=E,65nm,1.1s						
G26K	**Porcupine Rive**	**5.40**	**33**		**Pn**	**23 31 53.5**	**+0.2**
F18K	**Selawik**	**5.41**	**322**		**Pn**	**23 31 54.2**	**+0.8**
M14K	**Bethel**	**5.44**	**255**		**Pn**	**23 31 55.2**	**+1.4**
E19K	**Redstone River**	**5.50**	**335**		**Pn**	**23 31 55.5**	**+0.8**
OHAK	**Old Harbor**	**5.50**	**192**		**Pn**	**23 31 52.6**	**-2.1**
E23K	**Chandalar**	**5.52**	**6**		**Pn**	**23 31 56.1**	**+1.1**
L14K	**Kuka Creek**	**5.55**	**262**		**Pn**	**23 31 55.7**	**+0.3**
H27K	**Steamboat Moun**	**5.55**	**45**		**Pn**	**23 31 55.6**	**+0.1**
E22K	**Anaktuvuk Pass**	**5.56**	**358**		**Pn**	**23 31 56.6**	**+1.1**
O28M	**Mount Upton**	**5.56**	**104**		**Pn**	**23 31 55.5**	**-0.3**
E24K	**Your Creek**	**5.61**	**11**		**Pn**	**23 31 57.5**	**+1.2**
BM01	**Burnt Mountain**	**5.63**	**27**		**Pn**	**23 31 57.3**	**+0.8**
I28M	**Miner Creek**	**5.72**	**55**		**Pn**	**23 31 58.4**	**+0.6**
F17K	**Baldwin Pennin**	**5.79**	**316**		**Pn**	**23 31 59.6**	**+1.0**
G27K	**Doyon Strip**	**5.88**	**40**		**Pn**	**23 31 59.6**	**-0.2**
M29M	**Somme Creek**	**5.91**	**86**		**Pn**	**23 31 59.8**	**-0.5**
F26K	**Sheenjek River**	**5.92**	**27**		**Pn**	**23 32 00.5**	**+0.2**
O14K	**Tigyukauivet M**	**5.94**	**240**		**Pn**	**23 32 00.8**	**+0.2**
E20K	**Nigu River**	**6.04**	**342**		**Pn**	**23 32 03.2**	**+1.1**
E18K	**Tukpahlearik C**	**6.26**	**325**		**Pn**	**23 32 05.1**	**+0.2**
K13K	**Kusilvak Mount**	**6.31**	**270**	Pn	**Pn**	**23 32 05.5**	**-0.1**
K29M	**Barlow Dome**	**6.32**	**73**	Pn	**Pn**	**23 32 07.5**	**+1.6**
D22K	**Ayikyak River**	**6.33**	**355**	Pn	**Pn**	**23 32 08.3**	**+2.3**
E17K	**Hotham Inlet**	**6.37**	**319**		**Pn**	**23 32 06.9**	**+0.4**
D23K	**Nanushuk River**	**6.39**	**2**		**Pn**	**23 32 08.6**	**+1.7**
O29M	**Mount Kennedy**	**6.48**	**105**	Pn	**Pn**	**23 32 08.1**	**-0.1**
D20K	**Etivluk River**	**6.53**	**342**		**Pn**	**23 32 09.8**	**+1.2**
D19K	**Kuna River**	**6.57**	**337**	Pn	**Pn**	**23 32 10.8**	**+1.5**
H29M	**Whitestone**	**6.64**	**51**	Pn	**Pn**	**23 32 11.3**	**+1.1**
F15K	**North Star Dit**	**6.64**	**304**	Pn	**Pn**	**23 32 11.6**	**+1.4**
C21K	**Knifeblade Rid**	**6.74**	**349**		**Pn**	**23 32 13.2**	**+1.6**
E27K	**Coleen River**	**6.89**	**31**		**Pn**	**23 32 13

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTSH	**Beit Shean**	**0.12**	**308**	P	Pg	23 30 40.8	+0.2
BTSH	**Beit Shean**	**0.12**	**308**	S	Sg	23 30 43.4	+0.6
MMLI	**Mount Malkishu**	**0.16**	**274**	P	Pg	23 30 41.5	+0.2
MMLI	**Mount Malkishu**	**0.16**	**274**	S	Sg	23 30 44.9	+1.0
CVYN	**Cohav Hayarden**	**0.18**	**336**	P	Pg	23 30 41.9	+0.1
CVYN	**Cohav Hayarden**	**0.18**	**336**	S	Sg	23 30 45.5	+0.9
HMDT	**Nahal Hemdat**	**0.19**	**201**	P	Pg	23 30 41.6	-0.1
HMDT				S	Sg	23 30 45.4	+0.8
HMDT	**Nahal Hemdat**	**0.19**	**201**	P	Pg	23 30 41.8	+0.1
ROII	**Roi**	**0.20**	**209**	P	Pg	23 30 41.9	-0.1
ROII	**Roi**	**0.20**	**209**	S	Sg	23 30 45.5	+0.5
MNHA	**Menahamia**	**0.24**	**349**	P	Pg	23 30 42.6	0.0
MNHA	**Menahamia**	**0.24**	**349**	S	Sg	23 30 47.0	+0.9
GNNR	**Gan-Ner**	**0.25**	**294**	P	Pg	23 30 42.7	-0.2
GNNR	**Gan-Ner**	**0.25**	**294**	S	Sg	23 30 46.5	+0.1
RGMN	**Argaman**	**0.27**	**195**	P	Pg	23 30 43.0	-0.2
RGMN	**Argaman**	**0.27**	**195**	S	Sg	23 30 47.5	+0.6
HMRA	**Hamra**	**0.27**	**212**	P	Pg	23 30 42.9	-0.3
HMRA	**Hamra**	**0.27**	**212**	S	Sg	23 30 47.5	+0.6
IZRL	**Izrael**	**0.28**	**300**	P	Pg	23 30 43.0	-0.3
IZRL	**Izrael**	**0.28**	**300**	S	Sg	23 30 47.2	+0.1
AMOT	**Alumot**	**0.28**	**350**	P	Pg	23 30 43.4	-0.1
AMOT	**Alumot**	**0.28**	**350**	S	Sg	23 30 48.0	+0.5
GOLA	**Golan Heights**	**0.29**	**7**	P	Pg	23 30 43.8	+0.2
GOLA	**Golan Heights**	**0.29**	**7**	S	Sg	23 30 48.2	+0.6
SHMJ	**Saham**	**0.33**	**24**	P	Pg	23 30 44.1	-0.2
SLMZ	**Shlomzion**	**0.34**	**196**	P	Pg	23 30 44.1	-0.3
MEFR	**Maale Efrayim**	**0.39**	**206**	P	Pg	23 30 45.1	-0.4
MEFR	**Maale Efrayim**	**0.39**	**206**	S	Sg	23 30 51.4	+0.7
RMOT	**Ramot**	**0.43**	**7**	P	Pg	23 30 45.5	-0.6
KNHM	**Kefar Nahum**	**0.46**	**357**	P	Pg	23 30 46.2	-0.4
BLGI	**Bet Lehem HaGe**	**0.46**	**311**	P	Pg	23 30 46.7	0.0
BLGI	**Bet Lehem HaGe**	**0.46**	**311**	S	Sg	23 30 53.5	+0.5
ARIL	**Ariel Universi**	**0.47**	**226**	P	Pg	23 30 46.1	-0.7
ARIL	**Ariel Universi**	**0.47**	**226**	S	Sg	23 30 53.4	+0.4
UJAP	**Al Uja**	**0.49**	**194**	P	Pg	23 30 46.5	-0.7
SALP	**Salfit**	**0.50**	**225**	P	Pg	23 30 46.6	-0.9
SALP	**Salfit**	**0.50**	**225**	P	Pg	23 30 46.6	-0.8
YITV	**Yitav**	**0.50**	**198**	P	Pg	23 30 46.9	-0.6
SLTI	**Sal'it**	**0.51**	**249**	P	Pg	23 30 46.8	-0.9
SLTI				S	Sg	23 30 54.6	+0.1
SLTI	**Sal'it**	**0.51**	**249**	P	Pg	23 30 46.8	-0.8
OFRI	**`Ofer**	**0.56**	**290**	P	Pg	23 30 47.4	-1.2
OFRI	**`Ofer**	**0.56**	**290**	P	Pg	23 30 48.2	-0.4
OFRI	**`Ofer**	**0.56**	**290**	S	Sg	23 30 56.0	0.0
KSHT	**Keshet**	**0.58**	**17**	P	Pg	23 30 48.6	-0.4
KSHT	**Keshet**	**0.58**	**17**	S	Sg	23 30 57.1	+0.4
MMA0B	**Mount Meron ar**	**0.61**	**344**	P	Pg	23 30 48.7	-0.9
MMA0B	**Mount Meron ar**	**0.61**	**344**	S	Sg	23 30 57.7	0.0
VJRH	**Vered Jericho**	**0.62**	**194**	P	Pg	23 30 48.8	-0.9
MMC7	**Mount Meron ar**	**0.62**	**343**	P	Pg	23 30 48.7	-1.1
NATI	**Neve Ativ**	**0.84**	**7**	P	Pg	23 30 52.7	-1.2
NATI	**Neve Ativ**	**0.84**	**7**	P	Pg	23 30 52.9	-1.0
NATI	**Neve Ativ**	**0.84**	**7**	S	Sb	23 31 05.2	-0.2
DSI	**Dead Sea**	**0.88**	**193**	P	Pg	23 30 52.8	-1.8
DSI	**Dead Sea**	**0.88**	**193**	S	Sg	23 31 05.4	-0.6
AMAZ	**Amatzia**	**1.07**	**214**	P	Pb	23 30 56.5	-1.5
AMAZ	**Amatzia**	**1.07**	**214**	P	Pb	23 30 56.6	-1.4
GHAJ	**Ghor Haditha**	**1.12**	**182**	P	Pb	23 30 58.3	-0.6
GHAJ	**Ghor Haditha**	**1.12**	**182**	P	Pb	23 30 57.9	-1.0
ASF	**Jabal al Asfar**	**1.12**	**103**	P	Pb	23 30 58.4	-0.6
YTIR	**Yattir**	**1.14**	**202**	P	Pb	23 30 57.5	-1.8
YTIR	**Yattir**	**1.14**	**202**	P	Pb	23 30 57.6	-1.7
YTIR	**Yattir**	**1.14**	**202**	S	Sb	23 31 13.8	-0.4
KZIT	**Kziot**	**1.83**	**215**	P	Pn	23 31 08.4	-0.5
KZIT	**Kziot**	**1.83**	**215**	P	Pn	23 31 08.7	-0.3
KZIT	**Kziot**	**1.83**	**215**	S	Sn	23 31 32.5	+0.4
PRNI	**Paran**	**2.13**	**194**	P	Pn	23 31 13.4	+0.3

IDC 10 23:42:37.4±12.0, 16°.01S×175°.18W, h387km±111km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=150.0km s-min=43.5km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.38**	**248**	P	P	23 46 26.8	0.0
	2.7nm,0.8s,baz=84,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**48.04**	**257**	P	P	23 50 39.9	0.0
	0.3nm,0.6s,baz=90,slow=7.8,SNR=2.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.30**	**252**	P	P	23 50 41.6	-0.1
	1.9nm,0.7s,baz=87,slow=8.4,SNR=24						
	1.9nm,0.7s						
ILAR	**Eielson Array**	**83.38**	**12**	P	P	23 54 21.4	-0.4
	0.3nm,0.6s,baz=213,slow=5.5,SNR=5.5						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.85**	**133**	PKP	PKPdf	00 02 02.3	-0.3
	0.4nm,0.9s,baz=201,slow=1.0,SNR=1.6						

*PRU **10** 23:54:56.9, 49°.79N×18°.43E, h0km, Mining Induced Event Csm, E=4.1e+04*

IPEC 10 23:54:55.3±0.3, 49°.82N×18°.53E, h1km, ML1.9/5, Error ellipse: s-maj=1.9km s-min=1.6km az=83.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**274**	*e*PG	Pg	23 55 00.5	+0.5
OKC				*e*SG	Sg	23 55 04.2	+1.0
	comp=Z,48nm,0.4s						
STEB	**Steborice**	**0.50**	**284**	*e*PG	Pg	23 55 05.6	+0.7
STEB				*e*SG	Sg	23 55 12.1	+0.7
MORC	**Moravsky Berou**	**0.64**	**267**	*e*Pg	Pg	23 55 07.5	0.0
	baz=86						
MORC				*e*Sg	Sg	23 55 15.2	-0.6
	26nm,0.4s,baz=86						
LOSC	**Losov**	**0.78**	**256**	*e*Pg	Pg	23 55 10.0	-0.1
	baz=75						
LOSC				*e*Sg	Sg	23 55 19.5	-0.7
	21nm,0.3s,baz=75						
LANS	**Liptovska Anna**	**0.91**	**137**	*e*PG	Pg	23 55 11.8	-0.9
LANS				*e*SG	Sg	23 55 25.3	+0.8
LANS				*e*LG	Lg	23 55 28.2	
LANS				*e*		23 58 35.4	
OJC	**Ojcow**	**0.91**	**64**	*e*Pg	Pg	23 55 11.6	-1.2
OJC				*e*Sg	Sg	23 55 23.9	-0.8
JAVC	**Velka Javorina**	**1.11**	**211**	*e*PG	Pg	23 55 16.9	+0.3
JAVC	**Velka Javorina**	**1.11**	**211**	*e*Pg	Pg	23 55 16.8	+0.2
	baz=30						
KRLC	**Kraliky**	**1.16**	**283**	*e*PG	Pg	23 55 16.6	-0.8
KRLC				*e*SG	Sg	23 55 32.8	+0.4
	comp=Z,17nm,0.2s						
NIE	**Niedzica**	**1.22**	**109**	*e*Pg	Pg	23 55 17.7	-1.0
NIE				*e*Sg	Sb	23 55 35.9	+0.5
VRAC	**Vranov**	**1.36**	**249**	*e*Pg	Pg	23 55 20.5	-0.8
	baz=67						
VRAC				*e*Sg	Sg	23 55 38.0	-0.9
	14nm,0.3s,baz=67						
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	23 55 22.7	-0.9
DPC				*e*SG	Sb	23 55 43.3	-0.7
	comp=Z,7.6nm,0.3s						
KRUC	**Moravsky**	**1.58**	**242**	*e*Pg	Pn	23 55 24.0	-0.5
	baz=61						
KRUC				*e*Sg	Sn	23 55 45.0	-0.6
	12nm,0.3s,baz=61						
OSTC	**Ostas**	**1.66**	**297**	*e*PG	Pn	23 55 25.8	+0.3
OSTC				*e*SG	Sb	23 55 48.2	+0.2
	comp=Z,13nm,0.8s						
MODS	**Modra-Piesok**	**1.66**	**210**	*e*SG	Sn	23 55 47.0	-0.6
UPC	**Upice**	**1.76**	**294**	*e*PG	Pn	23 55 27.0	+0.1
UPC				*e*SG	Sb	23 55 50.6	-0.3
KSP	**Ksiaz**	**1.76**	**306**	*e*Pg	Pn	23 55 26.0	-1.0
KSP				*e*Sg	Sb	23 55 50.8	-0.2
STHS	**Stebnicka Huta**	**1.81**	**102**	*e*PN	Pn	23 55 28.4	+0.7
STHS				*e*SN	Sg	23 55 53.0	-0.5
STHS				*e*LG	Lg	23 55 56.9	
KECS	**Kecovo**	**1.86**	**135**	*e*PN	Pn	23 55 27.9	-0.3
KECS				*e*SN	Sn	23 55 52.4	+0.1
KECS				*e*LG	Lg	23 55 55.4	
PRU	**Pruhonice**	**2.58**	**275**	*e*SG	Sb	23 56 16.2	+1.6
PVCC	**Panska Ves**	**2.64**	**287**	*e*SG	Sg	23 56 18.4	-1.7
CKRC	**Cesky Krumlov**	**2.93**	**252**	*e*SG	Sb	23 56 26.2	+1.5
	comp=Z,4.8nm,0.7s						
BRG	**Berggiesshubel**	**3.12**	**292**	Sg	Sg	23 56 33.9	-1.5
BRG				Amp		23 56 35.2	
	comp=Z,2.1nm,0.6s						
KHC	**Kasperske Hory**	**3.30**	**260**	*e*PN	Pn	23 55 39.0	-9.1
KHC				*e*PG	Pb	23 55 55.7	+1.1
KHC				*e*SG	Sg	23 56 40.1	-1.1

*IDC **10** 23:55:57.4±0.6, 39°.33N×25°.64E, h0km, mb3.9/13, mbtmp3.9/27, ML3.3/9, MS3.5/28, Error ellipse: s-maj=10.3km s-min=9.0km az=82.0*

*ISK **10** 23:55:57.5, 39°.41N×25°.65E, h10km, ML4.5/32*

*SOF **10** 23:55:57.2, 39°.38N±0°.03×25°.73E±0°.02, h18km±8km, MD4.4/8*

*MOS **10** 23:55:57.2±1.0, 39°.43N×25°.70E, h11km, mb4.2/4, Error ellipse: s-maj=4.6km s-min=3.0km az=93.4*

*THE **10** 23:55:58.8, 39°N±1°×2°6E±°, h12km±2km, M4.2/20, MLh4.2/20*

*MCSM **10** 23:55:58.9±0.4, 39°N±3°×2°6E±°, h10km±3km, mb4.4, mB4.8, MLv4.7, Mw(mB)4.1*

*AFAD **10** 23:55:59.0, 39°.46N×25°.77E, h29km, MW4.3*

*ATH **10** 23:55:59.4, 39°.36N×25°.78E, h33km, Mw4.3, Moment Tensor Solution. s6 Moment tensor: Mrr0.20; Mθθ2.11; Mφφ-2.31; Mrθ-0.19; Mθφ-2.52; Mφr0.15; Fault plane solution: NP1:φs249.00000°, δ86.00000°, λ178.00000°. NP2:φs340.00000°, δ88.00000°, λ4.00000°.*

*NEIC **10** 23:55:59.3±1.8, 39°.43N±0°.05×25°.68E±0°.07, h10km±2km, mb4.2/15 Error ellipse: s-maj=9.2km s-min=8.6km az=272.0*

*BEO **10** 23:56:03.1±2.2, 39°.70N×25°.73E, h13km±1km, ML4.4/16*

*NAO **10** 23:56:08.0, 39°.33N×25°.63E, h10km, mb4.2*

ISC 10 23:55:58.9±0.8, 39°.42N±0°.02×25°.72E±0°.02, h13km±5km, n535, σ1§31/572, mb4.0/20, MS3.6/21, 41C-29D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.24**	**153**	Pg	**Pg**	**23 56 03.6**	**-0.3**
SIGR				Sg	**Sg**	**23 56 07.6**	**+0.3**
SIGR	**SIGRI**	**0.24**	**153**	P	**Pg**	**23 56 03.9**	**-0.1**
SIGR				S	**Sg**	**23 56 07.7**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.32**	**84**	Pg	**Pg**	**23 56 05.6**	**+0.1**
GPNR				Sg	**Sb**	**23 56 11.4**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.34**	**76**	P	**Pg**	**23 56 06.1**	**+0.4**
PRK	**Paraskevi**	**0.46**	**112**	P	**Pg**	**23 56 08.2**	**+0.1**
PRK	**Paraskevi**	**0.46**	**112**	P	**Pg**	**23 56 08.2**	**+0.1**
PRK				S	**Sg**	**23 56 14.0**	**-0.3**
PRK	**Paraskevi**	**0.46**	**112**	P	**Pg**	**23 56 08.5**	**+0.4**
PRK				S	**Sg**	**23 56 14.8**	**+0.5**
BOZC	**Bozcaada**	**0.49**	**32**	Pg	**Pg**	**23 56 08.0**	**-0.6**
BOZC				Sg	**Sb**	**23 56 16.2**	**-0.3**
BOZC	**Bozcaada**	**0.49**	**32**	P	**Pg**	**23 56 08.4**	**-0.1**
BOZC				P	**Pg**	**23 56 08.5**	**-0.1**
BOZC				S	**Sg**	**23 56 15.5**	**+0.3**
BOZC				S	**Sb**	**23 56 15.7**	**-0.8**
BOZC				*i* IAML		23 56 16.0	
	comp=N,1μm,0.5s						
BOZC				*i* IAML		23 56 16.0	
	comp=N,1μm,0.5s						
EZN	**Ezine**	**0.62**	**49**	Pg	**Pg**	**23 56 10.7**	**-0.3**
EZN	**Ezine**	**0.62**	**49**	P	**Pg**	**23 56 10.6**	**-0.4**
EZN	**Ezine**	**0.62**	**49**	⇑P	**Pg**	**23 56 10.7**	**-0.3**
EZN				⇑S	**Sg**	**23 56 19.2**	**+0.1**
EZN	**Ezine**	**0.62**	**49**	P	**Pg**	**23 56 10.7**	**-0.3**
LIA	**Limnos Island**	**0.63**	**319**	P	**Pg**	**23 56 10.8**	**-0.4**
LIA				S	**Sg**	**23 56 19.2**	**-0.3**
ECEA	**Canakkale, Ece**	**0.71**	**29**	P	**Pg**	**23 56 12.4**	**-0.4**
ECEA				S	**Sb**	**23 56 22.9**	**+0.1**
ECEA				*i* IAML		23 56 23.0	
	comp=N,9μm,0.6s						
ECEA				*i* IAML		23 56 25.0	
	comp=E,3μm,0.7s						
BAYC	**CANAKKALE_Bayr**	**0.71**	**63**	P	**Pg**	**23 56 12.6**	**-0.2**
BAYC				S	**Sg**	**23 56 22.4**	**+0.1**
BAYC				*i* IAML		23 56 25.0	
	comp=E,6μm,0.3s						
GOAD	**anakkale-G¶**	**0.75**	**11**	P	**Pg**	**23 56 13.1**	**-0.4**
GOAD				S	**Sb**	**23 56 24.6**	**+0.5**
GOAD				*i* IAML		23 56 27.0	
	comp=N,2μm,0.9s						
AYVA	**Ayvalik**	**0.76**	**98**	P	**Pg**	**23 56 13.6**	**-0.1**
AYVA				S	**Sb**	**23 56 24.4**	**+0.2**
AYVA				*i* IAML		23 56 25.0	
	comp=N,3μm,0.6s						
GADA	**Gvkgeada**	**0.78**	**10**	Pg	**Pg**	**23 56 13.4**	**-0.6**
GADA				Sg	**Sb**	**23 56 24.6**	**-0.2**
GADA	**Gvkgeada**	**0.78**	**10**	P	**Pg**	**23 56 13.2**	**-0.8**
CNKL	**anakkale-Mer**	**0.82**	**39**	P	**Pg**	**23 56 14.5**	**-0.3**
DKL	**Dikili**	**0.99**	**110**	Pg	**Pg**	**23 56 18.0**	**+0.1**
IZMD	**zmir-Dikili-**	**1.04**	**115**	P	**Pg**	**23 56 19.1**	**+0.2**
BUHA	**Balikesir, Bur**	**1.05**	**85**	P	**Pb**	**23 56 18.2**	**-0.8**
BUHA				S	**Sb**	**23 56 32.3**	**-0.4**
BUHA				*i* IAML		23 56 45.0	
	comp=N,1μm,0.7s						
BUHA				*i* IAML		23 56 45.0	
	comp=E,1μm,0.7s						
SMTH	**Samothraki Isl**	**1.06**	**352**	P	**Pb**	**23 56 18.3**	**-0.8**
SMTH	**Samothraki Isl**	**1.06**	**352**	P	**Pb**	**23 56 18.4**	**-0.6**
SMTH				S	**Sn**	**23 56 33.4**	**-0.6**
SKY	**Skiros Island**	**1.06**	**239**	P	**Pb**	**23 56 17.9**	**-1.2**
SKY				S	**Sb**	**23 56 31.6**	**-1.2**
SKY	**Skiros Island**	**1.06**	**239**	P	**Pb**	**23 56 18.1**	**-0.9**
SKY				S	**Sb**	**23 56 32.2**	**-0.6**
YAYO	**Edremit-Balk**	**1.06**	**79**	Pn	**Pg**	**23 56 19.4**	**0.0**
YAYO				Sn	**Sn**	**23 56 34.8**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.13**	**31**	Pn	**Pb**	**23 56 19.9**	**-0.5**
GELI				Sn	**Sn**	**23 56 36.8**	**+0.9**
ZEDA	**zmir-Bergama**	**1.15**	**113**	P	**Pb**	**23 56 20.2**	**-0.4**
ZEDA				S	**Sn**	**23 56 36.4**	**+0.2**
ZEDA				*i* IAML		23 56 40.0	
	comp=N,4μm,0.4s						
CESE	**eme**	**1.18**	**157**	Pn	**Pn**	**23 56 20.2**	**-0.9**
ENZZ	**Sultanice-Enez**	**1.23**	**15**	Pn	**Pn**	**23 56 21.6**	**-0.1**
LPK	**Lapseki**	**1.24**	**40**	Pn	**Pn**	**23 56 21.7**	**-0.2**
LPK				Sn	**Sg**	**23 56 39.9**	**+0.9**
URLA	**Izmir**	**1.26**	**147**	Pn	**Pn**	**23 56 21.4**	**-0.9**
URLA	**Izmir**	**1.26**	**147**	P	**Pn**	**23 56 20.9**	**-1.3**
CAVK	**Edirne/Enez-Ca**	**1.31**	**15**	P	**Pn**	**23 56 22.4**	**-0.6**
CAVK	**Edirne/Enez-Ca**	**1.31**	**15**	⇓P	**Pn**	**23 56 22.7**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**1.33**	**152**	P	**Pb**	**23 56 23.8**	**+0.1**
ENEZ	**Enez**	**1.35**	**14**	Pn	**Pn**	**23 56 23.2**	**-0.3**
ENEZ	**Enez**	**1.35**	**14**	P	**Pn**	**23 56 23.1**	**-0.3**
ENEZ				S	**Sg**	**23 56 42.5**	**0.0**
ERIK	**Erikli-Kesan**	**1.39**	**26**	Pn	**Pn**	**23 56 23.7**	**-0.2**
SOMA	**Soma-Manisa**	**1.43**	**100**	Pn	**Pn**	**23 56 24.8**	**+0.2**
AOS	**Alonnisos**	**1.45**	**261**	P	**Pn**	**23 56 24.0**	**-0.7**
AOS				S	**Sn**	**23 56 43.0**	**-0.6**
BLCB	**Balcova**	**1.46**	**135**	Pn	**Pn**	**23 56 24.9**	**-0.1**
BLCB	**Balcova**	**1.46**	**135**	P	**Pn**	**23 56 24.2**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.49**	**238**	P	**Pn**	**23 56 23.7**	**-1.6**
KYMI	**Kymi, Euboea I**	**1.49**	**238**	P	**Pn**	**23 56 23.8**	**-1.6**
KYMI				S	**Sn**	**23 56 42.5**	**-2.1**
ALN	**Alexandroupoli**	**1.49**	**10**	Pn	**Pn**	**23 56 24.9**	**-0.5**
ALN	**Alexandroupoli**	**1.49**	**10**		**Pn**	**23 56 25.0**	**-0.5**
ALN	**Alexandroupoli**	**1.49**	**10**	P	**Pn**	**23 56 24.8**	**-0.6**
ALN				S	**Sb**	**23 56 45.4**	**+0.1**
ALN	**Alexandroupoli**	**1.49**	**10**	P	**Pn**	**23 56 25.0**	**-0.5**
ALN	**Alexandroupoli**	**1.49**	**10**	P	**Pn**	**23 56 24.8**	**-0.5**
BALY	**Balya**	**1.50**	**77**	P	**Pn**	**23 56 24.3**	**-1.3**
BALY				S	**Sb**	**23 56 45.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.55**	**91**	P	**Pb**	**23 56 27.0**	**-0.4**
STEP				S	**Sg**	**23 56 48.7**	**-0.1**
STEP				*i* IAML		23 56 57.0	
	comp=N,2μm,0.7s						
KRBG	**Karabiga-Canak**	**1.55**	**51**	Pn	**Pn**	**23 56 26.1**	**-0.1**
KESN	**Edirne-Kesan**	**1.58**	**27**	P	**Pn**	**23 56 26.2**	**-0.8**
KESN				S	**Sb**	**23 56 48.5**	**+0.2**
KESN				*i* IAML		23 56 52.0	
	comp=N,5μm,0.7s						
KESN				*i* IAML		23 56 57.0	
	comp=E,7μm,1.0s						
OUR	**Ouranopolis**	**1.62**	**305**	Pn	**Pn**	**23 56 26.3**	**-0.7**
OUR	**Ouranopolis**	**1.62**	**305**	P	**Pn**	**23 56 26.2**	**-0.9**
OUR	**Ouranopolis**	**1.62**	**305**	P	**Pn**	**23 56 26.1**	**-0.9**
OUR	**Ouranopolis**	**1.62**	**305**	P	**Pn**	**23 56 26.4**	**-0.7**
GMLD	**Gumuldur**	**1.64**	**145**	Pn	**Pn**	**23 56 26.9**	**-0.5**
GONE	**Gonen-Balikesi**	**1.64**	**67**	Pn	**Pn**	**23 56 27.9**	**+0.5**
DGB	**zmir**	**1.64**	**146**	P	**Pn**	**23 56 28.2**	**+0.7**
DGB				S	**Sg**	**23 56 50.9**	**-0.9**
DGB				*i* IAML		23 56 52.0	
	comp=N,2μm,0.8s						
RKY	**Sarkoy-Tekirda**	**1.69**	**41**	Pn	**Pn**	**23 56 28.9**	**+0.8**
SART	**Tekirdag**	**1.69**	**41**	P	**Pb**	**23 56 29.2**	**-0.6**
SART				S	**Sb**	**23 56 52.1**	**+1.0**
SART				*i* IAML		23 56 53.0	
	comp=N,5μm,0.4s						
SART				*i* IAML		23 56 54.0	
	comp=E,5μm,0.5s						
KARY	**Karystos**	**1.71**	**216**	P	**Pn**	**23 56 26.5**	**-1.9**
KARY	**Karystos**	**1.71**	**216**	P	**Pn**	**23 56 26.4**	**-1.9**
AKS	**Akhisar**	**1.72**	**108**	Pn	**Pn**	**23 56 28.6**	**+0.1**
AKHS	**Akhisar**	**1.72**	**108**	P	**Pn**	**23 56 28.9**	**+0.4**
RDO	**Rodhopi**	**1.73**	**355**	Pn	**Pn**	**23 56 28.2**	**-0.4**
RDO	**Rodhopi**	**1.73**	**355**		**Pn**	**23 56 28.3**	**-0.3**
RDO	**Rodhopi**	**1.73**	**355**	P	**Pn**	**23 56 28.0**	**-0.6**
RDO	**Rodhopi**	**1.73**	**355**	P	**Pn**	**23 56 28.2**	**-0.4**
BKES	**Balkesir-Mer**	**1.74**	**79**	P	**Pg**	**23 56 32.0**	**-0.2**
BKES				S	**Sb**	**23 56 52.4**	**+0.1**
BLKS	**Balkesir-Sus**	**1.79**	**75**	P	**Pn**	**23 56 29.2**	**-0.3**
BLKS				P	**Pb**	**23 56 29.4**	**-2.3**
BLKS				S	**Sb**	**23 56 55.2**	**+1.2**
BLKS				*i* IAML		23 56 57.0	
	comp=N,2μm,0.9s						
KAVA	**Kavala**	**1.82**	**330**	P	**Pn**	**23 56 29.1**	**-0.8**
KAVA	**Kavala**	**1.82**	**330**	P	**Pn**	**23 56 29.1**	**-0.8**
UKOP	**Uzunkopru-Edir**	**1.84**	**22**	Pn	**Pn**	**23 56 30.3**	**+0.1**
GOMA	**Golmarmara-Man**	**1.85**	**112**	Pn	**Pb**	**23 56 32.4**	**-0.2**
MRMT	**Marmara Adasi**	**1.86**	**50**	Pn	**Pn**	**23 56 31.4**	**+0.9**
EDC	**Edincik**	**1.89**	**60**	Pn	**Pn**	**23 56 30.9**	**0.0**
EDC	**Edincik**	**1.89**	**60**	P	**Pn**	**23 56 30.8**	**-0.1**
DION	**Dionisos Attik**	**1.94**	**227**	P	**Pn**	**23 56 29.8**	**-1.7**
DION	**Dionisos Attik**	**1.94**	**227**	P	**Pn**	**23 56 29.8**	**-1.7**
NEO	**Neokhori**	**1.94**	**267**	P	**Pn**	**23 56 30.1**	**-1.4**
NEO	**Neokhori**	**1.94**	**267**	P	**Pn**	**23 56 30.3**	**-1.2**
GORD	**Gordes-Manisa**	**1.98**	**104**	Pn	**Pn**	**23 56 32.7**	**+0.6**
PLG	**Polygyros**	**1.99**	**299**	P	**Pn**	**23 56 31.3**	**-0.9**
PLG	**Polygyros**	**1.99**	**299**	P	**Pn**	**23 56 31.3**	**-0.9**
PLG	**Polygyros**	**1.99**	**299**	P	**Pn**	**23 56 31.9**	**-0.4**
PTL	**Penteli**	**2.00**	**227**	P	**Pn**	**23 56 30.7**	**-1.7**
PTL	**Penteli**	**2.00**	**227**	P	**Pn**	**23 56 30.6**	**-1.7**
BAND	**Balkesir-Ban**	**2.06**	**62**	P	**Pb**	**23 56 34.7**	**-1.4**
BAND	**Balkesir-Ban**	**2.06**	**62**	⇑P	**Pn**	**23 56 33.3**	**+0.1**
TKR	**Tekirdag**	**2.10**	**41**	Pn	**Pn**	**23 56 33.4**	**-0.3**
ATHU	**Athens Univers**	**2.10**	**227**	P	**Pn**	**23 56 32.0**	**-1.8**
ATHU	**Athens Univers**	**2.10**	**227**	P	**Pn**	**23 56 31.8**	**-1.9**
STFN	**Stefani**	**2.11**	**234**	P	**Pn**	**23 56 32.5**	**-1.4**
ATH	**Athens Observa**	**2.13**	**228**	P	**Pn**	**23 56 32.7**	**-1.5**
ATH	**Athens Observa**	**2.13**	**228**	P	**Pn**	**23 56 32.7**	**-1.5**
ATH	**Athens Observa**	**2.13**	**228**	P	**Pn**	**23 56 32.6**	**-1.5**
DURS	**Dursunbey**	**2.14**	**84**	P	**Pb**	**23 56 36.9**	**-0.6**
ODEM	**Odemis-Izmir**	**2.17**	**121**	Pn	**Pn**	**23 56 35.1**	**+0.4**
IZMR	**zmir-demi**	**2.17**	**126**	P	**Pn**	**23 56 35.8**	**+1.2**
IZMR				P	**Pb**	**23 56 36.4**	**-1.6**
VLY	**Voula,Athens**	**2.17**	**224**	P	**Pn**	**23 56 33.5**	**-1.3**
MAGU	**Magoula**	**2.18**	**233**	P	**Pn**	**23 56 33.7**	**-1.2**
KCTX	**Karacabey (Bur**	**2.20**	**67**	Pn	**Pn**	**23 56 35.6**	**+0.5**
ATAL	**Atalanti**	**2.22**	**252**	P	**Pn**	**23 56 34.3**	**-1.1**
ATAL	**Atalanti**	**2.22**	**252**	P	**Pn**	**23 56 34.3**	**-1.1**
KDZ	**Kurdzhali**	**2.22**	**353**	P	**Pn**	**23 56 35.1**	**-0.4**
KDZ				S	**Sn**	**23 57 03.4**	**+0.6**
KDZ	**Kurdzhali**	**2.22**	**353**	P	**Pn**	**23 56 35.1**	**-0.4**
KDZ	**Kurdzhali**	**2.22**	**353**	P	**Pn**	**23 56 35.1**	**-0.4**

16nm,0.7s,baz=341,slow=12,SNR=21
IDI Pg **Pb** **23 57 11.5 -0.8**
5.5nm,0.3s,baz=353,slow=16,SNR=11
IDI Lg Lg 23 58 07.2
4.7nm,0.3s,baz=24,slow=20,SNR=2.0
IDI LR LR 23 58 53.5
comp=Z,500nm,18.4s,baz=320,slow=43
IDI Anoyia 4.18 189 P **Pn** **23 57 00.5 -2.0**
RAZG Razgrad 4.18 8 ⇑P **Pn** **23 57 02.5 +0.1**
SAHE Sakarya_HENDEK 4.19 68 ⇓P **Pn** **23 57 03.2 +0.7**
VLS Valsamata 4.20 254 P **Pn** **23 57 03.6 +1.0**
MPEP Malo Peshtene 4.20 340 P **Pn** **23 57 04.2 +1.6**
ELL Elmali 4.25 128 **Pn** **23 57 05.2 +1.8**
ELL Elmali 4.25 128 P **Pn** **23 57 05.2 +1.8**
ZKR Zakros 4.32 175 P **Pn** **23 57 03.2 -1.1**
MDUB Mudurnu 4.34 74 **Pn** **23 57 06.8 +2.2**
AKAS Kas 4.43 135 **Pn** **23 57 07.8 +1.9**
KSL Kastellorizon 4.48 136 P **Pn** **23 57 06.6 +0.2**
BARS Barje 4.49 320 *e*Pn **Pn** **23 57 07.6 +1.0**
ZAPS Zavoj 4.49 330 *e*Pn **Pn** **23 57 08.6 +1.9**
KEK Kerkira 4.58 276 Pn **Pn** **23 57 08.8 +0.9**
VALD Valchedram 4.59 339 P **Pn** **23 57 08.8 +0.8**
VLAD Vladila 4.68 348 ⇑P **Pn** **23 57 10.0 +0.8**
COPA Copaceanca 4.72 356 ⇓P **Pn** **23 57 10.4 +0.6**
MANR Mangalia 4.89 25 ⇑P **Pn** **23 57 12.4 +0.4**
ICOR Ion Corvin 4.94 18 ⇑P **Pn** **23 57 13.4 +0.6**
ZAGS Zajecar 5.10 330 *e*Pn **Pn** **23 57 15.8 +0.8**
HUMR Humele 5.13 354 ⇓P **Pn** **23 57 15.7 +0.3**
SELS Selova 5.13 319 *e*Pn **Pn** **23 57 16.2 +0.7**
MFTR Murfatlar 5.16 22 ⇑P **Pn** **23 57 15.8 0.0**
BOVS Bovan 5.17 326 ⇓P **Pn** **23 57 16.8 +0.9**
BOVS Bovan 5.17 326 *e*Pn **Pn** **23 57 17.2 +1.2**
TLBR Topalu 5.40 18 ⇑P **Pn** **23 57 19.4 +0.2**
TIRR Tirgusor 5.42 21 **Pn** **23 57 19.3 0.0**
TIRR Tirgusor 5.42 21 ⇓P **Pn** **23 57 19.6 +0.2**
TIRR Tirgusor 5.42 21 P **Pn** **23 57 19.5 +0.2**
TIRR Tirgusor 5.42 21 P **Pn** **23 57 18.8 -0.5**
0.4nm942nm120nm,1.1s
BORS2 Bor- Borsko je 5.42 331 *e*Pn **Pn** **23 57 18.2 -1.2**
ANTO Ankara 5.48 83 Pn **Pn** **23 57 21.9 +1.6**
ANTO Ankara 5.48 83 P **Pn** **23 57 21.9 +1.6**
ANTO Ankara 5.48 83 P **Pn** **23 57 21.6 +1.3**
0.5nm521nm68nm,0.8s
GOCS Kraljevo Serbi 5.51 320 *e*Pn **Pn** **23 57 21.2 +0.5**
HARR Harsova 5.51 17 ⇑P **Pn** **23 57 21.0 +0.3**
HARR Harsova 5.51 17 P **Pn** **23 57 20.9 +0.3**
ISR Istrita 5.72 6 P **Pn** **23 57 24.1 +0.5**
1.0nm93nm,0.8s
PDG Podgorica 5.74 304 **Pn** **23 57 25.4 +1.6**
PDG Podgorica 5.74 304 ⇓P **Pn** **23 57 24.5 +0.8**
PDG Podgorica 5.74 304 *e*Pn **Pn** **23 57 26.4 +2.6**
DJES Djerdap 5.75 337 *e*Pn **Pn** **23 57 23.6 -0.4**
SJES Sjenica 5.78 313 *e*Pn **Pn** **23 57 26.0 +1.6**
TPGR Topolog 5.79 19 ⇓P **Pn** **23 57 25.0 +0.5**
GRUS Gruza 5.83 322 *e*Pn **Pn** **23 57 25.6 +0.7**
KUBS Kucevo 5.83 330 *e*Pn **Pn** **23 57 24.8 -0.1**
IVAS Ivanjica 5.89 317 *e*Pn **Pn** **23 57 26.2 +0.3**
HERR Herculane 5.98 337 ⇓P **Pn** **23 57 26.7 -0.3**
ARR Arges 6.00 353 ⇓P **Pn** **23 57 27.6 +0.3**
CIDE Kastamonu/Cide 6.02 64 ⇑P **Pn** **23 57 28.2 +0.6**
CFR Carcaliu 6.02 17 ⇓P **Pn** **23 57 27.4 -0.3**
CFR Carcaliu 6.02 17 P **Pn** **23 57 27.3 -0.3**
GRER 6.03 8 ⇓P **Pn** **23 57 28.8 +1.1**
MLR Muntele Rosu 6.07 2 **Pn** **23 57 29.9 +1.6**
MLR Muntele Rosu 6.07 2 Pn **Pn** **23 57 30.2 +1.9**
7.1nm,0.3s,baz=209,slow=4.6,SNR=75
MLR Sn **Sn** **23 58 41.1 +3.4**
baz=253,slow=4.8
MLR Lg Lg 23 59 13.3
3.2nm,0.3s,baz=279,slow=19,SNR=6.5
MLR LR LR 00 00 38.2
comp=Z,392nm,18.1s,baz=180,slow=46
MLR Muntele Rosu 6.07 2 ⇑P **Pn** **23 57 29.5 +1.2**
MLR Muntele Rosu 6.07 2 *e*Pn **Pn** **23 57 30.0 +1.6**
MLR Muntele Rosu 6.07 2 P **Pn** **23 57 29.5 +1.2**
MLR Muntele Rosu 6.07 2 P **Pn** **23 57 29.6 +1.2**
0.6nm899nm109nm,1.2s
BR105 Keskin Array S 6.11 85 P **Pn** **23 57 30.3 +1.3**
0.4nm412nm38nm,0.8s
BR106 Keskin Array S 6.11 85 P **Pn** **23 57 30.3 +1.3**
0.3nm422nm30nm,0.8s
MDVR Moldovita 6.13 332 ⇑P **Pn** **23 57 29.3 +0.2**
MDVR Moldovita 6.13 332 *e*Pn **Pn** **23 57 29.3 +0.2**
BR131 Keskin Array S 6.13 85 **Pn** **23 57 30.5 +1.3**
BR131 Keskin Array S 6.13 85 *i* P **Pn** **23 57 30.2 +1.0**
BRTR Keskin Array B 6.13 85 **Pn** **23 57 30.4 +1.1**
BRTR Keskin Array B 6.13 85 Pn **Pn** **23 57 30.6 +1.3**
1.6nm,0.3s,baz=261,slow=12,SNR=28
BRTR Lg Lg 23 59 15.1
0.6nm,0.3s,baz=265,slow=22,SNR=11
7.8nm,0.6s
BR104 Keskin Array S 6.13 85 P **Pn** **23 57 30.5 +1.2**
0.2nm389nm23nm,0.7s
BISRR Bisoca 6.17 7 ⇓P **Pn** **23 57 30.6 +0.9**
BISRR Bisoca 6.17 7 P **Pn** **23 57 30.1 +0.4**
1.7nm4µm273nm,0.8s
LOT Lotru 6.19 347 ⇑P **Pn** **23 57 30.0 -0.1**
TLCR 6.20 21 ⇓P **Pn** **23 57 30.4 +0.4**
TLCR 6.20 21 P **Pn** **23 57 30.4 +0.4**
TRUS Trudelj 6.22 322 *e*Pn **Pn** **23 57 30.4 0.0**
ILGA Ilgaz 6.33 73 **Pn** **23 57 33.5 +1.4**
TUDR 6.33 13 ⇑P **Pn** **23 57 33.1 +1.3**
DIVS Divibare 6.33 319 *e*Pn **Pn** **23 57 32.7 +0.7**
GZR Gura Zlata 6.35 341 ⇓P **Pn** **23 57 32.2 -0.1**
GZR Gura Zlata 6.35 341 *e*Pn **Pn** **23 57 32.0 -0.2**
GZR Gura Zlata 6.35 341 P **Pn** **23 57 32.1 -0.1**
TATR Tatarca 6.41 15 ⇑P **Pn** **23 57 33.3 +0.4**
ODBI Odobesti 6.41 8 ⇓P **Pn** **23 57 34.1 +1.1**
PLOR5 Plostina Array 6.46 6 P **Pn** **23 57 34.8 +1.2**
0.5nm1µm161nm,0.9s
PLOR Plostina 6.46 6 ⇑P **Pn** **23 57 34.8 +1.0**
PLOR Plostina 6.46 6 P **Pn** **23 57 34.7 +1.0**
TREB Trebinje 6.47 303 *e*Pn **Pn** **23 57 37.6 +3.9**
SCTR Scanteiesti 6.47 14 ⇑P **Pn** **23 57 34.4 +0.6**
VRI Vrincioaia 6.48 6 ⇑P **Pn** **23 57 35.1 +1.1**
VRI Vrincioaia 6.48 6 P **Pn** **23 57 35.0 +1.1**
VRI Vrincioaia 6.48 6 P **Pn** **23 57 35.1 +1.1**
0.5nm861nm92nm,0.8s
DOPR Dopca 6.54 358 ⇓P **Pn** **23 57 36.2 +1.3**
KLINJ Klinje 6.55 307 *e*Pn **Pn** **23 57 35.0 +0.1**
VRSS Vrsac 6.56 332 *e*Pn **Pn** **23 57 34.9 -0.1**
TURR Turia 6.63 2 ⇓P **Pn** **23 57 37.7 +1.6**
BOSR Bodos 6.65 360 ⇓P **Pn** **23 57 37.7 +1.5**
VLDR Vladesti 6.65 14 ⇓P **Pn** **23 57 37.2 +1.0**
VARL Varlezi 6.66 13 ⇓P **Pn** **23 57 37.8 +1.5**
GHRR 6.75 10 ⇑P **Pn** **23 57 38.3 +0.7**
GHRR 6.75 10 P **Pn** **23 57 38.0 +0.4**
DEV Deva 6.78 343 ⇓P **Pn** **23 57 38.6 +0.5**
DEV Deva 6.78 343 P **Pn** **23 57 38.5 +0.5**
BZK Bozkurt 6.79 65 **Pn** **23 57 39.9 +1.8**
MDB Medias 6.79 352 ⇑P **Pn** **23 57 39.3 +1.1**
MDB Medias 6.79 352 P **Pn** **23 57 39.2 +1.1**
SURR Surduc 6.86 338 ⇑P **Pn** **23 57 38.7 -0.4**
BZS Buzias 6.89 335 ⇓P **Pn** **23 57 39.2 -0.4**
BZS Buzias 6.89 335 *e*Pn **Pn** **23 57 39.3 -0.2**
BZS Buzias 6.89 335 P **Pn** **23 57 39.1 -0.4**
TEKS Tekeris 6.89 320 *e*Pn **Pn** **23 57 39.6 0.0**
ONER Baraj Valea Uz 6.93 4 ⇓P **Pn** **23 57 40.0 0.0**
TIP Timpagrande 6.95 271 **Pn** **23 57 41.0 +0.5**
TIP Timpagrande 6.95 271 ⇑P **Pn** **23 57 40.0 -0.5**
TIP Timpagrande 6.95 271 P **Pn** **23 57 40.8 +0.3**
0.1nm35nm,0.8s
STON Ston 6.96 302 *e*Pn **Pn** **23 57 44.6 +4.1**
BIR Birlad 6.98 11 ⇑P **Pn** **23 57 41.7 +0.9**
BIR Birlad 6.98 11 P **Pn** **23 57 41.7 +0.9**
MATE Matera 7.02 283 ⇓P **Pn** **23 57 40.9 -0.4**
TESR Tescani 7.12 5 ⇑P **Pn** **23 57 43.6 +1.0**
TESR Tescani 7.12 5 P **Pn** **23 57 43.5 +0.8**
0.5nm1µm135nm,0.7s
CJR Cluj-Napoca 7.45 349 ⇑P **Pn** **23 57 47.7 +0.4**
CJR Cluj-Napoca 7.45 349 P **Pn** **23 57 47.6 +0.4**
SIRR Siria 7.46 338 ⇑P **Pn** **23 57 47.5 +0.1**
SIRR Siria 7.46 338 *e*Pn **Pn** **23 57 47.2 -0.2**
MARR Marisel-Cluj 7.50 346 ⇑P **Pn** **23 57 47.6 -0.3**
BIZ Bicaz 7.52 2 ⇓P **Pn** **23 57 49.8 +1.7**
CSS Mathiatis 7.53 124 **Pn** **23 57 49.2 +0.8**
CSS Mathiatis 7.53 124 P **Pn** **23 57 49.7 +1.3**
0.1nm13nm,1.1s
GIRR Girov 7.55 4 ⇑P **Pn** **23 57 50.2 +1.6**
ACER Acerenza 7.62 283 **Pn** **23 57 50.2 +0.6**
CUC Castrocucco 7.66 277 **Pn** **23 57 50.3 +0.2**
DRGR 7.69 344 ⇑P **Pn** **23 57 50.5 0.0**
DRGR 7.69 344 *e*Pn **Pn** **23 57 50.3 -0.2**
DRGR 7.69 344 P **Pn** **23 57 50.5 0.0**
ARCR ARCALIA 7.72 353 ⇑P **Pn** **23 57 51.9 +0.9**
CEL Celeste 7.75 264 **Pn** **23 57 51.5 0.0**
CEL Celeste 7.75 264 P **Pn** **23 57 51.4 -0.1**
0.1nm23nm,1.3s
MILM Milestii Mici 7.83 16 ⇑P **Pn** **23 57 52.3 -0.1**
MILM Milestii Mici 7.83 16 ⇓*i*P **Pn** **23 57 51.0 -1.3**
80nm,0.8s
MILM *e*S **Sn** **23 59 20.0 -0.7**
MILM Milestii Mici 7.83 16 P **Pn** **23 57 52.2 -0.1**
SEV Sevastopol' 7.83 47 *e*P **Pn** **23 57 52.7 +0.4**
SEV *e*S **Sn** **23 59 16.1 -4.6**
BNN Bunyan 7.89 91 **Pn** **23 57 56.0 +2.5**
SGRT San Giovanni R 7.94 290 Pn **Pn** **23 57 53.8 -0.2**
YAL Yalta 8.07 48 *e*P **Pn** **23 57 55.7 0.0**
YAL *e*S **Sn** **23 59 22.2 -4.5**
NE56 Odesa 8.18 26 P **Pn** **23 57 57.2 0.0**
BURAR Bucovina Array 8.20 358 **Pn** **23 57 58.7 +1.1**
BURAR Bucovina Array 8.20 358 ⇓P **Pn** **23 57 59.5 +1.9**
BURAR Bucovina Array 8.20 358 P **Pn** **23 57 59.4 +1.9**
BUR08 Bucovina Ar. S 8.23 358 **Pn** **23 57 59.2 +1.2**
BLY Banja Luka 8.28 313 *e*Pn **Pn** **23 57 59.0 +0.4**
BLY Banja Luka 8.28 313 ⇑P **Pn** **23 57 59.3 +0.7**
BLY Banja Luka 8.28 313 *e*Pn **Pn** **23 58 00.3 +1.7**
TOKA Tokat 8.32 80 Pn **Pn** **23 57 59.7 +0.4**
SIM Simferopol' 8.33 46 *e*P **Pn** **23 58 00.4 +1.2**
SIM *e*S **Sn** **23 59 29.0 -4.1**
KLIV Kijevo 8.33 306 *e*Pn **Pn** **23 58 01.4 +2.0**
BMR Baia Mare 8.40 350 P **Pn** **23 58 01.8 +1.5**
BMR pmax pmax
comp=Z,63nm,0.8s
MORH Mrgy, Hungar 8.55 325 *e*Pn **Pn** **23 58 03.0 +0.8**
MORH Mrgy, Hungar 8.55 325 ⇑P **Pn** **23 58 03.1 +0.8**
MORH Mrgy, Hungar 8.55 325 P **Pn** **23 58 01.8 -0.4**
comp=Z,5.5nm,0.8s
PAOL Paolisi 8.68 284 **Pn** **23 58 04.8 +0.6**
SUDU Sudak 8.79 49 *e*P **Pn** **23 58 09.4 +3.8**
SUDU *e*S **Sn** **23 59 45.6 +1.1**
KSV Kosov 8.90 357 P **Pn** **23 58 08.0 +0.9**
BAL3X Bal3x, Balta 8.96 17 P **Pn** **23 58 06.7 -1.2**
MOSL Moslavina 9.05 316 *e*Pn **Pn** **23 58 09.3 0.0**
VAE Valguarnera 9.08 261 Pn **Pn** **23 58 10.2 +0.5**
comp=Z,10nm,1.1s,baz=17,slow=14,SNR=1.5
VAE Sn **Sn** **23 59 54.8 +3.0**
comp=Z,0.2nm,0.3s,baz=135,slow=19,SNR=1.7
BRIU Brid 9.12 349 P **Pn** **23 58 10.2 +0.1**
KMPD K-Podol'skiy 9.15 3 P **Pn** **23 58 10.6 +0.1**
RAFF Raffo Rosso 9.19 260 Pn **Pn** **23 58 11.8 +0.7**
MUKU Mukachevo 9.29 347 P **Pn** **23 58 11.2 -1.2**
PSZ Piszkesteto 9.48 336 **Pn** **23 58 15.5 +0.4**
PSZ Piszkesteto 9.48 336 P **Pn** **23 58 15.5 +0.4**
BEHE Becsehely 9.62 320 *e*Pn **Pn** **23 58 16.9 0.0**
OZLJ Ozalj 9.77 313 *e*Pn **Pn** **23 58 20.9 +1.9**
AQU L'Aquila 9.78 291 P **Pn** **23 58 20.2 +1.0**
AQU pmax pmax
comp=Z,23nm,0.9s
MORS Morshin 9.79 353 P **Pn** **23 58 20.3 +0.9**
HORU Horodok 9.80 3 P **Pn** **23 58 19.2 -0.3**
CAMP Campotosto 9.81 292 **Pn** **23 58 19.1 -0.7**
BOJS Bojanci 9.83 312 *e*Pn **Pn** **23 58 21.3 +1.4**
SHIU Shidnytsya 9.94 351 P **Pn** **23 58 21.0 -0.4**
MMAI Mount Meron Ar 10.10 126 Pn **Pn** **23 58 23.4 -0.3**
comp=Z,2.0nm,0.3s,baz=302,slow=13,SNR=15
MMAI Sn **Sn** **00 00 18.7 +1.8**
comp=Z,1.2nm,0.3s,baz=278,slow=24,SNR=2.2
MMAI LR LR 00 02 44.3
comp=Z,174nm,21.6s,baz=304,slow=40
NRCA Norcia 10.10 294 **Pn** **23 58 22.1 -1.6**
FDMO Fiordimonte 10.18 295 **Pn** **23 58 22.5 -2.1**
BRJN Brijuni 10.43 306 *e*Pn **Pn** **23 58 27.5 -0.6**
MURB Monte Urbino 10.63 295 **Pn** **23 58 31.2 +0.3**
OBKA Obir 10.81 315 *e*Pn **Pn** **23 58 36.7 +3.3**
comp=Z,4.2nm,0.8s
MODS Modra-Piesok 10.82 329 *e*PN **Pn** **23 58 28.9 -4.5**
MODS *e* 23 58 37.9
SABO M.te Sabotino 11.06 310 **Pn** **23 58 36.3 -0.4**
CONA Conrad Observa 11.09 323 *e*Pn **Pn** **23 58 38.1 +0.9**
comp=Z,1.4nm,0.5s
SOC Sochi 11.29 64 *e*P **Pn** **23 58 40.2 +0.4**
SOC *e* 00 00 49.4
SOC MLR MLR
comp=Z,92nm,14.0s
MYKA Terra Mystica 11.39 313 Pn Pn 23 58 47.4 +6.1
comp=Z,1.4nm,0.4s
AK07 Malin Array Si 11.40 11 P **Pn** **23 58 41.7 +0.5**
AK06 Malin Array Si 11.43 11 P **Pn** **23 58 42.1 +0.4**
AK10 Malin Array Si 11.45 11 P **Pn** **23 58 42.1 +0.1**
AK14 Malin Array Si 11.46 11 P **Pn** **23 58 41.8 -0.3**
AK05 Malin Array Si 11.46 11 P **Pn** **23 58 41.9 -0.3**
AK09 Malin Array Si 11.47 11 P **Pn** **23 58 42.0 -0.3**
VSLR Vesyoloye 11.47 65 *i* P **Pn** **23 58 44.0 +1.6**
AK12 Malin Array Si 11.48 11 P **Pn** **23 58 42.1 -0.3**
AK08 Malin Array Si 11.48 11 P **Pn** **23 58 42.0 -0.4**
AK16 Malin Array Si 11.50 11 P **Pn** **23 58 42.0 -0.6**
AK02 Malin Array Si 11.50 11 P **Pn** **23 58 42.1 -0.6**
AK17 Malin Array Si 11.51 11 P **Pn** **23 58 42.2 -0.5**
AK11 Malin Array Si 11.52 11 P **Pn** **23 58 42.4 -0.5**
KIEV Kiev 11.54 11 **Pn** **23 58 42.4 -0.8**
KIEV Kiev 11.54 11 P **Pn** **23 58 42.4 -0.8**
AKASG Malin Array Be 11.54 11 Pn **Pn** **23 58 42.9 -0.4**
comp=Z,1.0nm,0.4s,baz=197,slow=12,SNR=5.6
AKASG Sn **Sn** **00 00 52.4 +0.4**
comp=Z,0.2nm,0.3s,baz=200,slow=22,SNR=1.3
AKASG LR LR 00 03 09.5
comp=Z,174nm,20.5s,baz=192,slow=37
AKASG Malin Array Be 11.54 11 *i* P **Pn** **23 58 42.9 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 11.54 11 **Pn** **23 58 42.9 -0.3**
AKBB Malin Array Si 11.54 11 *i* P **Pn** **23 58 42.6 -0.7**
MI28 Mi28,Pidlybu 11.59 6 P **Pn** **23 58 43.0 -0.9**
ASF Jabal al Asfar 11.60 125 Pn **Pn** **23 58 44.6 +0.3**
comp=Z,0.4nm,0.3s,baz=27,slow=2.5,SNR=9.0
ASF LR LR 00 04 05.3
comp=Z,83nm,20.0s,baz=325,slow=42
comp=Z,0.6nm,0.3s
OKC Ostrava-Krasne 11.72 335 AMS AMS 00 03 30.0
comp=Z,300nm,15.9s
STAL STALIGIAL 11.73 310 **Pn** **23 58 45.4 -0.6**
RNPP5 Staryi Chortor 11.81 1 P **Pn** **23 58 45.8 -1.1**
MOA Molln 11.81 319 *i* Pn **Pn** **23 58 50.9 +4.0**
comp=Z,1.9nm,0.6s
KBA Koelnbreinsper 11.82 314 *e*Pn **Pn** **23 58 50.7 +3.5**
comp=Z,2.2nm,0.6s
KBA Koelnbreinsper 11.82 314 P **Pn** **23 58 50.7 +3.5**
KBA pmax pmax
comp=Z,12nm,1.7s
VRAC Vranov 11.84 330 Pn **Pn** **23 58 48.0 +0.7**
comp=Z,2.7nm,0.5s,baz=112,slow=5.4,SNR=3.2
VRAC Vranov 11.84 330 P **Pn** **23 58 48.0 +0.7**
MORC Moravsky Berou 11.87 333 Pn **Pn** **23 58 48.6 +0.8**
MORC Moravsky Berou 11.87 333 P **Pn** **23 58 48.6 +0.8**
RNPP8 Varash 11.91 0 P **Pn** **23 58 48.0 -0.3**
TEOL Teolo 11.96 304 **Pn** **23 58 47.5 -1.4**
RNPP9 Sopachiv 11.99 1 P **Pn** **23 58 48.9 -0.5**
ABTA Abfaltersbach 12.11 311 *i* Pn **Pn** **23 58 52.1 +1.0**
comp=Z,1.8nm,0.5s
CTI Castel Tesino 12.27 307 **Pn** **23 58 52.4 -1.0**
CTI Castel Tesino 12.27 307 P **Pn** **23 58 52.4 -1.0**
EIL Elat 12.34 139 Pn **Pn** **23 58 53.5 -0.8**
comp=Z,0.3nm,0.3s,baz=357,slow=14,SNR=2.0
EIL Sn **Sn** **00 01 12.4 +0.7**
comp=Z,0.3nm,0.3s,baz=60,slow=13,SNR=1.9
comp=Z,1.5nm,0.4s
KRLC Kraliky 12.39 332 AMS AMS 00 04 00.0
comp=Z,400nm,11.0s
LESA Schwarzleotal 12.39 314 *e*Pn **Pn** **23 58 58.5 +3.5**
comp=Z,1.7nm,0.5s
GERES GERESS Array B 12.76 321 Pn **Pn** **23 59 01.1 +1.1**
baz=142,slow=14,SNR=2.3
GERES LR LR 00 03 32.6
comp=Z,120nm,19.3s,baz=204,slow=36
comp=Z,0.2nm,0.4s
WTTA Wattenberg 12.89 312 *e*Pn **Pn** **23 59 05.5 +3.6**
comp=Z,2.6nm,0.7s
WTTA Wattenberg 12.89 312 P **Pn** **23 59 04.7 +2.8**
WTTA pmax pmax
comp=Z,12nm,1.1s
WATA Walderalm 12.96 312 *e*Pn **Pn** **23 59 05.1 +2.3**
comp=Z,1.5nm,0.6s
KHC Kasperske Hory 13.02 322 *e*P **P** **23 59 11.1 -2.8**
KHC MLR MLR
comp=Z,300nm,14.2s
KHC Kasperske Hory 13.02 322 *e*P **P** **23 59 11.1 -2.8**
KHC AMS AMS 00 04 00.0
comp=Z,300nm,14.2s
UPC Upice 13.03 331 AMS AMS 00 04 30.0
comp=Z,300nm,13.5s
SQTA Sankt Quirin 13.11 311 Pn **Pn** **23 59 06.2 +1.3**
comp=Z,7.8nm,1.2s
PRU Pruhonice 13.20 327 AMS AMS 00 04 10.0
comp=Z,300nm,9.9s
MOTA Moosalm 13.24 311 *e*Pn **Pn** **23 59 08.6 +2.0**
comp=Z,2.9nm,1.0s
FETA Feichten 13.30 310 *e*Pn **Pn** **23 59 08.5 +1.1**
comp=Z,3.2nm,0.8s
PRA Prague 13.31 327 AMS AMS 00 04 10.0
comp=Z,300nm,14.0s
FUORN Ofenpass-Fuorn 13.39 308 **Pn** **23 59 08.8 +0.1**
SHA1 Shidzhatmaz 13.39 66 *i* P **Pn** **23 59 09.6 +0.8**
KIV Kislovodsk 13.46 65 *e*P **Pn** **23 59 11.0 +1.4**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,59nm,13.0s
KVAR Kislovodsk Arr 13.47 65 Pn **Pn** **23 59 13.3 +3.6**
baz=283,slow=17
comp=Z,1.6nm,0.7s
KEST Kesra 13.50 259 Pn **Pn** **23 59 09.8 -0.4**
comp=Z,0.1nm,0.3s,baz=84,slow=18,SNR=5.1
KEST LR LR 00 05 34.9
comp=Z,130nm,18.7s,baz=207,slow=43
comp=Z,3.6nm,1.1s
RETA Reutte 13.51 311 Pn **Pn** **23 59 13.3 +3.0**
comp=Z,4.5nm,1.0s
KBZ Khabaz 13.56 66 Pn **Pn** **23 59 14.9 +4.1**
baz=281,slow=5.2,SNR=3.5
comp=Z,0.8nm,0.8s
KBZ Khabaz 13.56 66 *i* P **Pn** **23 59 12.9 +2.1**
KBZ pmax pmax
comp=Z,1.0nm,1.0s
TUE Stuetta 13.89 306 **Pn** **23 59 15.4 -0.1**
TUE Stuetta 13.89 306 P **Pn** **23 59 14.5 -1.1**
comp=Z,35nm,1.0s
DAVA Damuels 13.93 309 *e*Pn **Pn** **23 59 17.0 +1.0**
comp=Z,2.3nm,0.7s
GNI Garni 14.65 81 **Pn** **23 59 28.1 +2.1**
GNI Garni 14.65 81 Pn **P** **23 59 30.7 -1.6**
comp=Z,0.1nm,0.3s,baz=250,slow=19,SNR=3.6
GNI LR LR 00 05 00.2
comp=Z,183nm,21.4s,baz=302,slow=37
comp=Z,5.4nm,1.1s
GNI Garni 14.65 81 *i* P **Pn** **23 59 24.2 -1.7**
VORD Divnogorie 14.96 35 *e*P **Pn** **23 59 28.5 -1.4**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 15.09 34 *e*P **Pn** **23 59 28.4 -3.2**
VSR pmax pmax
comp=Z,9.0nm,0.9s
MNK Minsk 15.16 5 *i* P **Pn** **23 59 28.4 -4.1**
comp=E,14nm,0.9s
MNK *i* P **Pn** **23 59 28.4 -4.1**
comp=N,9.0nm,0.8s
MNK *i* P **Pn** **23 59 28.4 -4.1**
comp=Z,15nm,0.8s,baz=186
MNK *i* PP **P** **23 59 36.2 -1.4**
MNK *i* PPP PPP 23 59 44.2
MNK *i* S **Sn** **00 02 16.4 -3.7**
MNK *i* SS **SnSn** **00 02 30.4 -2.5**
MNK *i* SSS SSS 00 02 43.0
MNK *i* LQ LQ 00 03 54.2
MNK *i* LR LR 00 04 29.4
MNK *i* LRM MLR 00 05 12.4
comp=N,444nm,16.0s
MNK *i* LRM MLR 00 05 41.1
comp=E,220nm,18.5s
MNK *i* LRM MLR 00 05 58.5
comp=Z,167nm,19.5s
MNK Minsk 15.16 5 *i* P **Pn** **23 59 28.4 -4.1**
MNK *i* S **Sn** **00 02 16.4 -3.7**
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=N,444nm,16.0s
MNK MLR MLR
comp=E,220nm,19.0s
MNK MLR MLR
comp=Z,167nm,19.0s
SENIN Lac Senin/Sane 15.16 303 Pn **Pn** **23 59 32.8 -0.1**
SENIN IAmb IAmb 23 59 46.2
comp=Z,5.9nm,0.7s
BNI Bardonecchia 15.17 298 **Pn** **23 59 33.6 +0.7**
BNI IAmb IAmb 23 59 52.0
comp=Z,18nm,1.1s
BNI Bardonecchia 15.17 298 P **Pn** **23 59 33.6 +0.7**
BNI pmax pmax
comp=Z,18nm,1.1s
VORR Voronezh 15.44 33 *e*P **Pn** **23 59 32.2 -4.0**
VORR pmax pmax
comp=Z,10.0nm,0.8s
NACGM Naroch 15.51 2 *e*P **Pn** **23 59 34.8 -2.3**
comp=Z,15nm,0.8s,baz=183
LPSR Galich'ya Gora 16.02 30 *e*P **Pn** **23 59 39.8 -4.0**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
PABE Paberze 16.13 356 **Pn** **23 59 43.9 -1.2**
PABE IAmb IAmb 23 59 57.2
comp=Z,23nm,0.9s
VRH Novokhopyorsk 16.25 38 *e*P **Pn** **23 59 47.1 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MAK Makhachkala 16.77 71 *e*P **Pn** **23 59 49.0 -4.3**
MAK *e*S **Sn** **00 02 55.2 -4.2**
MAK pmax pmax
comp=Z,189nm,1.0s
MAK MLR MLR
comp=Z,172nm,15.0s
OBN Obninsk 17.30 21 **P** **00 00 00.9 -0.5**
OBN IAmb IAmb 00 00 20.4
comp=Z,23nm,0.5s
OBN Obninsk 17.30 21 P **P** **00 00 02.6 +1.2**
comp=Z,1.3nm,0.3s,baz=184,slow=19,SNR=4.6
comp=Z,6.6nm,0.5s
OBN Obninsk 17.30 21 *i* P **P** **00 00 01.3 0.0**
OBN pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 19.07 2 *i* P **Pn** **00 00 21.4 -0.1**
VSU pmax pmax
comp=Z,24nm,1.0s
BELG Belogornoye 19.91 42 P **Pn** **00 00 33.4 +1.7**
comp=Z,11nm,0.7s,baz=270,slow=4.0,SNR=4.5
comp=Z,11nm,0.7s
FINES FINESS Array B 22.05 0 P **P** **00 00 55.0 +2.0**
comp=Z,2.9nm,1.0s,baz=188,slow=8.2,SNR=9.7
FINES LR LR 00 09 49.9
comp=Z,166nm,18.6s,baz=182,slow=38
comp=Z,2.9nm,1.0s
HFS Hagfors 22.07 344 P **P** **00 00 54.8 +1.5**
comp=Z,1.9nm,0.9s,baz=126,slow=16,SNR=1.7
HFS LR LR 00 10 28.4
comp=Z,184nm,19.9s,baz=156,slow=39
comp=Z,1.9nm,0.9s
ESDC Sonseca Array 22.84 280 P **P** **00 01 02.0 +0.2**
comp=Z,1.7nm,0.8s,baz=77,slow=10,SNR=14
ESDC LR LR 00 09 39.5
comp=Z,95nm,18.3s,baz=61,slow=36
comp=Z,1.7nm,0.8s
RAYN Ar Rayn 23.07 128 P **P** **00 01 04.8 +0.5**
NC602 NORSAR Array S 23.09 342 P **P** **00 01 04.5 +0.5**
NC602 IAmb IAmb 00 01 22.5
comp=Z,9.9nm,1.1s
PAB San Pablo 23.16 280 P **P** **00 01 06.5 +1.4**
PAB IAmb IAmb 00 01 13.4
comp=Z,4.3nm,0.9s
NB2 NORSAR Subarra 23.44 342 P **P** **00 01 06.5 -1.1**
comp=Z,16nm,1.4s,baz=151,slow=11
NOA NORSAR Array B 23.44 342 P **P** **00 01 07.1 -0.5**
comp=Z,1.9nm,1.0s,baz=74,slow=11,SNR=8.3
NOA LR LR 00 11 21.2
comp=Z,103nm,19.5s,baz=140,slow=39
comp=Z,1.9nm,1.0s
TAM Tamanrasset 23.87 232 **P** **00 01 12.1 -0.1**
EKA Eskdalemuir Ar 24.96 319 P **P** **00 01 22.3 +0.5**
comp=Z,3.7nm,0.8s,baz=118,slow=8.9,SNR=4.7
comp=Z,3.7nm,0.8s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**25.29**	**264**	LR	LR	00 10 53.5	
	comp=Z,62nm,21.6s,baz=74,slow=36						
AB31	**Akbulak array**	**26.18**	**57**		**P**	**00 01 33.4**	**+0.5**
ABKAR	**Akbulak array**	**26.18**	**57**	P	**P**	**00 01 33.5**	**+0.6**
ARTI	**Arti**	**27.34**	**41**	*i* P	**P**	**00 01 46.0**	**+2.7**
ARTI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**30.18**	**360**	LR	LR	00 14 39.0	
	comp=Z,139nm,18.4s,baz=170,slow=37						
BORK	**Borovoye**	**33.16**	**51**	*i* P	**P**	**00 02 36.0**	**+1.2**
BORK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**33.20**	**51**	P	**P**	**00 02 36.8**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=267,slow=2.9,SNR=2.0						
	comp=Z,0.6nm,0.6s						
KKAR	**Karatay Array**	**33.57**	**69**	P	**P**	**00 02 39.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**33.68**	**226**	P	**P**	**00 02 39.4**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=32,slow=10,SNR=13						
	comp=Z,1.4nm,0.9s						
GAR	**Garm**	**34.29**	**76**	P	**P**	**00 02 45.4**	**+0.4**
AAK	**Ala-Archa**	**36.53**	**69**	LR	LR	00 19 42.6	
	comp=Z,49nm,19.3s,baz=285,slow=39						
BORG	**Borgarnes**	**37.08**	**329**	LR	LR	00 21 17.2	
	comp=Z,48nm,19.5s,baz=104,slow=41						
KURBB	**Kurchatov Arra**	**38.21**	**55**	P	**P**	**00 03 19.0**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=281,slow=8.8,SNR=18						
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**38.26**	**55**	P	**P**	**00 03 21.0**	**+2.5**
KURK	**Kurchatov**	**38.26**	**55**	P	**P**	**00 03 19.0**	**+0.5**
KDJ	**Kajisay**	**38.59**	**69**	P	**P**	**00 03 23.1**	**+1.4**
KDJ				IAmb	IAmb	00 03 30.4	
	comp=Z,3.3nm,0.9s						
ACRG	**Accra**	**40.97**	**222**	P	**P**	**00 03 41.1**	**-0.4**
MKAR	**Makanchi Array**	**41.17**	**61**	P	**P**	**00 03 44.4**	**+1.5**
MKAR	**Makanchi Array**	**41.17**	**61**	P	**P**	**00 03 43.6**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=277,slow=6.6,SNR=17						
	comp=Z,1.1nm,0.8s						
ZAA0	**Zalesovo Array**	**41.82**	**50**	P	**P**	**00 03 48.8**	**+0.7**
ZAA0				IAmb	IAmb	00 03 54.4	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.82**	**50**	P	**P**	**00 03 49.0**	**+1.0**
ZALV	**Zalesovo Beam**	**41.82**	**50**	P	**P**	**00 03 49.9**	**+1.9**
	comp=Z,4.7nm,0.7s,baz=272,slow=9.0,SNR=19						
ZALV				LR	LR	00 22 05.3	
	comp=Z,80nm,20.5s,baz=332,slow=37						
	comp=Z,4.7nm,0.7s						
DBIC	**Dimbokro**	**42.66**	**228**	LR	LR	00 21 38.9	
	comp=Z,24nm,19.3s,baz=17,slow=36						
WMQ	**Urumqi**	**45.59**	**63**	*e*P	**P**	**00 04 20.3**	**+1.7**
WMQ				pP	sP	00 04 26.0	+1.8
WMQ				pmax	pmax		
	comp=Z,70nm,0.7s						
SONM	**Songino Array**	**56.50**	**53**	P	**P**	**00 05 43.1**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=302,slow=8.5,SNR=4.8						
	comp=Z,1.2nm,0.8s						
TIXI	**Tiksi**	**57.04**	**22**	LR	LR	00 32 38.7	
	comp=Z,95nm,19.4s,baz=330,slow=38						
TIXI	**Tiksi**	**57.04**	**22**	*i* P	**P**	**00 05 44.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TSUM	**Tsumeb**	**58.81**	**189**	LR	LR	00 35 32.8	
	comp=Z,46nm,20.4s,baz=7.0,slow=40						
CMAR	**Chiang Mai Arr**	**65.72**	**86**	P	**P**	**00 06 44.9**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=299,slow=7.3,SNR=7.6						
	comp=Z,1.8nm,0.7s						
BILL	**Bilibino**	**68.83**	**15**	*i* P	**P**	**00 07 02.0**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MA2	**Magadan**	**71.45**	**26**	LR	LR	00 40 10.1	
	comp=Z,80nm,19.1s,baz=290,slow=37						
PSI	**Prapat**	**75.27**	**99**	LR	LR	00 43 22.6	
	comp=Z,44nm,21.7s,baz=13,slow=38						
ULM	**Lac du Bonnet**	**77.03**	**326**	LR	LR	00 42 11.8	
	comp=Z,48nm,18.7s,baz=166,slow=36						
MDP	**Montagnes des**	**77.79**	**267**	LR	LR	00 39 27.7	
	comp=Z,26nm,19.9s,baz=170,slow=34						
PETK	**Petropavlovsk-**	**78.92**	**27**	LR	LR	00 46 48.2	
	comp=Z,48nm,19.8s,baz=295,slow=39						
DLBC	**Dease Lake**	**80.42**	**347**	LR	LR	00 46 02.0	
	comp=Z,347nm,18.1s,baz=352,slow=37						
TKL	**Tuckaleechee C**	**80.99**	**309**	LR	LR	00 44 54.3	
	comp=Z,42nm,18.6s,baz=31,slow=36						
NEW	**Newport**	**86.67**	**336**	LR	LR	00 50 33.2	
	comp=Z,48nm,18.0s,baz=24,slow=38						
PDAR	**Pinedale Array**	**88.70**	**329**	LR	LR	00 50 32.9	
	comp=Z,24nm,18.4s,baz=12,slow=37						

*SOF **11** 00:29:45.8, 39°.31N±0°.05×25°.75E±0°.03, h3km±7km, MD3.1/10*
*ISK **11** 00:29:48.9, 39°.43N×25°.64E, h6km, ML3.5/20*
*ATH **11** 00:29:50.7, 39°.36N×25°.76E, h31km±5km, ML3.1/15, Manual Solution by M.Papanikolaou First location: 2019/10/11 00:30:59, This location: 2019/10/11 00:39:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*AFAD **11** 00:29:50.4, 39°.43N×25°.74E, h7km±2km, MW3.5*
*THE **11** 00:29:50.1, 39°.4N±0°.8×2°.6E±°, h7km±2km, M3.1/18, MLh3.1/18*
*BEO **11** 00:29:54.0±2.3, 39°.60N×25°.71E, h16km±4km, ML3.3/7*
ISC 11 00:29:50.1±0.8, 39°.41N±0°.02×25°.69E±0°.02, h16km±6km, n131, σ0°.88/170, 11C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.24**	**146**	Pg	**Pg**	**00 29 55.1**	**-0.3**
SIGR				Sg	**Sg**	**00 29 59.2**	**+0.2**
SIGR	**SIGRI**	**0.24**	**146**	P	**Pg**	**00 29 55.2**	**-0.1**
SIGR				S	**Sg**	**00 29 58.9**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.35**	**82**	Pg	**Pg**	**00 29 57.2**	**-0.1**
GPNR				Sg	**Sb**	**00 30 02.9**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.36**	**75**	P	**Pg**	**00 29 57.5**	**0.0**
KOCA				S	**Sg**	**00 30 02.3**	**-0.4**
KOCA				*i* IAML		00 30 03.0	
	comp=N,5μm,0.4s						
KOCA				*i* IAML		00 30 03.0	
	comp=E,4μm,0.3s						
PRK	**Paraskevi**	**0.48**	**110**	P	**Pg**	**00 29 59.7**	**0.0**
PRK				S	**Sg**	**00 30 06.5**	**+0.3**
PRK	**Paraskevi**	**0.48**	**110**	P	**Pg**	**00 29 59.9**	**+0.2**
PRK				S	**Sg**	**00 30 05.7**	**-0.5**
BOZC	**Bozcaada**	**0.52**	**33**	Pg	**Pg**	**00 29 59.6**	**-0.8**
BOZC				Sg	**Sg**	**00 30 07.4**	**+0.1**
BOZC	**Bozcaada**	**0.52**	**33**	P	**Pg**	**00 29 59.8**	**-0.6**
BOZC				P	**Pb**	**00 29 59.9**	**-0.9**
BOZC				S	**Sg**	**00 30 06.7**	**-0.6**
BOZC				S	**Sg**	**00 30 06.8**	**-0.6**
BOZC				*i* IAML		00 30 08.0	
	comp=N,1μm,0.3s						
BOZC				*i* IAML		00 30 11.0	
	comp=N,2μm,0.4s						
LIA	**Limnos Island**	**0.62**	**322**	P	**Pg**	**00 30 02.2**	**-0.2**
LIA				S	**Sg**	**00 30 10.3**	**-0.3**
EZN	**Ezine**	**0.65**	**50**	Pg	**Pg**	**00 30 02.1**	**-0.7**
EZN	**Ezine**	**0.65**	**50**	P	**Pg**	**00 30 02.1**	**-0.7**
EZN				S	**Sg**	**00 30 11.5**	**+0.2**
EZN	**Ezine**	**0.65**	**50**	⇑P	**Pg**	**00 30 02.1**	**-0.7**
EZN				⇓S	**Sg**	**00 30 11.6**	**+0.2**
ECEA	**Canakkale, Ece**	**0.74**	**31**	P	**Pg**	**00 30 04.0**	**-0.5**
ECEA				S	**Sn**	**00 30 16.2**	**-0.5**
ECEA				*i* IAML		00 30 17.0	
	comp=N,9μm,0.3s						
ECEA				*i* IAML		00 30 17.0	
	comp=E,7μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**63**	P	**Pg**	**00 30 03.9**	**-0.7**
BAYC				S	**Sg**	**00 30 13.4**	**-1.0**
BAYC				*i* IAML		00 30 16.0	
	comp=N,960nm,0.4s						
BAYC				*i* IAML		00 30 16.0	
	comp=E,1μm,0.2s						
GOAD	**anakkale-G¶**	**0.77**	**13**	P	**Pg**	**00 30 04.4**	**-0.7**
AYVA	**Ayvalik**	**0.79**	**97**	P	**Pg**	**00 30 05.0**	**-0.3**
AYVA				S	**Sg**	**00 30 15.5**	**-0.3**
AYVA				*i* IAML		00 30 16.0	
	comp=N,2μm,0.6s						
GADA	**Gvkgeada**	**0.80**	**12**	Pg	**Pg**	**00 30 04.6**	**-1.0**
GADA				Sg	**Sg**	**00 30 15.8**	**-0.4**
GADA	**Gvkgeada**	**0.80**	**12**	P	**Pg**	**00 30 04.6**	**-1.0**
GADA				S	**Sg**	**00 30 15.6**	**-0.5**
CNKL	**anakkale-Mer**	**0.85**	**39**	P	**Pb**	**00 30 05.6**	**-0.8**
CNKL				P	**Pb**	**00 30 05.7**	**-0.8**
CNKL				S	**Sn**	**00 30 18.9**	**-0.6**
CNKL				S	**Sb**	**00 30 19.1**	**+1.4**
CNKL				*i* IAML		00 30 21.0	
	comp=E,846nm,0.3s						
KARB	**zmir-Karabur**	**0.94**	**143**	P	**Pb**	**00 30 08.2**	**+0.3**
KARB				S	**Sg**	**00 30 20.7**	**+0.2**
KARB				*i* IAML		00 30 21.0	
	comp=N,879nm,0.4s						
DKL	**Dikili**	**1.00**	**109**	Pg	**Pg**	**00 30 09.5**	**0.0**
SKY	**Skiros Island**	**1.03**	**239**	P	**Pb**	**00 30 09.4**	**-0.1**
SKY				S	**Sg**	**00 30 23.9**	**+0.3**
SKY	**Skiros Island**	**1.03**	**239**	P	**Pb**	**00 30 09.5**	**0.0**
SKY				S	**Sb**	**00 30 22.5**	**-0.3**
IZMD	**zmir-Dikili-**	**1.05**	**113**	P	**Pb**	**00 30 10.1**	**+0.1**
CHOS	**Chios island**	**1.06**	**164**	P	**Pb**	**00 30 10.2**	**+0.1**
CHOS				S	**Sn**	**00 30 25.3**	**+0.5**
SMTH	**Samothraki Isl**	**1.07**	**354**	P	**Pb**	**00 30 09.7**	**-0.4**
SMTH				S	**Sn**	**00 30 25.1**	**+0.2**
SMTH	**Samothraki Isl**	**1.07**	**354**	P	**Pb**	**00 30 10.0**	**-0.2**
SMTH				S	**Sg**	**00 30 24.6**	**-0.1**
BUHA	**Balikesir, Bur**	**1.08**	**85**	P	**Pb**	**00 30 10.4**	**0.0**
BUHA				S	**Sb**	**00 30 23.9**	**-0.4**
BUHA				*i* IAML		00 30 27.0	
	comp=N,457nm,0.4s						
BUHA				*i* IAML		00 30 27.0	
	comp=E,884nm,0.3s						
YAYO	**Edremit-Balk**	**1.09**	**79**	Pn	**Pn**	**00 30 10.9**	**+0.2**
GELI	**Taylur-Gelibol**	**1.16**	**31**	Pn	**Pn**	**00 30 11.6**	**0.0**
ZEDA	**zmir-Bergama**	**1.17**	**112**	P	**Pb**	**00 30 12.0**	**+0.2**
ZEDA				S	**Sg**	**00 30 27.9**	**+0.1**
ZEDA				*i* IAML		00 30 30.0	
	comp=N,303nm,0.3s						
CESE	**eme**	**1.18**	**156**	Pn	**Pb**	**00 30 12.4**	**+0.4**
ENZZ	**Sultanice-Enez**	**1.25**	**16**	Pn	**Pb**	**00 30 13.3**	**+0.1**
URLA	**Izmir**	**1.27**	**146**	Pn	**Pn**	**00 30 12.9**	**-0.2**
URLA	**Izmir**	**1.27**	**146**	P	**Pn**	**00 30 12.6**	**-0.5**
LPK	**Lapseki**	**1.27**	**40**	Pn	**Pn**	**00 30 13.5**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.33**	**16**	P	**Pn**	**00 30 13.1**	**-0.9**
CAVK	**Edirne/Enez-Ca**	**1.33**	**16**	⇑P	**Pn**	**00 30 14.2**	**+0.2**
ENEZ	**Enez**	**1.37**	**15**	Pn	**Pn**	**00 30 14.9**	**+0.3**
ENEZ	**Enez**	**1.37**	**15**	P	**Pn**	**00 30 14.8**	**+0.2**
ENEZ				S	**Sg**	**00 30 34.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.41**	**26**	Pn	**Pn**	**00 30 15.4**	**+0.3**
AOS	**Alonnisos**	**1.42**	**261**	P	**Pn**	**00 30 15.6**	**+0.4**
SOMA	**Soma-Manisa**	**1.46**	**99**	Pn	**Pb**	**00 30 16.9**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.46**	**238**	P	**Pn**	**00 30 15.2**	**-0.6**
KYMI				S	**Sg**	**00 30 36.5**	**-0.6**
KYMI	**Kymi, Euboea I**	**1.46**	**238**	P	**Pn**	**00 30 15.3**	**-0.5**
KYMI				S	**Sn**	**00 30 33.5**	**-1.0**
BLCB	**Balcova**	**1.47**	**134**	Pn	**Pb**	**00 30 17.0**	**0.0**
BLCB	**Balcova**	**1.47**	**134**	P	**Pn**	**00 30 16.0**	**+0.1**
BLCB				S	**Sg**	**00 30 37.6**	**+0.1**
ALN	**Alexandroupoli**	**1.51**	**10**	Pn	**Pn**	**00 30 16.7**	**+0.2**
ALN	**Alexandroupoli**	**1.51**	**10**	P	**Pn**	**00 30 16.3**	**-0.2**
ALN	**Alexandroupoli**	**1.51**	**10**	P	**Pn**	**00 30 16.4**	**0.0**
ALN				S	**Sn**	**00 30 35.3**	**-0.5**
BALY	**Balya**	**1.53**	**77**	P	**Pn**	**00 30 16.4**	**-0.3**
BALY				S	**Sn**	**00 30 36.3**	**0.0**
STEP	**BALIKESIR_Sava**	**1.57**	**91**	P	**Pb**	**00 30 18.9**	**+0.1**
STEP				S	**Sg**	**00 30 40.8**	**-0.1**
STEP				*i* IAML		00 30 48.0	
	comp=N,879nm,0.6s						
KRBG	**Karabiga-Canak**	**1.58**	**51**	Pn	**Pn**	**00 30 18.2**	**+0.8**
OUR	**Ouranopolis**	**1.60**	**306**	P	**Pn**	**00 30 17.9**	**+0.2**
OUR	**Ouranopolis**	**1.60**	**306**	P	**Pn**	**00 30 17.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.67**	**67**	Pn	**Pn**	**00 30 19.5**	**+0.9**
KARY	**Karystos**	**1.69**	**216**	P	**Pn**	**00 30 18.3**	**-0.6**
KARY	**Karystos**	**1.69**	**216**	P	**Pn**	**00 30 17.9**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.71**	**41**	Pn	**Pn**	**00 30 20.2**	**+0.9**
AKS	**Akhisar**	**1.74**	**107**	Pn	**Pb**	**00 30 20.8**	**-0.8**
RDO	**Rodhopi**	**1.74**	**356**	P	**Pn**	**00 30 19.7**	**+0.1**
RDO	**Rodhopi**	**1.74**	**356**	P	**Pn**	**00 30 19.7**	**+0.1**
KAVA	**Kavala**	**1.82**	**331**	P	**Pn**	**00 30 20.7**	**-0.1**
KAVA	**Kavala**	**1.82**	**331**	P	**Pn**	**00 30 20.8**	**+0.1**
DION	**Dionisos Attik**	**1.91**	**226**	P	**Pn**	**00 30 21.4**	**-0.6**
DION	**Dionisos Attik**	**1.91**	**226**	P	**Pn**	**00 30 21.1**	**-0.8**
NEO	**Neokhori**	**1.91**	**268**	P	**Pn**	**00 30 22.1**	**+0.1**
NEO	**Neokhori**	**1.91**	**268**	P	**Pn**	**00 30 21.8**	**-0.2**
PTL	**Penteli**	**1.97**	**227**	P	**Pn**	**00 30 22.2**	**-0.6**
PTL	**Penteli**	**1.97**	**227**	P	**Pn**	**00 30 21.8**	**-0.9**
PLG	**Polygyros**	**1.98**	**300**	P	**Pn**	**00 30 23.1**	**+0.3**
ATHU	**Athens Univers**	**2.07**	**227**	P	**Pn**	**00 30 23.4**	**-0.7**
BAND	**Balkesir-Ban**	**2.08**	**62**	⇓P	**Pn**	**00 30 25.3**	**+1.0**
VLY	**Voula,Athens**	**2.15**	**224**	P	**Pn**	**00 30 24.4**	**-0.8**
ATAL	**Atalanti**	**2.19**	**252**	P	**Pn**	**00 30 25.6**	**-0.3**
KDZ	**Kurdzhali**	**2.23**	**353**	P	**Pn**	**00 30 26.8**	**+0.4**
VIL2	**Platees**	**2.24**	**238**	P	**Pn**	**00 30 25.9**	**-0.6**
SOH	**Sokhos**	**2.28**	**309**	P	**Pn**	**00 30 27.3**	**+0.3**
APE	**Apeiranthos**	**2.34**	**183**	⇑P	**Pn**	**00 30 28.6**	**+0.7**
SRS	**Serrai**	**2.34**	**317**	*e*Pg	**Pb**	**00 30 33.6**	**+1.7**
SRS				*e*Sg	**Sg**	**00 31 04.2**	**-1.1**
SRS	**Serrai**	**2.34**	**317**	P	**Pn**	**00 30 27.7**	**-0.2**
RZN	**Rozhen**	**2.39**	**343**	P	**Pn**	**00 30 29.4**	**+0.6**
AXAR	**Agios Charalam**	**2.44**	**256**	P	**Pn**	**00 30 29.4**	**+0.1**
MET4	**Agioi Theodoro**	**2.53**	**226**	P	**Pn**	**00 30 29.2**	**-1.3**
LTK	**Loutraki**	**2.54**	**238**	P	**Pn**	**00 30 30.3**	**-0.3**
LOUT	**Loutraki**	**2.55**	**237**	P	**Pn**	**00 30 30.4**	**-0.3**
MET5	**Makryloggos,Me**	**2.55**	**226**	P	**Pn**	**00 30 30.0**	**-0.8**
MET2	**Kameni Chora,**	**2.58**	**227**	P	**Pn**	**00 30 30.4**	**-0.7**
MET6	**Megalochori,Me**	**2.58**	**226**	P	**Pn**	**00 30 30.5**	**-0.6**
MMB	**Musomishta**	**2.60**	**326**	P	**Pn**	**00 30 32.7**	**+1.3**
MMB				S	**Sg**	**00 31 11.6**	**-1.9**
DIM	**Dimitrovgrad**	**2.63**	**358**	P	**Pn**	**00 30 32.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.79**	**263**	P	**Pn**	**00 30 34.9**	**+0.9**
PLD	**Plovdiv**	**2.83**	**346**	P	**Pn**	**00 30 35.7**	**+1.2**
CTYL	**Yalikoy Yolu**	**2.86**	**43**	⇑P	**Pn**	**00 30 35.8**	**+0.8**
GUR	**Goura**	**3.00**	**242**	P	**Pn**	**00 30 36.7**	**-0.4**
THERA	**Ancient Thera,**	**3.04**	**183**	P	**Pn**	**00 30 36.2**	**-1.3**
ANX	**Ano Chora**	**3.04**	**256**	P	**Pn**	**00 30 38.3**	**+0.7**
VAY	**Valandovo**	**3.05**	**310**	*i* Pn	**Pg**	**00 30 47.4**	**-1.1**
VAY				*i* Pn	**Sg**	**00 31 29.2**	**+1.1**
EVR	**Evrytania**	**3.05**	**262**	P	**Pn**	**00 30 38.8**	**+1.0**
EFP	**Efpalio**	**3.11**	**253**	P	**Pn**	**00 30 39.2**	**+0.8**
KKB	**Krupnik**	**3.11**	**322**	P	**Pn**	**00 30 40.7**	**+2.2**
JMB	**Yambol**	**3.14**	**11**	P	**Pn**	**00 30 39.4**	**+0.5**
TETR	**Tetrakomo, Epi**	**3.42**	**270**	P	**Pn**	**00 30 43.9**	**+1.1**
VLI	**Veliai**	**3.45**	**220**	P	**Pn**	**00 30 42.6**	**-0.6**
SILT	**Sile**	**3.49**	**59**	⇑P	**Pn**	**00 30 44.9**	**+1.2**
PLNA	**Plana**	**3.51**	**332**	P	**Pn**	**00 30 46.5**	**+2.4**
ELND	**Elena**	**3.52**	**2**	⇑P	**Pn**	**00 30 44.6**	**+0.5**
VTS	**Vitosha**	**3.70**	**331**	P	**Pn**	**00 30 49.3**	**+2.6**
VTS	**Vitosha**	**3.70**	**331**	*e*Pn	**Pn**	**00 30 48.7**	**+2.0**
BOSS	**Bosilegrad**	**3.92**	**323**	*e*Pn	**Pn**	**00 30 51.7**	**+2.0**
LOZB	**Loznitsa**	**4.02**	**9**	⇑P	**Pn**	**00 30 51.3**	**+0.4**
PLVB	**Pleven**	**4.05**	**349**	⇓P	**Pn**	**00 30 52.4**	**+1.0**
IGT	**Igoumenitsa**	**4.14**	**273**	*e*Pn	**Pn**	**00 30 56.7**	**+4.0**
MPEP	**Malo Peshtene**	**4.21**	**340**	P	**Pn**	**00 30 55.4**	**+1.9**
BARS	**Barje**	**4.49**	**321**	*e*Pn	**Pn**	**00 30 59.0**	**+1.6**
ZAPS	**Zavoj**	**4.49**	**330**	*e*Pn	**Pn**	**00 30 59.9**	**+2.4**
BLKB	**Belogradchik**	**4.78**	**333**	*e*Pn	**Pn**	**00 31 03.3**	**+1.9**
SELS	**Selova**	**5.13**	**319**	*e*Pn	**Pn**	**00 31 07.8**	**+1.6**
KUBS	**Kucevo**	**5.83**	**330**	*e*Pn	**Pn**	**00 31 16.4**	**+0.6**
CFR	**Carcaliu**	**6.04**	**17**	⇓P	**Pn**	**00 31 18.8**	**+0.1**
MLR	**Muntele Rosu**	**6.08**	**2**	⇓P	**Pn**	**00 31 20.3**	**+0.9**
MDVR	**Moldovita**	**6.13**	**332**	*e*Pn	**Pn**	**00 31 20.8**	**+0.9**
LOT	**Lotru**	**6.20**	**347**	⇑P	**Pn**	**00 31 21.3**	**+0.3**
GZR	**Gura Zlata**	**6.36**	**341**	⇑P	**Pn**	**00 31 23.6**	**+0.5**
GZR	**Gura Zlata**	**6.36**	**341**	*e*Pn	**Pn**	**00 31 23.8**	**+0.7**
VRI	**Vrincioaia**	**6.50**	**6**	⇑P	**Pn**	**00 31 26.4**	**+1.4**
DOPR	**Dopca**	**6.56**	**358**	⇓P	**Pn**	**00 31 27.7**	**+1.9**
VRSS	**Vrsac**	**6.56**	**332**	*e*Pn	**Pn**	**00 31 26.2**	**+0.3**
BZS	**Buzias**	**6.89**	**335**	⇑P	**Pn**	**00 31 30.6**	**+0.3**
BZS	**Buzias**	**6.89**	**335**	*e*Pn	**Pn**	**00 31 31.6**	**+1.2**
TESR	**Tescani**	**7.13**	**5**	⇓P	**Pn**	**00 31 35.6**	**+1.9**

IDC 11 00:30:53.4±1.8, 1°.10N×126°.74E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=178.9km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**161**	P	P	00 35 50.3	-1.3
	2.7nm,0.5s,baz=339,slow=11,SNR=26						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**25.59**	**165**	P	P	00 36 25.4	+0.9
	1.8nm,0.6s,baz=344,slow=8.5,SNR=23						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**59.72**	**326**	P	P	00 40 59.7	-0.2
	0.5nm,0.7s,baz=120,slow=8.7,SNR=4.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**63.95**	**328**	P	P	00 41 28.3	0.0
	0.4nm,0.4s,baz=132,slow=6.4,SNR=6.6						
	0.4nm,0.4s						

*OSPL **11** 00:33:46.7±1.1, 19°.36N×70°.54W, h8km±6km, ML1.8*
*SDD **11** 00:33:50.7±2.2, 19°.16N×70°.75W, h44km±19km, MD3.5, ML2.3, MW3.4*
ISC 11 00:33:47.0±1.1, 19°.33N±0°.08×70°.62W±0°.05, h11km±9km, n9, σ0°.91/12, 6C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.14**	**315**	⇑*e*Sg	Sg	00 34 03.9	+11
SC01				IAML		00 34 07.8	
	comp=N,190nm,0.3s						
SC01	**Santiago de lo**	**0.14**	**315**	*i* P	**Pg**	**00 33 50.4**	**+0.1**
SC01				*e*S	**Sg**	**00 33 53.0**	**+0.3**
DR08	**Loma La Naviza**	**0.68**	**123**	⇑*e*Sg	**Sn**	**00 34 12.7**	**-0.4**
DR08				IAML		00 34 16.4	
	comp=N,916nm,0.2s						
SDDR	**Presa de Saban**	**0.72**	**241**	⇑*e*Sg	**Sb**	**00 34 10.2**	**-1.1**
SDDR				IAML		00 34 11.5	
	comp=N,19nm,0.7s						
REDR	**Restauracion**	**0.74**	**258**	⇑*e*Sg	**Sn**	**00 34 16.2**	**+1.5**
REDR				IAML		00 34 20.1	
	comp=N,126nm,0.1s						
LOPP1	**Punta Rusia, P**	**0.75**	**314**	*i* P	**Pg**	**00 34 00.2**	**-1.4**
LOPP1				*e*S	**Sg**	**00 34 11.8**	**+0.3**
LOPP1				IAML		00 34 14.5	
	comp=Z,66nm,2.1s						
LONE3	**El Aguacate, B**	**1.07**	**228**	*i* P	**Pb**	**00 34 07.6**	**0.0**
LONE3				*e*S	**Sb**	**00 34 21.6**	**+0.1**
LONE3				IAML		00 34 23.8	
	comp=Z,12nm,1.4s						
MCDR	**Montecristi**	**1.12**	**300**	*e*Sg	**Sb**	**00 34 23.7**	**+0.6**
MCDR				IAML		00 34 51.4	
	comp=N,65nm,4.8s						
HATOM	**Hato Mayor del**	**1.29**	**114**	⇑*e*Pg	**Pg**	**00 34 11.7**	**-0.2**
HATOM				⇑*e*Sg	**Sn**	**00 34 29.0**	**+0.7**
HATOM				IAML		00 34 41.9	
	comp=N,20nm,2.8s						

*IDC **11** 00:42:08.9±1.0, 41°.28N×83°.53E, h0km, mb3.9/6, mbtmp3.8/11, ML3.3/5, MS3.2/12, Error ellipse: s-maj=23.0km s-min=13.5km az=64.0*
*NNC **11** 00:42:17.0±1.9, 41°.39N×83°.37E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=16.6km s-min=11.4km az=176.0*
*SOME **11** 00:42:21.2, 41°.62N×83°.33E, h15km, MS3.1*
ISC 11 00:42:12.3±0.8, 41°.32N±0°.05×83°.53E±0°.03, h10km, n56, σ2°.10/76, mb3.9/6, MS3.4/7, 8C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.53**	**303**	Pg	**Pb**	**00 43 16.4**	**+1.5**
	210nm,0.6s						
SHLS				Lg	Lg	00 43 56.0	
	1μm,0.7s						
SHLS	**Shalkode**	**3.53**	**303**	*e*P	**Pb**	**00 43 16.4**	**+1.5**
	144nm,0.3s						
SHLS				*e*S	**Sb**	**00 43 56.0**	**-1.9**
	1μm,0.7s						
PDGK	**Podgornoye**	**3.60**	**305**	⇑Pn	**Pn**	**00 43 10.1**	**+1.8**
	30nm,0.6s						
PDGK				⇓Pg	**Pg**	**00 43 20.6**	**-0.7**
	89nm,0.7s						
PDGK				⇑Sn	**Sn**	**00 43 54.6**	**+3.7**
	250nm,0.7s						
PDGK				⇓Lg	Lg	00 44 10.1	
	885nm,0.9s						
UZB	**Uzynbulak**	**3.81**	**300**	Pg	**Pg**	**00 43 26.1**	**+0.8**
	51nm,0.5s						
UZB				Lg	Lg	00 44 12.9	
	464nm,0.6s						
UZB	**Uzynbulak**	**3.81**	**300**	*e*P	**Pg**	**00 43 26.1**	**+0.8**
	76nm,0.4s						
UZB				*e*S	**Sg**	**00 44 12.4**	**-2.2**
	639nm,0.5s						
WMQ	**Urum

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,241nm,0.7s						
KST	**Kastek**	**5.88**	**290**	*eP*	**Pg**	**00 44 06.6**	**+1.8**
	comp=E,35nm,0.6s						
KST				*e*S	**Sg**	**00 45 21.9**	**+0.9**
	comp=E,276nm,0.6s						
KUU	**Kurty**	**5.89**	**298**	Pg	**Pg**	**00 44 04.2**	**-0.9**
	comp=E,15nm,0.4s						
KUU				Lg	Lg	00 45 17.5	
	comp=E,135nm,0.8s						
KUU	**Kurty**	**5.89**	**298**	*eP*	**Pg**	**00 44 06.2**	**+1.0**
	comp=E,8.2nm,0.2s						
KUU				*e*S	**Sg**	**00 45 21.1**	**-0.3**
	comp=E,182nm,0.9s						
ZSN	**Zaisan**	**6.20**	**8**	Pg	**Pg**	**00 44 11.1**	**+0.1**
	comp=E,13nm,0.6s						
ZSN				Lg	Lg	00 45 29.2	
	comp=E,81nm,0.9s						
ZSN	**Zaisan**	**6.20**	**8**	*eP*	**Pg**	**00 44 12.7**	**+1.7**
	comp=E,11nm,0.3s						
ZSN				*e*S	**Sg**	**00 45 32.1**	**+0.8**
	comp=E,254nm,0.9s						
KRBS	**Karabastau**	**6.27**	**295**	Pg	**Pg**	**00 44 11.4**	**-1.0**
	comp=E,8.5nm,0.4s						
KRBS				Lg	Lg	00 45 30.1	
	comp=E,39nm,0.4s						
AAK	**Ala-Archa**	**6.86**	**284**	Pn	**Pn**	**00 43 55.1**	**+2.0**
	comp=E,1.0nm,0.3s,baz=90,slow=7.1,SNR=5.9						
AAK				Lg	Lg	00 45 44.3	
	comp=E,2.2nm,0.3s,baz=30,slow=21,SNR=3.6						
AAK				LR	LR	00 46 41.7	
	comp=E,109nm,19.8s,baz=100,slow=40						
	comp=E,1.9nm,0.3s						
AAK	**Ala-Archa**	**6.86**	**284**	⇑Pn	**Pn**	**00 43 54.2**	**+1.2**
	comp=E,2.2nm,0.6s						
AAK				⇓Pg	**Pg**	**00 44 20.8**	**-2.8**
	comp=E,16nm,0.8s						
AAK				⇓Lg	Lg	00 45 51.0	
	comp=E,63nm,0.8s						
SGDS	**Sogindy**	**6.92**	**291**	Pg	**Pg**	**00 44 23.2**	**-1.6**
	comp=E,6.8nm,0.7s						
SGDS				Lg	Lg	00 45 49.9	
	comp=E,22nm,0.7s						
MRKS	**Merke**	**7.80**	**284**	*eP*	**Pg**	**00 44 42.6**	**+1.0**
	comp=E,11nm,0.4s						
MRKS				*e*S	**Sg**	**00 46 23.9**	**+1.4**
	comp=E,34nm,0.4s						
BTLS	**Baital**	**7.86**	**301**	*eP*	**Pg**	**00 44 43.1**	**+0.3**
	comp=E,6.4nm,0.4s						
BTLS				*e*S	**Sg**	**00 46 24.8**	**+0.3**
	comp=E,34nm,0.7s						
KK31	**Karatay Array**	**9.82**	**285**	⇓Pg	Pn	00 45 09.4	+36
	comp=E,3.1nm,0.6s,baz=95,slow=15,SNR=3.6						
KK31				⇓Lg	Lg	00 47 27.2	
	comp=E,12nm,0.6s,baz=106,slow=24,SNR=4.3						
KURBB	**Kurchatov Arra**	**9.93**	**341**	Pn	**Pn**	**00 44 33.7**	**-1.2**
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=11						
KURBB				Sn	**Sn**	**00 46 21.9**	**-4.5**
	comp=E,0.1nm,0.3s,baz=153,slow=23,SNR=4.1						
KURBB				Lg	Lg	00 47 26.6	
	comp=E,0.2nm,0.3s,baz=169,slow=31,SNR=5.4						
KURBB				LR	LR	00 48 04.7	
	comp=E,70nm,20.4s,baz=177,slow=36						
	comp=E,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**9.93**	**341**	⇓Pn	**Pn**	**00 44 37.4**	**+2.5**
	comp=E,7.7nm,0.6s						
KURBB				⇓Sn	**Sn**	**00 46 31.9**	**+5.6**
	comp=E,24nm,0.7s						
KURBB				⇑Lg	Lg	00 47 32.8	
	comp=E,55nm,0.8s						
KURK	**Kurchatov**	**9.99**	**342**	⇑Pn	**Pn**	**00 44 37.9**	**+2.0**
	comp=E,2.2nm,0.9s						
KURK				⇓Lg	Lg	00 47 34.3	
	comp=E,16nm,1.1s						
GOMU	**GeErMu**	**10.19**	**116**	Pn	Pn	00 44 31.7	-7.2
GOMU				Pg		00 45 39.4	
GOMU				Sn	Sn	00 46 19.4	-14
GOMU				Sg		00 47 33.4	
GOMU				smax	smax		
	comp=N,28nm,0.8s						
GOMU				smax	smax		
	comp=E,12nm,0.7s						
GTA	**Gaotai**	**12.57**	**93**	*eP*	Pn	00 45 18.7	+7.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**12.66**	**3**	Pn	**Pn**	**00 45 11.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=182,slow=13,SNR=15						
ZALV				Sn	**Sn**	**00 47 32.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=180,slow=18,SNR=2.7						
ZALV				Lg	Lg	00 48 51.5	
	baz=172,slow=24						
ZALV				LR	LR	00 50 42.5	
	comp=Z,58nm,19.8s,baz=192,slow=40						
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**14.70**	**327**	Pn	**Pn**	**00 45 39.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=139,slow=14,SNR=8.8						
BVAR				Lg	Lg	00 49 56.0	
	baz=132,slow=24,SNR=2.5						
SONM	**Songino Array**	**17.51**	**60**	P	**P**	**00 46 16.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=14,SNR=5.2						
SONM				LR	LR	00 53 35.5	
	comp=Z,152nm,18.4s,baz=232,slow=39						
	comp=Z,1.2nm,0.8s						
BTO	**Baotou**	**20.00**	**83**	*eP*	**Pn**	**00 46 47.5**	**+0.7**
BTO				pP	**sP**	**00 46 53.1**	**+3.5**
BTO				PP	**PnPn**	**00 47 08.4**	**+7.6**
BTO				S	**Sn**	**00 50 30.5**	**-1.2**
BTO				pmax	pmax		
	comp=Z,32nm,0.5s						
BTO				pmax	pmax		
	comp=Z,380nm,7.1s						
BTO				LR	LR		
	comp=N,660nm,4.5s						
BTO				LR	LR		
	comp=E,620nm,6.6s						
BTO				LR	LR		
	comp=Z,430nm,9.4s						
CMAR	**Chiang Mai Arr**	**26.34**	**145**	P	**P**	**00 47 45.9**	**-2.5**
	comp=Z,2.0nm,0.8s,baz=327,slow=9.4,SNR=9.8						
CMAR				LR	LR	00 59 28.6	
	comp=Z,33nm,21.9s,baz=70,slow=40						
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**29.83**	**288**	LR	LR	01 01 41.8	
	comp=Z,42nm,21.8s,baz=187,slow=39						
PALK	**Pallekele**	**34.00**	**185**	LR	LR	01 02 20.3	
	comp=Z,38nm,20.2s,baz=60,slow=36						
TIXI	**Tiksi**	**37.66**	**22**	LR	LR	01 06 18.4	
	comp=Z,85nm,19.3s,baz=208,slow=38						
FINES	**FINESS Array B**	**39.50**	**320**	P	**P**	**00 49 41.0**	**-1.7**
	comp=Z,2.9nm,1.0s,baz=140,slow=9.5,SNR=6.2						
	comp=Z,2.9nm,1.0s						
ARCES	**ARCESS Array B**	**40.88**	**333**	P	**P**	**00 49 53.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=77,slow=7.6,SNR=8.0						
ARCES				LR	LR	01 06 36.6	
	comp=Z,60nm,18.9s,baz=92,slow=36						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**45.62**	**319**	P	**P**	**00 50 30.8**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=96,slow=8.8,SNR=5.2						
HFS				LR	LR	01 10 31.8	
	comp=Z,63nm,18.1s,baz=60,slow=37						
	comp=Z,1.8nm,0.7s						
NB2	**NORSAR Subarra**	**46.69**	**320**	P	**P**	**00 50 40.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=79,slow=7.9						
NOA	**NORSAR Array B**	**46.69**	**320**	P	**P**	**00 50 40.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=80,slow=7.7,SNR=3.4						
NOA				LR	LR	01 11 23.5	
	comp=Z,44nm,20.3s,baz=10.0,slow=38						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**77.02**	**132**	P	**P**	**00 54 02.6**	**-2.9**
	comp=Z,0.2nm,0.6s,baz=320,slow=5.9,SNR=1.9						
	comp=Z,0.2nm,0.6s						

NEIC ***11*** *01:10:52.8,31°.26N×109°.09W,h9km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}1.05; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$0.00; $M_{r\theta}$1.81; $M_{\theta\phi}$4.34; $M_{\phi r}$1.16; Fault plane solution: $M_0$4.95000×10^14^ NP1:ϕ_s90.00000°, δ75.00000°,λ25.00000°. NP2:ϕ_s353.00000°,δ66.00000°, λ164.00000°. Principal axes: T 4.9529, Plg28.0000°, Azm313.0000°; N 0.0057, Plg61.0000°, Azm119.0000°; P -4.9586, Plg6.0000°, Azm220.0000°;*

NEIC ***11*** *01:10:54.1±1.1,31°.30N±0°.03×109°.03W±0°.04,h10km±1km, ML3.9/54,Mwr3.7/12(SLM) Error ellipse: s-maj=6.5km s-min=4.9km az=120.0*

MEX ***11*** *01:10:57.1±0.7,31°.32N×109°.11W,h5km,MD4.3*

ISC 11 01:10:55.2±1.1,31°.27N±0°.04×109°.08W±0°.04,h13km±8km, n46,σ1§59/53,1C,Eastern Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
319A	**Douglas**	**0.20**	**302**		**Pg**	**01 10 59.4**	**-0.3**
319A					**Sg**	**01 11 03.0**	**+0.1**
319A				IAML		01 11 03.2	
	comp=N,21μm,0.4s						
319A				IAML		01 11 05.1	
	comp=E,22μm,0.6s						
NZIG	**Nacozari, Sono**	**0.98**	**205**	*eP*	**Pb**	**01 11 14.0**	**-0.1**
NZIG				*e*S	**Sg**	**01 11 27.6**	**+0.7**
DUN6	**Lazy B Ranch**	**1.28**	**360**		**Pn**	**01 11 18.2**	**-0.7**
CGIG		**1.31**	**133**	⇑*eP*	**Pn**	**01 11 19.4**	**+0.1**
	baz=311,slow=8.6						
CGIG				*e*S	**Sn**	**01 11 37.0**	**+0.3**
121A	**Cookes Peak, D**	**1.68**	**41**		**Pn**	**01 11 24.1**	**-0.3**
121A				IAML		01 11 48.5	
	comp=E,2μm,0.3s						
TUC	**Tucson**	**1.78**	**306**	Pn	**Pn**	**01 11 25.4**	**-0.3**
TUC	**Tucson**	**1.78**	**306**	*eP*	**Pn**	**01 11 25.4**	**-0.3**
TUC				*e*S	**Sn**	**01 11 46.5**	**-1.7**
EPT	**El Paso**	**2.26**	**76**		**Pn**	**01 11 32.1**	**-0.2**
HSIG		**2.76**	**216**		**Pn**	**01 11 37.9**	**-1.2**
HSIG		**2.76**	**216**	*eP*	**Pn**	**01 11 37.7**	**-1.5**
HSIG				*e*S	**Sn**	**01 12 10.5**	**-1.9**
SBM	**South Baldy**	**3.14**	**30**		**Pn**	**01 11 44.7**	**+0.1**
MNTX	**Cornudas Mount**	**3.19**	**81**		**Pn**	**01 11 44.5**	**-0.5**
MNTX				IAML		01 12 34.0	
	comp=E,219nm,0.6s						
MNTX	**Cornudas Mount**	**3.19**	**81**	*eP*	**Pn**	**01 11 44.5**	**-0.5**
MNTX				*e*S	**Sn**	**01 12 22.1**	**-0.8**
Y22A	**Socorro**	**3.21**	**33**		**Pn**	**01 11 45.1**	**-0.3**
Y22A				IAML		01 12 38.3	
	comp=E,408nm,0.4s						
Y22A				IAML		01 12 38.5	
	comp=N,362nm,0.3s						
214A	**Organ Pipe Nat**	**3.25**	**283**		**Pn**	**01 11 45.8**	**-0.1**
214A				IAML		01 12 42.0	
	comp=N,208nm,0.5s						
CRNM	**Carthage**	**3.33**	**36**		**Pn**	**01 11 47.0**	**-0.1**
X18A	**Snowflake**	**3.33**	**348**		**Pn**	**01 11 48.0**	**+0.8**
X18A				IAML		01 12 41.6	
	comp=E,318nm,1.1s						
X18A				IAML		01 12 50.7	
	comp=N,286nm,0.9s						
Y22D	**IRIS PASSCAL I**	**3.34**	**33**		**Pn**	**01 11 47.8**	**+0.6**
LENM	**Lemitar**	**3.39**	**31**		**Pn**	**01 11 48.0**	**+0.1**
BNM	**Barren Site**	**3.54**	**35**		**Pn**	**01 11 49.6**	**-0.5**
VHRN	**Van Horn**	**3.55**	**97**		**Pn**	**01 11 50.1**	**0.0**
X16A	**Lo Mia Camp, P**	**3.71**	**328**		**Pn**	**01 11 53.5**	**+1.1**
X16A				IAML		01 12 57.4	
	comp=E,157nm,0.7s						
X16A				IAML		01 13 00.6	
	comp=N,148nm,0.7s						
W18A	**Petrified Fore**	**3.88**	**352**		**Pn**	**01 11 55.6**	**+0.9**
Y14A	**Wickenburg**	**4.25**	**310**	IAML		01 13 16.5	
	comp=E,113nm,0.5s						
Y14A				IAML		01 13 20.1	
	comp=N,94nm,0.6s						
113A	**Mohawk Valley,**	**4.25**	**292**		**Pn**	**01 11 59.5**	**-0.1**
ANMO	**Albuquerque**	**4.28**	**30**		**Pn**	**01 11 59.8**	**-0.4**
ANMO	**Albuquerque**	**4.28**	**30**		**Pn**	**01 12 00.1**	**-0.1**
CSIG	**Choix**	**4.47**	**172**	*e*S	**Sn**	**01 12 53.4**	**-1.0**
ALPN	**Alpine**	**4.77**	**99**		**Pn**	**01 12 07.7**	**+0.9**
BCIG	**La Boquilla**	**4.90**	**138**	*eP*	**Pn**	**01 12 10.0**	**+1.4**
BCIG				*e*S	**Sn**	**01 13 00.2**	**-5.1**
TXAR	**Lajitas Array**	**5.06**	**111**		**Pn**	**01 12 11.4**	**+0.5**
BLYC	**Blythe**	**5.22**	**300**		**Pn**	**01 12 13.4**	**+0.5**
BLYC				IAML		01 13 51.3	
	comp=N,47nm,0.9s						
HPIG		**5.25**	**144**		**Pn**	**01 12 15.3**	**+1.8**
HPIG		**5.25**	**144**	*eP*	**Pn**	**01 12 10.8**	**-2.7**
HPIG				*e*S	**Sn**	**01 13 12.9**	**-1.2**
MNHN	**Monahans**	**5.41**	**88**		**Pn**	**01 12 16.4**	**+0.8**
ODSA	**Odessa**	**5.63**	**80**		**Pn**	**01 12 20.2**	**+1.5**
TSIG	**Topolobambo**	**5.65**	**180**	*e*S	**Sn**	**01 13 30.2**	**+6.7**
IRM	**Iron Mountain**	**5.87**	**301**		**Pn**	**01 12 22.1**	**+0.3**
MVCO	**Mesa Verde**	**5.95**	**5**		**Pn**	**01 12 24.2**	**+1.1**
SAND	**Sanderson**	**6.14**	**101**		**Pn**	**01 12 26.5**	**+0.9**
V12A	**Nelson**	**6.55**	**314**		**Pn**	**01 12 32.9**	**+1.5**
OZNA	**Ozona**	**6.83**	**91**		**Pn**	**01 12 35.6**	**+0.5**
T25A	**Trinidad**	**7.02**	**32**		**Pn**	**01 12 38.1**	**+0.3**
SDCO	**Great Sand Dun**	**7.11**	**24**		**Pn**	**01 12 41.8**	**+2.7**
SHPR	**Sheep Range**	**7.27**	**318**		**Pn**	**01 12 43.3**	**+2.2**
JCT	**Junction City**	**8.02**	**93**	*eP*	Pn	01 12 58.1	+6.8
JCT				*e*S	**Sn**	**01 14 20.9**	**-1.0**

GEN ***11*** *01:14:02.7,45°.90N×6°.90E,h4km,MI1.0*

LDG ***11*** *01:14:03.8±0.1,45°.88N×6°.92E,h5km,Md1.8/2,MI1.8/15, Error ellipse: s-maj=1.1km s-min=0.9km az=102.0*

ROM ***11*** *01:14:03.2±0.4,45°.86N±0°.03×6°.90E±0°.03,h9km,ML1.1/6, Error ellipse: s-maj=3.4km s-min=2.0km az=15.0*

ZUR ***11*** *01:14:03.7,45°.89N×6°.91E,h0km,MLh0.9/11,Error ellipse: s-maj=1673.6km s-min=545.4km az=221.0*

STR 11 01:14:03.9±0.3,46°N±2°×2°,h5km,MLv1.3/11,4C-8D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**166**	⇑Pg	Pg	01 14 05.1	-0.4
BLANC				Sg	Sg	01 14 05.9	-0.8
MFERR	**Prayon, Val Fe**	**0.15**	**65**	⇓Pg	Pg	01 14 07.1	+0.2
MFERR				Sg	Sg	01 14 09.3	+0.3
MRGE	**Morge**	**0.15**	**140**	P	Pg	01 14 07.2	+0.2
MRGE	**Morge**	**0.15**	**140**	P	Pg	01 14 07.2	+0.2
MRGE				S	Sg	01 14 09.8	+0.7
MRGE				AML	AML		
	comp=E,88μm,1.0s						
MRGE				AML	AML		
	comp=N,91μm,0.3s						
MRGE				AML	AML		
	comp=E,88μm,1.0s						
REMY	**Saint-Rhmy-en**	**0.17**	**107**	⇑Pg	Pg	01 14 07.8	+0.4
REMY				Sg	Sg	01 14 10.8	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**107**	P	Pg	01 14 07.8	+0.4
REMY				S	Sg	01 14 10.7	+1.0
REMY	**Saint-Rhmy-en**	**0.17**	**107**	P	Pg	01 14 07.8	+0.4
REMY				S	Sg	01 14 10.7	+1.0
REMY				AML	AML		
	comp=N,179μm,0.5s						
REMY				AML	AML		
	comp=N,179μm,1.5s						
REMY				AML	AML		
	comp=E,90μm,0.2s						
REMY	**Saint-Rhmy-en**	**0.17**	**107**	Pg	Pg	01 14 07.8	+0.4
REMY				Sg	Sg	01 14 10.6	+0.9
SEMOS	**Emosson Stauma**	**0.18**	**4**	Pg	Pg	01 14 07.6	0.0
SEMOS				Sg	Sg	01 14 10.1	+0.1
OGSI	**Sixt**	**0.21**	**327**	⇑Pg	Pg	01 14 07.9	-0.2
OGSI				Sg	Sg	01 14 10.6	-0.2
OGSI	**Sixt**	**0.21**	**327**	Pg	Pg	01 14 07.9	-0.2
OGSI				Sg	Sg	01 14 10.7	-0.2
SMAO	**Martigny, Rue**	**0.24**	**27**	⇓Pg	Pg	01 14 08.8	+0.2
SALAN	**Lac Salanfe**	**0.26**	**8**	⇓Pg	Pg	01 14 09.1	+0.1
SALAN				Sg	Sg	01 14 12.5	0.0
RSL	**Roselend**	**0.29**	**226**	⇓Pg	Pg	01 14 09.3	-0.2
RSL	**Roselend**	**0.29**	**226**	P	Pg	01 14 09.3	-0.2
RSL				S	Sg	01 14 12.8	-0.5
RSL	**Roselend**	**0.29**	**226**	Pg	Pg	01 14 09.2	-0.3
RSL				Sg	Sg	01 14 12.9	-0.4
FULLY	**Reservoir Maze**	**0.31**	**29**	⇓Pg	Pg	01 14 10.0	+0.1
LAVEY	**Lavey les Bain**	**0.32**	**13**	⇓Pg	Pg	01 14 10.2	0.0
LAVEY				Sg	Sg	01 14 14.4	0.0
ILLEZ	**Chalet Vouargn**	**0.33**	**3**	⇓Pg	Pg	01 14 10.4	0.0
ILLEZ				Sg	Sg	01 14 14.9	+0.1
GRYON	**Gryon**	**0.39**	**20**	⇑Pg	Pg	01 14 11.6	+0.2
GRYON				Sg	Sg	01 14 16.6	+0.1
LPL	**La Plagne**	**0.39**	**199**	*eP*g	Pg	01 14 11.3	-0.2
LPL				*e*Sg	Sg	01 14 16.3	-0.4
	comp=E,7.3nm,0.3s						
LPG	**La Plagne**	**0.41**	**197**	*eP*g	Pg	01 14 11.6	-0.2
LPG				*e*Sg	Sg	01 14 16.6	-0.6
	comp=E,4.6nm,0.2s						
AIGLE	**Aigle**	**0.45**	**3**	Pg	Pg	01 14 12.8	+0.1
AIGLE				Sg	Sg	01 14 18.7	+0.1
CIRO	**Champorcher**	**0.54**	**122**	P	Pg	01 14 14.0	-0.2
CIRO				S	Sg	01 14 20.8	-0.4
CIRO	**Champorcher**	**0.54**	**122**	P	Pg	01 14 14.2	0.0
CIRO				S	Sg	01 14 21.0	-0.2
CIRO				AML	AML		
	comp=E,21μm,1.5s						
CIRO				AML	AML		
	comp=N,20μm,1.5s						
CIRO				AML	AML		
	comp=N,20μm,0.5s						
CIRO				AML	AML		
	comp=E,21μm,0.5s						
CIRO	**Champorcher**	**0.54**	**122**	Pg	Pg	01 14 14.3	0.0
CIRO				Sg	Sg	01 14 21.2	0.0
SENIN	**Lac Senin/Sane**	**0.54**	**29**	Pg	Pg	01 14 14.5	+0.1
SENIN				Sg	Sg	01 14 21.7	+0.2
SENIN	**Lac Senin/Sane**	**0.54**	**29**	P	Pg	01 14 14.5	+0.1
SENIN				S	Sg	01 14 21.7	+0.2
SATI	**Passo dei Sala**	**0.66**	**91**	Pg	Pg	01 14 16.6	-0.1
SATI				Sg	Sg	01 14 25.8	+0.5
TRAV	**Traversella**	**0.69**	**123**	P	Pg	01 14 17.0	-0.2
TRAV				S	Sg	01 14 26.4	+0.2
TRAV	**Traversella**	**0.69**	**123**	⇓P	Pg	01 14 17.0	-0.1
TRAV				S	Sg	01 14 26.2	+0.1
TRAV	**Traversella**	**0.69**	**123**	Pg	Pg	01 14 17.0	-0.2
TRAV				Sg	Sg	01 14 26.3	+0.2
OGMO	**Fort Saint-Gob**	**0.70**	**194**	Pg	Pg	01 14 17.0	-0.2
OGMO				Sg	Sg	01 14 26.6	+0.2
LKBD2	**Leukerbad 2**	**0.70**	**46**	Pg	Pg	01 14 17.5	+0.1
EMBD	**Embd, Matterta**	**0.72**	**62**	P	Pg	01 14 17.6	0.0
EMBD				S	Sg	01 14 26.6	-0.4
EMBD	**Embd, Matterta**	**0.72**	**62**	Pg	Pg	01 14 17.4	-0.3
EMBD				Sg	Sg	01 14 26.6	-0.3
MMK	**Mattmark**	**0.75**	**77**	P	Pb	01 14 19.0	-0.6
MMK				S	Sg	01 14 28.1	+0.1
RSP	**Reno Superiore**	**0.78**	**162**	P	Pg	01 14 19.1	+0.3
RSP				S	Sb	01 14 30.8	-0.1
RSP	**Reno Superiore**	**0.78**	**162**	Pg	Pg	01 14 18.6	-0.2
RSP				Sg	Sg	01 14 29.5	+0.6
OGSM	**Saint Maurice**	**0.90**	**252**	Pg	Pg	01 14 21.0	-0.1
OGSM				Sg	Sg	01 14 33.2	+0.4
CABF	**La Chapelle**	**0.93**	**322**	*eP*	Pn	01 14 23.7	+0.1
CABF				*e*Sg	Sb	01 14 34.7	-0.4
	comp=E,7.8nm,0.4s						
OG35	**Corcelles**	**0.95**	**280**	Pg	Pg	01 14 21.8	-0.3
OG35				Sg	Sg	01 14 34.9	+0.4
RRL	**Rocca Remolon**	**0.97**	**185**	Pg	Pg	01 14 22.0	-0.5
RRL				Sg	Sg	01 14 35.5	+0.4
GRN	**Grenoble**	**1.05**	**232**	Pg	Pg	01 14 23.6	-0.3
GRN				Sg	Sb	01 14 38.2	-0.4
BHB	**Bricherasio**	**1.07**	**167**	Pg	Pg	01 14 24.4	0.0
BHB				Sg	Sg	01 14 38.5	+0.1
BRANT	**Les Verrieres**	**1.09**	**344**	Pg	Pg	01 14 25.0	+0.1
BRANT				Sg	Sg	01 14 39.4	+0.4
RIVEL	**MONT RIVEL**	**1.11**	**322**	Pg	Pg	01 14 24.8	-0.4
RIVEL				Sg	Sb	01 14 40.1	-0.3
MBDF	**Montbardon**	**1.17**	**185**	*eP*g	Pg	01 14 25.1	-1.1
MBDF				*e*Sg	Sg	01 14 39.1	-2.2
	comp=E,0.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.22**	**217**	*eP*g	Pg	01 14 26.9	-0.2
ORIF				*e*Sg	Sg	01 14 41.3	-1.6
	comp=E,1.3nm,0.2s						
VIVF	**Saint-Julien-l**	**1.89**	**238**	*eP*g	Pb	01 14 38.3	-0.6
VIVF				*e*Sg	Sb	01 15 02.1	-0.7
	comp=E,1.5nm,0.3s						
HINF	**Hinteralfeld**	**1.93**	**359**	*e*Sg	Sb	01 15 04.6	+0.6
	comp=E,1.6nm,0.3s						
SMRF	**Simiane la Rot**	**2.14**	**207**	*e*Sg	Sb	01 15 10.1	+0.2
	comp=E,0.4nm,0.2s						
HAU	**Haudompre**	**2.15**	**350**	*eP*g	Pb	01 14 42.9	-0.5
HAU				*e*Sg	Sb	01 15 11.2	+0.8
	comp=E,1.9nm,0.3s						
SMF	**Signal de Mont**	**2.27**	**291**	*eP*g	Pb	01 14 44.0	-1.2
SMF				*e*Sg	Sb	01 15 14.2	+0.6
	comp=E,1.4nm,0.2s						
LOR	**Lormes**	**2.52**	**304**	*eP*g	Pg	01 14 51.3	-0.9
LOR				*e*Sg	Sb	01 15 21.5	+0.5
	comp=E,1.4nm,0.3s						
LMR	**La Mourre**	**2.57**	**187**	*eP*g	Pb	01 14 51.3	+0.9
LMR				*e*Sg	Sb	01 15 22.8	+0.5
	comp=E,0.4nm,0.3s						
AVF	**Avril sur Loir**	**2.63**	**291**	*eP*g	Pb	01 14 52.7	+1.3
AVF				*e*Sg	Sb	01 15 25.5	+1.5
	comp=E,0.2nm,0.1s						
SSF	**Saint Saulge**	**2.63**	**298**	*e*Sg	Sb	01 15 25.7	+1.5
	comp=E,0.5nm,0.1s						
BGF	**Bois d'Agland**	**2.91**	**285**	*e*Sg	Sg	01 15 35.0	-2.1
	comp=E,1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.30**	**279**	*e*Sg	Sg	01 15 47.6	-2.2
	comp=E,0.6nm,0.2s						

NEIC ***11*** *01:36:32.1±1.4,31°.25N±0°.02×109°.05W±0°.04,h10km±2km, ML3.5/46,Error ellipse: s-maj=6.5km s-min=3.3km az=297.0*

MEX ***11*** *01:36:35.8±0.6,31°.31N×109°.11W,h5km,MD4.3*

ISC 11 01:36:33.6±1.0,31°.27N±0°.03×109°.12W±0°.04,h15km±7km, n35,σ1§14/42,1C,Eastern Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
319A	**Douglas**	**0.18**	**307**		**Pg**	**01 36 37.7**	**-0.4**
319A					**Sg**	**01 36 40.9**	**-0.1**
319A				IAML		01 36 41.4	
	comp=N,8μm,0.3s						
319A				IAML		01 36 43.3	
	comp=E,6μm,0.6s						
NZIG	**Nacozari, Sono**	**0.97**	**203**	*eP*	**Pg**	**01 36 52.4**	**0.0**
NZIG				*e*S	**Sg**	**01 37 06.1**	**+0

HPIG		5.27	144	eP	Pn	01 37 52.6	+0.7
HPIG				eS	Sn	01 38 48.7	-3.9
IRM	Iron Mountain	5.84	301	Pn	Pn	01 37 60.0	+0.3
JCT	Junction City	8.04	93	eP	Pn	01 38 33.5	+3.6
JCT				eS	Sn	01 40 00.0	-0.7

AEIC ***11*** *01:39:24.0±1.5,51°.22N±0°.05×178°.15W±0°.04,h24km±5km, Error ellipse: s-maj=7.5km s-min=3.8km az=179.0*
NEIC ***11*** *01:39:25.4±1.9,51°.32N±0°.06×178°.16W±0°.05,h35km±2km, mb4.2/39,ML4.6/6,ML4.0(AEIC),Error ellipse: s-maj=10.6km s-min=5.6km az=179.0*
IDC ***11*** *01:39:25.5±2.5,51°.44N×178°.21W,h48km±22km,mb3.6/20, mbtmp3.9/22,ML4.2/2,MS3.2/3,Error ellipse: s-maj=21.7km s-min=12.8km az=174.0*

ISC 11 01:39:25.4±1.2,51°.4N±0°.1×178°.20W±0°.03,h48km±9km, n102,σ0⁄96/91,mb4.1/35,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	0.43	298		Pn	01 39 34.9	-0.8
GAKI					Sn	01 39 42.9	-0.1
TAFL	Tanaga Flats	0.44	25		Pn	01 39 35.6	-0.3
TAFL					Sn	01 39 44.0	+0.7
TASE	Tanaga Southea	0.49	12		Pn	01 39 36.6	+0.1
TASE					Sn	01 39 46.0	+1.6
TAPA	Tanaga Point A	0.52	28		Pn	01 39 36.6	-0.2
TAPA					Sn	01 39 45.8	+0.8
GALAA	Gareloi Lava P	0.54	319		Pn	01 39 37.4	+0.4
GAEA	Gareloi East	0.55	322		Pn	01 39 37.5	+0.4
GAEA					Sn	01 39 47.2	+1.7
TANO	Tanaga North	0.56	5		Pn	01 39 37.7	+0.4
GANE	Gareloi Northe	0.59	322		Pn	01 39 37.9	+0.3
GANO	Gareloi North	0.60	321		Pn	01 39 37.9	+0.2
KIMD	Kanaga Island	0.73	56		Pn	01 39 38.7	-0.6
KIMD					Sn	01 39 49.2	-0.2
KIWB	Kanaga Island	0.82	52		Pn	01 39 40.2	-0.4
KIWB				IAML		01 39 52.4	
	comp=E,18μm,0.5s						
KIKV	Kanaga Island	0.83	50		Sn	01 39 52.3	+0.4
ADK	Adak	1.08	60		Sn	01 39 58.1	+0.1
ADK	Adak	1.08	60		Pn	01 39 43.6	-0.5
ADK				IAML		01 40 00.4	
	comp=E,12μm,0.3s						
ADK				IAML		01 40 00.5	
	comp=E,17μm,0.4s						
ETKA	Kagalaska Isla	1.23	65		Sn	01 40 01.1	-0.5
CEPE	Semis' Perret	1.47	295		Pn	01 39 50.2	+0.8
CESW	Semis' Southwe	1.50	292		Pn	01 39 50.4	+0.6
GSMY	Great Sitkin M	1.50	62		Sn	01 40 09.8	+1.5
GSTR	Great Sitkin T	1.52	60		Pn	01 39 50.7	+0.5
GSTR				IAML		01 40 14.8	
	comp=E,8μm,0.5s						
AMKA	Amchitka	1.57	272		Pn	01 39 49.9	-0.8
LSSE	Little Sitkin	2.10	287		Pn	01 39 59.2	+1.2
LSPA	Little Sitkin	2.10	288		Pn	01 39 59.1	+1.1
LSNW	Little Sitkin	2.13	288		Pn	01 39 59.3	+0.8
KOWE	Korovin West	2.65	66		Pn	01 40 06.5	+1.0
KOWE					Sn	01 40 39.3	+2.8
KOFP	Korovin Flat P	2.71	69		Pn	01 40 07.8	+1.4
SHEM	Shemya Is, Ala	4.95	289	P	Pn	01 40 37.0	0.0
	comp=E,6.7nm,0.3s,baz=242,slow=4.1,SNR=4.1						
SHEM				S	Sn	01 41 32.4	-0.5
	comp=E,10nm,0.3s,baz=130,slow=23,SNR=1.0						
SHEM				LR	LR	01 42 43.2	
	comp=E,218nm,18.1s,baz=104,slow=40 comp=E,34nm,0.5s						
NIKH	Nikolski High	5.97	71	Pn	Pn	01 40 52.2	+1.1
K15K	Wolf Creek Mou	14.21	33		P	01 42 45.8	-3.9
L16K	Owhat River	14.57	37	P	P	01 42 52.5	-1.3
ACHA	Angle Creek He	14.82	54	Pn	Pn	01 42 52.6	+0.8
PETK	Petropavlovsk-	14.86	286	LR	LR	01 47 57.9	
	comp=E,82nm,22.0s,baz=135,slow=35						
J16K	Anvik River	15.20	31		P	01 43 00.1	-0.6
J16K				IAmb	IAmb	01 43 04.8	
	comp=Z,13nm,1.1s						
KDAK	Kodiak Island	16.12	57	P	Pn	01 43 06.9	-1.5
	comp=Z,1.4nm,0.3s,baz=85,slow=3.2,SNR=21						
KDAK				S	Sn	01 46 04.4	-1.5
	comp=Z,14nm,1.1s,baz=1.2,slow=7.1,SNR=1.7 comp=Z,7.7nm,0.4s						
L19K	White Mountain	16.66	40	P	P	01 43 18.4	+1.4
KTH	Kantishna Hill	18.90	39	P	Pn	01 43 42.4	-0.3
KTH				IAmb	IAmb	01 43 44.2	
	comp=Z,9.6nm,0.9s						
TRF	Thorofare Moun	19.11	40	P	Pn	01 43 45.0	-0.2
TRF				IAmb	IAmb	01 43 51.8	
	comp=Z,7.7nm,0.8s						
BPAW	Bear Paw Mtn.	19.14	38	P	Pn	01 43 45.5	+0.1
E19K	Redstone River	19.18	25	P	Pn	01 43 46.2	+0.4
MA2	Magadan	19.26	307	LR	LR	01 51 11.1	
	comp=Z,82nm,18.2s,baz=172,slow=37						
I21K	Tanana	19.33	34	P	Pn	01 43 48.2	+0.5
I21K				IAmb	IAmb	01 44 14.6	
	comp=Z,18nm,1.5s						
G21K	Allakaket	19.61	30	P	Pn	01 43 51.1	+0.1
G21K				IAmb	IAmb	01 43 52.1	
	comp=Z,7.6nm,0.8s						
RND	Reindeer	19.67	41	P	P	01 43 50.2	+0.1
RND				IAmb	IAmb	01 44 25.0	
	comp=Z,7.0nm,0.7s						
F21K	Alatna River	20.07	28		Pn	01 43 55.9	-0.5
DHY	Denali Highway	20.16	43		P	01 43 55.6	+0.1
DHY				IAmb	IAmb	01 43 56.9	
	comp=Z,12nm,0.6s						
I23K	Minto, Yukon-K	20.26	36	P	Pn	01 43 56.8	-1.9
G23K	Bananza Creek	20.84	32	P	Pn	01 44 04.6	-1.1
ILAR	Eielson Array	21.03	38	P	P	01 44 04.8	+0.1
	comp=Z,0.5nm,0.5s,baz=238,slow=9.8,SNR=8.1						
ILAR				PcP	PcP	01 48 09.3	-0.3
	comp=Z,0.5nm,0.6s,baz=263,slow=3.2,SNR=5.0 comp=Z,0.5nm,0.5s						
H24K	Noodor Dome	21.14	35	IAmb	IAmb	01 44 29.5	
	comp=Z,10nm,1.4s						
G24K	Hadweenzic Riv	21.70	33	IAmb	IAmb	01 44 35.7	
	comp=Z,14nm,1.3s						
L26K	Log Cabin Wild	21.89	44	P	P	01 44 13.5	-0.4
L26K				IAmb	IAmb	01 44 42.5	
	comp=Z,8.6nm,1.0s						
G26K	Porcupine Rive	23.11	35		P	01 44 25.5	-1.2
G26K				IAmb	IAmb	01 44 50.0	
	comp=Z,4.7nm,0.8s						
K29M	Barlow Dome	24.62	44		P	01 44 40.0	-1.0
K29M				IAmb	IAmb	01 44 42.0	
	comp=Z,4.7nm,0.8s						
USRK	Ussuriysk Ar.	33.67	278	P	P	01 46 01.4	0.0
	comp=Z,2.6nm,0.5s,baz=50,slow=9.2,SNR=2.5 comp=Z,2.6nm,0.5s						
H11N2	WAKE ISLAND Hy	33.67	206	T	T	02 21 52.8	
	baz=17,slow=76,SNR=540						
H11N3	WAKE ISLAND Hy	33.68	206	T	T	02 21 56.8	
	baz=17,slow=76,SNR=567						
H11N1	WAKE ISLAND Hy	33.69	206	T	T	02 21 54.2	
	baz=17,slow=76,SNR=601						
H11S1	WAKE ISLAND Hy	34.89	206	T	T	02 23 24.3	
	baz=17,slow=76,SNR=920						
H11S2	WAKE ISLAND Hy	34.91	206	T	T	02 23 25.2	
	baz=17,slow=76,SNR=527						
H11S3	WAKE ISLAND Hy	34.91	206	T	T	02 23 25.5	
	baz=17,slow=76,SNR=448						
NEW	Newport	38.54	70	P	P	01 46 43.9	+0.9
NEW				IAmb	IAmb	01 46 44.4	
	comp=Z,4.9nm,0.6s						
KSRS	Korea Array	40.01	271	P	P	01 46 56.4	+1.0
	comp=Z,0.9nm,0.5s,baz=55,slow=9.5,SNR=2.6 comp=Z,0.9nm,0.5s						
BOZ	Bozeman (W)	43.13	70	IAmb	IAmb	01 47 22.2	
	comp=Z,3.1nm,0.7s						
NVAR	Mina Array Bea	43.18	83	P	P	01 47 20.1	-1.4
	comp=Z,0.3nm,0.6s,baz=277,slow=5.8,SNR=3.5 comp=Z,0.3nm,0.6s						
ELK	Elko	43.69	78		P	01 47 26.9	+1.2
YHL	Hebgen Lake	43.80	71	P	P	01 47 27.0	+0.4
YHL				IAmb	IAmb	01 47 28.7	
	comp=Z,12nm,1.5s						
YHH	Holmes Hill	44.04	71	P	P	01 47 29.3	+0.8
PD31	Pinedale Array	45.96	73	IAmb	IAmb	01 47 45.3	
	comp=Z,2.8nm,0.7s						
PDAR	Pinedale Array	45.96	73		P	01 47 44.1	+0.4
PDAR	Pinedale Array	45.96	73	P	P	01 47 44.2	+0.6
	comp=Z,2.1nm,0.5s,baz=325,slow=2.6,SNR=34 comp=Z,2.1nm,0.5s						
SONM	Songino Array	46.99	297	P	P	01 47 52.1	+0.5
	comp=Z,0.3nm,0.3s,baz=61,slow=6.8,SNR=2.4 comp=Z,0.3nm,0.3s						
RDMU	Red Mountain	47.26	75	IAmb	IAmb	01 47 55.6	
	comp=Z,3.4nm,0.8s						
HHC	Hu-ho-hao-te	48.06	286	eP	P	01 48 00.8	+0.9
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,90nm,4.5s						
PV22	Blue Mesa, Par	48.99	77	IAmb	IAmb	01 48 10.3	
	comp=Z,3.2nm,0.7s						
PV04	Paradox Valley	49.00	77	IAmb	IAmb	01 48 08.5	
	comp=Z,2.4nm,0.6s						
PV03	Paradox Valley	49.13	77	IAmb	IAmb	01 48 09.3	
	comp=Z,3.7nm,0.8s						
XAN	Xi'an	54.03	281	eP	P	01 48 43.8	-0.9
ZALV	Zalesovo Beam	54.32	314	PcP	PcP	01 49 50.4	+0.5
	comp=Z,0.8nm,0.4s,baz=31,slow=2.2,SNR=5.1						
GTA	Gaotai	55.92	292	eP	P	01 48 59.2	+0.8
GTA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARCES	ARCESS Array B	58.18	350	P	P	01 49 13.2	-0.6
	comp=Z,0.6nm,0.4s,baz=24,slow=7.4,SNR=14 comp=Z,0.6nm,0.4s						
TXAR	Lajitas Array	58.28	82	P	P	01 49 15.4	+0.3
	comp=Z,0.4nm,0.5s,baz=300,slow=4.8,SNR=7.2 comp=Z,0.4nm,0.5s						
KURK	Kurchatov	59.31	314	P	P	01 49 21.4	-0.4
KURK				IAmb	IAmb	01 50 02.2	
	comp=Z,1.3nm,0.9s						
KURBB	Kurchatov Arra	59.41	314	P	P	01 49 22.1	-0.5
	comp=Z,0.6nm,0.3s,baz=43,slow=6.8,SNR=2.5 comp=Z,0.6nm,0.3s						
BVAR	Borovoye Array	61.15	320	P	P	01 49 34.0	-0.5
	comp=Z,1.2nm,0.4s,baz=50,slow=6.2,SNR=10 comp=Z,1.2nm,0.4s						
PZH	PanZhiHua	63.72	280	P	P	01 49 53.4	+1.3
FINES	FINESS Array B	65.89	348	P	P	01 50 04.8	-0.7
	comp=Z,2.9nm,1.0s,baz=21,slow=5.6,SNR=6.8 comp=Z,2.9nm,1.0s						
NOA	NORSAR Array B	67.70	355	P	P	01 50 17.2	+0.1
	comp=Z,0.4nm,0.7s,baz=13,slow=6.6,SNR=1.5 comp=Z,0.4nm,0.7s						
ABKAR	Abkulak array	68.18	323	P	P	01 50 20.4	+0.2
HFS	Hagfors	68.45	354	P	P	01 50 21.2	-0.5
	comp=Z,0.8nm,0.4s,baz=22,slow=8.0,SNR=7.0 comp=Z,0.8nm,0.4s						
SHL	Shillong	70.42	287	P	P	01 50 34.9	+0.2
EKA	Eskdalemuir Ar	73.60	3	P	P	01 50 53.5	+0.5
	comp=Z,2.8nm,0.9s,baz=1.0,slow=5.0,SNR=3.9 comp=Z,2.8nm,0.9s						
AKASG	Malin Array Be	75.68	342	P	P	01 51 05.0	-0.1
	comp=Z,0.6nm,0.3s,baz=22,slow=5.5,SNR=4.2 comp=Z,0.6nm,0.3s						
GERES	GERESS Array B	79.66	352	P	P	01 51 27.2	-0.3
	comp=Z,0.2nm,0.4s,baz=16,slow=5.9,SNR=2.6 comp=Z,0.2nm,0.4s						
WRA	Warramunga Arr	82.26	224	P	P	01 51 41.2	-0.2
	comp=Z,0.2nm,0.5s,baz=37,slow=6.2,SNR=2.1 comp=Z,0.2nm,0.5s						
BRTR	Keskin Array B	85.12	336	P	P	01 51 54.9	-1.3
	comp=Z,1.2nm,0.8s,baz=39,slow=3.1,SNR=6.9 comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	85.73	223	P	P	01 51 59.3	+0.3
	comp=Z,0.5nm,0.6s,baz=206,slow=25,SNR=6.5 comp=Z,0.5nm,0.6s						
ESDC	Sonseca Array	89.21	4	P	P	01 52 14.6	-1.3
	comp=Z,0.3nm,0.5s,baz=346,slow=3.7,SNR=2.9 comp=Z,0.3nm,0.5s						
TORD	Torodi Ar. Bea	115.77	0	PKP	PKiKP	01 58 01.1	-1.6
	comp=Z,0.2nm,0.5s,baz=6.3,slow=2.6,SNR=1.3						
H03N2	Juan Fernandez	120.78	106	T	T	04 10 53.9	
	baz=317,slow=77,SNR=51						
H03N1	Juan Fernandez	120.79	106	T	T	04 10 55.5	
	baz=317,slow=77,SNR=59						
H03N3	Juan Fernandez	120.79	106	T	T	04 10 39.3	
	baz=317,slow=77,SNR=63						
MAW	Mawson	146.70	218	PKPbc	PKPdf	01 59 00.5	+2.0
	comp=Z,1.9nm,0.8s,baz=71,slow=4.2,SNR=5.1						
BOSA	Boshof	151.27	313	PKPbc	PKPbc	01 59 13.2	-0.1
	comp=Z,2.4nm,0.6s,baz=50,slow=2.6,SNR=7.0						

MOS ***11*** *01:55:05.1±0.9,6°.71N×124°.96E,h14km,mb5.1/39,Error ellipse: s-maj=10.5km s-min=5.3km az=116.8*
IDC ***11*** *01:55:06.6±2.6,6°.65N×125°.02E,h12km±16km,mb4.3/22, mbtmp4.4/23,ML4.4/1,MS4.0/49,Error ellipse: s-maj=16.4km s-min=11.0km az=74.0*
BJI ***11*** *01:55:06.2,6°.70N×125°.00E,h10km,mB5.4/16,mb4.8/74, Ms4.6/39,Ms7 4.3/39*
NEIC ***11*** *01:55:07.2±1.7,6°.70N±0°.07×125°.03E±0°.06,h10km±1km, mb5.1/120,Error ellipse: s-maj=13.5km s-min=8.2km az=326.0*
DJA ***11*** *01:55:08.1±0.8,7°N±12°×12°5E±°,h10km±14km,M5.3/12, mb5.5/12,mB5.6/12,MLv5.6/8,Mw(mB)5.1/12, MwMwp4.9/2,Mwp5.2/2*
GCMT ***11*** *01:55:09.2±0.2,6°.85N±0°.01×125°.04E±0°.01,h21km±1km, MW5.0/112,Moment Tension Solution. s39,c43; s112,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.40±.14; Mθθ3.61±.11; Mφφ-3.22±.11; Mrθ-0.86±.18; Mθφ0.12±.09; Mφr-0.56±.22; Best double couple: M0 3.56200×10^16 NP1:φs314.00000°,δ74.00000°, λ1.00000°. NP2:φs224.00000°,δ89.00000°,λ164.00000°. Principal axes: T 3.7960, Plg12.0000°, Azm178.0000°; N -0.4760, Plg74.0000°, Azm42.0000°; P -3.3270, Plg11.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 01:55:10.1±0.3,6°.68N±0°.04×125°.08E±0°.05,h35km,n340, σ1⁄68/252,mb5.0/154,MS4.1/59,8C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.63	52		Pn	01 55 19.6	-3.0
DAV	Davao City (W)	0.63	52	Pg	Pn	01 55 20.0	-2.7
	6μm,0.3s,baz=252,slow=2.1,SNR=676						
DAV				Lg	Lg	01 55 30.0	
	5μm,0.3s,baz=163,slow=24,SNR=12						
DAV				LR	LR	01 55 50.6	
	comp=Z,14μm,21.3s,baz=7.5,slow=63						
DAV	Davao City (W)	0.63	52	P	Pn	01 55 19.9	-2.7
DAV	Davao City (W)	0.63	52	S	Sn	01 55 30.1	-1.4
DAV	Davao City (W)	0.63	52	P	Pn	01 55 17.0	-5.6
SGSI	Sangihe	3.01	171	P	Pn	01 55 57.6	+2.2
KMSI	Cibinong	6.16	190	P	Pn	01 56 40.8	+2.1
TNTI	Ternate	6.30	159		Pn	01 56 42.5	+1.9
TNTI	Ternate	6.30	159	P	Pn	01 56 42.3	+1.7
	1.0nm3μm227nm,0.9s						
MYLDM	Lahad Datu	6.71	258		Pn	01 56 48.1	+1.9
MYLDM	Lahad Datu	6.71	258	P	Pn	01 56 48.6	+2.3
MRSI	Marisa	6.91	207	P	Pn	01 56 49.1	+0.1
	2.5nm3μm363nm,0.7s						
TOLI2	Tolitoli	7.00	218		Pn	01 56 48.3	-1.9
LUWI	Luwuk	8.01	197		Pn	01 57 08.4	+4.3
LUWI	Luwuk	8.01	197	P	Pn	01 57 08.4	+4.3
LUWI	Luwuk	8.01	197	P	Pn	01 57 07.4	+3.3
	7μm558nm,0.8s						
APSI	Ampana	8.28	205	P	Pn	01 57 10.6	+2.8
	409nm,1.2s						
TGY	Tagaytay City	8.42	331	LR	LR	02 00 44.8	
	comp=Z,1μm,18.9s,baz=68,slow=40						
SANI	Sanana	8.72	174	P	Pn	01 57 15.0	+1.1
SANI	Sanana	8.72	174	P	Pn	01 57 13.3	-0.6
	2μm282nm,1.0s						
KKM	Kota Kinabalu	8.83	266		Pn	01 57 16.2	+0.7
I39PW	PALAU INFRASON	9.44	84	I	I	02 48 00.0	
	baz=268,slow=308,SNR=2.2						
SWI	Sorong	9.71	140	P	Pn	01 57 28.3	+0.9
AAI	Ambon	10.76	163	P	Pn	01 57 43.0	+1.2
	3μm88nm,0.6s						
FAKI	Fak Fak	11.92	143		Pn	01 58 00.5	+2.7
FAKI	Fak Fak	11.92	143	P	Pn	01 57 58.5	+0.7
FAKI	Fak Fak	11.92	143	P	Pn	01 57 58.5	+0.7
KAPI	Kappang	12.78	205		Pn	01 58 11.6	+2.2
KAPI	Kappang	12.78	205	Pn	Pn	01 58 11.2	+1.8
	0.8nm,0.3s,baz=335,slow=5.1,SNR=5.6						
KAPI				LR	LR	02 03 21.2	
	comp=Z,999nm,20.3s,baz=38,slow=39						
KAPI	Kappang	12.78	205	P	Pn	01 58 11.6	+2.2
SBUM	Sibu	13.49	252		P	01 58 22.2	-5.7
MMRI	Maumere	15.48	191		P	01 58 47.3	-2.7
MMRI				IAmb	IAmb	01 58 53.0	
	comp=Z,89nm,1.1s						
SOEI	Soe	16.35	183		P	01 58 59.8	0.0
BATI	Baumata	16.84	185	Pn	P	01 59 04.3	-0.8
	comp=Z,6.2nm,0.3s,baz=136,slow=2.4,SNR=17						
BATI				LR	LR	02 08 21.7	
	comp=Z,214nm,18.4s,baz=10.0,slow=47						
PLAI	Plampang	17.04	205	P	P	01 59 10.3	+2.9
TPUB	Ta-pu	17.07	346	P	Pn	01 59 06.1	-0.1
JAY	Jayapura	18.08	120	P	P	01 59 18.6	-0.3
	comp=Z,1.1nm,0.3s,baz=301,slow=7.8,SNR=5.4						
JAY				LR	LR	02 05 56.4	
	comp=Z,417nm,20.9s,baz=350,slow=36 comp=Z,8.3nm,0.7s						
YHNB	Yeheng	18.24	349	P	Pn	01 59 22.9	+2.3
JAGI	Jajag, Banyuwa	18.58	216		Pn	01 59 23.9	-0.9
QZH	Quanzhou	19.19	342	eP	Pn	01 59 36.6	+4.5
QZH				LR	LR		
	comp=Z,1μm,16.8s						
QZH				LR	LR		
	comp=Z,1μm,16.8s						
QZH				LR	LR		
	comp=Z,850nm,17.5s						
QIZ	Qiongzhong	19.25	311	P	Pn	01 59 32.0	-0.8
QIZ				S	S	02 03 07.7	-0.2
QIZ				pmax	pmax		
	comp=Z,17nm,0.9s						
QIZ				LR	LR		
	comp=Z,360nm,8.8s						
QIZ				LR	LR		
	comp=Z,640nm,13.7s						
QIZ				LR	LR		
	comp=Z,780nm,15.1s						
DRS	Darwin Rock St	19.85	163	P	Pn	01 59 39.3	-0.7
JOW	Kunigami	20.27	8	LR	LR	02 07 34.3	
	comp=Z,516nm,20.3s,baz=270,slow=37						
MTN	Manton Dam	20.31	163	P	Pn	01 59 43.5	-2.0
	comp=Z,47nm,0.5s						
MTN	Manton Dam	20.31	163	P	Pn	01 59 43.9	-1.5
MTN				IAmb	IAmb	01 59 54.4	
	comp=Z,103nm,1.4s						
GUMO	Guam	20.64	69	LR	LR	02 09 40.2	
	comp=Z,207nm,18.1s,baz=250,slow=42						
MYKOM	Kota Tinggi	21.71	258	P	P	01 59 57.9	-0.5
BBJI	Bungbulang	22.35	231	P	P	02 00 09.2	+3.8
KNRA	Kununurra	22.51	171	P	P	02 00 06.4	-0.6
	comp=Z,108nm,0.8s						
KNRA	Kununurra	22.51	171	P	P	02 00 06.3	-0.6
IPM	Ipoh	24.04	266	P	P	02 00 22.0	-0.2
IPM				IAmb	IAmb	02 00 29.7	
	comp=Z,75nm,1.5s						
CNSH	ChangSha	24.28	333	P	P	02 00 28.6	+4.3
CNSH				pmax	pmax		
	comp=Z,30nm,1.6s						
KULM	Kulim	24.33	268	P	P	02 00 21.3	-3.7
KULM				IAmb	IAmb	02 00 32.0	
	comp=Z,68nm,1.3s						
SLVN	Son La	25.13	308	P	P	02 00 32.4	+0.3
WHN	Wuhan	25.79	338	P	P	02 00 41.8	+3.9
WHN				pP	pP	02 00 44.8	-3.2
WHN				pmax	pmax		
	comp=Z,180nm,1.5s						
NJ2	Nanjing	25.90	348	eP	P	02 00 40.1	+1.2
NJ2				pP	pP	02 00 42.9	-6.1
NJ2				sP	sP	02 00 46.6	-6.7
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PSI	Prapat	26.34	263	LR	LR	02 14 16.1	
	comp=Z,153nm,18.6s,baz=88,slow=44						
PSI	Prapat	26.34	263	P	P	02 00 43.5	+0.2
PSI				pmax	pmax		
	comp=Z,36nm,1.1s						
GYA	Guiyang	26.36	320	⇓P	P	02 00 44.4	+1.1
GYA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RPSI	Rantau Prapat	26.36	263		P	02 00 43.5	+0.2
RPSI				IAmb	IAmb	02 00 51.2	
	comp=Z,36nm,1.1s						
JNU	Nakatsue	26.86	11	LR	LR	02 10 36.9	
	comp=Z,327nm,20.9s,baz=156,slow=35						
PMG	Port Moresby	27.19	126	P	P	02 00 50.5	-0.2
PMG				IAmb	IAmb	02 00 57.5	
	comp=Z,51nm,1.1s						
PMG	Port Moresby	27.19	126	ceP	P	02 00 50.9	+0.1
PMG				pmax	pmax		
	comp=Z,24nm,1.0s						
COEN	Coen	27.26	139	P	P	02 00 50.8	-0.6
	comp=Z,60nm,1.1s						
COEN	Coen	27.26	139	P	P	02 00 53.8	+2.4
COEN				IAmb	IAmb	02 01 02.4	
	comp=Z,53nm,1.0s						
COEN	Coen	27.26	139	P	P	02 00 50.9	-0.5
WB0	Warramunga Arr	27.84	161		P	02 00 55.3	-1.2
WB0				IAmb	IAmb	02 01 16.8	
	comp=Z,55nm,1.2s						
GSI	Gunungsitoli	27.94	260		P	02 00 56.9	-0.7
WRAB	Tennant Creek	27.98	161	P	P	02 00 56.8	-0.9
WRAB				IAmb	IAmb	02 01 33.7	
	comp=Z,31nm,0.8s						
WRAB	Tennant Creek	27.98	161	ceP	P	02 00 57.7	0.0
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRA	Warramunga Arr	27.98	161	P	P	02 00 55.3	-2.5
WRA	Warramunga Arr	27.98	161	P	P	02 00 56.5	-1.2
	comp=Z,5.9nm,0.7s,baz=331,slow=11,SNR=53 comp=Z,5.9nm,0.7s						
WRA	Warramunga Arr	27.98	161	ceP	P	02 00 57.0	-0.8
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	Chiang Mai Arr	28.02	297	P	P	02 00 57.7	-0.5
CMAR	Chiang Mai Arr	28.02	297	P	P	02 00 58.9	+0.7
	comp=Z,2.5nm,0.7s,baz=120,slow=7.3,SNR=19 comp=Z,2.5nm,0.7s						
WR8	Warramunga Arr	28.05	161	IAmb	IAmb	02 01 23.2	
	comp=Z,26nm,0.9s						
CHTO	Chiang Mai	28.15	298	P	P	02 00 57.4	-1.9
CHTO	Chiang Mai	28.15	298	P	P	02 00 57.4	-1.9
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI	Kunming	28.16	313	P	P	02 01 04.4	+4.8
KMI				pmax	pmax		
	comp=Z,35nm,0.5s						
KMI				LR	LR		
	comp=Z,480nm,16.9s						
KMI				LR	LR		
	comp=Z,380nm,17.6s						
KMI				LR	LR		
	comp=Z,420nm,18.0s						
MBWA	Marble Bar	28.16	191

XAN LR LR
comp=Z,820nm,19.2s
XAN LR LR
comp=Z,460nm,15.8s
MTSU Mount Surprise 31.12 143 P **P** **02 01 26.3 +0.6**
comp=Z,6.9nm,1.0s
CD2 Chengdu 31.31 323 P **P** **02 01 26.5 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
AS31 Alice Springs 31.37 164 P **P** **02 01 27.6 -0.2**
comp=Z,6.0nm,0.7s
ASAR Alice Springs 31.37 164 P **P** **02 01 27.4 -0.5**
comp=Z,5.5nm,0.6s,baz=341,slow=6.9,SNR=67
comp=Z,5.5nm,0.6s
WRKA Warakurna 31.68 174 P **P** **02 01 30.2 -0.3**
comp=Z,7.6nm,1.6s
HNS HongShan 32.00 344 ⇑P P 02 01 37.9 +4.7
HNS S S 02 06 54.5 +12
HNS pmax pmax
comp=Z,38nm,1.4s
HNS LR LR
comp=Z,550nm,20.7s
HNS LR LR
comp=Z,690nm,20.7s
HNS LR LR
comp=Z,600nm,19.1s
MJAR Matsushiro Arr 32.06 20 P **P** **02 01 29.6 -4.1**
comp=Z,4.5nm,0.7s,baz=203,slow=8.9,SNR=10
MJAR LR LR 02 14 00.5
comp=Z,414nm,20.3s,baz=202,slow=35
DL2 Dalian 32.23 355 *e*P **P** **02 01 37.5 +2.3**
DL2 pmax pmax
comp=Z,28nm,1.0s
TIY Taiyuan 32.96 341 P P 02 01 47.1 +5.4
MEEK Meekatharra 33.71 190 P **P** **02 01 47.7 -0.6**
comp=Z,21nm,1.1s
CTA Charters Tower 33.79 142 LR LR 02 17 26.3
comp=Z,9.6nm,18.1s,baz=306,slow=40
BJT Baijiatuau 34.14 348 P **P** **02 01 51.4 -0.5**
BJT IAmb IAmb 02 01 58.0
comp=Z,27nm,0.9s
BJT Baijiatuau 34.14 348 P **P** **02 01 51.4 -0.5**
BJT pmax pmax
comp=Z,27nm,0.9s
BJI Beijing 34.16 348 P **P** **02 01 51.4 -0.6**
BJI pP **pP** **02 01 55.7 -6.5**
BJI sP sP 02 01 58.5 -8.0
BJI S **S** **02 07 16.0 0.0**
BJI pmax pmax
comp=Z,5.0nm,0.9s
BJI LR LR
comp=Z,210nm,24.9s
BJI LR LR
comp=Z,390nm,24.4s
BJI LR LR
comp=Z,170nm,24.9s
LZDM Lanzhou Array 35.12 329 P **P** **02 02 00.5 -0.3**
comp=Z,2.4nm,0.5s,baz=95,slow=9.4,SNR=6.8
comp=Z,2.4nm,0.5s
LZH Lanzhou 35.14 329 *e*P **P** **02 02 03.3 +2.5**
LZH sP pP 02 02 09.7 -1.3
LZH pmax pmax
comp=Z,21nm,1.3s
LZH LR LR
comp=Z,790nm,12.4s
LZH LR LR
comp=Z,500nm,12.7s
LZH LR LR
comp=Z,410nm,13.4s
BRDH Bariadhala 35.91 300 LR LR 02 19 58.2
comp=Z,244nm,18.3s,baz=122,slow=42
HHC Hu-ho-hao-te 36.10 342 *e*P P 02 02 13.8 +4.9
HHC sP pP 02 02 19.5 +0.4
HHC pmax pmax
comp=Z,37nm,1.3s
HHC pmax pmax
comp=Z,270nm,5.5s
HHC LR LR
comp=Z,370nm,16.8s
HHC LR LR
comp=Z,430nm,16.8s
HHC LR LR
comp=Z,610nm,20.2s
MSHR Mys Shultsa 36.16 8 *i* P **P** **02 02 09.1 0.0**
MSHR pmax pmax
comp=Z,20nm,1.0s
BTO Baotou 36.37 341 *e*P **P** **02 02 13.3 +2.2**
BTO S **S** **02 07 57.5 +7.3**
BTO pmax pmax
comp=Z,23nm,0.5s
BTO pmax pmax
comp=Z,680nm,7.7s
BTO LR LR
comp=Z,400nm,8.6s
BTO LR LR
comp=Z,1μm,11.6s
BTO LR LR
comp=Z,1μm,18.0s
MORW Morawa 36.59 193 P **P** **02 02 12.4 -0.6**
comp=Z,17nm,0.9s
SHL Shillong 36.84 304 IAmb IAmb 02 02 23.4
comp=Z,29nm,0.7s
CN2 Changchun 36.97 0 *e*P **P** **02 02 19.0 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
FORT Forrest 37.36 176 P **P** **02 02 19.1 -0.4**
comp=Z,27nm,0.8s
INKA Innaminka 37.42 157 P **P** **02 02 20.1 0.0**
USRK Ussuriysk Ar. 37.86 8 P **P** **02 02 23.8 +0.2**
comp=Z,31nm,0.9s,baz=194,slow=7.9,SNR=16
comp=Z,31nm,0.9s
XLT XiLinHaoTe 37.90 349 *e*P **P** **02 02 24.1 0.0**
XLT pmax pmax
comp=Z,9.0nm,0.7s
BLDU Ballidu 37.94 192 P **P** **02 02 23.7 -0.7**
comp=Z,29nm,2.3s
KMBL Kambalda 37.96 184 P **P** **02 02 24.0 -0.6**
comp=Z,16nm,0.9s
MDJ Mudanjiang 37.99 5 P **P** **02 02 25.7 +1.0**
MDJ IAmb IAmb 02 02 34.0
comp=Z,45nm,1.1s
MDJ Mudanjiang 37.99 5 P **P** **02 02 25.9 +1.2**
MDJ pmax pmax
comp=Z,32nm,0.9s
HNR Honiara 38.25 114 LR LR 02 15 60.0
comp=Z,101nm,20.8s,baz=294,slow=33
BNX BinXian 38.96 3 ⇓P **P** **02 02 33.4 +0.5**
BNX pmax pmax
comp=Z,15nm,1.1s
LSA Lhasa 39.28 310 P **P** **02 02 34.2 -2.1**
LSA pmax pmax
comp=Z,9.0nm,0.8s
MUN Mundaring 39.36 192 P **P** **02 02 34.9 -1.5**
MUN Mundaring 39.36 192 P **P** **02 02 34.9 -1.5**
TEY Ternei 39.50 13 *e*P **P** **02 02 35.1 -2.3**
GTA Gaotai 39.74 329 *e*P **P** **02 02 40.7 +1.1**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA LR LR
comp=Z,460nm,20.4s
GTA LR LR
comp=Z,450nm,20.4s
GTA LR LR
comp=Z,330nm,18.9s
NWAO Narrogin (SRO) 40.09 190 P **P** **02 02 42.5 +0.1**
NWAO Narrogin (SRO) 40.09 190 LR LR 02 21 03.5
comp=Z,119nm,21.0s,baz=256,slow=39
NWAO Narrogin (SRO) 40.09 190 P **P** **02 02 42.5 +0.1**
ASAJ Asahikawa 40.32 20 LR LR 02 18 50.0
comp=Z,237nm,20.4s,baz=209,slow=35
ASAJ Asahikawa 40.32 20 P **P** **02 02 45.4 +1.2**
ASAJ pmax pmax
comp=Z,44nm,1.0s
JKA Kamikawa-asahi 40.32 20 P **P** **02 02 45.4 +1.1**
JKA IAmb IAmb 02 02 50.4
comp=Z,44nm,1.0s
GOMU GeErMu 40.37 321 P **P** **02 02 46.0 +0.8**
GOMU pP pP 02 02 50.3 -5.2
GOMU sP sP 02 02 54.1 -5.6
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU LR LR
comp=Z,320nm,15.4s
GOMU LR LR
comp=Z,230nm,15.5s
GOMU LR LR
comp=Z,230nm,15.4s

BBOO Buckleboo 40.64 166 P **P** **02 02 47.0 0.0**
comp=Z,79nm,0.9s
BBOO Buckleboo 40.64 166 P **P** **02 02 47.2 +0.3**
STKA Stephens Creek 41.46 159 P **P** **02 02 53.8 +0.1**
comp=Z,201nm,1.0s
STKA Stephens Creek 41.46 159 P **P** **02 02 53.7 +0.1**
STKA Stephens Creek 41.46 159 P **P** **02 02 53.9 +0.2**
comp=Z,10nm,0.7s,baz=337,slow=8.9,SNR=20
STKA LR LR 02 21 59.8
comp=Z,93nm,19.2s,baz=355,slow=39
comp=Z,10nm,0.7s
HTT Hallett 42.00 163 P **P** **02 02 58.4 +0.2**
comp=Z,7.1nm,1.2s
HTT Hallett 42.00 163 P **P** **02 02 58.4 +0.2**
CMSA Cobar Meteorol 42.80 154 P **P** **02 03 05.0 +0.3**
comp=Z,22nm,1.3s
YSS Yuzhno-Sakhali 42.90 18 *e*P **P** **02 03 08.4 +3.1**
YSS *e*S **S** **02 09 35.9 +8.2**
YSS pmax pmax
comp=Z,30nm,1.1s
HEH HeiHe 43.47 2 *e*P **P** **02 03 08.2 -1.6**
ULN Ulaanbaatar 43.83 342 *i* P **P** **02 03 12.6 -0.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 44.00 342 P **P** **02 03 14.4 +0.1**
comp=Z,0.7nm,0.5s,baz=161,slow=8.3,SNR=11
SONM LR LR 02 22 30.9
comp=Z,483nm,21.4s,baz=158,slow=37
comp=Z,0.7nm,0.5s
PALK Palleke 44.04 274 LR LR 02 24 44.8
comp=Z,56nm,18.1s,baz=68,slow=40
ARMA Armidale 44.82 147 P P 02 03 25.1 +4.0
ARPS Mount Arapiles 45.99 161 P **P** **02 03 30.7 +0.7**
comp=Z,18nm,1.1s
HYB Hyderabad 46.62 288 *e*P **P** **02 03 34.8 -0.6**
HYB IVmB_BB 02 03 34.8
comp=Z,112nm,0.1s
HYB *e*S **S** **02 10 24.4 +1.9**
ZEA Zeya 46.95 2 *e*P **P** **02 03 38.6 +1.2**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,300nm,15.0s
CAN Canberra 47.47 153 P **P** **02 03 43.1 +1.4**
comp=Z,33nm,1.3s
CAN Canberra 47.47 153 P **P** **02 03 42.9 +1.1**
CAN Canberra 47.47 153 P **P** **02 03 42.9 +1.1**
CAN pmax pmax
comp=Z,35nm,1.1s
TOO Toolangi 47.97 158 P **P** **02 03 47.6 +1.9**
comp=Z,7.7nm,1.0s
TOO Toolangi 47.97 158 P **P** **02 03 47.5 +1.9**
TLY Talaya 48.23 342 *i* P **P** **02 03 47.7 +0.3**
TLY pmax pmax
comp=Z,7.0nm,0.9s
WMQ Urumqi 49.38 325 *e*P **P** **02 03 58.5 +2.0**
WMQ pP pP 02 04 03.8 -3.1
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,600nm,19.1s
WMQ LR LR
comp=Z,380nm,21.5s
WMQ LR LR
comp=Z,240nm,23.3s
DZM Mont Dzumac 49.59 126 *e*P P 02 04 02.8 +4.5
comp=Z,83nm,1.3s
DZM Mont Dzumac 49.59 126 *e*LR LR 02 18 12.1
comp=Z,235nm,24.3s
DZM Mont Dzumac 49.59 126 **P** **02 03 57.5 -0.8**
DZM IAmb IAmb 02 04 05.3
comp=Z,33nm,1.1s
ZSN Zaisan 53.15 327 *e*P **P** **02 04 24.7 0.0**
ZSN Zaisan 53.15 327 *e*P **P** **02 04 24.6 0.0**
PEA0B Petropavlovsk- 53.38 24 *ce*P **P** **02 04 28.2 +2.1**
PETK Petropavlovsk- 53.38 24 P **P** **02 04 27.4 +1.3**
PETK Petropavlovsk- 53.38 24 P **P** **02 04 26.4 +0.3**
comp=Z,12nm,1.0s,baz=188,slow=3.8,SNR=7.9
comp=Z,12nm,1.0s
PETK Petropavlovsk- 53.38 24 P **P** **02 04 27.4 +1.3**
PET Petropavlovsk 53.70 24 *i* P **P** **02 04 29.7 +1.2**
PET pmax pmax
comp=Z,41nm,1.0s
SHLS Shalkode 54.04 320 *e*P **P** **02 04 29.4 -2.0**
comp=Z,5.7nm,0.6s
SHLS Shalkode 54.04 320 *e*P **P** **02 04 29.3 -2.0**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 54.21 325 *i* P **P** **02 04 32.2 -0.2**
MKAR Makanchi Array 54.21 325 P **P** **02 04 32.2 -0.2**
MKAR Makanchi Array 54.21 325 P **P** **02 04 32.0 -0.4**
comp=Z,2.6nm,0.6s,baz=124,slow=8.2,SNR=30
MKAR LR LR 02 27 50.6
comp=Z,145nm,20.4s,baz=124,slow=36
comp=Z,2.6nm,0.6s
MKAR Makanchi Array 54.21 325 P **P** **02 04 32.2 -0.2**
UZB Uzynbulak 54.32 320 *e*P **P** **02 04 33.4 -0.1**
comp=Z,4.3nm,0.7s
UZB Uzynbulak 54.32 320 *e*P **P** **02 04 33.3 -0.1**
UZB pmax pmax
comp=Z,4.0nm,0.7s
TARG Taragay, Kyrgy 54.47 317 IAmb IAmb 02 04 52.3
comp=Z,16nm,1.0s
SATY Saty 54.68 319 *e*P **P** **02 04 36.0 -0.1**
comp=Z,7.1nm,0.8s
SATY Saty 54.68 319 *e*P **P** **02 04 35.9 -0.1**
SATY pmax pmax
comp=Z,7.0nm,0.8s
KSH Kashi 54.81 314 P **P** **02 04 38.5 +1.5**
KSH pP pP 02 04 43.9 -3.7
KSH pmax pmax
comp=Z,18nm,1.2s
NIL Nilore 54.84 307 P **P** **02 04 36.7 -0.5**
NIL Nilore 54.84 307 P **P** **02 04 36.7 -0.5**
NIL pmax pmax
comp=Z,55nm,1.0s
YAK Yakutsk 55.34 3 LR LR 02 30 32.2
comp=Z,136nm,19.1s,baz=195,slow=38
YAK Yakutsk 55.34 3 *e*P P 02 04 47.1 +6.9
YAK *e* 02 05 43.5
YAK *e* 02 06 53.1
YAK *e*S S 02 12 32.4 +11
YAK *e* 02 14 29.3
YAK pmax pmax
comp=Z,58nm,1.0s
YAK pmax pmax
comp=N,26nm,2.1s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,189nm,2.0s
YAK pmax pmax
comp=N,95nm,1.9s
YAK pmax pmax
comp=E,111nm,3.2s
YAK smax smax
comp=E,508nm,3.4s
YAK smax smax
comp=N,381nm,2.7s
ARXS Arharly 55.59 320 *i* P **P** **02 04 41.3 -1.2**
TDK Taldyqorghan 55.60 321 *e*P **P** **02 04 42.6 +0.1**
TDK Taldyqorghan 55.60 321 *e*P **P** **02 04 42.6 +0.1**
MDOK Medeo 55.61 319 *e*P **P** **02 04 42.7 -0.1**
MDOK Medeo 55.61 319 *e*P **P** **02 04 42.6 -0.1**
TNSS Tian-Shan 55.62 319 *e*P **P** **02 04 42.8 -0.3**
TNSS Tian-Shan 55.62 319 *e*P **P** **02 04 42.8 -0.3**
AAA Alma-Ata 55.72 319 *e*P **P** **02 04 43.6 +0.1**
AAA Alma-Ata 55.72 319 *e*P **P** **02 04 43.5 +0.1**
MA2 Magadan 56.29 15 *i* P **P** **02 04 47.5 +0.4**
MA2 pmax pmax
comp=Z,28nm,1.1s
AAK Ala-Archa 57.09 317 LR LR 02 31 01.0
comp=Z,204nm,21.5s,baz=101,slow=38
AAK Ala-Archa 57.09 317 *ce*P **P** **02 04 54.1 +0.8**
AAK pmax pmax
comp=Z,19nm,1.7s
ZALV Zalesovo Beam 57.23 333 P **P** **02 04 52.9 -1.0**
comp=Z,0.6nm,0.4s,baz=126,slow=7.5,SNR=8.6
ZALV LR LR 02 32 49.6
comp=Z,74nm,18.7s,baz=134,slow=40
comp=Z,0.6nm,0.4s
MSVF Nonsavu 57.65 116 P **P** **02 04 59.0 +1.5**
MSVF Nonsavu 57.65 116 P **P** **02 04 59.0 +1.5**
MSVF pmax pmax
comp=Z,36nm,1.1s
BTLS Baital 58.37 320 *i* P **P** **02 05 00.6 -1.5**

BTLS pmax pmax
comp=Z,14nm,1.2s
KURBB Kurchatov Arra 58.38 327 P **P** **02 05 02.7 +0.7**
comp=Z,4.3nm,0.7s,baz=124,slow=6.4,SNR=24
comp=Z,4.3nm,0.7s
KURBB Kurchatov Arra 58.38 327 P **P** **02 05 01.7 -0.3**
KURK Kurchatov 58.38 327 P **P** **02 05 01.8 -0.2**
KURK IAmb IAmb 02 05 11.3
comp=Z,27nm,1.2s
KURK Kurchatov 58.38 327 *i* P **P** **02 05 02.1 +0.1**
KURK pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 58.44 307 P **P** **02 05 02.4 -0.6**
KBL Kabul 58.44 307 P **P** **02 05 02.4 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.7s
GAR Garm 58.73 312 P **P** **02 05 03.7 -1.2**
CHGR Chuyangaron 59.49 311 P **P** **02 05 09.5 -0.6**
CHGR IAmb IAmb 02 05 18.5
comp=Z,18nm,0.9s
CHGR Chuyangaron 59.49 311 P **P** **02 05 09.5 -0.6**
CHGR pmax pmax
comp=Z,18nm,0.9s
SEY Seymchan 59.57 14 LR LR 02 33 38.7
comp=Z,71nm,18.4s,baz=210,slow=39
SEY Seymchan 59.57 14 *e*P **P** **02 05 11.3 +1.3**
SEY pmax pmax
comp=Z,20nm,1.5s
KK31 Karatay Array 59.97 316 *i* P **P** **02 05 12.1 -1.1**
KKAR Karatay Array 59.97 316 P **P** **02 05 12.8 -0.4**
KKAR Karatay Array 59.97 316 P **P** **02 05 12.8 -0.4**
IUG Iuzhnay 59.97 315 *e*P **P** **02 05 13.3 0.0**
comp=Z,7.4nm,0.8s
IUG Iuzhnay 59.97 315 *e*P **P** **02 05 13.3 0.0**
IUG pmax pmax
comp=Z,7.0nm,0.8s
CHM Chimkent 60.33 315 *e*P **P** **02 05 15.8 +0.1**
comp=Z,5.5nm,0.5s
CHM Chimkent 60.33 315 *e*P **P** **02 05 15.7 +0.1**
CHM pmax pmax
comp=Z,6.0nm,0.5s
BRLS Borolday 60.41 316 *i* P **P** **02 05 15.2 -1.0**
BVA0 Borovoye Array 63.97 327 P **P** **02 05 39.5 -0.3**
BVAR Borovoye Array 63.97 327 P **P** **02 05 39.5 -0.4**
comp=Z,2.5nm,0.8s,baz=120,slow=10,SNR=9.6
BVAR LR LR 02 34 37.5
comp=Z,118nm,20.4s,baz=115,slow=37
comp=Z,2.5nm,0.8s
BORK Borovoye 64.01 327 *i* P **P** **02 05 40.0 -0.1**
BORK pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 64.94 1 LR LR 02 35 46.5
comp=Z,248nm,20.3s,baz=202,slow=38
TIXI Tiksi 64.94 1 *ce*P **P** **02 05 48.1 +2.3**
TIXI pmax pmax
comp=Z,16nm,1.7s
URZ Urewera 65.81 137 LR LR 02 35 40.6
comp=Z,121nm,19.6s,baz=298,slow=37
BKZ Black Stump Fm 65.86 138 P **P** **02 05 51.7 -0.8**
RTZ Ruatahuna 65.90 138 P **P** **02 05 52.4 -0.4**
BILL Bilibino 67.16 16 *i* P **P** **02 06 01.3 +1.1**
BILL pmax pmax
comp=Z,4.0nm,1.0s
AB31 Akbulak array 68.84 320 P **P** **02 06 10.3 -0.7**
AB31 Akbulak array 68.84 320 *i* P **P** **02 06 08.6 -2.5**
ABKAR Akbulak array 68.84 320 P **P** **02 06 10.3 -0.8**
AKTO Aktyubinsk 70.34 321 LR LR 02 39 56.1
comp=Z,186nm,18.2s,baz=142,slow=38
AKTO Aktyubinsk 70.34 321 P **P** **02 06 18.8 -1.5**
ARTI Arti 71.66 327 P **P** **02 06 26.4 -1.8**
ARTI Arti 71.66 327 LR LR 02 41 44.3
comp=Z,53nm,18.3s,baz=102,slow=39
ARTI Arti 71.66 327 *d i* P P 02 06 34.9 +6.7
ARTI 02 09 11.2
ARTI pmax pmax
comp=Z,12nm,1.2s
AKT Akhty 76.13 311 *e*P **P** **02 06 52.8 -2.0**
AKT *e* 02 07 05.2
AKT *e*S **S** **02 16 38.9 +2.4**
AKT pmax pmax
comp=Z,25nm,1.2s
MAK Makhachkala 76.39 312 *e*P P 02 06 48.8 -7.3
MAK *e* 02 09 42.4
MAK *e*SS SS 02 21 33.5 -0.2
MAK *e*SSS SSS 02 24 52.2
MAK pmax pmax
comp=Z,189nm,1.0s
KIRV Kirov 76.86 329 LR LR 02 44 17.2
comp=Z,121nm,18.5s,baz=99,slow=38
KIRV Kirov 76.86 329 *ce*P **P** **02 06 57.6 -0.8**
BELG Belogornoye 77.08 322 *i* P **P** **02 06 58.6 -1.2**
BELG pmax pmax
comp=Z,3.0nm,1.1s
L16K Owhat River 77.26 28 IAmb IAmb 02 07 07.7
comp=Z,19nm,1.1s
M16K Timber Creek 77.39 29 IAmb IAmb 02 07 08.9
comp=Z,17nm,1.0s
H17K Granite Mounta 77.64 25 IAmb IAmb 02 07 09.4
comp=Z,14nm,1.1s
J17K VABM Dome 77.73 27 IAmb IAmb 02 07 09.4
comp=Z,28nm,1.4s
RAYN Ar Rayn 77.83 293 P **P** **02 07 03.5 -1.2**
RAYN Ar Rayn 77.83 293 P **P** **02 07 03.5 -1.2**
RAYN pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 78.34 310 *i* P **P** **02 07 07.2 -0.2**
GNI pmax pmax
comp=Z,18nm,1.1s
E19K Redstone River 79.15 23 IAmb IAmb 02 07 19.7
comp=Z,20nm,0.9s
H19K Roundabout Mou 79.18 25 P **P** **02 07 12.2 +1.0**
H19K IAmb IAmb 02 07 19.9
comp=Z,24nm,1.1s
KBZ Khabaz 79.77 313 P **P** **02 07 14.6 -0.3**
comp=Z,3.8nm,0.9s,baz=284,slow=11,SNR=5.5
comp=Z,3.8nm,0.9s
KBZ Khabaz 79.77 313 *i* P **P** **02 07 14.0 -0.8**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 79.93 313 *e*P **P** **02 07 15.5 -0.4**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,92nm,19.0s
IMAR Indian Mountai 80.34 24 P **P** **02 07 17.3 -0.2**
B21K Ikpikpuk River 80.40 20 IAmb IAmb 02 07 25.1
comp=Z,23nm,0.8s
GURO Guroymak-BITLI 80.44 308 P **P** **02 07 17.9 -0.9**
GURO IAmb IAmb 02 07 27.7
comp=Z,19nm,1.0s
G21K Allakaket 80.49 24 IAmb IAmb 02 07 26.9
comp=Z,21nm,0.9s
SKT Skwentna 81.03 28 IAmb IAmb 02 07 27.1
comp=Z,20nm,1.0s
E22K Anaktuvuk Pass 81.27 22 IAmb IAmb 02 07 31.7
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 81.38 26 IAmb IAmb 02 07 31.4
comp=Z,27nm,1.0s
KOPT Kop Dagi 81.60 309 P **P** **02 07 26.3 +1.2**
KOPT IAmb IAmb 02 07 34.7
comp=Z,19nm,1.0s
TRF Thorofare Moun 81.66 27 IAmb IAmb 02 07 32.5
comp=Z,25nm,1.1s
COLD Coldfoot 81.83 23 IAmb IAmb 02 07 33.9
comp=Z,12nm,0.8s
G23K Bananza Creek 81.89 24 P **P** **02 07 26.7 +1.0**
KLMR Klimovskoe 82.04 330 *e*P **P** **02 07 24.7 -1.9**
KLMR pmax pmax
comp=Z,15nm,1.2s
H23K Yukon River 82.05 24 IAmb IAmb 02 07 35.0
comp=Z,14nm,0.9s
E23K Chandalar 82.09 22 IAmb IAmb 02 07 35.9
comp=Z,20nm,1.0s
TOLK Toolik Lake Re 82.12 22 IAmb IAmb 02 07 35.7
comp=Z,14nm,0.8s
NEA2 Nenana 82.23 26 IAmb IAmb 02 07 36.3
comp=Z,17nm,1.1s
CCB Clear Creek Bu 82.77 26 IAmb IAmb 02 07 37.8
comp=Z,18nm,1.4s
MOS Moscow 83.09 325 *e*P P 02 07 38.4 +6.2
HDA Harding Lake 83.15 26 IAmb IAmb 02 07 39.1
comp=Z,14nm,0.8s
ILAR Eielson Array 83.17 26 P **P** **02 07 31.7 -0.7**
ILAR Eielson Array 83.17 26 P **P** **02 07 32.3 -0.1**
comp=Z,1.8nm,0.9s,baz=254,slow=4.5,SNR=11
ILAR LR LR 02 46 28.5

comp=Z,37nm,19.1s,baz=284,slow=37
comp=Z,1.8nm,0.9s
ILAR Eielson Array 83.17 26 P **P 02 07 31.7 -0.7**
D25K Kavik River 83.28 21 IAmb IAmb 02 07 42.1
comp=Z,14nm,1.1s
OBN Obninsk 83.72 325 LR LR 02 46 06.4
comp=Z,110nm,20.5s,baz=184,slow=37
OBN Obninsk 83.72 325 *e*P P 02 07 40.8 +5.4
OBN *i* 02 10 53.8
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,125nm,19.0s
PAX Paxson 83.85 27 IAmb IAmb 02 07 42.4
comp=Z,19nm,1.2s
BMAR Burnt Mountain 84.01 23 P **P 02 07 38.0 +1.2**
C27K Jago River 84.21 21 IAmb IAmb 02 07 46.8
comp=Z,14nm,0.9s
DOT Dot Lake 84.45 27 IAmb IAmb 02 07 52.5
comp=Z,15nm,1.1s
SCRK Sand Creek 84.46 26 IAmb IAmb 02 07 47.3
comp=Z,25nm,1.4s
J26L Joseph Creek 84.61 26 IAmb IAmb 02 07 47.8
comp=Z,10nm,1.0s
I26K Coal Creek Min 84.72 25 IAmb IAmb 02 07 46.7
comp=Z,19nm,1.0s
L26K Log Cabin Wild 84.81 27 IAmb IAmb 02 07 49.3
comp=Z,10nm,1.0s
ASF Jabal al Asfar 84.95 302 LR LR 02 51 09.4
comp=Z,59nm,20.0s,baz=119,slow=40
E27K Coleen River 85.09 22 IAmb IAmb 02 07 51.2
comp=Z,15nm,1.1s
G27K Doyon Strip 85.20 23 IAmb IAmb 02 07 51.9
comp=Z,12nm,1.1s
D27M Malcolm River 85.21 21 IAmb IAmb 02 07 48.8
comp=Z,17nm,1.3s
BNN Bunyan 85.26 308 IAmb IAmb 02 07 51.8
comp=Z,17nm,1.1s
H27K Steamboat Moun 85.31 24 IAmb IAmb 02 07 52.6
comp=Z,10nm,1.0s
BCAR Beaver Creek A 85.52 27 P **P 02 07 45.1 +0.6**
EGAK Eagle 85.61 25 IAmb IAmb 02 07 53.1
comp=Z,15nm,0.9s
E28M Babbage River 85.80 21 IAmb IAmb 02 08 03.3
comp=Z,14nm,1.2s
F28M Old Crow 85.80 22 IAmb IAmb 02 07 55.1
comp=Z,19nm,1.1s
MAW Mawson 85.94 200 P **P 02 07 45.2 -1.0**
comp=Z,1.3nm,0.7s,baz=107,slow=4.9,SNR=4.2
MAW LR LR 02 39 41.2
comp=Z,32nm,22.0s,baz=50,slow=31
comp=Z,1.3nm,0.7s
MMAI Mount Meron Ar 86.14 303 P **P 02 07 47.8 -0.4**
comp=Z,1.0nm,0.5s,baz=54,slow=15,SNR=3.6
MMAI LR LR 02 51 12.2
comp=Z,60nm,20.6s,baz=80,slow=39
comp=Z,1.0nm,0.5s
VNDA Vanda 86.54 173 P **P 02 07 48.2 -0.9**
VNDA Vanda 86.54 173 P **P 02 07 48.6 -0.5**
comp=Z,1.5nm,0.9s,baz=315,slow=5.5,SNR=8.3
VNDA LR LR 02 47 53.5
comp=Z,22nm,18.5s,baz=321,slow=37
comp=Z,1.5nm,0.9s
VNDA Vanda 86.54 173 P **P 02 07 48.2 -0.9**
VNDA pmax pmax
comp=Z,7.0nm,1.5s
EIL Elat 86.85 299 LR LR 02 51 44.7
comp=Z,77nm,20.4s,baz=358,slow=39
BR131 Keskin Array S 86.89 309 *i* P **P 02 07 51.6 -0.2**
BRTR Keskin Array B 86.89 309 P **P 02 07 52.8 +1.0**
comp=Z,1.4nm,0.8s,baz=108,slow=5.4,SNR=10.0
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 87.13 340 LR LR 02 49 44.7
comp=Z,118nm,20.6s,baz=76,slow=38
SPITS Spitsbergen Ar 87.28 349 LR LR 02 50 12.0
comp=Z,129nm,20.6s,baz=60,slow=38
G30M tAoh Zraii Nji 87.30 23 IAmb IAmb 02 09 41.7
comp=Z,28nm,1.8s
KIBK Kibwezi 87.32 267 P **P 02 07 53.8 -0.6**
KIBK IAmb IAmb 02 08 07.1
comp=Z,12nm,1.2s
PPT2 Papeete2 87.58 108 *e*LR LR 02 35 31.7
PPT2 *e*LR LR 02 35 38.1
comp=Z,128nm,27.8s
KMBO Kilima Mbogo 87.97 269 P **P 02 07 57.1 -0.6**
comp=Z,2.8nm,0.4s,baz=98,slow=3.9,SNR=3.1
comp=Z,2.8nm,0.4s
FINES FINESS Array B 88.47 332 P **P 02 07 57.0 -1.7**
comp=Z,1.3nm,0.7s,baz=46,slow=5.5,SNR=6.1
FINES LR LR 02 52 02.0
comp=Z,138nm,18.4s,baz=74,slow=39
comp=Z,1.3nm,0.7s
FINES FINESS Array B 88.47 332 *i* P **P 02 07 57.0 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 88.58 321 P **P 02 07 58.2 -1.3**
comp=Z,0.9nm,0.7s,baz=65,slow=5.6,SNR=6.1
AKASG LR LR 02 51 10.0
comp=Z,84nm,18.7s,baz=62,slow=38
comp=Z,0.9nm,0.7s
MLR Muntele Rosu 91.65 316 LR LR 02 53 29.5
comp=Z,85nm,21.7s,baz=74,slow=38
DLBC Dease Lake 92.06 31 LR LR 02 46 09.5
comp=Z,409nm,20.7s,baz=298,slow=33
SYO Syowa Base 94.57 201‖ *e*pP pP 02 08 33.0 -5.0
HFS Hagfors 94.66 332 LR LR 02 53 05.3
comp=Z,212nm,20.6s,baz=60,slow=37
BBB Bella Bella 94.92 36 LR LR 02 44 49.9
comp=Z,45nm,21.6s,baz=240,slow=31
RES Resolute Bay 95.21 10 LR LR 02 53 40.0
comp=Z,41nm,20.7s,baz=16,slow=37
NOA NORSAR Array B 95.43 333 LR LR 02 57 04.0
comp=Z,92nm,18.8s,baz=60,slow=39
TAOE Nuku Hiva Isla 95.70 98 *e*LR LR 02 39 34.9
comp=Z,153nm,25.4s
JMIC Jan Mayen 96.62 346 LR LR 02 57 17.7
comp=Z,77nm,19.3s,baz=354,slow=39
VRAC Vranov 96.82 321 LR LR 02 56 55.6
comp=Z,92nm,18.1s,baz=68,slow=38
LSZ Lusaka 98.35 256 LR LR 02 51 14.0
comp=Z,81nm,19.2s,baz=136,slow=34
MATP Matopo 98.44 250 LR LR 02 52 16.4
comp=Z,47nm,18.2s,baz=80,slow=35
GERES GERESS Array B 98.77 322 LR LR 02 57 29.1
comp=Z,80nm,18.8s,baz=78,slow=38
TORD Torodi Ar. Bea 120.42 289 PKP **PKPdf 02 13 57.9 -1.1**
comp=Z,1.0nm,1.0s,baz=68,slow=1.4,SNR=4.2
TXAR Lajitas Array 121.04 50 PKP **PKiKP 02 14 00.2 +0.1**
comp=Z,0.3nm,0.7s,baz=241,slow=1.2,SNR=4.5
PLCA Paso Flores 143.33 160 PKP **PKPdf 02 14 42.1 +0.8**
comp=Z,1.9nm,0.8s,baz=128,slow=1.6,SNR=5.9
TRQA Tornquist 148.12 169 **PKPbc 02 14 50.9 -1.8**
TRQA Tornquist 148.12 169 PKP2 **PKPbc 02 14 50.9 -1.8**
BO02 Sierra Bellavi 148.43 155 **PKPbc 02 14 52.7 -1.0**
CFA Coronel Fontan 152.25 155 PKPbc **PKPbc 02 15 01.2 -1.7**
comp=Z,1.6nm,0.7s,baz=253,slow=3.3,SNR=7.0
CPUP Villa Florida 160.32 174 PKP **PKPdf 02 15 06.9 +0.1**
comp=Z,0.4nm,0.8s,baz=249,slow=4.5,SNR=3.7
CPUP PKPab **PKPab 02 15 49.0 +1.7**
comp=Z,0.1nm,0.4s,baz=327,slow=4.1,SNR=1.6
LPAZ La Paz 163.93 128 PKP **PKPdf 02 15 11.9 +0.4**
comp=Z,1.9nm,0.8s,baz=348,slow=2.3,SNR=7.1
LPAZ PKPab **PKPab 02 16 05.3 +1.0**
comp=Z,0.7nm,0.7s,baz=173,slow=10,SNR=1.4

IDC 11 02:06:40.3±1.9, 8.72S×124.91E, h0km, mb3.4/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=33.0km s-min=18.2km az=122.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.92**	**220**	Pg	Pn	02 07 15.1	+0.7
	14nm,0.3s,baz=37,slow=2.6,SNR=3.4						
BATI				Lg	Lg	02 07 41.6	
	14nm,0.3s,baz=287,slow=22,SNR=7.3						
FITZ	**Fitzroy Crossi**	**9.35**	**176**	Pn	Pn	02 08 55.4	-1.0
	0.1nm,0.3s,baz=82,slow=19,SNR=1.6						
FITZ				Sn	Sn	02 10 37.3	-5.1
	0.5nm,0.3s,baz=152,slow=22,SNR=7.1						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**14.41**	**142**	Pn	Pn	02 10 07.5	+1.7
	0.3nm,0.3s,baz=316,slow=14,SNR=6.8						
WRA				Sn	Sn	02 12 29.1	-17
	0.1nm,0.3s,baz=343,slow=10,SNR=1.6						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**17.18**	**151**	P	Pn	02 10 41.5	-0.4
	0.1nm,0.3s,baz=326,slow=12,SNR=5.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.02**	**330**	P	P	02 17 35.3	+0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.5						
	0.2nm,0.5s						

IDC 11 02:12:35.9±3.2, 17.68N×146.36E, h126km±30km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=37.3km s-min=20.1km az=96.0
NEIC 11 02:12:36.4±0.9, 17.7N±0.1×146.1E±0.2, h115km±9km, mb4.5/10, Error ellipse: s-maj=28.9km s-min=13.8km az=105.0
ISC 11 02:12:40.5±0.7, 17.51N±0.08×146.1E±0.2, h167km, n28, σ1.55/23, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.07**	**197**	Pn	Pn	02 13 39.2	-3.0
GUMO	**Guam**	**4.07**	**197**	P	Pn	02 13 41.1	-1.1
	40nm,0.3s,baz=201,slow=21,SNR=1.9						
GUMO				S	Sn	02 14 29.2	-1.1
	60nm,0.3s,baz=145,slow=23,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**19.63**	**84**	T	T	02 37 47.3	
	baz=271,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**19.64**	**84**	T	T	02 37 53.4	
	baz=271,slow=75,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**19.64**	**84**	T	T	02 37 53.3	
	baz=271,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**19.85**	**80**	T	T	02 38 03.3	
	baz=267,slow=74,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**19.85**	**80**	T	T	02 38 04.4	
	baz=267,slow=74,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**19.87**	**80**	T	T	02 38 05.2	
	baz=267,slow=74,SNR=8.9						
YULB	**Yu-li**	**23.93**	**288**	P	P	02 17 39.1	-0.2
YULB				IAmb	IAmb	02 18 08.6	
	comp=Z,34nm,1.4s						
PMG	**Port Moresby**	**26.77**	**178**	P	P	02 18 03.8	-1.1
	comp=Z,19nm,0.3s,baz=9.1,slow=3.1,SNR=4.9						
WB0	**Warramunga Arr**	**38.78**	**198**	P	P	02 19 50.6	+1.5
WB0				IAmb	IAmb	02 19 52.1	
	comp=Z,3.9nm,1.1s						
WR8	**Warramunga Arr**	**38.93**	**197**	P	P	02 19 52.3	+2.0
WR8				IAmb	IAmb	02 20 13.8	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**38.97**	**198**	P	P	02 19 52.4	+1.8
	comp=Z,0.8nm,0.8s,baz=26,slow=8.9,SNR=5.5						
	comp=Z,0.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.70**	**211**	P	P	02 20 06.5	+1.5
ASAR	**Alice Springs**	**42.62**	**197**	P	P	02 20 23.3	+2.8
	comp=Z,0.2nm,0.3s,baz=15,slow=7.9,SNR=2.2						
	comp=Z,0.2nm,0.3s						
BBOO	**Buckleboo**	**50.95**	**191**	P	P	02 21 27.6	+2.6
H19K	**Roundabout Mou**	**60.95**	**24**	P	P	02 22 35.4	-0.1
H19K				IAmb	IAmb	02 23 02.3	
	comp=Z,10nm,1.4s						
K20K	**Telida**	**61.12**	**26**	P	P	02 22 36.3	-0.4
K20K				IAmb	IAmb	02 22 37.4	
	comp=Z,12nm,1.4s						
C19K	**Lookout Ridge**	**61.39**	**19**	P	P	02 22 38.8	+0.2
KURBB	**Kurchatov Arra**	**62.44**	**318**	P	P	02 22 46.3	+0.5
	comp=Z,0.6nm,0.5s,baz=92,slow=7.3,SNR=6.9						
	comp=Z,0.6nm,0.5s						
BPAW	**Bear Paw Mtn.**	**62.65**	**26**	P	P	02 22 46.5	-0.5
BPAW				IAmb	IAmb	02 23 09.7	
	comp=Z,7.8nm,1.4s						
ILAR	**Eielson Array**	**64.55**	**26**	P	P	02 22 57.4	-2.0
	comp=Z,0.6nm,0.5s,baz=251,slow=6.2,SNR=10.0						
	comp=Z,0.6nm,0.5s						
BMAR	**Burnt Mountain**	**66.06**	**23**	P	P	02 23 09.8	+0.7
ABKAR	**Akbulak array**	**74.45**	**317**	P	P	02 24 00.4	+0.1
K05A	**Summer Lake**	**80.50**	**48**	P	P	02 24 34.8	+0.4
NVAR	**Mina Array Bea**	**83.58**	**52**	P	P	02 24 49.9	-0.7
	comp=Z,0.5nm,0.7s,baz=283,slow=5.8,SNR=4.5						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**83.72**	**342**	P	P	02 24 49.6	-0.8
	comp=Z,3.1nm,0.9s,baz=57,slow=5.7,SNR=3.7						
	comp=Z,3.1nm,0.9s						
FINES	**FINESS Array B**	**88.11**	**335**	P	P	02 25 10.5	-1.5
	comp=Z,0.9nm,0.7s,baz=57,slow=5.1,SNR=4.3						
	comp=Z,0.9nm,0.7s						

SJA 11 02:55:35.9±1.1, 29.16S×72.14W, h14km±9km, ML5.0, MW4.7
NEIC 11 02:55:41.2, 29.18S×71.86W, h20km
NEIC 11 02:55:42.0±2.9, 29.20S±0.04×71.89W±0.09, h26km±4km, Error ellipse: s-maj=11.0km s-min=6.2km az=97.0
NEIC 11 02:55:41.2, 29.18S×71.74W, h20km, Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 1016Nm; Mrr0.92; Mθθ0.12; Mφφ -1.04; Mrθ -0.30; Mrφ0.15; Mθφ0.93; Fault plane solution: M0 1.40000×10^16 NP1: φs182.19000°, δ23.42000°, λ106.23000°. NP2: φs344.58000°, δ67.57000°, λ83.10000°. Principal axes: T 1.3360, Plg67.0000°, Azm242.0000°; N 0.1175, Plg6.0000°, Azm347.0000°; P -1.4535, Plg22.0000°, Azm80.0000°;
GUC 11 02:55:41.7±0.8, 29.25S×71.73W, h36km±2km, ML4.9
VAO 11 02:55:42.3±1.1, 29.37S±0.03×71.89W, h34km±8km, mb4.6
IDC 11 02:55:47.8±2.6, 29.16S×71.38W, h67km±22km, mb4.1/11, mbtmp4.3/14, MS4.1/33, Error ellipse: s-maj=21.8km s-min=13.2km az=79.0
ISC 11 02:55:43.6±0.5, 29.23S±0.03×71.71W±0.05, h38km±1km, n227, σ1.83/175, mb4.6/44, MS4.2/28, 13C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.80**	**150**		Pn	02 55 57.0	-1.3
CO05	**La Serena**	**0.80**	**150**‖	*e*P	Pn	02 55 57.0	-1.3
CO05				*i* S	Sn	02 56 07.2	-1.9
CO05				IAML		02 56 08.3	
	comp=E,109μm,0.4s						
LCO	**Las Campanas**	**0.91**	**77**		Pn	02 55 59.0	-1.0
LCO	**Las Campanas**	**0.91**	**77**	*e*P	Pn	02 55 58.8	-1.3
AC04	**Llanos de Chal**	**1.16**	**29**		Pn	02 56 02.5	-0.8
AC04	**Llanos de Chal**	**1.16**	**29**‖	*e*P	Pn	02 56 02.4	-0.8
AC04				*i* S	Sn	02 56 18.1	+0.3
AC04	**Llanos de Chal**	**1.16**	**29**	*e*P	Pn	02 56 01.3	-2.0
AC04				*e*S	Sn	02 56 18.3	+0.5
GO04	**Tololo Observa**	**1.23**	**140**		Pn	02 56 04.2	-0.3
GO04	**Tololo Observa**	**1.23**	**140**⇑	*e*P	Pn	02 56 03.8	-0.6
GO04				*i* S	Sn	02 56 19.8	-0.2
GO04	**Tololo Observa**	**1.23**	**140**	*e*P	Pn	02 56 03.2	-1.2
CO06	**Fray Jorge**	**1.45**	**178**		Pn	02 56 06.5	-0.7
CO06	**Fray Jorge**	**1.45**	**178**⇑	*e*P	Pn	02 56 06.3	-0.9
CO06				*e*S	Sn	02 56 24.1	-0.9
CO06				IAML		02 56 28.9	
	comp=E,11μm,0.6s						
CO01	**Juntas del Tor**	**1.59**	**119**	*e*P	Pn	02 56 09.9	+0.5
CO01				*i* S	Sn	02 56 29.9	+1.0
CO01				IAML		02 56 31.9	
	comp=N,15μm,0.3s						
CO01	**Juntas del Tor**	**1.59**	**119**	*e*P	Pn	02 56 09.9	+0.5
CO01				*e*S	Sn	02 56 30.4	+1.5
CO01				IAML		02 56 31.8	
	comp=Z,22μm,0.3s						
CO03	**El Pedregal**	**1.83**	**152**		Pn	02 56 12.4	-0.2
CO03	**El Pedregal**	**1.83**	**152**‖	*e*P	Pn	02 56 12.3	-0.3
CO03				*e*S	Sn	02 56 35.7	+1.0
CO03				IAML		02 56 41.9	
	comp=N,11μm,0.5s						
CO03	**El Pedregal**	**1.83**	**152**	*e*P	Pn	02 56 12.4	-0.2
CO03				*e*S	Sn	02 56 38.8	+4.1
CO03				IAML		02 56 40.4	
	comp=Z,10μm,0.5s						
CO02	**Combarbal**	**2.06**	**163**		Pn	02 56 15.9	+0.1
CO02	**Combarbal**	**2.06**	**163**‖	*e*P	Pn	02 56 15.8	0.0
CO02				IAML		02 56 52.3	
	comp=N,29μm,0.3s						
CO02	**Combarbal**	**2.06**	**163**	*e*P	Pn	02 56 15.1	-0.7
CO02				IAML		02 56 58.5	
	comp=Z,10μm,0.9s						
GO03	**Copiapo**	**2.08**	**39**		Pn	02 56 15.7	-0.3
GO03	**Copiapo**	**2.08**	**39**	*e*P	Pn	02 56 15.4	-0.5
GO03				*i* S	Sn	02 56 42.8	+2.2
GO03				IAML		02 56 51.8	
	comp=N,11μm,0.6s						
GO03	**Copiapo**	**2.08**	**39**	*e*P	Pn	02 56 15.8	-0.2
GO03				IAML		02 56 50.1	
	comp=Z,8μm,0.5s						
AROD	**Rodeo**	**2.16**	**116**	*e*P	Pn	02 56 19.6	+2.3
AC06	**Mina Casimiro**	**2.21**	**33**		Pn	02 56 17.9	+0.2
AC06	**Mina Casimiro**	**2.21**	**33**‖	*e*P	Pn	02 56 17.7	0.0
AC06				IAML		02 56 56.1	
	comp=E,7μm,0.6s						
ACDV	**Cuesta del Vie**	**2.44**	**113**	*e*P	Pn	02 56 23.8	+2.8
ACDV				*e*S	Sn	02 56 58.0	+8.3
ACDV				IAML		02 57 04.6	
	comp=Z,6μm,0.5s						
ACCO	**Cerro Coronel**	**2.67**	**121**	*e*P	Pn	02 56 27.3	+3.1
ACCO				*e*S	Sn	02 57 05.2	+10
AGUA	**GUANDACOL**	**2.82**	**96**	*e*P	Pn	02 56 29.9	+3.7
AGUA				IAML		02 57 22.8	
	comp=Z,2μm,0.3s						
CO04	**Los Peladeros**	**2.88**	**168**⇑	*e*P	Pn	02 56 27.7	+0.5
CO04				*i* S	Sn	02 57 01.1	+0.4
CO04				IAML		02 57 12.8	
	comp=N,6μm,0.4s						
VCA	**Vinchina**	**3.10**	**82**‖	*e*P	Pn	02 56 34.2	+4.1
VCA	**Vinchina**	**3.10**	**82**	*e*P	Pn	02 56 28.8	-1.4
VCA				*e*P		02 56 34.0	
VCA				IAML		02 57 28.4	
	comp=Z,4μm,1.5s						
AC01	**Pan de Azucar**	**3.22**	**18**		Pn	02 56 29.9	-1.7
AC01	**Pan de Azucar**	**3.22**	**18**	*e*P	Pn	02 56 29.8	-1.7
AC01	**Pan de Azucar**	**3.22**	**18**	*e*P	Pn	02 56 29.8	-1.8
AC01				*e*S	Sn	02 57 12.3	+3.6
AC01				IAML		02 57 24.9	
	comp=Z,2μm,0.5s						
AC02	**Maricunga**	**3.29**	**44**		Pn	02 56 34.0	+1.0
AC02	**Maricunga**	**3.29**	**44**‖	*e*P	Pn	02 56 33.7	+0.7
AC02	**Maricunga**	**3.29**	**44**	*e*P	Pn	02 56 34.1	+1.0
AC02				IAML		02 57 30.3	
	comp=Z,3μm,0.8s						
RTLS	**Leoncito**	**3.30**	**142**	*e*P	Pn	02 56 36.1	+3.1
RTLS				*e*P		02 56 36.2	
RTLS				*e*S	Sn	02 57 19.8	+8.6
RTLS				IAML		02 57 28.3	
	comp=Z,7μm,0.6s						
VA06	**Catapilco**	**3.34**	**174**		Pn	02 56 33.0	-0.3
VA06	**Catapilco**	**3.34**	**174**⇑	*e*P	Pn	02 56 32.9	-0.4
VA06				IAML		02 57 33.1	
	comp=N,6μm,0.4s						
ZON	**Zonda**	**3.49**	**132**		Pn	02 56 38.0	+2.6
ZON	**Zonda**	**3.49**	**132**	*e*P	Pn	02 56 37.9	+2.6
ZON				IAML		02 57 40.3	
	comp=Z,2μm,0.5s						
RTLL	**Cerro Villicun**	**3.49**	**128**	*e*P	Pn	02 56 38.2	+2.8
RTLL				*e*P		02 56 39.3	
RTLL				*e*S	Sn	02 57 28.8	+13
RTLL				IAML		02 57 38.4	
	comp=Z,3μm,0.4s						
VA03	**San Esteban**	**3.67**	**165**		Pn	02 56 38.9	+1.1
VA03	**San Esteban**	**3.67**	**165**‖	*e*P	Pn	02 56 38.4	+0.6
VA03				*e*S	Sn	02 57 20.0	+0.2
VA03	**San Esteban**	**3.67**	**165**	*e*P	Pn	02 56 38.1	+0.3
VA03				*e*S	Sn	02 57 22.4	+2.6
VA03				IAML		02 57 44.1	
	comp=Z,2μm,0.7s						
ROCH	**El Roble**	**3.78**	**171**⇑	*e*P	Pn	02 56 39.4	-0.1
VA01	**Torpederas**	**3.79**	**179**		Pn	02 56 38.4	-1.0
VA01	**Torpederas**	**3.79**	**179**	*e*P	Pn	02 56 32.8	-6.6
VA01				*e*P		02 56 37.7	
VA01				*e*S	Sn	02 57 32.8	+10
CFA	**Coronel Fontan**	**3.82**	**129**	P	Pn	02 56 42.1	+2.2
	comp=Z,90nm,0.4s,baz=332,slow=12,SNR=139						
CFA				S	Sn	02 57 25.4	+1.8
	comp=Z,124nm,0.3s,baz=309,slow=14,SNR=3.7						
CFA				LR	LR	02 58 23.5	
	comp=Z,2μm,19.8s,baz=280,slow=43						
CFA	**Coronel Fontan**	**3.82**	**129**	*e*P	Pn	02 56 36.3	-3.6
CFA				*e*P		02 56 42.5	
CFA				*e*S	Sn	02 57 36.3	+13
AVFE	**Valle Fertil**	**3.96**	**112**	*e*P	Pn	02 56 44.0	+2.2
AVFE				*e*S	Sn	02 57 39.3	+12
AVFE				IAML		02 57 49.3	
	comp=Z,3μm,0.5s						
PEL	**Peldehue**	**4.00**	**168**		Pn	02 56 42.6	+0.2
MT02	**Curacav**	**4.05**	**173**		Pn	02 56 42.4	-0.6
MT02	**Curacav**	**4.05**	**173**	*e*P	Pn	02 56 42.4	-0.6
MT02				*e*S	Sn	02 57 34.3	+5.1
MT02				IAML		02 57 56.0	
	comp=Z,1μm,0.9s						
ASAL	**Salagasta**	**4.17**	**144**	*e*P	Pn	02 56 48.0	+3.4
ASAL				*e*S	Sn	02 57 50.3	+18
MT05	**Renca**	**4.24**	**169**	*e*P	Pn	02 56 45.4	-0.2
MT05				*e*S	Sn	02 57 36.2	+2.4
MT05				IAML		02 58 04.2	
	comp=Z,2μm,1.1s						
MT08	**Bocatoma Ro**	**4.45**	**161**	*e*S	Sn	02 57 45.6	+6.3
MT08				IAML		02 58 04.0	
	comp=Z,926nm,0.8s						
GO02	**Mina Guanaco**	**4.46**	**25**		Pn	02 56 48.0	-1.0
GO02	**Mina Guanaco**	**4.46**	**25**	*e*P	Pn	02 56 48.0	-1.0
MT01	**Popeta**	**4.64**	**175**	*e*S	Sn	02 57 52.8	+9.0
MT01				IAML		02 58 18.8	
	comp=Z,590nm,0.6s						
MT13	**San Alfonso**	**4.67**	**165**	*e*P	Pn	02 56 52.5	+0.9
MT13				*e*P	Pn	02 56 52.5	+0.9
MT13				IAML		02 58 05.6	
	comp=Z,771nm,0.7s						
H03N1	**Juan Fernandez**	**7.46**	**234**	T	T	03 05 10.7	
	baz=63,slow=71,SNR=3826						
H03N2	**Juan Fernandez**	**7.47**	**234**	T	T	03 05 15.2	
	baz=63,slow=71,SNR=3360						
H03N3	**Juan Fernandez**	**7.48**	**234**	T	T	03 05 09.8	
	baz=63,slow=71,SNR=2821						
VA04	**Juan Fernndez**	**7.51**	**232**		Pn	02 57 27.5	-3.0
H03S3	**Juan Fernandez**	**7.67**	**231**	T	T	03 05 29.4	
	baz=83,slow=75						
H03S1	**Juan Fernandez**	**7.68**	**231**	T	T	03 05 17.7	
	baz=83,slow=75						
H03S2	**Juan Fernandez**	**7.69**	**231**	T	T	03 05 24.8	
	baz=83,slow=75						
LR03	**Panguipulli**	**10.40**	**183**		Pn	02 58 07.8	-2.3
LR05	**Currie**	**10.98**	**181**		Pn	02 58 15.7	-2.3
PB16	**IPOC Station P**	**11.03**	**11**		Pn	02 58 18.0	-1.3
PLCA	**Paso Flores**	**11.52**	**176**		Pn	02 58 24.5	-1.0
PLCA	**Paso Flores**	**11.52**	**176**	P	Pn	02 58 24.2	-1.3
	comp=Z,3.3nm,0.5s,baz=328,slow=13,SNR=29						
PLCA				LR	LR	03 03 22.1	
	comp=Z,896nm,18.4s,baz=348,slow=39						
PLCA	**Paso Flores**	**11.52**	**176**	*e*P	Pn	02 58 23.0	-2.5
TRQA	**Tornquist**	**11.96**	**140**		Pn	02 58 30.8	-0.7
PSAL	**Palomas, Salto**	**12.34**	**102**	*e*P	Pn	02 58 35.5	-1.1
CPUP	**Villa Florida**	**13.05**	**81**		Pn	02 58 47.6	+1.2
CPUP	**Villa Florida**	**13.05**	**81**	P	Pn	02 58 45.5	-1.0
	comp=Z,0.6nm,0.4s,baz=113,slow=12,SNR=11						
CPUP				S	Sn	03 01 01.9	-8.4
	comp=Z,2.2nm,0.7s,baz=100,slow=14,SNR=1.5						
CPUP				LR	LR	03 04 14.2	
	comp=Z,530nm,19.4s,baz=118,slow=40						
CPUP	**Villa Florida**	**13.05**	**81**	*e*P	Pn	02 58 45.9	-0.5
LPAZ	**La Paz**	**13.29**	**15**		Pn	02 58 51.6	+1.3
LPAZ	**La Paz**	**13.29**	**15**	P	Pn	02 58 51.1	+0.9
	comp=Z,3.0nm,0.4s,baz=192,slow=6.2,SNR=23						
LPAZ				S	Sn	03 01 24.7	+7.6
	comp=Z,2.5nm,0.8s,baz=186,slow=24,SNR=1.5						
LPAZ				LR	LR	03 04 13.8	
	comp=Z,587nm,19.5s,baz=161,slow=38						
LPAZ	**La Paz**	**13.29**	**15**

ITRB	Iturama	21.59	69	eP		P		03 00 32.3 +2.1
PET01	Itanhaem-SP	22.35	83	eP		P		03 00 39.8 +1.5
PDRB	Porto dos Gac	22.41	42	eP		P		03 00 40.1 +1.2
SPB	Sao Paulo	22.43	81	eP		P		03 00 41.5 +2.3
BB19B	Bebedouro	22.47	74	eP		P		03 00 40.3 +0.7
ARAG	Araguaiana, MT	22.73	58	eP		P		03 00 44.0 +1.5
RCLB	Rio Claro- Sao	22.77	78	eP		P		03 00 44.2 +1.3
ATAH	Atahualpa	22.86	343	LR		LR		03 07 58.8
	comp=Z,210nm,20.1s,baz=213,slow=32							
VAO	Valinhos	23.04	80	P		P		03 00 42.9 -2.8
VAO				IAmb		IAmb		03 00 53.7
	comp=Z,22nm,0.7s							
VAO	Valinhos	23.04	80	eP		P		03 00 45.6 -0.1
CLDB	Colider	23.54	42	eP		P		03 00 52.7 +2.1
IPMB	Ipameri, GO	24.21	68	eP		P		03 00 57.8 +0.9
PMNB	Patos De Minas	25.38	71	eP		P		03 01 09.1 +1.6
SNDB	Serra Nova Dou	25.61	52	eP		P		03 01 10.0 +0.6
BDFB	Brasilia	25.67	63	P		P		03 01 08.8 -1.3
BDFB				IAmb		IAmb		03 01 18.2
	comp=Z,37nm,1.3s							
BDFB	Brasilia	25.67	63	P		P		03 01 07.7 -2.5
	comp=Z,3.9nm,0.6s,baz=229,slow=8.3,SNR=8.6							
BDFB				LR		LR		03 12 45.0
	comp=Z,677nm,18.3s,baz=235,slow=40							
	comp=Z,3.9nm,0.6s							
TEFE	Tefe	26.44	16	eP		P		03 01 18.8 +1.8
NPGB	Novo Progresso	26.91	38	eP		P		03 01 21.6 +0.4
MACA	Manacapuru-AM	27.96	24	P		P		03 01 30.2 -0.4
MACA				IAmb		IAmb		03 01 57.9
	comp=Z,11nm,0.8s							
JANB	Januaria	28.93	67	eP		P		03 01 39.1 -0.3
ITTB	Itaituba	28.99	34	eP		P		03 01 41.0 +1.2
RPN	Rapa Nui	33.15	264	LR		LR		03 12 00.3
	comp=Z,486nm,18.0s,baz=100,slow=29							
BOAV	Boa Vista	33.22	21	P		P		03 02 17.2 +0.2
BOAV	Boa Vista	33.22	21	eP		P		03 02 17.6 +0.6
ROSC	El Rosal	33.96	355	LR		LR		03 17 52.6
	comp=Z,165nm,18.2s,baz=248,slow=39							
TMAB	Tom-Au,PA,Br	34.89	44	eP		P		03 02 32.3 +0.7
RUSC	La Rusia	34.94	358	P		P		03 02 34.0 +1.5
ESPZ	Base Esperanza	35.48	169	P		P		03 02 36.9 +0.8
PMSA	Palmer Station	35.89	174	LR		LR		03 16 04.3
	comp=Z,331nm,20.5s,baz=356,slow=34							
BAUV	El Baul	38.11	6	P		P		03 02 58.0 -1.0
MDP	Montagnes des	38.74	31	LR		LR		03 21 07.1
	comp=Z,271nm,18.1s,baz=212,slow=39							
OBIP	Obispado Ponce	47.25	7	P		P		03 04 14.3 +1.3
CMIG	Matias Romero	51.20	331	LR		LR		03 21 31.6
	comp=Z,92nm,21.0s,baz=172,slow=30							
BELA	Belgrano 2	51.52	171	P		P		03 04 45.5 +0.4
BELA				IAmb		IAmb		03 04 46.4
	comp=Z,4.8nm,0.7s							
VNA3	Neumayer Olymp	53.69	159	⇑P		P		03 05 01.6 +0.5
	comp=Z,18nm,0.7s							
VNA1	Neumayer--Stat	53.97	158	⇑P		P		03 05 04.0 +0.9
	comp=Z,11nm,0.8s							
VNA2	Neumayer--Watz	54.32	159	⇑P		P		03 05 06.1 +0.4
	comp=Z,20nm,0.6s,baz=284,slow=7.4							
SNAA	Sanae	55.91	159	⇑P		P		03 05 17.5 +0.2
	comp=Z,270nm,0.5s							
SNAA	Sanae	55.91	159	P		P		03 05 17.8 +0.5
SNAA	Sanae	55.91	159	P		P		03 05 17.2 -0.1
	comp=Z,15nm,0.8s,baz=280,slow=7.7,SNR=132							
SNAA				LR		LR		03 29 50.4
	comp=Z,157nm,18.6s,baz=351,slow=37							
	comp=Z,15nm,0.8s							
TROLL	Troll, Antarti	57.62	159	⇑P		P		03 05 29.9 +0.4
	comp=Z,436nm,0.6s							
QSPA	South Pole Qui	61.00	180	P		P		03 05 56.0 +3.1
QSPA				IAmb		IAmb		03 05 57.4
	comp=Z,4.8nm,0.7s							
QSPA	South Pole Qui	61.00	180	P		P		03 05 55.4 +2.5
	comp=Z,4.5nm,0.7s,baz=180,slow=1.2,SNR=23							
QSPA				LR		LR		03 32 09.2
	comp=Z,76nm,18.9s,baz=162,slow=36							
	comp=Z,4.5nm,0.7s							
LPIG	La Paz	64.72	321	LR		LR		03 28 45.0
	comp=Z,56nm,19.6s,baz=194,slow=30							
BRDY	Brady	65.54	334	IAmb		IAmb		03 06 26.6
	comp=Z,5.6nm,0.8s							
SAND	Sanderson	65.61	331			P		03 06 24.1 +0.3
TXAR	Lajitas Array	65.75	330	P		P		03 06 26.5 +1.8
	comp=Z,1.2nm,0.6s,baz=153,slow=8.6,SNR=24							
	comp=Z,1.2nm,0.6s							
TX31	Lajitas Ar. Si	65.75	330	IAmb		IAmb		03 06 27.9
	comp=Z,4.0nm,0.9s							
TAOE	Nuku Hiva Isla	66.94	273	eLR		LR		03 26 31.9
	comp=Z,146nm,26.3s							
MNHN	Monahans	67.09	331	IAmb		IAmb		03 06 36.3
	comp=Z,5.3nm,0.7s							
LCAR	Lake Charles	67.48	343	IAmb		IAmb		03 06 46.0
	comp=Z,5.7nm,0.8s							
VHRN	Van Horn	67.57	329	P		P		03 06 38.4 +2.0
ODSA	Odessa	67.68	332	P		P		03 06 36.9 -0.1
APMT	Aspermont	67.79	335	IAmb		IAmb		03 06 40.4
	comp=Z,7.2nm,0.7s							
PBMO	Poplar Bluff	67.97	344	IAmb		IAmb		03 06 49.2
	comp=Z,9.0nm,0.8s							
VNDA	Vanda	68.83	191	P		P		03 06 44.6 +1.2
	comp=Z,1.5nm,0.9s,baz=142,slow=4.5,SNR=6.8							
	comp=Z,1.5nm,0.9s							
FVM	French Village	69.12	344	IAmb		IAmb		03 06 48.6
	comp=Z,8.7nm,0.8s							
CCM	Cathedral Cave	69.38	344			P		03 06 46.7 -0.6
CCM				IAmb		IAmb		03 06 50.3
	comp=Z,7.9nm,0.9s							
R40A	Maddies Statio	69.86	343	IAmb		IAmb		03 06 53.1
	comp=Z,9.1nm,0.9s							
PPT2	Papeete2	71.27	260	eP		P		03 06 57.7 -1.8
	comp=Z,31nm,21.8s							
PPT2				eS		S		03 16 22.9 +8.2
	comp=Z,58nm,26.2s							
PPT2	Papeete2	71.27	260	eLR		LR		03 28 33.4
	comp=Z,253nm,22.8s							
PPT2				eLR		LR		03 28 40.1
	comp=Z,282nm,22.2s							
PPT	Papeete	71.28	260	LR		LR		03 30 24.1
	comp=Z,216nm,21.2s,baz=124,slow=29							
ANMO	Albuquerque	71.76	330	LR		LR		03 34 26.3
	comp=Z,116nm,19.8s,baz=230,slow=32							
T25A	Trinidad	72.80	333	P		P		03 07 09.8 +1.5
T25A				IAmb		IAmb		03 07 46.4
	comp=Z,5.7nm,1.0s							
DBIC	Dimbokro	73.42	72	P		P		03 07 12.1 -0.1
	comp=Z,3.8nm,0.7s,baz=254,slow=4.3,SNR=8.7							
DBIC				LR		LR		03 37 03.0
	comp=Z,187nm,21.1s,baz=272,slow=34							
	comp=Z,3.8nm,0.7s							
PV13	Radium Mtn., P	75.49	331	IAmb		IAmb		03 07 27.5
	comp=Z,3.4nm,0.7s							
PFO	Pinyon Flats O	75.50	323	LR		LR		03 33 19.4
	comp=Z,72nm,18.5s,baz=164,slow=30							
PV05	Paradox Valley	75.54	330	IAmb		IAmb		03 07 29.1
	comp=Z,5.7nm,1.3s							
PV18	Skein Mesa, Pa	75.60	331	IAmb		IAmb		03 07 28.6
	comp=Z,5.8nm,0.9s							
ECSD	EROS Data Cent	76.11	342	IAmb		IAmb		03 07 38.1
	comp=Z,5.0nm,0.8s							
O20A	White River Ci	76.91	332	IAmb		IAmb		03 07 34.8
	comp=Z,6.5nm,0.9s							
MAW	Mawson	77.67	164	P		P		03 07 35.9 +0.2
	comp=Z,3.1nm,0.7s,baz=212,slow=7.3,SNR=29							
	comp=Z,3.1nm,0.7s							
MPU	Maple Canyon	78.25	330	IAmb		IAmb		03 07 43.6
	comp=Z,6.9nm,1.2s							
BSUT	Blindstream Ca	78.30	331	IAmb		IAmb		03 07 42.8
	comp=Z,5.8nm,1.0s							
RAR	Rarotonga	78.33	252	LR		LR		03 34 00.1
	comp=Z,144nm,18.1s,baz=158,slow=29							
K22A	Casper	78.37	335	IAmb		IAmb		03 07 44.1
	comp=Z,4.5nm,0.6s							
SPR3	Spring Creek 3	78.65	327	IAmb		IAmb		03 07 45.2
	comp=Z,6.3nm,1.3s							
TCUT	Toone Canyon	79.05	331	IAmb		IAmb		03 07 47.3
	comp=Z,6.4nm,0.9s							
HWUT	Hardware Ranch	79.52	331	IAmb		IAmb		03 07 48.6
	comp=Z,7.0nm,0.8s							
PD31	Pinedale Array	79.65	333	IAmb		IAmb		03 07 49.9
	comp=Z,8.2nm,1.4s							
PDAR	Pinedale Array	79.65	333	P		P		03 07 48.4 +1.2
	comp=Z,1.1nm,0.6s,baz=133,slow=7.3,SNR=15							
PDAR				LR		LR		03 40 05.0
	comp=Z,35nm,20.1s,baz=118,slow=33							
	comp=Z,1.1nm,0.6s							
NVAR	Mina Array Bea	80.15	325	P		P		03 07 51.5 +1.6
	comp=Z,0.7nm,0.8s,baz=155,slow=5.2,SNR=5.6							
	comp=Z,0.7nm,0.8s							
TSUM	Tsumeb	80.27	107	LR		LR		03 40 43.5
	comp=Z,173nm,18.1s,baz=327,slow=34							
LOHW	Long Hollow	80.78	332	IAmb		IAmb		03 07 56.2
	comp=Z,9.2nm,1.5s							
PAHR	Pah Rah Range	81.67	325	IAmb		IAmb		03 08 01.7
	comp=Z,14nm,1.4s							
BOSA	Boshof	82.05	118	P		P		03 08 00.6 +0.2
	comp=Z,3.2nm,0.8s,baz=271,slow=2.9,SNR=5.1							
BOSA				LR		LR		03 39 30.6
	comp=Z,107nm,19.6s,baz=208,slow=32							
	comp=Z,3.2nm,0.8s							
BEKR	Beckworth	82.28	324	IAmb		IAmb		03 08 04.7
	comp=Z,8.5nm,1.4s							
TORD	Torodi Ar. Bea	82.33	70			P		03 07 59.6 -2.2
TORD				IAmb		IAmb		03 08 11.4
	comp=Z,8.3nm,0.8s							
TORD	Torodi Ar. Bea	82.33	70	P		P		03 07 59.5 -2.2
	comp=Z,2.6nm,0.6s,baz=282,slow=4.3,SNR=36							
TORD				LR		LR		03 42 24.0
	comp=Z,178nm,21.7s,baz=294,slow=34							
	comp=Z,2.6nm,0.6s							
HLID	Hailey	82.34	330	IAmb		IAmb		03 08 04.2
	comp=Z,8.0nm,1.4s							
SCHQ	Schefferville	83.82	3	LR		LR		03 44 26.5
	comp=Z,304nm,21.7s,baz=166,slow=35							
J08A	Circle Bar Ran	84.01	328	IAmb		IAmb		03 08 13.8
	comp=Z,10nm,1.2s							
LBTB	Lobatse	84.06	115	P		P		03 08 11.2 +0.4
LBTB	Lobatse	84.06	115	LR		LR		03 41 10.1
	comp=Z,102nm,21.5s,baz=209,slow=32							
PINE	Pine Mountain	85.51	327	IAmb		IAmb		03 08 20.4
	comp=Z,3.1nm,0.8s							
URZ	Urewera	87.08	227	LR		LR		03 40 28.7
	comp=Z,86nm,18.1s,baz=136,slow=31							
MDT	Midelt	88.60	51	LR		LR		03 47 08.1
	comp=Z,132nm,20.9s,baz=231,slow=35							
MATP	Matopo	88.67	113	LR		LR		03 45 40.2
	comp=Z,158nm,18.3s,baz=230,slow=34							
LSZ	Lusaka	91.02	108	LR		LR		03 48 04.7
	comp=Z,103nm,18.2s,baz=239,slow=35							
ESDC	Sonseca Array	93.06	46	LR		LR		03 50 26.9
	comp=Z,181nm,18.3s,baz=230,slow=35							
BBB	Bella Bella	94.88	329	LR		LR		03 47 49.0
	comp=Z,39nm,19.5s,baz=214,slow=33							
KEST	Kesra	99.89	55	LR		LR		03 56 54.3
	comp=Z,209nm,19.2s,baz=245,slow=37							
DZM	Mont Dzumac	104.26	234	eLR		LR		03 43 55.8
	comp=Z,156nm,23.6s							
MODS	Modra-Piesok	110.59	45	ePP		PP		03 14 50.6 +1.8
FINES	FINESS Array B	118.87	33	PKP		PKiKP		03 14 28.9 +1.7
	comp=Z,2.1nm,0.9s,baz=226,slow=7.6,SNR=2.2							
BRTR	Keskin Array B	119.18	58	PKP		PKiKP		03 14 27.7 -1.0
	comp=Z,0.3nm,0.5s,baz=234,slow=4.1,SNR=1.6							
ARCES	ARCESS Array B	119.56	24	PKP		PKiKP		03 14 29.1 +0.7
	comp=Z,2.1nm,0.9s,baz=251,slow=2.8,SNR=1.6							
ASAR	Alice Springs	121.93	208	PKP		PKiKP		03 14 34.2 -0.4
	comp=Z,0.7nm,0.6s,baz=133,slow=1.7,SNR=11							
WRA	Warramunga Arr	125.04	210	PKP		PKiKP		03 14 40.3 -0.5
	comp=Z,2.4nm,0.6s,baz=160,slow=1.6,SNR=45							
H11S2	WAKE ISLAND Hyl	25.99	272	T		T		05 33 29.5
	baz=115,slow=75,SNR=53							
H11S1	WAKE ISLAND Hyl	26.00	272	T		T		05 33 29.2
	baz=115,slow=75,SNR=67							
H11S3	WAKE ISLAND Hyl	26.01	272	T		T		05 33 33.8
	baz=115,slow=75,SNR=84							
H11N3	WAKE ISLAND Hyl	26.28	274	T		T		05 33 56.2
	baz=113,slow=75,SNR=12							
H11N1	WAKE ISLAND Hyl	26.30	274	T		T		05 33 57.5
	baz=113,slow=75,SNR=6.6							
H11N2	WAKE ISLAND Hyl	26.30	274	T		T		05 33 54.5
	baz=113,slow=75,SNR=19							
BVAR	Borovoye Array	143.49	39	PKP		PKiKP		03 15 14.1 -2.9
	comp=Z,0.5nm,0.3s,baz=343,slow=4.5,SNR=1.7							
KKAR	Karatay Array	146.79	55			PKPab		03 15 21.8 -1.1
KURBB	Kurchatov Arra	149.07	38	PKPbc		PKPab		03 15 28.5 -3.1
	comp=Z,3.2nm,0.5s,baz=304,slow=3.1,SNR=42							
ZALV	Zalesovo Beam	149.97	28	PKPbc		PKiKP		03 15 30.4 +0.1
	comp=Z,9.3nm,0.6s,baz=304,slow=3.6,SNR=18							
MKAR	Makanchi Array	153.22	42	PKPbc		PKiKP		03 15 37.6 +0.3
	comp=Z,2.1nm,0.6s,baz=322,slow=1.8,SNR=17							
WMQ	Urumqi	158.03	43	ePKP		PKPdf		03 15 35.1 -1.2
HHC	Hu-ho-hao-te	168.10	348	eP		PKPdf		03 15 43.3 -2.8
NJ2	Nanjing	170.48	290	eP		PKPdf		03 15 48.9 +1.3
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
PZH	PanZhiHua	173.60	114	PKP		PKPdf		03 15 47.9 -1.5

IDC 11 02:57:25.5±0.9, 9°.59S×159°.49E, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.4/6, Error ellipse: s-maj=39.1km s-min=7.5km az=160.0

ISC 11 02:57:29.0±1.4, 9°.6S±0°.2×159°.8E±0°.2, h35km, n16, σ1§52/7, mb3.7/5, MS3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.24	32	Pg	Pn	02 57 34.8	-1.5
	1μm,0.3s,baz=224,slow=1.5,SNR=87						
HNR				Lg	Lg	02 57 41.2	
	4μm,0.3s,baz=0.1,slow=20,SNR=25						
HNR				LR	LR	02 58 03.9	
	comp=Z,4μm,21.7s,baz=156,slow=81						
PMG	Port Moresby	12.49	270	LR	LR	03 04 42.5	
	comp=Z,149nm,18.6s,baz=62,slow=36						
JAY	Jayapura	20.27	289	P	P	03 02 01.3	-0.5
	0.3nm,0.3s,baz=338,slow=5.3,SNR=4.4						
	8.9nm,0.8s						
WRA	Warramunga Arr	26.64	244	P	P	03 03 04.0	-0.6
	2.5nm,0.7s,baz=72,slow=10,SNR=18						
WRA				LR	LR	03 11 58.2	
	comp=Z,48nm,19.5s,baz=228,slow=33						
	2.5nm,0.7s						
STKA	Stephens Creek	27.84	215	P	P	03 03 15.8	+0.6
	1.4nm,0.8s,baz=32,slow=15,SNR=3.0						
STKA				LR	LR	03 12 51.2	
	comp=Z,55nm,18.3s,baz=43,slow=33						
	1.4nm,0.8s						
ASAR	Alice Springs	28.40	237	P	P	03 03 19.1	-1.4
	0.6nm,0.4s,baz=61,slow=9.7,SNR=12						
ASAR				LR	LR	03 13 36.0	
	comp=Z,48nm,19.4s,baz=91,slow=34						
	0.6nm,0.4s						
H11S2	WAKE ISLAND Hy	28.77	14	T	T	03 32 11.8	
	baz=194						
H11S3	WAKE ISLAND Hy	28.77	14	T	T	03 32 14.3	
	baz=194						
H11S1	WAKE ISLAND Hy	28.78	14	T	T	03 32 09.8	
	baz=194						
H11N1	WAKE ISLAND Hy	29.99	13	T	T	03 33 45.6	
	baz=193,slow=76,SNR=3.7						
H11N3	WAKE ISLAND Hy	30.00	13	T	T	03 33 43.6	
	baz=193,slow=76,SNR=3.0						
H11N2	WAKE ISLAND Hy	30.01	13	T	T	03 33 45.2	
	baz=193,slow=76,SNR=5.3						
NWAO	Narrogin (SRO)	45.52	233	LR	LR	03 23 47.4	
	comp=Z,69nm,19.8s,baz=4.5,slow=35						
TIXI	Tiksi	83.68	351	LR	LR	03 49 40.4	
	comp=Z,32nm,18.3s,baz=187,slow=38						
ILAR	Eielson Array	84.13	20	P	P	03 09 57.2	+1.2
	0.3nm,0.5s,baz=251,slow=4.9,SNR=16						
	0.3nm,0.5s						
MKAR	Makanchi Array	88.54	318	P	P	03 10 19.8	+1.6
	0.2nm,0.5s,baz=99,slow=4.7,SNR=2.5						
	0.2nm,0.5s						

TRN 11 03:21:53.7, 9°.95N×62°.54W, h3km, MD3.6, Venezuela.
FUNV 11 03:21:55.1, 10°.02N×62°.29W, h23km, MW3.6

ISC 11 03:21:54.7±1.5, 9°.70N±0°.09×62°.45W±0°.07, h35km, n14, σ1§86/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	1.16	58	eP	Pn	03 22 15.9	+1.5
DMDM	Guralp CMG5TDE	1.33	42	eP	Pn	03 22 15.7	-1.1
DMDM				x	Sn	03 22 34.0	+0.8
PSKH	Kent House, Po	1.33	43	eP	Pn	03 22 17.2	+0.4
TRN	Trinidad (W)	1.39	47	eP	Pn	03 22 18.9	+1.2
TRN				x	Sn	03 22 37.7	+2.8
GRGR	Grenville	2.54	18	eP	Pn	03 22 33.7	+0.2
GRGR				eS	Sn	03 23 02.5	-0.6
GRHS	Sauteurs	2.63	17	eP	Pn	03 22 33.8	-0.9
GRHS				eS	Sn	03 23 03.9	-1.5
GCMP	Grenada, Carri	2.94	20	eP	Pn	03 22 38.5	-0.5
GCMP				eS	Sn	03 23 12.6	-0.5
SVB	Belmont	3.74	18	eP	Pn	03 22 48.3	-1.7
SVB				x	Sn	03 23 34.2	+1.4
SLBI	Saint Lucia, B	4.53	18	x	Pn	03 22 59.0	-1.8
SLBI				x	Sn	03 23 50.8	-1.5
TACV	Tcata	4.53	276	eP	Pn	03 23 02.4	+1.5
TACV				eS	Sn	03 23 53.0	+0.5
CACV	CAICARA DEL OR	4.57	243	eP	Pn	03 22 59.9	-1.4
CACV				eS	Sn	03 23 48.1	-5.2
BENV	Beln	5.08	273	eP	Pn	03 23 11.2	+2.7
BENV				eS	Sn	03 24 06.6	+0.5
BAUV	El Baul	5.57	263	eP	Pn	03 23 17.1	+1.9
BAUV				eS	Sn	03 24 18.0	0.0
BAUV	El Baul	5.57	263	eP	Pn	03 23 17.5	+2.3

BEO 11 03:38:12.1±1.0, 39°.14N×25°.37E, h0km, ML3.4/8
ISK 11 03:38:12.2, 39°.42N×25°.59E, h5km, ML3.5/17
SOF 11 03:38:12.8, 39°.48N±0°.03×25°.63E±0°.01, h10km±7km, MD3.2/8
ATH 11 03:38:13.8, 39°.40N×25°.68E, h15km±3km, ML3.1/19, Manual Solution by M.Charalampakis First location: 2019/10/11 03:39:25, This location: 2019/10/11 06:10:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km
THE 11 03:38:14.0, 39°.4N±0°.8×2°.6E±°, h8km±1km, M3.2/16, MLh3.2/16
AFAD 11 03:38:14.1, 39°.41N×25°.74E, h7km±3km, MW3.5

ISC 11 03:38:14.0±0.9, 39°.42N±0°.02×25°.69E±0°.02, h13km±7km, n141, σ0§88/181, 12C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.24	148	Pg	Pg	03 38 19.1	-0.1
SIGR				Sg	Sg	03 38 23.2	+0.6
SIGR	SIGRI	0.24	148	P	Pg	03 38 19.1	-0.1
SIGR				S	Sg	03 38 23.0	+0.3
SIGR	SIGRI	0.24	148	P	Pg	03 38 19.0	-0.1
SIGR				S	Sg	03 38 22.3	-0.3
GPNR	Gulpinar-Canak	0.35	84	Pg	Pg	03 38 20.7	-0.3
KOCA	Canakkale, Ayv	0.36	76	P	Pg	03 38 21.2	-0.1
KOCA				S	Sg	03 38 26.0	-0.1
KOCA				i IAML		03 38 26.0	
	comp=N,5μm,0.4s						
KOCA				i IAML		03 38 28.0	
	comp=E,4μm,0.1s						
PRK	Paraskevi	0.49	111	P	Pg	03 38 23.5	0.0
PRK				S	Sg	03 38 30.6	+0.6
BOZC	Bozcaada	0.51	34	Pg	Pg	03 38 23.3	-0.6
BOZC	Bozcaada	0.51	34	P	Pg	03 38 23.4	-0.6
BOZC				P	Pb	03 38 23.6	-1.2
BOZC				S	Sg	03 38 30.6	-0.1
BOZC				i IAML		03 38 32.0	
	comp=E,2μm,0.1s						
LIA	Limnos Island	0.62	321	P	Pg	03 38 26.1	+0.1
LIA				S	Sg	03 38 34.3	+0.2
LIA	Limnos Island	0.62	321	P	Pg	03 38 26.1	+0.1
LIA				S	Sg	03 38 34.2	0.0
EZN	Ezine	0.64	50	Pg	Pg	03 38 25.8	-0.7
EZN	Ezine	0.64	50	P	Pg	03 38 25.8	-0.7
EZN				S	Sg	03 38 34.9	0.0
EZN	Ezine	0.64	50	⇑P	Pg	03 38 25.9	-0.5
EZN				⇑S	Sg	03 38 35.3	+0.5
ECEA	Canakkale, Ece	0.73	31	P	Pg	03 38 27.8	-0.3
ECEA				S	Sb	03 38 39.0	+0.5
ECEA				i IAML		03 38 40.0	
	comp=N,6μm,0.3s						
BAYC	CANAKKALE_Bayr	0.74	64	P	Pg	03 38 28.0	-0.3
BAYC				S	Sg	03 38 37.2	-0.8
BAYC				i IAML		03 38 38.0	
	comp=N,1μm,0.1s						
BAYC				i IAML		03 38 40.0	
	comp=E,974nm,0.5s						
GOAD	anakkale-G¶	0.76	13	P	Pg	03 38 28.2	-0.6
GOAD				S	Sb	03 38 40.2	+0.7
GOAD				i IAML		03 38 41.0	
	comp=N,1μm,0.5s						
AYVA	Ayvalik	0.79	98	P	Pg	03 38 28.8	-0.4
AYVA				S	Sg	03 38 39.1	-0.4
AYVA				i IAML		03 38 42.0	
	comp=N,1μm,0.4s						
GADA	Gvkgeada	0.79	12	Pg	Pg	03 38 28.3	-1.0
GADA	Gvkgeada	0.79	12	P	Pg	03 38 28.5	-0.8
GADA				S	Sg	03 38 39.3	-0.3
CNKL	anakkale-Mer	0.84	40	P	Pg	03 38 29.6	-0.7
CNKL				P	Pb	03 38 29.8	-0.7
CNKL				S	Sb	03 38 42.5	+0.7
CNKL				S	Sn	03 38 42.8	-1.1
CNKL				i IAML		03 38 44.0	
	comp=N,716nm,0.3s						
CNKL				i IAML		03 38 44.0	
	comp=N,738nm,0.3s						
CNKL				i IAML		03 38 44.0	
	comp=E,724nm,0.2s						
CNKL				i IAML		03 38 44.0	
	comp=E,701nm,0.2s						
EAG2	Marmaro, Chios	0.93	159	P	Pg	03 38 31.7	-0.3
EAG2				S	Sb	03 38 44.5	+0.2
KARB	zmir-Karabur	0.94	143	P	Pg	03 38 32.2	0.0
KARB				S	Sg	03 38 44.5	0.0
KARB				i IAML		03 38 47.0	
	comp=E,1μm,0.4s						
DKL	Dikili	1.01

RDO	Rodhopi	1.73 356	P	Pn	03 38 43.6	-0.2
RDO			S	Sb	03 39 06.9	-0.3
RDO	Rodhopi	1.73 356	P	Pn	03 38 43.3	-0.5
AKS	Akhisar	1.74 107	Pn	Pn	03 38 44.5	+0.6
KAVA	Kavala	1.81 331	P	Pn	03 38 44.6	-0.4
KAVA	Kavala	1.81 331	P	Pn	03 38 44.5	-0.4
NEO	Neokhori	1.91 267	P	Pn	03 38 46.3	0.0
DION	Dionisos Attik	1.92 226	P	Pn	03 38 45.3	-1.0
DION	Dionisos Attik	1.92 226	P	Pn	03 38 45.1	-1.3
PLG	Polygyros	1.97 300	P	Pn	03 38 46.9	-0.2
PLG	Polygyros	1.97 300	P	Pn	03 38 47.5	+0.4
PTL	Penteli	1.97 227	P	Pn	03 38 46.1	-1.1
ATHU	Athens Univers	2.08 226	P	Pn	03 38 47.2	-1.4
BAND	Balkesir-Ban	2.08 62	⇑P	Pn	03 38 48.9	+0.3
VLY	Voula,Athens	2.15 224	P	Pn	03 38 48.7	-0.9
ATAL	Atalanti	2.20 252	P	Pn	03 38 49.7	-0.5
KDZ	Kurdzhali	2.23 353	*i* P	Pn	03 38 50.6	0.0
LKR	Lokris	2.23 251	P	Pn	03 38 50.0	-0.7
VIL2	Platees	2.24 238	P	Pn	03 38 50.0	-0.9
SOH	Sokhos	2.27 309	P	Pn	03 38 52.1	+0.8
HORT	Hortiatis	2.31 301	P	Pn	03 38 52.2	+0.4
SRS	Serrai	2.33 317	*e*Pn	Pn	03 38 52.0	-0.1
SRS			*e*Sg	Sg	03 39 28.1	-0.9
SRS	Serrai	2.33 317	P	Pn	03 38 52.5	+0.4
APE	Apeiranthos	2.35 183	⇑P	Pn	03 38 53.5	+1.1
RZN	Rozhen	2.38 343	*i* P	Pn	03 38 53.2	+0.2
MET4	Agioi Theodoro	2.54 226	P	Pn	03 38 53.9	-0.9
LTK	Loutraki	2.54 238	P	Pn	03 38 54.2	-0.8
LIT	Litokhoron	2.56 286	P	Pn	03 38 55.6	+0.5
LOUT	Loutraki	2.56 237	P	Pn	03 38 54.3	-0.9
MET5	Makryloggos,Me	2.56 226	P	Pn	03 38 54.3	-0.9
MET2	Kameni Chora,	2.58 226	P	Pn	03 38 54.3	-1.2
MET6	Megalochori,Me	2.58 226	P	Pn	03 38 54.9	-0.6
MMB	Musomishta	2.59 326	*e*P	Pn	03 38 55.4	-0.2
MMB			S	Sb	03 39 34.3	+2.3
DIM	Dimitrovgrad	2.63 358	*i* P	Pn	03 38 56.5	+0.4
KNT	Kendrikon	2.75 310	P	Pn	03 38 58.7	+0.8
MAKR	Makrakomi, Fth	2.79 263	P	Pn	03 38 58.9	+0.5
THL	Klokotos Trika	2.84 274	P	Pn	03 38 59.6	+0.5
CTYL	Yalikoy Yolu	2.86 43	⇓P	Pn	03 39 00.2	+0.9
GUR	Goura	3.01 242	P	Pn	03 39 01.0	-0.4
VAY	Valandovo	3.05 310	*i* Pn	Pg	03 39 11.2	-1.1
VAY			*e*Sn	Sg	03 39 52.9	+1.1
ANX	Ano Chora	3.05 255	P	Pn	03 39 02.4	+0.4
EVR	Evrytania	3.06 262	P	Pn	03 39 03.0	+0.9
KKB	Krupnik	3.11 322	*e*P	Pn	03 39 03.1	+0.4
JMB	Yambol	3.13 11	*e*P	Pn	03 39 03.0	-0.1
TETR	Tetrakomo, Epi	3.42 270	P	Pn	03 39 07.9	+0.8
DRO	Drossia	3.44 246	P	Pn	03 39 07.3	0.0
VLI	Veliai	3.46 220	P	Pn	03 39 06.7	-0.9
ELND	Elena	3.51 2	⇓P	Pn	03 39 08.6	+0.4
RLS	Riolos of Patr	3.57 249	P	Pn	03 39 09.8	+0.8
VTS	Vitosha	3.69 331	*e*P	Pn	03 39 12.2	+1.3
VTS	Vitosha	3.69 331	*e*Pn	Pn	03 39 12.2	+1.3
ITM	Ithomi	3.71 234	P	Pn	03 39 11.8	+0.8
SZH	Strazhitsa	3.85 3	*e*P	Pn	03 39 13.3	+0.4
BOSS	Bosilegrad	3.92 323	*e*Pn	Pn	03 39 15.3	+1.4
LOZB	Loznitsa	4.01 10	⇓P	Pn	03 39 15.5	+0.4
ANKY	Antikythira Is	4.02 209	P	Pn	03 39 14.2	-1.1
NEF	NEVSHA	4.02 17	*e*P	Pn	03 39 15.6	+0.3
KARP	Karpathos	4.04 163	P	Pn	03 39 14.8	-0.8
MPEP	Malo Peshtene	4.20 340	*e*P	Pn	03 39 19.5	+1.8
BARS	Barje	4.48 321	*e*Pn	Pn	03 39 22.6	+1.0
ZAPS	Zavoj	4.49 330	*e*Pn	Pn	03 39 23.6	+1.9
ZAGS	Zajecar	5.10 331	*e*Pn	Pn	03 39 31.3	+1.3
SELS	Selova	5.12 319	*e*Pn	Pn	03 39 31.1	+0.7
TLBR	Topalu	5.42 18	⇓P	Pn	03 39 34.7	+0.3
TIRR	Tirgusor	5.43 21	⇓P	Pn	03 39 34.5	-0.1
KUBS	Kucevo	5.82 330	*e*Pn	Pn	03 39 41.4	+1.4
IVAS	Ivanjica	5.87 317	*e*Pn	Pn	03 39 38.2	-2.6
CFR	Carcaliu	6.04 17	⇓P	Pn	03 39 44.3	+1.4
MLR	Muntele Rosu	6.07 2	⇑P	Pn	03 39 45.4	+1.8
MDVR	Moldovita	6.12 332	⇓P	Pn	03 39 46.4	+2.3
MDVR	Moldovita	6.12 332	*e*Pn	Pn	03 39 45.0	+0.9
GZR	Gura Zlata	6.35 341	⇓P	Pn	03 39 47.9	+0.6
GZR	Gura Zlata	6.35 341	*e*Pn	Pn	03 39 47.3	0.0
PLOR	Plostina	6.47 6	⇑P	Pn	03 39 51.1	+2.2
VRI	Vrincioaia	6.49 6	⇓P	Pn	03 39 51.0	+1.8
DOPR	Dopca	6.55 358	⇓P	Pn	03 39 51.5	+1.4
VRSS	Vrsac	6.55 332	*e*Pn	Pn	03 39 50.6	+0.5
TURR	Turia	6.64 2	⇑P	Pn	03 39 53.0	+1.8
SURR	Surduc	6.86 339	⇑P	Pn	03 39 56.3	+2.1
BZS	Buzias	6.88 335	⇓P	Pn	03 39 57.3	+2.7
BZS	Buzias	6.88 335	*e*Pn	Pn	03 39 55.0	+0.4
TESR	Tescani	7.12 5	⇑P	Pn	03 39 59.6	+1.7
MARR	Marisel-Cluj	7.48 346	⇓P	Pn	03 40 04.7	+1.7
BURAR	Bucovina Array	8.20 358	⇑P	Pn	03 40 15.4	+2.7

*IDC **11** 03:38:56.8±1.1, 49°62S×116°18E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=49.6km s-min=19.1km az=116.0*

ISC 11 03:38:58.3±0.8, **49°7S**±0°1×**116°2E**±0°2, **h10**km, **n19**, σ0**99**/14, **mb3.8/7, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.85	353	T	T	03 57 37.5	
	baz=174,slow=74,SNR=174						
H01W1	Cape Leeuwin H	14.85	353	T	T	03 57 38.6	
	baz=174,slow=74,SNR=190						
H01W3	Cape Leeuwin H	14.87	353	T	T	03 57 38.6	
	baz=174,slow=74,SNR=128						
NWAO	Narrogin (SRO)	16.75	3	Pn	P	03 42 56.9	+1.7
	0.8nm,0.3s,baz=183,slow=11,SNR=5.8						
STKA	Stephens Creek	25.98	56	P	P	03 44 30.4	-0.7
	4.0nm,0.7s,baz=229,slow=12,SNR=7.3						
	4.0nm,0.7s						
ASAR	Alice Springs	29.43	35	P	P	03 45 01.9	-0.1
	0.9nm,0.7s,baz=208,slow=7.8,SNR=8.1						
	0.9nm,0.7s						
MAW	Mawson	31.70	216	P	P	03 45 21.4	-0.1
	1.0nm,1.0s,baz=90,slow=7.1,SNR=2.4						
	1.0nm,1.0s						
VNDA	Vanda	32.77	163	P	P	03 45 30.6	-0.3
	1.3nm,1.0s,baz=304,slow=7.0,SNR=4.6						
	1.3nm,1.0s						
WRA	Warramunga Arr	33.01	32	P	P	03 45 33.2	-0.3
	1.5nm,0.6s,baz=202,slow=8.8,SNR=9.3						
WRA				PcP	PcP	03 48 15.4	-1.8
	0.9nm,0.9s,baz=227,slow=2.7,SNR=5.2						
	1.5nm,0.6s						
QSPA	South Pole Qui	40.45	180	P	P	03 46 37.8	+1.2
	0.5nm,0.3s,baz=92,slow=6.9,SNR=2.6						
	0.5nm,0.3s						
DZM	Mont Dzumac	47.97	74	P	P	03 47 38.2	+1.0
	3.3nm,0.9s,baz=336,slow=20,SNR=2.9						
	3.3nm,0.9s						
H08S2	Diego Garcia H	55.55	304	T	T	04 48 19.2	
	baz=147,slow=76,SNR=5.1						
H08S1	Diego Carcia H	55.55	304	T	T	04 48 25.9	
	baz=147,slow=76,SNR=5.0						
H08S3	Diego Garcia H	55.56	304	T	T	04 48 19.7	
	baz=147,slow=76,SNR=5.3						
ILAR	Eielson Array	136.08	38	PKP	PKiKP	03 58 19.1	-0.8
	0.2nm,0.5s,baz=312,slow=4.9,SNR=1.9						
ESDC	Sonseca Array	137.35	280	PKP	PKiKP	03 58 23.3	0.0
	0.6nm,0.9s,baz=17,slow=1.3,SNR=2.3						
TXAR	Lajitas Array	143.68	109	PKP	PKPdf	03 58 32.9	-0.4
	0.4nm,0.8s,baz=189,slow=3.3,SNR=5.1						
PDAR	Pinedale Array	147.99	85	PKPbc	PKPbc	03 58 43.6	+0.1
	1.4nm,0.9s,baz=280,slow=3.3,SNR=6.4						
YKA	Yellowknife Ar	149.75	46	PKPbc	PKPbc	03 58 46.3	-0.7
	2.4nm,0.9s,baz=282,slow=2.7,SNR=4.5						

*IDC **11** 03:41:20.5±1.7, 20°87S×169°57E, h0km, mb3.7/4, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=36.1km s-min=33.6km az=80.0*

ISC 11 03:41:25.3±1.5, **20°8S**±0°1×**169°5E**±0°2, **h30**km, **n6**, σ0**37**/7, **mb3.8**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.06	246	Pn	Pn	03 42 11.7	-0.1
	1.3nm,0.3s,baz=121,slow=13,SNR=46						
DZM				Sn	Sn	03 42 47.6	0.0
	2.2nm,0.3s,baz=216,slow=22,SNR=3.9						
	3.9nm,0.3s						
HNR	Honiara	14.58	320	Pn	Pn	03 44 49.3	-0.3
	25nm,0.3s,baz=36,slow=6.1,SNR=2.0						
WRA	Warramunga Arr	32.89	265	P	P	03 47 57.6	+0.5
	0.5nm,0.9s,baz=100,slow=8.1,SNR=2.6						
	0.5nm,0.9s						
ASAR	Alice Springs	32.97	258	P	P	03 47 57.8	0.0
	0.8nm,0.9s,baz=95,slow=7.9,SNR=5.4						
	0.8nm,0.9s						
QSPA	South Pole Qui	69.23	180	P	P	03 52 29.0	-0.2
	0.4nm,0.3s,baz=356,slow=7.8,SNR=7.3						
	0.4nm,0.3s						
PETK	Petropavlovsk-	74.33	353	P	P	03 52 60.0	+0.3
	1.2nm,0.6s,baz=160,slow=5.4,SNR=1.4						
	1.2nm,0.6s						

*IDC **11** 03:42:16.8±1.1, 49°66S×115°82E, h0km, mb3.8/6, mbtmp3.8/7, ML2.6/1, MS3.6/7, Error ellipse: s-maj=57.1km s-min=18.6km az=117.0*

ISC 11 03:42:17.9±0.9, **49°6S**±0°2×**115°7E**±0°3, **h10**km, **n21**, σ0**77**/10, **mb3.7**/6, **MS3.7**/7, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.72	355	T	T	04 01 00.3	
	baz=174,slow=74,SNR=120						
H01W1	Cape Leeuwin H	14.73	355	T	T	04 00 58.1	
	baz=174,slow=74,SNR=88						
H01W3	Cape Leeuwin H	14.74	355	T	T	04 01 03.3	
	baz=174,slow=74,SNR=84						
NWAO	Narrogin (SRO)	16.68	5	Pn	P	03 46 13.9	-0.1
	1.1nm,0.3s,baz=151,slow=9.2,SNR=7.1						
	6.7nm,0.9s						
STKA	Stephens Creek	26.23	57	P	P	03 47 52.4	-0.6
	1.2nm,0.5s,baz=322,slow=22,SNR=3.9						
	1.2nm,0.5s						
ASAR	Alice Springs	29.56	36	P	P	03 48 23.3	+0.5
	0.5nm,0.7s,baz=203,slow=8.4,SNR=5.6						
	0.5nm,0.7s						
MAW	Mawson	31.56	216	P	P	03 48 39.9	-0.1
	0.6nm,0.6s,baz=96,slow=9.2,SNR=2.0						
MAW				LR	LR	03 59 36.3	
	comp=Z,55nm,18.6s,baz=80,slow=33						
	0.6nm,0.6s						
FITZ	Fitzroy Crossi	32.42	18	LR	LR	04 00 38.6	
	comp=Z,84nm,21.2s,baz=190,slow=34						
VNDA	Vanda	32.96	163	P	P	03 48 52.4	+0.3
	0.5nm,0.7s,baz=297,slow=8.7,SNR=2.2						
	0.5nm,0.7s						
WRA	Warramunga Arr	33.12	33	P	P	03 48 55.3	+1.2
	0.8nm,0.7s,baz=200,slow=11,SNR=7.7						
	0.8nm,0.7s						
QSPA	South Pole Qui	40.54	180	LR	LR	04 05 54.8	
	comp=Z,93nm,18.0s,baz=318,slow=35						
SNAA	Sanae	51.54	201	P	P	03 51 23.8	+0.4
	2.1nm,0.7s,baz=145,slow=12,SNR=8.7						
SNAA				LR	LR	04 11 51.3	
	comp=Z,70nm,18.6s,baz=165,slow=34						
	2.1nm,0.7s						
H08S2	Diego Garcia H	55.20	304	T	T	04 51 39.1	
	baz=147,slow=76,SNR=4.7						
H08S1	Diego Carcia H	55.21	304	T	T	04 51 39.1	
	baz=147,slow=76,SNR=5.3						
H08S3	Diego Garcia H	55.22	304	T	T	04 51 40.6	
	baz=147,slow=76,SNR=5.5						
LBTB	Lobatse	71.43	253	LR	LR	04 20 03.5	
	comp=Z,37nm,18.0s,baz=176,slow=32						
BRDH	Bariadhala	75.05	337	LR	LR	04 24 17.7	
	comp=Z,76nm,19.9s,baz=229,slow=34						
AAK	Ala-Archa	98.68	331	LR	LR	04 38 20.5	
	comp=Z,35nm,19.6s,baz=86,slow=34						
TXAR	Lajitas Array	144.05	109	PKP	PKPdf	04 01 52.4	-1.2
	0.3nm,0.8s,baz=205,slow=3.1,SNR=3.5						
PDAR	Pinedale Array	148.34	85	PKPbc	PKPbc	04 02 04.2	+0.1
	0.5nm,0.6s,baz=248,slow=5.1,SNR=4.5						
YKA	Yellowknife Ar	149.94	45	PKPbc	PKPbc	04 02 06.4	-0.7
	2.5nm,1.0s,baz=340,slow=8.4,SNR=3.1						

*IDC **11** 03:45:45.1±1.5, 18°12N×64°26W, h132km±14km, mb3.4/12, mbtmp3.9/14, Error ellipse: s-maj=19.7km s-min=13.0km az=64.0*

*NEIC **11** 03:45:46.5±1.3, 18°1N±0°1×64°33W±0°05, h136km±5km, mb4.3/17, ML3.9/34, Md4.1/19(RSPR), Error ellipse: s-maj=15.1km s-min=6.3km az=196.0*

*RSPR **11** 03:45:46.5, 18°37N×64°34W, h129km±3km, MD4.1/19*

*OSPL **11** 03:45:47.0±1.8, 18°29N×64°16W, h115km±28km, ML4.1*

ISC 11 03:45:46.0±0.7, **18°20N**±0°05×**64°37W**±0°03, **h146**km±6km, **n169**, σ1**84**/189, **mb4.1**/20, **11C-7D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	Saba	1.21	118		Pn	03 46 11.8	-0.6
SABA				Sn	Sn	03 46 31.1	-1.3
SABA				IAML		03 46 36.5	
	comp=E,2μm,0.8s						
SABA				IAML		03 46 37.7	
	comp=N,2μm,0.5s						
SABA	Saba	1.21	118	⇓*i*P	Pn	03 46 11.8	-0.6
SABA	Saba	1.21	118	*e*S	Sn	03 46 30.9	-1.6
SMRT	St. Maarten	1.23	96		Pn	03 46 11.6	-1.0
SMRT				Sn	Sn	03 46 30.1	-2.7
SMRT	St. Maarten	1.23	96	⇓*i*P	Pn	03 46 11.6	-1.0
SMRT	St. Maarten	1.23	96	*e*S	Sn	03 46 29.8	-3.0
HUMP	Col San Antoni	1.41	268		Pn	03 46 14.6	+0.3
SEUS	St. Eustatius	1.49	118		Pn	03 46 14.3	-0.8
SEUS				IAML		03 46 36.0	
	comp=E,847nm,1.1s						
SEUS				IAML		03 47 05.4	
	comp=N,844nm,0.8s						
PDPR	Patillas Dam,	1.59	264		Pn	03 46 16.6	+0.5
PDPR				IAML		03 46 39.6	
	comp=E,1μm,0.7s						
PDPR				IAML		03 46 42.0	
	comp=N,1μm,0.3s						
PDPR	Patillas Dam,	1.59	264	⇑*i*P	Pn	03 46 16.7	+0.5
PDPR	Patillas Dam,	1.59	264	*e*S	Sn	03 46 38.8	-0.4
GCPR	Guaynabo City	1.64	274		Pn	03 46 16.5	-0.2
GCPR				IAML		03 46 41.0	
	comp=E,1μm,0.5s						
GCPR				IAML		03 46 43.5	
	comp=N,908nm,0.4s						
GCPR	Guaynabo City	1.64	274		Sn	03 46 38.9	-1.3
GCPR	Guaynabo City	1.64	274	⇑*e*P	Pn	03 46 16.5	-0.2
GCPR	Guaynabo City	1.64	274	*e*S	Sn	03 46 38.9	-1.3
IGPR	InterUniversit	1.67	262		Pn	03 46 17.6	+0.5
IGPR					Sn	03 46 40.5	-0.4
IGPR	InterUniversit	1.67	262	⇑*e*P	Pn	03 46 17.6	+0.5
IGPR	InterUniversit	1.67	262	*e*S	Sn	03 46 40.5	-0.4
SJG	San Juan	1.70	267		Pn	03 46 18.0	+0.6
SJG				IAML		03 46 41.8	
	comp=N,1μm,0.7s						
SJG	San Juan	1.70	267	P	Pn	03 46 18.0	+0.6
	comp=N,146nm,0.3s,baz=100,slow=9.2,SNR=155						
SJG				S	Sn	03 46 41.1	-0.3
	comp=N,821nm,0.5s,baz=315,slow=20,SNR=98						
SJG	San Juan	1.70	267	⇑*i*P	Pn	03 46 18.1	+0.6
SJG	San Juan	1.70	267	*e*S	Sn	03 46 41.5	0.0
SJG	San Juan	1.70	267	*e*P	Pn	03 46 18.1	+0.7
SJG	San Juan	1.70	267	*i* P	Pn	03 46 18.1	+0.7
SJG				*e*S	Sn	03 46 41.3	-0.1
SJG				IAML		03 46 43.6	
	comp=Z,679nm,0.3s						
SJG	San Juan	1.70	267	P	Pn	03 46 17.8	+0.4
SJG				S	Sn	03 46 41.1	-0.3
SKOC	St. Kitts, UWI	1.80	120	*e*P	Pn	03 46 16.7	-1.8
ECPR	Experimental S	1.90	274	⇑*i*P	Pn	03 46 19.8	+0.1
ECPR	Experimental S	1.90	274	*e*S	Sn	03 46 45.1	-0.5
EMPR	Esperanza - Ma	2.08	278	Pn	Pn	03 46 21.9	+0.2
EMPR	Esperanza - Ma	2.08	278		Sn	03 46 48.9	-0.3
EMPR	Esperanza - Ma	2.08	278	⇑*e*P	Pn	03 46 21.9	+0.2
EMPR	Esperanza - Ma	2.08	278	*e*S	Sn	03 46 48.9	-0.3
CELP	Cerrillos	2.11	267		Pn	03 46 22.6	+0.4
CELP				IAML		03 46 52.5	
	comp=N,509nm,0.4s						
CELP	Cerrillos	2.11	267		Sn	03 46 49.4	-0.5
CELP	Cerrillos	2.11	267	⇑*i*P	Pn	03 46 22.6	+0.4
CELP	Cerrillos	2.11	267	*e*S	Sn	03 46 49.4	-0.5
OBIP	Obispado Ponce	2.14	266		Pn	03 46 23.0	+0.6
OBIP				IAML		03 46 51.6	
	comp=E,495nm,0.5s						
OBIP				IAML		03 46 53.1	
	comp=N,632nm,0.3s						
OBIP	Obispado Ponce	2.14	266		Sn	03 46 50.1	-0.4
OBIP	Obispado Ponce	2.14	266	⇑*i*P	Pn	03 46 23.1	+0.6
OBIP	Obispado Ponce	2.14	266	*e*S	Sn	03 46 50.1	-0.4
UUPR	Utuado, UPR, P	2.24	272		Pn	03 46 24.0	+0.3
UUPR	Utuado, UPR, P	2.24	272		Sn	03 46 51.6	-1.1
UUPR	Utuado, UPR, P	2.24	272	⇑*e*P	Pn	03 46 24.0	+0.3
UUPR	Utuado, UPR, P	2.24	272	*e*S	Sn	03 46 51.6	-1.1
AOPR	Arecibo Observ	2.27	274		Pn	03 46 24.1	0.0
AOPR	Arecibo Observ	2.27	274		Sn	03 46 52.7	-0.8
AOPR	Arecibo Observ	2.27	274	⇓*e*P	Pn	03 46 24.2	0.0
AOPR	Arecibo Observ	2.27	274	*e*P	Pn	03 46 23.9	-0.3
AOPR				*e*S	Sn	03 46 52.4	-1.2
GBPR	Guanica, Bosqu	2.40	265		Pn	03 46 26.0	+0.3
GBPR	Guanica, Bosqu	2.40	265	⇑*i*P	Pn	03 46 26.0	+0.3
MBFL	Flemmings, Mon	2.51	125	*e*P	Pn	03 46 26.6	-0.4
ANWB	Willy Bob	2.51	102		Pn	03 46 25.1	-2.0
ANWB	Willy Bob	2.51	102	*e*P	Pn	03 46 25.2	-1.8
ANWB				*e*S	Sn	03 46 54.1	-4.6
ANWB	Willy Bob	2.51	102	P	Pn	03 46 25.0	-2.0
ANWB				S	Sn	03 46 54.0	-4.6
MLYT	Lee's Yard	2.54	125	*e*P	Pn	03 46 26.8	-0.6
MLPR	Magueyes Islan	2.56	265	⇑*e*P	Pn	03 46 27.6	0.0
MLPR	Magueyes Islan	2.56	265	*e*S	Sn	03 46 58.3	-1.4
LSP	Las Mesas	2.59	270		Pn	03 46 28.4	+0.4
LSP					Sn	03 47 00.7	+0.3
LSP	Las Mesas	2.59	270	⇑*e*P	Pn	03 46 28.4	+0.4
LSP	Las Mesas	2.59	270	*e*S	Sn	03 47 00.7	+0.3
CRPR	Cabo Rojo, PR	2.62	266		Pn	03 46 28.4	0.0
CRPR				IAML		03 47 06.4	
	comp=N,377nm,0.8s						
CRPR				IAML		03 47 07.4	
	comp=E,359nm,0.6s						
CRPR	Cabo Rojo, PR	2.62	266		Sn	03 47 00.1	-0.9
CRPR	Cabo Rojo, PR	2.62	266	⇑*e*P	Pn	03 46 28.4	0.0
CRPR	Cabo Rojo, PR	2.62	266	*e*S	Sn	03 47 00.1	-0.9
CRPR	Cabo Rojo, PR	2.62	266	*i* P	Pn	03 46 28.3	0.0
CRPR				*e*S	Sn	03 46 59.9	-1.1
CRPR				IAML		03 47 06.0	
	comp=Z,376nm,0.4s						
AGPR	Aguadilla, PR	2.62	276		Pn	03 46 28.2	-0.3
AGPR					Sn	03 46 59.7	-1.5
AGPR	Aguadilla, PR	2.62	276	⇑*e*P	Pn	03 46 28.2	-0.3
AGPR	Aguadilla, PR	2.62	276	*i* P	Pn	03 46 28.3	-0.1
AGPR				*e*S	Sn	03 46 59.6	-1.5
AGPR				IAML		03 47 00.7	
	comp=Z,526nm,0.5s						
PRSN	Puerto Rico Se	2.64	271		Pn	03 46 28.9	+0.3
PRSN	Puerto Rico Se	2.64	271		Sn	03 47 01.2	-0.3
PRSN	Puerto Rico Se	2.64	271	⇓*e*P	Pn	03 46 29.0	+0.3
PRSN	Puerto Rico Se	2.64	271	*e*S	Sn	03 47 01.2	-0.3
IDE	Isla Desecheo	2.96	274		Pn	03 46 32.9	+0.2
IDE					Sn	03 47 04.7	-4.1
IDE	Isla Desecheo	2.96	274	⇑*i*P	Pn	03 46 32.9	+0.2
IDE	Isla Desecheo	2.96	274	*e*S	Sn	03 47 04.7	-4.1
DHSZ	Broadband at M	3.13	127	*e*P	Pn	03 46 33.3	-1.6
GDHS	Morne Mazeau,	3.13	127		Pn	03 46 33.8	-1.2
ABD	La Joyeuse, An	3.24	121	⇑*e*P	Pn	03 46 35.2	-1.1
ABD	La Joyeuse, An	3.24	121	*e*S	Sn	03 47 12.2	-2.9
ATGZ	Broadband at L	3.27	129	*e*P	Pn	03 46 36.1	-0.6
MMLZ	Guadeloupe Bro	3.35	129	*e*P	Pn	03 46 36.1	-1.6
CBE	Ff, Capester	3.38	128		Pn	03 46 37.6	-0.6
CBE	Ff, Capester	3.38	128		Sn	03 47 18.2	-0.2
CBE	Ff, Capester	3.38	128	⇓*e*P	Pn	03 46 37.5	-0.6
CBE	Ff, Capester	3.38	128	*e*S	Sn	03 47 18.2	-0.2
TBG	Guadaloupe-3	3.49	131	*e*P	Pn	03 46 39.9	-1.9
DSDZ	La Diserade, G	3.67	120	*e*P	Pn	03 46 39.9	-1.9
GDSD	La Dsirade Is	3.67	120	Pn	Pn	03 46 40.0	-1.8
GDSD				IAML		03 47 23.9	
	comp=N,157nm,0.5s						
MAGL	Barre de l'ile	3.70	127	Pn	Pn	03 46 41.5	-0.8
MAGL				IAML		03 47 25.5	
	comp=E,224nm,0.7s						
MAGL				IAML		03 47 27.9	
	comp=N,191nm,0.3s						
DSLB	Salisbury	3.93	134	*e*P	Pn	03 46 44.7	-0.6
HIDR	Higuey Centro	4.15	276	⇓*e*P	Pn	03 46 47.8	-0.4
HIDR	Higuey Centro	4.15	276	*e*S	Sn	03 47 32.1	-4.3
MIDR	Miches	4.51	281	⇑*e*P	Pn	03 46 52.4	-0.5
MIDR	Miches	4.51	281	*e*S	Sn	03 47 40.8	-4.2
SMDR	Samana, DR	4.70	284	⇓*e*P	Pn	03 46 54.9	-0.4
SMDR	Samana, DR	4.70	284	*e*S	Sn	03 47 41.7	-7.7
DR12	Loma Pena Alta	4.80	278		Pn	03 46 56.7	0.0
BIM	Bigot	4.83	139	Pn	Pn	03 46 56.8	-0.5
BIM				IAML		03 48 17.9	
	comp=E,

comp=Z,14nm,1.3s
152A Waverly Hall 23.30 312 P **P 03 50 43.4 +2.5**
152A IAmb IAmb 03 50 43.9
comp=Z,9.2nm,0.6s
PLAL Pickwick Lake 26.90 313 P **P 03 51 15.3 +2.0**
PLAL IAmb IAmb 03 51 50.9
comp=Z,7.8nm,1.2s
P40A Paris 32.03 317 P **P 03 52 00.0 +1.3**
P40A IAmb IAmb 03 52 04.0
comp=Z,12nm,1.4s
LPAZ La Paz 34.47 186 P **P 03 52 20.0 -0.7**
LPAZ IAmb IAmb 03 52 24.2
comp=Z,3.0nm,0.9s
LPAZ La Paz 34.47 186 P **P 03 52 19.9 -0.7**
comp=Z,2.1nm,0.7s,baz=93,slow=2.5,SNR=9.0
comp=Z,2.1nm,0.7s
SCHQ Schefferville 36.62 358 P **P 03 52 39.3 +1.3**
comp=Z,40nm,0.7s,baz=170,slow=7.9,SNR=5.5
PB16 IPOC Station P 36.65 188 P **P 03 52 37.2 -2.1**
PB16 IAmb IAmb 03 52 39.0
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 37.48 295 P **P 03 52 48.0 +2.2**
TXAR Lajitas Array 37.48 295 P **P 03 52 48.0 +2.2**
comp=Z,0.4nm,0.8s,baz=93,slow=8.6,SNR=6.9
comp=Z,0.4nm,0.8s
TX31 Lajitas Ar. Si 37.48 295 P **P 03 52 47.7 +2.0**
PB11 IPOC Station P 38.08 188 P **P 03 52 48.2 -2.6**
PB02 IPOC Station P 39.64 188 IAmb IAmb 03 53 04.1
comp=Z,5.9nm,0.6s
ANMO Albuquerque 40.85 303 P **P 03 53 16.0 +2.2**
CPUP Villa Florida 44.78 171 P **P 03 53 43.4 -1.8**
comp=Z,0.6nm,0.7s,baz=199,slow=3.9,SNR=5.9
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 45.31 313 P **P 03 53 51.0 +1.5**
comp=Z,0.6nm,0.4s,baz=119,slow=8.6,SNR=4.1
comp=Z,0.6nm,0.4s
NVAR Mina Array Bea 50.83 305 P **P 03 54 34.1 +2.1**
comp=Z,0.4nm,0.6s,baz=90,slow=7.6,SNR=4.0
comp=Z,0.4nm,0.6s
MT13 San Alfonso 51.96 186 P **P 03 54 40.4 +0.2**
MT09 Talagante 52.06 187 P **P 03 54 40.1 -0.9**
MT09 IAmb IAmb 03 54 42.4
comp=Z,8.0nm,1.1s
YKA Yellowknife Ar 56.14 335 P **P 03 55 10.1 +0.1**
comp=Z,2.3nm,1.0s,baz=134,slow=11,SNR=5.3
comp=Z,2.3nm,1.0s
PLCA Paso Flores 58.91 185 P **P 03 55 30.9 +1.2**
comp=Z,0.9nm,0.7s,baz=27,slow=6.3,SNR=4.2
comp=Z,0.9nm,0.7s
DBIC Dimbokro 59.01 93 P **P 03 55 30.6 -0.2**
comp=Z,2.0nm,0.5s,baz=314,slow=8.2,SNR=6.2
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 63.52 84 P **P 03 56 01.4 +0.1**
comp=Z,0.3nm,0.6s,baz=293,slow=5.5,SNR=4.8
comp=Z,0.3nm,0.6s
ILAR Eielson Array 70.52 333 P **P 03 56 45.0 +0.4**
comp=Z,0.5nm,0.6s,baz=96,slow=3.4,SNR=4.2
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 73.06 22 P **P 03 57 00.3 +0.5**
comp=Z,1.4nm,0.9s,baz=291,slow=3.5,SNR=3.6
comp=Z,1.4nm,0.9s
FINES FINESS Array B 74.42 30 P **P 03 57 08.9 +1.2**
comp=Z,1.1nm,0.7s,baz=264,slow=3.8,SNR=3.6
comp=Z,1.1nm,0.7s

SSNC 11 04:26:50.0±0.6, 19°.79N×75°.17W, h20km±4km, ML1.2, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTBY	**Guantanamo Bay**	**0.15**	**21**	*e*P	Pb	04 26 54.3	-0.3
GTBY				*e*S	Sb	04 26 57.1	-0.5
GTBY				IAML		04 26 57.4	
	7.4nm,0.1s						
GTBY				IAML		04 26 57.4	
	comp=Z,6.6nm,0.1s						
GTBY	**Guantanamo Bay**	**0.15**	**21**	*i* P	Pb	04 26 54.3	-0.2
GTBY				*i* S	Sb	04 26 57.2	-0.4
GTBY				IAML		04 27 08.7	
	comp=Z,40nm,1.0s						
QMBU	**Quimbuelo**	**0.53**	**39**	*e*P	Pb	04 26 59.5	-1.2
QMBU				*e*S	Sb	04 27 06.4	-1.5
QMBU				IAML		04 27 09.6	
	comp=N,4.6nm,0.8s						
QMBU				IAML		04 27 13.5	
	comp=E,4.2nm,0.6s						
QMBU	**Quimbuelo**	**0.53**	**39**	*i* P	Pb	04 26 59.7	-1.0
QMBU				*i* S	Sb	04 27 06.3	-1.6
QMBU				IAML		04 27 09.4	
	comp=Z,18nm,1.0s						
RCC	**Rio Carpintero**	**0.54**	**293**	*e*P	Pb	04 26 59.6	-1.2
RCC				*e*S	Sb	04 27 06.5	-1.7
RCC				IAML		04 27 06.7	
	comp=N,4.4nm,0.1s						
RCC				IAML		04 27 06.8	
	comp=E,1.2nm,0.1s						
RCC	**Rio Carpintero**	**0.54**	**293**	*i* P	Pb	04 26 59.7	-1.1
RCC				*i* S	Sb	04 27 06.5	-1.6
RCC				IAML		04 27 24.0	
	comp=Z,19nm,1.0s						
PINC	**Pinares de May**	**0.91**	**320**	*e*P	Pb	04 27 05.1	-2.0
PINC				*e*S	Sb	04 27 16.8	-2.0
PINC				IAML		04 27 18.7	
	comp=N,1.6nm,0.1s						
PINC				IAML		04 27 19.2	
	comp=E,1.8nm,0.1s						
PINC	**Pinares de May**	**0.91**	**320**	*i* P	Pb	04 27 05.2	-1.9
PINC				*i* S	Sb	04 27 16.7	-2.1
PINC				IAML		04 27 47.2	
	comp=Z,8.8nm,1.0s						

IDC 11 04:38:26.5±2.2, 7°.48S×129°.85E, h0km, mb3.4/1, mbtmp3.6/5, ML3.6/4, MS3.0/3, Error ellipse: s-maj=49.6km s-min=25.0km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.33**	**283**	Pn	Pn	04 40 56.8	+0.7
	0.6nm,0.3s,baz=78,slow=9.5,SNR=1.7						
KAPI				LR	LR	04 45 06.2	
	comp=Z,24nm,19.5s,baz=64,slow=39						
	1.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.32**	**201**	Pn	Pn	04 41 10.3	+0.5
	0.2nm,0.3s,baz=11,slow=7.9,SNR=7.3						
FITZ				Sn	Sn	04 43 15.8	-1.3
	0.8nm,0.3s,baz=194,slow=16,SNR=9.7						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**13.14**	**161**	Pn	Pn	04 41 34.6	+0.1
	0.4nm,0.3s,baz=340,slow=14,SNR=11						
WRA				Sn	Sn	04 44 02.7	+1.2
	0.3nm,0.3s,baz=326,slow=23,SNR=4.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**16.56**	**167**	Pn	Pn	04 42 20.9	+0.5
	0.2nm,0.3s,baz=347,slow=11,SNR=6.1						
	0.7nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.90**	**203**	LR	LR	04 55 36.5	
	comp=Z,62nm,20.7s,baz=121,slow=37						
HNR	**Honiara**	**29.83**	**96**	LR	LR	04 56 00.0	
	comp=Z,46nm,18.4s,baz=352,slow=35						
MKAR	**Makanchi Array**	**68.54**	**327**	P	P	04 49 30.8	-0.3
	0.1nm,0.4s,baz=118,slow=5.5,SNR=2.0						
	0.1nm,0.4s						

SJA 11 04:39:09.2±0.7, 29°.22S×71°.72W, h19km±2km, ML3.9, MW4.0
GUC 11 04:39:11.2±0.8, 29°.22S×71°.70W, h38km±2km, ML4.0
IDC 11 04:39:17.4±3.5, 29°.18S×71°.56W, h74km±29km, mb3.5/7, mbtmp3.7/10, MS3.4/1, Error ellipse: s-maj=33.2km s-min=16.4km az=80.0
ISC 11 04:39:12.6±1.3, 29°.20S±0°.02×71°.80W±0°.05, h34km±3km, n83, σ1.9 67/111, mb3.7/6, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.87**	**146**	*e*P	**Pn**	**04 39 26.5**	**-1.8**
CO05				*e*S	**Sn**	**04 39 37.0**	**-2.8**
CO05				IAML		04 39 38.1	
	comp=E,7μm,0.5s						
LCO	**Las Campanas**	**0.98**	**79**	*e*P	**Pn**	**04 39 27.8**	**-2.5**
LCO				*e*S	**Sn**	**04 39 39.9**	**-3.2**
LCO	**Las Campanas**	**0.98**	**79**	*e*P	**Pn**	**04 39 28.2**	**-2.1**
LCO				*e*S	**Sn**	**04 39 40.2**	**-2.9**
LCO				IAML		04 39 41.0	
	comp=Z,15μm,0.5s						
AC04	**Llanos de Chal**	**1.18**	**33**	⇑*e*P	**Pn**	**04 39 31.6**	**-1.2**
AC04				*e*S	**Sn**	**04 39 46.5**	**-1.2**
AC04				IAML		04 39 51.5	
	comp=N,8μm,0.1s						
AC04	**Llanos de Chal**	**1.18**	**33**	*e*P	**Pn**	**04 39 31.5**	**-1.2**
AC04				*e*S	**Sn**	**04 39 45.5**	**-2.2**
AC04				IAML		04 39 52.4	
	comp=Z,1μm,0.5s						
GO04	**Tololo Observa**	**1.30**	**138**	*e*P	**Pn**	**04 39 33.5**	**-1.1**
GO04				*e*S	**Sn**	**04 39 49.5**	**-1.5**
GO04	**Tololo Observa**	**1.30**	**138**	*e*P	**Pn**	**04 39 32.9**	**-1.7**
GO04				IAML		04 39 51.3	
	comp=Z,5μm,0.8s						
CO06	**Fray Jorge**	**1.47**	**174**	⇑*e*P	**Pn**	**04 39 35.9**	**-0.8**
CO06				*e*S	**Sn**	**04 39 54.7**	**-0.1**
CO01	**Juntas del Tor**	**1.68**	**118**	⇓*e*P	**Pn**	**04 39 39.5**	**-0.3**
CO01				*e*S	**Sn**	**04 39 59.8**	**-0.5**
CO01	**Juntas del Tor**	**1.68**	**118**	*e*P	**Pn**	**04 39 39.4**	**-0.4**
CO01				*e*S	**Sn**	**04 40 00.1**	**-0.2**
CO01				IAML		04 40 00.1	
	comp=Z,1μm,0.3s						
CO03	**El Pedregal**	**1.90**	**150**	⇑*e*P	**Pn**	**04 39 41.9**	**-0.7**
CO03				*e*S	**Sn**	**04 40 05.7**	**+0.3**
CO03				IAML		04 40 07.5	
	comp=E,1μm,0.4s						
CO03	**El Pedregal**	**1.90**	**150**	*e*P	**Pn**	**04 39 42.0**	**-0.7**
CO03				*e*S	**Sn**	**04 40 06.7**	**+1.3**
CO03				IAML		04 40 16.6	
	comp=Z,696nm,0.6s						
CO02	**Combarbal**	**2.11**	**161**	⇑*e*P	**Pn**	**04 39 45.4**	**-0.3**
CO02				*e*S	**Sn**	**04 40 10.7**	**0.0**
CO02				IAML		04 40 14.8	
	comp=N,2μm,0.3s						
CO02	**Combarbal**	**2.11**	**161**	*e*P	**Pn**	**04 39 44.8**	**-0.8**
CO02				*e*S	**Sn**	**04 40 10.9**	**+0.2**
CO02				IAML		04 40 26.6	
	comp=Z,850nm,0.9s						
GO03	**Copiapo**	**2.12**	**41**	*e*P	**Pn**	**04 39 44.9**	**-0.7**
GO03				*e*S	**Sn**	**04 40 11.7**	**+0.9**
GO03				IAML		04 40 20.7	
	comp=N,1μm,0.5s						
GO03	**Copiapo**	**2.12**	**41**	*e*P	**Pn**	**04 39 45.6**	**-0.1**
GO03				*e*S	**Sb**	**04 40 15.9**	**-0.4**
GO03				IAML		04 40 19.2	
	comp=Z,926nm,0.4s						
AC06	**Mina Casimiro**	**2.24**	**35**	*e*P	**Pn**	**04 39 47.1**	**-0.2**
AC06				*e*S	**Sn**	**04 40 14.1**	**+0.3**
AC06				IAML		04 40 24.3	
	comp=E,862nm,0.3s						
AROD	**Rodeo**	**2.24**	**116**	*e*P	**Pn**	**04 39 48.8**	**+1.2**
AROD				*e*S	**Sn**	**04 40 12.4**	**-1.9**
ACDV	**Cuesta del Vie**	**2.53**	**113**	*e*P	**Pn**	**04 39 53.1**	**+1.8**
ACDV				*e*S	**Sn**	**04 40 23.6**	**+2.5**
ACDV				IAML		04 40 33.8	
	comp=Z,416nm,0.5s						
ACCO	**Cerro Coronel**	**2.75**	**121**	*e*P	**Pn**	**04 39 56.6**	**+2.1**
ACCO				*e*S	**Sn**	**04 40 29.2**	**+2.5**
AGUA	**GUANDACOL**	**2.91**	**96**	*e*P	**Pn**	**04 39 59.2**	**+2.7**
AGUA				*e*S	**Sn**	**04 40 30.8**	**+0.5**
AGUA				IAML		04 40 46.4	
	comp=Z,385nm,0.6s						
CO04	**Los Peladeros**	**2.92**	**166**	⇑*e*P	**Pn**	**04 39 57.2**	**+0.3**
CO04				*e*S	**Sn**	**04 40 30.8**	**-0.1**
CO04				IAML		04 40 44.2	
	comp=N,562nm,0.6s						
VCA	**Vinchina**	**3.19**	**82**	*e*P	**Pn**	**04 40 03.7**	**+3.2**
VCA	**Vinchina**	**3.19**	**82**	*e*P	**Pn**	**04 39 59.2**	**-1.2**
VCA				*e*S	**Sn**	**04 40 38.5**	**+1.1**
VCA				IAML		04 40 53.9	
	comp=Z,322nm,0.3s						
AC01	**Pan de Azucar**	**3.23**	**20**	*e*P	**Pn**	**04 39 59.1**	**-1.8**
AC01				IAML		04 40 54.1	
	comp=E,276nm,0.6s						
AC01	**Pan de Azucar**	**3.23**	**20**	*e*P	**Pn**	**04 39 59.4**	**-1.5**
AC01				*e*S	**Sb**	**04 40 52.9**	**+4.8**
AC01				IAML		04 40 54.7	
	comp=Z,284nm,0.5s						
AC02	**Maricunga**	**3.34**	**46**	*e*P	**Pn**	**04 40 03.0**	**+0.2**
AC02	**Maricunga**	**3.34**	**46**	*e*P	**Pn**	**04 40 03.1**	**+0.3**
AC02				*e*S	**Sn**	**04 40 41.9**	**+0.3**
AC02				IAML		04 41 00.3	
	comp=Z,310nm,0.7s						
RTLS	**Leoncito**	**3.37**	**141**	*e*P	**Pn**	**04 40 05.6**	**+2.5**
RTLS				*e*S	**Sn**	**04 40 45.8**	**+3.7**
RTLS				IAML		04 41 00.2	
	comp=Z,684nm,0.8s						
VA06	**Catapilco**	**3.38**	**173**	*e*P	**Pn**	**04 40 02.5**	**-0.4**
VA06				*e*S	**Sn**	**04 40 41.0**	**-0.7**
VA06				IAML		04 41 04.3	
	comp=E,476nm,0.4s						
VA03	**San Esteban**	**3.71**	**163**	*e*P	**Pn**	**04 40 08.2**	**+0.7**
VA03	**San Esteban**	**3.71**	**163**	*e*P	**Pn**	**04 40 08.4**	**+0.9**
VA03				*e*S	**Sn**	**04 40 50.0**	**-0.1**
VA03				IAML		04 41 15.4	
	comp=Z,271nm,0.7s						
VA01	**Torpederas**	**3.81**	**178**	*e*P	**Pn**	**04 40 07.7**	**-1.2**
ROCH	**El Roble**	**3.82**	**170**	⇑*e*P	**Pn**	**04 40 09.0**	**-0.2**
ROCH				⇑*e*P	**Pn**	**04 40 09.0**	**-0.2**
CFA	**Coronel Fontan**	**3.90**	**129**	P	**Pn**	**04 40 11.1**	**+0.9**
	comp=Z,7.0nm,0.3s,baz=317,slow=13,SNR=27						
CFA				S	**Sn**	**04 40 57.8**	**+3.0**
	comp=Z,28nm,0.5s,baz=233,slow=7.6,SNR=4.0						
CFA	**Coronel Fontan**	**3.90**	**129**	*e*S	**Sb**	**04 41 02.2**	**-5.3**
AVFE	**Valle Fertil**	**4.04**	**112**	*e*P	**Pn**	**04 40 13.3**	**+1.1**
AVFE				*e*S	**Sn**	**04 40 56.9**	**-1.5**
AVFE				IAML		04 41 16.5	
	comp=Z,288nm,0.4s						
MT02	**Curacav**	**4.08**	**172**	⇓*e*P	**Pn**	**04 40 11.9**	**-0.7**
MT02	**Curacav**	**4.08**	**172**	*e*P	**Pn**	**04 40 12.0**	**-0.6**
MT02				*e*S	**Sn**	**04 41 03.5**	**+4.3**
MT02				IAML		04 41 19.3	
	comp=Z,62nm,0.8s						
MT10	**Hacienda Santa**	**4.20**	**165**	*e*P	**Pn**	**04 40 14.8**	**+0.4**
ACLC	**CERRO LA CRUZ**	**4.24**	**94**	*e*P	**Pn**	**04 40 16.1**	**+1.2**
ACLC				*e*S	**Sb**	**04 41 18.5**	**+1.1**
ACLC				IAML		04 41 31.1	
	comp=Z,58nm,0.5s						
MT05	**Renca**	**4.27**	**168**	⇓*e*P	**Pn**	**04 40 15.5**	**+0.2**
MT05	**Renca**	**4.27**	**168**	*e*P	**Pn**	**04 40 15.9**	**+0.7**
MT05				*e*S	**Sn**	**04 41 06.0**	**+2.0**
MT05				IAML		04 41 39.6	
	comp=Z,115nm,1.6s						
FCH	**Farellones**	**4.31**	**163**	*e*P	**Pn**	**04 40 17.4**	**+1.3**
MT14	**Cerro Calı¡n**	**4.32**	**166**	*e*P	**Pn**	**04 40 14.4**	**-1.5**
MT16	**CCHEN**	**4.35**	**166**	*e*P	**Pn**	**04 40 16.6**	**+0.2**
MT03	**Universidad Ad**	**4.42**	**166**	*e*P	**Pn**	**04 40 18.1**	**+0.8**
MT03	**Universidad Ad**	**4.42**	**166**	*e*P	**Pn**	**04 40 18.4**	**+1.0**
MT03				*e*S	**Sn**	**04 41 09.4**	**+1.8**
MT03				IAML		04 41 30.0	
	comp=Z,125nm,0.9s						
MT04	**Ro Olivares**	**4.42**	**162**	⇑*e*P	**Pn**	**04 40 19.3**	**+1.8**
MT04	**Ro Olivares**	**4.42**	**162**	*e*P	**Pn**	**04 40 14.6**	**-3.0**
MT04				*e*S	**Sn**	**04 41 10.4**	**+2.4**
MT04				IAML		04 41 39.4	
	comp=Z,64nm,0.8s						
GO02	**Mina Guanaco**	**4.48**	**27**	*e*P	**Pn**	**04 40 17.6**	**-0.8**
GO02	**Mina Guanaco**	**4.48**	**27**	*e*S	**Sb**	**04 41 24.1**	**-0.3**
GO02				IAML		04 41 47.7	
	comp=Z,160nm,0.8s						
MT08	**Bocatoma Ro**	**4.50**	**161**	*e*P	**Pn**	**04 40 21.9**	**+3.3**
MT08				*e*S	**Sb**	**04 41 22.1**	**-2.6**
MT08				IAML		04 41 44.4	
	comp=Z,63nm,0.7s						
MT15	**Las Vizcachas**	**4.52**	**166**	⇓*e*P	**Pn**	**04 40 18.1**	**-0.6**
MT09	**Talagante**	**4.61**	**172**	⇑*e*P	**Pn**	**04 40 19.8**	**-0.2**
MT01	**Popeta**	**4.67**	**174**	*e*P	**Pn**	**04 40 20.0**	**-0.7**
MT13	**San Alfonso**	**4.71**	**164**	*e*P	**Pn**	**04 40 22.5**	**+1.1**
LMEL	**Las Melosas**	**4.83**	**164**	*e*P	**Pn**	**04 40 24.0**	**+1.0**
LMEL	**Las Melosas**	**4.83**	**164**	*e*S	**Sn**	**04 41 20.1**	**+2.3**
LMEL				IAML		04 41 47.4	
	comp=Z,58nm,0.6s						
BO04	**La Punta**	**4.88**	**168**	⇑*e*P	**Pn**	**04 40 23.3**	**-0.3**
BO01	**Tunca**	**5.21**	**173**	IAML		04 41 51.1	
	comp=Z,29nm,0.5s						
CYA	**Choya**	**5.32**	**83**	⇑*e*P	**Pn**	**04 40 30.6**	**+0.9**
H03N1	**Juan Fernandez**	**7.40**	**233**	T	T	04 48 56.0	
	baz=61,slow=71,SNR=602						
H03N2	**Juan Fernandez**	**7.42**	**234**	T	T	04 48 55.4	
	baz=61,slow=71,SNR=785						
H03N3	**Juan Fernandez**	**7.42**	**233**	T	T	04 48 45.3	
	baz=61,slow=71,SNR=640						
PLCA	**Paso Flores**	**11.55**	**175**	P	**Pn**	**04 41 53.6**	**-1.5**
	comp=Z,9.0nm,0.9s,baz=333,slow=5.5,SNR=5.8						
LPAZ	**La Paz**	**13.29**	**16**	P	**Pn**	**04 42 21.1**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=348,slow=4.6,SNR=2.5						
SIV	**San Ignacio**	**16.45**	**39**	P	**P**	**04 43 02.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=192,slow=6.6,SNR=4.4						
BDFB	**Brasilia**	**25.73**	**64**	P	**P**	**04 44 39.0**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=253,slow=14,SNR=3.1						
	comp=Z,0.7nm,0.4s						
MDP	**Montagnes des**	**38.76**	**31**	LR	LR	05 04 20.9	
	comp=Z,50nm,18.4s,baz=138,slow=39						
SNAA	**Sanae**	**55.96**	**159**	P	**P**	**04 48 47.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=291,slow=6.2,SNR=28						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**61.02**	**180**	P	**P**	**04 49 22.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=164,slow=3.8,SNR=6.4						
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**65.68**	**330**	P	**P**	**04 49 55.2**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=142,slow=6.3,SNR=4.0						
	comp=Z,0.3nm,0.7s						
MAW	**Mawson**	**77.71**	**164**	P	**P**	**04 51 05.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=243,slow=6.8,SNR=2.0						
	comp=Z,1.1nm,0.9s						
PDAR	**Pinedale Array**	**79.59**	**333**	P	**P**	**04 51 18.2**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=110,slow=3.3,SNR=2.3						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**82.40**	**70**	P	**P**	**04 51 30.1**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=272,slow=3.6,SNR=5.5						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**125.01**	**210**	PKP	**PKPdf**	**04 58 09.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=164,slow=1.9,SNR=5.4						
H11S2	**WAKE ISLAND Hyl**	**25.90**	**272**	T	T	07 17 04.5	
	baz=115						
H11S1	**WAKE ISLAND Hyl**	**25.92**	**272**	T	T	07 17 00.3	
	baz=115						
H11S3	**WAKE ISLAND Hyl**	**25.92**	**272**	T	T	07 17 06.6	
	baz=115						
KURBB	**Kurchatov Arra**	**149.10**	**38**	PKPbc	**PKPbc**	**04 58 55.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=298,slow=2.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**149.99**	**28**	PKPbc	**PKPbc**	**04 58 59.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=336,slow=3.3,SNR=7.0						
MKAR	**Makanchi Array**	**153.26**	**42**	PKPbc	**PKPbc**	**04 59 06.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=360,slow=1.6,SNR=3.9						

TIR 11 05:26:58.0, 41°.79N×20°.37E, h9km, Md3.0/7, Ml3.2/6
SKO 11 05:27:05.0, 41°.50N×20°.42E, h13km, ML2.8
BEO 11 05:27:06.0±0.6, 41°.44N×20°.48E, h0km, ML2.6/6
PDG 11 05:27:06.8±0.2, 41°.46N×20°.27E, h2km±11km, ML3.0/9, Error ellipse: s-maj=1.0km s-min=1.4km az=0.0
THE 11 05:27:08.3, 41°.7N±3°.2×1E±°, h0km±6km, M2.5/8, MLh2.5/8
ISC 11 05:27:05.7±1.0, 41°.37N±0°.02×20°.27E±0°.02, h14km±8km, n61, σ1.9 40/95, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**267**	Pg	**Pg**	**05 27 09.8**	**-2.2**
TIR				Sg	**Sb**	**05 27 17.7**	**0.0**
TIR				AML	AML	05 27 22.5	
	5.3nm,0.4s						
TIR				AMd		05 27 59.6	
TIR	**Tirane**	**0.30**	**267**	⇑*i*Pg	**Pn**	**05 27 14.1**	**-1.6**
TIR				*i* Sg	**Sn**	**05 27 21.4**	**-0.6**
OHR	**Ohrid**	**0.47**	**122**	⇑*i*Pg	**Pg**	**05 27 14.6**	**-0.5**
OHR				*i* Sg	**Sb**	**05 27 22.5**	**-0.1**
OHR				*e*Lg	Lg	05 27 23.5	
	comp=N,760nm,0.4s						
OHR				*e*Lg	Lg	05 27 27.0	
	comp=E,471nm,0.5s						
KBN	**Korca**	**0.84**	**152**	P	**Pn**	**05 27 22.4**	**-0.7**
KBN				S	**Sn**	**05 27 33.5**	**-1.7**
KBN	**Korca**	**0.84**	**152**	Pg	**Pb**	**05 27 20.7**	**-1.3**
KBN				Sg	**Sn**	**05 27 35.5**	**+0.3**
KBN				AML	AML	05 27 40.8	
	comp=E,1.8nm,0.7s						
KBN				AMd		05 28 18.0	
ULC	**Ulcinj**	**0.97**	**308**	*e*Pg	**Pb**	**05 27 23.6**	**-0.7**
ULC				*e*Sg	**Sn**	**05 27 39.7**	**+1.2**
SKO	**Skopje**	**1.07**	**55**	*i* Pg	**Pn**	**05 27 22.4**	**-3.7**
SKO				*i* Sg	**Sb**	**05 27 36.4**	**-3.3**
VLO	**Vlora**	**1.07**	**213**	P	Pg	05 27 31.7	+5.3
VLO				S	Sn	05 27 50.3	+9.5
NEST	**Nestorio**	**1.12**	**148**	P	**Pg**	**05 27 27.2**	**0.0**
NEST				S	**Sg**	**05 27 42.3**	**+0.5**
NEST	**Nestorio**	**1.12**	**148**	Pg	**Pb**	**05 27 25.9**	**-0.9**
NEST				Sg	**Sg**	**05 27 42.8**	**+1.0**
NEST				AML	AML	05 27 49.6	
	comp=E,1.0nm,0.5s						
NEST				AMd		05 28 38.9	
DRME	**Dracevica, Mon**	**1.15**	**316**	⇓*i*Pg	**Pn**	**05 27 26.8**	**-0.6**
DRME				*i* Sg	**Sg**	**05 27 44.0**	**+1.0**
PDG	**Podgorica**	**1.31**	**325**	⇑P	**Pb**	**05 27 29.7**	**-0.3**
PDG				⇑S	**Sg**	**05 27 49.5**	**+1.7**
PDG	**Podgorica**	**1.31**	**325**	*e*Pg	**Pn**	**05 27 28.8**	**-0.6**
PDG				*e*Sg	**Sg**	**05 27 49.2**	**+1.5**
PDG	**Podgorica**	**1.31**	**325**	⇑*i*Pg	**Pn**	**05 27 29.2**	**-0.2**
PDG				*e*Sg	**Sg**	**05 27 49.3**	**+1.5**
PENT	**Pentalofos**	**1.34**	**150**	P	**Pg**	**05 27 31.4**	**-0.1**
PENT				S	**Sg**	**05 27 50.3**	**+1.4**
BUM	**Brajici-Budva**	**1.39**	**313**	⇑*i*Pg	**Pb**	**05 27 31.3**	**-0.1**
BUM				*e*Sg	**Sg**	**05 27 52.8**	**+2.3**
IVA	**Berane**	**1.53**	**350**	⇓*i*Pg	**Pn**	**05 27 33.0**	**+0.4**
IVA				*i* Sg	**Sg**	**05 27 56.0**	**+1.0**
KZN	**Kozani**	**1.56**	**132**	P	**Pb**	**05 27 34.7**	**-0.1**
KOME	**Kolasin**	**1.59**	**340**	*e*Pg	**Pb**	**05 27 34.7**	**-0.1**
KOME				*i* Sg	**Sg**	**05 27 57.8**	**+1.0**
KEK	**Kerkira**	**1.69**	**192**	Pn	**Pg**	**05 27 36.7**	**-1.4**
KEK				Sn	**Sg**	**05 28 06.0**	**+6.0**
KEK				AML	AML	05 28 17.6

ZAPS	Zavoj	2.59	42	*e*Pn	Pn	05 27 48.3	+1.2
LKD2	Lefkada island	2.59	173	Pn	Pb	05 27 49.7	-2.1
LKD2				AMd		05 29 25.3	
MMB	Musomishta	2.62	85	*e*Pn	Pn	05 27 47.5	0.0
DIVS	Divibare	2.74	356	*e*Pn	Pn	05 27 50.0	+0.8
MATE	Matera	2.79	256	⇓P	Pn	05 27 47.3	-2.5
ZAGS	Zajecar	2.84	30	*e*Pn	Pn	05 27 50.3	-0.3
TRUS	Trudelj	2.86	2	*e*Pn	Pn	05 27 52.0	+1.2
TEKS	Tekeris	3.23	351	*e*Pn	Pn	05 27 57.2	+1.3
MDVR	Moldovita	3.57	17	⇓P	Pn	05 28 01.2	+0.5
HERR	Herculane	3.85	23	⇑P	Pn	05 28 04.7	+0.4
GZR	Gura Zlata	4.42	24	⇓P	Pn	05 28 12.0	-0.3
LOT	Lotru	4.81	31	⇓P	Pn	05 28 18.2	+0.4
MORH	Mrgy, Hungar	4.99	347	⇑P	Pn	05 28 20.0	0.0

IDC 11 05:32:16.8±2.6, 28°.84S×178°.32W, h79km±17km, mb3.2/3, mbtmp3.5/3, Error ellipse: s-maj=88.2km s-min=38.4km az=39.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.54	140	P	Pn	05 32 32.3	+1.4
	272nm,0.3s,baz=38,slow=20,SNR=5.5						
RAO				S	Sn	05 32 43.2	+1.9
	788nm,0.3s,baz=89,slow=23,SNR=14						
ASAR	Alice Springs	42.94	265	P	P	05 40 08.0	-0.2
	0.3nm,0.4s,baz=102,slow=8.0,SNR=4.0						
	0.3nm,0.4s						
WRA	Warramunga Arr	43.78	271	P	P	05 40 14.7	-0.3
	0.2nm,0.3s,baz=109,slow=7.7,SNR=2.0						
	0.2nm,0.3s						
QSPA	South Pole Qui	61.27	180	P	P	05 42 23.6	0.0
	0.6nm,0.7s,baz=79,slow=2.8,SNR=2.2						
	0.6nm,0.7s						
FINES	FINESS Array B	143.59	340	PKP	PKPdf	05 51 40.8	-0.9
	0.8nm,0.5s,baz=42,slow=4.3,SNR=6.2						

IDC 11 06:03:20.5±0.7, 12°.01S×166°.00E, h0km, mb4.3/15, mbtmp4.3/17, ML4.4/2, MS3.7/19, Error ellipse: s-maj=26.1km s-min=16.3km az=81.0
NEIC 11 06:03:24.9±2.0, 11°.93S±0°.09×166°.1E±0°.1, h23km±5km, mb4.6/16, Error ellipse: s-maj=17.5km s-min=10.4km az=57.0
ISC 11 06:03:25.0±0.5, 12°.02S±0°.07×166°.04E±0°.08, h30km, n67, σ1°.22/52, mb4.5/24, MS3.7/17, 1C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.59	162		Pn	06 04 20.3	+1.7
HNR	Honiara	6.52	293		Pn	06 04 59.5	+0.6
HNR	Honiara	6.52	293	Pn	Pn	06 04 58.1	-0.8
	24nm,0.3s,baz=212,slow=4.6,SNR=6.4						
HNR				Sn	Sn	06 06 10.6	-1.7
	baz=142,slow=18						
	90nm,0.4s						
DZM	Mont Dzumac	10.01	178	*e*Pn	Pn	06 05 41.2	-5.6
	26nm,1.3s						
DZM				*e*LR	LR	06 08 06.5	
	221nm,23.9s						
DZM	Mont Dzumac	10.01	178		Pn	06 05 46.4	-0.4
DZM	Mont Dzumac	10.01	178	Pn	Pn	06 05 46.2	-0.6
	1.1nm,0.3s,baz=0.8,slow=17,SNR=20						
DZM				Sn	Sn	06 07 35.9	-2.3
	baz=165,slow=20						
DZM				LR	LR	06 08 59.9	
	comp=Z,135nm,19.9s,baz=44,slow=34						
	3.0nm,0.4s						
ONTNC	Ouen Toro	10.24	178	Pn	Pn	06 05 51.1	+1.2
PINNC	Pines Island,	10.62	173	Pn	Pn	06 05 57.0	+1.8
MSVF	Nonsavu	12.92	118	Pn	Pn	06 06 25.0	-1.8
PMG	Port Moresby	18.73	276	LR	LR	06 14 52.9	
	comp=Z,145nm,18.6s,baz=129,slow=37						
CTAO	Charters Tower	20.62	245	P	P	06 08 03.1	+1.0
CTAO				IAmb	IAmb	06 08 16.0	
	comp=Z,10nm,0.9s						
COEN	Coen	22.36	263	P	P	06 08 21.9	+1.0
ARMA	Armidale	22.66	214	P	P	06 08 25.0	+0.9
ARMA				IAmb	IAmb	06 08 39.1	
	comp=Z,10nm,0.8s						
STKA	Stephens Creek	29.95	225	P	P	06 09 30.4	-0.3
	comp=Z,1.4nm,0.7s,baz=25,slow=5.6,SNR=2.3						
STKA				LR	LR	06 20 45.3	
	comp=Z,136nm,20.6s,baz=29,slow=35						
	comp=Z,1.4nm,0.7s						
WRA	Warramunga Arr	31.43	251	P	P	06 09 43.2	-0.8
WRA	Warramunga Arr	31.43	251	P	P	06 09 42.8	-1.2
	comp=Z,1.1nm,0.9s,baz=81,slow=9.1,SNR=5.9						
WRA				PcP	PcP	06 12 37.0	-0.1
	comp=Z,0.9nm,0.8s,baz=59,slow=2.2,SNR=4.1						
	comp=Z,1.1nm,0.9s						
AS31	Alice Springs	32.63	245	P	P	06 09 56.5	+2.0
ASAR	Alice Springs	32.63	245	P	P	06 09 53.6	-0.8
	comp=Z,1.5nm,0.9s,baz=73,slow=9.6,SNR=11						
ASAR				PcP	PcP	06 12 39.8	-0.5
	comp=Z,0.9nm,0.9s,baz=88,slow=2.7,SNR=5.9						
ASAR				LR	LR	06 22 17.6	
	comp=Z,82nm,18.7s,baz=92,slow=35						
	comp=Z,1.5nm,0.9s						
GUMO	Guam	32.98	320	LR	LR	06 21 38.8	
	comp=Z,82nm,21.5s,baz=150,slow=33						
RAR	Rarotonga	33.95	110	LR	LR	06 20 47.3	
	comp=Z,49nm,19.5s,baz=206,slow=31						
FITZ	Fitzroy Crossi	39.42	256	LR	LR	06 26 15.6	
	comp=Z,70nm,20.2s,baz=53,slow=35						
BATI	Baumata	41.59	268	LR	LR	06 28 25.1	
	comp=Z,99nm,18.2s,baz=65,slow=36						
PPT2	Papeete2	43.19	103	*e*LR	LR	06 22 59.7	
	comp=Z,107nm,25.2s						
KAPI	Kappang	46.25	275	LR	LR	06 33 03.2	
	comp=Z,20nm,19.4s,baz=90,slow=39						
NWAO	Narrogin (SRO)	49.17	237	LR	LR	06 33 32.9	
	comp=Z,117nm,18.7s,baz=155,slow=37						
TAOE	Nuku Hiva Isla	52.95	92	*e*LR	LR	06 27 21.1	
	comp=Z,59nm,22.0s						
JOW	Kunigami	53.26	317	LR	LR	06 33 36.5	
	comp=Z,138nm,20.5s,baz=314,slow=34						
MJAR	Matsushiro Arr	54.96	333	P	P	06 12 52.3	-1.2
MJAR	Matsushiro Arr	54.96	333	P	P	06 12 52.5	-0.9
	comp=Z,1.0nm,0.3s,baz=155,slow=9.4,SNR=4.0						
	comp=Z,1.0nm,0.3s						
KSRS	Korea Array	60.84	326	P	P	06 13 35.2	+0.7
	comp=Z,0.8nm,0.3s,baz=134,slow=7.0,SNR=5.1						
	comp=Z,0.8nm,0.3s						
USRK	Ussuriysk Ar.	63.94	333	P	P	06 13 55.4	+0.2
	comp=Z,1.2nm,0.4s,baz=119,slow=2.4,SNR=5.1						
	comp=Z,1.2nm,0.4s						
VNDA	Vanda	65.53	181	P	P	06 14 05.8	+0.6
	comp=Z,1.4nm,0.9s,baz=345,slow=6.1,SNR=4.9						
	comp=Z,1.4nm,0.9s						
SBA	Scott Base	65.83	180	P	P	06 14 08.5	+1.5
SBA				IAmb	IAmb	06 14 09.1	
	comp=Z,7.4nm,0.9s						
MA2	Magadan	72.41	352	LR	LR	06 48 30.9	
	comp=Z,41nm,18.1s,baz=146,slow=37						
CNBA	Chernabura Isl	72.62	20	P	P	06 14 49.9	+0.5
CMAR	Chiang Mai Arr	72.77	294	P	P	06 14 52.5	+1.4
	comp=Z,2.3nm,0.3s,baz=122,slow=3.7,SNR=4.0						
	comp=Z,2.3nm,0.3s						
HIA	Hailar	73.35	330	P	P	06 14 54.3	+0.4
SEY	Seymchan	75.47	354	LR	LR	06 43 32.8	
	comp=Z,54nm,19.8s,baz=165,slow=32						
O14K	Tigyukauivet M	75.79	17	P	P	06 15 07.6	-0.1
ACHA	Angle Creek He	76.76	20	P	P	06 15 15.3	+1.9
ACHA				IAmb	IAmb	06 15 35.9	
	comp=Z,6.1nm,1.2s						
M14K	Bethel	76.86	16	P	P	06 15 15.1	+1.3
M14K				IAmb	IAmb	06 15 20.4	
	comp=Z,8.9nm,1.1s						
L14K	Kuka Creek	77.18	15	P	P	06 15 17.2	+1.6
L14K				IAmb	IAmb	06 15 54.2	
	comp=Z,11nm,1.1s						
QSPA	South Pole Qui	77.99	180	P	P	06 15 22.2	+1.8
QSPA	South Pole Qui	77.99	180	P	P	06 15 21.7	+1.3
	comp=Z,6.0nm,0.9s,baz=3.1,slow=3.7,SNR=13						
	comp=Z,6.0nm,0.9s						
SONM	Songino Array	79.62	324	P	P	06 15 29.5	0.0
	comp=Z,3.1nm,0.9s,baz=140,slow=5.8,SNR=12						
	comp=Z,3.1nm,0.9s						
MAW	Mawson	83.94	202	P	P	06 15 52.1	+0.3
	comp=Z,1.5nm,1.1s,baz=113,slow=10,SNR=3.7						
	comp=Z,1.5nm,1.1s						
ILAR	Eielson Array	84.34	18	P	P	06 15 54.3	+0.5
	comp=Z,0.7nm,0.9s,baz=227,slow=5.4,SNR=4.2						
	comp=Z,0.7nm,0.9s						
BBB	Bella Bella	85.21	34	LR	LR	06 50 15.6	
	comp=Z,61nm,18.3s,baz=266,slow=33						
PFO	Pinyon Flats O	86.40	55	LR	LR	06 46 13.2	
	comp=Z,53nm,19.9s,baz=261,slow=30						
NVAR	Mina Array Bea	86.43	50	LR	LR	06 49 24.3	
	comp=Z,85nm,18.1s,baz=272,slow=32						
DLBC	Dease Lake	87.12	28	LR	LR	06 53 38.5	
	comp=Z,190nm,18.9s,baz=264,slow=35						
ELK	Elko	89.38	48	LR	LR	06 50 35.6	
	comp=Z,57nm,18.0s,baz=255,slow=32						
PDAR	Pinedale Array	94.00	47	LR	LR	06 54 53.1	
	comp=Z,24nm,18.6s,baz=302,slow=33						
MKAR	Makanchi Array	94.42	317	P	P	06 16 41.8	-0.4
MKAR	Makanchi Array	94.42	317	P	P	06 16 43.0	+0.8
	comp=Z,5.9nm,0.7s,baz=96,slow=6.2,SNR=45						
	comp=Z,5.9nm,0.7s						
ZAA0	Zalesovo Array	94.51	324	P	P	06 16 42.2	-0.1
ZAA0				IAmb	IAmb	06 16 42.5	
	comp=Z,3.3nm,0.9s						
ZALV	Zalesovo Beam	94.51	324	P	P	06 16 41.6	-0.7
	comp=Z,2.3nm,0.7s,baz=120,slow=3.8,SNR=8.6						
	comp=Z,2.3nm,0.7s						
TROLL	Troll, Antarti	95.45	185	⇓P	P	06 16 45.2	-1.4
	comp=Z,143nm,0.8s						
SNAA	Sanae	96.17	184	⇓P	P	06 16 48.2	-1.6
	comp=Z,27nm,0.9s						
SNAA	Sanae	96.17	184	P	P	06 16 48.2	-1.6
SNAA				IAmb	IAmb	06 17 02.0	
	comp=Z,2.2nm,1.1s						
SNAA	Sanae	96.17	184	P	P	06 16 48.2	-1.6
	comp=Z,1.3nm,0.9s,baz=181,slow=6.1,SNR=3.9						
	comp=Z,1.3nm,0.9s						
VNA3	Neumayer Olymp	96.88	181	⇓P	P	06 16 51.0	-2.0
	comp=Z,1.5nm,0.8s						
VNA2	Neumayer--Watz	97.13	182	⇓P	P	06 16 52.6	-1.5
	comp=Z,1.1nm,0.7s,baz=153,slow=4.3						
VNA1	Neumayer--Stat	97.44	182	⇑P	P	06 16 54.4	-1.1
	comp=Z,3.4nm,1.3s						
ARCES	ARCESS Array B	117.34	345	PKP	PKPdf	06 22 05.2	-1.9
	comp=Z,2.2nm,0.9s,baz=38,slow=4.6,SNR=4.7						
ESDC	Sonseca Array	151.07	344	PKPbc	PKiKP	06 23 15.6	-0.5
	comp=Z,0.8nm,0.9s,baz=357,slow=3.0,SNR=4.1						
TORD	Torodi Ar. Bea	164.68	276	PKP	PKPdf	06 23 27.2	+0.3
	comp=Z,0.4nm,0.7s,baz=21,slow=4.6,SNR=3.7						

NEIC 11 06:11:49.9±1.2, 30°.58S±0°.05×72°.23W±0°.04, h10km±1km, mb4.3/6, ML4.0(GUC), Error ellipse: s-maj=8.5km s-min=5.7km az=162.0
IDC 11 06:11:50.2±0.9, 30°.60S×71°.77W, h0km, mb4.0/6, mbtmp3.9/10, ML3.7/4, MS3.2/5, Error ellipse: s-maj=32.1km s-min=19.1km az=103.0
GUC 11 06:11:51.5±0.7, 30°.60S×72°.08W, h20km±4km, ML4.0
ISC 11 06:11:50.4±1.4, 30°.61S±0°.03×72°.11W±0°.05, h12km±8km, n103, σ1°.39/117, mb4.2/8, MS3.3/3, 6C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.41	99		Pg	06 11 59.5	+0.7
CO06	Fray Jorge	0.41	99	*e*P	Pg	06 11 59.4	+0.7
CO06				*i* S	Sg	06 12 04.8	+0.5
CO05	La Serena	1.02	48		Pb	06 12 09.7	-0.4
CO05	La Serena	1.02	48	*e*P	Pb	06 12 09.9	-0.2
CO05				*i* S	Sb	06 12 22.9	-0.5
CO05				IAML		06 12 29.9	
	comp=E,8μm,0.4s						
CO02	Combarbal	1.12	122		Pn	06 12 11.2	-0.9
CO02	Combarbal	1.12	122	*e*P	Pn	06 12 11.2	-0.9
CO02				*i* S	Sb	06 12 25.2	-1.3
CO02				IAML		06 12 29.4	
	comp=N,10μm,0.4s						
GO04	Tololo Observa	1.21	69		Pb	06 12 13.3	-0.1
GO04	Tololo Observa	1.21	69	*e*P	Pn	06 12 12.8	-0.6
GO04				*i* S	Sb	06 12 28.5	-0.7
CO03	El Pedregal	1.25	101		Pn	06 12 12.9	-0.8
CO03	El Pedregal	1.25	101	*e*P	Pn	06 12 12.8	-1.0
CO03				*i* S	Sb	06 12 29.1	-0.9
CO03				IAML		06 12 33.8	
	comp=E,3μm,0.6s						
CO04	Los Peladeros	1.73	146	*e*P	Pn	06 12 21.2	+0.6
CO04				*i* S	Sb	06 12 43.3	-0.8
CO04				IAML		06 12 49.6	
	comp=N,2μm,0.5s						
CO01	Juntas del Tor	1.85	71		Pn	06 12 22.9	+0.7
CO01	Juntas del Tor	1.85	71	*e*P	Pn	06 12 23.1	+0.9
CO01				*i* S	Sb	06 12 46.5	-1.2
CO01				IAML		06 12 56.4	
	comp=N,2μm,0.5s						
LCO	Las Campanas	2.01	38		Pn	06 12 24.2	-0.2
LCO	Las Campanas	2.01	38	*e*P	Pn	06 12 24.5	+0.1
LCO				*i* S	Sn	06 12 49.1	-0.5
VA06	Catapilco	2.07	161		Pn	06 12 24.6	-0.3
VA06	Catapilco	2.07	161	*e*P	Pn	06 12 25.1	+0.2
VA06				*i* S	Sb	06 12 52.3	-1.2
VA06				IAML		06 13 01.1	
	comp=N,2μm,0.5s						
VA01	Torpederas	2.44	171		Pn	06 12 30.3	+0.2
VA01	Torpederas	2.44	171	*e*P	Pn	06 12 30.1	0.0
VA03	San Esteban	2.53	149		Pn	06 12 32.2	+0.8
VA03	San Esteban	2.53	149	*e*P	Pn	06 12 32.7	+1.3
VA03				*i* S	Sb	06 13 05.5	-1.4
VA03				IAML		06 13 12.8	
	comp=E,2μm,0.7s						
ROCH	El Roble	2.54	159	*e*P	Pb	06 12 32.5	-3.5
ROCH				*e*P	Pn	06 12 32.1	+0.5
ROCH				*i* S	Sb	06 13 05.6	-1.7
ROCH				IAML		06 13 18.0	
	comp=N,584nm,0.5s						
AC04	Llanos de Chal	2.56	21		Pn	06 12 31.1	-0.7
AC04	Llanos de Chal	2.56	21	*e*P	Pn	06 12 31.1	-0.7
AC04				*i* S	Sn	06 13 01.0	-1.8
MT02	Curacav	2.77	163		Pn	06 12 35.1	+0.5
MT02	Curacav	2.77	163	*e*P	Pn	06 12 35.1	+0.5
PEL	Peldehue	2.80	155		Pn	06 12 35.5	+0.4
PEL	Peldehue	2.80	155	*e*P	Pn	06 12 36.7	+1.5
PEL				*i* S	Sb	06 13 11.9	-2.9
PEL				IAML		06 13 25.8	
	comp=N,469nm,0.4s						
MT10	Hacienda Santa	2.98	154	*e*P	Pn	06 12 38.8	+1.2
MT10				*i* S	Sn	06 13 16.0	+2.8
MT05	Renca	3.01	158		Pn	06 12 39.0	+1.0
MT05	Renca	3.01	158	*e*P	Pn	06 12 39.3	+1.3
MT14	Cerro Calı́n	3.08	155	*e*P	Pn	06 12 40.1	+1.1
ZON	Zonda	3.09	108		Pn	06 12 42.0	+3.0
MT16	CCHEN	3.12	155		Pn	06 12 40.2	+0.7
MT16	CCHEN	3.12	155	*e*P	Pn	06 12 41.4	+1.9
MT16				*i* S	Sb	06 13 24.3	+0.4
MT16				IAML		06 13 33.5	
	comp=E,375nm,0.6s						
FCH	Farellones	3.12	151	*e*P	Pn	06 12 41.0	+1.2
FCH				*i* S	Sb	06 13 20.9	-3.3
FCH				IAML		06 13 36.9	
	comp=E,284nm,0.1s						
MT03	Universidad Ad	3.18	155		Pn	06 12 40.5	+0.1
MT03	Universidad Ad	3.18	155	*e*P	Pn	06 12 41.3	+0.9
MT04	Ro Olivares	3.25	149	*e*P	Pn	06 12 43.6	+2.1
MT04				*i* S	Sn	06 13 22.6	+2.4
MT04				IAML		06 13 37.4	
	comp=E,457nm,0.6s						
MT15	Las Vizcachas	3.28	156	*e*P	Pn	06 12 41.3	-0.3
MT09	Talagante	3.30	164		Pn	06 12 42.9	+0.9
MT01	Popeta	3.33	168	Pn	Pn	06 12 42.1	-0.2
MT01	Popeta	3.33	168	*e*P	Pn	06 12 42.8	+0.5
MT08	Bocatoma Ro	3.34	148	⇑*e*P	Pn	06 12 45.2	+2.5
GO03	Copiapo	3.42	29		Pn	06 12 43.5	-0.2
GO03	Copiapo	3.42	29	*e*P	Pn	06 12 43.8	+0.1
GO03				*i* S	Sn	06 13 26.0	+1.7
GO03				IAML		06 13 44.9	
	comp=N,437nm,0.6s						
CFA	Coronel Fontan	3.47	108	Pn	Pn	06 12 47.0	+2.8
	comp=N,0.2nm,0.3s,baz=251,slow=7.7,SNR=4.3						
CFA				Sn	Sn	06 13 21.2	-4.0
	comp=N,8.3nm,0.3s,baz=293,slow=11,SNR=4.0						
MT13	San Alfonso	3.49	154		Pn	06 12 45.6	+0.9
MT13	San Alfonso	3.49	154	*e*P	Pn	06 12 44.8	+0.1
AC06	Mina Casimiro	3.59	26		Pn	06 12 46.0	+0.1
AC06	Mina Casimiro	3.59	26	*e*P	Pn	06 12 45.8	-0.1
AC06				*i* S	Sn	06 13 26.9	-1.3
AC06				IAML		06 13 53.0	
	comp=E,204nm,0.5s						
BO04	La Punta	3.60	160		Pn	06 12 46.6	+0.5
BO04	La Punta	3.60	160	*e*P	Pn	06 12 47.5	+1.4
LMEL	Las Melosas	3.61	154		Pn	06 12 47.9	+1.6
LMEL	Las Melosas	3.61	154	*e*P	Pn	06 12 48.3	+2.0
BO01	Tunca	3.87	167		Pn	06 12 50.4	+0.7
BO01	Tunca	3.87	167	*e*P	Pn	06 12 50.5	+0.7
VCA	Vinchina	3.88	62	⇑*e*P	Pn	06 12 54.1	+4.1
BO03	Pichilemu	3.88	178	*e*P	Pn	06 12 49.1	-0.8
BO02	Sierra Bellavi	4.32	165		Pn	06 12 56.2	+0.1
BO02	Sierra Bellavi	4.32	165	*e*P	Pn	06 12 57.0	+1.0
AC02	Maricunga	4.58	36		Pn	06 13 00.4	+0.4
AC01	Pan de Azucar	4.64	17		Pn	06 12 58.7	-1.7
AC01	Pan de Azucar	4.64	17	⇑*e*P	Pn	06 12 58.4	-2.0
GO02	Mina Guanaco	5.87	23		Pn	06 13 16.5	-1.0
BI02	San Fabin de	6.08	174		Pn	06 13 20.6	+0.4
H03N1	Juan Fernandez	6.43	242	T	T	06 20 25.7	
	baz=71,slow=72,SNR=1459						
H03N2	Juan Fernandez	6.44	242	T	T	06 20 26.8	
	baz=71,slow=72,SNR=1486						
H03N3	Juan Fernandez	6.44	242	T	T	06 20 23.3	
	baz=71,slow=72,SNR=1074						
VA04	Juan Fernndez	6.45	240		Pn	06 13 24.1	-1.1
VA04	Juan Fernndez	6.45	240	*e*P	Pn	06 13 24.5	-0.7
TCA	Tanti	6.50	98	⇓*e*P	Pn	06 13 26.7	+0.8
PB10	IPOC Station P	7.20	11	Pn	Pn	06 13 34.5	-1.0
LR03	Panguipulli	9.01	181	Pn	Pn	06 14 01.5	+1.3
PLCA	Paso Flores	10.18	173	Pn	Pn	06 14 17.0	+0.5
	comp=E,0.1nm,0.3s,baz=313,slow=11,SNR=5.7						
PLCA				LR	LR	06 18 37.5	
	comp=E,131nm,21.2s,baz=357,slow=40						
	comp=E,0.9nm,0.7s						
TRQA	Tornquist	11.19	134	Pn	Pn	06 14 30.8	+0.5
CPUP	Villa Florida	13.68	75	Pn	Pn	06 15 01.9	-2.4
	baz=260,slow=20,SNR=1.6						
CPUP				Sn	Sn	06 17 33.3	-2.9
	comp=E,0.1nm,0.3s,baz=96,slow=14,SNR=2.9						
CPUP				LR	LR	06 21 06.1	
	comp=E,36nm,21.0s,baz=98,slow=42						
	comp=E,0.1nm,0.3s						
LPAZ	La Paz	14.71	15		Pn	06 15 19.9	+0.9
LPAZ	La Paz	14.71	15	Pn	Pn	06 15 20.6	+1.5
	comp=E,0.2nm,0.3s,baz=185,slow=10.0,SNR=6.4						
	comp=E,2.0nm,0.8s						
SIV	San Ignacio	17.71	37	P	P	06 15 57.5	-0.4
	baz=200,slow=8.9,SNR=34						
	comp=E,5.9nm,0.8s						
VILB	Vilhena	20.73	35	P	P	06 16 30.5	-0.5
BDFB	Brasilia	26.62	61		P	06 17 28.6	-0.5
BDFB				IAmb	IAmb	06 17 29.1	
	comp=Z,4.4nm,0.7s						
BDFB	Brasilia	26.62	61	P	P	06 17 28.2	-0.9
	comp=Z,4.8nm,0.6s,baz=228,slow=9.1,SNR=8.9						
BDFB				LR	LR	06 28 56.0	
	comp=Z,77nm,19.6s,baz=174,slow=39						
	comp=Z,4.8nm,0.6s						
BOAV	Boa Vista	34.63	21	P	P	06 18 39.4	-0.3
BOAV				IAmb	IAmb	06 18 52.6	
	comp=Z,5.7nm,1.1s						
MDP	Montagnes des	40.10	31	LR	LR	06 37 49.5	
	comp=Z,44nm,21.8s,baz=218,slow=39						
VNA2	Neumayer--Watz	53.16	158	⇑P	P	06 21 08.6	+0.7
	comp=Z,1.2nm,0.6s,baz=291,slow=6.2						
SNAA	Sanae	54.75	159	⇑P	P	06 21 20.2	+0.8
	comp=Z,42nm,0.6s						
SNAA	Sanae	54.75	159	P	P	06 21 20.1	+0.6
SNAA				IAmb	IAmb	06 21 52.6	
	comp=Z,5.9nm,1.4s						
SNAA	Sanae	54.75	159	P	P	06 21 20.3	+0.8
	comp=Z,1.4nm,0.5s,baz=277,slow=8.1,SNR=36						
	comp=Z,1.4nm,0.5s						
TROLL	Troll, Antarti	56.46	159	⇑P	P	06 21 32.8	+0.9
	comp=Z,60nm,0.6s						
QSPA	South Pole Qui	59.62	180	P	P	06 21 54.3	+0.2
QSPA	South Pole Qui	59.62	180	P	P	06 21 57.2	+3.1
	comp=Z,1.3nm,0.9s,baz=119,slow=6.0,SNR=5.9						
	comp=Z,1.3nm,0.9s						
TXAR	Lajitas Array	66.76	330	P	P	06 22 44.3	+2.6
	comp=Z,0.3nm,0.7s,baz=152,slow=1.6,SNR=3.5						
	comp=Z,0.3nm,0.7s						
MAW	Mawson	76.44	164	P	P	06 23 40.2	+0.7
	comp=Z,1.3nm,0.8s,baz=207,slow=6.0,SNR=3.3						
	comp=Z,1.3nm,0.8s						
TORD	Torodi Ar. Bea	83.12	70	P	P	06 24 15.9	-0.6
TORD				IAmb	IAmb	06 24 17.9	
	comp=Z,1.7nm,0.9s						
TORD	Torodi Ar. Bea	83.12	70	P	P	06 24 16.9	+0.4
	comp=Z,1.4nm,0.8s,baz=280,slow=4.2,SNR=7.8						
	comp=Z,1.4nm,0.8s						
FRB	Frobisher Bay	94.08	2	LR	LR	07 11 58.1	
	comp=Z,19nm,18.0s,baz=58,slow=38						
H11S2	WAKE ISLAND Hyl	25.69	272	T	T	08 49 31.8	
	baz=106,slow=75,SNR=12						
H11S1	WAKE ISLAND Hyl	25.70	272	T	T	08 49 43.5	
	baz=106,slow=75,SNR=12						
H11S3	WAKE ISLAND Hyl	25.70	272	T	T	08 49 34.0	
	baz=106,slow=75,SNR=14						
KURBB	Kurchatov Arra	150.37	39	PKPbc	PKiKP	06 31 42.2	+0.1
	comp=Z,0.8nm,0.5s

1.0nm,0.3s

NNC 11 06:45:11.4±0.6,42°.90N×78°.28E,h0km,mb3.0,mpv2.9,
Error ellipse: s-maj=5.9km s-min=1.9km az=175.0
KRNET 11 06:45:12.9±0.1,42°.94N×78°.29E,h26km,mb2.5
SOME 11 06:45:13.1,42°.95N×78°.22E,h10km

ISC 11 06:45:13.5±0.8,42°.93N±0°.02×78°.23E±0°.02,h10km,n29,σ1§47/57,14C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 19nm,0.1s	**0.18**	**44**	P	**Pg**	**06 45 16.7**	**-0.8**
SATY	486nm,0.1s			S	**Sg**	**06 45 19.1**	**-1.1**
PRZ	**Przheval'sk**	**0.46**	**164**	⇓*e*P	**Pg**	**06 45 22.3**	**-0.2**
PRZ				⇓*e*S	**Sg**	**06 45 28.5**	**-0.1**
KURS	**Kuram** 4.6nm,0.1s	**0.56**	**355**	P	**Pg**	**06 45 23.4**	**-1.0**
KURS	1.3nm,0.2s			S	**Sg**	**06 45 30.6**	**-1.2**
KURS	**Kuram**	**0.56**	**355**	*e*P	**Pg**	**06 45 23.9**	**-0.5**
KURS				*e*S	**Sg**	**06 45 31.4**	**-0.4**
UZB	**Uzynbulak** 17nm,0.1s	**0.62**	**69**	P	**Pg**	**06 45 23.6**	**-1.8**
UZB	28nm,0.1s			S	**Sg**	**06 45 31.2**	**-2.4**
UZB	**Uzynbulak** 21nm,0.1s	**0.62**	**69**	*e*P	**Pg**	**06 45 23.7**	**-1.8**
UZB	28nm,0.1s			*e*S	**Sg**	**06 45 31.1**	**-2.6**
KPKS	**Kokpek** 0.3nm,0.2s	**0.63**	**31**	P	**Pg**	**06 45 24.7**	**-1.0**
KPKS	9.1nm,0.3s			S	**Sg**	**06 45 32.9**	**-1.1**
MDOK	**Medeo** 1.2nm,0.1s	**0.90**	**286**	Pg	**Pb**	**06 45 30.6**	**-0.7**
MDOK	3.8nm,0.2s			Lg	Lg	06 45 42.7	
SHLS	**Shalkode** 7.5nm,0.1s	**0.93**	**75**	P	**Pn**	**06 45 34.3**	**+1.6**
SHLS	8.8nm,0.0s			S	**Sn**	**06 45 49.3**	**+3.1**
SHLS	**Shalkode**	**0.93**	**75**	*e*P	**Pn**	**06 45 35.1**	**+2.4**
SHLS				*e*S	**Sn**	**06 45 50.6**	**+4.4**
SHLS	**Shalkode** 2.9nm,0.1s	**0.93**	**75**	*e*P	**Pn**	**06 45 35.1**	**+2.4**
SHLS	4.7nm,0.1s			*e*S	**Sn**	**06 45 50.6**	**+4.4**
TNSS	**Tian-Shan**	**0.95**	**277**	*e*P	**Pb**	**06 45 31.8**	**-0.5**
TNSS				*e*S	**Sb**	**06 45 44.9**	**-0.2**
TNSS	**Tian-Shan** 0.1nm,0.1s	**0.95**	**277**	*e*P	**Pb**	**06 45 31.8**	**-0.5**
TNSS	1.6nm,0.2s			*e*S	**Sb**	**06 45 44.8**	**-0.2**
KNDC	**Almaty** 22nm,0.3s	**0.97**	**288**	⇑P	**Pg**	**06 45 31.0**	**-1.1**
KNDC	10nm,0.2s			⇑S	**Sb**	**06 45 44.8**	**-0.5**
PDGK	**Podgornoye** 1.7nm,0.4s	**1.00**	**66**	⇑P	**Pg**	**06 45 30.3**	**-2.5**
PDGK	4.6nm,0.6s			⇑S	**Sg**	**06 45 43.8**	**-2.1**
KDJ	**Kajisay**	**1.11**	**225**	⇑*i*P	**Pb**	**06 45 34.5**	**-0.4**
KDJ				⇑*i*S	**Sb**	**06 45 49.5**	**-0.1**
TARG	**Taragay, Kyrgy**	**1.24**	**195**	⇑*i*P	**Pn**	**06 45 35.7**	**-1.5**
TARG				⇑*i*S	**Sb**	**06 45 52.9**	**-0.5**
CHKK	**Chushkaly** 1.9nm,0.1s	**1.29**	**316**	P	**Pb**	**06 45 37.2**	**-0.7**
CHKK	14nm,0.2s			S	**Sg**	**06 45 54.2**	**-0.9**
CHKK	**Chushkaly**	**1.29**	**316**	*e*P	**Pb**	**06 45 37.2**	**-0.7**
CHKK				*e*S	**Sg**	**06 45 54.2**	**-0.9**
CHKK	**Chushkaly** 0.4nm,0.1s	**1.29**	**316**	*e*P	**Pb**	**06 45 37.2**	**-0.7**
CHKK	18nm,0.2s			*e*S	**Sg**	**06 45 54.2**	**-0.9**
ARXS	**Arharly** 5.7nm,0.2s	**1.32**	**347**	P	**Pb**	**06 45 37.6**	**-0.7**
ARXS	9.8nm,0.3s			S	**Sg**	**06 45 55.2**	**-0.7**
ARXS	**Arharly** 2.0nm,0.1s	**1.32**	**347**	*e*P	**Pb**	**06 45 37.6**	**-0.7**
ARXS	4.2nm,0.1s			*e*S	**Sg**	**06 45 55.0**	**-0.8**
KTBS	**Karatobe** 1.6nm,0.2s	**1.38**	**305**	P	**Pb**	**06 45 38.7**	**-0.7**
KTBS	8.1nm,0.2s			S	**Sg**	**06 45 56.7**	**-1.0**
KTBS	**Karatobe**	**1.38**	**305**	*e*P	**Pg**	**06 45 39.1**	**-0.8**
KTBS				*e*S	**Sg**	**06 45 57.4**	**-0.3**
ULHL	**Ulahol**	**1.62**	**246**	⇑*i*P	**Pb**	**06 45 43.0**	**-0.6**
ULHL				⇑*i*S	**Sg**	**06 46 04.7**	**-0.9**
KST	**Kastek** 2.2nm,0.3s	**1.67**	**275**	P	**Pb**	**06 45 43.8**	**-0.5**
KST	6.4nm,0.4s			S	**Sb**	**06 46 05.4**	**-0.1**
KST	**Kastek** 0.8nm,0.1s	**1.67**	**275**	*e*P	**Pg**	**06 45 44.9**	**-0.6**
KST	2.7nm,0.2s			*e*S	**Sg**	**06 46 07.4**	**+0.2**
BOOM	**Boomskoye usch**	**1.75**	**256**	⇑*i*P	**Pb**	**06 45 45.1**	**-0.6**
BOOM				⇑*i*S	**Sb**	**06 46 07.7**	**0.0**
TKM2	**Tokmak 2**	**1.94**	**271**	⇑*i*P	**Pb**	**06 45 47.8**	**-1.2**
TKM2				⇑*i*S	**Sb**	**06 46 12.4**	**-0.8**

IDC 11 06:49:51.7±2.1,51°.25N×81°.80E,h0km,mbtmp2.1/2, ML1.1/2,4C,Error ellipse: s-maj=19.7km s-min=16.1km az=23.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov** 0.7nm,1.0s	**2.08**	**256**	⇑Pg	Pn	06 50 29.0	+1.2
KURK	3.0nm,0.9s			⇑Lg	Lg	06 50 56.8	
KURBB	**Kurchatov Arra** baz=70,slow=18,SNR=1.0	**2.16**	**255**	Pg	Pn	06 50 30.1	+1.2
KURBB	0.1nm,0.3s,baz=72,slow=33,SNR=4.7			Lg	Lg	06 51 01.5	
KURBB	**Kurchatov Arra** 1.8nm,0.8s,baz=323,slow=15	**2.16**	**255**	⇑Pg	Pn	06 50 29.3	+0.4
KURBB	7.9nm,0.8s			⇑Lg	Lg	06 51 00.5	
I46RU	**ZALESOVO INFRA** baz=213,slow=324,SNR=1.8	**3.27**	**33**	I	I	07 08 00.0	
ZALV	**Zalesovo Beam** baz=222,slow=15,SNR=1.4 0.5nm,0.4s	**3.27**	**33**	Pn	Pn	06 50 45.1	+0.9
MKAR	**Makanchi Array** baz=2.8,slow=13,SNR=2.1	**4.47**	**176**	Pn	Pn	06 51 01.5	+0.9
MKAR	0.1nm,0.3s,baz=4.2,slow=30,SNR=4.0 0.2nm,0.6s			Lg	Lg	06 52 13.9	

FUNV 11 06:57:41.3,9°.89N×62°.45W,h13km,MW3.6
TRN 11 06:57:41.6,9°.92N×62°.55W,h19km,MD3.8,Venezuela.

ISC 11 06:57:35.3±1.5,10°.15N±0°.07×62°.97W±0°.04,h12km±13km, n15,σ1§95/26,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.49**	**68**	*e*P	**Pb**	**06 58 03.2**	**+0.2**
DMDM				*e*S	**Sn**	**06 58 20.1**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.50**	**83**	*e*P	**Pg**	**06 58 04.2**	**0.0**
PSMG	**Mucurapo Girls**	**1.50**	**70**	*e*P	**Pg**	**06 58 04.1**	**-0.1**
PSMG				*e*S	**Sn**	**06 58 21.4**	**-0.2**
PSKH	**Kent House, Po**	**1.51**	**69**	*e*P	**Pg**	**06 58 04.0**	**-0.4**
TRN	**Trinidad (W)**	**1.61**	**72**	*e*P	**Pb**	**06 58 05.2**	**+0.2**
TRN				*e*S	**Sn**	**06 58 23.4**	**-1.0**
GRFF	**Grenada Fort F**	**2.24**	**32**	*e*P	**Pg**	**06 58 18.7**	**+0.3**
GRFF				*e*S	**Sb**	**06 58 44.9**	**+1.4**
GRGR	**Grenville**	**2.35**	**33**	*e*P	**Pg**	**06 58 19.9**	**-0.6**
GRGR				*e*S	**Sb**	**06 58 48.2**	**+1.5**
GRHS	**Sauteurs**	**2.44**	**32**	*e*P	**Pg**	**06 58 21.8**	**-0.3**
GRHS				*e*S	**Sb**	**06 58 49.4**	**+0.2**
GCMP	**Grenada, Carri**	**2.77**	**33**	*e*S	**Sb**	**06 58 58.3**	**-0.4**
SVB	**Belmont**	**3.53**	**28**	*e*P	**Pb**	**06 58 36.4**	**-1.3**
SVB				*e*S	**Sb**	**06 59 17.2**	**-3.4**
TACV	**Tcata**	**4.00**	**270**	*e*P	**Pb**	**06 58 47.6**	**+1.8**
TACV				*e*S	**Sb**	**06 59 37.5**	**+3.3**
CACV	**CAICARA DEL OR**	**4.37**	**234**	*e*P	**Pn**	**06 58 44.1**	**+2.6**
CACV				*e*S	**Sn**	**06 59 31.5**	**-0.8**
BENV	**Beln**	**4.57**	**268**	*e*P	**Pb**	**06 58 55.7**	**+0.2**
BENV				*e*S	**Sb**	**06 59 51.0**	**+0.5**
BAUV	**El Baul**	**5.15**	**257**	*e*P	**Pb**	**06 59 02.7**	**-2.7**
BAUV				*e*S	**Sb**	**07 00 01.7**	**-5.5**
BAUV	**El Baul**	**5.15**	**257**	*e*P	**Pb**	**06 59 03.5**	**-1.9**

IDC 11 07:07:47.8±1.1,0°.26N×98°.39E,h0km,mb4.0/8,
mbtmp4.0/10,ML3.9/1,MS2.9/2,Error ellipse:
s-maj=39.9km s-min=17.9km az=64.0
NEIC 11 07:07:54.3±1.7,0°.28N±0°.08×98°.48E±0°.07,h48km±6km,
mb4.4/13,Error ellipse: s-maj=13.0km s-min=8.1km
az=216.0
DJA 11 07:07:54.8±0.2,1°.N±2°×9°.9E±°,h10km,M4.1/17,mb4.0/1,
MLv4.1/17

ISC 11 07:07:55.5±0.9,0°.44N±0°.04×98°.50E±0°.04,h56km±8km, n60,σ1§48/59,mb4.2/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.54**	**204**	P	**Pn**	**07 08 07.5**	**-0.1**
PBSI				S	**Sn**	**07 08 16.9**	**+0.5**
MNSI	**Mandailing Nat**	**1.13**	**72**	P	**Pn**	**07 08 15.2**	**+0.1**
MNSI				S	**Sn**	**07 08 29.4**	**-0.3**
SBSI	**Sibolga**	**1.17**	**19**	P	**Pn**	**07 08 17.2**	**+1.6**
SBSI				S	**Sn**	**07 08 31.0**	**+0.4**
GSI	**Gunungsitoli**	**1.26**	**313**		**Pn**	**07 08 17.0**	**+0.1**
GSI	**Gunungsitoli**	**1.26**	**313**	P	**Pn**	**07 08 17.2**	**+0.3**
GSI				S	**Sn**	**07 08 33.9**	**+1.1**
SISI	**Saibi**	**1.85**	**162**	P	**Pn**	**07 08 26.9**	**+2.0**
SISI				S	Sn	07 08 55.1	+7.9
PPI	**Padang Panjang**	**2.10**	**115**	P	**Pn**	**07 08 29.7**	**+1.5**
PPI				S	**Sn**	**07 08 56.9**	**+3.8**
RPSI	**Rantau Prapat**	**2.28**	**11**		**Pn**	**07 08 30.9**	**+0.2**
RPSI	**Rantau Prapat**	**2.28**	**11**		**Pn**	**07 08 30.7**	**0.0**
RPSI					**Sn**	**07 09 01.1**	**+3.6**
PDSI	**Padang**	**2.38**	**124**	P	Pn	07 08 35.7	+3.6
PSI	**Prapat** 23nm,0.3s,baz=334,slow=6.2,SNR=30	**2.38**	**10**	Pn	**Pn**	**07 08 30.7**	**-1.5**
PSI	13nm,0.3s,baz=170,slow=11,SNR=4.7			Sn	**Sn**	**07 09 01.1**	**+0.9**
PSI	comp=Z,248nm,21.7s,baz=224,slow=47 39nm,0.3s			LR	LR	07 09 44.3	
BKNI	**Bangkinang**	**2.54**	**93**	Pn	**Pn**	**07 08 34.0**	**-0.2**
BKNI	**Bangkinang**	**2.54**	**93**	P	**Pn**	**07 08 36.9**	**+2.6**
SNSI	**Sinabang, Aceh**	**2.92**	**312**	P	**Pn**	**07 08 40.3**	**+0.8**
TSI	**Tuntungan**	**3.04**	**1**	P	**Pn**	**07 08 43.3**	**+2.2**
KCSI	**Kotacane, Aceh**	**3.14**	**347**	P	**Pn**	**07 08 42.9**	**+0.3**
PPSI	**Pulau Pagai**	**3.52**	**155**	P	Pn	07 08 52.1	+4.3
MLSI	**Meulaboh, Aceh**	**4.34**	**331**	P	**Pn**	**07 08 58.4**	**-0.5**
IPM	**Ipoh**	**4.74**	**32**	Pn	**Pn**	**07 09 05.5**	**+1.1**
LHMI	**Lhok Sumawe**	**5.00**	**342**	P	**Pn**	**07 09 09.1**	**+1.1**
KULM	**Kulim**	**5.27**	**24**		**Pn**	**07 09 11.5**	**-0.3**
MYKOM	**Kota Tinggi**	**5.51**	**76**		**Pn**	**07 09 14.4**	**-0.6**
MNAI	**Manna**	**6.52**	**137**	Pn	**Pn**	**07 09 25.1**	**-3.8**
CMBY	**CAMPBELL BAY**	**7.96**	**325**	*e*P	Pn	07 09 57.3	+8.7
CMBY				*e*S	**Sn**	**07 11 21.0**	**+3.6**
CMBY	comp=E,109nm,0.1s			IAML		07 11 40.6	
CMBY	comp=N,143nm,0.1s			IAML		07 11 40.9	
PBA	**Port Blair**	**12.52**	**333**	*e*P	**P**	**07 10 59.1**	**-1.8**
PBA	comp=N,35nm,0.2s			IAML		07 11 00.8	
PBA	comp=E,55nm,0.2s			IAML		07 11 01.1	
PBA				*e*S	**Sn**	**07 13 07.4**	**-1.6**
DGPR	**DIGLIPUR**	**13.80**	**337**	*e*P	**P**	**07 11 16.8**	**+1.6**
DGPR	comp=N,13nm,0.2s			IAML		07 11 33.0	
DGPR	comp=E,9.9nm,0.1s			IAML		07 11 33.2	
DGPR				*e*S	Sn	07 13 51.1	+11
CMAR	**Chiang Mai Arr** comp=E,1.1nm,0.2s,baz=179,slow=12,SNR=4.2	**17.91**	**1**	P	**P**	**07 12 01.6**	**+0.9**
CMAR	comp=E,34nm,18.2s,baz=65,slow=36			LR	LR	07 18 45.7	
IMP	**Imphal**	**24.64**	**350**	*e*P	P	07 13 19.4	+8.4
IMP	comp=Z,5.0nm,0.6s			IAmb	IAmb	07 13 34.2	
KOHI	**KOHIMA**	**25.48**	**351**	*e*P	P	07 13 27.2	+8.5
KOHI	comp=Z,4.3nm,0.7s			IAmb	IAmb	07 13 36.2	
H08S2	**Diego Garcia H** baz=73,slow=75,SNR=43	**27.15**	**252**	T	T	07 41 19.2	
H08S3	**Diego Garcia H** baz=73,slow=75,SNR=55	**27.16**	**252**	T	T	07 41 11.5	
H08S1	**Diego Carcia H** baz=73,slow=75,SNR=38	**27.17**	**252**	T	T	07 41 12.6	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=259,slow=7.7,SNR=4.5 comp=Z,0.3nm,0.6s	**40.53**	**122**	P	**P**	**07 15 28.5**	**-1.1**
WR8	**Warramunga Arr** comp=Z,8.3nm,1.4s	**40.67**	**122**	P	**P**	**07 15 29.1**	**-1.7**
WR8				IAmb	IAmb	07 16 12.8	
ASAR	**Alice Springs**	**41.90**	**127**	P	**P**	**07 15 39.4**	**-1.4**
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=304,slow=7.7,SNR=8.0	**41.90**	**127**	P	**P**	**07 15 40.4**	**-0.4**
ASAR	comp=Z,0.6nm,0.8s,baz=250,slow=3.7,SNR=4.8 comp=Z,0.5nm,0.7s			PcP	**PcP**	**07 17 37.3**	**+1.5**
AS31	**Alice Springs**	**41.90**	**127**	P	**P**	**07 15 38.2**	**-2.7**
KSRS	**Korea Array** comp=Z,1.9nm,0.6s,baz=216,slow=9.4,SNR=7.0 comp=Z,1.9nm,0.6s	**45.75**	**33**	P	**P**	**07 16 11.7**	**+0.2**
BOOM	**Boomskoye usch**	**46.51**	**337**	P	**P**	**07 16 18.5**	**+0.9**
BOOM	comp=Z,2.5nm,0.8s			IAmb	IAmb	07 16 19.8	
ARSB	**Arslanbob**	**46.79**	**334**	P	**P**	**07 16 19.1**	**-0.6**
ARSB	comp=Z,4.7nm,1.0s			IAmb	IAmb	07 16 22.1	
MKAR	**Makanchi Array**	**48.29**	**345**	P	**P**	**07 16 31.8**	**+0.6**
MKAR	**Makanchi Array** comp=Z,2.2nm,0.5s,baz=153,slow=7.7,SNR=28 comp=Z,2.2nm,0.5s	**48.29**	**345**	P	**P**	**07 16 32.2**	**+1.1**
MAKZ	**Makanchi**	**48.39**	**345**	P	**P**	**07 16 32.6**	**+0.7**
MAKZ	comp=Z,2.9nm,0.9s			IAmb	IAmb	07 16 34.0	
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.5s,baz=163,slow=7.2,SNR=8.8 comp=Z,0.8nm,0.5s	**52.80**	**344**	P	**P**	**07 17 06.0**	**+1.0**
ZAA0	**Zalesovo Array**	**54.51**	**350**	P	**P**	**07 17 17.8**	**+0.3**
ZAA0	comp=Z,2.7nm,0.8s			IAmb	IAmb	07 17 35.7	
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.4s,baz=181,slow=7.0,SNR=5.4 comp=Z,1.4nm,0.4s	**54.51**	**350**	P	**P**	**07 17 18.4**	**+0.9**
AB31	**Akbulak array**	**58.79**	**331**	P	**P**	**07 17 47.8**	**-0.1**
ABKAR	**Akbulak array**	**58.79**	**331**	P	**P**	**07 17 47.7**	**-0.3**
H04N2	**CROZET ISLANDS** baz=55,slow=75,SNR=8.4	**61.89**	**215**	T	T	08 24 42.3	
H04N1	**CROZET ISLANDS** baz=55,slow=75,SNR=16	**61.91**	**215**	T	T	08 24 53.4	
H04N3	**CROZET ISLANDS** baz=55,slow=75,SNR=12	**61.91**	**215**	T	T	08 24 43.6	
ELL	**Elmali**	**72.68**	**308**	P	**P**	**07 19 17.1**	**-0.7**
ELL	comp=Z,3.6nm,0.7s			IAmb	IAmb	07 19 19.6	
BURAR	**Bucovina Array**	**78.45**	**319**	P	**P**	**07 19 51.1**	**+0.4**
FIA1	**FINESS Array S**	**81.27**	**332**	P	**P**	**07 20 05.8**	**+0.3**
FINES	**FINESS Array B**	**81.27**	**332**	P	**P**	**07 20 05.5**	**+0.1**
FINES	**FINESS Array B** comp=Z,0.8nm,0.4s,baz=104,slow=5.1,SNR=9.4 comp=Z,0.8nm,0.4s	**81.27**	**332**	P	**P**	**07 20 05.9**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.9s,baz=96,slow=5.6,SNR=5.5 comp=Z,1.8nm,0.9s	**83.68**	**340**	P	**P**	**07 20 18.5**	**+0.6**
D20K	**Etivluk River**	**94.97**	**21**	P	**P**	**07 21 11.2**	**-0.4**
IMAR	**Indian Mountai**	**96.76**	**23**	P	**P**	**07 21 18.5**	**-1.3**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,baz=235,slow=1.0,SNR=4.6	**143.60**	**34**	PKP	**PKPdf**	**07 27 23.7**	**-1.2**

SJA 11 07:18:56.8±1.3,21°.92S×68°.68W,h130km,ML3.4,MW3.5
GUC 11 07:18:57.3±0.8,21°.90S×68°.61W,h116km±4km,ML3.4

ISC 11 07:18:56.5±1.4,21°.96S±0°.03×68°.69W±0°.05, h133km±10km,n30,σ1§73/50,3C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.54**	**287**	*e*P	**Pn**	**07 19 16.5**	**+0.2**
PB09				*e*S	**Sn**	**07 19 30.6**	**-0.7**
PB09	**IPOC Station P**	**0.54**	**287**	*e*P	**Pn**	**07 19 16.5**	**+0.2**
PB09				*e*S	**Sn**	**07 19 28.7**	**-2.6**
PB09	comp=Z,770nm,0.5s			IAML		07 19 32.9	
AF01	**San Pedro de A**	**1.09**	**155**	*e*P	**Pn**	**07 19 21.4**	**+0.5**
AF01				*e*S	**Sn**	**07 19 39.4**	**-0.1**
AF01	comp=N,719nm,0.5s			IAML		07 19 49.6	
AF01	**San Pedro de A**	**1.09**	**155**	*e*P	**Pn**	**07 19 22.5**	**+1.6**
AF01				*e*S	**Sn**	**07 19 34.7**	**-4.7**
AF01	comp=Z,836nm,0.9s			IAML		07 19 56.0	
PB06	**IPOC Station P**	**1.11**	**228**	⇑*i*P	**Pn**	**07 19 22.0**	**+1.2**
PB06				*e*S	**Sn**	**07 19 40.6**	**+1.2**
PB06	comp=N,608nm,0.1s			IAML		07 19 41.8	
PB06	**IPOC Station P**	**1.11**	**228**	*e*P	**Pn**	**07 19 22.0**	**+1.2**
PB06				*e*S	**Sn**	**07 19 41.7**	**+2.3**
PB06	comp=Z,538nm,0.4s			IAML		07 19 43.9	
PB01	**IPOC Station P**	**1.18**	**320**	⇑*i*P	**Pn**	**07 19 21.3**	**-0.1**
PB01				*e*S	**Sn**	**07 19 39.8**	**-0.7**
PB01	comp=N,674nm,0.2s			IAML		07 19 42.1	
PB01	**IPOC Station P**	**1.18**	**320**	*e*P	**Pn**	**07 19 21.1**	**-0.4**
PB01				*e*S	**Sn**	**07 19 39.9**	**-0.5**
PB01	comp=Z,468nm,0.2s			IAML		07 19 41.4	
PB02	**IPOC Station P**	**1.29**	**299**	*e*P	**Pn**	**07 19 23.1**	**+0.5**
PB02				*e*S	**Sn**	**07 19 42.8**	**+0.3**
PB02	comp=E,528nm,0.1s			IAML		07 19 45.5	
PB02	**IPOC Station P**	**1.29**	**299**	*e*P	**Pn**	**07 19 23.3**	**+0.6**
PB02				*e*S	**Sn**	**07 19 44.1**	**+1.6**
PB02	comp=Z,575nm,0.4s			IAML		07 19 51.1	
PB08	**IPOC Station P**	**1.86**	**346**	⇑*i*P	**Pn**	**07 19 30.0**	**+0.7**
PB08				*e*S	**Sn**	**07 19 54.6**	**+0.2**
PB08	comp=E,633nm,0.3s			IAML		07 19 55.8	
PB08	**IPOC Station P**	**1.86**	**346**	*e*P	**Pn**	**07 19 30.0**	**+0.7**
PB08				*e*S	**Sn**	**07 19 55.1**	**+0.7**
PB08	comp=Z,273nm,0.5s			IAML		07 19 55.7	
TA01	**Diego Aracena**	**1.97**	**315**	*e*P	**Pn**	**07 19 30.2**	**0.0**
TA01				*e*S	**Sn**	**07 19 55.9**	**-0.1**
TA01	comp=E,474nm,0.2s			IAML		07 19 57.8	
TA01	**Diego Aracena**	**1.97**	**315**	*e*P	**Pn**	**07 19 30.3**	**+0.1**
TA01				*e*S	**Sn**	**07 19 56.0**	**0.0**
TA01	comp=Z,129nm,0.3s			IAML		07 19 58.6	
TA02	**Huaiquique**	**2.15**	**321**	*e*P	**Pn**	**07 19 32.9**	**+0.4**
TA02				*e*S	**Sn**	**07 19 60.0**	**-0.1**
TA02	**Huaiquique**	**2.15**	**321**	*e*P	**Pn**	**07 19 33.2**	**+0.7**
TA02				*e*S	**Sn**	**07 20 00.7**	**+0.5**
TA02	comp=Z,343nm,0.2s			IAML		07 20 01.2	
PB10	**IPOC Station P**	**2.32**	**228**	*e*P	**Pn**	**07 19 36.1**	**+1.6**
PB10				IAML		07 20 16.0	
PB10	**IPOC Station P**	**2.32**	**228**	*e*P	**Pn**	**07 19 36.1**	**+1.6**
PB10				*e*S	**Sn**	**07 19 57.6**	**-6.1**
PB10	comp=Z,86nm,0.3s			IAML		07 20 15.4	
GO01	**Chusmiza**	**2.33**	**348**	*e*P	**Pn**	**07 19 35.5**	**+0.3**
GO01				*e*S	**Sn**	**07 20 05.1**	**+0.4**
GO01	**Chusmiza**	**2.33**	**348**	*e*P	**Pn**	**07 19 35.0**	**-0.1**
GO01				*e*S	**Sn**	**07 20 05.4**	**+0.7**
GO01	comp=Z,166nm,0.1s			IAML		07 20 08.3	
PB11	**IPOC Station P**	**2.37**	**337**	*e*P	**Pn**	**07 19 35.2**	**-0.1**
PB11	**IPOC Station P**	**2.37**	**337**	*e*P	**Pn**	**07 19 35.2**	**-0.1**
PB11				*e*S	**Sn**	**07 20 05.0**	**-0.1**
PB11	comp=Z,259nm,0.2s			IAML		07 20 08.4	
YJA	**Yavi**	**2.95**	**95**	*e*P	**Pn**	**07 19 45.7**	**+2.8**
YJA				*e*S	**Sn**	**07 20 21.0**	**+2.3**
PB14	**IPOC Station P**	**3.09**	**210**	*e*P	**Pn**	**07 19 45.8**	**+1.2**
PB14				*e*S	Sn	07 20 33.1	+11
PB14	comp=Z,81nm,0.6s			IAML		07 20 35.8	
SALTA		**3.12**	**137**	*e*P	Pn	07 19 38.6	-6.7
SALTA				*e*P		07 19 45.9	
HJA	**Humahuaca**	**3.27**	**113**	*e*P	**Pn**	**07 19 44.0**	**-3.1**
GO02	**Mina Guanaco**	**3.30**	**194**	*e*P	**Pn**	**07 19 48.5**	**+1.1**
GO02	comp=Z,74nm,0.6s			IAML		07 21 00.3	
PB16	**IPOC Station P**	**3.69**	**348**	*e*S	**Sn**	**07 20 32.0**	**-4.2**
PB16				IAML		07 20 44.2	
AC01	**Pan de Azucar**	**4.52**	**202**	*e*P	**Pn**	**07 20 03.1**	**-0.2**
AC01				*e*S	Sn	07 21 13.4	+18
AC01	comp=Z,21nm,0.5s			IAML		07 21 25.8	
AC02	**Maricunga**	**4.87**	**185**	*e*P	**Pn**	**07 20 09.9**	**+1.6**
AC02	comp=Z,15nm,1.3s			IAML		07 21 36.3	

IDC 11 07:30:33.6±73.0,20°.08S×176°.44E,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=1285.0km s-min=160.0km az=80.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.8nm,0.4s,baz=75,slow=12,SNR=2.9 0.8nm,0.4s	**33.32**	**242**	P	P	07 37 13.4	+0.1
WRA	**Warramunga Arr** 1.5nm,0.4s,baz=96,slow=9.1,SNR=5.1 1.5nm,0.4s	**39.49**	**263**	P	P	07 38 06.1	-0.1
ASAR	**Alice Springs** 5.3nm,0.7s,baz=89,slow=8.2,SNR=34 5.3nm,0.7s	**39.53**	**257**	P	P	07 38 06.3	-0.2

ASRS 11 07:34:54.0±1.3,54°.33N×86°.89E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

ASRS 11 07:35:20.0±1.0,54°.08N×87°.12E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

CNRM 11 07:46:39.8,37°.20N×4°.11W,h136km
MDD 11 07:46:45.7±0.3,37°.00N×3°.79W,h0km,mb_Lg2.9/22,
Error ellipse: s-maj=2.5km s-min=1.8km az=161.0
SFS 11 07:46:45.6,37°.03N×3°.80W,h0km,ML3.0/16,ML3.0/16,
MLv3.0/16
INMG 11 07:46:46.0±1.7,36°.98N×3°.69W,h16km±5km,ML2.5,Error ellipse: s-maj=6.5km s-min=3.5km az=161.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: SW
Granada (ESP)

ISC 11 07:46:44.1±0.8,37°.01N±0°.02×3°.79W±0°.01,h14km±5km, n75,σ1§41/135,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXAGR	**Agron**	**0.04**	**297**	Pg	**Pg**	**07 46 46.5**	**-0.3**
EXAGR				Sg	**Sg**	**07 46 47.5**	**-1.1**
ELGU	**Los Guajares,**	**0.20**	**137**	Pg	**Pg**	**07 46 49.1**	**+0.4**
ELGU				Sg	**Sg**	**07 46 52.9**	**+1.1**
ELGU	**Los Guajares,**	**0.20**	**137**	Pg	**Pg**	**07 46 49.1**	**+0

EQUE				*i* IVmb_Lg		07 46 56.6	
EMAL	**Malaga-Limoner**	**0.57**	**244**	Pg	**Pg**	**07 46 55.2**	**-0.1**
EMAL				Sg	**Sg**	**07 47 02.9**	**+0.1**
E0803	**Jimena (Jaen)**	**0.86**	**17**	Pg	**Pn**	**07 47 01.7**	**-0.3**
E0803				Sg	**Sn**	**07 47 14.9**	**+0.6**
EQES	**Quesada**	**0.97**	**36**	Pg	**Pn**	**07 47 03.6**	**0.0**
EQES				Sg	**Sn**	**07 47 17.7**	**+0.4**
EQES				*i* IVmb_Lg		07 47 23.5	
E0802	**Ubeda,Jaen**	**1.06**	**18**	Pn	**Pn**	**07 47 04.9**	**+0.1**
E0802				Sg	**Sn**	**07 47 20.0**	**+0.6**
E1302	**La Puebla de C**	**1.17**	**276**	Pg	**Pg**	**07 47 07.8**	**+1.2**
E1302				Sg	**Sn**	**07 47 24.3**	**+2.5**
E1302				*i* IVmb_Lg		07 47 30.8	
ENIJ	**Nijar**	**1.27**	**91**	Pn	**Pg**	**07 47 08.5**	**-0.1**
ENIJ				Sn	**Sg**	**07 47 27.2**	**+2.1**
ENIJ	**Nijar**	**1.27**	**91**	Pg	**Pb**	**07 47 08.2**	**+0.2**
ENIJ				Sg	**Sb**	**07 47 24.6**	**+0.4**
ENIJ				*i* IVmb_Lg		07 47 32.2	
EADA	**Adamuz**	**1.31**	**332**	Pn	**Pg**	**07 47 09.0**	**-0.4**
EADA				Sn	**Sg**	**07 47 27.3**	**+0.9**
EADA	**Adamuz**	**1.31**	**332**	Pn	**Pg**	**07 47 09.1**	**-0.2**
EADA				Sn	**Sg**	**07 47 27.7**	**+1.3**
EADA				*i* IVmb_Lg		07 47 29.3	
ESPR	**Espera**	**1.66**	**266**	Pn	**Pb**	**07 47 15.5**	**+1.0**
ESPR	**Espera**	**1.66**	**266**	Pn	**Pb**	**07 47 14.9**	**+0.4**
ESPR				Sn	**Sg**	**07 47 37.0**	**-0.5**
ESPR				*i* IVmb_Lg		07 47 55.9	
ECAB	**El Cabril**	**1.67**	**310**	Pn	**Pn**	**07 47 14.1**	**+1.0**
ECAB				Sn	**Sg**	**07 47 38.0**	**+0.1**
ECAB	**El Cabril**	**1.67**	**310**	Pn	**Pn**	**07 47 14.2**	**+1.1**
ECAB				Sn	**Sg**	**07 47 37.5**	**-0.5**
ECAB				*i* IVmb_Lg		07 47 40.2	
ECEU	**Ceuta**	**1.69**	**229**	Pn	**Pb**	**07 47 15.5**	**+0.4**
PSIM	**Granatula de C**	**1.80**	**1**	Pn	**Pb**	**07 47 16.7**	**-0.4**
PSIM				Sn	**Sg**	**07 47 40.7**	**-1.5**
SMIR	**Smir Dam**	**1.85**	**224**	P	**Pn**	**07 47 12.5**	**-2.9**
GOG	**Mont Gurugu**	**1.90**	**160**	P	**Pn**	**07 47 16.6**	**+0.3**
EMUR	**La Murta**	**2.19**	**67**	Pn	**Pb**	**07 47 22.9**	**-0.8**
EMUR	**La Murta**	**2.19**	**67**	Pn	**Pb**	**07 47 22.5**	**-1.2**
EMUR				Sn	**Sb**	**07 47 50.3**	**-0.5**
EMUR				*i* IVmb_Lg		07 48 09.5	
CART	**Cartagena**	**2.30**	**75**	Pn	**Pn**	**07 47 23.7**	**+2.1**
CART				Sn	**Sb**	**07 47 53.8**	**+0.1**
CART	**Cartagena**	**2.30**	**75**	P	**Pn**	**07 47 20.5**	**-1.2**
CART	**Cartagena**	**2.30**	**75**	S	**Sn**	**07 47 51.7**	**+1.9**
ETOB	**Tobarra**	**2.41**	**47**	Pn	**Pn**	**07 47 24.6**	**+1.3**
ETOB	**Tobarra**	**2.41**	**47**	Pn	**Pn**	**07 47 24.5**	**+1.2**
ETOB				Pg	**Pg**	**07 47 29.6**	**-0.8**
ETOB				Sn	**Sb**	**07 47 56.3**	**-0.8**
ETOB				*i* IVmb_Lg		07 48 09.1	
EMIN	**Mina Concepcio**	**2.41**	**289**	Pn	**Pn**	**07 47 24.1**	**+0.9**
EMIN				Sn	**Sn**	**07 47 55.0**	**+2.4**
EMIN	**Mina Concepcio**	**2.41**	**289**	Pn	**Pn**	**07 47 24.4**	**+1.2**
EMIN				Sn	**Sb**	**07 47 55.4**	**-1.6**
EMIN				*i* IVmb_Lg		07 48 11.4	
AKLM	**AKL**	**2.50**	**181**	P	**Pn**	**07 47 21.8**	**-2.7**
AKLM	**AKL**	**2.50**	**181**	S	**Sn**	**07 47 54.3**	**-0.6**
PAB	**San Pablo**	**2.56**	**350**	Pn	**Pn**	**07 47 27.1**	**+1.7**
PAB				Pg	**Pg**	**07 47 31.8**	**-1.6**
PAB				Sn	**Sb**	**07 47 59.6**	**-1.9**
PAB				Sg	**Sg**	**07 48 05.5**	**-1.1**
PAB				*i* IVmb_Lg		07 48 10.0	
PBAR	**Barrancos**	**2.83**	**295**	Pn	**Pn**	**07 47 29.7**	**+0.8**
PBAR				Sn	**Sn**	**07 48 04.7**	**+1.9**
PBAR	**Barrancos**	**2.83**	**295**	*e*Pn	**Pn**	**07 47 29.8**	**+0.8**
PBAR				*e*Sn	**Sn**	**07 48 04.5**	**+1.7**
PBAR				*e*Sg	**Sg**	**07 48 15.7**	**+0.7**
PBAR				*i* IAML		07 48 26.3	
PBAR				*i* IAML		07 48 29.1	
PBAR				*i* IAML		07 48 29.1	
JBK	**JBK**	**2.85**	**159**	P	**Pn**	**07 47 28.6**	**-0.9**
JBK	**JBK**	**2.85**	**159**	S	**Sn**	**07 48 06.5**	**+2.7**
EGRO	**El Granado**	**2.99**	**281**	Pn	**Pn**	**07 47 31.9**	**+0.8**
EGRO				Sn	**Sn**	**07 48 08.3**	**+1.5**
EGRO	**El Granado**	**2.99**	**281**	Pn	**Pn**	**07 47 32.4**	**+1.3**
EGRO				Sn	**Sn**	**07 48 09.9**	**+3.1**
EGRO				*i* IVmb_Lg		07 48 30.9	
EBAD	**Badajoz**	**3.08**	**305**	Pn	**Pn**	**07 47 32.5**	**+0.1**
EBAD				Sn	**Sn**	**07 48 09.4**	**+0.3**
EVIV	**Cofrentes, Val**	**3.08**	**42**	Pn	**Pn**	**07 47 33.7**	**+1.2**
EVIV				Pg	**Pg**	**07 47 42.4**	**-0.9**
EVIV				Sn	**Sn**	**07 48 12.4**	**+3.1**
EVIV				*i* IVmb_Lg		07 48 30.9	
PVAQ	**Vaqueiros**	**3.16**	**278**	*e*Pn	**Pn**	**07 47 34.6**	**+1.1**
PVAQ				*e*Sn	**Sn**	**07 48 11.9**	**+1.0**
PVAQ				*i* IAML		07 48 30.2	
PVAQ				*i* IAML		07 48 32.8	
PVAQ				*i* IAML		07 48 33.2	
PBDV	**Barranco-do-Ve**	**3.31**	**275**	Sn	**Sn**	**07 48 17.8**	**+2.9**
PBDV	**Barranco-do-Ve**	**3.31**	**275**	*e*Sn	**Sn**	**07 48 16.1**	**+1.2**
PBDV				*e*Sg	**Sg**	**07 48 32.0**	**+1.4**
PBDV				*i* IAML		07 48 39.1	
PBDV				*i* IAML		07 48 39.7	
PBDV				*i* IAML		07 48 49.7	
UCM	**Universidad Co**	**3.32**	**7**	Sn	**Sn**	**07 48 14.7**	**-0.3**
PBEJ	**Beja**	**3.39**	**289**	*e*Sn	**Sn**	**07 48 19.1**	**+2.4**
ECHE	**Chera**	**3.40**	**40**	Pn	**Pn**	**07 47 38.9**	**+2.0**
PCVE	**Castro Verde**	**3.44**	**282**	Pn	**Pn**	**07 47 38.2**	**+0.8**
PCVE	**Castro Verde**	**3.44**	**282**	*e*Pn	**Pn**	**07 47 39.0**	**+1.6**
PCVE				*e*Sn	**Sb**	**07 48 24.0**	**-2.5**
PCVE				*e*Sg	**Sg**	**07 48 33.9**	**-0.8**
PCVE				*i* IAML		07 48 39.2	
PCVE				*i* IAML		07 48 42.1	
PCVE				*i* IAML		07 48 42.4	
PESTR	**Estremoz**	**3.52**	**303**	Pn	**Pn**	**07 47 40.3**	**+1.8**
PESTR				Sn	**Sn**	**07 48 21.7**	**+1.6**
PESTR	**Estremoz**	**3.52**	**303**	*e*Pn	**Pn**	**07 47 40.8**	**+2.2**
PESTR				*e*Sn	**Sn**	**07 48 21.3**	**+1.2**
PESTR				*e*Sg	**Sg**	**07 48 34.9**	**-2.5**
PESTR				*i* IAML		07 48 44.3	
PESTR				*i* IAML		07 48 45.2	
PESTR				*i* IAML		07 48 46.6	
MESJ	**Messejana**	**3.62**	**284**	*e*Sn	**Sn**	**07 48 23.6**	**+1.2**
MESJ				*e*Sg	**Sg**	**07 48 41.1**	**+0.8**
MESJ				*i* IAML		07 48 50.7	
MESJ				*i* IAML		07 48 51.5	
MESJ				*i* IAML		07 48 56.1	
EVO	**Evora**	**3.67**	**296**	Pn	**Pn**	**07 47 41.6**	**+1.1**
EVO	**Evora**	**3.67**	**296**	*e*Pn	**Pn**	**07 47 41.6**	**+1.1**
EVO				*e*Sn	**Sn**	**07 48 24.4**	**+0.8**
EVO				*i* IAML		07 48 47.9	
PMRV	**Marv??o**	**3.72**	**311**	*e*Pn	**Pn**	**07 47 43.3**	**+2.0**
PMRV				*e*Sn	**Sn**	**07 48 25.2**	**+0.3**
PMRV				*e*Sg	**Sg**	**07 48 43.2**	**-0.4**
PMRV				*i* IAML		07 48 56.7	
PMRV				*i* IAML		07 48 57.0	
PMRV				*i* IAML		07 48 57.4	
PTEO	**Sao Teotonio**	**3.97**	**279**	*e*Sn	**Sn**	**07 48 32.7**	**+1.7**
PCBR	**Castelo Branco**	**4.04**	**315**	*e*Pn	**Pn**	**07 47 48.1**	**+2.4**
PCBR				*e*Sn	**Sn**	**07 48 33.7**	**+0.9**
PCBR				*e*Sg	**Sg**	**07 48 55.5**	**+1.6**
PCBR				*i* IAML		07 48 57.7	
PCBR				*i* IAML		07 49 01.1	
PCBR				*i* IAML		07 49 09.0	
PMTG	**Montargil**	**4.05**	**302**	*e*Pn	**Pn**	**07 47 47.6**	**+1.8**
PMTG				*e*Sn	**Sn**	**07 48 32.9**	**-0.3**
PMTG				*e*Sg	**Sg**	**07 48 54.8**	**+0.5**
PMTG				*i* IAML		07 49 00.0	
PMTG				*i* IAML		07 49 10.2	
PMTG				*i* IAML		07 49 12.6	
MD31	**MD31**	**4.21**	**191**	P	**Pn**	**07 47 44.9**	**-3.2**
ZHG	**ZHG**	**4.25**	**214**	P	**Pn**	**07 47 45.0**	**-3.7**
PSARD	**Sardoal**	**4.30**	**308**	*e*Pn	**Pn**	**07 47 51.2**	**+2.0**
PSARD				*e*Sn	**Sn**	**07 48 37.5**	**-1.7**
PSARD				*e*Sg	**Sg**	**07 49 02.3**	**+0.1**
PSARD				*i* IAML		07 49 08.2	
PSARD				*i* IAML		07 49 10.1	
PSARD				*i* IAML		07 49 11.7	
MTE	**Manteigas**	**4.47**	**320**	*e*Sg	**Sg**	**07 49 05.3**	**-2.5**
MTE				*i* IAML		07 49 17.4	
PARRA	**Arraiolos**	**4.52**	**295**	*e*Pn	Pn	07 47 44.5	-7.8
PARRA				*e*Pg	Pb	07 47 57.9	-5.4
PARRA				*e*Sn	Sn	07 48 28.2	-16
PARRA				*e*Sg	Sb	07 48 45.3	-12
PARRA				*i* IAML		07 48 53.1	
PARRA				*i* IAML		07 48 53.6	
PARRA				*i* IAML		07 49 01.1	
PCAS	**Casmilo, Conde**	**4.78**	**311**	*e*Sn	**Sn**	**07 48 49.8**	**-1.1**
PCAS				*e*Sg	**Sg**	**07 49 16.9**	**-0.5**
PCAS				*i* IAML		07 49 27.4	
PCAS				*i* IAML		07 49 33.1	
PCAS				*i* IAML		07 49 34.6	
MVO	**Moncorvo**	**4.85**	**330**	*e*Pn	**Pn**	**07 47 58.6**	**+1.8**
MVO				*e*Sn	**Sn**	**07 48 51.5**	**-1.3**
MVO				*e*Sg	**Sg**	**07 49 18.4**	**-1.4**
MVO				*i* IAML		07 49 21.0	
MVO				*i* IAML		07 49 30.0	
MVO				*i* IAML		07 49 33.7	
PVIS	**Viseu**	**4.89**	**320**	*e*Pn	**Pn**	**07 47 59.2**	**+1.9**
PVIS				*e*Sn	**Sn**	**07 48 53.3**	**-0.4**
PVIS				*e*Sg	**Sg**	**07 49 20.1**	**-1.0**
PBRG	**Braganca**	**5.30**	**335**	*e*Sg	**Sg**	**07 49 33.8**	**-0.5**
PBRG				*i* IAML		07 49 35.8	
PBRG				*i* IAML		07 49 43.6	
PBRG				*i* IAML		07 49 46.5	
POLO	**Lamas de Olo**	**5.35**	**326**	*e*Pn	**Pn**	**07 48 05.7**	**+2.0**
PCAB	**Cabril**	**5.72**	**326**	*e*Sg	**Sg**	**07 49 45.7**	**-2.1**
PGAV	**Gavieira, Arco**	**6.04**	**326**	*e*Pn	**Pn**	**07 48 15.0**	**+1.9**

KRSC ***11*** *07:48:29.0±0.9, 55.°72N×163.°20E, h22km±22km, Ml5.3, Felt [II-III] at Krutoberegovo; [II] at Ust-Kamchatsk.*

MOS ***11*** *07:48:30.4±1.2, 55.°87N×163.°08E, h26km, mb5.1/45, MS4.5/9, Error ellipse: s-maj=5.5km s-min=3.8km az=81.0*

BJI ***11*** *07:48:31.1, 56.°43N×162.°74E, h26km, mB5.2/12, mb4.7/41, Ms5.1/29, Ms7 4.9/29*

GCMT ***11*** *07:48:33.4±0.3, 55.°83N±0.°03×163.°01E±0.°03, h24km±1km, MW4.9/80, Moment Tensor Solution. s37,c43; s80,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.90±.17; $M_{\theta\theta}$1.12±.12; $M_{\phi\phi}$-3.02±.11; $M_{r\theta}$1.40±.22; $M_{\theta\phi}$0.02±.07; $M_{\phi r}$-0.28±.13; Best double couple: M_o3.00500×10^{16} NP1:ϕ_s31.00000°, δ52.00000°, λ139.00000°. NP2: ϕ_s149.00000°, δ59.00000°, λ45.00000°. Principal axes: T 2.9710, Plg53.0000°, Azm3.0000°; N 0.0670, Plg37.0000°, Azm176.0000°; P -3.0380, Plg4.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *07:48:34.4±1.9, 55.°84N±0.°07×163.°0E±0.°1, h44km±7km, mb4.9/63 Error ellipse: s-maj=11.4km s-min=9.3km az=147.0*

IDC ***11*** *07:48:36.8±1.9, 55.°90N×162.°73E, h64km±17km, mb4.3/39, mbtmp4.6/43, MS4.2/60, Error ellipse: s-maj=11.8km s-min=8.9km az=129.0*

ISC 11 07:48:32.8±0.5, 55.°85N±0.°03×163.°05E±0.°03, h32km±3km, n649, σ1§38/633, mb4.8/125, MS4.3/72, 21C-16D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.38**	**341**	PN	**Pb**	**07 48 39.7**	**-1.8**
KBTR	**Krutoberegovo**	**0.38**	**341**	*e*P	**Pb**	**07 48 39.8**	**-1.8**
KBG	**Krutoberegovo**	**0.45**	**335**	PN	**Pb**	**07 48 41.0**	**-1.5**
KBG				S	**Sn**	**07 48 51.1**	**+1.1**
KBG	**Krutoberegovo**	**0.45**	**335**	*e*P	**Pb**	**07 48 41.0**	**-1.5**
KBG				*e*S	**Sn**	**07 48 51.1**	**+1.1**
SMKR	**Semkarok**	**1.15**	**310**	PN	**Pn**	**07 48 52.4**	**-0.3**
SMKR	**Semkarok**	**1.15**	**310**	*e*P	**Pn**	**07 48 52.4**	**-0.3**
BDR	**Baidarnaya**	**1.26**	**306**	PN	**Pb**	**07 48 56.0**	**+0.1**
BDR	**Baidarnaya**	**1.26**	**306**	*e*P	**Pb**	**07 48 56.0**	**+0.1**
ZLN	**Zelenaya**	**1.27**	**279**	PN	**Pn**	**07 48 54.0**	**-0.4**
ZLN	**Zelenaya**	**1.27**	**279**	*e*P	**Pn**	**07 48 54.1**	**-0.4**
CIRR	**Tsirk**	**1.32**	**283**	PN	**Pn**	**07 48 54.7**	**-0.4**
CIRR	**Tsirk**	**1.32**	**283**	*e*P	**Pn**	**07 48 54.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**1.33**	**275**	PN	**Pn**	**07 48 54.5**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**1.33**	**275**	*e*P	**Pn**	**07 48 54.6**	**-0.6**
LGNR	**Loginova**	**1.35**	**281**	PN	**Pn**	**07 48 55.7**	**+0.1**
LGNR	**Loginova**	**1.35**	**281**	*e*P	**Pn**	**07 48 55.8**	**+0.1**
KLY	**Klyuchi**	**1.42**	**290**	PN	**Sn**	**07 48 54.6**	**-1.7**
KLY				S	**Sn**	**07 49 13.7**	**-0.2**
KLY	**Klyuchi**	**1.42**	**290**	*e*P	**Pn**	**07 48 54.7**	**-1.7**
KLY				*e*S	**Sn**	**07 49 13.8**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.44**	**276**	PN	**Pn**	**07 48 56.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.44**	**276**	*e*P	**Pn**	**07 48 56.5**	**-0.3**
BZMR	**Bezymyannaya**	**1.44**	**275**	PN	**Pn**	**07 48 56.3**	**-0.5**
BZMR	**Bezymyannaya**	**1.44**	**275**	*e*P	**Pn**	**07 48 56.3**	**-0.5**
MKZ	**Mys Kozlova**	**1.50**	**211**	PN	**Pn**	**07 48 54.5**	**-2.8**
MKZ	**Mys Kozlova**	**1.50**	**211**	*e*P	**Pn**	**07 48 54.6**	**-2.8**
KIRR	**Kirishev**	**1.53**	**275**	PN	**Pn**	**07 48 57.8**	**-0.1**
KIRR				S	**Sb**	**07 49 19.2**	**-0.3**
KIRR	**Kirishev**	**1.53**	**275**	*e*P	**Pn**	**07 48 57.8**	**-0.1**
KIRR				*e*S	**Sb**	**07 49 19.3**	**-0.3**
KMNR	**Kamenistaya**	**1.59**	**268**	PN	**Pn**	**07 48 58.8**	**0.0**
KMNR	**Kamenistaya**	**1.59**	**268**	*e*P	**Pn**	**07 48 58.8**	**0.0**
KPT	**Kopyto**	**1.59**	**275**	PN	**Pn**	**07 48 59.0**	**+0.2**
KPT	**Kopyto**	**1.59**	**275**	*e*P	**Pn**	**07 48 59.0**	**+0.2**
TUMD	**Tumrok D**	**1.64**	**248**	PN	**Pn**	**07 48 56.6**	**-2.8**
TUMD				S	**Sn**	**07 49 17.2**	**-2.1**
TUMD	**Tumrok D**	**1.64**	**248**	*e*P	**Pn**	**07 48 56.6**	**-2.8**
TUMD				*e*S	**Sn**	**07 49 17.3**	**-2.1**
TUMR	**Tumrok**	**1.74**	**252**	PN	**Pn**	**07 49 01.1**	**+0.2**
TUMR	**Tumrok**	**1.74**	**252**	*e*P	**Pn**	**07 49 01.1**	**+0.2**
BKI	**Bering**	**1.78**	**110**	PN	**Pn**	**07 48 59.2**	**-2.1**
BKI				S	**Sn**	**07 49 21.0**	**-1.8**
BKI	**Bering**	**1.78**	**110**	*e*P	**Pn**	**07 48 59.2**	**-2.1**
BKI				*e*S	**Sn**	**07 49 21.1**	**-1.8**
KOZ	**Kozyrevsk**	**1.80**	**278**	PN	**Pn**	**07 49 02.6**	**+1.1**
KOZ				S	**Sb**	**07 49 27.6**	**+0.5**
KOZ	**Kozyrevsk**	**1.80**	**278**	*e*P	**Pn**	**07 49 02.7**	**+1.1**
KOZ				*e*S	**Sb**	**07 49 27.6**	**+0.5**
SRDR	**Sredinnyy**	**1.93**	**286**	PN	**Pn**	**07 49 04.3**	**+1.0**
SRDR				S	**Sb**	**07 49 30.5**	**-0.3**
SRDR	**Sredinnyy**	**1.93**	**286**	*e*P	**Pn**	**07 49 04.4**	**+1.0**
SRDR				*e*S	**Sb**	**07 49 30.5**	**-0.3**
ESO	**Esso**	**2.45**	**274**	PN	**Pn**	**07 49 11.0**	**+0.5**
ESO	**Esso**	**2.45**	**274**	*e*P	**Pn**	**07 49 11.0**	**+0.5**
KII	**Karymskiy**	**2.76**	**230**	PN	**Pn**	**07 49 14.1**	**-0.7**
KII	**Karymskiy**	**2.76**	**230**	*e*P	**Pn**	**07 49 14.1**	**-0.7**
SPN	**Mys Shipunski**	**3.27**	**214**	PN	**Pn**	**07 49 20.2**	**-1.5**
SPN	**Mys Shipunski**	**3.27**	**214**	*e*P	**Pn**	**07 49 20.3**	**-1.5**
SPN				*e*S	**Sn**	**07 49 58.0**	**-1.6**
OSSR	**Ossora**	**3.41**	**0**	PN	**Pn**	**07 49 24.2**	**+0.6**
OSSR	**Ossora**	**3.41**	**0**	*e*P	**Pn**	**07 49 24.3**	**+0.6**
NLC	**Nalytchevo**	**3.44**	**220**	PN	**Pn**	**07 49 23.7**	**-0.4**
NLC				S	**Sn**	**07 50 05.0**	**+1.3**
NLC	**Nalytchevo**	**3.44**	**220**	*e*P	**Pn**	**07 49 23.7**	**-0.4**
NLC				*e*S	**Sn**	**07 50 05.0**	**+1.3**
SDLR	**Sedlovina**	**3.54**	**225**	PN	**Pn**	**07 49 25.0**	**-0.5**
SDLR	**Sedlovina**	**3.54**	**225**	*e*P	**Pn**	**07 49 25.0**	**-0.5**
KRER	**Koryakskii**	**3.57**	**226**	PN	**Pn**	**07 49 26.8**	**+0.7**
KRER	**Koryakskii**	**3.57**	**226**	*e*P	**Pn**	**07 49 26.9**	**+0.7**
KRX	**Arik**	**3.57**	**228**	PN	**Pn**	**07 49 27.4**	**+1.4**
KRX	**Arik**	**3.57**	**228**	*e*P	**Pn**	**07 49 27.4**	**+1.4**
SMAR	**Somma**	**3.58**	**225**	PN	**Pn**	**07 49 25.7**	**-0.5**
SMAR	**Somma**	**3.58**	**225**	*e*P	**Pn**	**07 49 25.8**	**-0.5**
AVH	**Avacha**	**3.60**	**226**	PN	**Pn**	**07 49 26.4**	**0.0**
AVH	**Avacha**	**3.60**	**226**	*e*P	**Pn**	**07 49 26.5**	**0.0**
KOK	**Koryaka**	**3.63**	**227**	PN	**Pn**	**07 49 27.9**	**+1.2**
KOK	**Koryaka**	**3.63**	**227**	*e*P	**Pn**	**07 49 28.0**	**+1.2**
PALN	**Palana**	**3.65**	**334**	PN	**Pn**	**07 49 30.5**	**+3.6**
PALN	**Palana**	**3.65**	**334**	*e*P	**Pn**	**07 49 30.5**	**+3.6**
GNL	**Ganaly**	**3.66**	**236**	PN	**Pn**	**07 49 27.6**	**+0.4**
GNL	**Ganaly**	**3.66**	**236**	*e*P	**Pn**	**07 49 27.6**	**+0.4**
DALK	**Dalny**	**3.77**	**223**	PN	**Pn**	**07 49 28.3**	**-0.3**
DALK				S	**Sn**	**07 50 12.7**	**+0.8**
DALK	**Dalny**	**3.77**	**223**	*e*P	**Pn**	**07 49 28.4**	**-0.3**
DALK				*e*S	**Sn**	**07 50 12.7**	**+0.8**
INSR	**Institute**	**3.81**	**225**	PN	**Pn**	**07 49 30.3**	**+1.2**
INSR				S	**Sn**	**07 50 16.7**	**+4.0**
INSR	**Institute**	**3.81**	**225**	*e*P	**Pn**	**07 49 30.4**	**+1.2**
INSR				*e*S	**Sn**	**07 50 16.7**	**+4.0**
PET	**Petropavlovsk**	**3.82**	**224**		**Pn**	**07 49 29.8**	**+0.5**
PET	**Petropavlovsk**	**3.82**	**224**	*c i*PN	**Pn**	**07 49 29.5**	**+0.2**
PET	**Petropavlovsk**	**3.82**	**224**	*e*P	**Pn**	**07 49 30.3**	**+1.1**
PET				*e*S	**Sn**	**07 50 15.9**	**+2.8**
PEA0B	**Petropavlovsk-**	**4.16**	**231**		**Pn**	**07 49 34.8**	**+0.9**
PEA0B	**Petropavlovsk-**	**4.16**	**231**	*c i*PN	**Pn**	**07 49 34.4**	**+0.5**
PETK	**Petropavlovsk-**	**4.16**	**231**		**Pn**	**07 49 34.8**	**+0.8**
PETK	**Petropavlovsk-** 31nm,0.5s,baz=67,slow=13,SNR=46	**4.16**	**231**	P	**Pn**	**07 49 34.4**	**+0.4**
PETK				S	**Sn**	**07 50 26.1**	**+4.8**
PETK	56nm,0.6s,baz=232,slow=1.7,SNR=4.6			LR	LR	07 51 15.5	
	comp=Z,3μm,19.1s,baz=47,slow=39						
KRMR	**Karymshinskiy**	**4.17**	**226**	PN	**Pn**	**07 49 35.1**	**+1.0**
KRMR	**Karymshinskiy**	**4.17**	**226**	*e*P	**Pn**	**07 49 35.1**	**+1.0**
RUS	**Russkaya**	**4.34**	**220**	PN	**Pn**	**07 49 36.3**	**-0.1**
RUS	**Russkaya**	**4.34**	**220**	*e*P	**Pn**	**07 49 36.3**	**-0.1**
GRL	**Gorelyy**	**4.41**	**224**	PN	**Pn**	**07 49 38.1**	**+0.6**
GRL	**Gorelyy**	**4.41**	**224**	*e*P	**Pn**	**07 49 38.2**	**+0.6**
MTVR	**Mutnovka**	**4.42**	**222**	PN	**Pn**	**07 49 38.4**	**+0.7**
MTVR	**Mutnovka**	**4.42**	**222**	*e*P	**Pn**	**07 49 38.4**	**+0.7**
ASAK	**Asacha**	**4.61**	**223**	PN	**Pn**	**07 49 42.1**	**+1.9**
ASAK	**Asacha**	**4.61**	**223**	*e*P	**Pn**	**07 49 42.1**	**+1.9**
PAU	**Pauzhetka**	**5.74**	**223**	PN	**Pn**	**07 49 59.1**	**+3.4**
PAU	**Pauzhetka**	**5.74**	**223**	*e*P	**Pn**	**07 49 59.1**	**+3.4**
SKR	**Severo-Kuril's**	**6.63**	**222**	*e*PN	**Pn**	**07 50 12.4**	**+4.5**
SKR				*e*S	**Sn**	**07 51 28.7**	**+6.3**
SKR	comp=Z,350nm,0.8s			pmax	pmax		
SKR	comp=Z,200nm,5.2s			pmax	pmax		
SKR	comp=E,411nm,0.8s			smax	smax		
SKR	comp=N,252nm,0.7s			smax	smax		
SKR	comp=Z,3μm,13.0s			MLR	MLR		
SKR	comp=N,2μm,15.0s			MLR	MLR		
SKR	comp=E,1μm,14.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**6.63**	**222**	*e*P	**Pn**	**07 50 10.4**	**+2.5**
KMSK	**Kamenskaya**	**6.83**	**12**	PN	**Pn**	**07 50 12.6**	**+2.0**
KMSK	**Kamenskaya**	**6.83**	**12**	*e*P	**Pn**	**07 50 12.6**	**+2.0**
SHEM	**Shemya Is, Ala**	**7.18**	**111**	Pn	**Pn**	**07 50 16.5**	**+1.0**
SHEM	**Shemya Is, Ala**	**7.18**	**111**	P	**Pn**	**07 50 17.5**	**+2.0**
SHEM	comp=E,58nm,0.8s,baz=103,slow=1.4,SNR=4.4			S	**Sn**	**07 51 34.3**	**-1.5**
	comp=E,56nm,0.6s,baz=346,slow=20,SNR=6.3						
SMY	**Shemya**	**7.18**	**111**	Pn	**Pn**	**07 50 16.4**	**+1.0**
SMY	**Shemya**	**7.18**	**111**	PN	**Pn**	**07 50 16.4**	**+1.0**
MA2	**Magadan**	**7.56**	**305**	P	**Pn**	**07 50 20.7**	**+0.1**
MA2	comp=E,8.5nm,0.7s,baz=137,slow=19,SNR=1.3			LR	LR	07 53 13.7	
	comp=E,557nm,18.4s,baz=132,slow=38						
SEY	**Seymchan**	**8.94**	**327**	P	**Pn**	**07 50 40.5**	**+1.0**
SEY	comp=E,1.4nm,0.8s,baz=159,slow=14,SNR=1.4			LR	LR	07 54 34.8	
	comp=E,3μm,18.4s,baz=132,slow=41						
SEY	**Seymchan**	**8.94**	**327**	*e*PN	Pn	07 50 50.3	+11
SEY	comp=Z,26nm,1.4s			pmax	pmax		
TYV	comp=Z,300nm,2.3s			pmax	pmax		
TYV	comp=Z,35nm,1.3s			smax	smax		
TYV	comp=N,200nm,4.4s			smax	smax		
TYV	comp=E,300nm,4.4s			smax	smax		
TYV	comp=N,13nm,1.6s			smax	smax		
TYV	comp=E,8.0nm,1.6s						
UGL	**Uglegorsk**	**14.44**	**251**	*e*P	Pn	07 51 48.7	-6.0
UGL				S	**Sn**	**07 54 30.7**	**-2.7**
UGL	comp=Z,4μm,10.0s			MLR	MLR		
UGL	comp=N,1μm,14.0s			MLR	MLR		
UGL	comp=E,6μm,12.0s			MLR	MLR		
SPIA	**Saint Paul Isl** baz=277	**14.77**	**74**	P	**Pn**	**07 51 59.9**	**+0.8**
GAMB	**Gambell** baz=250	**14.89**	**48**	P

baz=287
N14K Kuskokwak Cree 19.04 63 P P 07 52 52.4 +0.6
baz=274
C16K Lisburne Hills 19.05 37 P P 07 52 52.4 +0.5
baz=245
H16K Elim 19.10 49 P P 07 52 52.3 -0.2
baz=259
L15K Ungalak Mounta 19.11 58 P Pn 07 52 54.1 +0.5
baz=269
K15K Wolf Creek Mou 19.12 56 P Pn 07 52 54.3 +0.6
K15K Wolf Creek Mou 19.12 56 P P 07 52 53.0 +0.3
baz=267
G16K Koyuk River 19.21 46 P Pn 07 52 54.8 0.0
baz=257
O14K Tigyukauivet M 19.30 65 P Pn 07 52 56.4 +0.6
baz=276
M15K Kasigluk River 19.50 61 P Pn 07 52 58.0 -0.2
baz=272
S12K Black Hills 19.51 76 P Pn 07 52 58.0 -0.4
baz=285
D17K Noatak River 19.61 39 P P 07 52 57.8 -0.2
baz=250
J16K Anvik River 19.62 53 P Pn 07 52 59.9 +0.1
J16K Anvik River 19.62 53 P P 07 52 58.6 +0.4
baz=265
I17K Unalakleet 19.65 51 P P 07 52 59.3 +0.8
baz=263
RDOG Red Dog Mine 19.80 38 P Pn 07 53 01.2 -0.6
baz=249
N15K Kwethluk River 19.82 62 P Pn 07 53 02.4 +0.3
N15K IAmb IAmb 07 53 14.2
comp=Z,69nm,1.0s
N15K Kwethluk River 19.82 62 P Pn 07 53 02.3 +0.3
baz=274
C17K DeLong Mountai 19.86 37 P Pn 07 53 02.1 -0.5
baz=248
E17K Hotham Inlet 19.87 42 P Pn 07 53 01.9 -0.7
baz=253
F17K Baldwin Pennin 19.91 44 P P 07 53 02.2 +0.9
baz=256
G17K Kiwalik Mounta 19.93 46 P Pn 07 53 02.9 -0.4
baz=259
O15K Ungalikthiuk R 20.04 65 P Pn 07 53 04.4 -0.3
baz=277
L16K Owhat River 20.07 58 P 07 53 03.5 +0.4
L16K Owhat River 20.07 58 P Pn 07 53 05.1 +0.1
baz=270
H17K Granite Mounta 20.14 48 P Pn 07 53 05.3 -0.5
baz=261
M16K Timber Creek 20.33 60 Pn 07 53 07.3 -0.8
M16K IAmb IAmb 07 53 19.9
comp=Z,50nm,1.1s
M16K Timber Creek 20.33 60 P Pn 07 53 07.8 -0.3
baz=273
E18K Tukpahlearik C 20.42 41 P Pn 07 53 08.7 -0.4
baz=254
N16K Nishlik Lake 20.45 61 P Pn 07 53 09.2 -0.4
baz=274
SDPT Sand Point 20.47 76 P Pn 07 53 09.7 0.0
baz=287
F18K Selawik 20.57 44 P P 07 53 09.4 +1.0
baz=257
ZEA Zeya 20.61 279 eP Pn 07 53 13.6 +2.3
ZEA eS S 07 56 55.8 -1.6
ZEA pmax pmax
comp=E,20nm,1.3s
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=N,300nm,8.3s
ZEA MLR MLR
comp=E,700nm,14.0s
ZEA MLR MLR
comp=Z,800nm,14.0s
ZEA MLR MLR
comp=N,400nm,11.0s
C18K Utukok River 20.61 37 P P 07 53 09.8 +0.9
baz=250
L17K Donlin 20.63 56 P P 07 53 10.3 +1.1
baz=270
K17K Iditarod 20.63 55 P Pn 07 53 10.9 -0.8
baz=269
B18K Kokolik River 20.67 35 P P 07 53 09.9 +0.4
baz=247
S14K Fog Glacier 20.72 73 P Pn 07 53 12.7 0.0
baz=285
H18K Honhosa River 20.82 48 P Pn 07 53 12.8 -1.0
baz=262
G18K Tagagawik 20.82 46 P Pn 07 53 13.1 -0.7
G18K Tagagawik 20.82 46 P Pn 07 53 13.2 -0.5
baz=260
O16K Kokwok River B 20.88 64 P Pn 07 53 14.3 -0.1
baz=277
P16K Nushagak River 21.00 65 P P 07 53 15.1 +1.9
baz=279
M17K Holitna River 21.05 58 P 07 53 15.1 +1.4
M17K IAmb IAmb 07 53 30.8
comp=Z,55nm,0.9s
M17K Holitna River 21.05 58 P P 07 53 15.4 +1.7
baz=273
CHNA Chernabura Isl 21.11 77 P P 07 53 16.9 +2.5
baz=288
N17K Nushagak Hills 21.23 61 P P 07 53 17.3 +1.7
baz=275
A19K Wainwright 21.24 33 P P 07 53 16.8 +1.2
baz=246
C19K Lookout Ridge 21.31 37 P P 07 53 17.9 +1.4
baz=251
F19K Shaleruckik Mo 21.35 43 P P 07 53 19.6 +2.7
F19K Shaleruckik Mo 21.35 43 P P 07 53 18.2 +1.4
baz=258,SNR=5.9
O17K Koliganek Bris 21.36 63 P P 07 53 19.1 +2.1
baz=277
J18K Innoko River 21.38 53 P P 07 53 18.5 +1.3
J18K Innoko River 21.38 53 P P 07 53 19.0 +1.7
baz=268,SNR=7.8
GCSA Galena City Sc 21.40 49 P P 07 53 19.1 +1.8
baz=265
TIXI Tiksi 21.40 331 P 07 53 18.0 +0.6
TIXI IAmb IAmb 07 53 22.3
comp=Z,58nm,0.9s
TIXI Tiksi 21.40 331 P P 07 53 18.0 +0.6
comp=Z,34nm,0.7s,baz=128,slow=12,SNR=23
comp=Z,34nm,0.7s
TIXI Tiksi 21.40 331 ceP P 07 53 17.7 +0.4
TIXI pmax pmax
comp=Z,69nm,0.9s
R16K Pilot Point 21.48 69 P P 07 53 19.4 +1.1
baz=283
D19K Kuna River 21.63 39 P P 07 53 21.4 +1.5
baz=254
H19K Roundabout Mou 21.66 47 P 07 53 22.2 +2.0
H19K IAmb IAmb 07 53 36.6
comp=Z,45nm,1.2s
H19K Roundabout Mou 21.66 47 P P 07 53 21.8 +1.6
baz=263
E19K Redstone River 21.69 42 P P 07 53 21.7 +1.2
baz=258
Q16K King Salmon 21.74 66 P P 07 53 22.4 +1.3
baz=280
P17K Kvichak River 21.77 64 P P 07 53 22.9 +1.6
baz=279
M18K Stony River 21.82 58 P P 07 53 23.4 +1.5
baz=274
HEH HeiHe 21.96 270 eP P 07 53 22.8 -0.8
HEH pmax pmax
comp=Z,69nm,1.2s
HEH LR LR
comp=Z,970nm,13.5s
HEH LR LR
comp=Z,2μm,12.6s
HEH LR LR
comp=Z,3μm,12.8s
R17L Mt. Peulik Vol 22.10 68 P P 07 53 27.2 +2.2
baz=283
F20K Avaraart Lake 22.18 43 P P 07 53 27.7 +1.9
baz=260
Q17K Contact Creek 22.22 67 P P 07 53 27.2 +0.8
baz=282
D20K Etivluk River 22.22 39 P P 07 53 27.5 +1.3
baz=255
E20K Nigu River 22.26 40 P P 07 53 27.9 +1.2
baz=257
O18K Koktuh Hills 22.29 62 P P 07 53 29.0 +2.0
baz=278
H20K Anotleneega Mo 22.31 47 P P 07 53 28.0 +0.8
baz=265
P18K Big Mountain, 22.35 64 P P 07 53 29.3 +1.6
baz=280
B20K Meade River 22.41 35 P P 07 53 29.3 +1.0
baz=252
I20K Naaghedeneel 22.43 49 P P 07 53 29.4 +1.0
baz=267
M19K Big River Lodg 22.48 57 P P 07 53 29.9 +0.9
baz=274
J20K Nowinta River 22.54 51 P P 07 53 30.6 +0.9
J20K IAmb IAmb 07 53 44.0
comp=Z,40nm,1.2s
Q18K Katmai Hardscr 22.59 65 P P 07 53 31.8 +1.4
baz=282
O19K Port Alsworth 22.68 61 P P 07 53 32.8 +1.6
baz=278
IMAR Indian Mountai 22.82 46 P P 07 53 32.7 +0.1
USRK Ussuriysk Ar. 22.90 253 P P 07 53 33.2 -0.3
comp=Z,2.2nm,0.6s,baz=57,slow=16,SNR=4.4
comp=Z,2.2nm,0.6s
C21K Knifeblade Rid 22.97 38 P P 07 53 35.3 +1.2
baz=256,SNR=6.3
G21K Allakaket 22.98 45 P P 07 53 35.8 +1.6
baz=264
A21K Barrow 23.04 32 P P 07 53 35.6 +0.9
baz=249
M20K Styx River 23.07 57 P P 07 53 36.1 +0.8
baz=275
F21K Alatna River 23.07 43 P 07 53 36.0 +0.8
F21K Alatna River 23.07 43 P P 07 53 36.3 +1.1
baz=262
E21K Killik River 23.10 40 P P 07 53 36.8 +1.3
baz=259
R18K Karluk 23.12 68 P P 07 53 37.5 +1.9
baz=284
B21K Ikpikpuk River 23.15 37 P P 07 53 37.1 +1.3
baz=255,SNR=9.6
CHUM Lake Minchumin 23.35 52 P P 07 53 39.5 +1.6
baz=271
JMM Marumori 23.38 229 P P 07 53 38.4 -0.1
JMM IAmb IAmb 07 53 58.0
comp=Z,98nm,1.4s
A22K Sinclair Lake 23.43 33 P P 07 53 39.1 +0.5
baz=252
PPLA Purkeypile 23.44 54 P P 07 53 40.3 +1.3
baz=274
I21K Tanana 23.50 48 P P 07 53 40.8 +1.4
baz=268
O20K Slope Mountain 23.54 61 P P 07 53 41.2 +1.3
baz=280
SPCR Spurr Chakacha 23.58 58 P P 07 53 41.5 +1.2
baz=278
F22K John River 23.61 43 P P 07 53 41.6 +1.1
baz=263
D22K Ayikyak River 23.65 39 P P 07 53 42.1 +1.3
baz=259
STLK Strandline Lak 23.73 58 P P 07 53 43.0 +1.3
B22K Teshekpuk Lake 23.73 35 P P 07 53 43.4 +1.8
baz=255
G22K Bettles 23.81 44 P P 07 53 43.5 +1.1
baz=265
OHAK Old Harbor 23.82 68 P P 07 53 43.7 +1.3
baz=286
SKT Skwentna 23.82 56 P P 07 53 44.0 +1.5
baz=276
E22K Anaktuvuk Pass 23.84 41 P P 07 53 43.7 +1.0
baz=262
BPAW Bear Paw Mtn. 23.93 51 P P 07 53 45.3 +1.7
baz=272,SNR=6.1
KDAK Kodiak Island 24.04 67 LR LR 08 03 28.0
comp=Z,370nm,18.1s,baz=269,slow=37
KDAK Kodiak Island 24.04 67 P P 07 53 45.9 +1.3
baz=285
CAPN Captain Cook N 24.15 59 P P 07 53 47.3 +1.7
baz=279
TRF Thorofare Moun 24.27 53 P P 07 53 46.8 -0.1
TRF IAmb IAmb 07 54 00.7
comp=Z,51nm,1.0s
TRF Thorofare Moun 24.27 53 P P 07 53 48.0 +1.1
baz=274
COLD Coldfoot 24.34 43 P P 07 53 48.2 +0.9
baz=266,SNR=14
CUT Chulitna 24.36 55 P P 07 53 49.1 +1.6
baz=276
D23K Nanushuk River 24.38 39 P P 07 53 48.4 +0.8
baz=261
G23K Bananza Creek 24.38 45 P 07 53 47.8 +0.1
G23K Bananza Creek 24.38 45 P P 07 53 48.9 +1.2
baz=267,SNR=6.8
BNX BinXian 24.43 261 ⇑P P 07 53 48.9 +0.6
BNX pmax pmax
comp=Z,16nm,0.8s
M22K Willow 24.51 57 P P 07 53 50.2 +1.5
baz=278
BRSE Bradley Lake S 24.54 62 P P 07 53 51.0 +1.9
baz=282
H23K Yukon River 24.54 47 P P 07 53 50.1 +1.0
baz=269
C23K Itkillik River 24.55 37 P P 07 53 50.3 +1.2
baz=259
I23K Minto, Yukon-K 24.61 49 P P 07 53 51.6 +1.9
baz=271,SNR=6.4
E23K Chandalar 24.65 42 P P 07 53 50.8 +0.7
E23K IAmb IAmb 07 54 04.7
comp=Z,27nm,0.9s
E23K Chandalar 24.65 42 P P 07 53 51.8 +1.7
baz=264,SNR=7.5
TOLK Toolik Lake Re 24.73 40 P P 07 53 52.5 +1.7
baz=263,SNR=8.6
NEA2 Nenana 24.75 50 P P 07 53 52.6 +1.6
baz=272
RC01 Rabbit Creek A 24.79 58 P P 07 53 51.9 +0.5
baz=280
MCK McKinley 24.85 52 P P 07 53 53.1 +1.1
baz=274
O22K Cooper Landing 24.89 60 P P 07 53 53.4 +1.2
baz=281
PMR Palmer 25.00 57 P P 07 53 53.7 +0.5
baz=279
D24K Happy Valley 25.07 39 P P 07 53 54.3 +0.5
baz=263
E24K Your Creek 25.07 42 P P 07 53 54.5 +0.6
baz=265,SNR=16
SEW Seward 25.10 61 P P 07 53 54.9 +0.8
baz=282
WAT1 Susitna Watana 25.11 54 P P 07 53 54.3 0.0
baz=277
WRH Wood River Hil 25.18 50 P P 07 53 54.5 -0.3
WRH IAmb IAmb 07 54 09.8
comp=Z,53nm,1.2s
C24K Franklin Bluff 25.19 38 P P 07 53 55.5 +0.6
baz=262,SNR=6.4
COLA College 25.26 49⇑ eP P 07 53 55.9 +0.4
COLA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 25.26 49 P P 07 53 56.3 +0.7
baz=273
F24K Squaw Lake 25.26 43 P P 07 53 56.2 +0.5
baz=267
SML Sawmill 25.34 56 P P 07 53 57.5 +1.1
baz=279
KNK Knik Glacier 25.34 57 P P 07 53 56.4 0.0
baz=280
G24K Hadweenzic Riv 25.39 45 P P 07 53 57.8 +1.0
G24K IAmb IAmb 07 54 34.6
comp=Z,21nm,0.9s
G24K Hadweenzic Riv 25.39 45 P P 07 53 57.7 +0.9
baz=269,SNR=8.2
POKR Poker Plat Res 25.43 49 P P 07 53 58.2 +1.1
baz=273
PWL Port Wells 25.50 59 P P 07 53 58.5 +0.7
baz=281
WAT6 Susitna Watana 25.51 54 P P 07 53 58.5 +0.4
baz=278
DHY Denali Highway 25.61 53 P P 07 53 59.8 +0.8
baz=277
MJB9 Matsu-Tunnel 25.61 232 P P 07 53 59.3 +0.2
MJB9 IAmb IAmb 07 54 08.2
comp=Z,43nm,0.8s
MJAR Matsushiro Arr 25.61 231 P 07 53 58.3 -0.8
MJAR IAmb IAmb 07 54 06.9
comp=Z,34nm,1.0s
MJAR Matsushiro Arr 25.61 231 P P 07 53 57.6 -1.4
comp=Z,38nm,1.0s,baz=22,slow=7.9,SNR=35
comp=Z,38nm,1.0s
M23K Glacier View 25.63 56 P P 07 53 59.2 +0.2
baz=279
HDA Harding Lake 25.67 50 P P 07 54 00.1 +0.7
baz=275
IL31 25.68 49 P P 07 53 59.7 +0.3
ILAR Eielson Array 25.68 49 P P 07 53 59.3 -0.1
comp=Z,2.8nm,0.7s,baz=268,slow=8.7,SNR=32
ILAR LR LR 08 04 22.8
comp=Z,422nm,19.4s,baz=256,slow=37
comp=Z,2.8nm,0.7s
SCM Sheep Creek Mo 25.81 56 P P 07 54 01.0 +0.3
baz=280
G25K Bearman Lake 25.94 45 P P 07 54 02.8 +1.2
baz=270
D25K Kavik River 25.95 39 P P 07 54 02.7 +0.8
baz=265,SNR=9.4
H25L Birch Creek 26.06 46 P P 07 54 04.1 +1.3
baz=272
GLI Glacier Island 26.09 58 P P 07 54 05.0 +1.8
baz=282
F25K Christian Rive 26.12 43 P P 07 54 04.4 +0.9
baz=269
P23K Montague Islan 26.13 60 P P 07 54 04.7 +1.2
baz=283
E25K Arctic Village 26.17 42 P P 07 54 04.4 +0.6
E25K Arctic Village 26.17 42 P P 07 54 04.4 +0.6
baz=268,SNR=6.5
PRP Porcupine Dome 26.21 48 P P 07 54 05.3 +1.0
baz=274
K24K Donnelly Dome 26.24 51 P P 07 54 05.6 +1.1
baz=277
M24K Tolsona, Glenn 26.30 55 P P 07 54 06.8 +1.7
baz=280
PAX Paxson 26.49 53 P P 07 54 07.5 +0.7
baz=279
C26K Camden Bay 26.52 38 P P 07 54 07.2 +0.3
baz=265
KLU Klutina 26.53 57 P P 07 54 08.2 +1.0
baz=281
RIDG Independent Ri 26.66 51 P P 07 54 09.3 +0.9
baz=278
F26K Sheenjek River 26.70 43 P P 07 54 09.3 +0.7
baz=270
HARP HAARP 26.72 54 P P 07 54 09.6 +0.7
baz=280
JGF Kuroka 26.78 232 P P 07 54 09.7 0.0
JGF IAmb IAmb 07 54 22.0
comp=Z,40nm,1.0s
EYAK Cordova Ski Ar 26.81 59 P P 07 54 10.8 +1.2
baz=283
G26K Porcupine Rive 26.85 44 P P 07 54 10.5 +0.6
baz=272
C27K Jago River 26.91 38 P P 07 54 10.8 +0.3
baz=267,SNR=5.6
SCRK Sand Creek 27.01 51 P P 07 54 10.8 -0.8
baz=278
N25K Chitina, Valde 27.13 56 P P 07 54 12.6 -0.1
baz=282
I26K Coal Creek Min 27.21 48 P P 07 54 13.5 +0.3
baz=276
BMRM Bremner River 27.26 57 P P 07 54 14.7 +0.9
baz=283
KAIM Kayak Island 27.60 60 P P 07 54 17.4 +0.7
baz=285
E27K Coleen River 27.65 41 P P 07 54 17.1 -0.1
baz=272
G27K Doyon Strip 27.70 44 P P 07 54 18.6 +1.1
baz=274
H27K Steamboat Moun 27.79 46 P 07 54 19.8 +1.3
H27K Steamboat Moun 27.79 46 P P 07 54 19.2 +0.7
baz=276
K27K Chicken 27.83 50 P P 07 54 18.8 0.0
baz=279
D27M Malcolm River 27.87 39 P P 07 54 19.6 +0.4
baz=270,SNR=5.6
MCARA McCarthy VSAT 27.91 56 P P 07 54 19.9 +0.4
baz=284
CRQE Cirque 28.03 58 P P 07 54 20.5 -0.2
baz=285
BGLC Bering Glacier 28.10 59 P P 07 54 22.6 +1.4
baz=286
L27K Beaver Creek, 28.11 52 P P 07 54 22.5 +1.2
baz=281
EGAK Eagle 28.12 49 P P 07 54 22.0 +0.7
baz=278
F28M Old Crow 28.33 43 P P 07 54 24.2 +1.0
baz=274
E28M Babbage River 28.40 41 P P 07 54 25.2 +1.4
baz=273,SNR=5.3
I28M Miner Creek 28.53 47 P P 07 54 26.3 +1.2
baz=278
D28M Stokes Point 28.66 39 P P 07 54 26.9 +0.8
baz=272
MESA MESA 28.73 58 P P 07 54 27.6 +0.6
baz=286
CTG Chitna Glacier 28.81 57 P P 07 54 28.8 +1.1
baz=285
DAWY Dawson 28.99 50 P P 07 54 30.8 +1.7
baz=281
E29M Blow River 29.02 41 P P 07 54 30.2 +1.0
baz=275,SNR=6.1
H29M Whitestone 29.07 45 P P 07 54 29.8 0.0
H29M IAmb IAmb 07 54 42.9
comp=Z,15nm,1.2s
H29M Whitestone 29.07 45 P P 07 54 30.4 +0.7
baz=278
G29M Pine Creek 29.11 44 P P 07 54 30.6 +0.4
baz=277
I29M Ogilvie Camp, 29.22 47 P P 07 54 31.8 +0.7
baz=280
J29N Klondike Camp 29.42 49 P P 07 54 33.4 +0.4
baz=281
YUK8 Steele Glacier 29.46 56 P P 07 54 33.9 +0.3
baz=286
PINM Pinnacle 29.57 58 P P 07 54 35.3 +1.0
baz=288
EPYK Eagle Plains 29.70 45 P P 07 54 36.2 +0.7
baz=279
L29M L29M 29.75 52 P P 07 54 37.2 +1.4
baz=284
M29M Somme Creek 29.76 53 P P 07 54 37.2 +1.1
baz=285
G30M tAoh Zraii Nji 29.81 44 P P 07 54 37.5 +1.1
baz=278
K29M Barlow Dome 29.85 50 P P 07 54 37.6 +0.8
baz=283
KSRS Korea Array 29.87 247 P P 07 54 35.0 -2.0
comp=Z,0.8nm,0.7s,baz=39,slow=8.5,SNR=7.8
comp=Z,0.8nm,0.7s
F30M Barrier River 29.89 42 P P 07 54 37.6 +0.6
baz=278
YUK4 Talbot Arm 29.96 55 P P 07 54 37.8 -0.1
baz=286
I30M Mount Dempster 30.04 47 P P 07 54 38.7 +0.2
baz=281
PNL Peninsula 30.11 59 P P 07 54 39.4 +0.3
baz=289
J30M Hart River 30.20 48 P P 07 54 39.7 -0.2
baz=283
YUK6 Outpost Mounta 30.21 56 P P 07 54 39.5 -0.7
baz=287
O29M Mount Kennedy 30.30 57 P P 07 54 41.5 +0.6
baz=288
M30M Minto, Yukon 30.47 52 P P 07 54 43.0 +0.7
baz=286
G31M Satah River 30.58 44 P P 07 54 43.7 +0.7
baz=280
MAYO Mayo, Yukon 30.61 50 P P 07 54 43.7 +0.3
baz=284
INK Inuvik 30.64 41 LR LR 08 09 51.4
comp=Z,371nm,18.8s,baz=280,slow=42
INK Inuvik 30.64 41 P P 07 54 44.4 +0.8
baz=278,SNR=5.2
HYT Haines Junctio 30.65 56 P P 07 54 44.8 +0.9
baz=288
N30M Aishikik Lake 30.65 55 P P 07 54 45.0 +1.1
baz=287
F31M Tsiigehtchic 30.69 42 P P 07 54 45.0 +1.0
baz=280
H31M Peel River 30.76 46 P P 07 54 45.9 +1.2
baz=282
P29M Windy Craggy 30.92 58 P P 07 54 46.8 +0.7
baz=290
P30M Million Dollar 31.12 57 P P 07 54 48.4 +0.3
baz=289
N31M Braeburn, Yuko 31.24 54 P P 07 54 50.0 +1.0
baz=288
O30N Mendenhall 31.32 56 P P 07 54 51.0 +1.2
baz=289
M31M Drury Creek, Y 31.65 52 P P 07 54 54.0 +1.4
baz=288

WHY	**Whitehorse**	31.92	55	P	P	07 54 55.0	-0.1
	baz=290						
SKAG	**Skagway**	32.13	58	P	P	07 54 57.2	+0.5
	baz=291						
S31K	**Pelican**	32.25	61	P	P	07 54 58.7	+0.8
	baz=293						
R31K	**City Hall, Gus**	32.32	60	P	P	07 54 58.8	+0.3
	baz=293						
N32M	**Quiet Lake**	32.58	54	P	P	07 55 01.3	+0.5
	baz=290						
P32M	**Atlin**	32.84	57	P	P	07 55 04.0	+0.9
	baz=292						
A36M	**Sachs Harbour**	32.87	33	P	P	07 55 04.1	+0.9
	baz=280						
MMPY	**Sheldon Lake,**	32.91	51	P	P	07 55 04.2	+0.6
	baz=289						
R32K	**Eaglecrest**	32.97	59	P	P	07 55 05.3	+1.2
	baz=294						
P33M	**Teslin, Yukon**	33.04	56	P	P	07 55 05.7	+0.8
	baz=292						
SIT	**Sitka**	33.06	62	P	P	07 55 06.1	+1.1
	baz=295						
Q32M	**Nakina River**	33.77	57	P	P	07 55 12.1	+0.7
	baz=294						
C36M	**Paulatuk**	33.80	38	P	P	07 55 11.9	+0.7
C36M				IAmb	IAmb	07 55 13.4	
	comp=Z,27nm,1.1s						
C36M	**Paulatuk**	33.80	38	P	P	07 55 11.2	-0.1
	baz=285,SNR=5.6						
R33M	**Jennings River**	34.21	56	P	P	07 55 16.0	+0.9
	baz=294						
T33K	**Petersburg**	34.34	61	P	P	07 55 16.7	+0.6
	baz=296						
U33K	**Whale Pass**	34.57	62	P	P	07 55 18.0	0.0
	baz=297						
TGTN	**Hyland Airport**	34.61	52	P	P	07 55 18.1	-0.3
	baz=293						
ULN	**Ulaanbaatar**	34.62	281⇑	*e*P	P	07 55 19.2	+0.4
ULN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
S34M	**Telegraph Cree**	34.75	59	P	P	07 55 19.9	+0.3
	baz=296						
WRAK	**Wrangell Islan**	34.82	62	P	P	07 55 20.1	-0.1
	baz=297						
CRAG	**Craig**	34.87	63	P	P	07 55 21.2	+0.5
	baz=298						
SONM	**Songino Array**	35.00	281	P	P	07 55 21.4	-0.7
	comp=Z,1.0nm,0.4s,baz=62,slow=8.0,SNR=5.5						
SONM				PcP	PcP	07 57 52.7	-0.9
	comp=Z,1.4nm,0.9s,baz=90,slow=3.5,SNR=2.2						
SONM				LR	LR	08 10 51.7	
	comp=Z,295nm,21.7s,baz=58,slow=38						
	comp=Z,1.0nm,0.4s						
DLBC	**Dease Lake**	35.06	57	LR	LR	08 10 33.3	
	comp=Z,5μm,19.6s,baz=278,slow=37						
DLBC	**Dease Lake**	35.06	57	P	P	07 55 21.6	-0.7
	baz=296						
T35M	**Bob Quinn**	35.59	60	P	P	07 55 26.7	-0.2
	baz=297						
V35K	**Ketchikan**	35.69	63	P	P	07 55 28.6	+0.8
	baz=299						
H11N2	**WAKE ISLAND Hy**	36.18	174	T	T	08 34 33.9	
	baz=358						
H11N3	**WAKE ISLAND Hy**	36.19	174	T	T	08 34 30.1	
	baz=358,slow=74						
H11N1	**WAKE ISLAND Hy**	36.19	174	T	T	08 34 49.5	
	baz=358,slow=74						
U35K	**Hyder**	36.20	61	P	P	07 55 32.3	+0.2
	baz=299						
HHC	**Hu-ho-hao-te**	36.44	268	*e*P	P	07 55 35.2	+0.8
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,5.7s						
HHC				LR	LR		
	comp=Z,820nm,10.0s						
HHC				LR	LR		
	comp=Z,1μm,11.4s						
HHC				LR	LR		
	comp=Z,1μm,13.7s						
HNS	**HongShan**	37.06	261	⇑P	P	07 55 41.4	+1.8
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
HNS				LR	LR		
	comp=Z,800nm,14.3s						
HNS				LR	LR		
	comp=Z,1μm,14.3s						
HNS				LR	LR		
	comp=Z,2μm,12.7s						
KOTAN	**Kotaneelee Air**	37.07	53	P	P	07 55 39.8	+0.3
	baz=297						
TOAD	**Toad River Com**	37.12	55	P	P	07 55 40.6	+0.7
	baz=298						
BTO	**Baotou**	37.47	269	*e*P	P	07 55 44.5	+1.3
BTO				PP	PnPn	07 57 11.2	+1.5
BTO				S	S	08 01 33.2	+3.5
BTO				pmax	pmax		
	comp=Z,22nm,0.5s						
BTO				pmax	pmax		
	comp=Z,550nm,7.6s						
BTO				LR	LR		
	comp=Z,3μm,13.6s						
BTO				LR	LR		
	comp=Z,4μm,11.4s						
BTO				LR	LR		
	comp=Z,5μm,13.1s						
NJ2	**Nanjing**	38.79	251	*e*P	P	07 55 55.2	+1.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
BBB	**Bella Bella**	39.10	66	LR	LR	08 11 26.8	
	comp=Z,262nm,18.1s,baz=321,slow=35						
YKA	**Yellowknife Ar**	39.98	46	P	P	07 56 05.0	+1.2
	comp=Z,2.4nm,0.6s,baz=315,slow=10,SNR=6.9						
	comp=Z,2.4nm,0.6s						
RES	**Resolute Bay**	40.11	24	LR	LR	08 14 22.3	
	comp=Z,140nm,20.2s,baz=304,slow=38						
LYN	**LuoYang**	40.38	260	P	P	07 56 09.9	+2.5
LYN				pmax	pmax		
	comp=Z,23nm,1.1s						
LYN				LR	LR		
	comp=Z,2μm,12.7s						
LYN				LR	LR		
	comp=Z,1μm,13.1s						
LYN				LR	LR		
	comp=Z,2μm,13.7s						
ZALV	**Zalesovo Beam**	42.77	302	P	P	07 56 24.9	-1.9
	comp=Z,0.5nm,0.3s,baz=36,slow=7.7,SNR=3.6						
ZALV				PcP	PcP	07 58 15.6	-2.1
	comp=Z,0.5nm,0.5s,baz=42,slow=4.5,SNR=3.5						
ZALV				LR	LR	08 15 18.3	
	comp=Z,207nm,21.1s,baz=56,slow=38						
	comp=Z,0.5nm,0.3s						
GTA	**Gaotai**	44.03	276	*e*P	P	07 56 37.5	+0.2
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
GTA				LR	LR		
	comp=Z,870nm,17.5s						
GTA				LR	LR		
	comp=Z,740nm,17.1s						
GTA				LR	LR		
	comp=Z,1μm,14.9s						
LZDM	**Lanzhou Array**	44.27	269	LR	LR	08 17 43.5	
	comp=Z,512nm,19.3s,baz=20,slow=40						
KBS	**Kingsbay**	44.38	352	*ce*P	P	07 56 40.7	+1.3
KBS				pmax	pmax		
	comp=Z,28nm,1.1s						
GUMO	**Guam**	44.45	206	LR	LR	08 14 28.2	
	comp=Z,154nm,18.8s,baz=34,slow=35						
SPITS	**Spitsbergen Ar**	44.69	351	P	P	07 56 42.2	+0.2
	comp=Z,17nm,0.5s,baz=50,slow=7.8,SNR=41						
SPITS				LR	LR	08 15 59.7	
	comp=Z,323nm,18.7s,baz=20,slow=37						
	comp=Z,17nm,0.5s						
SPB2	**Spitsbergen Ar**	44.70	351	P	P	07 56 43.1	+1.1
NEEM	**North Greenlan**	45.28	10	*i* P	P	07 56 46.3	-0.7
NEEM				IAmb	IAmb	07 56 49.2	
	comp=Z,40nm,0.9s						
ZSN	**Zaisan**	46.77	294	*e*P	P	07 56 57.7	-1.2
ZSN	**Zaisan**	46.77	294	*e*P	P	07 56 57.6	-1.2
DAG	**Danmarks Havn**	47.64	1	P	P	07 57 06.3	+1.2
DAG				pmax	pmax		
	comp=Z,21nm,1.1s						
DAG	**Danmarks Havn**	47.64	1	*i* P	P	07 57 04.5	-0.7
DAG				IAmb	IAmb	07 57 06.4	
	comp=Z,22nm,1.1s						
WMQ	**Urumqi**	47.70	289	*e*P	P	07 57 06.1	0.0
WMQ				pP	pwP	07 57 17.1	-0.1
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.1s						
WMQ				LR	LR		
	comp=Z,2μm,19.1s						
WMQ				LR	LR		
	comp=Z,1μm,21.5s						
WMQ				LR	LR		
	comp=Z,270nm,19.1s						
KURK	**Kurchatov**	47.76	301	P	P	07 57 04.6	-1.8
KURK				IAmb	IAmb	07 57 06.1	
	comp=Z,14nm,0.8s						
KURK	**Kurchatov**	47.76	301	*c i* P	P	07 57 03.4	-3.0
KURK				pmax	pmax		
	comp=Z,27nm,1.0s						
KURK	**Kurchatov**	47.76	301	P	P	07 57 04.7	-1.8
KURK				pP	sP	07 57 19.0	-0.1
KURK				sP	pP	07 57 24.6	+8.7
KURBB	**Kurchatov Arra**	47.86	301	P	P	07 57 05.5	-1.7
	comp=Z,11nm,0.7s,baz=54,slow=7.9,SNR=58						
KURBB				LR	LR	08 18 48.2	
	comp=Z,554nm,18.2s,baz=164,slow=38						
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	48.53	295	*d i* P	P	07 57 10.5	-1.9
MKAR	**Makanchi Array**	48.53	295	P	P	07 57 10.6	-1.8
MKAR	**Makanchi Array**	48.53	295	P	P	07 57 10.4	-2.0
	comp=Z,2.2nm,0.4s,baz=52,slow=7.9,SNR=27						
MKAR				LR	LR	08 18 46.9	
	comp=Z,542nm,18.2s,baz=30,slow=37						
	comp=Z,2.2nm,0.4s						
MKAR	**Makanchi Array**	48.53	295	*i* P	P	07 57 10.3	-2.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAKZ	**Makanchi**	48.68	295	P	P	07 57 12.0	-1.6
MAKZ				pP	sP	07 57 26.0	-0.4
UPNV	**Upernavik**	48.84	14	*i* P	P	07 57 13.4	-1.0
UPNV				IAmb	IAmb	07 57 14.6	
	comp=Z,121nm,1.2s						
JTMT	**Jette**	48.86	63	P	P	07 57 14.9	-0.2
GOMU	**GeErMu**	49.10	276	P	P	07 57 17.1	-0.3
GOMU				sP	pP	07 57 24.3	-2.2
GOMU				S	S	08 04 13.4	-7.0
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				LR	LR		
	comp=Z,610nm,12.7s						
GOMU				LR	LR		
	comp=Z,360nm,12.2s						
GOMU				LR	LR		
	comp=Z,830nm,12.5s						
BORK	**Borovoye**	50.05	308	*c i* P	P	07 57 22.1	-1.8
BORK				pmax	pmax		
	comp=Z,17nm,1.0s						
WVOR	**Wild Horse Val**	50.23	71	P	P	07 57 27.3	+1.7
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
SUMG	**Summit**	51.00	8	P	P	07 57 30.9	-0.4
SUMG	**Summit**	51.00	8	P	P	07 57 30.9	-0.4
SUMG				pmax	pmax		
	comp=Z,40nm,1.0s						
SUMG	**Summit**	51.00	8	*i* P	P	07 57 31.0	-0.3
SUMG				IAmb	IAmb	07 57 33.4	
	comp=Z,49nm,1.1s						
BRZS	**Berezniki**	51.07	304	*e*P	P	07 57 31.0	-0.7
BRZS	**Berezniki**	51.07	304	*e*P	P	07 57 31.0	-0.7
ARCES	**ARCESS Array B**	51.19	342	P	P	07 57 32.2	-0.2
ARCES				IAmb	IAmb	07 57 43.2	
	comp=Z,29nm,1.3s						
ARCES	**ARCESS Array B**	51.19	342	P	P	07 57 32.1	-0.2
	comp=Z,11nm,1.1s,baz=33,slow=8.4,SNR=21						
ARCES				LR	LR	08 21 31.1	
	comp=Z,164nm,20.6s,baz=36,slow=39						
	comp=Z,11nm,1.1s						
APA	**Apatity**	51.36	338⇓	*e*P	P	07 57 24.1	-9.4
APA				*e*		07 58 46.6	
APA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
APA				MLR	MLR		
	comp=Z,874nm,4.5s						
TDK	**Taldyqorghan**	51.73	296	*e*P	P	07 57 35.6	-1.1
	comp=Z,15nm,1.0s						
TDK	**Taldyqorghan**	51.73	296	*e*P	P	07 57 35.6	-1.1
TDK				pmax	pmax		
	comp=Z,15nm,1.0s						
PZH	**PanZhiHua**	52.47	262	P	P	07 57 43.8	+1.3
SHLS	**Shalkode**	52.49	294⇓	*i* P	P	07 57 39.8	-2.7
	comp=Z,22nm,1.1s						
SHLS	**Shalkode**	52.49	294	*d i* P	P	07 57 39.7	-2.7
SHLS				pmax	pmax		
	comp=Z,22nm,1.1s						
ARXS	**Arharly**	52.58	296	*i* P	P	07 57 41.0	-2.1
ARTI	**Arti**	52.63	317	P	P	07 57 41.5	-1.7
ARTI				IAmb	IAmb	07 57 42.6	
	comp=Z,6.3nm,0.7s						
ARTI	**Arti**	52.63	317	P	P	07 57 41.3	-1.9
	comp=Z,2.0nm,0.3s,baz=53,slow=8.1,SNR=5.1						
ARTI				LR	LR	08 22 13.6	
	comp=Z,508nm,18.7s,baz=46,slow=38						
	comp=Z,2.0nm,0.3s						
ARTI	**Arti**	52.63	317	*c i* P	P	07 57 42.2	-1.0
ARTI						07 59 37.5	
ARTI				S	S	08 05 08.2	+0.2
ARTI				SS	SS	08 08 39.7	-6.1
ARTI				pmax	pmax		
	comp=Z,17nm,1.8s						
ARTI				MLR	MLR		
	comp=Z,526nm,15.0s						
UZB	**Uzynbulak**	52.72	294	*e*P	P	07 57 43.1	-1.2
UZB	**Uzynbulak**	52.72	294	*e*P	P	07 57 43.0	-1.2
SATY	**Saty**	53.10	294	⇓*i*P	P	07 57 46.0	-1.0
	comp=Z,14nm,1.3s						
SATY	**Saty**	53.10	294	*d i* P	P	07 57 46.0	-1.0
SATY				pmax	pmax		
	comp=Z,14nm,1.3s						
ELK	**Elko**	53.23	70	LR	LR	08 21 19.6	
	comp=Z,125nm,18.6s,baz=342,slow=37						
NVAR	**Mina Array Bea**	53.25	74	P	P	07 57 50.6	+2.3
	comp=Z,4.0nm,0.8s,baz=295,slow=7.5,SNR=29						
NVAR				LR	LR	08 18 32.1	
	comp=Z,88nm,20.4s,baz=316,slow=34						
	comp=Z,4.0nm,0.8s						
MSF	**Maaselka**	53.69	339	P	P	07 57 51.5	+0.7
MSF				pmax	pmax		
	comp=Z,30nm,1.3s						
MDOK	**Medeo**	53.72	295	*e*P	P	07 57 50.4	-1.2
MDOK	**Medeo**	53.72	295	*e*P	P	07 57 50.4	-1.2
AAA	**Alma-Ata**	53.76	295	*e*P	P	07 57 50.8	-1.0
AAA	**Alma-Ata**	53.76	295	*e*P	P	07 57 50.8	-1.0
BTLS	**Baital**	53.89	299	*e*P	P	07 57 51.2	-1.4
	comp=Z,8.4nm,1.0s						
BTLS	**Baital**	53.89	299	*e*P	P	07 57 51.2	-1.4
BTLS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
QIZ	**Qiongzhong**	54.04	249	P	P	07 57 58.9	+4.9
QIZ				S	S	08 05 30.7	+2.7
QIZ				LR	LR		
	comp=Z,330nm,8.8s						
QIZ				LR	LR		
	comp=Z,420nm,8.8s						
QIZ				LR	LR		
	comp=Z,750nm,11.8s						
KIRV	**Kirov**	54.19	324	P	P	07 57 54.3	-0.3
	comp=Z,12nm,0.6s,baz=34,slow=7.3,SNR=6.0						
KIRV				LR	LR	08 25 16.6	
	comp=Z,411nm,18.2s,baz=33,slow=41						
	comp=Z,12nm,0.6s						
KIRV	**Kirov**	54.19	324	*ce*P	P	07 57 54.5	-0.1
FRB	**Frobisher Bay**	54.28	25	LR	LR	08 22 33.2	
	comp=Z,187nm,20.4s,baz=316,slow=38						
KDJ	**Kajisay**	54.40	294		P	07 57 55.2	-1.3
KDJ				IAmb	IAmb	07 57 57.1	
	comp=Z,24nm,1.2s						
KDJ	**Kajisay**	54.40	294	P	P	07 57 55.3	-1.3
KDJ				pmax	pmax		
	comp=Z,24nm,1.2s						
TKM2	**Tokmak 2**	54.64	296	P	P	07 57 57.4	-1.0
	SNR=6.1						
PDAR	**Pinedale Array**	54.72	64	P	P	07 58 00.7	+1.7
	comp=Z,3.9nm,0.9s,baz=337,slow=3.4,SNR=23						
PDAR				LR	LR	08 22 06.8	
	comp=Z,106nm,18.2s,baz=338,slow=37						
	comp=Z,3.9nm,0.9s						
SGDS	**Sogindy**	54.74	297	*e*P	P	07 57 58.0	-1.0
BOOM	**Boomskoye usch**	54.77	295		P	07 57 58.4	-0.9
BOOM				IAmb	IAmb	07 58 00.1	
	comp=Z,23nm,1.1s						
BOOM	**Boomskoye usch**	54.77	295	P	P	07 57 58.4	-0.9
BOOM				pmax	pmax		
	comp=Z,23nm,1.1s						
ULHL	**Ulahol**	54.80	295	P	P	07 57 58.7	-0.8
	SNR=6.0						
DUG	**Dugway, Tooele**	54.90	69	P	P	07 58 02.8	+2.6
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SFJD	**Kangerlussuaq**	54.91	15	LR	LR	08 23 53.1	
	comp=Z,153nm,18.7s,baz=346,slow=38						
KBK	**Karagaybulak**	55.16	296	P	P	07 58 01.4	-0.7
	SNR=6.0						
AAK	**Ala-Archa**	55.40	296	P	P	07 58 03.1	-0.7
	comp=Z,16nm,0.9s,baz=79,slow=4.7,SNR=22						
AAK				LR	LR	08 22 20.9	
	comp=Z,270nm,20.3s,baz=42,slow=37						
	comp=Z,16nm,0.9s						
AAK	**Ala-Archa**	55.40	296	P	P	07 58 03.2	-0.6
	SNR=9.4						
AAK	**Ala-Archa**	55.40	296	*c i* P	P	07 58 02.1	-1.7
AAK				pmax	pmax		
	comp=Z,35nm,1.3s						
AAK	**Ala-Archa**	55.40	296	P	P	07 58 03.3	-0.6
KLMR	**Klimovskoe**	55.42	330	*e*P	P	07 58 01.0	-2.4
KLMR				pmax	pmax		
	comp=Z,42nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,342nm,13.0s						
UCH	**Uchtor**	55.69	296	P	P	07 58 05.2	-1.1
	SNR=10						
ULM	**Lac du Bonnet**	55.70	50	P	P	07 58 06.7	+1.1
	comp=Z,8.1nm,0.6s,baz=319,slow=5.2,SNR=4.3						
ULM				LR	LR	08 25 21.3	
	comp=Z,122nm,18.0s,baz=330,slow=40						
	comp=Z,8.1nm,0.6s						
ULM	**Lac du Bonnet**	55.70	50⇓	*e*P	P	07 58 05.5	-0.1
EKS2	**Erkin-Say**	55.74	297	P	P	07 58 05.8	-0.5
	SNR=18						
DY2G	**Dye2**	56.02	14	*i* P	P	07 58 07.1	-0.9
DY2G				IAmb	IAmb	07 58 08.2	
	comp=Z,63nm,1.4s						
SHPR	**Sheep Range**	56.36	73		P	07 58 12.5	+1.8
TMUT	**Trail Mountain**	56.40	68		P	07 58 12.7	+1.5
TMUT				IAmb	IAmb	07 58 14.4	
	comp=Z,15nm,1.1s						
RSSD	**Black Hills**	56.48	60	P	P	07 58 13.5	+1.9
RSSD				pmax	pmax		
	comp=Z,15nm,1.4s						
RSSD	**Black Hills**	56.48	60	P	P	07 58 13.0	+1.4
CCUT	**Cedar City**	56.55	71		P	07 58 14.1	+1.9
CCUT				IAmb	IAmb	07 58 15.4	
	comp=Z,8.2nm,1.0s						
SRU	**San Rafael Swe**	56.90	68	P	P	07 58 16.2	+1.6
SRU	**San Rafael Swe**	56.90	68	P	P	07 58 16.2	+1.6
SRU				pmax	pmax		
	comp=Z,30nm,1.1s						
KSH	**Kashi**	56.93	293	P	P	07 58 17.1	+2.4
KSH				sP	sP	07 58 28.3	+0.6
KSH				pmax	pmax		
	comp=Z,15nm,1.4s						
KSH				LR	LR		
	comp=Z,350nm,17.2s						
KSH				LR	LR		
	comp=Z,560nm,17.5s						
KSH				LR	LR		
	comp=Z,520nm,12.7s						
DAV	**Davao City (W)**	56.96	226	LR	LR	08 24 24.5	
	comp=Z,117nm,18.4s,baz=8.0,slow=38						
KK31	**Karatay Array**	57.05	299	P	P	07 58 14.1	-1.3
KK31	**Karatay Array**	57.05	299	P	P	07 58 14.1	-1.3
KK31				pmax	pmax		
	comp=Z,23nm,0.9s						
KKAR	**Karatay Array**	57.05	299	P	P	07 58 13.7	-1.7
KKAR	**Karatay Array**	57.05	299	P	P	07 58 13.7	-1.7
AKTO	**Aktyubinsk**	57.23	313	LR	LR	08 24 09.6	
	comp=Z,118nm,19.3s,baz=29,slow=37						
AB31	**Akbulak array**	57.31	311	P	P	07 58 16.0	-1.1
AB31				IAmb	IAmb	07 58 17.1	
	comp=Z,6.2nm,0.7s						
ABKAR	**Akbulak array**	57.31	311	P	P	07 58 16.0	-1.1
BRLS	**Boroldoy**	57.43	300	*e*P	P	07 58 18.7	+0.6
BRLS	**Boroldoy**	57.43	300	*e*P	P	07 58 18.6	+0.6
PFO	**Pinyon Flats O**	57.81	77	LR	LR	08 21 34.5	
	comp=Z,99nm,18.6s,baz=332,slow=34						
PFO	**Pinyon Flats O**	57.81	77⇓	*e*P	P	07 58 21.4	+0.4
PFO				pmax	pmax		
	comp=Z,51nm,4.0s						
IUG	**Iuzhnay**	57.99	299	*e*P	P	07 58 21.2	-0.9
	comp=Z,14nm,0.7s						
IUG	**Iuzhnay**	57.99	299	*e*P	P	07 58 21.2	-0.9
IUG				pmax	pmax		
	comp=Z,14nm,0.7s						
CHM	**Chimkent**	58.08	299	*e*P	P	07 58 21.8	-0.9
CHM	**Chimkent**	58.08	299	*e*P	P	07 58 21.7	-0.9
FINES	**FINESS Array B**	58.26	337	P	P	07 58 23.0	-0.6
	comp=Z,4.2nm,0.6s,baz=21,slow=8.0,SNR=11						
FINES				LR	LR	08 27 55.9	
	comp=Z,111nm,20.1s,baz=28,slow=41						
	comp=Z,4.2nm,0.6s						
FINES	**FINESS Array B**	58.26	337	*i* P	P	07 58 23.7	+0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ISCO	**Idaho Springs**	58.91	64	P	P	07 58 31.3	+2.5
ISCO				pmax	pmax		
	comp=Z,18nm,1.0s						
BORG	**Borgarnes**	59.69	2	LR	LR	08 26 03.5	
	comp=Z,67nm,18.3s,baz=332,slow=38						
BELG	**Belogornoye**	59.72	320	*d i* P	P	07 58 33.5	-0.3
BELG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MOS	**Moscow**	60.25	328	*e*P	P	07 58 36.6	-0.8
CMAR	**Chiang Mai Arr**	60.42	259	P	P	07 58 39.1	0.0
	comp=Z,2.6nm,0.3s,baz=13,slow=7.3,SNR=8.6						
CMAR				LR	LR	08 27 57.5	
	comp=Z,316nm,18.1s,baz=40,slow=39						
	comp=Z,2.6nm,0.3s						
CMAR	**Chiang Mai Arr**	60.42	259	*i* P	P	07 58 41.2	+2.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SDCO	**Great Sand Dun**	60.52	66	P	P	07 58 41.5	+1.6
SDCO				IAmb	IAmb	07 58 43.1	
	comp=Z,12nm,1.1s						
KSCO	**Kaye Shedlock'**	61.02	63	P	P	07 58 44.7	+1.6
CHGR	**Chuyangaron**	61.07	297	P	P	07 58 41.9	-1.5
CHGR	**Chuyangaron**	61.07	297	P	P	07 58 41.9	-1.5
CHGR				pmax	pmax		
	comp=Z,40nm,1.2s						
OBN	**Obninsk**	61.10	328	LR	LR	08 28 34.1	
	comp=Z,280nm,19.3s,baz=346,slow=39						
OBN	**Obninsk**	61.10	328	*e*P	P	07 58 40.5	-2.7
OBN				*i*		07 58 49.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,289nm,16.0s						
BRDH	**Bariadhala**	61.14	268	LR	LR	08 28 12.8	
	comp=Z,187nm,18.4s,baz=91,slow=39						
NB2	**NORSAR Subarra**	61.35	345	P	P	07 58 44.7	-0.2
	comp=Z,41nm,1.7s,baz=17,slow=6.9						
NB2	**NORSAR Subarra**	61.35	345	P	P	07 58 44.6	-0.3
NB2				pmax	pmax		
	comp=Z,31nm,1.7s						
NB2	**NORSAR Subarra**	61.35	345	P	P	07 58 44.7	-0.2
	baz=17,slow=6.9						
NOA	**NORSAR Array B**	61.35	345	P	P	07 58 44.9	0.0
	comp=Z,1.9nm,0.4s,baz=18,slow=6.9,SNR=16						
NOA				LR	LR	08 26 43.3	
	comp=Z,150nm,19.3s,baz=20,slow=37						
	comp=Z,1.9nm,0.4s						
NORES	**NORESS Array B**	61.59	345	P	P	07 58 47.5	+1.0
HFS	**Hagfors**	61.83	343	P	P	07 58 47.7	-0.4
	comp=Z,2.9nm,0.4s,baz=39,slow=5.7,SNR=21						
HFS				LR	LR	08 27 09.6	
	comp=Z,154nm,19.0s,baz=36,slow=38						
	comp=Z,2.9nm,0.4s	

comp=Z,47nm,0.9s
KONO Kongsberg 62.92 345 *eP* **P 07 58 54.1 -1.2**
KONO pmax pmax
comp=Z,28nm,1.7s
TOLI2 Tolitoli 64.33 228 P 07 59 03.7 -1.5
TOLI2 IAmb IAmb 07 59 07.9
comp=Z,24nm,1.2s
P38A Dawn 64.95 56 P 07 59 09.5 +0.5
HNR Honiara 65.09 183 LR LR 08 23 08.1
comp=Z,323nm,21.4s,baz=28,slow=32
SANI Sanana 65.14 222 P **P 07 59 12.1 +1.7**
comp=Z,20nm,1.8s
MNTX Cornudas Mount 65.25 70 P 07 59 12.9 +1.8
PMG Port Moresby 66.35 197 LR LR 08 22 50.5
comp=Z,110nm,19.9s,baz=10.0,slow=31
PMG Port Moresby 66.35 197 *deP* **P 07 59 18.3 +0.1**
PMG pmax pmax
comp=Z,16nm,1.1s
SADO Sadowa 66.91 43 LR LR 08 32 22.7
comp=Z,1µm,18.8s,baz=358,slow=39
MNHN Monahans 66.91 68 P **P 07 59 23.2 +1.3**
MNHN IAmb IAmb 07 59 24.2
comp=Z,19nm,1.2s
SBUM Sibu 66.98 237 P **P 07 59 23.0 +0.6**
AKASG Malin Array Be 67.11 330 P **P 07 59 22.0 -0.7**
comp=Z,2.3nm,0.5s,baz=28,slow=6.3,SNR=10
AKASG LR LR 08 33 05.5
comp=Z,355nm,19.4s,baz=30,slow=40
comp=Z,2.3nm,0.5s
AKASG Malin Array Be 67.11 330 *i P* **P 07 59 20.7 -2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 67.11 330 *deP* **P 07 59 22.3 -0.4**
KIEV Kiev 67.12 330 P **P 07 59 22.1 -0.7**
KIEV IAmb IAmb 07 59 31.6
comp=Z,9.8nm,1.1s
KIEV Kiev 67.12 330 P **P 07 59 22.1 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
CCM Cathedral Cave 67.27 55 P **P 07 59 24.2 +0.2**
CCM pP **sP 07 59 36.0 -1.2**
GOF Gofitskoye 67.50 318 *ceP* **P 07 59 25.6 +0.3**
MAK Makhachkala 67.53 314 *c i P* **P 07 59 22.1 -3.3**
MAK *e* 08 01 54.6
MAK *eS* **S 08 08 13.0 -6.4**
MAK *eSS* **SS 08 12 38.5 -0.7**
MAK MLR MLR
comp=Z,977nm,15.0s
TXAR Lajitas Array 68.02 70 P **P 07 59 30.4 +1.5**
comp=Z,9.8nm,0.8s,baz=298,slow=4.7,SNR=90
TXAR LR LR 08 29 50.1
comp=Z,63nm,18.1s,baz=336,slow=36
comp=Z,9.8nm,0.8s
LPIG La Paz 68.56 79 LR LR 08 27 54.5
comp=Z,44nm,18.1s,baz=298,slow=34
KIV Kislovodsk 68.57 318 *eP* **P 07 59 31.3 -0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,233nm,17.0s
EKA Eskdalemuir Ar 68.61 352 P **P 07 59 32.3 +0.2**
comp=Z,2.4nm,0.5s,baz=16,slow=4.9,SNR=12
comp=Z,2.4nm,0.5s
AKT Akhty 68.67 313 *eP* **P 07 59 31.6 -1.2**
AKT pmax pmax
comp=Z,20nm,1.2s
KBZ Khabaz 68.69 318 P **P 07 59 32.7 -0.1**
comp=Z,8.7nm,1.0s,baz=344,slow=4.6,SNR=8.8
KBZ LR LR 08 34 22.4
comp=Z,344nm,18.2s,baz=22,slow=40
comp=Z,8.7nm,1.0s
KBZ Khabaz 68.69 318 *ceP* **P 07 59 32.6 -0.1**
KBZ pmax pmax
comp=Z,18nm,1.1s
SHA1 Shidzhatmaz 68.77 318 *deP* **P 07 59 33.8 +0.2**
SPSI Sidrap Palu 69.33 227 P **P 07 59 34.2 -2.8**
comp=Z,2µmcomp=Z,29nm,1.3s
KWP Kalwaria Pacla 69.81 334 *eP* **P 07 59 40.3 +0.7**
OJC Ojcow 69.97 336 *eP* **P 07 59 41.7 +1.2**
OJC Ojcow 69.97 336 P **P 07 59 42.1 +1.6**
OJC pmax pmax
comp=Z,10.0nm,1.6s
KSP Ksiaz 70.15 338 *eP* **P 07 59 42.7 +1.1**
CLL Collm 70.36 341 *i P* **P 07 59 43.0 +0.1**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 70.36 341 *i P* **P 07 59 43.0 +0.1**
comp=Z,17nm,1.1s
CLL L L 08 34 00.0
comp=Z,200nm,19.0s
STHS Stebnicka Huta 70.37 335 *eP* **P 07 59 43.4 +0.3**
STHS Stebnicka Huta 70.37 335 *eP* **P 07 59 43.4 +0.3**
WVT Waverly 70.42 54 P **P 07 59 44.1 +0.6**
CHVC Chvalec 70.44 338 *eP* **P 07 59 45.4 +1.9**
CHVC Chvalec 70.44 338 *eP* **P 07 59 45.4 +1.9**
BRG Berggiesshubel 70.59 340 *i P* **P 07 59 45.2 +0.8**
BRG Amp 07 59 46.0
comp=Z,7.7nm,1.0s
NIE Niedzica 70.60 335 *eP* **P 07 59 46.8 +2.4**
DPC Dobruska-Polom 70.61 338 *eP* **P 07 59 46.6 +2.1**
DPC Dobruska-Polom 70.61 338 *eP* **P 07 59 46.6 +2.1**
MORC Moravsky Berou 70.89 337 *eP* **P 07 59 46.7 +0.5**
BBKI Banjar Baru 71.00 232 P P 07 59 54.3 +7.1
GNI Garni 71.01 314 LR LR 08 36 38.5
comp=Z,281nm,18.1s,baz=29,slow=41
GNI Garni 71.01 314 *ceP* **P 07 59 47.7 +0.4**
GNI pmax pmax
comp=Z,30nm,1.3s
VRAC Vranov 71.54 338 LR LR 08 36 42.7
comp=Z,170nm,18.5s,baz=28,slow=40
VRAC Vranov 71.54 338 *eP* **P 07 59 51.0 +0.9**
HKT Hockley 71.59 64 *eP* **P 07 59 50.9 +0.3**
HKT pmax pmax
comp=Z,17nm,1.3s
JAVC Velka Javorina 71.72 337 *eP* **P 07 59 52.6 +1.3**
PBKI Pangkalan Bun 71.76 235 P P 07 59 41.7 -10
KRUC Moravsky 71.81 338 *eP* **P 07 59 52.5 +0.7**
MODS Modra-Piesok 72.27 337 *eP* **P 07 59 58.5 +4.0**
MODS Modra-Piesok 72.27 337 *eP* **P 07 59 58.5 +4.0**
KHC Kasperske Hory 72.33 340 *eP* **P 07 59 55.7 +0.8**
KHC pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 72.33 340 *eP* **P 07 59 56.5 +1.6**
GERES GERESS Array B 72.58 339 P **P 07 59 57.0 +0.6**
comp=Z,2.0nm,0.8s,baz=35,slow=4.9,SNR=9.6
GERES LR LR 08 37 14.4
comp=Z,314nm,18.6s,baz=47,slow=40
comp=Z,2.0nm,0.8s
TKL Tuckaleechee C 72.63 52 LR LR 08 33 01.1
comp=Z,347nm,19.6s,baz=336,slow=37
MLR Muntele Rosu 72.76 330 P **P 07 59 58.5 +0.8**
comp=Z,2.4nm,0.5s,baz=1.5,slow=10,SNR=3.2
MLR LR LR 08 36 27.5
comp=Z,378nm,18.6s,baz=36,slow=40
comp=Z,2.4nm,0.5s
EDFI Ende, Flores 72.92 223 P P 08 00 04.4 +5.6
comp=Z,9.5nm,0.9s
CONA Conrad Observa 73.00 338 *eP* **P 08 00 00.1 +1.2**
comp=Z,8.7nm,1.1s
RONA Rosalia, Austr 73.12 337 *eP* **P 08 00 01.6 +1.9**
comp=Z,7.5nm,1.1s
DSRI Dabo 73.26 243 P P 08 00 07.3 +6.5
PSI Prapat 73.39 250 P **P 08 00 01.9 +0.2**
comp=Z,8.7nm,1.1s,baz=260,slow=6.8,SNR=6.4
PSI LR LR 08 34 01.8
comp=Z,101nm,19.7s,baz=26,slow=37
comp=Z,8.7nm,1.1s
RPSI Rantau Prapat 73.47 250 P **P 08 00 01.9 -0.2**
ARSA Arzberg 73.72 338 *eP* **P 08 00 04.7 +1.6**
comp=Z,8.1nm,1.3s
LESA Schwarzleotal 74.14 340 *eP* **P 08 00 06.7 +1.0**
comp=Z,7.2nm,1.2s
KBA Koelnbreinsper 74.33 339 *eP* **P 08 00 08.4 +1.5**
comp=Z,18nm,1.1s
SOKA Soboth 74.36 338 *eP* **P 08 00 08.2 +1.2**
comp=Z,8.7nm,1.3s
WATA Walderalm 74.43 340 *i P* **P 08 00 08.3 +0.8**
comp=Z,11nm,1.1s
RETA Reutte 74.44 341 *eP* **P 08 00 08.5 +1.1**
comp=Z,5.3nm,1.0s
WTTA Wattenberg 74.49 340 *eP* **P 08 00 09.0 +1.1**
comp=Z,17nm,1.6s
MOTA Moosalm 74.52 341 *eP* **P 08 00 08.7 +0.8**
comp=Z,16nm,1.2s
SQTA Sankt Quirin 74.61 341 *i P* **P 08 00 09.3 +0.8**
comp=Z,14nm,1.0s

OBKA Obir 74.63 338 *eP* **P 08 00 09.4 +0.9**
comp=Z,13nm,1.1s
MYKA Terra Mystica 74.70 339 *i P* **P 08 00 09.9 +1.0**
comp=Z,3.0nm,0.6s
ABTA Abfaltersbach 74.82 339 *i P* **P 08 00 10.5 +0.8**
comp=Z,10nm,1.0s
FETA Feichten 74.90 341 *i P* **P 08 00 11.2 +1.0**
comp=Z,11nm,1.2s
GSI Gunungsitoli 75.36 250 P P 08 00 20.7 +7.7
BR131 Keskin Array S 75.55 322 *deP* **P 08 00 13.9 -0.1**
BRTR Keskin Array B 75.55 322 P **P 08 00 13.6 -0.5**
comp=Z,2.1nm,0.8s,baz=48,slow=2.0,SNR=13
comp=Z,2.1nm,0.8s
DZM Mont Dzumac 77.66 177 *eL* LR 08 24 39.0
comp=Z,184nm,24.9s
WRAB Tennant Creek 79.31 207 *eP* **P 08 00 35.4 +0.5**
WRAB pmax pmax
comp=Z,14nm,1.7s
WRA Warramunga Arr 79.32 207 P **P 08 00 34.3 -0.6**
comp=Z,6.1nm,1.2s,baz=12,slow=5.7,SNR=17
WRA LR LR 08 33 05.4
comp=Z,105nm,21.8s,baz=44,slow=34
comp=Z,6.1nm,1.2s
WRA Warramunga Arr 79.32 207 *i P* **P 08 00 33.2 -1.8**
WRA pmax pmax
comp=Z,6.0nm,1.2s
TAOE Nuku Hiva Isla 79.70 123 *eL* LR 08 25 29.1
comp=Z,98nm,27.6s
PALK Pallekele 79.72 268 LR LR 08 38 28.7
comp=Z,64nm,21.8s,baz=33,slow=38
FITZ Fitzroy Crossi 80.15 216 P **P 08 00 38.9 -0.6**
comp=Z,6.5nm,1.1s,baz=58,slow=6.5,SNR=4.7
comp=Z,6.5nm,1.1s
MMAI Mount Meron Ar 80.89 318 P **P 08 00 42.9 -0.7**
comp=Z,2.3nm,0.5s,baz=18,slow=3.0,SNR=7.7
MMAI LR LR 08 42 37.3
comp=Z,228nm,19.2s,baz=28,slow=40
comp=Z,2.3nm,0.5s
ASF Jabal al Asfar 81.06 316 P **P 08 00 43.7 -0.8**
comp=Z,10.0nm,1.0s,baz=342,slow=2.5,SNR=10.0
ASF LR LR 08 42 46.0
comp=Z,289nm,18.5s,baz=72,slow=40
comp=Z,10.0nm,1.0s
AS31 Alice Springs 82.99 207 P **P 08 00 54.5 +0.1**
ASAR Alice Springs 82.99 207 P **P 08 00 54.2 -0.3**
ASAR Alice Springs 82.99 207 P **P 08 00 54.4 -0.1**
comp=Z,3.3nm,0.8s,baz=15,slow=5.1,SNR=27
ASAR LR LR 08 34 56.7
comp=Z,75nm,21.8s,baz=26,slow=34
comp=Z,3.3nm,0.8s
ASAR Alice Springs 82.99 207 P **P 08 00 54.2 -0.3**
VAE Valguarnera 83.27 335 LR LR 08 43 45.2
comp=Z,238nm,18.9s,baz=290,slow=40
PPT2 Papeete2 83.32 135 *eLR* LR 08 27 06.1
comp=Z,111nm,25.2s
PPT2 *eLR* LR 08 27 17.1
comp=Z,180nm,29.5s
EIL Elat 84.04 316 P **P 08 00 59.9 -0.1**
comp=Z,11nm,1.1s,baz=42,slow=6.1,SNR=5.1
EIL LR LR 08 44 22.9
comp=Z,171nm,18.0s,baz=346,slow=40
comp=Z,11nm,1.1s
ESDC Sonseca Array 84.20 350 **P 08 01 01.5 +0.8**
ESDC Sonseca Array 84.20 350 P **P 08 01 01.1 +0.3**
comp=Z,14nm,1.3s,baz=356,slow=5.1,SNR=25
comp=Z,14nm,1.3s
RAYN Ar Rayn 84.93 305 P **P 08 01 03.5 -1.2**
STKA Stephens Creek 89.28 198 P **P 08 01 25.2 +0.1**
comp=Z,2.8nm,1.1s,baz=27,slow=8.3,SNR=4.1
STKA LR LR 08 37 05.0
comp=Z,96nm,19.6s,baz=25,slow=33
comp=Z,2.8nm,1.1s
SJG San Juan 95.47 46 LR LR 08 47 25.6
comp=Z,75nm,20.5s,baz=320,slow=37
ATD Arta Tunnel 96.55 302 LR LR 08 50 55.0
comp=Z,6.7nm,18.8s,baz=10.0,slow=39
PLCA Paso Flores 142.29 89 PKP **PKPdf 08 07 60.0 -1.2**
comp=Z,1.6nm,1.0s,baz=337,slow=3.1,SNR=4.1
PLCA Paso Flores 142.29 89 PKIKP **PKPdf 08 08 00.0 -1.2**
MAW Mawson 143.22 219 PKP PKPbc 08 07 59.5 +0.5
comp=Z,1.7nm,0.7s,baz=82,slow=2.0,SNR=6.2
QSPA South Pole Qui 145.60 180 PKPbc **PKPab 08 08 07.5 +0.7**
comp=Z,7.3nm,0.6s,baz=322,slow=1.0,SNR=48
NVL N'lazarevskaya 160.55 209 *e*PKIKP **PKPdf 08 08 28.5 +1.1**
NVL *e* 08 12 53.1
NVL *e* 08 15 31.6
NVL *e*PPP PPP 08 16 34.6
NVL *e*SSS SSS 08 39 16.0
NVL pmax pmax
comp=Z,11nm,1.1s

IDC 11 08:06:46.3±1.3, 2°.88N×125°.26E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=66.6km s-min=14.6km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.85**	**179**	P	P	08 11 30.9	+1.1
0.5nm,0.5s,baz=355,slow=11,SNR=2.2							
FITZ				S	S	08 15 23.1	-0.3
1.3nm,0.9s,baz=155,slow=20,SNR=2.0							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**24.37**	**159**	P	P	08 12 06.1	-0.2
0.6nm,0.3s,baz=343,slow=11,SNR=7.8							
WRA				S	S	08 16 29.8	+2.9
0.1nm,0.4s,baz=237,slow=16,SNR=1.8							
0.6nm,0.3s							
ASAR	**Alice Springs**	**27.69**	**163**	P	P	08 12 36.1	-0.3
0.1nm,0.3s,baz=339,slow=9.4,SNR=5.2							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**57.43**	**326**	P	P	08 16 37.6	+0.7
0.2nm,0.3s,baz=134,slow=8.7,SNR=3.8							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**61.67**	**328**	P	P	08 17 05.3	-0.8
0.6nm,0.7s,baz=127,slow=6.3,SNR=6.6							
0.6nm,0.7s							

RSNC 11 08:15:06.2±0.0, 5°.N±1°.×7°.6W±°, h112km±2km, M2.1, mb4.1, ML1.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.81**	**188**	P	Pn	08 15 25.7	-0.2
YOTC				S	Sn	08 15 40.9	+0.2
ANIL	**Santa Ana**	**0.88**	**110**	P	Pn	08 15 26.1	-0.6
ANIL				S	Sn	08 15 41.6	-0.5
GUY2C	**Guyana, Caldas**	**0.96**	**63**	P	Pn	08 15 27.8	+0.1
GUY2C				S	Sn	08 15 44.4	+0.5
CBOC	**Ciudad Bolivar**	**1.09**	**11**	P	Pn	08 15 29.0	+0.3
CBOC				S	Sn	08 15 45.6	-0.1
ORTC	**Ortega, Tolima**	**1.31**	**132**	P	Pn	08 15 30.7	-0.3
ORTC				S	Sn	08 15 49.2	-0.6
HELC	**Santa Helena**	**1.56**	**27**	P	Pn	08 15 34.3	+0.1
HELC				S	Sn	08 15 55.8	+0.4
PRAC	**Prado**	**1.71**	**129**	P	Pn	08 15 35.2	-0.6
PRAC				S	Sn	08 15 57.9	-0.4
URMC	**La Uribe, Meta**	**2.40**	**130**	P	Pn	08 15 43.5	-1.0
URMC				S	Sn	08 16 11.7	-2.2
PTBC	**PUERTO BERRIO,**	**2.48**	**45**	P	Pn	08 15 44.9	-0.5
PTBC				S	Sn	08 16 14.2	-1.4
RUSC	**La Rusia**	**3.32**	**71**	P	Pn	08 15 57.2	+0.2
MACC	**Macarena, Meta**	**3.54**	**138**	P	Pn	08 15 58.1	-1.4
MACC				S	Sn	08 16 38.9	-1.9
OCAC	**Ocana**	**4.48**	**40**	P	Pn	08 16 12.1	-0.2
OCAC				S	Sn	08 17 02.0	-1.5
BCIP	**Isla Barro Col**	**5.63**	**321**	P	Pn	08 16 28.6	+1.0
BCIP				S	Sn	08 17 32.0	+0.9

*IDC **11** 08:15:49.9±0.9, 22°.80S×114°.44W, h0km, mb3.8/6, mbtmp3.8/6, MS3.9/19, Error ellipse: s-maj=40.7km s-min=26.9km az=85.0*
*NEIC **11** 08:15:54.2±0.7, 22°.9S±0°.1×114°.4W±0°.2, h10km±1km, mb4.6/11, Error ellipse: s-maj=26.4km s-min=19.9km az=247.0*
ISC 11 08:15:53.3±0.7, 22°.8S±0°.1×114°.4W±0°.2, h10km, n56, σ1°.48/29, mb4.4/13, MS3.8/19, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**6.23**	**135**	Pn	**Pn**	**08 17 24.2**	**-1.2**
RPN	**Rapa Nui**	**6.28**	**134**	Pn	**Pn**	**08 17 26.4**	**+0.5**
RPN	**Rapa Nui**	**6.28**	**134**	LR	LR	08 19 19.1	
comp=Z,2µm,18.1s,baz=310,slow=33							

H03N2 Juan Fernandez 32.86 117 T T 08 57 19.3
baz=283,slow=75,SNR=57
H03N3 Juan Fernandez 32.87 117 T T 08 57 20.0
baz=283,slow=75,SNR=54
H03N1 Juan Fernandez 32.88 117 T T 08 57 19.1
baz=283,slow=75,SNR=68
ATAH Atahualpa 37.95 71 LR LR 08 34 43.2
comp=Z,119nm,20.7s,baz=276,slow=30
MT02 Curacav 39.32 115 P **P 08 23 23.2 +0.5**
MT02 IAmb IAmb 08 23 24.9
comp=Z,18nm,1.3s
AC06 Mina Casimiro 39.98 106 P **P 08 23 28.6 +0.3**
PLCA Paso Flores 40.85 126 LR LR 08 36 09.7
comp=Z,189nm,21.8s,baz=264,slow=30
RAR Rarotonga 41.99 263 LR LR 08 35 35.3
comp=Z,114nm,21.2s,baz=172,slow=28
TLIG Tlapa 43.00 22 P **P 08 23 54.8 +1.6**
TLIG IAmb IAmb 08 23 56.3
comp=Z,12nm,1.1s
LPAZ La Paz 43.92 90 P **P 08 24 01.8 +0.3**
LPAZ La Paz 43.92 90 P **P 08 24 00.0 -1.4**
comp=Z,2.5nm,1.0s,baz=258,slow=5.6,SNR=5.8
LPAZ LR LR 08 37 55.2
comp=Z,63nm,20.3s,baz=262,slow=30
comp=Z,2.5nm,1.0s
CMIG Matias Romero 44.00 27 LR LR 08 38 33.8
comp=Z,87nm,18.2s,baz=236,slow=31
LPIG La Paz 46.80 5 LR LR 08 39 39.1
comp=Z,39nm,21.4s,baz=24,slow=30
ROSC El Rosal 47.82 60 LR LR 08 40 58.7
comp=Z,98nm,18.6s,baz=100,slow=32
CPUP Villa Florida 51.65 106 LR LR 08 42 57.8
comp=Z,17nm,18.8s,baz=108,slow=32
PTLB Pontes e Lacer 52.46 92 P **P 08 25 06.3 -0.4**
PTLB IAmb IAmb 08 25 07.6
comp=Z,8.5nm,1.4s
TXAR Lajitas Array 52.86 12 P **P 08 25 07.8 -1.6**
comp=Z,1.3nm,1.1s,baz=197,slow=7.8,SNR=5.5
comp=Z,1.3nm,1.1s
PMSA Palmer Station 53.08 156 LR LR 08 42 52.5
comp=Z,114nm,19.4s,baz=300,slow=31
JCT Junction City 54.80 15 P **P 08 25 24.2 +0.6**
MNTX Cornudas Mount 54.88 9 P **P 08 25 24.7 +0.6**
MNTX IAmb IAmb 08 25 26.7
comp=Z,9.1nm,1.4s
Y22A Socorro 56.87 7 P **P 08 25 39.1 +0.6**
Y22A IAmb IAmb 08 25 40.2
comp=Z,6.0nm,1.1s
LENM Lemitar 57.10 7 P **P 08 25 40.8 +0.7**
X18A Snowflake 57.18 4 P **P 08 25 41.1 +0.4**
X18A IAmb IAmb 08 25 43.8
comp=Z,8.9nm,1.4s
ANMO Albuquerque 57.93 8 LR LR 08 46 51.8
comp=Z,45nm,18.8s,baz=164,slow=32
URZ Urewera 59.75 238 LR LR 08 46 40.4
comp=Z,130nm,20.4s,baz=5.0,slow=31
NVAR Mina Array Bea 61.03 356 P **P 08 26 05.5 -1.9**
comp=Z,0.6nm,0.7s,baz=189,slow=8.7,SNR=4.8
comp=Z,0.6nm,0.7s
YBH Yreka Blue Hor 64.68 353 LR LR 08 48 27.1
comp=Z,5.5nm,18.4s,baz=218,slow=30
TKL Tuckaleechee C 64.97 27 LR LR 08 52 11.2
comp=Z,60nm,18.2s,baz=64,slow=34
PDAR Pinedale Array 65.40 4 P **P 08 26 34.5 -1.8**
comp=Z,0.7nm,0.9s,baz=145,slow=5.4,SNR=5.0
comp=Z,0.7nm,0.9s
MDP Montagnes des 66.35 73 LR LR 08 53 34.8
comp=Z,89nm,18.1s,baz=314,slow=34
QSPA South Pole Qui 67.34 180 P **P 08 26 49.0 +0.6**
QSPA South Pole Qui 67.34 180 P **P 08 26 47.1 -1.3**
comp=Z,1.1nm,0.8s,baz=112,slow=4.8,SNR=5.0
comp=Z,1.1nm,0.8s
SADO Sadowa 74.56 25 LR LR 08 58 03.9
comp=Z,412nm,18.2s,baz=195,slow=34
SNAA Sanae 75.02 162 P **P 08 27 35.5 +0.8**
SNAA IAmb IAmb 08 27 58.8
comp=Z,5.5nm,1.4s
H11S2 WAKE ISLAND Hy 87.32 291 T T 10 04 58.5
baz=116,slow=75,SNR=76
H11S1 WAKE ISLAND Hy 87.33 291 T T 10 04 58.9
baz=116,slow=75,SNR=33
H11S3 WAKE ISLAND Hy 87.33 291 T T 10 05 00.0
baz=116,slow=75,SNR=40
SCHQ Schefferville 87.37 25 LR LR 09 06 21.6
comp=Z,379nm,18.0s,baz=269,slow=35
H11N3 WAKE ISLAND Hy 87.66 292 T T 10 05 19.9
baz=117,slow=75,SNR=9.1
H11N1 WAKE ISLAND Hy 87.67 292 T T 10 05 21.9
baz=117,slow=75,SNR=5.0
H11N2 WAKE ISLAND Hy 87.67 292 T T 10 05 21.4
baz=117,slow=75,SNR=20
STKA Stephens Creek 89.29 236 LR LR 09 04 58.8
comp=Z,52nm,18.5s,baz=184,slow=33
ILAR Eielson Array 90.85 347 P **P 08 28 56.1 -0.4**
comp=Z,0.2nm,0.7s,baz=159,slow=2.8,SNR=2.0
ILAR LR LR 09 02 17.0
comp=Z,33nm,19.1s,baz=50,slow=31
comp=Z,0.2nm,0.7s
FRB Frobisher Bay 93.40 19 LR LR 09 08 49.0
comp=Z,62nm,18.1s,baz=264,slow=34
LODK Lodwar 144.93 119 PKPdf **PKPab 08 35 30.4 -0.6**
ZAA0 Zalesovo Array 145.69 340 PKPdf **PKPdf 08 35 29.7 -2.0**
ZALV Zalesovo Beam 145.69 340 PKPdf **PKPdf 08 35 30.0 -1.8**
ELL Elmali 146.24 58 PKPbc **PKPdf 08 35 33.5 0.0**
BRTR Keskin Array B 148.10 51 PKPbc **PKPdf 08 35 37.0 +0.5**
comp=Z,1.7nm,1.0s,baz=151,slow=2.8,SNR=5.3
CMAR Chiang Mai Arr 148.56 268 PKPbc **PKPdf 08 35 39.2 +1.5**
comp=Z,1.7nm,0.3s,baz=99,slow=2.8,SNR=4.6
KURBB Kurchatov Arra 150.47 343 PKPbc **PKPdf 08 35 42.0 +2.3**
comp=Z,1.3nm,0.2s,baz=30,slow=1.7,SNR=4.7
AKTO Aktyubinsk 151.79 10 PKPbc **PKPdf 08 35 45.3 +3.5**
comp=Z,0.6nm,0.5s,baz=25,slow=3.9,SNR=3.6
MKAR Makanchi Array 152.55 335 PKPbc **PKPbc 08 35 47.1 -3.0**
comp=Z,0.5nm,0.7s,baz=55,slow=2.8,SNR=3.8

*MEX **11** 08:16:10.7±0.9, 14°.87N×92°.18W, h106km±6km, MD4.1*
*GCG **11** 08:16:11.7±1.1, 14°.81N×92°.21W, h84km±5km, MD3.6, MLS.4*
ISC 11 08:16:07.9±1.8, 14°.65N±0°.09×92°.25W±0°.08, h105km±9km, n18, σ1°.95/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.25**	**357**	*i* P	**Pn**	**08 16 24.0**	**+1.1**
THIG				*eS*	**Sn**	**08 16 33.5**	**-0.6**
SMCA	**Catarina**	**0.26**	**40**	*eP*	**Pn**	**08 16 23.4**	**+0.5**
SMCA				*eS*	**Sn**	**08 16 33.4**	**-0.8**
CHUJ	**Union Juarez**	**0.46**	**17**	*eP*	**Pn**	**08 16 24.4**	**+0.1**
CHUJ				*eS*	**Sn**	**08 16 35.6**	**-0.9**
PATR	**El Naranjo**	**0.46**	**2**	*eP*	**Pn**	**08 16 24.5**	**+0.2**
PATR				*eS*	**Sn**	**08 16 35.3**	**-1.2**
PAVE	**Pavencul**	**0.54**	**7**	*eP*	**Pn**	**08 16 25.1**	**+0.3**
PAVE				*eS*	**Sn**	**08 16 36.5**	**-0.9**
RTAL	**Retalhuleu**	**0.55**	**103**	*eP*	**Pn**	**08 16 26.4**	**+1.8**
RTAL				*eS*	**Sn**	**08 16 39.2**	**+2.1**
QUEO	**Labor Ovalle**	**0.74**	**73**	*eP*	**Pn**	**08 16 28.3**	**+1.8**
STG2	**El Palmar, Qui**	**0.87**	**104**	*i* P	**Pn**	**08 16 26.4**	**-1.2**
STG2				*eS*	**Sn**	**08 16 38.6**	**-3.7**
ESSG	**Sabana Grande**	**1.40**	**101**	*eP*	**Pn**	**08 16 36.3**	**+3.0**
ESSG				*eS*	**Sn**	**08 16 55.2**	**+2.7**
PCIG		**1.40**	**318**	*eP*	**Pn**	**08 16 34.1**	**+0.9**
PCIG				*eS*	**Sn**	**08 16 52.8**	**+0.3**
CCIG	**Comitan**	**1.62**	**4**	*eP*	**Pn**	**08 16 37.5**	**+1.4**
CCIG				*eS*	**Sn**	**08 16 57.7**	**+0.1**
CCIG	**Comitan**	**1.62**	**4**	*i* P	**Pn**	**08 16 37.6**	**+1.5**
CCIG				*eS*	**Sn**	**08 16 57.6**	**+0.1**
CCIG				IAML		08 16 59.9	
comp=N,74nm,0.4s							
FG8	**Yepocapa, Chim**	**1.68**	**103**	*i* P	**Pn**	**08 16 35.7**	**-1.0**
FG8				*i* S	**Sn**	**08 16 53.6**	**-5.1**
FG16	**Alotenango, Sa**	**1.73**	**102**	*i* P	**Pn**	**08 16 36.4**	**-1.1**
FG16				*eP*	**Pn**	**08 16 36.4**	**-1.1**
FG16				IAML		08 16 58.6	
comp=N,2µm,0.2s							
TGIG		**2.27**	**338**	*eP*	**Pn**	**08 16 44.4**	**+0.1**
TGIG				*eS*	**Sn**	**08 17 08.8**	**-3.3**
NUBE	**Las Nubes**	**2.51**	**107**	*eP*	**Pn**	**08 16 50.8**	**+3.3**
UXUV	**UXUV**	**3.22**	**326**	*eP*	**Pn**	**08 16 57.7**	**+1.0**
UXUV				*eS*	**Sn**	**08 17 32.7**	**-1.6**
CMIG	**Matias Romero**	**3.51**	**314**	*eP*	**Pn**	**08 17 01.4**	**+0.9**

*FUNV **11** 08:17:30.7, 10°.32N×63°.01W, h11km, MW3.4*
*TRN **11** 08:17:30.6, 10°.35N×63°.09W, h27km, MD3.6, Venezuela.*

ISC 11 08:17:20.9±1.4, 10°16N±0°07×63°40W±0°04, h9km±12km, n15, σ2°27/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**1.91**	**74**	*eP*	**Pg**	**08 17 57.3**	**-0.2**
PSMG				*eS*	**Sn**	**08 18 15.3**	**-2.6**
TPP	**Pointe-a-Pierr**	**1.93**	**85**	*eP*	**Pg**	**08 17 59.4**	**+1.5**
TRN	**Trinidad (W)**	**2.03**	**76**	*eP*	**Pg**	**08 17 59.1**	**-0.8**
TRN				*eS*	**Sn**	**08 18 19.6**	**-1.1**
GRFF	**Grenada Fort F**	**2.49**	**41**	*eP*	**Pb**	**08 18 04.4**	**-1.5**
GRFF				*eS*	**Sn**	**08 18 30.9**	**-1.3**
GRGR	**Grenville**	**2.61**	**41**	*eP*	**Pb**	**08 18 07.1**	**-0.8**
GRGR				*eS*	**Sn**	**08 18 32.4**	**-2.8**
GRHS	**Sauteurs**	**2.69**	**40**	*eP*	**Pb**	**08 18 08.2**	**-0.9**
GRHS				*eS*	**Sn**	**08 18 35.4**	**-1.6**
GCMP	**Grenada, Carri**	**3.02**	**40**	*eP*	**Pb**	**08 18 13.9**	**-1.0**
GCMP				*eS*	**Sn**	**08 18 43.4**	**-1.9**
TACV	**Tcata**	**3.57**	**270**	*eP*	**Pg**	**08 18 28.9**	**-0.4**
TACV				*eS*	**Sg**	**08 19 14.3**	**-1.3**
SVB	**Belmont**	**3.75**	**34**	*eP*	**Pn**	**08 18 22.3**	**+3.4**
SVB				*eS*	**Sn**	**08 19 00.5**	**-2.7**
CACV	**CAICARA DEL OR**	**4.03**	**231**	*eP*	**Pb**	**08 18 31.4**	**-0.7**
CACV				*eS*	**Sb**	**08 19 16.9**	**-4.0**
BENV	**Beln**	**4.14**	**268**	*eP*	**Pg**	**08 18 37.6**	**-2.6**
BENV				*eS*	**Sb**	**08 19 27.1**	**+3.0**
SLBI	**Saint Lucia, B**	**4.52**	**31**	*eP*	**Pn**	**08 18 33.4**	**+3.9**
SLBI				*eS*	**Sn**	**08 19 21.3**	**-1.0**
BAUV	**El Baul**	**4.73**	**256**	*eP*	**Pb**	**08 18 45.7**	**+1.6**
BAUV				*eS*	**Sb**	**08 19 41.6**	**+0.4**
BAUV	**El Baul**	**4.73**	**256**	*eP*	**Pb**	**08 18 45.9**	**+1.9**
BIM	**Bigot**	**4.90**	**27**	*eP*	**Pn**	**08 18 38.0**	**+3.2**
BIM				*eS*	**Sn**	**08 19 29.2**	**-2.5**

HEL 11 08:40:09.1±0.2, 64°12N×24°54E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.26**	**18**	PG	Pg	08 40 13.4	-0.7
OUF				SG	Sg	08 40 17.3	-0.2
OBF0	**Syolatti, Pyha**	**0.40**	**341**	PG	Pg	08 40 16.1	-0.7
OBF0	baz=160			SG	Sg	08 40 22.1	+0.1
OBF8	**Ulkokalla**	**0.52**	**294**	PG	Pg	08 40 18.7	-0.4
OBF8				MSG		08 40 26.0	
OBF4	comp=Z,0.8nm,0.2s **Vikkela, Lumij**	**0.74**	**19**	PG	Pg	08 40 22.1	-1.1
OBF4	baz=200			MSG		08 40 32.2	
OUL	comp=Z,0.5nm,0.2s **Oulu**	**1.13**	**30**	PG	Pg	08 40 30.1	-0.6
OUL				SG	Sg	08 40 44.0	-1.4
VAF	**Ylistaro**	**1.37**	**219**	PN	Pg	08 40 34.3	-1.0
VAF	baz=37			MSG		08 40 50.3	
BURU	comp=Z,0.8nm,0.2s **Burvik**	**1.45**	**290**	PG	Pn	08 40 35.7	-0.9
BURU				SN	Sb	08 40 56.0	0.0
SUF	**Sumiainen**	**1.58**	**152**	PN	Pb	08 40 38.8	-0.3
SUF				MSG		08 40 56.5	
NIF	comp=Z,0.6nm,0.2s **Nilsia**	**1.63**	**115**	PG	Pn	08 40 38.2	-0.8
NIF				MSG		08 40 57.8	
UMAU	comp=Z,0.6nm,0.2s **Umeaa**	**1.72**	**264**	PN	Pn	08 40 40.0	-0.2
UMAU	baz=81			SN	Sb	08 41 03.6	0.0
KAF	**Kangasniemi**	**2.17**	**158**	MSG		08 41 13.4	
KAF	comp=Z,0.8nm,0.2s			SG	Sb	08 41 15.8	-0.8
RMF	**Romuvaara**	**2.36**	**85**	MSG		08 41 19.1	
RMF	comp=Z,0.4nm,0.2s			SG	Sb	08 41 21.6	-0.6

*NEIC **11** 08:47:17.3±1.3, 19°18N±0°04×67°11W±0°03, h10km±1km, ML2.1/14, Md3.1/11(RSPR), Error ellipse: s-maj=6.0km s-min=4.9km az=193.0*
*SDD **11** 08:47:18.5±2.2, 19°17N×67°09W, h21km±79km, MD3.0, ML1.9, MW2.7*
*RSPR **11** 08:47:20.5, 19°10N×67°20W, h7km±4km, MD3.1/11*
*OSPL **11** 08:47:20.3±0.3, 19°10N×67°26W, h24km±3km, ML2.0*

ISC 11 08:47:18.0±1.6, 19°13N±0°06×67°05W±0°05, h16km±9km, n46, σ0°60/59, 15C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.66**	**185**		**Pb**	**08 47 31.9**	**+0.7**
AGPR					**Sb**	**08 47 41.5**	**+1.4**
AGPR	**Aguadilla, PR**	**0.66**	**185**	⇓*eP*	**Pb**	**08 47 31.9**	**+0.7**
AGPR	**Aguadilla, PR**	**0.66**	**185**	*eS*	**Sb**	**08 47 41.5**	**+1.4**
AGPR	**Aguadilla, PR**	**0.66**	**185**	⇑*ePg*	**Pb**	**08 47 31.9**	**+0.7**
AGPR				⇑*eSg*	**Sg**	**08 47 40.0**	**+0.2**
AGPR	comp=N,104nm,0.2s			IAML		08 47 45.0	
AGPR	**Aguadilla, PR**	**0.66**	**185**	*i* P	**Pb**	**08 47 31.9**	**+0.7**
AGPR				*eS*	**Sb**	**08 47 40.6**	**+0.5**
AGPR	comp=Z,96nm,0.3s			IAML		08 47 42.1	
AOPR	**Arecibo Observ**	**0.83**	**160**		**Sn**	**08 47 46.9**	**0.0**
AOPR	**Arecibo Observ**	**0.83**	**160**		**Pn**	**08 47 34.8**	**-0.3**
AOPR	**Arecibo Observ**	**0.83**	**160**	⇑*eP*	**Pn**	**08 47 35.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.83**	**160**	*eS*	**Sn**	**08 47 46.9**	**0.0**
IDE	**Isla Desecheo**	**0.84**	**208**		**Pb**	**08 47 34.3**	**0.0**
IDE					**Sb**	**08 47 44.7**	**-0.6**
IDE	**Isla Desecheo**	**0.84**	**208**	⇓*eP*	**Pb**	**08 47 34.3**	**0.0**
IDE	**Isla Desecheo**	**0.84**	**208**	*eS*	**Sb**	**08 47 44.7**	**-0.6**
PRSN	**Puerto Rico Se**	**0.91**	**186**	Pg	**Pb**	**08 47 34.7**	**-0.7**
UUPR	**Utuado, UPR, P**	**0.93**	**160**	Pg	**Pg**	**08 47 36.1**	**+0.1**
LSP	**Las Mesas**	**0.95**	**182**		**Pb**	**08 47 36.4**	**+0.3**
LSP					**Sg**	**08 47 49.6**	**+0.6**
LSP	**Las Mesas**	**0.95**	**182**	⇓*eP*	**Pb**	**08 47 36.4**	**+0.3**
LSP	**Las Mesas**	**0.95**	**182**	*eS*	**Sg**	**08 47 49.6**	**+0.6**
ECPR	**Experimental S**	**1.04**	**141**	⇓*eP*	**Pg**	**08 47 38.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.12**	**183**		**Pn**	**08 47 38.8**	**-0.2**
CRPR					**Sb**	**08 47 52.2**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.12**	**183**	IAML		08 47 57.1	
CRPR	comp=N,45nm,0.3s			IAML		08 48 00.2	
CRPR	comp=E,38nm,0.7s **Cabo Rojo, PR**	**1.12**	**183**	⇑*eP*	**Pn**	**08 47 38.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**183**	⇑*ePg*	**Pn**	**08 47 38.1**	**-0.9**
CRPR				⇓*eSg*	**Sb**	**08 47 53.3**	**0.0**
CRPR	comp=N,52nm,0.4s			IAML		08 47 56.9	
CRPR	**Cabo Rojo, PR**	**1.12**	**183**	⇑*iP*	**Pn**	**08 47 38.8**	**-0.2**
CRPR				*eS*	**Sb**	**08 47 52.2**	**-1.1**
CRPR	comp=Z,37nm,1.6s			IAML		08 47 55.9	
CELP	**Cerrillos**	**1.14**	**157**		**Pg**	**08 47 39.7**	**-0.4**
CELP					**Sg**	**08 47 55.2**	**+0.1**
CELP	**Cerrillos**	**1.14**	**157**	⇓*eP*	**Pg**	**08 47 39.7**	**-0.4**
CELP	**Cerrillos**	**1.14**	**157**	*eS*	**Sg**	**08 47 55.2**	**+0.1**
CELP	**Cerrillos**	**1.14**	**157**	⇑*ePg*	**Pg**	**08 47 40.0**	**-0.1**
CELP				⇑*eSg*	**Sg**	**08 47 55.1**	**0.0**
CELP	comp=N,34nm,0.2s			IAML		08 47 58.0	
MLPR	**Magueyes Islan**	**1.16**	**180**	⇓*eP*	**Pn**	**08 47 39.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.16**	**180**	*eS*	**Sb**	**08 47 54.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.16**	**180**	⇑*ePg*	**Pn**	**08 47 39.5**	**0.0**
MLPR				⇑*eSg*	**Sb**	**08 47 53.8**	**-0.6**
MLPR	comp=N,10nm,0.7s			IAML		08 47 54.9	
OBIP	**Obispado Ponce**	**1.16**	**159**		**Pg**	**08 47 40.1**	**-0.4**
OBIP					**Sn**	**08 47 55.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.16**	**159**	IAML		08 47 56.5	
OBIP	comp=N,36nm,0.2s			IAML		08 48 01.0	
OBIP	comp=E,32nm,0.3s **Obispado Ponce**	**1.16**	**159**	⇑*eP*	**Pg**	**08 47 40.1**	**-0.4**
OBIP	**Obispado Ponce**	**1.16**	**159**	*eS*	**Sn**	**08 47 55.4**	**+0.3**
GCPR	**Guaynabo City**	**1.23**	**132**		**Pg**	**08 47 42.6**	**+0.9**
GCPR	**Guaynabo City**	**1.23**	**132**	⇓*eP*	**Pg**	**08 47 42.6**	**+0.9**
SJG	**San Juan**	**1.33**	**140**	Pn	**Pg**	**08 47 43.1**	**-0.5**
SJG				IAML		08 48 08.9	
SJG	comp=E,27nm,0.4s			IAML		08 48 37.6	
SJG	comp=E,28nm,0.2s **San Juan**	**1.33**	**140**	*i* P	**Pg**	**08 47 43.4**	**-0.2**
SJG	comp=Z,13nm,0.2s			IAML		08 48 05.0	
IGPR	**InterUniversit**	**1.47**	**142**		**Pg**	**08 47 45.9**	**-0.4**
IGPR					**Sg**	**08 48 04.4**	**-0.9**
IGPR	**InterUniversit**	**1.47**	**142**	⇓*eP*	**Pg**	**08 47 45.9**	**-0.4**
IGPR	**InterUniversit**	**1.47**	**142**	*eS*	**Sg**	**08 48 04.4**	**-0.9**
PDPR	**Patillas Dam,**	**1.48**	**138**	Pn	**Pb**	**08 47 45.0**	**0.0**
PDPR				IAML		08 48 10.2	
PDPR	comp=E,23nm,0.2s			IAML		08 48 11.7	
PDPR	comp=N,23nm,0.2s **Patillas Dam,**	**1.48**	**138**	⇓*eP*	**Pg**	**08 47 45.5**	**-1.0**
MIDR	**Miches**	**1.90**	**266**	⇑*ePg*	**Pn**	**08 47 50.4**	**+0.7**
MIDR				⇑*eSg*	**Sb**	**08 48 15.0**	**-0.6**
MIDR	comp=N,7.1nm,0.3s			IAML		08 48 19.5	
MIDR	comp=N,12nm,1.7s			IAML		08 48 21.4	
DR12	**Loma Pena Alta**	**2.23**	**262**	Pn	**Pn**	**08 47 53.9**	**-0.5**
HATOM	**Hato Mayor del**	**2.23**	**262**	⇑*ePg*	**Pn**	**08 47 54.4**	**0.0**
HATOM				⇑*eSg*	**Sb**	**08 48 25.4**	**0.0**
HATOM	comp=N,8.2nm,0.8s			IAML		08 48 29.0	

*IDC **11** 09:19:31.9±0.6, 28°22N×54°66E, h0km, mb4.1/24, mbtmp4.1/27, ML4.1/3, MS2.8/1, Error ellipse: s-maj=16.2km s-min=12.5km az=3.0*
*MOS **11** 09:19:32.1±1.3, 28°20N×54°59E, h13km, mb4.6/14, Error ellipse: s-maj=7.7km s-min=5.4km az=108.3*
*THR **11** 09:19:34.8±0.0, 28°39N×54°75E, h10km±7km, ML4.0*
*NEIC **11** 09:19:34.7±1.3, 28°34N±0°09×54°52E±0°01, h10km±1km, mb4.2/27, Error ellipse: s-maj=14.5km s-min=3.0km az=182.0*
*OMAN **11** 09:19:35.4±0.6, 28°29N×54°64E, h10km, mb4.5/13, ml4.1/18, Error ellipse: s-maj=6.0km s-min=2.8km az=32.0*
*TEH **11** 09:19:35.1, 28°25N×54°65E, h20km±21km*
*DSN **11** 09:19:37.5±1.2, 28°11N×54°46E, h10km, ML3.6/14, Error ellipse: s-maj=15.4km s-min=7.6km az=25.0*

ISC 11 09:19:34.5±0.3, 28°29N±0°03×54°66E±0°03, h10km, n229, σ1°70/256, mb4.2/40, 11C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.67**	**202**	Pg	**Pg**	**09 19 47.4**	**-0.1**
JHRM	**Jahrom**	**0.97**	**283**	Pg	**Pg**	**09 19 53.6**	**+0.3**
BNDS	**Bandar-Abbas**	**1.61**	**123**	Pg	**Pn**	**09 20 03.6**	**+0.4**
BNDS	**Bandar-Abbas**	**1.61**	**123**	*ePn*	**Pn**	**09 20 03.9**	**+0.7**
BNDS				*eSg*	**Sb**	**09 20 26.5**	**+1.6**
BNDS	comp=Z,2μm,1.0s			IAML		09 20 38.5	
GENO	**Geno**	**1.61**	**123**	Pg	**Pn**	**09 20 04.0**	**+0.8**
LMD1	**Lamerd**	**1.63**	**235**	Pg	**Pb**	**09 20 05.7**	**+1.1**
LMD1	**Lamerd**	**1.63**	**235**	*ePn*	**Pg**	**09 20 06.2**	**+0.5**
LMD1				*eSg*	**Sg**	**09 20 30.9**	**+4.1**
LMD1	comp=Z,4μm,1.0s			IAML		09 20 37.9	
IBND	**Bandar-abas**	**1.87**	**116**	Pn	**Pn**	**09 20 07.5**	**+0.9**
NGRK	**Negar Kerman**	**2.26**	**53**	Pn	**Pn**	**09 20 14.0**	**+1.6**
SHI	**Shiraz**	**2.31**	**306**	Pn	**Pn**	**09 20 14.4**	**+1.6**
SHI	**Shiraz**	**2.31**	**306**	P	**Pn**	**09 20 14.4**	**+1.6**
KRBR	**Kerman**	**2.50**	**47**	Pn	**Pn**	**09 20 17.2**	**+1.7**
SHME	**Shamm**	**2.60**	**149**	P	**Pn**	**09 20 19.1**	**+2.4**
SHME				S	**Sn**	**09 20 51.0**	**+2.8**
SHME	**Shamm**	**2.60**	**149**	P	**Pn**	**09 20 19.0**	**+2.4**
KHGB	**Koh Gabri**	**2.62**	**37**	Pn	**Pn**	**09 20 19.0**	**+1.9**
KHNJ	**Kahnooj**	**2.72**	**97**	Pn	**Pn**	**09 20 19.2**	**+0.9**
BANOM	**Banah**	**2.78**	**148**	P	**Pn**	**09 20 20.8**	**+1.6**
BANOM				S	**Sn**	**09 20 54.9**	**+2.2**
BANOM	**Banah**	**2.78**	**148**	*eP*	**Pn**	**09 20 20.7**	**+1.6**
KAZ2	SNR=7.9 **Kazeron-Fars-I**	**2.94**	**297**	Pn	**Pn**	**09 20 22.7**	**+1.4**
CHMN	**Cheshme madani**	**2.97**	**58**	Pn	**Pn**	**09 20 23.8**	**+1.7**
DSBU	**Dashti - Bushe**	**2.99**	**272**	Pn	**Pn**	**09 20 23.3**	**+1.2**
IMEH	**Mehriz**	**3.09**	**359**	Pn	**Pn**	**09 20 25.8**	**+2.2**
ZRDN	**Zarand Kerman**	**3.13**	**31**	Pn	**Pn**	**09 20 26.0**	**+1.8**
KRM1	**Kerman Provinc**	**3.17**	**45**	Pn	**Pn**	**09 20 26.3**	**+1.6**
MASF	**Masafi**	**3.21**	**155**	P	**Pn**	**09 20 27.0**	**+2.0**
MASF	SNR=18			S	**Sn**	**09 21 05.2**	**+1.9**
MSFE	**Esma-Masafi**	**3.21**	**155**	*i* P	**Pn**	**09 20 26.7**	**+1.5**
MDH	SNR=19 **Madha**	**3.32**	**153**	P	**Pn**	**09 20 28.8**	**+2.2**
MDH	SNR=10			S	**Sn**	**09 21 07.4**	**+1.2**
IBAF	**Bafgh**	**3.38**	**13**	Pn	**Pn**	**09 20 29.6**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.41**	**164**	P	**Pn**	**09 20 30.7**	**+2.9**
NAZ	SNR=11			S	**Sn**	**09 21 11.1**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.41**	**164**	*i* P	**Pn**	**09 20 29.4**	**+1.6**
KBAM	SNR=11 **BAM**	**3.44**	**75**	Pn	**Pn**	**09 20 30.1**	**+1.8**
UOSS	**Minazif**	**3.61**	**157**		**Pn**	**09 20 32.0**	**+1.4**
UOSS	**Minazif**	**3.61**	**157**	P	**Pn**	**09 20 32.1**	**+1.6**
UOSS				S	**Sn**	**09 21 15.1**	**+1.9**
UOSS	**Minazif**	**3.61**	**157**	*i* P	**Pn**	**09 20 32.0**	**+1.4**
FAQ	SNR=9.9 **Al Faqa, Dubai**	**3.63**	**166**	P	**Pn**	**09 20 33.1**	**+2.2**
FAQ	SNR=19			S	**Sn**	**09 21 15.8**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.63**	**166**	*i* P	**Pn**	**09 20 32.7**	**+1.9**
HATD	SNR=19 **Hatta, Dubai**	**3.70**	**159**	P	**Pn**	**09 20 33.6**	**+1.8**
HATD	SNR=6.1			S	**Sn**	**09 21 17.3**	**+1.9**
HATD	**Hatta, Dubai**	**3.70**	**159**	*i* P	**Pn**	**09 20 34.0**	**+2.3**
HATD	SNR=19			S	**Sn**	**09 21 16.5**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.70**	**170**	P	**Pn**	**09 20 34.6**	**+2.8**
ASUD	SNR=47			S	**Sn**	**09 21 18.1**	**+2.6**
ASUD	**Al Ashush, Dub**	**3.70**	**170**	*i* P	**Pn**	**09 20 34.0**	**+2.2**
JRN	SNR=47 **Qarnain Island**	**3.71**	**206**	P	**Pn**	**09 20 33.5**	**+1.6**
JRN				S	**Sn**	**09 21 18.4**	**+2.8**
AJN	**Ajban**	**3.73**	**175**	P	**Pn**	**09 20 34.6**	**+2.5**
AJN	SNR=17			S	**Sn**	**09 21 18.7**	**+2.6**
AJN	**Ajban**	**3.73**	**175**	*i* P	**Pn**	**09 20 33.6**	**+1.5**
KLNJ	SNR=17 **Kolanjah**	**3.80**	**316**	Pn	**Pn**	**09 20 34.8**	**+1.3**
KLNJ	**Kolanjah**	**3.80**	**316**	*ePn*	**Pn**	**09 20 34.6**	**+1.1**
KLNJ				IAML		09 21 52.6	
ASHO	comp=Z,340nm,1.0s **Ashiyiah**	**3.81**	**160**	P	**Pn**	**09 20 35.0**	**+1.7**
ASHO	SNR=77			S	**Sn**	**09 21 19.5**	**+1.3**
ASHO	**Ashiyiah**	**3.81**	**160**	*i* P	**Pn**	**09 20 34.8**	**+1.5**
ICHK	SNR=44 **Chekchek**	**3.94**	**357**	Pn	**Pn**	**09 20 37.3**	**+1.9**
IRAM	**Ramesheh**	**4.02**	**331**	Pn	**Pn**	**09 20 38.2**	**+1.8**
YZKH	**Yazd**	**4.08**	**359**	*ePn*	**Pn**	**09 20 39.6**	**+2.4**
YZKH				IAML		09 21 58.4	
SHMA	comp=Z,220nm,1.0s **Al-Shehemyia**	**4.09**	**234**	P	**Pn**	**09 20 39.7**	**+2.6**
SHMA	SNR=214			S	**Sn**	**09 21 27.6**	**+2.6**
ALNE	**Al Ain**	**4.33**	**167**	P	**Pn**	**09 20 42.2**	**+1.7**
ALNE	SNR=28			S	**Sn**	**09 21 34.3**	**+3.2**
ALNE	**Al Ain**	**4.33**	**167**	*i* P	**Pn**	**09 20 42.0**	**+1.5**
SAKB	SNR=28 **Bahrain**	**4.33**	**239**	P	**Pn**	**09 20 43.0**	**+2.5**
SAKB				S	**Sn**	**09 21 32.5**	**+1.5**
SOHO	**SOHO**	**4.47**	**157**	P	**Pn**	**09 20 43.9**	**+1.5**
SOHO	**SOHO**	**4.47**	**157**	*i* P	**Pn**	**09 20 43.5**	**+1.1**
MZWR	SNR=9.3 **Madinat Zayed**	**4.57**	**189**	P	**Pn**	**09 20 45.7**	**+2.0**
MZWR				S	**Sn**	**09 21 38.4**	**+1.6**
GHWR	**Ruwais**	**4.60**	**201**	P	**Pn**	**09 20 45.3**	**+1.2**
IBRJ	**Brojen**	**4.65**	**322**	Pn	**Pn**	**09 20 46.7**	**+1.6**
IGAR	**Ghareeh**	**4.68**	**332**	Pn	**Pn**	**09 20 47.2**	**+1.8**
TRNA	**Turayna**	**4.70**	**222**	P	**Pn**	**09 20 46.4**	**+1.0**
TRNA	SNR=32			S	**Sn**	**09 21 41.7**	**+1.6**
SMRA	SNR=7.7 **Abu-Samra**	**4.92**	**225**	P	**Pn**	**09 20 50.2**	**+1.6**
SMRA	SNR=6.8			S	**Sn**	**09 21 48.0**	**+2.3**
ANAR	SNR=7.4 **Anarak**	**4.95**	**351**	Pn	**Pn**	**09 20 50.8**	**+1.7**
IZEF	**Zefreh**	**5.01**	**337**	Pn	**Pn**	**09 20 51.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**5.03**	**20**	Pn	**Pn**	**09 20 52.2**	**+2.0**
ZNGN	**Zangian**	**5.04**	**320**	Pn	**Pn**	**09 20 51.8**	**+1.4**
ARQ	**Araqi**	**5.21**	**161**	P	**Pn**	**09 20 54.3**	**+1.6**
ARQ	SNR=33			S	**Sn**	**09 21 53.4**	**+0.6**
JHBN	**Jahan bin**	**5.23**	**320**	Pn	**Pn**	**09 20 54.4**	**+1.4**
HOQ	**Hoqain**	**5.26**	**152**	P	**Pn**	**09 20 53.7**	**+0.4**
BSRN	**Basiran**	**5.33**	**46**	*ePn*	**Pn**	**09 20 54.3**	**0.0**
BSRN				IAML		09 22 33.0	
MZR	comp=Z,72nm,1.0s **Muzera**	**5.37**	**192**	P	**Pn**	**09 20 55.8**	**+1.0**
MZR	SNR=12 **Muzera**	**5.37**	**192**	*i* P	**Pn**	**09 20 55.4**	**+0.6**
IPIR	SNR=14 **Pirpir**	**5.45**	**324**	Pn	**Pn**	**09 20 57.3**	**+1.2**
ZHSF	**Zahedan**	**5.52**	**75**	Pn	**Pn**	**09 20 58.8**	**+1.9**
ZHSF	**Zahedan**	**5.52**	**75**	*ePn*	**Pn**	**09 20 59.0**	**+2.0**
ZHSF				IAML		09 22 41.6	
UMZA	comp=Z,40nm,1.0s **Um Al Zommool**	**5.57**	**175**	P	**Pn**	**09 20 58.7**	**+1.2**
UMZA				S	**Sn**	**09 22 01.7**	**0.0**
IKOO	**Kooshah**	**5.58**	**41**	Pn	**Pn**	**09 20 59.6**	**+1.8**
NHDN	**Nehbandan**	**5.61**	**55**	Pn	**Pn**	**09 20 59.9**	**+1.7**
IKLH	**Kolahrood**	**5.67**	**333**	Pn	**Pn**	**09 21 00.6**	**+1.6**
BIDO	**Bidbid**	**5.69**	**146**	P	**Pn**	**09 21 00.3**	**+1.2**
TKDS	SNR=11 **Koohdasht(Taba**	**5.71**	**21**	Pn	**Pn**	**09 21 01.3**	**+1.8**
TABS	**Tabas**	**5.74**	**21**	*ePn*	**Pn**	**09 21 02.0**	**+2.0**
TABS				IAML		09 23 02.5	
CHBR	comp=Z,150nm,1.0s **Chabahar**	**5.85**	**116**	Pn	**Pn**	**09 21 01.6**	**+0.2**
CHBR	**Chabahar**	**5.85**	**116**	*ePn*	**Pn**	**09 21 01.8**	**+0.4**
CHBR				IAML		09 21 12.2	
TNSJ	comp=Z,77nm,1.0s **Nastanj**	**5.90**	**16**	Pn	**Pn**	**09 21 03.8**	**+1.7**
SMDO	**Samad**	**6.04**	**149**	P	**Pn**	**09 21 05.4**	**+1.3**
KBD	SNR=42 **Kabd**	**6.18**	**280**	P	**Pn**	**09 21 05.5**	**-0.3**
KBD				S	**Sn**	**09 22 16.0**	**-0.5**
WSAR	**Wadi Sarin**	**6.18**	**144**	Pn	**Pn**	**09 21 06.7**	**+0.9**
WSAR	baz=331,slow=24,SNR=32			Sn	**Sn**	**09 22 11.7**	**-4.9**
WSAR	baz=112,slow=24,SNR=3.6 **Wadi Sarin**	**6.18**	**144**	P	**Pn**	**09 21 06.8**	**+0.9**
AFRZ	SNR=19 **Afriz**	**6.34**	**35**	Pn	**Pn**	**09 21 10.2**	**+2.0**
ISFB	**Sefidab**	**6.38**	**342**	Pn	**Pn**	**09 21 10.8**	**+2.1**
JMDO	**Jabal Madar**	**6.67**	**151**	P	**Pn**	**09 21 14.0**	**+1.3**
KHMZ	SNR=12 **Khomeyn**	**6.76**	**325**	*ePn*	**Pn**	**09 21 15.4**	**+1.3**
KHMZ				IAML		09 22 39.5	
TAPT	comp=Z,80nm,1.0s **Tabas- Tapeh t**	**6.91**	**17**	Pn	**Pn**	**09 21 17.7**	**+1.7**
SRVN	**Saravan**	**6.91**	**96**	Pn	**Pn**	**09 21 17.7**	**+1.6**
SRVN	**Saravan**	**6.91**	**96**	*ePn*	**Pn**	**09 21 17.5**	**+1.4**
SRVN				IAML		09 23 33.8	
IVRN	comp=Z,30nm,1.0s **Varamin**	**7.13**	**340**	Pn	**Pn**	**09 21 20.4**	**+1.3**
SHRT	**Shahrakht**	**7.20**	**41**	*ePn*	**Pn**	**09 21 22.5**	**+2.5**
SHRT				IAML		09 23 51.2	
ASAO	comp=Z,33nm,1.0s **Ashtian**	**7.38**	**329**	*ePn*	**Pn**	**09 21 24.1**	**+1.5**
ASAO				IAML		09 23 07.4	
JLN	comp=Z,56nm,1.0s **Jalan Bani Buh**	**7.48**	**144**	P	**Pn**	**09 21 23.4**	**-0.3**
IFIR	SNR=15 **Firoozkooh**	**7.50**	**348**	Pn	**Pn**	**09 21 26.0**	**+1.7**
IDMV	**Damavand**	**7.60**	**344**	Pn	**Pn**	**09 21 27.7**	**+2.1**
DAMV	**Damavand**	**7.66**	**343**	*ePn*	**Pn**	**09 21 28.5**	**+2.0**
DAMV				IAML		09 21 33.9	
SHRO	comp=Z,28nm,1.0s **Shahrood**	**7.76**	**8**	*ePn*	**Pn**	**09 21 29.0**	**+1.3**
SHRO				IAML		09 23 51.2	
MHTO	comp=Z,15nm,1.0s **MHTO**	**7.87**	**157**	P	**Pn**	**09 21 30.0**	**+0.9**
IKIA	SNR=23 **Kiasar**	**7.94**	**354**	Pn	**Pn**	**09 21 32.0**	**+1.9**
IPRN	**Peran**	**8.16**	**347**	Pn	**Pn**	**09 21 35.0**	**+1.7**
IGLO	**Ghaloghah**	**8.22**	**355**	Pn	**Pn**	**09 21 36.2**	**+2.2**
SBZV	**Sabzevar**	**8.45**	**16**	Pn	**Pn**	**09 21 38.8**	**+1.6**
SBZV	**Sabzevar**	**8.45**	**16**	*ePn*	**Pn**	**09 21 38.7**	**+1.5**
QABG	**Abgarm-Qazvin**	**8.55**	**331**	Pn	**Pn**	**09 21 39.9**	**+1.2**
DQM	**DQM**	**8.73**	**162**	P	**Pn**	**09 21 41.0**	**+0.1**
ISFR	SNR=6.0 **Sfrayin**	**9.18**	**17**	Pn	**Pn**	**09 21 49.4**	**+2.1**
SNGE	**Sanandaj**	**9.20**	**319**	*ePn*	**Pn**	**09 21 48.5**	**+1.0**
RAYN	**Ar Rayn**	**9.51**	**242**		**Pn**	**09 21 50.3**	**-1.3**
RAYN	**Ar Rayn**	**9.51**	**242**	*i* P	**Pn**	**09 21 50.2**	**-1.5**
RAYN	SNR=18 **Ar Rayn**	**9.51**	**242**	P	**Pn**	**09 21 50.3**	**-1.3**
DOK	**Doka**	**9.64**	**183**	P	**Pn**	**09 21 53.2**	**-0.3**
BJRD	SNR=10 **Bojnurd**	**9.66**	**13**	*ePn*	**Pn**	**09 21 55.0**	**+1.2**
SHAO	**Shalim**	**10.26**	**175**	P	**Pn**	**09 22 01.4**	**-0.5**
SHAO	SNR=18 **Shalim**	**10.26**	**175**	*i* P	**Pn**	**09 22 00.9**	**-1.0**
WHFO	SNR=37 **Wadi Hawf**	**10.36**	**185**	P	**Pn**	**09 22 03.0**	**-0.3**
DMTO	SNR=11 **DMTO**	**10.53**	**178**	P	**Pn**	**09 22 04.6**

KK31	Karatay Array	19.55	37	P	P	09 24 02.4	0.0
KK31				pmax	pmax		
comp=Z,4.0nm,1.0s							
KKAR	Karatay Array	19.55	37		P	09 24 02.4	0.0
KKAR	Karatay Array	19.55	37	P	P	09 24 02.4	0.0
LABN	Labinsk	19.75	329	eP	P	09 24 02.3	-2.1
LABN				pmax	pmax		
comp=Z,22nm,0.5s							
ARSB	Arslanbob	19.84	44		P	09 24 05.3	-0.3
ARSB				IAmb	IAmb	09 24 12.1	
comp=Z,8.8nm,0.5s							
ARSB	Arslanbob	19.84	44	P	P	09 24 05.3	-0.3
ARSB				pmax	pmax		
comp=Z,9.0nm,0.5s							
ERBR	Yeremizino-Bor	20.69	331	eP	P	09 24 12.6	-2.1
ERBR				pmax	pmax		
comp=Z,35nm,0.5s							
BR131	Keskin Array S	20.77	309	P	P	09 24 15.7	-0.1
BR131				IAmb	IAmb	09 24 21.0	
comp=Z,11nm,1.0s							
BR131	Keskin Array S	20.77	309	c iP	P	09 24 16.3	+0.5
BRTR	Keskin Array B	20.77	309		P	09 24 15.7	-0.1
BRTR	Keskin Array B	20.77	309	P	P	09 24 16.6	+0.8
comp=Z,5.3nm,0.7s,baz=131,slow=13,SNR=29							
comp=Z,5.3nm,0.7s							
KSH	Kashi	20.89	52	P	P	09 24 09.9	-7.1
KSH				pmax	pmax		
comp=Z,6.0nm,1.0s							
AB31	Akbulak array	21.32	10		P	09 24 22.0	+0.5
AB31				IAmb	IAmb	09 24 29.2	
comp=Z,10nm,0.8s							
ABKAR	Akbulak array	21.32	10		P	09 24 22.0	+0.5
ILGA	Ilgaz	21.35	312		P	09 24 20.5	-1.7
ANTO	Ankara	21.42	308		P	09 24 21.0	-1.7
ANTO	Ankara	21.42	308	P	P	09 24 21.0	-1.7
ANTO				pmax	pmax		
comp=Z,16nm,0.8s							
ANN	Anapa	21.44	325	eP	P	09 24 22.6	-0.2
ANN				eS	S	09 28 21.4	+0.8
ANN				pmax	pmax		
comp=Z,13nm,0.6s							
AAK	Ala-Archa	21.51	43		P	09 24 23.6	-0.2
AAK	Ala-Archa	21.51	43	P	P	09 24 25.0	+1.2
comp=Z,1.8nm,0.4s,baz=257,slow=12,SNR=7.1							
comp=Z,1.8nm,0.4s							
AAK	Ala-Archa	21.51	43	i P	P	09 24 27.6	+3.8
AKTO	Aktyubinsk	22.26	6	P	P	09 24 31.9	+0.3
comp=Z,4.4nm,0.6s,baz=200,slow=9.6,SNR=10							
comp=Z,4.4nm,0.6s							
BORA	Eskisehir	23.06	306		P	09 24 38.1	-2.1
BORA				IAmb	IAmb	09 24 42.5	
comp=Z,8.1nm,1.1s							
TARG	Taragay, Kyrgy	23.13	49	P	P	09 24 39.9	-1.4
TARG	Taragay, Kyrgy	23.13	49	P	P	09 24 39.9	-1.4
TARG				pmax	pmax		
comp=Z,3.0nm,0.9s							
MANT	Manisa	23.97	302	P	P	09 24 48.1	-1.4
MANT				IAmb	IAmb	09 25 02.6	
comp=Z,5.3nm,0.7s							
BELG	Belogornoye	24.64	350⇓	eP	P	09 24 57.0	+1.9
BELG				pmax	pmax		
comp=Z,3.0nm,1.3s							
APE	Apeiranthos	25.95	297⇑	eP	P	09 25 07.9	+0.7
APE				pmax	pmax		
comp=Z,9.0nm,0.8s							
IDI	Anoyia	26.18	293	P	P	09 25 06.8	-2.5
BORK	Borovoye	27.31	211⇑	eP	P	09 25 19.8	+0.5
BORK				pmax	pmax		
comp=Z,4.0nm,1.3s							
ARTI	Arti	28.20	4	P	P	09 25 29.1	+1.9
ARTI						09 26 17.8	
ARTI				S	S	09 30 19.0	+6.3
ARTI				SS	SnSn	09 31 37.1	+8.3
MK31	Makanchi Array	28.43	42⇑	eP	P	09 25 28.9	-0.5
MKAR	Makanchi Array	28.43	42	P	P	09 25 29.0	-0.4
comp=Z,0.4nm,0.4s,baz=234,slow=11,SNR=4.6							
comp=Z,0.4nm,0.4s							
MKAR	Makanchi Array	28.43	42	P	P	09 25 29.0	-0.4
KURBB	Kurchatov Arra	28.70	32	P	P	09 25 31.1	-0.6
comp=Z,0.5nm,0.3s,baz=233,slow=8.8,SNR=6.2							
comp=Z,0.5nm,0.3s							
KURK	Kurchatov	28.81	32⇑	eP	P	09 25 35.5	+2.9
KURK				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	29.50	326	P	P	09 25 37.7	-1.1
comp=Z,1.0nm,0.4s,baz=106,slow=6.8,SNR=8.8							
comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	29.50	326	eP	P	09 25 38.4	-0.4
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKBB	Malin Array Si	29.50	326	P	P	09 25 37.6	-1.2
AKBB	Malin Array Si	29.50	326	ceP	P	09 25 37.3	-1.5
KIEV	Kiev	29.51	326	P	P	09 25 37.6	-1.2
KIEV				IAmb	IAmb	09 25 43.0	
comp=Z,5.1nm,0.9s							
KIEV	Kiev	29.51	326	P	P	09 25 37.6	-1.2
KIEV				pmax	pmax		
comp=Z,5.0nm,1.0s							
BURAR	Bucovina Array	29.91	318	P	P	09 25 42.3	-0.3
WMQ	Urumqi	30.64	51	eP	P	09 25 52.2	+3.2
ZAA0	Zalesovo Array	33.80	32		P	09 26 16.1	-0.5
ZALV	Zalesovo Beam	33.80	32	P	P	09 26 15.8	-0.8
comp=Z,4.9nm,0.5s,baz=236,slow=9.0,SNR=16							
comp=Z,4.9nm,0.5s							
KLMR	Klimovskoe	34.12	347	eP	P	09 26 17.2	-2.0
KLMR				pmax	pmax		
comp=Z,15nm,1.5s							
GERES	GERESS Array B	37.44	315	P	P	09 26 47.5	-0.6
comp=Z,0.6nm,0.3s,baz=106,slow=8.7,SNR=5.9							
comp=Z,0.6nm,0.3s							
KHC	Kasperske Hory	37.61	315	ceP	P	09 26 49.4	0.0
KHC				pmax	pmax		
comp=Z,10.0nm,1.3s							
FIA1	FINESS Array S	38.22	338	P	P	09 26 53.5	-0.8
FINES	FINESS Array B	38.22	338	P	P	09 26 53.6	-0.7
comp=Z,2.8nm,0.5s,baz=143,slow=9.1,SNR=22							
comp=Z,2.8nm,0.5s							
FINES	FINESS Array B	38.22	338	eP	P	09 26 53.9	-0.4
FINES				pmax	pmax		
comp=Z,3.0nm,0.5s							
GTA	Gaotai	38.75	61	eP	P	09 26 59.8	+0.6
GTA				pmax	pmax		
comp=Z,8.0nm,1.2s							
CHTO	Chiang Mai	41.49	93		P	09 27 22.5	+0.5
CHTO				IAmb	IAmb	09 27 23.0	
comp=Z,4.1nm,0.8s							
CHTO	Chiang Mai	41.49	93	P	P	09 27 22.5	+0.5
CHTO				pmax	pmax		
comp=Z,4.0nm,0.8s							
CMAR	Chiang Mai Arr	41.62	94	P	P	09 27 23.5	+0.3
CMAR	Chiang Mai Arr	41.62	94	P	P	09 27 23.1	0.0
comp=Z,2.6nm,0.3s,baz=284,slow=6.8,SNR=6.4							
comp=Z,2.6nm,0.3s							
PZH	PanZhiHua	41.64	81	P	P	09 27 24.0	+0.6
HFS	Hagfors	42.14	331	P	P	09 27 25.5	-1.3
comp=Z,2.8nm,0.4s,baz=125,slow=7.8,SNR=20							
comp=Z,2.8nm,0.4s							
NORES	NORESS Array B	43.37	331	P	P	09 27 37.8	+1.0
NB2	NORSAR Subarra	43.65	331	P	P	09 27 37.8	-1.4
comp=Z,0.9nm,0.5s,baz=116,slow=7.9							
NB2	NORSAR Subarra	43.65	331	P	P	09 27 37.9	-1.2
NOA	NORSAR Array B	43.65	331	P	P	09 27 38.0	-1.2
comp=Z,2.5nm,0.7s,baz=119,slow=8.0,SNR=9.1							
comp=Z,2.5nm,0.7s							
NOA	NORSAR Array B	43.65	331	eP	P	09 27 38.1	-1.1
NOA				pmax	pmax		
comp=Z,3.0nm,0.7s							
SONM	Songino Array	44.25	49	P	P	09 27 43.5	-0.8
comp=Z,1.2nm,0.6s,baz=270,slow=7.5,SNR=5.8							
comp=Z,1.2nm,0.6s							
SONM	Songino Array	44.25	49	eP	P	09 27 44.3	+0.1
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
ARCES	ARCESS Array B	44.58	346	P	P	09 27 46.1	-0.4
comp=Z,1.3nm,0.6s,baz=143,slow=9.4,SNR=12							
comp=Z,1.3nm,0.6s							
ULN	Ulaanbaatar	44.69	49	ceP	P	09 27 47.5	-0.3
ULN				pmax	pmax		
comp=Z,10.0nm,2.5s							
HHC	Hu-ho-hao-te	47.74	59	eP	P	09 28 13.0	+1.1
HHC				pmax	pmax		
comp=Z,12nm,1.1s							
HHC				pmax	pmax		
comp=Z,290nm,6.7s							
EKA	Eskdalemuir Ar	49.05	320	P	P	09 28 20.6	-1.0
comp=Z,0.6nm,0.3s,baz=96,slow=7.2,SNR=6.7							
comp=Z,0.6nm,0.3s							
ESDC	Sonseca Array	49.14	299	P	P	09 28 21.7	-0.9
comp=Z,0.8nm,0.5s,baz=76,slow=7.1,SNR=8.4							
comp=Z,0.8nm,0.5s							
MDT	Midelt	50.66	291	P	P	09 28 34.4	+0.1
comp=Z,1.3nm,0.5s,baz=90,slow=7.1,SNR=1.6							
comp=Z,1.3nm,0.5s							
TORD	Torodi Ar. Bea	51.39	264	P	P	09 28 38.6	-1.2
comp=Z,8.3nm,0.7s,baz=56,slow=8.8,SNR=50							
comp=Z,8.3nm,0.7s							
DBIC	Dimbokro	60.08	261	P	P	09 29 40.0	-2.2
comp=Z,4.9nm,0.9s,baz=71,slow=9.7,SNR=3.5							
comp=Z,4.9nm,0.9s							
KSRS	Korea Array	60.82	61	P	P	09 29 45.6	-1.4
comp=Z,0.4nm,0.4s,baz=279,slow=7.2,SNR=1.7							
comp=Z,0.4nm,0.4s							
BOSA	Boshof	63.20	209	P	P	09 30 02.5	-0.7
comp=Z,1.6nm,0.4s,baz=34,slow=5.4,SNR=9.1							
comp=Z,1.6nm,0.4s							
JOW	Kunigami	64.28	72	P	P	09 30 09.3	-1.1
comp=Z,29nm,0.5s,baz=301,slow=5.9,SNR=4.4							
ILAR	Eielson Array	85.73	9	P	P	09 32 11.8	-1.7
comp=Z,0.4nm,0.6s,baz=319,slow=4.7,SNR=12							
comp=Z,0.4nm,0.6s							
ILAR	Eielson Array	85.73	9	eP	P	09 32 11.8	-1.7
ILAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
WRA	Warramunga Arr	90.65	112	P	P	09 32 36.2	-1.6
comp=Z,0.8nm,0.8s,baz=314,slow=4.1,SNR=14							
comp=Z,0.8nm,0.8s							
ASAR	Alice Springs	92.14	116	P	P	09 32 43.1	-1.5
comp=Z,0.7nm,0.6s,baz=304,slow=4.6,SNR=15							
comp=Z,0.7nm,0.6s							

IDC 11 09:29:23.8±1.0, 12.°02S×165.°89E, h0km, mb4.2/7, mbtmp4.2/9, ML4.3/2, MS3.5/16, Error ellipse: s-maj=29.8km s-min=24.2km az=78.0

ISC 11 09:29:28.5±0.9, 12.°11S±0.°10×165.°8E±0.°1, h30km, n25, σ0.°95/13, mb4.1/7, MS3.6/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.37	294	Pn	Pn	09 31 00.5	+0.2
23nm,0.3s,baz=221,slow=6.1,SNR=4.0							
HNR				Sn	Sn	09 32 11.3	-0.8
13nm,0.3s,baz=199,slow=11,SNR=1.3							
57nm,0.3s							
DZM	Mont Dzumac	9.92	177	eLR	LR	09 34 33.5	
180nm,23.4s							
DZM	Mont Dzumac	9.92	177	Pn	Pn	09 31 49.5	+0.4
0.8nm,0.3s,baz=343,slow=4.0,SNR=11							
DZM				Sn	Sn	09 33 38.4	-1.2
baz=265,slow=19							
DZM				LR	LR	09 35 00.9	
comp=Z,98nm,20.9s,baz=355,slow=34							
2.5nm,0.4s							
PMG	Port Moresby	18.54	277	LR	LR	09 40 00.7	
comp=Z,117nm,21.0s,baz=138,slow=34							
STKA	Stephens Creek	29.74	225	LR	LR	09 47 54.1	
comp=Z,78nm,18.0s,baz=28,slow=37							
WRA	Warramunga Arr	31.21	252	P	P	09 35 46.1	+0.6
0.7nm,0.8s,baz=83,slow=8.6,SNR=4.9							
WRA				PcP	PcP	09 38 38.4	-1.5
0.1nm,0.7s,baz=99,slow=3.4,SNR=4.9							
WRA				LR	LR	09 48 23.2	
comp=Z,66nm,18.7s,baz=140,slow=36							
0.7nm,0.8s							
ASAR	Alice Springs	32.40	245	P	P	09 35 56.4	+0.4
1.0nm,0.7s,baz=72,slow=9.0,SNR=14							
ASAR				LR	LR	09 48 46.3	
comp=Z,91nm,18.1s,baz=92,slow=36							
1.0nm,0.7s							
GUMO	Guam	32.93	320	LR	LR	09 48 15.3	
comp=Z,70nm,22.0s,baz=172,slow=34							
FITZ	Fitzroy Crossi	39.20	256	LR	LR	09 53 25.3	
comp=Z,55nm,18.2s,baz=180,slow=37							
PPT	Papeete	43.37	103	LR	LR	09 51 16.3	
comp=Z,44nm,21.6s,baz=297,slow=30							
PPT2	Papeete2	43.37	103	eLR	LR	09 49 35.0	
63nm,25.0s							
PPT2				eLR	LR	09 49 41.9	
101nm,27.5s							
TAOE	Nuku Hiva Isla	53.15	92	eLR	LR	09 53 41.4	
43nm,23.6s							
MA2	Magadan	72.47	352	LR	LR	10 08 16.9	
comp=Z,44nm,19.3s,baz=128,slow=32							
SEY	Seymchan	75.54	354	LR	LR	10 10 38.8	
comp=Z,36nm,18.8s,baz=188,slow=33							
QSPA	South Pole Qui	77.90	180	P	P	09 41 24.5	+1.1
4.9nm,1.0s,baz=312,slow=1.7,SNR=8.7							
4.9nm,1.0s							
SONM	Songino Array	79.57	324	P	P	09 41 33.5	+0.7
1.6nm,0.8s,baz=134,slow=5.5,SNR=7.2							
1.6nm,0.8s							
ILAR	Eielson Array	84.49	18	P	P	09 41 57.8	-0.3
0.4nm,0.8s,baz=210,slow=7.9,SNR=4.0							
ILAR				LR	LR	10 18 17.6	
comp=Z,25nm,18.9s,baz=270,slow=35							
0.4nm,0.8s							
BBB	Bella Bella	85.41	34	LR	LR	10 16 08.8	
comp=Z,48nm,18.0s,baz=272,slow=33							
NVAR	Mina Array Bea	86.64	50	LR	LR	10 13 11.8	
comp=Z,58nm,19.0s,baz=276,slow=30							
LPIG	La Paz	89.37	65	LR	LR	10 13 20.5	
comp=Z,22nm,20.5s,baz=278,slow=30							
MKAR	Makanchi Array	94.35	317	P	P	09 42 45.9	+0.5
3.9nm,0.7s,baz=96,slow=6.1,SNR=27							
3.9nm,0.7s							
ZALV	Zalesovo Beam	94.47	324	P	P	09 42 44.6	-1.0
2.0nm,0.8s,baz=113,slow=3.9,SNR=7.3							
2.0nm,0.8s							
ANMO	Albuquerque	94.98	55	LR	LR	10 21 11.4	
comp=Z,33nm,18.2s,baz=49,slow=33							
TXAR	Lajitas Array	96.26	61	LR	LR	10 19 24.8	
comp=Z,18nm,18.9s,baz=237,slow=31							
TORD	Torodi Ar. Bea	164.49	276	PKP	PKPdf	09 49 29.4	-0.8
0.7nm,0.9s,baz=31,slow=2.4,SNR=2.9							

ISK 11 09:30:13.7, 35.°95N×30.°85E, h20km, ML2.5/17
NIC 11 09:30:14.1, 36.°48N×31.°16E, h17km±3km, Ml2.4/6

ISC 11 09:30:14.9±1.2, 36.°09N±0.°05×30.°93E±0.°03, h19km±3km, n23, σ1.°50/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	Kemer-ANTALYA	0.60	330	Pg	Pn	09 30 28.0	-0.3
ANTB	Antalya	0.84	345	Pg	Pn	09 30 32.7	+1.0
ANTB				Sg	Sn	09 30 46.2	+2.7
DEMR	Demre-Antalya	0.84	280	Pg	Pb	09 30 30.3	-0.6
ALAN	Alanya-ANTALYA	1.01	62	Pn	Pn	09 30 34.8	+0.9
KORT	Korkueli	1.02	333	Pn	Pn	09 30 34.9	+0.6
KORT				Sn	Sn	09 30 50.2	+2.0
ELL	Elmali	1.05	309	Pn	Pg	09 30 34.6	-0.8
ELL				Sn	Sg	09 30 49.8	+0.5
ELL	Elmali	1.05	309	P	Pg	09 30 35.0	-0.5
ELL				S	Sg	09 30 49.5	+0.1
ELL				AML	AML	09 30 57.4	
0.7nm,0.5s							
ELL				AML	AML	09 30 57.7	
0.8nm,1.0s							
AKAS	Kas	1.08	278	Pg	Pn	09 30 33.7	-1.4
AKAS				Sg	Sb	09 30 48.4	-0.4
KSL	Kastellorizon	1.09	274	P	Pn	09 30 34.2	-0.9
KSL				AML	AML	09 30 54.7	
0.2nm,0.6s							
KSL				S	Sg	09 30 55.6	+5.2
KSL				AML	AML	09 30 59.5	
0.1nm,0.6s							
GAZI	Gazipasa	1.13	82	Pn	Pg	09 30 36.3	-0.5
GAZI				Sn	Sg	09 30 52.6	+0.9
SEYD	Seydisehir-KON	1.50	29	Pn	Pg	09 30 42.6	-1.3
HDMB	Hadim	1.53	55	Pn	Pg	09 30 42.7	-1.7
CAME	Cameli-Denizli	1.56	304	Pn	Pb	09 30 41.5	-1.8
AKMS	Akamas	1.57	133	P	Pb	09 30 43.5	+0.2
AKMS				S	Sg	09 31 06.6	+1.1
AKMS				AML	AML	09 31 17.1	
0.2nm,0.3s							
AKMS				AML	AML	09 31 19.3	
0.2nm,0.5s							
ALFC	Alefka	1.65	124	P	Pb	09 30 43.4	-1.3
ALFC				S	Sg	09 31 07.2	-0.9
ALFC				AML	AML	09 31 17.8	
0.2nm,0.7s							
ALFC				AML	AML	09 31 18.3	
0.1nm,0.5s							
APMY	Acipayam-Deniz	1.90	317	Pn	Pb	09 30 46.9	-2.1
TROD	Troodos	1.95	125	P	Pb	09 30 48.5	-1.3
TROD				S	Sb	09 31 15.0	+1.2
TROD				AML	AML	09 31 36.9	
0.1nm,0.8s							
TROD				AML	AML	09 31 40.5	
0.1nm,0.7s							
DALY	Dalyan (Mula)	1.98	292	Pn	Pn	09 30 46.9	-0.3
XYLS	Xyliatos	2.03	121	P	Pn	09 30 48.7	+0.6
XYLS				S	Sb	09 31 15.4	-0.7
XYLS				AML	AML	09 31 28.3	
0.1nm,0.3s							
XYLS				AML	AML	09 31 30.6	
0.1nm,0.4s							
TURN	Turunc	2.27	288	Pn	Pn	09 30 50.9	-0.4
YER	Yerkesik	2.37	297	Pn	Pn	09 30 52.8	0.0
BODT	Bodrum	3.07	290	Pn	Pn	09 31 02.4	0.0
KARP	Karpathos	3.11	261	Pn	Pn	09 31 02.0	-0.9

RSNC 11 09:40:58.9±0.0, 4.°N±1.°×7.°6W±.°, h150km±2km, M2.6, mb3.6, ML2.4, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.22	236	P	Pn	09 41 19.3	-0.1
YOTC				S	Sn	09 41 34.8	-0.2
ANIL	Santa Ana	0.84	63	P	Pn	09 41 22.5	-0.3
ANIL				S	Sn	09 41 40.7	-0.2
ORTC	Ortega, Tolima	0.93	102	P	Pn	09 41 22.6	-0.6
ORTC				S	Sn	09 41 40.8	-0.8
PRAC	Prado	1.33	107	P	Pn	09 41 26.0	-0.8
PRAC				S	Sn	09 41 47.3	-0.8
GUY2C	Guyana, Caldas	1.36	36	P	Pn	09 41 27.3	-0.3
GUY2C				S	Sn	09 41 49.5	0.0
POPC	Popayan, Colom	1.64	198	P	Pn	09 41 29.8	-0.5
POPC				S	Sn	09 41 52.7	-1.6
CBOC	Ciudad Bolivar	1.75	5	P	Pn	09 41 31.1	-0.3
CBOC				S	Sn	09 41 56.2	-0.1
ROSC	El Rosal	1.97	68	P	Pn	09 41 34.5	+0.4
ROSC				S	Sn	09 41 59.8	-1.3
URMC	La Uribe, Meta	1.97	116	P	Pn	09 41 33.1	-0.7
URMC				S	Sn	09 41 59.8	-0.8
CVER	Cruz Verde, Cu	2.12	79	P	Pn	09 41 35.8	-0.1
CVER				S	Sn	09 42 03.1	-1.2
HELC	Santa Helena	2.16	17	P	Pn	09 41 35.8	-0.5
HELC				S	Sn	09 42 05.3	+0.2
GR1C	Gorgona, Isla	2.29	241	P	Pn	09 41 36.2	-1.2
GR1C				S	Sn	09 42 05.4	-1.7
BBAC	Balboa, Cauca	2.34	208	P	Pn	09 41 37.9	-0.4
BBAC				S	Sn	09 42 07.5	-1.2
FLOC	Florencia	2.56	169	P	Pn	09 41 40.5	-0.4
FLOC				S	Sn	09 42 13.2	0.0
CRUC	La Cruz	2.65	197	P	Pn	09 41 41.7	-0.5
CRUC				S	Sn	09 42 14.8	-0.8
DBBC	Dabeiba	2.89	359	P	Pn	09 41 45.1	+0.1
DBBC				S	Sn	09 42 21.4	+0.8
PTBC	PUERTO BERRIO,	2.95	35	P	Pn	09 41 44.4	-1.3
PTBC				S	Sn	09 42 19.8	-2.1
GCUF	Volcan Galeras	3.10	202	P	Pn	09 41 48.1	0.0
GCUF				S	Sn	09 42 25.2	-0.8
PTAC	Punta Ardita,	3.43	332	P	Pn	09 41 51.5	-0.3
PTAC				S	Sn	09 42 31.4	-1.5
RUSC	La Rusia	3.54	60	P	Pn	09 41 52.8	-0.9
RUSC				S	Sn	09 42 36.2	+0.2
UREC	San Jos de Ur	3.67	10	P	Pn	09 41 54.2	-0.7
UREC				S	Sn	09 42 36.4	-2.0
APAC	Apartado, Choc	3.79	354	P	Pn	09 41 58.1	+1.7
BARC	Barichara	3.86	50	P	Pn	09 41 56.9	-0.6
BARC				S	Sn	09 42 42.0	-1.0
OTAV	Otavalo	4.48	211	P	Pn	09 42 05.1	-0.8
OTAV				S	Sn	09 42 56.3	-1.6
OCAC	Ocana	4.98	34	P	Pn	09 42 10.9	-1.3
OCAC				S	Sn	09 43 06.5	-2.9
SJCC	San Jacinto, C	5.83	10	P	Pn	09 42 22.9	-0.6
5.4nm,1.6s							
SJCC				S	Sn	09 43 27.2	-2.4
5.4nm,1.6s							
BCIP	Isla Barro Col	6.21	324	P	Pn	09 42 30.4	+1.9
BCIP				S	Sn	09 43 40.4	+1.8

GCG 11 09:49:40.6±1.5, 14.°15N×93.°17W, h42km±979km, MD4.3, ML3.0
MEX 11 09:49:40.2±0.9, 14.°25N×93.°33W, h10km, MD4.0

ISC 11 09:49:39.0±3.6, 14.°3N±0.°1×93.°19W±0.°06, h10km±25km, n16, σ1.°22/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.07	57	eP	Pb	09 49 60.0	+0.4
THIG				eS	Sb	09 50 14.0	+0.5
THIG		1.07	57	i P	Pb	09 49 59.8	+0.3
THIG				eS	Sb	09 50 12.7	-0.8
THIG				IAML		09 50 19.1	
comp=E,333nm,0.4s							
PATR	El Naranjo	1.22	49	eP	Pn	09 50 01.3	-1.0
PATR				eS	Sb	09 50 18.1	0.0
CHUJ	Union Juarez	1.30	54	eP	Pn	09 50 02.9	-0.5
CHUJ				eS	Sn	09 50 20.7	-0.3
PAVE	Pavencul	1.31	48	eP	Pn	09 50 02.4	-1.2
PAVE				eS	Sn	09 50 21.3	+0.1
PCIG		1.37	359	eP	Pn	09 50 02.9	-1.3
PCIG				eS	Sn	09 50 21.7	-0.8
RTAL	Retalhuleu	1.46	82	eP	Pn	09 50 05.3	-0.2
RTAL				eS	Sn	09 50 25.2	+0.5
STG2	El Palmar, Qui	1.76	86	eP	Pn	09 50 06.3	-3.4
HUEH	Huehuetenango	1.91	59	eP	Pn	09 50 12.3	+0.5
HUEH				eS	Sn	09 50 35.8	-0.2
CCIG	Comitan	2.20	27	eP	Pb	09 50 18.1	-0.8
CCIG				eS	Sb	09 50 48.4	+2.1
CCIG	Comitan	2.20	27	eP	Pb	09 50 18.6	-0.3
CCIG				eS	Sb	09 50 46.5	+0.2
CCIG				IAML		09 50 53.2	
comp=N,106nm,0.4s							
TGIG		2.44	2	eP	Pn	09 50 20.4	+1.5
TGIG				eS	Sn	09 50 49.8	+0.9
TGIG		2.44	2	i P	Pn	09 50 20.7	+1.7
TGIG				eS	Sb	09 50 51.1	-2.1
TGIG				IAML		09 50 54.6	
comp=E,78nm,0.3s							
FG8	Yepocapa, Chim	2.55	91	eP	Pn	09 50 14.6	-5.9
UXUV	UXUV	3.12	343	eP	Pn	09 50 29.9	+1.7
UXUV				eS	Sn	09

mB4.9/1, mb4.5/7, MLv4.3/13, Mw(mB)4.2/1
ISC 11 10:23:37.2±0.9, 6°56.S±0°07×130°20.E±0°08, h150km, n17, σ2°61/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.79	142	P	Pn	10 24 22.8	+13
BNDI	Bandanaira	2.04	352	P	Pn	10 24 13.9	+1.1
MSAI	Masohi	3.43	338	P	Pn	10 24 30.2	+0.1
FAKI	Fak Fak	4.15	30	P	Pn	10 24 36.9	-2.6
NLAI	Namlea	4.52	317	P	Pn	10 24 45.4	+1.1
KMPI	Kaimana, Papua	4.52	51	P	Pn	10 24 44.0	-0.3
SWI	Sorong	5.75	11	P	Pn	10 24 57.7	-3.0
	0.7nm2μm15nm,0.5s						
SANI	Sanana	6.14	317	P	Pn	10 25 06.3	+0.5
	0.1nm18nm,0.9s						
RKPI	Ransiki, Papua	6.39	39	P	Pn	10 25 08.7	-0.5
	216nm,0.5s						
BATI	Baumata	7.41	240	Pn	Pn	10 25 18.2	-4.7
	3.6nm,0.3s,baz=0.0,slow=3.0,SNR=1.5						
BATI				Sn	Sn	10 26 49.8	+4.0
	11nm,0.3s,baz=72,slow=20,SNR=2.7						
	12nm,0.3s						
BATI	Baumata	7.41	240	P	Pn	10 25 32.8	+10
BAKI	Biak	7.95	48	P	Pn	10 25 30.7	+0.8
	0.3nm53nm,0.6s						
KMSI	Cibinong	9.42	319	P	Pn	10 25 46.7	-2.9
FITZ	Fitzroy Crossi	12.30	201	Pn	Pn	10 26 29.1	+1.6
	1.7nm,0.3s,baz=27,slow=10,SNR=37						
FITZ				Sn	Sn	10 28 40.3	-3.2
	1.3nm,0.3s,baz=336,slow=20,SNR=5.9						
	3.8nm,0.3s						
WRA	Warramunga Arr	13.90	164	Pn	Pn	10 26 48.6	+0.7
	0.6nm,0.3s,baz=344,slow=13,SNR=39						
WRA				Sn	Sn	10 29 19.1	-3.0
	1.1nm,0.3s,baz=341,slow=23,SNR=5.2						
	0.4nm,0.3s						
ASAR	Alice Springs	17.38	169	P	Pn	10 27 35.3	+4.5
	0.1nm,0.3s,baz=336,slow=10,SNR=12						
ASAR				S	S	10 30 42.2	-1.1
	1.8nm,0.7s,baz=350,slow=26,SNR=8.9						
	0.4nm,0.4s						
MKAR	Makanchi Array	67.97	327	P	P	10 34 20.4	+0.4
	0.8nm,0.4s,baz=114,slow=8.2,SNR=9.7						
	0.8nm,0.4s						

GCG 11 10:26:25.4±2.0, 14°83N×93°63W, h36km±70km, MD4.5
MEX 11 10:26:26.3±0.6, 14°88N×93°60W, h10km, MD4.1
ISC 11 10:26:22.1±1.6, 14°78N±0°06×93°64W±0°05, h29km±14km, n22, σ1°77/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.01	24	eP	Pb	10 26 40.8	-0.2
PCIG				eS	Sb	10 26 52.8	-1.0
THIG		1.34	84	eP	Pb	10 26 46.7	+0.2
THIG				i S	Sb	10 27 05.0	+1.8
THIG		1.34	84	eP	Pb	10 26 47.2	+0.7
PATR	El Naranjo	1.40	76	eP	Pb	10 26 47.1	-0.7
PATR				i S	Sn	10 27 02.2	-1.4
PAVE	Pavencul	1.47	74	eP	Pb	10 26 48.6	-0.4
PAVE				i S	Sb	10 27 06.5	-0.9
CHUJ	Union Juarez	1.51	78	eP	Pb	10 26 49.0	-0.6
CHUJ				eS	Sb	10 27 07.6	-1.0
SMCA	Catarina	1.52	87	eP	Pb	10 26 49.5	-0.1
SMCA				eS	Sb	10 27 08.5	+0.1
RTAL	Retalhuleu	1.90	97	eP	Pb	10 26 56.2	+0.1
RTAL				i S	Sn	10 27 15.9	+0.2
NILT	Santiago Nilte	2.01	332	i P	Pn	10 26 54.9	+0.7
NILT				i S	Sn	10 27 18.8	+0.4
TGIG		2.05	14	eP	Pn	10 26 55.9	+1.2
TGIG				i S	Sn	10 27 16.6	-2.8
TGIG		2.05	14	eP	Pb	10 26 56.9	-1.8
TGIG				i S	Sn	10 27 20.4	+1.0
CCIG	Comitan	2.08	44	eP	Pb	10 26 58.5	-0.8
CCIG				i S	Sn	10 27 22.3	+2.0
CCIG	Comitan	2.08	44	eP	Pb	10 26 58.4	-0.9
HUEH	Huehuetenango	2.13	75	eP	Pb	10 26 59.9	-0.3
HUEH				eS	Sb	10 27 26.8	+0.4
HUEH	Huehuetenango	2.13	75	eP	Pb	10 26 59.9	-0.3
HUEH				eS	Sb	10 27 27.0	+0.6
STG2	El Palmar, Qui	2.22	99	i P	Pn	10 26 55.7	-1.4
STG2				i S	Sn	10 27 18.8	-4.9
UXUV	UXUV	2.57	349	i P	Pn	10 27 03.9	+2.0
UXUV				eS	Sn	10 27 33.2	+1.0
CMIG	Matias Romero	2.59	333	eP	Pn	10 27 02.1	0.0
CMIG				i S	Sn	10 27 29.1	-3.7
NEUV	Arroyo Zacate	3.58	325	i P	Pn	10 27 15.6	-0.1
NEUV				i S	Sn	10 27 54.0	-3.1
PETF	Flores	4.21	59	eP	Pn	10 27 28.3	+4.0
TOIG	Toxpalan	4.66	316	eP	Pb	10 27 37.0	-6.1
TOIG				eS	Sn	10 28 24.7	+0.9
TXIG	Tlaxiaco	4.67	302	eP	Pn	10 27 34.4	+3.4
TXIG				eS	Sn	10 28 23.4	-1.1

IDC 11 10:31:02.1±2.2, 48°92N×152°82E, h192km±27km, mb2.9/4, mbtmp3.5/6, Error ellipse: s-maj=65.1km s-min=14.2km az=136.0
ISC 11 10:30:58.9±1.2, 48°4N±0°2×153°6E±0°2, h150km, n6, σ1°86/7, mb3.2/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.41	28	P	Pn	10 32 17.7	0.0
	2.7nm,0.5s,baz=203,slow=11,SNR=23						
PETK				S	Sn	10 33 20.6	+1.4
	1.4nm,0.8s,baz=128,slow=16,SNR=1.1						
ASAJ	Asahikawa	8.71	245	P	Pn	10 33 03.0	+1.4
	9.9nm,0.7s,baz=54,slow=17,SNR=14						
KSRS	Korea Array	21.61	249	P	P	10 35 34.4	-2.6
	0.8nm,0.5s,baz=48,slow=9.7,SNR=4.7						
	0.8nm,0.5s						
ILAR	Eielson Array	35.09	40	P	P	10 37 35.9	-1.4
	0.3nm,0.6s,baz=263,slow=6.3,SNR=9.5						
	0.3nm,0.6s						
WRA	Warramunga Arr	70.16	199	P	P	10 41 55.6	+0.6
	0.3nm,0.7s,baz=8.5,slow=6.8,SNR=6.7						
	0.3nm,0.7s						
ASAR	Alice Springs	73.86	199	P	P	10 42 18.0	+1.0
	0.2nm,0.5s,baz=7.8,slow=5.3,SNR=5.0						
	0.2nm,0.5s						

NNC 11 10:32:16.6±6.3, 52°80N×77°98E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=96.1km s-min=41.4km az=73.0
IDC 11 10:32:19.7±3.8, 51°69N×75°78E, h0km, mbtmp3.0/2, ML2.4/2, 2C-4D, Error ellipse: s-maj=37.0km s-min=24.9km az=62.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.04	121	Pg	Pn	10 32 55.7	+0.5
	0.6nm,0.3s,baz=301,slow=18,SNR=9.2						
KURBB				Lg	Lg	10 33 24.9	
	0.5nm,0.3s,baz=307,slow=31,SNR=9.3						
KURBB	Kurchatov Arra	2.04	121	⇑Pg	Pn	10 32 56.2	+1.0
	5.1nm,0.6s						
KURBB				⇓Lg	Lg	10 33 25.5	
	41nm,0.7s						
KURK	Kurchatov	2.04	117	⇓Pg	Pn	10 32 55.9	+0.7
	0.9nm,0.6s						
KURK				⇓Lg	Lg	10 33 25.8	
	4.0nm,0.8s						
I46RU	ZALESOVO INFRA	5.93	64	I	I	11 08 30.0	
	baz=251,slow=325,SNR=2.1						
ZALV	Zalesovo Beam	5.93	64	Pn	Pn	10 33 50.2	+1.6
	0.6nm,0.3s,baz=253,slow=14,SNR=5.5						
	1.9nm,0.4s						
MK31	Makanchi Array	6.50	136	⇓Sn	Sn	10 35 12.1	+0.9
	0.8nm,0.6s,baz=314,slow=24,SNR=3.8						
MK31				⇑Lg	Lg	10 35 43.4	
	1.3nm,0.5s,baz=321,slow=27,SNR=5.3						
MKAR	Makanchi Array	6.50	136	Pn	Pn	10 33 56.4	-0.1
	0.1nm,0.3s,baz=322,slow=13,SNR=3.3						
MKAR				Sn	Sn	10 35 11.2	0.0
	0.1nm,0.3s,baz=307,slow=22,SNR=5.8						
MKAR				Lg	Lg	10 35 44.4	
	0.3nm,0.3s,baz=318,slow=28,SNR=7.4						
	0.3nm,0.5s						

RSPR 11 10:36:28.7, 19°03N×67°20W, h8km±1km, MD2.9/9
SDD 11 10:36:27.8±1.3, 19°10N×67°19W, h31km±32km, MD3.0, ML1.9, MW2.7, 23C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.64	173	⇓eP	Pb	10 36 39.0	-1.5
AGPR	Aguadilla, PR	0.64	173	eS	Sb	10 36 47.6	-1.6
AGPR	Aguadilla, PR	0.64	173	⇑ePg	Pb	10 36 39.0	-1.6
AGPR				⇑eSg	Sb	10 36 48.1	-1.1
AGPR				IAML		10 36 52.7	
	comp=N,71nm,0.6s						
AGPR	Aguadilla, PR	0.64	173	⇓ePg	Pb	10 36 39.3	-1.3
AGPR				⇓eSg	Sb	10 36 48.7	-0.6
AGPR				IAML		10 36 52.7	
	comp=N,71nm,0.6s						
AOPR	Arecibo Observ	0.86	151	⇑eP	Pn	10 36 42.3	-1.5
AOPR				IAML		10 37 11.6	
	comp=N,53nm,0.5s						
LSP	Las Mesas	0.93	174	⇑eP	Pn	10 36 43.6	-1.2
LSP	Las Mesas	0.93	174	eS	Sn	10 36 55.4	-1.7
UUPR	Utuado, UPR, P	0.96	152	⇑eP	Pn	10 36 44.5	-0.6
UUPR	Utuado, UPR, P	0.96	152	eS	Sn	10 36 56.0	-1.7
CRPR	Cabo Rojo, PR	1.09	176	⇑eP	Pn	10 36 45.8	-1.2
CRPR	Cabo Rojo, PR	1.09	176	eS	Sn	10 36 59.4	-1.7
CRPR	Cabo Rojo, PR	1.09	176	⇑ePg	Pn	10 36 46.2	-0.8
CRPR				⇑eSg	Sn	10 37 01.4	+0.3
CRPR				IAML		10 37 09.4	
	comp=N,20nm,0.2s						
CRPR	Cabo Rojo, PR	1.09	176	⇓ePg	Pn	10 36 45.9	-1.1
CRPR				⇑eSg	Sn	10 37 00.8	-0.3
CRPR				IAML		10 37 03.7	
	comp=N,20nm,0.4s						
ECPR	Experimental S	1.10	135	⇓eP	Pn	10 36 46.5	-0.7
ECPR	Experimental S	1.10	135	eS	Sn	10 37 00.3	-1.1
MLPR	Magueyes Islan	1.14	173	⇑eP	Pn	10 36 46.2	-1.3
MLPR	Magueyes Islan	1.14	173	eS	Sn	10 37 00.8	-1.3
MLPR	Magueyes Islan	1.14	173	⇓ePg	Pn	10 36 46.7	-0.8
MLPR				⇑eSg	Sn	10 37 01.5	-0.6
MLPR				IAML		10 37 06.6	
	comp=N,5.5nm,0.3s						
CELP	Cerrillos	1.18	150	⇑eP	Pn	10 36 47.2	-0.9
CELP	Cerrillos	1.18	150	eS	Sn	10 37 02.6	-0.5
CELP	Cerrillos	1.18	150	⇑ePg	Pn	10 36 47.3	-0.8
CELP				⇑eSg	Sn	10 37 01.9	-1.2
CELP				IAML		10 37 03.1	
	comp=N,38nm,0.2s						
CELP	Cerrillos	1.18	150	⇑ePg	Pn	10 36 47.8	-0.4
CELP				IAML		10 37 03.1	
	comp=N,30nm,0.2s						
CELP				⇑eSg	Sn	10 37 03.4	+0.3
OBIP	Obispado Ponce	1.19	152	⇓eP	Pn	10 36 47.8	-0.5
OBIP	Obispado Ponce	1.19	152	eS	Sn	10 37 02.2	-1.2
PCDR	Punta Cana, DR	1.27	243	⇑ePg	Pn	10 36 49.5	0.0
PCDR				⇑eSg	Sn	10 37 04.9	-0.6
PDPR	Patillas Dam,	1.55	134	⇓eP	Pn	10 36 53.3	+0.1
PDPR	Patillas Dam,	1.55	134	eS	Sn	10 37 11.6	-0.7
MIDR	Miches	1.77	266	⇑eSg	Sn	10 37 19.3	+1.7
MIDR				⇑eSg	Sb	10 37 23.1	+1.9
MIDR				IAML		10 37 24.0	
	comp=N,16nm,1.6s						
MIDR				IAML		10 37 27.8	
	comp=N,9.4nm,0.3s						
MIDR	Miches	1.77	266	⇓ePg	Pb	10 36 57.9	-1.6
MIDR				IAML		10 37 24.0	
	comp=N,16nm,1.6s						
MIDR				IAML		10 37 26.5	
	comp=N,7.5nm,0.4s						
HATOM	Hato Mayor del	2.10	262	⇓ePg	Pn	10 37 02.4	+1.5
HATOM				⇑eSg	Sb	10 37 31.6	+0.6
HATOM				IAML		10 37 34.7	
	comp=N,15nm,2.0s						
HATOM	Hato Mayor del	2.10	262	⇑ePg	Pn	10 37 02.5	+1.7
HATOM				IAML		10 37 37.0	
	comp=N,9.9nm,2.0s						

IDC 11 10:59:46.6±1.8, 2°33S×76°93W, h107km±17km, mb3.7/11, mbtmp4.1/16, MS2.7/1, Error ellipse: s-maj=18.5km s-min=11.0km az=60.0
NEIC 11 10:59:48.5±1.6, 2°52S±0°06×77°00W±0°06, h121km±9km, mb4.3/33, Error ellipse: s-maj=9.6km s-min=8.1km az=150.0
IGQ 11 10:59:48.7±0.4, 3°S±2°×7°7W±°, h110km±4km, MLv4.2/38
VAO 11 10:59:49.2±0.5, 2°43S×76°83W, h120km, mb4.3
ISC 11 10:59:47.7±0.6, 2°50S±0°04×76°99W±0°04, h119km±6km, n171, σ1°68/181, mb4.2/23, 37C-7D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	Taisha	0.52	283	⇓P	Pn	11 00 08.0	+2.2
TAIS				S	Sn	11 00 20.5	+1.1
PKYU	Pakayacu	1.03	324	⇓P	Pn	11 00 11.9	+1.8
PKYU				S	Sn	11 00 28.0	+1.0
PUYO	Puyo, Santa Ro	1.43	314	⇓P	Pn	11 00 15.7	+1.3
APUY	Puyo	1.44	316	⇓P	Pn	11 00 15.5	+1.0
BOSC	San Juan Bosco	1.64	246	⇑P	Pn	11 00 16.7	-0.1
BOSC				S	Sn	11 00 38.4	-0.7
ARDO	Archidona, Ten	1.69	332	⇑P	Pn	11 00 18.4	+0.9
ARDO				S	Sn	11 00 40.1	-0.1
AZOG	Ecuador-Azogue	1.87	262	P	Pn	11 00 20.8	+0.9
PIAT	Ana Tenorio	1.96	320	P	Pn	11 00 22.0	+1.0
PIAT	Ana Tenorio	1.96	320	P	Pn	11 00 21.8	+0.8
PIAT				S	Sn	11 00 46.6	+0.2
CHSH	Refugio Sur-Vo	2.12	298	⇓P	Pn	11 00 24.0	+0.8
ASLC	Ecuador-Salced	2.15	312	P	Pn	11 00 25.5	+2.0
TAMB	Tambo	2.26	322	⇑P	Pn	11 00 26.6	+1.7
COHC	Cochancay	2.26	271		Pn	11 00 24.8	+0.3
COHC				Sn	Sn	11 00 52.7	+0.2
COHC	Cochancay	2.26	271	P	Pn	11 00 24.9	+0.5
COHC	Cochancay	2.26	271	P	Pn	11 00 24.4	0.0
COHC				S	Sn	11 00 50.8	-1.8
BMOR	Cotopaxi Volca	2.28	320	⇑P	Pn	11 00 27.6	+2.3
BTAM	Cotopaxi Volca	2.29	322	⇑P	Pn	11 00 27.3	+2.0
ANTM	Antisana-La Mi	2.30	328	⇑P	Pn	11 00 26.9	+1.3
ANTS	Antisana-Sarah	2.31	329	⇑P	Pn	11 00 26.9	+1.3
SLOR	San Lorenzo -	2.31	319	Pn	Pn	11 00 27.7	+2.1
BVC2	Cotopaxi Volca	2.31	322	⇑P	Pn	11 00 27.6	+2.0
VC1	Cotopaxi 1	2.32	323	P	Pn	11 00 27.8	+2.0
BREF	Cotopaxi Volca	2.32	321	P	Pn	11 00 26.3	+0.5
ANTI	Antisana	2.34	330	⇑P	Pn	11 00 27.3	+1.2
ANTG	Antisana-Guama	2.35	327	⇑P	Pn	11 00 27.6	+1.5
CAMI	Rancho Maria	2.35	320	P	Pn	11 00 28.8	+2.6
PITA	Cotopaxi Volc	2.40	323	⇑P	Pn	11 00 29.0	+2.3
TOMA	Boca Toma-Volc	2.45	324	P	Pn	11 00 29.5	+2.2
REVS	Reventador Sur	2.46	345	⇑P	Pn	11 00 28.1	+0.9
LAV4	Lava4-Reventad	2.47	345	P	Pn	11 00 28.0	+0.6
AZAM	Ecuador-Zamora	2.51	231	P	Pn	11 00 27.4	-0.3
PCRA	Pucara 2	2.60	254	P	Pn	11 00 27.8	-1.5
PCRA				S	Sn	11 00 58.9	-2.3
CASC	Dorado de Casc	2.64	352	⇑P	Pn	11 00 30.6	+1.2
ALJ1	Ecuador-Loja-U	2.66	236	P	Pn	11 00 29.5	-0.2
CAYR	Refugio Cayamb	2.69	338	⇓P	Pn	11 00 32.6	+2.0
ANGU	Angureal	2.72	338	⇑P	Pn	11 00 33.0	+2.0
JUA2	San Juan 2	2.78	325	⇑P	Pn	11 00 33.3	+1.7
GGPT	Toaza - Volcan	2.78	324	P	Pn	11 00 33.2	+1.7
GGPC	Guagua Pichinc	2.80	325	P	Pn	11 00 33.6	+1.6
TERV	Terraza Guagua	2.81	325	⇑P	Pn	11 00 33.7	+1.6
PINO	Pino	2.83	325	⇑P	Pn	11 00 34.2	+1.8
YANA	Yana	2.84	326	P	Pn	11 00 34.1	+1.6
BONI	La Bonita	2.98	350	⇑P	Pn	11 00 35.0	+1.0
BONI	La Bonita	2.98	350	P	Pn	11 00 35.0	+1.0
IMBA	Imbabura, San	3.00	336	P	Pn	11 00 37.3	+2.7
OTAV	Otavalo	3.08	332	⇑P	Pn	11 00 36.9	+1.3
OTAV	Otavalo	3.08	332	eP	Pn	11 00 36.8	+1.3
OTAV	Otavalo	3.08	332	P	Pn	11 00 36.4	+0.9
CUIC	Cuicocha-Domo	3.10	334	⇑P	Pn	11 00 37.7	+2.0
COTA	Cotacachi	3.12	334	P	Pn	11 00 38.0	+2.0
CUSE	Cuicocha Este	3.12	333	P	Pn	11 00 37.9	+1.9
URCU	Urcuqui	3.17	337	⇑P	Pn	11 00 39.1	+2.4
ZUMB	Zumba	3.19	222	⇑P	Pn	11 00 36.5	-0.1
ISPG	Isla Puna-Puer	3.21	261	P	Pn	11 00 36.3	-0.5
ARNL	Arenillas	3.24	251	⇑P	Pn	11 00 35.1	-2.2
PAC1	Pacto, Paraso	3.28	327	⇑P	Pn	11 00 39.4	+1.5
PAC1	Pacto, Paraso	3.28	327	P	Pn	11 00 39.2	+1.3
PAC1				S	Sn	11 01 22.2	+5.7
TULM	Tulcn-Chalpat	3.29	346	P	Pn	11 00 40.8	+2.5
TULM	Tulcn-Chalpat	3.29	346	P	Pn	11 00 40.5	+2.2
MORR	Playas El Morr	3.34	267	P	Pn	11 00 37.4	-1.2
LNGL	El Angel-Carch	3.37	343	⇑P	Pn	11 00 41.2	+1.9
CHL1	Volc¡n Chiles	3.40	344	⇑P	Pn	11 00 42.4	+2.6
CHL2	Volc¡n Chiles	3.40	344	⇑P	Pn	11 00 42.8	+2.9
ECEN	Cerro Negro	3.44	343	P	Pn	11 00 42.4	+2.0
PTLC	Puerto Leguiza	3.44	40	⇑P	Pn	11 00 38.6	-1.2
PTLC	Puerto Leguiza	3.44	40	P	Pn	11 00 38.6	-1.2
AMCR	Ecuador-Macara	3.49	238	⇓P	Pn	11 00 38.7	-1.9
MCRA	Macar, Loja	3.49	238	⇑P	Pn	11 00 38.6	-2.1
MCRA	Macar, Loja	3.49	238	P	Pn	11 00 38.5	-2.1
MCRA				S	Sn	11 01 18.5	-3.0
CHMA	Chilma	3.50	342	⇑P	Pn	11 00 43.5	+2.5
CMBC	Cumbal	3.51	346	P	Pn	11 00 44.7	+3.5
GCUF	Volcan Galeras	3.71	355	P	Pn	11 00 46.2	+2.3
PPLP	Puerto Lpez	3.90	284	P	Pn	11 00 43.3	-2.6
SALI	Salinas	4.01	274	P	Pn	11 00 47.1	-0.3
CRUC	La Cruz	4.04	1	P	Pn	11 00 50.2	+2.1
ISPT	Isla de la Pla	4.26	287	P	Pn	11 00 50.4	-0.4
FLOC	Florencia	4.27	18		Pn	11 00 52.0	+1.1
FLOC	Florencia	4.27	18	⇑P	Pn	11 00 52.1	+1.2
FLOC	Florencia	4.27	18	P	Pn	11 00 52.0	+1.1
RVRD	Rio Verde	4.27	326	P	Pn	11 00 51.4	+0.5
BBAC	Balboa, Cauca	4.49	357	⇑P	Pn	11 00 56.3	+2.2
BBAC	Balboa, Cauca	4.49	357	P	Pn	11 00 56.2	+2.1
ATAH	Atahualpa	4.82	197	P	Pn	11 00 59.8	+1.2
	600nm,0.6s,baz=19,slow=9.1,SNR=405						
ATAH				S	Sn	11 01 55.0	+1.3
	76nm,0.5s,baz=49,slow=19,SNR=4.9						
POPC	Popayan, Colom	5.01	4	P	Pn	11 01 03.4	+2.3
	641nm82nm,0.8s						
BETC	Betania	5.37	17	P	Pn	11 01 08.7	+2.9
MACC	Macarena, Meta	5.58	34	P	Pn	11 01 09.7	+1.1
	629nm75nm,0.5s						
GR1C	Gorgona, Isla	5.58	348	P	Pn	11 01 08.1	-0.5
URMC	La Uribe, Meta	6.27	25	P	Pn	11 01 19.8	+1.8
YOTC	Yotoco, Valle	6.47	6	P	Pn	11 01 21.5	+0.8
	436nm41nm,0.7s						
PRAC	Prado	6.52	19	P	Pn	11 01 23.5	+2.3
	631nm65nm,0.8s						
ORTC	Ortega, Tolima	6.60	15	P	Pn	11 01 23.9	+1.6
	653nm110nm,0.8s						
ANIL	Santa Ana	7.12	13	P	Pn	11 01 32.5	+2.9
	1μm103nm,0.5s						
CVER	Cruz Verde, Cu	7.55	23	P	Pn	11 01 39.6	+3.9
	82nm,0.7s						
ROSC	El Rosal	7.76	20		Pn	11 01 38.5	+0.2
ROSC	El Rosal	7.76	20	P	Pn	11 01 35.0	-3.4
	6.2nm,0.5s,baz=204,slow=17,SNR=3.5						
ROSC				S	Sn	11 02 58.1	-6.8
	14nm,0.5s,baz=140,slow=22,SNR=1.4						
ROSC	El Rosal	7.76	20	P	Pn	11 01 42.5	+4.1
	631nm40nm,0.9s						
GUY2C	Guyana, Caldas	7.84	12	P	Pn	11 01 41.4	+1.9
	469nm34nm,0.9s						
RUSC	La Rusia	9.20	25		Pn	11 01 58.9	+1.0
RUSC	La Rusia	9.20	25	P	Pn	11 02 00.9	+3.0
NNA	Nana	9.43	179		Pn	11 02 00.8	+0.1
NNA	Nana	9.43	179	P	Pn	11 02 01.7	+1.0
	29nm,0.3s,baz=329,slow=7.7,SNR=25						
NNA				S	Sn	11 03 45.4	+0.4
	32nm,0.4s,baz=213,slow=11,SNR=5.1						
NNA	Nana	9.43	179	P	Pn	11 02 02.1	+1.4
NNA				S	Sn	11 03 38.2	-6.8
SDV	Santo Domingo	12.96	29	Pn	Pn	11 02 48.4	+0.6
SDV	Santo Domingo	12.96	29	P	Pn	11 02 45.5	-2.2
	5.2nm,0.3s,baz=335,slow=22,SNR=1.3						
SDV				LR	LR	11 07 24.4	
	comp=Z,35nm,21.0s,baz=329,slow=36						
BAUV	El Baul	14.45	38		Pn	11 03 07.7	+1.0
JTS	Las Juntas de	14.97	328	P	Pn	11 03 11.4	-2.0
	1.0nm,0.4s,baz=91,slow=8.7,SNR=3.9						
LPAZ	La Paz	16.25	148	Pn	Pn	11 03 28.2	-1.6
LPAZ	La Paz	16.25	148	P	Pn	11 03 30.8	+1.0
	1.1nm,0.4s,baz=331,slow=15,SNR=5.9						
LPAZ				S	Sn	11 06 30.2	-0.4
	4.7nm,0.8s,baz=348,slow=4.6,SNR=4.1						
LPAZ	La Paz	16.25	148	eP	Pn	11 03 30.4	+0.6
MACA	Manacapuru-AM	16.30	93		Pn	11 03 28.8	-1.2
PB18	Visviri	16.72	154		Pn	11 03 34.9	-0.6
PB16	IPOC Station P	17.37	156		P	11 03 44.4	+1.4
PB11	IPOC Station P	18.60	158		P	11 03 55.5	-0.6
PB11				IAmb	IAmb	11 04 07.0	
	comp=Z,12nm,0.6s						
GO01	Chusmiza	18.69	156	P	P	11 03 54.6	-2.8
GO01				IAmb	IAmb	11 04 10.3	
	comp=Z,7.3nm,0.7s						
PB08	IPOC Station P	19.14	157	P	P	11 04 01.8	-0.3
PB08				IAmb	IAmb	11 04 13.8	
	comp=Z,8.2nm,0.8s						
TA01	Diego Aracena	19.15	160		P	11 04 01.0	-0.8
TA01				IAmb	IAmb	11 04 15.1	
	comp=Z,10nm,0.6s						
VILB	Vilhena	19.60	123		P	11 04 07.5	+0.7
VILB				IAmb	IAmb	11 04 09.8	
	comp=Z,15nm,0.8s						
VILB	Vilhena	19.60	123	eP	P	11 04 07.

comp=Z,4.7nm,0.9s
VNA2 **Neumayer--Watz** 81.06 162 ⇑P P 11 11 50.1 +0.9
comp=Z,2.8nm,0.9s,baz=317,slow=6.6
SNAA **Sanae** 82.69 162 ⇑P P 11 11 58.8 +1.0
comp=Z,42nm,0.7s
SNAA **Sanae** 82.69 162 P P 11 11 58.7 +0.9
SNAA **Sanae** 82.69 162 P P 11 11 57.9 +0.2
comp=Z,1.2nm,0.6s,baz=261,slow=6.9,SNR=16
comp=Z,1.2nm,0.6s
ILAR **Eielson Array** 83.79 336 P P 11 12 02.1 -1.3
comp=Z,1.0nm,0.9s,baz=150,slow=4.1,SNR=7.4
comp=Z,1.0nm,0.9s
TROLL **Troll, Antarti** 84.40 162 ⇑P P 11 12 07.9 +1.3
comp=Z,216nm,0.8s
VNDA **Vanda** 94.03 191 P P 11 12 53.5 +1.5
VNDA IAmb IAmb 11 12 54.6
comp=Z,1.0nm,0.8s
VNDA **Vanda** 94.03 191 P P 11 12 53.9 +1.9
comp=Z,0.7nm,0.7s,baz=106,slow=5.0,SNR=5.6
comp=Z,0.7nm,0.7s
ZALV **Zalesovo Beam** 126.58 13 PKP PKPdf 11 18 37.1 +0.2
comp=Z,0.8nm,0.4s,baz=292,slow=3.9,SNR=4.6
KURBB **Kurchatov Arra** 127.77 20 PKP PKPdf 11 18 39.9 +0.6
comp=Z,0.7nm,0.8s,baz=314,slow=1.6,SNR=5.9
MKAR **Makanchi Array** 132.33 19 PKP PKPdf 11 18 48.1 0.0
comp=Z,0.2nm,0.4s,baz=333,slow=1.9,SNR=2.6
SONM **Songino Array** 134.74 357 PKP PKPdf 11 18 52.9 +0.2
comp=Z,0.4nm,0.4s,baz=100,slow=1.6,SNR=1.8
ASAR **Alice Springs** 140.24 227 PKhKP PKPpre 11 18 54.8
comp=Z,0.6nm,0.7s,baz=126,slow=3.8,SNR=10
ASAR PKP PKPdf 11 19 03.0 -0.5
comp=Z,1.0nm,0.7s,baz=107,slow=2.4,SNR=9.5
WRA **Warramunga Arr** 142.01 233 PKhKP PKPpre 11 19 00.4
comp=Z,0.5nm,0.4s,baz=118,slow=2.9,SNR=16
WRA PKP PKPdf 11 19 06.7 0.0
comp=Z,1.2nm,0.6s,baz=121,slow=2.1,SNR=9.9
FITZ **Fitzroy Crossi** 149.74 227 PKPbc PKPbc 11 19 24.3 -0.3
comp=Z,1.5nm,0.4s,baz=19,slow=1.9,SNR=18
FITZ PKPab PKPab 11 19 31.6 +1.4
comp=Z,2.5nm,0.6s,baz=130,slow=5.4,SNR=7.2

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*IDC **11** 11:10:19.2±1.0, 2°.30N×126°.39E, h0km, mb3.7/8, mbtmp3.8/8, Error ellipse: s-maj=55.9km s-min=15.8km az=69.0*

ISC 11 11:10:26.1±1.0, 2°.3N±0°.2×126°.4E±0°.3, h55km, n8, σ1§13/8, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	20.28	182	P	P	11 14 57.2	-0.1
	0.5nm,0.3s,baz=9.3,slow=9.9,SNR=6.2						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	23.45	161	P	P	11 15 29.9	-0.9
	1.1nm,0.6s,baz=338,slow=11,SNR=21						
	1.1nm,0.6s						
ASAR	**Alice Springs**	26.83	165	P	P	11 16 00.6	-0.9
	0.2nm,0.3s,baz=343,slow=8.0,SNR=7.8						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	31.31	303	P	P	11 16 40.8	-0.6
	0.8nm,0.3s,baz=116,slow=6.7,SNR=6.9						
	0.8nm,0.3s						
KSRS	**Korea Array**	35.01	2	P	P	11 17 12.7	-0.7
	0.5nm,0.3s,baz=177,slow=9.9,SNR=4.3						
	0.5nm,0.3s						
STKA	**Stephens Creek**	36.94	158	P	P	11 17 30.8	+0.9
	0.8nm,0.3s,baz=336,slow=13,SNR=3.8						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	58.53	326	P	P	11 20 17.2	+0.3
	0.6nm,0.5s,baz=137,slow=6.9,SNR=5.3						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	62.75	328	P	P	11 20 47.2	+1.7
	1.1nm,0.6s,baz=129,slow=6.3,SNR=18						
	1.1nm,0.6s						

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*SNET **11** 11:20:55.7±1.6, 12°.11N×87°.96W, h14km, ML3.5*
*CATAC **11** 11:20:56.4±0.3, 12°N±2°.×8°.8W±°., h23km, M3.9/26, MLv3.9/26, Error ellipse: s-maj=4.7km s-min=1.9km az=28.3, confirmed*

ISC 11 11:20:55.8±1.8, 12°.10N±0°.06×87°.90W±0°.04, h20km±4km, n53, σ0§53/66, 10C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	0.93	21	⇑P	Pg	11 21 13.5	-0.4
CSGN				S	Sg	11 21 26.8	+0.4
CRIN	**San Cristobal**	1.02	54	S	Sg	11 21 30.1	+1.0
CRIN	**San Cristobal**	1.02	54	⇑P	Pg	11 21 15.4	-0.3
PKGN	**Cerro Pekin**	1.06	58	⇑P	Pg	11 21 15.5	-0.9
PKGN				S	Sg	11 21 30.5	0.0
CNCH	**Conchagua**	1.17	3	eP	Pb	11 21 17.3	-0.2
CNCH	**Conchagua**	1.17	3	S	Sb	11 21 31.7	-0.5
CNCH	**Conchagua**	1.17	3	⇑P	Pb	11 21 17.5	+0.1
LCND	**La Caada**	1.20	0	eP	Pb	11 21 17.4	-0.4
LCND				eS	Sb	11 21 33.0	0.0
LCND	**La Caada**	1.20	0	⇑P	Pb	11 21 17.5	-0.4
CNGN	**Cerro Negro**	1.24	71	S	Sb	11 21 34.1	-0.1
CNGN	**Cerro Negro**	1.24	71	⇑P	Pn	11 21 17.7	-0.4
COPN	**Copaltepe**	1.28	86	⇓P	Pn	11 21 18.5	-0.1
MOM3	**MOM3**	1.41	73	P	Pn	11 21 20.8	+0.4
MOM3				S	Sn	11 21 39.4	+1.0
PACA	**Pacayal**	1.42	343	eP	Pn	11 21 21.3	+0.7
PACA				eS	Sn	11 21 40.2	+1.3
PACA	**Pacayal**	1.42	343	S	Sn	11 21 38.8	-0.1
PACA	**Pacayal**	1.42	343	⇑P	Pn	11 21 21.4	+0.7
AMTN	**Mateare**	1.44	85	S	Sn	11 21 39.9	+0.7
AMTN	**Mateare**	1.44	85	P	Pn	11 21 21.6	+0.7
APYN	**Apoyeque**	1.52	85	P	Pn	11 21 23.1	+1.2
APYN				S	Sn	11 21 41.2	0.0
APQ2	**Apoyeque**	1.54	86	P	Pn	11 21 22.2	0.0
APQ2				S	Sn	11 21 41.5	-0.2
ABCN	**Banco Central**	1.55	89	P	Pn	11 21 23.0	+0.6
ABCN	**Banco Central**	1.55	89	S	Sn	11 21 42.4	+0.4
ALLN	**Telcor Managua**	1.59	88	S	Sn	11 21 43.2	+0.3
UNAN	**Cigeo UNAN**	1.59	90	P	Pn	11 21 23.3	+0.4
UNAN				S	Sn	11 21 42.9	-0.1
TISN	**Laguna Tiscapa**	1.59	88	P	Pn	11 21 22.9	0.0
MGAN	**Managua**	1.62	88	S	Sn	11 21 43.8	+0.3
MGAN	**Managua**	1.62	88	P	Pn	11 21 23.6	+0.4
TECO	**Alcaldia de Te**	1.67	329	S	Sn	11 21 44.0	-0.8
TECO	**Alcaldia de Te**	1.67	329	⇓P	Pn	11 21 24.3	+0.3
WILN	**Americas 2**	1.67	88	P	Pn	11 21 24.4	+0.4
WILN				S	Sn	11 21 45.6	+0.6
MAS3	**Al N del Volca**	1.69	92	P	Pn	11 21 25.1	+0.8
MAS3				S	Sn	11 21 45.7	+0.3
AERN	**Aeropuerto Man**	1.69	88	S	Sn	11 21 46.4	+1.0
MASN	**Masaya**	1.71	94	P	Pn	11 21 24.4	-0.2
MASN				S	Sn	11 21 46.2	+0.1
UESV	**Universidad de**	1.75	330	P	Pn	11 21 25.8	+0.6
UESV	**Universidad de**	1.75	330	S	Sn	11 21 47.1	+0.1
LIMN	**Finca el Limon**	1.77	57	⇑P	Pn	11 21 25.4	-0.1
LIMN				S	Sn	11 21 47.5	-0.1
PAVA	**Las Pavas**	1.89	328	eS	Sn	11 21 50.2	-0.3
PAVA	**Las Pavas**	1.89	328	S	Sn	11 21 50.5	-0.1
PAVA	**Las Pavas**	1.89	328	P	Pn	11 21 27.6	+0.4
LALI	**Alcalda de L**	1.96	315	P	Pn	11 21 28.3	+0.4
LALI	**Alcalda de L**	1.96	315	S	Sn	11 21 51.6	-0.3
OCON	**Estacion meteo**	2.06	42	⇑P	Pn	11 21 29.8	+0.4
OCON				S	Sn	11 21 54.4	-0.1
MATN	**Matagalpa**	2.10	67	S	Sn	11 21 55.3	-0.2
MATN	**Matagalpa**	2.10	67	⇑P	Pn	11 21 29.2	-0.7
PMON	**Piamonte**	2.11	319	S	Sn	11 21 56.3	+0.3
JAYA	**Jayaque - finc**	2.16	316	S	Sn	11 21 56.6	-0.6
RCVN	**Varillal2**	2.22	48	P	Pn	11 21 32.3	+0.6
CARN	**Rivas**	2.50	111	S	Sn	11 22 05.8	+0.4
NUBE	**Las Nubes**	2.56	314	P	Pn	11 21 37.3	+0.9
NUBE	**Las Nubes**	2.56	314	S	Sn	11 22 07.0	-0.1
ACON	**Acoyapa**	2.67	93	P	Pn	11 21 37.3	-0.4
ACON	**Acoyapa**	2.67	93	S	Sn	11 22 09.2	-0.4
SIUN	**Universidad Ur**	3.44	62	S	Sn	11 22 28.9	+0.3

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*IDC **11** 11:34:38.7±1.3, 58°.52S×149°.37E, h0km, mb4.1/7, mbtmp4.1/8, ML3.0/1, MS3.8/24, Error ellipse: s-maj=64.2km s-min=15.8km az=86.0*
*NEIC **11** 11:34:40.7±1.0, 58°.51S±0°.05×149°.1E±0°.5, h10km±2km, mb4.2/22, Error ellipse: s-maj=44.6km s-min=8.2km az=84.0*

ISC 11 11:34:40.4±0.8, 58°.51S±0°.07×149°.1E±0°.2, h10km, n71, σ0§54/42, mb4.3/19, MS3.8/23, 1C-4D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	15.65	355	Pn	Pn	11 38 20.9	0.0
CASY	**Casey**	19.20	230	P	P	11 39 04.2	+0.3
CASY				IAmb	IAmb	11 39 05.0	
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	19.59	172	P	P	11 39 07.3	-0.8
VNDA	**Vanda**	19.59	172	P	P	11 39 07.0	-1.2
	baz=332,slow=12,SNR=10						
VNDA				LR	LR	11 45 53.5	
	comp=Z,253nm,18.1s,baz=344,slow=34						
	comp=Z,2.6nm,0.8s						
RPZ	**Rata Peaks**	20.08	52	LR	LR	11 45 49.8	
	comp=Z,405nm,18.1s,baz=112,slow=34						
SBA	**Scott Base**	20.32	169	P	P	11 39 16.1	0.0
SBA				IAmb	IAmb	11 39 25.4	
	comp=Z,5.1nm,0.9s						
TOO	**Toolangi**	21.08	352	P	P	11 39 24.3	-0.4
TOO				IAmb	IAmb	11 39 37.4	
	comp=Z,4.9nm,0.9s						
STKA	**Stephens Creek**	27.11	346	P	P	11 40 23.4	+0.1
	comp=Z,2.2nm,0.7s,baz=176,slow=11,SNR=4.3						
	comp=Z,2.2nm,0.7s						
URZ	**Urewera**	27.16	54	LR	LR	11 50 48.3	
	comp=Z,278nm,18.6s,baz=212,slow=36						
FORT	**Forrest**	31.23	323	P	P	11 40 59.7	-0.1
QSPA	**South Pole Qui**	31.59	180	P	P	11 41 03.9	+0.9
QSPA				IAmb	IAmb	11 41 07.5	
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	31.59	180	P	P	11 41 02.5	-0.4
	comp=Z,2.1nm,0.8s,baz=4.6,slow=2.6,SNR=8.2						
QSPA				LR	LR	11 53 21.7	
	comp=Z,157nm,19.6s,baz=15,slow=36						
	comp=Z,2.1nm,0.8s						
H01W1	**Cape Leeuwin H**	33.03	300	T	T	12 16 14.9	
	baz=146,slow=75,SNR=736						
H01W2	**Cape Leeuwin H**	33.04	300	T	T	12 16 15.2	
	baz=146,slow=75,SNR=749						
H01W3	**Cape Leeuwin H**	33.05	300	T	T	12 16 10.2	
	baz=146,slow=75,SNR=754						
NWAO	**Narrogin (SRO)**	33.34	306	LR	LR	11 52 47.5	
	comp=Z,116nm,18.4s,baz=106,slow=32						
ASAR	**Alice Springs**	36.47	336	P	P	11 41 45.5	+0.1
ASAR	**Alice Springs**	36.47	336	P	P	11 41 45.9	+0.4
	comp=Z,1.2nm,0.9s,baz=91,slow=8.6,SNR=12						
ASAR				PcP	PcP	11 44 09.1	-0.1
	comp=Z,0.6nm,0.8s,baz=152,slow=4.2,SNR=4.5						
ASAR				LR	LR	11 55 02.5	
	comp=Z,49nm,19.3s,baz=172,slow=34						
	comp=Z,1.2nm,0.9s						
AS31	**Alice Springs**	36.47	336	P	P	11 41 45.8	+0.4
MAW	**Mawson**	36.93	220	P	P	11 41 48.9	0.0
	comp=Z,1.9nm,0.9s,baz=113,slow=11,SNR=8.5						
MAW				LR	LR	11 56 55.7	
	comp=Z,310nm,18.4s,baz=103,slow=36						
	comp=Z,1.9nm,0.9s						
RAO	**Raoul Island**	37.00	52	LR	LR	11 55 15.5	
	comp=Z,216nm,21.2s,baz=112,slow=34						
CTAO	**Charters Tower**	38.42	356	P	P	11 42 02.8	+0.8
CTAO				IAmb	IAmb	11 42 05.5	
	comp=Z,6.7nm,1.0s						
DZM	**Mont Dzumac**	38.48	26	eLR	LR	11 52 19.7	
	comp=Z,442nm,26.1s						
WR8	**Warramunga Arr**	39.95	338	P	P	11 42 14.5	-0.3
WR8				IAmb	IAmb	11 42 27.5	
	comp=Z,4.2nm,1.0s						
WRA	**Warramunga Arr**	39.99	338	P	P	11 42 15.8	+0.7
WRA	**Warramunga Arr**	39.99	338	P	P	11 42 14.9	-0.2
	comp=Z,4.2nm,1.2s,baz=166,slow=7.4,SNR=16						
WRA				PcP	PcP	11 44 19.2	-1.0
	comp=Z,1.0nm,1.1s,baz=160,slow=2.4,SNR=1.7						
WRA				LR	LR	11 56 36.5	
	comp=Z,113nm,21.2s,baz=166,slow=33						
	comp=Z,4.2nm,1.2s						
WRAB	**Tennant Creek**	40.00	338	P	P	11 42 15.0	-0.1
WRAB				IAmb	IAmb	11 42 27.9	
	comp=Z,3.7nm,0.9s						
WB0	**Warramunga Arr**	40.15	338	P	P	11 42 16.3	-0.1
PSA00	**Pilbara Seismi**	42.49	318	P	P	11 42 35.2	-0.4
PSA00	**Pilbara Seismi**	42.49	318	P	P	11 42 34.8	-0.8
PSA00				IAmb	IAmb	11 42 39.3	
	comp=Z,6.5nm,1.0s						
MBWA	**Marble Bar**	42.91	318	P	P	11 42 39.3	+0.3
MBWA				IAmb	IAmb	11 42 44.7	
	comp=Z,6.4nm,0.9s						
BELA	**Belgrano 2**	43.85	179	P	P	11 42 46.5	+0.4
BELA				IAmb	IAmb	11 42 53.1	
	comp=Z,3.3nm,0.9s						
FITZ	**Fitzroy Crossi**	43.88	327	P	P	11 42 46.2	-0.7
FITZ	**Fitzroy Crossi**	43.88	327	LR	LR	11 59 20.9	
	comp=Z,108nm,20.4s,baz=164,slow=34						
COEN	**Coen**	44.69	352	P	P	11 42 53.3	-0.1
COEN				IAmb	IAmb	11 42 55.9	
	comp=Z,3.9nm,0.9s						
KNRA	**Kununurra**	45.36	332	P	P	11 42 58.0	-0.6
KNRA				IAmb	IAmb	11 42 58.8	
	comp=Z,4.1nm,0.9s						
MTN	**Manton Dam**	47.55	336	P	P	11 43 15.3	-0.5
TROLL	**Troll, Antarti**	47.72	193	⇑P	P	11 43 16.2	-0.5
	comp=Z,255nm,0.7s						
SNAA	**Sanae**	48.64	191	⇓P	P	11 43 23.8	-0.1
	comp=Z,49nm,0.5s						
SNAA	**Sanae**	48.64	191	P	P	11 43 23.9	+0.1
SNAA	**Sanae**	48.64	191	P	P	11 43 23.7	-0.1
	comp=Z,5.3nm,0.8s,baz=180,slow=8.4,SNR=14						
SNAA				LR	LR	12 03 45.1	
	comp=Z,74nm,18.4s,baz=193,slow=36						
	comp=Z,5.3nm,0.8s						
PMG	**Port Moresby**	49.01	357	LR	LR	12 03 27.8	
	comp=Z,105nm,18.1s,baz=176,slow=35						
HNR	**Honiara**	49.66	14	LR	LR	11 59 59.3	
	comp=Z,117nm,20.9s,baz=216,slow=31						
VNA3	**Neumayer Olymp**	49.68	189	⇓P	P	11 43 31.1	-0.7
	comp=Z,6.4nm,0.8s						
VNA2	**Neumayer--Watz**	49.80	190	⇓P	P	11 43 31.8	-0.8
	comp=Z,2.5nm,0.6s,baz=160,slow=6.2						
VNA1	**Neumayer--Stat**	50.14	190	⇓P	P	11 43 34.8	-0.3
	comp=Z,13nm,0.9s						
BATI	**Bamata**	51.94	328	LR	LR	12 03 53.8	
	comp=Z,94nm,19.5s,baz=192,slow=34						
H04S2	**CROZET ISLANDS**	54.99	236	T	T	12 44 19.6	
	baz=140,slow=75,SNR=90						
H04S1	**CROZET ISLANDS**	54.99	236	T	T	12 44 20.4	
	baz=140,slow=75,SNR=128						
H04S3	**CROZET ISLANDS**	55.00	236	T	T	12 44 19.1	
	baz=140,slow=75,SNR=123						
KAPI	**Kappang**	58.01	325	LR	LR	12 07 18.6	
	comp=Z,69nm,21.2s,baz=148,slow=34						
PPT2	**Papeete2**	60.26	75	eLR	LR	12 02 57.5	
	comp=Z,78nm,22.8s						
PPT	**Papeete**	60.28	74	LR	LR	12 04 59.1	
	comp=Z,48nm,21.6s,baz=202,slow=30						
TAOE	**Nuku Hiva Isla**	72.47	78	eLR	LR	12 08 40.7	
	comp=Z,41nm,25.6s						
PSI	**Prapat**	72.88	307	LR	LR	12 14 30.4	
	comp=Z,62nm,19.9s,baz=58,slow=33						
PLCA	**Caso Flores**	75.75	150	LR	LR	12 12 21.1	
	comp=Z,37nm,22.0s,baz=202,slow=30						
H08S2	**Diego Garcia H**	76.53	277	T	T	13 10 33.3	
	baz=148,slow=76,SNR=186						
H08S1	**Diego Garcia H**	76.54	277	T	T	13 10 28.4	
	baz=148,slow=76,SNR=222						
H08S3	**Diego Garcia H**	76.55	277	T	T	13 10 29.4	
	baz=148,slow=76,SNR=215						
H03S2	**Juan Fernandez**	79.66	141	T	T	13 14 59.3	
	baz=201,slow=74,SNR=81						
H03S1	**Juan Fernandez**	79.66	141	T	T	13 15 00.6	
	baz=201,slow=74,SNR=71						
H03S3	**Juan Fernandez**	79.67	141	T	T	13 15 00.1	
	baz=201,slow=74,SNR=56						
BOSA	**Boshof**	81.47	228	P	P	11 46 57.6	-0.2
	comp=Z,3.1nm,0.9s,baz=168,slow=7.8,SNR=3.6						
BOSA				LR	LR	12 18 05.7	
	comp=Z,56nm,19.1s,baz=194,slow=32						
	comp=Z,3.1nm,0.9s						
LBTB	**Lobatse**	84.55	229	LR	LR	12 18 05.5	
	comp=Z,62nm,19.3s,baz=156,slow=31						
PALK	**Pallekele**	85.15	292	LR	LR	12 18 25.3	
	comp=Z,39nm,19.5s,baz=138,slow=31						
CMAR	**Chiang Mai Arr**	87.06	313	LR	LR	12 24 47.8	
	comp=Z,32nm,20.1s,baz=175,slow=34						
MATP	**Matopo**	87.45	234	LR	LR	12 23 39.3	
	comp=Z,40nm,18.3s,baz=246,slow=34						
LSZ	**Lusaka**	92.15	236	LR	LR	12 24 03.7	
	comp=Z,68nm,19.2s,baz=179,slow=32						
AKASG	**Malin Array Be**	145.41	284	PKPbc	PKPab	11 54 17.9	+0.4
	comp=Z,1.1nm,0.7s,baz=99,slow=2.1,SNR=4.9						
FINES	**FINESS Array B**	152.12	301	PKPbc	PKiKP	11 54 35.3	+0.6
	comp=Z,3.0nm,0.8s,baz=182,slow=9.5,SNR=3.9						
ESDC	**Sonseca Array**	154.48	234	PKPbc	PKiKP	11 54 41.5	+1.0
	comp=Z,0.2nm,0.4s,baz=77,slow=38,SNR=1.9						
ESDC				PKPab	PKPab	11 54 55.5	+0.6
	comp=Z,0.9nm,0.8s,baz=139,slow=3.3,SNR=4.9						

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*IDC **11** 12:04:41.7±5.3, 5°.91S×146°.39E, h84km±60km, mb3.3/3, mbtmp3.6/5, ML2.7/2, Error ellipse: s-maj=58.4km s-min=39.0km az=92.0*

ISC 11 12:04:38.7±2.1, 5°.8S±0°.2×146°.1E±0°.3, h35km, n6, σ1§40/7, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.77	164	P	Pn	12 05 36.0	+1.5
	8.0nm,0.3s,baz=271,slow=11,SNR=28						
PMG				S	Sn	12 06 15.7	-1.8
	44nm,0.3s,baz=358,slow=8.3,SNR=4.1						
	20nm,0.3s						
WRA	**Warramunga Arr**	18.15	218	P	Pn	12 08 47.9	-0.2
	0.1nm,0.3s,baz=43,slow=12,SNR=11						
	0.4nm,0.7s						
ASAR	**Alice Springs**	21.32	212	P	P	12 09 23.1	+0.3
	0.4nm,0.5s,baz=48,slow=8.9,SNR=8.0						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	23.43	237	P	P	12 09 45.4	+0.4
	1.4nm,0.8s,baz=63,slow=11,SNR=7.0						
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	52.35	298	P	P	12 13 47.6	0.0
	1.5nm,0.5s,baz=119,slow=4.8,SNR=9.5						
	1.5nm,0.5s						
TORD	**Torodi Ar. Bea**	144.16	284	PKP	PKPab	12 24 08.3	-1.4
	1.1nm,0.8s,baz=63,slow=3.8,SNR=6.1						

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*MDD **11** 12:05:37.2±1.3, 36°.99N×10°.86W, h0km, mb_Lg2.8/6, Error ellipse: s-maj=10.3km s-min=7.7km az=38.0*
*INMG **11** 12:05:38.2±1.4, 36°.82N×11°.08W, h33km, ML2.0, Error ellipse: s-maj=6.3km s-min=4.4km az=82.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
*IGIL **11** 12:05:38.0, 36°.82N×11°.04W, h29km, ML1.8*
*CNRM **11** 12:05:44.5, 36°.42N×10°.08W, h31km*

ISC 11 12:05:37.3±3.0, 36°.89N±0°.09×11°.0W±0°.1, h35km, n55, σ1§28/70, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	1.75	81	Pn	Pn	12 06 05.6	+0.5
PFVI				Sn	Sn	12 06 26.3	+0.1
PFVI	**Vila Bisbo**	1.75	81	⇑eP	Pn	12 06 05.6	+0.5
PFVI				eS	Sn	12 06 26.3	+0.1
PFVI				i IAML		12 06 27.2	
PFVI				i IAML		12 06 29.1	
PFVI				i IAML		12 06 31.4	
MORF	**Marmelete**	1.92	77	eP	Pn	12 06 08.1	+0.6
MORF				eS	Sn	12 06 30.3	-0.1
MORF				IAML		12 06 32.6	
	comp=N,8.2nm,0.1s						
MORF	**Marmelete**	1.92	77	eP	Pn	12 06 08.1	+0.6
MORF				eS	Sn	12 06 30.6	+0.2
MORF				i IAML		12 06 32.5	
MORF				i IAML		12 06 32.5	
MORF				i IAML		12 06 37.7	
PTEO	**Sao Teotonio**	1.93	69	eP	Pn	12 06 08.3	+0.8
PTEO				eS	Sn	12 06 31.2	+0.7
PTEO				i IAML		12 06 32.0	
PTEO				i IAML		12 06 33.4	
PTEO				i IAML		12 06 35.0	
MESJ	**Messejana**	2.41	66	eP	Pn	12 06 14.9	+0.8
MESJ				eS	Sn	12 06 42.0	-0.4
MESJ				IAML		12 06 43.9	
	comp=N,3.9nm,0.3s						
MESJ	**Messejana**	2.41	66	eP	Pn	12 06 15.0	+0.8
MESJ				eS	Sn	12 06 42.7	+0.3
MESJ				i IAML		12 06 43.5	
MESJ				i IAML		12 06 49.5	
MESJ				i IAML		12 06 56.0	
PMAFR	**Mafra**	2.47	33	Sn	Sn	12 06 43.9	0.0
PMAFR	**Mafra**	2.47	33	eP	Pn	12 06 15.7	+0.7
PMAFR				eS	Sn	12 06 43.9	0.0
PMAFR				i IAML		12 06 46.3	
PMAFR				i IAML		12 06 47.0	
PMAFR				i IAML		12 06 53.8	
PARRA	**Arraiolos**	2.47	38	eP	Pn	12 06 24.1	+9.1
PARRA				eS	Sn	12 06 58.0	+14
PARRA				i IAML		12 06 59.1	
PARRA				i IAML		12 07 01.8	
PARRA				i IAML		12 07 02.4	
PCVE	**Castro Verde**	2.47	72	Pn	Pn	12 06 15.9	+0.8
PCVE				Sn	Sn	12 06 43.6	-0.3
PCVE	**Castro Verde**	2.47	72	eP	Pn	12 06 15.8	+0.8
PCVE				eS	Sn	12 06 44.3	+0.3
PCVE				i IAML		12 06 44.9	
PCVE				i IAML		12 06 48.3	
PCVE				i IAML		12 06 52.4	
PBDV	**Barranco-do-Ve**	2.48	81	Pn	Pn	12 06 16.2	+1.1
PBDV				Sn	Sn	12 06 44.0	-0.1
PBDV	**Barranco-do-Ve**	2.48	81	eP	Pn	12 06 16.2	+1.1
PBDV				eS	Sn	12 06 44.7	+0.6
PBDV				i IAML		12 06 48.2	
PBDV				i IAML		12 06 48.2	
PBDV				i IAML		12 06 49.9	
PVAQ	**Vaqueiros**	2.67	78	eP	Pn	12 06 19.0	+1.3
PVAQ				eS	Sn	12 06 49.1	+0.3
PVAQ				i IAML		12 06 52.6	
PVAQ				i IAML		12 06 53.1	
PVAQ				i IAML		12 06 53.5	
PVAQ	**Vaqueiros**	2.67	78	P	Pn	12 06 17.6	-0.2
PVAQ	**Vaqueiros**	2.67	78	S	Sn	12 06 43.4	-5.4
PBEJ	**Beja**	2.73	65

PMRV				*i* IAML		12 07 18.0	
PCBR	**Castelo Branco**	**4.04**	**42**	*e*S	**Sn**	**12 07 21.8**	**-0.9**
PVIS	**Viseu**	**4.52**	**31**	*e*S	**Sn**	**12 07 34.1**	**-0.6**
ECAB	**El Cabril**	**4.59**	**73**	Pn	**Pn**	**12 06 44.5**	**+0.3**
ECAB				Sn	**Sn**	**12 07 34.0**	**-2.3**
ECAB				*i* IVmb_Lg		12 09 35.3	
ZHG	**ZHG**	**4.95**	**133**	P	Pn	12 06 45.0	-4.2
ZHG	**ZHG**	**4.95**	**133**	S	Sn	12 07 33.4	-12
SRHM	**Skhour des Reh**	**5.09**	**149**	P	**Pn**	**12 06 50.9**	**-0.3**
SRHM	**Skhour des Reh**	**5.09**	**149**	S	Sn	12 07 43.6	-5.1
POLO	**Lamas de Olo**	**5.12**	**28**	*e*S	**Sn**	**12 07 47.9**	**-1.5**
POLO				*i* IAML		12 07 50.1	
POLO				*i* IAML		12 07 51.3	
POLO				*i* IAML		12 08 01.2	
EADA	**Adamuz**	**5.26**	**74**	Pn	**Pn**	**12 06 53.7**	**+0.4**
EADA				Sn	**Sn**	**12 07 51.5**	**-1.3**
EADA				*i* IVmb_Lg		12 08 01.4	
MVO	**Moncorvo**	**5.27**	**35**	*e*S	**Sn**	**12 07 50.9**	**-2.1**
MVO				*i* IAML		12 07 53.5	
ELOB	**Lobios**	**5.46**	**24**	Pn	**Pn**	**12 06 56.2**	**0.0**
ELOB				Sn	**Sn**	**12 07 55.1**	**-2.8**
ELOB				*i* IVmb_Lg		12 08 25.5	
PGAV	**Gavieira, Arco**	**5.49**	**22**	*e*P	**Pn**	**12 06 57.2**	**+0.6**
PGAV				*e*S	**Sn**	**12 07 57.0**	**-1.5**
PGAV				*i* IAML		12 07 59.2	
PGAV				*i* IAML		12 07 59.2	
PSIM	**Granatula de C**	**6.04**	**69**	Pn	**Pn**	**12 07 05.0**	**+0.9**
PSIM				Sn	**Sn**	**12 08 09.1**	**-3.0**
OUK	**Oukaimeden**	**6.24**	**154**	P	Pn	12 07 05.1	-2.0
OUK	**Oukaimeden**	**6.24**	**154**	S	Sn	12 08 07.3	-10
AKLM	**AKL**	**6.27**	**110**	P	Pn	12 07 01.4	-5.9
TISM	**Timmit**	**6.39**	**143**	P	Pn	12 07 05.6	-3.2
TISM	**Timmit**	**6.39**	**143**	S	Sn	12 08 10.3	-10
MD31	**MD31**	**6.51**	**126**	P	Pn	12 07 07.1	-3.5
MDT	**Midelt**	**6.64**	**126**	P	Pn	12 07 07.9	-4.6
OUZM	**OUZ**	**6.93**	**148**	P	Pn	12 07 13.8	-2.6

IDC 11 13:00:40.7±2.9, 64°29S×176°23W, h0km, mb3.4/2, mbtmp3.4/3, ML2.7/1, MS3.4/9, Error ellipse: s-maj=99.1km s-min=46.1km az=61.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.91**	**198**	Pn	Pn	13 04 12.2	-0.1
	baz=40,slow=14,SNR=1.5						
VNDA				LR	LR	13 08 13.2	
	comp=Z,46nm,20.1s,baz=22,slow=30 0.5nm,0.7s						
RPZ	**Rata Peaks**	**21.85**	**335**	LR	LR	13 12 28.5	
	comp=Z,141nm,20.9s,baz=140,slow=32						
QSPA	**South Pole Qui**	**25.80**	**180**	LR	LR	13 14 43.1	
	comp=Z,72nm,19.8s,baz=34,slow=33						
URZ	**Urewera**	**26.37**	**348**	LR	LR	13 15 58.4	
	comp=Z,64nm,18.5s,baz=165,slow=35						
MAW	**Mawson**	**41.81**	**210**	LR	LR	13 24 35.6	
	comp=Z,45nm,19.0s,baz=100,slow=34						
PMSA	**Palmer Station**	**42.06**	**144**	LR	LR	13 22 44.7	
	comp=Z,53nm,18.6s,baz=136,slow=32						
DZM	**Mont Dzumac**	**43.75**	**336**	LR	LR	13 25 18.5	
	comp=Z,99nm,18.1s,baz=48,slow=34						
SNAA	**Sanae**	**44.23**	**177**	LR	LR	13 26 43.9	
	comp=Z,48nm,18.4s,baz=193,slow=35						
H01W1	**Cape Leeuwin H**	**50.41**	**271**	T	T	14 01 45.4	
	baz=148,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**50.41**	**271**	T	T	14 01 48.5	
	baz=148,slow=76,SNR=9.8						
H01W3	**Cape Leeuwin H**	**50.42**	**271**	T	T	14 01 48.4	
	baz=148,slow=76,SNR=7.6						
ASAR	**Alice Springs**	**51.91**	**297**	P	P	13 09 51.9	+1.0
	0.4nm,0.8s,baz=154,slow=8.6,SNR=2.1 0.4nm,0.8s						
WRA	**Warramunga Arr**	**55.11**	**299**	P	P	13 10 13.6	-0.9
	0.6nm,1.0s,baz=157,slow=7.3,SNR=4.8 0.6nm,1.0s						
HNR	**Honiara**	**57.30**	**332**	LR	LR	13 32 15.8	
	comp=Z,49nm,18.9s,baz=334,slow=33						
TORD	**Torodi Ar. Bea**	**128.90**	**177**	PKP	PKPdf	13 19 49.6	-0.4
	0.2nm,0.4s,baz=155,slow=3.1,SNR=1.8						

*MEX **11** 13:04:31.6±1.0, 13°50N×92°09W, h24km±83km, MD3.8*
*GCG **11** 13:04:36.4±1.7, 13°97N×91°93W, h44km±73km, MD3.9, ML3.4*

ISC 11 13:04:31.7±2.5, 13°6N±0°1×91°99W±0°08, h28km±15km, n15, σ1°76/24, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.93**	**18**	*i* P	**Pb**	**13 04 49.3**	**+0.1**
RTAL				*i* S	**Sb**	**13 05 00.9**	**-0.3**
STG2	**El Palmar, Qui**	**0.99**	**37**	*e*P	**Pb**	**13 04 51.9**	**+1.5**
SMCA	**Catarina**	**1.21**	**356**	*e*P	**Pn**	**13 04 52.1**	**-0.7**
ESSG	**Sabana Grande**	**1.35**	**57**	*e*P	**Pn**	**13 04 55.6**	**+0.8**
CHUJ	**Union Juarez**	**1.45**	**356**	*e*P	**Pn**	**13 04 55.4**	**-0.9**
CHUJ				*e*S	**Sn**	**13 05 15.3**	**+0.8**
PATR	**El Naranjo**	**1.49**	**351**	*e*P	**Pn**	**13 04 55.4**	**-1.4**
PATR				*e*S	**Sn**	**13 05 15.3**	**-0.1**
FG8	**Yepocapa, Chim**	**1.52**	**66**	*e*P	**Pn**	**13 04 55.0**	**-2.1**
PAVE	**Pavencul**	**1.56**	**354**	*e*P	**Pn**	**13 04 57.0**	**-0.8**
PAVE				*e*S	**Sn**	**13 05 16.8**	**-0.3**
FG16	**Alotenango, Sa**	**1.57**	**66**	*e*P	**Pn**	**13 04 56.2**	**-1.8**
FG16				IAML		13 05 19.6	
	comp=N,2μm,0.3s						
APG	**El Apazote**	**2.01**	**47**	*e*P	**Pb**	**13 05 06.5**	**-1.3**
PCIG		**2.37**	**330**	*i* P	**Pn**	**13 05 08.2**	**-0.5**
PCIG				*e*S	**Sn**	**13 05 35.8**	**-1.1**
JAYA	**Jayaque - finc**	**2.47**	**89**	*e*P	**Pb**	**13 05 14.9**	**-0.7**
JAYA				*e*S	**Sn**	**13 05 43.0**	**+3.3**
CCIG	**Comitan**	**2.63**	**357**	*e*P	**Pn**	**13 05 13.9**	**+1.5**
CCIG				*i* S	**Sn**	**13 05 46.2**	**+2.7**
TGIG		**3.31**	**341**	*e*P	**Pn**	**13 05 23.1**	**+1.5**
TGIG				*i* S	**Sn**	**13 05 56.5**	**-3.6**
UXUV	**UXUV**	**4.21**	**331**	*e*P	**Pn**	**13 05 36.6**	**+2.7**
UXUV				*e*S	**Sn**	**13 06 21.7**	**-0.5**

*DJA **11** 13:06:36.4±1.6, 1°S±2°×12°7E±°, h20km±15km, M4.7/19, mB5.2/9, mb5.0/13, MLv4.6/19, Mw(mB)4.6/9*
*NEIC **11** 13:06:36.9±1.1, 0°58S±0°05×127°21E±0°06, h74km±8km, mb4.6/23, Error ellipse: s-maj=10.5km s-min=3.7km az=53.0*
*IDC **11** 13:06:37.2±2.0, 0°54S×127°37E, h85km±17km, mb3.9/15, mbtmp4.2/16, MS3.1/5, Error ellipse: s-maj=27.5km s-min=8.8km az=78.0*

ISC 11 13:06:38.6±0.4, 0°56S±0°05×127°19E±0°06, h100km, n75, σ1°61/78, mb4.5/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**8**		**Pn**	**13 06 59.9**	**-3.0**
TNTI				Sn	**Sn**	**13 07 17.0**	**-4.2**
TNTI	**Ternate**	**1.33**	**8**	P	**Pn**	**13 07 00.0**	**-2.9**
TNTI				S	**Sn**	**13 07 17.2**	**-4.0**
SANI	**Sanana**	**1.91**	**219**	P	**Pn**	**13 07 06.8**	**-3.2**
NLAI	**Namlea**	**2.66**	**182**	P	**Pn**	**13 07 17.4**	**-2.5**
AAI	**Ambon**	**3.27**	**162**	P	**Pn**	**13 07 26.4**	**-1.5**
MSAI	**Masohi**	**3.27**	**148**	P	**Pn**	**13 07 27.3**	**-0.7**
KMSI	**Cibinong**	**3.40**	**289**	P	**Pn**	**13 07 28.6**	**-1.2**
SWI	**Sorong**	**4.08**	**94**	P	**Pn**	**13 07 36.3**	**-2.6**
LUWI	**Luwuk**	**4.45**	**264**		**Pn**	**13 07 42.3**	**-1.5**
LUWI	**Luwuk**	**4.45**	**264**	P	**Pn**	**13 07 42.6**	**-1.2**
BNDI	**Bandanaira**	**4.78**	**146**	P	**Pn**	**13 07 48.3**	**-0.1**
MRSI	**Marisa**	**5.35**	**281**	P	**Pn**	**13 07 55.6**	**-0.5**
APSI	**Ampana**	**5.55**	**266**	P	**Pn**	**13 07 58.5**	**-0.4**
FAKI	**Fak Fak**	**5.57**	**115**		**Pn**	**13 07 56.9**	**-2.2**
FAKI	**Fak Fak**	**5.57**	**115**	P	**Pn**	**13 07 57.4**	**-1.7**
TOLI2	**Tolitoli**	**6.62**	**285**		**Pn**	**13 08 12.9**	**-0.5**
BBSI	**Bau Bau**	**6.73**	**223**	P	**Pn**	**13 08 15.6**	**+0.8**
	2μm218nm,0.9s						
BNSI	**Bone**	**8.04**	**242**	P	**Pn**	**13 08 32.4**	**-0.3**
	57nm,1.1s						
SPSI	**Sidrap Palu**	**8.15**	**245**	P	**Pn**	**13 08 34.9**	**+0.7**
BKSI	**Bulukumba**	**8.50**	**236**	P	**Pn**	**13 08 39.4**	**+0.5**
	2μm199nm,0.6s						
KAPI	**Kappang**	**8.65**	**239**		**Pn**	**13 08 40.4**	**-0.6**
KAPI	**Kappang**	**8.65**	**239**	P	**Pn**	**13 08 42.6**	**+1.6**
	85nm,0.4s,baz=81,slow=3.4,SNR=27						
KAPI				S	**Sn**	**13 10 13.4**	**-3.4**
	20nm,0.4s,baz=94,slow=17,SNR=4.2						
KAPI				LR	LR	13 12 16.2	
	comp=Z,72nm,20.5s,baz=78,slow=38						
BSSI	**Bau Bau, Buton**	**8.69**	**230**	P	**Pn**	**13 08 41.6**	**+0.1**
	2μm123nm,0.7s						
MMRI	**Maumere**	**9.42**	**211**	Pn	**Pn**	**13 08 52.0**	**+0.6**
SOEI	**Soe**	**9.59**	**198**		**Pn**	**13 08 52.7**	**-1.2**
EDFI	**Ende, Flores**	**9.81**	**214**	P	**Pn**	**13 08 56.6**	**-0.3**
	827nm61nm,0.5s						
BATI	**Baumata**	**10.21**	**200**	LR	LR	13 13 27.2	
	comp=Z,73nm,20.1s,baz=352,slow=40						
MYLDM	**Lahad Datu**	**10.38**	**303**	Pn	**Pn**	**13 09 01.9**	**-2.8**
JAY	**Jayapura**	**13.65**	**98**	LR	LR	13 15 09.5	
	comp=Z,74nm,18.1s,baz=303,slow=38						
KNRA	**Kununurra**	**15.10**	**174**	Pn	**Pn**	**13 10 04.3**	**-2.4**
KNRA				IAmb	IAmb	13 10 05.0	
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.50**	**185**		**P**	**13 10 35.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**17.50**	**185**	P	**P**	**13 10 35.2**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=18,slow=8.8,SNR=22						
WB0	**Warramunga Arr**	**20.35**	**160**	P	**P**	**13 11 06.0**	**-1.2**
WB0				IAmb	IAmb	13 11 07.8	
	comp=Z,9.7nm,0.7s						
LEM	**Lembang**	**20.49**	**252**	LR	LR	13 20 58.9	
	comp=Z,40nm,19.3s,baz=109,slow=42						
WRA	**Warramunga Arr**	**20.50**	**160**	P	**P**	**13 11 07.5**	**-1.3**
	comp=Z,9.2nm,0.8s,baz=340,slow=11,SNR=135						
WRA				S	**S**	**13 14 54.5**	**+1.7**
	comp=Z,2.2nm,1.0s,baz=344,slow=16,SNR=4.9						
WRA				ScP	**ScP**	**13 18 46.9**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=323,slow=2.6,SNR=12 comp=Z,9.2nm,0.8s						
WR8	**Warramunga Arr**	**20.56**	**160**	P	**P**	**13 11 08.2**	**-1.3**
PSA00	**Pilbara Seismi**	**22.08**	**198**	P	**P**	**13 11 24.7**	**-1.0**
PSA00				IAmb	IAmb	13 11 27.8	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**22.08**	**198**	P	**P**	**13 11 24.5**	**-1.2**
PSA00				IAmb	IAmb	13 11 27.8	
	comp=Z,6.7nm,0.9s						
AS31	**Alice Springs**	**23.88**	**165**	P	**P**	**13 11 43.0**	**0.0**
ASAR	**Alice Springs**	**23.88**	**165**	P	**P**	**13 11 43.0**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=336,slow=7.5,SNR=102						
ASAR				PcP	**PcP**	**13 15 24.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=340,slow=2.1,SNR=6.4						
ASAR				S	**S**	**13 15 52.5**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=349,slow=24,SNR=10						
ASAR				ScP	**ScP**	**13 18 55.3**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=350,slow=2.7,SNR=13 comp=Z,5.6nm,0.7s						
TPUB	**Ta-pu**	**24.56**	**345**	P	**P**	**13 11 49.8**	**+0.5**
TPUB				IAmb	IAmb	13 11 52.7	
	comp=Z,29nm,1.1s						
FORT	**Forrest**	**30.07**	**179**	P	**P**	**13 12 38.6**	**+0.1**
FORT				IAmb	IAmb	13 12 39.6	
	comp=Z,6.8nm,0.7s						
STKA	**Stephens Creek**	**34.00**	**158**	P	**P**	**13 13 12.8**	**-0.1**
STKA	**Stephens Creek**	**34.00**	**158**	P	**P**	**13 13 12.4**	**-0.4**
	comp=Z,5.1nm,0.6s,baz=337,slow=7.1,SNR=8.7 comp=Z,5.1nm,0.6s						
KSRS	**Korea Array**	**37.83**	**1**	P	**P**	**13 13 45.8**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=180,slow=9.7,SNR=5.5 comp=Z,1.5nm,0.8s						
MJAR	**Matsushiro Arr**	**38.31**	**14**	P	**P**	**13 13 48.6**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=179,slow=12,SNR=4.2 comp=Z,1.1nm,0.4s						
JTM	**Tenmabayashi**	**43.05**	**15**	P	**P**	**13 14 28.9**	**+0.5**
ASAJ	**Asahikawa**	**46.56**	**15**	P	**P**	**13 14 56.6**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=248,slow=17,SNR=2.9 comp=Z,4.9nm,0.9s						
GTA	**Gaotai**	**47.02**	**331**	*e*P	**P**	**13 15 02.8**	**+2.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SONM	**Songino Array**	**51.49**	**342**	P	**P**	**13 15 34.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=158,slow=8.3,SNR=5.5 comp=Z,1.4nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.23**	**21**	P	**P**	**13 16 30.4**	**+1.2**
PETK	**Petropavlovsk-**	**59.23**	**21**	P	**P**	**13 16 29.4**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=201,slow=2.3,SNR=7.9 comp=Z,2.9nm,0.9s						
MK31	**Makanchi Array**	**61.34**	**326**	P	**P**	**13 16 45.2**	**+1.4**
MK31				IAmb	IAmb	13 16 45.9	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**61.34**	**326**	P	**P**	**13 16 45.1**	**+1.3**
	comp=Z,4.0nm,0.6s,baz=120,slow=8.8,SNR=42 comp=Z,4.0nm,0.6s						
KSH	**Kashi**	**61.42**	**317**	P	**P**	**13 16 47.0**	**+2.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**62.45**	**1**	P	**P**	**13 16 51.9**	**+0.9**
ZALV	**Zalesovo Beam**	**64.61**	**334**	P	**P**	**13 17 04.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=101,slow=5.8,SNR=7.1 comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**65.59**	**328**	P	**P**	**13 17 12.5**	**+0.8**
	comp=Z,4.7nm,0.6s,baz=127,slow=6.0,SNR=73 comp=Z,4.7nm,0.6s						
KURK	**Kurchatov**	**65.60**	**328**	P	**P**	**13 17 12.9**	**+1.1**
KURK				IAmb	IAmb	13 17 13.7	
	comp=Z,7.3nm,0.8s						
TIXI	**Tiksi**	**72.10**	**1**	P	**P**	**13 17 52.0**	**+0.3**
TIXI				IAmb	IAmb	13 17 53.1	
	comp=Z,5.1nm,0.4s						
AB31	**Akbulak array**	**75.75**	**321**	P	**P**	**13 18 14.0**	**+0.6**
VNDA	**Vanda**	**79.14**	**173**	P	**P**	**13 18 31.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=340,slow=11,SNR=1.9 comp=Z,0.3nm,0.6s						
KDAK	**Kodiak Island**	**85.25**	**32**	P	**P**	**13 19 04.6**	**+0.6**
B21K	**Ikpikpuk River**	**86.41**	**20**	P	**P**	**13 19 10.7**	**+1.2**
B21K				IAmb	IAmb	13 19 49.1	
	comp=Z,15nm,1.4s						
KVAR	**Kislovodsk Arr**	**86.41**	**314**	LR	LR	14 01 34.1	
	comp=Z,29nm,21.5s,slow=38						
ILAR	**Eielson Array**	**88.75**	**25**	P	**P**	**13 19 19.2**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=257,slow=5.7,SNR=2.6 comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**89.38**	**180**	P	**P**	**13 19 26.9**	**+3.0**
QSPA				IAmb	IAmb	13 19 33.0	
	comp=Z,3.9nm,1.3s						
QSPA	**South Pole Qui**	**89.38**	**180**	P	**P**	**13 19 26.3**	**+2.4**
	comp=Z,1.1nm,0.9s,baz=211,slow=0.7,SNR=2.7 comp=Z,1.1nm,0.9s						
C27K	**Jago River**	**90.20**	**20**	P	**P**	**13 19 28.4**	**+0.8**
C27K				IAmb	IAmb	13 19 37.5	
	comp=Z,12nm,1.4s						
K27K	**Chicken**	**90.82**	**26**	P	**P**	**13 19 31.8**	**+1.3**
L27K	**Beaver Creek,**	**90.94**	**27**	P	**P**	**13 19 32.1**	**+1.0**
L27K				IAmb	IAmb	13 19 44.0	
	comp=Z,7.2nm,1.4s						
I28M	**Miner Creek**	**91.70**	**25**	P	**P**	**13 19 35.5**	**+0.8**
I28M				IAmb	IAmb	13 19 38.3	
	comp=Z,2.8nm,1.1s						
ARCES	**ARCESS Array B**	**94.61**	**340**	P	**P**	**13 19 46.4**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=60,slow=7.3,SNR=5.7 comp=Z,3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**124.60**	**286**	PKP	**PKPdf**	**13 25 27.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=36,slow=1.6,SNR=4.0						
DBIC	**Dimbokro**	**131.79**	**278**	PKiKP	PKPpre	13 25 37.6	
	comp=Z,1.8nm,0.6s,baz=190,slow=3.1,SNR=4.1						

*IDC **11** 13:14:11.5±2.1, 28°05N×139°52E, h506km±33km, mb3.0/7, mbtmp3.9/11, Error ellipse: s-maj=55.8km s-min=13.2km az=76.0*
*JMA **11** 13:14:11.7±0.3, 28°N±2°×14°0E±°, h542km, MV4.1/39, W OFF OGASAWARA*
*NEIC **11** 13:14:14.0±1.2, 28°1N±0°1×139°5E±0°2, h530km±11km, mb4.1/18, Error ellipse: s-maj=26.2km s-min=14.4km az=127.0*

ISC 11 13:14:13.0±0.7, 28°20N±0°06×139°9E±0°2, h550km, n50, σ1°84/54, mb4.0/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.55**	**127**	*e*S	**S**	**13 16 19.3**	**-5.0**
BSO1	**Boso 1**	**6.49**	**8**	*e*P	**P**	**13 15 56.4**	**+1.0**
BSO1				*e*S	**S**	**13 17 18.4**	**-1.0**
BSO3	**Boso 3**	**6.60**	**4**	*e*S	**S**	**13 17 19.9**	**-1.8**
JSG	**Sagara**	**6.62**	**348**	P	**P**	**13 15 59.1**	**+1.9**
JIE	**Ise**	**6.75**	**337**	*e*P	**P**	**13 15 59.3**	**+0.8**
BSO4	**Boso 4**	**6.78**	**3**	*e*P	**P**	**13 15 59.4**	**+0.9**
BSO4				*e*S	**S**	**13 17 23.5**	**-1.6**
JOD2	**Odawara 2**	**7.07**	**354**	*e*P	**P**	**13 16 01.5**	**0.0**
JNY	**Yasuok**	**7.34**	**347**	*e*P	**P**	**13 16 03.9**	**-0.3**
JAO	**Obara**	**7.39**	**343**	*e*P	**P**	**13 16 05.3**	**+0.7**
JEG	**Eigenji**	**7.53**	**337**	*e*P	**P**	**13 16 06.9**	**+0.9**
INU	**Inuyama**	**7.54**	**342**	P	**P**	**13 16 06.2**	**+0.2**
JGF	**Kuroka**	**7.69**	**344**	P	**P**	**13 16 08.0**	**+0.5**
JRY	**Ryogami san**	**7.84**	**354**	*e*P	**P**	**13 16 08.6**	**-0.4**
JRY				*e*S	**S**	**13 17 41.9**	**-2.3**
JYT	**Yasato**	**8.00**	**2**	*e*P	**P**	**13 16 10.0**	**-0.5**
JYT				*e*S	**S**	**13 17 42.9**	**-4.1**
JAG	**Ashikaga**	**8.21**	**357**	*e*P	**P**	**13 16 11.3**	**-1.2**
JAG				*e*S	**S**	**13 17 45.5**	**-5.2**
JHO	**Hitachi**	**8.40**	**4**	*e*P	**P**	**13 16 15.0**	**+0.5**
JHO				*e*S	**S**	**13 17 53.1**	**-1.2**
MJAR	**Matsushiro Arr**	**8.44**	**351**	P	**P**	**13 16 12.9**	**-2.0**
	3.1nm,0.5s,baz=177,slow=11,SNR=9.7						
MJAR				S	**S**	**13 17 53.4**	**-1.7**
	2.1nm,0.9s,baz=175,slow=16,SNR=1.5						
MJB9	**Matsu-Tunnel**	**8.44**	**351**	P	**P**	**13 16 16.0**	**+1.1**
JMM	**Marumori**	**9.66**	**4**	P	**P**	**13 16 29.1**	**+1.9**
JSD	**Sado**	**9.90**	**352**	P	**P**	**13 16 29.6**	**-0.1**
JTM	**Tenmabayashi**	**12.59**	**4**	P	**P**	**13 16 59.5**	**+2.2**
KSRS	**Korea Array**	**13.65**	**316**	P	**P**	**13 17 04.8**	**-3.7**
	1.1nm,0.6s,baz=133,slow=11,SNR=4.4						
ASAJ	**Asahikawa**	**16.02**	**7**	P	**P**	**13 17 34.7**	**+2.2**
	2.6nm,0.5s,baz=275,slow=4.5,SNR=4.8						
JKA	**Kamikawa-asahi**	**16.02**	**7**	P	**P**	**13 17 35.5**	**+3.0**
JKA				IAmb	IAmb	13 17 42.8	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**17.18**	**340**	P	**P**	**13 17 45.1**	**+2.0**
	comp=Z,8.9nm,0.6s,baz=170,slow=9.8,SNR=17						
FAKI	**Fak Fak**	**31.81**	**195**	P	**P**	**13 19 52.8**	**-0.3**
TOLI2	**Tolitoli**	**32.57**	**218**	P	**P**	**13 19 58.0**	**-1.6**
TOLI2				IAmb	IAmb	13 20 27.8	
	comp=Z,6.1nm,1.1s						
KULM	**Kulim**	**43.66**	**246**	P	**P**	**13 21 29.1**	**-0.5**
KULM				IAmb	IAmb	13 22 06.5	
	comp=Z,13nm,1.3s						
IPM	**Ipoh**	**43.83**	**245**	P	**P**	**13 21 30.7**	**-0.3**
IPM				IAmb	IAmb	13 21 37.3	
	comp=Z,9.9nm,1.2s						
KNRA	**Kununurra**	**44.94**	**195**	P	**P**	**13 21 39.4**	**+0.1**
ZALV	**Zalesovo Beam**	**47.33**	**319**	P	**P**	**13 21 56.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=114,slow=6.5,SNR=1.5 comp=Z,0.6nm,0.5s						
WB0	**Warramunga Arr**	**47.99**	**187**	P	**P**	**13 22 02.7**	**+0.3**
WB0				IAmb	IAmb	13 22 02.8	
	comp=Z,2.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**48.06**	**198**	P	**P**	**13 22 03.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**48.06**	**198**	P	**P**	**13 22 02.7**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=22,slow=14,SNR=2.7 comp=Z,1.4nm,0.5s						
WRAB	**Tennant Creek**	**48.16**	**187**	P	**P**	**13 22 03.9**	**+0.3**
WRAB				IAmb	IAmb	13 22 44.5	
	comp=Z,4.8nm,1.1s						
WR8	**Warramunga Arr**	**48.16**	**187**	P	**P**	**13 22 03.9**	**+0.2**
WR8				IAmb	IAmb	13 22 04.4	
	comp=Z,3.6nm,0.6s						
WRA	**Warramunga Arr**	**48.17**	**187**	P	**P**	**13 22 03.8**	**0.0**
	comp=Z,2.2nm,0.5s,baz=2.9,slow=7.8,SNR=75 comp=Z,2.2nm,0.5s						
MKAR	**Makanchi Array**	**48.22**	**309**	P	**P**	**13 22 05.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=91,slow=8.5,SNR=1.8 comp=Z,0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**50.83**	**314**	P	**P**	**13 22 23.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=90,slow=8.4,SNR=6.6 comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**51.89**	**187**	P	**P**	**13 22 31.4**	**+0.5**
ASAR	**Alice Springs**	**51.89**	**187**	P	**P**	**13 22 31.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=1.8,slow=6.1,SNR=39 comp=Z,0.7nm,0.3s						
MBWA	**Marble Bar**	**52.81**	**204**	P	**P**	**13 22 37.8**	**+0.3**
MBWA				IAmb	IAmb	13 23 00.7	
	comp=Z,10nm,1.3s						
PSA00	**Pilbara Seismi**	**53.15**	**204**	P	**P**	**13 22 40.2**	**+0.3**
PSA00	**Pilbara Seismi**	**53.15**	**204**	P	**P**	**13 22 39.9**	**0.0**
PSA00				IAmb	IAmb	13 22 49.7	
	comp=Z,8.2nm,1.1s						
KDAK	**Kodiak Island**	**54.70**	**37**	P	P	13 22 54.5	+4.2
SCRK	**Sand Creek**	**58.97**	**30**	P	P	13 23 24.6	+5.0
FORT	**Forrest**	**59.73**	**192**	P	**P**	**13 23 26.0**	**+1.0**
FORT				IAmb	IAmb	13 23 43.3	
	comp=Z,7.1nm,0.9s						
J01E	**Myrtle Point**	**75.45**	**49**	P	P	13 25 05.3	+4.4
FINES	**FINESS Array B**	**76.06**	**333**	P	**P**	**13 25 05.4**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=68,slow=5.9,SNR=3.4 comp=Z,1.2nm,0.8s						
**QSPA

JSD	Sado	5.47	225	Pn	Pn	13 23 13.6	+1.7
MJAR	Matsushiro Arr	6.68	216	P	Pn	13 23 30.1	+1.5
	0.2nm,0.3s,baz=29,slow=14,SNR=9.6 4.8nm,0.6s						
JGF	Kuroka	7.84	217	Pn	Pn	13 23 45.4	+0.8
INU	Inuyama	8.21	218	Pn	Pn	13 23 50.5	+1.0
USRK	Ussuriysk Ar.	8.43	289	P	Pn	13 23 55.3	+2.8
	0.3nm,0.3s,baz=98,slow=14,SNR=5.3 5.0nm,0.9s						
KSRS	Korea Array	12.56	254	P	Pn	13 24 53.8	+4.8
	1.9nm,0.7s,baz=63,slow=14,SNR=4.3						
PEA0B	Petropavlovsk-	14.78	37	Pn	Pn	13 25 17.6	-1.7
PETK	Petropavlovsk-	14.78	37	P	Pn	13 25 19.5	+0.3
	0.3nm,0.3s,baz=238,slow=13,SNR=4.4 2.0nm,0.6s						
SEY	Seymchan	21.63	12	P	P	13 26 38.5	-1.4
	2.1nm,0.6s,baz=188,slow=10,SNR=7.1 2.1nm,0.6s						
SONM	Songino Array	26.46	295	P	P	13 27 26.3	-0.5
	1.1nm,0.5s,baz=94,slow=9.0,SNR=5.9 1.1nm,0.5s						
H11N2	WAKE ISLAND Hy	30.00	131	T	T	13 59 21.6	
	baz=324,slow=75,SNR=123						
H11N1	WAKE ISLAND Hy	30.01	131	T	T	13 59 21.2	
	baz=324,slow=75,SNR=95						
H11N3	WAKE ISLAND Hy	30.01	131	T	T	13 59 24.0	
	baz=324,slow=75,SNR=99						
H11S1	WAKE ISLAND Hy	30.87	132	T	T	14 00 26.3	
	baz=325,slow=76,SNR=113						
H11S3	WAKE ISLAND Hy	30.87	132	T	T	14 00 30.1	
	baz=325,slow=76,SNR=112						
H11S2	WAKE ISLAND Hy	30.89	132	T	T	14 00 31.3	
	baz=325,slow=76,SNR=132						
ZAA0	Zalesovo Array	39.69	308	P	P	13 29 21.4	-0.2
ZALV	Zalesovo Beam	39.69	308	P	P	13 29 21.6	0.0
	4.2nm,0.7s,baz=90,slow=8.0,SNR=16 4.2nm,0.7s						
E19K	Redstone River	40.47	31	P	P	13 29 26.4	-1.6
E19K				IAmb	IAmb	13 29 39.0	
	comp=Z,7.8nm,1.3s						
H19K	Roundabout Mou	40.57	34	P	P	13 29 27.1	-1.6
D20K	Etivluk River	40.89	29	P	P	13 29 29.3	-2.1
D20K				IAmb	IAmb	13 29 50.1	
	comp=Z,11nm,1.4s						
B20K	Meade River	40.92	27	P	P	13 29 29.6	-1.9
E22K	Anaktuvuk Pass	42.59	30	P	P	13 29 45.0	-0.3
E22K				IAmb	IAmb	13 30 04.5	
	comp=Z,9.8nm,1.4s						
MKAR	Makanchi Array	42.76	298	P	P	13 29 46.7	-0.3
	comp=Z,1.9nm,0.8s,baz=81,slow=10,SNR=13 comp=Z,1.9nm,0.8s						
C23K	Itkillik River	43.14	28	P	P	13 29 49.7	0.0
KURK	Kurchatov	44.04	304	P	P	13 29 57.0	-0.2
KURK				IAmb	IAmb	13 30 00.7	
	comp=Z,3.3nm,0.7s						
KURBB	Kurchatov Arra	44.12	304	P	P	13 29 57.2	-0.6
	comp=Z,2.6nm,0.7s,baz=76,slow=8.9,SNR=15 comp=Z,2.6nm,0.7s						
ILAR	Eielson Array	44.60	35	P	P	13 30 01.9	+0.4
	comp=Z,0.5nm,0.6s,baz=259,slow=5.6,SNR=13 comp=Z,0.5nm,0.6s						
D25K	Kavik River	44.61	28	P	P	13 30 00.3	-1.3
D25K				IAmb	IAmb	13 30 42.7	
	comp=Z,9.5nm,1.4s						
SCRK	Sand Creek	45.94	36	P	P	13 30 11.4	-0.9
BOOM	Boomskoye usch	48.50	294	P	P	13 30 32.8	+0.3
I30M	Mount Dempster	48.94	33	P	P	13 30 34.7	-1.0
I30M				IAmb	IAmb	13 30 59.0	
	comp=Z,7.9nm,1.3s						
INK	Inuvik	49.35	29	P	P	13 30 38.5	0.0
INK				IAmb	IAmb	13 30 49.1	
	comp=Z,7.7nm,1.4s						
ARSB	Arslanbob	50.99	294	P	P	13 30 51.2	-0.3
ARSB				IAmb	IAmb	13 30 53.8	
	comp=Z,6.2nm,0.8s						
AB31	Akbulak array	55.81	308	P	P	13 31 25.8	-0.8
AB31				IAmb	IAmb	13 31 31.9	
	comp=Z,6.9nm,1.5s						
ARCES	ARCESS Array B	59.80	339	P	P	13 31 54.3	0.0
	comp=Z,2.5nm,0.8s,baz=51,slow=9.7,SNR=5.1 comp=Z,2.5nm,0.8s						
WB0	Warramunga Arr	62.02	189	P	P	13 32 08.6	-1.3
WB0				IAmb	IAmb	13 32 19.4	
	comp=Z,2.8nm,0.9s						
WR8	Warramunga Arr	62.19	189	P	P	13 32 10.5	-0.6
WRA	Warramunga Arr	62.20	189	P	P	13 32 10.4	-0.7
	comp=Z,0.8nm,0.6s,baz=6.4,slow=6.8,SNR=16 comp=Z,0.8nm,0.6s						
FIA1	FINESS Array S	65.02	332	P	P	13 32 29.2	0.0
FINES	FINESS Array B	65.02	332	P	P	13 32 28.6	-0.6
	comp=Z,1.8nm,0.5s,baz=44,slow=7.3,SNR=10 comp=Z,1.8nm,0.5s						
ASAR	Alice Springs	65.93	189	P	P	13 32 35.0	-0.5
	comp=Z,0.3nm,0.7s,baz=336,slow=4.7,SNR=5.3 comp=Z,0.3nm,0.7s						
KBZ	Khabaz	68.67	310	P	P	13 32 54.3	+1.5
	comp=Z,2.0nm,0.6s,baz=118,slow=4.4,SNR=3.5 comp=Z,2.0nm,0.6s						
BPMT	Black Pine Rid	68.76	46	P	P	13 32 50.6	-3.1
HFS	Hagfors	70.08	336	P	P	13 33 00.6	-0.6
	comp=Z,3.0nm,0.6s,baz=60,slow=8.8,SNR=8.6 comp=Z,3.0nm,0.6s						
NB2	NORSAR Subarra	70.08	337	P	P	13 33 00.4	-0.9
	comp=Z,0.6nm,0.6s,baz=34,slow=6.5						
NOA	NORSAR Array B	70.08	337	P	P	13 33 01.0	-0.3
	comp=Z,0.9nm,0.7s,baz=36,slow=6.3,SNR=5.2 comp=Z,0.9nm,0.7s						
NVAR	Mina Array Bea	70.99	55	P	P	13 33 08.8	+1.3
	comp=Z,0.9nm,0.7s,baz=286,slow=5.7,SNR=7.8 comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	71.16	322	P	P	13 33 07.4	-0.6
	comp=Z,0.4nm,0.4s,baz=46,slow=6.1,SNR=2.3 comp=Z,0.4nm,0.4s						
PDAR	Pinedale Array	73.26	47	P	P	13 33 21.3	+0.3
	comp=Z,0.2nm,0.4s,baz=160,slow=3.0,SNR=4.2						
PDAR				LR	LR	14 06 55.6	
	comp=Z,11nm,20.1s,baz=30,slow=37 comp=Z,0.2nm,0.4s						
SNAA	Sanae	145.91	198	PKPdf	PKPdf	13 41 27.4	+0.3
H03N2	Juan Fernandez	145.94	89	T	T	16 24 27.3	
	baz=300,slow=77,SNR=30						
H03N3	Juan Fernandez	145.95	89	T	T	16 24 31.1	
	baz=300,slow=77,SNR=38						
H03N1	Juan Fernandez	145.95	89	T	T	16 24 28.7	
	baz=300,slow=77,SNR=40						

KRSC ***11*** *13:39:01.8±2.4, 48°.88N×156°.53E, h6km±39km, Ml4.0*
SKHL ***11*** *13:39:03.8±0.2, 48°.80N×155°.20E, h63km±4km, mb4.2/4*
ISC 11 13:39:04.5±3.1, 48°.9N±0°.3×155°.2E±0°.4, h35km, n15, σ0§92/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.90	18	eP	Pn	13 39 32.6	-1.7
SKR	Severo-Kuril's	1.90	18	eP	Pn	13 39 33.8	-0.5
SKR				AMB	AMB	13 39 34.1	
	20nm,0.2s						
SKR				eS	Sn	13 39 56.2	-0.7
SKR				A	A	13 39 58.2	
	90nm,0.2s						
SKR				A	A	13 39 58.2	
	80nm,0.2s						
PAU	Pauzhetka	2.79	21	eS	Sn	13 40 20.2	+1.3
PAU	Pauzhetka	2.79	21	eP	Pn	13 39 46.8	+0.3
PAU				AMB	AMB	13 39 47.4	
	20nm,0.2s						
PAU				eS	Sn	13 40 19.2	+0.4
PAU				A	A	13 40 21.9	
	70nm,0.2s						
PAU				A	A	13 40 21.9	
	70nm,0.2s						
ASAK	Asacha	3.90	25	eP	Pn	13 40 01.6	-0.3
MTVR	Mutnovka	4.07	27	eP	Pn	13 40 03.8	-0.5
MTVR				eS	Sn	13 40 51.2	+0.4
RUS	Russkaya	4.13	29	eP	Pn	13 40 03.3	-1.7
PET	Petropavlovsk	4.68	26	eP	Pn	13 40 13.3	+0.7
PET				AMB	AMB	13 40 14.7	
	20nm,0.3s						
DALK	Dalny	4.72	27	eP	Pn	13 40 12.4	-0.7
KOK	Koryaka	4.92	25	eP	Pn	13 40 15.3	-0.6
AVH	Avacha	4.92	26	eP	Pn	13 40 17.3	+1.4
SMAR	Somma	4.94	26	eP	Pn	13 40 16.9	+0.7
KRER	Koryakskii	4.96	25	eP	Pn	13 40 16.8	+0.3
KRX	Arik	4.98	24	eP	Pn	13 40 17.0	+0.2
KUR	Kuril'sk	6.20	237	eP	Pn	13 40 33.2	-0.3
KUR				AMB	AMB	13 40 34.0	
	20nm,0.4s						

IDC ***11*** *14:18:43.6±1.2, 34°.64N×23°.41E, h0km, mb4.0/10, mbtmp3.9/14, ML4.0/4, MS3.0/4, Error ellipse: s-maj=24.1km s-min=18.5km az=6.0*
ISK ***11*** *14:18:44.2, 34°.30N×23°.27E, h20km, ML3.7/15*
NAO ***11*** *14:18:45.5, 34°.64N×23°.41E, h10km, mb3.7*
NEIC ***11*** *14:18:48.2±1.2, 34°.41N±0°.09×23°.30E±0.07, h35km±2km, mb4.5/15, Error ellipse: s-maj=14.6km s-min=9.8km az=179.0*
GII ***11*** *14:18:53.3±0.0, 34°.316N±0°.002×24°.149E±0°.001, h8km, Mws3.8, confirmed*
ATH ***11*** *14:18:53.0, 34°.88N×23°.51E, h73km±3km, ML3.3/31, Manual Solution by D.Makaris First location: 2019/10/11 14:20:11, This location: 2019/10/11 14:45:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
THE ***11*** *14:18:56.2, 35°.N±5°.×2°.4E±°, h41km±8km, M3.1/12, MLh3.1/12*
ISC 11 14:18:51.7±0.9, 34°.79N±0°.07×23°.41E±0°.05, h43km, n176, σ1§22/151, mb4.3/20, MS2.9/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.56	84	Pg	Pn	14 19 01.6	-1.8
GVD				Sg	Sn	14 19 13.9	+2.2
GVD	Gavdhos	0.56	84	P	Pn	14 19 03.0	-0.4
GVD				S	Sn	14 19 13.4	+1.7
CHAN	Chania	0.90	35	P	Pn	14 19 08.4	+0.4
CHAN				S	Sn	14 19 17.0	-2.8
CHAN	Chania	0.90	35	P	Pn	14 19 09.4	+1.5
CHAN				S	Sn	14 19 21.2	+1.4
PRNS	Prines Rethymn	1.07	57	P	Pn	14 19 10.2	0.0
PRNS	Prines Rethymn	1.07	57	P	Pn	14 19 10.3	0.0
PRNS				S	Sn	14 19 22.9	-1.0
ANKY	Antikythira Is	1.08	355	P	Pn	14 19 11.5	+1.0
ANKY				S	Sn	14 19 24.6	+0.2
ANKY	Antikythira Is	1.08	355	P	Pn	14 19 11.6	+1.0
ANKY				S	Sn	14 19 25.9	+1.6
IDI	Anoyia	1.32	67	Pn	Pn	14 19 13.3	-0.4
IDI				Sn	Sn	14 19 34.0	+3.9
IDI	Anoyia	1.32	67		Pn	14 19 14.3	+0.5
IDI				Sn	Sn	14 19 32.8	+2.6
IDI	Anoyia	1.32	67	P	Pn	14 19 14.6	+0.9
IDI				S	Sn	14 19 29.3	-0.8
IDI	Anoyia	1.32	67	Pn	Pn	14 19 14.2	+0.5
	37nm,0.3s,baz=243,slow=15,SNR=50						
IDI	Anoyia	1.32	67	P	Pn	14 19 14.5	+0.7
IDI				S	Sn	14 19 30.1	-0.1
IACM	Heraklion	1.46	69	P	Pn	14 19 17.3	+1.6
IACM	Heraklion	1.46	69	P	Pn	14 19 15.7	+0.1
IACM				S	Sn	14 19 34.3	+0.8
KTHA	Kythira Island	1.50	349	Pn	Pn	14 19 17.2	+1.1
KTHA	Kythira Island	1.50	349	P	Pn	14 19 17.4	+1.2
VLI	Veliai	1.97	349	P	Pn	14 19 24.0	+1.4
VLI				S	Sn	14 19 45.5	-0.5
VLI	Veliai	1.97	349	P	Pn	14 19 24.2	+1.6
VLI				S	Sn	14 19 45.7	-0.3
MHLO	Agia Marina, M	2.07	23	P	Pn	14 19 24.4	+0.4
MHLO				S	Sn	14 19 45.7	-2.8
MHLO	Agia Marina, M	2.07	23	P	Pn	14 19 24.6	+0.7
MHLO				S	Sn	14 19 47.6	-0.9
SNT5	Nea Kammeni, S	2.29	45	P	Pn	14 19 27.5	+0.5
THR3	Thira Island,	2.29	44	P	Pn	14 19 27.5	+0.5
THERA	Ancient Thera,	2.31	46	P	Pn	14 19 27.1	-0.1
THERA	Ancient Thera,	2.31	46	P	Pn	14 19 27.2	-0.1
ZKR	Zakros	2.33	81	Pn	Pn	14 19 26.1	-1.5
ZKR				Sn	Sn	14 19 56.2	+1.2
ZKR	Zakros	2.33	81	P	Pn	14 19 28.5	+0.9
ZKR	Zakros	2.33	81	P	Pn	14 19 28.4	+0.8
ZKR				S	Sn	14 19 55.0	0.0
ITM	Ithomi	2.67	334		Pn	14 19 32.9	+0.5
ITM	Ithomi	2.67	334	P	Pn	14 19 32.9	+0.5
ITM	Ithomi	2.67	334	P	Pn	14 19 32.7	+0.4
VLX	Vlachokerasia	2.71	342	P	Pn	14 19 34.9	+2.0
MET4	Agioi Theodoro	2.83	360	P	Pn	14 19 35.2	+0.7
MET5	Makryloggos,Me	2.83	359	P	Pn	14 19 36.0	+1.5
APE	Apeiranthos	2.86	36	Pn	Pn	14 19 36.2	+1.3
APE	Apeiranthos	2.86	36	P	Pn	14 19 34.6	-0.3
APE	Apeiranthos	2.86	36	P	Pn	14 19 34.5	-0.3
VLY	Voula,Athens	3.08	6	P	Pn	14 19 36.8	-1.1
VLY	Voula,Athens	3.08	6	P	Pn	14 19 38.3	+0.5
KARP	Karpathos	3.17	75	Pn	Pn	14 19 38.1	-1.0
KARP	Karpathos	3.17	75		Pn	14 19 39.0	-0.1
KARP	Karpathos	3.17	75	P	Pn	14 19 38.8	-0.3
ATHU	Athens Univers	3.19	5	P	Pn	14 19 39.9	+0.5
LOUT	Loutraki	3.22	354	P	Pn	14 19 40.3	+0.6
LTK	Loutraki	3.25	354	P	Pn	14 19 41.2	+0.9
GUR	Goura	3.26	345	P	Pn	14 19 42.0	+1.5
PTL	Penteli	3.28	6	P	Pn	14 19 40.8	+0.2
MAGU	Magoula	3.29	1	P	Pn	14 19 41.7	+1.0
DION	Dionisos Attik	3.31	7	P	Pn	14 19 41.4	+0.2
KARY	Karystos	3.35	14	P	Pn	14 19 41.8	+0.3
STFN	Stefani	3.39	2	P	Pn	14 19 42.9	+0.8
KLV	Kalavryta, Ach	3.41	343	P	Pn	14 19 43.0	+0.6
VIL2	Platees	3.42	358	P	Pn	14 19 42.6	0.0
RLS	Riolos of Patr	3.62	335	P	Pn	14 19 46.2	+0.9
KALE	Kalithea	3.74	345	P	Pn	14 19 48.0	+1.0
ORTH	Orthonies,Zaky	3.76	325	P	Pn	14 19 48.2	+0.9
AXS	Araxos	3.78	335	P	Pn	14 19 48.0	+0.6
EFP	Efpalio	3.83	342	P	Pn	14 19 49.0	+0.8
LKR	Lokris	3.87	355	P	Pn	14 19 49.2	+0.5
KYMI	Kymi, Euboea I	3.88	8	P	Pn	14 19 48.7	-0.1
DAT	Datca	3.91	59	Pn	Pn	14 19 40.3	+1.0
ATAL	Atalanti	3.91	356	P	Pn	14 19 49.7	+0.4
ANX	Ano Chora	3.98	343	P	Pn	14 19 51.4	+1.0
AXAR	Agios Charalam	4.02	352	P	Pn	14 19 51.2	+0.5
ARG	Arkhangelos	4.11	68	Pn	Pn	14 19 52.2	+0.2
ARG	Arkhangelos	4.11	68	Pn	Pn	14 19 51.7	-0.2
ARG	Arkhangelos	4.11	68	P	Pn	14 19 51.5	-0.4
PVO	Paravola	4.11	339	P	Pn	14 19 53.5	+1.5
CHOS	Chios island	4.18	30	Pn	Pn	14 19 56.0	+3.0
EVR	Evrytania	4.32	343	P	Pn	14 19 55.5	+0.6
FSK	Fiskardo	4.32	329	P	Pn	14 19 56.1	+1.2
MAKR	Makrakomi, Fth	4.34	347	P	Pn	14 19 55.6	+0.4
TURN	Turunc	4.41	62	Pn	Pn	14 19 57.2	+1.2
NEO	Neokhori	4.52	358	P	Pn	14 19 58.1	+0.5
YER	Yerkesik	4.60	58	Pn	Pn	14 20 00.0	+1.2
DALY	Dalyan (Mula)	4.72	63	Pn	Pn	14 20 01.3	+0.9
TETR	Tetrakomo, Epi	4.86	340	P	Pn	14 20 03.0	+0.6
THL	Klokotos Trika	4.90	347	P	Pn	14 20 02.8	0.0
KSL	Kastellorizon	5.22	73	P	Pn	14 20 06.8	-0.5
CAME	Cameli-Denizli	5.25	64	Pn	Pn	14 20 08.6	+0.8
AKAS	Kas	5.26	72	Pn	Pn	14 20 08.0	+0.1
AKAS	Kas	5.26	72		Pn	14 20 06.9	-1.0
LIT	Litokhoron	5.36	352		Pn	14 20 09.4	+0.3
MANT	Manisa	5.55	47	Pn	Pn	14 20 12.7	+0.7
PLG	Polygyros	5.58	0	P	Pn	14 20 11.6	-0.6
ELL	Elmali	5.64	68	Pn	Pn	14 20 13.5	+0.4
ELL	Elmali	5.64	68	Pn	Pn	14 20 12.5	-0.6
KEK	Kerkira	5.70	331	Pn	Pn	14 20 15.0	+1.1
TIP	Timpagrande	6.89	311		Pn	14 20 28.1	-2.2
CEL	Celeste	6.97	302	Pn	Pn	14 20 29.8	-1.5
RAFF	Raffo Rosso	7.72	291	Pn	Pn	14 20 38.9	-2.7
CUC	Castrocucco	7.97	313	Pn	Pn	14 20 43.2	-1.8
SGRT	San Giovanni R	9.20	321	Pn	Pn	14 21 00.1	-1.8
BRTR	Keskin Array B	9.53	56	Pn	Pn	14 21 07.4	+0.9
	0.2nm,0.3s,baz=237,slow=13,SNR=5.0 1.1nm,0.7s						
KZIT	Kziot	10.02	110	P	Pn	14 21 07.8	-5.3
KZIT	Kziot	10.02	110	S	Sn	14 22 52.9	-11
SLTI	Sal'it	10.04	101	P	Pn	14 21 08.7	-4.7
SLTI	Sal'it	10.04	101	S	Sn	14 22 54.3	-10
MMAI	Mount Meron Ar	10.13	97	Pn	Pn	14 21 08.8	-5.8
	1.1nm,0.3s,baz=281,slow=15,SNR=4.2 0.4nm,0.3s						
SALP	Salfit	10.21	102	P	Pn	14 21 10.7	-5.0
SALP	Salfit	10.21	102	S	Sn	14 22 58.8	-10
MMLI	Mount Malkishu	10.29	100	P	Pn	14 21 12.1	-4.7
MMLI	Mount Malkishu	10.29	100	S	Sn	14 23 00.5	-10
GEM	Giv'at Ha'Em	10.30	95	P	Pn	14 21 12.0	-4.9
GEM	Giv'at Ha'Em	10.30	95	S	Sn	14 23 01.2	-10
NATI	Neve Ativ	10.35	95	P	Pn	14 21 13.3	-4.2
NATI	Neve Ativ	10.35	95	S	Sn	14 23 03.5	-8.6
YTIR	Yattir	10.40	106	P	Pn	14 21 13.3	-5.1
YTIR	Yattir	10.40	106	S	Sn	14 23 03.0	-11
HMDT	Nahal Hemdat	10.43	101	P	Pn	14 21 13.8	-4.9
HMDT	Nahal Hemdat	10.43	101	S	Sn	14 23 03.6	-11
DSI	Dead Sea	10.53	104	P	Pn	14 21 14.9	-5.2
DSI	Dead Sea	10.53	104	S	Sn	14 23 05.9	-11
MSBI	Mazada	10.61	106	P	Pn	14 21 15.7	-5.4
MSBI	Mazada	10.61	106	S	Sn	14 23 07.1	-11
KRMI	Paran Flat	10.63	113	P	Pn	14 21 16.3	-5.2
KRMI	Paran Flat	10.63	113	S	Sn	14 23 06.5	-13
PRNI	Paran	10.73	111	P	Pn	14 21 17.6	-5.3
PRNI	Paran	10.73	111	S	Sn	14 23 10.1	-12
GHAJ	Ghor Haditha	10.78	105		Pn	14 21 19.3	-4.1
GHAJ	Ghor Haditha	10.78	105	P	Pn	14 21 18.4	-5.1
GHAJ	Ghor Haditha	10.78	105	S	Sn	14 23 11.3	-11
ZFRI	Zfri	10.78	110	P	Pn	14 21 18.0	-5.5
ZFRI	Zfri	10.78	110	S	Sn	14 23 10.9	-12
HRFI	Mount Harif	10.91	113	P	Pn	14 21 19.7	-5.5
HRFI	Mount Harif	10.91	113	S	Sn	14 23 13.9	-12
MBRI	Mt Berech	10.93	114	P	Pn	14 21 21.0	-4.7
MBRI	Mt Berech	10.93	114	S	Sn	14 23 14.8	-12
EIL	Elat	11.02	114	Pn	Pn	14 21 21.6	-5.3
	0.6nm,0.3s,baz=352,slow=4.0,SNR=7.4 3.0nm,0.5s						
EIL	Elat	11.02	114	P	Pn	14 21 21.2	-5.6
EIL	Elat	11.02	114	S	Sn	14 23 16.2	-13
MODS	Modra-Piesok	14.32	343	ePN	P	14 22 18.4	+0.4
KBA	Koelnbreinsper	14.43	331	eP	P	14 22 21.0	+1.7
	0.4nm,0.4s						
ABTA	Abfaltersbach	14.51	329	i P	P	14 22 20.7	+0.6
	2.7nm,1.1s						
MOA	Molln	14.73	335	i P	P	14 22 23.3	+0.8
	7.2nm,0.7s						
BIOA	Bad Ischl, Aus	14.82	333	ePn	P	14 22 23.7	+0.2
	1.2nm,0.6s						
LESA	Schwarzleotal	14.97	331	eP	P	14 22 26.3	+1.0
	2.3nm,0.6s						
VRAC	Vranov	15.36	343	Pn	Pn	14 22 25.7	+0.3
	0.5nm,0.3s,baz=188,slow=5.5,SNR=5.5 3.7nm,0.6s						
CKRC	Cesky Krumlov	15.56	337	eP	P	14 22 32.4	+0.7
GERES	GERESS Array B	15.78	336	Pn	Pn	14 22 34.6	+3.7
	0.1nm,0.3s,baz=150,slow=14,SNR=13						
RETA	Reutte	15.84	327	ePn	P	14 22 36.3	+1.4
	1.2nm,0.4s						
KHC	Kasperske Hory	16.07	336	eP	Pn	14 22 37.7	+3.1
DAVA	Damuels	16.10	325	ePn	Pn	14 22 38.6	+3.6
	3.1nm,1.0s						
DPC	Dobruska-Polom	16.39	344	eP	Pn	14 22 41.1	+2.4
KIEV	Kiev	16.45	13	Pn	Pn	14 22 40.2	+0.9
AKASG	Malin Array Be	16.46	13	Pn	Pn	14 22 39.5	+0.1
	3.2nm,0.3s,baz=208,slow=9.8,SNR=11						
AKBB	Malin Array Si	16.46	13	Pn	Pn	14 22 40.2	+0.8
GNI	Garni	17.75	66	LR	LR	14 30 57.8	
	comp=Z,44nm,18.8s,baz=282,slow=41						
CLL	Collm	18.15	339	i P	Pn	14 23 01.3	+1.0
	comp=Z,5.0nm,0.8s						
CLL				L	L	14 31 00.0	
	comp=Z,100nm,18.5s						
PABE	Paberze	20.72	1	P	P	14 23 26.9	-1.4
ESDC	Sonseca Array	22.29	291	P	P	14 23 43.0	-2.5
	comp=Z,0.7nm,0.9s,baz=112,slow=13,SNR=5.4 comp=Z,0.7nm,0.9s						
HFS	Hagfors	26.14	349	P	P	14 24 20.0	-1.6
	comp=Z,2.1nm,0.5s,baz=149,slow=12,SNR=15						
HFS				LR	LR	14 35 02.3	
	comp=Z,33nm,18.0s,baz=6.5,slow=37 comp=Z,2.1nm,0.5s						
FINES	FINESS Array B	26.73	3	P	P	14 24 26.2	-0.7
	comp=Z,1.9nm,0.7s,baz=156,slow=10.0,SNR=4.1 comp=Z,1.9nm,0.7s						
NB2	NORSAR Subarra	27.42	347	P	P	14 24 31.8	-1.3
	comp=Z,0.7nm,0.7s,baz=158,slow=9.3						
NOA	NORSAR Array B	27.42	347	P	P	14 24 33.8	+0.7
	comp=Z,0.4nm,0.5s,baz=144,slow=10,SNR=3.8						
NOA				LR	LR	14 36 27.3	
	comp=Z,23nm,19.7s,baz=25,slow=39 comp=Z,0.4nm,0.5s						
EKA	Eskdalemuir Ar	27.54	326	P	P	14 24 35.8	+1.6
	comp=Z,2.5nm,0.4s,baz=125,slow=8.8,SNR=19						
NC204	NORSAR Array S	27.72	347	P	P	14 24 35.5	-0.3
NC204				IAmb	IAmb	14 25 06.4	
	comp=Z,23nm,1.4s						
TORD	Torodi Ar. Bea	29.16	228	P	P	14 24 46.0	-3.0
	comp=Z,0.6nm,0.7s,baz=35,slow=10,SNR=4.4 comp=Z,0.6nm,0.7s						
ARCES	ARCESS Array B	34.82	1	P	P	14 25 35.0	-3.1
	comp=Z,4.2nm,1.1s,baz=176,slow=7.1,SNR=9.4						
ARCES				LR	LR	14 41 05.5	
	comp=Z,43nm,19.5s,baz=131,slow=38 comp=Z,4.2nm,1.1s						
KURBB	Kurchatov Arra	42.47	51	P	P	14 26 40.8	-1.7
	comp=Z,1.4nm,0.5s,baz=279,slow=8.5,SNR=13 comp=Z,1.4nm,0.5s						
KURK	Kurchatov	42.53	51	P	P	14 26 41.5	-1.4
MAKZ	Makanchi	44.96	56	P	P	14 27 01.6	-1.0
MAKZ				IAmb	IAmb	14 27 43.3	
	comp=Z,4.8nm,1.4s						
MK31	Makanchi Array	45.18	56		P

mB4.8/2, mb4.2/9, MLv4.2/10, Mw(mB)4.1/2
ISC 11 14:34:04.4±0.7, 7°29S±0°06×129°39E±0°06, h150km, n35, σ2.59/34, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.01	110	P	Pn	14 34 38.1	-1.6
SAUI	Saumlaki	2.01	110	P	Pn	14 34 38.2	-1.5
BNDI	Bandanaira	2.80	11	P	Pn	14 34 46.9	-2.4
BNDI	Bandanaira	2.80	11	P	Pn	14 34 45.9	-3.4
AAI	Ambon	3.77	342	P	Pn	14 34 59.3	-2.5
FAKI	Fak Fak	5.20	33	P	Pn	14 35 16.7	-3.8
	0.2nm19nm,0.9s						
DRS	Darwin Rock St	5.32	164	P	Pn	14 35 20.7	-1.4
DRS	Darwin Rock St	5.32	164	S	Sn	14 36 20.0	-2.7
SOEI	Soe	5.63	244	P	Pn	14 35 26.4	+0.2
SOEI	Soe	5.63	244	S	Sn	14 36 29.0	-1.2
SOEI	Soe	5.63	244	P	Pn	14 35 26.5	+0.2
	0.4nm38nm,0.6s						
BATI	Baumata	6.36	243	Pn	Pn	14 35 36.1	+0.1
	8.1nm,0.3s,baz=40,slow=1.9,SNR=10.0						
BATI				Sn	Sn	14 36 46.3	-1.3
	7.5nm,0.3s,baz=63,slow=20,SNR=9.8 19nm,0.3s						
BATI	Baumata	6.36	243	P	Pn	14 35 35.8	-0.2
	0.2nm776nm20nm,0.5s						
SWI	Sorong	6.65	16	P	Pn	14 35 36.4	-3.5
	0.1nm12nm,0.7s						
RKPI	Ransiki, Papua	7.47	40	P	Pn	14 35 49.3	-1.5
	2μm35nm,0.6s						
EDFI	Ende, Flores	7.76	259	P	Pn	14 35 54.5	-0.3
BAKI	Biak	9.03	48	P	Pn	14 36 09.7	-1.9
WSI	Waingapu	9.30	255	P	Pn	14 36 13.7	-1.5
WBSI	Waikabubak, Su	10.16	256	P	Pn	14 36 26.0	-0.7
	24nm,1.1s						
FITZ	Fitzroy Crossi	11.34	198	Pn	Pn	14 36 39.4	-2.7
	3.6nm,0.3s,baz=28,slow=13,SNR=94						
FITZ				Sn	Sn	14 38 38.3	-9.3
	1.6nm,0.3s,baz=54,slow=17,SNR=4.7 8.2nm,0.3s						
PLAI	Plampang	11.60	262	P	Pn	14 36 47.4	+1.8
WRAB	Tennant Creek	13.45	160	P	Pn	14 37 09.2	-0.3
WRA	Warramunga Arr	13.46	160	Pn	Pn	14 37 05.7	-3.8
	1.1nm,0.3s,baz=336,slow=14,SNR=46						
WRA				Sn	Sn	14 39 28.2	-10
	2.7nm,0.3s,baz=341,slow=22,SNR=13 1.1nm,0.4s						
COEN	Coen	15.07	117	P	P	14 37 31.7	+0.1
QIS	Mount Isa	16.48	144	P	Pn	14 37 48.5	+1.3
ASAR	Alice Springs	16.85	166	P	Pn	14 37 51.1	-0.4
	0.6nm,0.3s,baz=343,slow=11,SNR=54						
ASAR				S	S	14 40 52.0	-7.0
	2.1nm,0.5s,baz=346,slow=25,SNR=8.3 2.5nm,0.6s						
PSA00	Pilbara Seismi	16.93	212	P	Pn	14 37 53.5	+1.0
PMG	Port Moresby	17.70	98	LR	LR	14 46 19.4	
	comp=Z,84nm,19.0s,baz=258,slow=44						
MTSU	Mount Surprise	18.10	128	P	Pn	14 38 09.0	+2.5
QLP	Quilpie	23.82	145	P	P	14 39 08.8	+5.1
BBOO	Buckleboo	26.14	167	P	P	14 39 27.8	+3.2
CMSA	Cobar Meteorol	28.52	150	P	P	14 39 49.6	+3.7
MKAR	Makanchi Array	68.14	327	P	P	14 44 50.5	+2.2
	0.8nm,0.4s,baz=114,slow=9.0,SNR=14 0.8nm,0.4s						
KURBB	Kurchatov Arra	72.44	329	P	P	14 45 17.1	+2.8
	0.5nm,0.4s,baz=133,slow=5.3,SNR=2.6 0.5nm,0.4s						
QSPA	South Pole Qui	82.69	180	P	P	14 46 16.7	+5.6
	0.8nm,0.8s,baz=279,slow=5.9,SNR=2.0 0.8nm,0.8s						

*NEIC **11** 14:47:03.8±0.3, 19°32N±0°07×154°95W±0°05, h42km±4km, Error ellipse: s-maj=11.9km s-min=1.9km az=142.0*
HVO 11 14:47:04.3±0.6, 19°31N±0°05×154°89W±0°02, h40km±4km, ML3.3/43, ML3.5/46(NEIC), Error ellipse: s-maj=8.0km s-min=3.0km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	Jonika Flow	0.17	319		Pn	14 47 10.7	-0.7
JOKA	Jonika Flow	0.17	319		Sn	14 47 15.5	-0.9
JCUZ	Jacuzzi	0.21	290		Pn	14 47 11.1	-0.8
JCUZ					Sn	14 47 16.1	-1.0
NPOC	North of Pu'u	0.23	292		Pn	14 47 11.2	-0.8
NPOC					Sn	14 47 16.3	-1.0
STCH	Steam Cracks	0.24	289		Pn	14 47 11.3	-0.8
STCH					Sn	14 47 16.4	-1.0
STCH	Steam Cracks	0.24	289	IAML		14 47 16.6	
	comp=E,112nm,0.2s						
STCH				IAML		14 47 16.6	
	comp=N,4μm,0.2s						
KNHH	Kane Nui o Ham	0.28	285		Pn	14 47 11.6	-0.8
PUH	Pauahi	0.32	282		Sn	14 47 17.5	-1.4
PUH	Pauahi	0.32	282		Pn	14 47 11.9	-1.0
PUH				IAML		14 47 18.1	
	comp=E,3μm,0.2s						
PUH				IAML		14 47 18.5	
	comp=N,3μm,0.7s						
BYL	Byron's Ledge	0.37	286		Pn	14 47 12.3	-1.1
BYL					Sn	14 47 18.7	-1.2
BYL	Byron's Ledge	0.37	286	IAML		14 47 19.0	
	comp=N,5μm,0.5s						
BYL				IAML		14 47 20.9	
	comp=E,3μm,0.6s						
KKO	Keanakako'i	0.37	284		Pn	14 47 12.4	-1.1
KKO					Sn	14 47 18.6	-1.3
HATHI	Halema'uma'u T	0.37	288		Pn	14 47 12.4	-1.1
HATHI					Sn	14 47 18.5	-1.5
HATHI	Halema'uma'u T	0.37	288	IAML		14 47 19.0	
	comp=N,4μm,0.1s						
HATHI				IAML		14 47 19.0	
	comp=E,6μm,0.3s						
RIM	Rim	0.37	283		Pn	14 47 12.4	-1.1
RIM					Sn	14 47 18.7	-1.4
SBLHI	Steaming Bluff	0.38	288		Pn	14 47 12.4	-1.2
SBLHI					Sn	14 47 18.7	-1.4
UWB	Uwekahuna Bluf	0.39	287		Pn	14 47 12.4	-1.3
UWB					Sn	14 47 18.8	-1.5
OBL	Observatory Le	0.39	286		Pn	14 47 12.5	-1.2
OBL					Sn	14 47 18.8	-1.6
SDHHI	Sand Hill	0.39	282		Pn	14 47 12.6	-1.2
SDHHI					Sn	14 47 18.9	-1.6
HLP	Hilina Pali	0.40	268		Pn	14 47 12.9	-0.9
HLP					Sn	14 47 19.5	-0.9
HLP	Hilina Pali	0.40	268	IAML		14 47 19.9	
	comp=N,7μm,0.1s						
HLP				IAML		14 47 20.0	
	comp=E,7μm,0.3s						
UWE	Uwekahuna	0.40	286		Pn	14 47 12.7	-1.2
UWE					Sn	14 47 19.0	-1.6
UWE	Uwekahuna	0.40	286	IAML		14 47 19.9	
	comp=N,3μm,0.5s						
UWE				IAML		14 47 22.2	
	comp=E,4μm,0.4s						
RSD	Rainshed	0.40	293		Pn	14 47 12.8	-1.1
RSD					Sn	14 47 19.4	-1.2
RSD	Rainshed	0.40	293	IAML		14 47 19.9	
	comp=N,4μm,0.4s						
RSD				IAML		14 47 20.0	
	comp=E,3μm,0.2s						
WRMHI	West Rim	0.40	284		Pn	14 47 12.6	-1.3
WRMHI					Sn	14 47 19.1	-1.5
HTC	Hot Caves	0.49	262		Pn	14 47 13.9	-1.0
MLH	Mauna Loa	0.51	292		Pn	14 47 14.0	-1.3
MLH					Sn	14 47 21.2	-1.9
MLH	Mauna Loa	0.51	292	IAML		14 47 22.1	
	comp=N,1μm,0.5s						
MLH				IAML		14 47 26.8	
	comp=E,708nm,0.2s						
AIN	Ainahou	0.54	277		Pn	14 47 14.6	-1.2
AIN					Sn	14 47 22.6	-1.3
AIN	Ainahou	0.54	277	IAML		14 47 23.0	
	comp=E,6μm,0.3s						
AIN				IAML		14 47 23.4	
	comp=N,7μm,0.4s						
HMH	Humu'ula Sheep	0.63	298		Pn	14 47 15.8	-1.3
HMH					Sn	14 47 24.3	-1.9
HMH	Humu'ula Sheep	0.63	298	IAML		14 47 24.9	
	comp=E,950nm,0.4s						
HMH				IAML		14 47 26.1	
	comp=N,1μm,0.2s						
HPO	Honuapo	0.67	251		Pn	14 47 15.7	-1.6
HPO					Sn	14 47 24.5	-2.1
KHU	Kahuku	0.69	265		Pn	14 47 16.1	-1.7
KHU					Sn	14 47 24.9	-2.5
MWH	Mokuaweoweo	0.69	285		Pn	14 47 16.4	-1.7
MWH					Sn	14 47 25.1	-2.8
MWH	Mokuaweoweo	0.69	285	IAML		14 47 36.6	
	comp=E,1μm,0.8s						
ALEP	Alea Permanent	0.75	288		Pn	14 47 16.9	-1.8
ALEP					Sn	14 47 26.6	-2.5
POHA	Pohakuloa	0.75	306		Sn	14 47 26.2	-2.9
POHA	Pohakuloa	0.75	306		Pn	14 47 16.9	-1.8
POHA				IAML		14 47 27.5	
	comp=E,1μm,0.1s						
POHA				IAML		14 47 27.8	
	comp=E,1μm,0.2s						
HUH	Hualalai	0.97	293		Pn	14 47 20.1	-1.5
HUH	Hualalai	0.97	293	IAML		14 47 44.3	
	comp=N,949nm,0.4s						
HUH				IAML		14 47 48.2	
	comp=E,998nm,0.3s						
HPAH	Hawaii Prepara	1.05	313		Pn	14 47 20.6	-2.0
HPAH					Sn	14 47 32.7	-3.3
KKH	Kailua Kona	1.12	288		Pn	14 47 21.5	-2.0
MHA	Mahukona	1.29	313		Pn	14 47 24.0	-1.9
HLK	Haleakala	1.93	319		Pn	14 47 32.3	-2.5
HLK					Sn	14 47 53.0	-4.9
KHLH	Kahului Airpor	2.14	318	Pn	Pn	14 47 36.0	-1.5
HON	Honolulu	3.54	305	Pn	Pn	14 47 54.3	-2.5
KIP	Kipapa	3.61	306	Pn	Pn	14 47 55.2	-2.5
KIP				IAML		14 48 36.8	
	comp=E,101nm,1.4s						
KIP				IAML		14 48 36.9	
	comp=E,105nm,0.8s						

*IDC **11** 14:50:42.6±4.0, 6°63S×102°66E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=182.2km s-min=25.0km az=50.0*
*DJA **11** 14:50:43.6±1.1, 7°S±8°×10°3E±°, h10km, M3.8/11, mb3.6/1, MLv3.9/11*
ISC 11 14:50:45.3±1.6, 6°7S±0°1×102°5E±0°2, h24km, n22, σ0.96/13, mb3.6/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	2.30	43	P	Pn	14 51 21.8	0.0
KASI	Kota Agung	2.32	59	P	Pn	14 51 21.7	-0.2
MNAI	Manna	2.39	11	P	Pn	14 51 22.3	-0.7
MDSI	Maura Dua	2.78	37	P	Pn	14 51 28.3	0.0
KSI	Kapahiang	3.05	2	P	Pn	14 51 30.3	-1.8
LHSI	Lahat	3.05	20	P	Pn	14 51 30.8	-1.3
CGJI	Cibinong	3.18	88	P	Pn	14 51 33.3	-0.5
MASI	Maura Aman, Be	3.57	356	P	Pn	14 51 39.1	-0.1
CNJI	Cibinong	4.64	98	P	Pn	14 51 52.5	-1.3
H08S2	Diego Garcia H	29.78	266	T	T	15 28 14.2	
	baz=90,slow=76,SNR=31						
H08S3	Diego Garcia H	29.79	266	T	T	15 28 12.0	
	baz=90,slow=76,SNR=19						
H08S1	Diego Carcia H	29.80	266	T	T	15 28 15.1	
	baz=90,slow=76,SNR=17						
H01W3	Cape Leeuwin H	30.01	161	T	T	15 28 26.8	
	baz=338						
H01W2	Cape Leeuwin H	30.02	161	T	T	15 28 27.4	
	baz=338						
H01W1	Cape Leeuwin H	30.02	161	T	T	15 28 25.7	
	baz=338,SNR=3.4						
WRA	Warramunga Arr	33.57	116	P	P	14 57 24.2	+0.4
	0.5nm,0.7s,baz=285,slow=12,SNR=5.2						
WRA				LR	LR	15 12 33.8	
	comp=Z,48nm,18.1s,baz=350,slow=39 0.5nm,0.7s						
ASAR	Alice Springs	34.55	123	P	P	14 57 32.2	0.0
	0.1nm,0.4s,baz=298,slow=8.1,SNR=7.4 0.1nm,0.4s						
MKAR	Makanchi Array	56.23	343	P	P	15 00 24.7	+1.2
	0.4nm,0.5s,baz=140,slow=7.5,SNR=4.0 0.4nm,0.5s						
H04N2	CROZET ISLANDS	58.61	219	T	T	16 04 28.1	
	baz=64,slow=75,SNR=13						
H04N1	CROZET ISLANDS	58.62	219	T	T	16 04 26.4	
	baz=64,slow=75,SNR=13						
H04N3	CROZET ISLANDS	58.63	219	T	T	16 04 30.7	
	baz=64,slow=75,SNR=16						
ZALV	Zalesovo Beam	62.25	348	P	P	15 01 05.2	+0.2
	1.2nm,0.7s,baz=145,slow=5.4,SNR=4.1 1.2nm,0.7s						

*DJA **11** 15:01:49.7±0.2, 5°S±3°×12°5E±°, h483km±5km, M4.3/33, mb4.7/33, mB4.8/22, MLv5.0/31, Mw(mB)4.1/22*
*IDC **11** 15:01:50.0±1.0, 4°65S×125°36E, h482km±11km, mb3.7/13, mbtmp4.6/19, Error ellipse: s-maj=18.8km s-min=7.7km az=66.0*
*NEIC **11** 15:01:50.2±1.6, 4°72S±0°10×125°3E±0°1, h483km±10km, mb4.7/31, Error ellipse: s-maj=16.9km s-min=13.3km az=58.0*
ISC 11 15:01:50.2±0.3, 4°81S±0°04×125°22E±0°06, h483km, n197, σ1.25/205, mb4.5/36, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	2.44	50	P	P	15 02 54.4	-1.8
BBSI	Bau Bau	2.72	255	P	P	15 02 59.5	+1.5
SANI	Sanana	2.84	16	P	P	15 02 57.2	-1.6
SANI	Sanana	2.84	16	S	S	15 03 53.1	-1.4
SANI	Sanana	2.84	16	P	P	15 02 57.2	-1.6
AAI	Ambon	3.17	70	P	P	15 02 59.0	-2.1
MSAI	Masohi	3.98	69	P	P	15 03 04.9	-2.4
LUWI	Luwuk	4.46	327	P	P	15 03 11.1	-0.4
LUWI	Luwuk	4.46	327	P	P	15 03 11.4	-0.1
LUWI	Luwuk	4.46	327	S	S	15 04 17.0	-0.7
LUWI	Luwuk	4.46	327	P	P	15 03 11.2	-0.4
BNDI	Bandanaira	4.68	87	P	P	15 03 11.4	-2.0
BNDI	Bandanaira	4.68	87	P	P	15 03 11.7	-1.7
BSSI	Bau Bau, Buton	4.89	254	P	P	15 03 16.8	+1.5
	0.8nm2μm247nm,0.7s						
SOEI	Soe	5.01	191		P	15 03 17.8	+1.2
SOEI	Soe	5.01	191	P	P	15 03 15.6	-0.9
SOEI	Soe	5.01	191	P	P	15 03 17.9	+1.4
	1.6nm2μm58nm,0.5s						
BKSI	Bulukumba	5.10	264	P	P	15 03 18.2	+1.0
	0.5nm1μm168nm,0.7s						
BNSI	Bone	5.11	274	P	P	15 03 19.0	+1.7
	1.5nm4μm411nm,0.8s						
EDFI	Ende, Flores	5.26	222	P	P	15 03 21.2	+2.4
APSI	Ampana	5.26	317	P	P	15 03 19.2	+0.5
	0.5nm85nm,0.8s						
KAPI	Kappang	5.45	268	P	P	15 03 20.3	-0.2
KAPI	Kappang	5.45	268	P	P	15 03 22.3	+1.8
	64nm,0.5s,baz=88,slow=6.5,SNR=17						
KAPI	Kappang	5.45	268	P	P	15 03 20.3	-0.2
KMSI	Cibinong	5.48	347	P	P	15 03 20.9	0.0
SPSI	Sidrap Palu	5.50	279	P	P	15 03 21.3	+0.3
	0.4nm1μm117nm,0.5s						
BATI	Baumata	5.58	196	P	P	15 03 23.8	+1.9
	101nm,0.3s,baz=47,slow=2.3,SNR=17						
BATI				S	S	15 04 35.2	-1.4
	230nm,0.5s,baz=78,slow=21,SNR=12						
BATI	Baumata	5.58	196	P	P	15 03 23.7	+1.9
	1.0nm2μm67nm,0.7s						
TNTI	Ternate	5.94	21		P	15 03 21.4	-3.9
TNTI	Ternate	5.94	21	P	P	15 03 23.2	-2.1
	0.3nm960nm93nm,1.0s						
MRSI	Marisa	6.18	328	P	P	15 03 26.9	-0.8
	0.4nm68nm,0.6s						
SAUI	Saumlaki	6.82	118	P	P	15 03 31.0	-3.0
SAUI	Saumlaki	6.82	118	P	P	15 03 33.4	-0.6
SAUI	Saumlaki	6.82	118	P	P	15 03 32.8	-1.2
WSI	Waingapu	6.87	225	P	P	15 03 33.9	-0.6
	3μm66nm,0.8s						
BASI	Baing, Sumba	7.08	220	P	P	15 03 36.6	0.0
	2μm63nm,0.8s						
SWI	Sorong	7.19	57	P	P	15 03 36.6	-1.3
	0.6nm75nm,0.7s						
FAKI	Fak Fak	7.26	75		P	15 03 36.8	-1.8
FAKI	Fak Fak	7.26	75	P	P	15 03 37.6	-1.0
FAKI	Fak Fak	7.26	75	P	P	15 03 37.5	-1.0
	1.5nm4μm485nm,0.7s						
TOLI2	Tolitoli	7.36	323		P	15 03 38.7	-0.9
TOLI2	Tolitoli	7.36	323	P	P	15 03 39.1	-0.5
WBSI	Waikabubak, Su	7.52	230	P	P	15 03 39.9	-1.3
	1.1nm839nm47nm,0.6s						
PLAI	Plampang	8.40	241	P	P	15 03 50.6	+0.1
PLAI	Plampang	8.40	241	P	P	15 03 50.5	+0.1
	2μm195nm,0.7s						
KMPI	Kaimana, Papua	8.54	83	P	P	15 03 50.6	-1.3
	4μm435nm,1.0s						
BKB	Balikpapan	9.02	293		P	15 03 59.6	+2.5
BKB	Balikpapan	9.02	293	P	P	15 03 59.3	+2.2
BKB	Balikpapan	9.02	293	P	P	15 04 00.0	+2.9
	2μm227nm,0.9s						
TWSI	Taliwang, Sumb	9.15	244	P	P	15 03 58.8	+0.4
DRS	Darwin Rock St	9.43	144	P	P	15 04 02.8	+1.4
RKPI	Ransiki, Papua	9.53	70	P	P	15 04 04.3	+1.9
MTN	Manton Dam	9.89	144		P	15 04 06.7	+0.4
BBKI	Banjar Baru	10.44	277	P	P	15 04 13.6	+1.4
SRBI	Singaraja	10.46	251	P	P	15 04 14.0	+1.6
	1μm103nm,1.0s						
MTKI	Muara Teweh, K	11.00	290	P	P	15 04 19.0	+0.8
	349nm,0.8s						
ABJI	Asem Bagus	11.31	254	P	P	15 04 23.6	+2.0
	45nm,0.5s						
KNRA	Kununurra	11.35	162		P	15 04 22.2	+0.3
SRPI	Serui, Papua	11.38	76	P	P	15 04 23.8	+1.5
KMMI	Kalianget	11.41	258	P	P	15 04 24.6	+2.0
	98nm,0.9s						
BAKI	Biak	11.45	72	P	P	15 04 22.2	-0.9
	936nm99nm,0.8s						
JAGI	Jajag, Banyuwa	11.58	251		P	15 04 23.9	-0.5
JAGI	Jajag, Banyuwa	11.58	251	P	P	15 04 24.7	+0.3
JAGI	Jajag, Banyuwa	11.58	251	P	P	15 04 25.5	+1.1
MYLDM	Lahad Datu	11.97	326		P	15 04 28.5	-0.1
MYLDM	Lahad Datu	11.97	326	P	P	15 04 29.6	+1.0
FITZ	Fitzroy Crossi	13.22	178	P	P	15 04 42.3	+0.4
FITZ	Fitzroy Crossi	13.22	178	P	P	15 04 42.5	+0.7
	14nm,0.6s,baz=9.3,slow=7.8,SNR=66						
FITZ				S	S	15 07 00.7	-2.8
	26nm,0.7s,baz=206,slow=23,SNR=20						
FITZ	Fitzroy Crossi	13.22	178	P	P	15 04 42.6	+0.7
KKM	Kota Kinabalu	14.03	320		P	15 04 50.1	-0.6
KKM	Kota Kinabalu	14.03	320	P	P	15 04 51.3	+0.6
SBUM	Sibu	14.85	299		P	15 04 59.4	+0.1
SBUM	Sibu	14.85	299	P	P	15 05 00.1	+0.8
JAY	Jayapura	15.62	82	P	P	15 05 06.0	-1.4
	11nm,0.8s,baz=216,slow=13,SNR=4.7						
KSM	Kuching	16.15	292	P	P	15 05 12.3	-0.6
KSM	Kuching	16.15	292	P	P	15 05 11.8	-1.1
MBWA	Marble Bar	17.11	198	P	P	15 05 22.4	-0.4
MBWA	Marble Bar	17.11	198	P	P	15 05 22.1	-0.7
PSA00	Pilbara Seismi	17.46	197	P	P	15 05 25.3	-1.0
PSA00				IAmb	IAmb	15 05 27.9	
	comp=Z,19nm,0.8s						
PSA00	Pilbara Seismi	17.46	197	P	P	15 05 26.2	-0.1
WRAB	Tennant Creek	17.47	150	P	P	15 05 25.9	-0.6
WRAB	Tennant Creek	17.47	150	P	P	15 05 26.3	-0.1
WRA	Warramunga Arr	17.47	150	P	P	15 05 26.5	0.0
	comp=Z,41nm,0.7s,baz=334,slow=9.6,SNR=323						
WRA				S	S	15 08 22.9	-0.7
	comp=Z,8.4nm,0.9s,baz=331,slow=17,SNR=14						
WR8	Warramunga Arr	17.56	150	P	P	15 05 27.1	-0.3
LEM	Lembang	17.62	263	P	P	15 05 28.0	-0.2
	comp=Z,30nm,0.6s,baz=40,slow=11,SNR=6.7						
BBJI	Bungbulang	17.66	261	P	P	15 05 27.2	-1.3
COEN	Coen	19.90	118	P	P	15 05 48.5	-0.5
COEN				IAmb	IAmb	15 05 56.9	
	comp=Z,10nm,0.8s						
COEN	Coen	19.90	118	P	P	15 05 49.2	+0.2
AS31	Alice Springs	20.54	157	P	P	15 05 55.9	+1.2
AS31				IAmb	IAmb	15 05 57.6	
	comp=Z,20nm,0.5s						
ASAR	Alice Springs	20.54	157	P	P	15 05 55.6	+0.9
	comp=Z,25nm,0.6s,baz=343,slow=15,SNR=650						
ASAR				S	S	15 09 15.7	+2.2
	comp=Z,10nm,0.8s,baz=340,slow=19,SNR=19						
ASAR				ScP	ScP	15 12 35.3	0.0
	comp=Z,2.6nm,0.8s,baz=322,slow=1.4,SNR=6.6 comp=Z,25nm,0.6s						
GIRL	Giralia	20.67	210	P	P	15 05 57.4	+1.5
QIS	Mount Isa	21.00	139	P	P	15 05 59.4	+0.5
MNAI	Manna	22.20	270	P	P	15 06 12.4	+2.6
MYKOM	Kota Tinggi	22.33	287	P	P	15 06 10.7	-0.3
MYKOM				IAmb	IAmb	15 06 12.9	
	comp=Z,31nm,0.7s						
MYKOM	Kota Tinggi	22.33	287	P	P	15 06 12.1	+1.1
MEEK	Meekatharra	22.61	196	P	P	15 06 13.6	+0.2
CTAO	Charters Tower	25.49	128	P	P	15 06 39.7	+0.5
MORW	Morawa	25.65	199	P	P	15 06 40.7	+0.2
MORW				IAmb	IAmb	15 06 57.6	
	comp=Z,37nm,1.4s						
MORW	Morawa	25.65	199	P	P	15 06 40.9	+0.4
IPM	Ipoh	25.87	291	P	P	15 06 42.2	-0.4
IPM				IAmb	IAmb	15 06 43.6	
	comp=Z,27nm,1.2s						
IPM	Ipoh	25.87	291	P	P	15 06 42.9	+0.3
FORT	Forrest	25.98	174	P	P	15 06 42.9	-0.4
FORT				IAmb	IAmb	15 06 44.9	
	comp=Z,18nm,0.7s						
KULM	Kulim	26.51	292	P	P	15 06 47.4	-0.8
KULM				IAmb	IAmb	15 06 49.1	
	comp=Z,38nm,0.8s						
KULM	Kulim	26.51	292	P	P	15 06 48.1	-0.1
BLDU	Ballidu	26.90	196	P	P	15 06 51.9	+0.5
INKA	Innaminka	27.18	149	P	P	15 06 55.5	+1.5
QLP	Quilpie	28.27	142	P	P	15 07 04.7	+1.1
GSI	Gunungsitoli	28.27	282	P	P	15 07 01.2	-2.5
GSI				IAmb	IAmb	15 07 03.6	
	comp=Z,35nm,0.8s						
MUN	Mundaring	28.32	196	P	P	15 07 03.9	0.0
NWAO	Narrogin (SRO)	28.95	194	P	P	15 07 07.8	-1.7
NWAO				IAmb	IAmb	15 07 11.0	
	comp=Z,12nm,0.8s						
NWAO	Narrogin (SRO)	28.95	194	P	P	15 07 09.6	+0.1
BBOO	Buckleboo	29.65	161	P	P	15 07 14.7	-0.8
BBOO				IAmb	IAmb	15 07 17.1	
	comp=Z,23nm,0.6s						
BBOO	Buckleboo	29.65	161	P	P	15 07 16.0	+0.5
STKA	Stephens Creek	31.00	152	P	P	15 07 27.0	-0.3
STKA	Stephens Creek	31.00	152	P	P	15 07 28.2	+1.0
	comp=Z,32nm,0.8s,baz=328,slow=8.7,SNR=51						
STKA				PcP	PcP	15 10 07.0	-1.9
	comp=Z,2.7nm,0.5s,baz=304,slow=3.6,SNR=2.9						
STKA				ScP	ScP	15 13 04.4	-1.3
	comp=Z,1.7nm,0.5s,baz=327,slow=5.0,SNR=5.1 comp=Z,32nm,0.8s						
STKA	Stephens Creek	31.00	152	P	P	15 07 27.7	+0.5
HTT	Hallett	31.21	158

HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,320nm,6.1s						
LSA	**Lhasa**	**47.37**	**319**	P	**P**	**15 09 38.0**	**-2.4**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
MDJ	**Mudanjiang**	**49.35**	**4**	P	**P**	**15 09 55.0**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.2s						
ERM	**Erimo**	**49.38**	**18**	P	**P**	**15 09 57.8**	**+3.2**
JEM	**Erimo**	**49.38**	**18**	P	**P**	**15 09 57.2**	**+2.6**
GTA	**Gaotai**	**49.85**	**334**	*e*P	**P**	**15 09 58.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JCZ	**Jackson Bay**	**54.68**	**142**	P	**P**	**15 10 34.3**	**+1.2**
JCZ	**Jackson Bay**	**54.68**	**142**	P	**P**	**15 10 34.0**	**+0.9**
SONM	**Songino Array**	**54.97**	**345**	P	**P**	**15 10 34.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=155,slow=7.2,SNR=6.2						
	comp=Z,1.2nm,0.7s						
FOZ	**Fox Glacier**	**55.03**	**141**	P	**P**	**15 10 35.0**	**-0.3**
WVZ	**Waitaha Valley**	**55.37**	**141**	P	**P**	**15 10 37.1**	**-0.7**
QRZ	**Quartz Range**	**55.46**	**137**	P	**P**	**15 10 39.4**	**+0.9**
QRZ	**Quartz Range**	**55.46**	**137**	P	**P**	**15 10 38.6**	**+0.1**
LBZ	**Lake Benmore**	**55.70**	**142**	P	**P**	**15 10 39.6**	**-0.5**
RPZ	**Rata Peaks**	**55.89**	**141**	P	**P**	**15 10 42.3**	**+0.8**
RPZ	**Rata Peaks**	**55.89**	**141**	P	**P**	**15 10 41.2**	**-0.3**
THZ	**Tophouse**	**56.15**	**138**	P	**P**	**15 10 43.7**	**+0.4**
LTZ	**Lake Taylor**	**56.21**	**140**	P	**P**	**15 10 44.2**	**+0.6**
OXZ	**Oxford**	**56.32**	**140**	P	**P**	**15 10 42.2**	**-2.2**
KHZ	**Kahutara**	**56.87**	**139**	P	**P**	**15 10 47.9**	**-0.2**
KHZ				IAmb	IAmb	15 11 26.6	
	comp=Z,78nm,1.5s						
KHZ	**Kahutara**	**56.87**	**139**	P	**P**	**15 10 48.4**	**+0.3**
MQZ	**McQueen's Vall**	**56.90**	**140**	P	**P**	**15 10 47.3**	**-1.0**
WNVZ	**Wahianoa**	**56.95**	**135**	P	**P**	**15 10 48.9**	**-0.1**
MOVZ	**Moawhango**	**57.09**	**135**	P	**P**	**15 10 48.9**	**-1.0**
MUGZ	**Murupara**	**57.46**	**133**	P	**P**	**15 10 55.5**	**+3.2**
MRZ	**Mangatainoka R**	**57.48**	**136**	P	**P**	**15 10 52.1**	**-0.3**
BKZ	**Black Stump Fm**	**57.52**	**134**	P	**P**	**15 10 53.1**	**+0.3**
BKZ	**Black Stump Fm**	**57.52**	**134**	P	**P**	**15 10 52.5**	**-0.4**
URZ	**Urewera**	**57.63**	**133**	P	**P**	**15 10 53.4**	**-0.1**
URZ	**Urewera**	**57.63**	**133**	P	**P**	**15 10 53.0**	**-0.5**
RTZ	**Ruatahuna**	**57.66**	**133**		**P**	**15 10 52.8**	**-1.1**
RTZ				IAmb	IAmb	15 10 54.6	
	comp=Z,25nm,0.7s						
NMHZ	**Naumai**	**57.72**	**134**	P	**P**	**15 10 54.5**	**+0.3**
MCHZ	**McNeill Hill**	**57.78**	**134**	P	**P**	**15 10 54.5**	**0.0**
HAZ	**Te Kaha**	**57.94**	**132**	P	**P**	**15 10 55.0**	**-0.5**
BFZ	**Birch Farm**	**57.95**	**136**	P	**P**	**15 10 56.3**	**+0.7**
BFZ	**Birch Farm**	**57.95**	**136**	P	**P**	**15 10 55.5**	**-0.1**
MWZ	**Matawai**	**57.96**	**133**	P	**P**	**15 10 55.5**	**-0.2**
SNGZ	**Shannon Statio**	**57.99**	**133**	P	**P**	**15 10 56.2**	**+0.3**
PXZ	**Pawanui**	**58.12**	**135**	P	**P**	**15 10 58.1**	**+1.3**
MXZ	**Matakaoa Point**	**58.26**	**132**	P	**P**	**15 10 58.7**	**+0.9**
WMQ	**Urumqi**	**59.02**	**329**	*e*P	**P**	**15 11 03.8**	**+0.9**
WMQ				LR	LR		
	comp=Z,190nm,21.7s						
CASY	**Casey**	**62.22**	**187**	P	**P**	**15 11 23.0**	**-0.5**
KSH	**Kashi**	**63.22**	**319**	P	**P**	**15 11 31.3**	**+0.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR	**Makanchi Array**	**63.84**	**329**	P	**P**	**15 11 33.9**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=119,slow=7.9,SNR=24						
	comp=Z,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**67.58**	**336**	P	**P**	**15 11 55.8**	**-1.8**
	comp=Z,1.8nm,0.5s,baz=119,slow=4.5,SNR=8.6						
	comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**68.20**	**330**	P	**P**	**15 12 01.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=137,slow=5.4,SNR=5.5						
	comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**68.22**	**330**	P	**P**	**15 12 00.8**	**-0.9**
VNDA	**Vanda**	**75.22**	**172**	P	**P**	**15 12 42.6**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=315,slow=6.0,SNR=29						
	comp=Z,3.8nm,0.7s						
MAW	**Mawson**	**75.28**	**201**	P	**P**	**15 12 43.5**	**+0.9**
	comp=Z,5.6nm,1.0s,baz=71,slow=5.4,SNR=18						
	comp=Z,5.6nm,1.0s						
SBA	**Scott Base**	**76.15**	**172**		**P**	**15 12 48.9**	**+1.6**
QSPA	**South Pole Qui**	**85.16**	**180**		**P**	**15 13 36.8**	**+2.2**
QSPA				IAmb	IAmb	15 13 37.9	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**85.16**	**180**	P	**P**	**15 13 36.9**	**+2.4**
	comp=Z,9.1nm,0.7s,baz=302,slow=1.0,SNR=80						
	comp=Z,9.1nm,0.7s						
ILAR	**Eielson Array**	**93.41**	**25**	P	**P**	**15 14 10.3**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=236,slow=5.2,SNR=20						
	comp=Z,0.6nm,0.6s						
BOSA	**Boshof**	**96.43**	**241**	P	**P**	**15 14 26.4**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=121,slow=5.9,SNR=4.2						
	comp=Z,1.8nm,0.7s						
SNAA	**Sanae**	**96.63**	**195**	P	**P**	**15 14 27.7**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=85,slow=13,SNR=2.6						
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**118.66**	**43**	PKP	**PKPdf**	**15 19 42.2**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=318,slow=0.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.70**	**283**	PKP	**PKPdf**	**15 19 53.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=54,slow=3.1,SNR=11						
PLCA	**Paso Flores**	**132.43**	**164**	PKP	**PKiKP**	**15 20 10.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=221,slow=3.0,SNR=4.1						
CPUP	**Villa Florida**	**148.95**	**176**	PKPbc	**PKPbc**	**15 20 43.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=57,slow=0.7,SNR=7.2						
LPAZ	**La Paz**	**155.23**	**148**	PKP	**PKPdf**	**15 20 49.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=14,slow=4.2,SNR=3.7						
LPAZ				PKPbc	PKPbc	15 20 59.8	
	comp=Z,0.5nm,0.4s,baz=63,slow=4.5,SNR=4.8						
BDFB	**Brasília**	**158.61**	**198**	PKPab	**PKPab**	**15 21 30.6**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=108,slow=6.4,SNR=3.3						

*HVO **11** 15:03:29.4±0.7, 19°.459N±0°.008×155°.585W±0°.009, h-2km±2km, ML2.7/44, ML2.8/42(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=137.0*

NEIC 11 15:03:30.0±1.1, 19°.450N±0°.010×155°.569W±0°.005, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=14.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.04**	**323**		Pg	15 03 30.7	-1.0
MWH				IAML		15 03 32.5	
	comp=N,19μm,0.6s						
MWH				IAML		15 03 32.6	
	comp=E,28μm,0.5s						
ALEP	**Alea Permanent**	**0.12**	**322**		Pg	15 03 32.5	-0.1
AIN	**Ainahou**	**0.13**	**126**		Pg	15 03 33.5	+0.7
HMH	**Humu'ula Sheep**	**0.17**	**28**		Pg	15 03 33.7	+0.1
HMH				IAML		15 03 37.2	
	comp=N,2μm,0.4s						
HMH				IAML		15 03 37.5	
	comp=E,2μm,0.6s						
MLH	**Mauna Loa**	**0.18**	**76**		Pg	15 03 34.1	+0.5
KHU	**Kahuku**	**0.21**	**192**		Pg	15 03 34.2	+0.1
KHU					Sg	15 03 36.5	-0.4
WRMHI	**West Rim**	**0.26**	**100**		Pg	15 03 35.4	+0.3
HTC	**Hot Caves**	**0.27**	**142**		Pg	15 03 35.5	+0.3
SDHHI	**Sand Hill**	**0.27**	**103**		Pg	15 03 35.5	+0.3
UWB	**Uwekahuna Bluf**	**0.28**	**95**		Pg	15 03 35.6	+0.2
RIM	**Rim**	**0.28**	**101**		Pg	15 03 35.8	+0.2
HLP	**Hilina Pali**	**0.29**	**122**		Pg	15 03 36.0	+0.3
HLP	**Hilina Pali**	**0.29**	**122**	IAML		15 03 43.3	
	comp=N,1μm,0.4s						
HLP				IAML		15 03 45.8	
	comp=E,4μm,0.6s						
KKO	**Keanakako'i**	**0.29**	**100**		Pg	15 03 35.9	+0.2
HATHI	**Halema'uma'u T**	**0.29**	**95**	IAML		15 03 44.5	
	comp=N,2μm,0.8s						
BYL	**Byron's Ledge**	**0.29**	**97**	IAML		15 03 45.2	
	comp=N,1μm,0.6s						
BYL				IAML		15 03 45.9	
	comp=E,2μm,0.6s						
POHA	**Pohakuloa**	**0.31**	**6**		Pg	15 03 36.1	0.0
PUH	**Pauahi**	**0.34**	**103**		Pg	15 03 36.6	-0.1
PUH	**Pauahi**	**0.34**	**103**	IAML		15 03 48.4	
	comp=N,800nm,0.6s						
PUH				IAML		15 03 48.4	
	comp=E,2μm,0.7s						
HUH	**Hualalai**	**0.34**	**313**		Pg	15 03 37.5	+0.8
HUH				IAML		15 03 46.3	
	comp=E,998nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.38**	**100**		Pg	15 03 37.2	-0.3
STCH	**Steam Cracks**	**0.42**	**99**		Pg	15 03 37.8	-0.4
STCH	**Steam Cracks**	**0.42**	**99**	IAML		15 03 50.9	
	comp=N,898nm,0.6s						
NPOC	**North of Pu'u**	**0.44**	**97**		Pg	15 03 38.1	-0.4
JCUZ	**Jacuzzi**	**0.45**	**98**		Pg	15 03 38.2	-0.5
JOKA	**Jonika Flow**	**0.53**	**92**		Pg	15 03 39.9	-0.4
JOKA				IAML		15 03 50.5	
	comp=N,564nm,0.7s						

*NNC **11** 15:11:21.2±5.6, 50°.79N×87°.65E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=49.5km s-min=22.0km az=97.0*
*ASRS **11** 15:11:21.9±0.2, 50°.6N±0°.9×8°.7E±°, h9km, MLh3.5/15, Error ellipse: s-maj=2.8km s-min=1.9km az=71.9, confirmed*

ISC 11 15:11:24.2±0.8, 50°.57N±0°.02×87°.54E±0°.03, h10km, n23, σ1°82/44, 5C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.25**	**169**	⇑Pg	**Pg**	**15 11 28.5**	**-0.8**
AKAR				Sg	**Sg**	**15 11 31.9**	**-0.8**
CHBI	**Chibit, Altay**	**0.25**	**186**	⇓Pg	**Pg**	**15 11 28.2**	**-1.2**
CHBI				Sg	**Sg**	**15 11 31.2**	**-1.7**
ULGR	**Ulagan, Altay**	**0.27**	**77**	Pg	**Pb**	**15 11 30.8**	**-0.5**
ULGR				Sg	**Sb**	**15 11 35.0**	**-1.0**
CUR	**Chagan-Uzun**	**0.69**	**132**	⇑Pg	**Pb**	**15 11 37.3**	**-1.1**
CUR				Sg	**Sb**	**15 11 47.7**	**-0.4**
DGZ	**Jazzator, Alta**	**0.87**	**185**	⇑Pg	**Pg**	**15 11 39.3**	**-1.6**
DGZ				Sg	**Sg**	**15 11 50.1**	**-2.1**
ELDR	**Elanda**	**1.13**	**306**	Pg	**Pb**	**15 11 44.1**	**-1.7**
ELDR				Sg	**Sb**	**15 11 58.8**	**-1.7**
YALR	**Yailyu, Altay**	**1.21**	**2**	⇓Pg	**Pn**	**15 11 46.5**	**-0.7**
YALR				Sg	**Sg**	**15 12 03.3**	**+0.2**
ARTR	**Artybash**	**1.25**	**352**	Pg	**Pn**	**15 11 47.4**	**-0.3**
ARTR				Sg	**Sn**	**15 12 04.9**	**+0.3**
TEL	**Teeli**	**1.75**	**74**	Pg	**Pg**	**15 11 57.8**	**+0.1**
TEL				Sg	**Sg**	**15 12 20.9**	**+0.6**
TASR	**Tashtagol**	**2.21**	**5**	Pg	**Pg**	**15 12 06.4**	**-0.1**
TASR				Sg	**Sg**	**15 12 36.4**	**+1.3**
ELT	**Eltsovka**	**2.82**	**344**	Pg	**Pb**	**15 12 13.0**	**-1.5**
ELT				Sg	**Sb**	**15 12 51.7**	**+2.6**
DJO	**Djoy, Khakassi**	**3.19**	**44**	Pg	**Pg**	**15 12 23.7**	**-1.5**
DJO				Sg	**Sg**	**15 13 05.1**	**-1.4**
VEH	**Verkhnyaya Baz**	**3.19**	**31**	Pg	**Pb**	**15 12 22.5**	**+1.5**
VEH				Sg	**Sg**	**15 13 05.5**	**-1.2**
LUZB	**Luzhba, Kemero**	**3.21**	**15**	Pg	**Pb**	**15 12 22.1**	**+0.9**
LUZB				Sg	**Sg**	**15 13 06.8**	**-0.5**
CERR	**Cheremushki**	**3.33**	**45**	Pg	**Pg**	**15 12 26.2**	**-1.6**
CERR				Sg	**Sg**	**15 13 09.8**	**-1.1**
ZAA0	**Zalesovo Array**	**3.78**	**335**	⇓Pg	**Pn**	**15 12 24.4**	**+2.0**
	0.5nm,0.7s						
ZAA0				⇓Lg	Lg	15 13 16.8	
	5.7nm,0.8s						
SALR	**Pechorkino, Sa**	**4.02**	**344**	Pg	**Pb**	**15 12 35.9**	**+0.9**
SALR				Sg	**Sg**	**15 13 31.9**	**-1.3**
ARDR	**Aradan**	**4.19**	**59**	Pg	**Pg**	**15 12 42.9**	**-1.5**
ARDR				Sg	**Sg**	**15 13 39.3**	**+0.7**
KZLR	**Kyzyl**	**4.50**	**73**	Sg	**Sg**	**15 13 45.0**	**-3.6**
NVS	**Novosibirsk**	**5.02**	**330**	Pg	**Pg**	**15 12 56.0**	**-4.2**
NVS				Sg	**Sg**	**15 14 02.6**	**-2.6**
NVSII	**Novosibirsk**	**5.02**	**330**	Pg	**Pb**	**15 12 55.5**	**+3.4**
NVSII				Sg	**Sg**	**15 14 03.2**	**-2.0**
MK31	**Makanchi Array**	**5.13**	**225**	⇓Pn	**Pn**	**15 12 45.0**	**+3.9**
	3.8nm,0.7s,baz=43,slow=12,SNR=62						
MK31				⇑Sn	**Sn**	**15 13 43.0**	**+2.7**
	5.1nm,0.5s,baz=58,slow=18,SNR=7.5						
MK31				⇓Lg	Lg	15 14 06.4	
	7.6nm,0.5s,baz=43,slow=32,SNR=7.1						
KURK	**Kurchatov**	**5.68**	**275**	⇑Pn	**Pn**	**15 12 49.5**	**+0.9**
	0.7nm,0.5s						
KURK				⇓Sn	**Sn**	**15 13 56.0**	**+2.3**
	1.4nm,0.5s						
KURK				⇓Lg	Lg	15 14 22.7	
	4.4nm,0.5s						

*NEIC **11** 15:18:37.8±1.5, 31°.6S±0°.1×179°.7E±0°.2, h405km±8km, mb4.4/17, Error ellipse: s-maj=23.9km s-min=14.6km az=113.0*
*NOU **11** 15:18:38.3, 31°.76S×179°.97E, h432km, mb4.5/35, Kermadec Islands Region*
*IDC **11** 15:18:39.5±1.4, 31°.37S×179°.60E, h420km±13km, mb3.8/9, mbtmp4.5/10, Error ellipse: s-maj=16.4km s-min=13.6km az=157.0*
*WEL **11** 15:18:40.9±0.5, 32°S±4°×17°9W±°, h401km±8km, mB5.1/40, MLv5.5/48, Mw(mB)4.4/40, Error ellipse: s-maj=12.5km s-min=3.5km az=110.3, confirmed*

ISC 11 15:18:36.0±0.3, 31°.69S±0°.02×179°.88E±0°.04, h400km, n213, σ2°20/240, mb4.2/21, 3C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.08**	**39**	P	**Pn**	**15 19 42.8**	**+2.8**
GLKZ				S	**S**	**15 20 33.0**	**+1.4**
RAO	**Raoul Island**	**3.09**	**39**	Pn	**Pn**	**15 19 42.0**	**+2.0**
RAO	**Raoul Island**	**3.09**	**39**	P	**Pn**	**15 19 42.5**	**+2.5**
	315nm,0.3s,baz=114,slow=15,SNR=2.4						
RAO				S	**S**	**15 20 26.8**	**-5.0**
	332nm,0.3s,baz=246,slow=21,SNR=4.1						
RIZ	**Raoul Island**	**3.09**	**38**	P	**Pn**	**15 19 43.5**	**+3.4**
RIZ				S	**S**	**15 20 29.4**	**-2.4**
MXZ	**Matakaoa Point**	**6.00**	**192**		**Pn**	**15 20 11.0**	**+2.5**
MXZ	**Matakaoa Point**	**6.00**	**192**	P	**Pn**	**15 20 11.2**	**+2.7**
MXZ	**Matakaoa Point**	**6.00**	**192**	P	**Pn**	**15 20 11.8**	**+3.3**
MXZ				S	**S**	**15 21 24.2**	**+0.3**
KUZ	**Kuaotunu**	**6.11**	**213**	P	Pn	15 20 14.7	+5.0
KUZ	**Kuaotunu**	**6.11**	**213**	P	Pn	15 20 15.9	+6.2
KUZ				S	**S**	**15 21 31.3**	**+5.2**
WMGZ	**Waiomatatini S**	**6.23**	**191**	P	**Pn**	**15 20 13.8**	**+2.8**
WMGZ				S	**S**	**15 21 28.6**	**0.0**
WCZ	**Waipu Caves**	**6.26**	**226**	P	Pn	15 20 16.7	+5.4
HAZ	**Te Kaha**	**6.29**	**195**	P	**Pn**	**15 20 13.6**	**+1.9**
HAZ				S	**S**	**15 21 29.9**	**+0.1**
OUZ	**Omahuta**	**6.32**	**234**	P	Pn	15 20 17.3	+5.2
OUZ	**Omahuta**	**6.32**	**234**	P	**S**	**15 21 33.4**	**+3.0**
OUZ	**Omahuta**	**6.32**	**234**	P	Pn	15 20 17.2	+5.2
WIAZ	**Waiheke Island**	**6.43**	**216**	P	Pn	15 20 18.9	+5.6
ABAZ	**Army Bay**	**6.44**	**219**	P	Pn	15 20 19.4	+6.0
PUZ	**Puketiti**	**6.51**	**191**	P	**Pn**	**15 20 15.9**	**+1.8**
PUZ				S	**S**	**15 21 32.0**	**-2.1**
RUGZ	**Raukumara Rang**	**6.52**	**195**	P	**P**	**15 20 17.6**	**+2.7**
RUGZ				S	**S**	**15 21 34.4**	**-0.1**
MBAZ	**Motutapu North**	**6.53**	**218**	P	P	15 20 20.3	+5.3
WHRZ	**Whale Island**	**6.60**	**200**	P	P	15 20 21.6	+5.9
ETAZ	**East Tamaki Re**	**6.66**	**217**	P	P	15 20 21.8	+5.4
TWGZ	**Tauwhareparae**	**6.66**	**193**	P	**Pn**	**15 20 18.1**	**+2.3**
TWGZ				S	**S**	**15 21 37.7**	**+0.4**
MKAZ	**Moumakai**	**6.66**	**215**	P	**P**	**15 20 20.5**	**+4.1**
HBAZ	**Herne Bay Bore**	**6.68**	**218**	P	P	15 20 23.0	+6.4
RVAZ	**Riverhead Bore**	**6.70**	**219**	P	P	15 20 21.9	+5.1
TGRZ	**Tauranga**	**6.72**	**205**	P	P	15 20 22.3	+5.2
MARZ	**Manawahe**	**6.81**	**202**	P	**P**	**15 20 21.8**	**+3.7**
WTAZ	**Waiatarua**	**6.83**	**219**	P	P	15 20 23.0	+4.8
EDRZ	**Edgecumbe**	**6.90**	**201**	P	**P**	**15 20 22.8**	**+3.6**
EDRZ				S	**S**	**15 21 43.5**	**+1.2**
MWZ	**Matawai**	**6.90**	**196**	P	**Pn**	**15 20 20.2**	**+1.7**
MWZ				S	**S**	**15 21 40.5**	**-1.8**
CNGZ	**Carnagh Statio**	**6.92**	**191**	P	**Pn**	**15 20 21.0**	**+2.3**
TKGZ	**Te Karaka**	**6.94**	**193**	P	**Pn**	**15 20 20.5**	**+1.7**
TKGZ				S	**S**	**15 21 41.9**	**-1.0**
URZ	**Urewera**	**6.94**	**198**	P	**Pn**	**15 20 20.3**	**+1.5**
	243nm,0.4s,baz=260,slow=4.2,SNR=121						
URZ				S	**S**	**15 21 42.3**	**-0.5**
	182nm,0.4s,baz=40,slow=24,SNR=19						
URZ	**Urewera**	**6.94**	**198**	P	**Pn**	**15 20 19.9**	**+1.1**
URZ	**Urewera**	**6.94**	**198**	P	**S**	**15 21 43.6**	**+0.7**
URZ	**Urewera**	**6.94**	**198**	P	**Pn**	**15 20 19.6**	**+0.7**
URZ				S	**S**	**15 21 42.8**	**-0.1**
KMRZ	**Kaimai**	**6.94**	**207**	P	**P**	**15 20 23.7**	**+4.1**
MKRZ	**Makatiti**	**7.02**	**203**	P	P	15 20 25.6	+5.2
OMRZ	**Omania**	**7.02**	**203**	P	**P**	**15 20 24.2**	**+3.8**
TOZ	**Tahuroa Road**	**7.02**	**210**		**P**	**15 20 24.5**	**+4.2**
TOZ	**Tahuroa Road**	**7.02**	**210**	P	P	15 20 25.3	+4.9
NGRZ	**Ngongotaha**	**7.08**	**204**	P	**P**	**15 20 25.3**	**+4.2**
RAGZ	**Rawiri**	**7.08**	**196**	P	**Pn**	**15 20 22.3**	**+1.7**
RAGZ				S	**S**	**15 21 47.3**	**+1.3**
UTU	**Utuhina**	**7.14**	**204**	P	P	15 20 27.2	+5.5
HLRZ	**Highlands Stat**	**7.16**	**203**	P	**P**	**15 20 26.3**	**+4.4**
RRRZ	**Republican Roa**	**7.18**	**202**	P	**P**	**15 20 26.5**	**+4.3**
RRRZ				S	**S**	**15 21 48.2**	**+0.1**
RIGZ	**Rimuhau**	**7.21**	**193**	P	**Pn**	**15 20 23.4**	**+1.4**
RIGZ				S	**S**	**15 21 46.6**	**-2.1**
MUGZ	**Murupara**	**7.24**	**200**	P	**Pn**	**15 20 23.9**	**+1.7**
HSRZ	**Hossack Road**	**7.25**	**203**	P	P	15 20 27.5	+4.5
HSRZ				S	**S**	**15 21 54.7**	**+5.3**
RTZ	**Ruatahuna**	**7.31**	**198**	P	**P**	**15 20 26.7**	**+3.0**
RTZ				S	**S**	**15 21 48.3**	**-2.3**
GRRZ	**Galatos Road**	**7.33**	**204**	P	P	15 20 28.7	+4.8
PRRZ	**Plateau Road**	**7.37**	**202**	S	**S**	**15 21 50.6**	**-1.3**
SNGZ	**Shannon Statio**	**7.38**	**196**	P	**Pn**	**15 20 25.5**	**+1.7**
SNGZ				S	**S**	**15 21 51.1**	**-0.8**
PRGZ	**Paritu Road**	**7.40**	**192**	P	**P**	**15 20 27.6**	**+3.0**
PRGZ				S	**S**	**15 21 49.6**	**-2.9**
ALRZ	**Allen Road**	**7.44**	**202**	P	**P**	**15 20 28.1**	**+3.0**
ALRZ				S	**S**	**15 21 54.6**	**+1.3**
TLZ	**Tolley Road**	**7.52**	**207**	P	**P**	**15 20 29.0**	**+3.0**
KNZ	**Kokohu**	**7.54**	**193**	P	**Pn**	**15 20 26.8**	**+1.3**
KNZ				S	**S**	**15 21 52.8**	**-2.4**
RAHZ	**Arahi**	**7.56**	**197**	P	**Pn**	**15 20 28.3**	**+2.4**
RAHZ				S	**S**	**15 21 55.2**	**-0.7**
MHGZ	**Mahia Peninsul**	**7.62**	**192**	P	**P**	**15 20 29.7**	**+2.7**
MHGZ				S	**S**	**15 21 56.9**	**-0.1**
WHTZ	**Whakaora**	**7.66**	**204**	P	**Pn**	**15 20 25.3**	**-1.9**
HIZ	**Hauiti**	**7.95**	**210**		**P**	**15 20 34.3**	**+3.5**
HIZ	**Hauiti**	**7.95**	**210**	P	**P**	**15 20 33.9**	**+3.1**
HIZ	**Hauiti**	**7.95**	**210**	S	**S**	**15 22 07.8**	**+3.8**
HIZ	**Hauiti**	**7.95**	**210**	P	**P**	**15 20 34.0**	**+3.3**
BKZ	**Black Stump Fm**	**7.95**	**199**		**Pn**	**15 20 30.5**	**+0.1**
BKZ	**Black Stump Fm**	**7.95**	**199**	P	**Pn**	**15 20 30.5**	**+0.1**
BKZ	**Black Stump Fm**	**7.95**	**199**	P	**Pn**	**15 20 30.5**	**+0.1**
MCHZ	**McNeill Hill**	**8.16**	**198**	P	**Pn**	**15 20 32.8**	**+0.1**
MCHZ				S	**S**	**15 22 06.7**	**-1.6**
OTVZ	**Oturere**	**8.21**	**204**	P	**P**	**15 20 35.8**	**+2.0**
OTVZ				S	**S**	**15 22 07.0**	**-2.7**
KWHZ	**Kaweka Forest**	**8.21**	**199**	P	**Pn**	**15 20 33.7**	**+0.3**
KWHZ				S	**S**	**15 22 07.7**	**-1.9**
SNVZ	**South Ngauruho**	**8.24**	**204**	P	**Pn**	**15 20 34.6**	**+0.8**
SNVZ				S	**S**	**15 22 09.8**	**-0.5**
NGZ	**Ngauruhoe**	**8.24**	**204**	P	**Pn**	**15 20 35.2**	**+1.3**
NGZ				S	**S**	**15 22 07.9**	**-2.4**
WNVZ	**Wahianoa**	**8.38**	**203**	P	**Pn**	**15 20 35.7**	**+0.3**
WNVZ				S	**S**	**15 22 11.8**	**-1.5**
VRZ	**Vera Road**	**8.51**	**208**	P	**P**	**15 20 40.3**	**+3.3**
VRZ				S	**S**	**15 22 18.3**	**+2.5**
PXZ	**Pawanui**	**8.68**	**196**	P	**Pn**	**15 20 37.9**	**-0.7**
PXZ				S	**S**	**15 22 14.7**	**-4.5**
PNHZ	**Pukenui**	**8.73**	**199**	P	**Pn**	**15 20 37.8**	**-1.5**
PNHZ				S	**S**	**15 22 17.0**	**-3.5**
WPHZ	**Waipukurau**	**8.81**	**197**	P	**Pn**	**15 20 41.4**	**+1.3**
WPHZ				S	**S**	**15 22 17.9**	**-4.2**
PKE	**Pukeiti**	**8.89**	**211**	P	P	15 20 46.6	+5.4
NEZ	**North Egmont**	**8.91**	**210**	P	P	15 20 46.5	+5.0
NEZ				S	S	15 22 33.4	+9.0
TSZ	**Takapari Road**	**8.94**	**200**	P	**Pn**	**15 20 40.8**	**-0.8**
TSZ				S	**S**	**15 22 19.4**	**-5.4**
PREZ	**Palmer Road**	**8.94**	**210**	P	**P**	**15 20 46.2**	**+4.4**
PRHZ	**Porangahau**	**8.95**	**196**	P	**Pn**	**15 20 43.2**	**+1.4**
PRHZ				S	**S**	**15 22 22.7**	**-2.4**
KHEZ	**Kahui Hut**	**8.97**	**211**	P	P	15 20 47.2	+5.2
KHEZ	**Kahui Hut**	**8.97**	**211**	S	**S**	**15 22 29.0**	**+3.5**
KHEZ	**Kahui Hut**	**8.97**	**211**	P	P	15 20 47.3	+5.2
WAZ	**Wanganui**	**8.97**	**205**	P	**P**	**15 20 44.7**	**+2.6**
WAZ				S	**S**	**15 22 23.0**	**-2.7**
DVHZ

MTSU	Mount Surprise	34.79 284	P	P	15 24 52.4	+1.2
BBOO	Buckleboo	36.88 256	P	P	15 25 08.6	+0.2
BBOO			IAmb	IAmb	15 25 09.8	
	comp=Z,22nm,1.2s					
BBOO	Buckleboo	36.88 256	P	P	15 25 08.8	+0.4
	comp=Z,13nm,1.8s					
ASAR	Alice Springs	41.24 269	P	P	15 25 44.0	-0.3
	comp=Z,5.7nm,0.7s,baz=104,slow=7.3,SNR=69					
ASAR			ScP	ScP	15 30 43.4	-2.0
	comp=Z,3.3nm,0.9s,baz=116,slow=4.3,SNR=16					
ASAR			S	S	15 31 23.3	-4.7
	comp=Z,0.5nm,0.8s,baz=113,slow=16,SNR=4.6					
	comp=Z,5.7nm,0.7s					
WRAB	Tennant Creek	42.35 275	P	P	15 25 51.9	-1.2
WRAB	Tennant Creek	42.35 275	P	P	15 25 52.8	-0.3
WRA	Warramunga Arr	42.35 275	P	P	15 25 52.8	-0.4
	comp=Z,2.6nm,0.3s,baz=111,slow=8.1,SNR=95					
WRA			ScP	ScP	15 30 48.7	-1.1
	comp=Z,2.8nm,0.8s,baz=111,slow=4.0,SNR=13					
WRA			S	S	15 31 39.8	-4.3
	comp=Z,0.7nm,0.8s,baz=112,slow=14,SNR=4.5					
	comp=Z,2.6nm,0.3s					
FORT	Forrest	43.97 257	P	P	15 26 05.5	-0.2
FORT			IAmb	IAmb	15 26 06.3	
	comp=Z,10nm,0.9s					
VNDA	Vanda	46.64 185	ScP	ScP	15 31 06.6	+0.2
	comp=Z,1.0nm,0.7s,baz=331,slow=3.4,SNR=6.4					
MTN	Manton Dam	48.41 281	P	P	15 26 39.0	-1.1
MTN			IAmb	IAmb	15 26 52.7	
	comp=Z,21nm,1.5s					
KNRA	Kununurra	49.01 277	P	P	15 26 44.2	-0.3
KNRA			IAmb	IAmb	15 27 27.7	
	comp=Z,18nm,1.4s					
FITZ	Fitzroy Crossi	50.56 272	P	P	15 26 54.4	-1.6
FITZ	Fitzroy Crossi	50.56 272	P	P	15 26 54.7	-1.3
CASY	Casey	53.15 208	P	P	15 27 14.4	+0.3
MLH	Mauna Loa	56.15 28	P	P	15 27 36.9	+0.6
QSPA	South Pole Qui	58.42 180		P	15 27 56.3	+5.0
QSPA	South Pole Qui	58.42 180	P	P	15 27 56.3	+5.0
	comp=Z,4.4nm,1.0s,baz=28,slow=0.8,SNR=21					
	comp=Z,4.4nm,1.0s					
BKB	Balikpapan	66.51 284	P	P	15 28 44.7	0.0
KSM	Kuching	73.49 282	P	P	15 29 26.3	-0.4
TROLL	Troll, Antarti	76.57 181 ⇑P		P	15 29 45.0	+1.7
	comp=Z,109nm,0.8s					
SNAA	Sanae	76.91 179 ⇓P		P	15 29 45.7	+0.6
	comp=Z,48nm,0.8s					
SNAA	Sanae	76.91 179 P		P	15 29 46.6	+1.5
	comp=Z,2.3nm,0.8s,baz=222,slow=4.6,SNR=4.0					
	comp=Z,2.3nm,0.8s					
VNA3	Neumayer Olymp	77.13 177 ⇓P		P	15 29 47.6	+1.3
	comp=Z,9.0nm,0.9s					
VNA2	Neumayer--Watz	77.55 178 ⇑P		P	15 29 49.9	+1.4
	comp=Z,4.9nm,0.7s,baz=158,slow=4.9					
VNA1	Neumayer--Stat	77.79 177 ⇑P		P	15 29 51.7	+2.0
	comp=Z,5.9nm,0.8s					
GSI	Gunungsitoli	84.12 275	P	P	15 30 22.5	-1.3
KSRS	Korea Array	84.17 321	P	P	15 30 24.5	+1.1
	comp=Z,1.7nm,0.8s,baz=144,slow=4.8,SNR=3.4					
	comp=Z,1.7nm,0.8s					
PETK	Petropavlovsk-	86.62 347	P	P	15 30 35.5	+0.4
	comp=Z,13nm,0.8s,baz=122,slow=7.6,SNR=24					
	comp=Z,13nm,0.8s					
NVAR	Mina Array Bea	90.42 44	P	P	15 30 55.7	+2.3
	comp=Z,2.9nm,0.8s,baz=222,slow=8.6,SNR=13					
	comp=Z,2.9nm,0.8s					
J05D	Fort Rock, OR	92.03 39		P	15 31 01.0	+0.3
J05D			IAmb	IAmb	15 31 03.9	
	comp=Z,6.4nm,1.0s					
PINE	Pine Mountain	92.53 39		P	15 31 03.6	+0.5
PINE			IAmb	IAmb	15 31 06.4	
	comp=Z,9.4nm,0.8s					
PZH	PanZhiHua	94.30 298	P	P	15 31 11.9	+0.4
HHC	Hu-ho-hao-te	95.83 315 eP		P	15 31 17.7	-0.4
HHC			pmax	pmax		
	comp=Z,12nm,0.6s					
HHC			pmax	pmax		
	comp=Z,320nm,7.0s					
PDAR	Pinedale Array	98.33 45	P	P	15 31 31.3	+2.0
	comp=Z,0.3nm,0.7s,baz=264,slow=3.2,SNR=2.8					
	comp=Z,0.3nm,0.7s					
MKAR	Makanchi Array	117.20 310	PKP	PKPdf	15 36 33.6	-0.6
	comp=Z,1.0nm,0.6s,baz=194,slow=1.1,SNR=8.8					
ZALV	Zalesovo Beam	117.78 318	PKhKP	PKPpre	15 36 32.4	
	comp=Z,0.8nm,0.5s,baz=67,slow=1.9,SNR=5.8					
KURBB	Kurchatov Arra	120.65 313	PKP	PKPdf	15 36 40.0	-0.6
	comp=Z,2.7nm,0.8s,baz=107,slow=1.9,SNR=14					
ARCES	ARCESS Array B	139.44 346	PKhKP	PKPpre	15 37 09.1	
	comp=Z,3.1nm,1.0s,baz=48,slow=2.0,SNR=4.7					
ARCES			PKP	PKPdf	15 37 16.4	+0.8
	comp=Z,1.4nm,0.6s,baz=64,slow=2.1,SNR=4.9					
KBZ	Khabaz	144.28 302	PKP	PKPbc	15 37 24.6	+0.4
	comp=Z,4.5nm,0.9s,baz=246,slow=4.1,SNR=6.9					
FINES	FINESS Array B	145.69 338	PKPbc	PKPdf	15 37 27.8	+1.0
	comp=Z,28nm,0.7s,baz=65,slow=4.7,SNR=67					
NB2	NORSAR Subarra	149.71 349	PKP	PKPbc	15 37 38.4	-0.2
	comp=Z,6.0nm,0.8s,baz=17,slow=2.6					
NOA	NORSAR Array B	149.71 349	PKPbc	PKPdf	15 37 37.5	+4.1
	comp=Z,4.5nm,0.7s,baz=23,slow=4.2,SNR=14					
NOA			PKPab	PKPab	15 37 45.5	0.0
	comp=Z,4.5nm,0.7s,baz=23,slow=4.2,SNR=14					
MMAI	Mount Meron Ar	150.04 282	PKPbc	PKPbc	15 37 41.2	+0.9
	comp=Z,2.5nm,0.4s,baz=106,slow=4.6,SNR=8.3					
HFS	Hagfors	150.10 346	PKPbc	PKPbc	15 37 39.0	-0.5
	comp=Z,8.0nm,0.8s,baz=130,slow=2.3,SNR=13					
HFS			PKPab	PKPab	15 37 46.8	-0.3
	comp=Z,1.5nm,0.4s,baz=72,slow=4.8,SNR=5.2					
AKASG	Malin Array Be	151.16 320	PKPbc	PKPbc	15 37 42.4	+0.2
	comp=Z,5.9nm,0.7s,baz=62,slow=2.2,SNR=18					
BRTR	Keskin Array B	151.56 296	PKPbc	PKPbc	15 37 43.6	-0.1
	comp=Z,1.9nm,0.6s,baz=125,slow=3.9,SNR=9.3					
CLL	Collm	158.13 337 *i* PKPab		PKPab	15 38 21.9	+0.3
	comp=Z,8.0nm,0.7s					
GERES	GERESS Array B	159.93 333	PKPab	PKPab	15 38 28.9	-0.8
	comp=Z,0.6nm,0.6s,baz=49,slow=6.1,SNR=5.7					
TORD	Torodi Ar. Bea	161.47 186	PKPab	PKPab	15 38 37.0	+0.1
	comp=Z,1.0nm,1.1s,baz=154,slow=3.0,SNR=2.8					
ESDC	Sonseca Array	171.44 20	PKPab	PKPab	15 39 20.6	0.0
	comp=Z,0.7nm,0.7s,baz=346,slow=5.2,SNR=3.4					

*IDC **11** 15:23:56.1±5.3, 24°.69N×123°.11E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=340.2km s-min=27.0km az=60.0*
*JMA **11** 15:24:07.3±0.2, 25°.N±1°×123°.4E±0°.4, h85km±2km, MV3.4/16, NW OFF ISHIGAKIJIMA IS*

ISC 11 15:24:07.0±0.9, **24°.63N**±0°.08×**123°.34E**±0°.03, **h94**km±6km, **n30**, σ=**91**/42, **mb3.5/3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.34	241	P	Pn	15 24 20.9	-0.2
YOJ	Yonaguni jima	0.34	241	S	Sn	15 24 31.1	-0.5
YOJ	Yonaguni jima	0.34	241	P	Pn	15 24 21.2	+0.1
YOJ				S	Sn	15 24 31.2	-0.3
JYNG	Yonagunijimaku	0.40	244	*i* P	Pn	15 24 21.5	0.0
JYNG				*e*S	Sn	15 24 32.2	0.0
IRIF	Iriomote-Funau	0.46	130	P	Pn	15 24 21.7	-0.2
IRIF				S	Sn	15 24 33.0	+0.1
HATJ	Hateruma jima	0.71	143	P	Pn	15 24 24.9	+0.9
HATJ				S	Sn	15 24 37.9	+1.3
JKRS	Kuro-shima	0.72	122	P	Pn	15 24 24.6	+0.5
JKRS				S	Sn	15 24 37.8	+1.0
JIJ	Ishigaki jima	0.78	110	P	Pn	15 24 24.7	+0.1
JIJ				S	Sn	15 24 37.4	-0.3
JISG	Ishigakijimahi	0.88	92	*i* P	Pn	15 24 25.4	-0.3
JISG				*e*S	Sn	15 24 39.2	-0.5
JTJ	Tarama	1.24	89	P	Pn	15 24 29.9	+0.2
JTJ				S	Sn	15 24 46.4	-0.4
NACB	Ninganchiao	1.66	255	P	Pn	15 24 34.6	-0.3
JIRB	Irabujima	1.68	83	P	Pn	15 24 34.9	-0.3
JIRB				S	Sn	15 24 55.8	-0.8
TATO	Taipei	1.72	282	P	Pn	15 24 36.5	+0.8
TATO	Taipei	1.72	282	S	Sn	15 24 58.8	+1.2
JIKM	Ikemajima	1.76	80	*e*P	Pn	15 24 36.5	+0.3
JIKM				S	Sn	15 24 58.1	-0.3
YHNB	Yeheng	1.79	272	P	Pn	15 24 37.2	+0.5
YHNB	Yeheng	1.79	272	S	Sn	15 25 01.1	+1.8
JMJ2	Miyako jima3	1.81	86	*e*P	Pn	15 24 37.2	+0.3
JMJ2				S	Sn	15 24 59.8	+0.1
JOGS	Gusukube	1.88	86	P	Pn	15 24 38.8	+1.0
JOGS				S	Sn	15 25 02.0	+0.7
YULB	Yu-li	2.24	237	P	Pn	15 24 42.4	-0.1
YULB	Yu-li	2.24	237	S	Sn	15 25 08.4	-1.3
SSLB	Suanglung	2.34	249	P	Pn	15 24 44.7	+0.9
SSLB	Suanglung	2.34	249	S	Sn	15 25 10.8	-1.2
TWGBT	Beinan	2.75	229	P	Pn	15 24 48.6	-0.7
TWGBT	Beinan	2.75	229	S	Sn	15 25 19.7	-2.1
TPUB	Ta-pu	2.81	243	P	Pn	15 24 51.7	+1.5
TPUB	Ta-pu	2.81	243	S	Sn	15 25 24.7	+1.4
MKAR	Makanchi Array	39.41 315		P	P	15 31 25.9	-1.8
	0.4nm,0.4s,baz=104,slow=9.1,SNR=6.8						
	0.4nm,0.4s						
WRA	Warramunga Arr	45.58 165		P	P	15 32 18.5	+0.7
	0.7nm,0.9s,baz=347,slow=8.7,SNR=5.3						
	0.7nm,0.9s						
ASAR	Alice Springs	49.09 167		P	P	15 32 46.4	+1.3
	0.2nm,0.3s,baz=353,slow=6.9,SNR=12						
	0.2nm,0.3s						

*MEX **11** 15:25:27.4±0.5, 17°.90N×101°.84W, h28km±3km, MD4.3*
*IDC **11** 15:25:28.6±3.7, 18°.67N×101°.65W, h0km, mb3.3/2, mbtmp3.3/2, MS2.6/3, Error ellipse: s-maj=197.1km s-min=54.0km az=79.0*

ISC 11 15:25:26.0±0.9, **17°.97N**±0°.03×**101°.79W**±0°.03, **h27**km±6km, **n64**, σ=**15**/107, **mb3.0/3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	La Union	0.03	265	*e*P	Pb	15 25 30.4	-0.2
UON				*i* S	Sb	15 25 34.5	+0.8
ARIG	Puente Sto Nin	1.40	77	*e*P	Pn	15 25 49.7	-0.1
ARIG				*i* S	Sn	15 26 07.1	-0.3
URUA	Uruapan	1.47	349	*i* P	Pn	15 25 50.1	-0.8
URUA				*i* S	Sn	15 26 08.5	-0.7
ATYC	Atoyac	1.50	120	*e*P	Pb	15 25 53.1	0.0
ATYC				*i* S	Sb	15 26 11.2	-0.5
CAIG	El Cayaco	1.72	122	*e*P	Pn	15 25 53.5	-0.5
CAIG				*e*S	Sn	15 26 13.8	-1.3
MOIG	Morelia	1.79	18	*e*P	Pn	15 25 55.4	+0.1
MOIG				*i* S	Sn	15 26 16.2	-1.1
MEIG	Mezcala	2.06	91	*e*P	Pn	15 26 00.5	+1.6
MEIG				*e*S	Sn	15 26 24.1	+0.3
VNTA	La Mica	2.15	119	*e*S	Sn	15 26 27.4	+1.5
PLIG	Platanillo	2.21	79	*e*P	Pn	15 26 02.1	+1.1
PLIG				*i* S	Sn	15 26 27.0	-0.5
DAIG	Los Arroyos	2.25	115	*e*P	Pn	15 26 00.5	-0.9
DAIG				*e*S	Sn	15 26 23.3	-5.0
MNGA	Volcan de Coli	2.29	311	*e*P	Pn	15 26 01.7	-0.4
MNGA				*i* S	Sn	15 26 30.9	+1.4
COMA	Comala	2.30	306	*e*P	Pn	15 26 04.4	+2.2
COMA				*e*S	Sn	15 26 30.2	+0.5
INCO	Volcan de Coli	2.31	312	*e*P	Pn	15 26 02.5	-0.1
INCO				*i* S	Sn	15 26 32.5	+2.1
CDAR	Ciudad de Arme	2.32	295	*e*P	Pn	15 26 00.1	-2.3
CDAR				*e*S	Sn	15 26 27.8	-2.2
SOMAC	Volcano de Col	2.33	312	*e*P	Pn	15 26 03.0	+0.2
SOMAC				*e*S	Sn	15 26 31.9	+1.2
MAVM	Malinalco, Edo	2.39	65	*e*P	Pn	15 26 05.5	+2.1
MAVM				*e*S	Sn	15 26 32.2	+0.2
TOVM	TOLUCA	2.39	57	*e*P	Pb	15 26 06.1	-2.4
TOVM				*e*S	Sb	15 26 37.8	+0.1
CEGR	Campo Tres	2.42	306	*e*P	Pn	15 26 03.1	-0.7
CEGR				*i* S	Sn	15 26 31.4	-1.2
ATVM	ATLACOMULCO	2.56	46	*i* P	Pb	15 26 09.6	-1.9
ATVM				*e*S	Sn	15 26 37.5	+1.0
INVM	La Marquesa	2.63	60	*e*P	Pb	15 26 10.7	-2.0
INVM				*e*S	Sn	15 26 38.0	-0.3
AOVM	Tlapan	2.67	61	*e*P	Pn	15 26 10.0	+2.4
AOVM				*e*S	Sn	15 26 34.6	-4.7
YAIG	Yautepec	2.73	71	*e*P	Pn	15 26 08.3	+0.2
YAIG				*e*S	Sn	15 26 38.8	-1.6
CJVM	Cuajimalpa	2.75	59	*i* P	Pb	15 26 14.3	-0.3
CJVM				*e*S	Sn	15 26 41.0	0.0
TLVM	San Miguel Top	2.79	63	*e*P	Pn	15 26 05.2	-3.9
TLVM				*i* S	Sn	15 26 40.8	-1.1
CRIG	Cruz Grande	2.82	115	*e*P	Pn	15 26 08.7	-0.6
CRIG				*e*S	Sn	15 26 41.9	-0.4
MHVM	Bosque de Chap	2.83	59	*i* P	Pn	15 26 12.2	+2.5
MHVM				*i* S	Sn	15 26 41.1	-1.9
XCVM	Xochimilco	2.83	63	*e*P	Pb	15 26 13.5	-2.6
XCVM				*e*S	Sn	15 26 42.7	-0.5
AZVM	Cuida Lopez Ma	2.86	56	*e*P	Pb	15 26 15.0	-1.6
AZVM				*i* S	Sn	15 26 44.4	+0.5
PBVM	Pinon	2.95	60	*e*P	Pb	15 26 15.3	-2.5
PBVM				*e*S	Sn	15 26 48.0	+2.5
THVM	De Xico	2.98	63	*e*P	Pn	15 26 13.0	+1.3
THVM				*i* S	Sn	15 26 47.1	+0.4
JRQG	Juriquilla Cam	3.00	25	*e*P	Pn	15 26 10.6	-1.3
JRQG				*i* S	Sn	15 26 44.1	-2.9
AMVM	AMECAMECA	3.07	67	*e*S	Sn	15 26 49.6	+0.6
TLIG	Tlapa	3.10	97	*e*P	Pn	15 26 14.5	+1.3
TLIG				*e*S	Sn	15 26 48.7	-0.7
PPCL	Tochimilco	3.15	72	*e*P	Pn	15 26 14.6	+0.6
PPCL				*e*S	Sb	15 26 50.6	-5.0
ZUVM	ZUMPANGO	3.16	54	*e*P	Pb	15 26 17.6	-4.0
ZUVM				*e*S	Sn	15 26 50.6	-0.5
PPPT	Popocatepetl	3.16	71	*e*P	Pn	15 26 15.2	+0.7
PPPT				*e*S	Sb	15 26 57.1	-3.1
PPSX	Xalitzintla	3.30	70	*e*P	Pn	15 26 17.7	+1.6
PPSX				*i* S	Sn	15 26 51.6	-3.0
VTVM	Tizayuca	3.37	57	*e*P	Pn	15 26 17.1	0.0
VTVM				*e*S	Sn	15 26 58.5	+2.2
CJM	Chamela	3.44	297	*e*P	Pn	15 26 15.8	-2.0
CJM				*e*S	Sn	15 26 53.0	-4.6
FTIG	Fresnillo de T	3.48	90	*e*P	Pn	15 26 19.8	+1.4
FTIG				*e*S	Sn	15 26 54.5	-4.3
HLIG	Huajuapan de L	3.80	92	*e*P	Pn	15 26 24.1	+1.2
HLIG				*e*S	Sn	15 27 07.8	+1.0
PNIG	Pinotepa	3.84	114	*e*P	Pn	15 26 23.8	+0.5
PNIG				*e*S	Sn	15 27 04.8	-2.7
TXIG	Tlaxiaco	3.90	100	*e*P	Pn	15 26 25.8	+1.4
TXIG				*e*S	Sn	15 27 06.1	-3.3
ANIG	Ahuacatlan	4.00	320	*e*P	Pb	15 26 32.2	-3.7
ANIG				*e*S	Sn	15 27 15.1	+3.3
AAIG	Aguscalientes	4.01	352	*e*P	Pn	15 26 26.0	+0.1
AAIG				*i* S	Sn	15 27 12.3	+0.1
YOIG	Yosondua	4.20	105	*e*P	Pn	15 26 30.5	+2.0
YOIG				*e*S	Sn	15 27 12.8	-4.1
POHV	Veracruz	4.41	75	*e*P	Pn	15 26 31.9	+0.2
CXUV	Coxquihui	4.53	60	*e*P	Pn	15 26 31.5	-1.3
CTUV	Llano Grande	4.75	42	*e*P	Pn	15 26 39.1	+3.3
CTUV				*e*S	Sn	15 27 34.3	+4.3
VHO	Vista Hermosa	4.91	100	*e*P	Pn	15 26 35.8	-2.4
VHO				*e*S	Sn	15 27 32.7	-1.4
JAUV	Jalcomulco	4.92	73	*e*P	Pn	15 26 37.5	-0.7
JAUV				*i* S	Sn	15 27 33.9	-0.5
NEUV	Arroyo Zacate	5.71	92	*e*P	Pn	15 26 50.4	+1.5
NEUV				*e*S	Sn	15 27 51.5	-2.1
CMIG	Matias Romero	6.64	97	LR	LR	15 29 48.8	
	comp=Z,54nm,18.8s,baz=11,slow=39						
CMIG	Matias Romero	6.64	97	*e*P	Pn	15 27 03.5	+1.7
CMIG				*e*S	Sn	15 28 20.7	+4.0
UXUV	UXUV	7.32	94	*e*P	Pn	15 27 11.5	+0.4
UXUV				*e*S	Sn	15 28 34.8	+1.5
TXAR	Lajitas Array	11.44	352	LR	LR	15 31 42.9	
	comp=Z,9.9nm,18.6s,baz=170,slow=35						
NVAR	Mina Array Bea	24.97	328	P	P	15 30 49.5	+2.0
	0.8nm,0.7s,baz=128,slow=8.8,SNR=4.5						
	0.8nm,0.7s						
PDAR	Pinedale Array	25.58	347	P	P	15 30 53.9	+0.9
	0.2nm,0.5s,baz=149,slow=8.7,SNR=2.3						
	0.2nm,0.5s						
BBB	Bella Bella	39.92	335	LR	LR	15 51 03.8	
	comp=Z,30nm,21.5s,baz=48,slow=39						
H03N2	Juan Fernandez	55.59	157	T	T	16 35 00.5	
	baz=334,slow=77,SNR=38						
H03N1	Juan Fernandez	55.59	157	T	T	16 34 59.4	
	baz=334,slow=77,SNR=34						
ILAR	Eielson Array	55.59	338	P	P	15 35 04.8	+5.8
	0.1nm,0.7s,baz=122,slow=6.5,SNR=4.2						
H03N3	Juan Fernandez	55.60	157	T	T	16 35 04.4	
	baz=334,slow=77,SNR=40						
WRA	Warramunga Arr	127.09	258	PKP	PKiKP	15 44 35.9	+7.0
	0.5nm,0.9s,baz=91,slow=2.0,SNR=4.6						

*NEIC **11** 15:38:17.6±2.5, 42°.98S±0°.06×75°.8W±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=12.6km s-min=10.5km az=258.0*
*GUC **11** 15:38:18.9±0.6, 43°.17S×75°.78W, h10km, ML3.1*
*IDC **11** 15:38:24.5±4.9, 42°.45S×75°.48W, h0km, mb4.1/3, mbtmp4.0/4, ML3.5/1, MS3.2/3, Error ellipse: s-maj=131.1km s-min=47.9km az=119.0*

ISC 11 15:38:19.9±2.1, **43°.03S**±0°.06×**75°.65W**±0°.08, **h26**km±16km, **n40**, σ=**59**/43, **mb4.2**/5, **5C, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	1.46	94	Pn	Pn	15 38 45.8	+1.2
GO07				Sn	Sb	15 39 05.2	+0.7
GO07	Milladeo Hill,	1.46	94	*e*P	Pn	15 38 45.6	+1.1
GO07				*i* S	Sb	15 39 04.8	+0.4
GO07				IAML		15 39 05.8	
	comp=E,1μm,0.5s						
LL06	Loncomilla	1.70	62⇑	*e*P	Pb	15 38 50.0	-0.4
LL06				*e*S	Sb	15 39 11.5	+0.1
LL05	Los Muermos	2.29	46	Pn	Pn	15 38 54.7	-1.3
LL05				Sn	Sn	15 39 22.7	-0.6
LL05	Los Muermos	2.29	46	IAML		15 39 27.7	
	comp=N,299nm,0.2s						
LL01	San Ignacio de	2.47	76	Pn	Pn	15 38 59.6	+1.1
LL01				Sn	Sn	15 39 29.5	+1.6
LL01	San Ignacio de	2.47	76	*e*P	Pn	15 39 00.7	+2.2
LL01				*e*S	Sb	15 39 31.9	-1.7
LL01				IAML		15 39 34.9	
	comp=N,86nm,0.3s						
MGDN	Magdalena	2.54	130⇑	*e*P	Pn	15 39 00.1	+0.6
MGDN				IAML		15 39 37.7	
	comp=E,46nm,0.6s						
USPA	Uspallante	2.66	137⇑	*e*P	Pn	15 39 01.5	+0.4
USPA				IAML		15 39 36.1	
	comp=N,34nm,0.5s						
ETRA	Estrella	2.73	143⇑	*e*P	Pn	15 39 02.4	+0.5
ETRA				*e*S	Sn	15 39 31.9	-2.2
LL02	Futaleuf	2.79	95	Pn	Pn	15 39 05.0	+2.1
LL02				Sn	Sn	15 39 37.0	+1.3
LL02	Futaleuf	2.79	95⇑	*e*P	Pn	15 39 05.0	+2.1
LL02				IAML		15 39 42.0	
	comp=N,46nm,0.6s						
LL03	Petrohue	3.06	53	Pn	Pn	15 39 07.6	+1.0
COYC	Coyhaique	3.61	136	Pn	Pn	15 39 14.7	+0.5
LR05	Currie	3.91	46	Pn	Pn	15 39 19.9	+1.7
PLCA	Paso Flores	4.44	61	Pn	Pn	15 39 29.2	+3.5
	comp=N,0.7nm,0.3s,baz=241,slow=17,SNR=27						
PLCA				Sn	Sb	15 40 26.8	-3.6
	comp=N,0.6nm,0.3s,baz=197,slow=20,SNR=3.4						
PLCA				LR	LR	15 41 01.1	
	comp=N,96nm,19.9s,baz=222,slow=38						
	comp=N,3.4nm,0.5s						
AY03	Cochrane	4.75	154	Pn	Pn	15 39 30.9	+1.1
BI05	Punta Hualpn	6.55	18	Pn	Pn	15 39 54.2	-0.3
BI02	San Fabin de	7.19	29	Pn	Pn	15 40 03.0	-0.4
BO02	Sierra Bellavi	9.05	26	Pn	Pn	15 40 29.6	+0.6
H03S1	Juan Fernandez	9.52	343	Pn	Pn	15 40 36.5	+1.5
	baz=147,slow=7.3						
H03S1				T	T	15 50 53.8	
	baz=161,slow=73,SNR=74						
H03S2	Juan Fernandez	9.53	343	Pn	Pn	15 40 36.2	+1.1
	baz=147,slow=7.3						
H03S2				T	T	15 50 48.0	
	baz=161,slow=73,SNR=84						
H03S3	Juan Fernandez	9.53	343	Pn	Pn	15 40 37.7	+2.5
	baz=147,slow=7.3						
H03S3				T	T	15 50 47.6	
	baz=161,slow=73,SNR=73						
MT01	Popeta	9.77	22	Pn	Pn	15 40 39.2	+0.4
H03N3	Juan Fernandez	9.89	344	Pn	Pn	15 40 42.9	+2.7
	baz=300,slow=78						
H03N1	Juan Fernandez	9.90	344	Pn	Pn	15 40 42.2	+1.9
	baz=300,slow=78						
H03N2	Juan Fernandez	9.91	344	Pn	Pn	15 40 42.9	+2.5
	baz=300,slow=78						
MT09	Talagante	9.93	23	Pn	Pn	15 40 40.7	-0.4
MT02	Curacav	10.38	21	Pn	Pn	15 40 46.0	-1.0
CO06	Fray Jorge	12.74	16	Pn	Pn	15 41 15.9	-3.4
PLTB	Pedras Altas	20.75	64	P	P	15 42 57.8	-0.9
PLTB				IAmb	IAmb	15 43 13.1	
	comp=Z,9.3nm,1.1s						
CPUP	Villa Florida	22.38	48	P	P	15 43 17.1	+0.9
CPUP	Villa Florida	22.38	48	P	P	15 43 17.4	+1.3
	comp=Z,0.5nm,0.5s,baz=79,slow=13,SNR=3.1						
	comp=Z,0.5nm,0.5s						
OTAV	Otavalo	43.14	356	P	P	15 46 17.7	-1.2
OTAV				IAmb	IAmb	15 46 59.2	
	comp=Z,5.0nm,1.4s						
SNAA	Sanae	44.48	154	P	P	15 46 28.0	-0.5
SNAA				IAmb	IAmb	15 46 54.0	
	comp=Z,5.6nm,1.5s						
QSPA	South Pole Qui	47.22	180	P	P	15 46 49.2	-1.1
BOSA	Boshof	78.35	118	P	P	15 50 27.3	+9.0
	comp=Z,4.1nm,0.8s

Error ellipse: s-maj=28.9km s-min=17.9km az=178.0

ISC 11 17:03:05.5±2.7, 42°.1N±0°.1×83°.3E±0°.1, h15km, n24, σ2°.09/27, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 76nm,0.6s	**3.04 292**		Pg	**Pn**	**17 03 54.6**	**+1.5**
SHLS	272nm,0.6s			Lg	Lg	17 04 35.6	
SHLS	**Shalkode** 68nm,0.4s	**3.04 292**		*e*P	**Pn**	**17 03 54.6**	**+1.5**
SHLS	338nm,0.3s			*e*S	**Sb**	**17 04 35.6**	**-0.7**
PDGK	**Podgornoye** 39nm,0.7s	**3.08 295**		⇑Pg	**Pg**	**17 04 03.5**	**-1.0**
PDGK	201nm,1.0s			⇓Lg	Lg	17 04 44.0	
UZB	**Uzynbulak** 13nm,0.5s	**3.34 290**		Pg	**Pb**	**17 04 04.3**	**-0.2**
UZB	79nm,0.7s			Lg	Lg	17 04 52.1	
UZB	**Uzynbulak** 13nm,0.2s	**3.34 290**		*e*P	**Pb**	**17 04 04.3**	**-0.2**
UZB	80nm,0.5s			*e*S	**Sg**	**17 04 52.1**	**-0.7**
KPKS	**Kokpek** 0.3nm,0.4s	**3.68 293**		Pg	**Pb**	**17 04 10.9**	**+0.7**
KPKS	58nm,0.4s			Lg	Lg	17 05 03.5	
SATY	**Saty** 62nm,0.6s	**3.76 286**		Pg	**Pb**	**17 04 12.3**	**+0.7**
SATY	112nm,0.7s			Lg	Lg	17 05 05.7	
KURS	**Kuram** 24nm,0.8s	**4.04 292**		Pg	**Pb**	**17 04 16.8**	**+0.5**
KURS	49nm,1.0s			Lg	Lg	17 05 13.4	
KAPS	**Kapalarasan** 32nm,0.3s	**4.29 319**		Pg	**Pb**	**17 04 21.2**	**+0.6**
KAPS	65nm,0.2s			Lg	Lg	17 05 20.7	
TDK	**Taldyqorghan** 22nm,0.3s	**4.60 311**		Pg	**Pb**	**17 04 28.0**	**+2.1**
TDK	111nm,1.1s			Lg	Lg	17 05 32.4	
TDK	**Taldyqorghan** 22nm,0.3s	**4.60 311**		*e*P	**Pb**	**17 04 28.0**	**+2.1**
TDK	111nm,1.1s			*e*S	**Sg**	**17 05 32.4**	**-0.7**
MK31	**Makanchi Array** 3.8nm,0.5s,baz=169,slow=15,SNR=5.0	**4.75 351**		⇑Pn	**Pb**	**17 04 28.9**	**+0.5**
MK31	52nm,0.6s,baz=168,slow=26,SNR=8.2			⇑Lg	Lg	17 05 52.3	
MDOK	**Medeo** 17nm,0.8s	**4.75 285**		Pg	**Pb**	**17 04 31.6**	**+3.1**
MDOK	52nm,0.8s			Lg	Lg	17 05 38.5	
TNSS	**Tian-Shan** 2.9nm,0.9s	**4.80 283**		Pg	**Pb**	**17 04 31.2**	**+1.6**
TNSS	22nm,1.2s			Lg	Lg	17 05 38.3	
TNSS	**Tian-Shan** 2.9nm,0.9s	**4.80 283**		*e*P	**Pb**	**17 04 31.2**	**+1.6**
TNSS	22nm,1.2s			*e*S	**Sg**	**17 05 38.2**	**-1.4**
CHKK	**Chushkaly** 5.7nm,0.1s	**4.97 293**		*e*P	**Pb**	**17 04 36.1**	**+3.9**
CHKK	32nm,0.4s			*e*S	**Sg**	**17 05 46.7**	**+1.8**
MTBS	**Maitube** 2.3nm,0.1s	**5.19 284**		*e*P	**Pg**	**17 04 40.7**	**-4.1**
MTBS	28nm,0.4s			*e*S	**Sg**	**17 05 54.5**	**+2.4**
KUU	**Kurty** 5.8nm,0.0s	**5.43 292**		*e*P	**Pb**	**17 04 43.6**	**+3.6**
KUU	10nm,0.1s			*e*S	**Sg**	**17 05 59.2**	**-0.4**
KST	**Kastek** 5.8nm,0.3s	**5.52 282**		*e*P	Pg	17 04 45.9	-5.2
KST	59nm,4.0s			*e*S	**Sg**	**17 06 03.5**	**+1.0**
SGDS	**Sogindy** 1.8nm,0.5s	**6.54 285**		Pg	Pg	17 05 04.1	-6.6
SGDS	20nm,1.2s			Lg	Lg	17 06 35.0	
AAK	**Ala-Archa** 4.6nm,0.7s	**6.56 278**		⇑Pg	**Pg**	**17 05 07.3**	**-3.8**
AAK	30nm,1.0s			⇓Lg	Lg	17 06 29.2	
KURBB	**Kurchatov Arra** 3.7nm,0.7s	**9.14 340**		⇓Pn	Pn	17 05 27.8	+11
KURBB	39nm,0.8s			⇑Lg	Lg	17 08 08.4	
KURK	**Kurchatov** 22nm,1.1s	**9.20 341**		⇓Lg	Lg	17 08 10.0	
KK31	**Karatay Array** 1.6nm,0.7s,baz=94,slow=16,SNR=5.6	**9.50 280**		⇑Pg	Pn	17 06 00.2	+38
KK31	6.8nm,0.8s,baz=90,slow=25,SNR=4.2			⇑Lg	Lg	17 08 02.7	

SJA 11 17:19:49.0±0.6, 24°.18S×67°.18W, h188km±10km, ML3.6, MW3.6
GUC 11 17:19:50.9±0.6, 24°.19S×67°.43W, h206km±10km, ML3.8
IDC 11 17:19:51.9±2.7, 24°.04S×66°.61W, h185km±27km, mb3.3/3, mbtmp3.8/6, Error ellipse: s-maj=44.7km s-min=21.2km az=102.0

ISC 11 17:19:50.5±0.7, 24°.13S±0°.05×67°.21W±0°.04, h200km, n45, σ1°.99/50, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.80**	**97**	⇓*e*P	**Pn**	**17 20 16.9**	**-2.7**
SALTA		**0.80**	**97**	*e*P	**Pn**	**17 20 16.9**	**-2.7**
SALTA				*e*P	**Pn**	**17 20 16.9**	**-2.7**
SALTA				IAML		17 20 17.3	
AF01	comp=Z,421nm,0.6s **San Pedro de A**	**1.47 323**		*e*P	Pn	17 20 17.3	-7.0
AF01	comp=Z,184nm,0.3s			IAML		17 21 00.3	
SLA	**San Lorenzo**	**1.66 111**		*e*P	**Pn**	**17 20 25.7**	**-0.1**
HJA	**Humahuaca**	**1.89 61**		*e*P	**Pn**	**17 20 26.9**	**-1.4**
HJA				*e*S	**Sn**	**17 20 55.1**	**-2.6**
AZAP	**Zapla**	**1.96 93**		*e*P	**Pn**	**17 20 26.8**	**-2.1**
FSA	**Cafayete**	**2.26 151**		*e*P	**Pn**	**17 20 30.0**	**-2.0**
GO02	**Mina Guanaco**	**2.40 244**		⇑P	**Pn**	**17 20 32.1**	**-1.4**
GO02				*e*S	**Sn**	**17 21 03.9**	**-3.1**
GO02				IAML		17 21 05.0	
GO02	comp=E,394nm,0.2s **Mina Guanaco**	**2.40 244**		*e*P	**Pn**	**17 20 32.1**	**-1.4**
GO02				IAML		17 21 05.4	
YJA	comp=Z,236nm,0.1s **Yavi**	**2.50 39**		*e*P	**Pn**	**17 20 33.9**	**-1.0**
YJA	**Yavi**	**2.50 39**		*e*P	**Pn**	**17 20 34.8**	**-0.1**
YJA				*e*S	**Sn**	**17 21 06.1**	**-3.3**
PB06	**IPOC Station P**	**2.59 303**		⇑*i*P	**Pn**	**17 20 35.1**	**-0.5**
PB06				*e*S	**Sn**	**17 21 08.2**	**-2.6**
PB06				IAML		17 21 10.1	
PB06	comp=N,326nm,0.2s **IPOC Station P**	**2.59 303**		*e*P	**Pn**	**17 20 35.0**	**-0.6**
PB06				IAML		17 21 11.9	
PB14	comp=Z,171nm,0.2s **IPOC Station P**	**2.95 260**		*e*P	**Pn**	**17 20 38.4**	**-1.5**
PB14				IAML		17 21 16.0	
PB14	comp=E,110nm,0.5s **IPOC Station P**	**2.95 260**		*e*P	**Pn**	**17 20 38.4**	**-1.5**
PB14				IAML		17 21 18.5	
ALOL	comp=Z,87nm,0.5s **LOMAS DE OLMED**	**2.97 85**		*e*P	Pn	17 20 21.0	-19
PB09	**IPOC Station P**	**2.99 321**		*e*P	**Pn**	**17 20 40.4**	**+0.1**
PB09				*e*S	**Sn**	**17 21 17.8**	**-1.2**
PB09				IAML		17 21 20.7	
PB09	comp=E,90nm,0.3s **IPOC Station P**	**2.99 321**		*e*P	**Pn**	**17 20 40.3**	**+0.1**
PB09				IAML		17 21 23.6	
PB10	comp=Z,99nm,0.4s **IPOC Station P**	**3.12 281**		*e*P	**Pn**	**17 20 40.7**	**-0.9**
PB10				*e*S	**Sn**	**17 21 17.9**	**-3.6**
PB10				IAML		17 21 23.6	
PB10	comp=E,178nm,0.4s **IPOC Station P**	**3.12 281**		*e*P	**Pn**	**17 20 40.9**	**-0.7**
PB10				IAML		17 21 23.1	
PB03	comp=Z,189nm,0.4s **IPOC Station P**	**3.13 311**		*e*P	**Pn**	**17 20 41.1**	**-0.7**
PB03				IAML		17 21 21.4	
PB03	comp=N,144nm,0.2s **IPOC Station P**	**3.13 311**		*e*P	**Pn**	**17 20 41.1**	**-0.7**
PB03				IAML		17 21 25.0	
AC02	comp=Z,135nm,0.6s **Maricunga**	**3.20 212**		⇑*e*P	**Pn**	**17 20 41.5**	**-1.4**
AC02	**Maricunga**	**3.20 212**		*e*P	**Pn**	**17 20 41.5**	**-1.4**
AC01	**Pan de Azucar**	**3.67 236**		*e*P	**Pn**	**17 20 45.5**	**-2.6**
AC01				IAML		17 21 29.1	
AC01	comp=N,98nm,0.2s **Pan de Azucar**	**3.67 236**		*e*P	**Pn**	**17 20 45.6**	**-2.6**
AC01				IAML		17 21 29.2	
PB01	comp=Z,39nm,0.1s **IPOC Station P**	**3.73 325**		⇑*e*P	**Pn**	**17 20 48.1**	**-0.9**
PB01	**IPOC Station P**	**3.73 325**		*e*P	**Pn**	**17 20 48.3**	**-0.8**
PB01				IAML		17 21 37.3	
PB02	comp=Z,63nm,0.3s **IPOC Station P**	**3.74 318**		*e*P	**Pn**	**17 20 48.2**	**-1.0**
PB02	**IPOC Station P**	**3.74 318**		*e*P	**Pn**	**17 20 48.5**	**-0.8**
PB02				IAML		17 21 41.9	
AC06	comp=Z,149nm,0.3s **Mina Casimiro**	**4.28 221**		*e*P	**Pn**	**17 20 52.8**	**-2.9**
GO03	**Copiapo**	**4.39 218**		*e*P	**Pn**	**17 20 54.5**	**-2.7**
GO03	**Copiapo**	**4.39 218**		*e*P	**Pn**	**17 20 54.5**	**-2.7**
GO03				IAML		17 21 47.9	
TA01	comp=Z,34nm,0.4s **Diego Aracena**	**4.49 322**		*e*P	**Pn**	**17 20 57.5**	**-1.0**
PB11	**IPOC Station P**	**4.91 332**		*e*P	**Pn**	**17 21 02.1**	**-1.8**
PB11				IAML		17 21 59.6	
LPAZ	comp=Z,30nm,0.5s **La Paz**	**7.85 354**		P	**Pn**	**17 21 42.9**	**+0.4**
	comp=Z,4.3nm,0.3s,baz=162,slow=7.0,SNR=34						
SIV	**San Ignacio**	**9.94 37**		P	**Pn**	**17 22 06.1**	**-3.0**
	comp=Z,2.3nm,0.4s,baz=221,slow=8.5,SNR=15						
PLCA	**Paso Flores**	**16.79 189**		P	**Pn**	**17 23 39.2**	**+5.0**
	comp=Z,1.6nm,0.6s,baz=24,slow=8.0,SNR=6.6						
SNAA	**Sanae**	**59.29 161**		P	**P**	**17 29 31.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=265,slow=12,SNR=5.9						
SNAA				PcP	**pP**	**17 30 19.2**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=270,slow=4.0,SNR=1.1 comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**66.07 180**		P	P	17 30 20.3	+4.6
	comp=Z,0.8nm,0.5s,baz=111,slow=1.5,SNR=11 comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.80 69**		P	**P**	**17 31 20.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=259,slow=4.3,SNR=2.4 comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**128.25 205**		PKP	**PKiKP**	**17 38 36.1**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.6,SNR=8.1						
WRA	**Warramunga Arr**	**131.42 207**		PKP	**PKiKP**	**17 38 42.7**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=160,slow=1.8,SNR=14						
ZALV	**Zalesovo Beam**	**143.60 28**		PKP	**PKPdf**	**17 39 02.0**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=316,slow=4.1,SNR=4.8						
MKAR	**Makanchi Array**	**146.75 39**		PKPbc	**PKiKP**	**17 39 12.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=298,slow=2.6,SNR=5.9						

IDC 11 17:20:46.9±1.3, 45°.58N×145°.23E, h0km, mb3.5/3, mbtmp3.5/4, ML2.3/1, MS3.2/1, Error ellipse: s-maj=71.1km s-min=28.9km az=99.0
JMA 11 17:21:07.2±0.4, 45°N±2°×14°8E±°, h199km, MV3.3/21, NEAR ETOROFU ISLAND
SKHL 11 17:21:08.2±0.3, 44°.40N×149°.00E, h67km±5km, mb4.1/3

ISC 11 17:21:05.4±1.1, 45°.5N±0°.1×147°.7E±0°.1, h174km±8km, n22, σ2°.45/32, mb3.3/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.26 150**		*e*P	**Pn**	**17 21 27.6**	**-1.1**
KUR	50nm,0.4s			AMB	AMB	17 21 32.8	
KUR				*e*S	**Sn**	**17 21 42.0**	**-4.5**
KUR	150nm,0.5s			A	A	17 21 49.9	
KUR	160nm,0.5s			A	A	17 21 49.9	
SHO	**Shikotan**	**1.70 201**		*e*P	Pn	17 21 45.0	+6.2
SHO	50nm,0.3s			AMB	AMB	17 21 45.6	
SHO				*e*S	**Sn**	**17 22 09.2**	**+4.6**
SHO	240nm,0.5s			A	A	17 22 11.0	
SHO	210nm,0.5s			A	A	17 22 11.0	
YUK	**Yuzh-Kuril'sk**	**1.92 223**		*e*P	**Pn**	**17 21 44.0**	**+2.8**
YUK	40nm,0.3s			AMB	AMB	17 21 49.6	
YUK				*e*S	**Sn**	**17 22 10.6**	**+1.8**
YUK	140nm,0.5s			A	A	17 22 14.3	
YUK	200nm,0.5s			A	A	17 22 14.3	
GLVR	**Golovnino**	**2.31 223**		*e*P	**Pn**	**17 21 47.8**	**+2.3**
GLVR				*e*S	**Sn**	**17 22 17.8**	**+1.2**
GLVR	240nm,0.5s			A	A	17 22 25.1	
GLVR	140nm,0.5s			A	A	17 22 25.1	
JRA	**Rausu**	**2.37 231**		*e*P	**Pn**	**17 21 47.5**	**+1.3**
NEM2	**Nemuro 2**	**2.51 214**		P	**Pn**	**17 21 47.9**	**+0.1**
NEM2				*e*S	**Sn**	**17 22 18.2**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.51 215**		*e*P	**Pn**	**17 21 47.9**	**+0.1**
NMR				*e*S	**Sn**	**17 22 17.8**	**-3.0**
JNK	**Nakash**	**2.83 230**		*e*P	**Pn**	**17 21 51.9**	**+0.3**
JNK				*e*S	**Sn**	**17 22 26.6**	**-0.9**
JKHN	**Kushirohamanak**	**2.98 218**		*e*P	**Pn**	**17 21 53.5**	**0.0**
JKHN				*e*S	**Sn**	**17 22 29.1**	**-1.9**
JTKR	**Abashiri--Toko**	**3.07 242**		*e*P	**Pn**	**17 21 55.6**	**+1.0**
JTKR				*e*S	**Sn**	**17 22 34.0**	**+1.1**
AKK	**Akkeshi**	**3.18 221**		*e*P	**Pn**	**17 21 58.5**	**+2.6**
JAK	**Akkeshi**	**3.26 222**		*e*P	**Pn**	**17 21 57.5**	**+0.5**
JAK				*e*S	**Sn**	**17 22 35.9**	**-1.2**
JAR	**Ashorobuto**	**3.54 234**		*e*P	**Pn**	**17 22 01.6**	**+1.2**
JAR				*e*S	**Sn**	**17 22 43.5**	**+0.2**
JKK2	**Kamakawa 2**	**3.86 248**		*e*P	**Pn**	**17 22 05.8**	**+1.3**
JCH	**Churui**	**4.21 229**		*e*P	**Pn**	**17 22 09.4**	**+0.4**
JCH				*e*S	**Sn**	**17 22 55.6**	**-3.2**
JNBK	**Urakawa-nobuka**	**4.77 230**		*e*P	**Pn**	**17 22 15.6**	**-0.6**
JOT	**Ohata**	**6.32 232**		*e*P	**Pn**	**17 22 34.9**	**-1.6**
JOT				*e*S	**Sn**	**17 23 40.5**	**-7.5**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=262,slow=10.0,SNR=2.3 2.4nm,0.9s	**10.06 37**		Pn	**Pn**	**17 23 26.5**	**+0.8**
SHEM	**Shemya Is, Ala** comp=Z,70nm,21.2s,baz=311,slow=35	**18.70 58**		LR	LR	17 32 32.4	
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=12,slow=6.7,SNR=5.0 0.3nm,0.6s	**66.21 194**		P	**P**	**17 31 34.4**	**+0.1**
NOA	**NORSAR Array B** 0.5nm,0.7s,baz=35,slow=4.4,SNR=4.3 0.5nm,0.7s	**68.15 339**		P	P	17 31 43.7	-2.5
ASAR	**Alice Springs** 0.2nm,0.5s,baz=7.6,slow=6.6,SNR=6.0 0.2nm,0.5s	**69.93 193**		P	**P**	**17 31 58.6**	**+1.2**

VAO 11 17:23:02.9±0.9, 24°.25S×67°.12W, h176km±6km, mb4.5
NEIC 11 17:23:03.2±1.9, 24°.28S±0°.06×66°.9W±0°.1, h169km±6km, mb4.6/156, Mwr4.7(GUC), Error ellipse: s-maj=14.7km s-min=8.3km az=88.0
SJA 11 17:23:03.1±1.0, 24°.30S×67°.10W, h205km, ML4.4, MW4.3
GUC 11 17:23:05.9±0.7, 24°.20S×67°.44W, h206km±7km, ML4.8
IDC 11 17:23:06.4±1.8, 24°.08S×66°.71W, h195km±15km, mb3.9/11, mbtmp4.4/16, Error ellipse: s-maj=17.4km s-min=11.0km az=67.0

ISC 11 17:23:04.1±0.6, 24°.26S±0°.03×67°.09W±0°.03, h184km±5km, n263, σ1°.51/249, mb4.5/81, 10C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.69**	**87**	⇓*i*P	**Pn**	**17 23 32.2**	**+1.4**
SALTA		**0.69**	**87**	*i*P	**Pn**	**17 23 32.4**	**+1.6**
SLA	**San Lorenzo**	**1.52 108**		⇓*i*P	**Pn**	**17 23 38.4**	**+1.6**
SLA	**San Lorenzo**	**1.52 108**		*i*P	**Pn**	**17 23 37.9**	**+1.1**
SLA				*e*S	**Sn**	**17 24 04.2**	**+2.2**
AF01	**San Pedro de A**	**1.64 322**			**Pn**	**17 23 39.9**	**+1.9**
AF01				Sn	**Sn**	**17 24 04.9**	**+0.5**
AF01	**San Pedro de A**	**1.64 322**		⇑*i*P	**Pn**	**17 23 40.2**	**+2.1**
AF01				*i*S	**Sn**	**17 24 07.4**	**+3.0**
AF01				IAML		17 24 10.7	
AF01	comp=N,5μm,0.2s **San Pedro de A**	**1.64 322**		*i*P	**Pn**	**17 23 40.0**	**+1.9**
AF01				*e*S	**Sn**	**17 24 06.8**	**+2.4**
AF01				IAML		17 24 26.1	
AZAP	comp=Z,2μm,0.7s **Zapla**	**1.85 89**		*i*P	**Pn**	**17 23 41.3**	**+1.2**
AZAP				*e*S	**Sn**	**17 24 10.5**	**+2.5**
AZAP				IAML		17 24 13.3	
HJA	comp=Z,722nm,1.0s **Humahuaca**	**1.86 56**		*i*P	**Pn**	**17 23 42.0**	**+1.6**
HJA				*e*S	**Sn**	**17 24 12.2**	**+3.6**
FSA	**Cafayete**	**2.10 152**		*i*P	**Pn**	**17 23 43.7**	**+0.9**
FSA				*e*S	**Sn**	**17 24 13.0**	**+0.1**
GO02	**Mina Guanaco**	**2.44 248**			**Pn**	**17 23 47.9**	**+1.3**
GO02				Sn	**Sn**	**17 24 20.1**	**+0.3**
GO02	**Mina Guanaco**	**2.44 248**		⇑*i*P	**Pn**	**17 23 47.9**	**+1.3**
GO02				*i*S	**Sn**	**17 24 20.5**	**+0.8**
GO02	**Mina Guanaco**	**2.44 248**		*i*P	**Pn**	**17 23 48.0**	**+1.3**
GO02				*e*S	**Sn**	**17 24 20.6**	**+0.8**
YJA	**Yavi**	**2.53 35**		⇑*e*P	**Pn**	**17 23 49.1**	**+1.2**
YJA	**Yavi**	**2.53 35**		*i*P	**Pn**	**17 23 49.0**	**+1.1**
YJA				*e*S	**Sn**	**17 24 23.8**	**+1.9**
PB06	**IPOC Station P**	**2.75 304**			**Pn**	**17 23 51.0**	**+0.8**
PB06				Sn	**Sn**	**17 24 25.0**	**-0.9**
PB06	**IPOC Station P**	**2.75 304**		⇑*i*P	**Pn**	**17 23 51.4**	**+1.3**
PB06				*i*S	**Sn**	**17 24 25.4**	**-0.6**
PB06	**IPOC Station P**	**2.75 304**		*i*P	**Pn**	**17 23 51.1**	**+1.0**
PB06				*e*S	**Sn**	**17 24 26.8**	**+0.8**
PB14	**IPOC Station P**	**3.04 262**			**Pn**	**17 23 54.0**	**+0.3**
PB14	**IPOC Station P**	**3.04 262**		⇑*e*P	**Pn**	**17 23 54.2**	**+0.5**
PB14				IAML		17 24 35.9	
PB14	comp=E,1μm,0.2s **IPOC Station P**	**3.04 262**		*i*P	**Pn**	**17 23 53.9**	**+0.3**
PB14				*e*S	**Sn**	**17 24 32.5**	**+0.1**
PB14				IAML		17 24 36.5	
PB09	comp=Z,1μm,0.3s **IPOC Station P**	**3.15 321**		Pn	**Pn**	**17 23 56.3**	**+1.4**
PB09				Sn	**Sn**	**17 24 34.0**	**-0.6**
PB09	**IPOC Station P**	**3.15 321**		⇑*i*P	**Pn**	**17 23 56.4**	**+1.4**
PB09				*i*S	**Sn**	**17 24 34.6**	**-0.1**
PB09	**IPOC Station P**	**3.15 321**		*i*P	**Pn**	**17 23 56.1**	**+1.2**
AC02	**Maricunga**	**3.16 215**		Pn	**Pn**	**17 23 56.7**	**+1.4**
AC02	**Maricunga**	**3.16 215**		⇑*e*P	**Pn**	**17 23 56.7**	**+1.4**
AC02	**Maricunga**	**3.16 215**		*i*P	**Pn**	**17 23 56.1**	**+0.8**
AC02				*e*S	**Sn**	**17 24 35.0**	**-0.4**
AC02				IAML		17 24 43.2	
PB10	comp=Z,272nm,0.2s **IPOC Station P**	**3.25 282**			**Pn**	**17 23 56.7**	**+0.7**
PB10	**IPOC Station P**	**3.25 282**		⇑*e*P	**Pn**	**17 23 56.9**	**+0.9**
PB10				IAML		17 24 39.4	
PB10	comp=N,2μm,0.6s **IPOC Station P**	**3.25 282**		*i*P	**Pn**	**17 23 56.4**	**+0.4**
PB03	**IPOC Station P**	**3.29 311**		Pn	**Pn**	**17 23 57.3**	**+0.7**
PB03	**IPOC Station P**	**3.29 311**		*i*P	**Pn**	**17 23 57.4**	**+0.7**
PB03				*e*S	**Sn**	**17 24 36.0**	**-1.7**
PB03	**IPOC Station P**	**3.29 311**		*i*P	**Pn**	**17 23 57.4**	**+0.7**
PB03				*e*S	**Sn**	**17 24 38.2**	**+0.5**
AC01	**Pan de Azucar**	**3.69 239**			**Pn**	**17 24 00.8**	**-0.6**
AC01	**Pan de Azucar**	**3.69 239**		⇑*i*P	**Pn**	**17 24 01.1**	**-0.3**
AC01				*i*S	**Sn**	**17 24 44.3**	**-2.0**
AC01	**Pan de Azucar**	**3.69 239**		*i*P	**Pn**	**17 24 01.1**	**-0.3**
AC01				*e*S	**Sn**	**17 24 44.3**	**-2.0**
AC01				IAML		17 24 44.9	
PB01	comp=Z,698nm,0.2s **IPOC Station P**	**3.89 325**		Pn	**Pn**	**17 24 03.8**	**-0.3**
PB01	**IPOC Station P**	**3.89 325**		*i*P	**Pn**	**17 24 04.1**	**0.0**
PB01				IAML		17 24 52.6	
PB02	comp=Z,674nm,0.3s **IPOC Station P**	**3.90 318**			**Pn**	**17 24 04.1**	**-0.1**
PB02	**IPOC Station P**	**3.90 318**		⇑*i*P	**Pn**	**17 24 04.2**	**0.0**
PB02				*i*S	**Sn**	**17 24 48.4**	**-2.9**
PB02	**IPOC Station P**	**3.90 318**		*i*P	**Pn**	**17 24 04.3**	**+0.1**
AC06	**Mina Casimiro**	**4.26 223**			**Pn**	**17 24 07.9**	**-0.7**
CYA	**Choya**	**4.32 165**		*i*P	**Pn**	**17 24 09.4**	**0.0**
GO03	**Copiapo**	**4.36 220**			**Pn**	**17 24 09.2**	**-0.8**
GO03	**Copiapo**	**4.36 220**		*i*P	**Pn**	**17 24 09.2**	**-0.8**
PATCX	**Punta Patache**	**4.44 320**			**Pn**	**17 24 09.6**	**-1.5**
PB08	**IPOC Station P**	**4.52 335**			**Pn**	**17 24 12.8**	**+0.4**
VCA	**Vinchina**	**4.57 192**		*i*P	**Pn**	**17 24 12.9**	**+0.2**
TA01	**Diego Aracena**	**4.66 322**			**Pn**	**17 24 13.2**	**-0.5**
TA01	**Diego Aracena**	**4.66 322**		*i*P	**Pn**	**17 24 13.4**	**-0.4**
TA01				IAML		17 25 10.9	
HMBC	comp=Z,381nm,0.6s **Humberstone**	**4.73 326**		Pn	**Pn**	**17 24 13.5**	**-1.3**
GO01	**Chusmiza**	**4.97 336**		Pn	**Pn**	**17 24 18.1**	**-0.1**
GO01	**Chusmiza**	**4.97 336**		*i*P	**Pn**	**17 24 18.5**	**+0.3**
GO01				IAML		17 25 18.6	
PB11	comp=Z,308nm,0.3s **IPOC Station P**	**5.07 332**		Pn	**Pn**	**17 24 17.8**	**-1.5**
ACLC	**CERRO LA CRUZ**	**5.15 179**		*i*P	**Pn**	**17 24 19.9**	**-0.3**
AC04	**Llanos de Chal**	**5.31 221**		Pn	**Pn**	**17 24 20.3**	**-1.8**
AC04	**Llanos de Chal**	**5.31 221**		*i*P	**Pn**	**17 24 20.5**	**-1.7**
AC04				IAML		17 25 22.5	
AGUA	comp=Z,238nm,0.2s **GUANDACOL**	**5.36 193**		*i*P	**Pn**	**17 24 23.6**	**+0.8**
AGUA				IAML		17 25 33.8	
LCO	comp=Z,58nm,0.4s **Las Campanas**	**5.73 214**			**Pn**	**17 24 26.5**	**-1.4**
PB16	**IPOC Station P**	**6.31 339**		Pn	**Pn**	**17 24 34.9**	**-0.9**
GO04	**Tololo Observa**	**6.75 208**			**Pn**	**17 24 39.4**	**-1.7**
PB18	**Visviri**	**7.00 341**			Pn	17 24 40.3	-4.5
CO03	**El Pedregal**	**7.29 205**			**Pn**	**17 24 46.5**	**-1.6**
CFA	**Coronel Fontan** comp=Z,2.1nm,0.3s,baz=297,slow=9.7,SNR=13	**7.39 188**		P	**Pn**	**17 24 49.6**	**+0.3**
CFA				S	**Sn**	**17 26 06.4**	**-6.3**
ZON	comp=Z,10.0nm,0.3s,baz=89,slow=18,SNR=11 **Zonda**	**7.39 191**		Pn	**Pn**	**17 24 47.8**	**-1.6**
CO06	**Fray Jorge**	**7.55 211**		Pn	**Pn**	**17 24 49.3**	**-2.2**
CO02	**Combarbal**	**7.74 206**		Pn	**Pn**	**17 24 50.5**	**-3.5**
LPAZ	**La Paz** comp=Z,8.3nm,0.4s,baz=161,slow=6.6,SNR=42	**7.99 353**		P	**Pn**	**17 24 58.4**	**+0.5**
LPAZ				S	**Sn**	**17 26 21.1**	**-6.9**
VA03	comp=Z,3.3nm,0.6s,baz=183,slow=19,SNR=1.1 **San Esteban**	**9.00 199**		Pn	**Pn**	**17 25 08.1**	**-2.5**
CPUP	**Villa Florida** comp=Z,2.7nm,0.8s,baz=148,slow=12,SNR=16	**9.07 105**		P	**Pn**	**17 25 09.4**	**-2.1**
MURT	**Porto Murtinho**	**9.11 75**		*e*P	**Pn**	**17 25 11.0**	**-1.0**
MT02	**Curacav**	**9.64 201**		Pn	**Pn**	**17 25 15.7**	**-3.1**
SIV	**San Ignacio** comp=Z,6.3nm,0.6s,baz=214,slow=12,SNR=24	**9.98 36**		P	**Pn**	**17 25 21.6**	**-1.9**
MT09	**Talagante**	**10.08 199**		Pn	**Pn**	**17 25 20.6**	**-4.0**
BO04	**La Punta**	**10.17 197**		Pn	**Pn**	**17 25 24.3**	**-1.5**
MT01	**Popeta**	**10.24 200**		Pn	**Pn**	**17 25

MAJ01 Sao Joao Batis 16.58 105 *eP* **Pn 17 26 44.7 -1.5**
PLCA Paso Flores 16.68 189 P **Pn 17 26 48.0 +0.6**
comp=Z,1.4nm,0.7s,baz=10,slow=15,SNR=4.6
ARAG Araguaiana, MT 16.68 62 *eP* **Pn 17 26 46.6 -0.9**
CLDB Colider 17.11 41 *eP* **Pn 17 26 51.0 -1.6**
BB19B Bebedouro 17.43 83 *eP* **Pn 17 26 54.8 -1.6**
SPB Sao Paulo 17.99 92 P **P 17 26 58.7 -2.3**
SPB Sao Paulo 17.99 92 *eP* **Pn 17 27 00.9 -2.0**
RCLB Rio Claro- Sao 18.06 88 *eP* **Pn 17 27 01.2 -2.6**
PET01 Itanhaem-SP 18.07 94 *eP* **Pn 17 27 01.6 -2.3**
VAO Valinhos 18.49 90 P **P 17 27 05.4 -1.1**
VAO Valinhos 18.49 90 *eP* **Pn 17 27 05.7 -3.1**
LL01 San Ignacio de 18.60 192 P **P 17 27 08.0 +0.6**
IPMB Ipameri, GO 18.68 74 *eP* **Pn 17 27 08.1 -3.0**
LL02 Futaleuf 19.29 191 P **P 17 27 14.8 0.0**
LL02 IAmb IAmb 17 27 19.8
comp=Z,39nm,0.8s
SNDB Serra Nova Dou 19.33 54 *eP* **P 17 27 14.5 -1.1**
PARB Paraibuna 19.67 92 *eP* **Pn 17 27 19.3 -3.6**
BDFB Brasilia 19.86 68 P **P 17 27 20.6 -0.8**
comp=Z,27nm,0.8s,baz=242,slow=11,SNR=25
PMNB Patos De Minas 20.05 77 *eP* **P 17 27 22.1 -1.3**
NPGB Novo Progresso 20.48 35 *eP* **P 17 27 25.5 -2.4**
TEFE Tefe 20.77 7 *eP* **P 17 27 30.6 -0.2**
BSCB Bom Sucesso 20.85 85 *eP* **P 17 27 31.1 -0.8**
VAS01 Vassouras-RJ 21.81 90 *eP* **P 17 27 41.2 -0.6**
DIAM Diamantina, MG 22.60 79 *eP* **P 17 27 48.4 -1.1**
ITTB Itaituba 22.60 31 *eP* **P 17 27 48.3 -1.1**
DUB01 Friburgo-RJ 22.82 90 *eP* **P 17 27 50.8 -0.6**
JANB Januaria 23.30 71 *eP* **P 17 27 54.7 -1.0**
CAM01 Campos-RJ 23.52 89 *eP* **P 17 27 56.5 -1.1**
SDBA SAO DESIDERIO 24.09 65 *eP* **P 17 28 02.0 -1.0**
SMTB Santa Maria do 24.11 54 *eP* **P 17 28 02.9 -0.2**
PRPB Paraiapebas 24.47 45 *eP* **P 17 28 06.6 +0.3**
COHC Cochancay 24.65 330 P **P 17 28 08.6 +0.7**
SJMB Sao Joao De Ma 24.71 82 *eP* **P 17 28 07.7 -0.8**
RIB01 Linhares ES 25.26 84 *eP* **P 17 28 12.8 -0.7**
SLOR San Lorenzo - 25.87 333 P **P 17 28 20.4 +0.9**
SLOR IAmb IAmb 17 28 34.9
comp=Z,20nm,0.9s
GUA01 Guaratinga, BA 26.66 79 *eP* **P 17 28 25.1 -0.9**
FLOC Florencia 27.00 341 **P 17 28 29.9 +0.8**
FLOC IAmb IAmb 17 28 31.5
comp=Z,16nm,0.9s
BOAV Boa Vista 27.25 14 P **P 17 28 30.8 -0.5**
BOAV Boa Vista 27.25 14 *eP* **P 17 28 31.5 +0.1**
RUSC La Rusia 30.53 348 **P 17 29 00.9 +0.1**
RUSC IAmb IAmb 17 29 02.2
comp=Z,13nm,0.9s
NBAN Anadia - AL 32.75 69 *eP* **P 17 29 19.0 -0.8**
BAUV El Baul 33.01 358 **P 17 29 20.7 -1.3**
BAUV IAmb IAmb 17 29 22.2
comp=Z,16nm,0.8s
SOCE Pocosol 38.45 332 P **P 17 30 09.5 +1.2**
ESPZ Base Esperanza 39.70 173 P **P 17 30 19.4 +1.3**
ESPZ IAmb IAmb 17 30 20.9
comp=Z,5.7nm,0.6s
SIUN Universidad Ur 41.51 334 P **P 17 30 33.4 0.0**
SIUN IAmb IAmb 17 30 35.8
comp=Z,3.8nm,0.6s
CRPR Cabo Rojo, PR 42.01 360 P **P 17 30 35.6 -1.8**
CRPR IAmb IAmb 17 30 36.4
comp=Z,17nm,0.7s
PDPR Patillas Dam, 42.03 2 P **P 17 30 35.3 -2.3**
PDPR IAmb IAmb 17 30 36.6
comp=Z,11nm,0.8s
OBIP Obispado Ponce 42.05 1 P **P 17 30 35.8 -2.0**
OBIP IAmb IAmb 17 30 38.0
comp=Z,19nm,0.6s
CELP Cerrillos 42.08 1 **P 17 30 36.6 -1.4**
SJG San Juan 42.12 1 P **P 17 30 36.5 -1.8**
SJG IAmb IAmb 17 30 37.3
comp=Z,16nm,0.9s
BANI BANI 42.51 355 P **P 17 30 41.0 -0.6**
SMAI San Martin Ant 43.88 180 P **P 17 30 53.3 +1.5**
MTO3 Montecristo 44.15 328 P **P 17 30 56.4 +1.4**
MTO3 IAmb IAmb 17 30 57.6
comp=Z,9.0nm,0.7s
TEIG Tepich 48.79 333 P **P 17 31 31.2 +0.5**
TEIG IAmb IAmb 17 31 32.0
comp=Z,11nm,0.6s
SOR Soroa 49.26 340 P **P 17 31 34.8 +0.6**
SOR IAmb IAmb 17 31 36.0
comp=Z,16nm,0.8s
061Z Ochoppi 51.59 344 P **P 17 31 52.3 +0.7**
BELA Belgrano 2 55.80 172 P **P 17 32 22.2 +0.7**
553A Crawfordville 56.64 342 P **P 17 32 29.2 +1.2**
VNA3 Neumayer Olymp 56.94 161 ⇓P **P 17 32 30.8 +1.1**
comp=Z,7.3nm,0.7s
VNA1 Neumayer--Stat 57.13 160 ⇓P **P 17 32 32.6 +1.6**
comp=Z,3.3nm,0.6s
VNA2 Neumayer--Watz 57.50 160 ⇓P **P 17 32 34.9 +1.3**
comp=Z,7.1nm,0.6s,baz=281,slow=7.3
SNAA Sanae 59.13 161 ⇓P **P 17 32 45.8 +0.8**
comp=Z,88nm,0.6s
SNAA Sanae 59.13 161 **P 17 32 45.5 +0.5**
SNAA PcP **PcP 17 33 31.1 -0.5**
SNAA Sanae 59.13 161 P **P 17 32 46.1 +1.1**
comp=Z,3.5nm,0.6s,baz=282,slow=7.8,SNR=46
SNAA PcP **PcP 17 33 30.8 -0.8**
comp=Z,1.5nm,0.7s,baz=260,slow=4.7,SNR=4.4
comp=Z,3.5nm,0.6s
GOGA Godfrey 59.43 344 P **P 17 32 47.6 +0.2**
GOGA IAmb IAmb 17 32 48.5
comp=Z,6.9nm,0.7s
833A Chaparral WMA, 60.84 327 P **P 17 32 58.7 +1.7**
TROLL Troll, Antarti 60.85 161 ⇓P **P 17 32 58.1 +1.4**
comp=Z,323nm,0.5s
X51A Calhoun 60.88 343 P **P 17 32 58.0 +0.8**
FPAL Fort Paine 61.06 343 P **P 17 32 58.6 +0.1**
FPAL IAmb IAmb 17 32 59.1
comp=Z,6.0nm,0.9s
V55A Taylorsville 61.26 347 P **P 17 33 00.1 +0.3**
X48A Hartselle 61.39 341 **P 17 33 00.3 -0.3**
V53A Saluda 61.43 345 P **P 17 33 01.2 +0.3**
V53A IAmb IAmb 17 33 02.8
comp=Z,7.8nm,0.9s
W50A Signal Mountai 61.60 343 P **P 17 33 02.5 +0.3**
CPCT Cooper Cave 61.63 344 P **P 17 33 02.4 +0.2**
CPCT IAmb IAmb 17 33 03.9
comp=Z,8.4nm,0.9s
SWET Sewanee 61.79 343 P **P 17 33 03.8 +0.5**
U54A Nelsons Funny 62.03 347 P **P 17 33 05.8 +0.8**
TZTN Tazewell 62.44 345 P **P 17 33 08.2 +0.6**
TZTN IAmb IAmb 17 33 10.2
comp=Z,24nm,1.5s
V48A Smith Brothers 62.53 342 P **P 17 33 08.1 0.0**
CLTN Cedars of Leba 62.72 343 P **P 17 33 09.3 -0.2**
CLTN IAmb IAmb 17 33 10.5
comp=Z,6.8nm,0.6s
WLAR White Oak Lake 62.72 336 P **P 17 33 10.6 +1.1**
JCT Junction City 62.82 328 P **P 17 33 10.9 +0.6**
U49A Red Boiling Sp 62.97 343 P **P 17 33 11.0 0.0**
U49A IAmb IAmb 17 33 11.8
comp=Z,6.7nm,0.6s
BRDY Brady 63.11 330 **P 17 33 12.4 +0.2**
BRDY IAmb IAmb 17 33 13.9
comp=Z,8.1nm,0.7s
WVT Waverly 63.18 341 P **P 17 33 12.2 -0.2**
T50A Nancy 63.20 344 IAmb IAmb 17 33 13.0
comp=Z,7.5nm,0.8s
SAND Sanderson 63.53 326 **P 17 33 16.5 +1.5**
SAND IAmb IAmb 17 33 17.7
comp=Z,9.8nm,0.9s
MIAR Mount Ida 63.66 336 IAmb IAmb 17 33 17.9
comp=Z,5.9nm,0.8s
OZNA Ozona 63.83 328 IAmb IAmb 17 33 18.8
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 63.84 325 P **P 17 33 18.6 +1.5**
comp=Z,1.4nm,0.7s,baz=152,slow=12,SNR=6.7
comp=Z,1.4nm,0.7s
ALPN Alpine 64.65 325 IAmb IAmb 17 33 24.3
comp=Z,5.6nm,0.7s
MNHN Monahans 64.98 327 P **P 17 33 26.1 +1.8**
MGMO Mountain Grove 65.53 338 IAmb IAmb 17 33 29.4
comp=Z,12nm,1.1s
VHRN Van Horn 65.68 325 **P 17 33 30.4 +1.4**
VHRN IAmb IAmb 17 33 31.5
comp=Z,10.0nm,0.9s
POST Post 65.77 329 IAmb IAmb 17 33 33.6
comp=Z,8.5nm,0.8s
QSPA South Pole Qui 65.95 180 **P 17 33 33.9 +3.7**
QSPA IAmb IAmb 17 33 34.6
comp=Z,6.8nm,0.6s
QSPA South Pole Qui 65.95 180 P P 17 33 34.2 +4.0
comp=Z,6.2nm,0.5s,baz=177,slow=0.8,SNR=83
comp=Z,6.2nm,0.5s
CCM Cathedral Cave 66.01 339 **P 17 33 30.9 +0.2**
OK052 Battle Ridge R 66.18 334 **P 17 33 32.5 +0.6**
MNTX Cornudas Mount 66.61 325 **P 17 33 35.2 +0.5**
MNTX IAmb IAmb 17 33 36.5
comp=Z,6.5nm,0.9s
MSTX Muleshoe 67.11 328 P **P 17 33 38.8 +0.7**
HDIL Hopedale 67.71 342 P **P 17 33 40.9 -0.6**
121A Cookes Peak, D 68.54 324 IAmb IAmb 17 33 50.7
comp=Z,12nm,0.9s
RTBA Rita Blanca 69.11 330 IAmb IAmb 17 33 54.3
comp=Z,9.6nm,0.8s
ANMO Albuquerque 69.71 326 P **P 17 33 56.3 +2.1**
ANMO IAmb IAmb 17 33 57.4
comp=Z,8.4nm,0.9s
MVCO Mesa Verde 72.51 326 IAmb IAmb 17 34 14.3
comp=Z,7.2nm,0.8s
ECSD EROS Data Cent 72.89 338 **P 17 34 13.3 +0.5**
ECSD IAmb IAmb 17 34 14.6
comp=Z,12nm,1.1s
PV15 Paradox Valley 73.38 327 IAmb IAmb 17 34 19.8
comp=Z,9.0nm,1.0s
PV02 Paradox Valley 73.40 327 IAmb IAmb 17 34 19.7
comp=Z,17nm,1.4s
PV13 Radium Mtn., P 73.41 327 IAmb IAmb 17 34 19.5
comp=Z,8.0nm,1.0s
PV05 Paradox Valley 73.48 327 IAmb IAmb 17 34 19.7
comp=Z,7.7nm,0.9s
PV18 Skein Mesa, Pa 73.52 327 IAmb IAmb 17 34 20.0
comp=Z,10nm,1.0s
PV22 Blue Mesa, Par 73.68 327 IAmb IAmb 17 34 21.1
comp=Z,7.8nm,0.9s
PV10 Paradox Valley 73.68 327 IAmb IAmb 17 34 20.6
comp=Z,8.1nm,0.8s
BC3 Big Chuckawall 73.71 320 **P 17 34 20.0 +2.0**
BC3 IAmb IAmb 17 34 21.4
comp=Z,8.5nm,0.8s
HMU Henry Mountain 74.21 325 IAmb IAmb 17 34 24.8
comp=Z,11nm,1.2s
VNDA Vanda 74.43 190 P **P 17 34 23.1 +1.7**
comp=Z,1.5nm,0.8s,baz=178,slow=1.7,SNR=8.3
comp=Z,1.5nm,0.8s
O20A White River Ci 74.66 328 IAmb IAmb 17 34 26.8
comp=Z,17nm,0.9s
SRU San Rafael Swe 74.99 326 IAmb IAmb 17 34 28.4
comp=Z,10nm,0.7s
CCUT Cedar City 75.31 324 IAmb IAmb 17 34 31.5
comp=Z,12nm,0.8s
CCCA Chr Cany lake 76.14 320 IAmb IAmb 17 34 35.5
comp=Z,9.4nm,0.9s
BSUT Blindstream Ca 76.19 327 IAmb IAmb 17 34 35.8
comp=Z,7.6nm,0.8s
GWY Greenwater Val 76.19 321 IAmb IAmb 17 34 35.5
comp=Z,7.6nm,0.9s
TPNV Topopah Spring 76.49 321 IAmb IAmb 17 34 37.7
comp=Z,8.0nm,0.9s
WCT Wildcat Mounta 76.59 321 IAmb IAmb 17 34 38.3
comp=Z,7.3nm,0.9s
TORD Torodi Ar. Bea 76.74 69 P **P 17 34 33.1 -2.4**
comp=Z,3.5nm,0.6s,baz=268,slow=4.6,SNR=18
comp=Z,3.5nm,0.6s
SPR3 Spring Creek 3 76.89 324 IAmb IAmb 17 34 39.5
comp=Z,6.8nm,0.8s
DUG Dugway, Tooele 76.97 326 IAmb IAmb 17 34 40.0
comp=Z,9.3nm,1.2s
CWC Cottonwood Cre 77.19 320 **P 17 34 39.5 +1.6**
PDAR Pinedale Array 77.33 329 P **P 17 34 39.8 +1.2**
comp=Z,1.2nm,0.5s,baz=137,slow=7.9,SNR=13
comp=Z,1.2nm,0.5s
ULM Lac du Bonnet 78.44 342 P **P 17 34 44.1 -0.1**
comp=Z,7.3nm,0.6s,baz=152,slow=9.0,SNR=4.0
comp=Z,7.3nm,0.6s
LOHW Long Hollow 78.47 329 IAmb IAmb 17 34 47.8
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 78.69 321 P **P 17 34 48.5 +2.4**
comp=Z,1.8nm,0.7s,baz=144,slow=5.8,SNR=9.6
comp=Z,1.8nm,0.7s
RLMT Red Lodge 79.03 331 IAmb IAmb 17 34 50.7
comp=Z,5.0nm,0.7s
YNE Yellowstone No 79.27 331 P **P 17 34 51.0 +1.8**
YNE IAmb IAmb 17 34 52.1
comp=Z,8.4nm,0.8s
YMR Madison River 79.44 330 IAmb IAmb 17 34 53.8
comp=Z,11nm,0.9s
YHL Hebgen Lake 79.68 330 IAmb IAmb 17 34 55.0
comp=Z,6.0nm,0.7s
PAHR Pah Rah Range 80.17 322 IAmb IAmb 17 34 57.6
comp=Z,9.9nm,0.9s
HLID Hailey 80.26 327 IAmb IAmb 17 34 58.0
comp=Z,12nm,0.8s
BOSA Boshof 80.69 117 P **P 17 34 57.7 +0.5**
comp=Z,2.1nm,0.5s,baz=276,slow=3.7,SNR=8.1
comp=Z,2.1nm,0.5s
DLMT Dillon 80.72 329 **P 17 34 58.1 +1.3**
DLMT IAmb IAmb 17 35 00.0
comp=Z,12nm,1.2s
MAW Mawson 81.22 163 P **P 17 35 00.6 +1.6**
comp=Z,4.3nm,0.6s,baz=206,slow=5.6,SNR=33
comp=Z,4.3nm,0.6s
PLID Pearl Lake 82.15 327 IAmb IAmb 17 35 07.2
comp=Z,12nm,0.8s
J08A Circle Bar Ran 82.18 325 IAmb IAmb 17 35 07.6
comp=Z,9.0nm,0.8s
K05A Summer Lake 83.05 323 IAmb IAmb 17 35 12.3
comp=Z,14nm,0.9s
F10A Beach Ranch, E 83.39 327 IAmb IAmb 17 35 17.3
comp=Z,5.0nm,0.7s
J05D Fort Rock, OR 83.61 323 IAmb IAmb 17 35 14.7
comp=Z,7.3nm,1.0s
PINE Pine Mountain 83.79 324 IAmb IAmb 17 35 16.1
comp=Z,8.4nm,0.8s
WIFE Three Sisters- 84.44 324 IAmb IAmb 17 35 19.0
comp=Z,8.9nm,1.0s
ESDC Sonseca Array 86.64 44 P **P 17 35 27.0 +0.1**
comp=Z,1.0nm,0.7s,baz=254,slow=4.5,SNR=6.5
comp=Z,1.0nm,0.7s
ASAR Alice Springs 128.19 205 PKP **PKiKP 17 41 49.9 +0.1**
comp=Z,2.1nm,0.7s,baz=137,slow=1.8,SNR=34
WRA Warramunga Arr 131.36 207 PKP **PKiKP 17 41 56.4 +0.2**
comp=Z,1.2nm,0.5s,baz=159,slow=1.7,SNR=44
WRA SKPbc **SKPab 17 45 04.0 +0.3**
comp=Z,0.7nm,0.7s,baz=151,slow=3.2,SNR=6.4
PETK Petropavlovsk- 135.76 322 PKP **PKiKP 17 42 04.5 +0.5**
comp=Z,2.5nm,0.8s,baz=70,slow=2.4,SNR=2.6
FITZ Fitzroy Crossi 136.11 198 PKPdf **PKPdf 17 42 02.0 -2.1**
KURBB Kurchatov Arra 142.64 36 PKP **PKPdf 17 42 12.6 -2.4**
comp=Z,0.8nm,0.7s,baz=305,slow=2.9,SNR=7.8
ZALV Zalesovo Beam 143.66 28 PKP **PKPdf 17 42 16.1 -0.6**
comp=Z,5.8nm,0.6s,baz=299,slow=4.3,SNR=32
MKAR Makanchi Array 146.78 40 PKPbc **PKPab 17 42 23.9 -2.2**
comp=Z,13nm,0.8s,baz=331,slow=1.8,SNR=37
FAKI Fak Fak 147.08 217 PKPbc **PKPbc 17 42 25.0 -1.2**
MJAR Matsushiro Arr 155.06 305 PKPab **PKPab 17 43 02.3 +1.6**
comp=Z,3.6nm,1.0s,baz=93,slow=2.1,SNR=6.2
SONM Songino Array 155.91 11 PKPab **PKPab 17 43 04.2 +0.2**
comp=Z,0.9nm,0.6s,baz=315,slow=5.3,SNR=4.1

*IDC **11** 17:45:10.9±2.0, 9°.81S×124°.82E, h0km, mb3.6/1, mbtmp3.5/4, ML3.5/3, MS2.9/2, Error ellipse: s-maj=31.6km s-min=25.2km az=16.0*
*DJA **11** 17:45:13.5±1.1, 10°S±11°×12°5E±°, h10km, M3.8/6, mb4.0/2, MLv3.7/6*
ISC 11 17:45:10.7±1.2, 9°.84S±0°.10×124°.86E±0°.08, h10km, n13, σ2°.96/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.59**	**278**	P	**Pg**	**17 45 21.7**	**-0.5**
SOEI				S	**Sg**	**17 45 28.1**	**-1.9**
BATI	**Baumata**	**1.23**	**253**	Pg	**Pg**	**17 45 34.1**	**-0.3**
53nm,0.3s,baz=26,slow=1.1,SNR=46							
BATI				LR	LR	17 45 57.9	
comp=Z,105nm,19.9s,baz=20,slow=39							
BATI	**Baumata**	**1.23**	**253**	P	**Pg**	**17 45 34.1**	**-0.3**
MMRI	**Maumere**	**2.85**	**295**	P	**Pn**	**17 45 54.1**	**-2.2**
BASI	**Baing, Sumba**	**4.23**	**265**	P	**Pn**	**17 46 16.6**	**+1.3**
WSI	**Waingapu**	**4.50**	**272**	P	**Pn**	**17 46 19.9**	**+0.9**
WBSI	**Waikabubak, Su**	**5.39**	**272**	P	**Pn**	**17 46 31.1**	**-0.2**
0.1nm25nm,0.8s							
KAPI	**Kappang**	**6.97**	**313**	LR	LR	17 49 47.2	
comp=Z,60nm,18.4s,baz=92,slow=40							
FITZ	**Fitzroy Crossi**	**8.24**	**175**	Pn	**Pn**	**17 47 12.8**	**+2.4**
0.4nm,0.3s,baz=358,slow=11,SNR=10							
FITZ				Sn	**Sn**	**17 48 41.9**	**-1.8**
0.9nm,0.3s,baz=142,slow=12,SNR=8.1							
1.8nm,0.6s							
WRA	**Warramunga Arr**	**13.59**	**139**	Pn	**Pn**	**17 48 25.3**	**+1.7**
0.3nm,0.3s,baz=318,slow=14,SNR=14							
WRA				Sn	**Sn**	**17 50 51.5**	**-3.3**
0.3nm,0.3s,baz=304,slow=22,SNR=8.0							
0.4nm,0.4s							
ASAR	**Alice Springs**	**16.24**	**149**	Pn	**Pn**	**17 49 00.9**	**+1.8**
0.1nm,0.3s,baz=322,slow=13,SNR=13							
ASAR				Sn	**Sn**	**17 51 56.1**	**-3.3**
0.1nm,0.3s,baz=308,slow=20,SNR=4.1							
0.5nm,0.6s							
STKA	**Stephens Creek**	**26.86**	**147**	LR	LR	18 03 40.8	
comp=Z,35nm,20.9s,baz=204,slow=41							
MKAR	**Makanchi Array**	**67.96**	**330**	P	**P**	**17 56 11.5**	**+1.6**
0.5nm,0.6s,baz=134,slow=7.7,SNR=2.3							
0.5nm,0.6s							

WEL 11 17:46:25.7±1.1, 36°S±5°×17°9E±1°0, h12km, M3.7/13, ML4.0/19, MLv3.7/13, Error ellipse: s-maj=13.3km s-min=6.3km az=86.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.84**	**200**	P	Pn	17 46 57.6	+0.6
MXZ				S	Sn	17 47 19.8	-0.4
WMGZ	**Waiomatatini S**	**2.05**	**196**	P	Pn	17 47 00.9	+0.8
WMGZ				S	Sb	17 47 27.7	-0.7
HAZ	**Te Kaha**	**2.19**	**209**	P	Pn	17 47 03.1	+1.3
HAZ				S	Sb	17 47 30.7	-1.6
PUZ	**Puketiti**	**2.33**	**197**	P	Pn	17 47 03.9	+0.1
PUZ				S	Sn	17 47 32.4	0.0
RUGZ	**Raukumara Rang**	**2.41**	**208**	P	Pn	17 47 05.5	+0.4
RUGZ				S	Sb	17 47 37.4	-1.5
TWGZ	**Tauwhareparae**	**2.50**	**201**	P	Pn	17 47 06.7	+0.5
TWGZ				S	Sn	17 47 38.3	+1.6
CNGZ	**Carnagh Statio**	**2.74**	**195**	P	Pn	17 47 09.1	-0.3
MWZ	**Matawai**	**2.79**	**206**	P	Pn	17 47 10.1	-0.1
MWZ				S	Sn	17 47 43.9	0.0
OPRZ	**Ohinepanea**	**2.87**	**225**	P	Pn	17 47 12.3	+1.1
KUZ	**Kuaotunu**	**2.88**	**251**	P	Pn	17 47 11.2	-0.2
URZ	**Urewera**	**2.90**	**213**	P	Pn	17 47 11.5	-0.1
URZ				S	Sn	17 47 45.1	-1.3
MARZ	**Manawahe**	**2.90**	**222**	P	Pn	17 47 11.3	-0.4
TGRZ	**Tauranga**	**2.96**	**230**	P	Pn	17 47 13.0	+0.5
RAGZ	**Rawiri**	**2.98**	**207**	P	Pn	17 47 12.3	-0.5
RAGZ				S	Sn	17 47 48.4	-0.1
RIGZ	**Rimuhau**	**3.06**	**200**	P	Pn	17 47 12.7	-1.1
MUGZ	**Murupara**	**3.23**	**215**	P	Pn	17 47 15.5	-0.7
PRGZ	**Paritu Road**	**3.23**	**197**	P	Pn	17 47 14.6	-1.6
SNGZ	**Shannon Statio**	**3.26**	**205**	P	Pn	17 47 15.9	-0.7
SNGZ				S	Sn	17 47 55.2	-0.2
KNZ	**Kokohu**	**3.38**	**199**	P	Pn	17 47 16.2	-1.9
TOZ	**Tahuroa Road**	**3.46**	**236**	P	Pn	17 47 19.9	+0.7
TLZ	**Tolley Road**	**3.79**	**228**	P	Pn	17 47 25.0	+1.1
WCZ	**Waipu Caves**	**3.87**	**267**	P	Pn	17 47 24.6	-0.4
BKZ	**Black Stump Fm**	**3.92**	**211**	P	Pn	17 47 24.5	-1.2
HIZ	**Hauiti**	**4.32**	**231**	P	Pn	17 47 33.0	+1.8
NGZ	**Ngauruhoe**	**4.34**	**219**	P	Pn	17 47 34.1	+2.5
OUZ	**Omahuta**	**4.54**	**276**	P	Pn	17 47 32.5	-1.6
VRZ	**Vera Road**	**4.77**	**225**	P	Pn	17 47 41.0	+3.7
TSZ	**Takapari Road**	**4.89**	**210**	P	Pn	17 47 35.5	-3.5
TSZ				S	Sn	17 48 28.7	-6.9
NEZ	**North Egmont**	**5.25**	**228**	P	Pn	17 47 48.1	+4.0
BFZ	**Birch Farm**	**5.33**	**204**	P	Pn	17 47 41.8	-3.3
BFZ				S	Sn	17 48 40.4	-6.1
MRZ	**Mangatainoka R**	**5.56**	**209**	P	Pn	17 47 44.4	-3.7
MRZ				S	Sn	17 48 45.0	-6.9
NNZ	**Nelson**	**7.00**	**218**	P	Pn	17 48 03.5	-4.4
NNZ				S	Sn	17 49 19.8	-7.7

IDC 11 18:11:06.4±5.4, 36°.64N×69°.89E, h303km±54km, mb2.8/4, mbtmp3.5/7, Error ellipse: s-maj=45.2km s-min=32.2km az=1.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.96**	**29**	P	Pn	18 12 47.2	-0.2
2.0nm,0.5s,baz=49,slow=19,SNR=1.9							
MKAR	**Makanchi Array**	**13.72**	**38**	Pn	Pn	18 14 10.1	+0.7
0.4nm,0.5s,baz=213,slow=12,SNR=9.5							
KURBB	**Kurchatov Arra**	**15.30**	**21**	P	P	18 14 26.5	+0.2
1.0nm,0.6s,baz=210,slow=12,SNR=9.5							
ZALV	**Zalesovo Beam**	**20.17**	**26**	P	P	18 15 18.2	-0.3
0.6nm,0.3s,baz=221,slow=9.3,SNR=3.8							
0.6nm,0.3s							
TORD	**Torodi Ar. Bea**	**64.83**	**268**	P	P	18 21 13.7	0.0
0.3nm,0.4s,baz=43,slow=6.9,SNR=2.7							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**82.83**	**121**	P	P	18 22 57.2	-0.1
0.1nm,0.5s,baz=330,slow=4.9,SNR=4.6							
0.1nm,0.5s							
ASAR	**Alice Springs**	**85.07**	**124**	P	P	18 23 08.7	+0.1
0.2nm,0.5s,baz=314,slow=4.8,SNR=7.3							
0.2nm,0.5s							

*IDC **11** 18:11:41.1±15.0, 19°.07N×101°.11W, h0km, mb3.4/3, mbtmp3.4/3, MS3.0/8, Error ellipse: s-maj=268.3km s-min=175.7km az=170.0*
*MEX **11** 18:11:43.4±0.4, 17°.96N×102°.39W, h17km±28km, MD4.4*
ISC 11 18:11:41.3±1.2, 18°.15N±0°.04×102°.20W±0°.02, h16km±8km, n72, σ2°.38/109, mb3.7/3, MS3.0/4, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	**La Union**	**0.41**	**116**	*eP*	**Pg**	**18 11 52.6**	**+3.0**
UON				*i S*	**Sb**	**18 11 59.9**	**+3.7**
ARIG	**Puente Sto Nin**	**1.77**	**86**	*eP*	**Pn**	**18 12 12.4**	**+1.2**
ARIG				*eS*	**Sb**	**18 12 36.0**	**+0.7**
MOIG	**Morelia**	**1.80**	**32**	*eP*	**Pb**	**18 12 13.8**	**-0.2**
MOIG				*i S*	**Sg**	**18 12 36.9**	**-2.4**
MNGA	**Volcan de Coli**	**1.88**	**314**	*eP*	**Pn**	**18 12 14.0**	**+1.1**
MNGA				*eS*	**Sg**	**18 12 43.1**	**+1.3**
CDAR	**Ciudad de Arme**	**1.89**	**295**	*eP*	Pn	18 12 11.8	-1.1
CDAR				*eS*	**Sn**	**18 12 36.5**	**+0.1**
INCO	**Volcan de Coli**	**1.91**	**316**	*eP*	**Pn**	**18 12 14.4**	**+0.9**
INCO				*i S*	**Sb**	**18 12 42.3**	**+2.7**
SOMAC	**Volcano de Col**	**1.92**	**316**	*eP*	**Pn**	**18 12 14.6**	**+0.8**
SOMAC				*i S*	**Sg**	**18 12 45.8**	**+2.5**
ATYC	**Atoyac**	**1.93**	**119**	*eP*	**Pn**	**18 12 13.2**	**-0.2**
CEGR	**Campo Tres**	**2.00**	**308**	*eP*	**Pn**	**18 12 14.8**	**+0.3**
CEGR				*eS*	**Sn**	**18 12 43.4**	**+4.2**
CAIG	**El Cayaco**	**2.15**	**120**	*eP*	**Pn**	**18 12 16.7**	**+0.2**
CAIG				*i S*	**Sn**	**18 12 42.2**	**-0.5**
MEIG	**Mezcala**	**2.47**	**95**	*eP*	**Pn**	**18 12 23.7**	**+2.8**
MEIG				*i S*	**Sn**	**18 12 53.1**	**+2.3**
PLIG	**Platanillo**	**2.58**	**84**	*eP*	**Pn**	**18 12 24.6**	**+2.2**
PLIG				*i S*	**Sb**	**18 12 57.0**	**-1.6**
TOVM	**TOLUCA**	**2.64**	**64**	*eP*	**Pn**	**18 12 26.9**	**+3.3**
TOVM				*i S*	**Sb**	**18 13 02.0**	**+1.1**
DAIG	**Los Arroyos**	**2.68**	**114**	*eP*	**Pn**	**18 12 25.1**	**+1.3**
DAIG				*i S*	**Sn**	**18 12 56.0**	**+0.1**
MAVM	**Malinalco, Edo**	**2.69**	**72**	*eP*	**Pb**	**18 12 28.8**	**-0.5**
MAVM				*i S*	**Sg**	**18 13 04.5**	**-3.4**
IGIG	**Irapuato, Guan**	**2.72**	**18**	*eP*	**Pg**	**18 12 33.5**	**0.0**
ATVM	**ATLACOMULCO**	**2.75**	**54**	*eP*	**Pb**	**18 12 31.4**	**+1.1**
ATVM				*i S*	**Sg**	**18 13 10.1**	**+0.3**
INVM	**La Marquesa**	**2.90**	**67**	*eP*	**Pn**	**18 12 29.9**	**+2.7**
INVM				*i S*	**Sg**	**18 13 12.8**	**-1.9**
AOVM	**Tlapan**	**2.95**	**67**	*eP*	**Pb**	**18 12 33.6**	**-0.2**
AOVM				*eS*	**Sg**	**18 13 12.9**	**-3.3**
CJM	**Chamela**	**3.01**	**297**	*eP*	**Pn**	**18 12 28.2**	**-0.1**
CJM				*i S*	**Sn**	**18 13 01.5**	**-2.5**
CJVM	**Cuajimalpa**	**3.02**	**66**	*eP*	Pn	18 12 20.0	-8.6
CJVM				*i S*	**Sg**	**18 13 14.4**	**-3.9**
JRQG	**Juriquilla Cam**	**3.03**	**33**	*eP*	**Pg**	**18 12 39.5**	**0.0**
YAIG	**Yautepec**	**3.06**	**76**	*i P*	**Pn**	**18 12 31.6**	**+

CRIG	**Cruz Grande**	**3.25**	**115**	*e*P	**Pn**	**18 12 32.4**	**+0.8**
CRIG				*i* S	**Sn**	**18 13 08.6**	**-1.4**
PTVM	**Pico Tres Padr**	**3.26**	**63**	*e*P	**Pb**	**18 12 37.8**	**-1.1**
PTVM				*e*S	**Sb**	**18 13 20.7**	**+2.2**
THVM	**De Xico**	**3.27**	**69**	*e*P	**Sg**	**18 13 27.8**	**+1.3**
AMVM	**AMECAMECA**	**3.38**	**73**	*e*P	**Pb**	**18 12 41.3**	**+0.2**
AMVM				*i* S	**Sg**	**18 13 27.7**	**-2.4**
ZUVM	**ZUMPANGO**	**3.39**	**60**	*e*P	**Pn**	**18 12 37.9**	**+4.1**
ZUVM				*e*S	**Sg**	**18 13 27.2**	**-3.2**
PBXN	**Popocatepetl**	**3.47**	**75**	*e*P	**Pn**	**18 12 37.7**	**+2.6**
PBXN				*i* S	**Sg**	**18 13 30.9**	**-2.0**
PPCL	**Tochimilco**	**3.48**	**77**	*e*P	**Pn**	**18 12 37.5**	**+2.4**
PPCL				*i* S	**Sb**	**18 13 23.8**	**-1.1**
HMTT	**Tlapaneco**	**3.48**	**95**	*e*P	**Pn**	**18 12 36.7**	**+1.8**
HMTT				*i* S	**Sn**	**18 13 18.5**	**+2.6**
PPPT	**Popocatepetl**	**3.49**	**76**	*e*P	**Pn**	**18 12 37.5**	**+2.1**
PPPT				*i* S	**Sg**	**18 13 34.4**	**+0.8**
TLIG	**Tlapa**	**3.51**	**99**	*e*P	Pn	18 12 33.1	-2.2
TLIG				*i* S	**Sn**	**18 13 16.7**	**+0.1**
VTVM	**Tizayuca**	**3.62**	**63**	*e*P	Pn	18 12 41.9	+4.8
VTVM				*i* S	**Sg**	**18 13 37.0**	**-0.7**
ANIG	**Ahuacatlan**	**3.62**	**323**	*e*P	**Pb**	**18 12 46.7**	**+1.6**
ANIG				*e*S	**Sg**	**18 13 35.2**	**-2.5**
PPSX	**Xalitzintla**	**3.62**	**75**	*e*P	**Pb**	**18 12 45.4**	**+0.2**
PPSX				*i* S	**Sg**	**18 13 34.5**	**-3.3**
AAIG	**Aguscalientes**	**3.80**	**358**	*e*P	**Pn**	**18 12 39.3**	**-0.2**
AAIG				*e*S	**Sb**	**18 13 29.4**	**-4.7**
FTIG	**Fresnillo de T**	**3.88**	**93**	*e*P	**Pn**	**18 12 42.9**	**+2.5**
FTIG				*i* S	**Sn**	**18 13 24.5**	**-1.2**
HLIG	**Huajuapan de L**	**4.20**	**94**	*e*P	**Pn**	**18 12 47.5**	**+2.6**
HLIG				*e*S	**Sn**	**18 13 32.2**	**-1.5**
RPIG	**Rio Verde**	**4.26**	**29**	*e*P	**Pn**	**18 12 45.5**	**-0.2**
PNIG	**Pinotepa**	**4.27**	**114**	*e*P	**Pn**	**18 12 47.0**	**+1.3**
PNIG				*i* S	**Sn**	**18 13 32.8**	**-2.4**
TXIG	**Tlaxiaco**	**4.32**	**101**	*e*P	**Pn**	**18 12 49.4**	**+2.8**
TXIG				*i* S	**Sn**	**18 13 34.0**	**-2.9**
TPIG	**Tehuac#an**	**4.61**	**86**	*e*P	**Pn**	**18 12 52.0**	**+1.5**
TPIG				*i* S	**Sb**	**18 13 55.9**	**-1.4**
ZAIG	**Zacatecas**	**4.61**	**356**	*e*P	**Pg**	**18 13 06.9**	**-2.8**
YOIG	**Yosondua**	**4.63**	**105**	*e*P	**Pn**	**18 12 53.7**	**+2.8**
YOIG				*i* S	**Sn**	**18 13 46.6**	**+2.3**
POHV	**Veracruz**	**4.76**	**78**	*e*P	**Pn**	**18 12 55.7**	**+2.8**
POHV				*i* S	**Sb**	**18 14 05.5**	**+3.7**
CXUV	**Coxquihui**	**4.80**	**64**	*e*P	**Pn**	**18 12 55.3**	**+2.3**
CXUV				*e*S	**Sn**	**18 13 53.2**	**+4.8**
TOIG	**Toxpalan**	**4.89**	**90**	*e*P	**Pn**	**18 12 57.2**	**+2.9**
TOIG				*i* S	**Sn**	**18 13 53.2**	**+2.7**
CTUV	**Llano Grande**	**4.90**	**47**	*e*P	**Pn**	**18 12 58.7**	**+4.3**
CTUV				*e*S	**Sn**	**18 13 56.1**	**+5.4**
PEIG	**Puerto Escondi**	**5.29**	**113**	*e*P	**Pn**	**18 13 01.8**	**+2.1**
PEIG				*i* S	**Sn**	**18 13 57.1**	**-3.2**
VHO	**Vista Hermosa**	**5.32**	**101**	*e*P	**Pn**	**18 13 03.2**	**+2.9**
VHO				*i* S	**Sn**	**18 14 01.0**	**-0.5**
GTIG	**Gomez Farias**	**5.66**	**30**	*e*P	**Pn**	**18 13 07.5**	**+2.8**
HUIG	**Huatulco**	**6.29**	**111**	*e*P	**Pn**	**18 13 13.7**	**+0.2**
HUIG				*i* S	**Sn**	**18 14 22.7**	**-2.4**
PMUV	**Sontecomapan**	**6.74**	**86**	*e*P	Pn	18 13 10.9	-8.7
CMIG	**Matias Romero**	**7.06**	**97**	LR	LR	18 15 43.3	
	comp=Z,18nm,21.4s,baz=356,slow=39						
CMIG	**Matias Romero**	**7.06**	**97**	*e*P	**Pn**	**18 13 26.4**	**+2.4**
CMIG				*i* S	Sb	18 14 59.7	-7.9
LPIG	**La Paz**	**9.61**	**309**	LR	LR	18 17 33.7	
	comp=Z,32nm,20.3s,baz=53,slow=36						
TXAR	**Lajitas Array**	**11.21**	**353**	LR	LR	18 18 17.0	
	comp=Z,25nm,21.0s,baz=155,slow=38						
ANMO	**Albuquerque**	**17.15**	**348**	LR	LR	18 22 44.3	
	comp=Z,100nm,18.2s,baz=270,slow=40						
NVAR	**Mina Array Bea**	**24.61**	**328**	P	**P**	**18 17 01.7**	**+0.6**
	1.5nm,0.8s,baz=134,slow=11,SNR=6.6						
	1.5nm,0.8s						
ELK	**Elko**	**25.16**	**336**	LR	LR	18 28 16.8	
	comp=Z,46nm,18.1s,baz=113,slow=40						
PDAR	**Pinedale Array**	**25.32**	**347**	P	**P**	**18 17 04.0**	**-3.5**
	0.2nm,0.6s,baz=153,slow=8.0,SNR=4.2						
PDAR				LR	LR	18 28 08.5	
	comp=Z,44nm,18.5s,baz=165,slow=40						
	0.2nm,0.6s						
NEW	**Newport**	**32.40**	**341**	LR	LR	18 31 10.6	
	comp=Z,32nm,21.3s,baz=180,slow=37						
ILAR	**Eielson Array**	**55.28**	**338**	P	**P**	**18 21 12.7**	**-1.0**
	0.7nm,0.9s,baz=148,slow=6.7,SNR=5.4						
ILAR				LR	LR	18 47 01.3	
	comp=Z,82nm,19.2s,baz=320,slow=39						
	0.7nm,0.9s						
H03N2	**Juan Fernandez**	**55.91**	**156**	T	T	19 21 27.0	
	baz=334,slow=77,SNR=94						
H03N1	**Juan Fernandez**	**55.91**	**156**	T	T	19 21 26.1	
	baz=334,slow=77,SNR=120						
H03N3	**Juan Fernandez**	**55.92**	**156**	T	T	19 21 26.9	
	baz=334,slow=77,SNR=114						

RSNC 11 18:14:20.2±0.0, 7°N±1°×7°3W±°, h142km±2km, M3.1, mb3.7, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	P	Pn	18 14 39.3	-0.6
BARC				S	Sn	18 14 53.7	-1.1
BRJC	**Barrancabermej**	**0.60**	**286**	P	Pn	18 14 41.2	0.0
BRJC				S	Sn	18 14 57.2	+0.1
PAMC	**Pamplona, Colo**	**0.70**	**41**	P	Pn	18 14 42.3	-0.1
PAMC				S	Sn	18 14 59.3	+0.1
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	18 14 43.6	-0.5
RUSC				S	Sn	18 15 01.3	-0.9
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	18 14 46.3	-0.9
PTBC				S	Sn	18 15 06.4	-1.5
OCAC	**Ocana**	**1.43**	**354**	P	Pn	18 14 47.8	-0.8
OCAC				S	Sn	18 15 09.7	-0.6
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	18 14 48.2	-0.7
SPBC				S	Sn	18 15 10.2	-0.6
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	18 14 52.4	-0.3
ZARC				S	Sn	18 15 17.1	-0.5
NORC	**Norcasia**	**2.10**	**234**	P	Pn	18 14 55.5	-0.7
NORC				S	Sn	18 15 22.7	-1.0
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	18 14 59.3	+0.8
ROSC				S	Sn	18 15 30.4	+2.4
HELC	**Santa Helena**	**2.43**	**255**	P	Pn	18 15 00.9	+0.4
HELC				S	Sn	18 15 33.6	+2.2
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	18 15 00.9	+0.1
CVER				S	Sn	18 15 33.2	+1.2
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	18 15 04.3	+0.4
GUY2C				S	Sn	18 15 37.6	+0.1
PTGC	**Puerto Gaitan,**	**2.79**	**158**	P	Pn	18 15 02.5	-2.1
PTGC				S	Sn	18 15 35.3	-3.6
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	18 15 07.3	0.0
CBOC				S	Sn	18 15 44.2	+0.6
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	18 15 07.4	-0.4
DBBC				S	Sn	18 15 42.4	-2.1
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	18 15 11.1	+0.9
ANIL				S	Sn	18 15 51.1	+2.2
ARGC	**Ariguani, Magd**	**3.21**	**341**	P	Pn	18 15 12.0	+2.0
PRAC	**Prado**	**3.52**	**209**	P	Pn	18 15 12.9	-1.2
PRAC				S	Sn	18 15 54.8	-1.0
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	18 15 13.4	-1.1
ORTC				S	Sn	18 15 56.6	+0.1
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	18 15 13.1	-1.4
APAC				S	Sn	18 15 55.4	-1.2
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	18 15 13.6	-2.3
SJCC				S	Sn	18 15 54.7	-4.4
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	18 15 16.1	-0.9
URMC				S	Sn	18 16 00.1	-0.9
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	18 15 19.6	-3.3
CRJC				S	Sn	18 16 09.3	-2.3
MACC	**Macarena, Meta**	**4.68**	**188**	P	Pn	18 15 26.5	-2.9
MACC				S	Sn	18 16 19.9	-3.3
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	18 15 29.8	-3.6
URIC				S	Sn	18 16 28.9	-1.6
FLOC	**Florencia**	**5.76**	**206**	P	Pn	18 15 42.6	-1.1

*IDC **11** 18:15:05.0±2.0, 33°17N×73°64E, h0km, mb3.6/5, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=62.9km s-min=22.9km az=57.0*

ISC 11 18:15:07.5±1.7, 33°2N±0°2×73°7E±0°3, h15km, n6, σ1§14/6, mb3.5/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**17.74**	**10**	P	**Pn**	**18 19 12.8**	**-0.9**
	baz=197,slow=11,SNR=2.4						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**20.73**	**331**	P	**P**	**18 19 47.9**	**+0.6**
	3.5nm,0.7s,baz=144,slow=7.9,SNR=8.1						
	3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**22.16**	**18**	P	**P**	**18 20 03.4**	**+0.7**
	0.6nm,0.3s,baz=209,slow=11,SNR=5.8						
	0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.95**	**117**	P	**P**	**18 20 49.6**	**+1.1**
	1.0nm,0.9s,baz=304,slow=8.9,SNR=6.4						
	1.0nm,0.9s						
ARCES	**ARCESS Array B**	**45.01**	**338**	P	**P**	**18 23 21.9**	**-0.1**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=5.0						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**78.34**	**123**	P	**P**	**18 27 06.5**	**-0.9**
	0.4nm,1.0s,baz=308,slow=8.4,SNR=1.6						
	0.4nm,1.0s						

*IDC **11** 18:22:23.0±1.7, 0°94N×124°01E, h0km, mb3.6/3, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=142.9km s-min=22.8km az=66.0*

*NEIC **11** 18:22:47.4±1.7, 0°31N±0°10×123°45E±0°07, h217km±11km, mb4.0/9, Error ellipse: s-maj=14.3km s-min=10.2km az=185.0*

*DJA **11** 18:22:48.9±0.5, 0°N±4°×12°3E±°, h210km±5km, M3.6/11, mB4.3/1, mb3.8/2, MLv3.5/11, Mw(mB)3.4/1*

ISC 11 18:22:47.3±0.8, 0°22N±0°07×123°42E±0°05, h222km±7km, n23, σ1§47/29, mb3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.66**	**57**	P	**Pn**	**18 23 18.8**	**+1.2**
KMSI				S	**S**	**18 23 43.1**	**+1.9**
LUWI	**Luwuk**	**1.41**	**208**		**Pn**	**18 23 22.5**	**+0.3**
LUWI				Sn	**S**	**18 23 48.2**	**-1.3**
LUWI	**Luwuk**	**1.41**	**208**	P	**Pn**	**18 23 22.6**	**+0.3**
LUWI				S	**S**	**18 23 48.5**	**-1.0**
MRSI	**Marisa**	**1.50**	**280**	P	**Pn**	**18 23 23.0**	**0.0**
MRSI				S	**S**	**18 23 49.5**	**-1.2**
APSI	**Ampana**	**2.10**	**238**	P	**Pn**	**18 23 29.3**	**+0.9**
TOLI2	**Tolitoli**	**2.79**	**289**		**Pn**	**18 23 36.6**	**+0.9**
TOLI2				Sn	**S**	**18 24 11.2**	**-2.2**
SANI	**Sanana**	**3.41**	**131**	P	**Pn**	**18 23 42.1**	**-0.8**
TNTI	**Ternate**	**3.98**	**82**		**Pn**	**18 23 50.1**	**+0.5**
TNTI				Sn	**S**	**18 24 33.6**	**-5.1**
TNTI	**Ternate**	**3.98**	**82**	P	**Pn**	**18 23 52.1**	**+2.4**
NLAI	**Namlea**	**5.03**	**133**	P	**Pn**	**18 24 03.7**	**+1.1**
	0.1nm567nm19nm,0.7s						
KNRA	**Kununurra**	**16.65**	**162**	P	**Pn**	**18 26 28.4**	**0.0**
FITZ	**Fitzroy Crossi**	**18.33**	**173**		**P**	**18 26 45.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.33**	**173**	P	**P**	**18 26 45.7**	**+0.4**
	0.5nm,0.3s,baz=356,slow=9.1,SNR=8.8						
	1.7nm,0.5s						
WB0	**Warramunga Arr**	**22.58**	**152**	P	**P**	**18 27 29.6**	**+0.5**
WB0				IAmb	IAmb	18 27 31.3	
	comp=Z,4.1nm,1.0s						
WRA	**Warramunga Arr**	**22.71**	**153**	P	**P**	**18 27 31.0**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=336,slow=9.5,SNR=35						
	comp=Z,1.2nm,0.5s						
WR8	**Warramunga Arr**	**22.80**	**152**	P	**P**	**18 27 31.4**	**+0.4**
WR8				IAmb	IAmb	18 27 33.5	
	comp=Z,2.8nm,0.6s						
COEN	**Coen**	**24.10**	**127**	P	**P**	**18 27 43.1**	**+0.2**
COEN				IAmb	IAmb	18 27 58.3	
	comp=Z,8.1nm,1.2s						
AS31	**Alice Springs**	**25.83**	**157**	P	**P**	**18 27 59.3**	**+0.8**
ASAR	**Alice Springs**	**25.83**	**157**	P	**P**	**18 27 59.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=329,slow=8.6,SNR=19						
	comp=Z,0.3nm,0.4s						
FORT	**Forrest**	**31.14**	**172**	P	**P**	**18 28 45.9**	**+0.6**
FORT				IAmb	IAmb	18 28 54.4	
	comp=Z,5.3nm,0.8s						
BBOO	**Buckleboo**	**34.94**	**161**	P	**P**	**18 29 18.9**	**+0.7**
MKAR	**Makanchi Array**	**58.65**	**328**	P	**P**	**18 32 20.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=121,slow=8.6,SNR=7.5						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**63.00**	**330**	P	**P**	**18 32 49.7**	**-0.8**
KURK				IAmb	IAmb	18 32 52.5	
	comp=Z,1.1nm,0.7s						

TAP 11 18:24:35.6, 22°85N×121°40E, h98km, ML2.0, 1C-2D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**0.29**	**264**	*e*P	Pn	18 24 50.0	+0.1
TWGBT				*e*S	Sn	18 25 00.7	0.0
FULB	**Fuli**	**0.36**	**345**	*e*P	Pn	18 24 50.9	+0.6
FULB				*e*S	Sn	18 25 03.0	+1.7
ECL	**Taimali**	**0.48**	**239**	*e*S	Sn	18 25 01.9	-0.6
ELDTW	**Lidau**	**0.49**	**314**	↑*i*P	Pn	18 24 51.8	+0.6
ELDTW				*e*S	Sn	18 25 03.2	+0.3
TWF1	**Yuli**	**0.51**	**350**	*e*P	Pn	18 24 51.1	-0.2
TWF1				*e*S	Sn	18 25 02.8	-0.2
YULB	**Yu-li**	**0.55**	**350**	↓↓*i*P	Pn	18 24 51.4	-0.2
YULB				S	Sn	18 25 03.0	-0.6
HGSD	**Ruisui**	**0.64**	**2**	*e*P	Pn	18 24 52.8	+0.4
HGSD				S	Sn	18 25 06.6	+1.7
EHYH	**Wanrong**	**0.64**	**356**	*e*P	Pn	18 24 52.4	0.0
EHYH				*e*S	Sn	18 25 04.6	-0.2
STYH	**Taoyuan**	**0.66**	**299**	*e*P	Pn	18 24 53.0	+0.6
STYH				*e*S	Sn	18 25 05.9	+0.8
EHY	**Hungye**	**0.66**	**354**	*e*P	Pn	18 24 52.2	-0.3
EHY				*e*S	Sn	18 25 04.7	-0.4
EAST	**Anshuo**	**0.69**	**228**	*e*P	Pn	18 24 53.0	+0.2
TSMG	**Majia**	**0.71**	**259**	*e*S	Sn	18 25 06.2	+0.2
SSD	**Sandimen**	**0.71**	**262**	*i* P	Pn	18 24 53.6	+0.6
SSD				*i* S	Sn	18 25 06.2	+0.3
MASBT	**Mashibuluo**	**0.74**	**252**	*i* P	Pn	18 24 53.7	+0.4
MASBT				*i* S	Sn	18 25 06.4	-0.1
WTP	**Ta-pu**	**0.82**	**299**	*e*P	Pn	18 24 54.5	+0.4
WTP				*e*S	Sn	18 25 08.8	+0.9
SCST	**Cishan**	**0.83**	**273**	*e*P	Pn	18 24 54.8	+0.7
SCST				*e*S	Sn	18 25 08.8	+0.8
TPUB	**Ta-pu**	**0.84**	**303**	‖P	Pn	18 24 54.5	+0.2
TPUB				*e*S	Sn	18 25 08.2	0.0
SLIU	**Shizi**	**0.84**	**221**	*e*P	Pn	18 24 54.5	+0.3
SLIU				*e*S	Sn	18 25 08.4	+0.2
ALS	**Alishan**	**0.85**	**320**	*e*P	Pn	18 24 55.2	+0.5
LYUB	**Lan-yu**	**0.86**	**168**	*e*P	Pn	18 24 52.6	-1.8
SCZT	**Fangliau**	**0.86**	**237**	P	Pn	18 24 54.6	+0.2
SCZT				*e*S	Sn	18 25 08.1	-0.5
WARBT	**Fenglin Townsh**	**0.86**	**359**	*e*P	Pn	18 24 54.0	-0.5
CHN1	**Nanshi**	**0.87**	**293**	*e*P	Pn	18 24 55.0	+0.5
CHN1				*e*S	Sn	18 25 09.3	+0.5
SNST	**Tainan City**	**0.91**	**294**	*e*P	Pn	18 24 55.2	+0.3
SNST				*e*S	Sn	18 25 09.6	+0.2
VWDT	**VWDT**	**0.93**	**345**	*e*P	Pn	18 24 56.3	+1.1
VWDT				*e*S	Sn	18 25 12.2	+2.4
TWK	**Hsinying**	**0.94**	**297**	*e*P	Pn	18 24 55.6	+0.4
TWK				*e*S	Sn	18 25 09.5	-0.5
CHN5	**Tsauling**	**1.00**	**318**	*e*P	Pn	18 24 56.2	+0.3
SSLB	**Suanglung**	**1.02**	**336**	*e*P	Pn	18 24 56.4	+0.3
WUSB	**Renai**	**1.17**	**347**	*e*P	Pn	18 24 58.6	+0.7
LXIB	**Xiulin Townshi**	**1.17**	**1**	*e*P	Pn	18 24 59.0	+1.0
WHP	**Taichung City**	**1.48**	**344**	*e*P	Pn	18 25 02.3	+0.6

JMA 11 18:24:50.7±0.1, 24°0N±0°4×122°9E±0°4, h17km±2km, MV1.9/9, NEAR ISHIGAKIJIMA ISLAND, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**9**	*e*P	Pg	18 25 00.0	-0.2
JYNG				*e*S	Sg	18 25 06.6	-0.1
YOJ	**Yonaguni jima**	**0.49**	**16**	*e*P	Pg	18 25 00.5	-0.2
YOJ				*e*S	Sg	18 25 07.3	0.0
HATJ	**Hateruma jima**	**0.86**	**85**	*e*P	Pb	18 25 06.7	-0.5
IRIF	**Iriomote-Funau**	**0.86**	**66**	P	Pb	18 25 06.9	-0.4
IRIF				*e*S	Sb	18 25 18.6	0.0
JKRS	**Kuro-shima**	**1.08**	**76**	*e*P	Pb	18 25 10.9	0.0
JKRS				*e*S	Sb	18 25 24.8	+0.1
JIJ	**Ishigaki jima**	**1.23**	**72**	*e*P	Pn	18 25 12.9	-0.2
JIJ				*e*S	Sb	18 25 28.7	-0.3
JISG	**Ishigakijimahi**	**1.45**	**65**	*e*P	Pn	18 25 16.1	0.0
JISG				*e*S	Sb	18 25 35.1	-0.3

*IDC **11** 18:25:30.1±3.3, 9°84S×114°12E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=181.1km s-min=29.3km az=47.0.*

*DJA **11** 18:25:38.5±0.7, 10°S±3°×11°5E±°, h20km±6km, M3.8/19, mB4.9/1, mb3.9/6, MLv3.8/19, Mw(mB)4.2/1*

ISC 11 18:25:37.8±1.2, 9°74S±0°09×114°70E±0°06, h31km, n19, σ1§48/23, mb3.0/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**1.17**	**26**	P	**Pn**	**18 25 58.1**	**0.0**
DNP				S	**Sn**	**18 26 13.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.37**	**337**	P	**Pn**	**18 26 00.3**	**-0.6**
SRBI	**Singaraja**	**1.72**	**17**	P	**Pn**	**18 26 05.6**	**-0.1**
ABJI	**Asem Bagus**	**1.98**	**347**	P	**Pn**	**18 26 10.3**	**+1.0**
ABJI				S	**Sn**	**18 26 35.4**	**+2.3**
BLJI	**Banyuglugur**	**2.26**	**331**	P	**Pn**	**18 26 14.3**	**+1.2**
BLJI				S	**Sn**	**18 26 41.4**	**+1.5**
TWSI	**Taliwang, Sumb**	**2.38**	**65**	P	**Pn**	**18 26 14.8**	**+0.1**
PLAI	**Plampang**	**3.17**	**74**	P	**Pn**	**18 26 26.6**	**+1.0**
PLAI				S	**Sn**	**18 27 02.7**	**+0.2**
GRJI	**Gresik**	**3.56**	**322**	P	**Pn**	**18 26 32.2**	**+1.2**
PCJI	**Pacitan**	**3.80**	**294**	P	**Pn**	**18 26 35.9**	**+1.6**
WOJI	**Wonogiri, Jawa**	**4.18**	**297**	P	**Pn**	**18 26 40.5**	**+1.0**
UGM	**Wanagama**	**4.51**	**293**	P	**Pn**	**18 26 45.0**	**+1.0**
WBSI	**Waikabubak, Su**	**4.63**	**89**	P	**Pn**	**18 26 46.7**	**+1.0**
WSI	**Waingapu**	**5.52**	**90**	P	**Pn**	**18 26 59.3**	**+1.3**
BSSI	**Bau Bau, Buton**	**6.76**	**59**	P	**Pn**	**18 27 15.8**	**+0.8**
	18nm,1.4s						
BKSI	**Bulukumba**	**6.94**	**51**	P	**Pn**	**18 27 18.9**	**+1.4**
	0.0nm7.3nm,1.2s						
EDFI	**Ende, Flores**	**6.97**	**82**	P	**Pn**	**18 27 19.0**	**+1.0**
WRA	**Warramunga Arr**	**21.50**	**120**	P	**P**	**18 30 26.5**	**+2.2**
	0.2nm,0.6s,baz=295,slow=10.0,SNR=1.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**22.98**	**129**	P	**P**	**18 30 39.8**	**-0.3**
	0.2nm,0.4s,baz=301,slow=10.0,SNR=9.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**63.28**	**336**	P	**P**	**18 35 59.7**	**-3.9**
	0.2nm,0.4s,baz=161,slow=6.1,SNR=1.4						
	0.2nm,0.4s						

*IDC **11** 18:33:26.9±1.9, 1°98N×126°20E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=180.5km s-min=23.2km az=66.0*

*DJA **11** 18:33:32.1±1.0, 2°N±2°×12°7E±°, h22km±9km, M3.6/12, mB4.7/1, mb4.0/4, MLv3.5/12, Mw(mB)4.0/1*

ISC 11 18:33:33.1±1.1, 2°23N±0°07×126°74E±0°09, h47km, n12, σ0§87/14, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**157**	P	**Pn**	**18 33 59.4**	**+0.7**
TNTI				S	**Sn**	**18 34 19.5**	**+1.6**
SGSI	**Sangihe**	**1.89**	**320**	P	**Pn**	**18 34 03.2**	**+0.3**
SGSI				S	**Sn**	**18 34 26.6**	**+1.0**
KMSI	**Cibinong**	**3.21**	**239**	P	**Pn**	**18 34 21.4**	**+0.3**
SANI	**Sanana**	**4.32**	**190**	P	**Pn**	**18 34 36.1**	**-0.2**
MRSI	**Marisa**	**5.11**	**250**	P	**Pn**	**18 34 46.7**	**-0.4**
	0.1nm14nm,0.7s						
LUWI	**Luwuk**	**5.13**	**231**	P	**Pn**	**18 34 48.0**	**+0.5**
	19nm,1.0s						
NLAI	**Namlea**	**5.44**	**176**	P	**Pn**	**18 34 51.7**	**-0.1**
	0.1nm12nm,0.8s						
SWI	**Sorong**	**5.46**	**124**	P	**Pn**	**18 34 51.4**	**-0.6**
WRA	**Warramunga Arr**	**23.26**	**162**	P	**P**	**18 38 35.4**	**-1.3**
	0.9nm,0.8s,baz=339,slow=10,SNR=8.8						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**26.67**	**165**	P	**P**	**18 39 07.0**	**-0.8**
	0.2nm,0.7s,baz=350,slow=10,SNR=5.2						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.79**	**326**	P	**P**	**18 43 25.9**	**-0.7**
	0.2nm,0.4s,baz=109,slow=9.0,SNR=1.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.00**	**328**	P	**P**	**18 43 55.6**	**+0.5**
	0.2nm,0.3s,baz=134,slow=5.3,SNR=1.1						
	0.2nm,0.3s						

IDC 11 18:48:57.3±4.4, 16°14S×169°15E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=277.8km s-min=51.6km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.28**	**258**	P	P	18 55 38.3	+1.5

comp=Z,3µm,20.8s
DZM Mont Dzumac 19.47 257 Pn 18 57 11.4 -1.1
DZM Mont Dzumac 19.47 257 P **Pn 18 57 13.1 +0.6**
comp=Z,39nm,0.8s,baz=74,slow=20,SNR=29
DZM Mont Dzumac 19.47 257 P **Pn 18 57 12.7 +0.2**
ONTNC Ouen Toro 19.48 257 Pn 18 57 11.3 -1.2
WCZ Waipu Caves 20.27 211 P Pn 18 57 22.5 +0.8
KUZ Kuaotunu 20.31 207 P Pn 18 57 23.0 +0.8
HAZ Te Kaha 20.40 201 P Pn 18 57 24.8 +1.6
PUZ Puketiti 20.52 200 P Pn 18 57 27.1 +2.3
MKAZ Moumakai 20.85 207 P Pn 18 57 29.0 +0.5
MWZ Matawai 21.00 201 P 18 57 33.8
URZ Urewera 21.08 202 P 18 57 30.2
comp=Z,44nm,0.9s,baz=311,slow=1.5,SNR=10
comp=Z,44nm,0.9s
URZ Urewera 21.08 202 P 18 57 30.7
TOZ Tahuroa Road 21.24 206 P 18 57 31.5 +1.3
TOZ Tahuroa Road 21.24 206 P 18 57 33.9 +3.7
HLRZ Highlands Stat 21.35 203 P **P 18 57 34.0 +2.6**
RTZ Ruatahuna 21.44 202 P 18 57 32.8 +0.3
SNGZ Shannon Statio 21.47 201 P **P 18 57 37.0 +4.3**
BKZ Black Stump Fm 22.11 202 P **P 18 57 39.9 +0.3**
BKZ Black Stump Fm 22.11 202 P **P 18 57 42.2 +2.6**
HIZ Hauiti 22.17 206 P 18 57 41.4 +1.2
HIZ IAmb IAmb 18 58 02.2
comp=Z,118nm,1.3s
HIZ Hauiti 22.17 206 P **P 18 57 44.1 +3.9**
PPT2 Papeete2 22.32 90 *e*P P 18 57 29.0 -13
comp=Z,578nm,28.8s
PPT2 *e*S S 19 01 29.6 -17
comp=Z,5µm,25.5s
PPT2 *e*LR LR 19 02 46.0
comp=Z,6µm,27.8s
PPT2 *e*LR LR 19 02 46.4
comp=Z,3µm,30.8s
PPT Papeete 22.32 90 LR LR 19 04 27.6
comp=Z,2µm,18.1s,baz=252,slow=31
PPTF Pamatai, Papee 22.33 90 P P 18 57 33.0 -9.2
PPTF IAmb IAmb 18 57 55.8
comp=Z,195nm,1.4s
OTVZ Oturere 22.41 204 P P 18 57 42.7 -0.2
VRZ Vera Road 22.73 205 P P 18 57 50.9 +4.8
BFZ Birch Farm 23.55 201 P P 18 57 54.8 +0.3
BFZ IAmb IAmb 18 58 14.9
comp=Z,51nm,1.2s
BFZ Birch Farm 23.55 201 P P 18 57 57.0 +2.5
MRZ Mangatainoka R 23.76 202 P P 18 57 55.3 -1.2
MRZ IAmb IAmb 18 58 15.4
comp=Z,58nm,1.4s
MRZ Mangatainoka R 23.76 202 P P 18 57 57.6 +1.1
SNZO South Karori 24.64 203 P P 18 58 03.6 -1.0
SNZO IAmb IAmb 18 58 20.2
comp=Z,63nm,1.1s
TCW Tory Channel 24.71 203 P P 18 58 03.2 -2.1
TUWZ Tuamarina 25.03 204 P P 18 58 06.7 -1.4
NNZ Nelson 25.06 205 P P 18 58 10.1 +1.6
QRZ Quartz Range 25.08 206 P P 18 58 12.8 +4.1
THZ Tophouse 25.71 205 P P 18 58 18.4 +4.0
KHZ Kahutara 26.03 203 P P 18 58 23.7 +6.5
DSZ Denniston Nort 26.15 206 P P 18 58 18.9 +0.5
DSZ Denniston Nort 26.15 206 P P 18 58 24.9 +6.5
GVZ Greta Valley S 26.69 203 P P 18 58 30.7 +7.5
LTZ Lake Taylor 26.83 204 P P 18 58 31.7 +7.2
OXZ Oxford 27.38 204 P 18 58 28.2 -1.2
OXZ Oxford 27.38 204 P P 18 58 36.2 +6.8
WVZ Waitaha Valley 27.69 206 P **P 18 58 38.5 +6.3**
HNR Honiara 27.80 286 LR LR 19 08 07.0
comp=Z,1µm,20.2s,baz=104,slow=34
RPZ Rata Peaks 28.09 205 P P 18 58 41.1 +5.3
comp=Z,24nm,0.7s,baz=8.2,slow=3.1,SNR=14
RPZ Rata Peaks 28.09 205 P P 18 58 43.4 +7.6
FOZ Fox Glacier 28.45 207 P P 18 58 45.3 +6.4
WHZ Wether Hill Ro 31.14 206 P **P 18 59 01.5 -1.3**
TAOE Nuku Hiva Isla 33.41 77 *e*P **P 18 59 19.7 -3.4**
comp=Z,120nm,25.2s
TAOE *e*S S 19 04 29.5 -14
comp=Z,166nm,23.2s
TAOE *e*LR LR 19 07 48.9
comp=Z,2µm,26.2s
EIDS Eidsvold 33.77 253 P **P 18 59 25.2 -0.9**
comp=Z,21nm,2.2s
EIDS Eidsvold 33.77 253 P **P 18 59 24.8 -1.3**
EIDS IAmb IAmb 18 59 28.2
comp=Z,55nm,1.6s
ARMA Armidale 33.95 243 P **P 18 59 27.7 0.0**
comp=Z,10nm,1.0s
ARMA Armidale 33.95 243 P **P 18 59 26.3 -1.4**
ARMA IAmb IAmb 18 59 46.2
comp=Z,27nm,1.4s
CAN Canberra 37.26 236 P **P 18 59 55.1 -0.9**
CAN IAmb IAmb 19 00 47.4
comp=Z,78nm,1.8s
CAN Canberra 37.26 236 P **P 18 59 55.1 -0.9**
CAN pmax pmax
comp=Z,78nm,1.8s
CTAO Charters Tower 38.32 261 P **P 19 00 03.9 -1.2**
CTAO IAmb IAmb 19 00 05.7
comp=Z,39nm,0.8s
CTAO Charters Tower 38.32 261 P **P 19 00 03.9 -1.2**
CTAO pmax pmax
comp=Z,39nm,0.8s
CMSA Cobar Meteorol 39.16 243 P **P 19 00 11.0 -1.0**
comp=Z,17nm,1.1s
PMG Port Moresby 39.65 278 P **P 19 00 14.9 -1.4**
PMG Port Moresby 39.65 278 LR LR 19 15 48.0
comp=Z,2µm,19.1s,baz=97,slow=35
PMG Port Moresby 39.65 278⇓*e*P **P 19 00 16.0 -0.3**
PMG pmax pmax
comp=Z,18nm,1.4s
MTSU Mount Surprise 40.37 264 P **P 19 00 21.3 -0.9**
comp=Z,17nm,0.8s
TOO Toolangi 40.59 234 P **P 19 00 23.6 -0.3**
TOO Toolangi 40.59 234 P **P 19 00 23.6 -0.3**
TOO pmax pmax
comp=Z,13nm,1.5s
TAU Tasmania Unive 41.03 226 P **P 19 00 27.9 +0.5**
TAU IAmb IAmb 19 00 33.5
comp=Z,107nm,1.6s
TAU Tasmania Unive 41.03 226 P **P 19 00 27.9 +0.5**
TAU pmax pmax
comp=Z,107nm,1.7s
COEN Coen 42.20 270 P **P 19 00 36.4 -0.9**
comp=Z,12nm,1.2s
COEN Coen 42.20 270 P **P 19 00 36.6 -0.7**
STKA Stephens Creek 42.67 243 P **P 19 00 39.9 -1.1**
comp=Z,55nm,1.1s
STKA Stephens Creek 42.67 243 P **P 19 00 39.0 -1.9**
comp=Z,7.3nm,0.9s,baz=90,slow=8.8,SNR=10
STKA LR LR 19 17 21.3
comp=Z,3µm,19.5s,baz=79,slow=35
comp=Z,7.3nm,0.9s
STKA Stephens Creek 42.67 243*ce*P **P 19 00 39.7 -1.2**
INKA Innaminka 43.12 249 P **P 19 00 43.6 -1.1**
QIS Mount Isa 44.48 260 P **P 19 00 54.0 -1.7**
comp=Z,10nm,0.7s
HTT Hallett 45.08 241 P **P 19 00 59.5 -0.9**
comp=Z,3.4nm,1.0s
HTT Hallett 45.08 241 P **P 19 01 00.0 -0.4**
MMPI Merauke 46.30 276 P **P 19 01 11.8 +1.6**
BBOO Buckleboo 47.42 243 P **P 19 01 17.4 -1.3**
BBOO IAmb IAmb 19 01 19.8
comp=Z,13nm,0.8s
JAY Jayapura 48.09 284 LR LR 19 21 34.3
comp=Z,614nm,18.9s,baz=80,slow=36
JAY Jayapura 48.09 284 P **P 19 01 26.5 +2.3**
comp=Z,11nm,0.9s
AS31 Alice Springs 49.43 255 P **P 19 01 33.4 -1.0**
comp=Z,9.7nm,1.1s
ASAR Alice Springs 49.43 255 P **P 19 01 33.1 -1.3**
comp=Z,15nm,0.6s,baz=96,slow=7.3,SNR=156
ASAR S **S 19 08 37.8 -3.0**
comp=Z,1.2nm,0.9s,baz=91,slow=16,SNR=7.4
ASAR LR LR 19 22 25.3
comp=Z,2µm,20.3s,baz=94,slow=36
comp=Z,15nm,0.6s
WRAB Tennant Creek 49.45 260 P **P 19 01 33.0 -1.6**
WRAB IAmb IAmb 19 01 35.7
comp=Z,20nm,0.9s
WRAB Tennant Creek 49.45 260⇓*e*P **P 19 01 33.3 -1.3**
WRAB pmax pmax
comp=Z,27nm,0.9s
WRA Warramunga Arr 49.46 260 P **P 19 01 33.0 -1.7**
comp=Z,10nm,0.8s,baz=97,slow=8.9,SNR=89
WRA S **S 19 08 37.0 -4.3**
comp=Z,1.5nm,0.9s,baz=96,slow=14,SNR=4.5
WRA LR LR 19 22 08.3
comp=Z,2µm,19.7s,baz=106,slow=36
comp=Z,10nm,0.8s
GUMO Guam 52.58 305 LR LR 19 21 36.8
comp=Z,194nm,21.6s,baz=102,slow=33
MTN Manton Dam 53.86 268 P **P 19 02 05.8 -1.7**
comp=Z,18nm,0.9s
MTN Manton Dam 53.86 268 P **P 19 02 06.3 -1.2**
MTN IAmb IAmb 19 02 12.2
comp=Z,11nm,0.8s
FORT Forrest 54.20 245 P **P 19 02 09.3 -0.5**
WRKA Warakurna 54.39 252 P **P 19 02 10.5 -0.9**
comp=Z,20nm,1.0s
KNRA Kununurra 55.45 264 P **P 19 02 18.4 -0.7**
comp=Z,41nm,1.0s
KNRA Kununurra 55.45 264 P **P 19 02 18.2 -0.9**
KNRA IAmb IAmb 19 02 20.2
comp=Z,30nm,0.9s
KNRA PcP **PcP 19 03 17.4 -1.8**
FAKI Fak Fak 55.77 280 P **P 19 02 20.3 -1.2**
FAKI IAmb IAmb 19 03 41.4
comp=Z,39nm,1.2s
SWI Sorong 57.44 281 P **P 19 02 34.5 +1.2**
comp=Z,36nm,1.0s
FITZ Fitzroy Crossi 57.88 260 P **P 19 02 35.1 -1.3**
comp=Z,3.5nm,1.1s
FITZ Fitzroy Crossi 57.88 260 P **P 19 02 36.1 -0.2**
FITZ Fitzroy Crossi 57.88 260 P **P 19 02 36.4 0.0**
comp=Z,8.9nm,0.8s,baz=126,slow=4.5,SNR=16
FITZ LR LR 19 27 21.2
comp=Z,1µm,19.6s,baz=98,slow=36
comp=Z,8.9nm,0.8s
RPN Rapa Nui 58.67 111 LR LR 19 22 20.9
comp=Z,1µm,18.2s,baz=283,slow=30
SBA Scott Base 59.78 185 P **P 19 02 47.5 -1.1**
SBA IAmb IAmb 19 02 56.4
comp=Z,18nm,1.4s
SBA Scott Base 59.78 185 P **P 19 02 47.5 -1.1**
SBA pmax pmax
comp=Z,18nm,1.4s
VNDA Vanda 59.92 186 P **P 19 02 52.2 +2.6**
comp=Z,1.6nm,1.0s,baz=1.1,slow=6.2,SNR=5.6
comp=Z,1.6nm,1.0s
NLAI Namlea 60.49 277 P **P 19 02 56.7 +2.2**
SOEI Soe 61.16 269 P **P 19 02 58.2 -1.0**
SOEI Soe 61.16 269 P **P 19 03 01.4 +2.2**
comp=Z,43nm,0.9s
BATI Baumata 61.61 268 LR LR 19 30 44.5
comp=Z,921nm,19.0s,baz=132,slow=37
SANI Sanana 61.93 278 P **P 19 03 05.2 +0.9**
comp=Z,402nmcomp=Z,16nm,0.7s
PSAC2 Pilbara Seismi 62.53 255 P **P 19 03 06.3 -1.9**
comp=Z,30nm,1.0s
PSAB3 Pilbara Seismi 62.56 255 P **P 19 03 07.1 -1.3**
comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 62.58 255 P **P 19 03 07.3 -1.2**
comp=Z,35nm,0.9s
PSA00 Pilbara Seismi 62.58 255 P 19 03 06.8 -1.8
PSA00 IAmb IAmb 19 03 09.8
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 62.58 255 P **P 19 03 06.8 -1.8**
PSA00 IAmb IAmb 19 03 09.9
comp=Z,13nm,0.9s
PSAC1 Pilbara Seismi 62.62 255 P **P 19 03 08.0 -0.9**
comp=Z,37nm,1.0s
MBWA Marble Bar 62.76 255 P **P 19 03 08.7 -1.1**
comp=Z,14nm,0.8s
MBWA Marble Bar 62.76 255 P **P 19 03 08.0 -1.8**
MBWA IAmb IAmb 19 03 11.0
comp=Z,24nm,1.1s
JCJ Chichijima 63.07 315 LR LR 19 26 49.9
comp=Z,1µm,19.5s,baz=85,slow=32
NWAO Narrogin (SRO) 63.23 242 P **P 19 03 10.9 -1.9**
NWAO Narrogin (SRO) 63.23 242 LR LR 19 29 40.1
comp=Z,1µm,19.2s,baz=84,slow=35
NWAO Narrogin (SRO) 63.23 242 P **P 19 03 10.9 -1.9**
NWAO pmax pmax
comp=Z,41nm,1.3s
EDFI Ende, Flores 63.88 269 P **P 19 03 17.9 +0.5**
comp=Z,16nm,2.0s
BLDU Ballidu 63.95 245 P **P 19 03 16.1 -1.4**
comp=Z,27nm,1.8s
MUN Mundaring 64.20 243 P **P 19 03 18.5 -0.6**
MUN Mundaring 64.20 243 P **P 19 03 20.4 +1.2**
MORW Morawa 64.74 246 P **P 19 03 21.2 -1.5**
LUWI Luwuk 65.30 278 P **P 19 03 23.5 -3.0**
DAV Davao City (W) 65.76 287 LR LR 19 31 59.8
comp=Z,219nm,18.1s,baz=120,slow=36
APSI Ampana 66.39 278 P **P 19 03 36.6 +3.0**
CASY Casey 67.36 205 P **P 19 03 37.1 -1.8**
CASY IAmb IAmb 19 04 08.5
comp=Z,14nm,1.2s
TOLI2 Tolitoli 67.91 279 P **P 19 03 40.8 -2.5**
TOLI2 IAmb IAmb 19 03 49.4
comp=Z,51nm,1.7s
ADK Adak 70.58 358 P P 19 03 53.4 -5.5
ADK Adak 70.58 358 P P 19 03 53.4 -5.5
ADK pmax pmax
comp=Z,268nm,2.0s
JAGI Jajag, Banyuwa 71.10 267 P **P 19 04 01.2 -1.8**
JAGI IAmb IAmb 19 04 04.7
comp=Z,28nm,1.1s
QSPA South Pole Qui 71.13 180 P **P 19 04 05.1 +2.7**
comp=Z,1.1nm,0.7s,baz=318,slow=1.1,SNR=12
comp=Z,1.1nm,0.7s
JGF Kuroka 71.76 319 P **P 19 04 02.0 -4.5**
MJAR Matsushiro Arr 71.86 320 P **P 19 04 08.1 +1.0**
comp=Z,7.8nm,0.8s,baz=159,slow=6.6,SNR=10
comp=Z,7.8nm,0.8s
SHEM Shemya Is, Ala 72.23 352 LR LR 19 33 56.0
comp=Z,401nm,18.3s,baz=181,slow=34
TGY Tagaytay City 72.83 292 LR LR 19 33 05.5
comp=Z,440nm,19.7s,baz=114,slow=33
JOW Kunigami 72.86 307 P **P 19 04 16.7 +3.5**
comp=Z,35nm,0.6s,baz=206,slow=29,SNR=4.1
JOW LR LR 19 30 20.7
comp=Z,451nm,19.9s,baz=112,slow=31
comp=Z,7.8nm,0.8s
KKM Kota Kinabalu 73.94 282 P **P 19 04 17.1 -2.9**
KKM IAmb IAmb 19 04 22.9
comp=Z,22nm,0.9s
JNU Nakatsue 74.46 314 LR LR 19 29 08.5
comp=Z,537nm,22.0s,baz=104,slow=29
LPIG La Paz 74.61 57 LR LR 19 31 37.2
comp=Z,843nm,18.2s,baz=242,slow=31
ASAJ Asahikawa 74.71 329 P **P 19 04 26.1 +2.5**
comp=Z,9.8nm,0.9s,baz=207,slow=11,SNR=4.6
ASAJ LR LR 19 32 50.7
comp=Z,526nm,19.1s,baz=164,slow=32
comp=Z,9.8nm,0.9s
PFO Pinyon Flats O 75.09 46 LR LR 19 31 54.2
comp=Z,369nm,18.8s,baz=225,slow=31
PETK Petropavlovsk- 76.08 342 P **P 19 04 32.5 +1.1**
comp=Z,3.2nm,0.8s,baz=106,slow=9.6,SNR=5.1
PETK LR LR 19 35 08.0
comp=Z,328nm,19.4s,baz=162,slow=34
comp=Z,3.2nm,0.8s
YBH Yreka Blue Hor 76.21 36 LR LR 19 33 52.9
comp=Z,40nm,18.1s,baz=247,slow=32
KPJI Karang Pucung 76.37 267 P **P 19 04 36.4 +2.5**
comp=Z,29nm,1.5s
SBUM Sibu 76.39 277 P **P 19 04 31.9 -2.1**
NVAR Mina Array Bea 76.73 41 P **P 19 04 38.0 +2.3**
comp=Z,1.7nm,0.8s,baz=223,slow=8.6,SNR=9.4
NVAR LR LR 19 33 52.8
comp=Z,518nm,18.2s,baz=266,slow=32
comp=Z,1.7nm,0.8s
LEM Lembang 77.77 267 P **P 19 04 43.5 +1.5**
comp=Z,24nm,0.7s,baz=124,slow=6.9,SNR=11
LEM LR LR 19 39 33.2
comp=Z,387nm,20.2s,baz=160,slow=36
comp=Z,24nm,0.7s
KDAK Kodiak Island 78.30 11 LR LR 19 32 50.2
comp=Z,357nm,18.8s,baz=191,slow=31
KSRS Korea Array 78.92 316 P **P 19 04 50.2 +2.7**
comp=Z,6.1nm,0.9s,baz=132,slow=5.8,SNR=11
comp=Z,6.1nm,0.9s
CGJI Cibinong 79.65 267 P **P 19 04 54.9 +2.8**
comp=Z,722nmcomp=Z,33nm,1.6s
ELK Elko 80.01 41 LR LR 19 36 32.2
comp=Z,564nm,18.1s,baz=235,slow=33
USRK Ussuriysk Ar. 80.40 323 P P 19 05 00.3 +4.8
comp=Z,2.9nm,0.8s,baz=45,slow=3.0,SNR=5.4
PPBI Pangkal Pinang 80.62 271 P **P 19 04 58.4 +1.0**
PMSA Palmer Station 80.83 156 LR LR 19 33 55.2
comp=Z,838nm,19.7s,baz=249,slow=30
BBB Bella Bella 80.88 26 LR LR 19 37 25.7
comp=Z,295nm,18.2s,baz=224,slow=33
KASI Kota Agung 81.12 267 P **P 19 05 01.1 +1.1**
comp=Z,26nm,1.0s
PMBI Palembang 81.67 270 P **P 19 05 03.4 +0.4**
LWLI Liwa 81.69 268 P **P 19 05 02.4 -0.8**
MDSI Maura Dua 81.74 268 P **P 19 05 03.2 -0.1**
comp=Z,459nmcomp=Z,17nm,1.8s
MDJ Mudanjiang 82.02 323 P **P 19 05 06.3 +2.2**
MDJ pmax pmax
comp=Z,12nm,1.8s
TXAR Lajitas Array 82.30 56 P **P 19 05 09.9 +3.8**
comp=Z,2.8nm,0.9s,baz=252,slow=5.4,SNR=8.0
TXAR LR LR 19 36 20.9
comp=Z,257nm,18.1s,baz=234,slow=32
comp=Z,2.8nm,0.9s
NJ2 Nanjing 82.56 307 *e*P **P 19 05 05.6 -1.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
LHSI Lahat 82.57 268 P **P 19 05 09.4 +1.7**
DSRI Dabo 82.64 272 P **P 19 05 09.9 +1.9**
comp=Z,687nmcomp=Z,31nm,1.8s
ANMO Albuquerque 82.81 49⇑*e*P P 19 05 01.5 -7.2
ANMO pmax pmax
comp=Z,15nm,2.0s
TPRI Tanjung Pinang 83.14 273 P P 19 05 15.0 +4.4
NEW Newport 83.43 34 LR LR 19 38 34.0
comp=Z,947nm,18.1s,baz=208,slow=33
KSI Kapahiang 83.50 268 P **P 19 05 15.8 +3.2**
comp=Z,38nm,0.9s
MA2 Magadan 83.62 342 LR LR 19 39 45.7
comp=Z,154nm,19.7s,baz=162,slow=34
BNX BinXian 83.94 323⇓P **P 19 05 16.2 +2.2**
BNX pmax pmax
comp=Z,14nm,0.9s
MASI Maura Aman, Be 84.00 269 P **P 19 05 15.4 +0.3**
comp=Z,51nm,1.9s
CN2 Changchun 84.00 320 *e*P **P 19 05 15.0 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
QIZ Qiongzhong 84.54 292 P **P 19 05 15.0 -2.7**
QIZ S **SKSac 19 15 44.6 +3.7**
QIZ LR LR
comp=Z,190nm,6.4s
QIZ LR LR
comp=Z,380nm,8.3s
QIZ LR LR
comp=Z,310nm,12.8s
MAW Mawson 84.57 199 P **P 19 05 20.1 +3.2**
MAW Mawson 84.57 199 P **P 19 05 19.0 +2.1**
comp=Z,2.9nm,1.2s,baz=92,slow=10,SNR=4.6
MAW LR LR 19 42 38.4
comp=Z,740nm,18.6s,baz=114,slow=35
comp=Z,2.9nm,1.2s
PDAR Pinedale Array 84.66 41 P **P 19 05 19.7 +1.6**
comp=Z,1.3nm,0.7s,baz=207,slow=3.9,SNR=13
PDAR LR LR 19 39 13.4
comp=Z,198nm,18.0s,baz=238,slow=33
comp=Z,1.3nm,0.7s
CMIG Matias Romero 84.75 70 LR LR 19 35 38.8
comp=Z,588nm,18.4s,baz=185,slow=30
DLBC Dease Lake 84.85 21 LR LR 19 38 21.8
comp=Z,2µm,18.4s,baz=213,slow=32
BOZ Bozeman (W) 84.93 38 P **P 19 05 18.9 -0.3**
WHN Wuhan 85.36 304 P **P 19 05 23.9 +2.4**
WHN pmax pmax
comp=Z,120nm,1.6s
COLA College 85.75 10⇑*e*P **P 19 05 19.5 -3.1**
ILAR Eielson Array 85.83 11 P **P 19 05 23.9 +0.9**
comp=Z,0.7nm,0.5s,baz=224,slow=6.2,SNR=14
ILAR LR LR 19 38 44.1
comp=Z,276nm,19.2s,baz=198,slow=32
comp=Z,0.7nm,0.5s
ILAR Eielson Array 85.83 11 P **P 19 05 24.0 +0.9**
SEY Seymchan 86.00 345 LR LR 19 42 05.9
comp=Z,198nm,18.5s,baz=161,slow=34
SEY Seymchan 86.00 345⇑*e*P P 19 05 18.6 -5.3
SEY pmax pmax
comp=Z,19nm,1.9s
PRP Porcupine Dome 86.75 11 **P 19 05 23.7 -4.1**
PLCA Paso Fires 86.90 132 LR LR 19 36 56.3
comp=Z,551nm,19.2s,baz=222,slow=30
IPM Ipoh 87.60 276 **P 19 05 30.9 -2.1**
HNS HongShan 88.01 311⇓P **P 19 05 37.6 +3.3**
HNS pmax pmax
comp=Z,18nm,1.8s
HNS LR LR
comp=Z,540nm,18.6s
HNS LR LR
comp=Z,580nm,19.1s
BJT Baijiatuau 88.13 313 P **P 19 05 35.7 +0.9**
BJT pmax pmax
comp=Z,14nm,2.0s
BJI Beijing 88.14 314 P **P 19 05 34.6 -0.2**
BJI pP **pP 19 05 39.1 -1.0**
BJI sP **sP 19 05 41.9 -0.4**
BJI pmax pmax
comp=Z,7.0nm,1.9s
BJI pmax pmax
comp=Z,290nm,8.7s
G26K Porcupine Rive 88.36 11 P 19 05 29.3 -5.9
G26K IAmb IAmb 19 06 06.4
comp=Z,22nm,1.3s
ZEA Zeya 88.61 329 *e*P **P 19 05 39.1 +2.3**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
SYO Syowa Base 89.22 191⇓*ep*PKiKP **PKiKP 19 10 37.4 -0.4**
SNAA Sanae 89.38 177 LR LR 19 41 49.5
comp=Z,726nm,20.5s,baz=192,slow=33
GYA Guiyang 89.99 298⇓P **P 19 05 47.2 +3.1**
GYA SKS **SKSac 19 16 16.4 +2.1**
GYA S **S 19 16 36.9 +0.6**
GYA pmax pmax
comp=Z,13nm,2.0s
GYA pmax pmax
comp=Z,280nm,5.0s
GYA LR LR
comp=Z,550nm,7.7s
GYA LR LR
comp=Z,280nm,6.2s
GYA LR LR
comp=Z,340nm,8.0s
G31M Satah River 90.31 14 P 19 05 40.0 -4.4
HILR Hailar Array B 90.34 323 LR LR 19 39 56.8
comp=Z,187nm,21.9s,baz=120,slow=31
NVL N'lazarevskaya 90.47 182 *e*P P 19 05 39.6 -5.7
NVL *e* 19 09 14.9
NVL *e*S **SKSac 19 16 11.6 -3.7**
NVL *e* 19 16 39.2
NVL *e*SS **SS 19 22 39.6 +1.2**
NVL *e*SSS SSS 19 26 16.6
NVL pmax pmax
comp=Z,5.0nm,0.6s
NVL smax smax
comp=N,75nm,9.5s
NVL MLR MLR
comp=Z,135nm,17.0s
XAN Xi'an 90.96 306 P **P 19 05 51.7 +3.4**
XAN pmax pmax
comp=Z,12nm,1.8s
XAN LR LR
comp=Z,630nm,18.6s
XAN LR LR
comp=Z,610nm,17.2s
JTS Las Juntas de 91.50 80 LR LR 19 38 46.6
comp=Z,546nm,18.6s,baz=242,slow=30
INK Inuvik 91.60 14 LR LR 19 44 56.5
comp=Z,372nm,18.1s,baz=192,slow=34
HHC Hu-ho-hao-te 91.67 313 *e*P **P 19 05 49.2 -2.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,290nm,4.0s
NNA Nana 91.92 103 LR LR 19 38 20.5
comp=Z,248nm,19.3s,baz=232,slow=30
ATAH Atahualpa 92.08 98 LR LR 19 38 36.3
comp=Z,440nm,18.6s,baz=251,slow=30
CFA Coronel Fontan 92.19 124 LR LR 19 38 32.2
comp=Z,209nm,21.4s,baz=288,slow=30
YAK Yakutsk 92.48 337 LR LR 19 45 23.6
comp=Z,74nm,18.9s,baz=176,slow=34
BTO Baotou 92.65 312 *e*P **P 19 06 00.6 +4.5**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO LR LR
comp=Z,690nm,8.3s

BTO LR LR
comp=Z,670nm,8.9s
YKA Yellowknife Ar 93.19 23 LR LR 19 42 49.7
comp=Z,243nm,18.3s,baz=282,slow=32
CMAR Chiang Mai Arr 94.04 288 P **P 19 06 05.2 +2.4**
comp=Z,2.3nm,1.0s,baz=114,slow=2.5,SNR=13
CMAR LR LR 19 46 12.2
comp=Z,157nm,19.6s,baz=105,slow=34
comp=Z,2.3nm,1.0s
CHTO Chiang Mai 94.15 288 P **P 19 06 03.4 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.6s
PZH PanZhiHua 94.15 296 P **P 19 06 01.0 -2.3**
LZDM Lanzhou Array 95.65 306 LR LR 19 46 55.3
comp=Z,244nm,20.3s,baz=245,slow=34
ULM Lac du Bonnet 96.45 39 LR LR 19 46 22.7
comp=Z,578nm,18.1s,baz=252,slow=33
SONM Songino Array 97.69 318 LR LR 19 48 35.6
comp=Z,184nm,18.4s,baz=138,slow=34
LPAZ La Paz 98.28 110 LR LR 19 42 16.8
comp=Z,501nm,19.3s,baz=254,slow=30
TIXI Tiksi 98.48 344 LR LR 19 50 46.2
comp=Z,210nm,18.8s,baz=168,slow=35
GTA Gaotai 99.64 308 *e*P **Pdif 19 06 36.0 +8.1**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=N,310nm,16.7s
GTA LR LR
comp=E,310nm,16.7s
GTA LR LR
comp=Z,330nm,17.8s
WMQ Urumqi 109.44 311 Pdif **Pdif 19 07 09.2 -2.1**
WMQ LR LR
comp=Z,400nm,14.3s
WMQ LR LR
comp=Z,280nm,21.5s
MKAR Makanchi Array 113.52 314 PKiKP **PKiKP 19 11 21.9 -0.3**
comp=Z,0.4nm,0.5s,baz=262,slow=1.0,SNR=7.0
KURK Kurchatov 116.00 318 PKIKP **PKPdf 19 11 26.7 0.0**
KURBB Kurchatov Arra 116.06 318 PKP **PKPdf 19 11 26.7 -0.1**
comp=Z,0.4nm,0.5s,baz=110,slow=2.0,SNR=3.5
ARTI Arti 126.61 327 *i* PKIKP **PKPdf 19 11 45.2 -1.8**
ARTI 19 18 56.4
ARTI SP SP 19 23 39.8 -3.8
ARCES ARCESS Array B 128.14 352 PKP **PKiKP 19 11 52.1 +1.9**
comp=Z,1.2nm,0.7s,baz=26,slow=2.1,SNR=3.7
BELG Belogornoye 134.02 326 *i* PKIKP **PKPdf 19 12 00.6 -0.5**
MAK Makhachkala 138.33 314 *e*P **Pdif 19 09 08.9 -11**
MAK *i* 19 12 03.9
MAK *e* 19 19 12.0
KIV Kislovodsk 141.08 318 *i* PKIKP **PKiKP 19 12 16.5 -0.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
SOC Sochi 143.13 319 *e*PKIKP PKPab 19 12 13.5 -0.1
SOC *e*SS SS 19 34 04.6 -1.8
SOC *e*SSS SSS 19 39 26.9
SOC MLR MLR
comp=Z,268nm,21.0s
AKASG Malin Array Be 143.70 336 PKP **PKPdf 19 12 18.2 -0.7**
comp=Z,2.0nm,0.8s,baz=42,slow=2.3,SNR=9.0
AKBB Malin Array Si 143.70 336 *i* PKIKP PKPbc 19 12 17.6 +1.2
KMBO Kilima Mbogo 144.18 240 PKP **PKPdf 19 12 22.3 +1.1**
comp=Z,5.3nm,0.4s,baz=158,slow=4.5,SNR=11
SIM Simferopol' 145.60 325 *e*PKIKP **PKPdf 19 12 20.1 -2.3**
SIM *e* 19 15 44.0
SIM pmax pmax
comp=Z,63nm,1.5s
SORM Soroca 146.08 334 ⇓P **PKiKP 19 12 26.2 -1.1**
SORM Soroca 146.08 334 ⇓PKP2 **PKiKP 19 12 26.2 -1.1**
KIS Kishinev 146.77 332 *e*PKP **PKPab 19 12 27.0 -0.2**
comp=Z,90nm,6.0s
KIS Kishinev 146.77 332 *e*PKP2 **PKPab 19 12 27.0 -0.2**
KIS pmax pmax
comp=Z,90nm,6.0s
MILM Milestii Mici 146.83 332 *e*PKP **PKPbc 19 12 26.0 -0.2**
comp=Z,170nm,2.9s
MILM Milestii Mici 146.83 332 *e*PKP2 **PKPbc 19 12 26.0 -0.2**
MILM pmax pmax
comp=Z,170nm,2.9s
CLL Collm 147.34 353 *i* PKP2 **PKPab 19 12 29.1 -0.2**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 147.34 353 *i* PKPbc **PKPab 19 12 29.1 -0.2**
comp=Z,10.0nm,1.1s
CLL *i* (PKiKP) **pPKPbc 19 12 34.0 +1.0**
comp=Z,23nm,1.2s
CLL *i* x x 19 12 42.4
comp=Z,19nm,1.0s
CLL Lm MLR 20 21 00.0
comp=Z,200nm,18.3s
STHS Stebnicka Huta 147.49 343 *e*PKP2 **PKiKP 19 12 32.0 +1.8**
STHS Stebnicka Huta 147.49 343 *e*PKP **PKiKP 19 12 32.0 +1.8**
OSTC Ostas 147.60 349 AMS AMS 20 23 50.0
comp=Z,300nm,17.7s
BRG Berggiesshubel 147.65 352 *e*PKP **PKiKP 19 12 30.2 -0.2**
BRG Amp 19 12 33.9
comp=Z,5.4nm,0.9s
BURAR Bucovina Array 147.75 337 ⇓P **PKPab 19 12 32.2 +1.0**
BURAR Bucovina Array 147.75 337 ⇓PKP2 **PKPab 19 12 32.2 +1.0**
DPC Dobruska-Polom 147.78 349 *e*PKP2 **PKiKP 19 12 30.9 +0.1**
DPC MLR MLR
comp=Z,300nm,14.8s
DPC Dobruska-Polom 147.78 349 *e*PKP **PKiKP 19 12 30.9 +0.1**
DPC AMS AMS 20 25 50.0
comp=Z,300nm,14.8s
STEB Steborice 147.88 347 *e*PKP **PKiKP 19 12 31.2 +0.3**
OKC Ostrava-Krasne 147.89 346 AMS AMS 20 24 10.0
comp=Z,300nm,20.6s
KRLC Kraliky 147.95 348 *e*PKP2 **PKPab 19 12 34.4 +2.5**
KRLC Kraliky 147.95 348 *e*PKP **PKPab 19 12 34.4 +2.5**
MORC Moravsky Berou 148.08 347 ⇓P **PKPab 19 12 35.2 +2.8**
MORC Moravsky Berou 148.08 347 *e*PKP **PKPdf 19 12 28.2 +1.7**
MORC Moravsky Berou 148.08 347 ⇓PKP2 **PKPab 19 12 35.2 +2.8**
LANS Liptovska Anna 148.21 344 *e*PKP2 **PKPab 19 12 33.9 +1.0**
LANS Liptovska Anna 148.21 344 *e*PKP **PKPab 19 12 33.9 +1.0**
PRA Prague 148.37 351 AMS AMS 20 23 30.0
comp=Z,400nm,20.5s
MAUC Maruska 148.41 346 *e*PKP **PKPab 19 12 34.2 +0.5**
JURR Jurilovca 148.42 329 ⇑P **PKPab 19 12 33.9 +0.1**
PRU Pruhonice 148.43 351 *e*PKP2 **PKPab 19 12 36.4 +2.7**
PRU MLR MLR
comp=Z,200nm,18.2s
PRU Pruhonice 148.43 351 *e*PKP **PKPab 19 12 36.4 +2.7**
PRU AMS AMS 20 24 00.0
comp=Z,200nm,18.2s
CFR Carcaliu 148.46 331 ⇓P **PKPab 19 12 34.0 +0.1**
CFR Carcaliu 148.46 331 ⇓PKP2 **PKPab 19 12 34.0 +0.1**
VRI Vrincioaia 148.56 333 ⇓P **PKPab 19 12 34.6 +0.2**
VRI Vrincioaia 148.56 333 ⇓PKP2 **PKPab 19 12 34.6 +0.2**
TPGR Topolog 148.57 330 ⇓P **PKPab 19 12 34.4 -0.1**
TURR Turia 148.71 334 ⇓P **PKPab 19 12 35.2 +0.2**
VRAC Vranov 148.72 348 ⇓P **PKPab 19 12 35.7 +0.8**
VRAC Vranov 148.72 348 *e*PKP **PKiKP 19 12 32.9 +0.2**
VRAC Vranov 148.72 348 ⇓PKP2 **PKPab 19 12 35.7 +0.8**
OZUR 148.77 334 ⇑P **PKPab 19 12 34.6 -0.7**
JAVC Velka Javorina 148.92 346 *e*PKP **PKPab 19 12 35.3 -0.5**
HARR Harsova 148.93 330 ⇓P **PKPab 19 12 35.0 -0.9**
HARR Harsova 148.93 330 ⇓PKP2 **PKPab 19 12 35.0 -0.9**
TREC Trest 148.94 349 AMS AMS 20 24 00.0
comp=Z,300nm,18.1s
KRUC Moravsky 149.00 348 *e*PKP **PKiKP 19 12 33.6 +0.3**
DOPR Dopca 149.03 335 ⇓P **PKiKP 19 12 34.3 +0.8**
BRTR Keskin Array B 149.05 318 PKPbc **PKiKP 19 12 34.2 +0.3**
comp=Z,2.9nm,0.8s,baz=114,slow=3.1,SNR=14
MLR Muntele Rosu 149.19 333 ⇓P **PKiKP 19 12 35.4 +1.4**
MLR Muntele Rosu 149.19 333 ⇓PKP2 **PKiKP 19 12 35.4 +1.4**
KIRS Kirsehir-Merke 149.20 316 ⇓P **PKiKP 19 12 35.2 +1.1**
MARR Marisel-Cluj 149.31 338 ⇓P **PKiKP 19 12 35.7 +1.6**
DRGR 149.35 339 ⇓P **PKiKP 19 12 35.1 +0.9**
DRGR 149.35 339 ⇓PKP2 **PKiKP 19 12 35.1 +0.9**
KHC Kasperske Hory 149.41 351 *e*PKP2 **PKiKP 19 12 35.7 +1.5**
KHC MLR MLR
comp=Z,300nm,13.7s
KHC Kasperske Hory 149.41 351 *e*PKP **PKiKP 19 12 35.7 +1.5**
KHC AMS AMS 20 23 10.0
comp=Z,300nm,13.7s
MODS Modra-Piesok 149.46 346 *e*PKP2 **PKiKP 19 12 34.2 -0.1**
MODS Modra-Piesok 149.46 346 *e*PKP **PKiKP 19 12 34.2 -0.1**
CKRC Cesky Krumlov 149.60 350 *e*PKP2 **PKiKP 19 12 34.7 +0.1**
CKRC Cesky Krumlov 149.60 350 *e*PKP **PKiKP 19 12 34.7 +0.1**
MBAR Mbarara 149.63 233 **PKPdf 19 12 24.5 -5.7**
MBAR Mbarara 149.63 233 PKIKP **PKPdf 19 12 24.5 -5.7**
GERES GERESS Array B 149.67 351 PKPbc **PKPbc 19 12 34.5 +0.7**
comp=Z,1.4nm,0.9s,baz=5.7,slow=4.0,SNR=8.5
SIRR Siria 150.16 339 ⇑P **PKiKP 19 12 37.8 +2.0**
CONA Conrad Observa 150.18 348 *e*PKP **PKiKP 19 12 37.1 +1.2**
comp=Z,108nm,2.7s
RONA Rosalia, Austr 150.31 347 *i* PKP **PKiKP 19 12 37.6 +1.5**
comp=Z,47nm,2.2s
MOA Molln 150.55 350 *e*PKiKP **PKPbc 19 12 33.5 -2.3**
comp=Z,112nm,2.7s
BIOA Bad Ischl, Aus 150.80 351 *i* PKiKP **PKPbc 19 12 34.2 -2.3**
comp=Z,12nm,1.7s
ARSA Arzberg 150.90 348 *i* PKP **PKiKP 19 12 38.7 +1.4**
comp=Z,105nm,3.0s
BORA Eskisehir 150.93 321 **PKPdf 19 12 26.4 -5.0**
MMAI Mount Meron Ar 150.95 304 PKPbc **PKiKP 19 12 39.0 +1.1**
comp=Z,4.5nm,0.8s,baz=70,slow=5.8,SNR=4.7
MMAI PKPab **sPKPbc 19 12 47.1 +2.6**
comp=Z,8.8nm,1.0s,baz=54,slow=1.4,SNR=5.5
MORH Mrgy, Hungar 151.13 343 ⇓P **PKiKP 19 12 39.8 +2.1**
LESA Schwarzleotal 151.20 352 *e*pPKiKP **PKPbc 19 12 37.1 -0.4**
comp=Z,3.6nm,1.1s
ELND Elena 151.23 330 ⇓P **PKPbc 19 12 37.5 -0.1**
RETA Reutte 151.35 355 *e*PKP **PKiKP 19 12 39.1 +0.9**
comp=Z,12nm,1.8s
WATA Walderalm 151.42 353 *i* pPKiKP **PKiKP 19 12 39.1 +0.6**
comp=Z,16nm,1.8s
MDVR Moldovita 151.44 338 ⇑P **PKiKP 19 12 40.5 +2.0**
PLVB Pleven 151.44 332 ⇓P **PKiKP 19 12 40.1 +1.6**
KBA Koelnbreinsper 151.44 351 *e*pPKiKP **PKPbc 19 12 38.4 +0.3**
comp=Z,0.3nm,0.4s
MOTA Moosalm 151.46 354 *i* PKP **PKiKP 19 12 40.4 +1.7**
comp=Z,13nm,1.4s
WTTA Wattenberg 151.49 353 *e*PKP **PKiKP 19 12 39.6 +0.9**
comp=Z,2.3nm,0.6s
SOKA Soboth 151.54 348 *i* PKiKP **PKPbc 19 12 35.9 -2.4**
comp=Z,12nm,1.7s
SQTA Sankt Quirin 151.57 354 *i* PKP **PKiKP 19 12 39.7 +0.9**
comp=Z,0.4nm,0.3s
DAVA Damuels 151.62 356 *i* pPKiKP **PKPbc 19 12 38.8 +0.3**
comp=Z,4.4nm,1.2s
OBKA Obir 151.80 349 *i* pPKiKP **PKiKP 19 12 39.5 +0.2**
comp=Z,0.5nm,0.5s
FETA Feichten 151.82 355 *e*pPKiKP **PKPbc 19 12 39.3 +0.3**
comp=Z,5.3nm,1.2s
MYKA Terra Mystica 151.84 350 *i* PKiKP **PKPbc 19 12 36.0 -2.9**
comp=Z,8.0nm,1.1s
ABTA Abfaltersbach 151.89 352 *i* PKiKP **PKPdf 19 12 35.4 +2.8**
comp=Z,0.1nm,0.3s
FUORN Ofenpass-Fuorn 152.25 355 **PKPdf 19 12 26.9 -6.5**

CATAC 11 18:55:16.3±0.4, 12°N±3°×8°7W±°, h23km, M3.5/19, MLv3.5/19, Error ellipse: s-maj=6.2km s-min=2.6km az=28.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**0.61**	**66**	S	Sn	18 55 38.2	-0.5
ALEN	**Leon**	**0.61**	**66**	P	Pn	18 55 29.2	-0.4
CRIN	**San Cristobal**	**0.62**	**38**	P	Pn	18 55 30.6	+0.8
CRIN	**San Cristobal**	**0.62**	**38**	S	Sn	18 55 40.8	+1.7
PKGN	**Cerro Pekin**	**0.64**	**44**	P	Pn	18 55 30.8	+0.7
PKGN				S	Sn	18 55 40.4	+0.8
HERN	**Volcan Telica**	**0.71**	**56**	P	Pb	18 55 30.4	+0.2
HERN	**Volcan Telica**	**0.71**	**56**	S	Sn	18 55 40.9	-0.5
CSGN	**Cosiguina Volc**	**0.77**	**351**	P	Pn	18 55 32.0	+0.1
CSGN				S	Sn	18 55 42.7	-0.1
CNGN	**Cerro Negro**	**0.78**	**68**	P	Pn	18 55 32.3	+0.4
CNGN	**Cerro Negro**	**0.78**	**68**	S	Sn	18 55 42.9	0.0
COPN	**Copaltepe**	**0.83**	**92**	P	Pn	18 55 32.3	-0.2
MOM3	**MOM3**	**0.95**	**71**	P	Pb	18 55 33.7	-0.4
MOM3				S	Sn	18 55 47.5	+0.4
APYN	**Apoyeque**	**1.06**	**89**	P	Pn	18 55 35.4	-0.4
APYN				S	Sb	18 55 49.5	-0.1
AESN	**El Sauce Leon**	**1.11**	**52**	P	Pn	18 55 35.8	-0.6
CNCH	**Conchagua**	**1.13**	**340**	P	Pn	18 55 37.0	+0.1
CNCH	**Conchagua**	**1.13**	**340**	S	Sb	18 55 51.6	0.0
UNAN	**Cigeo UNAN**	**1.15**	**95**	P	Pn	18 55 37.0	0.0
UNAN				S	Sb	18 55 51.9	-0.1
LCND	**La Caada**	**1.18**	**338**	P	Pb	18 55 37.8	-0.3
LCND	**La Caada**	**1.18**	**338**	S	Sn	18 55 51.4	-1.4
WILN	**Americas 2**	**1.22**	**92**	S	Sn	18 55 53.8	-0.1
MAS3	**AI N del Volca**	**1.25**	**98**	P	Pn	18 55 38.4	0.0
MAS3				S	Sn	18 55 54.0	-0.5
LIMN	**Finca el Limon**	**1.35**	**51**	S	Sn	18 55 56.8	-0.3
RANC	**El Ranchito**	**1.47**	**326**	P	Pn	18 55 41.7	+0.1
RANC	**El Ranchito**	**1.47**	**326**	S	Sn	18 55 59.4	-0.9
PACA	**Pacayal**	**1.52**	**326**	P	Pn	18 55 42.5	+0.3
PACA	**Pacayal**	**1.52**	**326**	S	Sn	18 56 00.4	-1.1
MATN	**Matagalpa**	**1.64**	**64**	P	Pn	18 55 42.9	-1.0
MATN	**Matagalpa**	**1.64**	**64**	S	Sn	18 56 03.5	-0.9
RCVN	**Varillal2**	**1.83**	**41**	P	Pn	18 55 47.0	+0.5
RCVN	**Varillal2**	**1.83**	**41**	S	Sn	18 56 09.5	+0.5
RCPN	**Sur Rio San Ju**	**1.85**	**45**	P	Pn	18 55 47.1	+0.3
RCPN	**Sur Rio San Ju**	**1.85**	**45**	S	Sn	18 56 09.9	+0.2

*IDC **11** 18:56:34.2±2.9, 43°.02N×105°.11W, h0km, mbtmp3.5/2, ML3.0/2, Error ellipse: s-maj=56.4km s-min=10.7km az=156.0*
*NEIC **11** 18:56:35.0±1.3, 43°.61N±0°.08×105°.34W±0°.07, h0km±1km, ML3.3/58, Error ellipse: s-maj=13.3km s-min=7.7km az=194.0*
ISC 11 18:56:35.6±1.1, 43°.69N±0°.05×105°.30W±0°.05, h0km, n52, σ1§86/48, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**64**		**Pn**	**18 56 55.8**	**-1.5**
K22A	**Casper**	**1.37**	**221**		**Pg**	**18 57 01.5**	**-0.3**
LAO	**LASA Array**	**3.07**	**348**		**Pb**	**18 57 28.6**	**-2.6**
LAO				IAML		18 58 30.5	
	110nm,1.0s						
LAO				IAML		18 58 39.1	
	97nm,1.0s						
RLMT	**Red Lodge**	**3.18**	**298**		**Pn**	**18 57 29.1**	**+2.0**
RLMT				IAML		18 58 36.5	
	48nm,0.9s						
BW06	**Boulder Array**	**3.24**	**255**		**Pn**	**18 57 27.7**	**-0.2**
PD31	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**18 57 27.7**	**-0.3**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**18 57 30.2**	**+2.3**
	1.4nm,0.3s,baz=61,slow=13,SNR=25						
PDAR				Pg	**Pb**	**18 57 36.2**	**+2.0**
	6.6nm,0.3s,baz=88,slow=17,SNR=14						
PDAR				Lg	Lg	18 58 17.7	
	9.9nm,0.3s,baz=71,slow=33,SNR=2.3						
	1.7nm,0.3s						
HAYD	**Hayden**	**3.48**	**205**		**Pn**	**18 57 30.9**	**-0.3**
HAYD				IAML		18 58 37.3	
	comp=N,57nm,0.9s						
HAYD				IAML		18 59 40.8	
	comp=E,57nm,3.5s						
YNE	**Yellowstone No**	**3.62**	**293**		**Pn**	**18 57 35.5**	**+2.3**
YNE				IAML		18 58 52.1	
	comp=N,50nm,0.8s						
YNE				IAML		18 58 52.7	
	comp=E,60nm,0.8s						
YMP	**Mirror Lake Pl**	**3.64**	**288**		**Pn**	**18 57 35.6**	**+2.1**
YMP				IAML		18 58 44.7	
	comp=N,66nm,1.1s						
OGNE	**Ogallala**	**3.66**	**137**		**Pn**	**18 57 34.7**	**+1.1**
LOHW	**Long Hollow**	**3.85**	**271**		**Pn**	**18 57 36.9**	**+0.6**
H17A	**Grant Village**	**3.87**	**282**		**Pn**	**18 57 36.5**	**0.0**
H17A				IAML		18 58 50.6	
	comp=E,32nm,1.6s						
H17A				IAML		18 58 57.4	
	comp=N,25nm,1.2s						
ISCO	**Idaho Springs**	**3.89**	**184**		**Pn**	**18 57 37.6**	**+0.6**
ISCO				IAML		18 59 30.3	
	comp=N,37nm,3.9s						
ISCO				IAML		18 59 49.4	
	comp=N,40nm,4.0s						
SNOW	**Snow King Moun**	**3.97**	**269**		**Pn**	**18 57 36.9**	**-1.0**
SNOW				IAML		18 59 00.9	
	comp=N,51nm,2.8s						
SNOW				IAML		18 59 02.5	
	comp=N,40nm,0.9s						
YPP	**Pitchstone Pla**	**4.01**	**280**		**Pn**	**18 57 38.2**	**-0.4**
YPP				IAML		18 59 03.4	
	comp=N,23nm,2.8s						
YPP				IAML		19 00 15.5	
	comp=E,27nm,4.7s						
TPAW	**Teton Pass**	**4.11**	**269**		**Pn**	**18 57 37.6**	**-2.3**
TPAW				IAML		18 59 08.4	
	comp=E,38nm,0.9s						
YHH	**Holmes Hill**	**4.13**	**287**		**Pn**	**18 57 40.3**	**0.0**
FXWY	**Fox Creek**	**4.15**	**271**		**Pn**	**18 57 37.6**	**-2.9**
O20A	**White River Ci**	**4.17**	**213**	IAML		18 58 53.6	
	comp=E,50nm,0.8s						
AHID	**Auburn Hatcher**	**4.33**	**260**	Pn	**Pn**	**18 57 40.9**	**-2.1**
AHID				IAML		18 59 10.1	
	comp=E,28nm,1.0s						
AHID				IAML		18 59 15.8	
	comp=E,31nm,2.7s						
YHL	**Hebgen Lake**	**4.38**	**287**		**Pn**	**18 57 43.6**	**0.0**
YHL				IAML		18 59 25.2	
	comp=E,30nm,1.0s						
YHL				IAML		18 59 52.7	
	comp=N,23nm,3.4s						
RDMU	**Red Mountain**	**4.45**	**227**	IAML		18 59 12.4	
	comp=N,26nm,0.8s						
BOZ	**Bozeman (W)**	**4.90**	**295**		**Pn**	**18 57 51.8**	**+1.1**
BOZ				IAML		18 59 28.4	
	comp=N,16nm,1.1s						
BOZ				IAML		19 00 59.4	
	comp=N,19nm,4.7s						
KSCO	**Kaye Shedlock'**	**5.09**	**156**		**Pn**	**18 57 50.1**	**-3.2**
BSUT	**Blindstream Ca**	**5.14**	**234**		**Pn**	**18 57 52.4**	**-1.7**
BSUT				IAML		18 59 29.1	
	comp=N,15nm,1.4s						
BSUT				IAML		19 00 34.1	
	comp=E,18nm,4.9s						
TCUT	**Toone Canyon**	**5.20**	**242**		**Pn**	**18 57 54.4**	**-0.5**
EGMT	**Eagleton**	**5.33**	**326**		**Pn**	**18 57 57.2**	**+0.7**
DLMT	**Dillon**	**5.48**	**290**		**Pn**	**18 57 57.1**	**-1.5**
P18A	**Preston Nutter**	**5.49**	**224**		**Pn**	**18 57 59.6**	**+0.7**
PV22	**Blue Mesa, Par**	**5.78**	**208**		Pn	18 57 57.4	-5.4
PV21	**Cone Mtn., Par**	**5.82**	**210**		**Pn**	**18 58 03.5**	**+0.1**
PV15	**Paradox Valley**	**5.86**	**205**		**Pn**	**18 58 05.3**	**+1.4**
P17A	**Butcher Ranch,**	**5.86**	**226**		**Pn**	**18 58 03.4**	**-0.5**
PV23	**Carpenter Ridg**	**5.93**	**209**		**Pn**	**18 58 05.2**	**+0.2**
SDCO	**Great Sand Dun**	**5.94**	**182**		**Pn**	**18 58 04.3**	**-0.8**
PV04	**Paradox Valley**	**5.95**	**208**		**Pn**	**18 58 05.6**	**+0.5**
PV12	**Saucer Basin,**	**5.98**	**207**		**Pn**	**18 58 05.4**	**-0.2**
PV14	**Lion Creek, Pa**	**6.01**	**209**		Pn	18 58 00.6	-5.4
PV10	**Paradox Valley**	**6.01**	**209**		**Pn**	**18 58 08.4**	**+2.4**
PV11	**David Mesa, Pa**	**6.02**	**208**		**Pn**	**18 58 02.7**	**-3.4**
SRU	**San Rafael Swe**	**6.03**	**222**		**Pn**	**18 58 04.2**	**-2.0**
PV16	**Nyswonger Mesa**	**6.03**	**208**		**Pn**	**18 58 02.8**	**-3.4**
PV03	**Paradox Valley**	**6.05**	**207**		**Pn**	**18 58 08.8**	**+2.3**
PV02	**Paradox Valley**	**6.06**	**207**		**Pn**	**18 58 09.1**	**+2.4**
PV01	**Paradox Valley**	**6.08**	**205**		**Pn**	**18 58 05.9**	**-1.0**
PV18	**Skein Mesa, Pa**	**6.08**	**208**		**Pn**	**18 58 05.0**	**-2.0**
PV13	**Radium Mtn., P**	**6.13**	**207**		**Pn**	**18 58 10.7**	**+3.0**
PV05	**Paradox Valley**	**6.30**	**208**		**Pn**	**18 58 06.2**	**-3.7**
T25A	**Trinidad**	**6.58**	**174**		**Pn**	**18 58 14.3**	**+0.5**
I10CA	**LAC DU BONNET**	**9.09**	**41**	I	I	19 52 50.0	
	comp=E,0.1nm,1.5s,baz=222,slow=318,SNR=8.5						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**18 58 52.4**	**+3.0**
	comp=E,0.4nm,0.3s,baz=223,slow=11,SNR=1.6						
ULM				Lg	Lg	19 01 26.9	
	comp=E,0.5nm,0.3s,baz=149,slow=5.9,SNR=1.6						
	comp=E,2.3nm,0.4s						

*NOU **11** 18:57:19.0, 35°.30S×178°.81W, h0km, MLv4.6/7, East of North Island, N.Z.*
*IDC **11** 18:57:31.3±3.2, 35°.65S×179°.97W, h0km, mb3.7/2, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=77.3km s-min=45.3km az=125.0*
*WEL **11** 18:57:40.0±1.0, 36°.5±5°×18°.0E±°, h12km, M4.0/17, ML4.2/19, MLv4.0/17, Error ellipse: s-maj=11.3km s-min=6.2km az=97.4, confirmed*
ISC 11 18:57:35.7±1.6, 35°.95S±0°.07×179°.68E±0°.10, h10km, n59, σ1§87/68, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**214**	P	**Pn**	**18 58 09.6**	**+0.8**
MXZ	**Matakaoa Point**	**1.95**	**214**	P	**Pb**	**18 58 10.2**	**-1.0**
MXZ				S	**Sb**	**18 58 36.0**	**+0.5**
WMGZ	**Waiomatatini S**	**2.12**	**208**	P	**Pb**	**18 58 13.4**	**-0.7**
WMGZ				S	**Sb**	**18 58 40.9**	**+0.4**
HAZ	**Te Kaha**	**2.35**	**220**	P	**Pn**	**18 58 16.4**	**+2.0**
HAZ				S	**Sb**	**18 58 47.3**	**0.0**
PUZ	**Puketiti**	**2.40**	**208**	P	**Pb**	**18 58 17.3**	**-1.7**
RUGZ	**Raukumara Rang**	**2.57**	**218**	P	**Pb**	**18 58 19.9**	**-1.9**
TWGZ	**Tauwhareparae**	**2.60**	**211**	P	**Pb**	**18 58 20.4**	**-2.0**
TKGZ	**Te Karaka**	**2.88**	**210**	P	**Pb**	**18 58 25.1**	**-2.0**
TKGZ				S	**Sn**	**18 58 56.4**	**+0.2**
MWZ	**Matawai**	**2.93**	**215**	P	**Pn**	**18 58 24.4**	**+2.1**
MWZ				S	**Sn**	**18 58 59.2**	**+1.5**
MYRZ	**Mayor Island**	**3.06**	**243**	P	**Pb**	**18 58 28.0**	**-2.3**
URZ	**Urewera**	**3.08**	**221**	Pn	**Pn**	**18 58 26.2**	**+1.8**
	22nm,0.3s,baz=268,slow=2.7,SNR=60						
URZ				Sn	**Sn**	**18 59 00.7**	**-0.6**
	15nm,0.3s,baz=5.5,slow=9.2,SNR=3.9						
	46nm,0.3s						
URZ	**Urewera**	**3.08**	**221**	P	**Pn**	**18 58 25.9**	**+1.5**
URZ	**Urewera**	**3.08**	**221**	P	**Pn**	**18 58 26.2**	**+1.8**
URZ				S	**Sn**	**18 59 00.4**	**-0.9**
RAGZ	**Rawiri**	**3.11**	**215**	P	**Pn**	**18 58 27.4**	**+2.5**
OPRZ	**Ohinepanea**	**3.13**	**232**	P	**Pn**	**18 58 27.3**	**+2.2**
RIGZ	**Rimuhau**	**3.14**	**208**	P	**Pn**	**18 58 27.3**	**+2.0**
RIGZ				S	**Sn**	**18 59 02.0**	**-0.9**
EDRZ	**Edgecumbe**	**3.19**	**227**	P	**Pb**	**18 58 29.7**	**-2.7**
TGRZ	**Tauranga**	**3.26**	**236**	P	**Pn**	**18 58 28.4**	**+1.5**
TGRZ				S	**Sn**	**18 59 06.3**	**+0.5**
PRGZ	**Paritu Road**	**3.29**	**205**	P	**Pn**	**18 58 28.8**	**+1.5**
KUZ	**Kuaotunu**	**3.29**	**255**	P	**Pn**	**18 58 28.5**	**+1.3**
MKRZ	**Makatiti**	**3.37**	**229**	P	**Pb**	**18 58 32.3**	**-3.2**
SNGZ	**Shannon Statio**	**3.38**	**213**	P	**Pn**	**18 58 30.9**	**+2.4**
SNGZ				S	**Sn**	**18 59 10.2**	**+1.5**
TARZ	**Mount Tarawera**	**3.41**	**227**	P	**Pn**	**18 58 31.9**	**+2.9**
RTZ	**Ruatahuna**	**3.42**	**218**	P	**Pn**	**18 58 31.0**	**+1.9**
RTZ				S	**Sn**	**18 59 11.8**	**+2.1**
MUGZ	**Murupara**	**3.42**	**222**	P	**Pn**	**18 58 30.4**	**+1.3**
MUGZ				S	**Sn**	**18 59 09.4**	**-0.3**
KARZ	**Kaharoa**	**3.44**	**232**	P	**Pn**	**18 58 31.5**	**+2.2**
KNZ	**Kokohu**	**3.45**	**207**	P	**Pn**	**18 58 30.5**	**+1.1**
KNZ				S	**Sn**	**18 59 09.8**	**-0.6**
MHGZ	**Mahia Peninsul**	**3.49**	**203**	P	**Pn**	**18 58 31.2**	**+1.2**
HLRZ	**Highlands Stat**	**3.51**	**228**	P	**Pb**	**18 58 35.2**	**-2.7**
KMRZ	**Kaimai**	**3.54**	**237**	P	**Pn**	**18 58 32.3**	**+1.6**
MTHZ	**Maungataniwha**	**3.67**	**217**	P	**Pn**	**18 58 35.2**	**+2.7**
WHHZ	**Waihua**	**3.67**	**211**	P	**Pn**	**18 58 35.2**	**+2.7**
ALRZ	**Allen Road**	**3.72**	**225**	P	**Pn**	**18 58 35.3**	**+2.1**
WIAZ	**Waiheke

mb4.3/57, Error ellipse: s-maj=18.6km s-min=9.2km az=173.0
*IDC **11** 19:12:32.9±1.4, 53°.15N×159°.66E, h81km±10km, mb3.7/25, mbtmp4.1/27, MS4.3/1, Error ellipse: s-maj=16.7km s-min=12.6km az=139.0*
ISC 11 19:12:29.6±0.7, 52°.93N±0°.04×159°.90E±0°.04, h59km±5km, n210, σ1§40/231, mb4.2/66, 4C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.18**	**24**	PN	Pn	19 12 38.2	-0.6
SPN				S	**Sn**	**19 12 44.1**	**-1.3**
SPN	**Mys Shipunski**	**0.18**	**24**	*eP*	Pn	19 12 38.2	-0.6
SPN				*eS*	**Sn**	**19 12 44.1**	**-1.3**
NLC	**Nalytchevo**	**0.41**	**306**	PN	**Pn**	**19 12 40.1**	**-0.4**
NLC				S	**Sn**	**19 12 47.5**	**-0.9**
NLC	**Nalytchevo**	**0.41**	**306**	*eP*	**Pn**	**19 12 40.2**	**-0.4**
NLC				*eS*	**Sn**	**19 12 47.5**	**-0.9**
DALK	**Dalny**	**0.70**	**279**	PN	**Pn**	**19 12 43.6**	**-0.1**
DALK				S	**Sn**	**19 12 54.1**	**+0.1**
DALK	**Dalny**	**0.70**	**279**	*eP*	**Pn**	**19 12 43.7**	**-0.1**
DALK				*eS*	**Sn**	**19 12 54.1**	**+0.1**
SDLR	**Sedlovina**	**0.70**	**300**	PN	**Pn**	**19 12 43.9**	**0.0**
SDLR	**Sedlovina**	**0.70**	**300**	*eP*	**Pn**	**19 12 44.0**	**0.0**
SMAR	**Somma**	**0.74**	**297**	PN	**Pn**	**19 12 44.2**	**-0.2**
SMAR				S	**Sn**	**19 12 54.8**	**-0.5**
SMAR	**Somma**	**0.74**	**297**	*eP*	**Pn**	**19 12 44.3**	**-0.2**
SMAR				*eS*	**Sn**	**19 12 54.9**	**-0.5**
PET	**Petropavlovsk**	**0.76**	**278**		**Pn**	**19 12 44.4**	**0.0**
PET				Sn	**Sn**	**19 12 54.5**	**-0.8**
PET	**Petropavlovsk**	**0.76**	**278**	*d* PN	**Pn**	**19 12 44.4**	**0.0**
AVH	**Avacha**	**0.78**	**296**	PN	**Pn**	**19 12 45.1**	**+0.4**
AVH	**Avacha**	**0.78**	**296**	*eP*	**Pn**	**19 12 45.1**	**+0.4**
KRER	**Koryakskii**	**0.79**	**299**	PN	**Pn**	**19 12 45.4**	**+0.4**
KRER	**Koryakskii**	**0.79**	**299**	*eP*	**Pn**	**19 12 45.4**	**+0.4**
INSR	**Institute**	**0.80**	**280**	PN	**Pn**	**19 12 44.9**	**0.0**
INSR				S	**Sn**	**19 12 56.4**	**+0.3**
INSR	**Institute**	**0.80**	**280**	*eP*	**Pn**	**19 12 44.9**	**0.0**
INSR				*eS*	**Sn**	**19 12 56.5**	**+0.3**
KOK	**Koryaka**	**0.84**	**296**	PN	**Pn**	**19 12 45.8**	**+0.2**
KOK	**Koryaka**	**0.84**	**296**	*eP*	**Pn**	**19 12 45.8**	**+0.2**
KRX	**Arik**	**0.87**	**300**	PN	**Pn**	**19 12 46.1**	**+0.2**
KRX	**Arik**	**0.87**	**300**	*eP*	**Pn**	**19 12 46.2**	**+0.2**
RUS	**Russkaya**	**0.98**	**240**	PN	**Pn**	**19 12 47.4**	**+0.2**
RUS				S	**Sn**	**19 13 00.6**	**+0.3**
RUS	**Russkaya**	**0.98**	**240**	*eP*	**Pn**	**19 12 47.5**	**+0.2**
RUS				*eS*	**Sn**	**19 13 00.7**	**+0.3**
KRMR	**Karymshinskiy**	**1.08**	**265**	PN	**Pn**	**19 12 48.7**	**+0.2**
KRMR				S	**Sn**	**19 13 02.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.08**	**265**	*eP*	**Pn**	**19 12 48.8**	**+0.2**
KRMR				*eS*	**Sn**	**19 13 02.9**	**+0.3**
MTVR	**Mutnovka**	**1.14**	**247**	PN	**Pn**	**19 12 50.0**	**+0.6**
MTVR				S	**Sn**	**19 13 05.2**	**+1.0**
MTVR	**Mutnovka**	**1.14**	**247**	*eP*	**Pn**	**19 12 50.1**	**+0.6**
MTVR				*eS*	**Sn**	**19 13 05.3**	**+1.0**
KII	**Karymskiy**	**1.14**	**346**	PN	**Pn**	**19 12 49.6**	**+0.2**
KII				S	**Sn**	**19 13 04.4**	**+0.2**
KII	**Karymskiy**	**1.14**	**346**	*eP*	**Pn**	**19 12 49.7**	**+0.2**
KII				*eS*	**Sn**	**19 13 04.5**	**+0.2**
GRL	**Gorelyy**	**1.17**	**252**	PN	**Pn**	**19 12 50.9**	**+1.0**
GRL				S	**Sn**	**19 13 06.4**	**+1.3**
GRL	**Gorelyy**	**1.17**	**252**	*eP*	**Pn**	**19 12 50.9**	**+1.0**
GRL				*eS*	**Sn**	**19 13 06.5**	**+1.3**
ASAK	**Asacha**	**1.34**	**247**	PN	**Pn**	**19 12 53.1**	**+1.1**
ASAK				S	**Sn**	**19 13 11.4**	**+2.5**
ASAK	**Asacha**	**1.34**	**247**	*eP*	**Pn**	**19 12 53.2**	**+1.1**
ASAK				*eS*	**Sn**	**19 13 11.4**	**+2.5**
PEA0B	**Petropavlovsk-**	**1.34**	**278**	Pn	**Pn**	**19 12 53.0**	**+0.9**
PEA0B				Sn	**Sn**	**19 13 09.6**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.34**	**278**	*d* PN	**Pn**	**19 12 52.9**	**+0.9**
PETK	**Petropavlovsk-**	**1.34**	**278**	P	**Pn**	**19 12 52.5**	**+0.5**
	1μm,0.6s,baz=98,slow=18,SNR=640						
PETK				S	**Sn**	**19 13 10.7**	**+1.7**
	488nm,0.5s,baz=102,slow=19,SNR=5.5						
GNL	**Ganaly**	**1.40**	**304**	PN	**Pn**	**19 12 53.8**	**+0.9**
GNL	**Ganaly**	**1.40**	**304**	*eP*	**Pn**	**19 12 53.9**	**+0.9**
MKZ	**Mys Kozlova**	**1.96**	**33**	PN	**Pn**	**19 12 59.6**	**-0.7**
MKZ				S	**Sn**	**19 13 22.1**	**-1.6**
MKZ	**Mys Kozlova**	**1.96**	**33**	*eP*	**Pn**	**19 12 59.7**	**-0.7**
MKZ				*eS*	**Sn**	**19 13 22.2**	**-1.6**
MIPR	**Malaya Ipel'ka**	**2.03**	**252**	PN	**Pn**	**19 13 03.3**	**+2.0**
MIPR	**Malaya Ipel'ka**	**2.03**	**252**	*eP*	**Pn**	**19 13 03.4**	**+2.0**
TUMD	**Tumrok D**	**2.30**	**7**	PN	**Pn**	**19 13 04.5**	**-0.5**
TUMD				S	**Sn**	**19 13 31.1**	**-1.0**
TUMD	**Tumrok D**	**2.30**	**7**	*eP*	**Pn**	**19 13 04.5**	**-0.5**
TUMD				*eS*	**Sn**	**19 13 31.1**	**-1.0**
TUMR	**Tumrok**	**2.36**	**3**	PN	**Pn**	**19 13 07.6**	**+1.7**
TUMR	**Tumrok**	**2.36**	**3**	*eP*	**Pn**	**19 13 07.7**	**+1.7**
PAU	**Pauzhetka**	**2.40**	**234**	PN	**Pn**	**19 13 08.6**	**+2.2**
PAU	**Pauzhetka**	**2.40**	**234**	*eP*	**Pn**	**19 13 08.7**	**+2.2**
KMNR	**Kamenistaya**	**2.84**	**4**	PN	**Pn**	**19 13 14.4**	**+2.0**
KMNR	**Kamenistaya**	**2.84**	**4**	*eP*	**Pn**	**19 13 14.5**	**+2.0**
BZMR	**Bezymyannaya**	**3.03**	**6**	PN	**Pn**	**19 13 17.1**	**+2.0**
BZMR	**Bezymyannaya**	**3.03**	**6**	*eP*	**Pn**	**19 13 17.2**	**+2.0**
KIRR	**Kirishev**	**3.04**	**5**	PN	**Pn**	**19 13 16.2**	**+0.9**
KIRR	**Kirishev**	**3.04**	**5**	*eP*	**Pn**	**19 13 16.2**	**+0.9**
KPT	**Kopyto**	**3.05**	**3**	PN	**Pn**	**19 13 16.2**	**+0.9**
KPT	**Kopyto**	**3.05**	**3**	*eP*	**Pn**	**19 13 16.2**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.05**	**8**	PN	**Pn**	**19 13 17.8**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.05**	**8**	*eP*	**Pn**	**19 13 17.8**	**+2.4**
BZWR	**Bezymyannyi-We**	**3.06**	**6**	PN	**Pn**	**19 13 17.6**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.06**	**6**	*eP*	**Pn**	**19 13 17.7**	**+2.1**
ESO	**Esso**	**3.08**	**347**	PN	**Pn**	**19 13 16.8**	**+1.1**
ESO	**Esso**	**3.08**	**347**	*eP*	**Pn**	**19 13 16.9**	**+1.1**
KOZ	**Kozyrevsk**	**3.13**	**360**	PN	**Pn**	**19 13 18.2**	**+1.8**
KOZ	**Kozyrevsk**	**3.13**	**360**	*eP*	**Pn**	**19 13 18.3**	**+1.8**
ZLN	**Zelenaya**	**3.14**	**9**	PN	**Pn**	**19 13 19.1**	**+2.6**
ZLN	**Zelenaya**	**3.14**	**9**	*eP*	**Pn**	**19 13 19.1**	**+2.6**
CIRR	**Tsirk**	**3.23**	**8**	PN	**Pn**	**19 13 20.7**	**+2.9**
CIRR	**Tsirk**	**3.23**	**8**	*eP*	**Pn**	**19 13 20.8**	**+2.9**
SKR	**Severo-Kuril's**	**3.25**	**228**	*eP*N	**Pn**	**19 13 19.8**	**+1.7**
SKR				*eS*	**Sn**	**19 13 55.8**	**+0.3**
SKR				pmax	pmax		
	comp=Z,51nm,0.6s						
SKR				smax	smax		
	comp=E,199nm,0.5s						
SKR				smax	smax		
	comp=N,335nm,0.6s						
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
SKR	**Severo-Kuril's**	**3.25**	**228**	*eP*	**Pn**	**19 13 19.7**	**+1.7**
SRDR	**Sredinnyy**	**3.40**	**358**	PN	**Pn**	**19 13 21.3**	**+1.3**
SRDR	**Sredinnyy**	**3.40**	**358**	*eP*	**Pn**	**19 13 21.3**	**+1.3**
KLY	**Klyuchi**	**3.42**	**7**	PN	**Pn**	**19 13 22.4**	**+2.2**
KLY	**Klyuchi**	**3.42**	**7**	*eP*	**Pn**	**19 13 22.5**	**+2.2**
KBTR	**Krutoberegovo**	**3.70**	**26**	PN	**Pn**	**19 13 25.8**	**+1.7**
KBTR	**Krutoberegovo**	**3.70**	**26**	*eP*	**Pn**	**19 13 25.9**	**+1.7**
KBG	**Krutoberegovo**	**3.71**	**25**	PN	Pn	19 13 28.3	+4.1
KBG	**Krutoberegovo**	**3.71**	**25**	*eP*	Pn	19 13 28.3	+4.1
BKI	**Bering**	**4.24**	**55**	PN	**Pn**	**19 13 31.6**	**+0.1**
BKI	**Bering**	**4.24**	**55**	*eP*	**Pn**	**19 13 31.7**	**+0.1**
BKI				*eS*	Sn	19 14 14.9	-4.7
SHEM	**Shemya Is, Ala**	**8.60**	**86**	Pn	**Pn**	**19 14 31.8**	**+0.6**
SHEM	**Shemya Is, Ala**	**8.60**	**86**	P	**Pn**	**19 14 31.4**	**+0.1**
	comp=Z,14nm,0.2s,baz=65,slow=2.7,SNR=6.2						
SMY	**Shemya**	**8.60**	**86**	Pn	**Pn**	**19 14 32.0**	**+0.8**
SMY	**Shemya**	**8.60**	**86**	PN	**Pn**	**19 14 32.0**	**+0.8**
JKA	**Kamikawa-asahi**	**14.43**	**239**	Pn	**Pn**	**19 15 50.7**	**+0.3**
ASAJ	**Asahikawa**	**14.43**	**239**	P	**Pn**	**19 15 52.1**	**+1.6**
	comp=Z,9.1nm,0.7s,baz=86,slow=18,SNR=7.9						
BILL	**Bilibino**	**15.46**	**9⇑**	*eP*	**P**	**19 16 07.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ERM	**Erimo**	**15.69**	**233**	Pn	**Pn**	**19 16 06.2**	**-0.4**
ERM				IAmb	IAmb	19 16 27.1	
	comp=Z,39nm,1.1s						
ERM	**Erimo**	**15.69**	**233**	P	**Pn**	**19 16 06.2**	**-0.4**
ERM				pmax	pmax		
	comp=Z,39nm,1.2s						
JTM	**Tenmabayashi**	**17.64**	**234**	Pn	**Pn**	**19 16 27.6**	**-3.4**
YAK	**Yakutsk**	**18.46**	**311**	P	**P**	**19 16 38.3**	**-1.8**
	comp=Z,8.1nm,0.4s,baz=90,slow=2.0,SNR=1.6						
YAK	**Yakutsk**	**18.46**	**311⇑**	*eP*	**Pn**	**19 16 42.8**	**+2.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HEH	**HeiHe**	**20.27**	**275**	*eP*	**P**	**19 16 59.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**20.32**	**256**	P	Pn	19 17 02.2	-0.9
	comp=Z,2.4nm,0.5s,baz=61,slow=14,SNR=4.0						
	comp=Z,2.4nm,0.5s						
JSD	**Sado**	**21.14**	**234**	P	**P**	**19 17 09.9**	**+0.5**
K15K	**Wolf Creek Mou**	**22.35**	**50**	P	**P**	**19 17 22.1**	**-0.1**
K15K				IAmb	IAmb	19 17 54.7	
	comp=Z,21nm,1.5s						
MJB9	**Matsu-Tunnel**	**22.35**	**232**	P	**P**	**19 17 22.6**	**+0.2**
MJAR	**Matsushiro Arr**	**22.35**	**232**	P	**P**	**19 17 24.3**	**+1.8**
	comp=Z,8.7nm,0.8s,baz=17,slow=11,SNR=25						
	comp=Z,8.7nm,0.8s						
C16K	**Lisburne Hills**	**22.50**	**34**	P	**P**	**19 17 22.3**	**-1.4**
G16K	**Koyuk River**	**22.59**	**42**	P	**P**	**19 17 23.4**	**-1.4**
G16K				IAmb	IAmb	19 17 37.2	
	comp=Z,14nm,1.2s						
TIXI	**Tiksi**	**23.18**	**335**	P	**P**	**19 17 29.5**	**-1.2**
TIXI	**Tiksi**	**23.18**	**335⇑**	*eP*	**P**	**19 17 34.6**	**+4.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
F17K	**Baldwin Pennin**	**23.32**	**40**	P	**P**	**19 17 32.5**	**+0.5**
H17K	**Granite Mounta**	**23.49**	**44**	P	**P**	**19 17 33.2**	**-0.5**
JGF	**Kuroka**	**23.52**	**232**	P	**P**	**19 17 34.9**	**+0.7**
JGF				IAmb	IAmb	19 17 51.2	
	comp=Z,24nm,1.2s						
J17K	**VABM Dome**	**23.60**	**48**	P	**P**	**19 17 37.1**	**+2.4**
E18K	**Tukpahlearik C**	**23.85**	**37**	P	**P**	**19 17 36.1**	**-0.9**
E18K				IAmb	IAmb	19 17 46.5	
	comp=Z,8.1nm,1.1s						
INU	**Inuyama**	**23.89**	**232**	P	**P**	**19 17 38.8**	**+1.3**
INU				IAmb	IAmb	19 18 16.4	
	comp=Z,26nm,1.3s						
O16K	**Kokwok River B**	**23.92**	**57**	P	**P**	**19 17 38.1**	**+0.5**
O16K				IAmb	IAmb	19 18 06.9	
	comp=Z,17nm,1.4s						
C18K	**Utukok River**	**24.05**	**34**	P	**P**	**19 17 38.0**	**-0.8**
C18K				IAmb	IAmb	19 18 14.5	
	comp=Z,20nm,1.3s						
H18K	**Honhosa River**	**24.18**	**43**	P	**P**	**19 17 39.3**	**-0.6**
H18K				IAmb	IAmb	19 18 01.2	
	comp=Z,9.6nm,1.2s						
G18K	**Tagagawik**	**24.20**	**42**	P	**P**	**19 17 40.1**	**-0.1**
J18K	**Innoko River**	**24.67**	**48**	P	**P**	**19 17 44.7**	**+0.3**
J18K				IAmb	IAmb	19 17 52.0	
	comp=Z,10nm,1.4s						
C19K	**Lookout Ridge**	**24.76**	**34**	P	**P**	**19 17 44.9**	**-0.3**
F19K	**Shaleruckik Mo**	**24.76**	**40**	P	**P**	**19 17 43.7**	**-1.4**
H19K	**Roundabout Mou**	**25.03**	**43**	P	**P**	**19 17 45.4**	**-2.3**
H19K				IAmb	IAmb	19 17 50.4	
	comp=Z,10nm,1.0s						
D19K	**Kuna River**	**25.07**	**36**	P	**P**	**19 17 45.9**	**-2.2**
D19K				IAmb	IAmb	19 18 09.6	
	comp=Z,15nm,1.2s						
E19K	**Redstone River**	**25.11**	**38**	P	**P**	**19 17 44.8**	**-3.6**
J19K	**Poorman**	**25.20**	**47**	P	**P**	**19 17 47.1**	**-2.1**
F20K	**Avaraart Lake**	**25.59**	**39**	P	**P**	**19 17 50.4**	**-2.3**
F20K				IAmb	IAmb	19 18 04.3	
	comp=Z,12nm,1.5s						
D20K	**Etivluk River**	**25.66**	**35**	P	**P**	**19 17 50.5**	**-2.8**
D20K				IAmb	IAmb	19 17 54.9	
	comp=Z,23nm,1.4s						
K20K	**Telida**	**25.85**	**48**	P	**P**	**19 17 51.8**	**-3.3**
J20K	**Nowinta River**	**25.86**	**46**	P	**P**	**19 17 52.9**	**-2.2**
J20K				IAmb	IAmb	19 17 59.0	
	comp=Z,9.7nm,1.2s						
B20K	**Meade River**	**25.87**	**32**	P	**P**	**19 17 52.5**	**-2.6**
B21K	**Ikpikpuk River**	**26.60**	**34**	P	**P**	**19 17 59.3**	**-2.5**
KSRS	**Korea Array**	**27.05**	**248**	P	**P**	**19 18 07.7**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=48,slow=10,SNR=2.1						
	comp=Z,2.2nm,0.9s						
H23K	**Yukon River**	**27.91**	**43**	P	**P**	**19 18 12.0**	**-1.6**
C23K	**Itkillik River**	**28.00**	**34**	P	**P**	**19 18 12.7**	**-1.6**
C23K				IAmb	IAmb	19 18 25.9	
	comp=Z,18nm,1.4s						
E24K	**Your Creek**	**28.49**	**38**	P	**P**	**19 18 16.0**	**-2.8**
WRH	**Wood River Hil**	**28.50**	**46**	P	**P**	**19 18 16.7**	**-2.2**
SML	**Sawmill**	**28.55**	**51**	P	**P**	**19 18 17.6**	**-1.8**
SML				IAmb	IAmb	19 18 54.7	
	comp=Z,20nm,1.5s						
G24K	**Hadweenzic Riv**	**28.78**	**41**	P	**P**	**19 18 18.6**	**-2.8**
G24K				IAmb	IAmb	19 18 54.3	
	comp=Z,9.7nm,1.5s						
ILAR	**Eielson Array**	**29.01**	**45**	P	**P**	**19 18 23.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=265,slow=8.6,SNR=7.6						
	comp=Z,0.6nm,0.6s						
SCM	**Sheep Creek Mo**	**29.02**	**51**	P	**P**	**19 18 22.8**	**-0.8**
SCM	**Sheep Creek Mo**	**29.02**	**51**	P	**P**	**19 18 22.8**	**-0.8**
SCM				pmax	pmax		
	comp=Z,19nm,1.2s						
D25K	**Kavik River**	**29.39**	**36**	P	**P**	**19 18 26.2**	**-0.6**
D25K				IAmb	IAmb	19 18 28.5	
	comp=Z,11nm,1.2s						
J25K	**Salcha River,**	**29.67**	**45**	P	**P**	**19 18 28.7**	**-0.6**
C27K	**Jago River**	**30.36**	**35**	P	**P**	**19 18 35.2**	**0.0**
K27K	**Chicken**	**31.15**	**46**	P	**P**	**19 18 41.6**	**-0.7**
D27M	**Malcolm River**	**31.31**	**36**	P	**P**	**19 18 42.8**	**-0.9**
D27M				IAmb	IAmb	19 18 45.9	
	comp=Z,4.2nm,1.1s						
L27K	**Beaver Creek,**	**31.39**	**48**	P	**P**	**19 18 44.7**	**+0.2**
L27K				IAmb	IAmb	19 19 08.3	
	comp=Z,7.0nm,1.4s						
H29M	**Whitestone**	**32.45**	**42**	P	**P**	**19 18 53.6**	**-0.1**
H29M				IAmb	IAmb	19 19 37.3	
	comp=Z,9.2nm,1.4s						
L29M	**L29M**	**33.04**	**47**	P	**P**	**19 18 58.5**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**33.58**	**168**	T	T	19 54 49.0	
	baz=352,slow=76,SNR=664						
H11N3	**WAKE ISLAND Hy**	**33.59**	**168**	T	T	19 54 47.8	
	baz=352,slow=76,SNR=859						
H11N1	**WAKE ISLAND Hy**	**33.60**	**168**	T	T	19 54 48.2	
	baz=352,slow=76,SNR=991						
SONM	**Songino Array**	**33.82**	**283**	P	**P**	**19 19 05.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=69,slow=8.2,SNR=3.0						
SONM				PcP	**PcP**	**19 21 44.1**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=348,slow=0.8,SNR=6.3						
	comp=Z,0.4nm,0.4s						
INK	**Inuvik**	**34.07**	**38**	P	**P**	**19 19 07.9**	**+0.2**
INK				IAmb	IAmb	19 19 35.1	
	comp=Z,8.5nm,1.4s						
INK	**Inuvik**	**34.07**	**38**	P	**P**	**19 19 07.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**34.76**	**169**	T	T	19 56 19.6	
	baz=352,slow=76,SNR=113						
H11S3	**WAKE ISLAND Hy**	**34.77**	**169**	T	T	19 56 16.8	
	baz=352,slow=76,SNR=141						
H11S2	**WAKE ISLAND Hy**	**34.78**	**169**	T	T	19 56 16.2	
	baz=352,slow=76,SNR=54						
YULB	**Yu-li**	**41.51**	**240**	P	**P**	**19 20 11.3**	**+0.4**
GTA	**Gaotai**	**42.51**	**276**	*eP*	**P**	**19 20 18.3**	**-0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	**43.36**	**42**	*i* P	**P**	**19 20 27.1**	**+1.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**47.28**	**350**	P	**P**	**19 20 55.6**	**-0.6**
	comp=Z,18nm,1.1s,baz=54,slow=7.3,SNR=7.8						
	comp=Z,18nm,1.1s						
SPB2	**Spitsbergen Ar**	**47.28**	**350**	P	**P**	**19 20 54.4**	**-1.9**
KURK	**Kurchatov**	**47.72**	**302**	P	**P**	**19 20 57.6**	**-2.4**
KURK				IAmb	IAmb	19 20 59.2	
	comp=Z,2.1nm,0.3s						
KURK	**Kurchatov**	**47.72**	**302**	P	**P**	**19 20 58.3**	**-1.7**
KURK						19 22 28.4	
KURBB	**Kurchatov Arra**	**47.82**	**302**	P	**P**	**19 20 58.3**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=56,slow=7.9,SNR=6.3						
KURBB				PcP	**PcP**	**19 22 28.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=56,slow=3.2,SNR=4.4						
	comp=Z,0.6nm,0.3s						
MKAR	**Makanchi Array**	**48.12**	**296**	P	**P**	**19 21 01.2**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=58,slow=7.3,SNR=12						
	comp=Z,1.1nm,0.6s						
BORK	**Borovoye**	**50.42**	**308⇑**	*eP*	**P**	**19 21 23.5**	**+2.9**
BORK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**53.41**	**342**	P	**P**	**19 21 40.7**	**-1.9**
	comp=Z,2.9nm,1.0s,baz=33,slow=7.6,SNR=2.3						
ARCES				PcP	**PcP**	**19 22 49.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=25,slow=5.0,SNR=4.4						
	comp=Z,2.9nm,1.0s						
NVAR	**Mina Array Bea**	**55.91**	**70**	P	**P**	**19 22 04.0**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=313,slow=7.8,SNR=4.3						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**57.70**	**61**	P	**P**	**19 22 15.6**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=300,slow=2.7,SNR=11						
	comp=Z,1.2nm,0.7s						
AB31	**Akbulak array**	**57.81**	**310**	P	**P**	**19 22 13.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**58.03**	**258**	P	**P**	**19 22 17.7**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=35,slow=7.2,SNR=6.2						
CMAR				PcP	**PcP**	**19 23 07.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=41,slow=4.2,SNR=4.4						
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.03**	**258**	*i* P	**P**	**19 22 17.7**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRDH	**Bariadhala**	**59.19**	**267**	LR	LR	19 50 55.6	
	comp=Z,221nm,18.3s,baz=171,slow=39						
FIA1	**FINESS Array S**	**60.22**	**336**	P	**P**	**19 22 29.0**	**-1.9**
FINES	**FINESS Array B**	**60.22**	**336**	P	**P**	**19 22 30.3**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=22,slow=6.2,SNR=8.7						
	comp=Z,1.6nm,0.6s						
CHGR	**Chuyangaron**	**60.72**	**296**	P	**P**	**19 22 33.0**	**-1.8**
CHGR	**Chuyangaron**	**60.72**	**296**	P	**P**	**19 22 33.0**	**-1.8**
CHGR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OBN	**Obninsk**	**62.59**	**327**	*i* P	**P**	**19 22 48.9**	**+1.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NB2	**NORSAR Subarra**	**63.66**	**344**	P	**P**	**19 22 53.0**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**63.66**	**344**	P	**P**	**19 22 53.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=23,slow=6.0,SNR=6.2						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**64.07**	**342**	P	**P**	**19 22 55.9**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.3,SNR=14						
	comp=Z,1.4nm,0.5s						
AKASG	**Malin Array Be**	**68.69**	**329**	P	**P**	**19 23 24.9**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=30,slow=6.7,SNR=5.2						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**70.81**	**67**	P	**P**	**19 23 40.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=308,slow=4.6,SNR=4.6						
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**71.19**	**350**	P	**P**	**19 23 41.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=18,slow=6.4,SNR=13						
	comp=Z,0.8nm,0.4s						
GERES	**GERESS Array B**	**74.62**	**338**	P	**P**	**19 24 02.5**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=31,slow=7.0,SNR=9.7						
	comp=Z,0.9nm,0.4s						
CONA	**Conrad Observa**	**74.96**	**336**	*i* P	**P**	**19 24 05.1**	**+1.0**
	comp=Z,0.1nm,0.2s						
RONA	**Rosalia, Austr**	**75.06**	**335**	*i* P	**P**	**19 24 05.8**	**+1.1**
	comp=Z,0.6nm,0.3s						
MOA	**Molln**	**75.42**	**337**	*i* P	**P**	**19 24 07.0**	**+0.3**
	comp=Z,0.9nm,0.4s						
WRAB	**Tennant Creek**	**75.87**	**205**	P	**P**	**19 24 09.5**	**+0.1**
WRAB				IAmb	IAmb	19 24 42.8	
	comp=Z,7.0nm,1.4s						
WRAB	**Tennant Creek**	**75.87**	**205**	P	**P**	**19 24 09.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.5s						
WB2	**Warramunga Arr**	**75.88**	**205**	P	**P**	**19 24 10.0**	**+0.6**
WB2				IAmb	IAmb	19 24 19.3	
	comp=Z,4.5nm,1.2s						
WRA	**Warramunga Arr**	**75.89**	**205**	P	**P**	**19 24 10.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=14,slow=5.9,SNR=4.6						
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**75.89**	**205**	*i* P	**P**	**19 24 12.3**	**+2.8**
LESA	**Schwarzleotal

KRVZ	**Karewarewa**	**4.39 226**	P	**Pn**	**19 35 05.8**	**+2.2**
KRHZ	**Kereru**	**4.41 215**	P	**Pn**	**19 35 02.4**	**-1.4**
OTVZ	**Oturere**	**4.42 225**	P	**Pn**	**19 35 03.8**	**-0.3**
NNVZ	**North Ngauruho**	**4.43 225**	P	**Pn**	**19 35 04.5**	**+0.3**
WTVZ	**West Tongariro**	**4.43 226**	P	**Pn**	**19 35 07.8**	**+3.5**
SNVZ	**South Ngauruho**	**4.45 225**	P	**Pn**	**19 35 04.8**	**+0.2**
NGZ	**Ngauruhoe**	**4.47 225**	P	**Pn**	**19 35 05.4**	**+0.7**
HIZ	**Hauiti**	**4.54 236**	P	**Pn**	**19 35 08.8**	**+3.2**
MOVZ	**Moawhango**	**4.54 222**	P	**Pn**	**19 35 04.9**	**-0.8**
WNVZ	**Wahianoa**	**4.57 224**	P	**Pn**	**19 35 05.8**	**-0.3**
PNHZ	**Pukenui**	**4.70 215**	P	**Pn**	**19 35 07.1**	**-0.8**
PNHZ			S	**Sn**	**19 35 59.0**	**-3.6**
OUZ	**Omahuta**	**5.02 278**	P	**Pn**	**19 35 11.7**	**-0.4**
BFZ	**Birch Farm**	**5.32 209**	P	**Pn**	**19 35 14.4**	**-1.9**
BFZ	**Birch Farm**	**5.32 209**	P	**Pn**	**19 35 14.5**	**-1.8**
BFZ			S	**Sn**	**19 36 13.2**	**-4.4**
KHEZ	**Kahui Hut**	**5.51 233**	P	**Pn**	**19 35 22.4**	**+3.4**
CTZ	**Chatham Island**	**8.16 161**	P	**Pn**	**19 35 56.0**	**+0.8**

*IDC **11** 19:44:05.5±1.3,5°.26S×68°.71E,h0km,mb3.9/11, mbtmp3.9/11,MS3.7/3,Error ellipse: s-maj=40.8km s-min=20.4km az=45.0*

ISC 11 19:44:06.8±1.2,5°.3S±0°.2×68°.8E±0°.2,h10km,n20, σ0°67/18,mb4.0/11,MS3.7/3,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.34 122**		Pn	**Pn**	**19 45 12.8**	**+0.1**
	baz=317,slow=19						
H08S3				Sn	**Sn**	**19 46 02.4**	**-0.9**
H08S3				T	T	19 49 53.3	
	baz=304,slow=79,SNR=25						
H08S1	**Diego Carcia H**	**4.34 122**		Pn	**Pn**	**19 45 13.2**	**+0.5**
	baz=317,slow=19						
H08S1				Sn	**Sn**	**19 46 01.9**	**-1.4**
H08S1				T	T	19 49 51.6	
	baz=304,slow=79,SNR=36						
H08S2	**Diego Garcia H**	**4.36 122**		Pn	**Pn**	**19 45 13.5**	**+0.6**
	baz=317,slow=19						
H08S2				Sn	**Sn**	**19 46 03.4**	**-0.3**
H08S2				T	T	19 49 51.6	
	baz=304,slow=79,SNR=33						
PSI	**Prapat**	**31.19 76**		LR	LR	20 01 49.6	
	comp=Z,158nm,18.4s,baz=143,slow=34						
BRDH	**Bariadhala**	**35.71 38**		LR	LR	20 06 19.4	
	comp=Z,196nm,20.5s,baz=168,slow=37						
CMAR	**Chiang Mai Arr**	**38.00 51**		P	**P**	**19 51 25.6**	**+0.3**
	0.3nm,0.6s,baz=246,slow=11,SNR=4.3						
CMAR				LR	LR	20 05 26.4	
	comp=Z,56nm,18.5s,baz=175,slow=34						
	0.3nm,0.6s						
H01W3	**Cape Leeuwin H**	**51.12 131**		T	T	20 48 17.7	
	baz=294						
H01W2	**Cape Leeuwin H**	**51.13 131**		T	T	20 48 15.9	
	baz=294,slow=74,SNR=4.3						
H01W1	**Cape Leeuwin H**	**51.14 131**		T	T	20 48 17.8	
	baz=294,slow=74,SNR=3.6						
MKAR	**Makanchi Array**	**53.27 12**		P	**P**	**19 53 24.8**	**-1.0**
	0.6nm,0.7s,baz=205,slow=8.2,SNR=4.2						
	0.6nm,0.7s						
KBZ	**Khabaz**	**54.13 337**		P	**P**	**19 53 32.3**	**+0.2**
	3.3nm,0.9s,baz=131,slow=8.3,SNR=6.3						
	3.3nm,0.9s						
BRTR	**Keskin Array B**	**55.30 327**		P	**P**	**19 53 40.4**	**-0.4**
	0.7nm,0.8s,baz=129,slow=13,SNR=3.2						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**56.37 7**		P	**P**	**19 53 47.9**	**-0.2**
	1.2nm,0.9s,baz=204,slow=7.4,SNR=6.7						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**60.58 11**		P	**P**	**19 54 16.9**	**-0.5**
	1.2nm,0.6s,baz=215,slow=8.1,SNR=8.6						
	1.2nm,0.6s						
SONM	**Songino Array**	**62.41 28**		P	**P**	**19 54 30.5**	**+0.4**
	1.0nm,0.8s,baz=229,slow=6.9,SNR=7.2						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**65.12 114**		P	**P**	**19 54 49.2**	**+0.8**
	0.8nm,0.7s,baz=280,slow=6.1,SNR=11						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**65.25 109**		P	**P**	**19 54 50.0**	**+0.8**
	1.6nm,0.8s,baz=282,slow=6.2,SNR=14						
	1.6nm,0.8s						
HFS	**Hagfors**	**78.15 335**		P	**P**	**19 56 06.2**	**+0.1**
	4.2nm,0.9s,baz=154,slow=8.0,SNR=2.9						
	4.2nm,0.9s						
ESDC	**Sonseca Array**	**80.24 312**		P	**P**	**19 56 17.4**	**-0.6**
	0.3nm,0.4s,baz=99,slow=4.6,SNR=4.2						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**146.43 10**		PKPbc	**PKPbc**	**20 03 49.1**	**+0.2**
	1.0nm,0.8s,baz=329,slow=5.2,SNR=1.5						

*IDC **11** 19:47:42.1±7.0,19°.16S×176°.56W,h0km,mb4.4/2, mbtmp4.4/2,Error ellipse: s-maj=280.2km s-min=112.1km az=153.0*

*NEIC **11** 19:48:44.5±1.2,20°.7S±0°.3×178°.2W±0°.3,h508km±17km, mb4.1/14,Error ellipse: s-maj=42.4km s-min=27.3km az=221.0*

ISC 11 19:48:44.9±2.3,20°.9S±0°.3×178°.4W±0°.3,h500km,n16, σ0°54/17,mb4.1/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58 312**		P	**P**	**19 50 08.5**	**+0.1**
CTAO	**Charters Tower**	**33.09 265**		P	**P**	**19 54 39.6**	**+0.7**
CTAO				IAmb	IAmb	19 55 18.1	
	comp=Z,9.5nm,1.1s						
COEN	**Coen**	**37.24 274**		P	**P**	**19 55 14.5**	**+0.9**
COEN				IAmb	IAmb	19 55 27.5	
	comp=Z,10nm,1.4s						
BBOO	**Buckleboo**	**42.06 244**		P	**P**	**19 55 52.1**	**-0.2**
WR8	**Warramunga Arr**	**44.04 263**		P	**P**	**19 56 07.3**	**-0.6**
WR8				IAmb	IAmb	19 56 08.9	
	comp=Z,1.9nm,0.7s						
WR8				PcP	**pP**	**19 57 38.6**	**-0.6**
AS31	**Alice Springs**	**44.08 257**		P	**P**	**19 56 08.2**	**0.0**
ASAR	**Alice Springs**	**44.08 257**		P	**P**	**19 56 08.4**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=92,slow=8.1,SNR=80						
	comp=Z,2.8nm,0.5s						
WRAB	**Tennant Creek**	**44.18 263**		P	**P**	**19 56 08.5**	**-0.5**
WRAB				IAmb	IAmb	19 56 41.8	
	comp=Z,6.9nm,1.5s						
WRA	**Warramunga Arr**	**44.19 262**		P	**P**	**19 56 08.9**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=96,slow=7.4,SNR=110						
	comp=Z,1.7nm,0.3s						
MTN	**Manton Dam**	**48.80 271**		P	**P**	**19 56 43.8**	**-0.4**
MTN				IAmb	IAmb	19 57 26.1	
	comp=Z,18nm,1.3s						
MTN				PcP	**PcP**	**19 57 58.8**	**-1.0**
KNRA	**Kununurra**	**50.27 267**		P	**P**	**19 56 55.0**	**0.0**
KNRA				IAmb	IAmb	19 57 18.8	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.62 263**		P	**P**	**19 57 12.3**	**+0.3**
SOEI	**Soe**	**56.15 272**		P	**P**	**19 57 37.0**	**-0.1**
SOEI				IAmb	IAmb	19 57 49.4	
	comp=Z,11nm,1.0s						
MBWA	**Marble Bar**	**57.42 258**		P	**P**	**19 57 45.1**	**-0.6**
MBWA				IAmb	IAmb	19 58 15.3	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**69.21 180**		P	**P**	**19 59 01.2**	**+0.4**
AKASG	**Malin Array Be**	**143.15 331**		PKP	PKPab	20 07 16.4	-2.5
	comp=Z,0.6nm,0.4s,baz=44,slow=3.8,SNR=4.4						

DJA 11 19:51:29.7±0.6,5°.N±5°.×12°.7E±°,h112km±8km,M4.0/11, mB4.7/2,mb4.1/5,MLv3.9/11,Mw(mB)3.9/2,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.97 212**		P	Pn	19 52 02.6	+0.2
TNTI	**Ternate**	**4.62 170**		P	Pn	19 52 36.7	-0.8
MRSI	**Marisa**	**6.71 224**		P	Pn	19 53 06.7	+1.0
	0.1nm16nm,0.6s						
SANI	**Sanana**	**7.38 185**		P	Pn	19 53 13.2	-1.7
LUWI	**Luwuk**	**7.41 211**		P	Pn	19 53 15.1	-0.1
	19nm,1.0s						
NLAI	**Namlea**	**8.56 177**		P	Pn	19 53 30.6	-0.2

TAP 11 19:59:18.7,24°.04N×121°.51E,h18km,ML1.1,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07 190**		P	Pg	19 59 22.3	+0.3
ETM				*i* S	Sg	19 59 24.7	+0.3
LXIB	**Xiulin Townshi**	**0.09 261**		*e*P	Pg	19 59 22.4	0.0
LXIB				S	Sg	19 59 24.9	+0.1
TWD	**Chiawan**	**0.09 61**		*i* P	Pg	19 59 22.5	+0.2
TWD				*i* S	Sg	19 59 25.0	+0.3
NACB	**Ninganchiao**	**0.16 30**		*i* P	Pb	19 59 22.9	+0.2
NACB				*i* S	Sg	19 59 25.9	-0.1
NACB	**Ninganchiao**	**0.16 30**		P	Pg	19 59 25.7	+2.7
ETL	**Fush Village**	**0.16 41**		*e*S	Sg	19 59 26.1	-0.1
ETLH	**Xiulin Townshi**	**0.17 353**		*e*P	Pg	19 59 23.4	+0.1
ETLH				*i* S	Sg	19 59 26.3	-0.1
ESL	**Shilin**	**0.23 197**		*i* P	Pg	19 59 24.0	-0.1
ESL				S	Sg	19 59 27.6	-0.2
WHF	**Hehuan Shan**	**0.25 296**		*e*S	Sg	19 59 28.7	0.0
OWD	**Renai**	**0.31 255**		*e*P	Pb	19 59 26.0	+0.2
OWD				*i* S	Sb	19 59 30.4	-0.2
WARBT	**Fenglin Townsh**	**0.33 199**		*e*P	Pg	19 59 25.6	-0.2
WARBT				*e*S	Sg	19 59 30.3	-0.3
WUSB	**Renai**	**0.36 263**		P	Pb	19 59 26.9	+0.3
WUSB				*e*S	Sb	19 59 31.8	-0.1
EGFH	**Guangfu**	**0.37 191**		P	Pg	19 59 26.3	-0.1
EGFH				S	Sg	19 59 31.4	-0.3
NNSB	**Datong**	**0.41 344**		P	Pb	19 59 27.3	-0.2
NNSB				*e*S	Sg	19 59 32.8	-0.1
NNS	**Nan Shan**	**0.42 343**		*i* P	Pb	19 59 27.6	-0.1
NNS				*i* S	Sg	19 59 33.3	0.0
VWDT	**VWDT**	**0.44 230**		*e*P	Pb	19 59 28.3	+0.4
VWDT				*e*S	Sb	19 59 34.8	+0.8
EWUT	**Wuta**	**0.48 31**		*e*S	Sg	19 59 34.0	-0.9
LATG	**Datong**	**0.50 2**		*e*P	Pg	19 59 28.6	-0.1
LATG				*e*S	Sg	19 59 35.1	-0.5
EHY	**Hungye**	**0.55 198**		*e*P	Pg	19 59 29.5	-0.2
EHY				*e*S	Sg	19 59 36.5	-0.6
EHYH	**Wanrong**	**0.56 195**		*e*S	Sg	19 59 36.9	-0.5
SSLB	**Suanglung**	**0.56 244**		*e*P	Pb	19 59 30.1	+0.2
SSLB				*e*S	Sb	19 59 38.0	+0.4
SSLB	**Suanglung**	**0.56 244**		P	Pg	19 59 27.2	-2.7
WHP	**Taichung City**	**0.57 295**		*e*P	Pn	19 59 32.7	+0.8
WHP				*e*S	Sb	19 59 38.5	+0.6
ENTT	**Nioudou**	**0.60 5**		*e*S	Sb	19 59 39.1	+0.2
YHNB	**Yeheng**	**0.64 349**		*e*S	Sg	19 59 40.0	0.0
YULB	**Yu-li**	**0.67 197**		*e*P	Pb	19 59 31.8	0.0
YULB				*e*S	Sg	19 59 41.3	+0.5
TWF1	**Yuli**	**0.71 196**		*e*S	Sn	19 59 43.5	-0.7

*NEIC **11** 19:59:32.5±1.8,37°.39N±0°.01×117°.27W±0°.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=13.0*

REN 11 19:59:33.5±2.0,37°.40N±0°.01×117°.25W±0°.01,h6km±4km, ML2.8/25,ML2.5/72(NEIC),Error ellipse: s-maj=1.6km s-min=1.6km az=69.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMN	**Gold Mountain**	**0.10 186**			Pg	19 59 36.0	+0.1
GMN					Sg	19 59 37.7	+0.2
GMN	**Gold Mountain**	**0.10 186**		IAML		19 59 38.5	
	comp=E,5μm,0.1s						
GMN				IAML		19 59 38.6	
	comp=N,4μm,0.2s						
LCH	**Last Change Ra**	**0.36 243**			Pg	19 59 40.6	+0.1
LCH					Sg	19 59 45.8	+0.6
GRAC	**Grapevine Rang**	**0.41 193**			Pg	19 59 41.5	0.0
GRAC				Sg	Sg	19 59 47.4	+0.5
GRAC				IAML		19 59 47.9	
	comp=E,777nm,0.5s						
GRAC				IAML		19 59 48.6	
	comp=N,566nm,0.3s						
SGV	**South Grapevin**	**0.45 158**			Pg	19 59 42.4	+0.2
SGV					Sg	19 59 48.5	+0.4
DSP	**Deep Springs**	**0.58 267**			Pg	19 59 44.5	-0.1
DSP					Sg	19 59 51.7	-0.4
DSP				IAML		19 59 53.1	
	comp=N,160nm,0.5s						
TPH	**Tonopah**	**0.68 2**			Pg	19 59 46.6	+0.1
TPH					Sg	19 59 55.9	+0.6
WCT	**Wildcat Mounta**	**0.78 140**			Pg	19 59 48.2	-0.3
WCT					Sg	19 59 58.2	-0.5
WCT				IAML		19 59 59.8	
	comp=N,208nm,0.4s						
TIN	**Tinemaha, Big**	**0.86 247**			Pg	19 59 49.5	-0.5
TIN				Sg	Sg	20 00 00.9	-0.2
TPNV	**Topopah Spring**	**0.91 119**			Pg	19 59 50.9	-0.1
TPNV				IAML		20 00 09.1	
	comp=N,197nm,0.4s						
TPNV				IAML		20 00 09.3	
	comp=N,145nm,0.5s						
FURC	**Furnace Creek,**	**0.98 162**			Pg	19 59 52.2	-0.1
FURC				Sg	Sg	20 00 05.2	+0.2
SDH	**Striped Hills**	**1.05 136**			Pg	19 59 53.1	-0.4
NSP	**Numbskull Pass**	**1.06 129**			Pg	19 59 53.5	-0.4
CWC	**Cottonwood Cre**	**1.17 215**			Pg	19 59 54.9	-0.9
CWC				Sg	Sg	20 00 10.5	-0.5
S11A	**Rachel**	**1.22 78**			Pn	19 59 57.1	-0.1
S11A				Sg	Sn	20 00 14.6	+0.6
S11A				IAML		20 00 17.8	
	comp=N,185nm,0.6s						
AMDNV	**Amargosa**	**1.22 140**			Pg	19 59 56.3	-0.6
MCY	**Mercury**	**1.26 125**			Pg	19 59 57.4	-0.3
GWY	**Greenwater Val**	**1.30 159**			Pn	19 59 57.9	-0.4
GWY				Sg	Sg	20 00 14.8	-0.4
GWY				IAML		20 00 21.1	
	comp=N,140nm,0.5s						
GWY				IAML		20 00 21.4	
	comp=E,128nm,0.4s						
LHV	**Little Huntoon**	**1.31 311**			Pn	19 59 58.0	-0.2
LHV				IAML		20 00 19.9	
	comp=N,87nm,0.5s						
LHV				IAML		20 00 20.1	
	comp=E,106nm,0.5s						
MCBM	**Casa Benchmark**	**1.33 281**			Pg	19 59 59.1	0.0
MPMC	**Manual Prospec**	**1.35 188**			Pn	19 59 58.5	-0.5
MPMC					Sb	20 00 15.5	-1.4
Q09A	**Carvers**	**1.43 2**			Pn	20 00 00.4	+0.3
MDPB	**Devils Postpil**	**1.48 280**			Pn	20 00 00.1	-0.7
RYN	**Ryan**	**1.59 321**			Pn	20 00 01.9	-0.4
RYN	**Ryan**	**1.59 321**		IAML		20 00 27.3	
	comp=N,60nm,0.3s						
RYN				IAML		20 00 27.8	
	comp=E,117nm,0.5s						
CLC	**China Lake**	**1.60 190**			Pn	20 00 01.9	-0.5
R11B	**Troy Canyon, C**	**1.62 54**			Pn	20 00 02.0	-0.7
R11B				IAML		20 00 26.4	
	comp=E,36nm,0.2s						
R11B				IAML		20 00 27.6	
	comp=N,48nm,0.3s						
SHOC	**Shoshone, Teco**	**1.69 152**			Pn	20 00 03.3	-0.2
PRN	**Pahroc Range**	**1.75 89**			Pn	20 00 04.3	-0.1
WSHM	**Spangler Hills**	**1.81 186**			Pn	20 00 04.8	-0.3
CCCA	**Chr Cany lake**	**1.87 183**			Pn	20 00 05.8	-0.2
SHPR	**Sheep Range**	**1.89 117**			Pn	20 00 05.5	-1.0
LRMC	**Laurel Mtn Rad**	**1.95 191**			Pn	20 00 06.3	-0.8
ISA	**Isabella, Lake**	**1.99 210**		Pn	Pn	20 00 07.4	-0.3
ISA				IAML		20 00 48.1	
	comp=E,22nm,0.2s						
WAKR	**Walker**	**2.05 303**			Pn	20 00 08.1	-0.6
GSC	**Goldstone, Bar**	**2.12 170**			Pn	20 00 08.9	-0.6
GSC				IAML		20 00 43.1	
	comp=N,27nm,0.6s						
GSC				IAML		20 00 44.4	
	comp=E,25nm,0.9s						
VES	**Vestal, Richgr**	**2.15 224**		Pn	Pn	20 00 09.1	-0.6
MTPC	**Mountain Pass**	**2.35 144**		Pn	Pn	20 00 11.4	-1.3
V12A	**Nelson**	**2.55 130**			Pn	20 00 14.0	-1.4
CMB	**Columbia Colle**	**2.57 285**			Pn	20 00 14.4	-1.3
TPO	**Tropico Hills**	**2.64 198**		Pn	Pn	20 00 15.0	-1.5
SPR3	**Spring Creek 3**	**2.80 54**			Pn	20 00 17.9	-1.2
PAHR	**Pah Rah Range**	**2.85 325**			Pn	20 00 18.5	-1.1
WELL	**Weller Preserv**	**2.94 292**			Pn	20 00 19.9	-0.8
WELL				IAML		20 01 10.2	
	comp=E,9.1nm,0.3s						
PKD	**Bear Valley Ra**	**3.02 242**		Pn	Pn	20 00 21.5	-0.3
PKD				IAML		20 01 08.1	
	comp=E,19nm,4.3s						
PKD				IAML		20 01 27.6	
	comp=N,16nm,4.4s						
OSI	**Osito Audit: C**	**3.02 204**		Pn	Pn	20 00 21.2	-0.7
OSI				IAML		20 00 47.0	
	comp=N,15nm,5.0s						
OSI				IAML		20 01 03.2	
	comp=E,16nm,4.3s						
PMPB	**Monarch Peak**	**3.09 249**		Pn	Pn	20 00 22.6	-0.1
CCUT	**Cedar City**	**3.09 86**			Pn	20 00 21.6	-1.4
DANC	**Danby, Needles**	**3.14 151**		Pn	Pn	20 00 22.6	-0.9
BBGB	**Big Mountain B**	**3.15 256**			Pn	20 00 21.6	-2.0
LCMT	**Little Creek M**	**3.22 96**			Pn	20 00 24.0	-0.7
SAO	**San Andreas Ge**	**3.42 261**			Pn	20 00 25.9	-1.4
BEKR	**Beckworth**	**3.47 316**		Pn	Pn	20 00 28.0	-0.1
MHC	**Mount Hamilton**	**3.50 270**			Pn	20 00 26.6	-2.0
MHC				IAML		20 01 27.7	
	comp=N,17nm,0.9s						
BELC	**Belle Mtn. Jos**	**3.54 163**			Pn	20 00 27.4	-1.6
KNB	**Kanab**	**3.55 95**			Pn	20 00 28.0	-1.3
W13A	**Hualapai Mount**	**3.56 129**			Pn	20 00 28.4	-0.9
IRM	**Iron Mountain**	**3.66 152**			Pn	20 00 28.9	-1.7
ELK	**Elko**	**3.69 24**			Pn	20 00 29.0	-2.2
O03E	**Paynes Creek**	**4.58 311**		Pn	Pn	20 00 40.2	-3.1
O03E				IAML		20 03 09.2	
	comp=N,8.3nm,3.7s						

*NEIC **11** 20:23:09.5±0.6,13°.79N±0°.09×121°.0E±0°.2,h197km±5km, mb4.0/15,Error ellipse: s-maj=23.8km s-min=12.8km az=85.0*

*IDC **11** 20:23:09.0±0.5,13°.69N×120°.84E,h190km±4km,mb3.5/10, mbtmp4.0/10,Error ellipse: s-maj=36.2km s-min=10.6km az=64.0*

ISC 11 20:23:09.3±0.6,13°.78N±0°.07×121°.0E±0°.1,h200km,n30, σ0°63/30,mb3.8/17,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.33 350**		P	**Pn**	**20 23 35.5**	**-0.5**
	449nm,0.3s,baz=221,slow=2.3,SNR=14						
TGY				S	**Sn**	**20 23 55.9**	**-0.9**
	1μm,0.6s,baz=306,slow=21,SNR=17						
MYLDM	**Lahad Datu**	**8.89 196**		Pn	**Pn**	**20 25 13.9**	**-0.3**
TPUB	**Ta-pu**	**9.48 358**		Pn	**Pn**	**20 25 21.5**	**-0.3**
SBUM	**Sibu**	**14.21 218**		P	**P**	**20 26 24.0**	**+0.5**
KSM	**Kuching**	**16.16 222**			**Pn**	**20 26 45.4**	**-0.3**
KSM				IAmb	IAmb	20 26 49.5	
	comp=Z,8.4nm,1.2s						
CM31	**Chiang Mai Arr**	**21.68 285**		P	**P**	**20 27 44.0**	**-0.6**
CM31				IAmb	IAmb	20 27 45.4	
	comp=Z,4.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.68 285**		P	**P**	**20 27 43.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=95,slow=6.9,SNR=15						
	comp=Z,1.0nm,0.6s						
CHTO	**Chiang Mai**	**21.74 286**		P	**P**	**20 27 44.6**	**-0.6**
BATI	**Baumata**	**23.98 174**		P	**P**	**20 28 05.0**	**-0.7**
	comp=Z,9.2nm,0.4s,baz=90,slow=2.3,SNR=3.0						
	comp=Z,9.2nm,0.4s						
WB0	**Warramunga Arr**	**35.85 158**		P	**P**	**20 29 49.9**	**-0.3**
WB0				IAmb	IAmb	20 30 01.1	
	comp=Z,7.6nm,1.4s						
ULN	**Ulaanbaatar**	**35.91 344**		P	**P**	**20 29 51.0**	**+0.5**
ULN				IAmb	IAmb	20 30 22.9	
	comp=Z,4.5nm,1.3s						
WRAB	**Tennant Creek**	**35.98 158**		P	**P**	**20 29 51.2**	**-0.1**
WRAB				IAmb	IAmb	20 30 08.1	
	comp=Z,7.8nm,1.5s						
WRA	**Warramunga Arr**	**35.99 158**		P	**P**	**20 29 51.3**	**0.0**
	comp=Z,1.1nm,0.7s,baz=342,slow=8.9,SNR=24						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**36.06 343**		P	**P**	**20 29 52.8**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=163,slow=10,SNR=7.0						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**39.30 161**		P	**P**	**20 30 20.1**	**+1.0**
ASAR	**Alice Springs**	**39.30 161**		P	**P**	**20 30 19.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=339,slow=6.9,SNR=45						
	comp=Z,1.9nm,0.5s						
MORW	**Morawa**	**42.86 186**		P	**P**	**20 30 47.7**	**-0.2**
FORT	**Forrest**	**44.82 171**		P	**P**	**20 31 03.8**	**+0.4**
FORT				IAmb	IAmb	20 31 04.6	
	comp=Z,6.4nm,0.8s						
MKAR	**Makanchi Array**	**46.14 323**		P	**P**	**20 31 14.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=117,slow=8.7,SNR=9.0						
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**46.33 323**		P	**P**	**20 31 15.1**	**-0.1**
MAKZ				IAmb	IAmb	20 31 30.9	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**48.51 163**		P	**P**	**20 31 32.1**	**0.0**
ZAA0	**Zalesovo Array**	**49.12 333**		P	**P**	**20 31 36.7**	**+0.3**
ZALV	**Zalesovo Beam**	**49.12 333**		P	**P**	**20 31 36.7**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=117,slow=7.1,SNR=8.8						
	comp=Z,1.2nm,0.3s						
STKA	**Stephens Creek**	**49.51 157**		P	**P**	**20 31 40.9**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=311,slow=8.8,SNR=3.5						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**50.28 326**		P	**P**	**20 31 46.2**	**+1.0**
	comp=Z,0.6nm,0.2s,baz=124,slow=8.0,SNR=7.2						
	comp=Z,0.6nm,0.2s						
KURK	**Kurchatov**	**50.28 326**			**P**	**20 31 45.6**	**+0.3**
AB31	**Akbulak array**	**60.86 319**		P	**P**	**20 33 00.8**	**+0.1**
AB31				IAmb	IAmb	20 33 01.1	
	comp=Z,1.2nm,0.7s						
N19K	**Bonanza Creek**	**75.42 30**		P	**P**	**20 34 30.1**	**-0.9**
ARCES	**ARCESS Array B**	**79.11 339**		P	**P**	**20 34 51.8**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=79,slow=6.3,SNR=8.3						
	comp=Z,1.7nm,0.9s						
U49A	**Red Boiling Sp**	**123.96 26**		PKPpre		20 41 35.4	

*NEIC **11** 21:27:44.7±2.0,40°.46N±0°.01×112°.08W±0°.05,h0km±1km, ML2.2/62,Error ellipse: s-maj=6.2km s-min=2.3km az=267.0*

*IDC **11** 21:27:50.5±0.9,41°.37N×112°.81W,h0km,mbtmp2.6/3, ML3.0/3,Error ellipse: s-maj=23.1km s-min=6.0km az=155.0*

**ISC 11 21:27:42.4±0.9,40°.54N±0°.04×112°.35W±0°.03,h0km

HMU	**Henry Mountain**	**2.89**	**154**		**Pn**	**21 28 30.4**	**+0.5**
HMU				IAML		21 29 19.7	
comp=N,18nm,1.5s							
HMU				IAML		21 29 40.2	
comp=E,16nm,1.9s							
PD31	**Pinedale Array**	**3.05**	**42**	Pn	**Pb**	**21 28 36.2**	**-1.6**
PDAR	**Pinedale Array**	**3.05**	**42**	Pn	**Pb**	**21 28 37.5**	**-0.3**
comp=E,0.2nm,0.3s,baz=233,slow=15,SNR=12							
PDAR				Lg	Lg	21 29 19.3	
comp=E,0.2nm,0.3s,baz=239,slow=39,SNR=8.0							
comp=E,2.0nm,0.8s							
CCUT	**Cedar City**	**3.09**	**195**	Pn	**Pb**	**21 28 36.5**	**-1.9**
CCUT				IAML		21 29 31.3	
comp=N,7.1nm,4.6s							
CCUT				IAML		21 30 24.4	
comp=E,5.2nm,4.5s							
PV21	**Cone Mtn., Par**	**3.27**	**126**	Pn	**Pn**	**21 28 36.6**	**+1.3**
PV21				IAML		21 29 32.3	
comp=N,13nm,1.0s							
PV21				IAML		21 29 35.1	
comp=E,13nm,1.3s							
PV23	**Carpenter Ridg**	**3.32**	**128**		**Pn**	**21 28 36.1**	**+0.2**
PV14	**Lion Creek, Pa**	**3.37**	**129**	Pg	**Pb**	**21 28 43.4**	**+0.2**
PV14				IAML		21 29 57.7	
comp=N,12nm,4.5s							
PV22	**Blue Mesa, Par**	**3.41**	**125**		**Pb**	**21 28 45.0**	**+1.2**
PV22				IAML		21 29 29.6	
comp=N,10nm,3.0s							
PV22				IAML		21 29 40.8	
comp=E,12nm,1.5s							
PV20	**West Nyswonger**	**3.42**	**129**	Pn	**Pn**	**21 28 36.4**	**-0.8**
PV19	**Morning Glory**	**3.43**	**129**	Pn	**Pn**	**21 28 38.1**	**+0.7**
PV16	**Nyswonger Mesa**	**3.47**	**129**	Pn	**Pn**	**21 28 38.9**	**+1.0**
PV18	**Skein Mesa, Pa**	**3.52**	**130**	Pg	**Pb**	**21 28 46.1**	**+0.4**
PV12	**Saucer Basin,**	**3.53**	**128**		**Pb**	**21 28 47.8**	**+1.9**
PV03	**Paradox Valley**	**3.55**	**129**	Pg	**Pb**	**21 28 47.5**	**+1.3**
PV03				IAML		21 29 49.1	
comp=E,9.9nm,2.2s							
NVAR	**Mina Array Bea**	**5.07**	**247**	Pn	**Pb**	**21 29 10.6**	**-1.4**
comp=E,0.1nm,0.3s,baz=61,slow=14,SNR=1.6							
NVAR				Lg	Lg	21 30 29.5	
comp=E,0.1nm,0.3s,baz=59,slow=32,SNR=1.7							
comp=E,0.1nm,0.3s							
TXAR	**Lajitas Array**	**13.25**	**145**	Pn	P	21 31 14.3	+12
comp=E,0.1nm,0.3s,baz=334,slow=14,SNR=1.7							
comp=E,0.1nm,0.4s							

*TEH **11** 21:28:47.5, 34°.92N×45°.83E, h10km±136km*
*ISN **11** 21:28:48.5±2.0, 34°.94N×45°.89E, h18km±40km, ML2.5*
ISC 11 21:28:47.8±1.1, 34°.89N±0°.06×45°.86E±0°.05, h10km, n7, σ0§57/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.44**	**211**	Pg	**Pg**	**21 28 57.0**	**+0.5**
IDHR	**Dehrash**	**0.47**	**113**	Pg	**Pg**	**21 28 57.6**	**+0.5**
IDHR				Sg	**Sb**	**21 29 05.7**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.77**	**177**	Pg	**Pg**	**21 29 03.0**	**+0.3**
IGHG	**Ghaleghazi**	**0.81**	**134**	Pg	**Pg**	**21 29 03.8**	**+0.4**
IKRK	**Kirkuk**	**1.35**	**293**	*e*Pg	**Pn**	**21 29 12.0**	**-0.7**
baz=110							
IKRK				*e*Sg	**Sg**	**21 29 32.0**	**+0.8**
IKRK				AML	AML	21 29 35.9	
comp=N,76nm,0.4s							
IKRK				AML	AML	21 29 36.4	
comp=E,130nm,0.4s							
SNQR	**Sonqor, Kerman**	**1.45**	**91**	Pg	**Pg**	**21 29 15.9**	**+0.2**
IBDR	**Badra**	**1.77**	**178**	*e*Pn	**Pb**	**21 29 20.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**21 29 45.0**	**+0.1**

IDC 11 21:32:01.4±1.6, 17°.66S×177°.38W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=51.6km s-min=36.6km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.64**	**259**	P	P	21 40 23.7	-0.4
0.5nm,0.4s,baz=97,slow=7.3,SNR=6.1							
0.5nm,0.4s							
ASAR	**Alice Springs**	**45.80**	**254**	P	P	21 40 25.4	+0.1
4.7nm,0.6s,baz=88,slow=8.4,SNR=88							
4.7nm,0.6s							
QSPA	**South Pole Qui**	**72.39**	**180**	P	P	21 43 29.5	+0.2
0.9nm,0.9s,baz=254,slow=1.5,SNR=2.4							
0.9nm,0.9s							
ILAR	**Eielson Array**	**85.43**	**13**	P	P	21 44 40.4	-0.1
0.2nm,0.4s,baz=224,slow=4.1,SNR=6.6							
0.2nm,0.4s							

*IDC **11** 21:46:26.6±3.1, 21°.53S×170°.22E, h189km±22km, mb3.7/6, mbtmp4.2/7, Error ellipse: s-maj=33.8km s-min=28.8km az=173.0*
*NOU **11** 21:46:49.2, 21°.79S×168°.35E, h0km, MLv3.2/5, Loyalty Islands*
ISC 11 21:46:22.5±1.1, 21°.6S±0°.3×170°.5E±0°.1, h150km, n13, σ1§38/14, mb4.0/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.02**	**250**	P	**Pn**	**21 47 11.1**	**+1.0**
YATNC	**Mamie plateau,**	**3.41**	**262**	P	**Pn**	**21 47 14.4**	**-0.7**
OUENC	**Ouen Island, N**	**3.51**	**256**	P	**Pn**	**21 47 17.3**	**+0.9**
DZM	**Mont Dzumac**	**3.82**	**262**	P	**Pn**	**21 47 21.0**	**+0.5**
49nm,0.7s,baz=93,slow=15,SNR=83							
DZM				S	**Sn**	**21 48 07.5**	**+2.0**
28nm,0.6s,baz=44,slow=22,SNR=1.6							
DZM	**Mont Dzumac**	**3.82**	**262**	P	**Pn**	**21 47 21.2**	**+0.7**
ONTNC	**Ouen Toro**	**3.84**	**259**	P	**Pn**	**21 47 21.4**	**+0.7**
STKA	**Stephens Creek**	**27.71**	**242**	P	**P**	**21 51 56.5**	**-0.2**
3.7nm,0.7s,baz=77,slow=8.8,SNR=7.2							
3.7nm,0.7s							
ASAR	**Alice Springs**	**33.81**	**259**	P	**P**	**21 52 48.6**	**-1.9**
2.6nm,0.7s,baz=84,slow=8.8,SNR=33							
2.6nm,0.7s							
WRA	**Warramunga Arr**	**33.83**	**266**	P	**P**	**21 52 47.9**	**-2.8**
2.7nm,0.6s,baz=100,slow=8.0,SNR=57							
2.7nm,0.6s							
QSPA	**South Pole Qui**	**68.45**	**180**	P	**P**	**21 57 08.0**	**-0.1**
1.8nm,1.0s,baz=9.8,slow=7.0,SNR=3.5							
1.8nm,1.0s							
MAW	**Mawson**	**76.69**	**202**	P	**P**	**21 57 56.5**	**-0.1**
2.4nm,0.8s,baz=105,slow=4.6,SNR=7.0							
2.4nm,0.8s							
NVAR	**Mina Array Bea**	**89.47**	**48**	P	**P**	**21 59 04.3**	**+1.4**
0.2nm,0.3s,baz=264,slow=3.7,SNR=1.6							
0.2nm,0.3s							
GERES	**GERESS Array B**	**147.15**	**331**	PKPbc	**PKPdf**	**22 05 46.0**	**+0.4**
0.2nm,0.3s,baz=31,slow=3.1,SNR=3.7							

IDC 11 21:56:45.0±1.9, 65°.09S×178°.31E, h0km, mb4.0/4, mbtmp4.0/5, ML3.6/1, MS3.7/10, Error ellipse: s-maj=78.7km s-min=22.1km az=68.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.45**	**195**	Pn	Pn	21 59 57.7	+0.8
0.3nm,0.3s,baz=47,slow=18,SNR=31							
VNDA				LR	LR	22 04 01.5	
comp=Z,244nm,19.5s,baz=18,slow=32							
6.8nm,1.0s							
QSPA	**South Pole Qui**	**24.99**	**180**	P	P	22 02 11.2	+1.0
8.9nm,1.1s,baz=46,slow=6.0,SNR=12							
QSPA				LR	LR	22 10 53.7	
comp=Z,208nm,19.1s,baz=41,slow=34							
8.9nm,1.1s							
URZ	**Urewera**	**26.88**	**358**	LR	LR	22 11 29.7	
comp=Z,190nm,19.2s,baz=140,slow=33							
RAO	**Raoul Island**	**35.94**	**6**	LR	LR	22 14 50.0	
comp=Z,122nm,19.7s,baz=69,slow=30							
MAW	**Mawson**	**39.91**	**213**	LR	LR	22 20 48.7	
comp=Z,310nm,18.5s,baz=144,slow=36							
PMSA	**Palmer Station**	**42.75**	**146**	LR	LR	22 19 04.1	
comp=Z,55nm,19.1s,baz=194,slow=31							
SNAA	**Sanae**	**43.50**	**179**	P	P	22 04 47.4	-2.0
1.8nm,0.9s,baz=135,slow=13,SNR=5.3							
SNAA				LR	LR	22 22 25.1	
comp=Z,143nm,18.4s,baz=195,slow=35							
1.8nm,0.9s							
RAR	**Rarotonga**	**46.18**	**29**	LR	LR	22 19 08.5	
comp=Z,84nm,20.2s,baz=271,slow=29							
H01W1	**Cape Leeuwin H**	**48.11**	**276**	T	T	22 57 40.7	
baz=148,slow=76,SNR=65							
H01W2	**Cape Leeuwin H**	**48.12**	**276**	T	T	22 57 40.9	
baz=148,slow=76,SNR=41							
H01W3	**Cape Leeuwin H**	**48.13**	**276**	T	T	22 57 41.9	
baz=148,slow=76,SNR=57							
ASAR	**Alice Springs**	**50.28**	**303**	P	P	22 05 43.1	+0.1
0.6nm,0.6s,baz=156,slow=7.2,SNR=13							
0.6nm,0.6s							
PPT	**Papeete**	**52.13**	**40**	LR	LR	22 23 12.3	
comp=Z,33nm,18.0s,baz=184,slow=30							
WRA	**Warramunga Arr**	**53.57**	**306**	P	P	22 06 06.7	-0.8
0.9nm,0.7s,baz=157,slow=6.5,SNR=11							
0.9nm,0.7s							
H03S2	**Juan Fernandez**	**64.90**	**116**	T	T	23 18 20.4	
baz=205,slow=74,SNR=41							
H03S1	**Juan Fernandez**	**64.90**	**116**	T	T	23 18 19.1	
baz=205,slow=74,SNR=39							
H03S3	**Juan Fernandez**	**64.92**	**116**	T	T	23 18 16.6	
baz=205,slow=74,SNR=36							
H03N3	**Juan Fernandez**	**65.24**	**116**	T	T	23 18 40.0	
baz=206,slow=72,SNR=18							
H03N2	**Juan Fernandez**	**65.25**	**116**	T	T	23 18 38.6	
baz=206,slow=72,SNR=51							
H03N1	**Juan Fernandez**	**65.26**	**116**	T	T	23 18 39.0	
baz=206,slow=72,SNR=19							
BOSA	**Boshof**	**84.28**	**204**	LR	LR	22 43 12.9	
comp=Z,42nm,21.8s,baz=174,slow=33							
ILAR	**Eielson Array**	**132.03**	**19**	PKP	PKPdf	22 15 58.6	-0.1
0.8nm,0.9s,baz=222,slow=1.9,SNR=4.4							
KBZ	**Khabaz**	**147.42**	**251**	PKPbc	PKPbc	22 16 29.6	0.0
4.7nm,0.9s,baz=200,slow=1.4,SNR=7.2							
BRTR	**Keskin Array B**	**147.47**	**236**	PKPbc	PKPbc	22 16 29.8	-0.3
3.0nm,1.0s,baz=151,slow=2.8,SNR=10							

*DSN **11** 22:11:35.8±2.4, 28°.07N×53°.32E, h10km, ML2.9/11, Error ellipse: s-maj=36.4km s-min=9.4km az=10.0*
*TEH **11** 22:11:37.9, 27°.67N×53°.24E, h8km±28km*
*OMAN **11** 22:11:45.6±0.4, 27°.11N×53°.30E, h10km, mb4.0/5, ml3.3/16, Error ellipse: s-maj=9.2km s-min=3.9km az=3.0*
ISC 11 22:11:38.9±1.0, 27°.63N±0°.04×53°.31E±0°.04, h10km, n67, σ1§86/80, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.32**	**205**	Pg	**Pg**	**22 11 44.8**	**-0.5**
JHRM	**Jahrom**	**0.90**	**15**	Pg	**Pg**	**22 11 54.8**	**-1.6**
LAR1	**LAR**	**0.94**	**87**	Pg	**Pg**	**22 11 57.8**	**+0.7**
DSBU	**Dashti - Bushe**	**1.96**	**292**	Pn	**Pn**	**22 12 13.0**	**+0.8**
SHI	**Shiraz**	**2.13**	**341**	Pn	**Pn**	**22 12 14.7**	**0.0**
KAZ2	**Kazeron-Fars-I**	**2.45**	**324**	Pn	**Pn**	**22 12 19.5**	**+0.3**
BNDS	**Bandar-Abbas**	**2.55**	**94**	Pn	**Pn**	**22 12 22.9**	**+2.4**
GENO	**Geno**	**2.55**	**94**	Pn	**Pn**	**22 12 22.7**	**+2.2**
SHME	**Shamm**	**2.98**	**121**	P	**Pn**	**22 12 29.1**	**+2.9**
SHME	**Shamm**	**2.98**	**121**	P	**Pn**	**22 12 26.7**	**+0.5**
SAKB	**Bahrain**	**2.98**	**237**	P	**Pn**	**22 12 29.1**	**+2.9**
SAKB				S	**Sn**	**22 13 04.1**	**+2.1**
BANOM	**Banah**	**3.16**	**122**	P	**Pn**	**22 12 31.9**	**+3.1**
BANOM				S	**Sn**	**22 13 05.6**	**-1.1**
BANOM	**Banah**	**3.16**	**122**	P	**Pn**	**22 12 29.2**	**+0.4**
BANOM				S	**Sn**	**22 13 08.7**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.37**	**141**	P	**Pn**	**22 12 34.6**	**+3.0**
NAZ				S	**Sn**	**22 13 08.8**	**-2.9**
NAZ	**Nazwa, Dubai**	**3.37**	**141**	*i* P	**Pn**	**22 12 35.0**	**+3.3**
SNR=8.8							
MASF	**Masafi**	**3.40**	**131**	P	**Pn**	**22 12 34.4**	**+2.3**
MASF				S	**Sn**	**22 13 13.6**	**+1.1**
AJN	**Ajban**	**3.40**	**153**	P	**Pn**	**22 12 31.9**	**-0.2**
AJN				S	**Sn**	**22 13 08.8**	**-3.7**
MSFE	**Esma-Masafi**	**3.41**	**131**	P	**Pn**	**22 12 33.3**	**+1.1**
TRNA	**Turayna**	**3.44**	**214**	P	**Pn**	**22 12 34.6**	**+2.0**
SNR=7.3							
ASUD	**Al Ashush, Dub**	**3.50**	**148**	P	**Pn**	**22 12 35.4**	**+2.1**
ASUD				S	**Sn**	**22 13 14.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.50**	**148**	*i* P	**Pn**	**22 12 35.9**	**+2.5**
SNR=7.1							
FAQ	**Al Faqa, Dubai**	**3.53**	**144**	P	**Pn**	**22 12 35.8**	**+2.0**
FAQ				S	**Sn**	**22 13 16.9**	**+1.3**
MDH	**Madha**	**3.54**	**130**	P	**Pn**	**22 12 37.2**	**+3.2**
NGRK	**Negar Kerman**	**3.61**	**55**	Pn	**Pn**	**22 12 36.7**	**+1.3**
SMRA	**Abu-Samra**	**3.64**	**218**	P	**Pn**	**22 12 36.7**	**+1.3**
KLNJ	**Kolanjah**	**3.69**	**336**	Pn	**Pn**	**22 12 36.1**	**-0.2**
UOSS	**Minazif**	**3.72**	**135**	P	**Pn**	**22 12 38.4**	**+1.8**
UOSS	**Minazif**	**3.72**	**135**	P	**Pn**	**22 12 37.3**	**+0.7**
HATD	**Hatta, Dubai**	**3.77**	**137**	P	**Pn**	**22 12 39.7**	**+2.6**
HATD				S	**Sn**	**22 13 19.9**	**-1.7**
HATD	**Hatta, Dubai**	**3.77**	**137**	P	**Pn**	**22 12 39.9**	**+2.8**
KRBR	**Kerman**	**3.83**	**51**	Pn	**Pn**	**22 12 40.4**	**+2.1**
ASHO	**Ashiyiah**	**3.83**	**139**	P	**Pn**	**22 12 40.2**	**+2.2**
SNR=14							
ASHO				S	**Sn**	**22 13 23.8**	**+0.6**
ASHO	**Ashiyiah**	**3.83**	**139**	*i* P	**Pn**	**22 12 39.6**	**+1.5**
SNR=7.3							
KHGB	**Koh Gabri**	**3.89**	**45**	Pn	**Pn**	**22 12 40.6**	**+1.5**
KHNJ	**Kahnooj**	**3.90**	**84**	Pn	**Pn**	**22 12 40.9**	**+1.9**
IMEH	**Mehriz**	**3.92**	**16**	Pn	**Pn**	**22 12 40.5**	**+1.1**
ALNE	**Al Ain**	**4.18**	**148**	P	**Pn**	**22 12 44.6**	**+1.8**
ALNE				S	**Sn**	**22 13 31.2**	**-0.6**
ALNE	**Al Ain**	**4.18**	**148**	*i* P	**Pn**	**22 12 44.7**	**+1.9**
SNR=6.9							
IRAM	**Ramesheh**	**4.24**	**349**	Pn	**Pn**	**22 12 44.1**	**+0.2**
CHMN	**Cheshme madani**	**4.33**	**58**	Pn	**Pn**	**22 12 46.2**	**+1.1**
IBAF	**Bafgh**	**4.41**	**26**	Pn	**Pn**	**22 12 47.4**	**+1.3**
KRM1	**Kerman Provinc**	**4.49**	**49**	Pn	**Pn**	**22 12 48.5**	**+1.2**
SOHO	**SOHO**	**4.53**	**139**	P	**Pn**	**22 12 48.9**	**+1.3**
SOHO	**SOHO**	**4.53**	**139**	*i* P	**Pn**	**22 12 48.7**	**+1.1**
SNR=7.1							
MZR	**Muzera**	**4.61**	**178**	P	**Pn**	**22 12 49.9**	**+1.2**
ICHK	**Chekchek**	**4.70**	**11**	Pn	**Pn**	**22 12 51.1**	**+1.0**
KBAM	**BAM**	**4.77**	**70**	Pn	**Pn**	**22 12 52.7**	**+1.8**
IGAR	**Gharneh**	**4.89**	**347**	Pn	**Pn**	**22 12 53.8**	**+1.1**
ZNGN	**Zangian**	**4.96**	**335**	Pn	**Pn**	**22 12 54.0**	**+0.3**
JHBN	**Jahan bin**	**5.13**	**334**	Pn	**Pn**	**22 12 55.9**	**-0.2**
ARQ	**Araqi**	**5.16**	**145**	P	**Pn**	**22 12 58.0**	**+1.6**
SNR=22							
ARQ				S	**Sn**	**22 13 51.1**	**-5.0**
UMZA	**Um Al Zommool**	**5.17**	**161**	P	**Pn**	**22 12 58.2**	**+1.8**
IZEF	**Zefreh**	**5.32**	**351**	Pn	**Pn**	**22 12 59.3**	**+0.6**
HOQ	**Hoqain**	**5.41**	**137**	P	**Pn**	**22 13 01.7**	**+2.0**
HOQ				S	**Sn**	**22 13 58.4**	**-3.7**
HOQ	**Hoqain**	**5.41**	**137**	Pn	**Pn**	**22 13 01.7**	**+2.0**
ANAR	**Anarak**	**5.55**	**4**	Pn	**Pn**	**22 13 02.2**	**+0.4**
IKLH	**Kolahrood**	**5.87**	**346**	Pn	**Pn**	**22 13 07.0**	**+0.8**
TPRV	**Parvadeh(Tabas**	**6.12**	**28**	Pn	**Pn**	**22 13 11.5**	**+1.9**
SMDO	**Samad**	**6.25**	**136**	P	**Pn**	**22 13 13.2**	**+1.9**
SNR=9.3							
JMDO	**Jabal Madar**	**6.80**	**139**	P	**Pn**	**22 13 20.0**	**+1.1**
NHDN	**Nehbandan**	**6.96**	**56**	Pn	**Pn**	**22 13 22.6**	**+1.4**
JLN	**Jalan Bani Buh**	**7.77**	**133**	P	**Pn**	**22 13 32.4**	**+0.3**
MHTO	**MHTO**	**7.86**	**146**	P	**Pn**	**22 13 34.9**	**+1.6**
RAYN	**Ar Rayn**	**8.15**	**242**	P	**Pn**	**22 13 35.9**	**-1.5**
DQM	**DQM**	**8.58**	**152**	P	**Pn**	**22 13 44.7**	**+1.4**
WHFO	**Wadi Hawf**	**9.67**	**177**	P	**Pn**	**22 13 58.0**	**-0.3**
SNR=16							
ABTO	**Aybut**	**10.23**	**180**	P	**Pn**	**22 14 06.0**	**+0.1**
SNR=8.9							

*GCG **11** 22:15:32.1±1.5, 14°.63N×91°.43W, h118km±5km, MD4.0, ML4.0, MW3.5*
*CATAC **11** 22:15:32.7±0.3, 15°.N±3°.×9°.1W±°, h106km±2km, M3.8/31, MLv3.8/31, Error ellipse: s-maj=6.8km s-min=2.4km az=31.2, confirmed*
ISC 11 22:15:32.8±1.5, 14°.45N±0°.05×91°.48W±0°.05, h107km±8km, n64, σ1§22/76, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.10**	**99**	*e*P	**Pn**	**22 15 48.5**	**+0.7**
RTAL	**Retalhuleu**	**0.22**	**289**	P	**Pn**	**22 15 49.1**	**+1.2**
SOKI	**Kika Raxquin**	**0.37**	**11**	*e*P	**Pn**	**22 15 49.6**	**+0.6**
SOKI				IAML		22 16 07.7	
comp=N,2μm,0.6s							
QUEO	**Labor Ovalle**	**0.42**	**355**	*e*P	**Pn**	**22 15 50.0**	**+0.8**
ESSG	**Sabana Grande**	**0.63**	**96**	*e*P	**Pn**	**22 15 50.9**	**+0.5**
ESSG				*e*S	**Sn**	**22 16 05.1**	**+1.5**
ESSG				IAML		22 16 06.1	
comp=E,4μm,0.5s							
SMCA	**Catarina**	**0.70**	**305**	*i* P	**Pn**	**22 15 51.0**	**+0.1**
SMCA				*e*S	**Sn**	**22 16 05.7**	**+1.1**
SMCA				IAML		22 16 09.0	
comp=N,4μm,0.2s							
HUEH	**Huehuetenango**	**0.86**	**358**	*e*P	**Pn**	**22 15 52.6**	**0.0**
HUEH				*e*S	**Sn**	**22 16 08.3**	**+0.8**
HUEH	**Huehuetenango**	**0.86**	**358**	P	**Pn**	**22 15 52.5**	**-0.1**
HUEH	**Huehuetenango**	**0.86**	**358**	S	**Sn**	**22 16 08.0**	**+0.5**
THIG		**0.89**	**301**	*i* P	**Pn**	**22 15 53.2**	**+0.6**
THIG				*e*S	**Sn**	**22 16 09.4**	**+1.9**
THIG				IAML		22 16 11.2	
comp=E,3μm,0.3s							
FG8	**Yepocapa, Chim**	**0.91**	**102**	*e*P	**Pn**	**22 15 50.4**	**-2.6**
FG8				*e*S	**Sn**	**22 16 04.4**	**-3.7**
QUIS	**Sacapulas**	**0.91**	**24**	*e*P	**Pn**	**22 15 53.0**	**0.0**
QUIS				*i* S	**Sn**	**22 16 08.4**	**+0.2**
QUIS				IAML		22 16 12.1	
comp=E,794nm,0.4s							
FG16	**Alotenango, Sa**	**0.95**	**101**	*e*P	**Pn**	**22 15 51.1**	**-2.4**
FG16				*i* S	**Sn**	**22 16 05.6**	**-3.5**
FG16				IAML		22 16 11.7	
comp=N,16μm,0.2s							
PCG5	**San Vicente Pa**	**1.09**	**102**	*e*P	**Pn**	**22 15 52.7**	**-2.2**
PCG5				*i* S	**Sn**	**22 16 11.2**	**-0.4**
APG	**El Apazote**	**1.12**	**61**	*i* P	**Pn**	**22 15 55.1**	**-0.2**
APG				*e*S	**Sn**	**22 16 12.3**	**0.0**
ESSJ	**San Jos, E**	**1.30**	**133**	*e*P	**Pn**	**22 15 53.9**	**-3.1**
ESSJ				*e*S	**Sn**	**22 16 11.3**	**-4.1**
FAME	**Alcaldia de Sa**	**1.54**	**113**	P	**Pn**	**22 16 00.3**	**+0.4**
FAME	**Alcaldia de Sa**	**1.54**	**113**	S	**Sn**	**22 16 21.8**	**+1.2**
LOAL	**Lomas de Alarc**	**1.71**	**105**	P	**Pn**	**22 16 02.4**	**+0.4**
LOAL	**Lomas de Alarc**	**1.71**	**105**	S	**Sn**	**22 16 25.3**	**+1.1**
NUBE	**Las Nubes**	**1.73**	**108**	*e*P	**Pn**	**22 16 02.8**	**+0.3**
CEVE	**Cerro Verde**	**1.90**	**109**	S	**Sn**	**22 16 29.6**	**+0.7**
CEVE	**Cerro Verde**	**1.90**	**109**	P	**Pn**	**22 16 04.9**	**+0.3**
CCIG	**Comitan**	**1.93**	**341**	*i* P	**Pn**	**22 16 04.2**	**-0.7**
CCIG				*e*S	**Sn**	**22 16 27.7**	**-1.7**
CCIG				IAML		22 16 32.7	
comp=N,274nm,0.5s							
CCIG	**Comitan**	**1.93**	**341**	P	**Pn**	**22 16 04.3**	**-0.7**
CCIG	**Comitan**	**1.93**	**341**	S	**Sn**	**22 16 28.4**	**-1.0**
UNIC	**Universidad Ca**	**1.93**	**104**	P	**Pn**	**22 16 05.1**	**+0.2**
MTO3	**Montecristo**	**2.05**	**91**	*i* P	**Pn**	**22 16 06.4**	**-0.2**
MTO3	**Montecristo**	**2.05**	**91**	P	**Pn**	**22 16 06.3**	**-0.2**
ESQI	**Esquipulas**	**2.07**	**87**	P	**Pn**	**22 16 06.7**	**+0.1**
ESQI	**Esquipulas**	**2.07**	**87**	S	**Sn**	**22 16 33.1**	**+0.6**
CEDA	**San Andres**	**2.12**	**107**	P	**Pn**	**22 16 07.8**	**+0.5**
CEDA	**San Andres**	**2.12**	**107**	S	**Sn**	**22 16 34.6**	**+1.0**
JAYA	**Jayaque - finc**	**2.12**	**112**	*e*P	**Pn**	**22 16 07.5**	**+0.1**
JAYA	**Jayaque - finc**	**2.12**	**112**	P	**Pn**	**22 16 07.3**	**-0.1**
JAYA	**Jayaque - finc**	**2.12**	**112**	S	**Sn**	**22 16 34.7**	**+0.9**
PMON	**Piamonte**	**2.22**	**109**	P	**Pn**	**22 16 09.3**	**+0.6**
PMON	**Piamonte**	**2.22**	**109**	S	**Sn**	**22 16 37.0**	**+0.9**
ITCA	**Escuela Especi**	**2.27**	**110**	P	**Pn**	**22 16 09.8**	**+0.6**
UEES	**Universidad Ev**	**2.29**	**108**	P	**Pn**	**22 16 09.8**	**+0.3**
UEES	**Universidad Ev**	**2.29**	**108**	S	**Sn**	**22 16 38.6**	**+1.0**
LALI	**Alcalda de L**	**2.30**	**114**	P	**Pn**	**22 16 10.1**	**+0.5**
UTEC	**Universidad Te**	**2.33**	**108**	P	**Pn**	**22 16 10.4**	**+0.4**
IGN	**Direccin Gen**	**2.36**	**108**	P	**Pn**	**22 16 10.7**	**+0.4**
UDBS	**Universidad Do**	**2.37**	**108**	P	**Pn**	**22 16 11.0**	**+0.5**
LOMA	**Loma Larga**	**2.38**	**109**	P	**Pn**	**22 16 11.1**	**+0.5**
LOMA	**Loma Larga**	**2.38**	**109**	S	**Sn**	**22 16 40.6**	**+0.9**
PANCS	**Alcalda de**	**2.38**	**110**	P	**Pn**	**22 16 10.9**	**+0.3**
PAVA	**Las Pavas**	**2.57**	**106**	P	**Pn**	**22 16 13.7**	**+0.5**
SARH	**Santa Rosa de**	**2.65**	**83**	*e*P	**Pn**	**22 16 14.0**	**-0.1**
SARH	**Santa Rosa de**	**2.65**	**83**	P	**Pn**	**22 16 14.1**	**-0.1**
SARH	**Santa Rosa de**	**2.65**	**83**	S	**Sn**	**22 16 46.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.77**	**105**	P	**Pn**	**22 16 15.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.77**	**105**	S	**Sn**	**22 16 49.7**	**+1.0**
TECO	**Alcaldia de Te**	**2.77**	**109**	P	**Pn**	**22 16 16.1**	**+0.3**
TGIG		**2.80**	**326**	*e*P	**Pn**	**22 16 14.0**	**-2.2**
PETF	**Flores**	**2.90**	**32**	P	**Pn**	**22 16 17.0**	**-0.4**
PETF	**Flores**	**2.90**	**32**	S	**Sn**	**22 16 51.5**	**-0.2**
PACA	**Pacayal**	**3.21**	**107**	P	**Pn**	**22 16 22.1**	**+0.4**
CNCH	**Conchagua**	**3.73**	**108**	P	**Pn**	**22 16 28.5**	**

DUNU	Dundret	0.73	170	P	Pg	22 20 28.1	-0.2
SALU	Saltoluokta	0.81	236	P	Pg	22 20 29.5	-0.3
SALU	Saltoluokta	0.81	236	eP	Pg	22 20 29.5	-0.3
KIF	Kilpisjarvi	1.19	10	eP	Pg	22 20 36.6	-0.5
KIF	Kilpisjarvi	1.19	10	PG	Pg	22 20 36.6	-0.5
KIF				MSG		22 20 52.0	
	comp=Z,22nm,0.2s						
KIF				SG	Sg	22 20 52.8	+0.3
PAJU	Pajala	1.38	125	P	Pg	22 20 39.8	-0.9
PAJU				S	Sg	22 20 57.6	-1.0
PAJU	Pajala	1.38	125	PG	Pg	22 20 39.6	-1.1
PAJU				SG	Sg	22 20 58.3	-0.3
HEF	Hetta	1.40	64	PG	Pn	22 20 40.1	-1.1
HEF				MSG		22 20 57.5	
	comp=Z,9.1nm,0.2s						
HEF				SB	Sg	22 20 58.6	-0.8
ERTU	Ertsjaerv	1.50	149	P	Pn	22 20 41.9	-0.6
ERTU				S	Sg	22 21 02.4	0.0
ERTU	Ertsjaerv	1.50	149	PG	Pn	22 20 41.8	-0.7
ERTU				SN	Sn	22 21 02.9	+0.2
KTK1	Kautokeino	1.62	42	PG	Pn	22 20 43.8	-0.3
KTK1				SN	Sg	22 21 06.4	+0.1
HARU	Harads	1.71	170	P	Pn	22 20 45.4	0.0
HARU				S	Sb	22 21 08.5	0.0
TRO	Tromso	1.86	346	PG	Pn	22 20 48.1	+0.6
TRO				SN	Sn	22 21 12.3	+0.7
KALU	Kalix	2.34	147	PB	Pn	22 20 55.0	+1.0
KALU				SG	Sb	22 21 26.1	-0.6
TOF	Tornio	2.39	136	PB	Pn	22 20 56.2	+1.6
	baz=323						
TOF				MSG		22 21 25.7	
	comp=Z,5.2nm,0.2s						
TOF				SG	Sb	22 21 28.9	+0.8
RNF	Rovaniemi	2.56	116	PB	Pn	22 20 58.9	+1.8
	baz=302						
RNF				SG	Sb	22 21 33.3	+0.2
ARCES	ARCESS Array B	2.57	46	Pn	Pn	22 20 57.8	+0.6
	comp=Z,1.0nm,0.3s,baz=226,slow=15,SNR=46						
ARCES				Sn	Sb	22 21 31.7	-1.6
	comp=Z,2.3nm,0.3s,baz=229,slow=25,SNR=18						
	comp=Z,1.9nm,0.3s						
ARA0	ARCESS Array S	2.57	46	PN	Pn	22 20 57.9	+0.7
	baz=229						
ARA0				SB	Sb	22 21 31.7	-1.6
RAJF	Raja-Jooseppi	3.08	74	PN	Pn	22 21 04.5	+0.3
RAJF				SG	Sb	22 21 47.6	-0.5
KEV	Kevo	3.12	49	PN	Pn	22 21 05.2	+0.5
KEV				SN	Sn	22 21 43.8	+1.1
RANF	Ranua	3.16	122	PN	Pn	22 21 06.6	+1.2
RANF				SG	Sb	22 21 52.5	+2.1
BURU	Burvik	3.30	171	PB	Pn	22 21 09.0	+1.8
BURU				SB	Sn	22 21 49.9	+2.8
VRF	Varrio	3.56	87	PN	Pn	22 21 12.3	+1.6
VRF				SG	Sb	22 22 02.9	+1.1
OUL	Oulu	3.58	138	PG	Pb	22 21 19.0	+0.6
OUL				SG	Sb	22 22 03.6	+1.3
OBF8	Ulkokalla	3.76	158	PN	Pn	22 21 14.8	+1.4
KU2	Taivalkoski	3.82	120	PN	Pn	22 21 15.6	+1.3
OLKF	Oulanka, Finla	3.89	109	PN	Pn	22 21 16.2	+0.8
MSF	Maaselka	3.97	115	PN	Pn	22 21 17.7	+1.2
	baz=300						
UMAU	Umeaa	3.98	177	PN	Pn	22 21 18.1	+1.6
	baz=356						
KU6	Riekki	4.21	111	PN	Pn	22 21 20.6	+0.9
KU1	Kurvinen	4.35	117	PN	Pn	22 21 23.1	+1.5
FINES	FINESS Array B	6.89	156	Pn	Pn	22 21 56.6	+0.1
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=3.7						
FINES				Sn	Sn	22 23 11.7	-3.8
	comp=Z,0.1nm,0.3s,baz=343,slow=23,SNR=2.3						
FINES				Lg	Lg	22 23 46.2	
	comp=Z,0.4nm,0.3s,baz=338,slow=25,SNR=5.9						
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	7.85	214	Pn	Pn	22 22 08.1	-1.7
	baz=23,slow=12,SNR=1.2						
	comp=Z,0.4nm,0.8s						
HFS	Hagfors	8.25	203	Pn	Pn	22 22 13.8	-1.3
	comp=Z,0.1nm,0.3s,baz=23,slow=13,SNR=1.0						
HFS				Sn	Sn	22 23 45.5	-3.3
	comp=Z,0.1nm,0.3s,baz=30,slow=29,SNR=1.5						
HFS				Lg	Lg	22 24 30.7	
	comp=Z,0.1nm,0.3s,baz=20,slow=26,SNR=3.8						
	comp=Z,0.7nm,0.5s						
SPITS	Spitsbergen Ar	10.45	356	Pn	Pn	22 22 44.8	-0.4
	baz=153,slow=16						
	comp=Z,6.7nm,0.9s						

CNRM ***11*** *22:32:07.1,35°.81N×6°.53W,h65km,ML3.3*
IDC ***11*** *22:32:07.8±4.8,35°.87N×5°.90W,h0km,mb2.9/1,*
mbtmp3.1/4,ML3.1/3,MS3.9/1,Error ellipse:
s-maj=127.6km s-min=25.5km az=96.0
MDD ***11*** *22:32:08.5±0.3,35°.87N×6°.50W,h34km±2km,mb_Lg3.5/82,*
Error ellipse: s-maj=2.2km s-min=1.8km az=19.0
SFS ***11*** *22:32:08.9,35°.88N×6°.49W,h47km,mb4.0/4,ML3.5/24,*
ML3.5/31,MLv3.3/31
INMG ***11*** *22:32:09.9±1.6,35°.90N×6°.48W,h31km±7km,ML3.1,Error*
ellipse: s-maj=4.4km s-min=2.8km az=175.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: Costa de
Marrocos
IGIL ***11*** *22:32:09.3,35°.89N×6°.51W,h32km,ML3.1*
ISC 11 22:32:07.8±0.9,35°.93N±0°.03×6°.46W±0°.02,h35km,n181,
σ2.9°01/288,2C-14D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPS	Cap Spartel	0.47	107	P	Pn	22 32 19.6	+1.5
CPS	Cap Spartel	0.47	107	S	Sn	22 32 29.0	+3.8
CNIL	Conil	0.55	37	Pn	Pn	22 32 21.4	+2.2
SFS	San Fernando	0.58	21	Sn	Sn	22 32 29.1	+1.3
SFS				Pn	Pn	22 32 21.5	+2.0
ECEU	Ceuta	0.88	92	Sn	Sn	22 32 35.7	+0.4
ECEU				Pn	Pn	22 32 25.3	+1.6
ECEU	Ceuta	0.88	92	⇑Pg	Pn	22 32 25.3	+1.6
ECEU				Sg	Sn	22 32 36.7	+1.4
ECEU				*i* IVmb_Lg		22 32 41.0	
CEU	Ceuta	0.89	91	Pn	Pn	22 32 26.0	+2.3
SMIR	Smir Dam	0.91	105	P	Pn	22 32 24.9	+0.8
SMIR	Smir Dam	0.91	105	S	Sn	22 32 37.3	+1.3
EJIF	Jimena Fronter	0.96	57	Pg	Pn	22 32 26.7	+2.0
EJIF				Sg	Sn	22 32 38.4	+1.2
ESPR	Espera	1.06	27	Pn	Pn	22 32 27.6	+1.4
ESPR				Sn	Sn	22 32 39.9	+0.2
ESPR	Espera	1.06	27	Pg	Pn	22 32 27.5	+1.3
ESPR				Sg	Sn	22 32 41.0	+1.3
ESPR				*i* IVmb_Lg		22 32 43.2	
ARNO	Arenosillo	1.19	350	Pn	Pn	22 32 29.5	+1.6
ARNO				Sn	Sn	22 32 45.0	+2.1
PTAV	Tavira	1.53	322	*e*P	Pn	22 32 34.8	+2.2
PTAV				*e*S	Sn	22 32 52.0	+0.7
E1302	La Puebla de C	1.55	39	Pn	Pn	22 32 34.7	+1.8
E1302				Sn	Sn	22 32 52.5	+0.7
E1302				*i* IVmb_Lg		22 32 55.9	
PFARO	Faro	1.61	313	*e*P	Pn	22 32 34.7	+1.1
PFARO				*e*S	Sn	22 32 53.6	+0.5
PFARO				*i* IAML		22 33 02.2	
PFARO				*i* IAML		22 33 04.6	
PBDV	Barranco-do-Ve	1.77	318	Pn	Pn	22 32 36.6	+0.7
PBDV				Sn	Sn	22 32 56.5	-0.6
PBDV	Barranco-do-Ve	1.77	318	⇓*e*P	Pn	22 32 36.6	+0.7
PBDV				*e*S	Sn	22 32 56.9	-0.2
PBDV				*i* IAML		22 32 58.4	
PBDV				*i* IAML		22 32 58.7	
PBDV				*i* IAML		22 32 59.5	
PVAQ	Vaqueiros	1.79	326	⇓*i*P	Pn	22 32 37.1	+1.0
PVAQ				*e*S	Sn	22 32 57.8	+0.2
PVAQ				*i* IAML		22 32 58.9	
PVAQ				*i* IAML		22 32 59.1	
PVAQ				*i* IAML		22 32 59.2	
PVAQ	Vaqueiros	1.79	326	P	Pn	22 32 37.0	+0.8
PVAQ	Vaqueiros	1.79	326	S	Sn	22 32 59.5	+1.9
EGRO	El Granado	1.80	333	Pn	Pn	22 32 37.5	+1.1
EGRO				Sn	Sn	22 32 58.0	+0.1
EGRO	El Granado	1.80	333	Pn	Pn	22 32 37.3	+1.0
EGRO				Sn	Sn	22 32 58.2	+0.3
EGRO				*i* IVmb_Lg		22 32 59.2	
EMAL	Malaga-Limoner	1.84	62	Pn	Pn	22 32 37.9	+1.0
EMIN	Mina Concepcio	1.85	355	Pn	Pn	22 32 38.0	+1.1
EMIN				Sn	Sn	22 32 58.6	-0.5
EMIN	Mina Concepcio	1.85	355	Pn	Pn	22 32 38.0	+1.1
EMIN				Sn	Sn	22 32 58.9	-0.2
EMIN				*i* IVmb_Lg		22 33 03.6	

PALBU	Albufeira	1.85	310	*e*P	Pn	22 32 37.3	+0.3
PALBU				*e*S	Sn	22 32 59.0	-0.2
PALBU				*i* IAML		22 33 01.9	
PALBU				*i* IAML		22 33 03.1	
PALBU				*i* IAML		22 33 04.4	
PPOR	Portimao	2.06	306	*e*S	Sn	22 33 03.8	-0.5
PPOR				*i* IAML		22 33 04.5	
PPOR				*i* IAML		22 33 06.2	
PCVE	Castro Verde	2.12	324	Pn	Pn	22 32 41.9	+1.2
PCVE				Sn	Sn	22 33 05.8	-0.1
PCVE	Castro Verde	2.12	324	⇓*e*P	Pn	22 32 41.7	+1.0
PCVE				*e*S	Sn	22 33 06.2	+0.3
PCVE				*i* IAML		22 33 07.2	
PCVE				*i* IAML		22 33 07.2	
PCVE				*i* IAML		22 33 07.5	
PLAGO	Lagos	2.14	304	*e*P	Pn	22 32 41.6	+0.6
PLAGO				*e*S	Sn	22 33 05.9	-0.3
PLAGO				*i* IAML		22 33 09.1	
PLAGO				*i* IAML		22 33 10.7	
PLAGO				*i* IAML		22 33 11.2	
PALE	Palemas	2.18	108	P	Pn	22 32 41.6	+0.1
PALE	Palemas	2.18	108	S	Sn	22 33 07.8	+0.5
EGOR	Sierra Gorda,	2.23	57	Pn	Pn	22 32 44.4	+2.0
EGOR	Sierra Gorda,	2.23	57	Pn	Pn	22 32 44.3	+1.9
EGOR				Sn	Sn	22 33 08.6	-0.2
EGOR				*i* IVmb_Lg		22 33 13.2	
MORF	Marmelete	2.23	309	*e*P	Pn	22 32 42.7	+0.4
MORF				*e*S	Sn	22 33 07.3	-1.4
MORF				IAML		22 33 12.6	
	comp=E,170nm,0.1s						
MORF	Marmelete	2.23	309	*e*P	Pn	22 32 42.5	+0.2
MORF				*e*S	Sn	22 33 07.8	-0.9
MORF				*i* IAML		22 33 10.7	
MORF				*i* IAML		22 33 12.5	
MORF				*i* IAML		22 33 15.6	
PFVI	Vila Bisbo	2.25	303	Pn	Pn	22 32 42.7	+0.2
PFVI				Sn	Sn	22 33 07.8	-1.3
PFVI	Vila Bisbo	2.25	303	⇓*e*P	Pn	22 32 42.7	+0.2
PFVI				*e*S	Sn	22 33 08.2	-0.9
PFVI				*i* IAML		22 33 09.5	
PFVI				*i* IAML		22 33 13.5	
PFVI				*i* IAML		22 33 14.9	
PFVI	Vila Bisbo	2.25	303	P	Pn	22 32 42.7	+0.2
PFVI	Vila Bisbo	2.25	303	S	Sn	22 33 09.5	+0.4
PBAR	Barrancos	2.29	349	Pn	Pn	22 32 44.2	+1.2
PBAR				Sn	Sn	22 33 09.6	-0.5
PBAR	Barrancos	2.29	349	⇓*e*P	Pn	22 32 44.2	+1.2
PBAR				*e*S	Sn	22 33 09.7	-0.3
PBAR				*i* IAML		22 33 10.4	
PBAR				*i* IAML		22 33 10.6	
PBAR				*i* IAML		22 33 11.6	
ECAB	El Cabril	2.30	21	Pn	Pn	22 32 44.2	+0.9
ECAB				Sn	Sn	22 33 09.2	-1.1
ECAB	El Cabril	2.30	21	Pn	Pn	22 32 44.2	+0.9
ECAB				Sn	Sn	22 33 09.2	-1.1
ECAB				*i* IVmb_Lg		22 33 10.6	
PSVI	Cabo S. Vicent	2.32	299	*e*S	Sn	22 33 09.1	-1.6
PALJ	Aljezur	2.34	307	*e*S	Sn	22 33 10.7	-0.4
PALJ				*i* IAML		22 33 11.2	
PALJ				*i* IAML		22 33 16.8	
MESJ	Messejana	2.37	324	*e*P	Pn	22 32 45.2	+1.1
MESJ				*e*S	Sn	22 33 11.0	-1.1
MESJ				IAML		22 33 13.3	
	comp=N,68nm,0.3s						
MESJ	Messejana	2.37	324	⇓*i*P	Pn	22 32 45.3	+1.1
MESJ				*e*S	Sn	22 33 12.2	+0.1
MESJ				*i* IAML		22 33 13.5	
MESJ				*i* IAML		22 33 13.5	
MESJ				*i* IAML		22 33 17.3	
PBEJ	Beja	2.38	332	⇑*e*P	Pn	22 32 45.2	+1.0
PBEJ				*e*S	Sn	22 33 11.9	-0.3
PBEJ				*i* IAML		22 33 12.5	
PBEJ				*i* IAML		22 33 12.6	
PBEJ				*i* IAML		22 33 19.4	
PTEO	Sao Teotonio	2.43	312	⇓*i*P	Pn	22 32 45.8	+0.8
PTEO				*e*S	Sn	22 33 13.4	-0.1
PTEO				*i* IAML		22 33 14.3	
PTEO				*i* IAML		22 33 14.9	
PTEO				*i* IAML		22 33 15.6	
ELGU	Los Guajares,	2.47	67	Pn	Pn	22 32 45.4	-0.3
ELGU	Los Guajares,	2.47	67	Pn	Pn	22 32 45.4	-0.3
ELGU				Sn	Sn	22 33 15.8	+1.2
ELGU				*i* IVmb_Lg		22 33 20.9	
ZHG	ZHG	2.48	183	P	Pn	22 32 45.0	-0.7
ZHG	ZHG	2.48	183	S	Sn	22 33 15.6	+0.8
AKLM	AKL	2.56	123	P	Pn	22 32 44.7	-2.0
AKLM	AKL	2.56	123	S	Sn	22 33 13.0	-3.7
LCRM	LCR	2.60	149	P	Pn	22 32 46.3	-1.1
LCRM	LCR	2.60	149	S	Sn	22 33 18.3	+0.5
EADA	Adamuz	2.70	33	Pn	Pn	22 32 50.0	+1.3
EADA				Sn	Sn	22 33 18.7	-1.5
EADA	Adamuz	2.70	33	Pn	Pn	22 32 49.9	+1.3
EADA				Sn	Sn	22 33 19.3	-0.8
EADA				*i* IVmb_Lg		22 33 20.8	
EQTA	Presa de Quent	2.75	61	Pn	Pn	22 32 51.2	+1.8
EQUE	Quentar	2.75	61	Pn	Pn	22 32 51.2	+1.8
EQUE				Sn	Sn	22 33 22.6	+1.1
EQUE				*i* IVmb_Lg		22 33 27.3	
EBAD	Badajoz	2.86	351	Pn	Pn	22 32 52.0	+1.1
EBAD				Sn	Sn	22 33 23.2	-0.8
EBAD	Badajoz	2.86	351	Pn	Pn	22 32 51.9	+1.1
EBAD				Sn	Sn	22 33 23.2	-0.8
EBAD				*i* IVmb_Lg		22 33 25.8	
EVO	Evora	2.88	335	Pn	Pn	22 32 52.4	+1.2
EVO				Sn	Sn	22 33 23.8	-0.8
EVO	Evora	2.88	335	⇓*i*P	Pn	22 32 52.4	+1.2
EVO				*e*S	Sn	22 33 23.9	-0.7
EVO				*i* IAML		22 33 25.6	
EVO				*i* IAML		22 33 25.7	
EVO				*i* IAML		22 33 25.8	
GOG	Mont Gurugu	2.91	103	P	Pn	22 32 51.2	-0.4
GOG	Mont Gurugu	2.91	103	S	Sn	22 33 25.2	-0.3
EMEL	Melilla	2.92	101	Pn	Pn	22 32 51.5	-0.2
EMEL				*i* IVmb_Lg		22 33 22.1	
EMEL				Sn	Sn	22 33 23.0	-2.6
E0803	Jimena (Jaen)	3.06	51	Pn	Pn	22 32 55.0	+1.3
E0803				Sn	Sn	22 33 28.2	-1.0
PESTR	Estremoz	3.07	343	Pn	Pn	22 32 54.8	+1.0
PESTR				Sn	Sn	22 33 28.1	-1.2
PESTR	Estremoz	3.07	343	⇓*e*P	Pn	22 32 54.8	+1.0
PESTR				*e*S	Sn	22 33 28.4	-0.9
PESTR				*i* IAML		22 33 30.2	
PESTR				*i* IAML		22 33 30.4	
PESTR				*i* IAML		22 33 44.8	
PESTR	Estremoz	3.07	343	P	Pn	22 32 54.7	+1.0
PESTR	Estremoz	3.07	343	S	Sn	22 33 32.0	+2.7
CZD	Col de Zad	3.12	157	P	Pn	22 32 53.1	-1.6
CZD	Col de Zad	3.12	157	S	Sn	22 33 28.8	-2.0
E0802	Ubeda,Jaen	3.24	49	Pn	Pn	22 32 57.3	+1.1
E0802				Sn	Sn	22 33 31.6	-2.0
EQES	Quesada	3.30	54	Pn	Pn	22 32 58.2	+1.1
EQES				Sn	Sn	22 33 34.5	-0.7
EQES				*i* IVmb_Lg		22 33 38.6	
MD31	MD31	3.36	155	P	Pn	22 32 56.7	-1.2
MD31	MD31	3.36	155	S	Sn	22 33 34.5	-2.0
AML04	Campo deTiro d	3.44	327	*e*P	Pn	22 33 00.5	+1.8
AML04				*e*S	Sn	22 33 39.9	+1.6
AML04				*i* IAML		22 33 41.3	
AML04				*i* IAML		22 33 41.6	
PMTG	Montargil	3.44	336	⇓*i*P	Pn	22 32 59.8	+1.0
PMTG				*e*S	Sn	22 33 36.9	-1.3
PMTG				*i* IAML		22 33 40.2	
PMTG				*i* IAML		22 33 41.1	
PMTG				*i* IAML		22 33 41.3	
MDT	Midelt	3.46	153	Pn	Pn	22 32 58.3	-1.0
	comp=N,3.6nm,0.3s,baz=342,slow=13,SNR=58						
MDT				Sn	Sn	22 33 33.8	-5.3
	comp=N,9.9nm,0.3s,baz=15,slow=22,SNR=23						
	comp=N,8.8nm,0.3s						
MDT	Midelt	3.46	153	P	Pn	22 32 58.0	-1.3
MDT	Midelt	3.46	153	S	Sn	22 33 37.4	-1.7
TAF	Taforalt	3.49	107	P	Pn	22 32 59.2	-0.4
TAF	Taforalt	3.49	107	S	Sn	22 33 40.0	+0.3
AML01	Serafina, Lisb	3.54	323	*e*P	Pn	22 33 01.9	+1.7
AML01				*e*S	Sn	22 33 40.5	-0.3
AML01				*i* IAML		22 33 43.0	
AML01				*i* IAML		22 33 43.6	
AML01				*i* IAML		22 33 48.3	
PARRA	Arraiolos	3.54	325	⇓*i*P	Pn	22 32 56.2	-4.0
PARRA				*e*S	Sn	22 33 30.4	-10

PARRA				*i* IAML		22 33 32.5	
PARRA				*i* IAML		22 33 32.6	
PARRA				*i* IAML		22 33 33.5	
PBEN	Benavente	3.55	329	*e*P	Pn	22 33 01.9	+1.5
PBEN				*e*S	Sn	22 33 41.2	0.0
PBEN				*i* IAML		22 33 44.0	
PBEN				*i* IAML		22 33 44.2	
JBK	JBK	3.57	115	P	Pn	22 32 59.3	-1.5
JBK	JBK	3.57	115	S	Sn	22 33 39.6	-2.2
PMRV	Marv??o	3.57	348	*e*P	Pn	22 33 01.9	+1.2
PMRV				*e*S	Sn	22 33 40.1	-1.6
PMRV				*i* IAML		22 33 42.4	
PMRV				*i* IAML		22 33 42.6	
PMRV				*i* IAML		22 33 43.1	
ENIJ	Nijar	3.59	72	Pn	Pn	22 33 01.6	+0.7
ENIJ				Sn	Sn	22 33 42.3	+0.2
ENIJ				*i* IVmb_Lg		22 33 46.9	
PSIM	Granatula de C	3.60	36	Pn	Pn	22 33 02.3	+1.1
PSIM				Sn	Sn	22 33 40.8	-1.7
AML03	Fanhoes/Loures	3.65	325	*e*P	Pn	22 33 03.2	+1.6
AML03				*e*S	Sn	22 33 42.9	-0.5
AML03				*i* IAML		22 33 45.5	
AML03				*i* IAML		22 33 45.6	
AML03				*i* IAML		22 33 47.5	
SRHM	Skhour des Reh	3.65	199	P	Pn	22 33 03.2	+1.5
SRHM	Skhour des Reh	3.65	199	S	Sn	22 33 47.7	+4.1
PMAFR	Mafra	3.77	324	Pn	Pn	22 33 04.7	+1.4
PMAFR				Sn	Sn	22 33 46.1	-0.3
PMAFR	Mafra	3.77	324	⇓*i*P	Pn	22 33 04.8	+1.4
PMAFR				*e*S	Sn	22 33 46.1	-0.3
PMAFR				*i* IAML		22 33 47.6	
PMAFR				*i* IAML		22 33 47.7	
PMAFR				*i* IAML		22 33 48.0	
AML05	Montejunto	3.84	328	*e*P	Pn	22 33 05.6	+1.2
AML05				*e*S	Sn	22 33 47.5	-0.9
AML05				*i* IAML		22 33 48.9	
AML05				*i* IAML		22 33 50.1	
PSARD	Sardoal	3.91	340	⇓*e*P	Pn	22 33 06.5	+1.2
PSARD				*e*S	Sn	22 33 48.2	-1.7
PSARD				*i* IAML		22 33 49.7	
PSARD				*i* IAML		22 33 50.5	
PSARD				*i* IAML		22 33 50.7	
PAB	San Pablo	3.98	24	Pn	Pn	22 33 07.5	+1.1
PAB				Sn	Sn	22 33 49.5	-2.4
PAB				*i* IVmb_Lg		22 33 51.5	
PCBR	Castelo Branco	3.99	349	*e*P	Pn	22 33 07.7	+1.4
PCBR				*e*S	Sn	22 33 50.1	-1.8
PCBR				*i* IAML		22 33 51.5	
PCBR				*i* IAML		22 33 51.8	
PCBR				*i* IAML		22 33 51.8	
PSBE	So Bento	4.03	333	⇓*e*P	Pn	22 33 08.4	+1.4
PSBE				*e*S	Sn	22 33 51.0	-2.0
PSBE				*i* IAML		22 33 55.8	
PSBE				*i* IAML		22 33 55.9	
PSBE				*i* IAML		22 33 57.2	
PCDRA	Caldas da Rain	4.07	329	*e*P	Pn	22 33 06.0	-1.5
EPLA	Plasencia	4.14	4	Pn	Pn	22 33 10.3	+1.8
EPLA				Sn	Sn	22 33 54.3	-1.5
EPLA				*i* IVmb_Lg		22 33 55.2	
TISM	Timmit	4.19	180	P	Pn	22 33 06.9	-2.3
TISM	Timmit	4.19	180	S	Sn	22 33 54.8	-2.2
ESDC	Sonseca Array	4.23	27	Pn	Pn	22 33 11.0	+1.2
ESDC				Sn	Sn	22 33 56.1	-1.9
ESDC				*i* IVmb_Lg		22 33 58.1	
ESDC	Sonseca Array	4.23	27	Pn	Pn	22 33 11.2	+1.3
	comp=N,1.3nm,0.3s,baz=205,slow=12,SNR=41						
ESDC				Sn	Sn	22 33 51.9	-6.1
	comp=N,0.7nm,0.3s,baz=209,slow=17,SNR=6.1						
	comp=N,2.3nm,0.3s						
ESBB	Sonseca Array	4.24	27	Pn	Pn	22 33 11.1	+1.2
ESBB				Sn	Sn	22 33 55.0	-3.1
GOLM	Goulmima	4.39	163	P	Pn	22 33 12.0	-0.1
GOLM	Goulmima	4.39	163	S	Sn	22 34 02.6	+0.5
PCAS	Casmilo, Conde	4.42	339	*e*P	Pn	22 33 13.6	+1.2
PCAS				*e*S	Sn	22 34 00.7	-1.9
PCAS				*i* IAML		22 34 03.2	
PCAS				*i* IAML		22 34 03.7	
PCAS				*i* IAML		22 34 04.0	
MTE	Manteigas	4.55	350	*e*P	Pn	22 33 15.3	+1.2
MTE				*e*S	Sn	22 34 04.1	-1.7
MTE				*i* IAML		22 34 06.2	
MTE				*i* IAML		22 34 06.8	
MTE				*i* IAML		22 34 06.9	
EMUR	La Murta	4.60	64	Pn	Pn	22 33 15.8	+0.9
EMUR	La Murta	4.60	64	Pn	Pn	22 33 15.7	+0.8
EMUR				Sn	Sn	22 34 06.5	-0.6
EMUR				*i* IVmb_Lg		22 34 13.6	
CART	Cartagena	4.69	68	Pn	Pn	22 33 16.8	+0.8
CART	Cartagena	4.69	68	P	Pn	22 33 16.8	+0.8
CART	Cartagena	4.69	68	S	Sn	22 34 11.2	+2.1
ETOB	Tobarra	4.77	54	Pn	Pn	22 33 17.8	+0.7
ETOB				Sn	Sn	22 34 08.8	-2.4
ETOB	Tobarra	4.77	54	Pn	Pn	22 33 17.6	+0.4
ETOB				Sn	Sn	22 34 07.9	-3.3
ETOB				*i* IVmb_Lg		22 34 10.4	
OUK	Oukaimeden	4.85	194	P	Pn	22 33 16.5	-2.1
OUK	Oukaimeden	4.85	194	S	Sn	22 34 10.5	-3.2
PVIS	Viseu	4.91	347	*e*P	Pn	22 33 20.4	+1.2
PVIS				*e*S	Sn	22 34 12.9	-1.9
OUZM	OUZ	5.01	183	P	Pn	22 33 20.0	-0.6
OUZM	OUZ	5.01	183	S	Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOR	**Torete**	**5.99**	**34**	Pn	**Pn**	**22 33 35.2**	**+1.3**
ETOR				Sn	**Sn**	**22 34 37.4**	**-3.9**
ETOR				*i* IVmb_Lg		22 34 40.8	
ECAL	**Calabor**	**6.01**	**358**	Sn	**Sn**	**22 34 38.3**	**-3.6**
ECAL				Pn	**Pn**	**22 33 35.9**	**+1.7**
ECAL	**Calabor**	**6.01**	**358**	Pn	**Pn**	**22 33 35.2**	**+0.9**
ECAL				Sn	**Sn**	**22 34 39.1**	**-2.7**
ECAL				*i* IVmb_Lg		22 34 43.2	
ELOB	**Lobios**	**6.06**	**349**	Pn	**Pn**	**22 33 35.8**	**+0.8**
ELOB				Sn	**Sn**	**22 34 39.3**	**-3.8**
ELOB				*i* IVmb_Lg		22 34 43.7	
E0901	**Celadas (Terue**	**6.19**	**41**	Pn	**Pn**	**22 33 38.2**	**+1.4**
E0901				Sn	**Sn**	**22 34 42.3**	**-4.0**
E0901				*i* IVmb_Lg		22 34 47.4	
PGAV	**Gavieira, Arco**	**6.19**	**347**	*e*P	**Pn**	**22 33 37.8**	**+1.0**
PGAV				*e*S	**Sn**	**22 34 42.8**	**-3.5**
PGAV				*i* IAML		22 34 44.4	
PGAV				*i* IAML		22 34 46.9	
PGAV				*i* IAML		22 34 47.0	
EZAM	**Zamans**	**6.45**	**345**	Pn	**Pn**	**22 33 41.3**	**+1.1**
EZAM				Sn	**Sn**	**22 34 48.3**	**-4.3**
EZAM				*i* IVmb_Lg		22 34 52.6	
EMOS	**Mosqueruela**	**6.47**	**45**	Pn	**Pn**	**22 33 41.7**	**+1.0**
EMOS				Sn	**Sn**	**22 34 49.9**	**-3.5**
EMOS				*i* IVmb_Lg		22 34 55.6	
EIBI	**Ibiza**	**6.94**	**61**	Pn	**Pn**	**22 33 46.6**	**-0.3**
EIBI	**Ibiza**	**6.94**	**61**	Pn	**Pn**	**22 33 46.5**	**-0.4**
EIBI				Sn	**Sn**	**22 35 01.4**	**-3.1**
EIBI				*i* IVmb_Lg		22 35 01.5	
EAGO	**Agolada(Pontev**	**6.98**	**350**	Pn	**Pn**	**22 33 48.5**	**+1.0**
EAGO				Sn	**Sn**	**22 35 00.7**	**-4.9**
EAGO				*i* IVmb_Lg		22 35 06.9	
EMAZ	**Mazaricos**	**7.28**	**345**	Pn	**Pn**	**22 33 52.2**	**+0.6**
EMAZ				Sn	**Sn**	**22 35 08.1**	**-4.8**
EMAZ				*i* IVmb_Lg		22 35 14.3	
ERTA	**Horta de San J**	**7.33**	**45**	Pn	**Pn**	**22 33 53.1**	**+0.9**
ERTA				Sn	**Sn**	**22 35 10.1**	**-4.0**
ERTA				*i* IVmb_Lg		22 35 25.1	
EPON	**Pontenova**	**7.41**	**356**	Pn	**Pn**	**22 33 54.5**	**+1.1**
EPON				Sn	**Sn**	**22 35 12.1**	**-4.0**
EPON				*i* IVmb_Lg		22 35 34.9	
EARI	**Arriondas**	**7.43**	**7**	Pn	**Pn**	**22 33 54.6**	**+0.9**
EARI				Sn	**Sn**	**22 35 11.9**	**-4.8**
EARI				*i* IVmb_Lg		22 35 42.0	
ESAC	**San Caprasio**	**7.44**	**37**	Pn	**Pn**	**22 33 54.4**	**+0.6**
ESAC				Sn	**Sn**	**22 35 12.6**	**-4.4**
ESAC				*i* IVmb_Lg		22 35 19.9	
ALT03	**Santillana del**	**7.66**	**13**	Pn	**Pn**	**22 33 58.2**	**+1.5**
ALT03				Sn	**Sn**	**22 35 18.2**	**-3.9**
ALT02	**Santillana del**	**7.66**	**13**	Pn	**Pn**	**22 33 57.6**	**+0.9**
ALT02				Sn	**Sn**	**22 35 18.9**	**-3.3**
ELAN	**Lanestosa**	**7.66**	**17**	Pn	**Pn**	**22 33 58.3**	**+1.4**
ELAN				Sn	**Sn**	**22 35 16.8**	**-5.6**
ELAN				*i* IVmb_Lg		22 35 26.0	
EPOB	**Poblet**	**8.01**	**45**	Pn	**Pn**	**22 34 02.2**	**+0.6**
EPOB				*i* IVmb_Lg		22 35 50.6	
EORO	**Oroz-Betelu**	**8.02**	**28**	Pn	**Pn**	**22 34 03.7**	**+2.0**
EORO				Sn	**Sn**	**22 35 26.8**	**-4.4**
EORO				*i* IVmb_Lg		22 35 35.6	
EALK	**Alkurruntz**	**8.23**	**26**	Pn	**Pn**	**22 34 06.6**	**+2.0**
EALK				Sn	**Sn**	**22 35 31.2**	**-5.2**
EALK				*i* IVmb_Lg		22 35 36.4	
PMPST	**Porto Santo, M**	**8.63**	**254**	*e*S	Sn	22 35 36.1	-10
PMPS	**Porto Santo**	**8.63**	**253**	*e*P	**Pn**	**22 34 07.8**	**-2.4**
PMAR	**Madeira**	**9.21**	**253**	*e*P	**Pn**	**22 34 17.0**	**-1.3**
PMAR				*e*S	Sn	22 35 50.0	-11
PMOZ	**Porto Moniz, M**	**9.40**	**254**	*e*P	**Pn**	**22 34 20.4**	**-0.3**
PMOZ				*e*S	**Sn**	**22 35 56.3**	**-8.9**
GERES	**GERESS Array B**	**19.64**	**43**	P	**Pn**	**22 36 35.5**	**+0.6**
	baz=225,slow=9.6,SNR=2.2						
	comp=N,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**23.84**	**160**	P	**P**	**22 37 21.9**	**+4.2**
	comp=N,0.4nm,0.9s,baz=341,slow=11,SNR=1.6						
	comp=N,0.4nm,0.9s						
EIL	**Elat**	**35.17**	**88**	LR	LR	22 54 32.9	
	comp=N,182nm,21.1s,baz=304,slow=39						

BEO ***11*** *22:43:14.6±1.7, 37.°15N×20.°85E, h16km, ML4.4/15*
IDC ***11*** *22:43:17.1±0.5, 37.°68N×21.°07E, h0km, mb4.4/23, mbtmp4.2/37, ML3.6/12, MS3.8/43, Error ellipse: s-maj=11.9km s-min=10.8km az=168.0*
MOS ***11*** *22:43:18.3±1.4, 37.°58N×20.°92E, h21km, mb5.0/19, Error ellipse: s-maj=5.6km s-min=2.9km az=76.3*
PDG ***11*** *22:43:18.6±0.6, 37.°65N×20.°83E, h11km±1km, ML4.5/6, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0*
MED_RC ***11*** *22:43:18.0±0.4, 37.°53N×20.°88E, h15km, MW4.6/27, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s27,c37; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-0.89±.08; Mθθ0.99±.05; Mφφ-0.10±.04; Mrθ-0.22±.05; Mrφ0.01±.03; Mθr-0.27±.07; Best double couple: M0 1.01000×10^16 NP1:φs286.00000°, δ41.00000°, λ-64.00000°. NP2:φs73.00000°, δ54.00000°, λ-110.00000°. Principal axes: T 1.0200, Plg7.0000°, Azm178.0000°; N -0.0300, Plg16.0000°, Azm86.0000°; P -0.9900, Plg72.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***11*** *22:43:19.2, 37.°68N×20.°88E, h6km*
ATH ***11*** *22:43:19.8, 37.°70N×20.°93E, h9km±1km, ML4.4/23, Manual Solution by G.Panopoulou First location: 2019/10/11 22:43:34, This location: 2019/10/12 01:14:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
NEIC ***11*** *22:43:19.6±2.1, 37.°69N±0.°04×20.°91E±0.°03, h10km±1km, mb4.7/30, Mwr4.5/24, Error ellipse: s-maj=7.7km s-min=3.2km az=331.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-3.27; Mθθ3.89; Mφφ-0.62; Mrθ2.69; Mrφ4.72; Mθr-3.63; Fault plane solution: M0 7.47000×10^15 NP1:φs22.24000°, δ58.64000°, λ-147.28000°. NP2:φs273.76000°, δ62.51000°, λ-35.91000°. Principal axes: T 6.8771, Plg2.0000°, Azm329.0000°; N 1.0701, Plg46.0000°, Azm61.0000°; P -7.9472, Plg44.0000°, Azm236.0000°;*
THE ***11*** *22:43:20.3, 38.°N±1.°×20.°9E±0.°8, h0km±1km, M4.4/22, MLh4.4/22*
NAO ***11*** *22:43:49.3, 40.°42N×20.°67E, h33km, mb4.4*
ISC 11 22:43:19.4±0.6, 37.°69N±0.°02×20.°94E±0.°02, h15km±3km, n570, σ2°13/609, mb4.5/62, MS3.9/38, 31C-35D, Ionian Sea

ZARO				S	Sb	22 43 39.6	-0.3
ARG2	**Argostoli**	**0.60**	**324**	P	Pg	22 43 31.1	-0.2
ARG2				S	Sb	22 43 40.5	+0.5
ARG2	**Argostoli**	**0.60**	**324**	P	Pg	22 43 31.1	-0.2
ARG2				S	Sg	22 43 39.6	+0.2
AXS	**Araxos**	**0.62**	**34**	P	Pg	22 43 31.7	+0.1
AXS				S	Sg	22 43 39.9	+0.1
LXR1	**Lixouri, Cepha**	**0.65**	**323**	P	Pg	22 43 32.1	0.0
DRO	**Drossia**	**0.67**	**66**	P	Pg	22 43 32.4	-0.1
DRO				S	Sb	22 43 42.8	+0.9
DRO	**Drossia**	**0.67**	**66**	P	Pb	22 43 32.7	-0.1
MSL1	**Messolongi**	**0.79**	**29**	P	Pb	22 43 34.6	-0.2
FSK	**Fiskardo**	**0.83**	**339**	P	Pb	22 43 34.5	-1.0
PATG	**Patra B**	**0.83**	**49**	P	Pg	22 43 36.0	+0.3
AST1	**Astakos**	**0.86**	**8**	P	Pb	22 43 36.1	-0.6
UPR	**University Cam**	**0.90**	**48**	P	Pn	22 43 37.4	0.0
ITM	**Ithomi**	**0.94**	**122**	P	Pb	22 43 37.0	-0.4
ITM				Sn	Sn	22 43 53.3	+2.2
ITM	**Ithomi**	**0.94**	**122**	S	Sn	22 43 51.6	+0.5
ITM	**Ithomi**	**0.94**	**122**	P	Pb	22 43 36.8	-0.5
EVGI	**Lefkada island**	**0.96**	**347**	P	Pb	22 43 37.0	-0.7
EVGI	**Lefkada island**	**0.96**	**347**	P	Pb	22 43 37.0	-0.7
KLV1	**Kalavrita**	**0.99**	**69**	P	Pb	22 43 38.1	-0.2
KLV	**Kalavryta, Ach**	**1.03**	**69**	S	Sn	22 43 54.9	+1.4
KLV	**Kalavryta, Ach**	**1.03**	**69**	P	Pb	22 43 38.3	-0.6
PVO	**Paravola**	**1.04**	**26**	P	Pn	22 43 39.3	-0.1
PVO	**Paravola**	**1.04**	**26**	P	Pg	22 43 39.6	+0.1
PVO				S	Sn	22 43 53.5	-0.2
NYDR	**Nydri-Lefkada**	**1.04**	**350**	P	Pb	22 43 38.5	-0.6
NYDR	**Nydri-Lefkada**	**1.04**	**350**	P	Pb	22 43 38.6	-0.5
MTHA	**Methoni**	**1.06**	**144**	P	Pb	22 43 39.4	-0.1
EFP	**Efpalio**	**1.06**	**46**	P	Pb	22 43 39.1	-0.4
EFP	**Efpalio**	**1.06**	**46**	P	Pn	22 43 39.1	-0.4
LKD2	**Lefkada island**	**1.12**	**349**	P	Pn	22 43 40.7	+0.1
GUR	**Goura**	**1.14**	**77**	P	Pb	22 43 40.2	-0.7
TSLK	**Tsoukalades, L**	**1.16**	**349**	P	Pb	22 43 41.2	+0.1
KALE	**Kalithea**	**1.18**	**53**	P	Pb	22 43 41.7	+0.1
VLX	**Vlachokerasia**	**1.19**	**105**	P	Pn	22 43 41.6	0.0
VLX				S	Sg	22 43 58.3	+0.3
ANX	**Ano Chora**	**1.19**	**40**	P	Pb	22 43 41.7	-0.1
AMPL	**Ampelaki**	**1.25**	**10**	P	Pn	22 43 42.4	0.0
AMPL	**Ampelaki**	**1.25**	**10**	P	Pb	22 43 42.5	-0.2
AMPL				S	Sn	22 43 58.9	-0.1
EVR	**Evrytania**	**1.41**	**29**	P	Pb	22 43 45.4	0.0
EVR	**Evrytania**	**1.41**	**29**	P	Pb	22 43 45.5	0.0
ARS1	**Argos**	**1.43**	**92**	P	Pb	22 43 46.0	+0.4
DLFA	**Delphi**	**1.46**	**57**	P	Pb	22 43 46.7	+0.3
ARTB	**Arta**	**1.47**	**1**	P	Pb	22 43 46.4	0.0
MAKR	**Makrakomi, Fth**	**1.62**	**35**	P	Pg	22 43 49.8	-0.8
MAKR	**Makrakomi, Fth**	**1.62**	**35**	P	Pb	22 43 48.4	-0.7
LOUT	**Loutraki**	**1.64**	**79**	P	Pb	22 43 49.7	+0.3
LTK	**Loutraki**	**1.64**	**78**	P	Pb	22 43 49.3	-0.1
TETR	**Tetrakomo, Epi**	**1.68**	**9**	P	Pb	22 43 50.2	+0.2
TETR	**Tetrakomo, Epi**	**1.68**	**9**	P	Pb	22 43 49.3	-0.7
AGG	**Agios Georgios**	**1.73**	**39**	P	Pb	22 43 51.1	+0.2
AXAR	**Agios Charalam**	**1.73**	**51**	P	Pb	22 43 51.3	+0.3
AXAR	**Agios Charalam**	**1.73**	**51**	P	Pb	22 43 50.0	-1.0
VLI	**Veliai**	**1.87**	**121**	P	Pb	22 43 53.4	+0.2
VLI				S	Sg	22 44 18.3	-1.2
VLI	**Veliai**	**1.87**	**121**	P	Pn	22 43 51.9	+1.1
LKR	**Lokris**	**1.89**	**59**	P	Pb	22 43 52.8	-0.8
MET2	**Kameni Chora,**	**1.90**	**91**	P	Pb	22 43 52.5	-1.3
IGT	**Igoumenitsa**	**1.90**	**346**	P	Pb	22 43 53.1	-0.7
IGT	**Igoumenitsa**	**1.90**	**346**	*e*Pg	Pg	22 43 57.1	+1.1
IGT				*e*Sg	Sg	22 44 32.1	+11
IGT	**Igoumenitsa**	**1.90**	**346**	P	Pb	22 43 53.1	-0.7
IGT	**Igoumenitsa**	**1.90**	**346**	P	Pn	22 43 51.3	0.0
MET5	**Makryloggos,Me**	**1.92**	**91**	P	Pb	22 43 53.0	-1.0
MET6	**Megalochori,Me**	**1.93**	**92**	P	Pn	22 43 52.5	+0.9
ATAL	**Atalanti**	**1.93**	**58**	P	Pb	22 43 53.3	-0.9
VILL	**Villia**	**1.94**	**75**	P	Pb	22 43 54.3	-0.2
MET4	**Agioi Theodoro**	**1.96**	**91**	P	Pb	22 43 53.8	-0.9
JAN	**Janina**	**1.97**	**358**	P	Pb	22 43 54.0	-1.0
JAN	**Janina**	**1.97**	**358**	P	Pb	22 43 54.2	-0.7
MAGU	**Magoula**	**2.08**	**78**	P	Pn	22 43 54.6	+0.9
KEK	**Kerkira**	**2.21**	**337**		Pn	22 43 56.4	+0.9
VLY	**Voula,Athens**	**2.27**	**85**	P	Pn	22 43 57.4	+1.0
ATHU	**Athens Univers**	**2.27**	**82**	P	Pb	22 43 58.3	-1.8
ATHU	**Athens Univers**	**2.27**	**82**	P	Pb	22 43 58.3	-1.8
PTL	**Penteli**	**2.35**	**80**	P	Pb	22 43 59.4	-2.0
PTL	**Penteli**	**2.35**	**80**	P	Pn	22 43 59.1	+1.6
DION	**Dionisos Attik**	**2.40**	**80**	P	Pb	22 44 00.3	-2.1
DION	**Dionisos Attik**	**2.40**	**80**	P	Pn	22 44 00.1	+1.9
NEO	**Neokhori**	**2.42**	**47**	P	Pb	22 44 00.6	-2.0
NEO	**Neokhori**	**2.42**	**47**	P	Pb	22 44 00.5	-2.1
ANKY	**Ankythira Is**	**2.63**	**133**	P	Pn	22 44 02.9	+1.7
KYMI	**Kymi, Euboea I**	**2.67**	**68**	P	Pn	22 44 04.2	+2.4
KYMI	**Kymi, Euboea I**	**2.67**	**68**	P	Pn	22 44 04.2	+2.4
KZN	**Kozani**	**2.70**	**14**	P	Pn	22 44 04.0	+1.7
KZN	**Kozani**	**2.70**	**14**	P	Pn	22 44 04.4	+2.1
LIT	**Litokhoron**	**2.70**	**26**		Pn	22 44 03.9	+1.6
LIT	**Litokhoron**	**2.70**	**26**	P	Pb	22 44 05.0	-2.5
LIT	**Litokhoron**	**2.70**	**26**	P	Pn	22 44 03.9	+1.6
LIT	**Litokhoron**	**2.70**	**26**	P	Pn	22 44 04.2	+2.0
NEST	**Nestorio**	**2.73**	**2**	P	Pn	22 44 05.0	+2.3
AOS	**Alonnisos**	**2.75**	**56**	P	Pn	22 44 04.8	+1.9
KARY	**Karystos**	**2.79**	**82**	P	Pn	22 44 05.6	+2.1
KARY	**Karystos**	**2.79**	**82**	P	Pn	22 44 05.0	+1.5
KBN	**Korca**	**2.94**	**358**	P	Pn	22 44 09.9	-1.6
VLO	**Vlora**	**3.00**	**338**	P	Pb	22 44 11.4	-1.0
CHAN	**Chania**	**3.31**	**130**	P	Pn	22 44 11.4	+0.9
THE	**Thessaloniki**	**3.34**	**28**	P	Pn	22 44 13.0	+2.0
THE	**Thessaloniki**	**3.34**	**28**	P	Pn	22 44 13.5	+2.5
HORT	**Hortiatis**	**3.36**	**29**	P	Pn	22 44 13.7	+2.3
OHR	**Ohrid**	**3.42**	**358**	*e*Pn	Pb	22 44 16.0	-3.8
OUR	**Ouranopolis**	**3.55**	**41**	P	Pn	22 44 16.0	+2.1
OUR	**Ouranopolis**	**3.55**	**41**	P	Pn	22 44 16.1	+2.1
TIP	**Timpagrande**	**3.60**	**296**		Pn	22 44 14.9	+0.2
TIP	**Timpagrande**	**3.60**	**296**	⇓P	Pn	22 44 15.6	+0.8
SOH	**Sokhos**	**3.65**	**30**	P	Pn	22 44 18.3	+2.9
SOH	**Sokhos**	**3.65**	**30**	P	Pn	22 44 17.0	+1.6
SOH	**Sokhos**	**3.65**	**30**	P	Pn	22 44 17.7	+2.3
KNT	**Kendrikon**	**3.79**	**23**	P	Pn	22 44 19.9	+2.7
VAY	**Valandovo**	**3.84**	**19**	*e*Pn	Pn	22 44 20.6	+2.6
IDI	**Anoyia**	**3.98**	**126**		Pn	22 44 21.5	+1.5
IDI	**Anoyia**	**3.98**	**126**	Pn	Pn	22 44 18.6	-1.4
	6.7nm,0.6s,baz=291,slow=8.1,SNR=22						
IDI				Sn	**Sn**	**22 45 03.2**	**-3.2**
	11nm,0.3s,baz=348,slow=16,SNR=6.4						
SRS	**Serrai**	**4.00**	**30**	P	Pn	22 44 22.4	+2.2
SRS	**Serrai**	**4.00**	**30**	*e*Pn	Pn	22 44 22.6	+2.5
SRS	**Serrai**	**4.00**	**30**	P	Pn	22 44 22.3	+2.2
CEL	**Celeste**	**4.02**	**280**		Pn	22 44 19.6	-0.9
SKO	**Skopje**	**4.30**	**5**	*e*Pn	Pn	22 44 26.9	+2.6
MATE	**Matera**	**4.42**	**313**	⇓P	Pn	22 44 27.0	+1.1
MMB	**Musomishta**	**4.43**	**29**	P	Pn	22 44 28.1	+2.1
MMB	**Musomishta**	**4.43**	**29**	P	Pn	22 44 28.4	+2.4
ULC	**Ulcinj**	**4.47**	**344**	*e*Pn	Pn	22 44 27.5	+1.0
ULC				*e*Sn	**Sn**	**22 45 18.5**	**+0.3**
KKB	**Krupnik**	**4.48**	**21**	P	Pn	22 44 30.4	+3.6
CUC	**Castrocucco**	**4.61**	**302**		Pn	22 44 29.0	+0.4
DRME	**Dracevica, Mon**	**4.69**	**344**	*e*Pn	Pn	22 44 30.7	+1.1
EZN	**Ezine**	**4.72**	**61**	⇓P	Pn	22 44 35.5	+5.4
EZN	**Ezine**	**4.72**	**61**	P	Pn	22 44 35.4	+5.4
BUM	**Brajici-Budva**	**4.87**	**342**	*e*Pn	Pn	22 44 32.8	+0.7
BUM				*e*Sn	**Sn**	**22 45 28.7**	**+0.5**
PDG	**Podgorica**	**4.91**	**345**		Pn	22 44 33.6	+1.0
PDG	**Podgorica**	**4.91**	**345**	⇑P	Pn	22 44 34.2	+1.6
PDG				⇑S	**Sn**	**22 45 30.1**	**+1.0**
PDG	**Podgorica**	**4.91**	**345**	*e*Pn	Pn	22 44 34.0	+1.3
PDG	**Podgorica**	**4.91**	**345**	*e*Pn	Pn	22 44 33.9	+1.3
PDG				*e*Sn	**Sn**	**22 45 29.8**	**+0.7**
BOSS	**Bosilegrad**	**4.95**	**13**	*e*Pn	Pn	22 44 35.8	+2.6
ACER	**Acerenza**	**4.96**	**310**		Pn	22 44 35.1	+1.8
RZN	**Rozhen**	**4.96**	**35**	P	Pn	22 44 35.5	+2.0
RDO	**Rodhopi**	**4.96**	**44**		Pn	22 44 35.1	+1.7
ALN	**Alexandroupoli**	**5.10**	**49**		Pn	22 44 37.9	+2.7
ALN	**Alexandroupoli**	**5.10**	**49**	P	Pn	22 44 37.9	+2.7
HCY	**Herceg Novi**	**5.11**	**339**	*e*Pn	Pn	22 44 35.5	+0.1
HCY				*e*Sn	**Sn**	**22 45 34.3**	**+0.2**
PLNA	**Plana**	**5.15**	**21**	P	Pn	22 44 40.8	+4.7
BARS	**Barje**	**5.17**	**7**	*e*Pn	Pn	22 44 38.2	+2.0
VAE	**Valguarnera**	**5.18**	**270**	Pn	Pn	22 44 37.5	+1.0
	14nm,0.5s,baz=168,slow=6.6,SNR=14						
VAE				Sn	**Sn**	**22 45 34.2**	**-1.8**
	8.7nm,0.3s,baz=360,slow=11,SNR=5.6						
KDZ	**Kurdzhali**	**5.20**	**39**	P	Pn	22 44 38.3	+1.7
VTS	**Vitosha**	**5.23**	**19**	P	Pn	22 44 39.8	+2.6
VTS	**Vitosha**	**5.23**	**19**	*e*Pn	Pn	22 44 39.6	+2.4
RAFF	**Raffo Rosso**	**5.25**	**267**		Pn	22 44 36.6	-0.7
TRAN	**Tran**	**5.31**	**14**	P	Pn	22 44 37.9	-0.2
PLD	**Plovdiv**	**5.33**	**32**	*e*Pn	Pn	22 44 39.1	+0.7
TREB	**Trebinje**	**5.40**	**339**	*e*Pn	Pn	22 44 38.5	-0.9
TREB	**Trebinje**	**5.40**	**339**	*e*Pn	Pn	22 44 39.4	0.0
KARP	**Karpathos**	**5.44**	**111**		Pn	22 44 42.4	+2.4
WDD	**Wied Dalam**	**5.47**	**252**		Pn	22 44 40.5	+0.3
BRY	**Bratogost**	**5.52**	**341**	*e*Pn	Pn	22 44 41.6	+0.4
BRY				*e*Sn	**Sn**	**22 45 43.8**	**-0.6**
SELS	**Selova**	**5.53**	**1**	*e*Pn	Pn	22 44 42.3	+1.1
SJES	**Sjenica**	**5.62**	**353**	*e*Pn	Pn	22 44 44.1	+1.7
DIM	**Dimitrovgrad**	**5.63**	**38**	P	Pn	22 44 44.3	+1.8
SGRT	**San Giovanni R**	**5.70**	**317**		Pn	22 44 43.4	-0.2
ZAPS	**Zavoj**	**5.73**	**13**	*e*Pn	Pn	22 44 46.9	+3.0
STON	**Ston**	**5.74**	**335**	*e*Pn	Pn	22 44 42.8	-1.2
STON	**Ston**	**5.74**	**335**	*e*Pn	Pn	22 44 43.4	-0.6
PLE	**Pljevlja**	**5.76**	**349**	*e*Pn	Pn	22 44 47.6	+3.2
PLE				*e*Sn	**Sn**	**22 45 51.0**	**+0.8**
KLINJ	**Klinje**	**5.76**	**343**	*e*Pn	Pn	22 44 45.0	+0.6
GOCS	**Kraljevo Serbi**	**5.87**	**360**	*e*Pn	Pn	22 44 46.9	+1.0
IVAS	**Ivanjica**	**5.91**	**354**	*e*Pn	Pn	22 44 47.8	+1.3
ARG	**Arkhangelos**	**5.94**	**102**		Pn	22 44 50.5	+3.8
ARG	**Arkhangelos**	**5.94**	**102**	P	Pn	22 44 50.6	+3.8
PAOL	**Paolisi**	**5.96**	**306**		Pn	22 44 49.1	+2.0
BOVS	**Bovan**	**5.97**	**5**	⇓P	Pn	22 44 49.6	+2.4
BOVS	**Bovan**	**5.97**	**5**	*e*Pn	Pn	22 44 49.6	+2.4
MPEP	**Malo Peshtene**	**6.05**	**20**	P	Pn	22 44 51.4	+3.1
MANT	**Manisa**	**6.07**	**80**		Pn	22 44 51.1	+2.4
BLKB	**Belogradchik**	**6.08**	**12**	*e*Pn	Pn	22 44 51.8	+3.1
GRUS	**Gruza**	**6.20**	**359**	*e*Pn	Pn	22 44 51.3	+1.0
ZAGS	**Zajecar**	**6.20**	**9**	*e*Pn	Pn	22 44 52.7	+2.4
BBLS	**Lazi&#263i**	**6.28**	**350**	*e*Pn	Pn	22 44 53.9	+2.4
VALD	**Valchedram**	**6.29**	**17**	*e*P	Pn	22 44 51.6	0.0
PVL	**Pavlikeni**	**6.32**	**29**	P	Pn	22 44 54.9	+2.9
PLVB	**Pleven**	**6.35**	**25**	⇓P	Pn	22 44 56.0	+3.6
JMB	**Yambol**	**6.44**	**40**	P	Pn	22 44 54.7	+1.1
DIVS	**Divibare**	**6.45**	**354**	*e*Pn	Pn	22 44 54.8	+1.0
ELND	**Elena**	**6.46**	**34**	⇑P	Pn	22 44 57.3	+3.5
TRUS	**Trudelj**	**6.54**	**357**	*e*Pn	Pn	22 44 56.0	+0.9
KUBS	**Kucevo**	**6.74**	**5**	*e*Pn	Pn	22 44 56.5	-1.3
VLAD	**Vladila**	**6.83**	**22**	⇓P	Pn	22 45 02.0	+3.0
TEKS	**Tekeris**	**6.94**	**352**	*e*Pn	Pn	22 44 59.9	-0.6
AVAS	**Avala Beograd**	**7.01**	**358**	*e*Pn	Pn	22 45 01.9	+0.4
AKAS	**Kas**	**7.09**	**99**		Pn	22 45 05.1	+2.4
MDVR	**Moldovita**	**7.11**	**4**	⇑P	Pn	22 45 05.3	+2.4
MDVR	**Moldovita**	**7.11**	**4**	*e*Pn	Pn	22 45 01.8	-1.1
BEO	**Beograd**	**7.12**	**357**	P	Pn	22 45 06.8	+3.8
LOZB	**Loznitsa**	**7.13**	**35**	⇑P	Pn	22 45 06.2	+3.2
KIJV	**Kijevo**	**7.18**	**333**	*e*Pn	Pn	22 45 04.5	+0.6
COPA	**Copaceanca**	**7.21**	**25**	⇓P	Pn	22 45 07.2	+3.0
ELL	**Elmali**	**7.22**	**95**		Pn	22 45 06.7	+2.2
ELL	**Elmali**	**7.22**	**95**	P	Pn	22 45 06.7	+2.2
HERR	**Herculane**	**7.27**	**8**	⇓P	Pn	22 45 07.3	+2.3
AQU	**L'Aquila**	**7.42**	**311**	*e*Pn	Pn	22 45 12.8	+5.6
VRSS	**Vrsac**	**7.44**	**2**	*e*Pn	Pn	22 45 08.2	+0.9
FRGS	**Fruska Gora**	**7.51**	**354**	*e*Pn	Pn	22 45 08.4	0.0
CAMP	**Campotosto**	**7.53**	**312**		Pn	22 45 09.9	+1.2
BLY	**Banja Luka**	**7.60**	**339**	*e*Pn	Pn	22 45 06.4	-3.1
BLY	**Banja Luka**	**7.60**	**339**	⇑P	Pn	22 45 10.9	+1.3
BLY	**Banja Luka**	**7.60**	**339**	*e*Pn	Pn	22 45 11.8	+2.3
BORA	**Eskisehir**	**7.75**	**71**		Pn	22 45 12.3	+0.6
GZR	**Gura Zlata**	**7.82**	**10**	⇑P	Pn	22 45 14.9	+2.2
GZR	**Gura Zlata**	**7.82**	**10**	*e*Pn	Pn	22 45 14.6	+1.9
GZR	**Gura Zlata**	**7.82**	**10**	P	Pn	22 45 14.9	+2.2
NRCA	**Norcia**	**7.88**	**313**		Pn	22 45 14.0	+0.4
GUMA	**Gualdo di Mace**	**7.90**	**315**		Pn	22 45 14.9	+1.1
BZS	**Buzias**	**7.94**	**3**	⇑P	Pn	22 45 16.4	+2.2
BZS	**Buzias**	**7.94**	**3**	*e*Pn	Pn	22 45 13.9	-0.3
BZS	**Buzias**	**7.94**	**3**	P	Pn	22 45 16.4	+2.2
FDMO	**Fiordimonte**	**8.03**	**314**		Pn	22 45 15.6	+0.2
LOT	**Lotru**	**8.04**	**14**	⇑P	Pn	22 45 18.3	+2.6
**C

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comp=Z,1.0nm,0.7s
PSZ Piszkesteto 10.26 356 Pn Pn 22 45 46.4 +0.3
PSZ Piszkesteto 10.26 356 ⇑P Pn 22 45 48.8 +2.8
PSZ Piszkesteto 10.26 356 *e*P Pn 22 45 47.8 +1.8
PSZ Piszkesteto 10.26 356 P Pn 22 45 48.8 +2.8
KIRS Kirsehir-Merke 10.29 78 ⇑P Pn 22 45 52.0 +5.5
ARSA Arzberg 10.36 339 Pn Pn 22 45 47.7 +0.4
ARSA Arzberg 10.36 339 *i* Pn **Pn 22 45 49.2 +1.9**
comp=Z,0.6nm,0.3s
ARSA *i* Sn **Sn 22 47 39.0 -4.1**
comp=Z,1.6nm,0.7s
ARSA Arzberg 10.36 339 *e*Pn **Pn 22 45 48.4 +1.0**
BURAR Bucovina Array 10.41 16 ⇓P Pn 22 45 52.2 +4.0
BURAR Bucovina Array 10.41 16 P Pn 22 45 52.1 +4.0
MYKA Terra Mystica 10.44 331 *e*Pn **Pn 22 45 49.2 +0.6**
comp=Z,1.3nm,0.6s
MYKA *e*Sn **Sn 22 47 40.7 -4.6**
comp=Z,0.1nm,0.1s
ILGA Ilgaz 10.45 67 Pn **Pn 22 45 51.3 +2.5**
STAL STALIGIAL 10.52 327 Pn 22 45 49.5 -0.1
RONA Rosalia, Austr 10.57 343 *e*Pn **Pn 22 45 53.5 +3.2**
comp=Z,1.4nm,0.6s
RONA *i* Sn **Sn 22 47 42.4 -5.9**
comp=Z,0.1nm,0.1s
PRMA PARMA 10.67 315 Pn **Pn 22 45 52.0 +0.4**
CTI Castel Tesino 10.84 323 Pn 22 45 53.8 -0.3
CTI Castel Tesino 10.84 323 P **Pn 22 45 53.8 -0.3**
CONA Conrad Observa 10.89 342 *e*Pn **Pn 22 45 56.8 +2.1**
comp=Z,0.4nm,0.6s
CONA *i* Sn **Sn 22 47 50.4 -5.9**
comp=Z,4.0nm,0.7s
MILM Milestii Mici 10.91 30 ⇓P Pn 22 45 59.1 +4.2
MILM Milestii Mici 10.91 30 *e*P **Pn 22 45 57.0 +2.1**
comp=Z,50nm,0.1s
MILM *e*L L 22 49 33.0
MILM LQM 22 50 24.0
comp=Z,900nm,11.0s
MILM LRM MLR 22 51 35.0
comp=Z,800nm,8.7s
MILM Milestii Mici 10.91 30 P **Pn 22 45 59.0 +4.2**
KBA Koelnbreinsper 10.93 332 *e*Pn **Pn 22 45 55.9 +0.6**
comp=Z,1.0nm,0.3s
KBA *i* Sn **Sn 22 47 50.0 -7.3**
comp=Z,8.2nm,0.7s
KBA Koelnbreinsper 10.93 332 P **Pn 22 45 57.0 +1.7**
KBA pmax pmax
comp=Z,25nm,1.0s
KIS Kishinev 10.98 30 *e*P **Pn 22 45 57.0 +1.2**
KIS MLR MLR
comp=Z,300nm,10.0s
ABTA Abfaltersbach 10.99 328 *e*Pn **Pn 22 45 56.0 -0.1**
comp=Z,0.2nm,0.2s
ABTA *e*Sn **Sn 22 47 53.8 -5.0**
comp=Z,35nm,0.9s
MODS Modra-Piesok 11.01 347 *e*P Pn 22 46 04.4 +8.1
MODS Modra-Piesok 11.01 347 *e*PN Pn 22 46 04.4 +8.1
MOA Molln 11.27 336 *i* Pn **Pn 22 45 59.9 0.0**
comp=Z,7.9nm,0.6s,SNR=10
MOA *e*Sn **Sn 22 48 00.7 -4.9**
comp=Z,5.5nm,0.5s
MOA Molln 11.27 336 *e*Pn **Pn 22 46 00.6 +0.7**
BIOA Bad Ischl, Aus 11.34 334 *i* Pn **Pn 22 46 02.0 +1.2**
comp=Z,1.5nm,0.2s
BIOA *i* Sn **Sn 22 48 03.5 -3.7**
comp=Z,10nm,0.7s
LESA Schwarzleotal 11.47 331 *e*Pn **Pn 22 46 02.7 0.0**
comp=Z,3.8nm,0.4s,SNR=5.8
LESA *e*Sn **Sn 22 48 05.4 -5.1**
comp=Z,0.1nm,0.1s
LANS Liptovska Anna 11.51 355 *e*P Pn 22 46 08.4 +5.3
LANS Liptovska Anna 11.51 355 *e*PN Pn 22 46 08.4 +5.3
WTTA Wattenberg 11.77 327 *e*Pn **Pn 22 46 07.9 +1.1**
comp=Z,0.9nm,0.3s
WTTA *e*Sn **Sn 22 48 11.0 -6.9**
comp=Z,17nm,0.8s
WTTA Wattenberg 11.77 327 P **Pn 22 46 09.3 +2.5**
WTTA pmax pmax
comp=Z,16nm,1.3s
BNN Bunyan 11.78 80 Pn **Pn 22 46 08.6 +1.6**
WATA Walderalm 11.85 327 *e*Pn **Pn 22 46 09.4 +1.5**
comp=Z,0.2nm,0.2s,SNR=6.9
WATA *e*Sn **Sn 22 48 16.4 -3.4**
comp=Z,40nm,1.2s
SQTA Sankt Quirin 11.92 326 *e*Pn **Pn 22 46 09.0 +0.1**
comp=Z,0.5nm,0.3s
SQTA *e*Sn **Sn 22 48 19.1 -2.4**
comp=Z,10.0nm,0.5s
FUORN Ofenpass-Fuorn 11.92 322 Pn 22 46 09.4 +0.4
FETA Feichten 11.99 324 *e*Pn **Pn 22 46 07.6 -2.2**
comp=Z,0.3nm,0.6s
FETA *e*Sn **Sn 22 48 16.4 -6.8**
comp=Z,3.7nm,0.5s
VRAC Vranov 12.03 346 Pn **Pn 22 46 12.8 +2.6**
comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=1.5
VRAC Sn **Sn 22 48 20.9 -3.2**
comp=Z,0.1nm,0.3s,baz=63,slow=18,SNR=1.6
VRAC LR LR 22 51 00.3
comp=Z,142nm,19.5s,baz=174,slow=38
comp=Z,1.1nm,0.6s
MOTA Moosalm 12.06 326 *e*Pn **Pn 22 46 12.7 +1.9**
comp=Z,6.3nm,0.6s,SNR=6.6
MOTA *e*Sn **Sn 22 48 22.3 -2.8**
comp=Z,16nm,0.7s
CKRC Cesky Krumlov 12.12 339 AMS AMS 22 51 50.0
comp=Z,900nm,9.2s
TUE Stuetta 12.28 319 Pn 22 46 15.1 +1.2
OKC Ostrava-Krasne 12.31 352 AMS AMS 22 51 50.0
comp=Z,800nm,8.7s
RETA Reutte 12.32 326 *e*Pn **Pn 22 46 17.7 +3.4**
comp=Z,0.4nm,0.3s
RETA *e*Sn **Sn 22 48 24.5 -6.7**
comp=Z,3.5nm,0.8s
GERES GERESS Array B 12.33 337 Pn **Pn 22 46 15.7 +1.3**
baz=151,slow=12,SNR=12
GERES Sn **Sn 22 48 24.5 -6.9**
baz=152,slow=25,SNR=5.5
GERES LR LR 22 51 31.2
comp=Z,244nm,21.4s,baz=137,slow=40
comp=Z,1.3nm,0.6s
MORC Moravsky Berou 12.33 350 Pn **Pn 22 46 15.3 +0.9**
MORC Moravsky Berou 12.33 350 P **Pn 22 46 15.3 +0.9**
TOKA Tokat 12.38 73 Pn **Pn 22 46 18.5 +3.5**
DAVA Damuels 12.58 323 *e*Pn **Pn 22 46 20.6 +2.7**
comp=Z,0.1nm,0.2s
DAVA *e*Sn **Sn 22 48 34.2 -3.5**
comp=Z,20nm,0.8s
KHC Kasperske Hory 12.62 337 *e*P **Pn 22 46 19.3 +1.0**
KHC Kasperske Hory 12.62 337 *e*PN **Pn 22 46 19.3 +1.0**
KHC *e*SN **Sn 22 48 32.4 -6.1**
MMAI Mount Meron Ar 12.70 107 Pn **Pn 22 46 16.9 -2.6**
comp=Z,0.5nm,0.3s,baz=311,slow=13,SNR=9.7
MMAI Sn Sn 22 48 29.3 -11
comp=Z,1.3nm,0.3s,baz=294,slow=28,SNR=2.4
comp=Z,0.4nm,0.3s
DPC Dobruska-Polom 13.08 347 AMS AMS 22 52 10.0
comp=Z,700nm,10.2s
PRU Pruhonice 13.13 342 AMS AMS 22 52 10.0
comp=Z,800nm,11.2s
PRA Prague 13.23 341 AMS AMS 22 52 10.0
comp=Z,800nm,10.3s
OSTC Ostas 13.30 347 AMS AMS 22 52 20.0
comp=Z,700nm,10.0s
SENIN Lac Senin/Sane 13.32 315 Pn 22 46 28.6 +0.5
SLE Schleitheim 13.59 322 P **Pn 22 46 35.0 +3.5**
GHAJ Ghor Haditha 13.64 113 Pn 22 46 32.3 +0.1
BRG Berggiesshubel 14.09 342 *e*P **P 22 46 49.2 +3.2**
BRG Amp 22 46 50.2
comp=Z,2.4nm,0.9s
BRG PP **PnPn 22 46 56.3 +10**
BRG Amp 22 46 58.0
comp=Z,10.0nm,1.4s
EIL Elat 14.13 120 Pn **Pn 22 46 36.3 -2.8**
comp=Z,0.7nm,0.3s,baz=332,slow=3.1,SNR=9.1
EIL Sn Sn 22 49 02.6 -13
comp=Z,1.5nm,0.3s,baz=5.7,slow=2.2,SNR=7.3
comp=Z,2.6nm,0.4s
ASF Jabal al Asfar 14.20 108 Pn **Pn 22 46 37.5 -2.5**
comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=2.0
ASF Sn **Sn 22 49 09.7 -7.6**
comp=Z,0.2nm,0.3s,baz=105,slow=5.8,SNR=1.7
comp=Z,0.9nm,0.4s
KIEV Kiev 14.28 22 Pn 22 46 41.0 +0.1
KIEV Kiev 14.28 22 ⇑P P 22 46 44.8 -3.4
KIEV Kiev 14.28 22 P **Pn 22 46 42.4 +1.5**
KIEV Kiev 14.28 22 P **P 22 46 44.7 -3.4**

ANN Anapa 14.29 55 *e*P **Pn 22 46 39.2 -1.9**
ANN *e*S **Sn 22 49 17.5 -1.7**
ANN pmax pmax
comp=Z,30nm,1.0s
AKASG Malin Array Be 14.29 22 Pn **Pn 22 46 40.4 -0.7**
comp=Z,1.3nm,0.3s,baz=214,slow=12,SNR=7.9
AKASG Sn **Sn 22 49 16.3 -2.8**
comp=Z,0.4nm,0.3s,baz=203,slow=21,SNR=1.3
AKASG LR LR 22 52 37.8
comp=Z,591nm,19.4s,baz=200,slow=39
comp=Z,0.8nm,0.5s
AKBB Malin Array Si 14.29 22⇑ *e*P **Pn 22 46 42.1 +1.0**
R9F13 Warsaw-Wawer 14.54 1 *e*P **P 22 46 52.7 +1.8**
ECH Echery 14.55 321 Pn 22 46 46.9 +2.2
ECH Echery 14.55 321 P **Pn 22 46 46.9 +2.2**
MOX Moxa 14.56 336 P **P 22 46 51.3 0.0**
CLL Collm 14.73 340 *i* P **P 22 46 55.8 +2.7**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 14.73 340 *e*Px Px 22 46 50.0
CLL *i* PP **P 22 46 55.8 +2.7**
comp=Z,9.0nm,1.0s
CLL *i* sPP 22 47 01.5
CLL *i* x x 22 47 06.5
comp=Z,15nm,0.9s
CLL Lm MLR 22 53 00.0
comp=Z,200nm,20.1s
CEST Esterri de Car 15.82 294 Pn **Pn 22 47 02.8 +1.1**
WLF Walferdange 16.02 323 P **P 22 47 08.4 +1.0**
WLF IAmb IAmb 22 47 12.4
comp=Z,33nm,0.9s
WLF Walferdange 16.02 323 P **P 22 47 08.4 +1.0**
WLF pmax pmax
comp=Z,33nm,0.9s
SUW Suwalki 16.40 5 Pn **Pn 22 47 09.6 +0.7**
SUW Suwalki 16.40 5 *e*P **Pn 22 47 10.2 +1.3**
SUW Suwalki 16.40 5 P **Pn 22 47 09.6 +0.7**
LABN Labinsk 16.42 59 *e*P **P 22 47 12.8 +0.9**
LABN *e*S **Sn 22 50 07.2 -3.9**
LABN pmax pmax
comp=Z,37nm,1.0s
GURO Guroymak-BITLI 16.63 81 Pn **Pn 22 47 13.0 +1.0**
ERBR Yeremizino-Bor 16.63 55 *e*P **Pn 22 47 12.0 +0.2**
ERBR *e*S **Sn 22 50 21.0 +4.9**
ERBR pmax pmax
comp=Z,32nm,1.4s
MNK Minsk 17.48 14 *i* P **Pn 22 47 22.0 -0.4**
comp=E,7.0nm,0.6s
MNK *i* P **Pn 22 47 22.0 -0.4**
comp=N,3.0nm,0.7s
MNK *i* P **Pn 22 47 22.0 -0.4**
comp=Z,6.0nm,0.6s,baz=199
MNK *i* PP **PnPn 22 47 36.7 +4.1**
MNK *i* S **Sn 22 50 36.7 +0.1**
MNK *i* SS **SnSn 22 50 51.8 +1.7**
MNK *i* LQ LQ 22 52 58.0
MNK *i* LR LR 22 54 05.6
MNK *i* LRM MLR 22 55 03.7
comp=Z,143nm,12.3s
MNK *i* LRM MLR 22 55 09.2
comp=N,176nm,13.7s
MNK *i* LRM MLR 22 55 45.9
comp=E,135nm,12.0s
MNK Minsk 17.48 14 *i* P **Pn 22 47 21.9 -0.4**
MNK *i* S **Sn 22 50 36.7 +0.1**
MNK pmax pmax
comp=N,3.0nm,0.7s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK pmax pmax
comp=E,7.0nm,0.6s
MNK MLR MLR
comp=Z,143nm,12.0s
MNK MLR MLR
comp=N,176nm,14.0s
MNK MLR MLR
comp=E,135nm,12.0s
SHA1 Shidzhatmaz 17.52 63*de*P **P 22 47 24.1 -0.3**
KIV Kislovodsk 17.59 62 *e*P **P 22 47 25.0 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,44nm,14.0s
NACGM Naroch 17.68 11⇓ *e*P **P 22 47 26.7 +1.0**
comp=N,39nm,1.1s
KBZ Khabaz 17.69 63 P **Pn 22 47 24.9 -0.2**
comp=N,0.2nm,0.3s,baz=283,slow=6.6,SNR=7.3
comp=N,4.7nm,1.0s
KBZ Khabaz 17.69 63⇑ *e*P **P 22 47 26.5 +0.6**
KBZ pmax pmax
comp=Z,11nm,1.0s
PABE Paberze 17.94 6 Pn 22 47 27.6 -0.5
PABE IAmb IAmb 22 47 37.6
comp=Z,80nm,1.0s
PABE Paberze 17.94 6 *e*P **P 22 47 29.6 +1.0**
GOF Gofitskoye 18.12 59*ce*P P 22 47 38.8 +8.1
NCK Nalchik 18.14 64⇓ *e*P **P 22 47 31.9 +1.0**
NCK pmax pmax
comp=Z,15nm,0.9s
TRLG Trialeti 18.25 71 P **Pn 22 47 32.1 0.0**
GNI Garni 18.68 75 Pn 22 47 38.1 +0.7
GNI Garni 18.68 75 P **Pn 22 47 37.2 -0.2**
comp=Z,0.4nm,0.3s,baz=50,slow=3.9,SNR=8.9
GNI S **Sn 22 51 00.9 -5.2**
comp=Z,4.3nm,0.3s,baz=322,slow=22,SNR=19
GNI LR LR 22 54 52.0
comp=Z,127nm,19.7s,baz=283,slow=37
comp=Z,13nm,0.9s
GNI Garni 18.68 75 P **Pn 22 47 39.0 +1.6**
GNI Garni 18.68 75⇓ *e*P **Pn 22 47 38.6 +1.2**
GNI pmax pmax
comp=Z,21nm,1.3s
VSR Storozhevoye 18.70 38 *e*P **Pn 22 47 38.9 +1.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 19.50 34 *e*P **P 22 47 45.3 -0.4**
LPSR pmax pmax
comp=Z,40nm,0.9s
ESDC Sonseca Array 19.52 284 P **P 22 47 46.6 +0.4**
baz=78,slow=11,SNR=18
comp=Z,2.4nm,0.8s
TAM Tamanrasset 19.90 226 Pn 22 47 51.8 -0.3
TAM Tamanrasset 19.90 226 P **Pn 22 47 51.8 -0.3**
TAM pmax pmax
comp=Z,10.0nm,0.8s
SLIT Slitere, Latvi 19.97 2 *e*P **P 22 47 51.4 +0.5**
VRH Novokhopyorsk 19.98 41 *e*P **P 22 47 49.6 -1.4**
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 20.41 26 P **P 22 47 56.1 +0.5**
OBN Obninsk 20.41 26 P **P 22 47 54.7 -0.9**
comp=Z,11nm,0.3s,baz=178,slow=7.7,SNR=4.8
OBN LR LR 22 55 53.1
comp=Z,330nm,20.6s,baz=154,slow=37
comp=Z,11nm,0.3s
OBN Obninsk 20.41 26 *i* P **P 22 47 54.7 -0.9**
OBN *i* 22 48 13.2
OBN pmax pmax
comp=Z,43nm,1.3s
OBN MLR MLR
comp=Z,293nm,18.0s
MAK Makhachkala 20.89 67 *e*P **P 22 47 55.7 -5.2**
MAK *e*S **S 22 51 47.8 -5.5**
MAK pmax pmax
comp=Z,278nm,1.4s
AKT Akhty 20.96 71 *e*P **P 22 48 02.8 +0.9**
AKT *e*PPP PPP 22 48 29.6
AKT *e*S **S 22 51 56.6 +1.6**
AKT pmax pmax
comp=Z,52nm,1.4s
VSU Vasula 21.13 8*d i*P **P 22 48 02.6 -0.8**
VSU pmax pmax
comp=Z,125nm,1.3s
MOS Moscow 21.28 27 *e*P **P 22 48 03.9 -1.1**
MOS *e* 22 48 24.5
MOS pmax pmax
comp=Z,53nm,0.7s
MDT Midelt 21.39 265 P **P 22 48 06.8 +0.2**
comp=Z,7.1nm,0.9s,baz=92,slow=9.9,SNR=6.2
comp=Z,7.1nm,0.9s
PBRG Braganca 21.63 290 *e*P **P 22 48 08.6 -0.5**
PBRG *i* IAmb IAmb 22 48 10.3
comp=Z,25nm,1.6s
MVO Moncorvo 21.84 288 *e*P **P 22 48 11.6 +0.3**
MVO *i* IAmb IAmb 22 48 27.4

comp=Z,35nm,1.7s
MVO *e*LR LR 22 57 09.7
MVO *i* IAMs_20 IAMs_20 23 00 48.3
comp=Z,88nm,16.0s
PBAR Barrancos 22.04 280 *e*P **P 22 48 16.8 +3.4**
PBAR *i* IAmb IAmb 22 48 24.0
comp=Z,22nm,2.0s
PMRV Marv??o 22.19 283 *e*P **P 22 48 14.8 -0.1**
PMRV *i* IAmb IAmb 22 48 20.1
comp=Z,14nm,1.9s
PCBR Castelo Branco 22.22 284 *e*P **P 22 48 20.5 +5.2**
PCBR *i* IAmb IAmb 22 48 22.8
comp=Z,18nm,1.6s
MTE Manteigas 22.25 286 *e*P **P 22 48 18.1 +2.4**
MTE *i* IAmb IAmb 22 48 22.5
comp=Z,34nm,1.9s
MTE *e*LR LR 22 56 30.8
MTE *i* IAMs_20 IAMs_20 23 00 43.8
comp=Z,70nm,18.0s
UPP Uppsala 22.29 356 *e*P **P 22 48 16.0 +0.2**
POLO Lamas de Olo 22.42 288 *e*P **P 22 48 24.1 +6.6**
POLO *i* IAmb IAmb 22 48 33.5
comp=Z,7.5nm,1.8s
PVIS Viseu 22.50 287 *e*P **P 22 48 17.7 -0.6**
AAL Aland 22.52 359 *e*P **P 22 48 19.5 +1.2**
PCAB Cabril 22.59 289 *e*P **P 22 48 21.7 +2.4**
PCAB *i* IAmb IAmb 22 48 27.7
comp=Z,26nm,1.7s
MEF Metsahovi 22.66 4 *e*P **P 22 48 20.3 +0.5**
EVO Evora 22.76 281 *e*P **P 22 48 26.2 +5.2**
EVO *i* IAmb IAmb 22 48 37.9
comp=Z,26nm,1.9s
PSARD Sardoal 22.77 284 *e*P **P 22 48 26.6 +5.4**
PSARD *i* IAmb IAmb 22 48 40.3
comp=Z,19nm,1.5s
PGAV Gavieira, Arco 22.78 290 *e*LR LR 22 58 26.4
PGAV *i* IAMs_20 IAMs_20 22 59 48.4
comp=Z,88nm,16.0s
PMTG Montargil 22.86 283 *e*P **P 22 48 21.2 -1.0**
PMTG *i* IAmb IAmb 22 48 35.8
comp=Z,18nm,1.6s
PCVE Castro Verde 22.90 279 *e*P **P 22 48 25.0 +2.4**
PCVE *i* IAmb IAmb 22 48 27.8
comp=Z,30nm,2.0s
HFS Hagfors 22.94 351 P **P 22 48 22.3 -0.4**
comp=Z,11nm,0.6s,baz=161,slow=9.4,SNR=24
HFS LR LR 22 58 17.4
comp=Z,109nm,20.1s,baz=164,slow=39
comp=Z,11nm,0.6s
PCAS Casmilo, Conde 22.99 285 *e*P **P 22 48 29.8 +6.3**
PCAS *i* IAmb IAmb 22 48 34.7
comp=Z,29nm,1.6s
RAF Rauma 23.36 1 *e*P **P 22 48 26.6 -0.4**
PARRA Arraiolos 23.52 282 *e*P P 22 48 20.3 -8.6
PARRA *i* IAmb IAmb 22 48 21.2
comp=Z,13nm,1.5s
BELG Belogornoye 23.73 43 P **P 22 48 31.1 +0.4**
comp=Z,48nm,0.8s,baz=226,slow=3.9,SNR=12
comp=Z,48nm,0.8s
BELG Belogornoye 23.73 43*d i*P **P 22 48 30.3 -0.4**
BELG pmax pmax
comp=Z,9.0nm,0.9s
NORES NORESS Array B 23.82 349 P **P 22 48 32.8 +1.3**
KBD Kabd 23.83 103 P **P 22 48 32.1 +0.3**
FINES FINESS Array B 24.00 6 P **P 22 48 32.4 -0.8**
comp=Z,7.0nm,0.8s,baz=197,slow=8.5,SNR=17
FINES PcP **PcP 22 52 15.0 +0.4**
comp=Z,4.0nm,1.1s,baz=132,slow=2.1,SNR=3.3
FINES LR LR 22 58 51.8
comp=Z,412nm,18.9s,baz=182,slow=39
comp=Z,7.0nm,0.8s
EKA Eskdalemuir Ar 24.02 325 P **P 22 48 34.0 +0.6**
comp=Z,17nm,0.7s,baz=126,slow=8.8,SNR=33
comp=Z,17nm,0.7s
ESK Eskdalemuir 24.03 325 P **P 22 48 33.6 +0.1**
ESK Eskdalemuir 24.03 325 P **P 22 48 33.6 +0.1**
ESK pmax pmax
comp=Z,36nm,0.9s
NB2 NORSAR Subarra 24.16 348 P **P 22 48 34.4 -0.4**
comp=Z,24nm,1.0s,baz=160,slow=11
NOA NORSAR Array B 24.16 348 P **P 22 48 34.7 -0.1**
comp=Z,5.1nm,0.9s,baz=148,slow=9.4,SNR=29
NOA PcP **PcP 22 52 16.7 +1.6**
comp=Z,1.0nm,0.8s,baz=136,slow=2.5,SNR=2.7
comp=Z,5.1nm,0.9s
KEF Keuruu 24.63 4 *e*P **P 22 48 39.6 +0.7**
RAYN Ar Rayn 25.33 117 P 22 48 46.1 +0.4
RAYN Ar Rayn 25.33 117 P **P 22 48 46.6 +0.9**
RAYN Ar Rayn 25.33 117 *i* P **P 22 48 46.6 +0.9**
SNR=11
RAYN Ar Rayn 25.33 117 P **P 22 48 46.1 +0.4**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
VAF Ylistaro 25.41 2 *e*P **P 22 48 47.0 +1.0**
KLMR Klimovskoe 25.98 21 *e*P **P 22 48 48.8 -2.3**
KLMR pmax pmax
comp=Z,25nm,1.1s
JOF Joensuu 26.05 11 *e*P **P 22 48 52.6 +0.8**
KIRV Kirov 27.89 32 LR LR 23 01 04.1
comp=Z,175nm,18.2s,baz=232,slow=38
KIRV Kirov 27.89 32*de*P **P 22 49 07.3 -1.1**
AKTO Aktyubinsk 29.22 52 LR LR 23 03 20.1
comp=Z,88nm,18.7s,baz=119,slow=41
TORD Torodi Ar. Bea 29.86 220 P **P 22 49 27.0 +0.7**
comp=Z,2.3nm,0.7s,baz=37,slow=9.9,SNR=19
comp=Z,2.3nm,0.7s
LANU Lannavaara 30.42 1 *e*P **P 22 49 29.0 -1.7**
APA Apatity 30.75 9⇓ *e*P **P 22 49 33.9 +0.3**
APA *e* 22 50 30.5
ARTI Arti 31.11 41 P **P 22 49 35.1 -1.8**
ARTI Arti 31.11 41 LR LR 23 03 10.9
comp=Z,159nm,18.3s,baz=208,slow=38
ARTI Arti 31.11 41*d i*P **P 22 49 36.0 -0.9**
ARTI 22 50 39.1
ARTI 22 52 25.8
ARTI S **S 22 54 44.9 +3.2**
ARTI SS **SnSn 22 56 22.7 -0.4**
ARTI pmax pmax
comp=Z,17nm,1.0s
PMOZ Porto Moniz, M 31.37 273 P **P 22 49 39.5 -0.1**
MZR Muzera 31.49 108 P **P 22 49 40.5 -0.1**
SNR=5.5
MZR Muzera 31.49 108 *i* P **P 22 49 40.5 -0.1**
SNR=13
SHME Shamm 31.89 101 P **P 22 49 43.9 -0.3**
SNR=6.5
SHME Shamm 31.89 101 *i* P **P 22 49 43.7 -0.5**
SNR=14
ASUD Al Ashush, Dub 32.00 104 P **P 22 49 45.3 +0.2**
ASUD Al Ashush, Dub 32.00 104 P **P 22 49 45.3 +0.2**
ARCES ARCESS Array B 32.00 3 P **P 22 49 44.8 +0.1**
comp=Z,0.7nm,0.4s,baz=191,slow=11,SNR=17
ARCES LR LR 23 03 52.2
comp=Z,361nm,18.4s,baz=191,slow=39
comp=Z,0.7nm,0.4s
NAZ Nazwa, Dubai 32.06 103 P **P 22 49 45.7 0.0**
NAZ Nazwa, Dubai 32.06 103 *i* P **P 22 49 45.6 0.0**
SNR=6.0
BANOM Banah 32.08 101 P **P 22 49 45.8 -0.1**
BANOM Banah 32.08 101 *i* P **P 22 49 45.7 -0.1**
SNR=7.5
MASF Masafi 32.25 102 P **P 22 49 46.7 -0.6**
MSFE Esma-Masafi 32.26 102 P **P 22 49 46.8 -0.6**
MDH Madha 32.40 102 P **P 22 49 48.0 -0.6**
MDH P **P 22 49 48.0 -0.6**
MDH Madha 32.40 102 P **P 22 49 48.0 -0.6**
SVE Sverdlovsk 32.43 41 *e*P **P 22 49 48.7 +0.2**
SVE pmax pmax
comp=Z,26nm,1.1s
UOSS Minazif 32.51 103 P **P 22 49 48.6 -1.0**
UOSS IAmb IAmb 22 49 52.7
comp=Z,15nm,0.9s
UOSS Minazif 32.51 103 P **P 22 49 48.9 -0.6**
UOSS P **P 22 49 48.9 -0.6**
UOSS Minazif 32.51 103 *i* P **P 22 49 48.9 -0.6**
SNR=11
HATD Hatta, Dubai 32.51 103 P **P 22 49 50.0 +0.3**
SNR=8.3
HATD Hatta, Dubai 32.51 103 *i* P **P 22 49 49.4 -0.2**
SNR=8.3
ASHO Ashiyiah 32.53 103 P **P 22 49 49.1 -0.7**
SNR=6.8
ASHO Ashiyiah 32.53 103 *i* P **P 22 49 49.2 -0.6**
SNR=16
ALNE Al Ain 32.63 105 P **P 22 49 50.9 +0.2**
SNR=13

ALNE	Al Ain	32.63	105	P		P	22 49 50.7 0.0
SOHO	SOHO	33.19	104	P		P	22 49 55.2 -0.3
SOHO	SOHO	33.19	104	*i* P		P	22 49 55.1 -0.5
	SNR=57						
ARQ	Araqi	33.61	105	P		P	22 49 59.1 -0.2
ARQ	SNR=8.8			P		P	22 49 59.1 -0.2
	SNR=8.8						
HOQ	Hoqain	34.08	104	P		P	22 50 02.1 -1.2
HOQ				P		P	22 50 02.1 -1.2
DOK	Doka	34.64	114	P		P	22 50 07.9 -0.2
	SNR=7.8						
BIDO	Bidbid	34.75	103	P		P	22 50 07.9 -1.2
WHFO	Wadi Hawf	34.83	115	P		P	22 50 09.4 -0.5
ABTO	Aybut	34.87	117	P		P	22 50 09.7 -0.5
SMDO	Samad	34.94	104	P		P	22 50 09.8 -1.1
	SNR=7.7						
SMDO				P		P	22 50 09.8 -1.1
	SNR=7.7						
WSAR	Wadi Sarin	35.29	103	P		P	22 50 13.0 -0.7
JMDO	Jabal Madar	35.36	105	P		P	22 50 13.6 -0.8
DMTO	DMTO	35.81	114	P		P	22 50 17.8 -0.5
MHTO	MHTO	36.04	107	P		P	22 50 20.1 -0.1
SHAO	Shalim	36.11	113	P		P	22 50 20.8 0.0
DQM	DQM	36.34	109	P		P	22 50 22.0 -0.8
JLN	Jalan Bani Buh	36.49	104	P		P	22 50 22.7 -1.4
JLN				P		P	22 50 22.7 -1.4
LODK	Lodwar	36.58	155	P		P	22 50 26.1 +1.3
BORG	Borgarnes	36.70	331	LR		LR	23 08 41.8
	comp=Z,80nm,19.2s,baz=122,slow=42						
BORK	Borovoye	37.15	49	*de*P		P	22 50 28.9 -0.4
BORK				pmax		pmax	
	comp=Z,6.0nm,0.7s						
CHGR	Chuyangaron	37.58	73	P		P	22 50 32.6 -0.7
CHGR	Chuyangaron	37.58	73	P		P	22 50 32.6 -0.7
CHGR				pmax		pmax	
	comp=Z,23nm,0.8s						
GAR	Garm	38.37	72	P		P	22 50 40.2 +0.2
GAR				IAmb		IAmb	22 50 41.1
	comp=Z,20nm,1.0s						
DBIC	Dimbokro	38.76	224	P		P	22 50 45.3 +2.0
	comp=Z,9.2nm,0.9s,baz=65,slow=10.0,SNR=4.8						
DBIC				LR		LR	23 08 23.5
	comp=Z,52nm,18.4s,baz=42,slow=39						
	comp=Z,9.2nm,0.9s						
DRK	Karamyk	39.37	71	P		P	22 50 47.9 -0.7
DRK				IAmb		IAmb	22 50 50.4
	comp=Z,12nm,1.2s						
DRK	Karamyk	39.37	71	P		P	22 50 47.9 -0.7
DRK				pmax		pmax	
	comp=Z,12nm,1.2s						
SPITS	Spitsbergen Ar	40.65	359	P		P	22 50 59.9 +1.5
	comp=Z,14nm,1.1s,baz=165,slow=7.4,SNR=1.8						
SPITS				LR		LR	23 09 50.3
	comp=Z,180nm,20.3s,baz=177,slow=39						
	comp=Z,14nm,1.1s						
AAK	Ala-Archa	40.66	66	LR		LR	23 09 12.4
	comp=Z,72nm,18.4s,baz=271,slow=38						
FRU1	Bishkek	40.72	65	P		P	22 51 01.8 +2.3
FRU1				IAmb		IAmb	22 51 04.1
	comp=Z,11nm,0.8s						
FRU1	Bishkek	40.72	65	P		P	22 51 01.8 +2.3
FRU1				pmax		pmax	
	comp=Z,11nm,0.8s						
NIL	Nilore	42.24	79			P	22 51 11.5 -0.5
NIL				IAmb		IAmb	22 51 13.2
	comp=Z,11nm,0.9s						
NIL	Nilore	42.24	79	P		P	22 51 11.5 -0.5
NIL				pmax		pmax	
	comp=Z,11nm,0.9s						
KURBB	Kurchatov Arra	42.26	53	P		P	22 51 11.1 -0.8
	comp=Z,3.4nm,0.6s,baz=281,slow=8.8,SNR=23						
KURBB				PcP		PcP	22 53 06.2 +0.7
	comp=Z,1.2nm,0.7s,baz=292,slow=4.0,SNR=3.2						
KURBB				LR		LR	23 11 58.5
	comp=Z,76nm,19.4s,baz=184,slow=41						
	comp=Z,3.4nm,0.6s						
KURK	Kurchatov	42.31	53	P		P	22 51 11.6 -0.7
KURK	Kurchatov	42.31	53	‖*e*P		P	22 51 11.4 -0.9
KURK				pmax		pmax	
	comp=Z,19nm,2.5s						
KSH	Kashi	42.48	70	P		P	22 51 11.8 -2.2
KSH				sP		sP	22 51 21.4 +0.9
KSH				pmax		pmax	
	comp=Z,5.0nm,1.2s						
MK31	Makanchi Array	45.28	58	*de*P		P	22 51 35.2 -1.1
MKAR	Makanchi Array	45.28	58	P		P	22 51 35.5 -0.8
	comp=Z,2.9nm,0.4s,baz=275,slow=7.7,SNR=38						
MKAR				PcP		PcP	22 53 14.4 -1.5
	comp=Z,2.1nm,0.8s,baz=273,slow=5.1,SNR=3.3						
MKAR				LR		LR	23 13 18.6
	comp=Z,60nm,19.2s,baz=262,slow=40						
	comp=Z,2.9nm,0.4s						
ZALV	Zalesovo Beam	45.78	48	P		P	22 51 39.4 -0.7
	comp=Z,4.4nm,0.3s,baz=276,slow=8.7,SNR=44						
ZALV				LR		LR	23 12 19.2
	comp=Z,50nm,18.8s,baz=250,slow=38						
	comp=Z,4.4nm,0.3s						
LSZ	Lusaka	53.12	171	LR		LR	23 16 43.2
	comp=Z,140nm,18.9s,baz=328,slow=38						
TSUM	Tsumeb	56.67	184	LR		LR	23 19 59.2
	comp=Z,123nm,19.0s,baz=6.5,slow=39						
FRB	Frobisher Bay	56.74	328	LR		LR	23 17 30.8
	comp=Z,59nm,19.9s,baz=46,slow=36						
MATP	Matopo	58.24	172	LR		LR	23 21 04.2
	comp=Z,86nm,19.4s,baz=13,slow=39						
SCHQ	Schefferville	59.04	318	P		P	22 53 18.7 +0.2
	comp=Z,34nm,0.8s,baz=71,slow=5.9,SNR=4.1						
	comp=Z,34nm,0.8s						
GTA	Gaotai	59.77	62	*e*P		P	22 53 23.2 -0.7
GTA				pmax		pmax	
	comp=Z,2.0nm,0.6s						
TIXI	Tiksi	60.00	20	LR		LR	23 21 44.3
	comp=Z,131nm,21.2s,baz=334,slow=38						
RES	Resolute Bay	60.33	344	LR		LR	23 18 50.2
	comp=Z,54nm,20.6s,baz=355,slow=35						
SONM	Songino Array	60.52	50	P		P	22 53 28.5 -0.4
	comp=Z,2.6nm,1.0s,baz=286,slow=8.6,SNR=9.8						
SONM				PcP		PcP	22 54 12.3 -1.1
	comp=Z,1.1nm,0.8s,baz=289,slow=4.4,SNR=3.7						
SONM				LR		LR	23 22 01.4
	comp=Z,95nm,18.5s,baz=182,slow=38						
	comp=Z,2.6nm,1.0s						
ULN	Ulaanbaatar	60.91	50	*e*P		P	22 53 31.2 -0.4
ULN				pmax		pmax	
	comp=Z,3.0nm,0.8s						
PALK	Pallekele	61.78	103	P		P	22 53 36.2 -1.5
	comp=Z,4.9nm,0.8s,baz=270,slow=4.0,SNR=3.7						
	comp=Z,4.9nm,0.8s						
LBTB	Lobatse	62.52	175	LR		LR	23 22 31.5
	comp=Z,88nm,20.0s,baz=9.5,slow=38						
YAK	Yakutsk	65.38	29	LR		LR	23 24 22.9
	comp=Z,118nm,19.2s,baz=288,slow=38						
BOSA	Boshof	66.08	176	LR		LR	23 25 32.0
	comp=Z,110nm,18.0s,baz=8.0,slow=38						
HHC	Hu-ho-hao-te	67.04	55	*e*P		P	22 54 12.4 +0.4
HHC				pmax		pmax	
	comp=Z,8.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,230nm,4.7s						
PZH	PanZhiHua	67.43	73	P		P	22 54 17.7 +3.0
CHTO	Chiang Mai	69.44	82	P		P	22 54 26.3 -0.9
CHTO	Chiang Mai	69.44	82	P		P	22 54 26.3 -0.9
CHTO				pmax		pmax	
	comp=Z,10.0nm,1.0s						
CMAR	Chiang Mai Arr	69.63	82	P		P	22 54 28.1 -0.3
	comp=Z,3.5nm,0.6s,baz=300,slow=6.8,SNR=21						
	comp=Z,3.5nm,0.6s						
CMAR	Chiang Mai Arr	69.63	82	*i* P		P	22 54 28.1 -0.3
CMAR				pmax		pmax	
	comp=Z,6.0nm,0.9s						
SADO	Sadowa	70.83	312	LR		LR	23 23 03.2
	comp=Z,338nm,19.5s,baz=106,slow=34						
HEH	HeiHe	71.20	41	*e*P		P	22 54 37.3 -0.1
HEH				pmax		pmax	
	comp=Z,12nm,1.0s						
SLVN	Son La	71.90	77	P		P	22 54 41.6 -0.7
SLVN				IAmb		IAmb	22 54 42.8
	comp=Z,5.8nm,1.0s						
SEY	Seymchan	72.48	21	LR		LR	23 30 06.8
	comp=Z,134nm,20.2s,baz=322,slow=39						
YKA	Yellowknife Ar	73.96	340	LR		LR	23 28 40.8
	comp=Z,31nm,18.2s,baz=256,slow=37						
MA2	Magadan	74.61	24	LR		LR	23 32 18.5
	comp=Z,96nm,19.2s,baz=318,slow=39						
E19K	Redstone River	75.17	359	P		P	22 55 02.1 +1.5
E19K				IAmb		IAmb	22 55 03.0
	comp=Z,8.3nm,0.8s						
I29M	Ogilvie Camp,	76.01	351	P		P	22 55 06.4 +0.8
I29M				IAmb		IAmb	22 55 07.1
	comp=Z,5.5nm,0.8s						
ULM	Lac du Bonnet	76.29	324	LR		LR	23 28 47.3
	comp=Z,55nm,20.3s,baz=358,slow=36						
G18K	Tagagawik	76.75	360	P		P	22 55 11.4 +1.7
G18K				IAmb		IAmb	22 55 26.2
	comp=Z,9.0nm,1.1s						
NJ2	Nanjing	76.78	60	*e*P		P	22 55 12.8 +2.4
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PDPR	Patillas Dam,	76.87	283	P		P	22 55 12.3 +1.2
PDPR				IAmb		IAmb	22 55 27.9
	comp=Z,12nm,1.1s						
USRK	Ussuriysk Ar.	77.41	43	P		P	22 55 12.9 -0.8
	comp=Z,3.9nm,0.8s,baz=324,slow=7.1,SNR=3.8						
	comp=Z,3.9nm,0.8s						
ILAR	Eielson Array	77.43	355	P		P	22 55 14.1 +0.6
	comp=Z,0.9nm,0.9s,baz=358,slow=3.0,SNR=7.1						
ILAR				LR		LR	23 33 12.6
	comp=Z,18nm,18.1s,baz=272,slow=39						
	comp=Z,0.9nm,0.9s						
KSRS	Korea Array	79.39	51	P		P	22 55 24.8 0.0
	comp=Z,4.8nm,0.9s,baz=300,slow=5.5,SNR=6.7						
	comp=Z,4.8nm,0.9s						
PETK	Petropavlovsk-	82.11	25	LR		LR	23 36 12.1
	comp=Z,113nm,18.1s,baz=300,slow=39						
KDAK	Kodiak Island	84.73	357	LR		LR	23 38 06.0
	comp=Z,27nm,18.6s,baz=319,slow=39						
MJAR	Matsushiro Arr	86.09	46	P		P	22 55 59.8 +0.1
	comp=Z,3.1nm,0.9s,baz=315,slow=4.8,SNR=5.0						
	comp=Z,3.1nm,0.9s						
NEW	Newport	86.64	333	LR		LR	23 39 35.5
	comp=Z,40nm,18.9s,baz=24,slow=39						
PDAR	Pinedale Array	88.14	326	P		P	22 56 10.6 +0.8
	comp=Z,0.2nm,0.5s,baz=5.2,slow=4.2,SNR=4.4						
PDAR				LR		LR	23 36 39.0
	comp=Z,32nm,18.3s,baz=20,slow=36						
	comp=Z,0.2nm,0.5s						
ELK	Elko	92.24	328	LR		LR	23 41 55.6
	comp=Z,47nm,18.1s,baz=80,slow=38						
ANMO	Albuquerque	92.79	319	LR		LR	23 38 43.3
	comp=Z,46nm,19.8s,baz=136,slow=36						
NVAR	Mina Array Bea	95.46	329	LR		LR	23 41 40.3
	comp=Z,53nm,18.4s,baz=72,slow=37						
CPUP	Villa Florida	97.11	242	LR		LR	23 39 40.2
	comp=Z,9.0nm,21.6s,baz=24,slow=35						
WRA	Warramunga Arr	120.19	93	PKP		PKPdf	23 02 09.1 -0.9
	comp=Z,0.6nm,0.8s,baz=311,slow=3.1,SNR=3.1						
ASAR	Alice Springs	121.79	97	PKP		PKPdf	23 02 12.3 -0.7
	comp=Z,0.4nm,0.7s,baz=328,slow=1.7,SNR=4.7						
DZM	Mont Dzumac	146.51	72	PKPbc		PKPdf	23 02 58.9 -0.1
	comp=Z,6.4nm,0.8s,baz=307,slow=5.1,SNR=2.5						

CATAC 11 22:47:23.3±0.4, 12°N±2°×8°7W±°, h11km±2km, M3.4/21, MLv3.4/21, Error ellipse: s-maj=4.9km s-min=2.4km az=49.6, confirmed

ISC 11 22:47:21.8±1.4, 11°48N±0°03×86°94W±0°04, h9km±10km, n69, σ0°71/80, 6C-13D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.78	26	⇑P	Pb	22 47 37.7	+0.3
COPN	Copaltepe	0.78	26	⇑*e*P	Pb	22 47 37.8	+0.3
SABN	Sabanita	0.90	58	‖P	Pg	22 47 39.2	+0.1
UNAN	Cigeo UNAN	0.91	46	P	Pb	22 47 40.0	+0.2
UNAN				S	Sb	22 47 52.4	+0.4
MASN	Masaya	0.93	57	P	Pb	22 47 40.1	+0.1
TISN	Laguna Tiscapa	0.93	45	P	Pb	22 47 40.2	+0.1
APQ3	Volcan Apoyequ	0.97	36	P	Pg	22 47 40.6	+0.2
APQ3				S	Sb	22 47 53.6	0.0
WILN	Americas 2	1.00	48	⇑P	Pb	22 47 41.6	+0.3
WILN				S	Sb	22 47 55.0	+0.4
CNGN	Cerro Negro	1.04	13	S	Sg	22 47 55.5	+0.2
CNGN	Cerro Negro	1.04	13	‖P	Pb	22 47 42.1	+0.1
CNGN	Cerro Negro	1.04	13	‖*e*P	Pg	22 47 41.9	+0.1
MOM3	MOM3	1.11	22	P	Pb	22 47 43.0	-0.1
MOM3				S	Sg	22 47 57.5	0.0
PKGN	Cerro Pekin	1.18	358	‖P	Pb	22 47 44.1	-0.3
PKGN				S	Sb	22 47 59.5	-0.3
CRIN	San Cristobal	1.22	355	S	Sb	22 48 00.3	-0.6
CRIN	San Cristobal	1.22	355	‖P	Pn	22 47 44.6	-0.4
MORN	Al O del Volca	1.27	87	‖P	Pg	22 47 46.4	+0.2
MORN				S	Sn	22 48 03.5	+0.6
LCRUZ	La Cruz	1.35	107	*e*P	Pn	22 47 46.2	-0.6
CARN	Rivas	1.42	102	‖P	Pb	22 47 48.2	-0.3
CARN				S	Sg	22 48 08.0	+0.4
CARN	Rivas	1.42	102	*e*P	Pn	22 47 47.5	-0.3
ELI1	Hacienda Flor	1.60	121	P	Pg	22 47 52.5	+0.1
ELI1	Hacienda Flor	1.60	121	*e*P	Pb	22 47 51.6	+0.1
CSGN	Cosiguina Volc	1.60	338	‖P	Pn	22 47 49.8	-0.5
CSGN				S	Sn	22 48 10.8	-0.5
ALIBA	Liberia Airpor	1.63	123	‖*i*P	Pb	22 47 52.0	-0.1
LAPC	Finca la Perla	1.64	115	*e*P	Pn	22 47 51.3	+0.4
LIMN	Finca el Limon	1.67	20	⇑P	Pn	22 47 50.9	-0.4
LIMN				S	Sn	22 48 12.6	-0.3
BUAI	Buenos Aires	1.69	111	*e*P	Pn	22 47 52.1	+0.5
VRLE	La Escondida,	1.69	114	*e*P	Pn	22 47 51.5	-0.1
VORI	VORI	1.70	113	*e*P	Pn	22 47 52.0	+0.2
GPS3	Bodega del ICE	1.71	115	*e*P	Pg	22 47 54.5	-0.1
GPS2	Hotel Rincn d	1.72	115	*e*P	Pn	22 47 52.5	+0.5
MATN	Matagalpa	1.75	35	S	Sn	22 48 14.7	-0.2
MATN	Matagalpa	1.75	35	P	Pn	22 47 52.3	-0.1
ACON	Acoyapa	1.80	74	P	Pb	22 47 54.1	-0.8
ACON	Acoyapa	1.80	74	S	Sb	22 48 17.2	-0.4
ACON	Acoyapa	1.80	74	*e*P	Pn	22 47 51.6	-1.4
COLC	Colonia	1.89	115	*e*P	Pn	22 47 54.3	0.0
HORNC	Hornillas	1.89	114	*e*P	Pn	22 47 55.2	+0.9
JUD3	Juan Diaz 3	1.90	133	*e*P	Pn	22 47 55.4	+0.9
VMAR	Armenia, Volca	1.92	110	⇑*i*P	Pn	22 47 54.9	+0.3
PLVR	Palo Verde	1.93	126	*e*P	Pb	22 47 56.5	-0.6
CUI	Cuipilapa	1.93	115	⇑*e*P	Pg	22 47 58.8	0.0
CNCH	Conchagua	1.98	334	S	Sn	22 48 20.8	+0.1
CNCH	Conchagua	1.98	334	P	Pn	22 47 56.0	+0.3
NICO	Nicoya	1.99	132	*e*P	Pb	22 47 58.4	+0.3
MOTZ	Rio Naranjo	2.00	113	*e*P	Pn	22 47 56.4	+0.6
TENO	El Achiote	2.08	112	*e*P	Pn	22 47 57.4	+0.5
TIMP	Tierras Morena	2.09	115	*e*P	Pn	22 47 57.6	+0.5
INVE	Universidad In	2.10	118	*e*P	Pn	22 47 58.1	+0.9
QUEB	Quebradon, Cot	2.18	113	*e*P	Pn	22 47 58.6	+0.3
RCPN	Sur Rio San Ju	2.20	22	P	Pn	22 47 58.7	+0.2
RCPN	Sur Rio San Ju	2.20	22	S	Sn	22 48 26.1	+0.2
NYURE	Nandayure	2.22	131	*e*P	Pb	22 48 01.6	-0.5
CHIK	Chiripa	2.25	117	*e*P	Pb	22 48 01.8	-0.8
JTS	Las Juntas de	2.29	121	P	Pb	22 48 02.2	-1.0
JTS				S	Sb	22 48 30.6	-1.0
JTS	Las Juntas de	2.29	121	*e*P	Pn	22 48 01.0	+1.3
TABAC	Tabacon	2.35	114	*e*P	Pb	22 48 03.4	-1.0
PACA	Pacayal	2.39	326	S	Sn	22 48 31.3	+0.5
PACA	Pacayal	2.39	326	‖P	Pn	22 48 01.7	+0.5
ARE1	Arenal 1	2.41	115	‖*i*P	Pb	22 48 04.2	-1.1
VARE2	V. Arenal	2.41	115	‖*i*P	Pb	22 48 04.4	-1.0
CEDE	Laguna Cedeo	2.41	114	*e*P	Pb	22 48 03.7	-1.7
VACR	Volcan Arenal	2.44	114	*e*P	Pb	22 48 04.8	-1.1
YUSH	Yuscaran	2.46	2	S	Sn	22 48 32.5	+0.1
YUSH	Yuscaran	2.46	2	‖P	Pn	22 48 02.6	+0.4
SOCE	Pocosol	2.53	115	P	Pn	22 48 04.7	+1.6
SOCE	Pocosol	2.53	115	S	Sb	22 48 36.4	-2.3
TGUH	Tegucigalpa,Un	2.58	353	P	Pn	22 48 04.0	+0.1
TGUH				S	Sn	22 48 35.5	0.0
COVE	Coope Vega, Sa	2.61	107	P	Pn	22 48 05.4	+1.4
COVE	Coope Vega, Sa	2.61	107	S	Sn	22 48 38.0	+2.1

IDC 11 22:51:05.3±3.0, 65°.28S×177°.22E, h0km, mb3.8/4, mbtmp3.7/5, ML3.4/1, MS3.7/15, Error ellipse: s-maj=121.8km s-min=23.9km az=68.0

ISC 11 22:51:09.1±1.8, 65°.5S±0°2×176°.1E±0°.5, h10km, n30, σ0°92/12, mb3.8/6, MS3.7/14, 4C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	12.81	194	Pn	Pn	22 54 11.0	+0.1
VNDA	0.2nm,0.3s,baz=277,slow=13,SNR=10			LR	LR	22 58 09.8	
	comp=Z,322nm,21.8s,baz=22,slow=32						
	0.6nm,0.5s						
QSPA	South Pole Qui	24.57	180	P	P	22 56 29.7	+0.8
	5.7nm,1.0s,baz=57,slow=5.9,SNR=9.1						
QSPA				LR	LR	23 05 01.7	
	comp=Z,209nm,19.5s,baz=44,slow=34						
	5.7nm,1.0s						
URZ	Urewera	27.30	2	LR	LR	23 05 49.2	
	comp=Z,197nm,19.4s,baz=136,slow=33						
RAO	Raoul Island	36.47	9	LR	LR	23 08 46.3	
	comp=Z,131nm,20.3s,baz=122,slow=29						
MAW	Mawson	39.04	214	LR	LR	23 15 06.9	
	comp=Z,296nm,18.7s,baz=144,slow=36						
TROLL	Troll, Antarti	42.67	183	⇑P		P	22 59 05.6 +0.2
	comp=Z,54nm,0.7s						
PMSA	Palmer Station	42.92	147	LR	LR	23 13 22.3	
	comp=Z,40nm,19.0s,baz=208,slow=31						
SNAA	Sanae	43.08	181	⇑P		P	22 59 07.1 -1.5
	comp=Z,25nm,0.8s						
SNAA	Sanae	43.08	181	P		P	22 59 08.1 -0.5
	comp=Z,1.2nm,0.9s,baz=151,slow=11,SNR=5.2						
SNAA				LR	LR	23 16 52.5	
	comp=Z,114nm,18.5s,baz=192,slow=36						
	comp=Z,1.2nm,0.9s						
VNA3	Neumayer Olymp	43.45	177	⇑P		P	22 59 10.1 -1.5
	comp=Z,3.1nm,1.0s						
VNA2	Neumayer--Watz	43.81	178	⇑P		P	22 59 13.8 -0.6
	comp=Z,2.1nm,0.9s,baz=202,slow=3.7						
RAR	Rarotonga	47.02	31	LR	LR	23 13 26.4	
	comp=Z,85nm,20.1s,baz=210,slow=29						
H01W1	Cape Leeuwin H	47.23	279	T	T	23 52 12.9	
	baz=148,slow=76,SNR=36						
H01W2	Cape Leeuwin H	47.24	279	T	T	23 52 07.3	
	baz=148,slow=76,SNR=25						
H01W3	Cape Leeuwin H	47.25	279	T	T	23 52 10.0	
	baz=148,slow=76,SNR=25						
NWAO	Narrogin (SRO)	47.68	283	LR	LR	23 15 24.6	
	comp=Z,117nm,20.1s,baz=346,slow=30						
ASAR	Alice Springs	49.74	306	P		P	23 00 01.5 +0.1
	comp=Z,0.8nm,1.0s,baz=146,slow=6.2,SNR=4.2						
	comp=Z,0.8nm,1.0s						
WRA	Warramunga Arr	53.06	308	P		P	23 00 25.6 -0.7
	comp=Z,0.8nm,0.9s,baz=163,slow=6.2,SNR=5.0						
	comp=Z,0.8nm,0.9s						
PPT	Papeete	53.06	42	LR	LR	23 19 32.7	
	comp=Z,24nm,18.4s,baz=204,slow=32						
HNR	Honiara	57.10	341	LR	LR	23 21 45.4	
	comp=Z,41nm,20.6s,baz=359,slow=32						
H03S2	Juan Fernandez	65.55	118	T	T	00 12 38.8	
	baz=205,slow=74,SNR=90						
H03S1	Juan Fernandez	65.55	118	T	T	00 12 38.5	
	baz=205,slow=74,SNR=85						
H03S3	Juan Fernandez	65.57	118	T	T	00 12 39.6	
	baz=205,slow=74,SNR=83						
KAPI	Kappang	71.98	299	LR	LR	23 32 02.7	
	comp=Z,34nm,19.0s,baz=268,slow=34						
LBTB	Lobatse	86.95	207	LR	LR	23 40 17.9	
	comp=Z,42nm,20.0s,baz=166,slow=34						
MATP	Matopo	90.83	210	LR	LR	23 42 41.6	
	comp=Z,60nm,18.8s,baz=154,slow=34						
TSUM	Tsumeb	93.97	200	LR	LR	23 46 06.6	
	comp=Z,60nm,18.7s,baz=152,slow=35						
KBZ	Khabaz	146.39	253	PKPbc		PKPdf	23 10 47.9 +0.2
	comp=Z,1.5nm,1.0s,baz=208,slow=5.4,SNR=3.6						
BRTR	Keskin Array B	146.45	238	PKPbc		PKPdf	23 10 48.6 +0.4
	comp=Z,0.9nm,0.8s,baz=165,slow=9.7,SNR=4.0						
KEST	Kesra	149.15	201	PKPbc		PKPdf	23 10 53.8 +1.1
	comp=Z,2.5nm,0.8s,baz=324,slow=4.6,SNR=3.6						

IDC 11 23:00:00.3±1.7, 6°.24S×122°.19E, h0km, mb3.5/2, mbtmp3.7/6, ML3.4/4, MS3.4/1, Error ellipse: s-maj=75.9km s-min=20.6km az=53.0
DJA 11 23:00:04.7±1.1, 7°S±2°×12°2E±°, h15km±9km, M4.0/19, mb4.4/3, MLv3.8/19

ISC 11 23:00:05.7±0.9, 6°71S±0°04×121°58E±0°06, h35km, n23, σ1°43/26, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.22	298	P	Pn	23 00 25.5	-0.8
BSSI				S	Sn	23 00 42.7	+1.1
BBSI	Bau Bau	1.57	39	P	Pn	23 00 30.5	-0.6
BKSI	Bulukumba	2.00	314	P	Pn	23 00 36.1	-1.0
BKSI				S	Sn	23 01 01.7	+0.8
MMRI	Maumere	2.02	161	P	Pn	23 00 39.1	+1.7
EDFI	Ende, Flores	2.03	177	P	Pn	23 00 36.6	-1.0
KAPI	Kappang	2.48	313	Pn	Pn	23 00 45.0	+1.4
	4.3nm,0.3s,baz=138,slow=14,SNR=12						
KAPI				Sn	Sn	23 01 12.8	+0.1
	12nm,0.3s,baz=204,slow=20,SNR=6.1						
	15nm,0.2s						
BNSI	Bone	2.72	327	P	Pn	23 00 48.4	+1.4
KDI	Kendari	2.93	21	P	Pn	23 00 50.6	+0.8
WSI	Waingapu	3.20	203	P	Pn	23 00 54.2	+0.6
SPSI	Sidrap Palu	3.27	326	P	Pn	23 00 55.2	+0.7
BASI	Baing, Sumba	3.62	196	P	Pn	23 00 59.6	+0.2
WBSI	Waikabubak, Su	3.63	216	P	Pn	23 00 59.5	0.0
SOEI	Soe	4.03	139	P	Pn	23 01 07.5	+2.4
BATI	Baumata	4.04	149	Pn	Pn	23 01 05.0	-0.2
	9.3nm,0.3s,baz=164,slow=5.1,SNR=5.4						
	15nm,0.3s						
BATI	Baumata	4.04	149	P	Pn	23 01

TIMP	Tierras Morena	1.08 343	‖eP	Pb	23 03 53.7	-0.8
RESJ	San Isidro (Tu	1.15 65	eP	Pn	23 03 55.3	-0.2
TENO	El Achiote	1.19 347	‖eP	Pn	23 03 54.9	-1.1
SAJE	San Jernim	1.19 99	eP	Pn	23 03 55.3	-0.8
CUI	Cuipilapa	1.20 337	eP	Pg	23 03 59.3	+1.7
COVE	Coope Vega, Sa	1.21 14	P	Pn	23 03 55.8	-0.4
COVE	Coope Vega, Sa	1.21 14	S	Sg	23 04 12.9	-0.6
VMAR	Armenia, Volca	1.33 342	eP	Pn	23 03 57.8	-0.1
GPS2	Hotel Rincn d	1.36 332	eP	Pn	23 03 58.9	+0.4
TRT2	Tortugero	1.38 43	P	Pn	23 03 58.7	+0.1
TRT2	Tortugero	1.38 43	S	Sg	23 04 18.4	-0.7
LAPC	Finca la Perla	1.42 329	eP	Pn	23 03 59.2	+0.1
DRK0	Durika	1.46 101	P	Pn	23 03 59.4	-0.5
DRK0	Durika	1.46 101	‖eP	Pn	23 03 59.2	-0.6
PIRO	Carate, Puerto	1.76 130	P	Pb	23 04 05.2	-0.8
PIRO	Carate, Puerto	1.76 130	S	Sb	23 04 28.5	+0.9
CARN	Rivas	1.82 334	P	Pn	23 04 05.2	+0.5
CARN			S	Sb	23 04 29.4	-0.3
CDITO	Canoas	2.04 118	P	Pn	23 04 09.0	+1.2
RGM0	Gandoca	2.06 89	P	Pn	23 04 08.7	+0.7
RGM0	Gandoca	2.06 89	S	Sb	23 04 37.1	+0.6
BRU2	Volcan	2.12 110	P	Pn	23 04 09.9	+1.0
BRU2	Volcan	2.12 110	S	Sb	23 04 38.1	-0.1
ACON	Acoyapa	2.46 349	P	Pn	23 04 14.1	+0.6
BLUN	Bluefields	2.61 20	P	Pn	23 04 16.0	+0.4

*NOU **11** 23:33:21.5, 37°53S×176°34E, h341km, MLv3.6/18, North Island, New Zealand*
*WEL **11** 23:33:24.5±0.9, 37°S±10°×17°6E±°, h308km±8km, M3.2/14, MLv3.2/14, Error ellipse: s-maj=13.5km s-min=9.8km az=161.5, confirmed*
ISC 11 23:33:18.2±1.7,**37°38S**±0°09×**176°42E**±0°08,
h353km±10km,**n123**,σ1§79/142,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.81	244	P	Pn	23 34 06.1	+2.5
KUZ	Kuaotunu	0.84	318	P	Pn	23 34 05.1	+1.3
KUZ	Kuaotunu	0.84	318	P	Pn	23 34 05.3	+1.5
TARZ	Mount Tarawera	0.86	175	P	Pn	23 34 06.0	+2.1
TARZ				S	S	23 34 37.3	-3.3
URZ	Urewera	1.04	148	P	Pn	23 34 05.6	+1.2
URZ	Urewera	1.04	148	P	Pn	23 34 05.5	+1.2
URZ				S	S	23 34 39.3	-2.2
MKAZ	Moumakai	1.04	285	P	Pn	23 34 06.8	+2.3
MUGZ	Murupara	1.13	166	P	Pn	23 34 06.3	+1.5
MUGZ				S	S	23 34 39.4	-2.9
HAZ	Te Kaha	1.15	110	P	Pn	23 34 05.8	+0.9
HAZ				S	S	23 34 39.3	-3.0
RUGZ	Raukumara Rang	1.16	121	P	Pn	23 34 05.7	+0.6
RUGZ				S	S	23 34 39.3	-3.5
TLZ	Tolley Road	1.18	216	P	Pn	23 34 08.0	+2.9
MWZ	Matawai	1.30	138	P	Pn	23 34 07.1	+1.5
MWZ				S	S	23 34 41.8	-2.0
RTZ	Ruatahuna	1.31	160	P	Pn	23 34 07.5	+1.7
RTZ				S	S	23 34 41.9	-2.0
RAGZ	Rawiri	1.37	145	P	Pn	23 34 07.9	+1.8
RAGZ				S	S	23 34 42.6	-1.8
PKGZ	Pakihiroa	1.41	111	P	Pn	23 34 07.7	+1.5
TWGZ	Tauwhareparae	1.47	123	P	Pn	23 34 08.6	+2.1
TWGZ				S	S	23 34 45.4	0.0
MTHZ	Maungataniwha	1.51	167	P	Pn	23 34 08.3	+1.6
MTHZ				S	S	23 34 43.4	-2.3
MXZ	Matakaoa Point	1.51	98	P	Pn	23 34 08.2	+1.5
MXZ	Matakaoa Point	1.51	98	P	Pn	23 34 08.0	+1.2
MXZ				S	S	23 34 44.1	-1.6
TKGZ	Te Karaka	1.55	134	P	Pn	23 34 08.3	+1.4
TKGZ				S	S	23 34 44.1	-1.9
RATZ	Rangitukua	1.57	199	P	Pn	23 34 08.9	+1.7
SNGZ	Shannon Statio	1.58	153	P	Pn	23 34 09.3	+2.2
SNGZ				S	S	23 34 44.2	-2.2
PUZ	Puketiti	1.61	116	P	Pn	23 34 08.6	+1.2
PUZ				S	S	23 34 44.2	-2.6
RAHZ	Arahi	1.62	161	P	Pn	23 34 10.1	+2.7
RAHZ				S	S	23 34 46.4	-0.5
WMGZ	Waiomatatini S	1.65	106	P	Pn	23 34 08.9	+1.4
WMGZ				S	S	23 34 46.0	-1.1
RITZ	Rihia Road	1.66	195	P	Pn	23 34 10.0	+2.4
HIZ	Hauiti	1.68	227	P	Pn	23 34 10.3	+2.7
HIZ	Hauiti	1.68	227	P	Pn	23 34 10.4	+2.7
KATZ	Kakaramea	1.69	199	P	Pn	23 34 09.9	+2.0
RIGZ	Rimuhau	1.70	142	P	Pn	23 34 09.9	+2.0
RIGZ				S	S	23 34 47.4	-0.3
NMHZ	Naumai	1.74	170	P	Pn	23 34 10.7	+2.5
NMHZ				S	S	23 34 49.3	+1.0
BKZ	Black Stump Fm	1.79	178	P	Pn	23 34 09.9	+1.5
BKZ	Black Stump Fm	1.79	178	S	S	23 34 47.8	-1.0
BKZ	Black Stump Fm	1.79	178	P	Pn	23 34 10.0	+1.6
CNGZ	Carnagh Statio	1.79	129	P	Pn	23 34 10.5	+2.1
CNGZ				S	S	23 34 46.8	-2.0
WHHZ	Waihua	1.81	160	P	Pn	23 34 10.8	+2.3
NTVZ	North Tongarir	1.82	199	P	Pn	23 34 10.8	+2.1
TMVZ	Te Maari	1.82	198	P	Pn	23 34 10.7	+2.0
ETVZ	East Tongariro	1.84	197	P	Pn	23 34 10.7	+1.9
WTVZ	West Tongariro	1.85	200	P	Pn	23 34 10.7	+1.8
TWVZ	Taurewa	1.86	204	P	Pn	23 34 10.7	+1.8
NNVZ	North Ngauruho	1.86	200	P	Pn	23 34 11.2	+2.1
OTVZ	Oturere	1.88	198	P	Pn	23 34 11.0	+1.9
NGZ	Ngauruhoe	1.91	199	P	Pn	23 34 11.2	+1.9
SNVZ	South Ngauruho	1.91	199	P	Pn	23 34 11.4	+2.0
KNZ	Kokohu	1.92	149	P	Pn	23 34 11.1	+1.9
ARHZ	Aropaoanui	1.94	167	P	Pn	23 34 11.6	+2.3
TUVZ	Tukino	1.98	197	P	Pn	23 34 11.7	+1.8
FWVZ	Far West T-bar	2.00	200	P	Pn	23 34 12.0	+2.0
MAVZ	Matarangi	2.00	199	P	Pn	23 34 12.3	+2.1
WHVZ	Whangaehu Hut	2.01	199	P	Pn	23 34 11.9	+1.8
KWHZ	Kaweka Forest	2.04	180	P	Pn	23 34 12.1	+1.9
WNVZ	Wahianoa	2.05	198	P	Pn	23 34 12.0	+1.7
MCHZ	McNeill Hill	2.08	174	P	Pn	23 34 12.6	+2.3
PKVZ	Pokaka	2.09	204	P	Pn	23 34 12.2	+1.7
MOVZ	Moawhango	2.09	194	P	Pn	23 34 11.9	+1.4
MHGZ	Mahia Peninsul	2.12	147	P	Pn	23 34 12.9	+2.2
MTVZ	Mangateitei	2.14	200	P	Pn	23 34 12.7	+1.9
VRZ	Vera Road	2.18	216	P	Pn	23 34 13.4	+2.4
KRHZ	Kereru	2.26	181	P	Pn	23 34 13.4	+1.8
CKHZ	Cape Kidnapper	2.33	167	P	Pn	23 34 14.6	+2.4
KAHZ	Kahuranaki	2.44	172	P	Pn	23 34 15.4	+2.3
PNHZ	Pukenui	2.54	184	P	Pn	23 34 15.5	+1.6
WAZ	Wanganui	2.63	205	P	Pn	23 34 16.4	+1.9
NEZ	North Egmont	2.63	223	P	Pn	23 34 17.5	+2.8
PKE	Pukeiti	2.64	226	P	Pn	23 34 17.9	+3.2
PXZ	Pawanui	2.67	173	P	Pn	23 34 17.0	+2.1
WPHZ	Waipukurau	2.68	180	P	Pn	23 34 17.0	+2.0
KHEZ	Kahui Hut	2.69	224	P	Pn	23 34 17.8	+2.6
KHEZ	Kahui Hut	2.69	224	P	Pn	23 34 18.0	+2.8
TSZ	Takapari Road	2.70	187	P	Pn	23 34 16.8	+1.6
PRHZ	Porangahau	2.89	177	P	Pn	23 34 18.8	+2.0
DVHZ	Dannevirke	2.92	184	P	Pn	23 34 18.7	+1.6
OHWZ	Ohakea	2.95	197	P	Pn	23 34 19.4	+2.1
POWZ	Post Office Ro	3.05	189	P	Pn	23 34 19.7	+1.5
ANWZ	Angora Road	3.08	179	P	Pn	23 34 20.6	+2.2
BFZ	Birch Farm	3.30	182	P	Pn	23 34 22.3	+1.8
BFZ	Birch Farm	3.30	182	P	S	23 35 11.4	+0.7
BFZ	Birch Farm	3.30	182	P	Pn	23 34 22.3	+1.8
MRZ	Mangatainoka R	3.34	191	P	Pn	23 34 22.1	+1.2
CPWZ	Castlepoint	3.53	183	P	Pn	23 34 25.1	+2.5
OGWZ	Otaki Gorge	3.57	195	P	Pn	23 34 24.4	+1.3
HOWZ	Holdsworth Sta	3.58	191	P	Pn	23 34 24.3	+1.1
KIW	Kapiti Island	3.67	198	P	Pn	23 34 25.1	+1.1
TMWZ	Te Maipa	3.75	186	P	Pn	23 34 26.3	+1.5
CAW	Cannon Point	3.87	195	P	Pn	23 34 27.2	+1.2
DUWZ	D'Urville Isla	3.93	209	P	Pn	23 34 27.7	+1.0
TRWZ	Traveller	4.06	188	P	Pn	23 34 29.5	+1.6
PAWZ	Paruwai Farm	4.07	191	P	Pn	23 34 29.3	+1.2
WEL	Wellington	4.11	198	P	Pn	23 34 30.3	+1.9
MSWZ	Moikau Station	4.13	192	P	Pn	23 34 29.9	+1.2
SNZO	South Karori	4.15	198	P	Pn	23 34 30.0	+1.2
SNZO	South Karori	4.15	198	P	S	23 35 24.8	-1.0
TCW	Tory Channel	4.17	203	P	Pn	23 34 30.0	+0.9
BHW	Baring Head	4.20	196	P	Pn	23 34 30.7	+1.3
PLWZ	Palliser	4.28	192	P	Pn	23 34 31.5	+1.2
TUWZ	Tuamarina	4.48	205	P	Pn	23 34 33.1	+0.9
NNZ	Nelson	4.50	211	P	Pn	23 34 32.4	-0.1
TKNZ	Takaka Hill	4.53	215	P	Pn	23 34 33.2	+0.3
QRZ	Quartz Range	4.58	220	P	Pn	23 34 33.4	0.0
QRZ	Quartz Range	4.58	220	P	Pn	23 34 33.5	+0.1
BSWZ	Blackbirch Sta	4.76	204	P	Pn	23 34 37.2	+1.9
MRNZ	Matariki Terra	4.92	214	P	Pn	23 34 37.3	+0.3
THZ	Tophouse	5.15	211	P	Pn	23 34 40.4	+0.8
KHZ	Kahutara	5.50	203	P	Pn	23 34 45.1	+1.8
KHZ	Kahutara	5.50	203	S	S	23 35 51.4	-0.9
KHZ	Kahutara	5.50	203	P	Pn	23 34 44.6	+1.3
DSZ	Denniston Nort	5.63	218	P	Pn	23 34 45.1	+0.1
GVZ	Greta Valley S	6.16	204	P	Pn	23 34 51.9	+1.1
LTZ	Lake Taylor	6.26	209	P	Pn	23 34 52.8	+0.7
AMCZ	Amberley	6.47	205	P	Pn	23 34 55.3	+1.0
INZ	Inchbonnie	6.56	214	P	Pn	23 34 56.1	+0.6
OXZ	Oxford	6.82	208	P	Pn	23 34 58.8	+0.3
MHCZ	Mount Hutt	7.17	210	P	Pn	23 35 03.2	+0.6
RPZ	Rata Peaks	7.53	211	P	P	23 35 08.1	0.0
RPZ	Rata Peaks	7.53	211	P	Pn	23 35 07.3	+0.5
ARCZ	Arundel	7.68	210	P	Pn	23 35 09.1	+0.6
TMZ	Timaru	8.11	209	P	Pn	23 35 15.1	+1.5
ODZ	Otahua Downs	8.81	208	P	P	23 35 23.7	-0.4
ODZ	Otahua Downs	8.81	208	S	S	23 37 01.4	-1.5
ODZ	Otahua Downs	8.81	208	P	P	23 35 23.9	-0.2
JCZ	Jackson Bay	8.85	219	P	Pn	23 35 23.4	+1.0
JCZ	Jackson Bay	8.85	219	P	Pn	23 35 23.4	+1.0

*IDC **11** 23:34:24.1±1.4, 2°19N×128°24E, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/1, Error ellipse: s-maj=90.6km s-min=19.8km az=72.0*
*DJA **11** 23:34:41.6±0.5, 2°N±3°×12°8E±°, h138km±4km, M4.3/12, mB4.7/3, mb4.7/6, MLv4.2/12, Mw(mB)4.0/3*
ISC 11 23:34:39.7±0.9,**2°14N**±0°07×**128°20E**±0°09,**h134**km,**n16**,
σ2§00/17,**mb3.7/5**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.59	211	P	Pn	23 35 09.8	+0.8
TNTI				S	Sn	23 35 33.8	+2.3
SGSI	Sangihe	3.08	300	P	Pn	23 35 30.3	+2.9
SGSI				S	Sn	23 36 00.2	-4.1
KMSI	Cibinong	4.49	250	P	Pn	23 35 47.9	+1.9
SANI	Sanana	4.71	208	P	Pn	23 35 49.4	+0.5
NLAI	Namlea	5.45	192	P	Pn	23 36 00.0	+1.1
	0.1nm2μm30nm,0.5s						
LUWI	Luwuk	6.27	240	P	Pn	23 36 11.5	+1.6
	0.3nm1μm61nm,0.5s						
MRSI	Marisa	6.47	255	P	Pn	23 36 14.1	+1.6
	0.3nm85nm,0.6s						
APSI	Ampana	7.21	245	P	Pn	23 36 24.0	+1.5
SRPI	Serui, Papua	8.97	116	P	Pn	23 36 47.8	+1.5
FITZ	Fitzroy Crossi	20.26	187	P	P	23 39 03.0	-1.8
	1.5nm,1.0s,baz=9.2,slow=12,SNR=3.2 1.5nm,1.0s						
WRA	Warramunga Arr	22.75	165	P	P	23 39 29.2	-1.5
	4.1nm,0.6s,baz=344,slow=10,SNR=31 4.1nm,0.6s						
ASAR	Alice Springs	26.24	168	P	P	23 40 00.8	-1.6
	0.3nm,0.5s,baz=350,slow=8.0,SNR=5.5 0.3nm,0.5s						
STKA	Stephens Creek	36.14	160	P	P	23 41 27.6	-1.4
	1.2nm,0.3s,baz=352,slow=8.1,SNR=7.3 1.2nm,0.3s						
HILR	Hailar Array B	47.79	353	LR	LR	00 02 27.5	
	comp=Z,41nm,22.0s,baz=105,slow=35						
SONM	Songino Array	49.27	341	P	P	23 43 15.0	+0.1
	0.2nm,0.3s,baz=154,slow=8.0,SNR=2.0 0.2nm,0.3s						
MKAR	Makanchi Array	59.69	325	P	P	23 44 30.4	+0.3
	0.3nm,0.4s,baz=119,slow=7.4,SNR=4.7 0.3nm,0.4s						

*IDC **11** 23:35:22.4±0.8, 37°55N×20°58E, h0km, mb3.7/12, mbtmp3.6/23, ML3.4/9, MS2.8/1, Error ellipse: s-maj=15.6km s-min=12.8km az=170.0*
*THE **11** 23:35:25.3, 38°N±2°×2°0E±°, h6km±2km, M3.8/27, MLh3.8/27*
*ATH **11** 23:35:25.2, 37°55N×20°48E, h11km±2km, ML3.8/26, Manual Solution by G.Panopoulou First location: 2019/10/11 23:36:25, This location: 2019/10/12 00:01:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **11** 23:35:28.5±2.1, 37.62N×20°31E, h25km±2km, ML3.6/13*
ISC 11 23:35:25.0±1.0,**37°55N**±0°03×**20°50E**±0°03,**h18**km±5km,
n177,σ1§68/214,**mb3.8**/11,**6C-13D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.28	66	P	Pg	23 35 31.0	-0.1
KRI1				S	Sg	23 35 35.1	-0.2
KRI1	kERI	0.28	66	P	Pg	23 35 31.1	-0.1
KRI1				S	Sg	23 35 35.1	-0.2
LTHK	Lithakia	0.31	59	P	Pg	23 35 31.6	-0.1
LTHK				S	Sg	23 35 36.0	-0.2
LTHK	Lithakia	0.31	59	P	Pg	23 35 31.6	-0.1
LTHK				S	Sg	23 35 36.1	-0.2
ORTH	Orthonies,Zaky	0.34	27	S	Sb	23 35 38.0	+0.3
ORTH	Orthonies,Zaky	0.34	27	P	Pb	23 35 33.2	+0.6
ORTH				S	Sg	23 35 37.4	+0.3
KYPS	Kipseli, Zakin	0.37	43	P	Pg	23 35 33.2	+0.4
KYPS				S	Sg	23 35 37.8	-0.2
PSDA	Pessada-Kefalo	0.57	7	P	Pg	23 35 36.2	-0.2
PSDA				S	Sb	23 35 45.2	+1.0
PSDA	Pessada-Kefalo	0.57	7	P	Pg	23 35 36.4	0.0
PSDA				S	Sg	23 35 43.8	-0.2
RTZL	Ratzakli, Kefa	0.57	22	P	Pg	23 35 36.1	-0.2
RTZL				S	Sb	23 35 44.9	+0.6
CLEM	Kyllini,Ilia,G	0.61	56	P	Pg	23 35 36.9	-0.2
CLEM				S	Sg	23 35 45.0	-0.2
ARG2	Argostoli	0.63	359	S	Sb	23 35 47.0	+1.1
ARG2	Argostoli	0.63	359	P	Pg	23 35 37.4	-0.1
ARG2				S	Sg	23 35 44.8	-1.1
VLS	Valsamata	0.63	6	P	Pg	23 35 37.1	-0.4
VLS				S	Sb	23 35 47.1	+1.0
VLS	Valsamata	0.63	6	P	Pg	23 35 37.5	-0.1
VLS				S	Sb	23 35 46.4	+0.3
LXR1	Lixouri, Cepha	0.65	356	P	Pb	23 35 38.4	+0.5
LXR1				S	Sb	23 35 48.1	+1.4
SMHA	Samh	0.71	9	P	Pg	23 35 37.6	-1.3
SMHA				S	Sg	23 35 47.9	-0.6
LCHA	Lechaina	0.72	57	P	Pg	23 35 38.4	-0.7
FSK	Fiskardo	0.91	3	S	Sb	23 35 55.5	+1.4
FSK	Fiskardo	0.91	3	P	Pg	23 35 42.2	-0.5
FSK				S	Sb	23 35 54.9	+0.8
ZAKO	Zacharo	0.92	94	P	Pg	23 35 42.1	-0.1
RLS	Riolos of Patr	0.92	56	P	Pg	23 35 42.1	-0.8
RLS	Riolos of Patr	0.92	56	P	Pg	23 35 42.0	-0.8
RLS				S	Sb	23 35 55.2	+0.9
AXS	Araxos	0.95	47	S	Sb	23 35 57.0	+1.8
AXS	Araxos	0.95	47	P	Pg	23 35 42.6	-0.9
AXS				S	Sg	23 35 55.4	-0.5
DRO	Drossia	1.04	67	P	Pb	23 35 44.6	0.0
DRO	Drossia	1.04	67	P	Pb	23 35 44.9	+0.4
DRO				S	Sb	23 35 59.0	+1.2
EVGI	Lefkada island	1.08	6	P	Pb	23 35 45.3	+0.1
EVGI				S	Sn	23 36 01.8	+2.0
EVGI	Lefkada island	1.08	6	P	Pb	23 35 45.2	+0.1
EVGI				S	Sb	23 35 59.3	+0.4
MSL1	Messolongi	1.10	41	P	Pb	23 35 45.9	+0.4
PYL2	Kinigos	1.17	123	P	Pb	23 35 46.5	-0.2
NYDR	Nydri-Lefkada	1.17	8	P	Pb	23 35 46.8	0.0
NYDR	Nydri-Lefkada	1.17	8	P	Pb	23 35 47.2	+0.4
NYDR				S	Sg	23 36 02.8	-0.3
PATG	Patra B	1.19	54	P	Pn	23 35 47.1	+0.3
PATG				S	Sb	23 36 02.8	+0.7
ITM	Ithomi	1.19	108	P	Pn	23 35 47.4	+0.5
ITM				S	Sn	23 36 05.5	+2.8
ITM	Ithomi	1.19	108	P	Pn	23 35 46.8	-0.1
MTHA	Methoni	1.21	127	P	Pn	23 35 47.9	+0.9
PATC	Patra C	1.23	54	P	Pn	23 35 48.0	+0.7
PATC				S	Sb	23 36 04.1	+0.9
LKD2	Lefkada island	1.24	6	P	Pn	23 35 48.1	+0.5
LKD2	Lefkada island	1.24	6	P	Pn	23 35 48.1	+0.5
UPR	University Cam	1.25	54	P	Pn	23 35 48.5	+0.9
TSLK	Tsoukalades, L	1.28	5	P	Pn	23 35 48.9	+0.8
TSLK	Tsoukalades, L	1.28	5	P	Pn	23 35 49.1	+1.0
PVO	Paravola	1.34	37	P	Pn	23 35 49.7	+0.9
PVO	Paravola	1.34	37	P	Pn	23 35 49.9	+1.0
PVO				S	Sg	23 36 08.2	-0.1
KLV1	Kalavrita	1.36	69	P	Pb	23 35 50.6	+0.6
KLV	Kalavryta, Ach	1.40	69	P	Pn	23 35 50.3	+0.6
KLV	Kalavryta, Ach	1.40	69	P	Pn	23 35 50.7	+1.0
EFP	Efpalio	1.41	51	P	Pn	23 35 50.5	+0.6
EFP	Efpalio	1.41	51	P	Pn	23 35 50.5	+0.6
AMPL	Ampelaki	1.48	22	P	Pn	23 35 52.0	+1.1
GUR	Goura	1.51	75	P	Pn	23 35 52.4	+1.0
ANX	Ano Chora	1.53	47	P	Pn	23 35 52.8	+1.2
ANX	Ano Chora	1.53	47	P	Pn	23 35 52.8	+1.2
KALE	Kalithea	1.54	57	P	Pn	23 35 52.6	+0.8
KALE	Kalithea	1.54	57	P	Pn	23 35 52.8	+1.0
EVR	Evrytania	1.71	37	P	Pb	23 35 56.1	+0.1
EVR	Evrytania	1.71	37	P	Pb	23 35 56.0	+0.1
PRGA	Parga	1.73	357	P	Pn	23 35 55.9	+1.6
TETR	Tetrakomo, Epi	1.89	18	P	Pn	23 35 58.0	+1.4
MAKR	Makrakomi, Fth	1.94	41	P	Pn	23 35 58.6	+1.4
IGT	Igoumenitsa	1.98	356	P	Pn	23 35 59.0	+1.2
IGT	Igoumenitsa	1.98	356	eP	Pg	23 36 02.9	-0.3
IGT				eSg	Sg	23 36 29.0	+0.1
IGT	Igoumenitsa	1.98	356	P	Pn	23 35 58.1	+0.3
LOUT	Loutraki	2.01	77	P	Pn	23 35 59.6	+1.6
LTK	Loutraki	2.01	76	P	Pn	23 35 59.9	+1.7
LTK	Loutraki	2.01	76	P	Pn	23 35 59.8	+1.7
AXAR	Agios Charalam	2.09	54	P	Pn	23 36 00.3	+1.0
VLI	Veliai	2.12	112	P	Pn	23 36 01.3	+1.8
MET2	Kameni Chora,	2.25	88	P	Pn	23 36 02.6	+1.2
LKR	Lokris	2.26	60	P	Pn	23 36 03.4	+1.9
MET6	Megalochori,Me	2.27	88	P	Pn	23 36 02.9	+1.3
MET5	Makryloggos,Me	2.27	87	P	Pn	23 36 03.1	+1.4
VIL2	Platees	2.29	72	P	Pn	23 36 03.8	+1.8
ATAL	Atalanti	2.29	59	P	Pn	23 36 03.6	+1.6
ATAL	Atalanti	2.29	59	P	Pn	23 36 03.9	+1.9
MET4	Agioi Theodoro	2.30	87	P	Pn	23 36 03.6	+1.5
VILL	Villia	2.31	74	P	Pn	23 36 03.0	+0.7
THL	Klokotos Trika	2.34	30	P	Pn	23 36 04.1	+1.6
VLY	Voula,Athens	2.63	82	P	Pn	23 36 07.8	+1.1
ATHU	Athens Univers	2.63	80	P	Pn	23 36 08.1	+1.3
ATHU	Athens Univers	2.63	80	P	Pn	23 36 07.6	+0.9
PTL	Penteli	2.71	78	P	Pn	23 36 08.6	+0.8
NEO	Neokhori	2.77	50	P	Pn	23 36 10.1	+1.6
DION	Dionisos Attik	2.77	78	P	Pn	23 36 09.8	+1.2
ANKY	Antikythira Is	2.81	126	P	Pn	23 36 11.1	+2.0
KYMI	Kymi, Euboea I	3.04	68	P	Pn	23 36 13.7	+1.4
KARY	Karystos	3.15	80	P	Pn	23 36 14.1	+0.2
TIP	Timpagrande	3.36	300	⇑P	Pn	23 36 17.6	+0.8
TIP	Timpagrande	3.36	300	P	Pn	23 36 16.7	0.0
OHR	Ohrid	3.56	4	ePg	Pn	23 36 22.6	+3.0
OHR				eSn	Sn	23 37 04.9	+3.7
VAY	Valandovo	4.09	22	ePg	Pn	23 36 28.8	+2.1
VAY				eSn	Sn	23 37 11.9	-2.2
IDI	Anoyia	4.20	121	Pn	Pn	23 36 28.3	+0.1
	2.5nm,0.5s,baz=283,slow=7.8,SNR=13						
IDI				Sn	Sn	23 37 16.7	-0.2
	2.1nm,0.3s,baz=255,slow=14,SNR=3.5						
MATE	Matera	4.28	318	‖P	Pn	23 36 30.8	+1.5
SRS	Serrai	4.29	33	ePn	Pn	23 36 31.5	+2.0
MMB	Musomishta	4.72	31	P	Pn	23 36 37.3	+2.0
KKB	Krupnik	4.74	24	P	Pn	23 36 37.4	+1.7
VAE	Valguarnera	4.84	271	Pn	Pn	23 36 39.1	+2.0
	9.4nm,0.9s,baz=1.1,slow=5.8,SNR=7.9						
VAE				Sn	Sn	23 37 37.0	+4.2
	3.2nm,0.3s,baz=256,slow=16,SNR=3.8						
PDG	Podgorica	4.97	349	‖P	Pn	23 36 40.3	+1.5
PDG				‖S	Sn	23 37 35.7	0.0
PDG	Podgorica	4.97	349	ePn	Pn	23 36 39.1	+0.4
BOSS	Bosilegrad	5.17	16	ePn	Pn	23 36 43.4	+1.9
RZN	Rozhen	5.28	37	P	Pn	23 36 45.0	+1.8
BARS	Barje	5.36	10	ePn	Pn	23 36 45.3	+1.2
PLNA	Plana	5.41	24	P	Pn	23 36 47.2	+2.3
TREB	Trebinje	5.42	343	ePn	Pn	23 36 42.1	-2.8
TREB	Trebinje	5.42	343	ePn	Pn	23 36 45.3	+0.4
VTS	Vitosha	5.48	22	P	Pn	23 36 46.8	+0.9
VTS	Vitosha	5.48	22	ePn	Pn	23 36 47.9	+2.0
KDZ	Kurdzhali	5.53	41	P	Pn	23 36 47.9	+1.4
SELS	Selova	5.68	5	ePn	Pn	23 36

0.3nm,0.3s,baz=323,slow=18,SNR=2.1
EIL Sn Sn 23 41 10.2 -16
0.2nm,0.3s,baz=347,slow=21,SNR=1.4
2.0nm,0.6s
AKASG **Malin Array Be** 14.55 23 Pn **Pn** **23 38 50.1 +0.2**
0.3nm,0.3s,baz=211,slow=8.5,SNR=1.3
0.1nm,0.2s
GNI **Garni** 19.05 75 P **P** **23 39 46.0 -0.4**
0.2nm,0.3s,baz=221,slow=9.3,SNR=1.7
GNI LR LR 23 47 18.8
comp=Z,30nm,18.7s,baz=337,slow=38
1.9nm,0.8s
ESDC **Sonseca Array** 19.22 284 P **P** **23 39 49.7 +1.5**
0.1nm,0.3s,baz=78,slow=11,SNR=9.8
1.4nm,0.9s
MDT **Midelt** 21.04 265 P **P** **23 40 06.7 -1.3**
1.5nm,0.6s,baz=96,slow=11,SNR=4.5
1.5nm,0.6s
HFS **Hagfors** 23.02 351 P **P** **23 40 28.8 0.0**
2.8nm,0.8s,baz=165,slow=12,SNR=5.4
2.8nm,0.8s
EKA **Eskdalemuir Ar** 23.93 326 P **P** **23 40 38.2 +0.4**
1.5nm,0.7s,baz=126,slow=10,SNR=4.1
1.5nm,0.7s
FINES **FINESS Array B** 24.17 7 P **P** **23 40 39.9 -0.2**
1.3nm,0.5s,baz=172,slow=11,SNR=10
1.3nm,0.5s
NOA **NORSAR Array B** 24.23 349 P **P** **23 40 40.4 -0.2**
0.4nm,0.6s,baz=157,slow=9.0,SNR=3.7
0.4nm,0.6s
TORD **Torodi Ar. Bea** 29.53 220 P **P** **23 41 29.8 +1.2**
0.6nm,0.8s,baz=29,slow=11,SNR=4.7
0.6nm,0.8s
ARCES **ARCESS Array B** 32.16 3 P **P** **23 41 51.5 +0.2**
1.4nm,0.8s,baz=187,slow=9.2,SNR=3.6
1.4nm,0.8s
MKAR **Makanchi Array** 45.65 58 P **P** **23 43 43.6 -0.8**
0.6nm,0.5s,baz=276,slow=7.4,SNR=9.3
0.6nm,0.5s
ZALV **Zalesovo Beam** 46.12 48 P **P** **23 43 47.2 -0.8**
0.9nm,0.4s,baz=274,slow=10,SNR=4.5
0.9nm,0.4s
SONM **Songino Array** 60.87 50 P **P** **23 45 36.0 -0.6**
0.4nm,0.5s,baz=329,slow=5.0,SNR=2.7
0.4nm,0.5s
CMAR **Chiang Mai Arr** 69.99 82 P **P** **23 46 35.0 -0.9**
0.4nm,0.3s,baz=321,slow=4.4,SNR=1.3
0.4nm,0.3s
ILAR **Eielson Array** 77.53 354 P **P** **23 47 20.3 +1.0**
0.5nm,0.9s,baz=28,slow=7.4,SNR=2.7
0.5nm,0.9s

*IDC **11** 23:49:48.3±0.6, 27.°83S×176.°80W, h0km, mb4.3/16, mbtmp4.2/18, ML3.9/2, MS3.8/23, Error ellipse: s-maj=20.0km s-min=15.0km az=109.0*

ISC 11 23:50:00.5±0.5, 28.°43S±0.°07×177.°08W±0.°10, h100km, n83, σ3°04/65, mb4.1/19, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**222**	Pn	**Pn**	**23 50 20.5**	**-1.5**
	1μm,0.3s,baz=104,slow=2.0,SNR=32						
RAO				Sn	**Sn**	**23 50 42.2**	**+3.9**
	1μm,0.3s,baz=96,slow=23,SNR=15						
RIZ	**Raoul Island**	**1.10**	**222**	P	**Pn**	**23 50 20.4**	**-1.6**
RIZ				S	**Sn**	**23 50 44.5**	**+6.2**
GLKZ	**Green Lake**	**1.11**	**221**	P	**Pn**	**23 50 20.0**	**-2.2**
GLKZ				S	**Sn**	**23 50 44.0**	**+5.6**
WMGZ	**Waiomatatini S**	**10.10**	**201**	P	Pn	23 52 16.8	-5.6
WMGZ				S	**Sn**	**23 54 15.1**	**+1.4**
HAZ	**Te Kaha**	**10.25**	**204**	P	Pn	23 52 17.6	-6.9
HAZ				S	**Sn**	**23 54 19.8**	**+2.4**
PUZ	**Puketiti**	**10.38**	**201**	P	Pn	23 52 18.8	-7.5
PUZ				S	**Sn**	**23 54 20.7**	**+0.1**
OUZ	**Omahuta**	**10.42**	**227**	P	Pn	23 52 35.3	+8.4
WCZ	**Waipu Caves**	**10.43**	**222**	P	Pn	23 52 35.6	+8.6
RUGZ	**Raukumara Rang**	**10.47**	**203**	P	Pn	23 52 20.4	-7.3
RUGZ				S	**Sn**	**23 54 23.9**	**+0.8**
CNGZ	**Carnagh Statio**	**10.77**	**200**	P	Pn	23 52 23.9	-7.7
MWZ	**Matawai**	**10.86**	**203**	P	Pn	23 52 25.7	-7.1
URZ	**Urewera**	**10.94**	**205**	Pn	Pn	23 52 27.1	-6.7
	2.5nm,0.3s,baz=268,slow=7.4,SNR=9.2						
URZ				Sn	**Sn**	**23 54 31.6**	**-2.5**
	2.5nm,0.3s,baz=228,slow=20,SNR=9.0						
URZ	**Urewera**	**10.94**	**205**	P	Pn	23 52 27.8	-6.0
URZ				S	**Sn**	**23 54 33.7**	**-0.4**
RIGZ	**Rimuhau**	**11.11**	**201**	P	Pn	23 52 30.1	-6.2
RIGZ				S	**Sn**	**23 54 37.1**	**-1.4**
MUGZ	**Murupara**	**11.26**	**206**	P	Pn	23 52 32.1	-6.1
MUGZ				S	**Sn**	**23 54 41.6**	**-0.4**
PRGZ	**Paritu Road**	**11.27**	**200**	P	Pn	23 52 32.7	-5.8
PRGZ				S	**Sn**	**23 54 41.3**	**-1.0**
NIUE	**Niue**	**11.38**	**37**	P	Pn	23 52 18.9	-21
MTHZ	**Maungataniwha**	**11.56**	**204**	P	Pn	23 52 36.5	-5.8
MTHZ				S	**Sn**	**23 54 48.2**	**-1.2**
BKZ	**Black Stump Fm**	**11.96**	**205**	P	Pn	23 52 40.9	-6.8
BKZ				S	**Sn**	**23 54 56.0**	**-3.2**
BFZ	**Birch Farm**	**13.40**	**202**	P	Pn	23 52 58.2	-8.3
BFZ				S	**Sn**	**23 55 26.5**	**-7.3**
MRZ	**Mangatainoka R**	**13.61**	**204**	P	Pn	23 53 01.4	-7.9
MRZ				S	**Sn**	**23 55 31.0**	**-8.0**
NNZ	**Nelson**	**14.96**	**209**	P	**Pn**	**23 53 25.0**	**-1.6**
NNZ				S	**Sn**	**23 56 04.5**	**-7.1**
THZ	**Tophouse**	**15.61**	**209**	P	**Pn**	**23 53 31.5**	**-3.3**
THZ				S	**Sn**	**23 56 21.8**	**-5.5**
KHZ	**Kahutara**	**15.90**	**206**	P	**Pn**	**23 53 34.1**	**-4.3**
KHZ				S	**Sn**	**23 56 23.7**	**-10**
DZM	**Mont Dzumac**	**16.18**	**289**	*e*P	P	23 53 54.3	+11
	102nm,28.8s						
DZM				*e*LR	LR	23 57 40.6	
	542nm,23.6s						
DZM	**Mont Dzumac**	**16.18**	**289**	Pn	**Pn**	**23 53 38.5**	**-3.7**
	0.1nm,0.3s,baz=90,slow=18,SNR=1.6						
DZM				LR	LR	23 58 32.1	
	comp=Z,414nm,21.5s,baz=111,slow=32						
	2.8nm,1.0s						
LTZ	**Lake Taylor**	**16.71**	**208**	P	**Pn**	**23 53 45.4**	**-3.1**
INZ	**Inchbonnie**	**17.02**	**210**	P	**Pn**	**23 53 51.7**	**-0.5**
OXZ	**Oxford**	**17.26**	**208**	P	**Pn**	**23 53 53.2**	**-2.0**
RAR	**Rarotonga**	**17.27**	**69**	LR	LR	23 58 58.3	
	comp=Z,130nm,21.0s,baz=296,slow=33						
WVZ	**Waitaha Valley**	**17.61**	**211**	P	**Pn**	**23 54 00.7**	**+1.3**
RPZ	**Rata Peaks**	**17.99**	**209**	P	**Pn**	**23 54 06.8**	**+2.8**
	1.4nm,0.3s,baz=31,slow=12,SNR=3.1						
	8.4nm,0.5s						
TMZ	**Timaru**	**18.55**	**208**	P	**Pn**	**23 54 09.6**	**-1.2**
ODZ	**Otahua Downs**	**19.24**	**207**	P	**Pn**	**23 54 18.8**	**0.0**
JCZ	**Jackson Bay**	**19.29**	**212**	P	**P**	**23 54 17.8**	**+0.4**
PPT2	**Papeete2**	**27.46**	**73**	*e*S	**S**	**00 00 12.8**	**+2.0**
	133nm,24.0s						
PPT2				*e*LR	LR	00 02 14.9	
	195nm,25.0s						
PPT2				*e*LR	LR	00 02 15.9	
	130nm,28.2s						
PPT	**Papeete**	**27.47**	**73**	LR	LR	00 03 20.1	
	comp=Z,74nm,21.0s,baz=198,slow=30						
HNR	**Honiara**	**28.70**	**307**	LR	LR	00 05 41.1	
	comp=Z,135nm,18.4s,baz=105,slow=33						
STKA	**Stephens Creek**	**35.74**	**254**	P	**P**	**23 56 51.9**	**+2.1**
	1.9nm,0.7s,baz=114,slow=11,SNR=3.4						
STKA				LR	LR	00 10 52.2	
	comp=Z,137nm,18.1s,baz=52,slow=35						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**44.05**	**264**	P	**P**	**23 58 00.2**	**+1.5**
	1.5nm,0.4s,baz=95,slow=7.3,SNR=22						
ASAR				PcP	**PP**	**23 59 44.3**	**+1.1**
	0.6nm,0.3s,baz=118,slow=3.8,SNR=1.9						
ASAR				LR	LR	00 15 53.8	
	comp=Z,110nm,18.1s,baz=106,slow=35						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**44.87**	**270**	P	**P**	**23 58 06.4**	**+1.2**
	3.1nm,0.5s,baz=108,slow=7.7,SNR=29						
WRA				PcP	**PcP**	**23 59 47.9**	**+2.5**
	1.7nm,0.7s,baz=106,slow=3.6,SNR=6.2						
	3.1nm,0.5s						
JAY	**Jayapura**	**47.75**	**295**	LR	LR	00 16 35.5	
	comp=Z,101nm,18.8s,baz=228,slow=34						
VNDA	**Vanda**	**50.13**	**186**	P	P	23 58 51.0	+5.9
	0.7nm,0.8s,baz=14,slow=4.5,SNR=6.6						
	0.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.20**	**268**	P	**P**	**23 59 10.1**	**+1.3**
	2.1nm,0.4s,baz=143,slow=5.1,SNR=4.3						
FITZ				LR	LR	00 21 39.7	
	comp=Z,149nm,18.1s,baz=56,slow=36						
	2.1nm,0.4s						
GUMO	**Guam**	**55.68**	**313**	LR	LR	00 20 08.8	
	comp=Z,47nm,21.8s,baz=103,slow=33						
BATI	**Baumata**	**58.22**	**276**	LR	LR	00 25 41.3	
	comp=Z,238nm,18.3s,baz=112,slow=37						
QSPA	**South Pole Qui**	**61.67**	**180**	P	P	00 00 12.7	+4.9
	2.2nm,0.5s,baz=34,slow=1.8,SNR=7.8						
	2.2nm,0.5s						
KAPI	**Kappang**	**64.08**	**279**	LR	LR	00 29 55.0	
	comp=Z,55nm,18.9s,baz=81,slow=38						
DAV	**Davao City (W)**	**65.55**	**293**	LR	LR	00 26 26.3	
	comp=Z,46nm,19.9s,baz=150,slow=34						
PMSA	**Palmer Station**	**73.73**	**156**	LR	LR	00 25 24.9	
	comp=Z,46nm,20.0s,baz=266,slow=29						
LEM	**Lembang**	**73.87**	**271**	LR	LR	00 35 22.4	
	comp=Z,70nm,18.1s,baz=242,slow=37						
MAW	**Mawson**	**74.43**	**200**	P	P	00 01 31.8	+4.5
	1.8nm,0.5s,baz=134,slow=9.5,SNR=7.4						
	1.8nm,0.5s						
MJAR	**Matsushiro Arr**	**77.09**	**324**	P	**P**	**00 01 42.0**	**-0.9**
	4.9nm,0.8s,baz=160,slow=5.6,SNR=8.2						
	4.9nm,0.8s						
TROLL	**Troll, Antarti**	**79.84**	**180**	⇑P	**P**	**00 01 59.9**	**+2.3**
	comp=Z,37nm,0.3s						
SNAA	**Sanae**	**80.09**	**178**	⇑P	**P**	**00 02 00.1**	**+1.1**
	comp=Z,23nm,0.9s						
SNAA	**Sanae**	**80.09**	**178**	P	**P**	**00 02 01.0**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=163,slow=9.4,SNR=5.3						
	comp=Z,0.9nm,0.8s						
VNA3	**Neumayer Olymp**	**80.21**	**176**	⇑P	**P**	**00 02 00.9**	**+1.4**
	comp=Z,1.5nm,0.5s						
VNA2	**Neumayer--Watz**	**80.66**	**177**	⇑P	**P**	**00 02 03.7**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=168,slow=3.5						
VNA1	**Neumayer--Stat**	**80.88**	**176**	⇑P	**P**	**00 02 04.5**	**+1.4**
	comp=Z,1.4nm,0.7s						
ASAJ	**Asahikawa**	**81.08**	**332**	LR	LR	00 32 27.0	
	comp=Z,99nm,21.8s,baz=172,slow=32						
SHEM	**Shemya Is, Ala**	**81.18**	**355**	LR	LR	00 30 08.0	
	comp=Z,64nm,21.6s,baz=104,slow=30						
LPIG	**La Paz**	**82.81**	**58**	LR	LR	00 31 23.9	
	comp=Z,32nm,18.4s,baz=28,slow=30						
PLCA	**Paso Flores**	**83.26**	**133**	P	**P**	**00 02 17.6**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=223,slow=4.5,SNR=7.2						
PLCA				LR	LR	00 30 36.4	
	comp=Z,38nm,21.0s,baz=218,slow=29						
	comp=Z,2.2nm,0.7s						
PETK	**Petropavlovsk-**	**84.11**	**345**	P	**P**	**00 02 18.5**	**-1.4**
	comp=Z,6.1nm,0.9s,baz=158,slow=5.9,SNR=4.3						
	comp=Z,6.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**85.97**	**326**	P	**P**	**00 02 28.1**	**-1.3**
	comp=Z,3.8nm,0.6s,baz=186,slow=1.7,SNR=4.1						
	comp=Z,3.8nm,0.6s						
NVAR	**Mina Array Bea**	**86.25**	**42**	P	**P**	**00 02 29.5**	**-1.7**
	comp=Z,1.6nm,1.0s,baz=213,slow=8.1,SNR=5.4						
NVAR				LR	LR	00 36 05.9	
	comp=Z,47nm,18.1s,baz=268,slow=32						
	comp=Z,1.6nm,1.0s						
ELK	**Elko**	**89.55**	**42**	LR	LR	00 38 45.8	
	comp=Z,52nm,18.0s,baz=259,slow=33						
ANMO	**Albuquerque**	**91.72**	**51**	LR	LR	00 35 43.5	
	comp=Z,34nm,19.1s,baz=338,slow=30						
CMAR	**Chiang Mai Arr**	**93.51**	**289**	P	**P**	**00 03 08.6**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=144,slow=1.3,SNR=5.7						
	comp=Z,0.5nm,0.3s						
PDAR	**Pinedale Array**	**94.16**	**43**	P	**P**	**00 03 06.6**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=247,slow=5.1,SNR=3.1						
PDAR				LR	LR	00 45 31.1	
	comp=Z,24nm,18.2s,baz=260,slow=36						
	comp=Z,0.6nm,0.9s						
ATAH	**Atahualpa**	**94.22**	**100**	LR	LR	00 35 17.0	
	comp=Z,36nm,21.5s,baz=228,slow=29						
ILAR	**Eielson Array**	**95.83**	**13**	P	**P**	**00 03 12.7**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=200,slow=4.5,SNR=2.2						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**117.11**	**311**	PKP	**PKiKP**	**00 08 33.5**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=2.9,SNR=6.2						
KURBB	**Kurchatov Arra**	**120.30**	**314**	PKP	**PKiKP**	**00 08 39.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=107,slow=2.3,SNR=5.3						
ARCES	**ARCESS Array B**	**136.83**	**349**	PKP	**PKPdf**	**00 09 10.2**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=333,slow=1.4,SNR=5.9						
FINES	**FINESS Array B**	**143.56**	**341**	PKhKP	PKPpre	00 09 19.4	
	comp=Z,0.8nm,0.3s,baz=36,slow=5.1,SNR=18						
KBZ	**Khabaz**	**144.63**	**306**	PKP	**PKPdf**	**00 09 25.2**	**0.0**
	comp=Z,5.6nm,1.1s,baz=352,slow=4.2,SNR=5.0						
NB2	**NORSAR Subarra**	**146.92**	**353**	PKP	**PKPbc**	**00 09 29.7**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**146.92**	**353**	PKPbc	**PKPbc**	**00 09 29.9**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=13,slow=4.5,SNR=10						
HFS	**Hagfors**	**147.46**	**350**	PKPbc	**PKPbc**	**00 09 31.1**	**-1.1**
	comp=Z,4.6nm,0.6s,baz=70,slow=2.2,SNR=16						
AKASG	**Malin Array Be**	**150.18**	**325**	PKPbc	**PKiKP**	**00 09 39.7**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=46,slow=2.9,SNR=17						
MMAI	**Mount Meron Ar**	**151.77**	**287**	PKPbc	**PKiKP**	**00 09 45.5**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=89,slow=6.8,SNR=9.8						
BRTR	**Keskin Array B**	**152.30**	**302**	PKPbc	**PKiKP**	**00 09 45.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=134,slow=3.8,SNR=6.3						

*SJA **12** 00:06:58.5±0.7, 23.°93S×66.°76W, h226km±5km, ML3.9, MW3.7*

*IDC **12** 00:06:58.8±1.8, 23.°90S×66.°45W, h178km±18km, mb3.1/4, mbtmp3.5/8, Error ellipse: s-maj=30.9km s-min=15.0km az=82.0*

ISC 12 00:07:00.5±0.8, 23.°94S±0.°04×66.°84W±0.°04, h198km±7km, n41, σ1°62/65, mb3.3/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.53**	**122**	*e*P	**Pn**	**00 07 23.9**	**-4.2**
SALTA				*e*P		00 07 29.5	
SLA	**San Lorenzo**	**1.44**	**123**	*e*P	**Pn**	**00 07 34.7**	**+1.0**
SLA				*e*S	**Sn**	**00 08 01.0**	**+1.5**
HJA	**Humahuaca**	**1.50**	**61**	*e*P	**Pn**	**00 07 35.1**	**+0.6**
AF01	**San Pedro de A**	**1.58**	**308**	*e*P	**Pn**	**00 07 38.5**	**+3.4**
AF01				*e*S	**Sn**	**00 08 02.2**	**+0.3**
AZAP	**Zapla**	**1.64**	**100**	*e*P	**Pn**	**00 07 35.9**	**+0.3**
AZAP				*e*S	**Sn**	**00 08 03.6**	**+0.8**
YJA	**Yavi**	**2.14**	**35**	*i* S	**Sn**	**00 08 12.5**	**+0.3**
YJA	**Yavi**	**2.14**	**35**	*e*P	**Pn**	**00 07 41.4**	**+0.6**
YJA				*e*S	**Sn**	**00 08 13.3**	**+1.1**
FSA	**Cafayete**	**2.29**	**160**	*e*P	**Pn**	**00 07 42.7**	**+0.5**
FSA				*e*S	**Sn**	**00 08 14.1**	**-0.7**
GO02	**Mina Guanaco**	**2.79**	**244**	*i* S	**Sn**	**00 08 26.5**	**+1.7**
GO02				IAML		00 08 27.1	
	comp=N,881nm,0.3s						
GO02	**Mina Guanaco**	**2.79**	**244**	*e*P	**Pn**	**00 07 48.7**	**+0.8**
GO02				*e*S	**Sn**	**00 08 27.1**	**+2.3**
GO02				IAML		00 08 28.1	
	comp=Z,441nm,0.5s						
PB06	**IPOC Station P**	**2.80**	**296**	*i* S	**Sn**	**00 08 25.4**	**+0.6**
PB06				IAML		00 08 27.3	
	comp=E,546nm,0.1s						
PB06	**IPOC Station P**	**2.80**	**296**	*e*P	**Pn**	**00 07 49.2**	**+1.3**
PB06				*e*S	**Sn**	**00 08 25.5**	**+0.7**
PB06				IAML		00 08 29.1	
	comp=Z,299nm,0.2s						
PB09	**IPOC Station P**	**3.08**	**313**	*e*P	**Pn**	**00 07 52.5**	**+1.3**
PB09				*e*S	**Sn**	**00 08 31.7**	**+0.9**
PB09				IAML		00 08 35.6	
	comp=Z,172nm,0.4s						
PB03	**IPOC Station P**	**3.28**	**304**	*i* S	**Sn**	**00 08 34.9**	**-0.2**
PB03				IAML		00 08 37.5	
	comp=E,324nm,0.1s						
PB03	**IPOC Station P**	**3.28**	**304**	*e*P	**Pn**	**00 07 54.4**	**+0.8**
PB03				*e*S	**Sn**	**00 08 35.0**	**-0.2**
PB03				IAML		00 08 38.4	
	comp=Z,368nm,0.2s						
PB14	**IPOC Station P**	**3.33**	**257**	*i* S	**Sn**	**00 08 36.3**	**+0.1**
PB14				IAML		00 08 38.5	
	comp=E,142nm,0.2s						
PB14	**IPOC Station P**	**3.33**	**257**	*e*P	**Pn**	**00 07 54.8**	**+0.5**
PB14				*e*S	**Sn**	**00 08 36.2**	**-0.1**
PB14				IAML		00 08 39.3	
	comp=Z,170nm,0.3s						
PB10	**IPOC Station P**	**3.43**	**276**	*i* S	**Sn**	**00 08 37.8**	**-0.3**
PB10				IAML		00 08 40.4	
	comp=E,205nm,0.3s						
PB10	**IPOC Station P**	**3.43**	**276**	*e*P	**Pn**	**00 07 56.0**	**+0.8**
PB10				*e*S	**Sn**	**00 08 38.2**	**+0.1**
PB10				IAML		00 08 41.4	
	comp=Z,117nm,0.2s						
AC02	**Maricunga**	**3.55**	**215**	*e*P	**Pn**	**00 07 58.9**	**+1.8**
AC02				*e*S	**Sn**	**00 08 41.6**	**+0.2**
PB01	**IPOC Station P**	**3.79**	**319**	*e*P	**Pn**	**00 08 00.0**	**+0.3**
PB01				*e*S	**Sn**	**00 08 45.7**	**-0.4**
PB01				IAML		00 08 48.9	
	comp=Z,127nm,0.1s						
PB02	**IPOC Station P**	**3.85**	**312**	*i* S	**Sn**	**00 08 45.8**	**-1.7**
PB02	**IPOC Station P**	**3.85**	**312**	*e*P	**Pn**	**00 08 00.6**	**+0.1**
PB02				*e*S	**Sn**	**00 08 46.2**	**-1.3**
PB02				IAML		00 08 52.2	
	comp=Z,240nm,0.2s						
AC01	**Pan de Azucar**	**4.06**	**236**	*e*P	**Pn**	**00 08 02.7**	**-0.2**
AC01				*e*S	**Sn**	**00 08 50.9**	**-1.1**
AC01				IAML		00 08 57.7	
	comp=Z,48nm,0.5s						
PB08	**IPOC Station P**	**4.35**	**330**	*e*P	**Pn**	**00 08 07.6**	**+0.5**
PB08				*i* S	**Sn**	**00 08 58.5**	**-0.8**
PB08				IAML		00 09 04.8	
	comp=N,75nm,0.4s						
PB08	**IPOC Station P**	**4.35**	**330**	*e*P	**Pn**	**00 08 07.8**	**+0.7**
PB08				*e*S	**Sn**	**00 08 59.8**	**+0.5**
PB08				IAML		00 09 03.5	
	comp=Z,46nm,0.4s						
TA01	**Diego Aracena**	**4.57**	**317**	*e*P	**Pn**	**00 08 08.7**	**-0.7**
TA01				*e*S	**Sn**	**00 09 00.7**	**-3.0**
HMBC	**Humberstone**	**4.62**	**322**	*e*P	**Pn**	**00 08 08.6**	**-1.6**
HMBC				*i* S	**Sn**	**00 09 02.4**	**-2.6**
HMBC				IAML		00 09 07.8	
	comp=E,145nm,0.6s						
GO03	**Copiapo**	**4.75**	**219**	*e*P	**Pn**	**00 08 11.7**	**0.0**
GO03				*e*S	**Sn**	**00 09 06.3**	**-1.6**
GO01	**Chusmiza**	**4.79**	**332**	*e*P	**Pn**	**00 08 13.1**	**+0.5**
GO01				*i* S	**Sn**	**00 09 07.6**	**-1.7**
GO01				IAML		00 09 12.6	
	comp=N,151nm,0.3s						
PB11	**IPOC Station P**	**4.92**	**327**	*e*P	**Pn**	**00 08 12.3**	**-1.7**
PB11				*i* S	**Sn**	**00 09 09.3**	**-2.6**
PB11	**IPOC Station P**	**4.92**	**327**	*e*P	**Pn**	**00 08 12.9**	**-1.1**
PB11				*e*S	**Sn**	**00 09 09.7**	**-2.2**
PB11				IAML		00 09 12.9	
	comp=Z,78nm,0.2s						
LPAZ	**La Paz**	**7.71**	**351**	P	**Pn**	**00 08 50.2**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=186,slow=9.2,SNR=14						
LPAZ				S	**Sn**	**00 10 15.2**	**-3.0**
	comp=Z,0.5nm,0.4s,baz=182,slow=16,SNR=1.9						
CFA	**Coronel Fontan**	**7.73**	**189**	P	**Pn**	**00 08 49.5**	**-0.7**
	comp=Z,0.4nm,0.2s,baz=32,slow=12,SNR=12						
CFA				S	**Sn**	**00 10 11.4**	**-6.2**
	comp=Z,1.2nm,0.3s,baz=205,slow=21,SNR=11						
CPUP	**Villa Florida**	**8.94**	**107**	P	Pn	00 09 00.9	-5.0
	comp=Z,0.6nm,0.7s,baz=209,slow=13,SNR=4.7						
PLCA	**Paso Flores**	**17.03**	**190**	P	**P**	**00 10 45.7**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=29,slow=10,SNR=3.1						
SNAA	**Sanae**	**59.35**	**161**	P	**P**	**00 16 40.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=274,slow=7.7,SNR=6.2						
	comp=Z,0.4nm,0.6s						
QSPA	**South Pole Qui**	**66.26**	**180**	P	**P**	**00 17 29.0**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=306,slow=4.9,SNR=2.0						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**00 18 26.5**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=245,slow=4.6,SNR=1.8						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**77.18**	**329**	P	**P**	**00 18 34.2**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=115,slow=6.2,SNR=2.1						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc	**PKPdf**	**00 26 17.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=311,slow=3.4,SNR=5.2						

IDC 12 00:08:47.5±2.1, 10.°68N×94.°34E, h0km, mb3.5/4, mbtmp3.5/5, ML3.8/1, MS2.8/1, Error ellipse: s-maj=79.0km s-min=23.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.92**	**29**	Pn	Pn	00 10 57.8	0.0
	0.3nm,0.3s,baz=216,slow=12,SNR=1.5						
	0.4nm,0.3s						
PSI	**Prapat**	**9.06**	**149**	LR	LR	00 14 51.3	
	comp=Z,51nm,19.1s,baz=18,slow=40						
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	00 16 01.5	-0.8
	0.4nm,0.7s,baz=165,slow=8.4,SNR=4.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**43.82**	**352**	P	P	00 16 55.8	+0.7
	0.2nm,0.3s,baz=178,slow=6.5,SNR=2.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**49.77**	**128**	P	P	00 17 41.8	-0.5
	0.6nm,0.6s,baz=305,slow=8.7,SNR=8.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**51.60**	**132**	P	P	00 17 56.4	+0.3
	0.4nm,0.6s,baz=315,slow=6.6,SNR=7.0						
	0.4nm,0.6s						

*NEIC **12** 00:30:01.8±1.2, 31.°686N±0.°009×104.°28W±0.°01, h5km±1km, mb_Lg2.5/29, ML2.5/54, Error ellipse: s-maj=2.5km s-min=1.6km az=267.0*

TXNET 12 00:30:02.0, 32.°N±1.°×10.°4W±.°, h6km±2km, ML2.6/8, 4C, Error ellipse: s-maj=2.0km s-min=1.4km az=43.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.

POST IAmb_Lg 00 31 27.1
comp=Z,22nm,0.9s
OZNA Ozona 2.81 105 Pn 00 30 46.8 -0.8
OZNA IAmb_Lg 00 31 36.4
comp=Z,12nm,1.0s
CRNM Carthage 3.06 318 Pn 00 30 52.8 +1.8
121A Cookes Peak, D 3.08 287 Pn 00 30 53.7 +2.3
121A IAML 00 31 40.6
comp=E,13nm,0.6s
BNM Barren Site 3.15 322 Pn 00 30 55.3 +2.9
Y22A Socorro 3.18 316 IAML 00 31 55.0
comp=N,12nm,1.4s
SN07 Snyder 07 3.20 63 Pn 00 30 53.7 +0.9
SN07 IAmb_Lg 00 31 43.2
comp=Z,19nm,0.8s
DKNS Dickens 3.46 54 IAmb_Lg 00 31 52.8
comp=Z,12nm,0.8s
ANMO Albuquerque 3.72 331 IAML 00 31 56.9
comp=Z,5.0nm,0.6s
ANMO IAML 00 32 00.8
comp=Z,7.0nm,0.8s
ANMO Albuquerque 3.72 331 IAmb_Lg 00 32 06.0
comp=Z,6.7nm,0.7s
DRIO Del Rio 3.89 125 IAmb_Lg 00 32 08.8
comp=Z,12nm,0.7s
JCT Junction City 4.03 106 IAmb_Lg 00 32 12.5
comp=Z,14nm,0.8s
BRDY Brady 4.54 94 IAmb_Lg 00 32 32.5
comp=Z,6.9nm,0.7s
HNDO Hondo 4.82 115 IAmb_Lg 00 32 45.1
comp=Z,9.0nm,0.9s

*CATAC **12** 00:33:05.9±0.6, 7°.N±4°.×8°.3W±°., h0km, M4.0/12, MLv4.0/12, Error ellipse: s-maj=8.5km s-min=3.6km az=21.0, confirmed*
*UCR **12** 00:33:06.5±1.2, 7°.44N×82°.34W, h0km±47km, MW4.3*
*UPA **12** 00:33:10.7±1.5, 7°.64N×82°.43W, h10km±27km, MW4.0, Fault plane solution: NP1:φs18.00000°, δ18.00000°, λ-170.00000°.*
ISC 12 00:33:07.5±1.8, **7°.41N**±0°.09×**82°.38W**±0°.04, **h12**km, **n68**, σ1§**18**/72, **5C-1D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	**Limones**	0.83	325	⇑*i*P	**Pb**	00 33 23.7	-0.2
LMNES	**Limones**	0.83	325	*e*P	**Pb**	00 33 23.7	-0.2
GMAL	**Guarumal, Vera**	1.19	73	*e*P	**Pn**	00 33 27.8	-2.2
CDITO	**Canoas**	1.25	337	S	**Sn**	00 33 49.3	+1.7
CDITO	**Canoas**	1.25	337	P	**Pn**	00 33 29.5	-1.3
JEFFS	**S de V. Baru**	1.26	353	*e*P	**Pn**	00 33 30.1	-0.9
BANCO	**falda S V. Bar**	1.30	354	*e*P	**Pn**	00 33 30.8	-0.9
DMCAL	**E. de Neily**	1.31	342	*e*P	**Pn**	00 33 30.7	-1.0
WILLF	**Boquete**	1.33	358	*e*P	**Pn**	00 33 30.9	-1.2
BQTLY	**Boquete Panama**	1.34	357	⇑*i*P	**Pn**	00 33 31.1	-1.1
BQTLY	**Boquete Panama**	1.34	357	*e*P	**Pn**	00 33 31.1	-1.1
CLLRA	**Cordillera,**	1.34	350	⇑*i*P	**Pn**	00 33 31.2	-1.1
NELY	**Ciudad Neily**	1.35	336	*e*P	**Pn**	00 33 30.8	-1.4
DAP26	**falda E V. Bar**	1.36	358	*e*P	**Pn**	00 33 31.3	-1.2
PIRO	**Carate, Puerto**	1.36	316	S	**Sb**	00 33 49.0	-1.4
PIRO	**Carate, Puerto**	1.36	316	P	**Pn**	00 33 31.0	-1.4
PIRO	**Carate, Puerto**	1.36	316	*e*P	**Pn**	00 33 30.8	-1.6
BRU2	**Volcan**	1.41	347	⇑*i*P	**Pn**	00 33 31.9	-1.2
BRU2				*e*S	**Sg**	00 33 53.2	+0.4
BRU2	**Volcan**	1.41	347	S	**Sg**	00 33 52.6	-0.2
BRU2	**Volcan**	1.41	347	P	**Pn**	00 33 32.1	-1.0
BRU2	**Volcan**	1.41	347	*e*P	**Pn**	00 33 31.9	-1.2
JIME	**Puerto Jimenez**	1.46	320	*e*P	**Pn**	00 33 32.8	-0.8
SCLRA	**Santa Clara, W**	1.46	344	*e*P	**Pn**	00 33 33.4	-0.5
RBALA	**Bur**	1.47	9	⇓*i*P	**Pn**	00 33 33.8	-0.1
RBALA				*e*S	**Sb**	00 33 53.9	+0.4
RBALA	**Bur**	1.47	9	*e*P	**Pn**	00 33 33.0	-0.9
PBNVO	**Pueblo Nuevo,**	1.48	7	*e*P	**Pn**	00 33 33.0	-1.0
KKNTU	**Kakint²**	1.53	22	⇑*e*P	**Pn**	00 33 33.8	-0.8
KKNTU				*e*S	**Sn**	00 33 54.4	-0.1
KKNTU	**Kakint²**	1.53	22	*e*P	**Pn**	00 33 33.8	-0.8
ALCO	**Alturas Coton,**	1.59	344	*e*P	**Pn**	00 33 34.6	-1.1
EDP2	**Potrero Grande**	1.77	334	*e*P	**Pn**	00 33 38.2	+0.1
DRK0	**Durika**	2.03	335	S	**Sb**	00 34 07.9	-1.7
DRK0	**Durika**	2.03	335	P	**Pn**	00 33 41.3	-0.4
DRK0	**Durika**	2.03	335	*e*P	**Pn**	00 33 41.3	-0.4
OCHAL	**Ojochal**	2.09	323	S	**Sn**	00 34 08.4	+0.1
OCHAL	**Ojochal**	2.09	323	P	**Pn**	00 33 42.6	+0.3
EDPE	**Pejibaye, P**	2.10	326	*e*P	**Pn**	00 33 43.3	-0.2
RGM0	**Gandoca**	2.17	354	S	**Sg**	00 34 15.7	-1.8
LAES	**El Progreso Va**	2.42	344	*e*P	**Pn**	00 33 48.3	+1.3
VERH	**Veragua Rainfo**	2.62	342	*e*P	**Pn**	00 33 50.1	+0.3
PIEC	**Cerro El Cedra**	2.69	325	*e*P	**Pn**	00 33 51.1	+0.2
LCR2	**La Lucha 2**	2.81	325	P	**Pn**	00 33 52.8	+0.2
LCR2	**La Lucha 2**	2.81	325	S	**Sn**	00 34 27.8	+1.3
PICV	**PH. Pirrs**	2.84	321	*e*P	**Pn**	00 33 51.8	-0.9
PAR1A	**Puntarenas Pro**	2.85	320	*e*P	**Pn**	00 33 52.8	0.0
RESJ	**San Isidro (Tu**	2.88	334	*e*P	**Pn**	00 33 54.8	+1.4
ABRB	**Las Abras (San**	2.89	333	*e*P	**Pn**	00 33 54.7	+1.1
LCOCO	**El Coco**	2.90	336	*e*P	**Pn**	00 33 54.9	+1.4
CVTV	**Tajo**	2.91	332	*e*P	**Pn**	00 33 55.1	+1.2
CVTQ	**Turrialba Volc**	2.92	332	*e*P	**Pn**	00 33 55.0	+0.9
ZANG	**Zanguenga, Cho**	2.92	58	*e*P	**Pn**	00 33 53.5	-0.3
VTR0	**Volcan Turrial**	2.92	332	*e*P	**Pn**	00 33 55.2	+1.0
CVTR	**Volcan Turrial**	2.93	332	*e*P	**Pn**	00 33 55.1	+0.9
RVLA	**Villa Bonita**	2.93	336	*e*P	**Pn**	00 33 55.2	+1.3
VICA	**Volcano Irazu**	2.94	331	*e*P	**Pn**	00 33 54.0	-0.4
BCIP	**Isla Barro Col**	3.06	55	P	**Pn**	00 33 58.4	+2.7
BCIP				S	**Sb**	00 34 40.9	+1.6
BCIP	**Isla Barro Col**	3.06	55	*e*P	**Pn**	00 33 55.8	0.0
TRT2	**Tortugero**	3.40	337	P	**Pn**	00 34 02.0	+1.6
TRT2	**Tortugero**	3.40	337	*e*P	**Pn**	00 34 01.3	+0.9
CAZU	**Cerro Azul, Pa**	3.46	58	*e*P	**Pn**	00 34 00.9	-0.4
SOCE	**Pocosol**	3.69	323	P	**Pn**	00 34 06.1	+1.7
VACR	**Volcan Arenal**	3.79	323	*e*P	**Pn**	00 34 08.7	+2.9
ARE1	**Arenal 1**	3.81	323	*e*P	**Pn**	00 34 07.4	+1.4
VARE2	**V. Arenal**	3.81	323	*e*P	**Pn**	00 34 08.1	+2.0
CEDE	**Laguna Cedeo**	3.82	323	*e*P	**Pn**	00 34 07.9	+1.6
TENO	**El Achiote**	4.15	322	*e*P	**Pn**	00 34 11.8	+0.9
CUI	**Cuipilapa**	4.24	320	*e*P	**Pn**	00 34 13.7	+1.8
VMAR	**Armenia, Volca**	4.32	322	*e*P	**Pn**	00 34 13.3	+0.2
LAPC	**Finca la Perla**	4.49	318	*e*P	**Pn**	00 34 16.3	+0.8

*IDC **12** 01:07:03.3±3.0, 7°.07S×129°.44E, h124km±26km, mb4.1/14, mbtmp4.6/18, MS3.5/2, Error ellipse: s-maj=26.6km s-min=10.9km az=70.0*
*NEIC **12** 01:07:06.9±2.0, 7°.13S±0°.07×129°.33E±0°.06, h152km±7km, mb4.7/26, Error ellipse: s-maj=10.9km s-min=8.7km az=177.0*
*DJA **12** 01:07:07.0±0.1, 7°.S±2°.×12°.9E±°., h162km±2km, M4.9/49, mb4.8/49, mB5.3/21, MLv5.3/15, Mw(mB)4.7/21, MwMwp5.4/1, Mwp5.6/1*
ISC 12 01:07:06.4±0.3, **7°.30S**±0°.04×**129°.28E**±0°.04, **h150**km, **n138**, σ1§**83**/147, **mb4.6**/33, **4D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	2.12	109		**Pn**	01 07 45.1	+2.2
SAUI	**Saumlaki**	2.12	109	P	**Pn**	01 07 45.2	+2.3
SAUI	**Saumlaki**	2.12	109	P	**Pn**	01 07 45.2	+2.3
SAUI				S	**Sn**	01 08 14.3	+3.4
BNDI	**Bandanaira**	2.82	13	P	**Pn**	01 07 53.4	+1.8
BNDI	**Bandanaira**	2.82	13	P	**Pn**	01 07 52.5	+0.9
AAI	**Ambon**	3.74	343	P	**Pn**	01 08 04.7	+1.4
MSAI	**Masohi**	3.94	355	P	**Pn**	01 08 08.0	+2.1
NLAI	**Namlea**	4.58	332	P	**Pn**	01 08 16.1	+1.9
FAKI	**Fak Fak**	5.26	34		**Pn**	01 08 20.8	-2.5
FAKI	**Fak Fak**	5.26	34	P	**Pn**	01 08 21.1	-2.2
	2.6nm10μm94nm,0.6s						
AUDHS	**Darwin High Sc**	5.34	163	P	**Pn**	01 08 26.4	+2.1
AUDHS	**Darwin High Sc**	5.34	163	S	**Sn**	01 09 24.8	-0.3
DRS	**Darwin Rock St**	5.35	163	P	**Pn**	01 08 26.7	+2.3
DRS	**Darwin Rock St**	5.35	163	S	**Sn**	01 09 25.1	-0.3
SOEI	**Soe**	5.53	243		**Pn**	01 08 29.1	+2.2
SOEI	**Soe**	5.53	243	S	**Sn**	01 09 28.3	-1.5
SOEI	**Soe**	5.53	243	P	**Pn**	01 08 28.8	+1.9
SOEI	**Soe**	5.53	243	P	**Pn**	01 08 29.3	+2.4
	2.5nm4μm414nm,0.8s						
SOEI				S	**Sn**	01 09 30.8	+1.0
	2.5nm4μm414nm,0.8s						
KMPI	**Kaimana, Papua**	5.70	51	P	**Pn**	01 08 28.5	-0.6
MTN	**Manton Dam**	5.81	162		**Pn**	01 08 32.2	+1.7
SANI	**Sanana**	6.16	328	P	**Pn**	01 08 37.4	+2.2
SANI	**Sanana**	6.16	328	P	**Pn**	01 08 36.4	+1.2
	1μm108nm,1.1s						
BATI	**Baumata**	6.26	242	P	**Pn**	01 08 38.5	+1.9
	368nm,0.4s,baz=164,slow=2.7,SNR=38						
BATI				S	**Sn**	01 09 47.7	+0.5
	246nm,0.3s,baz=156,slow=8.2,SNR=14						
BATI	**Baumata**	6.26	242	P	**Pn**	01 08 39.0	+2.4
SWI	**Sorong**	6.69	17	P	**Pn**	01 08 40.8	-1.5
	1.1nm2μm70nm,0.5s						
MMRI	**Maumere**	7.10	259		**Pn**	01 08 50.2	+2.4
MMRI	**Maumere**	7.10	259	P	**Pn**	01 08 48.6	+0.8
MMRI	**Maumere**	7.10	259	P	**Pn**	01 08 48.6	+0.8
	0.6nm3μm143nm,0.6s						
RKPI	**Ransiki, Papua**	7.54	41	P	**Pn**	01 08 53.0	-0.7
TNTI	**Ternate**	8.24	347		**Pn**	01 09 03.1	+0.1
TNTI	**Ternate**	8.24	347	P	**Pn**	01 09 04.3	+1.3
TNTI	**Ternate**	8.24	347	P	**Pn**	01 09 03.6	+0.6
	128nm,0.9s						
KNRA	**Kununurra**	8.35	183		**Pn**	01 09 04.6	+0.2
BASI	**Baing, Sumba**	9.08	251	P	**Pn**	01 09 14.8	+0.6
BAKI	**Biak**	9.12	49	P	**Pn**	01 09 17.3	+2.6
	153nm,0.7s						
WSI	**Waingapu**	9.19	255	P	**Pn**	01 09 16.2	+0.5
BKSI	**Bulukumba**	9.31	282	P	**Pn**	01 09 20.2	+2.9
	18nm,0.5s						
WBSI	**Waikabubak, Su**	10.05	256	P	**Pn**	01 09 27.3	+0.1
MRSI	**Marisa**	10.64	316	P	**Pn**	01 09 35.2	+0.3
	58nm,1.2s						
SMPI	**Sarmi**	10.77	61	P	**Pn**	01 09 35.0	-1.7
	30nm,0.8s						
FITZ	**Fitzroy Crossi**	11.31	198		**Pn**	01 09 42.9	-0.8
FITZ	**Fitzroy Crossi**	11.31	198	P	**Pn**	01 09 43.6	-0.1
	35nm,0.3s,baz=28,slow=11,SNR=216						
FITZ				S	**Sn**	01 11 42.0	-6.7
	37nm,0.3s,baz=84,slow=18,SNR=11						
PLAI	**Plampang**	11.49	262	P	**Pn**	01 09 45.3	-0.8
PLAI	**Plampang**	11.49	262	P	**Pn**	01 09 43.8	-2.3
	2μm111nm,0.5s						
TOLI2	**Tolitoli**	11.90	314		**P**	01 09 54.4	-3.9
TOLI2	**Tolitoli**	11.90	314	P	**Pn**	01 09 52.5	+1.1
JAY	**Jayapura**	12.33	68	P	**P**	01 10 01.8	-1.3
	8.5nm,0.5s,baz=233,slow=11,SNR=7.0						
JAY				S	**Sn**	01 12 09.8	-3.8
	8.9nm,0.7s,baz=342,slow=23,SNR=3.6						
JAY	**Jayapura**	12.33	68	P	**Pn**	01 09 57.5	+0.4
	865nm18nm,0.9s						
TWSI	**Taliwang, Sumb**	12.36	263	P	**Pn**	01 09 55.2	-2.2
	761nm48nm,0.7s						
WRAB	**Tennant Creek**	13.49	159		**Pn**	01 10 09.3	-2.7
WRA	**Warramunga Arr**	13.50	159	P	**Pn**	01 10 10.1	-1.9
	34nm,0.6s,baz=330,slow=13,SNR=96						
WRA				S	**Sn**	01 12 35.3	-6.2
	49nm,0.6s,baz=332,slow=22,SNR=10						
BKB	**Balikpapan**	13.72	295	P	**Pn**	01 10 15.4	+0.5
	7μm94nm,0.5s						
JAGI	**Jajag, Banyuwa**	15.03	265		**Pn**	01 10 28.2	-3.1
JAGI				IAmb	IAmb	01 10 33.7	
	comp=Z,18nm,0.7s						
JAGI	**Jajag, Banyuwa**	15.03	265	P	**P**	01 10 33.5	+0.5
JAGI	**Jajag, Banyuwa**	15.03	265	P	**Pn**	01 10 29.7	-1.6
	comp=Z,26nm,0.6s						
COEN	**Coen**	15.17	117		**Pn**	01 10 32.5	-0.6
COEN				IAmb	IAmb	01 10 36.0	
	comp=Z,19nm,0.8s						
COEN	**Coen**	15.17	117	P	**P**	01 10 35.2	+0.6
BLJI	**Banyuglugur**	15.56	267	P	**Pn**	01 10 36.3	-1.5
	comp=Z,71nm,0.5s						
MTKI	**Muara Teweh, K**	15.67	293	P	**P**	01 10 41.2	+1.1
	comp=Z,117nm,0.7s						
QIS	**Mount Isa**	16.55	144	P	**Pn**	01 10 50.4	+0.5
MBWA	**Marble Bar**	16.59	213		**Pn**	01 10 49.9	-0.4
MBWA	**Marble Bar**	16.59	213	P	**Pn**	01 10 52.6	+2.2
PSA00	**Pilbara Seismi**	16.87	212		**Pn**	01 10 54.8	+1.1
PSA00	**Pilbara Seismi**	16.87	212	P	**Pn**	01 10 54.2	+0.5
PSA00				IAmb	IAmb	01 10 56.5	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	16.87	212	P	**Pn**	01 10 55.4	+1.7
ASAR	**Alice Springs**	16.87	165	P	**Pn**	01 10 54.6	+0.8
	comp=Z,43nm,0.7s,baz=344,slow=10,SNR=298						
ASAR				S	**S**	01 13 57.2	-4.4
	comp=Z,9.7nm,0.6s,baz=351,slow=25,SNR=5.2						
ASAR				LR	LR	01 18 41.0	
	comp=Z,93nm,18.2s,baz=312,slow=41						
AUALC	**St Philip's Co**	16.89	165	P	**Pn**	01 10 54.8	+0.8
PMG	**Port Moresby**	17.82	98	P	**Pn**	01 11 06.1	+1.0
PMG	**Port Moresby**	17.82	98	P	**Pn**	01 11 06.2	+1.1
PCJI	**Pacitan**	17.96	266	P	**P**	01 11 04.2	-1.1
	comp=Z,75nm,0.5s						
MTSU	**Mount Surprise**	18.18	128	P	**Pn**	01 11 10.0	+0.5
STKI	**Sintang**	19.20	292	P	**P**	01 11 18.9	0.0
	comp=Z,27nm,0.5s						
SBUM	**Sibu**	19.58	299	P	**P**	01 11 23.3	+0.3
SBUM	**Sibu**	19.58	299	P	**Pn**	01 11 25.3	-0.6
KPJI	**Karang Pucung**	20.18	269	P	**P**	01 11 26.9	-2.6
	comp=Z,27nm,0.7s						
CTAO	**Charters Tower**	20.80	129	P	**P**	01 11 37.4	+1.4
CTAO	**Charters Tower**	20.80	129	P	Pn	01 11 38.9	-1.4
KSM	**Kuching**	20.84	294	P	**P**	01 11 35.4	-1.0
KSM				IAmb	IAmb	01 11 41.1	
	comp=Z,32nm,0.9s						
KSM	**Kuching**	20.84	294	P	Pn	01 11 37.8	-3.0
BBJI	**Bungbulang**	21.45	268	P	**P**	01 11 44.7	+1.6
LEM	**Lembang**	21.50	270	P	**P**	01 11 44.7	+0.9
	comp=Z,21nm,0.4s,baz=31,slow=19,SNR=3.7						
	comp=Z,21nm,0.4s						
CNJI	**Cibinong**	21.97	269	P	**P**	01 11 47.3	-1.2
	comp=Z,18nm,0.8s						
TPI	**Tanjungpandan**	22.00	281	P	**P**	01 11 47.3	-1.5
	comp=Z,28nm,0.8s						
INKA	**Innaminka**	23.06	153	P	**P**	01 12 00.4	+1.7
INKA				IAmb	IAmb	01 12 01.8	
	comp=Z,29nm,0.8s						
FORT	**Forrest**	23.39	183	P	**P**	01 12 03.0	+1.3
FORT				IAmb	IAmb	01 12 05.0	
	comp=Z,25nm,0.9s						
QLP	**Quilpie**	23.88	145	P	**P**	01 12 09.3	+3.1
MORW	**Morawa**	25.00	208	P	**P**	01 12 16.3	-0.1
MORW				IAmb	IAmb	01 12 20.4	
	comp=Z,15nm,0.8s						
MORW	**Morawa**	25.00	208	P	**P**	01 12 18.4	+2.0
BBOO	**Buckleboo**	26.16	167	P	**P**	01 12 27.8	+1.0
MNAI	**Manna**	26.34	275	P	**P**	01 12 28.0	-0.7
	comp=Z,110nm,1.2s						
MYKOM	**Kota Tinggi**	26.93	289	P	**P**	01 12 35.5	+1.6
STKA	**Stephens Creek**	27.02	156	P	**P**	01 12 35.3	+0.8
	comp=Z,7.1nm,0.5s,baz=322,slow=10,SNR=17						
	comp=Z,7.1nm,0.5s						
STKA	**Stephens Creek**	27.02	156	P	**P**	01 12 36.9	+2.4
MASI	**Maura Aman, Be**	27.23	277	P	**P**	01 12 37.1	+0.4
	comp=Z,1μmcomp=Z,25nm,0.5s						
NWAO	**Narrogin (SRO)**	27.85	202	P	**P**	01 12 43.1	+1.2
	comp=Z,2.2nm,0.3s,baz=48,slow=4.6,SNR=7.6						
	comp=Z,2.2nm,0.3s						
RPSI	**Rantau Prapat**	31.88	287	P	**P**	01 13 17.0	-0.7
JOW	**Kunigami**	33.94	358	P	**P**	01 13 32.7	-2.7
CMAR	**Chiang Mai Arr**	39.38	311	P	**P**	01 14 20.5	-1.1
	comp=Z,1.8nm,0.3s,baz=140,slow=7.5,SNR=26						
CMAR				PcP	**PcP**	01 16 27.8	+0.7
	comp=Z,1.0nm,0.3s,baz=164,slow=2.6,SNR=7.0						
	comp=Z,1.8nm,0.3s						
CHTO	**Chiang Mai**	39.59	311	P	**P**	01 14 22.8	-0.6
CHTO				IAmb	IAmb	01 14 23.6	
	comp=Z,10nm,0.8s						
NJ2	**Nanjing**	40.37	346	*e*P	**P**	01 14 31.4	+1.8
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	42.92	323	P	**P**	01 14 52.4	+1.8
HHC	**Hu-ho-hao-te**	50.60	343	*e*P	**P**	01 15 52.8	+2.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,52nm,5.0s						
BTO	**Baotou**	50.86	341	*e*P	**P**	01 15 54.8	+2.8
BTO				sP	**sP**	01 16 43.3	+2.3
BTO				S	**S**	01 23 01.2	+4.5
BTO				pmax	pmax		
	comp=Z,21nm,0.6s						
BTO				pmax	pmax		
	comp=Z,680nm,6.6s						
BTO				LR	LR		
	comp=N,730nm,7.6s						
BTO				LR	LR		
	comp=E,540nm,5.2s						
BTO				LR	LR		
	comp=Z,390nm,9.6s						
XLT	**XiLinHaoTe**	52.34	348	*e*P	**P**	01 16 05.6	+2.7
XLT				pP	pwP	01 16 45.4	+4.0
XLT				sP	sP	01 17 00.8	+8.6
XLT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONM	**Songino Array**	58.50	342	P	**P**	01 16 46.1	-0.8
	comp=Z,0.6nm,0.4s,baz=157,slow=6.4,SNR=4.4						
SONM				PcP	**PcP**	01 17 34.5	-1.3
	comp=Z,1.0nm,0.8s,baz=165,slow=7.4,SNR=4.1						
	comp=Z,0.6nm,0.4s						
CASY	**Casey**	60.30	189	P	**P**	01 16 59.9	+1.1
CASY				IAmb	IAmb	01 17 00.5	
	comp=Z,5.0nm,0.7s						
PETK	**Petropavlovsk-**	64.83	18	P	**P**	01 17 28.3	-0.7
	comp=Z,3.0nm,0.8s,baz=232,slow=6.8,SNR=2.2						
	comp=Z,3.0nm,0.8s						
NIL	**Nilore**	66.87	311		**P**	01 17 41.5	-1.1
NIL				IAmb	IAmb	01 17 43.2	
	comp=Z,9.2nm,0.6s						
MKAR	**Makanchi Array**	68.08	327	P	**P**	01 17 48.8	-1.1
	comp=Z,2.0nm,0.4s,baz=117,slow=7.9,SNR=35						
	comp=Z,2.0nm,0.4s						
MAKZ	**Makanchi**	68.26	327	P	**P**	01 17 50.2	-0.8
GAR	**Garm**	71.37	315	P	**P**	01 18 09.3	-1.0
GAR				IAmb	IAmb	01 18 11.1	
	comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	71.53	334	P	**P**	01 18 09.1	-1.7
	comp=Z,2.0nm,0.4s,baz=118,slow=4.0,SNR=12						
	comp=Z,2.0nm,0.4s						
CHGR	**Chuyangaron**	72.03	314	P	**P**	01 18 13.4	-0.9
CHGR				IAmb	IAmb	01 18 14.0	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	72.24	173	P	**P**	01 18 15.2	+0.4
	comp=Z,1.5nm,0.5s,baz=320,slow=6.7,SNR=15						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	72.39	329	P	**P**	01 18 14.9	-1.0
	comp=Z,1.6nm,0.4s,baz=123,slow=5.1,SNR=35						
	comp=Z,1.6nm,0.4s						
KURK	**Kurchatov**	72.40	329	P	**P**	01 18 14.5	-1.5
MAW	**Mawson**	74.42	201	P	**P**	01 18 28.7	+1.2
	comp=Z,5.0nm,0.7s,baz=72,slow=5.4,SNR=22						
	comp=Z,5.0nm,0.7s						
VOI	**Vohitsoka**	80.37	249	P	**P**	01 19 02.3	+0.5
VOI				IAmb	IAmb	01 19 36.6	
	comp=Z,20nm,1.4s						
QSPA	**South Pole Qui**	82.68	180	P	**P**	01 19 15.1	+2.1
QSPA	**South Pole Qui**	82.68	180	P	**P**	01 19 15.1	+2.1
	comp=Z,4.8nm,0.7s,baz=293,slow=1.3,SNR=40						
	comp=Z,4.8nm,0.7s						
ARTI	**Arti**	85.66	328		**P**	01 19 26.9	-1.1
ARTI				IAmb	IAmb	01 19 27.1	
	comp=Z,11nm,0.7s						
M16K	**Timber Creek**	87.65	28	P	**P**	01 19 37.6	0.0
D19K	**Kuna River**	90.45	21	P	**P**	01 19 49.1	-1.5
TROLL	**Troll, Antarti**	93.70	194	⇓P	**P**	01 20 06.9	+1.1
	comp=Z,107nm,0.6s						
ILAR	**Eielson Array**	93.92	25	P	**P**	01 20 03.4	-3.2
	comp=Z,0.5nm,0.9s,baz=258,slow=2.7,SNR=3.2						
ILAR				LR	LR	02 03 34.8	
	comp=Z,32nm,19.3s,baz=310,slow=36						
	comp=Z,0.5nm,0.9s						
SNAA	**Sanae**	95.21	194	⇓P	**P**	01 20 13.1	+0.4
	comp=Z,30nm,0.8s						
SNAA	**Sanae**	95.21	194	P	**P**	01 20 13.3	+0.7
	comp=Z,1.6nm,0.9s,baz=182,slow=4.6,SNR=11						
	comp=Z,1.6nm,0.9s						
VNA2	**Neumayer–Watz**	96.78	193	⇓P	**P**	01 20 19.5	-0.2
	comp=Z,1.0nm,0.6s,baz=107,slow=4.0						
VNA3	**Neumayer Olymp**	97.05	192	⇓P	Pdif	01 20 21.1	+0.2
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	101.60	340	P	**Pdif**	01 20 39.0	-2.2
	comp=Z,2.3nm,0.8s,baz=77,slow=6.4,SNR=5.6						
HFS	**Hagfors**	108.88	332	Pdiff	**Pdif**	01 21 12.5	-1.2
	comp=Z,2.9nm,0.9s,baz=156,slow=14,SNR=1.7						
NOA	**NORSAR Array B**	109.71	333	Pdiff	**Pdif**	01 21 15.2	-2.3
	comp=Z,0.6nm,0.9s,baz=104,slow=18,SNR=2.3						
KEST	**Kesra**	118.43	307	PKP	**PKiKP**	01 25 36.4	-0.4
	comp=Z,1.0nm,0.5s,baz=53,slow=1.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	128.16	281

RUGZ			S	S	01 21 32.0	+1.9
TWGZ	**Tauwhareparae**	**17.56 192**	P	**P**	01 18 30.5	-0.3
TWGZ			S	S	01 21 35.0	+2.3
TOZ	**Tahuroa Road**	**17.74 199**	P	**P**	01 18 32.9	+0.2
MWZ	**Matawai**	**17.80 193**	P	**P**	01 18 30.7	-2.6
MWZ			S	S	01 21 36.7	-0.6
URZ	**Urewera**	**17.82 194**	P	**P**	01 18 29.7	-3.8
	12nm,0.3s,baz=331,slow=2.0,SNR=15					
URZ			S	S	01 21 34.4	-3.2
	18nm,0.6s,baz=73,slow=21,SNR=12					
URZ	**Urewera**	**17.82 194**	P	**P**	01 18 31.8	-1.7
URZ	**Urewera**	**17.82 194**	P	**P**	01 18 29.8	-3.7
URZ			S	S	01 21 39.5	+1.9
RIGZ	**Rimuhau**	**18.11 192**	P	**P**	01 18 34.2	-2.4
HIZ	**Hauiti**	**18.66 199**	P	**P**	01 18 42.4	0.0
BKZ	**Black Stump Fm**	**18.83 195**	P	**P**	01 18 40.9	-3.3
NGZ	**Ngauruhoe**	**19.06 197**	P	**P**	01 18 45.6	-1.0
VRZ	**Vera Road**	**19.25 199**	P	**P**	01 18 49.2	+0.8
KHEZ	**Kahui Hut**	**19.64 200**	P	**P**	01 18 54.0	+1.9
BFZ	**Birch Farm**	**20.33 194**	P	**P**	01 18 56.5	-1.8
SNZO	**South Karori**	**21.30 196**	P	**P**	01 19 08.6	+1.5
QRZ	**Quartz Range**	**21.51 201**	P	**P**	01 19 11.4	+2.4
KHZ	**Kahutara**	**22.64 197**	P	**P**	01 19 20.9	+1.6
RPZ	**Rata Peaks**	**24.58 200**	P	**P**	01 19 37.4	+0.6
JCZ	**Jackson Bay**	**25.68 203**	P	**P**	01 19 47.6	+0.9
ODZ	**Otahua Downs**	**25.90 200**	P	**P**	01 19 50.2	+1.7
EIDS	**Eidsvold**	**29.19 255**	P	**P**	01 20 17.4	-0.3
EIDS			IAmb	IAmb	01 20 19.7	
	comp=Z,22nm,1.4s					
ARMA	**Armidale**	**29.29 245**	P	**P**	01 20 18.4	-0.3
ARMA			IAmb	IAmb	01 20 34.5	
	comp=Z,19nm,1.4s					
TOO	**Toolangi**	**36.00 235**	P	**P**	01 21 15.4	-0.6
TOO			IAmb	IAmb	01 21 17.0	
	comp=Z,7.1nm,0.8s					
STKA	**Stephens Creek**	**38.02 245**	P	**P**	01 21 32.9	0.0
STKA	**Stephens Creek**	**38.02 245**	P	**P**	01 21 32.9	0.0
	comp=Z,5.7nm,0.5s,baz=90,slow=12,SNR=5.8					
	comp=Z,5.7nm,0.5s					
COEN	**Coen**	**38.11 274**	P	**P**	01 21 34.1	+0.3
COEN			IAmb	IAmb	01 22 13.9	
	comp=Z,7.7nm,1.2s					
BBOO	**Buckleboo**	**42.77 244**	P	**P**	01 22 09.8	-1.4
BBOO			IAmb	IAmb	01 22 10.7	
	comp=Z,8.7nm,0.8s					
WR8	**Warramunga Arr**	**44.87 262**	P	**P**	01 22 27.1	-0.9
AS31	**Alice Springs**	**44.88 257**	P	**P**	01 22 27.5	-0.6
AS31			IAmb	IAmb	01 22 28.9	
	comp=Z,1.5nm,0.3s					
ASAR	**Alice Springs**	**44.88 257**	P	**P**	01 22 27.2	-0.8
	comp=Z,2.6nm,0.6s,baz=96,slow=8.2,SNR=15					
	comp=Z,2.6nm,0.6s					
WB0	**Warramunga Arr**	**45.00 263**	P	**P**	01 22 27.8	-1.2
WB0			IAmb	IAmb	01 22 28.7	
	comp=Z,3.4nm,0.9s					
WRA	**Warramunga Arr**	**45.02 262**	P	**P**	01 22 27.5	-1.7
	comp=Z,1.0nm,0.3s,baz=95,slow=7.7,SNR=13					
	comp=Z,1.0nm,0.3s					
FORT	**Forrest**	**49.55 247**	P	**P**	01 23 02.8	-0.6
KNRA	**Kununurra**	**51.12 266**	P	**P**	01 23 14.6	-0.6
KNRA			IAmb	IAmb	01 23 36.4	
	comp=Z,20nm,1.5s					
FITZ	**Fitzroy Crossi**	**53.45 263**	P	**P**	01 23 32.1	0.0
SBA	**Scott Base**	**57.40 184**	P	**P**	01 24 01.7	+2.8
VNDA	**Vanda**	**57.45 185**	P	**P**	01 24 00.1	+0.9
PSA00	**Pilbara Seismi**	**58.03 257**	P	**P**	01 24 03.7	-0.5
PSA00			IAmb	IAmb	01 24 30.1	
	comp=Z,7.1nm,1.4s					
PSA00	**Pilbara Seismi**	**58.03 257**	P	**P**	01 24 04.0	-0.2
PSA00			IAmb	IAmb	01 24 04.5	
	comp=Z,7.5nm,0.6s					
MBWA	**Marble Bar**	**58.22 258**		**P**	01 24 05.2	-0.3
MORW	**Morawa**	**60.09 248**		**P**	01 24 17.3	-0.8
MORW			IAmb	IAmb	01 24 41.5	
	comp=Z,11nm,1.1s					
NVAR	**Mina Array Bea**	**81.06 43**	P	P	01 26 27.5	+4.5
	comp=Z,0.7nm,0.9s,baz=222,slow=8.7,SNR=5.1					
	comp=Z,0.7nm,0.9s					
MAW	**Mawson**	**81.25 200**	P	**P**	01 26 23.9	+0.6
	comp=Z,0.9nm,0.7s,baz=198,slow=9.7,SNR=3.5					
	comp=Z,0.9nm,0.7s					
ILAR	**Eielson Array**	**88.70 13**	P	**P**	01 27 01.5	+1.8
	comp=Z,0.4nm,0.6s,baz=234,slow=5.4,SNR=5.0					
	comp=Z,0.4nm,0.6s					
HFS	**Hagfors**	**140.11 351**	PKhKP	PKPpre	01 33 30.1	
	comp=Z,4.2nm,1.0s,baz=111,slow=3.3,SNR=6.6					
AKASG	**Malin Array Be**	**143.69 331**	PKPdf	**PKPdf**	01 33 39.4	+0.5
	comp=Z,3.0nm,0.5s,baz=44,slow=4.2,SNR=22					
AKBB	**Malin Array Si**	**143.69 331**	PKPdf	**PKPdf**	01 33 39.4	+0.5
KIEV	**Kiev**	**143.71 331**	PKPdf	**PKPdf**	01 33 39.4	+0.5
BRTR	**Keskin Array B**	**147.54 312**	PKPbc	**PKPab**	01 33 51.6	-1.0
	comp=Z,0.4nm,0.6s,baz=129,slow=4.7,SNR=2.4					
GERES	**GERESS Array B**	**150.82 345**	PKPbc	**PKiKP**	01 34 00.2	+2.8
	comp=Z,0.3nm,0.4s,baz=53,slow=3.9,SNR=2.0					

*ATH **12** 01:17:09.6,38.03N×26.94E,h15km±1km,ML2.6/4,*
Manual Solution by G.Panopoulou First location:
2019/10/12 01:18:36, This location: 2019/10/12 02:28:17
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 2 km
*THE **12** 01:17:10.7,38°N±12"×2"7E±1"2,h11km±18km,MLh2.9/3*
*ISK **12** 01:17:10.0,38.02N×26.90E,h6km,ML3.1/18*
*AFAD **12** 01:17:10.0,38.02N×26.89E,h6km,ML2.7*

ISC 12 01:17:09.8±0.8,38.02N±0.02×26.90E±0.02,h10km±5km,
n55,σ0°63/78,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.03**	**338**	P	**Pg**	**01 17 11.7**	**0.0**
DGB				S	**Sg**	**01 17 12.5**	**-0.5**
DGB				*i* IAML		01 17 13.0	
	comp=N,8μm,0.2s						
DGB				*i* IAML		01 17 13.0	
	comp=E,6μm,0.2s						
GMLD	**Gumuldur**	**0.06**	**14**	Pg	**Pg**	**01 17 12.1**	**+0.2**
GMLD				Sg	**Sg**	**01 17 13.3**	**-0.1**
KRL1	**Karlovasi Samo**	**0.27**	**214**	P	**Pg**	**01 17 15.9**	**+0.6**
KRL1				S	**Sg**	**01 17 20.4**	**+1.4**
ZEYE	**Izmir, Urla-Ze**	**0.38**	**305**	P	**Pg**	**01 17 17.6**	**+0.3**
ZEYE				*i* IAML		01 17 23.0	
	comp=N,2μm,0.3s						
ZEYE				*i* IAML		01 17 23.0	
	comp=E,2μm,0.1s						
ZEYE				S	**Sg**	**01 17 23.5**	**+1.2**
BLCB	**Balcova**	**0.38**	**17**	Pg	**Pg**	**01 17 17.9**	**+0.6**
BLCB	**Balcova**	**0.38**	**17**	P	**Pg**	**01 17 17.9**	**+0.6**
BLCB				S	**Sg**	**01 17 23.2**	**+0.8**
URLA	**Izmir**	**0.41**	**325**	Pg	**Pg**	**01 17 18.4**	**+0.4**
URLA				Sg	**Sg**	**01 17 24.7**	**+1.3**
URLA	**Izmir**	**0.41**	**325**	P	**Pg**	**01 17 18.4**	**+0.4**
URLA				S	**Sb**	**01 17 24.9**	**-0.6**
URLA				*i* IAML		01 17 25.0	
	comp=N,866nm,0.7s						
URLA				*i* IAML		01 17 27.0	
	comp=E,1μm,0.7s						
DDIM	**Aydin, Didim**	**0.63**	**154**	P	**Pg**	**01 17 22.5**	**+0.6**
DDIM				S	**Sb**	**01 17 31.8**	**+0.2**
DDIM				*i* IAML		01 17 34.0	
	comp=N,369nm,0.3s						
DDIM				*i* IAML		01 17 35.0	
	comp=E,283nm,0.8s						
KARB	**zmir-Karabur**	**0.75**	**329**	P	**Pg**	**01 17 24.4**	**+0.2**
KARB				S	**Sb**	**01 17 35.2**	**+0.1**
KARB				*i* IAML		01 17 38.0	
	comp=N,273nm,0.2s						
KARB				*i* IAML		01 17 38.0	
	comp=E,534nm,0.5s						
CHOS	**Chios island**	**0.76**	**299**	Pg	**Pg**	**01 17 25.1**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**95**	Pg	**Pb**	**01 17 25.4**	**-0.2**
EAG2	**Marmaro, Chios**	**0.81**	**310**	P	**Pg**	**01 17 25.5**	**0.0**
EAG2				S	**Sg**	**01 17 36.0**	**0.0**
IZMR	**zmir-demi**	**0.84**	**82**	P	**Pb**	**01 17 26.3**	**-0.1**
IZMR				S	**Sg**	**01 17 36.7**	**-0.3**
IZMR				*i* IAML		01 17 39.0	
	comp=N,201nm,0.5s						
IZMR				*i* IAML		01 17 40.0	
	comp=E,222nm,0.9s						
AYDN	**Tasoluk**	**0.86**	**115**	P	**Pb**	**01 17 27.0**	**+0.3**
AYDN				S	**Sb**	**01 17 38.7**	**+0.4**
AYDN				*i* IAML		01 17 41.0	
	comp=N,357nm,0.3s						
AYDN				*i* IAML		01 17 41.0	
	comp=E,282nm,0.3s						
ZEDA	**zmir-Bergama**	**0.95**	**8**	P	**Pb**	**01 17 28.6**	**+0.2**
ZEDA				*i* IAML		01 17 45.0	
	comp=N,270nm,0.4s						
ZEDA				*i* IAML		01 17 45.0	
	comp=E,313nm,0.4s						
ODEM	**Odemis-Izmir**	**0.96**	**74**	Pg	**Pb**	**01 17 28.6**	**0.0**
BODT	**Bodrum**	**1.01**	**161**	Pg	**Pb**	**01 17 29.9**	**+0.5**
BODT	**Bodrum**	**1.01**	**161**	P	**Pb**	**01 17 29.7**	**+0.3**
BODT				S	**Sn**	**01 17 44.6**	**+0.3**
DKL	**Dikili**	**1.05**	**0**	Pg	**Pn**	**01 17 30.6**	**+0.1**
GOMA	**Golmarmara-Man**	**1.05**	**49**	Pg	**Pn**	**01 17 31.2**	**+0.6**
KLNA	**Kalymnos**	**1.06**	**177**	P	**Pb**	**01 17 30.0**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.10**	**93**	Pn	**Pn**	**01 17 31.1**	**-0.2**
SOMA	**Soma-Manisa**	**1.24**	**24**	Pn	**Pg**	**01 17 34.3**	**+0.7**
PRK	**Paraskevi**	**1.32**	**338**	P	**Pn**	**01 17 34.2**	**0.0**
PRK				S	**Sg**	**01 17 53.0**	**+0.8**
PRK	**Paraskevi**	**1.32**	**338**	P	**Pn**	**01 17 33.8**	**-0.4**
PRK				S	**Sb**	**01 17 51.2**	**-0.3**
GORD	**Gordes-Manisa**	**1.34**	**48**	Pn	**Pg**	**01 17 35.8**	**+0.3**
GORD				Sn	**Sg**	**01 17 54.6**	**+1.7**
DAT	**Datca**	**1.40**	**157**	Pn	**Pb**	**01 17 36.4**	**+0.4**
YER	**Yerkesik**	**1.41**	**128**	Pn	**Pg**	**01 17 36.7**	**-0.2**
SIGR	**SIGRI**	**1.44**	**326**	Pn	**Pn**	**01 17 36.1**	**+0.2**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**01 17 36.1**	**+0.2**
SIGR				S	**Sn**	**01 17 54.1**	**-0.7**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**01 17 35.9**	**0.0**
SIGR				S	**Sn**	**01 17 53.6**	**-1.3**
TNSA	**Tinos**	**1.46**	**251**	P	**Pn**	**01 17 35.2**	**-0.9**
KULA	**Kula-Manisa**	**1.47**	**70**	Pn	**Pg**	**01 17 37.9**	**-0.1**
ASTA	**Astypalaia**	**1.54**	**197**	P	**Pn**	**01 17 37.4**	**+0.2**
ASTA				S	**Sn**	**01 17 56.8**	**-0.3**
YAYO	**Edremit-Balk**	**1.59**	**5**	Pn	**Pg**	**01 17 40.1**	**-0.3**
TURN	**Turunc**	**1.64**	**139**	Pn	**Pb**	**01 17 40.7**	**+0.6**
EZN	**Ezine**	**1.86**	**346**	P	**Pn**	**01 17 41.5**	**-0.1**
KARY	**Karystos**	**1.94**	**271**	P	**Pn**	**01 17 42.8**	**0.0**
KARY				S	**Sn**	**01 18 05.8**	**-1.5**
KARY	**Karystos**	**1.94**	**271**	P	**Pn**	**01 17 42.8**	**0.0**
THERA	**Ancient Thera,**	**2.00**	**215**	P	**Pn**	**01 17 42.8**	**-0.9**
SAP3	**Santorini-Thir**	**2.01**	**219**	P	**Pn**	**01 17 42.8**	**-1.0**
SAP3				S	**Sn**	**01 18 08.4**	**-0.5**
SNT5	**Nea Kammeni, S**	**2.01**	**217**	P	**Pn**	**01 17 43.8**	**+0.1**
SNT5				S	**Sn**	**01 18 09.0**	**+0.1**
KYMI	**Kymi, Euboea I**	**2.28**	**286**	P	**Pn**	**01 17 47.6**	**+0.2**
LIA	**Limnos Island**	**2.30**	**325**	P	**Pn**	**01 17 47.1**	**-0.6**
LIA				S	**Sn**	**01 18 14.8**	**-1.2**
DION	**Dionisos Attik**	**2.34**	**272**	P	**Pn**	**01 17 48.4**	**+0.1**
PTL	**Penteli**	**2.40**	**272**	P	**Pn**	**01 17 48.0**	**-1.1**
ATHU	**Athens Univers**	**2.46**	**270**	P	**Pn**	**01 17 49.9**	**0.0**
VLY	**Voula,Athens**	**2.46**	**267**	P	**Pn**	**01 17 50.0**	**+0.1**
KARP	**Karpathos**	**2.48**	**175**	P	**Pn**	**01 17 49.6**	**-0.6**
KSL	**Kastellorizon**	**2.85**	**130**	P	**Pn**	**01 17 53.4**	**-1.8**
MET2	**Kameni Chora,**	**2.85**	**263**	P	**Pn**	**01 17 55.1**	**-0.2**
NPS	**Neapolis**	**2.94**	**201**	P	**Pn**	**01 17 56.2**	**-0.4**
ALN	**Alexandroupoli**	**2.95**	**347**	P	**Pn**	**01 17 56.6**	**0.0**
IDI	**Anoyia**	**3.17**	**211**	P	**Pn**	**01 17 58.9**	**-0.8**

*PRU **12** 01:39:16.6,42.15N×19.62E,h1km*
*RHSSO **12** 01:39:19.3±0.7,42.31N×18.93E,h4km±2km,ML3.0/11*
*PDG **12** 01:39:19.3±0.2,42.34N×18.93E,h5km±1km,MD2.9/5,*
ML2.9/6,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0
*TIR **12** 01:39:20.4,42.17N×18.64E,h16km±2km,Ml2.8/4*
*BEO **12** 01:39:21.1±0.2,42.37N×19.10E,h0km,ML2.8/31*

ISC 12 01:39:19.7±0.8,42.31N±0.02×18.91E±0.02,h3km±5km,
n112,σ1°37/177,23C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.01**	**217**	⇑*i*Pg	**Pg**	**01 39 20.2**	**-0.3**
BUM				*i* Sg	**Sg**	**01 39 21.6**	**+0.6**
PDG	**Podgorica**	**0.28**	**65**	⇑P	**Pg**	**01 39 24.1**	**-1.1**
PDG	**Podgorica**	**0.28**	**65**	*e*Pg	**Pg**	**01 39 24.0**	**-1.2**
PDG				*e*Sg	**Sg**	**01 39 26.6**	**-2.4**
PDG	**Podgorica**	**0.28**	**65**	⇑*i*Pg	**Pg**	**01 39 24.0**	**-1.2**
PDG				*e*Sg	**Sg**	**01 39 28.1**	**-0.9**
HCY	**Herceg Novi**	**0.33**	**294**	⇓*i*Pg	**Pg**	**01 39 25.7**	**-0.4**
HCY				*e*Sg	**Sg**	**01 39 31.3**	**+0.8**
ULC	**Ulcinj**	**0.43**	**144**	⇓*i*Pg	**Pg**	**01 39 27.6**	**-0.4**
ULC				*e*Sg	**Sg**	**01 39 34.6**	**+1.0**
TREB	**Trebinje**	**0.58**	**315**	⇑*i*Pg	**Pg**	**01 39 29.7**	**-1.1**
TREB				*e*Sg	**Sg**	**01 39 38.9**	**+0.6**
TREB	**Trebinje**	**0.58**	**315**	*e*Pg	**Pg**	**01 39 29.9**	**-0.9**
TREB				*e*Sg	**Sb**	**01 39 42.2**	**+1.2**
BRY	**Bratogost**	**0.65**	**336**	*e*Pg	**Pg**	**01 39 30.8**	**-1.4**
BRY				*i* Sg	**Sg**	**01 39 41.3**	**+0.7**
KLINJ	**Klinje**	**0.89**	**345**	*e*Pg	**Pg**	**01 39 34.9**	**-1.9**
KLINJ				*e*Sg	**Sg**	**01 39 48.2**	**-0.1**
STON	**Ston**	**1.05**	**303**	⇑*i*Pg	**Pg**	**01 39 37.8**	**-2.1**
STON				*e*Sg	**Sg**	**01 39 53.1**	**-0.4**
STON	**Ston**	**1.05**	**303**	*e*Pg	**Pg**	**01 39 38.3**	**-1.6**
STON	**Ston**	**1.05**	**303**	*e*Pg	**Pg**	**01 39 38.3**	**-1.6**
STON				*e*Sg	**Sn**	**01 39 57.7**	**+1.3**
PLE	**Pljevlja**	**1.08**	**19**	⇑*i*Pg	**Pg**	**01 39 38.7**	**-1.7**
PLE				*i* Sg	**Sg**	**01 39 55.3**	**+0.9**
TIR	**Tirane**	**1.20**	**143**	⇓P	**Pg**	**01 39 42.5**	**-0.2**
TIR				S	**Sn**	**01 40 01.3**	**+1.2**
TIR				AML	AML	01 40 04.1	
	0.6nm,0.5s						
SJES	**Sjenica**	**1.23**	**39**	*e*Pg	**Pg**	**01 39 41.3**	**-2.1**
SJES				*e*Sg	**Sg**	**01 39 59.2**	**-0.1**
RUDO	**Rudo**	**1.35**	**14**	*e*Pg	**Pn**	**01 39 43.3**	**-2.1**
RUDO				*e*Sg	**Sg**	**01 40 02.7**	**-0.4**
RUDO	**Rudo**	**1.35**	**14**	*e*Pg	**Pn**	**01 39 44.6**	**-0.8**
RUDO				*e*Sg	**Sg**	**01 40 02.6**	**-0.5**
LSTV	**Lastovo**	**1.56**	**288**	*i* Pn	**Pn**	**01 39 47.9**	**-0.3**
IVAS	**Ivanjica**	**1.56**	**36**	*e*Pg	**Pn**	**01 39 46.5**	**-1.9**
IVAS				*e*Sg	**Sn**	**01 40 07.5**	**-1.7**
BBLS	**Lazi&#263i**	**1.60**	**13**	*e*Pg	**Pn**	**01 39 48.9**	**0.0**
BBLS				*e*Sg	**Sn**	**01 40 10.2**	**+0.2**
MAKA	**Makarska**	**1.70**	**306**	*e*Pn	**Pn**	**01 39 49.6**	**-0.5**
RICI	**Ricice**	**1.76**	**313**	*e*Pn	**Pn**	**01 39 50.7**	**-0.4**
OHR	**Ohrid**	**1.86**	**130**	*e*Pn	**Pb**	**01 39 54.5**	**+0.2**
OHR				*e*Sn	**Sg**	**01 40 22.3**	**+2.9**
SELS	**Selova**	**1.87**	**60**	*e*Pg	**Pn**	**01 39 53.0**	**+0.4**
SELS				*e*Sg	**Sn**	**01 40 15.0**	**-1.6**
VLO	**Vlora**	**1.89**	**166**	⇑Pn	**Pn**	**01 39 52.6**	**-0.3**
VLO				Sn	**Sb**	**01 40 18.3**	**-0.6**
VLO				AML	AML	01 40 40.3	
	0.7nm,0.4s						
GOCS	**Kraljevo Serbi**	**1.91**	**48**	*e*Pg	**Pn**	**01 39 53.2**	**0.0**
GOCS				*e*Sg	**Sn**	**01 40 17.8**	**0.0**
SKO	**Skopje**	**1.92**	**99**	*e*Pn	**Pb**	**01 39 55.5**	**+0.3**
SKO				*e*Sn	**Sg**	**01 40 23.6**	**+2.3**
DIVS	**Divibare**	**1.96**	**24**	*e*Pg	**Pn**	**01 39 55.6**	**+1.8**
DIVS				*e*Sg	**Sb**	**01 40 22.5**	**+1.7**
HVAR	**Hvar**	**2.00**	**296**	*e*Pn	**Pn**	**01 39 54.4**	**0.0**
NOCI	**Noci**	**2.06**	**223**	⇓Pn	**Pn**	**01 39 53.8**	**-1.3**
NOCI				Sn	**Sn**	**01 40 19.1**	**-2.2**
NOCI				AML	AML	01 40 20.0	
	0.3nm,0.2s						
GRUS	**Gruza**	**2.06**	**39**	*e*Pg	**Pn**	**01 39 55.9**	**+0.7**
GRUS				*e*Sg	**Sn**	**01 40 22.4**	**+1.0**
KBN	**Korca**	**2.20**	**139**	⇓Pn	**Pb**	**01 39 59.8**	**-0.4**
KBN				Sn	**Sg**	**01 40 29.0**	**-1.4**
TRUS	**Trudelj**	**2.20**	**29**	*e*Pn	**Pn**	**01 39 59.0**	**+1.8**
TRUS				*e*Sg	**Sb**	**01 40 28.2**	**+0.3**
BARS	**Barje**	**2.21**	**76**	*e*Pg	**Pn**	**01 39 58.2**	**+1.0**
BARS				*e*Sg	**Sn**	**01 40 25.6**	**+0.6**
TEKS	**Tekeris**	**2.28**	**11**	*e*Pg	**Pn**	**01 39 58.6**	**+0.3**
TEKS				*e*Sg	**Sb**	**01 40 30.4**	**+0.3**
SGRT	**San Giovanni R**	**2.42**	**258**	⇑Pn	**Pn**	**01 39 59.8**	**-0.4**
BOVS	**Bovan**	**2.44**	**56**	⇑P	**Pn**	**01 40 01.4**	**+0.9**
BOVS	**Bovan**	**2.44**	**56**	*e*Pg	**Pn**	**01 40 03.0**	**+2.5**
BOVS				*e*Sg	**Sb**	**01 40 34.0**	**-0.8**
NEST	**Nestorio**	**2.49**	**139**	⇑Pn	**Pb**	**01 40 03.3**	**-1.8**
NEST				Sn	**Sb**	**01 40 37.4**	**+1.2**
NEST				AML	AML	01 40 48.3	
	0.1nm,0.9s						
KIJV	**Kijevo**	**2.49**	**314**	⇑*i*Pn	**Pn**	**01 40 01.3**	**+0.2**
KIJV				*e*Sn	**Sn**	**01 40 32.1**	**+0.1**
KIJV	**Kijevo**	**2.49**	**314**	*e*Pn	**Pn**	**01 40 02.4**	**+1.2**
BOSS	**Bosilegrad**	**2.65**	**85**	*e*Pn	**Pn**	**01 40 05.0**	**+1.6**
BOSS				*e*Sg	**Sn**	**01 40 37.5**	**+1.4**
AVAS	**Avala Beograd**	**2.66**	**26**	*e*Pn	**Pn**	**01 40 04.1**	**+0.7**
AVAS				*e*Sg	**Sn**	**01 40 39.5**	**+3.4**
BLY	**Banja Luka**	**2.74**	**333**	⇑*i*Pn	**Pn**	**01 40 04.3**	**-0.2**
BLY				*e*Sn	**Sn**	**01 40 38.0**	**-0.1**
BLY	**Banja Luka**	**2.74**	**333**	⇑P	**Pn**	**01 40 06.1**	**+1.6**
BLY	**Banja Luka**	**2.74**	**333**	*e*Pn	**Pn**	**01 40 06.7**	**+2.2**
ZIRJ	**Zirje**	**2.74**	**300**	*e*Pn	**Pn**	**01 40 05.2**	**+0.6**
SLATY	**Slatina**	**2.77**	**336**	*e*Pn	**Pn**	**01 40 04.5**	**-0.5**
SLATY				*e*Sn	**Sn**	**01 40 38.5**	**-0.4**
MORI	**Morici**	**2.81**	**305**	*e*Pn	**Pn**	**01 40 06.6**	**+1.1**
ZAGS	**Zajecar**	**2.86**	**57**	*e*Pn	**Pn**	**01 40 06.8**	**+0.6**
ZAGS				*e*Sg	**Sb**	**01 40 44.8**	**-2.0**
BORS2	**Bor- Borsko je**	**2.89**	**51**	*e*Pn	**Pn**	**01 40 06.6**	**0.0**
BORS2				*e*Sg	**Sn**	**01 40 43.1**	**+1.3**
ZAPS	**Zavoj**	**2.91**	**69**	*e*Pn	**Pn**	**01 40 08.6**	**+1.7**
ZAPS				*e*Sg	**Sn**	**01 40 45.4**	**+3.1**
KUBS	**Kucevo**	**2.91**	**43**	*e*Pn	**Pn**	**01 40 06.0**	**-0.9**
KUBS				*e*Sg	**Sn**	**01 40 43.9**	**+1.5**
VAY	**Valandovo**	**2.91**	**109**	*e*Pn	**Pn**	**01 40 09.2**	**+2.3**
VAY				*e*Sn	**Sb**	**01 40 45.9**	**-2.4**
FRGS	**Fruska Gora**	**2.92**	**13**	*e*Pn	**Pn**	**01 40 07.2**	**+0.2**
FRGS				*e*Sn	**Sn**	**01 40 41.5**	**-1.1**
IGT	**Igoumenitsa**	**2.98**	**158**	⇓Pn	**Pn**	**01 40 08.8**	**+1.0**
IGT	**Igoumenitsa**	**2.98**	**158**	*e*Pn	**Pn**	**01 40 07.5**	**-0.3**
BLKB	**Belogradchik**	**3.06**	**63**	*e*Pn	**Pn**	**01 40 08.3**	**-0.7**
MDVR	**Moldovita**	**3.20**	**39**	*e*Pn	**Pn**	**01 40 09.5**	**-1.5**
VTS	**Vitosha**	**3.22**	**83**	*e*Pn	**Pn**	**01 40 12.8**	**+1.5**
DUGI	**Dugi Otok**	**3.28**	**302**	*e*Pn	**Pn**	**01 40 12.7**	**+0.8**
VRSS	**Vrsac**	**3.31**	**31**	*e*Pn	**Pn**	**01 40 13.4**	**+1.0**
VIRC	**Vir**	**3.44**	**306**	*i* Pn	**Pn**	**01 40 14.8**	**+0.7**
TIP	**Timpagrande**	**3.53**	**208**	⇑Pn	**Pn**	**01 40 14.8**	**-0.6**
HERR	**Herculane**	**3.62**	**44**	⇑Pn	**Pn**	**01 40 16.5**	**-0.1**
MOSL	**Moslavina**	**3.65**	**336**	⇑*i*Pn	**Pn**	**01 40 17.2**	**+0.2**
MOSL				*e*Sn	**Sn**	**01 40 59.5**	**-1.1**
NVLJ	**Novalja**	**3.70**	**309**	*e*Pn	**Pn**	**01 40 18.3**	**+0.6**
SRS	**Serrai**	**3.71**	**107**	*e*Pn	**Pn**	**01 40 20.8**	**+3.0**
BZS	**Buzias**	**3.84**	**30**	⇑P	**Pn**	**01 40 20.5**	**+0.9**
BZS	**Buzias**	**3.84**	**30**	*e*Pn	**Pn**	**01 40 20.6**	**+0.9**
RABC	**Rab**	**3.86**	**311**	*e*Pn	**Pn**	**01 40 20.7**	**+0.7**
MORH	**Mrgy, Hungar**	**3.91**	**357**	⇑*i*Pn	**Pn**	**01 40 19.8**	**-0.8**
MORH				*e*Sn	**Sn**	**01 41 05.5**	**-1.4**
MORH	**Mrgy, Hungar**	**3.91**	**357**	⇑P	**Pn**	**01 40 20.6**	**0.0**
AQU	**L'Aquila**	**4.08**	**272**	*e*Pn	**Pn**	**01 40 22.7**	**-0.3**
AQU				*e*Sn	**Sn**	**01 41 09.9**	**-1.4**
OZLJ	**Ozalj**	**4.13**	**324**	⇑*i*Pn	**Pn**	**01 40 22.6**	**-1.0**
OZLJ				*e*Sn	**Sn**	**01 41 10.7**	**-1.7**
BOJS	**Bojanci**	**4.14**	**322**	*e*Pn	**Pn**	**01 40 25.1**	**+1.3**
SURR	**Surduc**	**4.15**	**33**	⇓P	**Pn**	**01 40 24.4**	**+0.5**
GZR	**Gura Zlata**	**4.16**	**41**	⇓P	**Pn**	**01 40 24.2**	**0.0**
GZR	**Gura Zlata**	**4.16**	**41**	*e*Pn	**Pn**	**01 40 24.6**	**+0.4**
CRES	**Cresnjevec Ost**	**4.30**	**326**	*e*Pn	**Pn**	**01 40 27.2**	**+1.2**
GBRS	**Gornja Briga**	**4.37**	**319**	*e*Pn	**Pn**	**01 40 28.1**	**+1.1**
SIRR	**Siria**	**4

RONA	Rosalia, Austr	150.92	345	*i* PKP	PKiKP	02 25 58.6	+0.5
	2.1nm,0.5s						
MOA	Molln	151.24	348	*i* PKP	PKiKP	02 25 58.8	+0.1
	0.8nm,0.5s						
MOTA	Moosalm	152.26	352	*i* PKP	PKPbc	02 26 00.2	-0.6
	0.7nm,0.4s						
WTTA	Wattenberg	152.27	351	*i* PKP	PKiKP	02 26 01.0	-0.1
	0.8nm,0.3s						
OBKA	Obir	152.45	346	*i* PKP	PKiKP	02 26 01.5	+0.1
	0.5nm,0.5s						
ABTA	Abfaltersbach	152.63	349	*i* PKP	PKPbc	02 26 01.3	-0.1
	1.5nm,0.6s						

IDC 12 02:23:29.6±3.6, 23°.15N×96°.33E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=359.0km s-min=22.1km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	26.16	338	P	P	02 29 06.1	+0.5
	0.7nm,0.5s,baz=147,slow=10,SNR=7.2						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	30.73	338	P	P	02 29 45.7	-0.6
	0.4nm,0.5s,baz=149,slow=8.7,SNR=4.5						
	0.4nm,0.5s						
WRA	Warramunga Arr	56.65	136	P	P	02 33 14.8	0.0
	0.4nm,0.5s,baz=323,slow=7.4,SNR=6.6						
	0.4nm,0.5s						
ASAR	Alice Springs	59.15	139	P	P	02 33 32.3	-0.1
	0.3nm,0.5s,baz=319,slow=7.1,SNR=7.7						
	0.3nm,0.5s						

GCG 12 02:24:51.0±1.0, 14°.16N×91°.67W, h61km±10km, MD3.5, ML3.7, MW3.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.40	47	*i* P	Pn	02 25 04.1	+1.8
STG2				*e*S	Sn	02 25 14.0	+3.6
SOKI	Kika Raxquin	0.70	22	*e*S	Sn	02 25 18.6	+2.0
QUEO	Labor Ovalle	0.72	12	*e*P	Pn	02 25 06.8	+0.9
QUEO				*e*S	Sn	02 25 19.5	+2.7
SMCA	Catarina	0.79	331	*e*P	Pn	02 25 06.5	0.0
SMCA				*i* S	Sn	02 25 18.4	+0.5
ESSG	Sabana Grande	0.85	75	*e*P	Pn	02 25 07.5	+0.3
FG8	Yepocapa, Chim	1.08	85	*e*P	Pn	02 25 06.6	-3.7
FG16	Alotenango, Sa	1.13	84	*i* P	Pn	02 25 07.1	-4.0
FG16				*e*S	Sn	02 25 21.2	-4.7
FG16				IAML		02 25 25.5	
	comp=N,2μm,0.2s						
APG	El Apazote	1.44	54	*e*P	Pn	02 25 16.6	+1.5
NUBE	Las Nubes	1.85	98	*e*P	Pn	02 25 21.2	+0.5

*IDC **12** 02:30:31.1±1.3, 20°.02S×169°.54E, h0km, mb3.9/8, mbtmp3.8/9, ML3.3/1, Error ellipse: s-maj=47.9km s-min=22.3km az=144.0*

ISC 12 02:30:36.3±1.1, 20°.0S±0°.3×169°.5E±0°.2, h35km, n10, σ1§55/11, mb3.8/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.52	234	Pn	Pn	02 31 26.9	-1.8
	2.8nm,0.3s,baz=59,slow=22,SNR=29						
DZM				Sn	Sn	02 32 10.7	+1.5
	11nm,0.3s,baz=109,slow=22,SNR=15						
	14nm,0.4s						
STKA	Stephens Creek	27.66	239	P	P	02 36 19.7	-1.3
	1.3nm,0.7s,baz=80,slow=13,SNR=4.0						
	1.3nm,0.7s						
WRA	Warramunga Arr	33.03	264	P	P	02 37 08.3	-0.3
	0.2nm,0.3s,baz=101,slow=8.3,SNR=4.9						
	0.2nm,0.3s						
ASAR	Alice Springs	33.21	257	P	P	02 37 09.7	-0.4
	1.4nm,0.8s,baz=80,slow=9.2,SNR=12						
	1.4nm,0.8s						
FITZ	Fitzroy Crossi	41.43	265	P	P	02 38 20.0	+0.2
	1.6nm,0.6s,baz=117,slow=9.9,SNR=12						
	1.6nm,0.6s						
MAW	Mawson	77.81	202	P	P	02 42 31.1	+1.4
	1.0nm,0.6s,baz=112,slow=8.0,SNR=4.3						
	1.0nm,0.6s						
CMAR	Chiang Mai Arr	79.07	294	P	P	02 42 39.6	+2.2
	0.9nm,0.3s,baz=124,slow=5.3,SNR=4.6						
	0.9nm,0.3s						
NVAR	Mina Array Bea	89.12	48	P	P	02 43 28.3	-0.1
	0.1nm,0.3s,baz=236,slow=6.1,SNR=2.2						
	0.1nm,0.3s						
ILAR	Eielson Array	90.90	17	P	P	02 43 35.9	0.0
	0.3nm,0.7s,baz=232,slow=5.6,SNR=3.2						
	0.3nm,0.7s						
GERES	GERESS Array B	145.31	332	PKPbc	PKPbc	02 50 08.0	-2.3
	0.5nm,0.6s,baz=35,slow=4.9,SNR=3.7						

DJA 12 02:35:14.2±0.5, 3°S±4°×13°0E±°, h58km±18km, M3.8/8, mB6.5/1, MLv3.8/8, Mw(mB)6.3/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.14	228	P	Pn	02 35 33.5	-0.6
MSAI				S	Sn	02 35 49.4	+0.6
AAI	Ambon	1.93	235	P	Pn	02 35 44.7	0.0
SWI	Sorong	2.26	41	P	Pn	02 35 49.1	-0.1
SWI				S	Sn	02 36 15.9	0.0
FAKI	Fak Fak	2.49	98	P	Pn	02 35 52.2	-0.1
NLAI	Namlea	2.76	256	P	Pn	02 35 55.9	-0.1
SAUI	Saumlaki	5.58	164	P	Pn	02 36 34.7	+0.1

*IDC **12** 02:35:32.3±0.4, 5°.11S×152°.63E, h0km, mb5.0/28, mbtmp5.0/29, ML4.0/1, MS4.8/46, Error ellipse: s-maj=14.7km s-min=10.5km az=80.0*

*NEIC **12** 02:35:37.3±2.4, 5°.10S±0°.07×152°.63E±0°.09, h24km±3km, mb5.6/191, Mwb5.3/53, Mww5.3/30, Error ellipse: s-maj=12.4km s-min=9.4km az=82.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.76; $M_{\theta\phi}$-0.25; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.15000×10^{17} NP1:ϕ_s237.05000°, δ27.07000°, λ62.44000°. NP2:ϕ_s87.43000°, δ66.21000°, λ103.31000°. Principal axes: T 1.2159, Plg66.0000°, Azm21.0000°; N -0.1533, Plg12.0000°, Azm262.0000°; P -1.0625, Plg20.0000°, Azm167.0000°;*

*MOS **12** 02:35:37.6±1.0, 4°.96S×152°.45E, h40km, mb5.4/36 Error ellipse: s-maj=9.0km s-min=6.4km az=112.1*

*BJI **12** 02:35:38.0, 4°.80S×152°.98E, h55km, mB5.4/29, mb5.2/70, Ms5.1/57, Ms7.4/57*

*NEIC **12** 02:35:38.4, 5°.10S×152°.63E, h26km*

*NEIC **12** 02:35:38.4, 5°.00S×152°.63E, h26km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.91; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$0.02; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.10000×10^{17} NP1: ϕ_s242.42000°, δ33.24000°, λ65.43000°. NP2:ϕ_s91.08000°, δ60.10000°, λ105.24000°. Principal axes: T 1.0943, Plg71.0000°, Azm35.0000°; N 0.0084, Plg13.0000°, Azm263.0000°; P -1.1027, Plg14.0000°, Azm170.0000°;*

*DJA **12** 02:35:39.5±0.5, 5°S±3°×15°3E±°, h72km±5km, M5.3/60, mb5.2/60, mB5.7/29, MLv5.7/1, Mw(mB)5.2/29, MwMwp5.2/7, Mwp5.4/7*

*NEIC **12** 02:35:39.8, 5°.10S×152°.62E, h44km*

*GCMT **12** 02:35:39.8±0.1, 5°.37S±0°.01×152°.63E±0°.01, h29km, MW5.4/132, Moment Tensor Solution. s132, c238; s128, c218; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.20±.02; $M_{\theta\theta}$-1.20±.02; $M_{\phi\phi}$0.00±.02; $M_{r\theta}$1.12±.03; $M_{\theta\phi}$-0.24±.01; $M_{\phi r}$-0.10±.03; Best double couple: $M_0$1.66200×10^{17} NP1:ϕ_s248.00000°, δ25.00000°, λ70.00000°. NP2:ϕ_s90.00000°, δ67.00000°, λ99.00000°. Principal axes: T 1.6620, Plg67.0000°, Azm17.0000°; N 0.0090, Plg8.0000°, Azm266.0000°; P -1.6630, Plg21.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 02:35:40.5±0.5, 5°.17S±0°.04×152°.69E±0°.04, h64km±3km, h64km:pP-P, n485, σ1§61/473, mb5.2/135, 15C-25D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.10	331		Pn	02 35 57.6	-2.4
MANU	Manus Island	6.16	300		Pn	02 37 09.7	+0.9
PMG	Port Moresby	6.92	232		Pn	02 37 17.8	-1.5
PMG	Port Moresby	6.92	232	Pn	Pn	02 37 19.6	+0.3
	8.0nm,0.3s,baz=34,slow=8.7,SNR=53						
PMG				Sn	Sn	02 38 36.1	-0.5
	38nm,0.3s,baz=101,slow=20,SNR=4.3						
PMG	Port Moresby	6.92	232	P	Pn	02 37 19.2	-0.1
PMG	Port Moresby	6.92	232	P	Pn	02 37 19.3	-0.1
PMG	Port Moresby	6.92	232	*d* P	Pn	02 37 17.7	-1.6
PMG				pmax	pmax		
	comp=Z,115nm,0.8s						
SAVO	Savo Central	8.10	120	P	Pn	02 37 38.9	+3.5
HNR	Honiara	8.35	121	LR	LR	02 41 20.3	
	comp=Z,7μm,18.5s,baz=330,slow=41						
JAY	Jayapura	12.25	282	Pn	Pn	02 38 29.3	-2.9
	comp=Z,0.9nm,0.3s,baz=135,slow=10.0,SNR=9.3						
	comp=Z,4.9nm,0.6s						
JAY	Jayapura	12.25	282	P	Pn	02 38 36.0	+3.8
GENI	Genyem	12.76	281	P	Pn	02 38 39.2	+0.1
GENI	Genyem	12.76	281	P	Pn	02 38 41.1	+2.0
	comp=Z,4μmcomp=Z,207nm,1.7s						
COEN	Coen	12.82	226	P	Pn	02 38 39.0	-0.9
	comp=Z,0.0nmcomp=Z,38nm,0.9s						
COEN	Coen	12.82	226		Pn	02 38 39.5	-0.5
COEN	Coen	12.82	226	P	Pn	02 38 39.9	-0.1
PATS	Pohnpei	13.18	25	P	Pn	02 38 41.7	-3.1
	comp=Z,368nm,1.0s						
PATS	Pohnpei	13.18	25	P	Pn	02 38 45.9	+1.1
SMPI	Sarmi	14.31	282	P	Pn	02 38 59.5	-0.4
	comp=Z,3μmcomp=Z,135nm,1.2s						
TV1H	Townsville Har	15.14	202	P	Pn	02 39 12.5	+1.8
MTSU	Mount Surprise	15.27	212	P	Pn	02 39 10.1	-2.3
	comp=Z,69nm,1.0s						
MTSU	Mount Surprise	15.27	212	P	Pn	02 39 13.2	+0.8
CTAO	Charters Tower	16.10	202		Pn	02 39 23.7	+0.7
CTAO	Charters Tower	16.10	202	P	P	02 39 25.3	+0.1
CTAO	Charters Tower	16.10	202	P	Pn	02 39 23.7	+0.7
CTAO				pmax	pmax		
	comp=Z,98nm,1.7s						
SANVU	Saraoutou	17.54	127	P	Pn	02 39 40.8	0.0
SANVU	Saraoutou	17.54	127	P	P	02 39 41.0	-0.1
GD1S	Gladstone Soft	18.63	184	P	Pn	02 39 54.6	+0.7
RKPI	Ransiki, Papua	18.84	280	P	P	02 39 55.1	-0.3
	comp=Z,3μmcomp=Z,93nm,0.7s						
KMPI	Kaimana, Papua	18.99	274	P	P	02 39 56.5	-0.6
	comp=Z,2μmcomp=Z,79nm,0.4s						
QIS	Mount Isa	19.90	219	P	P	02 40 06.8	-0.2
	comp=Z,70nm,1.2s						
QIS	Mount Isa	19.90	219	P	P	02 40 07.1	+0.1
EIDS	Eidsvold	20.15	184	P	P	02 40 09.4	-0.2
	comp=Z,46nm,2.6s						
EIDS	Eidsvold	20.15	184		P	02 40 09.8	+0.2
EIDS	Eidsvold	20.15	184	P	P	02 40 09.7	+0.1
GUMO	Guam	20.19	337		P	02 40 09.9	-0.2
GUMO				IAmb	IAmb	02 40 25.2	
	comp=Z,206nm,0.9s						
GUMO	Guam	20.19	337	P	P	02 40 09.6	-0.5
	comp=Z,167nm,0.9s,baz=176,slow=10,SNR=8.1						
GUMO				LR	LR	02 47 00.1	
	comp=Z,1μm,20.3s,baz=160,slow=34						
	comp=Z,167nm,0.9s						
GUMO	Guam	20.19	337	P	P	02 40 10.8	+0.7
GUMO	Guam	20.19	337	P	P	02 40 09.9	-0.2
GUMO				pmax	pmax		
	comp=Z,206nm,1.0s						
FAKI	Fak Fak	20.52	275		P	02 40 13.9	+0.2
FAKI	Fak Fak	20.52	275	P	Pn	02 40 15.1	-1.3
FAKI	Fak Fak	20.52	275	P	P	02 40 14.9	+1.2
	comp=Z,2μmcomp=Z,95nm,0.8s						
TARA	Tarawa	21.22	73	P	P	02 40 23.3	+2.1
TARA				IAmb	IAmb	02 40 25.8	
	comp=Z,206nm,1.2s						
DZM	Mont Dzumac	21.44	143	*e*P	P	02 40 24.3	+0.7
	comp=Z,138nm,1.1s						
DZM				*e*S	S	02 44 12.9	-5.4
	comp=Z,3μm,23.9s						
DZM				*e*LR	LR	02 45 35.7	
	comp=Z,5μm,24.4s						
DZM	Mont Dzumac	21.44	143	P	P	02 40 24.1	+0.4
DZM	Mont Dzumac	21.44	143	P	P	02 40 24.1	+0.4
	comp=Z,16nm,0.6s,baz=341,slow=9.2,SNR=10						
	comp=Z,16nm,0.6s						
DZM	Mont Dzumac	21.44	143	P	P	02 40 24.9	+1.3
YATNC	Mamie plateau,	21.70	142	P	P	02 40 29.3	+3.0
SWI	Sorong	21.82	281	P	P	02 40 26.0	-1.7
	comp=Z,2μmcomp=Z,115nm,0.7s						
TW1H	Toowoomba 1 Ha	22.27	182	P	P	02 40 33.7	+1.3
MTN	Manton Dam	22.61	249	P	P	02 40 34.2	-1.9
	comp=Z,80nm,1.0s						
MTN	Manton Dam	22.61	249		P	02 40 36.3	+0.2
DRS	Darwin Rock St	22.70	250	P	P	02 40 37.9	+0.8
AUDHS	Darwin High Sc	22.77	250	P	P	02 40 37.8	0.0
QLP	Quilpie	22.78	200	P	P	02 40 37.1	-0.7
	comp=Z,0.0nmcomp=Z,143nm,1.4s						
QLP	Quilpie	22.78	200	P	P	02 40 37.2	-0.6
WRAB	Tennant Creek	23.11	229	P	P	02 40 41.2	-0.1
WRAB				IAmb	IAmb	02 41 05.8	
	comp=Z,259nm,1.8s						
WRAB	Tennant Creek	23.11	229	P	P	02 40 40.3	-1.0
WRAB	Tennant Creek	23.11	229	*c i* P	P	02 40 40.8	-0.5
WRAB				pmax	pmax		
	comp=Z,81nm,1.7s						
WRA	Warramunga Arr	23.12	229	P	P	02 40 40.1	-1.3
	comp=Z,14nm,0.6s,baz=51,slow=9.6,SNR=63						
WRA				LR	LR	02 50 48.2	
	comp=Z,3μm,18.2s,baz=60,slow=40						
	comp=Z,14nm,0.6s						
WRA	Warramunga Arr	23.12	229	*i* P	P	02 40 40.2	-1.3
WRA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
AULRC	Lightning Ridg	24.54	190	P	P	02 40 54.2	-0.1
INKA	Innaminka	25.17	206	P	P	02 40 59.9	-0.1
KNRA	Kununurra	25.72	244	P	P	02 41 04.4	-0.7
	comp=Z,122nm,0.8s						
KNRA	Kununurra	25.72	244	P	P	02 41 04.4	-0.7
KNRA				IAmb	IAmb	02 41 38.9	
	comp=Z,128nm,1.0s						
ASAR	Alice Springs	25.81	223	P	P	02 41 05.5	-0.4
	comp=Z,19nm,0.7s,baz=58,slow=8.8,SNR=54						
ASAR				LR	LR	02 50 47.2	
	comp=Z,2μm,21.7s,baz=32,slow=35						
ASAR				P3KPbc		03 13 53.0	
	comp=Z,0.6nm,0.9s,baz=238,slow=4.9,SNR=4.9						
	comp=Z,19nm,0.7s						
AUALC	St Philip's Co	25.84	223	P	P	02 41 06.2	0.0
AUPHS	Peel High Scho	25.85	184	P	P	02 41 07.3	+1.1
SANI	Sanana	26.83	276	P	P	02 41 13.2	-2.0
	comp=Z,47nm,0.8s						
CMSA	Cobar Meteorol	27.05	193	P	P	02 41 15.9	-1.1
	comp=Z,24nm,1.2s						
CMSA	Cobar Meteorol	27.05	193	P	P	02 41 16.1	-0.8
STKA	Stephens Creek	28.54	200	P	P	02 41 28.6	-1.7
	comp=Z,60nm,1.0s						
STKA	Stephens Creek	28.54	200	P	P	02 41 28.6	-1.7
	comp=Z,7.2nm,0.7s,baz=22,slow=11,SNR=14						
STKA				LR	LR	02 53 29.4	
	comp=Z,3μm,19.0s,baz=15,slow=38						
	comp=Z,7.2nm,0.7s						
STKA	Stephens Creek	28.54	200	P	P	02 41 29.1	-1.1
STKA	Stephens Creek	28.54	200	P	P	02 41 29.7	-0.5
STKA				pmax	pmax		
	comp=Z,59nm,1.0s						
SOEI	Soe	28.54	259	P	P	02 41 29.6	-1.1
	comp=Z,1μmcomp=Z,63nm,0.7s						
BATI	Baumata	29.19	258	P	P	02 41 34.5	-1.8
	comp=Z,22nm,0.5s,baz=90,slow=2.0,SNR=1.8						
BATI				LR	LR	02 55 32.3	
	comp=Z,4μm,21.1s,baz=98,slow=41						
	comp=Z,22nm,0.5s						
FITZ	Fitzroy Crossi	29.39	242	P	P	02 41 37.0	-1.0
	comp=Z,25nm,0.6s,baz=66,slow=7.0,SNR=74						
FITZ				LR	LR	02 54 54.3	
	comp=Z,2μm,18.9s,baz=72,slow=40						
	comp=Z,25nm,0.6s						
DAV	Davao City (W)	29.66	294	LR	LR	02 52 52.6	
	comp=Z,2μm,19.1s,baz=95,slow=35						
WRKA	Warakurna	30.63	227	P	P	02 41 47.7	-1.2
	comp=Z,16nm,0.7s						
MRSI	Marisa	31.22	279	P	P	02 41 53.2	-1.0
	comp=Z,926nmcomp=Z,32nm,0.5s						
BBOO	Buckleboo	31.58	207	P	P	02 41 56.0	-1.2
	comp=Z,22nm,0.9s						
BASI	Baing, Sumba	32.21	259	P	P	02 41 59.5	-3.4
AUMBR	Murray Bridge	32.29	201	P	P	02 42 05.4	+2.1
WSI	Waingapu	32.42	260	P	P	02 42 03.4	-1.4
TOLI2	Tolitoli	32.48	280	P	P	02 42 02.6	-2.7
TOLI2	Tolitoli	32.48	280	P	P	02 42 03.4	-1.9
KAPI	Kappang	32.81	269	P	P	02 42 06.8	-1.3
	comp=Z,5.3nm,0.4s,baz=90,slow=8.2,SNR=3.9						
KAPI				LR	LR	02 59 59.9	
	comp=Z,533nm,18.3s,baz=96,slow=45						
	comp=Z,5.3nm,0.4s						
ARPS	Mount Arapiles	32.99	196	P	P	02 42 08.5	-0.9
	comp=Z,9.9nm,1.4s						
WBSI	Waikabubak, Su	33.31	260	P	P	02 42 10.4	-2.2
JCJ	Chichijima	33.64	343	LR	LR	02 54 25.8	
	comp=Z,2μm,21.9s,baz=122,slow=34						
FORT	Forrest	34.44	219	P	P	02 42 21.2	-0.9
	comp=Z,25nm,0.8s						
FORT	Forrest	34.44	219	P	P	02 42 21.6	-0.5
PLAI	Plampang	34.84	262	P	P	02 42 25.6	-0.2
PLAI	Plampang	34.84	262	P	P	02 42 22.1	-3.7
	comp=Z,43nm,0.7s						
MYLDM	Lahad Datu	35.66	286	P	P	02 42 33.4	+0.6
MYLDM	Lahad Datu	35.66	286	P	P	02 42 33.6	+0.7
MBWA	Marble Bar	35.70	240	P	P	02 42 32.0	-1.1
	comp=Z,31nm,1.0s						
MBWA	Marble Bar	35.70	240	P	P	02 42 32.4	-0.7
MBWA	Marble Bar	35.70	240	P	P	02 42 32.7	-0.4
PSA00	Pilbara Seismi	35.75	240	P	P	02 42 32.7	-0.9
	comp=Z,32nm,1.0s						
PSA00	Pilbara Seismi	35.75	240	P	P	02 42 32.2	-1.3
PSA00	Pilbara Seismi	35.75	240	P	P	02 42 32.9	-0.7
PSAB3	Pilbara Seismi	35.75	240	P	P	02 42 32.4	-1.2
	comp=Z,31nm,1.1s						
PSAC1	Pilbara Seismi	35.77	240	P	P	02 42 30.8	-3.0
	comp=Z,29nm,0.9s						
TGY	Tagaytay City	36.87	302	LR	LR	02 56 10.1	
	comp=Z,1μm,20.7s,baz=138,slow=34						
KKM	Kota Kinabalu	38.09	287	P	P	02 42 52.9	-0.7
TOZ	Tahuroa Road	38.51	150	P	P	02 42 58.5	+1.7
MEEK	Meekatharra	38.90	233	P	P	02 42 59.7	-0.5
JOW	Kunigami	39.63	325	LR	LR	02 56 24.0	
	comp=Z,1μm,20.7s,baz=188,slow=32						
URZ	Urewera	39.73	149	P	P	02 43 08.3	+1.5
	comp=Z,6.9nm,0.7s,baz=50,slow=1.0,SNR=7.6						
URZ				LR	LR	02 58 46.4	
	comp=Z,1μm,19.5s,baz=326,slow=35						
	comp=Z,6.9nm,0.7s						
RTZ	Ruatahuna	39.93	150	P	P	02 43 09.7	+1.0
TUWZ	Tuamarina	40.80	155	P	P	02 43 17.7	+2.0
GIRL	Giralia	41.00	241	P	P	02 43 17.4	-0.2
	comp=Z,70nm,1.6s						
SBUM	Sibu	41.13	280	P	P	02 43 17.8	-1.1
SBUM	Sibu	41.13	280	P	P	02 43 18.5	-0.3
PCJI	Pacitan	41.33	264	P	P	02 43 18.1	-2.3
	comp=Z,68nm,0.7s						
RPZ	Rata Peaks	41.67	160	P	P	02 43 23.3	+0.5
	comp=Z,16nm,0.8s,baz=287,slow=4.2,SNR=5.2						
RPZ				LR	LR	02 59 57.4	
	comp=Z,5μm,18.8s,baz=332,slow=35						
	comp=Z,16nm,0.8s						
YULB	Yu-li	41.77	314	P	P	02 43 23.8	-0.1
MORW	Morawa	42.03	231	P	P	02 43 25.0	-1.0
	comp=Z,24nm,1.0s						
MORW	Morawa	42.03	231	P	P	02 43 25.1	-1.0
MORW	Morawa	42.03	231	P	P	02 43 25.2	-0.8
NACB	Ninganchiao	42.05	315	P	P	02 43 26.4	+0.2
TPUB	Ta-pu	42.20	313	P	P	02 43 26.7	-0.8
TPUB	Ta-pu	42.20	313	P	P	02 43 26.6	-0.8
BLDU	Ballidu	42.26	229	P	P	02 43 26.2	-1.6
	comp=Z,19nm,1.9s						
SSLB	Suanglung	42.27	314	P	P	02 43 27.8	-0.2
SSLB	Suanglung	42.27	314	P	P	02 43 28.0	0.0
YHNB	Yeheng	42.52	316	P	P	02 43 30.4	+0.4
YHNB	Yeheng	42.52	316	P	P	02 43 30.5	+0.4
KSM	Kuching	42.85	278	P	P	02 43 31.7	-1.2
KSM	Kuching	42.85	278	P	P	02 43 32.0	-0.8
NWAO	Narrogin (SRO)	43.06	226	LR	LR	03 02 58.5	
	comp=Z,2μm,19.0s,baz=72,slow=38						
MUN	Mundaring	43.31	227	P	P	02 43 34.1	-2.2
	comp=Z,33nm,0.9s						
MUN	Mundaring	43.31	227	P	P	02 43 35.9	-0.4
JNU	Nakatsue	43.34	333	P	P	02 43 35.3	-1.2
JNU				IAmb	IAmb	02 43 37.4	
	comp=Z,92nm,1.0s						
JNU	Nakatsue	43.34	333	P	P	02 43 36.2	-0.3
KPJI	Karang Pucung	43.54	265	P	P	02 43 36.9	-1.5
	comp=Z,43nm,0.7s						
MJAR	Matsushiro Arr	43.65	343	P	P	02 43 36.7	-2.2
	comp=Z,14nm,1.0s,baz=171,slow=8.6,SNR=13						
MJAR				PcP	PcP	02 45 26.1	+0.8
	comp=Z,8.2nm,0.9s,baz=148,slow=3.0,SNR=5.9						
MJAR				LR	LR	02 59 07.4	
	comp=Z,1μm,18.8s,baz=175,slow=32						
	comp=Z,14nm,1.0s						
RKGY	Rocky Gully	44.15	224	P	P	02 43 41.2	-1.7
BBJI	Bungbulang	44.81	265	P	P	02 43 46.7	-2.0
LEM	Lembang	44.85	266	LR	LR	03 08 42.2	
	comp=Z,503nm,18.1s,baz=10,slow=44						
TPI	Tanjungpandan	44.99	271	P	P	02 43 49.0	-1.0
CNJI	Cibinong	45.33	265	P	P	02 43 50.9	-1.8
	comp=Z,2μmcomp=Z,43nm,0.9s						
HKPS	Hong Kong Po S	46.55	307	IAmb	IAmb	02 44 05.2	
	comp=Z,54nm,0.9s						
HKPS	Hong Kong Po S	46.55	307	P	P	02 44 03.7	+1.5
DLV	Lat	47.13	291	P	P	02 44 07.6	+0.5
TJN	Taejon	47.65	332	P	P	02 44 10.8	+0.3
TJN	Taejon	47.65	332	P	P	02 44 10.9	+0.5
TJN	Taejon	47.65	332	*de*P	P	02 44 10.2	-0.2
DSRI	Dabo	48.27	274	P	P	02 44 14.5	-1.2
	comp=Z,43nm,0.8s						
KSRS	Korea Array	48.28	333	P	P	02 44 14.6	-0.7
	comp=Z,9.1nm,0.8s,baz=147,slow=7.9,SNR=16						
KSRS				LR	LR	03 03 17.8	
	comp=Z,255μm,19.6s,baz=125,slow=35						
	comp=Z,9.1nm,0.8s						
MDSI	Maura Dua	48.34	269	P	P	02 44 13.3	-2.9
	comp=Z,451nmcomp=Z,21nm,0.9s						
Q

PDSI	**Padang**	**52.31 273**	P	**P**	**02 44 43.9**	**-2.4**
	comp=Z,49nm,0.7s					
PPI	**Padang Panjang**	**52.42 273**	P	**P**	**02 44 44.9**	**-2.2**
IPM	**Ipoh**	**52.49 280**	P	**P**	**02 44 47.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**52.56 341**	P	**P**	**02 44 47.2**	**-0.3**
	comp=Z,18nm,0.9s,baz=161,slow=8.1,SNR=16					
USRK			PcP	**PcP**	**02 45 58.5**	**+1.4**
	comp=Z,16nm,1.1s,baz=154,slow=4.1,SNR=4.8					
	comp=Z,18nm,0.9s					
YSS	**Yuzhno-Sakhali**	**52.63 351**	P	**P**	**02 44 47.4**	**-0.6**
YSS	**Yuzhno-Sakhali**	**52.63 351**	*e*P	**P**	**02 44 47.2**	**-0.8**
YSS			*e**PP	**pP**	**02 45 02.5**	**-1.1**
YSS			*e*		02 45 59.8	
YSS			*e*S	**S**	**02 52 08.3**	**-2.4**
YSS			*e*SS	**SS**	**02 55 48.1**	**-1.9**
YSS			pmax	pmax		
	comp=Z,40nm,0.8s					
YSS			MLR	MLR		
	comp=N,500nm,15.0s					
TIA	**Tai'an**	**52.95 324**	P	**P**	**02 44 50.4**	**-0.1**
TIA			PcP	**PcP**	**02 45 59.5**	**+0.8**
TIA			pmax	pmax		
	comp=N,20nm,1.0s					
KULM	**Kulim**	**53.00 281**	P	**P**	**02 44 51.1**	**-0.2**
MNSI	**Mandailing Nat**	**53.38 275**	P	**P**	**02 44 51.5**	**-2.6**
	comp=N,3μmcomp=N,34nm,0.7s					
MDJ	**Mudanjiang**	**53.73 340**	P	**P**	**02 44 56.0**	**-0.1**
MDJ			pmax	pmax		
	comp=N,23nm,0.9s					
MDJ			LR	LR		
	comp=N,960nm,22.4s					
MDJ	**Mudanjiang**	**53.73 340**	P	**P**	**02 44 55.7**	**-0.4**
PSI	**Prapat**	**54.29 277**	LR	LR	03 11 15.5	
	comp=N,356nm,21.7s,baz=127,slow=40					
PSI	**Prapat**	**54.29 277**	P	**P**	**02 45 00.5**	**-0.5**
PSI	**Prapat**	**54.29 277**	P	**P**	**02 44 59.2**	**-1.8**
PSI			pmax	pmax		
	comp=Z,15nm,1.0s					
ENH	**Enshi**	**54.33 313**	IAmb	IAmb	02 45 03.1	
	comp=Z,67nm,0.9s					
ENH	**Enshi**	**54.33 313**	P	**P**	**02 45 01.3**	**+0.5**
GYA	**Guiyang**	**54.53 308**	⇓P	**P**	**02 45 03.1**	**+0.6**
GYA			pP	pP	02 45 17.6	-0.4
GYA			PcP	**PcP**	**02 46 06.3**	**+1.1**
GYA			S	**S**	**02 52 37.8**	**+0.4**
GYA			pmax	pmax		
	comp=Z,16nm,1.0s					
GYA			pmax	pmax		
	comp=Z,200nm,5.2s					
GYA			LR	LR		
	comp=Z,680nm,20.5s					
GYA			LR	LR		
	comp=Z,1μm,21.2s					
GYA			LR	LR		
	comp=Z,1μm,20.2s					
CN2	**Changchun**	**54.59 336**	*e*P	**P**	**02 45 02.7**	**+0.3**
CN2			*e*S	S	02 52 26.1	-11
CN2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
CN2			pmax	pmax		
	comp=Z,300nm,6.0s					
CN2			LR	LR		
	comp=Z,200nm,11.0s					
CN2			LR	LR		
	comp=Z,300nm,11.0s					
CN2			LR	LR		
	comp=Z,200nm,12.0s					
SLVN	**Son La**	**54.59 301**	P	**P**	**02 45 03.6**	**+0.7**
LYN	**LuoYang**	**54.75 319**	P	**P**	**02 45 05.1**	**+1.4**
LYN			pmax	pmax		
	comp=Z,21nm,0.9s					
LYN			LR	LR		
	comp=Z,1μm,19.6s					
LYN			LR	LR		
	comp=Z,2μm,20.6s					
LYN			LR	LR		
	comp=Z,3μm,19.6s					
HNS	**HongShan**	**55.17 323**	⇓P	**P**	**02 45 07.0**	**+0.3**
HNS			S	**S**	**02 52 47.6**	**+2.3**
HNS			pmax	pmax		
	comp=Z,17nm,0.9s					
HNS			LR	LR		
	comp=Z,770nm,17.5s					
HNS			LR	LR		
	comp=Z,750nm,16.7s					
GSI	**Gunungsitoli**	**55.43 275**	IAmb	IAmb	02 45 09.0	
	comp=Z,40nm,0.8s					
GSI	**Gunungsitoli**	**55.43 275**	P	**P**	**02 45 07.4**	**-1.6**
GSI	**Gunungsitoli**	**55.43 275**	P	**P**	**02 45 06.1**	**-2.9**
	comp=Z,53nm,0.9s					
BNX	**BinXian**	**55.47 339**	⇓P	**P**	**02 45 08.1**	**-0.6**
BNX			pmax	pmax		
	comp=Z,34nm,0.9s					
BJI	**Beijing**	**56.14 327**	P	**P**	**02 45 15.1**	**+1.5**
BJI			pP	**pP**	**02 45 30.3**	**+1.2**
BJI			PcP	**PcP**	**02 46 12.4**	**+1.5**
BJI			sS	**sS**	**02 53 25.1**	**-0.4**
BJI			pmax	pmax		
	comp=Z,4.0nm,0.7s					
BJI			LR	LR		
	comp=Z,380nm,20.0s					
BJI			LR	LR		
	comp=Z,280nm,19.2s					
BJI			LR	LR		
	comp=Z,440nm,23.3s					
TYV	**Tymovskoe**	**56.47 352**	*e*P	**P**	**02 45 13.1**	**-2.6**
TYV			*e*S	**S**	**02 52 56.8**	**-5.3**
TYV			pmax	pmax		
	comp=Z,11nm,1.4s					
TYV			pmax	pmax		
	comp=Z,100nm,2.3s					
TYV			smax	smax		
	comp=N,200nm,6.2s					
TYV			smax	smax		
	comp=E,200nm,6.2s					
XAN	**Xi'an**	**56.81 317**	⇑P	**P**	**02 45 18.3**	**-0.3**
XAN			pP	pP	02 45 33.5	-0.7
XAN			pmax	pmax		
	comp=E,52nm,0.8s					
XAN			LR	LR		
	comp=E,960nm,18.4s					
XAN			LR	LR		
	comp=E,1μm,18.2s					
XAN			LR	LR		
	comp=E,2μm,20.6s					
KMI	**Kunming**	**57.10 304**	P	**P**	**02 45 21.9**	**+0.9**
KMI			pmax	pmax		
	comp=E,27nm,0.9s					
KMI			LR	LR		
	comp=E,330nm,19.0s					
KMI			LR	LR		
	comp=E,610nm,19.8s					
KMI			LR	LR		
	comp=E,630nm,21.4s					
PPT	**Papeete**	**57.72 107**	LR	LR	03 07 12.2	
	comp=E,325nm,19.8s,baz=288,slow=33					
PPT2	**Papeete2**	**57.72 107**	*e*PKP1	**P**	**02 45 22.7**	**-2.6**
	comp=E,113nm,25.5s					
PPT2	**Papeete2**	**57.72 107**	*e*PP	**PP**	**02 47 26.5**	**-7.4**
	comp=E,61nm,25.0s					
PPT2			*e*S	**S**	**02 53 17.3**	**-2.5**
	comp=E,375nm,27.5s					
PPT2			*e*SS	**SS**	**02 57 13.1**	**+1.8**
	comp=E,302nm,29.2s					
PPT2			*e*LQ	LQ	02 59 58.7	
	comp=E,1μm,26.8s					
PPT2			*e*LR	LR	03 02 19.0	
	comp=E,261nm,36.5s					
PPT2			*e*LR	LR	03 02 25.7	
	comp=E,271nm,21.0s					
CMAR	**Chiang Mai Arr**	**57.94 295**	P	**P**	**02 45 27.1**	**+0.4**
	comp=E,37nm,0.8s,baz=110,slow=5.2,SNR=128					
CMAR			LR	LR	03 10 16.3	
	comp=E,278nm,19.6s,baz=100,slow=36					
CMAR			PKP2bc	**P'P'bc**	**03 15 22.9**	**+0.7**
	comp=E,0.9nm,0.3s,baz=288,slow=4.0,SNR=5.5					
	comp=E,37nm,0.8s					
CMAR	**Chiang Mai Arr**	**57.94 295**	*i* P	**P**	**02 45 27.2**	**+0.4**
CMAR			pmax	pmax		
	comp=Z,39nm,0.8s					
CHTO	**Chiang Mai**	**58.05 296**	P	**P**	**02 45 27.5**	**0.0**
CHTO	**Chiang Mai**	**58.05 296**	P	**P**	**02 45 28.2**	**+0.7**
CHTO	**Chiang Mai**	**58.05 296**	P	**P**	**02 45 27.5**	**0.0**
CHTO			pmax	pmax		
	comp=Z,28nm,1.0s					
PET	**Petropavlovsk**	**58.19 4**	P	**P**	**02 45 27.5**	**-0.3**
PET			IAmb	IAmb	02 45 28.4	
	comp=Z,30nm,0.9s					
PET	**Petropavlovsk**	**58.19 4**	P	**P**	**02 45 27.5**	**-0.3**
PET	**Petropavlovsk**	**58.19 4**	⇓*e*P	**P**	**02 45 26.7**	**-1.1**
PET			pmax	pmax		
	comp=Z,62nm,1.7s					
PEA0B	**Petropavlovsk-**	**58.21 4**	⇑*i*P	**P**	**02 45 27.8**	**-0.2**
PETK	**Petropavlovsk-**	**58.21 4**	P	**P**	**02 45 28.0**	**0.0**
	comp=Z,20nm,0.6s,baz=168,slow=6.6,SNR=32					
PETK			LR	LR	03 05 54.1	
	comp=Z,881nm,21.9s,baz=185,slow=31					
	comp=Z,20nm,0.6s					
PZH	**PanZhiHua**	**58.50 305**	P	**P**	**02 45 34.3**	**+3.6**
CD2	**Chengdu**	**58.89 311**	P	**P**	**02 45 33.3**	**0.0**
CD2			S	**S**	**02 53 37.3**	**+2.6**
CD2			pmax	pmax		
	comp=Z,100nm,0.7s					
CD2			LR	LR		
	comp=Z,2μm,20.6s					
CD2			LR	LR		
	comp=Z,2μm,18.6s					
XLT	**XiLinHaoTe**	**58.93 330**	*e*P	**P**	**02 45 32.6**	**-0.7**
XLT			pP	pP	02 45 47.2	-1.7
XLT			sP	pwP	02 45 53.3	-0.3
XLT			PcP	**PcP**	**02 46 21.8**	**-0.1**
XLT			pmax	pmax		
	comp=Z,25nm,0.8s					
XLT			LR	LR		
	comp=Z,500nm,16.2s					
XLT			LR	LR		
	comp=Z,710nm,17.9s					
HHC	**Hu-ho-hao-te**	**59.28 325**	⇓*i*P	**P**	**02 45 36.7**	**+0.9**
HHC			pmax	pmax		
	comp=Z,21nm,0.9s					
HHC			pmax	pmax		
	comp=Z,450nm,6.5s					
HHC			LR	LR		
	comp=Z,390nm,16.7s					
HHC			LR	LR		
	comp=Z,560nm,16.7s					
HHC			LR	LR		
	comp=Z,750nm,18.5s					
HEH	**HeiHe**	**59.37 341**	*e*P	**P**	**02 45 34.6**	**-1.4**
HEH			pmax	pmax		
	comp=Z,24nm,0.9s					
BTO	**Baotou**	**60.03 323**	*e*P	**P**	**02 45 42.5**	**+1.5**
BTO			pP	**pP**	**02 45 55.3**	**-1.4**
BTO			PP	**PP**	**02 47 57.4**	**+3.3**
BTO			S	**S**	**02 53 51.3**	**+2.2**
BTO			pmax	pmax		
	comp=Z,36nm,0.6s					
BTO			pmax	pmax		
	comp=Z,550nm,5.6s					
BTO			LR	LR		
	comp=Z,2μm,15.6s					
BTO			LR	LR		
	comp=Z,1μm,18.0s					
BTO			LR	LR		
	comp=Z,2μm,19.5s					
SHEM	**Shemya Is, Ala**	**60.47 15**	P	**P**	**02 45 44.3**	**+0.8**
	comp=Z,80nm,0.6s,baz=282,slow=2.2,SNR=4.9					
SHEM			LR	LR	03 07 19.8	
	comp=Z,2μm,21.5s,baz=204,slow=32					
	comp=Z,80nm,0.6s					
AMKA	**Amchitka**	**60.76 19**	P	**P**	**02 45 46.3**	**+0.7**
HIA	**Hailar**	**61.32 336**	P	**P**	**02 45 49.7**	**+0.2**
HIA	**Hailar**	**61.32 336**	⇑*e*P	**P**	**02 45 49.1**	**-0.4**
HIA			pmax	pmax		
	comp=Z,12nm,0.8s					
LZH	**Lanzhou**	**61.42 316**	*e*P	**P**	**02 45 51.1**	**+0.5**
LZH			pP	pP	02 46 02.9	-3.5
LZH			sP	pwP	02 46 09.4	-1.5
LZH			pmax	pmax		
	comp=Z,46nm,1.1s					
LZH			LR	LR		
	comp=Z,400nm,18.0s					
LZH			LR	LR		
	comp=Z,780nm,18.4s					
LZH			LR	LR		
	comp=Z,970nm,19.8s					
LZDM	**Lanzhou Array**	**61.45 316**	P	**P**	**02 45 51.8**	**+0.8**
	comp=Z,39nm,0.8s,baz=151,slow=6.8,SNR=26					
LZDM			LR	LR	03 13 23.7	
	comp=Z,396nm,18.2s,baz=0.0,slow=37					
	comp=Z,39nm,0.8s					
KIWB	**Kanaga Island**	**62.35 21**	P	**P**	**02 45 57.5**	**+1.2**
ZEA	**Zeya**	**62.46 343**	*e*P	**P**	**02 45 59.3**	**+2.3**
ZEA			*e*		02 46 36.8	
ZEA			pmax	pmax		
	comp=Z,100nm,0.4s					
ZEA			MLR	MLR		
	comp=E,300nm,14.0s					
ZEA			MLR	MLR		
	comp=Z,500nm,16.0s					
ADK	**Adak**	**62.55 21**	P	**P**	**02 45 58.1**	**+0.6**
ADK	**Adak**	**62.55 21**	P	**P**	**02 45 58.3**	**+0.8**
ADK	**Adak**	**62.55 21**	P	**P**	**02 45 58.1**	**+0.6**
ADK			pmax	pmax		
	comp=Z,129nm,1.1s					
MA2	**Magadan**	**64.56 359**	P	**P**	**02 46 09.9**	**-0.7**
MA2			IAmb	IAmb	02 46 11.6	
	comp=Z,31nm,0.8s					
MA2	**Magadan**	**64.56 359**	P	**P**	**02 46 10.4**	**-0.3**
MA2	**Magadan**	**64.56 359**	*ce*P	**P**	**02 46 10.0**	**-0.7**
MA2			pmax	pmax		
	comp=Z,47nm,1.3s					
BRDH	**Bariadhala**	**65.73 298**	LR	LR	03 12 51.5	
	comp=Z,304nm,21.6s,baz=158,slow=34					
GTA	**Gaotai**	**65.85 317**	*e*P	**P**	**02 46 20.6**	**+0.9**
GTA			sP	sP	02 46 42.8	+0.5
GTA			pmax	pmax		
	comp=Z,26nm,1.0s					
GTA			LR	LR		
	comp=Z,480nm,18.9s					
GTA			LR	LR		
	comp=Z,790nm,19.6s					
GTA			LR	LR		
	comp=Z,1μm,19.3s					
ULN	**Ulaanbaatar**	**66.25 328**	P	**P**	**02 46 22.2**	**+0.1**
ULN	**Ulaanbaatar**	**66.25 328**	*ce*P	**P**	**02 46 22.3**	**+0.2**
ULN			pmax	pmax		
	comp=Z,8.0nm,0.8s					
NIKH	**Nikolski High**	**66.39 24**	P	**P**	**02 46 23.2**	**+0.6**
SHL	**Shillong**	**66.40 301**	P	**P**	**02 46 22.9**	**-0.6**
SHL			IAmb	IAmb	02 46 25.1	
	comp=Z,73nm,0.8s					
SHL	**Shillong**	**66.40 301**	P	**P**	**02 46 22.9**	**-0.6**
SHL			pmax	pmax		
	comp=Z,73nm,0.8s					
SONM	**Songino Array**	**66.58 328**	P	**P**	**02 46 24.4**	**+0.3**
	comp=Z,10nm,0.9s,baz=146,slow=5.8,SNR=23					
SONM			LR	LR	03 13 57.3	
	comp=Z,756nm,21.2s,baz=108,slow=35					
SONM			PKP2bc		03 14 59.6	
	comp=Z,1.3nm,0.8s,baz=322,slow=3.2,SNR=6.0					
	comp=Z,10nm,0.9s					
TAOE	**Nuku Hiva Isla**	**66.69 97**	*e*PKP1	**P**	**02 46 23.5**	**-2.0**
	comp=Z,90nm,25.3s					
TAOE			*e*S	**S**	**02 55 12.9**	**-0.1**
	comp=Z,50nm,28.8s					
TAOE			*e*SS	**SS**	**02 59 32.2**	**+0.4**
	comp=Z,116nm,25.9s					
TAOE			*e*LQ	LQ	03 03 42.0	
	comp=Z,268nm,21.9s					
TAOE			*e*LR	LR	03 06 31.8	
	comp=Z,658nm,20.9s					
SEY	**Seymchan**	**67.91 360**	*e*P	**P**	**02 46 30.1**	**-2.0**
SEY			pmax	pmax		
	comp=Z,14nm,1.5s					
GOMU	**GeErMu**	**67.93 312**	P	**P**	**02 46 34.2**	**+0.9**
GOMU			S	**S**	**02 55 31.4**	**+3.7**
GOMU			pmax	pmax		
	comp=Z,14nm,0.8s					
GOMU			LR	LR		
	comp=Z,350nm,19.9s					
GOMU			LR	LR		
	comp=Z,570nm,19.9s					
GOMU			LR	LR		
	comp=Z,930nm,19.2s					
UNV	**Unalaska Valle**	**67.99 25**	P	**P**	**02 46 32.6**	**-0.1**
UNV	**Unalaska Valle**	**67.99 25**	P	**P**	**02 46 32.0**	**-0.8**
LSA	**Lhasa**	**68.36 305**	IAmb	IAmb	02 46 38.6	
	comp=Z,26nm,0.8s					
LSA	**Lhasa**	**68.36 305**	P	**P**	**02 46 33.8**	**-2.4**
LSA			pmax	pmax		
	comp=Z,28nm,0.9s					
LSA	**Lhasa**	**68.36 305**	P	**P**	**02 46 36.9**	**+0.7**
LSA			pmax	pmax		
	comp=Z,36nm,0.9s					
YAK	**Yakutsk**	**69.31 349**	*e*P	**P**	**02 46 40.7**	**-0.1**
YAK			*e**PP	**pP**	**02 46 57.5**	**+0.6**
YAK			*e*		02 47 03.7	
YAK			*e*		02 49 13.8	
YAK			*e*S	**S**	**02 55 43.1**	**+0.8**
YAK			*e**SS	**sS**	**02 56 12.0**	**+1.8**
YAK			*e*		02 56 37.8	
YAK			*e*SS	**SS**	**03 00 11.9**	**+1.5**
YAK			pmax	pmax		
	comp=Z,38nm,1.3s					
YAK			pmax	pmax		
	comp=N,12nm,1.3s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.5s					
YAK			pmax	pmax		
	comp=Z,136nm,4.6s					
YAK			smax	smax		
	comp=E,182nm,5.3s					
YAK			smax	smax		
	comp=N,78nm,3.8s					
ZAK	**Zakamensk**	**69.75 329**	*e*P	**P**	**02 46 43.5**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,19nm,1.1s					
BOD	**Bodaibo**	**70.09 339**	*e*P	**P**	**02 46 45.0**	**-0.7**
BOD			pmax	pmax		
	comp=Z,13nm,0.9s					
TLY	**Talaya**	**70.34 330**	⇓*e*P	**P**	**02 46 48.8**	**+1.4**
TLY			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SDPT	**Sand Point**	**71.59 26**	P	**P**	**02 46 55.9**	**+1.1**
CHNA	**Chernabura Isl**	**71.65 27**	P	**P**	**02 46 56.6**	**+1.4**
MOY	**Mondy**	**71.67 329**	*e*P	**P**	**02 46 54.8**	**-0.8**
MOY			pmax	pmax		
	comp=Z,38nm,2.4s					
RKT	**Rikitea**	**71.75 113**	*e*S	**S**	**02 56 13.9**	**+1.7**
	comp=Z,1μm,27.8s					
RKT	**Rikitea**	**71.75 113**	*e*LR	LR	03 08 58.8	
	comp=Z,2μm,36.5s					
VNDA	**Vanda**	**72.47 178**	P	**P**	**02 47 00.6**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=328,slow=6.9,SNR=25					
VNDA			LR	LR	03 18 08.3	
	comp=Z,338nm,18.1s,baz=353,slow=35					
	comp=Z,3.4nm,0.7s					
PALK	**Pallekele**	**72.89 279**	LR	LR	03 21 24.3	
	comp=Z,142nm,21.4s,baz=102,slow=38					
PALK	**Pallekele**	**72.89 279**	⇓*e*P	**P**	**02 47 01.9**	**-1.6**
PALK			pmax	pmax		
	comp=Z,11nm,0.8s					
KNGR	**Kungurtug, Tuv**	**72.93 327**	*de*P	**P**	**02 47 04.0**	**+0.8**
KNGR			pmax	pmax		
	comp=Z,35nm,0.9s					
BILL	**Bilibino**	**73.66 5**	P	**P**	**02 47 07.5**	**+0.6**
BILL			IAmb	IAmb	02 49 40.8	
	comp=Z,114nm,1.1s					
BILL	**Bilibino**	**73.66 5**	*ce*P	**P**	**02 47 07.3**	**+0.4**
BILL			pmax	pmax		
	comp=Z,88nm,1.0s					
WMQ	**Urumqi**	**75.94 317**	*e*P	**P**	**02 47 22.3**	**+1.6**
WMQ			LR	LR		
	comp=Z,530nm,16.3s					
WMQ			LR	LR		
	comp=Z,620nm,17.9s					
WMQ			LR	LR		
	comp=Z,550nm,17.9s					
TNA	**Tin City**	**76.18 16**	IAmb	IAmb	02 47 24.2	
	comp=Z,49nm,0.9s					
HYB	**Hyderabad**	**76.51 289**	*e*P	**P**	**02 47 23.7**	**-0.8**
HYB			IVmB_BB		02 47 24.6	
	comp=Z,198nm,1.2s					
HYB			*e*PP	**PP**	**02 50 18.5**	**+1.3**
KDAK	**Kodiak Island**	**76.55 27**	LR	LR	03 15 25.7	
	comp=Z,1μm,21.9s,baz=234,slow=31					
I17K	**Unalakleet**	**77.14 19**	IAmb	IAmb	02 47 29.8	
	comp=Z,74nm,1.1s					
TIXI	**Tiksi**	**78.24 352**	P	**P**	**02 47 32.0**	**-1.0**
TIXI	**Tiksi**	**78.24 352**	⇑*e*P	**P**	**02 47 32.9**	**0.0**
TIXI			pmax	pmax		
	comp=Z,16nm,1.3s					
ZSN	**Zaisan**	**79.08 320**	*e*P	**P**	**02 47 38.3**	**+0.2**
ZSN	**Zaisan**	**79.08 320**	*e*P	**P**	**02 47 38.3**	**+0.2**
MK31	**Makanchi Array**	**80.53 319**	*c i*P	**P**	**02 47 45.7**	**-0.3**
MKAR	**Makanchi Array**	**80.53 319**	P	**P**	**02 47 45.9**	**0.0**
	comp=Z,7.5nm,0.8s,baz=106,slow=6.0,SNR=36					
MKAR			PKKPbc	**PKKPbc**	**03 06 28.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=325,slow=2.3,SNR=3.9					
MKAR			LR	LR	03 23 00.5	
	comp=Z,670nm,19.8s,baz=58,slow=35					
	comp=Z,7.5nm,0.8s					
MAKZ	**Makanchi**	**80.74 319**	P	**P**	**02 47 46.9**	**-0.2**
MAKZ	**Makanchi**	**80.74 319**	P	**P**	**02 47 46.9**	**-0.2**
MAKZ			pmax	pmax		
	comp=Z,20nm,1.2s					
ZALV	**Zalesovo Beam**	**81.40 326**	P	**P**	**02 47 49.5**	**-0.9**
	comp=Z,12nm,0.5s,baz=111,slow=6.1,SNR=32					
	comp=Z,12nm,0.5s					
SHLS	**Shalkode**	**81.41 315**	*e*P	**P**	**02 47 49.2**	**-1.7**
SHLS	**Shalkode**	**81.41 315**	*e*P	**P**	**02 47 49.2**	**-1.7**
UZB	**Uzynbulak**	**81.72 315**	*e*P	**P**	**02 47 52.6**	**0.0**
UZB	**Uzynbulak**	**81.72 315**	*e*P	**P**	**02 47 52.5**	**0.0**
SATY	**Saty**	**82.14 315**	*e*P	**P**	**02 47 54.7**	**0.0**
SATY	**Saty**	**82.14 315**	*e*P	**P**	**02 47 54.7**	**0.0**
COLA	**College**	**82.23 22**	P	**P**	**02 47 53.0**	**-1.4**
COLA	**College**	**82.23 22**	P	**P**	**02 47 54.9**	**+0.4**
COLA	**College**	**82.23 22**	*de*P	**P**	**02 47 53.5**	**-1.0**
COLA			pmax	pmax		
	comp=Z,140nm,1.0s					
ILAR	**Eielson Array**	**82.54 22**	P	**P**	**02 47 55.4**	**-0.8**
	comp=Z,67nm,0.9s,baz=245,slow=5.4,SNR=22					
ILAR			LR	LR	03 20 34.9	
	comp=Z,702nm,20.6s,baz=234,slow=33					
	comp=Z,67nm,0.9s					
TDK	**Taldyqorghan**	**82.63 316**	*e*P	**P**	**02 47 57.1**	**0.0**
	comp=Z,16nm,1.0s					
TDK	**Taldyqorghan**	**82.63 316**	*e*P	**P**	**02 47 57.0**	**0.0**
TDK			pmax	pmax		
	comp=Z,16nm,1.0s					
KSH	**Kashi**	**83.09 311**	P	**P**	**02 48 02.5**	**+2.8**
KSH			pmax	pmax		
	comp=Z,32nm,0.9s					
KSH			pmax	pmax		
	comp=Z,280nm,4.8s					
KSH			LR	LR		
	comp=Z,280nm,15.8s					
KSH			LR	LR		
	comp=Z,530nm,14.8s					
KSH			LR	LR		
	comp=Z,330nm,14.4s					
MDOK	**Medeo**	**83.12 314**	*e*P	**P**	**02 47 59.9**	**0.0**
MDOK	**Medeo**	**83.12 314**	*e*P	**P**	**02 47 59.8**	**0.0**
TNSS	**Tian-Shan**	**83.17 314**	*e*P	**P**	**02 47 59.9**	**-0.5**
TNSS	**Tian-Shan**	**83.17 314**	*e*P	**P**	**02 47 59.9**	**-0.5**
AAA	**Alma-Ata**	**83.23 314**	*e*P	**P**	**02 48 00.2**	**-0.2**
	comp=Z,23nm,1.0s					
AAA	**Alma-Ata**	**83.23 314**	*e*P	**P**	**02 48 00.1**	**-0.2**
AAA			pmax	pmax		
	comp=Z,23nm,1.0s					
BOOM	**Boomskoye usch**	**83.77 314**	IAmb	IAmb	02 48 07.2	
	comp=Z,64nm,1.6s					
KURK	**Kurchatov**	**83.99 322**	P	**P**	**02 48 03.3**	**-0.5**
KURK			IAmb	IAmb	02 48 06.4	
	comp=Z,20nm,0.8s					
KURK	**Kurchatov**	**83.99 322**	*c i*P	**P**	**02 48 03.4**	**-0.5**
KURK			pmax	pmax		
	comp=Z,30nm,1.0s					
KURBB	**Kurchatov Arra**	**84.02 322**	P	**P**	**02 48 03.7**	**-0.3**
	comp=Z,18nm,1.1s,baz=107,slow=4.3,SNR=46					
KURBB			PKKPbc	**PKKPbc**	**03 06 20.1**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=288,slow=3.3,SNR=5.1					
	comp=Z,18nm,1.1s					
NIL	**Nilore**	**84.09 304**	P	**P**	**02 48 05.7**	**+0.8**
NIL			IAmb	IAmb	02 48 07.1	
	comp=Z,56nm,0.8s					
NIL	**Nilore**	**84.09 304**	P	**P**	**02 48 05.7**	**+0.8**
NIL			pmax	pmax		
	comp=Z,55nm,0.8s					
TKM2	**Tokmak 2**	**84.11 314**	P	**P**	**02 48 06.3**	**+1.4**
	SNR=9.3					
KBK	**Karagaybulak**	**84.52 314**	P	**P**	**02 48 08.6**	**+1.6**
	SNR=12					
CHMS	**Chumysh**	**84.73 314**	P	**P**	**02 48 09.1**	**+1.2**
	SNR=8.8					
UCH	**Uchtor**	**84.74 313**	P	**P**	**02 48 10.4**	**+1.9**
	SNR=20					

QSPA	South Pole Qui	84.80	180	P	P	02 48 11.0 +3.2
QSPA	South Pole Qui	84.80	180	P	P	02 48 10.6 +2.7
	comp=Z,11nm,0.7s,baz=315,slow=0.7,SNR=114					
QSPA				LR	LR	03 25 12.1
	comp=Z,314nm,18.1s,baz=16,slow=35					
	comp=Z,11nm,0.7s					
AAK	Ala-Archa	84.84	314	P	P	02 48 09.5 +0.9
AAK				IAmb	IAmb	02 48 11.6
	comp=Z,44nm,0.8s					
AAK	Ala-Archa	84.84	314	P	P	02 48 10.2 +1.6
	SNR=14					
AAK	Ala-Archa	84.84	314	*c iP*	P	02 48 09.1 +0.5
AAK				pmax	pmax	
	comp=Z,47nm,0.9s					
SGDS	Sogindy	84.91	314	*eP*	P	02 48 08.8 -0.1
	comp=Z,13nm,1.1s					
USP	Ospenovka	84.97	314	P	P	02 48 10.5 +1.5
	SNR=24					
MAW	Mawson	85.19	203	P	P	02 48 09.8 +0.2
	comp=Z,8.9nm,0.9s,baz=89,slow=6.2,SNR=20					
MAW				LR	LR	03 22 59.9
	comp=Z,772nm,21.5s,baz=94,slow=33					
	comp=Z,8.9nm,0.9s					
EKS2	Erkin-Say	85.36	313	P	P	02 48 12.9 +1.7
	SNR=20					
OHH	Osh	85.69	311	P	P	02 48 12.5 -0.3
OHH				pmax	pmax	
	comp=Z,124nm,1.0s					
DZA	Taraz	87.18	313	*eP*	P	02 48 20.0 0.0
	comp=Z,12nm,0.7s					
DZA	Taraz	87.18	313	*eP*	P	02 48 19.9 0.0
DZA				pmax	pmax	
	comp=Z,12nm,0.7s					
BBB	Bella Bella	87.45	37	LR	LR	03 24 35.8
	comp=Z,307nm,18.1s,baz=262,slow=34					
DLBC	Dease Lake	87.75	31	LR	LR	03 21 56.1
	comp=Z,15μm,20.1s,baz=254,slow=32					
IUG	Iuzhnay	88.01	312	*eP*	P	02 48 23.7 -0.4
	comp=Z,12nm,0.7s					
IUG	Iuzhnay	88.01	312	*eP*	P	02 48 23.6 -0.4
IUG				pmax	pmax	
	comp=Z,12nm,0.7s					
CHM	Chimkent	88.35	313	*eP*	P	02 48 25.5 0.0
	comp=Z,5.4nm,0.4s					
CHM	Chimkent	88.35	313	*eP*	P	02 48 25.5 0.0
CHM				pmax	pmax	
	comp=Z,5.0nm,0.4s					
KCPM	Cahto Peak	88.44	50	IAmb	IAmb	02 50 20.5
	comp=Z,74nm,1.4s					
INK	Inuvik	88.83	21	LR	LR	03 24 39.3
	comp=Z,509nm,21.7s,baz=230,slow=33					
YBH	Yreka Blue Hor	89.38	48	LR	LR	03 21 44.0
	comp=Z,100nm,20.9s,baz=271,slow=31					
BORK	Borovoye	89.51	323	*ceP*	P	02 48 29.8 -0.9
BORK				pmax	pmax	
	comp=Z,10.0nm,0.9s					
HULI	Fort Hunter Li	89.83	54		P	02 48 34.8 +2.1
HULI				IAmb	IAmb	02 50 13.8
	comp=Z,35nm,1.1s					
G04A	Mulino	89.99	45	IAmb	IAmb	02 49 06.2
	comp=Z,76nm,1.1s					
J05D	Fort Rock, OR	90.65	47	IAmb	IAmb	02 49 14.9
	comp=Z,48nm,0.8s					
VES	Vestal, Richgr	91.55	54	IAmb	IAmb	02 50 18.3
	comp=Z,28nm,1.2s					
MWC	Mount Wilson	92.25	56	IAmb	IAmb	02 48 47.2
	comp=Z,21nm,1.0s					
NVAR	Mina Array Bea	92.39	52	P	P	02 48 45.7 +0.9
	comp=Z,5.9nm,0.9s,baz=258,slow=6.2,SNR=35					
NVAR				PKiKP	PKiKP	02 53 31.0 -2.8
	comp=Z,1.6nm,0.8s,baz=270,slow=1.8,SNR=3.9					
NVAR				LR	LR	03 23 52.6
	comp=Z,2μm,20.5s,baz=274,slow=31					
	comp=Z,5.9nm,0.9s					
WVOR	Wild Horse Val	92.47	48	P	P	02 48 45.9 +1.0
WVOR				pmax	pmax	
	comp=Z,8.0nm,1.0s					
G08A	Pilot Rock	92.47	45	IAmb	IAmb	02 49 48.9
	comp=Z,35nm,1.3s					
E09A	Wood Farm, Sta	93.13	44	IAmb	IAmb	02 49 17.4
	comp=Z,29nm,0.9s					
SYO	Syowa Base	93.29	199‖	*eP*	P	02 48 48.1 +0.2
SYO	Syowa Base	93.29	199‖	*ePcP*	PcP	02 48 50.0 +1.5
PFO	Pinyon Flats O	93.53	57	LR	LR	03 22 50.2
	comp=Z,349nm,21.1s,baz=275,slow=30					
PFO	Pinyon Flats O	93.53	57‖	*eP*	P	02 48 50.1 +0.1
PFO				pmax	pmax	
	comp=Z,11nm,1.0s					
BMO	Blue Mountains	93.61	45	IAmb	IAmb	02 49 43.2
	comp=Z,32nm,1.2s					
NEW	Newport	93.94	42	P	P	02 48 51.6 +0.2
	comp=Z,5.3nm,1.0s,baz=263,slow=5.8,SNR=6.3					
NEW				LR	LR	03 25 56.1
	comp=Z,524nm,19.4s,baz=274,slow=32					
	comp=Z,5.3nm,1.0s					
PLID	Pearl Lake	94.54	45	IAmb	IAmb	02 49 51.9
	comp=Z,21nm,1.1s					
RPN	Rapa Nui	94.73	118	LR	LR	03 25 06.7
	comp=Z,333nm,19.9s,baz=286,slow=31					
SHPR	Sheep Range	94.76	54		P	02 48 57.1 +1.5
V12A	Nelson	94.97	55	P	P	02 48 57.8 +1.2
V12A				IAmb	IAmb	02 50 38.4
	comp=Z,32nm,1.0s					
SVE	Sverdlovsk	95.42	327	*eP*	P	02 48 55.7 -2.2
YKA	Yellowknife Ar	95.80	28	LR	LR	03 26 27.4
	comp=Z,1μm,21.7s,baz=289,slow=32					
ARTI	Arti	96.66	326		P	02 49 01.7 -1.9
ARTI				IAmb	IAmb	02 49 03.1
	comp=Z,19nm,1.1s					
ARTI	Arti	96.66	326	LR	LR	03 33 32.9
	comp=Z,687nm,20.0s,baz=268,slow=36					
ARTI	Arti	96.66	326	*c iP*	P	02 49 01.6 -2.0
ARTI						02 52 55.9
ARTI				S	SKSac	02 59 32.6 -2.2
ARTI				pmax	pmax	
	comp=Z,15nm,1.0s					
AKTO	Aktyubinsk	96.93	320	LR	LR	03 34 24.0
	comp=Z,394nm,18.7s,baz=66,slow=36					
BELA	Belgrano 2	96.97	178		P	02 49 05.4 +0.8
LPIG	La Paz	98.47	66	LR	LR	03 25 52.3
	comp=Z,654nm,20.8s,baz=284,slow=31					
PDAR	Pinedale Array	99.17	48	P	Pdif	02 49 15.1 -0.5
	comp=Z,1.2nm,0.9s,baz=222,slow=2.0,SNR=8.9					
PDAR				PP	PP	02 53 18.4 -0.4
	comp=Z,1.0nm,0.9s,baz=270,slow=4.4,SNR=3.3					
PDAR				LR	LR	03 31 06.3
	comp=Z,804nm,18.4s,baz=248,slow=34					
	comp=Z,1.2nm,0.9s					
APA	Apatity	105.64	340‖	*eP*	Pdif	02 49 40.2 -3.2
KLMR	Klimovskoe	105.66	332	*eP*	Pdif	02 49 40.5 -3.1
KLMR				pmax	pmax	
	comp=Z,13nm,1.4s					
KIV	Kislovodsk	107.94	314	*eP*	Pdif	02 50 09.4 +15
KIV				pmax	pmax	
	comp=Z,7.0nm,1.1s					
FINES	FINESS Array B	111.34	336	PKiKP	PKiKP	02 54 07.0 +0.1
	comp=Z,5.3nm,0.9s,baz=158,slow=1.5,SNR=7.8					
AKASG	Malin Array Be	114.73	324	PKP	PKPdf	02 54 13.9 +0.2
	comp=Z,6.0nm,0.8s,baz=64,slow=2.3,SNR=12					
AKASG	Malin Array Be	114.73	324	PKIKP	PKPdf	02 54 14.0 +0.2
BRTR	Keskin Array B	115.47	312	PKP	PKiKP	02 54 15.7 -0.1
	comp=Z,1.8nm,0.9s,baz=121,slow=2.6,SNR=7.0					
BRTR				PKKPbc	PKKPbc	03 04 52.5 +1.9
	comp=Z,0.6nm,0.8s,baz=232,slow=1.4,SNR=3.8					
NOA	NORSAR Array B	117.22	340	PKP	PKPdf	02 54 18.2 -0.2
	comp=Z,4.2nm,1.0s,baz=49,slow=1.9,SNR=7.5					
MLR	Muntele Rosu	118.86	320		PKiKP	02 54 22.8 +0.6
MLR	Muntele Rosu	118.86	320	PKIKP	PKiKP	02 54 22.8 +0.6
PLCA	Paso Flores	119.55	143	PKP	PKiKP	02 54 24.2 +0.6
	comp=Z,1.5nm,0.8s,baz=242,slow=5.6,SNR=5.2					
PLCA				PKKPbc	PKKPbc	03 04 35.1 -1.0
	comp=Z,2.1nm,0.8s,baz=91,slow=2.9,SNR=5.1					
STHS	Stebnicka Huta	119.89	326	*ePKIKP*	PKiKP	02 54 24.4 +0.5
STHS	Stebnicka Huta	119.89	326	*ePKP*	PKiKP	02 54 24.4 +0.5
RDO	Rodhopi	120.86	315		PKPdf	02 54 25.7 -0.2
LANS	Liptovska Anna	121.02	326	*ePKIKP*	PKiKP	02 54 27.6 +1.4
LANS	Liptovska Anna	121.02	326	*ePKP*	PKiKP	02 54 27.6 +1.4
STEB	Steborice	121.52	328	*ePKPDF*	PKiKP	02 54 27.8 +0.7
MORC	Moravsky Berou	121.73	327	*ePKIKP*	PKiKP	02 54 27.9 +0.4
MAUC	Maruska	121.81	327	*ePKPDF*	PKiKP	02 54 28.1 +0.4
KRLC	Kraliky	121.96	328	*ePKIKP*	PKiKP	02 54 28.8 +0.8
KRLC	Kraliky	121.96	328	*ePKPDF*	PKiKP	02 54 28.8 +0.8
OSTC	Ostas	121.97	329	*ePKIKP*	PKiKP	02 54 29.3 +1.3
OSTC	Ostas	121.97	329	*ePKPDF*	PKiKP	02 54 29.3 +1.3
DPC	Dobruska-Polom	122.04	329	*ePKIKP*	PKiKP	02 54 29.0 +0.9
DPC	Dobruska-Polom	122.04	329	*ePKPDF*	PKiKP	02 54 29.0 +0.9
JAVC	Velka Javorina	122.17	327	*ePKIKP*	PKiKP	02 54 29.3 +0.8
SRO	Srobarova	122.39	325	*ePKIKP*	PKiKP	02 54 30.1 +1.3
SRO				*e*		02 56 14.9
SRO	Srobarova	122.39	325	*ePKP*	PKiKP	02 54 30.1 +1.3
SRO				*e*		02 56 14.8
VRAC	Vranov	122.50	327	*ePKIKP*	PKiKP	02 54 29.5 +0.5
MODS	Modra-Piesok	122.66	326	*ePKIKP*	PKiKP	02 54 30.0 +0.6
MODS	Modra-Piesok	122.66	326	*ePKP*	PKiKP	02 54 29.9 +0.6
KRUC	Moravsky	122.75	327	*ePKIKP*	PKiKP	02 54 29.9 +0.4
PVCC	Panska Ves	122.83	330	*ePKIKP*	PKiKP	02 54 30.6 +1.0
PVCC	Panska Ves	122.83	330	*ePKPDF*	PKiKP	02 54 30.6 +1.0
BRG	Berggiesshubel	122.93	330	*i PKP*	PKiKP	02 54 30.7 +0.9
BRG				Amp		02 54 31.4
	comp=Z,9.8nm,0.8s					
BRG	Berggiesshubel	122.93	330	P	PKiKP	02 54 38.7 +8.9
BRG				Amp		02 54 39.2
	comp=Z,4.3nm,1.0s					
CLL	Collm	123.12	331	*i PKIKP*	PKiKP	02 54 30.8 +0.7
CLL				*e*		02 54 50.0
CLL				pmax	pmax	
	comp=Z,14nm,0.8s					
CLL				MLR	MLR	
	comp=Z,300nm,19.7s					
CLL	Collm	123.12	331	*i PKPdf*	PKiKP	02 54 30.8 +0.7
	comp=Z,14nm,0.8s					
CLL				*ex*	x	02 54 50.0
CLL				LmV		03 53 00.0
	comp=Z,300nm,19.7s					
HSKC	Hora Svate Kat	123.35	330	*ePKPDF*	PKiKP	02 54 31.4 +0.7
RONA	Rosalia, Austr	123.58	326	*i PKiKP*	PKiKP	02 54 31.4 +0.2
	comp=Z,9.3nm,1.0s,SNR=7.3					
CONA	Conrad Observa	123.69	326	*i PKiKP*	PKiKP	02 54 31.7 +0.2
	comp=Z,5.6nm,0.8s					
KHC	Kasperske Hory	124.20	329	*ePKIKP*	PKiKP	02 54 32.9 +0.5
KHC	Kasperske Hory	124.20	329	*ePKPDF*	PKiKP	02 54 32.9 +0.5
ARSA	Arzberg	124.27	326	*i PKP*	PKPdf	02 54 32.2 -0.1
	comp=Z,4.2nm,1.1s					
GERES	GERESS Array B	124.31	328	PKP	PKiKP	02 54 33.2 +0.5
	comp=Z,6.2nm,0.7s,baz=42,slow=2.2,SNR=44					
PDG	Podgorica	124.55	319		PKPdf	02 54 33.1 +0.1
MOA	Molln	124.61	327	*i PKP*	PKPdf	02 54 32.8 -0.1
	comp=Z,3.3nm,0.8s					
GROS	Grobnik	124.73	325	*ePKPdf*	PKPdf	02 54 33.2 -0.1
PERS	Pernice	124.85	325	*ePKPdf*	PKPdf	02 54 33.5 0.0
SOKA	Soboth	124.87	326	*i PKP*	PKPdf	02 54 33.3 -0.2
	comp=Z,9.9nm,1.0s					
BIOA	Bad Ischl, Aus	125.04	327	*i PKP*	PKPdf	02 54 33.3 -0.5
	comp=Z,4.0nm,0.8s					
CO03	El Pedregal	125.24	134		PKiKP	02 54 35.4 +0.3
OBKA	Obir	125.24	326	*i PKP*	PKPdf	02 54 34.2 -0.1
	comp=Z,3.4nm,0.9s					
BOJS	Bojanci	125.42	324	*ePKPdf*	PKiKP	02 54 35.2 +0.3
G004	Tololo Observa	125.52	133		PKiKP	02 54 36.1 +0.1
KBA	Koelnbreinsper	125.57	327	*i PKP*	PKPdf	02 54 34.6 -0.4
	comp=Z,5.7nm,0.7s					
MYKA	Terra Mystica	125.68	326	*i PKP*	PKiKP	02 54 35.4 -0.1
	comp=Z,3.5nm,0.6s					
LESA	Schwarzleotal	125.72	327	*i PKP*	PKPdf	02 54 35.4 +0.2
	comp=Z,7.6nm,0.5s,SNR=7.5					
LCO	Las Campanas	126.21	132		PKiKP	02 54 38.5 +1.1
LCO	Las Campanas	126.21	132	PKIKP	PKiKP	02 54 38.5 +1.1
ABTA	Abfaltersbach	126.23	327	*i PKP*	PKPdf	02 54 35.9 -0.2
	comp=Z,13nm,1.0s,SNR=6.8					
EKA	Eskdalemuir Ar	126.35	343	PKP	PKiKP	02 54 37.6 +1.1
	comp=Z,6.4nm,0.9s,baz=46,slow=3.6,SNR=6.6					
WATA	Walderalm	126.36	328	*i PKP*	PKPdf	02 54 36.5 +0.1
	comp=Z,14nm,1.1s,SNR=6.2					
WTTA	Wattenberg	126.38	328	*ePKiKP*	PKiKP	02 54 36.9 -0.1
	comp=Z,23nm,1.0s,SNR=15					
CFA	Coronel Fontan	126.54	136	PKP	PKiKP	02 54 37.8 +0.1
	comp=Z,4.3nm,0.8s,baz=251,slow=4.3,SNR=12					
MOTA	Moosalm	126.61	328	*i PKiKP*	PKiKP	02 54 37.3 -0.1
	comp=Z,29nm,1.1s,SNR=6.8					
SQTA	Sankt Quirin	126.63	328	*i PKiKP*	PKiKP	02 54 37.4 0.0
	comp=Z,17nm,1.0s,SNR=7.5					
RETA	Reutte	126.69	329	*i PKiKP*	PKiKP	02 54 38.2 +0.7
	comp=Z,7.5nm,0.8s					
BTNL	Ternell	126.78	334	*dPKPdf*	PKiKP	02 54 37.9 +0.4
MEM	Membach	126.82	334	*dPKPdf*	PKiKP	02 54 37.4 -0.2
BHOU	Houvegnez	127.00	334	*dPKPdf*	PKiKP	02 54 37.9 0.0
FETA	Feichten	127.01	328	*i PKiKP*	PKiKP	02 54 38.4 +0.2
	comp=Z,26nm,1.0s,SNR=11					
BSTI	Sart Tilman	127.03	334	*dPKPdf*	PKiKP	02 54 38.8 +0.8
CTI	Castel Tesino	127.13	327		PKiKP	02 54 38.7 +0.2
CTI	Castel Tesino	127.13	327	PKIKP	PKiKP	02 54 38.7 +0.2
BCLA	Clavier	127.26	334	*dPKPdf*	PKiKP	02 54 39.1 +0.7
DAVA	Damuels	127.28	329	*i PKiKP*	PKiKP	02 54 38.8 0.0
	comp=Z,17nm,1.0s,SNR=6.9					
UCC	Uccle	127.38	335	*dPKPdf*	PKiKP	02 54 39.2 +0.6
BGES	Gesves	127.38	334	*dPKPdf*	PKiKP	02 54 39.4 +0.8
WLF	Walferdange	127.44	333	*dPKPdf*	PKiKP	02 54 40.0 +1.2
RCHB	Rochefort	127.49	334	*dPKPdf*	PKiKP	02 54 39.7 +0.9
FUORN	Ofenpass-Fuorn	127.51	328		PKPdf	02 54 39.0 +0.1
BMRD	Maredsous	127.58	335	*dPKPdf*	PKiKP	02 54 39.4 +0.3
DOU	Dourbes	127.81	334	*dPKPdf*	PKiKP	02 54 40.0 +0.5
TUE	Stuetta	128.09	328		PKiKP	02 54 41.5 +1.1
ROSC	El Rosal	133.17	88	PKP	PKiKP	02 54 51.7 -0.2
	comp=Z,3.8nm,0.5s,baz=140,slow=21,SNR=4.4					
LPAZ	La Paz	134.34	119	PKP	PKiKP	02 54 54.2 -0.2
	comp=Z,6.9nm,0.8s,baz=8.4,slow=3.0,SNR=18					
LPAZ				SKPbc	SKiKP	02 58 25.2 -0.1
	comp=Z,4.7nm,1.0s,baz=115,slow=5.4,SNR=6.0					
RUSC	La Rusia	134.44	87		PKPdf	02 54 51.8 -1.4
KEST	Kesra	134.60	317	PKP	PKiKP	02 54 53.8 0.0
	comp=Z,12nm,0.9s,baz=321,slow=3.1,SNR=13					
CPUP	Villa Florida	137.26	139	PKP	PKiKP	02 54 59.2 -0.2
	comp=Z,2.0nm,0.9s,baz=107,slow=2.8,SNR=9.0					
PBRG	Braganca	139.16	336	*ePKPdf*	PKiKP	02 55 03.7 +0.8
PGAV	Gavieira, Arco	139.62	338	*eLR*	LR	03 58 03.9
PGAV				*i IAMs_20*	IAMs_20	04 02 40.6
	comp=Z,312nm,20.0s					
ESDC	Sonseca Array	139.70	332	PKhKP	PKPpre	02 54 59.0
	comp=Z,1.5nm,0.9s,baz=29,slow=2.8,SNR=7.9					
ESDC				PKP	PKPdf	02 55 02.5 +0.9
	comp=Z,1.6nm,0.9s,baz=14,slow=2.1,SNR=6.8					
MVO	Moncorvo	139.82	336	*ePKPdf*	PKiKP	02 55 03.7 -0.6
MVO				*eLR*	LR	04 00 08.0
MVO				*i IAMs_20*	IAMs_20	04 04 52.3
	comp=Z,319nm,20.0s					
POLO	Lamas de Olo	139.95	337	*ePKPdf*	PKiKP	02 55 03.9 -0.7
SIV	San Ignacio	140.52	123	PKhKP	PKPpre	02 54 57.2
	comp=Z,3.3nm,0.7s,baz=254,slow=3.0,SNR=20					
SIV				PKP	PKiKP	02 55 05.4 -0.9
	comp=Z,4.3nm,0.7s,baz=304,slow=1.4,SNR=10					
SIV				SKPbc	SKiKP	02 58 41.2 +4.0
	comp=Z,3.9nm,0.9s,baz=257,slow=4.9,SNR=5.1					
PVIS	Viseu	140.55	337	*ePKPdf*	PKPdf	02 54 59.9 -3.3
MTE	Manteigas	140.68	336	*ePKPdf*	PKPdf	02 54 58.5 -5.0
MTE				*eLR*	LR	03 58 51.6
MTE				*i IAMs_20*	IAMs_20	04 00 42.9
	comp=Z,235nm,20.0s					
PCBR	Castelo Branco	141.12	335	*ePKPdf*	PKPdf	02 55 00.1 -4.0
PCAS	Casmilo, Conde	141.35	337	*ePKPdf*	PKPdf	02 55 01.2 -3.4
PMRV	Marv??o	141.43	335	*ePKPdf*	PKPdf	02 55 01.6 -3.1
PSARD	Sardoal	141.60	336	*ePKPdf*	PKPdf	02 54 59.5 -5.6
PMTG	Montargil	142.08	336	*ePKPdf*	PKPdf	02 55 02.2 -3.7
AQDB	Aquidauana	142.22	133		PKPdf	02 55 05.4 -1.3
PBAR	Barrancos	142.32	333	*ePKPdf*	PKPdf	02 55 02.9 -3.4
EVO	Evora	142.44	335	*ePKPdf*	PKPdf	02 55 03.1 -3.4
PARRA	Arraiolos	142.63	336	*ePKPdf*	PKPdf	02 55 03.1 -3.7
PBEJ	Beja	142.81	334	*ePKPdf*	PKPdf	02 55 04.5 -2.8
MESJ	Messejana	143.12	334	*ePKPdf*	PKPbc	02 55 05.7 +1.0
PCVE	Castro Verde	143.21	334	*ePKPdf*	PKPbc	02 55 05.3 +0.4
PVAQ	Vaqueiros	143.26	333	*eLR*	LR	03 57 45.8
PVAQ				*i IAMs_20*	IAMs_20	04 05 37.1
	comp=Z,334nm,20.0s					
PTEO	Sao Teotonio	143.58	335	*ePKPdf*	PKPbc	02 55 06.9 +0.9
MORF	Marmelete	143.75	334	*ePKPdf*	PKPbc	02 55 06.5 -0.1
TAM	Tamanrasset	143.78	302		PKPbc	02 55 08.3 +1.1
TAM	Tamanrasset	143.78	302	PKIKP	PKPbc	02 55 08.3 +1.0
PFVI	Vila Bisbo	143.97	334	*ePKPdf*	PKPbc	02 55 07.2 0.0
CBE	Ff, Capester	144.65	69		PKPdf	02 55 11.0 0.0
TDBA	Terre de Bas,	144.68	70		PKPdf	02 55 10.9 -0.1
MD31	MD31	145.33	325		PKPab	02 55 12.8 +0.9
GRGR	Grenville	145.37	76		PKPbc	02 55 11.5 -0.8
FDF	Fort de France	145.38	72		PKPab	02 55 12.9 +0.4
FDF	Fort de France	145.38	72	PKIKP	PKPab	02 55 12.9 +0.4
BOAV	Boa Vista	146.75	93		PKPab	02 55 17.1 -0.6
TORD	Torodi Ar. Bea	150.32	288	PKP	PKPdf	02 55 20.2 -0.3
	comp=Z,3.5nm,0.9s,baz=41,slow=2.8,SNR=13					
TORD				PKPbc	PKPbc	02 55 25.8 +0.1
	comp=Z,24nm,0.8s,baz=73,slow=2.8,SNR=65					
PMPST	Porto Santo, M	150.40	341	*ePKPbc*	PKiKP	02 55 26.7 +0.6
PMPS	Porto Santo	150.42	341	*ePKPbc*	PKiKP	02 55 27.2 +1.0
BDFB	Brasilia	150.88	136	PKP	PKPdf	02 55 22.9 +1.5
	comp=Z,26nm,0.8s,baz=196,slow=4.2,SNR=13					
BDFB				PKPbc	PKiKP	02 55 28.4 +0.6
	comp=Z,26nm,0.8s,baz=194,slow=4.2,SNR=19					
PMOZ	Porto Moniz, M	150.91	342	*ePKPbc*	PKiKP	02 55 28.3 +1.0
PMAR	Madeira	150.92	342	*ePKPbc*	PKiKP	02 55 28.5 +1.1
FUL	Funchal	150.98	342	*ePKPbc*	PKiKP	02 55 28.3 +1.0
DBIC	Dimbokro	157.62	275	PKPab	PKPab	02 56 03.2 0.0
	comp=Z,27nm,0.8s,baz=116,slow=3.2,SNR=17					

RSNC 12 02:37:58.8±0.0, 6°N±3°×7°8W±°, h14km±4km, M2.5, mb3.5, ML2.1, MLv2.9, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	0.94	58	P	Pb	02 38 15.7	-1.2
SOLC				S	Sb	02 38 28.1	-1.2
PTAC	Punta Ardita,	1.47	16	P	Pn	02 38 23.1	-1.9
PTAC				S	Sn	02 38 39.7	-4.3
CBOC	Ciudad Bolivar	2.19	86	P	Pn	02 38 33.3	-1.7
CBOC				S	Sn	02 38 58.0	-4.0
DBBC	Dabeiba	2.37	57	P	Pn	02 38 37.6	+0.2
DBBC				S	Sn	02 39 07.9	+1.6
YOTC	Yotoco, Valle	2.54	133	P	Pn	02 38 37.5	-2.2
YOTC				S	Sn	02 39 05.9	-4.6
APAC	Apartado, Choc	2.70	37	P	Pn	02 38 41.7	-0.2
APAC				S	Sn	02 39 16.3	+1.9
HELC	Santa Helena	2.71	80	P	Pn	02 38 41.8	-0.5
HELC				S	Sn	02 39 15.1	+0.1
GUY2C	Guyana, Caldas	2.88	100	P	Pn	02 38 43.1	-1.6
ORTC	Ortega, Tolima	3.46	121	P	Pn	02 38 50.6	-1.7
ORTC				S	Sn	02 39 32.4	-0.7
POPC	Popayan, Colom	3.51	154	P	Pn	02 38 51.0	-2.2
POPC				S	Sn	02 39 36.1	+1.4
PTBC	PUERTO BERRIO,	3.82	78	P	Pn	02 38 59.4	+2.1
PTBC				S	Sn	02 39 41.3	-0.7
PRAC	Prado	3.87	121	P	Pn	02 38 58.4	+0.5
PRAC				S	Sn	02 39 42.9	-0.3
FLOC	Florencia	4.84	148	P	Pn	02 39 11.3	0.0
RUSC	La Rusia	5.10	88	P	Pn	02 39 17.8	+2.5
SJCC	San Jacinto, C	5.12	36	P	Pn	02 39 15.7	+0.5
	0.0nm8.6nm,1.4s						
SJCC				S	Sn	02 40 13.0	-1.2
	0.0nm8.6nm,1.4s						
MACC	Macarena, Meta	5.62	129	P	Pn	02 39 22.1	+0.1
MACC				S	Sn	02 40 24.9	-1.5

MOS ***12*** *02:44:17.6±1.3, 56°.11N×148°.75W, h10km, mb5.2/59, MS4.5/10, Error ellipse: s-maj=10.2km s-min=4.1km az=95.2*

ANF ***12*** *02:44:17.7±0.2, 56°.11N×148°.62W, h0km, ML5.0/23, Error ellipse: s-maj=3.3km s-min=1.4km az=1.0*

IDC ***12*** *02:44:19.3±0.6, 56°.17N×148°.56W, h0km, mb4.7/27, mbtmp4.7/33, ML4.4/6, MS4.4/38, Error ellipse: s-maj=17.1km s-min=10.9km az=18.0*

NEIC ***12*** *02:44:19.9±2.6, 56°.19N±0°.06×148°.61W±0°.09, h10km±1km, mb5.0/350, ML4.8/62, Mww5.0/72, Error ellipse: s-maj=9.7km s-min=8.3km az=200.0*

BJI ***12*** *02:44:19.3, 56°.39N×148°.72W, h13km, mB5.5/12, mb4.9/57, Ms5.2/24, Ms7 5.0/23*

NEIC ***12*** *02:44:20.3, 56°.28N×148°.65W, h14km*

NEIC ***12*** *02:44:20.3, 56°.08N×148°.65W, h14km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; Mrr=0.05; Mθθ=0.55; Mφφ0.61; Mrθ0.50; Mφφ4.22; Mφr-0.47; Fault plane solution: M0=4.32000×10^16 NP1: φs=265.73000°, δ83.33000°, λ-6.24000°. NP2:φs=356.45000°, δ83.80000°, λ-173.29000°. Principal axes: T 4.2883, Plg0.0000°, Azm131.0000°; N 0.0557, Plg81.0000°, Azm39.0000°; P -4.3440, Plg9.0000°, Azm221.0000°;*

GCMT ***12*** *02:44:21.3±0.2, 56°.14N±0°.01×148°.54W±0°.02, h12km, MW5.0/127, Moment Tensor Solution. s51,c67; s127,c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.24±.10; Mθθ=1.03±.10; Mφφ1.27±.09; M

SEW	Seward	3.92	354	P		Pn	02 45 19.1 -2.0
	baz=173,SNR=51						
KAHG	Katmai Hook Gl	3.94	308			Pn	02 45 19.9 -1.5
KAWH	Katmai	3.99	305			Pn	02 45 21.4 -0.7
AUJK	Augustine Jueg	4.05	323			Pn	02 45 22.1 -0.8
AGU	Augustine-Summ	4.07	323			Pn	02 45 22.1 -1.0
CAHL	Cahill	4.08	300			Pn	02 45 22.1 -1.2
ACHA	Angle Creek He	4.16	301			Pn	02 45 24.4 0.0
KABU	Katmai Buttres	4.16	302			Pn	02 45 24.0 -0.4
Q18K	Katmai Hardscr	4.22	308	P		Pn	02 45 24.4 -0.9
	baz=122,SNR=137						
ANCK	Angle Creek	4.23	301			Pn	02 45 24.9 -0.5
O22K	Cooper Landing	4.31	353			Pn	02 45 25.1 -1.3
O22K	Cooper Landing	4.31	353	P		Pn	02 45 24.7 -1.8
	baz=172,SNR=12						
HIN	Hinchinbrook I	4.34	14			Pn	02 45 25.4 -1.4
HIN	Hinchinbrook I	4.34	14			Sn	02 46 12.7 -4.3
HIN	Hinchinbrook I	4.34	14	IAML			02 46 21.1
	comp=E,2µm,1.2s						
HIN				IAML			02 46 21.8
	comp=N,1µm,0.7s						
KAIM	Kayak Island	4.34	29			Pn	02 45 25.0 -1.8
KAIM				IAML			02 46 33.3
	comp=N,1µm,1.0s						
KAIM				IAML			02 46 45.3
	comp=E,986nm,3.0s						
KAIM	Kayak Island	4.34	29	P		Pn	02 45 24.9 -1.8
	baz=213,SNR=11						
SLKM	Skilak Lake	4.38	350			Pn	02 45 26.0 -1.4
SLKM				IAML			02 46 19.6
	comp=N,938nm,1.0s						
SLKM				IAML			02 46 19.7
	comp=E,1µm,0.4s						
O20K	Slope Mountain	4.42	333	P		Pn	02 45 26.3 -1.6
	baz=149,SNR=17						
ILS	Iliamna Low So	4.43	330			Pn	02 45 26.6 -1.5
CNTC	Contact Creek	4.45	300			Pn	02 45 27.4 -1.0
Q17K	Contact Creek	4.45	300	P		Pn	02 45 26.5 -1.9
	baz=114						
PLK4	Peulik 4	4.47	292			Pn	02 45 26.9 -1.8
PLK4	Peulik 4	4.47	292	IAML			02 46 23.7
	comp=E,1µm,0.7s						
PLK4				IAML			02 46 27.6
	comp=N,1µm,1.0s						
R17L	Mt. Peulik Vol	4.47	292	P		Pn	02 45 27.0 -1.6
	baz=105						
ILSW	Iliamna Southw	4.47	329			Pn	02 45 27.2 -1.5
ILSW				IAML			02 46 27.2
	comp=N,704nm,1.0s						
ILSW				IAML			02 46 30.3
	comp=E,851nm,0.7s						
EYAK	Cordova Ski Ar	4.60	18			Pn	02 45 28.8 -1.5
EYAK				IAML			02 46 21.4
	comp=E,828nm,1.8s						
EYAK	Cordova Ski Ar	4.60	18	P		Pn	02 45 28.6 -1.7
EYAK	Cordova Ski Ar	4.60	18	P		Pn	02 45 28.7 -1.7
	baz=200,SNR=105						
EYAK				S		Sn	02 46 18.6 -4.8
	baz=200						
SUCK	Suckling Hills	4.64	32			Pn	02 45 29.3 -1.7
SUCK				IAML			02 46 31.6
	comp=E,1µm,1.1s						
PLK1	Peulik 1	4.64	293			Pn	02 45 29.4 -1.5
PWL	Port Wells	4.66	2			Pn	02 45 29.5 -1.7
PWL				IAML			02 46 22.6
	comp=E,505nm,1.0s						
PWL				IAML			02 46 27.6
	comp=N,742nm,0.6s						
PWL	Port Wells	4.66	2	P		Pn	02 45 29.2 -2.0
	baz=182,SNR=12						
RAGM	Ragged Mountai	4.67	25			Pn	02 45 29.9 -1.5
FID	Port Fidalgo	4.68	13			Pn	02 45 29.6 -1.9
FID				IAML			02 46 25.0
	comp=E,616nm,0.4s						
FID				IAML			02 46 26.8
	comp=N,592nm,0.5s						
PLBL	Peulik Blue Cr	4.72	292			Pn	02 45 31.6 -0.6
PLBL						Pn	02 45 32.5 +0.4
GLI	Glacier Island	4.74	9	IAML			02 46 28.0
	comp=N,470nm,0.9s						
GLI				IAML			02 46 35.2
	comp=E,649nm,0.7s						
GLI	Glacier Island	4.74	9	P		Pn	02 45 30.8 -1.6
	baz=190,SNR=23						
P18K	Big Mountain,	4.75	315			Pn	02 45 30.8 -1.8
P18K	Big Mountain,	4.75	315	P		Pn	02 45 30.7 -1.8
	baz=129,SNR=19						
BGLC	Bering Glacier	4.83	34	P		Pn	02 45 31.7 -1.8
	baz=218						
GOAT	Goat Mountain	4.83	23			Pn	02 45 31.3 -2.3
PLK5	Peulik 5	4.84	295			Pn	02 45 32.5 -1.2
RDJH	Redoubt Jeurge	4.90	335			Pn	02 45 32.7 -2.0
RC01	Rabbit Creek A	4.92	354			Pn	02 45 33.4 -1.4
RC01	Rabbit Creek A	4.92	354	IAML			02 46 32.9
	comp=N,439nm,0.5s						
RC01				IAML			02 46 38.5
	comp=E,851nm,1.2s						
RC01	Rabbit Creek A	4.92	354	P		Pn	02 45 33.6 -1.2
	baz=172,SNR=8.6						
GRIN	Grindle Hills	4.94	32			Pn	02 45 33.3 -1.8
Q16K	King Salmon	4.99	303	P		Pn	02 45 34.9 -0.8
	baz=116,SNR=68						
O19K	Port Alsworth	5.00	325	P		Pn	02 45 34.0 -1.9
	baz=140,SNR=54						
SNH	Sunshine Point	5.01	35			Pn	02 45 34.2 -1.9
SNH	Sunshine Point	5.01	35	IAML			02 46 58.4
	comp=E,536nm,1.5s						
SNH				IAML			02 47 18.8
	comp=N,568nm,2.5s						
O18K	Koktuh Hills	5.05	319	P		Pn	02 45 34.9 -1.7
	baz=133,SNR=16						
P17K	Kvichak River	5.14	309	P		Pn	02 45 36.6 -1.2
	baz=122						
DIV	Divide	5.14	16	IAML			02 46 46.7
	comp=N,345nm,0.9s						
BMRM	Bremner River	5.21	22	IAML			02 46 47.1
	comp=N,470nm,1.1s						
BMRM				IAML			02 46 50.9
	comp=E,498nm,0.7s						
BMRM	Bremner River	5.21	22	P		Pn	02 45 37.0 -1.7
	baz=205,SNR=28						
KNK	Knik Glacier	5.21	1			Pn	02 45 37.4 -1.4
KNK	Knik Glacier	5.21	1	IAML			02 46 38.4
	comp=E,345nm,0.6s						
KNK				IAML			02 46 43.6
	comp=N,336nm,0.9s						
KNK	Knik Glacier	5.21	1	P		Pn	02 45 37.8 -1.0
	baz=181,SNR=12						
ANNE	Aniakchak Nort	5.26	282			Pn	02 45 38.0 -1.5
ANPK	Aniakchak Peak	5.30	281			Pn	02 45 39.1 -1.0
MESA	MESA	5.31	39			Pn	02 45 38.2 -2.2
MESA	MESA	5.31	39	IAML			02 46 41.0
	comp=E,497nm,1.1s						
MESA				IAML			02 46 45.0
	comp=N,568nm,0.7s						
MESA	MESA	5.31	39	P		Pn	02 45 38.9 -1.5
	baz=224						
SPCR	Spurr Chakacha	5.33	341	P		Pn	02 45 39.0 -1.5
	baz=158						
SPCN	Chakachatna No	5.35	341			Pn	02 45 39.8 -0.9
ANPB	Aniakchak Plen	5.38	280			Pn	02 45 39.8 -1.4
CRQE	Cirque	5.39	30	P		Pn	02 45 39.5 -1.9
	baz=215,SNR=75						
PMR	Palmer	5.40	357	P		Pn	02 45 40.9 -0.4
PMR	Palmer	5.40	357	P		Pn	02 45 40.8 -0.5
	baz=177,SNR=27						
KLU	Klutina	5.47	14	P		Pn	02 45 41.0 -1.5
	baz=196,SNR=57						
YAH	Yahtse	5.51	38			Pn	02 45 40.9 -2.3
STLK	Strandline Lak	5.55	344			Pn	02 45 42.8 -0.7
M22K	Willow	5.61	353	P		Pn	02 45 43.0 -1.2
	baz=171						
SML	Sawmill	5.61	1	P		Pn	02 45 43.5 -0.8
	baz=182,SNR=27						
M23K	Glacier View	5.61	4			Pn	02 45 43.6 -0.7
M23K	Glacier View	5.61	4	P		Pn	02 45 43.6 -0.7
	baz=185,SNR=58						
SCM	Sheep Creek Mo	5.67	6			Pn	02 45 44.2 -1.0
SCM	Sheep Creek Mo	5.67	6	P		Pn	02 45 44.2 -1.0
SCM	Sheep Creek Mo	5.67	6	P		Pn	02 45 44.9 -0.3
	baz=187,SNR=32						
SAMH	Samovar Hills	5.71	43			Pn	02 45 44.1 -1.6
O17K	Koliganek Bris	5.74	312			Pn	02 45 44.5 -1.5
O17K	Koliganek Bris	5.74	312	P		Pn	02 45 44.8 -1.2
	baz=125,SNR=18						
P16K	Nushagak River	5.77	303	P		Pn	02 45 45.6 -0.8
	baz=115,SNR=34						
N25K	Chitina, Valde	5.79	19	P		Pn	02 45 45.5 -1.4
	baz=203,SNR=65						
VNSG	Veniaminof 6	5.85	273			Pn	02 45 46.4 -1.2
N18K	Kilae Creek	5.88	323			Pn	02 45 45.9 -2.0
PCA	Pinnacle	5.89	45			Pn	02 45 46.5 -1.7
PINM	Pinnacle	5.89	45	P		Pn	02 45 46.5 -1.7
	baz=232,SNR=19						
MCARA	McCarthy VSAT	5.94	27			Pn	02 45 47.3 -1.5
MCARA	McCarthy VSAT	5.94	27	P		Pn	02 45 47.6 -1.2
	baz=212,SNR=32						
SKT	Skwentna	5.97	347			Pn	02 45 47.9 -1.3
SKT	Skwentna	5.97	347	P		Pn	02 45 49.4 +0.2
	baz=164,SNR=7.7						
PNL	Peninsula	6.01	51	P		Pn	02 45 48.5 -1.2
PNL	Peninsula	6.01	51	P		Pn	02 45 48.0 -1.8
	baz=239,SNR=21						
VNKR	Veniaminof 5	6.01	273			Pn	02 45 48.7 -1.2
M24K	Tolsona, Glenn	6.04	11			Pn	02 45 49.1 -1.1
M24K	Tolsona, Glenn	6.04	11	P		Pn	02 45 50.1 -0.1
	baz=193,SNR=34						
BCPM	Bancas Point	6.06	48			Pn	02 45 49.2 -1.2
O16K	Kokwok River B	6.08	308	P		Pn	02 45 49.7 -0.9
	baz=120,SNR=52						
CTG	Chitna Glacier	6.09	36	P		Pn	02 45 49.5 -1.5
	baz=222,SNR=27						
S14K	Fog Glacier	6.09	275	P		Pn	02 45 50.6 -0.4
	baz=86						
M20K	Styx River	6.14	340	P		Pn	02 45 50.0 -1.6
	baz=156						
WACK	Wrangell Chich	6.19	19			Pn	02 45 50.9 -1.6
N17K	Nushagak Hills	6.24	317	P		Pn	02 45 51.1 -1.7
	baz=130,SNR=33						
CUT	Chulitna	6.26	353	P		Pn	02 45 52.5 -0.6
	baz=171,SNR=5.5						
O28M	Mount Upton	6.35	41	P		Pn	02 45 53.2 -1.5
	baz=228,SNR=33						
CHNA	Chernabura Isl	6.38	262	P		Pn	02 45 52.7 -2.1
CHNA	Chernabura Isl	6.38	262	P		Pn	02 45 51.8 -3.0
	baz=73,SNR=9.9						
CNBA	Chernabura Isl	6.38	262			Pn	02 45 52.7 -2.2
WAT6	Susitna Watana	6.40	4			Pn	02 45 54.0 -1.2
WAT6	Susitna Watana	6.40	4	P		Pn	02 45 54.1 -1.2
	baz=184,SNR=22						
M19K	Big River Lodg	6.43	335	P		Pn	02 45 52.9 -2.6
	baz=150						
HARP	HAARP	6.45	15	P		Pn	02 45 55.3 -0.5
	baz=197,SNR=31						
M18K	Stony River	6.47	328	P		Pn	02 45 53.5 -2.5
	baz=142,SNR=68						
WAT1	Susitna Watana	6.63	0	P		Pn	02 45 57.3 -1.1
	baz=180						
O15K	Ungalikthiuk R	6.70	301	P		Pn	02 45 58.1 -1.1
	baz=111,SNR=42						
O29M	Mount Kennedy	6.70	48	P		Pn	02 45 57.7 -1.6
	baz=237,SNR=82						
P29M	Windy Craggy	6.73	55			Pn	02 45 57.2 -2.4
P29M	Windy Craggy	6.73	55	P		Pn	02 45 57.7 -2.0
	baz=244,SNR=68						
SDPT	Sand Point	6.74	268			Pn	02 45 58.1 -1.7
SDPT	Sand Point	6.74	268	P		Pn	02 45 58.2 -1.6
SDPT	Sand Point	6.74	268	P		Pn	02 45 57.2 -2.6
	baz=78,SNR=9.8						
L19K	White Mountain	6.78	334			Pn	02 45 58.2 -2.1
N16K	Nishlik Lake	6.83	313	P		Pn	02 45 59.6 -1.5
	baz=124,SNR=40						
YUK8	Steele Glacier	6.86	39	P		Pn	02 46 01.0 -0.6
	baz=226,SNR=28						
DHY	Denali Highway	6.91	5	P		Pn	02 46 01.8 -0.3
	baz=186,SNR=37						
M17K	Holitna River	6.92	322	P		Pn	02 46 00.7 -1.5
	baz=135,SNR=78						
PPLA	Purkeypile	6.94	346	P		Pn	02 46 02.6 0.0
	baz=163						
PAX	Paxson	6.96	12			Pn	02 46 02.0 -0.8
PAX	Paxson	6.96	12	P		Pn	02 46 02.0 -0.8
PAX	Paxson	6.96	12	P		Pn	02 46 02.3 -0.6
	baz=194,SNR=24						
S31K	Pelican	6.98	70	P		Pn	02 45 59.1 -3.9
	baz=261,SNR=6.5						
YUK7	Dusty Glacier	7.00	48			Pn	02 46 02.3 -1.2
YUK6	Outpost Mounta	7.15	44			Pn	02 46 04.7 -1.0
YUK6	Ouost Mounta	7.15	44	P		Pn	02 46 04.5 -1.1
	baz=233,SNR=42						
MENT	Mentasta	7.18	18	P		Pn	02 46 06.0 +0.1
RND	Reindeer	7.21	359			Pn	02 46 05.7 -0.6
RND	Reindeer	7.21	359	P		Pn	02 46 05.7 -0.6
M16K	Timber Creek	7.23	316	P		Pn	02 46 05.3 -1.2
	baz=127,SNR=24						
N15K	Kwethluk River	7.24	308	P		Pn	02 46 06.0 -0.6
	baz=118,SNR=63						
YUK4	Talbot Arm	7.30	41	P		Pn	02 46 08.1 +0.5
	baz=229,SNR=50						
L18K	Granite Mounta	7.30	329			Pn	02 46 05.0 -2.4
P30M	Million Dollar	7.30	53			Pn	02 46 05.5 -2.1
P30M	Million Dollar	7.30	53	P		Pn	02 46 07.3 -0.3
	baz=243						
PLBC	Pleasant Camp	7.30	59			Pn	02 46 05.7 -1.7
PLBC	Pleasant Camp	7.30	59	P		Pn	02 46 05.5 -2.0
	baz=249						
TRF	Thorofare Moun	7.30	354			Pn	02 46 06.7 -1.0
TRF	Thorofare Moun	7.30	354	P		Pn	02 46 07.0 -0.6
	baz=172,SNR=21						
SIT	Sitka	7.38	78			Pn	02 46 03.0 -5.6
SIT	Sitka	7.38	78	P		Pn	02 46 03.0 -5.6
SIT	Sitka	7.38	78	P		Pn	02 46 03.5 -5.0
	baz=269						
O14K	Tigyukauivet M	7.42	299			Pn	02 46 08.2 -0.8
O14K	Tigyukauivet M	7.42	299	P		Pn	02 46 07.7 -1.3
	baz=109,SNR=22						
HYT	Haines Junctio	7.43	47			Pn	02 46 08.2 -1.1
HYT	Haines Junctio	7.43	47	P		Pn	02 46 08.2 -1.1
	baz=236,SNR=11						
PS1A	Pavlof South-1	7.43	269			Pn	02 46 07.9 -1.4
PS4A	Pavlof South-4	7.51	269			Pn	02 46 08.3 -2.1
MCK	McKinley	7.54	359	P		Pn	02 46 10.9 +0.2
	baz=178,SNR=20						
HAG	Hague Volcano	7.55	269			Pn	02 46 08.9 -2.0
HAG	Hague Volcano	7.55	269	P		Pn	02 46 08.9 -2.0
S12K	Black Hills	7.56	272			Pn	02 46 08.9 -2.1
S12K	Black Hills	7.56	272	P		Pn	02 46 09.1 -2.0
	baz=80						
PN7A	Pavlof North-7	7.58	270			Pn	02 46 09.4 -1.9
K20K	Telida	7.67	341			Pn	02 46 10.3 -2.1
L27K	Beaver Creek,	7.67	24	P		Pn	02 46 12.5 -0.1
	baz=210,SNR=14						
L17K	Donlin	7.73	324	P		Pn	02 46 11.3 -2.0
	baz=136,SNR=13						
K24K	Donnelly Dome	7.74	9	P		Pn	02 46 13.2 -0.3
	baz=192,SNR=14						
M15K	Kasigluk River	7.75	310			Pn	02 46 12.0 -1.6
M15K	Kasigluk River	7.75	310	P		Pn	02 46 12.5 -1.1
	baz=120,SNR=16						
RIDG	Independent Ri	7.78	13	P		Pn	02 46 13.3 -0.7
	baz=196						
SKAG	Skagway	7.80	60	P		Pn	02 46 13.8 -0.5
SKAG	Skagway	7.80	60	P		Pn	02 46 12.6 -1.7
	baz=251						
BESE	Bessie Mountai	7.80	67			Pn	02 46 11.6 -2.9
DT1	Dutton Round H	7.80	267			Pn	02 46 11.9 -2.4
L16K	Owhat River	7.85	319	P		Pn	02 46 13.1 -1.9
	baz=130,SNR=35						
N14K	Kuskokwak Cree	7.85	304			Pn	02 46 14.5 -0.5
N14K	Kuskokwak Cree	7.85	304	P		Pn	02 46 14.1 -0.9
	baz=112,SNR=32						
CHUM	Lake Minchumin	7.91	348	P		Pn	02 46 14.1 -1.7
	baz=165,SNR=22						
R32K	Eaglecrest	7.92	69	P		Pn	02 46 13.2 -2.8
	baz=261,SNR=7.1						
N30M	Aishikik Lake	7.96	44			Pn	02 46 14.6 -1.9
N30M	Aishikik Lake	7.96	44	P		Pn	02 46 14.8 -1.7
	baz=234,SNR=36						
O30N	Mendenhall	7.99	50			Pn	02 46 14.8 -2.1
O30N	Mendenhall	7.99	50	P		Pn	02 46 15.6 -1.4
	baz=241,SNR=9.5						
BPAW	Bear Paw Mtn.	7.99	353	P		Pn	02 46 15.7 -1.2
	baz=170,SNR=30						
JIS	Juneau Island	7.99	69	P		Pn	02 46 14.6 -2.3
M29M	Somme Creek	8.11	36	P		Pn	02 46 17.8 -0.9
	baz=224,SNR=47						
SCRK	Sand Creek	8.12	15			Pn	02 46 17.3 -1.5
SCRK	Sand Creek	8.12	15	P		Pn	02 46 18.5 -0.2
	baz=198,SNR=8.6						
K17K	Iditarod	8.16	327	P		Pn	02 46 17.5 -1.7
	baz=138,SNR=21						
HDA	Harding Lake	8.26	5	P		Pn	02 46 19.8 -0.7
	baz=186,SNR=17						
J18K	Innoko River	8.32	334			Pn	02 46 19.5 -2.0
J18K	Innoko River	8.32	334	P		Pn	02 46 20.2 -1.3
	baz=147,SNR=18						
M14K	Bethel	8.33	309			Pn	02 46 20.6 -0.9
M14K	Bethel	8.33	309	P		Pn	02 46 20.7 -0.8
	baz=117,SNR=10						
NEA2	Nenana	8.40	359	P		Pn	02 46 22.6 +0.1
	baz=178,SNR=26						
WHY	Whitehorse	8.47	53			Pn	02 46 22.2 -1.3
WHY	Whitehorse	8.47	53	P		Pn	02 46 21.7 -1.9
	baz=244,SNR=32						
K27K	Chicken	8.48	20	P		Pn	02 46 22.9 -0.7
	baz=205						
N31M	Braeburn, Yuko	8.49	46			Pn	02 46 22.3 -1.4
N31M	Braeburn, Yuko	8.49	46	P		Pn	02 46 22.1 -1.7
	baz=237,SNR=30						
FALS	False Pass	8.50	267			Pn	02 46 21.8 -2.1
FALS	False Pass	8.50	267	P		Pn	02 46 22.0 -1.9
FALS	False Pass	8.50	267	P		Pn	02 46 21.4 -2.5
	baz=75,SNR=9.8						
L15K	Ungalak Mounta	8.60	315			Pn	02 46 24.1 -1.1
L15K	Ungalak Mounta	8.60	315	P		Pn	02 46 23.9 -1.3
	baz=124,SNR=10						
ILAR	Eielson Array	8.62	5	Pn		Pn	02 46 23.9 -1.6
	comp=N,1.4nm,0.3s,baz=190,slow=14,SNR=35						
ILAR				LR	LR		02 49 55.8
	comp=N,2µm,19.4s,baz=184,slow=39						
	comp=N,6.2nm,0.4s						
ILAR	Eielson Array	8.62	5	P		Pn	02 46 24.0 -1.6
P32M	Atlin	8.62	61			Pn	02 46 23.0 -2.6
P32M	Atlin	8.62	61	P		Pn	02 46 23.5 -2.2
	baz=253,SNR=12						
U33K	Whale Pass	8.65	84			Pn	02 46 21.3 -4.7
U33K	Whale Pass	8.65	84	P		Pn	02 46 21.6 -4.4
	baz=277						
COLA	College	8.69	2	P		Pn	02 46 27.1 +0.6
COLA	College	8.69	2	*ceP*		Pn	02 46 26.3 -0.2
COLA				pmax	pmax		
	comp=Z,30nm,0.9s						
COLA	College	8.69	2	P		Pn	02 46 27.6 +1.1
	baz=183						
L29M	L29M	8.71	33	P		Pn	02 46 25.6 -1.2
	baz=222,SNR=39						
CRAG	Craig	8.76	88			Pn	02 46 21.6 -5.8
M30M	Minto, Yukon	8.77	39			Pn	02 46 26.2 -1.4
M30M	Minto, Yukon	8.77	39	P		Pn	02 46 26.5 -1.1
	baz=229,SNR=16						
M13K	Dall Lake	8.81	305			Pn	02 46 27.1 -1.0
M13K	Dall Lake	8.81	305	P		Pn	02 46 27.7 -0.4
	baz=112,SNR=6.6						
SSLS	Shishaldin Sou	8.87	267			Pn	02 46 26.2 -2.8
MLY	Manley	8.90	354	P		Pn	02 46 28.5 -0.9
	baz=172						
L14K	Kuka Creek	8.92	311			Pn	02 46 28.6 -1.0
L14K	Kuka Creek	8.92	311	P		Pn	02 46 29.1 -0.4
	baz=119,SNR=36						
POKR	Poker Flat Res	8.95	3	P		Pn	02 46 29.6 -0.4
	baz=184						
I23K	Minto, Yukon-K	8.97	358			Pn	02 46 29.0 -1.2
I23K	Minto, Yukon-K	8.97	358	P		Pn	02 46 28.9 -1.2
	baz=177,SNR=38						
K15K	Wolf Creek Mou	8.98	318			Pn	02 46 29.7 -0.7
K15K	Wolf Creek Mou	8.98	318	P		Pn	02 46 28.9 -1.5
	baz=127,SNR=9.8						
WRAK	Wrangell Islan	9.05	82	P		Pn	02 46 29.1 -2.3
	baz=276						
I20K	Naaghedeneel	9.07	344	P		Pn	02 46 32.1 +0.5
	baz=159,SNR=12						
DAWY	Dawson	9.11	26			Pn	02 46 30.7 -1.5
DAWY	Dawson	9.11	26	P		Pn	02 46 31.3 -0.9
	baz=214,SNR=13						
I21K	Tanana	9.14	351	P		Pn	02 46 32.3 -0.3
	baz=168,SNR=11						
Q32M	Nakina River	9.20	66	P		Pn	02 46 31.3 -2.4
	baz=260						
P33M	Teslin, Yukon	9.24	58	P		Pn	02 46 32.2 -2.0
	baz=251,SNR=36						
J16K	Anvik River	9.30	325			Pn	02 46 32.4 -2.5
J16K	Anvik River	9.30	325	P		Pn	02 46 32.3 -2.5
	baz=134,SNR=13						
EGAK	Eagle	9.33	20	P		Pn	02 46 35.2 -0.1
	baz=206,SNR=13						
M31M	Drury Creek, Y	9.43	45			Pn	02 46 35.7 -1.0
M31M	Drury Creek, Y	9.43	45	P		Pn	02 46 35.6 -1.0
	baz=237,SNR=33						
K29M	Barlow Dome	9.44	31			Pn	02 46 35.6 -1.3
K29M	Barlow Dome	9.44	31	P		Pn	02 46 36.0 -0.8
	baz=221,SNR=30						
PRP	Porcupine Dome	9.45	8	P		Pn	02 46 37.0 0.0
	baz=190						
GCSA	Galena City Sc	9.46	338	P		Pn	02 46 36.5 -0.5
	baz=151						
N32M	Quiet Lake	9.47	52			Pn	02 46 35.6 -1.5
N32M	Quiet Lake	9.47	52	P		Pn	02 46 35.7 -1.5
	baz=245						
V35K	Ketchikan	9.63	88	P		Pn	02 46 37.1 -2.2
	baz=282						
H23K	Yukon River	9.65	358	P		Pn	02 46 39.4 -0.2
	baz=177,SNR=26						
S34M	Telegraph Cree	9.68	73	P		Pn	02 46 38.1 -1.9
	baz=267						
J29N	Klondike Camp	9.72	28	P		Pn	02 46 39.5 -1.2
	baz=217						
I17K	Unalakleet	9.76	327			Pn	02 46 39.4 -1.6
I17K	Unalakleet	9.76	327	P		Pn	02 46 39.6 -1.4
	baz=136						
MAYO	Mayo, Yukon	9.76	36	P		Pn	02 46 40.2 -1.0
	baz=226						
H20K	Anotleneega Mo	9.79	344	P		Pn	02 46 41.5 0.0
	baz=159,SNR=6.1						
R33M	Jennings River	9.94	64			Pn	02 46 41.5 -2.2
R33M	Jennings River	9.94	64	P		Pn	02 46 41.3 -2.4
	baz=259,SNR=9.9						
J14K	Nanvaranak Lak	10.01	317			Pn	02 46 44.1 -0.4
J14K	Nanvaranak Lak	10.01	317	P		Pn	02 46 43.9 -0.5
	baz=124						
K13K	Kusilvak Mount	10.03	311			Pn	02 46 44.7 0.0
K13K	Kusilvak Mount	10.03	311	P		Pn	02 46 44.2 -0.6

baz=142
G26K Porcupine Rive 11.01 10 P Pn 02 46 57.4 -0.7
baz=194
COLD Coldfoot 11.07 357 P Pn 02 46 58.7 -0.4
baz=175,SNR=11
G27K Doyon Strip 11.12 14 P Pn 02 46 59.6 -0.2
baz=200
H29M Whitestone 11.16 22 P Pn 02 46 59.8 -0.5
baz=211
F21K Alatna River 11.28 350 P Pn 02 47 01.1 -0.8
baz=166,SNR=9.5
F24K Squaw Lake 11.35 1 P Pn 02 47 02.8 -0.1
baz=182,SNR=8.2
G16K Koyuk River 11.35 330 P Pn 02 47 02.8 -0.1
baz=138
F20K Avaraart Lake 11.37 346 P Pn 02 47 02.2 -0.9
baz=159
F22K John River 11.45 353 P Pn 02 47 03.1 -1.1
baz=170
F19K Shaleruckik Mo 11.49 342 P Pn 02 47 04.9 +0.1
baz=153,SNR=8.8
F25K Christian Rive 11.50 6 P Pn 02 47 04.7 -0.2
baz=188
G15K Niukluk 11.57 326 P Pn 02 47 05.3 -0.5
baz=132
EPYK Eagle Plains 11.65 24 P Pn 02 47 06.1 -1.0
baz=215
F18K Selawik 11.65 338 P Pn 02 47 06.5 -0.4
baz=148,SNR=5.0
F26K Sheenjek River 11.70 8 P Pn 02 47 08.2 +0.5
baz=192
ANM Nome 11.73 322 P Pn 02 47 07.0 -1.1
baz=128,SNR=5.3
TGTN Hyland Airport 11.77 55 P Pn 02 47 08.0 -0.6
baz=252,SNR=14
H31M Peel River 11.81 30 Pn 02 47 09.2 0.0
H31M Peel River 11.81 30 P Pn 02 47 09.5 +0.3
baz=222,SNR=11
G29M Pine Creek 11.83 21 Pn 02 47 09.4 -0.1
G29M Pine Creek 11.83 21 P Pn 02 47 09.6 +0.1
baz=210,SNR=11
F17K Baldwin Pennin 11.88 335 P Pn 02 47 10.2 +0.1
baz=144,SNR=8.9
E23K Chandalar 11.89 358 P Pn 02 47 10.5 +0.2
baz=177
E24K Your Creek 11.90 0 P Pn 02 47 10.7 +0.2
baz=180
SPIA Saint Paul Isl 11.92 284 P Pn 02 47 09.6 -1.0
baz=86
E19K Redstone River 11.97 344 P Pn 02 47 11.6 +0.3
baz=156,SNR=13
E25K Arctic Village 12.03 6 P Pn 02 47 11.5 -0.7
baz=188
E22K Anaktuvuk Pass 12.05 354 P Pn 02 47 12.5 +0.1
baz=171
F28M Old Crow 12.14 16 P Pn 02 47 12.0 -1.6
baz=204,SNR=7.9
NIKH Nikolski High 12.16 263 P Pn 02 47 11.0 -3.0
baz=66
F15K North Star Dit 12.25 327 Pn 02 47 13.5 -1.6
F15K North Star Dit 12.25 327 P Pn 02 47 14.2 -0.9
baz=133,SNR=7.1
G30M tAoh Zraii Nji 12.27 23 P Pn 02 47 16.0 +0.5
baz=214
LIRD Liard River Hi 12.41 66 P Pn 02 47 16.3 -1.1
baz=265
E27K Coleen River 12.44 12 P Pn 02 47 17.2 -0.5
baz=198,SNR=7.9
TOLK Toolik Lake Re 12.48 358 Pn 02 47 18.6 +0.3
TOLK Toolik Lake Re 12.48 358 P Pn 02 47 17.7 -0.6
baz=178
E21K Killik River 12.51 351 P Pn 02 47 18.4 -0.3
baz=166
E17K Hotham Inlet 12.53 336 P Pn 02 47 18.6 -0.4
baz=144,SNR=18
E18K Tukpahlearik C 12.55 338 P Pn 02 47 18.7 -0.5
baz=148,SNR=8.0
E20K Nigu River 12.57 347 P Pn 02 47 19.1 -0.4
baz=160,SNR=11
F14K Arctic Creek 12.62 324 P Pn 02 47 20.0 -0.1
baz=129,SNR=12
BBB Bella Bella 12.65 100 Pn Pn 02 47 19.1 -1.6
comp=Z,0.3nm,0.3s,baz=322,slow=12,SNR=1.4
BBB LR LR 02 50 52.7
comp=Z,2µm,21.6s,baz=308,slow=31
comp=Z,54nm,1.3s
G31M Satah River 12.68 26 P Pn 02 47 20.8 -0.2
baz=219,SNR=12
TOAD Toad River Com 12.82 68 P Pn 02 47 20.6 -2.3
baz=268
D23K Nanushuk River 12.83 357 P Pn 02 47 23.2 +0.1
baz=175
D22K Ayikyak River 12.84 353 P Pn 02 47 23.1 -0.1
baz=170,SNR=9.5
F30M Barrier River 12.89 22 P Pn 02 47 23.9 +0.1
baz=214,SNR=11
D24K Happy Valley 12.98 360 P Pn 02 47 25.2 0.0
baz=179
D20K Etivluk River 13.05 347 P Pn 02 47 25.7 -0.4
baz=160,SNR=7.2
D19K Kuna River 13.06 344 P Pn 02 47 26.2 0.0
baz=156,SNR=9.6
E28M Babbage River 13.10 15 P Pn 02 47 26.4 -0.3
baz=203,SNR=13
E29M Blow River 13.16 18 P Pn 02 47 27.3 -0.2
baz=207
D25K Kavik River 13.19 4 P Pn 02 47 28.3 +0.3
baz=185
F31M Tsiigehtchic 13.22 26 P Pn 02 47 27.6 -0.7
baz=219
C21K Knifeblade Rid 13.28 350 P Pn 02 47 29.0 -0.1
baz=165
D17K Noatak River 13.32 336 P Pn 02 47 29.4 -0.3
baz=143
KOTAN Kotaneelee Air 13.51 63 P Pn 02 47 30.8 -1.5
baz=264,SNR=21
D27M Malcolm River 13.52 12 P Pn 02 47 32.5 0.0
baz=198
C24K Franklin Bluff 13.55 360 P Pn 02 47 32.3 -0.5
baz=180
RDOG Red Dog Mine 13.57 337 P Pn 02 47 32.3 -0.9
baz=144,SNR=28
C27K Jago River 13.63 7 P Pn 02 47 33.1 -0.9
baz=192
C23K Itkillik River 13.70 357 Pn 02 47 35.8 +0.9
C23K Itkillik River 13.70 357 P Pn 02 47 34.1 -0.8
baz=175,SNR=11
B21K Ikpikpuk River 13.71 351 P Pn 02 47 33.5 -1.6
baz=166
C18K Utukok River 13.72 340 P Pn 02 47 34.2 -1.0
baz=149
C19K Lookout Ridge 13.84 343 P Pn 02 47 35.3 -1.5
baz=154
INK Inuvik 13.95 24 Pn 02 47 38.6 +0.4
INK Inuvik 13.95 24 Pn Pn 02 47 38.3 0.0
comp=Z,0.7nm,0.3s,baz=213,slow=14,SNR=27
INK LR LR 02 53 18.4
comp=Z,2µm,18.4s,baz=220,slow=38
comp=Z,58nm,1.1s
INK Inuvik 13.95 24 P Pn 02 47 38.7 +0.4
INK Inuvik 13.95 24 P Pn 02 47 37.2 -1.1
baz=217,SNR=31
C17K DeLong Mountai 13.97 337 P Pn 02 47 37.5 -1.1
baz=144,SNR=36
WRGLY Wrigley 14.43 51 Pn 02 47 45.4 +0.6
OZB Mount Ozzard 15.77 108 Pn Pn 02 48 00.7 -2.2
OZB IAmb IAmb 02 48 04.1
comp=Z,182nm,1.4s
CLRS Cowichan Lake 16.58 106 Pn 02 48 12.4 -0.7
LLLB Lilloet 16.84 98 Pn 02 48 15.0 -1.5
ADK Adak 16.98 267 Pn 02 48 15.1 -3.0
ADK IAmb IAmb 02 48 22.9
comp=Z,338nm,1.9s
ADK Adak 16.98 267 P Pn 02 48 16.6 -1.5
ADK Adak 16.98 267 P Pn 02 48 15.1 -3.0
ADK pmax pmax
comp=Z,339nm,2.0s
C36M Paulatuk 17.11 30 IAmb IAmb 02 48 23.4
comp=Z,111nm,1.4s
KIWB Kanaga Island 17.25 267 Pn 02 48 18.6 -3.0
KIWB IAmb IAmb 02 48 27.4
comp=Z,82nm,0.8s
B04A Port Angeles 17.37 107 IAmb IAmb 02 48 27.5
comp=Z,249nm,1.7s
NLWA Neilton Lookou 17.59 110 IAmb IAmb 02 48 33.8
comp=Z,145nm,1.4s
WISH Wishkah 17.82 110 IAmb IAmb 02 48 36.9
comp=Z,176nm,1.3s

RADR Rader Ridge 18.26 112 IAmb IAmb 02 48 35.7
comp=Z,175nm,1.3s
YKA Yellowknife Ar 18.27 56 P Pn 02 48 33.5 -0.6
comp=Z,1.1nm,0.3s,baz=268,slow=12,SNR=13
YKA LR LR 02 55 21.3
comp=Z,1µm,18.8s,baz=268,slow=36
comp=Z,27nm,0.9s
A36M Sachs Harbour 18.59 23 IAmb IAmb 02 48 46.7
comp=Z,116nm,1.0s
B08A Colville Reser 19.45 101 IAmb IAmb 02 48 58.0
comp=Z,119nm,1.6s
COR Corvallis 19.77 115 P Pn 02 48 52.0 -0.3
COR IAmb IAmb 02 48 55.2
comp=Z,124nm,1.3s
COR Corvallis 19.77 115 P Pn 02 48 52.0 -0.3
COR pmax pmax
comp=Z,124nm,1.3s
I02E Swishomme, OR 19.84 117 IAmb IAmb 02 48 53.8
comp=Z,42nm,1.1s
HOOD Mount Hood Mea 20.11 111 IAmb IAmb 02 48 57.6
comp=Z,106nm,1.5s
BUCK Buck Mountain 20.21 116 IAmb IAmb 02 49 08.4
comp=Z,176nm,1.5s
E07A Sunnyside 20.25 106 IAmb IAmb 02 49 00.2
comp=Z,125nm,1.4s
WAH2 Wahluke Slope 20.28 106 IAmb IAmb 02 49 07.3
comp=Z,95nm,1.2s
G05A Wamic 20.34 111 IAmb IAmb 02 49 01.4
comp=Z,95nm,1.3s
C09A Chrisman Ranch 20.35 102 IAmb IAmb 02 49 07.9
comp=Z,66nm,1.2s
D08A Wollman Farm, 20.44 104 P P 02 48 57.1 -0.9
D08A IAmb IAmb 02 49 09.2
comp=Z,60nm,1.1s
J01E Myrtle Point 20.49 119 IAmb IAmb 02 49 03.3
comp=Z,68nm,1.1s
NEW Newport 20.72 99 P P 02 49 00.5 -0.6
comp=Z,14nm,1.1s,baz=298,slow=9.9,SNR=13
NEW LR LR 02 55 46.5
comp=Z,901nm,21.8s,baz=302,slow=33
comp=Z,14nm,1.1s
E08A Dider Farm, El 20.72 106 IAmb IAmb 02 49 12.3
comp=Z,69nm,1.2s
YPT Yellepit 21.05 106 IAmb IAmb 02 49 16.6
comp=Z,78nm,1.1s
BBOR Butler Butte 21.31 118 IAmb IAmb 02 49 13.3
comp=Z,80nm,1.2s
L02F Cave Junction 21.45 121 IAmb IAmb 02 49 15.9
comp=Z,58nm,1.1s
KSXB Camp Six Broad 21.53 122 IAmb IAmb 02 49 12.4
comp=Z,86nm,1.2s
LNOR Lincton Mounta 21.53 106 IAmb IAmb 02 49 28.1
comp=Z,92nm,1.4s
KRMB Red Mountain 21.75 122 IAmb IAmb 02 49 14.9
comp=Z,75nm,1.2s
K04D Chiloquin, OR 21.96 117 IAmb IAmb 02 49 17.1
comp=Z,94nm,1.2s
KRPM Rodgers 21.98 123 IAmb IAmb 02 49 21.2
comp=Z,90nm,1.2s
L04D Klamath Falls 22.00 118 P P 02 49 13.8 -1.2
I07A Izee 22.07 111 IAmb IAmb 02 49 17.9
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 22.16 120 LR LR 02 55 41.0
comp=Z,141nm,20.7s,baz=310,slow=31
KHMM Horse Mountain 22.34 123 IAmb IAmb 02 49 34.4
comp=Z,73nm,1.1s
KMPM Mount Pierce 22.52 124 IAmb IAmb 02 49 24.4
comp=Z,52nm,1.1s
KHBM Hayfork Bally 22.75 122 IAmb IAmb 02 49 26.7
comp=Z,32nm,1.2s
N02D Trinity Center 22.75 121 IAmb IAmb 02 49 27.1
comp=Z,72nm,1.0s
KMRM Mail Ridge 22.87 124 P P 02 49 24.0 -0.2
KMRM IAmb IAmb 02 49 27.3
comp=Z,178nm,1.7s
BRIC Briceland Vine 22.87 124 IAmb IAmb 02 49 46.2
comp=Z,156nm,1.6s
MSO Missoula 23.30 99 P P 02 49 27.4 -1.3
O02D Mt. Diablo Mer 23.33 123 P P 02 49 28.3 -0.6
O02D IAmb IAmb 02 49 32.1
comp=Z,46nm,1.0s
KCPM Cahto Peak 23.35 125 IAmb IAmb 02 49 32.0
comp=Z,35nm,1.1s
BILL Bilibino 23.53 318 P P 02 49 30.5 -0.1
BILL Bilibino 23.53 318 *ceP* P 02 49 29.9 -0.7
BILL pmax pmax
comp=Z,255nm,2.5s
DCMP DeCamp, Califo 23.64 124 IAmb IAmb 02 49 40.6
comp=Z,68nm,1.8s
WVOR Wild Horse Val 23.68 113 IAmb IAmb 02 49 56.5
comp=Z,46nm,1.1s
WVOR Wild Horse Val 23.68 113 P P 02 49 32.5 0.0
WVOR pmax pmax
comp=Z,47nm,1.2s
O03E Paynes Creek 23.71 121 IAmb IAmb 02 49 35.2
comp=Z,92nm,1.2s
HOPS Hopland Field 24.14 125 IAmb IAmb 02 49 38.2
comp=Z,42nm,1.4s
GDXM Geysers 24.42 125 IAmb IAmb 02 49 42.4
comp=Z,77nm,2.0s
ORV Oroville 24.43 122 IAmb IAmb 02 49 40.7
comp=Z,15nm,0.8s
MFID Camas Ranch 24.47 108 IAmb IAmb 02 49 57.6
comp=Z,72nm,1.8s
MNRC McLaughlin Min 24.53 124 IAmb IAmb 02 49 54.0
comp=Z,70nm,1.3s
SUTB Sutter Butte 24.55 122 IAmb IAmb 02 49 41.6
comp=Z,34nm,0.8s
BEKR Beckworth 24.74 119 IAmb IAmb 02 49 44.8
comp=Z,22nm,1.0s
DLMT Dillon 24.94 100 IAmb IAmb 02 49 53.8
comp=Z,41nm,1.1s
EGMT Eagleton 24.94 93 IAmb IAmb 02 49 59.9
comp=Z,52nm,1.2s
HLID Hailey 25.12 106 IAmb IAmb 02 49 49.1
comp=Z,17nm,1.1s
PAHR Pah Rah Range 25.34 118 IAmb IAmb 02 49 50.6
comp=Z,81nm,1.5s
WELL Weller Preserv 25.68 122 IAmb IAmb 02 49 54.4
comp=Z,20nm,0.9s
JRSC Jasper Ridge 25.82 126 IAmb IAmb 02 49 53.6
comp=Z,42nm,1.1s
CMB Columbia Colle 26.17 122 IAmb IAmb 02 49 57.5
comp=Z,69nm,2.0s
WAKR Walker 26.25 120 IAmb IAmb 02 50 00.8
comp=Z,25nm,1.0s
YMR Madison River 26.28 100 IAmb IAmb 02 50 05.6
comp=Z,26nm,1.1s
YNR Norris Junctio 26.41 100 IAmb IAmb 02 50 26.6
comp=Z,32nm,1.4s
RYN Ryan 26.60 119 IAmb IAmb 02 50 01.3
comp=Z,20nm,1.1s
ELK Elko 26.66 111 LR LR 02 58 36.1
comp=Z,834nm,21.7s,baz=286,slow=32
ELK Elko 26.66 111 P P 02 49 59.4 -0.4
NVAR Mina Array Bea 26.86 119 P P 02 50 00.6 -1.0
comp=Z,13nm,0.9s,baz=304,slow=7.1,SNR=21
NVAR LR LR 02 58 48.2
comp=Z,1µm,18.4s,baz=324,slow=32
comp=Z,13nm,0.9s
LHV Little Huntoon 26.90 119 IAmb IAmb 02 50 26.4
comp=Z,56nm,1.3s
FXWY Fox Creek 26.91 102 IAmb IAmb 02 50 39.0
comp=Z,8.6nm,1.2s
LEGD La Grand CA 26.94 123 IAmb IAmb 02 50 06.5
comp=Z,26nm,1.1s
BBGB Big Mountain B 27.04 125 IAmb IAmb 02 50 05.8
comp=Z,50nm,1.1s
MDPB Devils Postpil 27.11 121 IAmb IAmb 02 50 06.5
comp=Z,25nm,0.9s
RES Resolute Bay 27.45 28 LR LR 03 01 31.1
comp=Z,1µm,18.9s,baz=222,slow=38
PMPB Monarch Peak 27.45 125 IAmb IAmb 02 50 14.5
comp=Z,37nm,1.1s
TPH Tonopah 27.67 118 IAmb IAmb 02 50 11.0
comp=Z,20nm,1.1s
LAO LASA Array 27.68 92 IAmb IAmb 02 50 40.5
comp=Z,53nm,1.6s
PKD Bear Valley Ra 27.79 125 IAmb IAmb 02 50 12.0
comp=Z,20nm,1.0s
DSP Deep Springs 27.85 120 IAmb IAmb 02 50 13.2
comp=Z,27nm,1.2s
GMN Gold Mountain 28.25 119 IAmb IAmb 02 50 20.1
comp=Z,5.0nm,1.0s
R11B Troy Canyon, C 28.27 115 IAmb IAmb 02 50 16.3
comp=Z,16nm,1.0s
PDAR Pinedale Array 28.29 102 P P 02 50 13.6 -0.8
comp=Z,1.8nm,0.6s,baz=314,slow=4.9,SNR=13

comp=Z,1.8nm,0.6s
DUG Dugway, Tooele 28.33 109 P P 02 50 14.4 -0.3
DUG pmax pmax
comp=Z,10.0nm,1.2s
TCUT Toone Canyon 28.42 106 IAmb IAmb 02 50 42.1
comp=Z,22nm,1.2s
SPR3 Spring Creek 3 28.42 113 IAmb IAmb 02 50 18.9
comp=Z,27nm,1.1s
GRAC Grapevine Rang 28.44 119 IAmb IAmb 02 50 18.6
comp=Z,42nm,1.1s
CWC Cottonwood Cre 28.54 121 IAmb IAmb 02 50 19.1
comp=Z,11nm,0.9s
S11A Rachel 28.74 116 IAmb IAmb 02 50 20.9
comp=Z,42nm,1.0s
WCT Wildcat Mounta 28.97 119 IAmb IAmb 02 50 22.8
comp=Z,27nm,1.1s
ISA Isabella, Lake 28.98 122 IAmb IAmb 02 50 22.2
comp=Z,17nm,0.9s
TPNV Topopah Spring 29.03 118 IAmb IAmb 02 50 23.4
comp=Z,34nm,1.2s
FURC Furnace Creek, 29.11 119 IAmb IAmb 02 50 24.1
comp=Z,41nm,1.1s
MPMC Manual Prospec 29.13 121 IAmb IAmb 02 50 24.3
comp=Z,17nm,1.0s
BSUT Blindstream Ca 29.18 106 IAmb IAmb 02 51 02.4
comp=Z,26nm,1.5s
PRN Pahroc Range 29.27 116 IAmb IAmb 02 50 26.2
comp=Z,34nm,1.1s
CLC China Lake 29.27 121 IAmb IAmb 02 50 25.4
comp=Z,20nm,1.0s
GWY Greenwater Val 29.43 119 IAmb IAmb 02 50 26.7
comp=Z,18nm,0.8s
WSHM Spangler Hills 29.50 121 IAmb IAmb 02 50 27.2
comp=Z,23nm,1.0s
LRMC Laurel Mtn Rad 29.51 122 IAmb IAmb 02 50 27.2
comp=Z,24nm,0.8s
QSM Queen of Sheba 29.51 120 IAmb IAmb 02 50 27.5
comp=Z,36nm,1.1s
CCCA Chr Cany lake 29.62 121 IAmb IAmb 02 50 28.5
comp=Z,37nm,0.8s
SEY Seymchan 29.64 308 LR LR 03 03 30.1
comp=Z,2µm,18.9s,baz=121,slow=39
SEY Seymchan 29.64 308‖ *eP* P 02 50 25.9 +0.1
SEY pmax pmax
comp=Z,30nm,2.5s
RDMU Red Mountain 29.80 105 IAmb IAmb 02 51 13.7
comp=Z,9.9nm,1.2s
SHOC Shoshone, Teco 29.85 119 IAmb IAmb 02 50 30.5
comp=Z,25nm,1.0s
CCUT Cedar City 30.02 113 IAmb IAmb 02 50 32.2
comp=Z,15nm,1.1s
GSC Goldstone, Bar 30.07 121 IAmb IAmb 02 50 32.4
comp=Z,20nm,1.1s
PET Petropavlovsk 30.07 286 *deP* P 02 50 31.4 +1.7
PET pmax pmax
comp=Z,36nm,1.1s
SZCU Shurtz Canyon 30.12 113 IAmb IAmb 02 50 32.8
comp=Z,9.0nm,0.9s
Q16A Castle Valley 30.13 109 IAmb IAmb 02 50 33.4
comp=Z,58nm,1.9s
SRU San Rafael Swe 30.33 108 IAmb IAmb 02 50 35.0
comp=Z,25nm,1.1s
PASC Pasadena Art C 30.34 124 IAmb IAmb 02 50 34.4
comp=Z,15nm,0.9s
MWC Mount Wilson 30.36 124 IAmb IAmb 02 50 41.0
comp=Z,28nm,1.4s
RSSD Black Hills 30.46 94 P 02 50 32.5 -1.1
RSSD IAmb IAmb 02 50 42.2
comp=Z,17nm,0.9s
RSSD Black Hills 30.46 94 P P 02 50 32.5 -1.1
RSSD pmax pmax
comp=Z,17nm,0.9s
LCMT Little Creek M 30.49 114 IAmb IAmb 02 50 36.3
comp=Z,9.0nm,0.9s
BFSC Mount Baldy Ra 30.53 123 IAmb IAmb 02 50 36.7
comp=Z,47nm,1.3s
MTPC Mountain Pass 30.53 119 IAmb IAmb 02 50 36.8
comp=Z,26nm,1.0s
PEA0B Petropavlovsk- 30.55 287‖ *eP* P 02 50 33.4 -0.6
PETK Petropavlovsk- 30.55 287 P P 02 50 33.9 0.0
comp=Z,14nm,0.8s,baz=70,slow=12,SNR=11
comp=Z,14nm,0.8s
KNB Kanab 30.70 113 IAmb IAmb 02 50 38.3
comp=Z,15nm,1.0s
O20A White River Ci 30.82 104 IAmb IAmb 02 50 45.2
comp=Z,20nm,1.0s
HMU Henry Mountain 31.08 110 IAmb IAmb 02 50 42.2
comp=Z,33nm,1.2s
MA2 Magadan 31.41 302 LR LR 03 04 38.6
comp=Z,508nm,18.3s,baz=110,slow=39
MA2 Magadan 31.41 302‖ *eP* P 02 50 42.2 +0.7
MA2 pmax pmax
comp=Z,35nm,1.0s
ULM Lac du Bonnet 31.46 78 P P 02 50 41.6 -0.4
comp=Z,5.5nm,0.8s,baz=286,slow=7.4,SNR=5.4
ULM LR LR 03 02 27.2
comp=Z,292nm,19.4s,baz=302,slow=35
comp=Z,5.5nm,0.8s
BELC Belle Mtn. Jos 31.51 121 IAmb IAmb 02 50 44.8
comp=Z,16nm,0.8s
PV21 Cone Mtn., Par 31.56 107 IAmb IAmb 02 50 58.6
comp=Z,38nm,1.6s
DNR Dunn Ranch,Anz 31.57 122 IAmb IAmb 02 50 45.5
comp=Z,36nm,1.2s
PFO Pinyon Flats O 31.61 122 P P 02 50 42.3 -1.4
PFO Pinyon Flats O 31.61 122 LR LR 03 00 57.9
comp=Z,1µm,20.8s,baz=336,slow=32
PFO Pinyon Flats O 31.61 122‖ *eP* P 02 50 42.7 -1.0
PFO pmax pmax
comp=Z,26nm,1.4s
PV23 Carpenter Ridg 31.62 107 IAmb IAmb 02 50 52.3
comp=Z,25nm,0.9s
PMD Palm Desert 31.62 122 IAmb IAmb 02 50 45.4
comp=Z,18nm,1.2s
W13A Hualapai Mount 31.66 117 IAmb IAmb 02 50 46.8
comp=Z,18nm,1.0s
PV22 Blue Mesa, Par 31.68 107 IAmb IAmb 02 50 46.9
comp=Z,22nm,1.2s
PV04 Paradox Valley 31.72 107 IAmb IAmb 02 50 53.2
comp=Z,17nm,1.0s
PV20 West Nyswonger 31.73 107 IAmb IAmb 02 50 46.6
comp=Z,17nm,1.0s
PV19 Morning Glory 31.74 107 IAmb IAmb 02 50 46.1
comp=Z,38nm,1.5s
PV16 Nyswonger Mesa 31.77 107 IAmb IAmb 02 50 59.8
comp=Z,19nm,1.1s
PV17 East Wray Mesa 31.77 107 IAmb IAmb 02 51 01.4
comp=Z,19nm,1.3s
IRM Iron Mountain 31.80 120 IAmb IAmb 02 50 47.8
comp=Z,43nm,1.0s
PV11 David Mesa, Pa 31.81 107 IAmb IAmb 02 50 48.0
comp=Z,27nm,1.3s
PV07 Paradox Valley 31.82 107 IAmb IAmb 02 50 47.5
comp=Z,23nm,1.2s
PV12 Saucer Basin, 31.83 107 IAmb IAmb 02 50 48.2
comp=Z,29nm,1.2s
PV05 Paradox Valley 31.85 108 IAmb IAmb 02 51 04.7
comp=Z,18nm,1.2s
DPP Dos Picos Cty 31.89 123 IAmb IAmb 02 50 48.4
comp=Z,21nm,0.9s
CPE Camp Elliot 31.91 124 IAmb IAmb 02 50 48.6
comp=Z,25nm,0.9s
BORC Borrego Spring 31.91 122 IAmb IAmb 02 50 48.5
comp=Z,17nm,1.1s
PV13 Radium Mtn., P 31.94 107 IAmb IAmb 02 50 48.5
comp=Z,36nm,1.4s
PV15 Paradox Valley 31.98 107 IAmb IAmb 02 51 01.1
comp=Z,22nm,1.0s
BC3 Big Chuckawall 32.06 121 IAmb IAmb 02 50 49.4
comp=Z,13nm,0.8s
BAR Barrett 32.28 123 IAmb IAmb 02 50 51.9
comp=Z,22nm,1.1s
WUAZ Wupatki 32.60 114 IAmb IAmb 02 50 55.0
comp=Z,29nm,0.9s
YUH Yuha Desert 32.66 122 IAmb IAmb 02 50 55.1
comp=Z,19nm,1.0s
GLA Glamis 32.85 121 IAmb IAmb 02 50 56.7
comp=Z,21nm,0.8s
EPLO Experimental L 32.94 78 P 02 50 55.1 +0.1
Y14A Wickenburg 33.02 117 IAmb IAmb 02 50 58.4
comp=Z,28nm,0.9s
ESJX Sierra Juarez 33.18 123 IAmb IAmb 02 50 60.0
comp=Z,15nm,1.0s
X16A Lo Mia Camp, P 33.43 115 IAmb IAmb 02 51 02.7
comp=Z,23nm,0.9s
113A Mohawk Valley, 33.59 120 IAmb IAmb 02 51 03.0
comp=Z,16nm,1.0s
X18A Snowflake 34.10 113 IAmb IAmb 02 51 08.2

comp=Z,20nm,0.9s
214A Organ Pipe Nat 34.72 119 IAmb IAmb 02 51 13.3
comp=Z,32nm,1.1s
PIX Pinacate 34.73 120 IAmb IAmb 02 51 13.1
comp=Z,22nm,0.9s
ECSD EROS Data Cent 34.85 89 IAmb IAmb 02 51 19.5
comp=Z,17nm,1.1s
T25A Trinidad 35.06 104 IAmb IAmb 02 51 40.2
comp=Z,20nm,1.3s
EYMN Ely 35.13 79 P **P** **02 51 15.8 +1.8**
TUC Tucson 35.44 116 P **P** **02 51 17.0 +0.1**
TUC Tucson 35.44 116 P **P** **02 51 17.0 +0.1**
TUC pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 35.60 109 P **P** **02 51 14.8 -3.7**
ANMO Albuquerque 35.60 109 LR LR 03 04 55.5
comp=Z,411nm,19.5s,baz=46,slow=35
ANMO Albuquerque 35.60 109⇓*e*P **P** **02 51 17.9 -0.6**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 35.92 328 P **P** **02 51 20.6 0.0**
TIXI IAmb IAmb 02 51 30.5
comp=Z,27nm,1.0s
TIXI Tiksi 35.92 328⇓*e*P **P** **02 51 20.8 +0.2**
TIXI pmax pmax
comp=Z,26nm,1.3s
CBKS Cedar Bluff 36.42 97 IAmb IAmb 02 51 34.7
comp=Z,38nm,1.1s
121A Cookes Peak, D 36.78 113 IAmb IAmb 02 51 31.5
comp=Z,19nm,0.9s
KULLO Kullorsuaq 37.29 26 *i* P **P** **02 51 33.1 +0.9**
KULLO IAmb IAmb 02 51 35.4
comp=Z,88nm,1.1s
NEEM North Greenlan 37.51 21⇑*i*P **P** **02 51 34.8 +0.4**
AMTX Amarillo 38.21 104 IAmb IAmb 02 51 42.8
comp=Z,36nm,1.2s
FRB Frobisher Bay 38.21 45 LR LR 03 07 32.1
comp=Z,1μm,18.6s,baz=292,slow=36
UPNV Upernavik 38.32 29 *i* P **P** **02 51 42.3 +1.5**
UPNV IAmb IAmb 02 51 44.4
comp=Z,55nm,1.0s
NOKA Waynoka 38.42 99 IAmb IAmb 02 51 50.9
comp=Z,42nm,1.0s
ELIS Ellis County 38.57 100 IAmb IAmb 02 51 52.5
comp=Z,54nm,1.2s
OK038 West end E0370 38.64 99 IAmb IAmb 02 51 52.9
comp=Z,57nm,1.4s
SMWD Samnorwood 38.83 102 IAmb IAmb 02 51 48.0
comp=Z,31nm,1.3s
YAK Yakutsk 39.69 313 *e*P **P** **02 51 52.1 -0.4**
YAK *e* 02 53 24.5
YAK *e*PPP PPP 02 53 46.2
YAK *e* 02 54 00.2
YAK *e*S **S** **02 57 56.5 +1.5**
YAK *e* 03 01 59.5
YAK pmax pmax
comp=Z,56nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,88nm,2.2s
YAK pmax pmax
comp=E,78nm,2.2s
YAK pmax pmax
comp=N,81nm,2.1s
YAK smax smax
comp=N,126nm,3.3s
YAK smax smax
comp=E,76nm,3.3s
YAK MLR MLR
comp=Z,623nm,19.0s
YAK MLR MLR
comp=E,338nm,18.0s
YAK MLR MLR
comp=N,217nm,19.0s
OK029 Liberty Lake 39.85 99 IAmb IAmb 02 52 02.4
comp=Z,54nm,1.6s
ODSA Odessa 39.85 107 IAmb IAmb 02 51 56.3
comp=Z,34nm,1.3s
WMOK Wichita Mounta 39.90 101 P **P** **02 51 54.2 -0.4**
WMOK pmax pmax
comp=Z,15nm,1.0s
SN07 Snyder 07 39.99 105 IAmb IAmb 02 51 57.3
comp=Z,36nm,1.5s
NOR Nord 40.05 10 P **P** **02 51 57.7 +2.4**
NOR pmax pmax
comp=Z,19nm,2.6s
NOR Nord 40.05 10 *i* P **P** **02 51 54.9 -0.3**
NOR IAmb IAmb 02 51 58.1
comp=Z,51nm,1.6s
N41A Harden Midland 40.06 88 IAmb IAmb 02 52 03.0
comp=Z,41nm,0.8s
P40A Paris 40.20 90 IAmb IAmb 02 52 04.8
comp=Z,48nm,1.6s
TXAR Lajitas Array 41.46 111 P **P** **02 52 07.3 -0.3**
comp=Z,6.7nm,1.1s,baz=325,slow=6.4,SNR=18
TXAR LR LR 03 08 36.1
comp=Z,413nm,18.0s,baz=316,slow=35
comp=Z,6.7nm,1.1s
OZNA Ozona 41.54 107 P **P** **02 52 07.2 -1.1**
OZNA IAmb IAmb 02 52 10.0
comp=Z,36nm,1.4s
Z35A Perchaven, San 41.79 101 IAmb IAmb 02 52 19.4
comp=Z,64nm,1.5s
JCT Junction City 42.60 106 IAmb IAmb 02 52 18.6
comp=Z,20nm,0.8s
SUMG Summit 42.87 25 P **P** **02 52 19.2 +0.2**
SUMG Summit 42.87 25 P **P** **02 52 19.2 +0.2**
SUMG pmax pmax
comp=Z,93nm,0.9s
SUMG Summit 42.87 25 *i* P **P** **02 52 19.2 +0.2**
SUMG IAmb IAmb 02 52 22.3
comp=Z,82nm,0.8s
MIAR Mount Ida 42.92 96 P **P** **02 52 18.4 -0.9**
MIAR IAmb IAmb 02 52 35.2
comp=Z,32nm,1.6s
MIAR Mount Ida 42.92 96 P **P** **02 52 18.4 -0.9**
MIAR pmax pmax
comp=Z,32nm,1.6s
SFJD Kangerlussuaq 42.94 35 LR LR 03 09 56.4
comp=Z,746nm,20.8s,baz=307,slow=36
DRIO Del Rio 42.99 108 IAmb IAmb 02 52 21.3
comp=Z,30nm,1.2s
S44A Carbondale 43.05 90 IAmb IAmb 02 52 26.8
comp=Z,69nm,1.8s
DAG Danmarks Havn 43.57 15 P **P** **02 52 24.5 +0.4**
DAG pmax pmax
comp=Z,61nm,1.4s
DAG Danmarks Havn 43.57 15 *i* P **P** **02 52 24.0 -0.1**
DAG IAmb IAmb 02 52 26.7
comp=Z,34nm,0.9s
SCHQ Schefferville 43.73 56 P **P** **02 52 25.0 -0.6**
comp=Z,233nm,0.9s,baz=316,slow=7.7,SNR=21
SCHQ LR LR 03 10 32.8
comp=Z,8μm,18.4s,baz=306,slow=36
DY2G Dye2 44.63 34 *i* P **P** **02 52 32.2 -0.7**
DY2G IAmb IAmb 02 52 35.5
comp=Z,25nm,0.8s
HKT Hockley 45.16 103 P **P** **02 52 37.4 +0.2**
HKT IAmb IAmb 02 52 46.9
comp=Z,47nm,1.6s
HKT Hockley 45.16 103 P **P** **02 52 37.4 +0.2**
HKT pmax pmax
comp=Z,47nm,1.7s
DBG Daneborg 45.28 17 *i* P **P** **02 52 38.2 +0.5**
R50A Paris 45.38 85 IAmb IAmb 02 52 46.7
comp=Z,24nm,1.1s
ZEA Zeya 45.48 304 *e*P **P** **02 52 42.8 +3.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
SPITS Spitsbergen Ar 45.54 4 P **P** **02 52 41.0 +1.1**
comp=Z,22nm,0.9s,baz=27,slow=13,SNR=4.1
comp=Z,22nm,0.9s
SPITS Spitsbergen Ar 45.54 4 P **P** **02 52 41.0 +1.1**
CLTN Cedars of Leba 45.83 89 IAmb IAmb 02 52 51.3
comp=Z,24nm,1.3s
X48A Hartselle 46.62 91 IAmb IAmb 02 52 56.3
comp=Z,22nm,1.0s
SWET Sewanee 46.69 89 IAmb IAmb 02 52 58.1
comp=Z,21nm,1.3s
ICQ Pointe Anglais 46.85 62 P **P** **02 52 50.1 -0.3**
ZAIG Zacatecas 47.39 115 IAmb IAmb 02 52 58.1
comp=Z,35nm,1.7s
TKL Tuckaleechee C 47.57 87 LR LR 03 12 38.7
comp=Z,1μm,18.2s,baz=322,slow=36

SOEG Soedalen 47.63 27 *i* P **P** **02 52 56.3 0.0**
SOEG IAmb IAmb 02 52 59.1
comp=Z,31nm,0.9s
HEH HeiHe 47.65 300 *e*P **P** **02 52 56.0 -0.6**
HEH pmax pmax
comp=Z,17nm,1.3s
ANGG Ammassalik, Gr 47.81 32 P **P** **02 52 58.3 +0.6**
ANGG Ammassalik, Gr 47.81 32 *i* P **P** **02 52 58.1 +0.4**
ANGG IAmb IAmb 02 52 59.1
comp=Z,42nm,1.1s
H11N2 WAKE ISLAND Hy 49.17 241 T T 03 46 07.6
baz=31,slow=76,SNR=136
H11N3 WAKE ISLAND Hy 49.17 241 T T 03 46 02.5
baz=31,slow=76,SNR=159
H11N1 WAKE ISLAND Hy 49.19 241 T T 03 46 04.7
baz=31,slow=76,SNR=179
JMIC Jan Mayen 49.97 16 LR LR 03 15 31.5
comp=Z,214nm,20.9s,baz=360,slow=37
H11S1 WAKE ISLAND Hy 50.31 240 T T 03 47 31.7
baz=30,slow=76,SNR=116
H11S2 WAKE ISLAND Hy 50.32 240 T T 03 47 35.4
baz=30,slow=76,SNR=148
H11S3 WAKE ISLAND Hy 50.33 240 T T 03 47 32.8
baz=30,slow=76,SNR=116
BNX BinXian 50.72 296 ⇓P **P** **02 53 19.4 -0.8**
BNX pmax pmax
comp=Z,14nm,1.3s
MJAR Matsushiro Arr 51.54 280 P **P** **02 53 26.2 -0.3**
comp=Z,4.8nm,1.0s,baz=360,slow=5.7,SNR=6.1
MJAR LR LR 03 14 03.7
comp=Z,184nm,21.1s,baz=158,slow=35
comp=Z,4.8nm,1.0s
DRLN Deer Lake 51.72 57 P **P** **02 53 27.7 +0.1**
HILR Hailar Array B 51.75 304 LR LR 03 17 32.8
comp=Z,756nm,18.6s,baz=140,slow=38
HIA Hailar 51.95 304⇑*e*P **P** **02 53 29.0 -0.5**
HIA pmax pmax
comp=Z,24nm,1.0s
BORG Borgarnes 52.84 25 LR LR 03 16 52.6
comp=Z,380nm,18.8s,baz=309,slow=37
CN2 Changchun 53.07 295 *e*P **P** **02 53 37.6 -0.2**
CN2 *e*pP sP 02 53 41.2 -1.2
CN2 *e*sP pwP 02 53 46.4 -0.5
CN2 *e*S **S** **03 01 03.8 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,10.0s
TLIG Tlapa 53.78 115 IAmb IAmb 02 53 45.7
comp=Z,15nm,1.1s
ARCES ARCESS Array B 54.48 3 P **P** **02 53 47.2 -0.5**
comp=Z,5.3nm,0.8s,baz=351,slow=6.9,SNR=16
comp=Z,5.3nm,0.8s
LVZ Lovozero 56.17 359*ce*P **P** **02 54 00.8 +0.8**
LVZ pmax pmax
comp=Z,64nm,1.4s
IRK Irkutsk 56.42 315 *e*P **P** **02 54 03.0 +1.1**
IRK pmax pmax
comp=Z,350nm,2.3s
KSRS Korea Array 56.43 288 P **P** **02 54 04.1 +2.0**
comp=Z,2.5nm,0.8s,baz=54,slow=6.2,SNR=4.1
comp=Z,2.5nm,0.8s
APA Apatity 56.52 359⇓*e*P **P** **02 54 01.9 -0.4**
APA *e* 02 54 57.9
APA MLR MLR
comp=Z,462nm,4.2s
SGF Sodankyl 56.60 2 P **P** **02 54 04.9 +2.0**
SGF pmax pmax
comp=Z,25nm,1.4s
TLY Talaya 57.10 315*ce*P **P** **02 54 07.4 +0.6**
MOY Mondy 58.15 317 *e*P **P** **02 54 12.9 -1.3**
MOY pmax pmax
comp=Z,32nm,2.0s
ULN Ulaanbaatar 58.66 310 P **P** **02 54 17.9 0.0**
ULN IAmb IAmb 02 54 21.8
comp=Z,16nm,0.8s
ULN Ulaanbaatar 58.66 310*ce*P **P** **02 54 18.1 +0.2**
ULN pmax pmax
comp=Z,22nm,1.0s
OUL Oulu 58.95 3 P **P** **02 54 20.8 +1.4**
OUL pmax pmax
comp=Z,42nm,1.2s
SONM Songino Array 58.96 311 P **P** **02 54 20.4 +0.4**
comp=Z,33nm,1.0s,baz=50,slow=6.1,SNR=32
comp=Z,33nm,1.0s
KNGR Kungurtug, Tuv 60.31 318⇑*e*P **P** **02 54 28.4 -0.9**
KNGR pmax pmax
comp=Z,5.0nm,1.2s
ZALV Zalesovo Beam 61.81 327 P **P** **02 54 39.8 +0.5**
comp=Z,2.7nm,0.5s,baz=23,slow=8.0,SNR=12
comp=Z,2.7nm,0.5s
NB2 NORSAR Subarra 62.01 11 P **P** **02 54 40.3 -0.2**
comp=Z,40nm,1.7s,baz=347,slow=6.9
NB2 NORSAR Subarra 62.01 11 P **P** **02 54 40.3 -0.2**
baz=347,slow=6.9
NOA NORSAR Array B 62.01 11 P **P** **02 54 40.4 -0.2**
comp=Z,8.8nm,0.9s,baz=348,slow=6.8,SNR=21
NOA LR LR 03 23 32.6
comp=Z,100nm,19.3s,baz=0.0,slow=38
comp=Z,8.8nm,0.9s
HHC Hu-ho-hao-te 62.08 302 *e*P **P** **02 54 41.5 +0.1**
HHC sP pwP 02 54 50.3 -0.2
HHC pmax pmax
comp=Z,42nm,1.0s
HHC pmax pmax
comp=Z,620nm,6.9s
FINES FINESS Array B 62.60 3 P **P** **02 54 44.4 0.0**
comp=Z,13nm,0.8s,baz=12,slow=6.7,SNR=17
comp=Z,13nm,0.8s
FINES FINESS Array B 62.60 3 *i* P **P** **02 54 44.5 +0.1**
FINES pmax pmax
comp=Z,12nm,0.8s
BTO Baotou 63.00 303 *e*P **P** **02 54 49.6 +2.1**
BTO pP **pwP** **02 54 54.8 -1.9**
BTO S **S** **03 03 22.6 +5.5**
BTO pmax pmax
comp=Z,32nm,0.9s
BTO pmax pmax
comp=Z,460nm,5.8s
BTO LR LR
comp=Z,1μm,14.9s
BTO LR LR
comp=Z,2μm,14.0s
BTO LR LR
comp=Z,1μm,14.9s
KLMR Klimovskoe 63.09 356 *e*P **P** **02 54 45.0 -2.6**
KLMR pmax pmax
comp=Z,103nm,1.3s
HFS Hagfors 63.15 10 P **P** **02 54 48.5 +0.5**
comp=Z,9.4nm,1.0s,baz=347,slow=4.6,SNR=6.0
comp=Z,9.4nm,1.0s
HNS HongShan 63.26 298 ⇓P **P** **02 54 51.5 +2.4**
HNS pmax pmax
comp=Z,32nm,1.1s
KIRV Kirov 64.64 350*de*P **P** **02 54 58.3 +0.5**
SVE Sverdlovsk 64.85 343 *e*P **P** **02 54 59.7 +0.4**
SVE pmax pmax
comp=Z,46nm,1.3s
EKA Eskdalemuir Ar 65.31 21 P **P** **02 55 03.4 +1.1**
comp=Z,10nm,0.8s,baz=342,slow=5.1,SNR=12
comp=Z,10nm,0.8s
NJ2 Nanjing 65.34 291 *e*P **P** **02 55 02.9 +0.1**
NJ2 pmax pmax
comp=Z,11nm,0.7s
VSU Vasula 65.61 3*de*P **P** **02 55 04.9 +0.8**
VSU pmax pmax
comp=Z,39nm,1.0s
ARTI Arti 65.64 344 P **P** **02 55 03.5 -0.8**
ARTI Arti 65.64 344*c i*P **P** **02 55 04.0 -0.4**
ARTI 02 55 36.0
ARTI S **S** **03 03 51.7 +2.7**
ARTI SS **SS** **03 08 04.0 +2.1**
ARTI pmax pmax
comp=Z,64nm,1.0s
KURK Kurchatov 66.47 329 P **P** **02 55 09.8 0.0**
KURK IAmb IAmb 02 55 19.3
comp=Z,22nm,1.4s
KURK Kurchatov 66.47 329⇑*e*P **P** **02 55 10.3 +0.5**
KURK pmax pmax
comp=Z,9.0nm,1.3s
BORK Borovoye 66.49 336*ce*P **P** **02 55 09.2 -0.7**

BORK pmax pmax
comp=Z,15nm,1.3s
KURBB Kurchatov Arra 66.58 329 P **P** **02 55 10.5 0.0**
comp=Z,3.8nm,0.9s,baz=25,slow=5.9,SNR=14
comp=Z,3.8nm,0.9s
LYN LuoYang 66.62 297 P **P** **02 55 13.9 +2.9**
LYN pmax pmax
comp=Z,46nm,0.9s
ZSN Zaisan 67.44 324 *e*P **P** **02 55 16.4 +0.3**
comp=Z,11nm,1.2s
ZSN Zaisan 67.44 324 *e*P **P** **02 55 16.4 +0.3**
ZSN pmax pmax
comp=Z,11nm,1.2s
MOS Moscow 68.28 356 *e*P **P** **02 55 20.7 -0.5**
MOS pmax pmax
comp=Z,33nm,0.8s
MOS pmax pmax
comp=Z,100nm,1.4s
GTA Gaotai 68.56 309 *e*P **P** **02 55 22.9 -0.5**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA LR LR
comp=Z,380nm,18.5s
GTA LR LR
comp=Z,700nm,17.5s
GTA LR LR
comp=Z,960nm,15.6s
BRZS Berezniki 68.74 333 *e*P **P** **02 55 24.7 +0.4**
BRZS Berezniki 68.74 333 *e*P **P** **02 55 24.6 +0.4**
XAN Xi'an 68.77 300 P **P** **02 55 24.6 -0.1**
XAN pmax pmax
comp=Z,40nm,1.1s
XAN LR LR
comp=Z,720nm,19.3s
XAN LR LR
comp=Z,440nm,19.9s
XAN LR LR
comp=Z,590nm,18.6s
MK31 Makanchi Array 68.86 325*de*P **P** **02 55 24.5 -0.5**
MKAR Makanchi Array 68.86 325 P **P** **02 55 24.2 -0.8**
comp=Z,4.9nm,0.9s,baz=44,slow=7.1,SNR=16
comp=Z,4.9nm,0.9s
MAKZ Makanchi 68.94 325 P **P** **02 55 24.4 -1.1**
MAKZ Makanchi 68.94 325 P **P** **02 55 24.4 -1.1**
MAKZ pmax pmax
comp=Z,36nm,1.5s
OBN Obninsk 68.94 357 P **P** **02 55 24.3 -1.0**
OBN Obninsk 68.94 357*c i*P **P** **02 55 26.7 +1.4**
OBN *e*PP **sP** **02 55 31.0 +0.9**
OBN *i* 02 55 53.5
OBN *i* S **S** **03 04 20.3 -8.5**
OBN *i* 03 05 13.6
OBN pmax pmax
comp=Z,71nm,1.3s
OBN MLR MLR
comp=Z,134nm,19.0s
LZH Lanzhou 69.51 304 *e*P **P** **02 55 29.5 +0.1**
LZH sP pwP 02 55 36.7 -1.9
LZH pmax pmax
comp=Z,21nm,1.1s
LZH LR LR
comp=Z,900nm,17.3s
LZH LR LR
comp=Z,850nm,17.7s
LZH LR LR
comp=Z,1μm,17.3s
MNK Minsk 69.60 2 *i* P **P** **02 55 30.6 +1.2**
MNK *i* 02 55 53.8
MNK *i* 02 58 03.7
MNK *i* PPP PPP 02 59 45.1
MNK *i* S **S** **03 04 40.1 +3.5**
MNK *i* SS **SS** **03 09 05.6 +2.5**
MNK pmax pmax
comp=Z,77nm,0.9s
MNK pmax pmax
comp=N,13nm,1.0s
MNK pmax pmax
comp=E,56nm,1.0s
MNK MLR MLR
comp=Z,161nm,19.0s
MNK MLR MLR
comp=N,187nm,21.0s
MNK MLR MLR
comp=E,229nm,20.0s
WMQ Urumqi 69.63 320 *e*P **P** **02 55 31.4 +1.5**
WMQ LR LR
comp=E,560nm,15.5s
WMQ LR LR
comp=E,480nm,22.5s
WMQ LR LR
comp=E,620nm,20.9s
LZDM Lanzhou Array 69.68 304 P **P** **02 55 32.8 +2.1**
comp=E,1.2nm,0.3s,baz=22,slow=8.5,SNR=3.8
LZDM LR LR 03 28 50.9
comp=E,583nm,19.0s,baz=25,slow=38
comp=E,1.2nm,0.3s
SUW Suwalki 69.92 5 *e*PKP **P** **02 55 32.5 +1.1**
BELG Belogornoye 70.92 350*c i*P **P** **02 55 37.0 -0.5**
BELG pmax pmax
comp=Z,22nm,1.0s
LPSR Galich'ya Gora 71.36 355 *e*P **P** **02 55 39.8 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.0s
BSTI Sart Tilman 71.43 17 *d*P **P** **02 55 40.2 -0.5**
MEM Membach 71.48 17 *d*P **P** **02 55 41.2 +0.3**
CNSH ChangSha 71.50 293 P **P** **02 55 41.4 0.0**
CNSH pmax pmax
comp=Z,26nm,1.1s
BTNL Ternell 71.52 17 *d*P **P** **02 55 42.2 +1.0**
BGES Gesves 71.54 17 *d*P **P** **02 55 43.1 +1.8**
comp=Z,7.9nm,1.2s
BMRD Maredsous 71.57 18 *d*P **P** **02 55 43.2 +1.7**
comp=Z,13nm,1.0s
TDK Taldyqorghan 71.67 327 *e*P **P** **02 55 42.7 +0.4**
comp=Z,10nm,0.8s
TDK Taldyqorghan 71.67 327 *e*P **P** **02 55 42.6 +0.4**
TDK pmax pmax
comp=Z,10.0nm,0.8s
BHOU Houvegnez 71.72 17 *d*P **P** **02 55 43.0 +0.5**
comp=Z,6.9nm,1.1s
DOU Dourbes 71.74 18 *d*P **P** **02 55 42.6 +0.1**
CLL Collm 71.76 12 IAmb IAmb 02 55 51.3
comp=Z,18nm,1.1s
CLL Collm 71.76 12 *i* P **P** **02 55 43.4 +0.8**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 71.76 12 *i* P **P** **02 55 43.4 +0.8**
comp=Z,13nm,1.1s
CLL *i* x x 02 55 50.3
comp=Z,23nm,1.3s
RCHB Rochefort 71.79 17 *d*P **P** **02 55 43.0 +0.2**
comp=Z,10nm,1.0s
VORR Voronezh 72.28 355 *e*P **P** **02 55 44.0 -1.7**
VORR pmax pmax
comp=Z,30nm,1.0s
BRG Berggiesshubel 72.30 11 *e*P **P** **02 55 46.9 +1.0**
BRG Amp 02 55 48.9
comp=Z,15nm,0.9s
BRG Berggiesshubel 72.30 11 P P 02 55 54.1 +8.3
BRG Amp 02 55 55.0
comp=Z,16nm,1.1s
WLF Walferdange 72.42 17 *d*P **P** **02 55 47.5 +0.9**
HSKC Hora Svate Kat 72.50 12 *e*pP **pP** **02 55 55.5 +4.9**
HSKC AMS AMS 03 50 00.0
comp=Z,600nm,21.3s
KSP Ksiaz 72.57 10 *e*PKP **P** **02 55 48.4 +0.8**
KSP Ksiaz 72.57 10 P **P** **02 55 49.3 +1.8**
VRH Novokhopyorsk 72.60 353 *e*P **P** **02 55 46.2 -1.4**
VRH pmax pmax
comp=Z,20nm,1.0s
PVCC Panska Ves 72.71 11 *e*P **P** **02 55 50.2 +1.9**
PVCC Panska Ves 72.71 11 *e*P **P** **02 55 50.2 +1.9**
VSR Storozhevoye 72.74 355 *e*P **P** **02 55 46.5 -1.9**
VSR pmax pmax
comp=Z,20nm,1.0s
CHVC Chvalec 72.80 10 *e*P **P** **02 55 50.7 +1.8**
CHVC Chvalec 72.80 10 *e*P **P** **02 55 50.7 +1.8**
OSTC Ostas 72.85 10 *e*P **P** **02 55 50.6 +1.4**
OSTC MLR MLR
comp=Z,400nm,19.8s
OSTC Ostas 72.85 10 *e*P **P** **02 55 50.6 +1.4**
OSTC AMS AMS 03 50 00.0
comp=Z,400nm,19.8s
UPC Upice 72.88 10 *e*P **P** **02 55 51.2 +1.9**
UPC Upice 72.88 10 *e*P **P** **02 55 51.2 +1.9**
VORD Divnogorie 72.98 355 *e*P **P** **02 55 49.3 -0.6**

VORD pmax pmax
comp=Z,30nm,1.0s
SHLS Shalkode 73.01 325 *e*P **P 02 55 49.8 -0.6**
comp=Z,18nm,1.1s
SHLS Shalkode 73.01 325 *e*P **P 02 55 49.8 -0.6**
SHLS pmax pmax
comp=Z,18nm,1.1s
DPC Dobruska-Polom 73.06 10 *e*P **P 02 55 52.2 +1.7**
DPC MLR MLR
comp=Z,300nm,18.0s
DPC Dobruska-Polom 73.06 10 *e*P **P 02 55 52.2 +1.7**
DPC *e*pP **pwP 02 55 59.1 -0.5**
DPC AMS AMS 03 52 10.0
comp=Z,300nm,18.0s
PRA Prague 73.14 11 AMS AMS 03 52 00.0
comp=Z,400nm,15.1s
UZB Uzynbulak 73.16 326 *e*P **P 02 55 51.7 +0.4**
UZB Uzynbulak 73.16 326 *e*P **P 02 55 51.7 +0.4**
PRU Pruhonice 73.24 11 *e*P **P 02 55 53.3 +1.8**
PRU MLR MLR
comp=Z,400nm,16.8s
PRU Pruhonice 73.24 11 *e*P **P 02 55 53.3 +1.8**
PRU *e*pP **pwP 02 56 00.0 -0.6**
PRU AMS AMS 03 51 20.0
comp=Z,400nm,16.8s
KRLC Kraliky 73.38 10 *e*P **P 02 55 53.9 +1.5**
KRLC MLR MLR
comp=Z,500nm,21.2s
KRLC Kraliky 73.38 10 *e*P **P 02 55 53.9 +1.5**
KRLC *e*pP **pwP 02 56 00.1 -1.4**
KRLC AMS AMS 03 48 40.0
comp=Z,500nm,21.2s
GOMU GeErMu 73.40 311 P **P 02 55 52.1 -1.0**
GOMU pP pP 02 55 55.4 -1.2
GOMU sP pwP 02 55 59.4 -3.0
GOMU S **S 03 05 18.4 -3.4**
GOMU pmax pmax
comp=Z,5.0nm,0.5s
GOMU LR LR
comp=Z,380nm,18.1s
GOMU LR LR
comp=Z,310nm,18.1s
GOMU LR LR
comp=Z,640nm,18.6s
SATY Saty 73.43 326 *e*P **P 02 55 53.1 +0.2**
SATY Saty 73.43 326 *e*P **P 02 55 53.1 +0.2**
AKASG Malin Array Be 73.43 1 P **P 02 55 53.4 +0.8**
comp=Z,22nm,0.8s,baz=0.9,slow=5.9,SNR=49
comp=Z,22nm,0.8s
AKASG Malin Array Be 73.43 1 *i* P **P 02 55 52.0 -0.6**
AKASG pmax pmax
comp=Z,23nm,0.8s
AKBB Malin Array Si 73.43 1 *de*P **P 02 55 52.7 +0.1**
KIEV Kiev 73.44 1 P **P 02 55 53.1 +0.6**
KIEV Kiev 73.44 1 ⇑P **P 02 55 53.2 +0.6**
KIEV Kiev 73.44 1 P **P 02 55 53.2 +0.6**
OJC Ojcow 73.49 8 *e*PKP **P 02 55 54.3 +1.3**
OJC Ojcow 73.49 8 P **P 02 55 55.1 +2.1**
PPT Papeete 73.50 181 LR LR 03 20 58.3
comp=Z,239nm,18.8s,baz=344,slow=30
PPT2 Papeete2 73.52 181 *e*LR LR 03 18 16.0
PPT2 comp=Z,217nm,22.2s *e*LR LR 03 18 18.9
comp=Z,224nm,23.5s
STEB Steborice 73.61 9 *e*P **P 02 55 55.6 +1.9**
STEB *e*pP **pwP 02 56 01.6 -1.2**
OKC Ostrava-Krasne 73.74 9 P **P 02 55 56.7 +2.3**
ZVC Zvikov 73.74 12 *e*P **P 02 55 56.3 +1.9**
ZVC *e*pP **pwP 02 56 02.5 -1.1**
ZVC AMS AMS 03 51 00.0
comp=Z,400nm,18.3s
MORC Moravsky Berou 73.75 9 IAmb IAmb 02 56 03.5
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 73.75 9 ⇑P **P 02 55 55.5 +1.0**
MORC Moravsky Berou 73.75 9 *e*P **P 02 55 55.7 +1.2**
MORC *e* 02 56 02.3
MORC Moravsky Berou 73.75 9 P **P 02 55 55.5 +1.0**
KHC Kasperske Hory 73.97 12 *de*P **P 02 55 57.9 +2.0**
KHC pmax pmax
comp=Z,19nm,1.7s
KHC Kasperske Hory 73.97 12 *e*P **P 02 55 57.6 +1.7**
KHC *e*pP **pwP 02 56 04.4 -0.6**
KHC AMS AMS 03 52 10.0
comp=Z,300nm,17.7s
ECH Echery 73.98 17 IAmb IAmb 02 56 04.8
comp=Z,14nm,0.9s
ECH Echery 73.98 17 P **P 02 55 57.5 +1.6**
TREC Trest 74.02 11 *e*P **P 02 55 57.5 +1.4**
TREC MLR MLR
comp=Z,600nm,21.7s
TREC Trest 74.02 11 *e*P **P 02 55 57.5 +1.4**
TREC AMS AMS 03 48 20.0
comp=Z,600nm,21.7s
BFO Black Forest 74.06 16 P **P 02 55 57.7 +1.4**
BFO IAmb IAmb 02 56 05.7
comp=Z,13nm,1.0s
BFO Black Forest 74.06 16 P **P 02 55 57.7 +1.4**
BFO pmax pmax
comp=Z,13nm,1.0s
VRAC Vranov 74.12 10 ⇓P **P 02 55 58.4 +1.7**
VRAC Vranov 74.12 10 *e*P **P 02 55 57.9 +1.2**
VRAC *e* 02 56 04.3
VRAC Vranov 74.12 10 P **P 02 55 58.3 +1.7**
MAUC Maruska 74.18 9 *e*P **P 02 55 59.0 +2.0**
MAUC *e*pP **pwP 02 56 05.6 -0.6**
SGDS Sogindy 74.21 329 *e*P **P 02 55 57.9 +0.5**
GERES GERESS Array B 74.27 12 P **P 02 55 59.4 +1.7**
comp=Z,3.9nm,0.8s,baz=352,slow=5.4,SNR=9.4
comp=Z,3.9nm,0.8s
KWP Kalwaria Pacla 74.27 6 *e*PKP **P 02 56 00.5 +2.9**
KWP Kalwaria Pacla 74.27 6 P **P 02 56 00.7 +3.2**
NIE Niedzica 74.33 7 *e*PKP **P 02 55 60.0 +2.1**
NIE Niedzica 74.33 7 P **P 02 56 00.4 +2.5**
KRUC Moravsky 74.35 10 *e*P **P 02 55 59.1 +1.1**
KRUC *e* 02 56 05.7
CKRC Cesky Krumlov 74.36 12 *e*P **P 02 55 59.9 +1.8**
CKRC MLR MLR
comp=Z,500nm,20.5s
CKRC Cesky Krumlov 74.36 12 *e*P **P 02 55 59.9 +1.8**
CKRC AMS AMS 03 50 10.0
comp=Z,500nm,20.5s
STHS Stebnicka Huta 74.39 7 *e*P **P 02 55 59.2 +0.9**
STHS pmax pmax
comp=Z,25nm,0.9s
STHS Stebnicka Huta 74.39 7 *e*P **P 02 55 59.2 +0.9**
STHS *e* 02 56 06.2
LANS Liptovska Anna 74.53 8 *e*P **P 02 56 01.0 +1.9**
LANS *e* 02 56 08.6
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 74.53 8 *e*P **P 02 56 00.9 +1.9**
LANS *e* 02 56 08.6
JAVC Velka Javorina 74.67 9 *e*P **P 02 56 02.3 +2.4**
JAVC *e* 02 56 08.8
MORS Morshin 74.83 5 P **P 02 56 03.1 +2.3**
HORU Horodok 74.86 3 P **P 02 56 02.4 +1.5**
AAK Ala-Archa 75.00 329 LR LR 03 32 42.0
comp=Z,700nm,18.0s,baz=76,slow=39
AAK Ala-Archa 75.00 329 *c i* P **P 02 56 04.5 +2.4**
AAK pmax pmax
comp=Z,9.0nm,1.1s
MODS Modra-Piesok 75.11 10 *e*P **P 02 56 04.7 +2.2**
MODS *e* 02 56 10.7
MODS pmax pmax
comp=Z,53nm,1.0s
MODS Modra-Piesok 75.11 10 *e*P **P 02 56 04.7 +2.2**
MODS *e* 02 56 10.7
RETA Reutte 75.23 14 *i* pP **P 02 56 04.2 +0.9**
comp=Z,4.8nm,0.9s
KECS Kecovo 75.27 7 *e*P P 02 56 11.9 +8.6
DAVA Damuels 75.30 15 *i* pP **P 02 56 05.5 +1.7**
comp=Z,14nm,1.3s
MOA Molln 75.32 12 *e*pP **P 02 56 04.7 +1.0**
comp=Z,13nm,1.1s
BIOA Bad Ischl, Aus 75.40 12 *i* pP **P 02 56 05.0 +0.8**
comp=Z,28nm,1.5s
CONA Conrad Observa 75.41 11 *e*pP **P 02 56 06.0 +1.7**
comp=Z,31nm,1.1s,SNR=7.4
MOTA Moosalm 75.42 14 *e*pP **P 02 56 06.6 +2.2**
comp=Z,28nm,1.2s
WATA Walderalm 75.49 14 *e*pP **P 02 56 06.2 +1.4**
comp=Z,30nm,1.1s,SNR=8.0
LESA Schwarzleotal 75.55 13 *i* pP **P 02 56 06.2 +1.2**
comp=Z,21nm,1.5s
SQTA Sankt Quirin 75.55 14 *e*pP **P 02 56 06.6 +1.4**
comp=Z,35nm,1.2s,SNR=5.9
WTTA Wattenberg 75.57 14 *e*pP **P 02 56 06.5 +1.2**
comp=Z,48nm,1.4s,SNR=6.1
DZA Taraz 75.65 331 *e*P **P 02 56 05.9 +0.2**
DZA Taraz 75.65 331 *e*P **P 02 56 05.8 +0.2**
FETA Feichten 75.68 14 *e*pP **P 02 56 07.1 +1.1**
comp=Z,20nm,1.3s
RONA Rosalia, Austr 75.68 10 *i* pP **P 02 56 07.5 +1.7**
comp=Z,11nm,1.5s
KSV Kosov 75.70 4 P **P 02 56 06.4 +0.6**
SOP Sopron 75.73 10 P **P 02 56 08.5 +2.6**
PSZ Piszkesteto 75.79 8 ⇑P **P 02 56 08.8 +2.3**
PSZ Piszkesteto 75.79 8 P **P 02 56 08.7 +2.3**
TRSU Trosnyk 75.82 6 P **P 02 56 08.4 +2.0**
KBA Koelnbreinsper 75.97 13 *e*pP **P 02 56 09.0 +1.4**
comp=Z,45nm,1.4s,SNR=11
SORM Soroca 75.98 2 ⇓P **P 02 56 08.4 +1.0**
SORM Soroca 75.98 2 P **P 02 56 08.4 +1.0**
TUE Stuetta 76.02 15 IAmb IAmb 02 56 17.4
comp=Z,9.4nm,1.0s
ARSA Arzberg 76.05 11 IAmb IAmb 02 56 17.2
comp=Z,15nm,1.0s
ARSA Arzberg 76.05 11 *e*pP **P 02 56 09.3 +1.5**
comp=Z,20nm,1.3s,SNR=6.9
GYA Guiyang 76.09 297 ⇓P **P 02 56 08.5 0.0**
GYA pmax pmax
comp=Z,10.0nm,1.1s
ABTA Abfaltersbach 76.19 13 *e*pP **P 02 56 09.8 +1.1**
comp=Z,11nm,1.0s
SSB Saint Sauveur 76.38 19 IAmb IAmb 02 56 18.6
comp=Z,19nm,1.2s
BURAR Bucovina Array 76.41 4 ⇓P **P 02 56 11.4 +1.4**
BURAR Bucovina Array 76.41 4 P **P 02 56 11.4 +1.4**
MYKA Terra Mystica 76.45 12 *i* pP **P 02 56 11.0 +0.8**
comp=Z,12nm,1.1s
SOKA Soboth 76.56 11 *e*pP **P 02 56 12.1 +1.3**
comp=Z,34nm,1.2s,SNR=8.0
PGAV Gavieira, Arco 76.60 29 *e*LR LR 03 27 43.4
PGAV *i* IAms_20 IAms_20 03 29 26.9
comp=Z,273nm,18.0s
OBKA Obir 76.67 12 *e*pP **P 02 56 12.5 +1.0**
comp=Z,37nm,1.0s,SNR=17
IUG Iuzhnay 76.70 331 *e*P **P 02 56 11.9 +0.1**
comp=Z,14nm,1.0s
IUG Iuzhnay 76.70 331 *e*P **P 02 56 11.8 +0.1**
IUG pmax pmax
comp=Z,14nm,1.0s
MESR Meseseni 76.76 6 ⇓P **P 02 56 14.2 +2.4**
ARCR ARCALIA 76.90 5 ⇑P **P 02 56 14.9 +2.3**
PCAB Cabril 76.90 29 *e*P **P 02 56 15.1 +2.3**
PCAB *i* IAmb IAmb 02 56 22.2
comp=Z,48nm,1.7s
BNI Bardonecchia 76.98 18 IAmb IAmb 02 56 23.9
comp=Z,24nm,1.2s
DRGR 77.10 6 ⇓P **P 02 56 14.8 +0.9**
DRGR 77.10 6 P **P 02 56 14.7 +0.9**
KIS Kishinev 77.13 2 *e*P **P 02 56 14.0 +0.1**
comp=Z,50nm,1.3s
KIS M M 02 56 22.0
comp=Z,90nm,1.3s
KIS *e*L L 03 42 12.0
KIS LRM MLR 03 44 50.0
comp=Z,150nm,23.0s
KIS Kishinev 77.13 2 *e*P **P 02 56 14.0 +0.1**
KIS pmax pmax
comp=Z,50nm,1.3s
PBRG Braganca 77.16 28 *e*P **P 02 56 15.8 +1.5**
MILM Milestii Mici 77.21 2 *e*P **P 02 56 12.0 -2.3**
comp=Z,80nm,1.2s
MILM M M 02 56 22.0
comp=Z,140nm,1.2s
MILM *e*L L 03 42 22.0
MILM LRM MLR 03 44 55.0
comp=Z,300nm,23.0s
MILM Milestii Mici 77.21 2 *e*P **P 02 56 12.0 -2.3**
MILM pmax pmax
comp=Z,80nm,1.2s
CJR Cluj-Napoca 77.23 5 ⇑P **P 02 56 16.9 +2.3**
CJR Cluj-Napoca 77.23 5 P **P 02 56 16.8 +2.3**
MARR Marisel-Cluj 77.24 6 ⇑P **P 02 56 15.8 +1.1**
POLO Lamas de Olo 77.28 29 *e*P **P 02 56 16.4 +1.4**
MORH Mrgy, Hungar 77.38 9 ⇓P **P 02 56 16.5 +1.2**
PVRL Vila Real 77.39 29 *e*P **P 02 56 18.0 +2.5**
KSH Kashi 77.41 326 P **P 02 56 19.2 +3.4**
KSH sP PcP 02 56 27.3 +1.1
KSH pmax pmax
comp=Z,12nm,1.0s
KSH LR LR
comp=Z,380nm,15.8s
KSH LR LR
comp=Z,340nm,16.1s
KSH LR LR
comp=Z,570nm,16.5s
SIRR Siria 77.56 7 ⇑P **P 02 56 17.6 +1.2**
TESR Tescani 77.56 3 ⇓P **P 02 56 16.7 +0.3**
PURM Purcari 77.61 1 ⇓P **P 02 56 17.9 +1.4**
MVO Moncorvo 77.68 29 *e*P **P 02 56 19.2 +2.0**
MVO *e*LR LR 03 27 44.0
MVO *i* IAms_20 IAms_20 03 31 17.9
comp=Z,248nm,16.0s
RAR Rarotonga 77.70 191 LR LR 03 22 57.2
comp=Z,197nm,19.6s,baz=342,slow=30
ONER Baraj Valea Uz 77.73 4 ⇓P **P 02 56 19.5 +2.2**
PVIS Viseu 77.86 29 *e*P **P 02 56 20.0 +1.8**
OZUR 77.95 4 ⇓P **P 02 56 20.6 +2.0**
HNR Honiara 77.96 232 LR LR 03 22 46.3
comp=Z,289nm,21.4s,baz=347,slow=30
BOSR Bodos 77.96 4 ⇓P **P 02 56 19.5 +0.9**
TURR Turia 78.00 4 ⇓P **P 02 56 20.9 +2.1**
GHRR 78.04 3 ⇑P **P 02 56 20.6 +1.6**
DOPR Dopca 78.06 4 ⇓P **P 02 56 20.8 +1.6**
SURR Surduc 78.10 7 ⇓P **P 02 56 20.9 +1.6**
BZS Buzias 78.20 7 ⇓P **P 02 56 20.9 +1.0**
BZS Buzias 78.20 7 P **P 02 56 20.9 +1.0**
VRI Vrincioaia 78.21 3 ⇓P **P 02 56 21.8 +1.8**
VRI Vrincioaia 78.21 3 P **P 02 56 21.8 +1.8**
PLOR Plostina 78.22 3 ⇓P **P 02 56 22.0 +1.8**
PLOR Plostina 78.22 3 P **P 02 56 21.9 +1.8**
MTE Manteigas 78.25 29 *e*P **P 02 56 22.4 +2.0**
MTE *i* IAmb IAmb 02 56 30.8
comp=Z,51nm,1.7s
MTE *e*LR LR 03 23 12.5
MTE *i* IAms_20 IAms_20 03 30 46.3
comp=Z,184nm,18.0s
PCAS Casmilo, Conde 78.31 30 *e*P **P 02 56 22.3 +1.7**
PZH PanZhiHua 78.47 301 P **P 02 56 23.9 +2.1**
PZH pmax pmax
comp=Z,40nm,0.9s
GZR Gura Zlata 78.50 6 ⇑P **P 02 56 22.7 +1.0**
GZR Gura Zlata 78.50 6 P **P 02 56 22.7 +1.0**
MLR Muntele Rosu 78.56 4 ⇑P **P 02 56 24.5 +2.4**
MLR Muntele Rosu 78.56 4 P **P 02 56 24.4 +2.4**
IZVR Izvoarele 78.56 3 ⇑P **P 02 56 23.1 +1.2**
ARR Arges 78.62 5 ⇓P **P 02 56 24.1 +1.8**
NEHR Nehoiu 78.63 4 ⇑P **P 02 56 23.6 +1.2**
PSBE So Bento 78.73 31 *e*P **P 02 56 24.5 +1.5**
PCBR Castelo Branco 78.79 29 *e*P **P 02 56 24.8 +1.5**
PCBR *i* IAmb IAmb 02 56 32.4
comp=Z,27nm,1.7s
PSARD Sardoal 78.83 30 *e*P **P 02 56 25.5 +2.0**
PSARD *i* IAmb IAmb 02 56 32.9
comp=Z,42nm,1.3s
CFR Carcaliu 78.94 2 ⇑P **P 02 56 25.0 +1.1**
CFR Carcaliu 78.94 2 P **P 02 56 25.0 +1.1**
HERR Herculane 78.99 6 ⇓P **P 02 56 25.0 +0.8**
MDVR Moldovita 79.04 7 ⇑P **P 02 56 25.2 +0.6**
PMAFR Mafra 79.11 31 *e*P **P 02 56 26.6 +1.5**
KMI Kunming 79.14 299 P **P 02 56 28.0 +2.3**
KMI pmax pmax
comp=Z,16nm,0.9s
SIM Simferopol' 79.18 358 *e*P P 02 56 31.4 +6.1
SIM MLR MLR
comp=Z,60nm,15.0s
OSSC Osservatorio P 79.18 15 IAmb IAmb 02 56 33.6
comp=Z,30nm,1.4s
TPGR Topolog 79.26 2 ⇑P **P 02 56 27.1 +1.3**
PMTG Montargil 79.30 30 *e*P **P 02 56 27.1 +1.0**
PMTG *i* IAmb IAmb 02 56 35.8
comp=Z,23nm,1.3s
PARRA Arraiolos 79.31 31 *e*P **P 02 56 28.4 +2.2**
TLBR Topalu 79.57 2 ⇓P **P 02 56 29.1 +1.7**
TIRR Tirgusor 79.66 2 P **P 02 56 30.2 +2.3**
TIRR pmax pmax
comp=Z,29nm,1.2s
PESTR Estremoz 79.67 30 *e*P **P 02 56 29.1 +1.0**
KIV Kislovodsk 79.74 352 P **P 02 56 29.8 +1.3**
KIV Kislovodsk 79.74 352 ⇑P **P 02 56 30.1 +1.6**
KIV Kislovodsk 79.74 352 *e*P **P 02 56 29.6 +1.1**
KIV pmax pmax
comp=Z,33nm,1.1s
EVO Evora 79.86 30 *e*P **P 02 56 30.6 +1.4**
ESDC Sonseca Array 79.88 27 P **P 02 56 30.8 +1.5**
comp=Z,12nm,0.9s,baz=335,slow=5.3,SNR=35
ESDC LR LR 03 31 59.0
comp=Z,198nm,18.7s,baz=5.0,slow=36
comp=Z,12nm,0.9s
PAB San Pablo 79.90 27 P **P 02 56 30.5 +1.0**
PAB IAmb IAmb 02 56 39.2
comp=Z,29nm,1.4s
PAB San Pablo 79.90 27 P **P 02 56 30.5 +1.0**
PAB pmax pmax
comp=Z,29nm,1.5s
FDMO Fiordimonte 79.91 14 IAmb IAmb 02 56 41.3
comp=Z,31nm,1.5s
KBZ Khabaz 79.95 352 P **P 02 56 31.5 +2.0**
comp=Z,14nm,1.0s,baz=310,slow=4.5,SNR=15
comp=Z,14nm,1.0s
KBZ Khabaz 79.95 352 *ce*P **P 02 56 31.4 +2.0**
KBZ pmax pmax
comp=Z,16nm,1.0s
ICOR Ion Corvin 79.99 3 ⇓P **P 02 56 29.8 +0.1**
NRCA Norcia 80.12 14 IAmb IAmb 02 56 39.4
comp=Z,11nm,0.8s
BOVS Bovan 80.18 7 ⇓P **P 02 56 31.9 +1.1**
MAK Makhachkala 80.25 348 *e*P P 02 56 25.2 -5.9
MAK *e*SSS SSS 03 15 09.0
MAK pmax pmax
comp=Z,272nm,1.4s
CESX Cesi 80.27 14 IAmb IAmb 02 56 40.2
comp=Z,23nm,1.4s
SOC Sochi 80.32 354 *e*P **P 02 56 30.5 -1.0**
SOC *e* 02 59 35.7
SOC *e*S **S 03 06 37.5 +1.2**
SOC MLR MLR
comp=Z,100nm,17.0s
CAMP Campotosto 80.45 13 IAmb IAmb 02 56 44.8
comp=Z,23nm,1.2s
MESJ Messejana 80.45 31 *e*P **P 02 56 33.7 +1.4**
PBAR Barrancos 80.47 30 *e*P **P 02 56 34.0 +1.6**
AQU L'Aquila 80.62 13 P **P 02 56 36.3 +3.0**
MORF Marmelete 80.82 31 *e*P **P 02 56 35.5 +1.1**
PVAQ Vaqueiros 81.00 31 *e*P **P 02 56 36.9 +1.7**
PVAQ *e*LR LR 03 26 25.8
PVAQ *i* IAms_20 IAms_20 03 30 46.7
comp=Z,439nm,18.0s
PBDV Barranco-do-Ve 81.09 31 *e*P **P 02 56 37.2 +1.5**
PBDV *i* IAmb IAmb 02 56 45.6
comp=Z,114nm,1.8s
PDG Podgorica 81.19 9 ⇑P **P 02 56 36.8 +0.7**
TNCH TengChong 81.25 302 P **P 02 56 37.8 +0.8**
TNCH pP sP 02 56 40.8 -1.0
TNCH sP PcP 02 56 42.5 -0.7
TNCH pmax pmax
comp=Z,32nm,0.6s
AKT Akhty 81.69 348 *e*P **P 02 56 41.5 +2.5**
AKT *e* 02 59 49.1
AKT pmax pmax
comp=Z,24nm,1.2s
SLVN Son La 81.74 296 P **P 02 56 39.4 -0.1**
SLVN IAmb IAmb 02 56 48.8
comp=Z,24nm,1.3s
SKO Skopje 81.82 7 *i* P **P 02 56 41.9 +2.3**
TRLG Trialeti 82.02 350 P **P 02 56 39.0 -1.8**
VAY Valandovo 82.54 7 *i* P **P 02 56 44.8 +1.5**
OHR Ohrid 82.62 8 *i* P **P 02 56 45.4 +1.5**
GNI Garni 83.33 350 *de*P **P 02 56 48.8 +1.1**
GNI pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 83.82 308 P **P 02 56 49.9 -0.5**
SHL IAmb IAmb 02 56 52.4
comp=Z,9.7nm,1.0s
SHL Shillong 83.82 308 P **P 02 56 49.9 -0.5**
SHL pmax pmax
comp=Z,10.0nm,1.0s
PMG Port Moresby 83.97 243 LR LR 03 29 03.5
comp=Z,101nm,20.2s,baz=50,slow=32
ANTO Ankara 84.27 359 P **P 02 56 53.8 +1.4**
ANTO Ankara 84.27 359 P **P 02 56 53.8 +1.4**
ANTO pmax pmax
comp=Z,25nm,1.2s
BR131 Keskin Array S 84.40 358 *de*P **P 02 56 53.5 +0.4**
BRTR Keskin Array B 84.40 358 P **P 02 56 54.7 +1.6**
comp=Z,4.8nm,0.9s,baz=8.9,slow=2.2,SNR=14
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 84.40 358 *i* P **P 02 56 53.2 +0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 86.33 299 P **P 02 57 02.4 -0.5**
CHTO IAmb IAmb 02 57 11.3
comp=Z,21nm,1.4s
CHTO Chiang Mai 86.33 299 P **P 02 57 02.4 -0.5**
CHTO pmax pmax
comp=Z,21nm,1.4s
BRDH Bariadhala 86.44 307 LR LR 03 40 18.2
comp=Z,454nm,19.0s,baz=21,slow=39
KEST Kesra 86.51 18 P **P 02 57 05.1 +1.5**
comp=Z,6.0nm,1.0s,baz=353,slow=4.6,SNR=4.7
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 86.64 298 P **P 02 57 04.2 -0.2**
comp=Z,11nm,1.0s,baz=13,slow=4.7,SNR=29
CMAR LR LR 03 40 11.2
comp=Z,144nm,18.5s,baz=30,slow=39
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 86.64 298 *i* P **P 02 57 04.1 -0.3**
CMAR pmax pmax
comp=Z,12nm,1.0s
DZM Mont Dzumac 86.73 221 *e*LR LR 03 24 27.3
comp=Z,300nm,22.6s
RAO Raoul Island 88.71 205 LR LR 03 31 23.7
comp=Z,165nm,18.4s,baz=7.0,slow=32
KAPI Kappang 95.04 269 LR LR 03 39 26.0
comp=Z,37nm,19.4s,baz=42,slow=35
LPAZ La Paz 98.20 107 LR LR 03 47 31.7
comp=Z,160nm,18.8s,baz=260,slow=39
URZ Urewera 98.51 207 LR LR 03 35 40.6
comp=Z,204nm,19.5s,baz=24,slow=31
WRA Warramunga Arr 99.40 248 P **Pdif 02 58 01.5 -1.6**
comp=Z,0.2nm,0.3s,baz=38,slow=5.1,SNR=2.5
WRA LR LR 03 39 39.3
comp=Z,113nm,18.6s,baz=32,slow=33
comp=Z,0.2nm,0.3s
RAYN Ar Rayn 99.67 347 P **Pdif 02 58 06.1 +1.5**
BROLN Tlhalogang 144.80 7 *i* P **PKPdf 03 03 57.8 +0.1**
KHWEE KHWEE 145.49 10 *i* P **PKPab 03 03 59.6 +0.6**
KOOLE Kule 145.81 19 *i* P **PKPab 03 04 00.9 +0.6**
KGCAE Kacgae 146.00 15 *i* P **PKPab 03 04 01.3 +0.3**
QSPA South Pole Qui 146.01 180 PKPbc **PKPab 03 04 00.4 +0.7**
comp=Z,6.8nm,0.7s,baz=62,slow=2.3,SNR=32
MREMI Moremi 146.27 7 *i* P **PKPab 03 04 02.1 +0.2**
KDWAN Kaudwane 146.83 11 *i* P **PKPab 03 04 03.6 -0.5**
LPHEP Lephephe 146.93 9 *i* P **PKPdf 03 04 01.9 +0.6**
SKOMA Sekoma 147.87 13 *i* P **PKPbc 03 04 05.2 -0.4**
MAKGR Makgori 149.25 12 *i* P **PKPbc 03 04 07.6 -1.6**
BOSA Boshof 152.07 12 PKPbc **PKiKP 03 04 16.5 +0.3**
comp=Z,9.4nm,0.8s,baz=2.4,slow=2.3,SNR=9.3
TROLL Troll, Antarti 160.12 154 ⇑P **PKPab 03 04 57.2 -1.6**
comp=Z,142nm,0.7s
SYO Syowa Base 166.64 193 ⇑*e*PKPdf **PKPdf 03 04 26.2 +1.7**

NNC 12 02:45:39.1±6.5, 36.56N×70.38E, h225km±102km, mb2.6, mpv3.6, 2C, Error ellipse: s-maj=101.2km s-min=33.4km az=54.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.54**	**1**	⇑P	Pn	02 47 13.9	+0.5
	2.3nm,0.3s,baz=180,slow=12,SNR=59						
KK31				S	S	02 48 29.1	+0.4
	3.4nm,0.3s,baz=190,slow=24,SNR=6.2						
AAK	**Ala-Archa**	**6.85**	**26**	⇑P	Pn	02 47 17.3	-0.3
	1.0nm,0.4s						
AB31	**Akbulak array**	**14.80**	**332**	P	Pn	02 48 57.2	-0.4
	1.3nm,0.6s,baz=90,slow=5.5,SNR=13						
AB31				S	S	02 51 42.5	+1.4
	1.2nm,0.4s,baz=153,slow=24,SNR=5.3						

IDC 12 02:50:52.1±2.1, 15°.34S×173°.77W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=58.8km s-min=44.9km az=23.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.72**	**330**	T	T	03 39 11.3	
	baz=146,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.74**	**330**	T	T	03 38 50.3	
	baz=146,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**38.74**	**330**	T	T	03 39 14.7	
	baz=146,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**39.68**	**331**	T	T	03 40 31.6	
	baz=148,slow=74,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**39.68**	**331**	T	T	03 40 38.9	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**39.70**	**331**	T	T	03 40 38.1	
	baz=148,slow=74,SNR=1.6						
STKA	**Stephens Creek**	**43.76**	**240**	P	P	02 58 58.8	-0.8
	1.5nm,0.7s,baz=90,slow=8.1,SNR=3.0						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**49.51**	**257**	P	P	02 59 44.9	0.0
	0.3nm,0.5s,baz=92,slow=7.0,SNR=6.9						
WRA				PcP	PcP	03 01 06.4	-0.6
	0.4nm,0.9s,baz=93,slow=3.2,SNR=1.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**49.79**	**252**	P	P	02 59 47.2	+0.2
	2.4nm,0.6s,baz=86,slow=8.2,SNR=21						
	2.4nm,0.6s						
QSPA	**South Pole Qui**	**74.71**	**180**	P	P	03 02 33.7	+0.1
	1.9nm,0.8s,baz=91,slow=1.3,SNR=7.1						
	1.9nm,0.8s						
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc	PKPdf	03 10 33.2	-0.2
	1.0nm,0.8s,baz=352,slow=4.7,SNR=4.2						

*IDC **12** 02:51:26.1±8.9, 17°.30S×178°.84W, h494km±97km, mb2.9/6, mbtmp3.8/6, Error ellipse: s-maj=35.2km s-min=30.1km az=82.0*

ISC 12 02:51:30.0±0.9, 17°.3S±0°.3×179°.0W±0°.2, h539km, n9, σ0§14/9, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.24**	**259**	P	**P**	**02 58 51.8**	**-0.1**
	0.3nm,0.6s,baz=92,slow=7.2,SNR=2.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**02 58 53.5**	**-0.1**
	2.1nm,0.6s,baz=88,slow=8.1,SNR=40						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**72.76**	**180**	P	**P**	**03 02 03.5**	**0.0**
	2.5nm,1.0s,baz=275,slow=2.8,SNR=9.1						
	2.5nm,1.0s						
ILAR	**Eielson Array**	**85.40**	**13**	P	**P**	**03 03 09.9**	**-0.2**
	0.2nm,0.3s,baz=230,slow=5.0,SNR=8.3						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**03 03 14.4**	**0.0**
	0.3nm,0.7s,baz=274,slow=4.1,SNR=2.6						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**87.26**	**44**	P	**P**	**03 03 19.6**	**-0.1**
	0.2nm,0.4s,baz=283,slow=3.9,SNR=2.4						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**143.98**	**315**	PKP	**PKPab**	**03 10 04.3**	**+0.2**
	0.5nm,0.6s,baz=42,slow=2.9,SNR=4.1						
MMAI	**Mount Meron Ar**	**145.37**	**303**	PKPbc	**PKPbc**	**03 10 08.5**	**+0.2**
	0.6nm,0.5s,baz=69,slow=7.9,SNR=4.4						
GERES	**GERESS Array B**	**146.88**	**345**	PKPbc	**PKPbc**	**03 10 12.2**	**+0.1**
	0.2nm,0.3s,baz=35,slow=3.6,SNR=5.0						

IDC 12 03:03:05.0±6.6, 4°.52N×64°.47E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=802.0km s-min=81.6km az=35.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**60.93**	**134**	T	T	04 19 01.2	
	baz=299,slow=75,SNR=5.3						
H01W2	**Cape Leeuwin H**	**60.93**	**134**	T	T	04 19 01.6	
	baz=299,slow=75,SNR=4.2						
H01W1	**Cape Leeuwin H**	**60.95**	**134**	T	T	04 19 02.4	
	baz=299,slow=75,SNR=4.7						
WRA	**Warramunga Arr**	**72.77**	**112**	P	P	03 14 35.8	0.0
	1.0nm,0.7s,baz=289,slow=5.4,SNR=6.5						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**73.15**	**116**	P	P	03 14 38.2	+0.1
	1.0nm,0.8s,baz=288,slow=5.8,SNR=9.6						
	1.0nm,0.8s						
TXAR	**Lajitas Array**	**144.47**	**342**	PKP	PKPdf	03 22 43.6	-0.7
	0.4nm,0.7s,baz=33,slow=5.8,SNR=4.4						

*NEIC **12** 03:22:48.9±1.0, 56°.3N±0°.1×148°.7W±0°.1, h10km±2km, ML3.4/44, ML3.4(AEIC), Error ellipse: s-maj=18.1km s-min=9.8km az=164.0*

*AEIC **12** 03:22:52.7±1.0, 56°.2N±0°.1×148°.6W±0°.1, h11km±9km, Error ellipse: s-maj=17.9km s-min=10.4km az=166.0*

ISC 12 03:22:48.2±2.0, 56°.3N±0°.1×148°.63W±0°.06, h10km, n52, σ1§18/54, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.63**	**306**		**Sn**	**03 24 00.9**	**-1.6**
KDAK	**Kodiak Island**	**2.63**	**306**		**Pn**	**03 23 30.7**	**+0.1**
OHAK	**Old Harbor**	**2.73**	**292**		**Pn**	**03 23 31.1**	**-0.8**
OHAK					**Sn**	**03 24 02.4**	**-2.6**
OHAK	**Old Harbor**	**2.73**	**292**	P	**Pn**	**03 23 31.2**	**-0.8**
MID	**Middleton Isla**	**3.37**	**20**		**Pn**	**03 23 41.4**	**+0.6**
MID	**Middleton Isla**	**3.37**	**20**	P	Pn	03 23 33.6	-7.2
CNPM	**China Poot**	**3.53**	**338**		**Sn**	**03 24 25.1**	**+0.3**
CNPM	**China Poot**	**3.53**	**338**		**Pn**	**03 23 43.8**	**+0.8**
BRSE	**Bradley Lake S**	**3.64**	**343**		**Pn**	**03 23 44.8**	**+0.4**
BRSE					**Sn**	**03 24 27.4**	**0.0**
BRLK	**Bradley Lake**	**3.68**	**342**		**Pn**	**03 23 45.8**	**+0.6**
BRLK				IAML		03 24 36.0	
	comp=N,62nm,0.3s						
BRLK				IAML		03 24 36.3	
	comp=E,72nm,0.5s						
P23K	**Montague Islan**	**3.77**	**9**		**Pn**	**03 23 46.8**	**+0.5**
P23K					**Sn**	**03 24 29.3**	**-1.4**
P23K	**Montague Islan**	**3.77**	**9**	IAML		03 24 31.1	
	comp=N,71nm,0.8s						
P23K				IAML		03 24 34.7	
	comp=E,70nm,1.1s						
SEW	**Seward**	**3.85**	**354**		**Sn**	**03 24 31.0**	**-1.5**
SEW	**Seward**	**3.85**	**354**		**Pn**	**03 23 47.8**	**+0.5**
SEW				IAML		03 24 32.8	
	comp=E,30nm,1.0s						
KAWH	**Katmai**	**3.95**	**305**		**Pn**	**03 23 50.2**	**+1.4**
KARR	**Katmai Rainbow**	**3.96**	**306**		**Pn**	**03 23 50.4**	**+1.5**
MGLS	**Mageik Landsli**	**4.00**	**300**		**Pn**	**03 23 51.3**	**+1.8**
KAKN	**Katmai Knife C**	**4.03**	**303**		**Pn**	**03 23 51.1**	**+1.2**
ACHA	**Angle Creek He**	**4.12**	**301**		**Pn**	**03 23 52.4**	**+1.3**
HIN	**Hinchinbrook I**	**4.26**	**14**		**Pn**	**03 23 53.6**	**+0.5**
HIN					**Pn**	**03 23 54.0**	**+0.9**
HIN					**Sn**	**03 24 41.6**	**-1.3**
KAIM	**Kayak Island**	**4.27**	**30**		**Pn**	**03 23 53.7**	**+0.5**
KAIM	**Kayak Island**	**4.27**	**30**	IAML		03 24 47.8	
	comp=E,42nm,0.7s						
KAIM				IAML		03 24 52.8	
	comp=N,66nm,0.8s						
SLKM	**Skilak Lake**	**4.31**	**349**		**Pn**	**03 23 54.1**	**+0.4**
SLKM					**Sn**	**03 24 43.8**	**-0.2**
SLKM	**Skilak Lake**	**4.31**	**349**	IAML		03 24 44.6	
	comp=N,58nm,0.2s						
O20K	**Slope Mountain**	**4.35**	**333**		**Pn**	**03 23 54.8**	**+0.5**
IVE	**Iliamna Volcan**	**4.40**	**330**		**Pn**	**03 23 55.4**	**+0.4**
CNTC	**Contact Creek**	**4.41**	**300**		**Pn**	**03 23 55.9**	**+0.8**
CNTC					**Pn**	**03 23 56.3**	**+1.1**
PLK4	**Peulik 4**	**4.44**	**291**		**Pn**	**03 23 55.9**	**+0.4**
PLK4				IAML		03 24 52.8	
	comp=E,39nm,0.8s						
PLK4				IAML		03 24 53.4	
	comp=N,42nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.53**	**18**		**Pn**	**03 23 57.6**	**+0.9**
EYAK				IAML		03 24 50.6	
	comp=E,21nm,0.7s						
SUCK	**Suckling Hills**	**4.58**	**32**	Pn	**Pn**	**03 23 58.0**	**+0.7**
SUCK				IAML		03 25 06.4	
	comp=E,30nm,0.5s						
PWL	**Port Wells**	**4.58**	**2**		**Pn**	**03 23 58.2**	**+0.8**
PWL	**Port Wells**	**4.58**	**2**	IAML		03 24 53.5	
	comp=E,38nm,0.8s						
PWL				IAML		03 24 54.5	
	comp=N,37nm,1.1s						
RAGM	**Ragged Mountai**	**4.60**	**25**	Pn	**Pn**	**03 23 58.7**	**+1.0**
PLK1	**Peulik 1**	**4.61**	**292**		**Pn**	**03 23 58.2**	**+0.4**
NICHA	**Nichawak Mount**	**4.66**	**30**		**Pn**	**03 23 59.3**	**+0.9**
HMT	**Hamilton**	**4.66**	**28**		**Pn**	**03 23 59.4**	**+0.8**
P18K	**Big Mountain,**	**4.70**	**314**		**Pn**	**03 23 59.3**	**+0.2**
RDWB	**Redoubt West**	**4.75**	**334**		**Pn**	**03 24 00.1**	**+0.2**
RC01	**Rabbit Creek A**	**4.84**	**354**	Pn	**Pn**	**03 24 02.2**	**+1.2**
RC01				IAML		03 24 58.3	
	comp=E,36nm,0.5s						
RC01				IAML		03 24 59.0	
	comp=N,38nm,1.1s						
SNH	**Sunshine Point**	**4.95**	**36**	Pn	**Pn**	**03 24 03.3**	**+0.7**
SNH				IAML		03 26 04.4	
	comp=N,38nm,1.1s						
SNH				IAML		03 26 59.1	
	comp=E,27nm,1.2s						
BMRM	**Bremner River**	**5.14**	**22**	Pn	**Pn**	**03 24 05.8**	**+0.7**
BMRM				IAML		03 25 07.2	
	comp=N,27nm,0.9s						
BMRM				IAML		03 25 55.4	
	comp=E,14nm,1.1s						
CRQM	**Cirque**	**5.32**	**30**		**Pn**	**03 24 08.4**	**+0.7**
CRQM				IAML		03 25 21.5	
	comp=N,31nm,0.8s						
CRQM				IAML		03 25 57.6	
	comp=E,19nm,1.1s						
KLU	**Klutina**	**5.40**	**14**		**Pn**	**03 24 09.7**	**+1.0**
ISLE	**Juniper Island**	**5.44**	**35**	Pn	**Pn**	**03 24 09.8**	**+0.5**
RKAV	**Rock Avalanche**	**5.55**	**41**		**Pn**	**03 24 11.8**	**+0.9**
N25K	**Chitina, Valde**	**5.72**	**20**		**Pn**	**03 24 14.7**	**+1.6**
TABL	**Table Mountain**	**5.73**	**40**		**Pn**	**03 24 14.0**	**+0.7**
PNL	**Peninsula**	**5.96**	**52**		**Pn**	**03 24 17.5**	**+1.1**
BARN	**Barnard Glacie**	**6.00**	**34**	Pn	**Pn**	**03 24 15.9**	**-1.2**
CHNA	**Chernabura Isl**	**6.39**	**261**	P	**Pn**	**03 24 26.8**	**+4.6**
SDPT	**Sand Point**	**6.75**	**267**	P	**Pn**	**03 24 28.0**	**+0.9**
JIS	**Juneau Island**	**7.97**	**70**	P	**Pn**	**03 24 43.0**	**-0.9**

*YARS **12** 03:34:13.3, 75°.31N×132°.39E, h15km, ML3.3/18*

*IDC **12** 03:34:13.3±1.2, 76°.06N×132°.23E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=57.2km s-min=21.1km az=132.0*

ISC 12 03:34:14.9±1.2, 76°.0N±0°.1×132°.5E±0°.3, h10km, n6, σ1§28/9, mb3.7/4, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**4.44**	**195**	Pn	**Pn**	**03 35 23.4**	**+1.2**
	4.3nm,0.3s,baz=34,slow=12,SNR=16						
TIXI				Sn	**Sn**	**03 36 14.1**	**+0.3**
	10nm,0.3s,baz=291,slow=6.2,SNR=10						
	8.8nm,0.2s						
TIXI	**Tiksi**	**4.44**	**195**	*i* Pg	**Pn**	**03 35 23.0**	**+0.8**
	57nm,4.0s						
TIXI				*i* Sg	**Sn**	**03 36 12.3**	**-1.5**
	85nm,0.4s						
TIXI				*i* Sg	**Sn**	**03 36 12.3**	**-1.5**
	61nm,3.7s						
MKAR	**Makanchi Array**	**35.71**	**245**	P	**P**	**03 41 13.1**	**0.0**
	0.5nm,0.7s,baz=26,slow=7.1,SNR=4.9						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**55.12**	**52**	P	**P**	**03 43 46.4**	**-0.6**
	0.4nm,0.9s,baz=310,slow=12,SNR=3.5						
	0.4nm,0.9s						
NVAR	**Mina Array Bea**	**57.51**	**62**	P	**P**	**03 44 05.4**	**+1.4**
	0.9nm,0.6s,baz=345,slow=5.1,SNR=10						
	0.9nm,0.6s						
TXAR	**Lajitas Array**	**69.27**	**51**	P	**P**	**03 45 20.9**	**-0.9**
	1.5nm,0.6s,baz=6.9,slow=3.7,SNR=17						
	1.5nm,0.6s						

*IDC **12** 03:46:45.0±1.6, 3°.00S×129°.44E, h0km, mb3.8/3, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=111.7km s-min=22.7km az=72.0*

*DJA **12** 03:46:48.7±0.3, 3°.S±2°.×12°.8E±°, h10km, M4.2/12, mB5.5/2, mb4.7/2, MLv3.9/12, Mw(mB)4.9/2*

ISC 12 03:46:48.6±0.9, 3°.45S±0°.07×128°.33E±0°.06, h10km, n13, σ1§43/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.27**	**210**	P	**Pg**	**03 46 55.1**	**+1.0**
AAI				S	**Sg**	**03 47 00.3**	**+2.5**
MSAI	**Masohi**	**0.61**	**80**	P	Pg	03 46 59.4	-1.0
NLAI	**Namlea**	**1.25**	**280**	P	**Pn**	**03 47 11.1**	**-1.0**
BNDI	**Bandanaira**	**1.90**	**124**	P	**Pn**	**03 47 20.4**	**-0.7**
SANI	**Sanana**	**2.72**	**301**	P	**Pn**	**03 47 33.2**	**+0.7**
SWI	**Sorong**	**3.90**	**49**	P	**Pn**	**03 47 50.5**	**+1.9**
FAKI	**Fak Fak**	**3.95**	**82**	P	**Pn**	**03 47 49.6**	**+0.2**
LUWI	**Luwuk**	**6.05**	**293**	P	**Pn**	**03 48 18.2**	**0.0**
FITZ	**Fitzroy Crossi**	**14.79**	**190**	Pn	**P**	**03 50 25.0**	**+1.0**
	0.4nm,0.3s,baz=23,slow=16,SNR=11						
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**17.41**	**161**	P	**Pn**	**03 50 49.6**	**-2.2**
	0.2nm,0.3s,baz=347,slow=12,SNR=5.7						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**20.80**	**165**	P	**P**	**03 51 30.2**	**-0.1**
	1.9nm,0.6s,baz=345,slow=11,SNR=25						
ASAR				PcP	**PcP**	**03 55 37.9**	**-1.6**
	0.3nm,0.5s,baz=349,slow=1.9,SNR=6.4						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**64.37**	**327**	P	**P**	**03 57 24.4**	**-0.5**
	0.9nm,0.7s,baz=116,slow=8.2,SNR=7.5						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**68.64**	**329**	P	**P**	**03 57 51.0**	**-1.0**
	1.0nm,0.8s,baz=130,slow=5.8,SNR=5.9						
	1.0nm,0.8s						

*TRN **12** 04:07:18.1, 10°.07N×62°.29W, h38km, MD3.1, Gulf of Paria, near Venezuela.*

*FUNV **12** 04:07:23.2, 10°.49N×62°.47W, h5km, MW3.3*

ISC 12 04:07:17.9±1.4, 10°.0N±0°.1×62°.17W±0°.09, h28km, n8, σ2§50/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.92**	**42**	*e*P	**Pb**	**04 07 35.1**	**0.0**
TRN	**Trinidad (W)**	**0.98**	**50**	*e*P	**Pb**	**04 07 36.3**	**-0.1**
TRN				*e*S	**Sb**	**04 07 50.1**	**+1.2**
GRGR	**Grenville**	**2.17**	**13**	*e*P	**Pn**	**04 07 52.1**	**0.0**
GRGR				*e*S	**Sn**	**04 08 16.5**	**-1.6**
GRSS	**Sisters**	**2.34**	**13**	*e*S	**Sn**	**04 08 20.4**	**-1.9**
TACV	**Tcata**	**4.79**	**272**	*e*P	**Pn**	**04 08 30.8**	**+2.5**
TACV				*e*S	**Sn**	**04 09 20.5**	**-2.3**
CACV	**CAICARA DEL OR**	**4.96**	**241**	*e*P	**Pn**	**04 08 31.2**	**+0.7**
CACV				*e*S	**Sn**	**04 09 22.5**	**-4.4**
BENV	**Beln**	**5.35**	**270**	*e*P	**Pn**	**04 08 38.7**	**+2.7**
BENV				*e*S	**Sn**	**04 09 33.9**	**-2.9**
BAUV	**El Baul**	**5.89**	**260**	*e*P	**Pn**	**04 08 46.6**	**+3.3**
BAUV				*e*S	**Sn**	**04 09 48.4**	**-1.6**

*MOS **12** 04:13:07.4±1.0, 52°.35N×112°.04E, h9km, mb3.8/2, Error ellipse: s-maj=11.8km s-min=7.6km az=97.6*

*BYKL **12** 04:13:10.0±0.1, 52°.39N×112°.07E*

ISC 12 04:13:09.8±0.6, 52°.29N±0°.02×111°.88E±0°.02, h10km, n63, σ2§36/138, 6C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIT	**Chita**	**1.06**	**104**	⇑*i*Pg	**Pg**	**04 13 28.6**	**-1.6**
CIT				*e*Pb	**Pb**	**04 13 29.3**	**-1.0**
CIT				max		04 13 29.6	
	5μm,0.1s						
CIT				*e*Sg	**Sg**	**04 13 41.8**	**-2.3**
CIT				Smax		04 13 44.8	
	26μm,0.2s						
CIT	**Chita**	**1.06**	**104**	⇑*i*PG	**Pg**	**04 13 28.4**	**-1.8**
CIT				*e*		04 13 41.8	
CIT				pmax	pmax		
	comp=Z,5μm,0.1s						
CIT				smax	smax		
	comp=N,23μm,0.2s						
SYVR	**Suvo**	**1.78**	**321**	⇑*i*Pn	**Pn**	**04 13 40.2**	**-0.4**
SYVR				*e*Pg	**Pb**	**04 13 41.8**	**-0.6**
SYVR				Pmax		04 13 42.5	
	comp=N,368nm,0.3s						
SYVR				*e*		04 14 01.6	
SYVR				*e*Sg	**Sg**	**04 14 05.6**	**-1.3**
SYVR				Smax		04 14 06.6	
	comp=N,3μm,0.5s						
SYVR	**Suvo**	**1.78**	**321**	*e*PN	**Pn**	**04 13 40.1**	**-0.5**
SYVR				*e*		04 13 41.8	
SYVR				*e*		04 14 05.3	
SYVR				pmax	pmax		
	comp=Z,430nm,0.7s						
SYVR				smax	smax		
	comp=E,3μm,0.5s						
MXMB	**Maximikha**	**2.14**	**298**	*e*Pn	**Pn**	**04 13 46.1**	**+0.6**
MXMB				*e*Pg	**Pg**	**04 13 49.0**	**-1.7**
MXMB				*e*		04 13 52.9	
MXMB				*e*Sn	**Sn**	**04 14 12.8**	**+0.7**
MXMB				*e*Sg	**Sg**	**04 14 18.3**	**-0.1**
GORB	**Goryachinsk**	**2.30**	**289**	*e*Pn	**Pn**	**04 13 48.4**	**+0.7**
GORB				*e*Pg	**Pg**	**04 13 52.6**	**-1.2**
GORB				*e*Sg	**Sg**	**04 14 23.6**	**0.0**
KELR	**Kotokel**	**2.37**	**283**	*e*Pn	**Pb**	**04 13 50.7**	**-1.8**
KELR				*e*Pg	**Pg**	**04 13 53.5**	**-1.6**
KELR				*e*Sn	**Sb**	**04 14 20.5**	**-1.3**
KELR				*e*Sg	**Sg**	**04 14 26.3**	**+0.5**
KPC	**Khapcheranga**	**2.61**	**173**	*e*	**Pn**	**04 13 52.2**	**+0.1**
KPC				*e*Pg	**Pg**	**04 13 58.7**	**-1.1**
KPC				Pmax		04 14 02.3	
	comp=E,100nm,0.1s						
KPC				*e*Sg	**Sg**	**04 14 32.8**	**-0.9**
KPC				Smax		04 14 34.4	
	comp=E,861nm,0.1s						
KPC	**Khapcheranga**	**2.61**	**173**	*e*PN	**Pn**	**04 13 52.1**	**0.0**
KPC				*e*		04 13 58.5	
KPC				*e*		04 14 32.7	
KPC				pmax	pmax		
	comp=Z,99nm,0.2s						
KPC				smax	smax		
	comp=E,2μm,0.8s						
YLYR	**Ulyunkhan**	**2.62**	**351**	⇑*i*Pn	**Pn**	**04 13 50.7**	**-1.5**
YLYR				*e*Pg	**Pb**	**04 13 55.1**	**-1.7**
YLYR				*e*PgPg	**PnPn**	**04 13 57.9**	**-1.6**
YLYR				max		04 14 06.9	
	comp=E,172nm,0.3s						
YLYR				*e*Sg	**Sb**	**04 14 28.9**	**-0.2**
YLYR				Smax		04 14 29.4	
	comp=E,3μm,0.5s						
YLYR	**Ulyunkhan**	**2.62**	**351**	*e*PN	**Pn**	**04 13 50.7**	**-1.5**
YLYR				*e*		04 13 55.0	
YLYR				*e*		04 14 28.4	
YLYR				pmax	pmax		
	comp=Z,172nm,0.4s						
YLYR				smax	smax		
	comp=E,3μm,0.5s						
UUDB	**Ulan-Yde**	**2.64**	**262**	*e*Pn	**Pn**	**04 13 54.1**	**+1.7**
UUDB				*e*Pg	**Pg**	**04 13 59.4**	**-0.9**
UUDB				Pmax		04 14 03.2	
	comp=E,124nm,0.2s						
UUDB				*e*Sn	**Sb**	**04 14 28.3**	**-1.2**
UUDB				*e*Sg	**Sg**	**04 14 35.9**	**+1.5**
UUDB				*e*SgSg	**SnSn**	**04 14 42.8**	**+7.7**
UUDB				max		04 14 44.6	
	comp=E,1μm,0.6s						
ZRHB	**Zarechye**	**2.91**	**277**	*e*Pn	**Pn**	**04 13 57.4**	**+1.3**
ZRHB				*e*Pg	**Pg**	**04 14 04.2**	**-1.2**
ZRHB				Pmax		04 14 12.2	
	comp=E,352nm,0.7s						
ZRHB				*e*Sg	**Sg**	**04 14 42.9**	**-0.2**
ZRHB				Smax		04 14 52.7	
	comp=E,8μm,1.3s						
OGRR	**Ongureny**	**2.92**	**299**	*e*	**Pn**	**04 13 55.8**	**-0.5**
OGRR				*e*Pg	**Pb**	**04 14 02.6**	**+0.7**
OGRR				Pmax		04 14 05.7	
	comp=E,135nm,0.6s						
OGRR				*e*Sn	**Sn**	**04 14 31.8**	**+0.3**
OGRR				*e*Sg	**Sg**	**04 14 41.7**	**-1.9**
OGRR				Smax		04 14 46.8	
	comp=E,775nm,1.2s						
OGRR	**Ongureny**	**2.92**	**299**	*e*PN	**Pn**	**04 13 56.0**	**-0.3**
OGRR				*e*		04 14 02.8	
OGRR				*e*		04 14 41.8	
OGRR				pmax	pmax		
	comp=Z,134nm,0.6s						
OGRR				smax	smax		
	comp=N,694nm,1.0s						
HRMR	**Khuramsha**	**3.12**	**260**	*e*Pn	**Pn**	**04 14 00.6**	**+1.6**
HRMR				*e*Pg	**Pg**	**04 14 08.1**	**-1.4**
HRMR				*e*		04 14 14.6	
HRMR				max		04 14 15.4	
	comp=N,139nm,0.2s						
HRMR				*e*Sn	**Sn**	**04 14 37.7**	**+1.4**
HRMR				*e*Sg	**Sg**	**04 14 51.3**	**+1.4**
HRMR				Smax		04 14 58.6	
	comp=N,2μm,0.8s						
FFNB	**Fofonovo**	**3.16**	**268**	*e*	**Pn**	**04 14 00.8**	**+1.2**
FFNB				*e*Pg	**Pg**	**04 14 09.1**	**-1.2**
FFNB				*e*Sn	**Sn**	**04 14 39.5**	**+2.2**
FFNB				*e*Sg	**Sg**	**04 14 51.2**	**0.0**
KAB	**Kabansk**	**3.23**	**268**	*e*Sg	**Sg**	**04 14 54.0**	**+0.6**
KAB				Smax		04 15 04.9	
	comp=N,4μm,0.5s						
UKT	**Uakit**	**3.36**	**17**	⇓*i*Pn	**Pn**	**04 14 00.6**	**-1.9**
UKT				*e*Pg	**Pb**	**04 14 07.5**	**-2.0**
UKT				*e*PgPg	**PnPn**	**04 14 09.3**	**-0.4**
UKT				max		04 14 10.8	
	comp=N,206nm,0.8s						
UKT				*e*		04 14 26.7	
UKT				*e*Sg	**Sb**	**04 14 49.9**	**-0.6**
UKT				Smax		04 14 57.1	
	comp=N,2μm,1.1s						
UKT				*e*SgSg	**Sg**	**04 15 02.9**	**+5.2**
UKT	**Uakit**	**3.36**	**17**	*e*PN	**Pn**	**04 14 00.5**	**-1.9**
UKT				*e*		04 14 07.6	
UKT				*e*		04 14 49.9	
UKT				pmax	pmax		
	comp=Z,206nm,0.8s						
UKT				smax	smax		
	comp=E,2μm,1.2s						
TRG	**Tyrgan**	**3.41**	**280**	*e*	**Pn**	**04 14 02.9**	**-0.1**
TRG				*e*		04 14 08.5	
TRG				*e*Pg	**Pg**	**04 14 13.4**	**-1.7**
TRG				Pmax		04 14 28.0	
	comp=E,43nm,0.2s						
TRG				*e*		04 14 43.4	
TRG				*e*Sg	**Sg**	**04 14 59.8**	**+0.5**
TRG				Smax		04 15 02.2	
	comp=E,795nm,0.9s						
TRG	**Tyrgan**	**3.41**	**280**	*e*PN	**Pn**	**04 14 02.8**	**-0.2**
TRG				*e*		04 14 12.7	
TRG				*e*		04 14 59.2	
TRG				pmax	pmax		
	comp=Z,37nm,0.2s						
TRG				smax	smax		
	comp=N,796nm,0.9s						
KMO	**Kumora**	**3.62**	**354**	*e*Pn	**Pn**	**04 14 04.5**	**-1.3**
KMO				*e*Pg	**Pb**	**04 14 13.9**	**0.0**
KMO

comp=E,2μm,1.0s
YOAB Uoyan, Buryati 3.85 359 *e*Pg **Pb 04 14 17.9 +0.1**
YOAB Pmax 04 14 19.3
comp=E,110nm,0.4s
YOAB *e*Sg **Sb 04 15 07.0 +2.5**
YOAB Smax 04 15 17.9
comp=E,4μm,1.3s
SVKR Severomuysk 3.96 14 *e*Pg **Pb 04 14 19.8 +0.2**
SVKR Pmax 04 14 38.4
comp=E,220nm,0.3s
SVKR *e*Sg **Sb 04 15 10.5 +3.1**
SVKR Smax 04 15 22.8
comp=E,5μm,0.7s
SVKR Severomuysk 3.96 14 *e*PN **Pn 04 14 09.9 -0.6**
SVKR *e* 04 14 20.2
SVKR *e* 04 15 11.1
SVKR pmax pmax
comp=Z,182nm,0.4s
SVKR smax smax
comp=N,5μm,0.5s
BGT Bolshoye Golou 3.99 269 *e*Pn **Pn 04 14 13.2 +2.2**
BGT *e* 04 14 32.1
BGT max 04 14 32.5
comp=N,35nm,0.3s
BGT *e* 04 14 56.4
BGT *e*Sg **Sg 04 15 17.4 -0.5**
BGT Smax 04 15 20.8
comp=N,653nm,1.2s
LSTR Listvyanka 4.37 267 *e* **Pn 04 14 16.3 +0.1**
LSTR *e* 04 14 25.1
LSTR max 04 14 44.4
comp=N,25nm,0.6s
LSTR *e* 04 15 04.7
LSTR *e*Sg **Sg 04 15 28.1 -1.9**
LSTR Smax 04 15 34.1
comp=N,287nm,1.2s
IVK Ivanovka 4.64 267 *e* **Pn 04 14 20.3 +0.5**
IVK *e* 04 14 26.3
IVK *e*Pg **Pg 04 14 36.1 -2.4**
IVK Pmax 04 14 46.2
comp=N,35nm,0.7s
IVK *e* 04 15 12.7
IVK *e*Sg **Sg 04 15 37.7 -0.8**
IVK Smax 04 15 46.7
comp=N,398nm,0.9s
IVK Ivanovka 4.64 267 *e*PN **Pn 04 14 20.3 +0.5**
IVK *e* 04 14 35.9
IVK *e* 04 15 37.7
IVK pmax pmax
comp=Z,35nm,0.5s
IVK smax smax
comp=N,437nm,1.1s
IRK Irkutsk 4.67 272 *e*Sg **Sg 04 15 38.7 -1.1**
IRK Smax 04 14 44.8
comp=N,1μm,1.0s
IRK Irkutsk 4.67 272 *e*PN **Pg 04 14 35.9 -3.4**
IRK *e* 04 15 38.5
IRK pmax pmax
comp=Z,139nm,0.1s
IRK smax smax
comp=N,1μm,0.3s
NLYR Nelyaty 4.76 26 *e*Pn **Pn 04 14 19.0 -2.5**
NLYR *e*Pg **Pb 04 14 33.0 -0.3**
NLYR Pmax 04 14 41.8
comp=N,138nm,0.7s
NLYR *e*Sn **Sn 04 15 13.3 -3.5**
NLYR *e*Sg **Sb 04 15 33.0 +2.4**
NLYR Smax 04 15 36.6
comp=N,1μm,1.1s
NLYR Nelyaty 4.76 26 *e*PN **Pn 04 14 19.3 -2.2**
NLYR *e* 04 14 33.3
NLYR *e* 04 15 33.2
NLYR pmax pmax
comp=Z,138nm,0.7s
NLYR smax smax
comp=E,1μm,1.0s
TLY Talaya 5.13 266 *e* **Pn 04 14 27.5 +0.9**
TLY *e* 04 14 49.7
TLY max 04 15 04.6
comp=E,13nm,1.0s
TLY *e* 04 15 25.6
TLY *e*Sg **Sg 04 15 52.6 -1.7**
TLY Smax 04 16 11.6
comp=E,148nm,0.7s
TLY Talaya 5.13 266 *de*PN **Pn 04 14 27.6 +0.9**
TUP Tupik 5.28 63 *e* **Pn 04 14 25.8 -2.9**
TUP *e*Pg **Pb 04 14 42.3 +0.1**
TUP *e* 04 14 50.8
TUP max 04 14 56.9
comp=E,42nm,0.8s
TUP *e* 04 15 20.0
TUP *e*Sg **Sb 04 15 49.0 +3.4**
TUP Smax 04 16 03.1
comp=E,598nm,1.1s
TUP Tupik 5.28 63 *e*PN **Pn 04 14 25.5 -3.2**
TUP *e* 04 14 41.6
TUP *e*S **Sn 04 15 25.5 -4.2**
TUP *e* 04 15 48.3
TUP pmax pmax
comp=Z,24nm,0.3s
TUP smax smax
comp=N,600nm,1.1s
ULN Ulaanbaatar 5.41 217 *e*Pn **Pn 04 14 32.5 +1.8**
ULN *e* 04 14 40.9
ULN *e*Pg **Pg 04 14 50.0 -3.4**
ULN Pmax 04 14 53.9
comp=N,65nm,0.6s
ULN *e* 04 15 37.1
ULN *e*Sg **Sg 04 16 03.0 -0.5**
ULN Smax 04 16 25.1
comp=N,331nm,1.5s
ULN Ulaanbaatar 5.41 217 *de*PN **Pn 04 14 32.3 +1.6**
BOD Bodaibo 5.67 12 *e*Pn **Pn 04 14 34.0 0.0**
BOD *e*Pg **Pb 04 14 49.7 +1.0**
BOD Pmax 04 14 52.7
comp=N,83nm,1.0s
BOD *e* 04 15 32.5
BOD *e*Sg **Sb 04 16 01.7 +5.1**
BOD Smax 04 16 09.5
comp=N,1μm,1.3s
ZAK Zakamensk 5.72 254 *e*Pg **Pg 04 14 55.5 -3.8**
ZAK Pmax 04 15 03.5
comp=N,27nm,0.9s
ZAK *e*Sn **Sn 04 15 42.3 +1.8**
ZAK *e*Sg **Sg 04 16 11.6 -1.7**
ZAK Smax 04 16 21.3
comp=N,488nm,1.8s
ZAK Zakamensk 5.72 254 *e*PG **Pg 04 14 55.2 -4.1**
ZAK *e* 04 16 13.0
ZAK pmax pmax
comp=Z,19nm,0.6s
ZAK smax smax
comp=N,478nm,1.5s
HIA Hailar 5.83 118 *e* **Pn 04 14 33.1 -3.2**
HIA *e*Pg **Pb 04 14 54.8 +3.2**
HIA Pmax 04 15 11.3
comp=N,28nm,0.5s
HIA *e* 04 15 36.7
HIA *e*Sg **Sg 04 16 09.0 -7.9**
HIA Smax 04 16 23.4
comp=N,241nm,1.6s
HIA Hailar 5.83 118 *de*PN **Pn 04 14 33.6 -2.7**
ARS Arshan 5.84 270 *e* Pn 04 14 42.1 +5.7
ARS *e* 04 14 52.1
ARS *e*Pg **Pg 04 14 57.2 -4.4**
ARS Pmax 04 15 18.4
comp=N,32nm,0.8s
ARS *e*Sn **Sn 04 14 44.8 +1.4**
ARS *e*Sg **Sg 04 16 14.5 -2.7**
ARS Smax 04 16 19.8
comp=N,448nm,0.8s
CRS Chara 5.92 36 *e*Pn **Pn 04 14 35.0 -2.5**
CRS *e* 04 14 43.0
CRS *e*Pg **Pb 04 14 53.5 +0.5**
CRS Pmax 04 15 02.5
comp=N,77nm,1.0s
CRS *e*Sg **Sb 04 16 07.9 +4.0**
CRS Smax 04 16 28.8
comp=N,473nm,1.2s
KHNR Khani 6.60 42 *e* **Pn 04 14 43.9 -2.9**
KHNR *e*Sg **Sb 04 16 30.1 +6.6**
MOY Mondy 6.76 269 *e*Pn **Pn 04 14 51.5 +2.5**
MOY *e*Pg Pg 04 15 14.2 -4.9
MOY Pmax 04 15 42.5
comp=N,14nm,1.0s
MOY *e* 04 15 54.1
MOY *e*Sg **Sg 04 16 42.3 -4.2**
MOY Smax 04 16 57.1
comp=N,273nm,1.7s
MOY Mondy 6.76 269 *e*PG **Pg 04 15 18.9 -0.2**
MOY *e* 04 16 44.4
YKLR Yuktali 7.14 49 *e*Pg **Pb 04 15 16.2 +2.5**
YKLR *e* 04 16 32.9
YKLR *e*Sg **Sb 04 16 45.6 +6.7**
VTMR Vitim 7.17 3 *e*Pg **Pb 04 15 17.2 +2.9**
VTMR *e*Sg Sg 04 16 48.9 -11
ORL Orlik 7.39 277 *e*Pn **Pn 04 14 59.0 +1.3**
ORL *e* 04 15 09.9
ORL max 04 15 26.5
comp=N,15nm,1.0s
ORL *e* 04 16 19.5
ORL *e*Sg **Sg 04 17 01.7 -5.0**
ORL Smax 04 17 16.4
comp=N,150nm,1.0s
KNGR Kungurtug, Tuv 9.13 265 *e*Sg Sn 04 17 56.2 +52
MINR Mina 10.82 291 *e*Sg 04 18 49.2
BTO Baotou 11.76 187 *e*P **Pn 04 15 58.2 +0.6**
BTO S **Sn 04 18 12.3 +3.4**
BTO pmax pmax
comp=Z,12nm,0.8s
BTO pmax pmax
comp=Z,570nm,7.6s
BTO LR LR
comp=N,670nm,4.7s
BTO LR LR
comp=E,500nm,6.1s
BTO LR LR
comp=Z,450nm,6.6s
MK31 Makanchi Array 19.89 266⇑ *e*P **Pn 04 17 41.8 -0.9**
SEY Seymchan 23.74 48⇓ *e*P **P 04 18 19.7 -2.0**
SEY pmax pmax
comp=Z,3.0nm,1.1s
BORK Borovoye 24.97 288⇑ *e*P **P 04 18 35.2 +2.1**
BORK pmax pmax
comp=Z,2.0nm,1.1s

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*IDC **12** 05:04:33.4±1.6,3°.67S×101°.56E,h0km,mb4.0/8, mbtmp4.0/8,MS3.4/3,Error ellipse: s-maj=70.5km s-min=18.0km az=53.0*
*DJA **12** 05:04:41.5±0.5,4°.5±3°×10°.2E±°,h20km±4km,M4.0/13, mb4.2/1,MLv3.9/13*
ISC 12 05:04:40.9±0.8,3°.64S±0°.07×101°.71E±0°.06,h50km,n35, σ1§82/24,mb3.9/8,MS3.5/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.72**	**47**	P	**Pn**	**05 04 55.8**	**+0.8**
KSI	**Kapahiang**	**0.88**	**91**	P	**Pn**	**05 04 57.7**	**+0.6**
KSI				S	**Sn**	**05 05 09.6**	**+0.6**
MNAI	**Manna**	**1.44**	**120**	P	**Pn**	**05 05 05.0**	**+0.4**
MNAI				S	**Sn**	**05 05 22.7**	**+0.4**
KRJI	**Kerinci**	**1.56**	**351**	P	**Pn**	**05 05 08.4**	**+2.1**
LHSI	**Lahat**	**1.82**	**96**	P	**Pn**	**05 05 12.0**	**+2.2**
LHSI				S	**Sn**	**05 05 35.8**	**+4.1**
PPSI	**Pulau Pagai**	**1.91**	**297**	P	**Pn**	**05 05 13.8**	**+2.8**
MDSI	**Maura Dua**	**2.60**	**109**	P	**Pn**	**05 05 22.6**	**+2.1**
LWLI	**Liwa**	**2.72**	**120**	P	**Pn**	**05 05 24.5**	**+2.3**
PDSI	**Padang**	**2.98**	**335**	P	**Pn**	**05 05 26.4**	**+0.7**
KASI	**Kota Agung**	**3.35**	**124**	P	**Pn**	**05 05 32.2**	**+1.4**
PPI	**Padang Panjang**	**3.42**	**337**	P	**Pn**	**05 05 34.7**	**+2.9**
DSRI	**Dabo**	**4.25**	**42**	P	**Pn**	**05 05 44.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**22.12**	**353**	P	**P**	**05 09 29.8**	**-2.6**
	0.9nm,0.3s,baz=181,slow=8.9,SNR=4.8						
CMAR				LR	LR	05 19 13.8	
	comp=Z,25nm,19.5s,baz=305,slow=40 0.9nm,0.3s						
H08S2	**Diego Garcia H**	**29.34**	**261**	T	T	05 40 26.8	
	baz=84,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**29.34**	**261**	T	T	05 40 27.0	
	baz=84,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**29.36**	**261**	T	T	05 40 28.3	
	baz=84,slow=76,SNR=18						
NWAO	**Narrogin (SRO)**	**32.56**	**155**	LR	LR	05 25 27.2	
	comp=Z,97nm,18.5s,baz=354,slow=38						
H01W3	**Cape Leeuwin H**	**33.16**	**161**	T	T	05 45 33.4	
	baz=338						
H01W2	**Cape Leeuwin H**	**33.17**	**161**	T	T	05 45 33.4	
	baz=338						
H01W1	**Cape Leeuwin H**	**33.18**	**161**	T	T	05 45 33.4	
	baz=338						
WRA	**Warramunga Arr**	**35.70**	**120**	P	**P**	**05 11 34.2**	**-0.8**
	0.5nm,0.4s,baz=303,slow=9.0,SNR=22 0.5nm,0.4s						
ASAR	**Alice Springs**	**36.92**	**126**	P	**P**	**05 11 45.2**	**-0.1**
	0.8nm,0.4s,baz=301,slow=8.2,SNR=10 0.8nm,0.4s						
SONM	**Songino Array**	**51.42**	**4**	P	**P**	**05 13 41.0**	**0.0**
	2.2nm,0.5s,baz=189,slow=9.6,SNR=9.6 2.2nm,0.5s						
MKAR	**Makanchi Array**	**53.07**	**343**	P	**P**	**05 13 52.3**	**-0.8**
	2.1nm,0.5s,baz=147,slow=7.6,SNR=26 2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**57.60**	**343**	P	**P**	**05 14 24.5**	**-1.1**
	0.6nm,0.6s,baz=162,slow=6.9,SNR=6.0 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**59.09**	**348**	P	**P**	**05 14 35.3**	**-0.7**
	1.5nm,0.3s,baz=192,slow=5.8,SNR=9.2 1.5nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.52**	**218**	T	T	06 19 47.7	
	baz=61,slow=75,SNR=33						
H04N1	**CROZET ISLANDS**	**60.54**	**218**	T	T	06 19 46.3	
	baz=61,slow=75,SNR=47						
H04N3	**CROZET ISLANDS**	**60.54**	**218**	T	T	06 19 45.0	
	baz=61,slow=75,SNR=44						
H04S1	**CROZET ISLANDS**	**60.78**	**217**	T	T	06 20 03.4	
	baz=60,slow=75,SNR=18						
H04S3	**CROZET ISLANDS**	**60.80**	**217**	T	T	06 20 02.9	
	baz=60,slow=75,SNR=33						
H04S2	**CROZET ISLANDS**	**60.80**	**217**	T	T	06 20 04.2	
	baz=60,slow=75,SNR=22						
PETK	**Petropavlovsk-**	**73.37**	**31**	LR	LR	05 49 44.0	
	comp=Z,60nm,18.4s,baz=193,slow=37						
BRTR	**Keskin Array B**	**75.68**	**312**	P	**P**	**05 16 20.5**	**-0.9**
	0.5nm,0.5s,baz=141,slow=6.3,SNR=3.3 0.5nm,0.5s						
TXAR	**Lajitas Array**	**144.89**	**41**	PKPbc	**PKPdf**	**05 24 12.9**	**-0.5**
	2.2nm,0.5s,baz=257,slow=0.8,SNR=40						

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*NOU **12** 05:12:39.8,11°.16S×162°.77E,h15km,mb4.7/19,Solomon Islands*
*IDC **12** 05:12:42.4±0.8,11°.13S×161°.86E,h0km,mb4.2/11, mbtmp4.2/14,ML2.8/2,MS3.7/26,Error ellipse: s-maj=23.3km s-min=18.1km az=85.0*
*NEIC **12** 05:12:43.4±1.8,11°.1S±0°.1×162°.1E±0°.1,h10km±1km, mb4.6/19,Error ellipse: s-maj=26.4km s-min=8.6km az=40.0*
ISC 12 05:12:44.4±0.7,11°.23S±0°.08×162°.19E±0°.09,h10km,n86, σ1§80/45,mb4.7/32,MS3.8/24,1C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.84**	**309**	Pn	Pn	05 13 26.2	-3.6
	246nm,0.5s,baz=126,slow=5.9,SNR=15						
HNR				Sn	**Sn**	**05 14 07.4**	**+3.2**
	343nm,0.3s,baz=199,slow=23,SNR=7.5						
HNR				LR	LR	05 14 37.2	
	comp=Z,2μm,20.2s,baz=156,slow=46						
HNR	**Honiara**	**2.84**	**309**	P	**Pn**	**05 13 30.8**	**+0.9**
SAVO	**Savo Central**	**3.12**	**311**	P	**Pn**	**05 13 31.8**	**-2.0**
SANVU	**Saraoutou**	**6.43**	**131**		**Pn**	**05 14 20.3**	**+1.1**
SANVU	**Saraoutou**	**6.43**	**131**	P	Pn	05 14 08.6	-11
	106nm,0.7s						
DZM	**Mont Dzumac**	**11.52**	**160**	*e*LR	LR	05 18 19.1	
	259nm,21.0s						
DZM	**Mont Dzumac**	**11.52**	**160**	Pn	**Pn**	**05 15 30.6**	**+1.4**
DZM	**Mont Dzumac**	**11.52**	**160**	Pn	**Pn**	**05 15 31.6**	**+2.5**
	0.4nm,0.3s,baz=1.0,slow=11,SNR=14						
DZM				Sn	**Sn**	**05 17 38.0**	**-0.1**
	0.3nm,0.3s,baz=168,slow=13,SNR=1.5						
DZM				LR	LR	05 19 47.3	
	comp=Z,442nm,18.6s,baz=28,slow=36 2.5nm,0.4s						
PMG	**Port Moresby**	**14.90**	**276**	Pn	Pn	05 16 11.9	-3.4
PMG	**Port Moresby**	**14.90**	**276**	Pn	Pn	05 16 10.4	-4.9
	0.4nm,0.3s,baz=61,slow=9.7,SNR=3.7						
PMG				LR	LR	05 21 35.2	
	comp=Z,796nm,20.4s,baz=126,slow=37 2.8nm,0.3s						
PMG	**Port Moresby**	**14.90**	**276**	P	**Pn**	**05 16 18.7**	**+3.4**
	23nm,1.0s						
TV1H	**Townsville Har**	**16.86**	**240**	P	**Pn**	**05 16 43.3**	**+2.6**
	16nm,1.1s						
EIDS	**Eidsvold**	**17.56**	**215**		**Pn**	**05 16 49.2**	**-0.3**
CTAO	**Charters Tower**	**17.68**	**238**	P	**Pn**	**05 16 49.7**	**-1.3**
CTAO				IAmb	IAmb	05 16 52.8	
	comp=Z,21nm,0.7s						
CTAO	**Charters Tower**	**17.68**	**238**	P	**Pn**	**05 16 52.3**	**+1.3**
	comp=Z,14nm,0.8s						
MTSU	**Mount Surprise**	**18.60**	**246**	P	**P**	**05 17 02.9**	**+0.9**
	comp=Z,22nm,0.9s						
COEN	**Coen**	**18.76**	**260**	P	**P**	**05 17 03.0**	**-0.7**
COEN				IAmb	IAmb	05 17 08.9	
	comp=Z,23nm,0.6s						
COEN	**Coen**	**18.76**	**260**	P	**P**	**05 17 04.3**	**+0.5**
	comp=Z,39nm,1.0s						
ARMA	**Armidale**	**21.47**	**206**	P	**P**	**05 17 32.7**	**-0.6**
ARMA				IAmb	IAmb	05 18 14.7	
	comp=Z,28nm,1.4s						
QLP	**Quilpie**	**22.80**	**225**	P	**P**	**05 17 45.9**	**-1.5**
	comp=Z,21nm,1.1s						
QIS	**Mount Isa**	**23.60**	**244**	P	**P**	**05 17 53.7**	**-2.0**
	comp=Z,15nm,1.0s						
CMSA	**Cobar Meteorol**	**25.32**	**215**	P	**P**	**05 18 10.0**	**-1.4**
	comp=Z,13nm,0.8s						
INKA	**Innaminka**	**25.98**	**228**	P	**P**	**05 18 14.9**	**-2.5**
INKA				IAmb	IAmb	05 18 18.6	
	comp=Z,9.1nm,0.7s						
STKA	**Stephens Creek**	**27.99**	**220**	P	**P**	**05 18 32.9**	**-2.7**
	comp=Z,3.8nm,0.7s,baz=59,slow=11,SNR=10						
STKA				LR	LR	05 29 08.6	
	comp=Z,403nm,20.2s,baz=25,slow=35 comp=Z,3.8nm,0.7s						
WB0	**Warramunga Arr**	**28.07**	**249**	P	**P**	**05 18 33.0**	**-3.4**
WB0				IAmb	IAmb	05 19 06.5	
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**28.15**	**249**	P	P	05 18 34.4	-2.7
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**28.16**	**249**	P	P	05 18 33.4	-3.8
	comp=Z,3.4nm,0.8s,baz=78,slow=9.5,SNR=12						
WRA				LR	LR	05 29 45.6	
	comp=Z,453nm,19.1s,baz=88,slow=37 comp=Z,3.4nm,0.8s						
HIZ	**Hauiti**	**29.43**	**160**	P	P	05 18 42.6	-5.7
	comp=Z,32nm,2.4s						
AS31	**Alice Springs**	**29.62**	**242**	P	P	05 18 47.3	-2.9
ASAR	**Alice Springs**	**29.62**	**242**	P	P	05 18 46.0	-4.2
	comp=Z,3.1nm,0.7s,baz=70,slow=9.8,SNR=37						
ASAR				LR	LR	05 29 57.4	
	comp=Z,182nm,19.4s,baz=144,slow=35 comp=Z,3.1nm,0.7s						
MTN	**Manton Dam**	**30.41**	**264**	P	P	05 18 54.2	-3.0
MTN				IAmb	IAmb	05 19 00.5	
	comp=Z,15nm,1.4s						
BKZ	**Black Stump Fm**	**30.60**	**158**	P	**P**	**05 18 59.6**	**+1.0**
BKZ				IAmb	IAmb	05 19 01.7	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**32.21**	**224**	P	**P**	**05 19 10.8**	**-2.1**
BBOO				IAmb	IAmb	05 19 41.2	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**32.79**	**259**	P	P	05 19 15.1	-3.0
FITZ	**Fitzroy Crossi**	**35.97**	**255**	P	P	05 19 41.8	-3.9
FITZ	**Fitzroy Crossi**	**35.97**	**255**	LR	LR	05 34 22.6	
	comp=Z,241nm,19.3s,baz=79,slow=36						
FITZ	**Fitzroy Crossi**	**35.97**	**255**	P	P	05 19 42.4	-3.3
	comp=Z,12nm,0.8s						
SANI	**Sanana**	**37.06**	**282**	P	**P**	**05 19 54.3**	**-0.7**
	comp=Z,28nm,1.2s						
SANI	**Sanana**	**37.06**	**282**	P	**P**	**05 19 53.4**	**-1.6**
	comp=Z,28nm,1.1s						
RAR	**Rarotonga**	**37.75**	**110**	LR	LR	05 32 26.3	
	comp=Z,40nm,19.7s,baz=198,slow=31						
BATI	**Baumata**	**37.85**	**268**	LR	LR	05 36 07.4	
	comp=Z,87nm,19.0s,baz=18,slow=37						
DAV	**Davao City (W)**	**40.72**	**295**	LR	LR	05 35 27.6	
	comp=Z,94nm,19.9s,baz=2.0,slow=34						
KAPI	**Kappang**	**42.43**	**275**	LR	LR	05 38 46.4	
	comp=Z,57nm,21.6s,baz=141,slow=37						
PLAI	**Plampang**	**43.77**	**269**	P	**P**	**05 20 50.8**	**+0.1**
	comp=Z,46nm,0.9s						
PLAI	**Plampang**	**43.77**	**269**	P	**P**	**05 20 50.1**	**-0.6**
PPT	**Papeete**	**47.04**	**104**	LR	LR	05 38 23.3	
	comp=Z,70nm,18.4s,baz=286,slow=32						
PPT2	**Papeete2**	**47.04**	**104**	*e*LR	LR	05 34 55.5	
	comp=Z,127nm,24.0s						
ABJI	**Asem Bagus**	**47.38**	**270**	P	P	05 21 03.4	-16
KSM	**Kuching**	**53.10**	**280**	P	**P**	**05 22 01.8**	**-0.9**
KSM				IAmb	IAmb	05 22 04.2	
	comp=Z,11nm,0.9s						
KSM	**Kuching**	**53.10**	**280**	P	**P**	**05 22 02.2**	**-0.4**
	comp=Z,14nm,1.2s						
TAOE	**Nuku Hiva Isla**	**56.75**	**93**	*e*LR	LR	05 39 13.0	
	comp=Z,78nm,23.9s						
MDSI	**Maura Dua**	**57.78**	**272**	P	P	05 22 31.5	-4.9
	comp=Z,10nm,1.0s						
DLV	**Lat**	**58.09**	**292**	P	**P**	**05 22 38.5**	**-0.2**
DLV	**Lat**	**58.09**	**292**	P	**P**	**05 22 38.2**	**-0.6**
	comp=Z,66nm,1.8s						
MNSI	**Mandailing Nat**	**63.35**	**277**	P	**P**	**05 23 14.1**	**-0.3**
VNDA	**Vanda**	**66.28**	**180**	P	**P**	**05 23 33.0**	**+0.6**
VNDA	**Vanda**	**66.28**	**180**	P	**P**	**05 23 33.2**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=334,slow=6.5,SNR=6.5 comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.01**	**295**	P	**P**	**05 23 50.0**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=118,slow=4.5,SNR=8.8						
CMAR				LR	LR	05 55 04.3	
	comp=Z,17nm,18.3s,baz=180,slow=37 comp=Z,1.7nm,0.3s						
SONM	**Songino Array**	**76.79**	**325**	P	P	05 24 33.6	-2.8
	comp=Z,2.3nm,0.8s,baz=138,slow=5.8,SNR=9.6 comp=Z,2.3nm,0.8s						
KDAK	**Kodiak Island**	**78.06**	**23**	LR	LR	05 57 27.2	
	comp=Z,41nm,18.3s,baz=193,slow=34						
QSPA	**South Pole Qui**	**78.78**	**180**	P	**P**	**05 24 48.3**	**+1.0**
QSPA	**South Pole Qui**	**78.78**	**180**	P	**P**	**05 24 48.8**	**+1.5**
	comp=Z,9.6nm,1.1s,baz=352,slow=3.5,SNR=15 comp=Z,9.6nm,1.1s						
L18K	**Granite Mounta**	**79.90**	**18**	P	P	05 24 51.7	-1.4
J17K	**VABM Dome**	**80.11**	**17**	P	P	05 24 52.6	-1.6
J17K				IAmb	IAmb	05 25 05.8	
	comp=Z,8.8nm,1.0s						
MAW	**Mawson**	**83.23**	**202**	P	**P**	**05 25 10.6**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=68,slow=5.7,SNR=4.7						
MAW				LR	LR	05 58 13.1	
	comp=Z,31nm,18.8s,baz=84,slow=33 comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**84.82**	**20**	P	P	05 25 16.9	-1.9
	comp=Z,0.4nm,0.6s,baz=241,slow=4.4,SNR=7.0 comp=Z,0.4nm,0.6s						
DLBC	**Dease Lake**	**88.25**	**29**	LR	LR	05 58 50.3	
	comp=Z,641nm,19.2s,baz=226,slow=31						
NVAR	**Mina Array Bea**	**88.82**	**51**	P	**P**	**05 25 39.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=259,slow=6.5,SNR=3.5						
NVAR				LR	LR	05 55 10.5	
	comp=Z,48nm,20.9s,baz=270,slow=29 comp=Z,0.2nm,0.6s						
PFO	**Pinyon Flats O**	**89.05**	**56**	LR	LR	05 56 11.1	
	comp=Z,48nm,21.9s,baz=274,slow=29						
MKAR	**Makanchi Array**	**91.28**	**317**	P	**P**	**05 25 49.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=7.2,SNR=4.1 comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**91.68**	**325**	LR	LR	06 04 19.1	
	comp=Z,27nm,21.8s,baz=86,slow=34						
ELK	**Elko**	**91.68**	**49**	LR	LR	05 59 09.7	
	comp=Z,29nm,19.5s,baz=306,slow=30						
NEW	**Newport**	**92.17**	**41**	LR	LR	06 02 53.8	
	comp=Z,40nm,18.7s,baz=270,slow=33						
LPIG	**La Paz**	**92.26**	**66**	LR	LR	06 02 05.9	
	comp=Z,40nm,18.1s,baz=276,slow=32						
TROLL	**Troll, Antarti**	**95.85**	**186**	⇓P	**P**	**05 26 09.5**	**-1.6**
	comp=Z,53nm,0.6s						
PDAR	**Pinedale Array**	**96.25**	**48**	LR	LR	06 04 37.6	
	comp=Z,16nm,18.3s,baz=283,slow=32						
SNAA	**Sanae**	**96.68**	**185**	⇓P	**P**	**05 26 13.6**	**-1.2**
	comp=Z,16nm,0.8s						
SNAA	**Sanae**	**96.68**	**185**	P	P	05 26 12.5	-2.2
SNAA				IAmb	IAmb	05 26 23.9	
	comp=Z,2.5nm,1.0s						
SNAA	**Sanae**	**96.68**	**185**	LR	LR	06 08 31.8	
	comp=Z,40nm,18.1s,baz=195,slow=35						
YKA	**Yellowknife Ar**	**96.74**	**28**	LR	LR	06 11 26.2	
	comp=Z,30nm,18.1s,baz=238,slow=36						
ANMO	**Albuquerque**	**97.43**	**56**	LR	LR	06 00 41.8	
	comp=Z,43nm,20.9s,baz=9.5,slow=30						
VNA3	**Neumayer Olymp**	**97.53**	**183**	⇑P	P	05 26 16.8	-1.7

comp=Z,1.4nm,0.8s
VNA2 Neumayer--Watz 97.73 183 ⇓P P 05 26 17.5 -1.9
comp=Z,1.0nm,0.6s,baz=190,slow=4.7
TXAR Lajitas Array 98.98 62 LR LR 06 01 28.4
comp=Z,27nm,21.8s,baz=274,slow=30
ARCES ARCESS Array B 115.61 344 PKP **PKiKP 05 31 23.1 -3.2**
comp=Z,1.0nm,0.8s,baz=55,slow=2.3,SNR=6.2
ESDC Sonseca Array 149.12 339 PKPbc **PKPdf 05 32 34.4 +5.0**
comp=Z,1.2nm,1.0s,baz=38,slow=3.9,SNR=5.5

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*NEIC **12** 05:25:02±0.8, 35°.79N±0°.01×96°.98W±0°.01, h7km±4km, Error ellipse: s-maj=1.9km s-min=1.1km az=155.0*
NEIC 12 05:25:01.9±0.5, 35°.779N±0°.009×96°.972W±0°.009, h5km±1km, mb_Lg2.1/6, ML2.4/71, ML2.4/32, Error ellipse: s-maj=2.9km s-min=1.7km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.25**	**33**		**Pg**	05 25 07.4	+0.6
OK052				IAML		05 25 11.4	
925nm,0.3s							
ADOK	**Arcadia Dam**	**0.35**	**249**		**Pg**	05 25 09.1	+0.5
DEOK	**Depew**	**0.39**	**81**		**Pg**	05 25 10.3	+0.9
DEOK					Sg	05 25 15.8	+1.3
DEOK				IAML		05 25 16.1	
comp=N,362nm,0.3s							
OK029	**Liberty Lake**	**0.39**	**273**		**Pg**	05 25 09.8	+0.3
OK029					Sg	05 25 15.3	+0.6
OK029				IAML		05 25 15.4	
comp=N,224nm,0.2s							
QUOK	**Quay**	**0.45**	**29**		**Pg**	05 25 11.0	+0.5
QUOK					Sg	05 25 17.0	+0.7
QUOK				IAML		05 25 17.4	
comp=N,498nm,0.2s							
OK004	**Okla Sci Mus**	**0.48**	**238**		**Pg**	05 25 11.5	+0.3
OK004					Sg	05 25 18.5	+1.1
OKCSW	**OKLAHOMA CITY**	**0.53**	**226**		**Pg**	05 25 12.3	+0.2
OKCSW					Sg	05 25 20.1	+1.1
OKCSW				IAML		05 25 24.8	
comp=N,215nm,0.2s							
BCOK	**Bluff Creek, N**	**0.53**	**257**		**Pg**	05 25 12.3	+0.2
BCOK					Sg	05 25 19.7	+0.7
OKCFA	**Oklahoma City**	**0.53**	**227**		**Pg**	05 25 12.3	+0.2
OKCFA					Sg	05 25 20.1	+1.1
FNO	**Franklin**	**0.63**	**214**		**Pg**	05 25 14.2	+0.3
FNO					Sg	05 25 23.1	+1.1
FNO				IAML		05 25 23.3	
comp=E,281nm,0.2s							
OK048	**Pawnee Station**	**0.64**	**2**		**Pg**	05 25 14.3	+0.2
OK048				IAML		05 25 23.3	
comp=E,152nm,0.1s							
OK051	**E0350 and S346**	**0.73**	**9**		**Pg**	05 25 16.1	+0.1
TUL3	**Leonard**	**0.97**	**82**		**Pg**	05 25 20.3	-0.2
BLOK	**Blackwell**	**1.00**	**349**		**Pg**	05 25 20.6	-0.4
CROK	**Carrier**	**1.09**	**312**		**Pg**	05 25 22.5	-0.4
T35A	**Sooner Cattle**	**1.19**	**18**		**Pg**	05 25 24.4	-0.3
T35A				IAML		05 25 41.0	
comp=E,98nm,0.1s							
GC02	**Grant County #**	**1.29**	**326**		Pn	05 25 25.7	-0.8
KAN13	**South Haven SW**	**1.30**	**342**		Pn	05 25 26.0	-0.6
KAN13					Sg	05 25 43.6	0.0
X34A	**Smith Ranch, M**	**1.37**	**211**		Pn	05 25 27.4	-0.3
CSTR	**Hydro, Custer**	**1.40**	**265**		Pn	05 25 28.0	-0.2
KAN14	**Manchester OK**	**1.42**	**326**		Pn	05 25 27.8	-0.6
RLO	**Rose Lookout**	**1.63**	**76**		Pn	05 25 31.0	-0.2
LOOK	**Love County**	**1.79**	**186**	IAmb_Lg		05 26 01.4	
comp=Z,14nm,0.8s							
WMOK	**Wichita Mounta**	**1.81**	**235**		Pn	05 25 33.7	0.0
WMOK	**Wichita Mounta**	**1.81**	**235**	IAmb_Lg		05 26 03.3	
comp=Z,7.2nm,0.7s							
U38A	**Gravette**	**2.19**	**72**	Pn	Pn	05 25 40.1	+1.1
U38A				IAmb_Lg		05 26 16.6	
comp=Z,5.9nm,0.7s							
MIAR	**Mount Ida**	**3.04**	**113**	Pn	Pn	05 25 51.7	+1.1
CBKS	**Cedar Bluff**	**3.75**	**325**	Pn	Pn	05 25 59.2	-1.2
WHAR	**Wooly Hollow**	**3.85**	**96**	Pn	Pn	05 26 02.6	+0.9
DKNS	**Dickens**	**3.88**	**238**	Pn	Pn	05 26 03.1	+0.9
FCAR	**Ozark Folk Cen**	**3.94**	**87**	IAmb_Lg		05 27 06.7	
comp=Z,5.4nm,0.8s							
MGMO	**Mountain Grove**	**4.03**	**69**	Pn	Pn	05 26 04.5	+0.2
SN07	**Snyder 07**	**4.21**	**232**	Pn	Pn	05 26 05.8	-0.9
R40A	**Maddies Static**	**4.52**	**55**	Pn	Pn	05 26 09.3	-1.7
P38A	**Dawn**	**4.71**	**34**	Pn	Pn	05 26 11.1	-2.4
RTBA	**Rita Blanca**	**4.71**	**280**	Pn	Pn	05 26 11.9	-1.8
LCAR	**Lake Charles**	**4.73**	**85**	Pn	Pn	05 26 11.7	-2.2
BRDY	**Brady**	**4.79**	**201**	Pn	Pn	05 26 13.1	-1.6
CCM	**Cathedral Cave**	**5.12**	**62**	Pn	Pn	05 26 17.8	-1.4
PBMO	**Poplar Bluff**	**5.38**	**77**	Pn	Pn	05 26 20.8	-1.9
P40A	**Paris**	**5.41**	**45**	Pn	Pn	05 26 21.5	-1.7
FVM	**French Village**	**5.69**	**65**	Pn	Pn	05 26 25.7	-1.4
JCT	**Junction City**	**5.79**	**205**	Pn	Pn	05 26 27.8	-0.7
N38A	**Joes South For**	**5.80**	**29**	Pn	Pn	05 26 28.3	-0.3
T25A	**Trinidad**	**6.15**	**285**	Pn	Pn	05 26 32.7	-0.9

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*NEIC **12** 05:42:13.0±1.8, 19°.100N±0°.008×67°.05W±0°.03, h10km±1km, ML3.5/23, Md3.1/15(RSPR), Error ellipse: s-maj=5.0km s-min=2.8km az=257.0*
*SDD **12** 05:42:13.8±0.7, 19°.08N×67°.17W, h22km±76km, MD3.6, ML3.2, MW3.4*
*RSPR **12** 05:42:15.7, 19°.06N×67°.10W, h10km±31km, MD3.1/15*
ISC 12 05:42:10.7±1.8, 19°.16N±0°.07×67°.11W±0°.03, h10km±12km, n70, σ1º51/77, 19C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.84**	**204**		**Pb**	**05 42 29.1**	**+1.6**
IDE					**Sb**	**05 42 40.2**	**+1.4**
IDE	**Isla Desecheo**	**0.84**	**204**	⇑eP	**Pb**	**05 42 29.1**	**+1.6**
IDE	**Isla Desecheo**	**0.84**	**204**	eS	**Sb**	**05 42 40.2**	**+1.4**
EMPR	**Esperanza - Ma**	**0.88**	**141**		**Sb**	**05 42 41.0**	**+1.2**
EMPR	**Esperanza - Ma**	**0.88**	**141**	Pg	**Pb**	**05 42 29.0**	**+1.0**
EMPR	**Esperanza - Ma**	**0.88**	**141**	⇑eP	**Pn**	**05 42 29.6**	**+0.5**
EMPR	**Esperanza - Ma**	**0.88**	**141**	eS	**Sb**	**05 42 41.0**	**+1.2**
AOPR	**Arecibo Observ**	**0.88**	**157**		**Sb**	**05 42 40.1**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**157**		**Pb**	**05 42 28.7**	**+0.6**
AOPR				IAML		05 42 49.0	
comp=N,2μm,0.4s							
AOPR	**Arecibo Observ**	**0.88**	**157**	⇑eP	**Pb**	**05 42 29.2**	**+1.2**
AOPR	**Arecibo Observ**	**0.88**	**157**	eS	**Sb**	**05 42 40.1**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**157**	⇑ePg	**Pb**	**05 42 28.8**	**+0.6**
AOPR				IAML		05 42 48.0	
comp=N,2μm,0.2s							
PRSN	**Puerto Rico Se**	**0.94**	**182**		**Pb**	**05 42 30.1**	**+1.0**
PRSN					**Sb**	**05 42 41.8**	**+0.2**
PRSN	**Puerto Rico Se**	**0.94**	**182**	⇑eP	**Pb**	**05 42 30.1**	**+1.0**
PRSN	**Puerto Rico Se**	**0.94**	**182**	eS	**Sb**	**05 42 41.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.98**	**157**		**Sb**	**05 42 43.1**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.98**	**157**	Pg	**Pg**	**05 42 29.5**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.98**	**157**	⇑eP	**Pb**	**05 42 30.7**	**+0.9**
UUPR	**Utuado, UPR, P**	**0.98**	**157**	eS	**Sb**	**05 42 43.1**	**+0.3**
LSP	**Las Mesas**	**0.98**	**178**		**Pb**	**05 42 30.6**	**+0.7**
LSP					**Sb**	**05 42 43.0**	**+0.2**
LSP	**Las Mesas**	**0.98**	**178**	⇓eP	**Pb**	**05 42 30.6**	**+0.7**
LSP	**Las Mesas**	**0.98**	**178**	eS	**Sb**	**05 42 43.0**	**+0.2**
ECPR	**Experimental S**	**1.10**	**140**	⇓eP	**Pb**	**05 42 32.6**	**+0.7**
ECPR	**Experimental S**	**1.10**	**140**	eS	**Sb**	**05 42 46.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.15**	**180**		**Sg**	**05 42 46.8**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.15**	**180**		**Pg**	**05 42 32.7**	**-0.1**
CRPR				IAML		05 42 47.6	
comp=N,850nm,0.4s							
CRPR				IAML		05 42 48.9	
comp=E,965nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.15**	**180**	⇓eP	**Pg**	**05 42 32.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.15**	**180**	eS	**Sg**	**05 42 46.8**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.15**	**180**	⇓ePg	**Pg**	**05 42 32.8**	**-0.1**
CRPR				⇓eSg	**Sg**	**05 42 46.6**	**-1.1**
CRPR				IAML		05 42 49.2	
comp=N,981nm,0.2s							
MLPR	**Magueyes Islan**	**1.19**	**177**	⇑eP	**Pg**	**05 42 33.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.19**	**177**	eS	**Sg**	**05 42 47.8**	**-1.2**
MLPR	**Magueyes Islan**	**1.19**	**177**	⇑ePg	**Pg**	**05 42 33.4**	**-0.2**
MLPR				⇓eSg	**Sg**	**05 42 47.6**	**-1.4**
MLPR				IAML		05 42 56.3	
comp=N,197nm,0.2s							
CELP	**Cerrillos**	**1.19**	**155**		**Pb**	**05 42 34.0**	**+0.5**
CELP					**Sg**	**05 42 48.0**	**-1.2**
CELP	**Cerrillos**	**1.19**	**155**	IAML		05 42 49.5	
comp=E,897nm,0.3s							
CELP				IAML		05 42 54.8	
comp=N,1μm,0.4s							
CELP	**Cerrillos**	**1.19**	**155**	⇓eP	**Pb**	**05 42 34.0**	**+0.5**
CELP	**Cerrillos**	**1.19**	**155**	eS	**Sg**	**05 42 48.0**	**-1.2**
CELP	**Cerrillos**	**1.19**	**155**	⇓ePg	**Pg**	**05 42 33.7**	**0.0**
CELP				⇑eSg	**Sb**	**05 42 49.0**	**+0.1**
CELP				IAML		05 42 54.7	
comp=N,997nm,0.3s							
OBIP	**Obispado Ponce**	**1.21**	**156**		**Pb**	**05 42 34.1**	**+0.4**
OBIP					**Sg**	**05 42 48.7**	**-1.1**
OBIP	**Obispado Ponce**	**1.21**	**156**	IAML		05 42 50.4	
comp=N,768nm,0.3s							
OBIP				IAML		05 42 51.4	
comp=E,961nm,0.3s							
OBIP	**Obispado Ponce**	**1.21**	**156**	⇑eP	**Pb**	**05 42 34.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.21**	**156**	eS	**Sg**	**05 42 48.7**	**-1.1**
GCPR	**Guaynabo City**	**1.29**	**131**		**Pg**	**05 42 35.5**	**-0.1**
GCPR					**Sg**	**05 42 51.5**	**-0.9**
GCPR	**Guaynabo City**	**1.29**	**131**	⇑eP	**Pg**	**05 42 35.5**	**-0.1**
GCPR	**Guaynabo City**	**1.29**	**131**	eS	**Sg**	**05 42 51.5**	**-0.9**
SJG	**San Juan**	**1.39**	**139**		**Pn**	**05 42 37.2**	**+1.1**
SJG	**San Juan**	**1.39**	**139**	IAML		05 43 00.9	
comp=E,664nm,0.4s							
SJG				IAML		05 43 01.0	
comp=E,628nm,0.2s							
SJG	**San Juan**	**1.39**	**139**	⇑eP	**Pn**	**05 42 37.2**	**+1.1**
SJG	**San Juan**	**1.39**	**139**	eS	**Sg**	**05 42 53.4**	**-2.0**
IGPR	**InterUniversit**	**1.52**	**141**		**Pn**	**05 42 38.9**	**+0.9**
IGPR					**Sb**	**05 42 56.9**	**-1.6**
IGPR	**InterUniversit**	**1.52**	**141**	⇑eP	**Pn**	**05 42 38.9**	**+0.9**
IGPR	**InterUniversit**	**1.52**	**141**	eS	**Sb**	**05 42 56.9**	**-1.6**
PDPR	**Patillas Dam,**	**1.54**	**137**		**Pn**	**05 42 39.4**	**+1.2**
PDPR				IAML		05 43 06.3	
comp=N,799nm,0.2s							
PDPR	**Patillas Dam,**	**1.54**	**137**	⇑eP	**Pn**	**05 42 38.9**	**+0.7**
HUMP	**Col San Antoni**	**1.57**	**130**		**Pn**	**05 42 39.4**	**+0.7**
HIDR	**Higuey Centro**	**1.62**	**250**	⇑eP	**Pn**	**05 42 41.2**	**+1.9**
HIDR	**Higuey Centro**	**1.62**	**250**	⇑ePg	**Pn**	**05 42 41.0**	**+1.6**
HIDR				IAML		05 43 07.9	
comp=N,445nm,0.2s							
MIDR	**Miches**	**1.84**	**265**	⇑eP	**Pn**	**05 42 44.7**	**+2.4**
MIDR	**Miches**	**1.84**	**265**	⇓ePg	**Pn**	**05 42 44.7**	**+2.4**
MIDR				IAML		05 43 12.1	
comp=N,136nm,0.5s							
MIDR				IAML		05 43 14.3	
comp=N,280nm,0.4s							
DR12	**Loma Pena Alta**	**2.18**	**261**		**Pn**	**05 42 49.4**	**+2.3**
HATOM	**Hato Mayor del**	**2.18**	**261**	⇑ePg	**Pn**	**05 42 49.7**	**+2.7**
HATOM				IAML		05 43 22.9	
comp=N,133nm,0.7s							
SDD	**Santo Domingo**	**2.74**	**256**	Pn	**Pn**	**05 42 57.9**	**+3.1**
SC01	**Santiago de lo**	**3.42**	**275**		**Pn**	**05 43 07.4**	**+3.2**
SDDR	**Presa de Saban**	**3.95**	**268**		**Pn**	**05 43 15.2**	**+3.7**
SABA	**Saba**	**3.98**	**112**	Pn	**Pn**	**05 43 14.4**	**+2.5**
SABA				IAML		05 44 24.0	
comp=N,74nm,1.1s							
SMRT	**St. Maarten**	**3.99**	**105**		**Pn**	**05 43 14.3**	**+2.4**
SMRT				IAML		05 44 08.8	
comp=E,86nm,0.3s							
SMRT				IAML		05 44 17.0	
comp=N,81nm,0.2s							
MASC	**Masc**	**6.78**	**280**	*i* P	**Pn**	**05 43 49.8**	**-0.5**
QMBU	**Quimbuelo**	**7.33**	**279**	*i* P	**Pn**	**05 43 56.2**	**-1.7**
GTBY	**Guantanamo Bay**	**7.58**	**277**	*i* P	**Pn**	**05 44 00.7**	**-0.6**
GTBY				eS	**Sn**	**05 45 21.7**	**-5.6**
PINC	**Pinares de May**	**8.27**	**281**	*i* P	Pn	05 44 06.4	-4.4
HLGC	**Holguin**	**8.59**	**283**	*i* P	**Pn**	**05 44 12.6**	**-2.5**

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*OSPL **12** 06:00:12.8±0.8, 18°.14N×71°.72W, h5km±75km, ML1.7*
*SDD **12** 06:00:14.2±3.2, 18°.16N×71°.53W, h21km±21km, MD2.6, ML1.5, MW2.2*
ISC 12 06:00:12.2±1.3, 18°.13N±0°.04×71°.63W±0°.05, h15km±8km, n8, σ1º03/20, 4C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	**El Espartillar**	**0.26**	**33**	*i* P	**Pg**	**06 00 18.4**	**+0.5**
LODU1				eS	**Sg**	**06 00 22.4**	**+0.6**
LODU1				IAML		06 00 24.2	
comp=Z,140nm,0.7s							
PODR	**Polo**	**0.33**	**84**	ePg	**Pg**	**06 00 19.0**	**-0.1**
PODR				⇑eSg	**Sg**	**06 00 22.3**	**-1.5**
PODR				eSg	**Sb**	**06 00 25.4**	**+0.3**
PODR				IAML		06 00 26.6	
comp=N,50nm,0.4s							
PODR	**Polo**	**0.33**	**84**	*i* P	**Pg**	**06 00 18.8**	**-0.3**
PODR				eS	**Sg**	**06 00 23.9**	**+0.1**
LOVI	**El Cajuil, Ovi**	**0.41**	**143**	*i* P	**Pg**	**06 00 21.2**	**+0.8**
LOVI				eS	**Sb**	**06 00 28.1**	**+0.9**
LOVI				IAML		06 00 31.1	
comp=Z,57nm,5.0s							
JIDR	**Jimani**	**0.42**	**329**	ePg	**Pn**	**06 00 22.2**	**-1.4**
JIDR				⇑eSg	**Sb**	**06 00 27.1**	**-0.3**
JIDR				eSg	**Sn**	**06 00 31.0**	**-0.1**
JIDR				IAML		06 00 32.4	
comp=N,13nm,0.6s							
LONE3	**El Aguacate, B**	**0.50**	**18**	*i* P	**Pb**	**06 00 22.2**	**-0.5**
LONE3				eS	**Sb**	**06 00 29.5**	**-0.3**
LONE3				IAML		06 00 33.7	
comp=Z,12nm,1.5s							
REDR	**Restauracion**	**1.05**	**12**	ePg	**Pg**	**06 00 33.1**	**+0.6**
REDR				⇑eSg	**Sg**	**06 00 48.3**	**+2.0**
REDR				eSg	**Sn**	**06 00 48.6**	**+1.8**
REDR				IAML		06 00 49.8	
comp=N,9.1nm,1.1s							
HATOM	**Hato Mayor del**	**2.23**	**73**	ePg	**Pb**	**06 00 52.5**	**+0.3**
HATOM				eSg	**Sn**	**06 01 16.8**	**+0.9**
HATOM				⇑eSg	**Sb**	**06 01 18.4**	**-1.2**
HATOM				IAML		06 01 38.5	
comp=N,12nm,2.8s							

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*NEIC **12** 06:14:54.5±2.0, 35°.13N±0°.02×95°.35W±0°.03, h10km±8km, Error ellipse: s-maj=3.5km s-min=2.7km az=148.0*
NEIC 12 06:14:54.4±1.9, 35°.13N±0°.02×95°.35W±0°.02, h5km±1km, mb_Lg2.0/17, ML2.5/12, ML2.5/7, Error ellipse: s-maj=3.1km s-min=2.9km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.85**	**335**		Pg	06 15 10.7	-0.1
TUL3					Sg	06 15 22.2	+0.3
TUL3				IAML		06 15 23.9	
116nm,0.3s							
RLO	**Rose Lookout**	**1.06**	**15**		Pg	06 15 14.3	-0.5
RLO					Sg	06 15 28.6	0.0
RLO				IAML		06 15 31.1	
comp=E,129nm,0.2s							
RLO				IAML		06 15 35.2	
comp=N,128nm,0.2s							
DEOK	**Depew**	**1.17**	**307**		Pg	06 15 16.4	-0.5
DEOK					Sg	06 15 32.0	-0.1
DEOK				IAML		06 15 37.0	
comp=E,126nm,0.2s							
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	06 15 21.1	-0.4
OK052					Sg	06 15 41.2	-0.2
QUOK	**Quay**	**1.51**	**314**		Pn	06 15 21.8	-0.4
QUOK					Sg	06 15 42.8	-0.2
U38A	**Gravette**	**1.52**	**31**		Pn	06 15 22.0	-0.3
U38A					Sn	06 15 42.5	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pn	06 15 23.3	+0.3
MIAR					Sb	06 15 44.1	-0.2
HHAR	**Hobbs**	**1.62**	**45**		Pn	06 15 24.0	+0.3
HHAR					Sb	06 15 45.6	0.0
FNO	**Franklin**	**1.68**	**275**		Pn	06 15 24.9	+0.4
FNO					Sg	06 15 48.2	-0.2
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pn	06 15 25.6	+0.4
OKCSW					Sg	06 15 49.5	-0.5
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	06 15 26.2	-0.6
OK048	**Pawnee Station**	**1.82**	**315**		Pn	06 15 26.3	-0.1
OK051	**E0350 and S346**	**1.82**	**319**		Pn	06 15 26.8	+0.3
OK029	**Liberty Lake**	**1.84**	**292**		Pn	06 15 27.1	+0.5
OK029				IAmb_Lg		06 15 52.0	
comp=Z,6.3nm,1.1s							
T35A	**Sooner Cattle**	**2.01**	**333**		Pn	06 15 29.5	+0.4
X34A	**Smith Ranch, M**	**2.11**	**256**		Pn	06 15 31.1	+0.8
X34A				IAmb_Lg		06 16 05.6	
comp=Z,7.3nm,0.7s							
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	06 15 34.6	+0.3
Z35A				IAmb_Lg		06 16 13.4	
comp=Z,5.6nm,0.9s							
TREL	**Terrell**	**2.47**	**195**		Pn	06 15 34.9	-0.5
UALR	**University of**	**2.50**	**97**	IAmb_Lg		06 16 15.1	
comp=Z,6.3nm,0.9s							
WHAR	**Wooly Hollow**	**2.51**	**86**		Pn	06 15 36.4	+0.4
FCAR	**Ozark Folk Cen**	**2.74**	**73**	IAmb_Lg		06 16 28.0	
comp=Z,4.1nm,0.7s							
PLPT	**Palo Pinto**	**3.38**	**228**	IAmb_Lg		06 16 50.3	
comp=Z,3.3nm,0.8s							
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		06 17 11.9	
comp=Z,4.2nm,0.7s							
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		06 17 23.6	
comp=Z,4.8nm,0.8s							

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*FUNV **12** 06:44:46.8, 10°.32N×62°.35W, h5km, MW2.9*
*TRN **12** 06:44:47.5, 10°.36N×62°.45W, h3km, MD3.2, Gulf of Paria.*
ISC 12 06:44:37.4±1.3, 9°.7N±0°.1×62°.62W±0°.06, h10km, n7, σ2º53/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.45**	**47**	eP	**Pb**	**06 45 05.1**	**+0.6**
DMDM				eS	**Sn**	**06 45 19.1**	**-3.7**
TRN	**Trinidad (W)**	**1.53**	**52**	eP	**Pg**	**06 45 07.2**	**+0.5**
TRN				eS	**Sn**	**06 45 24.1**	**-0.6**
GRGR	**Grenville**	**2.60**	**21**	eP	**Pn**	**06 45 22.4**	**+2.9**
GRGR				eS	**Sn**	**06 45 45.6**	**-5.6**
TACV	**Tcata**	**4.36**	**276**	eP	**Pb**	**06 45 56.1**	**+1.9**
TACV				eS	**Sb**	**06 46 47.9**	**+1.0**
CACV	**CAICARA DEL OR**	**4.41**	**242**	eP	**Pb**	**06 45 55.6**	**+0.6**
CACV				eS	**Sb**	**06 46 46.0**	**-2.4**
BENV	**Beln**	**4.91**	**274**	eP	**Pb**	**06 46 04.1**	**+0.5**
BENV				eS	**Sb**	**06 47 01.9**	**-0.9**
BAUV	**El Baul**	**5.40**	**262**	eP	**Pb**	**06 46 12.1**	**+0.2**
BAUV				eS	**Sb**	**06 47 14.9**	**-1.9**

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*TRN **12** 06:47:58.2, 10°.25N×62°.54W, h8km, MD3.0, Gulf of Paria.*
*FUNV **12** 06:48:03.0, 10°.39N×62°.41W, h4km, MW3.1*
ISC 12 06:47:52.0±1.2, 9°.8N±0°.1×62°.64W±0°.06, h10km, n7, σ2º11/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.41**	**49**	eP	**Pb**	**06 48 19.7**	**+1.2**
DMDM				eS	**Sn**	**06 48 33.9**	**-2.5**
TRN	**Trinidad (W)**	**1.50**	**54**	eP	**Pg**	**06 48 21.9**	**+1.2**
TRN				eS	**Sn**	**06 48 37.8**	**-0.7**
GRGR	**Grenville**	**2.54**	**22**	eP	**Pn**	**06 48 33.6**	**+0.4**
GRGR				eS	**Sn**	**06 49 00.3**	**-3.9**
TACV	**Tcata**	**4.33**	**275**	eP	**Pb**	**06 49 11.2**	**+2.8**
TACV				eS	**Sb**	**06 50 01.5**	**+0.8**
CACV	**CAICARA DEL OR**	**4.43**	**241**	eP	**Pb**	**06 49 10.8**	**+0.8**
CACV				eS	**Sb**	**06 50 01.9**	**-1.7**
BENV	**Beln**	**4.89**	**273**	eP	**Pb**	**06 49 19.5**	**+1.7**
BENV				eS	**Sb**	**06 50 14.7**	**-2.0**
BAUV	**El Baul**	**5.39**	**262**	eP	**Pb**	**06 49 26.8**	**+0.5**
BAUV				eS	**Sb**	**06 50 29.2**	**-1.9**

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*MCSM **12** 06:49:34.1±0.8, 37°N±10°×2°1E±°, h11km±4km, mb4.4, MLv4.2*
*ATH **12** 06:49:34.5, 37°.56N×20°.55E, h10km±1km, ML4.2/14, Manual Solution by A.Papageorgiou First location: 2019/10/12 06:50:29, This location: 2019/10/12 07:18:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*MOS **12** 06:49:35.5±1.1, 37°.61N×20°.61E, h11km, mb4.4/4, Error ellipse: s-maj=10.9km s-min=4.2km az=78.0*
*IDC **12** 06:49:36.0±0.8, 37°.75N×20°.52E, h0km, mb4.0/11, mbtmp4.0/20, ML3.5/7, MS3.5/26, Error ellipse: s-maj=15.9km s-min=13.8km az=156.0*
*NEIC **12** 06:49:35.8±1.5, 37°.50N±0°.08×20°.62E±0°.05, h6km±8km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=2.2km az=203.0*
*BEO **12** 06:49:36.9±0.6, 37°.57N×20°.76E, h15km±5km, ML3.9/10*
*THE **12** 06:49:36.8, 38°N±2°×2°1E±°, h0km±1km, M4.0/21, mb4.3/3, MLh4.0/21*
*MED_RC **12** 06:49:36.0±0.3, 37°.58N×20°.68E, h10km, MW4.3/19, Moment Tensor Solution. Mantle waves: s19,c31; Duration: 1º0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.99±.27; $M_{\theta\theta}$3.49±.20; $M_{\phi\phi}$-2.51±.16; $M_{r\theta}$-0.53±.44; $M_{\theta\phi}$0.92±.21; $M_{\phi r}$-0.88±.53; Best double couple: $M_0$3.35000×10^{15} NP1:ϕ_s305.00000°, δ68.00000°, λ-11.00000°. NP2:ϕ_s39.00000°, δ80.00000°, λ-158.00000°. Principal axes: T 3.7200, Plg8.0000°, Azm170.0000°; N -0.7500, Plg66.0000°, Azm62.0000°; P -2.9800, Plg22.0000°, Azm264.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NAO **12** 06:49:38.7, 37°.75N×20°.53E, h10km, mb4.2*
*PDG **12** 06:49:38.0±0.7, 37°.73N×20°.57E, h10km±1km, ML4.4/11, Error ellipse: s-maj=1.6km s-min=1.6km az=0.0*
ISC 12 06:49:36.7±0.8, 37°.63N±0°.02×20°.66E±0°.02, h11km±5km, n286, σ1º67/348, mb4.3/16, MS3.5/21, 32C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**

PYL1	Pylos	1.09	130	P		Pb	06 49 55.9	-1.8
PYL1				S		Sg	06 50 11.3	-0.7
UPR	University Cam	1.11	54	P		Pb	06 49 57.5	-0.4
ITM	Ithomi	1.11	114			Pb	06 49 56.7	-1.3
ITM	Ithomi	1.11	114	P		Pb	06 49 56.5	-1.4
ITM				S		Sg	06 50 11.8	-0.6
PYL2	Kinigos	1.12	130	P		Pb	06 49 56.7	-1.4
PYL2				S		Sg	06 50 12.0	-0.8
LKD2	Lefkada island	1.16	0	P		Pb	06 49 57.5	-1.3
LKD2				S		Sn	06 50 15.0	+0.2
MTHA	Methoni	1.17	134	P		Pb	06 49 57.7	-1.2
MTHA				S		Sb	06 50 13.3	-0.7
TSLK	Tsoukalades, L	1.19	360	P		Pb	06 49 58.3	-1.1
TSLK				S		Sn	06 50 16.0	+0.4
PVO	Paravola	1.20	35	P		Pn	06 49 59.0	-0.6
PVO	Paravola	1.20	35	P		Pn	06 49 58.6	-0.9
PVO				S		Sn	06 50 16.6	+0.8
KLV1	Kalavrita	1.22	70	P		Pn	06 49 59.1	-0.8
KLV1				S		Sn	06 50 17.2	+0.8
KLV	Kalavryta, Ach	1.25	70	P		Pn	06 49 59.4	-0.9
KLV				S		Sn	06 50 18.1	+0.9
EFP	Efpalio	1.27	51	P		Pn	06 49 59.4	-1.1
EFP				S		Sg	06 50 17.8	+0.3
GUR	Goura	1.37	77	P		Pn	06 50 01.1	-0.9
GUR				S		Sn	06 50 20.6	+0.4
ANX	Ano Chora	1.39	46	P		Pn	06 50 01.5	-0.7
ANX				S		Sn	06 50 21.0	+0.4
KALE	Kalithea	1.40	57	P		Pn	06 50 01.5	-0.8
EVR	Evrytania	1.57	35	P		Pn	06 50 04.7	0.0
EVR	Evrytania	1.57	35	P		Pn	06 50 05.1	+0.3
TETR	Tetrakomo, Epi	1.78	16	P		Pn	06 50 08.5	+0.9
MAKR	Makrakomi, Fth	1.80	40	P		Pb	06 50 09.1	-0.7
IGT	Igoumenitsa	1.92	352	P		Pn	06 50 09.4	0.0
IGT	Igoumenitsa	1.92	352	*e*Pn		Pn	06 50 10.4	+1.0
IGT				*e*Sn		Sb	06 50 34.8	-0.9
IGT	Igoumenitsa	1.92	352	P		Pn	06 50 10.2	+0.8
IGT				S		Sb	06 50 36.3	+0.6
PRMD	Pramanda	1.93	10	P		Pn	06 50 10.8	+1.2
LKR	Lokris	2.11	60	P		Pn	06 50 12.9	+0.9
KEK	Kerkira	2.19	342			Pb	06 50 16.1	-0.2
VLY	Voula,Athens	2.50	84	P		Pn	06 50 18.6	+1.2
ATHU	Athens Univers	2.50	81	P		Pn	06 50 18.5	+1.1
PTL	Penteli	2.57	80	P		Pn	06 50 19.9	+1.5
DION	Dionisos Attik	2.63	79	P		Pn	06 50 20.3	+1.1
LIT	Litokhoron	2.85	30			Pn	06 50 23.4	+1.2
LIT	Litokhoron	2.85	30	P		Pn	06 50 23.6	+1.3
LIT	Litokhoron	2.85	30	P		Pn	06 50 23.4	+1.2
AOS	Alonnisos	2.96	58	P		Pn	06 50 24.9	+1.2
KBN	Korca	2.99	2	P		Pn	06 50 26.6	+2.4
TIP	Timpagrande	3.43	298			Pn	06 50 30.0	-0.3
TIP	Timpagrande	3.43	298	⇓P		Pn	06 50 29.9	-0.3
TIP	Timpagrande	3.43	298	P		Pn	06 50 29.2	-1.0
OHR	Ohrid	3.48	2	*i* Pn		Pn	06 50 30.8	-0.1
THE	Thessaloniki	3.49	30	P		Pn	06 50 32.8	+1.8
PLG	Polygyros	3.50	38	P		Pn	06 50 31.7	+0.6
PLG	Polygyros	3.50	38	P		Pn	06 50 31.7	+0.6
HORT	Hortiatis	3.52	32	P		Pn	06 50 32.8	+1.3
SOH	Sokhos	3.81	32	P		Pn	06 50 38.0	+2.5
CEL	Celeste	3.82	281			Pn	06 50 34.7	-0.9
CEL	Celeste	3.82	281	P		Pn	06 50 34.8	-0.7
KNT	Kendrikon	3.93	26	P		Pn	06 50 38.1	+1.0
KNT	Kendrikon	3.93	26	P		Pn	06 50 38.1	+1.0
VAY	Valandovo	3.97	21	*i* Pn		Pn	06 50 39.4	+1.7
IDI	Anoyia	4.14	123			Pn	06 50 38.8	-1.2
IDI	Anoyia	4.14	123	Pn		Pn	06 50 42.6	+2.6
	6.3nm,0.4s,baz=296,slow=12,SNR=11							
IDI				Sn		Sn	06 51 31.1	+2.7
	15nm,0.3s,baz=297,slow=12,SNR=13							
SRS	Serrai	4.16	32	P		Pn	06 50 40.5	+0.3
SRS	Serrai	4.16	32	*e*Pn		Pn	06 50 41.0	+0.8
SRS				*e*Sn		Sn	06 51 26.7	-2.2
SRS	Serrai	4.16	32	*e*P		Pn	06 50 41.0	+0.8
SRS				*e*S		Sn	06 51 26.7	-2.2
MATE	Matera	4.30	316	⇓P		Pn	06 50 46.9	+4.8
CUC	Castrocucco	4.46	303			Pn	06 50 44.8	+0.4
ULC	Ulcinj	4.46	346	*e*Pn		Pn	06 50 44.3	-0.1
ULC				*i* Sn		Sn	06 51 33.3	-3.0
MMB	Musomishta	4.58	30	*e*P		Pn	06 50 48.0	+1.9
MMB	Musomishta	4.58	30	P		Pn	06 50 47.6	+1.5
MMB	Musomishta	4.58	30	P		Pn	06 50 47.6	+1.5
KKB	Krupnik	4.62	24	*e*P		Pn	06 50 48.0	+1.5
DRME	Dracevica, Mon	4.69	346	*e*Pn		Pn	06 50 47.1	-0.4
DRME				*i* Sn		Sn	06 51 38.6	-3.3
ACER	Acerenza	4.83	312			Pn	06 50 49.4	-0.1
BUM	Brajici-Budva	4.86	344	*e*Pn		Pn	06 50 49.6	-0.2
BUM				*i* Sn		Sn	06 51 42.5	-3.6
PDG	Podgorica	4.91	348			Pn	06 50 50.0	-0.5
PDG	Podgorica	4.91	348	⇑P		Pn	06 50 50.7	+0.2
PDG	Podgorica	4.91	348	*e*Pn		Pn	06 50 50.3	-0.2
PDG				*e*Sn		Sn	06 51 47.2	-0.2
PDG	Podgorica	4.91	348	*e*Pn		Pn	06 50 50.4	-0.1
PDG				*i* Sn		Sn	06 51 43.9	-3.5
EZN	Ezine	4.95	62	⇑P		Pb	06 51 01.6	-1.7
EZN	Ezine	4.95	62	⇑P		Pb	06 51 01.6	-1.7
VAE	Valguarnera	4.96	270	Pn		Pn	06 50 50.4	-0.9
	16nm,0.5s,baz=244,slow=6.2,SNR=4.5							
VAE				Sn		Sn	06 51 53.4	+4.6
	5.5nm,0.3s,baz=81,slow=17,SNR=4.3							
RAFF	Raffo Rosso	5.03	267			Pn	06 50 50.7	-1.4
BOSS	Bosilegrad	5.06	15	*e*Pn		Pn	06 50 52.3	-0.2
HCY	Herceg Novi	5.09	342	*e*Pn		Pn	06 50 52.7	-0.3
HCY				*i* Sn		Sn	06 51 48.0	-3.7
RZN	Rozhen	5.14	37	*e*P		Pn	06 50 55.0	+1.2
RZN	Rozhen	5.14	37	P		Pn	06 50 55.4	+1.5
	33nm,0.7s							
RZN	Rozhen	5.14	37	P		Pn	06 50 55.3	+1.5
RDO	Rodhopi	5.16	46			Pn	06 50 54.6	+0.7
RDO	Rodhopi	5.16	46	P		Pn	06 50 55.1	+1.2
	27nm,0.9s							
WDD	Wied Dalam	5.24	252			Pn	06 50 54.3	-0.7
BARS	Barje	5.25	9	*e*Pn		Pn	06 50 55.4	+0.1
BARS				*e*Sn		Sn	06 51 56.0	+0.1
IVA	Berane	5.27	354	*e*Pn		Pn	06 50 55.3	-0.2
IVA				*i* Sn		Sn	06 51 52.3	-4.0
PLNA	Plana	5.29	23	*e*P		Pn	06 50 57.8	+2.0
KOME	Kolasin	5.29	351	⇓*i* Pn		Pn	06 50 55.5	-0.3
KOME				*i* Sn		Sn	06 51 52.8	-3.9
NKME	Niksic	5.29	346	*e*Pn		Pn	06 50 55.5	-0.3
NKME				*i* Sn		Sn	06 51 52.6	-4.3
ALN	Alexandroupoli	5.30	50	Pn		Pn	06 50 56.2	+0.3
ALN	Alexandroupoli	5.30	50	P		Pn	06 50 56.2	+0.3
VTS	Vitosha	5.36	21	*e*P		Pn	06 50 57.1	+0.3
VTS	Vitosha	5.36	21	P		Pn	06 50 57.6	+0.8
VTS	Vitosha	5.36	21	*e*Pn		Pn	06 50 56.4	-0.4
VTS				*e*Sn		Sn	06 51 54.3	-4.3
TREB	Trebinje	5.38	342	*e*Pn		Pn	06 50 55.1	-1.8
BRY	Bratogost	5.51	344	*e*Pn		Pn	06 50 57.6	-1.3
BRY				*i* Sn		Sn	06 51 57.7	-4.6
SELS	Selova	5.59	3	*e*Pn		Pn	06 50 59.7	-0.2
SGRT	San Giovanni R	5.59	319			Pn	06 50 59.9	-0.1
KARP	Karpathos	5.63	110	Pn		Pn	06 51 00.1	-0.4
SJES	Sjenica	5.65	355	*e*Pn		Pn	06 51 00.9	+0.1
SJES				*e*Sn		Sn	06 52 04.9	-0.8
STON	Ston	5.70	338	*e*Pn		Pn	06 50 59.8	-1.6
UPM	Unac-Piva	5.72	347	*e*Pn		Pn	06 51 01.2	-0.7
UPM				*i* Sn		Sn	06 52 02.8	-4.9
KLINJ	Klinje	5.75	345	*e*Pn		Pn	06 51 00.4	-1.8
PLE	Pljevlja	5.77	351	*e*Pn		Pn	06 51 01.9	-0.6
PLE				*i* Sn		Sn	06 52 05.1	-3.7
PAOL	Paolisi	5.81	308			Pn	06 51 03.2	+0.2
ZAPS	Zavoj	5.83	14	*e*Pn		Pn	06 51 02.5	-0.8
GOCS	Kraljevo Serbi	5.93	2	*e*Pn		Pn	06 51 04.2	-0.4
GOCS				*e*Sn		Sn	06 52 09.6	-3.0
IVAS	Ivanjica	5.95	356	*e*Pn		Pn	06 51 04.8	-0.1
BOVS	Bovan	6.05	7	⇑P		Pn	06 51 07.1	+0.9
BOVS	Bovan	6.05	7	*e*Pn		Pn	06 51 06.2	0.0
RUDO	Rudo	6.06	351	*e*Pn		Pn	06 51 06.3	0.0
BLKB	Belogradchik	6.18	14	*e*Pn		Pn	06 51 08.7	+0.7
MPEP	Malo Peshtene	6.18	21	*e*P		Pn	06 51 11.5	+3.5
GRUS	Gruza	6.25	0	*e*Pn		Pn	06 51 08.8	-0.1
ZAGS	Zajecar	6.29	10	*e*Pn		Pn	06 51 09.9	+0.4
BBLS	Lazi&#263i	6.30	352	*e*Pn		Pn	06 51 10.2	+0.5
BBLS				*e*Sn		Sn	06 52 19.1	-2.6
DIVS	Divibare	6.48	356	*e*Pn		Pn	06 51 12.6	+0.4
DIVS				*e*Sn		Sn	06 52 23.4	-2.8
PLVB	Pleven	6.49	26	⇑P		Pn	06 51 16.1	+3.8
TRUS	Trudelj	6.59	358	*e*Pn		Pn	06 51 12.9	-0.7
TRUS				*e*Sn		Sn	06 52 25.7	-3.0
ELND	Elena	6.63	35	⇑P		Pn	06 51 18.9	+4.8
KUBS	Kucevo	6.82	6	*e*Pn		Pn	06 51 16.4	-0.3
TEKS	Tekeris	6.96	353	*e*Pn		Pn	06 51 17.0	-1.7
KIJV	Kijevo	7.14	334	*e*Pn		Pn	06 51 20.1	-1.0
MDVR	Moldovita	7.19	6	⇑P		Pn	06 51 22.2	+0.4
AQU	L'Aquila	7.30	313	*e*Pn		Pn	06 51 25.8	+2.5
AQU	L'Aquila	7.30	313	P		Pn	06 51 22.6	-0.7
	0.1nm23nm,1.0s							
LOZB	Loznitsa	7.30	36	⇓P		Pn	06 51 28.0	+4.7
AKAS	Kas	7.30	98	Pn		Pn	06 51 23.4	-0.1
HERR	Herculane	7.36	10	⇑P		Pn	06 51 24.9	+0.7
CAMP	Campotosto	7.41	314			Pn	06 51 26.0	+1.1
BLY	Banja Luka	7.58	341	*e*Pn		Pn	06 51 30.5	+3.4
BLY	Banja Luka	7.58	341	⇑P		Pn	06 51 28.3	+1.2
NRCA	Norcia	7.76	314			Pn	06 51 30.2	+0.5
FDMO	Fiordimonte	7.91	315			Pn	06 51 33.5	+1.8
GZR	Gura Zlata	7.92	11	⇑P		Pn	06 51 33.3	+1.5
GZR	Gura Zlata	7.92	11	⇑P		Pn	06 51 33.3	+1.5
BZS	Buzias	8.01	5	⇑P		Pn	06 51 34.2	+1.1
BZS	Buzias	8.01	5	⇑P		Pn	06 51 34.2	+1.1
LOT	Lotru	8.15	16	⇑P		Pn	06 51 37.4	+2.2
ARR	Arges	8.29	20	⇑P		Pn	06 51 38.3	+1.4
MOSL	Moslavina	8.49	341	*e*Pn		Pn	06 51 37.3	-2.4
SIRR	Siria	8.66	5	⇑P		Pn	06 51 42.6	+0.5
MORH	Mrgy, Hungar	8.71	351	*e*Pn		Pn	06 51 40.7	-1.9
MORH	Mrgy, Hungar	8.71	351	⇑P		Pn	06 51 44.3	+1.7
MLR	Muntele Rosu	8.79	25			Pn	06 51 47.3	+3.4
MLR	Muntele Rosu	8.79	25	Pn		Pn	06 51 45.8	+1.9
	0.7nm,0.3s,baz=155,slow=5.7,SNR=12							
MLR				LR		LR	06 55 55.1	
	comp=Z,346nm,18.3s,baz=203,slow=43							
	7.3nm,0.9s							
MLR	Muntele Rosu	8.79	25	⇑P		Pn	06 51 47.7	+3.8
MLR	Muntele Rosu	8.79	25	⇑P		Pn	06 51 47.7	+3.8
MLR	Muntele Rosu	8.79	25	P		Pn	06 51 45.3	+1.4
	25nm,1.1s							
NEHR	Nehoiu	8.86	27	⇑P		Pn	06 51 47.8	+3.1
OZLJ	Ozalj	8.87	336	*e*Pn		Pn	06 51 42.9	-1.9
BRJN	Brijuni	8.93	327	*e*Pn		Pn	06 51 47.1	+1.4
DOPR	Dopca	9.05	21	⇑P		Pn	06 51 49.2	+1.9
BISRR	Bisoca	9.12	28	⇑P		Pn	06 51 52.3	+4.0
MARR	Marisel-Cluj	9.22	11	⇑P		Pn	06 51 51.2	+1.5
BOSR	Bodos	9.22	22	⇑P		Pn	06 51 52.6	+2.8
VISS	Visnje	9.25	334	*i* Pn		Pn	06 51 49.3	-0.7
DRGR		9.28	9	⇑P		Pn	06 51 52.1	+1.6
DRGR		9.28	9	⇑P		Pn	06 51 52.1	+1.6
KEST	Kesra	9.28	262	Pn		Pn	06 51 51.2	+0.6
	0.5nm,0.3s,baz=284,slow=3.3,SNR=8.4							
	6.9nm,0.6s							
OZUR		9.28	23	⇑P		Pn	06 51 52.8	+2.3
PLOR	Plostina	9.35	27	⇓P		Pn	06 51 55.0	+3.5
PLOR	Plostina	9.35	27	⇓P		Pn	06 51 55.0	+3.5
VRI	Vrincioaia	9.39	27	⇑P		Pn	06 51 55.5	+3.4
VRI	Vrincioaia	9.39	27	⇑P		Pn	06 51 55.5	+3.4
PDKS	Podkum	9.42	335	*i* Pn		Pn	06 51 51.5	-0.9
SABO	M.te Sabotino	9.86	330	Pn		Pn	06 52 00.2	+1.7
PERS	Pernice	9.89	337	*i* Pn		Pn	06 51 57.4	-1.5
SOKA	Soboth	9.95	337	*e*Pn		Pn	06 51 58.5	-1.3
	6.2nm,0.5s							
SOKA				*i* Sn		Sn	06 53 47.1	-4.4
	7.8nm,0.8s							
OBKA	Obir	9.96	335	*i* Pn		Pn	06 52 00.7	+0.8
	6.0nm,0.6s							
OBKA				*i* Sn		Sn	06 53 48.4	-3.4
	43nm,0.7s							
PSZ	Piszkesteto	10.30	357			Pn	06 52 05.6	+1.1
PSZ	Piszkesteto	10.30	357	⇓P		Pn	06 52 04.7	+0.3
PSZ	Piszkesteto	10.30	357	P		Pn	06 52 05.6	+1.1
ARSA	Arzberg	10.33	340	*e*Pn		Pn	06 52 05.3	+0.4
	0.8nm,0.3s							
ARSA				*i* Sn		Sn	06 53 59.7	-1.0
	2.8nm,0.7s							
BRTR	Keskin Array B	10.37	74	Pn		Pn	06 52 08.8	+3.3
	0.2nm,0.3s,baz=266,slow=11,SNR=4.1							
	0.5nm,0.5s							
MYKA	Terra Mystica	10.39	332	*i* Pn		Pn	06 52 06.8	+1.1
	3.1nm,0.4s							
MYKA				*i* Sn		Sn	06 54 04.0	+1.8
	3.8nm,0.5s							
STAL	STALIGIAL	10.45	328	Pn		Pn	06 52 06.4	-0.2
BURAR	Bucovina Array	10.53	17	⇑P		Pn	06 52 10.7	+3.0
BURAR	Bucovina Array	10.53	17	⇑P		Pn	06 52 10.7	+3.0
CTI	Castel Tesino	10.76	324			Pn	06 52 11.1	+0.3
CTI	Castel Tesino	10.76	324	P		Pn	06 52 11.1	+0.3
CONA	Conrad Observa	10.88	343	*i* Pn		Pn	06 52 13.7	+1.3
	1.5nm,0.6s							
KBA	Koelnbreinsper	10.88	333	*i* Pn		Pn	06 52 12.6	+0.1
	5.2nm,0.7s							
KBA				*i* Sn		Sn	06 54 11.7	-2.5
	7.7nm,0.8s							
ABTA	Abfaltersbach	10.92	329	*i* Pn		Pn	06 52 14.6	+1.5
	2.0nm,0.4s							
ABTA				*i* Sn		Sn	06 54 11.9	-3.4
	25nm,0.7s							
BIOA	Bad Ischl, Aus	11.30	335	*i* Pn		Pn	06 52 18.3	+0.2
	2.0nm,0.2s							
BIOA				*e*Sn		Sn	06 54 21.7	-2.7
	4.7nm,0.4s							
LESA	Schwarzleotal	11.41	332	*i* Pn		Pn	06 52 19.4	-0.4
	6.5nm,0.5s							
LESA				*i* Sn		Sn	06 54 23.1	-4.2
	13nm,0.7s							
WTTA	Wattenberg	11.70	328	*i* Sn		Sn	06 54 31.0	-3.4
	17nm,0.7s							
WATA	Walderalm	11.78	328	*i* Sn		Sn	06 54 33.7	-2.6
	12nm,0.6s							
FUORN	Ofenpass-Fuorn	11.83	323	Pn		Pn	06 52 27.5	+1.9
SQTA	Sankt Quirin	11.85	327	*i* Sn		Sn	06 54 35.8	-2.1
	11nm,0.7s							
FETA	Feichten	11.91	325	*i* Pn		Pn	06 52 27.9	+1.4
	1.8nm,0.7s							
FETA				*e*Sn		Sn	06 54 37.2	-2.3
	5.4nm,0.6s							
MOTA	Moosalm	11.99	327	*i* Pn		Pn	06 52 28.9	+1.3
	1.9nm,0.4s							
MOTA				*i* Sn		Sn	06 54 41.2	-0.2
	13nm,0.7s							
VRAC	Vranov	12.04	347	LR		LR	06 57 36.4	
	comp=Z,77nm,19.3s,baz=176,slow=40							
TUE	Stuetta	12.18	320			Pn	06 52 31.9	+1.6
GERES	GERESS Array B	12.29	338	Pn		Pn	06 52 30.2	-1.6
	baz=150,slow=11,SNR=7.9							
GERES				Sn		Sn	06 54 43.2	-5.7
	baz=138,slow=25,SNR=2.2							
GERES				LR		LR	06 57 53.4	
	comp=Z,225nm,18.4s,baz=129,slow=41							
	1.1nm,0.7s							
DAVA	Damuels	12.49	324	*e*Sn		Sn	06 54 54.4	+0.5
	12nm,0.6s							
KHC	Kasperske Hory	12.59	338	*e*P		Pn	06 52 35.2	-0.5
KHC				*e*			06 54 54.1	
KHC	Kasperske Hory	12.59	338	*e*PN		Pn	06 52 35.2	-0.5
KHC				*e*SN		Sn	06 54 54.1	-1.8
KHC	Kasperske Hory	12.59	338	P		Pn	06 52 35.4	-0.3
	8.2nm,1.0s							
SENIN	Lac Senin/Sane	13.21	316			Pn	06 52 44.9	+0.6
GRFO	Grafenberg	13.84	334	Pn		Pn	06 52 56.4	+3.6
GRFO	Grafenberg	13.84	334	P		Pn	06 52 56.4	+3.6
AK07	Malin Array Si	14.29	23	P		Pn	06 53 00.4	+1.5
AK10	Malin Array Si	14.34	23	P		Pn	06 52 59.3	-0.4
AK09	Malin Array Si	14.37	23	P		Pn	06 52 59.3	-0.7
AK02	Malin Array Si	14.38	22	P		Pn	06 52 59.9	-0.3
AK11	Malin Array Si	14.39	22	P		Pn	06 53 00.3	0.0
ASF	Jabal al Asfar	14.39	107	Pn		P	06 53 07.7	+0.2
	0.3nm,0.3s,baz=323,slow=10,SNR=4.2							
AKASG	Malin Array Be	14.43	22	Pn		Pn	06 53 01.2	+0.4
	0.3nm,0.3s,baz=213,slow=12,SNR=3.2							
AKASG				LR		LR	06 59 43.9	
	comp=Z,220nm,18.3s,baz=214,slow=42							
	1.3nm,0.7s							
WLF	Walferdange	15.93	324			Pn	06 53 21.7	+0.9
WLF	Walferdange	15.93	324	P		Pn	06 53 21.7	+0.9
WLF				pmax		pmax		
	comp=Z,32nm,1.0s							
SUW	Suwalki	16.48	5	Pn		Pn	06 53 27.7	0.0
SUW	Suwalki	16.48	5	P		Pn	06 53 27.7	0.0
KVAR	Kislovodsk Arr	17.82	62	LR		LR	07 01 05.2	
	comp=Z,109nm,20.6s,slow=39							
KBZ	Khabaz	17.91	63	P		Pn	06 53 45.7	-0.1
	comp=Z,0.1nm,0.3s,baz=255,slow=14,SNR=2.6							
KBZ				LR		LR	07 02 59.9	
	comp=Z,82nm,19.2s,baz=256,slow=45							
	comp=Z,5.5nm,1.2s							
PABE	Paberze	18.02	6	P		Pn	06 53 47.0	0.0
PABE				IAmb		IAmb	06 53 48.1	
	comp=Z,35nm,0.8s							
GNI	Garni	18.91	75	LR		LR	07 02 58.5	
	comp=Z,79nm,19.4s,baz=260,slow=42							
ESDC	Sonseca Array	19.32	284	P		P	06 54 01.7	-0.3
	comp=Z,0.1nm,0.3s,baz=79,slow=11,SNR=13							
	comp=Z,2.9nm,0.9s							
OBN	Obninsk	20.56	27⇑	*e*P		Pn	06 54 16.7	-0.8
OBN				*e*			06 54 23.5	
OBN				*i*			06 54 52.7	
OBN				*e*S		S	06 58 04.0	-0.9
OBN				SS		SnSn	06 58 27.0	+3.3
OBN				*e*SSS		SSS	06 58 35.2	
OBN				pmax		pmax		
	comp=Z,11nm,0.5s							
OBN				MLR		MLR		
	comp=Z,111nm,17.0s							
MDT	Midelt	21.16	264	P		P	06 54 22.0	-0.1
	comp=Z,2.8nm,0.7s,baz=89,slow=10,SNR=4.7							
MDT				LR		LR	07 02 28.7	
	comp=Z,45nm,21.4s,baz=74,slow=37							
	comp=Z,2.8nm,0.7s							
HFS	Hagfors	22.96	351	P		P	06 54 41.0	+0.1
	comp=Z,10.0nm,0.8s,baz=164,slow=9.5,SNR=10							
HFS				LR		LR	07 04 43.5	
	comp=Z,58nm,18.6s,baz=184,slow=40							
	comp=Z,10.0nm,0.8s							
HFS	Hagfors	22.96	351	P		P	06 54 41.0	+0.1
NORES	NORESS Array B	23.83	349	P		P	06 54 53.9	+4.2
NORES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
EKA	Eskdalemuir Ar	23.94	325	P		P	06 54 50.4	-0.3
	comp=Z,6.5nm,0.9s,baz=130,slow=9.0,SNR=9.9							
	comp=Z,6.5nm,0.9s							
FINES	FINESS Array B	24.08	6	P		P	06 54 51.1	-0.8
	comp=Z,3.5nm,0.9s,baz=164,slow=12,SNR=9.6							
FINES				LR		LR	07 05 21.6	
	comp=Z,217nm,18.8s,baz=186,slow=39							
	comp=Z,3.5nm,0.9s							
NB2	NORSAR Subarra	24.18	349	P		P	06 54 52.1	-0.8
	comp=Z,4.9nm,1.1s,baz=162,slow=9.3							
NB2	NORSAR Subarra	24.18	349	P		P	06 54 55.3	+2.4
NOA	NORSAR Array B	24.18	349	P		P	06 54 52.7	-0.2
	comp=Z,2.6nm,0.9s,baz=164,slow=10,SNR=8.8							
NOA				LR		LR	07 05 44.9	
	comp=Z,56nm,18.7s,baz=165,slow=40							
	comp=Z,2.6nm,0.9s							
KIRV	Kirov	28.06	32	LR		LR	07 07 08.1	
	comp=Z,65nm,21.6s,baz=236,slow=38							
AKTO	Aktyubinsk	29.43	52	LR		LR	07 08 48.7	
	comp=Z,51nm,18.3s,baz=211,slow=39							
TORD	Torodi Ar. Bea	29.68	220	P		P	06 55 42.6	-0.1
	comp=Z,1.1nm,0.7s,baz=36,slow=9.5,SNR=5.7							
	comp=Z,1.1nm,0.7s							
ARTI	Arti	31.29	41	P		P	06 55 57.2	+0.6
ARTI				IAmb		IAmb	06 56 02.0	
	comp=Z,5.3nm,0.8s							
ARTI	Arti	31.29	41	P		P	06 55 57.2	+0.6
ARTI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ARCES	ARCESS Array B	32.07	3	P		P	06 56 02.5	-0.8
	comp=Z,2.0nm,0.9s,baz=191,slow=11,SNR=7.8							
ARCES				LR		LR	07 12 15.5	
	comp=Z,57nm,18.

CMAR LR LR 06 56 05.6
comp=E,14nm,21.9s,baz=250,slow=43
comp=E,24nm,0.7s
CHTO Chiang Mai 7.38 42 Pn 06 52 43.3 +4.9
KULM Kulim 10.54 139 Pn Pn 06 53 27.5 +5.7
IMP Imphal 11.40 1 *eP* **Pn 06 53 35.7 +2.1**
IMP *eS* **Sn 06 55 32.4 -7.4**
IMP IAML 06 56 16.1
comp=E,94nm,0.5s
IMP IAML 06 56 16.3
comp=N,81nm,0.3s
SHL Shillong 12.26 352 Pn **Pn 06 53 45.0 -0.3**
KOHI KOHIMA 12.29 2 *eP* **Pn 06 53 44.9 -0.9**
MYKOM Kota Tinggi 15.26 138 P 06 54 31.7 +1.2
ENH Enshi 22.25 38 P **P 06 55 48.1 +1.1**
YULB Yu-li 27.96 65 P **P 06 56 40.5 0.0**
YULB IAmb IAmb 06 57 04.5
comp=Z,9.8nm,1.1s
KSRS Korea Array 38.77 46 P **P 06 58 15.3 +1.1**
comp=Z,1.8nm,0.6s,baz=242,slow=8.8,SNR=4.6
comp=Z,1.8nm,0.6s
FITZ Fitzroy Crossi 44.38 134 P **P 06 59 00.0 -0.4**
AB31 Akbulak array 45.28 329 P **P 06 59 06.4 -0.9**
JYT Yasato 47.38 53 P **P 06 59 23.4 -0.5**
JTM Tenmabayashi 49.44 47 P **P 06 59 38.6 -1.1**
NWAO Narrogin (SRO) 51.23 155 P **P 06 59 52.6 -0.7**
WRA Warramunga Arr 51.90 129 P **P 06 59 58.7 +0.2**
comp=Z,1.1nm,0.5s,baz=299,slow=9.8,SNR=27
WRA PcP **PcP 07 01 10.4 -0.6**
comp=Z,0.5nm,0.4s,baz=315,slow=3.2,SNR=9.8
comp=Z,1.1nm,0.5s
WRAB Tennant Creek 51.90 129 P **P 06 59 58.1 -0.4**
WRAB IAmb IAmb 07 00 03.4
comp=Z,2.1nm,1.1s
AS31 Alice Springs 53.84 133 P **P 07 00 12.6 -0.2**
AS31 IAmb IAmb 07 00 13.4
comp=Z,1.0nm,0.5s
ASAR Alice Springs 53.84 133 P **P 07 00 13.0 +0.1**
comp=Z,2.6nm,0.4s,baz=308,slow=6.7,SNR=74
ASAR PcP **PcP 07 01 18.0 -0.3**
comp=Z,0.2nm,0.5s,baz=304,slow=4.2,SNR=1.4
comp=Z,2.6nm,0.4s
C19K Lookout Ridge 83.44 20 P **P 07 03 17.6 +0.8**
D19K Kuna River 84.16 21 P **P 07 03 20.6 +0.2**
D19K IAmb IAmb 07 03 39.1
comp=Z,5.3nm,0.9s
D20K Etivluk River 84.59 20 P **P 07 03 22.4 -0.1**
D20K IAmb IAmb 07 03 33.9
comp=Z,6.7nm,1.1s
E19K Redstone River 84.86 21 P **P 07 03 23.8 -0.1**
E19K IAmb IAmb 07 03 32.8
comp=Z,5.2nm,1.1s
E21K Killik River 85.59 20 P **P 07 03 27.2 -0.3**
E21K IAmb IAmb 07 03 47.6
comp=Z,5.1nm,1.1s
G21K Allakaket 86.59 22 P **P 07 03 32.6 +0.1**
G21K IAmb IAmb 07 03 46.1
comp=Z,1.4nm,0.8s
F26K Sheenjek River 89.16 19 P **P 07 03 45.1 +0.3**
F26K IAmb IAmb 07 03 46.1
comp=Z,3.8nm,0.9s
ILAR Eielson Array 89.83 22 P **P 07 03 47.4 -0.6**
comp=Z,0.3nm,0.6s,baz=307,slow=5.4,SNR=5.5
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 120.19 20 PKP **PKPdf 07 09 40.3 -0.7**
comp=Z,0.2nm,0.4s,baz=71,slow=1.2,SNR=3.9
NVAR Mina Array Bea 120.39 29 PKP **PKiKP 07 09 41.5 0.0**
comp=Z,0.3nm,0.6s,baz=312,slow=2.3,SNR=2.9
TXAR Lajitas Array 134.35 21 PKP **PKiKP 07 10 09.5 0.0**
comp=Z,0.3nm,0.5s,baz=106,slow=0.3,SNR=9.0

*IDC **12** 07:09:20.2±1.0, 19°.69N×145°.41E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=42.1km s-min=20.5km az=105.0*
ISC 12 07:09:37.4±1.0, 19°.6N±0°.2×145°.3E±0°.3, h147km, n7, σ0°70/7, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.74**	**196**	P	**P**	**07 17 03.7**	**-0.3**
	0.7nm,0.7s,baz=14,slow=8.2,SNR=10						
	0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.15**	**209**	P	**P**	**07 17 15.9**	**+0.3**
	2.9nm,1.0s,baz=32,slow=10,SNR=2.5						
	2.9nm,1.0s						
ASAR	**Alice Springs**	**44.42**	**195**	P	**P**	**07 17 33.5**	**-0.2**
	0.3nm,0.6s,baz=15,slow=6.2,SNR=5.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.61**	**314**	P	**P**	**07 19 12.7**	**+0.7**
	0.2nm,0.5s,baz=90,slow=6.1,SNR=2.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**60.44**	**318**	P	**P**	**07 19 30.8**	**-0.5**
	0.5nm,0.4s,baz=92,slow=7.4,SNR=1.9						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**63.00**	**26**	P	**P**	**07 19 47.6**	**-0.7**
	0.6nm,0.5s,baz=258,slow=5.2,SNR=13						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**07 21 46.7**	**+0.8**
	0.3nm,0.7s,baz=291,slow=7.7,SNR=2.6						
	0.3nm,0.7s						

*CATAC **12** 07:09:35.8±0.4, 9°N±2°×8°4W±°, h21km±2km, M3.1/10, MLv3.1/10, Error ellipse: s-maj=7.0km s-min=2.9km az=45.6, confirmed*
*UCR **12** 07:09:36.9±1.2, 9°.16N×83°.89W, h38km±4km, MW3.5*
ISC 12 07:09:37.3±0.9, 9°.16N±0°.03×83°.89W±0°.03, h32km±7km, n123, σ0°80/142, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.25**	**105**	S	**Sn**	**07 09 50.4**	**+0.8**
OCHAL	**Ojochal**	**0.25**	**105**	P	**Pb**	**07 09 44.2**	**-0.1**
ZEDO	**Perez Zeledon**	**0.28**	**47**	*eP*	**Pb**	**07 09 44.6**	**-0.2**
ZEDO				*eS*	**Sn**	**07 09 51.0**	**+0.5**
EDPE	**Pejibaye, P**	**0.31**	**91**	*eP*	**Pb**	**07 09 45.0**	**-0.2**
EDPE				*eS*	**Sb**	**07 09 51.5**	**+1.0**
LLNJ	**Naranjito**	**0.37**	**326**	*eP*	**Pb**	**07 09 45.4**	**-0.6**
LLNJ				*eS*	**Sb**	**07 09 52.6**	**+0.7**
QUEP	**Quepos**	**0.38**	**314**	P	**Pb**	**07 09 45.2**	**-0.9**
QUEP	**Quepos**	**0.38**	**314**	*eP*	**Pb**	**07 09 45.3**	**-0.7**
QUEP				*eS*	**Sb**	**07 09 52.0**	**0.0**
SVQ2	**Quepos**	**0.38**	**314**	*eP*	**Pb**	**07 09 45.2**	**-0.9**
SVQ2				*eS*	**Sb**	**07 09 52.3**	**+0.2**
SAJE	**San Jernim**	**0.42**	**64**	*eP*	**Pb**	**07 09 45.9**	**-0.8**
SAJE				*eS*	**Sb**	**07 09 53.2**	**+0.1**
PIEC	**Cerro El Cedra**	**0.46**	**351**	*eP*	**Pb**	**07 09 47.1**	**-0.5**
PANP	**Palmar Norte**	**0.47**	**115**	*eP*	**Pb**	**07 09 46.5**	**-0.9**
PANP				*eS*	**Sb**	**07 09 54.9**	**+0.6**
RAZU	**San Marcos de**	**0.51**	**345**	*eP*	**Pb**	**07 09 47.6**	**-0.6**
RAZU				*eS*	**Sb**	**07 09 56.4**	**+0.8**
PITB	**Pirrs, San**	**0.51**	**345**	*eP*	**Pb**	**07 09 47.6**	**-0.6**
PITB				*eS*	**Sb**	**07 09 56.0**	**+0.3**
BURE	**Buenos Aires**	**0.54**	**89**	*eP*	**Pb**	**07 09 47.6**	**-1.0**
BURE				*eS*	**Sb**	**07 09 56.4**	**+0.1**
PICV	**PH. Pirrs**	**0.55**	**327**	*eP*	**Pb**	**07 09 48.1**	**-0.7**
PAR1A	**Puntarenas Pro**	**0.56**	**320**	*eP*	**Pb**	**07 09 48.4**	**-0.5**
PAR1A				*eS*	**Sn**	**07 09 58.0**	**+0.6**
LCR2	**La Lucha 2**	**0.59**	**349**	S	**Sb**	**07 09 57.2**	**-0.5**
REPA	**Paraso**	**0.66**	**2**	*eP*	**Pn**	**07 09 49.5**	**-1.2**
ACOS	**Acosta**	**0.69**	**337**	*eP*	**Pn**	**07 09 49.6**	**-1.4**
TAGO	**Cartago**	**0.70**	**357**	*eP*	**Pn**	**07 09 50.3**	**-1.0**
TAGO				*eS*	**Sb**	**07 10 00.9**	**+0.1**
EDP2	**Potrero Grande**	**0.72**	**102**	*eP*	**Pn**	**07 09 50.7**	**-0.7**
VINA	**Juan Vinas**	**0.74**	**11**	*eP*	**Pn**	**07 09 51.1**	**-0.7**
TRIO	**Tres Rios**	**0.74**	**352**	*eP*	**Pn**	**07 09 50.6**	**-1.3**
AMPA	**Desamparados**	**0.75**	**347**	*eP*	**Pn**	**07 09 50.6**	**-1.2**
PCAYA	**Pacayas**	**0.75**	**6**	*eP*	**Pn**	**07 09 51.3**	**-0.7**
TURIB	**Turrialba**	**0.77**	**15**	*eP*	**Pn**	**07 09 51.0**	**-1.0**
LUJA	**Lujan**	**0.78**	**347**	*eP*	**Pn**	**07 09 51.6**	**-0.7**
ECI	**Escuela Centro**	**0.79**	**348**	*eP*	**Pn**	**07 09 51.5**	**-0.9**
SJS3	**Mercedes San J**	**0.79**	**348**	*eP*	**Pn**	**07 09 51.6**	**-0.8**
SJS	**Escuela Geolog**	**0.79**	**348**	*eP*	**Pn**	**07 09 51.4**	**-1.0**
LUPE	**Guadalupe**	**0.80**	**348**	*eP*	**Pn**	**07 09 51.7**	**-0.9**
LUPE				*eS*	**Sn**	**07 10 03.3**	**-0.1**
PURI	**Puriscal**	**0.80**	**329**	*eP*	**Pn**	**07 09 51.6**	**-0.9**
VERB	**Verbena**	**0.80**	**14**	*eP*	**Pn**	**07 09 51.8**	**-0.8**
PAVB	**Pavas, San Jos**	**0.81**	**344**	*eP*	**Pn**	**07 09 51.6**	**-1.1**
CORON	**Coronado**	**0.81**	**352**	*eP*	**Pn**	**07 09 52.2**	**-0.6**
CORON				*eS*	**Sn**	**07 10 04.4**	**+0.6**
VICA	**Volcano Irazu**	**0.82**	**3**	*eP*	**Pn**	**07 09 52.2**	**-0.9**
SANTA	**Santa Ana**	**0.82**	**339**	*eP*	**Pn**	**07 09 51.6**	**-1.2**
JIME	**Puerto Jimenez**	**0.83**	**138**	*eP*	**Pn**	**07 09 52.6**	**-0.3**
JIME				*eS*	**Sb**	**07 10 06.2**	**+1.9**
DOMI	**Santo Domingo**	**0.84**	**346**	*eP*	**Pn**	**07 09 52.4**	**-0.7**
DOMI				*eS*	**Sn**	**07 10 04.6**	**+0.2**
CVTQ	**Turrialba Volc**	**0.84**	**8**	*eP*	**Pn**	**07 09 52.8**	**-0.6**
CVTV	**Tajo**	**0.85**	**9**	*eP*	**Pn**	**07 09 52.6**	**-0.8**
BITO	**Garabito Jaco**	**0.85**	**302**	*eP*	**Pn**	**07 09 53.3**	**+0.1**
ABRB	**Las Abras (San**	**0.85**	**11**	*eP*	**Pn**	**07 09 52.9**	**-0.5**
CVIMO	**Finca Echandi**	**0.86**	**356**	*eP*	**Pn**	**07 09 52.8**	**-0.7**
CVIMO				*eS*	**Sn**	**07 10 05.5**	**+0.4**
VTR0	**Volcan Turrial**	**0.86**	**8**	*eP*	**Pn**	**07 09 53.0**	**-0.6**
VTR0				*eS*	**Sn**	**07 10 05.5**	**+0.2**
BELE	**Belen**	**0.86**	**340**	*eP*	**Pn**	**07 09 52.4**	**-1.0**
CVTR	**Volcan Turrial**	**0.86**	**8**	*eP*	**Pn**	**07 09 52.9**	**-0.8**
HDC	**Heredia**	**0.86**	**345**	*eP*	**Pn**	**07 09 52.6**	**-0.8**
HEME	**Heredia, Merce**	**0.86**	**344**	*eP*	**Pn**	**07 09 53.8**	**+0.4**
RESJ	**San Isidro (Tu**	**0.89**	**16**	*eP*	**Pn**	**07 09 53.4**	**-0.4**
FITO	**Golfito**	**0.90**	**126**	*eP*	**Pn**	**07 09 52.4**	**-1.4**
PIRO	**Carate, Puerto**	**0.93**	**144**	P	**Pn**	**07 09 53.6**	**-0.6**
PIRO	**Carate, Puerto**	**0.93**	**144**	S	**Sb**	**07 10 08.0**	**+0.9**
PIRO	**Carate, Puerto**	**0.93**	**144**	*eP*	**Pn**	**07 09 53.5**	**-0.8**
ATEO	**Atenas**	**0.94**	**329**	*eP*	**Pn**	**07 09 53.7**	**-0.8**
LCOCO	**El Coco**	**0.97**	**20**	*eP*	**Pn**	**07 09 54.6**	**-0.2**
RVLA	**Villa Bonita**	**0.99**	**17**	*eP*	**Pn**	**07 09 54.9**	**-0.1**
IRES	**Siquirres**	**1.00**	**22**	*eP*	**Pn**	**07 09 55.1**	**-0.1**
LAES	**El Progreso Va**	**1.02**	**54**	*eP*	**Pn**	**07 09 55.2**	**-0.2**
VERH	**Veragua Rainfo**	**1.02**	**42**	*eP*	**Pn**	**07 09 55.2**	**-0.4**
PALD	**Palmares**	**1.04**	**329**	*eP*	**Pn**	**07 09 54.9**	**-0.9**
PILE	**Guapiles**	**1.05**	**5**	*eP*	**Pn**	**07 09 55.7**	**-0.2**
NELY	**Ciudad Neily**	**1.06**	**119**	*eP*	**Pn**	**07 09 55.1**	**-0.9**
ALCO	**Alturas Coton,**	**1.06**	**101**	*eP*	**Pn**	**07 09 55.2**	**-1.1**
VPS8	**V Poas**	**1.07**	**341**	*eP*	**Pn**	**07 09 56.1**	**-0.3**
RSRNO	**Rio Sereno**	**1.07**	**109**	*eP*	**Pn**	**07 09 56.0**	**-0.2**
RAMO	**San Ramon**	**1.08**	**328**	*eP*	**Pn**	**07 09 54.5**	**-1.9**
BRIBI	**Bribri**	**1.15**	**67**	*eP*	**Pn**	**07 09 57.7**	**+0.4**
CDITO	**Canoas**	**1.16**	**120**	S	**Sn**	**07 10 11.1**	**-1.2**
CDITO	**Canoas**	**1.16**	**120**	P	**Pn**	**07 09 56.7**	**-0.7**
VPL1	**V. Platanar**	**1.18**	**337**	*eP*	**Pn**	**07 09 57.2**	**-0.7**
DMCAL	**E. de Neily**	**1.19**	**114**	*eP*	**Pn**	**07 09 57.1**	**-0.8**
CARI	**Cariari**	**1.20**	**7**	*eP*	**Pn**	**07 09 58.1**	**+0.1**
ARTO	**Ro Cuarto**	**1.22**	**345**	*eP*	**Pn**	**07 09 57.3**	**-0.9**
VPL2	**V. Platanar**	**1.24**	**337**	*eP*	**Pn**	**07 09 58.2**	**-0.4**
BRU2	**Volcan**	**1.24**	**107**	P	**Pn**	**07 09 58.2**	**-0.4**
BRU2	**Volcan**	**1.24**	**107**	S	**Sn**	**07 10 15.2**	**+0.8**
BRU2	**Volcan**	**1.24**	**107**	*eP*	**Pn**	**07 09 58.2**	**-0.4**
CBL1	**Cabuya**	**1.26**	**290**	*eP*	**Pn**	**07 09 56.9**	**-1.9**
TBS2		**1.27**	**107**	*eP*	**Pn**	**07 09 58.6**	**-0.5**
QUEU	**Ciudad Quesada**	**1.27**	**335**	*eP*	**Pn**	**07 09 59.3**	**+0.3**
RGM0	**Gandoca**	**1.33**	**71**	S	**Sb**	**07 10 20.0**	**+1.5**
ITAL	**Pital**	**1.33**	**344**	*eP*	**Pn**	**07 09 59.7**	**-0.1**
TRT2	**Tortugero**	**1.39**	**6**	S	**Sb**	**07 10 20.3**	**+0.1**
TRT2	**Tortugero**	**1.39**	**6**	P	**Pn**	**07 10 00.7**	**+0.1**
TRT2	**Tortugero**	**1.39**	**6**	*eP*	**Pn**	**07 10 00.7**	**+0.1**
SOCE	**Pocosol**	**1.41**	**329**	P	**Pn**	**07 10 00.8**	**-0.1**
SOCE	**Pocosol**	**1.41**	**329**	S	**Sn**	**07 10 20.2**	**+1.8**
SOCE	**Pocosol**	**1.41**	**329**	*eP*	**Pn**	**07 10 00.9**	**0.0**
BANCO	**falda S V. Bar**	**1.41**	**108**	*eP*	**Pn**	**07 10 00.5**	**-0.6**
JEFFS	**S de V. Baru**	**1.43**	**110**	*eP*	**Pn**	**07 10 00.6**	**-0.5**
BQTLY	**Boquete Panama**	**1.47**	**106**	*eP*	**Pn**	**07 10 01.3**	**-0.4**
MTEVE	**Monteverde**	**1.48**	**321**	*eP*	**Pn**	**07 10 02.1**	**+0.3**
WILLF	**Boquete**	**1.49**	**106**	*eP*	**Pn**	**07 10 02.3**	**+0.2**
DAP26	**falda E V. Bar**	**1.50**	**104**	*eP*	**Pn**	**07 10 00.8**	**-1.3**
FORC	**Fortuna**	**1.51**	**329**	*eP*	**Pn**	**07 10 02.5**	**+0.3**
CASO	**Castillo**	**1.51**	**327**	*eP*	**Pn**	**07 10 03.0**	**+0.7**
VACR	**Volcan Arenal**	**1.52**	**329**	*eP*	**Pn**	**07 10 02.4**	**0.0**
ARE1	**Arenal 1**	**1.53**	**328**	*eP*	**Pn**	**07 10 03.1**	**+0.6**
VARE2	**V. Arenal**	**1.53**	**328**	*eP*	**Pn**	**07 10 03.0**	**+0.5**
JUNT	**Juntas**	**1.53**	**317**	*eP*	**Pn**	**07 10 02.1**	**-0.5**
JTS	**Las Juntas de**	**1.54**	**317**	P	**Pn**	**07 10 01.8**	**-0.8**
JTS				S	**Sn**	**07 10 20.8**	**-0.6**
JTS	**Las Juntas de**	**1.54**	**317**	*eP*	**Pn**	**07 10 02.0**	**-0.6**
CEDE	**Laguna Cedeo**	**1.54**	**329**	*eP*	**Pn**	**07 10 03.3**	**+0.6**
REZ	**Monterrey de S**	**1.57**	**330**	*eP*	**Pn**	**07 10 04.2**	**+1.0**
NYURE	**Nandayure**	**1.58**	**302**	*eP*	**Pn**	**07 10 04.1**	**+0.9**
TABAC	**Tabacon**	**1.58**	**327**	*eP*	**Pn**	**07 10 04.1**	**+0.8**
CHIK	**Chiripa**	**1.62**	**322**	*eP*	**Pn**	**07 10 04.6**	**+0.7**
COVE	**Coope Vega, Sa**	**1.63**	**342**	S	**Sn**	**07 10 25.2**	**+1.5**
COVE	**Coope Vega, Sa**	**1.63**	**342**	P	**Pn**	**07 10 04.1**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**1.70**	**99**	*eP*	**Pn**	**07 10 04.2**	**-0.5**
RBALA	**Bur**	**1.74**	**99**	*eP*	**Pn**	**07 10 04.9**	**-0.4**
INVE	**Universidad In**	**1.75**	**319**	*eP*	**Pn**	**07 10 05.3**	**-0.2**
TIMP	**Tierras Morena**	**1.80**	**322**	*eP*	**Pn**	**07 10 07.7**	**+1.5**
TENO	**El Achiote**	**1.87**	**325**	*eP*	**Pn**	**07 10 06.9**	**-0.4**
JUD3	**Juan Diaz 3**	**1.91**	**302**	*eP*	**Pn**	**07 10 08.6**	**+0.8**
CUI	**Cuipilapa**	**1.95**	**320**	*eP*	**Pn**	**07 10 09.3**	**+1.0**
VMAR	**Armenia, Volca**	**2.04**	**324**	*eP*	**Pn**	**07 10 10.8**	**+1.3**
KKNTU	**Kakint***	**2.08**	**99**	*eP*	**Pn**	**07 10 09.6**	**-0.4**
ALIBA	**Liberia Airpor**	**2.17**	**311**	*eP*	**Pn**	**07 10 11.9**	**+0.7**
VRLE	**La Escondida,**	**2.17**	**318**	*eP*	**Pn**	**07 10 13.2**	**+1.8**
LAPC	**Finca la Perla**	**2.20**	**316**	*eP*	**Pn**	**07 10 12.8**	**+1.0**
ACON	**Acoyapa**	**3.06**	**336**	P	**Pn**	**07 10 22.0**	**-1.5**

*ATH **12** 07:14:26.5, 37°.59N×20°.84E, h14km±1km, ML2.6/13, Manual Solution by A.Papageorgiou First location: 2019/10/12 07:15:31, This location: 2019/10/12 07:38:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*THE **12** 07:14:27.5, 38°N±1°×21E±°, h13km±1km, M2.5/11, MLh2.5/11*
ISC 12 07:14:27.0±0.9, 37°.63N±0°.04×20°.88E±0°.03, h17km±5km, n31, σ0°43/56, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.06**	**306**	P	**Pg**	**07 14 30.4**	**+0.2**
KRI1				S	**Sg**	**07 14 32.4**	**+0.1**
LTHK	**Lithakia**	**0.09**	**338**	P	**Pg**	**07 14 30.3**	**-0.1**
LTHK				S	**Sg**	**07 14 32.4**	**-0.3**
LTHK	**Lithakia**	**0.09**	**338**	P	**Pg**	**07 14 30.0**	**-0.4**
LTHK				S	**Sg**	**07 14 32.3**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.20**	**347**	P	**Pg**	**07 14 31.8**	**0.0**
KYPS				S	**Sb**	**07 14 35.4**	**-0.2**
ORTH	**Orthonies,Zaky**	**0.27**	**327**	P	**Pb**	**07 14 33.7**	**+0.3**
ORTH				S	**Sb**	**07 14 37.7**	**0.0**
ORTH	**Orthonies,Zaky**	**0.27**	**327**	P	**Pb**	**07 14 33.7**	**+0.3**
ORTH				S	**Sb**	**07 14 38.2**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.33**	**38**	P	**Pg**	**07 14 33.6**	**-0.3**
CLEM				S	**Sg**	**07 14 38.9**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.46**	**349**	P	**Pg**	**07 14 35.9**	**-0.3**
RTZL				S	**Sg**	**07 14 42.9**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.54**	**335**	P	**Pg**	**07 14 37.4**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.54**	**335**	P	**Pg**	**07 14 37.1**	**-0.6**
PSDA				S	**Sb**	**07 14 45.6**	**+0.1**
VLS	**Valsamata**	**0.59**	**338**	P	**Pg**	**07 14 38.0**	**-0.6**
VLS				S	**Sg**	**07 14 46.5**	**-0.2**
VLS	**Valsamata**	**0.59**	**338**	P	**Pg**	**07 14 38.0**	**-0.7**
VLS				S	**Sb**	**07 14 47.1**	**0.0**
RLS	**Riolos of Patr**	**0.63**	**47**	P	**Pg**	**07 14 38.9**	**-0.6**
RLS				S	**Sg**	**07 14 48.0**	**0.0**
RLS	**Riolos of Patr**	**0.63**	**47**	P	**Pg**	**07 14 38.7**	**-0.8**
RLS				S	**Sg**	**07 14 48.0**	**0.0**
AXS	**Araxos**	**0.69**	**35**	P	**Pg**	**07 14 40.0**	**-0.5**
AXS				S	**Sg**	**07 14 49.7**	**-0.1**
DRO	**Drossia**	**0.73**	**64**	P	**Pg**	**07 14 41.2**	**-0.2**
DRO	**Drossia**	**0.73**	**64**	P	**Pg**	**07 14 41.2**	**-0.2**
DRO				S	**Sb**	**07 14 52.1**	**+0.9**
FSK	**Fiskardo**	**0.87**	**343**	P	**Pg**	**07 14 43.0**	**-0.9**
FSK				S	**Sb**	**07 14 55.6**	**+0.6**
ITM	**Ithomi**	**0.95**	**118**	P	**Pb**	**07 14 45.0**	**0.0**
ITM	**Ithomi**	**0.95**	**118**	P	**Pb**	**07 14 45.0**	**0.0**
ITM				S	**Sg**	**07 14 58.0**	**+0.2**
PYL2	**Kinigos**	**0.99**	**137**	P	**Pb**	**07 14 45.3**	**-0.3**
PYL2				S	**Sb**	**07 14 58.4**	**0.0**
EVGI	**Lefkada island**	**1.01**	**350**	P	**Pb**	**07 14 45.3**	**-0.7**
EVGI	**Lefkada island**	**1.01**	**350**	P	**Pb**	**07 14 45.5**	**-0.5**
EVGI				S	**Sn**	**07 15 00.4**	**+0.2**
PVO	**Paravola**	**1.11**	**27**	P	**Pb**	**07 14 47.7**	**-0.1**
PVO				S	**Sn**	**07 15 03.6**	**+0.9**
EFP	**Efpalio**	**1.14**	**45**	P	**Pb**	**07 14 47.9**	**-0.3**
EFP				S	**Sg**	**07 15 03.9**	**0.0**
LKD2	**Lefkada island**	**1.17**	**352**	P	**Pn**	**07 14 48.2**	**-0.5**
LKD2				S	**Sg**	**07 15 05.7**	**+0.7**
GUR	**Goura**	**1.20**	**75**	P	**Pn**	**07 14 48.7**	**-0.4**
GUR				S	**Sb**	**07 15 05.3**	**+0.6**
TSLK	**Tsoukalades, L**	**1.21**	**352**	P	**Pn**	**07 14 49.5**	**+0.3**
TSLK	**Tsoukalades, L**	**1.21**	**352**	P	**Pg**	**07 14 49.7**	**0.2**
TSLK				S	**Sg**	**07 15 06.2**	**+0.1**
ANX	**Ano Chora**	**1.27**	**40**	P	**Pn**	**07 14 49.9**	**-0.2**
ANX				S	**Sn**	**07 15 07.5**	**+0.7**

*IDC **12** 07:45:05.9±1.1, 35°.30N×28°.16E, h0km, mb3.8/7, mbtmp3.7/14, ML3.6/7, MS2.9/1, Error ellipse: s-maj=20.2km s-min=17.6km az=19.0*
*ISK **12** 07:45:09.3, 35°.15N×28°.28E, h20km, ML3.7/26*
*NIC **12** 07:45:10.7, 35°.13N×28°.27E, h35km±26km, Ml3.4/13*
*ATH **12** 07:45:11.2, 35°.28N×28°.29E, h58km±11km, ML3.6/5, Manual Solution by A.Papageorgiou First location: 2019/10/12 07:46:43, This location: 2019/10/12 07:56:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **12** 07:45:11.0, 35°.43N×28°.35E, h26km±3km, MW3.7*
*THE **12** 07:45:12.1, 35°N±5°×28°E±°, h51km±13km, M3.8/15, mb4.1/4, MLh3.5/15*
*GII **12** 07:45:16.2±0.0, 35°.240N±0°.002×29°.022E±0°.001, h20km, Mws3.5, confirmed*
ISC 12 07:45:10.0±1.2, 35°.19N±0°.04×28°.30E±0°.02, h32km±10km, n171, σ1°75/214, mb3.8/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.89**	**340**	P	**Pb**	**07 45 26.3**	**-0.6**
RGE1				S	**Sn**	**07 45 37.9**	**-0.2**
KARP	**Karpathos**	**1.00**	**291**	Pg	**Pn**	**07 45 28.6**	**+0.7**
KARP				Sg	**Sn**	**07 45 42.7**	**+1.8**
KARP	**Karpathos**	**1.00**	**291**	P	**Pn**	**07 45 28.5**	**+0.7**
KARP				S	**Sb**	**07 45 40.8**	**-0.8**
KARP	**Karpathos**	**1.00**	**291**	P	**Pn**	**07 45 28.3**	**+0.5**
KARP				S	**Sn**	**07 45 41.6**	**+0.8**
KARP				AML	AML	07 45 44.2	
	7.2nm,0.6s						
KARP				AML	AML	07 45 53.1	
	7.0nm,0.7s						
KARP	**Karpathos**	**1.00**	**291**	P	**Pn**	**07 45 28.6**	**+0.7**
KARP				S	**Sn**	**07 45 41.9**	**+1.0**
ARG	**Arkhangelos**	**1.03**	**352**	Pg	**Pb**	**07 45 29.6**	**+0.2**
ARG				Sg	**Sn**	**07 45 44.5**	**+2.8**
ARG	**Arkhangelos**	**1.03**	**352**	P	**Pn**	**07 45 28.1**	**-0.2**
ARG				S	**Sn**	**07 45 41.4**	**-0.3**
ARG	**Arkhangelos**	**1.03**	**352**	P	**Pn**	**07 45 28.3**	**-0.1**
ARG				S	**Sn**	**07 45 44.2**	**+2.5**
ARG				AML	AML	07 45 47.2	
	5.2nm,0.5s						
ARG				AML	AML	07 45 52.2	
	6.9nm,1.0s						
ARG	**Arkhangelos**	**1.03**	**352**	P	**Pn**	**07 45 27.9**	**-0.4**
ARG				S	**Sn**	**07 45 42.1**	**+0.4**
RDI1	**Rhodes Town Ha**	**1.26**	**357**	P	**Pb**	**07 45 32.5**	**-0.7**
RDI1				S	**Sn**	**07 45 47.0**	**-0.2**
KSL	**Kastellorizon**	**1.41**	**47**	P	**Pn**	**07 45 34.5**	**+1.0**
KSL				S	**Sn**	**07 45 51.9**	**+0.8**
KSL	**Kastellorizon**	**1.41**	**47**	P	**Pn**	**07 45 34.8**	**+1.3**
KSL				S	**Sb**	**07 45 53.8**	**+0.3**
KSL				AML	AML	07 46 18.8	
	1.6nm,1.0s						
KSL				AML	AML	07 46 20.9	
	0.9nm,0.7s						
KSL	**Kastellorizon**	**1.41**	**47**	P	**Pn**	**07 45 34.1**	**+0.6**
KSL				S	**Sn**	**07 45 51.6**	**+0.5**
IZZE	**Mula-Seydike**	**1.45**	**31**	P	**Pn**	**07 45 34.5**	**+0.4**
IZZE				S	**Sn**	**07 45 51.1**	**-0.9**
IZZE				*i* IAML		07 46 12.0	
	comp=N,693nm,0.5s						
IZZE				*i* IAML		07 46 16.0	
	comp=E,332nm,0.4s						
AKAS	**Kas**	**1.48**	**45**	Pn	**Pn**	**07 45 36.3**	**+1.6**
AKAS				Sn	**

17nm,0.3s,baz=90,slow=20,SNR=6.7
IDI Anoyia 2.79 273 P **Pn 07 45 53.6 +1.0**
IDI S **Sn 07 46 25.3 +0.1**
BUCA Burdur, Bucak- 2.81 40 P **Pn 07 45 53.6 +0.8**
APE Apeiranthos 2.92 311 P **Pn 07 45 54.3 -0.1**
BCK Bucak 2.92 39 Pn **Pn 07 45 56.7 +2.3**
KIRA zmir-Kiraz 3.00 1 P **Pn 07 45 52.2 -3.2**
ODEM Odemis-Izmir 3.08 357 Pn **Pn 07 45 58.9 +2.3**
PRNS Prines Rethymn 3.11 274 P **Pn 07 45 59.4 +2.5**
PASA Karahalli, USA 3.29 16 P **Pn 07 45 58.3 -1.2**
MANT Manisa 3.30 3 P **Pn 07 46 00.7 +1.0**
AKMS Akamas 3.31 92 P **Pn 07 46 01.0 +1.3**
AKMS S **Sn 07 46 39.2 +1.2**
AKMS AML AML 07 46 42.0
0.3nm,0.6s
AKMS AML AML 07 46 47.1
0.3nm,0.5s
AKMS Akamas 3.31 92 P **Pn 07 46 00.9 +1.3**
KULA Kula-Manisa 3.33 5 Pn **Pn 07 46 02.8 +2.8**
KZIL AFYON_Kizioren 3.40 25 P **Pn 07 46 02.2 +1.2**
GAZI Gazipasa 3.43 71 Pn **Pn 07 46 02.3 +1.0**
BAGO Egridir - ISPA 3.44 35 P **Pn 07 46 03.2 +1.7**
URLA Izmir 3.44 337 Pn **Pn 07 46 03.9 +2.4**
GVD Gavdhos 3.48 265 P **Pn 07 46 03.8 +1.8**
GVD S **Sn 07 46 43.0 +1.0**
GVD Gavdhos 3.48 265 P **Pn 07 46 03.3 +1.3**
GVD S **Sn 07 46 42.1 +0.1**
ALFC Alefka 3.52 89 P **Pn 07 46 03.9 +1.3**
ALFC S **Sn 07 46 45.6 +2.5**
ALFC AML AML 07 46 45.8
0.3nm,0.8s
ALFC AML AML 07 46 52.8
0.3nm,0.6s
ALFC Alefka 3.52 89 P **Pn 07 46 03.5 +0.9**
NATA Nata 3.53 96 P **Pn 07 46 04.2 +1.6**
NATA S **Sn 07 46 45.0 +1.6**
NATA AML AML 07 46 50.0
1.0nm,0.8s
NATA AML AML 07 46 57.6
0.6nm,0.7s
NATA Nata 3.53 96 P **Pn 07 46 03.9 +1.3**
AFYN Afyon-Dinar-K 3.54 29 P **Pn 07 46 07.7 +4.7**
USAK Uak-Merkez 3.56 9 P **Pn 07 46 03.5 +0.3**
SEDI Konya, Seydise 3.58 50 P **Pn 07 46 07.1 +3.6**
SEYD Seydisehir-KON 3.61 51 Pn **Pn 07 46 06.6 +2.7**
BNAZ Uak-Banaz 3.70 20 P **Pn 07 46 05.2 0.0**
GORD Gordes-Manisa 3.71 358 Pn **Pn 07 46 07.7 +2.5**
TROD Troodos 3.75 92 P **Pn 07 46 06.6 +0.6**
TROD S **Sn 07 46 51.5 +2.3**
TROD AML AML 07 46 59.6
0.2nm,0.6s
TROD AML AML 07 47 02.1
0.2nm,0.4s
APOL The Sanctuary 3.78 97 P **Pn 07 46 07.8 +1.6**
APOL S **Sn 07 46 51.6 +2.0**
APOL AML AML 07 46 58.6
0.3nm,0.5s
APOL AML AML 07 47 06.5
0.2nm,0.4s
YVAC Isparta, Yalva 3.87 37 P **Pn 07 46 09.6 +2.1**
XYLS Xyliatos 3.90 91 P **Pn 07 46 08.8 +1.0**
XYLS S **Sn 07 46 55.8 +3.4**
XYLS AML AML 07 47 02.2
0.2nm,0.5s
XYLS AML AML 07 47 05.8
0.2nm,0.5s
GDZ Gediz 4.00 13 P **Pn 07 46 10.3 +1.1**
ASGA Asgata 4.08 94 P **Pn 07 46 11.5 +1.2**
ASGA S **Sn 07 46 58.9 +2.0**
ASGA AML AML 07 47 04.5
0.4nm,0.6s
ASGA AML AML 07 47 09.1
0.3nm,0.4s
ASGA Asgata 4.08 94 P **Pn 07 46 11.2 +1.0**
CSS Mathiatis 4.13 92 P **Pn 07 46 12.9 +1.9**
CSS S **Sn 07 47 01.2 +3.0**
CSS AML AML 07 47 04.8
0.2nm,0.6s
CSS AML AML 07 47 13.3
0.1nm,0.4s
CSS Mathiatis 4.13 92 P **Pn 07 46 12.1 +1.1**
TVSB Tavsanli 4.35 12 Pn **Pn 07 46 17.2 +3.2**
MVOU Mavrovouni 4.37 91 P **Pn 07 46 15.9 +1.7**
MVOU S **Sn 07 47 07.0 +2.8**
MVOU AML AML 07 47 18.2
0.1nm,0.8s
MVOU AML AML 07 47 20.9
0.1nm,0.5s
KTHA Kythira Island 4.39 285 Pn **Pn 07 46 16.4 +1.9**
KTHA Kythira Island 4.39 285 P **Pn 07 46 15.3 +0.8**
VLY Voula,Athens 4.50 307 P **Pn 07 46 16.6 +0.6**
PTL Penteli 4.57 310 P **Pn 07 46 17.9 +0.9**
ATHU Athens Univers 4.57 309 P **Pn 07 46 17.8 +0.8**
VLI Veliai 4.61 291 P **Pn 07 46 17.8 +0.3**
VILL Villia 4.99 308 P **Pn 07 46 23.6 +0.9**
LTK Loutraki 5.14 305 P **Pn 07 46 25.9 +1.2**
6.7nm,1.0s
VLX Vlachokerasia 5.25 296 P **Pn 07 46 27.8 +1.4**
8.5nm,0.5s
KLV Kalavryta, Ach 5.71 302 P **Pn 07 46 34.5 +1.8**
18nm,0.6s
AXAR Agios Charalam 5.75 310 P **Pn 07 46 34.9 +1.7**
34nm,0.7s
HNTI Hanita 6.08 108 P **Pn 07 46 37.5 -0.2**
OFRI `Ofer 6.12 113 P **Pn 07 46 39.2 +0.9**
OFRI `Ofer 6.12 113 S **Sn 07 47 42.3 -5.0**
ANX Ano Chora 6.14 305 P **Pn 07 46 39.8 +1.2**
BRTR Keskin Array B 6.20 42 Pn **Pn 07 46 40.8 +1.3**
0.5nm,0.3s,baz=226,slow=14,SNR=5.7
BRTR Sn **Sn 07 47 49.6 +0.2**
0.4nm,0.3s,baz=217,slow=26,SNR=3.7
0.9nm,0.3s
MMA0B Mount Meron ar 6.28 108 P **Pn 07 46 40.9 +0.4**
MMA0B Mount Meron ar 6.28 108 S **Sn 07 47 45.5 -5.7**
MMAI Mount Meron Ar 6.28 108 Pn **Pn 07 46 40.7 +0.2**
6.7nm,0.3s,baz=300,slow=12,SNR=22
MMAI Sn **Sn 07 47 51.4 +0.2**
9.5nm,0.3s,baz=307,slow=36,SNR=5.5
2.9nm,0.3s
SLTI Sal'it 6.34 116 P **Pn 07 46 41.6 +0.3**
SLTI Sal'it 6.34 116 S **Sn 07 47 48.0 -4.7**
GEM Giv'at Ha'Em 6.41 106 P **Pn 07 46 41.8 -0.5**
NATI Neve Ativ 6.45 105 P **Pn 07 46 43.3 +0.5**
MMLI Mount Malkishu 6.53 113 P **Pn 07 46 44.6 +0.6**
MMLI Mount Malkishu 6.53 113 S **Sn 07 47 52.8 -4.6**
KSHT Keshet 6.61 107 P **Pn 07 46 46.1 +1.1**
AMAZ Amatzia 6.63 122 P **Pn 07 46 46.6 +1.3**
AMAZ Amatzia 6.63 122 S **Sn 07 47 56.4 -3.4**
KZIT Kziot 6.67 128 P **Pn 07 46 47.2 +1.4**
HMDT Nahal Hemdat 6.70 114 P **Pn 07 46 47.0 +0.8**
YTIR Yattir 6.87 122 P **Pn 07 46 49.5 +0.9**
YTIR Yattir 6.87 122 S **Sn 07 48 03.0 -2.7**
VLS Valsamata 6.87 298 S **Sn 07 48 05.4 -0.4**
DSI Dead Sea 6.94 119 P **Pn 07 46 50.7 +1.2**
DSI Dead Sea 6.94 119 S **Sn 07 48 04.3 -3.0**
MSBI Mazada 7.06 121 P **Pn 07 46 53.0 +1.8**
MSBI Mazada 7.06 121 S **Sn 07 48 07.5 -2.9**
GHAJ Ghor Haditha 7.21 120 P **Pn 07 46 54.7 +1.4**
GHAJ Ghor Haditha 7.21 120 S **Sn 07 48 11.2 -2.9**
ZFRI Zfri 7.41 127 P **Pn 07 46 57.2 +1.3**
ZFRI Zfri 7.41 127 S **Sn 07 48 16.7 -2.2**
KRMI Paran Flat 7.41 131 P **Pn 07 46 57.8 +1.7**
KRMI Paran Flat 7.41 131 S **Sn 07 48 17.4 -1.6**
PRNI Paran 7.43 129 P **Pn 07 46 57.9 +1.7**
PRNI Paran 7.43 129 S **Sn 07 48 17.7 -1.7**
HRFI Mount Harif 7.66 130 P **Pn 07 47 01.3 +1.9**
HRFI Mount Harif 7.66 130 S **Sn 07 48 23.2 -2.1**
MBRI Mt Berech 7.75 132 P **Pn 07 47 03.0 +2.2**
MBRI Mt Berech 7.75 132 S **Sn 07 48 26.0 -1.7**
ASF Jabal al Asfar 7.77 110 Pn **Pn 07 47 01.5 +0.5**
0.8nm,0.3s,baz=318,slow=4.7,SNR=3.4
2.2nm,0.4s
EIL Elat 7.87 133 Pn **Pn 07 47 03.5 +1.3**
2.6nm,0.3s,baz=354,slow=9.2,SNR=22
EIL Sn **Sn 07 48 27.9 -2.4**
7.7nm,0.3s,baz=317,slow=17,SNR=12
4.9nm,0.3s
EIL Elat 7.87 133 P **Pn 07 47 04.8 +2.5**
EIL Elat 7.87 133 S **Sn 07 48 28.7 -1.5**
MLR Muntele Rosu 10.44 351 Pn **Pn 07 47 38.2 +0.6**
0.2nm,0.3s,baz=142,slow=18,SNR=1.8
1.1nm,0.8s
AKASG Malin Array Be 15.52 2 Pn **Pn 07 48 45.6 -0.7**
0.5nm,0.3s,baz=186,slow=10.0,SNR=1.9
AKASG LR LR 07 55 33.6
comp=Z,38nm,18.8s,baz=234,slow=41
0.1nm,0.2s
GERES GERESS Array B 17.39 326 P **Pn 07 49 09.0 -1.2**
baz=135,slow=11,SNR=5.9
0.6nm,0.7s
ESDC Sonseca Array 25.93 290 P **P 07 50 37.5 -2.0**
1.2nm,0.5s,baz=89,slow=9.8,SNR=16
1.2nm,0.5s
FINES FINESS Array B 26.31 358 P **P 07 50 41.3 -1.2**
5.0nm,1.1s,baz=187,slow=9.7,SNR=3.5
5.0nm,1.1s
HFS Hagfors 26.70 344 P **P 07 50 44.3 -1.7**
2.0nm,0.7s,baz=148,slow=8.5,SNR=2.3
2.0nm,0.7s
TORD Torodi Ar. Bea 32.54 234 P **P 07 51 40.0 +1.7**
0.5nm,0.7s,baz=45,slow=10,SNR=2.4
0.5nm,0.7s
ARCES ARCESS Array B 34.43 358 P **P 07 51 52.9 -1.3**
1.0nm,0.7s,baz=180,slow=7.9,SNR=7.4
1.0nm,0.7s
KURBB Kurchatov Arra 39.10 51 P **P 07 52 35.5 +1.4**
0.7nm,0.6s,baz=273,slow=8.8,SNR=4.0
0.7nm,0.6s
MKAR Makanchi Array 41.60 57 P **P 07 52 56.9 +1.9**
0.2nm,0.5s,baz=277,slow=9.6,SNR=2.7
0.2nm,0.5s

*NNC **12** 07:47:27.2±1.1, 49°.99N×78°.42E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=10.6km s-min=4.3km az=76.0, Suspected Mining explosion.*
*IDC **12** 07:47:28.3±1.3, 50°.05N×78°.80E, h0km, mbtmp2.3/2, ML1.8/2, Error ellipse: s-maj=14.4km s-min=7.9km az=62.0*
ISC 12 07:47:27.9±1.4,**50°.01N**±0°.05×**78°.4E**±0°.1,**h0**km,**n19,** σ0**95**/27,**16C-6D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**5**	⇑P	**Pg**	**07 47 39.1**	**+0.3**
KUR07				⇑S	**Sb**	**07 47 48.1**	**-1.4**
KUR06	**Kurchatov Arra**	**0.59**	**5**	⇑P	**Pg**	**07 47 39.6**	**+0.3**
KUR14	**Kurchatov Arra**	**0.61**	**9**	⇑P	**Pg**	**07 47 39.3**	**-0.3**
KUR14				⇓S	**Sg**	**07 47 48.4**	**+0.9**
KUR15	**Kurchatov Arra**	**0.61**	**7**	⇑P	**Pg**	**07 47 39.5**	**-0.1**
KUR15				⇓S	**Sg**	**07 47 48.5**	**+0.9**
KURBB	**Kurchatov Arra**	**0.61**	**5**	Pg	**Pg**	**07 47 39.5**	**-0.2**
0.3nm,0.3s,baz=165,slow=19,SNR=17							
KURBB				Lg	Lg	07 47 48.8	
0.8nm,0.3s,baz=162,slow=33,SNR=27							
KURBB	**Kurchatov Arra**	**0.61**	**5**	⇓P	**Pg**	**07 47 39.6**	**0.0**
KURBB				⇓S	**Sb**	**07 47 49.4**	**-1.3**
65nm,0.9s							
KUR16	**Kurchatov Arra**	**0.62**	**4**	⇑P	**Pg**	**07 47 39.8**	**+0.1**
KUR16				⇑S	**Sg**	**07 47 48.7**	**+1.0**
KUR17	**Kurchatov Arra**	**0.62**	**2**	⇑P	**Pg**	**07 47 40.0**	**+0.2**
KUR17				⇑S	**Sg**	**07 47 49.2**	**+1.4**
KUR05	**Kurchatov Arra**	**0.63**	**6**	⇑P	**Pg**	**07 47 39.8**	**-0.2**
KUR05				⇑S	**Sg**	**07 47 48.9**	**+0.7**
KUR04	**Kurchatov Arra**	**0.65**	**6**	⇑P	**Pg**	**07 47 40.3**	**-0.1**
KUR04				⇑S	**Sg**	**07 47 49.6**	**+0.7**
KURK	**Kurchatov**	**0.71**	**9**	⇑P	**Pg**	**07 47 41.0**	**-0.5**
0.6nm,0.4s							
KURK				⇓S	**Sg**	**07 47 51.3**	**+0.5**
12nm,0.8s							
SEM	**Semipalatinsk**	**1.23**	**70**	P	**Pn**	**07 47 54.7**	**+2.2**
7.1nm,0.1s							
SEM				S	**Sg**	**07 48 07.0**	**-0.3**
17nm,0.1s							
BRZS	**Berezniki**	**3.72**	**272**	Pg	Pg	07 48 46.5	+7.5
1.1nm,0.4s							
BRZS				Lg	Lg	07 49 33.9	
3.3nm,0.4s							
MAKZ	**Makanchi**	**3.98**	**142**	⇑Pg	**Pb**	**07 48 39.7**	**+0.8**
0.9nm,0.7s							
MAKZ				⇓Lg	Lg	07 49 30.1	
3.3nm,0.6s							
MK31	**Makanchi Array**	**4.12**	**140**	Pn	**Pn**	**07 48 30.9**	**-1.2**
0.4nm,0.6s,baz=322,slow=9.7,SNR=5.4							
MK31				⇑Pg	**Pb**	**07 48 41.3**	**+0.2**
0.5nm,0.6s,baz=322,slow=13,SNR=5.7							
MK31				Lg	Lg	07 49 35.2	
4.1nm,0.6s,baz=324,slow=28,SNR=12							
MKAR	**Makanchi Array**	**4.12**	**140**	Pn	**Pn**	**07 48 32.1**	**+0.1**
0.1nm,0.3s,baz=324,slow=10,SNR=7.2							
MKAR				Lg	Lg	07 49 32.6	
0.8nm,0.3s,baz=324,slow=28,SNR=20							
0.2nm,0.5s							
ZSN	**Zaisan**	**4.96**	**119**	Pg	Pg	07 49 08.7	+5.7
2.8nm,0.2s							
ZSN				Lg	Lg	07 50 11.8	
4.8nm,0.3s							
ZALV	**Zalesovo Beam**	**5.57**	**43**	Pn	**Pn**	**07 48 49.9**	**-2.1**
0.1nm,0.3s,baz=225,slow=14,SNR=1.8							
0.3nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.57**	**43**	I	I	08 18 40.0	
baz=224,slow=318,SNR=4.2							

*UCR **12** 07:55:09.8±1.2, 5°.26N×82°.63W, h35km±83km, MW3.5*
*CATAC **12** 07:55:10.5±0.9, 5°N±4°×8°3W±°, h33km±16km, M4.1/15, mb4.1/7, mB4.9/3, MLv4.1/15, Mw(mB)4.2/3, Error ellipse: s-maj=10.2km s-min=5.0km az=40.4, confirmed*
ISC 12 07:55:08.2±1.7,**5°.3N**±0°.1×**82°.7W**±0°.1,**h12**km,**n92,** σ0**86**/97,**1D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**3.21**	**348**	S	**Sn**	**07 56 36.6**	**0.0**
PIRO	**Carate, Puerto**	**3.21**	**348**	P	**Pn**	**07 55 57.6**	**-0.8**
PIRO	**Carate, Puerto**	**3.21**	**348**	*eP*	**Pn**	**07 55 56.8**	**-1.6**
PIRO				*eS*	**Sn**	**07 56 35.3**	**-1.2**
CDITO	**Canoas**	**3.31**	**356**	S	**Sn**	**07 56 39.0**	**-0.1**
CDITO	**Canoas**	**3.31**	**356**	P	**Pn**	**07 55 59.1**	**-0.8**
DMCAL	**E. de Neily**	**3.40**	**358**	*eP*	**Pn**	**07 56 00.7**	**-0.5**
JEFFS	**S de V. Baru**	**3.40**	**2**	*eP*	**Pn**	**07 56 00.2**	**-1.0**
BANCO	**falda S V. Bar**	**3.45**	**2**	*eP*	**Pn**	**07 56 01.1**	**-0.8**
BANCO				*eS*	**Sn**	**07 56 41.0**	**-1.8**
WILLF	**Boquete**	**3.49**	**4**	⇓*iP*	**Pn**	**07 56 01.3**	**-1.1**
BQTLY	**Boquete Panama**	**3.49**	**3**	*eP*	**Pn**	**07 56 01.5**	**-1.0**
BQTLY				*eS*	**Sn**	**07 56 44.2**	**+0.3**
TBS2		**3.52**	**0**	*eP*	**Pn**	**07 56 03.1**	**+0.2**
BRU2	**Volcan**	**3.52**	**360**	P	**Pn**	**07 56 01.8**	**-1.1**
BRU2	**Volcan**	**3.52**	**360**	*eP*	**Pn**	**07 56 02.0**	**-1.0**
BRU2				*eS*	**Sn**	**07 56 43.4**	**-1.2**
DAP26	**falda E V. Bar**	**3.52**	**4**	*eP*	**Pn**	**07 56 01.5**	**-1.4**
RBALA	**Bur**	**3.64**	**8**	*eP*	**Pn**	**07 56 04.3**	**-0.1**
PBNVO	**Pueblo Nuevo,**	**3.65**	**7**	*eP*	**Pn**	**07 56 04.0**	**-0.5**
KKNTU	**Kakintº**	**3.67**	**13**	*eP*	**Pn**	**07 56 04.0**	**-0.8**
ALCO	**Alturas Coton,**	**3.68**	**357**	*eP*	**Pn**	**07 56 04.8**	**-0.3**
PANP	**Palmar Norte**	**3.77**	**348**	*eP*	**Pn**	**07 56 05.7**	**-0.4**
EDP2	**Potrero Grande**	**3.78**	**352**	*eP*	**Pn**	**07 56 06.0**	**-0.3**
OCHAL	**Ojochal**	**3.95**	**346**	P	**Pn**	**07 56 08.2**	**-0.4**
OCHAL	**Ojochal**	**3.95**	**346**	S	**Sn**	**07 56 55.6**	**+0.8**
BURE	**Buenos Aires**	**3.96**	**350**	*eP*	**Pn**	**07 56 08.8**	**0.0**
EDPE	**Pejibaye, P**	**3.99**	**347**	*eP*	**Pn**	**07 56 08.5**	**-0.7**
ZEDO	**Perez Zeledon**	**4.20**	**346**	*eP*	**Pn**	**07 56 11.8**	**-0.4**
QUEP	**Quepos**	**4.41**	**340**	S	**Sn**	**07 57 06.3**	**-0.1**
QUEP	**Quepos**	**4.41**	**340**	P	**Pn**	**07 56 14.0**	**-1.0**
LLNJ	**Naranjito**	**4.43**	**341**	*eP*	**Pn**	**07 56 14.6**	**-0.7**
LAES	**El Progreso Va**	**4.50**	**355**	*eP*	**Pn**	**07 56 17.0**	**+0.8**
PIEC	**Cerro El Cedra**	**4.53**	**344**	*eP*	**Pn**	**07 56 16.5**	**-0.4**
RAZU	**San Marcos de**	**4.58**	**343**	*eP*	**Pn**	**07 56 17.6**	**0.0**
PITB	**Pirrs, San**	**4.59**	**343**	*eP*	**Pn**	**07 56 17.7**	**+0.1**
PAR1A	**Puntarenas Pro**	**4.60**	**340**	*eP*	**Pn**	**07 56 17.1**	**-0.5**
PICV	**PH. Pirrs**	**4.61**	**341**	*eP*	**Pn**	**07 56 17.1**	**-0.7**
VERH	**Veragua Rainfo**	**4.68**	**354**	*eP*	**Pn**	**07 56 19.4**	**+0.7**
REPA	**Paraso**	**4.70**	**345**	*eP*	**Pn**	**07 56 19.3**	**+0.2**
TURIB	**Turrialba**	**4.74**	**348**	*eP*	**Pn**	**07 56 19.8**	**+0.3**
VINA	**Juan Vinas**	**4.74**	**347**	*eP*	**Pn**	**07 56 20.3**	**+0.7**
ACOS	**Acosta**	**4.76**	**342**	*eP*	**Pn**	**07 56 19.1**	**-0.8**
PCAYA	**Pacayas**	**4.78**	**346**	*eP*	**Pn**	**07 56 21.1**	**+0.9**
BCIP	**Isla Barro Col**	**4.80**	**36**	P	**Pn**	**07 56 20.5**	**+0.2**
BCIP	**Isla Barro Col**	**4.80**	**36**	*eP*	**Pn**	**07 56 20.4**	**0.0**
ABRB	**Las Abras (San**	**4.84**	**348**	*eP*	**Pn**	**07 56 22.0**	**+0.9**
CVTV	**Tajo**	**4.85**	**347**	*eP*	**Pn**	**07 56 21.9**	**+0.7**
RESJ	**San Isidro (Tu**	**4.85**	**349**	*eP*	**Pn**	**07 56 22.0**	**+0.9**
VICA	**Volcano Irazu**	**4.85**	**346**	*eP*	**Pn**	**07 56 21.9**	**+0.5**
CVTQ	**Turrialba Volc**	**4.85**	**347**	*eP*	**Pn**	**07 56 21.6**	**+0.2**
PURI	**Puriscal**	**4.85**	**340**	*eP*	**Pn**	**07 56 20.6**	**-0.5**
LUJA	**Lujan**	**4.85**	**343**	*eP*	**Pn**	**07 56 20.9**	**-0.3**
VTR0	**Volcan Turrial**	**4.86**	**347**	*eP*	**Pn**	**07 56 22.1**	**+0.6**
CVTR	**Volcan Turrial**	**4.86**	**347**	*eP*	**Pn**	**07 56 22.7**	**+1.1**
CORON	**Coronado**	**4.88**	**344**	*eP*	**Pn**	**07 56 22.3**	**+0.7**
LCOCO	**El Coco**	**4.88**	**350**	*eP*	**Pn**	**07 56 22.9**	**+1.3**
CVIMO	**Finca Echandi**	**4.91**	**345**	*eP*	**Pn**	**07 56 22.5**	**+0.4**
BELE	**Belen**	**4.93**	**342**	*eP*	**Pn**	**07 56 21.8**	**-0.5**
HDC	**Heredia**	**4.94**	**343**	*eP*	**Pn**	**07 56 22.6**	**+0.2**
HEME	**Heredia, Merce**	**4.94**	**343**	*eP*	**Pn**	**07 56 23.4**	**+1.1**
CBL1	**Cabuya**	**4.94**	**331**	*eP*	**Pn**	**07 56 21.4**	**-0.9**
ATEO	**Atenas**	**5.00**	**340**	*eP*	**Pn**	**07 56 22.6**	**-0.5**
PILE	**Guapiles**	**5.06**	**347**	*eP*	**Pn**	**07 56 24.5**	**+0.6**
CAZU	**Cerro Azul, Pa**	**5.11**	**39**	*eP*	**Pn**	**07 56 24.9**	**+0.1**
RAMO	**San Ramon**	**5.13**	**340**	*eP*	**Pn**	**07 56 25.0**	**0.0**
RAMO				*eS*	**Sn**	**07 57 23.9**	**-0.3**
CARI	**Cariari**	**5.19**	**348**	*eP*	**Pn**	**07 56 27.1**	**+1.4**
VPL2	**V. Platanar**	**5.30**	**341**	*eP*	**Pn**	**07 56 27.5**	**0.0**
NYURE	**Nandayure**	**5.37**	**332**	*eP*	**Pn**	**07 56 27.4**	**-0.7**
TRT2	**Tortugero**	**5.38**	**349**	P	**Pn**	**07 56 29.4**	**+1.1**
TRT2	**Tortugero**	**5.38**	**349**	S	**Sn**	**07 57 30.4**	**+0.2**
TRT2	**Tortugero**	**5.38**	**349**	*eP*	**Pn**	**07 56 29.1**	**+0.8**
ITAL	**Pital**	**5.41**	**343**	*eP*	**Pn**	**07 56 28.9**	**+0.2**
SOCE	**Pocosol**	**5.46**	**339**	S	**Sn**	**07 57 33.2**	**+1.0**
SOCE	**Pocosol**	**5.46**	**339**	P	**Pn**	**07 56 29.7**	**+0.3**
SOCE	**Pocosol**	**5.46**	**339**	*eP*	**Pn**	**07 56 29.6**	**+0.2**
MTEVE	**Monteverde**	**5.47**	**337**	*eP*	**Pn**	**07 56 29.7**	**-0.1**
JUNT	**Juntas**	**5.49**	**336**	*eP*	**Pn**	**07 56 29.6**	**-0.3**
JTS	**Las Juntas de**	**5.50**	**336**	*eP*	**Pn**	**07 56 29.1**	**-0.8**
CASO	**Castillo**	**5.54**	**338**	*eP*	**Pn**	**07 56 31.1**	**+0.4**
FORC	**Fortuna**	**5.55**	**339**	*eP*	**Pn**	**07 56 31.3**	**+0.6**
ARE1	**Arenal 1**	**5.56**	**339**	*eP*	**Pn**	**07 56 31.5**	**+0.7**
VARE2	**V. Arenal**	**5.56**	**339**	*eP*	**Pn**	**07 56 31.6**	**+0.6**
CEDE	**Laguna Cedeo**	**5.58**	**339**	*eP*	**Pn**	**07 56 31.7**	**+0.5**
TABAC	**Tabacon**	**5.62**	**338**	*eP*	**Pn**	**07 56 32.3**	**+0.6**
JUD3	**Juan Diaz 3**	**5.66**	**330**	*eP*	**Pn**	**07 56 31.5**	**-0.7**
CNAS	**Canas**	**5.68**	**335**	*eP*	**Pn**	**07 56 33.6**	**+1.1**
QUEB	**Quebradon, Cot**	**5.78**	**338**	*eP*	**Pn**	**07 56 34.3**	**+0.4**
TENO	**El Achiote**	**5.88**	**337**	*eP*	**Pn**	**07 56 35.0**	**-0.3**
CUI	**Cuipilapa**	**5.92**	**335**	*eP*	**Pn**	**07 56 39.8**	**+4.1**
ALIBA	**Liberia Airpor**	**6.03**	**332**	*eP*	**Pn**	**07 56 37.5**	**+0.2**
VMAR	**Armenia, Volca**	**6.04**	**336**	*eP*	**Pn**	**07 56 37.7**	**+0.3**
OTAV	**Otavalo**	**6.52**	**140**	P	**Pn**	**07 56 42.9**	**-1.5**
HELC	**Santa Helena**	**7.16**	**82**	P	**Pn**	**07 56 55.0**	**+1.8**
FLOC	**Florencia**	**7.89**	**117**	P	**Pn**	**07 57 03.1**	**+0.2**
PRAC	**Prado**	**7.90**	**101**	P	**Pn**	**07 57 04.1**	**+1.0**

*IDC **12** 07:57:25.1±1.6, 13°.88N×91°.51W, h0km, mb3.6/3, mbtmp4.0/7, ML2.3/2, MS2.6/2, Error ellipse: s-maj=21.2km s-min=15.5km az=157.0*
*CATAC **12** 07:57:27.3±0.4, 14°N±2°×9°1W±°, h23km±3km, M4.7/33, MLv4.7/33, Error ellipse: s-maj=5.5km s-min=2.6km az=39.3, confirmed*
*GCG **12** 07:57:28.2±2.1, 13°.84N×91°.41W, h38km±16km, MD5.0, ML4.8, MW3.9*
*NEIC **12** 07:57:29.9±2.5, 13°.87N±0°.08×91°.37W±0°.04, h53km±15km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=2.3km az=205.0*
*SNET **12** 07:57:58.9±0.8, 13°.83N×91°.46W, h36km±5km, ML4.5*
ISC 12 07:57:28.9±1.1,**13°.80N**±0°.05×**91°.40W**±0°.04,**h36**km±2km, **n152,** σ1**29**/170,**mb3.8**/4,**14C-9D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.63**	**2**	*i* P	**Pn**	**07 57 44.3**	**+2.8**
STG2				*eS*	**Sn**	**07 57 56.3**	**+5.9**
RTAL	**Retalhuleu**	**0.77**	**339**		**Pn**	**07 57 42.4**	**-0.8**
RTAL	**Retalhuleu**	**0.77**	**339**	⇓*iP*	**Pn**	**07 57 42.4**	**-0.8**
RTAL				*eS*	**Sn**	**07 57 53.5**	**-0.2**
RTAL	**Retalhuleu**	**0.77**	**339**	⇓P	**Pn**	**07 57 42.4**	**-0.8**
ESSG	**Sabana Grande**	**0.80**	**44**	*i* P	**Pn**	**07 57 42.3**	**-1.4**
ESSG				*eS*	**Sn**	**07 57 53.5**	**-1.0**
ESSJ	**San Jos, E**	**0.91**	**105**	*i* P	**Pn**	**07 57 41.1**	**-3.9**
FG8	**Yepocapa, Chim**	**0.94**	**61**	*i* P	**Pn**	**07 57 42.4**	**-3.2**
FG8				*i* S	**Sn**	**07 57 53.3**	**-4.6**
FG16	**Alotenango, Sa**	**0.98**	**61**	*i* P	**Pn**	**07 57 43.4**	**-3.0**
FG16				IAML		07 58 06.1	
comp=N,110μm,0.3s							
SOKI	**Kika Raxquin**	**1.01**	**360**	*eP*	**Pn**	**07 57 46.0**	**-1.0**
SOKI				*eS*	**Sn**	**07 57 58.8**	**-1.3**
SOKI				IAML		07 57 59.7	
comp=E,19μm,0.3s							
QUEO	**Labor Ovalle**	**1.07**	**354**	*eP*	**Pn**	**07 57 46.9**	**-0.7**
PCG5	**San Vicente Pa**	**1.08**	**67**	*i* P	**Pn**	**07 57 44.6**	**-2.9**
GCG4	**OSOP**	**1.15**	**47**	*i* P	**Pn**	**07 57 48.4**	**-0.2**
SMCA	**Catarina**	**1.23**	**328**	*i* P	**Pn**	**07 57 48.1**	**-1.5**
SMCA				*eS*	**Sn**	**07 58 03.5**	**-1.5**
FAME	**Alcaldia de Sa**	**1.35**	**88**	S	**Sn**	**07 58 06.4**	**-1.5**
FAME	**Alcaldia de Sa**	**1.35**	**88**	⇑P	**Pn**	**07 57 50.0**	**-1.1**
THIG		**1.38**	**323**	*i* P	**Pn**	**07 57 50.6**	**-1.0**
THIG				*eS*	**Sn**	**07 58 07.8**	**-0.8**
THIG				IAML		07 58 08.8	
comp=E,8μm,0.4s							
APG	**El Apazote**	**1.50**	**37**	Pg	**Pn**	**07 57 53.6**	**+0.2**
comp=E,34nm,0.3s,baz=221,slow=18,SNR=994							
APG				Lg	Lg	07 58 13.4	
comp=E,49nm,0.3s,baz=227,slow=19,SNR=44							
APG	**El Apazote**	**1.50**	**37**	*i* P	**Pn**	**07 57 53.7**	**+0.2**
APG				*eS*	**Sn**	**07 58 13.2**	**+1.3**
QUIS	**Sacapulas**	**1.51**	**11**	*eP*	**Pn**	**07 57 54.2**	**+0.7**
QUIS				*eS*	**Sn**	**07 58 13.8**	**+1.7**
QUIS				IAML		07 58 16.0	

MTO3	Montecristo	2.07	73	⇑P		Pn	07 58 00.9	-0.4
UEES	Universidad Ev	2.10	92	eP		Pn	07 58 01.7	+0.1
UEES	Universidad Ev	2.10	92	⇑P		Pn	07 58 01.5	-0.1
SEMO	Seminario San	2.12	92	P		Pn	07 58 02.1	+0.2
SEMO	Seminario San	2.12	92	S		Sn	07 58 27.0	+0.1
ESQI	Esquipulas	2.14	69			Pn	07 58 02.1	0.0
ESQI	Esquipulas	2.14	69	eP		Pn	07 58 02.0	-0.1
UTEC	Universidad Te	2.14	92	S		Sn	07 58 28.6	+1.1
UTEC	Universidad Te	2.14	92	P		Pn	07 58 02.5	+0.4
IGN	Direccin Gen	2.17	92	P		Pn	07 58 03.1	+0.6
IGN	Direccin Gen	2.17	92	S		Sn	07 58 29.9	+1.6
LOMA	Loma Larga	2.17	94	eP		Pn	07 58 02.8	+0.2
LOMA	Loma Larga	2.17	94	S		Sn	07 58 29.3	+0.9
LOMA	Loma Larga	2.17	94	⇓P		Pn	07 58 02.8	+0.2
UDBS	Universidad Do	2.19	92	P		Pn	07 58 03.2	+0.5
UDBS	Universidad Do	2.19	92	S		Sn	07 58 30.7	+2.1
LFU	La Fuente	2.23	91	eP		Pn	07 58 03.7	+0.4
LFRS	El Faro	2.28	94	eP		Pn	07 58 04.5	+0.4
LBRS	Las Brisas	2.29	91	eP		Pn	07 58 04.6	+0.3
PAVA	Las Pavas	2.40	92	eP		Pn	07 58 06.0	+0.3
PAVA	Las Pavas	2.40	92	P		Pn	07 58 05.8	+0.1
PAVA	Las Pavas	2.40	92	S		Sn	07 58 37.5	+3.6
LLGN	La Laguna	2.41	81	P		Pn	07 58 05.6	-0.3
UESV	Universidad de	2.55	93	P		Pn	07 58 08.1	+0.5
UESV	Universidad de	2.55	93	S		Sn	07 58 39.1	+1.6
TECO	Alcaldia de Te	2.56	96	eP		Pn	07 58 08.0	+0.1
TECO	Alcaldia de Te	2.56	96	S		Sn	07 58 38.9	+1.0
TECO	Alcaldia de Te	2.56	96	⇑P		Pn	07 58 08.0	+0.1
CCIG	Comitan	2.57	344			Pn	07 58 08.5	+0.4
CCIG	Comitan	2.57	344	i P		Pn	07 58 09.2	+1.1
CCIG				IAML			07 58 57.0	
	comp=N,992nm,0.5s							
CCIG	Comitan	2.57	344	⇓P		Pn	07 58 08.9	+0.9
SCLA	Alcaldia de Sa	2.60	92	eP		Pn	07 58 08.7	+0.3
SCLA	Alcaldia de Sa	2.60	92	P		Pn	07 58 08.7	+0.3
SCLA	Alcaldia de Sa	2.60	92	S		Sn	07 58 40.9	+2.0
SARH	Santa Rosa de	2.74	69	i P		Pn	07 58 10.4	0.0
SARH	Santa Rosa de	2.74	69	⇑P		Pn	07 58 10.4	0.0
TECA	Tecapa	2.84	96	eP		Pn	07 58 12.1	+0.3
PACA	Pacayal	3.01	96	eP		Pn	07 58 14.9	+0.7
PACA	Pacayal	3.01	96	P		Pn	07 58 15.3	+1.1
PACA	Pacayal	3.01	96	S		Sn	07 58 51.2	+2.1
LCY	Lacayo	3.04	97	eP		Pn	07 58 15.2	+0.6
BLLM	Bellamira	3.10	96	eP		Pn	07 58 16.1	+0.8
INTHN	La Esperanza I	3.24	81	P		Pn	07 58 17.4	0.0
TGIG		3.39	331	eP		Pn	07 58 18.5	-0.8
TGIG				IAML			07 59 32.6	
	comp=E,433nm,0.7s							
PETF	Flores	3.43	25			Pn	07 58 19.5	-0.4
PETF	Flores	3.43	25	eP		Pn	07 58 19.9	+0.1
PETF	Flores	3.43	25	P		Pn	07 58 20.1	+0.2
LCND	La Caada	3.45	98	⇓P		Pn	07 58 20.1	0.0
CNCH	Conchagua	3.51	98	eP		Pn	07 58 21.2	+0.2
CNCH	Conchagua	3.51	98	S		Sn	07 59 03.7	+2.3
CNCH	Conchagua	3.51	98	⇑P		Pn	07 58 21.3	+0.2
CSGN	Cosiguina Volc	3.83	102	⇓P		Pn	07 58 25.2	-0.1
CSGN				S		Sn	07 59 10.3	+1.1
TGUH	Tegucigalpa,Un	4.02	86			Pn	07 58 27.1	-0.9
TGUH	Tegucigalpa,Un	4.02	86	⇑P		Pn	07 58 27.5	-0.5
CRIN	San Cristobal	4.38	104			Pn	07 58 33.2	+0.3
CMIG	Matias Romero	4.69	315	Pn		Pn	07 58 36.5	-0.6
	comp=E,91nm,0.3s,baz=131,slow=10,SNR=288							
CMIG				Sn		Sn	07 59 29.0	-1.2
	comp=E,22nm,0.3s,baz=72,slow=20,SNR=4.5							
CMIG				LR		LR	08 00 31.2	
	comp=E,74nm,20.1s,baz=148,slow=41							
CNGN	Cerro Negro	4.76	105			Pn	07 58 37.6	-0.6
HUIG	Huatulco	4.95	294	eP		Pn	07 58 38.8	-2.0
LIMN	Finca el Limon	4.96	98	P		Pn	07 58 40.8	-0.1
LIMN				S		Sn	07 59 38.2	+1.2
SCIG	Sabancuy	5.14	2	eP		Pn	07 58 41.8	-1.5
MGAN	Managua	5.29	108			Pn	07 58 45.0	-0.4
ACON	Acoyapa	6.34	106			Pn	07 58 58.0	-1.8
SIUN	Universidad Ur	6.44	90			Pn	07 59 01.9	+0.6
TEIG	Tepich	7.05	25			Pn	07 59 09.2	-0.4
TEIG	Tepich	7.05	25	Pn		Pn	07 59 09.5	-0.1
	baz=128,slow=20,SNR=43							
TEIG				Sn		Sn	08 00 23.9	-4.7
	baz=127,slow=20,SNR=6.6							
TEIG				Lg		Lg	08 01 08.5	
	baz=127,slow=20,SNR=1.3							
JTS	Las Juntas de	7.21	118			Pn	07 59 13.3	+1.5
JTS	Las Juntas de	7.21	118	Pn		Pn	07 59 13.8	+2.0
	comp=E,20nm,0.3s,baz=299,slow=10,SNR=14							
JTS				Sn		Sn	08 00 33.8	+1.3
	comp=E,1.1nm,0.3s,baz=294,slow=20,SNR=0.8							
SOCE	Pocosol	7.45	116			Pn	07 59 16.7	+1.6
TLIG	Tlapa	7.85	299			Pn	07 59 21.3	+0.7
PIRO	Carate, Puerto	9.56	123			Pn	07 59 47.1	+3.1
BRU2	Volcan	9.89	119			Pn	07 59 49.8	+1.1
JRQG	Juriquilla Cam	11.03	310			Pn	08 00 05.7	+1.3
MOIG	Morelia	11.04	303			Pn	08 00 06.0	+1.4
ZAIG	Zacatecas	13.85	312			Pn	08 00 43.5	+0.6
833A	Chaparral WMA,	16.25	334	Pn		Pn	08 01 13.0	-1.4
833A				IAmb		IAmb	08 01 36.4	
	comp=Z,21nm,1.4s							
HNDO	Hondo	17.27	336	P		Pn	08 01 26.0	-1.2
553A	Crawfordville	17.53	20	P		P	08 01 30.2	-1.1
656A	Willston	17.54	27	P		P	08 01 30.4	-0.9
ROSC	El Rosal	19.05	116	P		Pn	08 01 50.7	+1.2
	comp=Z,0.8nm,0.3s,baz=307,slow=20,SNR=3.6							
	comp=Z,5.9nm,0.5s							
TXAR	Lajitas Array	19.18	326	P		Pn	08 01 49.2	-1.5
	comp=Z,1.8nm,0.7s,baz=140,slow=12,SNR=21							
FLOC	Florencia	19.75	127	P		P	08 01 55.8	0.0
FLOC				IAmb		IAmb	08 02 02.5	
	comp=Z,25nm,1.1s							
TKL	Tuckaleechee C	22.82	16	P		P	08 02 27.3	-1.4
	comp=Z,2.1nm,0.8s,baz=193,slow=12,SNR=2.1							
TKL				LR		LR	08 11 20.9	
	comp=Z,12nm,19.0s,baz=184,slow=37							
	comp=Z,2.1nm,0.8s							
NVAR	Mina Array Bea	34.19	321	P		P	08 04 11.4	+0.3
	comp=Z,1.1nm,0.7s,baz=126,slow=6.4,SNR=8.8							
	comp=Z,1.1nm,0.7s							
PB16	IPOC Station P	38.55	145	P		P	08 04 47.4	-1.5
PB11	IPOC Station P	39.63	147	P		P	08 04 56.3	-1.1
PB11				IAmb		IAmb	08 04 58.0	
	comp=Z,6.9nm,1.2s							
H03N2	Juan Fernandez	48.46	166	T		T	08 58 00.7	
	baz=346							
H03N1	Juan Fernandez	48.47	166	T		T	08 57 51.4	
	baz=346							
H03N3	Juan Fernandez	48.48	166	T		T	08 57 51.4	
	baz=346							
ILAR	Eielson Array	63.25	337	P		P	08 07 54.8	+1.3
	comp=Z,0.2nm,0.5s,baz=114,slow=6.2,SNR=4.0							
	comp=Z,0.2nm,0.5s							

*IDC **12** 08:10:46.1±1.6, 35°.45N×70°.10E, h0km, mb3.9/5, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=33.0km s-min=26.7km az=58.0*
*NNC **12** 08:11:01.6±4.6, 36°.26N×69°.83E, h51km±91km, mb3.8, mpv3.7, Error ellipse: s-maj=37.0km s-min=31.3km az=68.0*

ISC 12 08:10:58.8±3.0, 36°.2N±0°.2×69°.9E±0°.1, h35km, n15, σ1°90/14, mb3.7/4, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.95	4	⇓P	Pn	08 12 40.2	+2.1
	3.3nm,0.3s,baz=194,slow=15,SNR=97						
KK31				⇓S	Sn	08 13 57.3	+1.3
	4.5nm,0.5s,baz=308,slow=51,SNR=4.7						
AAK	Ala-Archa	7.38	27	Pn	Pn	08 12 45.5	+1.3
	1.2nm,0.3s,baz=212,slow=5.7,SNR=6.1						
AAK				Sn	Sn	08 14 04.9	-1.8
	1.7nm,0.3s,baz=162,slow=20,SNR=6.4						
	2.8nm,0.4s						
AAK	Ala-Archa	7.38	27	⇓P	Pn	08 12 44.8	+0.6
	1.3nm,0.6s						
AAK				⇓S	Sn	08 14 07.0	+0.3
	9.9nm,0.9s						
MK31	Makanchi Array	14.09	37	⇑P	Pn	08 14 19.3	+3.5
	2.1nm,0.9s,baz=213,slow=9.8,SNR=5.3						
MKAR	Makanchi Array	14.09	37	Pn	Pn	08 14 15.5	-0.3
	0.2nm,0.3s,baz=222,slow=11,SNR=6.3						
	0.5nm,0.7s						
AB31	Akbulak array	14.98	334	P	Pn	08 14 27.7	-0.2
	0.5nm,0.3s,baz=159,slow=12,SNR=37						
AB31				S	Sn	08 17 11.2	-1.4
	1.1nm,0.4s,baz=153,slow=22,SNR=10						
KURBB	Kurchatov Arra	15.74	21	Pn	Pn	08 14 38.9	+1.2
	0.1nm,0.3s,baz=207,slow=10,SNR=8.2						
KURBB	Kurchatov Arra	15.74	21	⇑P	Pn	08 14 38.9	+1.2
	3.9nm,1.1s						
AKTO	Aktyubinsk	16.66	333	P	Pn	08 14 49.7	+0.2
	0.4nm,0.3s,baz=153,slow=7.9,SNR=4.6						
	1.1nm,0.4s						
AKTO	Aktyubinsk	16.66	333	⇑P	Pn	08 14 50.1	+0.7
	1.7nm,0.8s						
ZALV	Zalesovo Beam	20.60	26	P	P	08 15 31.4	-3.3
	13nm,0.5s,baz=215,slow=9.7,SNR=34						
	13nm,0.5s						
ARCES	ARCESS Array B	41.13	338	P	P	08 18 36.8	-2.3
	2.6nm,0.9s,baz=111,slow=10.0,SNR=5.3						
	2.6nm,0.9s						
HFS	Hagfors	42.80	322	P	P	08 18 50.9	-1.9
	2.8nm,0.9s,baz=90,slow=13,SNR=1.9						
	2.8nm,0.9s						
NOA	NORSAR Array B	44.13	323	P	P	08 19 01.3	-2.3
	0.5nm,0.7s,baz=97,slow=7.4,SNR=1.2						
	0.5nm,0.7s						
WRA	Warramunga Arr	82.56	121	P	P	08 23 08.7	-10
	0.2nm,0.5s,baz=313,slow=5.5,SNR=11						
	0.2nm,0.5s						

*NOU **12** 08:15:45.4, 41°.19S×172°.72E, h156km, MLv3.5/12, South Island, New Zealand*
*WEL **12** 08:15:48.6±1.1, 41°.5±8°.×17°.3E±°., h129km±7km, M2.5/8, MLv2.5/8, Error ellipse: s-maj=10.9km s-min=10.2km az=98.6, confirmed*

ISC 12 08:15:44.8±1.7, 41°.21S±0°.06×172°.70E±0°.07, h162km±9km, n29, σ1°08/36, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	Matariki Terra	0.20	166	P	Pn	08 16 07.3	+0.9
MRNZ				S	Sn	08 16 22.0	-1.1
MATW	Matariki Wadsw	0.22	178	P	Pn	08 16 07.2	+0.7
MATW				S	Sn	08 16 21.5	-1.7
MOTS	Motueka DOC wo	0.25	71	P	Pn	08 16 07.4	+0.9
MOTS				S	Sn	08 16 22.0	-1.1
TKNZ	Takaka Hill	0.27	49	P	Pn	08 16 07.5	+0.8
TKNZ				S	Sn	08 16 22.0	-1.2
TSFS	Takaka Scotts	0.37	15	P	Pn	08 16 08.0	+1.1
TSFS				S	Sn	08 16 22.7	-1.0
BTWS	Nelson Brightw	0.37	119	S	Sn	08 16 23.1	-0.7
QRZ	Quartz Range	0.40	342	P	Pn	08 16 07.3	+0.2
QRZ	Quartz Range	0.40	342	P	Pn	08 16 08.2	+1.2
QRZ				S	Sn	08 16 22.9	-1.1
KASC	Karamea School	0.44	264	P	Pn	08 16 08.6	+1.5
KLDS	Kikiwa Line De	0.48	164	P	Pn	08 16 08.6	+1.2
NNZ	Nelson	0.52	91	P	Pn	08 16 08.2	+0.7
THZ	Tophouse	0.58	164	P	Pn	08 16 08.8	+1.0
MCASZ	Murchison	0.65	205	P	Pn	08 16 09.7	+1.5
MCASZ				S	Sn	08 16 25.1	-1.1
DSZ	Denniston Nort	0.86	231	P	Pn	08 16 10.6	+1.0
TUWZ	Tuamarina	0.96	104	P	Pn	08 16 12.0	+1.7
DUWZ	D'Urville Isla	1.01	67	P	Pn	08 16 12.0	+1.2
BSWZ	Blackbirch Sta	1.02	120	P	Pn	08 16 11.7	+0.9
TCW	Tory Channel	1.19	91	P	Pn	08 16 13.4	+1.2
KHZ	Kahutara	1.36	153	P	Pn	08 16 14.8	+1.0
SNZO	South Karori	1.52	95	P	Pn	08 16 16.1	+0.8
KHEZ	Kahui Hut	2.16	28	P	Pn	08 16 24.0	+1.4
KHEZ	Kahui Hut	2.16	28	S	Sn	08 16 51.8	+0.1
BFZ	Birch Farm	2.74	80	P	Pn	08 16 29.9	+0.5
RPZ	Rata Peaks	2.78	205	P	Pn	08 16 30.4	+0.5
HIZ	Hauiti	3.16	32	P	Pn	08 16 35.0	+0.3
BKZ	Black Stump Fm	3.55	56	P	Pn	08 16 39.4	-0.2
BKZ	Black Stump Fm	3.55	56	S	Sn	08 17 21.3	-0.9
JCZ	Jackson Bay	4.06	224	P	Pn	08 16 46.5	+0.3
ODZ	Otahua Downs	4.12	201	P	Pn	08 16 47.6	+0.8

*IDC **12** 08:18:24.2±0.9, 63°.80N×124°.66W, h0km, mb3.1/2, mbtmp3.3/4, ML3.1/2, MS2.8/2, Error ellipse: s-maj=30.7km s-min=7.6km az=14.0*
*PGC **12** 08:18:25.1±0.6, 63°.72N×124°.84W, h9km, ML3.9/19, 79km northwest of Wrigley, Nt Nw Territories - Nunavut, Canada*
*ANF **12** 08:18:26.1±0.4, 63°.74N×124°.82W, h30km, ML4.0/9, Error ellipse: s-maj=4.2km s-min=2.3km az=78.0*

ISC 12 08:18:23.2±0.7, 63°.80N±0°.04×124°.66W±0°.04, h10km, n158, σ2°58/253, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRGLY	Wrigley	0.78	136	S	Sg	08 18 49.4	+0.9
	baz=311						
TGTN	Hyland Airport	2.82	218	Pn	Pn	08 19 07.7	-0.6
TGTN				Sn	Sn	08 19 40.2	-2.3
TGTN	Hyland Airport	2.82	218	P	Pn	08 19 07.6	-0.8
	baz=34						
TGTN				S	Sn	08 19 40.6	-1.9
	baz=34						
NAHA	Nahanni Butte	2.84	167	Pn	Pn	08 19 09.1	+0.6
NAHA				Sn	Sn	08 19 42.2	-0.5
KOTAN	Kotaneelee Air	3.69	175	Pn	Pn	08 19 20.8	+0.6
KOTAN				Sn	Sn	08 20 02.3	-1.4
KOTAN	Kotaneelee Air	3.69	175	P	Pn	08 19 20.7	+0.5
	baz=355						
KOTAN				S	Sn	08 20 01.6	-2.1
	baz=355						
NBC1	NorthernBC 1	4.17	174	Pn	Pn	08 19 27.2	+0.3
NBC1				Sn	Sn	08 20 14.0	-1.6
WTLY	Watson Lake, Y	4.18	210	Pn	Pn	08 19 27.1	+0.1
WTLY				Sn	Sn	08 20 12.4	-3.5
WTLY	Watson Lake, Y	4.18	210	P	Pn	08 19 26.5	-0.5
	baz=26						
LIRD	Liard River Hi	4.46	190	Pn	Pn	08 19 30.8	0.0
LIRD	Liard River Hi	4.46	190	P	Pn	08 19 30.1	-0.6
	baz=7.5						
LIRD				S	Sn	08 20 19.3	-3.3
	baz=7.5						
H31M	Peel River	4.61	300	Pn	Pn	08 19 33.6	+0.8
H31M				Sn	Sn	08 20 24.8	-1.4
H31M	Peel River	4.61	300	P	Pn	08 19 32.6	-0.2
	baz=113,SNR=18						
H31M				S	Sn	08 20 25.8	-0.5
	baz=113						
M31M	Drury Creek, Y	4.72	255	Pn	Pn	08 19 33.9	-0.5
M31M				Sn	Sn	08 20 24.6	-4.5
M31M	Drury Creek, Y	4.72	255	P	Pn	08 19 33.6	-0.7
	baz=66,SNR=12						
M31M				S	Sn	08 20 25.8	-3.3
	baz=66						
YKAW3	Yellowknife Wh	4.72	101	Pn	Pn	08 19 37.1	+2.8
YKAW3				Sn	Sn	08 20 28.4	-0.5
YKAW3				Sg	Sg	08 20 52.5	-1.9
N32M	Quiet Lake	4.72	240	Pn	Pn	08 19 33.9	-0.6
N32M				Sn	Sn	08 20 25.6	-3.7
N32M	Quiet Lake	4.72	240	P	Pn	08 19 33.4	-1.1
	baz=52						
N32M				S	Sn	08 20 26.0	-3.2
	baz=52						
YKA	Yellowknife Ar	4.74	101	Pn	Pn	08 19 36.5	+1.8
	0.6nm,0.3s,baz=286,slow=13,SNR=16						
YKA				Pg	Pb	08 19 49.0	+2.7
	3.9nm,0.3s,baz=288,slow=18,SNR=9.6						
YKA				Sn	Sn	08 20 28.5	-1.1
	4.0nm,0.3s,baz=290,slow=24,SNR=5.7						
YKA				Lg	Lg	08 20 49.5	
	11nm,0.3s,baz=286,slow=28,SNR=9.7						
YKA				LR	LR	08 21 53.6	
	comp=Z,54nm,20.5s,baz=298,slow=44						
	1.7nm,0.6s						
YKAW1	Yellowknife Wh	4.80	101	Sn	Sn	08 20 30.0	-1.0
YKAW1				Sg	Sg	08 20 55.6	-1.5
TOAD	Toad River Com	4.97	183	Pn	Pn	08 19 38.2	+0.4
TOAD	Toad River Com	4.97	183	P	Pn	08 19 37.6	-0.3
	baz=2.2						
MAYO	Mayo, Yukon	5.00	273	Sn	Sn	08 20 32.9	-3.1
FNSB	Fort Nelson	5.09	169	Pn	Pn	08 19 39.4	-0.1
FNSB				Sn	Sn	08 20 35.8	-2.5
G31M	Satah River	5.10	312	Pn	Pn	08 19 39.9	+0.3
G31M	Satah River	5.10	312	P	Pn	08 19 39.2	-0.3
	baz=124,SNR=16						
G31M				S	Sn	08 20 37.5	-0.9
	baz=124						
J30M	Hart River	5.16	284	Pn	Pn	08 19 41.3	+0.7
J30M	Hart River	5.16	284	P	Pn	08 19 40.6	+0.1
	baz=94						
J30M				S	Sn	08 20 39.7	-0.5
	baz=94						
F31M	Tsiigehtchic	5.25	318	Pn	Pn	08 19 42.4	+0.8
F31M				Sn	Sn	08 20 38.8	-3.2
F31M	Tsiigehtchic	5.25	318	P	Pn	08 19 41.9	+0.3
	baz=131						
F31M				S	Sn	08 20 39.5	-2.5
	baz=131						
I30M	Mount Dempster	5.26	291	Pn	Pn	08 19 42.9	+1.0
I30M				Sn	Sn	08 20 39.3	-3.3
I30M	Mount Dempster	5.26	291	P	Pn	08 19 42.1	+0.2
	baz=101,SNR=22						
I30M				S	Sn	08 20 41.3	-1.2
	baz=101						
P33M	Teslin, Yukon	5.26	231	Pn	Pn	08 19 41.1	-0.8
P33M				Sn	Sn	08 20 37.4	-5.2
P33M	Teslin, Yukon	5.26	231	P	Pn	08 19 41.1	-0.8
	baz=43,SNR=69						
P33M				S	Sn	08 20 37.9	-4.6
	baz=43						
R33M	Jennings River	5.34	217	Pn	Pn	08 19 42.8	-0.3
R33M				Sn	Sn	08 20 39.2	-5.4
R33M				Sg	Sb	08 21 06.6	+5.8
R33M	Jennings River	5.34	217	P	Pn	08 19 42.5	-0.5
	baz=31						
R33M				S	Sn	08 20 41.0	-3.7
	baz=31						
NBC6	NorthernBC 6	5.47	161	Pn	Pn	08 19 44.3	-0.4
NBC6				Sn	Sn	08 20 43.7	-3.9
C36M	Paulatuk	5.58	2	Pn	Pn	08 19 47.5	+1.3
C36M				Sn	Sn	08 20 49.6	-0.5
C36M	Paulatuk	5.58	2	S	Sn	08 20 48.4	-1.8
	baz=183						
N31M	Braeburn, Yuko	5.63	251	Sn	Sn	08 20 48.8	-2.7
N31M				Sg	Sb	08 21 15.3	+6.4
M30M	Minto, Yukon	5.63	263	Pn	Pn	08 19 45.6	-1.3
M30M				Sn	Sn	08 20 47.3	-4.2
M30M	Minto, Yukon	5.63	263	P	Pn	08 19 45.8	-1.1
	baz=72						
M30M				S	Sn	08 20 47.2	-4.4
	baz=72						
KUKN	Kugluktuk,NWT	5.64	40	Pn	Pn	08 19 49.9	+3.0
KUKN				Sn	Sn	08 20 51.5	-0.2
K29M	Barlow Dome	5.70	276	Pn	Pn	08 19 47.5	-0.3
K29M	Barlow Dome	5.70	276	P	Pn	08 19 47.9	0.0
	baz=85						
K29M				S	Sn	08 20 52.4	-0.9
	baz=85						
EPYK	Eagle Plains	5.71	302	Pn	Pn	08 19 47.9	-0.2
EPYK	Eagle Plains	5.71	302	P	Pn	08 19 47.7	-0.3
	baz=112						
EPYK				S	Sn	08 20 53.4	-0.2
	baz=112						
WHY	Whitehorse	5.72	241	Pn	Pn	08 19 47.5	-0.7
WHY				Sg	Sb	08 21 18.4	+6.7
WHY	Whitehorse	5.72	241	P	Pn	08 19 47.4	-0.8
	baz=52,SNR=32						
WHY				S	Sn	08 20 51.3	-2.6
	baz=52						
INK	Inuvik	5.79	325	Pn	Pn	08 19 49.5	+0.5
INK				Sn	Sn	08 20 53.0	-2.2
INK	Inuvik	5.79	325	P	Pn	08 19 49.5	+0.5
	baz=138						
INK				S	Sn	08 20 53.0	-2.2
	baz=138						
G30M	tAoh Zraii Nji	5.79	309	Pn	Pn	08 19 48.4	-0.7
G30M				Sn	Sn	08 20 51.2	-4.3
G30M	tAoh Zraii Nji	5.79	309	S	Sn	08 20 52.8	-2.7
	baz=119						
DLBC	Dease Lake	5.97	208	P	Pn	08 19 51.3	-0.3
	baz=23						
F30M	Barrier River	5.97	315	Pn	Pn	08 19 51.4	-0.2
F30M				Sn	Sn	08 20 58.2	-1.8
F30M	Barrier River	5.97	315	P	Pn	08 19 51.3	-0.2
	baz=126,SNR=36						
F30M				S	Sn	08 20 56.7	-3.3
	baz=126						
J29N	Klondike Camp	5.97	282	S	Sn	08 20 59.2	-0.8
	baz=91						
P32M	Atlin	6.03	230	Pn	Pn	08 19 51.6	-0.8
P32M	Atlin	6.03	230	P	Pn	08 19 51.4	-0.9
	baz=42,SNR=21						
P32M				S	Sn	08 20 58.9	-2.5
	baz=42						
Q32M	Nakina River	6.07	220	Pn	Pn	08 19 52.7	-0.5
Q32M	Nakina River	6.07	220	P	Pn	08 19 52.4	-0.7
	baz=34						
L29M	L29M	6.08	270	Pn	Pn	08 19 53.3	+0.2
L29M	L29M	6.08	270	S	Sn	08 21 01.1	-1.6
	baz=78						
I29M	Ogilvie Camp,	6.08	291	Pn	Pn	08 19 53.5	+0.4
I29M				Sn	Sn	08 21 00.1	-2.6
I29M	Ogilvie Camp,	6.08	291	P	Pn	08 19 52.9	-0.2
	baz=99						
I29M				S	Sn	08 21 01.4	-1.3
	baz=99						
O30N	Mendenhall	6.14	246	Pn	Pn	08 19 53.2	-0.6
O30N				Sn	Sn	08 21 00.3	-3.7
O30N	Mendenhall	6.14	246	P	Pn	08 19 52.6	-1.2
	baz=56,SNR=32						
O30N				S	Sn	08 21 00.7	-3.3
	baz=56						
N30M	Aishikik Lake	6.19	253	Pn	Pn	08 19 54.0	-0.6
N30M	Aishikik Lake	6.19	253	P	Pn	08 19 53.8	-0.8
	baz=63,SNR=37						
N30M				S	Sn	08 21 01.8	-3.7
	baz=63						
H29M	Whitestone	6.30	299	Pn	Pn	08 19 56.5	+0.5
H29M				Sn	Sn	08 21 04.6	-3.3
H29M	Whitestone	6.30	299	P	Pn	08 19 56.1

	baz=125						
E29M			S	Sn	08 21 24.7	-2.3
	baz=125						
YUK7	**Dusty Glacier**	**7.11 249**	Pn	**Pn**	**08 20 06.9**	**-0.4**
YUK7			Sn	**Sn**	**08 21 21.2**	**-6.9**
EGAK	**Eagle**	**7.24 285**	Pn	**Pn**	**08 20 08.9**	**0.0**
EGAK			Sn	**Sn**	**08 21 26.3**	**-4.9**
EGAK	**Eagle**	**7.24 285**	P	**Pn**	**08 20 09.0**	**0.0**
	baz=91						
NBC8	**Simpson Ranch**	**7.33 170**	Pn	**Pn**	**08 20 09.7**	**-0.5**
F28M	**Old Crow**	**7.34 308**	Pn	**Pn**	**08 20 10.1**	**-0.3**
F28M			Sn	**Sn**	**08 21 29.2**	**-4.4**
F28M	**Old Crow**	**7.34 308**	P	**Pn**	**08 20 09.0**	**-1.4**
	baz=115						
F28M			S	**Sn**	**08 21 32.9**	**-0.7**
	baz=115						
T35M	**Bob Quinn**	**7.37 205**	Pn	**Pn**	**08 20 10.6**	**-0.2**
O29M	**Mount Kennedy**	**7.42 248**	Pn	**Pn**	**08 20 11.2**	**-0.3**
O29M			Sn	**Sn**	**08 21 27.1**	**-8.5**
O29M	**Mount Kennedy**	**7.42 248**	S	**Sn**	**08 21 33.5**	**-2.1**
	baz=56						
YUK8	**Steele Glacier**	**7.42 257**	Pn	**Pn**	**08 20 11.1**	**-0.6**
YUK8			Sn	**Sn**	**08 21 29.2**	**-6.7**
YUK8	**Steele Glacier**	**7.42 257**	P	**Pn**	**08 20 11.0**	**-0.7**
	baz=64,SNR=17						
H27K	**Steamboat Moun**	**7.54 296**	Pn	**Pn**	**08 20 13.4**	**+0.3**
H27K			Sn	**Sn**	**08 21 33.9**	**-4.7**
H27K	**Steamboat Moun**	**7.54 296**	P	**Pn**	**08 20 13.5**	**+0.4**
	baz=102						
H27K			S	**Sn**	**08 21 36.9**	**-1.7**
	baz=102						
K27K	**Chicken**	**7.68 280**	Pn	**Pn**	**08 20 14.8**	**-0.2**
K27K	**Chicken**	**7.68 280**	P	**Pn**	**08 20 16.1**	**+1.2**
	baz=84						
K27K			S	**Sn**	**08 21 40.9**	**-1.0**
	baz=84						
E28M	**Babbage River**	**7.70 315**	Pn	**Pn**	**08 20 14.9**	**-0.3**
E28M			Sn	**Sn**	**08 21 36.8**	**-5.5**
E28M	**Babbage River**	**7.70 315**	P	**Pn**	**08 20 14.8**	**-0.4**
	baz=122						
E28M			S	**Sn**	**08 21 38.8**	**-3.5**
	baz=122						
G27K	**Doyon Strip**	**7.72 301**	Pn	**Pn**	**08 20 14.8**	**-0.8**
G27K			Sn	**Sn**	**08 21 37.6**	**-5.5**
G27K	**Doyon Strip**	**7.72 301**	P	**Pn**	**08 20 13.9**	**-1.7**
	baz=106,SNR=13						
G27K			S	**Sn**	**08 21 41.4**	**-1.6**
	baz=106						
L27K	**Beaver Creek,**	**7.73 272**	Sn	**Sn**	**08 21 38.6**	**-4.6**
L27K	**Beaver Creek,**	**7.73 272**	P	**Pn**	**08 20 16.2**	**+0.5**
	baz=77						
L27K			S	**Sn**	**08 21 40.7**	**-2.5**
	baz=77						
NBC7	**Fort St John**	**7.79 164**	Sn	**Sn**	**08 21 40.4**	**-4.3**
O28M	**Mount Upton**	**7.85 254**	Pn	**Pn**	**08 20 16.1**	**-1.4**
O28M	**Mount Upton**	**7.85 254**	P	**Pn**	**08 20 16.9**	**-0.7**
	baz=61,SNR=12						
O28M			S	**Sn**	**08 21 45.0**	**-1.5**
	baz=61						
E27K	**Coleen River**	**8.17 310**	Pn	**Pn**	**08 20 21.6**	**-0.1**
E27K			Sn	**Sn**	**08 21 49.6**	**-4.5**
E27K	**Coleen River**	**8.17 310**	P	**Pn**	**08 20 22.0**	**+0.3**
	baz=115						
E27K			S	**Sn**	**08 21 51.6**	**-2.5**
	baz=115						
CTG	**Chitna Glacier**	**8.25 257**	P	**Pn**	**08 20 23.3**	**+0.4**
	baz=63						
U35K	**Hyder**	**8.35 201**	S	**Sn**	**08 21 54.8**	**-3.6**
	baz=16						
D27M	**Malcolm River**	**8.48 317**	P	**Pn**	**08 20 26.0**	**+0.1**
	baz=123						
D27M			S	**Sn**	**08 21 59.4**	**-2.1**
	baz=123						
GRNC	**Granite Creek**	**8.54 257**	Pn	**Pn**	**08 20 27.2**	**+0.3**
G26K	**Porcupine Rive**	**8.57 300**	Pn	**Pn**	**08 20 26.1**	**-1.1**
G26K			Sn	**Sn**	**08 21 57.2**	**-6.7**
G26K	**Porcupine Rive**	**8.57 300**	P	**Pn**	**08 20 25.8**	**-1.3**
	baz=103,SNR=26						
G26K			S	**Sn**	**08 22 02.3**	**-1.6**
	baz=103						
F26K	**Sheenjek River**	**8.90 305**	Pn	**Pn**	**08 20 32.0**	**+0.3**
F26K			Sn	**Sn**	**08 22 04.9**	**-7.0**
F26K	**Sheenjek River**	**8.90 305**	P	**Pn**	**08 20 30.5**	**-1.2**
	baz=107,SNR=27						
F26K			S	**Sn**	**08 22 09.7**	**-2.2**
	baz=107						
PRP	**Porcupine Dome**	**9.10 290**	P	**Pn**	**08 20 34.1**	**-0.4**
	baz=92						
PRP			S	**Sn**	**08 22 15.0**	**-1.9**
	baz=92						
H25L	**Birch Creek**	**9.27 295**	P	**Pn**	**08 20 37.0**	**+0.3**
	baz=96						
STPRA	**Salt Prairie L**	**9.29 147**	Sn	**Sn**	**08 22 16.3**	**-5.1**
F25K	**Christian Rive**	**9.43 303**	Pn	**Pn**	**08 20 38.9**	**-0.1**
F25K			Sn	**Sn**	**08 22 18.7**	**-6.1**
F25K	**Christian Rive**	**9.43 303**	P	**Pn**	**08 20 38.5**	**-0.4**
	baz=104						
F25K			S	**Sn**	**08 22 22.9**	**-1.9**
	baz=104						
G25K	**Bearman Lake**	**9.44 298**	Pn	**Pn**	**08 20 39.1**	**+0.1**
G25K	**Bearman Lake**	**9.44 298**	P	**Pn**	**08 20 39.2**	**+0.1**
	baz=99						
BDMTA	**Bald Mountain**	**9.47 159**	Pn	**Pn**	**08 20 39.6**	**+0.1**
BDMTA			Sn	**Sn**	**08 22 19.8**	**-6.2**
C27K	**Jago River**	**9.51 316**	Pn	**Pn**	**08 20 40.4**	**+0.5**
C27K			Sn	Sn	08 22 19.5	-7.2
C27K	**Jago River**	**9.51 316**	P	**Pn**	**08 20 38.4**	**-1.6**
	baz=119						
BMRM	**Bremner River**	**9.67 262**	P	**Pn**	**08 20 41.5**	**-0.8**
	baz=64						
ILAR	**Eielson Array**	**9.70 286**	Pn	**Pn**	**08 20 42.9**	**+0.4**
	0.4nm,0.3s,baz=83,slow=12,SNR=36						
ILAR			Sn	**Sn**	**08 22 27.2**	**-4.2**
	0.1nm,0.3s,baz=88,slow=22,SNR=4.4						
ILAR			Lg	Lg	08 23 30.5	
	0.1nm,0.3s,baz=88,slow=27,SNR=4.2						
	2.0nm,0.6s						
HDA	**Harding Lake**	**9.76 284**	P	**Pn**	**08 20 42.3**	**-1.1**
	baz=84						
SWHSA	**Sweathouse Loo**	**9.78 152**	Sn	**Sn**	**08 22 28.1**	**-5.5**
D25K	**Kavik River**	**10.23 312**	Sn	Sn	08 22 36.3	-8.0
F24K	**Squaw Lake**	**10.25 302**	P	**Pn**	**08 20 48.6**	**-1.6**
	baz=101						
BRLDA	**Berland Lookou**	**10.42 156**	Sn	**Sn**	**08 22 42.0**	**-7.3**
E24K	**Your Creek**	**10.59 304**	P	**Pn**	**08 20 53.6**	**-1.2**
	baz=103						
I23K	**Minto, Yukon-K**	**10.72 288**	P	**Pn**	**08 20 56.9**	**+0.3**
	baz=86						
G23K	**Bananza Creek**	**10.99 297**	P	**Pn**	**08 20 59.1**	**-1.1**
	baz=94						
E23K	**Chandalar**	**11.00 304**	P	**Pn**	**08 20 59.6**	**-0.9**
	baz=101						
COLD	**Coldfoot**	**11.10 299**	Pn	**Pn**	**08 21 01.7**	**-0.1**
COLD	**Coldfoot**	**11.10 299**	P	**Pn**	**08 21 01.6**	**-0.1**
	baz=96						
MLY	**Manley**	**11.31 288**	P	**Pn**	**08 21 01.5**	**-3.2**
	baz=85						
G22K	**Bettles**	**11.58 298**	P	**Pn**	**08 21 09.3**	**+1.0**
	baz=94						
E22K	**Anaktuvuk Pass**	**11.82 303**	P	**Pn**	**08 21 12.7**	**+1.0**
	baz=99						
PDAR	**Pinedale Array**	**22.80 150**	P	**P**	**08 23 28.2**	**+2.2**
	0.2nm,0.5s,baz=350,slow=7.9,SNR=5.8						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**25.69 168**	P	**P**	**08 23 57.3**	**+4.0**
	0.6nm,0.7s,baz=351,slow=12,SNR=4.6						
	0.6nm,0.7s						
SFJD	**Kangerlussuaq**	**29.32 51**	LR	LR	08 36 48.5	
	comp=Z,40nm,19.8s,baz=280,slow=38						

IDC 12 08:32:10.6±1.4, 31°03N×107°79E, h0km, mb3.3/3, mbtmp3.4/5, ML3.9/2, MS3.0/1, Error ellipse: s-maj=102.6km s-min=18.1km az=58.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**5.98**	**326**	Pn	Pn	08 33 42.2	+1.5
	baz=146,slow=16						
LZDM				Sn	Sn	08 34 51.2	+1.0
	baz=172,slow=39						
LZDM				Lg	Lg	08 35 18.5	
	baz=158,slow=31						
	3.3nm,0.3s						
SONM	**Songino Array**	**16.81**	**357**	Pn	Pn	08 36 07.0	-0.5
	0.2nm,0.3s,baz=171,slow=20,SNR=2.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.17**	**316**	P	P	08 37 37.9	+0.3
	0.6nm,0.6s,baz=119,slow=10,SNR=4.6						
MKAR				LR	LR	08 47 33.0	
	comp=Z,33nm,21.2s,baz=58,slow=37						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**56.74**	**150**	P	P	08 41 55.5	-0.8
	0.3nm,0.8s,baz=338,slow=7.4,SNR=2.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**59.87**	**152**	P	P	08 42 18.6	+0.3
	0.2nm,0.5s,baz=327,slow=7.0,SNR=1.7						
	0.2nm,0.5s						

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*NNC **12** 08:49:55.7±1.0, 51°77N×75°48E, h0km, mb2.6, mpv2.1, Error ellipse: s-maj=29.9km s-min=6.7km az=30.0, Suspected Mining explosion.*

*IDC **12** 08:50:01.2±3.2, 51°70N×75°96E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=35.7km s-min=25.9km az=59.0*

ISC 12 08:50:02.3±10.0, 51°7N±0°2×76°0E±0°9, h0km, n7, σ1§13/5, 5C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**1.89**	**119**	⇑Pg	**Pn**	**08 50 36.4**	**+0.6**
	0.5nm,0.8s						
KURK				⇑Lg	Lg	08 51 06.6	
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**1.90**	**122**	Pn	**Pn**	**08 50 34.5**	**-1.4**
	0.2nm,0.3s,baz=305,slow=19,SNR=11						
KURBB				Lg	Lg	08 51 03.5	
	0.1nm,0.3s,baz=306,slow=30,SNR=7.4						
KURBB	**Kurchatov Arra**	**1.90**	**122**	⇑Pg	**Pn**	**08 50 36.4**	**+0.5**
	2.4nm,0.7s						
KURBB				⇑Lg	Lg	08 51 07.0	
	10nm,0.8s						
ZALV	**Zalesovo Beam**	**5.81**	**63**	Pn	**Pn**	**08 51 29.6**	**0.0**
	0.2nm,0.3s,baz=250,slow=17,SNR=2.0						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.81**	**63**	I	I	09 26 00.0	
	baz=252,slow=319,SNR=3.3						
MK31	**Makanchi Array**	**6.37**	**137**	⇑Lg	Lg	08 53 27.5	
	2.2nm,1.0s,baz=322,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**6.37**	**137**	Pn	**Pn**	**08 51 37.6**	**+0.1**
	baz=330,slow=14,SNR=1.4						
MKAR				Lg	Lg	08 53 24.4	
	0.1nm,0.3s,baz=320,slow=26,SNR=6.0						
	0.2nm,0.7s						

GCG 12 08:57:09.7±1.7, 14°30N×92°04W, h31km±7km, MD3.8, ML3.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.55**	**357**	*e*P	Pb	08 57 19.9	-1.2
THIG		**0.64**	**340**	*i* S	Sb	08 57 31.1	-0.2
THIG				IAML		08 57 31.8	
	comp=E,540nm,0.2s						
STG2	**El Palmar, Qui**	**0.66**	**78**	*e*P	Pb	08 57 21.6	-1.3
QUEO	**Labor Ovalle**	**0.76**	**42**	*e*P	Pn	08 57 24.6	0.0
QUEO				*e*S	Sn	08 57 36.9	+1.7
QUEO				IAML		08 57 39.4	
	comp=N,1μm,0.2s						
HUEH	**Huehuetenango**	**1.14**	**27**	*i* P	Pn	08 57 29.9	+0.2
HUEH				*e*S	Sb	08 57 46.4	+0.9
ESSG	**Sabana Grande**	**1.18**	**86**	*e*P	Pn	08 57 30.3	+0.2
QUIS	**Sacapulas**	**1.35**	**43**	*e*P	Pn	08 57 33.4	+0.9
QUIS				*e*S	Sb	08 57 52.3	+1.0
FG8	**Yepocapa, Chim**	**1.44**	**91**	*e*P	Pn	08 57 29.0	-4.7
FG16	**Alotenango, Sa**	**1.48**	**91**	*e*S	Sn	08 57 45.5	-7.4
FG16				IAML		08 57 54.8	
	comp=N,2μm,0.2s						
APG	**El Apazote**	**1.68**	**65**	*e*P	Pb	08 57 38.6	-1.5
NUBE	**Las Nubes**	**2.23**	**100**	*e*P	Pn	08 57 45.8	+1.1

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*IDC **12** 08:58:27.3±0.8, 10°15N×104°24W, h0km, mb3.8/6, mbtmp4.0/10, ML3.5/4, MS4.3/30, Error ellipse: s-maj=18.7km s-min=12.6km az=19.0*

*NEIC **12** 08:58:30.8±1.8, 10°15N±0°09×104°2W±0°1, h10km±2km, mb4.6/25, Error ellipse: s-maj=20.7km s-min=14.3km az=277.0*

*GCMT **12** 08:58:31.8±0.2, 10°24N±0°01×104°15W±0°01, h21km±1km, MW5.1/124, Moment Tensor Solution. s38,c45; s124,c183; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.50±.18; $M_{\theta\theta}$=1.75±.14; $M_{\phi\phi}$=2.25±.16; $M_{r\theta}$=1.87±.28; $M_{\theta\phi}$=4.53±.13; $M_{\phi r}$=-1.40±.29; Best double couple: M_0=5.47300×10^{16} NP1:ϕ_s=255.00000°, δ72.00000°, λ-16.00000°. NP2:ϕ_s=351.00000°, δ75.00000°, λ-161.00000°. Principal axes: T 5.2060, Plg2.0000°, Azm123.0000°; N 0.5310, Plg66.0000°, Azm29.0000°; P -5.7400, Plg24.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 08:58:28.4±0.5, 10°01N±0°06×104°33W±0°06, h10km, n76, σ1§67/54, mb4.5/12, MS4.2/28, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**9.36**	**36**		**Pn**	**09 00 42.1**	**-1.4**
MOIG	**Morelia**	**10.07**	**17**		**Pn**	**09 00 53.5**	**0.0**
JRQG	**Juriquilla Cam**	**11.27**	**19**	Pn	**Pn**	**09 01 09.8**	**+0.1**
CMIG	**Matias Romero**	**11.56**	**52**	Pn	**Pn**	**09 01 12.1**	**-1.5**
	55nm,1.3s,baz=234,slow=12,SNR=12						
CMIG				Sn	**Sn**	**09 03 21.3**	**-1.6**
	baz=164,slow=18						
CMIG				LR	LR	09 04 32.4	
	comp=Z,2μm,20.2s,baz=234,slow=32						
ZAIG	**Zacatecas**	**12.80**	**7**		**Pn**	**09 01 30.9**	**+0.1**
CCIG	**Comitan**	**13.40**	**61**		**Pn**	**09 01 39.5**	**+0.5**
APG	**El Apazote**	**14.41**	**68**	Pn	**Pn**	**09 01 49.5**	**-3.3**
	0.1nm,0.3s,baz=215,slow=16,SNR=6.6						
APG				Sn	**Sn**	**09 04 32.3**	**-0.7**
	baz=224,slow=18,SNR=1.5						
LPIG	**La Paz**	**15.13**	**339**	Pn	**Pn**	**09 02 00.6**	**-1.6**
	0.9nm,0.3s,baz=162,slow=3.2,SNR=1.3						
LPIG				Sn	**Sn**	**09 04 49.1**	**-0.9**
	baz=152,slow=15						
LPIG				LR	LR	09 06 23.5	
	comp=Z,3μm,18.5s,baz=162,slow=32						
	2.9nm,0.4s						
MTO3	**Montecristo**	**15.26**	**72**		**Pn**	**09 02 05.4**	**+1.1**
MTO3				IAmb	IAmb	09 02 27.6	
	comp=Z,33nm,1.3s						
PETF	**Flores**	**15.64**	**62**		**Pn**	**09 02 09.8**	**+0.8**
PETF				IAmb	IAmb	09 02 14.8	
	comp=Z,41nm,1.0s						
HBVL	**Hebbronville**	**17.78**	**17**		**P**	**09 02 37.6**	**+0.7**
TEIG	**Tepich**	**18.51**	**55**	P	**Pn**	**09 02 41.9**	**-3.2**
	baz=309,slow=20,SNR=1.3						
TEIG				S	**S**	**09 06 20.3**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=308,slow=20,SNR=1.6						
833A	**Chaparral WMA,**	**18.80**	**14**	P	**P**	**09 02 48.5**	**+0.5**
833A				IAmb	IAmb	09 02 51.2	
	comp=Z,76nm,1.4s						
ACON	**Acoyapa**	**18.90**	**82**	P	**P**	**09 02 48.3**	**-1.1**
ACON				IAmb	IAmb	09 02 55.5	
	comp=Z,59nm,1.4s						
JTS	**Las Juntas de**	**19.07**	**87**	P	**P**	**09 02 50.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=281,slow=13,SNR=4.6						
JTS				S	**Sn**	**09 06 26.5**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=315,slow=14,SNR=6.4						
JTS				LR	LR	09 08 14.5	
	comp=Z,966nm,19.4s,baz=264,slow=31						
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**19.23**	**2**	P	**P**	**09 02 52.7**	**-0.3**
	baz=185,slow=7.7,SNR=33						
TXAR				S	**S**	**09 06 36.1**	**+5.1**
	comp=Z,0.1nm,0.4s,baz=197,slow=14,SNR=1.0						
TXAR				LR	LR	09 09 48.4	
	comp=Z,244nm,19.4s,baz=179,slow=36						
	comp=Z,7.8nm,1.1s						
DRIO	**Del Rio**	**19.62**	**10**		**P**	**09 02 57.6**	**+0.5**
DRIO				IAmb	IAmb	09 03 07.0	
	comp=Z,31nm,1.3s						
735A	**Kenedy**	**19.72**	**17**	P	**P**	**09 02 58.9**	**+0.8**
JCT	**Junction City**	**20.80**	**11**	P	**P**	**09 03 10.7**	**+0.7**
JCT				IAmb	IAmb	09 03 12.8	
	comp=Z,62nm,1.3s						
435B	**Jarrell**	**21.60**	**16**	P	**P**	**09 03 18.1**	**-0.4**
MNTX	**Cornudas Mount**	**21.60**	**358**		**P**	**09 03 18.8**	**+0.2**
MNTX				IAmb	IAmb	09 03 34.4	
	comp=Z,25nm,1.1s						
VTX	**Valle De La Tr**	**23.78**	**335**	P	**P**	**09 03 41.7**	**+0.3**
LENM	**Lemitar**	**24.16**	**355**	P	**P**	**09 03 46.1**	**+1.0**
113A	**Mohawk Valley,**	**24.26**	**340**	P	**P**	**09 03 46.0**	**+0.2**
W18A	**Petrified Fore**	**25.47**	**350**	P	**P**	**09 03 57.2**	**+0.3**
W18A				IAmb	IAmb	09 04 16.8	
	comp=Z,15nm,1.4s						
143A	**Socs Landing,**	**25.54**	**26**	P	**P**	**09 03 57.5**	**+0.2**
PFO	**Pinyon Flats O**	**26.00**	**336**	LR	LR	09 11 28.1	
	comp=Z,175nm,21.8s,baz=150,slow=30						
BELC	**Belle Mtn. Jos**	**26.17**	**338**	P	**P**	**09 04 04.5**	**+1.2**
GSC	**Goldstone, Bar**	**27.63**	**338**	P	**P**	**09 04 16.6**	**+0.3**
SLOR	**San Lorenzo -**	**27.83**	**111**	P	**P**	**09 04 19.2**	**+0.4**
SLOR				IAmb	IAmb	09 04 31.4	
	comp=Z,13nm,1.1s						
COHC	**Cochancay**	**27.88**	**115**	P	**P**	**09 04 18.7**	**+0.1**
ROSC	**El Rosal**	**30.18**	**98**	LR	LR	09 13 48.3	
	comp=Z,961nm,21.5s,baz=271,slow=31						
ATAH	**Atahualpa**	**30.94**	**122**	LR	LR	09 14 38.1	
	comp=Z,3μm,19.5s,baz=301,slow=31						
NVAR	**Mina Array Bea**	**30.95**	**338**	P	**P**	**09 04 47.3**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=141,slow=5.3,SNR=4.2						
NVAR				LR	LR	09 15 12.7	
	comp=Z,731nm,20.8s,baz=148,slow=33						
	comp=Z,0.5nm,0.7s						
TKL	**Tuckaleechee C**	**31.64**	**33**	LR	LR	09 20 44.1	
	comp=Z,180nm,18.8s,baz=223,slow=42						
ELK	**Elko**	**32.10**	**344**	LR	LR	09 16 03.5	
	comp=Z,421nm,20.9s,baz=160,slow=33						
PDAR	**Pinedale Array**	**32.95**	**353**	P	**P**	**09 05 02.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=171,slow=8.5,SNR=9.5						
PDAR				LR	LR	09 17 13.1	
	comp=Z,186nm,21.6s,baz=173,slow=34						
	comp=Z,0.5nm,0.7s						
SDV	**Santo Domingo**	**33.25**	**89**	LR	LR	09 16 59.9	
	comp=Z,569nm,20.1s,baz=289,slow=34						
NNA	**Nana**	**34.98**	**128**	LR	LR	09 16 46.6	
	comp=Z,229nm,19.4s,baz=314,slow=31						
YBH	**Yreka Blue Hor**	**35.49**	**336**	LR	LR	09 17 53.7	
	comp=Z,24nm,20.2s,baz=125,slow=33						
RPN	**Rapa Nui**	**37.24**	**187**	LR	LR	09 17 21.5	
	comp=Z,315nm,22.0s,baz=5.0,slow=30						
SJG	**San Juan**	**37.84**	**73**	LR	LR	09 18 46.7	
	comp=Z,180nm,21.3s,baz=264,slow=32						
NEW	**Newport**	**39.62**	**347**	LR	LR	09 20 44.7	
	comp=Z,332nm,19.7s,baz=168,slow=34						
TAOE	**Nuku Hiva Isla**	**40.28**	**243**	*e*S	**S**	**09 12 09.9**	**-4.2**
	comp=Z,21nm,24.1s						
TAOE				*e*SS	**SS**	**09 15 16.2**	**+3.5**
	comp=Z,1μm,28.3s						
TAOE				*e*LR	LR	09 17 02.8	
	comp=Z,388nm,25.7s						
ULM	**Lac du Bonnet**	**40.72**	**8**	LR	LR	09 22 16.9	
	comp=Z,348nm,19.5s,baz=192,slow=35						
SADO	**Sadowa**	**40.87**	**28**	LR	LR	09 24 07.1	
	comp=Z,1μm,19.2s,baz=210,slow=38						
BOAV	**Boa Vista**	**44.16**	**97**	P	**P**	**09 06 35.6**	**-2.1**
BOAV				IAmb	IAmb	09 06 42.8	
	comp=Z,10nm,1.2s						
LPAZ	**La Paz**	**44.34**	**126**	P	**P**	**09 06 39.6**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=314,slow=8.1,SNR=15						
	comp=Z,6.0nm,0.9s						
PB16	**IPOC Station P**	**44.43**	**129**	P	**P**	**09 06 40.6**	**+0.1**
H03N2	**Juan Fernandez**	**49.51**	**152**	T	T	10 00 33.1	
	baz=329,slow=77,SNR=16						
H03N1	**Juan Fernandez**	**49.52**	**152**	T	T	10 00 32.9	
	baz=329,slow=77,SNR=19						
H03N3	**Juan Fernandez**	**49.53**	**152**	T	T	10 00 31.3	
	baz=329,slow=77,SNR=24						
SIV	**San Ignacio**	**50.01**	**121**	LR	LR	09 26 23.1	
	comp=Z,1μm,21.3s,baz=301,slow=34						
MDP	**Montagnes des**	**51.42**	**91**	LR	LR	09 29 50.2	
	comp=Z,170nm,20.2s,baz=274,slow=37						
CO03	**El Pedregal**	**51.89**	**143**	P	**P**	**09 07 39.9**	**+2.5**
CO03				IAmb	IAmb	09 07 44.7	
	comp=Z,7.3nm,1.0s						
DLBC	**Dease Lake**	**52.14**	**343**	LR	LR	09 29 59.6	
	comp=Z,3μm,18.1s,baz=130,slow=36						
PPT	**Papeete**	**52.43**	**239**	LR	LR	09 23 36.5	
	comp=Z,123nm,21.5s,baz=52,slow=29						
PPT2	**Papeete2**	**52.45**	**239**	*e*S	**S**	**09 15 06.6**	**-1.8**
	comp=Z,117nm,27.0s						
PPT2				*e*LR	LR	09 22 35.8	
	comp=Z,210nm,26.8s						
PPT2				*e*LR	LR	09 22 43.7	
	comp=Z,231nm,23.0s						
YKA	**Yellowknife Ar**	**52.92**	**354**	LR	LR	09 30 32.2	
	comp=Z,412nm,18.3s,baz=164,slow=36						
SCHQ	**Schefferville**	**53.63**	**26**	P	**P**	**09 07 47.8**	**-2.1**
	comp=Z,105nm,0.9s,baz=225,slow=8.1,SNR=7.7						
SCHQ				LR	LR	09 31 31.2	
	comp=Z,2μm,19.4s,baz=224,slow=37						
CPUP	**Villa Florida**	**58.22**	**129**	P	**P**	**09 08 23.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=2.0,SNR=3.5						
	comp=Z,0.3nm,0.4s						
FRB	**Frobisher Bay**	**59.33**	**18**	LR	LR	09 34 52.9	
	comp=Z,202nm,18.3s,baz=230,slow=37						
PLCA	**Paso Flores**	**59.34**	**151**	P	**P**	**09 08 32.4**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=310,slow=14,SNR=2.9						
PLCA				LR	LR	09 28 25.6	
	comp=Z,437nm,19.1s,baz=334,slow=30						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**62.16**	**341**	P	**P**	**09 08 49.3**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=141,slow=7.2,SNR=11						
	comp=Z,1.6nm,1.0s						
RAR	**Rarotonga**	**62.67**	**240**	LR	LR	09 26 35.6	
	comp=Z,91nm,21.5s,baz=64,slow=27						
SFJD	**Kangerlussuaq**	**67.17**	**20**	LR	LR	09 38 58.3	
	comp=Z,181nm,20.7s,baz=268,slow=36						
BORG	**Borgarnes**	**78.02**	**26**	LR	LR	09 45 18.7	
	comp=Z,100nm,18.1s,baz=307,slow=36						
TIXI	**Tiksi**	**91.32**	**345**	P	**P**	**09 11 33.7**	**-0.2**
NOA	**NORSAR Array B**	**93.20**	**26**	LR	LR	09 54 09.7	
	comp=Z,51nm,20.5s,baz=20,slow=36						
ASAJ	**Asahik

RSNC 12 09:12:59.0±0.0, 7°N±2°×7°W±°, h46km±10km, M2.5, mb4.1, ML2.1, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.72**	**276**	P	Pn	09 13 11.1	-1.7
PTAC				S	Sn	09 13 23.1	+0.3
DBBC	**Dabeiba**	**0.88**	**93**	P	Pn	09 13 13.0	-2.0
DBBC				S	Sn	09 13 24.7	-2.1
SOLC	**Bahia Solano**	**0.90**	**201**	P	Pn	09 13 14.0	-1.2
SOLC				S	Sn	09 13 27.2	+0.1
APAC	**Apartado, Choc**	**0.97**	**31**	P	Pn	09 13 15.5	-0.7
APAC				S	Sn	09 13 28.8	-0.1
CBOC	**Ciudad Bolivar**	**1.61**	**138**	P	Pn	09 13 23.2	-1.9
CBOC				S	Sn	09 13 44.9	+0.1
UREC	**San Jos de Ur**	**1.69**	**66**	P	Pn	09 13 25.9	-0.2
UREC				S	Sn	09 13 44.9	-1.6
HELC	**Santa Helena**	**1.78**	**119**	P	Pn	09 13 27.3	-0.3
HELC				S	Sn	09 13 50.0	+0.7
GUY2C	**Guyana, Caldas**	**2.51**	**137**	P	Pn	09 13 38.2	+0.4
GUY2C				S	Sn	09 14 08.4	+1.0
PTBC	**PUERTO BERRIO,**	**2.67**	**101**	P	Pn	09 13 41.5	+2.0
PTBC				S	Sn	09 14 12.7	+2.0
YOTC	**Yotoco, Valle**	**3.15**	**166**	P	Pn	09 13 43.6	-2.7
YOTC				S	Sn	09 14 19.4	-3.4
SJCC	**San Jacinto, C**	**3.38**	**34**	P	Pn	09 13 49.3	-0.1
BCIP	**Isla Barro Col**	**3.43**	**308**	P	Pn	09 13 49.3	-0.6
BCIP				S	Sn	09 14 29.1	-0.2
ORTC	**Ortega, Tolima**	**3.64**	**150**	P	Pn	09 13 54.3	+1.4
OCAC	**Ocana**	**3.91**	**72**	P	Pn	09 13 57.7	+0.9
OCAC				S	Sn	09 14 42.6	+1.0
PRAC	**Prado**	**3.99**	**147**	P	Pn	09 13 58.6	+0.9
RUSC	**La Rusia**	**4.15**	**106**	P	Pn	09 14 01.4	+1.1
PAMC	**Pamplona, Colo**	**4.36**	**86**	P	Pn	09 14 04.8	+1.5
PAMC				S	Sn	09 14 55.2	+2.1
CRJC	**Cerrejon, Guaj**	**5.72**	**46**	P	Pn	09 14 21.4	-0.1
CRJC				S	Sn	09 15 21.5	-4.4
URIC	**Uribia, Colomb**	**6.82**	**47**	P	Pn	09 14 35.9	-0.6

*KOLA **12** 09:19:48.7, 78°N×10°49E, h0km, ML2.6, Error ellipse: s-maj=12.1km s-min=6.3km az=100.0, Spitsbergen, Greenland sea*
*BER **12** 09:19:51.2±2.3, 78°92N×10°52E, h16km±18km, ML2.7, Confirmed Earthquake*

ISC 12 09:19:48.2±1.8, 79°1N±0°1×10°54E±0°08, h31km±10km, n11, σ1°930/21, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.32**	**121**	P	**Pn**	**09 19 56.1**	**-0.5**
KBS				S	**Sb**	**09 20 00.2**	**-0.9**
KBS	**Kingsbay**	**0.32**	**121**	⇓*i*P	**Pn**	**09 19 56.6**	**0.0**
KBS				*e*S	**Sb**	**09 20 00.3**	**-0.9**
KBS				IAML		09 20 00.8	
	comp=Z,1μm,0.2s						
BRBB	**Barentsburg B**	**1.24**	**142**	P	**Pn**	**09 20 09.5**	**+0.2**
BRBB				S	**Sn**	**09 20 23.2**	**-1.7**
BRBB	**Barentsburg B**	**1.24**	**142**	*e*P	**Pn**	**09 20 10.1**	**+0.7**
BRBB				*e*S	**Sn**	**09 20 23.5**	**-1.5**
BRBA	**Barentsburg A**	**1.27**	**143**	*e*P	**Pn**	**09 20 10.5**	**+0.8**
BRBA				*e*S	**Sn**	**09 20 24.3**	**-1.4**
BRBA				IAML		09 20 27.9	
	comp=Z,261nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.48**	**126**	*e*P	**Pb**	**09 20 15.0**	**+0.1**
SPA0				*e*S	**Sn**	**09 20 32.4**	**+1.6**
SPA0				IAML		09 20 36.9	
	comp=Z,73nm,0.6s						
SPITS	**Spitsbergen Ar**	**1.48**	**126**	P	**Pb**	**09 20 14.8**	**-0.2**
SPITS				S	**Sb**	**09 20 32.8**	**-0.4**
HSPB	**Hornsund (broa**	**2.34**	**151**	P	**Pn**	**09 20 24.1**	**-0.3**
HSPB				S	**Sn**	**09 20 50.5**	**-1.6**
HSPB	**Hornsund (broa**	**2.34**	**151**	*e*P	**Pn**	**09 20 24.2**	**-0.3**
HSPB				*e*Pg	**Pb**	**09 20 32.5**	**+2.9**
HSPB				*e*S	**Sn**	**09 20 51.0**	**-1.1**
HOPEN	**Hopen**	**4.01**	**123**	*e*P	**Pn**	**09 20 48.9**	**+1.6**
DAG	**Danmarks Havn**	**6.49**	**264**	*i* P	Pn	09 21 29.0	+7.7
DAG				*i* S	**Sn**	**09 22 32.9**	**-1.2**

*BJI **12** 09:21:47.1, 34°59N×141°14E, h42km, mB5.3/40, mb5.0/85, Ms4.8/84, Ms7 4.5/83*
*MOS **12** 09:21:52.6±1.3, 34°58N×140°62E, h56km, mb5.6/71, MS4.6/19, Error ellipse: s-maj=7.5km s-min=4.2km az=118.9*
*NEIC **12** 09:21:52.3, 34°73N×140°65E, h60km*
*NEIC **12** 09:21:52.3, 34°53N×141°01E, h60km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-0.37; $M_{r\theta}$-0.38; $M_{\theta\phi}$-0.81; $M_{\phi r}$0.37; Fault plane solution: $M_0$1.03000×10^{17} NP1: ϕ_s=254.91000°, δ=66.42000°, λ=165.96000°. NP2: ϕ_s=350.63000°, δ=77.15000°, λ=24.22000°. Principal axes: T 1.1169, Plg26.0000°, Azm215.0000°; N -0.1987, Plg63.0000°, Azm17.0000°; P -0.9182, Plg7.0000°, Azm121.0000°;*
*NIED **12** 09:21:53.7, 34°67N×140°65E, h75km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-0.53; $M_{r\theta}$-0.38; $M_{\theta\phi}$-0.87; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.17000×10^{17} NP1: ϕ_s=252.00000°, δ=61.00000°, λ=170.00000°. NP2: ϕ_s=347.00000°, δ=82.00000°, λ=30.00000°.*
*JMA **12** 09:21:53.7±0.2, 34°7N±0°7×140°7E±0°8, h75km±2km, MD5.4/35, MW5.4/35, SE OFF BOSO PENINSULA*
JMA Felt IV J1 at SE OFF BOSO PENINSULA .
*NEIC **12** 09:21:53.1±1.6, 34°73N±0°05×140°62E±0°08, h48km±5km, mb5.3/384, Mww5.3/23, Error ellipse: s-maj=10.0km s-min=7.0km az=101.0*
*IDC **12** 09:21:56.9±0.4, 34°59N×140°49E, h74km±3km, mb4.6/30, mbtmp4.9/35, MS4.3/64, Error ellipse: s-maj=9.1km s-min=5.1km az=91.0*
*GCMT **12** 09:21:59.0±0.1, 34°71N±0°01×140°63E±0°01, h60km±1km, MW5.4/141, Moment Tensor Solution. s96, c147; s141, c241; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.34±.02; $M_{\theta\theta}$0.77±.02; $M_{\phi\phi}$-1.11±.02; $M_{r\theta}$-0.46±.02; $M_{\theta\phi}$-0.88±.02; $M_{\phi r}$0.46±.02; Best double couple: $M_0$1.46700×10^{17} NP1:ϕ_s243.00000°, δ63.00000°, λ165.00000°. NP2:ϕ_s340.00000°, δ77.00000°, λ27.00000°. Principal axes: T 1.4400, Plg29.0000°, Azm204.0000°; N 0.0500, Plg60.0000°, Azm4.0000°; P -1.4940, Plg9.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 09:21:54.3±0.3, 34°64N±0°02×140°64E±0°03, h57km±1km, h57km: pP-P, n1251, σ1°993/1082, mb5.3/354, MS4.5/108, 39C-51D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO2	**Boso 2**	**0.14**	**41**	X		09 22 14.1	
BSO3	**Boso 3**	**0.19**	**326**	⇓*i*P	**Pn**	**09 22 04.7**	**+1.7**
BSO1	**Boso 1**	**0.28**	**88**	*i* P	**Pn**	**09 22 05.3**	**+2.0**
BSO4	**Boso 4**	**0.43**	**324**	⇓*i*P	**Pn**	**09 22 06.6**	**+1.5**
KTR	**Katsuura**	**0.57**	**332**	⇓*i*P	**Pn**	**09 22 07.7**	**+0.9**
JKUC	**kamogawauchiur**	**0.63**	**325**	⇓*i*P	**Pn**	**09 22 08.3**	**+0.8**
JKUC				⇓S	**Sn**	**09 22 18.4**	**+1.3**
JKUC	**kamogawauchiur**	**0.63**	**325**	A	A	09 22 08.3	
	comp=N,565nm,1.1s,comp=E,2μm,1.0s						
TATJ	**Tateyama 2**	**0.73**	**302**	⇓*i*P	**Pn**	**09 22 10.0**	**+1.3**
TATJ	**Tateyama 2**	**0.73**	**302**	A	A	09 22 10.0	
	comp=N,357nm,1.4s,comp=E,699nm,1.3s						
JYO	**Yokosk**	**0.99**	**306**	A	A	09 22 12.4	
	comp=N,261nm,1.3s,comp=E,497nm,1.2s						
JIM2	**Oshima 3**	**1.00**	**275**	*i* P	**Pn**	**09 22 12.7**	**+0.5**
JIM2	**Oshima 3**	**1.00**	**275**	A	A	09 22 12.7	
	comp=N,641nm,0.8s,comp=E,318nm,1.4s						
JSMT	**Sammumatsuo**	**1.01**	**351**	A	A	09 22 12.4	
	comp=N,322nm,3.3s,comp=E,543nm,2.0s						
JMYK	**Miyake Tsubota**	**1.08**	**238**	S	**Sn**	**09 22 29.8**	**+2.5**
JMYK	**Miyake Tsubota**	**1.08**	**238**	A	A	09 22 29.8	
	comp=N,481nm,2.3s,comp=E,378nm,2.5s						
JMKN	**Mikurajimanish**	**1.15**	**230**	*i* P	**Pn**	**09 22 15.6**	**+1.4**
JMKN	**Mikurajimanish**	**1.15**	**230**	A	A	09 22 15.6	
	comp=N,176nm,1.0s,comp=E,159nm,1.8s						
JSKK	**Shikinejimakit**	**1.22**	**256**	A	A	09 22 15.7	
	comp=N,160nm,3.4s,comp=E,219nm,1.8s						
TOK	**Tokyo**	**1.27**	**325**	A	A	09 22 15.8	
	comp=N,358nm,0.7s,comp=E,2μm,1.2s						
JIHU	**Itakohorinouch**	**1.32**	**356**	A	A	09 22 16.4	
	comp=N,360nm,2.1s,comp=E,692nm,1.7s						
KTJ3	**Kamata3**	**1.32**	**283**	*i* P	**Pn**	**09 22 16.6**	**+0.1**
JHTM	**Izuhatsuma**	**1.38**	**284**	A	A	09 22 17.6	
	comp=N,272nm,1.1s,comp=E,308nm,0.4s						
JOD2	**Odawara 2**	**1.42**	**296**	*i* P	**Pn**	**09 22 17.9**	**0.0**
JOD2	**Odawara 2**	**1.42**	**296**	A	A	09 22 17.9	
	comp=N,54nm,2.2s,comp=E,90nm,1.6s						
JIZS	**Izushimoda**	**1.46**	**273**	A	A	09 22 18.7	
	comp=N,184nm,1.4s,comp=E,102nm,1.3s						
JSGW	**Sagamiharawaka**	**1.51**	**310**	A	A	09 22 19.2	
	comp=N,91nm,1.6s,comp=E,204nm,1.8s						
JYT	**Yasato**	**1.62**	**347**	A	A	09 22 20.5	
	comp=N,67nm,0.4s,comp=E,101nm,2.0s						
JHJ2	**Mitsune**	**1.68**	**204**		**Pn**	**09 22 22.8**	**+1.5**
JHJ2				Sn	**Sn**	**09 22 43.8**	**+2.1**
JHJ2	**Mitsune**	**1.68**	**204**	P	**Pn**	**09 22 23.2**	**+1.9**
JHJ2	**Mitsune**	**1.68**	**204**	A	A	09 22 21.9	
	comp=N,220nm,2.8s,comp=E,215nm,1.6s						
JHJ	**Hachijo jima 2**	**1.68**	**205**	P	**Pn**	**09 22 23.1**	**+1.7**
	comp=E,23μm,0.4s,baz=335,slow=9.9,SNR=350						
JHJ				S	**Sn**	**09 22 42.5**	**+0.7**
	comp=E,36μm,0.3s,baz=122,slow=23,SNR=9.1						
JHYU	**Hitachinakayam**	**1.69**	**359**	A	A	09 22 21.4	
	comp=N,76nm,4.5s,comp=E,63nm,3.6s						
JFNN	**Fujinakano**	**1.70**	**289**	A	A	09 22 21.8	
	comp=N,106nm,2.0s,comp=E,75nm,2.5s						
JHCJ	**Hachijojimakas**	**1.72**	**204**	A	A	09 22 22.6	
	comp=N,138nm,2.8s,comp=E,105nm,2.4s						
JYN	**Shimono**	**1.92**	**297**	A	A	09 22 24.9	
	comp=N,50nm,4.1s,comp=E,45nm,1.3s						
JHO	**Hitachi**	**1.96**	**358**	A	A	09 22 25.2	
	comp=N,38nm,1.9s,comp=E,38nm,1.4s						
JRY	**Ryogami san**	**1.97**	**314**	A	A	09 22 25.5	
	comp=N,68nm,2.8s,comp=E,99nm,2.5s						
JAG	**Ashikaga**	**2.02**	**332**	A	A	09 22 26.1	
	comp=N,43nm,1.8s,comp=E,64nm,3.9s						
JSG	**Sagara**	**2.02**	**272**		**Pn**	**09 22 27.2**	**+1.2**
JSG	**Sagara**	**2.02**	**272**	P	**Pn**	**09 22 28.4**	**+2.4**
JSG	**Sagara**	**2.02**	**272**	A	A	09 22 26.5	
	comp=N,119nm,4.1s,comp=E,101nm,5.4s						
SHZ3	**Shizuoka 3**	**2.04**	**283**	A	A	09 22 26.7	
	comp=N,135nm,1.2s,comp=E,47nm,1.2s						
JAOM	**Aogashimamukai**	**2.29**	**199**	A	A	09 22 30.5	
	comp=N,120nm,0.7s,comp=E,138nm,0.8s						
JNT	**Takato**	**2.39**	**302**	A	A	09 22 31.3	
	comp=N,26nm,2.0s,comp=E,24nm,2.1s						
JNY	**Yasuok**	**2.39**	**288**	A	A	09 22 31.4	
	comp=N,31nm,1.7s,comp=E,30nm,1.4s						
JSB	**Shiboa**	**2.39**	**346**	A	A	09 22 31.1	
	comp=N,104nm,3.0s,comp=E,147nm,3.3s						
JKT	**Katashina**	**2.40**	**332**	A	A	09 22 31.3	
	comp=N,51nm,2.5s,comp=E,57nm,2.7s						
HMMJ	**Hamamatsu 2**	**2.41**	**276**	A	A	09 22 31.8	
	comp=N,33nm,7.7s,comp=E,16nm,3.2s						
JFFD	**Fukushimafurud**	**2.44**	**358**	A	A	09 22 31.7	
	comp=N,28nm,2.4s,comp=E,41nm,4.0s						
ONAJ	**Iwakimizuishiy**	**2.46**	**3**	A	A	09 22 32.0	
	comp=N,24nm,5.0s,comp=E,46nm,3.7s						
JGK	**Kuni**	**2.51**	**320**	A	A	09 22 32.9	
	comp=N,64nm,3.2s,comp=E,49nm,1.9s						
JNG	**Nsakai**	**2.72**	**311**	A	A	09 22 35.8	
	comp=N,40nm,3.8s,comp=E,52nm,1.4s						
MJAR	**Matsushiro Arr**	**2.74**	**314**	P	**Pn**	**09 22 36.8**	**+0.9**
	comp=E,1μm,0.6s,baz=160,slow=13,SNR=978						
MJAR				S	**Sn**	**09 23 09.7**	**+1.9**
	comp=E,1μm,0.5s,baz=160,slow=40,SNR=2.8						
MJAR				LR	LR	09 23 57.6	
	comp=E,9μm,19.5s,baz=128,slow=45						
JAO	**Obara**	**2.85**	**284**	A	A	09 22 37.8	
	comp=N,30nm,5.0s,comp=E,19nm,1.8s						
JGF	**Kuroka**	**2.86**	**290**		**Pn**	**09 22 39.0**	**+1.5**
JGF	**Kuroka**	**2.86**	**290**	P	**Pn**	**09 22 39.8**	**+2.3**
JFY	**Yanaizu**	**2.86**	**345**	A	A	09 22 37.6	
	comp=N,24nm,3.1s,comp=E,53nm,5.3s						
JUON	**Uonuma**	**2.86**	**334**	A	A	09 22 37.7	
	comp=N,20nm,7.4s,comp=E,30nm,8.4s						
JOTO	**OTAMA OYAMA**	**2.92**	**355**	A	A	09 22 38.4	
	comp=N,56nm,1.7s,comp=E,120nm,2.4s						
INU	**Inuyama**	**3.06**	**284**		**Pn**	**09 22 40.4**	**+0.3**
INU	**Inuyama**	**3.06**	**284**	P	**Pn**	**09 22 42.2**	**+2.0**
JMST	**Minamisoumatoc**	**3.08**	**4**	A	A	09 22 40.6	
	comp=N,20nm,1.6s,comp=E,30nm,1.8s						
JGN	**Niukaw**	**3.14**	**301**	A	A	09 22 41.8	
	comp=N,13nm,2.6s,comp=E,14nm,2.4s						
JJN	**Nakama**	**3.17**	**321**	A	A	09 22 42.1	
	comp=N,38nm,3.8s,comp=E,46nm,3.1s						
JICN	**Ichinomiyachia**	**3.19**	**283**	A	A	09 22 42.5	
	comp=N,35nm,1.8s,comp=E,32nm,2.4s						
JMM	**Marumori**	**3.22**	**2**		**Pn**	**09 22 39.6**	**-2.8**
JMM	**Marumori**	**3.22**	**2**	P	**Pn**	**09 22 42.2**	**-0.2**
JMM	**Marumori**	**3.22**	**2**	S	**Sn**	**09 23 17.5**	**-1.9**
JMM	**Marumori**	**3.22**	**2**	A	A	09 22 42.6	
	comp=N,24nm,0.6s,comp=E,41nm,1.9s						
JIZZ	**Izumozaki**	**3.28**	**332**	A	A	09 22 43.5	
	comp=N,91nm,2.8s,comp=E,95nm,2.5s						
JYAR	**Yonezawaarcadi**	**3.29**	**353**	A	A	09 22 43.5	
	comp=N,34nm,3.1s,comp=E,49nm,1.5s						
JTT	**Ttatey**	**3.33**	**307**	A	A	09 22 44.4	
	comp=N,38nm,2.2s,comp=E,35nm,4.9s						
JYTA	**Yamagatataniai**	**3.34**	**288**	A	A	09 22 44.6	
	comp=N,17nm,3.9s,comp=E,14nm,4.1s						
JNS	**Sasagawa**	**3.34**	**342**	A	A	09 22 44.4	
	comp=N,18nm,3.1s,comp=E,42nm,3.3s						
TSUJ	**Tsu 2**	**3.48**	**272**	A	A	09 22 46.7	
	comp=N,16nm,4.3s,comp=E,12nm,5.1s						
JEG	**Eigenji**	**3.53**	**279**	A	A	09 22 47.3	
	comp=N,17nm,3.2s,comp=E,10.0nm,5.6s						
JYS	**Shirataka**	**3.60**	**353**	A	A	09 22 47.9	
	comp=N,34nm,1.7s,comp=E,38nm,2.0s						
JOU	**Okura**	**3.71**	**0**	A	A	09 22 49.5	
	comp=N,27nm,3.4s,comp=E,34nm,4.8s						
JIKH	**Ishinomakikobu**	**3.72**	**10**	A	A	09 22 49.5	
	comp=N,13nm,4.4s,comp=E,44nm,1.8s						
JSZ	**Suzu**	**3.86**	**317**	A	A	09 22 51.7	
	comp=N,15nm,2.4s,comp=E,13nm,5.7s						
JJH	**Hakui**	**3.88**	**307**	A	A	09 22 52.0	
	comp=N,25nm,5.4s,comp=E,14nm,5.7s						
JKG	**Kaga**	**3.88**	**296**	A	A	09 22 52.1	
	comp=N,18nm,5.3s,comp=E,15nm,6.2s						
JSD	**Sado**	**3.89**	**331**	Pn	**Pn**	**09 22 49.5**	**-2.1**
JSD	**Sado**	**3.89**	**331**	P	**Pn**	**09 22 52.2**	**+0.6**
JSD	**Sado**	**3.89**	**331**	A	A	09 22 52.1	
	comp=N,13nm,3.4s,comp=E,23nm,2.6s						
JFM	**Mihama**	**3.92**	**284**	A	A	09 22 52.8	
	comp=N,14nm,8.8s,comp=E,11nm,2.1s						
JOFO	**Osakifurukawao**	**3.96**	**3**	A	A	09 22 52.8	
	comp=N,109nm,4.7s,comp=E,146nm,4.3s						
JAW	**Awa shima**	**3.97**	**344**	A	A	09 22 53.1	
	comp=N,16nm,4.5s,comp=E,22nm,8.9s						
JYA	**Atsumi**	**4.01**	**350**	A	A	09 22 53.7	
	comp=N,21nm,5.6s,comp=E,27nm,4.9s						
JKMT	**Kesennumamotoy**	**4.21**	**9**	A	A	09 22 56.4	
	comp=N,18nm,0.9s,comp=E,36nm,1.8s						
JTNC	**Tanabenakahech**	**4.25**	**260**	A	A	09 22 57.5	
	comp=N,10.0nm,6.5s,comp=E,9.0nm,5.0s						
JYK	**Kaneyama**	**4.27**	**357**	A	A	09 22 57.3	
	comp=N,14nm,2.0s,comp=E,22nm,3.4s						
JMK	**Ichinoseki**	**4.32**	**6**	A	A	09 22 58.0	
	comp=N,8.0nm,1.5s,comp=E,12nm,2.8s						
JWT	**Wachi**	**4.35**	**280**	A	A	09 22 58.8	
	comp=N,13nm,10.1s,comp=E,8.0nm,3.9s						
JHG	**Hegura jima**	**4.39**	**318**	A	A	09 22 59.1	
	comp=N,17nm,3.7s,comp=E,13nm,5.5s						
JYYZ	**Yamagatayuza**	**4.40**	**353**	A	A	09 22 59.1	
	comp=N,79nm,8.5s,comp=E,70nm,3.9s						
OFUJ	**Ofunato**	**4.50**	**10**	A	A	09 23 00.5	
	comp=N,11nm,1.5s,comp=E,26nm,2.7s						
JMIK	**Miki**	**4.61**	**274**	A	A	09 23 02.4	
	comp=N,12nm,5.7s,comp=E,12nm,3.6s						
JTB	**Tobi-shima**	**4.62**	**349**	A	A	09 23 02.2	
	comp=N,10.0nm,3.1s,comp=E,18nm,8.0s						
JRG	**Rokugo**	**4.74**	**360**	A	A	09 23 03.9	
	comp=N,19nm,1.9s,comp=E,28nm,3.6s						
JKS	**Kasai**	**4.78**	**276**	A	A	09 23 04.8	
	comp=N,8.0nm,5.6s,comp=E,6.0nm,5.0s						
JOM	**Ohasama**	**4.85**	**6**	A	A	09 23 05.3	
	comp=N,9.0nm,2.7s,comp=E,12nm,3.8s						
JYW	**Yuwa**	**4.90**	**356**	A	A	09 23 06.0	
	comp=N,37nm,1.8s,comp=E,34nm,2.3s						
JSZI	**Iwateshizukuis**	**5.09**	**3**	A	A	09 23 08.7	
	comp=N,33nm,1.6s,comp=E,44nm,2.7s						
JKZ	**Kuzumaki**	**5.36**	**6**	A	A	09 23 12.4	
	comp=N,8.0nm,2.3s,comp=E,13nm,4.0s						
JTH	**Tanohata**	**5.37**	**10**	A	A	09 23 12.6	
	comp=N,15nm,1.4s,comp=E,19nm,2.3s						
JOG3	**Oga3**	**5.41**	**347**	A	A	09 23 11.7	
	comp=N,20nm,3.0s,comp=E,19nm,6.1s						
JAH	**Hinai**	**5.54**	**360**	A	A	09 23 14.9	
	comp=N,11nm,7.4s,comp=E,14nm,2.3s						
JKEN	**Kujiedanarisaw**	**5.62**	**8**	A	A	09 23 15.9	
	comp=N,30nm,1.0s,comp=E,32nm,1.5s						
JNTW	**Noshirotokiwa**	**5.63**	**356**	A	A	09 23 16.2	
	comp=N,44nm,2.8s,comp=E,45nm,5.8s						
JMN	**Monobe**	**5.68**	**263**		**Pn**	**09 23 14.9**	**-1.2**
JMN	**Monobe**	**5.68**	**263**	P	**Pn**	**09 23 18.6**	**+2.5**
JANG	**Nango**	**5.76**	**7**	A	A	09 23 18.0	
	comp=N,8.0nm,2.0s,comp=E,10.0nm,4.4s						
JIW	**Iwasaki**	**5.96**	**355**	A	A	09 23 20.8	
	comp=N,9.0nm,4.8s,comp=E,10.0nm,7.5s						
JHHS	**Hirosakihyakuz**	**6.00**	**358**	A	A	09 23 21.3	
	comp=N,22nm,5.6s,comp=E,24nm,3.1s						
JTM	**Tenmabayashi**	**6.14**	**3**		**Pn**	**09 23 21.2**	**-1.2**
JTM	**Tenmabayashi**	**6.14**	**3**	P	**Pn**	**09 23 21.7**	**-0.7**
JTM	**Tenmabayashi**	**6.14**	**3**	S	**Sn**	**09 24 29.3**	**-1.9**
JTM	**Tenmabayashi**	**6.14**	**3**	A	A	09 23 23.3	
	comp=N,9.0nm,4.2s,comp=E,13nm,1.7s						
ERM	**Erimo**	**7.62**	**14**		**Pn**	**09 23 40.0**	**-2.6**
ERM	**Erimo**	**7.62**	**14**	P	**Pn**	**09 23 40.0**	**-2.6**
ERM	**Erimo**	**7.62**	**14**	P	**Pn**	**09 23 40.1**	**-2.6**
JEM	**Erimo**	**7.62**	**14**	P	**Pn**	**09 23 40.6**	**-2.0**
JCJ	**Chichijima**	**7.64**	**170**	Pn	**Pn**	**09 23 41.7**	**-1.3**
JCJ	**Chichijima**	**7.64**	**170**	P	**Pn**	**09 23 43.5**	**+0.5**
	comp=E,896nm,0.3s,baz=295,slow=2.5,SNR=35						
JCJ				S	**Sn**	**09 25 01.9**	**-6.2**
	comp=E,2μm,0.6s,baz=201,slow=23,SNR=7.1						
JCJ				LR	LR	09 26 52.9	
	comp=E,3μm,21.3s,baz=16,slow=39						
JNU	**Nakatsue**	**8.26**	**262**		**Pn**	**09 23 50.1**	**-1.3**
JNU	**Nakatsue**	**8.26**	**262**	P	**Pn**	**09 23 53.8**	**+2.3**
	comp=E,173nm,0.7s,baz=66,slow=2.8,SNR=110						
JNU	**Nakatsue**	**8.26**	**262**	P	**Pn**	**09 23 54.4**	**+2.9**
NMR	**Nemuro--Hokkai**	**9.57**	**23**	⇓*i*P	**Pn**	**09 24 04.6**	**-4.7**
ASAJ	**Asahikawa**	**9.58**	**8**	P	**Pn**	**09 24 06.9**	**-2.6**
	comp=E,142nm,0.5s,baz=219,slow=9.8,SNR=155						
ASAJ				S	**Sn**	**09 25 47.5**	**-8.0**
	comp=E,270nm,0.8s,baz=67,slow=10,SNR=6.0						
ASAJ	**Asahikawa**	**9.58**	**8**	P	**Pn**	**09 24 05.8**	**-3.6**
JKA	**Kamikawa-asahi**	**9.58**	**9**		**Pn**	**09 24 05.8**	**-3.6**
RUSJ	**Misakicho**	**10.10**	**19**	*e*P	**Pn**	**09 24 13.3**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**10.21**	**22**	*d*i P	**Pn**	**09 24 14.2**	**-3.8**
YUK				pmax	pmax		
	comp=N,79nm,0.2s						
YUK				pmax	pmax		
	comp=E,45nm,0.2s						
YUK				pmax	pmax		
	comp=Z,386nm,0.2s						
KSRS	**Korea Array**	**10.67**	**289**	P	**Pn**	**09 24 27.2**	**+2.8**
	comp=Z,116nm,1.0s,baz=104,slow=13,SNR=52						
KS19	**Wonju Array Si**	**10.72**	**289**	Pn	**Pn**	**09 24 22.1**	**-3.1**
TEY	**Ternei**	**10.83**	**345**	*e*P	**Pn**	**09 24 22.2**	**-4.3**
MSHR	**Mys Shultsa**	**10.85**	**320**	*i* P	**Pn**	**09 24 27.0**	**+0.2**
VLA	**Vladivostok**	**10.87**	**324**	⇓*i*P	**Pn**	**09 24 28.2**	**+1.2**
VLA				pmax	pmax		
	comp=Z,238nm,1.3s						
TJN	**Taejon**	**10.96**	**283**		**Pn**	**09 24 24.9**	**-3.4**
TJN	**Taejon**	**10.96**	**283**	P	**Pn**	**09 24 30.3**	**+2.0**
TJN	**Taejon**	**10.96**	**283**	*i* P	**Pn**	**09 24 30.6**	**+2.3**
USRK	**Ussuriysk Ar.**	**11.65**	**328**	P	**Pn**	**09 24 38.0**	**+0.3**
	comp=Z,44nm,0.8s,baz=138,slow=12,SNR=46						
USRK	**Ussuriysk Ar.**	**11.65**	**328**	P	**Pn**	**09 24 38.0**	**+0.3**
INCN	**Inchon**	**11.69**	**288**		**Pn**	**09 24 35.6**	**-2.7**
INCN	**Inchon**	**11.69**	**288**	P	**Pn**	**09 24 39.7**	**+1.4**
INCN	**Inchon**	**11.69**	**288**	P	**Pn**	**09 24 35.6**	**-2.7**
KUR	**Kuril'sk**	**11.94**	**25**	*e*P	**Pn**	**09 24 37.8**	**-3.8**
KUR				pmax	pm

comp=Z,200nm,3.1s
TYV pmax pmax
comp=Z,57nm,0.8s
TYV smax smax
comp=N,500nm,3.3s
TYV smax smax
comp=E,500nm,3.3s
TYV smax smax
comp=N,31nm,1.6s
TYV smax smax
comp=E,20nm,1.6s
GRNR Gornyy 16.41 350 *e*P **Pn 09 25 36.8 -3.9**
GRNR MLR MLR
comp=E,600nm,13.0s
GRNR MLR MLR
comp=N,540nm,15.0s
GRNR MLR MLR
comp=Z,880nm,14.0s
SSE Sheshan 16.72 263 P **Pn 09 25 45.0 +0.3**
SSE S **Sn 09 28 50.6 +1.0**
SSE pmax pmax
comp=Z,6.0nm,0.4s
SSE pmax pmax
comp=Z,220nm,3.9s
SSE LR LR
comp=Z,2μm,19.1s
SSE LR LR
comp=Z,600nm,19.4s
HEH HeiHe 18.36 332 *e*P **P 09 26 00.2 -3.9**
HEH pmax pmax
comp=Z,110nm,0.7s
HEH pmax pmax
comp=Z,330nm,3.9s
NJ2 Nanjing 18.38 268 *e*P **P 09 26 04.7 +0.1**
NJ2 PP **sP 09 26 22.2 -0.9**
NJ2 pmax pmax
comp=Z,26nm,1.6s
NJ2 pmax pmax
comp=Z,680nm,3.8s
NJ2 LR LR
comp=Z,830nm,12.3s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,2μm,19.4s
OKH Okha 18.97 4 *de*P **P 09 26 07.1 -3.7**
OKH pmax pmax
comp=Z,400nm,13.6s
OKH MLR MLR
comp=N,1μm,16.0s
OKH MLR MLR
comp=Z,800nm,16.0s
OKH MLR MLR
comp=E,600nm,13.0s
TIA Tai'an 19.22 281 P **P 09 26 13.2 -0.6**
TIA sP **sP 09 26 34.5 +2.2**
TIA S **Sn 09 29 49.5 -0.5**
TIA pmax pmax
comp=E,19nm,0.9s
TIA pmax pmax
comp=E,830nm,6.1s
TIA LR LR
comp=E,2μm,16.7s
TIA LR LR
comp=E,1μm,17.1s
TIA LR LR
comp=E,2μm,15.3s
YHNB Yeheng 19.44 244 P **P 09 26 15.3 -1.0**
YHNB IAmb IAmb 09 26 25.7
comp=Z,226nm,1.9s
YHNB Yeheng 19.44 244 P **Pn 09 26 17.3 -0.6**
NACB Ninganchiao 19.57 243 P **P 09 26 15.8 -1.8**
NACB Ninganchiao 19.57 243 P **P 09 26 18.3 +0.7**
SKR Severo-Kuril's 19.59 30 *e*P **Pn 09 26 24.0 +4.6**
SKR pmax pmax
comp=Z,500nm,4.0s
SKR MLR MLR
comp=Z,700nm,17.0s
BJI Beijing 20.16 293 P **P 09 26 22.1 -1.8**
BJI pP **pP 09 26 34.6 -1.0**
BJI sP **sP 09 26 42.8 +0.4**
BJI PP **PnPn 09 26 44.4 +2.2**
BJI S **S 09 29 59.0 -8.0**
BJI sS Sn 09 30 18.6 +6.3
BJI pmax pmax
comp=Z,10.0nm,0.5s
BJI LR LR
comp=Z,370nm,16.0s
BJI LR LR
comp=Z,410nm,22.5s
BJI LR LR
comp=Z,710nm,23.3s
BJT Baijiatuau 20.16 293 **P 09 26 21.9 -2.0**
BJT IAmb IAmb 09 26 39.8
comp=Z,202nm,2.0s
BJT Baijiatuau 20.16 293 P **P 09 26 24.2 +0.3**
BJT Baijiatuau 20.16 293 P **P 09 26 21.9 -2.0**
BJT pmax pmax
comp=Z,202nm,2.0s
YULB Yu-li 20.26 242 P **P 09 26 24.1 -1.0**
YULB Yu-li 20.26 242 P **P 09 26 25.1 0.0**
SSLB Suanglung 20.27 243 **P 09 26 23.7 -1.6**
SSLB Suanglung 20.27 243 P **P 09 26 25.4 +0.2**
TPUB Ta-pu 20.80 242 **P 09 26 29.0 -2.0**
TPUB Ta-pu 20.80 242 P **P 09 26 30.6 -0.4**
XLT XiLinHaoTe 21.08 303 *e*P **P 09 26 30.2 -3.7**
XLT sP sP 09 26 51.1 -1.6
XLT PP **PnPn 09 26 55.9 +1.0**
XLT pmax pmax
comp=Z,94nm,1.0s
XLT pmax pmax
comp=Z,230nm,4.1s
XLT LR LR
comp=Z,120nm,12.8s
XLT LR LR
comp=Z,920nm,11.9s
XLT LR LR
comp=Z,1μm,15.7s
HNS HongShan 21.14 285 ⇓P **P 09 26 32.3 -2.1**
HNS S **S 09 30 22.2 -4.2**
HNS pmax pmax
comp=Z,49nm,0.6s
HNS LR LR
comp=Z,930nm,16.7s
HNS LR LR
comp=Z,960nm,16.7s
HNS LR LR
comp=Z,1μm,15.9s
HIA Hailar 21.23 320 **P 09 26 32.2 -3.2**
HIA Hailar 21.23 320 P **P 09 26 34.0 -1.4**
HIA Hailar 21.23 320 P **P 09 26 32.2 -3.2**
HIA pmax pmax
comp=Z,50nm,0.5s
ZEA Zeya 21.30 338 *e*P **P 09 26 33.6 -2.5**
ZEA *e*S S 09 30 16.3 -13
ZEA *e* 09 31 05.1
ZEA pmax pmax
comp=Z,300nm,1.7s
ZEA pmax pmax
comp=E,50nm,0.6s
ZEA pmax pmax
comp=Z,210nm,0.6s
ZEA pmax pmax
comp=N,90nm,0.7s
ZEA smax smax
comp=N,700nm,7.0s
ZEA smax smax
comp=E,700nm,8.9s
ZEA MLR MLR
comp=E,200nm,12.0s
ZEA MLR MLR
comp=Z,600nm,12.0s
ZEA MLR MLR
comp=N,400nm,15.0s
GUMO Guam 21.31 169 P **P 09 26 36.6 +0.2**
GUMO Guam 21.31 169 P **P 09 26 38.8 +2.3**
comp=N,207nm,0.7s,baz=346,slow=5.5,SNR=8.2
GUMO S Sn 09 30 36.1 -4.1
comp=N,70nm,0.9s,baz=118,slow=23,SNR=3.9
GUMO LR LR 09 34 39.4
comp=N,1μm,18.5s,baz=14,slow=36
comp=N,207nm,0.7s
GUMO Guam 21.31 169 P **P 09 26 38.7 +2.3**
HILR Hailar Array B 21.40 320 LR LR 09 34 47.5
comp=N,750nm,19.0s,baz=90,slow=36
QZH Quanzhou 21.40 249 *e*P **P 09 26 41.4 +4.0**
QZH S **S 09 30 29.7 -2.1**
QZH sS **sS 09 30 49.2 -1.9**
QZH LR LR
comp=N,2μm,18.5s
QZH LR LR
comp=N,2μm,15.1s
QZH LR LR
comp=N,1μm,23.7s
PEA0B Petropavlovsk- 22.08 28 *i*P **P 09 26 39.9 -4.5**
PETK Petropavlovsk- 22.08 28 P **P 09 26 45.3 +0.9**
comp=N,9.0nm,0.8s,baz=199,slow=2.7,SNR=6.4
PETK LR LR 09 35 35.0
comp=N,619nm,20.4s,baz=230,slow=37
comp=N,9.0nm,0.8s
PET Petropavlovsk 22.39 29 P **P 09 26 46.9 -0.8**
PET IAmb IAmb 09 27 05.0
comp=Z,206nm,1.5s
PET Petropavlovsk 22.39 29 P **P 09 26 46.6 -1.1**
PET Petropavlovsk 22.39 29 ⇓*i*P **P 09 26 45.4 -2.3**
PET pmax pmax
comp=Z,149nm,1.4s
PET Petropavlovsk 22.39 29 P **P 09 26 49.0 +1.3**
comp=Z,95nm,1.4s
WHN Wuhan 22.50 267 P **P 09 26 48.7 -0.4**
WHN sP **sP 09 27 07.0 -0.9**
WHN S **S 09 30 47.9 -4.3**
WHN sS **sS 09 31 14.3 +1.4**
WHN SS **SnSn 09 31 37.8 +13**
WHN pmax pmax
comp=Z,1μm,1.7s
WHN LR LR
comp=Z,3μm,18.1s
TIY Taiyuan 22.94 286 P **P 09 26 53.9 +0.1**
TIY S **S 09 30 58.3 -1.3**
TIY LR LR
comp=Z,540nm,9.3s
TIY LR LR
comp=Z,1μm,15.8s
TIY LR LR
comp=Z,1μm,16.9s
LYN LuoYang 23.16 278 P **P 09 26 55.6 -0.4**
LYN S **S 09 30 56.4 -6.8**
LYN pmax pmax
comp=Z,32nm,0.8s
LYN pmax pmax
comp=Z,510nm,3.8s
LYN LR LR
comp=Z,3μm,24.7s
LYN LR LR
comp=Z,1μm,23.7s
LYN LR LR
comp=Z,2μm,25.4s
HHC Hu-ho-hao-te 23.75 294 *e*P **P 09 27 03.2 +1.7**
HHC PP **PnPn 09 27 35.7 +4.3**
HHC S **S 09 31 15.1 +2.3**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.1s
HHC LR LR
comp=Z,610nm,15.2s
HHC LR LR
comp=Z,770nm,17.6s
HHC LR LR
comp=Z,880nm,19.3s
CNSH ChangSha 24.46 262 P **P 09 27 04.6 -3.4**
CNSH S **S 09 31 18.0 -6.3**
CNSH pmax pmax
comp=Z,29nm,1.5s
CNSH LR LR
comp=Z,2μm,20.4s
CNSH LR LR
comp=Z,1μm,21.2s
CNSH LR LR
comp=Z,2μm,19.8s
BTO Baotou 24.89 293 *e*P **P 09 27 14.6 +2.7**
BTO PP **PnPn 09 27 51.9 +4.8**
BTO S **S 09 31 38.0 +6.8**
BTO pmax pmax
comp=Z,86nm,0.8s
BTO pmax pmax
comp=Z,320nm,5.2s
BTO LR LR
comp=Z,2μm,13.0s
BTO LR LR
comp=Z,2μm,16.6s
BTO LR LR
comp=Z,1μm,7.9s
MA2 Magadan 25.82 12 P **P 09 27 19.6 -0.3**
MA2 IAmb IAmb 09 27 45.8
comp=Z,96nm,0.8s
MA2 Magadan 25.82 12 LR LR 09 37 27.6
comp=Z,458nm,21.1s,baz=190,slow=36
MA2 Magadan 25.82 12 P **P 09 27 19.5 -0.4**
MA2 Magadan 25.82 12 ⇑*i*P **P 09 27 19.0 -0.9**
MA2 pmax pmax
comp=Z,62nm,0.9s
MA2 Magadan 25.82 12 P **P 09 27 21.9 +2.0**
comp=Z,141nm,0.8s
CIT Chita 26.04 320 *e*P **P 09 27 20.6 -1.5**
CIT *e* 09 27 32.4
CIT *e* 09 27 42.0
CIT *e* 09 28 02.6
CIT *e* 09 28 23.0
CIT pmax pmax
comp=Z,190nm,1.2s
XAN Xi'an 26.14 278 P **P 09 27 22.2 -1.1**
XAN S **S 09 31 49.5 -1.5**
XAN sS sS 09 32 11.5 -2.1
XAN pmax pmax
comp=Z,49nm,0.8s
XAN LR LR
comp=Z,2μm,23.4s
XAN LR LR
comp=Z,1μm,20.6s
XAN LR LR
comp=Z,1μm,23.4s
ENH Enshi 26.59 269 **P 09 27 26.0 -1.3**
ENH IAmb IAmb 09 27 30.1
comp=Z,55nm,0.7s
ENH Enshi 26.59 269 P **P 09 27 27.9 +0.6**
TGY Tagaytay City 27.11 226 LR LR 09 36 27.4
comp=Z,368nm,21.2s,baz=23,slow=32
H11N2 WAKE ISLAND Hy 27.57 116 T T 09 56 55.6
baz=309,slow=75,SNR=474
H11N1 WAKE ISLAND Hy 27.58 116 T T 09 56 54.3
baz=309,slow=75,SNR=611
H11N3 WAKE ISLAND Hy 27.59 116 T T 09 57 07.5
baz=309,slow=75,SNR=408
GULI GuiLin 27.75 259 P **P 09 27 36.7 -1.0**
GULI S **S 09 32 14.2 -2.1**
GULI pmax pmax
comp=Z,10.0nm,1.2s
GULI pmax pmax
comp=Z,280nm,5.7s
GULI LR LR
comp=Z,2μm,17.2s
GULI LR LR
comp=Z,790nm,20.1s
GULI LR LR
comp=Z,990nm,21.6s
H11S3 WAKE ISLAND Hy 28.19 118 T T 09 57 41.7
baz=311,slow=76,SNR=126
H11S1 WAKE ISLAND Hy 28.19 118 T T 09 57 41.7
baz=311,slow=76,SNR=154
H11S2 WAKE ISLAND Hy 28.20 118 T T 09 57 42.9
baz=311,slow=76,SNR=90
ULN Ulaanbaatar 28.25 308 P **P 09 27 41.3 -0.8**
ULN IAmb IAmb 09 27 44.9
comp=Z,196nm,1.7s
ULN Ulaanbaatar 28.25 308 *d i*P **P 09 27 41.4 -0.8**
ULN pmax pmax
comp=Z,20nm,0.7s
YAK Yakutsk 28.28 349 **P 09 27 40.4 -1.5**
YAK Yakutsk 28.28 349 LR LR 09 40 05.4
comp=Z,858nm,18.4s,baz=148,slow=38
YAK Yakutsk 28.28 349 *e*P **P 09 27 42.0 0.0**
YAK *e**PP **pP 09 27 56.8 +0.9**
YAK *e* 09 28 33.3
YAK *e* 09 30 52.4
YAK *e*S **S 09 32 24.6 +0.7**
YAK *e**SS **sS 09 32 50.5 +4.0**
YAK *e*SS SS 09 33 51.7 -33
YAK *e* 09 38 23.2
YAK pmax pmax
comp=Z,142nm,1.2s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=N,109nm,1.3s
YAK pmax pmax
comp=Z,144nm,1.4s
YAK pmax pmax
comp=N,95nm,1.5s
YAK pmax pmax
comp=E,45nm,1.5s
YAK smax smax
comp=E,772nm,4.3s
YAK smax smax
comp=N,552nm,3.7s
YAK MLR MLR
comp=Z,842nm,17.0s
YAK MLR MLR
comp=E,230nm,17.0s
YAK MLR MLR
comp=N,383nm,17.0s
SONM Songino Array 28.68 308 P **P 09 27 45.4 -0.5**
comp=N,27nm,0.6s,baz=108,slow=8.8,SNR=103
SONM LR LR 09 39 40.4
comp=N,1μm,21.4s,baz=106,slow=37
comp=N,27nm,0.6s
SEY Seymchan 29.25 11 *e*P **P 09 27 52.8 +2.2**
SEY pmax pmax
comp=Z,46nm,1.6s
SMY Shemya 29.83 42 P **P 09 27 54.4 -1.4**
SMY Shemya 29.83 42 P **P 09 27 54.4 -1.4**
SMY pmax pmax
comp=Z,142nm,1.2s
LZH Lanzhou 29.93 283 *e*P **P 09 27 56.3 -0.9**
LZH pP pP 09 28 08.8 -1.7
LZH PP **PnPn 09 28 55.8 +0.4**
LZH S **S 09 32 45.5 -5.3**
LZH pmax pmax
comp=Z,32nm,1.1s
LZH LR LR
comp=Z,350nm,16.5s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,1μm,16.8s
LZDM Lanzhou Array 30.07 283 P **P 09 27 57.1 -1.4**
comp=Z,6.9nm,0.5s,baz=134,slow=6.4,SNR=7.0
LZDM LR LR 09 40 10.7
comp=Z,689nm,20.8s,baz=35,slow=36
comp=Z,6.9nm,0.5s
GYA Guiyang 30.27 264 ⇑P **P 09 27 58.7 -1.5**
GYA pP pP 09 28 14.8 +1.3
GYA S **S 09 32 51.0 -5.2**
GYA pmax pmax
comp=Z,35nm,1.7s
GYA pmax pmax
comp=Z,280nm,4.7s
GYA LR LR
comp=Z,710nm,14.6s
GYA LR LR
comp=Z,560nm,17.7s
GYA LR LR
comp=Z,920nm,21.4s
DAV Davao City (W) 30.75 210 LR LR 09 40 23.6
comp=Z,401nm,19.5s,baz=60,slow=36
CD2 Chengdu 31.12 274 P **P 09 28 05.3 -2.3**
CD2 S **S 09 33 07.2 -2.1**
CD2 pmax pmax
comp=Z,110nm,0.7s
CD2 LR LR
comp=Z,4μm,21.6s
CD2 LR LR
comp=Z,2μm,18.1s
CD2 LR LR
comp=Z,2μm,16.2s
IRK Irkutsk 31.30 315 *e*P **P 09 28 08.7 -0.2**
IRK pmax pmax
comp=Z,43nm,2.4s
ZAK Zakamensk 31.32 312 *e*P **P 09 28 08.5 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.3s
QIZ Qiongzhong 31.42 248 P **P 09 28 12.5 +2.3**
QIZ S **S 09 33 16.5 +2.5**
QIZ pmax pmax
comp=Z,9.0nm,1.4s
QIZ LR LR
comp=Z,370nm,11.8s
QIZ LR LR
comp=Z,390nm,8.5s
QIZ LR LR
comp=Z,710nm,27.7s
TLY Talaya 31.48 314 P **P 09 28 09.5 -1.0**
TLY Talaya 31.48 314 ⇑*i*P **P 09 28 11.2 +0.7**
TLY pmax pmax
comp=Z,53nm,1.5s
GTA Gaotai 32.74 291 *e*P **P 09 28 21.3 -0.5**
GTA sP pwP 09 28 39.4 +1.5
GTA PP **PP 09 29 38.0 +1.5**
GTA S **S 09 33 34.4 -0.2**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA LR LR
comp=Z,490nm,15.6s
GTA LR LR
comp=Z,890nm,18.5s
GTA LR LR
comp=Z,1μm,19.6s
MOY Mondy 33.06 313 *e*P **P 09 28 24.7 +0.3**
MOY pmax pmax
comp=Z,29nm,1.9s
KMI Kunming 34.04 264 P **P 09 28 31.6 -1.8**
KMI pP pwP 09 28 50.0 -0.4
KMI S **S 09 33 53.1 -2.0**
KMI SS **SnSn 09 36 04.4 -2.1**
KMI pmax pmax
comp=Z,13nm,1.3s
KMI LR LR
comp=Z,1μm,15.9s
KMI LR LR
comp=Z,700nm,20.4s
KMI LR LR
comp=Z,990nm,19.7s
PZH PanZhiHua 34.29 267 P **P 09 28 36.3 +0.9**
PZH S **S 09 34 00.3 +1.5**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH LR LR
comp=Z,870nm,21.6s
PZH LR LR
comp=Z,590nm,18.2s
PZH LR LR
comp=Z,520nm,24.5s
SLVN Son La 34.85 257 **P 09 28 38.9 -1.3**
SLVN Son La 34.85 257 P **P 09 28 40.6 +0.4**
ADK Adak 34.94 47 P **P 09 28 39.4 -1.1**
ADK Adak 34.94 47 P **P 09 28 39.4 -1.1**
ADK pmax pmax
comp=Z,167nm,1.9s
KNGR Kungurtug, Tuv 34.96 311 ⇑*i*P **P 09 28 41.0 +0.1**
KNGR pmax pmax
comp=Z,79nm,1.0s
MYLDM Lahad Datu 35.77 220 **P 09 28 46.8 -1.3**
MYLDM IAmb IAmb 09 30 07.9
comp=Z,72nm,1.3s
MYLDM Lahad Datu 35.77 220 P **P 09 28 49.5 +1.5**
TNTI Ternate 35.91 203 P **P 09 28 45.0 -4.3**
TNTI Ternate 35.91 203 P **P 09 28 50.9 +1.7**
KKM Kota Kinabalu 36.32 224 P **P 09 28 50.8 -2.1**
KKM Kota Kinabalu 36.32 224 P **P 09 28 54.1 +1.3**
SWI Sorong 36.40 196 P **P 09 28 52.5 -0.9**
comp=Z,59nm,0.5s
SWI Sorong 36.40 196 P **P 09 28 49.5 -3.9**
SMPI Sarmi 36.49 183 P **P 09 28 54.2 +0.1**
comp=Z,4μmcomp=Z,189nm,1.9s
BILL Bilibino 36.49 16 P **P 09 28 52.8 -0.9**
BILL IAmb IAmb 09 29 24.1
comp=Z,67nm,1.4s
BILL Bilibino 36.49 16 *e*P **P 09 28 52.4 -1.3**
BILL pmax pmax
comp=Z,35nm,1.4s
DLV Lat 36.92 240 P **P 09 28 56.4 -1.8**
DLV IAmb IAmb 09 29 38.7
comp=Z,72nm,1.4s
JAY Jayapura 36.96 180 P **P 09 28 58.5 +0.3**
comp=Z,65nm,0.8s,baz=0.3,slow=4.7,SNR=20
comp=Z,65nm,0.8s
JAY Jayapura 36.96 180 P **P 09 28 58.5 +0.3**

comp=Z,1µmcomp=Z,99nm,1.3s
MANU Manus Island 37.04 169 P P 09 28 57.2 -1.6
GENI Genyem 37.04 181 P P 09 29 00.1 +1.3
GENI Genyem 37.04 181 P P 09 28 58.3 -0.5
GOMU GeErMu 37.11 286 P P 09 29 00.4 +0.6
GOMU S **S 09 34 44.1 +1.8**
GOMU SS **SnSn 09 37 21.2 +0.4**
GOMU pmax pmax
comp=Z,42nm,1.4s
GOMU LR LR
comp=Z,170nm,16.4s
GOMU LR LR
comp=Z,410nm,16.4s
GOMU LR LR
comp=Z,420nm,16.5s
KMSI Cibinong 37.30 208 P P 09 28 57.9 -3.2
TIXI Tiksi 37.59 354 P 09 29 02.4 -0.5
TIXI IAmb IAmb 09 29 32.9
comp=Z,62nm,1.4s
TIXI Tiksi 37.59 354 LR LR 09 45 37.4
comp=Z,519nm,19.0s,baz=167,slow=38
TIXI Tiksi 37.59 354⇓ *eP* **P 09 29 03.2 +0.3**
TIXI pmax pmax
comp=Z,11nm,0.8s
TOLI2 Tolitoli 38.17 213 P 09 29 05.2 -3.1
TOLI2 Tolitoli 38.17 213 P P 09 29 06.7 -1.7
FAKI Fak Fak 38.19 194 P P 09 29 07.6 -1.0
FAKI Fak Fak 38.19 194 P P 09 29 08.0 -0.6
FAKI Fak Fak 38.19 194 P P 09 29 08.0 -0.6
comp=Z,979nmcomp=Z,88nm,0.6s
SANI Sanana 39.01 204 P P 09 29 13.5 -1.9
SANI Sanana 39.01 204 P P 09 29 10.9 -4.5
comp=Z,752nmcomp=Z,51nm,0.6s
MSAI Masohi 39.36 199 P P 09 29 16.9 -1.5
comp=Z,57nm,0.7s
SPIA Saint Paul Isl 39.78 40 P P 09 29 19.5 -1.9
baz=257
NIKH Nikolski High 39.84 47 P P 09 29 20.4 -1.6
NIKH Nikolski High 39.84 47 P P 09 29 19.2 -2.8
baz=263
AAI Ambon 39.89 200 P P 09 29 22.0 -0.7
P08K Saint George I 40.03 41 P P 09 29 21.9 -1.6
baz=258
RABL Rabaul 40.12 162 P P 09 29 23.8 -1.0
CHTO Chiang Mai 40.13 258 P P 09 29 23.1 -1.8
CHTO Chiang Mai 40.13 258 P P 09 29 22.8 -2.1
CHTO S **S 09 35 25.0 -2.5**
CHTO Chiang Mai 40.13 258 P P 09 29 23.7 -1.2
CHTO Chiang Mai 40.13 258 P P 09 29 23.1 -1.8
CHTO pmax pmax
comp=Z,14nm,1.0s
BNDI Bandanaira 40.25 197 P P 09 29 25.3 -0.4
BNDI Bandanaira 40.25 197 P P 09 29 25.9 +0.2
CMAR Chiang Mai Arr 40.32 257 P P 09 29 25.8 -0.6
comp=Z,4.1nm,0.5s,baz=49,slow=7.2,SNR=24
CMAR pP **pwP 09 29 44.2 0.0**
comp=Z,4.6nm,0.6s,baz=47,slow=6.5,SNR=3.2
CMAR PcP **PcP 09 31 30.2 +1.2**
comp=Z,3.0nm,0.8s,baz=350,slow=2.0,SNR=5.5
CMAR LR LR 09 46 33.6
comp=Z,328nm,20.6s,baz=55,slow=37
comp=Z,4.1nm,0.5s
JORH JORHAT 40.38 272 *eP* **P 09 29 25.7 -1.0**
KOHI KOHIMA 40.90 270 *eP* **P 09 29 29.4 -1.9**
KOHI IAmb IAmb 09 30 07.2
comp=Z,23nm,1.5s
UNV Unalaska Valle 41.34 46 P P 09 29 32.5 -1.8
baz=264
WMQ Urumqi 41.41 299 ⇑P **P 09 29 37.0 +1.9**
WMQ S **S 09 35 44.5 -1.5**
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,400nm,3.8s
WMQ LR LR
comp=Z,590nm,10.1s
WMQ LR LR
comp=Z,410nm,14.1s
WMQ LR LR
comp=Z,450nm,23.5s
SBUM Sibu 41.54 226 P 09 29 34.5 -1.9
SBUM Sibu 41.54 226 P P 09 29 35.6 -0.8
TEZP TEZPUR 41.62 272 *eP* **P 09 29 33.4 -3.6**
TEZP IAmb IAmb 09 30 03.8
comp=Z,26nm,0.5s
LSA Lhasa 41.85 277 P P 09 29 37.1 -2.3
LSA Lhasa 41.85 277 P P 09 29 36.2 -3.2
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA LR LR
comp=Z,530nm,20.8s
LSA LR LR
comp=Z,400nm,23.7s
LSA LR LR
comp=Z,820nm,28.0s
LSA Lhasa 41.85 277 P P 09 29 37.1 -2.3
LSA pmax pmax
comp=Z,17nm,1.0s
SILR SILCHAR 42.36 270 *eP* **P 09 29 38.7 -4.4**
SHL Shillong 42.79 271 P P 09 29 44.4 -2.4
SHL Shillong 42.79 271 *eP* P 09 29 41.8 -5.0
SHL IAmb IAmb 09 30 04.0
comp=Z,14nm,3.8s
SHL Shillong 42.79 271 P P 09 29 44.4 -2.4
SHL pmax pmax
comp=Z,18nm,0.5s
ZSN Zaisan 43.09 305 *eP* **P 09 29 49.9 +1.2**
comp=Z,22nm,0.5s
ZSN Zaisan 43.09 305 *eP* **P 09 29 49.9 +1.2**
ZSN pmax pmax
comp=Z,22nm,0.5s
ZALV Zalesovo Beam 43.09 314 P P 09 29 48.5 -0.2
comp=Z,57nm,0.5s,baz=90,slow=6.2,SNR=71
ZALV PcP **PcP 09 31 37.7 +0.1**
comp=Z,4.4nm,0.5s,baz=102,slow=3.3,SNR=1.6
ZALV LR LR 09 47 01.9
comp=Z,128nm,18.1s,baz=87,slow=35
comp=Z,57nm,0.5s
FALS False Pass 43.22 44 P P 09 29 48.9 -0.7
baz=266
TNA Tin City 43.24 28 P P 09 29 48.9 -0.8
baz=250
KSM Kuching 43.46 227 P P 09 29 50.6 -1.4
KSM IAmb IAmb 09 29 52.8
comp=Z,90nm,1.5s
KSM Kuching 43.46 227 P P 09 29 51.1 -0.9
K13K Kusilvak Mount 43.62 34 P P 09 29 51.1 -1.6
K13K Kusilvak Mount 43.62 34 P P 09 29 51.3 -1.5
baz=257
F14K Arctic Creek 43.85 29 P P 09 29 53.4 -1.2
baz=252
M13K Dall Lake 43.94 36 P P 09 29 54.6 -0.7
baz=260
ANM Nome 43.97 30 P P 09 29 55.1 -0.4
baz=254
S12K Black Hills 44.06 43 P P 09 29 56.1 -0.3
baz=266
KAPI Kappang 44.09 211 P P 09 29 55.7 -1.3
comp=Z,7.7nm,0.4s,baz=98,slow=17,SNR=4.8
KAPI PcP **PcP 09 31 42.0 +0.5**
comp=Z,11nm,0.6s,baz=177,slow=5.3,SNR=1.8
KAPI LR LR 09 46 44.0
comp=Z,161nm,21.9s,baz=7.0,slow=34
comp=Z,7.7nm,0.4s
KAPI Kappang 44.09 211 P P 09 29 55.4 -1.6
BRDH Bariadhala 44.23 268 LR LR 09 51 34.0
comp=Z,882nm,18.9s,baz=74,slow=40
PMG Port Moresby 44.24 171 P P 09 29 58.5 +0.3
PMG IAmb IAmb 09 30 21.3
comp=Z,55nm,1.0s
PMG Port Moresby 44.24 171 P P 09 29 59.2 +1.0
comp=Z,10nm,0.5s,baz=165,slow=16,SNR=7.6
comp=Z,10nm,0.5s
PMG Port Moresby 44.24 171 P P 09 29 59.1 +0.9
PMG Port Moresby 44.24 171 P P 09 29 59.0 +0.9
J14K Nanvaranak Lak 44.30 33 P P 09 29 57.9 -0.2
baz=258
L14K Kuka Creek 44.43 35 IAmb IAmb 09 30 26.8
comp=Z,42nm,1.1s
L14K Kuka Creek 44.43 35 P P 09 29 58.6 -0.6
baz=260
F15K North Star Dit 44.58 29 IAmb IAmb 09 30 34.7
comp=Z,44nm,1.1s
F15K North Star Dit 44.58 29 P P 09 30 00.2 -0.2
baz=254
G15K Niukluk 44.63 30 P P 09 30 00.4 -0.4
baz=255
M14K Bethel 44.67 36 IAmb IAmb 09 30 28.6
comp=Z,52nm,0.8s
M14K Bethel 44.67 36 P P 09 30 00.9 -0.2
baz=261
N14K Kuskokwak Cree 44.69 37 P P 09 30 01.3 0.0
baz=262
O14K Tingyukauivet M 44.82 38 P P 09 30 02.0 -0.3
baz=263
MK31 Makanchi Array 44.89 304 *i* P **P 09 30 03.1 -0.1**
MK31 pmax pmax
comp=Z,47nm,0.6s
MKAR Makanchi Array 44.89 304 P P 09 30 03.3 +0.1
comp=Z,43nm,0.6s,baz=84,slow=9.1,SNR=188
MKAR sP **sP 09 30 30.4 +6.7**
comp=Z,28nm,0.8s,baz=82,slow=11,SNR=4.9
MKAR LR LR 09 49 32.3
comp=Z,717nm,19.1s,baz=80,slow=37
comp=Z,43nm,0.6s
L15K Ungalak Mounta 45.05 35 P P 09 30 04.2 +0.1
baz=261
MAKZ Makanchi 45.11 304 P P 09 30 04.8 -0.1
MAKZ IAmb IAmb 09 30 08.4
comp=Z,49nm,0.8s
MAKZ Makanchi 45.11 304 P P 09 30 05.0 +0.1
MAKZ Makanchi 45.11 304 P P 09 30 05.0 +0.1
C16K Lisburne Hills 45.12 25 IAmb IAmb 09 30 27.0
comp=Z,61nm,1.0s
C16K Lisburne Hills 45.12 25 P P 09 30 04.8 +0.2
baz=250
K15K Wolf Creek Mou 45.13 34 P P 09 30 05.4 +0.5
baz=260
M15K Kasigluk River 45.28 36 P P 09 30 06.0 -0.1
baz=262
H16K Elim 45.29 31 P P 09 30 05.8 -0.3
baz=257
G16K Koyuk River 45.42 30 P P 09 30 07.1 +0.1
baz=256
CHNA Chernabura Isl 45.43 45 P P 09 30 07.2 -0.1
baz=269
S14K Fog Glacier 45.49 43 P P 09 30 07.9 0.0
baz=268
N15K Kwethluk River 45.51 37 P P 09 30 08.2 +0.3
baz=264
O15K Ungalikthiuk R 45.54 38 IAmb IAmb 09 30 35.3
comp=Z,54nm,1.1s
O15K Ungalikthiuk R 45.54 38 P P 09 30 08.7 +0.6
baz=265
J16K Anvik River 45.73 33 P P 09 30 09.4 -0.1
baz=260
D17K Noatak River 45.75 26 P P 09 30 10.5 +0.9
baz=253
I17K Unalakleet 45.80 32 P P 09 30 10.7 +0.7
baz=259
RDOG Red Dog Mine 45.92 26 P P 09 30 11.7 +0.7
baz=253
C17K DeLong Mountai 45.95 25 P P 09 30 12.0 +0.8
baz=252
L16K Owhat River 46.00 35 P P 09 30 10.9 -0.7
L16K IAmb IAmb 09 30 38.7
comp=Z,47nm,1.1s
L16K Owhat River 46.00 35 P P 09 30 12.3 +0.6
baz=263
E17K Hotham Inlet 46.05 27 P P 09 30 12.0 0.0
baz=255
F17K Baldwin Pennin 46.11 28 P P 09 30 11.0 -1.4
F17K IAmb IAmb 09 30 44.8
comp=Z,34nm,1.0s
F17K Baldwin Pennin 46.11 28 P P 09 30 12.4 -0.1
baz=256
G17K Kiwalik Mounta 46.14 30 P P 09 30 12.5 -0.2
baz=258
M16K Timber Creek 46.16 36 P P 09 30 13.6 +0.6
baz=264
N16K Nishlik Lake 46.20 37 P P 09 30 13.7 +0.4
baz=264
H17K Granite Mounta 46.33 30 P P 09 30 13.8 -0.5
baz=259
J17K VABM Dome 46.42 33 IAmb IAmb 09 30 41.9
comp=Z,67nm,1.3s
O16K Kokwok River B 46.46 38 P P 09 30 14.2 -1.1
baz=266
P16K Nushagak River 46.48 39 P P 09 30 15.0 -0.4
baz=266
E18K Tukpahlearik C 46.60 27 P P 09 30 15.7 -0.6
baz=256
L17K Donlin 46.61 34 P P 09 30 16.0 -0.5
baz=263
K17K Iditarod 46.68 34 P P 09 30 17.1 +0.1
baz=263
B18K Kokolik River 46.69 24 P P 09 30 17.0 0.0
baz=253
C18K Utukok River 46.70 25 P P 09 30 16.8 -0.3
baz=254
EDFI Ende, Flores 46.74 206 P P 09 30 15.0 -3.1
comp=Z,610nmcomp=Z,31nm,0.6s
F18K Selawik 46.77 28 P P 09 30 17.3 -0.3
baz=258
SOEI Soe 46.80 202 P P 09 30 17.4 -1.2
SOEI Soe 46.80 202 P P 09 30 17.2 -1.4
comp=Z,1µmcomp=Z,167nm,1.1s
M17K Holitna River 46.94 36 IAmb IAmb 09 30 54.4
comp=Z,90nm,1.4s
M17K Holitna River 46.94 36 P P 09 30 18.8 -0.3
baz=265,SNR=5.1
KURK Kurchatov 46.94 310 P P 09 30 18.9 -0.4
KURK Kurchatov 46.94 310 *d* iP **P 09 30 18.7 -0.5**
KURK pmax pmax
comp=Z,108nm,0.8s
KURK Kurchatov 46.94 310 P P 09 30 18.9 -0.3
O17K Koliganek Bris 46.98 38 P P 09 30 18.7 -0.7
baz=267
N17K Nushagak Hills 46.98 37 P P 09 30 18.7 -0.7
baz=266
KURBB Kurchatov Arra 47.01 310 P P 09 30 19.2 -0.5
comp=Z,102nm,0.7s,baz=84,slow=7.6,SNR=160
KURBB pP **pwP 09 30 37.8 +1.1**
comp=Z,47nm,1.0s,baz=88,slow=8.2,SNR=3.4
KURBB S **S 09 37 04.7 -2.4**
comp=Z,0.6nm,0.3s,baz=85,slow=13,SNR=6.2
KURBB LR LR 09 50 34.1
comp=Z,890nm,21.8s,baz=143,slow=37
comp=Z,102nm,0.7s
H18K Honhosa River 47.02 30 P P 09 30 19.5 -0.1
baz=260
G18K Tagagawik 47.03 29 IAmb IAmb 09 30 53.9
comp=Z,46nm,0.9s
G18K Tagagawik 47.03 29 P P 09 30 19.0 -0.7
baz=259,SNR=15
KULM Kulim 47.09 241 P P 09 30 18.8 -2.0
KULM IAmb IAmb 09 30 21.3
comp=Z,52nm,1.5s
KULM Kulim 47.09 241 P P 09 30 20.1 -0.7
Q16K King Salmon 47.15 39 P P 09 30 19.9 -0.8
baz=268
SAVO Savo Central 47.19 154 P P 09 30 22.0 +0.5
R17L Mt. Peulik Vol 47.28 41 P P 09 30 21.0 -0.8
baz=269
MYKOM Kota Tinggi 47.35 234 P P 09 30 22.1 -0.7
L18K Granite Mounta 47.37 34 P P 09 30 20.8 -1.5
L18K IAmb IAmb 09 31 02.4
comp=Z,106nm,1.7s
PDGK Podgornoye 47.37 300 P P 09 30 22.3 -0.6
C19K Lookout Ridge 47.38 25 P P 09 30 21.6 -0.9
baz=256
IPM Ipoh 47.38 240 P P 09 30 19.8 -3.2
IPM Ipoh 47.38 240 P P 09 30 21.1 -2.0
BATI Baumata 47.42 203 P P 09 30 23.6 +0.3
comp=Z,92nm,0.5s,baz=104,slow=1.7,SNR=8.1
BATI LR LR 09 48 08.8
comp=Z,494nm,21.7s,baz=52,slow=33
SHLS Shalkode 47.43 299 *eP* **P 09 30 21.6 -1.7**
comp=Z,14nm,0.6s
SHLS Shalkode 47.43 299 *eP* **P 09 30 21.6 -1.7**
SHLS pmax pmax
comp=Z,14nm,0.6s
J18K Innoko River 47.49 33 P P 09 30 21.8 -1.5
J18K Innoko River 47.49 33 P P 09 30 22.7 -0.5
baz=264
HNR Honiara 47.50 154 P P 09 30 22.6 -1.3
HNR Honiara 47.50 154 P P 09 30 22.6 -1.3
HNR pmax pmax
comp=Z,95nm,1.0s
Q17K Contact Creek 47.54 40 P P 09 30 23.3 -0.6
baz=269
F19K Shaleruckik Mo 47.55 28 P P 09 30 23.3 -0.4
F19K IAmb IAmb 09 30 57.8
comp=Z,45nm,1.5s
F19K Shaleruckik Mo 47.55 28 P P 09 30 23.5 -0.2
baz=259
GCSA Galena City Sc 47.58 31 P P 09 30 23.0 -0.9
baz=262
M18K Stony River 47.72 35 P P 09 30 24.5 -0.6
baz=266
DRS Darwin Rock St 47.72 193 P P 09 30 24.9 -0.6
AUDHS Darwin High Sc 47.74 193 P P 09 30 25.1 -0.6
UZB Uzynbulak 47.74 300 *eP* **P 09 30 26.5 +0.7**
comp=Z,30nm,1.0s
UZB Uzynbulak 47.74 300 *eP* **P 09 30 26.4 +0.7**
UZB pmax pmax
comp=Z,30nm,1.0s
D19K Kuna River 47.76 26 P P 09 30 24.5 -0.9
baz=258
ACHA Angle Creek He 47.84 40 IAmb IAmb 09 31 02.2
comp=Z,30nm,1.4s
H19K Roundabout Mou 47.87 30 P 09 30 28.2 +2.0
H19K IAmb IAmb 09 31 00.2
comp=Z,54nm,1.0s
H19K Roundabout Mou 47.87 30 P P 09 30 26.0 -0.1
baz=262,SNR=16
E19K Redstone River 47.87 27 P P 09 30 26.2 0.0
baz=259
P18K Big Mountain, 47.91 38 P P 09 30 26.1 -0.6
baz=269
Q18K Katmai Hardscr 48.01 39 P P 09 30 27.7 +0.1
baz=269
MTN Manton Dam 48.08 193 P P 09 30 27.2 -1.1
comp=Z,321nm,1.3s
MTN Manton Dam 48.08 193 P 09 30 26.9 -1.4
SATY Saty 48.20 300 *eP* **P 09 30 30.4 +1.1**
SATY Saty 48.20 300 *eP* **P 09 30 30.4 +1.1**
D20K Etivluk River 48.34 26 P P 09 30 29.9 0.0
baz=259
F20K Avaraart Lake 48.38 28 P P 09 30 30.2 +0.1
baz=261
ARXS Arharly 48.38 301 *eP* **P 09 30 30.5 -0.1**
COEN Coen 48.39 177 P P 09 30 31.5 +0.7
comp=Z,49nm,1.4s
COEN Coen 48.39 177 P P 09 30 31.4 +0.6
COEN IAmb IAmb 09 31 02.9
comp=Z,39nm,0.8s
COEN Coen 48.39 177 P P 09 30 31.7 +1.0
O19K Port Alsworth 48.39 37 P P 09 30 29.7 -0.6
baz=269
E20K Nigu River 48.41 26 P P 09 30 30.2 -0.2
baz=260
B20K Meade River 48.42 24 P P 09 30 30.2 -0.2
baz=257
M19K Big River Lodg 48.42 35 P P 09 30 30.2 -0.3
baz=267
H20K Anotleneega Mo 48.51 30 P P 09 30 31.0 -0.2
baz=263
I20K Naaghedeneel 48.60 31 P P 09 30 31.4 -0.5
baz=264
J20K Nowinta River 48.69 32 P P 09 30 33.0 +0.4
J20K IAmb IAmb 09 30 40.7
comp=Z,30nm,1.0s
OHAK Old Harbor 48.95 41 P P 09 30 34.3 -0.3
baz=272
M20K Styx River 49.02 35 P P 09 30 33.9 -1.3
baz=268
C21K Knifeblade Rid 49.07 25 P P 09 30 34.7 -0.8
baz=260
MDOK Medeo 49.15 300 *eP* **P 09 30 37.4 +0.8**
MDOK Medeo 49.15 300 *eP* **P 09 30 37.3 +0.7**
G21K Allakaket 49.18 29 P P 09 30 35.5 -0.8
baz=264
B21K Ikpikpuk River 49.21 25 P P 09 30 36.0 -0.5
baz=260
O20K Slope Mountain 49.24 37 P P 09 30 36.4 -0.5
baz=270
E21K Killik River 49.25 26 IAmb IAmb 09 31 07.2
comp=Z,63nm,1.2s
E21K Killik River 49.25 26 P P 09 30 36.2 -0.7
baz=262
TNSS Tian-Shan 49.25 300 *eP* **P 09 30 38.3 +0.6**
TNSS Tian-Shan 49.25 300 *eP* **P 09 30 38.3 +0.6**
F21K Alatna River 49.27 28 P P 09 30 36.8 -0.2
baz=263
KDAK Kodiak Island 49.31 40 LR LR 09 54 30.6
comp=Z,101nm,18.0s,baz=247,slow=40
KDAK Kodiak Island 49.31 40 P P 09 30 36.8 -0.5
baz=272
A22K Sinclair Lake 49.35 23 P P 09 30 37.5 0.0
baz=259
SPCR Spurr Chakacha 49.45 36 P P 09 30 38.3 -0.2
baz=270
CHUM Lake Minchumin 49.48 32 P P 09 30 37.6 -1.0
baz=267
PPLA Purkeypile 49.49 34 IAmb IAmb 09 31 18.8
comp=Z,62nm,1.2s
PPLA Purkeypile 49.49 34 P P 09 30 38.5 -0.4
baz=268
I21K Tanana 49.69 31 IAmb IAmb 09 31 14.7
comp=Z,38nm,1.2s
I21K Tanana 49.69 31 P P 09 30 40.5 +0.3
baz=266
SKT Skwentna 49.78 35 P P 09 30 40.2 -0.7
baz=270
D22K Ayikyak River 49.78 26 IAmb IAmb 09 31 11.9
comp=Z,39nm,0.8s
D22K Ayikyak River 49.78 26 P P 09 30 40.4 -0.4
baz=263
F22K John River 49.81 28 P P 09 30 41.2 +0.1
baz=264
E22K Anaktuvuk Pass 50.01 27 IAmb IAmb 09 31 18.8
comp=Z,31nm,0.9s
E22K Anaktuvuk Pass 50.01 27 P P 09 30 42.5 -0.2
baz=264,SNR=14
G22K Bettles 50.01 28 P P 09 30 42.3 -0.3
baz=265
PSI Prapat 50.05 240 LR LR 09 52 08.7
comp=Z,135nm,19.4s,baz=29,slow=36
PSI Prapat 50.05 240 P P 09 30 42.4 -1.3
PSI Prapat 50.05 240 P P 09 30 41.5 -2.2
PSI pmax pmax
comp=Z,28nm,0.9s
BPAW Bear Paw Mtn. 50.07 32 IAmb IAmb 09 31 10.0
comp=Z,26nm,1.2s
BPAW Bear Paw Mtn. 50.07 32 P P 09 30 42.4 -0.7
baz=268
RPSI Rantau Prapat 50.12 240 P 09 30 41.5 -2.6
RPSI IAmb IAmb 09 30 47.4
comp=Z,28nm,0.9s
BRSE Bradley Lake S 50.19 38 P P 09 30 44.2 +0.1
baz=272
MLY Manley 50.21 31 P P 09 30 44.2 0.0
baz=268
TRF Thorofare Moun 50.37 33 P P 09 30 45.0 -0.5
baz=269
CUT Chulitna 50.37 34 P P 09 30 44.6 -0.7
baz=270
D23K Nanushuk River 50.51 26 P P 09 30 45.5 -0.8
baz=264
COLD Coldfoot 50.55 28 P P 09 30 45.8 -0.8
baz=266
G23K Bananza Creek 50.59 29 IAmb IAmb 09 31 20.8
comp=Z,25nm,1.1s
G23K Bananza Creek 50.59 29 P P 09 30 46.0 -1.0
baz=267
C23K Itkillik River 50.62 25 P P 09 30 46.2 -1.0
baz=264
RC01 Rabbit Creek A 50.65 36 P P 09 30 46.3 -1.1
baz=272
O22K Cooper Landing 50.67 37 P P 09 30 46.8 -0.9
baz=272
H23K Yukon River 50.74 30 P P 09 30 47.1 -1.1
baz=268
I23K Minto, Yukon-K 50.80 31 IAmb IAmb 09 32 30.7
comp=Z,17nm,0.7s
I23K Minto, Yukon-K 50.80 31 P P 09 30 47.6 -0.9
baz=269,SNR=13
SGDS Sogindy 50.81 301 *eP* **P 09 30 49.9 +0.9**
BRZS Berezniki 50.81 309 *eP* **P 09 30 49.6 +0.7**
BRZS Berezniki 50.81 309 *eP* **P 09 30 49.6 +0.7**
E23K Chandalar 50.83 27 P P 09 30 47.7 -1.1
baz=266
SEW Seward 50.83 37 P P 09 30 47.6 -1.2
baz=273
KSH Kashi 50.84 296 P P 09 30 53.7 +4.3
KSH pP sP 09 31 08.6 -1.7
KSH S **S 09 38 05.4 +3.9**
KSH pmax pmax
comp=Z,24nm,0.8s

KSH				LR	LR		
	comp=Z,320nm,14.4s						
KSH				LR	LR		
	comp=Z,380nm,12.7s						
KSH				LR	LR		
	comp=Z,390nm,13.7s						
TOLK	**Toolik Lake Re**	**50.88**	**26**	IAmb	IAmb	09 31 21.2	
	comp=Z,35nm,1.1s						
TOLK	**Toolik Lake Re**	**50.88**	**26**	P	**P**	**09 30 48.2**	**-1.0**
	baz=266						
NEA2	**Nenana**	**50.91**	**32**	P	**P**	**09 30 48.8**	**-0.6**
	baz=270,SNR=24						
PMR	**Palmer**	**50.92**	**35**	P	**P**	**09 30 48.1**	**-1.4**
PMR	**Palmer**	**50.92**	**35**	P	**P**	**09 30 48.4**	**-1.1**
	baz=272						
MCK	**McKinley**	**50.97**	**33**	IAmb	IAmb	09 31 25.1	
	comp=Z,35nm,1.1s						
MCK	**McKinley**	**50.97**	**33**	P	**P**	**09 30 48.8**	**-1.1**
	baz=270,SNR=5.8						
UGM	**Wanagama**	**51.02**	**220**	P	**P**	**09 30 49.1**	**-1.7**
AAK	**Ala-Archa**	**51.10**	**300**		**P**	**09 30 50.3**	**-1.1**
AAK				IAmb	IAmb	09 31 15.1	
	comp=Z,24nm,1.0s						
AAK	**Ala-Archa**	**51.10**	**300**	LR	LR	09 53 38.9	
	comp=Z,446nm,21.6s,baz=72,slow=37						
AAK	**Ala-Archa**	**51.10**	**300**	P	**P**	**09 30 52.7**	**+1.4**
AAK				S	**S**	**09 38 06.7**	**+1.6**
AAK	**Ala-Archa**	**51.10**	**300**	*i* P	**P**	**09 30 52.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,28nm,1.0s						
WAT1	**Susitna Watana**	**51.16**	**34**	P	**P**	**09 30 50.0**	**-1.3**
	baz=272						
D24K	**Happy Valley**	**51.19**	**26**	P	**P**	**09 30 50.0**	**-1.5**
	baz=266						
E24K	**Your Creek**	**51.25**	**27**	IAmb	IAmb	09 31 24.4	
	comp=Z,53nm,1.2s						
E24K	**Your Creek**	**51.25**	**27**	P	**P**	**09 30 51.3**	**-0.6**
	baz=267						
KNK	**Knik Glacier**	**51.25**	**36**	IAmb	IAmb	09 31 23.4	
	comp=Z,56nm,1.3s						
KNK	**Knik Glacier**	**51.25**	**36**	P	**P**	**09 30 51.1**	**-1.0**
	baz=273						
C24K	**Franklin Bluff**	**51.27**	**25**	P	**P**	**09 30 50.3**	**-1.7**
	baz=266						
SML	**Sawmill**	**51.30**	**35**	IAmb	IAmb	09 31 35.3	
	comp=Z,43nm,1.0s						
SML	**Sawmill**	**51.30**	**35**	P	**P**	**09 30 50.1**	**-2.2**
	baz=272						
KNRA	**Kununurra**	**51.30**	**195**	P	**P**	**09 30 52.4**	**-0.4**
	comp=Z,300nm,0.8s						
KNRA	**Kununurra**	**51.30**	**195**	P	**P**	**09 30 52.8**	**0.0**
WRH	**Wood River Hil**	**51.34**	**32**	IAmb	IAmb	09 32 31.6	
	comp=Z,23nm,0.8s						
PWL	**Port Wells**	**51.34**	**36**	P	**P**	**09 30 50.5**	**-2.2**
	baz=273						
KPJI	**Karang Pucung**	**51.39**	**222**	P	**P**	**09 30 50.6**	**-3.0**
	comp=Z,799nmcomp=Z,48nm,1.1s						
H24K	**Noodor Dome**	**51.43**	**30**	IAmb	IAmb	09 31 16.0	
	comp=Z,65nm,1.4s						
COLA	**College**	**51.44**	**31**	P	**P**	**09 30 52.0**	**-1.3**
COLA				IAmb	IAmb	09 31 02.0	
	comp=Z,24nm,0.8s						
COLA	**College**	**51.44**	**31**	P	**P**	**09 30 52.0**	**-1.3**
COLA	**College**	**51.44**	**31**	*ii* P	**P**	**09 30 53.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
COLA	**College**	**51.44**	**31**	P	**P**	**09 30 50.9**	**-2.4**
	baz=270						
F24K	**Squaw Lake**	**51.45**	**28**	IAmb	IAmb	09 31 45.0	
	comp=Z,74nm,1.9s						
F24K	**Squaw Lake**	**51.45**	**28**	P	**P**	**09 30 52.2**	**-1.3**
	baz=268						
CCB	**Clear Creek Bu**	**51.46**	**31**	IAmb	IAmb	09 31 28.8	
	comp=Z,55nm,1.8s						
WAT6	**Susitna Watana**	**51.54**	**34**	P	**P**	**09 30 53.0**	**-1.4**
	baz=272						
M23K	**Glacier View**	**51.58**	**35**	P	**P**	**09 30 53.4**	**-1.1**
	baz=273						
G24K	**Hadweenzic Riv**	**51.60**	**29**	P	**P**	**09 30 53.8**	**-0.7**
	baz=269						
POKR	**Poker Plat Res**	**51.61**	**31**	P	**P**	**09 30 52.9**	**-1.7**
	baz=271,SNR=5.7						
DHY	**Denali Highway**	**51.69**	**33**	P	**P**	**09 30 53.8**	**-1.6**
	baz=272						
LEM	**Lembang**	**51.71**	**224**	LR	LR	09 53 51.7	
	comp=Z,163nm,19.0s,baz=196,slow=37						
SCM	**Sheep Creek Mo**	**51.77**	**35**	P	**P**	**09 30 55.0**	**-0.9**
	baz=273						
BORK	**Borovoye**	**51.78**	**314**	*i* P	**P**	**09 30 56.8**	**+0.8**
BORK				pmax	pmax		
	comp=Z,58nm,0.9s						
BORK	**Borovoye**	**51.78**	**314**	P	**P**	**09 30 57.0**	**+1.0**
LHSI	**Lahat**	**51.80**	**230**	P	**P**	**09 30 54.1**	**-2.5**
	comp=Z,86nm,0.9s						
HDA	**Harding Lake**	**51.83**	**32**	IAmb	IAmb	09 31 28.9	
	comp=Z,31nm,1.0s						
HDA	**Harding Lake**	**51.83**	**32**	P	**P**	**09 30 55.7**	**-0.6**
	baz=272						
ILAR	**Eielson Array**	**51.85**	**31**	P	**P**	**09 30 56.6**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=262,slow=5.4,SNR=24						
ILAR				pP	**sP**	**09 31 16.0**	**-1.2**
	comp=Z,10nm,0.8s,baz=276,slow=6.4,SNR=6.4						
	comp=Z,3.2nm,0.7s						
P23K	**Montague Islan**	**51.86**	**37**	P	**P**	**09 30 55.4**	**-1.2**
	baz=275						
MDSI	**Maura Dua**	**51.90**	**229**	P	**P**	**09 30 53.9**	**-3.4**
	comp=Z,751nmcomp=Z,59nm,1.4s						
GLI	**Glacier Island**	**51.94**	**36**	P	**P**	**09 30 55.9**	**-1.3**
	baz=274						
GSI	**Gunungsitoli**	**52.05**	**240**	P	**P**	**09 30 56.4**	**-2.2**
GSI	**Gunungsitoli**	**52.05**	**240**	P	**P**	**09 30 57.0**	**-1.5**
GSI	**Gunungsitoli**	**52.05**	**240**	P	**P**	**09 30 56.3**	**-2.2**
D25K	**Kavik River**	**52.07**	**26**	P	**P**	**09 30 57.0**	**-1.1**
	baz=268						
MASI	**Maura Aman, Be**	**52.09**	**232**	P	**P**	**09 30 55.1**	**-3.8**
G25K	**Bearman Lake**	**52.14**	**29**	P	**P**	**09 30 57.9**	**-0.7**
	baz=271						
H25L	**Birch Creek**	**52.26**	**29**	P	**P**	**09 30 58.5**	**-0.9**
	baz=271						
M24K	**Tolsona, Glenn**	**52.30**	**35**	P	**P**	**09 30 58.7**	**-1.1**
	baz=274						
F25K	**Christian Rive**	**52.32**	**28**	P	**P**	**09 30 59.1**	**-0.8**
	baz=270,SNR=5.3						
E25K	**Arctic Village**	**52.34**	**27**	IAmb	IAmb	09 31 30.5	
	comp=Z,48nm,1.1s						
E25K	**Arctic Village**	**52.34**	**27**	P	**P**	**09 30 59.1**	**-1.0**
	baz=270						
K24K	**Donnelly Dome**	**52.37**	**33**	P	**P**	**09 30 59.4**	**-1.0**
	baz=273						
PRP	**Porcupine Dome**	**52.41**	**30**	P	**P**	**09 30 59.8**	**-0.9**
	baz=272						
KLU	**Klutina**	**52.46**	**35**	P	**P**	**09 30 59.0**	**-2.1**
	baz=275						
PAX	**Paxson**	**52.56**	**34**	IAmb	IAmb	09 31 36.0	
	comp=Z,26nm,1.1s						
PAX	**Paxson**	**52.56**	**34**	P	**P**	**09 31 00.7**	**-1.2**
	baz=274						
MTSU	**Mount Surprise**	**52.60**	**176**	P	**P**	**09 31 02.8**	**+0.4**
	comp=Z,24nm,1.1s						
MTSU	**Mount Surprise**	**52.60**	**176**	P	**P**	**09 31 03.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**52.63**	**37**	P	**P**	**09 31 00.6**	**-1.6**
	baz=276						
SMLA	**Simla**	**52.64**	**285**	*e*P	**P**	**09 30 59.4**	**-3.3**
SMLA				IAmb	IAmb	09 31 06.3	
	comp=Z,28nm,1.0s						
HARP	**HAARP**	**52.75**	**34**	P	**P**	**09 31 02.4**	**-0.8**
	baz=275						
RIDG	**Independent Ri**	**52.79**	**33**	P	**P**	**09 31 02.6**	**-0.9**
	baz=274						
F26K	**Sheenjek River**	**52.89**	**28**	P	**P**	**09 31 03.5**	**-0.6**
	baz=272,SNR=13						
DHRM	**DHARAMSHALA**	**52.91**	**287**	*e*P	**P**	**09 31 02.9**	**-2.2**
DHRM				IAmb	IAmb	09 31 24.3	
	comp=Z,15nm,1.1s						
C27K	**Jago River**	**53.01**	**25**	P	**P**	**09 31 03.5**	**-1.4**
	baz=271						
G26K	**Porcupine Rive**	**53.05**	**28**	IAmb	IAmb	09 31 41.2	
	comp=Z,61nm,1.4s						
G26K	**Porcupine Rive**	**53.05**	**28**	P	**P**	**09 31 03.8**	**-1.4**
	baz=272						
N25K	**Chitina, Valde**	**53.08**	**35**	P	**P**	**09 31 04.3**	**-1.4**
	baz=276						
BMRM	**Bremner River**	**53.15**	**36**	P	**P**	**09 31 04.5**	**-1.6**
	baz=276						
SCRK	**Sand Creek**	**53.15**	**32**	IAmb	IAmb	09 31 39.3	
	comp=Z,36nm,1.0s						
SCRK	**Sand Creek**	**53.15**	**32**	P	**P**	**09 31 04.5**	**-1.7**
	baz=275,SNR=5.4						
DZA	**Taraz**	**53.28**	**301**	*e*P	**P**	**09 31 08.2**	**+0.7**
	comp=Z,18nm,0.6s						
DZA	**Taraz**	**53.28**	**301**	*e*P	**P**	**09 31 08.1**	**+0.7**
DZA				pmax	pmax		
	comp=Z,18nm,0.6s						
KAIM	**Kayak Island**	**53.36**	**37**	P	**P**	**09 31 06.7**	**-1.0**
	baz=277						
MENT	**Mentasta**	**53.36**	**34**	P	**P**	**09 31 06.2**	**-1.5**
L26K	**Log Cabin Wild**	**53.52**	**33**	IAmb	IAmb	09 31 43.6	
	comp=Z,69nm,1.4s						
KK31	**Karatay Array**	**53.80**	**301**	*i* P	**P**	**09 31 11.0**	**-0.2**
E27K	**Coleen River**	**53.83**	**27**	IAmb	IAmb	09 31 29.5	
	comp=Z,74nm,1.7s						
E27K	**Coleen River**	**53.83**	**27**	P	**P**	**09 31 09.6**	**-1.4**
	baz=274						
MCARA	**McCarthy VSAT**	**53.86**	**35**	IAmb	IAmb	09 31 54.1	
	comp=Z,56nm,1.2s						
MCARA	**McCarthy VSAT**	**53.86**	**35**	P	**P**	**09 31 10.2**	**-1.1**
	baz=277						
G27K	**Doyon Strip**	**53.90**	**29**	P	**P**	**09 31 09.8**	**-1.8**
	baz=275						
CRQE	**Cirque**	**53.91**	**36**	P	**P**	**09 31 10.3**	**-1.5**
	baz=278						
TV1H	**Townsville Har**	**53.92**	**173**	P	**P**	**09 31 12.9**	**+0.8**
K27K	**Chicken**	**53.98**	**32**	P	**P**	**09 31 10.5**	**-1.7**
	baz=276						
D27M	**Malcolm River**	**54.00**	**26**	IAmb	IAmb	09 31 47.3	
	comp=Z,20nm,0.8s						
D27M	**Malcolm River**	**54.00**	**26**	P	**P**	**09 31 11.0**	**-1.3**
	baz=273						
H27K	**Steamboat Moun**	**54.00**	**29**	P	**P**	**09 31 10.8**	**-1.5**
	baz=275						
L27K	**Beaver Creek,**	**54.21**	**33**	IAmb	IAmb	09 31 36.4	
	comp=Z,35nm,1.2s						
L27K	**Beaver Creek,**	**54.21**	**33**	P	**P**	**09 31 12.7**	**-1.2**
	baz=277						
EGAK	**Eagle**	**54.30**	**31**	IAmb	IAmb	09 31 36.9	
	comp=Z,65nm,1.7s						
EGAK	**Eagle**	**54.30**	**31**	P	**P**	**09 31 13.4**	**-1.0**
	baz=276						
FITZ	**Fitzroy Crossi**	**54.36**	**198**	P	**P**	**09 31 15.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**54.36**	**198**	LR	LR	09 54 27.0	
	comp=Z,138nm,19.7s,baz=26,slow=36						
IUG	**Iuzhnay**	**54.42**	**300**	*e*P	**P**	**09 31 16.7**	**+0.9**
	comp=Z,28nm,1.0s						
IUG	**Iuzhnay**	**54.42**	**300**	*e*P	**P**	**09 31 16.6**	**+0.9**
IUG				pmax	pmax		
	comp=Z,28nm,1.0s						
F28M	**Old Crow**	**54.52**	**28**	P	**P**	**09 31 15.6**	**-0.5**
	baz=276						
MESA	**MESA**	**54.55**	**37**	P	**P**	**09 31 15.2**	**-1.4**
	baz=279						
E28M	**Babbage River**	**54.56**	**26**	IAmb	IAmb	09 31 40.0	
	comp=Z,31nm,1.1s						
E28M	**Babbage River**	**54.56**	**26**	P	**P**	**09 31 15.6**	**-0.7**
	baz=275						
WRAB	**Tennant Creek**	**54.60**	**187**	P	**P**	**09 31 16.5**	**-0.6**
WRAB	**Tennant Creek**	**54.60**	**187**	P	**P**	**09 31 16.4**	**-0.6**
WRAB	**Tennant Creek**	**54.60**	**187**	*c i* P	**P**	**09 31 16.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,79nm,0.6s						
WRAB	**Tennant Creek**	**54.60**	**187**	P	**P**	**09 31 16.7**	**-0.4**
WRA	**Warramunga Arr**	**54.61**	**187**	P	**P**	**09 31 16.6**	**-0.6**
	comp=Z,92nm,0.5s,baz=6.0,slow=7.9,SNR=322						
WRA				pP	**pwP**	**09 31 35.6**	**-0.5**
	comp=Z,54nm,0.7s,baz=5.0,slow=7.6,SNR=3.9						
WRA				S	**S**	**09 38 51.1**	**-1.7**
	comp=Z,4.3nm,1.2s,baz=3.3,slow=13,SNR=4.7						
WRA				LR	LR	09 52 18.7	
	comp=Z,435nm,21.5s,baz=24,slow=33						
CHM	**Chimkent**	**54.67**	**301**	*e*P	**P**	**09 31 18.4**	**+0.8**
	comp=Z,13nm,0.5s						
CHM	**Chimkent**	**54.67**	**301**	*e*P	**P**	**09 31 18.3**	**+0.8**
CHM				pmax	pmax		
	comp=Z,13nm,0.5s						
CTAO	**Charters Tower**	**54.69**	**174**	P	**P**	**09 31 17.5**	**-0.2**
CTAO				IAmb	IAmb	09 31 41.9	
	comp=Z,58nm,1.4s						
CTAO	**Charters Tower**	**54.69**	**174**	P	**P**	**09 31 18.3**	**+0.6**
CTAO	**Charters Tower**	**54.69**	**174**	P	**P**	**09 31 17.5**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,58nm,1.4s						
CTG	**Chitna Glacier**	**54.73**	**36**	P	**P**	**09 31 16.7**	**-1.1**
	baz=279						
I28M	**Miner Creek**	**54.73**	**30**	P	**P**	**09 31 16.4**	**-1.4**
	baz=277						
D28M	**Stokes Point**	**54.78**	**25**	P	**P**	**09 31 17.3**	**-0.5**
	baz=275						
NIL	**Nilore**	**54.79**	**290**	P	**P**	**09 31 18.7**	**+0.2**
NIL	**Nilore**	**54.79**	**290**	P	**P**	**09 31 18.7**	**+0.2**
NIL				pmax	pmax		
	comp=Z,58nm,0.9s						
QIS	**Mount Isa**	**54.91**	**181**	P	**P**	**09 31 18.7**	**-0.6**
	comp=Z,74nm,1.3s						
QIS	**Mount Isa**	**54.91**	**181**	P	**P**	**09 31 18.9**	**-0.4**
DAWY	**Dawson**	**55.15**	**32**	IAmb	IAmb	09 31 47.7	
	comp=Z,64nm,1.8s						
DAWY	**Dawson**	**55.15**	**32**	P	**P**	**09 31 19.1**	**-1.5**
	baz=278						
E29M	**Blow River**	**55.18**	**27**	IAmb	IAmb	09 31 44.1	
	comp=Z,47nm,1.1s						
E29M	**Blow River**	**55.18**	**27**	P	**P**	**09 31 19.5**	**-1.2**
	baz=277						
H29M	**Whitestone**	**55.27**	**29**	P	**P**	**09 31 20.8**	**-0.7**
	baz=278						
O28M	**Mount Upton**	**55.31**	**36**	P	**P**	**09 31 20.7**	**-1.5**
	baz=280						
G29M	**Pine Creek**	**55.32**	**28**	P	**P**	**09 31 20.5**	**-1.3**
	baz=278,SNR=9.0						
PINM	**Pinnacle**	**55.40**	**37**	P	**P**	**09 31 21.8**	**-0.8**
	baz=280						
I29M	**Ogilvie Camp,**	**55.42**	**30**	IAmb	IAmb	09 31 44.8	
	comp=Z,49nm,1.1s						
I29M	**Ogilvie Camp,**	**55.42**	**30**	P	**P**	**09 31 21.0**	**-1.6**
	baz=278						
YUK8	**Steele Glacier**	**55.43**	**35**	P	**P**	**09 31 20.5**	**-2.5**
	baz=280						
J29N	**Klondike Camp**	**55.60**	**31**	P	**P**	**09 31 22.6**	**-1.3**
	baz=279						
M29M	**Somme Creek**	**55.83**	**34**	IAmb	IAmb	09 31 54.7	
	comp=Z,18nm,0.8s						
M29M	**Somme Creek**	**55.83**	**34**	P	**P**	**09 31 24.5**	**-1.2**
	baz=280						
SANVU	**Saraoutou**	**55.85**	**149**	P	**P**	**09 31 25.5**	**-0.6**
SANVU	**Saraoutou**	**55.85**	**149**	P	**P**	**09 31 26.9**	**+0.8**
L29M	**L29M**	**55.86**	**33**	IAmb	IAmb	09 32 04.1	
	comp=Z,41nm,0.9s						
L29M	**L29M**	**55.86**	**33**	P	**P**	**09 31 26.0**	**+0.2**
	baz=280,SNR=5.9						
PNL	**Peninsula**	**55.91**	**37**	P	**P**	**09 31 24.9**	**-1.2**
	baz=282						
EPYK	**Eagle Plains**	**55.91**	**29**	P	**P**	**09 31 24.9**	**-1.2**
	baz=279,SNR=11						
YUK4	**Talbot Arm**	**55.95**	**35**	P	**P**	**09 31 26.8**	**+0.2**
	baz=281						
K29M	**Barlow Dome**	**56.00**	**32**	IAmb	IAmb	09 31 48.8	
	comp=Z,78nm,1.8s						
K29M	**Barlow Dome**	**56.00**	**32**	P	**P**	**09 31 26.6**	**-0.3**
	baz=280						
G30M	**tAoh Zraii Nji**	**56.01**	**28**	P	**P**	**09 31 26.3**	**-0.5**
	baz=279						
F30M	**Barrier River**	**56.08**	**27**	P	**P**	**09 31 26.7**	**-0.5**
	baz=279						
CHGR	**Chuyangaron**	**56.15**	**297**	P	**P**	**09 31 28.9**	**+0.6**
YUK6	**Outpost Mounta**	**56.16**	**35**	P	**P**	**09 31 27.6**	**-0.5**
	baz=282						
O29M	**Mount Kennedy**	**56.19**	**36**	P	**P**	**09 31 26.9**	**-1.3**
	baz=282						
I30M	**Mount Dempster**	**56.24**	**30**	IAmb	IAmb	09 31 49.5	
	comp=Z,35nm,0.8s						
I30M	**Mount Dempster**	**56.24**	**30**	P	**P**	**09 31 28.2**	**-0.4**
	baz=280,SNR=13						
J30M	**Hart River**	**56.38**	**31**	P	**P**	**09 31 28.1**	**-1.4**
	baz=281						
SVE	**Sverdlovsk**	**56.54**	**320**	*e*P	**P**	**09 31 31.7**	**+1.1**
SVE				pmax	pmax		
	comp=Z,45nm,0.8s						
SVE				MLR	MLR		
	comp=Z,372nm,19.0s						
M30M	**Minto, Yukon**	**56.57**	**33**	P	**P**	**09 31 29.6**	**-1.2**
	baz=282						
HYT	**Haines Junctio**	**56.60**	**36**	P	**P**	**09 31 30.3**	**-0.9**
	baz=282						
N30M	**Aishikik Lake**	**56.66**	**35**	P	**P**	**09 31 30.0**	**-1.5**
	baz=282						
P29M	**Windy Craggy**	**56.74**	**37**	P	**P**	**09 31 30.8**	**-1.3**
	baz=283						
MAYO	**Mayo, Yukon**	**56.76**	**32**	P	**P**	**09 31 31.8**	**-0.4**
	baz=282						
G31M	**Satah River**	**56.78**	**28**	IAmb	IAmb	09 31 51.6	
	comp=Z,22nm,0.8s						
G31M	**Satah River**	**56.78**	**28**	P	**P**	**09 31 31.2**	**-0.9**
	baz=281						
INK	**Inuvik**	**56.80**	**26**	IAmb	IAmb	09 31 55.1	
	comp=Z,36nm,1.4s						
INK	**Inuvik**	**56.80**	**26**	P	**P**	**09 31 33.6**	**+1.4**
INK	**Inuvik**	**56.80**	**26**	P	**P**	**09 31 31.4**	**-0.8**
	baz=281						
F31M	**Tsiigehtchic**	**56.88**	**27**	P	**P**	**09 31 31.4**	**-1.4**
	baz=281						
H31M	**Peel River**	**56.97**	**29**	P	**P**	**09 31 32.9**	**-0.6**
	baz=282,SNR=11						
P30M	**Million Dollar**	**57.01**	**36**	P	**P**	**09 31 32.7**	**-1.4**
	baz=283						
N31M	**Braeburn, Yuko**	**57.27**	**35**	P	**P**	**09 31 35.2**	**-0.5**
	baz=283						
O30N	**Mendenhall**	**57.28**	**35**	P	**P**	**09 31 35.5**	**-0.4**
	baz=283						
PLBC	**Pleasant Camp**	**57.46**	**37**	P	**P**	**09 31 35.5**	**-1.6**
	baz=284						
HYB	**Hyderabad**	**57.53**	**269**	*e*P	**P**	**09 31 36.7**	**-1.5**
HYB				IVmB_BB		09 31 38.9	
	comp=Z,259nm,1.2s						
HYB				*e*PP	**PP**	**09 33 47.7**	**+1.4**
HYB				*e*S	**S**	**09 39 26.7**	**-5.3**
M31M	**Drury Creek, Y**	**57.74**	**34**	IAmb	IAmb	09 32 07.7	
	comp=Z,41nm,1.1s						
M31M	**Drury Creek, Y**	**57.74**	**34**	P	**P**	**09 31 38.1**	**-1.0**
	baz=284						
ARTI	**Arti**	**57.85**	**319**		**P**	**09 31 39.7**	**-0.2**
ARTI	**Arti**	**57.85**	**319**	LR	LR	09 59 43.6	
	comp=Z,347nm,18.5s,baz=72,slow=39						
ARTI	**Arti**	**57.85**	**319**	*c i* P	**P**	**09 31 39.7**	**-0.2**
ARTI				*PP	**pP**	**09 31 55.6**	**+0.6**
ARTI						09 32 29.7	
ARTI				S	**S**	**09 39 36.9**	**+1.8**
ARTI				SS	**SS**	**09 43 27.3**	**+1.3**
ARTI				pmax	pmax		
	comp=Z,29nm,0.6s						
ARTI	**Arti**	**57.85**	**319**	P	**P**	**09 31 39.8**	**-0.2**
WHY	**Whitehorse**	**57.89**	**35**	P	**P**	**09 31 39.0**	**-1.2**
	baz=284						
S31K	**Pelican**	**57.90**	**39**	P	**P**	**09 31 39.4**	**-0.8**
	baz=285						
SKAG	**Skagway**	**57.97**	**37**	P	**P**	**09 31 40.0**	**-0.7**
	baz=285						
AS31	**Alice Springs**	**58.34**	**187**	P	**P**	**09 31 43.0**	**-0.6**
	comp=Z,33nm,0.6s						
ASAR	**Alice Springs**	**58.34**	**187**	P	**P**	**09 31 43.4**	**-0.3**
	comp=Z,19nm,0.5s,baz=7.3,slow=9.7,SNR=195						
ASAR				pP	**sP**	**09 32 03.7**	**0.0**
	comp=Z,20nm,0.7s,baz=3.0,slow=15,SNR=5.9						
ASAR				S	**S**	**09 39 41.2**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=22,slow=18,SNR=4.9						
ASAR				LR	LR	09 54 12.7	
	comp=Z,408nm,21.8s,baz=3.0,slow=33						
	comp=Z,19nm,0.5s						
AUALC	**St Philip's Co**	**58.37**	**187**	P	**P**	**09 31 43.6**	**-0.2**
AUNRC	**North Rockhamp**	**58.44**	**169**	P	**P**	**09 31 44.6**	**+0.4**
N32M	**Quiet Lake**	**58.61**	**35**	P	**P**	**09 31 43.8**	**-1.4**
	baz=286						
SIT	**Sitka**	**58.62**	**40**	P	**P**	**09 31 43.5**	**-1.7**
	baz=286						
R32K	**Eaglecrest**	**58.69**	**38**	P	**P**	**09 31 44.8**	**-1.0**
	baz=286						
A36M	**Sachs Harbour**	**58.71**	**21**	P	**P**	**09 31 43.9**	**-1.7**
	baz=286						
P32M	**Atlin**	**58.73**	**36**	P	**P**	**09 31 45.3**	**-0.8**
	baz=286						
MBWA	**Marble Bar**	**58.95**	**203**	P	**P**	**09 31 46.8**	**-1.1**
	comp=Z,131nm,1.2s						
MBWA	**Marble Bar**	**58.95**	**203**		**P**	**09 31 47.4**	**-0.4**
MBWA	**Marble Bar**	**58.95**	**203**	P	**P**	**09 31 47.6**	**-0.3**
MBWA	**Marble Bar**	**58.95**	**203**	P	**P**	**09 31 47.5**	**-0.3**
P33M	**Teslin, Yukon**	**58.99**	**36**	IAmb	IAmb	09 32 17.0	
	comp=Z,28nm,0.9s						
P33M	**Teslin, Yukon**	**58.99**	**36**	P	**P**	**09 31 46.9**	**-1.0**
	baz=286						
AB31	**Akbulak array**	**59.01**	**311**	*i* P	**P**	**09 31 46.9**	**-1.2**
PSA00	**Pilbara Seismi**	**59.30**	**203**	P	**P**	**09 31 49.3**	**-0.9**
	comp=Z,96nm,1.0s						
PSA00	**Pilbara Seismi**	**59.30**	**203**	P	**P**	**09 31 50.0**	**-0.3**
PSA00	**Pilbara Seismi**	**59.30**	**203**	P	**P**	**09 31 50.0**	**-0.3**
PSAB3	**Pilbara Seismi**	**59.31**	**203**	P	**P**	**09 31 49.4**	**-1.0**
	comp=Z,103nm,1.0s						
Q32M	**Nakina River**	**59.62**	**37**	P	**P**	**09 31 51.3**	**-1.1**
	baz=286						
AKTO	**Aktyubinsk**	**59.82**	**313**	LR	LR	09 59 12.4	
	comp=Z,367nm,20.5s,baz=73,slow=37						
AKTO	**Aktyubinsk**	**59.82**	**313**	P	**P**	**09 31 54.8**	**+1.1**
C36M	**Paulatuk**	**59.86**	**24**	P	**P**	**09 31 52.9**	**-0.7**
	baz=288						
T33K	**Petersburg**	**59.93**	**39**	P	**P**	**09 31 53.6**	**-0.7**
	baz=288						
U33K	**Whale Pass**	**60.06**	**40**	P	**P**	**09 31 54.2**	**-0.9**
	baz=288						
R33M	**Jennings River**	**60.13**	**36**	P	**P**	**09 31 54.8**	**-1.0**
	baz=288						
CRAG	**Craig**	**60.26**	**41**	P	**P**	**09 31 56.4**	**-0.1**
	baz=289						
WRAK	**Wrangell Islan**	**60.37**	**40**	P	**P**	**09 31 56.8**	**-0.5**
	baz=289						
WRKA	**Warakurna**	**60.50**	**193**	P	**P**	**09 31 58.3**	**-0.2**
	comp=Z,29nm,0.6s						
EIDS	**Eidsvold**	**60.50**	**169**	P	**P**	**09 31 58.9**	**+0.5**
	comp=Z,45nm,0.8s						
EIDS	**Eidsvold**	**60.50**	**169**	P	**P**	**09 31 58.3**	**-0.1**
EIDS				IAmb	IAmb	09 32 23.2	
	comp=Z,36nm,0.9s						
EIDS	**Eidsvold**	**60.50

baz=292
SPITS Spitsbergen Ar 62.74 349 P **P 09 32 14.9 +1.9**
comp=Z,12nm,0.8s,baz=66,slow=8.3,SNR=5.2
SPITS LR LR 10 03 13.1
comp=Z,280nm,18.1s,baz=38,slow=40
comp=Z,12nm,0.8s
KBS Kingsbay 62.90 350 *e*P **P 09 32 15.1 +1.1**
KBS pmax pmax
comp=Z,40nm,1.6s
KBS Kingsbay 62.90 350 *e*P **P 09 32 14.4 +0.4**
KBS Kingsbay 62.90 350 *i* P **P 09 32 14.2 +0.2**
MSVF Nonsavu 63.07 140 P **P 09 32 16.3 +0.3**
MSVF Nonsavu 63.07 140 *i* P **P 09 32 14.7 -1.3**
MSVF pmax pmax
comp=Z,48nm,1.3s
NOR Nord 63.39 356 *i* P **P 09 32 17.1 -0.1**
NOR IAmb IAmb 09 32 39.9
comp=Z,26nm,1.2s
LVZ Lovozero 64.03 336 *i* P **P 09 32 23.2 +1.5**
LVZ pmax pmax
comp=Z,36nm,1.6s
AULRC Lightning Ridg 64.11 173 P **P 09 32 23.3 +0.8**
BBB Bella Bella 64.22 43 LR LR 09 56 38.6
comp=Z,94nm,21.8s,baz=288,slow=32
MEEK Meekatharra 64.42 202 P **P 09 32 23.2 -1.5**
comp=Z,64nm,1.6s
MEEK Meekatharra 64.42 202 P **P 09 32 24.2 -0.5**
VADS Vadso 64.57 339 *e*P **P 09 32 27.1 +2.0**
APA Apatity 64.61 336 ⇓*i* P **P 09 32 22.7 -2.7**
APA *e* 09 32 58.5
APA *e*S **S 09 40 55.7 -4.8**
APA *i* 09 42 09.8
APA *e*SS **SS 09 45 13.6 +2.5**
APA MLR MLR
comp=Z,702nm,18.3s
RES Resolute Bay 65.07 14 LR LR 10 04 48.9
comp=Z,109nm,18.7s,baz=358,slow=40
BELG Belogornoye 65.13 318 *d i* P **P 09 32 29.7 +0.7**
BELG pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 65.44 328 *e*P **P 09 32 29.8 -1.1**
KLMR *e* 09 34 54.0
KLMR pmax pmax
comp=Z,38nm,1.4s
KLMR MLR MLR
comp=Z,495nm,19.0s
ARMA Armidale 65.54 170 P **P 09 32 30.8 -1.2**
comp=Z,41nm,0.9s
ARMA Armidale 65.54 170 P **P 09 32 32.4 +0.4**
ARMA IAmb IAmb 09 32 57.9
comp=Z,36nm,0.9s
HAMF Hammerfest 65.87 341 *e*P **P 09 32 33.7 +0.2**
CMSA Cobar Meteorol 66.00 175 P **P 09 32 34.1 -0.6**
comp=Z,61nm,1.2s
CMSA Cobar Meteorol 66.00 175 P **P 09 32 35.6 +0.9**
ARA0 ARCESS Array S 66.01 340 *e*P **P 09 32 34.5 0.0**
ARCES ARCESS Array B 66.01 340 P **P 09 32 34.1 -0.3**
comp=Z,3.6nm,0.6s,baz=60,slow=7.2,SNR=13
ARCES pP **sP 09 32 55.2 -0.7**
comp=Z,7.2nm,0.8s,baz=43,slow=6.9,SNR=3.2
ARCES LR LR 10 04 30.1
comp=Z,339nm,20.4s,baz=45,slow=39
comp=Z,3.6nm,0.6s
FORT Forrest 66.15 192 P **P 09 32 34.2 -1.5**
comp=Z,107nm,0.6s
FORT Forrest 66.15 192 P **P 09 32 35.7 0.0**
STKA Stephens Creek 66.17 179 P **P 09 32 34.8 -1.0**
comp=Z,268nm,1.1s
STKA Stephens Creek 66.17 179 P **P 09 32 36.0 +0.2**
comp=Z,10nm,0.5s,baz=356,slow=6.6,SNR=42
STKA LR LR 10 00 35.4
comp=Z,250nm,20.5s,baz=5.7,slow=35
comp=Z,10nm,0.5s
STKA Stephens Creek 66.17 179 P **P 09 32 36.2 +0.4**
SGF Sodankyl 66.91 337 P **P 09 32 44.7 +4.5**
SGF pmax pmax
comp=Z,29nm,0.8s
KTK1 Kautokeino 66.97 340 *e*P **P 09 32 42.2 +1.7**
BBOO Buckleboo 67.24 184 P **P 09 32 42.1 -0.5**
comp=Z,59nm,1.3s
BBOO Buckleboo 67.24 184 P **P 09 32 42.8 +0.2**
BBOO Buckleboo 67.24 184 P **P 09 32 42.8 +0.2**
WHYH Whyalla 67.38 183 P **P 09 32 44.2 +0.7**
JETT Jettan, Norway 67.42 341 *e*P **P 09 32 44.1 +0.7**
MORW Morawa 67.50 203 P **P 09 32 43.1 -1.2**
comp=Z,70nm,1.7s
MORW Morawa 67.50 203 P **P 09 32 43.9 -0.4**
MORW Morawa 67.50 203 P **P 09 32 44.6 +0.3**
AUJCS Jamestown Cent 67.52 182 P **P 09 32 45.1 +0.7**
HTT Hallett 67.74 182 P **P 09 32 45.7 -0.1**
comp=Z,21nm,1.1s
HTT Hallett 67.74 182 P **P 09 32 46.3 +0.5**
JOF Joensuu 67.78 332 *e*P **P 09 32 46.2 +0.5**
LANU Lannavaara 67.93 339 *e*P **P 09 32 47.1 +0.5**
NEEM North Greenlan 67.94 3 *i* P **P 09 32 49.3 +2.4**
NEEM IAmb IAmb 09 33 17.0
comp=Z,30nm,0.8s
CLRS Cowichan Lake 67.97 45 P **P 09 32 45.8 -1.4**
KMBL Kambalda 68.00 197 P **P 09 32 46.1 -1.3**
comp=Z,20nm,2.0s
DAG Danmarks Havn 68.09 355 P **P 09 32 49.7 +2.2**
DAG pmax pmax
comp=Z,26nm,1.2s
DAG Danmarks Havn 68.09 355 *i* P **P 09 32 48.4 +0.8**
DAG IAmb IAmb 09 32 52.8
comp=Z,21nm,0.9s
OUL Oulu 68.50 336 P **P 09 32 54.6 +4.4**
OUL pmax pmax
comp=Z,35nm,1.4s
B04A Port Angeles 68.70 46 IAmb IAmb 09 33 22.5
comp=Z,23nm,0.9s
SYDH Sydney Hard Ro 68.70 171 P **P 09 32 53.2 +1.4**
BLDU Ballidu 68.72 202 P **P 09 32 50.6 -1.3**
comp=Z,54nm,1.4s
BLDU Ballidu 68.72 202 P **P 09 32 51.3 -0.7**
MOS Moscow 68.80 324 *e*P **P 09 32 54.3 +2.1**
MOS *e* 09 33 13.6
MOS pmax pmax
comp=Z,48nm,0.7s
NLWA Neilton Lookou 68.80 47 IAmb IAmb 09 33 30.6
comp=Z,44nm,1.1s
VRH Novokhopyorsk 68.93 318 *e*P **P 09 32 53.8 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
YNG Young 68.97 173 P **P 09 32 53.6 +0.1**
comp=Z,21nm,1.0s
GNW Green Mountain 69.34 46 P **P 09 32 56.1 +0.4**
GNW IAmb IAmb 09 33 24.4
comp=Z,36nm,1.4s
AUMBR Murray Bridge 69.43 181 P **P 09 32 56.4 +0.2**
MAK Makhachkala 69.44 308 *d i* P **P 09 32 56.8 +0.3**
MAK *e* 09 35 30.2
MAK *e*PPP PPP 09 37 11.6
MAK *e*S **S 09 42 03.9 +4.5**
MAK *e*SS **SS 09 46 32.7 +5.8**
MAK pmax pmax
comp=Z,213nm,1.1s
MAK MLR MLR
comp=Z,709nm,15.0s
OBN Obninsk 69.64 324 ⇓*e*P **P 09 32 58.3 +0.9**
OBN *e**PP **pwP 09 33 13.7 -1.2**
OBN *i* 09 33 20.3
OBN *i* *SP **PcP 09 33 21.5 +1.5**
OBN *i* 09 35 33.3
OBN *e*S **S 09 41 55.8 -5.5**
OBN *i* *SS **SKiKP 09 42 42.8 +2.7**
OBN *i* SS **SS 09 46 33.3 +4.0**
OBN pmax pmax
comp=Z,60nm,1.2s
OBN MLR MLR
comp=Z,600nm,19.0s
LPSR Galich'ya Gora 69.74 320 *e*P **P 09 32 59.2 +1.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
STEI Steigen 69.91 341 *e*P **P 09 32 59.1 +0.2**
AUDAR Daramalan Coll 69.99 173 P **P 09 33 00.8 +1.1**
AKT Akhty 70.00 307 *e*P **P 09 33 01.0 +0.9**
AKT *e* 09 33 22.6
AKT *e* 09 35 37.3
AKT *e**SS **sS 09 42 27.6 -5.2**
AKT pmax pmax
comp=Z,36nm,0.7s
CAN Canberra 70.04 173 P **P 09 33 00.5 +0.4**
comp=Z,30nm,1.3s
CAN Canberra 70.04 173 P **P 09 33 00.8 +0.7**

CAN pP **pP 09 33 14.6 +0.2**
CAN PcP **PcP 09 33 23.5 +1.6**
MUN Mundaring 70.14 202 P **P 09 32 59.8 -0.9**
comp=Z,26nm,1.4s
MUN Mundaring 70.14 202 P **P 09 33 01.0 +0.3**
LOF Lofoten 70.22 341 *e*P P 09 33 07.0 +6.2
AUMAZ Mazenod Senior 70.22 202 P **P 09 33 01.5 +0.3**
FAUS Fauske 70.29 340 *e*P **P 09 33 02.2 +1.0**
VSR Storozhevoye 70.32 319 *e*P **P 09 33 03.3 +1.6**
VSR pmax pmax
comp=Z,30nm,1.1s
COR Corvallis 70.50 49 P **P 09 33 05.3 +2.3**
FINES FINESS Array B 70.63 332 P **P 09 33 03.8 +0.3**
comp=Z,6.2nm,0.5s,baz=82,slow=4.8,SNR=15
FINES LR LR 10 09 36.9
comp=Z,234nm,18.5s,baz=52,slow=40
comp=Z,6.2nm,0.5s
KEF Keuruu 70.64 333 *e*P **P 09 33 04.8 +1.3**
NWAO Narrogin (SRO) 70.72 201 P **P 09 33 03.6 -0.6**
comp=Z,69nm,1.6s
NWAO Narrogin (SRO) 70.72 201 P **P 09 33 04.2 0.0**
NWAO IAmb IAmb 09 33 28.3
comp=Z,72nm,1.1s
NWAO Narrogin (SRO) 70.72 201 P **P 09 33 04.2 0.0**
NWAO Narrogin (SRO) 70.72 201 P **P 09 33 04.2 0.0**
NWAO pmax pmax
comp=Z,72nm,1.2s
JLN Jalan Bani Buh 70.81 284 P **P 09 33 06.1 +0.9**
VAF Ylistaro 70.89 335 *e*P **P 09 33 06.6 +1.7**
H04D Lebanon 70.89 49 P **P 09 33 04.2 -1.1**
WSAR Wadi Sarin 70.89 285 P **P 09 33 07.3 +1.6**
ARPS Mount Arapiles 71.06 179 P **P 09 33 05.8 -0.4**
comp=Z,23nm,1.2s
BIDO Bidbid 71.15 286 P **P 09 33 09.0 +1.8**
SNR=14
HOOD Mount Hood Mea 71.15 48 IAmb IAmb 09 33 44.4
comp=Z,48nm,1.0s
RAUS Rausandaksla 71.31 340 *e*P **P 09 33 09.1 +1.7**
BANOM Banah 71.38 289 P **P 09 33 09.1 +0.4**
MOR8 Moi Rana 71.38 340 *e*P **P 09 33 06.8 -1.1**
SMDO Samad 71.44 286 P **P 09 33 10.0 +0.8**
SNR=20
SHME Shamm 71.44 289 P **P 09 33 09.4 +0.4**
GUDG Gudauri 71.63 309 P **P 09 33 06.7 -3.4**
MDH Madha 71.69 288 P **P 09 33 14.9 +4.4**
JMDO Jabal Madar 71.75 285 P **P 09 33 10.8 0.0**
SNR=9.3
HOQ Hoqain 71.76 286 P **P 09 33 12.0 +1.0**
SNR=24
MASF Masafi 71.77 289 P **P 09 33 11.4 +0.4**
SNR=7.4
MILA Mila 71.77 173 P **P 09 33 09.6 -1.0**
comp=Z,11nm,1.0s
LEIR Leirfjorden 71.80 340 *e*P **P 09 33 11.5 +1.1**
G06A Carlson Farm, 71.81 47 IAmb IAmb 09 33 46.0
comp=Z,61nm,1.9s
BRAT Ballarat 71.89 177 P **P 09 33 12.1 +1.0**
ARBE Arbavere 71.90 331 *e*P **P 09 33 12.0 +0.9**
J04A Umpqua Nationa 71.92 50 IAmb IAmb 09 33 39.1
comp=Z,24nm,0.7s
UOSS Minazif 71.95 288 P **P 09 33 10.8 -1.2**
UOSS IAmb IAmb 09 33 33.6
comp=Z,26nm,1.0s
UOSS Minazif 71.95 288 P **P 09 33 11.6 -0.4**
AUMTC Mt Clear Colle 71.95 177 P **P 09 33 12.2 +0.7**
KBZ Khabaz 71.98 311 P **P 09 33 13.5 +1.6**
comp=Z,27nm,0.9s,baz=54,slow=4.5,SNR=28
KBZ LR LR 10 07 00.1
comp=Z,212nm,21.9s,baz=42,slow=38
comp=Z,27nm,0.9s
KBZ Khabaz 71.98 311 *i* P **P 09 33 12.1 +0.2**
KBZ pmax pmax
comp=Z,54nm,1.0s
KIV Kislovodsk 72.00 311 P **P 09 33 11.2 -0.9**
KIV Kislovodsk 72.00 311 ⇓P **P 09 33 14.7 +2.6**
KIV Kislovodsk 72.00 311 *e*P **P 09 33 13.0 +0.8**
KIV *e*S **S 09 42 31.0 +1.6**
KIV pmax pmax
comp=Z,8.0nm,3.7s
KIV pmax pmax
comp=Z,86nm,1.1s
KIV Kislovodsk 72.00 311 P **P 09 33 12.7 +0.5**
comp=Z,898nmcomp=Z,103nm,1.1s
HATD Hatta, Dubai 72.06 288 P **P 09 33 13.4 +0.6**
SNR=12
SOHO SOHO 72.10 287 P **P 09 33 13.0 0.0**
SHA1 Shidzhatmaz 72.13 311 *i* P **P 09 33 14.5 +1.4**
ASHO Ashiyiah 72.19 288 P **P 09 33 13.6 +0.1**
SNR=14
NEW Newport 72.29 43 LR LR 10 03 44.2
comp=Z,30nm,20.4s,baz=304,slow=35
NEW Newport 72.29 43 P **P 09 33 14.6 +0.9**
YBH Yreka Blue Hor 72.31 51 LR LR 09 57 17.7
comp=Z,6.9nm,21.2s,baz=288,slow=29
L04D Klamath Falls 72.32 51 IAmb IAmb 09 33 46.7
comp=Z,59nm,1.4s
NAZ Nazwa, Dubai 72.35 288 P **P 09 33 17.9 +3.5**
SNR=8.2
PINE Pine Mountain 72.37 49 IAmb IAmb 09 33 52.1
comp=Z,48nm,1.1s
ERBR Yeremizino-Bor 72.43 314 *e*P **P 09 33 16.6 +2.1**
ERBR pmax pmax
comp=Z,83nm,1.1s
J05D Fort Rock, OR 72.45 49 IAmb IAmb 09 33 51.2
comp=Z,54nm,1.5s
ARQ Araqi 72.51 287 P **P 09 33 15.8 +0.3**
SNR=22
RAF Rauma 72.52 333 *e*P **P 09 33 16.5 +1.7**
FAQ Al Faqa, Dubai 72.53 288 P **P 09 33 16.0 +0.5**
SNR=7.1
MHTO MHTO 72.56 284 P **P 09 33 15.4 -0.3**
SNR=19
GNI Garni 72.63 307 **P 09 33 16.3 +0.2**
GNI IAmb IAmb 09 33 53.1
comp=Z,64nm,1.1s
GNI Garni 72.63 307 LR LR 10 07 48.6
comp=Z,293nm,21.6s,baz=58,slow=38
GNI Garni 72.63 307 *i* P **P 09 33 16.8 +0.7**
GNI pmax pmax
comp=Z,71nm,1.3s
ALNE Al Ain 72.75 288 P **P 09 33 17.1 +0.3**
SNR=15
KCPM Cahto Peak 72.79 53 IAmb IAmb 09 33 57.1
comp=Z,34nm,1.2s
ASUD Al Ashush, Dub 72.79 288 P **P 09 33 17.4 +0.4**
SNR=7.6
LABN Labinsk 72.85 313 *e*P **P 09 33 20.9 +3.8**
LABN *e**PP **sP 09 33 39.8 +1.4**
LABN *e*S **S 09 42 38.1 -0.8**
LABN pmax pmax
comp=Z,70nm,1.1s
M03C McCloud 72.93 51 IAmb IAmb 09 33 51.2
comp=Z,27nm,1.0s
K05A Summer Lake 72.95 50 **P 09 33 16.4 -1.5**
K05A IAmb IAmb 09 33 53.8
comp=Z,71nm,1.2s
SUMG Summit 73.07 360 P **P 09 33 17.0 -1.3**
SUMG IAmb IAmb 09 33 27.9
comp=Z,24nm,0.8s
SUMG Summit 73.07 360 P **P 09 33 17.0 -1.3**
SUMG pmax pmax
comp=Z,24nm,0.8s
SUMG Summit 73.07 360 *i* P **P 09 33 20.4 +2.1**
SUMG IAmb IAmb 09 33 27.6
comp=Z,23nm,0.8s
AJN Ajban 73.09 288 P **P 09 33 21.9 +3.1**
SNR=5.7
DQM DQM 73.45 283 P **P 09 33 19.8 -1.1**
HATC Hat Creek Radi 73.59 52 IAmb IAmb 09 33 47.4
comp=Z,28nm,0.9s
O03E Paynes Creek 73.64 52 IAmb IAmb 09 33 44.2
comp=Z,60nm,1.4s
UMZA Um Al Zommool 73.90 287 P **P 09 33 23.2 -0.4**
MNRC McLaughlin Min 73.96 54 IAmb IAmb 09 33 55.3
comp=Z,31nm,0.9s
SOC Sochi 74.03 312 *e*P **P 09 33 27.1 +3.1**
SOC *e* 09 36 09.5
SOC *e*PPP PPP 09 37 52.9
SOC *e*S **S 09 43 00.7 +8.5**
SOC *e*SS **SS 09 47 34.4 -2.6**
SOC pmax pmax
comp=Z,61nm,1.1s
SOC MLR MLR
comp=Z,238nm,18.0s
MNK Minsk 74.12 326 *i* P **P 09 33 28.4 +4.1**

MNK *i* *PP **sP 09 33 45.0 -0.6**
MNK *i* 09 36 15.5
MNK *i* PPP PPP 09 37 59.1
MNK *i* S **S 09 42 58.3 +5.5**
MNK *i* SS **SS 09 47 48.0 +10**
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=E,21nm,0.8s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK MLR MLR
comp=Z,336nm,19.0s
MNK MLR MLR
comp=E,587nm,20.0s
MNK MLR MLR
comp=N,567nm,24.0s
J08A Circle Bar Ran 74.12 48 IAmb IAmb 09 33 56.2
comp=Z,37nm,1.2s
ISAL Salakas 74.25 328 *e*P **P 09 33 27.8 +2.8**
NACGM Naroch 74.37 327 *e*P **P 09 33 28.2 +2.4**
comp=Z,45nm,0.8s,baz=52
WVOR Wild Horse Val 74.52 49 P **P 09 33 26.2 -0.9**
WVOR Wild Horse Val 74.52 49 P **P 09 33 26.2 -0.9**
WVOR pmax pmax
comp=Z,24nm,1.2s
JRN Qarnain Island 74.56 290 P **P 09 33 26.5 -0.9**
PLID Pearl Lake 74.66 46 P **P 09 33 26.6 -1.4**
ANN Anapa 74.73 314 *e*P **P 09 33 26.5 -1.6**
ANN *e**PP **sP 09 33 50.2 +0.7**
ANN *e*S **S 09 42 55.5 -4.5**
ANN pmax pmax
comp=Z,55nm,1.3s
ANN MLR MLR
comp=Z,342nm,17.0s
BEKR Beckworth 74.81 52 **P 09 33 27.9 -1.0**
BEKR IAmb IAmb 09 33 59.9
comp=Z,23nm,0.9s
JRSC Jasper Ridge 74.88 55 P **P 09 33 27.7 -1.3**
JRSC IAmb IAmb 09 33 50.6
comp=Z,29nm,1.1s
MZR Muzera 75.08 288 P **P 09 33 30.1 -0.4**
SNR=13
PABE Paberze 75.24 328 *e*P **P 09 33 32.1 +1.4**
GURO Guroymak-BITLI 75.26 307 IAmb IAmb 09 33 39.6
comp=Z,53nm,1.2s
WELL Weller Preserv 75.34 53 IAmb IAmb 09 33 53.9
comp=Z,52nm,1.8s
MFID Camas Ranch 75.70 47 **P 09 33 32.9 -1.0**
MFID IAmb IAmb 09 34 05.1
comp=Z,30nm,1.1s
CMB Columbia Colle 75.78 54 IAmb IAmb 09 34 05.2
comp=Z,32nm,1.2s
AKASG Malin Array Be 75.80 322 P **P 09 33 33.7 -0.4**
comp=Z,22nm,0.8s,baz=49,slow=6.2,SNR=33
AKASG pP **sP 09 33 53.7 -1.7**
comp=Z,12nm,0.5s,baz=49,slow=6.0,SNR=6.4
AKASG LR LR 10 10 11.4
comp=Z,610nm,18.4s,baz=52,slow=38
comp=Z,22nm,0.8s
AKBB Malin Array Si 75.80 322 *i* P **P 09 33 34.3 +0.2**
AKBB pmax pmax
comp=Z,38nm,0.9s
AK23 Malin Array Si 75.81 322 P **P 09 33 34.0 -0.2**
KIEV Kiev 75.81 322 P **P 09 33 32.7 -1.4**
KIEV IAmb IAmb 09 33 56.2
comp=Z,31nm,0.7s
KIEV Kiev 75.81 322 ⇑P **P 09 33 34.1 -0.1**
KIEV Kiev 75.81 322 P **P 09 33 32.7 -1.4**
KIEV pmax pmax
comp=Z,31nm,0.7s
AK04 Malin Array Si 75.82 322 P **P 09 33 34.0 -0.2**
AK08 Malin Array Si 75.83 322 P **P 09 33 33.9 -0.3**
AK02 Malin Array Si 75.84 322 P **P 09 33 34.0 -0.3**
AK22 Malin Array Si 75.84 322 P **P 09 33 34.0 -0.3**
AK11 Malin Array Si 75.84 322 P **P 09 33 34.0 -0.3**
TRNA Turayna 75.94 290 P **P 09 33 34.5 -0.8**
HFS Hagfors 76.00 336 P **P 09 33 35.7 +0.6**
comp=Z,3.5nm,0.5s,baz=122,slow=4.3,SNR=18
HFS LR LR 10 10 04.0
comp=Z,343nm,19.4s,baz=44,slow=38
comp=Z,3.5nm,0.5s
OUZ Omahuta 76.02 153 P **P 09 33 39.1 +3.7**
DOMB Dombas 76.04 339 *e*P **P 09 33 38.6 +3.3**
NB2 NORSAR Subarra 76.14 337 P **P 09 33 35.8 -0.1**
comp=Z,34nm,1.1s,baz=42,slow=5.9
NB2 PP **PP 09 36 25.9 -0.9**
comp=Z,16nm,1.7s,baz=45,slow=9.3
NB2 NORSAR Subarra 76.14 337 P **P 09 33 36.5 +0.6**
NB2 pmax pmax
comp=Z,123nm,2.1s
NB2 NORSAR Subarra 76.14 337 P **P 09 33 35.8 -0.1**
baz=42,slow=5.9
NOA NORSAR Array B 76.14 337 P **P 09 33 36.3 +0.4**
comp=Z,7.2nm,0.8s,baz=40,slow=5.7,SNR=16
NOA PP **PP 09 36 29.5 +2.8**
comp=Z,2.5nm,0.7s,baz=46,slow=8.6,SNR=4.4
NOA LR LR 10 10 02.5
comp=Z,386nm,19.8s,baz=25,slow=38
comp=Z,7.2nm,0.8s
SMRA Abu-Samra 76.23 291 P **P 09 33 35.9 -1.1**
KBD Kabd 76.27 296 P **P 09 33 36.8 -0.4**
NC602 NORSAR Array S 76.27 337 *e*P **P 09 33 34.0 -2.5**
NORES NORESS Array B 76.27 337 P **P 09 33 39.2 +2.6**
HULI Fort Hunter Li 76.30 56 IAmb IAmb 09 33 59.5
comp=Z,53nm,1.1s
LEGD La Grand CA 76.38 54 IAmb IAmb 09 34 06.1
comp=Z,21nm,0.8s
MI28 Mi28,Pidlybu 76.44 323 P **P 09 33 40.0 +2.3**
EGMT Eagleton 76.48 41 IAmb IAmb 09 34 13.0
comp=Z,39nm,0.9s
DLMT Dillon 76.48 44 IAmb IAmb 09 34 05.6
comp=Z,32nm,0.8s
AKN Aaknes 76.54 340 *e*P P 09 33 45.5 +7.4
SIM Simferopol' 76.59 316 *e*P **P 09 33 42.8 +4.1**
SIM pmax pmax
comp=Z,43nm,0.9s
DMTO DMTO 76.69 282 P **P 09 33 38.5 -1.2**
PKD Bear Valley Ra 76.81 55 IAmb IAmb 09 34 30.5
comp=Z,20nm,0.9s
DOK Doka 76.87 284 P **P 09 33 40.0 -0.7**
SNR=15
LHV Little Huntoon 76.90 53 IAmb IAmb 09 34 12.2
comp=Z,41nm,1.0s
NVAR Mina Array Bea 76.93 52 P **P 09 33 42.4 +1.3**
comp=Z,2.3nm,0.7s,baz=284,slow=5.5,SNR=24
NVAR pP **sP 09 34 02.2 -0.1**
comp=Z,11nm,0.9s,baz=277,slow=5.0,SNR=7.2
NVAR LR LR 10 00 39.0
comp=Z,121nm,21.0s,baz=294,slow=30
comp=Z,2.3nm,0.7s
RNPP9 Sopachiv 77.00 324 P **P 09 33 42.6 +1.8**
LUBAR Lubar, Ukraine 77.02 322 P **P 09 33 42.4 +1.4**
RNPP8 Varash 77.06 324 P **P 09 33 43.0 +1.8**
SOEG Soedalen 77.29 357 *i* P **P 09 33 46.7 +4.5**
SOEG IAmb IAmb 09 33 50.0
comp=Z,67nm,1.4s
RBK Rabkut 77.41 283 P **P 09 33 43.3 -0.5**
SNR=15
WHFO Wadi Hawf 77.53 283 P **P 09 33 43.6 -0.8**
SNR=14
ELK Elko 77.58 49 P **P 09 33 46.5 +1.9**
STRU Stroemstad 77.68 336 *e*P **P 09 33 45.5 +1.0**
YMR Madison River 77.83 44 IAmb IAmb 09 34 16.4
comp=Z,22nm,0.9s
TPH Tonopah 77.83 52 IAmb IAmb 09 34 13.8
comp=Z,38nm,1.2s
SORM Soroca 77.84 321 ⇑P **P 09 33 47.6 +2.0**
SORM Soroca 77.84 321 ⇑P **P 09 33 47.6 +2.0**
VES Vestal, Richgr 77.85 55 IAmb IAmb 09 34 12.8
comp=Z,62nm,1.2s
ABTO Aybut 78.22 283 P **P 09 33 47.7 -0.6**
SNR=24
SFJD Kangerlussuaq 78.31 4 LR LR 10 10 10.1
comp=Z,140nm,21.5s,baz=346,slow=37
SFJD Kangerlussuaq 78.31 4 *i* P **P 09 33 51.2 +3.3**
SFJD IAmb IAmb 09 34 08.7
comp=Z,19nm,0.9s
KMPD K-Podol'skiy 78.54 322 P **P 09 33 51.1 +1.6**
TPO Tropico Hills 78.97 55 IAmb IAmb 09 34 17.5
comp=Z,51nm,1.2s
FURC Furnace Creek, 78.98 53 IAmb IAmb 09 34 23.0
comp=Z,32nm,1.0s
S11A Rachel 79.04 52 IAmb IAmb 09 34 48.8
comp=Z,46nm,1.2s
DY2G Dye2 79.06 3 *i* P **P 09 33 53.5 +1.1**

DY2G IAmb IAmb 09 33 58.5
comp=Z,23nm,0.9s
BNN Bunyan 79.10 310 IAmb IAmb 09 34 01.1
comp=Z,52nm,1.1s
TPNV Topopah Spring 79.11 53 IAmb IAmb 09 34 22.5
comp=Z,36nm,1.1s
SPR3 Spring Creek 3 79.16 50 IAmb IAmb 09 34 24.3
comp=Z,36nm,1.3s
CCCA Chr Cany lake 79.19 54 IAmb IAmb 09 34 09.2
comp=Z,94nm,1.9s
GAZ Gaziantep 79.19 308 P 09 33 52.8 -0.6
GAZ IAmb IAmb 09 34 01.8
comp=Z,38nm,0.9s
LAO LASA Array 79.20 40 IAmb IAmb 09 34 23.1
comp=Z,34nm,1.0s
FRB Frobisher Bay 79.24 13 LR LR 10 14 28.0
comp=Z,152nm,18.6s,baz=340,slow=40
GWY Greenwater Val 79.27 53 IAmb IAmb 09 34 23.7
comp=Z,36nm,1.3s
RAR Rarotonga 79.29 125 LR LR 10 06 20.8
comp=Z,153nm,18.8s,baz=288,slow=34
HWUT Hardware Ranch 79.31 47 IAmb IAmb 09 34 24.6
comp=Z,74nm,1.2s
DUG Dugway, Tooele 79.40 48 IAmb IAmb 09 34 24.9
comp=Z,39nm,1.2s
KSV Kosov 79.41 322 P **P 09 33 55.6 +1.3**
STNU Staruniа 79.43 323 P **P 09 33 54.2 -0.2**
MWC Mount Wilson 79.46 56 IAmb IAmb 09 34 31.0
comp=Z,29nm,1.1s
PRN Pahroc Range 79.63 52 IAmb IAmb 09 34 26.8
comp=Z,30nm,1.0s
KWP Kalwaria Pacla 79.70 324 P P 09 34 01.0 +5.2
TCUT Toone Canyon 79.70 47 IAmb IAmb 09 34 31.0
comp=Z,74nm,1.4s
TESR Tescani 79.76 320 ⇓P **P 09 33 58.9 +2.7**
TESR Tescani 79.76 320 P **P 09 33 58.5 +2.3**
comp=Z,731nmcomp=Z,52nm,1.4s
COP Copenhagen 79.77 333 *i* P **P 09 33 58.8 +2.8**
COP IAmb IAmb 09 34 00.9
comp=Z,95nm,0.9s
BURAR Bucovina Array 79.79 322 ⇑P **P 09 33 57.5 +1.0**
BURAR Bucovina Array 79.79 322 ⇑P **P 09 33 57.5 +1.0**
PDAR Pinedale Array 79.79 45 P **P 09 33 58.5 +1.7**
comp=Z,2.4nm,0.7s,baz=266,slow=2.1,SNR=13
PDAR pP **sP 09 34 17.5 -0.5**
comp=Z,3.5nm,0.6s,baz=289,slow=2.3,SNR=7.3
comp=Z,2.4nm,0.7s
CFR Carcaliu 79.81 318 ⇑P **P 09 33 58.7 +2.2**
CFR Carcaliu 79.81 318 ⇑P **P 09 33 58.7 +2.2**
TPGR Topolog 79.86 318 ⇑P **P 09 33 56.7 -0.1**
VRZ Vera Road 79.90 154 P **P 09 33 58.2 +1.4**
BORG Borgarnes 79.93 352 LR LR 10 08 51.9
comp=Z,101nm,21.4s,baz=23,slow=35
BR131 Keskin Array S 79.96 311 P **P 09 34 00.8 +3.2**
SNR=21
BRTR Keskin Array B 79.96 311 P **P 09 33 58.7 +1.1**
comp=Z,6.3nm,0.8s,baz=104,slow=3.7,SNR=15
BRTR pP **sP 09 34 19.2 0.0**
comp=Z,26nm,0.9s,baz=104,slow=4.0,SNR=7.9
comp=Z,6.3nm,0.8s
URZ Urewera 80.04 152 LR LR 10 04 44.3
comp=Z,210nm,21.2s,baz=325,slow=32
ANGG Ammassalik, Gr 80.06 359 *i* P **P 09 34 00.8 +3.5**
ANGG IAmb IAmb 09 34 05.7
comp=Z,137nm,1.9s
TIRR Tirgusor 80.12 318 IAmb IAmb 09 34 05.7
comp=Z,38nm,1.3s
TIRR Tirgusor 80.12 318 P **P 09 34 02.1 +4.0**
VRI Vrincioaia 80.14 320 ⇑P **P 09 33 59.1 +0.8**
VRI Vrincioaia 80.14 320 ⇑P **P 09 33 59.1 +0.8**
KIRS Kirsehir-Merke 80.14 311 ⇑P **P 09 33 59.6 +1.1**
PLOR Plostina 80.19 320 ⇓P **P 09 33 59.6 +1.0**
PLOR Plostina 80.19 320 ⇓P **P 09 33 59.6 +1.0**
WTVZ West Tongariro 80.20 153 P **P 09 34 00.9 +2.3**
ELS Elsinore Mount 80.22 56 P **P 09 33 57.7 -1.3**
ELS IAmb IAmb 09 34 14.5
comp=Z,37nm,1.4s
MPU Maple Canyon 80.23 48 **P 09 33 58.0 -1.1**
MPU IAmb IAmb 09 34 28.8
comp=Z,33nm,1.0s
TLBR Topalu 80.27 318 ⇑P **P 09 34 00.8 +1.9**
QTVZ Oturere 80.27 153 P **P 09 34 01.1 +2.1**
RTZ Ruatahuna 80.30 152 **P 09 34 02.0 +2.9**
RTZ IAmb IAmb 09 34 24.1
comp=Z,46nm,1.0s
ANTO Ankara 80.40 312 **P 09 33 59.6 -0.3**
ANTO IAmb IAmb 09 34 07.7
comp=Z,62nm,1.1s
ANTO Ankara 80.40 312 P **P 09 34 03.5 +3.7**
ANTO Ankara 80.40 312 P **P 09 33 59.6 -0.3**
ANTO pmax pmax
comp=Z,63nm,1.2s
OZUR 80.49 320 ⇓P **P 09 34 01.9 +1.7**
WAZ Wanganui 80.54 154 P P 09 34 08.8 +8.6
STHS Stebnicka Huta 80.55 325 *eP* **P 09 34 04.3 +3.8**
STHS pmax pmax
comp=Z,18nm,1.2s
STHS Stebnicka Huta 80.55 325 *eP* **P 09 34 04.2 +3.8**
BKZ Black Stump Fm 80.59 153 **P 09 34 02.1 +1.5**
BKZ IAmb IAmb 09 34 26.7
comp=Z,52nm,1.5s
BKZ Black Stump Fm 80.59 153 P **P 09 34 01.2 +0.7**
QRZ Quartz Range 80.64 156 P **P 09 34 01.7 +1.0**
OJC Ojcow 80.67 326 P **P 09 34 05.1 +4.1**
DOPR Dopca 80.78 320 ⇑P **P 09 34 04.5 +2.7**
KWHZ Kaweka Forest 80.78 153 P **P 09 34 02.2 +0.5**
MLR Muntele Rosu 80.80 320 LR LR 10 13 15.2
comp=Z,416nm,18.6s,baz=52,slow=38
MLR Muntele Rosu 80.80 320 ⇑P **P 09 34 04.5 +2.5**
MLR Muntele Rosu 80.80 320 ⇑P **P 09 34 04.5 +2.5**
DNR Dunn Ranch,Anz 80.81 56 IAmb IAmb 09 34 38.3
comp=Z,54nm,1.3s
PFO Pinyon Flats O 80.90 55 P **P 09 34 01.6 -1.1**
PFO IAmb IAmb 09 34 26.8
comp=Z,29nm,1.1s
PFO Pinyon Flats O 80.90 55 LR LR 10 02 09.8
comp=Z,249nm,21.3s,baz=294,slow=30
PFO Pinyon Flats O 80.90 55 P **P 09 34 01.6 -1.1**
PFO pmax pmax
comp=Z,29nm,1.1s
PMD Palm Desert 80.93 55 P **P 09 34 01.2 -1.6**
KRHZ Kereru 80.96 153 P **P 09 34 02.7 +0.2**
RAYN Ar Rayn 80.98 292 P **P 09 34 02.8 -0.5**
RAYN Ar Rayn 80.98 292 P **P 09 34 03.1 -0.1**
RAYN Ar Rayn 80.98 292 ⇑P **P 09 34 02.9 -0.3**
RAYN Ar Rayn 80.98 292 P **P 09 34 03.2 -0.1**
NIE Niedzica 80.99 325 P **P 09 34 06.9 +4.1**
NIE Niedzica 80.99 325 P **P 09 34 05.2 +2.4**
comp=Z,227nmcomp=Z,12nm,1.4s
LCMT Little Creek M 81.02 51 IAmb IAmb 09 34 33.1
comp=Z,28nm,1.1s
BORC Borrego Spring 81.12 56 IAmb IAmb 09 34 41.6
comp=Z,53nm,1.8s
NNZ Nelson 81.27 156 P **P 09 34 04.3 +0.3**
KNB Kanab 81.29 51 IAmb IAmb 09 34 42.6
comp=Z,56nm,1.3s
P18A Preston Nutter 81.31 48 IAmb IAmb 09 34 34.9
comp=Z,26nm,0.9s
DVHZ Dannevirke 81.45 153 P **P 09 34 05.1 0.0**
SRU San Rafael Swe 81.46 48 IAmb IAmb 09 34 35.1
comp=Z,48nm,0.9s
MARR Marisel-Cluj 81.49 322 ⇑P **P 09 34 07.3 +1.7**
CBX Cerro Bola 81.51 57 IAmb IAmb 09 34 34.2
comp=Z,26nm,1.0s
OGWZ Otaki Gorge 81.54 154 P **P 09 34 06.7 +1.2**
MRZ Mangatainoka R 81.55 154 **P 09 34 07.9 +2.3**
MRZ Mangatainoka R 81.55 154 P **P 09 34 06.1 +0.6**
LANS Liptovska Anna 81.57 325 *eP* **P 09 34 09.7 +3.8**
LANS pmax pmax
comp=Z,16nm,1.3s
LANS Liptovska Anna 81.57 325 *eP* **P 09 34 09.7 +3.8**
ARR Arges 81.58 320 ⇑P **P 09 34 07.6 +1.6**
THZ Tophouse 81.60 156 P **P 09 34 06.8 +0.9**
K22A Casper 81.61 43 IAmb IAmb 09 34 40.3
comp=Z,31nm,1.0s
DRGR 81.61 322 ⇑P **P 09 34 07.4 +1.2**
DRGR 81.61 322 ⇑P **P 09 34 07.4 +1.2**
OKC Ostrava-Krasne 81.69 327 AMS AMS 10 16 20.0
comp=Z,400nm,15.1s
STEB Steborice 81.79 327 *eP* **P 09 34 09.3 +2.3**
STEB *ex* x 09 34 24.6
KSP Ksiaz 81.80 328 P **P 09 34 08.9 +1.9**
comp=Z,26nm,0.9s
BORA Eskisehir 81.81 313 IAmb IAmb 09 34 37.6
comp=Z,26nm,0.9s

BFZ Birch Farm 81.82 153 P **P 09 34 07.2 +0.2**
YUH Yuha Desert 81.82 56 IAmb IAmb 09 34 41.6
comp=Z,30nm,1.4s
ULM Lac du Bonnet 81.84 33 P **P 09 34 09.4 +2.1**
comp=Z,3.5nm,0.6s,baz=244,slow=5.0,SNR=3.1
ULM LR LR 10 11 31.8
comp=Z,85nm,21.7s,baz=341,slow=36
comp=Z,3.5nm,0.6s
MTW Mount Morrison 81.96 154 P **P 09 34 08.1 +0.4**
LOT Lotru 81.98 321 ⇓P **P 09 34 09.7 +1.5**
MORC Moravsky Berou 82.01 327 **P 09 34 06.8 -1.5**
MORC Moravsky Berou 82.01 327 ⇑P **P 09 34 10.5 +2.3**
MORC Moravsky Berou 82.01 327 *eP* **P 09 34 11.3 +3.1**
MORC Moravsky Berou 82.01 327 P **P 09 34 12.2 +4.0**
MORC pmax pmax
comp=Z,20nm,1.3s
RSSD Black Hills 82.03 41 P **P 09 34 07.5 -1.1**
RSSD Black Hills 82.03 41 P **P 09 34 07.5 -1.1**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
OSTC Ostas 82.04 328 AMS AMS 10 15 20.0
comp=Z,400nm,13.8s
CHVC Chvalec 82.09 328 AMS AMS 10 15 10.0
comp=Z,400nm,14.3s
BLYC Blythe 82.12 54 IAmb IAmb 09 34 47.2
comp=Z,31nm,1.4s
KRLC Kraliky 82.14 327 *eP* **P 09 34 12.5 +3.6**
KRLC MLR MLR
comp=Z,400nm,18.1s
KRLC Kraliky 82.14 327 *eP* **P 09 34 12.5 +3.6**
KRLC AMS AMS 10 14 40.0
comp=Z,400nm,18.1s
DPC Dobruska-Polom 82.14 328 *eP* **P 09 34 13.3 +4.4**
DPC MLR MLR
comp=Z,400nm,17.9s
DPC Dobruska-Polom 82.14 328 *eP* **P 09 34 13.3 +4.4**
DPC AMS AMS 10 15 00.0
comp=Z,400nm,17.9s
UPC Upice 82.16 328 AMS AMS 10 15 50.0
comp=Z,400nm,15.9s
ESJX Sierra Juarez 82.18 57 IAmb IAmb 09 34 34.7
comp=Z,33nm,1.3s
O20A White River Ci 82.21 46 IAmb IAmb 09 34 39.3
comp=Z,29nm,1.0s
PSZ Piszkesteto 82.23 324 P **P 09 34 08.2 -1.2**
PSZ IAmb IAmb 09 34 47.6
comp=Z,33nm,1.0s
PSZ Piszkesteto 82.23 324 *eP* **P 09 34 10.4 +1.0**
PSZ Piszkesteto 82.23 324 P **P 09 34 08.2 -1.2**
PSZ pmax pmax
comp=Z,33nm,1.0s
SZH Strazhitsa 82.23 318 *eP* **P 09 34 12.1 +2.7**
GZR Gura Zlata 82.53 321 ⇑P **P 09 34 13.1 +2.1**
GZR Gura Zlata 82.53 321 ⇑P **P 09 34 13.1 +2.1**
JAVC Velka Javorina 82.61 326 *eP* **P 09 34 14.4 +3.0**
SURR Surduc 82.62 322 ⇑P **P 09 34 12.3 +0.9**
PV21 Cone Mtn., Par 82.75 48 IAmb IAmb 09 34 42.1
comp=Z,50nm,1.0s
VRAC Vranov 82.78 327 ⇑P **P 09 34 10.1 -2.1**
VRAC Vranov 82.78 327 *eP* **P 09 34 14.0 +1.8**
VRAC Vranov 82.78 327 ⇑P **P 09 34 10.1 -2.1**
BRG Berggiesshubel 82.78 329 *eP* **P 09 34 14.5 +2.3**
BRG Amp 09 34 16.4
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 82.78 329 P P 09 34 18.0 +5.8
BRG Amp 09 34 19.3
comp=Z,18nm,1.1s
BRG pP pP 09 34 26.6 -1.0
BRG Amp 09 34 27.9
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 82.78 329 S **SKSac 09 44 30.0 +1.3**
SRE Strehaia 82.80 320 ⇓P **P 09 34 15.2 +2.8**
SRE Strehaia 82.80 320 ⇓P **P 09 34 15.2 +2.8**
MMAI Mount Meron Ar 82.83 305 P **P 09 34 13.8 +0.9**
comp=Z,4.2nm,0.7s,baz=39,slow=3.2,SNR=12
MMAI LR LR 10 14 39.7
comp=Z,247nm,21.2s,baz=45,slow=38
comp=Z,4.2nm,0.7s
CLL Collm 82.85 330 *i* P **P 09 34 16.3 +3.8**
CLL pmax pmax
comp=Z,30nm,1.3s
PV16 Nyswonger Mesa 82.94 48 IAmb IAmb 09 34 50.6
comp=Z,40nm,1.0s
BZS Buzias 82.97 322 ⇑P **P 09 34 14.3 +1.0**
BZS Buzias 82.97 322 ⇑P **P 09 34 14.3 +1.0**
PV03 Paradox Valley 83.02 48 P **P 09 34 13.2 -0.7**
Y14A Wickenburg 83.02 53 IAmb IAmb 09 34 51.9
comp=Z,80nm,2.0s
CSS Mathiatis 83.03 308 **P 09 34 12.7 -1.1**
CSS IAmb IAmb 09 34 22.7
comp=Z,42nm,1.0s
KRUC Moravsky 83.05 327 *eP* **P 09 34 15.1 +1.6**
SRO Srobarova 83.06 325 *eP* P 09 34 18.4 +4.8
SRO pmax pmax
comp=Z,32nm,1.4s
SRO Srobarova 83.06 325 *eP* P 09 34 18.4 +4.8
HERR Herculane 83.06 321 ⇓P **P 09 34 15.1 +1.4**
WUAZ Wupatki 83.13 51 IAmb IAmb 09 34 46.1
comp=Z,25nm,1.1s
MODS Modra-Piesok 83.14 326 *eP* **P 09 34 16.6 +2.5**
MODS pmax pmax
comp=Z,95nm,1.4s
MODS Modra-Piesok 83.14 326 *eP* **P 09 34 16.6 +2.5**
PRA Prague 83.17 328 AMS AMS 10 16 10.0
comp=Z,400nm,13.3s
PRU Pruhonice 83.19 328 *eP* **P 09 34 17.6 +3.4**
PRU MLR MLR
comp=Z,300nm,15.3s
PRU Pruhonice 83.19 328 *eP* **P 09 34 17.6 +3.4**
PRU AMS AMS 10 16 00.0
comp=Z,300nm,15.3s
HSKC Hora Svate Kat 83.20 329 AMS AMS 10 17 20.0
comp=Z,300nm,17.4s
PV01 Paradox Valley 83.27 48 IAmb IAmb 09 34 44.7
comp=Z,48nm,1.0s
TREC Trest 83.28 327 AMS AMS 10 16 20.0
comp=Z,300nm,13.2s
VALD Valchedram 83.33 319 *eP* P 09 34 20.5 +5.4
MPEP Malo Peshtene 83.39 319 *eP* **P 09 34 20.2 +4.7**
MDVR Moldovita 83.50 321 ⇑P **P 09 34 17.9 +1.9**
KDZ Kurdzhali 83.66 317 *eP* **P 09 34 18.1 +1.2**
GHAJ Ghar Haditha 83.74 304 P **P 09 34 16.5 -0.9**
ZVC Zvikov 83.75 328 *eP* **P 09 34 21.2 +4.1**
ZVC AMS AMS 10 16 10.0
comp=Z,400nm,16.1s
MANT Manisa 83.83 313 IAmb IAmb 09 34 25.5
comp=Z,51nm,1.1s
RDO Rodhopi 83.87 317 IAmb IAmb 09 34 25.8
comp=Z,50nm,1.3s
MVCO Mesa Verde 83.89 49 P **P 09 34 17.0 -1.4**
MVCO IAmb IAmb 09 34 47.4
comp=Z,24nm,1.0s
RZN Rozhen 83.96 317 *eP* **P 09 34 21.3 +2.7**
ISCO Idaho Springs 83.97 45 P **P 09 34 23.3 +4.4**
SOP Sopron 83.97 326 P **P 09 34 21.8 +3.5**
MORH Mrgy, Hungar 84.04 324 ⇑P **P 09 34 19.8 +1.1**
RONA Rosalia, Austr 84.08 326 *ePcP* **P 09 34 20.7 +1.7**
comp=Z,62nm,1.3s,SNR=22
ELL Elmali 84.11 311 P **P 09 34 22.4 +3.0**
ELL pmax pmax
comp=Z,169nm,1.1s
CONA Conrad Observa 84.12 326 *eP* **P 09 34 19.5 +0.3**
comp=Z,68nm,1.9s,SNR=21
CONA Conrad Observa 84.12 326 *ePcP* **P 09 34 19.5 +0.3**
comp=Z,68nm,1.9s,SNR=21
PPT Papeete 84.14 116 LR LR 10 04 48.5
comp=Z,149nm,19.6s,baz=349,slow=30
CKRC Cesky Krumlov 84.16 328 AMS AMS 10 16 50.0
comp=Z,400nm,14.1s
PPT2 Papeete2 84.16 116 *eP* **P 09 34 19.4 -0.3**
comp=Z,50nm,28.2s
PPT2 Papeete2 84.16 116 *eS* **S 09 44 47.1 +6.6**
comp=Z,66nm,24.0s
PPT2 *eSS* SS 09 50 26.0 +15
comp=Z,99nm,30.8s
PPT2 Papeete2 84.16 116 *eLR* LR 10 00 40.0
comp=Z,959nm,32.0s
PPT2 *eLR* LR 10 00 51.1
comp=Z,360nm,27.5s
VTS Vitosha 84.17 319 *eP* **P 09 34 20.8 +1.2**
KHC Kasperske Hory 84.24 328 *eP* **P 09 34 21.1 +1.4**
KHC *e* 09 34 40.3
KHC MLR MLR
comp=Z,500nm,15.5s
KHC Kasperske Hory 84.24 328 *eP* **P 09 34 21.1 +1.4**

KHC *ex* x 09 34 40.3
KHC AMS AMS 10 16 40.0
comp=Z,500nm,15.5s
EZN Ezine 84.29 315 ⇓P **P 09 34 20.3 +0.3**
EZN Ezine 84.29 315 ⇓P **P 09 34 20.3 +0.3**
BOVS Bovan 84.29 320 ⇓P **P 09 34 19.9 -0.1**
GERES GERESS Array B 84.40 328 P **P 09 34 20.6 0.0**
comp=Z,5.6nm,1.0s,baz=36,slow=5.4,SNR=16
GERES pP **sP 09 34 40.4 -1.8**
comp=Z,7.3nm,0.8s,baz=5.7,slow=4.0,SNR=9.7
GERES PP **PP 09 37 38.5 +3.0**
comp=Z,1.2nm,0.7s,baz=39,slow=8.6,SNR=4.1
GERES LR LR 10 16 47.3
comp=Z,287nm,19.0s,baz=52,slow=39
comp=Z,5.6nm,1.0s
S22A 4UR Ranch, Cre 84.58 47 IAmb IAmb 09 34 51.2
comp=Z,22nm,0.9s
KKB Krupnik 84.75 318 *eP* **P 09 34 24.3 +1.9**
ARSA Arzberg 84.77 326 IAmb IAmb 09 35 01.2
comp=Z,29nm,1.2s
ARSA Arzberg 84.77 326 *ePcP* **P 09 34 23.6 +1.2**
comp=Z,22nm,1.2s,SNR=7.3
F33A 5 Mile Ranch, 84.83 36 P **P 09 34 21.9 -0.7**
F33A IAmb IAmb 09 34 48.0
comp=Z,31nm,0.9s
MOA Molln 84.90 327 *eP* **P 09 34 22.4 -0.7**
comp=Z,42nm,1.5s,SNR=9.1
MOA Molln 84.90 327 *ePcP* **P 09 34 22.4 -0.7**
comp=Z,42nm,1.5s,SNR=9.1
EIL Elat 85.14 303 LR LR 10 16 13.6
comp=Z,360nm,19.1s,baz=44,slow=38
EKA Eskdalemuir Ar 85.17 340 P **P 09 34 26.6 +2.4**
comp=Z,0.5nm,0.3s,baz=31,slow=4.8,SNR=7.2
comp=Z,0.5nm,0.3s
BIOA Bad Ischl, Aus 85.30 327 *ePcP* **P 09 34 26.1 +1.0**
comp=Z,52nm,1.4s,SNR=16
K30B Basset 85.38 40 P **P 09 34 27.6 +2.0**
VAY Valandovo 85.41 318 *i* P **P 09 34 28.9 +3.2**
SOKA Soboth 85.42 326 *eP* **P 09 34 25.4 -0.4**
comp=Z,50nm,1.1s,SNR=33
SOKA Soboth 85.42 326 *ePcP* **P 09 34 25.4 -0.4**
comp=Z,50nm,1.1s,SNR=33
SKO Skopje 85.58 319 *i* P P 09 34 31.8 +5.2
OBKA Obir 85.77 326 *ePcP* **P 09 34 28.0 +0.5**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 85.89 327 *ePcP* **P 09 34 28.7 +0.5**
comp=Z,11nm,0.9s,SNR=5.2
LESA Schwarzleotal 85.93 328 *ePcP* **P 09 34 29.0 +0.8**
comp=Z,38nm,1.4s,SNR=13
MYKA Terra Mystica 86.09 327 *ePcP* **P 09 34 30.0 +0.9**
comp=Z,8.7nm,0.6s,SNR=6.5
BTNL Ternell 86.13 333 *dP* **P 09 34 29.9 +0.8**
MEM Membach 86.15 333 *dP* **P 09 34 29.2 0.0**
ECSD EROS Data Cent 86.18 38 IAmb IAmb 09 34 54.2
comp=Z,17nm,0.9s
TAOE Nuku Hiva Isla 86.22 103 *eS* **SKSac 09 44 53.6 +1.7**
comp=Z,46nm,23.7s
TAOE Nuku Hiva Isla 86.22 103 *eLR* LR 10 01 40.4
comp=Z,718nm,30.5s
BSTI Sart Tilman 86.34 333 *dP* **P 09 34 31.2 +1.2**
BHOU Houvegnez 86.36 333 *dP* **P 09 34 34.0 +3.8**
STU Stuttgart 86.37 330 P **P 09 34 34.9 +4.6**
STU pmax pmax
comp=Z,85nm,1.2s
WATA Walderalm 86.48 328 *ePcP* **P 09 34 32.2 +1.2**
comp=Z,16nm,1.5s
WTTA Wattenberg 86.51 328 *ePcP* **P 09 34 32.1 +0.9**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 86.51 327 *i* P **P 09 34 30.7 -0.4**
comp=Z,13nm,1.1s,SNR=5.3
ABTA Abfaltersbach 86.51 327 *i* PcP **P 09 34 30.7 -0.4**
comp=Z,13nm,1.1s,SNR=5.3
OHR Ohrid 86.52 319 *eP* **P 09 34 26.6 -4.6**
BCLA Clavier 86.57 333 *dP* **P 09 34 34.3 +3.1**
comp=Z,11nm,0.9s
SABO M.te Sabotino 86.60 326 IAmb IAmb 09 35 01.0
comp=Z,18nm,1.0s
UCC Uccle 86.61 334 *dP* **P 09 34 31.4 +0.1**
ANMO Albuquerque 86.61 49 LR LR 10 06 43.8
comp=Z,118nm,21.6s,baz=43,slow=31
MOTA Moosalm 86.68 328 *ePcP* **P 09 34 33.3 +1.3**
comp=Z,15nm,1.2s,SNR=6.1
BGES Gesves 86.68 333 *dP* **P 09 34 34.2 +2.4**
RETA Reutte 86.71 329 *ePcP* **P 09 34 33.7 +1.5**
comp=Z,18nm,1.1s,SNR=7.4
SQTA Sankt Quirin 86.73 328 *i* PcP **P 09 34 33.5 +1.3**
comp=Z,6.5nm,0.9s
STAL STALIGIAL 86.80 327 IAmb IAmb 09 34 59.6
comp=Z,25nm,1.0s
RCHB Rochefort 86.81 333 *dP* **P 09 34 32.6 +0.2**
WLF Walferdange 86.86 332 IAmb IAmb 09 35 10.8
comp=Z,26nm,1.1s
WLF Walferdange 86.86 332 *dP* **P 09 34 34.7 +2.0**
WLF Walferdange 86.86 332 P P 09 34 37.6 +4.9
WLF pmax pmax
comp=Z,23nm,1.2s
BMRD Maredsous 86.86 333 *dP* **P 09 34 34.4 +1.8**
BFO Black Forest 87.07 330 P **P 09 34 33.5 -0.3**
BFO IAmb IAmb 09 35 00.9
comp=Z,45nm,1.4s
BFO Black Forest 87.07 330 P **P 09 34 33.5 -0.3**
BFO pmax pmax
comp=Z,45nm,1.4s
FETA Feichten 87.09 328 *i* PcP **P 09 34 35.9 +1.8**
comp=Z,13nm,1.1s,SNR=5.9
DAVA Damuels 87.25 329 *i* PcP **P 09 34 36.3 +1.5**
comp=Z,22nm,1.2s
CTI Castel Tesino 87.43 327 IAmb IAmb 09 35 11.6
comp=Z,21nm,1.2s
FUORN Ofenpass-Fuorn 87.60 328 P **P 09 34 35.7 -0.9**
SCHQ Schefferville 87.80 15 P **P 09 34 39.1 +2.0**
comp=Z,79nm,0.9s,baz=312,slow=6.3,SNR=6.3
SCHQ LR LR 10 15 32.0
comp=Z,1μm,21.7s,baz=342,slow=37
TUE Stuetta 88.11 329 P **P 09 34 36.8 -2.2**
TUE IAmb IAmb 09 35 09.0
comp=Z,18nm,1.2s
IDI Anoyia 88.14 313 LR LR 10 18 18.9
comp=Z,123nm,21.4s,baz=60,slow=38
CAMP Campotosto 89.29 324 IAmb IAmb 09 35 20.3
comp=Z,18nm,0.9s
AQU L'Aquila 89.43 324 P **P 09 34 49.1 +4.0**
AQU pmax pmax
comp=Z,27nm,1.0s
LPIG La Paz 90.92 60 LR LR 10 08 12.0
comp=Z,83nm,21.6s,baz=295,slow=30
P40A Paris 91.59 38 IAmb IAmb 09 35 22.9
comp=Z,14nm,0.9s
TXAR Lajitas Array 92.08 52 P **P 09 34 58.4 +0.7**
comp=Z,0.7nm,0.5s,baz=301,slow=2.5,SNR=20
TXAR LR LR 10 09 17.6
comp=Z,75nm,21.5s,baz=276,slow=31
comp=Z,0.7nm,0.5s
HPIG 92.34 55 IAmb IAmb 09 35 33.0
comp=Z,16nm,1.1s
VAE Valguarnera 92.57 320 LR LR 10 22 24.7
comp=Z,294nm,18.1s,baz=32,slow=39
U38A Gravette 92.66 41 IAmb IAmb 09 35 28.6
comp=Z,14nm,1.0s
SADO Sadowa 93.10 27 LR LR 10 22 26.8
comp=Z,774nm,18.0s,baz=356,slow=39
MGMO Mountain Grove 93.26 40 IAmb IAmb 09 35 30.9
comp=Z,12nm,1.0s
BRDY Brady 93.69 48 IAmb IAmb 09 35 34.5
comp=Z,14nm,0.9s
DRIO Del Rio 93.97 50 IAmb IAmb 09 35 32.3
comp=Z,27nm,1.4s
RKT Rikitea 98.43 112 *eLR* LR 10 07 26.2
comp=Z,924nm,31.8s
RKT *eLR* LR 10 07 29.7
comp=Z,2μm,29.5s
ESDC Sonseca Array 99.14 333 P **Pdif 09 35 30.6 +1.0**
comp=Z,0.5nm,0.9s,baz=64,slow=39,SNR=2.0
ESDC LR LR 10 26 19.4
comp=Z,188nm,18.1s,baz=16,slow=39
comp=Z,0.5nm,0.9s
ATG Ambohiby 104.04 257 P **PP 09 40 15.7 +5.4**
MAW Mawson 117.11 205 PKP **PKPdf 09 40 31.5 -0.4**
comp=Z,1.3nm,0.8s,baz=90,slow=4.2,SNR=2.7
MAW pPKP **sPKPdf 09 40 53.2 -0.6**
comp=Z,3.3nm,0.8s,baz=292,slow=6.7,SNR=4.6
TORD Torodi Ar. Bea 118.54 313 PKP **PKPdf 09 40 35.2 -1.2**
comp=Z,0.9nm,0.7s,baz=27,slow=2.7,SNR=4.4
TORD PKKPab **PKKPab 09 51 00.4 +2.6**
comp=Z,1.3nm,1.1s,baz=273,slow=1.1,SNR=3.7
TORD PKKP **PKKPdf 09 51 19.7 -1.1**
comp=Z,1.0nm,0.8s,baz=210,slow=1.9,SNR=3.7

QSPA	**South Pole Qui**	**124.39**	**180**	PKP	**PKiKP**	**09 40 47.5**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=278,slow=1.3,SNR=11						
SYO	**Syowa Base**	**125.79**	**206**	⇓*e*Pdiff	**Pdif**	**09 37 27.3**	**+0.3**
SYO	**Syowa Base**	**125.79**	**206**	⇑*e*pPdiff	pPdif	09 37 42.0	-0.2
SDV	**Santo Domingo**	**127.55**	**40**	*e*P	**PKPdf**	**09 40 53.9**	**0.0**
NVL	**N'lazarevskaya**	**134.84**	**201**	*e*PKIKP	**PKPdf**	**09 41 04.6**	**-1.0**
NVL				*e*		09 43 38.7	
NVL				*e*PPP	PPP	09 46 35.7	
NVL				*e*		09 48 12.0	
NVL				*e*SS	SS	10 01 30.3	+1.4
NVL				*e*SSS	SSS	10 06 30.6	
NVL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NVL				pmax	pmax		
	comp=N,255nm,18.6s						
TROLL	**Troll, Antarti**	**136.77**	**198**	⇓P	PKPpre	09 40 57.4	
	comp=Z,38nm,0.7s						
SNAA	**Sanae**	**138.28**	**196**	⇓P	PKPpre	09 40 59.9	
	comp=Z,10nm,0.5s						
SNAA	**Sanae**	**138.28**	**196**	PKhKP	PKPpre	09 41 00.0	
	comp=Z,0.8nm,0.7s,baz=216,slow=6.2,SNR=7.2						
VNA2	**Neumayer--Watz**	**139.85**	**196**	⇓P	PKPpre	09 41 07.0	
	comp=Z,4.7nm,0.6s,baz=114,slow=3.7						
VNA3	**Neumayer Olymp**	**140.10**	**194**	⇓P	PKPpre	09 41 07.4	
	comp=Z,0.6nm,0.3s						
VNA1	**Neumayer--Stat**	**140.25**	**196**	⇓P	PKPpre	09 41 09.4	
	comp=Z,3.2nm,0.6s						
TEFE	**Tefe**	**141.13**	**43**	*e*P	**PKPdf**	**09 41 18.7**	**-0.3**
MACA	**Manacapuru-AM**	**142.93**	**37**		**PKPdf**	**09 41 20.1**	**-2.1**
MACA	**Manacapuru-AM**	**142.93**	**37**	*e*P	**PKPdf**	**09 41 21.5**	**-0.7**
ITTB	**Itaituba**	**146.26**	**30**	*e*P	**PKPdf**	**09 41 27.4**	**-0.5**
PMSA	**Palmer Station**	**146.34**	**161**		**PKPab**	**09 41 28.5**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**146.87**	**16**	*e*P	**PKPdf**	**09 41 28.8**	**-0.2**
H03N2	**Juan Fernandez**	**147.33**	**99**	T	T	12 26 40.4	
	baz=290,slow=76						
H03N3	**Juan Fernandez**	**147.34**	**99**	T	T	12 26 41.6	
	baz=290,slow=76						
H03N1	**Juan Fernandez**	**147.34**	**99**	T	T	12 26 41.8	
	baz=290,slow=76						
LPAZ	**La Paz**	**148.41**	**62**	PKPbc	**PKPbc**	**09 41 36.3**	**+0.6**
	comp=Z,6.7nm,1.0s,baz=212,slow=1.5,SNR=11						
NPGB	**Novo Progresso**	**148.82**	**32**	*e*P	**PKPdf**	**09 41 31.9**	**-0.4**
ESPZ	**Base Esperanza**	**149.21**	**165**	PKPdf	**PKPdf**	**09 41 30.6**	**-0.7**
ESPZ				PKPbc	**PKiKP**	**09 41 36.6**	**-0.1**
ESPZ				PKPab	**PKPab**	**09 41 41.9**	**+1.7**
PRPB	**Parauapebas**	**150.06**	**21**	*e*P	**PKPdf**	**09 41 35.0**	**+0.8**
VILB	**Vilhena**	**151.31**	**46**	*e*P	**PKPdf**	**09 41 37.2**	**+1.1**
CLDB	**Colider**	**151.99**	**36**	*e*P	**PKPdf**	**09 41 36.4**	**-0.7**
PDRB	**Porto dos Gac**	**152.15**	**39**	*e*P	**PKPdf**	**09 41 36.9**	**-0.4**
SMTB	**Santa Maria do**	**153.25**	**18**	*e*P	**PKPdf**	**09 41 38.9**	**-0.2**
PTLB	**Pontes e Lacer**	**153.89**	**48**	*e*P	**PKPdf**	**09 41 38.6**	**-1.2**
PLCA	**Paso Flores**	**154.66**	**113**	PKPbc	**PKiKP**	**09 41 53.4**	**+4.6**
	comp=Z,4.2nm,1.2s,baz=226,slow=8.3,SNR=2.9						
PLCA				PKPab	**PKPab**	**09 42 03.2**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=242,slow=6.5,SNR=4.4						
BDFB	**Brasilia**	**159.54**	**25**	PKPab	**PKPab**	**09 42 25.9**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=105,slow=8.1,SNR=3.2						

NEIC ***12*** *09:25:10.3±0.7, 19°.4N±0°.3×155°.27W±0°.05, h35km±18km, Error ellipse: s-maj=39.9km s-min=5.3km az=174.0*

HVO 12 09:25:12.2±0.8, 19°.40N±0°.04×155°.25W±0°.03, h25km±7km, ML2.5/35, ML2.7/44(NEIC), Error ellipse: s-maj=5.6km s-min=3.0km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako'i**	**0.01**	**266**		Pb	09 25 16.3	-0.3
KKO					Sb	09 25 19.2	-0.3
BYL	**Byron's Ledge**	**0.01**	**338**		Pb	09 25 19.2	-0.4
BYL				Sg	Sb	09 25 19.2	-0.4
BYL				IAML		09 25 19.5	
	comp=E,968nm,0.3s						
RIM	**Rim**	**0.02**	**260**		Pb	09 25 16.3	-0.3
RIM					Sb	09 25 19.4	-0.1
HATHI	**Halema'uma'u T**	**0.03**	**345**		Pb	09 25 16.1	-0.6
HATHI				Sg	Sb	09 25 18.8	-0.8
SBLHI	**Steaming Bluff**	**0.03**	**335**		Pb	09 25 16.2	-0.4
SBLHI					Sb	09 25 19.3	-0.4
OBL	**Observatory Le**	**0.03**	**304**		Pb	09 25 16.2	-0.4
OBL					Sb	09 25 19.4	-0.2
UWB	**Uwekahuna Bluf**	**0.03**	**319**		Pb	09 25 16.2	-0.5
UWB					Sb	09 25 19.3	-0.4
SDHHI	**Sand Hill**	**0.04**	**257**		Pb	09 25 16.4	-0.3
SDHHI					Sb	09 25 19.4	-0.3
UWE	**Uwekahuna**	**0.04**	**302**		Pb	09 25 16.1	-0.6
UWE				IAML		09 25 19.7	
	comp=N,2μm,0.2s						
UWE				IAML		09 25 19.9	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.04**	**124**		Pb	09 25 16.5	-0.1
PUH				Sg	Sb	09 25 19.1	-0.6
PUH				IAML		09 25 19.6	
	comp=E,2μm,0.3s						
PUH				IAML		09 25 22.1	
	comp=N,1μm,0.4s						
WRMHI	**West Rim**	**0.04**	**280**		Pb	09 25 16.3	-0.4
WRMHI					Sb	09 25 19.3	-0.4
RSD	**Rainshed**	**0.07**	**341**		Pb	09 25 16.4	-0.5
RSD				IAML		09 25 21.8	
	comp=E,1μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.08**	**103**		Pb	09 25 16.4	-0.4
HLP	**Hilina Pali**	**0.11**	**206**		Pb	09 25 16.8	-0.3
STCH	**Steam Cracks**	**0.12**	**96**		Pb	09 25 16.8	-0.4
NPOC	**North of Pu'u**	**0.14**	**92**		Pb	09 25 16.9	-0.4
NPOC					Sb	09 25 20.3	-0.4
JCUZ	**Jacuzzi**	**0.14**	**96**		Pb	09 25 17.0	-0.4
JCUZ					Sb	09 25 20.4	-0.4
MLH	**Mauna Loa**	**0.16**	**307**		Pb	09 25 17.3	-0.4
AIN	**Ainahou**	**0.19**	**262**		Pb	09 25 17.8	-0.2
HTC	**Hot Caves**	**0.21**	**220**		Pb	09 25 17.8	-0.2
JOKA	**Jonika Flow**	**0.24**	**82**		Pb	09 25 17.6	-0.8
JOKA				IAML		09 25 22.4	
	comp=N,593nm,0.5s						
HMH	**Humu'ula Sheep**	**0.30**	**313**		Pb	09 25 19.1	-0.3
MWH	**Mokuaweoweo**	**0.34**	**285**		Pb	09 25 19.4	-0.8
MWH				IAML		09 25 32.6	
	comp=N,561nm,0.4s						
MWH				IAML		09 25 32.7	
	comp=E,684nm,0.5s						
MWH	**Mokuaweoweo**	**0.34**	**285**		Sb	09 25 24.4	-1.1
KHU	**Kahuku**	**0.37**	**246**		Pb	09 25 19.4	-1.1
KHU					Sb	09 25 24.8	-1.4
ALEP	**Alea Permanent**	**0.39**	**291**		Pb	09 25 19.8	-1.2
ALEP					Sb	09 25 25.6	-1.3
HPO	**Honuapo**	**0.42**	**223**		Pb	09 25 20.0	-1.1
HPO					Sb	09 25 25.8	-1.3
POHA	**Pohakuloa**	**0.44**	**324**		Pb	09 25 20.4	-1.3
POHA				IAML		09 25 26.7	
	comp=E,470nm,0.3s						
POHA				IAML		09 25 26.9	
	comp=E,579nm,0.5s						
POHA	**Pohakuloa**	**0.44**	**324**		Sb	09 25 26.3	-1.8
HUH	**Hualalai**	**0.62**	**298**		Pb	09 25 23.1	-1.4
HUH				IAML		09 25 37.0	
	comp=N,510nm,0.2s						
HUH				IAML		09 25 41.4	
	comp=E,513nm,0.3s						
HPAH	**Hawaii Prepara**	**0.76**	**326**		Pb	09 25 24.3	-2.5
HPAH				IAML		09 25 33.1	
	comp=E,380nm,0.3s						
HPAH				IAML		09 25 33.1	
	comp=N,320nm,0.2s						
HPAH	**Hawaii Prepara**	**0.76**	**326**		Sb	09 25 33.0	-3.7
KKH	**Kailua Kona**	**0.77**	**290**		Pb	09 25 24.4	-2.4

GCMT 12 09:29:12.0±0.2, 35°.25S±0°.01×15°.63W±0°.01, h24km, MW5.2/130, 2C-1D, Moment Tensor Solution. s49,c55; s130,c199; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}0.11±.19; $M_{\theta\theta}$-2.12±.18; $M_{\phi\phi}$2.01±.17; $M_{r\theta}$-1.20±.36; $M_{\theta\phi}$6.16±.15; $M_{\phi r}$-0.66±.36; **Best double couple:** $M_0$6.64000×10^{16} **NP1:**ϕ_s170.00000°, δ79.00000°, λ176.00000°. **NP2:**ϕ_s261.00000°, δ86.00000°, λ11.00000°. **Principal axes:** T 6.6770, Plg11.0000°, Azm126.0000°; N -0.0720, Plg78.0000°, Azm280.0000°; P -6.6040, Plg5.0000°, Azm35.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**36.20**	**177**	⇑P	P	09 36 12.1	-0.2
	comp=Z,2.1nm,0.8s						
SNAA	**Sanae**	**37.10**	**173**	⇑P	P	09 36 19.6	-0.5
	comp=Z,8.7nm,0.6s						
TROLL	**Troll, Antarti**	**38.02**	**171**	⇓P	P	09 36 27.5	-0.5
	comp=Z,76nm,0.8s						

SCB ***12*** *09:35:43.7±1.1, 21°.87S×67°.25W, h181km±8km, ML3.3/4 Error ellipse: s-maj=4.0km s-min=3.4km az=0.0*
GUC ***12*** *09:35:44.8±0.7, 21°.87S×67°.22W, h187km±6km, ML3.0*

ISC 12 09:35:43.0±2.0, 21°.87S±0°.06×67°.22W±0°.05, h194km±17km, n26, σ0°.92/36, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.59**	**68**	Pg	**Pn**	**09 36 17.6**	**0.0**
MOCB				Sg	**Sn**	**09 36 43.7**	**-0.6**
MOCB				IAML		09 36 45.2	
	67nm,0.3s						
YJA	**Yavi**	**1.61**	**101**	*e*P	**Pn**	**09 36 18.7**	**+1.0**
YJA				*e*S	**Sn**	**09 36 43.1**	**-1.4**
PB09	**IPOC Station P**	**1.88**	**272**	*e*P	**Pn**	**09 36 21.1**	**+1.1**
PB09				*e*S	**Sn**	**09 36 50.8**	**+2.0**
PB09	**IPOC Station P**	**1.88**	**272**	Pg	**Pn**	**09 36 20.8**	**+0.8**
PB01	**IPOC Station P**	**2.27**	**291**	*e*P	**Pn**	**09 36 24.6**	**+0.6**
PB01				*e*S	**Sn**	**09 36 55.3**	**-0.6**
PB01	**IPOC Station P**	**2.27**	**291**	Pg	**Pn**	**09 36 24.7**	**+0.6**
PB01				Sg	**Sn**	**09 36 54.9**	**-1.0**
PB01				IAML		09 36 56.2	
	158nm,0.3s						
PB06	**IPOC Station P**	**2.33**	**249**	*e*P	**Pn**	**09 36 25.4**	**+0.6**
PB06				*e*S	**Sn**	**09 36 57.0**	**-0.3**
PB06				IAML		09 36 59.7	
	comp=E,34nm,0.1s						
PB06	**IPOC Station P**	**2.33**	**249**	Pg	**Pn**	**09 36 25.0**	**+0.2**
PB03	**IPOC Station P**	**2.36**	**265**	*e*P	**Pn**	**09 36 25.8**	**+0.6**
PB03				*e*S	**Sn**	**09 36 57.3**	**-0.6**
PB03				IAML		09 36 58.3	
	comp=E,96nm,0.1s						
PB08	**IPOC Station P**	**2.49**	**313**	*e*P	**Pn**	**09 36 27.8**	**+0.9**
PB08				*e*S	**Sn**	**09 37 00.9**	**0.0**
PB08				IAML		09 37 02.5	
	comp=N,30nm,0.2s						
PB08	**IPOC Station P**	**2.49**	**313**	Pg	**Pn**	**09 36 27.9**	**+1.0**
PB02	**IPOC Station P**	**2.55**	**282**	*e*P	**Pn**	**09 36 27.4**	**+0.3**
PB02				*e*S	**Sn**	**09 37 00.2**	**-1.4**
PB02	**IPOC Station P**	**2.55**	**282**	Pg	**Pn**	**09 36 27.5**	**+0.3**
PB02				Sg	**Sn**	**09 37 00.0**	**-1.6**
PB02				IAML		09 37 01.3	
	comp=N,114nm,0.2s						
GO01	**Chusmiza**	**2.86**	**319**	*e*P	**Pn**	**09 36 31.8**	**+0.6**
GO01	**Chusmiza**	**2.86**	**319**	Pg	**Pn**	**09 36 32.1**	**+0.9**
TA01	**Diego Aracena**	**3.05**	**295**	IAML		09 37 11.2	
	comp=E,54nm,0.2s						
PB11	**IPOC Station P**	**3.10**	**312**	*e*P	**Pn**	**09 36 33.3**	**-0.4**
PB11	**IPOC Station P**	**3.10**	**312**	Pg	**Pn**	**09 36 33.3**	**-0.4**
PB11				Sg	**Sn**	**09 37 11.5**	**-1.7**
PB11				IAML		09 37 12.9	
	comp=E,62nm,0.2s						
GO02	**Mina Guanaco**	**3.94**	**213**	*e*P	**Pn**	**09 36 44.7**	**+0.6**
GO02	**Mina Guanaco**	**3.94**	**213**	Pg	**Pn**	**09 36 44.8**	**+0.7**
PB14	**IPOC Station P**	**4.02**	**226**	Pg	**Pn**	**09 36 45.1**	**0.0**
PB16	**IPOC Station P**	**4.12**	**328**	Pg	**Pn**	**09 36 47.3**	**+0.6**
BBOJ	**La Paz, Jacaqu**	**4.95**	**349**	Pg	**Pn**	**09 36 58.1**	**+0.9**
BBOE	**La Paz, Chanca**	**5.08**	**352**	Pg	**Pn**	**09 36 59.7**	**+0.8**
BBOD	**La Paz, Gloria**	**5.36**	**346**	Pg	**Pn**	**09 37 03.2**	**+0.7**
BBOB	**La Paz, Bander**	**5.76**	**351**	Pg	**Pn**	**09 37 08.1**	**+0.5**

SJA ***12*** *09:40:46.7±0.7, 23°.97S×69°.41W, h17km±2km, ML3.8, MW3.7*
GUC ***12*** *09:40:48.0±0.8, 23°.99S×69°.46W, h72km±4km, ML3.9*

ISC 12 09:40:48.5±1.0, 23°.96S±0°.02×69°.54W±0°.04, h22km±7km, n34, σ1°.59/47, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.03**	**230**	⇑*i*P	**Pb**	**09 41 08.4**	**+0.5**
PB14				*e*S	**Sn**	**09 41 23.9**	**+2.1**
PB14	**IPOC Station P**	**1.03**	**230**	*e*P	**Pb**	**09 41 08.4**	**+0.5**
PB14				*e*S	**Sn**	**09 41 24.3**	**+2.5**
PB14				IAML		09 41 24.7	
	comp=Z,2μm,0.4s						
PB10	**IPOC Station P**	**1.03**	**296**	⇑*i*P	**Pb**	**09 41 08.7**	**+1.0**
PB10				*e*S	**Sn**	**09 41 24.1**	**+2.6**
PB10				IAML		09 41 28.0	
	comp=N,3μm,0.7s						
PB10	**IPOC Station P**	**1.03**	**296**	*e*P	**Pb**	**09 41 08.7**	**+1.0**
PB10				*e*S	**Sn**	**09 41 24.6**	**+3.1**
PB10				IAML		09 41 27.5	
	comp=Z,2μm,0.2s						
GO02	**Mina Guanaco**	**1.19**	**182**	⇓*i*P	**Pn**	**09 41 09.6**	**-0.6**
GO02				*e*S	**Sn**	**09 41 26.1**	**+0.2**
GO02				IAML		09 41 29.1	
	comp=N,4μm,0.1s						
GO02	**Mina Guanaco**	**1.19**	**182**	*e*P	**Pn**	**09 41 09.7**	**-0.6**
GO02				*e*S	**Sn**	**09 41 26.6**	**+0.7**
GO02				IAML		09 41 28.0	
	comp=Z,2μm,0.4s						
PB06	**IPOC Station P**	**1.25**	**359**	⇑*i*P	**Pb**	**09 41 10.9**	**-0.6**
PB06				*e*S	**Sb**	**09 41 28.2**	**+0.8**
PB06				IAML		09 41 29.0	
	comp=E,4μm,0.5s						
PB06	**IPOC Station P**	**1.25**	**359**	*e*P	**Pn**	**09 41 10.3**	**-0.6**
PB06				*e*S	**Sb**	**09 41 27.8**	**+0.5**
PB06				IAML		09 41 31.3	
	comp=Z,1μm,0.5s						
AF01	**San Pedro de A**	**1.60**	**51**	*i* P	**Pn**	**09 41 15.3**	**-0.6**
AF01				*e*S	**Sn**	**09 41 35.6**	**-0.4**
AF01				IAML		09 41 37.4	
	comp=E,5μm,0.1s						
AF01	**San Pedro de A**	**1.60**	**51**	*e*P	**Pn**	**09 41 15.7**	**-0.1**
AF01				*e*S	**Sn**	**09 41 36.8**	**+0.8**
AF01				IAML		09 41 37.0	
	comp=Z,2μm,0.1s						
PB03	**IPOC Station P**	**1.92**	**354**	⇓*i*P	**Pn**	**09 41 19.3**	**-0.7**
PB03				*e*S	**Sn**	**09 41 43.2**	**-0.3**
PB03				IAML		09 41 49.0	
	comp=E,936nm,0.2s						
PB03	**IPOC Station P**	**1.92**	**354**	*e*P	Pn	09 41 02.2	-18
PB03				*e*S	**Sb**	**09 41 45.9**	**-0.6**
PB03				IAML		09 41 52.4	
	comp=Z,648nm,0.2s						
PB09	**IPOC Station P**	**2.17**	**7**	*e*P	**Pn**	**09 41 23.3**	**-0.3**
PB09				IAML		09 41 55.4	
	comp=E,587nm,0.1s						
PB09	**IPOC Station P**	**2.17**	**7**	*e*P	**Pn**	**09 41 23.1**	**-0.5**
PB09				*e*S	**Sb**	**09 41 52.3**	**-1.6**
PB09				IAML		09 41 54.5	
	comp=Z,599nm,0.5s						
AC01	**Pan de Azucar**	**2.38**	**204**	⇑*e*P	**Pn**	**09 41 24.3**	**-2.0**
AC01	**Pan de Azucar**	**2.38**	**204**	*e*P	Pn	09 41 15.5	-11
AC01				*e*S	**Sb**	**09 41 58.6**	**-1.0**
AC01				IAML		09 42 03.4	
	comp=Z,531nm,0.2s						
PB02	**IPOC Station P**	**2.65**	**353**	*e*P	**Pn**	**09 41 28.6**	**-1.5**
PB02	**IPOC Station P**	**2.65**	**353**	*e*P	Pn	09 41 14.4	-16
PB02				*e*S	**Sb**	**09 42 10.2**	**+2.6**
PB02				IAML		09 42 14.0	
	comp=Z,798nm,0.2s						
AC02	**Maricunga**	**2.88**	**173**	*e*P	**Pn**	**09 41 33.5**	**-0.1**
AC02				IAML		09 42 15.9	
	comp=N,564nm,0.4s						
AC02	**Maricunga**	**2.88**	**173**	*e*P	**Pn**	**09 41 33.8**	**+0.1**
AC02				*e*S	**Sn**	**09 42 10.3**	**+2.4**
AC02				IAML		09 42 15.7	
	comp=Z,239nm,0.2s						
PB01	**IPOC Station P**	**2.91**	**1**	⇓*e*P	**Pn**	**09 41 32.0**	**-1.6**
SALTA		**2.94**	**96**	*e*P	**Pn**	**09 41 34.0**	**-0.4**
SALTA		**2.94**	**96**	*e*P	**Pn**	**09 41 35.1**	**+0.7**
PATCX	**Punta Patache**	**3.18**	**350**	⇓*e*P	**Pn**	**09 41 34.7**	**-2.6**
TA01	**Diego Aracena**	**3.43**	**350**	*e*P	**Pn**	**09 41 37.5**	**-3.2**
TA01	**Diego Aracena**	**3.43**	**350**	*e*P	Pn	09 41 25.3	-15
TA01				*e*S	**Sn**	**09 42 21.7**	**+0.9**
TA01				IAML		09 42 33.9	
	comp=Z,148nm,0.6s						
AC06	**Mina Casimiro**	**3.46**	**192**	*e*P	**Pn**	**09 41 38.1**	**-3.0**
GO03	**Copiapo**	**3.67**	**190**	*e*P	**Pn**	**09 41 41.3**	**-2.8**
GO03	**Copiapo**	**3.67**	**190**	*e*P	Pn	09 41 34.1	-10
GO03				*e*S	**Sb**	**09 42 34.7**	**-2.1**
GO03				IAML		09 42 36.9	
	comp=Z,287nm,0.3s						
PB08	**IPOC Station P**	**3.82**	**5**	*e*S	**Sb**	**09 42 40.7**	**-0.8**
PB08				IAML		09 42 57.0	
	comp=Z,90nm,0.7s						
HJA	**Humahuaca**	**3.86**	**80**	*e*P	**Pn**	**09 41 48.0**	**+1.0**
GO01	**Chusmiza**	**4.29**	**4**	*e*P	**Pn**	**09 41 50.3**	**-2.7**
VCA	**Vinchina**	**4.90**	**166**	*e*P	**Pn**	**09 42 00.7**	**-0.4**
VCA	**Vinchina**	**4.90**	**166**	*e*P	**Pn**	**09 42 01.1**	**0.0**
VCA				IAML		09 44 09.1	
	comp=Z,25nm,4.1s						

INMG ***12*** *09:47:39.9±1.7, 36°.99N×4°.43W, h31km±6km, ML1.9, Error ellipse: s-maj=5.7km s-min=2.6km az=2.0, #DIST_RANGE: REGIONAL #IPMA_REGION: N Malaga (ESP)*
MDD ***12*** *09:47:40.5±0.4, 37°.03N×4°.43W, h30km±1km, mb_Lg2.5/10, Error ellipse: s-maj=4.7km s-min=2.6km az=11.0*
SFS ***12*** *09:47:41.1, 37°.03N×4°.40W, h24km, ML2.1/6, ML1.9/6, MLv1.8/6*

ISC 12 09:47:39.4±1.2, 36°.98N±0°.04×4°.46W±0°.02, h34km±2km, n26, σ1°.16/48, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.22**	**173**	Pg	**Pb**	**09 47 47.2**	**+0.8**
EMAL				Sg	**Sb**	**09 47 52.5**	**+1.4**
EGOR	**Sierra Gorda,**	**0.31**	**66**	Pg	**Pb**	**09 47 47.0**	**-0.5**
EGOR	**Sierra Gorda,**	**0.31**	**66**	Pg	**Pb**	**09 47 47.0**	**-0.5**
EGOR				Sg	**Sn**	**09 47 53.2**	**+0.8**
EGOR				*i* IVmb_Lg		09 47 53.5	
ELGU	**Los Guajares,**	**0.68**	**100**	Pg	**Pn**	**09 47 52.2**	**-0.4**
ELGU				Sg	**Sn**	**09 48 02.8**	**+0.7**
ELGU	**Los Guajares,**	**0.68**	**100**	Pg	**Pn**	**09 47 52.2**	**-0.4**
ELGU				Sg	**Sn**	**09 48 01.9**	**-0.2**
ELGU				*i* IVmb_Lg		09 48 05.6	
EQTA	**Presa de Quent**	**0.84**	**74**	Pn	**Pn**	**09 47 55.2**	**+0.3**
EQTA				Sg	**Sn**	**09 48 06.3**	**+0.1**
EQUE	**Quentar**	**0.85**	**75**	Pg	**Pn**	**09 47 54.7**	**-0.2**
EQUE				Sg	**Sn**	**09 48 05.8**	**-0.4**
EQUE				*i* IVmb_Lg		09 48 12.5	
E0803	**Jimena (Jaen)**	**1.16**	**43**	Pg	**Pn**	**09 47 59.1**	**-0.1**
E0803				Sn	**Sn**	**09 48 12.4**	**-1.5**
E0803				Sg	**Sb**	**09 48 15.2**	**-0.6**
EADA	**Adamuz**	**1.18**	**356**	Pn	**Pn**	**09 47 59.2**	**-0.3**
EADA				Sn	**Sn**	**09 48 16.0**	**+1.5**
EADA	**Adamuz**	**1.18**	**356**	Pn	**Pn**	**09 47 59.3**	**-0.3**
EADA				Pg	**Pn**	**09 48 01.0**	**+1.5**
EADA				Sg	**Sn**	**09 48 16.0**	**+1.5**
EADA				*i* IVmb_Lg		09 48 17.6	
ECAB	**El Cabril**	**1.33**	**325**	Pn	**Pn**	**09 48 01.2**	**-0.3**
ECAB				Sn	**Sn**	**09 48 20.7**	**+2.7**
ECAB	**El Cabril**	**1.33**	**325**	Pn	**Pn**	**09 48 01.3**	**-0.2**
ECAB				Sg	**Sn**	**09 48 20.8**	**+2.7**
ECAB				*i* IVmb_Lg		09 48 22.4	
EQES	**Quesada**	**1.38**	**53**	Pn	**Pn**	**09 48 02.5**	**+0.3**
EQES				Sn	**Sn**	**09 48 18.3**	**-1.0**
EQES				Sg	**Sb**	**09 48 21.4**	**-0.6**
EQES				*i* IVmb_Lg		09 48 25.3	
PSIM	**Granatula de C**	**1.92**	**17**	Pn	**Pn**	**09 48 10.7**	**+1.1**
PSIM				Sn	**Sn**	**09 48 30.1**	**-2.4**
PSIM				Sg	**Sn**	**09 48 34.5**	**+1.9**
EMIN	**Mina Concepcio**	**1.93**	**295**	Pn	**Pn**	**09 48 09.5**	**-0.2**
EMIN				Sn	**Sn**	**09 48 32.6**	**-0.1**
EMIN				*i* IVmb_Lg		09 48 45.8	
PBAR	**Barrancos**	**2.37**	**301**	*e*Pn	**Pn**	**09 48 15.9**	**+0.1**
PBAR				*e*Sn	**Sn**	**09 48 42.3**	**-1.3**
PBAR				*i* IAML		09 49 03.0	
PBAR				*i* IAML		09 49 04.0	
PBAR				*i* IAML		09 49 06.4	
PVAQ	**Vaqueiros**	**2.63**	**280**	*e*Pn	**Pn**	**09 48 19.4**	**0.0**
PVAQ				*e*Sn	**Sn**	**09 48 49.0**	**-1.2**
PVAQ				*i* IAML		09 48 50.7	
PVAQ				*i* IAML		09 48 51.2	
PVAQ				*i* IAML		09 48 51.4	
EBAD	**Badajoz**	**2.68**	**312**	Pn	**Pn**	**09 48 19.5**	**-0.6**
EBAD				Sn	**Sn**	**09 48 49.1**	**-2.3**
EBAD				Sg	Sb	09 49 01.8	+2.6
EBAD				*i* IVmb_Lg		09 49 07.9	
PBDV	**Barranco-do-Ve**	**2.79**	**276**	*e*Sn	**Sn**	**09 48 53.9**	**0.0**
MESJ	**Messejana**	**3.11**	**287**	*e*Sn	**Sn**	**09 49 01.4**	**-0.5**
MESJ				*i* IAML		09 49 21.9	
MESJ				*i* IAML		09 49 22.3	
MESJ				*i* IAML		09 49 30.8	
EVO	**Evora**	**3.21**	**300**	*e*Sn	**Sn**	**09 49 03.5**	**-0.9**
PMRV	**Marv??o**	**3.36**	**317**	*e*Pn	**Pn**	**09 48 30.3**	**+0.9**
PFVI	**Vila Bisbo**	**3.49**	**274**	*e*Sn	**Sn**	**09 49 10.3**	**-1.1**
PFVI				*i* IAML		09 49 12.6	
PFVI				*i* IAML		09 49 13.2	
PFVI				*i* IAML		09 49 13.6	
PMTG	**Montargil**	**3.63**	**306**	*e*Pn

PB10	**IPOC Station P**	**3.13 285**	*eP*	**Pn**	**09 53 24.3**	**+0.5**
PB10			*eS*	**Sn**	**09 54 01.1**	**-1.8**
PB10	**IPOC Station P**	**3.13 285**	*eP*	**Pn**	**09 53 24.0**	**+0.2**
PB10			*eS*	**Sn**	**09 54 02.5**	**-0.5**
PB10			IAML		09 54 04.2	
	comp=Z,96nm,0.2s					
PB09	**IPOC Station P**	**3.14 324**	*eP*	**Pn**	**09 53 25.5**	**+1.4**
PB09			*eS*	**Sn**	**09 54 03.2**	**-0.2**
PB09	**IPOC Station P**	**3.14 324**	*eP*	**Pn**	**09 53 25.6**	**+1.4**
PB09			IAML		09 54 07.9	
	comp=Z,128nm,0.6s					
PB03	**IPOC Station P**	**3.25 315**	*eP*	**Pn**	**09 53 25.9**	**+0.5**
PB03			*eS*	**Sn**	**09 54 03.9**	**-1.9**
PB03	**IPOC Station P**	**3.25 315**	*eP*	**Pn**	**09 53 26.0**	**+0.5**
PB03			*eS*	**Sn**	**09 54 04.1**	**-1.8**
PB03			IAML		09 54 06.6	
	comp=Z,342nm,0.1s					
AC01	**Pan de Azucar**	**3.51 239**	*eP*	**Pn**	**09 53 28.3**	**-0.2**
AC01			*eS*	**Sn**	**09 54 09.6**	**-1.8**
AC01	**Pan de Azucar**	**3.51 239**	*eP*	**Pn**	**09 53 28.6**	**+0.1**
AC01			*eS*	**Sn**	**09 54 10.3**	**-1.1**
AC01			IAML		09 54 13.0	
	comp=Z,45nm,0.2s					
PB02	**IPOC Station P**	**3.88 321**	*eP*	**Pn**	**09 53 33.3**	**0.0**
PB02			*eS*	**Sn**	**09 54 17.1**	**-2.9**
PB02	**IPOC Station P**	**3.88 321**	*eP*	**Pn**	**09 53 33.4**	**+0.1**
PB01	**IPOC Station P**	**3.89 328**	*eP*	**Pn**	**09 53 33.9**	**+0.4**
PB01	**IPOC Station P**	**3.89 328**	*eP*	**Pn**	**09 53 33.8**	**+0.4**
PB01			IAML		09 54 25.1	
	comp=Z,87nm,0.2s					
GO03	**Copiapo**	**4.19 219**	*eP*	**Pn**	**09 53 36.6**	**-0.5**
GO03	**Copiapo**	**4.19 219**	*eP*	**Pn**	**09 53 37.1**	**0.0**
GO03			*eS*	**Sn**	**09 54 25.5**	**-1.4**
GO03			IAML		09 54 27.2	
	comp=Z,40nm,0.2s					
PATCX	**Punta Patache**	**4.42 322**	*eP*	**Pn**	**09 53 40.4**	**+0.2**
PB08	**IPOC Station P**	**4.55 337**	*eP*	**Pn**	**09 53 42.7**	**+0.6**
PB08	**IPOC Station P**	**4.55 337**	*eP*	**Pn**	**09 53 42.9**	**+0.7**
PB08			IAML		09 54 42.4	
	comp=Z,23nm,0.3s					
TA01	**Diego Aracena**	**4.64 324**	*eP*	**Pn**	**09 53 42.3**	**-0.7**
TA01			IAML		09 54 57.3	
	comp=Z,30nm,0.7s					
PB11	**IPOC Station P**	**5.09 334**	*eP*	**Pn**	**09 53 47.5**	**-1.4**
AC04	**Llanos de Chal**	**5.14 221**	*eP*	**Pn**	**09 53 48.3**	**-1.0**
AC04			*eS*	**Sn**	**09 54 46.9**	**-1.9**
AC04			IAML		09 54 50.8	
	comp=Z,16nm,0.9s					
AGUA	**GUANDACOL**	**5.22 192**	*eP*	**Pn**	**09 53 52.8**	**+2.3**
AGUA			*eS*	**Sn**	**09 54 48.9**	**-2.1**
AGUA			IAML		09 55 05.6	
	comp=Z,8.0nm,2.1s					
LCO	**Las Campanas**	**5.56 213**	*eP*	**Pn**	**09 53 54.0**	**-1.2**
CFA	**Coronel Fontan**	**7.27 187**	P	**Pn**	**09 54 19.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=357,slow=8.1,SNR=5.8					
CFA			S	**Sn**	**09 55 36.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=130,slow=19,SNR=5.6					
LPAZ	**La Paz**	**8.07 354**	P	**Pn**	**09 54 29.3**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=192,slow=14,SNR=19					
LPAZ			S	**Sn**	**09 55 56.2**	**-3.2**
	comp=Z,0.5nm,0.5s,baz=19,slow=9.9,SNR=1.7					
SIV	**San Ignacio**	**10.15 36**	P	**Pn**	**09 54 53.5**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=197,slow=11,SNR=5.4					
SIV			S	**Sn**	**09 56 45.6**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=275,slow=21,SNR=1.4					
BDFB	**Brasilia**	**20.04 68**	P	Pn	09 56 54.6	-2.6
	comp=Z,2.1nm,0.6s,baz=247,slow=7.7,SNR=4.4					
APG	**El Apazote**	**45.21 328**	LR	LR	10 18 20.1	
	comp=Z,18nm,20.8s,baz=222,slow=34					
SNAA	**Sanae**	**59.09 161**	P	P	10 02 22.5	+7.7
	comp=Z,0.2nm,0.2s,baz=305,slow=14,SNR=14					
	comp=Z,0.2nm,0.2s					
QSPA	**South Pole Qui**	**65.85 180**	P	P	10 03 04.6	+4.9
	comp=Z,0.9nm,0.7s,baz=287,slow=1.7,SNR=8.0					
	comp=Z,0.9nm,0.7s					
TORD	**Torodi Ar. Bea**	**76.92 69**	P	**P**	**10 04 09.5**	**+2.8**
	comp=Z,0.2nm,0.4s,baz=260,slow=4.2,SNR=2.0					
	comp=Z,0.2nm,0.4s					

*IDC **12** 09:55:08.6±0.8, 5°.83S×131°.94E, h0km, mb3.9/7, mbtmp4.0/9, ML4.9/4, Error ellipse: s-maj=39.2km s-min=18.1km az=79.0*
*NEIC **12** 09:55:15.8±2.4, 6°.00S±0°.05×131°.48E±0°.08, h35km±2km, mb4.3/15, Error ellipse: s-maj=13.4km s-min=8.3km az=279.0*
*DJA **12** 09:55:17.2±0.2, 6°S±3°×13°2E±°, h88km±6km, M4.9/18, mb4.6/18, mB5.4/10, MLv5.0/13, Mw(mB)4.9/10, MwMwp4.9/1, Mwp5.2/1*

ISC 12 09:55:17.0±0.5, 6°.06S±0°.04×131°.66E±0°.05, h61km, n88, σ1°65/90, mb4.1/14, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**190**		**Pn**	**09 55 47.5**	**-0.3**
SAUI	**Saumlaki**	**1.94**	**190**	P	**Pn**	**09 55 47.3**	**-0.5**
SAUI	**Saumlaki**	**1.94**	**190**	P	**Pn**	**09 55 50.4**	**+2.6**
BNDI	**Bandanaira**	**2.32**	**311**	P	**Pn**	**09 55 53.4**	**+0.6**
BNDI	**Bandanaira**	**2.32**	**311**	S	**Sn**	**09 56 21.7**	**+1.5**
BNDI	**Bandanaira**	**2.32**	**311**	P	**Pn**	**09 55 53.5**	**+0.6**
KMPI	**Kaimana, Papua**	**3.13**	**41**	P	**Pn**	**09 56 03.9**	**-0.1**
FAKI	**Fak Fak**	**3.17**	**11**		**Pn**	**09 56 03.7**	**-0.8**
FAKI					**Sn**	**09 56 36.4**	**-4.8**
FAKI	**Fak Fak**	**3.17**	**11**	P	**Pn**	**09 56 04.0**	**-0.5**
FAKI	**Fak Fak**	**3.17**	**11**	P	**Pn**	**09 56 03.3**	**-1.2**
AAI	**Ambon**	**4.18**	**304**	P	**Pn**	**09 56 18.1**	**-0.2**
RKPI	**Ransiki, Papua**	**5.17**	**29**	P	**Pn**	**09 56 31.8**	**-0.1**
SWI	**Sorong**	**5.17**	**356**	P	**Pn**	**09 56 30.7**	**-1.2**
	4.0nm198nm,0.5s						
NLAI	**Namlea**	**5.33**	**301**	P	**Pn**	**09 56 34.0**	**-0.1**
	0.5nm3μm104nm,0.7s						
DRS	**Darwin Rock St**	**6.38**	**187**	P	**Pn**	**09 56 48.7**	**+0.3**
DRS	**Darwin Rock St**	**6.38**	**187**	S	**Sn**	**09 57 57.9**	**-2.0**
BAKI	**Biak**	**6.56**	**43**	P	**Pn**	**09 56 52.3**	**+1.3**
	0.5nm138nm,0.9s						
MTN	**Manton Dam**	**6.76**	**184**		**Pn**	**09 56 54.3**	**+0.6**
MTN				Sn	**Sn**	**09 58 06.8**	**-2.5**
SANI	**Sanana**	**6.92**	**305**	P	**Pn**	**09 56 56.4**	**+0.6**
SANI	**Sanana**	**6.92**	**305**	P	**Pn**	**09 56 55.3**	**-0.5**
	0.3nm1μm75nm,0.5s						
SOEI	**Soe**	**8.19**	**243**		**Pn**	**09 57 11.0**	**-2.3**
SOEI	**Soe**	**8.19**	**243**	P	**Pn**	**09 57 14.1**	**+0.8**
SOEI	**Soe**	**8.19**	**243**	S	**Sn**	**09 58 43.4**	**-1.1**
SOEI	**Soe**	**8.19**	**243**	P	**Pn**	**09 57 13.9**	**+0.6**
	2μm135nm,1.1s						
BATI	**Baumata**	**8.92**	**242**	Pn	**Pn**	**09 57 25.4**	**+2.1**
	30nm,0.3s,baz=327,slow=1.3,SNR=17						
BATI				Sn	**Sn**	**09 59 02.1**	**-0.3**
	23nm,0.3s,baz=89,slow=17,SNR=6.0						
BATI	**Baumata**	**8.92**	**242**	P	**Pn**	**09 57 24.6**	**+1.3**
	3μm74nm,0.4s						
MMPI	**Merauke**	**8.98**	**106**	P	**Pn**	**09 57 23.7**	**-0.4**
GENI	**Genyem**	**9.16**	**68**	P	**Pn**	**09 57 29.4**	**+2.9**
KNRA	**Kununurra**	**9.97**	**196**		**Pn**	**09 57 37.5**	**-0.1**
EDFI	**Ende, Flores**	**10.24**	**254**	P	**Pn**	**09 57 43.3**	**+1.9**
	11nm,0.9s						
BASI	**Baing, Sumba**	**11.72**	**249**	P	**Pn**	**09 58 01.3**	**-0.2**
WBSI	**Waikabubak, Su**	**12.66**	**253**	P	**Pn**	**09 58 13.6**	**-0.8**
	36nm,1.0s						
TOLI2	**Tolitoli**	**12.98**	**303**	Pn	Pn	09 58 14.2	-4.5
FITZ	**Fitzroy Crossi**	**13.33**	**206**	Pn	**Pn**	**09 58 22.2**	**-1.3**
	14nm,0.3s,baz=31,slow=12,SNR=199						
FITZ				Sn	Sn	10 00 39.2	-11
	8.7nm,0.3s,baz=198,slow=16,SNR=12						
COEN	**Coen**	**13.79**	**126**		**Pn**	**09 58 27.4**	**-2.3**
COEN	**Coen**	**13.79**	**126**	P	**Pn**	**09 58 27.3**	**-2.3**
WB0	**Warramunga Arr**	**13.88**	**169**	Pn	**Pn**	**09 58 27.2**	**-3.7**
PLAI	**Plampang**	**14.04**	**258**	P	**Pn**	**09 58 31.6**	**-1.4**
PLAI	**Plampang**	**14.04**	**258**	P	**Pn**	**09 58 31.1**	**-1.9**
WRAB	**Tennant Creek**	**14.04**	**169**		**Pn**	**09 58 29.9**	**-3.1**
WRAB	**Tennant Creek**	**14.04**	**169**	P	**Pn**	**09 58 29.5**	**-3.5**
WRA	**Warramunga Arr**	**14.05**	**170**	Pn	**Pn**	**09 58 29.9**	**-3.2**
	2.6nm,0.3s,baz=347,slow=14,SNR=119						
WRA				Sn	Sn	10 00 55.1	-12
	5.1nm,0.3s,baz=355,slow=23,SNR=8.3						
	2.8nm,0.3s						
WR8	**Warramunga Arr**	**14.09**	**169**	Pn	**Pn**	**09 58 29.9**	**-3.7**
TWSI	**Taliwang, Sumb**	**14.89**	**259**	P	**Pn**	**09 58 42.2**	**-1.9**
	14nm,1.2s						
QIS	**Mount Isa**	**16.35**	**153**	P	**Pn**	**09 59 01.2**	**-1.5**
MTSU	**Mount Surprise**	**17.23**	**135**	P	**Pn**	**09 59 12.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**17.53**	**261**		**Pn**	**09 59 14.9**	**-2.4**
JAGI				IAmb	IAmb	09 59 40.0	
	comp=Z,17nm,0.7s						
ASAR	**Alice Springs**	**17.64**	**173**	P	**Pn**	**09 59 17.5**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=339,slow=8.5,SNR=42						
ASAR				S	Sn	10 02 23.0	-12
	comp=Z,8.0nm,0.9s,baz=357,slow=27,SNR=8.3						
	comp=Z,6.4nm,0.7s						
MBWA	**Marble Bar**	**18.94**	**216**	P	**P**	**09 59 33.1**	**-0.1**
MBWA				IAmb	IAmb	09 59 42.2	
	comp=Z,15nm,1.0s						
MBWA	**Marble Bar**	**18.94**	**216**	P	**P**	**09 59 33.1**	**-0.1**
PSA00	**Pilbara Seismi**	**19.20**	**215**	P	**P**	**09 59 35.5**	**-0.5**
PSA00	**Pilbara Seismi**	**19.20**	**215**	P	**P**	**09 59 35.5**	**-0.5**
PSA00				IAmb	IAmb	09 59 37.3	
	comp=Z,18nm,0.8s						
PSA00	**Pilbara Seismi**	**19.20**	**215**	P	**P**	**09 59 36.8**	**+0.8**
KKM	**Kota Kinabalu**	**19.55**	**308**	P	**P**	**09 59 38.5**	**-1.5**
TV1H	**Townsville Har**	**19.73**	**133**	P	**Pn**	**09 59 44.6**	**+0.8**
CTAO	**Charters Tower**	**19.89**	**136**		**Pn**	**09 59 46.2**	**+0.5**
CTAO				IAmb	IAmb	09 59 52.2	
	comp=Z,20nm,0.9s						
CTAO	**Charters Tower**	**19.89**	**136**	P	**Pn**	**09 59 46.0**	**+0.3**
PCJI	**Pacitan**	**20.43**	**263**	P	**P**	**09 59 48.1**	**-1.4**
	comp=Z,19nm,0.9s						
INKA	**Innaminka**	**23.23**	**159**	P	**P**	**10 00 19.7**	**+0.7**
INKA				IAmb	IAmb	10 00 22.0	
	comp=Z,8.8nm,0.8s						
QLP	**Quilpie**	**23.68**	**151**	P	**P**	**10 00 24.0**	**+0.8**
MEEK	**Meekatharra**	**23.95**	**210**	P	**P**	**10 00 26.3**	**+0.6**
FORT	**Forrest**	**24.82**	**187**	P	**P**	**10 00 34.1**	**+0.6**
FORT				IAmb	IAmb	10 00 37.3	
	comp=Z,5.8nm,0.6s						
BBOO	**Buckleboo**	**26.93**	**172**	P	**P**	**10 00 52.7**	**0.0**
BBOO				IAmb	IAmb	10 01 09.2	
	comp=Z,7.5nm,1.1s						
BBOO	**Buckleboo**	**26.93**	**172**	P	**P**	**10 00 52.7**	**0.0**
MORW	**Morawa**	**27.23**	**211**	P	**P**	**10 00 55.9**	**+0.5**
MORW				IAmb	IAmb	10 01 19.5	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**27.32**	**161**	P	**P**	**10 00 57.1**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=360,slow=8.9,SNR=5.6						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**27.32**	**161**	P	**P**	**10 00 57.1**	**+1.0**
HTT	**Hallett**	**28.06**	**167**	P	**P**	**10 01 04.9**	**+2.1**
BLDU	**Ballidu**	**28.18**	**208**	P	**P**	**10 01 04.7**	**+0.8**
NWAO	**Narrogin (SRO)**	**29.92**	**205**	P	**P**	**10 01 20.0**	**+0.8**
CAN	**Canberra**	**33.22**	**154**	P	**P**	**10 01 49.2**	**+1.0**
TOO	**Toolangi**	**33.81**	**160**	P	**P**	**10 01 55.1**	**+1.7**
TOO				IAmb	IAmb	10 02 02.3	
	comp=Z,6.7nm,1.4s						
YATNC	**Mamie plateau,**	**37.56**	**119**	P	**P**	**10 02 27.7**	**+2.0**
PINNC	**Pines Island,**	**38.23**	**119**	P	**P**	**10 02 32.7**	**+1.3**
SLVN	**Son La**	**38.50**	**316**	P	**P**	**10 02 36.3**	**+2.6**
PZH	**PanZhiHua**	**43.45**	**319**	P	**P**	**10 03 16.8**	**+2.4**
XAN	**Xi'an**	**45.31**	**333**	*eP*	**P**	**10 03 27.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**50.19**	**340**	*eP*	**P**	**10 04 08.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,4.2s						
WMQ	**Urumqi**	**63.52**	**326**	*eP*	**P**	**10 05 45.4**	**+4.3**
WMQ				pmax	pmax		
	comp=Z,64nm,0.6s						
MKAR	**Makanchi Array**	**68.36**	**326**	P	**P**	**10 06 11.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.6,SNR=6.0						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.48**	**333**	P	**P**	**10 06 29.8**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=126,slow=7.5,SNR=4.8						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.58**	**328**	P	**P**	**10 06 37.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=119,slow=4.2,SNR=4.7						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**73.18**	**173**	P	**P**	**10 06 42.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=324,slow=7.7,SNR=5.6						
	comp=Z,0.6nm,0.6s						
SBA	**Scott Base**	**74.05**	**173**	P	**P**	**10 06 46.9**	**+1.0**
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**10 07 41.0**	**+0.7**
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**10 07 41.5**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=306,slow=2.6,SNR=6.0						
	comp=Z,1.5nm,0.9s						
ILAR	**Eielson Array**	**91.80**	**25**	P	**P**	**10 08 16.7**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=320,slow=33,SNR=5.6						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**123.03**	**59**	PKP	**PKPdf**	**10 14 07.5**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=180,slow=1.3,SNR=3.5						

NEIC 12 10:09:50.3±0.3, 37°.66N±0°.02×105°.49W±0°.02, h6km±2km, ML1.7/18, Error ellipse: s-maj=2.8km s-min=1.9km az=47.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**353**	Pg	Pg	10 09 52.9	+0.4
SDCO				Sg	Sg	10 09 54.6	+0.5
SDCO				IAML		10 09 54.9	
	604nm,0.1s						
T25A	**Trinidad**	**1.00**	**121**		Pg	10 10 09.2	-0.3
T25A				Sg	Sg	10 10 21.9	-0.6
S22A	**4UR Ranch, Cre**	**1.07**	**275**		Pg	10 10 10.3	-0.5
S22A					Sg	10 10 24.1	-0.6
S22A				IAML		10 10 27.5	
	comp=N,16nm,0.1s						
S22A				IAML		10 10 31.9	
	comp=E,12nm,0.1s						
Q24A	**Divide**	**1.33**	**11**		Pn	10 10 15.1	-0.5
Q24A					Sg	10 10 32.7	-0.3
Q24A				IAML		10 10 33.6	
	comp=N,9.9nm,0.3s						
ISCO	**Idaho Springs**	**2.14**	**357**	Pn	Pn	10 10 25.5	-1.2
MVCO	**Mesa Verde**	**2.44**	**260**		Pn	10 10 29.7	-1.1
MVCO				IAML		10 11 12.4	
	comp=N,5.7nm,0.8s						
PV12	**Saucer Basin,**	**2.70**	**285**	Pn	Pn	10 10 34.3	-0.1
PV20	**West Nyswonger**	**2.83**	**285**	Pn	Pn	10 10 34.4	-1.8

*IDC **12** 10:09:47.2±1.6, 61°.16N×145°.88W, h0km, mb3.8/2, mbtmp3.6/5, ML3.1/3, Error ellipse: s-maj=33.7km s-min=17.4km az=100.0*
*NEIC **12** 10:09:50.8±1.6, 61°.36N±0°.01×147°.07W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=43.0*
*AEIC **12** 10:09:52.4±1.1, 61°.38N±0°.01×147°.03W±0°.03, h15km±3km, ML3.2, ML3.4/182(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=223.0*

ISC 12 10:09:50.4±1.3, 61°.33N±0°.02×147°.04W±0°.02, h18km±7km, n158, σ0°98/158, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	**Glacier Island**	**0.45**	**183**		**Pn**	**10 10 01.9**	**-0.1**
GLI				Sg	**Sn**	**10 10 09.7**	**+0.1**
GLI				IAML		10 10 10.3	
	comp=N,4μm,0.3s						
GLI				IAML		10 10 10.4	
	comp=E,4μm,0.5s						
SCM	**Sheep Creek Mo**	**0.53**	**345**		**Pb**	**10 10 01.6**	**+0.4**
SCM				IAML		10 10 09.3	
	comp=N,3μm,0.4s						
SCM				IAML		10 10 09.4	
	comp=E,5μm,0.5s						
SCM	**Sheep Creek Mo**	**0.53**	**345**		**Sb**	**10 10 09.0**	**+0.5**
KLU	**Klutina**	**0.56**	**72**		**Pb**	**10 10 02.5**	**+0.7**
KLU				Sg	**Sb**	**10 10 10.3**	**+0.8**
KLU				IAML		10 10 10.7	
	comp=N,2μm,0.5s						
KLU				IAML		10 10 10.9	
	comp=E,2μm,0.3s						
M23K	**Glacier View**	**0.57**	**325**		**Pb**	**10 10 02.3**	**+0.4**
M23K					**Sb**	**10 10 10.3**	**+0.5**
FID	**Port Fidalgo**	**0.64**	**154**		**Pn**	**10 10 04.7**	**+0.1**
FID				IAML		10 10 16.6	
	comp=E,2μm,0.5s						
FID				IAML		10 10 19.3	
	comp=N,2μm,0.4s						
FID	**Port Fidalgo**	**0.64**	**154**		**Sn**	**10 10 14.5**	**+0.3**
DIV	**Divide**	**0.65**	**107**		**Pb**	**10 10 03.9**	**+0.7**
DIV				Sg	**Sb**	**10 10 12.8**	**+1.0**
DIV				IAML		10 10 13.6	
	comp=E,2μm,0.2s						
DIV				IAML		10 10 15.1	
	comp=N,2μm,0.5s						
KNK	**Knik Glacier**	**0.69**	**278**		**Pn**	**10 10 05.0**	**-0.2**
KNK	**Knik Glacier**	**0.69**	**278**		**Sb**	**10 10 14.6**	**+1.6**
PWL	**Port Wells**	**0.78**	**234**		**Pn**	**10 10 06.9**	**+0.3**
PWL				IAML		10 10 19.9	
	comp=N,1μm,0.4s						
PWL				IAML		10 10 20.0	
	comp=E,975nm,0.4s						
SML	**Sawmill**	**0.79**	**309**		**Pg**	**10 10 05.6**	**-0.1**
SML				IAML		10 10 16.6	
	comp=E,2μm,0.7s						
SML				IAML		10 10 16.7	
	comp=N,2μm,0.6s						
SML	**Sawmill**	**0.79**	**309**		**Sb**	**10 10 16.2**	**+0.4**
M24K	**Tolsona, Glenn**	**0.89**	**27**		**Pg**	**10 10 07.4**	**-0.2**
HIN	**Hinchinbrook I**	**0.97**	**164**		**Pn**	**10 10 10.3**	**+1.1**
HIN				IAML		10 10 26.8	
	comp=N,1μm,0.5s						
EYAK	**Cordova Ski Ar**	**1.00**	**140**		**Pg**	**10 10 10.5**	**+0.6**
EYAK				IAML		10 10 28.5	
	comp=E,750nm,0.5s						
EYAK				IAML		10 10 28.6	
	comp=N,839nm,0.5s						
GHO	**Glory Hole Cre**	**1.01**	**297**		**Pb**	**10 10 09.3**	**0.0**
GHO				IAML		10 10 28.4	
	comp=N,943nm,0.5s						
GHO	**Glory Hole Cre**	**1.01**	**297**		**Sg**	**10 10 23.1**	**0.0**
PMR	**Palmer**	**1.04**	**286**		**Pb**	**10 10 09.9**	**+0.1**
PMR				IAML		10 10 25.8	
	comp=E,915nm,0.4s						
PMR	**Palmer**	**1.04**	**286**		**Sb**	**10 10 23.5**	**+0.4**
N25K	**Chitina, Valde**	**1.21**	**75**		**Pn**	**10 10 12.0**	**-0.4**
N25K				IAML		10 10 30.9	
	comp=E,1μm,0.4s						
N25K				IAML		10 10 33.1	
	comp=N,902nm,0.4s						
BMRM	**Bremner River**	**1.23**	**106**		**Pb**	**10 10 13.0**	**-0.2**
BMRM				IAML		10 10 32.3	
	comp=N,1μm,0.5s						
WAT6	**Susitna Watana**	**1.30**	**346**		**Pn**	**10 10 12.7**	**-1.2**
WAT6					**Sb**	**10 10 28.7**	**-2.2**
RC01	**Rabbit Creek A**	**1.33**	**261**		**Pb**	**10 10 15.2**	**+0.5**
P23K	**Montague Islan**	**1.34**	**188**		**Pg**	**10 10 16.2**	**-0.1**
P23K				IAML		10 10 36.5	
	comp=N,947nm,0.3s						
GOAT	**Goat Mountain**	**1.35**	**122**		**Pb**	**10 10 15.7**	**+0.5**
HARP	**HAARP**	**1.40**	**39**		**Pn**	**10 10 15.3**	**+0.3**
WACK	**Wrangell Chich**	**1.46**	**62**		**Pn**	**10 10 16.2**	**+0.2**
RAGM	**Ragged Mountai**	**1.49**	**128**		**Pb**	**10 10 17.7**	**+0.1**
WASW	**Wrangell South**	**1.50**	**65**		**Pn**	**10 10 16.9**	**+0.3**
M22K	**Willow**	**1.54**	**288**		**Pn**	**10 10 17.7**	**+0.8**
GLB	**Gilahina Butte**	**1.56**	**84**		**Pn**	**10 10 17.9**	**+0.6**
GLB				IAML		10 10 40.3	
	comp=E,738nm,0.4s						
GLB				IAML		10 10 40.4	
	comp=N,709nm,0.2s						
O22K	**Cooper Landing**	**1.56**	**238**		**Pb**	**10 10 18.9**	**+0.1**
WAT1	**Susitna Watana**	**1.67**	**335**		**Pn**	**10 10 18.6**	**-0.2**
HMT	**Hamilton**	**1.69**	**125**		**Pn**	**10 10 20.0**	**+1.0**
SEW	**Seward**	**1.70**	**225**		**Pb**	**10 10 21.5**	**+0.3**
SEW				IAML		10 10 43.9	
	comp=E,243nm,0.5s						
SEW				IAML		10 10 44.3	
	comp=N,306nm,0.5s						
VRDI	**Verde Repeater**	**1.74**	**92**		**Pn**	**10 10 20.5**	**+0.7**
VRDI				IAML		10 10 44.1	
	comp=N,486nm,0.4s						
VRDI				IAML		10 10 46.4	
	comp=E,346nm,0.5s						
WAT7	**Susitna Watana**	**1.74**	**331**		**Pn**	**10 10 19.6**	**-0.2**
SLKM	**Skilak Lake**	**1.76**	**244**		**Pb**	**10 10 21.7**	**-0.4**
DHY	**Denali Highway**	**1.76**	**355**		**Pn**	**10 10 20.5**	**+0.3**
DHY				IAML		10 10 44.5	
	comp=N,631nm,0.4s						
PAX	**Paxson**	**1.81**	**23**		**Pn**	**10 10 21.1**	**+0.4**
NICHA	**Nichawak Mount**	**1.86**	**125**		**Pn**	**10 10 22.5**	**+1.1**
CUT	**Chulitna**	**1.88**	**307**		**Pn**	**10 10 22.8**	**+1.2**
BERG	**Berg Lake**	**1.88**	**118**		**Pn**	**10 10 22.4**	**+0.8**
KAIM	**Kayak Island**	**1.91**	**136**		**Pn**	**10 10 23.1**	**+1.1**
KAIM				IAML		10 10 58.9	
	comp=E,193nm,0.9s						
MID	**Middleton Isla**	**1.94**	**169**	Pn	**Pb**	**10 10 24.1**	**-1.0**
MID				IAML		10 10 57.6	
	comp=E,274nm,0.7s						
MID				IAML		10 11 01.9	
	comp=N,378nm,1.0s						
MCARA	**McCarthy VSAT**	**1.94**	**86**		**Pb**	**10 10 23.9**	**-1.3**
CRQM	**Cirque**	**1.98**	**105**		**Pn**	**10 10 24.4**	**+1.2**
SUCK	**Suckling Hills**	**2.04**	**127**		**Pn**	**10 10 24.6**	**+0.8**
SUCK					**Pb**	**10 10 24.9**	**-2.0**
SUCK	**Suckling Hills**	**2.04**	**127**	IAML		10 10 57.0	
	comp=E,227nm,0.3s						
KHIT	**Khitrov Hills**	**2.06**	**114**		**Pn**	**10 10 24.8**	**+0.6**
GRIN	**Grindle Hills**

MESA	**MESA**	**2.75 112**	Pn	**Pn**	**10 10 34.5 +0.7**	
CNPM	**China Poot**	**2.75 231**		**Pn**	**10 10 35.2 +1.5**	
CNPM			IAML		10 11 17.5	
	comp=E,111nm,0.7s					
CNPM			IAML		10 11 20.1	
	comp=N,108nm,0.5s					
YAH	**Yahtse**	**2.77 108**		**Pn**	**10 10 34.9 +0.9**	
YAH	**Yahtse**	**2.77 108**	IAML		10 11 17.5	
	comp=E,224nm,0.9s					
YAH			IAML		10 11 21.8	
	comp=N,169nm,0.5s					
CTGM	**Chitina Glacie**	**2.79 95**		**Pn**	**10 10 35.7 +1.4**	
CTGM			IAML		10 11 17.7	
	comp=N,162nm,0.5s					
DFR	**Drift River**	**2.85 258**		**Pn**	**10 10 36.1 +1.0**	
KTH	**Kantishna Hill**	**2.87 323**		**Pn**	**10 10 36.8 +1.4**	
KTH			IAML		10 11 14.4	
	comp=E,87nm,0.6s					
KTH			IAML		10 11 28.7	
	comp=N,92nm,0.9s					
PPLA	**Purkeypile**	**2.89 305**		**Pn**	**10 10 36.6 +1.0**	
PPLA			IAML		10 11 15.6	
	comp=E,185nm,0.5s					
PPLA			IAML		10 11 15.7	
	comp=N,119nm,0.7s					
RDWB	**Redoubt West**	**2.96 256**		**Pn**	**10 10 37.8 +1.2**	
RKAV	**Rock Avalanche**	**2.97 108**		**Pn**	**10 10 37.8 +1.0**	
RKAV				**Pn**	**10 10 38.0 +1.1**	
LOGN	**Logan Glacier**	**2.98 97**		**Pn**	**10 10 38.1 +1.3**	
LOGN			IAML		10 11 21.6	
	comp=E,150nm,0.7s					
LOGN			IAML		10 11 28.6	
	comp=N,129nm,0.4s					
L27K	**Beaver Creek,**	**3.00 52**		**Pn**	**10 10 38.2 +1.1**	
SCRK	**Sand Creek**	**3.01 27**		**Pn**	**10 10 37.9 +0.6**	
O20K	**Slope Mountain**	**3.02 248**		**Pn**	**10 10 39.0 +1.7**	
TABL	**Table Mountain**	**3.02 105**		**Pn**	**10 10 38.3 +0.8**	
TABL			IAML		10 11 24.0	
	comp=E,141nm,0.7s					
TABL			IAML		10 11 26.2	
	comp=N,127nm,0.8s					
BWN	**Browne**	**3.07 340**		**Pn**	**10 10 38.5 +0.6**	
HDA	**Harding Lake**	**3.10 1**		**Pn**	**10 10 38.9 +0.6**	
HDA			IAML		10 11 19.9	
	comp=E,144nm,0.5s					
HDA			IAML		10 11 32.0	
	comp=N,129nm,0.8s					
WRH	**Wood River Hil**	**3.19 352**		**Pn**	**10 10 40.5 +0.9**	
WRH			IAML		10 11 31.5	
	comp=N,71nm,0.8s					
WRH			IAML		10 11 34.8	
	comp=E,84nm,0.7s					
ILSW	**Iliamna Southw**	**3.29 249**	Pn	**Pn**	**10 10 42.4 +1.2**	
BPAW	**Bear Paw Mtn.**	**3.33 329**		**Pn**	**10 10 42.1 +0.6**	
BPAW			IAML		10 11 36.1	
	comp=N,67nm,1.0s					
CCB	**Clear Creek Bu**	**3.35 354**		**Pn**	**10 10 42.3 +0.5**	
CCB			IAML		10 11 28.3	
	comp=E,64nm,0.4s					
O28M	**Mount Upton**	**3.38 96**		**Pn**	**10 10 43.8 +1.3**	
O28M	**Mount Upton**	**3.38 96**	IAML		10 11 34.8	
	comp=E,61nm,0.6s					
O28M			IAML		10 11 37.0	
	comp=N,98nm,0.6s					
NEA2	**Nenana**	**3.41 345**		**Pn**	**10 10 43.2 +0.5**	
ILAR	**Eielson Array**	**3.46 1**	Pn	**Pn**	**10 10 43.3 -0.1**	
	comp=N,4.9nm,0.3s,baz=182,slow=13,SNR=142					
ILAR			Sn	**Sn**	**10 11 26.3 +2.5**	
	comp=N,5.5nm,0.3s,baz=176,slow=20,SNR=12					
	comp=N,4.8nm,0.3s					
CHUM	**Lake Minchumin**	**3.54 319**		**Pn**	**10 10 45.1 +0.7**	
PCA	**Pinnacle**	**3.55 107**		**Pn**	**10 10 45.4 +0.7**	
M19K	**Big River Lodg**	**3.56 283**		**Pn**	**10 10 45.3 +0.6**	
COLA	**College**	**3.58 354**		**Pn**	**10 10 45.5 +0.6**	
O19K	**Port Alsworth**	**3.75 256**		**Pn**	**10 10 47.2 0.0**	
O19K			IAML		10 11 43.4	
	comp=E,90nm,0.5s					
POKR	**Poker Plat Res**	**3.81 358**	IAML		10 11 37.7	
	comp=N,40nm,0.8s					
POKR			IAML		10 11 38.1	
	comp=E,39nm,1.0s					
POKR	**Poker Plat Res**	**3.81 358**		**Pn**	**10 10 47.9 -0.3**	
POKR				**Pn**	**10 10 48.5 +0.3**	
L19K	**White Mountain**	**3.81 286**		**Pn**	**10 10 48.5 +0.3**	
K20K	**Telida**	**3.86 305**		**Pn**	**10 10 49.0 +0.2**	
K20K	**Telida**	**3.86 305**	IAML		10 11 52.9	
	comp=E,49nm,0.6s					
I23K	**Minto, Yukon-K**	**3.98 346**		**Pn**	**10 10 51.3 +0.8**	
I23K			IAML		10 11 55.3	
	comp=E,59nm,0.7s					
I23K			IAML		10 12 02.2	
	comp=N,55nm,0.9s					
MLY	**Manley**	**4.08 337**		**Pn**	**10 10 52.5 +0.6**	
MLY	**Manley**	**4.08 337**	IAML		10 11 41.8	
	comp=E,44nm,0.5s					
MLY			IAML		10 11 41.8	
	comp=N,65nm,0.4s					
M29M	**Somme Creek**	**4.21 71**		**Pn**	**10 10 55.2 +1.4**	
N18K	**Kilae Creek**	**4.36 265**		**Pn**	**10 10 55.8 +0.2**	
EGAK	**Eagle**	**4.38 35**		**Pn**	**10 10 57.5 +1.6**	
EGAK			IAML		10 12 09.7	
	comp=N,36nm,0.8s					
EGAK			IAML		10 12 09.7	
	comp=N,27nm,0.7s					
DAWY	**Dawson**	**4.47 49**		**Pn**	**10 10 58.3 +1.1**	
KDAK	**Kodiak Island**	**4.54 221**	Pn	**Pn**	**10 10 59.2 +1.1**	
KDAK	**Kodiak Island**	**4.54 221**	Pn	**Pn**	**10 10 58.8 +0.7**	
	comp=N,0.5nm,0.3s,baz=34,slow=11,SNR=26					
KDAK			Sn	**Sn**	**10 11 48.6 -1.7**	
	comp=N,1.7nm,0.3s,baz=60,slow=2.6,SNR=8.7					
	comp=N,9.0nm,0.8s					
L18K	**Granite Mounta**	**4.67 285**		**Pn**	**10 10 59.9 0.0**	
I20K	**Naaghedeneel**	**4.85 319**	Pn	**Pn**	**10 11 03.8 +1.4**	
P29M	**Windy Craggy**	**4.91 106**		**Pn**	**10 11 04.4 +1.1**	
P29M	**Windy Craggy**	**4.91 106**	IAML		10 12 19.8	
	comp=N,36nm,0.4s					
P29M			IAML		10 12 24.1	
	comp=E,24nm,0.8s					
J18K	**Innoko River**	**4.99 300**		**Pn**	**10 11 04.8 +0.5**	
M17K	**Holitna River**	**5.00 275**		**Pn**	**10 11 04.7 +0.1**	
M17K	**Holitna River**	**5.00 275**	IAML		10 12 38.7	
	comp=N,39nm,1.2s					
M17K			IAML		10 13 00.3	
	comp=E,28nm,1.0s					
N17K	**Nushagak Hills**	**5.01 265**		**Pn**	**10 11 04.7 0.0**	
O17K	**Koliganek Bris**	**5.20 257**		**Pn**	**10 11 07.7 +0.5**	
OHAK	**Old Harbor**	**5.21 221**		**Pn**	**10 11 07.9 +0.5**	
I28M	**Miner Creek**	**5.23 35**		**Pn**	**10 11 08.3 +0.7**	
G24K	**Hadweenzic Riv**	**5.40 358**	Pn	**Pn**	**10 11 09.8 -0.1**	
G24K			IAML		10 12 48.9	
	comp=N,23nm,1.1s					
H27K	**Steamboat Moun**	**5.50 24**	Pn	**Pn**	**10 11 12.2 +0.9**	
G23K	**Bananza Creek**	**5.56 348**		**Pn**	**10 11 12.9 +0.6**	
M16K	**Timber Creek**	**5.78 272**		**Pn**	**10 11 15.1 0.0**	
N16K	**Nishlik Lake**	**5.79 267**		**Pn**	**10 11 15.4 +0.1**	
J30M	**Hart River**	**5.87 52**		**Pn**	**10 11 18.2 +1.7**	
WHY	**Whitehorse**	**5.96 91**	Pn	**Pn**	**10 11 18.7 +1.0**	
G27K	**Doyon Strip**	**5.99 21**	Pn	**Pn**	**10 11 20.2 +2.1**	
F24K	**Squaw Lake**	**6.23 357**		**Pn**	**10 11 21.8 +0.4**	
H29M	**Whitestone**	**6.23 34**	Pn	**Pn**	**10 11 22.2 +0.8**	
J16K	**Anvik River**	**6.62 293**	Pn	**Pn**	**10 11 27.0 +0.3**	
I17K	**Unalakleet**	**6.80 298**	Pn	**Pn**	**10 11 29.9 +0.7**	
H17K	**Granite Mounta**	**6.86 307**	Pn	**Pn**	**10 11 30.5 +0.5**	
F20K	**Avaraart Lake**	**6.88 330**		**Pn**	**10 11 30.9 +0.7**	
L14K	**Kuka Creek**	**7.52 277**	Pn	**Pn**	**10 11 40.2 +1.2**	
R33M	**Jennings River**	**8.20 97**	Pn	**Pn**	**10 11 50.0 +1.5**	
INK	**Inuvik**	**9.05 34**	Pn	**Pn**	**10 11 58.5 -1.4**	
	comp=N,0.1nm,0.3s,baz=52,slow=24,SNR=1.6					
	comp=N,1.5nm,0.9s					
FINES	**FINESS Array B**	**57.44 4**	P	**P**	**10 19 36.0 -1.3**	
	comp=N,0.4nm,0.3s,baz=1.8,slow=7.2,SNR=10					
	comp=N,0.4nm,0.3s					
ESDC	**Sonseca Array**	**74.96 29**	P	**P**	**10 21 29.7 -0.5**	
	comp=N,0.6nm,0.6s,baz=338,slow=6.7,SNR=4.1					
	comp=N,0.6nm,0.6s					

*IDC **12** 10:10:52.0±0.8, 2°.57S×138°.46E, h0km, mb4.1/7, mbtmp4.0/10, ML3.6/3, Error ellipse: s-maj=15.5km s-min=11.7km az=107.0*

ISC 12 10:10:56.0±0.8, 2°.61S±0°.08×138°.6E±0°.1, h32km, n10, σ2°90/13, mb4.0/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.10**	**88**	Pn	**Pb**	**10 11 32.1**	**-1.4**
	6.2nm,0.3s,baz=230,slow=11,SNR=19						
JAY				Lg	Lg	10 12 03.4	
	6.9nm,0.3s,baz=129,slow=23,SNR=6.6						
	25nm,0.5s						
WRA	**Warramunga Arr**	**17.73**	**193**	P	**Pn**	**10 14 59.6**	**-0.9**
	0.3nm,0.3s,baz=17,slow=13,SNR=21						
WRA				S	**Sn**	**10 18 18.4**	**+1.1**
	0.7nm,1.1s,baz=236,slow=31,SNR=2.3						
	1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.96**	**219**	P	**P**	**10 15 25.7**	**0.0**
	0.2nm,0.3s,baz=120,slow=4.4,SNR=6.8						
FITZ				S	**S**	**10 19 01.5**	**-7.2**
	3.5nm,1.0s,baz=175,slow=12,SNR=3.9						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**21.43**	**192**	P	**P**	**10 15 41.1**	**-0.4**
	1.9nm,0.8s,baz=22,slow=11,SNR=28						
ASAR				S	**S**	**10 19 42.4**	**+4.6**
	0.7nm,0.9s,baz=12,slow=26,SNR=2.7						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.29**	**300**	P	**P**	**10 19 03.5**	**+0.4**
	0.6nm,0.3s,baz=119,slow=6.5,SNR=6.4						
	0.6nm,0.3s						
PETK	**Petropavlovsk-**	**57.78**	**13**	P	**P**	**10 20 43.7**	**-0.3**
	4.7nm,0.9s,baz=224,slow=6.6,SNR=3.6						
	4.7nm,0.9s						
MKAR	**Makanchi Array**	**69.64**	**322**	P	**P**	**10 22 03.4**	**+1.0**
	3.8nm,0.9s,baz=119,slow=7.7,SNR=22						
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**10 22 25.9**	**-0.1**
	1.2nm,0.8s,baz=115,slow=5.3,SNR=6.1						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**10 23 31.9**	**0.0**
	0.7nm,0.7s,baz=260,slow=3.7,SNR=11						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**87.34**	**180**	P	**P**	**10 23 42.0**	**+2.3**
	2.0nm,0.9s,baz=7.1,slow=1.4,SNR=5.5						
	2.0nm,0.9s						

*AEIC **12** 10:14:55.6±0.8, 52°.6N±0°.1×162°.1W±0°.1, h12km±9km, Error ellipse: s-maj=17.1km s-min=11.2km az=151.0*

NEIC 12 10:14:55.1±1.0, 52°.90N±0°.04×162°.44W±0°.06, h10km±1km, ML2.8/10, ML2.7(AEIC), Error ellipse: s-maj=7.7km s-min=4.5km az=42.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**2.04**	**334**		Pn	10 15 29.9	+0.2
SSLS					Sb	10 15 56.9	-0.9
FALS	**False Pass**	**2.05**	**344**		Pn	10 15 30.1	+0.5
FALS				IAML		10 16 23.6	
	comp=E,68nm,0.8s						
FALS				IAML		10 16 34.8	
	comp=N,106nm,0.9s						
FALS	**False Pass**	**2.05**	**344**		Sb	10 15 58.0	+0.1
ISNN	**Isanotski Nort**	**2.10**	**338**		Pn	10 15 31.6	+1.2
ISNN					Sb	10 15 59.2	-0.1
WEBT	**Westdahl Beart**	**2.19**	**322**		Pn	10 15 32.4	+0.8
DT1	**Dutton Round H**	**2.22**	**2**		Pn	10 15 31.5	-0.5
DT1					Sn	10 15 59.5	+0.1
DOL	**Dolgoi Island**	**2.28**	**8**		Pn	10 15 32.7	-0.2
DOL					Sn	10 16 00.9	-0.1
AKSA	**Akutan Strait**	**2.31**	**304**		Pn	10 15 33.2	0.0
AKSA					Sn	10 16 02.2	+0.5
AHB	**Akutan Harbor**	**2.36**	**303**		Pn	10 15 33.4	-0.5
AKBBA	**Akutan Broad B**	**2.41**	**301**		Pn	10 15 34.4	-0.2
ZRO	**Akutan Zero**	**2.43**	**301**		Pn	10 15 35.3	+0.4
AKMO	**Akutan Morgan**	**2.45**	**301**		Pn	10 15 35.5	+0.3
AKGG	**Akutan Green G**	**2.49**	**303**		Pn	10 15 35.7	0.0
LVA	**Lava Point**	**2.49**	**302**	Pn	Pn	10 15 36.1	+0.3
LVA				IAML		10 15 55.1	
	comp=N,65nm,1.0s						
LVA				IAML		10 16 24.6	
	comp=E,37nm,1.2s						
UNV	**Unalaska Valle**	**2.62**	**293**		Pn	10 15 37.1	-0.3
SDPT	**Sand Point**	**2.72**	**24**	Pn	Pn	10 15 38.3	-0.4
SDPT				IAML		10 16 16.2	
	comp=N,24nm,1.0s						
SDPT				IAML		10 17 07.6	
	comp=E,26nm,1.2s						
MNAT	**Makushin Natee**	**2.73**	**293**		Pn	10 15 38.9	-0.1
MSW	**Makushin Switc**	**2.79**	**293**		Pn	10 15 39.9	0.0
MSW					Sn	10 16 12.9	-0.7
MGOD	**Makushin Gods**	**2.81**	**290**		Pn	10 15 39.7	-0.4
NIKH	**Nikolski High**	**3.88**	**274**	Pn	Pn	10 15 53.8	-1.0

PGC 12 10:16:33.2±71.0, 50°.57N×130°.07W, h6km, MLSn2.7/9, Mw3.3/9, 182km west of Port Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.65**	**94**	Pn	Pn	10 17 00.4	-2.3
PACB				Sn	Sn	10 17 20.1	-4.3
PACB	**Port Alice, BC**	**1.65**	**94**	Pn	Pn	10 17 00.4	-2.4
PACB				Sn	Sn	10 17 20.1	-4.3
PHC	**Port Hardy**	**1.69**	**84**	Pn	Pn	10 17 01.3	-1.9
PHC				Sn	Sn	10 17 22.1	-3.1
PHC	**Port Hardy**	**1.69**	**84**	Pn	Pn	10 17 01.3	-1.9
PHC				Sn	Sn	10 17 21.5	-3.6
MAYB	**Maynard**	**1.86**	**94**	Pn	Pn	10 17 03.6	-2.1
MAYB				Sn	Sn	10 17 25.7	-3.9
BBB	**Bella Bella**	**2.03**	**37**	Pn	Pn	10 17 05.8	-2.0
BBB				Sn	Sn	10 17 29.1	-4.4
WOSB	**Woss**	**2.28**	**99**	Pn	Pn	10 17 09.9	-1.6
NCRB	**Newcastle Ridg**	**2.57**	**92**	Pn	Pn	10 17 13.8	-1.7
NCSB	**Newcastle Ridg**	**2.57**	**92**	Pn	Pn	10 17 13.8	-1.7
NCSB				Sn	Sn	10 17 43.1	-4.0
BUTB	**Butedale**	**2.69**	**21**	Pn	Pn	10 17 15.5	-1.6
BUTB				Sn	Sn	10 17 46.6	-3.4
CBB	**Campbell River**	**3.07**	**98**	Pn	Pn	10 17 21.0	-1.2
MYRA	**Myra Falls**	**3.08**	**108**	Pn	Pn	10 17 20.6	-1.7

IDC 12 10:35:15.1±1.4, 16°.18S×177°.82W, h0km, mb3.8/4, mbtmp3.8/4, ML6.1/1, Error ellipse: s-maj=55.7km s-min=25.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.02**	**180**	Pn	Pn	10 38 21.5	+0.2
	100nm,0.3s,baz=128,slow=23,SNR=2.4						
WRA	**Warramunga Arr**	**45.52**	**258**	P	P	10 43 37.5	+0.6
	0.3nm,0.3s,baz=97,slow=7.4,SNR=31						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.82**	**253**	P	P	10 43 38.6	-0.6
	0.9nm,0.6s,baz=93,slow=7.7,SNR=19						
	0.9nm,0.6s						
NVAR	**Mina Array Bea**	**77.79**	**44**	P	P	10 47 16.1	+1.5
	0.9nm,1.0s,baz=241,slow=7.3,SNR=3.8						
	0.9nm,1.0s						
ILAR	**Eielson Array**	**84.08**	**13**	P	P	10 47 46.0	-1.4
	0.5nm,0.7s,baz=220,slow=6.0,SNR=11						
	0.5nm,0.7s						

*IDC **12** 11:04:05.0±0.9, 2°.60S×138°.47E, h0km, mb3.9/5, mbtmp3.8/8, ML3.5/3, MS2.4/1, Error ellipse: s-maj=21.9km s-min=16.3km az=172.0*

ISC 12 11:04:09.8±0.9, 2°.7S±0°.1×138°.5E±0°.1, h32km, n8, σ1°06/8, mb4.1/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.26**	**86**	Pn	**Pn**	**11 04 45.1**	**+0.2**
	6.1nm,0.3s,baz=222,slow=9.0,SNR=11						
JAY				Lg	Lg	11 05 15.9	
	8.1nm,0.3s,baz=288,slow=20,SNR=5.3						
JAY				LR	LR	11 05 57.8	
	comp=Z,94nm,21.6s,baz=22,slow=50						
	21nm,0.4s						
WRA	**Warramunga Arr**	**17.64**	**193**	P	**Pn**	**11 08 12.0**	**-1.2**
	0.3nm,0.3s,baz=17,slow=13,SNR=19						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.83**	**218**	P	**P**	**11 08 38.0**	**0.0**
	0.1nm,0.3s,baz=48,slow=15,SNR=2.1						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**21.34**	**192**	P	**P**	**11 08 54.3**	**0.0**
	0.5nm,0.4s,baz=20,slow=11,SNR=21						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**69.60**	**322**	P	**P**	**11 15 16.6**	**+0.8**
	1.7nm,0.7s,baz=116,slow=7.8,SNR=14						
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**73.54**	**325**	P	**P**	**11 15 39.5**	**-0.1**
	0.7nm,0.2s,baz=127,slow=6.0,SNR=1.2						
	0.7nm,0.2s						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**11 16 45.0**	**-1.2**
	0.5nm,0.6s,baz=266,slow=5.1,SNR=12						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**11 16 54.6**	**+1.4**
	1.2nm,0.9s,baz=340,slow=3.9,SNR=2.8						
	1.2nm,0.9s						

WEL 12 11:10:42.0±0.8, 33°.5S±14°.×18°.0E±3°.1, h339km±15km, M3.8/7, mB4.5/3, ML4.1/6, MLv3.8/7, Mw(mB)3.7/3, Error ellipse: s-maj=44.1km s-min=4.7km az=112.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.51**	**29**	P	Pn	11 11 53.6	-2.2
RIZ	**Raoul Island**	**4.52**	**29**	S	S	11 12 57.5	+2.0
WMGZ	**Waiomatatini S**	**4.67**	**191**	P	Pn	11 11 57.1	-0.3
WMGZ				S	S	11 13 00.1	+1.9
HAZ	**Te Kaha**	**4.74**	**197**	P	Pn	11 11 58.5	+0.4
HAZ				S	S	11 13 00.4	+0.8
PKGZ	**Pakihiroa**	**4.78**	**194**	P	Pn	11 11 58.6	+0.1
PUZ	**Puketiti**	**4.94**	**192**	P	Pn	11 12 00.5	+0.2
PUZ				S	S	11 13 03.0	-0.7
RUGZ	**Raukumara Rang**	**4.97**	**198**	P	Pn	11 12 00.4	-0.3
RUGZ				S	S	11 13 03.5	-0.9
MWZ	**Matawai**	**5.35**	**197**	P	Pn	11 12 03.3	-1.7
MWZ				S	S	11 13 09.3	-2.7
CNGZ	**Carnagh Statio**	**5.36**	**192**	P	Pn	11 12 05.2	+0.3
TKGZ	**Te Karaka**	**5.38**	**195**	P	Pn	11 12 06.1	+0.9
TKGZ				S	S	11 13 14.3	+1.8
URZ	**Urewera**	**5.40**	**201**	P	Pn	11 12 05.1	-0.3
RAGZ	**Rawiri**	**5.53**	**198**	P	Pn	11 12 07.9	+0.8
RIGZ	**Rimuhau**	**5.65**	**194**	P	Pn	11 12 08.6	+0.2
RIGZ				S	S	11 13 19.0	+0.7
MUGZ	**Murupara**	**5.70**	**203**	P	Pn	11 12 10.0	+1.1
SNGZ	**Shannon Statio**	**5.82**	**197**	P	Pn	11 12 10.7	+0.4
SNGZ				S	S	11 13 24.0	+2.2
MHGZ	**Mahia Peninsul**	**6.06**	**192**	P	Pn	11 12 12.8	-0.2
KWHZ	**Kaweka Forest**	**6.68**	**201**	P	Pn	11 12 21.1	+0.9
OTVZ	**Oturere**	**6.71**	**207**	P	Pn	11 12 22.2	+1.6
NGZ	**Ngauruhoe**	**6.74**	**207**	S	S	11 13 41.5	0.0
PNHZ	**Pukenui**	**7.20**	**201**	P	Pn	11 12 26.5	+0.2
PNHZ				S	S	11 13 52.2	+1.1
PRHZ	**Porangahau**	**7.40**	**198**	P	Pn	11 12 29.0	+0.3
MRZ	**Mangatainoka R**	**8.07**	**202**	P	Pn	11 12 34.5	-2.2
MRZ				S	S	11 14 11.1	+1.0

*IDC **12** 11:11:58.6±1.8, 4°.14N×94°.85E, h0km, mb3.9/5, mbtmp3.9/7, ML3.7/2, MS2.8/3, Error ellipse: s-maj=75.7km s-min=19.3km az=53.0*

*NEIC **12** 11:12:11.0±1.5, 4°.51N±0°.04×95°.52E±0°.10, h72km±11km, mb4.2/8, Error ellipse: s-maj=15.0km s-min=4.5km az=108.0*

ISC 12 11:12:09.2±1.0, 4°.51N±0°.08×95°.43E±0°.09, h63km, n31, σ0°90/24, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.67**	**64**	Pn	**Pn**	**11 12 38.2**	**+2.0**
LHMI				Sn	**Sn**	**11 12 56.3**	**-0.3**
GSI	**Gunungsitoli**	**3.83**	**146**	Pn	**Pn**	**11 13 08.0**	**+2.3**
PSI	**Prapat**	**3.87**	**116**	Pn	**Pn**	**11 13 06.5**	**+0.2**
	2.3nm,0.3s,baz=300,slow=8.2,SNR=6.9						
PSI				Sn	**Sn**	**11 13 51.2**	**+0.5**
	3.9nm,0.3s,baz=332,slow=17,SNR=8.6						
PSI				LR	LR	11 14 12.2	
	comp=Z,69nm,19.8s,baz=339,slow=31						
	10nm,0.4s						
RPSI	**Rantau Prapat**	**3.92**	**117**		**Pn**	**11 13 07.2**	**+0.3**
RPSI	**Rantau Prapat**	**3.92**	**117**		**Pn**	**11 13 06.5**	**-0.4**
RPSI					**Sn**	**11 13 51.2**	**-0.5**
KULM	**Kulim**	**5.25**	**81**		**Pn**	**11 13 25.7**	**+0.6**
IPM	**Ipoh**	**5.57**	**90**		**Pn**	**11 13 29.6**	**0.0**
CMAR	**Chiang Mai Arr**	**14.28**	**14**	Pn	**Pn**	**11 15 29.4**	**+1.1**
	0.2nm,0.3s,baz=208,slow=12,SNR=11						
CMAR				LR	LR	11 22 08.0	
	comp=Z,30nm,18.8s,baz=60,slow=41						
	0.4nm,0.3s						
H08S2	**Diego Garcia H**	**25.88**	**242**	T	T	11 44 32.0	
	baz=62,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**25.88**	**242**	T	T	11 44 35.0	
	baz=62,slow=76,SNR=41						
H08S1	**Diego Carcia H**	**25.89**	**242**	T	T	11 44 31.9	
	baz=62,slow=76,SNR=18						
KAPI	**Kappang**	**26.07**	**111**	LR	LR	11 28 04.4	
	comp=Z,50nm,21.2s,baz=290,slow=36						
MK31	**Makanchi Array**	**43.64**	**347**	P	**P**	**11 20 06.8**	**-0.7**
MKAR	**Makanchi Array**	**43.64**	**347**	P	**P**	**11 20 06.3**	**-1.1**
	1.0nm,0.6s,baz=166,slow=7.3,SNR=10						
	1.0nm,0.6s						
WB0	**Warramunga Arr**	**45.26**	**124**	P	**P**	**11 20 20.6**	**-0.3**
WB0				IAmb	IAmb	11 20 30.6	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**45.30**	**124**	P	**P**	**11 20 20.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=301,slow=9.3,SNR=14						
	comp=Z,0.6nm,0.6s						
WRAB	**Tennant Creek**	**45.30**	**124**	P	**P**	**11 20 21.0**	**-0.2**
WRAB				IAmb	IAmb	11 20 34.3	
	comp=Z,6.2nm,1.3s						
WB2	**Warramunga Arr**	**45.31**	**124**	P	**P**	**11 20 20.9**	**-0.3**
WR8	**Warramunga Arr**	**45.44**	**124**	P	**P**	**11 20 22.1**	**-0.1**
WR8				IAmb	IAmb	11 20 22.3	
	comp=Z,2.8nm,0.8s						
WR0	**Warramunga Arr**	**45.48**	**124**	P	**P**	**11 20 22.6**	**+0.1**
AS31	**Alice Springs**	**46.80**	**129**	P	**P**	**11 20 32.1**	**-0.8**
ASAR	**Alice Springs**	**46.80**	**129**	P	**P**	**11 20 32.0**	**-0.9**
	comp=Z,1.

FAME	**Alcaldia de Sa**	**0.98 313**	S	Sn	11 21 01.9	-0.2
FAME	**Alcaldia de Sa**	**0.98 313**	P	Pb	11 20 50.0	-0.2
PACA	**Pacayal**	**0.98 72**	*e*P	Pn	11 20 49.8	+0.4
PACA	**Pacayal**	**0.98 72**	P	Pb	11 20 50.0	-0.2
PACA	**Pacayal**	**0.98 72**	S	Sb	11 21 03.1	+0.2
LCY	**Lacayo**	**0.99 75**	*e*P	Pn	11 20 49.6	0.0
LLGN	**La Laguna**	**1.04 18**	P	Pn	11 20 50.4	+0.1
LCND	**La Caada**	**1.36 84**	P	Pn	11 20 54.2	-0.4
CNCH	**Conchagua**	**1.41 85**	S	Sn	11 21 14.0	+0.9
CNCH	**Conchagua**	**1.41 85**	P	Pn	11 20 54.9	-0.5
SARH	**Santa Rosa de**	**1.68 18**	P	Pn	11 20 59.6	+0.6
CSGN	**Cosiguina Volc**	**1.69 96**	P	Pn	11 20 60.0	+0.8
CSGN			S	Sn	11 21 19.6	-0.2

*IGIL **12** 11:30:02.7, 38.°57N×8.°03W, h18km, ML1.1*
INMG 12 11:30:02.6±1.2, 38.°57N×8.°03W, h13km±2km, ML1.4, 2C-1D, Error ellipse: s-maj=3.2km s-min=1.2km az=87.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Evora, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**0.04**	**154**	*e*Pg	Pg	11 30 05.1	+0.1
EVO				*e*Sg	Sg	11 30 07.3	+0.6
EVO				*i* IAML		11 30 07.5	
EVO				*i* IAML		11 30 07.6	
EVO				*i* IAML		11 30 07.7	
PESTR	**Estremoz**	**0.46**	**49**	*e*Pg	Pg	11 30 10.9	-0.9
PMTG	**Montargil**	**0.52**	**343**	*e*Pg	Pg	11 30 11.9	-1.0
PBEJ	**Beja**	**0.56**	**166**	*e*Pg	Pg	11 30 12.7	-0.8
PBEJ				*e*Sg	Sg	11 30 19.9	-0.9
MESJ	**Messejana**	**0.74**	**191**	*e*P	Pg	11 30 16.1	-0.9
MESJ				*e*S	Sg	11 30 25.7	-0.9
MESJ				IAML		11 30 27.2	
	comp=N,5.5nm,0.1s						
MESJ	**Messejana**	**0.74**	**191**	*e*Pg	Pg	11 30 16.2	-0.7
MESJ				*e*Sg	Sg	11 30 25.8	-0.9
MESJ				*i* IAML		11 30 27.1	
MESJ				*i* IAML		11 30 27.2	
MESJ				*i* IAML		11 30 27.7	
PBAR	**Barrancos**	**0.87**	**116**	*e*P	Pg	11 30 18.2	-1.3
PBAR				*e*S	Sg	11 30 30.3	-0.7
PCVE	**Castro Verde**	**0.93**	**180**	*e*P	Pb	11 30 19.6	-1.0
PCVE				*e*S	Sg	11 30 31.5	-1.3
PMRV	**Marv??o**	**1.00**	**30⇑**	*e*P	Pb	11 30 20.4	-1.3
PMRV				*e*S	Sb	11 30 33.3	-1.4
PMRV				*i* IAML		11 30 33.8	
PMRV				*i* IAML		11 30 34.2	
PMRV				*i* IAML		11 30 34.4	
PSARD	**Sardoal**	**1.04**	**355⇑**	*i*P	Pb	11 30 21.3	-1.1
PSARD				*e*S	Sb	11 30 35.1	-0.8
PMAFR	**Mafra**	**1.05**	**292**	*e*S	Sb	11 30 35.3	-1.0
PSBE	**So Bento**	**1.12**	**328**	*e*S	Sb	11 30 37.8	-0.5
PTEO	**Sao Teotonio**	**1.16**	**208**	*e*S	Sb	11 30 38.5	-0.8
PVAQ	**Vaqueiros**	**1.19**	**168**	*e*P	Pn	11 30 23.9	-1.0
PVAQ				*e*S	Sb	11 30 39.6	-0.6
PBDV	**Barranco-do-Ve**	**1.32**	**176**	*e*P	Pn	11 30 25.6	-1.2
PBDV				*e*S	Sb	11 30 42.7	-1.5
PCBR	**Castelo Branco**	**1.34**	**19**	*e*P	Pn	11 30 26.2	-0.9
PCBR				*e*S	Sb	11 30 43.2	-1.5
MORF	**Marmelete**	**1.35**	**201**	*e*P	Pn	11 30 24.9	-2.2
MORF	**Marmelete**	**1.35**	**201**	*e*P	Pn	11 30 24.9	-2.2
MORF				*e*S	Sb	11 30 43.9	-1.1

*IGIL **12** 11:30:07.1, 38.°57N×8.°01W, h19km, ML1.4*
INMG 12 11:30:07.0±1.9, 38.°57N×8.°01W, h14km±3km, ML1.7, 2C, Error ellipse: s-maj=3.6km s-min=2.0km az=87.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Evora, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**0.04**	**180**	*e*Pg	Pg	11 30 09.7	0.0
EVO				*e*Sg	Sg	11 30 11.9	+0.5
EVO				*i* IAML		11 30 12.0	
EVO				*i* IAML		11 30 12.0	
EVO				*i* IAML		11 30 12.0	
PESTR	**Estremoz**	**0.45**	**48**	*e*Pg	Pg	11 30 15.3	-0.7
PESTR				*e*Sg	Sg	11 30 21.4	-0.5
PESTR				*i* IAML		11 30 21.9	
PESTR				*i* IAML		11 30 22.2	
PESTR				*i* IAML		11 30 22.5	
PMTG	**Montargil**	**0.53**	**342⇑**	*i*Pg	Pg	11 30 16.5	-1.0
PMTG				*e*Sg	Sg	11 30 24.2	-0.3
PMTG				*i* IAML		11 30 26.3	
PMTG				*i* IAML		11 30 26.3	
PMTG				*i* IAML		11 30 26.4	
PBEJ	**Beja**	**0.55**	**168**	*e*Pg	Pg	11 30 17.0	-0.9
PBEJ				*e*Sg	Sg	11 30 24.3	-0.9
PBEJ				*i* IAML		11 30 24.4	
PBEJ				*i* IAML		11 30 26.2	
PBEJ				*i* IAML		11 30 26.9	
MESJ	**Messejana**	**0.74**	**193**	*e*P	Pg	11 30 20.6	-0.9
MESJ				*e*S	Sg	11 30 30.0	-1.3
MESJ				IAML		11 30 30.9	
	comp=N,12nm,0.1s						
MESJ	**Messejana**	**0.74**	**193**	*e*Pg	Pg	11 30 20.9	-0.6
MESJ				*e*Sg	Sg	11 30 30.3	-1.0
MESJ				*i* IAML		11 30 31.4	
MESJ				*i* IAML		11 30 31.7	
MESJ				*i* IAML		11 30 32.1	
PBAR	**Barrancos**	**0.86**	**117**	*e*P	Pg	11 30 22.6	-1.1
PBAR				*e*S	Sg	11 30 34.0	-0.9
PBAR				*i* IAML		11 30 35.7	
PBAR				*i* IAML		11 30 36.5	
PBAR				*i* IAML		11 30 36.6	
PCVE	**Castro Verde**	**0.93**	**181**	*e*P	Pb	11 30 24.1	-0.8
PCVE				*e*S	Sb	11 30 35.9	-1.3
PCVE				*i* IAML		11 30 36.6	
PCVE				*i* IAML		11 30 36.8	
PCVE				*i* IAML		11 30 37.8	
PMRV	**Marv??o**	**0.99**	**29**	*e*S	Sb	11 30 37.5	-1.2
PMRV				*i* IAML		11 30 37.5	
PMRV				*i* IAML		11 30 38.2	
PMRV				*i* IAML		11 30 38.7	
PSARD	**Sardoal**	**1.04**	**354⇑**	*i*P	Pb	11 30 25.7	-1.0
PSARD				*e*S	Sb	11 30 39.1	-1.1
PSARD				*i* IAML		11 30 39.8	
PSARD				*i* IAML		11 30 40.5	
PSARD				*i* IAML		11 30 40.6	
PMAFR	**Mafra**	**1.07**	**292**	*e*P	Pb	11 30 26.2	-1.0
PMAFR				*e*S	Sb	11 30 40.4	-0.6
PMAFR				*i* IAML		11 30 42.4	
PMAFR				*i* IAML		11 30 42.9	
PMAFR				*i* IAML		11 30 43.6	
PSBE	**So Bento**	**1.12**	**327**	*e*P	Pb	11 30 27.3	-0.9
PSBE				*e*S	Sb	11 30 42.0	-0.7
PSBE				*i* IAML		11 30 43.1	
PSBE				*i* IAML		11 30 43.4	
PSBE				*i* IAML		11 30 44.9	
PTEO	**Sao Teotonio**	**1.16**	**209**	*e*S	Sb	11 30 42.5	-1.3
PTEO				*i* IAML		11 30 43.9	
PTEO				*i* IAML		11 30 43.9	
PTEO				*i* IAML		11 30 44.5	
PVAQ	**Vaqueiros**	**1.19**	**169**	*e*P	Pn	11 30 28.4	-0.6
PVAQ				*e*S	Sb	11 30 43.6	-0.8
PVAQ				*i* IAML		11 30 44.1	
PVAQ				*i* IAML		11 30 45.3	
PVAQ				*i* IAML		11 30 47.0	
PBDV	**Barranco-do-Ve**	**1.32**	**177**	*e*Pg	Pn	11 30 31.2	+0.2
PBDV				*e*Sg	Sn	11 30 49.0	+0.6
PBDV				*i* IAML		11 30 49.4	
PBDV				*i* IAML		11 30 49.5	
PBDV				*i* IAML		11 30 50.1	
PCBR	**Castelo Branco**	**1.34**	**18**	*e*Pn	Pn	11 30 30.8	-0.4
PCBR				*e*Sn	Sn	11 30 47.5	-1.3
PCBR				*i* IAML		11 30 48.0	
PCBR				*i* IAML		11 30 48.0	
PCBR				*i* IAML		11 30 48.0	
MORF	**Marmelete**	**1.36**	**202**	*e*P	Pn	11 30 29.5	-2.1
MORF	**Marmelete**	**1.36**	**202**	*e*Pn	Pn	11 30 29.5	-2.1
MORF				*e*Sg	Sn	11 30 48.5	-0.8
MORF				*i* IAML		11 30 49.4	
MORF				*i* IAML		11 30 49.9	
MORF				*i* IAML		11 30 50.1	
PCAS	**Casmilo, Conde**	**1.53**	**346**	*e*Sg	Sb	11 30 54.7	+0.3
PCAS				*i* IAML		11 30 58.0	
PCAS				*i* IAML		11 30 58.1	
PCAS				*i* IAML		11 31 00.6	
PFVI	**Vila Bisbo**	**1.57**	**204**	*e*Sg	Sb	11 30 55.9	+0.5
PFVI				*i* IAML		11 30 57.1	
PFVI				*i* IAML		11 30 57.6	
PFVI				*i* IAML		11 30 57.6	
MTE	**Manteigas**	**1.87**	**11**	*e*Sg	Sb	11 31 03.8	-0.3

IDC 12 11:40:15.0±3.2, 32.°23S×179.°69W, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=68.6km s-min=36.8km az=100.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.56**	**203**	Pn	Pn	11 41 53.4	+0.8
	0.4nm,0.3s,baz=30,slow=20,SNR=6.6						
URZ				Sn	Sn	11 43 06.8	-1.3
	0.5nm,0.3s,baz=29,slow=18,SNR=1.3						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**41.61**	**270**	P	P	11 48 05.0	0.0
	0.2nm,0.4s,baz=106,slow=7.4,SNR=5.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.77**	**275**	P	P	11 48 14.2	-0.3
	0.7nm,0.8s,baz=114,slow=7.8,SNR=4.7						
	0.7nm,0.8s						
H03S2	**Juan Fernandez**	**80.65**	**124**	T	T	13 20 42.7	
	baz=236,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**80.66**	**124**	T	T	13 20 55.0	
	baz=236,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**80.67**	**124**	T	T	13 20 53.9	
	baz=236,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**80.85**	**124**	T	T	13 20 49.2	
	baz=240,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**80.86**	**124**	T	T	13 20 47.6	
	baz=240,slow=72,SNR=10.0						
H03N1	**Juan Fernandez**	**80.87**	**124**	T	T	13 20 48.0	
	baz=240,slow=72,SNR=16						
FINES	**FINESS Array B**	**146.33**	**338**	PKPbc	PKPdf	11 59 56.1	+0.4
	1.7nm,0.8s,baz=59,slow=12,SNR=1.4						

*JMA **12** 11:46:02.7±0.2, 35.°N±1.°×129.°9E±0.°5, h4km, MV2.9/17, NW OFF KYUSHU*
*KMA **12** 11:46:03.2±0.4, 35.°18N×129.°77E, h17km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=123.0*
ISC 12 11:46:01.9±1.2, 35.°19N±0.°03×129.°84E±0.°06, h8km, n21, σ0.878/26, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCA	**Ungchon**	**0.57**	**300**	P	**Pg**	**11 46 13.6**	**+0.7**
	SNR=24						
GGDA	**Gangdong**	**0.68**	**304**	P	**Pn**	**11 46 19.9**	**+2.0**
	SNR=11						
MLGA	**Mulgeum**	**0.70**	**281**	P	**Pg**	**11 46 16.0**	**+0.5**
	SNR=7.3						
JTU	**Tsushima**	**0.75**	**209**	P	**Pg**	**11 46 16.6**	**+0.2**
JTU				S	**Sg**	**11 46 25.8**	**-0.4**
KSUSN	**Ulsan**	**0.78**	**312**	P	**Pg**	**11 46 17.5**	**+0.5**
	SNR=29						
MSNA0	**Miryangsannae**	**0.83**	**299**	P	**Pg**	**11 46 18.3**	**+0.5**
	SNR=17						
JUCA	**Juchon**	**0.83**	**274**	P	**Pg**	**11 46 18.0**	**+0.1**
	SNR=22						
GSNA	**Gyeongjusannae**	**0.89**	**310**	P	**Pg**	**11 46 19.3**	**+0.4**
	SNR=20						
JTSM	**Tsushimamitsus**	**0.93**	**204**	P	**Pg**	**11 46 19.8**	**+0.1**
JTSM				S	**Sg**	**11 46 31.3**	**-0.4**
JNYA	**Jinyeong**	**0.93**	**276**	P	**Pg**	**11 46 19.7**	**+0.1**
	SNR=10						
KSDAG	**Daegu**	**0.97**	**307**	P	**Pg**	**11 46 20.6**	**+0.2**
	SNR=85						
KSDAG				P	**Pg**	**11 46 20.6**	**+0.2**
	SNR=85						
GIGA	**Gigye**	**1.02**	**329**	P	**Pg**	**11 46 22.0**	**+0.4**
	SNR=13						
KSMAS	**Masan**	**1.04**	**270**	P	**Pg**	**11 46 21.3**	**-0.5**
	SNR=13						
KUJA	**Jangpyeong**	**1.06**	**254**	P	**Pg**	**11 46 21.8**	**-0.4**
	SNR=8.2						
CGDA	**Cheongdo**	**1.07**	**297**	P	**Pg**	**11 46 22.4**	**0.0**
	SNR=13						
YOCB	**Yeongcheon**	**1.07**	**318**	P	**Pg**	**11 46 22.6**	**+0.1**
	SNR=19						
YOCB				P	**Pg**	**11 46 22.6**	**+0.1**
	SNR=19						
GACA	**Gaecheon**	**1.26**	**267**	P	**Pn**	**11 46 25.2**	**-0.6**
	SNR=7.7						
KSCHS	**CHEONGSONG**	**1.35**	**333**	P	**Pn**	**11 46 24.6**	**-2.6**
	SNR=12						
JII	**Iki**	**1.39**	**184**	P	**Pn**	**11 46 27.9**	**+0.4**
JII				*e*S	**Sn**	**11 46 46.1**	**0.0**
HACA	**Hapcheon Acc B**	**1.44**	**280**	P	**Pn**	**11 46 28.6**	**+0.3**
	SNR=6.5						
JHIK	**Hikimi**	**1.84**	**110**	*e*S	**Sn**	**11 46 57.7**	**+0.5**

*NEIC **12** 11:54:28.1±0.9, 56.°22N±0.°10×148.°6W±0.°1, h10km±2km, ML4.0/66, ML3.7(AEIC), Error ellipse: s-maj=16.6km s-min=10.5km az=169.0*
*IDC **12** 11:54:28.8±1.0, 56.°37N×148.°84W, h0km, mb3.9/9, mbtmp3.8/12, ML3.3/3, MS3.4/11, Error ellipse: s-maj=23.6km s-min=18.1km az=44.0*
*AEIC **12** 11:54:33.6±1.0, 56.°3N±0.°1×148.°6W±0.°1, h12km±7km, Error ellipse: s-maj=16.2km s-min=9.7km az=167.0*
ISC 12 11:54:29.5±0.8, 56.°39N±0.°08×148.°62W±0.°05, h10km, n180, σ1.913/163, mb4.0/9, MS3.2/9, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.58**	**305**		**Pn**	**11 55 10.8**	**-0.4**
KDAK	**Kodiak Island**	**2.58**	**305**		**Sn**	**11 55 41.4**	**-1.2**
KDAK	**Kodiak Island**	**2.58**	**305**	Pn	**Pn**	**11 55 10.1**	**-1.1**
	6.5nm,0.3s,baz=140,slow=7.9,SNR=120						
KDAK				Sn	**Sn**	**11 55 40.9**	**-1.6**
	10nm,0.3s,baz=184,slow=15,SNR=8.5						
	16nm,0.3s						
OHAK	**Old Harbor**	**2.70**	**290**		**Sn**	**11 55 43.1**	**-2.5**
OHAK	**Old Harbor**	**2.70**	**290**		**Pn**	**11 55 11.4**	**-1.4**
MID	**Middleton Isla**	**3.29**	**21**		**Sn**	**11 55 58.0**	**-2.0**
MID	**Middleton Isla**	**3.29**	**21**	Pn	**Pn**	**11 55 22.5**	**+1.6**
MID				IAML		11 56 00.3	
	comp=E,520nm,1.8s						
MID				IAML		11 56 14.9	
	comp=N,385nm,2.8s						
CNPM	**China Poot**	**3.44**	**337**		**Pn**	**11 55 23.7**	**+0.5**
BRSE	**Bradley Lake S**	**3.55**	**342**		**Pn**	**11 55 24.9**	**+0.3**
BRSE					**Sn**	**11 56 06.8**	**+0.2**
BRLK	**Bradley Lake**	**3.59**	**341**	Pn	**Pn**	**11 55 25.7**	**+0.5**
BRLK				IAML		11 56 14.0	
	comp=N,132nm,0.3s						
P23K	**Montague Islan**	**3.68**	**10**		**Sn**	**11 56 08.7**	**-1.1**
P23K	**Montague Islan**	**3.68**	**10**	Pn	**Pn**	**11 55 26.9**	**+0.5**
P23K				IAML		11 56 09.6	
	comp=N,201nm,0.4s						
P23K				IAML		11 56 10.8	
	comp=E,228nm,0.5s						
SEW	**Seward**	**3.75**	**354**		**Pn**	**11 55 27.6**	**+0.2**
KAPH	**Katmai Pasha**	**3.80**	**308**		**Pn**	**11 55 28.9**	**+0.7**
KAPH					Pb	11 55 29.1	-7.6
KAPH					**Sn**	**11 56 12.0**	**-0.9**
KAHG	**Katmai Hook Gl**	**3.84**	**306**		**Pn**	**11 55 29.2**	**+0.6**
KAWH	**Katmai**	**3.90**	**303**		**Pn**	**11 55 30.1**	**+0.7**
KARR	**Katmai Rainbow**	**3.91**	**305**		**Pn**	**11 55 30.7**	**+1.1**
AUJK	**Augustine Jueg**	**3.92**	**321**		**Pn**	**11 55 30.6**	**+0.9**
AGU	**Augustine-Summ**	**3.94**	**321**		**Pn**	**11 55 30.8**	**+0.8**
MGLS	**Mageik Landsli**	**3.96**	**299**		**Pn**	**11 55 30.7**	**+0.4**
CAHL	**Cahill**	**4.00**	**297**		**Pn**	**11 55 30.8**	**0.0**
ACHA	**Angle Creek He**	**4.07**	**299**		**Pn**	**11 55 32.6**	**+0.7**
KABU	**Katmai Buttres**	**4.07**	**300**		**Pn**	**11 55 32.8**	**+0.9**
KAHC	**Katmai Hardscr**	**4.12**	**306**		**Sn**	**11 56 20.8**	**-0.1**
ANCK	**Angle Creek**	**4.15**	**299**		**Pn**	**11 55 33.4**	**+0.5**
ANCK					Pb	11 55 33.7	-8.9
O22K	**Cooper Landing**	**4.15**	**352**		**Pn**	**11 55 32.3**	**-0.5**
HIN	**Hinchinbrook I**	**4.17**	**15**		**Pn**	**11 55 34.0**	**+0.8**
HIN				IAML		11 56 25.0	
	comp=N,242nm,0.9s						
HIN				IAML		11 56 32.7	
	comp=E,252nm,1.0s						
HIN	**Hinchinbrook I**	**4.17**	**15**		**Sn**	**11 56 21.1**	**-0.9**
KAIM	**Kayak Island**	**4.19**	**30**	Pn	**Pn**	**11 55 33.6**	**+0.2**
SLKM	**Skilak Lake**	**4.22**	**349**		**Pn**	**11 55 34.3**	**+0.5**
SLKM				IAML		11 56 25.5	
	comp=N,164nm,0.4s						
SLKM				IAML		11 56 28.5	
	comp=E,195nm,0.6s						
O20K	**Slope Mountain**	**4.27**	**332**		**Pn**	**11 55 35.0**	**+0.5**
ILS	**Iliamna Low So**	**4.29**	**329**		**Pn**	**11 55 35.1**	**+0.3**
ILSW	**Iliamna Southw**	**4.33**	**328**		**Pn**	**11 55 35.7**	**+0.3**
ILSW				IAML		11 56 33.2	
	comp=N,80nm,0.7s						
ILSW				IAML		11 56 33.5	
	comp=E,77nm,1.1s						
CNTC	**Contact Creek**	**4.36**	**299**		**Pn**	**11 55 35.9**	**0.0**
PLK3	**Peulik 3**	**4.38**	**291**		**Pn**	**11 55 35.6**	**-0.4**
PLK4	**Peulik 4**	**4.41**	**290**		**Pn**	**11 55 36.1**	**-0.4**
PLK4	**Peulik 4**	**4.41**	**290**	IAML		11 56 34.8	
	comp=E,126nm,0.9s						
PLK4				IAML		11 56 36.6	
	comp=N,118nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.44**	**19**		**Pn**	**11 55 37.4**	**+0.6**
EYAK				IAML		11 56 32.0	
	comp=E,161nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.44**	**19**	P	**Pn**	**11 55 37.4**	**+0.6**
PWL	**Port Wells**	**4.49**	**2**	Pn	**Pn**	**11 55 38.0**	**+0.5**
PWL				IAML		11 56 31.4	
	comp=E,110nm,0.5s						
PWL				IAML		11 56 39.3	
	comp=N,105nm,0.7s						
SUCK	**Suckling Hills**	**4.50**	**33**		**Pn**	**11 55 37.8**	**+0.2**
SUCK				IAML		11 56 56.9	
	comp=N,207nm,3.4s						
SUCK				IAML		11 58 22.6	
	comp=E,191nm,3.7s						
FID	**Port Fidalgo**	**4.52**	**13**		**Pn**	**11 55 38.3**	**+0.4**
FID				IAML		11 56 34.9	
	comp=N,94nm,0.5s						
FID				IAML		11 56 41.3	
	comp=E,98nm,0.9s						
RAGM	**Ragged Mountai**	**4.52**	**26**	Pn	**Pn**	**11 55 38.0**	**+0.1**
NICHA	**Nichawak Mount**	**4.58**	**31**		**Pn**	**11 55 38.9**	**+0.2**
GLI	**Glacier Island**	**4.58**	**9**	Pn	**Pn**	**11 55 39.8**	**+1.1**
GLI				IAML		11 56 31.9	
	comp=E,96nm,1.5s						
GLI				IAML		11 56 40.3	
	comp=N,78nm,1.1s						
HMT	**Hamilton**	**4.58**	**28**		**Pn**	**11 55 39.2**	**+0.4**
PLK1	**Peulik 1**	**4.58**	**291**		**Pn**	**11 55 38.5**	**-0.3**
P18K	**Big Mountain,**	**4.64**	**313**	Pn	**Pn**	**11 55 39.9**	**+0.3**
DFR	**Drift River**	**4.73**	**335**		**Pn**	**11 55 40.8**	**-0.1**
RC01	**Rabbit Creek A**	**4.75**	**353**		**Pn**	**11 55 41.9**	**+0.8**
RC01				IAML		11 56 40.0	
	comp=N,89nm,0.6s						
RC01				IAML		11 56 49.7	
	comp=E,75nm,0.8s						
RDJH	**Redoubt Jeurge**	**4.75**	**334**		**Pn**	**11 55 41.1**	**-0.2**
BERG	**Berg Lake**	**4.78**	**31**	IAML		11 56 43.1	
	comp=N,161nm,1.0s						
GRIN	**Grindle Hills**	**4.80**	**33**		**Pn**	**11 55 42.1**	**+0.3**
O19K	**Port Alsworth**	**4.86**	**324**		**Pn**	**11 55 42.8**	**+0.2**
SNH	**Sunshine Point**	**4.88**	**36**	Pn	**Pn**	**11 55 42.9**	**+0.1**
Q16K	**King Salmon**	**4.90**	**301**		**Pn**	**11 55 43.7**	**+0.6**
DIV	**Divide**	**4.98**	**16**		**Pn**	**11 55 45.0**	**+0.7**
DIV				IAML		11 56 57.0	
	comp=N,46nm,0.9s						
KNK	**Knik Glacier**	**5.04**	**1**		**Pn**	**11 55 45.6**	**+0.5**
KNK	**Knik Glacier**	**5.04**	**1**	IAML		11 56 55.6	
	comp=E,50nm,0.9s						
BMRM	**Bremner River**	**5.05**	**23**	IAML		11 56 49.0	
	comp=E,81nm,0.5s						
BMRM				IAML		11 56 58.2	
	comp=N,77nm,1.3s						
BARK	**Barkley Ridge**	**5.16**	**36**		**Pn**	**11 55 46.8**	**0.0**
MESA	**MESA**	**5.18**	**40**	Pn	**Pn**	**11 55 47.1**	**0.0**
MESA				IAML		11 56 38.2	
	comp=E,105nm,3.4s						
MESA				IAML		11 56 58.5	
	comp=N,94nm,3.0s						
CKL	**Chakachamna La**	**5.20**	**340**		**Pn**	**11 55 47.7**	**+0.4**
SPCG	**Spurr Capps Gl**	**5.23**	**342**		**Pn**	**11 55 48.4**	**+0.7**
PMR	**Palmer**	**5.23**	**357**		**Pn**	**11 55 48.1**	**+0.5**
PMR	**Palmer**	**5.23**	**357**	IAML		11 56 54.0	
	comp=N,38nm,0.7s						
PMR	**Palmer**	**5.23**	**357**	P	**Pn**	**11 55 49.1**	**+1.5**
CRQM	**Cirque**	**5.24**	**31**	IAML		11 56 50.2	
	comp=N,91nm,0.6s						
CRQM				IAML		11 56 51.3	
	comp=E,69nm,0.6s						
KLU	**Klutina**	**5.31**	**14**		**Pn**	**11 55 49.8**	**+1.0**
SPWE	**Spurr West**	**5.31**	**339**		**Pn**	**11 55 49.4**	**+0.5**
ANPB	**Aniakchak Plen**	**5.36**	**278**		**Pn**	**11 55 49.3**	**-0.1**
ISLE	**Juniper Island**	**5.36**	**35**		**Pn**	**11 55 49.5**	**-0.1**
YAH	**Yahtse**	**5.38**	**39**		**Pn**	**11 55 49.7**	**-0.3**
STLK	**Strandline Lak**	**5.39**	**343**		**Pn**	**11 55 50.5**	**+0.6**
N19K	**Bonanza Creek**	**5.39**	**328**	Pn	**Pn**	**11 55 50.1**	**+0.1**
GHO	**Glory Hole Cre**	**5.41**	**358**		**Pn**	**11 55 51.2**	**+1.0**
SPNN	**North Nagishla**	**5.42**	**339**		**Pn**	**11 55 51.2**	**+0.8**
SCM	**Sheep Creek Mo**	**5.50**	**6**		**Pn**	**11 55 53.1**	**+1.6**
N25K	**Chitina, Valde**	**5.63**	**20**		**Pn**	**11 55 53.9**	**+0.7**
O17K	**Koliganek Bris**	**5.63**	**311**		**Pn**	**11 55 53.1**	**-0.1**
TABL	**Table Mountain**	**5.65**	**41**		**Pn**	**11 55 54.0**	**+0.4**
P16K	**Nushagak River**	**5.68**	**302**		**Pn**	**11 55 54.5**	**+0.7**
N18K	**Kilae Creek**	**5.75**	**322**		**Pn**	**11 55 54.6**	**-0.1**
PCA	**Pinnacle**	**5.77**	**46**		**Pn**	**11 55 55.1**	**-0.1**
SKT	**Skwentna**	**5.81**	**346**		**Pn**	**11 55 56.2**	**+0.6**
M24K	**Tolsona, Glenn**	**5.87**	**11**		**Pn**	**11 55 57.8**	**+1.2**
PNL	**Peninsula**	**5.90**	**52**	P	**Pn**	**11 55 56.4**	**-0.5**
WACK	**Wrangell Chich**	**6.03**	**20**		**Pn**	**11 55 59.7**	**+0.8**
O28M	**Mount Upton**	**6.22**	**42**		**Pn**	**11 56 01.8**	**+0.2**
M19K	**Big River Lodg**	**6.28**	**334**		**Pn**	**11 56 01.9**	**-0.2**
HARP	**HAARP**	**6.29**	**15**		**Pn**	**11 56 03.7**	**+1.5**
CHNA	**Chernabura Isl**

R33M	Jennings River	9.87	65	Pn	Pn	11 56 50.6	-0.7
H18K	Honhosa River	9.99	336	Pn	Pn	11 56 53.0	+0.2
H17K	Granite Mounta	10.19	332	Pn	Pn	11 56 55.6	0.0
DLBC	Dease Lake	10.24	71	Pn	Pn	11 56 55.2	-1.1
	comp=E,3.2nm,0.3s,baz=256,slow=5.8,SNR=14						
DLBC				LR	LR	12 00 01.3	
	comp=E,1μm,18.3s,baz=236,slow=32						
G23K	Bananza Creek	10.38	357		Pn	11 56 59.7	+1.4
G18K	Tagagawik	10.68	337	Pn	Pn	11 57 02.5	+0.2
F20K	Avaraart Lake	11.21	346		Pn	11 57 09.9	+0.5
F19K	Shaleruckik Mo	11.33	341	Pn	Pn	11 57 12.2	+0.9
F17K	Baldwin Pennin	11.73	334	Pn	Pn	11 57 16.5	-0.1
E24K	Your Creek	11.73	0	Pn	Pn	11 57 18.0	+1.3
E21K	Killik River	12.34	351		Pn	11 57 27.0	+1.9
D23K	Nanushuk River	12.66	357	Pn	Pn	11 57 31.0	+1.7
INK	Inuvik	13.80	24	Pn	Pn	11 57 46.5	+1.7
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=3.5						
	comp=E,5.2nm,1.0s						
YKA	Yellowknife Ar	18.18	56	LR	LR	12 05 30.2	
	comp=E,77nm,18.1s,baz=304,slow=36						
SHEM	Shemya Is, Ala	21.74	276	LR	LR	12 08 12.1	
	comp=E,33nm,18.4s,baz=304,slow=38						
NVAR	Mina Array Bea	26.94	119	P	P	12 00 13.5	+2.4
	comp=E,0.4nm,0.7s,baz=317,slow=12,SNR=4.0						
NVAR				LR	LR	12 08 58.7	
	comp=E,57nm,18.3s,baz=306,slow=32						
	comp=E,0.4nm,0.7s						
RES	Resolute Bay	27.30	28	LR	LR	12 11 38.7	
	comp=E,53nm,18.1s,baz=23,slow=38						
PDAR	Pinedale Array	28.33	102	P	P	12 00 24.9	+1.5
	comp=E,0.1nm,0.3s,baz=289,slow=7.2,SNR=1.8						
	comp=E,0.1nm,0.3s						
PETK	Petropavlovsk-	30.50	287	P	P	12 00 42.2	-0.1
	comp=E,2.8nm,0.9s,baz=53,slow=8.8,SNR=1.4						
	comp=E,2.8nm,0.9s						
MA2	Magadan	31.32	301	LR	LR	12 14 49.0	
	comp=E,37nm,18.7s,baz=104,slow=39						
PFO	Pinyon Flats O	31.70	122	LR	LR	12 12 15.5	
	comp=E,44nm,18.4s,baz=336,slow=34						
TIXI	Tiksi	35.78	328	LR	LR	12 18 38.2	
	comp=E,40nm,18.3s,baz=58,slow=41						
FRB	Frobisher Bay	38.09	45	LR	LR	12 17 22.4	
	comp=E,71nm,18.1s,baz=323,slow=36						
LPIG	La Paz	42.59	123	LR	LR	12 16 36.4	
	comp=E,21nm,21.3s,baz=30,slow=31						
SADO	Sadowa	43.77	75	LR	LR	12 19 37.5	
	comp=E,331nm,19.3s,baz=246,slow=34						
H11N2	WAKE ISLAND Hy	49.25	241	T	T	12 56 18.3	
	baz=31,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	49.26	241	T	T	12 56 20.2	
	baz=31,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	49.27	241	T	T	12 56 20.3	
	baz=31,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy	50.39	240	T	T	12 58 19.2	
	baz=29,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	50.41	240	T	T	12 58 03.6	
	baz=29,slow=76,SNR=21						
H11S3	WAKE ISLAND Hy	50.41	240	T	T	12 57 47.3	
	baz=29,slow=76,SNR=18						
SONM	Songino Array	58.85	310	P	P	12 04 27.5	-0.5
	comp=E,0.8nm,0.6s,baz=35,slow=5.3,SNR=2.2						
	comp=E,0.8nm,0.6s						
FINES	FINESS Array B	62.44	3	P	P	12 04 52.2	+0.1
	comp=E,2.1nm,0.9s,baz=290,slow=5.8,SNR=4.4						
	comp=E,2.1nm,0.9s						
HFS	Hagfors	62.98	10	P	P	12 04 55.3	-0.4
	comp=E,1.8nm,0.9s,baz=267,slow=19,SNR=1.4						
	comp=E,1.8nm,0.9s						
AKASG	Malin Array Be	73.26	1	P	P	12 06 02.1	+1.7
	comp=E,0.9nm,0.5s,baz=4.7,slow=6.3,SNR=4.6						
	comp=E,0.9nm,0.5s						
GERES	GERESS Array B	74.11	12	P	P	12 06 07.6	+2.1
	comp=E,0.4nm,0.5s,baz=33,slow=3.8,SNR=1.9						
	comp=E,0.4nm,0.5s						
CMAR	Chiang Mai Arr	86.56	298	P	P	12 07 12.7	-0.1
	comp=E,0.4nm,0.3s,baz=37,slow=6.6,SNR=5.2						
	comp=E,0.4nm,0.3s						
QSPA	South Pole Qui	146.18	180	PKPbc	PKiKP	12 14 09.8	-1.8
	comp=E,1.0nm,1.0s,baz=111,slow=8.6,SNR=1.8						

UCR **12** *11:58:31.7±1.1, 8.°91N×82.°86W, h22km±1km, MW3.8*
CATAC **12** *11:58:31.5±0.2, 9.°N±3.°×8.°3W±.°, h5km±2km, M3.6/11, MLv3.6/11, Error ellipse: s-maj=8.0km s-min=2.8km az=22.7, confirmed*

ISC 12 11:58:31.9±0.8, 8.°93N±0.°02×82.°88W±0.°02, h17km±5km, n93, σ0.°84/108, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCO	Alturas Coton,	0.05	66	eP	Pg	11 58 35.2	-0.1
ALCO				eS	Sg	11 58 38.0	+0.4
RSRNO	Rio Sereno	0.11	169	eP	Pb	11 58 36.1	+0.4
SCLRA	Santa Clara, W	0.14	133	eP	Pb	11 58 36.1	0.0
VITO	San Vito	0.14	218	eP	Pb	11 58 36.6	+0.5
VITO				eS	Sb	11 58 41.0	+2.1
BRU2	Volcan	0.23	125	P	Pb	11 58 37.2	-0.6
BRU2	Volcan	0.23	125	eP	Pb	11 58 37.2	-0.6
BRU2				eS	Sb	11 58 41.6	0.0
TBS2		0.26	121	eP	Pb	11 58 37.7	-0.5
DMCAL	E. de Neily	0.27	161	eP	Pb	11 58 38.1	-0.3
NELY	Ciudad Neily	0.28	193	eP	Pb	11 58 38.4	-0.1
NELY				eS	Sb	11 58 44.1	+1.2
EDP2	Potrero Grande	0.30	287	eP	Pb	11 58 38.8	0.0
EDP2				eS	Sb	11 58 44.6	+1.1
CDITO	Canoas	0.35	178	P	Pg	11 58 38.8	-0.5
CDITO	Canoas	0.35	178	S	Sb	11 58 45.3	+0.3
LPPC	Paso Canoas	0.40	174	eP	Pg	11 58 39.5	-0.6
LPPC				eS	Sb	11 58 46.4	+0.2
FITO	Golfito	0.40	222	eP	Pg	11 58 39.3	-0.9
FITO				eS	Sg	11 58 45.5	-0.3
BANCO	falda S V. Bar	0.41	121	eP	Pg	11 58 39.8	-0.5
JEFFS	S de V. Baru	0.43	127	eP	Pg	11 58 40.2	-0.6
BQTLY	Boquete Panama	0.45	112	eP	Pg	11 58 40.2	-0.9
DAP26	falda E V. Bar	0.48	107	eP	Pg	11 58 40.3	-1.2
WILLF	Boquete	0.48	112	eP	Pg	11 58 40.5	-1.1
BURE	Buenos Aires	0.51	298	eP	Pg	11 58 41.9	-0.2
BURE				eS	Sb	11 58 49.5	-0.1
PANP	Palmar Norte	0.57	273	eP	Pg	11 58 42.6	-0.6
JIME	Puerto Jimenez	0.58	228	eP	Pg	11 58 42.5	-1.0
JIME				eS	Sb	11 58 51.6	0.0
PBNVO	Pueblo Nuevo,	0.68	93	eP	Pg	11 58 43.8	-1.6
PIRO	Carate, Puerto	0.69	221	P	Pg	11 58 44.0	-1.4
PIRO	Carate, Puerto	0.69	221	eP	Pg	11 58 44.0	-1.4
BRIBI	Bribri	0.69	5	eP	Pb	11 58 46.2	+0.8
BRIBI				eS	Sn	11 58 58.2	+1.0
EDPE	Pejibaye, P	0.72	289	eP	Pg	11 58 45.5	-0.5
EDPE				eS	Sb	11 58 56.2	+0.6
RBALA	Bur	0.72	94	eP	Pg	11 58 44.4	-1.7
SAJE	San Jernim	0.74	304	eP	Pg	11 58 45.2	-1.3
SAJE				eS	Sg	11 58 55.6	-0.8
OCHAL	Ojochal	0.77	283	P	Pg	11 58 45.8	-1.2
OCHAL	Ojochal	0.77	283	S	Sg	11 58 57.0	-0.2
LMNES	Limones	0.82	178	eP	Pg	11 58 46.6	-1.4
LAES	El Progreso Va	0.84	349	eP	Pg	11 58 47.9	-0.5
LAES				eS	Sn	11 59 00.7	-0.3
VERH	Veragua Rainfo	1.04	343	eP	Pb	11 58 50.6	-0.9
TURIB	Turrialba	1.25	321	eP	Pn	11 58 54.0	-0.7
PIEC	Cerro El Cedra	1.27	303	eP	Pn	11 58 54.2	-0.9
VINA	Juan Vinas	1.28	319	eP	Pn	11 58 54.9	-0.2
VERB	Verbena	1.29	322	eP	Pn	11 58 54.9	-0.4
IRES	Siquirres	1.31	332	eP	Pn	11 58 55.1	-0.3
LLNJ	Naranjito	1.32	294	eP	Pn	11 58 54.5	-1.0
REPA	Paraso	1.32	313	eP	Pn	11 58 55.4	-0.3
LCOCO	El Coco	1.33	330	eP	Pn	11 58 55.7	+0.1
RESJ	San Isidro (Tu	1.33	326	eP	Pn	11 58 55.8	+0.1
RAZU	San Marcos de	1.34	303	eP	Pn	11 58 55.2	-0.8
PCAYA	Pacayas	1.34	317	eP	Pn	11 58 56.1	0.0
ABRB	Las Abras (San	1.35	323	eP	Pn	11 58 56.2	0.0
QUEP	Quepos	1.36	292	S	Sn	11 59 12.9	-0.8
RVLA	Villa Bonita	1.36	329	eP	Pn	11 58 56.2	+0.1
CVTV	Tajo	1.37	321	eP	Pn	11 58 56.5	0.0
LCR2	La Lucha 2	1.37	306	S	Sn	11 59 14.2	-0.1
LCR2	La Lucha 2	1.37	306	P	Pn	11 58 56.2	-0.2
CVTQ	Turrialba Volc	1.38	321	eP	Pn	11 58 56.7	0.0
VTR0	Volcan Turrial	1.39	321	eP	Pn	11 58 56.8	0.0
CVTR	Volcan Turrial	1.39	322	eP	Pn	11 58 56.7	-0.1
VICA	Volcano Irazu	1.42	318	eP	Pn	11 58 57.0	-0.3
TRIO	Tres Rios	1.46	312	eP	Pn	11 58 57.3	-0.3
PICV	PH. Pirrs	1.47	298	eP	Pn	11 58 57.0	-0.7
PAR1A	Puntarenas Pro	1.51	296	eP	Pn	11 58 57.6	-0.5
AMPA	Desamparados	1.51	310	eP	Pn	11 58 57.9	-0.4
CORON	Coronado	1.52	313	eP	Pn	11 58 57.2	-1.1
ECI	Escuela Centro	1.53	311	eP	Pn	11 58 58.2	-0.3
SJS3	Mercedes San J	1.53	311	eP	Pn	11 58 58.5	0.0
ACOS	Acosta	1.53	304	eP	Pn	11 58 57.8	-0.7
SJS	Escuela Geolog	1.53	311	eP	Pn	11 58 58.0	-0.5
LUJA	Lujan	1.54	310	eP	Pn	11 58 58.4	-0.3
PILE	Guapiles	1.56	325	eP	Pn	11 58 59.2	+0.3
PAVB	Pavas, San Jos	1.58	310	eP	Pn	11 58 58.5	-0.8
HEME	Heredia, Merce	1.63	311	eP	Pn	11 59 00.6	+0.7
BELE	Belen	1.66	309	eP	Pn	11 59 00.3	+0.1
CARI	Cariari	1.66	330	eP	Pn	11 59 00.6	+0.4
ATEO	Atenas	1.81	305	eP	Pn	11 59 02.0	-0.4
TRT2	Tortugero	1.82	333	P	Pn	11 59 02.1	-0.3
TRT2	Tortugero	1.82	333	S	Sn	11 59 26.0	+0.8
TRT2	Tortugero	1.82	333	eP	Pn	11 59 01.9	-0.5
OROT	Orotina	1.89	301	eP	Pn	11 59 02.6	-0.9
ARTO	Ro Cuarto	1.93	317	eP	Pn	11 59 04.3	+0.4
VPL2	V. Platanar	2.02	313	eP	Pn	11 59 05.8	+0.6
ITAL	Pital	2.04	318	eP	Pn	11 59 06.2	+0.7
SOCE	Pocosol	2.24	310	P	Pn	11 59 08.7	+0.5
SOCE	Pocosol	2.24	310	S	Sb	11 59 38.8	-0.6
CBL1	Cabuya	2.28	287	eP	Pn	11 59 08.7	0.0
COVE	Coope Vega, Sa	2.33	320	P	Pn	11 59 11.2	+1.9
COVE	Coope Vega, Sa	2.33	320	S	Sb	11 59 41.5	-0.4
CASO	Castillo	2.36	309	eP	Pn	11 59 10.3	+0.4
ARE1	Arenal 1	2.37	310	eP	Pn	11 59 10.4	+0.4
VARE2	V. Arenal	2.37	310	eP	Pn	11 59 10.3	+0.3
CEDE	Laguna Cedeo	2.37	311	eP	Pn	11 59 10.4	+0.3
JTS	Las Juntas de	2.45	304	P	Pn	11 59 12.2	+1.1
JTS				S	Sn	11 59 43.2	+2.5
JTS	Las Juntas de	2.45	304	eP	Pn	11 59 12.2	+1.1
VMAR	Armenia, Volca	2.89	311	eP	Pn	11 59 18.2	+1.1
BCIP	Isla Barro Col	3.02	85	P	Pn	11 59 19.1	+0.2
BCIP				S	Sn	11 59 58.1	+3.5
BCIP	Isla Barro Col	3.02	85	eP	Pn	11 59 18.4	-0.5
LAPC	Finca la Perla	3.11	306	eP	Pn	11 59 20.6	+0.4

CNRM **12** *12:00:43.3, 36.°02N×7.°67W, h56km, ML4.0*
MDD **12** *12:00:44.5±0.8, 36.°04N×7.°60W, h26km±8km, mb_Lg2.6/14, Error ellipse: s-maj=4.7km s-min=3.1km az=29.0*
IGIL **12** *12:00:45.4, 36.°06N×7.°60W, h29km, ML2.1*
INMG **12** *12:00:45.8±1.7, 36.°06N×7.°61W, h31km±10km, ML2.1, Error ellipse: s-maj=4.2km s-min=3.2km az=58.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
SFS **12** *12:00:45.1, 36.°07N×7.°59W, h42km, ML2.9/12, ML2.6/15, MLv2.3/15*

ISC 12 12:00:44.0±1.2, 36.°11N±0.°03×7.°57W±0.°03, h67km±19km, n64, σ1.°28/107, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	1.17	346	Sn	Sn	12 01 19.3	-0.6
PBDV				Pn	Pn	12 01 05.0	+0.5
PBDV	Barranco-do-Ve	1.17	346	eP	Pn	12 01 04.9	+0.3
PBDV				eS	Sn	12 01 19.4	-0.5
PBDV				i IAML		12 01 21.6	
PBDV				i IAML		12 01 23.7	
PVAQ	Vaqueiros	1.30	355	eP	Pn	12 01 06.7	+0.4
PVAQ				eS	Sn	12 01 22.0	-0.9
PVAQ				i IAML		12 01 22.7	
PVAQ				i IAML		12 01 23.3	
PVAQ				i IAML		12 01 24.4	
PVAQ	Vaqueiros	1.30	355	P	Pn	12 01 06.1	-0.1
PVAQ	Vaqueiros	1.30	355	S	Sn	12 01 23.0	+0.1
EGRO	El Granado	1.43	3	Pn	Pn	12 01 08.7	+0.8
EGRO				Sn	Sn	12 01 25.7	-0.2
EGRO	El Granado	1.43	3	Pn	Pn	12 01 08.7	+0.8
EGRO				Sn	Sn	12 01 25.9	0.0
EGRO				i IVmb_Lg		12 01 29.2	
PFVI	Vila Bisbo	1.44	316	Pn	Pn	12 01 08.4	+0.4
PFVI	Vila Bisbo	1.44	316	eP	Pn	12 01 08.4	+0.4
PFVI				eS	Sn	12 01 26.1	-0.1
PFVI				i IAML		12 01 30.8	
PFVI				i IAML		12 01 31.1	
PFVI				i IAML		12 01 31.1	
PFVI	Vila Bisbo	1.44	316	P	Pn	12 01 07.9	-0.1
MORF	Marmelete	1.48	324	eP	Pn	12 01 08.8	+0.2
MORF				eS	Sn	12 01 26.4	-0.7
MORF				IAML		12 01 32.8	
	comp=N,30nm,0.2s						
MORF	Marmelete	1.48	324	eP	Pn	12 01 08.8	+0.2
MORF				eS	Sn	12 01 26.5	-0.7
MORF				i IAML		12 01 34.1	
MORF				i IAML		12 01 34.7	
MORF				i IAML		12 01 36.6	
PCVE	Castro Verde	1.57	346	Pn	Pn	12 01 10.8	+1.0
PCVE				Sn	Sn	12 01 29.2	-0.1
PCVE	Castro Verde	1.57	346	eP	Pn	12 01 10.8	+1.0
PCVE				eS	Sn	12 01 29.3	+0.1
PCVE				i IAML		12 01 29.8	
PCVE				i IAML		12 01 30.0	
PCVE				i IAML		12 01 30.1	
ESPR	Espera	1.58	61	Sn	Sn	12 01 29.0	-0.4
ESPR				Pn	Pn	12 01 10.7	+0.8
ESPR	Espera	1.58	61	Pn	Pn	12 01 10.6	+0.8
ESPR				Sn	Sn	12 01 28.9	-0.5
ESPR				i IVmb_Lg		12 01 33.5	
PTEO	Sao Teotonio	1.71	328	eP	Pn	12 01 12.4	+0.7
PTEO				eS	Sn	12 01 32.8	+0.2
PTEO				i IAML		12 01 38.0	
PTEO				i IAML		12 01 38.0	
PTEO				i IAML		12 01 38.1	
MESJ	Messejana	1.81	343	eP	Pn	12 01 13.9	+0.9
MESJ				eS	Sn	12 01 34.4	-0.5
MESJ				IAML		12 01 36.1	
	comp=N,9.3nm,0.2s						
MESJ	Messejana	1.81	343	eP	Pn	12 01 14.3	+1.3
MESJ				eS	Sn	12 01 34.6	-0.3
MESJ				i IAML		12 01 36.3	
MESJ				i IAML		12 01 37.2	
MESJ				i IAML		12 01 40.8	
EMIN	Mina Concepcio	1.81	23	Pn	Pn	12 01 14.2	+1.2
EMIN				Sn	Sn	12 01 34.7	-0.3
EMIN				i IVmb_Lg		12 01 38.4	
PBEJ	Beja	1.93	353	eP	Pn	12 01 15.2	+0.6
PBEJ				eS	Sn	12 01 38.1	+0.1
PBEJ				i IAML		12 01 39.3	
PBEJ				i IAML		12 01 43.1	
PBEJ				i IAML		12 01 43.3	
PBAR	Barrancos	2.11	11	Sn	Sn	12 01 42.2	-0.1
PBAR				Pn	Pn	12 01 18.1	+1.1
PBAR	Barrancos	2.11	11	eP	Pn	12 01 18.1	+1.1
PBAR				eS	Sn	12 01 42.5	+0.3
PBAR				i IAML		12 01 46.3	
PBAR				i IAML		12 01 47.1	
PBAR				i IAML		12 01 48.7	
EVO	Evora	2.45	352	Sn	Sn	12 01 50.0	-0.5
EVO				Pn	Pn	12 01 20.7	-1.0
EVO	Evora	2.45	352	eP	Pn	12 01 23.1	+1.5
EVO				eS	Sn	12 01 50.3	-0.1
EVO				i IAML		12 01 53.6	
EVO				i IAML		12 01 54.6	
EVO				i IAML		12 01 55.0	
ECAB	El Cabril	2.61	41	Pn	Pn	12 01 25.6	+1.7
ECAB				Sn	Sn	12 01 53.2	-1.4
ECAB	El Cabril	2.61	41	Pn	Pn	12 01 24.9	+1.0
ECAB				Sn	Sn	12 01 55.4	+0.8
ECAB				i IVmb_Lg		12 01 57.1	
EBAD	Badajoz	2.68	9	Pn	Pn	12 01 25.6	+0.8
EBAD				Sn	Sn	12 01 55.2	-1.0
EBAD	Badajoz	2.68	9	Pn	Pn	12 01 25.6	+0.8
EBAD				Sn	Sn	12 01 56.3	+0.1
EBAD				i IVmb_Lg		12 01 59.0	
PESTR	Estremoz	2.76	360	Pn	Pn	12 01 26.7	+0.9
PESTR				Sn	Sn	12 01 57.2	-0.9
ZHG	ZHG	2.76	164	P	Pn	12 01 26.4	+0.5
ZHG	ZHG	2.76	164	S	Sn	12 01 59.2	+0.9
PARRA	Arraiolos	2.95	337	eP	Pn	12 01 26.8	-1.6
PARRA				eS	Sn	12 01 56.8	-5.9
PARRA				i IAML		12 01 59.9	
PARRA				i IAML		12 02 00.2	
PARRA				i IAML		12 02 01.5	
EGOR	Sierra Gorda,	2.96	69	i IVmb_Lg		12 01 59.3	
EGOR				Sn	Sn	12 02 03.0	-0.1
PMTG	Montargil	3.00	350	eP	Pn	12 01 30.6	+1.4
PMTG				eS	Sn	12 02 03.6	-0.5
PMTG				i IAML		12 02 05.7	
PMTG				i IAML		12 02 05.9	
PMTG				i IAML		12 02 07.0	
PMAFR	Mafra	3.15	335	Pn	Pn	12 01 32.5	+1.3
PMAFR	Mafra	3.15	335	eP	Pn	12 01 32.5	+1.3
PMAFR				eS	Sn	12 02 08.6	+0.9
PMAFR				i IAML		12 02 08.7	
PMAFR				i IAML		12 02 09.0	
PMAFR				i IAML		12 02 19.1	
EADA	Adamuz	3.16	48	Pn	Pn	12 01 32.9	+1.6
EADA				Sn	Sn	12 02 06.1	-1.7
EADA	Adamuz	3.16	48	Pn	Pn	12 01 32.5	+1.2
EADA				Sn	Sn	12 02 07.4	-0.5
EADA				i IVmb_Lg		12 02 09.4	
ELGU	Los Guajares,	3.27	75	Pn	Pn	12 01 34.3	+1.4
ELGU				Sn	Sn	12 02 10.4	-0.3
ELGU				i IVmb_Lg		12 02 18.0	
PMRV	Marv??o	3.32	2	eP	Pn	12 01 34.6	+1.1
PMRV				eS	Sn	12 02 11.2	-0.6
PMRV				i IAML		12 02 12.5	
PMRV				i IAML		12 02 13.9	
PMRV				i IAML		12 02 14.0	
PSARD	Sardoal	3.52	353	eP	Pn	12 01 37.6	+1.3
PSARD				eS	Sn	12 02 16.6	-0.1
PSARD				i IAML		12 02 17.3	
PSARD				i IAML		12 02 17.8	
PSARD				i IAML		12 02 18.4	
PSBE	So Bento	3.54	344	eP	Pn	12 01 38.2	+1.6
SRHM	Skhour des Reh	3.63	184	P	Pn	12 01 38.4	+0.5
SRHM	Skhour des Reh	3.63	184	S	Sn	12 02 23.2	+3.6
PCBR	Castelo Branco	3.73	1	eP	Pn	12 01 40.4	+1.2
PCBR				eS	Sn	12 02 21.3	-0.5
PCBR				i IAML		12 02 22.7	
PCBR				i IAML		12 02 22.9	
PCBR				i IAML		12 02 23.3	
MD31	MD31	3.98	143	P	Pn	12 01 41.7	-0.9
MD31	MD31	3.98	143	S	Sn	12 02 27.5	-0.6
EQES	Quesada	3.98	63	Pn	Pn	12 01 43.1	+0.4
EQES				i IVmb_Lg		12 02 29.4	
PSIM	Granatula de C	4.07	47	Pn	Pn	12 01 44.8	+1.0
PSIM				Sn	Sn	12 02 29.7	-0.5
MDT	Midelt	4.09	142	P	Pn	12 01 43.4	-0.8
MDT	Midelt	4.09	142	S	Sn	12 02 30.6	-0.3
PAB	San Pablo	4.28	36	Pn	Pn	12 01 47.7	+1.0
PAB				Sn	Sn	12 02 33.0	-2.3
PAB				i IVmb_Lg		12 02 35.6	
MTE	Manteigas	4.29	0	eS	Sn	12 02 34.4	-1.2
OUK	Oukaimeden	4.89	183	P	Pn	12 01 54.4	-1.0
OUK	Oukaimeden	4.89	183	S	Sn	12 02 48.0	-2.8
MVO	Moncorvo	5.07	5	eP	Pn	12 01 59.1	+1.7
MVO				eS	Sn	12 02 53.3	-1.4
MVO				i IAML		12 02 54.9	
MVO				i IAML		12 02 55.0	
MVO				i IAML		12 02 55.3	
TIO	Tiouine	5.17	177	Sn	Sn	12 02 52.7	-4.7
TIO				Pn	Pn	12 01 58.6	-0.4
POLO	Lamas de Olo	5.26	358	eS	Sn	12 02 58.4	-1.1
POLO				i IAML		12 03 00.0	
POLO				i IAML		12 03 00.1	
POLO				i IAML		12 03 01.4	
GUD	Guadarrama	5.27	30	Pn	Pn	12 02 01.0	+0.8
GUD				Sn	Sn	12 02 59.3	-0.3
GUD				i IVmb_Lg		12 03 07.6	
ETOB	Tobarra	5.43	60	Sn	Sn	12 03 01.1	-2.4
ETOB				Pn	Pn	12 02 02.8	+0.4
ETOB	Tobarra	5.43	60	Pn	Pn	12 02 03.4	+1.0
ETOB				Sn	Sn	12 03 01.6	-1.9
ELOB	Lobios	5.77	356	Sn	Sn	12 03 10.7	-1.2
ECAL	Calabor	5.86	6	Pn	Pn	12 02 09.6	+1.3
ECAL				Sn	Sn	12 03 12.5	-1.7

AUST 12 12:05:17.2±0.5, 23.°S±4.°×127.°E±.°, h10km, mb3.6/3, ML2.3/2, Error ellipse: s-maj=18.7km s-min=5.5km az=71.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	Warakurna	2.35	145	P	Pn	12 05 56.7	+0.8
WRKA				S	Sn	12 06 25.9	+1.0
FITZ	Fitzroy Crossi	5.10	347	P	Pn	12 06 35.2	+1.5
	comp=Z,1.2nm,2.6s						
FITZ	Fitzroy Crossi	5.10	347	S	Sn	12 07 32.5	-0.2
KNRA	Kununurra	7.61	14	P	Pn	12 07 08.9	+0.8
	comp=Z,7.7nm,1.9s,comp=Z,0.0nm						
WB2	Warramunga Arr	7.68	67	P	Pn	12 07 08.1	-1.0
FORT	Forrest	7.73	172	P	Pn	12 07 08.4	-1.3
	comp=Z,0.0nmcomp=Z,7.2nm,1.7s						

IDC **12** *12:07:39.3±0.9, 44.°02N×83.°41E, h0km, mb3.7/5, mbtmp3.5/8, ML2.8/4, Error ellipse: s-maj=19.4km s-min=9.3km az=69.0*
SOME **12** *12:07:42.4, 44.°15N×83.°53E, h0km*
NNC **12** *12:07:47.0±1.6, 44.°26N×83.°35E, h14km±8km, mb4.0, mpv3.8, Error ellipse: s-maj=13.6km s-min=5.6km az=125.0*

ISC 12 12:07:40.3±0.7, 44.°13N±0.°04×83.°56E±0.°04, h10km, n54, σ2.°03/75, mb3.7/4, 14C-11D, Northern Xinjiang

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

TDK				Lg	Lg	12 09 47.1
	307nm,0.3s					
TDK	**Taldyqorghan**	**3.78**	**285**	*eP*	**Pg**	**12 08 54.8 +2.0**
	90nm,0.3s					
TDK				*eS*	**Sg**	**12 09 47.1 +5.3**
	307nm,0.3s					
SATY	**Saty**	**3.89**	**256**	Pg	**Pg**	**12 08 53.4 -1.4**
	15nm,0.2s					
SATY				Lg	Lg	12 09 45.0
	175nm,0.4s					
KURS	**Kuram**	**3.95**	**263**	Pg	**Pg**	**12 08 58.2 +2.2**
	12nm,0.3s					
KURS				Lg	Lg	12 09 53.0
	49nm,0.4s					
ARXS	**Arharly**	**4.12**	**273**	Pg	**Pg**	**12 08 59.5 +0.2**
	14nm,0.2s					
ARXS				Lg	Lg	12 09 55.2
	141nm,0.4s					
ARXS	**Arharly**	**4.12**	**273**	*eP*	**Pg**	**12 08 59.5 +0.2**
ARXS				*eS*	**Sg**	**12 09 55.2 +2.5**
CHKK	**Chushkaly**	**4.75**	**269**	Pg	**Pg**	**12 09 08.7 -2.5**
	3.8nm,0.2s					
CHKK				Lg	Lg	12 10 10.9
	80nm,0.4s					
CHKK	**Chushkaly**	**4.75**	**269**	*eP*	**Pg**	**12 09 08.7 -2.5**
	3.8nm,0.2s					
CHKK				*eS*	**Sg**	**12 10 10.9 -1.8**
	80nm,0.4s					
KOTS	**Kotyrbulak**	**4.76**	**261**	Pg	**Pg**	**12 09 11.3 -0.1**
	13nm,0.4s					
KOTS				Lg	Lg	12 10 15.5
	178nm,0.5s					
KOTS	**Kotyrbulak**	**4.76**	**261**	*eP*	**Pg**	**12 09 11.3 -0.1**
	13nm,0.4s					
KOTS				*eS*	**Sg**	**12 10 15.6 +2.5**
	178nm,0.5s					
MDOK	**Medeo**	**4.82**	**261**	Pg	**Pg**	**12 09 12.5 -0.2**
	8.6nm,0.3s					
MDOK				Lg	Lg	12 10 17.4
	63nm,0.5s					
KNDC	**Almaty**	**4.87**	**262**	⇓Pg	**Pg**	**12 09 16.2 +2.7**
	43nm,0.7s					
KNDC				⇓Lg	Lg	12 10 18.8
	112nm,0.6s					
TNSS	**Tian-Shan**	**4.92**	**260**	Pg	**Pg**	**12 09 15.3 +0.7**
	6.4nm,0.4s					
TNSS				Lg	Lg	12 10 22.3
	8.3nm,0.3s					
TNSS	**Tian-Shan**	**4.92**	**260**	*eP*	**Pg**	**12 09 15.3 +0.7**
	6.4nm,0.4s					
TNSS				*eS*	**Sg**	**12 10 22.3 +3.9**
	8.3nm,0.3s					
KTBS	**Karatobe**	**4.98**	**268**	Pg	**Pg**	**12 09 14.5 -1.3**
	3.6nm,0.3s					
KTBS				Lg	Lg	12 10 20.8
	62nm,0.5s					
KUU	**Kurty**	**5.21**	**270**	Pg	**Pg**	**12 09 18.5 -1.5**
	5.1nm,0.1s					
KUU				Lg	Lg	12 10 27.8
	143nm,0.7s					
KUU	**Kurty**	**5.21**	**270**	*eP*	**Pg**	**12 09 18.5 -1.5**
	5.1nm,0.1s					
KUU				*eS*	**Sg**	**12 10 27.8 +0.3**
	143nm,0.7s					
MTBS	**Maitube**	**5.27**	**262**	Pg	**Pg**	**12 09 19.0 -2.2**
	6.7nm,0.2s					
MTBS				Lg	Lg	12 10 28.6
	45nm,0.6s					
MTBS	**Maitube**	**5.27**	**262**	*eP*	**Pg**	**12 09 19.0 -2.2**
	6.7nm,0.2s					
MTBS				*eS*	**Sg**	**12 10 28.6 -0.8**
	45nm,0.6s					
KST	**Kastek**	**5.62**	**262**	Pg	**Pg**	**12 09 25.6 -2.3**
	7.3nm,0.7s					
KST				Lg	Lg	12 10 40.0
	64nm,0.7s					
KST	**Kastek**	**5.62**	**262**	*eP*	**Pg**	**12 09 25.6 -2.3**
	7.3nm,0.7s					
KST				*eS*	**Sg**	**12 10 40.0 -0.7**
	64nm,0.7s					
KRBS	**Karabastau**	**5.71**	**268**	Pg	**Pg**	**12 09 26.6 -3.0**
	5.8nm,0.4s					
KRBS				Lg	Lg	12 10 41.6
	8.4nm,0.7s					
DGS	**Degeres**	**5.71**	**264**	Pg	**Pg**	**12 09 27.7 -2.0**
	6.4nm,0.5s					
DGS				Lg	Lg	12 10 43.6
	48nm,0.4s					
SGDS	**Sogindy**	**6.50**	**267**	Pg	**Pg**	**12 09 42.7 -2.0**
	2.3nm,0.2s					
SGDS				Lg	Lg	12 11 09.2
	7.6nm,0.4s					
AAK	**Ala-Archa**	**6.77**	**260**	Pg	**Pb**	**12 09 38.9 +0.8**
	0.6nm,0.3s,baz=69,slow=17,SNR=2.1					
AAK				Lg	Lg	12 11 09.2
	0.1nm,0.3s,baz=34,slow=20,SNR=1.1					
AAK	**Ala-Archa**	**6.77**	**260**	⇓Pg	**Pg**	**12 09 50.5 +0.6**
	3.6nm,0.7s					
AAK				⇑Lg	Lg	12 11 20.9
	16nm,0.8s					
KURBB	**Kurchatov Arra**	**7.34**	**334**	Pn	**Pn**	**12 09 29.0 +1.6**
	0.1nm,0.3s,baz=149,slow=13,SNR=1.8					
KURBB				Sn	**Sn**	**12 10 49.0 -1.8**
	0.2nm,0.3s,baz=158,slow=18,SNR=4.3					
KURBB				Lg	Lg	12 11 34.0
	0.7nm,0.3s,baz=146,slow=30,SNR=4.6					
	0.2nm,0.3s					
KURBB	**Kurchatov Arra**	**7.34**	**334**	⇑Pn	**Pn**	**12 09 31.4 +4.0**
	1.7nm,0.6s					
KURBB				⇑Pg	**Pg**	**12 09 57.0 -3.7**
	3.4nm,0.5s					
KURBB				⇑Sn	**Sn**	**12 10 50.2 -0.6**
	19nm,0.7s					
KURBB				⇑Lg	Lg	12 11 32.2
	135nm,0.7s					
KURK	**Kurchatov**	**7.39**	**335**	⇓Pn	**Pn**	**12 09 32.3 +4.1**
	0.8nm,0.9s					
KURK				⇓Pg	**Pg**	**12 09 58.4 -3.4**
	0.8nm,0.6s					
KURK				⇓Sn	**Sn**	**12 10 50.9 -1.1**
	4.9nm,0.6s					
KURK				⇓Lg	Lg	12 11 34.3
	43nm,1.1s					
MRKS	**Merke**	**7.64**	**263**	Pg	**Pg**	**12 10 03.6 -3.0**
	1.8nm,0.3s					
MRKS				Lg	Lg	12 11 45.1
	9.5nm,0.5s					
MRKS	**Merke**	**7.64**	**263**	*eP*	**Pg**	**12 10 03.6 -3.0**
	1.8nm,0.3s					
MRKS				*eS*	**Sg**	**12 11 45.1 -0.5**
	9.5nm,0.5s					
KK31	**Karatay Array**	**9.52**	**268**	Pn	Pn	12 10 02.3 +4.9
	0.4nm,0.4s,baz=83,slow=12,SNR=5.6					
KK31				⇓Pg		12 10 40.5
	2.1nm,0.8s,baz=89,slow=17,SNR=6.0					
KK31				⇑Lg	Lg	12 12 45.1
	4.7nm,0.5s,baz=74,slow=28,SNR=5.5					
ZAA0	**Zalesovo Array**	**9.87**	**4**	⇑Pn	Pn	12 10 07.9 +5.8
	0.3nm,0.3s					
ZAA0				⇑Sn	**Sn**	**12 11 52.2 -0.6**
	0.9nm,0.5s					
ZALV	**Zalesovo Beam**	**9.87**	**4**	Pn	**Pn**	**12 10 02.1 +0.1**
	0.3nm,0.3s,baz=180,slow=13,SNR=3.6					
ZALV				Sn	**Sn**	**12 11 47.8 -5.0**
	2.4nm,0.3s,baz=175,slow=27,SNR=13					
ZALV				Lg	Lg	12 12 53.8
	0.5nm,0.3s,baz=191,slow=28,SNR=4.3					
	0.7nm,0.4s					
SONM	**Songino Array**	**16.29**	**69**	Pn	**Pn**	**12 11 29.2 +0.1**
	0.1nm,0.3s,baz=266,slow=11,SNR=8.5					
SONM				Lg	Lg	12 16 20.2
	baz=278,slow=25					
	1.2nm,0.8s					
CMAR	**Chiang Mai Arr**	**28.67**	**148**	P	**P**	**12 13 38.1 +0.8**
	0.4nm,0.3s,baz=338,slow=9.7,SNR=1.7					
	0.4nm,0.3s					
ILAR	**Eielson Array**	**64.51**	**21**	P	**P**	**12 18 17.7 +1.0**
	0.3nm,0.8s,baz=325,slow=5.9,SNR=2.3					
	0.3nm,0.8s					
TORD	**Torodi Ar. Bea**	**75.16**	**274**	P	**P**	**12 19 23.2 +0.1**
	0.4nm,0.6s,baz=38,slow=6.7,SNR=2.1					
	0.4nm,0.6s					
WRA	**Warramunga Arr**	**78.87**	**132**	P	**P**	**12 19 44.5 +0.8**
	0.8nm,0.7s,baz=333,slow=5.7,SNR=10					
	0.8nm,0.7s					
ASAR	**Alice Springs**	**81.70**	**134**	P	**P**	**12 19 59.9 +1.0**
	0.5nm,0.8s,baz=337,slow=4.4,SNR=7.6					
	0.5nm,0.8s					
LPAZ	**La Paz**	**143.35**	**310**	PKP	**PKPdf**	**12 27 15.1 -0.9**
	0.3nm,0.4s,baz=342,slow=6.4,SNR=1.4					

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*IDC **12** 12:39:47.2±1.2,2°.62S×138°.39E,h0km,mb3.4/3,*
mbtmp3.4/6,ML3.1/3,MS3.3/1,Error ellipse: s-maj=28.5km
s-min=23.3km az=141.0
*DJA **12** 12:39:51.4±0.8,2°.5±5°×13°.8E±°,h17km±7km,M3.7/6,*
mb3.7/1,MLv3.7/6
ISC 12 12:39:50.8±0.8,2°.58S±0°.08×138°.57E±0°.06,h32km,n11,
σ1§03/13,mb3.5/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.61**	**14**	P	**Pb**	**12 40 02.1**	**-1.0**
GENI	**Genyem**	**1.60**	**90**	P	**Pb**	**12 40 20.6**	**+0.8**
JAY	**Jayapura**	**2.14**	**88**	Pn	**Pb**	**12 40 28.4**	**-0.6**
	4.3nm,0.3s,baz=209,slow=11,SNR=12						
JAY				Sn	**Sb**	**12 40 55.0**	**-0.1**
	8.3nm,0.3s,baz=343,slow=18,SNR=10						
	12nm,0.3s						
JAY	**Jayapura**	**2.14**	**88**	P	**Pb**	**12 40 27.6**	**-1.3**
JAY				S	**Sb**	**12 40 55.3**	**+0.2**
BAKI	**Biak**	**2.82**	**299**	P	**Pn**	**12 40 33.5**	**-0.1**
FAKI	**Fak Fak**	**6.32**	**267**	P	**Pn**	**12 41 22.6**	**+0.8**
WRA	**Warramunga Arr**	**17.74**	**193**	Pn	**Pn**	**12 43 54.1**	**-1.5**
	0.1nm,0.3s,baz=15,slow=12,SNR=11						
	0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.96**	**219**	P	**P**	**12 44 19.4**	**-1.1**
	baz=45,slow=10.0,SNR=1.2						
	3.6nm,1.3s						
ASAR	**Alice Springs**	**21.44**	**192**	P	**P**	**12 44 36.6**	**+0.1**
	0.3nm,0.6s,baz=20,slow=11,SNR=12						
ASAR				LR	LR	12 54 14.1	
	comp=Z,87nm,20.8s,baz=344,slow=41						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**69.60**	**322**	P	**P**	**12 50 58.6**	**+1.6**
	0.5nm,0.6s,baz=121,slow=7.7,SNR=6.2						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**12 52 27.0**	**+0.3**
	0.2nm,0.6s,baz=262,slow=5.3,SNR=1.8						
	0.2nm,0.6s						

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*IDC **12** 12:40:13.4±1.2,2°.70S×138°.54E,h0km,mb3.8/7,*
mbtmp3.8/8,ML3.7/1,MS3.6/1,Error ellipse: s-maj=61.3km
s-min=23.2km az=86.0
ISC 12 12:40:18.9±0.9,2°.8S±0°.1×138°.4E±0°.1,h35km,n10,
σ1§25/9,mb3.8/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.34**	**84**	Sn	**Sn**	**12 41 22.6**	**+0.1**
	2.2nm,0.3s,baz=299,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**17.52**	**193**	Pn	**Pn**	**12 44 20.1**	**-0.6**
	0.3nm,0.3s,baz=11,slow=12,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**21.23**	**191**	P	**P**	**12 45 00.6**	**-1.3**
	0.9nm,0.5s,baz=18,slow=12,SNR=5.0						
	0.9nm,0.5s						
NWAO	**Narrogin (SRO)**	**35.96**	**211**	LR	LR	13 03 38.5	
	comp=Z,83nm,19.9s,baz=290,slow=39						
SONM	**Songino Array**	**57.63**	**335**	P	**P**	**12 50 06.0**	**+0.3**
	0.5nm,0.6s,baz=142,slow=7.2,SNR=1.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**69.63**	**323**	P	**P**	**12 51 25.6**	**+0.7**
	2.9nm,0.9s,baz=117,slow=7.9,SNR=15						
	2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**71.82**	**330**	P	**P**	**12 51 37.1**	**-0.8**
	0.3nm,0.3s,baz=120,slow=5.2,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**12 51 48.4**	**-0.1**
	0.7nm,0.7s,baz=118,slow=5.0,SNR=6.7						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**86.02**	**24**	P	**P**	**12 52 54.5**	**-1.1**
	0.5nm,0.7s,baz=267,slow=4.7,SNR=10						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**87.18**	**180**	P	**P**	**12 53 03.6**	**+2.2**
	1.0nm,1.0s,baz=349,slow=8.7,SNR=1.8						
	1.0nm,1.0s						

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*IDC **12** 12:42:46.0±1.7,21°.95S×176°.40W,h0km,mb3.8/4,*
mbtmp3.8/4,Error ellipse: s-maj=51.8km s-min=41.0km
az=2.0
ISC 12 12:43:07.3±1.7,22°.2S±0°.3×176°.7W±0°.3,h171km,n12,
σ0§50/6,mb3.4/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.34**	**258**	P	**P**	**12 51 09.2**	**+0.6**
	0.6nm,0.4s,baz=96,slow=6.7,SNR=16						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.59**	**263**	P	**P**	**12 51 10.3**	**-0.3**
	0.4nm,0.4s,baz=90,slow=6.0,SNR=34						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**54.02**	**263**	P	**P**	**12 52 13.7**	**-0.6**
	2.0nm,0.8s,baz=106,slow=7.4,SNR=1.9						
	2.0nm,0.8s						
QSPA	**South Pole Qui**	**67.90**	**180**	P	**P**	**12 53 47.2**	**-0.1**
	0.2nm,0.4s,baz=90,slow=4.0,SNR=1.1						
	0.2nm,0.4s						
H03S2	**Juan Fernandez**	**84.05**	**124**	T	T	14 27 20.1	
	baz=246,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**84.07**	**124**	T	T	14 27 14.6	
	baz=246,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**84.07**	**124**	T	T	14 27 15.3	
	baz=246,slow=74,SNR=14						
H03N2	**Juan Fernandez**	**84.20**	**124**	T	T	14 27 13.8	
	baz=248,slow=13,SNR=4.2						
H03N3	**Juan Fernandez**	**84.20**	**124**	T	T	14 27 13.8	
	baz=248,slow=13,SNR=3.0						
H03N1	**Juan Fernandez**	**84.22**	**124**	T	T	14 27 13.8	
	baz=248,slow=13,SNR=4.1						
ARCES	**ARCESS Array B**	**130.78**	**350**	PKP	**PKiKP**	**13 01 58.3**	**0.0**
	1.8nm,0.8s,baz=34,slow=2.2,SNR=5.7						
AKASG	**Malin Array Be**	**145.06**	**331**	PKPbc	**PKPab**	**13 02 24.1**	**+0.1**
	1.2nm,0.5s,baz=38,slow=4.3,SNR=5.4						

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*MEX **12** 12:47:32.7±0.7, 14°.34N×92°.03W, h73km±14km, MD3.9*
*GCG **12** 12:47:33.7±1.3, 14°.32N×91°.93W, h42km±16km, MD3.6,*
ML3.4
ISC 12 12:47:25.7±2.1,13°.9N±0°.1×92°.11W±0°.08,h44km±54km,
n23,σ2§70/35,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.77**	**31**	*eP*	**Pn**	**12 47 43.1**	**+2.8**
RTAL				*eS*	**Sn**	**12 47 51.6**	**+0.8**
STG2	**El Palmar, Qui**	**0.91**	**51**	*eP*	**Pn**	**12 47 44.7**	**+2.4**
SMCA	**Catarina**	**0.99**	**2**	*eP*	**Pn**	**12 47 44.6**	**+1.4**
SMCA				*eS*	**Sn**	**12 47 53.4**	**-2.7**
THIG		**1.05**	**352**	*eS*	**Sn**	**12 47 55.6**	**-1.9**
QUEO	**Labor Ovalle**	**1.16**	**30**	*i P*	**Pn**	**12 47 47.9**	**+2.1**
QUEO				*eS*	**Sn**	**12 47 59.0**	**-1.6**
SOKI	**Kika Raxquin**	**1.17**	**36**	*eP*	**Pn**	**12 47 48.3**	**+2.2**
CHUJ	**Union Juarez**	**1.23**	**0**	*eP*	**Pn**	**12 47 47.4**	**+0.7**
CHUJ				*eS*	**Sn**	**12 47 58.4**	**-3.8**
PATR	**El Naranjo**	**1.25**	**354**	*eP*	**Pn**	**12 47 47.8**	**+0.7**
PATR				*eS*	**Sn**	**12 47 58.9**	**-4.0**
PAVE	**Pavencul**	**1.33**	**357**	*eP*	**Pn**	**12 47 48.9**	**+0.9**
PAVE				*eS*	**Sn**	**12 48 01.0**	**-3.7**
ESSG	**Sabana Grande**	**1.34**	**67**	*eP*	**Pn**	**12 47 52.4**	**+4.3**
FG8	**Yepocapa, Chim**	**1.55**	**75**	*i P*	**Pn**	**12 47 51.4**	**+0.4**
FG8				*i S*	**Sn**	**12 48 05.1**	**-4.9**
FG16	**Alotenango, Sa**	**1.60**	**75**	*eP*	**Pn**	**12 47 52.7**	**+0.9**
FG16				*i S*	**Sn**	**12 48 07.3**	**-4.1**
FG16				IAML		12 48 08.5	
	comp=E,3μm,0.2s						
PCG5	**San Vicente Pa**	**1.72**	**78**	*i P*	**Pn**	**12 47 55.4**	**+2.0**
PCG5				*eS*	**Sn**	**12 48 11.3**	**-2.9**
QUIS	**Sacapulas**	**1.73**	**35**	*i P*	**Pn**	**12 47 56.6**	**+3.1**
QUIS				IAML		12 48 15.7	
	comp=E,316nm,0.4s						
APG	**El Apazote**	**1.96**	**54**	*i P*	**Pn**	**12 48 00.5**	**+3.8**
PCIG		**2.12**	**330**	*eP*	**Pn**	**12 48 01.1**	**+2.3**
PCIG				*eS*	**Sn**	**12 48 21.7**	**-2.2**
CCIG	**Comitan**	**2.41**	**359**	*eP*	**Pn**	**12 48 05.4**	**+2.5**
CCIG				*eS*	**Sn**	**12 48 31.1**	**-0.1**
CCIG	**Comitan**	**2.41**	**359**	*eP*	**Pn**	**12 48 05.5**	**+2.7**
TGIG		**3.06**	**342**	*eS*	**Sn**	**12 48 44.0**	**-3.1**
NILT	**Santiago Nilte**	**3.62**	**318**	*eS*	**Sn**	**12 49 00.9**	**+0.1**
UXUV	**UXUV**	**3.96**	**331**	*eP*	**Pn**	**12 48 23.7**	**-0.2**
UXUV				*eS*	**Sn**	**12 49 11.0**	**+1.9**
CMIG	**Matias Romero**	**4.18**	**321**	*eS*	**Sn**	**12 49 13.4**	**-1.3**
NEUV	**Arroyo Zacate**	**5.22**	**318**	*eS*	**Sn**	**12 49 38.4**	**-2.0**

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*IDC **12** 12:52:06.0±2.9,34°.30N×83°.48E,h0km,mb3.5/3,*
mbtmp3.5/6,ML2.7/3,Error ellipse: s-maj=81.8km
s-min=23.4km az=73.0
ISC 12 12:52:09.0±2.3,34°.3N±0°.2×83°.2E±0°.4,h35km,n6,σ1§96/6,
mb3.3/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.46**	**357**	Pn	**Pn**	**12 55 04.0**	**+0.1**
	0.1nm,0.3s,baz=181,slow=12,SNR=5.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**16.62**	**350**	Pn	**P**	**12 56 00.3**	**-1.0**
	baz=170,slow=11,SNR=5.0						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**19.64**	**3**	P	**Pn**	**12 56 35.7**	**-0.3**
	0.1nm,0.3s,baz=180,slow=5.8,SNR=1.4						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.17**	**134**	P	**P**	**12 56 48.9**	**-2.4**
	2.8nm,0.3s,baz=313,slow=11,SNR=8.2						
	2.8nm,0.3s						
SONM	**Songino Array**	**22.00**	**45**	P	**P**	**12 57 00.7**	**+0.5**
	0.5nm,0.5s,baz=236,slow=10,SNR=2.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**72.69**	**130**	P	**P**	**13 03 35.5**	**+2.1**
	0.2nm,0.6s,baz=314,slow=6.2,SNR=5.2						
	0.2nm,0.6s						

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*IDC **12** 13:33:53.9±2.4,5°.00S×131°.03E,h52km±21km,mb4.0/12,*
mbtmp4.4/15,ML3.0/2,MS3.2/10,Error ellipse:
s-maj=16.1km s-min=12.3km az=76.0
*NEIC **12** 13:33:55.6±1.5,5°.055±0°.06×130°.9E±0°.1,h63km±4km,*
mb4.6/32,Error ellipse: s-maj=14.5km s-min=8.9km
az=86.0
*DJA **12** 13:33:57.2±0.2,5°.S±2°×13°.1E±°,h91km±4km,M4.7/36,*
mb4.7/36,mB5.1/11,MLv5.0/18,Mw(mB)4.5/11
ISC 12 13:33:54.8±0.3,5°.09S±0°.04×131°.01E±0°.04,h61km,n142,
σ1§90/146,mb4.5/25,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.23**	**297**	P	**Pn**	**13 34 17.5**	**+1.5**
BNDI	**Bandanaira**	**1.23**	**297**	P	**Pn**	**13 34 17.2**	**+1.2**
BNDI				S	**Sn**	**13 34 33.2**	**+1.4**
FAKI	**Fak Fak**	**2.49**	**30**		**Pn**	**13 34 34.2**	**+1.2**
FAKI	**Fak Fak**	**2.49**	**30**	P	**Pn**	**13 34 34.2**	**+1.2**
FAKI	**Fak Fak**	**2.49**	**30**	P	**Pn**	**13 34 34.3**	**+1.3**
MSAI	**Masohi**	**2.70**	**310**	P	**Pn**	**13 34 35.7**	**-0.2**
SAUI	**Saumlaki**	**2.89**	**174**	Pn	**Pn**	**13 34 39.1**	**+0.7**
SAUI	**Saumlaki**	**2.89**	**174**	P	**Pn**	**13 34 43.1**	**+4.6**
SAUI	**Saumlaki**	**2.89**	**174**	P	**Pn**	**13 34 42.7**	**+4.2**
KMPI	**Kaimana, Papua**	**3.04**	**62**	P	**Pn**	**13 34 43.6**	**+3.1**
AAI	**Ambon**	**3.13**	**296**	P	**Pn**	**13 34 42.5**	**+0.7**
SWI	**Sorong**	**4.21**	**3**	P	**Pn**	**13 34 56.1**	**-0.4**
NLAI	**Namlea**	**4.31**	**295**	P	**Pn**	**13 34 59.1**	**+1.2**
RKPI	**Ransiki, Papua**	**4.76**	**42**	P	**Pn**	**13 35 05.8**	**+1.7**
SANI	**Sanana**	**5.85**	**301**	P	**Pn**	**13 35 18.5**	**-0.5**
SANI	**Sanana**	**5.85**	**301**	P	**Pn**	**13 35 18.6**	**-0.5**
SRPI	**Serui, Papua**	**6.12**	**59**	P	**Pn**	**13 35 24.4**	**+1.6**
	1.2nm65nm,0.5s						
BAKI	**Biak**	**6.40**	**53**	P	**Pn**	**13 35 30.1**	**+3.6**
TNTI	**Ternate**	**6.87**	**328**		**Pn**	**13 35 31.5**	**-1.4**
TNTI	**Ternate**	**6.87**	**328**	P	**Pn**	**13 35 33.2**	**+0.3**
TNTI	**Ternate**	**6.87**	**328**	P	**Pn**	**13 35 32.8**	**-0.1**
	50nm,0.7s						
DRS	**Darwin Rock St**	**7.30**	**181**	P	**Pn**	**13 35 40.6**	**+1.8**
MTN	**Manton Dam**	**7.71**	**179**		**Pn**	**13 35 45.4**	**+1.0**
WAMI	**Wamena**	**7.77**	**81**	P	Pn	13 35 53.2	+7.8
SOEI	**Soe**	**8.13**	**235**		**Pn**	**13 35 54.0**	**+3.6**
SOEI	**Soe**	**8.13**	**235**	P	**Pn**	**13 35 54.2**	**+3.8**
SOEI	**Soe**	**8.13**	**235**	S	**Sn**	**13 37 26.2**	**+5.2**
SOEI	**Soe**	**8.13**	**235**	P	**Pn**	**13 35 53.6**	**+3.2**
	1um91nm,0.8s						
SMPI	**Sarmi**	**8.28**	**68**	P	**Pn**	**13 35 56.2**	**+3.9**
BATI	**Baumata**	**8.88**	**235**	P	**Pn**	**13 36 01.6**	**+1.1**
	90nm,0.5s,baz=103,slow=4.2,SNR=15						
BATI				S	**Sn**	**13 37 39.5**	**+0.4**
	21nm,0.3s,baz=42,slow=12,SNR=1.4						
BATI				LR	LR	13 39 50.7	
	comp=Z,158nm,21.1s,baz=156,slow=40						
BATI	**Baumata**	**8.88**	**235**	P	**Pn**	**13 36 03.4**	**+2.9**
KMSI	**Cibinong**	**9.00**	**309**	P	**Pn**	**13 36 02.4**	**+0.3**
LUWI	**Luwuk**	**9.15**	**296**	P	**Pn**	**13 36 05.5**	**+1.2**
	71nm,1.0s						
MMRI	**Maumere**	**9.39**	**247**	P	**Pn**	**13 36 10.1**	**+2.6**
	40nm,1.3s						
EDFI	**Ende, Flores**	**9.94**	**248**	P	**Pn**	**13 36 18.3**	**+3.2**
	554nm43nm,1.5s						
JAY	**Jayapura**	**10.01**	**76**	P	**Pn**	**13 36 13.6**	**-2.4**
	0.4nm,0.3s,baz=156,slow=20,SNR=1.7						
JAY				S	**Sn**	**13 38 06.3**	**-0.5**
	14nm,0.9s,baz=352,slow=15,SNR=1.9						
	14nm,0.9s						
APSI	**Ampana**	**10.22**	**294**	P	**Pn**	**13 36 20.2**	**+1.3**
	46nm,1.0s						
MRSI	**Marisa**	**10.61**	**301**	P	**Pn**	**13 36 24.5**	**+0.3**
	33nm,0.8s						
KNRA	**Kununurra**	**10.75**	**192**		**Pn**	**13 36 25.3**	**-0.8**
BKSI	**Bulukumba**	**10.84**	**268**	P	**Pn**	**13 36 29.9**	**+2.5**
KAPI	**Kappang**	**11.21**	**270**	P	**Pn**	**13 36 36.4**	**+4.0**
	11nm,0.5s,baz=91,slow=16,SNR=5.6						
KAPI				LR	LR	13 41 30.2	
	comp=Z,73nm,19.5s,baz=96,slow=41						
SPSI	**Sidrap Palu**	**11.26**	**275**	P	**Pn**	**13 36 36.8**	**+3.7**
	2um12nm,0.4s						
TOLI2	**Tolitoli**	**11.93**	**301**		**Pn**	**13 36 42.8**	**+0.6**
TOLI2	**Tolitoli**	**11.93**	**301**	P	**Pn**	**13 36 42.9**	**+0.6**
TOLI2	**Tolitoli**	**11.93**	**301**	S	**Sn**	**13 38 53.9**	**+0.1**

MBWA IAmb IAmb 13 38 16.1
comp=Z,21nm,0.6s
MBWA Marble Bar 19.36 213 P P 13 38 15.2 -0.5
PSA00 Pilbara Seismi 19.64 212 P 13 38 18.5 -0.1
PSA00 Pilbara Seismi 19.64 212 P 13 38 17.8 -0.8
PSA00 IAmb IAmb 13 38 19.7
comp=Z,16nm,0.6s
PSA00 Pilbara Seismi 19.64 212 P P 13 38 18.5 -0.1
PCJI Pacitan 19.93 260 P P 13 38 21.6 -0.4
comp=Z,22nm,1.0s
SBUM Sibu 20.21 291 P P 13 38 23.7 -1.2
UGM Wanagama 20.54 261 P P 13 38 27.8 -0.8
CTAO Charters Tower 21.03 136 P 13 38 36.3 +2.6
CTAO Charters Tower 21.03 136 P P 13 38 34.2 +0.4
KPJI Karang Pucung 22.06 263 P P 13 38 43.5 -1.3
GIRL Giralia 23.82 221 P P 13 38 59.6 -2.8
INKA Innaminka 24.36 159 P 13 39 09.6 +2.4
INKA IAmb IAmb 13 39 37.9
comp=Z,13nm,0.8s
MEEK Meekatharra 24.48 208 P P 13 39 07.8 -0.6
QLP Quilpie 24.83 151 P P 13 39 13.1 +1.6
FORT Forrest 25.70 186 P P 13 39 20.2 +0.7
MORW Morawa 27.75 209 P P 13 39 37.0 -0.9
MORW IAmb IAmb 13 40 18.0
comp=Z,20nm,1.4s
MORW Morawa 27.75 209 P P 13 39 36.9 -0.9
BBOO Buckleboo 27.98 171 P P 13 39 40.6 +0.7
BBOO IAmb IAmb 13 40 22.7
comp=Z,11nm,0.9s
BBOO Buckleboo 27.98 171 P P 13 39 40.1 +0.2
STKA Stephens Creek 28.44 161 P P 13 39 45.2 +1.3
STKA Stephens Creek 28.44 161 P P 13 39 44.9 +0.9
comp=Z,1.7nm,0.6s,baz=343,slow=7.3,SNR=5.4
STKA LR LR 13 50 51.8
comp=Z,42nm,21.3s,baz=238,slow=36
comp=Z,1.7nm,0.6s
STKA Stephens Creek 28.44 161 P P 13 39 45.7 +1.7
BLDU Ballidu 28.74 206 P P 13 39 46.0 -0.7
HNR Honiara 29.02 100 LR LR 13 54 09.2
comp=Z,32nm,18.2s,baz=15,slow=42
HTT Hallett 29.15 166 P P 13 39 50.0 -0.3
CMSA Cobar Meteorol 29.70 154 P P 13 39 55.1 -0.1
MUN Mundaring 30.13 206 P P 13 39 58.5 -0.5
NWAO Narrogin (SRO) 30.53 203 P P 13 40 02.6 +0.1
NWAO IAmb IAmb 13 40 05.4
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 30.53 203 P P 13 40 02.1 -0.4
NJ2 Nanjing 38.71 343 *e*P **P 13 41 15.0 +2.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 39.33 307 P P 13 41 17.8 -0.7
comp=Z,1.2nm,0.4s,baz=139,slow=7.7,SNR=23
CMAR PcP **PcP 13 43 26.8 +0.6**
comp=Z,1.4nm,0.9s,baz=125,slow=3.4,SNR=5.3
comp=Z,1.2nm,0.4s
PZH PanZhiHua 42.30 319 P P 13 41 42.7 -0.3
KSRS Korea Array 42.42 356 P P 13 41 44.1 +0.6
comp=Z,0.9nm,0.7s,baz=166,slow=6.8,SNR=1.2
comp=Z,0.9nm,0.7s
XAN Xi'an 44.16 333 *e*P **P 13 41 58.3 +0.6**
HHC Hu-ho-hao-te 49.07 340 *e*P **P 13 42 39.3 +3.2**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.2s
XLT XiLinHaoTe 50.59 346 *e*P **P 13 42 46.8 -0.8**
XLT pP sP 13 43 05.9 -1.8
XLT sP pwP 13 43 09.3 -0.3
XLT PcP **PcP 13 44 03.1 -1.4**
XLT PP **PP 13 44 42.0 -2.1**
XLT pmax pmax
comp=Z,11nm,0.6s
PALK Pallekele 51.68 283 LR LR 14 07 09.1
comp=Z,29nm,19.1s,baz=126,slow=39
SONM Songino Array 56.97 340 P P 13 43 33.5 -0.7
comp=Z,1.0nm,0.6s,baz=154,slow=8.0,SNR=4.3
SONM PcP **PcP 13 44 26.9 -1.9**
comp=Z,0.5nm,0.5s,baz=177,slow=5.5,SNR=3.8
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 62.21 18 P P 13 44 10.5 +0.6
comp=Z,1.7nm,0.8s,baz=228,slow=5.9,SNR=1.2
comp=Z,1.7nm,0.8s
WMQ Urumqi 62.37 326 *e*P **P 13 44 14.8 +3.5**
WMQ sP pwP 13 44 36.1 +1.6
WMQ pmax pmax
comp=Z,36nm,0.7s
YAK Yakutsk 66.94 359 P P 13 44 39.4 -1.2
MKAR Makanchi Array 67.20 326 P P 13 44 42.6 0.0
comp=Z,7.4nm,0.7s,baz=116,slow=8.5,SNR=70
comp=Z,7.4nm,0.7s
KSH Kashi 67.31 317 P P 13 44 44.4 +0.8
MAKZ Makanchi 67.38 326 P P 13 44 42.9 -0.9
MAKZ IAmb IAmb 13 44 44.6
comp=Z,10nm,1.1s
BOOM Boomskoye usch 68.74 319 P P 13 44 52.5 -0.1
ZALV Zalesovo Beam 70.33 333 P P 13 45 00.8 -1.1
comp=Z,3.8nm,0.6s,baz=116,slow=5.2,SNR=17
comp=Z,3.8nm,0.6s
GAR Garm 71.05 314 P P 13 45 06.0 -0.8
GAR IAmb IAmb 13 45 07.2
comp=Z,12nm,0.9s
KURBB Kurchatov Arra 71.43 328 P P 13 45 08.3 -0.3
comp=Z,2.9nm,0.6s,baz=131,slow=5.3,SNR=33
comp=Z,2.9nm,0.6s
KURK Kurchatov 71.43 328 P P 13 45 07.6 -1.0
KURK IAmb IAmb 13 45 10.4
comp=Z,6.5nm,0.8s
VNDA Vanda 74.21 173 P P 13 45 25.2 +0.4
VNDA Vanda 74.21 173 P P 13 45 25.3 +0.6
comp=Z,2.7nm,0.5s,baz=318,slow=7.3,SNR=16
comp=Z,2.7nm,0.5s
SBA Scott Base 75.09 173 P P 13 45 31.2 +1.4
TIXI Tiksi 76.60 359 P P 13 45 38.0 -0.4
TIXI Tiksi 76.60 359 LR LR 14 20 49.9
comp=Z,14nm,19.8s,baz=192,slow=37
MAW Mawson 77.08 201 P P 13 45 41.6 +0.4
comp=Z,2.0nm,0.5s,baz=75,slow=4.9,SNR=17
comp=Z,2.0nm,0.5s
PPT Papeete 78.41 107 LR LR 14 18 24.9
comp=Z,20nm,18.9s,baz=190,slow=34
QSPA South Pole Qui 84.87 180 P P 13 46 24.7 +1.8
QSPA IAmb IAmb 13 46 26.1
comp=Z,3.9nm,0.7s
QSPA South Pole Qui 84.87 180 P P 13 46 24.6 +1.7
comp=Z,4.1nm,0.7s,baz=251,slow=0.5,SNR=28
comp=Z,4.1nm,0.7s
M16K Timber Creek 84.91 27 P P 13 46 23.7 +0.7
G16K Koyuk River 85.10 23 P P 13 46 23.8 -0.1
IL31 91.20 25 P P 13 46 53.0 +0.1
IL31 IAmb IAmb 13 47 27.3
comp=Z,4.3nm,1.2s
ILAR Eielson Array 91.20 25 P P 13 46 51.8 -1.2
comp=Z,0.8nm,0.6s,baz=256,slow=4.6,SNR=15
comp=Z,0.8nm,0.6s
J26L Joseph Creek 92.58 26 P P 13 46 59.0 -0.5
J26L IAmb IAmb 13 46 59.9
comp=Z,1.8nm,0.6s
ARCES ARCESS Array B 100.14 340 P Pdif 13 47 32.5 -1.2
comp=Z,6.0nm,1.2s,baz=77,slow=4.0,SNR=5.1
PDAR Pinedale Array 114.84 45 PKP **PKiKP 13 52 28.9 -0.4**
comp=Z,0.2nm,0.4s,baz=340,slow=3.9,SNR=2.3
TXAR Lajitas Array 123.08 58 PKP **PKiKP 13 52 45.6 +0.1**
comp=Z,0.4nm,0.6s,baz=287,slow=3.0,SNR=4.7
TXAR PKKPbc **PKKPbc 14 02 38.5 +1.6**
comp=Z,0.6nm,0.8s,baz=104,slow=9.9,SNR=4.3
TORD Torodi Ar. Bea 129.40 283 PKP **PKPdf 13 52 57.5 -0.2**
comp=Z,2.1nm,0.7s,baz=34,slow=2.7,SNR=9.0
DBIC Dimbokro 136.08 274 PKP **PKPdf 13 53 10.3 0.0**
comp=Z,1.8nm,0.4s,baz=11,slow=8.7,SNR=1.6
NNA Nana 147.52 122 PKPbc **PKPbc 13 53 34.4 +1.1**
comp=Z,5.1nm,0.4s,baz=247,slow=15,SNR=3.6
CPUP Villa Florida 147.74 166 PKPbc **PKPbc 13 53 33.8 +0.3**
comp=Z,2.1nm,0.8s,baz=107,slow=2.9,SNR=10
ATAH Atahualpa 148.24 112 PKPbc **PKPdf 13 53 33.7 +1.3**
comp=Z,8.9nm,0.9s,baz=283,slow=17,SNR=5.6
LPAZ La Paz 151.54 139 PKPbc **PKiKP 13 53 44.6 +0.2**
comp=Z,3.8nm,0.3s,baz=277,slow=0.6,SNR=18
SIV San Ignacio 155.88 150 PKPab **PKPab 13 54 08.3 -1.7**
comp=Z,1.5nm,0.6s,baz=234,slow=3.4,SNR=8.1

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*TIR **12** 13:36:33.2, 40.°45N×20.°75E, h11km, MI2.4/1*
*PDG **12** 13:36:33.8±0.2, 40.°45N×20.°78E, h11km±3km, ML2.6/5,*
Error ellipse: s-maj=2.0km s-min=3.1km az=0.0
*SKO **12** 13:36:34.5, 40.°47N×20.°72E, h16km, ML2.3*

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*ATH **12** 13:36:35.6±0.3, 40.°48N×20.°97E, h6km±1km, ML2.3/10,*
Manual Solution by N.Liadopoulou First location:
2019/10/12 13:37:53, This location: 2019/10/12 13:54:35
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 2 km
ISC 12 13:36:34.1±1.2, 40.°46N±0.°02×20.°81E±0.°03, h0km±11km,
n34, σ0.°90/50, 4C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.17**	**354**	⇑Pg	**Pg**	**13 36 36.6**	**-0.7**
KBN				Sg	**Sg**	13 36 39.2	-0.3
NEST	**Nestorio**	**0.19**	**103**	⇑Pg	**Pg**	**13 36 38.1**	**+0.5**
NEST				Sg	**Sg**	**13 36 41.8**	**+1.8**
NEST				AML	AML	13 36 42.3	
2.8nm,0.3s							
NEST	**Nestorio**	**0.19**	**103**	P	**Pg**	**13 36 37.7**	**+0.1**
NEST				S	**Sg**	**13 36 40.7**	**+0.7**
PENT	**Pentalofos**	**0.36**	**136**	P	**Pg**	**13 36 40.9**	**-0.1**
PENT				S	**Sb**	**13 36 47.5**	**-2.2**
LMS2	**Laimos Florina**	**0.45**	**34**	P	**Pg**	**13 36 43.3**	**+0.5**
LMS2				S	**Sg**	**13 36 49.4**	**+0.7**
OHR	**Ohrid**	**0.65**	**359**	⇓*i*Pg	**Pg**	**13 36 46.4**	**-0.2**
OHR				*i* Sg	**Sg**	**13 36 56.6**	**+1.5**
OHR				*e*Lg	Lg	13 36 56.9	
comp=E,171nm,0.6s							
OHR				*e*Lg	Lg	13 36 57.1	
comp=N,57nm,0.4s							
KZN	**Kozani**	**0.75**	**101**	P	**Pg**	**13 36 49.0**	**+0.6**
KZN				S	**Sg**	**13 36 57.8**	**-0.3**
JAN	**Janina**	**0.80**	**178**	P	**Pn**	**13 36 52.5**	**-0.1**
IGT	**Igoumenitsa**	**0.99**	**202**	⇑Pn	**Pg**	**13 36 52.1**	**-1.0**
IGT				Sn	**Sn**	**13 37 09.2**	**-0.8**
IGT	**Igoumenitsa**	**0.99**	**202**	*i* Pg	**Pg**	**13 36 51.8**	**-1.3**
IGT				*i* Sg	**Sg**	**13 37 06.6**	**+0.6**
KEK	**Kerkira**	**1.07**	**227**	P	**Pn**	**13 36 57.7**	**+1.3**
TETR	**Tetrakomo, Epi**	**1.17**	**162**	P	**Pn**	**13 36 58.0**	**+0.3**
THL	**Klokotos Trika**	**1.28**	**134**	P	**Pg**	**13 36 57.4**	**-1.3**
LIT	**Litokhoron**	**1.33**	**105**	*i* Pg	**Pg**	**13 36 59.7**	**+0.1**
LIT				*i* Sg	**Sn**	**13 37 19.3**	**+0.9**
LIT	**Litokhoron**	**1.33**	**105**	P	**Pg**	**13 36 59.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.63**	**184**	P	**Pb**	**13 37 05.2**	**+0.1**
LKD2	**Lefkada island**	**1.67**	**184**	P	**Pg**	**13 37 06.4**	**+0.4**
EVR	**Evrytania**	**1.72**	**153**	P	**Pn**	**13 37 05.6**	**+0.3**
KNT	**Kendrikon**	**1.73**	**65**	*i* Pn	**Pn**	**13 37 04.8**	**-0.7**
KNT	**Kendrikon**	**1.73**	**65**	P	**Pn**	**13 37 04.4**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.74**	**183**	P	**Pb**	**13 37 06.7**	**-0.2**
HORT	**Hortiatis**	**1.75**	**85**	P	**Pn**	**13 37 04.1**	**-1.7**
MAKR	**Makrakomi, Fth**	**1.77**	**144**	P	**Pn**	**13 37 05.5**	**-0.4**
EVGI	**Lefkada island**	**1.84**	**184**	P	**Pn**	**13 37 07.5**	**+0.7**
ULC	**Ulcinj**	**1.91**	**322**	*e*Pn	**Pn**	**13 37 07.4**	**-0.5**
ULC				*i* Sn	**Sn**	**13 37 34.1**	**+1.3**
PLG	**Polygyros**	**2.01**	**91**	P	**Pn**	**13 37 08.4**	**-0.9**
ANX	**Ano Chora**	**2.05**	**155**	P	**Pn**	**13 37 10.0**	**+0.1**
DRME	**Dracevica, Mon**	**2.12**	**325**	⇑*i*Pn	**Pn**	**13 37 10.2**	**-0.5**
DRME				*i* Sn	**Sn**	**13 37 39.1**	**+1.3**
KALE	**Kalithea**	**2.31**	**153**	P	**Pn**	**13 37 14.0**	**+0.6**
BUM	**Brajici-Budva**	**2.34**	**323**	*e*Pn	**Pn**	**13 37 12.9**	**-0.9**
BUM				*i* Sn	**Sn**	**13 37 44.3**	**+1.0**
KOME	**Kolasin**	**2.58**	**338**	*e*Pn	**Pn**	**13 37 16.8**	**-0.4**
KOME				*i* Sn	**Sn**	**13 37 50.5**	**+1.2**
KLV	**Kalavryta, Ach**	**2.62**	**156**	P	**Pn**	**13 37 18.8**	**+1.1**
NKME	**Niksic**	**2.70**	**330**	*e*Pn	**Pn**	**13 37 18.1**	**-0.6**
NKME				*i* Sn	**Sn**	**13 37 53.0**	**+0.9**
BRY	**Bratogost**	**2.98**	**326**	*e*Pn	**Pn**	**13 37 22.2**	**-0.5**
BRY				*i* Sn	**Sn**	**13 37 59.7**	**+0.6**

IDC 12 13:50:20.4±2.8, 3.°77S×141.°72E, h0km, mb3.3/3,
mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=58.2km
s-min=14.8km az=69.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.61**	**321**	Pg	Pn	13 50 49.7	-0.4
7.0nm,0.3s,baz=155,slow=11,SNR=24							
JAY				Lg	Lg	13 51 11.3	
9.9nm,0.3s,baz=77,slow=19,SNR=6.7							
WRA	**Warramunga Arr**	**17.61**	**204**	P	Pn	13 54 27.0	-0.5
0.3nm,0.3s,baz=24,slow=13,SNR=17							
0.4nm,0.6s							
ASAR	**Alice Springs**	**21.17**	**200**	P	P	13 55 07.4	-0.2
0.3nm,0.5s,baz=19,slow=11,SNR=14							
0.3nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.23**	**227**	P	P	13 55 08.8	+0.6
1.5nm,0.8s,baz=45,slow=13,SNR=1.7							
1.5nm,0.8s							
MKAR	**Makanchi Array**	**72.47**	**322**	P	P	14 01 49.0	0.0
0.2nm,0.4s,baz=119,slow=5.1,SNR=4.2							
0.2nm,0.4s							

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*SLM **12** 13:55:25.6±0.7, 36.°555N×0.°010×89.°65W±0.°01, h8km±1km,*
Error ellipse: s-maj=1.9km s-min=1.2km az=124.0
NEIC 12 13:55:26.1±0.8, 36.°55N±0.°01×89.°66W±0.°02, h10km±1km,
mb_Lg3.3/137, ML3.6/30, Md3.0/69(SLM), Error ellipse:
s-maj=2.0km s-min=1.4km az=129.0, New Madrid
region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.02**	**209**		Pg	13 55 27.4	-0.5
MARMO					Sg	13 55 28.9	-0.1
NMEM	**New Madrid Sch**	**0.06**	**67**		Pg	13 55 27.7	-0.5
NMEM					Sg	13 55 29.5	-0.2
CATM	**Catron**	**0.06**	**6**		Pg	13 55 27.8	-0.4
CATM					Sg	13 55 29.7	-0.1
NMMO	**New Madrid**	**0.09**	**65**		Pg	13 55 28.1	-0.4
NMMO					Sg	13 55 30.2	0.0
WALK	**Watson Lake**	**0.09**	**96**		Pg	13 55 28.1	-0.5
WALK					Sg	13 55 30.1	-0.2
PENMO	**Penman**	**0.10**	**167**		Pg	13 55 28.2	-0.4
PENMO					Sg	13 55 30.4	0.0
PGVM	**Portageville**	**0.11**	**214**		Pg	13 55 28.5	-0.3
PGVM					Sg	13 55 30.8	+0.2
PARMO	**Parma**	**0.14**	**326**		Pg	13 55 28.9	-0.3
PARMO				Sg	Sg	13 55 31.6	+0.2
PARMO				IAML		13 55 31.8	
comp=N,15μm,0.5s							
PVMO	**Portageville**	**0.14**	**195**		Pg	13 55 28.8	-0.4
PVMO				Sg	Sg	13 55 31.6	+0.2
POBM	**Portage Bay**	**0.14**	**182**		Pg	13 55 28.9	-0.3
POBM					Sg	13 55 31.6	+0.2
KEWM	**Kewanee**	**0.16**	**19**		Pg	13 55 29.1	-0.4
PPLM	**Point Pleasant**	**0.16**	**158**		Pg	13 55 29.2	-0.3
SJMO	**Saint John's B**	**0.17**	**61**		Pg	13 55 29.3	-0.4
COKM	**Charter Oak**	**0.17**	**341**		Pg	13 55 29.6	-0.2
COKM					Sg	13 55 32.6	+0.3
TOPM	**Tallapoosa**	**0.19**	**263**		Pg	13 55 29.8	-0.2
TOPM					Sg	13 55 33.3	+0.5
WADM	**Wardell**	**0.21**	**212**		Pg	13 55 30.3	-0.2
WADM					Sg	13 55 34.0	+0.5
HENM	**Henderson Moun**	**0.22**	**42**		Pg	13 55 33.9	+3.2
MLDM	**Malden**	**0.23**	**290**		Pg	13 55 30.6	-0.1
MLDM					Sg	13 55 34.1	+0.3
MATM	**Matthews**	**0.23**	**10**		Pg	13 55 30.5	-0.3
MATM					Sg	13 55 34.1	+0.1
WYBT	**Wynnburg**	**0.24**	**148**		Pg	13 55 30.7	-0.2
WYBT					Sg	13 55 34.9	+0.7
DWDM	**Dogwood**	**0.28**	**28**		Pg	13 55 31.3	-0.4
DWDM					Sg	13 55 35.6	+0.1
EPRM	**East Prairie**	**0.29**	**55**		Pg	13 55 31.4	-0.5
EPRM					Sg	13 55 36.0	+0.1
FLPT	**Flippin**	**0.30**	**117**		Pg	13 55 31.8	-0.4
FLPT					Sg	13 55 36.6	+0.4
BRNM	**Bernie**	**0.33**	**302**		Pg	13 55 32.3	-0.3
BETM	**Bethany**	**0.33**	**281**		Pg	13 55 32.4	-0.3
HICK	**Hickman**	**0.34**	**91**		Pg	13 55 32.3	-0.6
HICK				Sg	Sg	13 55 37.5	+0.1
HICK				IAML		13 55 37.8	
comp=N,8μm,0.5s							
HICK				IAML		13 55 42.4	
comp=E,5μm,0.3s							
GUAMO	**Guam**	**0.37**	**337**		Pg	13 55 33.0	-0.4
GUAMO					Sg	13 55 38.4	+0.1
BRGM	**Braggadocio**	**0.38**	**205**		Pg	13 55 33.4	-0.2
BRGM					Sg	13 55 39.1	+0.5
CHRM	**Charleston**	**0.38**	**38**		Pg	13 55 33.0	-0.6
MIST	**Miston**	**0.40**	**162**		Pg	13 55 33.6	-0.3
MIST					Sg	13 55 39.8	+0.7
GLAT	**Glass**	**0.41**	**133**		Pg	13 55 33.6	-0.4
GLAT	**Glass**	**0.41**	**133**		Sg	13 55 39.9	+0.4
LNXT	**Lenox**	**0.47**	**163**		Pg	13 55 34.8	-0.3
LNXT				IAML		13 55 42.3	
comp=E,3μm,0.3s							
LNXT				IAML		13 55 42.9	
comp=N,3μm,0.5s							
LNXT	**Lenox**	**0.47**	**163**		Sg	13 55 42.0	+0.7
PEBM	**Pemiscott Bayo**	**0.47**	**201**		Pg	13 55 35.0	-0.2
PEBM				IAML		13 55 42.4	
comp=E,6μm,0.8s							
PEBM				IAML		13 55 46.4	
comp=N,3μm,0.5s							
PEBM	**Pemiscott Bayo**	**0.47**	**201**		Sg	13 55 41.9	+0.5
CWPT	**Cottonwood Poi**	**0.54**	**177**		Pg	13 55 36.2	-0.3
CHNM	**Channel**	**0.55**	**204**		Pg	13 55 36.6	-0.2
CHNM					Sg	13 55 44.6	+0.5
RELT	**Roellen**	**0.59**	**151**		Pg	13 55 37.1	-0.4
GNAR	**Gosnell**	**0.65**	**207**		Pg	13 55 38.4	-0.3
GNAR				IAML		13 55 52.0	
comp=E,3μm,0.5s							
GNAR				IAML		13 55 52.6	
comp=N,3μm,0.4s							
GNAR	**Gosnell**	**0.65**	**207**		Sg	13 55 47.6	+0.4
PBMO	**Poplar Bluff**	**0.66**	**290**		Pg	13 55 38.1	-0.8
HALT	**Halls**	**0.69**	**158**		Pg	13 55 38.8	-0.5
HALT				IAML		13 55 52.5	
comp=E,2μm,0.6s							
CGM3	**Cape Girardeau**	**0.75**	**360**		Pg	13 55 39.4	-1.1
CGM3				IAML		13 55 49.5	
comp=E,2μm,0.2s							
T45A	**Paducah**	**0.94**	**60**		Pg	13 55 42.5	-1.6
T45A				IAML		13 55 56.5	
comp=E,2μm,0.6s							
T45A				IAML		13 55 59.0	
comp=E,2μm,0.5s							
LPAR	**Lepanto**	**1.08**	**209**		Pg	13 55 45.6	-1.2
S44A	**Carbondale**	**1.19**	**16**		Pb	13 55 47.0	-1.7
S44A				IAML		13 56 03.3	
comp=E,1μm,0.3s							
S44A				IAML		13 56 05.1	
comp=E,2μm,0.3s							
SIUC	**Southern Illin**	**1.22**	**17**		Pn	13 55 47.4	-1.8
SIUC				IAML		13 56 05.7	
comp=N,2μm,0.1s							
HBAR	**Harrisburg**	**1.28**	**220**		Pn	13 55 49.0	-1.0
LCAR	**Lake Charles**	**1.30**	**249**		Pn	13 55 49.0	-1.3
MET	**Memphis--Engin**	**1.44**	**189**		Pn	13 55 51.5	-0.8
WVT	**Waverly**	**1.53**	**105**		Pn	13 55 52.5	-1.0
FVM	**French Village**	**1.56**	**337**		Pn	13 55 53.3	-0.6
CCM	**Cathedral Cave**	**1.97**	**320**		Pn	13 55 59.8	+0.3
CCM				IAmb_Lg		13 56 30.7	
comp=Z,182nm,0.9s							
PLAL	**Pickwick Lake**	**2.02**	**140**		Pn	13 55 59.5	-0.7
PWLA	**Pickwick Lake**	**2.03**	**140**		Pn	13 56 01.1	+0.7
OXF	**Oxford**	**2.04**	**174**		Pn	13 55 60.0	-0.5
T47A	**Sharon Grove**	**2.09**	**77**		Pn	13 56 01.3	0.0
T47A				IAmb_Lg		13 56 33.1	
comp=Z,171nm,0.7s							
FCAR	**Ozark Folk Cen**	**2.10**	**252**		Pn	13 56 01.9	+0.5
SLM	**Saint Louis**	**2.13**	**348**	IAmb_Lg		13 56 38.8	
comp=Z,90nm,0.8s							
MGMO	**Mountain Grove**	**2.18**	**287**		Pn	13 56 04.0	+1.5
Q44A	**Meyer Farm, Va**	**2.40**	**12**		Pn	13 56 06.8	+1.2
V48A	**Smith Brothers**	**2.43**	**109**		Pn	13 56 06.3	+0.4
WHAR	**Wooly Hollow**	**2.48**	**240**		Pn	13 56 06.8	+0.3
WHAR				IAmb_Lg		13 56 48.7	
comp=Z,121nm,0.9s							
OLIL	**Olney**	**2.51**	**29**	IAmb_Lg		13 56 49.3	
comp=Z,104nm,0.9s							
U40A	**Yellville**	**2.58**	**267**		Pn	13 56 09.9	+1.9
R40A	**Maddies Statio**	**2.71**	**311**		Pn	13 56 10.1	+0.4
UALR	**University of**	**2.81**	**232**		Pn	13 56 10.9	-0.3
P43A	**Skaggs, Pawnee**	**3.09**	**2**	IAmb_Lg		13 57 05.4	
comp=Z,99nm,0.9s							
CCAR	**Cane Creek**	**3.15**	**214**		Pn	13 56 15.4	-0.3
CCAR				IAmb_Lg		13 57 08.5	
comp=Z,110nm,0.8s							
HHAR	**Hobbs**	**3.47**	**267**		Pn	13 56 20.7	+0.6
HHAR				IAmb_Lg		13 57 15.8	
comp=Z,68nm,0.8s							
Z47A	**Carrollton**	**3.59**	**158**		Pn	13 56 21.9	+0.2
Z47A				IAmb_Lg		13 57 23.2	
comp=Z,69nm,0.7s							
MIAR	**Mount Ida**	**3.77**	**239**		Pn	13 56 24.6	+0.3
W50A	**Signal Mountai**	**3.78**	**110**	IAmb_Lg		13 57 34.6	
comp=Z,53nm,0.7s							
Y49A	**Blount Mountai**	**3.78**	**134**		Pn	13 56 24.3	-0.1
Y49A				IAmb_Lg		13 57 26.6	
comp=Z,84nm,0.8s							
T50A	**Nancy**	**3.90**	**82**	IAmb_Lg		13 57 29.2	
comp=Z,53nm,0.8s							
143A	**Socs Landing,**	**4.10**	**201**	IAmb_Lg		13 57 42.2	
comp=Z,46nm,0.7s							
LRAL	**Lakeview Retre**	**4.13**	**147**	IAmb_Lg		13 57 39.7	
comp=Z,80nm,0.9s							
Z41A	**Richland Creek**	**4.18**	**219**	IAmb_Lg		13 57 47.5	
comp=Z,70nm,1.0s							
N41A	**Harden Midland**	**4.26**	**348**	IAmb_Lg		13 57 41.0	
comp=Z,60nm,0.8s							
CPCT	**Cooper Cave**	**4.30**	**103**	IAmb_Lg		13 57 42.2	
comp=Z,59nm,0.9s							
SFIN	**Lafayette**	**4.32**	**27**	IAmb_Lg		13 57 47.3	
comp=Z,50nm,0.7s							
VBMS	**Vicksburg**	**4.38**	**190**	IAmb_Lg		13 57 52.5	
comp=Z,53nm,0.8s							
P48A	**Milroy**	**4.43**	**48**	IAmb_Lg		13 57 43.6	
comp=Z,58nm,0.8s							
TKL	**Tuckaleechee C**	**4.84**	**99**	IAmb_Lg		13 58 04.0	
comp=Z,59nm,0.7s							
W52A	**Murphy**	**4.88**	**106**	IAmb_Lg		13 58 09.1	
comp=Z,52nm,0.8s							
S51A	**Beattyville**	**4.97**	**76**	IAmb_Lg		13 58 06.9	
comp=Z,64nm,0.8s							
M44A	**Midewin, Midew**	**4.99**	**14**	IAmb_Lg		13 58 01.3	
comp=Z,56nm,0.9s							
TUL3	**Leonard**	**5.00**	**264**	IAmb_Lg		13 58 04.6	
comp=Z,62nm,0.9s							
N38A	**Joes South For**	**5.08**	**328**	IAmb_Lg		13 58 09.6	
comp=Z,50nm,0.8s							
N47A	**Urbana**	**5.32**	**34**	IAmb_Lg		13 58 21.3	
comp=Z,50nm,0.9s							
HQIL	**Hanson Quary C**	**5.43**	**14**	IAmb_Lg		13 58 20.1	
comp=Z,44nm,0.8s							
O49A	**Covington**	**5.54**	**47**	Pn	Pn	13 56 44.8	-3.8
DEOK	**Depew**	**5.58**	**265**	IAmb_Lg		13 58 31.1	
comp=Z,55nm,0.9s							
V53A	**Saluda**	**5.61**	**97**	IAmb_Lg		13 58 29.7	
comp=Z,38nm,0.8s							
L40A	**Anamosa**	**5.64**	**348**	IAmb_Lg		13 58 27.8	
comp=Z,50nm,1.0s							
L44A	**Lake County Fo**	**5.78**	**13**	IAmb_Lg		13 58 26.8	
comp=Z,53nm,0.8s						

OK038	West end E0370	7.32 272	IAmb_Lg		13 59 37.8
	comp=Z,38nm,0.9s				
I40A	Norwalk	7.37 355	IAmb_Lg		13 59 23.0
	comp=Z,24nm,0.9s				
Q54A	Coxs Mills	7.40 68	IAmb_Lg		13 59 27.2
	comp=Z,33nm,0.8s				
R32A	Long Quarter,	7.44 287	IAmb_Lg		13 59 40.8
	comp=Z,32nm,0.8s				
NOKA	Waynoka	7.46 273	IAmb_Lg		13 59 37.2
	comp=Z,28nm,0.9s				
U56A	King	7.48 89	IAmb_Lg		13 59 23.4
	comp=Z,31nm,0.8s				
O53A	New Philadelph	7.59 58	IAmb_Lg		13 59 20.8
	comp=Z,22nm,0.9s				
R55A	Marlinton	7.78 74	IAmb_Lg		13 59 40.6
	comp=Z,21nm,0.9s				
ELIS	Ellis County	7.90 269	IAmb_Lg		13 59 41.5
	comp=Z,20nm,0.7s				
Y57A	Sumter	7.99 106	IAmb_Lg		13 59 37.8
	comp=Z,37nm,0.9s				

DJA 12 14:02:47.5±0.3, 2°S±2°×12°0E±°, h10km, M3.6/10, mB6.3/1, MLv3.6/10, Mw(mB)6.0/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**1.69**	**195**	P	Pn	14 03 14.4	-2.7
SPSI				S	Sn	14 03 39.4	+0.5
APSI	**Ampana**	**2.01**	**46**	P	Pn	14 03 21.4	-0.1
BNSI	**Bone**	**2.07**	**183**	P	Pn	14 03 23.4	+1.1
LUWI	**Luwuk**	**2.86**	**64**	P	Pn	14 03 33.5	+0.3
BKSI	**Bulukumba**	**2.98**	**182**	P	Pn	14 03 34.6	-0.3
MRSI	**Marisa**	**3.27**	**32**	P	Pn	14 03 40.8	+1.9
BSSI	**Bau Bau, Buton**	**3.81**	**176**	P	Pn	14 03 47.4	+1.1

*IDC **12** 14:11:30.9±1.1, 29°84N×101°15E, h0km, mb3.5/4, mbtmp3.4/6, ML3.7/2, MS3.3/7, Error ellipse: s-maj=35.8km s-min=17.0km az=89.0*

ISC 12 14:11:31.6±0.9, 30°00N±0°09×101°4E±0°2, h10km, n12, σ2§03/7, mb3.5/3, MS3.2/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**6.24**	**17**	Pg	**Pg**	**14 13 29.6**	**-1.5**
	baz=197,slow=15						
LZDM				Lg	Lg	14 14 58.7	
	baz=199,slow=34						
CMAR	**Chiang Mai Arr**	**11.71**	**192**	Pn	**Pn**	**14 14 16.8**	**-2.0**
	0.1nm,0.3s,baz=7.2,slow=14,SNR=1.3						
CMAR				Pg		14 15 02.1	
	0.1nm,0.3s,baz=7.4,slow=17,SNR=4.3						
CMAR				Lg	Lg	14 17 35.2	
	0.1nm,0.3s,baz=355,slow=29,SNR=1.2						
CMAR				LR	LR	14 19 07.2	
	comp=Z,47nm,18.1s,baz=10.0,slow=40						
	0.2nm,0.3s						
SONM	**Songino Array**	**18.22**	**11**	P	**P**	**14 15 46.3**	**+1.4**
	0.3nm,0.3s,baz=197,slow=4.5,SNR=2.0						
SONM				LR	LR	14 23 52.0	
	comp=Z,51nm,18.0s,baz=104,slow=40						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**22.40**	**324**	P	**P**	**14 16 29.6**	**-0.6**
	0.3nm,0.3s,baz=134,slow=12,SNR=4.4						
	0.3nm,0.3s						
JOW	**Kunigami**	**23.80**	**91**	LR	LR	14 27 02.6	
	comp=Z,171nm,18.0s,baz=324,slow=39						
AAK	**Ala-Archa**	**24.98**	**308**	LR	LR	14 27 05.4	
	comp=Z,34nm,19.3s,baz=108,slow=38						
ZALV	**Zalesovo Beam**	**26.80**	**338**	LR	LR	14 28 01.8	
	comp=Z,24nm,19.0s,baz=125,slow=37						
GNI	**Garni**	**46.79**	**298**	LR	LR	14 43 05.6	
	comp=Z,25nm,18.1s,baz=358,slow=41						
WRA	**Warramunga Arr**	**58.90**	**143**	P	**P**	**14 21 30.8**	**-0.2**
	1.2nm,0.9s,baz=324,slow=7.0,SNR=12						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**61.81**	**146**	P	**P**	**14 21 53.2**	**+2.4**
	0.1nm,0.3s,baz=327,slow=6.5,SNR=4.3						
	0.1nm,0.3s						
HFS	**Hagfors**	**63.40**	**326**	LR	LR	14 49 59.2	
	comp=Z,192nm,19.2s,baz=306,slow=36						
TORD	**Torodi Ar. Bea**	**91.75**	**286**	P	**P**	**14 24 41.5**	**+1.5**
	0.5nm,1.1s,baz=54,slow=5.6,SNR=2.1						
	0.5nm,1.1s						

*IDC **12** 14:32:52.8±0.6, 3°43S×139°68E, h0km, mb4.3/15, mbtmp4.3/18, ML4.4/3, MS3.7/13, Error ellipse: s-maj=16.1km s-min=11.0km az=123.0*
*BJI **12** 14:32:57.6, 3°86S×139°72E, h59km, mB5.3/10, mb4.9/39, Ms5.2/5, Ms7 4.8/5*
*NEIC **12** 14:32:57.8±2.8, 3°53S±0°09×139°77E±0°08, h35km±1km, mb4.8/31, Error ellipse: s-maj=14.5km s-min=13.0km az=1.0*
*DJA **12** 14:32:57.9±1.1, 4°S±2°×14°0E±°, h24km±10km, M4.8/30, mb4.9/30, mB5.3/13, MLv5.1/10, Mw(mB)4.7/13*

ISC 12 14:32:59.6±0.4, 3°60S±0°04×139°83E±0°05, h56km, n115, σ2§25/111, mb4.7/33, MS3.9/12, 1C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.06**	**19**	P	**Pn**	**14 33 15.6**	**-2.7**
GENI				S	**Sn**	**14 33 29.5**	**-2.7**
WAMI	**Wamena**	**1.15**	**256**	P	**Pn**	**14 33 18.5**	**-1.0**
JAY	**Jayapura**	**1.39**	**39**	Pg	**Pn**	**14 33 18.9**	**-3.9**
	63nm,0.3s,baz=233,slow=12,SNR=104						
JAY				Lg	Lg	14 33 36.3	
	202nm,0.3s,baz=162,slow=20,SNR=12						
JAY	**Jayapura**	**1.39**	**39**	P	Pn	14 33 18.6	-4.2
SMPI	**Sarmi**	**1.95**	**325**	P	**Pn**	**14 33 30.0**	**-0.4**
SRPI	**Serui, Papua**	**3.98**	**296**	P	**Pn**	**14 33 59.3**	**+1.2**
BAKI	**Biak**	**4.42**	**303**	P	**Pn**	**14 34 04.6**	**+0.4**
MMPI	**Merauke**	**4.86**	**174**	P	**Pn**	**14 34 10.8**	**+0.5**
RKPI	**Ransiki, Papua**	**6.02**	**290**	P	**Pn**	**14 34 27.8**	**+1.7**
	0.6nm1μm119nm,1.1s						
KMPI	**Kaimana, Papua**	**6.11**	**269**	P	**Pn**	**14 34 30.8**	**+3.4**
FAKI	**Fak Fak**	**7.60**	**275**		Pn	14 34 42.4	-5.4
FAKI	**Fak Fak**	**7.60**	**275**	P	**Pn**	**14 34 49.3**	**+1.5**
	0.2nm51nm,0.8s						
MANU	**Manus Island**	**7.69**	**79**		**Pn**	**14 34 50.0**	**+1.0**
SWI	**Sorong**	**8.98**	**287**	P	**Pn**	**14 35 08.4**	**+1.6**
	43nm,0.5s						
PMG	**Port Moresby**	**9.29**	**129**		**Pn**	**14 35 15.2**	**+4.3**
PMG	**Port Moresby**	**9.29**	**129**	Pn	**Pn**	**14 35 13.7**	**+2.8**
	4.4nm,0.3s,baz=26,slow=4.0,SNR=13						
PMG				LR	LR	14 40 11.4	
	comp=Z,553nm,18.5s,baz=339,slow=46						
SAUI	**Saumlaki**	**9.53**	**242**	P	**Pn**	**14 35 16.6**	**+2.3**
COEN	**Coen**	**10.80**	**162**		**Pn**	**14 35 32.1**	**+0.4**
MSAI	**Masohi**	**10.88**	**271**	P	**Pn**	**14 35 36.0**	**+3.2**
	1μm52nm,0.9s						
AAI	**Ambon**	**11.61**	**269**	P	**Pn**	**14 35 45.4**	**+2.7**
	1μm42nm,0.8s						
MTN	**Manton Dam**	**12.58**	**223**		**Pn**	**14 35 53.5**	**-2.4**
TNTI	**Ternate**	**13.19**	**289**	P	**Pn**	**14 36 05.9**	**+1.6**
SANI	**Sanana**	**13.91**	**276**	P	**Pn**	**14 36 15.4**	**+1.4**
	25nm,0.8s						
KNRA	**Kununurra**	**16.20**	**221**		**Pn**	**14 36 42.6**	**-1.2**
KNRA				IAmb	IAmb	14 36 52.6	
	comp=Z,43nm,0.6s						
KMSI	**Cibinong**	**16.37**	**284**	P	**P**	**14 36 49.1**	**+1.2**
SOEI	**Soe**	**16.61**	**248**		**Pn**	**14 36 48.2**	**-0.9**
SOEI	**Soe**	**16.61**	**248**	P	**P**	**14 36 51.3**	**+0.6**
	comp=Z,1μmcomp=Z,141nm,0.9s						
WB0	**Warramunga Arr**	**16.92**	**198**	Pn	**Pn**	**14 36 50.2**	**-2.5**
WR8	**Warramunga Arr**	**17.06**	**197**	Pn	**Pn**	**14 36 52.0**	**-2.5**
WR8				IAmb	IAmb	14 37 09.1	
	comp=Z,38nm,0.7s						
WRAB	**Tennant Creek**	**17.09**	**198**	P	**Pn**	**14 36 52.8**	**-1.9**
WRAB				IAmb	IAmb	14 37 02.4	
	comp=Z,53nm,0.7s						
WRA	**Warramunga Arr**	**17.10**	**198**	P	**Pn**	**14 36 52.9**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=13,slow=13,SNR=48						
WRA				Sn	Sn	14 39 53.3	-11
	comp=Z,1.2nm,0.3s,baz=20,slow=22,SNR=1.8						
WRA				Lg	Lg	14 41 51.3	
	comp=Z,0.2nm,0.3s,baz=64,slow=6.3,SNR=1.9						
	comp=Z,5.6nm,0.5s						
LUWI	**Luwuk**	**17.23**	**278**	P	**P**	**14 37 00.6**	**+3.2**
	comp=Z,49nm,0.9s						
BATI	**Baumata**	**17.33**	**247**	P	**Pn**	**14 36 56.8**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=13,slow=2.9,SNR=7.3						
BATI				S	**Sn**	**14 40 05.2**	**-4.8**
	comp=Z,8.1nm,0.4s,baz=86,slow=19,SNR=1.5						
	comp=Z,38nm,0.7s						
BATI	**Baumata**	**17.33**	**247**	P	**P**	**14 37 00.5**	**+2.0**
	comp=Z,94nm,0.9s						
CTAO	**Charters Tower**	**17.54**	**160**		**P**	**14 37 01.1**	**+0.2**
DAV	**Davao City (W)**	**17.74**	**307**	LR	LR	14 45 02.2	
	comp=Z,66nm,18.2s,baz=138,slow=42						
GUMO	**Guam**	**17.80**	**16**	LR	LR	14 42 43.3	
	comp=Z,164nm,21.1s,baz=208,slow=33						
MRSI	**Marisa**	**18.33**	**282**	P	**P**	**14 37 10.8**	**+1.2**
	comp=Z,618nmcomp=Z,51nm,1.0s						
APSI	**Ampana**	**18.36**	**278**	P	**Pn**	**14 37 12.3**	**+1.9**
	comp=Z,974nmcomp=Z,72nm,1.8s						
EDFI	**Ende, Flores**	**18.74**	**253**	P	**Pn**	**14 37 15.8**	**+0.7**
BSSI	**Bau Bau, Buton**	**19.43**	**262**	P	**Pn**	**14 37 25.1**	**+1.9**
	comp=Z,58nm,0.8s						
TOLI2	**Tolitoli**	**19.61**	**283**	P	**P**	**14 37 24.4**	**+0.9**
BNSI	**Bone**	**19.69**	**267**	P	**Pn**	**14 37 27.4**	**+1.1**
	comp=Z,47nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.02**	**223**	P	**P**	**14 37 26.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**20.02**	**223**	P	**P**	**14 37 28.4**	**+0.5**
	comp=Z,18nm,0.8s,baz=38,slow=9.3,SNR=29						
FITZ				S	**S**	**14 41 00.5**	**-10**
	comp=Z,16nm,0.8s,baz=63,slow=11,SNR=3.1						
FITZ				Lg	Lg	14 43 19.1	
	comp=Z,0.4nm,0.3s,baz=137,slow=20,SNR=1.8						
FITZ				LR	LR	14 45 46.7	
	comp=Z,397nm,19.8s,baz=40,slow=39						
	comp=Z,18nm,0.8s						
KAPI	**Kappang**	**20.07**	**265**	P	**P**	**14 37 26.0**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=113,slow=13,SNR=1.4						
KAPI				LR	LR	14 46 36.7	
	comp=Z,79nm,20.6s,baz=81,slow=41						
	comp=Z,8.7nm,1.0s						
AS31	**Alice Springs**	**20.75**	**195**	P	**P**	**14 37 36.1**	**+0.3**
AS31				IAmb	IAmb	14 37 58.1	
	comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**20.75**	**195**	P	**P**	**14 37 36.9**	**+0.9**
	comp=Z,14nm,0.5s,baz=25,slow=9.5,SNR=211						
ASAR				S	**S**	**14 41 21.9**	**-2.7**
	comp=Z,3.0nm,0.7s,baz=20,slow=25,SNR=1.3						
ASAR				Lg	Lg	14 43 47.5	
	comp=Z,0.1nm,0.3s,baz=22,slow=33,SNR=1.6						
	comp=Z,14nm,0.5s						
HNR	**Honiara**	**20.80**	**107**	P	**P**	**14 37 37.9**	**+1.4**
	comp=Z,36nm,0.6s,baz=324,slow=5.6,SNR=4.1						
HNR				LR	LR	14 46 18.3	
	comp=Z,121nm,18.8s,baz=309,slow=38						
	comp=Z,36nm,0.6s						
PATS	**Pohnpei**	**21.17**	**61**	P	**P**	**14 37 39.2**	**-1.2**
INKA	**Innaminka**	**24.02**	**178**	P	**P**	**14 38 08.5**	**-0.9**
EIDS	**Eidsvold**	**24.20**	**154**	P	**P**	**14 38 10.0**	**-1.0**
EIDS				IAmb	IAmb	14 38 22.8	
	comp=Z,25nm,0.7s						
BBKI	**Banjar Baru**	**24.94**	**270**	P	**P**	**14 38 21.4**	**+3.4**
KKM	**Kota Kinabalu**	**25.45**	**292**	P	**P**	**14 38 22.8**	**+0.1**
KKM				IAmb	IAmb	14 38 26.1	
	comp=Z,38nm,0.8s						
MBWA	**Marble Bar**	**26.20**	**227**	P	**P**	**14 38 29.9**	**+0.7**
MBWA				IAmb	IAmb	14 38 49.1	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**26.38**	**226**	P	**P**	**14 38 30.2**	**-0.6**
STKA	**Stephens Creek**	**28.17**	**177**	P	**P**	**14 38 46.8**	**-0.1**
STKA				IAmb	IAmb	14 39 06.8	
	comp=Z,22nm,1.0s						
STKA	**Stephens Creek**	**28.17**	**177**	P	**P**	**14 38 50.1**	**+3.3**
	comp=Z,1.1nm,0.6s,baz=3.7,slow=17,SNR=3.0						
STKA				LR	LR	14 51 06.6	
	comp=Z,268nm,19.4s,baz=1.2,slow=39						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**29.23**	**201**	P	**P**	**14 38 56.6**	**+0.4**
BBOO	**Buckleboo**	**29.27**	**187**	P	**P**	**14 38 55.3**	**-1.2**
BBOO				IAmb	IAmb	14 39 00.6	
	comp=Z,21nm,1.4s						
DZM	**Mont Dzumac**	**31.68**	**128**	*e*S	**S**	**14 44 21.6**	**-2.3**
	comp=Z,59nm,25.5s						
DZM				*e*LR	LR	14 47 37.2	
	comp=Z,164nm,26.2s						
LEM	**Lembang**	**32.23**	**263**	LR	LR	14 54 08.4	
	comp=Z,110nm,19.4s,baz=96,slow=40						
JOW	**Kunigami**	**32.25**	**340**	P	**P**	**14 39 19.4**	**-3.6**
MORW	**Morawa**	**33.94**	**219**	P	**P**	**14 39 36.1**	**-1.6**
MORW				IAmb	IAmb	14 39 46.3	
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**36.03**	**213**	P	**P**	**14 39 55.6**	**0.0**
	comp=Z,3.1nm,0.6s,baz=30,slow=14,SNR=1.4						
NWAO				LR	LR	14 55 41.6	
	comp=Z,246nm,18.1s,baz=56,slow=38						
	comp=Z,3.1nm,0.6s						
IPM	**Ipoh**	**39.59**	**281**	P	**P**	**14 40 26.4**	**+0.4**
KULM	**Kulim**	**40.12**	**283**	P	**P**	**14 40 30.0**	**-0.4**
KULM				IAmb	IAmb	14 40 32.7	
	comp=Z,23nm,1.1s						
NJ2	**Nanjing**	**40.68**	**332**	*e*P	**P**	**14 40 36.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
RPSI	**Rantau Prapat**	**41.36**	**278**	P	**P**	**14 40 40.7**	**+0.1**
RPSI				IAmb	IAmb	14 40 42.0	
	comp=Z,25nm,0.8s						
KSRS	**Korea Array**	**42.32**	**346**	P	**P**	**14 40 47.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=163,slow=11,SNR=2.7						
	comp=Z,1.6nm,0.8s						
GSI	**Gunungsitoli**	**42.51**	**276**	P	**P**	**14 40 48.4**	**-1.6**
GSI				IAmb	IAmb	14 40 50.7	
	comp=Z,16nm,0.6s						
GYA	**Guiyang**	**43.84**	**315**	⇓P	**P**	**14 41 01.4**	**+0.7**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIA	**Tai'an**	**44.94**	**334**	P	**P**	**14 41 09.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**45.85**	**300**	P	**P**	**14 41 15.2**	**-1.4**
	comp=Z,2.4nm,1.0s,baz=120,slow=6.2,SNR=26						
	comp=Z,2.4nm,1.0s						
LYN	**LuoYang**	**45.86**	**328**	P	**P**	**14 41 16.8**	**+0.3**
LYN				pmax	pmax		
	comp=Z,37nm,1.0s						
HNS	**HongShan**	**47.01**	**332**	⇓P	**P**	**14 41 25.5**	**+0.1**
HNS				pmax	pmax		
	comp=Z,23nm,1.1s						
XAN	**Xi'an**	**47.45**	**325**	P	**P**	**14 41 29.2**	**+0.3**
XAN				pmax	pmax		
	comp=Z,21nm,1.2s						
PZH	**PanZhiHua**	**47.45**	**311**	P	**P**	**14 41 31.2**	**+2.0**
TUWZ	**Tuamarina**	**48.51**	**146**	P	**P**	**14 41 38.4**	**+1.4**
RTZ	**Ruatahuna**	**48.55**	**141**	P	**P**	**14 41 37.8**	**+0.4**
RPZ	**Rata Peaks**	**48.56**	**150**	LR	LR	15 00 49.1	
	comp=Z,130nm,21.5s,baz=11,slow=34						
CD2	**Chengdu**	**48.59**	**318**	*e*P	**P**	**14 41 39.0**	**+1.2**
BNX	**BinXian**	**50.36**	**349**	⇑P	**P**	**14 41 53.6**	**+2.7**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**51.23**	**333**	*e*P	**P**	**14 42 00.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.2s						
HHC				LR	LR		
	comp=Z,830nm,10.8s						
HHC				LR	LR		
	comp=Z,3μm,14.2s						
HHC				LR	LR		
	comp=Z,890nm,16.0s						
GTA	**Gaotai**	**56.45**	**323**	*e*P	**P**	**14 42 37.3**	**+1.4**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM	**Songino Array**	**59.00**	**334**	P	**P**	**14 42 53.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=162,slow=5.8,SNR=5.7						
	comp=Z,0.6nm,0.5s						
CASY	**Casey**	**65.84**	**193**	P	**P**	**14 43 41.5**	**+2.6**
CASY				IAmb	IAmb	14 43 51.0	
	comp=Z,25nm,1.5s						
CASY	**Casey**	**65.84**	**193**	P	**P**	**14 43 43.1**	**+4.2**
WMQ	**Urumqi**	**66.40**	**321**	*e*P	**P**	**14 43 44.6**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				LR	LR		
	comp=Z,410nm,16.5s						
WMQ				LR	LR		
	comp=Z,260nm,24.0s						
PPT2	**Papeete2**	**70.42**	**107**	*e*S	**S**	**14 53 09.3**	**-8.5**
	comp=Z,37nm,30.0s						
PPT2	**Papeete2**	**70.42**	**107**	*e*LR	LR	15 05 36.2	
	comp=Z,94nm,28.8s						
PPT2				*e*LR	LR	15 05 36.6	
	comp=Z,125nm,30.5s						
MKAR	**Makanchi Array**	**71.17**	**322**	P	**P**	**14 44 13.0**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=94,slow=8.9,SNR=30						
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**71.37**	**322**	P	**P**	**14 44 13.8**	**0.0**
MAKZ				IAmb	IAmb	14 44 15.6	
	comp=Z,12nm,1.1s						
MAKZ	**Makanchi**	**71.37**	**322**	P	**P**	**14 44 14.3**	**+0.5**
MAKZ				pP	**pP**	**14 44 24.7**	**-4.7**
KSH	**Kashi**	**72.51**	**313**	P	**P**	**14 44 23.2**	**+2.3**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZALV	**Zalesovo Beam**	**73.27**	**330**	P	**P**	**14 44 23.9**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=106,slow=5.1,SNR=6.1						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**74.80**	**175**	P	**P**	**14 44 34.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=359,slow=3.0,SNR=5.4						
VNDA				LR	LR	15 17 01.7	
	comp=Z,75nm,18.2s,baz=1.0,slow=35						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**74.80**	**175**	P	**P**	**14 44 34.7**	**+1.3**
VNDA				pP	**PcP**	**14 44 45.1**	**-2.1**
KURBB	**Kurchatov Arra**	**75.10**	**325**	P	**P**	**14 44 35.2**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=113,slow=5.5,SNR=15						
	comp=Z,2.5nm,0.9s						
CHGR	**Chuyangaron**	**77.30**	**311**	P	**P**	**14 44 47.3**	**-1.2**
TAOE	**Nuku Hiva Isla**	**79.61**	**98**	*e*LR	LR	15 09 47.3	
	comp=Z,81nm,26.8s						
MAW	**Mawson**	**81.72**	**202**	P	**P**	**14 45 11.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=45,slow=7.7,SNR=4.8						
	comp=Z,1.2nm,0.7s						
D20K	**Etivluk River**	**84.02**	**19**	P	**P**	**14 45 23.5**	**-0.2**
RKT	**Rikitea**	**84.19**	**113**	*e*LR	LR	15 11 53.7	
	comp=Z,17μm,37.2s						
H24K	**Noodor Dome**	**86.10**	**23**	P	**P**	**14 45 34.4**	**+0.1**
ILAR	**Eielson Array**	**86.18**	**24**	P	**P**	**14 45 33.3**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=261,slow=5.1,SNR=11						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**86.35**	**180**	P	**P**	**14 45 38.4**	**+2.8**
QSPA				IAmb	IAmb	14 45 42.1	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**86.35**	**180**	P	**P**	**14 45 38.2**	**+2.7**
	comp=Z,3.4nm,0.6s,baz=298,slow=1.1,SNR=58						
QSPA				LR	LR	15 23 18.3	
	comp=Z,78nm,20.9s,baz=24,slow=35						
	comp=Z,3.4nm,0.6s						
G26K	**Porcupine Rive**	**87.99**	**23**	P	**P**	**14 45 44.2**	**+1.0**
G26K				IAmb	IAmb	14 45 47.8	
	comp=Z,5.6nm,0.9s						
SYO	**Syowa Base**	**90.32**	**201**	⇓*e*PcP	**PcP**	**14 45 58.0**	**+2.7**
KBZ	**Khabaz**	**97.49**	**313**	LR	LR	15 33 48.7	
	comp=Z,46nm,21.8s,baz=91,slow=38						
TORD	**Torodi Ar. Bea**	**137.57**	**285**	PKP	**PKPdf**	**14 52 20.1**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=40,slow=2.8,SNR=1.6						
DBIC	**Dimbokro**	**144.70**	**276**	PKP	**PKPab**	**14 52 30.8**	**+0.7**
	comp=Z,14nm,0.8s,baz=114,slow=2.1,SNR=13						
CPUP	**Villa Florida**	**145.92**	**152**	PKPbc	**PKiKP**	**14 52 36.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=157,slow=0.7,SNR=3.5						
LPAZ	**La Paz**	**146.02**	**126**	PKPbc	**PKiKP**	**14 52 38.0**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=207,slow=2.3,SNR=6.1						

*IDC **12** 14:50:11.7±8.9, 6°03S×129°81E, h204km±92km, mb3.2/3, mbtmp3.8/7, Error ellipse: s-maj=79.7km s-min=21.2km az=44.0*
*DJA **12** 14:50:11.6±0.2, 6°S±3°×13°0E±°, h224km±4km, M4.0/12, mb4.0/10, mB4.5/4, MLv4.2/12, Mw(mB)3.7/4*

ISC 12 14:50:09.9±0.7, 6°07S±0°06×130°03E±0°08, h200km, n22, σ1§66/26, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.54**	**355**	P	**Pn**	**14 50 45.1**	**+1.1**
BNDI				S	**Sn**	**14 51 11.8**	**+1.2**
SAUI	**Saumlaki**	**2.28**	**147**	P	Pn	14 51 01.2	+10
MSAI	**Masohi**	**2.92**	**338**	P	**Pn**	**14 50 58.3**	**-0.3**
MSAI				S	**Sn**	**14 51 33.2**	**-3.6**
AAI	**Ambon**	**2.99**	**322**	P	**Pn**	**14 51 00.2**	**+0.7**
FAKI	**Fak Fak**	**3.83**	**35**	P	**Pn**	**14 51 09.3**	**-0.4**
NLAI	**Namlea**	**4.05**	**314**	P	**Pn**	**14 51 14.0**	**+1.6**
KMPI	**Kaimana, Papua**	**4.37**	**57**	P	**Pn**	**14 51 17.5**	**+1.1**
SWI	**Sorong**	**5.32**	**13**	P	**Pn**	**14 51 27.5**	**-0.9**
	0.4nm1μm29nm,0.4s						
SANI	**Sanana**	**5.67**	**315**	P	**Pn**	**14 51 33.2**	**+0.2**
	0.1nm857nm17nm,0.8s						
RKPI	**Ransiki, Papua**	**6.13**	**43**	P	**Pn**	**14 51 39.7**	**+0.7**
SOEI	**Soe**	**6.78**	**237**	P	**Pn**	**14 51 49.3**	**+1.8**
	0.1nm17nm,1.2s						
BATI	**Baumata**	**7.52**	**236**	P	**Pn**	**14 51 58.7**	**+1.7**
	13nm,0.4s,baz=111,slow=17,SNR=2.6						
BATI				S	**Sn**	**14 53 20.6**	**-1.6**
	19nm,0.4s,baz=113,slow=18,SNR=6.2						
BAKI	**Biak**	**7.76**	**52**	P	**Pn**	**14 52 01.1**	**+1.0**
	45nm,0.7s						
EDFI	**Ende, Flores**	**8.69**	**252**	P	**Pn**	**14 52 15.3**	**+3.0**
WBSI	**Waikabubak, Su**	**11.12**	**251**	P	**Pn**	**14 52 45.6**	**+1.9**
	15nm,1.0s						
PLAI	**Plampang**	**12.45**	**257**	P	**Pn**	**14 53 02.7**	**+2.1**
	17nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.70**	**199**	P	**Pn**	**14 53 04.0**	**+0.3**
	1.6nm,0.5s,baz=24,slow=7.3,SNR=17						
FITZ				S	Sn	14 55 18.1	-7.4
	1.4nm,0.3s

POGA				IAML		14 55 05.0
	comp=Z,8.8nm,0.6s					
KDWAN	**Kaudwane**	**4.00 317**	*i*	P	**Pn**	**14 54 08.9 +3.3**
KDWAN				IAML		14 55 13.4
	comp=N,28nm,0.9s					

MOS ***12*** *14:55:23.7±1.9,22.°23N×110.°27E,h14km,mb4.9/19, MS4.0/4,Error ellipse: s-maj=10.5km s-min=6.9km az=111.5*

NEIC ***12*** *14:55:23.2±2.4,22.°06N±0.°06×110.°35E±0.°07,h10km±1km, mb4.6/30,Error ellipse: s-maj=11.6km s-min=9.8km az=292.0*

IDC ***12*** *14:55:24.0±0.5,22.°22N×110.°50E,h0km,mb4.2/21, mbtmp4.2/23,ML5.0/3,MS3.8/51,Error ellipse: s-maj=17.0km s-min=12.1km az=67.0*

GCMT ***12*** *14:55:26.2±0.3,22.°15N±0.°02×110.°52E±0.°02,h16km±1km, MW4.7/78,Moment Tensor Solution. s3,c3; s78,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.55±.09; $M_{\theta\theta}$-0.20±.06; $M_{\phi\phi}$0.74±.08; $M_{r\theta}$0.49±.20; $M_{\theta\phi}$-1.27±.06; $M_{\phi r}$-0.42±.19; Best double couple: $M_0$1.46700×10^{16} NP1:ϕ_s191.00000°,δ65.00000°,λ-3.00000°. NP2: ϕ_s283.00000°,δ87.00000°,λ-155.00000°. Principal axes: T 1.7920, Plg15.0000°, Azm54.0000°; N -0.6520, Plg65.0000°, Azm289.0000°; P -1.1410, Plg20.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***12*** *14:55:26.0,22.°16N×110.°52E,h10km,mB5.0/25,mb4.5/52, ML5.3/13,Ms5.1/55,Ms7 4.8/47*

PLV ***12*** *14:55:29.1±1.7,22.°22N×110.°29E,h17km±21km,ML5.6*

ISC 12 14:55:24.5±0.3,22.°10N±0.°03×110.°38E±0.°03,h10km,n185, σ_2**s74**/186**,mb4.6**/55**,MS3.9**/52**,10C-4D,Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZH	**Guangzhou**	**2.91**	**70**	Pn	**Pb**	**14 56 14.9**	**-1.6**
GZH				Pg	Pg	14 56 25.1	+4.8
GZH				Sg	**Sg**	**14 57 04.3**	**+6.2**
GZH				smax	smax		
	comp=N,6μm,0.6s						
GZH				smax	smax		
	comp=E,9μm,0.7s						
MCO	**Taipa Grande**	**2.95**	**89**	P	**Pb**	**14 56 17.0**	**-0.2**
QIZ	**Qiongzhong**	**3.10**	**189**	Pn	**Pn**	**14 56 12.4**	**-1.1**
QIZ				Sn	**Sn**	**14 56 47.5**	**-3.0**
QIZ	**Qiongzhong**	**3.10**	**189**	Pn	**Pn**	**14 56 13.0**	**-0.5**
QIZ				Pg	**Pg**	**14 56 25.3**	**+1.4**
QIZ				Sn	**Sn**	**14 56 49.9**	**-0.7**
QIZ				Sg	**Sg**	**14 57 04.8**	**+0.8**
QIZ				smax	smax		
	comp=N,4μm,0.8s						
QIZ				smax	smax		
	comp=E,8μm,1.1s						
GULI	**GuiLin**	**3.18**	**360**	Pn	**Pn**	**14 56 13.2**	**-1.4**
GULI				Pg	**Pg**	**14 56 23.5**	**-2.0**
GULI				Sn	**Sn**	**14 56 51.1**	**-1.5**
GULI				Sg	**Sg**	**14 57 04.8**	**-1.9**
GULI				smax	smax		
	comp=N,7μm,0.7s						
GULI				smax	smax		
	comp=E,10μm,0.6s						
LSVB	**Lang Son stati**	**3.38**	**267**	*e*Pn	**Pn**	**14 56 18.6**	**+1.2**
LSVB				*e*Sg	**Sg**	**14 57 15.5**	**+2.4**
HKPS	**Hong Kong Po S**	**3.49**	**86**		**Pn**	**14 56 17.4**	**-1.5**
HKC	**Hong Kong Obse**	**3.52**	**86**	⇑P	**Pn**	**14 56 18.0**	**-1.3**
BGV	**Bac-Giang**	**3.94**	**259**	*e*Pn	**Pn**	**14 56 27.9**	**+2.8**
BGV				*e*Pg	**Pg**	**14 56 43.4**	**+3.3**
BGV				*e*Sg	**Sg**	**14 57 33.5**	**+2.3**
BGV				*e*Sg	**Sg**	**14 57 34.1**	**+2.9**
BGV				IAML		14 57 38.0	
	comp=E,5μm,0.3s						
BGV				IAML		14 57 44.3	
	comp=N,7μm,1.0s						
HGVB	**Ha Giang**	**5.04**	**279**	*e*Pn	**Pn**	**14 56 43.1**	**+2.9**
HGVB				IAML		14 58 17.5	
	comp=E,3μm,1.1s						
HGVB				IAML		14 58 23.1	
	comp=N,4μm,0.8s						
VTVB	**Vinh Tuy**	**5.08**	**273**	*e*Pn	**Pn**	**14 56 43.6**	**+2.8**
VTVB				IAML		14 58 18.1	
	comp=N,3μm,0.7s						
VTVB				IAML		14 58 19.9	
	comp=E,2μm,0.6s						
GYA	**Guiyang**	**5.51**	**323**	⇓Pn	**Pn**	**14 56 46.0**	**-0.8**
GYA				Sn	**Sn**	**14 57 49.7**	**-0.5**
GYA				smax	smax		
	comp=E,3μm,0.8s						
GYA				smax	smax		
	comp=E,3μm,0.9s						
GYA				LR	LR		
	comp=E,11μm,6.2s						
GYA				LR	LR		
	comp=E,12μm,6.0s						
MLVB	**It Ong**	**5.93**	**265**	IAML		14 59 12.8	
	comp=N,2μm,0.7s						
MLVB				IAML		14 59 22.0	
	comp=E,2μm,0.9s						
SLVN	**Son La**	**6.07**	**264**		**Pn**	**14 56 50.4**	**-4.0**
CNSH	**ChangSha**	**6.48**	**20**	Pn	**Pn**	**14 56 57.7**	**-2.3**
CNSH				Sn	**Sn**	**14 58 11.4**	**-2.7**
CNSH				smax	smax		
	comp=E,12μm,1.0s						
CNSH				smax	smax		
	comp=E,12μm,0.9s						
KMI	**Kunming**	**7.62**	**295**	Pn	**Pn**	**14 57 19.6**	**+3.6**
KMI				Sn	**Sn**	**14 58 42.5**	**-0.1**
KMI				Sg	**Sg**	**14 59 27.9**	**-1.5**
KMI				smax	smax		
	comp=E,930nm,1.0s						
KMI				smax	smax		
	comp=E,910nm,1.4s						
KMI				LR	LR		
	comp=E,14μm,7.7s						
KMI				LR	LR		
	comp=E,8μm,7.2s						
KMI				LR	LR		
	comp=E,3μm,9.1s						
KNMB	**Chin-men Tao**	**7.73**	**71**		**Pn**	**14 57 15.2**	**-2.0**
QZH	**Quanzhou**	**8.05**	**68**	⇑*i*P	**Pn**	**14 57 20.6**	**-1.0**
QZH				S	**Sn**	**14 58 53.1**	**+0.4**
QZH				LR	LR		
	comp=E,4μm,5.2s						
QZH				LR	LR		
	comp=E,11μm,5.3s						
QZH				LR	LR		
	comp=E,9μm,6.3s						
ENH	**Enshi**	**8.18**	**355**	Pn	**Pn**	**14 57 22.4**	**-0.9**
PZH	**PanZhiHua**	**9.02**	**301**	P	**Pn**	**14 57 37.9**	**+3.0**
PZH				S	**Sn**	**14 59 21.6**	**+5.0**
PZH				pmax	pmax		
	comp=E,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=E,120nm,4.7s						
PZH				LR	LR		
	comp=E,8μm,9.8s						
PZH				LR	LR		
	comp=E,4μm,8.6s						
WHN	**Wuhan**	**9.13**	**22**	P	**Pn**	**14 57 34.5**	**-1.9**
WHN				S	**Sn**	**14 59 15.8**	**-3.5**
WHN				LR	LR		
	comp=E,15μm,7.5s						
WHN				LR	LR		
	comp=E,13μm,4.6s						
WHN				LR	LR		
	comp=E,18μm,7.2s						
TPUB	**Ta-pu**	**9.54**	**81**		**Pn**	**14 57 41.2**	**-0.8**
SSLB	**Suanglung**	**9.89**	**78**		**Pn**	**14 57 46.5**	**-0.4**
YULB	**Yu-li**	**10.16**	**81**		**Pn**	**14 57 50.5**	**0.0**
YHNB	**Yeheng**	**10.42**	**74**		**Pn**	**14 57 50.2**	**-3.9**
NACB	**Ninganchiao**	**10.53**	**77**		**Pn**	**14 57 52.0**	**-3.5**
CD2	**Chengdu**	**10.59**	**327**	P	**Pn**	**14 57 56.4**	**0.0**
CD2				S	**Sn**	**14 59 59.2**	**+4.1**
CD2				pmax	pmax		
	comp=E,30nm,0.5s						
CD2				LR	LR		
	comp=E,3μm,6.0s						
CD2				LR	LR		
	comp=E,3μm,6.7s						
CD2				LR	LR		
	comp=E,2μm,7.6s						
CHTO	**Chiang Mai**	**11.21**	**255**		**Pn**	**14 58 07.0**	**+2.1**
TNCH	**TengChong**	**11.26**	**287**	P	**Pn**	**14 58 08.9**	**+3.1**
TNCH				S	**Sn**	**15 00 16.2**	**+4.3**
TNCH				pmax	pmax		
	comp=E,31nm,0.6s						
TNCH				pmax	pmax		
	comp=E,110nm,3.5s						
TNCH				LR	LR		
	comp=E,3μm,6.5s						
CMAR	**Chiang Mai Arr**	**11.33**	**253**	Pn	**Pn**	**14 58 09.5**	**+3.0**
	comp=E,0.5nm,0.3s,baz=76,slow=12,SNR=23						
CMAR				Sn	**Sn**	**15 00 10.8**	**-2.5**
	comp=E,0.2nm,0.3s,baz=88,slow=17,SNR=2.1						
CMAR				Lg	Lg	15 01 30.5	
	baz=76,slow=34						
CMAR				LR	LR	15 02 10.8	
	comp=E,420nm,19.5s,baz=70,slow=36						
	comp=E,2.7nm,0.7s						
XAN	**Xi'an**	**11.96**	**354**	P	**Pn**	**14 58 16.5**	**+1.2**
XAN				S	**Sn**	**15 00 33.6**	**+4.7**
XAN				LR	LR		
	comp=E,3μm,6.2s						
XAN				LR	LR		
	comp=E,5μm,5.3s						
XAN				LR	LR		
	comp=E,3μm,7.4s						
NJ2	**Nanjing**	**12.45**	**35**	*e*P	**Pn**	**14 58 22.5**	**+0.6**
NJ2				S	**Sn**	**15 00 42.2**	**+1.5**
NJ2				pmax	pmax		
	comp=E,7.0nm,0.6s						
NJ2				LR	LR		
	comp=E,3μm,4.3s						
NJ2				LR	LR		
	comp=E,3μm,5.2s						
NJ2				LR	LR		
	comp=E,3μm,6.4s						
LYN	**LuoYang**	**12.54**	**8**	P	**Pn**	**14 58 24.6**	**+1.5**
LYN				S	**Sn**	**15 00 40.0**	**-2.9**
LYN				SS	**SnSn**	**15 01 01.6**	**+6.2**
LYN				pmax	pmax		
	comp=E,27nm,0.5s						
LYN				LR	LR		
	comp=E,7μm,9.8s						
LYN				LR	LR		
	comp=E,2μm,9.3s						
LYN				LR	LR		
	comp=E,6μm,8.2s						
TGY	**Tagaytay City**	**12.80**	**127**	LR	LR	15 02 37.2	
	comp=E,240nm,20.4s,baz=275,slow=34						
SSE	**Sheshan**	**13.17**	**45**	P	**Pn**	**14 58 29.3**	**-2.4**
SSE				S	**Sn**	**15 00 53.8**	**-4.5**
SSE				pmax	pmax		
	comp=E,13nm,0.6s						
SSE				pmax	pmax		
	comp=E,260nm,4.5s						
SSE				LR	LR		
	comp=E,1μm,10.2s						
SSE				LR	LR		
	comp=E,2μm,10.0s						
LZDM	**Lanzhou Array**	**14.99**	**339**	Pn	**Pn**	**14 58 55.4**	**-1.4**
	baz=168,slow=15						
LZDM				Sn	Sn	15 01 30.4	-13
	baz=98,slow=29						
LZDM				Lg	Lg	15 03 18.1	
	baz=149,slow=31						
LZDM				LR	LR	15 05 20.8	
	comp=E,344nm,19.4s,baz=45,slow=40						
	comp=E,4.5nm,0.3s						
LZH	**Lanzhou**	**15.06**	**339**	*e*P	**Pn**	**14 58 58.2**	**+0.6**
LZH				sP	sP	14 59 07.2	+0.1
LZH				pmax	pmax		
	comp=E,26nm,1.0s						
LZH				LR	LR		
	comp=E,2μm,6.7s						
LZH				LR	LR		
	comp=E,2μm,6.5s						
LZH				LR	LR		
	comp=E,2μm,8.6s						
TIA	**Tai'an**	**15.24**	**21**	P	**Pn**	**14 58 59.7**	**-0.1**
TIA				pmax	pmax		
	comp=E,16nm,0.9s						
TIA				LR	LR		
	comp=E,2μm,11.0s						
TIA				LR	LR		
	comp=E,3μm,10.0s						
KOHI	**KOHIMA**	**15.31**	**287**	*e*P	**Pn**	**14 58 57.4**	**-3.6**
KOHI				IAmb	IAmb	14 59 13.8	
KOHI				*e*S	**Sn**	**15 01 45.4**	**-5.4**
KOHI				IAmb	IAmb	15 04 00.3	
	comp=N,39nm,1.2s						
IMP	**Imphal**	**15.32**	**283**	*e*P	**Pn**	**14 58 58.3**	**-2.8**
IMP				IAmb	IAmb	14 59 16.7	
	comp=Z,67nm,1.4s						
IMP				*e*S	**Sn**	**15 01 47.4**	**-3.6**
TIY	**Taiyuan**	**15.66**	**6**	P	**Pn**	**14 59 06.2**	**+0.8**
TIY				S	**Sn**	**15 02 04.5**	**+5.4**
TIY				pmax	pmax		
	comp=Z,180nm,4.6s						
TIY				LR	LR		
	comp=Z,2μm,10.3s						
TIY				LR	LR		
	comp=Z,1μm,7.3s						
TIY				LR	LR		
	comp=Z,2μm,18.8s						
HNS	**HongShan**	**15.70**	**13**	⇓P	**P**	**14 59 14.8**	**+4.9**
HNS				*e*S	**S**	**15 02 19.0**	**+4.1**
HNS				pmax	pmax		
	comp=Z,23nm,1.3s						
HNS				LR	LR		
	comp=N,2μm,12.7s						
HNS				LR	LR		
	comp=E,3μm,14.3s						
HNS				LR	LR		
	comp=Z,1μm,12.7s						
TEZP	**TEZPUR**	**16.64**	**289**	*e*P	**Pn**	**14 59 13.1**	**-4.8**
TEZP				IAmb	IAmb	14 59 27.5	
	comp=Z,63nm,0.3s						
TEZP				*e*S	**Sn**	**15 02 18.9**	**-3.9**
TEZP				IAmb	IAmb	15 02 41.7	
	comp=N,16nm,0.2s						
JOW	**Kunigami**	**16.96**	**70**	LR	LR	15 07 03.7	
	comp=N,736nm,18.4s,baz=294,slow=42						
SHL	**Shillong**	**17.27**	**285**	*e*P	**Pn**	**14 59 21.2**	**-4.9**
SHL				IAmb	IAmb	14 59 32.9	
	comp=E,25nm,0.0s						
SHL				IAmb	IAmb	14 59 35.4	
	comp=Z,467nm,2.6s						
SHL				*e*S	**Sn**	**15 02 32.3**	**-6.2**
SHL				IAmb	IAmb	15 02 44.1	
	comp=E,46nm,0.1s						
SHL				IAmb	IAmb	15 02 59.5	
	comp=N,320nm,0.1s						
BRDH	**Bariadhala**	**17.34**	**275**	P	**P**	**14 59 30.4**	**+2.2**
	comp=N,34nm,0.3s,baz=76,slow=12,SNR=8.2						
BRDH				LR	LR	15 06 34.5	
	comp=N,254nm,18.5s,baz=108,slow=38						
BTO	**Baotou**	**18.45**	**359**	*e*P	**Pn**	**14 59 42.1**	**+1.6**
BTO				S	**Sn**	**15 03 05.9**	**-0.9**
BTO				pmax	pmax		
	comp=N,21nm,0.9s						
BTO				pmax	pmax		
	comp=N,430nm,6.0s						
BTO				LR	LR		
	comp=N,2μm,9.5s						
BTO				LR	LR		
	comp=N,2μm,6.5s						
BTO				LR	LR		
	comp=N,3μm,9.4s						
BJT	**Baijiatuau**	**18.53**	**14**	P	**Pn**	**14 59 41.5**	**+0.2**
BJT	**Baijiatuau**	**18.53**	**14**	P	**P**	**14 59 38.8**	**-2.4**
BJT				pmax	pmax		
	comp=Z,19nm,1.0s						
BJI	**Beijing**	**18.55**	**14**	P	**Pn**	**14 59 42.5**	**+0.9**
BJI				pP	**sP**	**14 59 46.6**	**+1.0**
BJI				sP	**pP**	**14 59 50.0**	**+5.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MYLDM	**Lahad Datu**	**18.57**	**154**	P	**Pn**	**14 59 41.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**18.72**	**3**	*e*P	**Pn**	**14 59 43.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,240nm,4.9s						
LSA	**Lhasa**	**18.87**	**298**	P	**P**	**14 59 42.4**	**-3.1**
LSA	**Lhasa**	**18.87**	**298**	P	**P**	**14 59 45.0**	**-0.5**
LSA	**Lhasa**	**18.87**	**298**	P	**P**	**14 59 41.7**	**-3.8**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KULM	**Kulim**	**19.18**	**211**	P	**P**	**14 59 45.9**	**-2.6**
DL2	**Dalian**	**19.32**	**27**	P	**Pn**	**14 59 52.6**	**+1.6**
DL2				pmax	pmax		
	comp=Z,58nm,1.3s						
DL2				pmax	pmax		
	comp=Z,900nm,5.8s						
DL2				LR	LR		
	comp=Z,3μm,9.5s						
DL2				LR	LR		
	comp=Z,5μm,14.7s						
DL2				LR	LR		
	comp=Z,2μm,9.0s						
GTA	**Gaotai**	**19.47**	**335**	*e*P	**Pn**	**14 59 52.8**	**-0.1**
GTA				sS	sS	15 03 35.8	-0.6
GTA				LR	LR		
	comp=Z,740nm,9.1s						
GTA				LR	LR		
	comp=Z,840nm,8.7s						
GOMU	**GeErMu**	**19.51**	**319**	P	**Pn**	**14 59 55.2**	**+1.6**
GOMU				pP	sP	14 59 59.1	+2.5
GOMU				sP	pP	15 00 02.5	+7.2
GOMU				S	**S**	**15 03 34.6**	**+1.5**
SBUM	**Sibu**	**19.61**	**175**	P	**P**	**14 59 49.7**	**-3.5**
IPM	**Ipoh**	**19.72**	**209**	P	**P**	**14 59 48.5**	**-6.0**
IPM				IAmb	IAmb	15 00 03.7	
	comp=Z,22nm,0.7s						
KSM	**Kuching**	**20.50**	**180**	P	**P**	**15 00 00.8**	**-2.1**
KSM				IAmb	IAmb	15 00 08.3	
	comp=Z,21nm,1.0s						
MYKOM	**Kota Tinggi**	**21.16**	**198**	P	**P**	**15 00 06.9**	**-3.1**
MYKOM				IAmb	IAmb	15 00 21.1	
	comp=Z,18nm,1.0s						
JNU	**Nakatsue**	**21.19**	**54**	P	**P**	**15 00 10.3**	**+0.1**
	comp=Z,30nm,1.0s,baz=217,slow=9.6,SNR=5.3						
JNU				LR	LR	15 08 53.1	
	comp=Z,297nm,20.3s,baz=273,slow=38						
	comp=Z,30nm,1.0s						
KSRS	**Korea Array**	**21.53**	**41**	P	**P**	**15 00 13.3**	**-0.6**
	comp=Z,7.3nm,0.8s,baz=237,slow=11,SNR=14						
KSRS				Lg	Lg	15 06 36.1	
	comp=Z,0.1nm,0.3s,baz=219,slow=28,SNR=1.9						
	comp=Z,7.3nm,0.8s						
TPRI	**Tanjung Pinang**	**21.81**	**196**	P	**P**	**15 00 23.8**	**+6.8**
	comp=Z,34nm,1.1s						
KCSI	**Kotacane, Aceh**	**22.15**	**215**	P	**P**	**15 00 27.1**	**+6.4**
PSI	**Prapat**	**22.18**	**212**	P	**P**	**15 00 25.9**	**+4.8**
	comp=Z,7.0nm,0.5s,baz=12,slow=5.8,SNR=9.1						
PSI				LR	LR	15 09 04.8	
	comp=Z,236nm,21.4s,baz=50,slow=37						
	comp=Z,7.0nm,0.5s						
XLT	**XiLinHaoTe**	**22.25**	**11**	*e*P	**P**	**15 00 21.6**	**0.0**
XLT				S	S	15 04 14.2	-12
XLT				pmax	pmax		
	comp=Z,23nm,0.9s						
XLT				LR	LR		
	comp=Z,1μm,9.4s						
RPSI	**Rantau Prapat**	**22.27**	**212**	P	**P**	**15 00 17.1**	**-4.9**
RPSI				IAmb	IAmb	15 00 29.4	
	comp=Z,9.3nm,0.6s						
TOLI2	**Tolitoli**	**23.19**	**153**	P	**P**	**15 00 27.6**	**-4.1**
SBSI	**Sibolga**	**23.29**	**210**	P	**P**	**15 00 33.2**	**+0.6**
MRSI	**Marisa**	**24.26**	**151**	P	**P**	**15 00 43.3**	**+1.3**
	comp=Z,41nm,0.5s						
TPI	**Tanjungpandan**	**24.85**	**186**	P	**P**	**15 00 52.8**	**+5.5**
	comp=Z,13nm,1.1s						
CN2	**Changchun**	**24.99**	**26**	*e*P	**P**	**15 00 49.1**	**+0.7**
CN2				*e*S	**S**	**15 05 18.2**	**+6.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=Z,1μm,11.0s						
CN2				LR	LR		
	comp=Z,1μm,11.0s						
CN2				LR	LR		
	comp=Z,700nm,10.0s						
ULN	**Ulaanbaatar**	**25.85**	**355**	P	**P**	**15 00 53.7**	**-2.6**
ULN				IAmb	IAmb	15 01 04.1	
	comp=Z,31nm,1.5s						
ULN	**Ulaanbaatar**	**25.85**	**355**	*ce*P	**P**	**15 00 57.2**	**+0.9**
ULN				pmax	pmax		
	comp=Z,26nm,1.7s						
SONM	**Songino Array**	**25.88**	**354**	P	**P**	**15 00 58.5**	**+1.9**
	comp=Z,6.1nm,0.7s,baz=173,slow=11,SNR=18						
SONM				LR	LR	15 11 04.6	
	comp=Z,324nm,18.1s,baz=167,slow=36						
	comp=Z,6.1nm,0.7s						
LUWI	**Luwuk**	**25.99**	**151**	P	**P**	**15 00 52.7**	**-4.9**
LUWI	**Luwuk**	**25.99**	**151**	P	**P**	**15 01 01.3**	**+3.6**
	comp=Z,66nm,1.2s						
MASI	**Maura Aman, Be**	**26.32**	**199**	P	**P**	**15 01 06.6**	**+5.9**
BNX	**BinXian**	**27.37**	**26**	⇓P	**P**	**15 01 11.8**	**+1.9**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	**Matsushiro Arr**	**28.09**	**53**	LR	LR	15 13 16.0	
	comp=Z,362nm,19.2s,baz=226,slow=38						
WMQ	**Urumqi**	**28.66**	**324**	*e*P	**P**	**15 01 22.4**	**+0.8**
WMQ				LR	LR		
	comp=Z,380nm,5.5s						
WMQ				LR	LR		
	comp=Z,340nm,7.7s						
LEM	**Lembang**	**28.87**	**186**	LR	LR	15 15 10.0	
	comp=Z,96nm,20.5s,baz=250,slow=41						
KPJI	**Karang Pucung**	**29.28**	**183**	P	P	15 01 33.0	+5.8
	comp=Z,40nm,0.8s						
MSAI	**Masohi**	**31.12**	**142**	P	P	15 01 48.2	+4.7
	comp=Z,1μmcomp=Z,26nm,0.9s						
HEH	**HeiHe**	**31.13**	**21**	*e*P	**P**	**15 01 43.6**	**+0.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				LR	LR		
	comp=Z,1μm,15.3s						
HEH				LR	LR		
	comp=Z,2μm,15.7s						
HEH				LR	LR		
	comp=Z,820nm,15.1s						
PLAI	**Plampang**	**31.58**	**166**	P	**P**	**15 01 51.4**	**+3.9**
	comp=Z,43nm,1.1s						
PALK	**Pallekele**	**32.18**	**247**	P	**P**	**15 01 49.7**	**-3.2**
PALK				IAmb	IAmb	15 02 01.5	
	comp=Z,19nm,1.0s						
PALK	**Pallekele**	**32.18**	**247**	LR	LR	15 15 20.7	
	comp=Z,158nm,20.0s,baz=62,slow=37						
PALK	**Pallekele**	**32.18**	**247**	P	**P**	**15 01 49.7**	**-3.2**
PALK				pmax	pmax		
	comp=Z,19nm,1.0s						
EDFI	**Ende, Flores**	**32.60**	**159**	P	**P**	**15 01 58.0**	**+1.4**
MK31	**Makanchi Array**	**33.50**	**324**	*ce*P	**P**	**15 02 03.6**	**-0.5**
MKAR	**Makanchi Array**	**33.50**	**324**	P	**P**	**15 02 04.1**	**0.0**
	comp=Z,1.7nm,0.7s,baz=122,slow=9.2,SNR=14						
MKAR				LR	LR	15 17 05.3	
	comp=Z,359nm,18.5s,baz=114,slow=39						
	comp=Z,1.7nm,0.7s						
MAKZ	**Makanchi**	**33.68**	**324**	P	**P**	**15 02 03.6**	**-2.1**
MAKZ	**Makanchi**	**33.68**	**324**	P	**P**	**15 02 03.6**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GUMO	**Guam**	**33.84**	**99**	LR	LR	15 16 00.0	
	comp=Z,55nm,18.3s,baz=294,slow=37						
KSH	**Kashi**	**34.01**	**309**	P	**P**	**15 02 09.0**	**+0.2**
KSH				LR	LR		
	comp=Z,550nm,11.4s						
KSH				LR	LR		
	comp=Z,310nm,15.8s						
KSH				LR	LR		
	comp=Z,580nm,14.0s						
ZEA	**Zeya**	**34.09**	**18**	*e*P	**P**	**15 02 12.6**	**+3.5**
ZEA				MLR	MLR		
	comp=N,200nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
ASAJ	**Asahikawa**	**34.45**	**43**	LR	LR	15 15 40.5	
	comp=Z,176nm,20.0s,baz=288,slow=36						
NIL	**Nilore**	**34.61**	**298**	P	**P**	**15 02 12.6**	**-1.3**
NIL	**Nilore**	**34.61**	**298**	P	**P**	**15 02 12.6**	**-1.3**
NIL				pmax	pmax		
	comp=Z,22nm,0.8s						
BATI	**Baumata**	**34.65**	**157**	LR	LR	15 19 06.8	
	comp=Z,95nm,19.2s,baz=84,slow=41						
YSS	**Yuzhno-Sakhali**	**36.00**	**39**	*e*P	**P**	**15 02 24.0**	**-1.6**
YSS				*e*		15 04 00.8	
YSS				*e*		15 04 55.4	

YSS *e*S **S** **15 07 58.7 -5.6**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=N,400nm,12.0s
YSS MLR MLR
comp=Z,500nm,12.0s
YSS MLR MLR
comp=E,400nm,10.0s
AAK Ala-Archa 36.21 313 P **P** **15 02 24.9 -2.8**
AAK IAmb IAmb 15 02 34.9
comp=Z,9.0nm,1.2s
AAK Ala-Archa 36.21 313 LR LR 15 19 03.5
comp=Z,195nm,19.6s,baz=112,slow=39
AAK Ala-Archa 36.21 313 *ce*P **P** **15 02 26.9 -0.8**
AAK pmax pmax
comp=Z,12nm,1.7s
ZAA0 Zalesovo Array 37.23 335 P **P** **15 02 33.7 -2.4**
ZALV Zalesovo Beam 37.23 335 P **P** **15 02 35.8 -0.2**
comp=Z,5.0nm,0.7s,baz=133,slow=7.2,SNR=16
ZALV LR LR 15 18 50.0
comp=Z,118nm,18.3s,baz=139,slow=38
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 37.23 335 *i*P **P** **15 02 37.5 +1.5**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 37.80 327 P **P** **15 02 41.2 +0.2**
comp=Z,4.4nm,0.7s,baz=126,slow=9.4,SNR=28
comp=Z,4.4nm,0.7s
KURK Kurchatov 37.81 327 P **P** **15 02 40.3 -0.7**
KURK IAmb IAmb 15 02 46.2
comp=Z,6.0nm,0.7s
KURK Kurchatov 37.81 327 *ce*P **P** **15 02 40.3 -0.7**
KURK pmax pmax
comp=Z,17nm,1.7s
KBL Kabul 38.19 298 P **P** **15 02 43.0 -1.8**
KBL IAmb IAmb 15 02 51.3
comp=Z,15nm,1.2s
JAY Jayapura 38.42 126 LR LR 15 19 41.1
comp=Z,39nm,20.3s,baz=259,slow=38
CHGR Chuyangaron 38.84 305 P **P** **15 02 46.8 -3.2**
CHGR IAmb IAmb 15 02 56.6
comp=Z,27nm,1.3s
CHGR Chuyangaron 38.84 305 P **P** **15 02 46.8 -3.2**
CHGR pmax pmax
comp=Z,27nm,1.3s
YAK Yakutsk 42.05 13 P **P** **15 03 14.1 -2.0**
YAK IAmb IAmb 15 03 19.5
comp=Z,16nm,0.7s
YAK Yakutsk 42.05 13 LR LR 15 22 42.7
comp=Z,176nm,18.7s,baz=203,slow=39
YAK Yakutsk 42.05 13 *e*P **P** **15 03 14.5 -1.6**
YAK *e* 15 04 52.0
YAK *e* 15 05 08.8
YAK *e*S **S** **15 09 35.1 0.0**
YAK *e*SS **SS** **15 12 42.3 +0.1**
YAK *e* 15 13 17.6
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,109nm,3.5s
YAK pmax pmax
comp=N,98nm,3.5s
YAK pmax pmax
comp=E,78nm,3.8s
YAK smax smax
comp=N,133nm,3.0s
YAK smax smax
comp=E,58nm,2.8s
YAK MLR MLR
comp=Z,235nm,16.0s
YAK MLR MLR
comp=N,212nm,18.0s
YAK MLR MLR
comp=E,128nm,18.0s
BORK Borovoye 43.39 326 *ce*P **P** **15 03 25.6 -1.5**
BORK pmax pmax
comp=Z,13nm,1.7s
MA2 Magadan 47.04 27 LR LR 15 23 27.3
comp=Z,103nm,18.5s,baz=238,slow=36
PETK Petropavlovsk- 47.35 37 LR LR 15 24 07.1
comp=Z,149nm,19.1s,baz=243,slow=36
WB0 Warramunga Arr 47.77 149 P **P** **15 03 59.0 -3.1**
WB0 IAmb IAmb 15 04 04.0
comp=Z,6.3nm,1.1s
WRA Warramunga Arr 47.90 149 P **P** **15 04 03.1 -0.1**
comp=Z,1.9nm,0.9s,baz=334,slow=8.8,SNR=13
comp=Z,1.9nm,0.9s
AB31 Akbulak array 47.96 317 P **P** **15 04 01.5 -1.8**
AB31 IAmb IAmb 15 04 06.8
comp=Z,5.2nm,0.8s
AKTO Aktyubinsk 49.48 318 LR LR 15 26 18.5
comp=Z,126nm,18.0s,baz=201,slow=38
SEY Seymchan 49.62 24 LR LR 15 25 36.5
comp=Z,116nm,18.2s,baz=272,slow=37
SEY Seymchan 49.62 24 P **P** **15 04 15.4 -0.4**
SEY pmax pmax
comp=Z,23nm,1.5s
SVE Sverdlovsk 50.06 327 *e*P **P** **15 04 22.3 +3.0**
SVE pmax pmax
comp=Z,18nm,1.6s
TIXI Tiksi 50.70 7 P **P** **15 04 24.7 +0.8**
TIXI IAmb IAmb 15 04 28.3
comp=Z,8.3nm,1.1s
TIXI Tiksi 50.70 7 *i*P **P** **15 04 25.0 +1.1**
TIXI pmax pmax
comp=Z,11nm,1.4s
ASAR Alice Springs 50.92 152 P **P** **15 04 27.9 +1.6**
comp=Z,2.0nm,0.9s,baz=335,slow=6.3,SNR=22
ASAR PcP **PcP** **15 05 44.3 +1.6**
comp=Z,1.6nm,0.8s,baz=335,slow=3.2,SNR=10
comp=Z,2.0nm,0.9s
ARTI Arti 51.06 326 P **P** **15 04 26.6 -0.3**
ARTI IAmb IAmb 15 04 32.8
comp=Z,7.3nm,0.7s
ARTI Arti 51.06 326 LR LR 15 29 24.9
comp=Z,68nm,18.1s,baz=110,slow=40
ARTI Arti 51.06 326 *d*P **P** **15 04 27.6 +0.7**
ARTI 15 05 38.0
ARTI 15 06 23.0
ARTI S **S** **15 11 50.0 +5.7**
ARTI pmax pmax
comp=Z,6.0nm,0.8s
FORT Forrest 55.25 161 P **P** **15 04 57.2 -0.7**
FORT IAmb IAmb 15 05 25.1
comp=Z,17nm,1.3s
KIRV Kirov 56.33 327 *ce*P **P** **15 05 03.7 -1.7**
SHEM Shemya Is, Ala 56.86 41 P **P** **15 05 07.9 -1.4**
SHEM Shemya Is, Ala 56.86 41 LR LR 15 29 37.6
comp=Z,71nm,20.6s,baz=282,slow=36
SMY Shemya 56.86 41 P **P** **15 05 07.7 -1.6**
BILL Bilibino 57.17 22 *i*P **P** **15 05 10.6 -0.7**
BILL pmax pmax
comp=Z,13nm,1.6s
GNI Garni 57.76 304 *ce*P **P** **15 05 13.6 -2.5**
GNI pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 58.99 309 P **P** **15 05 26.3 +1.9**
comp=Z,6.4nm,1.1s,baz=47,slow=15,SNR=3.7
comp=Z,6.4nm,1.1s
KBZ Khabaz 58.99 309 *ce*P **P** **15 05 23.7 -0.7**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 59.14 309 P **P** **15 05 23.6 -2.1**
KIV Kislovodsk 59.14 309 *e*P **P** **15 05 23.5 -2.1**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,42nm,17.0s
SHA1 Shidzhatmaz 59.17 309 *i*P **P** **15 05 23.3 -2.7**
STKA Stephens Creek 61.43 150 P **P** **15 05 40.5 -0.6**
STKA Stephens Creek 61.43 150 P **P** **15 05 42.5 +1.3**
comp=Z,3.8nm,0.7s,baz=335,slow=6.3,SNR=8.8
comp=Z,3.8nm,0.7s
KLMR Klimovskoe 61.64 328 *e*P **P** **15 05 40.3 -2.0**
KLMR pmax pmax
comp=Z,18nm,1.5s
OBN Obninsk 62.95 322 LR LR 15 34 24.5
comp=Z,85nm,18.3s,baz=194,slow=37
ASF Jabal al Asfar 65.05 296 LR LR 15 38 57.4
comp=Z,66nm,20.1s,baz=137,slow=40
MMAI Mount Meron Ar 66.12 297 LR LR 15 37 38.8
comp=Z,63nm,18.7s,baz=86,slow=38
BRTR Keskin Array B 66.29 305 P **P** **15 06 15.1 +1.6**
comp=Z,0.8nm,0.6s,baz=113,slow=2.8,SNR=5.1
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 67.71 317 P **P** **15 06 22.8 +0.7**
comp=Z,0.4nm,0.5s,baz=76,slow=5.3,SNR=2.0
AKASG LR LR 15 38 07.9
comp=Z,93nm,18.3s,baz=59,slow=38
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 67.71 338 P **P** **15 06 23.4 +1.6**
comp=Z,1.8nm,0.8s,baz=76,slow=7.3,SNR=12
ARCES LR LR 15 38 52.0
comp=Z,105nm,19.3s,baz=80,slow=39
comp=Z,1.8nm,0.8s
FINES FINESS Array B 68.14 329 P **P** **15 06 23.7 -0.9**
comp=Z,2.2nm,0.9s,baz=79,slow=9.9,SNR=5.0
FINES LR LR 15 37 27.7
comp=Z,80nm,18.4s,baz=103,slow=37
comp=Z,2.2nm,0.9s
DZM Mont Dzumac 70.09 125 *e*LR LR 15 27 49.8
comp=Z,72nm,24.3s
MLR Muntele Rosu 70.78 312 LR LR 15 41 21.7
comp=Z,66nm,20.4s,baz=63,slow=39
HFS Hagfors 74.35 329 P **P** **15 07 03.8 +1.6**
comp=Z,1.0nm,0.6s,baz=90,slow=7.4,SNR=5.2
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 74.82 262 P **P** **15 07 07.6 +1.6**
comp=Z,2.9nm,0.6s,baz=64,slow=9.1,SNR=4.1
comp=Z,2.9nm,0.6s
KDAK Kodiak Island 75.23 33 LR LR 15 43 41.9
comp=Z,105nm,18.6s,baz=300,slow=39
NOA NORSAR Array B 75.23 330 P **P** **15 07 07.8 +0.4**
comp=Z,0.9nm,0.8s,baz=72,slow=5.9,SNR=2.9
NOA LR LR 15 42 20.4
comp=Z,65nm,19.4s,baz=55,slow=38
comp=Z,0.9nm,0.8s
ILAR Eielson Array 75.50 26 P **P** **15 07 09.0 +0.2**
comp=Z,0.6nm,0.8s,baz=274,slow=4.5,SNR=7.0
ILAR LR LR 15 44 13.4
comp=Z,68nm,18.5s,baz=332,slow=39
comp=Z,0.6nm,0.8s
VRAC Vrosv 75.95 318 LR LR 15 42 12.3
comp=Z,92nm,21.2s,baz=85,slow=37
GERES GERESS Array B 77.90 318 P **P** **15 07 22.6 -0.2**
comp=Z,0.1nm,0.3s,baz=63,slow=6.3,SNR=4.1
GERES LR LR 15 44 22.5
comp=Z,107nm,21.1s,baz=76,slow=38
comp=Z,0.1nm,0.3s
JMIC Jan Mayen 78.08 343 LR LR 15 44 19.6
comp=Z,54nm,19.7s,baz=20,slow=38
INK Inuvik 78.72 20 LR LR 15 45 43.2
comp=Z,66nm,19.1s,baz=98,slow=38
BORG Borgarnes 85.80 341 LR LR 15 50 32.3
comp=Z,38nm,18.9s,baz=27,slow=39
YKA Yellowknife Ar 88.47 19 LR LR 15 52 53.3
comp=Z,97nm,19.1s,baz=320,slow=39
LSZ Lusaka 88.64 253 LR LR 15 45 53.6
comp=Z,66nm,18.4s,baz=118,slow=34
BBB Bella Bella 90.21 32 LR LR 15 50 50.5
comp=Z,20nm,18.7s,baz=265,slow=37
MATP Matopo 90.40 248 LR LR 15 45 26.5
comp=Z,41nm,18.0s,baz=75,slow=33
ESDC Sonseca Array 93.28 315 LR LR 15 55 17.6
comp=Z,41nm,18.2s,baz=60,slow=38
FRB Frobisher Bay 94.44 360 LR LR 15 52 08.7
comp=Z,61nm,19.5s,baz=350,slow=36
LBTB Lobatse 94.63 245 LR LR 15 51 12.0
comp=Z,52nm,19.7s,baz=80,slow=35
MAW Mawson 96.05 197 P **P** **15 08 53.8 +2.3**
comp=Z,1.3nm,0.9s,baz=22,slow=9.5,SNR=4.0
MAW LR LR 15 47 30.1
comp=Z,40nm,19.3s,baz=44,slow=32
comp=Z,1.3nm,0.9s
BOSA Boshof 96.25 242 LR LR 15 51 09.7
comp=Z,42nm,18.9s,baz=27,slow=35
NEW Newport 98.07 30 LR LR 15 58 24.8
comp=Z,54nm,18.4s,baz=322,slow=39
TSUM Tsumeb 99.50 253 LR LR 15 53 00.2
comp=Z,68nm,18.9s,baz=46,slow=35
PPT2 Papeete2 105.46 103 *e*LR LR 15 44 15.3
comp=Z,46nm,26.2s
TAOE Nuku Hiva Isla 111.27 91 *e*LR LR 15 46 48.4
comp=Z,52nm,25.7s
TXAR Lajitas Array 119.25 34 PKP **PKiKP** **15 14 14.5 -0.3**
comp=Z,0.2nm,0.6s,baz=243,slow=2.2,SNR=4.0

WEL 12 15:04:52.3±1.0, 36°S±7°×17°7E±°, h5km, M3.0/27, ML3.8/12, MLv3.0/27, Error ellipse: s-maj=10.7km s-min=5.4km az=39.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.44**	**166**	P	Pn	15 05 15.5	-3.5
GRZ	**Great Barrier**	**1.52**	**274**	P	Pn	15 05 20.0	-0.2
RUGZ	**Raukumara Rang**	**1.62**	**170**	P	Pn	15 05 19.3	-2.4
RUGZ				S	Sg	15 05 47.5	+3.0
WMGZ	**Waiomatatini S**	**1.69**	**150**	P	Pn	15 05 22.0	-0.5
WMGZ				S	Sg	15 05 49.1	+2.5
WIAZ	**Waiheke Island**	**1.82**	**256**	P	Pn	15 05 23.7	-0.6
PUZ	**Puketiti**	**1.86**	**157**	P	Pn	15 05 25.0	+0.1
PUZ				S	Sb	15 05 50.8	+0.5
TWGZ	**Tauwhareparae**	**1.88**	**164**	P	Pn	15 05 25.5	+0.3
TWGZ				S	Sg	15 05 53.0	+0.2
MKAZ	**Moumakai**	**1.90**	**246**	P	Pn	15 05 24.2	-1.1
URZ	**Urewera**	**1.90**	**185**	P	Pn	15 05 23.7	-1.7
MWZ	**Matawai**	**1.97**	**176**	P	Pn	15 05 24.8	-1.7
MBAZ	**Motutapu North**	**2.00**	**258**	P	Pb	15 05 28.6	-0.6
ETAZ	**East Tamaki Re**	**2.02**	**252**	P	Pn	15 05 27.9	+0.9
TKGZ	**Te Karaka**	**2.11**	**169**	P	Pn	15 05 28.9	+0.6
TKGZ				S	Sb	15 05 56.3	-1.3
MUGZ	**Murupara**	**2.16**	**192**	P	Pn	15 05 30.3	+1.4
MUGZ				S	Sb	15 05 59.1	+0.2
CNGZ	**Carnagh Statio**	**2.23**	**162**	P	Pn	15 05 28.7	-1.2
CNGZ				S	Sn	15 05 56.3	-1.5
RTZ	**Ruatahuna**	**2.27**	**187**	S	Sn	15 05 58.5	-0.3
RIGZ	**Rimuhau**	**2.36**	**172**	P	Pn	15 05 32.3	+0.5
TLZ	**Tolley Road**	**2.43**	**216**	P	Pn	15 05 32.3	-0.5
TLZ				S	Sn	15 06 02.4	-0.4
BKZ	**Black Stump Fm**	**2.88**	**193**	P	Pn	15 05 38.4	-0.5
HIZ	**Hauiti**	**2.91**	**222**	P	Pn	15 05 39.2	-0.2
NTVZ	**North Tongarir**	**3.03**	**205**	P	Pb	15 05 44.2	-2.6
TMVZ	**Te Maari**	**3.04**	**205**	P	Pb	15 05 45.6	-1.3
OTVZ	**Oturere**	**3.09**	**205**	P	Pn	15 05 44.7	+2.8
SNVZ	**South Ngauruho**	**3.12**	**205**	P	Pb	15 05 45.8	-2.6
KWHZ	**Kaweka Forest**	**3.14**	**193**	P	Pn	15 05 44.2	+1.7
NEZ	**North Egmont**	**3.87**	**220**	P	Pn	15 05 54.9	+2.3
MRZ	**Mangatainoka R**	**4.51**	**197**	P	Pn	15 06 00.7	-0.5

NEIC ***12*** *15:05:19.6±1.1, 19°.75N±0°.09×64°.61W±0°.06, h10km±2km, ML2.6/9, Md3.6/6(RSPR), Error ellipse: s-maj=15.8km s-min=9.1km az=18.0*
RSPR ***12*** *15:05:21.3, 19°.80N×64°.62W, h87km±27km, MD3.6/6*
ISC 12 15:05:20.1±2.7, 19°.7N±0°.2×64°.65W±0°.07, h10km, n27, σ0.58/27, 3C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDPR	**Patillas Dam,**	**2.13**	**218**	Pn	**Pn**	**15 05 54.9**	**-0.8**
PDPR				IAML		15 06 24.9	
comp=N,18nm,0.2s							
PDPR	**Patillas Dam,**	**2.13**	**218**	‖*e*P	**Pn**	**15 05 56.0**	**+0.3**
PDPR	**Patillas Dam,**	**2.13**	**218**	*e*S	**Sn**	**15 06 22.5**	**+0.4**
SMRT	**St. Maarten**	**2.23**	**138**		**Pn**	**15 05 56.9**	**-0.1**
SMRT	**St. Maarten**	**2.23**	**138**	IAML		15 06 22.2	
comp=N,56nm,0.2s							
SMRT	**St. Maarten**	**2.23**	**138**	‖*e*P	**Pn**	**15 05 56.9**	**-0.1**
AOPR	**Arecibo Observ**	**2.41**	**236**		**Pn**	**15 05 58.6**	**-1.0**
AOPR					**Sn**	**15 06 28.6**	**-0.6**
AOPR	**Arecibo Observ**	**2.41**	**236**	‖*e*P	**Pn**	**15 05 58.6**	**-1.0**
AOPR	**Arecibo Observ**	**2.41**	**236**	*e*S	**Sn**	**15 06 28.6**	**-0.6**
UUPR	**Utuado, UPR, P**	**2.44**	**234**		**Pn**	**15 05 59.7**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.44**	**234**		**Sn**	**15 06 30.6**	**+0.8**
UUPR	**Utuado, UPR, P**	**2.44**	**234**		**Pn**	**15 06 00.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.44**	**234**	‖*e*P	**Pn**	**15 05 59.7**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.44**	**234**	*e*S	**Sn**	**15 06 30.6**	**+0.8**
CELP	**Cerrillos**	**2.45**	**229**		**Pn**	**15 05 59.5**	**-0.6**
CELP	**Cerrillos**	**2.45**	**229**	IAML		15 06 42.7	
comp=N,15nm,2.2s							
CELP	**Cerrillos**	**2.45**	**229**	‖*e*P	**Pn**	**15 05 59.5**	**-0.6**
LSP	**Las Mesas**	**2.77**	**237**		**Pn**	**15 06 04.7**	**+0.2**
LSP					**Sn**	**15 06 38.8**	**+0.7**
LSP	**Las Mesas**	**2.77**	**237**	‖*e*P	**Pn**	**15 06 04.7**	**+0.2**
LSP	**Las Mesas**	**2.77**	**237**	*e*S	**Sn**	**15 06 38.8**	**+0.7**
MLPR	**Magueyes Islan**	**2.85**	**233**	‖*e*P	**Pn**	**15 06 05.0**	**-0.7**
MLPR	**Magueyes Islan**	**2.85**	**233**	*e*S	**Sn**	**15 06 39.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.88**	**234**		**Pn**	**15 06 06.2**	**+0.1**
CRPR					**Sn**	**15 06 41.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.88**	**234**	IAML		15 06 46.4	
comp=N,23nm,2.3s							
CRPR				IAML		15 06 56.7	
comp=E,25nm,2.6s							
CRPR	**Cabo Rojo, PR**	**2.88**	**234**	‖*e*P	**Pn**	**15 06 06.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.88**	**234**	*e*S	**Sn**	**15 06 41.3**	**+0.5**
DR12	**Loma Pena Alta**	**4.56**	**259**	Pn	**Pn**	**15 06 29.3**	**0.0**

IDC ***12*** *15:05:46.9±2.0, 35°.83S×177°.53E, h0km, mb3.7/5, mbtmp3.7/5, MS3.7/9, Error ellipse: s-maj=63.0km s-min=27.4km az=56.0*
WEL ***12*** *15:05:48.5±1.7, 36°S±13°×17°7E±°, h5km, M3.6/12, ML3.9/8, MLv3.6/12, Error ellipse: s-maj=20.7km s-min=5.2km az=33.7, confirmed*
ISC 12 15:05:49.3±2.4, 36°.46S±0°.08×177°.20E±0°.07, h6km±13km, n31, σ1.9/70/26, mb3.6/5, MS3.8/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.22**	**256**	P	**Pn**	**15 06 11.7**	**-1.2**
HAZ	**Te Kaha**	**1.38**	**160**	P	**Pb**	**15 06 14.8**	**-0.6**
HAZ				S	**Sn**	**15 06 31.3**	**-2.2**
GRZ	**Great Barrier**	**1.42**	**278**	S	**Sg**	**15 06 35.7**	**+0.8**
RUGZ	**Raukumara Rang**	**1.55**	**166**	P	**Pn**	**15 06 15.5**	**-2.0**
RUGZ				S	**Sn**	**15 06 34.7**	**-3.3**
WMGZ	**Waiomatatini S**	**1.67**	**145**	P	**Pn**	**15 06 18.0**	**-1.0**
WMGZ				S	**Sg**	**15 06 43.2**	**+0.3**
URZ	**Urewera**	**1.80**	**182**	P	**Pn**	**15 06 19.2**	**-1.6**
URZ				S	**Sn**	**15 06 44.5**	**+0.6**
PUZ	**Puketiti**	**1.82**	**153**	P	**Pn**	**15 06 20.4**	**-0.7**
PUZ				S	**Sb**	**15 06 46.4**	**+0.4**
TWGZ	**Tauwhareparae**	**1.82**	**160**	P	**Pn**	**15 06 21.1**	**-0.2**
TWGZ				S	**Sg**	**15 06 48.5**	**+0.6**
TKGZ	**Te Karaka**	**2.04**	**165**	P	**Pn**	**15 06 23.4**	**-0.7**
TKGZ				S	**Sb**	**15 06 53.1**	**+0.7**
CNGZ	**Carnagh Statio**	**2.17**	**159**	P	**Pn**	**15 06 25.8**	**-0.2**
CNGZ				S	**Sb**	**15 06 56.6**	**+0.4**
TLZ	**Tolley Road**	**2.29**	**215**	P	**Pn**	**15 06 27.6**	**+0.1**
NTVZ	**North Tongarir**	**2.90**	**204**	P	**Pb**	**15 06 39.4**	**-2.0**
RAR	**Rarotonga**	**25.16**	**59**	LR	LR	15 21 07.3	
comp=Z,20nm,19.2s,baz=87,slow=37							
STKA	**Stephens Creek**	**29.70**	**268**	LR	LR	15 22 54.1	
comp=Z,94nm,20.4s,baz=161,slow=34							
PPT	**Papeete**	**34.83**	**66**	LR	LR	15 23 30.1	
comp=Z,35nm,21.1s,baz=220,slow=31							
PMG	**Port Moresby**	**38.31**	**307**	LR	LR	15 26 41.8	
comp=Z,88nm,22.0s,baz=164,slow=33							
ASAR	**Alice Springs**	**39.27**	**277**	P	**P**	**15 13 18.9**	**0.0**
0.8nm,0.8s,baz=110,slow=7.7,SNR=7.1							
ASAR				LR	LR	15 29 47.3	
comp=Z,165nm,19.8s,baz=122,slow=36							
0.8nm,0.8s							
WRA	**Warramunga Arr**	**40.84**	**282**	P	**P**	**15 13 31.4**	**-0.6**
0.5nm,0.8s,baz=120,slow=7.6,SNR=5.1							
WRA				LR	LR	15 31 00.3	
comp=Z,129nm,19.7s,baz=52,slow=37							
0.5nm,0.8s							
VNDA	**Vanda**	**41.70**	**185**	P	**P**	**15 13 41.5**	**+3.2**
0.5nm,0.4s,baz=16,slow=7.4,SNR=6.4							
0.5nm,0.4s							
FITZ	**Fitzroy Crossi**	**48.74**	**278**	LR	LR	15 35 51.1	
comp=Z,98nm,18.6s,baz=115,slow=37							
QSPA	**South Pole Qui**	**53.66**	**180**	P	**P**	**15 15 14.9**	**+3.4**
1.3nm,0.7s,baz=34,slow=4.9,SNR=8.7							
1.3nm,0.7s							
BATI	**Baumata**	**54.84**	**284**	LR	LR	15 39 28.8	
comp=Z,226nm,20.4s,baz=194,slow=37							
H03S2	**Juan Fernandez**	**80.39**	**125**	T	T	16 46 18.8	
baz=231,slow=74,SNR=54							
H03S1	**Juan Fernandez**	**80.39**	**125**	T	T	16 46 19.9	
baz=231,slow=74,SNR=46							
H03S3	**Juan Fernandez**	**80.40**	**125**	T	T	16 46 15.7	
baz=231,slow=74,SNR=44							
H03N3	**Juan Fernandez**	**80.62**	**125**	T	T	16 46 35.4	
baz=235,slow=72,SNR=129							
H03N2	**Juan Fernandez**	**80.62**	**125**	T	T	16 46 29.4	
baz=235,slow=72,SNR=95							
H03N1	**Juan Fernandez**	**80.64**	**125**	T	T	16 46 39.2	
baz=235,slow=72,SNR=120							
PSI	**Prapat**	**82.25**	**279**	LR	LR	15 57 13.8	
comp=Z,134nm,19.5s,baz=179,slow=38							
CMAR	**Chiang Mai Arr**	**91.74**	**292**	P	**P**	**15 18 57.0**	**-1.0**
0.4nm,0.6s,baz=124,slow=4.6,SNR=1.8							
0.4nm,0.6s							
FINES	**FINESS Array B**	**149.10**	**333**	PKPbc	**PKPbc**	**15 25 34.8**	**-2.7**
5.6nm,1.1s,baz=71,slow=6.4,SNR=5.2							

NOU ***12*** *15:15:38.6, 9°.03S×128°.81E, h175km, mb4.2/6, Timor Sea*
IDC ***12*** *15:15:42.1±4.7, 9°.56S×128°.63E, h103km±50km, mb3.1/2, mbtmp3.7/6, Error ellipse: s-maj=47.2km s-min=16.9km az=37.0*
ISC 12 15:15:43.1±1.8, 9°.6S±0°.1×128°.46E±0°.08, h35km, n12, σ3.9/42/14, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUDHS	**Darwin High Sc**	**3.63**	**140**	P	**Pn**	**15 16 38.5**	**+1.6**
DRS	**Darwin Rock St**	**3.67**	**139**	P	**Pn**	**15 16 39.3**	**+1.9**
DRS	**Darwin Rock St**	**3.67**	**139**	S	**Sn**	**15 17 26.6**	**+7.1**
SOEI	**Soe**	**4.13**	**268**	P	**Pn**	**15 16 46.8**	**+2.9**
BATI	**Baumata**	**4.76**	**263**	P	**Pn**	**15 16 54.1**	**+1.7**
7.8nm,0.3s,baz=111,slow=8.6,SNR=1.3							
BATI				S	**Sn**	**15 17 50.2**	**+3.8**
15nm,0.3s,baz=356,slow=19,SNR=2.3							
FITZ	**Fitzroy Crossi**	**8.85**	**198**	P	**Pn**	**15 17 49.9**	**+1.3**
2.2nm,0.4s,baz=31,slow=13,SNR=19							
FITZ				S	**Sn**	**15 19 28.2**	**+1.1**
6.4nm,0.3s,baz=3.6,slow=16,SNR=6.5							
PLAI	**Plampang**	**10.57**	**273**	P	**Pn**	**15 18 09.7**	**-2.6**
WRAB	**Tennant Creek**	**11.71**	**152**	P	**Pn**	**15 18 25.6**	**-2.3**
WRA	**Warramunga Arr**	**11.72**	**152**	P	**Pn**	**15 18 25.2**	**-2.7**
0.9nm,0.3s,baz=324,slow=13,SNR=56							
WRA				S	**Sn**	**15 20 33.2**	**-4.3**
5.5nm,0.7s,baz=333,slow=22,SNR=9.8							
ASAR	**Alice Springs**	**14.89**	**160**	P	**Pn**	**15 19 09.5**	**-1.8**
0.8nm,0.5s,baz=336,slow=11,SNR=37							
ASAR				S	**Sn**	**15 21 53.4**	**-1.8**
1.3nm,0.8s,baz=346,slow=26,SNR=5.7							
MKAR	**Makanchi Array**	**69.61**	**328**	P	P	15 26 40.8	-8.0
0.3nm,0.6s,baz=130,slow=7.8,SNR=1.7							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**73.97**	**330**	P	P	15 27 05.9	-9.0
0.2nm,0.6s,baz=140,slow=4.8,SNR=2.2							
0.2nm,0.6s							

IDC ***12*** *15:21:21.7±2.8, 35°.64N×70°.06E, h49km±26km, mb3.6/13, mbtmp3.8/17, ML3.9/4, Error ellipse: s-maj=20.1km s-min=13.8km az=44.0*
NEIC ***12*** *15:21:27.1±1.1, 35°.69N±0°.03×70°.01E±0°.10, h105km±11km, mb4.2/3, Error ellipse: s-maj=11.6km s-min=3.5km az=105.0*
NNC ***12*** *15:21:29.3±5.5, 36°.33N×69°.71E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=50.7km s-min=37.5km az=162.0*
ISC 12 15:21:25.3±0.6, 35°.70N±0°.06×69°.95E±0°.06, h87km, n40, σ2.52/45, mb3.5/10, 3C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.37**	**213**	Pn	**Pn**	**15 21 52.6**	**+3.1**
CHGR	**Chuyangaron**	**3.02**	**348**		**Pn**	**15 22 13.1**	**+2.0**
GAR	**Garm**	**3.31**	**5**		**Pn**	**15 22 17.4**	**+2.4**
NIL	**Nilore**	**3.41**	**126**		**Pn**	**15 22 17.5**	**+1.2**
TSSA	**Tissa**	**5.88**	**117**	*e*P	Pn	15 22 58.6	+8.6
TSSA				IAML		15 23 55.4	
comp=N,216nm,0.4s							
TSSA				IAML		15 23 55.6	
comp=E,167nm,0.2s							
TSSA				*e*S	**Sn**	**15 23 59.5**	**+3.4**
ARSB	**Arslanbob**	**6.10**	**22**		**Pn**	**15 22 53.5**	**+0.5**
ALCI	**Alchi Leh**	**6.12**	**102**	*e*P	Pn	15 23 01.8	+8.2
ALCI				IAML		15 24 00.7	
comp=E,362nm,0.1s							
ALCI				IAML		15 24 01.7	
comp=N,263nm,0.3s							
ALCI				*e*S	**Sn**	**15 24 04.8**	**+2.4**

DHRM	**DHARAMSHALA**	**6.30**	**121**	*e*P		Pn	15 23 04.1 +8.3
DHRM				IAML			15 24 06.3
	comp=E,229nm,0.1s						
DHRM				IAML			15 24 06.4
	comp=N,148nm,0.3s						
DHRM				⇓*e*S		**Sn**	**15 24 08.1 +1.7**
KK31	**Karatay Array**	**7.41**	**3**	⇑P		**Pn**	**15 23 11.7 +1.1**
	comp=N,12nm,0.2s,baz=174,slow=12,SNR=290						
KK31				S		**Sn**	**15 24 32.5 -0.6**
	comp=N,32nm,0.4s,baz=195,slow=28,SNR=9.4						
SMLA	**Simla**	**7.56**	**125**	*e*P		Pn	15 23 21.8 +9.0
SMLA				IAML			15 24 34.6
	comp=N,80nm,0.4s						
SMLA				*e*S		**Sn**	**15 24 36.4 -0.6**
SMLA				IAML			15 24 37.5
	comp=E,62nm,0.4s						
AAK	**Ala-Archa**	**7.78**	**26**			**Pn**	**15 23 18.2 +2.4**
AAK	**Ala-Archa**	**7.78**	**26**	P		Pn	15 23 10.9 -4.9
	comp=E,4.7nm,0.3s,baz=171,slow=4.0,SNR=28						
AAK				S		**Sn**	**15 24 39.8 -2.5**
	comp=E,15nm,0.7s,baz=143,slow=20,SNR=11						
	comp=E,0.5nm,0.3s						
AAK	**Ala-Archa**	**7.78**	**26**	⇑P		**Pn**	**15 23 18.5 +2.7**
	comp=E,1.0nm,0.3s						
AAK				⇑S		**Sn**	**15 24 40.2 -2.1**
	comp=E,35nm,0.9s						
KLP	**Kalpa**	**8.07**	**119**	⇓*e*P		Pn	15 23 28.6 +8.5
KLP				*e*S		**Sn**	**15 24 49.3 -0.6**
KLP				IAML			15 24 51.4
	comp=N,46nm,0.5s						
KLP				IAML			15 24 53.7
	comp=E,67nm,0.8s						
JOSI	**Joshimath**	**9.55**	**120**	*e*P		Pn	15 23 47.5 +7.3
JOSI				IAML			15 25 23.6
	comp=E,34nm,0.3s						
JOSI				IAML			15 25 24.3
	comp=N,48nm,0.3s						
JOSI				*e*S		**Sn**	**15 25 25.5 -0.3**
PTH	**Pithoragarh**	**10.61**	**122**	⇓*e*P		Pn	15 24 02.0 +7.5
PTH				*e*S		**Sn**	**15 25 46.5 -5.0**
PTH				IAML			15 25 46.7
	comp=N,311nm,0.3s						
PTH				IAML			15 25 50.5
	comp=E,239nm,0.6s						
UDPR	**Udaipur**	**11.55**	**163**	*e*P		Pn	15 24 14.6 +7.4
UDPR				⇓*e*S		**Sn**	**15 26 09.7 -4.6**
UDPR				IAML			15 26 09.9
	comp=E,24nm,0.3s						
UDPR				IAML			15 26 10.1
	comp=N,18nm,0.5s						
MAKZ	**Makanchi**	**14.30**	**35**			**Pn**	**15 24 42.9 -0.6**
MK31	**Makanchi Array**	**14.44**	**36**	P		**P**	**15 24 48.7 -0.9**
	comp=N,1.2nm,0.6s,baz=214,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**14.44**	**36**	P		**Pn**	**15 24 41.2 -4.0**
	comp=N,0.3nm,0.3s,baz=219,slow=9.4,SNR=6.0						
	comp=N,0.4nm,0.7s						
AB31	**Akbulak array**	**15.41**	**335**	Pn		**Pn**	**15 24 58.1 +0.5**
AB31				IAmb		IAmb	15 24 59.6
	comp=Z,14nm,0.5s						
AB31	**Akbulak array**	**15.41**	**335**	⇓P		**Pn**	**15 24 57.7 +0.1**
	comp=Z,4.6nm,0.3s,baz=153,slow=13,SNR=189						
AB31				S		**Sn**	**15 27 41.6 -5.8**
	comp=Z,1.7nm,0.5s,baz=157,slow=23,SNR=5.6						
KURBB	**Kurchatov Arra**	**16.16**	**20**	P		**Pn**	**15 25 04.7 -2.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=7.8						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**16.16**	**20**	⇓P		**P**	**15 25 09.4 +0.8**
	comp=Z,3.9nm,1.1s						
AKTO	**Aktyubinsk**	**17.08**	**333**	P		**Pn**	**15 25 18.4 0.0**
	comp=Z,1.1nm,0.3s,baz=141,slow=11,SNR=15						
AKTO				S		**Sn**	**15 28 19.9 -7.9**
	comp=Z,1.7nm,0.6s,baz=73,slow=14,SNR=3.0						
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**17.08**	**333**	⇓P		**P**	**15 25 19.8 +1.0**
	comp=Z,2.1nm,0.5s						
GNI	**Garni**	**20.35**	**290**	P		**P**	**15 25 56.4 +1.6**
	comp=Z,11nm,0.9s,baz=359,slow=3.7,SNR=4.4						
	comp=Z,11nm,0.9s						
ZAA0	**Zalesovo Array**	**21.00**	**25**	P		**P**	**15 26 01.4 -0.1**
ZAA0				IAmb		IAmb	15 26 02.5
	comp=Z,4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**21.00**	**25**	P		**P**	**15 26 02.0 +0.6**
	comp=Z,6.0nm,0.6s,baz=221,slow=11,SNR=31						
	comp=Z,6.0nm,0.6s						
ARTI	**Arti**	**22.14**	**343**	P		**P**	**15 26 15.2 +1.7**
	comp=Z,1.2nm,0.5s,baz=173,slow=9.5,SNR=3.5						
ARTI				S		**S**	**15 30 16.4 +4.4**
	comp=Z,1.4nm,0.5s,baz=178,slow=20,SNR=3.0						
	comp=Z,1.2nm,0.5s						
KBZ	**Khabaz**	**22.23**	**299**	P		**P**	**15 26 17.0 +2.3**
	comp=Z,2.0nm,0.9s,baz=30,slow=18,SNR=2.2						
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**29.49**	**54**	P		**P**	**15 27 21.3 +0.1**
	comp=Z,0.4nm,0.6s,baz=262,slow=9.9,SNR=2.3						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.84**	**116**	P		**P**	**15 27 33.5 +0.3**
	comp=Z,0.2nm,0.3s,baz=306,slow=8.7,SNR=5.6						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**37.68**	**327**	P		**P**	**15 28 31.5 -0.3**
	comp=Z,4.9nm,1.1s,baz=152,slow=16,SNR=1.3						
	comp=Z,4.9nm,1.1s						
ARCES	**ARCESS Array B**	**41.56**	**338**	P		**P**	**15 29 05.1 +1.2**
	comp=Z,5.8nm,1.3s,baz=113,slow=9.2,SNR=1.7						
	comp=Z,5.8nm,1.3s						
HFS	**Hagfors**	**43.18**	**323**	P		**P**	**15 29 17.8 +0.7**
	comp=Z,1.0nm,0.7s,baz=74,slow=13,SNR=1.3						
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**44.51**	**324**	P		**P**	**15 29 27.6 -0.3**
	comp=Z,0.4nm,0.7s,baz=123,slow=5.8,SNR=1.3						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.84**	**268**	P		**P**	**15 31 55.6 +0.3**
	comp=Z,1.0nm,0.7s,baz=42,slow=7.0,SNR=5.1						
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**82.30**	**121**	P		**P**	**15 33 37.1 -0.3**
	comp=Z,0.3nm,0.5s,baz=326,slow=4.8,SNR=8.1						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**84.50**	**124**	P		**P**	**15 33 48.9 +0.1**
	comp=Z,0.7nm,0.8s,baz=306,slow=5.3,SNR=13						
	comp=Z,0.7nm,0.8s						

NEIC ***12*** *15:51:06.9±2.0, 5°.65N±0°.07×126°.6E±0°.1, h85km±5km, mb4.5/19, Error ellipse: s-maj=18.3km s-min=8.2km az=66.0*
IDC ***12*** *15:51:07.9±1.2, 5°.58N×126°.55E, h93km±9km, mb4.0/19, mbtmp4.3/21, MS3.0/4, Error ellipse: s-maj=27.5km s-min=9.1km az=71.0*
DJA ***12*** *15:51:08.9±0.4, 6°N±3°×12°7E±°, h80km±6km, M4.7/19, mb4.7/19, mB5.2/12, MLv5.0/12, Mw(mB)4.5/12*
ISC 12 15:51:04.9±0.4, 5°.63N±0°.04×126°.65E±0°.07, h66km, n94, σ2°01/97, mb4.4/28, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.78**	**323**		**Pn**	**15 51 35.6**	**+2.1**
DAV	**Davao City (W)**	**1.78**	**323**	P	**Pn**	**15 51 37.1**	**+3.5**
	720nm,0.3s,baz=135,slow=7.8,SNR=15						
DAV				S	**Sn**	**15 52 00.3**	**+5.0**
	1μm,0.4s,baz=240,slow=20,SNR=7.8						
DAV				LR	LR	15 52 10.5	
	comp=Z,167nm,21.6s,baz=112,slow=36						
DAV	**Davao City (W)**	**1.78**	**323**	P	**Pn**	**15 51 37.3**	**+3.7**
SGSI	**Sangihe**	**2.23**	**210**	P	**Pn**	**15 51 41.6**	**+2.0**
SGSI				S	**Sn**	**15 52 09.7**	**+3.5**
TNTI	**Ternate**	**4.88**	**172**		**Pn**	**15 52 18.1**	**+2.3**
TNTI	**Ternate**	**4.88**	**172**	P	**Pn**	**15 52 18.3**	**+2.5**
TNTI	**Ternate**	**4.88**	**172**	P	**Pn**	**15 52 18.9**	**+3.1**
TNTI				S	**Sn**	**15 53 12.5**	**+1.5**
KMSI	**Cibinong**	**5.69**	**208**	P	**Pn**	**15 52 30.0**	**+3.2**
	1.3nm3μm209nm,0.8s						
MRSI	**Marisa**	**6.95**	**223**	P	**Pn**	**15 52 46.8**	**+2.6**
MRSI				S	**Sn**	**15 53 59.2**	**-2.6**
TOLI2	**Tolitoli**	**7.38**	**233**		**Pn**	**15 52 50.4**	**+0.4**
TOLI2	**Tolitoli**	**7.38**	**233**	P	**Pn**	**15 52 50.7**	**+0.7**
SANI	**Sanana**	**7.66**	**185**	P	**Pn**	**15 52 53.0**	**-0.9**
	3μm62nm,0.6s						
SANI				S	Sn	15 54 10.9	-8.3
	3μm62nm,0.6s						
LUWI	**Luwuk**	**7.68**	**210**		**Pn**	**15 52 55.4**	**+1.3**
LUWI	**Luwuk**	**7.68**	**210**	P	**Pn**	**15 52 55.1**	**+1.0**
LUWI	**Luwuk**	**7.68**	**210**	P	Pn	15 52 59.6	+5.5
	0.4nm1μm91nm,0.7s						
SWI	**Sorong**	**7.92**	**144**	P	**Pn**	**15 53 00.2**	**+2.7**
	0.3nm5μm33nm,0.5s						
SWI				S	**Sn**	**15 54 26.8**	**+1.0**
	0.3nm5μm33nm,0.5s						

MYLDM	**Lahad Datu**	**8.12**	**267**		**Pn**	**15 53 03.1**	**+2.9**
MYLDM	**Lahad Datu**	**8.12**	**267**	P	**Pn**	**15 53 03.7**	**+3.5**
APSI	**Ampana**	**8.20**	**218**	P	**Pn**	**15 53 03.8**	**+2.6**
	1μm105nm,1.2s						
NLAI	**Namlea**	**8.82**	**177**	P	**Pn**	**15 53 10.2**	**+0.4**
MSAI	**Masohi**	**9.20**	**166**	P	**Pn**	**15 53 17.6**	**+2.6**
	1μm36nm,0.6s						
AAI	**Ambon**	**9.38**	**170**	P	Pn	15 53 38.9	+21
FAKI	**Fak Fak**	**10.17**	**146**		**Pn**	**15 53 30.8**	**+2.6**
FAKI	**Fak Fak**	**10.17**	**146**	P	**Pn**	**15 53 31.3**	**+3.1**
FAKI	**Fak Fak**	**10.17**	**146**	P	**Pn**	**15 53 31.4**	**+3.2**
	19nm,0.5s						
RKPI	**Ransiki, Papua**	**10.34**	**133**	P	Pn	15 53 36.4	+5.9
	38nm,0.8s						
KKM	**Kota Kinabalu**	**10.39**	**273**		**Pn**	**15 53 33.7**	**+2.4**
KKM	**Kota Kinabalu**	**10.39**	**273**	P	**Pn**	**15 53 34.4**	**+3.1**
SPSI	**Sidrap Palu**	**11.75**	**216**	P	**Pn**	**15 53 52.1**	**+2.3**
	19nm,0.7s						
KAPI	**Kappang**	**12.62**	**213**	Pn	**Pn**	**15 54 01.8**	**+0.2**
KAPI	**Kappang**	**12.62**	**213**	P	**Pn**	**15 54 01.0**	**-0.6**
	8.0nm,0.6s,baz=13,slow=7.9,SNR=5.7						
KAPI				LR	LR	15 58 53.6	
	comp=Z,61nm,18.3s,baz=46,slow=37						
SAUI	**Saumlaki**	**14.30**	**161**	P	**Pn**	**15 54 25.5**	**+1.4**
SAUI	**Saumlaki**	**14.30**	**161**	P	**Pn**	**15 54 26.0**	**+1.9**
SBUM	**Sibu**	**14.73**	**258**		**Pn**	**15 54 31.8**	**+2.0**
SBUM	**Sibu**	**14.73**	**258**	P	**P**	**15 54 33.4**	**-0.9**
EDFI	**Ende, Flores**	**15.12**	**199**	P	**P**	**15 54 38.9**	**+0.3**
SOEI	**Soe**	**15.47**	**189**		**Pn**	**15 54 40.1**	**+0.8**
SOEI				IAmb	IAmb	15 55 12.5	
	comp=Z,33nm,1.0s						
SOEI	**Soe**	**15.47**	**189**	P	**Pn**	**15 54 40.2**	**+0.8**
SOEI	**Soe**	**15.47**	**189**	P	**Pn**	**15 54 41.5**	**+2.1**
	comp=Z,31nm,0.9s						
BATI	**Baumata**	**16.01**	**191**	P	**P**	**15 54 48.2**	**-0.2**
	comp=Z,23nm,0.4s,baz=92,slow=4.9,SNR=8.7						
KSM	**Kuching**	**16.82**	**256**	Pn	**Pn**	**15 54 54.1**	**-2.2**
PLAI	**Plampang**	**16.87**	**212**	P	**P**	**15 55 00.3**	**+2.3**
PLAI	**Plampang**	**16.87**	**212**	P	**P**	**15 55 03.7**	**+5.7**
TPUB	**Ta-pu**	**18.50**	**342**	P	**Pn**	**15 55 16.3**	**-0.4**
TPUB				IAmb	IAmb	15 55 17.6	
	comp=Z,38nm,1.3s						
JAGI	**Jajag, Banyuwa**	**18.75**	**222**	P	**Pn**	**15 55 21.4**	**+1.6**
GUMO	**Guam**	**19.61**	**65**	LR	LR	16 03 33.3	
	comp=Z,24nm,18.2s,baz=256,slow=38						
KNRA	**Kunumurra**	**21.27**	**174**	P	**P**	**15 55 46.1**	**+0.1**
MYKOM	**Kota Tinggi**	**23.06**	**261**	P	**P**	**15 56 03.8**	**-1.3**
PMG	**Port Moresby**	**25.32**	**126**	LR	LR	16 06 52.6	
	comp=Z,21nm,18.7s,baz=201,slow=37						
COEN	**Coen**	**25.45**	**140**	P	**P**	**15 56 27.2**	**+0.3**
WRAB	**Tennant Creek**	**26.51**	**164**	P	**P**	**15 56 35.5**	**-0.9**
WRAB				IAmb	IAmb	15 57 12.5	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**26.52**	**164**	P	**P**	**15 56 36.0**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=344,slow=9.2,SNR=22						
WRA				PcP	**PcP**	**15 59 59.5**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=337,slow=2.5,SNR=2.1						
WRA				ScP	**ScP**	**16 03 32.7**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=343,slow=2.9,SNR=1.4						
	comp=Z,4.7nm,0.6s						
NJ2	**Nanjing**	**27.28**	**345**	*e*P	**P**	**15 56 45.7**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MBWA	**Marble Bar**	**27.48**	**194**	P	**P**	**15 56 42.2**	**-2.8**
MBWA				IAmb	IAmb	15 57 12.7	
	comp=Z,32nm,1.5s						
PSA00	**Pilbara Seismi**	**27.84**	**194**	P	**P**	**15 56 46.7**	**-1.7**
PSA00				IAmb	IAmb	15 56 48.6	
	comp=Z,9.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.88**	**298**	P	**P**	**15 57 05.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=128,slow=7.3,SNR=5.0						
CMAR				ScP	**ScP**	**16 03 42.9**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=160,slow=0.9,SNR=4.8						
	comp=Z,0.4nm,0.3s						
ASAR	**Alice Springs**	**29.97**	**167**	P	**P**	**15 57 07.1**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=345,slow=6.9,SNR=106						
ASAR				PcP	**PcP**	**16 00 08.4**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=348,slow=2.4,SNR=20						
ASAR				ScP	**ScP**	**16 03 42.6**	**-2.6**
	comp=Z,0.4nm,0.9s,baz=340,slow=3.1,SNR=3.2						
	comp=Z,2.6nm,0.6s						
GIRL	**Giralia**	**30.61**	**203**	P	**P**	**15 57 10.5**	**-2.4**
PZH	**PanZhiHua**	**31.55**	**314**	P	**P**	**15 57 22.6**	**+1.2**
KSRS	**Korea Array**	**31.70**	**2**	P	**P**	**15 57 23.7**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=193,slow=11,SNR=1.0						
	comp=Z,1.0nm,0.8s						
XAN	**Xi'an**	**32.70**	**332**	*e*P	**P**	**15 57 27.9**	**-3.3**
XAN				pP	pP	15 57 47.5	+0.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**37.58**	**341**	*e*P	**P**	**15 58 13.2**	**0.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,84nm,3.6s						
BBOO	**Buckleboo**	**39.26**	**167**		**P**	**15 58 27.7**	**+0.5**
STKA	**Stephens Creek**	**39.93**	**160**	P	**P**	**15 58 33.0**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=332,slow=9.2,SNR=13						
	comp=Z,5.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.08**	**68**	T	T	16 42 49.7	
	baz=258,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**41.09**	**68**	T	T	16 42 57.6	
	baz=258,slow=75,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**41.09**	**68**	T	T	16 42 57.2	
	baz=258,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**41.55**	**67**	T	T	16 43 31.4	
	baz=262,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.56**	**67**	T	T	16 43 40.0	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**41.57**	**67**	T	T	16 43 43.2	
	baz=262,slow=75						
ULN	**Ulaanbaatar**	**45.30**	**341**	P	**P**	**15 59 15.7**	**-0.7**
ULN				IAmb	IAmb	15 59 19.4	
	comp=Z,8.5nm,1.4s						
SONM	**Songino Array**	**45.48**	**341**	P	**P**	**15 59 18.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=161,slow=8.3,SNR=3.8						
SONM				PcP	**PcP**	**16 00 55.9**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=157,slow=2.2,SNR=4.2						
SONM				ScP	**ScP**	**16 04 40.0**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=147,slow=3.4,SNR=1.7						
	comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**53.72**	**23**	P	**P**	**16 00 21.0**	**+0.9**
	comp=Z,5.4nm,1.0s,baz=212,slow=7.8,SNR=1.9						
	comp=Z,5.4nm,1.0s						
MKAR	**Makanchi Array**	**55.96**	**325**	P	**P**	**16 00 35.8**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=118,slow=8.2,SNR=18						
MKAR				PcP	**PcP**	**16 01 34.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=116,slow=5.5,SNR=5.1						
MKAR				ScP	**ScP**	**16 05 24.8**	**-3.2**
	comp=Z,0.7nm,0.7s,baz=123,slow=5.3,SNR=4.1						
MKAR				LR	LR	16 24 48.1	
	comp=Z,36nm,19.0s,baz=100,slow=36						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**56.15**	**324**	P	**P**	**16 00 36.1**	**-1.7**
MAKZ				IAmb	IAmb	16 01 06.1	
	comp=Z,5.6nm,1.4s						
NIL	**Nilore**	**56.72**	**307**	P	**P**	**16 00 39.6**	**-2.6**
NIL				IAmb	IAmb	16 00 43.0	
	comp=Z,7.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.87**	**333**	P	**P**	**16 00 55.9**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=124,slow=7.0,SNR=5.6						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**60.11**	**327**	P	**P**	**16 01 04.6**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=127,slow=6.5,SNR=11						
	comp=Z,1.4nm,0.5s						
GAR	**Garm**	**60.59**	**312**	P	**P**	**16 01 08.1**	**-1.0**
ILAR	**Eielson Array**	**83.43**	**26**	P	**P**	**16 03 24.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=256,slow=4.3,SNR=5.1						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**85.31**	**173**	P	**P**	**16 03 32.4**	**-1.8**
VNDA				IAmb	IAmb	16 03 35.0	
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**85.31**	**173**	P	**P**	**16 03 34.2**	**0.0**
	comp=Z,1.8nm,0.7s,baz=314,slow=5.9,SNR=11						
	comp=Z,1.8nm,0.7s						
MAW	**Mawson**	**85.50**	**200**	P	**P**	**16 03 34.6**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=69,slow=10,SNR=4.1						
	comp=Z,1.3nm,0.8s						
SBA	**Scott Base**	**86.22**	**172**	P	**P**	**16 03 38.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**88.61**	**349**	P	**P**	**16 03 49.6**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=79,slow=11,SNR=1.2						
	comp=Z,3.4nm,0.7s						
BRTR	**Keskin Array B**	**88.75**	**310**	P	**P**	**16 03 51.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=131,slow=4.4,SNR=3.3						
BRTR				LR	LR	16 48 05.0	
	comp=Z,264nm,21.5s,baz=315,slow=38						
	comp=Z,0.5nm,0.7s						

FINES	**FINESS Array B**	**90.13**	**332**	P	**P**	**16 03 56.4**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=73,slow=3.4,SNR=18						
	comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**95.52**	**180**	P	**P**	**16 04 24.1**	**+1.6**
QSPA				IAmb	IAmb	16 04 26.3	
	comp=Z,5.2nm,1.4s						
QSPA	**South Pole Qui**	**95.52**	**180**	P	**P**	**16 04 23.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=321,slow=3.6,SNR=9.0						
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**96.31**	**332**	P	**P**	**16 04 24.4**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=134,slow=4.2,SNR=1.3						
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**97.06**	**334**	P	**P**	**16 04 27.7**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=61,slow=5.3,SNR=2.2						
	comp=Z,1.2nm,0.9s						
TXAR	**Lajitas Array**	**120.49**	**51**	PKP	**PKiKP**	**16 09 49.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=337,slow=3.4,SNR=2.2						
TORD	**Torodi Ar. Bea**	**122.24**	**289**	PKP	**PKPdf**	**16 09 52.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=57,slow=2.2,SNR=4.9						
PLCA	**Paso Flores**	**141.80**	**159**	PKP	**PKPdf**	**16 10 30.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=223,slow=6.4,SNR=4.2						

UCR ***12*** *15:57:53.5±0.8, 11°.41N×85°.78W, h169km±4km, MW3.8*
CATAC ***12*** *15:57:55.0±0.8, 11°N±5°×8°6W±°, h161km±7km, M3.1/17, MLv3.1/17, Error ellipse: s-maj=14.1km s-min=3.7km az=48.1, confirmed*
ISC 12 15:57:54.8±1.7, 11°.38N±0°.06×85°.68W±0°.07, h168km±11km, n71, σ0°74/76, 6C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORN	**Al O del Volca**	**0.17**	**12**	⇑P	**Pn**	**15 58 17.4**	**+0.1**
CONN	**Concepcion**	**0.19**	**17**	P	**Pn**	**15 58 17.3**	**0.0**
CARN	**Rivas**	**0.25**	**141**	⇑P	**Pn**	**15 58 17.6**	**+0.2**
CARN	**Rivas**	**0.25**	**141**	*e*P	**Pn**	**15 58 17.6**	**+0.2**
LCRUZ	**La Cruz**	**0.31**	**171**	*e*P	**Pn**	**15 58 17.1**	**-0.5**
LCRUZ				*e*S	**Sn**	**15 58 35.3**	**+0.2**
PEJA	**Penjamo Buenos**	**0.61**	**143**	*e*P	**Pn**	**15 58 19.1**	**+0.3**
PEJA				*e*S	**Sn**	**15 58 38.0**	**+0.8**
BUAI	**Buenos Aires**	**0.61**	**146**	*e*P	**Pn**	**15 58 19.2**	**+0.3**
VORI	**VORI**	**0.65**	**150**	*e*P	**Pn**	**15 58 19.5**	**+0.2**
LAPC	**Finca la Perla**	**0.66**	**158**	*e*P	**Pn**	**15 58 18.8**	**-0.4**
VRLE	**La Escondida,**	**0.67**	**152**	*e*P	**Pn**	**15 58 19.2**	**-0.1**
GPS1	**Guardaparques**	**0.69**	**152**	*e*P	**Pn**	**15 58 19.1**	**-0.2**
GPS3	**Bodega del ICE**	**0.70**	**154**	*e*P	**Pn**	**15 58 19.9**	**+0.6**
GPS2	**Hotel Rincn d**	**0.71**	**153**	*e*P	**Pn**	**15 58 19.3**	**-0.1**
ELI1	**Hacienda Flor**	**0.74**	**170**	P	**Pn**	**15 58 19.6**	**0.0**
ELI1	**Hacienda Flor**	**0.74**	**170**	*e*P	**Pn**	**15 58 19.6**	**0.0**
ACON	**Acoyapa**	**0.76**	**41**	⇑P	**Pn**	**15 58 18.9**	**-0.8**
ACON	**Acoyapa**	**0.76**	**41**	*e*P	**Pn**	**15 58 18.8**	**-0.9**
VMAR	**Armenia, Volca**	**0.80**	**135**	*e*P	**Pn**	**15 58 20.1**	**+0.2**
ALIBA	**Liberia Airpor**	**0.80**	**170**	*e*P	**Pn**	**15 58 20.1**	**+0.1**
HORNC	**Hornillas**	**0.83**	**143**	*e*P	**Pn**	**15 58 20.4**	**+0.2**
COLC	**Colonia**	**0.85**	**147**	*e*P	**Pn**	**15 58 18.8**	**-1.6**
CUI	**Cuipilapa**	**0.88**	**145**	*e*P	**Pn**	**15 58 24.7**	**+4.2**
MOTZ	**Rio Naranjo**	**0.92**	**139**	*e*P	**Pn**	**15 58 21.0**	**+0.3**
DELF	**Filadelfia**	**0.94**	**172**	*e*P	**Pn**	**15 58 21.1**	**+0.2**
DELF				*e*S	**Sn**	**15 58 40.9**	**-0.1**
TENO	**El Achiote**	**0.97**	**134**	*e*P	**Pn**	**15 58 21.7**	**+0.5**
TIMP	**Tierras Morena**	**1.03**	**141**	*e*P	**Pn**	**15 58 21.8**	**+0.1**
PLVR	**Palo Verde**	**1.08**	**162**	*e*P	**Pn**	**15 58 21.6**	**-0.6**
QUEB	**Quebradon, Cot**	**1.08**	**134**	*e*P	**Pn**	**15 58 22.2**	**+0.1**
INVE	**Universidad In**

	baz=206					
P29M	**Windy Craggy**	**1.66**	**359**		**Sn**	**16 00 39.5 -0.9**
P29M	**Windy Craggy**	**1.66**	**359**		**Pn**	**16 00 17.9 -0.6**
P29M				IAML		16 00 45.1
	comp=N,1μm,0.8s					
P29M	**Windy Craggy**	**1.66**	**359**	P	**Pn**	**16 00 18.0 -0.6**
	baz=181,SNR=104					
P29M				S	**Sn**	**16 00 39.4 -1.0**
	baz=181					
R32K	**Eaglecrest**	**1.71**	**78**		**Sb**	**16 00 43.0 +0.6**
R32K	**Eaglecrest**	**1.71**	**78**		**Pn**	**16 00 19.8 +0.7**
R32K				IAML		16 00 44.8
	comp=N,2μm,0.3s					
R32K				IAML		16 00 44.9
	comp=E,1μm,0.6s					
R32K	**Eaglecrest**	**1.71**	**78**	Pn	**Pn**	**16 00 19.9 +0.7**
R32K				Sn	**Sb**	**16 00 43.0 +0.6**
R32K	**Eaglecrest**	**1.71**	**78**	P	**Pn**	**16 00 19.5 +0.3**
	baz=259,SNR=29					
R32K				Sb	**Sb**	**16 00 43.1 +0.6**
	baz=259					
JIS	**Juneau Island**	**1.78**	**79**		**Pn**	**16 00 20.4 +0.3**
JIS					**Sn**	**16 00 43.3 0.0**
JIS					**Sb**	**16 00 44.6 +0.2**
PNL	**Peninsula**	**1.92**	**333**		**Pn**	**16 00 21.8 -0.2**
PNL	**Peninsula**	**1.92**	**333**	Pn	**Pn**	**16 00 22.9 +0.9**
PNL				Sn	**Sn**	**16 00 46.9 +0.2**
PNL	**Peninsula**	**1.92**	**333**	P	**Pn**	**16 00 22.1 +0.1**
	baz=154,SNR=13					
PNL				S	**Sn**	**16 00 46.5 -0.1**
	baz=154					
SKAG	**Skagway**	**1.94**	**39**		**Sb**	**16 00 49.3 +0.5**
SKAG	**Skagway**	**1.94**	**39**		**Pn**	**16 00 22.7 +0.5**
SKAG				IAML		16 00 50.1
	comp=E,957nm,0.8s					
SKAG	**Skagway**	**1.94**	**39**	P	**Pn**	**16 00 22.5 +0.4**
	baz=220,SNR=40					
SKAG				Sb	**Sb**	**16 00 49.4 +0.5**
	baz=220					
P30M	**Million Dollar**	**2.19**	**10**		**Pn**	**16 00 26.2 +0.5**
P30M					**Pb**	**16 00 27.2 -1.5**
P30M	**Million Dollar**	**2.19**	**10**	Pn	**Pn**	**16 00 26.2 +0.5**
P30M				Sn	**Sb**	**16 00 55.2 -1.0**
P30M	**Million Dollar**	**2.19**	**10**	P	**Pn**	**16 00 25.8 +0.1**
	baz=191					
P30M				S	**Sn**	**16 00 53.4 -0.1**
	baz=191					
BCPM	**Bancas Point**	**2.23**	**334**		**Pn**	**16 00 26.6 +0.4**
BCPM	**Bancas Point**	**2.23**	**334**	IAML		16 01 11.3
	comp=E,755nm,0.8s					
BCPM				IAML		16 01 13.8
	comp=N,668nm,0.8s					
O29M	**Mount Kennedy**	**2.38**	**349**		**Sn**	**16 01 00.1 +1.9**
O29M	**Mount Kennedy**	**2.38**	**349**		**Pn**	**16 00 29.0 +0.6**
O29M				IAML		16 01 13.4
	comp=N,859nm,0.8s					
O29M	**Mount Kennedy**	**2.38**	**349**	Pn	**Pn**	**16 00 29.2 +0.7**
O29M				Sn	**Sn**	**16 00 59.9 +1.6**
O29M	**Mount Kennedy**	**2.38**	**349**	P	**Pn**	**16 00 28.7 +0.3**
	baz=170,SNR=30					
O29M				S	**Sn**	**16 00 58.9 +0.7**
	baz=170					
PINM	**Pinnacle**	**2.51**	**329**	P	**Pn**	**16 00 30.6 +0.5**
	baz=149					
PCA	**Pinnacle**	**2.51**	**329**		**Pn**	**16 00 31.4 +1.2**
PCA	**Pinnacle**	**2.51**	**329**	Pn	**Pn**	**16 00 30.8 +0.6**
PCA				Sn	**Sn**	**16 01 03.0 +1.7**
P32M	**Atlin**	**2.63**	**50**		**Pn**	**16 00 32.5 +0.7**
P32M				IAML		16 01 16.9
	comp=N,669nm,1.2s					
P32M				IAML		16 01 18.3
	comp=E,498nm,0.8s					
P32M	**Atlin**	**2.63**	**50**	Pn	**Pn**	**16 00 32.4 +0.6**
P32M				Sn	**Sn**	**16 01 03.4 -0.9**
P32M	**Atlin**	**2.63**	**50**	P	**Pn**	**16 00 32.1 +0.3**
	baz=233,SNR=18					
P32M				Sb	**Sb**	**16 01 10.7 +1.8**
	baz=233					
SAMH	**Samovar Hills**	**2.69**	**325**		**Pn**	**16 00 32.3 -0.3**
SAMH	**Samovar Hills**	**2.69**	**325**	Pn	**Pn**	**16 00 34.9 +2.2**
T33K	**Petersburg**	**2.82**	**112**	Sg	**Sg**	**16 01 22.0 +3.2**
	baz=294					
HYT	**Haines Junctio**	**2.86**	**2**		**Pn**	**16 00 35.8 +0.7**
HYT				IAML		16 01 16.5
	comp=E,366nm,1.2s					
HYT	**Haines Junctio**	**2.86**	**2**	Pn	**Pn**	**16 00 35.8 +0.7**
HYT				Sn	**Sn**	**16 01 10.2 +0.1**
O30N	**Mendenhall**	**2.92**	**16**		**Pn**	**16 00 36.4 +0.6**
O30N				IAML		16 01 23.7
	comp=E,385nm,0.9s					
O30N				IAML		16 01 24.1
	comp=N,299nm,1.0s					
O30N	**Mendenhall**	**2.92**	**16**	Pn	**Pn**	**16 00 36.7 +0.8**
O30N				Sn	**Sn**	**16 01 12.2 +0.7**
O30N	**Mendenhall**	**2.92**	**16**	P	**Pn**	**16 00 36.6 +0.8**
	baz=197,SNR=27					
O30N				Sb	**Sb**	**16 01 18.6 +1.3**
	baz=197					
RKAV	**Rock Avalanche**	**3.00**	**323**		**Pn**	**16 00 37.2 +0.3**
YUK6	**Outpost Mounta**	**3.00**	**354**	Pn	**Pn**	**16 00 37.8 +0.8**
YUK6				Sg	**Sg**	**16 01 23.9 -0.7**
Q32M	**Nakina River**	**3.02**	**69**		**Pn**	**16 00 38.4 +1.2**
Q32M				IAML		16 01 30.4
	comp=N,531nm,1.2s					
Q32M				IAML		16 01 32.3
	comp=E,594nm,1.2s					
Q32M	**Nakina River**	**3.02**	**69**	Pn	**Pn**	**16 00 38.1 +0.8**
Q32M	**Nakina River**	**3.02**	**69**	P	**Pn**	**16 00 37.6 +0.3**
	baz=252					
Q32M				Sb	**Sg**	**16 01 23.7 -1.5**
	baz=252					
TABL	**Table Mountain**	**3.04**	**326**		**Pn**	**16 00 38.9 +1.3**
TABL				IAML		16 01 34.8
	comp=E,434nm,0.6s					
TABL				IAML		16 01 35.1
	comp=N,569nm,1.2s					
TABL	**Table Mountain**	**3.04**	**326**	Pn	**Pn**	**16 00 39.1 +1.5**
TABL				Sg	**Sg**	**16 01 25.1 -0.9**
WHY	**Whitehorse**	**3.06**	**27**		**Pn**	**16 00 38.8 +1.1**
WHY	**Whitehorse**	**3.06**	**27**	Pn	**Pn**	**16 00 38.7 +1.0**
WHY				Sg	**Sg**	**16 01 26.7 +0.2**
WHY	**Whitehorse**	**3.06**	**27**	P	**Pn**	**16 00 38.4 +0.7**
	baz=209					
WHY				Sb	**Sb**	**16 01 23.6 +2.4**
	baz=209					
O28M	**Mount Upton**	**3.08**	**337**		**Pn**	**16 00 39.3 +1.1**
O28M				IAML		16 01 33.7
	comp=E,406nm,0.8s					
O28M				IAML		16 01 37.8
	comp=N,411nm,0.7s					
O28M	**Mount Upton**	**3.08**	**337**	Pn	**Pn**	**16 00 38.9 +0.7**
O28M				Sg	**Sg**	**16 01 26.3 -1.0**
O28M	**Mount Upton**	**3.08**	**337**	P	**Pn**	**16 00 39.1 +0.8**
	baz=156					
MESA	**MESA**	**3.12**	**317**		**Pb**	**16 00 42.5 -2.1**
MESA	**MESA**	**3.12**	**317**	Pn	**Pn**	**16 00 39.9 +1.2**
MESA				Sn	**Sn**	**16 01 17.6 +1.2**
MESA				Sg	**Sg**	**16 01 28.8 +0.4**
U33K	**Whale Pass**	**3.12**	**125**	Pn	**Pn**	**16 00 38.2 -0.2**
U33K	**Whale Pass**	**3.12**	**125**	Pn	**Pn**	**16 00 38.1 -0.2**
U33K	**Whale Pass**	**3.12**	**125**	P	**Pn**	**16 00 38.2 -0.2**
	baz=307					
U33K				Sg	**Sg**	**16 01 32.6 +4.2**
	baz=307					
YAH	**Yahtse**	**3.18**	**321**		**Pn**	**16 00 41.2 +1.7**
YAH				IAML		16 01 36.2
	comp=N,522nm,1.3s					
YAH				IAML		16 01 39.9
	comp=E,442nm,0.9s					
WRAK	**Wrangell Islan**	**3.30**	**116**		**Pn**	**16 00 41.4 +0.5**
WRAK	**Wrangell Islan**	**3.30**	**116**	Pn	**Pn**	**16 00 41.4 +0.5**
WRAK				Sn	**Sn**	**16 01 20.9 +0.2**
WRAK				Sg	**Sg**	**16 01 32.6 -1.7**
WRAK	**Wrangell Islan**	**3.30**	**116**	P	**Pn**	**16 00 40.7 -0.2**
	baz=299					
LOGN	**Logan Glacier**	**3.32**	**331**	Pn	**Pn**	**16 00 42.6 +1.3**
LOGN				IAML		16 01 43.9
	comp=N,297nm,0.8s					
LOGN				IAML		16 01 46.5
	comp=E,339nm,0.9s					
LOGN	**Logan Glacier**	**3.32**	**331**	Pn	**Pn**	**16 00 42.7 +1.3**
LOGN				Sn	**Sn**	**16 01 21.6 +0.1**
P33M	**Teslin, Yukon**	**3.37**	**46**		**Pn**	**16 00 43.1 +1.1**
P33M	**Teslin, Yukon**	**3.37**	**46**	Pn	**Pn**	**16 00 42.2 +0.2**
P33M				Sg	**Sb**	**16 01 34.2 +4.0**
P33M	**Teslin, Yukon**	**3.37**	**46**	P	**Pn**	**16 00 42.5 +0.5**
	baz=230					
P33M				Sb	**Sb**	**16 01 33.1 +2.9**
	baz=230					
BAGL	**Bagley Icefiel**	**3.39**	**320**		**Pn**	**16 00 42.0 0.0**
YUK4	**Talbot Arm**	**3.42**	**352**	Pn	**Pn**	**16 00 45.1 +2.3**
SNH	**Sunshine Point**	**3.46**	**312**		**Pn**	**16 00 42.7 -0.5**
GRNC	**Granite Creek**	**3.46**	**325**	Pn	**Pn**	**16 00 46.2 +2.8**
GRNC				IAML		16 01 59.1
	comp=E,246nm,0.9s					
GRNC				IAML		16 01 59.9
	comp=N,270nm,0.9s					
GRNC	**Granite Creek**	**3.46**	**325**	Pn	**Pn**	**16 00 44.5 +1.2**
GRNC				Sg	**Sg**	**16 01 39.2 -0.2**
BARK	**Barkley Ridge**	**3.47**	**317**		**Pn**	**16 00 42.8 -0.5**
BARK					Pb	16 00 43.1 -7.3
BRWY	**Burwash Landin**	**3.48**	**349**	Pn	**Pn**	**16 00 45.3 +1.9**
BRWY				Sg	**Sg**	**16 01 39.3 -0.5**
YUK8	**Steele Glacier**	**3.48**	**343**	Pn	**Pn**	**16 00 44.8 +1.1**
YUK8				Sg	**Sg**	**16 01 39.0 -1.1**
S34M	**Telegraph Cree**	**3.50**	**88**	IAML		16 01 46.0
	comp=N,346nm,1.2s					
S34M				IAML		16 01 55.6
	comp=E,204nm,1.3s					
S34M	**Telegraph Cree**	**3.50**	**88**	Sg	**Sg**	**16 01 38.8 -1.8**
N30M	**Aishikik Lake**	**3.51**	**5**		**Pn**	**16 00 44.5 +0.6**
N30M	**Aishikik Lake**	**3.51**	**5**	IAML		16 01 41.4
	comp=E,185nm,1.6s					
N30M	**Aishikik Lake**	**3.51**	**5**	Pn	**Pn**	**16 00 44.7 +0.8**
N30M				Sg	**Sg**	**16 01 39.7 -1.3**
N30M	**Aishikik Lake**	**3.51**	**5**	P	**Pn**	**16 00 44.7 +0.8**
	baz=186,SNR=13					
N30M				Sb	**Sb**	**16 01 35.9 +1.6**
	baz=186					
CTGM	**Chitina Glacie**	**3.53**	**330**		**Pn**	**16 00 45.4 +1.2**
CTGM				IAML		16 01 42.8
	comp=N,228nm,0.8s					
CTGM	**Chitina Glacie**	**3.53**	**330**	Pn	**Pn**	**16 00 45.1 +0.9**
CTG	**Chitna Glacier**	**3.53**	**330**	P	**Pn**	**16 00 45.2 +1.0**
	baz=148					
CTG				S	**Sn**	**16 01 28.0 +1.4**
	baz=148					
CRAG	**Craig**	**3.56**	**133**		**Pn**	**16 00 43.2 -1.2**
N31M	**Braeburn, Yuko**	**3.66**	**15**	Sg	**Sg**	**16 01 44.5 -1.1**
N31M	**Braeburn, Yuko**	**3.66**	**15**	P	**Pn**	**16 00 47.4 +1.5**
	baz=197,SNR=12					
N31M				Sb	**Sb**	**16 01 41.1 +2.8**
	baz=197					
BARN	**Barnard Glacie**	**3.70**	**329**		**Pn**	**16 00 47.0 +0.4**
BARN	**Barnard Glacie**	**3.70**	**329**	IAML		16 01 49.5
	comp=E,216nm,0.9s					
BARN				IAML		16 01 56.5
	comp=N,161nm,1.0s					
R33M	**Jennings River**	**3.79**	**65**		**Pn**	**16 00 48.8 +1.0**
R33M				IAML		16 01 56.3
	comp=N,283nm,1.4s					
R33M				IAML		16 02 07.1
	comp=E,168nm,1.4s					
R33M	**Jennings River**	**3.79**	**65**	Pn	**Pn**	**16 00 48.8 +1.0**
R33M				Sg	**Sg**	**16 01 48.4 -1.6**
R33M	**Jennings River**	**3.79**	**65**	P	**Pn**	**16 00 48.7 +0.9**
	baz=250					
R33M				Sb	**Sb**	**16 01 45.6 +3.3**
	baz=250					
TGL	**Tana Glacier**	**3.83**	**319**	IAML		16 01 57.7
	comp=E,296nm,0.9s					
TGL				IAML		16 02 01.8
	comp=N,294nm,1.2s					
TGL	**Tana Glacier**	**3.83**	**319**		**Pn**	**16 00 48.4 0.0**
TGL					Pb	16 00 48.7 -8.0
BALM	**Baldy**	**3.88**	**324**	Pn	**Pn**	**16 00 50.8 +1.8**
CRQE	**Cirque**	**3.92**	**318**	P	**Pn**	**16 00 51.1 +1.5**
	baz=134,SNR=9.3					
CRQM	**Cirque**	**3.94**	**317**		**Pn**	**16 00 49.5 -0.4**
CRQM	**Cirque**	**3.94**	**317**	IAML		16 01 58.2
	comp=E,308nm,1.1s					
N32M	**Quiet Lake**	**3.96**	**34**		**Pn**	**16 00 51.2 +1.2**
N32M	**Quiet Lake**	**3.96**	**34**	Pn	**Pn**	**16 00 51.1 +1.1**
N32M				Sg	**Sg**	**16 01 53.9 -1.5**
N32M	**Quiet Lake**	**3.96**	**34**	P	**Pn**	**16 00 50.8 +0.7**
	baz=218					
PTPK	**Patty Peak**	**4.03**	**325**		**Pn**	**16 00 51.8 +0.6**
PTPK	**Patty Peak**	**4.03**	**325**	Pn	**Pn**	**16 00 53.1 +1.9**
DLBC	**Dease Lake**	**4.08**	**80**	P	**Pn**	**16 00 52.4 +0.6**
	baz=266					
T35M	**Bob Quinn**	**4.14**	**101**	IAML		16 02 09.4
	comp=N,135nm,1.0s					
T35M				IAML		16 02 12.2
	comp=E,134nm,1.3s					
T35M	**Bob Quinn**	**4.14**	**101**	Sg	**Sg**	**16 01 59.6 -1.6**
V35K	**Ketchikan**	**4.28**	**126**	Pn	**Pn**	**16 00 54.4 +0.1**
V35K				Sg	**Sg**	**16 02 02.2 -3.4**
V35K	**Ketchikan**	**4.28**	**126**	P	**Pn**	**16 00 54.3 -0.1**
	baz=310					
MCARA	**McCarthy VSAT**	**4.36**	**324**	Pn	**Pn**	**16 00 57.4 +1.9**
MCARA	**McCarthy VSAT**	**4.36**	**324**	P	**Pn**	**16 00 56.9 +1.4**
	baz=141					
VRDI	**Verde Repeater**	**4.38**	**321**		**Pn**	**16 00 56.6 +0.6**
VRDI	**Verde Repeater**	**4.38**	**321**	IAML		16 02 27.9
	comp=N,144nm,1.0s					
M29M	**Somme Creek**	**4.50**	**355**	IAML		16 02 12.6
	comp=E,115nm,1.0s					
M29M	**Somme Creek**	**4.50**	**355**	Pn	**Pn**	**16 00 58.8 +1.3**
M29M	**Somme Creek**	**4.50**	**355**	P	**Pn**	**16 00 58.8 +1.3**
	baz=176,SNR=10					
M31M	**Drury Creek, Y**	**4.55**	**20**	IAML		16 02 23.5
	comp=E,139nm,1.0s					
M31M	**Drury Creek, Y**	**4.55**	**20**	Pn	**Pn**	**16 00 59.4 +1.3**
M31M				Sg	**Sg**	**16 02 11.6 -2.9**
M31M	**Drury Creek, Y**	**4.55**	**20**	P	**Pn**	**16 00 59.5 +1.3**
	baz=203					
BMRM	**Bremner River**	**4.63**	**313**		**Pn**	**16 00 59.9 +0.6**
BMRM	**Bremner River**	**4.63**	**313**	IAML		16 02 14.4
	comp=E,160nm,1.7s					
BMRM				IAML		16 02 16.8
	comp=N,161nm,0.8s					
BMRM	**Bremner River**	**4.63**	**313**	P	**Pn**	**16 00 59.9 +0.6**
	baz=129					
M30M	**Minto, Yukon**	**4.64**	**5**		**Pn**	**16 01 00.1 +0.7**
M30M	**Minto, Yukon**	**4.64**	**5**	IAML		16 02 20.9
	comp=E,107nm,1.1s					
M30M				IAML		16 02 22.6
	comp=N,84nm,1.1s					
M30M	**Minto, Yukon**	**4.64**	**5**	Pn	**Pn**	**16 00 59.9 +0.5**
M30M				Sg	**Sg**	**16 02 15.3 -1.9**
M30M	**Minto, Yukon**	**4.64**	**5**	P	**Pn**	**16 01 00.2 +0.8**
	baz=186					
GLB	**Gilahina Butte**	**4.66**	**321**		**Pn**	**16 01 00.3 +0.7**
GLB	**Gilahina Butte**	**4.66**	**321**	IAML		16 02 29.3
	comp=N,96nm,1.4s					
GLB				IAML		16 02 33.2
	comp=E,114nm,1.2s					
U35K	**Hyder**	**4.68**	**113**	Sg	**Sg**	**16 02 15.1 -3.4**
M27K	**Edge Creek, AK**	**4.87**	**336**	IAML		16 03 02.9
	comp=N,97nm,2.0s					
N25K	**Chitina, Valde**	**5.04**	**319**		**Pn**	**16 01 05.7 +0.8**
N25K	**Chitina, Valde**	**5.04**	**319**	Pn	**Pn**	**16 01 05.9 +0.9**
N25K				Sg	**Sg**	**16 02 28.4 -1.6**
N25K	**Chitina, Valde**	**5.04**	**319**	P	**Pn**	**16 01 06.6 +1.7**
	baz=134,SNR=7.2					
WTLY	**Watson Lake, Y**	**5.07**	**61**	Sg	**Sg**	**16 02 28.5 -2.6**
HIN	**Hinchinbrook I**	**5.14**	**302**		**Pn**	**16 01 06.5 +0.3**
HIN	**Hinchinbrook I**	**5.14**	**302**	IAML		16 02 43.5
	comp=N,124nm,1.4s					
L29M	**L29M**	**5.16**	**358**	IAML		16 02 38.2
	comp=N,83nm,0.9s					
L29M	**L29M**	**5.16**	**358**	Pn	**Pn**	**16 01 07.8 +1.3**
L29M				Sg	**Sg**	**16 02 32.6 -1.2**
L29M	**L29M**	**5.16**	**358**	P	**Pn**	**16 01 07.6 +1.1**
	baz=178,SNR=16					
PCLB	**Port Clements**	**5.17**	**143**	Pn	**Pn**	**16 01 06.4 -0.2**
DIV	**Divide**	**5.18**	**311**	IAML		16 02 42.2
	comp=N,70nm,1.5s					
DIV				IAML		16 02 46.0
	comp=E,57nm,1.5s					
P23K	**Montague Islan**	**5.42**	**296**		**Pn**	**16 01 10.2 +0.2**
KLU	**Klutina**	**5.46**	**314**		**Pn**	**16 01 11.0 +0.4**
KLU	**Klutina**	**5.46**	**314**	P	**Pn**	**16 01 12.0 +1.4**
	baz=128					
L27K	**Beaver Creek,**	**5.50**	**340**	Sg	**Sg**	**16 02 42.3 -2.4**
L27K	**Beaver Creek,**	**5.50**	**340**	P	**Pn**	**16 01 12.3 +1.2**
	baz=157					
RUBB	**Prince Rupert**	**5.54**	**128**	Sg	**Sg**	**16 02 42.4 -3.6**
DIB	**Dawson Inlet,**	**5.62**	**146**	Pn	**Pn**	**16 01 12.8 0.0**
DIB				Sn	**Sn**	**16 02 14.7 -3.1**
HARP	**HAARP**	**5.79**	**323**	P	**Pn**	**16 01 16.0 +0.9**
	baz=138					
K29M	**Barlow Dome**	**5.89**	**1**		**Pn**	**16 01 17.9 +1.3**
K29M	**Barlow Dome**	**5.89**	**1**	Pn	**Pn**	**16 01 17.9 +1.3**
K29M				Sg	**Sg**	**16 02 53.1 -4.2**
K29M	**Barlow Dome**	**5.89**	**1**	P	**Pn**	**16 01 18.0 +1.3**
	baz=181,SNR=13					
TGTN	**Hyland Airport**	**5.95**	**49**		**Pn**	**16 01 17.7 +0.4**
TGTN	**Hyland Airport**	**5.95**	**49**	Pn	**Pn**	**16 01 18.3 +1.0**
TGTN				Sg	**Sg**	**16 02 54.9 -4.2**
TGTN	**Hyland Airport**	**5.95**	**49**	P	**Pn**	**16 01 18.0 +0.7**
	baz=237					
DAWY	**Dawson**	**6.17**	**353**	Pn	**Pn**	**16 01 21.5 +1.2**
DAWY	**Dawson**	**6.17**	**353**	P	**Pn**	**16 01 21.6 +1.2**
	baz=172,SNR=9.2					
SCM	**Sheep Creek Mo**	**6.20**	**313**	P	**Pn**	**16 01 21.5 +0.7**
	baz=125					
PAX	**Paxson**	**6.31**	**326**	Pn	**Pn**	**16 01 23.6 +1.2**
PAX	**Paxson**	**6.31**	**326**	P	**Pn**	**16 01 23.1 +0.7**
	baz=140					
M23K	**Glacier View**	**6.33**	**311**	P	**Pn**	**16 01 23.5 +0.9**
	baz=124					
K27K	**Chicken**	**6.44**	**343**	Pn	**Pn**	**16 01 24.8 +0.9**
K27K				Sg	**Sg**	**16 03 10.3 -4.5**
K27K	**Chicken**	**6.44**	**343**	P	**Pn**	**16 01 24.9 +0.9**
	baz=159					
KNK	**Knik Glacier**	**6.45**	**307**	P	**Pn**	**16 01 24.9 +0.7**
	baz=118					
SML	**Sawmill**	**6.59**	**310**	P	**Pn**	**16 01 27.3 +1.2**
	baz=122					
TOAD	**Toad River Com**	**6.61**	**77**	P	**Pn**	**16 01 26.7 +0.3**
	baz=267					
J30M	**Hart River**	**6.66**	**5**		**Pn**	**16 01 28.4 +1.3**
J30M	**Hart River**	**6.66**	**5**	Pn	**Pn**	**16 01 28.3 +1.1**
J30M				Sg	**Sg**	**16 03 19.1 -2.8**
J30M	**Hart River**	**6.66**	**5**	P	**Pn**	**16 01 28.1 +0.9**
	baz=187					
SCRK	**Sand Creek**	**6.75**	**336**	P	**Pn**	**16 01 29.0 +0.6**
	baz=151					
WAT6	**Susitna Watana**	**6.80**	**317**	P	**Pn**	**16 01 29.4 +0.3**
	baz=129,SNR=5.6					
DHY	**Denali Highway**	**7.00**	**321**	P	**Pn**	**16 01 32.1 +0.3**
	baz=133					
EGAK	**Eagle**	**7.03**	**348**	Pn	**Pn**	**16 01 33.0 +0.9**
EGAK				Sg	**Sg**	**16 03 29.6 -4.1**
EGAK	**Eagle**	**7.03**	**348**	P	**Pn**	**16 01 32.3 +0.3**
	baz=165,SNR=7.1					
WAT1	**Susitna Watana**	**7.25**	**317**	P	**Pn**	**16 01 35.0 -0.2**
	baz=128					
I30M	**Mount Dempster**	**7.30**	**4**	P	**Pn**	**16 01 36.0 +0.1**
	baz=186,SNR=12					
I28M	**Miner Creek**	**7.58**	**353**	Pn	**Pn**	**16 01 40.8 +1.1**
I28M	**Miner Creek**	**7.58**	**353**	P	**Pn**	**16 01 39.7 0.0**
	baz=171					
KDAK	**Kodiak Island**	**7.94**	**275**	P	**Pn**	**16 01 44.4 -0.2**
	baz=83					
MCK	**McKinley**	**7.96**	**321**	P	**Pn**	**16 01 45.3 +0.4**
	baz=132					
SKT	**Skwentna**	**8.01**	**306**	P	**Pn**	**16 01 46.7 +1.1**
	baz=115					
TRF	**Thorofare Moun**	**8.25**	**317**	P	**Pn**	**16 01 51.2 +2.2**
	baz=127,SNR=17					
H29M	**Whitestone**	**8.28**	**358**	Pn	**Pn**	**16 01 50.0 +0.8**
KTH	**Kantishna Hill**	**8.54**	**316**		**Pn**	**16 01 55.4 +2.5**
NEA2	**Nenana**	**8.59**	**325**	P	**Pn**	**16 01 53.8 +0.3**
	baz=136					
M20K	**Styx River**	**8.68**	**303**	P	**Pn**	**16 01 54.7 -0.1**
	baz=111					
PPLA	**Purkeypile**	**8.69**	**311**	Pn	**Pn**	**16 01 57.4 +2.4**
PPLA	**Purkeypile**	**8.69**	**311**	P	**Pn**	**16 01 54.9 -0.1**
	baz=119					
BPAW	**Bear Paw Mtn.**	**8.89**	**319**	P	**Pn**	**16 01 59.2 +1.6**
	baz=128					
G30M	**tAoh Zraii Nji**	**9.07**	**4**	Pn	**Pn**	**16 02 00.9 +0.8**
I23K	**Minto, Yukon-K**	**9.08**	**327**	P	**Pn**	**16 02 00.5 +0.3**
	baz=138					
G31M	**Satah River**	**9.12**	**9**	Pn	**Pn**	**16 02 01.4 +0.7**
G31M	**Satah River**	**9.12**	**9**	P	**Pn**	**16 02 01.0 +0.2**
	baz=192					
P18K	**Big Mountain,**	**9.24**	**286**	P	**Pn**	**16 02 02.2 -0.2**
	baz=92					
CHUM	**Lake Minchumin**	**9.24**	**316**	P	**Pn**	**16 02 04.0 +1.6**
	baz=124					
MLY	**Manley**	**9.41**	**324**	P	**Pn**	**16 02 06.3 +1.4**
	baz=133					
J18K	**Innoko River**	**10.79**	**309**	P	**Pn**	**16 02 23.6 -0.1**
	baz=112					
K17K	**Iditarod**	**11.23**	**304**	Pn	**Pn**	**16 02 29.6 -0.1**
E24K	**Your Creek**	**11.23**	**339**	Pn	**Pn**	**16 02 31.6 +1.9**
G21K	**Allakaket**	**11.26**	**326**	Pn	**Pn**	**16 02 30.2 +0.2**
H19K	**Roundabout Mou**	**11.63**	**318**	Pn	**Pn**	**16 02 36.6 +1.6**
H19K	**Roundabout Mou**	**11.63**	**318**	P	**Pn**	**16 02 35.7 +0.7**
	baz=122					
N15K	**Kwethluk River**	**11.72**	**290**	Pn	**Pn**	**16 02 36.2 -0.1**
F19K	**Shaleruckik Mo**	**12.80**	**322**	Pn	**Pn**	**16 02 52.1 +1.1**
D19K	**Kuna River**	**13.90**	**328**	Pn	**Pn**	**16 03 03.8 -2.3**

AFAD ***12*** *16:11:00.7,35°.17N×27°.81E,h7km±2km,MW3.7*
IDC ***12*** *16:11:01.0±1.0,35°.38N×27°.80E,h0km,mb3.6/8,*
mbtmp3.5/16,ML3.2/7,MS2.7/1,Error ellipse:
s-maj=20.2km s-min=14.4km az=174.0
MCSM ***12*** *16:11:02.7±1.1,35°N±6°×2°8E±°,h8km±7km,mb3.7,*
MLv3.4
ISK ***12*** *16:11:03.6,35°.28N×27°.76E,h10km,ML3.5/24*
ATH ***12*** *16:11:03.6±0.5,35°.26N×27°.81E,h8km±3km,ML3.4/13,*
Manual Solution by N.Liadopoulou First location:
2019/10/12 16:12:32, This location: 2019/10/12 16:28:31
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 2
km; Longitude uncertainty: 1 km
NIC ***12*** *16:11:03.4,35°.24N×27°.77E,h14km±1km,Ml3.2/11*
THE ***12*** *16:11:04.1,35°N±5°×2°8E±°,h0km±7km,M3.3/8,mb4.2/3,*
MLh3.3/8

ISC 12 16:11:03.5±1.1,**35°.26N**±0°.03×**27°.80E**±0°.02,**h16**km±8km,
n141,σ1§**47**/172,**mb3.5**/7,**Dodecanese Islands**

| Code | Station Name | Δ° | A

TURN	Turunc	1.55	13	P	Pb	16 11 32.3	+0.4
TURN				S	Sg	16 11 54.4	+0.8
TURN				*i* IAML		16 12 00.0	
	comp=N,604nm,0.8s						
TURN				*i* IAML		16 12 01.0	
	comp=E,630nm,0.6s						
IZZE	Mula-Seydike	1.65	44	P	Pn	16 11 32.5	+0.8
IZZE				S	Sb	16 11 54.4	+0.4
IZZE				*i* IAML		16 12 06.0	
	comp=E,227nm,0.4s						
DALY	Dalyan (Mula)	1.70	24	Pn	Pb	16 11 34.1	-0.2
KSL	Kastellorizon	1.70	58	P	Pb	16 11 34.4	+0.1
KSL				S	Sg	16 11 58.4	+0.1
KSL	Kastellorizon	1.70	58	P	Pn	16 11 33.7	+1.2
KSL				S	Sb	16 11 55.7	+0.2
KSL				AML	AML	16 12 23.2	
	0.4nm,1.3s						
KSL				AML	AML	16 12 36.1	
	0.5nm,1.1s						
KSL	Kastellorizon	1.70	58	P	Pn	16 11 33.5	+1.0
FETY	Fethiye	1.72	37	P	Pn	16 11 24.8	-8.0
FETY				S	Sn	16 11 51.6	-2.8
ASTA	Astypalaia	1.74	318	P	Pn	16 11 33.9	+1.0
AKAS	Kas	1.76	56	Pn	Pb	16 11 35.1	-0.3
AKAS	Kas	1.76	56	P	Pb	16 11 35.3	-0.1
AKAS				S	Sb	16 11 58.8	+1.5
AKAS				*i* IAML		16 12 05.0	
	comp=N,372nm,0.6s						
NPS	Neapolis	1.79	271	P	Pn	16 11 35.5	+1.8
KLNA	Kalymnos	1.82	339	P	Pn	16 11 35.0	+1.0
BDRM	Kayabasi	1.82	351	P	Pb	16 11 35.9	-0.6
BDRM				S	Sn	16 11 58.2	+1.3
BDRM				*i* IAML		16 12 05.0	
	comp=E,278nm,0.7s						
SABU	Mula-Dalaman	1.82	31	P	Pb	16 11 36.4	-0.1
BODT	Bodrum	1.84	348	Pn	Pn	16 11 35.5	+1.1
BODT	Bodrum	1.84	348	P	Pn	16 11 34.8	+0.4
BODT	Bodrum	1.84	348	P	Pb	16 11 36.2	-0.6
BODT				S	Sb	16 11 59.3	-0.2
YER	Yerkesik	1.91	12	Pn	Pn	16 11 37.1	+1.7
YER	Yerkesik	1.91	12	P	Pg	16 11 47.5	+7.3
MLSB	Milas	2.03	359	Pn	Pn	16 11 38.4	+1.4
MLSB	Milas	2.03	359	P	Pn	16 11 36.4	-0.6
MULA	Mugla, Merkez-	2.03	12	P	Pb	16 11 39.5	-0.7
MULA				S	Sg	16 12 10.9	+2.0
MULA				*i* IAML		16 12 19.0	
	comp=E,311nm,0.5s						
CAME	Cameli-Denizli	2.07	36	Pn	Pn	16 11 39.0	+1.3
KNIK	Mula-Seydike	2.13	42	P	Pn	16 11 40.0	+1.4
THERA	Ancient Thera,	2.19	301	P	Pn	16 11 40.1	+0.9
THERA				S	Sn	16 12 08.1	+2.3
THERA	Ancient Thera,	2.19	301	P	Pn	16 11 40.4	+1.2
CAEL	Denizli, Camel	2.23	33	P	Pb	16 11 42.2	-1.2
THR3	Thira Island,	2.26	301	P	Pn	16 11 42.0	+1.9
THR3	Thira Island,	2.26	301	P	Pn	16 11 41.4	+1.3
SNT5	Nea Kammeni, S	2.26	301	P	Pn	16 11 41.0	+0.8
SNT5	Nea Kammeni, S	2.26	301	P	Pn	16 11 41.1	+0.9
ELL	Elmali	2.26	48	Pn	Pn	16 11 42.2	+1.9
ELL	Elmali	2.26	48	P	Pn	16 11 42.5	+2.2
SAP3	Santorini-Thir	2.31	301	P	Pn	16 11 42.1	+1.2
AKUM	Antalya-Kumluc	2.32	62	P	Pn	16 11 42.8	+1.8
AKUM				S	Sn	16 12 08.7	-0.5
AKUM				*i* IAML		16 12 19.0	
	comp=N,49nm,0.6s						
TAVA	DENIZLI_Tavas	2.38	22	P	Pn	16 11 43.6	+1.8
TAVA				S	Sb	16 12 17.0	+2.0
TAVA				*i* IAML		16 12 32.0	
	comp=E,139nm,0.8s						
IDI	Anoyia	2.38	271	Pn	Pn	16 11 43.3	+1.4
IDI	Anoyia	2.38	271	P	Pn	16 11 44.0	+2.1
IDI	Anoyia	2.38	271	Pn	Pn	16 11 43.3	+1.4
	26nm,0.3s,baz=66,slow=16,SNR=31						
IDI				Sn	Sn	16 12 13.8	+3.0
	13nm,0.3s,baz=348,slow=19,SNR=4.4						
IDI	Anoyia	2.38	271	P	Pn	16 11 43.5	+1.7
AYDN	Tasoluk	2.39	2	P	Pn	16 11 43.9	+1.8
GOLH	Golhisar	2.43	35	P	Pb	16 11 45.8	-1.1
APMY	Acipayam-Deniz	2.52	28	Pn	Pn	16 11 45.6	+1.8
DNIZ	Denizli-Tavas-	2.56	23	P	Pn	16 11 45.8	+1.4
ESEN	Aydn-Nazilli	2.57	10	P	Pn	16 11 46.4	+2.0
ESEN				S	Sb	16 12 21.7	+1.2
ESEN				*i* IAML		16 12 34.0	
	comp=E,86nm,0.6s						
AYDB	Zeytinkoy-Aydi	2.68	2	Pn	Pn	16 11 47.7	+1.6
KORT	Korkueli	2.70	49	Pn	Pn	16 11 48.5	+2.2
KORT	Korkueli	2.70	49	P	Pn	16 11 48.8	+2.6
PRNS	Prines Rethymn	2.70	273	P	Pn	16 11 48.9	+2.7
NAZL	Nazilli-Aydin	2.73	8	Pn	Pn	16 11 48.4	+1.8
INCE	Denizli-Bozkur	2.83	30	P	Pg	16 11 57.7	-0.1
ANTB	Antalya	2.83	54	Pn	Pn	16 11 50.4	+2.4
KIRA	zmir-Kiraz	2.97	9	P	Pn	16 11 51.1	+1.1
ODEM	Odemis-Izmir	3.02	4	Pn	Pn	16 11 52.8	+2.2
GVD	Gavdhos	3.08	263	P	Pn	16 11 53.1	+1.8
BLCB	Balcova	3.18	349	Pn	Pn	16 11 54.6	+1.9
URLA	Izmir	3.24	343	Pn	Pn	16 11 55.5	+1.8
KULA	Kula-Manisa	3.32	12	Pn	Pn	16 11 56.9	+2.1
PASA	Karahalli, USA	3.36	23	P	Pn	16 11 56.3	+0.9
GORD	Gordes-Manisa	3.65	5	Pn	Pn	16 12 01.7	+2.3
ANKY	Antikythira Is	3.72	281	P	Pn	16 12 01.8	+1.6
AKMS	Akamas	3.73	92	P	Pn	16 12 01.2	+0.8
AKMS				S	Sn	16 12 45.9	+2.1
AKMS				AML	AML	16 12 54.3	
	0.2nm,0.4s						
AKMS				AML	AML	16 13 00.3	
	0.1nm,0.6s						
AKMS	Akamas	3.73	92	P	Pn	16 12 01.2	+0.8
ALFC	Alefka	3.93	90	P	Pn	16 12 04.0	+0.9
ALFC				S	Sn	16 12 51.7	+2.7
ALFC				AML	AML	16 12 57.9	
	0.1nm,0.4s						
ALFC				AML	AML	16 12 59.6	
	0.2nm,0.5s						
ALFC	Alefka	3.93	90	P	Pn	16 12 03.8	+0.7
NATA	Nata	3.94	96	P	Pn	16 12 03.9	+0.6
TROD	Troodos	4.17	93	P	Pn	16 12 06.5	-0.1
TROD				S	Sn	16 12 56.8	+1.8
TROD				AML	AML	16 13 07.8	
	0.1nm,0.5s						
TROD				AML	AML	16 13 09.2	
	0.1nm,0.5s						
DION	Dionisos Attik	4.19	313	P	Pn	16 12 07.8	+1.0
VLI	Veliai	4.20	292	P	Pn	16 12 08.1	+1.2
VLI	Veliai	4.20	292	P	Pn	16 12 08.2	+1.4
ATHU	Athens Univers	4.21	311	P	Pn	16 12 09.2	+2.2
ATHU	Athens Univers	4.21	311	P	Pn	16 12 08.4	+1.4
PTL	Penteli	4.21	312	P	Pn	16 12 07.8	+0.7
MET5	Makryloggos,Me	4.29	305	P	Pn	16 12 09.5	+1.5
XYLS	Xyliatos	4.31	92	P	Pn	16 12 09.0	+0.7
XYLS				S	Sn	16 13 00.8	+2.5
XYLS				AML	AML	16 13 05.5	
	0.1nm,0.3s						
XYLS				AML	AML	16 13 10.4	
	0.1nm,0.4s						
YAYO	Edremit-Balk	4.38	353	Pn	Pn	16 12 11.8	+2.5
KYMI	Kymi, Euboea I	4.48	320	P	Pn	16 12 13.0	+2.3
KYMI	Kymi, Euboea I	4.48	320	P	Pn	16 12 11.5	+0.8
STFN	Stefani	4.49	312	P	Pn	16 12 13.3	+2.5
STFN	Stefani	4.49	312	P	Pn	16 12 11.6	+0.8
ASGA	Asgata	4.50	95	P	Pn	16 12 11.6	+0.7
ASGA				S	Sn	16 13 05.5	+2.7
ASGA				AML	AML	16 13 11.0	
	0.1nm,0.5s						
ASGA				AML	AML	16 13 12.4	
	0.1nm,0.4s						
ASGA	Asgata	4.50	95	P	Pn	16 12 11.9	+1.0
CSS	Mathiatis	4.54	92	P	Pn	16 12 12.9	+1.4
CSS				S	Sn	16 13 06.3	+2.3
CSS				AML	AML	16 13 11.0	
	0.1nm,0.6s						
CSS				AML	AML	16 13 11.5	
	0.1nm,0.8s						
CSS	Mathiatis	4.54	92	P	Pn	16 12 12.1	+0.5
VILL	Villia	4.62	310	P	Pn	16 12 15.4	+2.7
VIL2	Platees	4.68	310	P	Pn	16 12 13.9	+0.4
LTK	Loutraki	4.76	307	P	Pn	16 12 14.9	+0.3
MVOU	Mavrovouni	4.79	91	P	Pn	16 12 15.9	+1.0
MVOU				S	Sn	16 13 12.6	+2.6
MVOU				AML	AML	16 13 22.3	
MVOU				AML	AML	16 13 30.6	
	0.1nm,0.5s						
MVOU	Mavrovouni	4.79	91	P	Pn	16 12 15.9	+1.0
LIA	Limnos Island	5.07	337	P	Pn	16 12 20.0	+1.2
ITM	Ithomi	5.12	294	P	Pn	16 12 20.5	+1.0
GUR	Goura	5.14	303	P	Pn	16 12 21.2	+1.4
KLV	Kalavryta, Ach	5.32	303	P	Pn	16 12 23.5	+1.2
AGG	Agios Georgios	5.76	312	P	Pn	16 12 30.6	+2.3
	22nm,0.8s						
ANX	Ano Chora	5.76	307	P	Pn	16 12 31.4	+3.0
	16nm,0.6s						
RDO	Rodhopi	6.14	344	P	Pn	16 12 35.9	+2.5
BR105	Keskin Array S	6.42	44	Pn	Pn	16 12 36.9	-0.5
	0.0nm3.1nm,0.8s						
BR104	Keskin Array S	6.42	45	Pn	Pn	16 12 36.8	-0.7
	0.0nm2.3nm,0.9s						
BR106	Keskin Array S	6.43	44	Pn	Pn	16 12 37.1	-0.4
	0.0nm2.8nm,0.8s						
BRTR	Keskin Array B	6.43	44	Pn	Pn	16 12 37.5	-0.2
	0.2nm,0.3s,baz=220,slow=16,SNR=6.4						
BRTR				Sn	Sn	16 13 48.8	-2.0
	baz=254,slow=27						
	0.6nm,0.4s						
MMAI	Mount Meron Ar	6.69	107	Pn	Pn	16 12 41.1	-0.1
	1.6nm,0.3s,baz=329,slow=13,SNR=11						
	0.7nm,0.3s						
ASF	Jabal al Asfar	8.18	110	Pn	Pn	16 13 01.6	0.0
	0.2nm,0.3s,baz=297,slow=12,SNR=1.6						
ASF				Sn	Sn	16 14 28.9	-4.9
	0.1nm,0.3s,baz=220,slow=17,SNR=1.4						
	0.7nm,0.5s						
EIL	Elat	8.22	131	Pn	Pn	16 13 01.8	-0.2
	0.6nm,0.3s,baz=345,slow=16,SNR=7.4						
EIL				Sn	Sn	16 14 29.3	-5.3
	0.8nm,0.3s,baz=349,slow=16,SNR=3.5						
	2.8nm,0.5s						
TIP	Timpagrande	9.63	297	Pn	Pn	16 13 21.6	+0.1
	3.8nm,0.8s						
CEL	Celeste	10.01	291	P	Pn	16 13 26.5	-0.1
	7.7nm,0.9s						
MLR	Muntele Rosu	10.31	353	Pn	Pn	16 13 29.8	-1.0
	0.1nm,0.3s,baz=222,slow=15,SNR=3.3						
	0.9nm,0.6s						
MLR	Muntele Rosu	10.31	353	P	Pn	16 13 30.1	-0.7
	3.8nm,1.3s						
KBZ	Khabaz	14.38	49	LR	LR	16 20 05.2	
	comp=Z,35nm,20.5s,baz=318,slow=38						
KEST	Kesra	15.04	277	Pn	Pn	16 14 36.3	+0.9
	0.2nm,0.3s,baz=12,slow=5.3,SNR=3.9						
	0.7nm,0.6s						
OJC	Ojcow	16.05	341	P	Pn	16 14 49.7	+1.4
	5.3nm,0.7s						
GERES	GERESS Array B	17.10	327	Pn	Pn	16 15 00.8	-1.0
	baz=134,slow=14,SNR=4.9						
	0.6nm,0.8s						
KHC	Kasperske Hory	17.37	327	P	Pn	16 15 05.0	-0.1
	4.9nm,1.4s						
ESDC	Sonseca Array	25.52	289	P	P	16 16 30.0	-1.2
	0.5nm,0.6s,baz=79,slow=8.7,SNR=7.1						
	0.5nm,0.6s						
FINES	FINESS Array B	26.22	358	P	P	16 16 36.2	-1.1
	2.2nm,0.8s,baz=182,slow=11,SNR=3.4						
	2.2nm,0.8s						
HFS	Hagfors	26.52	344	P	P	16 16 38.9	-1.1
	0.8nm,0.5s,baz=139,slow=14,SNR=5.0						
	0.8nm,0.5s						
TORD	Torodi Ar. Bea	32.25	233	P	P	16 17 30.8	-0.5
	0.4nm,0.5s,baz=32,slow=9.2,SNR=4.1						
	0.4nm,0.5s						
ARCES	ARCESS Array B	34.35	359	P	P	16 17 47.3	-1.8
	1.7nm,0.9s,baz=180,slow=7.9,SNR=1.8						
	1.7nm,0.9s						
KURBB	Kurchatov Arra	39.38	51	P	P	16 18 33.1	+1.0
	0.2nm,0.6s,baz=278,slow=8.8,SNR=1.6						
	0.2nm,0.6s						
MKAR	Makanchi Array	41.91	57	P	P	16 18 52.4	-0.7
	0.1nm,0.5s,baz=275,slow=6.4,SNR=1.6						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	43.37	46	P	P	16 19 05.5	+0.7
	0.4nm,0.4s,baz=273,slow=5.2,SNR=1.7						
	0.4nm,0.4s						

*IDC **12** 16:22:33.4±2.6, 14°.52S×175°.37W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=318.1km s-min=34.0km az=157.0*

ISC 12 16:23:02.7±1.0, **15°.97S**±0°.10×**174°.9W**±0°.1, **h278**km, **n20,** σ2§18/22, **mb3.5/3, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.66	56	P	Pn	16 24 03.4	-0.7
AFI				S	S	16 24 52.1	-0.9
NIUE	Niue	5.66	124	P	Pn	16 24 25.4	-2.0
NIUE				S	S	16 25 37.3	+1.9
GLKZ	Green Lake	13.51	191	P	Pn	16 26 02.2	-1.8
WMGZ	Waiomatatini S	22.55	194	P	P	16 27 42.2	+2.9
HAZ	Te Kaha	22.64	195	P	P	16 27 41.1	+1.0
PUZ	Puketiti	22.82	194	P	P	16 27 44.4	+2.5
RUGZ	Raukumara Rang	22.86	195	P	P	16 27 44.9	+2.5
TWGZ	Tauwhareparae	22.99	194	P	P	16 27 44.7	+1.3
CNGZ	Carnagh Statio	23.23	194	P	P	16 27 47.5	+2.0
MWZ	Matawai	23.25	195	P	P	16 27 46.0	+0.3
TKGZ	Te Karaka	23.27	195	P	P	16 27 46.1	+0.3
TOZ	Tahuroa Road	23.27	200	P	P	16 27 46.3	+0.5
URZ	Urewera	23.29	196	P	P	16 27 44.8	-1.2
RIGZ	Rimuhau	23.55	194	P	P	16 27 48.7	+0.3
MUGZ	Murupara	23.58	196	P	P	16 27 52.8	+4.1
SNGZ	Shannon Statio	23.72	195	P	P	16 27 54.6	+4.6
BKZ	Black Stump Fm	24.30	196	P	P	16 27 52.4	-2.9
WRA	Warramunga Arr	48.30	257	P	P	16 31 16.6	-0.1
	1.1nm,0.5s,baz=90,slow=7.5,SNR=38						
	1.1nm,0.5s						
ASAR	Alice Springs	48.55	252	P	P	16 31 18.4	-0.3
	5.7nm,0.6s,baz=85,slow=8.1,SNR=144						
	5.7nm,0.6s						
TXAR	Lajitas Array	82.14	57	P	P	16 34 54.4	+1.4
	0.2nm,0.5s,baz=230,slow=4.7,SNR=2.4						
	0.2nm,0.5s						

IDC 12 16:40:14.8±3.2, **47°.96N**×**151°.48E, h0**km, **mb3.5**/4, **mbtmp3.5**/5, **ML1.8**/1, **Error ellipse: s-maj=262.6km s-min=23.7km az=122.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.50	35	Pn	Pn	16 41 53.6	+2.0
	0.1nm,0.3s,baz=187,slow=7.0,SNR=1.4						
	1.9nm,0.8s						
H11N2	WAKE ISLAND Hy	30.81	151	T	T	17 17 55.8	
	baz=341,slow=76,SNR=55						
H11N1	WAKE ISLAND Hy	30.83	151	T	T	17 17 59.1	
	baz=341,slow=76,SNR=62						
H11N3	WAKE ISLAND Hy	30.83	151	T	T	17 18 00.9	
	baz=341,slow=76,SNR=59						
H11S1	WAKE ISLAND Hy	31.89	152	T	T	17 19 14.4	
	baz=341,slow=76,SNR=122						
H11S3	WAKE ISLAND Hy	31.90	152	T	T	17 19 19.8	
	baz=341,slow=76,SNR=123						
H11S2	WAKE ISLAND Hy	31.91	152	T	T	17 19 22.3	
	baz=341,slow=76,SNR=87						
ILAR	Eielson Array	36.30	40	P	P	16 47 18.3	-1.4
	0.4nm,0.8s,baz=270,slow=8.6,SNR=2.1						
	0.4nm,0.8s						
WRA	Warramunga Arr	69.32	197	P	P	16 51 22.9	-1.0
	0.3nm,0.7s,baz=16,slow=6.3,SNR=2.2						
	0.3nm,0.7s						
ASAR	Alice Springs	73.03	197	P	P	16 51 47.0	+0.7
	0.5nm,0.6s,baz=12,slow=5.5,SNR=14						
	0.5nm,0.6s						
TXAR	Lajitas Array	77.85	60	P	P	16 52 14.7	+0.4
	0.3nm,0.5s,baz=306,slow=4.3,SNR=4.1						
	0.3nm,0.5s						
H03N2	Juan Fernandez	139.84	88	T	T	19 34 41.4	
	baz=309,slow=77,SNR=11						
H03N1	Juan Fernandez	139.85	88	T	T	19 34 41.4	
	baz=309,slow=77,SNR=11						
H03N3	Juan Fernandez	139.85	88	T	T	19 34 42.2	
	baz=309,slow=77,SNR=10						

*TIR **12** 16:41:07.2, 42°.00N×19°.91E, h3km, Md3.1/6, Ml2.7/5*
*SKO **12** 16:41:13.7, 41°.74N×20°.23E, h22km, ML2.5*
*PDG **12** 16:41:13.1±0.2, 41°.79N×20°.17E, h7km, ML2.5/10, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
*BEO **12** 16:41:14.8±0.3, 41°.85N×20°.28E, h0km, ML2.1/13*

ISC 12 16:41:13.1±1.1, **41°.81N**±0°.02×**20°.20E**±0°.02, **h2**km±10km, **n48,** σ1§03/79, **2C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.53	209	Pg	Pg	16 41 23.4	+0.2
TIR				Sg	Sg	16 41 30.1	+0.1
TIR				AML	AML	16 41 37.0	
	0.6nm,0.3s						
TIR	Tirane	0.53	209	*i* Pg	Pg	16 41 23.9	+0.7
TIR				*i* Sg	Sg	16 41 32.4	+2.4
ULC	Ulcinj	0.73	283	*e*Pg	Pg	16 41 26.3	-0.8
ULC				*i* Sg	Sg	16 41 37.6	+1.1
OHR	Ohrid	0.83	147	⇓*i*Pg	Pg	16 41 29.0	0.0
OHR				*i* Sg	Sb	16 41 42.2	+0.3
OHR				*e*Lg	Lg	16 41 43.7	
	comp=E,108nm,0.5s						
OHR				*e*Lg	Lg	16 41 43.7	
	comp=N,115nm,0.5s						
DRME	Dracevica, Mon	0.84	297	*e*Pg	Pg	16 41 28.7	-0.6
DRME				*i* Sg	Sg	16 41 41.7	+1.4
PDG	Podgorica	0.94	312	*e*Pg	Pg	16 41 31.0	-0.1
PDG				*e*Sg	Sb	16 41 45.4	+0.5
PDG	Podgorica	0.94	312	*e*Pg	Pg	16 41 30.5	-0.6
PDG				*i* Sg	Sb	16 41 45.1	+0.2
SKO	Skopje	0.94	80	*i* Pg	Pb	16 41 32.0	-0.1
SKO				*i* Sg	Sb	16 41 44.1	-0.9
IVA	Berane	1.09	348	*e*Pg	Pg	16 41 33.4	-0.5
IVA				*i* Sg	Sn	16 41 50.7	-0.3
BUM	Brajici-Budva	1.09	297	*e*Pg	Pg	16 41 33.2	-0.8
BUM				*i* Sg	Sb	16 41 50.0	+0.6
KOME	Kolasin	1.16	334	⇓*i*Pg	Pg	16 41 34.6	-0.7
KOME				*i* Sg	Sn	16 41 52.9	+0.1
KBN	Korca	1.27	159	Pg	Pg	16 41 36.2	-1.2
KBN				Sg	Sn	16 41 57.4	+2.0
KBN				AML	AML	16 42 04.6	
	comp=N,0.6nm,0.7s						
KBN				AMd		16 42 17.6	
NKME	Niksic	1.33	316	*e*Pg	Pg	16 41 38.1	-0.5
NKME				*i* Sg	Sn	16 41 58.5	+1.5
HCY	Herceg Novi	1.42	297	⇑*i*Pg	Pn	16 41 39.1	-0.8
HCY				*i* Sg	Sn	16 42 01.2	+2.1
SJES	Sjenica	1.46	354	*e*Pg	Pg	16 41 41.0	-0.1
SJES				*e*Sg	Sb	16 42 00.0	-0.1
NEST	Nestorio	1.53	155	Pg	Pn	16 41 41.6	+0.1
NEST				AML	AML	16 42 10.8	
	comp=N,0.3nm,0.4s						
NEST				AMd		16 42 40.1	
SELS	Selova	1.56	25	*e*Pg	Pn	16 41 42.0	+0.1
SELS				*e*Sg	Sg	16 42 03.1	-0.3
BARS	Barje	1.57	49	*i* Pg	Pn	16 41 42.0	+0.1
BARS				*i* Sg	Sg	16 42 04.5	+1.1
BARS	Barje	1.57	49	*e*Pg	Pn	16 41 42.2	+0.3
BARS				*e*Sg	Sn	16 42 02.5	-0.3
BRY	Bratogost	1.65	312	⇑*i*Pn	Pn	16 41 43.5	+0.4
BRY				*i* Sn	Sg	16 42 07.5	+1.6
TREB	Trebinje	1.65	304	*e*Pn	Pn	16 41 43.2	+0.2
UPM	Unac-Piva	1.69	326	*e*Pn	Pn	16 41 44.2	+0.4
UPM				*i* Sn	Sg	16 42 08.8	+1.4
IVAS	Ivanjica	1.77	359	*e*Pg	Pn	16 41 44.9	+0.2
IVAS				*e*Sg	Sg	16 42 09.4	-0.5
KLNJ	Klinje	1.81	319	*e*Pn	Pb	16 41 47.7	+0.1
GOCS	Kraljevo Serbi	1.82	16	*e*Pg	Pn	16 41 45.9	+0.4
GOCS				*e*Sg	Sb	16 42 10.1	-0.4
BOSS	Bosilegrad	1.83	67	*e*Pg	Pb	16 41 47.1	-0.2
BOSS				*e*Sg	Sn	16 42 09.6	+0.3
VAY	Valandovo	1.84	105	*i* Pn	Pn	16 41 45.9	+0.2
RUDO	Rudo	1.91	342	*e*Pn	Pb	16 41 48.0	-0.6
GRUS	Gruza	2.11	10	*e*Pn	Pn	16 41 49.9	+0.5
KEK	Kerkira	2.12	188	Pn	Pn	16 41 49.2	-0.3
KEK				Sn	Sg	16 42 21.0	-0.1
KEK				AMd		16 43 11.0	
KNT	Kendrikon	2.13	107	*i* Pn	Pn	16 41 50.0	+0.4
STON	Ston	2.13	301	*e*Pn	Pb	16 41 51.8	-0.6
BOVS	Bovan	2.14	31	*e*Pn	Pn	16 41 50.4	+0.7
BOVS				*e*Sn	Sn	16 42 17.2	+0.4
BBLS	Lazi&#263i	2.14	344	*e*Pn	Pb	16 41 51.6	-0.9
BBLS				*e*Sn	Sb	16 42 18.7	-0.8
KKB	Krupnik	2.19	88	*i* Pn	Pn	16 41 51.1	+0.6
IGT	Igoumenitsa	2.28	177	Pn	Pn	16 41 52.1	+0.5
IGT				Sn	Sg	16 42 25.8	-0.4
IGT				AML	AML	16 42 38.2	
	comp=N,0.1nm,1.1s						
IGT				AMd		16 42 57.3	
IGT	Igoumenitsa	2.28	177	*e*Pn	Pn	16 41 53.6	+1.9
IGT				*e*Sn	Sb	16 42 23.5	0.0
DIVS	Divibare	2.29	356	*e*Pn	Pb	16 41 54.1	-1.1
ZAPS	Zavoj	2.32	50	*e*Pn	Pb	16 41 54.2	-1.4
ZAPS				*e*Sn	Sn	16 42 21.7	+0.3
TRUS	Trudelj	2.42	4	*e*Pn	Pn	16 41 54.9	+1.3
ZAGS	Zajecar	2.50	36	*e*Pn	Pb	16 41 57.5	-1.2
ZAGS				*e*Sn	Sn	16 42 25.5	-0.3
NOCI	Noci	2.57	248	Pg	Pn	16 41 51.7	-4.0
NOCI				Sg	Sn	16 42 25.2	-2.4
NOCI				AML	AML	16 42 31.3	
	comp=N,0.1nm,0.3s						
NOCI				AMd		16 43 28.7	
SRS	Serrai	2.64	104	*e*Pn	Pn	16 41 56.7	0.0
TEKS	Tekeris	2.78	350	*e*Pn	Pn	16 42 00.5	+1.9
KUBS	Kucevo	2.82	22	*e*Pn	Pn	16 42 00.3	+1.2
KIJV	Kijevo	3.55	309	*e*Pn	Pn	16 42 10.8	+1.7
BLY	Banja Luka	3.67	324	*e*Pn	Pb	16 42 17.6	-1.0
MORH	Mrgy, Hungar	4.54	346	*e*Pn	Pn	16 42 23.5

COTA	Cotacachi	2.92	352	P		Pb	16 42 46.2 +0.5
PAC1	Pacto, Paraso	2.95	343	P		Pb	16 42 46.3 +0.3
PAC1	Pacto, Paraso	2.95	343	P		Pb	16 42 45.6 -0.4
BV15	Puerto Quito-O	3.01	335	P		Pb	16 42 46.7 -0.2
URCU	Urcuqui	3.01	354	⇑P		Pb	16 42 47.9 +0.7
PPLP	Puerto Lpez	3.02	290	P		Pb	16 42 44.2 -2.9
PPLP	Puerto Lpez	3.02	290	P		Pb	16 42 44.3 -2.9
BONI	La Bonita	3.04	8	P		Pn	16 42 43.4 +1.7
BONI	La Bonita	3.04	8	P		Pn	16 42 43.0 +1.3
TULM	Tulcn-Chalpat	3.27	2	P		Pb	16 42 52.5 +0.9
TULM	Tulcn-Chalpat	3.27	2	P		Pb	16 42 48.4 -3.3
LNGL	El Angel-Carch	3.29	359	P		Pb	16 42 51.4 -0.7
CHL1	Volcjn Chiles	3.35	360	P		Pb	16 42 53.5 +0.6
CHL2	Volcjn Chiles	3.36	0	P		Pb	16 42 50.8 -2.3
ECEN	Cerro Negro	3.38	359	P		Pb	16 42 52.8 -0.7
ISPT	Isla de la Pla	3.40	292	P		Pb	16 42 50.7 -2.9
CHMA	Chilma	3.42	358	P		Pb	16 42 54.6 +0.5
CMBC	Cumbal	3.50	2	P		Pb	16 42 53.2 -2.2
CMBC	Cumbal	3.50	2	P		Pb	16 42 53.7 -1.7
SNLR	San Lorenzo-Es	3.95	347	P		Pb	16 43 02.2 -0.7
PTLC	Puerto Leguiza	4.15	49	P		Pn	16 42 55.1 -1.8
PTLC	Puerto Leguiza	4.15	49	P		Pn	16 42 55.4 -1.5
CRUC	La Cruz	4.23	13	P		Pb	16 43 07.5 -0.4
ATAH	Atahualpa	4.55	186	LR		LR	16 45 08.3
	comp=Z,175nm,19.4s,baz=4.6,slow=45						
BBAC	Balboa, Cauca	4.62	8	P		Pn	16 43 08.0 +4.6
BBAC	Balboa, Cauca	4.62	8	P		Pb	16 43 08.7 -5.7
FLOC	Florencia	4.72	29	P		Pn	16 43 04.3 -0.3
FLOC	Florencia	4.72	29	P		Pn	16 43 04.8 +0.2
MACC	Macarena, Meta	6.22	41	P		Pn	16 43 26.0 +0.7
ORTC	Ortega, Tolima	6.98	23	P		Pn	16 43 41.9 +6.2
ROSC	El Rosal	8.20	26	P		Pb	16 44 07.8 -7.8
	8.2nm,0.3s,baz=148,slow=20,SNR=2.0						
ROSC				S		Sb	16 45 44.2 -10
	19nm,0.7s,baz=195,slow=20,SNR=1.6						
SDV	Santo Domingo	13.51	32	LR		LR	16 50 51.6
	comp=Z,64nm,18.2s,baz=201,slow=38						
JTS	Las Juntas de	14.57	331	LR		LR	16 50 03.9
	comp=Z,62nm,19.7s,baz=148,slow=32						
LPAZ	La Paz	16.69	145	P		Pn	16 45 48.0 -0.1
	2.9nm,0.8s,baz=328,slow=10,SNR=9.5						
SJG	San Juan	23.61	29	LR		LR	16 57 47.8
	comp=Z,68nm,18.2s,baz=252,slow=39						
TEIG	Tepich	24.83	336	P		P	16 47 20.1 +3.9
	0.1nm,0.4s,baz=128,slow=24,SNR=2.6						
	0.1nm,0.4s						
CPUP	Villa Florida	30.80	142	LR		LR	17 01 12.7
	comp=Z,27nm,20.3s,baz=154,slow=38						
TXAR	Lajitas Array	40.18	324	P		P	16 49 32.5 +2.2
	0.2nm,0.6s,baz=137,slow=10,SNR=2.6						
	0.2nm,0.6s						
PDAR	Pinedale Array	53.40	331	P		P	16 51 16.5 +2.7
	0.3nm,0.5s,baz=141,slow=8.3,SNR=1.1						
	0.3nm,0.5s						
NVAR	Mina Array Bea	55.24	322	P		P	16 51 28.6 +1.3
	0.3nm,0.6s,baz=117,slow=7.2,SNR=1.7						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	80.49	76	P		P	16 54 05.3 -1.3
	0.3nm,0.6s,baz=282,slow=6.5,SNR=1.9						
	0.3nm,0.6s						
ASAR	Alice Springs	139.50	228	PKP		PKPdf	17 01 17.6 -4.8
	0.1nm,0.6s,baz=128,slow=3.3,SNR=0.9						
WRA	Warramunga Arr	141.22	233	PKP		PKPdf	17 01 21.7 -3.8
	0.1nm,0.6s,baz=128,slow=2.1,SNR=0.9						

*AEIC **12** 16:43:45.4±0.7, 55°.48N±0°.04×161°.54W±0°.08, h98km±3km, Error ellipse: s-maj=7.8km s-min=5.2km az=49.0*
NEIC 12 16:43:45.0±0.4, 55°.49N±0°.03×161°.54W±0°.10, h106km±4km, ML2.7/6, ML2.3(AEIC), Error ellipse: s-maj=7.8km s-min=4.7km az=88.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS1A	Pavlof South-1	0.14	238		Pn	16 43 59.7	0.0
PS1A					Sn	16 44 10.7	0.0
PS4A	Pavlof South-4	0.23	231		Pn	16 43 59.9	-0.1
PS4A					Sn	16 44 11.4	+0.2
PN7A	Pavlof North-7	0.27	257		Pn	16 44 00.1	-0.1
HAG	Hague Volcano	0.27	230		Pn	16 44 00.1	-0.1
S12K	Black Hills	0.36	306		Pn	16 44 00.6	0.0
S12K				IAML		16 44 12.3	
	comp=E,164nm,0.5s						
S12K				IAML		16 44 13.2	
	comp=N,228nm,0.8s						
S12K	Black Hills	0.36	306		Sn	16 44 12.3	0.0
DOL	Dolgoi Island	0.39	208		Pn	16 44 00.6	-0.2
DOL					Sn	16 44 12.4	-0.2
DT1	Dutton Round H	0.57	228		Pn	16 44 01.6	-0.3
SDPT	Sand Point	0.62	103		Pn	16 44 02.2	-0.1
SDPT	Sand Point	0.62	103	IAML		16 44 15.4	
	comp=E,160nm,0.4s						
CNBA	Chernabura Isl	1.31	120		Pn	16 44 09.6	+0.4
CNBA	Chernabura Isl	1.31	120	IAML		16 44 33.6	
	comp=E,64nm,0.3s						
SSLS	Shishaldin Sou	1.62	242		Pn	16 44 13.1	+0.1

IDC 12 16:53:59.5±3.8, 53°.77S×143°.79E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=829.0km s-min=27.9km az=77.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	24.74	171	P	P	16 59 22.1	0.0
	0.6nm,0.7s,baz=315,slow=7.1,SNR=3.8						
	0.6nm,0.7s						
H01W1	Cape Leeuwin H	28.07	300	T	T	17 28 12.0	
	baz=143,slow=75,SNR=5.6						
H01W2	Cape Leeuwin H	28.07	300	T	T	17 28 05.9	
	baz=143,slow=75,SNR=5.2						
H01W3	Cape Leeuwin H	28.08	300	T	T	17 28 11.7	
	baz=143,slow=75,SNR=5.2						
ASAR	Alice Springs	30.97	342	P	P	17 00 18.4	0.0
	0.2nm,0.8s,baz=168,slow=10,SNR=6.0						
	0.2nm,0.8s						
WRA	Warramunga Arr	34.54	344	P	P	17 00 49.5	-0.1
	0.2nm,0.7s,baz=170,slow=8.5,SNR=1.6						
	0.2nm,0.7s						

*JMA **12** 16:57:09.8±0.5, 45°.N±1°.×14°.1E±°, h267km±4km, MV3.0/26, NW OFF HOKKAIDO*
*IDC **12** 16:57:11.1±0.9, 44°.25N×141°.01E, h253km±9km, mb2.8/4, mbtmp3.4/5, Error ellipse: s-maj=25.0km s-min=22.3km az=70.0*
ISC 12 16:57:11.2±0.9, 44°.42N±0°.07×141°.03E±0°.07, h261km, n19, σ1§24/24, mb2.9/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	Shosan	0.59	92	P	Pn	16 57 45.6	0.0
JHR	Hokuryu	0.84	143	eP	Pn	16 57 46.8	+0.2
JRBN	Rebuntou	1.00	1	P	Pn	16 57 46.3	-0.9
JWK2	Keihoku	1.08	34	P	Pn	16 57 47.0	-0.7
JWK2				eS	S	16 58 15.5	-1.1
ASAJ	Asahikawa	1.17	105	P	Pn	16 57 47.4	-0.9
	7.3nm,0.3s,baz=262,slow=9.8,SNR=43						
ASAJ				S	S	16 58 16.0	-1.6
	12nm,0.9s,baz=255,slow=20,SNR=3.7						
JISS	Ishikarishitsu	1.18	166	eP	Pn	16 57 48.8	+0.4
JSE	Soyaes	1.23	64	P	Pn	16 57 47.5	-1.1
JSE				eS	S	16 58 16.6	-1.6
JKK2	Kamakawa 2	1.35	113	P	Pn	16 57 49.2	-0.3
JKK2				eS	S	16 58 19.3	-0.4
JEW	Eniwo	1.61	169	eP	Pn	16 57 51.1	-0.3
JTKR	Abashiri--Toko	2.12	101	eP	Pn	16 57 55.6	+0.1
JAR	Ashorobuto	2.28	119	eS	S	16 58 33.9	+0.5
JCH	Churui	2.48	136	S	S	16 58 33.2	-3.7
JOMM	Oshimamatsumae	2.99	195	P	Pn	16 58 03.6	-0.7
JOT	Ohata	3.04	180	eP	Pn	16 58 04.5	-0.3
JOT				S	S	16 58 47.2	-0.1
USRK	Ussuriysk Ar.	6.49	271	P	Pn	16 58 43.9	-1.6
	2.4nm,0.7s,baz=80,slow=14,SNR=2.8						
ZALV	Zalesovo Beam	37.04	305	P	P	17 03 58.1	+2.1
	0.9nm,0.7s,baz=90,slow=8.9,SNR=2.7						
	0.9nm,0.7s						
ILAR	Eielson Array	43.55	36	P	P	17 04 49.9	+0.8
	0.3nm,0.7s,baz=278,slow=6.4,SNR=2.6						
	0.3nm,0.7s						
WRA	Warramunga Arr	64.34	187	P	P	17 07 18.6	-0.6
	0.1nm,0.3s,baz=1.1,slow=6.8,SNR=6.0						
	0.1nm,0.3s						
ASAR	Alice Springs	68.07	187	P	P	17 07 42.9	+0.2
	0.2nm,0.7s,baz=2.9,slow=6.4,SNR=6.4						
	0.2nm,0.7s						

*NEIC **12** 17:10:11.8±1.7, 43°.99N±0°.06×105°.43W±0°.07, h0km±1km, ML2.9/52, Error ellipse: s-maj=13.7km s-min=2.7km az=40.0*
*IDC **12** 17:10:14.2±1.7, 44°.26N×105°.78W, h0km, mb3.5/1, mbtmp3.5/3, ML3.1/2, MS2.9/3, Error ellipse: s-maj=59.0km s-min=10.4km az=146.0*
ISC 12 17:10:12.9±1.3, 43°.97N±0°.05×105°.92W±0°.09, h0km, n35, σ1§44/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.37	83		Pn	17 10 31.5	-8.0
K22A	Casper	1.39	199		Pn	17 10 42.0	+2.3
K22A				IAML		17 11 07.8	
	157nm,0.2s						
K22A				IAML		17 11 08.0	
	142nm,0.2s						
RLMT	Red Lodge	2.66	297		Pb	17 11 02.1	+0.7
RLMT				IAML		17 11 58.8	
	37nm,2.2s						
LAO	LASA Array	2.73	356		Pn	17 10 58.6	+0.6
LAO				IAML		17 11 39.2	
	64nm,0.9s						
BW06	Boulder Array	2.91	247	Pn	Pb	17 11 05.1	-0.7
BW06				IAML		17 12 03.4	
	22nm,0.6s						
PD31	Pinedale Array	2.91	247	Pn	Pb	17 11 05.3	-0.5
PDAR	Pinedale Array	2.91	247	Pn	Pg	17 11 07.3	-1.5
	2.4nm,0.3s,baz=58,slow=15,SNR=14						
PDAR				Lg	Lg	17 11 52.5	
	3.3nm,0.3s,baz=60,slow=33,SNR=18						
	2.4nm,0.3s						
YNE	Yellowstone No	3.10	291		Pb	17 11 07.8	-1.3
YNE				IAML		17 12 11.8	
	comp=N,26nm,1.4s						
YNE				IAML		17 12 13.4	
	comp=E,22nm,0.8s						
YMP	Mirror Lake Pl	3.13	286		Pb	17 11 09.2	-0.5
YMP				IAML		17 12 11.7	
	comp=N,37nm,1.1s						
YMP				IAML		17 12 22.6	
	comp=E,30nm,0.8s						
LOHW	Long Hollow	3.41	266	Pn	Pb	17 11 12.9	-1.5
YPP	Pitchstone Pla	3.53	277		Pb	17 11 15.9	-0.5
YPP				IAML		17 12 40.4	
	comp=E,12nm,3.5s						
HAYD	Hayden	3.59	197	Pn	Pn	17 11 11.9	+1.9
HAYD				IAML		17 12 58.9	
	comp=N,27nm,2.8s						
HAYD				IAML		17 13 02.8	
	comp=E,19nm,1.4s						
YHH	Holmes Hill	3.63	285		Pb	17 11 16.2	-1.9
TPAW	Teton Pass	3.68	264		Pb	17 11 19.7	+0.8
TPAW				IAML		17 12 40.7	
	comp=E,15nm,1.6s						
TPAW				IAML		17 13 09.6	
	comp=E,13nm,3.5s						
FXWY	Fox Creek	3.71	267		Pb	17 11 18.9	-0.5
YHB	Horse Butte	3.86	283	Pn	Pn	17 11 16.2	+2.4
YHB				IAML		17 12 48.5	
	comp=N,11nm,1.2s						
YHL	Hebgen Lake	3.87	285		Pn	17 11 15.2	+1.2
YHL				IAML		17 12 35.7	
	comp=E,16nm,1.0s						
YHL				IAML		17 12 42.8	
	comp=N,18nm,2.3s						
OGNE	Ogallala	4.17	135	Pn	Pn	17 11 15.6	-2.3
ISCO	Idaho Springs	4.17	177	Pn	Pn	17 11 19.4	+1.2
ISCO				IAML		17 12 30.5	
	comp=N,12nm,0.9s						
O20A	White River Ci	4.20	205	Pn	Pn	17 11 18.4	0.0
BOZ	Bozeman (W)	4.38	294		Pn	17 11 22.1	+1.3
BOZ				IAML		17 12 43.4	
	comp=N,11nm,2.0s						
BOZ				IAML		17 12 54.4	
	comp=N,8.2nm,3.9s						
HWUT	Hardware Ranch	4.78	242		Pn	17 11 27.4	+1.1
EGMT	Eagleton	4.86	328		Pn	17 11 26.7	-0.5
TCUT	Toone Canyon	4.96	237		Pn	17 11 31.4	+2.5
BSUT	Blindstream Ca	4.97	228	Pn	Pn	17 11 29.6	+0.5
BSUT				IAML		17 13 19.8	
	comp=N,9.1nm,3.6s						
BSUT				IAML		17 13 21.7	
	comp=E,8.6nm,3.6s						
LRM	Limekiln Ridge	5.00	294	Pn	Pn	17 11 32.5	+3.2
LYMT	Lyon Mountain	5.39	306	Pn	Pn	17 11 35.7	+1.0
P18A	Preston Nutter	5.41	218	Pn	Pn	17 11 35.4	+0.3
PV23	Carpenter Ridg	5.99	204		Pn	17 11 42.3	-0.6
ANMO	Albuquerque	9.02	183	LR	LR	17 16 14.9	
	comp=E,62nm,18.1s,baz=274,slow=39						
I10CA	LAC DU BONNET	9.18	44	I	I	18 04 30.0	
	baz=224,slow=318,SNR=7.2						
ULM	Lac du Bonnet	9.29	44	Pn	Pn	17 12 23.9	-4.0
	comp=E,0.5nm,0.3s,baz=237,slow=11,SNR=1.9						
	comp=E,3.4nm,0.5s						
NVAR	Mina Array Bea	10.84	244	LR	LR	17 18 20.6	
	comp=E,17nm,18.5s,baz=109,slow=44						
ARCES	ARCESS Array B	61.34	17	LR	LR	17 49 19.6	
	comp=E,41nm,18.4s,baz=138,slow=38						
MKAR	Makanchi Array	89.33	354	P	P	17 23 11.3	+0.3
	comp=E,0.1nm,0.4s,baz=0.0,slow=4.5,SNR=1.9						
	comp=E,0.1nm,0.4s						

DJA 12 17:14:44.4±0.3, 1°.N±2°.×12°.5E±°, h14km±2km, M3.6/10, mb3.8/2, MLv3.6/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.08	222	P	Pb	17 15 04.8	-0.1
KMSI				S	Sn	17 15 21.2	+1.2
MRSI	Marisa	2.90	252	P	Pn	17 15 29.9	-0.3
MRSI				S	Sn	17 16 05.0	0.0
LUWI	Luwuk	3.09	219	P	Pb	17 15 36.8	-2.4
SANI	Sanana	3.65	159	P	Pn	17 15 40.0	-0.5
SANI				S	Sn	17 16 22.7	-0.7
APSI	Ampana	3.81	233	P	Pb	17 15 47.3	-4.2
AAI	Ambon	6.13	145	P	Pn	17 16 14.6	-0.1
	0.1nm11nm,0.8s						

*IDC **12** 17:21:21.3±0.4, 32°.32N×49°.67E, h0km, mb4.6/30, mbtmp4.6/36, ML3.6/7, MS3.8/28, Error ellipse: s-maj=12.5km s-min=9.7km az=16.0*
*MOS **12** 17:21:22.6±1.2, 32°.39N×49°.68E, h16km, mb4.8/59, Error ellipse: s-maj=5.0km s-min=3.0km az=119.5*
*THR **12** 17:21:23.9±0.0, 32°.34N×49°.67E, h10km±16km, ML4.6*
*TEH **12** 17:21:23.9, 32°.35N×49°.73E, h8km±25km*
*NEIC **12** 17:21:23.1±1.7, 32°.37N±0°.08×49°.71E±0°.08, h10km±1km, mb4.9/131, Error ellipse: s-maj=14.3km s-min=10.1km az=205.0*
*GII **12** 17:21:23.6±0.0, 32°.33N×49°.72E, h10km, confirmed*
*DSN **12** 17:21:29.4±1.2, 31°.96N×49°.75E, h39km, mb4.8/1, ML4.5/9, Error ellipse: s-maj=14.4km s-min=11.9km az=24.0*
*OMAN **12** 17:21:30.5±0.1, 31°.87N×50°.11E, h10km, mb5.3/34, ms3.1/5, Error ellipse: s-maj=3.2km s-min=2.2km az=236.0*
ISC 12 17:21:25.2±0.5, 32°.32N±0°.03×49°.73E±0°.03, h26km±3km, h26km:pP-P, n939, σ1§67/979, mb4.8/174, MS3.8/30, 34C-43D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	Jahan bin	0.80	96	Pg	Pb	17 21 39.7	-1.0
ZNGN	Zangian	0.98	102	Pg	Pn	17 21 43.2	-0.4
IPIR	Pirpir	1.05	70	Pg	Pn	17 21 43.8	-0.7
AHWZ	Ahwaz	1.35	223	Pg	Pb	17 21 50.2	+0.4
AHWZ				Sg	Sb	17 22 10.6	+4.0
IBRJ	Brojen	1.37	107	Pg	Pb	17 21 50.5	+0.3
KHMZ	Khomeyn	1.43	8	ePg	Pn	17 21 50.0	+0.4
KHMZ				eSg	Sb	17 22 09.8	+0.7
KHMZ				IAML		17 22 13.6	
	comp=Z,12μm,1.0s						
BDRS	Dareh Seyedi	1.77	337	Pg	Pb	17 21 56.4	-0.8
ABEH	Behbahan	1.78	165	Pn	Pb	17 21 57.9	+0.8
IKLH	Kolahrood	1.85	57	Pn	Pb	17 21 58.1	-0.4
IGAR	Gharneh	1.96	87	Pn	Pb	17 21 59.8	-0.5
QAMS	Qamsar	1.99	44	Pn	Pb	17 22 00.0	-0.8
KLNJ	Kolanjah	2.06	129	Pn	Pb	17 22 01.2	-0.9
KLNJ	Kolanjah	2.06	129	ePn	Pb	17 22 01.6	-0.5
KLNJ				IAML		17 22 39.7	
	comp=Z,6μm,1.0s						
ASAO	Ashtian	2.23	6	ePn	Pb	17 22 04.4	-0.6
ASAO				IAML		17 22 43.7	
	comp=Z,7μm,1.0s						
IZEF	Zefreh	2.27	75	Pn	Pb	17 22 04.4	-1.2
IRAM	Ramesheh	2.31	102	Pn	Pb	17 22 04.7	-1.7
GHVR	GHOM	2.52	31	ePn	Pb	17 22 08.2	-1.6
GHVR				IAML		17 22 53.4	
	comp=Z,6μm,1.0s						
HAGD	Aghdareh	2.54	349	Pn	Pn	17 22 07.1	+2.2
ISFB	Sefidab	2.92	45	Pn	Pn	17 22 12.7	+2.7
KCHF	Cheshme Sefid,	2.97	312	Pn	Pn	17 22 12.8	+2.0
SNQR	Sonqor, Kerman	3.08	326	Pn	Pn	17 22 14.6	+2.3
IVRN	Varamin	3.15	32	Pn	Pn	17 22 16.1	+3.0
KAZ2	Kazeron-Fars-I	3.17	148	Pn	Pn	17 22 16.4	+2.9
HGHA	Hamedan- Ghaye	3.24	347	Pn	Pn	17 22 16.8	+2.2
IGHG	Ghaleghazi	3.31	308	Pn	Pn	17 22 17.8	+2.3
QABG	Abgarm-Qazvin	3.38	358	Pn	Pn	17 22 19.4	+2.9
ANAR	Anarak	3.48	75	Pn	Pn	17 22 20.9	+3.1
SHI	Shiraz	3.59	137	Pn	Pn	17 22 22.3	+3.0
KBD	Kabd	3.59	210	P	Pn	17 22 21.7	+2.6
KBD				S	Sn	17 23 04.2	+3.5
IDHR	Dehrash	3.66	311	Pn	Pn	17 22 21.8	+1.5
GLG1	Gilan-e-Gharb	3.66	300	Pn	Pn	17 22 21.1	+0.8
THKV	Tehran--Karaj	3.71	15	iP	Pn	17 22 24.3	+3.3
THKV				IAML		17 23 42.1	
	comp=Z,2μm,1.0s						
CHTH	Charan	3.76	18	ePn	Pn	17 22 24.9	+3.2
CHTH				IAML		17 23 35.2	
	comp=Z,1μm,1.0s						
IDMV	Damavand	3.77	30	Pn	Pn	17 22 24.6	+2.7
DAMV	Damavand	3.79	29	ePn	Pn	17 22 25.1	+3.0
DAMV				IAML		17 23 38.4	
	comp=Z,1μm,1.0s						
ICHK	Chekchek	3.97	90	Pn	Pn	17 22 27.3	+2.8
ILAS	Lasjerd	4.07	41	Pn	Pn	17 22 28.9	+2.9
IGZV	Ghazvin	4.07	6	Pn	Pn	17 22 28.6	+2.6
KGS1	Ghasr-e-Shirin	4.09	303	Pn	Pn	17 22 27.2	+1.2
YZKH	Yazd	4.12	88	ePn	Pn	17 22 29.5	+3.0
YZKH				IAML		17 23 44.7	
	comp=Z,970nm,1.0s						
IFIR	Firoozkooh	4.16	36	Pn	Pn	17 22 30.1	+2.9
DSBU	Dashti - Bushe	4.16	161	Pn	Pn	17 22 29.5	+2.4
IMEH	Mehriz	4.26	101	Pn	Pn	17 22 31.4	+2.7
MZPU	Pul - Mazandar	4.38	20	Pn	Pn	17 22 33.8	+3.6
ZNJK	Zanjan	4.42	349	Pn	Pn	17 22 33.0	+2.3
ZNJK	Zanjan	4.42	349	ePn	Pn	17 22 32.5	+1.7
ZNJK				IAML		17 23 56.6	
	comp=Z,470nm,1.0s						
IALA	Alasht	4.54	33	Pn	Pn	17 22 35.5	+3.1
IBAF	Bafgh	5.02	97	Pn	Pn	17 22 41.9	+3.0
IKIA	Kiasar	5.07	39	Pn	Pn	17 22 43.0	+3.2
SRSL	SARDASHT	5.26	319	ePn	Pn	17 22 43.6	+1.3
SRSL				IAML		17 23 47.9	
	comp=Z,360nm,1.0s						
IGLO	Ghaloghah	5.38	38	Pn	Pn	17 22 47.2	+3.3
MAHB	Mahabad	5.54	324	Pn	Pn	17 22 47.9	+1.9
LMD1	Lamerd	5.79	148	ePn	Pn	17 22 51.9	+2.4
LMD1				IAML		17 24 03.3	
	comp=Z,860nm,1.0s						
TPRV	Parvadeh(Tabas	5.91	81	Pn	Pn	17 22 54.0	+2.9
TNSJ	Nastanj	6.00	72	Pn	Pn	17 22 55.1	+2.7
KHGB	Koh Gabri	6.09	107	Pn	Pn	17 22 55.5	+1.7
TKDS	Koohdasht(Taba	6.35	76	Pn	Pn	17 22 60.0	+2.8
TABS	Tabas	6.35	76	ePn	Pn	17 22 59.9	+2.7
TABS				IAML		17 25 02.6	
	comp=Z,300nm,1.0s						
SAKB	Bahrain	6.36	173	P	Pn	17 22 59.1	+1.8
SAKB				S	Sn	17 24 05.4	-3.7
SHRO	Shahrood	6.37	53	ePn	Pn	17 23 00.6	+3.2
SHRO				IAML		17 25 11.7	
	comp=Z,200nm,1.0s						
LKRN	Lenkeran, Azer	6.42	353	P	Pn	17 22 57.8	-0.2
KRBR	Kerman	6.47	109	Pn	Pn	17 23 01.1	+2.2
KRBR	Kerman	6.47	109	ePn	Pn	17 23 00.9	+1.9
KRBR				IAML		17 25 27.4	
	comp=Z,150nm,1.0s						
NGRK	Negar Kerman	6.58	112	Pn	Pn	17 23 03.2	+2.6
GRMI	Germi	6.64	348	Pn	Pn	17 23 03.0	+1.8
KRM1	Kerman Provinc	6.70	104	Pn	Pn	17 23 04.8	+2.7
TAPT	Tabas- Tapeh t	6.71	66	Pn	Pn	17 23 04.1	+2.0
IMND	Minoodasht	6.79	42	Pn	Pn	17 23 05.3	+2.2
MRVT	Maraveh tapeh	7.46	43	Pn	Pn	17 23 15.2	+2.8
MRVT	Maraveh tapeh	7.46	43	ePn	Pn	17 23 15.3	+3.0
MRVT				IAML		17 25 34.9	
	comp=Z,79nm,1.0s						
SMRA	Abu-Samra	7.61	172	P	Pn	17 23 15.9	+1.5
SMRA	SNR=9.2						
SMRA				S	Sn	17 24 37.8	-2.0
ITEG	Tejag	7.63	83	Pn	Pn	17 23 17.6	+2.7
NAX	Nakhchivan	7.65	334	P	Pn	17 23 13.0	-2.0
TRNA	Turayna	7.67	170	P	Pn	17 23 16.4	+1.2
TRNA	SNR=51						
TRNA				S	Sn	17 24 39.6	-1.7
	SNR=6.7						
SBZV	Sabzevar	7.68	56	Pn	Pn	17 23 18.2	+2.7
SBZV	Sabzevar	7.68	56	ePn	Pn	17 23 18.5	+3.0
IKOO	Kooshah	7.85	87	Pn	Pn	17 23 20.4	+2.5
AFRZ	Afriz	7.89	80	Pn	Pn	17 23 21.6	+3.2
BSRN	Basiran	7.98	90	Pn	Pn	17 23 22.5	+2.8
BSRN	Basiran	7.98	90	ePn	Pn	17 23 22.4	+2.8
KBAM	BAM	8.15	111	Pn	Pn	17 23 24.7	+2.7
BJRD	Bojnurd	8.27	47	ePn	Pn	17 23 26.9	+3.3
ISFR	Sfrayin	8.29	53	Pn	Pn	17 23 27.1	+3.2
SHME	Shamm	8.40	136	P	Pn	17 23 25.4	+0.2
SHME	SNR=30						
SHME				S	Sn	17 24 54.0	-5.2
SHME

ASUD Al Ashush, Dub 9.12 146 P **Pn 17 23 36.2 +1.2**
SNR=14
ASUD S **Sn 17 25 14.8 -2.0**
SNR=12
ASUD Al Ashush, Dub 9.12 146 *i* P **Pn 17 23 35.7 +0.7**
SNR=14
FAQ Al Faqa, Dubai 9.14 144 P **Pn 17 23 36.9 +1.4**
SNR=14
FAQ S **Sn 17 25 14.3 -3.2**
SNR=12
FAQ Al Faqa, Dubai 9.14 144 *i* P **Pn 17 23 35.9 +0.4**
SNR=14
IKRD Kardeh 9.21 58 Pn **Pn 17 23 39.6 +3.0**
MZWR Madinat Zayed 9.28 156 P **Pn 17 23 38.0 +0.7**
MZWR P **Pn 17 23 38.0 +0.7**
MZWR S **Sn 17 25 17.3 -3.7**
MZWR S **Sn 17 25 17.3 -3.7**
UOSS Minazif 9.29 141 **Pn 17 23 37.0 -0.5**
UOSS Minazif 9.29 141 P **Pn 17 23 37.6 +0.1**
UOSS S **Sn 17 25 16.7 -4.5**
SNR=14
UOSS Minazif 9.29 141 *i* P **Pn 17 23 37.7 +0.2**
SNR=24
TBJM Torbat-e-JAM 9.30 69 Pn **Pn 17 23 40.9 +3.2**
HATD Hatta, Dubai 9.35 141 P **Pn 17 23 38.7 +0.4**
SNR=38
HATD S **Sn 17 25 18.9 -3.8**
HATD Hatta, Dubai 9.35 141 *i* P **Pn 17 23 37.8 -0.5**
SNR=38
ASHO Ashiyiah 9.43 142 P **Pn 17 23 39.4 0.0**
SNR=72
ASHO S **Sn 17 25 20.4 -4.2**
SNR=15
ASHO Ashiyiah 9.43 142 *i* P **Pn 17 23 38.7 -0.7**
SNR=58
RAYN Ar Rayn 9.53 204 **Pn 17 23 38.8 -1.9**
RAYN Ar Rayn 9.53 204 *i* P **Pn 17 23 38.6 -2.2**
SNR=69
RAYN Ar Rayn 9.53 204 P **Pn 17 23 38.8 -1.9**
ALNE Al Ain 9.80 146 P **Pn 17 23 44.4 -0.1**
SNR=13
ALNE S **Sn 17 25 30.2 -3.5**
SNR=13
ALNE Al Ain 9.80 146 *i* P **Pn 17 23 44.1 -0.4**
SNR=25
MZR Muzera 9.86 159 P **Pn 17 23 45.7 +0.4**
SNR=64
MZR P **Pn 17 23 45.7 +0.4**
SNR=64
MZR S **Sn 17 25 30.9 -4.3**
SNR=9.5
MZR S **Sn 17 25 30.9 -4.3**
SNR=9.5
MZR Muzera 9.86 159 *i* P **Pn 17 23 45.4 +0.1**
SNR=12
ZHSF Zahedan 9.86 103 *e*Pn **Pn 17 23 48.9 +3.4**
SOHO SOHO 10.13 142 P **Pn 17 23 48.1 -0.8**
SOHO S **Sn 17 25 35.4 -6.2**
SOHO SOHO 10.13 142 *i* P **Pn 17 23 47.3 -1.6**
SNR=18
UMZA Um Al Zommool 10.72 152 P **Pn 17 23 56.8 -0.2**
UMZA S **Sn 17 25 50.5 -5.6**
MAK Makhachkala 10.76 351 *e*P **Pn 17 23 56.3 -1.2**
MAK *e*S **Sn 17 25 56.2 -0.9**
MAK pmax pmax
comp=Z,189nm,1.9s
ARQ Araqi 10.78 144 P **Pn 17 23 57.8 -0.1**
SNR=13
ARQ S **Sn 17 25 51.5 -6.3**
ASF Jabal al Asfar 10.86 273 Pn **Pn 17 23 58.1 -0.9**
comp=Z,16nm,0.4s,baz=122,slow=8.9,SNR=40
ASF Sn **Sn 17 25 52.3 -7.6**
comp=Z,1.5nm,0.3s,baz=286,slow=23,SNR=1.9
ASF Lg Lg 17 27 06.1
baz=108,slow=23
ASF LR LR 17 29 17.9
comp=Z,252nm,20.2s,baz=146,slow=44
HOQ Hoqain 10.99 141 P **Pn 17 23 59.7 -1.0**
HOQ P **Pn 17 23 59.7 -1.0**
HOQ S **Sn 17 25 56.8 -5.9**
SNR=5.4
HOQ S **Sn 17 25 56.8 -5.9**
SNR=5.4
GAZ Gaziantep 11.37 299 Pn **Pn 17 24 03.1 -2.8**
BIDO Bidbid 11.49 138 P **Pn 17 24 06.6 -1.0**
SNR=10
BIDO P **Pn 17 24 06.6 -1.0**
SNR=10
BIDO S **Sn 17 26 08.9 -6.2**
SNR=6.6
BIDO S **Sn 17 26 08.9 -6.2**
SNR=6.6
KSHT Keshet 11.75 277 P **Pn 17 24 11.7 +0.6**
SMDO Samad 11.81 139 P **Pn 17 24 11.5 -0.6**
SNR=18
SMDO P **Pn 17 24 11.5 -0.6**
SNR=18
SMDO S **Sn 17 26 17.1 -5.9**
SNR=15
SMDO S **Sn 17 26 17.1 -5.9**
SNR=15
NATI Neve Ativ 11.81 278 P **Pn 17 24 11.7 -0.3**
GEM Giv'at Ha'Em 11.87 278 P **Pn 17 24 13.2 +0.5**
WSAR Wadi Sarin 11.99 137 Pn **Pn 17 24 14.5 0.0**
comp=Z,0.1nm,0.3s,baz=332,slow=24,SNR=39
WSAR Sn **Sn 17 26 20.5 -7.0**
comp=Z,0.1nm,0.3s,baz=2.5,slow=24,SNR=7.2
WSAR Wadi Sarin 11.99 137 P **Pn 17 24 14.2 -0.3**
SNR=21
WSAR S **Sn 17 26 20.6 -6.9**
HMDT Nahal Hemdat 12.02 273 P **Pn 17 24 15.2 +0.5**
GHAJ Ghor Haditha 12.09 269 **Pn 17 24 13.7 -2.0**
GHAJ Ghor Haditha 12.09 269 P **Pn 17 24 16.0 +0.3**
MMAI Mount Meron Ar 12.09 277 Pn **Pn 17 24 14.7 -1.1**
comp=Z,1.3nm,0.3s,baz=94,slow=14,SNR=7.5
MMAI Lg Lg 17 27 47.5
baz=88,slow=39
MMAI LR LR 17 30 06.5
comp=Z,272nm,18.6s,baz=86,slow=44
MMLI Mount Malkishu 12.09 274 P **Pn 17 24 17.1 +1.3**
NCK Nalchik 12.15 338⇑*i* P **Pn 17 24 17.7 +1.1**
NGCH Negor - Chabah 12.17 122 P **Pn 17 24 16.0 -0.8**
NGCH S **Sn 17 26 25.4 -6.3**
JMDO Jabal Madar 12.39 141 P **Pn 17 24 19.2 -0.8**
SNR=12
JMDO S **Sn 17 26 30.1 -7.1**
IDAN Idan 12.41 267 P **Pn 17 24 20.4 +0.2**
SLTI Sal'it 12.43 274 P **Pn 17 24 20.8 +0.4**
ZFRI Zfri 12.55 266 P **Pn 17 24 22.2 +0.2**
KBZ Khabaz 12.59 337 Pn **Pn 17 24 23.5 +1.0**
comp=Z,0.1nm,0.3s,baz=115,slow=9.9,SNR=3.9
KBZ LR LR 17 29 37.9
comp=Z,487nm,18.6s,baz=155,slow=40
comp=Z,3.4nm,1.0s
SHA1 Shidzhatmay 12.68 336 *i* P **Pn 17 24 24.4 +0.5**
PRNI Paran 12.74 265 P **Pn 17 24 24.9 +0.3**
HRFI Mount Harif 12.78 264 P **Pn 17 24 25.5 +0.2**
KIV Kislovodsk 12.86 337 **Pn 17 24 23.5 -2.8**
KIV Kislovodsk 12.86 337 *e*P **Pn 17 24 27.2 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
MBRI Mt Berech 12.95 263 P **Pn 17 24 27.1 -0.4**
EIL Elat 12.95 262 Pn **Pn 17 24 25.9 -1.5**
comp=Z,1.4nm,0.3s,baz=79,slow=7.2,SNR=8.7
comp=Z,7.3nm,0.5s
EIL Elat 12.95 262 P **Pn 17 24 27.5 0.0**
KRMI Paran Flat 13.03 264 P **Pn 17 24 28.4 -0.2**
KZIT Kziot 13.14 268 P **Pn 17 24 30.3 +0.2**
JLN Jalan Bani Buh 13.29 137 P **Pn 17 24 30.8 -1.4**
SNR=17
JLN S **Sn 17 26 52.8 -6.4**
MHTO MHTO 13.47 145 P **Pn 17 24 33.6 -1.1**
SNR=42
MHTO S **Sn 17 26 56.5 -7.1**
SNR=19
SOC Sochi 13.72 328 *e*P **Pn 17 24 36.9 -1.1**
SOC *e* 17 27 07.5
SOC pmax pmax
comp=Z,40nm,0.8s
CSS Mathiatis 13.91 285 **Pn 17 24 40.2 -0.4**
CSS Mathiatis 13.91 285 P **Pn 17 24 40.3 -0.4**
comp=Z,25nm,0.9s
CSS Mathiatis 13.91 285 P **Pn 17 24 40.8 +0.2**
LABN Labinsk 14.16 333 *e*P **P 17 24 49.3 -1.9**
LABN *e*S **Sn 17 27 20.2 0.0**
LABN pmax pmax
comp=Z,49nm,0.7s
DQM DQM 14.19 149 P **Pn 17 24 42.9 -1.6**
SNR=5.7
DOK Doka 14.21 163 P **Pn 17 24 43.4 -1.4**
SNR=47
KIRS Kirsehir-Merke 14.52 302⇑P **Pn 17 24 49.8 +0.9**
WHFO Wadi Hawf 14.80 165 P **Pn 17 24 51.1 -1.8**
SNR=120
BR104 Keskin Array S 14.95 304 P **Pn 17 24 54.0 -0.8**
comp=Z,90nmcomp=Z,11nm,1.0s
BR131 Keskin Array S 14.95 304*c e*P **Pn 17 24 54.8 -0.1**
BRTR Keskin Array B 14.95 304 Pn **Pn 17 24 54.3 -0.6**
comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=15
comp=Z,3.6nm,1.0s
BRTR Keskin Array B 14.95 304 *i* P **Pn 17 24 55.4 +0.5**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BR105 Keskin Array S 14.97 304 P **Pn 17 24 54.3 -0.8**
comp=Z,130nmcomp=Z,13nm,1.2s
BR106 Keskin Array S 14.97 304 P **Pn 17 24 54.4 -0.7**
comp=Z,82nmcomp=Z,9.6nm,0.8s
ERBR Yeremizino-Bor 15.16 335 *e*P **Pn 17 24 58.3 +0.8**
ERBR *e*S **Sn 17 27 41.6 -3.0**
ERBR pmax pmax
comp=Z,35nm,0.9s
SHAO Shalim 15.20 158 P **Pn 17 24 55.6 -2.6**
SNR=37
SHAO Shalim 15.20 158 *i* P **Pn 17 24 55.5 -2.6**
SNR=36
ABTO Aybut 15.25 167 P **Pn 17 24 56.6 -2.3**
SNR=47
DMTO DMTO 15.29 161 P **Pn 17 24 57.5 -1.8**
SNR=52
RBK Rabkut 15.30 164 P **Pn 17 24 57.4 -2.1**
SNR=24
ILGA Ilgaz 15.50 309 **Pn 17 25 00.5 -1.6**
ANTO Ankara 15.61 304 **Pn 17 25 02.4 -1.0**
ANTO IAmb IAmb 17 25 10.3
comp=Z,73nm,1.7s
ANTO Ankara 15.61 304 P **Pn 17 25 02.4 -1.0**
ANTO pmax pmax
comp=Z,73nm,1.7s
ANTO Ankara 15.61 304 P **Pn 17 25 02.7 -0.7**
comp=Z,12nm,1.0s
ANN Anapa 15.71 326 *e*P **Pn 17 25 05.0 +0.4**
ANN *e*S **Sn 17 27 58.0 +0.1**
ANN pmax pmax
comp=Z,24nm,1.0s
ISP Isparta 16.64 295 P **Pn 17 25 17.9 +1.2**
ISP IAmb IAmb 17 25 22.4
comp=Z,128nm,1.1s
ISP Isparta 16.64 295 P **Pn 17 25 17.9 +1.2**
ISP pmax pmax
comp=Z,128nm,1.1s
ELL Elmali 16.91 291 **Pn 17 25 21.1 +1.0**
ELL IAmb IAmb 17 25 24.7
comp=Z,82nm,1.0s
ELL Elmali 16.91 291 P **Pn 17 25 21.1 +1.0**
ELL pmax pmax
comp=Z,82nm,1.0s
MDUB Mudurnu 16.97 304 **P 17 25 22.5 -0.1**
CHGR Chuyangaron 17.03 63 **P 17 25 23.8 +0.6**
CHGR IAmb IAmb 17 25 26.2
comp=Z,46nm,0.8s
CHGR Chuyangaron 17.03 63 P **P 17 25 23.8 +0.6**
CHGR pmax pmax
comp=Z,47nm,0.8s
AKAS Kas 17.08 289 P **Pn 17 25 22.9 +0.7**
AKAS IAmb IAmb 17 25 27.2
comp=Z,103nm,1.7s
BORA Eskisehir 17.28 301 **P 17 25 25.8 -0.2**
SIM Simferopol' 17.50 321 P **P 17 25 30.9 +2.6**
SIM pmax pmax
comp=Z,11nm,0.9s
GAR Garm 17.99 63 **P 17 25 35.0 +1.2**
GAR IAmb IAmb 17 25 38.5
comp=Z,54nm,0.9s
ARG Arkhangelos 18.26 288 P **P 17 25 36.2 -0.5**
ARG Arkhangelos 18.26 288 P **P 17 25 36.2 -0.5**
ARG pmax pmax
comp=Z,20nm,0.5s
MANT Manisa 18.30 296 **P 17 25 36.7 -0.7**
MANT IAmb IAmb 17 25 41.1
comp=Z,70nm,1.2s
IUG Iuzhnay 18.87 53 *e*P **Pn 17 25 45.2 +1.0**
IUG Iuzhnay 18.87 53 *e*P **Pn 17 25 45.1 +1.0**
KARP Karpathos 18.99 286 P **P 17 25 44.5 -0.2**
KARP IAmb IAmb 17 25 57.2
comp=Z,54nm,1.0s
KARP Karpathos 18.99 286 P **P 17 25 44.4 -0.4**
comp=Z,76nm,0.9s
AKTO Aktyubinsk 19.11 16 P **Pn 17 25 47.1 +0.2**
comp=Z,0.7nm,0.3s,baz=196,slow=10,SNR=21
AKTO LR LR 17 35 06.6
comp=Z,124nm,18.1s,baz=243,slow=43
comp=Z,7.8nm,0.6s
VRH Novokhopyorsk 19.76 345 *e*P **P 17 25 51.2 -1.8**
VRH pmax pmax
comp=Z,50nm,0.8s
NIL Nilore 19.77 80 **P 17 25 53.7 +0.3**
NIL Nilore 19.77 80 P **P 17 25 53.7 +0.3**
NIL pmax pmax
comp=Z,28nm,0.9s
DZA Taraz 20.05 52 *e*P Pn 17 25 58.1 -0.1
DZA Taraz 20.05 52 *e*P Pn 17 25 58.0 -0.2
ARK Arkit 20.06 56 P Pn 17 26 00.1 +1.7
ARK pmax pmax
comp=Z,15nm,0.9s
BELG Belogornoye 20.12 356 P **P 17 25 57.2 +0.4**
comp=Z,151nm,0.8s,baz=180,slow=3.0,SNR=105
comp=Z,151nm,0.8s
BELG Belogornoye 20.12 356*c i*P **P 17 25 57.3 +0.4**
BELG pmax pmax
comp=Z,31nm,0.9s
VORD Divnogorie 20.16 341 *e*P **P 17 25 55.1 -2.2**
VORD pmax pmax
comp=Z,20nm,1.0s
OHH Osh 20.24 60 P Pn 17 25 59.9 -0.6
OHH pmax pmax
comp=Z,18nm,1.4s
EZN Ezine 20.31 298 ⇓P **P 17 26 00.1 +1.1**
EZN Ezine 20.31 298 P **P 17 26 00.1 +1.1**
PSN Preselentsi 20.36 310 *e*P **P 17 26 00.6 +1.0**
VSR Storozhevoye 20.41 341 *e*P **P 17 25 56.9 -3.2**
VSR pmax pmax
comp=Z,20nm,0.9s
MFTR Murfatlar 20.43 312⇑P **P 17 26 01.1 +0.8**
JURR Jurilovca 20.43 313⇑P **P 17 26 00.8 +0.5**
TIRR Tirgusor 20.57 312 **P 17 26 01.8 0.0**
TIRR IAmb IAmb 17 26 03.6
comp=Z,41nm,1.0s
TIRR Tirgusor 20.57 312 ⇓P **P 17 26 02.5 +0.6**
TIRR Tirgusor 20.57 312 P **P 17 26 02.4 +0.6**
TIRR Tirgusor 20.57 312 P **P 17 26 01.1 -0.7**
comp=Z,46nm,0.9s
ARSB Arslanbob 20.62 58 **P 17 26 03.9 +1.2**
ARSB IAmb IAmb 17 26 08.4
comp=Z,108nm,1.9s
ARSB Arslanbob 20.62 58 P **P 17 26 03.9 +1.2**
ARSB pmax pmax
comp=Z,109nm,1.9s
PRD Provadia 20.64 308 *e*P **P 17 26 03.7 +1.1**
TLCR 20.68 314⇑P **P 17 26 03.6 +0.5**
TLCR 20.68 314 P **P 17 26 03.6 +0.5**
TPGR Topolog 20.76 313 ⇓P **P 17 26 04.5 +0.6**
NEF NEVSHA 20.77 308 *e*P Pn 17 26 05.7 -0.9
ALN Alexandroupoli 20.80 301 P **P 17 26 04.2 -0.2**
ALN Alexandroupoli 20.80 301 P **P 17 26 04.2 -0.2**
PURM Purcari 20.81 319 ⇓P **P 17 26 05.4 +0.9**
VORR Voronezh 20.81 341 *e*P **P 17 26 02.2 -2.2**
VORR pmax pmax
comp=Z,30nm,1.0s
IDI Anoyia 20.83 285 P **P 17 26 04.5 -0.4**
IDI Anoyia 20.83 285 P **P 17 26 05.5 +0.5**
comp=Z,154nm,0.9s,baz=93,slow=11,SNR=69
comp=Z,154nm,0.9s
TLBR Topalu 20.84 312 ⇓P **P 17 26 05.4 +0.6**
HARR Harsova 20.98 312⇑P **P 17 26 06.9 +0.5**
HARR Harsova 20.98 312 P **P 17 26 06.8 +0.5**
CFR Carcaliu 21.09 314 ⇓P **P 17 26 07.2 -0.3**
CFR Carcaliu 21.09 314 P **P 17 26 07.2 -0.3**
RDO Rodhopi 21.24 301 **P 17 26 08.7 -0.4**
LOZB Loznitsa 21.27 308 ⇓P **P 17 26 10.4 +1.0**
CICN Ciocanesti 21.33 310 ⇓P **P 17 26 10.1 +0.1**
RAZG Razgrad 21.40 308 ⇓P **P 17 26 12.1 +1.2**
VLDR Vladesti 21.47 315⇑P **P 17 26 12.0 +0.5**
ELND Elena 21.59 306 ⇓P **P 17 26 13.8 +1.0**
MILM Milestii Mici 21.63 318 *e*P **P 17 26 11.0 -2.3**
comp=Z,66nm,1.0s
MILM M M 17 26 16.0
comp=Z,130nm,1.2s
MILM Milestii Mici 21.63 318 *e*P **P 17 26 11.0 -2.3**
MILM *i* 17 26 15.0
MILM pmax pmax
comp=Z,66nm,1.0s
MILM pmax pmax
comp=Z,130nm,1.2s
ATD Arta Tunnel 21.64 199 P **P 17 26 18.3 +4.7**
comp=Z,0.5nm,0.7s,baz=18,slow=13,SNR=4.4
ATD LR LR 17 35 17.5
comp=Z,13nm,18.3s,baz=354,slow=39
SZH Strazhitsa 21.64 307 *e*P **P 17 26 14.5 +1.1**
KIS Kishinev 21.67 319 *e*P **P 17 26 08.0 -5.7**
comp=Z,80nm,2.7s
KIS Kishinev 21.67 319 *e*P **P 17 26 08.0 -5.7**
KIS pmax pmax
comp=Z,80nm,2.7s
LPSR Galich'ya Gora 21.73 342 *e*P **P 17 26 12.3 -1.9**
LPSR pmax pmax
comp=Z,150nm,0.9s
BAL3X Bal3x, Balta 21.81 321 P **P 17 26 14.1 -1.1**
BIR Birlad 21.96 316⇑P **P 17 26 16.4 -0.5**
BIR Birlad 21.96 316 P **P 17 26 16.3 -0.5**
RZN Rozhen 21.97 302 *e*P **P 17 26 17.5 +0.3**
GHRR 21.98 315⇑P **P 17 26 17.7 +0.7**
GHRR 21.98 315 P **P 17 26 17.3 +0.3**
PANC Panciu 22.04 314 ⇓P **P 17 26 18.4 +0.7**
ODBI Odobesti 22.04 314 ⇓P **P 17 26 18.8 +1.1**
ODBI Odobesti 22.04 314 P **P 17 26 18.2 +0.5**
comp=Z,44nm,1.0s
ODBI pP **pP 17 26 24.9 -0.4**
comp=Z,44nm,1.0s
ISR Istrita 22.05 312⇑P **P 17 26 18.9 +0.9**
ISR Istrita 22.05 312 P **P 17 26 18.8 +0.9**
ISR Istrita 22.05 312 P **P 17 26 16.9 -1.0**
comp=Z,68nm,0.9s
PLD Plovdiv 22.10 303 P **P 17 26 21.3 +2.9**
PLD pmax pmax
comp=Z,99nm,0.9s
AAK Ala-Archa 22.12 55 **P 17 26 18.3 -0.4**
AAK Ala-Archa 22.12 55 LR LR 17 36 17.2
comp=Z,375nm,19.7s,baz=264,slow=40
AAK Ala-Archa 22.12 55⇓*e*P **P 17 26 19.9 +1.2**
AAK pmax pmax
comp=Z,24nm,1.1s
VRI Vrincioaia 22.29 314 ⇓P **P 17 26 21.3 +0.8**
VRI Vrincioaia 22.29 314 P **P 17 26 21.2 +0.8**
VRI Vrincioaia 22.29 314 P **P 17 26 19.7 -0.7**
comp=Z,37nm,1.1s
PLOR5 Plostina Array 22.32 314 P **P 17 26 20.0 -0.8**
comp=Z,502nmcomp=Z,38nm,0.8s
PLOR Plostina 22.33 314⇑P **P 17 26 22.1 +1.1**
PLOR Plostina 22.33 314 P **P 17 26 22.0 +1.1**
NEHR Nehoiu 22.35 313⇑P **P 17 26 22.4 +1.4**
KSH Kashi 22.39 64 P **P 17 26 20.2 -1.4**
KSH pmax pmax
comp=Z,63nm,0.9s
KSH LR LR
comp=Z,260nm,13.1s
KSH LR LR
comp=Z,520nm,13.4s
KSH LR LR
comp=Z,420nm,13.1s
SGDS Sogindy 22.49 53 *e*P **P 17 26 24.9 +2.2**
SORM Soroca 22.60 321⇑P **P 17 26 22.7 -1.0**
SORM Soroca 22.60 321 P **P 17 26 22.6 -1.0**
MLR Muntele Rosu 22.60 312 **P 17 26 23.3 -0.5**
MLR IAmb IAmb 17 26 36.0
comp=Z,32nm,0.9s
MLR Muntele Rosu 22.60 312 ⇓P **P 17 26 25.5 +1.6**
MLR Muntele Rosu 22.60 312 P **P 17 26 25.4 +1.6**
MLR Muntele Rosu 22.60 312 P **P 17 26 24.5 +0.7**
comp=Z,502nmcomp=Z,38nm,0.8s
PLVB Pleven 22.61 306⇑P **P 17 26 24.1 +0.4**
PGB Panagyurishte 22.62 304 *e*P **P 17 26 24.7 +0.7**
MMB Musomishta 22.64 301 *e*P **P 17 26 24.4 +0.1**
TESR Tescani 22.66 315 ⇓P **P 17 26 24.5 +0.1**
TESR Tescani 22.66 315 P **P 17 26 23.5 -0.9**
comp=Z,763nmcomp=Z,88nm,1.0s
ONER Baraj Valea Uz 22.73 315 ⇓P **P 17 26 25.9 +0.8**
SOH Sokhos 22.75 299 P **P 17 26 25.4 0.0**
SOH pmax pmax
comp=Z,18nm,0.9s
TURR Turia 22.82 314⇑P **P 17 26 27.2 +1.1**
OZUR 22.98 314 ⇓P **P 17 26 27.5 -0.2**
MTUR Matau 23.04 311⇑P **P 17 26 28.8 +0.4**
MTUR Matau 23.04 311 P **P 17 26 28.8 +0.4**
DOPR Dopca 23.16 313 ⇓P **P 17 26 30.4 +0.8**
KNT Kendrikon 23.17 300 P **P 17 26 29.3 -0.3**
KNT pmax pmax
comp=Z,13nm,1.2s
KKB Krupnik 23.17 302 *e*P **P 17 26 29.4 -0.3**
AGG Agios Georgios 23.18 294 P **P 17 26 29.8 -0.1**
AGG pmax pmax
comp=Z,41nm,1.1s
MPEP Malo Peshtene 23.20 306 *e*P **P 17 26 30.5 +0.6**
LIT Litokhoron 23.24 297 **P 17 26 29.6 -0.8**
LIT Litokhoron 23.24 297 P **P 17 26 29.6 -0.8**
LIT pmax pmax
comp=Z,17nm,0.8s
ITM Ithomi 23.31 290 **P 17 26 30.1 -1.0**
ITM IAmb IAmb 17 26 39.8
comp=Z,39nm,0.8s
VTS Vitosha 23.32 304 *e*P **P 17 26 31.8 +0.5**
ARR Arges 23.37 311⇑P **P 17 26 32.2 +0.5**
VAY Valandovo 23.44 300 *i* P **P 17 26 32.3 -0.1**
AK07 Malin Array Si 23.70 326 P **P 17 26 33.7 -1.1**
AK09 Malin Array Si 23.71 326 P **P 17 26 32.9 -1.9**
AK10 Malin Array Si 23.71 326 P **P 17 26 33.0 -1.9**
AK06 Malin Array Si 23.73 326 P **P 17 26 33.1 -1.9**
AK08 Malin Array Si 23.74 326 P **P 17 26 33.2 -1.9**
AK05 Malin Array Si 23.75 326 P **P 17 26 33.6 -1.6**
AK02 Malin Array Si 23.78 326 P **P 17 26 33.9 -1.5**
AK12 Malin Array Si 23.79 326 P **P 17 26 34.0 -1.6**
AKASG Malin Array Be 23.80 326 P **P 17 26 34.5 -1.1**
comp=Z,3.2nm,0.4s,baz=139,slow=8.9,SNR=41
AKASG PcP **PcP 17 30 18.2 -0.3**
comp=Z,0.6nm,0.4s,baz=77,slow=2.7,SNR=1.9
AKASG LR LR 17 36 49.9
comp=Z,161nm,19.5s,baz=114,slow=39
comp=Z,3.2nm,0.4s
AKASG Malin Array Be 23.80 326 *i* P **P 17 26 34.5 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 23.80 326*c i*P **P 17 26 34.3 -1.3**
AKBB pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 23.80 326 **P 17 26 33.8 -1.9**
KIEV IAmb IAmb 17 26 36.5
comp=Z,41nm,1.3s
KIEV Kiev 23.80 326 ⇓P **P 17 26 35.4 -0.2**
KIEV Kiev 23.80 326 P **P 17 26 35.4 -0.2**
KDJ Kajisay 23.86 58 P **P 17 26 35.5 -1.1**
KDJ Kajisay 23.86 58 P **P 17 26 35.5 -1.1**
KDJ pmax pmax
comp=Z,460nm,1.9s
MDB Medias 23.87 313 ⇓P **P 17 26 37.6 +1.1**
MDB Medias 23.87 313 P **P 17 26 37.5 +1.1**
KMPD K-Podol'skiy 23.87 320 P **P 17 26 34.7 -1.7**
LOT Lotru 23.96 311 ⇓P **P 17 26 38.3 +0.9**
AAA Alma-Ata 23.98 55 *e*P **P 17 26 39.2 +1.6**
comp=Z,36nm,1.2s
AAA Alma-Ata 23.98 55 *e*P **P 17 26 39.1 +1.5**
AAA pmax pmax
comp=Z,36nm,1.2s
LUBAR Lubar, Ukraine 24.00 324 P **P 17 26 36.5 -1.1**
SRE Strehaia 24.02 308 ⇓P **P 17 26 39.7 +1.8**
SRE Strehaia 24.02 308 P **P 17 26 39.6 +1.8**
MDOK Medeo 24.06 55 *e*P **P 17 26 39.8 +1.3**
MDOK Medeo 24.06 55 *e*P **P 17 26 39.7 +1.3**
BURAR Bucovina Array 24.07 317 ⇓P **P 17 26 39.2 +0.8**
BURAR Bucovina Array 24.07 317 P **P 17 26 39.1 +0.8**
HORU Horodok 24.26 321 P **P 17 26 39.3 -0.8**
HORU Horodok 24.26 321 P **P 17 26 39.2 -0.8**
MI29 MI29, Kamyanyy 24.27 325 P **P 17 26 39.8 -0.3**
comp=Z,175nm,0.9s
MI30 MI30,Zelenitsa 24.32 326 P **P 17 26 39.2 -1.3**
comp=Z,34nm,0.8s

SKO Skopje 24.42 301 *i* P **P 17 26 43.7 +2.1**
DJES Djerdap 24.48 308 ⇓P **P 17 26 42.5 +0.5**
KSV Kosov 24.52 318 P **P 17 26 42.0 -0.4**
KSV Kosov 24.52 318 P **P 17 26 41.7 -0.7**
BRZS Berezniki 24.54 37 *e*P **P 17 26 44.1 +1.5**
BRZS Berezniki 24.54 37 *e*P **P 17 26 44.0 +1.5**
GZR Gura Zlata 24.58 310 ⇓P **P 17 26 43.7 +0.7**
GZR Gura Zlata 24.58 310 P **P 17 26 43.7 +0.7**
OBN Obninsk 24.60 342 P **P 17 26 41.2 -1.8**
OBN Obninsk 24.60 342 LR LR 17 37 19.4
comp=Z,185nm,18.4s,baz=209,slow=39
OBN Obninsk 24.60 342 ⇑P **P 17 26 42.4 -0.6**
OBN Obninsk 24.60 342 *c i*P **P 17 26 42.8 -0.2**
OBN *e* 17 27 18.3
OBN S **S 17 30 58.0 -4.4**
OBN SS **SnSn 17 31 50.0 +1.3**
OBN pmax pmax
comp=Z,26nm,0.7s
OBN MLR MLR
comp=Z,189nm,18.0s
OBN Obninsk 24.60 342 P **P 17 26 42.1 -0.9**
comp=Z,36nm,1.0s
CJR Cluj-Napoca 24.61 313 ⇓P **P 17 26 44.3 +1.0**
CJR Cluj-Napoca 24.61 313 P **P 17 26 44.3 +1.0**
HERR Herculane 24.62 308 ⇑P **P 17 26 44.7 +1.4**
MI28 MI28,Pidlybu 24.69 325 P **P 17 26 43.1 -0.7**
BOVS Bovan 24.69 305 ⇑P **P 17 26 45.3 +1.3**
DEV Deva 24.69 311 ⇓P **P 17 26 46.1 +2.1**
DEV Deva 24.69 311 P **P 17 26 46.0 +2.1**
OHR Ohrid 24.70 299 *i* P **P 17 26 45.3 +1.1**
IGT Igoumenitsa 24.79 295 P **P 17 26 44.3 -0.6**
IGT pmax pmax
comp=Z,38nm,0.8s
ARTI Arti 24.80 12 P **P 17 26 44.1 -0.8**
ARTI IAmb IAmb 17 26 47.8
comp=Z,24nm,0.8s
ARTI Arti 24.80 12 LR LR 17 39 43.5
comp=Z,83nm,18.6s,baz=184,slow=44
ARTI Arti 24.80 12 *c i*P **P 17 26 45.4 +0.5**
ARTI 17 27 18.0
ARTI S **S 17 31 06.0 +0.3**
ARTI pmax pmax
comp=Z,28nm,0.9s
RAKU Rahkiv 24.89 317 P **P 17 26 45.8 +0.1**
MARR Marisel-Cluj 24.89 313 ⇓P **P 17 26 47.3 +1.4**
MOS Moscow 24.90 344 *e*P **P 17 26 45.6 -0.1**
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,65nm,1.1s
STNU Starunia 25.04 318 P **P 17 26 47.9 +0.8**
MDVR Moldovita 25.06 308 ⇑P **P 17 26 48.3 +1.0**
BMR Baia Mare 25.11 315 ⇓P **P 17 26 49.3 +1.6**
BMR Baia Mare 25.11 315 P **P 17 26 49.3 +1.6**
SURR Surduc 25.14 310 ⇓P **P 17 26 49.5 +1.5**
DRGR 25.19 313 ⇑P **P 17 26 50.5 +1.9**
DRGR 25.19 313 P **P 17 26 50.4 +1.9**
MESR Meseseni 25.20 314 ⇓P **P 17 26 50.0 +1.4**
KEK Kerkira 25.22 295 P **P 17 26 49.0 +0.2**
KEK IAmb IAmb 17 27 00.9
comp=Z,17nm,0.6s
BZS Buzias 25.42 310 ⇓P **P 17 26 52.2 +1.6**
BZS Buzias 25.42 310 P **P 17 26 52.1 +1.6**
UZB Uzynbulak 25.44 56 *e*P **P 17 26 52.2 +1.2**
comp=Z,34nm,1.5s
UZB Uzynbulak 25.44 56 *e*P **P 17 26 52.2 +1.2**
UZB pmax pmax
comp=Z,34nm,1.5s
BORK Borovoye 25.48 30 ⇓*i*P **P 17 26 52.0 +1.0**
BORK pmax pmax
comp=Z,8.0nm,1.0s
MEZ Mezhgor'ye 25.51 317 P **P 17 26 51.1 -0.2**
KORU Korolevo 25.55 316 P **P 17 26 52.8 +1.1**
TDK Taldyqorghan 25.58 52 *e*P **P 17 26 53.2 +1.2**
comp=Z,17nm,0.7s
TDK Taldyqorghan 25.58 52 *e*P **P 17 26 53.2 +1.2**
TDK pmax pmax
comp=Z,17nm,0.7s
MORS Morshin 25.61 319 P **P 17 26 53.0 +0.9**
MORS Morshin 25.61 319 P **P 17 26 53.1 +0.9**
TRSU Trosnyk 25.63 316 P **P 17 26 54.1 +1.7**
SIRR Siria 25.64 311 ⇑P **P 17 26 53.8 +1.2**
SVE Sverdlovsk 25.64 14 *e*P **P 17 26 53.4 +1.0**
SVE pmax pmax
comp=Z,11nm,1.1s
BANR Banloc 25.65 309 ⇓P **P 17 26 52.9 +0.3**
BRIU Brid 25.71 316 P **P 17 26 53.8 +0.7**
RNPP5 Staryi Chortor 25.75 324 P **P 17 26 52.8 -0.6**
SHLS Shalkode 25.76 57 *e*P **P 17 26 57.9 +4.1**
SHLS Shalkode 25.76 57 *e*P **P 17 26 57.9 +4.1**
RNPP8 Varash 25.83 324 P **P 17 26 53.6 -0.6**
RNPP9 Sopachiv 25.86 325 P **P 17 26 53.8 -0.7**
BERU Beregovo 25.88 316 P **P 17 26 54.1 -0.6**
LVV L'vov 25.89 320 P **P 17 26 54.7 -0.1**
MUKU Mukachevo 25.96 316 P **P 17 26 54.4 -1.0**
PDG Podgorica 26.11 301 P **P 17 26 56.6 -0.2**
PDG Podgorica 26.11 301 ⇑P **P 17 26 58.1 +1.3**
HOLU Holmets 26.17 316 P **P 17 26 56.4 -0.9**
KIRV Kirov 26.27 360 LR LR 17 39 44.8
comp=Z,192nm,18.9s,baz=187,slow=42
KIRV Kirov 26.27 360 ⇓*i*P **P 17 26 58.7 +0.7**
KWP Kalwaria Pacla 26.53 319 *e*P **P 17 27 01.8 +1.2**
KWP Kalwaria Pacla 26.53 319 P **P 17 27 00.9 +0.3**
comp=Z,55nm,1.1s
MNK Minsk 27.05 331 *i* P **P 17 27 07.3 +2.1**
comp=E,14nm,0.8s
MNK *i* P **P 17 27 07.3 +2.1**
comp=N,26nm,0.9s
MNK *i* P **P 17 27 07.3 +2.1**
comp=Z,43nm,0.9s,baz=136
MNK *i* pP **pP 17 27 11.0 -2.4**
MNK *i* PP PP 17 27 50.6 -16
MNK *i* PPP PPP 17 27 58.6
MNK *i* S **S 17 31 46.2 +5.0**
MNK *i* SS **SnSn 17 32 52.4 +3.9**
MNK *i* LR LR 17 36 53.9
MNK *i* LRM MLR 17 38 29.0
comp=E,2μm,21.5s
MNK *i* LRM MLR 17 38 39.0
comp=N,1μm,22.4s
MNK *i* LRM MLR 17 38 48.0
comp=Z,107nm,15.0s
MNK Minsk 27.05 331 *i* P **P 17 27 07.2 +2.1**
MNK *i* *PP **pP 17 27 11.0 -2.4**
MNK *i* 17 27 50.5
MNK *i* PPP PPP 17 27 58.5
MNK *i* S **S 17 31 46.2 +5.0**
MNK *i* SS **SnSn 17 32 52.3 +3.9**
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=Z,43nm,0.9s
MNK pmax pmax
comp=E,14nm,0.8s
MNK MLR MLR
comp=E,2μm,21.0s
MNK MLR MLR
comp=N,1μm,22.0s
MNK MLR MLR
comp=Z,107nm,15.0s
STHS Stebnicka Huta 27.25 317 *e*P **P 17 27 08.2 +1.1**
STHS Stebnicka Huta 27.25 317 *e*P **P 17 27 08.2 +1.1**
KECS Kecovo 27.28 315 *e*P **P 17 27 12.1 +4.8**
KECS pmax pmax
comp=Z,18nm,0.8s
KECS Kecovo 27.28 315 *e*P **P 17 27 12.1 +4.8**
PSZ Piszkesteto 27.40 313 P **P 17 27 08.6 +0.1**
PSZ IAmb IAmb 17 27 13.8
comp=Z,22nm,1.2s
PSZ Piszkesteto 27.40 313 ⇓P **P 17 27 08.6 +0.1**
PSZ Piszkesteto 27.40 313 P **P 17 27 08.6 +0.1**
TIP Timpagrande 27.51 294 P **P 17 27 08.8 -0.8**
TIP IAmb IAmb 17 27 25.0
comp=Z,14nm,0.9s
TIP Timpagrande 27.51 294 ⇑P **P 17 27 10.8 +1.2**
TIP Timpagrande 27.51 294 P **P 17 27 09.3 -0.3**
comp=Z,15nm,1.0s
MORH Mrgy, Hungar 27.57 309 ⇓P **P 17 27 10.9 +1.0**
MORH Mrgy, Hungar 27.57 309 P **P 17 27 09.5 -0.5**
comp=Z,13nm,1.0s
MATE Matera 27.69 297 ⇑P **P 17 27 13.0 +2.0**
NACGM Naroch 27.78 331 *e*P **P 17 27 12.3 +0.5**
NIE Niedzica 27.80 317 *e*P **P 17 27 18.0 +6.0**

NIE Niedzica 27.80 317 P **P 17 27 11.4 -0.6**
comp=Z,4.9nm,0.9s
KURBB Kurchatov Arra 28.02 41 P **P 17 26 16.0 +2.1**
comp=Z,3.9nm,0.6s,baz=242,slow=9.6,SNR=22
KURBB PcP **PcP 17 30 28.5 +0.2**
comp=Z,1.6nm,0.7s,baz=241,slow=2.9,SNR=6.5
KURBB LR LR 17 39 47.1
comp=Z,169nm,18.7s,baz=178,slow=39
comp=Z,3.9nm,0.6s
KURK Kurchatov 28.12 41 P **P 17 27 15.3 +0.5**
KURK Kurchatov 28.12 41 ⇓*i*P **P 17 27 16.3 +1.5**
KURK pmax pmax
comp=Z,6.0nm,0.8s
CEL Celeste 28.14 292 P **P 17 27 14.9 -0.3**
CEL IAmb IAmb 17 27 27.5
comp=Z,18nm,0.9s
CEL Celeste 28.14 292 P **P 17 27 14.9 -0.3**
comp=Z,197nmcomp=Z,24nm,0.9s
LANS Liptovska Anna 28.17 316 *e*P **P 17 27 15.9 +0.5**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 28.17 316 *e*P **P 17 27 15.9 +0.5**
ACER Acerenza 28.29 297 P **P 17 27 16.0 -0.5**
ACER IAmb IAmb 17 27 31.6
comp=Z,14nm,0.6s
CUC Castrocucco 28.30 295 P **P 17 27 16.8 +0.2**
SRO Srobarova 28.34 312 *e*P **P 17 27 17.2 +0.4**
SRO Srobarova 28.34 312 *e*P **P 17 27 17.2 +0.4**
OJC Ojcow 28.46 318 *e*P **P 17 27 18.0 +0.2**
OJC Ojcow 28.46 318 P **P 17 27 16.7 -1.1**
OJC Ojcow 28.46 318 P **P 17 27 16.7 -1.1**
OJC Ojcow 28.46 318 P **P 17 27 17.3 -0.5**
comp=Z,23nm,1.4s
MAKZ Makanchi 28.53 50 P **P 17 27 19.0 +0.5**
MAKZ Makanchi 28.53 50 P **P 17 27 19.0 +0.5**
MAKZ pmax pmax
comp=Z,11nm,1.6s
MK31 Makanchi Array 28.73 50 ⇓*i*P **P 17 27 21.7 +1.4**
MKAR Makanchi Array 28.73 50 P **P 17 27 22.1 +1.7**
comp=Z,2.1nm,0.6s,baz=245,slow=10,SNR=23
MKAR PcP **PcP 17 30 30.1 -0.1**
comp=Z,0.7nm,0.5s,baz=246,slow=1.8,SNR=6.6
MKAR LR LR 17 40 40.6
comp=Z,203nm,20.0s,baz=222,slow=40
comp=Z,2.1nm,0.6s
SUW Suwalki 28.77 327 *e*P **P 17 27 20.4 -0.1**
SUW Suwalki 28.77 327 P **P 17 27 20.1 -0.4**
SUW Suwalki 28.77 327 P **P 17 27 20.1 -0.4**
BEHE Becsehely 28.88 309 P **P 17 27 19.3 -2.3**
JAVC Velka Javorina 29.13 314 *e*P **P 17 27 25.9 +2.0**
MODS Modra-Piesok 29.19 313 *e*P **P 17 27 25.6 +1.2**
MODS pmax pmax
comp=Z,24nm,1.4s
MODS Modra-Piesok 29.19 313 *e*P **P 17 27 25.6 +1.2**
MAUC Maruska 29.24 315 *e*P **P 17 27 25.7 +0.9**
KLMR Klimovskoe 29.32 350 *e*P **P 17 27 23.1 -2.2**
KLMR *e* 17 30 29.8
KLMR pmax pmax
comp=Z,32nm,1.3s
PAOL Paolisi 29.35 297 P **P 17 27 23.7 -2.2**
PAOL IAmb IAmb 17 27 33.7
comp=Z,17nm,1.2s
PABE Paberze 29.37 330 P **P 17 27 24.0 -1.8**
PABE IAmb IAmb 17 27 26.3
comp=Z,27nm,0.9s
SOP Sopron 29.41 311 P **P 17 27 27.2 +0.9**
SOP pmax pmax
comp=Z,15nm,1.1s
MORC Moravsky Berou 29.57 316 P **P 17 27 26.4 -1.4**
MORC Moravsky Berou 29.57 316 ⇓P **P 17 27 28.4 +0.5**
MORC Moravsky Berou 29.57 316 *e*P **P 17 27 27.6 -0.2**
MORC Moravsky Berou 29.57 316 P **P 17 27 28.3 +0.5**
RONA Rosalia, Austr 29.58 311 *i* P **P 17 27 28.3 +0.4**
comp=Z,8.8nm,1.0s
CONA Conrad Observa 29.93 311 *i* P **P 17 27 31.3 +0.2**
comp=Z,8.3nm,0.9s
ARSA Arzberg 29.94 310 **P 17 27 29.9 -1.1**
ARSA Arzberg 29.94 310 *e*P **P 17 27 30.4 -0.6**
comp=Z,5.6nm,1.0s
VRAC Vranov 29.96 314 *e*P **P 17 27 31.3 +0.1**
KRUC Moravsky 29.99 314 *e*P **P 17 27 31.6 +0.2**
KRUC Moravsky 29.99 314 P **P 17 27 31.8 +0.4**
KRUC pmax pmax
comp=Z,4.0nm,0.9s
SOKA Soboth 30.09 309 *i* P **P 17 27 32.7 +0.3**
comp=Z,4.6nm,1.2s
OBKA Obir 30.37 308 *e*P **P 17 27 34.9 0.0**
comp=Z,5.5nm,1.3s
CAMP Campotosto 30.38 300 P **P 17 27 32.7 -2.5**
DPC Dobruska-Polom 30.53 316 P **P 17 27 36.4 +0.2**
DPC pmax pmax
comp=Z,7.0nm,1.4s
DPC Dobruska-Polom 30.53 316 *e*P **P 17 27 36.3 +0.1**
DPC Dobruska-Polom 30.53 316 P **P 17 27 35.4 -0.8**
comp=Z,7.3nm,1.4s
ZSN Zaisan 30.61 50 *e*P **P 17 27 38.4 +1.4**
ZSN Zaisan 30.61 50 *e*P **P 17 27 38.3 +1.4**
TREC Trest 30.63 314 P **P 17 27 38.1 +1.0**
TREC pmax pmax
comp=Z,7.0nm,2.1s
NRCA Norcia 30.64 301 P **P 17 27 35.6 -1.7**
OSTC Ostas 30.67 316 *e*P **P 17 27 37.5 0.0**
OSTC Ostas 30.67 316 *e*P **P 17 27 37.5 0.0**
FDMO Fiordimonte 30.69 301 P **P 17 27 35.9 -1.8**
FDMO IAmb IAmb 17 28 02.9
comp=Z,9.4nm,0.9s
TRI Trieste 30.70 306 P **P 17 27 36.0 -1.7**
TRI Trieste 30.70 306 P **P 17 27 36.0 -1.7**
TRI pmax pmax
comp=Z,6.0nm,0.7s
KSP Ksiaz 30.74 317 *e*P **P 17 27 38.2 +0.1**
KSP Ksiaz 30.74 317 P **P 17 27 39.3 +1.2**
KSP Ksiaz 30.74 317 P **P 17 27 37.4 -0.7**
comp=Z,7.2nm,1.4s
UPC Upice 30.77 316 P **P 17 27 38.1 -0.2**
UPC pmax pmax
comp=Z,10.0nm,1.4s
SABO M.te Sabotino 30.88 307 P **P 17 27 36.8 -2.6**
MOA Molln 30.93 311 *e*P **P 17 27 39.9 +0.1**
comp=Z,8.1nm,0.8s,SNR=5.5
CESX Cesi 31.00 300 P **P 17 27 39.0 -1.4**
MURB Monte Urbino 31.12 301 P **P 17 27 40.4 -1.2**
MURB IAmb IAmb 17 27 50.6
comp=Z,11nm,1.0s
CKRC Cesky Krumlov 31.20 312 *e*P P 17 27 48.7 +6.6
CKRC Cesky Krumlov 31.20 312 *e*P P 17 27 48.7 +6.6
BIOA Bad Ischl, Aus 31.29 310 *i* P **P 17 27 43.0 +0.1**
comp=Z,12nm,1.1s,SNR=7.1
KBA Koelnbreinsper 31.32 309 *i* P **P 17 27 43.6 +0.3**
comp=Z,13nm,0.8s,SNR=10
ZVC Zvikov 31.47 313 *e*P **P 17 27 44.8 +0.3**
ZVC AMS AMS 17 51 20.0
comp=Z,200nm,14.5s
STAL STALIGIAL 31.54 307 P **P 17 27 43.8 -1.4**
GEC2 GERESS Array S 31.59 312 P **P 17 27 45.4 -0.3**
GEC2 pmax pmax
comp=Z,5.0nm,1.2s
GERES GERESS Array B 31.59 312 P **P 17 27 45.2 -0.4**
comp=Z,1.7nm,0.9s,baz=108,slow=8.6,SNR=12
GERES PcP **PcP 17 30 37.5 -0.2**
comp=Z,0.7nm,0.7s,baz=127,slow=1.5,SNR=3.5
GERES ScP **ScP 17 34 19.8 +0.7**
comp=Z,0.3nm,0.6s,baz=93,slow=5.4,SNR=3.5
comp=Z,1.7nm,0.9s
KHC Kasperske Hory 31.75 313 ⇓*i*P **P 17 27 47.2 +0.1**
KHC pmax pmax
comp=Z,11nm,1.2s
KHC Kasperske Hory 31.75 313 *e*P **P 17 27 46.8 -0.3**
KHC *e*pP **pP 17 27 52.6 -2.5**
KHC AMS AMS 17 51 20.0
comp=Z,200nm,14.5s
KHC Kasperske Hory 31.75 313 P **P 17 27 46.5 -0.6**
comp=Z,9.8nm,1.6s
LODK Lodwar 31.75 208 P **P 17 27 47.2 -0.1**
WMQ Urumqi 31.76 58 *e*P **P 17 27 49.8 +2.6**
ABTA Abfaltersbach 31.79 308 *e*P **P 17 27 47.5 +0.1**
comp=Z,13nm,1.5s,SNR=6.0
LESA Schwarzleotal 31.84 309 *i* P **P 17 27 47.6 -0.3**
comp=Z,8.3nm,1.2s
WET Wettzell 32.20 312 P **P 17 27 50.5 -0.4**
WET pmax pmax
comp=Z,7.0nm,0.9s
CTI Castel Tesino 32.22 306 **P 17 27 49.2 -2.0**
CTI Castel Tesino 32.22 306 P **P 17 27 49.2 -2.0**
CTI pmax pmax

comp=Z,5.0nm,0.8s
ZCCA Zocca 32.39 303 P **P 17 27 51.6 -1.1**
WTTA Wattenberg 32.49 309 *i* P **P 17 27 53.4 -0.3**
comp=Z,19nm,0.7s,SNR=9.1
WTTA Wattenberg 32.49 309 P **P 17 27 53.5 -0.2**
WTTA pmax pmax
comp=Z,25nm,0.9s
WATA Walderalm 32.55 309 *i* P **P 17 27 53.5 -0.7**
comp=Z,19nm,1.2s,SNR=8.2
SQTA Sankt Quirin 32.76 308 *i* P **P 17 27 55.6 -0.5**
comp=Z,25nm,0.7s,SNR=11
JOF Joensuu 32.78 345 *e*P **P 17 27 56.1 +0.4**
CLL Collm 32.84 316 P **P 17 27 54.2 -2.2**
CLL Collm 32.84 316 *i* P **P 17 27 56.7 +0.2**
CLL *i* *PP **pP 17 27 59.5 -5.0**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 32.84 316 *i* P **P 17 27 56.7 +0.2**
comp=Z,7.0nm,1.0s
CLL *i* pP **pP 17 27 59.5 -5.0**
MOTA Moosalm 32.86 309 *e*P **P 17 27 56.0 -0.9**
comp=Z,16nm,1.1s,SNR=7.9
FINES FINESS Array B 32.93 339 P **P 17 27 56.9 -0.2**
comp=Z,2.2nm,0.4s,baz=144,slow=10,SNR=30
FINES LR LR 17 43 00.0
comp=Z,134nm,18.3s,baz=134,slow=40
comp=Z,2.2nm,0.4s
FUR Furstenfeldbru 32.95 310 P **P 17 27 57.6 +0.1**
FUR pmax pmax
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 33.00 39 P **P 17 27 58.9 +1.1**
comp=Z,3.1nm,0.4s,baz=252,slow=9.6,SNR=32
ZALV PcP **PcP 17 30 40.4 -0.8**
comp=Z,1.1nm,0.5s,baz=251,slow=4.1,SNR=3.0
ZALV LR LR 17 43 05.3
comp=Z,74nm,19.1s,baz=276,slow=40
comp=Z,3.1nm,0.4s
GRB1 Grafenberg Arr 33.03 312 P **P 17 27 58.5 +0.3**
GRB1 pmax pmax
comp=Z,13nm,1.3s
FETA Feichten 33.04 308 *i* P **P 17 27 58.2 -0.3**
comp=Z,15nm,1.1s,SNR=8.3
RETA Reutte 33.12 309 *i* P **P 17 27 58.1 -1.0**
comp=Z,11nm,1.0s
VSL Villasalto 33.24 294 P **P 17 27 58.9 -1.2**
VSL IAmb IAmb 17 28 09.8
comp=Z,12nm,0.8s
FUORN Ofenpass-Fuorn 33.27 307 P **P 17 27 59.1 -1.6**
FUORN IAmb IAmb 17 28 31.1
comp=Z,29nm,1.8s
GRA1 Grafenberg Arr 33.39 313 P **P 17 28 00.2 -1.2**
GRA1 IAmb IAmb 17 28 02.5
comp=Z,13nm,1.0s
GRF Grafenberg Arr 33.39 313 P **P 17 28 00.2 -1.2**
GRF pmax pmax
comp=Z,13nm,1.0s
GRFO Grafenberg 33.39 313 P **P 17 27 59.8 -1.5**
GRFO IAmb IAmb 17 28 02.4
comp=Z,12nm,1.0s
GRFO Grafenberg 33.39 313 P **P 17 27 59.8 -1.5**
GRFO pmax pmax
comp=Z,12nm,1.0s
KEST Kesra 33.47 287 P **P 17 28 03.6 +1.3**
comp=Z,5.2nm,0.8s,baz=143,slow=10,SNR=6.1
comp=Z,5.2nm,0.8s
DAVA Damuels 33.66 308 *i* P **P 17 28 03.2 -0.7**
comp=Z,25nm,0.7s,SNR=8.4
KEF Keuruu 33.85 339 *e*P **P 17 28 05.5 +0.3**
TUE Stuetta 33.87 307 P **P 17 28 04.1 -1.6**
TUE Stuetta 33.87 307 P **P 17 28 04.9 -0.8**
comp=Z,25nm,0.8s
RAF Rauma 34.01 336 *e*P **P 17 28 06.4 -0.2**
AAL Aland 34.07 334 *e*P **P 17 28 06.6 -0.4**
LUNU Lund 34.38 324 *i* P **P 17 28 09.9 +0.1**
DEL Delary 34.56 325 *i* P **P 17 28 11.3 -0.1**
BJUU Bjuv 34.79 324 *i* P **P 17 28 13.6 +0.2**
VAF Ylistaro 35.19 339 *e*P **P 17 28 17.1 +0.5**
SENIN Lac Senin/Sane 35.25 306 P **P 17 28 16.7 -1.0**
SENIN IAmb IAmb 17 28 29.1
comp=Z,26nm,1.6s
LSA Lhasa 35.45 83 P **P 17 28 18.6 -1.3**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 35.45 83 P **P 17 28 20.8 +0.9**
LSA pmax pmax
comp=Z,7.0nm,1.2s
BNI Bardonecchia 35.52 304 P **P 17 28 18.9 -1.1**
BNI Bardonecchia 35.52 304 P **P 17 28 18.9 -1.1**
BNI pmax pmax
comp=Z,60nm,1.6s
BORU Boraas 35.66 326 *i* P **P 17 28 21.2 +0.4**
ONAU Onsala 35.95 326 *e*P **P 17 28 23.8 +0.5**
TJOU Tjoern 36.39 326 *i* P **P 17 28 26.3 -0.7**
HFS Hagfors 36.55 330 P **P 17 28 28.4 0.0**
comp=Z,9.1nm,0.4s,baz=120,slow=10,SNR=66
HFS LR LR 17 44 29.2
comp=Z,91nm,19.3s,baz=116,slow=38
comp=Z,9.1nm,0.4s
APA Apatity 36.56 350 ⇓*i*P **P 17 28 27.6 -0.8**
LVZ Lovozero 36.69 351 *i* P **P 17 28 28.2 -1.3**
LVZ pmax pmax
comp=Z,26nm,1.1s
LVZ Lovozero 36.69 351 P **P 17 28 28.8 -0.7**
comp=Z,25nm,0.5s
MUD Monsted U'grnd 36.90 323 *e*P **P 17 28 31.9 +0.5**
MUD IAmb IAmb 17 28 33.6
comp=Z,40nm,0.9s
SHL Shillong 37.32 89 P **P 17 28 35.4 -0.2**
SHL Shillong 37.32 89 P **P 17 28 35.4 -0.2**
SHL pmax pmax
comp=Z,61nm,1.5s
MBAR Mbarara 37.34 212 P **P 17 28 38.0 +2.2**
MBAR Mbarara 37.34 212 P **P 17 28 38.0 +2.2**
MBAR pmax pmax
comp=Z,8.0nm,0.9s
SJUU Sjulsmark 37.35 341 *e*P **P 17 28 35.2 +0.1**
OSL Oslo 37.72 329 *e*P **P 17 28 38.3 0.0**
NC602 NORSAR Array S 37.77 330 *e*P **P 17 28 39.2 +0.4**
HOMB Homborsund 37.97 326 *i* P **P 17 28 40.7 +0.3**
NB2 NORSAR Subarra 38.07 331 P **P 17 28 40.7 -0.6**
comp=Z,2.5nm,0.6s,baz=122,slow=8.6
NB2 PP **PP 17 30 06.5 -1.9**
comp=Z,1.6nm,0.7s,baz=126,slow=11
NB2 NORSAR Subarra 38.07 331 P **P 17 28 40.7 -0.6**
baz=122,slow=8.6
NOA NORSAR Array B 38.07 331 P **P 17 28 40.4 -0.9**
comp=Z,4.6nm,0.8s,baz=122,slow=8.4,SNR=17
NOA PP **PP 17 30 05.8 -2.6**
comp=Z,3.0nm,0.8s,baz=128,slow=11,SNR=6.0
comp=Z,4.6nm,0.8s
SKAR Skarslia 39.13 329 *e*P **P 17 28 51.1 +0.9**
LANU Lannavaara 39.21 344 *e*P **P 17 28 50.7 -0.1**
VADS Vadso 39.51 349 *e*P **P 17 28 53.4 +0.2**
ODD1 Odda 39.54 327 *e*P **P 17 28 55.1 +1.4**
ARCES ARCESS Array B 39.67 347 P **P 17 28 54.8 +0.1**
comp=Z,5.7nm,1.0s,baz=146,slow=6.7,SNR=11
comp=Z,5.7nm,1.0s
KTK1 Kautokeino 39.70 345 *e*P **P 17 28 53.7 -1.1**
NSS Namsos 39.71 336 *e*P **P 17 28 54.8 -0.2**
TAM Tamanrasset 40.08 268 P **P 17 28 58.6 -0.1**
TAM Tamanrasset 40.08 268 P **P 17 28 58.7 -0.1**
RAUS Rausandaksla 40.21 339 *e*P **P 17 28 59.1 0.0**
HYA Hoyanger 40.27 329 *e*P **P 17 29 00.8 +1.1**
BER Bergen 40.33 328 *e*P **P 17 29 00.3 +0.2**
AKN Aaknes 40.38 331 *e*P **P 17 29 00.3 -0.4**
STOK Stokkvaagen 40.46 338 *e*P **P 17 29 00.5 -0.7**
JETT Jettan, Norway 40.75 345 *e*P **P 17 29 03.9 +0.3**
GTA Gaotai 40.77 65 *e*P **P 17 29 05.6 +1.3**
GTA PcP **PcP 17 31 05.9 +0.7**
GTA pmax pmax
comp=Z,11nm,1.0s
FOO Floro 40.96 329 *e*P **P 17 29 05.6 +0.3**
TNCH TengChong 43.12 87 *e*P **P 17 29 25.6 +1.9**
TNCH pmax pmax
comp=Z,18nm,0.9s
EKA Eskdalemuir Ar 43.23 318 P **P 17 29 23.2 -0.7**
comp=Z,4.8nm,0.7s,baz=105,slow=7.8,SNR=13
comp=Z,4.8nm,0.7s
ESDC Sonseca Array 43.50 295 P **P 17 29 26.0 -0.5**
comp=Z,2.3nm,0.8s,baz=78,slow=8.6,SNR=14
ESDC PcP **PcP 17 31 14.7 +0.5**
comp=Z,1.0nm,0.8s,baz=71,slow=4.2,SNR=4.4
comp=Z,2.3nm,0.8s
LZH Lanzhou 44.44 70 *e*P **P 17 29 36.7 +2.5**
LZH pP sP 17 29 46.1 +0.1

LZH pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 45.04 53 P P 17 29 39.8 +1.0
comp=Z,4.0nm,0.8s,baz=274,slow=8.6,SNR=16
SONM LR LR 17 50 17.0
comp=Z,133nm,18.5s,baz=218,slow=38
comp=Z,4.0nm,0.8s
PZH PanZhiHua 45.32 83 P **P 17 29 43.0 +1.7**
ULN Ulaanbaatar 45.48 53 P **P 17 29 42.2 -0.1**
ULN IAmb IAmb 17 29 44.7
comp=Z,21nm,1.1s
ULN Ulaanbaatar 45.48 53*c i*P **P 17 29 43.7 +1.4**
ULN pmax pmax
comp=Z,19nm,1.1s
MVO Moncorvo 45.62 298 *e*P **P 17 29 45.0 +1.6**
CHTO Chiang Mai 46.02 95 **P 17 29 46.6 -0.1**
CHTO IAmb IAmb 17 29 48.7
comp=Z,14nm,0.8s
CHTO Chiang Mai 46.02 95 P **P 17 29 47.6 +0.9**
CHTO Chiang Mai 46.02 95 P **P 17 29 46.6 -0.1**
CHTO pmax pmax
comp=Z,14nm,0.8s
PBAR Barrancos 46.11 294 *e*P **P 17 29 47.2 0.0**
PBAR *i* IAmb IAmb 17 29 48.5
comp=Z,27nm,1.3s
MTE Manteigas 46.12 297 *e*P **P 17 29 48.5 +1.2**
PCBR Castelo Branco 46.16 296 *e*P **P 17 29 48.2 +0.7**
PCBR *i* IAmb IAmb 17 30 04.0
comp=Z,30nm,2.0s
PMRV Marv??o 46.16 296 *e*P **P 17 29 48.1 +0.5**
CMAR Chiang Mai Arr 46.18 95 P **P 17 29 48.9 +0.9**
comp=Z,6.8nm,0.7s,baz=293,slow=8.3,SNR=72
CMAR PcP **PcP 17 31 24.1 +0.4**
comp=Z,0.8nm,0.8s,baz=252,slow=2.7,SNR=2.1
comp=Z,6.8nm,0.7s
PESTR Estremoz 46.41 295 P **P 17 29 48.8 -0.7**
PESTR Estremoz 46.41 295 *e*P **P 17 29 49.5 -0.1**
PESTR *i* IAmb IAmb 17 29 55.5
comp=Z,24nm,2.1s
PSARD Sardoal 46.72 296 *e*P **P 17 29 52.5 +0.6**
PBEJ Beja 46.78 294 *e*P **P 17 29 53.0 +0.5**
PVAQ Vaqueiros 46.79 293 *e*P **P 17 29 52.7 +0.2**
EVO Evora 46.80 295 *e*P **P 17 29 53.8 +1.2**
PMTG Montargil 46.86 295 *e*P **P 17 29 53.6 +0.5**
PCVE Castro Verde 46.99 293 *e*P **P 17 29 54.3 +0.2**
PSBE So Bento 47.22 296 *e*P **P 17 29 56.9 +1.0**
PARRA Arraiolos 47.53 295 *e*P P 17 29 53.1 -5.2
PTEO Sao Teotonio 47.54 293 *e*P **P 17 29 58.9 +0.5**
TORD Torodi Ar. Bea 47.79 258 P **P 17 30 00.7 +0.1**
comp=Z,12nm,1.1s,baz=48,slow=9.8,SNR=22
TORD PcP **PcP 17 31 28.3 -1.1**
comp=Z,0.8nm,0.8s,baz=48,slow=2.1,SNR=1.2
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 48.20 351 P **P 17 30 03.7 +0.8**
comp=Z,6.2nm,0.5s,baz=128,slow=9.6,SNR=24
comp=Z,6.2nm,0.5s
BTO Baotou 48.36 62 *e*P **P 17 30 04.0 -0.8**
BTO S **S 17 37 04.3 +0.6**
BTO pmax pmax
comp=Z,31nm,0.8s
BTO pmax pmax
comp=Z,500nm,5.6s
BTO LR LR
comp=Z,580nm,9.0s
BTO LR LR
comp=Z,380nm,6.7s
BTO LR LR
comp=Z,360nm,6.9s
XAN Xi'an 48.96 71 P **P 17 30 10.4 +0.9**
XAN pP sP 17 30 21.9 +0.5
XAN pmax pmax
comp=Z,10.0nm,0.9s
SLVN Son La 49.12 89 IAmb IAmb 17 30 13.6
comp=Z,8.3nm,1.0s
SLVN Son La 49.12 89 P **P 17 30 12.8 +1.9**
GYA Guiyang 49.47 81 ⇑P **P 17 30 15.2 +1.7**
GYA pmax pmax
comp=Z,6.0nm,1.2s
HHC Hu-ho-hao-te 49.47 62 *e*P **P 17 30 15.1 +1.8**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,87nm,4.3s
LSZ Lusaka 51.63 207 LR LR 17 53 10.0
comp=Z,133nm,19.5s,baz=17,slow=37
BORG Borgarnes 53.23 330 LR LR 17 54 05.2
comp=Z,66nm,21.6s,baz=96,slow=37
DAG Danmarks Havn 53.87 345 P **P 17 30 45.9 +0.4**
DAG pmax pmax
comp=Z,7.0nm,1.3s
DAG Danmarks Havn 53.87 345 *i* P **P 17 30 44.4 -1.1**
DAG IAmb IAmb 17 30 46.3
comp=Z,4.9nm,0.8s
NOR Nord 54.82 351 *i* P **P 17 30 52.2 -0.2**
NOR IAmb IAmb 17 30 53.2
comp=Z,5.6nm,0.8s
IPM Ipoh 55.32 109 P **P 17 30 56.0 -0.9**
IPM Ipoh 55.32 109 P **P 17 30 56.8 -0.1**
MATP Matopo 56.25 204 LR LR 17 56 29.3
comp=Z,199nm,18.7s,baz=26,slow=38
TIXI Tiksi 56.27 22 LR LR 17 59 27.8
comp=Z,143nm,18.5s,baz=206,slow=41
TIXI Tiksi 56.27 22 *i* P **P 17 31 01.7 -1.2**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
DBIC Dimbokro 56.72 256 P **P 17 31 06.7 -0.2**
comp=Z,12nm,1.0s,baz=55,slow=5.5,SNR=8.4
DBIC LR LR 17 58 46.6
comp=Z,175nm,18.6s,baz=34,slow=40
comp=Z,12nm,1.0s
YAK Yakutsk 57.39 33 *e*P **P 17 31 11.1 +0.1**
YAK *e**PP **pP 17 31 21.3 +1.8**
YAK *e* 17 32 04.0
YAK *e* 17 33 15.9
YAK *e*S **S 17 39 05.8 -0.1**
YAK *e**SS **sS 17 39 26.4 +6.0**
YAK *e* 17 40 57.1
YAK *e*SS **SS 17 42 57.2 +2.2**
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=Z,112nm,3.7s
YAK pmax pmax
comp=E,73nm,2.1s
YAK pmax pmax
comp=N,90nm,3.1s
YAK smax smax
comp=N,167nm,2.8s
YAK smax smax
comp=E,89nm,2.9s
NJ2 Nanjing 57.51 70 *e*P **P 17 31 13.0 +0.7**
NJ2 pmax pmax
comp=E,5.0nm,0.6s
HEH HeiHe 58.41 47 *e*P **P 17 31 19.1 +0.8**
HEH pmax pmax
comp=E,18nm,0.9s
MREMI Moremi 58.59 204 P **P 17 31 20.3 +0.4**
MREMI IAmb IAmb 17 31 26.0
comp=Z,16nm,1.1s
SUMG Summit 58.97 339 P **P 17 31 22.0 -0.4**
SUMG IAmb IAmb 17 31 23.9
comp=Z,13nm,1.0s
SUMG Summit 58.97 339 P **P 17 31 22.0 -0.4**
SUMG pmax pmax
comp=Z,13nm,1.0s
MYKOM Kota Tinggi 59.17 109 IAmb IAmb 17 31 24.5
comp=Z,8.8nm,0.8s
GRTLG Ghanzi 59.95 211 **P 17 31 29.9 +0.6**
KGCAE Kacgae 60.85 209 P **P 17 31 36.5 +1.0**
NEEM North Greenlan 61.02 346 *i* P **P 17 31 36.0 -0.2**
NEEM IAmb IAmb 17 31 38.3
comp=Z,7.2nm,0.6s
LBTB Lobatse 61.49 205 LR LR 17 59 13.7
comp=Z,205nm,19.0s,baz=28,slow=37
KSI Kapahiang 61.55 115 P **P 17 31 41.6 +1.2**
KOOLE Kule 61.83 211 **P 17 31 42.7 +0.5**
LKGWB Lokgwabe 62.38 209 P **P 17 31 44.9 -0.9**
KSRS Korea Array 62.61 61 P **P 17 31 47.0 -0.2**
comp=Z,2.6nm,0.6s,baz=286,slow=6.8,SNR=12
KSRS LR LR 18 02 19.4
comp=Z,42µm,19.3s,baz=185,slow=39
comp=Z,2.6nm,0.6s

DY2G Dye2 63.13 333 *i* P **P 17 31 48.4 -2.1**
USRK Ussuriysk Ar. 63.15 53 P **P 17 31 50.5 -0.2**
comp=Z,5.1nm,0.8s,baz=319,slow=6.4,SNR=6.4
comp=Z,5.1nm,0.8s
MDSI Maura Dua 63.30 115 P **P 17 31 50.0 -2.0**
comp=Z,15nm,0.9s
LWLI Liwa 63.54 115 P **P 17 31 52.8 -1.0**
SFJD Kangerlussuaq 64.56 335 LR LR 18 00 33.1
comp=Z,80nm,19.2s,baz=54,slow=36
BOSA Boshof 64.91 204 P **P 17 32 03.2 +0.8**
comp=Z,5.9nm,0.8s,baz=28,slow=7.4,SNR=9.1
BOSA LR LR 18 01 26.0
comp=Z,126nm,18.9s,baz=14,slow=37
comp=Z,5.9nm,0.8s
SBUM Sibu 65.59 103 P **P 17 32 07.1 0.0**
SBUM Sibu 65.59 103 P **P 17 32 07.7 +0.6**
KKM Kota Kinabalu 66.95 98 P **P 17 32 16.4 +0.4**
KKM Kota Kinabalu 66.95 98 P **P 17 32 17.5 +1.6**
SEY Seymchan 67.15 29 *e*P **P 17 32 15.6 -0.7**
SEY pmax pmax
comp=Z,30nm,1.2s
YSS Yuzhno-Sakhali 69.08 47 *e*P **P 17 32 29.0 +0.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 69.47 21 P **P 17 32 31.7 +0.9**
BILL IAmb IAmb 17 32 33.1
comp=Z,15nm,1.2s
BILL Bilibino 69.47 21⇑*i* P **P 17 32 31.4 +0.6**
BILL pmax pmax
comp=Z,14nm,1.1s
RES Resolute Bay 70.76 351 LR LR 18 05 23.7
comp=Z,34nm,19.0s,baz=2.0,slow=37
FRB Frobisher Bay 72.65 336 LR LR 18 05 04.7
comp=Z,54nm,18.3s,baz=58,slow=36
A21K Barrow 74.97 9 P **P 17 33 03.9 +0.3**
baz=337
A19K Wainwright 75.37 10 P **P 17 33 06.2 +0.3**
baz=334
A22K Sinclair Lake 75.47 8 P **P 17 33 06.1 -0.4**
baz=339
A36M Sachs Harbour 75.92 358 P **P 17 33 09.0 0.0**
A36M Sachs Harbour 75.92 358 P **P 17 33 09.1 +0.1**
baz=4.4
B18K Kokolik River 76.01 11 P **P 17 33 08.3 -1.3**
baz=333
B20K Meade River 76.12 9 P **P 17 33 10.4 +0.3**
baz=337
B22K Teshekpuk Lake 76.28 8 P **P 17 33 10.2 -0.9**
baz=340
C16K Lisburne Hills 76.36 13 P **P 17 33 10.7 -0.8**
baz=330
C17K DeLong Mountai 76.57 12 P **P 17 33 12.6 -0.2**
baz=332
C19K Lookout Ridge 76.59 10 P **P 17 33 12.8 -0.2**
baz=335
C18K Utukok River 76.75 11 P **P 17 33 13.3 -0.6**
baz=334
B21K Ikpikpuk River 76.81 9 P **P 17 33 13.6 -0.5**
baz=339
RDOG Red Dog Mine 76.99 12 P **P 17 33 14.6 -0.6**
baz=332
C23K Itkillik River 77.07 7 P **P 17 33 15.6 0.0**
baz=342
C21K Knifeblade Rid 77.22 9 P **P 17 33 16.6 +0.1**
baz=339
D17K Noatak River 77.28 12 P **P 17 33 17.1 +0.4**
baz=332
C24K Franklin Bluff 77.37 6 P **P 17 33 17.5 +0.3**
baz=344
D19K Kuna River 77.37 10 P **P 17 33 17.7 +0.3**
baz=336
D20K Etivluk River 77.39 10 P **P 17 33 17.6 +0.2**
baz=337
C26K Camden Bay 77.50 5 P **P 17 33 18.2 +0.2**
baz=347
SCHQ Schefferville 77.58 328 P **P 17 33 18.1 -0.7**
comp=Z,39nm,0.7s,baz=32,slow=8.3,SNR=4.8
comp=Z,39nm,0.7s
D22K Ayikyak River 77.75 8 P **P 17 33 19.1 -0.3**
baz=341
E20K Nigu River 77.87 10 P **P 17 33 20.6 +0.4**
baz=338
C27K Jago River 77.88 5 P **P 17 33 20.4 +0.3**
baz=348
D23K Nanushuk River 77.89 7 P **P 17 33 19.5 -0.7**
baz=342
D24K Happy Valley 77.91 7 P **P 17 33 19.2 -1.0**
baz=344
E18K Tukpahlearik C 77.96 12 P **P 17 33 20.7 +0.1**
baz=334
D25K Kavik River 77.97 6 P **P 17 33 20.0 -0.7**
baz=346
E21K Killik River 78.00 9 P **P 17 33 21.0 +0.2**
baz=340
E17K Hotham Inlet 78.05 12 P **P 17 33 20.9 -0.2**
baz=333
TNA Tin City 78.17 15 P **P 17 33 21.4 -0.4**
baz=328
TOLK Toolik Lake Re 78.32 7 P **P 17 33 22.0 -0.7**
baz=344
D27M Malcolm River 78.43 4 P **P 17 33 22.0 -1.3**
baz=351
D28M Stokes Point 78.46 3 P **P 17 33 23.3 0.0**
baz=353
E19K Redstone River 78.46 10 P **P 17 33 23.3 -0.1**
baz=337
C36M Paulatuk 78.53 358 P **P 17 33 23.0 -0.7**
baz=5.4
E22K Anaktuvuk Pass 78.56 8 P **P 17 33 22.8 -1.1**
baz=342
F14K Arctic Creek 78.59 15 P **P 17 33 22.8 -1.3**
baz=330
F17K Baldwin Pennin 78.73 12 P **P 17 33 24.7 -0.1**
baz=334
F15K North Star Dit 78.73 14 P **P 17 33 24.4 -0.5**
baz=331
F18K Selawik 78.86 12 P **P 17 33 25.6 0.0**
baz=335
E23K Chandalar 78.88 7 P **P 17 33 24.8 -0.9**
baz=344
F19K Shaleruckik Mo 78.96 11 P **P 17 33 25.4 -0.7**
baz=337
E24K Your Creek 78.98 7 P **P 17 33 25.6 -0.7**
E24K IAmb IAmb 17 33 33.4
comp=Z,29nm,1.6s
E24K Your Creek 78.98 7 P **P 17 33 26.2 -0.1**
baz=344
F20K Avaraart Lake 79.07 10 P **P 17 33 26.2 -0.4**
baz=338
F22K John River 79.11 8 P **P 17 33 27.2 +0.3**
baz=341
E28M Babbage River 79.14 3 P **P 17 33 27.4 +0.3**
baz=352
E25K Arctic Village 79.21 6 P **P 17 33 26.8 -0.7**
E25K IAmb IAmb 17 33 36.2
comp=Z,11nm,0.8s
E25K Arctic Village 79.21 6 P **P 17 33 27.8 +0.2**
baz=347
F21K Alatna River 79.21 9 IAmb IAmb 17 33 40.5
comp=Z,20nm,1.5s
F21K Alatna River 79.21 9 P **P 17 33 27.3 -0.3**
baz=340
E29M Blow River 79.43 3 IAmb IAmb 17 33 31.3
comp=Z,23nm,1.2s
E29M Blow River 79.43 3 P **P 17 33 28.6 -0.1**
baz=354
E27K Coleen River 79.44 4 IAmb IAmb 17 33 31.6
comp=Z,26nm,1.3s
E27K Coleen River 79.44 4 P **P 17 33 28.7 -0.1**
baz=350
G16K Koyuk River 79.46 13 P **P 17 33 29.3 +0.5**
baz=333
G15K Niukluk 79.48 14 P **P 17 33 29.3 +0.3**
baz=332
F24K Squaw Lake 79.58 7 P **P 17 33 30.1 +0.5**
baz=345
ANM Nome 79.58 15 P **P 17 33 29.6 0.0**
baz=330
COLD Coldfoot 79.61 8 IAmb IAmb 17 33 31.9
comp=Z,25nm,1.4s
COLD Coldfoot 79.61 8 P **P 17 33 29.0 -0.7**
baz=343
INK Inuvik 79.65 1 P **P 17 33 29.7 -0.1**
baz=357
G18K Tagagawik 79.67 11 P **P 17 33 30.0 0.0**
baz=336
G17K Kiwalik Mounta 79.68 12 P **P 17 33 30.5 +0.5**
baz=334

F25K Christian Rive 79.72 6 P **P 17 33 30.0 -0.3**
F25K IAmb IAmb 17 33 43.3
comp=Z,9.3nm,1.1s
F25K Christian Rive 79.72 6 P **P 17 33 29.9 -0.5**
baz=347
F26K Sheenjek River 79.74 5 P **P 17 33 29.9 -0.6**
baz=348
G22K Bettles 79.75 8 P **P 17 33 29.9 -0.5**
baz=342
G21K Allakaket 79.88 9 IAmb IAmb 17 33 32.7
comp=Z,8.4nm,0.9s
G21K Allakaket 79.88 9 P **P 17 33 30.2 -1.0**
baz=340
F28M Old Crow 80.11 4 P **P 17 33 31.5 -0.9**
baz=352
G23K Bananza Creek 80.13 8 IAmb IAmb 17 33 41.8
comp=Z,8.4nm,0.9s
G23K Bananza Creek 80.13 8 P **P 17 33 31.4 -1.1**
baz=343
H16K Elim 80.16 13 P **P 17 33 32.0 -0.7**
baz=333
F30M Barrier River 80.29 2 IAmb IAmb 17 33 34.6
comp=Z,19nm,0.9s
F30M Barrier River 80.29 2 P **P 17 33 32.7 -0.7**
baz=355
H17K Granite Mounta 80.33 12 P **P 17 33 33.7 +0.1**
baz=335
H19K Roundabout Mou 80.37 11 P **P 17 33 33.5 -0.2**
H19K IAmb IAmb 17 33 35.8
comp=Z,11nm,1.1s
H19K Roundabout Mou 80.37 11 P **P 17 33 33.9 +0.1**
baz=338
H18K Honhosa River 80.41 12 P **P 17 33 34.0 -0.1**
baz=336
G24K Hadweenzic Riv 80.42 7 IAmb IAmb 17 33 36.7
comp=Z,17nm,1.2s
G24K Hadweenzic Riv 80.42 7 P **P 17 33 34.0 -0.1**
baz=345
G25K Bearman Lake 80.49 6 P **P 17 33 34.3 0.0**
baz=346
G26K Porcupine Rive 80.50 5 IAmb IAmb 17 33 37.6
comp=Z,15nm,1.2s
G26K Porcupine Rive 80.50 5 P **P 17 33 34.5 +0.1**
baz=348
F31M Tsiigehtchic 80.51 1 P **P 17 33 34.7 +0.2**
baz=357
H20K Anotleneega Mo 80.65 10 P **P 17 33 35.2 -0.1**
baz=339,SNR=7.9
G27K Doyon Strip 80.80 5 IAmb IAmb 17 33 38.6
comp=Z,8.5nm,1.0s
G27K Doyon Strip 80.80 5 P **P 17 33 36.6 +0.4**
baz=350,SNR=6.7
G29M Pine Creek 80.90 3 P **P 17 33 36.9 +0.2**
baz=353
G30M tAoh Zraii Nji 80.91 2 P **P 17 33 36.7 0.0**
baz=355,SNR=7.7
H25L Birch Creek 81.00 6 P **P 17 33 36.5 -0.6**
baz=347
G31M Satah River 81.02 2 P **P 17 33 37.0 -0.3**
G31M Satah River 81.02 2 P **P 17 33 36.9 -0.3**
baz=357,SNR=12
GCSA Galena City Sc 81.03 11 P **P 17 33 36.6 -0.7**
baz=338
H23K Yukon River 81.04 8 P **P 17 33 37.8 +0.3**
baz=344
I17K Unalakleet 81.14 13 P **P 17 33 37.8 -0.1**
baz=334
I21K Tanana 81.35 9 P **P 17 33 39.0 0.0**
baz=342
I20K Naaghedeneel 81.36 10 P **P 17 33 39.1 0.0**
I20K Naaghedeneel 81.36 10 P **P 17 33 39.0 0.0**
baz=340
H27K Steamboat Moun 81.38 5 IAmb IAmb 17 33 41.7
comp=Z,16nm,1.1s
H27K Steamboat Moun 81.38 5 P **P 17 33 38.3 -1.0**
baz=350,SNR=5.7
EPYK Eagle Plains 81.50 3 P **P 17 33 39.7 -0.2**
baz=354
J14K Nanvaranak Lak 81.57 15 P **P 17 33 39.9 -0.3**
baz=332
H29M Whitestone 81.58 3 IAmb IAmb 17 33 42.0
comp=Z,15nm,1.0s
H29M Whitestone 81.58 3 P **P 17 33 39.9 -0.3**
baz=353
MLY Manley 81.66 9 P **P 17 33 40.9 +0.2**
baz=343
J16K Anvik River 81.70 13 P **P 17 33 41.1 +0.2**
baz=334
I23K Minto, Yukon-K 81.71 8 IAmb IAmb 17 33 43.4
comp=Z,18nm,1.4s
I23K Minto, Yukon-K 81.71 8 P **P 17 33 41.0 +0.1**
baz=344
PRP Porcupine Dome 81.76 6 P **P 17 33 41.5 +0.1**
baz=347
POKR Poker Plat Res 81.96 7 P **P 17 33 42.2 -0.1**
baz=346
J20K Nowinta River 81.99 10 IAmb IAmb 17 33 51.1
comp=Z,7.8nm,0.7s
K13K Kusilvak Mount 82.05 16 P **P 17 33 42.6 -0.1**
baz=331
BATI Baumata 82.13 107 P **P 17 33 43.9 -0.1**
comp=Z,28nm,0.7s,baz=184,slow=2.6,SNR=6.3
comp=Z,28nm,0.7s
H31M Peel River 82.14 2 IAmb IAmb 17 33 44.6
comp=Z,14nm,1.0s
H31M Peel River 82.14 2 P **P 17 33 43.2 0.0**
baz=357
I26K Coal Creek Min 82.17 5 P **P 17 33 43.5 +0.1**
baz=349
J18K Innoko River 82.25 12 P **P 17 33 44.2 +0.4**
baz=338
I28M Miner Creek 82.26 4 P **P 17 33 43.8 -0.2**
I28M Miner Creek 82.26 4 P **P 17 33 44.4 +0.4**
baz=352
NEA2 Nenana 82.28 8 P **P 17 33 44.8 +0.8**
baz=344
ILAR Eielson Array 82.35 7 P **P 17 33 44.4 +0.1**
comp=Z,2.8nm,1.0s,baz=336,slow=4.3,SNR=16
comp=Z,2.8nm,1.0s
K15K Wolf Creek Mou 82.41 14 P **P 17 33 44.9 +0.3**
baz=334
I29M Ogilvie Camp, 82.44 3 IAmb IAmb 17 33 50.0
comp=Z,11nm,1.1s
I29M Ogilvie Camp, 82.44 3 P **P 17 33 45.6 +0.8**
baz=353
BPAW Bear Paw Mtn. 82.52 9 P **P 17 33 45.9 +0.7**
baz=342,SNR=8.1
CHUM Lake Minchumin 82.54 10 P **P 17 33 45.7 +0.4**
baz=341,SNR=7.0
K17K Iditarod 82.66 13 P **P 17 33 46.4 +0.4**
baz=336
I30M Mount Dempster 82.66 3 IAmb IAmb 17 33 47.6
comp=Z,12nm,0.9s
I30M Mount Dempster 82.66 3 P **P 17 33 46.7 +0.6**
baz=355,SNR=11
HDA Harding Lake 82.70 7 P **P 17 33 47.1 +0.9**
baz=346
EGAK Eagle 82.84 5 P **P 17 33 47.2 +0.4**
baz=351,SNR=7.4
L15K Ungalak Mounta 82.97 14 P **P 17 33 48.4 +0.9**
baz=334
L14K Kuka Creek 83.01 15 P **P 17 33 48.1 +0.3**
baz=333
M11K Mekoryuk 83.03 17 P **P 17 33 48.6 +0.7**
baz=330
MCK McKinley 83.13 8 P **P 17 33 48.7 +0.3**
MCK McKinley 83.13 8 P **P 17 33 48.7 +0.3**
MCK pmax pmax
comp=Z,34nm,1.5s
MCK McKinley 83.13 8 P **P 17 33 48.4 0.0**
baz=344
L17K Donlin 83.19 13 P **P 17 33 48.0 -0.8**
baz=336
TRF Thorofare Moun 83.23 9 P **P 17 33 48.9 -0.2**
baz=343
J30M Hart River 83.31 3 P **P 17 33 49.2 -0.3**
baz=355,SNR=6.4
J29N Klondike Camp 83.34 3 P **P 17 33 48.8 -0.8**
baz=353
L16K Owhat River 83.35 14 P **P 17 33 49.7 +0.2**
baz=336
K24K Donnelly Dome 83.41 7 P **P 17 33 49.3 -0.6**
baz=347,SNR=5.5
SCRK Sand Creek 83.41 6 P **P 17 33 49.8 -0.2**
baz=348,SNR=9.0
PPLA Purkeypile 83.50 10 P **P 17 33 49.7 -0.7**
baz=342
K27K Chicken 83.52 5 P **P 17 33 50.0 -0.3**

baz=350
RIDG Independent Ri 83.57 6 P P 17 33 50.7 0.0
baz=348
DAWY Dawson 83.67 4 P P 17 33 50.6 -0.7
baz=352,SNR=6.6
M13K Dall Lake 83.69 16 P P 17 33 50.5 -0.8
baz=332
M14K Bethel 83.70 15 P P 17 33 51.3 0.0
baz=334
DHY Denali Highway 83.95 8 P P 17 33 51.4 -1.5
baz=346
K29M Barlow Dome 83.99 3 P P 17 33 52.7 -0.2
K29M IAmb IAmb 17 34 03.5
comp=Z,7.2nm,0.8s
K29M Barlow Dome 83.99 3 P P 17 33 52.2 -0.8
baz=354
M15K Kasigluk River 84.03 15 P P 17 33 53.0 -0.1
baz=335
M17K Holitna River 84.03 13 P P 17 33 52.6 -0.4
baz=337
WAT1 Susitna Watana 84.05 8 P P 17 33 52.0 -1.2
baz=345
M16K Timber Creek 84.08 14 P P 17 33 52.2 -1.1
baz=336
M19K Big River Lodg 84.09 11 P P 17 33 53.0 -0.3
baz=340
CUT Chulitna 84.24 9 P P 17 33 53.2 -0.9
baz=343
M18K Stony River 84.24 12 P P 17 33 54.0 -0.1
baz=339
PAX Paxson 84.26 7 P P 17 33 53.4 -0.9
baz=347
M20K Styx River 84.32 11 P P 17 33 53.8 -0.8
baz=341
WAT6 Susitna Watana 84.39 8 P P 17 33 54.0 -1.0
baz=345
MENT Mentasta 84.46 6 IAmb IAmb 17 34 05.3
comp=Z,12nm,1.3s
SKT Skwentna 84.47 10 P P 17 33 54.8 -0.5
baz=342
L27K Beaver Creek, 84.50 5 P P 17 33 54.8 -0.7
baz=350,SNR=8.2
N14K Kuskokwak Cree 84.51 15 P P 17 33 54.6 -0.8
baz=334
N16K Nishlik Lake 84.62 14 P P 17 33 55.6 -0.5
baz=336
N15K Kwethluk River 84.63 14 P P 17 33 54.7 -1.5
baz=335
SPIA Saint Paul Isl 84.67 21 P P 17 33 54.6 -1.7
baz=327
YKA Yellowknife Ar 84.67 353 P P 17 33 55.5 -0.8
comp=Z,3.4nm,0.7s,baz=130,slow=8.5,SNR=4.8
YKA LR LR 18 14 59.1
comp=Z,33nm,18.2s,baz=319,slow=38
comp=Z,3.4nm,0.7s
L29M L29M 84.69 4 P P 17 33 55.4 -1.0
baz=353,SNR=6.2
HARP HAARP 84.85 7 P P 17 33 55.8 -1.4
baz=348
N17K Nushagak Hills 84.89 13 P P 17 33 56.1 -1.2
baz=338
M24K Tolsona, Glenn 85.03 7 P P 17 33 57.0 -1.1
baz=347
SML Sawmill 85.07 8 P P 17 33 57.2 -1.1
baz=345
SPCR Spurr Chakacha 85.11 10 P P 17 33 58.3 -0.3
baz=342
M23K Glacier View 85.16 8 P P 17 33 58.5 -0.2
baz=345
SCM Sheep Creek Mo 85.16 8 P P 17 33 58.3 -0.6
baz=346
PMR Palmer 85.17 9 P P 17 33 58.5 -0.3
PMR Palmer 85.17 9 P P 17 33 58.5 -0.3
PMR pmax pmax
comp=Z,66nm,1.6s
PMR Palmer 85.17 9 P P 17 33 57.9 -0.9
baz=344
O14K Tigyukauivet M 85.20 15 P P 17 33 58.2 -0.7
baz=334
M30M Minto, Yukon 85.29 3 P P 17 33 58.9 -0.5
baz=354
M29M Somme Creek 85.33 4 P P 17 33 59.5 -0.2
M29M IAmb IAmb 17 34 06.5
comp=Z,17nm,1.4s
M29M Somme Creek 85.33 4 P P 17 33 58.9 -0.9
baz=353
P08K Saint George I 85.36 21 P P 17 33 59.2 -0.6
baz=328
MMPY Sheldon Lake, 85.39 0 P P 17 33 59.9 0.0
baz=359
KNK Knik Glacier 85.43 9 P P 17 33 59.0 -1.2
baz=341
O16K Kokwok River B 85.57 14 P P 17 33 59.5 -1.3
baz=337
RC01 Rabbit Creek A 85.58 9 P P 17 33 59.6 -1.3
baz=344
O15K Ungalikthiuk R 85.59 15 P P 17 33 59.8 -1.1
baz=335
O17K Koliganek Bris 85.60 13 P P 17 33 60.0 -1.0
baz=338
KLU Klutina 85.66 7 P P 17 34 01.5 +0.2
KLU Klutina 85.66 7 P P 17 34 00.7 -0.6
baz=347
N25K Chitina, Valde 85.68 7 P P 17 34 00.9 -0.6
baz=348
O19K Port Alsworth 85.72 12 P P 17 34 01.0 -0.5
baz=340
M31M Drury Creek, Y 85.75 2 P P 17 34 01.0 -0.7
baz=357
O18K Koktuh Hills 85.88 12 P P 17 34 01.2 -1.2
baz=339
PWL Port Wells 85.98 9 P P 17 34 01.9 -1.0
baz=345
MCARA McCarthy VSAT 86.05 6 P P 17 34 02.6 -0.6
baz=349
O20K Slope Mountain 86.11 11 P P 17 34 02.8 -0.8
baz=341
RKPI Ransiki, Papua 86.11 94 P P 17 34 05.6 +1.3
P16K Nushagak River 86.11 14 P P 17 34 03.3 -0.2
baz=337
GLI Glacier Island 86.12 8 P P 17 34 02.7 -0.8
baz=346
O22K Cooper Landing 86.16 10 P P 17 34 01.4 -2.3
baz=344
P17K Kvichak River 86.26 13 P P 17 34 03.2 -1.0
baz=338
P18K Big Mountain, 86.31 12 P P 17 34 04.0 -0.5
baz=339
BMRM Bremner River 86.31 7 P P 17 34 03.5 -1.0
baz=348
N30M Aishikik Lake 86.39 3 P P 17 34 04.3 -0.6
baz=354
N31M Braeburn, Yuko 86.42 3 P P 17 34 05.3 +0.3
baz=355
TGTN Hyland Airport 86.47 359 P P 17 34 04.9 -0.4
baz=1.7
SEW Seward 86.56 9 P P 17 34 04.6 -1.1
baz=344
EYAK Cordova Ski Ar 86.60 8 P P 17 34 05.5 -0.3
baz=347
CTG Chitna Glacier 86.61 5 P P 17 34 06.1 0.0
baz=351
CRQE Cirque 86.67 6 P P 17 34 04.7 -1.7
baz=349
Q16K King Salmon 86.70 13 P P 17 34 05.4 -1.0
baz=338
BRSE Bradley Lake S 86.72 10 P P 17 34 05.1 -1.4
baz=343
N32M Quiet Lake 86.83 1 P P 17 34 06.4 -0.7
baz=358
O28M Mount Upton 86.89 5 P P 17 34 06.2 -1.5
baz=352
Q18K Katmai Hardscr 87.05 13 P P 17 34 07.0 -1.3
baz=339
Q17K Contact Creek 87.24 13 P P 17 34 09.0 -0.1
baz=339
WHY Whitehorse 87.28 2 P P 17 34 08.8 -0.6
baz=356
MESA MESA 87.34 6 P P 17 34 09.0 -0.7
baz=350
KAIM Kayak Island 87.35 7 P P 17 34 08.7 -0.8
baz=348
O29M Mount Kennedy 87.46 4 P P 17 34 09.8 -0.5
baz=353
PINM Pinnacle 87.55 5 P P 17 34 09.9 -0.7
baz=352
R17L Mt. Peulik Vol 87.73 14 P P 17 34 10.6 -0.8
baz=338
P33M Teslin, Yukon 87.78 1 P P 17 34 11.3 -0.4
baz=358
PNL Peninsula 88.04 5 P P 17 34 12.5 -0.4
baz=352
R18K Karluk 88.17 13 P P 17 34 13.1 -0.3
baz=340
FITZ Fitzroy Crossi 88.19 113 P P 17 34 14.2 0.0
comp=Z,3.4nm,0.7s,baz=328,slow=0.8,SNR=6.8
comp=Z,3.4nm,0.7s
S14K Fog Glacier 88.29 16 P P 17 34 13.0 -1.3
baz=336
KDAK Kodiak Island 88.30 12 P P 17 34 13.3 -0.8
baz=341
PLBC Pleasant Camp 88.42 3 P P 17 34 14.4 -0.3
baz=355
SKAG Skagway 88.46 3 P P 17 34 14.9 +0.1
baz=356
LIRD Liard River Hi 88.54 358 P P 17 34 15.2 -0.1
baz=3.6
R33M Jennings River 88.62 0 P P 17 34 15.3 -0.5
baz=360
UNV Unalaska Valle 88.63 21 P P 17 34 15.0 -0.7
baz=330
NIKH Nikolski High 88.65 22 P P 17 34 14.1 -1.8
baz=328
OHAK Old Harbor 88.70 12 P P 17 34 14.6 -1.4
baz=341
SDPT Sand Point 88.92 17 P P 17 34 16.3 -0.8
baz=335
TOAD Toad River Com 89.07 357 P P 17 34 18.5 +0.7
baz=4.3
DLBC Dease Lake 89.58 360 LR LR 18 23 47.8
comp=Z,183nm,18.8s,baz=132,slow=42
DLBC Dease Lake 89.58 360 P P 17 34 20.6 +0.4
baz=0.2
S31K Pelican 89.92 3 P P 17 34 21.2 -0.5
baz=355
SIT Sitka 90.87 3 P P 17 34 26.4 +0.3
baz=356
WRAK Wrangell Islan 91.59 1 P P 17 34 30.2 +0.8
baz=358
U33K Whale Pass 91.88 2 P P 17 34 31.6 +0.7
baz=358
JAY Jayapura 92.16 92 P P 17 34 32.5 -0.4
comp=Z,9.7nm,0.7s,baz=250,slow=5.0,SNR=4.1
comp=Z,9.7nm,0.7s
ULM Lac du Bonnet 92.32 339 LR LR 18 17 04.8
comp=Z,57nm,18.7s,baz=2.0,slow=36
CRAG Craig 92.53 2 P P 17 34 34.4 +0.6
baz=358
V35K Ketchikan 92.69 1 P P 17 34 35.2 +0.6
baz=359
WRA Warramunga Arr 96.06 110 P P 17 34 49.5 -1.2
comp=Z,0.5nm,0.7s,baz=316,slow=4.1,SNR=15
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 96.06 110 *i* P **P 17 34 51.2 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 97.68 113 P P 17 34 57.0 -0.9
comp=Z,0.3nm,0.5s,baz=303,slow=4.7,SNR=13
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 102.89 344 PKiKP PKiKP 17 39 41.2 -0.3
comp=Z,0.2nm,0.5s,baz=284,slow=2.4,SNR=1.7
NVAR Mina Array Bea 108.73 350 PKiKP PKiKP 17 39 53.6 +1.3
comp=Z,0.3nm,0.6s,baz=352,slow=3.7,SNR=3.5
QSPA South Pole Qui 122.16 180 PKP PKiKP 17 40 18.7 +1.9
comp=Z,2.8nm,0.8s,baz=213,slow=0.9,SNR=13

IDC 12 17:22:11.5±2.1, 0°.17N×125°.33E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=191.0km s-min=28.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**157**	P	P	17 27 04.5	-1.4
	0.2nm,0.4s,baz=334,slow=11,SNR=7.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**25.12**	**161**	P	P	17 27 39.2	+0.9
	0.3nm,0.4s,baz=345,slow=11,SNR=19						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.71**	**327**	P	P	17 32 17.9	-0.2
	0.3nm,0.8s,baz=121,slow=5.8,SNR=1.8						
	0.3nm,0.8s						

*DJA **12** 17:30:57.8±0.4, 2°.N±3°.×12°.9E±°, h10km, M4.6/17, mB5.0/7, mb4.8/12, MLv4.7/17, Mw(mB)4.3/7*
*IDC **12** 17:30:58.5±2.8, 2°.56N×128°.93E, h30km±18km, mb4.0/14, mbtmp4.2/14, MS3.5/9, Error ellipse: s-maj=32.7km s-min=12.9km az=72.0*
*NEIC **12** 17:30:59.4±1.1, 2°.45N±0°.07×128°.81E±0°.07, h40km±9km, mb4.6/36, Error ellipse: s-maj=11.1km s-min=9.0km az=220.0*

ISC 12 17:30:59.2±0.4, 2°.51N±0°.05×128°.86E±0°.06, h35km, n105, σ1877/102, mb4.6/34, MS3.5/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.28**	**221**		**Pn**	**17 31 34.4**	**+0.1**
TNTI				Sn	**Sn**	17 31 56.4	-4.9
TNTI	**Ternate**	**2.28**	**221**	P	**Pn**	17 31 35.4	+1.0
TNTI	**Ternate**	**2.28**	**221**	P	**Pn**	17 31 36.4	+2.0
TNTI				S	**Sn**	17 32 04.2	+2.9
SGSI	**Sangihe**	**3.53**	**289**	P	**Pn**	17 31 50.0	-1.5
SWI	**Sorong**	**4.12**	**144**	P	**Pn**	17 32 00.2	+0.6
SWI				S	**Sn**	17 32 43.8	-2.8
KMSI	**Cibinong**	**5.24**	**249**	P	**Pn**	17 32 16.4	+1.3
SANI	**Sanana**	**5.36**	**212**	P	**Pn**	17 32 17.7	+1.0
SANI	**Sanana**	**5.36**	**212**	P	**Pn**	17 32 18.5	+1.8
DAV	**Davao City (W)**	**5.59**	**324**	Pn	**Pn**	17 32 20.3	+0.4
MSAI	**Masohi**	**5.81**	**179**	P	**Pn**	17 32 26.1	+3.1
	0.3nm1μm71nm,0.7s						
MSAI				S	**Sn**	17 33 30.4	+1.9
	0.3nm1μm71nm,0.7s						
NLAI	**Namlea**	**5.97**	**197**	P	**Pn**	17 32 25.1	-0.1
	0.2nm37nm,0.7s						
NLAI				S	**Sn**	17 33 36.8	+4.4
	0.2nm37nm,0.7s						
FAKI	**Fak Fak**	**6.37**	**148**	Pn	**Pn**	17 32 29.9	-0.6
FAKI				Sn	**Sn**	17 33 39.0	-3.1
FAKI	**Fak Fak**	**6.37**	**148**	P	**Pn**	17 32 31.2	+0.6
FAKI	**Fak Fak**	**6.37**	**148**	P	**Pn**	17 32 28.8	-1.8
	0.2nm24nm,0.7s						
RKPI	**Ransiki, Papua**	**6.65**	**127**	P	**Pn**	17 32 38.0	+3.6
	0.3nm1μm79nm,0.8s						
LUWI	**Luwuk**	**7.04**	**240**		**Pn**	17 32 39.3	-0.5
LUWI	**Luwuk**	**7.04**	**240**	P	**Pn**	17 32 42.6	+2.8
	0.5nm936nm81nm,0.9s						
MRSI	**Marisa**	**7.21**	**254**	P	**Pn**	17 32 44.1	+2.0
	0.3nm1μm83nm,1.0s						
APSI	**Ampana**	**7.97**	**245**	P	**Pn**	17 32 53.9	+1.3
TOLI2	**Tolitoli**	**8.19**	**260**		**Pn**	17 32 54.7	-1.0
TOLI2				Sn	**Sn**	17 34 22.8	-4.4
TOLI2	**Tolitoli**	**8.19**	**260**	P	**Pn**	17 32 55.7	0.0
MYLDM	**Lahad Datu**	**10.67**	**285**		**Pn**	17 33 28.9	-0.8
MYLDM	**Lahad Datu**	**10.67**	**285**	P	**Pn**	17 33 33.6	+3.9
SPSI	**Sidrap Palu**	**11.13**	**235**	P	**Pn**	17 33 35.8	-0.1
	39nm,0.7s						
BKSI	**Bulukumba**	**11.69**	**228**	P	**Pn**	17 33 46.1	+2.5
JAY	**Jayapura**	**12.85**	**113**	LR	LR	17 38 33.2	
	comp=Z,274nm,18.8s,baz=343,slow=36						
KKM	**Kota Kinabalu**	**13.09**	**286**	Pn	**Pn**	17 34 00.2	-2.7
KKM	**Kota Kinabalu**	**13.09**	**286**	P	**Pn**	17 34 05.0	+2.1
BATI	**Baumata**	**13.65**	**202**	LR	LR	17 39 47.0	
	comp=Z,204nm,20.5s,baz=17,slow=38						
TGY	**Tagaytay City**	**13.93**	**326**	LR	LR	17 39 51.5	
	comp=Z,275nm,20.0s,baz=136,slow=38						
MTN	**Manton Dam**	**15.42**	**172**		**Pn**	17 34 36.1	+1.9
PLAI	**Plampang**	**15.78**	**224**	P	**P**	17 34 43.5	+1.1
SBUM	**Sibu**	**16.63**	**270**		**Pn**	17 34 50.6	+0.9
KNRA	**Kununurra**	**18.07**	**180**		**Pn**	17 35 05.9	-1.7
JAGI	**Jajag, Banyuwa**	**18.28**	**233**		**P**	17 35 08.0	-2.1
JAGI				IAmb	IAmb	17 35 33.5	
	comp=Z,40nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.28**	**233**	P	**Pn**	17 35 12.4	+2.2
KSM	**Kuching**	**18.57**	**267**	P	**P**	17 35 11.7	-1.6
GUMO	**Guam**	**19.28**	**54**	LR	LR	17 40 28.3	
	comp=Z,15nm,20.2s,baz=234,slow=30						
SMRI	**Semarang**	**20.69**	**243**	P	**P**	17 35 33.5	-3.0
FITZ	**Fitzroy Crossi**	**20.72**	**189**	P	**P**	17 35 36.4	-0.3
	comp=Z,1.9nm,0.8s,baz=17,slow=12,SNR=6.6						
	comp=Z,1.9nm,0.8s						
UGM	**Wanagama**	**21.02**	**240**	P	**P**	17 35 42.4	+2.3
COEN	**Coen**	**21.66**	**139**		**P**	17 35 45.4	-1.5
COEN				IAmb	IAmb	17 36 03.0	
	comp=Z,25nm,1.3s						
PMG	**Port Moresby**	**21.74**	**123**	LR	LR	17 45 08.5	
	comp=Z,187nm,20.1s,baz=322,slow=39						
YULB	**Yu-li**	**22.02**	**341**	P	**P**	**17 35 49.8**	**-0.9**
YULB				IAmb	IAmb	17 36 24.6	
	comp=Z,37nm,1.4s						
TPUB	**Ta-pu**	**22.16**	**340**	P	**P**	**17 35 51.2**	**-1.0**
TPUB				IAmb	IAmb	17 36 21.1	
	comp=Z,34nm,1.1s						
TPUB	**Ta-pu**	**22.16**	**340**	P	**P**	**17 35 52.8**	**+0.6**
SSLB	**Suanglung**	**22.50**	**341**	P	**P**	**17 35 55.1**	**-0.7**
SSLB				IAmb	IAmb	17 36 35.7	
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**22.94**	**167**	P	**P**	**17 35 59.1**	**-1.4**
WRAB				IAmb	IAmb	17 36 27.1	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**22.94**	**167**	P	**P**	**17 36 01.6**	**+1.1**
WRA	**Warramunga Arr**	**22.95**	**167**	P	**P**	**17 36 00.8**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=342,slow=10,SNR=27						
WRA				ScP	**ScP**	**17 43 25.5**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.8,SNR=2.1						
	comp=Z,4.9nm,0.8s						
LEM	**Lembang**	**23.14**	**246**	P	**P**	**17 36 04.2**	**+1.4**
	comp=Z,24nm,0.5s,baz=99,slow=9.4,SNR=6.6						
	comp=Z,24nm,0.5s						
YHNB	**Yeheng**	**23.19**	**342**	P	**P**	**17 36 02.5**	**-0.6**
YHNB				IAmb	IAmb	17 36 37.5	
	comp=Z,32nm,1.2s						
MYKOM	**Kota Tinggi**	**25.00**	**269**	P	**P**	**17 36 18.8**	**-1.3**
MBWA	**Marble Bar**	**25.16**	**200**	P	**P**	**17 36 19.9**	**-1.4**
MBWA				IAmb	IAmb	17 36 45.9	
	comp=Z,22nm,1.2s						
QIS	**Mount Isa**	**25.23**	**156**	P	**P**	**17 36 23.4**	**+1.4**
PSA00	**Pilbara Seismi**	**25.50**	**200**	P	**P**	**17 36 22.3**	**-2.2**
PSA00	**Pilbara Seismi**	**25.50**	**200**	P	**P**	**17 36 22.8**	**-1.7**
PSA00				IAmb	IAmb	17 36 25.3	
	comp=Z,14nm,1.0s						
ASAR	**Alice Springs**	**26.47**	**170**	P	**P**	**17 36 34.1**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=352,slow=8.7,SNR=70						
ASAR				PcP	**PcP**	**17 39 57.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=334,slow=3.1,SNR=1.7						
ASAR				ScP	**ScP**	**17 43 35.7**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=342,slow=3.3,SNR=4.4						
ASAR				LR	LR	17 49 03.8	
	comp=Z,82nm,18.5s,baz=334,slow=41						
	comp=Z,2.2nm,0.7s						
NJ2	**Nanjing**	**30.86**	**343**	*e*P	**P**	**17 37 13.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FORT	**Forrest**	**33.11**	**181**	P	**P**	**17 37 30.9**	**-1.1**
FORT				IAmb	IAmb	17 37 43.5	
	comp=Z,6.2nm,0.8s						
HNR	**Honiara**	**33.16**	**111**	LR	LR	17 51 00.7	
	comp=Z,80nm,20.0s,baz=3.0,slow=36						
CMAR	**Chiang Mai Arr**	**33.32**	**300**	P	**P**	**17 37 34.8**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=117,slow=7.6,SNR=13						
CMAR				ScP	**ScP**	**17 43 59.0**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=149,slow=3.6,SNR=5.1						
	comp=Z,1.2nm,0.9s						
CHTO	**Chiang Mai**	**33.47**	**301**	P	**P**	**17 37 34.0**	**-1.3**
MORW	**Morawa**	**33.72**	**200**	P	**P**	**17 37 35.5**	**-1.9**
MORW				IAmb	IAmb	17 38 13.4	
	comp=Z,12nm,1.1s						
PZH	**PanZhiHua**	**35.30**	**315**	P	**P**	**17 37 52.7**	**+1.4**
BBOO	**Buckleboo**	**35.78**	**170**	P	**P**	**17 37 53.4**	**-1.7**
STKA	**Stephens Creek**	**36.27**	**162**	P	**P**	**17 38 00.1**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=335,slow=11,SNR=7.6						
	comp=Z,2.6nm,0.6s						
XAN	**Xi'an**	**36.48**	**332**	P	**P**	**17 38 03.4**	**+2.3**
XAN				pP	pwP	17 38 15.6	+2.3
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.31**	**64**	T	T	18 21 48.5	
	baz=251,slow=75,SNR=63						
H11S2	**WAKE ISLAND Hy**	**40.32**	**64**	T	T	18 21 47.0	
	baz=251,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**40.32**	**64**	T	T	18 21 44.4	
	baz=251,slow=75,SNR=32						
LZDM	**Lanzhou Array**	**40.62**	**328**	LR	LR	17 56 15.0	
	comp=Z,113nm,19.5s,baz=10.0,slow=37						
LZH	**Lanzhou**	**40.64**	**328**	*e*P	**P**	**17 38 40.1**	**+3.9**
LZH				pP	sP	17 38 55.2	+5.4
LZH				sP	pP	17 39 01.1	+15
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.89**	**62**	T	T	18 22 22.2	
	baz=250,slow=75,SNR=88						
H11N2	**WAKE ISLAND Hy**	**40.90**	**62**	T	T	18 22 30.0	
	baz=250,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**40.91**	**62**	T	T	18 22 23.5	
	baz=250,slow=75,SNR=70						
HHC	**Hu-ho-hao-te**	**41.24**	**340**	*e*P	**P**	**17 38 42.7**	**+1.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
XLT	**XiLinHaoTe**	**42.75**	**346**	*e*P	**P**	**17 38 54.0**	**+0.7**
XLT				sP	pwP	17 39 12.3	+9.1
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA	**Gaotai**	**45.24**	**328**	*e*P	**P**	**17 39 14.0**	**+0.6**
GTA				pP	sP	17 39 26.2	-0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**49.15**	**340**	P	**P**	**17 39 44.2**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=162,slow=11,SNR=7.3						
	comp=Z,1.3nm,0.5s						
WMQ	**Urumqi**	**54.95**	**324**	*e*P	**P**	**17 40 29.2**	**+2.3**
WMQ				LR	LR		
	comp=Z,140nm,16.9s						
MKAR	**Makanchi Array**	**59.77**	**325**	P	**P**	**17 41 00.9**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=118,slow=8.3,SNR=57						
	comp=Z,4.4nm,0.5s						
MAKZ	**Makanchi**	**59.96**	**325**	P	**P**	**17 41 01.5**	**-0.6**
KSH	**Kashi**	**60.41**	**315**	P	**P**	**17 41 07.6**	**+2.2**
SHEM	**Shemya Is, Ala**	**62.46**	**29**	LR	LR	18 02 37.9	
	comp=Z,45nm,21.1s,baz=248,slow=30						
ZALV	**Zalesovo Beam**	**62.64**	**332**	P	**P**	**17 41 19.3**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=114,slow=6.2,SNR=9.6						
	comp=Z,1.4nm,0.6s						
ARSB	**Arslanbob**	**63.21**	**316**	P	**P**	**17 41 22.2**	**-2.1**
KURK	**Kurchatov**	**63.91**	**327**		**P**	**17 41 27.7**	**-0.9**
KURBB	**Kurchatov Arra**	**63.91**	**327**	P	**P**	**17 41 28.2**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=125,slow=6.2,SNR=58						
	comp=Z,6.5nm,0.6s						
GAR	**Garm**	**64.31**	**312**	P	**P**	**17 41 30.6**	**-1.0**
C18K	**Utukok River**	**80.45**	**20**	P	**P**	**17 43 07.5**	**+0.3**
C19K	**Lookout Ridge**	**81.14**	**20**	P	**P**	**17 43 12.0**	**+1.2**
D19K	**Kuna River**	**81.49**	**21**	P	**P**	**17 43 13.5**	**+0.8**
VNDA	**Vanda**	**81.96**	**173**	P	**P**	**17 43 15.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=315,slow=4.7,SNR=2.5						
	comp=Z,0.4nm,0.6s						
D20K	**Etivluk River**	**82.08**	**21**	P	**P**	**17 43 16.9**	**+1.2**
RAYN	**Ar Rayn**	**82.92**	**293**		**P**	**17 43 19.0**	**-2.1**
RAYN				IAmb	IAmb	17 43 35.2	
	comp=Z,3.6nm,1.1s						
MAW	**Mawson**	**83.36**	**201**	P	**P**	**17 43 21.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=45,slow=2.9,SNR=4.1						
	comp=Z,0.8nm,0.8s						
E22K	**Anaktuvuk Pass**	**83.71**	**22**	P	**P**	**17 43 25.5**	**+1.2**
E22K				IAmb	IAmb	17 43 42.2	
	comp=Z,6.8nm,1.0s						
G23K	**Bananza Creek**	**84.19**	**23**	P	**P**	**17 43 27.0**	**+0.2**
G23K				IAmb	IAmb	17 43 38.1	
	comp=Z,5.1nm,1.0s						
I23K	**Minto, Yukon-K**	**84.28**	**25**	P	**P**	**17 43 27.4**	**+0.3**
I23K				IAmb	IAmb	17 43 42.4	
	comp=Z,5.8nm,1.2s						
SCM	**Sheep Creek Mo**	**84.87**	**28**	P	**P**	**17 43 30.2**	**-0.1**
ILAR	**Eielson Array**	**85.29**	**25**	P	**P**	**17 43 32.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=246,slow=4.9,SNR=4.3						
	comp=Z,0.2nm,0.5s						
I28M	**Miner Creek**	**88.24**	**25**	P	**P**	**17 43 47.6**	**+0.9**
I28M				IAmb	IAmb	17 44 21.2	
	comp=Z,7.0nm,1.5s						
ARCES	**ARCESS Array B**	**92.32**	**340**	P	**P**	**17 44 04.3**	**-1.3**
	comp=Z,3.1nm,1.1s,baz=74,slow=4.9,SNR=5.3						
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**125.32**	**288**	PKP	**PKPdf**	**17 49 57.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=32,slow=2.5,SNR=2.2						

*AFAD **12** 17:41:09.0, 35°.18N×21°.31E, h15km, MW4.0*
*MOS **12** 17:41:14.5±1.2, 35°.71N×21°.98E, h15km, mb4.8/8, Error ellipse: s-maj=8.4km s-min=4.1km az=83.5*
*IDC **12** 17:41:14.8±0.6, 35°.86N×22°.14E, h0km, mb4.1/17,*

mbtmp4.0/28, ML3.6/10, MS3.3/11, Error ellipse: s-maj=14.5km s-min=12.1km az=167.0
NEIC **12** *17:41:17.3±1.4, 35°.85N±0°.05×22°.06E±0°.07, h18km±4km, mb4.5/41, Error ellipse: s-maj=9.1km s-min=6.3km az=50.0*
MCSM **12** *17:41:18.7±2.4, 36°.N±6°.×2°.2E±°., h17km±21km, mb4.0, mB4.3, MLv4.1, Mw(mB)3.4*
PDG **12** *17:41:19.1±0.1, 36°.12N×21°.73E, h12km±7km, ML3.8/10, Error ellipse: s-maj=8.1km s-min=6.2km az=90.0*
ATH **12** *17:41:19.4±0.6, 35°.82N×22°.09E, h10km±3km, ML3.7/30, Manual Solution by N.Liadopoulou First location: 2019/10/12 17:42:35, This location: 2019/10/12 17:49:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
THE **12** *17:41:21.3, 36°.N±4°.×2°.2E±°., h73km±16km, M4.0/51, mb4.3/6, MLh3.6/51*
NAO **12** *17:41:49.1, 39°.11N×21°.56E, h10km, mb3.8*
ISC 12 17:41:17.4±0.9, 35°.81N±0°.03×21°.98E±0°.03, h26km±6km, n369, σ2°50/402, mb4.5/40, MS3.2/6, 14C-13D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**0.98**	**63**	P	**Pb**	**17 41 37.1**	**+1.2**
MTHA	**Methoni**	**1.03**	**348**	P	**Pb**	**17 41 39.4**	**+2.8**
MTHA				S	**Sb**	**17 41 54.5**	**+4.7**
ANKY	**Antikythira Is**	**1.07**	**86**	P	**Pb**	**17 41 39.1**	**+1.7**
ANKY				S	**Sb**	**17 41 53.9**	**+2.9**
ANKY	**Antikythira Is**	**1.07**	**86**	P	**Pb**	**17 41 38.6**	**+1.3**
ANKY				S	**Sb**	**17 41 52.2**	**+1.2**
PYL2	**Kinigos**	**1.11**	**349**	P	**Pb**	**17 41 38.8**	**+0.7**
PYL2				S	**Sb**	**17 41 55.4**	**+3.3**
PYL1	**Pylos**	**1.13**	**348**	P	**Pb**	**17 41 39.8**	**+1.5**
PYL1				S	**Sb**	**17 41 55.8**	**+3.3**
VLI	**Veliai**	**1.19**	**40**	P	**Pb**	**17 41 40.7**	**+1.3**
VLI				S	**Sb**	**17 41 57.7**	**+3.3**
VLI	**Veliai**	**1.19**	**40**	P	**Pb**	**17 41 40.6**	**+1.2**
VLI				S	**Sb**	**17 41 56.6**	**+2.2**
MNVA	**Monemvasia**	**1.23**	**44**	P	**Pb**	**17 41 41.6**	**+1.7**
ITM	**Ithomi**	**1.37**	**358**		**Pb**	**17 41 42.8**	**+0.4**
ITM				Sn	**Sn**	**17 41 57.8**	**-0.4**
ITM	**Ithomi**	**1.37**	**358**	P	**Pb**	**17 41 43.7**	**+1.3**
VLX	**Vlachokerasia**	**1.59**	**12**	P	**Pb**	**17 41 47.2**	**+1.0**
CH01	**Chania**	**1.69**	**99**	P	**Pb**	**17 41 48.0**	**+0.3**
ZARO	**Zacharo**	**1.70**	**351**	P	**Pb**	**17 41 49.2**	**+1.3**
CHAN	**Chania**	**1.70**	**99**	P	**Pb**	**17 41 49.0**	**+0.9**
CHAN	**Chania**	**1.70**	**99**	P	**Pb**	**17 41 48.7**	**+0.6**
CHNB	**Souda**	**1.73**	**100**	P	**Pb**	**17 41 48.9**	**+0.4**
GVD	**Gavdhos**	**1.98**	**119**	P	**Pb**	**17 41 51.7**	**-1.1**
GVD	**Gavdhos**	**1.98**	**119**	P	**Pb**	**17 41 51.6**	**-1.1**
KRI1	**kERI**	**2.07**	**334**	P	**Pb**	**17 41 54.0**	**-0.3**
KRI1				S	**Sb**	**17 42 20.4**	**+0.7**
KRI1	**kERI**	**2.07**	**334**	P	**Pb**	**17 41 55.5**	**+1.1**
MET6	**Megalochori,Me**	**2.10**	**31**	P	**Pb**	**17 41 53.5**	**-1.2**
PRNS	**Prines Rethymn**	**2.10**	**101**	P	**Pb**	**17 41 53.2**	**-1.6**
PRNS	**Prines Rethymn**	**2.10**	**101**	P	**Pn**	**17 41 52.8**	**+1.9**
MET2	**Kameni Chora,**	**2.10**	**31**	P	**Pb**	**17 41 54.0**	**-0.9**
LTHK	**Lithakia**	**2.11**	**335**	P	**Pb**	**17 41 54.5**	**-0.4**
LTHK				S	**Sb**	**17 42 20.9**	**+0.2**
LTHK	**Lithakia**	**2.11**	**335**	P	**Pb**	**17 41 56.0**	**+1.1**
MET5	**Makryloggos,Me**	**2.12**	**31**	P	**Pb**	**17 41 53.9**	**-1.3**
MET4	**Agioí Theodoro**	**2.14**	**32**	P	**Pb**	**17 41 54.0**	**-1.5**
GUR	**Goura**	**2.15**	**8**	P	**Pb**	**17 41 55.1**	**-0.6**
GUR	**Goura**	**2.15**	**8**	P	**Pb**	**17 41 55.7**	**+0.1**
MHLO	**Agia Marina, M**	**2.15**	**65**	P	**Pb**	**17 41 54.0**	**-1.6**
MHLO				S	**Sb**	**17 42 19.9**	**-1.9**
MHLO	**Agia Marina, M**	**2.15**	**65**	P	**Pb**	**17 41 54.0**	**-1.6**
DRO	**Drossia**	**2.15**	**354**	P	**Pb**	**17 41 55.2**	**-0.5**
DRO	**Drossia**	**2.15**	**354**	P	**Pb**	**17 41 55.5**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**2.19**	**342**	P	**Pb**	**17 41 56.5**	**+0.2**
KYPS	**Kipseli, Zakin**	**2.21**	**336**	P	**Pb**	**17 41 57.6**	**+0.9**
KLV1	**Kalavrita**	**2.22**	**3**	P	**Pb**	**17 41 56.8**	**-0.2**
KLV	**Kalavryta, Ach**	**2.24**	**3**	P	**Pb**	**17 41 56.6**	**-0.5**
KLV	**Kalavryta, Ach**	**2.24**	**3**	P	**Pb**	**17 41 57.3**	**+0.1**
RLS	**Riolos of Patr**	**2.28**	**350**	P	**Pb**	**17 41 57.0**	**-0.9**
RLS	**Riolos of Patr**	**2.28**	**350**	P	**Pb**	**17 41 57.0**	**-0.9**
ORTH	**Orthonies,Zaky**	**2.29**	**334**	P	**Pb**	**17 41 57.0**	**-1.0**
LOUT	**Loutraki**	**2.32**	**20**	P	**Pb**	**17 41 57.5**	**-1.0**
LTK	**Loutraki**	**2.35**	**19**	P	**Pb**	**17 41 57.6**	**-1.5**
LTK	**Loutraki**	**2.35**	**19**	P	**Pb**	**17 41 58.3**	**-0.8**
IDI	**Anoyia**	**2.43**	**101**		**Pn**	**17 41 57.3**	**+1.8**
IDI	**Anoyia**	**2.43**	**101**	P	**Pn**	**17 41 57.6**	**+2.1**
IDI	**Anoyia**	**2.43**	**101**	Pn	**Pb**	**17 41 58.7**	**-1.7**
	13nm,0.3s,baz=317,slow=12,SNR=97						
IDI				Sn	**Sb**	**17 42 29.4**	**-0.6**
	26nm,0.3s,baz=329,slow=20,SNR=6.2						
IDI	**Anoyia**	**2.43**	**101**	P	**Pn**	**17 41 57.8**	**+2.3**
AXS	**Araxos**	**2.43**	**349**	P	**Pb**	**17 41 59.7**	**-0.7**
UPR	**University Cam**	**2.48**	**356**	P	**Pb**	**17 42 00.4**	**-0.8**
VLY	**Voula,Athens**	**2.51**	**35**	P	**Pn**	**17 41 58.6**	**+2.1**
LVRA	**Laurium**	**2.53**	**41**	P	**Pn**	**17 41 59.0**	**+2.2**
PSDA	**Pessada-Kefalo**	**2.56**	**335**	P	**Pn**	**17 41 59.9**	**+2.7**
ATH	**Athens Observa**	**2.57**	**32**	P	**Pb**	**17 42 03.0**	**+0.2**
ATH	**Athens Observa**	**2.57**	**32**	P	**Pb**	**17 42 00.6**	**-2.2**
MAGU	**Magoula**	**2.58**	**28**	P	**Pn**	**17 41 59.9**	**+2.5**
MAGU	**Magoula**	**2.58**	**28**	P	**Pb**	**17 42 00.9**	**-2.0**
KALE	**Kalithea**	**2.58**	**3**	P	**Pb**	**17 42 01.4**	**-1.6**
VILL	**Villia**	**2.58**	**24**	P	**Pn**	**17 42 00.5**	**+2.9**
ATHU	**Athens Univers**	**2.60**	**33**	P	**Pn**	**17 41 59.5**	**+1.8**
VIL2	**Platees**	**2.61**	**23**	P	**Pn**	**17 42 00.7**	**+2.7**
VLS	**Valsamata**	**2.61**	**335**	P	**Pn**	**17 42 00.0**	**+2.0**
VLS	**Valsamata**	**2.61**	**335**	P	**Pn**	**17 42 00.6**	**+2.7**
EFP	**Efpalio**	**2.62**	**359**	P	**Pb**	**17 42 02.5**	**-1.1**
STFN	**Stefani**	**2.68**	**27**	P	**Pb**	**17 42 02.4**	**-2.2**
STFN	**Stefani**	**2.68**	**27**	P	**Pb**	**17 42 02.7**	**-1.9**
PTL	**Penteli**	**2.70**	**33**	P	**Pn**	**17 42 00.9**	**+1.7**
PTL	**Penteli**	**2.70**	**33**	P	**Pn**	**17 42 01.2**	**+2.0**
DION	**Dionisos Attik**	**2.75**	**34**	P	**Pn**	**17 42 02.1**	**+2.2**
DION	**Dionisos Attik**	**2.75**	**34**	P	**Pn**	**17 42 01.9**	**+2.0**
ANX	**Ano Chora**	**2.78**	**359**	P	**Pb**	**17 42 05.1**	**-1.4**
THR5	**Thira Island,**	**2.79**	**76**	P	**Pn**	**17 42 03.7**	**+3.2**
SAP3	**Santorini-Thir**	**2.80**	**76**	P	**Pn**	**17 42 01.6**	**+1.2**
PVO	**Paravola**	**2.83**	**353**	P	**Pb**	**17 42 05.8**	**-1.4**
SNT5	**Nea Kammeni, S**	**2.83**	**77**	P	**Pn**	**17 42 02.7**	**+1.9**
THR3	**Thira Island,**	**2.83**	**77**	P	**Pn**	**17 42 03.7**	**+2.8**
FSK	**Fiskardo**	**2.88**	**337**	P	**Pb**	**17 42 05.2**	**-2.8**
FSK	**Fiskardo**	**2.88**	**337**	P	**Pn**	**17 42 04.7**	**+3.1**
THERA	**Ancient Thera,**	**2.89**	**78**	P	**Pn**	**17 42 04.4**	**+2.7**
THERA	**Ancient Thera,**	**2.89**	**78**	P	**Pn**	**17 42 03.6**	**+1.9**
LKR	**Lokris**	**2.95**	**16**	P	**Pn**	**17 42 05.0**	**+2.4**
LKR	**Lokris**	**2.95**	**16**	P	**Pn**	**17 42 05.2**	**+2.6**
KARY	**Karystos**	**2.97**	**41**	P	**Pn**	**17 42 04.8**	**+2.0**
KARY	**Karystos**	**2.97**	**41**	P	**Pn**	**17 42 04.4**	**+1.6**
ATAL	**Atalanti**	**3.00**	**16**	P	**Pn**	**17 42 05.8**	**+2.6**
ATAL	**Atalanti**	**3.00**	**16**	P	**Pn**	**17 42 06.0**	**+2.7**
EVGI	**Lefkada island**	**3.00**	**340**	P	**Pn**	**17 42 06.2**	**+3.0**
AXAR	**Agios Charalam**	**3.00**	**10**	P	**Pb**	**17 42 07.0**	**-3.2**
AXAR	**Agios Charalam**	**3.00**	**10**	P	**Pb**	**17 42 07.5**	**-2.7**
NPS	**Neapolis**	**3.01**	**99**	P	**Pn**	**17 42 06.0**	**+2.6**
NPS	**Neapolis**	**3.01**	**99**	P	**Pn**	**17 42 06.3**	**+2.8**
EVR	**Evrytania**	**3.11**	**358**	P	**Pb**	**17 42 09.2**	**-2.9**
LKD2	**Lefkada island**	**3.16**	**341**	P	**Pn**	**17 42 09.2**	**+3.8**
AMPL	**Ampelaki**	**3.17**	**349**	P	**Pn**	**17 42 09.4**	**+3.9**
TSLK	**Tsoukalades, L**	**3.19**	**341**	P	**Pn**	**17 42 09.8**	**+3.9**
MAKR	**Makrakomi, Fth**	**3.20**	**2**	P	**Pn**	**17 42 10.1**	**+4.0**
MAKR	**Makrakomi, Fth**	**3.20**	**2**	P	**Pb**	**17 42 10.6**	**-3.0**
AGG	**Agios Georgios**	**3.22**	**5**	P	**Pn**	**17 42 10.1**	**+3.7**
AGG	**Agios Georgios**	**3.22**	**5**	P	**Pn**	**17 42 10.0**	**+3.7**
AGG	**Agios Georgios**	**3.22**	**5**	*i* P	**Pn**	**17 42 10.0**	**+3.7**
KYMI	**Kymi, Euboea I**	**3.29**	**30**	P	**Pn**	**17 42 09.1**	**+1.8**
TETR	**Tetrakomo, Epi**	**3.58**	**351**	P	**Pn**	**17 42 15.1**	**+3.9**
TETR	**Tetrakomo, Epi**	**3.58**	**351**	P	**Pn**	**17 42 14.3**	**+3.0**
NEO	**Neokhori**	**3.63**	**15**	P	**Pn**	**17 42 15.4**	**+3.4**
NEO	**Neokhori**	**3.63**	**15**	P	**Pn**	**17 42 14.9**	**+2.9**
AOS	**Alonnisos**	**3.68**	**24**	P	**Pn**	**17 42 15.8**	**+3.2**
THL	**Klokotos Trika**	**3.75**	**0**	P	**Pn**	**17 42 16.7**	**+3.1**
THL	**Klokotos Trika**	**3.75**	**0**	P	**Pn**	**17 42 16.6**	**+3.0**
PRMD	**Pramanda**	**3.78**	**350**	P	**Pn**	**17 42 17.7**	**+3.6**
PRMD				S	**Sn**	**17 43 01.3**	**+3.5**
IGT	**Igoumenitsa**	**3.94**	**341**	P	**Pn**	**17 42 17.9**	**+1.7**
JAN	**Janina**	**3.95**	**347**	P	**Pn**	**17 42 19.0**	**+2.7**
JAN	**Janina**	**3.95**	**347**	P	**Pn**	**17 42 19.0**	**+2.7**
KARP	**Karpathos**	**4.23**	**92**		**Pn**	**17 42 21.6**	**+1.4**
KARP				Sn	**Sn**	**17 43 06.3**	**-2.4**
KARP	**Karpathos**	**4.23**	**92**	P	**Pn**	**17 42 23.0**	**+2.8**
KARP	**Karpathos**	**4.23**	**92**	Pn	**Pn**	**17 42 23.9**	**+3.7**
KEK	**Kerkira**	**4.26**	**337**		**Pn**	**17 42 21.6**	**+0.9**
KEK				Sn	**Sn**	**17 43 11.4**	**+1.8**
LIT	**Litokhoron**	**4.31**	**5**		**Pn**	**17 42 23.4**	**+2.2**
LIT	**Litokhoron**	**4.31**	**5**	P	**Pn**	**17 42 24.2**	**+3.0**
LIT	**Litokhoron**	**4.31**	**5**	P	**Pn**	**17 42 24.4**	**+3.2**
LIT	**Litokhoron**	**4.31**	**5**	P	**Pn**	**17 42 23.4**	**+2.2**
PENT	**Pentalofos**	**4.43**	**352**	P	**Pn**	**17 42 27.2**	**+4.2**
PENT				S	**Sn**	**17 43 18.3**	**+4.5**
URLA	**Izmir**	**4.49**	**54**	P	**Pn**	**17 42 25.6**	**+1.9**
KZN	**Kozani**	**4.50**	**358**	P	**Pn**	**17 42 27.5**	**+3.5**
KZN				S	**Sn**	**17 43 19.1**	**+3.8**
KZN	**Kozani**	**4.50**	**358**	P	**Pn**	**17 42 27.4**	**+3.5**
KZN				S	**Sn**	**17 43 19.1**	**+3.8**
KTI	**Kastanea**	**4.58**	**1**	P	**Pn**	**17 42 28.6**	**+3.5**
NEST	**Nestorio**	**4.66**	**351**	P	**Pn**	**17 42 29.6**	**+3.4**
PLG	**Polygyros**	**4.70**	**14**	P	**Pn**	**17 42 29.1**	**+2.3**
PLG	**Polygyros**	**4.70**	**14**	P	**Pn**	**17 42 29.0**	**+2.3**
OUR	**Ouranopolis**	**4.79**	**19**	P	**Pn**	**17 42 30.5**	**+2.6**
OUR	**Ouranopolis**	**4.79**	**19**	P	**Pn**	**17 42 30.4**	**+2.6**
KOCA	**Canakkale, Ayv**	**4.95**	**41**	P	**Pn**	**17 42 33.8**	**+3.7**
ARG	**Arkhangelos**	**5.00**	**84**		**Pn**	**17 42 32.7**	**+1.9**
ARG				Sn	**Sn**	**17 43 24.7**	**-3.0**
ARG	**Arkhangelos**	**5.00**	**84**	P	**Pn**	**17 42 33.0**	**+2.3**
SOH	**Sokhos**	**5.12**	**12**	P	**Pn**	**17 42 35.2**	**+2.7**
	0.1nm42nm,0.7s						
SOH	**Sokhos**	**5.12**	**12**	P	**Pn**	**17 42 35.1**	**+2.7**
BOZC	**Bozcaada**	**5.16**	**37**	P	Pn	17 42 39.0	+6.0
EZN	**Ezine**	**5.28**	**39**	P	**Pn**	**17 42 38.4**	**+3.8**
EZN	**Ezine**	**5.28**	**39**	⇑P	Pn	17 42 40.9	+6.3
EZN	**Ezine**	**5.28**	**39**	⇑P	Pn	17 42 40.9	+6.3
TIP	**Timpagrande**	**5.34**	**311**		**Pn**	**17 42 36.2**	**+0.7**
TIP	**Timpagrande**	**5.34**	**311**	⇑P	**Pn**	**17 42 37.5**	**+2.0**
TIP	**Timpagrande**	**5.34**	**311**	Pn	**Pn**	**17 42 37.0**	**+1.5**
	0.1nm344nm19nm,0.9s						
OHR	**Ohrid**	**5.38**	**350**	*i* Pn	**Pn**	**17 42 39.3**	**+3.3**
KNT	**Kendrikon**	**5.39**	**7**	P	**Pn**	**17 42 39.1**	**+2.9**
	0.1nm38nm,1.1s						
KNT	**Kendrikon**	**5.39**	**7**	P	**Pn**	**17 42 39.0**	**+2.9**
CEL	**Celeste**	**5.45**	**298**		**Pn**	**17 42 38.2**	**+1.3**
CEL	**Celeste**	**5.45**	**298**	Pn	**Pn**	**17 42 38.8**	**+1.8**
	0.1nm355nm30nm,0.8s						
SRS	**Serrai**	**5.45**	**13**	P	**Pn**	**17 42 39.4**	**+2.5**
SRS	**Serrai**	**5.45**	**13**	P	**Pn**	**17 42 39.4**	**+2.5**
VAY	**Valandovo**	**5.53**	**5**	*i* Pn	**Pn**	**17 42 40.9**	**+2.9**
SABU	**Mula-Dalaman**	**5.73**	**78**	P	**Pn**	**17 42 44.7**	**+3.8**
FETY	**Fethiye**	**5.80**	**80**	P	Pn	17 42 34.3	-7.5
TAVA	**DENİZLİ_Tavas**	**5.82**	**71**	P	Pn	17 42 46.8	+4.8
TAVA				*i* IAML		17 43 46.0	
	comp=N,13nm,1.5s						
TAVA				S	**Sn**	**17 43 52.0**	**+4.1**
MMB	**Musomishta**	**5.90**	**13**	P	**Pn**	**17 42 46.2**	**+3.0**
	0.0nm34nm,0.7s						
MMB	**Musomishta**	**5.90**	**13**	P	**Pn**	**17 42 46.1**	**+3.0**
IZZE	**Mula-Seydike**	**5.90**	**82**	P	**Pn**	**17 42 45.2**	**+2.1**
IZZE				S	**Sn**	**17 43 42.2**	**-7.7**
IZZE				*i* IAML		17 43 51.0	
	comp=N,90nm,0.3s						
IZZE				*i* IAML		17 43 57.0	
	comp=E,40nm,0.3s						
DNIZ	**Denizli-Tavas-**	**5.95**	**70**	P	**Pn**	**17 42 47.7**	**+3.7**
ALN	**Alexandroupoli**	**6.00**	**31**		**Pn**	**17 42 44.0**	**-0.5**
ALN	**Alexandroupoli**	**6.00**	**31**	P	**Pn**	**17 42 44.0**	**-0.5**
RDO	**Rodhopi**	**6.02**	**27**		**Pn**	**17 42 43.8**	**-0.9**
RDO	**Rodhopi**	**6.02**	**27**	P	**Pn**	**17 42 47.5**	**+2.8**
WDD	**Wied Dalam**	**6.06**	**272**	Pn	**Pn**	**17 42 46.5**	**+1.2**
CAEL	**Denizli, Camel**	**6.06**	**75**	P	Pb	17 42 56.9	-5.4
KKB	**Krupnik**	**6.09**	**8**	P	**Pn**	**17 42 48.7**	**+2.9**
	0.0nm15nm,0.7s						
KKB	**Krupnik**	**6.09**	**8**	P	**Pn**	**17 42 48.7**	**+2.9**
KSL	**Kastellorizon**	**6.17**	**85**	P	**Pn**	**17 42 49.1**	**+2.3**
	0.1nm25nm,0.6s						
AKAS	**Kas**	**6.20**	**84**		**Pn**	**17 42 48.4**	**+1.1**
AKAS	**Kas**	**6.20**	**84**	P	**Pn**	**17 42 48.8**	**+1.5**
AKAS				S	**Sn**	**17 43 55.3**	**-2.0**
AKAS				*i* IAML		17 44 02.0	
	comp=N,58nm,0.4s						
KNIK	**Mula-Seydike**	**6.22**	**78**	P	**Pn**	**17 42 49.6**	**+2.0**
GOLH	**Golhisar**	**6.27**	**75**	P	**Pn**	**17 42 52.0**	**+3.7**
RAFF	**Raffo Rosso**	**6.29**	**285**		**Pn**	**17 42 49.6**	**+1.1**
VAE	**Valguarnera**	**6.31**	**288**	Pn	**Pn**	**17 42 53.1**	**+4.3**
	11nm,0.6s,baz=352,slow=17,SNR=3.6						
VAE				Sn	**Sn**	**17 43 59.4**	**-0.6**
	0.9nm,0.3s,baz=200,slow=13,SNR=1.8						
MATE	**Matera**	**6.37**	**321**	⇓P	**Pn**	**17 42 50.6**	**+1.1**
INCE	**Denizli-Bozkur**	**6.39**	**70**	P	**Pn**	**17 42 54.2**	**+4.3**
CUC	**Castrocucco**	**6.42**	**312**		**Pn**	**17 42 51.5**	**+1.2**
ELL	**Elmali**	**6.47**	**79**		**Pn**	**17 42 51.5**	**+0.4**
ELL	**Elmali**	**6.47**	**79**	P	**Pn**	**17 42 51.5**	**+0.4**
ULC	**Ulcinj**	**6.51**	**342**	⇓*i* Pn	**Pn**	**17 42 51.7**	**+0.2**
ULC				*i* Sn	**Sn**	**17 44 01.1**	**-3.7**
PASA	**Karahalli, USA**	**6.52**	**65**	P	**Pn**	**17 42 55.8**	**+4.2**
DRME	**Dracevica, Mon**	**6.73**	**342**	*e*Pn	**Pn**	**17 42 54.8**	**+0.3**
DRME				*i* Sn	**Sn**	**17 44 06.5**	**-3.8**
VTS	**Vitosha**	**6.87**	**8**	P	**Pn**	**17 42 59.5**	**+3.0**
ACER	**Acerenza**	**6.87**	**318**		**Pn**	**17 42 56.1**	**-0.4**
BUM	**Brajici-Budva**	**6.91**	**341**	*e*Pn	**Pn**	**17 42 57.0**	**-0.1**
BUM				*i* Sn	**Sn**	**17 44 10.9**	**-4.0**
PDG	**Podgorica**	**6.94**	**343**		**Pn**	**17 42 56.1**	**-0.7**
PDG	**Podgorica**	**6.94**	**343**	⇓P	**Pn**	**17 42 58.5**	**+1.1**
PDG	**Podgorica**	**6.94**	**343**	*e*Pn	**Pn**	**17 42 57.8**	**+0.4**
PDG				*i* Sn	**Sn**	**17 44 11.6**	**-3.9**
HCY	**Herceg Novi**	**7.16**	**339**	*e*Pn	**Pn**	**17 43 00.7**	**+0.3**
HCY				*i* Sn	**Sn**	**17 44 16.6**	**-4.3**
IVA	**Berane**	**7.24**	**348**	*e*Pn	**Pn**	**17 43 01.8**	**+0.3**
IVA				*i* Sn	**Sn**	**17 44 18.7**	**-4.2**
KOME	**Kolasin**	**7.29**	**346**	*e*Pn	**Pn**	**17 43 02.3**	**+0.1**
KOME				*i* Sn	**Sn**	**17 44 19.9**	**-4.2**
NKME	**Niksic**	**7.33**	**342**	*e*Pn	**Pn**	**17 43 03.0**	**+0.2**
NKME				*i* Sn	**Sn**	**17 44 21.0**	**-4.2**
BRY	**Bratogost**	**7.57**	**340**	⇓*i* Pn	**Pn**	**17 43 06.1**	**0.0**
BRY				*i* Sn	**Sn**	**17 44 26.4**	**-4.7**
SGRT	**San Giovanni R**	**7.68**	**323**		**Pn**	**17 43 07.9**	**+0.3**
ELND	**Elena**	**7.72**	**22**	⇑P	**Pn**	**17 43 11.2**	**+3.0**
UPM	**Unac-Piva**	**7.76**	**343**	*e*Pn	**Pn**	**17 43 08.7**	**-0.1**
UPM				*i* Sn	**Sn**	**17 44 31.1**	**-4.7**
PAOL	**Paolisi**	**7.81**	**314**	Pn	Pn	17 43 04.5	-4.9
BOVS	**Bovan**	**7.82**	**359**	⇓P	**Pn**	**17 43 10.8**	**+1.4**
MDVR	**Moldovita**	**8.97**	**359**	⇓P	**Pn**	**17 43 26.1**	**+0.9**
HERR	**Herculane**	**9.07**	**2**	⇓P	**Pn**	**17 43 28.2**	**+1.7**
CSS	**Mathiatis**	**9.31**	**92**	Pn	**Pn**	**17 43 26.0**	**-3.9**
CAMP	**Campotosto**	**9.45**	**318**		**Pn**	**17 43 30.8**	**-1.1**
GZR	**Gura Zlata**	**9.60**	**3**	⇑P	**Pn**	**17 43 35.8**	**+1.9**
GZR	**Gura Zlata**	**9.60**	**3**	⇑P	**Pn**	**17 43 35.8**	**+1.9**
ARR	**Arges**	**9.76**	**11**	⇓P	**Pn**	**17 43 38.4**	**+2.3**
BZS	**Buzias**	**9.80**	**359**	⇑P	**Pn**	**17 43 37.3**	**+0.7**
BZS	**Buzias**	**9.80**	**359**	⇑P	**Pn**	**17 43 37.3**	**+0.7**
NRCA	**Norcia**	**9.81**	**318**		**Pn**	**17 43 36.1**	**-0.7**
GUMA	**Gualdo di Mace**	**9.85**	**320**		**Pn**	**17 43 37.6**	**+0.2**
SURR	**Surduc**	**9.94**	**1**	⇑P	**Pn**	**17 43 38.9**	**+0.4**
FDMO	**Fiordimonte**	**9.97**	**319**		**Pn**	**17 43 39.0**	**+0.1**
BR106	**Keskin Array S**	**10.01**	**63**	P	Pn	17 43 44.9	+5.3
	45nm3.6nm,1.0s						
BR104	**Keskin Array S**	**10.02**	**64**	P	Pn	17 43 44.6	+4.9
	46nm6.1nm,1.1s						
BRTR	**Keskin Array B**	**10.02**	**64**	Pn	**Pn**	**17 43 40.6**	**+0.7**
	0.2nm,0.3s,baz=245,slow=14,SNR=7.2						
	2.9nm,1.3s						
MLR	**Muntele Rosu**	**10.13**	**16**	Pn	**Pn**	**17 43 40.3**	**-0.9**
MLR	**Muntele Rosu**	**10.13**	**16**	Pn	**Pn**	**17 43 40.5**	**-0.8**
	0.3nm,0.3s,baz=203,slow=3.5,SNR=5.6						
MLR				LR	LR	17 48 25.5	
	comp=Z,208nm,19.1s,baz=164,slow=43						
	0.7nm,0.6s						
MLR	**Muntele Rosu**	**10.13**	**16**	⇓P	**Pn**	**17 43 44.7**	**+3.5**
MLR	**Muntele Rosu**	**10.13**	**16**	⇓P	**Pn**	**17 43 44.7**	**+3.5**
MLR	**Muntele Rosu**	**10.13**	**16**	P	**Pn**	**17 43 45.2**	**+4.0**
	5.6nm,1.0s						
KEST	**Kesra**	**10.27**	**273**	Pn	**Pn**	**17 43 43.6**	**+0.5**
KEST	**Kesra**	**10.27**	**273**	Pn	**Pn**	**17 43 43.9**	**+0.8**
	0.2nm,0.3s,baz=39,slow=11,SNR=1.6						
KEST				Sn	**Sn**	**17 45 32.8**	**-4.6**
	0.1nm,0.3s,baz=45,slow=22,SNR=1.2						
KEST				LR	LR	17 48 35.3	
	comp=Z,93nm,19.6s,baz=311,slow=42						
	1.5nm,0.6s						
DOPR	**Dopca**	**10.47**	**13**	⇑P	**Pn**	**17 43 47.0**	**+1.2**
PLOR5	**Plostina Array**	**10.63**	**18**	P	Pn	17 43 52.8	+4.8
	7.1nm,1.6s						
PLOR	**Plostina**	**10.64**	**18**	⇓P	**Pn**	**17 43 45.5**	**-2.6**
PLOR	**Plostina**	**10.64**	**18**	⇓P	**Pn**	**17 43 45.5**	**-2.6**
VRI	**Vrincioaia**	**10.67**	**18**	⇑P	**Pn**	**17 43 47.2**	**-1.3**
VRI	**Vrincioaia**	**10.67**	**18**	⇑P	**Pn**	**17 43 47.2**	**-1.3**
VRI	**Vrincioaia**	**10.67**	**18**	P	**Pn**	**17 43 53.2**	**+4.7**
	6.7nm,1.3s						
MORH	**Mrgy, Hungar**	**10.70**	**347**	⇑P	**Pn**	**17 43 46.8**	**-2.0**
MARR	**Marisel-Cluj**	**10.89**	**4**	⇓P	Pn	17 43 56.5	+4.8
TESR	**Tescani**	**11.26**	**17**	P	Pn	17 44 01.5	+5.0
	7.5nm,2.5s						
MMAI	**Mount Meron Ar**	**11.43**	**100**	Pn	**Pn**	**17 43 56.9**	**-2.2**
	1.6nm,0.3s,baz=274,slow=12,SNR=7.2						
MMAI				Sn	**Sn**	**17 45 57.8**	**-8.1**
	2.2nm,0.3s,baz=294,slow=26,SNR=4.9						
	0.9nm,0.3s						
SABO	**M.te Sabotino**	**11.97**	**331**		**Pn**	**17 44 04.0**	**-2.3**
SOKA	**Soboth**	**12.05**	**336**	*i* Pn	**Pn**	**17 44 06.6**	**-0.8**
	0.9nm,0.3s						
SOKA				*i* Sn	Sn	17 46 11.1	-10
	0.4nm,0.2s						
OBKA	**Obir**	**12.06**	**335**	*i* Pn	**Pn**	**17 44 09.0**	**+1.4**
	1.2nm,0.3s						
OBKA				*i* Sn	**Sn**	**17 46 12.6**	**-8.6**
	4.2nm,0.6s						
GHAJ	**Ghor Haditha**	**12.19**	**108**		**Pn**	**17 44 07.5**	**-1.8**
PSZ	**Piszkesteto**	**12.20**	**353**	Pn	**Pn**	**17 44 07.2**	**-2.3**
PSZ	**Piszkesteto**	**12.20**	**353**	P	**Pn**	**17 44 07.2**	**-2.3**
PRED	**Cave del Predi**	**12.37**	**332**	Pn	**Pn**	**17 44 10.3**	**-1.4**
ARSA	**Arzberg**	**12.41**	**339**	Pn	**Pn

comp=Z,20nm,1.3s
MESJ Messejana 24.21 284 P P 17 46 32.5 +0.6
MESJ pmax pmax
comp=Z,20nm,1.3s
HFS Hagfors 24.93 350 P P 17 46 38.5 +0.4
comp=Z,2.2nm,0.4s,baz=156,slow=11,SNR=13
comp=Z,2.2nm,0.4s
KONO Kongsberg 25.18 345 P P 17 46 40.2 -0.3
KONO Kongsberg 25.18 345 P P 17 46 40.2 -0.3
KONO pmax pmax
comp=Z,50nm,1.4s
FINES FINESS Array B 25.79 5 P P 17 46 46.2 +0.3
comp=Z,1.9nm,0.6s,baz=176,slow=10.0,SNR=8.1
FINES PcP **PcP 17 50 16.3 +1.4**
comp=Z,5.8nm,1.1s,baz=117,slow=1.6,SNR=4.5
comp=Z,1.9nm,0.6s
FIA1 FINESS Array S 25.79 5 P P 17 46 46.3 +0.4
NC602 NORSAR Array S 25.83 348 P P 17 46 46.5 +0.2
NC602 IAmb IAmb 17 46 49.3
comp=Z,16nm,1.3s
NORES NORESS Array B 25.83 348 P P 17 46 49.3 +3.0
EKA Eskdalemuir Ar 26.04 326 P P 17 46 49.0 +0.7
comp=Z,4.0nm,0.6s,baz=128,slow=8.6,SNR=17
comp=Z,4.0nm,0.6s
NAO01 NORSAR Array S 26.04 348 P P 17 46 48.8 +0.5
NAO01 IAmb IAmb 17 46 49.2
comp=Z,25nm,1.4s
ESK Eskdalemuir 26.05 326 P P 17 46 48.4 0.0
ESK Eskdalemuir 26.05 326 P P 17 46 48.4 0.0
ESK pmax pmax
comp=Z,41nm,1.4s
EKB Eskdalemuir 26.06 326 P P 17 46 48.3 -0.1
NC405 NORSAR Array S 26.16 349 P P 17 46 49.7 +0.4
NC405 IAmb IAmb 17 47 24.3
comp=Z,14nm,1.1s
NB201 NORSAR Array S 26.17 348 P P 17 46 49.6 +0.2
NB201 IAmb IAmb 17 47 01.5
comp=Z,15nm,1.2s
NB2 NORSAR Subarra 26.17 348 P P 17 46 51.5 +2.0
comp=Z,3.4nm,0.9s,baz=159,slow=10
NOA NORSAR Array B 26.17 348 P P 17 46 50.5 +1.0
comp=Z,1.1nm,0.9s,baz=159,slow=9.7,SNR=5.1
comp=Z,1.1nm,0.9s
NBO00 NORSAR Array S 26.24 348 P P 17 46 49.5 -0.6
NBO00 IAmb IAmb 17 47 04.7
comp=Z,30nm,1.4s
NC303 NORSAR Array S 26.32 348 P P 17 46 51.2 +0.4
NC303 IAmb IAmb 17 47 00.3
comp=Z,25nm,1.4s
NC204 NORSAR Array S 26.47 348 P P 17 46 52.6 +0.4
NC204 IAmb IAmb 17 47 03.5
comp=Z,32nm,1.5s
TORD Torodi Ar. Bea 29.03 224 P P 17 47 17.6 +2.2
comp=Z,1.7nm,0.8s,baz=34,slow=11,SNR=10
TORD LR LR 18 00 20.2
comp=Z,273nm,21.8s,baz=319,slow=39
comp=Z,1.7nm,0.8s
KIRV Kirov 29.07 30 LR LR 17 59 57.2
comp=Z,55nm,19.6s,baz=258,slow=39
UOSS Minazif 31.30 101 P P 17 47 33.7 -1.8
UOSS IAmb IAmb 17 47 40.7
comp=Z,12nm,1.3s
ARTI Arti 32.01 39 P P 17 47 40.8 -0.6
ARTI Arti 32.01 39 LR LR 18 02 22.4
comp=Z,51nm,18.4s,baz=240,slow=40
ARTI Arti 32.01 39 P P 17 47 40.8 -0.6
ARTI pmax pmax
comp=Z,8.0nm,0.4s
SVE Sverdlovsk 33.33 39 *eP* **P 17 47 53.9 +1.0**
ARCES ARCESS Array B 33.84 2 P P 17 47 57.8 +0.6
comp=Z,4.8nm,0.5s,baz=187,slow=9.5,SNR=69
ARCES PcP **PcP 17 50 36.5 +1.0**
comp=Z,3.3nm,1.0s,baz=178,slow=2.7,SNR=2.0
ARCES LR LR 18 02 12.1
comp=Z,41nm,18.5s,baz=312,slow=37
comp=Z,4.8nm,0.5s
KEV Kevo 34.12 3 P P 17 48 00.5 +0.9
KEV Kevo 34.12 3 P P 17 48 00.5 +0.9
KEV pmax pmax
comp=Z,39nm,1.5s
LODK Lodwar 34.52 156 P P 17 48 04.4 +0.7
CHGR Chuyangaron 37.35 71 P P 17 48 27.9 0.0
CHGR IAmb IAmb 17 48 44.5
comp=Z,7.1nm,0.8s
CHGR Chuyangaron 37.35 71 P P 17 48 27.9 0.0
CHGR pmax pmax
comp=Z,7.0nm,0.8s
DBIC Dimbokro 38.03 227 P P 17 48 34.7 +1.0
DBIC Dimbokro 38.03 227 P P 17 48 35.7 +2.1
comp=Z,6.4nm,0.9s,baz=49,slow=7.8,SNR=3.6
comp=Z,6.4nm,0.9s
DBIC Dimbokro 38.03 227 P P 17 48 34.7 +1.0
DBIC pmax pmax
comp=Z,42nm,1.4s
ARSB Arslanbob 39.79 66 P P 17 48 49.0 +0.7
ARSB IAmb IAmb 17 49 09.7
comp=Z,17nm,1.5s
ARSB Arslanbob 39.79 66 P P 17 48 49.0 +0.7
ARSB pmax pmax
comp=Z,17nm,1.5s
SCO Scoresbysund 41.81 340 P P 17 49 05.0 +0.6
SCO Scoresbysund 41.81 340 P P 17 49 05.0 +0.6
SCO pmax pmax
comp=Z,53nm,1.3s
SPB2 Spitsbergen Ar 42.54 358 P P 17 49 10.9 +0.6
SPITS Spitsbergen Ar 42.54 358 P P 17 49 11.8 +1.4
comp=Z,4.0nm,0.7s,baz=146,slow=12,SNR=8.2
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 42.74 52 P P 17 49 12.5 +0.2
comp=Z,0.6nm,0.4s,baz=275,slow=8.7,SNR=5.6
comp=Z,0.6nm,0.4s
KURK Kurchatov 42.80 51 P P 17 49 11.9 -0.8
KURK Kurchatov 42.80 51 P P 17 49 12.5 -0.2
MAKZ Makanchi 45.37 57 P P 17 49 33.3 -0.2
MAKZ IAmb IAmb 17 49 34.7
comp=Z,1.8nm,0.6s
MAKZ Makanchi 45.37 57 P P 17 49 33.3 -0.2
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.59 57 P P 17 49 35.4 +0.2
comp=Z,3.7nm,0.5s,baz=268,slow=7.6,SNR=82
MKAR PcP **PcP 17 51 14.9 +1.6**
comp=Z,0.5nm,0.4s,baz=270,slow=3.7,SNR=2.0
comp=Z,3.7nm,0.5s
SACV Santiago Islan 45.63 255 P P 17 49 36.3 +0.4
ZAA0 Zalesovo Array 46.44 47 P P 17 49 41.1 -0.6
ZALV Zalesovo Beam 46.44 47 P P 17 49 41.4 -0.3
comp=Z,1.8nm,0.3s,baz=267,slow=8.7,SNR=11
ZALV LR LR 18 12 15.1
comp=Z,52nm,20.4s,baz=88,slow=40
comp=Z,1.8nm,0.3s
LSZ Lusaka 51.14 172 P P 17 50 18.1 -0.2
LSZ Lusaka 51.14 172 P P 17 50 18.1 -0.2
LSZ pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 61.07 50 P P 17 51 29.9 +0.8
comp=Z,0.7nm,0.4s,baz=287,slow=9.3,SNR=6.2
comp=Z,0.7nm,0.4s
BOSA Boshof 64.15 177 P P 17 51 50.4 +0.8
BOSA Boshof 64.15 177 P P 17 51 50.4 +0.8
BOSA pmax pmax
comp=Z,14nm,1.4s
CMAR Chiang Mai Arr 69.06 82 P P 17 52 21.5 +0.2
comp=Z,0.4nm,0.5s,baz=297,slow=8.4,SNR=5.8
comp=Z,0.4nm,0.5s
E29M Blow River 75.03 352 P P 17 52 57.3 +1.1
E29M IAmb IAmb 17 53 14.6
comp=Z,9.7nm,1.4s
E19K Redstone River 77.05 360 P P 17 53 08.8 +1.1
E19K IAmb IAmb 17 53 51.9
comp=Z,9.6nm,1.4s
I29M Ogilvie Camp, 77.99 352 P P 17 53 14.2 +1.2
I29M IAmb IAmb 17 53 29.8
comp=Z,4.3nm,1.2s
J30M Hart River 78.50 351 P P 17 53 15.1 -0.9
J30M IAmb IAmb 17 53 45.2
comp=Z,5.0nm,1.4s
KSRS Korea Array 79.92 51 P P 17 53 25.1 +1.1
comp=Z,1.0nm,0.5s,baz=307,slow=4.1,SNR=4.8
comp=Z,1.0nm,0.5s
BPAW Bear Paw Mtn. 80.27 357 P P 17 53 26.7 +1.1
BPAW IAmb IAmb 17 53 43.3
comp=Z,6.2nm,1.4s
SKT Skwentna 82.41 357 P P 17 53 37.3 +0.4
BAUV El Baul 84.86 277 P P 17 53 50.9 +0.7
WRA Warramunga Arr 119.23 94 PKP PKiKP 18 00 05.3 +0.7
comp=Z,0.5nm,0.9s,baz=317,slow=1.7,SNR=6.4

ASAR Alice Springs 120.72 98 PKP PKiKP 18 00 08.3 +0.9
comp=Z,0.3nm,0.6s,baz=310,slow=1.3,SNR=10
QSPA South Pole Qui 125.66 180 PKP PKiKP 18 00 19.6 +3.7
comp=Z,1.3nm,0.9s,baz=289,slow=2.0,SNR=7.6

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*NNC **12** 17:52:45.3±0.3, 42.°99N×78.°64E, h1km±2km, mb4.1, mpv4.1, Error ellipse: s-maj=3.8km s-min=1.4km az=173.0*
*KRNET **12** 17:52:45.8±0.1, 42.°99N×78.°62E, h19km, mb3.9*
*KNET **12** 17:52:46.5±0.6, 42.°85N×78.°50E, h0km, ml3.2, Error ellipse: s-maj=10.4km s-min=4.7km az=0.0*
*SOME **12** 17:52:46.0, 42.°98N×78.°53E, h10km*
ISC 12 17:52:45.9±1.1, 42.°98N±0.°02×78.°59E±0.°02, h2km±9km, n75, σ1°11/131, 36C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 98nm,0.1s	**0.15**	**301**	P	**Pg**	**17 52 49.7**	**+0.8**
SATY				S	**Sg**	**17 52 52.4**	**+1.5**
SATY	**Saty** 11μm,0.1s	**0.15**	**301**	*e*P	**Pg**	**17 52 49.7**	**+0.8**
SATY				*e*S	**Sg**	**17 52 52.4**	**+1.5**
UZB	**Uzynbulak** 544nm,0.1s	**0.36**	**62**	P	**Pg**	**17 52 52.4**	**-0.4**
UZB				S	**Sg**	**17 52 57.1**	**-0.5**
UZB	**Uzynbulak** 2μm,0.2s	**0.36**	**62**	*e*P	**Pg**	**17 52 52.4**	**-0.4**
UZB				*e*S	**Sg**	**17 52 57.0**	**-0.5**
UZB	**Uzynbulak** 544nm,0.1s	**0.36**	**62**	*e*P	**Pg**	**17 52 52.4**	**-0.4**
UZB				*e*S	**Sg**	**17 52 57.1**	**-0.5**
KPKS	**Kokpek** 1.3nm,0.1s	**0.49**	**8**	P	**Pg**	**17 52 55.4**	**+0.1**
KPKS				S	**Sg**	**17 53 02.1**	**+0.4**
KPKS	**Kokpek** 788nm,0.2s	**0.49**	**8**	*e*P	**Pg**	**17 52 55.4**	**+0.1**
KPKS				*e*S	**Sg**	**17 53 02.2**	**+0.4**
PRZ	**Przheval'sk**	**0.52**	**195**	⇑*i*P	**Pg**	**17 52 56.4**	**+0.6**
PRZ				⇑*i*S	**Sg**	**17 53 03.4**	**+1.0**
KURS	**Kuram** 84nm,0.2s	**0.59**	**329**	P	**Pg**	**17 52 57.6**	**+0.4**
KURS				S	**Sg**	**17 53 06.0**	**+1.1**
KURS	**Kuram** 163nm,0.2s	**0.59**	**329**	*e*P	**Pg**	**17 52 57.6**	**+0.4**
KURS				*e*S	**Sg**	**17 53 06.0**	**+1.1**
SHLS	**Shalkode** 156nm,0.1s	**0.67**	**74**	P	**Pn**	**17 53 03.4**	**+0.9**
SHLS				S	**Sn**	**17 53 15.8**	**+2.2**
SHLS	**Shalkode** 148nm,0.1s	**0.67**	**74**	*e*P	**Pn**	**17 53 03.4**	**+0.9**
SHLS				*e*S	**Sn**	**17 53 15.9**	**+2.2**
SHLS	**Shalkode** 156nm,0.1s	**0.67**	**74**	*e*P	**Pn**	**17 53 03.4**	**+0.9**
SHLS				*e*S	**Sn**	**17 53 15.8**	**+2.2**
PDGK	**Podgornoye** 49nm,0.5s	**0.75**	**62**	⇑P	**Pg**	**17 52 59.3**	**-1.0**
PDGK				⇑S	**Sg**	**17 53 08.8**	**-1.1**
KOTS	**Kotyrbulak** 279nm,0.2s	**1.11**	**284**	P	**Pb**	**17 53 06.9**	**-1.0**
KOTS				S	**Sg**	**17 53 21.9**	**+0.4**
KOTS	**Kotyrbulak** 337nm,0.2s	**1.11**	**284**	*e*P	**Pb**	**17 53 06.9**	**-1.0**
KOTS				*e*S	**Sg**	**17 53 21.9**	**+0.4**
KOTS	**Kotyrbulak** 279nm,0.2s	**1.11**	**284**	*e*P	**Pb**	**17 53 06.9**	**-1.0**
KOTS				*e*S	**Sg**	**17 53 21.9**	**+0.4**
MDOK	**Medeo** 177nm,0.2s	**1.14**	**280**	Pg	**Pb**	**17 53 07.2**	**-1.3**
MDOK				Lg	Lg	17 53 22.4	
TNSS	**Tian-Shan** 26nm,0.2s	**1.20**	**273**	P	**Pb**	**17 53 08.6**	**-1.1**
TNSS				S	**Sb**	**17 53 24.8**	**-1.0**
TNSS	**Tian-Shan** 10nm,0.1s	**1.20**	**273**	*e*P	**Pb**	**17 53 08.6**	**-1.1**
TNSS				*e*S	**Sb**	**17 53 24.8**	**-1.0**
KNDC	**Almaty** 51nm,0.3s	**1.21**	**282**	⇑P	**Pn**	**17 53 08.7**	**-1.3**
KNDC				⇑S	**Sn**	**17 53 26.2**	**-0.7**
AAA	**Alma-Ata** 92nm,0.3s	**1.25**	**281**	P	**Pn**	**17 53 09.9**	**-0.5**
AAA				S	**Sn**	**17 53 27.0**	**-0.8**
AAA	**Alma-Ata** 17nm,0.2s	**1.25**	**281**	*e*P	**Pn**	**17 53 09.9**	**-0.5**
AAA				*e*S	**Sn**	**17 53 27.0**	**-0.8**
KDJ	**Kajisay** 141nm,0.2s	**1.34**	**231**	⇓*i*P	**Pn**	**17 53 10.5**	**-1.4**
KDJ				⇓*i*S	**Sb**	**17 53 29.2**	**-0.4**
ARXS	**Arharly** 162nm,0.2s	**1.35**	**336**	P	**Pn**	**17 53 11.1**	**-0.8**
ARXS				S	**Sb**	**17 53 29.1**	**-0.7**
ARXS	**Arharly** 198nm,0.2s	**1.35**	**336**	*e*P	**Pn**	**17 53 11.1**	**-0.8**
ARXS				*e*S	**Sb**	**17 53 29.1**	**-0.7**
KNOS	**Konyrlen** 140nm,0.1s	**1.44**	**17**	P	**Pb**	**17 53 12.6**	**-1.0**
KNOS				S	**Sg**	**17 53 31.7**	**-0.6**
CHKK	**Chushkaly** 21nm,0.1s	**1.46**	**307**	P	**Pb**	**17 53 13.2**	**-0.6**
CHKK				S	**Sb**	**17 53 32.6**	**-0.1**
CHKK	**Chushkaly** 436nm,0.2s	**1.46**	**307**	*e*P	**Pb**	**17 53 13.2**	**-0.6**
CHKK				*e*S	**Sb**	**17 53 32.7**	**-0.1**
CHKK	**Chushkaly** 21nm,0.1s	**1.46**	**307**	*e*P	**Pb**	**17 53 13.2**	**-0.6**
CHKK				*e*S	**Sb**	**17 53 32.6**	**-0.1**
KTBS	**Karatobe** 118nm,0.2s	**1.57**	**298**	P	**Pb**	**17 53 15.2**	**-0.5**
KTBS				S	**Sb**	**17 53 36.1**	**0.0**
KTBS	**Karatobe** 215nm,0.3s	**1.57**	**298**	*e*P	**Pb**	**17 53 15.2**	**-0.5**
KTBS				*e*S	**Sb**	**17 53 36.1**	**0.0**
MTBS	**Maitube** 26nm,0.2s	**1.59**	**276**	P	**Pb**	**17 53 15.4**	**-0.6**
MTBS				S	**Sb**	**17 53 36.5**	**-0.1**
MTBS	**Maitube** 182nm,0.2s	**1.59**	**276**	*e*P	**Pb**	**17 53 15.4**	**-0.6**
MTBS				*e*S	**Sb**	**17 53 36.5**	**-0.1**
MTBS	**Maitube** 26nm,0.2s	**1.59**	**276**	*e*P	**Pb**	**17 53 15.4**	**-0.6**
MTBS				*e*S	**Sb**	**17 53 36.5**	**-0.1**
KUU	**Kurty** 72nm,0.3s	**1.87**	**300**	P	**Pn**	**17 53 19.2**	**+0.2**
KUU				S	**Sn**	**17 53 42.8**	**-0.5**
KUU	**Kurty** 395nm,0.2s	**1.87**	**300**	*e*P	**Pn**	**17 53 19.2**	**+0.2**
KUU				*e*S	**Sn**	**17 53 42.8**	**-0.5**
KUU	**Kurty** 72nm,0.3s	**1.87**	**300**	*e*P	**Pn**	**17 53 19.2**	**+0.2**
KUU				*e*S	**Sn**	**17 53 42.8**	**-0.5**
ULHL	**Ulahol** 49nm,0.1s,SNR=310	**1.88**	**248**	⇑P	**Pb**	**17 53 20.0**	**-1.1**
ULHL				⇑S	**Sb**	**17 53 45.3**	**+0.2**
ULHL	**Ulahol** 189nm,0.3s	**1.88**	**248**	⇑*i*P	**Pn**	**17 53 19.5**	**+0.2**
ULHL				⇑*i*S	**Sb**	**17 53 45.0**	**-0.1**
KST	**Kastek** 45nm,0.3s	**1.92**	**273**	P	**Pb**	**17 53 21.5**	**-0.3**
KST				S	**Sb**	**17 53 46.9**	**+0.5**
KST	**Kastek** 87nm,0.2s	**1.92**	**273**	*e*P	**Pb**	**17 53 21.5**	**-0.3**
KST				*e*S	**Sb**	**17 53 46.9**	**+0.5**
BOOM	**Boomskoye usch** 87nm,0.2s	**2.01**	**257**	⇑*i*P	**Pn**	**17 53 21.6**	**+0.6**
BOOM				⇑*i*S	**Sb**	**17 53 48.0**	**-0.8**
TDK	**Taldyqorghan** 72nm,0.2s	**2.02**	**356**	Pg	**Pb**	**17 53 22.7**	**-0.7**
TDK				Lg	Lg	17 53 49.0	
TDK	**Taldyqorghan** 140nm,0.3s	**2.02**	**356**	*e*P	**Pb**	**17 53 22.7**	**-0.7**
TDK				*e*S	**Sb**	**17 53 49.0**	**-0.1**
DGS	**Degeres** 140nm,0.4s	**2.08**	**278**	Pg	**Pb**	**17 53 23.8**	**-0.6**
DGS				Lg	Lg	17 53 50.7	
TKM2	**Tokmak 2** 266nm,0.3s,SNR=152	**2.19**	**269**	⇓P	**Pb**	**17 53 26.0**	**-0.4**
TKM2				⇓S	**Sg**	**17 53 57.5**	**+1.0**
TKM2	**Tokmak 2** 119nm,0.1s	**2.19**	**269**	⇑*i*P	**Pn**	**17 53 24.2**	**+0.6**
TKM2				⇑*i*S	**Sn**	**17 53 52.3**	**+0.8**
KRBS	**Karabastau** 49nm,0.3s	**2.24**	**290**	Pg	**Pb**	**17 53 26.2**	**-0.9**
KRBS				Lg	Lg	17 53 55.0	
KAPS	**Kapalarasan** 75nm,0.3s	**2.37**	**13**	Pg	**Pb**	**17 53 28.6**	**-0.8**
KAPS				Lg	Lg	17 53 59.1	
KBK	**Karagaybulak** 24nm,0.2s	**2.70**	**264**	⇓P	**Pb**	**17 53 33.3**	**-1.7**
KBK				⇑S	**Sb**	**17 54 09.5**	**+0.9**
KBK	**Karagaybulak** 357nm,0.1s	**2.70**	**264**	⇑*e*P	**Pn**	**17 53 31.3**	**+0.8**
KBK				⇑*i*S	**Sn**	**17 54 04.3**	**+0.5**
CHMS	**Chumysh** 41nm,0.2s,SNR=32	**2.81**	**272**	⇓P	**Pb**	**17 53 35.3**	**-1.5**
CHMS				⇑S	**Sb**	**17 54 13.0**	**+1.2**
CHMS	**Chumysh** 49nm,0.2s	**2.81**	**272**	⇓*e*P	**Pn**	**17 53 32.7**	**+0.8**
CHMS				⇓*i*S	**Sn**	**17 54 07.3**	**+0.8**
JNKS	**Jany-Kuch**	**2.91**	**230**	⇑*i*P	**Pn**	**17 53 34.4**	**+0.9**
JNKS				⇑*i*S	**Sn**	**17 54 09.6**	**+0.5**
FRU1	**Bishkek**	**2.91**	**268**	⇓*i*P	**Pn**	**17 53 34.4**	**+1.1**
FRU1				⇓*i*S	**Sn**	**17 54 09.7**	**+0.8**
SGDS	**Sogindy** 14nm,0.2s	**2.93**	**281**	Pg	**Pb**	**17 53 38.3**	**-0.6**
SGDS				Lg	Lg	17 54 15.6	
USP	**Ospenovka** 39nm,0.3s	**3.00**	**277**	⇓P	**Pn**	**17 53 36.3**	**+1.7**
USP				⇑S	**Sb**	**17 54 17.2**	**-0.2**
USP	**Ospenovka** 10nm,0.2s,SNR=6.5	**3.00**	**277**	⇓*e*P	**Pn**	**17 53 35.4**	**+0.8**
USP				⇓*i*S	**Sn**	**17 54 11.9**	**+0.7**
AAK	**Ala-Archa** 28nm,0.2s	**3.03**	**265**	⇑P	**Pb**	**17 53 37.7**	**-3.0**
AAK				⇑S	**Sb**	**17 54 17.9**	**-0.2**
AAK	**Ala-Archa** 16nm,0.2s,SNR=7.1	**3.03**	**265**	⇑Pn	**Pn**	**17 53 36.8**	**+1.7**
AAK				⇓Lg	Lg	17 54 22.6	
AAK	**Ala-Archa** 46nm,0.4s	**3.03**	**265**	⇓*i*P	**Pn**	**17 53 35.9**	**+0.9**
AAK				⇓*i*S	**Sn**	**17 54 12.5**	**+0.5**
UCH	**Uchtor** 7.4nm,0.6s	**3.10**	**257**	⇓P	**Pb**	**17 53 39.0**	**-3.0**
UCH				⇑*i*P	**Pn**	**17 53 37.2**	**+0.9**
UCH	**Uchtor** 18nm,0.6s	**3.10**	**257**	⇑*i*S	**Sn**	**17 54 14.5**	**+0.4**
EKS2	**Erkin-Say** 14nm,0.2s,SNR=18	**3.55**	**266**	⇑del		17 53 45.1	
EKS2	**Erkin-Say** 8.6nm,0.2s,SNR=5.6	**3.55**	**266**	⇑*i*P	**Pn**	**17 53 43.1**	**+0.9**
EKS2				⇑*i*S	**Sn**	**17 54 24.9**	**+0.1**
MRKS	**Merke** 16nm,0.4s	**3.95**	**268**	Pg	**Pb**	**17 53 58.3**	**+2.0**
MRKS				Lg	Lg	17 54 49.8	
MRKS	**Merke** 27nm,0.3s	**3.95**	**268**	*e*P	**Pb**	**17 53 58.3**	**+2.0**
MRKS				*e*S	**Sg**	**17 54 49.8**	**-2.9**
SALK	**Salom-Alik** 27nm,0.3s	**4.13**	**241**	⇑*e*P	**Pn**	**17 53 51.5**	**+1.4**
SALK				⇑*i*S	**Sn**	**17 54 39.0**	**0.0**
MAKZ	**Makanchi** 0.4nm,0.3s	**4.52**	**31**	⇑Pn	**Pn**	**17 53 56.1**	**+0.7**
MAKZ				⇓Lg	Lg	17 55 06.4	
MK31	**Makanchi Array** 8.1nm,0.7s	**4.63**	**33**	⇑Pn	**Pn**	**17 53 56.9**	**0.0**
MK31				Lg	Lg	17 55 09.6	
SFK	**Sufi-Kurgan** 5.2nm,0.4s,baz=212,slow=28,SNR=11	**4.83**	**234**	⇑*e*P	**Pn**	**17 54 01.5**	**+1.6**
SFK				⇑*i*S	**Sn**	**17 54 55.8**	**-0.7**
KK31	**Karatay Array** 3.7nm,0.7s,baz=92,slow=16,SNR=26	**5.92**	**274**	Pg	**Pb**	**17 54 34.1**	**+4.3**
KK31				⇑Lg	Lg	17 55 54.9	
IUG	**Iuzhnay** 4.4nm,0.4s	**6.37**	**265**	Pg	**Pg**	**17 54 44.3**	**-3.6**
IUG				Lg	Lg	17 56 08.7	
KURBB	**Kurchatov Arra** 19nm,0.8s	**7.64**	**360**	⇓Lg	Lg	17 56 47.1	
KURK	**Kurchatov** 5.4nm,0.9s	**7.74**	**0**	⇓Lg	Lg	17 56 49.6	

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*SKHL **12** 17:57:47.8±0.2, 47.°90N×153.°90E, h86km±1km, mb4.9/4, msha5.1/3*
*KRSC **12** 17:57:47.4±0.7, 48.°31N×153.°23E, h124km±14km, Ml4.2*
ISC 12 17:57:47.8±3.1, 48.°0N±0.°5×153.°7E±0.°6, h117km, n11, σ1°48/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.10**	**30**	*e*P	**Pn**	**17 58 36.0**	**+0.8**
SKR	**Severo-Kuril's**	**3.10**	**30**	*e*P	**Pn**	**17 58 35.3**	**+0.1**
SKR				AMB	AMB	17 58 36.2	
SKR	70nm,0.7s			*e*S	**Sn**	**17 59 11.1**	**-0.6**
SKR				A	A	17 59 13.0	
SKR	50nm,0.7s			A	A	17 59 13.0	
PAU	**Pauzhetka** 100nm,0.7s	**3.99**	**30**	*e*P	**Pn**	**17 58 47.3**	**+0.2**
PAU				*e*S	**Sn**	**17 59 32.6**	**-0.5**
PAU	**Pauzhetka**	**3.99**	**30**	*e*P	**Pn**	**17 58 47.5**	**+0.4**
PAU				AMB	AMB	17 58 49.3	
PAU	30nm,0.2s			*e*S	**Sn**	**17 59 32.2**	**-0.9**
PAU				A	A	17 59 33.7	
PAU	60nm,0.4s			A	A	17 59 33.7	
KUR	**Kuril'sk** 60nm,0.4s	**4.88**	**237**	*e*P	**Pn**	**17 59 00.4**	**+1.4**
KUR				AMB	AMB	17 59 03.4	
KUR	60nm,0.5s			*e*S	**Sn**	**17 59 54.7**	**+0.3**
KUR				A	A	17 59 58.1	
KUR	70nm,0.6s			A	A	17 59 58.1	
DALK	**Dalny** 60nm,0.6s	**5.96**	**31**	*e*P	**Pn**	**17 59 14.5**	**+1.0**
KRER	**Koryakskii**	**6.18**	**30**	*e*P	**Pn**	**17 59 17.4**	**+0.7**
KRX	**Arik**	**6.20**	**29**	*e*P	**Pn**	**17 59 18.0**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**6.74**	**236**	*e*S	**Sn**	**18 00 39.3**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**6.74**	**236**	*e*P	**Pn**	**17 59 26.0**	**+1.8**
YUK				AMB	AMB	17 59 28.0	
NMR	**Nemuro--Hokkai** 50nm,0.4s	**7.25**	**233**	*e*S	**Sn**	**18 00 47.6**	**-4.2**
NMR				*e*P	**Pn**	**17 59 30.8**	**-0.3**

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*IDC **12** 18:18:50.3±1.4, 2.°33N×128.°13E, h0km, mb3.7/6, mbtmp3.7/6, MS3.7/1, Error ellipse: s-maj=97.3km s-min=17.5km az=72.0*
*DJA **12** 18:18:52.0±0.5, 2.°N±4.°×12.°9E±.°, h10km, M4.0/13, mb4.2/6, MLv3.9/13*
ISC 12 18:18:53.9±1.1, 2.°55N±0.°10×129.°0E±0.°1, h35km, n21, σ1°01/15, mb3.8/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.40**	**223**	P	**Pn**	**18 19 29.6**	**-1.1**
TNTI				S	**Sn**	**18 20 00.1**	**+1.1**
SWI	**Sorong**	**4.07**	**146**	P	**Pn**	**18 19 53.5**	**-0.2**
KMSI	**Cibinong**	**5.39**	**249**	P	**Pn**	**18 20 10.9**	**-0.9**
SANI	**Sanana**	**5.47**	**213**	P	**Pn**	**18 20 12.8**	**-0.1**
FAKI	**Fak Fak** 0.1nm13nm,1.0s	**6.33**	**149**	P	**Pn**	**18 20 25.2**	**+0.5**
LUWI	**Luwuk** 0.1nm20nm,0.8s	**7.17**	**240**	P	**Pn**	**18 20 35.4**	**-1.0**
APSI	**Ampana** 14nm,0.8s	**8.11**	**245**	P	**Pn**	**18 20 50.0**	**+0.8**
BKSI	**Bulukumba**	**11.82**	**229**	P	**Pn**	**18 21 41.0**	**+0.9**

FITZ Fitzroy Crossi 20.78 189 P **P 18 23 29.8 -2.2**
1.0nm,0.9s,baz=12,slow=9.3,SNR=1.1
1.0nm,0.9s
WRA Warramunga Arr 22.95 167 P **P 18 23 55.8 +0.4**
1.0nm,0.7s,baz=344,slow=10,SNR=13
1.0nm,0.7s
ASAR Alice Springs 26.49 170 P **P 18 24 29.1 +0.9**
0.5nm,0.6s,baz=354,slow=6.8,SNR=16
0.5nm,0.6s
PSI Prapat 30.04 271 LR LR 18 39 26.9
comp=Z,119nm,18.2s,baz=231,slow=42
H11S3 WAKE ISLAND Hy 40.17 64 T T 19 09 35.4
baz=251,slow=75,SNR=17
H11S2 WAKE ISLAND Hy 40.18 64 T T 19 09 39.8
baz=251,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 40.18 64 T T 19 09 45.5
baz=251,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 40.75 62 T T 19 10 17.0
baz=250,slow=75,SNR=53
H11N2 WAKE ISLAND Hy 40.76 62 T T 19 10 21.1
baz=250,slow=75,SNR=25
H11N3 WAKE ISLAND Hy 40.77 62 T T 19 10 22.5
baz=250,slow=75,SNR=39
SONM Songino Array 49.16 340 P **P 18 27 38.9 +0.4**
0.7nm,0.7s,baz=149,slow=8.6,SNR=3.9
0.7nm,0.7s
MKAR Makanchi Array 59.82 325 P **P 18 28 56.0 +0.2**
1.5nm,0.5s,baz=119,slow=8.2,SNR=20
1.5nm,0.5s
KURBB Kurchatov Arra 63.96 327 P **P 18 29 23.3 -0.2**
1.4nm,0.4s,baz=128,slow=6.1,SNR=23
1.4nm,0.4s

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*NEIC **12** 18:20:28.6±1.7,4°.84S±0°.07×28°.13E±0°.09,h10km±1km, mb4.6/59,Error ellipse: s-maj=15.7km s-min=10.8km az=289.0*
*IDC **12** 18:20:28.2±0.5,4°.66S×27°.90E,h0km,mb4.2/22, mbtmp4.3/25,ML2.3/1,MS3.4/9,Error ellipse: s-maj=19.6km s-min=11.5km az=91.0*
ISC 12 18:20:28.5±0.3,**4°.82S**±0°.05×**28°.10E**±0°.06,**h10**km,**n141,** σ1§**66**/142,**mb4.5**/55,**MS3.5**/8,**7C-14D,Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**4.95**	**32**		**Pn**	**18 21 43.3**	**+0.1**
KMBO	**Kilima Mbogo**	**9.85**	**68**	Pn	**Pn**	**18 22 52.2**	**+1.7**
	16nm,0.5s,baz=208,slow=16,SNR=8.3						
KMBO				Sn	**Sn**	**18 24 35.4**	**-6.0**
	8.0nm,0.3s,baz=208,slow=21,SNR=5.5						
KMBO				Lg	Lg	18 25 35.6	
	22nm,0.3s,baz=173,slow=22,SNR=9.3						
KMBO				LR	LR	18 26 59.2	
	comp=Z,120nm,20.0s,baz=98,slow=39						
KIBK	**Kibwezi**	**10.23**	**76**		**Pn**	**18 22 54.6**	**-1.0**
LSZ	**Lusaka**	**10.39**	**180**		**Pn**	**18 22 57.4**	**-0.4**
LSZ	**Lusaka**	**10.39**	**180**	Pn	**Pn**	**18 22 58.0**	**+0.2**
	2.5nm,0.3s,baz=5.9,slow=13,SNR=22						
LSZ				Sn	Sn	18 24 46.1	-8.4
	12nm,0.3s,baz=116,slow=21,SNR=10.0						
LSZ				Lg	Lg	18 25 53.9	
	14nm,0.3s,baz=101,slow=15,SNR=8.4						
LODK	**Lodwar**	**10.94**	**42**		**Pn**	**18 23 03.6**	**-1.7**
KSANE	**Kasane**	**13.22**	**192**		**Pn**	**18 23 34.2**	**-2.2**
KSANE	**Kasane**	**13.22**	**192**	*i* P	**Pn**	**18 23 33.6**	**-2.9**
MATP	**Matopo**	**15.52**	**179**	Pn	**Pn**	**18 24 10.4**	**+2.8**
	5.9nm,0.4s,baz=357,slow=13,SNR=36						
MATP				Sn	**Sn**	**18 26 53.9**	**-5.9**
	4.0nm,0.3s,baz=238,slow=15,SNR=4.4						
MATP				Lg	Lg	18 28 37.0	
	2.3nm,0.3s,baz=288,slow=14,SNR=3.9						
MATP				LR	LR	18 30 29.1	
	comp=Z,90nm,19.2s,baz=20,slow=38						
PHDHD	**Phuduhudu**	**15.67**	**192**		**Pn**	**18 24 08.7**	**-1.0**
PHDHD	**Phuduhudu**	**15.67**	**192**	*i* P	**Pn**	**18 24 08.8**	**-0.9**
BROLN	**Tlhalogang**	**16.20**	**183**	*i* P	**Pn**	**18 24 14.6**	**-1.9**
BROLN				*i* S	Sn	18 27 03.4	-13
BROLN				IAML		18 29 31.6	
	comp=N,39nm,1.1s						
KHWEE	**KHWEE**	**17.22**	**188**		**Pn**	**18 24 27.9**	**-1.5**
KHWEE	**KHWEE**	**17.22**	**188**	*i* P	**Pn**	**18 24 29.5**	**+0.1**
TSUM	**Tsumeb**	**17.59**	**215**		**Pn**	**18 24 32.8**	**-1.4**
TSUM	**Tsumeb**	**17.59**	**215**	P	**Pn**	**18 24 34.4**	**+0.3**
	comp=N,0.6nm,0.3s,baz=34,slow=13,SNR=6.5						
TSUM				S	Sn	18 27 29.8	-20
	comp=N,3.2nm,0.5s,baz=337,slow=16,SNR=1.2						
TSUM				Lg	Lg	18 29 40.7	
	comp=N,1.0nm,0.3s,baz=194,slow=22,SNR=1.7						
	comp=N,3.3nm,0.5s						
MREMI	**Moremi**	**17.66**	**182**		**Pn**	**18 24 33.5**	**-1.3**
MREMI	**Moremi**	**17.66**	**182**	*i* P	**Pn**	**18 24 32.0**	**-2.8**
GRTLG	**Ghanzi**	**17.75**	**202**		**Pn**	**18 24 35.0**	**-1.0**
GRTLG	**Ghanzi**	**17.75**	**202**	*i* P	**Pn**	**18 24 37.2**	**+1.2**
GRTLG				*i* S	**Sn**	**18 27 46.9**	**-7.1**
LPHEP	**Lephephe**	**18.56**	**186**		**P**	**18 24 45.3**	**-0.4**
LPHEP				IAmb	IAmb	18 25 02.2	
	comp=Z,35nm,0.9s						
KDWAN	**Kaudwane**	**18.75**	**190**	*i* P	**P**	**18 24 47.6**	**-0.3**
KDWAN				*i* S	Sn	18 28 07.3	-11
KGCAE	**Kacgae**	**18.81**	**197**		**P**	**18 24 48.6**	**0.0**
KGCAE				IAmb	IAmb	18 24 58.9	
	comp=Z,25nm,0.8s						
KGCAE	**Kacgae**	**18.81**	**197**	*i* P	**P**	**18 24 48.9**	**+0.3**
KOOLE	**Kule**	**19.61**	**202**		**P**	**18 24 56.1**	**-1.2**
KOOLE	**Kule**	**19.61**	**202**	*i* P	**P**	**18 24 59.6**	**+2.2**
EDA	**Edea**	**19.86**	**295**		**P**	**18 24 58.6**	**-1.4**
SKOMA	**Sekoma**	**19.99**	**191**	*i* P	**P**	**18 25 02.3**	**+0.9**
SKOMA				IAML		18 31 11.0	
	comp=N,24nm,2.0s						
LBTB	**Lobatse**	**20.22**	**187**	P	**P**	**18 25 04.9**	**+1.0**
	comp=N,4.3nm,0.6s,baz=5.0,slow=13,SNR=12						
LBTB				S	S	18 28 40.1	-11
	comp=N,5.3nm,0.7s,baz=162,slow=22,SNR=2.7						
LBTB				Lg	Lg	18 31 08.5	
	comp=N,0.6nm,0.3s,baz=296,slow=20,SNR=2.7						
LBTB				LR	LR	18 33 10.3	
	comp=N,183nm,18.1s,baz=8.5,slow=37						
	comp=N,4.3nm,0.6s						
LKGWB	**Lokgwabe**	**20.29**	**198**		**P**	**18 25 03.0**	**-1.8**
LKGWB	**Lokgwabe**	**20.29**	**198**	*i* P	**P**	**18 25 05.3**	**+0.5**
WIN	**Windhoek**	**20.60**	**210**	P	**P**	**18 25 07.6**	**-0.6**
PHPEN	**Phepeng**	**21.14**	**193**	P	**P**	**18 25 12.9**	**-1.0**
PHPEN				IAmb	IAmb	18 25 19.5	
	comp=Z,52nm,1.1s						
ATD	**Arta Tunnel**	**21.89**	**42**	P	**P**	**18 25 22.4**	**+0.4**
ATD				IAmb	IAmb	18 25 30.7	
	comp=Z,28nm,1.5s						
POGA	**Pongola**	**22.66**	**172**		**P**	**18 25 30.2**	**+0.1**
POGA				IAmb	IAmb	18 26 13.7	
	comp=Z,33nm,1.3s						
OPO	**Ambohidratompo**	**23.12**	**128**	LR	LR	18 35 33.5	
	comp=Z,45nm,18.0s,baz=110,slow=39						
BOSA	**Boshof**	**23.82**	**186**	P	**P**	**18 25 43.2**	**+1.3**
	comp=Z,6.9nm,0.8s,baz=7.0,slow=8.5,SNR=13						
BOSA				Lg	Lg	18 32 59.0	
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=2.1						
	comp=Z,6.9nm,0.8s						
SUR	**Sutherland**	**28.25**	**193**	P	**P**	**18 26 22.1**	**-0.1**
SUR				IAmb	IAmb	18 26 46.7	
	comp=Z,19nm,1.2s						
GRHM	**Grahamstown, E**	**28.36**	**183**	P	**P**	**18 26 22.5**	**-0.4**
ACRG	**Accra**	**30.12**	**290**	P	**P**	**18 26 39.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**31.73**	**305**	P	**P**	**18 26 51.8**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=106,slow=8.1,SNR=44						
	comp=Z,6.1nm,0.6s						
RAYN	**Ar Rayn**	**32.90**	**30**	P	**P**	**18 27 02.7**	**-0.4**
DBIC	**Dimbokro**	**34.82**	**289**	P	**P**	**18 27 18.3**	**-1.7**
	comp=Z,9.3nm,1.0s,baz=122,slow=8.1,SNR=5.5						
DBIC				LR	LR	18 41 18.2	
	comp=Z,87nm,18.6s,baz=178,slow=36						
	comp=Z,9.3nm,1.0s						
EIL	**Elat**	**34.92**	**10**	LR	LR	18 40 22.7	
	comp=Z,49nm,19.9s,baz=348,slow=34						
SHEL	**Horse Pasture**	**35.02**	**249**	P	**P**	**18 27 22.0**	**+0.2**
TAM	**Tamanrasset**	**35.22**	**322**	P	**P**	**18 27 22.8**	**-0.7**
GHAJ	**Ghor Haditha**	**36.62**	**11**	P	**P**	**18 27 35.5**	**+0.3**
GHAJ				IAmb	IAmb	18 27 43.3	
	comp=Z,10nm,0.8s						
MMAI	**Mount Meron Ar**	**38.26**	**10**	P	**P**	**18 27 50.6**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=188,slow=9.8,SNR=4.4						
	comp=Z,1.4nm,0.6s						
CSS	**Mathiatis**	**39.88**	**7**	P	**P**	**18 28 02.4**	**-0.2**
CSS				IAmb	IAmb	18 28 04.9	
	comp=Z,8.8nm,0.9s						
UOSS	**Minazif**	**40.28**	**41**	P	**P**	**18 28 05.7**	**-0.4**
GAZ	**Gaziantep**	**42.63**	**11**	P	**P**	**18 28 25.4**	**+0.1**
GAZ				IAmb	IAmb	18 28 28.4	
	comp=Z,16nm,0.8s						
MANT	**Manisa**	**43.09**	**1**	P	**P**	**18 28 28.5**	**-0.7**
MANT				IAmb	IAmb	18 28 38.0	
	comp=Z,8.5nm,1.1s						
MARD	**Mardin**	**43.55**	**15**	P	**P**	**18 28 31.6**	**-1.1**
RAFF	**Raffo Rosso**	**43.74**	**344**	P	**P**	**18 28 34.1**	**0.0**
KEST	**Kesra**	**44.01**	**338**	P	**P**	**18 28 36.8**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=57,slow=8.1,SNR=4.3						
KEST				LR	LR	18 49 19.1	
	comp=Z,59nm,19.5s,baz=303,slow=40						
	comp=Z,2.8nm,0.7s						
BNN	**Bunyan**	**44.04**	**9**	P	**P**	**18 28 35.8**	**-0.9**
BNN				IAmb	IAmb	18 28 41.6	
	comp=Z,7.8nm,1.1s						
DGAR	**Diego Garcia**	**44.16**	**96**	P	**P**	**18 28 37.0**	**-0.9**
CEL	**Celeste**	**44.34**	**346**	P	**P**	**18 28 37.9**	**-1.1**
CEL				IAmb	IAmb	18 28 44.2	
	comp=Z,6.9nm,1.0s						
BORA	**Eskisehir**	**44.53**	**3**	P	**P**	**18 28 40.5**	**-0.1**
BORA				IAmb	IAmb	18 28 43.0	
	comp=Z,4.9nm,0.6s						
BRTR	**Keskin Array B**	**44.62**	**6**	P	**P**	**18 28 42.6**	**+1.3**
	comp=Z,10.0nm,0.7s,baz=183,slow=9.7,SNR=74						
	comp=Z,10.0nm,0.7s						
KEK	**Kerkira**	**44.97**	**351**	P	**P**	**18 28 44.0**	**+0.1**
KEK				IAmb	IAmb	18 29 16.7	
	comp=Z,7.6nm,1.1s						
RDO	**Rodhopi**	**45.80**	**357**	P	**P**	**18 28 48.5**	**-2.0**
RDO				IAmb	IAmb	18 28 56.2	
	comp=Z,12nm,1.3s						
ILGA	**Ilgaz**	**45.94**	**6**	P	**P**	**18 28 50.7**	**-1.2**
CUC	**Castrocucco**	**46.01**	**347**	P	**P**	**18 28 51.1**	**-1.1**
KOPT	**Kop Dagi**	**46.05**	**13**	P	**P**	**18 28 51.2**	**-1.6**
SGRT	**San Giovanni R**	**47.70**	**347**	P	**P**	**18 29 03.3**	**-2.3**
MDT	**Midelt**	**48.62**	**323**	LR	LR	18 52 54.8	
	comp=Z,59nm,20.9s,baz=56,slow=40						
NRCA	**Norcia**	**49.34**	**345**	P	**P**	**18 29 16.4**	**-1.7**
CFR	**Carcaliu**	**49.77**	**0**	⇑P	**P**	**18 29 22.0**	**+0.8**
ARR	**Arges**	**50.06**	**357**	⇓P	**P**	**18 29 23.7**	**+0.1**
MLR	**Muntele Rosu**	**50.12**	**358**	P	**P**	**18 29 22.8**	**-1.3**
MLR				IAmb	IAmb	18 29 31.1	
	comp=Z,6.9nm,0.8s						
MLR	**Muntele Rosu**	**50.12**	**358**	⇓P	**P**	**18 29 24.1**	**-0.1**
BISRR	**Bisoca**	**50.16**	**359**	⇓P	**P**	**18 29 22.2**	**-2.1**
LOT	**Lotru**	**50.19**	**356**	⇑P	**P**	**18 29 22.6**	**-2.0**
GZR	**Gura Zlata**	**50.22**	**355**	⇓P	**P**	**18 29 22.3**	**-2.4**
PLOR	**Plostina**	**50.46**	**359**	⇑P	**P**	**18 29 25.3**	**-1.3**
VRI	**Vrincioaia**	**50.48**	**359**	⇓P	**P**	**18 29 26.3**	**-0.3**
BZS	**Buzias**	**50.55**	**354**	⇓P	**P**	**18 29 28.0**	**+0.8**
SURR	**Surduc**	**50.63**	**355**	⇓P	**P**	**18 29 27.5**	**-0.3**
OZUR		**50.73**	**358**	⇑P	**P**	**18 29 26.6**	**-2.0**
TESR	**Tescani**	**51.12**	**359**	⇑P	**P**	**18 29 31.2**	**-0.3**
SIRR	**Siria**	**51.19**	**354**	⇑P	**P**	**18 29 33.4**	**+1.4**
MORH	**Mrgy, Hungar**	**51.50**	**352**	⇓P	**P**	**18 29 34.9**	**+0.6**
DRGR		**51.61**	**355**	⇑P	**P**	**18 29 36.6**	**+1.4**
ARSA	**Arzberg**	**53.02**	**349**	*i* P	**P**	**18 29 46.4**	**+0.8**
	comp=Z,9.9nm,1.3s						
ESDC	**Soneca Array**	**53.22**	**329**	P	**P**	**18 29 46.7**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=140,slow=6.9,SNR=7.7						
ESDC				PcP	**PcP**	**18 30 55.9**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=157,slow=4.2,SNR=4.4						
	comp=Z,1.3nm,0.8s						
RONA	**Rosalia, Austr**	**53.32**	**350**	*i* P	**P**	**18 29 47.6**	**-0.2**
	comp=Z,1.9nm,1.1s						
PAB	**San Pablo**	**53.33**	**329**	P	**P**	**18 29 48.2**	**+0.2**
PAB				IAmb	IAmb	18 30 08.2	
	comp=Z,8.4nm,1.4s						
KECS	**Kecovo**	**53.50**	**354**	*e*P	**P**	**18 29 50.6**	**+1.5**
PVAQ	**Vaqueiros**	**53.63**	**325**	P	**P**	**18 29 49.8**	**-0.5**
TUE	**Stuetta**	**53.71**	**344**	P	**P**	**18 29 50.0**	**-1.0**
TUE				IAmb	IAmb	18 29 55.8	
	comp=Z,7.4nm,1.3s						
LESA	**Schwarzleotal**	**53.77**	**347**	*i* P	**P**	**18 29 51.0**	**-0.2**
	comp=Z,3.1nm,1.5s						
MODS	**Modra-Piesok**	**53.81**	**351**	*e*P	**P**	**18 29 52.0**	**+0.6**
WTTA	**Wattenberg**	**53.86**	**346**	*i* P	**P**	**18 29 52.1**	**+0.1**
	comp=Z,2.6nm,0.7s						
SQTA	**Sankt Quirin**	**53.92**	**346**	*i* P	**P**	**18 29 52.4**	**0.0**
	comp=Z,1.7nm,0.5s						
MOTA	**Moosalm**	**54.06**	**346**	*i* P	**P**	**18 29 53.0**	**-0.5**
	comp=Z,1.4nm,0.5s						
MESJ	**Messejana**	**54.22**	**325**	P	**P**	**18 29 53.9**	**-0.7**
LANS	**Liptovska Anna**	**54.27**	**353**	*e*P	**P**	**18 29 55.7**	**+0.9**
RETA	**Reutte**	**54.28**	**346**	*i* P	**P**	**18 29 54.4**	**-0.5**
	comp=Z,2.2nm,0.7s						
DAVA	**Damuels**	**54.32**	**345**	*i* P	**P**	**18 29 54.7**	**-0.6**
	comp=Z,4.4nm,0.8s						
GERES	**GERESS Array B**	**54.90**	**348**	P	**P**	**18 29 58.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=165,slow=7.6,SNR=4.9						
	comp=Z,0.6nm,0.6s						
OJC	**Ojcow**	**55.29**	**354**	P	**P**	**18 30 00.3**	**-1.8**
KIEV	**Kiev**	**55.30**	**1**	P	**P**	**18 30 00.8**	**-1.4**
KIEV				IAmb	IAmb	18 30 06.6	
	comp=Z,5.7nm,0.7s						
AKASG	**Malin Array Be**	**55.31**	**1**	P	**P**	**18 30 01.6**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=186,slow=6.5,SNR=6.8						
	comp=Z,2.3nm,0.6s						
CHGR	**Chuyangaron**	**57.56**	**38**	P	**P**	**18 30 17.7**	**-0.9**
CHGR				IAmb	IAmb	18 30 24.0	
	comp=Z,6.6nm,0.7s						
MEM	**Membach**	**58.40**	**344**	*d*PcP	**PcP**	**18 31 14.5**	**-0.4**
EKA	**Eskdalemuir Ar**	**65.28**	**341**	P	**P**	**18 31 10.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=123,slow=5.2,SNR=4.4						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**65.75**	**352**	P	**P**	**18 31 13.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=168,slow=15,SNR=4.3						
	comp=Z,1.8nm,0.7s						
ARTI	**Arti**	**65.85**	**18**	P	**P**	**18 31 14.0**	**-0.1**
FINES	**FINESS Array B**	**66.09**	**359**	P	**P**	**18 31 15.4**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=151,slow=12,SNR=5.5						
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**67.00**	**166**	P	**P**	**18 31 24.4**	**+3.1**
	comp=Z,5.6nm,0.7s,baz=329,slow=6.7,SNR=21						
MAW				LR	LR	18 59 26.0	
	comp=Z,65nm,18.2s,baz=246,slow=35						
	comp=Z,5.6nm,0.7s						
TROLL	**Troll, Antarti**	**68.98**	**188**	⇓P	**P**	**18 31 37.3**	**+3.4**
	comp=Z,374nm,0.9s						
SNAA	**Sanae**	**69.54**	**190**	⇓P	**P**	**18 31 40.1**	**+2.9**
	comp=Z,30nm,0.8s						
SNAA	**Sanae**	**69.54**	**190**	P	**P**	**18 31 37.5**	**+0.3**
SNAA				IAmb	IAmb	18 31 41.5	
	comp=Z,4.8nm,1.2s						
SNAA	**Sanae**	**69.54**	**190**	P	**P**	**18 31 39.9**	**+2.6**
	comp=Z,1.6nm,1.0s,baz=34,slow=15,SNR=5.6						
	comp=Z,1.6nm,1.0s						
VNA1	**Neumayer--Stat**	**69.75**	**192**	⇓P	**P**	**18 31 42.0**	**+3.6**
	comp=Z,7.6nm,0.9s						
VNA2	**Neumayer--Watz**	**69.78**	**192**	⇓P	**P**	**18 31 41.1**	**+2.5**
	comp=Z,4.9nm,0.6s,baz=32,slow=6.8						
MAKZ	**Makanchi**	**69.95**	**36**	P	**P**	**18 31 39.8**	**-0.4**
KURBB	**Kurchatov Arra**	**70.12**	**31**	P	**P**	**18 31 42.2**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=243,slow=6.3,SNR=11						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**70.13**	**36**	P	**P**	**18 31 42.3**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=246,slow=6.0,SNR=16						
	comp=Z,1.8nm,0.6s						
KURK	**Kurchatov**	**70.22**	**31**	P	**P**	**18 31 41.6**	**-0.1**
VNA3	**Neumayer Olymp**	**70.50**	**192**	⇓P	**P**	**18 31 45.5**	**+2.4**
	comp=Z,3.8nm,0.6s						
WMQ	**Urumqi**	**72.09**	**41**	*e*P	**P**	**18 31 55.5**	**+2.2**
WMQ				LR	LR		
	comp=Z,190nm,20.5s						
CMAR	**Chiang Mai Arr**	**73.49**	**69**	P	**P**	**18 32 03.9**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=269,slow=6.6,SNR=9.3						
	comp=Z,1.1nm,0.8s						
ARCES	**ARCESS Array B**	**74.22**	**359**	P	**P**	**18 32 05.4**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=171,slow=5.4,SNR=26						
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**75.17**	**31**	P	**P**	**18 32 11.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=243,slow=6.5,SNR=4.5						
	comp=Z,0.9nm,0.5s						
PZH	**PanZhiHua**	**77.62**	**62**	P	**P**	**18 32 27.3**	**+1.6**
GTA	**Gaotai**	**79.08**	**49**	*e*P	**P**	**18 32 35.9**	**+2.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
QSPA	**South Pole Qui**	**85.24**	**180**	P	**P**	**18 33 09.5**	**+4.1**
	comp=Z,5.3nm,0.9s,baz=274,slow=1.5,SNR=25						
	comp=Z,5.3nm,0.9s						
TRQA	**Tornquist**	**87.12**	**232**	P	**P**	**18 33 13.6**	**-1.6**
TRQA				IAmb	IAmb	18 33 20.6	
	comp=Z,8.6nm,1.4s						
HHC	**Hu-ho-hao-te**	**88.19**	**49**	*e*P	**P**	**18 33 19.0**	**-1.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,4.5s						
BOAV	**Boa Vista**	**88.83**	**272**	P	**P**	**18 33 22.7**	**-1.0**
BOAV				IAmb	IAmb	18 33 30.1	
	comp=Z,6.5nm,1.3s						
MBWA	**Marble Bar**	**89.80**	**111**	P	**P**	**18 33 27.2**	**-0.9**
PSA00	**Pilbara Seismi**	**89.87**	**112**	P	**P**	**18 33 27.7**	**-0.8**
PSA00	**Pilbara Seismi**	**89.87**	**112**	P	**P**	**18 33 27.7**	**-0.8**
PSA00				IAmb	IAmb	18 33 29.6	
	comp=Z,9.2nm,1.4s						
NJ2	**Nanjing**	**93.17**	**58**	*e*P	**P**	**18 33 43.6**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VNDA	**Vanda**	**93.92**	**171**	P	**P**	**18 33 48.9**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=279,slow=5.4,SNR=3.8						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**120.06**	**358**	PKP	**PKPdf**	**18 39 18.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=336,slow=5.7,SNR=4.6						
PDAR	**Pinedale Array**	**126.79**	**322**	PKP	**PKPdf**	**18 39 33.1**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=111,slow=3.3,SNR=4.6						
TXAR	**Lajitas Array**	**128.34**	**304**	PKP	**PKPdf**	**18 39 37.7**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=70,slow=1.7,SNR=2.2						
NVAR	**Mina Array Bea**	**134.72**	**322**	PKP	**PKPdf**	**18 39 50.5**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=5.5,slow=1.6,SNR=2.3						

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*IDC **12** 18:24:15.6±1.8,3°.56N×126°.90E,h0km,mb3.3/4, mbtmp3.4/4,Error ellipse: s-maj=119.7km s-min=22.0km az=70.0*
*DJA **12** 18:24:20.2±0.6,4°.N±4°.×12°.7E±°,h26km±7km,M3.8/13, mB5.0/2,mb3.9/6,MLv3.8/13,Mw(mB)4.3/2*
ISC 12 18:24:21.5±1.2,**3°.7N**±0°.1×**127°.1E**±0°.1,**h48**km,**n12,** σ1§**53**/12,**mb3.3/5,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.60**	**268**	P	**Pn**	**18 24 47.3**	**0.0**
TNTI	**Ternate**	**2.95**	**175**	P	**Pn**	**18 25 06.4**	**+0.5**
SANI	**Sanana**	**5.86**	**191**	P	**Pn**	**18 25 44.7**	**-1.1**
SWI	**Sorong**	**6.16**	**138**	P	**Pn**	**18 25 50.1**	**+0.2**
	0.1nm5.5nm,0.9s						
LUWI	**Luwuk**	**6.44**	**223**	P	**Pn**	**18 25 56.6**	**+2.8**
	0.1nm744nm18nm,1.0s						
NLAI	**Namlea**	**6.93**	**180**	P	**Pn**	**18 26 01.6**	**+1.1**
	2μm11nm,0.9s						
FAKI	**Fak Fak**	**8.36**	**142**	P	**Pn**	**18 26 20.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.74**	**184**	P	**P**	**18 29 06.2**	**-2.9**
	1.0nm,0.7s,baz=6.7,slow=12,SNR=1.4						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**24.57**	**164**	P	**P**	**18 29 36.4**	**-0.8**
	0.6nm,0.6s,baz=344,slow=10,SNR=8.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**28.02**	**167**	P	**P**	**18 30 08.2**	**-0.1**
	0.1nm,0.4s,baz=342,slow=9.4,SNR=8.9						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**57.78**	**325**	P	**P**	**18 34 08.6**	**+0.7**
	0.4nm,0.6s,baz=124,slow=6.9,SNR=3.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**61.95**	**327**	P	**P**	**18 34 37.5**	**+1.1**
	0.5nm,0.4s,baz=132,slow=5.8,SNR=1.8						

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*NEIC **12** 18:25:03.4±1.4,26°.13N±0°.08×140°.5E±0°.1,h353km±7km, mb4.2/40,Error ellipse: s-maj=16.4km s-min=11.9km az=81.0*
*IDC **12** 18:25:06.4±3.6,26°.13N×140°.48E,h386km±36km,mb3.8/6, mbtmp4.5/6,Error ellipse: s-maj=71.8km s-min=17.3km az=87.0*
*JMA **12** 18:25:06.4±0.1,27°N±1°.×14°.1E±°,h364km,MV4.6/21, NEAR CHICHIJIMA ISLAND*
ISC 12 18:25:02.2±0.4,**26°.20N**±0°.05×**140°.53E**±0°.09,**h350**km,**n60,** σ1§**90**/72,**mb4.2**/24,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.54**	**73**	P	**Pn**	**18 25 52.9**	**+2.3**
JHH2				*e*S	**S**	**18 26 29.4**	**+0.1**
CBIJ	**Chichi jima**	**1.73**	**59**	P	**Pn**	**18 25 53.3**	**+1.6**
CBIJ				*e*S	**S**	**18 26 30.3**	**-1.1**
JCJ	**Chichijima**	**1.73**	**59**	Pn	**Pn**	**18 25 53.3**	**+1.6**
JCJ				Sn	**S**	**18 26

comp=Z,24nm,1.5s
O15K Ungalikthiuk R 52.40 34 P **P 18 33 40.9 +1.4**
O15K IAmb IAmb 18 34 06.0
comp=Z,18nm,1.4s
N15K Kwethluk River 52.48 33 P **P 18 33 41.8 +1.8**
N15K IAmb IAmb 18 33 45.4
comp=Z,18nm,1.4s
H19K Roundabout Mou 55.32 27 P **P 18 34 02.0 +1.7**
J20K Nowinta River 56.01 29 P **P 18 34 07.2 +2.0**
D22K Ayikyak River 57.48 23 P **P 18 34 17.3 +1.9**
D22K IAmb IAmb 18 34 50.9
comp=Z,16nm,1.2s
E22K Anaktuvuk Pass 57.65 24 P **P 18 34 18.1 +1.5**
STKA Stephens Creek 57.76 179 P **P 18 34 17.2 -0.5**
STKA Stephens Creek 57.76 179 P **P 18 34 18.3 +0.6**
comp=Z,3.3nm,0.6s,baz=339,slow=8.3,SNR=7.1
comp=Z,3.3nm,0.6s
FORT Forrest 57.90 193 P **P 18 34 17.9 -0.7**
FORT IAmb IAmb 18 34 57.1
comp=Z,8.5nm,1.2s
BBOO Buckleboo 58.84 184 P **P 18 34 24.9 -0.2**
BBOO IAmb IAmb 18 34 25.1
comp=Z,14nm,1.4s
E24K Your Creek 58.88 25 P **P 18 34 26.9 +1.9**
E24K IAmb IAmb 18 34 47.5
comp=Z,10nm,1.4s
MORW Morawa 59.77 205 P **P 18 34 32.0 +0.6**
MORW IAmb IAmb 18 34 44.0
comp=Z,20nm,1.4s
SCRK Sand Creek 60.44 29 P **P 18 34 36.4 +0.7**
CAN Canberra 61.71 172 P **P 18 34 45.1 +0.8**
YKU2 Yakutat 62.69 34 P **P 18 34 52.0 +1.6**
TOO Toolangi 63.60 176 P **P 18 34 57.6 +0.9**
RTZ Ruatahuna 72.95 151 P **P 18 35 52.7 -1.5**
BKZ Black Stump Fm 73.20 152 P **P 18 35 54.4 -1.2**
NNZ Nelson 73.67 155 P **P 18 35 57.5 -0.7**
FINES FINESS Array B 78.09 333 P **P 18 36 23.4 +0.6**
comp=Z,4.1nm,1.0s,baz=57,slow=5.1,SNR=8.7
comp=Z,4.1nm,1.0s
NC405 NORSAR Array S 83.66 338 P **P 18 36 52.0 0.0**

*NEIC **12** 19:20:59.0±0.6, 19°.5N±0°.2×64°.81W±0°.05, h3km±18km, ML2.5/15, Md3.8/8(RSPR), Error ellipse: s-maj=27.1km s-min=6.1km az=182.0*
*RSPR **12** 19:21:02.4, 19°.66N×64°.88W, h13km±8km, MD3.8/8*
ISC 12 19:20:57.4±2.7, 19°.5N±0°.1×64°.81W±0°.04, h5km±18km, n29, σ1º04/34, 6C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.65**	**217**	Pn	**Pb**	**19 21 28.4**	**0.0**
GCPR	**Guaynabo City**	**1.67**	**226**	Pn	**Pb**	**19 21 28.9**	**+0.3**
GCPR				Sn	**Sb**	**19 21 50.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.85**	**218**		**Pb**	**19 21 31.2**	**-0.5**
PDPR				Sn	**Sb**	**19 21 54.9**	**-0.2**
PDPR				IAML		19 22 01.9	
	comp=N,37nm,0.5s						
PDPR				IAML		19 22 07.0	
	comp=E,40nm,0.5s						
PDPR	**Patillas Dam,**	**1.85**	**218**∥	*eP*	**Pb**	**19 21 31.6**	**-0.1**
PDPR	**Patillas Dam,**	**1.85**	**218**	*eS*	**Sg**	**19 21 56.8**	**-0.1**
SJG	**San Juan**	**1.86**	**223**		**Pb**	**19 21 31.4**	**-0.5**
SJG				IAML		19 22 06.8	
	comp=E,39nm,0.8s						
SJG	**San Juan**	**1.86**	**223**∥	*eP*	**Pg**	**19 21 33.3**	**+0.3**
ECPR	**Experimental S**	**1.86**	**232**∥	*eP*	**Pb**	**19 21 32.1**	**+0.1**
ECPR	**Experimental S**	**1.86**	**232**	*eS*	**Sb**	**19 21 55.5**	**-0.1**
AOPR	**Arecibo Observ**	**2.15**	**239**		**Pb**	**19 21 35.4**	**-1.5**
AOPR	**Arecibo Observ**	**2.15**	**239**⇑	*eP*	**Pb**	**19 21 36.9**	**0.0**
SMRT	**St. Maarten**	**2.17**	**130**		**Pb**	**19 21 36.7**	**-0.6**
SMRT					**Sb**	**19 22 02.9**	**-1.7**
SMRT	**St. Maarten**	**2.17**	**130**⇑	*eP*	**Pb**	**19 21 37.6**	**+0.3**
SMRT	**St. Maarten**	**2.17**	**130**	*eS*	**Sb**	**19 22 03.7**	**-0.8**
UUPR	**Utuado, UPR, P**	**2.18**	**236**	Pn	**Pb**	**19 21 36.2**	**-1.1**
UUPR	**Utuado, UPR, P**	**2.18**	**236**∥	*eP*	**Pb**	**19 21 36.7**	**-0.6**
CELP	**Cerrillos**	**2.18**	**230**		**Pb**	**19 21 35.9**	**-1.4**
CELP					**Sb**	**19 22 04.0**	**-0.7**
CELP				IAML		19 22 10.4	
	comp=N,33nm,0.6s						
CELP				IAML		19 22 15.1	
	comp=E,30nm,0.7s						
CELP	**Cerrillos**	**2.18**	**230**⇑	*eP*	**Pb**	**19 21 36.4**	**-0.9**
CELP	**Cerrillos**	**2.18**	**230**	*eS*	**Sb**	**19 22 04.6**	**0.0**
OBIP	**Obispado Ponce**	**2.22**	**230**		**Pb**	**19 21 36.7**	**-1.3**
OBIP				IAML		19 22 16.1	
	comp=E,34nm,0.9s						
OBIP				IAML		19 22 23.4	
	comp=N,27nm,1.1s						
OBIP	**Obispado Ponce**	**2.22**	**230**⇑	*eP*	**Pb**	**19 21 37.1**	**-0.9**
LSP	**Las Mesas**	**2.51**	**239**		**Pb**	**19 21 42.8**	**-0.2**
LSP					**Sb**	**19 22 12.4**	**-1.8**
LSP	**Las Mesas**	**2.51**	**239**⇑	*eP*	**Pb**	**19 21 42.8**	**-0.2**
LSP	**Las Mesas**	**2.51**	**239**	*eS*	**Sb**	**19 22 12.4**	**-1.8**
MLPR	**Magueyes Islan**	**2.59**	**235**∥	*eP*	**Pb**	**19 21 41.8**	**-2.5**
CRPR	**Cabo Rojo, PR**	**2.62**	**236**		**Pn**	**19 21 42.0**	**+1.6**
CRPR				IAML		19 22 41.1	
	comp=N,25nm,1.5s						
CRPR				IAML		19 22 41.7	
	comp=E,23nm,1.1s						
CRPR	**Cabo Rojo, PR**	**2.62**	**236**⇑	*eP*	**Pb**	**19 21 43.9**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.62**	**236**	*eS*	**Sb**	**19 22 17.9**	**+0.5**
DR12	**Loma Pena Alta**	**4.37**	**262**	Pn	**Pn**	**19 22 05.5**	**+0.9**

WEL 12 19:35:27.1±1.0, 31°.5N±17°.×18°.0E±4°.4, h251km±30km, mB4.6/2, mL4.6/6, MLv4.5/7, Mw(mB)3.8/2, Error ellipse: s-maj=61.5km s-min=5.5km az=110.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.76**	**48**	P	Pn	19 36 16.9	-0.2
GLKZ				S	S	19 36 57.0	+0.5
TDHS	**Te Araroa Dist**	**6.59**	**189**	P	Pn	19 37 02.6	+0.1
HAZ	**Te Kaha**	**6.81**	**193**	P	Pn	19 37 04.4	-0.9
HAZ				S	S	19 38 25.5	+1.5
RUGZ	**Raukumara Rang**	**7.03**	**193**	P	Pn	19 37 08.1	-0.1
RUGZ				S	S	19 38 28.0	-1.4
PUZ	**Puketiti**	**7.04**	**189**	P	Pn	19 37 09.9	+1.7
PUZ				S	S	19 38 29.8	+0.5
OPCS	**Opotiki Colleg**	**7.16**	**196**	P	Pn	19 37 09.8	+0.1
TWGZ	**Tauwhareparae**	**7.18**	**191**	P	Pn	19 37 11.7	+1.7
TWGZ				S	S	19 38 34.8	+2.0
MWZ	**Matawai**	**7.42**	**193**	P	Pn	19 37 13.1	+0.1
MWZ				S	S	19 38 38.6	+0.4
URZ	**Urewera**	**7.44**	**196**	P	Pn	19 37 12.8	-0.4
URZ				S	S	19 38 40.2	+1.7
CNGZ	**Carnagh Statio**	**7.45**	**189**	P	Pn	19 37 14.4	+1.0
CNGZ				S	S	19 38 36.2	-2.6
MUGZ	**Murupara**	**7.73**	**197**	P	Pn	19 37 13.1	-3.7
MUGZ				S	S	19 38 47.3	+2.0
RIGZ	**Rimuhau**	**7.74**	**191**	P	Pn	19 37 17.4	+0.4
RIGZ				S	S	19 38 46.0	+0.5
SNGZ	**Shannon Statio**	**7.89**	**194**	P	Pn	19 37 19.5	+0.6
SNGZ				S	S	19 38 46.9	-2.1
KNZ	**Kokohu**	**8.06**	**191**	P	Pn	19 37 21.7	+0.7
RAHZ	**Arahi**	**8.07**	**195**	P	Pn	19 37 21.5	+0.2
BKZ	**Black Stump Fm**	**8.45**	**197**	P	Pn	19 37 25.1	-1.0
BKZ				S	S	19 39 02.0	0.0

*TAP **12** 19:43:41.3, 24°.50N×122°.47E, h69km±1km, ML2.7, B*
*JMA **12** 19:43:41.5±0.1, 24°.N±1°.×122°.5E±0°.4, h66km±1km, MV1.9/13, NW OFF ISHIGAKIJIMA IS*
ISC 12 19:43:41.7±1.3, 24°.49N±0°.03×122°.51E±0°.02, h67km±7km, n92, σ0º80/154, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.26**	**255**	*i* P	**Pn**	**19 43 52.4**	**+0.2**
EOS2				*i* S	**Sn**	**19 44 01.0**	**+1.2**
EOS3	**EOS3**	**0.27**	**222**	*i* P	**Pn**	**19 43 52.7**	**+0.5**
EOS3				*i* S	**Sn**	**19 44 01.3**	**+1.4**
JYNG	**Yonagunijimaku**	**0.40**	**95**	P	**Pn**	**19 43 53.2**	**-0.1**
JYNG				S	**Sn**	**19 44 01.5**	**-0.3**
EOS4	**EOS4**	**0.40**	**206**	P	**Pn**	**19 43 53.9**	**+0.9**
EOS4				*i* S	**Sn**	**19 44 02.4**	**+1.2**
YOJ	**Yonaguni jima**	**0.46**	**93**	*i* P	**Pn**	**19 43 53.7**	**-0.1**
YOJ				*eS*	**Sn**	**19 44 02.3**	**-0.4**
YOJ	**Yonaguni jima**	**0.46**	**93**	*i* P	**Pn**	**19 43 53.7**	**-0.1**
YOJ				S	**Sn**	**19 44 02.4**	**-0.3**
ESAO	**Su ao**	**0.61**	**279**	P	**Pn**	**19 43 55.0**	**-0.4**
ESAO				S	**Sn**	**19 44 04.0**	**-1.6**
TWC	**Suao**	**0.62**	**282**⇑	*i* P	**Pn**	**19 43 54.9**	**-0.6**
TWC				*i* S	**Sn**	**19 44 04.2**	**-1.4**
EWUT	**Wuta**	**0.67**	**267**	P	**Pn**	**19 43 56.0**	**-0.1**
EWUT				S	**Sn**	**19 44 06.3**	**-0.4**
ENA	**Nanau**	**0.70**	**265**	*i* P	**Pn**	**19 43 56.2**	**-0.2**
ENA				*i* S	**Sn**	**19 44 07.9**	**+0.5**
EAHA	**Aohua**	**0.72**	**258**	*eP*	**Pn**	**19 43 56.9**	**+0.3**
EAHA				*i* S	**Sn**	**19 44 08.6**	**+0.9**
NDS	**Dongshan**	**0.74**	**282**	*eP*	**Pn**	**19 43 56.2**	**-0.6**
NDS				*eS*	**Sn**	**19 44 07.3**	**-0.8**
ILA	**Ilan**	**0.75**	**292**	*eP*	**Pn**	**19 43 56.5**	**-0.5**
ILA				*eS*	**Sn**	**19 44 09.2**	**+0.9**
TWE	**Neicheng**	**0.80**	**287**	*i* P	**Pn**	**19 43 57.3**	**-0.4**
TWE				S	**Sn**	**19 44 08.6**	**-0.8**
SXI1	**Grass Mountain**	**0.84**	**316**	*eP*	**Pn**	**19 43 57.8**	**-0.3**
SXI1				*eS*	**Sn**	**19 44 09.6**	**-0.7**
ETL	**Fush Village**	**0.87**	**248**	*eP*	**Pn**	**19 43 59.1**	**+0.5**
ETL				*eS*	**Sn**	**19 44 10.1**	**-0.9**
ENTT	**Nioudou**	**0.88**	**280**	*i* P	**Pn**	**19 43 58.5**	**0.0**
ENTT				*i* S	**Sn**	**19 44 11.1**	**+0.1**
NWF	**Wu-fen Shan**	**0.88**	**311**	P	**Pn**	**19 43 58.9**	**+0.2**
NWF				S	**Sn**	**19 44 10.6**	**-0.7**
WFSB	**Wu-fen Shan**	**0.88**	**311**	*eP*	**Pn**	**19 43 58.4**	**-0.2**
WFSB				*eS*	**Sn**	**19 44 10.0**	**-1.1**
FUSB	**Fushanzhiwuyua**	**0.89**	**288**	*i* P	**Pn**	**19 43 58.6**	**0.0**
FUSB				S	**Sn**	**19 44 10.4**	**-0.9**
NACB	**Ninganchiao**	**0.89**	**250**	P	**Pn**	**19 43 58.4**	**-0.3**
NACB				S	**Sn**	**19 44 10.7**	**-0.6**
LATG	**Datong**	**0.90**	**273**	P	**Pn**	**19 43 59.4**	**+0.5**
LATG				S	**Sn**	**19 44 11.5**	**-0.2**
TWD	**Chiawan**	**0.93**	**244**	*eP*	**Pn**	**19 43 59.3**	**-0.2**
TWD				S	**Sn**	**19 44 11.1**	**-1.0**
NWLT	**Wulai**	**0.96**	**288**	*i* P	**Pn**	**19 44 00.0**	**+0.4**
NWLT				*i* S	**Sn**	**19 44 12.5**	**-0.5**
TWA	**Mucha**	**0.98**	**300**	P	**Pn**	**19 43 59.8**	**0.0**
TWA				S	**Sn**	**19 44 12.1**	**-1.2**
ETLH	**Xiulin Townshi**	**0.98**	**254**	*eP*	**Pn**	**19 43 59.0**	**-0.8**
ETLH				*i* S	**Sn**	**19 44 12.7**	**-0.7**
NHDH	**Xindian Distri**	**1.02**	**298**	*eP*	**Pn**	**19 44 00.4**	**+0.2**
NHDH				*eS*	**Sn**	**19 44 13.7**	**-0.3**
NNSB	**Datong**	**1.03**	**267**	*eP*	**Pn**	**19 44 00.5**	**-0.1**
NNSB				*eS*	**Sn**	**19 44 14.1**	**-0.5**
NNS	**Nan Shan**	**1.04**	**268**	*eP*	**Pn**	**19 44 00.7**	**0.0**
NNS				*eS*	**Sn**	**19 44 13.9**	**-0.8**
YHNB	**Yeheng**	**1.05**	**280**	P	**Pn**	**19 44 01.0**	**+0.2**
YHNB				S	**Sn**	**19 44 15.0**	**0.0**
ETM	**Tongmen**	**1.06**	**241**	*eP*	**Pn**	**19 44 00.3**	**-0.6**
ETM				*eS*	**Sn**	**19 44 14.3**	**-0.9**
NSK	**Sanguang**	**1.07**	**280**	*i* P	**Pn**	**19 44 01.0**	**0.0**
NSK				*i* S	**Sn**	**19 44 15.5**	**+0.1**
YM01	**YM01**	**1.08**	**308**	P	**Pn**	**19 44 00.8**	**-0.3**
YM01				*i* S	**Sn**	**19 44 14.8**	**-0.8**
YM08	**YM08**	**1.09**	**310**	*eP*	**Pn**	**19 44 01.0**	**-0.3**
YM08				*eS*	**Sn**	**19 44 14.2**	**-1.6**
LXIB	**Xiulin Townshi**	**1.10**	**245**	P	**Pn**	**19 44 01.1**	**-0.4**
LXIB				*eS*	**Sn**	**19 44 15.7**	**-0.7**
ZUZH	**Zhuzihu**	**1.11**	**308**	*eP*	**Pn**	**19 44 01.1**	**-0.4**
ZUZH				S	**Sn**	**19 44 15.5**	**-0.8**
SHUL	**Shoufeng**	**1.11**	**231**	*eP*	**Pn**	**19 44 01.3**	**-0.1**
SHUL				S	**Sn**	**19 44 16.0**	**-0.2**
IRIF	**Iriomote-Funau**	**1.12**	**97**	P	**Pn**	**19 44 01.5**	**0.0**
IRIF				*eS*	**Sn**	**19 44 16.4**	**0.0**
ANP	**Anpu**	**1.14**	**308**	*eP*	**Pn**	**19 44 03.1**	**+1.1**
TWS1	**Kuangyinshan**	**1.17**	**302**	P	**Pn**	**19 44 02.4**	**+0.2**
TWS1				S	**Sn**	**19 44 17.2**	**-0.3**
NTST	**Danshui**	**1.18**	**305**	*eS*	**Sn**	**19 44 17.6**	**-0.1**
FUSS	**Fushou**	**1.18**	**259**	*eP*	**Pn**	**19 44 03.1**	**+0.5**
WHF	**Hehuan Shan**	**1.19**	**254**	P	**Pn**	**19 44 03.0**	**+0.1**
WHF				S	**Sn**	**19 44 17.7**	**-1.0**
ESL	**Shilin**	**1.19**	**236**	*eP*	**Pn**	**19 44 01.8**	**-0.7**
TWT	**Tachien**	**1.24**	**260**	P	**Pn**	**19 44 04.2**	**+0.8**
TWT				S	**Sn**	**19 44 19.3**	**-0.2**
KSHI	**Guanxi Townshi**	**1.25**	**284**	*eP*	**Pn**	**19 44 04.3**	**+1.1**
KSHI				*eS*	**Sn**	**19 44 20.9**	**+1.4**
HATJ	**Hateruma jima**	**1.25**	**110**	*eP*	**Pn**	**19 44 02.8**	**-0.5**
TDCB	**Techi**	**1.26**	**260**	*eP*	**Pn**	**19 44 04.0**	**+0.4**
TDCB				*eS*	**Sn**	**19 44 19.3**	**-0.6**
NFF	**Wufeng Townshi**	**1.28**	**277**	*i* P	**Pn**	**19 44 04.2**	**+0.5**
NFF				*i* S	**Sn**	**19 44 20.7**	**+0.5**
WARBT	**Fenglin Townsh**	**1.28**	**234**	P	**Pn**	**19 44 03.0**	**-0.7**
WARBT				S	**Sn**	**19 44 18.7**	**-1.5**
EGFH	**Guangfu**	**1.28**	**231**	*eP*	**Pn**	**19 44 03.5**	**-0.2**
EGFH				S	**Sn**	**19 44 19.2**	**-1.0**
OWD	**Renai**	**1.33**	**247**	P	**Pn**	**19 44 04.4**	**-0.1**
OWD				*eS*	**Sn**	**19 44 20.1**	**-1.5**
WUSB	**Renai**	**1.36**	**249**	P	**Pn**	**19 44 05.0**	**+0.1**
WUSB				S	**Sn**	**19 44 21.4**	**-1.0**
LIOB	**Emei**	**1.37**	**277**	*eP*	**Pn**	**19 44 05.7**	**+0.8**
NSTT	**Nanjuang**	**1.38**	**276**	*eP*	**Pn**	**19 44 06.0**	**+1.0**
NSTT				*eS*	**Sn**	**19 44 23.9**	**+1.3**
JKRS	**Kuro-shima**	**1.39**	**100**	*eP*	**Pn**	**19 44 05.5**	**+0.5**
JKRS				*eS*	**Sn**	**19 44 23.4**	**+0.8**
HGSD	**Ruisui**	**1.40**	**225**	*eP*	**Pn**	**19 44 04.8**	**-0.5**
HGSD				*eS*	**Sn**	**19 44 21.4**	**-1.6**
WHP	**Taichung City**	**1.44**	**262**	*eP*	**Pn**	**19 44 06.9**	**+1.0**
WHP				*i* S	**Sn**	**19 44 24.6**	**+0.5**
VWDT	**VWDT**	**1.45**	**240**	P	**Pn**	**19 44 06.1**	**+0.2**
VWDT				S	**Sn**	**19 44 23.7**	**-0.4**
EHYH	**Wanrong**	**1.45**	**227**	*eP*	**Pn**	**19 44 05.3**	**-0.6**
EHY	**Hungye**	**1.46**	**228**	P	**Pn**	**19 44 05.0**	**-1.1**
JIJ	**Ishigaki jima**	**1.49**	**94**	*eP*	**Pn**	**19 44 06.4**	**0.0**
JIJ				S	**Sn**	**19 44 24.8**	**-0.3**
WCS	**Beigang Elemen**	**1.52**	**254**	*eP*	**Pn**	**19 44 07.7**	**+0.8**
YULB	**Yu-li**	**1.56**	**226**	P	**Pn**	**19 44 06.8**	**-0.6**
YULB				S	**Sn**	**19 44 25.2**	**-1.5**
SSLB	**Suanglung**	**1.58**	**244**	P	**Pn**	**19 44 07.9**	**+0.2**
SSLB				*eS*	**Sn**	**19 44 25.9**	**-1.5**
TWF1	**Yuli**	**1.58**	**225**	P	**Pn**	**19 44 07.1**	**-0.7**
SMLT	**Sun Moon Lake**	**1.59**	**248**	P	**Pn**	**19 44 08.3**	**+0.4**
SMLT				*eS*	**Sn**	**19 44 28.6**	**+1.0**
TYC	**Yuchr**	**1.62**	**249**	*eP*	**Pn**	**19 44 08.0**	**-0.1**
JISG	**Ishigakijimahi**	**1.64**	**86**	*eP*	**Pn**	**19 44 08.4**	**0.0**
JISG				*eS*	**Sn**	**19 44 28.8**	**+0.1**
FULB	**Fuli**	**1.70**	**221**	*eP*	**Pn**	**19 44 08.9**	**-0.4**
FULB				S	**Sn**	**19 44 29.0**	**-1.2**
WHYT	**Xinyi Township**	**1.71**	**243**	*eP*	**Pn**	**19 44 10.3**	**+0.9**
WNT	**Mingjian**	**1.78**	**250**	*eP*	**Pn**	**19 44 12.0**	**+1.7**
ECS	**Chishang**	**1.82**	**221**	*eP*	**Pn**	**19 44 11.2**	**+0.3**
ALS	**Alishan**	**1.84**	**238**	*eP*	**Pn**	**19 44 12.5**	**-1.1**
ELDTW	**Lidau**	**1.88**	**227**	*eP*	**Pn**	**19 44 11.5**	**-0.3**
CHN5	**Tsauling**	**1.90**	**243**	*eP*	**Pn**	**19 44 12.9**	**+1.0**
CHN5				*eS*	**Sn**	**19 44 36.6**	**+1.6**
WGK	**Gukeng**	**1.95**	**246**	*eP*	**Pn**	**19 44 14.5**	**+1.8**
WDLH	**Douliu**	**1.97**	**247**	*eP*	**Pn**	**19 44 13.9**	**+1.1**
LONT	**Longtian**	**2.02**	**219**	*eP*	**Pn**	**19 44 12.8**	**-0.8**
STYH	**Taoyuan**	**2.06**	**231**	*i* P	**Pn**	**19 44 15.1**	**+1.0**
STYH				*eS*	**Sn**	**19 44 39.7**	**+1.0**
WTK	**Tuku**	**2.10**	**248**	*eP*	**Pn**	**19 44 15.4**	**+0.8**
TWGBT	**Beinan**	**2.12**	**219**	*eP*	**Pn**	**19 44 15.0**	**+0.1**
TWGBT				S	**Sn**	**19 44 38.6**	**-1.6**
TWG	**Pinlang**	**2.12**	**219**	*eP*	**Pn**	**19 44 14.6**	**-0.3**
WTP	**Ta-pu**	**2.13**	**235**	*eP*	**Pn**	**19 44 16.8**	**+1.6**
TWK	**Hsinying**	**2.21**	**237**	*eP*	**Pn**	**19 44 17.1**	**+0.8**
CHN1	**Nanshi**	**2.23**	**235**	*eP*	**Pn**	**19 44 18.4**	**+1.9**
SNST	**Tainan City**	**2.23**	**236**	*eP*	**Pn**	**19 44 17.4**	**+1.0**
WSL	**Shuilin Townsh**	**2.30**	**246**	*eP*	**Pn**	**19 44 18.6**	**+1.2**
ECL	**Taimali**	**2.36**	**218**	*eP*	**Pn**	**19 44 18.8**	**+0.6**
SCST	**Cishan**	**2.44**	**230**	*eP*	**Pn**	**19 44 19.7**	**+0.5**
SSD	**Sandimen**	**2.44**	**225**	*eP*	**Pn**	**19 44 20.2**	**+0.9**
MASBT	**Mashibuluo**	**2.54**	**223**	*eP*	**Pn**	**19 44 20.8**	**+0.1**

*TAP **12** 20:02:34.1, 24°.92N×122°.78E, h32km±1km, ML2.7, D*
*JMA **12** 20:02:35.5±0.2, 25°.N±2°.×12°.3E±°, h33km, MV2.0/5, NW OFF ISHIGAKIJIMA IS*
ISC 12 20:02:32.8±1.7, 24°.87N±0°.06×122°.76E±0°.04, h14km±11km, n66, σ0º72/87, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**157**	P	**Pn**	**20 02 44.0**	**-0.8**
JYNG				S	**Sb**	**20 02 50.1**	**+1.1**
YOJ	**Yonaguni jima**	**0.47**	**150**	P	**Pn**	**20 02 44.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**150**	S	**Sb**	**20 02 50.7**	**+1.1**
YOJ	**Yonaguni jima**	**0.47**	**150**	*eP*	**Pn**	**20 02 44.5**	**-0.6**
YOJ				*eS*	**Sb**	**20 02 50.6**	**+1.1**
YOJ	**Yonaguni jima**	**0.47**	**150**⇑	*i* P	**Pn**	**20 02 44.5**	**-0.6**
YOJ				S	**Sb**	**20 02 50.4**	**+0.8**
EOS2	**EOS2**	**0.65**	**227**	*i* P	**Pn**	**20 02 46.7**	**-0.8**
EOS3	**EOS3**	**0.70**	**215**	*i* P	**Pn**	**20 02 47.8**	**-0.4**
TWB1	**Santiao Chiao**	**0.71**	**281**	P	**Pn**	**20 02 47.8**	**-0.7**
TWB1				S	**Sn**	**20 02 58.5**	**-0.7**
SXI1	**Grass Mountain**	**0.83**	**286**	*i* P	**Pn**	**20 02 49.8**	**-0.4**
NTC	**Toucheng**	**0.84**	**269**	*eP*	**Pn**	**20 02 49.6**	**-0.7**
EOS4	**EOS4**	**0.84**	**208**	*i* P	**Pn**	**20 02 50.2**	**+0.3**
EOS4				*i* S	**Sb**	**20 03 01.5**	**+1.4**
TWC	**Suao**	**0.86**	**253**	*i* P	**Pg**	**20 02 49.4**	**-0.1**
TWC				S	**Sb**	**20 03 00.8**	**-0.2**
ESAO	**Su ao**	**0.88**	**251**	P	**Pn**	**20 02 50.5**	**-0.3**
ESAO				*eS*	**Sb**	**20 03 00.9**	**-0.5**
NWF	**Wu-fen Shan**	**0.91**	**283**	*eP*	**Pn**	**20 02 51.4**	**+0.1**
WFSB	**Wu-fen Shan**	**0.91**	**283**	*eP*	**Pn**	**20 02 51.1**	**-0.1**
NDS	**Dongshan**	**0.97**	**256**	*eP*	**Pn**	**20 02 52.1**	**0.0**
EWUT	**Wuta**	**0.98**	**245**	*eP*	**Pb**	**20 02 51.5**	**-0.2**
TWE	**Neicheng**	**1.00**	**262**	P	**Pg**	**20 02 52.2**	**+0.1**
TWE				S	**Sb**	**20 03 05.7**	**+0.7**
ENA	**Nanau**	**1.02**	**245**	*i* P	**Pg**	**20 02 52.9**	**+0.3**
ENA				*i* S	**Sb**	**20 03 04.8**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.07**	**264**	*eP*	**Pg**	**20 02 53.9**	**+0.5**
EAHA	**Aohua**	**1.07**	**240**	P	**Pg**	**20 02 53.9**	**+0.4**
EAHA				S	**Sb**	**20 03 06.2**	**-0.7**
ENTT	**Nioudou**	**1.10**	**258**	*i* P	**Pg**	**20 02 54.9**	**+0.8**
ENTT				*i* S	**Sb**	**20 03 08.8**	**+0.8**
NWLT	**Wulai**	**1.14**	**266**	*eP*	**Pg**	**20 02 56.3**	**+1.5**
NWLT				S	**Sn**	**20 03 10.0**	**+0.1**
TATO	**Taipei**	**1.16**	**276**	P	**Pg**	**20 02 55.0**	**-0.1**
LATG	**Datong**	**1.17**	**254**	*i* P	**Pg**	**20 02 55.4**	**+0.1**
LATG				S	**Sb**	**20 03 10.1**	**+0.2**
NACB	**Ninganchiao**	**1.26**	**237**	P	**Pg**	**20 02 57.1**	**-0.5**
NACB	**Ninganchiao**	**1.26**	**237**	P	**Pg**	**20 02 57.2**	**+0.1**
NACB				*i* S	**Sn**	**20 03 12.3**	**-0.5**
YHNB	**Yeheng**	**1.27**	**261**	P	**Pg**	**20 02 57.3**	**0.0**
YHNB	**Yeheng**	**1.27**	**261**	*eP*	**Pb**	**20 02 56.5**	**-0.1**
NSK	**Sanguang**	**1.28**	**262**	P	**Pg**	**20 02 57.9**	**+0.3**
NSK				S	**Sn**	**20 03 13.1**	**-0.4**
TWD	**Chiawan**	**1.32**	**234**	*eP*	**Pg**	**20 02 58.4**	**+0.3**
NNSB	**Datong**	**1.32**	**251**	*eP*	**Pg**	**20 02 58.0**	**-0.3**
NNSB				S	**Sn**	**20 03 14.6**	**+0.1**
NNS	**Nan Shan**	**1.33**	**252**	*eP*	**Pg**	**20 02 58.9**	**+0.4**
NNS				S	**Sn**	**20 03 15.2**	**+0.6**
ETLH	**Xiulin Townshi**	**1.33**	**241**	*eP*	**Pg**	**20 02 58.6**	**+0.1**
KSHI	**Guanxi Townshi**	**1.44**	**267**	*eP*	**Pg**	**20 03 01.3**	**+0.8**
ETM	**Tongmen**	**1.46**	**232**	*eP*	**Pg**	**20 03 00.7**	**-0.2**
LXIB	**Xiulin Townshi**	**1.49**	**236**	*eP*	**Pb**	**20 03 01.0**	**+0.7**
NFF	**Wufeng Townshi**	**1.51**	**261**	*eP*	**Pg**	**20 03 00.9**	**-0.9**
NFF				S	**Sb**	**20 03 21.2**	**+1.5**
FUSS	**Fushou**	**1.51**	**246**	*eP*	**Pg**	**20 03 02.3**	**+0.4**
FUSS				*eS*	**Sn**	**20 03 19.6**	**+0.3**
WHF	**Hehuan Shan**	**1.54**	**242**	P	**Pg**	**20 03 02.3**	**-0.1**
WHF				S	**Sn**	**20 03 20.7**	**+0.5**
TWT	**Tachien**	**1.56**	**247**	P	**Pg**	**20 03 02.9**	**0.0**
TWT				S	**Sb**	**20 03 22.1**	**+0.8**
TDCB	**Techi**	**1.58**	**247**	*eP*	**Pb**	**20 03 02.1**	**+0.2**
LIOB	**Emei**	**1.60**	**262**	*eP*	**Pg**	**20 03 03.6**	**+0.1**
WARBT	**Fenglin Townsh**	**1.69**	**228**	*eP*	**Pn**	**20 03 01.6**	**

1.2nm,0.6s
NOA NORSAR Array B 53.31 323 P P 20 16 53.9 +0.2
0.4nm,0.7s,baz=54,slow=6.8,SNR=1.6
NOA LR LR 20 40 60.0
comp=Z,8.2nm,18.8s,baz=235,slow=38
0.4nm,0.7s
ILAR Eielson Array 57.66 29 P P 20 17 25.3 +0.4
0.3nm,0.6s,baz=250,slow=7.0,SNR=4.4
0.3nm,0.6s
PMG Port Moresby 66.58 133 LR LR 20 46 58.9
comp=Z,46nm,19.8s,baz=154,slow=36
WRA Warramunga Arr 70.19 150 P P 20 18 47.2 -0.6
0.5nm,0.6s,baz=344,slow=7.1,SNR=13
0.5nm,0.6s
ASAR Alice Springs 73.47 151 P P 20 19 06.9 -0.5
0.6nm,0.7s,baz=342,slow=6.9,SNR=10
0.6nm,0.7s
NVAR Mina Array Bea 88.77 32 P P 20 20 29.2 +0.3
0.1nm,0.3s,baz=316,slow=4.3,SNR=4.4
0.1nm,0.3s

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*IDC **12** 20:11:56.4±1.3, 5°.52S×34°.31E, h0km, mb3.8/4, mbtmp4.0/5, ML4.6/1, MS3.5/6, Error ellipse: s-maj=82.8km s-min=22.3km az=114.0*
*NEIC **12** 20:11:59.2±1.6, 5°.34S±0°.09×34°.20E±0°.05, h10km±2km, mb4.2/6, Error ellipse: s-maj=15.1km s-min=7.5km az=186.0*
ISC 12 20:11:58.4±0.7, 5°.37S±0°.08×34°.26E±0°.09, h10km, n26, σ1§80/21, mb4.2/7, MS3.5/4, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBK	**Kibwezi**	**4.83**	**52**		**Pn**	**20 13 12.1**	**+0.7**
KMBO	**Kilima Mbogo**	**5.17**	**35**	Pn	**Pn**	**20 13 17.4**	**+1.2**
22nm,0.3s,baz=220,slow=18,SNR=55							
KMBO				Pg	**Pb**	**20 13 31.7**	**+2.6**
27nm,0.3s,baz=212,slow=12,SNR=7.5							
KMBO				Sn	**Sn**	**20 14 10.4**	**-5.6**
185nm,0.3s,baz=291,slow=3.4,SNR=18							
44nm,0.2s							
MBAR	**Mbarara**	**5.90**	**323**		**Pn**	**20 13 26.3**	**+0.2**
LODK	**Lodwar**	**8.80**	**7**		**Pn**	**20 14 05.5**	**-0.5**
LSZ	**Lusaka**	**11.51**	**211**		**Pn**	**20 14 43.5**	**+0.4**
LSZ	**Lusaka**	**11.51**	**211**	LR	LR	20 19 18.0	
comp=Z,160nm,18.4s,baz=28,slow=39							
KSANE	**Kasane**	**15.22**	**215**	Pn	**Pn**	**20 15 31.4**	**-2.3**
BLWY	**Bulawayo**	**15.68**	**200**	*i* P	Pn	20 15 34.5	-5.2
MATP	**Matopo**	**15.98**	**200**	LR	LR	20 22 12.9	
comp=Z,117nm,18.9s,baz=25,slow=39							
MUSN	**Musina, Limpop**	**17.35**	**194**	*i* P	Pn	20 15 53.1	-7.7
MOPA	**Mopani**	**18.25**	**188**	*i* P	**Pn**	**20 16 09.3**	**-2.7**
ABPO	**Ambohimpanom**	**18.55**	**138**	P	**P**	**20 16 15.8**	**+0.2**
LPHEP	**Lephephe**	**19.64**	**204**	P	**P**	**20 16 28.3**	**+0.8**
LPHEP				IAmb	IAmb	20 16 57.7	
comp=Z,17nm,1.4s							
LBTB	**Lobatse**	**21.23**	**202**	P	**P**	**20 16 44.9**	**+0.1**
LBTB				IAmb	IAmb	20 16 56.5	
comp=Z,16nm,1.5s							
LBTB	**Lobatse**	**21.23**	**202**	LR	LR	20 25 17.1	
comp=Z,84nm,18.8s,baz=27,slow=38							
TSUM	**Tsumeb**	**21.28**	**228**	P	**P**	**20 16 46.4**	**+1.0**
TSUM				IAmb	IAmb	20 16 47.9	
comp=Z,9.5nm,0.9s							
KOOLE	**Kule**	**22.16**	**216**	P	**P**	**20 16 55.5**	**+0.6**
KOOLE				IAmb	IAmb	20 17 13.0	
comp=Z,14nm,0.9s							
BOSA	**Boshof**	**24.64**	**199**	P	**P**	**20 17 19.5**	**0.0**
BOSA	**Boshof**	**24.64**	**199**	P	**P**	**20 17 17.9**	**-1.6**
comp=Z,4.1nm,0.7s,baz=20,slow=9.1,SNR=10							
BOSA				LR	LR	20 27 11.1	
comp=Z,118nm,18.2s,baz=26,slow=37							
comp=Z,4.1nm,0.7s							
BRTR	**Keskin Array B**	**44.87**	**359**	P	**P**	**20 20 13.9**	**+0.7**
comp=Z,0.5nm,0.7s,baz=184,slow=9.5,SNR=4.6							
comp=Z,0.5nm,0.7s							
VAE	**Valguarnera**	**46.47**	**338**	LR	LR	20 42 38.0	
comp=Z,74nm,19.8s,baz=134,slow=40							
PALK	**Pallekele**	**48.02**	**75**	LR	LR	20 38 10.1	
comp=Z,58nm,19.4s,baz=93,slow=33							
KKAR	**Karatay Array**	**58.35**	**31**	P	**P**	**20 21 54.1**	**+0.3**
MKAR	**Makanchi Array**	**67.05**	**34**	P	**P**	**20 22 51.5**	**-0.4**
MKAR	**Makanchi Array**	**67.05**	**34**	P	**P**	**20 22 51.9**	**-0.1**
comp=Z,1.4nm,0.9s,baz=239,slow=6.9,SNR=6.4							
comp=Z,1.4nm,0.9s							
KURBB	**Kurchatov Arra**	**67.52**	**29**	P	**P**	**20 22 55.0**	**+0.3**
comp=Z,0.6nm,0.7s,baz=232,slow=7.1,SNR=5.1							
comp=Z,0.6nm,0.7s							

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*ATH **12** 20:20:15.2, 37°.21N×20°.41E, h7km±2km, ML3.5/13, Manual Solution by S.Liakopoulos First location: 2019/10/12 20:21:18, This location: 2020/11/16 12:04:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **12** 20:20:16.4, 37°N±2°×2°0E±°, h0km±1km, M3.2/26, mb3.8/2, MLh3.2/26*
*IDC **12** 20:20:17.5±1.6, 37°.89N×20°.85E, h0km, mb3.5/4, mbtmp3.4/10, ML3.0/4, MS2.6/3, Error ellipse: s-maj=27.8km s-min=19.8km az=179.0*
ISC 12 20:20:16.5±1.4, 37°.28N±0°.04×20°.54E±0°.04, h11km±9km, n83, σ1§37/97, mb3.4/4, 5C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.45**	**30**	P	**Pb**	**20 20 26.0**	**-0.4**
KRI1				S	**Sb**	**20 20 33.3**	**+0.1**
KRI1	**kERI**	**0.45**	**30**	P	**Pb**	**20 20 26.1**	**-0.3**
KRI1				S	**Sb**	**20 20 33.2**	**+0.1**
LTHK	**Lithakia**	**0.49**	**29**	P	**Pb**	**20 20 26.7**	**-0.5**
LTHK				S	**Sb**	**20 20 34.3**	**-0.1**
LTHK	**Lithakia**	**0.49**	**29**	P	**Pb**	**20 20 26.8**	**-0.5**
LTHK				S	**Sb**	**20 20 34.4**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.59**	**23**	P	**Pb**	**20 20 28.8**	**-0.1**
KYPS				S	**Sb**	**20 20 38.4**	**+1.2**
ORTH	**Orthonies,Zaky**	**0.59**	**12**	P	**Pb**	**20 20 29.1**	**+0.2**
ORTH				S	**Sb**	**20 20 37.5**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.78**	**37**	P	**Pb**	**20 20 32.0**	**0.0**
CLEM				S	**Sb**	**20 20 43.1**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.82**	**13**	P	**Pg**	**20 20 32.2**	**-0.2**
RTZL				S	**Sn**	**20 20 46.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.84**	**3**	P	**Pg**	**20 20 32.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.84**	**3**	P	**Pg**	**20 20 32.8**	**+0.1**
PSDA				S	**Sb**	**20 20 45.1**	**+0.7**
LCHA	**Lechaina**	**0.88**	**41**	P	**Pb**	**20 20 34.8**	**+1.0**
LCHA				S	**Sn**	**20 20 48.0**	**+0.5**
VLS	**Valsamata**	**0.90**	**3**	P	**Pg**	**20 20 33.6**	**-0.3**
VLS	**Valsamata**	**0.90**	**3**	P	**Pg**	**20 20 33.6**	**-0.3**
VLS				S	**Sb**	**20 20 46.5**	**+0.2**
ARG2	**Argostoli**	**0.90**	**358**	P	**Pg**	**20 20 34.0**	**+0.1**
ARG2				S	**Sb**	**20 20 46.8**	**+0.5**
ZARO	**Zacharo**	**0.91**	**76**	P	**Pb**	**20 20 34.9**	**+0.6**
ZARO				S	**Sn**	**20 20 48.5**	**+0.1**
SMHA	**Samh**	**0.98**	**5**	P	**Pg**	**20 20 34.5**	**-0.8**
SMHA				S	**Sb**	**20 20 49.4**	**+1.0**
MTHA	**Methoni**	**1.04**	**116**	P	**Pg**	**20 20 36.8**	**+0.2**
MTHA				S	**Sg**	**20 20 50.6**	**+0.6**
YRMI	**Loutra Irminis**	**1.05**	**38**	P	**Pb**	**20 20 36.8**	**+0.1**
YRMI				S	**Sn**	**20 20 53.3**	**+1.6**
RLS	**Riolos of Patr**	**1.07**	**43**	P	**Pb**	**20 20 37.3**	**+0.2**
RLS	**Riolos of Patr**	**1.07**	**43**	P	**Pb**	**20 20 37.3**	**+0.2**
RLS				S	**Sn**	**20 20 53.9**	**+1.4**
ITM	**Ithomi**	**1.11**	**95**	P	**Pg**	**20 20 37.5**	**-0.5**
ITM	**Ithomi**	**1.11**	**95**	P	**Pg**	**20 20 37.6**	**-0.3**
ITM				S	**Sn**	**20 20 54.2**	**+0.8**
AXS	**Araxos**	**1.13**	**36**	P	**Pb**	**20 20 38.1**	**0.0**
AXS	**Araxos**	**1.13**	**36**	P	**Pb**	**20 20 38.2**	**0.0**
AXS				S	**Sn**	**20 20 54.8**	**+0.9**
DRO	**Drossia**	**1.15**	**54**	P	**Pb**	**20 20 38.6**	**+0.1**
DRO				S	**Sn**	**20 20 57.1**	**+2.8**
DRO	**Drossia**	**1.15**	**54**	P	**Pb**	**20 20 38.7**	**+0.2**
DRO				S	**Sn**	**20 20 56.0**	**+1.7**
FSK	**Fiskardo**	**1.18**	**1**	P	**Pg**	**20 20 38.3**	**-1.0**
FSK	**Fiskardo**	**1.18**	**1**	P	**Pg**	**20 20 38.7**	**-0.6**
FSK				S	**Sb**	**20 20 54.6**	**+0.3**
EVGI	**Lefkada island**	**1.35**	**4**	P	**Pg**	**20 20 41.9**	**-0.5**
EVGI	**Lefkada island**	**1.35**	**4**	P	**Pg**	**20 20 41.9**	**-0.5**
PATC	**Patra C**	**1.39**	**44**	P	**Pn**	**20 20 43.8**	**+2.0**
UPR	**University Cam**	**1.41**	**44**	P	**Pb**	**20 20 44.6**	**+1.7**
NYDR	**Nydri-Lefkada**	**1.44**	**5**	P	**Pn**	**20 20 43.3**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.44**	**5**	P	**Pn**	**20 20 43.4**	**+0.8**
KLV1	**Kalavrita**	**1.46**	**58**	P	**Pn**	**20 20 43.7**	**+0.9**
VLX	**Vlachokerasia**	**1.47**	**86**	P	**Pn**	**20 20 43.8**	**+0.7**
VLX	**Vlachokerasia**	**1.47**	**86**	P	**Pn**	**20 20 43.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.49**	**59**	P	**Pn**	**20 20 44.2**	**+0.9**
KLV	**Kalavryta, Ach**	**1.49**	**59**	P	**Pn**	**20 20 44.2**	**+0.9**
LKD2	**Lefkada island**	**1.51**	**4**	P	**Pn**	**20 20 44.5**	**+0.8**
LKD2	**Lefkada island**	**1.51**	**4**	P	**Pn**	**20 20 44.5**	**+0.8**
VVK	**Vomvokou**	**1.52**	**41**	P	**Pn**	**20 20 44.7**	**+0.9**
PVO	**Paravola**	**1.55**	**30**	P	**Pg**	**20 20 45.8**	**-0.5**
GUR	**Goura**	**1.58**	**65**	P	**Pn**	**20 20 45.0**	**+0.4**
ANX	**Ano Chora**	**1.71**	**39**	P	**Pn**	**20 20 47.6**	**+1.2**
AMPL	**Ampelaki**	**1.73**	**18**	P	**Pb**	**20 20 48.4**	**+0.1**
VLI	**Velíai**	**2.00**	**105**	P	**Pn**	**20 20 52.1**	**+1.9**
LTK	**Loutraki**	**2.07**	**68**	P	**Pn**	**20 20 52.6**	**+1.3**
AGG	**Ágios Georgios**	**2.24**	**38**	P	**Pn**	**20 20 55.6**	**+2.0**
LKR	**Lokris**	**2.38**	**54**	P	**Pn**	**20 20 57.5**	**+2.0**
THL	**Klokotos Trika**	**2.56**	**26**	P	**Pn**	**20 20 59.9**	**+1.9**
NEST	**Nestorio**	**3.16**	**7**	P	**Pn**	**20 21 08.5**	**+2.2**
TIP	**Timpagrande**	**3.53**	**304**	⇓P	Pn	20 21 17.0	+5.6
OHR	**Ohrid**	**3.84**	**3**	*i* Pn	**Pn**	**20 21 18.0**	**+2.4**
HORT	**Hortiatis**	**3.87**	**30**	P	**Pn**	**20 21 17.6**	**+1.5**
IDI	**Anoyia**	**4.04**	**118**	Pn	**Pn**	**20 21 21.6**	**+3.3**
15nm,1.1s,baz=318,slow=14,SNR=1.5							
IDI				Sn	**Sn**	**20 22 05.7**	**0.0**
1.0nm,0.3s,baz=76,slow=20,SNR=5.6							
SOH	**Sokhos**	**4.16**	**31**	P	**Pn**	**20 21 21.6**	**+1.6**
KNT	**Kendrikon**	**4.29**	**25**	P	**Pn**	**20 21 23.4**	**+1.6**
SRS	**Serrai**	**4.51**	**31**	P	**Pn**	**20 21 26.0**	**+1.2**
VAE	**Valguarnera**	**4.88**	**274**	Pn	Pn	20 21 35.3	+5.3
5.3nm,0.3s,baz=148,slow=10,SNR=3.6							
VAE				Sn	**Sn**	**20 22 28.9**	**+2.4**
1.4nm,0.3s,baz=348,slow=18,SNR=3.6							
MMB	**Musomishta**	**4.94**	**29**	P	**Pn**	**20 21 32.0**	**+1.4**
KKB	**Krupnik**	**4.98**	**23**	P	**Pn**	**20 21 32.6**	**+1.3**
5.8nm,0.7s							
PDG	**Podgorica**	**5.24**	**350**	⇓P	**Pn**	**20 21 33.5**	**-1.3**
RZN	**Rozhen**	**5.48**	**35**	P	**Pn**	**20 21 39.4**	**+1.1**
BOVS	**Bovan**	**6.41**	**8**	⇓P	**Pn**	**20 21 48.8**	**-2.1**
ELND	**Elena**	**6.97**	**34**	⇑P	Pb	20 22 11.3	-6.3
GZR	**Gura Zlata**	**8.28**	**11**	⇑P	Pn	20 22 09.9	-6.7
SIRR	**Siria**	**9.02**	**5**	⇓P	**Pn**	**20 22 30.1**	**+3.4**
MORH	**Mrgy. Hungar**	**9.04**	**352**	⇓P	**Pn**	**20 22 26.0**	**-0.9**
KEST	**Kesra**	**9.14**	**264**	Pn	Pn	20 22 35.6	+7.1
0.1nm,0.3s,baz=71,slow=14,SNR=1.7							
1.2nm,0.7s							
MLR	**Muntele Rosu**	**9.16**	**25**	Pn	Pn	20 22 23.0	-5.6
0.1nm,0.3s,baz=282,slow=12,SNR=3.4							
MLR				LR	LR	20 25 33.7	
comp=Z,23nm,18.6s,baz=192,slow=37							
0.6nm,0.5s							
MLR	**Muntele Rosu**	**9.16**	**25**	⇑P	**Pn**	**20 22 32.6**	**+3.9**
PLOR	**Plostina**	**9.71**	**26**	⇑P	Pn	20 22 28.3	-7.8
VRI	**Vrincioaia**	**9.75**	**26**	⇑P	Pn	20 22 28.6	-8.2
VRAC	**Vranov**	**12.36**	**348**	LR	LR	20 28 11.7	
comp=Z,27nm,19.1s,baz=178,slow=40							
GERES	**GERESS Array B**	**12.59**	**339**	Pn	**Pn**	**20 23 13.4**	**-2.2**
baz=152,slow=14,SNR=1.7							
0.5nm,0.8s							
AKASG	**Malin Array Be**	**14.79**	**22**	Pn	**Pn**	**20 23 43.3**	**-2.2**
0.6nm,0.3s,baz=208,slow=12,SNR=2.4							
KBZ	**Khabaz**	**18.11**	**62**	LR	LR	20 32 29.3	
comp=Z,29nm,18.2s,baz=293,slow=41							
ESDC	**Sonseca Array**	**19.32**	**285**	P	**P**	**20 24 45.4**	**+3.7**
baz=91,slow=10,SNR=3.5							
0.9nm,1.0s							
EKA	**Eskdalemuir Ar**	**24.18**	**326**	P	**P**	**20 25 32.2**	**-0.5**
3.4nm,1.1s,baz=134,slow=10,SNR=3.4							
3.4nm,1.1s							
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	**20 25 32.4**	**-3.2**
1.1nm,0.9s,baz=143,slow=10,SNR=3.6							
1.1nm,0.9s							
KURBB	**Kurchatov Arra**	**42.76**	**53**	P	**P**	**20 28 12.1**	**-1.7**
0.4nm,0.7s,baz=278,slow=8.7,SNR=4.8							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**45.77**	**58**	P	**P**	**20 28 36.5**	**-1.4**
0.3nm,0.8s,baz=283,slow=6.8,SNR=1.4							
0.3nm,0.8s							

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*AEIC **12** 20:25:31.6±1.1, 54°.44N±0°.03×161°.44W±0°.04, h8km±5km, Error ellipse: s-maj=4.7km s-min=2.8km az=195.0*
NEIC 12 20:25:28.9±0.8, 54°.31N±0°.04×161°.38W±0°.03, h4km±9km, ML3.0/22, ML2.8(AEIC), Error ellipse: s-maj=5.5km s-min=2.8km az=173.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.89**	**342**		Pg	20 25 46.3	+0.5
DOL					Sg	20 25 57.2	-0.1
DT1	**Dutton Round H**	**0.95**	**327**		Pg	20 25 47.2	0.0
DT1					Sg	20 25 59.2	-0.3
HAG	**Hague Volcano**	**1.05**	**344**		Pb	20 25 49.4	-0.3
PS4A	**Pavlof South-4**	**1.07**	**345**		Pg	20 25 49.5	+0.1
PS4A					Sb	20 26 03.9	-0.5
PS1A	**Pavlof South-1**	**1.13**	**350**		Pg	20 25 50.6	+0.1
PS1A					Sg	20 26 05.3	+0.1
CNBA	**Chernabura Isl**	**1.16**	**63**		Pg	20 25 51.0	-0.1
CNBA				Sg	Sg	20 26 06.0	-0.2
SDPT	**Sand Point**	**1.17**	**26**		Pg	20 25 51.4	+0.1
SDPT				Sg	Sg	20 26 06.1	-0.2
SDPT				IAML		20 26 07.9	
comp=N,404nm,0.6s							
SDPT				IAML		20 26 08.8	
comp=E,520nm,0.4s							
PN7A	**Pavlof North-7**	**1.18**	**343**		Pn	20 25 52.2	-0.1
PN7A					Sg	20 26 07.0	+0.2
FALS	**False Pass**	**1.30**	**296**		Pg	20 25 53.3	-0.6
FALS				Sg	Sg	20 26 10.4	-0.3
S12K	**Black Hills**	**1.45**	**345**		Pn	20 25 55.8	-0.2
S12K					Sb	20 26 14.6	-0.7
ISNN	**Isanotski Nort**	**1.49**	**292**		Pb	20 25 57.2	+0.1
SSLS	**Shishaldin Sou**	**1.58**	**286**		Pb	20 25 58.2	-0.4
VNKR	**Veniaminof 5**	**2.08**	**33**		Pn	20 26 05.4	+0.8
AKUT	**Akutan**	**2.58**	**268**	Pn	Pn	20 26 11.3	-0.1
LVA	**Lava Point**	**2.73**	**269**	Pn	Pn	20 26 13.5	-0.1
LVA				IAML		20 27 45.9	
comp=N,56nm,1.0s							
CHIR	**Chirikof Isian**	**3.64**	**63**	Pn	Pn	20 26 25.5	-0.6
CHIR				IAML		20 27 19.6	
comp=E,25nm,0.9s							
CHIR				IAML		20 27 28.1	
comp=N,35nm,1.2s							
PLK4	**Peulik 4**	**4.37**	**38**	Pn	Pn	20 26 36.8	+0.7
PLK4				IAML		20 27 40.3	
comp=E,19nm,0.7s							
PLK4				IAML		20 27 41.3	
comp=N,16nm,1.1s							
NIKH	**Nikolski High**	**4.64**	**256**	Pn	Pn	20 26 41.2	+1.4
NIKH				IAML		20 28 12.7	
comp=N,22nm,0.9s							
O15K	**Ungalikthiuk R**	**4.95**	**9**	Pn	Pn	20 26 43.7	-0.4
O15K				IAML		20 27 57.1	
comp=E,6.8nm,1.1s							
O15K				IAML		20 28 32.0	
comp=N,7.7nm,1.1s							
O14K	**Tigyukauivet M**	**4.96**	**1**	Pn	Pn	20 26 43.8	-0.2
O14K				IAML		20 27 26.6	
comp=N,8.8nm,1.1s							
O14K				IAML		20 28 20.6	
comp=E,9.0nm,1.1s							
O16K	**Kokwok River B**	**5.59**	**17**	Pn	Pn	20 26 53.0	+0.2
N14K	**Kuskokwak Cree**	**5.63**	**358**	Pn	Pn	20 26 53.4	+0.1
N15K	**Kwethluk River**	**5.92**	**6**	Pn	Pn	20 26 57.4	+0.1
M14K	**Bethel**	**6.47**	**357**	Pn	Pn	20 27 04.3	-0.4
N17K	**Nushagak Hills**	**6.63**	**18**	Pn	Pn	20 27 07.0	-0.1
M16K	**Timber Creek**	**6.86**	**10**	Pn	Pn	20 27 10.3	+0.2

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*IDC **12** 20:31:10.4±1.1, 3°.33S×130°.80E, h0km, mb3.8/8, mbtmp3.9/11, ML4.0/3, MS3.2/3, Error ellipse: s-maj=50.8km s-min=17.0km az=72.0*
*NEIC **12** 20:31:12.5±2.0, 3°.43S±0°.06×130°.82E±0°.05, h10km±1km, mb4.3/22, Error ellipse: s-maj=11.4km s-min=6.5km az=144.0*
*DJA **12** 20:31:16.2±1.0, 3°S±3°×13°1E±°, h33km±17km, M4.2/14, mB5.1/1, mb4.5/4, MLv4.0/14, Mw(mB)4.4/1*
ISC 12 20:31:14.7±0.5, 3°.39S±0°.05×130°.81E±0°.04, h30km, n57, σ1§79/62, mb4.0/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.44**	**219**	P	**Pb**	**20 31 41.6**	**+0.7**
FAKI	**Fak Fak**	**1.51**	**72**		**Pn**	**20 31 40.0**	**+0.3**
FAKI				Sn	**Sn**	**20 31 58.9**	**+0.5**
FAKI	**Fak Fak**	**1.51**	**72**	P	**Pn**	**20 31 40.2**	**+0.5**
FAKI				S	**Sn**	**20 31 59.8**	**+1.4**
MSAI	**Masohi**	**1.88**	**271**	P	**Pn**	**20 31 47.1**	**+2.3**
SWI	**Sorong**	**2.55**	**10**	P	**Pn**	**20 31 51.6**	**-2.4**
SWI				S	**Sn**	**20 32 21.1**	**-3.0**
AAI	**Ambon**	**2.63**	**263**	P	**Pn**	**20 31 56.8**	**+1.7**
AAI				S	**Sn**	**20 32 29.1**	**+3.1**
KMPI	**Kaimana, Papua**	**2.90**	**95**	P	**Pn**	**20 32 00.2**	**+1.3**
NLAI	**Namlea**	**3.71**	**272**	P	**Pn**	**20 32 11.2**	**+1.3**
RKPI	**Ransiki, Papua**	**3.85**	**61**	P	**Pn**	**20 32 12.1**	**+0.2**
RKPI				S	**Sn**	**20 32 55.3**	**-0.8**
SAUI	**Saumlaki**	**4.59**	**174**	Pn	**Pn**	**20 32 21.3**	**-0.8**
SAUI	**Saumlaki**	**4.59**	**174**	P	**Pn**	**20 32 24.7**	**+2.6**
SANI	**Sanana**	**5.00**	**285**	P	**Pn**	**20 32 25.0**	**-2.7**
TNTI	**Ternate**	**5.38**	**320**	Pn	**Pn**	**20 32 33.1**	**+0.2**
SRPI	**Serui, Papua**	**5.63**	**75**	P	**Pn**	**20 32 38.8**	**+2.4**
0.4nm36nm,0.4s							
BAKI	**Biak**	**5.73**	**68**	P	**Pn**	**20 32 39.7**	**+2.0**
2μm182nm,0.8s							
SMPI	**Sarmi**	**8.01**	**80**	P	**Pn**	**20 33 11.1**	**+1.9**
22nm,1.5s							
BBSI	**Bau Bau**	**8.47**	**255**	P	**Pn**	**20 33 18.0**	**+2.5**
MTN	**Manton Dam**	**9.40**	**178**		**Pn**	**20 33 27.8**	**-0.4**
BATI	**Baumata**	**9.81**	**226**	Pn	**Pn**	**20 33 33.8**	**0.0**
1.3nm,0.3s,baz=158,slow=6.6,SNR=4.7							
BATI				LR	LR	20 37 40.9	
comp=Z,143nm,21.4s,baz=330,slow=40							
7.6nm,0.6s							
TOLI2	**Tolitoli**	**10.97**	**294**	Pn	**Pn**	**20 33 49.4**	**-0.4**
DAV	**Davao City (W)**	**11.63**	**333**	LR	LR	20 38 45.1	
comp=Z,102nm,20.5s,baz=72,slow=39							
KNRA	**Kununurra**	**12.38**	**189**	Pn	**Pn**	**20 34 06.5**	**-2.5**
MYLDM	**Lahad Datu**	**14.96**	**305**	Pn	**Pn**	**20 34 45.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**15.47**	**199**	Pn	**Pn**	**20 34 48.5**	**-2.4**
FITZ	**Fitzroy Crossi**	**15.47**	**199**	Pn	**Pn**	**20 34 48.7**	**-2.2**
0.3nm,0.3s,baz=30,slow=11,SNR=12							
FITZ				Sn	**Sn**	**20 37 36.3**	**-5.1**
0.1nm,0.3s,baz=166,slow=17,SNR=1.2							
FITZ				LR	LR	20 42 12.1	
comp=Z,83nm,18.3s,baz=354,slow=43							
0.7nm,0.3s							
COEN	**Coen**	**16.10**	**131**	Pn	**Pn**	**20 34 58.5**	**-0.6**
WB0	**Warramunga Arr**	**16.65**	**168**	Pn	**Pn**	**20 35 01.7**	**-4.3**
WRA	**Warramunga Arr**	**16.81**	**168**	Pn	**Pn**	**20 35 04.7**	**-3.3**
WRA	**Warramunga Arr**	**16.81**	**168**	Pn	**Pn**	**20 35 07.1**	**-0.9**
0.6nm,0.3s,baz=351,slow=12,SNR=22							
WRA				Sn	Sn	20 38 02.8	-11
0.4nm,0.3s,baz=359,slow=23,SNR=5.6							
1.4nm,0.4s							
JAGI	**Jajag, Banyuwa**	**17.32**	**252**	Pn	**Pn**	**20 35 13.4**	**-1.0**
JAGI				IAmb	IAmb	20 35 37.0	
comp=Z,21nm,1.0s							
SBUM	**Sibu**	**19.46**	**287**	P	**P**	**20 35 39.7**	**+0.4**
AS31	**Alice Springs**	**20.38**	**172**	P	**P**	**20 35 50.1**	**+1.0**
AS31				IAmb	IAmb	20 35 57.8	
comp=Z,4.4nm,0.6s							
ASAR	**Alice Springs**	**20.38**	**172**	P	**P**	**20 35 50.0**	**+0.8**
ASAR	**Alice Springs**	**20.38**	**172**	P	**P**	**20 35 50.2**	**+1.1**
comp=Z,9.1nm,0.4s,baz=350,slow=11,SNR=119							
ASAR				S	**S**	**20 39 34.0**	**-2.2**
comp=Z,1.8nm,1.0s,baz=347,slow=18,SNR=8.6							
comp=Z,9.1nm,0.4s							
MBWA	**Marble Bar**	**20.69**	**211**	P	**P**	**20 35 51.1**	**-1.4**
MBWA				IAmb	IAmb	20 35 58.8	
comp=Z,28nm,1.4s							
PSA00	**Pilbara Seismi**	**20.98**	**210**	P	**P**	**20 35 53.4**	**-2.3**
PSA00				IAmb	IAmb	20 35 55.8	
comp=Z,4.8nm,1.0s							
PSA00	**Pilbara Seismi**	**20.98**	**210**	P	**P**	**20 35 53.6**	**-2.0**
PSA00				IAmb	IAmb	20 36 04.2	
comp=Z,11nm,0.8s							
KSM	**Kuching**	**21.05**	**283**	P	**P**	**20 35 55.7**	**-0.8**
KSM				IAmb	IAmb	20 36 02.1	
comp=Z,11nm,0.6s							
CTAO	**Charters Tower**	**22.41**	**139**	P	**P**	**20 36 09.4**	**-1.6**
CTAO				IAmb	IAmb	20 36 19.4	
comp=Z,6.7nm,1.1s							
BBOO	**Buckleboo**	**29.68**	**171**	P	**P**	**20 37 17.3**	**-0.7**
STKA	**Stephens Creek**	**30.10**	**161**	P	**P**	**20 37 20.8**	**-0.9**
STKA	**Stephens Creek**	**30.10**	**161**	P	**P**	**20 37 22.6**	**+0.9**
comp=Z,1.3nm,0

0.3nm,0.3s,baz=39,slow=11,SNR=23
WRA S **Sn** **20 48 02.6 +1.0**
0.4nm,0.5s,baz=37,slow=23,SNR=8.2
6.0nm,1.0s
PATS Pohnpei 17.86 41 P **Pn** **20 44 47.8 +0.7**
EIDS Eidsvold 18.98 167 **Pn** **20 45 01.2 +0.5**
KNRA Kununurra 19.60 242 **P** **20 45 05.1 -1.7**
GUMO Guam 20.31 355 LR LR 20 51 11.8
comp=Z,28nm,21.4s,baz=198,slow=31
ASAR Alice Springs 20.77 215 **P** **20 45 18.6 -0.8**
ASAR Alice Springs 20.77 215 P **P** **20 45 18.8 -0.7**
16nm,0.7s,baz=36,slow=11,SNR=38
ASAR S **S** **20 49 08.0 -1.9**
0.4nm,0.7s,baz=42,slow=23,SNR=1.6
16nm,0.7s
SANI Sanana 21.09 282 P **P** **20 45 24.4 +1.5**
21nm,0.8s
INKA Innaminka 21.58 194 **P** **20 45 26.7 -1.3**
FITZ Fitzroy Crossi 23.34 239 P **P** **20 45 44.5 -2.1**
FITZ Fitzroy Crossi 23.34 239 P **P** **20 45 44.8 -1.9**
9.3nm,0.8s,baz=58,slow=8.8,SNR=26
9.3nm,0.8s
FITZ Fitzroy Crossi 23.34 239 P **P** **20 45 45.3 -1.4**
DZM Mont Dzumac 24.44 131 P **P** **20 45 56.3 -0.9**
DZM IAmb IAmb 20 46 13.5
comp=Z,71nm,1.9s
LUWI Luwuk 24.45 282 P **P** **20 45 56.0 -1.2**
LUWI IAmb IAmb 20 46 22.1
comp=Z,16nm,1.0s
STKA Stephens Creek 25.41 190 P **P** **20 46 06.0 +0.3**
comp=Z,1.7nm,0.7s,baz=22,slow=14,SNR=4.0
comp=Z,1.7nm,0.7s
BBOO Buckleboo 27.70 199 P **P** **20 46 24.1 -2.3**
BBOO IAmb IAmb 20 46 51.5
comp=Z,34nm,1.4s
CAN Canberra 28.49 176 P **P** **20 46 30.7 -2.8**
CAN IAmb IAmb 20 47 00.3
comp=Z,71nm,1.8s
MYLDM Lahad Datu 30.47 292 P **P** **20 46 50.4 -0.9**
MYLDM IAmb IAmb 20 46 57.1
comp=Z,17nm,1.4s
YOJ Yonaguni jima 38.65 324 P **P** **20 48 00.4 -1.3**
LEM Lembang 38.72 268 LR LR 21 09 02.0
comp=Z,105nm,18.2s,baz=167,slow=44
TPUB Ta-pu 39.23 320 P **P** **20 48 04.9 -1.8**
TPUB IAmb IAmb 20 48 28.4
comp=Z,64nm,1.5s
SSLB Suanglung 39.38 321 P **P** **20 48 06.7 -1.2**
SSLB IAmb IAmb 20 48 37.9
comp=Z,37nm,1.4s
MRZ Mangatainoka R 42.52 147 P **P** **20 48 33.2 -0.3**
RPZ Rata Peaks 42.58 154 LR LR 21 06 00.8
comp=Z,89nm,19.0s,baz=334,slow=36
LBZ Lake Benmore 42.75 155 P **P** **20 48 36.8 +1.4**
LBZ IAmb IAmb 20 49 09.7
comp=Z,38nm,1.4s
BFZ Birch Farm 42.90 146 P **P** **20 48 37.5 +0.9**
NJ2 Nanjing 46.81 327 *eP* **P** **20 49 09.3 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KULM Kulim 47.42 284 P **P** **20 49 11.9 -1.0**
KULM IAmb IAmb 20 50 10.6
comp=Z,20nm,1.5s
SLVN Son La 50.36 305 P **P** **20 49 35.0 -0.5**
GYA Guiyang 50.91 312 ⇓P **P** **20 49 41.2 +1.6**
GYA pmax pmax
comp=Z,8.0nm,0.8s
KMI Kunming 53.17 308 P **P** **20 49 59.2 +2.6**
KMI pmax pmax
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 53.28 299 **P** **20 49 57.9 +0.6**
CMAR Chiang Mai Arr 53.28 299 P **P** **20 49 57.5 +0.2**
comp=Z,12nm,0.5s,baz=122,slow=5.8,SNR=109
comp=Z,12nm,0.5s
CHTO Chiang Mai 53.42 299 **P** **20 49 58.7 +0.4**
CHTO IAmb IAmb 20 49 59.8
comp=Z,7.6nm,0.8s
CN2 Changchun 53.86 341 *eP* **P** **20 50 01.8 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 54.04 321 *eP* **P** **20 50 03.9 +1.3**
XAN pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 54.64 309 P **P** **20 50 08.0 +0.8**
CD2 Chengdu 55.54 315 P **P** **20 50 14.4 +0.8**
CD2 pmax pmax
comp=Z,50nm,0.5s
TNCH TengChong 56.47 306 P **P** **20 50 21.3 +0.9**
TNCH pmax pmax
comp=Z,14nm,0.7s
LZH Lanzhou 58.55 320 *eP* P 20 50 40.4 +5.5
LZH sP sP 20 50 48.4 +0.6
LZH PcP **PcP** **20 51 26.4 +1.3**
LZH pmax pmax
comp=Z,20nm,1.0s
PETK Petropavlovsk- 60.39 8 P **P** **20 50 46.9 -0.2**
comp=Z,9.0nm,1.0s,baz=175,slow=7.1,SNR=4.2
comp=Z,9.0nm,1.0s
SHL Shillong 62.12 303 **P** **20 50 59.1 -0.4**
GTA Gaotai 63.09 321 *eP* **P** **20 51 07.2 +1.5**
GTA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 64.40 307 P **P** **20 51 15.1 +0.2**
LSA IAmb IAmb 20 51 17.2
comp=Z,9.1nm,0.7s
LSA Lhasa 64.40 307 P **P** **20 51 12.9 -2.1**
LSA pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 64.89 331 P **P** **20 51 17.7 +0.3**
comp=Z,0.7nm,0.9s,baz=151,slow=5.2,SNR=4.8
comp=Z,0.7nm,0.9s
VNDA Vanda 71.17 177 P **P** **20 51 55.9 -0.3**
VNDA Vanda 71.17 177 P **P** **20 51 56.8 +0.6**
comp=Z,0.5nm,0.7s,baz=307,slow=5.6,SNR=3.8
comp=Z,0.5nm,0.7s
WMQ Urumqi 73.13 320 *eP* **P** **20 52 10.4 +1.8**
MKAR Makanchi Array 77.85 321 **P** **20 52 35.8 +0.2**
MKAR Makanchi Array 77.85 321 P **P** **20 52 35.4 -0.2**
comp=Z,3.8nm,0.7s,baz=98,slow=8.7,SNR=36
comp=Z,3.8nm,0.7s
MAKZ Makanchi 78.05 321 P **P** **20 52 37.0 +0.3**
MAKZ IAmb IAmb 20 52 38.0
comp=Z,9.2nm,1.2s
ZALV Zalesovo Beam 79.46 328 P **P** **20 52 43.0 -1.2**
comp=Z,2.3nm,0.6s,baz=110,slow=5.6,SNR=13
ZALV LR LR 21 29 41.1
comp=Z,21nm,18.2s,baz=112,slow=37
comp=Z,2.3nm,0.6s
KSH Kashi 79.61 312 P **P** **20 52 47.6 +2.1**
KSH pmax pmax
comp=Z,6.0nm,1.3s
NIL Nilore 80.06 306 P **P** **20 52 47.8 -0.2**
K17K Ilditarod 80.91 22 P **P** **20 52 52.4 +0.6**
L18K Granite Mounta 81.26 23 P **P** **20 52 54.2 +0.5**
L18K IAmb IAmb 20 54 45.5
comp=Z,42nm,1.9s
KURK Kurchatov 81.60 323 **P** **20 52 55.4 -0.3**
KURBB Kurchatov Arra 81.62 323 P **P** **20 52 55.8 -0.1**
comp=Z,2.5nm,0.7s,baz=118,slow=4.4,SNR=26
comp=Z,2.5nm,0.7s
ARSB Arslanbob 82.32 313 **P** **20 52 59.6 -0.3**
ARSB IAmb IAmb 20 53 01.7
comp=Z,19nm,1.4s
QSPA South Pole Qui 83.20 180 **P** **20 53 05.4 +1.3**
QSPA IAmb IAmb 20 53 11.0
comp=Z,29nm,2.0s
QSPA South Pole Qui 83.20 180 P **P** **20 53 05.0 +1.0**
comp=Z,2.7nm,0.8s,baz=0.6,slow=7.1,SNR=15
comp=Z,2.7nm,0.8s
RC01 Rabbit Creek A 83.58 26 P **P** **20 53 05.3 -0.5**
E19K Redstone River 83.97 19 P **P** **20 53 08.3 +0.6**
E19K IAmb IAmb 20 53 09.6
comp=Z,9.6nm,0.9s
IMAR Indian Mountai 84.34 21 P **P** **20 53 09.8 +0.2**
CHGR Chuyangaron 84.49 310 **P** **20 53 10.5 -0.6**
KKAR Karatay Array 84.56 314 **P** **20 53 11.2 0.0**
MLY Manley 84.98 22 P **P** **20 53 12.9 0.0**
MLY IAmb IAmb 20 53 16.6
comp=Z,7.1nm,0.7s
CCB Clear Creek Bu 85.93 23 **P** **20 53 16.9 -0.7**
CCB IAmb IAmb 20 53 17.6
comp=Z,5.6nm,0.8s
ILAR Eielson Array 86.34 23 P **P** **20 53 18.6 -1.0**
comp=Z,4.8nm,0.6s,baz=254,slow=5.1,SNR=43
comp=Z,4.8nm,0.6s
BMAR Burnt Mountain 88.25 21 P **P** **20 53 29.8 +0.9**

EGAK Eagle 88.62 24 P **P** **20 53 31.2 +0.6**
EGAK IAmb IAmb 20 53 34.6
comp=Z,4.6nm,0.8s
HRA Herat 89.16 305 P **P** **20 53 33.5 -0.6**
HRA IAmb IAmb 20 53 37.9
comp=Z,19nm,1.8s
SYO Syowa Base 89.74 200 ⇓*eP* **P** **20 53 37.4 +1.6**
SYO Syowa Base 89.74 200 ⇑*ep*P P 20 53 40.6 +4.8
J30M Hart River 90.55 25 **P** **20 53 40.7 +0.9**
AB31 Akbulak array 92.91 319 P **P** **20 53 49.5 -1.4**
AB31 IAmb IAmb 20 53 50.6
comp=Z,3.7nm,0.8s
ABKAR Akbulak array 92.91 319 **P** **20 53 49.8 -1.1**
GERES GERESS Array B 122.32 325 PKP **PKPdf** **20 59 32.9 -0.3**
comp=Z,0.5nm,0.5s,baz=56,slow=3.4,SNR=5.7
BMRD Maredsous 126.21 331 *d*PKP **PKPdf** **20 59 40.4 0.0**
TORD Torodi Ar. Bea 144.90 283 PKhKP PKPpre 21 00 12.7
comp=Z,6.3nm,0.8s,baz=56,slow=4.3,SNR=28
TORD PKP PKPbc 21 00 15.4 +0.3
comp=Z,7.1nm,0.9s,baz=72,slow=3.9,SNR=30
DBIC Dimbokro 151.67 271 PKPbc **PKPbc** **21 00 32.8 -0.6**
comp=Z,10nm,0.6s,baz=100,slow=1.7,SNR=12
DBIC PKPab **PKPab** **21 00 41.6 -0.5**
comp=Z,8.2nm,0.8s,baz=13,slow=2.6,SNR=4.1
BDFB Brasilia 153.43 147 PKPbc **PKiKP** **21 00 37.6 +0.2**
comp=Z,3.8nm,0.6s,baz=241,slow=3.4,SNR=6.1

DJA 12 20:54:13.7±1.0, 1°N±3°×12°6E±°, h15km±9km, M3.6/11, mb3.8/2, MLv3.5/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**124**	P	Pn	20 54 34.4	-1.2
TNTI				S	Sb	20 54 49.6	-1.1
SGSI	**Sangihe**	**2.40**	**339**	P	Pn	20 54 52.5	+0.1
KMSI	**Cibinong**	**2.57**	**250**	P	Pn	20 54 55.0	+0.2
KMSI				S	Sn	20 55 26.7	+0.9
LUWI	**Luwuk**	**4.39**	**236**	P	Pn	20 55 20.0	+0.2
MRSI	**Marisa**	**4.56**	**258**	P	Pn	20 55 22.9	+0.7
APSI	**Ampana**	**5.29**	**244**	P	Pn	20 55 37.2	+4.9

DJA 12 20:55:28.7±0.3, 8°S±5°×12°9E±°, h157km±12km, M4.4/11, mB5.3/6, mb4.3/11, MLv4.3/11, Mw(mB)4.7/6
IDC 12 20:55:30.2±4.0, 7°65S×128°47E, h186km±43km, mb3.7/5, mbtmp4.2/9, Error ellipse: s-maj=46.8km s-min=21.0km az=56.0
ISC 12 20:55:27.3±0.7, 7°60S±0°05×128°63E±0°06, h200km, n25, σ2§89/31, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.67**	**98**	P	**Pn**	**20 56 15.4**	**+2.3**
BNDI	**Bandanaira**	**3.31**	**23**	P	**Pn**	**20 56 20.8**	**+0.2**
AAI	**Ambon**	**3.91**	**354**	P	**Pn**	**20 56 28.0**	**0.0**
MSAI	**Masohi**	**4.24**	**4**	P	**Pn**	**20 56 33.2**	**+1.1**
SOEI	**Soe**	**4.81**	**243**	P	**Pn**	**20 56 40.2**	**+0.8**
SOEI				S	**Sn**	**20 57 33.1**	**-3.2**
BATI	**Baumata**	**5.55**	**242**	P	**Pn**	**20 56 49.4**	**+0.7**
76nm,0.4s,baz=89,slow=3.7,SNR=35							
BATI				S	**Sn**	**20 57 48.5**	**-4.6**
126nm,0.5s,baz=212,slow=6.1,SNR=18							
BATI	**Baumata**	**5.55**	**242**	P	**Pn**	**20 56 50.2**	**+1.5**
BATI				S	**Sn**	**20 57 49.4**	**-3.7**
FAKI	**Fak Fak**	**5.88**	**38**	P	**Pn**	**20 56 53.2**	**+0.1**
0.2nm21nm,1.2s							
FAKI				S	**Sn**	**20 57 55.2**	**-5.8**
0.2nm21nm,1.2s							
KMPI	**Kaimana, Papua**	**6.39**	**53**	P	**Pn**	**20 57 02.3**	**+2.7**
2μm84nm,0.9s							
KMPI				S	**Sn**	**20 58 07.8**	**-5.0**
2μm84nm,0.9s							
MMRI	**Maumere**	**6.41**	**260**	P	**Pn**	**20 57 00.6**	**+0.7**
0.1nm25nm,1.1s							
EDFI	**Ende, Flores**	**6.96**	**260**	P	**Pn**	**20 57 07.9**	**+0.7**
SWI	**Sorong**	**7.19**	**22**	P	**Pn**	**20 57 10.7**	**+0.7**
SWI				S	**Sn**	**20 58 28.1**	**-3.5**
RKPI	**Ransiki, Papua**	**8.20**	**43**	P	**Pn**	**20 57 23.5**	**+0.4**
7μm34nm,0.6s							
BASI	**Baing, Sumba**	**8.37**	**251**	P	**Pn**	**20 57 25.7**	**+0.3**
22nm,0.5s							
WSI	**Waingapu**	**8.49**	**255**	P	**Pn**	**20 57 26.3**	**-0.6**
WBSI	**Waikabubak, Su**	**9.36**	**257**	P	**Pn**	**20 57 38.9**	**+0.6**
17nm,0.6s							
PLAI	**Plampang**	**10.81**	**263**	P	**Pn**	**20 57 58.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.83**	**195**	P	**Pn**	**20 57 59.1**	**+1.9**
6.1nm,0.3s,baz=23,slow=8.6,SNR=90							
FITZ				S	**Sn**	**20 59 52.1**	**-6.1**
6.4nm,0.4s,baz=3.2,slow=16,SNR=8.0							
WRA	**Warramunga Arr**	**13.46**	**156**	P	**P**	**20 58 33.8**	**+0.6**
0.5nm,0.3s,baz=335,slow=14,SNR=38							
WRA				S	**S**	**21 00 57.4**	**-3.3**
3.3nm,0.4s,baz=330,slow=23,SNR=12							
ASAR	**Alice Springs**	**16.76**	**163**	P	**Pn**	**20 59 14.6**	**+3.8**
1.6nm,0.5s,baz=343,slow=10,SNR=53							
ASAR				S	**Sn**	**21 02 19.1**	**-0.5**
1.3nm,0.6s,baz=348,slow=26,SNR=7.2							
SONM	**Songino Array**	**58.59**	**343**	P	P	21 05 07.9	+4.7
0.4nm,0.6s,baz=167,slow=1.9,SNR=2.6							
0.4nm,0.6s							
PETK	**Petropavlovsk-**	**65.32**	**19**	P	P	21 05 52.8	+5.0
7.1nm,0.9s,baz=225,slow=6.8,SNR=5.0							
7.1nm,0.9s							
MKAR	**Makanchi Array**	**67.99**	**328**	P	P	21 06 09.3	+4.5
0.5nm,0.4s,baz=118,slow=6.8,SNR=14							
0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**21 06 29.9**	**+3.7**
1.2nm,0.6s,baz=188,slow=5.4,SNR=6.7							
1.2nm,0.6s							
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**21 06 35.3**	**+4.3**
1.5nm,0.2s,baz=131,slow=5.3,SNR=11							
1.5nm,0.2s							

SOME 12 20:55:59.8, 40°.40N×77°.00E, h15km
KRNET 12 20:55:59.7±0.1, 40°.45N×76°.94E, h18km, mb3.1
NNC 12 20:56:02.6±1.1, 40°.54N×77°.04E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.3km s-min=5.3km az=161.0
ISC 12 20:56:01.9±1.3, 40°46N±0°06×76°86E±0°04, h10km, n40, σ1§44/63, 22C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.10**	**303**	⇑*eP*	**Pg**	**20 56 21.4**	**-1.6**
JNKS				⇑*eS*	**Sg**	**20 56 37.2**	**-0.1**
KDJ	**Kajisay**	**1.69**	**8**	⇓*eP*	**Pn**	**20 56 30.9**	**-0.8**
KDJ				⇓*eS*	**Sn**	**20 56 53.6**	**+0.2**
ULHL	**Ulahol**	**1.84**	**346**	⇑*eP*	**Pn**	**20 56 34.2**	**+0.3**
ULHL				⇑*eS*	**Sb**	**20 56 59.3**	**+0.2**
BOOM	**Boomskoye usch**	**2.14**	**341**	⇑*eP*	**Pn**	**20 56 38.5**	**+0.6**
BOOM				⇑*eS*	**Sb**	**20 57 06.8**	**-0.9**
SALK	**Salom-Alik**	**2.35**	**281**	⇑*eP*	**Pn**	**20 56 41.9**	**+1.1**
SALK				⇑*eS*	**Sb**	**20 57 12.4**	**-1.3**
UCH	**Uchtor**	**2.50**	**316**	⇓*eP*	**Pn**	**20 56 43.9**	**+0.8**
UCH				⇓*eS*	**Sn**	**20 57 16.1**	**+2.2**
TNSS	**Tian-Shan**	**2.58**	**1**	Pg	**Pb**	**20 56 47.9**	**-0.5**
5.2nm,0.2s							
TNSS				Lg	Lg	20 57 22.5	
5.9nm,0.4s							
TNSS	**Tian-Shan**	**2.58**	**1**	*eP*	**Pb**	**20 56 47.9**	**-0.5**
5.2nm,0.2s							
TNSS				*eS*	**Sb**	**20 57 22.5**	**+2.2**
5.9nm,0.4s							
SFK	**Sufi-Kurgan**	**2.61**	**261**	⇑*eP*	**Pn**	**20 56 45.4**	**+1.0**
SFK				⇑*eS*	**Sb**	**20 57 18.8**	**-2.4**
KBK	**Karagaybulak**	**2.62**	**327**	⇑*eP*	**Pn**	**20 56 45.3**	**+0.8**
KBK				⇑*eS*	**Sn**	**20 57 18.5**	**+2.0**
TKM2	**Tokmak 2**	**2.63**	**339**	⇓*eP*	**Pn**	**20 56 45.3**	**+0.6**
TKM2				⇓*eS*	**Sn**	**20 57 18.6**	**+1.7**
KST	**Kastek**	**2.67**	**346**	Pg	**Pb**	**20 56 50.0**	**+0.1**
4.2nm,0.3s							
KST				Lg	Lg	20 57 26.0	
12nm,0.4s							
KST	**Kastek**	**2.67**	**346**	*eP*	**Pb**	**20 56 50.0**	**+0.1**
4.2nm,0.3s							
KST				*eS*	**Sg**	**20 57 26.0**	**-1.6**
12nm,0.4s							
MTBS	**Maitube**	**2.69**	**353**	Pg	**Pb**	**20 56 50.7**	**+0.5**
5.2nm,0.2s							
MTBS				Lg	Lg	20 57 27.1	
16nm,0.4s							
MTBS	**Maitube**	**2.69**	**353**	*eP*	**Pb**	**20 56 50.6**	**+0.5**
5.2nm,0.2s							
MTBS				*eS*	**Sg**	**20 57 27.1**	**-1.1**
16nm,0.4s							
MDOK	**Medeo**	**2.70**	**3**	Pg	**Pb**	**20 56 49.7**	**-0.8**
3.5nm,0.2s							
MDOK				Lg	Lg	20 57 25.6	
12nm,0.6s							
KOTS	**Kotyrbulak**	**2.78**	**4**	Pg	**Pb**	**20 56 51.7**	**-0.1**
6.7nm,0.2s							
KOTS				Lg	Lg	20 57 29.0	
26nm,0.5s							
KOTS	**Kotyrbulak**	**2.78**	**4**	*eP*	**Pb**	**20 56 51.7**	**-0.1**
6.7nm,0.2s							
KOTS				*eS*	**Sg**	**20 57 29.0**	**-2.2**
26nm,0.5s							
AAK	**Ala-Archa**	**2.81**	**322**	⇑Pn	**Pb**	**20 56 50.2**	**-2.1**
3.6nm,0.8s							
AAK				⇑Pg	**Pg**	**20 56 56.2**	**+0.4**
6.2nm,0.8s							
AAK				⇓Lg	Lg	20 57 33.5	
11nm,0.8s							
AAK	**Ala-Archa**	**2.81**	**322**	⇑*eP*	**Pn**	**20 56 47.9**	**+0.8**
AAK				⇑*eS*	**Sn**	**20 57 23.2**	**+2.1**
SATY	**Saty**	**2.84**	**23**	Pg	**Pb**	**20 56 51.9**	**-1.0**
4.6nm,0.4s							
SATY				Lg	Lg	20 57 29.4	
17nm,0.3s							
ARSB	**Arslanbob**	**3.07**	**288**	⇑*eP*	**Pn**	**20 56 51.6**	**+1.0**
ARSB				⇑*eS*	**Sn**	**20 57 29.6**	**+2.2**
OHH	**Osh**	**3.11**	**272**	⇑*eP*	**Pn**	**20 56 52.2**	**+1.1**
OHH				⇑*eS*	**Sn**	**20 57 30.5**	**+2.1**
UZB	**Uzynbulak**	**3.13**	**30**	Pg	**Pb**	**20 56 56.9**	**-0.9**
1.1nm,0.2s							
UZB				Lg	Lg	20 57 38.3	
9.1nm,0.3s							
UZB	**Uzynbulak**	**3.13**	**30**	*eP*	**Pb**	**20 56 56.9**	**-0.9**
1.1nm,0.2s							
UZB				*eS*	**Sb**	**20 57 38.3**	**+2.2**
9.1nm,0.3s							
EKS2	**Erkin-Say**	**3.19**	**315**	⇓*eP*	**Pn**	**20 56 53.3**	**+1.0**
EKS2				⇓*eS*	**Sn**	**20 57 32.4**	**+1.9**
KTBS	**Karatobe**	**3.25**	**358**	Pg	**Pb**	**20 56 59.1**	**-0.7**
5.6nm,0.3s							
KTBS				Lg	Lg	20 57 41.7	
4.4nm,0.3s							
KPKS	**Kokpek**	**3.30**	**24**	Pg	**Pb**	**20 57 00.2**	**-0.3**
0.4nm,0.2s							
KPKS				Lg	Lg	20 57 43.9	
10nm,0.5s							
SHLS	**Shalkode**	**3.32**	**35**	Pg	**Pg**	**20 57 04.1**	**-1.5**
3.9nm,0.3s							
SHLS				Lg	Lg	20 57 50.8	
18nm,0.4s							
SHLS	**Shalkode**	**3.32**	**35**	*eP*	**Pg**	**20 57 04.1**	**-1.5**
3.9nm,0.3s							
SHLS				*eS*	**Sg**	**20 57 50.8**	**+2.1**
18nm,0.4s							
KRBS	**Karabastau**	**3.35**	**345**	Pg	**Pb**	**20 57 01.9**	**+0.4**
5.4nm,0.4s							
KRBS				Lg	Lg	20 57 46.5	
13nm,0.8s							
CHKK	**Chushkaly**	**3.39**	**2**	Pg	**Pb**	**20 57 03.3**	**+1.2**
3.2nm,0.1s							
CHKK				Lg	Lg	20 57 49.2	
11nm,0.3s							
CHKK	**Chushkaly**	**3.39**	**2**	*eP*	**Pb**	**20 57 03.3**	**+1.2**
3.2nm,0.1s							
CHKK				*eS*	**Sg**	**20 57 49.2**	**-1.7**
11nm,0.3s							
PDGK	**Podgornoye**	**3.47**	**34**	⇓Pg	**Pb**	**20 57 02.5**	**-1.1**
4.7nm,0.6s							
PDGK				⇑Lg	Lg	20 57 49.0	
15nm,1.1s							
MRKS	**Merke**	**3.56**	**311**	Pg	**Pb**	**20 57 06.4**	**+1.4**
3.1nm,0.5s							
MRKS				Lg	Lg	20 57 53.9	
3.7nm,0.6s							
MRKS	**Merke**	**3.56**	**311**	*eP*	**Pb**	**20 57 06.4**	**+1.4**
3.1nm,0.5s							
MRKS				*eS*	**Sg**	**20 57 53.9**	**-2.3**
3.7nm,0.6s							
ARXS	**Arharly**	**3.82**	**10**	Pg	**Pb**	**20 57 10.3**	**+0.9**
3.6nm,0.5s							
ARXS				Lg	Lg	20 58 01.2	
5.7nm,0.3s							
ARXS	**Arharly**	**3.82**	**10**	*eP*	**Pb**	**20 57 10.3**	**+0.9**
ARXS				*eS*	**Sg**	**20 58 01.2**	**-3.3**
KNOS	**Konyrlen**	**4.26**	**23**	Pg	**Pb**	**20 57 19.3**	**+2.3**
2.5nm,0.5s							
KNOS				Lg	Lg	20 58 16.0	
0.8nm,0.1s							
KK31	**Karatay Array**	**5.43**	**301**	⇑Pg	**Pg**	**20 57 43.7**	**-2.3**
0.8nm,0.7s,baz=109,slow=17,SNR=3.6							
KK31				⇓Lg	Lg	20 58 59.4	
0.7nm,0.5s,baz=128,slow=16,SNR=4.7							

DJA 12 21:18:21.3±0.6, 3°S±4°×12°8E±°, h23km±7km, M3.8/9, mB5.4/1, mb4.3/2, MLv3.6/9, Mw(mB)4.8/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.81**	**244**	P	Pn	21 18 37.8	+0.5
NLAI				S	Sn	21 18 49.2	+0.5
AAI	**Ambon**	**0.88**	**156**	P	Pb	21 18 37.4	-0.5
AAI				S	Sn	21 18 50.1	-0.3
MSAI	**Masohi**	**1.19**	**113**	P	Pb	21 18 44.5	+1.3
MSAI				S	Sb	21 18 59.7	+1.5
SANI	**Sanana**	**2.02**	**294**	P	Pn	21 18 53.5	-0.4
SANI				S	Sn	21 19 16.7	-1.7
SWI	**Sorong**	**3.97**	**60**	P	Pn	21 19 21.8	+1.0
SWI				S	Sn	21 20 06.7	0.0
FAKI	**Fak Fak**	**4.41**	**91**	P	Pn	21 19 26.9	0.0
APSI	**Ampana**	**6.48**	**287**	P	Pn	21 19 57.4	+2.1

IDC 12 21:25:09.9±1.2, 5°.17S×153°.54E, h0km, mb3.7/8, mbtmp3.7/9, ML1.5/1, Error ellipse: s-maj=37.5km s-min=26.2km az=110.0
ISC 12 21:25:18.1±1.1, 5°2S±0°2×153°4E±0°2, h56km, n10, σ1§12/12, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.45**	**236**	Pn	**Pn**	**21 27 02.3**	**-2.0**
0.4nm,0.3s,baz=53,slow=20,SNR=2.4							
PMG				Sn	**Sn**	**21 28 29.0**	**+1.5**
1.9nm,0.3s,baz=84,slow=18,SNR=6.1							
1.7nm,0.4s							
WRA	**Warramunga Arr**	**23.62**	**230**	P	**P**	**21 30 24.1**	**-0.3**
0.2nm,0.4s,baz=52,slow=10,SNR=9.7							
WRA				PcP	**PcP**	**21 34 06.7**	**-1.3**
0.2nm,0.3s,baz=65,slow=3.4,SNR=5.9							
0.2nm,0.4s							
ASAR	**Alice Springs**	**26.25**	**224**	P	**P**	**21 30 48.2**	**0.0**
0.1nm,0.4s,baz=55,slow=8.2,SNR=1.7							
0.1nm,0.4s							
FITZ	**Fitzroy Crossi**	**29.98**	**242**	P	**P**	**21 31 21.9**	**+0.3**
1.2nm,0.7s,baz=72,slow=9.6,SNR=1.7							
1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**58.60**	**295**	P	**P**	**21 35 10.6**	**+0.8**
0.4nm,0.3s,baz=115,slow=5.1,SNR=6.1							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**81.04**	**319**	P	**P**	**21 37 27.8**	**+0.6**
0.2nm,0.3s,baz=89,slow=6.2,SNR=2.0							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**84.50**	**322**	P	**P**	**21 37 44.4**	**-0.6**
0.4nm,0.2s,baz=115,slow=3.9,SNR=2.1							
0.4nm,0.2s							
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**21 37 47.2**	**+1.1**
1.8nm,0.8s,baz=24,slow=0.9,SNR=9.6							
1.8nm,0.8s							
MAW	**Mawson**	**85.41**	**203**	P	**P**	**21 37 49.4**	**+0.2**
0.8nm,0.6s,baz=95,slow=7.4,SNR=6.2							
0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**151.01**	**288**	PKPbc	**PKPbc**	**21 45 05.2**	**-0.6**
0.6nm,0.5s,baz=60,slow=3.7,SNR=9.0							

DJA 12 21:27:45.9±1.5, 1°S±3°×9°7E±°, h21km±15km, M4.1/18, mB5.4/1, mb4.2/13, MLv4.0/18, Mw(mB)4.9/1, MwMwp6.5/1, Mwp6.4/1, Southwest of Sumatera

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

SISI	**Saibi**	**2.24**	**109**	P	Pn	21 28 21.8	0.0
SISI				S	Sn	21 28 47.0	-1.9
MNSI	**Mandailing Nat**	**2.95**	**62**	P	Pn	21 28 34.1	+2.5
MNSI				S	Sn	21 29 07.5	+1.1
SNSI	**Sinabang, Aceh**	**3.05**	**348**	P	Pn	21 28 32.5	-0.4
SNSI				S	Sn	21 29 06.8	-2.0
PPI	**Padang Panjang**	**3.43**	**88**	P	Pn	21 28 38.2	+0.1
PDSI	**Padang**	**3.51**	**95**	P	Pn	21 28 39.3	+0.1
PDSI				S	Sn	21 29 16.8	-3.3
PPSI	**Pulau Pagai**	**3.73**	**125**	P	Pn	21 28 42.0	-0.2
PPSI				S	Sn	21 29 20.5	-5.0
KCSI	**Kotacane, Aceh**	**4.16**	**11**	P	Pn	21 28 48.3	0.0
KCSI				S	Sn	21 29 35.0	-1.3
TSI	**Tuntungan**	**4.37**	**21**	P	Pn	21 29 50.9	-0.1
KRJI	**Kerinci**	**4.73**	**108**	P	Pn	21 28 56.7	+0.5
MLSI	**Meulaboh, Aceh**	**4.86**	**353**	P	Pn	21 28 57.5	-0.3
MASI	**Maura Aman, Be**	**5.84**	**116**	P	Pn	21 29 11.8	+0.4
	0.4nm54nm,1.3s						
KSI	**Kapahiang**	**6.39**	**119**	P	Pn	21 29 19.2	+0.3
	30nm,0.7s						
MNAI	**Manna**	**7.05**	**122**	P	Pn	21 29 27.9	-0.1
LHSI	**Lahat**	**7.29**	**116**	P	Pn	21 29 31.7	+0.4
	0.1nm25nm,0.7s						
MDSI	**Maura Dua**	**8.17**	**118**	P	Pn	21 29 43.5	+0.1
	7.5nm,0.8s						
LWLI	**Liwa**	**8.33**	**122**	P	Pn	21 29 45.8	+0.1
	23nm,1.0s						
KASI	**Kota Agung**	**8.97**	**123**	P	Pn	21 29 53.7	-0.6
	17nm,2.0s						
CGJI	**Cibinong**	**10.56**	**125**	P	Pn	21 30 13.6	-2.5
DBJI	**Dramaga**	**11.41**	**121**	P	Pn	21 30 28.1	+0.2

DJA ***12*** *21:35:55.8±0.2,3°S±2°×12°8E±°, h10km, M4.1/13, mB5.2/2, mb4.5/5, MLv4.0/13, Mw(mB)4.6/2*
IDC ***12*** *21:36:02.5±9.5,3°32S×128°77E, h75km±88km, mb3.3/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=162.7km s-min=29.1km az=66.0*
ISC 12 21:35:55.3±0.8,3°47S±0°07×128°38E±0°04, h10km, n16, σ1°35/21, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.29**	**220**	P	**Pb**	**21 36 02.5**	**-0.1**
AAI				S	**Sb**	**21 36 07.3**	**-0.1**
MSAI	**Masohi**	**0.56**	**78**	P	**Pb**	**21 36 06.7**	**-0.6**
MSAI				S	**Sg**	**21 36 13.9**	**+0.2**
NLAI	**Namlea**	**1.30**	**280**	P	**Pn**	**21 36 18.4**	**-1.1**
BNDI	**Bandanaira**	**1.85**	**125**	P	**Pb**	**21 36 28.7**	**-0.5**
SANI	**Sanana**	**2.77**	**300**	P	**Pn**	**21 36 40.1**	**+0.2**
SANI				S	**Sn**	**21 37 12.3**	**-1.1**
SWI	**Sorong**	**3.87**	**48**	P	**Pn**	**21 36 57.1**	**+2.1**
SWI				S	**Sn**	**21 37 41.5**	**+1.0**
FAKI	**Fak Fak**	**3.90**	**82**	P	**Pn**	**21 36 56.7**	**+1.3**
KMPI	**Kaimana, Papua**	**5.32**	**92**	P	**Pn**	**21 37 15.6**	**+0.7**
	0.4nm82nm,1.1s						
LUWI	**Luwuk**	**6.10**	**293**	P	**Pn**	**21 37 25.6**	**0.0**
RKPI	**Ransiki, Papua**	**6.11**	**72**	P	**Pn**	**21 37 26.0**	**+0.2**
	2μm28nm,0.7s						
APSI	**Ampana**	**7.19**	**291**	P	**Pn**	**21 37 44.2**	**+3.6**
WRA	**Warramunga Arr**	**17.38**	**161**	P	**P**	**21 40 00.4**	**+0.9**
	0.2nm,0.3s,baz=340,slow=11,SNR=5.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**20.78**	**166**	P	**P**	**21 40 37.8**	**+1.0**
	1.1nm,0.5s,baz=347,slow=12,SNR=25						
ASAR				PcP	**PcP**	**21 44 44.0**	**-2.2**
	0.3nm,0.4s,baz=356,slow=1.6,SNR=7.8						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**64.41**	**327**	P	**P**	**21 46 32.3**	**+0.5**
	0.4nm,0.6s,baz=117,slow=8.8,SNR=3.7						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**67.72**	**334**	P	**P**	**21 46 51.7**	**-1.2**
	0.2nm,0.3s,baz=134,slow=6.2,SNR=1.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**68.67**	**328**	P	**P**	**21 46 58.2**	**-0.7**
	0.5nm,0.6s,baz=128,slow=5.8,SNR=9.1						
	0.5nm,0.6s						

IDC ***12*** *21:49:26.9±0.6, 55°17N×165°28E, h0km, mb4.0/23, mbtmp4.0/25, ML3.7/2, MS3.3/20, Error ellipse: s-maj=18.7km s-min=11.8km az=150.0*
KRSC ***12*** *21:49:28.8±1.8, 55°02N×165°32E, h50km±17km, Ml4.6, Felt [III] at Nikolskoe.*
NEIC ***12*** *21:49:29.2±1.4, 55°3N±0°1×165°3E±0°2, h10km±1km, mb4.4/43, Error ellipse: s-maj=23.7km s-min=13.2km az=159.0*
MOS ***12*** *21:49:30.3±0.8, 55°06N×165°41E, h43km, mb4.3/11, Error ellipse: s-maj=7.7km s-min=5.7km az=139.8*
ISC 12 21:49:31.7±1.2, 55°05N±0°04×165°40E±0°03, h35km±6km, n363, σ0°99/376, mb4.2/45, MS3.3/17, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.37**	**64**	PN	**Pb**	**21 49 39.9**	**-0.5**
BKI				S	**Sn**	**21 49 46.1**	**-0.2**
BKI	**Bering**	**0.37**	**64**	*e*P	**Pb**	**21 49 40.0**	**-0.5**
BKI				*e*S	**Sn**	**21 49 46.1**	**-0.2**
KBTR	**Krutoberegovo**	**1.87**	**310**	PN	**Pn**	**21 49 58.7**	**-2.4**
KBTR				S	**Sn**	**21 50 20.3**	**-3.2**
KBTR	**Krutoberegovo**	**1.87**	**310**	*e*P	**Pn**	**21 49 58.8**	**-2.4**
KBTR				*e*S	**Sn**	**21 50 20.3**	**-3.2**
MKZ	**Mys Kozlova**	**2.18**	**259**	PN	**Pn**	**21 50 04.7**	**-0.7**
MKZ				S	**Sn**	**21 50 28.2**	**-2.9**
MKZ	**Mys Kozlova**	**2.18**	**259**	*e*P	**Pn**	**21 50 04.7**	**-0.7**
MKZ				*e*S	**Sn**	**21 50 28.3**	**-2.9**
SMKR	**Semkarok**	**2.70**	**306**	PN	**Pn**	**21 50 10.8**	**-1.8**
SMKR	**Semkarok**	**2.70**	**306**	*e*P	**Pn**	**21 50 10.8**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**2.82**	**290**	PN	**Pn**	**21 50 15.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**2.82**	**290**	*e*P	**Pn**	**21 50 15.2**	**+0.8**
TUMD	**Tumrok D**	**2.88**	**275**	PN	**Pn**	**21 50 15.3**	**+0.3**
TUMD				S	**Sn**	**21 50 48.0**	**-0.4**
TUMD	**Tumrok D**	**2.88**	**275**	*e*P	**Pn**	**21 50 15.4**	**+0.3**
TUMD				*e*S	**Sn**	**21 50 48.0**	**-0.4**
BZMR	**Bezymyannaya**	**2.93**	**290**	PN	**Pn**	**21 50 17.0**	**+1.1**
BZMR				S	**Sn**	**21 50 52.2**	**+2.3**
BZMR	**Bezymyannaya**	**2.93**	**290**	*e*P	**Pn**	**21 50 17.0**	**+1.1**
BZMR				*e*S	**Sn**	**21 50 52.3**	**+2.3**
KZV	**Kizimen**	**2.94**	**273**	PN	**Pn**	**21 50 15.9**	**0.0**
KZV				S	**Sn**	**21 50 49.3**	**-0.7**
KZV	**Kizimen**	**2.94**	**273**	*e*P	**Pn**	**21 50 16.0**	**0.0**
KZV				*e*S	**Sn**	**21 50 49.4**	**-0.7**
BZWR	**Bezymyannyi-We**	**2.94**	**290**	PN	**Pn**	**21 50 16.8**	**+0.8**
BZWR				S	**Sn**	**21 50 51.1**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.94**	**290**	*e*P	**Pn**	**21 50 16.8**	**+0.8**
BZWR				*e*S	**Sn**	**21 50 51.2**	**+1.1**
KLY	**Klyuchi**	**2.97**	**297**	*e*S	**Sn**	**21 50 48.4**	**-2.3**
KIRR	**Kirishev**	**3.02**	**290**	PN	**Pn**	**21 50 17.8**	**+0.8**
KIRR				S	**Sn**	**21 50 53.0**	**+1.0**
KIRR	**Kirishev**	**3.02**	**290**	*e*P	**Pn**	**21 50 17.9**	**+0.8**
KIRR				*e*S	**Sn**	**21 50 53.1**	**+1.0**
KMNR	**Kamenistaya**	**3.03**	**286**	PN	**Pn**	**21 50 17.9**	**+0.8**
KMNR				S	**Sn**	**21 50 53.7**	**+1.5**
KMNR	**Kamenistaya**	**3.03**	**286**	*e*P	**Pn**	**21 50 18.0**	**+0.8**
KMNR				*e*S	**Sn**	**21 50 53.7**	**+1.5**
KPT	**Kopyto**	**3.08**	**290**	PN	**Pn**	**21 50 19.1**	**+1.2**
KPT				S	**Sn**	**21 50 56.1**	**+2.5**
KPT	**Kopyto**	**3.08**	**290**	*e*P	**Pn**	**21 50 19.1**	**+1.2**
KPT				*e*S	**Sn**	**21 50 56.2**	**+2.5**
KOZ	**Kozyrevsk**	**3.30**	**290**	PN	**Pn**	**21 50 22.6**	**+1.8**
KOZ				S	**Sn**	**21 51 00.9**	**+2.2**
KOZ	**Kozyrevsk**	**3.30**	**290**	*e*P	**Pn**	**21 50 22.6**	**+1.8**
KOZ				*e*S	**Sn**	**21 51 01.0**	**+2.2**
SPN	**Mys Shipunski**	**3.72**	**241**	PN	**Pn**	**21 50 25.9**	**-0.6**
SPN	**Mys Shipunski**	**3.72**	**241**	*e*P	**Pn**	**21 50 25.9**	**-0.6**
SPN				*e*S	**Sn**	**21 51 05.3**	**-3.8**
ESO	**Esso**	**3.91**	**286**	PN	**Pn**	**21 50 29.7**	**+0.5**
ESO				S	**Sn**	**21 51 13.1**	**-0.8**
ESO	**Esso**	**3.91**	**286**	*e*P	**Pn**	**21 50 29.7**	**+0.5**
ESO				*e*S	**Sn**	**21 51 13.1**	**-0.8**
NLC	**Nalytchevo**	**4.03**	**245**	PN	**Pn**	**21 50 30.6**	**-0.1**
NLC	**Nalytchevo**	**4.03**	**245**	*e*P	**Pn**	**21 50 30.7**	**-0.1**
NLC				*e*S	**Sn**	**21 51 14.5**	**-2.2**
SDLR	**Sedlovina**	**4.22**	**248**	PN	**Pn**	**21 50 33.9**	**+0.4**
SDLR	**Sedlovina**	**4.22**	**248**	*e*P	**Pn**	**21 50 34.0**	**+0.4**
SMAR	**Somma**	**4.27**	**248**	PN	**Pn**	**21 50 34.9**	**+0.6**
SMAR	**Somma**	**4.27**	**248**	*e*P	**Pn**	**21 50 35.0**	**+0.6**
KRER	**Koryakskii**	**4.28**	**249**	PN	**Pn**	**21 50 35.2**	**+0.8**
KRER	**Koryakskii**	**4.28**	**249**	*e*P	**Pn**	**21 50 35.3**	**+0.8**
AVH	**Avacha**	**4.30**	**248**	PN	**Pn**	**21 50 35.6**	**+1.0**
AVH	**Avacha**	**4.30**	**248**	*e*P	**Pn**	**21 50 35.6**	**+1.0**
AVH				*e*S	**Sn**	**21 51 22.5**	**-1.1**
KRX	**Arik**	**4.31**	**250**	PN	**Pn**	**21 50 35.4**	**+0.6**
KRX	**Arik**	**4.31**	**250**	*e*P	**Pn**	**21 50 35.5**	**+0.6**
KOK	**Koryaka**	**4.34**	**249**	PN	**Pn**	**21 50 36.2**	**+1.0**
KOK	**Koryaka**	**4.34**	**249**	*e*P	**Pn**	**21 50 36.3**	**+1.0**
OSSR	**Ossora**	**4.40**	**344**	PN	**Pn**	**21 50 36.2**	**+0.3**
OSSR	**Ossora**	**4.40**	**344**	*e*P	**Pn**	**21 50 36.2**	**+0.3**
OSSR				*e*S	**Sn**	**21 51 23.9**	**-2.1**
DALK	**Dalny**	**4.41**	**245**	PN	**Pn**	**21 50 36.1**	**+0.2**
DALK	**Dalny**	**4.41**	**245**	*e*P	**Pn**	**21 50 36.2**	**+0.2**
DALK				*e*S	**Sn**	**21 51 23.2**	**-2.8**
PET	**Petropavlovsk**	**4.46**	**246**		**Pn**	**21 50 37.2**	**+0.4**
PET	**Petropavlovsk**	**4.46**	**246**	*i* PN	**Pn**	**21 50 36.7**	**-0.1**
GNL	**Ganaly**	**4.56**	**256**	PN	**Pn**	**21 50 39.6**	**+1.3**
GNL	**Ganaly**	**4.56**	**256**	*e*P	**Pn**	**21 50 39.6**	**+1.3**
KRMR	**Karymshinskiy**	**4.83**	**246**	PN	**Pn**	**21 50 42.3**	**+0.4**
KRMR	**Karymshinskiy**	**4.83**	**246**	*e*P	**Pn**	**21 50 42.3**	**+0.4**
KRMR				*e*S	**Sn**	**21 51 34.8**	**-1.7**
RUS	**Russkaya**	**4.85**	**240**	PN	**Pn**	**21 50 42.5**	**+0.4**
RUS	**Russkaya**	**4.85**	**240**	*e*P	**Pn**	**21 50 42.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**4.93**	**250**	*i* PN	**Pn**	**21 50 43.5**	**+0.3**
PETK	**Petropavlovsk-**	**4.93**	**250**		**Pn**	**21 50 44.0**	**+0.7**
PETK	**Petropavlovsk-**	**4.93**	**250**	Pn	**Pn**	**21 50 42.4**	**-0.9**
	11nm,0.3s,baz=71,slow=18,SNR=87						
PETK				Sn	**Sn**	**21 51 38.4**	**-0.6**
	18nm,0.3s,baz=282,slow=8.9,SNR=11						
PETK				LR	LR	21 52 11.2	
	comp=Z,66nm,21.7s,baz=82,slow=34						
	16nm,0.4s						
PETK	**Petropavlovsk-**	**4.93**	**250**	PN	**Pn**	**21 50 44.0**	**+0.7**
MTVR	**Mutnovka**	**4.99**	**242**	PN	**Pn**	**21 50 44.7**	**+0.5**
MTVR	**Mutnovka**	**4.99**	**242**	*e*P	**Pn**	**21 50 44.7**	**+0.5**
MTVR				*e*S	**Sn**	**21 51 37.4**	**-3.3**
GRL	**Gorelyy**	**5.01**	**243**	PN	**Pn**	**21 50 45.0**	**+0.6**
GRL	**Gorelyy**	**5.01**	**243**	*e*P	**Pn**	**21 50 45.0**	**+0.6**
GRL				*e*S	**Sn**	**21 51 40.0**	**-1.1**
ASAK	**Asacha**	**5.19**	**242**	PN	**Pn**	**21 50 48.1**	**+1.3**
ASAK	**Asacha**	**5.19**	**242**	*e*P	**Pn**	**21 50 48.1**	**+1.3**
PAU	**Pauzhetka**	**6.28**	**239**	PN	**Pn**	**21 51 02.5**	**+0.9**
PAU	**Pauzhetka**	**6.28**	**239**	*e*P	**Pn**	**21 51 02.6**	**+0.9**
SKR	**Severo-Kuril's**	**7.12**	**236**	*e*PN	**Pn**	**21 51 13.1**	**-0.1**
SKR				pmax	pmax		
	comp=Z,78nm,0.6s						
SKR				MLR	MLR		
	comp=Z,200nm,17.0s						
MA2	**Magadan**	**9.12**	**306**	LR	LR	21 55 02.0	
	comp=Z,54nm,18.8s,baz=87,slow=37						
SEY	**Seymchan**	**10.35**	**325**	LR	LR	21 56 12.3	
	comp=Z,110nm,19.1s,baz=106,slow=40						
SPIA	**Saint Paul Isl**	**13.73**	**71**	P	**Pn**	**21 52 43.8**	**+0.1**
	baz=272						
P08K	**Saint George I**	**14.14**	**73**	P	**Pn**	**21 52 48.8**	**-0.5**
	baz=275						
NIKH	**Nikolski High**	**15.25**	**87**		**P**	**21 53 08.6**	**0.0**
NIKH	**Nikolski High**	**15.25**	**87**	P	**Pn**	**21 53 03.7**	**-0.4**
	baz=289						
M11K	**Mekoryuk**	**16.01**	**59**	P	**Pn**	**21 53 13.4**	**-0.4**
	baz=264						
UNV	**Unalaska Valle**	**16.34**	**83**	Pn	**Pn**	**21 53 19.2**	**+1.0**
UNV				IAmb	IAmb	21 53 21.9	
	comp=Z,27nm,1.1s						
UNV	**Unalaska Valle**	**16.34**	**83**	P	**Pn**	**21 53 17.8**	**-0.4**
	baz=286						
LVA	**Lava Point**	**16.53**	**81**		**P**	**21 53 24.1**	**+1.3**
TNA	**Tin City**	**16.74**	**40**	P	**Pn**	**21 53 22.7**	**-0.4**
	baz=244						
K13K	**Kusilvak Mount**	**16.98**	**54**	P	**Pn**	**21 53 26.5**	**+0.4**
	baz=260						
F14K	**Arctic Creek**	**17.31**	**42**	P	**Pn**	**21 53 29.3**	**-0.9**
	baz=247						
ANM	**Nome**	**17.35**	**45**	P	**Pn**	**21 53 30.2**	**-0.5**
	baz=251						
M13K	**Dall Lake**	**17.42**	**59**	P	**Pn**	**21 53 32.0**	**+0.4**
	baz=267						
J14K	**Nanvaranak Lak**	**17.64**	**52**		**P**	**21 53 36.3**	**+1.3**
J14K	**Nanvaranak Lak**	**17.64**	**52**	P	**Pn**	**21 53 34.2**	**-0.1**
	baz=259						
L14K	**Kuka Creek**	**17.83**	**56**		**P**	**21 53 38.9**	**+1.8**
L14K	**Kuka Creek**	**17.83**	**56**	P	**P**	**21 53 37.5**	**+0.4**
	baz=264						
G15K	**Niukluk**	**18.03**	**44**	P	**Pn**	**21 53 37.9**	**-1.2**
	baz=252						
F15K	**North Star Dit**	**18.05**	**42**	P	**Pn**	**21 53 38.3**	**-1.0**
	baz=249						
N14K	**Kuskokwak Cree**	**18.23**	**61**	P	**P**	**21 53 40.9**	**-0.6**
	baz=270						
JKA	**Kamikawa-asahi**	**18.30**	**243**	P	**P**	**21 53 42.5**	**+0.1**
JKA				IAmb	IAmb	21 53 58.2	
	comp=Z,84nm,1.5s						
ASAJ	**Asahikawa**	**18.30**	**243**	P	**P**	**21 53 41.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=67,slow=11,SNR=4.6						
ASAJ				LR	LR	22 01 09.5	
	comp=Z,39nm,19.6s,baz=156,slow=38						
	comp=Z,9.4nm,0.8s						
S12K	**Black Hills**	**18.42**	**75**	P	**P**	**21 53 44.0**	**+0.3**
	baz=282						
L15K	**Ungalak Mounta**	**18.43**	**55**	P	**P**	**21 53 42.9**	**-0.9**
	baz=265						
O14K	**Tigyukauivet M**	**18.44**	**63**	P	**P**	**21 53 43.8**	**-0.1**
	baz=272						
K15K	**Wolf Creek Mou**	**18.49**	**54**		**Pn**	**21 53 46.6**	**+1.9**
K15K				IAmb	IAmb	21 54 05.0	
	comp=Z,29nm,1.4s						
K15K	**Wolf Creek Mou**	**18.49**	**54**	P	**P**	**21 53 44.2**	**-0.2**
	baz=263						
H16K	**Elim**	**18.66**	**46**	P	**P**	**21 53 45.9**	**-0.3**
	baz=255						
M15K	**Kasigluk River**	**18.75**	**59**	P	**P**	**21 53 47.7**	**+0.5**
	baz=268						
G16K	**Koyuk River**	**18.83**	**44**	P	**P**	**21 53 48.1**	**0.0**
	baz=253						
C16K	**Lisburne Hills**	**18.93**	**34**	P	**P**	**21 53 48.1**	**-1.0**
	baz=241						
N15K	**Kwethluk River**	**19.03**	**60**	P	**P**	**21 53 49.8**	**-0.5**
	baz=270						
J16K	**Anvik River**	**19.07**	**51**	P	**P**	**21 53 50.2**	**-0.5**
	baz=261						
I17K	**Unalakleet**	**19.14**	**49**	P	**P**	**21 53 50.7**	**-0.8**
	baz=259						
O15K	**Ungalikthiuk R**	**19.19**	**63**	P	**Pn**	**21 53 52.9**	**-0.3**
O15K	**Ungalikthiuk R**	**19.19**	**63**	P	**P**	**21 53 51.7**	**-0.3**
	baz=273						
SDPT	**Sand Point**	**19.37**	**75**	P	**P**	**21 53 54.6**	**+0.5**
	baz=284						
L16K	**Owhat River**	**19.39**	**56**	P	**P**	**21 53 54.3**	**0.0**
	baz=266						
D17K	**Noatak River**	**19.41**	**37**	P	**P**	**21 53 54.0**	**-0.5**
	baz=245						
G17K	**Kiwalik Mounta**	**19.55**	**44**	P	**P**	**21 53 55.1**	**-0.8**
	baz=254						
F17K	**Baldwin Pennin**	**19.60**	**41**	P	**P**	**21 53 55.4**	**-1.1**
	baz=251						
M16K	**Timber Creek**	**19.60**	**58**	P	**P**	**21 53 56.3**	**-0.3**
	baz=269						
E17K	**Hotham Inlet**	**19.61**	**39**	P	**P**	**21 53 54.9**	**-1.8**
	baz=249						
RDOG	**Red Dog Mine**	**19.63**	**36**	P	**P**	**21 53 55.5**	**-1.3**
	baz=245						
S14K	**Fog Glacier**	**19.68**	**72**	P	**P**	**21 53 57.7**	**+0.1**
	baz=282						
N16K	**Nishlik Lake**	**19.69**	**59**	P	**P**	**21 53 57.8**	**+0.2**
	baz=271						
H17K	**Granite Mounta**	**19.70**	**46**		**Pn**	**21 53 58.7**	**-0.5**
H17K	**Granite Mounta**	**19.70**	**46**	P	**P**	**21 53 57.2**	**-0.5**
	baz=257						
C17K	**DeLong Mountai**	**19.73**	**35**	P	**P**	**21 53 56.8**	**-1.2**
	baz=243						
L17K	**Donlin**	**19.98**	**55**	P	**P**	**21 54 00.6**	**-0.1**
	baz=266						
CHNA	**Chernabura Isl**	**19.99**	**76**	P	**P**	**21 54 01.3**	**+0.4**
	baz=286						
K17K	**Iditarod**	**20.03**	**53**	P	**P**	**21 54 01.5**	**+0.3**
K17K				IAmb	IAmb	21 54 13.7	
	comp=Z,19nm,1.1s						
K17K	**Iditarod**	**20.03**	**53**	P	**P**	**21 54 00.3**	**-0.9**
	baz=265						
O16K	**Kokwok River B**	**20.05**	**62**	P	**P**	**21 54 01.7**	**+0.2**
	baz=274						
E18K	**Tukpahlearik C**	**20.18**	**39**	P	**P**	**21 54 03.9**	**+1.1**
E18K	**Tukpahlearik C**	**20.18**	**39**	P	**P**	**21 54 02.3**	**-0.6**
	baz=249						
F18K	**Selawik**	**20.26**	**41**	P	**P**	**21 54 02.7**	**-0.9**
	baz=253						
M17K	**Holitna River**	**20.35**	**57**	P	**P**	**21 54 03.8**	**-0.9**
	baz=269,SNR=6.7						
H18K	**Honhosa River**	**20.39**	**46**	P	**P**	**21 54 06.4**	**+1.2**
H18K	**Honhosa River**	**20.39**	**46**	P	**P**	**21 54 05.0**	**-0.1**
	baz=258						
G18K	**Tagagawik**	**20.45**	**44**	P	**P**	**21 54 05.5**	**-0.2**
	baz=256						
C18K	**Utukok River**	**20.46**	**35**	P	**P**	**21 54 05.5**	**-0.4**
	baz=246						
N17K	**Nushagak Hills**	**20.47**	**59**	P	**P**	**21 54 05.7**	**-0.4**
	baz=272						
R16K	**Pilot Point**	**20.53**	**68**	P	**P**	**21 54 07.2**	**+0.6**
	baz=279						
O17K	**Koliganek Bris**	**20.55**	**61**	P	**P**	**21 54 07.0**	**+0.2**
	baz=274						
B18K	**Kokolik River**	**20.58**	**33**	P	**P**	**21 54 05.7**	**-1.4**
	baz=243						
J18K	**Innoko River**	**20.82**	**51**		Pn	21 54 11.6	-0.9
J18K				IAmb	IAmb	21 54 21.5	
	comp=Z,20nm,1.0s						
J18K	**Innoko River**	**20.82**	**51**	P	**P**	**21 54 08.9**	**-0.9**
	baz=264						
Q16K	**King Salmon**	**20.86**	**64**	P	**P**	**21 54 09.4**	**-0.8**
	baz=277						
GCSA	**Galena City Sc**	**20.93**	**47**	P	**P**	**21 54 10.1**	**-0.8**
	baz=261						
F19K	**Shaleruckik Mo**	**21.04**	**41**	P	**P**	**21 54 11.6**	**-0.5**
	baz=254						
M18K	**Stony River**	**21.13**	**56**	P	**P**	**21 54 13.4**	**+0.3**
	baz=270						
R17L	**Mt. Peulik Vol**	**21.17**	**67**	P	**P**	**21 54 14.2**	**+0.7**
	baz=280						
A19K	**Wainwright**	**21.20**	**31**	P	**P**	**21 54 13.3**	**-0.5**
	baz=242						
H19K	**Roundabout Mou**	**21.25**	**45**	P	**P**	**21 54 14.0**	**-0.3**
	baz=259						
Q17K	**Contact Creek**	**21.32**	**65**	P	**P**	**21 54 15.2**	**0.0**
	baz=279						
J19K	**Poorman**	**21.37**	**50**	P	**P**	**21 54 15.4**	**-0.3**
J19K				IAmb	IAmb	21 54 20.9	
	comp=Z,21nm,1.4s						
E19K	**Redstone River**	**21.42**	**40**	P	**P**	**21 54 15.6**	**-0.7**
	baz=254						
D19K	**Kuna River**	**21.44**	**37**	P	**P**	**21 54 15.6**	**-0.9**
	baz=250						
O18K	**Koktuh Hills**	**21.49**	**61**	P	**P**	**21 54 16.6**	**-0.4**
	baz=275						
JTM	**Tenmabayashi**	**21.51**	**239**	P	**P**	**21 54 17.9**	**+0.6**
P18K	**Big Mountain,**	**21.52**	**62**	P	**P**	**21 54 17.7**	**+0.3**
	baz=276						
Q18K	**Katmai Hardscr**	**21.72**	**64**	P	**P**	**21 54 19.5**	**-0.1**
	baz=278						
F20K	**Avaraart Lake**	**21.88**	**41**	P	**P**	**21 54 20.1**	**-0.9**
	baz=256						
H20K	**Anotleneega Mo**	**21.89**	**46**	P	**P**	**21 54 21.1**	**-0.2**
	baz=261,SNR=5.1						
O19K	**Port Alsworth**	**21.91**	**60**	P	**P**	**21 54 20.9**	**-0.6**
	baz=275						
CHIR	**Chirikof Islan**	**21.94**	**72**	P	**P**	**21 54 21.3**	**-0.5**
	baz=285						
I20K	**Naaghedeneel**	**21.96**	**48**	P	**P**	**21 54 20.4**	**-1.5**
	baz=263						
D20K	**Etivluk River**	**22.04**	**37**	P	**P**	**21 54 20.9**	**-1.9**
	baz=251						
E20K	**Nigu River**	**22.04**	**38**	P	**P**	**21 54 22.0**	**-0.9**
	baz=253						
R18K	**Karluk**	**22.19**	**67**	P	**P**	**21 54 24.5**	**0.0**
	baz=281						
M20K	**Styx River**	**22.41**	**55**	P	**P**	**21 54 26.5**	**-0.4**
	baz=272						
SII	**Sitkinak Islan**	**22.54**	**69**	P	**P**	**21 54 28.1**	**-0.2**
	baz=284						
G21K	**Allakaket**	**22.62**	**43**	P	**P**	**21 54 28.5**	**-0.5**
	baz=260,SNR=5.3						
TIXI	**Tiksi**	**22.76**	**331**	LR	LR	22 04 03.0	
	comp=Z,71nm,18.0s,baz=190,slow=39						
F21K	**Alatna River**	**22.77**	**41**	P	**P**	**21 54 30.2**	**-0.4**
	baz=258						
C21K	**Knifeblade Rid**	**22.80**	**36**	P	**P**	**21 54 29.4**	**-1.6**
	baz=252						
CHUM	**Lake Minchumin**	**22.81**	**50**	P	**P**	**21 54 29.8**	**-1.3**
	baz=268						
OHAK	**Old Harbor**	**22.88**	**67**	P	**P**	**21 54 32.6**	**+0.9**
	baz=283						
STLK	**Strandline Lak**	**23.04**	**56**	P	**P**	**21 54 34.4**	**+0.9**
I21K	**Tanana**	**23.05**	**47**	P	**P**	**21 54 33.7**	**+0.2**
	baz=265						
KDAK	**Kodiak Island**	**23.13**	**66**	LR	LR	22 03 13.3	
	comp=Z,76nm,18.0s,baz=262,slow=36						
KDAK	**Kodiak Island**	**23.13**	**66

C24K	Franklin Bluff	25.03	36	P	P	21 54 51.2	-0.7
	baz=258						
DHY	Denali Highway	25.03	52	P	P	21 54 51.9	-0.4
	baz=274						
G24K	Hadweenzic Riv	25.03	44	P	P	21 54 51.6	-0.4
	baz=266,SNR=16						
SCM	Sheep Creek Mo	25.16	55	P	P	21 54 53.4	+0.1
SCM	Sheep Creek Mo	25.16	55	P	P	21 54 53.4	+0.1
SCM				pmax	pmax		
	comp=Z,22nm,0.9s						
SCM	Sheep Creek Mo	25.16	55	P	P	21 54 52.6	-0.7
	baz=276						
HDA	Harding Lake	25.18	49	P	P	21 54 53.5	+0.1
	baz=271						
ILAR	Eielson Array	25.20	48	P	P	21 54 53.7	+0.1
ILAR	Eielson Array	25.20	48	P	P	21 54 53.4	-0.2
	comp=Z,5.4nm,0.8s,baz=262,slow=9.0,SNR=50						
ILAR				LR	LR	22 05 15.9	
	comp=Z,53nm,18.9s,baz=294,slow=38						
	comp=Z,5.4nm,0.8s						
GLI	Glacier Island	25.39	57	P	P	21 54 55.1	-0.2
	baz=279						
G25K	Bearman Lake	25.58	43	P	P	21 54 55.6	-1.4
	baz=267						
M24K	Tolsona, Glenn	25.67	54	P	P	21 54 57.9	0.0
	baz=277						
H25L	Birch Creek	25.67	45	P	P	21 54 57.3	-0.5
	baz=268						
K24K	Donnelly Dome	25.71	50	P	P	21 54 58.8	+0.5
	baz=274						
D25K	Kavik River	25.76	38	P	P	21 54 58.5	-0.2
D25K				IAmb	IAmb	21 55 00.8	
	comp=Z,8.7nm,0.9s						
D25K	Kavik River	25.76	38	P	P	21 54 57.5	-1.2
	baz=261						
PRP	Porcupine Dome	25.78	46	P	P	21 54 59.4	+0.4
	baz=270,SNR=11						
F25K	Christian Rive	25.82	42	P	P	21 54 59.7	+0.5
	baz=266						
KLU	Klutina	25.86	56	P	P	21 55 00.4	+0.7
	baz=278						
E25K	Arctic Village	25.89	40	P	P	21 54 59.3	-0.6
	baz=265						
PAX	Paxson	25.91	52	P	P	21 55 00.9	+0.8
	baz=276						
EYAK	Cordova Ski Ar	26.09	58	P	P	21 55 01.9	+0.2
	baz=280						
HARP	HAARP	26.11	54	P	P	21 55 01.9	0.0
	baz=277						
RIDG	Independent Ri	26.13	50	P	P	21 55 02.0	-0.1
	baz=274						
BMAR	Burnt Mountain	26.21	42	P	P	21 55 03.2	+0.4
MJAR	Matsushiro Arr	26.22	236	P	P	21 55 03.8	+0.6
	comp=Z,2.9nm,0.8s,baz=19,slow=10,SNR=6.0						
	comp=Z,2.9nm,0.8s						
C26K	Camden Bay	26.36	36	P	P	21 55 04.1	+0.1
	baz=262						
F26K	Sheenjek River	26.40	41	P	P	21 55 04.1	-0.4
	baz=267						
N25K	Chitina, Valde	26.48	55	P	P	21 55 04.3	-0.9
	baz=279						
SCRK	Sand Creek	26.49	50	P	P	21 55 05.2	-0.2
	baz=275						
G26K	Porcupine Rive	26.50	43	P	P	21 55 04.9	-0.4
	baz=269,SNR=6.3						
BMRM	Bremner River	26.57	57	P	P	21 55 05.6	-0.5
	baz=280						
C27K	Jago River	26.73	37	P	P	21 55 06.2	-1.1
	baz=264						
I26K	Coal Creek Min	26.77	47	P	P	21 55 06.4	-1.4
	baz=273						
KAIM	Kayak Island	26.86	59	P	P	21 55 07.9	-0.7
	baz=282						
MCARA	McCarthy VSAT	27.26	55	P	P	21 55 11.9	-0.3
	baz=281						
K27K	Chicken	27.32	50	P	P	21 55 11.8	-1.0
	baz=276						
CRQE	Cirque	27.34	57	P	P	21 55 13.5	+0.4
	baz=282						
G27K	Doyon Strip	27.34	43	P	P	21 55 12.3	-0.7
	baz=271						
E27K	Coleen River	27.38	40	P	P	21 55 13.4	+0.1
	baz=268						
H27K	Steamboat Moun	27.41	45	P	P	21 55 13.1	-0.5
	baz=272						
L27K	Beaver Creek,	27.55	52	P	P	21 55 14.3	-0.5
	baz=278						
BCAR	Beaver Creek A	27.57	52	P	P	21 55 15.6	+0.6
EGAK	Eagle	27.65	48	P	P	21 55 14.7	-0.9
EGAK				IAmb	IAmb	21 55 16.0	
	comp=Z,7.6nm,0.9s						
EGAK	Eagle	27.65	48	P	P	21 55 15.2	-0.5
	baz=276						
D27M	Malcolm River	27.66	38	P	P	21 55 14.8	-1.0
	baz=267						
F28M	Old Crow	28.03	42	P	P	21 55 19.0	-0.1
	baz=271						
I28M	Miner Creek	28.11	46	P	P	21 55 19.6	-0.2
	baz=275						
DAWY	Dawson	28.49	49	P	P	21 55 23.0	-0.3
	baz=278						
H29M	Whitestone	28.69	45	P	P	21 55 24.1	-0.8
	baz=275						
E29M	Blow River	28.76	40	P	P	21 55 25.1	-0.4
	baz=272						
G29M	Pine Creek	28.77	43	P	P	21 55 25.7	0.0
	baz=274						
I29M	Ogilvie Camp,	28.80	46	P	P	21 55 26.3	+0.4
	baz=277						
PINM	Pinnacle	28.86	58	P	P	21 55 26.9	+0.3
	baz=285						
M29M	Somme Creek	29.18	52	P	P	21 55 28.0	-1.5
	baz=282						
L29M	L29M	29.20	51	P	P	21 55 29.0	-0.6
	baz=281						
EPYK	Eagle Plains	29.34	44	P	P	21 55 30.7	0.0
	baz=276						
K29M	Barlow Dome	29.34	49	P	P	21 55 32.1	+1.2
	baz=280						
PNL	Peninsula	29.39	58	P	P	21 55 31.4	+0.2
	baz=286						
G30M	tAoh Zraii Nji	29.48	43	P	P	21 55 32.4	+0.4
	baz=276						
I30M	Mount Dempster	29.62	46	P	P	21 55 33.3	0.0
	baz=278						
J30M	Hart River	29.74	48	P	P	21 55 34.8	+0.5
	baz=280						
P29M	Windy Craggy	30.21	58	P	P	21 55 38.9	+0.5
	baz=287						
G31M	Satah River	30.25	43	P	P	21 55 38.8	+0.1
	baz=277						
H31M	Peel River	30.37	45	P	P	21 55 39.4	-0.4
	baz=279						
INK	Inuvik	30.38	40	P	P	21 55 40.3	+0.5
INK				IAmb	IAmb	21 56 06.4	
	comp=Z,14nm,1.4s						
INK	Inuvik	30.38	40	LR	LR	22 08 18.5	
	comp=Z,40nm,18.2s,baz=78,slow=37						
INK	Inuvik	30.38	40	P	P	21 55 40.3	+0.5
INK				pmax	pmax		
	comp=Z,14nm,1.4s						
INK	Inuvik	30.38	40	P	P	21 55 40.6	+0.7
	baz=276						
F31M	Tsiigehtchic	30.39	42	P	P	21 55 40.4	+0.5
	baz=277						
KSRS	Korea Array	30.83	251	P	P	21 55 44.4	+0.3
	comp=Z,1.5nm,0.7s,baz=34,slow=10,SNR=4.3						
	comp=Z,1.5nm,0.7s						
M31M	Drury Creek, Y	31.09	52	P	P	21 55 46.5	+0.3
	baz=285						
WHY	Whitehorse	31.28	55	P	P	21 55 49.4	+1.4
P32M	Atlin	32.17	57	P	P	21 55 56.9	+1.2
	baz=290						
MMPY	Sheldon Lake,	32.38	50	P	P	21 55 56.9	-0.7
	baz=287						
JNU	Nakatsue	32.58	242	LR	LR	22 08 07.5	
	comp=Z,56nm,20.1s,baz=18,slow=34						
R33M	Jennings River	33.55	56	P	P	21 56 09.1	+1.2
	baz=292						
DLBC	Dease Lake	34.36	57	LR	LR	22 10 32.0	
	comp=Z,450nm,19.1s,baz=275,slow=37						
DLBC	Dease Lake	34.36	57	P	P	21 56 15.4	+0.5
	baz=293						
T35M	Bob Quinn	34.84	60	P	P	21 56 20.6	+1.6
	baz=295						
H11N2	WAKE ISLAND Hy	35.27	178	T	T	22 34 01.2	
	baz=359,slow=76,SNR=208						
H11N3	WAKE ISLAND Hy	35.29	178	T	T	22 33 59.0	
	baz=359,slow=76,SNR=242						
H11N1	WAKE ISLAND Hy	35.29	178	T	T	22 34 13.6	
	baz=359,slow=76,SNR=242						
TOAD	Toad River Com	36.48	55	P	P	21 56 33.1	+0.1
	baz=296						
H11S1	WAKE ISLAND Hy	36.48	178	T	T	22 35 30.3	
	baz=359,slow=76,SNR=52						
SONM	Songino Array	36.49	284	P	P	21 56 34.4	+1.1
SONM	Songino Array	36.49	284	P	P	21 56 33.4	+0.1
	comp=Z,1.4nm,0.6s,baz=63,slow=8.1,SNR=8.4						
	comp=Z,1.4nm,0.6s						
H11S3	WAKE ISLAND Hy	36.50	178	T	T	22 35 29.7	
	baz=359,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	36.50	178	T	T	22 35 36.2	
	baz=359,slow=76,SNR=62						
HHC	Hu-ho-hao-te	37.77	271	eP	P	21 56 44.4	+0.1
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.2s						
YKA	Yellowknife Ar	39.58	46	P	P	21 56 59.2	+0.2
	comp=Z,2.1nm,0.6s,baz=320,slow=11,SNR=9.6						
	comp=Z,2.1nm,0.6s						
YKA	Yellowknife Ar	39.58	46	i P	P	21 56 59.5	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GTA	Gaotai	45.46	278	eP	P	21 57 48.2	+1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SPITS	Spitsbergen Ar	45.70	351	P	P	21 57 47.9	-0.5
	comp=Z,6.8nm,0.7s,baz=55,slow=7.2,SNR=6.2						
	comp=Z,6.8nm,0.7s						
SPITS	Spitsbergen Ar	45.70	351	P	P	21 57 47.8	-0.7
SPITS				pmax	pmax		
	comp=Z,60nm,1.5s						
NEW	Newport	46.23	65	LR	LR	22 15 19.5	
	comp=Z,28nm,20.8s,baz=298,slow=34						
WIFE	Three Sisters-	46.41	72	P	P	21 57 55.4	+0.7
WIFE				IAmb	IAmb	21 57 57.9	
	comp=Z,2.9nm,0.7s						
J05D	Fort Rock, OR	47.23	72	P	P	21 58 02.6	+1.4
J05D				IAmb	IAmb	21 58 05.2	
	comp=Z,4.6nm,1.0s						
L04D	Klamath Falls	47.35	74	P	P	21 58 03.0	+0.9
WMQ	Urumqi	49.23	291	eP	P	21 58 17.1	+0.7
WMQ				LR	LR		
	comp=Z,210nm,24.3s						
KURK	Kurchatov	49.32	303	P	P	21 58 16.5	-0.4
KURK				IAmb	IAmb	21 58 38.6	
	comp=Z,3.5nm,1.1s						
KURK	Kurchatov	49.32	303	i P	P	21 58 15.7	-1.2
KURK				pmax	pmax		
	comp=Z,7.0nm,2.9s						
KURBB	Kurchatov Arra	49.42	303	P	P	21 58 17.5	-0.2
	comp=Z,0.5nm,0.5s,baz=57,slow=7.8,SNR=8.3						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	50.09	297	P	P	21 58 21.8	-1.0
MKAR	Makanchi Array	50.09	297	P	P	21 58 22.8	0.0
	comp=Z,0.3nm,0.5s,baz=39,slow=7.8,SNR=4.3						
	comp=Z,0.3nm,0.5s						
BOZ	Bozeman (W)	50.82	64	P	P	21 58 29.2	+0.6
BOZ	Bozeman (W)	50.82	64	P	P	21 58 29.2	+0.6
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WAKR	Walker	51.49	76	P	P	21 58 35.2	+1.4
WAKR				IAmb	IAmb	21 58 35.9	
	comp=Z,3.9nm,0.5s						
YHL	Hebgen Lake	51.56	64	P	P	21 58 35.0	+0.7
YHL				IAmb	IAmb	21 58 40.2	
	comp=Z,7.9nm,1.4s						
BORK	Borovoye	51.60	310	i P	P	21 58 31.9	-2.2
BORK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	Mina Array Bea	52.17	75	P	P	21 58 40.2	+1.3
	comp=Z,1.5nm,0.6s,baz=301,slow=7.4,SNR=7.1						
	comp=Z,1.5nm,0.6s						
ELK	Elko	52.23	71	LR	LR	22 19 15.6	
	comp=Z,18nm,18.8s,baz=340,slow=34						
ARCES	ARCESS Array B	52.36	343	P	P	21 58 38.6	-0.9
	comp=Z,1.3nm,0.6s,baz=25,slow=8.8,SNR=12						
	comp=Z,1.3nm,0.6s						
RLMT	Red Lodge	52.36	63		P	21 58 41.2	+1.1
RLMT				IAmb	IAmb	21 58 42.6	
	comp=Z,5.9nm,0.9s						
PZH	PanZhiHua	53.71	265	P	P	21 58 52.4	+2.2
PDAR	Pinedale Array	53.85	65		P	21 58 51.7	+0.5
PDAR	Pinedale Array	53.85	65	P	P	21 58 52.1	+0.9
	comp=Z,2.0nm,0.8s,baz=339,slow=4.7,SNR=14						
	comp=Z,2.0nm,0.8s						
QSM	Queen of Sheba	54.73	76	P	P	21 58 58.7	+1.3
QSM				IAmb	IAmb	21 59 00.9	
	comp=Z,3.7nm,0.7s						
PFO	Pinyon Flats O	56.68	78	LR	LR	22 21 01.2	
	comp=Z,18nm,18.0s,baz=34,slow=33						
KKAR	Karatay Array	58.61	301	P	P	21 59 24.0	-0.8
KKAR	Karatay Array	58.61	301	P	P	21 59 24.0	-0.8
ABKAR	Akbulak array	58.85	312	P	P	21 59 25.9	-0.5
FINES	FINESS Array B	59.50	339	P	P	21 59 29.4	-1.3
FINES	FINESS Array B	59.50	339	P	P	21 59 29.2	-1.4
	comp=Z,1.7nm,0.7s,baz=36,slow=6.3,SNR=7.2						
FINES				LR	LR	22 31 08.7	
	comp=Z,29nm,18.7s,baz=346,slow=42						
	comp=Z,1.7nm,0.7s						
FINES	FINESS Array B	59.50	339	i P	P	21 59 30.1	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	61.21	70	i P	P	21 59 41.0	-2.0
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.2s						
CMAR	Chiang Mai Arr	61.60	262	P	P	21 59 46.2	+0.6
	comp=Z,0.5nm,0.4s,baz=23,slow=6.3,SNR=5.1						
CMAR				LR	LR	22 29 28.9	
	comp=Z,30nm,18.2s,baz=195,slow=39						
	comp=Z,0.5nm,0.4s						
CMAR	Chiang Mai Arr	61.60	262	i P	P	21 59 47.0	+1.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SCHQ	Schefferville	62.41	31	P	P	21 59 48.8	-1.8
SCHQ	Schefferville	62.41	31	P	P	21 59 50.0	-0.5
	comp=Z,18nm,0.5s,baz=338,slow=5.7,SNR=7.2						
NB2	NORSAR Subarra	62.47	346	P	P	21 59 50.1	-0.7
	comp=Z,0.9nm,0.5s,baz=16,slow=6.9						
NB2	NORSAR Subarra	62.47	346	P	P	21 59 50.2	-0.7
NOA	NORSAR Array B	62.47	346	P	P	21 59 50.1	-0.7
	comp=Z,1.0nm,0.5s,baz=13,slow=6.8,SNR=8.6						
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	62.98	345	P	P	21 59 52.7	-1.5
	comp=Z,1.6nm,0.5s,baz=33,slow=5.7,SNR=7.3						
HFS				LR	LR	22 29 10.1	
	comp=Z,18nm,18.8s,baz=4.0,slow=38						
	comp=Z,1.6nm,0.5s						
HNR	Honiara	64.40	186	LR	LR	22 22 26.0	
	comp=Z,54nm,21.0s,baz=346,slow=31						
WMOK	Wichita Mounta	65.43	64	P	P	22 00 11.2	+0.4
WMOK				IAmb	IAmb	22 00 11.7	
	comp=Z,3.2nm,0.8s						
WMOK	Wichita Mounta	65.43	64	P	P	22 00 11.2	+0.4
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	Lajitas Array	67.02	71	P	P	22 00 21.9	+0.8
	comp=Z,2.2nm,0.5s,baz=306,slow=4.7,SNR=38						
	comp=Z,2.2nm,0.5s						
AKASG	Malin Array Be	68.46	332	P	P	22 00 29.4	-0.3
	comp=Z,0.2nm,0.3s,baz=28,slow=6.6,SNR=1.6						
AKASG				LR	LR	22 34 17.2	
	comp=Z,32nm,18.2s,baz=35,slow=39						
	comp=Z,0.2nm,0.3s						
EKA	Eskdalemuir Ar	69.58	353	P	P	22 00 36.0	-0.6
	comp=Z,1.3nm,0.7s,baz=25,slow=5.8,SNR=5.2						
	comp=Z,1.3nm,0.7s						
EKA	Eskdalemuir Ar	69.58	353	P	P	22 00 36.0	-0.6
TKL	Tuckaleechee C	72.06	53	LR	LR	22 33 41.2	
	comp=Z,57nm,18.3s,baz=12,slow=37						
GERES	GERESS Array B	73.79	341	P	P	22 01 02.1	0.0
	comp=Z,0.2nm,0.5s,baz=2.7,slow=5.6,SNR=2.1						
	comp=Z,0.2nm,0.5s						
BRTR	Keskin Array B	77.00	324	P	P	22 01 22.5	+1.7
	comp=Z,0.3nm,0.5s,baz=321,slow=30,SNR=1.9						
	comp=Z,0.3nm,0.5s						
WRA	Warramunga Arr	79.25	210	P	P	22 01 33.2	+0.1
	comp=Z,0.7nm,0.5s,baz=26,slow=6.1,SNR=6.9						
	comp=Z,0.7nm,0.5s						
ASAR	Alice Springs	82.90	209	P	P	22 01 53.0	+0.5
ASAR	Alice Springs	82.90	209	P	P	22 01 53.1	+0.7
	comp=Z,1.2nm,0.8s,baz=16,slow=5.2,SNR=16						
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	82.90	209	P	P	22 01 53.0	+0.5
VAE	Valguarnera	84.54	337	LR	LR	22 49 59.0	
	comp=Z,35nm,18.2s,baz=164,slow=43						
ESDC	Sonseca Array	85.21	352	P	P	22 02 04.6	+0.3
	comp=Z,0.7nm,0.6s,baz=355,slow=5.6,SNR=11						
	comp=Z,0.7nm,0.6s						

*IDC **12** 22:02:20.1±13.0, 16°.55S×168°.10E, h0km, mb4.0/3, mbtmp4.3/5, ML4.5/2, Error ellipse: s-maj=228.3km s-min=33.3km az=76.0*
*NEIC **12** 22:02:28.3±1.8, 16°.68S±0°.05×167°.3E±0°.2, h10km±1km, mb4.2/4, Error ellipse: s-maj=31.6km s-min=8.4km az=84.0*

ISC 12 22:02:28.3±1.3, 16°.69S±0°.05×167°.2E±0°.2, h10km, n14, σ0°99/16, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.24	358	Pn	Pn	Pn	22 02 50.9	-0.8
SANVU					Sn	Sb	22 03 08.2	+0.3
DZM	Mont Dzumac	5.40	188	Pn	Pn	Pn	22 03 48.3	-0.7
DZM	Mont Dzumac	5.40	188	Pn	Pn	Pn	22 03 47.1	-2.0
	3.1nm,0.3s,baz=22,slow=17,SNR=22							
DZM					Sn	Sn	22 04 52.8	+1.4
	1.5nm,0.3s,baz=314,slow=20,SNR=1.8							
	6.6nm,0.3s							
ONTNC	Ouen Toro	5.63	187	Pn	Pn	Pn	22 03 50.5	-1.6
PINNC	Pines Island,	5.89	178	Pn	Pn	Pn	22 03 55.6	-0.1
HNR	Honiara	10.12	315	Pn	Pn	Pn	22 04 53.7	-0.1
	15nm,0.3s,baz=169,slow=16,SNR=3.6							
	91nm,0.6s							
STKA	Stephens Creek	27.74	232	P	P	P	22 08 16.5	-0.6
	1.3nm,0.6s,baz=77,slow=14,SNR=3.8							
	1.3nm,0.6s							
WRA	Warramunga Arr	31.37	259	P	P	P	22 08 50.0	+0.4
	0.7nm,0.8s,baz=90,slow=8.9,SNR=6.6							
	0.7nm,0.8s							
AS31	Alice Springs	31.99	252	P	P	P	22 08 56.0	+1.0
AS31					IAmb	IAmb	22 08 56.9	
	comp=Z,1.1nm,0.6s							
ASAR	Alice Springs	31.99	252	P	P	P	22 08 55.1	+0.1
ASAR	Alice Springs	31.99	252	P	P	P	22 08 56.0	+1.0
	comp=Z,2.8nm,0.6s,baz=79,slow=8.5,SNR=50							
	comp=Z,2.8nm,0.6s							
KNRA	Kununurra	36.93	266	P	P	P	22 09 37.5	-0.2
FITZ	Fitzroy Crossi	39.66	262	P	P	P	22 10 01.3	+0.5
QSPA	South Pole Qui	73.34	180	P	P	P	22 14 00.4	+0.2
QSPA					IAmb	IAmb	22 14 08.1	
	comp=Z,4.1nm,1.2s							

*NOU **12** 22:03:49.9, 41°.21S×174°.09E, h65km, MLv3.8/19, Cook Strait, New Zealand*
*WEL **12** 22:03:50.8±0.4, 41°.S±2°.×17°.4E±°, h59km±4km, M3.4/32, ML3.6/31, MLv3.4/32, Error ellipse: s-maj=3.2km s-min=2.8km az=154.5, confirmed*

ISC 12 22:03:49.2±1.2, 41°.21S±0°.03×174°.06E±0°.03, h85km±5km, n96, σ0°85/132, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QCCS	Picton Queen C	0.08	201	P	Pn	Pn	22 04 01.7	+0.4
QCCS				S	Sn	Sn	22 04 09.3	-0.8
TCW	Tory Channel	0.16	91	P	Pn	Pn	22 04 01.9	+0.5
TCW				S	Sn	Sn	22 04 09.5	-1.0
HAVS	Havelock	0.22	253	P	Pn	Pn	22 04 01.5	-0.1
HAVS				S	Sn	Sn	22 04 09.0	-1.8
TUWZ	Tuamarina	0.24	202	P	Pn	Pn	22 04 03.0	+1.3
BWRS	Waikakaho Road	0.26	207	P	Pn	Pn	22 04 02.3	+0.4
BWRS				S	Sn	Sn	22 04 10.3	-0.8
MGCS	Blenheim Marlb	0.31	196	P	Pn	Pn	22 04 03.2	+1.1
MGCS				S	Sn	Sn	22 04 11.9	+0.2
DUWZ	D'Urville Isla	0.42	346	P	Pn	Pn	22 04 02.8	-0.1
DUWZ				S	Sn	Sn	22 04 11.8	-1.1
MKBS	Makara Bunker	0.48	92	P	Pn	Pn	22 04 04.0	+0.7
MKBS				S	Sn	Sn	22 04 13.4	-0.4
MKVS	Makara Village	0.49	97	P	Pn	Pn	22 04 04.1	+0.8
SNZO	South Karori	0.50	102	P	Pn	Pn	22 04 04.0	+0.6
SNZO	South Karori	0.50	102	S	Sn	Sn	22 04 13.6	-0.3
NNZ	Nelson	0.51	269	P	Pn	Pn	22 04 03.5	0.0
NNZ				S	Sn	Sn	22 04 13.1	-1.0
BSWZ	Blackbirch Sta	0.53	195	P	Pn	Pn	22 04 04.7	+1.0
BSWZ				S	Sn	Sn	22 04 16.1	+1.7
WEL	Wellington	0.54	98	P	Pn	Pn	22 04 04.6	+0.8
WEL				S	Sn	Sn	22 04 14.4	-0.1
BHW	Baring Head	0.64	108	P	Pn	Pn	22 04 05.5	+0.8
BHW				S	Sn	Sn	22 04 15.8	-0.4
KIW	Kapiti Island	0.73	62	P	Pn	Pn	22 04 06.3	+0.7
KIW				S	Sn	Sn	22 04 17.8	0.0
CAW	Cannon Point	0.77	83	P	Pn	Pn	22 04 06.7	+0.7
CAW				S	Sn	Sn	22 04 18.5	+0.1
TKNZ	Takaka Hill	0.85	282	P	Pn	Pn	22 04 07.3	+0.4
MSWZ	Moikau Station	0.92	103	P	Pn	Pn	22 04 08.5	+0.8
MSWZ				S	Sn	Sn	22 04 21.0	-0.4
OGWZ	Otaki Gorge	0.93	65	P	Pn	Pn	22 04 08.4	+0.7
PLWZ	Palliser	0.97	112	P	Pn	Pn	22 04 09.2	+0.9
MRNZ	Matariki Terra	1.00	259	P	Pn	Pn	22 04 09.4	+0.8
THZ	Tophouse	1.03	237	P	Pn	Pn	22 04 09.7	+0.7
PAWZ	Paruwai Farm	1.04	100	P	Pn	Pn	22 04 09.8	+0.7
MTW	Mount Morrison	1.09	88	P	Pn	Pn	22 04 10.2	+0.5
HOWZ	Holdsworth Sta	1.14	75	P	Pn	Pn	22 04 10.8	+0.4
QRZ	Quartz Range	1.22	288	P	Pn	Pn	22 04 11.3	+0.1
QRZ	Quartz Range	1.22	288	P	Sn	Pn	22 04 26.6	-1.1
QRZ	Quartz Range	1.22	288	P	Pn	Pn	22 04 11.4	+0.1
TRWZ	Traveller	1.24	99	P	Pn	Pn	22 04 12.2	+0.7
KHZ	Kahutara	1.27	198	P	Pn	Pn	22 04 13.3	+1.5
KHZ	Kahutara	1.27	198	P	Sn	Sn	22 04 28.9	+0.2
KHZ	Kahutara	1.27	198	P	Pn	Pn	22 04 13.3	+1.5
MRZ	Mangatainoka R	1.27	65	P	Pn	Pn	22 04 12.2	+0.3
OHWZ	Ohakea	1.38	44	P	Pn	Pn	22 04 14.2	+1.0
TMWZ	Te Maipa	1.39	86	P	Pn	Pn	22 04 13.8	+0.5
TIWZ	Tintock	1.45	73	P	Pn	Pn	22 04 14.3	+0.2
POWZ	Post Office Ro	1.53	58	P	Pn	Pn	22 04 15.1	0.0
PRWZ	Pori Road	1.59	66	P	Pn	Pn	22 04 16.2	+0.3
WAZ	Wanganui	1.61	26	P	Pn	Pn	22 04 17.6	+1.3
CPWZ	Castlepoint	1.65	80	P	Pn	Pn	22 04 17.3	+0.7
BFZ	Birch Farm	1.74	73	P	Pn	Pn	22 04 17.7	-0.1
BFZ	Birch Farm	1.74	73	S	Sn	Sn	22 04 39

WNVZ				S	Sn	22 04 52.6	+1.5
AMCZ	**Amberley**	**2.23**	**208**	P	Pn	22 04 24.7	+0.4
WHVZ	**Whangaehu Hut**	**2.25**	**32**	P	Pn	22 04 25.7	+0.9
WHVZ				S	Sn	22 04 52.3	+0.3
MAVZ	**Matarangi**	**2.25**	**31**	P	Pn	22 04 25.9	+0.9
FWVZ	**Far West T-bar**	**2.26**	**31**	P	Pn	22 04 25.8	+0.9
TUVZ	**Tukino**	**2.29**	**33**	P	Pn	22 04 26.1	+0.9
COVZ	**Chateau Observ**	**2.31**	**30**	P	Pn	22 04 26.4	+0.9
NGZ	**Ngauruhoe**	**2.35**	**31**	P	Pn	22 04 26.9	+0.8
SNVZ	**South Ngauruho**	**2.35**	**31**	P	Pn	22 04 27.1	+0.9
KRHZ	**Kereru**	**2.36**	**49**	P	Pn	22 04 25.4	-0.7
OTVZ	**Oturere**	**2.38**	**32**	P	Pn	22 04 27.4	+0.9
WTVZ	**West Tongariro**	**2.40**	**30**	P	Pn	22 04 27.4	+0.7
KRVZ	**Karewarewa**	**2.44**	**30**	P	Pn	22 04 27.9	+0.7
PXZ	**Pawanui**	**2.44**	**62**	P	Pn	22 04 26.4	-0.7
TMVZ	**Te Maari**	**2.44**	**32**	P	Pn	22 04 28.0	+0.8
NTVZ	**North Tongarir**	**2.44**	**31**	P	Pn	22 04 28.1	+0.8
KWHZ	**Kaweka Forest**	**2.54**	**46**	P	Pn	22 04 27.9	-0.6
KATZ	**Kakaramea**	**2.56**	**30**	P	Pn	22 04 29.5	+0.6
KAHZ	**Kahuranaki**	**2.57**	**58**	P	Pn	22 04 28.2	-0.7
OKCZ	**Okains Bay**	**2.62**	**196**	P	Pn	22 04 29.8	+0.2
HIZ	**Hauiti**	**2.76**	**13**	P	Pn	22 04 32.2	+0.8
BKZ	**Black Stump Fm**	**2.76**	**43**	P	Pn	22 04 30.9	-0.6
BKZ	**Black Stump Fm**	**2.76**	**43**	S	Sn	22 05 03.7	-0.3
BKZ	**Black Stump Fm**	**2.76**	**43**	P	Pn	22 04 30.8	-0.6
RPZ	**Rata Peaks**	**3.35**	**221**	P	Pn	22 04 39.9	+0.5
URZ	**Urewera**	**3.77**	**40**	P	Pn	22 04 43.2	-1.9
ODZ	**Otahua Downs**	**4.58**	**212**	P	Pn	22 04 55.6	-0.4
JCZ	**Jackson Bay**	**4.83**	**232**	P	Pn	22 04 59.7	+0.2
OUZ	**Omahuta**	**5.99**	**356**	P	Pn	22 05 17.8	+2.5
CTZ	**Chatham Island**	**7.34**	**113**	P	Pn	22 05 33.7	+0.1

*IDC **12** 22:11:47.8±0.9, 35°.18N×27°.79E, h0km, mb3.9/8, mbtmp3.8/16, ML3.2/7, MS2.8/3, Error ellipse: s-maj=18.3km s-min=13.2km az=174.0*
*NIC **12** 22:11:49.5, 35°.02N×27°.80E, h0km±1km, Ml3.2/14*
*AFAD **12** 22:11:50.0, 34°.93N×27°.53E, h99km±33km, MW3.8*
*HLW **12** 22:11:51.0, 35°.00N×27°.87E, h5km±1km, Ml3.5*
*GII **12** 22:11:52.7±0.0, 34°.808N±0°.002×27°.951E±0°.001, h5km, Mws3.5, confirmed*
*ATH **12** 22:11:52.9, 35°.15N×27°.78E, h16km±5km, ML3.4/7, Manual Solution by A.Papageorgiou First location: 2019/10/12 22:13:15, This location: 2021/06/27 13:26:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*ISK **12** 22:11:52.5, 35°.22N×27°.72E, h16km, ML3.4/26*
*THE **12** 22:11:53.4, 35°N±13"×2"8E±1"4, h0km±21km, M3.8/16, mb4.2/11, MLh3.4/16*

ISC 12 22:11:52.7±0.8, **35°.10N**±0°.04×**27°.75E**±0°.03, **h32**km±6km, **n193**, σ1°**84**/227, **mb3.8**/8, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.65**	**313**	Pg	Pn	**22 12 03.9**	**-1.9**
KARP				Sg	Sb	22 12 12.8	-1.9
KARP	**Karpathos**	**0.65**	**313**	P	Pn	**22 12 03.0**	**-2.8**
KARP				S	Sb	22 12 12.3	-2.4
KARP	**Karpathos**	**0.65**	**313**	P	Pn	**22 12 03.0**	**-2.8**
KARP				S	Sb	**22 12 15.1**	**+0.5**
KARP				AML	AML	22 12 18.7	
	12nm,0.6s						
KARP				AML	AML	22 12 18.9	
	7.8nm,0.6s						
KARP	**Karpathos**	**0.65**	**313**	P	Pn	**22 12 04.2**	**-1.6**
KARP				S	Sb	22 12 14.6	-0.1
ARG	**Arkhangelos**	**1.15**	**15**	Pg	Pn	22 12 12.9	+0.3
ARG				Sg	Sb	22 12 28.2	-0.6
ARG	**Arkhangelos**	**1.15**	**15**	P	Pn	22 12 12.1	-0.5
ARG				S	Sn	22 12 25.6	-1.7
ARG	**Arkhangelos**	**1.15**	**15**	P	Pb	22 12 13.5	-0.6
ARG				S	Sb	22 12 31.4	+2.7
ARG				AML	AML	22 12 39.7	
	3.1nm,0.5s						
ARG				AML	AML	22 12 41.0	
	4.7nm,0.7s						
ARG	**Arkhangelos**	**1.15**	**15**	P	Pb	22 12 13.5	-0.6
ARG				S	Sb	22 12 28.2	-0.6
ZKR	**Zakros**	**1.25**	**271**	Pn	Pn	22 12 16.0	+2.0
ZKR	**Zakros**	**1.25**	**271**	P	Pn	22 12 16.5	+2.6
ZKR	**Zakros**	**1.25**	**271**	P	Pn	22 12 15.1	+1.1
ZKR				S	Sn	22 12 34.4	+4.6
ZKR				AML	AML	22 12 41.9	
	2.2nm,0.7s						
ZKR				AML	AML	22 12 47.7	
	1.5nm,0.7s						
ZKR	**Zakros**	**1.25**	**271**	P	Pn	**22 12 16.3**	**+2.3**
ZKR				S	Sn	22 12 33.0	+3.2
STIA	**Sitia Lasithi**	**1.36**	**275**	P	Pn	22 12 17.3	+1.9
STIA				S	Sn	22 12 35.5	+3.2
RODB	**Rodos**	**1.40**	**16**	P	Pn	22 12 16.6	+0.6
RODB				S	Sb	22 12 34.7	-1.0
NISR	**Nisiros**	**1.59**	**342**	P	Pn	22 12 19.8	+1.2
YAZI	**Mula-Dat§a-**	**1.59**	**351**	P	Pn	22 12 19.2	+0.5
DAT	**Datca**	**1.63**	**355**	Pn	Pn	22 12 19.6	+0.3
DAT	**Datca**	**1.63**	**355**	P	Pn	22 12 20.6	+1.3
TURN	**Turunc**	**1.72**	**13**	Pn	Pn	22 12 20.9	+0.5
TURN	**Turunc**	**1.72**	**13**	P	Pb	22 12 22.6	-1.0
TURN				S	Sb	22 12 46.2	+1.4
TURN				*i* IAML		22 12 54.0	
	comp=E,392nm,0.9s						
NPS	**Neapolis**	**1.75**	**276**	P	Pn	22 12 24.0	+3.1
NPS	**Neapolis**	**1.75**	**276**	P	Pn	22 12 23.2	+2.3
IZZE	**Mula-Seydike**	**1.79**	**42**	P	Pb	22 12 23.3	-1.7
KSL	**Kastellorizon**	**1.83**	**55**	P	Pn	22 12 22.5	+0.6
KSL				S	Sb	22 12 48.6	+0.6
KSL				AML	AML	22 12 57.1	
	0.5nm,0.7s						
KSL				AML	AML	22 13 29.7	
	0.3nm,1.6s						
DALY	**Dalyan (Mula)**	**1.86**	**23**	Pn	Pn	22 12 23.1	+0.8
AKAS	**Kas**	**1.89**	**53**	Pn	Pn	22 12 24.1	+1.3
AKAS	**Kas**	**1.89**	**53**	P	Pn	22 12 23.7	+0.9
KLNA	**Kalymnos**	**1.96**	**342**	P	Pn	22 12 25.2	+1.6
BDRM	**Kayabasi**	**1.97**	**353**	P	Pn	22 12 24.3	+0.4
SABU	**Mula-Dalaman**	**1.98**	**30**	P	Pn	22 12 25.6	+1.6
BODT	**Bodrum**	**1.99**	**350**	Pn	Pn	22 12 24.4	+0.3
BODT	**Bodrum**	**1.99**	**350**	P	Pn	22 12 25.9	+1.8
YKAV	**Yalikavak-Bodr**	**2.05**	**350**	Pn	Pn	22 12 25.5	+0.5
YER	**Yerkesik**	**2.08**	**12**	Pn	Pn	22 12 26.1	+0.8
MLSB	**Milas**	**2.19**	**1**	Pn	Pn	22 12 25.9	-1.0
MULA	**Mugla, Merkez-**	**2.20**	**12**	P	Pb	22 12 30.5	-1.3
CAME	**Cameli-Denizli**	**2.23**	**34**	Pn	Pn	22 12 28.9	+1.4
THERA	**Ancient Thera,**	**2.24**	**305**	P	Pn	22 12 29.1	+1.6
THERA	**Ancient Thera,**	**2.24**	**305**	P	Pn	22 12 29.0	+1.4
KNIK	**Mula-Seydike**	**2.29**	**40**	P	Pn	22 12 30.2	+2.0
THR3	**Thira Island,**	**2.31**	**305**	P	Pn	22 12 30.4	+1.9
SNT5	**Nea Kammeni, S**	**2.31**	**305**	P	Pn	22 12 29.9	+1.4
SNT5	**Nea Kammeni, S**	**2.31**	**305**	P	Pn	22 12 29.9	+1.4
IDI	**Anoyia**	**2.35**	**275**	Pn	Pn	22 12 30.8	+1.7
IDI	**Anoyia**	**2.35**	**275**	P	Pn	22 12 31.6	+2.5
IDI	**Anoyia**	**2.35**	**275**	Pn	Pn	22 12 29.5	+0.4
	33nm,0.4s,baz=64,slow=15,SNR=42						
IDI				Sn	Sn	**22 12 59.3**	**+2.5**
	10nm,0.3s,baz=93,slow=16,SNR=4.3						
IDI	**Anoyia**	**2.35**	**275**	P	Pn	22 12 31.6	+2.5
SAP3	**Santorini-Thir**	**2.36**	**305**	P	Pn	22 12 31.1	+1.8
DDIM	**Aydin, Didim**	**2.38**	**350**	P	Pb	22 12 37.1	+2.1
CAEL	**Denizli, Camel**	**2.39**	**32**	P	Pn	22 12 31.1	+1.8
ELL	**Elmali**	**2.40**	**46**	Pn	Pn	22 12 31.2	+1.3
ELL	**Elmali**	**2.40**	**46**	P	Pn	22 12 31.1	+1.1
ELL				AML	AML	22 13 08.0	
	1.2nm,1.0s						
ELL				AML	AML	22 13 10.6	
	1.4nm,0.7s						
ELL	**Elmali**	**2.40**	**46**	P	Pn	22 12 31.6	+1.6
DNZT	**Denizli-Tavas-**	**2.41**	**25**	P	Pn	22 12 31.7	+1.7
TAVA	**DENIZLI_Tavas**	**2.54**	**21**	P	Pn	22 12 33.1	+1.3
TAVA				S	Sb	22 13 10.8	+2.3
TAVA				*i* IAML		22 13 22.0	
	comp=E,112nm,1.0s						
AYDN	**Tasoluk**	**2.56**	**2**	P	Pn	22 12 33.5	+1.6
GOLH	**Golhisar**	**2.59**	**34**	P	Pn	22 12 34.6	+2.2
PRNS	**Prines Rethymn**	**2.67**	**277**	P	Pn	22 12 37.4	+4.0
PRNS	**Prines Rethymn**	**2.67**	**277**	P	Pn	22 12 36.6	+3.2
APMY	**Acipayam-Deniz**	**2.68**	**28**	Pn	Pn	22 12 34.7	+1.0
DNIZ	**Denizli-Tavas-**	**2.73**	**22**	P	Pn	22 12 35.1	+0.8
ESEN	**Aydn-Nazilli**	**2.73**	**10**	P	Pn	22 12 35.9	+1.6
KORT	**Korkueli**	**2.84**	**47**	Pn	Pn	22 12 37.9	+2.0
AYDB	**Zeytinkoy-Aydi**	**2.84**	**2**	Pn	Pn	22 12 36.8	+0.9
NAZL	**Nazilli-Aydin**	**2.89**	**9**	Pn	Pn	22 12 37.6	+1.1
ANTB	**Antalya**	**2.96**	**52**	Pn	Pn	22 12 39.4	+1.9
INCE	**Denizli-Bozkur**	**2.99**	**29**	P	Pn	22 12 38.5	+0.5
GVD	**Gavdhos**	**3.02**	**266**	P	Pn	22 12 40.7	+2.4
DGB	**zmir**	**3.02**	**347**	P	Pn	22 12 38.1	-0.2
IZMR	**zmir-demi**	**3.03**	**3**	P	Pn	22 12 39.3	+0.8
CHAN	**Chania**	**3.06**	**279**	P	Pn	22 12 42.7	+3.9
CHAN	**Chania**	**3.06**	**279**	P	Pn	22 12 41.8	+3.0
KIRA	**zmir-Kiraz**	**3.13**	**9**	P	Pn	22 12 40.6	+0.7
ODEM	**Odemis-Izmir**	**3.18**	**5**	Pn	Pn	22 12 41.8	+1.3
BCK	**Bucak**	**3.29**	**43**	Pn	Pn	22 12 44.2	+2.2
BLCB	**Balcova**	**3.33**	**350**	Pn	Pn	22 12 43.1	+0.6
BLCB	**Balcova**	**3.33**	**350**	P	Pn	22 12 43.4	+0.9
URLA	**Izmir**	**3.38**	**344**	Pn	Pn	22 12 44.5	+1.2
URLA	**Izmir**	**3.38**	**344**	P	Pn	22 12 42.8	-0.4
MANT	**Manisa**	**3.44**	**11**	P	Pn	22 12 42.8	-1.5
KULA	**Kula-Manisa**	**3.48**	**12**	Pn	Pn	22 12 45.2	+0.5
ISP	**Isparta**	**3.52**	**39**	Pn	Pn	22 12 47.6	+2.4
ISP	**Isparta**	**3.52**	**39**	P	Pn	22 12 47.8	+2.5
CHOS	**Chios island**	**3.55**	**338**	P	Pn	22 12 47.1	+1.5
ANKY	**Antikythira Is**	**3.71**	**283**	P	Pn	22 12 49.9	+2.1
AKMS	**Akamas**	**3.77**	**90**	P	Pn	22 12 48.9	+0.4
AKMS				S	Sn	22 13 34.5	+2.7
AKMS				AML	AML	22 13 38.0	
	0.2nm,0.6s						
AKMS				AML	AML	22 13 41.7	
	0.1nm,0.4s						
GORD	**Gordes-Manisa**	**3.81**	**5**	Pn	Pn	**22 12 50.5**	**+1.2**
NATA	**Nata**	**3.98**	**93**	P	Pn	**22 12 52.1**	**+0.7**
NATA				S	Sn	**22 13 39.9**	**+2.9**
NATA				AML	AML	22 13 45.6	
	0.3nm,0.5s						
NATA				AML	AML	22 13 54.0	
	0.3nm,0.4s						
ALFC	**Alefka**	**3.98**	**88**	P	Pn	**22 12 51.4**	**-0.1**
ALFC				S	Sn	**22 13 38.2**	**+1.2**
ALFC				AML	AML	22 13 43.2	
	0.1nm,0.7s						
ALFC				AML	AML	22 13 46.0	
	0.2nm,0.6s						
KTHA	**Kythira Island**	**3.98**	**288**	P	Pn	**22 12 53.8**	**+2.3**
DKL	**Dikili**	**4.02**	**351**	Pn	Pn	**22 12 53.7**	**+1.7**
SOMA	**Soma-Manisa**	**4.05**	**358**	Pn	Pn	**22 12 54.1**	**+1.7**
SHUT	**Suhut-Afyon**	**4.11**	**32**	Pn	Pn	**22 12 55.8**	**+2.4**
SLUM	**Salum**	**4.18**	**211**	P	Pn	**22 12 55.0**	**+0.8**
TROD	**Troodos**	**4.20**	**91**	P	Pn	**22 12 54.4**	**-0.3**
TROD				S	Sn	**22 13 45.7**	**+2.8**
TROD				AML	AML	22 13 53.3	
	0.1nm,0.4s						
TROD				AML	AML	22 13 59.0	
	0.1nm,0.7s						
APOL	**The Sanctuary**	**4.23**	**94**	P	Pn	**22 12 55.4**	**+0.5**
APOL				S	Sn	**22 13 46.8**	**+3.6**
APOL				AML	AML	22 13 53.3	
	0.1nm,0.7s						
APOL				AML	AML	22 13 53.9	
	0.1nm,0.4s						
ATHU	**Athens Univers**	**4.28**	**313**	P	Pn	**22 12 57.9**	**+2.2**
PTL	**Penteli**	**4.29**	**314**	P	Pn	**22 12 58.1**	**+2.3**
XYLS	**Xyliatos**	**4.35**	**90**	P	Pn	**22 12 56.9**	**+0.2**
XYLS				S	Sn	**22 13 49.9**	**+3.6**
XYLS				AML	AML	22 13 58.6	
	0.1nm,0.3s						
XYLS				AML	AML	22 13 58.6	
	0.1nm,0.6s						
SIGR	**SIGRI**	**4.37**	**340**	P	Pn	**22 12 58.8**	**+2.0**
ASGA	**Asgata**	**4.53**	**92**	P	Pn	**22 12 58.8**	**-0.2**
ASGA				S	Sn	**22 13 53.8**	**+3.2**
ASGA				AML	AML	22 13 58.1	
	0.1nm,0.5s						
ASGA				AML	AML	22 14 02.7	
	0.3nm,0.6s						
STFN	**Stefani**	**4.56**	**313**	P	Pn	**22 13 01.9**	**+2.4**
CSS	**Mathiatis**	**4.58**	**90**	P	Pn	**22 12 60.0**	**+0.2**
CSS				S	Sn	**22 13 55.0**	**+3.1**
CSS				AML	AML	22 14 05.3	
	0.1nm,0.4s						
CSS				AML	AML	22 14 08.7	
	0.1nm,0.8s						
CSS	**Mathiatis**	**4.58**	**90**	P	Pn	**22 13 00.2**	**+0.4**
CSS	**Mathiatis**	**4.58**	**90**	S	Sn	**22 13 53.5**	**+1.5**
LTK	**Loutraki**	**4.83**	**309**	P	Pn	**22 13 05.6**	**+2.4**
MVOU	**Mavrovouni**	**4.83**	**89**	P	Pn	**22 13 04.8**	**+1.6**
MVOU				S	Sn	**22 14 01.8**	**+3.8**
MVOU				AML	AML	22 14 08.1	
	0.1nm,0.6s						
MVOU				AML	AML	22 14 12.8	
	0.1nm,0.5s						
VLX	**Vlachokerasia**	**4.89**	**299**	P	Pn	**22 13 06.1**	**+2.0**
ITM	**Ithomi**	**5.15**	**295**	P	Pn	**22 13 09.8**	**+2.3**
	23nm,0.6s						
GUR	**Goura**	**5.19**	**305**	P	Pn	**22 13 09.9**	**+1.7**
KLV	**Kalavryta, Ach**	**5.38**	**305**	P	Pn	**22 13 12.9**	**+2.2**
	0.0nm20nm,0.7s						
NEO	**Neokhori**	**5.54**	**321**	P	Pn	**22 13 15.5**	**+2.6**
	20nm,0.6s						
KALE	**Kalithea**	**5.57**	**308**	P	Pn	**22 13 16.3**	**+2.9**
	25nm,1.0s						
DRO	**Drossia**	**5.63**	**302**	P	Pn	**22 13 17.0**	**+2.8**
	0.1nm24nm,0.7s						
ANX	**Ano Chora**	**5.83**	**308**	P	Pn	**22 13 19.7**	**+2.7**
	30nm,0.8s						
AGG	**Agios Georgios**	**5.84**	**314**	P	Pn	**22 13 19.7**	**+2.7**
	23nm,0.8s						
ALN	**Alexandroupoli**	**5.94**	**347**	P	Pn	**22 13 20.7**	**+2.3**
	15nm,0.9s						
MAKR	**Makrakomi, Fth**	**5.95**	**313**	P	Pn	**22 13 21.7**	**+3.2**
AXS	**Araxos**	**5.98**	**303**	P	Pn	**22 13 21.6**	**+2.6**
	0.1nm26nm,1.6s						
SWA2		**6.16**	**199**	P	Pn	**22 13 21.9**	**+0.6**
SWA2				S	Sn	**22 14 28.2**	**-2.4**
RDO	**Rodhopi**	**6.28**	**345**	P	Pn	**22 13 25.4**	**+2.4**
THL	**Klokotos Trika**	**6.38**	**316**	P	Pn	**22 13 27.4**	**+3.0**
AMPL	**Ampelaki**	**6.47**	**308**	P	Pn	**22 13 27.9**	**+2.3**
HNTI	**Hanita**	**6.48**	**106**	P	Pn	**22 13 25.8**	**-0.1**
HNTI	**Hanita**	**6.48**	**106**	S	Sn	**22 14 38.1**	**-0.7**
BRTR	**Keskin Array B**	**6.58**	**44**	Pn	Pn	**22 13 25.9**	**-1.4**
	0.3nm,0.3s,baz=212,slow=14,SNR=10						
BRTR				Sn	Sn	**22 14 40.7**	**-0.5**
	0.3nm,0.3s,baz=218,slow=26,SNR=6.4						
MMA0B	**Mount Meron ar**	**6.69**	**106**	P	Pn	**22 13 28.9**	**+0.2**
MMA0B	**Mount Meron ar**	**6.69**	**106**	S	Sn	**22 14 43.5**	**-0.4**
MMAI	**Mount Meron Ar**	**6.69**	**106**	Pn	Pn	**22 13 27.1**	**-1.6**
	1.9nm,0.3s,baz=288,slow=12,SNR=9.7						
MMAI				Sn	Sn	**22 14 46.3**	**+2.4**
	3.8nm,0.3s,baz=300,slow=24,SNR=7.2						
MMAI				LR	LR	22 16 35.2	
	comp=Z,40nm,19.9s,baz=221,slow=43						
	0.8nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.83**	**104**	P	Pn	**22 13 30.6**	**0.0**
GEM	**Giv'at Ha'Em**	**6.83**	**104**	S	Sn	**22 14 46.2**	**-1.1**
NATI	**Neve Ativ**	**6.87**	**103**	P	Pn	**22 13 30.8**	**-0.4**
NATI	**Neve Ativ**	**6.87**	**103**	S	Sn	**22 14 48.1**	**-0.2**
SALP	**Salfit**	**6.91**	**114**	P	Pn	**22 13 31.6**	**-0.2**
SALP	**Salfit**	**6.91**	**114**	S	Sn	**22 14 47.7**	**-1.6**
MMLI	**Mount Malkishu**	**6.92**	**110**	P	Pn	**22 13 31.8**	**-0.2**
AMAZ	**Amatzia**	**6.98**	**119**	P	Pn	**22 13 31.2**	**-1.5**
AMAZ	**Amatzia**	**6.98**	**119**	S	Sn	**22 14 49.5**	**-1.4**
KZIT	**Kziot**	**6.98**	**125**	P	Pn	**22 13 31.5**	**-1.2**
KZIT	**Kziot**	**6.98**	**125**	S	Sn	**22 14 48.7**	**-2.3**
RZN	**Rozhen**	**6.99**	**341**	P	Pn	**22 13 35.4**	**+2.4**
KSHT	**Keshet**	**7.02**	**105**	P	Pn	**22 13 33.1**	**-0.2**
KSHT	**Keshet**	**7.02**	**105**	S	Sn	**22 14 51.2**	**-0.9**
HMDT	**Nahal Hemdat**	**7.08**	**111**	P	Pn	**22 13 34.3**	**+0.3**
HMDT	**Nahal Hemdat**	**7.08**	**111**	S	Sn	**22 14 52.2**	**-1.2**
UJAP	**Al Uja**	**7.17**	**114**	P	Pn	**22 13 35.1**	**-0.1**
YTIR	**Yattir**	**7.21**	**119**	P	Pn	**22 13 35.5**	**-0.5**
YTIR	**Yattir**	**7.21**	**119**	S	Sn	**22 14 54.7**	**-2.1**
DSI	**Dead Sea**	**7.29**	**117**	P	Pn	**22 13 36.5**	**-0.5**
DSI	**Dead Sea**	**7.29**	**117**	S	Sn	**22 14 57.5**	**-1.3**
MSBI	**Mazada**	**7.41**	**119**	P	Pn	**22 13 38.4**	**-0.2**
GHAJ	**Ghor Haditha**	**7.57**	**118**	P	Pn	**22 13 40.7**	**-0.1**
GHAJ	**Ghor Haditha**	**7.57**	**118**	S	Sn	**22 15 03.4**	**-2.0**
KRMI	**Paran Flat**	**7.70**	**128**	P	Pn	**22 13 41.8**	**-0.8**
KRMI	**Paran Flat**	**7.70**	**128**	S	Sn	**22 15 06.0**	**-2.8**
ZFRI	**Zfri**	**7.72**	**124**	P	Pn	**22 13 41.8**	**-1.1**
ZFRI	**Zfri**	**7.72**	**124**	S	Sn	**22 15 06.4**	**-2.8**
PRNI	**Paran**	**7.73**	**126**	P	Pn	**22 13 42.0**	**-1.1**
PRNI	**Paran**	**7.73**	**126**	S	Sn	**22 15 06.6**	**-2.9**
HFRF	**Wahat Farafira**	**7.94**	**176**	P	Pn	**22 13 46.2**	**+0.2**
HRFI	**Mount Harif**	**7.96**	**127**	P	Pn	**22 13 44.9**	**-1.2**
HRFI	**Mount Harif**	**7.96**	**127**	S	Sn	**22 15 12.3**	**-2.9**
MBRI	**Mt Berech**	**8.04**	**129**	P	Pn	**22 13 47.2**	**-0.2**
MBRI	**Mt Berech**	**8.04**	**129**	S	Sn	**22 15 14.6**	**-2.7**
EIL	**Elat**	**8.15**	**130**	Pn	Pn	**22 13 48.5**	**-0.3**
	1.0nm,0.3s,baz=352,slow=3.5,SNR=12						
EIL				Sn	Sn	**22 15 20.4**	**+0.6**
	2.1nm,0.3s,baz=125,slow=11,SNR=5.7						
	5.6nm,0.5s						
EIL	**Elat**	**8.15**	**130**	P	Pn	**22 13 47.4**	**-1.4**
EIL	**Elat**	**8.15**	**130**	S	Sn	**22 15 16.8**	**-2.9**
HKAT	**Jabal Katrina**	**8.44**	**139**	P	Pn	**22 13 52.2**	**-0.7**
MLR	**Muntele Rosu**	**10.47**	**353**	LR	LR	22 19 12.2	
	comp=Z,60nm,20.2s,baz=230,slow=43						
VAE	**Valguarnera**	**11.02**	**286**	Pn	Pn	**22 14 27.3**	**-0.8**
	2.4nm,0.3s,baz=344,slow=20,SNR=8.5						
VAE				Sn	Sn	**22 16 32.8**	**+2.5**
	1.2nm,0.3s,baz=211,slow=15,SNR=3.6						
	5.5nm,0.4s						
KBZ	**Khabaz**	**14.52**	**49**	Pn	Pn	**22 15 15.9**	**+0.1**
	baz=204,slow=10.0,SNR=2.7						
	2.0nm,0.9s						
SOKA	**Soboth**	**15.02**	**324**	*i* Pn	Pn	**22 15 24.4**	**+1.9**
	1.1nm,0.7s						
KEST	**Kesra**	**15.02**	**278**	Pn	Pn	**22 15 22.3**	**-0.4**
	0.2nm,0.3s,baz=94,slow=14,SNR=5.4						
KEST				LR	LR	22 22 50.7	
	comp=Z,60nm,18.8s,baz=20,slow=44						
	2.2nm,0.9s						
OBKA	**Obir**	**15.13**	**323**	*i* Pn	Pn	**22 15 25.7**	**+1.6**
	3.8nm,1.2s						
AKASG	**Malin Array Be**	**15.63**	**3**	Pn	Pn	**22 15 28.5**	**-1.9**
	0.3nm,0.3s,baz=194,slow=11,SNR=2.3						
KBA	**Koelnbreinsper**	**16.12**	**322**	*e*Pn	Pn	**22 15 39.0**	**+2.0**
	2.6nm,1.1s						
LESA	**Schwarzleotal**	**16.69**	**322**	*e*Pn	Pn	**22 15 45.3**	**+1.1**
	2.3nm,1.0s						
WTTA	**Wattenberg**	**17.12**	**320**	*e*Pn	Pn	**22 15 50.2**	**+0.6**
	0.3nm,0.3s						
GERES	**GERESS Array B**	**17.21**	**327**	P	Pn	**22 15 48.6**	**-2.0**
	baz=130,slow=12,SNR=7.0						
	0.7nm,0.7s						
SQTA	**Sankt Quirin**	**17.32**	**319**	*i* Pn	Pn	**22 15 52.3**	**+0.3**
	0.6nm,0.3s						
MOTA	**Moosalm**	**17.46**	**320**	*i* Pn	Pn	**22 15 55.1**	**+1.4**
	2.1nm,1.0s						
FETA	**Feichten**	**17.46**	**318**	*i* Pn	Pn	**22 15 55.4**	**+1.6**
	2.8nm,1.0s						
MNK	**Minsk**	**19.40**	**0**	*i* P	P	**22 16 15.0**	**-0.8**
	comp=E,11nm,1.0s						
MNK				*i* P	P	**22 16 15.0**	**-0.8**
	comp=N,2.0nm,0.8s						
MNK				*i* P	P	**22 16 15.0**	**-0.8**
	comp=Z,9.0nm,0.9s,baz=180						
MNK				*i* PP	sP	**22 16 28.7**	**+0.7**
MNK				*i* PPP	PPP	22 16 38.1	
MNK				*i* S	Sn	**22 19 53.9**	**+0.3**
MNK				*i* SS	SnSn	**22 20 14.9**	**+6.9**
MNK				*i* LR	LR	22 23 13.8	
MNK				*i* LRM	MLR	22 25 01.8	
	comp=Z,19nm,12.9s						
MNK				*i* LRM	MLR	22 25 33.1	
	comp=E,278nm,20.4s						
MNK				*i* LRM	MLR	22 25 34.2	
	comp=N,347nm,19.8s						
ESDC	**Sonseca Array**	**25.53**	**290**	P	P	**22 17 18.0**	**-0.4**
	comp=N,1.2nm,0.6s,baz=82,slow=9.6,SNR=22						
	comp=N,1.2nm,0.6s						
FINES	**FINESS Array B**	**26.38**	**358**	P	P	**22 17 25.4**	**-0.3**
	comp=N,5.0nm,1.0s,baz=176,slow=10,SNR=8.0						
	comp=N,5.0nm,1.0s						
HFS	**Hagfors**	**26.66**	**344**	P	P	**22 17 27.3**	**-1.1**
	comp=N,3.9nm,0.8s,baz=148,slow=8.7,SNR=9.1						
	comp=N,3.9nm,0.8s						
**NB

MAL2	Monte Alegre,	20.53	50	P		P	23 22 19.8	+0.3
FRTB	Fartura	20.62	115	eP		P	23 22 21.4	+0.9
IPMB	Ipameri, GO	20.88	100	eP		P	23 22 21.6	-1.6
BDFB	Brasilia	21.05	93	P		P	23 22 23.6	-1.5
BDFB				IAmb		IAmb	23 22 26.1	
	comp=Z,10nm,1.3s							
BDFB	Brasilia	21.05	93	P		P	23 22 22.1	-3.0
	comp=Z,2.4nm,0.4s,baz=224,slow=5.1,SNR=5.9							
	comp=Z,2.4nm,0.4s							
CPSB	Cacapava Do Su	21.08	137	eP		P	23 22 25.4	+0.3
RUSC	La Rusia	21.59	351			P	23 22 29.9	-1.0
RUSC				IAmb		IAmb	23 22 50.1	
	comp=Z,3.6nm,1.0s							
SMTB	Santa Maria do	22.77	76	eP		P	23 22 42.6	+1.2
BAUV	El Baul	24.45	4	P		P	23 22 56.2	-0.4
BAUV				IAmb		IAmb	23 22 57.0	
	comp=Z,15nm,1.1s							
PLCA	Paso Flores	25.05	181	P		P	23 23 00.7	-1.1
PLCA	Paso Flores	25.05	181	P		P	23 23 02.2	+0.5
	comp=Z,1.4nm,0.6s,baz=360,slow=13,SNR=6.4							
	comp=Z,1.4nm,0.6s							
DBIC	Dimbokro	68.08	76	P		P	23 28 32.7	-1.3
DBIC	Dimbokro	68.08	76	P		P	23 28 31.9	-2.1
	comp=Z,3.8nm,0.4s,baz=270,slow=4.7,SNR=13							
	comp=Z,3.8nm,0.4s							
SNAA	Sanae	68.13	162	P		P	23 28 30.3	-3.1
SNAA				IAmb		IAmb	23 28 47.3	
	comp=Z,3.0nm,1.3s							
SNAA	Sanae	68.13	162	P		P	23 28 34.1	+0.6
	comp=Z,0.6nm,0.4s,baz=295,slow=14,SNR=10							
	comp=Z,0.6nm,0.4s							
PDAR	Pinedale Array	68.58	330	P		P	23 28 37.3	+0.5
PDAR	Pinedale Array	68.58	330	P		P	23 28 36.4	-0.4
	comp=Z,0.2nm,0.4s,baz=106,slow=11,SNR=4.3							
	comp=Z,0.2nm,0.4s							
QSPA	South Pole Qui	74.56	180	P		P	23 29 10.4	-1.7
QSPA	South Pole Qui	74.56	180	P		P	23 29 14.6	+2.6
	comp=Z,0.9nm,0.6s,baz=180,slow=3.0,SNR=7.7							
	comp=Z,0.9nm,0.6s							
TORD	Torodi Ar. Bea	76.33	72	P		P	23 29 20.6	-2.2
TORD				IAmb		IAmb	23 29 22.3	
	comp=Z,2.5nm,0.8s							
TORD	Torodi Ar. Bea	76.33	72	P		P	23 29 20.9	-1.9
	comp=Z,1.8nm,0.4s,baz=270,slow=5.3,SNR=46							
	comp=Z,1.8nm,0.4s							
VNDA	Vanda	82.47	190	P		P	23 29 56.0	+1.2
	comp=Z,0.4nm,0.7s,baz=118,slow=5.5,SNR=1.9							
	comp=Z,0.4nm,0.7s							
YKA	Yellowknife Ar	85.35	341	P		P	23 30 08.7	-0.7
	comp=Z,1.2nm,0.9s,baz=157,slow=8.7,SNR=2.0							
	comp=Z,1.2nm,0.9s							
SONM	Songino Array	147.71	5	PKPbc		PKPbc	23 37 15.7	-0.6
	comp=Z,0.5nm,0.6s,baz=0.0,slow=1.4,SNR=3.3							

*SJA **12** 23:22:54.4±0.8, 38°.44S×68°.90W, h11km, ML3.5, MW3.5*
ISC 12 23:22:54.9±2.8,**38°.44S**±0°.05×**68°.94W**±0°.08,**h7**km±18km,
n14,σ1§**89**/**24**,**Southern Argentina**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANA	Caviahue	1.76	288	eP	Pb	23 23 27.8	+0.2
CANA				eS	Sg	23 23 51.8	+0.2
CANA				IAML		23 24 04.3	
	comp=Z,269nm,0.6s						
GO06	Curarrehue	2.28	239	i S	Sb	23 24 05.2	+0.3
GO06				IAML		23 24 10.5	
	comp=E,432nm,0.5s						
GO06	Curarrehue	2.28	239	eP	Pb	23 23 34.7	-1.7
GO06				i S	Sb	23 24 05.8	+0.9
GO06				IAML		23 24 09.3	
	comp=Z,269nm,0.4s						
LC01	Cunco	2.35	258	eP	Pb	23 23 36.1	-1.4
LC01				i S	Sb	23 24 07.8	+1.2
LC01				IAML		23 24 09.7	
	comp=E,285nm,0.6s						
BI02	San Fabin de	2.57	313	eP	Pn	23 23 38.6	+1.6
BI02				eS	Sb	23 24 13.9	+0.8
BI02				IAML		23 24 23.5	
	comp=E,228nm,0.5s						
BI02	San Fabin de	2.57	313	eP	Pb	23 23 38.8	-2.5
BI02				i S	Sg	23 24 16.9	-0.4
BI02				IAML		23 24 20.3	
	comp=Z,141nm,0.3s						
EDS3	Malargue	2.69	352	eP	Pb	23 23 41.0	-2.4
EDS3				eS	Sg	23 24 20.7	-0.6
LR03	Panguipulli	2.91	245	eP	Pb	23 23 45.2	-1.8
LR03				eS	Sb	23 24 24.2	+1.4
LR03				IAML		23 24 29.9	
	comp=N,533nm,0.7s						
LR03	Panguipulli	2.91	245	i P	Pb	23 23 45.9	-1.2
LR03				eS	Sb	23 24 25.4	+2.6
LR03				IAML		23 24 27.4	
	comp=Z,321nm,0.5s						
LR05	Currie	2.98	232	eS	Sb	23 24 22.8	-1.9
LR05				IAML		23 24 39.3	
	comp=E,361nm,0.5s						
LR05	Currie	2.98	232	eP	Pb	23 23 46.9	-1.2
LR05				eS	Sb	23 24 27.5	+2.8
LR05				IAML		23 24 41.8	
	comp=Z,152nm,0.7s						
RFA	San Rafael	3.68	6	eP	Pn	23 23 53.2	+1.0
RFA				ePg	Pb	23 24 02.1	+1.8
RFA				eS	Sn	23 24 32.6	-3.4
RFA				IAML		23 24 59.0	
	comp=Z,67nm,0.3s						
RFA				IAML		23 24 59.1	
	comp=Z,106nm,0.3s						
BO02	Sierra Bellavi	3.93	337	eP	Pn	23 23 58.2	+2.5
BO02				IAML		23 25 11.3	
	comp=Z,52nm,0.8s						
GO05	Hualane	4.18	324	IAML		23 25 15.7	
	comp=Z,73nm,0.8s						

*SFS **12** 23:26:55.8, 36°.50N×7°.66W, h27km, mb3.8/4, ML2.9/17, ML3.0/21, MLv2.7/21*
*IGIL **12** 23:26:56.1, 36°.49N×7°.66W, h30km, ML2.2*
*INMG **12** 23:26:56.5±1.6, 36°.49N×7°.67W, h31km±7km, ML2.4, Error ellipse: s-maj=3.4km s-min=2.6km az=51.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*MDD **12** 23:26:57.6±0.5, 36°.62N×7°.59W, h35km±1km, mb_Lg3.1/30, Error ellipse: s-maj=3.8km s-min=2.3km az=25.0*
ISC 12 23:26:55.2±1.3,**36°.57N**±0°.04×**7°.60W**±0°.03,**h35**km,**n80,**
σ1§**87**/152,**3C-7D**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.72	339	Pg	Pn	23 27 09.7	+0.8
PBDV				Sg	Sn	23 27 19.6	+0.8
PBDV	Barranco-do-Ve	0.72	339⇓	eP	Pn	23 27 09.7	+0.8
PBDV				eS	Sn	23 27 19.8	+1.0
PBDV				i IAML		23 27 22.7	
PBDV				i IAML		23 27 27.6	
PBDV				i IAML		23 27 29.1	
PVAQ	Vaqueiros	0.84	354⇓	eP	Pn	23 27 11.5	+1.0
PVAQ				eS	Sn	23 27 22.6	+1.0
PVAQ				i IAML		23 27 23.2	
PVAQ				i IAML		23 27 23.4	
PVAQ				i IAML		23 27 23.7	
ARNO	Arenosillo	0.88	53	Pn	Pn	23 27 12.5	+1.5
ARNO				Sn	Sn	23 27 24.8	+2.3
EGRO	El Granado	0.97	6	Pn	Pn	23 27 13.5	+1.3
EGRO				Sn	Sn	23 27 26.6	+1.8
EGRO	El Granado	0.97	6	Pg	Pn	23 27 13.5	+1.3
EGRO				Sg	Sn	23 27 25.7	+0.9
EGRO				i IVmb_Lg		23 27 27.2	
MORF	Marmelete	1.12	311	eP	Pn	23 27 14.5	+0.2
MORF	Marmelete	1.12	311	eP	Pn	23 27 14.5	+0.2
MORF				eS	Sn	23 27 29.0	+0.4
MORF				i IAML		23 27 34.1	
MORF				i IAML		23 27 34.6	
MORF				i IAML		23 27 39.3	
PCVE	Castro Verde	1.12	342	Pn	Pn	23 27 15.5	+1.2
PCVE				Sn	Sn	23 27 29.4	+0.9
PCVE	Castro Verde	1.12	342	eP	Pn	23 27 15.5	+1.2
PCVE				eS	Sn	23 27 29.9	+1.4
PCVE				i IAML		23 27 30.2	
PCVE				i IAML		23 27 30.9	
PCVE				i IAML		23 27 38.6	
PFVI	Vila Bisbo	1.13	300	Pn	Pn	23 27 14.6	+0.1
PFVI	Vila Bisbo	1.13	300⇑	eP	Pn	23 27 14.6	+0.1
PFVI				eS	Sn	23 27 28.6	-0.2
PFVI				i IAML		23 27 34.0	
PFVI				i IAML		23 27 34.7	
PFVI				i IAML		23 27 36.7	
PTEO	Sao Teotonio	1.32	318⇓	eP	Pn	23 27 17.9	+0.7
PTEO				eS	Sn	23 27 34.2	+0.6
PTEO				i IAML		23 27 40.5	
PTEO				i IAML		23 27 46.2	
PTEO				i IAML		23 27 47.5	
MESJ	Messejana	1.36	339	eP	Pn	23 27 18.7	+1.0
MESJ				eS	Sn	23 27 35.0	+0.5
MESJ				IAML		23 27 36.8	
	comp=N,30nm,0.1s						
MESJ	Messejana	1.36	339⇓	eP	Pn	23 27 18.7	+1.0
MESJ				eS	Sn	23 27 35.3	+0.8
MESJ				i IAML		23 27 37.7	
MESJ				i IAML		23 27 45.0	
MESJ				i IAML		23 27 46.7	
EMIN	Mina Concepcio	1.41	32	Pn	Pn	23 27 19.3	+1.0
EMIN				Sn	Sn	23 27 36.0	+0.4
EMIN	Mina Concepcio	1.41	32	Pg	Pn	23 27 19.4	+1.0
EMIN				Sg	Sn	23 27 36.3	+0.6
EMIN				i IVmb_Lg		23 27 40.6	
ESPR	Espera	1.44	77	Pn	Pn	23 27 19.7	+1.0
ESPR				Sn	Sn	23 27 37.0	+0.7
ESPR	Espera	1.44	77	Pn	Pn	23 27 19.6	+0.9
ESPR				Sn	Sn	23 27 37.0	+0.7
ESPR				i IVmb_Lg		23 27 38.7	
PBEJ	Beja	1.47	352⇑	eP	Pn	23 27 20.3	+1.2
PBEJ				eS	Sn	23 27 38.1	+1.0
PBEJ				i IAML		23 27 38.6	
PBEJ				i IAML		23 27 42.0	
PBEJ				i IAML		23 27 46.5	
PBAR	Barrancos	1.67	15	Pn	Pn	23 27 23.0	+1.2
PBAR	Barrancos	1.67	15	eP	Pn	23 27 23.0	+1.2
PBAR				eS	Sn	23 27 43.3	+1.3
PBAR				i IAML		23 27 51.3	
PBAR				i IAML		23 27 53.3	
PBAR				i IAML		23 27 55.5	
EJIF	Jimena Fronter	1.72	93	Pn	Pn	23 27 24.0	+1.3
EJIF				Sn	Sn	23 27 45.5	+2.1
ECEU	Ceuta	1.92	110	Pn	Pn	23 27 26.6	+1.2
ECEU				Sn	Sn	23 27 50.1	+1.8
ECEU	Ceuta	1.92	110	Pn	Pn	23 27 26.4	+1.1
ECEU				Sn	Sn	23 27 48.0	-0.3
E1302	La Puebla de C	1.97	73	Pn	Pn	23 27 28.0	+1.8
E1302				Sn	Sn	23 27 50.1	+0.5
E1302				i IVmb_Lg		23 27 53.8	
EVO	Evora	1.99	351	Pn	Pn	23 27 27.5	+1.2
EVO				Sn	Sn	23 27 51.4	+1.5
EVO	Evora	1.99	351⇑	eP	Pn	23 27 27.5	+1.2
EVO				eS	Sn	23 27 51.1	+1.2
EVO				i IAML		23 27 54.1	
EVO				i IAML		23 27 54.1	
EVO				i IAML		23 27 54.6	
EBAD	Badajoz	2.23	12	Pn	Pn	23 27 30.6	+0.9
EBAD	Badajoz	2.23	12	Pn	Pn	23 27 30.6	+0.9
EBAD				Sn	Sn	23 27 57.0	+1.0
EBAD				i IVmb_Lg		23 28 00.2	
PESTR	Estremoz	2.29	0	Pn	Pn	23 27 31.8	+1.3
PESTR				Sn	Sn	23 27 58.5	+1.0
PESTR	Estremoz	2.29	0	eP	Pn	23 27 31.6	+1.0
PESTR				eS	Sn	23 27 58.2	+0.6
PESTR				i IAML		23 28 00.3	
PESTR				i IAML		23 28 02.5	
PESTR				i IAML		23 28 11.5	
ECAB	El Cabril	2.30	49	Pn	Pn	23 27 31.8	+1.2
ECAB				Sn	Sn	23 27 56.8	-0.9
ECAB	El Cabril	2.30	49	Pn	Pn	23 27 32.3	+1.6
ECAB				Sn	Sn	23 27 56.8	-0.9
PARRA	Arraiolos	2.52	333⇓	eP	Pn	23 27 31.6	-1.9
PARRA				eS	Sn	23 27 57.6	-5.4
PARRA				i IAML		23 28 00.1	
PARRA				i IAML		23 28 00.8	
PARRA				i IAML		23 28 02.2	
PMTG	Montargil	2.54	349	eP	Pn	23 27 35.1	+1.2
PMTG				eS	Sn	23 28 03.9	+0.2
PMTG				i IAML		23 28 06.1	
PMTG				i IAML		23 28 07.3	
PMTG				i IAML		23 28 07.4	
PMAFR	Mafra	2.73	331	Pn	Pn	23 27 37.7	+1.2
PMAFR				Sn	Sn	23 28 09.2	+1.0
PMAFR	Mafra	2.73	331	eP	Pn	23 27 37.4	+0.9
PMAFR				eS	Sn	23 28 08.8	+0.6
PMAFR				i IAML		23 28 11.1	
PMAFR				i IAML		23 28 11.1	
PMAFR				i IAML		23 28 11.7	
EGOR	Sierra Gorda,	2.85	78	Pn	Pn	23 27 40.4	+2.0
EGOR				Sn	Sn	23 28 12.3	+0.7
EGOR	Sierra Gorda,	2.85	78	Pn	Pn	23 27 40.1	+1.7
EGOR				Sn	Sn	23 28 10.7	-0.8
PMRV	Marv??o	2.86	3⇓	eP	Pn	23 27 39.4	+1.1
PMRV				eS	Sn	23 28 10.7	-0.8
PMRV				i IAML		23 28 13.0	
PMRV				i IAML		23 28 13.3	
PMRV				i IAML		23 28 13.6	
EADA	Adamuz	2.89	56	Pn	Pn	23 27 40.3	+1.5
EADA	Adamuz	2.89	56	Pn	Pn	23 27 40.2	+1.5
EADA				Sn	Sn	23 28 11.6	-0.7
EADA				i IVmb_Lg		23 28 15.2	
PSARD	Sardoal	3.06	352⇓	eP	Pn	23 27 42.3	+1.3
PSARD				eS	Sn	23 28 15.8	-0.6
PSARD				i IAML		23 28 18.6	
PSARD				i IAML		23 28 18.9	
PSARD				i IAML		23 28 19.0	
PSBE	So Bento	3.09	343	eP	Pn	23 27 43.0	+1.5
PSBE				eS	Sn	23 28 16.8	-0.4
PSBE				i IAML		23 28 19.7	
PSBE				i IAML		23 28 20.1	
PSBE				i IAML		23 28 22.5	
ELGU	Los Guajares,	3.21	83	Pn	Pn	23 27 45.3	+2.2
ELGU	Los Guajares,	3.21	83	Pn	Pn	23 27 45.3	+2.2
ELGU				Sn	Sn	23 28 19.6	-0.6
ELGU				i IVmb_Lg		23 29 48.7	
PCBR	Castelo Branco	3.27	2	eP	Pn	23 27 45.1	+1.2
PCBR				eS	Sn	23 28 22.1	+0.6
PCBR				i IAML		23 28 23.2	
PCBR				i IAML		23 28 23.3	
PCBR				i IAML		23 28 23.5	
E0803	Jimena (Jaen)	3.53	68	Pn	Pn	23 27 48.5	+1.0
E0803				Sn	Sn	23 28 28.4	+0.2
PCAS	Casmilo, Conde	3.55	349	eP	Pn	23 27 49.4	+1.6
PCAS				eS	Sn	23 28 28.6	+0.2
PCAS				i IAML		23 28 30.5	
PCAS				i IAML		23 28 30.5	
PCAS				i IAML		23 28 31.2	
EPLA	Plasencia	3.69	18	Pn	Pn	23 27 50.6	+0.9
EPLA				Sn	Sn	23 28 29.2	-2.8
EPLA				i IVmb_Lg		23 28 33.7	
PSIM	Granatula de C	3.79	52	Pn	Pn	23 27 52.4	+1.3
PSIM				Sn	Sn	23 28 31.6	-2.9
EQES	Quesada	3.82	70	Pn	Pn	23 27 52.8	+1.2
EQES				Sn	Sn	23 28 35.0	-0.4
EQES				i IVmb_Lg		23 28 38.1	
MTE	Manteigas	3.83	1	eP	Pn	23 27 52.7	+1.1
MTE				eS	Sn	23 28 35.5	+0.2
MTE				i IAML		23 28 36.6	
MTE				i IAML		23 28 36.9	
MTE				i IAML		23 28 36.9	
PAB	San Pablo	3.93	40	Pn	Pn	23 27 54.4	+1.4
PAB				Sn	Sn	23 28 35.4	-2.5
PAB				i IVmb_Lg		23 28 36.4	
PVIS	Viseu	4.15	357	eP	Pn	23 27 57.2	+1.2
PVIS				eS	Sn	23 28 42.3	-1.0
ESDC	Sonseca Array	4.22	42	Pn	Pn	23 27 58.4	+1.3
ESDC				Sn	Sn	23 28 42.2	-3.1
ESDC				i IVmb_Lg		23 28 45.9	
ESBB	Sonseca Array	4.23	42	Pn	Pn	23 27 58.0	+0.9
ESBB				Sn	Sn	23 28 41.7	-3.6
ESBB				i IVmb_Lg		23 28 46.1	
MVO	Moncorvo	4.61	5	eP	Pn	23 28 03.3	+0.9
MVO				eS	Sn	23 28 53.0	-1.7
MVO				i IAML		23 28 55.1	
MVO				i IAML		23 28 55.7	
MVO				i IAML		23 28 57.3	
POLO	Lamas de Olo	4.80	358	eP	Pn	23 28 06.0	+1.0
POLO				eS	Sn	23 28 57.9	-1.6
POLO				i IAML		23 29 00.5	
POLO				i IAML		23 29 00.9	
POLO				i IAML		23 29 02.0	
GUD	Guadarrama	4.88	33	Pn	Pn	23 28 07.9	+1.7
GUD				Sn	Sn	23 28 58.4	-3.1
GUD				i IVmb_Lg		23 29 03.0	
UCM	Universidad Co	5.06	41	Pn	Pn	23 28 10.6	+2.0
UCM				Sn	Sn	23 29 03.9	-1.9
PCAB	Cabril	5.14	356	eP	Pn	23 28 10.8	+1.1
PCAB				eS	Sn	23 29 06.1	-1.8
PCAB				i IAML		23 29 08.6	
PCAB				i IAML		23 29 08.8	
PCAB				i IAML		23 29 12.4	
ETOB	Tobarra	5.24	65	Pn	Pn	23 28 11.4	+0.3
ETOB				Sn	Sn	23 29 08.1	-2.1
ETOB	Tobarra	5.24	65	Pn	Pn	23 28 11.3	+0.3
ETOB				Sn	Sn	23 29 07.0	-3.1
ETOB				i IVmb_Lg		23 29 53.3	
EMUR	La Murta	5.24	74	Pn	Pn	23 28 13.4	+2.4
EMUR				Sn	Sn	23 29 08.7	-1.4
EMUR				i IVmb_Lg		23 29 13.6	
PBRG	Braganca	5.27	7	eP	Pn	23 28 12.4	+1.0
PBRG				eS	Sn	23 29 09.1	-1.9
PBRG				i IAML		23 29 10.7	
PBRG				i IAML		23 29 11.0	
PBRG				i IAML		23 29 11.4	
ELOB	Lobios	5.30	356	i IVmb_Lg		23 28 09.3	
ELOB				Pn	Pn	23 28 12.8	+0.9
ELOB				Sn	Sn	23 29 09.4	-2.4
ECAL	Calabor	5.41	7	Pn	Pn	23 28 14.6	+1.2
ECAL				Sn	Sn	23 29 13.2	-1.2
ECAL	Calabor	5.41	7	Pn	Pn	23 28 14.4	+1.1
ECAL				Sn	Sn	23 29 10.9	-3.5
ECAL				i IVmb_Lg		23 31 17.8	
PGAV	Gavieira, Arco	5.41	355	eP	Pn	23 28 14.6	+1.2
PGAV				eS	Sn	23 29 12.9	-1.7
TIO	Tiouine	5.63	177	Pn	Pn	23 28 15.2	-1.4
TIO				Sn	Sn	23 29 13.6	-6.6
EVIV	Cofrentes, Val	5.79	60	Pn	Pn	23 28 19.2	+0.6
EVIV				Sn	Sn	23 29 19.5	-4.3
EVIV				i IVmb_Lg		23 29 26.3	
ECHE	Chera	6.04	58	Pn	Pn	23 28 23.9	+1.9
ECHE				i IVmb_Lg		23 29 14.0	
ECHE				Sn	Sn	23 29 25.0	-4.9
ETOR	Torete	6.07	44	Pn	Pn	23 28 24.1	+1.6
ETOR				Sn	Sn	23 29 28.1	-2.6
ETOR				i IVmb_Lg		23 29 33.1	
EAGO	Agolada(Pontev	6.24	357	Pn	Pn	23 28 25.8	+1.1
EAGO				Sn	Sn	23 29 29.9	-4.8
EBEN2	Beniarda presa	6.25	68	Sn	Sn	23 29 30.5	-4.5
E0901	Celadas (Terue	6.40	50	Pn	Pn	23 28 30.0	+2.9
E0901				Sn	Sn	23 29 36.1	-2.9
EMOS	Mosqueruela	6.76	54	Pn	Pn	23 28 33.9	+2.0
EMOS				Sn	Sn	23 29 42.0	-5.8
EARI	Arriondas	6.97	15	Pn	Pn	23 28 36.7	+2.0
EARI				Sn	Sn	23 29 47.3	-5.6

*IDC **12** 23:38:03.3±1.6, 38°.18N×52°.88E, h0km, mb3.7/7, mbtmp3.6/11, ML3.3/4, Error ellipse: s-maj=31.1km s-min=13.8km az=6.0*
ISC 12 23:38:15.8±1.5,**39°.2N**±0°.1×**52°.94E**±0°.07,**h35**km,**n18,**
σ1§**99**/**28**,**mb3.5/6**,**4C**,**Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSHL	Vashlovani	5.39	294	P	Pn	23 39 35.4	+1.7
VSHL				S	Sn	23 40 34.7	+0.2
DGRG	David-gareji	6.19	293	P	Pn	23 39 45.6	+0.8
DGRG				S	Sn	23 40 53.3	-1.0
GNI	Garni	6.39	281	Pn	Pn	23 39 44.9	-2.7
	0.2nm,0.3s,baz=238,slow=21,SNR=1.5						
GNI				Sn	Sn	23 41 01.4	+2.0
	0.5nm,0.3s,baz=24,slow=10.0,SNR=1.8						
	1.9nm,0.8s						
SHTL	Shatili	6.82	303	P	Pn	23 39 55.7	+2.3
SHTL				S	Sn	23 41 12.7	+2.9
TRLG	Trialeti	7.13	292	P	Pn	23 39 57.8	0.0
TRLG				S	Sn	23 41 14.0	-3.6
KBZ	Khabaz	8.77	304	Pn	Pn	23 40 20.5	+0.4
	0.2nm,0.3s,baz=93,slow=5.1,SNR=9.2						
KBZ				Sn	Sn	23 41 54.5	-3.2
	0.6nm,0.3s,baz=313,slow=19,SNR=4.0						
	1.3nm,0.5s						
KVAR	Kislovodsk Arr	9.01	305	Pn	Pn	23 40 24.1	+0.6
	baz=152,slow=24						
KVAR				Sn	Sn	23 42 00.5	-3.1
	baz=194,slow=12						
	1.9nm,0.5s						
AB31	Akbulak array	11.20	24	⇑Pn	Pn	23 40 54.4	+1.2
	0.5nm,0.5s,baz=202,slow=12,SNR=5.1						
AB31				⇑Sn	Sn	23 42 53.4	-3.7
	0.4nm,0.3s,baz=203,slow=23,SNR=4.4						
AKTO	Aktyubinsk	11.76	16	Pn	Pn	23 41 02.9	+1.9
	0.4nm,0.3s,baz=193,slow=6.4,SNR=7.4						
AKTO				Sn	Sn	23 43 08.6	-2.2
	1.3nm,0.3s,baz=147,slow=13,SNR=9.4						
	0.6nm,0.4s						
AKTO	Aktyubinsk	11.76	16	⇑Pn	Pn	23 41 03.6	+2.6
	0.7nm,0.5s						
AKTO				⇑Sn	Sn	23 43 09.8	-1.0
	2.6nm,0.6s						
BELG	Belogornoye	13.67	346	Pn	Pn	23 41 27.6	+0.7
	0.9nm,0.3s,baz=353,slow=5.0,SNR=4.3						
BELG				Sn	Sn	23 43 58.3	+1.0
	0.8nm,0.3s,baz=163,slow=23,SNR=5.8						
AKASG	Malin Array Be	20.23	312	P	P	23 42 47.9	+0.3
	0.4nm,0.3s,baz=113,slow=9.5,SNR=5.7						
	0.4nm,0.3s						
MKAR	Makanchi Array	22.66	61	P	P	23 43 13.0	-0.8
	0.4nm,0.7s,baz=256,slow=8.3,SNR=4.1						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	26.11	45	P	P	23 43 46.8	+0.6
	0.4nm,0.4s,baz=252,slow=7.4,SNR=2.0						
	0.4nm,0.4s						
FINES	FINESS Array B	27.70	332	P	P	23 44 01.4	+1.0
	0.9nm,0.6s,baz=152,slow=9.9,SNR=6.1						
	0.9nm,0.6s						
HFS	Hagfors	32.18	324	P	P	23 44 39.3	-0.7
	4.1nm,1.1s,baz=104,slow=11,SNR=2.1						
	4.1nm,1.1s						
EKA	Eskdalemuir Ar	40.14	313	P	P	23 45 47.8	-0.2
	0.4nm,0.5s,baz=84,slow=8.5,SNR=4.1						
	0.4nm,0.5s						
ASAR	Alice Springs	98.02	114	P	P	23 51 38.6	-10
	0.2nm,0.6s,baz=89,slow=8.1,SNR=32						
	0.2nm,0.6s						

*DJA **13** 00:18:29.7±0.8, 10°S±9°×10°6E±°, h34km±30km, M4.3/16, mB5.1/4, mb4.5/6, MLv4.2/16, Mw(mB)4.5/4*
*IDC **13** 00:18:29.2±2.5, 9°.91S×106°.40E, h0km, mb3.6/3, mbtmp3.6/4,

CMAR	Chiang Mai Arr	28.97	347	P	P	00 24 31.8	+6.6
	0.5nm,0.3s,baz=181,slow=8.3,SNR=6.1						
	0.5nm,0.3s						
WRA	Warramunga Arr	29.32	113	P	P	00 24 29.1	+0.7
	0.4nm,0.7s,baz=287,slow=10,SNR=5.5						
	0.4nm,0.7s						
ASAR	Alice Springs	30.14	121	P	P	00 24 35.3	-0.4
	0.2nm,0.7s,baz=295,slow=7.6,SNR=2.5						
	0.2nm,0.7s						
H08S2	Diego Garcia H	32.95	271	T	T	00 59 43.0	
	baz=98,slow=76,SNR=26						
H08S3	Diego Garcia H	32.96	271	T	T	00 59 41.4	
	baz=98,slow=76,SNR=32						
H08S1	Diego Carcia H	32.96	271	T	T	00 59 43.1	
	baz=98,slow=76,SNR=32						
H04N2	CROZET ISLANDS	58.28	221	T	T	01 31 06.7	
	baz=70,slow=75,SNR=31						
H04N1	CROZET ISLANDS	58.29	221	T	T	01 31 08.2	
	baz=70,slow=75,SNR=34						
H04N3	CROZET ISLANDS	58.30	221	T	T	01 31 06.3	
	baz=70,slow=75,SNR=34						

DJA 13 00:36:02.5±0.4, 7°S±10°×11°7E±°, h289km±8km, M3.9/16, mb3.8/6, MLv3.9/16, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.26	180	P	Pn	00 36 43.2	+0.1
PLAI	Plampang	1.61	147	P	Pn	00 36 45.5	+0.1
SRBI	Singaraja	1.77	250	P	Pn	00 36 46.8	+0.3
DNP	Denpasar	2.05	234	P	Pn	00 36 49.1	+0.4
JAGI	Jajag, Banyuwa	2.89	250	P	Pn	00 36 56.2	-0.2
WBSI	Waikabubak, Su	3.28	131	P	Pn	00 37 00.1	-0.4
BASI	Baing, Sumba	4.55	127	P	Pn	00 37 14.7	+0.2
EDFI	Ende, Flores	4.92	105	P	Pn	00 37 18.8	0.0
MMRI	Maumere	5.42	103	P	Pn	00 37 25.2	+0.6
	0.1nm25nm,0.7s						
PCJI	Pacitan	5.71	262	P	Pn	00 37 27.2	-0.8
	0.2nm41nm,0.5s						
UGM	Wanagama	6.33	266	P	Pn	00 37 34.6	-1.0
	0.2nm33nm,1.6s						
SOEI	Soe	7.64	108	P	Pn	00 37 51.6	-0.1
	0.1nm15nm,1.4s						
KPJI	Karang Pucung	7.89	270	P	Pn	00 37 55.3	+0.5

DJA 13 00:44:42.5±0.3, 3°S±4°×12°7E±°, h27km±4km, M3.6/11, mb3.9/3, MLv3.4/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.29	272	P	Pb	00 44 50.1	+0.6
NLAI				S	Sn	00 44 57.6	+1.2
AAI	Ambon	0.91	118	P	Pn	00 44 58.6	-1.0
AAI				S	Sb	00 45 10.9	-0.6
MSAI	Masohi	1.54	94	P	Pn	00 45 08.2	0.0
MSAI				S	Sn	00 45 26.9	-0.4
SANI	Sanana	1.84	310	P	Pn	00 45 09.5	-2.8
SANI				S	Sn	00 45 31.0	-3.7
SWI	Sorong	4.54	59	P	Pn	00 45 49.9	+0.5
KDI	Kendari	4.81	261	P	Pn	00 45 56.5	+3.2
FAKI	Fak Fak	4.86	86	P	Pn	00 45 54.7	+0.7
LUWI	Luwuk	5.11	295	P	Pn	00 46 00.5	+3.2
	0.1nm11nm,0.7s						
APSI	Ampana	6.19	292	P	Pn	00 46 12.8	+0.6

*DJA **13** 00:52:55.0±2.8, 3°S±6°×13°9E±°, h28km±36km, M3.4/5, MLv3.4/5*
*IDC **13** 00:53:00.0±1.5, 2°.57S×139°.72E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=31.1km s-min=18.6km az=172.0*

ISC 13 00:53:02.1±1.0, 2°.5S±0°.2×139°.68E±0°.08, h27km, n10, σ1§94/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.51	107	P	Pb	00 53 12.2	-0.3
JAY	Jayapura	1.02	94	Pg	Pn	00 53 19.0	-1.7
	3.3nm,0.3s,baz=229,slow=20,SNR=12						
JAY				Lg	Lg	00 53 24.0	
	5.8nm,0.3s,baz=163,slow=17,SNR=14						
JAY	Jayapura	1.02	94	P	Pn	00 53 19.3	-1.4
JAY				S	Sn	00 53 23.9	-10
SMPI	Sarmi	1.07	295	P	Pn	00 53 19.4	-1.9
SMPI				S	Sb	00 53 34.6	-1.0
WAMI	Wamena	1.73	214	P	Pn	00 53 13.9	-16
SRPI	Serui, Papua	3.49	279	P	Pn	00 53 46.7	-7.9
BAKI	Biak	3.78	289	P	Pn	00 53 51.3	-7.3
WRA	Warramunga Arr	18.16	196	P	P	00 57 12.3	-0.2
	0.2nm,0.3s,baz=21,slow=12,SNR=2.3						
	0.3nm,0.3s						
ASAR	Alice Springs	21.82	194	P	P	00 57 53.2	+0.7
	0.4nm,0.6s,baz=16,slow=11,SNR=6.3						
	0.4nm,0.6s						
MKAR	Makanchi Array	70.18	322	P	P	01 04 15.4	+3.0
	0.5nm,0.6s,baz=108,slow=7.9,SNR=5.9						
	0.5nm,0.6s						

*NNC **13** 01:02:32.3±1.6, 37°.14N×72°.02E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=14.0km s-min=11.3km az=36.0*
*MOS **13** 01:02:40.6±0.7, 37°.32N×72°.23E, h237km, mb4.4/4, Error ellipse: s-maj=11.8km s-min=6.2km az=79.1*
*NEIC **13** 01:02:41.7±1.5, 37°.32N±0°.07×72°.2E±0°.1, h234km±5km, mb4.5/9, Error ellipse: s-maj=11.8km s-min=10.2km az=91.0*
*IDC **13** 01:02:42.9±2.0, 37°.36N×72°.24E, h248km±23km, mb3.3/5, mbtmp4.1/10, Error ellipse: s-maj=19.0km s-min=12.7km az=130.0*

ISC 13 01:02:42.3±0.5, 37°.27N±0°.05×72°.24E±0°.05, h250km, n90, σ2§18/92, mb4.3/14, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.30	319		Pn	01 03 25.1	-2.5
CHGR	Chuyangaron	2.80	301		Pn	01 03 30.1	-2.6
CHGR	Chuyangaron	2.80	301	PN	Pn	01 03 30.1	-2.6
KSH	Kashi	3.69	51	Pn	Pn	01 03 35.9	-6.7
KSH				Sn	S	01 04 16.1	-14
KSH				smax	smax		
	comp=N,190nm,0.4s						
KSH				smax	smax		
	comp=E,190nm,0.6s						
NIL	Nilore	3.71	167		Pn	01 03 41.9	-0.9
NIL	Nilore	3.71	167	PN	Pn	01 03 41.9	-0.9
KBL	Kabul	3.76	225		Pn	01 03 41.5	-2.1
KBL	Kabul	3.76	225	PN	Pn	01 03 41.5	-2.1
JMU	Jammu	5.04	154	⇓eP	Pn	01 03 55.5	-3.2
JMU				eS	S	01 04 46.5	-13
JMU				IAML		01 04 55.5	
	comp=E,498nm,0.8s						
JMU				IAML		01 05 02.1	
	comp=N,500nm,0.4s						
ALCI	Alchi Leh	5.05	126	eP	Pn	01 03 55.1	-4.0
ALCI				eS	S	01 04 48.3	-12
ALCI				IAML		01 04 57.8	
	comp=N,402nm,0.5s						
ALCI				IAML		01 04 59.4	
	comp=E,351nm,0.3s						
IUG	Iuzhnay	5.16	341	ePN	Pn	01 03 58.6	-1.4
UCH	Uchtor	5.25	19	P	Pn	01 03 59.6	-1.9
	SNR=149						
TSSA	Tissa	5.46	143	eP	Pn	01 03 59.1	-5.0
TSSA				eS	S	01 04 59.0	-10
TSSA				IAML		01 05 07.4	
	comp=N,572nm,0.8s						
TSSA				IAML		01 05 11.9	
	comp=E,411nm,0.5s						
EKS2	Erkin-Say	5.51	12	P	Pn	01 04 02.9	-1.5
	SNR=64						
MRKS	Merke	5.52	8	Pg	Pn	01 04 02.8	-1.7
	comp=E,89nm,0.5s						
MRKS				Lg	Lg	01 05 02.5	
	comp=E,177nm,0.5s						
AAK	Ala-Archa	5.63	17	P	Pn	01 04 04.8	-1.1
	comp=E,44nm,0.3s,baz=191,slow=6.2,SNR=160						
AAK				S	S	01 05 08.6	-4.0
	comp=E,19nm,0.3s,baz=136,slow=23,SNR=12						
AAK	Ala-Archa	5.63	17	P	Pn	01 04 04.6	-1.3
	SNR=78						
AAK	Ala-Archa	5.63	17	⇓Pn	Pn	01 04 00.8	-5.1
	comp=E,41nm,0.8s						
AAK				⇓Sn	S	01 05 08.7	-4.0
	comp=E,18nm,0.6s						
AAK	Ala-Archa	5.63	17	i PN	Pn	01 04 04.3	-1.6
DZA	Taraz	5.66	353	Pg	Pn	01 04 05.1	-1.0
	comp=E,47nm,0.2s						
DZA				Lg	Lg	01 05 06.6	
	comp=E,392nm,0.6s						
KBK	Karagaybulak	5.77	20	P	Pn	01 04 06.8	-0.8
	SNR=35						
FRU1	Bishkek	5.83	18		Pn	01 04 07.5	-0.7
FRU1	Bishkek	5.83	18	PN	Pn	01 04 07.5	-0.7
ULHL	Ulahol	5.85	31	P	Pn	01 04 06.9	-1.7
	SNR=75						
BOOM	Boomskoye usch	5.94	27		Pn	01 04 08.6	-1.1
BOOM	Boomskoye usch	5.94	27	PN	Pn	01 04 08.6	-1.1
KK31	Karatay Array	5.97	348	Pn	Pn	01 04 03.5	-6.5
	comp=E,2.3nm,0.3s,baz=161,slow=12,SNR=74						
KK31				⇑Sn	S	01 05 14.4	-5.8
	comp=E,72nm,0.4s,baz=168,slow=23						
KK31	Karatay Array	5.97	348	PN	Pn	01 04 03.5	-6.5
KK31				S	S	01 05 14.4	-5.8
KKAR	Karatay Array	5.97	348		Pn	01 04 08.5	-1.5
KKAR	Karatay Array	5.97	348	PN	Pn	01 04 08.5	-1.5
DHRM	DHARAMSHALA	6.02	145	eP	Pn	01 04 05.2	-5.8
DHRM				eS	S	01 05 10.3	-12
DHRM				IAML		01 05 18.6	
	comp=E,495nm,0.7s						
DHRM				IAML		01 05 20.0	
	comp=N,514nm,0.7s						
CHMS	Chumysh	6.04	18	P	Pn	01 04 09.8	-0.9
	SNR=22						
KDJ	Kajisay	6.17	37		Pn	01 04 11.1	-1.5
KDJ	Kajisay	6.17	37	PN	Pn	01 04 11.1	-1.5
TARG	Taragay, Kyrgy	6.19	42		Pn	01 04 10.8	-2.3
TARG	Taragay, Kyrgy	6.19	42	PN	Pn	01 04 10.8	-2.3
TKM2	Tokmak 2	6.20	23	P	Pn	01 04 11.9	-1.1
	SNR=18						
USP	Ospenovka	6.23	15	P	Pn	01 04 12.6	-0.7
	SNR=20						
KST	Kastek	6.43	25	Pg	Pn	01 04 14.8	-1.0
	comp=N,58nm,0.7s						
KST				Lg	Lg	01 05 24.1	
	comp=N,34nm,1.1s						
MTBS	Maitube	6.67	27	Pg	Pn	01 04 17.6	-1.2
	comp=N,22nm,0.5s						
MTBS				Lg	Lg	01 05 29.2	
	comp=N,11nm,0.4s						
SMLA	Simla	7.36	145	eP	Pn	01 04 24.2	-3.3
SMLA				eS	S	01 05 39.6	-12
SMLA				IAML		01 05 49.9	
	comp=N,342nm,0.6s						
SMLA				IAML		01 05 50.1	
	comp=E,258nm,0.4s						
KLP	Kalpa	7.58	137	eP	Pn	01 04 25.9	-4.7
KLP				eS	S	01 05 45.1	-12
KLP				IAML		01 05 54.1	
	comp=N,264nm,0.5s						
KLP				IAML		01 05 56.3	
	comp=E,449nm,0.7s						
ARXS	Arharly	8.13	30	ePN	Pn	01 04 34.0	-3.1
PDGK	Podgornoye	8.20	40	⇓P	Pn	01 04 36.1	-2.1
	comp=E,5.7nm,0.6s						
PDGK	Podgornoye	8.20	40	PN	Pn	01 04 36.8	-1.3
HRA	Herat	8.61	253		Pn	01 04 42.1	-1.4
MAKZ	Makanchi	11.96	34		Pn	01 05 23.7	-1.5
MAKZ	Makanchi	11.96	34	⇑P	Pn	01 05 25.5	+0.3
	comp=E,7.5nm,0.5s						
MAKZ	Makanchi	11.96	34	P	Pn	01 05 23.7	-1.5
MK31	Makanchi Array	12.09	35	P	P	01 05 28.4	-1.3
	comp=E,2.2nm,0.5s,baz=216,slow=12,SNR=24						
MK31	Makanchi Array	12.09	35	i P	Pn	01 05 25.0	-1.8
MKAR	Makanchi Array	12.09	35		Pn	01 05 25.4	-1.4
MKAR	Makanchi Array	12.09	35	P	Pn	01 05 25.6	-1.2
	comp=E,3.1nm,0.5s,baz=218,slow=13,SNR=33						
MKAR				S	S	01 07 46.1	+4.7
	comp=E,0.4nm,0.8s,baz=253,slow=31,SNR=1.7						
WMQ	Urumqi	13.44	56	eP	P	01 05 45.5	+0.7
KURBB	Kurchatov Arra	14.09	17	P	Pn	01 05 49.5	-1.8
	comp=E,1.5nm,0.4s,baz=207,slow=11,SNR=27						
KURBB	Kurchatov Arra	14.09	17	⇑P	P	01 05 55.3	+3.5
	comp=E,4.1nm,0.5s						
KURBB	Kurchatov Arra	14.09	17	P	P	01 05 55.3	+3.5
KURK	Kurchatov	14.19	17		Pn	01 05 50.9	-1.7
KURK	Kurchatov	14.19	17	⇑P	P	01 05 56.2	+3.3
	comp=E,1.6nm,1.1s						
KURK	Kurchatov	14.19	17	i P	Pn	01 05 50.6	-1.9
AB31	Akbulak array	14.93	327	P	Pn	01 06 04.0	+2.6
	comp=E,0.8nm,0.5s,baz=132,slow=13,SNR=30						
AB31	Akbulak array	14.93	327	P	Pn	01 06 04.1	+2.6
BORK	Borovoye	15.83	356	i P	Pn	01 06 11.2	-1.0
AKTO	Aktyubinsk	16.64	327	P	Pn	01 06 20.2	-1.6
	comp=E,1.5nm,0.4s,baz=147,slow=7.5,SNR=4.7						
WSAR	Wadi Sarin	18.24	224	P	P	01 06 38.6	+1.1
	comp=E,0.1nm,0.6s,baz=75,slow=24,SNR=14						
ZALV	Zalesovo Beam	18.81	24	P	P	01 06 43.6	+0.3
	comp=E,3.6nm,0.3s,baz=221,slow=11,SNR=29						
ZALV				S	S	01 10 02.1	-1.4
	comp=E,1.1nm,0.4s,baz=211,slow=18,SNR=2.6						
AKT	Akhty	19.39	290	eP	P	01 06 49.6	-0.2
AKT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SHL	Shillong	20.38	119	P	P	01 07 00.9	+0.3
SHL	Shillong	20.38	119	P	P	01 07 00.9	+0.3
SHL				pmax	pmax		
	comp=Z,13nm,0.4s						
ARTI	Arti	21.27	338	i P	P	01 07 08.6	-0.6
ARTI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
LZH	Lanzhou	25.32	83	eP	P	01 07 50.5	+4.0
LZH				sP	PP	01 08 52.4	+3.3
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM	Songino Array	27.08	56	P	P	01 08 03.6	+1.5
	comp=Z,1.0nm,0.5s,baz=253,slow=10,SNR=4.9						
	comp=Z,1.0nm,0.5s						
PZH	PanZhiHua	27.15	105	P	P	01 08 05.0	+2.1
BTO	Baotou	29.43	72	eP	P	01 08 21.0	-1.9
BTO				pP	pP	01 09 04.8	-8.6
BTO				sP	PP	01 09 30.1	-4.6
BTO				S	S	01 12 57.6	-0.5
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,690nm,5.1s						
BTO				LR	LR		
	comp=N,680nm,7.1s						
BTO				LR	LR		
	comp=E,1μm,6.0s						
BTO				LR	LR		
	comp=Z,670nm,7.1s						
CMAR	Chiang Mai Arr	29.98	121	P	P	01 08 28.9	+1.1
	comp=Z,1.0nm,0.3s,baz=326,slow=8.2,SNR=4.5						
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	30.02	318	eP	P	01 08 28.0	+0.3
OBN				e*PP	pP	01 09 14.8	-3.0
OBN				e		01 11 24.7	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	Keskin Array B	30.16	287	P	P	01 08 30.9	+1.5
	comp=Z,0.7nm,0.7s,baz=104,slow=11,SNR=5.9						
	comp=Z,0.7nm,0.7s						
KLMR	Klimovskoe	31.31	329	eP	P	01 08 35.4	-3.6
KLMR				pmax	pmax		
	comp=Z,20nm,1.6s						
BURAR	Bucovina Array	35.71	302	P	P	01 09 18.5	+1.3
BURAR	Bucovina Array	35.71	302	P	P	01 09 18.5	+1.3
NJ2	Nanjing	38.39	84	eP	P	01 09 40.4	+0.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZEA	Zeya	40.81	48	eP	P	01 10 00.8	+1.5
ARCES	ARCESS Array B	40.82	337	P	P	01 10 00.4	+1.2
	comp=Z,3.7nm,1.1s,baz=112,slow=8.2,SNR=3.8						
	comp=Z,3.7nm,1.1s						
GSI	Gunungsitoli	42.74	141	P	P	01 10 16.9	+1.6
GSI				IAmb	IAmb	01 10 17.0	
	comp=Z,26nm,1.1s						
CUC	Castrocucco	43.54	292	P	P	01 10 22.9	+1.4
TORD	Torodi Ar. Bea	66.73	269	P	P	01 13 05.9	-1.1
	comp=Z,0.3nm,0.4s,baz=49,slow=6.7,SNR=4.1						
	comp=Z,0.3nm,0.4s						
C19K	Lookout Ridge	67.29	18	P	P	01 13 10.9	+1.1
C19K				IAmb	IAmb	01 13 46.0	
	comp=Z,24nm,1.4s						
D19K	Kuna River	68.11	18	P	P	01 13 15.6	+0.8
D19K				IAmb	IAmb	01 13 51.9	
	comp=Z,16nm,1.4s						
IMAR	Indian Mountai	71.14	18	P	P	01 13 33.6	+0.4
I28M	Miner Creek	74.59	13	P	P	01 13 54.1	+0.5
I28M				IAmb	IAmb	01 14 17.0	
	comp=Z,7.0nm,1.4s						

*SOME **13** 01:14:02.7, 42°.95N×77°.02E, h5km*

NNC 13 01:14:02.6±0.4, 42°.94N×77°.09E, h0km, mb2.5, mpv2.6, 1C-1D, Error ellipse: s-maj=3.5km s-min=1.5km az=28.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	0.14	313	P	Pg	01 14 05.5	+0.1
	8.5nm,0.1s						
TNSS				S	Sg	01 14 07.7	+0.4
	13nm,0.1s						
TNSS	Tian-Shan	0.14	313	eP	Pg	01 14 05.5	+0.1
	8.5nm,0.1s						
TNSS				eS	Sg	01 14 07.7	+0.4
	13nm,0.1s						
MDOK	Medeo	0.23	352	Pg	Pg	01 14 07.1	+0.1
	7.5nm,0.1s						
MDOK				Lg	Lg	01 14 10.3	
	8.0nm,0.4s						
KOTS	Kotyrbulak	0.29	3	P	Pg	01 14 08.6	+0.4
	6.1nm,0.1s						
KOTS				S	Sg	01 14 12.7	+0.6
	16nm,0.2s						
KOTS	Kotyrbulak	0.29	3	eP	Pg	01 14 08.7	+0.4
	6.1nm,0.1s						
KOTS				eS	Sg	01 14 12.8	+0.6
	16nm,0.2s						
PDGK	Podgornoye	1.80	77	⇓Pn	Pn	01 14 35.2	+0.2
	1.9nm,0.9s						
PDGK				⇑Sn	Sb	01 14 59.3	-0.3
	0.8nm,0.3s						

KRNET 13 01:14:03.7±0.1, 41°.41N×76°.18E, h19km, mb2.2, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.83	3	⇑iP	Pb	01 14 19.5	-0.2
ULHL				⇑iS	Sg	01 14 31.3	+0.1
KDJ	Kajisay	1.03	46	⇑eP	Pb	01 14 23.2	+0.1
KDJ				⇑iS	Sn	01 14 37.4	0.0
BOOM	Boomskoye usch	1.09	350	⇑eP	Pn	01 14 24.3	+0.1
BOOM				⇑eS	Sg	01 14 39.3	0.0
TARG	Taragay, Kyrgy	1.26	75	⇓eP	Pb	01 14 27.1	0.0
TARG				⇓iS	Sg	01 14 44.2	-0.4
TKM2	Tokmak 2	1.57	344	⇑iP	Pb	01 14 32.6	+0.3
TKM2				⇑iS	Sg	01 14 53.6	-0.9

NEIC 13 01:55:38.8±0.6, 39°.42N±0°.02×108°.73W±0°.01, h2km±6km, ML2.7/72, Error ellipse: s-maj=2.5km s-min=0.6km az=154.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20A	White River Ci	0.80	27		Pg	01 55 54.4	+0.2
O20A				IAML		01 56 13.5	
	220nm,0.8s						
PV21	Cone Mtn., Par	0.88	193		Pg	01 55 55.8	+0.1
PV21				IAML		01 56 11.2	
	comp=N,251nm,0.3s						
PV21				IAML		01 56 11.4	
	comp=E,188nm,0.4s						
PV22	Blue Mesa, Par	0.89	183		Pg	01 55 55.7	-0.1
PV22				IAML		01 56 08.6	
	comp=E,250nm,0.5s						
PV22				IAML		01 56 09.3	
	comp=N,181nm,0.4s						
PV07	Paradox Valley	0.98	176		Pg	01 55 57.3	-0.3
PV07				IAML		01 56 10.7	
	comp=E,245nm,0.2s						
PV07				IAML		01 56 11.3	
	comp=N,216nm,0.4s						
PV23	Carpenter Ridg	0.99	193		Pg	01 55 58.2	+0.3
PV23				IAML		01 56 14.2	
	comp=N,234nm,0.6s						
PV04	Paradox Valley	1.04	188		Pg	01 55 58.9	+0.2
PV04				IAML		01 56 13.9	
	comp=N,290nm,0.5s						
PV04				IAML		01 56 15.2	
	comp=E,220nm,0.4s						
PV10	Paradox Valley	1.07	193		Pn	01 56 01.0	0.0
PV14	Lion Creek, Pa	1.07	193		Pg	01 55 59.7	+0.3
PV15	Paradox Valley	1.10	170		Pg	01 55 59.5	-0.3
PV15				IAML		01 56 15.7	
	comp=N,159nm,0.5s						
PV20	West Nyswonger	1.10	190		Pg	01 55 59.9	+0.1
PV12	Saucer Basin,	1.10	183		Pg	01 56 00.1	+0.1
PV12				IAML		01 56 18.4	
	comp=E,279nm,0.8s						
PV16	Nyswonger Mesa	1.12	188		Pg	01 56 00.6	+0.3
PV16				IAML		01 56 17.6	
	comp=E,199nm,0.4s						
PV16				IAML		01 56 20.2	
	comp=N,219nm,0.6s						
PV11	David Mesa, Pa	1.13	186		Pb	01 56 00.8	-0.3
PV19	Morning Glory	1.13	190		Pg	01 56 00.5	+0.1
PV19				IAML		01 56 18.3	
	comp=E,156nm,0.2s						
PV19				IAML		01 56 22.9	
	comp=N,165nm,0.2s						
PV17	East Wray Mesa	1.16	189		Pg	01 56 01.0	+0.1
PV18	Skein Mesa, Pa	1.18	187		Pg	01 56 01.5	+0.1
PV18				IAML		01 56 20.3	
	comp=N,153nm,0.2s						
PV18				IAML		01 56 20.6	
	comp=E,244nm,0.5s						
P18A	Preston Nutter	1.19	280		Pg	01 56 01.6	-0.1
P18A				IAML		01 56 23.0	
	comp=E,231nm,0.2s						
P18A				IAML		01 56 23.1	
	comp=N,148nm,0.2s						
RDMU	Red Mountain	1.32	331		Pg	01 56 03.5	-0.6
SRU	San Rafael Swe	1.43	258		Pn	01 56 05.7	-0.3
SRU				IAML		01 56 27.9	
	comp=E,112nm,0.3s						
SRU				IAML		01 56 28.1	
	comp=N,85nm,0.2s						
HAYD	Hayden	1.57	45		Pn	01 56 08.2	+0.3
BSUT	Blindstream Ca	1.92	306		Pb	01 56 14.3	-0.5
BSUT				IAML		01 56 42.3	
	comp=E,45nm,0.3s						
TMUT	Trail Mountain	1.93	267		Pb	01 56 14.4	-0.4
TMUT				IAML		01 56 41.7	
	comp=E,104nm,0.5s						
Q16A	Castle Valley	1.97	256		Pb	01 56 14.6	-0.9
Q16A				IAML		01 56 41.5	
	comp=E,79nm,0.4s						
HMU	Henry Mountain	2.17	227		Pn	01 56 17.1	+1.0
MVCO	Mesa Verde	2.22	175		Pb	01 56 19.9	+0.2
MPU	Maple Canyon	2.32	286		Pn	01 56 19.7	+1.5
JLU	Jordanelle	2.40	300		Pb	01 56 22.9	0.0
JLU				IAML		01 56 56.6	
	comp=E,56nm,0.4s						
ISCO	Idaho Springs	2.43	80		Pb	01 56 22.4	-1.1
BW06	Boulder Array	3.40	350		Pn	01 56 34.3	+1.2
PDAR	Pinedale Array	3.40	350		Pn	01 56 33.6	+0.5
SNOW	Snow King Moun	4.32	340		Pn	01 56 46.8	+1.1
TPAW	Teton Pass	4.39	338		Pn	01 56 48.0	+1.3
TPAW				IAML		01 58 01.7	
	comp=E,12nm,0.7s						
LOHW	Long Hollow	4.42	342	IAML		01 58 04.9	
	comp=E,9.5nm,0.5s						
LOHW				IAML		01 58 05.6	
	comp=E,7.6nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.96**	**306**	*eS*	**Sn**	**02 14 14.4**	**-0.2**
JHCJ	**Hachijojimakas**	**1.39**	**328**	*eP*	**Pn**	**02 14 08.2**	**+0.6**
JHCJ				S	**Sn**	**02 14 22.8**	**-2.1**
JHJ2	**Mitsune**	**1.41**	**329**	*eP*	**Pn**	**02 14 08.6**	**+0.7**
JHJ2				*eS*	**Sn**	**02 14 23.0**	**-2.4**
JHJ	**Hachijo jima 2**	**1.44**	**328**	P	**Pn**	**02 14 08.6**	**+0.4**
	92nm,0.3s,baz=84,slow=21,SNR=14						
JHJ				S	**Sn**	**02 14 23.2**	**-2.7**
	199nm,0.3s,baz=330,slow=23,SNR=13						
JMYK	**Miyake Tsubota**	**2.36**	**336**	*eS*	**Sn**	**02 14 48.0**	**-0.5**
BSO1	**Boso 1**	**2.76**	**5**	P	**Pn**	**02 14 27.1**	**+1.3**
BSO1				*eS*	**Sn**	**02 14 56.7**	**-0.9**
BSO3	**Boso 3**	**2.90**	**357**	P	**Pn**	**02 14 29.2**	**+1.3**
BSO3				S	**Sn**	**02 14 59.8**	**-1.7**
JIM2	**Oshima 3**	**3.00**	**340**	*eS*	**Sn**	**02 15 03.6**	**-0.7**
BSO4	**Boso 4**	**3.10**	**355**	*eP*	**Pn**	**02 14 32.5**	**+1.7**
BSO4				*eS*	**Sn**	**02 15 05.8**	**-0.7**
JIZS	**Izushimoda**	**3.19**	**332**	*eP*	**Pn**	**02 14 34.2**	**+2.0**
TK02	**Tokai 2**	**3.20**	**310**	*eP*	**Pn**	**02 14 34.2**	**+2.1**
MJAR	**Matsushiro Arr**	**5.06**	**337**	P	**Pn**	**02 15 00.4**	**+2.5**
	1.4nm,0.3s,baz=171,slow=9.6,SNR=8.2						
MJAR				S	**Sn**	**02 15 57.6**	**+2.5**
	1.1nm,0.4s,baz=290,slow=27,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**26.45**	**111**	T	T	02 48 20.5	
	baz=304,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**26.46**	**111**	T	T	02 48 14.0	
	baz=304,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**26.47**	**111**	T	T	02 48 14.5	
	baz=304,slow=75,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**26.97**	**113**	T	T	02 48 30.3	
	baz=304,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.97**	**113**	T	T	02 48 01.0	
	baz=304,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**26.98**	**113**	T	T	02 48 31.5	
	baz=304,slow=75,SNR=7.7						
PMG	**Port Moresby**	**41.54**	**170**	LR	LR	02 38 45.6	
	comp=Z,64nm,18.1s,baz=186,slow=36						
KURBB	**Kurchatov Arra**	**48.82**	**312**	P	**P**	**02 22 23.2**	**-1.0**
	0.2nm,0.5s,baz=88,slow=6.8,SNR=2.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**51.90**	**188**	P	**P**	**02 22 47.5**	**-0.3**
	0.4nm,0.4s,baz=1.7,slow=7.6,SNR=7.0						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**73.08**	**333**	P	**P**	**02 25 09.0**	**+0.3**
	1.9nm,1.0s,baz=62,slow=5.5,SNR=3.4						
	1.9nm,1.0s						
NOA	**NORSAR Array B**	**78.68**	**337**	P	**P**	**02 25 40.4**	**-0.3**
	0.3nm,0.8s,baz=32,slow=3.9,SNR=1.4						
	0.3nm,0.8s						

CNRM ***13*** *02:45:15.8, 33.°76N×13.°38W, h53km, ML3.3*
IGIL ***13*** *02:45:16.4, 33.°81N×13.°41W, h16km, ML2.4*
MDD ***13*** *02:45:16.3±0.2, 33.°65N×13.°22W, h33km, Mb4.4/11, M_mb3.8/12, Error ellipse: s-maj=5.7km s-min=1.5km az=132.0*
INMG ***13*** *02:45:19.7±1.8, 33.°73N×13.°34W, h21km, ML2.6, Error ellipse: s-maj=5.1km s-min=1.3km az=125.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Porto Santo (Madeira)*

ISC 13 02:45:11.8±0.9, 33.°78N±0.°04×13.°46W±0.°05, h35km, n119, σ3§18/153, 9C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**2.51**	**255**	*eP*	Pn	02 45 56.0	+6.0
PMPST				*eS*	**Sn**	**02 46 22.9**	**+3.5**
PMPST				*i* IAML		02 46 28.4	
PMPST				*i* IAML		02 46 28.7	
PMPST				*i* IAML		02 46 28.7	
PMAR	**Madeira**	**3.08**	**251**	*eP*	Pn	02 46 04.2	+6.1
PMAR				*eS*	**Sn**	**02 46 36.7**	**+2.8**
PMAR				*i* IAML		02 46 43.8	
PMAR				*i* IAML		02 46 44.0	
PMAR				*i* IAML		02 46 44.6	
PMAR	**Madeira**	**3.08**	**251**	P	Pn	02 46 03.2	+5.1
PMAR	**Madeira**	**3.08**	**251**	S	**Sn**	**02 46 39.5**	**+5.6**
FUL	**Funchal**	**3.10**	**250**	*eP*	Pn	02 46 05.3	+7.2
FUL				*eS*	**Sn**	**02 46 36.0**	**+2.2**
FUL				*i* IAML		02 46 41.5	
FUL				*i* IAML		02 46 43.0	
FUL				*i* IAML		02 46 43.7	
PMOZ	**Porto Moniz, M**	**3.28**	**254**	S	**Sn**	**02 46 42.0**	**+3.5**
PMOZ				P	Pn	02 46 05.8	+5.1
PMOZ	**Porto Moniz, M**	**3.28**	**254**	*eP*	Pn	02 46 07.8	+7.1
PMOZ	**Porto Moniz, M**	**3.28**	**254**	P	Pn	02 46 04.8	+4.0
PMOZ	**Porto Moniz, M**	**3.28**	**254**	S	**Sn**	**02 46 43.0**	**+4.5**
SRHM	**Skhour des Reh**	**4.84**	**104**	P	**Pn**	**02 46 25.4**	**+3.2**
SRHM	**Skhour des Reh**	**4.84**	**104**	S	**Sn**	**02 47 18.9**	**+1.8**
PFVI	**Vila Bisbo**	**5.04**	**47**	P	**Pn**	**02 46 28.2**	**+3.3**
PFVI				S	**Sn**	**02 47 21.8**	**-0.2**
PFVI	**Vila Bisbo**	**5.04**	**47**	*eP*	**Pn**	**02 46 29.0**	**+4.1**
PFVI				*eS*	**Sn**	**02 47 20.2**	**-1.8**
PFVI				*i* IAML		02 47 23.0	
PFVI				*i* IAML		02 47 24.2	
PFVI				*i* IAML		02 47 24.3	
PFVI	**Vila Bisbo**	**5.04**	**47**	P	**Pn**	**02 46 28.6**	**+3.7**
PFVI	**Vila Bisbo**	**5.04**	**47**	S	**Sn**	**02 47 25.8**	**+3.9**
MORF	**Marmelete**	**5.26**	**47**	*eP*	**Pn**	**02 46 32.0**	**+4.1**
MORF				*eS*	**Sn**	**02 47 26.8**	**-0.6**
MORF				IAML		02 47 29.8	
	comp=N,12nm,0.3s						
MORF	**Marmelete**	**5.26**	**47**	*eP*	**Pn**	**02 46 32.0**	**+4.1**
MORF				*i* IAML		02 47 30.3	
MORF				*i* IAML		02 47 30.5	
MORF				*i* IAML		02 47 31.9	
TTIG	**Tnine Tigouga,**	**5.34**	**126**	P	**Pn**	**02 46 31.4**	**+2.3**
TTIG	**Tnine Tigouga,**	**5.34**	**126**	S	**Sn**	**02 47 31.9**	**+2.5**
CFTV	**Fuerteventura**	**5.38**	**186**	S	**Sn**	**02 47 27.7**	**-2.6**
PTEO	**Sao Teotonio**	**5.38**	**44**	*eP*	**Pn**	**02 46 33.6**	**+4.1**
PTEO				*eS*	**Sn**	**02 47 29.1**	**-1.1**
PTEO				*i* IAML		02 47 32.3	
PTEO				*i* IAML		02 47 35.4	
PBDV	**Barranco-do-Ve**	**5.68**	**51**	*eP*	**Pn**	**02 46 37.8**	**+4.2**
PBDV				*eS*	**Sn**	**02 47 36.4**	**-1.2**
PBDV				*i* IAML		02 47 40.6	
PBDV				*i* IAML		02 47 40.7	
PBDV				*i* IAML		02 47 42.6	
ZHG	**ZHG**	**5.69**	**91**	P	**Pn**	**02 46 35.8**	**+1.9**
ZHG	**ZHG**	**5.69**	**91**	S	**Sn**	**02 47 38.8**	**+0.7**
PCVE	**Castro Verde**	**5.84**	**47**	P	**Pn**	**02 46 40.2**	**+4.3**
PCVE				S	**Sn**	**02 47 40.9**	**-0.7**
PCVE	**Castro Verde**	**5.84**	**47**	*eP*	**Pn**	**02 46 40.4**	**+4.5**
PCVE				*eS*	**Sn**	**02 47 40.6**	**-1.1**
PCVE				*i* IAML		02 47 42.9	
PCVE				*i* IAML		02 47 43.3	
PCVE				*i* IAML		02 47 44.8	
MESJ	**Messejana**	**5.87**	**45**	*eP*	**Pn**	**02 46 40.1**	**+3.9**
MESJ				*eS*	**Sn**	**02 47 41.2**	**-1.2**
MESJ				IAML		02 47 44.8	
	comp=N,2.1nm,0.1s						
MESJ	**Messejana**	**5.87**	**45**	*eP*	**Pn**	**02 46 40.2**	**+3.9**
MESJ				*eS*	**Sn**	**02 47 41.7**	**-0.6**
MESJ				*i* IAML		02 47 45.3	
MESJ				*i* IAML		02 47 47.1	
MESJ				*i* IAML		02 47 47.3	
PVAQ	**Vaqueiros**	**5.91**	**51**	*eP*	**Pn**	**02 46 40.9**	**+4.1**
PVAQ				*eS*	**Sn**	**02 47 40.9**	**-2.3**
PVAQ				*i* IAML		02 47 45.0	
PVAQ				*i* IAML		02 47 45.5	
PVAQ				*i* IAML		02 47 46.2	
PVAQ	**Vaqueiros**	**5.91**	**51**	P	**Pn**	**02 46 40.1**	**+3.3**
PVAQ	**Vaqueiros**	**5.91**	**51**	S	**Sn**	**02 47 46.7**	**+3.4**
TIO	**Tiouine**	**5.96**	**117**	P	Pn	02 46 42.9	+5.2
TIO				S	**Sn**	**02 47 44.7**	**-0.2**
TIO	**Tiouine**	**5.96**	**117**	P	**Pn**	**02 46 40.7**	**+3.0**
TIO	**Tiouine**	**5.96**	**117**	S	**Sn**	**02 47 47.2**	**+2.4**
CGUI	**Guimar, Teneri**	**6.01**	**206**	S	**Sn**	**02 47 44.8**	**-1.2**
CFOR	**Fortaleza, Los**	**6.08**	**207**	S	**Sn**	**02 47 46.2**	**-1.6**
CDIE	**La Orotava (Te**	**6.09**	**207**	S	**Sn**	**02 47 47.1**	**-1.0**
CNOR	**Icod de los Vi**	**6.11**	**208**	S	**Sn**	**02 47 47.6**	**-0.8**
CRAJ	**Montana Rajada**	**6.12**	**207**	S	**Sn**	**02 47 47.9**	**-1.1**
EGRO	**El Granado**	**6.13**	**51**	P	**Pn**	**02 46 44.2**	**+4.3**
EGRO				S	**Sn**	**02 47 47.2**	**-1.6**
EGRO	**El Granado**	**6.13**	**51**	P	**Pn**	**02 46 42.9**	**+3.1**
EGRO				⇑*i*IVmb_VC		02 46 48.5	
	comp=N,224nm,SNR=2.5						
EGRO				S	**Sn**	**02 47 46.3**	**-2.5**
CDOS	**Garachico, Isl**	**6.15**	**208**	S	**Sn**	**02 47 48.2**	**-1.4**
PARRA	**Arraiolos**	**6.16**	**34**	*eP*	Pn	02 46 51.4	+11
PARRA				*eS*	Sn	02 48 00.2	+11
PARRA				*i* IAML		02 48 01.5	
PARRA				*i* IAML		02 48 02.0	
PARRA				*i* IAML		02 48 02.6	
PMAFR	**Mafra**	**6.16**	**32**	S	**Sn**	**02 47 48.3**	**-1.2**
PMAFR	**Mafra**	**6.16**	**32**	*eS*	**Sn**	**02 47 48.7**	**-0.8**
PMAFR				*i* IAML		02 47 52.0	
GUIA	**Guia de Isora,**	**6.19**	**208**	S	**Sn**	**02 47 49.6**	**-0.9**
CCHO	**La Orotava (Te**	**6.19**	**207**	S	**Sn**	**02 47 49.7**	**-0.8**
PBEJ	**Beja**	**6.21**	**45**	*eS*	**Sn**	**02 47 48.3**	**-2.3**
PBEJ				*i* IAML		02 47 51.6	
PBEJ				*i* IAML		02 47 53.8	
PBEJ				*i* IAML		02 47 56.9	
CPUN	**Puntallana, La**	**6.23**	**217**	S	**Sn**	**02 47 50.1**	**-1.3**
TISM	**Timmit**	**6.26**	**107**	P	**Pn**	**02 46 44.0**	**+2.4**
TISM	**Timmit**	**6.26**	**107**	S	**Sn**	**02 47 54.6**	**+2.8**
CROM	**Garafia, La Pa**	**6.28**	**218**	S	**Sn**	**02 47 50.1**	**-2.7**
CMIR	**El Paso, La Pa**	**6.32**	**218**	P	**Pn**	**02 46 42.8**	**+0.2**
CMIR				S	**Sn**	**02 47 49.4**	**-4.2**
CGOR	**Puntagorda, La**	**6.32**	**219**	S	**Sn**	**02 47 52.3**	**-1.3**
CBRE	**Brena Baja,La**	**6.34**	**217**	P	Pn	02 46 47.1	+4.3
CBRE				S	**Sn**	**02 47 52.3**	**-1.7**
OUZM	**OUZ**	**6.35**	**115**	P	**Pn**	**02 46 45.3**	**+2.3**
OUZM	**OUZ**	**6.35**	**115**	S	**Sn**	**02 47 55.2**	**+0.9**
TBT	**Taburiente**	**6.36**	**218**	S	**Sn**	**02 47 50.1**	**-4.3**
CENR	**El Paso, La Pa**	**6.37**	**217**	S	**Sn**	**02 47 53.3**	**-1.6**
CVIE	**Villa de Mazo,**	**6.38**	**217**	S	**Sn**	**02 47 54.0**	**-1.2**
EHIG	**Higuera**	**6.41**	**217**	S	**Sn**	**02 47 54.8**	**-0.9**
EVO	**Evora**	**6.47**	**41**	P	**Pn**	**02 46 48.5**	**+4.0**
EVO				S	**Sn**	**02 47 55.8**	**-1.2**
EVO	**Evora**	**6.47**	**41**	*eP*	**Pn**	**02 46 48.9**	**+4.5**
EVO				*eS*	**Sn**	**02 47 54.0**	**-3.0**
EVO				*i* IAML		02 47 58.3	
EVO				*i* IAML		02 47 58.3	
EVO				*i* IAML		02 47 58.4	
PMTG	**Montargil**	**6.75**	**37**	*eP*	**Pn**	**02 46 52.4**	**+4.0**
PMTG				*eS*	**Sn**	**02 48 01.9**	**-2.1**
PMTG				*i* IAML		02 48 04.3	
PMTG				*i* IAML		02 48 05.9	
PMTG				*i* IAML		02 48 07.7	
EMIN	**Mina Concepcio**	**6.80**	**52**	P	**Pn**	**02 46 53.4**	**+4.5**
EMIN				S	**Sn**	**02 48 04.0**	**-1.2**
EMIN	**Mina Concepcio**	**6.80**	**52**	P	**Pn**	**02 46 52.4**	**+3.5**
EMIN				⇑*i*IVmb_VC		02 46 54.3	
	comp=N,81nm,SNR=1.1						
EMIN				S	**Sn**	**02 48 02.3**	**-2.8**
PBAR	**Barrancos**	**6.80**	**48**	P	**Pn**	**02 46 53.2**	**+4.2**
PBAR				S	**Sn**	**02 48 04.0**	**-1.2**
PBAR	**Barrancos**	**6.80**	**48**	*eP*	**Pn**	**02 46 53.5**	**+4.4**
PBAR				*eS*	**Sn**	**02 48 02.7**	**-2.5**
PBAR				*i* IAML		02 48 06.9	
PBAR				*i* IAML		02 48 07.3	
PBAR				*i* IAML		02 48 09.7	
PSBE	**So Bento**	**6.84**	**32**	*eS*	**Sn**	**02 48 06.3**	**+0.2**
PSBE				*i* IAML		02 48 07.7	
PSBE				*i* IAML		02 48 12.0	
SMIR	**Smir Dam**	**6.91**	**72**	P	**Pn**	**02 46 53.4**	**+2.9**
SMIR	**Smir Dam**	**6.91**	**72**	S	**Sn**	**02 48 10.1**	**+2.2**
ESPR	**Espera**	**6.93**	**61**	P	**Pn**	**02 46 55.1**	**+4.3**
ESPR				S	**Sn**	**02 48 06.5**	**-1.9**
ESPR	**Espera**	**6.93**	**61**	P	**Pn**	**02 46 53.9**	**+3.1**
ESPR				⇑*i*IVmb_VC		02 46 56.4	
	comp=N,154nm,SNR=1.9						
ESPR				S	**Sn**	**02 48 04.4**	**-4.0**
PESTR	**Estremoz**	**6.94**	**41**	P	**Pn**	**02 46 54.7**	**+3.8**
PESTR				S	**Sn**	**02 48 06.3**	**-2.3**
PESTR	**Estremoz**	**6.94**	**41**	*eP*	**Pn**	**02 46 55.7**	**+4.8**
PESTR				*eS*	**Sn**	**02 48 07.3**	**-1.4**
PESTR				*i* IAML		02 48 09.5	
PESTR				*i* IAML		02 48 10.2	
PESTR				*i* IAML		02 48 10.3	
PESTR	**Estremoz**	**6.94**	**41**	P	**Pn**	**02 46 53.9**	**+3.0**
PESTR	**Estremoz**	**6.94**	**41**	S	**Sn**	**02 48 12.6**	**+3.9**
EJIF	**Jimena Fronter**	**7.07**	**66**	P	**Pn**	**02 46 55.9**	**+3.2**
EJIF				S	**Sn**	**02 48 07.6**	**-4.2**
CTIG	**El Hierro**	**7.10**	**214**	S	**Sn**	**02 48 10.8**	**-1.9**
LCRM	**LCR**	**7.16**	**88**	P	**Pn**	**02 46 56.4**	**+2.2**
LCRM	**LCR**	**7.16**	**88**	S	**Sn**	**02 48 15.7**	**+1.3**
EBAD	**Badajoz**	**7.19**	**45**	P	**Pn**	**02 46 58.4**	**+4.1**
EBAD				S	**Sn**	**02 48 12.4**	**-2.4**
EBAD	**Badajoz**	**7.19**	**45**	P	**Pn**	**02 46 58.3**	**+4.0**
EBAD				⇑*i*IVmb_VC		02 47 08.3	
	comp=N,115nm,SNR=1.3						
EBAD				S	**Sn**	**02 48 12.0**	**-2.8**
PSARD	**Sardoal**	**7.20**	**35**	*eP*	**Pn**	**02 46 58.8**	**+4.4**
PSARD				*eS*	**Sn**	**02 48 12.9**	**-2.1**
PSARD				*i* IAML		02 48 15.6	
PSARD				*i* IAML		02 48 15.8	
PSARD				*i* IAML		02 48 16.3	
CMCL	**Mercadel, El H**	**7.21**	**214**	S	**Sn**	**02 48 14.5**	**-1.1**
TZRR	**Tazzarine**	**7.32**	**112**	P	**Pn**	**02 46 59.4**	**+3.2**
TZRR	**Tazzarine**	**7.32**	**112**	S	**Sn**	**02 48 21.7**	**+3.6**
MD31	**MD31**	**7.34**	**95**	P	**Pn**	**02 46 59.4**	**+2.9**
MD31	**MD31**	**7.34**	**95**	S	**Sn**	**02 48 21.0**	**+2.5**
PMRV	**Marv??o**	**7.45**	**39**	*eP*	**Pn**	**02 47 01.6**	**+3.7**
PMRV				*eS*	**Sn**	**02 48 18.3**	**-2.9**
PMRV				*i* IAML		02 48 21.9	
PMRV				*i* IAML		02 48 21.9	
PMRV				*i* IAML		02 48 23.2	
MDT	**Midelt**	**7.47**	**95**	P	**Pn**	**02 47 01.2**	**+2.9**
MDT	**Midelt**	**7.47**	**95**	S	**Sn**	**02 48 24.6**	**+2.7**
ZGR	**Zagora**	**7.59**	**117**	P	**Pn**	**02 47 03.0**	**+2.9**
ZGR	**Zagora**	**7.59**	**117**	S	**Sn**	**02 48 27.6**	**+2.7**
PCBR	**Castelo Branco**	**7.71**	**37**	*eS*	**Sn**	**02 48 25.7**	**-1.9**
ECAB	**El Cabril**	**7.80**	**54**	P	**Pn**	**02 47 05.9**	**+3.1**
ECAB				S	**Sn**	**02 48 26.4**	**-3.4**
ECAB	**El Cabril**	**7.80**	**54**	P	**Pn**	**02 47 06.4**	**+3.6**
ECAB				⇑*i*IVmb_VC		02 47 09.0	
	comp=N,140nm,SNR=1.8						
ECAB				S	**Sn**	**02 48 25.3**	**-4.5**
AKLM	**AKL**	**7.99**	**82**	P	**Pn**	**02 47 07.1**	**+1.7**
AKLM	**AKL**	**7.99**	**82**	S	**Sn**	**02 48 34.6**	**+0.1**
MTE	**Manteigas**	**8.12**	**34**	*eS*	**Sn**	**02 48 35.4**	**-2.1**
MTE				*i* IAML		02 48 37.4	
MTE				*i* IAML		02 48 38.7	
PVIS	**Viseu**	**8.22**	**31**	*eS*	**Sn**	**02 48 37.2**	**-2.9**
EGOR	**Sierra Gorda,**	**8.32**	**64**	S	**Sn**	**02 48 37.7**	**-5.1**
EADA	**Adamuz**	**8.42**	**56**	P	**Pn**	**02 47 14.8**	**+3.5**
EADA				S	**Sn**	**02 48 41.5**	**-3.6**
EADA	**Adamuz**	**8.42**	**56**	P	**Pn**	**02 47 14.5**	**+3.2**
EADA				⇑*i*IVmb_VC		02 47 20.3	
	comp=N,107nm,SNR=1.4						
EADA				S	**Sn**	**02 48 39.6**	**-5.5**
ELGU	**Los Guajares,**	**8.60**	**66**	S	**Sn**	**02 48 42.9**	**-6.7**
EPLA	**Plasencia**	**8.61**	**41**	P	**Pn**	**02 47 17.4**	**+3.5**
EPLA				⇑*i*IVmb_VC		02 47 19.0	
	comp=N,118nm,SNR=1.0						
EPLA				S	**Sn**	**02 48 45.7**	**-4.0**
PVRL	**Vila Real**	**8.76**	**30**	*eS*	**Sn**	**02 48 49.3**	**-4.1**
POLO	**Lamas de Olo**	**8.81**	**29**	*eS*	**Sn**	**02 48 50.8**	**-3.9**
MVO	**Moncorvo**	**8.96**	**33**	*eS*	**Sn**	**02 48 55.4**	**-3.1**
MVO				*i* IAML		02 48 56.4	
MVO				*i* IAML		02 48 57.0	
PCAB	**Cabril**	**9.00**	**27**	*eS*	**Sn**	**02 48 55.7**	**-3.7**
JBK	**JBK**	**9.05**	**83**	P	**Pn**	**02 47 21.2**	**+1.1**
JBK	**JBK**	**9.05**	**83**	S	**Sn**	**02 49 00.6**	**-0.3**
E0803	**Jimena (Jaen)**	**9.06**	**61**	P	**Pn**	**02 47 22.5**	**+2.4**
E0803				S	**Sn**	**02 48 55.5**	**-5.3**
ELOB	**Lobios**	**9.13**	**26**	S	**Sn**	**02 48 59.5**	**-3.0**
PSIM	**Granatula de C**	**9.30**	**55**	P	**Pn**	**02 47 26.6**	**+3.2**
PSIM				S	**Sn**	**02 49 01.3**	**-5.5**
PAB	**San Pablo**	**9.30**	**49**	P	**Pn**	**02 47 26.4**	**+3.0**
PAB				⇑*i*IVmb_VC		02 47 30.2	
	comp=N,94nm,SNR=1.2						
PAB				S	**Sn**	**02 49 02.3**	**-4.5**
EQES	**Quesada**	**9.34**	**62**	P	**Pn**	**02 47 26.3**	**+2.4**
EQES				⇑*i*IVmb_VC		02 47 30.5	
	comp=N,82nm,SNR=1.0						
EQES				S	**Sn**	**02 49 01.8**	**-6.0**
PBRG	**Braganca**	**9.61**	**32**	*eS*	**Sn**	**02 49 10.5**	**-3.7**
ETOB	**Tobarra**	**10.77**	**60**	S	**Sn**	**02 49 35.4**	**-7.5**

IDC ***13*** *02:51:47.9±6.3, 6.°64S×129.°86E, h96km±54km, mb3.9/3, mbtmp4.4/7, Error ellipse: s-maj=73.0km s-min=24.8km az=62.0*
DJA ***13*** *02:51:54.9±0.2, 7.°S±3.°×13.°0E±.°, h175km±6km, M4.4/14, mb4.2/14, mB5.1/3, MLv4.5/13, Mw(mB)4.5/3*

ISC 13 02:51:53.8±0.8, 7.°02S±0.°06×129.°43E±0.°06, h150km, n32, σ2§49/35, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.09**	**117**	P	**Pn**	**02 52 32.7**	**+2.7**
BNDI	**Bandanaira**	**2.52**	**11**	P	**Pn**	**02 52 36.3**	**+1.0**
AAI	**Ambon**	**3.53**	**340**	P	**Pn**	**02 52 49.0**	**+1.0**
MSAI	**Masohi**	**3.68**	**352**	P	**Pn**	**02 52 51.5**	**+1.5**
NLAI	**Namlea**	**4.41**	**328**	P	**Pn**	**02 53 02.5**	**+3.0**
FAKI	**Fak Fak**	**4.95**	**35**	P	**Pn**	**02 53 03.9**	**-2.7**
KMPI	**Kaimana, Papua**	**5.41**	**52**	P	**Pn**	**02 53 11.5**	**-1.2**
	1.4nm5μm49nm,0.5s						
AUDHS	**Darwin High Sc**	**5.56**	**166**	P	**Pn**	**02 53 17.1**	**+2.3**
AUDHS	**Darwin High Sc**	**5.56**	**166**	S	**Sn**	**02 54 19.2**	**+1.2**
DRS	**Darwin Rock St**	**5.57**	**165**	P	**Pn**	**02 53 17.4**	**+2.5**
DRS	**Darwin Rock St**	**5.57**	**165**	S	**Sn**	**02 54 20.0**	**+1.8**
SOEI	**Soe**	**5.79**	**242**	P	**Pn**	**02 53 21.4**	**+3.6**
SOEI	**Soe**	**5.79**	**242**	S	**Sn**	**02 54 26.3**	**+2.8**
SOEI	**Soe**	**5.79**	**242**	P	**Pn**	**02 53 21.0**	**+3.2**
	0.4nm28nm,0.7s						
SANI	**Sanana**	**6.01**	**325**	P	**Pn**	**02 53 22.1**	**+1.4**
SANI	**Sanana**	**6.01**	**325**	P	**Pn**	**02 53 22.3**	**+1.6**
	15nm,0.8s						
SWI	**Sorong**	**6.38**	**17**	P	**Pn**	**02 53 22.7**	**-3.0**
	0.2nm13nm,0.5s						
BATI	**Baumata**	**6.52**	**241**	P	**Pn**	**02 53 29.7**	**+2.1**
	22nm,0.4s,baz=75,slow=15,SNR=4.4						
BATI				S	**Sn**	**02 54 38.1**	**-2.8**
	61nm,0.4s,baz=28,slow=22,SNR=13						
BATI	**Baumata**	**6.52**	**241**	P	**Pn**	**02 53 30.5**	**+3.0**
	0.3nm25nm,0.6s						
RKPI	**Ransiki, Papua**	**7.24**	**41**	P	**Pn**	**02 53 35.3**	**-1.8**
TNTI	**Ternate**	**8.01**	**345**	P	**Pn**	**02 53 47.1**	**-0.3**
	11nm,0.6s						
BAKI	**Biak**	**8.82**	**49**	P	**Pn**	**02 53 59.2**	**+0.9**
	40nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.62**	**198**	P	**Pn**	**02 54 36.1**	**+0.9**
	6.9nm,0.3s,baz=33,slow=12,SNR=24						
FITZ				S	**Sn**	**02 56 37.8**	**-5.9**
	6.4nm,0.3s,baz=87,slow=19,SNR=8.0						
PLAI	**Plampang**	**11.68**	**260**	P	**Pn**	**02 54 36.2**	**+0.2**
	27nm,1.2s						
WRA	**Warramunga Arr**	**13.71**	**160**	P	**Pn**	**02 55 00.7**	**-1.4**
	4.9nm,0.5s,baz=343,slow=13,SNR=27						
WRA				S	Sn	02 57 24.3	-10
	2.6nm,0.4s,baz=334,slow=22,SNR=6.4						
QIS	**Mount Isa**	**16.69**	**145**	P	**Pn**	**02 55 41.4**	**+2.4**
ASAR	**Alice Springs**	**17.11**	**166**	P	**Pn**	**02 55 44.8**	**+0.7**
	6.7nm,0.5s,baz=350,slow=11,SNR=97						
ASAR				S	**S**	**02 58 49.1**	**-5.1**
	1.7nm,0.8s,baz=357,slow=25,SNR=5.9						
AUALC	**St Philip's Co**	**17.12**	**166**	P	**Pn**	**02 55 46.9**	**+2.6**
PCJI	**Pacitan**	**18.13**	**265**	P	**P**	**02 55 54.2**	**-0.4**
	13nm,1.2s						
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**03 02 36.0**	**-0.5**
	0.7nm,0.4s,baz=116,slow=8.2,SNR=14						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.23**	**329**	P	**P**	**03 03 01.7**	**-0.8**
	1.6nm,0.2s,baz=123,slow=5.1,SNR=1.7						
	1.6nm,0.2s						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**03 04 04.4**	**+2.5**
	0.6nm,0.6s,baz=0.0,slow=3.0,SNR=6.8						
	0.6nm,0.6s						

UCR ***13*** *02:52:03.8±0.3, 12.°04N×95.°74W, h35km, MW4.1*
GCG ***13*** *02:53:09.6±2.3, 12.°64N×90.°09W, h14km±15km, MD4.9, ML4.4*
CATAC ***13*** *02:53:09.4±0.3, 13.°N±2.°×9.°0W±.°, h1km, M4.5/31, MLv4.5/31, Error ellipse: s-maj=4.5km s-min=3.6km az=77.2, confirmed*
*SNET

MTO3 Montecristo 1.69 20 ⇑P Pn 02 53 41.2 +1.1
PACA Pacayal 1.73 67 P Pb 02 53 42.3 -1.1
LCY Lacayo 1.74 69 *eP* **Pn 02 53 41.7 +1.1**
RANC El Ranchito 1.75 69 *eP* **Pn 02 53 41.8 +1.1**
VSM San Miguel 1.76 69 *eP* **Pn 02 53 42.0 +0.9**
ESSG Sabana Grande 1.79 332 *eP* **Pn 02 53 40.5 -0.7**
ESQI Esquipulas 1.85 19 Pn 02 53 43.5 +1.4
ESQI Esquipulas 1.85 19 *eP* **Pn 02 53 43.5 +1.4**
ESQI Esquipulas 1.85 19 ⇑P Pn 02 53 43.5 +1.4
ESQI Esquipulas 1.85 19 S Sb 02 54 11.4 +3.1
GCG4 OSOP 1.86 343 *eP* **Pn 02 53 42.8 +0.4**
LCND La Caada 2.08 76 *eP* **Pn 02 53 45.6 +0.4**
LCND La Caada 2.08 76 P Pn 02 53 45.8 +0.6
CNCH Conchagua 2.12 77 *eP* **Pn 02 53 46.1 +0.2**
CNCH Conchagua 2.12 77 P Pn 02 53 46.9 +1.0
CNCH Conchagua 2.12 77 S Sb 02 54 15.5 -0.7
STG2 El Palmar, Qui 2.13 320 *eP* **Pb 02 53 50.3 0.0**
APG El Apazote 2.25 347 P Pn 02 53 49.0 +1.3
comp=N,22nm,0.5s,baz=138,slow=9.9,SNR=159
APG S **Sn 02 54 14.3 -0.2**
comp=N,44nm,0.9s,baz=170,slow=10,SNR=5.7
APG El Apazote 2.25 347 *i* P **Pn 02 53 49.0 +1.3**
APG *e*S **Sb 02 54 19.0 -0.7**
SARH Santa Rosa de 2.28 31 *i* P **Pn 02 53 49.8 +1.8**
CSGN Cosiguina Volc 2.35 85 P Pn 02 53 50.4 +1.4
RTAL Retalhuleu 2.41 316 Pn 02 53 48.2 -1.5
RTAL Retalhuleu 2.41 316 P Pn 02 53 51.8 +2.1
SOKI Kika Raxquin 2.45 325 IAML 02 54 58.5
comp=N,2µm,0.9s
QUIS Sacapulas 2.71 336 *eP* **Pn 02 53 56.3 +2.3**
CRIN San Cristobal 2.84 92 Pn 02 53 56.7 +0.9
CRIN San Cristobal 2.84 92 P Pn 02 53 57.4 +1.7
TGUH Tegucigalpa,Un 2.90 64 Pn 02 53 57.2 +0.6
TGUH Tegucigalpa,Un 2.90 64 P Pn 02 53 57.2 +0.6
PKGN Cerro Pekin 2.91 92 P Pn 02 53 57.3 +0.6
HUEH Huehuetenango 2.92 329 Pn 02 53 58.6 +1.7
HERN Volcan Telica 3.06 93 Pn 02 53 58.0 -0.7
POLN Al Sur del Vol 3.07 92 ⇓P Pn 02 53 58.0 -0.9
PLRN Geotermica Pol 3.12 94 P Pn 02 54 00.3 +0.7
CNGA Al SSO del Vol 3.19 95 P Pn 02 54 01.5 +0.9
CNGN Cerro Negro 3.20 95 Pn 02 54 01.2 +0.6
CNGN Cerro Negro 3.20 95 P Pn 02 54 01.2 +0.6
CNGN Cerro Negro 3.20 95 P Pn 02 54 00.7 +0.1
COPN Copaltepe 3.35 100 P Pn 02 54 02.8 +0.2
LIMN Finca el Limon 3.51 85 ⇓P Pn 02 54 05.3 +0.2
MGAN Managua 3.68 100 Pn 02 54 06.5 -0.8
MGAN Managua 3.68 100 P Pn 02 54 06.3 -1.0
MGAN S **Sn 02 54 47.9 -1.9**
RCVN Varillal2 3.75 78 ⇓P Pn 02 54 08.9 +0.6
RCPN Sur Rio San Ju 3.83 79 P Pn 02 54 11.1 +1.7
MATN Matagalpa 3.94 88 ⇓P Pn 02 54 10.2 -0.6
CCIG Comitan 4.05 329 Pn 02 54 14.0 +1.5
PETF Flores 4.09 1 Pn 02 54 15.8 +2.9
ACON Acoyapa 4.75 100 Pn 02 54 22.1 +0.2
ACON Acoyapa 4.75 100 P Pn 02 54 23.7 +1.8
SIUN Universidad Ur 5.13 79 Pn 02 54 28.2 +1.1
JTS Las Juntas de 5.50 116 Pn 02 54 34.5 +2.1
JTS Las Juntas de 5.50 116 P Pn 02 54 33.9 +1.6
comp=N,11nm,0.3s,baz=297,slow=22,SNR=18
JTS S **Sn 02 55 31.1 -3.6**
comp=N,9.9nm,0.4s,baz=264,slow=17,SNR=1.2
JTS LR LR 02 56 54.8
comp=N,428nm,21.0s,baz=300,slow=41
JTS Las Juntas de 5.50 116 P Pn 02 54 34.3 +2.0
comp=N,911nmcomp=N,47nm,1.0s
SOCE Pocosol 5.76 114 Pn 02 54 37.3 +1.4
CMIG Matias Romero 6.39 312 P Pn 02 54 46.2 +1.7
comp=N,36nm,0.8s,baz=125,slow=11,SNR=14
CMIG S **Sn 02 55 58.4 +1.8**
comp=N,15nm,0.6s,baz=90,slow=20,SNR=1.5
ACOS Acosta 6.42 117 *eP* **Pn 02 54 49.0 +3.9**
PAR1A Puntarenas Pro 6.44 119 *eP* **Pn 02 54 48.7 +3.5**
PIEC Cerro El Cedra 6.68 118 *eP* **Pn 02 54 52.4 +3.6**
CVTV Tajo 6.69 114 *eP* **Pn 02 54 53.7 +4.8**
SAJE San Jernim 7.20 118 *eP* **Pn 02 54 59.4 +3.6**
LAES El Progreso Va 7.42 113 *eP* **Pn 02 55 03.2 +4.6**
TEIG Tepich 7.56 12 Pn 02 55 03.0 +2.4
TEIG Tepich 7.56 12 P Pn 02 55 03.1 +2.6
comp=N,3µmcomp=N,274nm,0.9s
BRU2 Volcan 8.17 118 Pn 02 55 11.6 +2.5
BRU2 Volcan 8.17 118 *eP* **Pn 02 55 11.5 +2.3**
BANCO falda S V. Bar 8.35 118 *eP* **Pn 02 55 14.4 +2.8**
WILLF Boquete 8.42 118 *eP* **Pn 02 55 15.0 +2.5**
BCIP Isla Barro Col 10.57 109 P Pn 02 55 43.1 +1.2
comp=N,12nm,1.0s
SOR Soroa 11.94 33 Pn 02 56 05.2 +4.7
MOIG Morelia 12.77 304 P 02 56 19.7 -3.1
APAC Apartado, Choc 14.03 109 P P 02 56 39.8 +3.1
SJCC San Jacinto, C 14.78 100 P P 02 56 45.5 +0.4
comp=N,40nm,0.6s
CBOC Ciudad Bolivar 15.38 115 P P 02 56 54.9 +2.9
comp=N,718nmcomp=N,10nm,1.1s
YOTC Yotoco, Valle 16.06 122 P P 02 56 58.0 -1.4
comp=N,11nm,1.0s
GUY2C Guyana, Caldas 16.25 116 P P 02 57 02.3 +0.4
comp=N,37nm,0.8s
PTBC PUERTO BERRIO, 16.49 111 P P 02 57 04.5 +0.3
comp=N,5.1nm,0.9s
BBAC Balboa, Cauca 16.53 129 P P 02 57 03.7 -1.0
POPC Popayan, Colom 16.64 127 P P 02 57 07.6 +1.6
comp=N,20nm,1.2s
ORTC Ortega, Tolima 17.02 120 P P 02 57 09.5 -0.5
comp=N,20nm,1.4s
TULM Tulcn-Chalpat 17.02 134 P P 02 57 21.5 +11
ROSC El Rosal 17.35 116 P P 02 57 18.6 +4.5
ROSC El Rosal 17.35 116 P P 02 57 14.8 +0.7
comp=N,7.5nm,0.5s,baz=326,slow=4.7,SNR=8.2
PRAC Prado 17.42 120 P P 02 57 15.0 +0.5
comp=N,15nm,1.1s
FLOC Florencia 18.03 127 P 02 57 24.6 +3.4
FLOC Florencia 18.03 127 P P 02 57 25.0 +3.8
comp=N,281nmcomp=N,23nm,1.2s
URMC La Uribe, Meta 18.10 120 P P 02 57 24.7 +2.7
comp=N,9.3nm,0.8s
HNDO Hondo 18.76 334 P P 02 57 28.7 -0.4
MACC Macarena, Meta 19.14 122 P Pn 02 57 35.4 +1.0
comp=N,17nm,0.8s
435B Jarrell 19.23 340 P P 02 57 34.5 +0.2
435B IAmb IAmb 02 57 36.0
comp=Z,16nm,0.5s
NATX Nacogdoches 19.36 348 P P 02 57 35.8 +0.1
NATX IAmb IAmb 02 57 44.6
comp=Z,20nm,0.8s
SDV Santo Domingo 19.37 100 P P 02 57 35.7 -0.4
comp=Z,19nm,0.5s,baz=300,slow=8.1,SNR=3.7
SDV LR LR 03 07 20.0
comp=Z,154nm,18.4s,baz=272,slow=44
PTLC Puerto Leguiza 19.58 129 P Pn 02 57 45.5 +5.8
JCT Junction City 19.81 334 P P 02 57 40.0 -0.6
237A Washetta, Mont 19.85 345 P P 02 57 41.0 0.0
237A IAmb IAmb 02 57 48.8
comp=Z,22nm,0.9s
BRDY Brady 20.20 337 P 02 57 44.4 -0.4
WHTX Lake Whitney, 20.31 341 P P 02 57 45.1 -0.8
WHTX IAmb IAmb 02 58 00.9
comp=Z,19nm,0.9s
LRAL Lakeview Retre 20.32 7 Pn 02 57 47.4 -0.9
HPIG 20.36 316 P Pn 02 57 48.1 -0.9
Z47A Carrollton 20.38 5 P P 02 57 47.6 +0.9
Z47A IAmb IAmb 02 57 52.4
comp=Z,20nm,0.7s
SAND Sanderson 20.46 328 P Pn 02 57 49.0 -0.9
Z41A Richland Creek 20.53 353 IAmb IAmb 02 57 56.8
comp=Z,22nm,0.8s
FW13 Cleburne 20.63 342 P P 02 57 49.2 -0.3
FW13 IAmb IAmb 02 57 50.0
comp=Z,15nm,0.9s
OZNA Ozona 20.77 332 P 02 57 51.8 +0.7
OZNA IAmb IAmb 02 58 00.1
comp=Z,20nm,1.4s
TXAR Lajitas Array 20.81 324 P Pn 02 57 53.4 -0.6
TXAR Lajitas Array 20.81 324 P Pn 02 57 54.0 -0.1
comp=Z,12nm,0.8s,baz=148,slow=11,SNR=69
TXAR PcP **PcP 03 02 01.7 +1.8**
comp=Z,0.2nm,0.5s,baz=158,slow=3.6,SNR=3.9
comp=Z,12nm,0.8s
Z38A Mt. Pleasant 20.88 348 IAmb IAmb 02 57 57.9
comp=Z,16nm,0.8s
Y49A Blount Mountai 21.21 8 P 02 57 55.3 -0.4
Y49A IAmb IAmb 02 58 11.7
comp=Z,14nm,1.0s
PLPT Palo Pinto 21.34 340 IAmb IAmb 02 58 04.5
comp=Z,13nm,0.7s

Z35A Perchaven, San 21.50 343 IAmb IAmb 02 57 59.0
comp=Z,20nm,1.0s
ALPN Alpine 21.59 326 IAmb IAmb 02 58 02.5
comp=Z,12nm,0.7s
BAUV El Baul 21.86 98 P **P 02 58 00.7 -2.1**
MIAR Mount Ida 21.90 352 P P 02 58 02.4 -0.7
MIAR IAmb IAmb 02 58 06.3
comp=Z,9.1nm,0.7s
MNHN Monahans 21.90 329 IAmb IAmb 02 58 07.4
comp=Z,8.9nm,0.6s
FPAL Fort Paine 22.00 10 P **P 02 58 03.7 -0.5**
PLAL Pickwick Lake 22.15 4 P 02 58 05.2 -0.6
PLAL IAmb IAmb 02 58 09.0
comp=Z,28nm,1.5s
APMT Aspermont 22.44 337 P 02 58 08.0 -0.9
APMT IAmb IAmb 02 58 20.1
comp=Z,13nm,0.7s
WHAR Wooly Hollow 22.49 355 IAmb IAmb 02 58 11.3
comp=Z,12nm,0.9s
SWET Sewanee 22.61 9 IAmb IAmb 02 58 10.9
comp=Z,8.5nm,0.7s
VHRN Van Horn 22.65 325 P 02 58 12.1 +0.8
VHRN IAmb IAmb 02 58 14.0
comp=Z,15nm,1.1s
JSC Jenkinsville 22.80 19 IAmb IAmb 02 58 13.7
comp=Z,13nm,1.1s
X34A Smith Ranch, M 22.85 343 IAmb IAmb 02 58 15.8
comp=Z,33nm,1.4s
V48A Smith Brothers 23.02 7 IAmb IAmb 02 58 16.1
comp=Z,11nm,1.0s
LCAR Lake Charles 23.20 358 IAmb IAmb 02 58 17.4
comp=Z,24nm,1.5s
WVT Waverly 23.31 4 P **P 02 58 16.8 -1.0**
WVT IAmb IAmb 02 58 18.3
comp=Z,32nm,1.4s
TKL Tuckaleechee C 23.43 13 IAmb IAmb 02 58 20.3
comp=Z,23nm,1.4s
TKL Tuckaleechee C 23.43 13 P **P 02 58 17.9 -1.2**
comp=Z,5.6nm,0.7s,baz=174,slow=11,SNR=20
TKL LR LR 03 08 32.9
comp=Z,228nm,18.4s,baz=203,slow=40
comp=Z,5.6nm,0.7s
UTMT University of 23.46 2 P **P 02 58 18.8 -0.5**
MNTX Cornudas Mount 23.56 325 IAmb IAmb 02 58 21.8
comp=Z,8.9nm,0.8s
TUL3 Leonard 23.61 348 IAmb IAmb 02 59 08.4
comp=Z,17nm,1.1s
V53A Saluda 23.67 15 IAmb IAmb 02 58 45.5
comp=Z,13nm,1.2s
RLO Rose Lookout 23.71 350 IAmb IAmb 02 58 22.8
comp=Z,24nm,1.4s
PBMO Poplar Bluff 23.88 359 IAmb IAmb 02 58 25.2
comp=Z,14nm,0.7s
U49A Red Boiling Sp 23.91 8 IAmb IAmb 02 58 24.7
comp=Z,16nm,0.9s
SMWD Samnorwood 24.08 339 IAmb IAmb 02 58 35.9
comp=Z,12nm,0.7s
MSTX Muleshoe 24.09 333 IAmb IAmb 02 58 27.3
comp=Z,17nm,1.3s
V55A Taylorsville 24.27 17 IAmb IAmb 02 58 27.6
comp=Z,15nm,1.1s
CGM3 Cape Girardeau 24.40 1 IAmb IAmb 02 58 31.1
comp=Z,21nm,1.1s
OK051 E0350 and S346 24.40 346 IAmb IAmb 02 58 28.9
comp=Z,15nm,0.7s
AMTX Amarillo 24.42 336 IAmb IAmb 02 58 29.7
comp=Z,10nm,0.7s
U54A Nelsons Funny 24.73 16 IAmb IAmb 02 58 47.6
comp=Z,16nm,0.9s
V58A Windy Hill, Pi 24.90 21 IAmb IAmb 02 58 32.0
comp=Z,9.5nm,0.8s
CCM Cathedral Cave 25.18 358 P **P 02 58 33.2 -2.0**
CCM IAmb IAmb 02 58 35.2
comp=Z,14nm,0.8s
WCI Wyandotte Cave 25.54 7 P **P 02 58 36.7 -1.7**
WCI IAmb IAmb 02 58 39.6
comp=Z,11nm,0.7s
121A Cookes Peak, D 25.54 323 IAmb IAmb 02 58 52.6
comp=Z,15nm,0.8s
319A Douglas 25.66 319 IAmb IAmb 02 59 21.7
comp=Z,13nm,1.3s
Y22A Socorro 26.12 326 IAmb IAmb 02 58 46.5
comp=Z,8.7nm,1.0s
ANMO Albuquerque 26.64 329 P **P 02 58 50.0 +1.3**
ANMO Albuquerque 26.64 329 P **P 02 58 49.5 +0.8**
comp=Z,1.5nm,0.6s,baz=237,slow=10,SNR=6.9
comp=Z,1.5nm,0.6s
R32A Long Quarter, 26.68 345 IAmb IAmb 02 58 51.2
comp=Z,13nm,0.9s
Q51A Peebles 26.77 11 IAmb IAmb 02 58 53.0
comp=Z,13nm,1.0s
TUC Tucson 27.23 319 P **P 02 58 55.8 +1.8**
WUAZ Wupatki 29.76 323 IAmb IAmb 02 59 20.0
comp=Z,8.5nm,1.1s
PV02 Paradox Valley 30.33 330 IAmb IAmb 02 59 24.7
comp=Z,4.8nm,0.7s
PV05 Paradox Valley 30.41 329 IAmb IAmb 02 59 24.0
comp=Z,4.4nm,0.8s
PV03 Paradox Valley 30.42 330 IAmb IAmb 02 59 24.2
comp=Z,4.8nm,0.7s
PV11 David Mesa, Pa 30.47 330 IAmb IAmb 02 59 24.6
comp=Z,7.2nm,0.7s
PV17 East Wray Mesa 30.49 330 IAmb IAmb 02 59 25.1
comp=Z,6.6nm,0.6s
PV16 Nyswonger Mesa 30.50 330 IAmb IAmb 02 59 24.9
comp=Z,5.7nm,0.7s
PV20 West Nyswonger 30.55 330 IAmb IAmb 02 59 25.1
comp=Z,8.6nm,0.7s
PV04 Paradox Valley 30.55 330 IAmb IAmb 02 59 25.4
comp=Z,8.8nm,0.7s
PV10 Paradox Valley 30.61 330 IAmb IAmb 02 59 25.2
comp=Z,7.3nm,0.7s
PV23 Carpenter Ridg 30.65 330 IAmb IAmb 02 59 26.6
comp=Z,9.8nm,0.8s
HMU Henry Mountain 31.14 327 IAmb IAmb 02 59 32.0
comp=Z,9.9nm,1.3s
BC3 Big Chuckawall 31.15 316 IAmb IAmb 02 59 33.1
comp=Z,12nm,1.3s
BELC Belle Mtn. Jos 31.72 316 IAmb IAmb 02 59 50.4
comp=Z,5.2nm,1.1s
PFO Pinyon Flats O 31.81 315 LR LR 03 14 34.5
comp=Z,133nm,18.7s,baz=129,slow=40
V12A Nelson 32.01 320 IAmb IAmb 02 59 40.2
comp=Z,9.9nm,1.0s
CCUT Cedar City 32.32 324 IAmb IAmb 02 59 43.1
comp=Z,6.5nm,1.2s
MACA Manacapuru-AM 33.12 117 P **P 02 59 47.1 +1.0**
SADO Sadowa 33.18 14 LR LR 03 14 14.6
comp=Z,1µm,18.7s,baz=224,slow=39
RSSD Black Hills 33.47 341 P **P 02 59 49.1 0.0**
RSSD IAmb IAmb 02 59 50.3
comp=Z,5.9nm,0.7s
CCCA Chr Cany lake 33.52 317 IAmb IAmb 02 59 53.1
comp=Z,6.1nm,0.8s
WSHM Spangler Hills 33.64 317 IAmb IAmb 02 59 54.0
comp=Z,4.1nm,0.8s
TPNV Topopah Spring 33.66 320 IAmb IAmb 03 00 01.3
comp=Z,7.5nm,1.4s
LRMC Laurel Mtn Rad 33.70 317 IAmb IAmb 02 59 55.3
comp=Z,4.4nm,1.0s
FURC Furnace Creek, 33.75 319 IAmb IAmb 02 59 55.5
comp=Z,8.6nm,1.2s
CLC China Lake 33.84 317 IAmb IAmb 02 59 55.5
comp=Z,3.8nm,0.8s
SPR3 Spring Creek 3 33.87 325 IAmb IAmb 02 59 55.0
comp=Z,13nm,1.5s
MPMC Manual Prospec 33.91 318 IAmb IAmb 02 59 56.2
comp=Z,4.2nm,0.8s
R11B Troy Canyon, C 34.15 323 IAmb IAmb 02 59 58.4
comp=Z,5.2nm,1.1s
HWUT Hardware Ranch 34.34 331 IAmb IAmb 03 00 04.2
comp=Z,6.6nm,1.3s
ISA Isabella, Lake 34.34 316 IAmb IAmb 03 00 01.0
comp=Z,7.0nm,1.4s
PDAR Pinedale Array 34.35 334 P **P 02 59 56.5 -0.3**
comp=Z,0.8nm,0.8s,baz=126,slow=10,SNR=8.8
PDAR PcP **PcP 03 02 32.9 +0.4**
comp=Z,0.4nm,0.5s,baz=166,slow=6.9,SNR=4.2
PDAR LR LR 03 16 28.3
comp=Z,41nm,19.9s,baz=132,slow=41
comp=Z,0.8nm,0.8s
GRAC Grapevine Rang 34.39 319 IAmb IAmb 03 00 09.5
comp=Z,11nm,1.1s
TPH Tonopah 34.96 321 IAmb IAmb 03 00 06.0
comp=Z,9.6nm,1.3s
LOHW Long Hollow 35.48 334 IAmb IAmb 03 00 07.7
comp=Z,3.5nm,0.7s
TPAW Teton Pass 35.53 333 IAmb IAmb 03 00 09.1

comp=Z,3.7nm,0.7s
ELK Elko 35.58 326 P **P 03 00 08.7 +1.2**
comp=Z,1.5nm,0.7s,baz=118,slow=8.1,SNR=7.9
ELK LR LR 03 18 41.6
comp=Z,147nm,18.5s,baz=142,slow=43
comp=Z,1.5nm,0.7s
NVAR Mina Array Bea 35.85 320 P **P 03 00 11.9 +2.1**
NVAR Mina Array Bea 35.85 320 P **P 03 00 12.3 +2.5**
comp=Z,8.2nm,1.0s,baz=136,slow=7.9,SNR=40
NVAR PcP **PcP 03 02 38.9 +2.0**
comp=Z,2.1nm,0.7s,baz=133,slow=4.0,SNR=11
NVAR LR LR 03 16 40.3
comp=Z,160nm,18.6s,baz=122,slow=39
comp=Z,8.2nm,1.0s
MDPB Devils Postpil 35.87 319 IAmb IAmb 03 00 14.1
comp=Z,4.9nm,0.9s
LHV Little Huntoon 35.87 320 IAmb IAmb 03 00 13.8
comp=Z,9.5nm,1.0s
PKD Bear Valley Ra 35.90 315 IAmb IAmb 03 00 19.1
comp=Z,7.8nm,1.0s
LPAZ La Paz 36.07 143 P **P 03 00 15.3 +3.0**
comp=Z,0.5nm,0.6s,baz=327,slow=17,SNR=2.1
LPAZ LR LR 03 16 15.8
comp=Z,48nm,19.1s,baz=330,slow=38
comp=Z,0.5nm,0.6s
RYN Ryan 36.11 321 IAmb IAmb 03 00 15.3
comp=Z,7.9nm,1.4s
LEGD La Grand CA 36.32 317 IAmb IAmb 03 00 16.3
comp=Z,6.8nm,0.7s
YNE Yellowstone No 36.37 336 IAmb IAmb 03 00 14.7
comp=Z,7.2nm,1.4s
LAO LASA Array 36.46 341 IAmb IAmb 03 00 15.3
comp=Z,6.3nm,0.8s
WAKR Walker 36.61 320 P **P 03 00 18.8 +2.6**
WAKR IAmb IAmb 03 00 20.1
comp=Z,10nm,1.4s
MHC Mount Hamilton 37.39 316 IAmb IAmb 03 00 26.4
comp=Z,5.2nm,0.8s
WELL Weller Preserv 37.39 319 IAmb IAmb 03 00 26.1
comp=Z,6.0nm,1.1s
ULM Lac du Bonnet 37.66 354 P **P 03 00 22.2 -2.5**
comp=Z,8.4nm,0.8s,baz=162,slow=8.7,SNR=4.5
ULM LR LR 03 18 47.1
comp=Z,115nm,20.0s,baz=168,slow=41
comp=Z,8.4nm,0.8s
VILB Vilhena 39.06 130 P **P 03 00 36.8 -0.1**
O03E Paynes Creek 39.14 320 IAmb IAmb 03 01 04.1
comp=Z,8.5nm,1.4s
M03C McCloud 39.91 321 IAmb IAmb 03 01 03.3
comp=Z,5.8nm,1.0s
F10A Beach Ranch, E 40.32 330 IAmb IAmb 03 00 48.2
comp=Z,4.8nm,0.7s
YBH Yreka Blue Hor 40.53 321 P **P 03 00 48.6 -0.5**
comp=Z,0.1nm,0.6s,baz=82,slow=1.1,SNR=6.0
YBH LR LR 03 19 16.9
comp=Z,9.1nm,18.5s,baz=128,slow=38
L04D Klamath Falls 40.58 322 P **P 03 00 49.4 -0.1**
L04D IAmb IAmb 03 00 51.0
comp=Z,6.5nm,0.8s
KHMM Horse Mountain 40.68 320 P **P 03 00 51.1 +0.8**
PINE Pine Mountain 40.76 325 P **P 03 00 51.6 +0.6**
KRPM Rodgers 41.02 320 P **P 03 00 54.5 +1.5**
J04A Umpqua Nationa 41.08 324 P **P 03 00 54.0 +0.4**
KRMB Red Mountain 41.15 320 P **P 03 00 55.4 +1.2**
KBO Bosley Butte 41.73 321 IAmb IAmb 03 01 10.1
comp=Z,7.1nm,0.9s
NEW Newport 41.95 333 LR LR 03 22 23.3
comp=Z,47nm,18.7s,baz=122,slow=42
H04A Detroit Lake 42.02 325 IAmb IAmb 03 01 02.4
comp=Z,5.5nm,0.7s
HOOD Mount Hood Mea 42.13 326 IAmb IAmb 03 01 04.9
comp=Z,14nm,1.0s
C09A Chrisman Ranch 42.14 332 IAmb IAmb 03 01 03.4
comp=Z,4.4nm,0.7s
BUCK Buck Mountain 42.17 324 IAmb IAmb 03 01 04.1
comp=Z,7.0nm,1.0s
I02E Swisshome, OR 42.61 324 IAmb IAmb 03 01 08.7
comp=Z,6.6nm,0.6s
SCHQ Schefferville 45.69 19 P **P 03 01 28.3 -2.1**
SCHQ Schefferville 45.69 19 P **P 03 01 27.5 -2.9**
comp=Z,154nm,0.6s,baz=209,slow=7.1,SNR=27
SCHQ PcP **PcP 03 03 07.3 -0.8**
comp=Z,23nm,0.5s,baz=224,slow=4.9,SNR=3.9
SCHQ LR LR 03 22 56.1
comp=Z,852nm,18.4s,baz=214,slow=40
KUQ Kuujjuaa 48.07 15 P **P 03 01 47.0 -1.9**
BDFB Brasilia 50.21 123 P **P 03 02 07.7 +1.7**
comp=Z,2.8nm,0.6s,baz=298,slow=11,SNR=5.5
comp=Z,2.8nm,0.6s
YKA Yellowknife Ar 52.66 346 P **P 03 02 22.4 -1.2**
comp=Z,2.9nm,0.7s,baz=153,slow=10,SNR=7.2
YKA LR LR 03 26 45.0
comp=Z,49nm,20.0s,baz=151,slow=38
comp=Z,2.9nm,0.7s
FRB Frobisher Bay 53.05 12 LR LR 03 25 26.8
comp=Z,124nm,19.4s,baz=238,slow=37
TAOE Nuku Hiva Isla 54.30 249 *e*LR LR 03 18 18.1
comp=Z,110nm,28.5s
DLBC Dease Lake 54.56 335 P **P 03 02 38.0 +0.3**
comp=Z,41nm,0.8s,baz=115,slow=7.2,SNR=4.8
DLBC LR LR 03 27 30.9
comp=Z,286nm,19.8s,baz=142,slow=38
SFJD Kangerlussuaq 60.07 17 LR LR 03 30 04.7
comp=Z,55nm,18.8s,baz=221,slow=37
M29M Somme Creek 60.30 336 P **P 03 03 18.3 +0.1**
RES Resolute Bay 61.93 359 LR LR 03 31 15.6
comp=Z,68nm,20.3s,baz=36,slow=37
ILAR Eielson Array 64.72 337 P **P 03 03 46.7 -0.8**
comp=Z,2.1nm,1.0s,baz=142,slow=4.3,SNR=17
comp=Z,2.1nm,1.0s
I23K Minto, Yukon-K 65.84 337 P **P 03 03 54.4 -0.3**
I23K IAmb IAmb 03 03 55.2
comp=Z,4.1nm,0.8s
PPT2 Papeete2 66.14 244 *e*LR LR 03 23 51.5
comp=Z,31nm,21.2s
MLY Manley 66.33 336 IAmb IAmb 03 03 58.5
comp=Z,4.7nm,0.8s
F21K Alatna River 68.16 338 P **P 03 04 09.9 +0.4**
F21K IAmb IAmb 03 04 10.5
comp=Z,4.9nm,0.8s
BORG Borgarnes 69.43 25 LR LR 03 35 23.5
comp=Z,29nm,18.3s,baz=282,slow=37
G18K Tagagawik 69.74 336 P **P 03 04 20.0 +0.6**
J16K Anvik River 69.97 333 P **P 03 04 21.6 +0.8**
JMIC Jan Mayen 75.20 20 LR LR 03 38 44.4
comp=Z,30nm,18.1s,baz=179,slow=37
EKA Eskdalemuir Ar 77.77 36 P **P 03 05 03.3 -3.3**
comp=Z,1.7nm,0.8s,baz=276,slow=6.1,SNR=6.3
comp=Z,1.7nm,0.8s
ESDC Sonseca Array 78.90 52 P **P 03 05 10.9 -2.3**
ESDC Sonseca Array 78.90 52 P **P 03 05 10.2 -3.0**
comp=Z,0.6nm,0.6s,baz=264,slow=5.3,SNR=9.3
comp=Z,0.6nm,0.6s
MDT Midelt 79.32 59 LR LR 03 36 19.3
comp=Z,37nm,18.6s,baz=280,slow=33
SPITS Spitsbergen Ar 80.86 12 LR LR 03 45 11.2
comp=Z,66nm,18.1s,baz=302,slow=39
DBIC Dimbokro 83.79 85 P **P 03 05 38.9 -0.7**
DBIC Dimbokro 83.79 85 P **P 03 05 39.5 -0.1**
comp=Z,5.8nm,0.8s,baz=252,slow=6.4,SNR=5.2
DBIC LR LR 03 40 03.1
comp=Z,37nm,21.4s,baz=184,slow=34
comp=Z,5.8nm,0.8s
NOA NORSAR Array B 84.24 29 P **P 03 05 39.4 -1.6**
comp=Z,0.6nm,0.6s,baz=287,slow=4.7,SNR=2.6
NOA LR LR 03 43 48.0
comp=Z,18nm,18.2s,baz=290,slow=36
comp=Z,0.6nm,0.6s
HFS Hagfors 85.68 29 P **P 03 05 45.9 -2.3**
comp=Z,1.6nm,0.9s,baz=338,slow=5.3,SNR=1.5
comp=Z,1.6nm,0.9s
ARCES ARCESS Array B 86.64 19 P **P 03 05 50.9 -2.0**
comp=Z,4.2nm,1.1s,baz=284,slow=4.9,SNR=5.8
comp=Z,4.2nm,1.1s
TORD Torodi Ar. Bea 88.72 77 P **P 03 06 01.1 -2.8**
comp=Z,0.4nm,0.6s,baz=304,slow=4.8,SNR=4.6
comp=Z,0.4nm,0.6s
GERES GERESS Array B 89.25 40 LR LR 03 43 23.6
comp=Z,34nm,18.7s,baz=288,slow=34
SEY Seymchan 90.65 336 LR LR 03 50 41.7
comp=Z,44nm,18.4s,baz=358,slow=38
FINES FINESS Array B 90.73 26 P **P 03 06 11.5 -0.7**
comp=Z,2.2nm,0.9s,baz=291,slow=8.8,SNR=3.9
comp=Z,2.2nm,0.9s
TIXI Tiksi 91.83 349 LR LR 03 52 04.5
comp=Z,54nm,19.3s,baz=24,slow=39
VAE Valguarnera 93.40 51 LR LR 03 47 20.3
comp=Z,70nm,18.5s,baz=320,slow=35

WRA	**Warramunga Arr**	**137.01**	**254**	PKP		**PKiKP**	**03 12 34.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=88,slow=2.7,SNR=5.7							
ASAR	**Alice Springs**	**137.12**	**249**	PKP		**PKPdf**	**03 12 33.6**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=99,slow=2.1,SNR=5.7							
CMAR	**Chiang Mai Arr**	**147.72**	**344**	PKPbc		**PKPbc**	**03 12 55.7**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=342,slow=3.7,SNR=34							

KRSC 13 02:59:21.9±1.6, 48°.02N×156°.76E, h16km±30km, MI4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.70**	**351**	*e*P	Pn	03 00 05.0	+0.4
SKR				*e*S	Sn	03 00 37.7	+0.8
ASAK	**Asacha**	**4.43**	**9**	*e*P	Pn	03 00 32.8	+4.4
RUS	**Russkaya**	**4.56**	**14**	*e*P	Pn	03 00 33.6	+3.5
RUS				*e*S	Sn	03 01 28.3	+5.7
MTVR	**Mutnovka**	**4.56**	**11**	*e*P	Pn	03 00 34.5	+4.3
MTVR				*e*S	Sn	03 01 28.2	+5.3
GRL	**Gorelyy**	**4.61**	**10**	*e*P	Pn	03 00 35.4	+4.3
GRL				*e*S	Sn	03 01 29.9	+5.7
KRMR	**Karymshinskiy**	**4.89**	**10**	*e*P	Pn	03 00 39.4	+4.7
KRMR				*e*S	Sn	03 01 37.0	+6.1
AVH	**Avacha**	**5.40**	**13**	*e*P	Pn	03 00 46.0	+4.3
SMAR	**Somma**	**5.41**	**13**	*e*P	Pn	03 00 46.9	+5.0
KOK	**Koryaka**	**5.41**	**12**	*e*P	Pn	03 00 46.9	+4.9
SDLR	**Sedlovina**	**5.43**	**14**	*e*P	Pn	03 00 46.6	+4.3
KRER	**Koryakskii**	**5.44**	**13**	*e*P	Pn	03 00 45.9	+3.5
KRX	**Arik**	**5.48**	**12**	*e*P	Pn	03 00 47.9	+5.0
MKZ	**Mys Kozlova**	**7.24**	**24**	*e*P	Pn	03 01 12.5	+5.5
KBTR	**Krutoberegovo**	**9.00**	**22**	*e*P	Pn	03 01 36.1	+5.0

*NEIC **13** 03:09:12.2±1.9, 25°.6S±0°.1×177°.4W±0°.2, h82km±6km, mb4.5/35, Error ellipse: s-maj=23.8km s-min=13.1km az=120.0*
*IDC **13** 03:09:19.9±0.7, 25°.51S×177°.48W, h161km±6km, mb4.0/13, mbtmp4.4/15, Error ellipse: s-maj=15.8km s-min=12.0km az=103.0*
ISC 13 03:09:19.3±0.7, 25°.54S±0°.07×177°.42W±0°.10, h154km±5km, h154km:pP-P, n118, σ19.36/118, mb4.3/34, 14C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.72**	**187**	Pn	Pn	03 10 05.8	-10
RAO	**Raoul Island**	**3.72**	**187**	P	**Pn**	**03 10 17.4**	**+1.4**
	160nm,0.4s,baz=271,slow=22,SNR=1.6						
RAO				S	**Sn**	**03 11 00.2**	**0.0**
	632nm,0.4s,baz=272,slow=24,SNR=8.2						
MSVF	**Nonsavu**	**8.84**	**331**		**Pn**	**03 11 24.6**	**+0.6**
NIUE	**Niue**	**9.46**	**49**		Pn	03 11 26.4	-5.7
AFI	**Afiamalu**	**12.73**	**26**	Pn	Pn	03 12 07.5	-7.6
URZ	**Urewera**	**13.50**	**199**	P	**P**	**03 12 26.8**	**-1.7**
	2.7nm,0.4s,baz=86,slow=18,SNR=1.4						
URZ				S	Sn	03 14 41.3	-13
	9.3nm,0.6s,baz=324,slow=23,SNR=9.9						
DZM	**Mont Dzumac**	**15.16**	**280**	Pn	**P**	**03 12 50.4**	**+3.1**
DZM				IAmb	IAmb	03 13 19.6	
	comp=Z,49nm,1.5s						
DZM	**Mont Dzumac**	**15.16**	**280**	P	**P**	**03 12 48.8**	**+1.5**
	comp=Z,10.0nm,0.7s,baz=87,slow=17,SNR=9.7						
SANVU	**Saraoutou**	**17.54**	**302**		**P**	**03 13 11.7**	**-1.7**
SANVU				IAmb	IAmb	03 13 17.8	
	comp=Z,48nm,1.1s						
EIDS	**Eidsvold**	**28.41**	**263**		**P**	**03 15 00.9**	**+1.3**
CTAO	**Charters Tower**	**33.85**	**272**		**P**	**03 15 48.4**	**+1.0**
STKA	**Stephens Creek**	**36.33**	**250**	P	**P**	**03 16 08.2**	**-0.3**
STKA	**Stephens Creek**	**36.33**	**250**	P	**P**	**03 16 08.1**	**-0.4**
	comp=Z,3.4nm,0.4s,baz=96,slow=12,SNR=22						
STKA				PcP	**PcP**	**03 18 29.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=62,slow=7.3,SNR=4.4						
	comp=Z,3.4nm,0.4s						
INKA	**Innaminka**	**37.33**	**257**		**P**	**03 16 17.5**	**+0.6**
INKA				IAmb	IAmb	03 16 19.4	
	comp=Z,5.7nm,0.7s						
COEN	**Coen**	**38.69**	**280**	P	**P**	**03 16 28.1**	**-0.4**
COEN				IAmb	IAmb	03 16 30.2	
	comp=Z,6.1nm,1.1s						
BBOO	**Buckleboo**	**41.00**	**249**	P	**P**	**03 16 46.5**	**-0.9**
BBOO				IAmb	IAmb	03 16 48.6	
	comp=Z,9.6nm,0.9s						
ASAR	**Alice Springs**	**44.10**	**262**		**P**	**03 17 11.2**	**-1.3**
ASAR	**Alice Springs**	**44.10**	**262**	P	**P**	**03 17 11.6**	**-1.0**
	comp=Z,5.6nm,0.4s,baz=93,slow=7.3,SNR=126						
ASAR				pP	**pwP**	**03 17 49.2**	**0.0**
	comp=Z,2.0nm,0.9s,baz=105,slow=8.1,SNR=1.1						
ASAR				PcP	**PcP**	**03 18 54.2**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=92,slow=4.2,SNR=3.1						
	comp=Z,5.6nm,0.4s						
WRA	**Warramunga Arr**	**44.65**	**267**		**P**	**03 17 15.2**	**-1.7**
WRA	**Warramunga Arr**	**44.65**	**267**	P	**P**	**03 17 15.0**	**-1.9**
	comp=Z,3.4nm,0.5s,baz=104,slow=7.9,SNR=33						
WRA				pP	**pwP**	**03 17 53.3**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=103,slow=8.1,SNR=2.6						
WRA				PcP	**PcP**	**03 18 56.2**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=101,slow=3.7,SNR=4.7						
	comp=Z,3.4nm,0.5s						
FORT	**Forrest**	**47.96**	**251**		**P**	**03 17 40.7**	**-1.9**
KNRA	**Kununurra**	**51.03**	**270**		**P**	**03 18 05.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**53.05**	**266**	P	**P**	**03 18 19.7**	**-1.2**
SOEI	**Soe**	**57.32**	**275**	P	**P**	**03 18 48.2**	**-3.5**
CASY	**Casey**	**59.68**	**206**	P	**P**	**03 19 06.4**	**-0.7**
CASY				IAmb	IAmb	03 19 06.8	
	comp=Z,5.7nm,1.1s						
QSPA	**South Pole Qui**	**64.55**	**180**	P	**P**	**03 19 41.7**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=353,slow=0.5,SNR=6.1						
QSPA				pP	**pwP**	**03 20 18.2**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=322,slow=1.0,SNR=8.3						
	comp=Z,0.8nm,0.7s						
MAW	**Mawson**	**77.03**	**200**	P	**P**	**03 20 55.5**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=136,slow=5.8,SNR=40						
MAW				pP	**pwP**	**03 21 34.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=133,slow=8.2,SNR=2.8						
	comp=Z,4.4nm,0.5s						
KSRS	**Korea Array**	**81.01**	**319**	P	**P**	**03 21 16.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=134,slow=5.7,SNR=4.8						
	comp=Z,1.9nm,0.8s						
PETK	**Petropavlovsk-**	**81.26**	**345**	P	**P**	**03 21 17.1**	**-0.7**
	comp=Z,10.0nm,0.6s,baz=127,slow=6.5,SNR=11						
	comp=Z,10.0nm,0.6s						
CBX	**Cerro Bola**	**81.63**	**48**	P	**P**	**03 21 21.3**	**+0.8**
CBX				IAmb	IAmb	03 22 00.6	
	comp=Z,10nm,1.2s						
TROLL	**Troll, Antarti**	**82.71**	**180**	⇑P	**P**	**03 21 25.7**	**+0.1**
	comp=Z,98nm,0.5s						
H03S2	**Juan Fernandez**	**82.73**	**124**	T	T	04 52 47.3	
	baz=243,slow=74,SNR=6.8						
H03S1	**Juan Fernandez**	**82.74**	**124**	T	T	04 52 46.9	
	baz=243,slow=74,SNR=9.9						
H03S3	**Juan Fernandez**	**82.75**	**124**	T	T	04 52 57.2	
	baz=243,slow=74,SNR=10						
O02D	**Mt. Diablo Mer**	**82.81**	**39**	P	**P**	**03 21 27.9**	**+1.5**
O02D				IAmb	IAmb	03 21 29.1	
	comp=Z,7.4nm,1.2s						
SNAA	**Sanae**	**82.98**	**178**	⇑P	**P**	**03 21 28.4**	**+1.5**
	comp=Z,14nm,0.5s						
SNAA	**Sanae**	**82.98**	**178**	P	**P**	**03 21 27.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=189,slow=9.3,SNR=2.8						
SNAA				pP	**pP**	**03 22 05.8**	**+1.3**
	comp=Z,2.0nm,1.1s,baz=161,slow=6.5,SNR=3.3						
	comp=Z,1.1nm,0.8s						
BELC	**Belle Mtn. Jos**	**83.09**	**47**	P	**P**	**03 21 29.2**	**+1.1**
BELC				IAmb	IAmb	03 21 29.7	
	comp=Z,3.9nm,0.8s						
VNA3	**Neumayer Olymp**	**83.10**	**176**	⇑P	**P**	**03 21 27.8**	**+0.3**
	comp=Z,4.1nm,0.7s						
KSXB	**Camp Six Broad**	**83.33**	**37**	P	**P**	**03 21 29.9**	**+0.9**
O03E	**Paynes Creek**	**83.46**	**39**	IAmb	IAmb	03 21 35.8	
	comp=Z,3.4nm,0.9s						
NJ2	**Nanjing**	**83.50**	**310**	*e*P	**P**	**03 21 34.3**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
VNA2	**Neumayer--Watz**	**83.54**	**177**	⇑P	**P**	**03 21 29.6**	**0.0**
	comp=Z,2.8nm,0.6s,baz=161,slow=4.2						
M02C	**Callahan**	**83.59**	**38**		**P**	**03 21 31.4**	**+1.0**
WAKR	**Walker**	**83.69**	**42**	IAmb	IAmb	03 21 32.5	
	comp=Z,2.7nm,0.7s						
IRM	**Iron Mountain**	**83.75**	**48**	IAmb	IAmb	03 21 33.4	
	comp=Z,4.7nm,1.3s						
VNA1	**Neumayer--Stat**	**83.77**	**176**	⇑P	**P**	**03 21 31.5**	**+0.7**
	comp=Z,3.1nm,0.8s						
BEKR	**Beckworth**	**84.02**	**41**	IAmb	IAmb	03 21 33.3	
	comp=Z,2.2nm,0.5s						
NVAR	**Mina Array Bea**	**84.33**	**43**	P	**P**	**03 21 34.9**	**+0.5**
NVAR	**Mina Array Bea**	**84.33**	**43**	P	**P**	**03 21 34.2**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=224,slow=8.6,SNR=32						
	comp=Z,2.8nm,0.6s						
TPH	**Tonopah**	**84.78**	**43**	IAmb	IAmb	03 21 37.8	
	comp=Z,4.2nm,0.8s						
PRN	**Pahroc Range**	**85.74**	**45**	IAmb	IAmb	03 21 43.2	
	comp=Z,4.5nm,0.9s						
J05D	**Fort Rock, OR**	**85.75**	**37**	IAmb	IAmb	03 21 42.2	
	comp=Z,4.1nm,1.2s						
X16A	**Lo Mia Camp, P**	**86.40**	**49**	IAmb	IAmb	03 21 46.8	
	comp=Z,2.5nm,0.8s						
BNX	**BinXian**	**86.83**	**325**	⇑P	**P**	**03 21 47.3**	**+1.1**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.9s						
TXAR	**Lajitas Array**	**89.33**	**57**	P	**P**	**03 21 59.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=219,slow=7.8,SNR=6.8						
	comp=Z,0.5nm,0.8s						
HEH	**HeiHe**	**89.86**	**328**	*e*P	**P**	**03 21 59.9**	**-0.5**
PDAR	**Pinedale Array**	**92.26**	**43**	P	**P**	**03 22 11.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=210,slow=4.0,SNR=16						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.28**	**289**	P	**P**	**03 22 13.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=142,slow=3.4,SNR=14						
	comp=Z,0.7nm,0.3s						
ILAR	**Eielson Array**	**93.09**	**13**	P	**P**	**03 22 13.8**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=215,slow=5.4,SNR=13						
	comp=Z,0.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**93.23**	**314**	*e*P	**P**	**03 22 20.4**	**+3.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.3s						
PZH	**PanZhiHua**	**93.52**	**298**	P	**P**	**03 22 20.8**	**+2.7**
GTA	**Gaotai**	**100.54**	**309**	*e*P	**Pdif**	**03 22 43.4**	**-6.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**114.99**	**312**	PKP	PKPdf	03 27 40.0	-1.9
	comp=Z,0.7nm,0.5s,baz=94,slow=1.2,SNR=6.3						
KURBB	**Kurchatov Arra**	**118.05**	**316**	PKP	**PKPdf**	**03 27 45.9**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=97,slow=1.6,SNR=9.3						
ARCES	**ARCESS Array B**	**133.95**	**349**	PKP	**PKPdf**	**03 28 16.4**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=29,slow=0.8,SNR=18						
FINES	**FINESS Array B**	**140.73**	**342**	PKhKP	PKPpre	03 28 21.3	
	comp=Z,1.5nm,0.8s,baz=55,slow=7.2,SNR=11						
FINES				PKP	**PKPdf**	**03 28 28.4**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=56,slow=3.5,SNR=9.4						
NB2	**NORSAR Subarra**	**144.03**	**353**	PKP	**PKPab**	**03 28 32.9**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**144.03**	**353**	PKP	**PKPab**	**03 28 33.0**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=56,slow=1.5,SNR=22						
HFS	**Hagfors**	**144.58**	**350**	PKP	**PKPab**	**03 28 34.6**	**-1.2**
	comp=Z,12nm,0.4s,baz=28,slow=3.1,SNR=97						
KOPT	**Kop Dagi**	**145.28**	**304**		**PKPab**	**03 28 40.3**	**+0.7**
KONO	**Kongsberg**	**145.56**	**354**	PKPdf	**PKPdf**	**03 28 38.3**	**-0.4**
MARD	**Mardin**	**145.57**	**299**		**PKPbc**	**03 28 40.1**	**0.0**
NACGM	**Naroch**	**145.68**	**335**	*e*PKiKP	**PKPbc**	**03 28 39.4**	**-0.3**
	comp=Z,62nm,0.9s,baz=41						
PABE	**Paberze**	**146.22**	**338**		**PKPbc**	**03 28 40.9**	**-0.3**
AKASG	**Malin Array Be**	**147.61**	**328**	PKPbc	**PKPbc**	**03 28 44.0**	**-1.3**
	comp=Z,3.7nm,0.4s,baz=44,slow=3.9,SNR=28						
KIEV	**Kiev**	**147.62**	**328**		**PKPbc**	**03 28 44.1**	**-1.2**
SUW	**Suwalki**	**147.70**	**337**	*e*PKP	**PKPab**	**03 28 51.9**	**+3.8**
SORM	**Soroca**	**149.69**	**325**	⇑P	**PKPbc**	**03 28 49.4**	**-1.3**
EKA	**Eskdalemuir Ar**	**149.94**	**7**	PKPbc	**PKPbc**	**03 28 49.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=1.6,SNR=5.3						
BRTR	**Keskin Array B**	**150.43**	**306**	PKPbc	**PKPbc**	**03 28 52.0**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=97,slow=2.8,SNR=17						
MMAI	**Mount Meron Ar**	**150.50**	**292**	PKPbc	**PKPbc**	**03 28 53.4**	**+0.2**
	comp=Z,7.0nm,0.6s,baz=73,slow=6.2,SNR=14						
KWP	**Kalwaria Pacla**	**151.32**	**332**	*e*PKP	**PKPbc**	**03 28 54.4**	**-0.2**
TPGR	**Topolog**	**151.61**	**319**	⇓P	**PKiKP**	**03 28 55.5**	**-0.2**
BURAR	**Bucovina Array**	**151.63**	**327**		**PKPbc**	**03 28 55.2**	**-0.2**
BURAR	**Bucovina Array**	**151.63**	**327**	⇑P	**PKPbc**	**03 28 55.4**	**0.0**
VRI	**Vrincioaia**	**151.98**	**323**	⇓P	**PKPbc**	**03 28 56.0**	**-0.1**
OJC	**Ojcow**	**152.00**	**336**	*e*PKP	**PKPbc**	**03 28 55.9**	**-0.1**
OJC	**Ojcow**	**152.00**	**336**		**PKPbc**	**03 28 55.9**	**-0.1**
STHS	**Stebnicka Huta**	**152.09**	**333**	*e*PKP	**PKPbc**	**03 28 56.0**	**-0.3**
NIE	**Niedzica**	**152.46**	**335**	*e*PKP	**PKiKP**	**03 28 57.6**	**+0.3**
KSP	**Ksiaz**	**152.63**	**341**	*e*PKP	**PKPbc**	**03 28 57.4**	**0.0**
BORA	**Eskisehir**	**152.67**	**308**		**PKPbc**	**03 28 57.2**	**-0.7**
OSTC	**Ostas**	**152.90**	**341**	⇑*e*PKP	**PKiKP**	**03 28 58.4**	**+0.2**
OSTC				*e*PKPAB	**PKPab**	**03 29 09.8**	**+0.1**
STEB	**Steborice**	**152.95**	**338**	⇑*e*PKP	**PKPbc**	**03 28 57.8**	**-0.3**
STEB				*e*PKPAB	**PKPab**	**03 29 09.6**	**-0.3**
LANS	**Liptovska Anna**	**153.00**	**335**	*e*PKP	**PKiKP**	**03 28 58.9**	**+0.4**
CLL	**Collm**	**153.06**	**345**	*e*PKPdf	**PKPdf**	**03 28 52.0**	**+1.1**
CLL				*i* PKPbc	**PKPbc**	**03 28 57.8**	**-0.5**
	comp=Z,7.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**03 29 09.4**	**-0.9**
	comp=Z,6.0nm,0.6s						
CLL				*ex*	x	03 29 15.0	
CLL				*e*pPKPab	**pPKPdf**	**03 29 28.0**	**-3.2**
BRG	**Berggiesshubel**	**153.24**	**344**	P	**PKPab**	**03 29 10.7**	**-0.4**
BRG				Amp		03 29 11.2	
	comp=Z,2.5nm,0.7s						
PVCC	**Panska Ves**	**153.39**	**343**	⇑*e*PKP	**PKPbc**	**03 28 58.8**	**-0.3**
MAUC	**Maruska**	**153.42**	**337**	⇑*e*PKP	**PKiKP**	**03 28 59.4**	**+0.1**
SIRR	**Siria**	**154.30**	**328**	⇓P	**PKPbc**	**03 29 00.9**	**-0.3**
KHC	**Kasperske Hory**	**154.93**	**343**	⇑*e*PKP	**PKPbc**	**03 29 02.2**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**03 29 17.8**	**-0.6**
CKRC	**Cesky Krumlov**	**155.01**	**341**	⇑*e*PKP	PKPdf	03 29 02.3	+8.6
CKRC				*e*PKPAB	**PKPab**	**03 29 18.4**	**-0.4**
GERES	**GERESS Array B**	**155.16**	**342**	PKPbc	PKPdf	03 29 02.3	+8.3
	comp=Z,0.6nm,0.9s,baz=48,slow=5.9,SNR=3.8						
GERES				PKPab	**PKPab**	**03 29 18.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=35,slow=4.9,SNR=5.5						
CONA	**Conrad Observa**	**155.32**	**338**	*e*PKP	**PKPab**	**03 29 20.1**	**-0.1**
	comp=Z,1.5nm,0.7s						
RONA	**Rosalia, Austr**	**155.37**	**337**	*e*pPKP	**PKPab**	**03 29 20.4**	**+0.1**
	comp=Z,3.3nm,1.0s						
BIOA	**Bad Ischl, Aus**	**156.22**	**341**	*i* PKP	**PKPab**	**03 29 23.2**	**-0.7**
	comp=Z,4.6nm,0.8s						
SOKA	**Soboth**	**156.69**	**338**	*i* PKP	**PKPab**	**03 29 25.3**	**-0.7**
	comp=Z,1.9nm,0.8s						
LESA	**Schwarzleotal**	**156.74**	**342**	*i* PKP	**PKPab**	**03 29 25.5**	**-0.8**
	comp=Z,4.2nm,0.8s						
KBA	**Koelnbreinsper**	**156.87**	**341**	*i* PKP	**PKPab**	**03 29 26.0**	**-0.9**
	comp=Z,1.3nm,0.5s						
OBKA	**Obir**	**157.00**	**338**	*i* PKP	**PKPab**	**03 29 26.0**	**-1.4**
	comp=Z,2.1nm,1.1s						
RETA	**Reutte**	**157.16**	**346**	*i* PKP	**PKPab**	**03 29 27.5**	**-0.6**
	comp=Z,1.7nm,0.6s						
WTTA	**Wattenberg**	**157.16**	**344**	*e*PKP	**PKPab**	**03 29 27.7**	**-0.5**
	comp=Z,3.3nm,0.6s						
MOTA	**Moosalm**	**157.21**	**345**	*e*PKP	**PKPab**	**03 29 27.5**	**-0.9**
	comp=Z,1.9nm,0.6s						
ABTA	**Abfaltersbach**	**157.40**	**342**	*e*PKP	**PKPab**	**03 29 27.7**	**-1.4**
	comp=Z,2.1nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**158.09**	**346**		**PKPab**	**03 29 32.6**	**+0.2**
FDMO	**Fiordimonte**	**160.54**	**336**		**PKPab**	**03 29 42.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**167.64**	**176**	PKP	**PKPdf**	**03 29 06.5**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=145,slow=2.0,SNR=4.2						

*AEIC **13** 03:12:05.4±1.1, 51°.9N±0°.2×171°.46W±0°.07, h34km±9km, Error ellipse: s-maj=26.1km s-min=1.7km az=166.0*
NEIC 13 03:12:06.0±0.9, 52°.0N±0°.2×171°.55W±0°.07, h35km±2km, ML3.5/10, ML3.0(AEIC), Error ellipse: s-maj=28.9km s-min=3.1km az=345.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.28**	**52**		Sn	03 12 44.4	+1.1
CLES	**Cleveland East**	**1.28**	**52**		Pn	03 12 27.1	-0.3
CLCO	**Concord Point,**	**1.34**	**55**		Pn	03 12 27.9	-0.3
CLCO					Sn	03 12 46.4	+1.5
KOSE	**Korovin Southe**	**1.57**	**282**		Pn	03 12 31.9	+0.4
KOSE					Sn	03 12 51.5	+0.9
KOFP	**Korovin Flat P**	**1.59**	**280**		Pn	03 12 31.5	-0.1
KOFP					Sn	03 12 51.8	+0.8
KONE	**Korovin Northe**	**1.62**	**284**		Pn	03 12 31.9	-0.2
KOKV	**Korovin Volcan**	**1.64**	**282**		Pn	03 12 32.5	+0.1
KOKL	**Mount Kliuchef**	**1.66**	**281**		Pn	03 12 32.9	+0.3
KOWE	**Korovin West**	**1.70**	**282**		Pn	03 12 33.0	-0.1
NIKH	**Nikolski High**	**1.89**	**59**		Pn	03 12 35.0	-0.8
NIKH				IAML		03 13 00.6	
	comp=N,468nm,0.4s						
NIKH				IAML		03 13 03.3	
	comp=E,330nm,0.6s						
NIKH	**Nikolski High**	**1.89**	**59**		Sn	03 12 57.6	-0.8
OKSP	**Okmok Steeple**	**2.33**	**57**		Pn	03 12 41.8	0.0
OKCE	**Okmok Cone E**	**2.48**	**55**		Pn	03 12 44.3	+0.4
OKNC	**Okmok New Cone**	**2.52**	**54**		Pn	03 12 44.7	+0.2
OKTU	**Okmok Mt. Tuli**	**2.52**	**56**		Pn	03 12 44.7	+0.2
OKFG	**Magazine Ridge**	**2.60**	**57**		Pn	03 12 45.9	+0.3
GSIG	**Igitkin Island**	**2.71**	**271**		Pn	03 12 46.4	-0.6
GSIG					Sn	03 13 18.3	-0.2
GSMY	**Great Sitkin M**	**2.79**	**272**		Pn	03 12 47.9	-0.2
GSCK	**Great Sitkin C**	**2.85**	**271**		Pn	03 12 48.8	-0.2
GSCK					Sn	03 13 22.3	+0.2
ETKA	**Kagalaska Isla**	**3.01**	**269**		Pn	03 12 51.0	-0.2
ADAG	**Mount Adagdak**	**3.12**	**271**		Pn	03 12 52.6	-0.1
ADK	**Adak**	**3.18**	**269**		Pn	03 12 53.2	-0.3
ADK				IAML		03 13 39.1	
	comp=E,131nm,0.7s						
ADK				IAML		03 13 41.9	
	comp=E,122nm,0.3s						
MGOD	**Makushin Gods**	**3.33**	**56**		Pn	03 12 55.3	-0.4
MREP	**Makushin Rep't**	**3.40**	**57**		Pn	03 12 56.5	-0.1
MSW	**Makushin Switc**	**3.44**	**55**		Pn	03 12 56.8	-0.3
KIWB	**Kanaga Island**	**3.47**	**269**		Pn	03 12 58.1	+0.6
KIWB				IAML		03 13 50.6	
	comp=N,106nm,1.2s						
KIWB				IAML		03 13 54.6	
	comp=E,83nm,0.7s						
MNAT	**Makushin Natee**	**3.47**	**56**		Pn	03 12 57.5	0.0
KIMD	**Kanaga Island**	**3.53**	**268**		Pn	03 12 58.9	+0.5
UNV	**Unalaska Valle**	**3.55**	**57**	Pn	Pn	03 12 58.4	-0.1
TASE	**Tanaga Southea**	**4.02**	**270**		Pn	03 13 05.7	+0.5
AMKA	**Amchitka**	**5.73**	**267**	Pn	Pn	03 13 28.9	+0.4

*ROM **13** 03:32:20.9±0.2, 45°.87N±0°.01×6°.99E±0°.02, h8km, ML1.7/14, Error ellipse: s-maj=1.4km s-min=1.2km az=217.0*
*GEN **13** 03:32:20.5, 45°.86N×6°.99E, h8km±2km, MI1.7*
*LDG **13** 03:32:21.7±0.0, 45°.86N×7°.00E, h2km, Md2.3/2, Ml2.3/24, Error ellipse: s-maj=0.9km s-min=0.6km az=102.0*
*ZUR **13** 03:32:21.5, 45°.87N×6°.97E, h1km, MLh1.5/26, Error ellipse: s-maj=1454.5km s-min=542.7km az=228.0*
STR 13 03:32:21.5±0.2, 46°N±1°×1°±°, h10km, MLv1.8/11, 19C-6D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.05**	**249**	⇓Pg	Pg	03 32 22.7	-1.3
BLANC				Sg	Sg	03 32 23.5	-2.2
MRGE	**Morge**	**0.10**	**153**	⇑Pg	Pg	03 32 24.0	-0.3
MRGE				Sg	Sg	03 32 25.9	-0.4
MRGE	**Morge**	**0.10**	**153**	P	Pg	03 32 24.0	-0.3
MRGE				S	Sg	03 32 25.9	-0.3
MRGE	**Morge**	**0.10**	**153**	P	Pg	03 32 24.1	-0.3
MRGE				S	Sg	03 32 25.9	-0.4
REMY	**Saint-Rhmy-en**	**0.12**	**101**	⇑Pg	Pg	03 32 24.5	0.0
REMY				Sg	Sg	03 32 26.9	+0.1
REMY	**Saint-Rhmy-en**	**0.12**	**101**	P	Pg	03 32 24.5	0.0
REMY				S	Sg	03 32 26.8	0.0
REMY	**Saint-Rhmy-en**	**0.12**	**101**	P	Pg	03 32 24.5	-0.1
REMY				S	Sg	03 32 26.7	0.0
REMY				AML	AML		
	comp=E,672μm

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NEIC ***13*** *03:38:23.6±2.7,20°.3S±0°.1×173°.35W±0°.05,h10km±1km, mb4.8/37, Error ellipse: s-maj=19.6km s-min=4.5km az=158.0*

IDC ***13*** *03:38:24.5±0.5,20°.41S×173°.87W,h0km,mb4.3/15, mbtmp4.4/17,ML4.7/2,MS3.9/24, Error ellipse: s-maj=21.8km s-min=15.8km az=123.0*

NOU ***13*** *03:38:26.3,20°.08S×173°.36W,h41km,mb4.8/24, Tonga Islands*

ISC 13 03:38:25.8±0.3,**20°.35S**±0°.07×**173°.39W**±0°.04,**h21**km, **n180**,σ2°**03**/145,**mb4.7**/37,**MS4.1**/24,**6C-1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.50**	**69**		**Pn**	**03 39 17.5**	**-1.5**
NIUE	**Niue**	**3.50**	**69**	P	**Pn**	**03 39 17.2**	**-1.8**
NIUE	**Niue**	**3.50**	**69**	S	**Sn**	**03 39 56.2**	**-3.5**
NIUE	**Niue**	**3.50**	**69**	P	**Pn**	**03 39 17.1**	**-1.9**
NIUE				S	**Sn**	**03 39 55.6**	**-4.1**
AFI	**Afiamalu**	**6.59**	**14**	Pn	**Pn**	**03 39 59.8**	**-1.8**
MSVF	**Nonsavu**	**8.51**	**286**		Pn	03 40 32.4	+4.4
GLKZ	**Green Lake**	**9.78**	**204**	P	Pn	03 40 36.1	-9.2
GLKZ				S	Sn	03 42 23.5	-11
RAR	**Rarotonga**	**12.76**	**96**	Pn	**Pn**	**03 41 24.5**	**-1.6**
	4.3nm,0.3s,baz=248,slow=9.3,SNR=15						
RAR				Sn	Sn	03 43 34.2	-13
	0.4nm,0.3s,baz=192,slow=5.8,SNR=1.9						
RAR				LR	LR	03 45 59.4	
	comp=Z,573nm,19.8s,baz=268,slow=34						
RAR	**Rarotonga**	**12.76**	**96**	P	**Pn**	**03 41 24.7**	**-1.4**
RAR	**Rarotonga**	**12.76**	**96**	S	**Sn**	**03 43 47.0**	**-0.6**
RAR	**Rarotonga**	**12.76**	**96**	P	**Pn**	**03 41 24.4**	**-1.8**
PINNC	**Pines Island,**	**17.98**	**259**	P	**P**	**03 42 34.5**	**-0.5**
PINNC				IAmb	IAmb	03 42 40.1	
	comp=Z,66nm,1.0s						
PINNC	**Pines Island,**	**17.98**	**259**	P	**Pn**	**03 42 33.9**	**-0.7**
YATNC	**Mamie plateau,**	**18.47**	**261**	P	**Pn**	**03 42 40.3**	**-0.3**
OUENC	**Ouen Island, N**	**18.53**	**260**	P	**P**	**03 42 40.1**	**-1.0**
DZM	**Mont Dzumac**	**18.89**	**261**	*e*P	**P**	**03 42 44.0**	**-1.0**
	comp=Z,103nm,1.2s						
DZM				*e*S	**Sn**	**03 46 10.6**	**-6.1**
	comp=Z,117nm,22.6s						
DZM				*e*LR	LR	03 47 10.0	
	comp=Z,457nm,20.9s						
DZM	**Mont Dzumac**	**18.89**	**261**		**P**	**03 42 44.4**	**-0.6**
DZM				IAmb	IAmb	03 42 48.2	
	comp=Z,33nm,0.8s						
DZM	**Mont Dzumac**	**18.89**	**261**	P	**P**	**03 42 42.8**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=64,slow=18,SNR=18						
	comp=Z,24nm,0.7s						
DZM	**Mont Dzumac**	**18.89**	**261**	P	**P**	**03 42 44.1**	**-1.0**
HAZ	**Te Kaha**	**18.97**	**202**	P	**Pn**	**03 42 46.1**	**-0.4**
SANVU	**Saraoutou**	**19.10**	**282**		**Pn**	**03 42 47.4**	**-0.9**
SANVU				IAmb	IAmb	03 42 50.1	
	comp=Z,89nm,1.2s						
MKAZ	**Moumakai**	**19.45**	**208**	P	**Pn**	**03 42 52.2**	**-0.1**
MWZ	**Matawai**	**19.57**	**202**	P	**Pn**	**03 42 53.9**	**+0.1**
URZ	**Urewera**	**19.66**	**203**	P	**P**	**03 42 52.5**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=30,slow=3.3,SNR=14						
	comp=Z,21nm,0.6s						
URZ	**Urewera**	**19.66**	**203**	P	**Pn**	**03 42 53.6**	**-1.2**
URZ	**Urewera**	**19.66**	**203**	P	**Pn**	**03 42 53.5**	**-1.2**
RTZ	**Ruatahuna**	**20.02**	**203**	P	**P**	**03 42 56.8**	**-0.5**
BKZ	**Black Stump Fm**	**20.68**	**203**	P	**P**	**03 43 04.4**	**-0.1**
BKZ	**Black Stump Fm**	**20.68**	**203**	P	**P**	**03 43 04.4**	**-0.1**
HIZ	**Hauiti**	**20.76**	**207**	P	Pn	03 43 07.0	-0.8
OTVZ	**Ourere**	**20.99**	**204**	P	**P**	**03 43 07.4**	**-0.5**
SNVZ	**South Ngauruho**	**21.02**	**204**	P	**P**	**03 43 07.9**	**-0.4**
NGZ	**Ngauruhoe**	**21.02**	**204**	P	**P**	**03 43 08.6**	**+0.3**
WNVZ	**Wahianoa**	**21.16**	**204**	P	**P**	**03 43 09.3**	**-0.5**
VRZ	**Vera Road**	**21.32**	**206**	P	**P**	**03 43 11.3**	**0.0**
NEZ	**North Egmont**	**21.72**	**207**	P	**P**	**03 43 17.4**	**+1.7**
BFZ	**Birch Farm**	**22.11**	**201**	P	**P**	**03 43 20.9**	**+1.1**
BFZ	**Birch Farm**	**22.11**	**201**	P	**P**	**03 43 21.0**	**+1.1**
MRZ	**Mangatainoka R**	**22.33**	**203**	P	**P**	**03 43 23.4**	**+1.3**
PPT2	**Papeete2**	**22.68**	**87**	*e*P	**P**	**03 43 24.3**	**-1.9**
	comp=Z,22nm,20.8s						
PPT2				*e*S	**S**	**03 47 25.4**	**-8.1**
	comp=Z,565nm,26.2s						
PPT2				*e*LR	LR	03 48 51.5	
	comp=Z,303nm,22.0s						
PPT2				*e*LR	LR	03 48 55.4	
	comp=Z,328nm,21.2s						
PPT	**Papeete**	**22.68**	**87**	LR	LR	03 50 52.4	
	comp=Z,403nm,18.3s,baz=278,slow=32						
TUWZ	**Tuamarina**	**23.61**	**204**	P	**P**	**03 43 33.3**	**-2.0**
NNZ	**Nelson**	**23.65**	**206**	P	**P**	**03 43 33.5**	**-2.2**
QRZ	**Quartz Range**	**23.68**	**207**	P	**P**	**03 43 36.2**	**+0.2**
QRZ	**Quartz Range**	**23.68**	**207**	P	**P**	**03 43 36.4**	**+0.4**
THZ	**Tophouse**	**24.30**	**206**	P	**P**	**03 43 41.2**	**-0.7**
KHZ	**Kahutara**	**24.61**	**204**	P	**P**	**03 43 45.4**	**+0.8**
KHZ	**Kahutara**	**24.61**	**204**	P	**P**	**03 43 44.7**	**+0.1**
DSZ	**Dennison Nort**	**24.75**	**207**	P	**P**	**03 43 48.4**	**+2.5**
GVZ	**Greta Valley S**	**25.27**	**204**	P	**P**	**03 43 50.1**	**-0.6**
LTZ	**Lake Taylor**	**25.41**	**205**	P	**P**	**03 43 55.2**	**+3.2**
INZ	**Inchbonnie**	**25.70**	**206**	P	**P**	**03 43 56.8**	**+2.3**
OXZ	**Oxford**	**25.96**	**205**	P	**P**	**03 44 00.1**	**+3.2**
MQZ	**McQueen's Vall**	**26.05**	**203**	P	P	03 44 05.7	+8.1
RPZ	**Rata Peaks**	**26.68**	**206**	P	**P**	**03 44 04.2**	**+0.9**
RPZ	**Rata Peaks**	**26.68**	**206**	P	**P**	**03 44 04.3**	**+0.9**
FOZ	**Fox Glacier**	**27.05**	**208**	P	**P**	**03 44 09.3**	**+2.6**
LBZ	**Lake Benmore**	**27.59**	**206**	P	**P**	**03 44 14.5**	**+3.0**
JCZ	**Jackson Bay**	**27.93**	**208**	P	**P**	**03 44 15.9**	**+1.2**
JCZ	**Jackson Bay**	**27.93**	**208**	P	**P**	**03 44 17.2**	**+2.4**
MLZ	**Mavora Lakes**	**29.25**	**207**	P	P	03 44 32.4	+6.1
WHZ	**Wether Hill Ro**	**29.74**	**207**	P	**P**	**03 44 33.8**	**+3.2**
ARMA	**Armidale**	**33.04**	**245**	P	**P**	**03 44 58.2**	**-1.9**
TAOE	**Nuku Hiva Isla**	**34.06**	**75**	*e*LR	LR	03 54 04.3	
	comp=Z,241nm,20.7s						
CNB	**Canberra Magne**	**35.93**	**238**	P	**P**	**03 45 23.8**	**-1.1**
AUSIS	**Research Schoo**	**36.12**	**238**	P	**P**	**03 45 25.1**	**-1.4**
AUMTS	**Mt Stromlo**	**36.22**	**238**	P	**P**	**03 45 27.1**	**-0.3**
CAN	**Canberra**	**36.22**	**238**		**P**	**03 45 25.8**	**-1.6**
CAN	**Canberra**	**36.22**	**238**	P	**P**	**03 45 26.6**	**-0.8**
CAN	**Canberra**	**36.22**	**238**	P	**P**	**03 45 26.4**	**-1.0**
CTAO	**Charters Tower**	**37.81**	**263**	P	**P**	**03 45 38.7**	**-2.3**
CTAO				IAmb	IAmb	03 45 39.9	
	comp=Z,16nm,1.2s						
CTAO	**Charters Tower**	**37.81**	**263**	P	**P**	**03 45 38.9**	**-2.1**
TOO	**Toolangi**	**39.51**	**235**	P	**P**	**03 45 53.6**	**-1.5**
STKA	**Stephens Creek**	**41.76**	**245**	P	**P**	**03 46 11.5**	**-2.3**
STKA	**Stephens Creek**	**41.76**	**245**	P	**P**	**03 46 11.1**	**-2.7**
	comp=Z,5.3nm,0.6s,baz=85,slow=9.5,SNR=12						
	comp=Z,5.3nm,0.6s						
COEN	**Coen**	**41.90**	**272**	P	**P**	**03 46 13.0**	**-2.1**
ASAR	**Alice Springs**	**48.76**	**256**	P	**P**	**03 47 06.9**	**-2.6**
ASAR	**Alice Springs**	**48.76**	**256**	P	**P**	**03 47 06.8**	**-2.8**
	comp=Z,11nm,0.9s,baz=88,slow=8.4,SNR=87						
ASAR				PcP	**PcP**	**03 48 35.5**	**+1.0**
	comp=Z,3.4nm,0.6s,baz=104,slow=3.7,SNR=10						
ASAR				LR	LR	04 06 53.0	
	comp=Z,143nm,19.2s,baz=104,slow=35						
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**48.89**	**261**	P	**P**	**03 47 07.4**	**-3.2**
WRA	**Warramunga Arr**	**48.90**	**261**	P	**P**	**03 47 07.5**	**-3.1**
WRA	**Warramunga Arr**	**48.90**	**261**	P	**P**	**03 47 07.8**	**-2.8**
	comp=Z,6.4nm,0.8s,baz=97,slow=5.6,SNR=95						
WRA				PcP	**PcP**	**03 48 36.2**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=93,slow=3.8,SNR=7.6						
	comp=Z,6.4nm,0.8s						
GUMO	**Guam**	**53.13**	**306**	LR	LR	04 06 19.7	
	comp=Z,51nm,21.8s,baz=118,slow=32						
FORT	**Forrest**	**53.32**	**246**	P	**P**	**03 47 41.5**	**-2.2**
FORT				IAmb	IAmb	03 47 42.5	
	comp=Z,9.5nm,0.8s						
MTN	**Manton Dam**	**53.49**	**269**	P	**P**	**03 47 43.0**	**-2.1**
MTN				IAmb	IAmb	03 47 44.0	
	comp=Z,9.3nm,0.8s						
KNRA	**Kununurra**	**54.98**	**265**	IAmb	IAmb	03 47 56.7	
	comp=Z,9.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.33**	**261**	P	**P**	**03 48 11.0**	**-1.7**
SBA	**Scott Base**	**58.35**	**185**	P	**P**	**03 48 22.4**	**+3.5**
SBA				IAmb	IAmb	03 48 26.4	
	comp=Z,19nm,1.2s						
VNDA	**Vanda**	**58.48**	**186**	P	**P**	**03 48 23.6**	**+3.7**
VNDA	**Vanda**	**58.48**	**186**	P	**P**	**03 48 22.0**	**+2.1**
	comp=Z,2.7nm,0.9s,baz=18,slow=8.2,SNR=13						
VNDA				LR	LR	04 12 36.3	
	comp=Z,100nm,18.1s,baz=11,slow=35						
	comp=Z,2.7nm,0.9s						
RPN	**Rapa Nui**	**58.49**	**110**	LR	LR	04 09 13.2	
	comp=Z,228nm,18.3s,baz=312,slow=31						
SOEI	**Soe**	**60.83**	**270**	P	P	03 48 31.6	-5.6
TNTI	**Ternate**	**61.63**	**282**		**P**	**03 48 41.3**	**-1.2**
PSA00	**Pilbara Seismi**	**61.91**	**256**	P	**P**	**03 48 42.0**	**-2.2**
MEEK	**Meekatharra**	**62.05**	**250**	P	**P**	**03 48 43.8**	**-1.4**
MBWA	**Marble Bar**	**62.10**	**256**	P	**P**	**03 48 43.7**	**-1.9**
MBWA	**Marble Bar**	**62.10**	**256**	P	**P**	**03 48 43.5**	**-2.1**
BLDU	**Ballidu**	**63.06**	**245**	P	**P**	**03 48 50.9**	**-1.0**
MORW	**Morawa**	**63.88**	**247**	P	**P**	**03 48 56.5**	**-0.8**
DAV	**Davao City (W)**	**65.88**	**288**	LR	LR	04 17 44.6	
	comp=Z,62nm,18.1s,baz=183,slow=36						
CASY	**Casey**	**65.95**	**205**	P	**P**	**03 49 11.7**	**+1.6**
CASY				IAmb	IAmb	03 49 33.1	
	comp=Z,9.7nm,1.2s						
TOLI2	**Tolitoli**	**67.83**	**280**	P	**P**	**03 49 21.6**	**-1.3**
TOLI2				IAmb	IAmb	03 49 23.0	
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**69.72**	**180**	P	P	03 49 39.4	+5.3
QSPA				IAmb	IAmb	03 49 51.5	
	comp=Z,8.7nm,0.9s						
QSPA	**South Pole Qui**	**69.72**	**180**	P	**P**	**03 49 37.1**	**+3.0**
	comp=Z,5.7nm,1.0s,baz=16,slow=1.1,SNR=12						
QSPA				LR	LR	04 16 20.6	
	comp=Z,91nm,19.5s,baz=53,slow=33						
	comp=Z,5.7nm,1.0s						
MJAR	**Matsushiro Arr**	**72.74**	**321**	P	**P**	**03 49 53.9**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=157,slow=4.9,SNR=5.5						
	comp=Z,3.2nm,0.7s						
SHEM	**Shemya Is, Ala**	**73.58**	**352**	LR	LR	04 16 40.1	
	comp=Z,118nm,21.1s,baz=134,slow=31						
JNU	**Nakatsue**	**75.21**	**314**	LR	LR	04 20 43.1	
	comp=Z,36nm,19.8s,baz=154,slow=34						
NACB	**Ninganchiao**	**77.22**	**302**	P	**P**	**03 50 19.0**	**+0.3**
PETK	**Petropavlovsk-**	**77.33**	**343**	P	**P**	**03 50 21.2**	**+2.6**
	comp=Z,5.3nm,0.9s,baz=174,slow=6.8,SNR=2.9						
PETK				LR	LR	04 17 37.6	
	comp=Z,64nm,21.2s,baz=149,slow=30						
	comp=Z,5.3nm,0.9s						
YBH	**Yreka Blue Hor**	**77.53**	**36**	LR	LR	04 18 07.9	
	comp=Z,10.0nm,19.5s,baz=244,slow=31						
KSM	**Kuching**	**77.69**	**276**	P	**P**	**03 50 22.9**	**+1.3**
KSM				IAmb	IAmb	03 50 40.1	
	comp=Z,10nm,0.9s						
RYN	**Ryan**	**77.99**	**41**	P	P	03 50 28.7	+5.8
RYN				IAmb	IAmb	03 50 31.2	
	comp=Z,10nm,1.5s						
NVAR	**Mina Array Bea**	**78.00**	**41**	P	**P**	**03 50 26.9**	**+3.9**
NVAR	**Mina Array Bea**	**78.00**	**41**	P	P	03 50 27.6	+4.5
	comp=Z,2.1nm,0.8s,baz=227,slow=8.8,SNR=12						
	comp=Z,2.1nm,0.8s						
SHPR	**Sheep Range**	**78.85**	**44**	P	**P**	**03 50 31.4**	**+3.7**
PRN	**Pahroc Range**	**79.45**	**44**		P	03 50 37.1	+6.2
TUC	**Tucson**	**79.53**	**50**	P	P	03 50 36.8	+5.4
TUC				IAmb	IAmb	03 50 40.4	
	comp=Z,19nm,1.8s						
PMSA	**Palmer Station**	**79.68**	**156**	LR	LR	04 25 16.5	
	comp=Z,89nm,18.3s,baz=132,slow=35						
KSRS	**Korea Array**	**79.70**	**316**	P	**P**	**03 50 34.2**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=119,slow=6.1,SNR=4.3						
	comp=Z,1.8nm,0.8s						
KDAK	**Kodiak Island**	**79.75**	**11**	LR	LR	04 19 41.0	
	comp=Z,111nm,21.2s,baz=197,slow=31						
KNB	**Kanab**	**80.68**	**45**	P	P	03 50 43.0	+5.4
G08A	**Pilot Rock**	**81.92**	**35**	P	P	03 50 49.1	+5.1
G08A				IAmb	IAmb	03 50 51.1	
	comp=Z,12nm,1.7s						
H03S2	**Juan Fernandez**	**82.48**	**123**	T	T	05 23 27.5	
	baz=248,slow=75,SNR=4.7						
H03S1	**Juan Fernandez**	**82.49**	**123**	T	T	05 23 37.7	
	baz=248,slow=75,SNR=5.4						
H03S3	**Juan Fernandez**	**82.50**	**123**	T	T	05 23 30.6	
	baz=248,slow=75,SNR=4.4						
MAW	**Mawson**	**83.13**	**199**	P	**P**	**03 50 49.8**	**0.0**
	comp=Z,1.9nm,0.7s,baz=124,slow=7.1,SNR=8.4						
MAW				LR	LR	04 27 43.3	
	comp=Z,179nm,18.4s,baz=112,slow=36						
	comp=Z,1.9nm,0.7s						
NJ2	**Nanjing**	**83.17**	**308**	*e*P	**P**	**03 50 50.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TXAR	**Lajitas Array**	**83.37**	**56**		**P**	**03 50 54.9**	**+3.1**
TXAR	**Lajitas Array**	**83.37**	**56**	P	**P**	**03 50 55.4**	**+3.6**
	comp=Z,1.1nm,1.0s,baz=224,slow=7.0,SNR=8.9						
	comp=Z,1.1nm,1.0s						
HLID	**Hailey**	**83.44**	**39**		P	03 50 56.9	+4.9
HLID				IAmb	IAmb	03 51 14.2	
	comp=Z,6.4nm,1.2s						
BSUT	**Blindstream Ca**	**83.97**	**43**		P	03 51 00.0	+5.0
BSUT				IAmb	IAmb	03 51 17.3	
	comp=Z,8.6nm,1.2s						
ANMO	**Albuquerque**	**83.97**	**49**	P	P	03 51 00.2	+5.2
ANMO				IAmb	IAmb	03 51 03.7	
	comp=Z,18nm,1.6s						
NEW	**Newport**	**84.78**	**34**	LR	LR	04 24 34.0	
	comp=Z,289nm,18.5s,baz=226,slow=33						
BNX	**BinXian**	**84.86**	**323**	⇑P	**P**	**03 51 00.6**	**+1.7**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PDAR	**Pinedale Array**	**85.93**	**41**	P	**P**	**03 51 06.8**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=230,slow=3.7,SNR=4.0						
	comp=Z,0.5nm,0.8s						
MCK	**McKinley**	**85.96**	**11**		P	03 51 09.7	+5.7
MCK				IAmb	IAmb	03 51 20.3	
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**86.20**	**132**	LR	LR	04 23 50.4	
	comp=Z,116nm,18.4s,baz=215,slow=32						
ILAR	**Eielson Array**	**87.27**	**11**	P	**P**	**03 51 12.5**	**+2.1**
	comp=Z,1.0nm,1.0s,baz=213,slow=5.7,SNR=8.6						
	comp=Z,1.0nm,1.0s						
SEY	**Seymchan**	**87.28**	**345**	LR	LR	04 23 29.0	
	comp=Z,31nm,21.6s,baz=50,slow=31						
IPM	**Ipoh**	**87.41**	**276**	P	**P**	**03 51 12.2**	**-0.1**
HEH	**HeiHe**	**87.52**	**327**	*e*P	P	03 51 18.4	+6.5
SYO	**Syowa Base**	**87.77**	**191**	⇓*e*PcP	**PcP**	**03 51 14.1**	**-0.7**
TROLL	**Troll, Antarti**	**87.84**	**179**	⇑P	**P**	**03 51 17.6**	**+4.2**
	comp=Z,77nm,1.2s						
VNA3	**Neumayer Olymp**	**87.95**	**175**	⇑P	**P**	**03 51 15.1**	**+1.3**
	comp=Z,1.3nm,1.0s						
SNAA	**Sanae**	**87.99**	**177**	⇑P	**P**	**03 51 15.4**	**+1.3**
	comp=Z,32nm,1.0s						
SNAA	**Sanae**	**87.99**	**177**	P	**P**	**03 51 15.3**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=144,slow=6.7,SNR=4.1						
SNAA				LR	LR	04 27 29.2	
	comp=Z,101nm,19.9s,baz=184,slow=34						
	comp=Z,1.5nm,1.0s						
VNA2	**Neumayer--Watz**	**88.44**	**175**	⇑P	**P**	**03 51 16.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=177,slow=4.1						
VNA1	**Neumayer--Stat**	**88.65**	**175**	⇑P	P	03 51 22.8	+5.8
	comp=Z,3.3nm,1.2s						
XAN	**Xi'an**	**91.52**	**306**	*e*P	**P**	**03 51 34.3**	**+3.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**92.39**	**313**	*e*P	**P**	**03 51 35.5**	**+0.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
INK	**Inuvik**	**93.05**	**14**	LR	LR	04 33 00.4	
	comp=Z,61nm,18.1s,baz=72,slow=35						
YAK	**Yakutsk**	**93.64**	**337**	LR	LR	04 27 47.5	
	comp=Z,33nm,20.2s,baz=196,slow=32						
CMAR	**Chiang Mai Arr**	**94.16**	**288**	P	**P**	**03 51 44.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=115,slow=3.2,SNR=7.0						
CMAR				LR	LR	04 34 14.3	
	comp=Z,20nm,19.6s,baz=185,slow=36						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**94.49**	**296**	P	**P**	**03 51 45.0**	**-0.1**
ULM	**Lac du Bonnet**	**97.75**	**39**	LR	LR	04 32 11.6	
	comp=Z,110nm,18.3s,baz=237,slow=33						
LPAZ	**La Paz**	**98.09**	**111**	LR	LR	04 28 59.7	
	comp=Z,70nm,18.4s,baz=240,slow=31						
WMQ	**Urumqi**	**110.11**	**310**	*e*PKP	**PKiKP**	**03 56 54.8**	**-1.3**
WMQ				LR	LR		
	comp=Z,240nm,22.9s						
ARCES	**ARCESS Array B**	**129.48**	**352**	PKP	**PKiKP**	**03 57 34.4**	**+1.3**
	comp=Z,1.8nm,1.0s,baz=264,slow=1.1,SNR=6.8						
FINES	**FINESS Array B**	**136.74**	**346**	PKP	**PKiKP**	**03 57 46.7**	**-1.3**
	comp=Z,5.9nm,1.1s,baz=85,slow=3.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**144.30**	**10**	PKP	**PKPdf**	**03 58 00.4**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=348,slow=3.5,SNR=4.1						
AKASG	**Malin Array Be**	**144.85**	**335**	PKP	**PKPdf**	**03 58 01.5**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=40,slow=4.2,SNR=16						
KIEV	**Kiev**	**144.86**	**335**	PKPdf	**PKPdf**	**03 58 00.6**	**-0.5**
LODK	**Lodwar**	**147.32**	**243**	PKPab	**PKiKP**	**03 58 10.5**	**-0.7**
BUR08	**Bucovina Ar. S**	**148.88**	**335**		**PKPab**	**03 58 15.2**	**-0.8**
BURAR	**Bucovina Array**	**148.90**	**335**	PKPab	**PKPab**	**03 58 14.9**	**-1.1**
CHVC	**Chvalec**	**148.91**	**348**	*e*PKP	**PKPab**	**03 58 19.3**	**+3.4**
BRTR	**Keskin Array B**	**149.85**	**316**		**PKiKP**	**03 58 16.4**	**+0.6**
BRTR	**Keskin Array B**	**149.85**	**316**	PKPbc	**PKiKP**	**03 58 16.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=97,slow=3.5,SNR=7.6						

TRAV	**Traversella**	**0.63**	**123**	⇓Pg	Pg	03 32 33.8	0.0
TRAV				Sg	Sg	03 32 42.0	-0.1
TRAV	**Traversella**	**0.63**	**123**	P	Pg	03 32 33.8	0.0
TRAV				S	Sg	03 32 42.0	0.0
TRAV	**Traversella**	**0.63**	**123**	⇓P	Pg	03 32 33.8	0.0
TRAV				S	Sg	03 32 42.0	-0.1
TRAV				AML	AML		
	comp=N,134μm,0.4s						
TRAV				AML	AML		
	comp=N,134μm,1.6s						
TRAV				AML	AML		
	comp=E,73μm,0.8s						
TRAV	**Traversella**	**0.63**	**123**	Pg	Pg	03 32 33.7	0.0
TRAV				Sg	Sg	03 32 42.1	0.0
RAW1	**Lenk, BE**	**0.64**	**29**	Pg	Pg	03 32 33.8	-0.1
RAW1				Sg	Sg	03 32 42.3	-0.1
EMBD	**Embd, Matterta**	**0.68**	**58**	P	Pg	03 32 34.6	-0.2
EMBD				S	Sg	03 32 44.1	+0.3
EMBD	**Embd, Matterta**	**0.68**	**58**	Pg	Pg	03 32 34.5	-0.3
EMBD				Sg	Sg	03 32 43.7	0.0
LKBD2	**Leukerbad 2**	**0.68**	**41**	⇓Pg	Pg	03 32 34.6	-0.2
OGMO	**Fort Saint-Gob**	**0.69**	**199**	Pg	Pg	03 32 34.4	-0.5
OGMO				Sg	Sg	03 32 43.9	+0.1
MMK	**Mattmark**	**0.70**	**74**	Pg	Pg	03 32 35.1	0.0
MMK				Sg	Sg	03 32 44.6	+0.2
MMK	**Mattmark**	**0.70**	**74**	P	Pg	03 32 35.0	-0.1
MMK				S	Sg	03 32 44.2	-0.1
RSP	**Reno Superiore**	**0.74**	**165**	P	Pg	03 32 35.5	-0.3
RSP				S	Sg	03 32 44.4	-1.0
RSP	**Reno Superiore**	**0.74**	**165**	P	Pg	03 32 35.7	-0.1
RSP				S	Sb	03 32 46.3	-0.4
RSP				AML	AML		
	comp=N,76μm,0.5s						
RSP				AML	AML		
	comp=E,56μm,1.2s						
RSP				AML	AML		
	comp=E,56μm,0.8s						
RSP	**Reno Superiore**	**0.74**	**165**	Pg	Pg	03 32 35.5	-0.3
RSP				Sg	Sg	03 32 45.1	-0.3
SAVIG	**Le Moulin, Sav**	**0.74**	**286**	Pg	Pg	03 32 35.8	-0.1
OGMY	**Moye**	**0.77**	**272**	Pg	Pg	03 32 36.5	+0.1
OGMY	**Moye**	**0.77**	**272**	Pg	Pg	03 32 36.4	0.0
OGMY				Sg	Sg	03 32 46.4	-0.2
LAUCH	**Lauchernalp**	**0.77**	**44**	P	Pg	03 32 36.5	0.0
LAUCH				S	Sb	03 32 47.9	0.0
JAUN	**Jaun, Euschels**	**0.80**	**15**	⇓Pg	Pg	03 32 36.9	-0.1
SIMPL	**Simplonpass**	**0.81**	**62**	⇑Pg	Pg	03 32 36.8	-0.3
SIMPL	**Simplonpass**	**0.81**	**62**	P	Pg	03 32 36.8	-0.3
SIMPL				S	Sg	03 32 47.4	-0.3
GIMEL	**St. Georges /**	**0.84**	**323**	⇑Pg	Pg	03 32 37.8	0.0
GIMEL	**St. Georges /**	**0.84**	**323**	P	Pg	03 32 37.8	0.0
GIMEL	**St. Georges /**	**0.84**	**323**	Pg	Pg	03 32 37.7	-0.1
GIMEL				Sg	Sg	03 32 48.6	-0.2
TORNY	**Torny/Romont**	**0.91**	**358**	Pg	Pg	03 32 38.9	-0.3
TORNY				Sg	Sb	03 32 51.5	-0.3
OGSM	**Saint Maurice**	**0.94**	**255**	Pg	Pg	03 32 39.5	-0.2
OGSM				Sg	Sg	03 32 52.1	+0.2
RRL	**Rocca Remolon**	**0.95**	**189**	Pg	Pg	03 32 39.3	-0.5
RRL				Sg	Sg	03 32 52.5	+0.3
CABF	**La Chapelle**	**

ZVC	**Zvikov**	**150.35 350**	*e*PKP	**PKPab**	**03 58 24.6 +2.8**
ZVC			*ex*	x	03 58 44.9
KHC	**Kasperske Hory**	**150.75 351**	*e*PKP	**PKiKP**	**03 58 19.6 +2.4**
CKRC	**Cesky Krumlov**	**150.93 350**	*e*PKP	**PKiKP**	**03 58 19.3 +1.8**
CKRC			*ex*	x	03 58 36.9
GERES	**GERESS Array B**	**151.00 350**	PKPbc	**PKiKP**	**03 58 20.0 +2.2**
	comp=Z,0.9nm,0.8s,baz=360,slow=3.1,SNR=5.4				
CONA	**Conrad Observa**	**151.49 347**	*e*PKiKP	**PKiKP**	**03 58 17.9 -0.9**
	comp=Z,2.1nm,0.9s				
RONA	**Rosalia, Austr**	**151.61 346**	*e*PKiKP	**PKiKP**	**03 58 18.4 -0.6**
	comp=Z,2.4nm,0.8s				
LESA	**Schwarzleotal**	**152.54 351**	*e*pPKP	**PKiKP**	**03 58 22.2 +1.2**
	comp=Z,1.6nm,1.0s				
KBA	**Koelnbreinsper**	**152.78 350**	*e*pPKP	**PKiKP**	**03 58 22.2 +0.6**
	comp=Z,1.9nm,1.4s				
WATA	**Walderalm**	**152.78 353**	*e*PKiKP	**PKiKP**	**03 58 21.0 -0.6**
	comp=Z,1.9nm,1.1s				
WTTA	**Wattenberg**	**152.84 352**	*e*PKiKP	**PKPbc**	**03 58 20.9 -0.6**
	comp=Z,0.9nm,0.7s				
SOKA	**Soboth**	**152.85 347**	PKP	**PKPbc**	**03 58 19.3 -2.1**
	comp=Z,2.9nm,1.5s				
FETA	**Feichten**	**153.18 354**	*e*PKP	**PKPbc**	**03 58 20.3 -2.0**
	comp=Z,3.7nm,1.3s				
ABTA	**Abfaltersbach**	**153.23 351**	*e*pPKP	**PKiKP**	**03 58 23.3 +0.9**
	comp=Z,1.2nm,0.9s				

*IDC **13** 03:49:02.9±0.9, 5°.89S×149°.99E, h0km, mb4.1/7, mbtmp4.2/8, ML2.2/1, MS4.2/1, Error ellipse: s-maj=42.8km s-min=20.8km az=116.0*
*NEIC **13** 03:49:08.1±1.6, 6°.27S±0°.06×150°.43E±0°.07, h35km±2km, mb4.0/8, Error ellipse: s-maj=12.0km s-min=8.6km az=60.0*
ISC 13 03:49:09.4±0.7, 6°.1S±0°.1×150°.2E±0°.2, h52km, n22, σ2°.16/25, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.69**	**45**		**Pn**	**03 49 48.8**	**-1.6**
PMG	**Port Moresby**	**4.49**	**223**		**Pn**	**03 50 13.8**	**-1.1**
PMG	**Port Moresby**	**4.49**	**223**	Pn	**Pn**	**03 50 14.0**	**-0.9**
	9.6nm,0.3s,baz=45,slow=7.7,SNR=17						
PMG				Sn	**Sn**	**03 51 04.4**	**-1.5**
	23nm,0.3s,baz=110,slow=20,SNR=14						
	62nm,0.8s						
COEN	**Coen**	**10.46**	**221**	Pn	**Pn**	**03 51 34.0**	**-2.8**
EIDS	**Eidsvold**	**19.18**	**178**	P	**P**	**03 53 25.6**	**-3.3**
EIDS				IAmb	IAmb	03 53 26.5	
	comp=Z,12nm,1.1s						
MTN	**Manton Dam**	**20.00**	**249**	P	**P**	**03 53 37.8**	**-0.1**
MTN				IAmb	IAmb	03 53 43.9	
	comp=Z,7.0nm,0.9s						
WR8	**Warramunga Arr**	**20.58**	**227**	P	**P**	**03 53 43.6**	**-0.6**
WR8				IAmb	IAmb	03 53 58.6	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**20.69**	**227**		**P**	**03 53 44.1**	**-1.3**
WRA	**Warramunga Arr**	**20.69**	**227**	P	**P**	**03 53 44.4**	**-1.1**
	comp=Z,12nm,0.8s,baz=52,slow=11,SNR=36						
WRA				PcP	**PcP**	**03 57 54.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=49,slow=1.9,SNR=4.1						
WRA				ScP	**ScP**	**04 01 33.0**	**+6.6**
	comp=Z,0.4nm,0.9s,baz=52,slow=3.1,SNR=2.5						
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**23.12**	**244**	P	**P**	**03 54 12.6**	**+1.4**
AS31	**Alice Springs**	**23.50**	**220**	P	**P**	**03 54 15.2**	**+0.4**
ASAR	**Alice Springs**	**23.50**	**220**	P	**P**	**03 54 13.6**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=58,slow=9.2,SNR=18						
ASAR				PcP	**PcP**	**03 58 03.2**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=43,slow=2.4,SNR=1.4						
	comp=Z,1.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.80**	**241**	P	**P**	**03 54 44.9**	**-0.1**
FITZ				IAmb	IAmb	03 54 53.9	
	comp=Z,1.9nm,1.1s						
STKA	**Stephens Creek**	**26.89**	**196**	P	**P**	**03 54 44.5**	**-1.1**
STKA	**Stephens Creek**	**26.89**	**196**	P	**P**	**03 54 46.3**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=27,slow=14,SNR=8.8						
	comp=Z,3.3nm,0.7s						
URZ	**Urewera**	**40.23**	**147**	LR	LR	04 12 56.4	
	comp=Z,274nm,18.0s,baz=56,slow=35						
VNDA	**Vanda**	**71.64**	**177**	P	**P**	**04 00 28.1**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=325,slow=3.4,SNR=4.1						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**83.26**	**322**	P	**P**	**04 01 29.3**	**-1.1**
	comp=Z,2.1nm,0.2s,baz=114,slow=3.6,SNR=4.1						
	comp=Z,2.1nm,0.2s						
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**04 01 34.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=18,slow=6.4,SNR=5.1						
	comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**94.89**	**52**	P	**P**	**04 02 27.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=250,slow=6.2,SNR=9.4						
	comp=Z,0.9nm,0.7s						
GERES	**GERESS Array B**	**123.79**	**327**	PKP	**PKiKP**	**04 08 01.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.24**	**285**	PKPbc	**PKPbc**	**04 08 50.8**	**0.0**
	comp=Z,1.8nm,0.6s,baz=77,slow=2.9,SNR=21						

*IDC **13** 03:54:43.8±2.4, 47°.91N×152°.51E, h152km±22km, mb3.4/11, mbtmp3.8/14, Error ellipse: s-maj=21.8km s-min=14.2km az=134.0*
*NEIC **13** 03:54:44.5±1.4, 48°.1N±0°.2×152°.4E±0°.2, h144km±10km, mb4.2/7, Error ellipse: s-maj=33.9km s-min=3.4km az=139.0*
ISC 13 03:54:43.9±0.8, 47°.9N±0°.1×152°.5E±0°.1, h150km, n33, σ0°.88/27, mb3.7/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**6.17**	**30**	Pn	**Pn**	**03 56 11.7**	**-1.0**
PETK	**Petropavlovsk-**	**6.17**	**30**	Pn	**Pn**	**03 56 11.6**	**-1.1**
PETK	**Petropavlovsk-**	**6.17**	**30**	P	**Pn**	**03 56 12.0**	**-0.7**
	5.3nm,0.6s,baz=212,slow=12,SNR=13						
JKA	**Kamikawa-asahi**	**7.88**	**245**	Pn	**Pn**	**03 56 35.8**	**+0.1**
ASAJ	**Asahikawa**	**7.88**	**245**	P	**Pn**	**03 56 35.5**	**-0.1**
	22nm,1.1s,baz=59,slow=15,SNR=5.4						
USRK	**Ussuriysk Ar.**	**14.73**	**263**	P	**Pn**	**03 58 05.4**	**+0.7**
	2.7nm,0.5s,baz=81,slow=12,SNR=4.9						
KSRS	**Korea Array**	**20.80**	**249**	P	**P**	**03 59 13.8**	**+0.6**
	1.9nm,0.9s,baz=46,slow=12,SNR=2.2						
	1.9nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.43**	**153**	T	T	04 32 22.6	
	baz=340,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**30.44**	**153**	T	T	04 32 26.5	
	baz=340,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**30.44**	**152**	T	T	04 32 24.8	
	baz=340,slow=76,SNR=17						
G18K	**Tagagawik**	**31.08**	**37**	P	**P**	**04 00 47.7**	**+0.3**
G18K				IAmb	IAmb	04 01 19.5	
	comp=Z,9.3nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**31.52**	**154**	T	T	04 33 56.9	
	baz=341,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**31.52**	**154**	T	T	04 33 39.2	
	baz=341,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**31.54**	**154**	T	T	04 33 37.4	
	baz=341,slow=76,SNR=25						
B21K	**Ikpikpuk River**	**33.36**	**31**	P	**P**	**04 01 08.4**	**+1.1**
E22K	**Anaktuvuk Pass**	**34.10**	**33**	P	**P**	**04 01 14.0**	**+0.3**
E22K				IAmb	IAmb	04 01 18.4	
	comp=Z,12nm,1.5s						
CCB	**Clear Creek Bu**	**35.51**	**40**	P	**P**	**04 01 26.0**	**+0.2**
CCB				IAmb	IAmb	04 02 10.4	
	comp=Z,3.3nm,1.4s						
ILAR	**Eielson Array**	**35.90**	**40**	P	**P**	**04 01 28.4**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=260,slow=5.7,SNR=6.6						
	comp=Z,0.4nm,0.9s						
BCAR	**Beaver Creek A**	**38.30**	**42**	P	**P**	**04 01 50.7**	**+1.2**
KURBB	**Kurchatov Arra**	**46.49**	**302**	P	**P**	**04 02 55.7**	**+0.1**
	comp=Z,1.6nm,0.2s,baz=68,slow=8.2,SNR=4.5						
	comp=Z,1.6nm,0.2s						
COR	**Corvallis**	**55.50**	**60**	P	**P**	**04 04 03.9**	**+1.0**
COR				IAmb	IAmb	04 04 05.2	
	comp=Z,6.0nm,0.6s						
ABKAR	**Akbulak array**	**57.39**	**309**	P	**P**	**04 04 16.6**	**+0.4**
FINES	**FINESS Array B**	**62.83**	**334**	P	**P**	**04 04 52.5**	**-0.5**
FINES	**FINESS Array B**	**62.83**	**334**	P	**P**	**04 04 52.0**	**-1.1**
	comp=Z,7.7nm,1.2s,baz=42,slow=6.1,SNR=7.8						
	comp=Z,7.7nm,1.2s						
PDAR	**Pinedale Array**	**64.39**	**54**	P	**P**	**04 05 04.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=314,slow=4.0,SNR=2.7						
	comp=Z,0.2nm,0.6s						
HFS	**Hagfors**	**67.24**	**339**	P	**P**	**04 05 21.2**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=62,slow=3.9,SNR=4.1						
	comp=Z,2.1nm,0.9s						
WRA	**Warramunga Arr**	**69.48**	**198**	P	**P**	**04 05 34.1**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=10,slow=6.7,SNR=2.6						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**70.37**	**326**	P	**P**	**04 05 39.0**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=36,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**73.18**	**198**	P	**P**	**04 05 57.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=7.8,slow=5.2,SNR=9.3						
	comp=Z,0.5nm,0.5s						
BURAR	**Bucovina Array**	**74.41**	**326**	P	**P**	**04 06 06.2**	**+1.0**
EKA	**Eskdalemuir Ar**	**75.12**	**346**	P	**P**	**04 06 09.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=22,slow=6.1,SNR=4.8						
	comp=Z,0.2nm,0.4s						
TX31	**Lajitas Ar. Si**	**77.27**	**60**	P	**P**	**04 06 21.9**	**+0.2**
TX31				IAmb	IAmb	04 06 24.2	
	comp=Z,1.5nm,1.0s						
TXAR	**Lajitas Array**	**77.27**	**60**	P	**P**	**04 06 21.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=302,slow=4.5,SNR=13						
	comp=Z,0.5nm,0.5s						

*ROM **13** 04:21:17.6±0.2, 45°.86N±0°.01×6°.99E±0°.02, h9km, ML1.4/8, Error ellipse: s-maj=1.5km s-min=1.3km az=215.0*
*GEN **13** 04:21:17.2, 45°.87N×6°.99E, h7km±1km, MI1.0*
*ZUR **13** 04:21:18.1, 45°.87N×6°.97E, h1km, MLh0.9/11, Error ellipse: s-maj=1471.9km s-min=607.5km az=241.0*
*LDG **13** 04:21:18.3±0.1, 45°.86N×7°.00E, h2km, Md1.6/2, Ml1.6/10, Error ellipse: s-maj=1.0km s-min=0.9km az=83.0*
STR 13 04:21:18.3±0.3, 46°.N±2°.×°.±°, h5km, MLv1.3/6, 14C-1D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**260**	⇓Pg	Pg	04 21 19.3	-0.5
BLANC				Sg	Sg	04 21 20.1	-0.8
MRGE	**Morge**	**0.10**	**146**	⇑Pg	Pg	04 21 20.7	+0.3
MRGE				Sg	Sg	04 21 22.7	+0.8
MRGE	**Morge**	**0.10**	**146**	P	Pg	04 21 20.7	+0.3
MRGE				S	Sg	04 21 22.6	+0.7
MRGE	**Morge**	**0.10**	**146**	⇑P	Pg	04 21 20.7	+0.3
MRGE				S	Sg	04 21 22.6	+0.7
MRGE				AML	AML		
	comp=E,564μm,0.3s						
MRGE				AML	AML		
	comp=N,750μm,0.3s						
MRGE				AML	AML		
	comp=E,446μm,0.1s						
MRGE				AML	AML		
	comp=N,568μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.12**	**96**	⇑Pg	Pg	04 21 21.2	+0.3
REMY				Sg	Sg	04 21 23.5	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**96**	P	Pg	04 21 21.2	+0.3
REMY				S	Sg	04 21 23.5	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**96**	⇑P	Pg	04 21 21.2	+0.3
REMY				S	Sg	04 21 23.4	+0.7
REMY				AML	AML		
	comp=E,135μm,0.7s						
REMY				AML	AML		
	comp=N,198μm,1.6s						
REMY				AML	AML		
	comp=E,122μm,0.1s						
REMY				AML	AML		
	comp=N,138μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.12**	**96**	Pg	Pg	04 21 21.1	+0.2
REMY				Sg	Sg	04 21 23.3	+0.7
MFERR	**Prayon, Val Fe**	**0.14**	**42**	⇑Pg	Pg	04 21 21.0	-0.1
MFERR				Sg	Sg	04 21 22.9	0.0
SEMOS	**Emosson Stauma**	**0.22**	**351**	⇑Pg	Pg	04 21 22.4	-0.3
SEMOS				Sg	Sg	04 21 25.1	-0.5
SMAO	**Martigny, Rue**	**0.26**	**14**	Pg	Pg	04 21 23.1	-0.1
OGSI	**Sixt**	**0.27**	**324**	⇑Pg	Pg	04 21 23.0	-0.5
OGSI				Sg	Sg	04 21 26.3	-0.8
OGSI	**Sixt**	**0.27**	**324**	Pg	Pg	04 21 22.9	-0.6
OGSI				Sg	Sg	04 21 26.2	-0.9
SALAN	**Lac Salanfe**	**0.29**	**359**	⇑Pg	Pg	04 21 23.7	-0.3
SALAN				Sg	Sg	04 21 27.5	-0.5
RSL	**Roselend**	**0.30**	**237**	⇑Pg	Pg	04 21 24.0	-0.1
RSL				Sg	Sg	04 21 28.0	0.0
RSL	**Roselend**	**0.30**	**237**	P	Pg	04 21 24.0	-0.1
RSL				S	Sg	04 21 28.1	0.0
RSL	**Roselend**	**0.30**	**237**	Pg	Pg	04 21 24.0	-0.1
RSL				Sg	Sg	04 21 28.0	-0.1
FULLY	**Reservoir Maze**	**0.32**	**19**	⇑Pg	Pg	04 21 24.3	-0.2
FULLY				Sg	Sg	04 21 28.9	0.0
LAVEY	**Lavey les Bain**	**0.35**	**4**	⇑Pg	Pg	04 21 24.7	-0.3
LAVEY				Sg	Sg	04 21 29.2	-0.5
ILLEZ	**Chalet Vouargn**	**0.37**	**355**	⇑Pg	Pg	04 21 25.1	-0.4
ILLEZ				⇑Sg	Sg	04 21 29.8	-0.6
DIX	**Grande Dixence**	**0.38**	**52**	Pg	Pg	04 21 25.6	-0.1
DIX				Sg	Sg	04 21 30.5	-0.1
DIX	**Grande Dixence**	**0.38**	**52**	P	Pg	04 21 25.5	-0.1
DIX				S	Sg	04 21 30.5	-0.1
DIX	**Grande Dixence**	**0.38**	**52**	P	Pg	04 21 25.5	-0.1
DIX				S	Sg	04 21 30.5	-0.1
DIX				AML	AML		
	comp=E,45μm,0.3s						
DIX				AML	AML		
	comp=N,37μm,0.2s						
DIX	**Grande Dixence**	**0.38**	**52**	Pg	Pg	04 21 25.5	-0.2
DIX				Sg	Sg	04 21 30.7	+0.1
LPL	**La Plagne**	**0.38**	**208**	*e*Pg	Pg	04 21 26.4	+0.8
LPL				*e*Sg	Sg	04 21 31.1	+0.5
	comp=N,4.6nm,0.3s						
RAW4	**Former Reservo**	**0.38**	**21**	Sg	Sg	04 21 30.8	+0.1
LPG	**La Plagne**	**0.39**	**205**	*e*Pg	Pg	04 21 26.0	+0.2
LPG				*e*Sg	Sg	04 21 30.5	-0.5
	comp=N,4.2nm,0.2s						
GRYON	**Gryon**	**0.41**	**12**	Pg	Pg	04 21 26.0	-0.3
GRYON				Sg	Sg	04 21 31.6	0.0
CIRO	**Champorcher**	**0.48**	**121**	P	Pg	04 21 27.7	+0.1
CIRO				S	Sg	04 21 34.1	+0.3
CIRO	**Champorcher**	**0.48**	**121**	P	Pg	04 21 27.6	+0.1
CIRO				S	Sg	04 21 34.0	+0.2
CIRO	**Champorcher**	**0.48**	**121**	Pg	Pg	04 21 27.5	0.0
CIRO				Sg	Sg	04 21 34.0	+0.2
AIGLE	**Aigle**	**0.49**	**358**	⇑Pg	Pg	04 21 27.5	-0.3
AIGLE	**Aigle**	**0.49**	**358**	Pg	Pg	04 21 27.4	-0.3
AIGLE				Sg	Sg	04 21 34.0	-0.1
SENIN	**Lac Senin/Sane**	**0.56**	**23**	P	Pg	04 21 28.8	-0.2
SENIN				S	Sg	04 21 36.1	-0.2
SATI	**Passo dei Sala**	**0.62**	**87**	P	Pg	04 21 29.7	-0.5
SATI				S	Sg	04 21 38.4	+0.1
SATI	**Passo dei Sala**	**0.62**	**87**	P	Pb	04 21 31.6	-0.2
SATI				S	Sg	04 21 38.2	-0.1
SATI	**Passo dei Sala**	**0.62**	**87**	Pg	Pg	04 21 30.4	+0.2
SATI				Sg	Sg	04 21 38.8	+0.6
TRAV	**Traversella**	**0.63**	**122**	P	Pg	04 21 30.3	-0.1
TRAV				S	Sg	04 21 38.6	-0.1
TRAV	**Traversella**	**0.63**	**122**	P	Pg	04 21 30.4	-0.1
TRAV				S	Sg	04 21 38.5	-0.2
TRAV	**Traversella**	**0.63**	**122**	Pg	Pg	04 21 30.3	-0.1
TRAV				Sg	Sg	04 21 38.7	+0.1
EMBD	**Embd, Matterta**	**0.69**	**58**	Pg	Pg	04 21 31.2	-0.4
EMBD				Sg	Sg	04 21 40.4	-0.2
MMK	**Mattmark**	**0.71**	**73**	P	Pg	04 21 32.1	+0.1
MMK				S	Sg	04 21 40.9	-0.4
RSP	**Reno Superiore**	**0.73**	**164**	P	Pg	04 21 32.5	+0.2
RSP				S	Sg	04 21 41.9	+0.2
RSP	**Reno Superiore**	**0.73**	**164**	Pg	Pg	04 21 32.2	-0.1
RSP				Sg	Sg	04 21 41.9	+0.2
OGMY	**Moye**	**0.77**	**273**	Pg	Pg	04 21 32.7	-0.3
OGMY				Sg	Sg	04 21 43.4	+0.6
GIMEL	**St. Georges /**	**0.85**	**324**	P	Pg	04 21 34.6	0.0
GIMEL	**St. Georges /**	**0.85**	**324**	Pg	Pg	04 21 34.5	-0.1
GIMEL				Sg	Sg	04 21 46.3	+0.8
OGSM	**Saint Maurice**	**0.93**	**255**	Pg	Pg	04 21 36.2	0.0
OGSM				Sg	Sg	04 21 48.8	+0.6
RRL	**Rocca Remolon**	**0.94**	**188**	P	Pg	04 21 36.1	-0.1
CABF	**La Chapelle**	**0.98**	**321**	*e*Pg	Pg	04 21 36.6	-0.5
CABF	**La Chapelle**	**0.98**	**321**	*e*P	Pn	04 21 38.9	+0.1
CABF				*e*Sg	Sb	04 21 51.2	0.0
	comp=N,1.8nm,0.2s						
OG35	**Corcelles**	**1.00**	**282**	Pg	Pg	04 21 37.3	-0.2
OG35				Sg	Sg	04 21 50.8	+0.2
BHB	**Bricherasio**	**1.03**	**169**	Pg	Pg	04 21 37.9	-0.1
BHB				Sg	Sg	04 21 51.5	+0.2
MBDF	**Montbardon**	**1.13**	**188**	*e*Pg	Pb	04 21 40.5	+0.1
MBDF				*e*Sg	Sg	04 21 54.1	-0.6
	comp=N,0.7nm,0.2s						
BRANT	**Les Verrieres**	**1.14**	**342**	Pg	Pg	04 21 40.4	+0.2
BRANT				Sg	Sb	04 21 56.0	+0.2
ORIF	**Oris-en-Rattie**	**1.21**	**220**	*e*Pg	Pg	04 21 41.5	0.0
ORIF				*e*Sg	Sg	04 21 57.3	0.0
	comp=N,1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**1.91**	**239**	*e*Sg	Sg	04 22 18.7	-0.9
	comp=N,1.5nm,0.2s						
HINF	**Hinteralfeld**	**1.97**	**357**	*e*Pg	Pb	04 21 55.0	+0.4
HINF				*e*Sg	Sb	04 22 19.5	0.0
	comp=N,0.2nm,0.2s						
SMF	**Signal de Mont**	**2.32**	**291**	*e*Pg	Pb	04 22 01.3	+0.7
SMF				*e*Sg	Sb	04 22 30.7	+1.1
	comp=N,1.0nm,0.2s						
LOR	**Lormes**	**2.58**	**304**	*e*Pg	Pg	04 22 06.5	-1.2
LOR				*e*Sg	Sb	04 22 38.7	+1.7
	comp=N,0.4nm,0.2s						
AVF	**Avril sur Loir**	**2.69**	**292**	*e*Pg	Pb	04 22 08.2	+1.4
AVF				*e*Sg	Sb	04 22 41.9	+1.9
	comp=N,0.4nm,0.2s						
SSF	**Saint Saulge**	**2.69**	**298**	*e*Pg	Pg	04 22 08.7	-1.1
SSF				*e*Sg	Sb	04 22 42.0	+1.8
	comp=N,1.4nm,0.3s						

*IDC **13** 04:35:01.9±1.1, 41°.61N×133°.89E, h456km±12km, mb3.2/15, mbtmp4.1/20, Error ellipse: s-maj=18.4km s-min=11.8km az=66.0*
*NEIC **13** 04:35:01.6±1.3, 41°.6N±0°.1×134°.0E±0°.2, h450km±10km, mb4.1/16, Error ellipse: s-maj=19.8km s-min=17.2km az=217.0*
*JMA **13** 04:35:02.0±0.4, 41°.N±2°.×13°.5E±°, h519km, MV4.0/32, SEA OF JAPAN*
ISC 13 04:35:00.9±0.5, 41°.5N±0°.08×134°.08E±0°.08, h450km, n64, σ1°.20/68, mb3.9/21, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**3.06**	**331**	P	**P**	**04 36 08.7**	**+0.5**
	16nm,0.5s,baz=172,slow=5.4,SNR=32						
JOG3	**Oga3**	**4.14**	**112**	*e*P	P	04 36 23.9	+6.6
JIW	**Iwasaki**	**4.58**	**100**	*e*P	**P**	**04 36 23.1**	**+1.8**
JSD	**Sado**	**4.76**	**136**	P	**P**	**04 36 24.5**	**+1.4**
JOT	**Ohata**	**5.24**	**90**	*e*P	**P**	**04 36 28.7**	**+1.1**
JTM	**Tenmabayashi**	**5.33**	**96**	P	**P**	**04 36 29.4**	**+1.0**
JRG	**Rokugo**	**5.44**	**111**	*e*P	**P**	**04 36 30.9**	**+1.3**
MJB9	**Matsu-Tunnel**	**5.94**	**146**	P	**P**	**04 36 37.5**	**+2.8**
MJAR	**Matsushiro Arr**	**5.95**	**146**	P	**P**	**04 36 36.4**	**+1.7**
MJAR	**Matsushiro Arr**	**5.95**	**146**	P	**P**	**04 36 36.6**	**+1.8**
	11nm,0.8s,baz=328,slow=12,SNR=19						
JNG	**Nsakai**	**6.02**	**147**	*e*P	**P**	**04 36 37.5**	**+1.9**
JMK	**Ichinoseki**	**6.05**	**113**	*e*P	**P**	**04 36 36.1**	**+0.4**
JMK				*e*S	**S**	**04 37 51.9**	**-1.3**
KSRS	**Korea Array**	**6.27**	**231**	P	**P**	**04 36 39.4**	**+1.4**
	44nm,0.7s,baz=46,slow=10,SNR=112						
KS19	**Wonju Array Si**	**6.27**	**232**	P	**P**	**04 36 40.1**	**+2.0**
KSAR	**Wonju Array Be**	**6.30**	**231**	P	**P**	**04 36 39.5**	**+1.1**
JMM	**Marumori**	**6.35**	**123**	P	**P**	**04 36 39.3**	**+0.4**
JMM	**Marumori**	**6.35**	**123**	*e*P	**P**	**04 36 39.2**	**+0.4**
JMM				*e*S	**S**	**04 37 57.4**	**-1.5**
JGF	**Kuroka**	**6.47**	**156**	P	**P**	**04 36 42.1**	**+1.8**
INU	**Inuyama**	**6.61**	**159**	P	**P**	**04 36 43.2**	**+1.6**
JFK	**Kawauchi**	**6.72**	**126**	*e*P	**P**	**04 36 42.5**	**-0.3**
JFK				*e*S	**S**	**04 38 02.8**	**-3.2**
ERM	**Erimo**	**6.80**	**83**	P	**P**	**04 36 44.8**	**+1.3**
JCH	**Churui**	**6.99**	**78**	*e*P	**P**	**04 36 46.0**	**+0.6**
TJN	**Taejon**	**7.35**	**228**	P	**P**	**04 36 51.2**	**+1.8**
JIE	**Ise**	**7.44**	**163**	*e*P	**P**	**04 36 52.4**	**+2.0**
JTKR	**Abashiri--Toko**	**7.63**	**68**	*e*P	**P**	**04 36 52.9**	**+0.7**
BSO1	**Boso 1**	**8.77**	**139**	*e*P	**P**	**04 37 04.6**	**+0.5**
BSO1				*e*S	**S**	**04 38 43.1**	**-2.4**
JNU	**Nakatsue**	**8.79**	**198**	P	**P**	**04 37 06.7**	**+1.7**
	7.1nm,0.4s,baz=106,slow=3.0,SNR=12						
HILR	**Hailar Array B**	**12.82**	**313**	P	**P**	**04 37 48.3**	**-0.3**
	2.6nm,0.3s,baz=119,slow=10,SNR=6.6						
SONM	**Songino Array**	**20.59**	**297**	P	**P**	**04 39 07.8**	**+0.1**
SONM	**Songino Array**	**20.59**	**297**	P	**P**	**04 39 07.6**	**-0.1**
	3.0nm,0.3s,baz=104,slow=9.0,SNR=18						
	3.0nm,0.3s						
ZALV	**Zalesovo Beam**	**34.66**	**308**	P	**P**	**04 41 09.6**	**-1.2**
	1.2nm,0.3s,baz=98,slow=11,SNR=8.1						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**36.95**	**296**	P	**P**	**04 41 29.6**	**-0.6**
MKAR	**Makanchi Array**	**36.95**	**296**	P	**P**	**04 41 29.1**	**-1.0**
	3.9nm,0.6s,baz=86

PMG Sn Sn 04 38 34.7 -0.5
4.7nm,0.3s,baz=222,slow=12,SNR=7.9
7.4nm,0.3s
WRA Warramunga Arr 20.64 226 P P 04 41 14.9 -0.3
1.6nm,0.6s,baz=52,slow=11,SNR=15
1.6nm,0.6s
ASAR Alice Springs 23.47 220 P P 04 41 45.0 -0.2
0.5nm,0.9s,baz=52,slow=10,SNR=4.7
0.5nm,0.9s
FITZ Fitzroy Crossi 26.70 241 P P 04 42 15.1 0.0
0.7nm,0.6s,baz=66,slow=11,SNR=1.9
0.7nm,0.6s
STKA Stephens Creek 26.94 196 P P 04 42 16.9 -0.2
1.2nm,0.6s,baz=34,slow=6.6,SNR=2.8
1.2nm,0.6s

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*UCR **13** 04:36:42.7±0.9, 8.°74N×83.°12W, h30km±2km, MW4.1,*
Fault plane solution: NP1:ϕs:274.86000°, δ86.17000°,
λ-49.89000°.
*CATAC **13** 04:36:42.4±0.3, 9.°N±4.°×8.°3W±.°, h12km±2km, M3.8/13,*
MLv3.8/13, Error ellipse: s-maj=8.4km s-min=3.8km
az=21.7, confirmed
ISC 13 04:36:42.6±1.0, 8.76N±0.°03×83.°13W±0.°03, h32km±6km,
n89, σ1.905/91, 26C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	**Golfito**	**0.13**	**189**	*eP*	**Pb**	**04 36 47.6**	**-0.9**
FITO				*eS*	**Sb**	**04 36 51.3**	**-1.2**
VITO	**San Vito**	**0.17**	**69**	*eP*	**Pb**	**04 36 49.0**	**0.0**
NELY	**Ciudad Neily**	**0.21**	**120**	*eP*	**Pb**	**04 36 48.9**	**-0.3**
EDP2	**Potrero Grande**	**0.26**	**350**	*eP*	**Pb**	**04 36 49.8**	**-0.1**
RSPNO	**Rio Sereno**	**0.27**	**77**	*eP*	**Pb**	**04 36 50.3**	**-0.2**
JIME	**Puerto Jimenez**	**0.29**	**221**	*eP*	**Pb**	**04 36 49.8**	**-0.4**
CDITO	**Canoas**	**0.32**	**125**	P	**Pb**	**04 36 50.0**	**-0.5**
CDITO	**Canoas**	**0.32**	**125**	S	**Sn**	**04 36 56.2**	**-0.3**
DMCAL	**E. de Neily**	**0.35**	**105**	*eP*	**Pb**	**04 36 50.7**	**-0.3**
ALCO	**Alturas Coton,**	**0.35**	**57**	*eP*	**Pb**	**04 36 50.7**	**-0.4**
ALCO				*eS*	**Sn**	**04 36 57.1**	**-0.6**
SCLRA	**Santa Clara, W**	**0.35**	**78**	*eP*	**Pb**	**04 36 51.2**	**+0.1**
LPPC	**Paso Canoas**	**0.36**	**128**	*eP*	**Pb**	**04 36 50.6**	**-0.6**
PANP	**Palmar Norte**	**0.38**	**302**	*eP*	**Pb**	**04 36 51.0**	**-0.4**
PIRO	**Carate, Puerto**	**0.41**	**210**	P	**Pb**	**04 36 51.4**	**-0.3**
PIRO	**Carate, Puerto**	**0.41**	**210**	*eP*	**Pb**	**04 36 51.5**	**-0.3**
BRU2	**Volcan**	**0.44**	**85**	P	**Pb**	**04 36 52.2**	**-0.2**
BRU2	**Volcan**	**0.44**	**85**	S	**Sn**	**04 36 59.6**	**-0.1**
BRU2	**Volcan**	**0.44**	**85**	*eP*	**Pb**	**04 36 52.1**	**-0.3**
BURE	**Buenos Aires**	**0.46**	**334**	*eP*	**Pb**	**04 36 52.3**	**-0.3**
EDPE	**Pejibaye, P**	**0.59**	**313**	*eP*	**Pb**	**04 36 54.1**	**-0.6**
BANCO	**falda S V. Bar**	**0.60**	**94**	*eP*	**Pb**	**04 36 54.3**	**-0.6**
JEFFS	**S de V. Baru**	**0.66**	**98**	*eP*	**Pb**	**04 36 54.4**	**-0.4**
OCHAL	**Ojochal**	**0.61**	**304**	S	**Sb**	**04 37 03.2**	**-0.2**
OCHAL	**Ojochal**	**0.61**	**304**	P	**Pb**	**04 36 54.2**	**-0.8**
BQTLY	**Boquete Panama**	**0.66**	**90**	*eP*	**Pb**	**04 36 55.1**	**-0.8**
WILLF	**Boquete**	**0.69**	**90**	*eP*	**Pb**	**04 36 55.4**	**-0.9**
SAJE	**San Jernim**	**0.69**	**328**	*eP*	**Pb**	**04 36 55.4**	**-1.1**
DAP26	**falda E V. Bar**	**0.70**	**87**	*eP*	**Pb**	**04 36 55.6**	**-1.0**
LMNES	**Limones**	**0.71**	**158**	*eP*	**Pb**	**04 36 56.2**	**-0.4**
ZEDO	**Perez Zeledon**	**0.81**	**318**	*eP*	**Pb**	**04 36 56.9**	**-1.4**
BRIBI	**Bribri**	**0.91**	**20**	*eP*	**Pn**	**04 37 00.3**	**+1.1**
PBNVO	**Pueblo Nuevo,**	**0.94**	**82**	*eP*	**Pb**	**04 36 58.9**	**-1.6**
RBALA	**Bur**	**0.97**	**83**	*eP*	**Pb**	**04 36 59.5**	**-1.5**
LAES	**El Progreso Va**	**1.00**	**5**	*eP*	**Pn**	**04 37 01.4**	**+0.9**
VERH	**Veragua Rainfo**	**1.16**	**357**	*eP*	**Pn**	**04 37 03.2**	**+0.5**
PIEC	**Cerro El Cedra**	**1.19**	**317**	*eP*	**Pn**	**04 37 03.1**	**-0.1**
LLNJ	**Naranjito**	**1.19**	**307**	*eP*	**Pn**	**04 37 02.5**	**-0.6**
TURIB	**Turrialba**	**1.27**	**334**	*eP*	**Pn**	**04 37 04.7**	**+0.5**
VINA	**Juan Vinas**	**1.28**	**332**	*eP*	**Pn**	**04 37 05.1**	**+0.7**
REPA	**Paraso**	**1.29**	**326**	*eP*	**Pn**	**04 37 04.5**	**0.0**
VERB	**Verbena**	**1.30**	**335**	*eP*	**Pn**	**04 37 05.6**	**+0.9**
PCAYA	**Pacayas**	**1.33**	**330**	*eP*	**Pn**	**04 37 05.6**	**+0.4**
TAAN	**Batan**	**1.34**	**351**	*eP*	**Pn**	**04 37 06.1**	**+1.1**
PICV	**PH. Pirrs**	**1.36**	**310**	*eP*	**Pn**	**04 37 05.8**	**+0.4**
RESJ	**San Isidro (Tu**	**1.36**	**338**	*eP*	**Pb**	**04 37 06.8**	**-0.8**
ABRB	**Las Abras (San**	**1.37**	**335**	*eP*	**Pn**	**04 37 06.7**	**+1.0**
CVTV	**Tajo**	**1.38**	**334**	*eP*	**Pn**	**04 37 06.7**	**+0.7**
IRES	**Siquirres**	**1.38**	**345**	*eP*	**Pb**	**04 37 07.0**	**-0.9**
LCOCO	**El Coco**	**1.38**	**342**	*eP*	**Pb**	**04 37 07.2**	**-0.8**
PAR1A	**Puntarenas Pro**	**1.39**	**307**	*eP*	**Pn**	**04 37 06.5**	**+0.7**
CVTQ	**Turrialba Volc**	**1.39**	**333**	*eP*	**Pn**	**04 37 06.8**	**+0.6**
VTR0	**Volcan Turrial**	**1.40**	**334**	*eP*	**Pn**	**04 37 07.2**	**+1.0**
CVTR	**Volcan Turrial**	**1.40**	**334**	*eP*	**Pn**	**04 37 07.2**	**+0.9**
VICA	**Volcano Irazu**	**1.41**	**330**	*eP*	**Pn**	**04 37 07.2**	**+0.7**
RVLA	**Villa Bonita**	**1.42**	**342**	*eP*	**Pn**	**04 37 06.7**	**+0.5**
TRIO	**Tres Rios**	**1.42**	**323**	*eP*	**Pn**	**04 37 06.6**	**+0.2**
ACOS	**Acosta**	**1.45**	**315**	*eP*	**Pn**	**04 37 06.5**	**-0.3**
SJS3	**Mercedes San J**	**1.48**	**322**	*eP*	**Pn**	**04 37 07.8**	**+0.5**
SJS	**Escuela Geolog**	**1.49**	**322**	*eP*	**Pn**	**04 37 07.4**	**+0.2**
LUJA	**Lujan**	**1.49**	**321**	*eP*	**Pn**	**04 37 08.4**	**+1.2**
HDC	**Heredia**	**1.57**	**322**	*eP*	**Pn**	**04 37 08.9**	**+0.5**
PILE	**Guapiles**	**1.59**	**336**	*eP*	**Pn**	**04 37 10.0**	**+1.5**
BELE	**Belen**	**1.60**	**319**	*eP*	**Pn**	**04 37 09.6**	**+0.8**
CARI	**Cariari**	**1.70**	**340**	*eP*	**Pn**	**04 37 11.7**	**+1.5**
TRT2	**Tortugero**	**1.89**	**342**	P	**Pn**	**04 37 13.7**	**+1.1**
TRT2	**Tortugero**	**1.89**	**342**	*eP*	**Pn**	**04 37 13.7**	**+1.1**
ARTO	**Ro Cuarto**	**1.90**	**326**	*eP*	**Pn**	**04 37 13.6**	**+0.7**
VPL1	**V. Platanar**	**1.92**	**321**	*eP*	**Pn**	**04 37 14.2**	**+0.9**
VPL2	**V. Platanar**	**1.97**	**321**	*eP*	**Pn**	**04 37 15.8**	**+1.8**
CBL1	**Cabuya**	**2.10**	**293**	*eP*	**Pn**	**04 37 16.1**	**+0.5**
SOCE	**Pocosol**	**2.18**	**318**	P	**Pn**	**04 37 18.2**	**+1.5**
SOCE	**Pocosol**	**2.18**	**318**	*eP*	**Pn**	**04 37 17.9**	**+1.1**
FORC	**Fortuna**	**2.28**	**318**	*eP*	**Pn**	**04 37 19.9**	**+1.9**
VACR	**Volcan Arenal**	**2.29**	**318**	*eP*	**Pn**	**04 37 19.6**	**+1.4**
CASO	**Castillo**	**2.30**	**317**	*eP*	**Pn**	**04 37 18.7**	**+0.4**
ARE1	**Arenal 1**	**2.31**	**317**	*eP*	**Pn**	**04 37 19.9**	**+1.5**
VARE2	**V. Arenal**	**2.31**	**317**	*eP*	**Pn**	**04 37 19.9**	**+1.5**
CEDE	**Laguna Cedeo**	**2.31**	**318**	*eP*	**Pn**	**04 37 20.0**	**+1.4**
COVE	**Coope Vega, Sa**	**2.32**	**327**	P	**Pn**	**04 37 20.8**	**+2.3**
REZ	**Monterrey de S**	**2.34**	**319**	*eP*	**Pn**	**04 37 20.6**	**+1.6**
JTS	**Las Juntas de**	**2.35**	**310**	P	**Pn**	**04 37 21.1**	**+2.0**
JTS	**Las Juntas de**	**2.35**	**310**	*eP*	**Pn**	**04 37 20.7**	**+1.6**
TABAC	**Tabacon**	**2.37**	**317**	*eP*	**Pn**	**04 37 20.8**	**+1.5**
CHIK	**Chiripa**	**2.42**	**314**	*eP*	**Pn**	**04 37 22.7**	**+2.6**
CUI	**Cuipilapa**	**2.75**	**313**	*eP*	**Pb**	**04 37 30.8**	**-0.4**
VMAR	**Armenia, Volca**	**2.83**	**316**	*eP*	**Pn**	**04 37 28.3**	**+2.7**
BCIP	**Isla Barro Col**	**3.28**	**83**	*eP*	**Pn**	**04 37 34.1**	**+2.3**
ACON	**Acoyapa**	**3.77**	**328**	P	**Pn**	**04 37 38.9**	**+0.3**
PRVC	**Isla de Provid**	**4.91**	**21**	P	**Pn**	**04 37 55.1**	**+0.9**

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*IDC **13** 04:52:50.0±0.8, 15.°98N×98.°09W, h0km, mb4.4/9,*
mbtmp4.4/12, ML3.3/4, MS3.8/39, Error ellipse:
s-maj=20.8km s-min=14.2km az=34.0
*MEX **13** 04:52:52.4±1.0, 15.°99N×98.°16W, h12km±25km, MD4.8*
*NEIC **13** 04:52:53.3±2.1, 16.°14N±0.°04×97.°99W±0.°03, h10km±1km,*
mb4.7/465, Md4.8/173(MEX), Error ellipse: s-maj=6.7km
s-min=4.0km az=167.0
ISC 13 04:52:50.4±1.5, 16.02N±0.°03×98.08W±0.°02, h3km±9km,
n695, σ2.900/592, mb4.7/173, MS3.8/39, Near coast of
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**352**		**Pg**	**04 52 58.8**	**+1.2**
PNIG					**Sb**	**04 53 04.8**	**-1.2**
PNIG	**Pinotepa**	**0.37**	**352**	*i* P	**Pg**	**04 52 58.8**	**+1.2**
PNIG				*eS*	**Sb**	**04 53 04.8**	**-1.2**
PEIG	**Puerto Escondi**	**0.89**	**91**		**Pg**	**04 53 07.5**	**0.0**
PEIG	**Puerto Escondi**	**0.89**	**91**	*eP*	**Pg**	**04 53 07.5**	**0.0**
YOIG	**Yosondua**	**0.97**	**31**		**Pg**	**04 53 09.5**	**+0.4**
YOIG					**Sn**	**04 53 23.2**	**-2.6**
YOIG	**Yosondua**	**0.97**	**31**	*eP*	**Pg**	**04 53 09.5**	**+0.4**
YOIG				*eS*	**Sn**	**04 53 23.2**	**-2.6**
CRIG	**Cruz Grande**	**1.24**	**305**		Pn	04 53 11.1	-3.5
CRIG					**Sb**	**04 53 26.6**	**-4.3**
CRIG	**Cruz Grande**	**1.24**	**305**	*eP*	Pn	04 53 11.1	-3.5
CRIG				*eS*	**Sb**	**04 53 26.6**	**-4.3**
TXIG	**Tlaxiaco**	**1.26**	**14**		**Pg**	**04 53 13.9**	**-0.7**
TXIG					**Sn**	**04 53 31.7**	**-1.2**
TXIG	**Tlaxiaco**	**1.26**	**14**	*eP*	**Pg**	**04 53 13.9**	**-0.7**
TXIG				*eS*	**Sn**	**04 53 31.7**	**-1.2**
MGIG	**Malinaltepec**	**1.32**	**336**		**Pn**	**04 53 13.7**	**-2.3**
MGIG					**Sb**	**04 53 32.7**	**-0.7**
MGIG	**Malinaltepec**	**1.32**	**336**	*eP*	**Pn**	**04 53 13.7**	**-2.3**
MGIG				*eS*	**Sb**	**04 53 32.7**	**-0.7**
VHO	**Vista Hermosa**	**1.66**	**51**	*eP*	**Pn**	**04 53 19.6**	**-1.1**
OXIG	**Oaxaca**	**1.66**	**51**		**Pn**	**04 53 19.6**	**-1.1**
DAIG	**Los Arroyos**	**1.81**	**304**		Pn	04 53 19.4	-3.2
DAIG					**Sn**	**04 53 43.5**	**-2.5**
DAIG	**Los Arroyos**	**1.81**	**304**	*eP*	Pn	04 53 19.4	-3.2
DAIG				*eS*	**Sn**	**04 53 43.5**	**-2.5**
HLIG	**Huajuapan de L**	**1.82**	**8**		**Pn**	**04 53 22.1**	**-0.7**
HLIG					**Sb**	**04 53 45.7**	**-2.0**
HLIG	**Huajuapan de L**	**1.82**	**8**	*eP*	**Pn**	**04 53 22.1**	**-0.7**
HLIG				*eS*	**Sb**	**04 53 45.7**	**-2.0**
HMTT	**Tlapaneco**	**1.83**	**345**		**Pn**	**04 53 24.3**	**+1.4**
HMTT					**Sb**	**04 53 46.9**	**-1.0**
HMTT	**Tlapaneco**	**1.83**	**345**	*eP*	**Pn**	**04 53 24.3**	**+1.4**
HMTT				*eS*	**Sb**	**04 53 46.9**	**-1.0**
FTIG	**Fresnillo de T**	**1.88**	**358**		**Pn**	**04 53 22.8**	**-0.8**
FTIG					**Sb**	**04 53 47.6**	**-1.8**
FTIG	**Fresnillo de T**	**1.88**	**358**	*eP*	**Pn**	**04 53 22.8**	**-0.8**
FTIG				*eS*	**Sb**	**04 53 47.6**	**-1.8**
VNTA	**La Mica**	**1.89**	**298**		**Pn**	**04 53 25.5**	**+1.8**
VNTA					**Sn**	**04 53 51.0**	**+2.9**
VNTA	**La Mica**	**1.89**	**298**	*eP*	**Pn**	**04 53 25.5**	**+1.8**
VNTA				*eS*	**Sn**	**04 53 51.0**	**+2.9**
HUIG	**Huatulco**	**1.91**	**97**		**Pn**	**04 53 21.9**	**-2.0**
HUIG					**Sn**	**04 53 43.1**	**-5.4**
HUIG	**Huatulco**	**1.91**	**97**	*eP*	**Pn**	**04 53 21.9**	**-2.0**
HUIG				*eS*	**Sn**	**04 53 43.1**	**-5.4**
TOIG	**Toxpalan**	**2.28**	**25**		**Pn**	**04 53 28.1**	**-1.0**
TOIG					**Sn**	**04 53 56.5**	**-1.3**
TOIG	**Toxpalan**	**2.28**	**25**	*eP*	**Pn**	**04 53 28.1**	**-1.0**
TOIG				*eS*	**Sn**	**04 53 56.5**	**-1.3**
CAIG	**El Cayaco**	**2.34**	**296**		Pn	04 53 26.7	-3.1
CAIG					**Sn**	**04 53 54.6**	**-4.5**
CAIG	**El Cayaco**	**2.34**	**296**	*eP*	Pn	04 53 26.7	-3.1
CAIG				*eS*	**Sn**	**04 53 54.6**	**-4.5**
MEIG	**Mezcala**	**2.40**	**322**		**Pn**	**04 53 28.4**	**-2.4**
MEIG					**Sn**	**04 53 58.4**	**-2.4**
MEIG	**Mezcala**	**2.40**	**322**	*eP*	**Pn**	**04 53 28.4**	**-2.4**
MEIG				*eS*	**Sn**	**04 53 58.4**	**-2.4**
TPIG	**Tehuac#an**	**2.48**	**16**		**Pn**	**04 53 31.4**	**-0.5**
TPIG					**Sn**	**04 54 02.3**	**-0.5**
TPIG	**Tehuac#an**	**2.48**	**16**	*eP*	**Pn**	**04 53 31.4**	**-0.5**
TPIG				*eS*	**Sn**	**04 54 02.3**	**-0.5**
ATYC	**Atoyac**	**2.55**	**298**		**Sn**	**04 54 05.0**	**+0.7**
ATYC	**Atoyac**	**2.55**	**298**	*eS*	**Sn**	**04 54 05.0**	**+0.7**
PLIG	**Platanillo**	**2.72**	**330**		**Pn**	**04 53 34.2**	**-1.0**
PLIG					**Sn**	**04 54 07.8**	**-0.9**
PLIG	**Platanillo**	**2.72**	**330**	*eP*	**Pn**	**04 53 34.2**	**-1.0**
PLIG				*eS*	**Sn**	**04 54 07.8**	**-0.9**
NEUV	**Arroyo Zacate**	**2.75**	**52**		**Pn**	**04 53 33.6**	**-1.9**
NEUV					**Sb**	**04 54 10.3**	**-4.1**
NEUV	**Arroyo Zacate**	**2.75**	**52**	*eP*	**Pn**	**04 53 33.6**	**-1.9**
NEUV				*eS*	**Sb**	**04 54 10.3**	**-4.1**
PPCL	**Tochimilco**	**2.92**	**350**	*eP*	**Pn**	**04 53 39.1**	**+1.0**
YAIG	**Yautepec**	**2.98**	**342**		**Pn**	**04 53 37.2**	**-1.6**
YAIG					**Sn**	**04 54 14.6**	**-0.6**
YAIG	**Yautepec**	**2.98**	**342**	*eP*	**Pn**	**04 53 37.2**	**-1.6**
YAIG				*eS*	**Sn**	**04 54 14.6**	**-0.6**
PPPT	**Popocatepetl**	**2.98**	**350**	*eP*	**Pn**	**04 53 39.1**	**-0.1**
PPPT				*eS*	**Sn**	**04 54 15.5**	**-0.2**
PHPU	**Puebla**	**3.01**	**358**		**Pb**	**04 53 43.3**	**-1.5**
PHPU					**Sn**	**04 54 10.5**	**-5.5**
PHPU	**Puebla**	**3.01**	**358**	*eP*	**Pb**	**04 53 43.3**	**-1.5**
PHPU				*eS*	**Sn**	**04 54 10.5**	**-5.5**
PPSX	**Xalitzintla**	**3.07**	**352**	*eP*	**Pn**	**04 53 36.1**	**-4.2**
PPSX				*eS*	**Sb**	**04 54 22.8**	**-1.3**
ARIG	**Puente Sto Nin**	**3.12**	**316**		**Pn**	**04 53 38.0**	**-2.6**
ARIG					**Sn**	**04 54 17.4**	**-1.1**
ARIG	**Puente Sto Nin**	**3.12**	**316**	*eP*	**Pn**	**04 53 38.0**	**-2.6**
ARIG				*eS*	**Sn**	**04 54 17.4**	**-1.1**
POHV	**Veracruz**	**3.12**	**14**		**Pn**	**04 53 41.3**	**+0.2**
POHV	**Veracruz**	**3.12**	**14**	*eP*	**Pn**	**04 53 41.3**	**+0.2**
AMVM	**AMECAMECA**	**3.17**	**348**		**Pn**	**04 53 42.4**	**+0.9**
AMVM					**Sn**	**04 54 21.3**	**+1.3**
AMVM	**AMECAMECA**	**3.17**	**348**	*eP*	**Pn**	**04 53 42.4**	**+0.9**
AMVM				*eS*	**Sn**	**04 54 21.3**	**+1.3**
MAVM	**Malinalco, Edo**	**3.22**	**335**		**Pn**	**04 53 40.6**	**-1.6**
MAVM					**Sn**	**04 54 20.4**	**-0.7**
MAVM	**Malinalco, Edo**	**3.22**	**335**	*eP*	**Pn**	**04 53 40.6**	**-1.6**
MAVM				*eS*	**Sn**	**04 54 20.4**	**-0.7**
CMIG	**Matias Romero**	**3.24**	**70**		**Pn**	**04 53 39.9**	**-2.4**
CMIG					**Sn**	**04 54 19.0**	**-2.4**
CMIG	**Matias Romero**	**3.24**	**70**	Pn	**Pn**	**04 53 41.1**	**-1.2**
	8.0nm,0.3s,baz=255,slow=11,SNR=93						
CMIG				Sn	**Sn**	**04 54 19.4**	**-2.0**
	38nm,0.3s,baz=246,slow=20,SNR=6.9						
CMIG				Lg	Lg	04 54 34.2	
	127nm,0.3s,baz=252,slow=18,SNR=11						
	38nm,0.5s						
CMIG	**Matias Romero**	**3.24**	**70**	*eP*	**Pn**	**04 53 39.9**	**-2.4**
CMIG				*eS*	**Sn**	**04 54 19.0**	**-2.4**
TLVM	**San Miguel Top**	**3.33**	**342**		**Pn**	**04 53 43.4**	**-0.5**
TLVM					**Sn**	**04 54 27.2**	**+3.0**
TLVM	**San Miguel Top**	**3.33**	**342**	*eP*	**Pn**	**04 53 43.4**	**-0.5**
TLVM				*eS*	**Sn**	**04 54 27.2**	**+3.0**
XCVM	**Xochimilco**	**3.36**	**343**		**Pn**	**04 53 46.1**	**+2.0**
XCVM					**Sn**	**04 54 27.8**	**+3.0**
XCVM	**Xochimilco**	**3.36**	**343**	*eP*	**Pn**	**04 53 46.1**	**+2.0**
XCVM				*eS*	**Sn**	**04 54 27.8**	**+3.0**
THVM	**De Xico**	**3.38**	**345**		**Pn**	**04 53 43.2**	**-1.3**
THVM					**Sn**	**04 54 22.4**	**-2.8**
THVM	**De Xico**	**3.38**	**345**	*eP*	**Pn**	**04 53 43.2**	**-1.3**
THVM				*eS*	**Sn**	**04 54 22.4**	**-2.8**
AOVM	**Tlapan**	**3.44**	**340**		**Pn**	**04 53 45.3**	**-0.1**
AOVM					**Sn**	**04 54 27.8**	**+0.8**
AOVM	**Tlapan**	**3.44**	**340**	*eP*	**Pn**	**04 53 45.3**	**-0.1**
AOVM				*eS*	**Sn**	**04 54 27.8**	**+0.8**
UNM	**Universidad Na**	**3.45**	**342**		**Pn**	**04 53 46.0**	**+0.6**
UNM	**Universidad Na**	**3.45**	**342**	*eP*	**Pb**	**04 53 49.8**	**-2.6**
UNM				*eS*	**Sb**	**04 54 30.6**	**-4.4**
CUP5	**Mexico City**	**3.46**	**342**		**Pn**	**04 53 47.5**	**+2.1**
CUP5					**Sn**	**04 54 30.2**	**+3.1**
CUP5	**Mexico City**	**3.46**	**342**	*eP*	**Pn**	**04 53 47.5**	**+2.1**
CUP5				*eS*	**Sn**	**04 54 30.2**	**+3.1**
COVM	**Coyoacan**	**3.47**	**343**		**Pb**	**04 53 51.6**	**-1.1**
COVM					**Sb**	**04 54 35.2**	**-0.2**
COVM	**Coyoacan**	**3.47**	**343**	*eP*	**Pb**	**04 53 51.6**	**-1.1**
COVM				*eS*	**Sn**	**04 54 30.3**	**+2.9**
COVM				*eS*	**Sb**	**04 54 35.2**	**-0.2**
INVM	**La Marquesa**	**3.48**	**339**		**Pn**	**04 53 44.9**	**-1.0**
INVM					**Sn**	**04 54 26.9**	**-1.0**
INVM	**La Marquesa**	**3.48**	**339**	*eP*	**Pn**	**04 53 44.9**	**-1.0**
INVM				*eS*	**Sn**	**04 54 26.9**	**-1.0**
TXVM	**Universitario**	**3.49**	**347**		**Pn**	**04 53 47.8**	**+1.9**
TXVM					**Sb**	**04 54 32.5**	**-3.4**
TXVM	**Universitario**	**3.49**	**347**	*eP*	**Pn**	**04 53 47.8**	**+1.9**
TXVM				*eS*	**Sb**	**04 54 32.5**	**-3.4**
SCT2	**Benito Juarez**	**3.51**	**343**		**Sn**	**04 54 24.7**	**-3.7**
SCT2	**Benito Juarez**	**3.51**	**343**	*eS*	**Sn**	**04 54 24.7**	**-3.7**
CJVM	**Cuajimalpa**	**3.52**	**341**		**Pn**	**04 53 50.1**	**+3.8**
CJVM					**Sb**	**04 54 32.3**	**-4.4**
CJVM	**Cuajimalpa**	**3.52**	**341**	*eP*	**Pn**	**04 53 50.1**	**+3.8**
CJVM				*eS*	**Sb**	**04 54 32.3**	**-4.4**
VRVM	**Mexico City**	**3.52**	**344**		**Sn**	**04 54 23.2**	**-5.5**
VRVM	**Mexico City**	**3.52**	**344**	*eS*	**Sn**	**04 54 23.2**	**-5.5**
PBVM	**Pinon**	**3.53**	**344**		**Pn**	**04 53 46.6**	**+0.3**
PBVM					**Sn**	**04 54 26.4**	**-2.2**
PBVM	**Pinon**	**3.53**	**344**	*eP*	**Pn**	**04 53 46.6**	**+0.3**
PBVM				*eS*	**Sn**	**04 54 26.4**	**-2.2**
MHVM	**Bosque de Chap**	**3.54**	**342**		**Pn**	**04 53 48.4**	**+1.8**
MHVM					**Sn**	**04 54 29.2**	**+0.1**
MHVM	**Bosque de Chap**	**3.54**	**342**	*eP*	**Pn**	**04 53 48.4**	**+1.8**
MHVM				*eS*	**Sn**	**04 54 29.2**	**+0.1**
JAUV	**Jalcomulco**	**3.54**	**20**		**Pn**	**04 53 46.1**	**-0.3**
JAUV					**Sn**	**04 54 29.6**	**+0.8**
JAUV	**Jalcomulco**	**3.54**	**20**	*eP*	**Pn**	**04 53 46.1**	**-0.3**
JAUV				*eS*	**Sn**	**04 54 29.6**	**+0.8**
TOVM	**TOLUCA**	**3.58**	**335**		**Pn**	**04 53 47.8**	**+0.6**
TOVM					**Sn**	**04 54 30.2**	**-0.2**
TOVM	**TOLUCA**	**3.58**	**335**	*eP*	**Pn**	**04 53 47.8**	**+0.6**
TOVM				*eS*	**Sn**	**04 54 30.2**	**-0.2**
ZIIG	**Zihuatanejo**	**3.61**	**296**		Pn	04 53 43.5	-3.8
ZIIG					**Sn**	**04 54 26.1**	**-4.3**
ZIIG	**Zihuatanejo**	**3.61**	**296**	*eP*	Pn	04 53 43.5	-3.8
ZIIG				*eS*	**Sn**	**04 54 26.1**	**-4.3**
APVM	**Azcapotzalco**	**3.61**	**343**		**Pn**	**04 53 48.0**	**+0.4**
APVM					**Sn**	**04 54 32.4**	**+1.5**
APVM	**Azcapotzalco**	**3.61**	**343**	*eP*	**Pn**	**04 53 48.0**	**+0.4**
APVM				*eS*	**Sn**	**04 54 32.4**	**+1.5**
PTVM	**Pico Tres Padr**	**3.69**	**345**		**Pn**	**04 53 48.6**	**0.0**
PTVM					**Sn**	**04 54 35.6**	**+2.8**
PTVM	**Pico Tres Padr**	**3.69**	**345**	*eP*	**Pn**	**04 53 48.6**	**0.0**
PTVM				*eS*	**Sn**	**04 54 35.6**	**+2.8**
PMUV	**Sontecomapan**	**3.78**	**48**		**Pn**	**04 53 46.8**	**-2.9**
PMUV	**Sontecomapan**	**3.78**	**48**	*eP*	**Pn**	**04 53 46.8**	**-2.9**
VTVM	**Tizayuca**	**3.79**	**350**		**Pn**	**04 53 49.1**	**-0.9**
VTVM					**Sb**	**04 54 39.7**	**-4.8**
VTVM	**Tizayuca**	**3.79**	**350**	*eP*	**Pn**	**04 53 49.1**	**-0.9**
VTVM				*eS*	**Sb**	**04 54 39.7**	**-4.8**
ZUVM	**ZUMPANGO**	**3.90**	**346**		**Pb**	**04 53 58.1**	**-2.0**
ZUVM					**Sn**	**04 54 41.5**	**+3.4**
ZUVM	**ZUMPANGO**	**3.90**	**346**	*eP*	**Pb**	**04 53 58.1**	**-2.0**
ZUVM				*eS*	**Sn**	**04 54 41.5**	**+3.4**
UXUV	**UXUV**	**3.98**	**71**		**Pn**	**04 53 50.2**	**-2.2**
UXUV					**Sn**	**04 54 40.9**	**+1.3**
UXUV	**UXUV**	**3.98**	**71**	*eP*	**Pn**	**04 53 50.2**	**-2.2**
UXUV				*eS*	**Sn**	**04 54 40.9**	**+1.3**
LVIG	**Laguna Verde**	**4.01**	**23**		**Pb**	**04 53 59.4**	**-2.3**
LVIG					**Sn**	**04 54 36.4**	**-3.9**
LVIG	**Laguna Verde**	**4.01**	**23**	*eP*	**Pb**	**04 53 59.4**	**-2.3**
LVIG				*eS*	**Sn**	**04 54 36.4**	**-3.9**
TUIG	**Tuzandepetl**	**4.03**	**60**		**Pn**	**04 53 48.6**	**-4.5**
TUIG					**Sb**	**04 54 48.7**	**-2.5**
TUIG	**Tuzandepetl**	**4.03**	**60**	*eP*	**Pn**	**04 53 48.6**	**-4.5**
TUIG				*eS*	**Sb**	**04 54 48.7**	**-2.5**
ATVM	**ATLACOMULCO**	**4.08**	**336**		**Pn**	**04 53 54.7**	**+0.6**
ATVM					**Sn**	**04 54 44.6**	**+2.0**
ATVM	**ATLACOMULCO**	**4.08**	**336**	*eP*	**Pn**	**04 53 54.7**	**+0.6**
ATVM				*eS*	**Sn**	**04 54 44.6**	**+2.0**
CXUV	**Coxquihui**	**4.16**	**6**		**Pn**	**04 53 55.4**	**+0.5**
CXUV					**Sn**	**04 54 43.1**	**-0.9**
CXUV	**Coxquihui**	**4.16**	**6**	*eP*	**Pn**	**04 53 55.4**	**+0.5**
CXUV				*eS*	**Sn**	**04 54 43.1**	**-0.9**
PCIG		**4.69**	**93**		**Pn**	**04 54 00.4**	**-1.7**
PCIG					**Sn**	**04 54 54.8**	**-2.3**

237A **Washetta, Mont** **16.04 7** IAmb IAmb 04 56 42.2
comp=Z,92nm,1.1s
ODSA **Odessa** **16.54 347** **Pn** **04 56 43.7 +0.2**
PLPT **Palo Pinto** **16.72 359** IAmb IAmb 04 56 50.3
comp=Z,103nm,0.9s
TREL **Terrell** **16.73 6** IAmb IAmb 04 56 49.9
comp=Z,46nm,0.9s
FW06 **Azle** **16.88 2** IAmb IAmb 04 56 51.2
comp=Z,46nm,0.8s
CGIG **16.92 329** **Pn** **04 56 48.5 0.0**
CGIG **16.92 329** *eP* **Pn** **04 56 48.5 0.0**
MNTX **Cornudas Mount** **16.97 338** P **Pn** **04 56 47.4 -1.6**
MNTX **Cornudas Mount** **16.97 338** IAmb IAmb 04 56 53.2
comp=Z,16nm,1.1s
MNTX **Cornudas Mount** **16.97 338** *eP* **Pn** **04 56 47.4 -1.6**
SN07 **Snyder 07** **17.18 352** IAmb IAmb 04 56 55.4
comp=Z,76nm,1.0s
Z35A **Perchaven, San** **17.25 2** IAmb IAmb 04 56 55.4
comp=Z,44nm,0.9s
POST **Post** **17.25 350** IAmb IAmb 04 56 57.1
comp=Z,93nm,1.0s
VBMS **Vicksburg** **17.53 22** P **Pn** **04 56 54.3 -1.6**
VBMS IAmb IAmb 04 56 57.7
comp=Z,39nm,0.8s
HSIG **17.55 320** P **Pn** **04 56 57.7 +1.4**
HSIG **17.55 320** *eP* **Pn** **04 56 56.4 +0.1**
DKNS **Dickens** **17.76 352** IAmb IAmb 04 57 02.4
comp=Z,79nm,0.7s
319A **Douglas** **18.39 328** IAmb IAmb 04 57 11.3
comp=Z,37nm,0.9s
X34A **Smith Ranch, M** **18.50 1** IAmb IAmb 04 57 09.2
comp=Z,49nm,1.2s
121A **Cookes Peak, D** **18.65 334** IAmb IAmb 04 57 17.0
comp=Z,36nm,0.9s
BCIP **Isla Barro Col** **19.05 109** P **Pn** **04 57 17.6 +2.9**
AMTX **Amarillo** **19.06 351** IAmb IAmb 04 57 18.9
comp=Z,54nm,0.8s
SMWD **Samnorwood** **19.10 355** IAmb IAmb 04 57 15.7
comp=Z,27nm,0.8s
Y45A **Yeager Farm, C** **19.36 22** IAmb IAmb 04 57 20.3
comp=Z,100nm,1.4s
OK029 **Liberty Lake** **19.70 1** IAmb IAmb 04 57 27.2
comp=Z,35nm,1.0s
DEOK **Depew** **19.79 4** IAmb IAmb 04 57 23.3
comp=Z,44nm,0.8s
TUC **Tucson** **19.90 327** P **Pn** **04 57 25.6 +0.7**
TUC **Tucson** **19.90 327** *eP* **P** **04 57 23.9 +0.6**
TUL3 **Leonard** **19.91 5** IAmb IAmb 04 57 29.8
comp=Z,56nm,0.8s
OK052 **Battle Ridge R** **19.92 3** P **P** **04 57 22.2 -1.2**
OK052 IAmb IAmb 04 57 24.2
comp=Z,45nm,0.8s
OXF **Oxford** **19.99 21** IAmb IAmb 04 57 24.8
comp=Z,45nm,1.2s
QUOK **Quay** **20.11 3** IAmb IAmb 04 57 26.0
comp=Z,24nm,0.8s
RLO **Rose Lookout** **20.25 7** IAmb IAmb 04 57 29.6
comp=Z,32nm,1.1s
ANMO **Albuquerque** **20.29 340** P **P** **04 57 28.4 +0.8**
ANMO IAmb IAmb 04 57 31.0
comp=Z,45nm,1.1s
ANMO **Albuquerque** **20.29 340** P **P** **04 57 28.8 +1.2**
comp=Z,36nm,1.0s,baz=242,slow=11,SNR=68
ANMO Lg Lg 05 03 42.0
comp=Z,0.1nm,0.3s,baz=336,slow=18,SNR=5.0
ANMO LR LR 05 06 06.9
comp=Z,674nm,19.3s,baz=249,slow=39
comp=Z,36nm,1.0s
OK038 **West end E0370** **20.38 358** IAmb IAmb 04 57 30.4
comp=Z,44nm,0.8s
OK051 **E0350 and S346** **20.43 3** IAmb IAmb 04 57 31.2
comp=Z,56nm,1.2s
HHAR **Hobbs** **20.51 10** IAmb IAmb 04 57 34.7
comp=Z,27nm,0.9s
152A **Waverly Hall** **20.53 34** P **P** **04 57 30.0 0.0**
NOKA **Waynoka** **20.55 358** IAmb IAmb 04 57 35.4
comp=Z,34nm,0.8s
U38A **Gravette** **20.60 8** Pn 04 57 32.3 -0.7
U38A IAmb IAmb 04 57 35.4
comp=Z,41nm,0.8s
Y49A **Blount Mountai** **20.64 29** P **P** **04 57 30.1 -1.2**
214A **Organ Pipe Nat** **20.77 322** IAmb IAmb 04 57 36.1
comp=Z,44nm,1.4s
KAN14 **Manchester OK** **20.85 0** P **P** **04 57 33.4 -0.1**
KAN14 IAmb IAmb 04 57 50.2
comp=Z,52nm,1.4s
T35A **Sooner Cattle** **20.86 4** **P** **04 57 30.9 -2.7**
T35A IAmb IAmb 04 57 42.3
comp=Z,42nm,1.2s
PIX **Pinacate** **20.88 321** P **P** **04 57 35.6 +1.8**
PIX IAmb IAmb 04 57 39.5
comp=Z,46nm,1.3s
KAN01 **Argonia South** **21.05 1** IAmb IAmb 04 57 40.5
comp=Z,19nm,0.7s
X18A **Snowflake** **21.30 332** IAmb IAmb 04 57 42.8
comp=Z,72nm,1.1s
154A **Montrose** **21.38 37** IAmb IAmb 04 58 14.4
comp=Z,28nm,0.8s
SFX **San Felipe** **21.40 317** P **P** **04 57 41.2 +1.7**
SFX IAmb IAmb 04 57 46.1
comp=Z,43nm,0.9s
MGMO **Mountain Grove** **21.67 13** IAmb IAmb 04 57 47.7
comp=Z,44nm,1.2s
T25A **Trinidad** **21.77 346** P **P** **04 57 44.9 +1.2**
SPIG **San Pedro Mart** **21.81 316** P **P** **04 57 45.0 +0.7**
SPIG **San Pedro Mart** **21.81 316** *eP* **P** **04 57 45.0 +0.7**
PARMO **Parma** **21.85 18** IAmb IAmb 04 57 48.2
comp=Z,58nm,1.0s
HICK **Hickman** **21.90 19** IAmb IAmb 04 57 47.5
comp=Z,39nm,0.8s
X16A **Lo Mia Camp, P** **21.91 329** IAmb IAmb 04 57 53.0
comp=Z,49nm,0.9s
SWET **Sewanee** **21.99 27** IAmb IAmb 04 57 50.9
comp=Z,18nm,0.8s
WVT **Waverly** **22.01 23** P **P** **04 57 44.0 -1.9**
WVT IAmb IAmb 04 57 48.0
comp=Z,18nm,0.8s
VTX **Valle De La Tr** **22.24 317** P **P** **04 57 50.0 +1.4**
W50A **Signal Mountai** **22.26 29** IAmb IAmb 04 57 48.7
comp=Z,24nm,1.1s
R32A **Long Quarter,** **22.32 359** IAmb IAmb 04 57 53.8
comp=Z,25nm,0.9s
Y14A **Wickenburg** **22.34 326** IAmb IAmb 04 57 57.4
comp=Z,26nm,1.0s
CGM3 **Cape Girardeau** **22.46 18** IAmb IAmb 04 57 52.5
comp=Z,21nm,1.0s
GLA **Glamis** **22.74 321** IAmb IAmb 04 57 58.1
comp=Z,54nm,1.2s
CBKS **Cedar Bluff** **22.75 357** IAmb IAmb 04 57 59.8
comp=Z,38nm,1.0s
CCM **Cathedral Cave** **22.76 14** P **P** **04 57 54.5 +0.6**
CCM IAmb IAmb 04 57 55.4
comp=Z,30nm,1.0s
W52A **Murphy** **22.83 31** IAmb IAmb 04 57 55.0
comp=Z,22nm,1.0s
FVM **French Village** **22.89 16** IAmb IAmb 04 57 56.4
comp=Z,27nm,1.1s
S44A **Carbondale** **22.95 18** IAmb IAmb 04 57 57.9
comp=Z,45nm,1.1s
SIUC **Southern Illin** **22.98 18** IAmb IAmb 04 57 58.6
comp=Z,37nm,1.0s
T47A **Sharon Grove** **23.04 23** IAmb IAmb 04 57 57.8
comp=Z,25nm,1.1s
HODGE **Hodges** **23.05 35** IAmb IAmb 04 57 58.1
comp=Z,24nm,1.1s
BLYC **Blythe** **23.06 323** IAmb IAmb 04 58 00.4
comp=Z,26nm,1.1s
U49A **Red Boiling Sp** **23.15 26** IAmb IAmb 04 57 58.8
comp=Z,27nm,1.1s
TKL **Tuckaleeche C** **23.36 30** LR LR 05 10 08.6
comp=Z,60nm,18.6s,baz=280,slow=44
NHSC **New Hope** **23.48 40** P **P** **04 58 02.0 +0.6**
TJIG **Tijuana** **23.49 317** P **P** **04 58 01.0 -0.6**
TJIG **Tijuana** **23.49 317** *eP* **P** **04 58 01.0 -0.6**
BC3 **Big Chuckawall** **23.54 321** IAmb IAmb 04 58 08.7
comp=Z,20nm,1.0s
IRM **Iron Mountain** **23.71 323** IAmb IAmb 04 58 06.0
comp=Z,19nm,1.0s
PAULI **Pauline** **23.73 35** IAmb IAmb 04 58 04.8
comp=Z,29nm,1.3s
PV01 **Paradox Valley** **23.89 339** IAmb IAmb 04 58 08.3
comp=Z,39nm,1.3s
Y57A **Sumter** **23.97 38** IAmb IAmb 04 58 06.8
comp=Z,37nm,0.9s
PV13 **Radium Mtn., P** **24.00 339** IAmb IAmb 04 58 09.9
comp=Z,18nm,0.9s
PV05 **Paradox Valley** **24.02 338** IAmb IAmb 04 58 12.9
comp=Z,16nm,0.8s
PV03 **Paradox Valley** **24.09 339** IAmb IAmb 04 58 09.8
comp=Z,30nm,1.2s
PV18 **Skein Mesa, Pa** **24.11 339** IAmb IAmb 04 58 09.8
comp=Z,39nm,1.1s
PFO **Pinyon Flats O** **24.12 320** P **P** **04 58 08.8 +1.0**
PFO IAmb IAmb 04 58 15.8
comp=Z,20nm,1.3s
PFO **Pinyon Flats O** **24.12 320** LR LR 05 08 05.4
comp=Z,281nm,18.4s,baz=137,slow=38
Q44A **Meyer Farm, Va** **24.14 17** IAmb IAmb 04 58 08.6
comp=Z,18nm,0.8s
PV11 **David Mesa, Pa** **24.14 339** IAmb IAmb 04 58 15.1
comp=Z,41nm,1.2s
PV17 **East Wray Mesa** **24.16 339** IAmb IAmb 04 58 13.2
comp=Z,21nm,1.0s
PV16 **Nyswonger Mesa** **24.17 339** IAmb IAmb 04 58 09.8
comp=Z,16nm,1.0s
TZTN **Tazewell** **24.18 30** IAmb IAmb 04 58 11.3
comp=Z,38nm,1.4s
DANC **Danby, Needles** **24.19 323** IAmb IAmb 04 58 11.2
comp=Z,21nm,1.1s
PV07 **Paradox Valley** **24.19 339** IAmb IAmb 04 58 11.2
comp=Z,32nm,1.2s
PV19 **Morning Glory** **24.19 339** IAmb IAmb 04 58 14.1
comp=Z,29nm,1.0s
DNR **Dunn Ranch,Anz** **24.20 320** IAmb IAmb 04 58 11.9
comp=Z,36nm,1.3s
PV20 **West Nyswonger** **24.21 339** IAmb IAmb 04 58 33.0
comp=Z,20nm,0.9s
KMSC **Kings Mountain** **24.23 35** IAmb IAmb 04 58 09.7
comp=Z,13nm,0.9s
PV04 **Paradox Valley** **24.24 339** IAmb IAmb 04 58 34.4
comp=Z,15nm,0.9s
PV10 **Paradox Valley** **24.27 339** IAmb IAmb 04 58 14.6
comp=Z,30nm,0.9s
PV22 **Blue Mesa, Par** **24.32 339** IAmb IAmb 04 58 14.9
comp=Z,21nm,1.0s
PV23 **Carpenter Ridg** **24.33 339** IAmb IAmb 04 58 35.1
comp=Z,32nm,0.9s
BIRD **Birdtown, Kers** **24.37 37** IAmb IAmb 04 58 12.5
comp=Z,27nm,1.1s
PV21 **Cone Mtn., Par** **24.41 339** IAmb IAmb 04 58 52.8
comp=Z,21nm,1.3s
WCI **Wyandotte Cave** **24.44 23** **P** **04 58 09.5 -0.9**
WCI IAmb IAmb 04 58 10.7
comp=Z,23nm,0.8s
KNB **Kanab** **24.66 331** IAmb IAmb 04 58 34.5
comp=Z,35nm,1.2s
V12A **Nelson** **24.68 326** IAmb IAmb 04 58 16.4
comp=Z,15nm,1.0s
V55A **Taylorsville** **24.82 34** IAmb IAmb 04 58 18.0
comp=Z,32nm,1.5s
MTPC **Mountain Pass** **24.89 324** IAmb IAmb 04 58 18.5
comp=Z,14nm,1.0s
R49A **Shelbyville** **24.93 25** IAmb IAmb 04 58 21.9
comp=Z,13nm,1.1s
W57A **Gilead** **25.00 37** IAmb IAmb 04 58 16.3
comp=Z,17nm,1.0s
S51A **Beattyville** **25.05 28** IAmb IAmb 04 58 17.0
comp=Z,15nm,0.9s
R50A **Paris** **25.26 26** IAmb IAmb 04 58 18.8
comp=Z,12nm,0.9s
P46A **Rosedale** **25.36 20** IAmb IAmb 04 58 20.7
comp=Z,32nm,1.1s
SRU **San Rafael Swe** **25.46 337** IAmb IAmb 04 58 47.8
comp=Z,18nm,1.2s
GSC **Goldstone, Bar** **25.48 322** IAmb IAmb 04 58 24.5
comp=Z,12nm,1.0s
SLOR **San Lorenzo -** **25.51 129** P **P** **04 58 24.0 +3.1**
MWC **Mount Wilson** **25.52 319** IAmb IAmb 04 58 28.5
comp=Z,12nm,1.1s
Q16A **Castle Valley** **25.54 336** IAmb IAmb 04 58 23.3
comp=Z,26nm,1.0s
SHOC **Shoshone, Teco** **25.60 324** IAmb IAmb 04 58 36.1
comp=Z,11nm,0.9s
U56A **King** **25.64 35** IAmb IAmb 04 58 22.8
comp=Z,12nm,0.9s
HAYD **Hayden** **25.68 344** IAmb IAmb 04 58 26.3
comp=Z,23nm,1.2s
ROSC **El Rosal** **25.83 113** P **P** **04 58 25.3 +1.5**
comp=Z,2.0nm,0.3s,baz=316,slow=18,SNR=1.2
comp=Z,2.0nm,0.3s
TMUT **Trail Mountain** **25.88 336** IAmb IAmb 04 58 26.4
comp=Z,11nm,0.9s
TPO **Tropico Hills** **26.05 320** IAmb IAmb 04 58 30.4
comp=Z,18nm,1.0s
PRN **Pahroc Range** **26.06 328** IAmb IAmb 04 58 30.9
comp=Z,17nm,1.0s
COHC **Cochancay** **26.15 133** P **P** **04 58 28.4 +2.3**
SC01 **Santiago de lo** **26.26 79** P **P** **04 58 29.5 +2.3**
BLA **Blacksburg** **26.27 33** IAmb IAmb 04 58 30.3
comp=Z,23nm,1.1s
Q51A **Peebles** **26.30 27** IAmb IAmb 04 58 34.1
comp=Z,21nm,0.9s
TPNV **Topopah Spring** **26.35 326** IAmb IAmb 04 58 37.6
comp=Z,19nm,1.0s
RDMU **Red Mountain** **26.42 340** IAmb IAmb 04 58 31.0
comp=Z,16nm,1.0s
RUSC **La Rusia** **26.49 110** **P** **04 58 30.6 +0.7**
RUSC IAmb IAmb 04 58 39.0
comp=Z,27nm,1.3s
S11A **Rachel** **26.60 327** IAmb IAmb 04 58 43.2
comp=Z,20nm,1.1s
MPU **Maple Canyon** **26.67 336** IAmb IAmb 04 58 35.0
comp=Z,16nm,1.1s
Q52A **Bidwell** **26.73 28** IAmb IAmb 04 58 57.2
comp=Z,28nm,1.1s
T57A **Hurt** **26.74 35** IAmb IAmb 04 58 34.4
comp=Z,40nm,1.3s
BSUT **Blindstream Ca** **26.80 338** IAmb IAmb 04 58 38.2
comp=Z,13nm,0.9s
GMN **Gold Mountain** **27.16 325** IAmb IAmb 04 58 42.4
comp=Z,12nm,1.1s
VES **Vestal, Richgr** **27.21 320** IAmb IAmb 04 58 44.5
comp=Z,32nm,1.1s
R55A **Marlinton** **27.23 32** IAmb IAmb 04 58 38.2
comp=Z,18nm,1.1s
DUG **Dugway, Tooele** **27.29 335** IAmb IAmb 04 58 39.5
comp=Z,18nm,1.1s
S57A **Dark Hollow, R** **27.45 34** IAmb IAmb 04 58 39.5
comp=Z,21nm,1.2s
K22A **Casper** **27.51 346** IAmb IAmb 04 58 47.0
comp=Z,17nm,1.2s
TCUT **Toone Canyon** **27.54 338** IAmb IAmb 04 58 42.3
comp=Z,21nm,1.1s
SDV **Santo Domingo** **27.70 102** LR LR 05 10 39.0
comp=Z,157nm,19.3s,baz=298,slow=39
PKD **Bear Valley Ra** **28.19 319** IAmb IAmb 04 58 51.4
comp=Z,21nm,1.2s
PDAR **Pinedale Array** **28.41 342** P **P** **04 58 46.4 -0.2**
PDAR **Pinedale Array** **28.41 342** P **P** **04 58 46.7 +0.1**
comp=Z,4.1nm,0.9s,baz=150,slow=8.7,SNR=19
PDAR LR LR 05 11 01.6
comp=Z,340nm,18.3s,baz=156,slow=38
comp=Z,4.1nm,0.9s
BW06 **Boulder Array** **28.41 342** IAmb IAmb 04 58 51.3
comp=Z,14nm,1.1s
NVAR **Mina Array Bea** **28.54 325** P **P** **04 58 49.3 +1.5**
NVAR **Mina Array Bea** **28.54 325** P **P** **04 58 49.7 +2.0**
comp=Z,6.2nm,0.9s,baz=153,slow=9.4,SNR=39
NVAR LR LR 05 11 36.4
comp=Z,178nm,19.1s,baz=136,slow=40
comp=Z,6.2nm,0.9s
ELK **Elko** **28.78 332** LR LR 05 10 07.8
comp=Z,193nm,18.8s,baz=160,slow=36
SNOW **Snow King Moun** **29.41 341** IAmb IAmb 04 59 00.6
comp=Z,16nm,1.2s
TPAW **Ten Pass** **29.50 341** IAmb IAmb 04 59 02.7
comp=Z,13nm,1.2s
ATAH **Atahualpa** **30.15 138** LR LR 05 08 37.4
comp=Z,212nm,19.9s,baz=288,slow=31
RLMT **Red Lodge** **30.50 344** IAmb IAmb 04 59 12.7
comp=Z,12nm,1.2s
SJG **San Juan** **30.57 81** LR LR 05 12 02.2
comp=Z,80nm,19.9s,baz=266,slow=38
YHL **Hebgen Lake** **30.80 342** IAmb IAmb 04 59 12.8
comp=Z,10nm,1.3s
MFID **Camas Ranch** **31.21 335** IAmb IAmb 04 59 19.3
comp=Z,19nm,1.4s
DLMT **Dillon** **31.70 340** IAmb IAmb 04 59 19.7
comp=Z,20nm,1.1s
AGMN **Agassiz Nation** **32.24 3** IAmb IAmb 04 59 20.1
comp=Z,12nm,0.8s
DGMT **Dagmar** **32.75 352** IAmb IAmb 04 59 26.3
comp=Z,16nm,1.1s
KMRM **Mail Ridge** **32.83 322** IAmb IAmb 04 59 28.4
comp=Z,16nm,1.2s
BMO **Blue Mountains** **33.00 335** IAmb IAmb 04 59 28.5
comp=Z,8.5nm,1.2s
YBH **Yreka Blue Hor** **33.26 325** LR LR 05 12 39.0
comp=Z,7.6nm,20.4s,baz=141,slow=36
KHMM **Horse Mountain** **33.26 323** IAmb IAmb 04 59 31.9
comp=Z,10nm,0.9s
L04D **Klamath Falls** **33.38 326** IAmb IAmb 04 59 37.0
comp=Z,17nm,1.5s
MSO **Missoula** **33.43 340** IAmb IAmb 04 59 32.4
comp=Z,6.4nm,0.9s
KRMB **Red Mountain** **33.79 324** IAmb IAmb 04 59 36.3
comp=Z,7.9nm,1.0s
PINE **Pine Mountain** **33.81 330** IAmb IAmb 04 59 40.7
comp=Z,6.7nm,1.0s
F10A **Beach Ranch, E** **33.89 336** IAmb IAmb 04 59 40.0
comp=Z,17nm,1.0s
G08A **Pilot Rock** **34.05 333** IAmb IAmb 04 59 37.9
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** **34.19 3** LR LR 05 14 06.7
comp=Z,88nm,18.0s,baz=172,slow=37
I05D **Terrebonne, OR** **34.41 330** IAmb IAmb 04 59 44.5
comp=Z,8.6nm,1.0s
WIFE **Three Sisters-** **34.44 329** IAmb IAmb 04 59 41.9
comp=Z,14nm,1.0s
I04A **Tendick Farm,** **34.55 328** IAmb IAmb 04 59 42.1
comp=Z,17nm,1.4s
E09A **Wood Farm, Sta** **34.70 335** IAmb IAmb 04 59 42.4
comp=Z,7.9nm,0.9s
G06A **Carlson Farm,** **34.76 332** IAmb IAmb 04 59 47.6
comp=Z,8.1nm,1.1s
NNA **Nana** **34.87 142** LR LR 05 11 28.1
comp=Z,153nm,18.4s,baz=323,slow=32
I03D **Drain, OR** **34.96 327** IAmb IAmb 04 59 45.8
comp=Z,9.1nm,1.1s
G05A **Wamic** **35.08 331** IAmb IAmb 05 00 08.2
comp=Z,10nm,1.1s
BUCK **Buck Mountain** **35.12 328** IAmb IAmb 04 59 46.3
comp=Z,15nm,1.3s
H04D **Lebanon** **35.23 329** IAmb IAmb 05 00 12.6
comp=Z,8.1nm,1.0s
HOOD **Mount Hood Mea** **35.29 331** IAmb IAmb 04 59 52.2
comp=Z,9.4nm,0.8s
E07A **Sunnyside** **35.44 334** IAmb IAmb 04 59 50.5
comp=Z,6.1nm,0.8s
I02E **Swisshome, OR** **35.50 327** IAmb IAmb 04 59 51.1
comp=Z,15nm,1.0s
MXC **Moxie City** **35.64 333** IAmb IAmb 04 59 53.3
comp=Z,9.9nm,1.0s
NEW **Newport** **35.76 338** LR LR 05 15 10.2
comp=Z,84nm,21.0s,baz=168,slow=37
C09A **Chrisman Ranch** **35.80 337** IAmb IAmb 04 59 53.2
comp=Z,12nm,0.9s
G03D **McMinnville, O** **35.99 329** IAmb IAmb 04 59 56.9
comp=Z,7.6nm,0.8s
LON **Longmire** **36.44 332** IAmb IAmb 05 00 03.9
comp=Z,7.8nm,0.8s
F03A **Seaside** **36.65 330** IAmb IAmb 05 00 26.2
comp=Z,28nm,1.3s
B08A **Colville Reser** **36.67 336** IAmb IAmb 04 59 59.6
comp=Z,11nm,1.2s
E03A **Lebam** **37.10 331** IAmb IAmb 05 00 08.4
comp=Z,19nm,1.1s
GNW **Green Mountain** **37.51 332** IAmb IAmb 05 00 06.9
comp=Z,13nm,0.8s
NLWA **Neilton Lookou** **37.86 331** IAmb IAmb 05 00 11.3
comp=Z,36nm,1.5s
B04A **Port Angeles** **38.18 332** IAmb IAmb 05 00 13.7
comp=Z,17nm,1.1s
FFC **Flin Flon** **38.74 356** P **P** **05 00 16.2 +0.3**
FFC IAmb IAmb 05 00 16.8
comp=Z,16nm,0.9s
LLLB **Lillooet** **39.47 336** IAmb IAmb 05 00 27.7
comp=Z,17nm,1.0s
MACA **Manacapuru-AM** **41.59 114** P **P** **05 00 39.4 -0.7**
BBB **Bella Bella** **43.22 333** LR LR 05 19 59.2
comp=Z,156nm,18.2s,baz=150,slow=38
LPAZ **La Paz** **43.63 136** P **P** **05 00 57.5 +0.2**
LPAZ **La Paz** **43.63 136** P **P** **05 00 56.8 -0.5**
comp=Z,3.3nm,0.8s,baz=319,slow=6.4,SNR=6.4
LPAZ LR LR 05 17 08.4
comp=Z,152nm,21.4s,baz=286,slow=33
comp=Z,3.3nm,0.8s
PB18 **Visviri** **43.70 139** P **P** **05 01 00.0 +2.3**
PB18 IAmb IAmb 05 01 42.1
comp=Z,25nm,1.4s
PB16 **IPOC Station P** **44.24 139** P **P** **05 01 02.9 +0.9**
PB16 IAmb IAmb 05 01 07.8
comp=Z,9.8nm,0.9s
RPN **Rapa Nui** **44.26 194** LR LR 05 14 31.6
comp=Z,79nm,20.1s,baz=320,slow=29
PB11 **IPOC Station P** **45.22 141** IAmb IAmb 05 01 14.9
comp=Z,15nm,1.1s
GO01 **Chusmiza** **45.43 140** IAmb IAmb 05 01 18.3
comp=Z,13nm,1.4s
SCHQ **Schefferville** **45.62 25** LR LR 05 25 02.6
comp=Z,739nm,18.3s,baz=207,slow=42
MDP **Montagnes des** **45.86 99** LR LR 05 21 26.2
comp=Z,31nm,20.9s,baz=296,slow=37
PB02 **IPOC Station P** **46.27 142** IAmb IAmb 05 01 23.3
comp=Z,8.0nm,0.7s
V35K **Ketchikan** **46.91 334** P **P** **05 01 23.5 +1.4**
baz=133
TOAD **Toad River Com** **47.23 341** P **P** **05 01 25.9 +1.3**
baz=143
VILB **Vilhena** **47.24 125** IAmb IAmb 05 01 30.2
comp=Z,15nm,1.2s
T35M **Bob Quinn** **47.53 337** P **P** **05 01 28.5 +1.5**
baz=136
CRAG **Craig** **47.64 334** P **P** **05 01 28.9 +1.1**
baz=131
YKA **Yellowknife Ar** **47.86 350** P **P** **05 01 28.4 -1.0**
comp=Z,6.4nm,1.1s,baz=163,slow=6.6,SNR=8.1
YKA LR LR 05 23 36.2
comp=Z,130nm,20.6s,baz=132,slow=39
comp=Z,6.4nm,1.1s
LIRD **Liard River Hi** **47.94 341** P **P** **05 01 31.5 +1.4**
baz=142
WRAK **Wrangell Islan** **47.96 335** P **P** **05 01 32.2 +1.9**
baz=133
SIV **San Ignacio** **48.43 129** LR LR 05 19 37.1
comp=Z,70nm,19.1s,baz=295,slow=33
DLBC **Dease Lake** **48.51 338** LR LR 05 21 44.0
comp=Z,2µm,18.2s,baz=135,slow=36
DLBC **Dease Lake** **48.51 338** P **P** **05 01 36.5 +1.9**
baz=137,SNR=5.9
S34M **Telegraph Cree** **48.53 337** P **P** **05 01 36.7 +2.0**
baz=135
WTLY **Watson Lake, Y** **49.35 340** P **P** **05 01 42.1 +1.1**
WTLY **Watson Lake, Y** **49.35 340** P **P** **05 01 42.2 +1.3**
baz=139,SNR=9.5
R33M **Jennings River** **49.55 339** IAmb IAmb 05 01 45.8
comp=Z,14nm,0.9s
R33M **Jennings River** **49.55 339** P **P** **05 01 43.9 +1.3**
baz=136,SNR=6.9
SIT **Sitka** **49.61 334** P **P** **05 01 44.5 +1.6**
baz=130
Q32M **Nakina River** **49.70 338** P **P** **05 01 45.4 +1.5**
baz=135
TGTN **Hyland Airport** **50.28 342** P **P** **05 01 49.6 +1.5**
baz=141,SNR=7.8
WRGLY **Wrigley** **50.36 345** P **P** **05 01 50.0 +1.5**
baz=147
S31K **Pelican** **50.57 335** P **P** **05 01 52.2 +2.1**
baz=130
P32M **Atlin** **50.67 337** P **P** **05 01 53.0 +2.0**
baz=133
P33M **Teslin, Yukon** **50.79 338** P **P** **05 01 53.6 +1.7**
baz=135
SKAG **Skagway** **51.19 337** P **P** **05 01 56.4 +1.6**
baz=131
N32M **Quiet Lake** **51.55 339** P **P** **05 01 58.6 +1.0**
baz=135
PLBC **Pleasant Camp** **51.59 336** P **P** **05 01 59.1 +1.2**
baz=130
WHY **Whitehorse** **51.84 338** P **P** **05 02 00.5 +0.7**
baz=133,SNR=8.8
FRB **Frobisher Bay** **51.84 16** LR LR 05 29 09.6
comp=Z,39nm,18.8s,baz=20,slow=42
MMPY **Sheldon Lake,** **52.02 341** P **P** **05 02 02.3 +1.2**
baz=138,SNR=14
P29M **Windy Craggy** **52.24 336** P **P** **05 02 04.3 +1.5**
baz=129
P30M **Million Dollar** **52.25 337** P **P** **05 02 04.7 +1.8**
baz=130
O30N **Mendenhall** **52.35 338** IAmb IAmb 05 02 06.5
comp=Z,14nm,1.1s
O30N **Mendenhall** **52.35 338** P **P** **05 02 04.9 +1.3**
baz=131,SNR=6.0

H03N2	Juan Fernandez	52.47 160	T	T	05 58 23.8	
	baz=337,slow=77,SNR=1907					
H03N1	Juan Fernandez	52.48 160	T	T	05 58 24.9	
	baz=337,slow=77,SNR=1923					
H03N3	Juan Fernandez	52.49 160	T	T	05 58 26.2	
	baz=337,slow=77,SNR=1538					
N31M	Braeburn, Yuko	52.72 338	P	P	05 02 07.5	+1.2
	baz=132,SNR=9.2					
M31M	Drury Creek, Y	52.73 340	P	P	05 02 07.5	+1.2
	baz=134					
HYT	Haines Junctio	52.91 337	IAmb	IAmb	05 02 11.9	
	comp=Z,26nm,1.4s					
HYT	Haines Junctio	52.91 337	P	P	05 02 09.5	+1.6
	baz=130					
PNL	Peninsula	52.92 335	P	P	05 02 09.0	+1.2
	baz=127					
O29M	Mount Kennedy	52.99 336	P	P	05 02 10.0	+1.6
	baz=128					
N30M	Aishikik Lake	53.17 338	P	P	05 02 11.3	+1.7
	baz=131,SNR=26					
YUK6	Outpost Mounta	53.31 337	P	P	05 02 11.9	+1.0
	baz=129					
PINM	Pinnacle	53.52 335	P	P	05 02 13.2	+0.9
	baz=126					
M30M	Minto, Yukon	53.81 339	IAmb	IAmb	05 02 16.6	
	comp=Z,11nm,1.1s					
M30M	Minto, Yukon	53.81 339	P	P	05 02 15.4	+1.1
	baz=132					
O28M	Mount Upton	53.91 336	P	P	05 02 16.3	+0.9
	baz=127					
YUK8	Steele Glacier	54.05 337	P	P	05 02 17.3	+0.9
	baz=128					
MAYO	Mayo, Yukon	54.20 340	P	P	05 02 18.4	+1.3
	baz=133					
MESA	MESA	54.26 335	P	P	05 02 19.2	+1.4
	baz=124					
M29M	Somme Creek	54.30 338	P	P	05 02 19.1	+1.1
	baz=130,SNR=11					
CTG	Chitna Glacier	54.48 336	P	P	05 02 20.9	+1.6
	baz=126					
L29M	L29M	54.62 339	P	P	05 02 21.2	+1.0
	baz=130,SNR=15					
BGLC	Bering Glacier	54.78 334	P	P	05 02 23.0	+1.7
	baz=123					
K29M	Barlow Dome	54.90 340	IAmb	IAmb	05 02 25.8	
	comp=Z,11nm,1.1s					
K29M	Barlow Dome	54.90 340	P	P	05 02 23.2	+0.9
	baz=131,SNR=7.7					
J30M	Hart River	55.01 341	P	P	05 02 24.3	+1.1
	baz=133					
CRQE	Cirque	55.06 335	P	P	05 02 24.8	+1.3
	baz=124					
KAIM	Kayak Island	55.16 334	P	P	05 02 24.9	+0.8
	baz=122					
H31M	Peel River	55.29 343	P	P	05 02 25.9	+0.9
	baz=136					
MCARA	McCarthy VSAT	55.38 336	P	P	05 02 26.9	+1.1
	baz=124					
I30M	Mount Dempster	55.47 342	IAmb	IAmb	05 02 28.1	
	comp=Z,16nm,1.3s					
I30M	Mount Dempster	55.47 342	P	P	05 02 26.8	+0.4
	baz=133,SNR=5.2					
M27K	Edge Creek, AK	55.51 337	IAmb	IAmb	05 02 42.7	
	comp=Z,13nm,1.2s					
DAWY	Dawson	55.67 339	P	P	05 02 28.5	+0.7
	baz=130					
C36M	Paulatuk	55.73 349	P	P	05 02 28.7	+0.7
	baz=149					
BMRM	Bremner River	55.79 335	P	P	05 02 30.0	+1.3
	baz=122					
BCAR	Beaver Creek A	55.89 338	P	P	05 02 30.4	+1.0
L27K	Beaver Creek,	55.91 338	IAmb	IAmb	05 02 35.6	
	comp=Z,8.7nm,0.9s					
L27K	Beaver Creek,	55.91 338	P	P	05 02 30.5	+1.0
	baz=126,SNR=8.8					
EYAK	Cordova Ski Ar	56.05 334	P	P	05 02 31.8	+1.3
	baz=121					
G31M	Satah River	56.08 344	P	P	05 02 31.1	+0.6
	baz=137					
N25K	Chitina, Valde	56.14 335	P	P	05 02 31.7	+0.5
	baz=123					
I29M	Ogilvie Camp,	56.16 341	IAmb	IAmb	05 02 32.0	
	comp=Z,6.7nm,1.0s					
I29M	Ogilvie Camp,	56.16 341	P	P	05 02 31.6	+0.3
	baz=131,SNR=6.7					
F31M	Tsiigehtchic	56.32 344	P	P	05 02 32.4	+0.1
	baz=137					
EPYK	Eagle Plains	56.37 342	P	P	05 02 32.9	+0.1
	baz=134					
P23K	Montague Islan	56.49 333	P	P	05 02 34.0	+0.4
	baz=119					
K27K	Chicken	56.58 339	P	P	05 02 34.8	+0.6
	baz=127					
KLU	Klutina	56.61 335	P	P	05 02 35.5	+0.8
	baz=121					
G30M	tAoh Zraii Nji	56.66 343	P	P	05 02 34.9	+0.1
	baz=134					
EGAK	Eagle	56.72 340	IAmb	IAmb	05 02 36.5	
	comp=Z,8.2nm,0.9s					
EGAK	Eagle	56.72 340	P	P	05 02 35.9	+0.7
	baz=128,SNR=5.8					
I28M	Miner Creek	56.74 341	P	P	05 02 36.2	+0.8
	baz=130					
H29M	Whitestone	56.76 342	P	P	05 02 36.1	+0.6
	baz=132					
GLI	Glacier Island	56.79 334	P	P	05 02 36.1	+0.3
	baz=120					
HARP	HAARP	56.79 336	P	P	05 02 36.6	+0.9
	baz=122					
INK	Inuvik	56.91 345	P	P	05 02 36.5	0.0
	baz=138,SNR=6.3					
F30M	Barrier River	56.99 344	P	P	05 02 36.8	-0.3
	baz=135					
M24K	Tolsona, Glenn	57.04 335	P	P	05 02 38.1	+0.5
	baz=121					
G29M	Pine Creek	57.12 342	P	P	05 02 38.5	+0.4
	baz=132					
PAX	Paxson	57.22 336	P	P	05 02 38.9	0.0
	baz=122					
SCRK	Sand Creek	57.23 338	P	P	05 02 41.4	+2.4
SCRK			IAmb	IAmb	05 02 45.6	
	comp=Z,7.9nm,1.0s					
SCRK	Sand Creek	57.23 338	P	P	05 02 39.5	+0.5
	baz=124,SNR=9.5					
SCM	Sheep Creek Mo	57.36 335	P	P	05 02 40.7	+0.8
	baz=120					
RIDG	Independent Ri	57.41 337	P	P	05 02 41.2	+1.0
	baz=124,SNR=7.6					
SEW	Seward	57.45 332	P	P	05 02 40.9	+0.5
	baz=117					
M23K	Glacier View	57.51 335	P	P	05 02 41.8	+0.9
	baz=119					
KNK	Knik Glacier	57.63 334	P	P	05 02 42.2	+0.5
	baz=118					
I26K	Coal Creek Min	57.71 339	IAmb	IAmb	05 02 50.0	
	comp=Z,5.4nm,1.0s					
I26K	Coal Creek Min	57.71 339	P	P	05 02 42.5	+0.3
	baz=126					
H27K	Steamboat Moun	57.74 341	IAmb	IAmb	05 02 51.0	
	comp=Z,10nm,1.3s					
H27K	Steamboat Moun	57.74 341	P	P	05 02 42.9	+0.4
	baz=128					
SML	Sawmill	57.77 334	P	P	05 02 43.4	+0.7
	baz=119					
K24K	Donnelly Dome	57.79 337	P	P	05 02 43.4	+0.6
	baz=122					
CPUP	Villa Florida	57.80 136	LR	LR	05 26 42.2	
	comp=Z,27nm,18.2s,baz=200,slow=35					
BRSE	Bradley Lake S	57.87 332	P	P	05 02 44.7	+1.3
	baz=115					
WAT6	Susitna Watana	57.91 335	P	P	05 02 44.6	+0.7
	baz=120					
KDAK	Kodiak Island	57.95 329	LR	LR	05 27 21.1	
	comp=Z,76nm,18.7s,baz=127,slow=36					
KDAK	Kodiak Island	57.95 329	P	P	05 02 45.7	+1.7
	baz=112					
PMR	Palmer	58.00 334	P	P	05 02 45.7	+1.5
	baz=118					
DHY	Denali Highway	58.02 336	P	P	05 02 45.7	+1.1
	baz=120					
J25K	Salcha River,	58.09 338	IAmb	IAmb	05 02 47.5	
	comp=Z,7.4nm,1.1s					
OHAK	Old Harbor	58.09 328	P	P	05 02 46.6	+1.6
	baz=111					
E29M	Blow River	58.10 344	P	P	05 02 45.9	+1.0
	baz=133,SNR=6.4					
F28M	Old Crow	58.13 343	P	P	05 02 45.9	+0.7
	baz=131,SNR=7.9					
G27K	Doyon Strip	58.15 341	IAmb	IAmb	05 02 46.6	
	comp=Z,10nm,1.4s					
G27K	Doyon Strip	58.15 341	P	P	05 02 46.1	+0.8
	baz=128					
A36M	Sachs Harbour	58.21 350	P	P	05 02 46.6	+1.0
	baz=149					
WAT1	Susitna Watana	58.36 335	P	P	05 02 47.9	+1.1
	baz=119					
M22K	Willow	58.49 334	P	P	05 02 48.6	+1.0
	baz=117					
CAPN	Captain Cook N	58.50 333	P	P	05 02 48.7	+1.0
	baz=115					
HDA	Harding Lake	58.55 337	IAmb	IAmb	05 02 49.5	
	comp=Z,9.2nm,0.9s					
HDA	Harding Lake	58.55 337	P	P	05 02 49.3	+1.2
	baz=122,SNR=5.6					
SUA	Susitna One	58.63 333	P	P	05 02 50.1	+1.2
	baz=116					
PRP	Porcupine Dome	58.65 339	P	P	05 02 50.0	+1.1
	baz=124,SNR=11					
E28M	Babbage River	58.69 343	P	P	05 02 49.8	+0.8
	baz=132					
RES	Resolute Bay	58.70 1	LR	LR	05 31 59.8	
	comp=Z,94nm,19.2s,baz=35,slow=40					
ILAR	Eielson Array	58.72 338	P	P	05 02 49.5	+0.3
ILAR	Eielson Array	58.72 338	P	P	05 02 49.4	+0.1
	comp=Z,7.9nm,1.1s,baz=127,slow=4.5,SNR=6.9					
ILAR			LR	LR	05 31 02.2	
	comp=Z,138nm,18.1s,baz=84,slow=39					
	comp=Z,7.9nm,1.1s					
R18K	Karluk	58.80 328	P	P	05 02 50.8	+0.9
	baz=110					
CUT	Chulitna	58.85 335	P	P	05 02 51.1	+0.9
	baz=117					
O20K	Slope Mountain	58.87 332	P	P	05 02 51.3	+0.8
	baz=114					
G26K	Porcupine Rive	58.90 341	P	P	05 02 51.0	+0.5
	baz=126					
MCK	McKinley	58.95 336	P	P	05 02 51.4	+0.4
	baz=119,SNR=6.4					
CCB	Clear Creek Bu	58.99 337	IAmb	IAmb	05 02 53.4	
	comp=Z,4.5nm,1.0s					
E27K	Coleen River	59.00 343	IAmb	IAmb	05 02 53.0	
	comp=Z,11nm,1.1s					
E27K	Coleen River	59.00 343	P	P	05 02 51.7	+0.5
	baz=129					
WRH	Wood River Hil	59.00 337	IAmb	IAmb	05 02 54.6	
	comp=Z,8.5nm,1.0s					
POKR	Poker Plat Res	59.10 338	P	P	05 02 52.2	+0.2
	baz=122					
COLA	College	59.12 338	P	P	05 02 52.6	+0.6
	baz=121					
SPCR	Spurr Chakacha	59.15 333	P	P	05 02 53.2	+0.8
	baz=114					
H25L	Birch Creek	59.17 340	P	P	05 02 53.1	+0.8
	baz=124,SNR=5.4					
SKT	Skwentna	59.19 334	P	P	05 02 53.0	+0.4
	baz=116,SNR=5.5					
TRF	Thorofare Moun	59.35 336	P	P	05 02 54.3	+0.4
	baz=118,SNR=13					
NEA2	Nenana	59.43 337	P	P	05 02 55.2	+0.9
	baz=120					
BMAR	Burnt Mountain	59.43 341	P	P	05 02 55.1	+0.8
F26K	Sheenjek River	59.46 341	P	P	05 02 55.4	+1.0
	baz=126					
Q18K	Katmai Hardscr	59.46 329	P	P	05 02 55.4	+0.8
	baz=110					
D27M	Malcolm River	59.51 344	P	P	05 02 55.5	+0.8
	baz=130					
G25K	Bearman Lake	59.54 340	P	P	05 02 55.9	+1.0
	baz=124					
R17L	Mt. Peulik Vol	59.79 328	P	P	05 02 57.3	+0.4
	baz=108					
I23K	Minto, Yukon-K	59.82 338	P	P	05 02 57.6	+0.8
	baz=120,SNR=10					
P18K	Big Mountain,	59.83 330	P	P	05 02 57.9	+0.8
	baz=111					
M20K	Styx River	59.83 333	P	P	05 02 57.6	+0.5
	baz=114,SNR=5.7					
F25K	Christian Rive	59.86 341	IAmb	IAmb	05 02 59.3	
	comp=Z,15nm,1.4s					
F25K	Christian Rive	59.86 341	P	P	05 02 58.3	+1.0
	baz=125					
PPLA	Purkeypile	59.87 335	P	P	05 02 57.9	+0.5
	baz=116					
BPAW	Bear Paw Mtn.	59.93 336	IAmb	IAmb	05 03 02.6	
	comp=Z,7.7nm,1.0s					
BPAW	Bear Paw Mtn.	59.93 336	P	P	05 02 58.0	+0.3
	baz=117					
G24K	Hadweenzic Riv	59.96 340	P	P	05 02 58.8	+0.9
	baz=122,SNR=5.8					
O18K	Koktuh Hills	59.99 331	P	P	05 02 59.0	+0.8
	baz=111					
E25K	Arctic Village	60.14 341	P	P	05 03 00.1	+1.0
	baz=125					
H23K	Yukon River	60.22 338	P	P	05 03 00.6	+0.9
	baz=120					
MLY	Manley	60.27 337	P	P	05 03 00.7	+0.7
	baz=118					
Q16K	King Salmon	60.28 329	P	P	05 03 01.1	+1.0
	baz=105					
CHUM	Lake Minchumin	60.35 336	P	P	05 03 01.2	+0.7
	baz=116					
M19K	Big River Lodg	60.39 333	P	P	05 03 01.7	+0.8
	baz=113					
R16K	Pilot Point	60.39 328	P	P	05 03 02.0	+1.1
	baz=107					
C27K	Jago River	60.50 343	P	P	05 03 02.2	+0.7
	baz=128					
F24K	Squaw Lake	60.54 340	P	P	05 03 02.3	+0.4
	baz=122					
CHNA	Chernabura Isl	60.72 324	P	P	05 03 03.2	0.0
	baz=104					
I21K	Tanana	60.80 337	P	P	05 03 04.3	+0.7
	baz=117					
G23K	Bananza Creek	60.83 339	P	P	05 03 04.3	+0.5
G23K			IAmb	IAmb	05 03 05.5	
	comp=Z,14nm,1.2s					
G23K	Bananza Creek	60.83 339	P	P	05 03 04.3	+0.5
	baz=120					
O17K	Koliganek Bris	60.85 330	P	P	05 03 04.4	+0.3
	baz=109					
M18K	Stony River	60.87 332	P	P	05 03 04.5	+0.4
	baz=111,SNR=5.0					
C26K	Camden Bay	61.01 343	P	P	05 03 05.0	+0.1
	baz=126					
E24K	Your Creek	61.03 341	P	P	05 03 05.5	+0.3
	baz=122					
P16K	Nushagak River	61.05 329	P	P	05 03 06.5	+1.1
	baz=108					
D25K	Kavik River	61.08 342	P	P	05 03 06.1	+0.6
	baz=125					
N17K	Nushagak Hills	61.15 331	P	P	05 03 07.0	+1.0
	baz=109					
COLD	Coldfoot	61.15 339	P	P	05 03 06.9	+0.9
	baz=120,SNR=5.9					
O16K	Kokwok River B	61.27 330	P	P	05 03 07.7	+0.8
	baz=108					
H21K	Melozitna Rive	61.33 337	IAmb	IAmb	05 03 08.1	
	comp=Z,12nm,1.2s					
E23K	Chandalar	61.38 340	P	P	05 03 07.9	+0.3
	baz=121,SNR=5.2					
G22K	Bettles	61.45 339	P	P	05 03 08.3	+0.4
	baz=118					
M17K	Holitna River	61.56 332	P	P	05 03 09.1	+0.2
	baz=110					
I20K	Naaghaideneel	61.59 336	P	P	05 03 09.3	+0.4
	baz=114					
TOLK	Toolik Lake Re	61.67 341	P	P	05 03 09.7	+0.2
	baz=121					
D24K	Happy Valley	61.71 342	P	P	05 03 10.4	+0.6
	baz=122					
N16K	Nishlik Lake	61.87 331	P	P	05 03 11.7	+0.7
	baz=108,SNR=5.1					
F22K	John River	61.96 339	P	P	05 03 11.8	+0.3
	baz=118					
G21K	Allakaket	61.97 338	IAmb	IAmb	05 03 17.1	
	comp=Z,12nm,1.1s					
G21K	Allakaket	61.97 338	P	P	05 03 12.5	+1.0
	baz=116					
J18K	Innoko River	61.98 334	IAmb	IAmb	05 03 12.4	
	comp=Z,9.3nm,1.1s					
J18K	Innoko River	61.98 334	P	P	05 03 11.9	+0.3
	baz=111					
C24K	Franklin Bluff	61.98 342	P	P	05 03 12.2	+0.7
	baz=122					
PLCA	Paso Flores	61.98 157	P	P	05 03 11.8	-0.2
	comp=Z,6.3nm,1.1s,baz=279,slow=5.3,SNR=4.0					
PLCA			LR	LR	05 25 33.1	
	comp=Z,70nm,20.3s,baz=334,slow=32					
	comp=Z,6.3nm,1.1s					
O15K	Ungalikthiuk R	62.00 329	P	P	05 03 12.2	+0.4
	baz=106					
H20K	Anotleneega Mo	62.04 337	P	P	05 03 12.2	+0.2
	baz=114,SNR=8.1					
M16K	Timber Creek	62.13 331	P	P	05 03 13.4	+0.7
	baz=108					
E22K	Anaktuvuk Pass	62.13 340	P	P	05 03 12.7	+0.1
	baz=118					
D23K	Nanushuk River	62.18 341	P	P	05 03 13.1	+0.2
	baz=120					
L17K	Donlin	62.19 333	P	P	05 03 13.8	+0.7
	baz=109					
F21K	Alatna River	62.27 339	P	P	05 03 14.7	+1.1
F21K	Alatna River	62.27 339	P	P	05 03 13.9	+0.3
	baz=116,SNR=12					
S12K	Black Hills	62.30 325	P	P	05 03 14.7	+0.8
	baz=102					
K17K	Iditarod	62.39 333	P	P	05 03 14.9	+0.5
	baz=109					
N15K	Kwethluk River	62.41 330	P	P	05 03 15.7	+1.2
	baz=106					
GCSA	Galena City Sc	62.52 336	P	P	05 03 15.3	+0.1
	baz=112					
L16K	Owhat River	62.58 332	P	P	05 03 16.3	+0.6
	baz=108					
C23K	Itkillik River	62.61 342	P	P	05 03 16.0	+0.3
	baz=120					
H19K	Roundabout Mou	62.65 336	P	P	05 03 15.7	-0.4
H19K	Roundabout Mou	62.65 336	P	P	05 03 16.3	+0.3
	baz=112,SNR=5.3					
O14K	Tigyukauivet M	62.73 329	P	P	05 03 17.7	+1.0
	baz=105					
D22K	Ayikyak River	62.77 341	P	P	05 03 17.6	+0.8
	baz=118					
M15K	Kasigluk River	62.84 331	P	P	05 03 18.3	+0.9
	baz=106					
FALS	False Pass	62.88 324	P	P	05 03 18.4	+0.6
	baz=101					
E21K	Killik River	62.99 340	P	P	05 03 18.4	+0.1
	baz=116					
F20K	Avaraart Lake	62.99 338	P	P	05 03 18.4	+0.1
	baz=114,SNR=6.6					
N14K	Kuskokwak Cree	63.11 330	P	P	05 03 19.9	+0.7
	baz=105					
H18K	Honhosa River	63.26 336	P	P	05 03 20.5	+0.4
	baz=110					
M14K	Bethel	63.46 330	P	P	05 03 22.3	+0.8
	baz=105					
L15K	Ungalak Mounta	63.49 332	P	P	05 03 22.3	+0.6
	baz=106					
J16K	Anvik River	63.56 333	P	P	05 03 22.6	+0.4
	baz=107,SNR=5.3					
C21K	Knifeblade Rid	63.57 340	P	P	05 03 22.8	+0.6
	baz=116					
G18K	Tagagawik	63.63 336	IAmb	IAmb	05 03 24.2	
	comp=Z,6.7nm,1.1s					
G18K	Tagagawik	63.63 336	P	P	05 03 23.0	+0.4
	baz=110					
F19K	Shaleruckik Mo	63.65 338	P	P	05 03 22.9	+0.2
	baz=112					
E20K	Ntgu River	63.65 339	P	P	05 03 22.8	0.0
	baz=114					
K15K	Wolf Creek Mou	63.68 332	P	P	05 03 23.5	+0.6
	baz=106,SNR=5.2					
E19K	Redstone River	63.69 338	P	P	05 03 23.0	0.0
	baz=113					
B22K	Teshekpuk Lake	63.69 342	P	P	05 03 23.0	+0.1
	baz=118					
B21K	Ikpikpuk River	63.73 341	P	P	05 03 23.3	+0.2
	baz=116					
I17K	Unalakleet	63.79 334	P	P	05 03 24.0	+0.4
	baz=108					
H17K	Granite Mounta	63.80 335	IAmb	IAmb	05 03 25.6	
	comp=Z,9.7nm,1.0s					
H17K	Granite Mounta	63.80 335	P	P	05 03 23.8	+0.1
	baz=109					
L14K	Kuka Creek	63.95 331	P	P	05 03 25.1	+0.4
	baz=104					
D20K	Etivluk River	63.98 340	P	P	05 03 25.0	+0.1
	baz=114					
M13K	Dall Lake	64.04 330	P	P	05 03 25.7	+0.4
	baz=104					
F18K	Selawik	64.26 337	P	P	05 03 26.8	+0.2
	baz=110					
G17K	Kiwalik Mounta	64.28 336	P	P	05 03 27.4	+0.5
	baz=108					
D19K	Kuna River	64.40 339	P	P	05 03 28.0	+0.3
	baz=112					
A22K	Sinclair Lake	64.46 342	P	P	05 03 28.0	+0.1
	baz=116					
UNV	Unalaska Valle	64.50 322	P	P	05 03 28.8	+0.3
	baz=98					
H16K	Elim	64.66 335	P	P	05 03 28.9	-0.4
	baz=106					
B20K	Meade River	64.69 341	P	P	05 03 29.2	-0.2
	baz=114					
J14K	Nanvaranak Lak	64.71 332	P	P	05 03 29.8	+0.2
	baz=104					
F17K	Baldwin Pennin	64.81 337	P	P	05 03 30.3	0.0
	baz=108					
E18K	Tukpahlearik C	64.89 338	P	P	05 03 30.6	-0.2
	baz=109,SNR=5.4					
G16K	Koyuk River	64.92 335	P	P	05 03 31.1	0.0
	baz=107					
K13K	Kusilvak Mount	65.01 331	P	P	05 03 32.3	+0.6
	baz=103					
C19K	Lookout Ridge	65.13 340	P	P	05 03 32.2	-0.2
	baz=111					
E17K	Hotham Inlet	65.23 337	P	P	05 03 33.4	+0.4
	baz=108					
M11K	Mekoryuk	65.42 330	P	P	05 03 34.1	-0.2
	baz=101					
G15K	Niukluk	65.50 335	P	P	05 03 34.8	0.0
	baz=105					
C18K	Utukok River	65.51 339	P	P	05 03 34.4	-0.5
	baz=109					
NIKH	Nikolski High	65.80 321	P	P	05 03 37.1	+0.2
	baz=95					
D17K	Noatak River	65.88 338	P	P	05 03 36.5	-0.7
	baz=107					
F15K	North Star Dit	65.93 335	P	P	05 03 36.8	-0.8
	baz=105					
RDOG	Red Dog Mine	65.93 338	P	P	05 03 37.2	-0.3
	baz=107					
ANM	Nome	65.94 334	P	P	05 03 37.2	-0.5
	baz=104					
B18K	Kokolik River	65.96 340	P	P	05 03 37.2	-0.5
	baz=109					
A19K	Wainwright	66.01 341	P	P	05 03 36.8	-1.1
	baz=110					
C17K	DeLong Mountai	66.15 339	P	P	05 03 38.4	-0.5
	baz=107					
F14K	Arctic Creek	66.55 335	P	P	05 03 41.4	-0.1
	baz=103					
P08K	Saint George I	66.58 325	P	P	05 03 41.3	-0.6
	baz=96					
C16K	Lisburne Hills	66.86 338	P	P	05 03 42.7	-0.8
	baz=105					
SPIA	Saint Paul Isl	67.02 326	P	P	05 03 44.5	-0.2
	baz=96					
TNA	Tin City	67.22 335	P	P	05 03 44.9	-0.9
	baz=102					
BORG	Borgarnes	69.98 26	LR	LR	05 36 47.7	
	comp=Z,40nm,18.2s,baz=238,slow=38					
SPITS	Spitsbergen Ar	79.26 11	LR	LR	05 45 09.3	
	comp=Z,35nm,18.2s,baz=306,slow=40					
ESDC	Sonseca Array	83.04 51	P	P	05 05 17.5	-0.1
	comp=Z,1.5nm,1.1s,baz=282,slow=5.9,SNR=4.4					
ESDC			LR	LR	05 41 00.4	
	comp=Z,39nm,18.6s,baz=243,slow=35					
	comp=Z,1.5nm,1.1s					
MDT	Midelt	84.32 58	LR	LR	05 38 20.4	
	comp=Z,47nm,19.5s,baz=254,slow=32					
NOA	NORSAR Array B	85.12 27	LR	LR	05 44 23.3	
	comp=Z,8.8nm,20.6s,baz=240,slow=36					
MA2	Magadan	86.59 332	LR	LR	05 45 24.5	
	comp=Z,37nm,18.4s,baz=152,slow=36					
TIXI	Tiksi	87.01 347	LR	LR	05 47 49.2	
	comp=Z,50nm,20.0s,baz=254,slow=38					
VRAC	Vranov	93.17 37	LR	LR	05 51 33.4	
	comp=Z,27nm,18.3s,baz=285,slow=38					
YAK	Yakutsk	93.61 340	LR	LR	05 52 54.0	
	comp=Z,77nm,18.6s,baz=10,slow=38					
VAE	Valguarnera	97.26 48	LR	LR	05 47 24.5	
	comp=Z,61nm,18.5s,baz=114,slow=34					

ASAJ	**Asahikawa**	**98.57**	**321**	LR	LR	05 48 48.3	
	comp=Z,34nm,21.9s,baz=200,slow=34						
AKASG	**Malin Array Be**	**99.14**	**31**	LR	LR	05 52 40.3	
	comp=Z,26nm,19.3s,baz=352,slow=36						
WRA	**Warramunga Arr**	**130.15**	**257**	PKP	**PKPdf**	**05 12 02.1**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=81,slow=2.2,SNR=4.5						
ASAR	**Alice Springs**	**130.74**	**252**	PKP	**PKPdf**	**05 12 02.7**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=76,slow=5.3,SNR=4.1						

*AEIC **13** 05:00:34.6±1.3, 56.°07N±0.°10×148.°5W±0.°1, h7km±8km, Error ellipse: s-maj=14.7km s-min=8.1km az=166.0*

NEIC 13 05:00:33.0±1.2, 56.°18N±0.°09×148.°6W±0.°1, h21km±10km, ML3.5/56, ML3.3(AEIC), Error ellipse: s-maj=13.2km s-min=8.3km az=161.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.70**	**308**		Pn	05 01 14.7	-0.3
KDAK	**Kodiak Island**	**2.70**	**308**		Sn	05 01 45.5	-1.6
OHAK	**Old Harbor**	**2.77**	**294**		Pn	05 01 15.2	-0.9
OHAK					Sn	05 01 46.8	-2.2
MID	**Middleton Isla**	**3.48**	**20**		Pn	05 01 24.8	-1.1
MID					Sn	05 02 03.6	-2.8
MID				IAML		05 02 20.7	
	comp=E,90nm,1.1s						
MID				IAML		05 02 41.7	
	comp=N,78nm,1.2s						
R18K	**Karluk**	**3.49**	**296**		Pn	05 01 25.8	-0.1
R18K				IAML		05 02 10.8	
	comp=E,97nm,0.4s						
R18K				IAML		05 02 14.3	
	comp=N,76nm,0.5s						
CNPM	**China Poot**	**3.64**	**339**		Pn	05 01 28.1	+0.1
CNPM					Sn	05 02 09.1	-1.1
BRSE	**Bradley Lake S**	**3.75**	**343**		Pn	05 01 29.8	+0.3
BRSE					Sn	05 02 10.8	-2.2
BRLK	**Bradley Lake**	**3.79**	**342**	Pn	Pn	05 01 30.1	-0.1
BRLK				IAML		05 02 15.8	
	comp=E,56nm,0.1s						
BRLK				IAML		05 02 20.3	
	comp=N,61nm,0.2s						
P23K	**Montague Islan**	**3.89**	**9**		Pn	05 01 31.0	-0.5
P23K					Sn	05 02 14.0	-2.4
P23K				IAML		05 02 15.5	
	comp=N,54nm,0.4s						
P23K				IAML		05 02 16.2	
	comp=E,70nm,0.4s						
KAPH	**Katmai Pasha**	**3.93**	**310**		Pn	05 01 33.1	+1.0
KAHG	**Katmai Hook Gl**	**3.96**	**308**		Pn	05 01 33.6	+1.1
SEW	**Seward**	**3.96**	**354**		Pn	05 01 31.9	-0.5
KAWH	**Katmai**	**4.01**	**306**		Pn	05 01 34.0	+0.8
KARR	**Katmai Rainbow**	**4.03**	**308**		Pn	05 01 35.0	+1.5
MGLS	**Mageik Landsli**	**4.06**	**302**		Pn	05 01 35.5	+1.7
AUJK	**Augustine Jueg**	**4.08**	**323**		Pn	05 01 34.9	+0.8
AUJK					Sn	05 02 21.4	+0.2
KAKN	**Katmai Knife C**	**4.09**	**304**		Pn	05 01 35.1	+0.8
KABU	**Katmai Buttres**	**4.18**	**303**		Pn	05 01 37.5	+1.9
KAHC	**Katmai Hardscr**	**4.25**	**308**		Pn	05 01 37.0	+0.5
ANCK	**Angle Creek**	**4.25**	**301**		Pn	05 01 38.5	+2.0
KAIM	**Kayak Island**	**4.38**	**29**		Pn	05 01 37.8	-0.4
KAIM				IAML		05 02 32.9	
	comp=N,47nm,1.2s						
KAIM				IAML		05 02 45.4	
	comp=E,43nm,1.1s						
HIN	**Hinchinbrook I**	**4.38**	**14**		Pn	05 01 37.8	-0.4
HIN					Sn	05 02 26.5	-2.1
SLKM	**Skilak Lake**	**4.42**	**350**		Pn	05 01 38.7	-0.2
SLKM				IAML		05 02 29.4	
	comp=N,56nm,0.2s						
SLKM				IAML		05 02 30.8	
	comp=E,60nm,0.3s						
PLK3	**Peulik 3**	**4.45**	**293**		Pn	05 01 39.4	+0.2
O20K	**Slope Mountain**	**4.45**	**333**		Pn	05 01 39.1	-0.1
ILS	**Iliamna Low So**	**4.46**	**330**		Pn	05 01 39.6	+0.2
PLK4	**Peulik 4**	**4.48**	**292**		Pn	05 01 39.9	+0.2
PLK2	**Peulik 2**	**4.50**	**294**		Pn	05 01 40.1	+0.2
ILSW	**Iliamna Southw**	**4.51**	**330**	Pn	Pn	05 01 40.0	0.0
ILSW				IAML		05 02 33.8	
	comp=N,37nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.64**	**18**		Pn	05 01 41.5	-0.2
EYAK				IAML		05 02 33.2	
	comp=E,51nm,0.7s						
PLK1	**Peulik 1**	**4.66**	**294**		Pn	05 01 42.4	+0.4
SUCK	**Suckling Hills**	**4.68**	**31**		Pn	05 01 41.9	-0.4
SUCK				IAML		05 02 38.5	
	comp=E,37nm,1.1s						
PWL	**Port Wells**	**4.70**	**2**		Pn	05 01 42.0	-0.6
PWL				IAML		05 02 35.0	
	comp=E,31nm,0.8s						
PWL				IAML		05 02 41.9	
	comp=N,33nm,0.6s						
RAGM	**Ragged Mountai**	**4.71**	**25**		Pn	05 01 42.4	-0.4
FID	**Port Fidalgo**	**4.72**	**13**		Pn	05 01 42.1	-0.9
FID				IAML		05 02 37.8	
	comp=N,28nm,0.7s						
FID				IAML		05 02 53.4	
	comp=E,30nm,0.8s						
NICHA	**Nichawak Mount**	**4.76**	**29**		Pn	05 01 43.5	+0.1
HMT	**Hamilton**	**4.77**	**27**		Pn	05 01 43.1	-0.4
P18K	**Big Mountain,**	**4.78**	**315**		Pn	05 01 43.4	-0.3
GLI	**Glacier Island**	**4.79**	**9**		Pn	05 01 43.0	-0.7
GLI				IAML		05 02 36.7	
	comp=N,26nm,0.9s						
GLI				IAML		05 02 37.5	
	comp=E,37nm,0.8s						
RC01	**Rabbit Creek A**	**4.96**	**354**	Pn	Pn	05 01 46.2	+0.1
RC01				IAML		05 02 42.5	
	comp=N,34nm,0.5s						
RC01				IAML		05 02 42.9	
	comp=E,37nm,0.5s						
BERG	**Berg Lake**	**4.96**	**30**		Pn	05 01 45.7	-0.5
Q16K	**King Salmon**	**5.01**	**303**		Pn	05 01 47.3	+0.5
O19K	**Port Alsworth**	**5.03**	**326**	Pn	Pn	05 01 47.6	+0.6
SNH	**Sunshine Point**	**5.05**	**35**		Pn	05 01 47.0	-0.5
SNH				IAML		05 02 44.7	
	comp=E,25nm,1.0s						
SNH				IAML		05 02 52.9	
	comp=N,46nm,1.1s						
KHIT	**Khitrov Hills**	**5.13**	**31**		Pn	05 01 47.5	-1.1
BMRM	**Bremner River**	**5.25**	**22**		Pn	05 01 49.8	-0.3
BMRM				IAML		05 02 48.3	
	comp=N,21nm,0.9s						
BMRM				IAML		05 02 54.6	
	comp=E,20nm,0.6s						
KNK	**Knik Glacier**	**5.25**	**1**	Pn	Pn	05 01 50.2	0.0
KNK				IAML		05 02 58.2	
	comp=E,18nm,0.6s						
WAX	**Waxell Ridge**	**5.26**	**33**		Pn	05 01 49.8	-0.5
ANNE	**Aniakchak Nort**	**5.27**	**282**		Pn	05 01 50.7	+0.3
BARK	**Barkley Ridge**	**5.33**	**35**		Pn	05 01 50.7	-0.7
ANPB	**Aniakchak Plen**	**5.39**	**281**		Pn	05 01 52.2	+0.2
CRQM	**Cirque**	**5.42**	**30**		Pn	05 01 52.1	-0.5
PMR	**Palmer**	**5.44**	**357**	Pn	Pn	05 01 53.0	+0.3
TGL	**Tana Glacier**	**5.51**	**31**	Pn	Pn	05 01 53.4	-0.4
KLU	**Klutina**	**5.51**	**14**		Pn	05 01 53.8	0.0
BAGL	**Bagley Icefiel**	**5.53**	**36**		Pn	05 01 53.4	-0.5
YAH	**Yahtse**	**5.55**	**38**	Pn	Pn	05 01 53.7	-0.7
N19K	**Bonanza Creek**	**5.57**	**329**	Pn	Pn	05 01 54.1	-0.5
STLK	**Strandline Lak**	**5.59**	**344**	Pn	Pn	05 01 55.3	+0.4
GHO	**Glory Hole Cre**	**5.62**	**359**		Pn	05 01 55.7	+0.5
RKAV	**Rock Avalanche**	**5.65**	**40**		Pn	05 01 55.7	0.0
SML	**Sawmill**	**5.65**	**1**		Pn	05 01 55.9	+0.2
M23K	**Glacier View**	**5.65**	**4**		Pn	05 01 56.0	+0.3
VRDI	**Verde Repeater**	**5.74**	**26**	Pn	Pn	05 01 56.6	-0.4
KIAG	**Kiagna River**	**5.78**	**32**		Pn	05 01 56.8	-0.8
P16K	**Nushagak River**	**5.79**	**303**	Pn	Pn	05 01 58.4	+0.9
TABL	**Table Mountain**	**5.82**	**40**		Pn	05 01 58.1	0.0
GRNC	**Granite Creek**	**5.82**	**35**		Pn	05 01 57.7	-0.5
N25K	**Chitina, Valde**	**5.83**	**19**		Pn	05 01 58.5	+0.3
GLB	**Gilahina Butte**	**5.84**	**23**		Pn	05 01 58.2	-0.1
BALM	**Baldy**	**5.88**	**31**		Pn	05 01 58.4	-0.4
N18K	**Kilae Creek**	**5.91**	**323**		Pn	05 01 58.8	-0.4
PCA	**Pinnacle**	**5.92**	**45**		Pn	05 01 59.8	+0.4
PTPK	**Patty Peak**	**5.96**	**30**		Pn	05 01 59.6	-0.5
MCARA	**McCarthy VSAT**	**5.98**	**27**	Pn	Pn	05 02 00.4	+0.2
PNL	**Peninsula**	**6.04**	**51**		Pn	05 02 00.4	-0.5
M24K	**Tolsona, Glenn**	**6.08**	**11**	Pn	Pn	05 02 02.7	+1.1
BCPM	**Bancas Point**	**6.09**	**48**		Pn	05 02 01.8	+0.1
O16K	**Kokwok River B**	**6.10**	**308**	Pn	Pn	05 02 02.5	+0.7
BARN	**Barnard Glacie**	**6.10**	**34**		Pn	05 02 01.8	-0.2
CTGM	**Chitina Glacie**	**6.13**	**35**	Pn	Pn	05 02 01.8	-0.6
LOGN	**Logan Glacier**	**6.14**	**37**	Pn	Pn	05 02 01.7	-0.7
WASW	**Wrangell South**	**6.21**	**20**		Pn	05 02 03.3	-0.2
N17K	**Nushagak Hills**	**6.27**	**318**		Pn	05 02 03.7	-0.4
CNBA	**Chernabura Isl**	**6.38**	**262**		Pn	05 02 04.5	-1.0
O28M	**Mount Upton**	**6.39**	**40**		Pn	05 02 06.2	+0.2
WAT6	**Susitna Watana**	**6.44**	**4**		Pn	05 02 06.6	0.0
M18K	**Stony River**	**6.50**	**328**		Pn	05 02 06.6	-0.8
O15K	**Ungalikthiuk R**	**6.71**	**301**	Pn	Pn	05 02 11.0	+0.8
O29M	**Mount Kennedy**	**6.73**	**48**		Pn	05 02 11.1	+0.6
SDPT	**Sand Point**	**6.74**	**268**		Pn	05 02 10.4	-0.1
P29M	**Windy Craggy**	**6.76**	**55**		Pn	05 02 10.1	-0.8
L19K	**White Mountain**	**6.82**	**335**	Pn	Pn	05 02 10.8	-0.8
N16K	**Nishlik Lake**	**6.86**	**313**		Pn	05 02 12.4	+0.2
M17K	**Holitna River**	**6.95**	**323**	Pn	Pn	05 02 13.5	0.0
S31K	**Pelican**	**6.99**	**70**	Pn	Pn	05 02 12.9	-1.1
N15K	**Kwethluk River**	**7.26**	**308**	Pn	Pn	05 02 19.2	+1.5
O14K	**Tigyukauivet M**	**7.43**	**300**	Pn	Pn	05 02 21.1	+1.1
S12K	**Black Hills**	**7.56**	**272**	Pn	Pn	05 02 21.5	-0.4
RIDG	**Independent Ri**	**7.82**	**12**		Pn	05 02 26.8	+1.4
L16K	**Owhat River**	**7.88**	**319**	Pn	Pn	05 02 26.6	+0.3
N30M	**Aishikik Lake**	**7.99**	**44**	Pn	Pn	05 02 28.0	+0.3
BPAW	**Bear Paw Mtn.**	**8.04**	**353**	Pn	Pn	05 02 28.9	+0.5
M29M	**Somme Creek**	**8.15**	**35**	Pn	Pn	05 02 30.7	+0.7
K17K	**Iditarod**	**8.20**	**327**	Pn	Pn	05 02 30.0	-0.5
J20K	**Nowinta River**	**8.48**	**343**	Pn	Pn	05 02 34.6	+0.2

TRN 13 05:03:08.7, 19.°01N×62.°44W, h3km, MD3.5, Far North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.47**	**155**	*eP*	Pg	05 03 37.2	+0.2
ANWB				*eS*	Sg	05 04 00.9	+4.8
SKI	**Saint Kitts**	**1.69**	**190**	*eP*	Pg	05 03 41.7	+0.4
SKI				*eS*	Sg	05 04 05.5	+2.3
DHSZ	**Broadband at M**	**2.80**	**167**	*eP*	Pb	05 03 57.2	-2.2
DHSZ				*eS*	Sb	05 04 31.9	-2.3
ATGZ	**Broadband at L**	**2.98**	**167**	*eP*	Pb	05 04 00.2	-2.3
ATGZ				*eS*	Sn	05 04 36.2	+3.0
MMLZ	**Guadeloupe Bro**	**3.04**	**166**	*eP*	Pb	05 04 00.8	-2.7
MMLZ				*eS*	Sb	05 04 38.8	-2.4

*IDC **13** 05:06:30.5±1.0, 28.°03N×73.°30E, h0km, mb3.7/12, mbtmp3.8/13, ML1.4/1, MS3.0/1, Error ellipse: s-maj=24.4km s-min=18.5km az=52.0*

*NEIC **13** 05:06:33.9±1.1, 28.°16N±0.°07×73.°2E±0.°1, h15km±6km, mb4.0/8, Error ellipse: s-maj=19.1km s-min=4.3km az=61.0*

*NDI **13** 05:06:34.7±2.2, 28.°16N×73.°21E, h14km±3km, ML4.0, MW4.0*

ISC 13 05:06:32.2±0.5, 28.°19N±0.°03×73.°27E±0.°04, h10km, n57, σ2°21/82, mb3.9/13, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNR	**BIKANER**	**0.17**	**177**	*eP*	**Pg**	**05 06 37.4**	**+1.6**
BKNR				*eS*	**Sg**	**05 06 40.0**	**+1.6**
BKNR				IAML		05 06 40.4	
	comp=N,847nm,0.2s						
BKNR				IAML		05 06 40.6	
	comp=E,831nm,0.2s						
AJM	**Ajmer**	**2.10**	**144**	*eP*	**Pb**	**05 07 09.9**	**-0.5**
AJM				*eS*	**Sb**	**05 07 35.8**	**-0.7**
AJM				IAML		05 07 39.1	
	comp=E,733nm,0.4s						
AJM				IAML		05 07 39.2	
	comp=N,664nm,0.3s						
JASL	**Jaisalmer**	**2.45**	**240**	*eP*	**Pn**	**05 07 13.6**	**+1.3**
JASL				*eS*	**Sn**	**05 07 42.1**	**-0.1**
JASL				IAML		05 07 54.0	
	comp=N,948nm,0.2s						
JASL				IAML		05 07 54.6	
	comp=E,870nm,0.6s						
KUDL	**Kundal**	**2.84**	**90**	*eP*	**Pn**	**05 07 20.5**	**+2.8**
KUDL				*eS*	**Sn**	**05 07 55.3**	**+3.3**
KUDL				IAML		05 08 04.2	
	comp=N,987nm,0.6s						
KUDL				IAML		05 08 04.8	
	comp=E,691nm,0.2s						
JHJR	**Jhajjar**	**3.00**	**81**	*eP*	**Pb**	**05 07 24.7**	**-1.1**
JHJR				*eS*	**Sn**	**05 07 59.5**	**+3.6**
JHJR				IAML		05 08 07.8	
	comp=N,893nm,0.4s						
JHJR				IAML		05 08 08.2	
	comp=E,739nm,0.6s						
BHGR	**Bahadurgarh**	**3.27**	**80**	*eP*	**Pn**	**05 07 27.2**	**+3.7**
BHGR				*eS*	**Sn**	**05 08 05.4**	**+2.9**
BHGR				IAML		05 08 17.9	
	comp=E,712nm,0.2s						
BHGR				IAML		05 08 20.5	
	comp=N,820nm,0.3s						
AYAN	**Aya Nagar**	**3.41**	**84**	*eP*	**Pn**	**05 07 29.1**	**+3.6**
AYAN				*eS*	**Sn**	**05 08 06.4**	**+0.4**
AYAN				IAML		05 08 20.3	
	comp=N,1μm,0.6s						
AYAN				IAML		05 08 23.8	
	comp=E,855nm,0.4s						
UDPR	**Udaipur**	**3.62**	**174**	*eP*	**Pn**	**05 07 31.2**	**+2.9**
UDPR				*eS*	**Sn**	**05 08 11.3**	**+0.2**
UDPR				IAML		05 08 27.9	
	comp=N,644nm,0.3s						
UDPR				IAML		05 08 28.2	
	comp=E,1μm,0.6s						
CGRH	**CHANDIGARH**	**3.98**	**50**	*eP*	**Pn**	**05 07 34.5**	**+1.2**
CGRH				*eS*	**Sn**	**05 08 20.1**	**+0.1**
CGRH				*eS*	Sb	05 08 21.6	-8.9
CGRH				IAML		05 08 22.6	
	comp=N,682nm,0.4s						
CGRH				IAML		05 08 23.2	
	comp=E,449nm,0.1s						
BHK	**Bhakra**	**4.22**	**40**	*eP*	**Pb**	**05 07 42.6**	**-4.0**
BHK				*eS*	**Sn**	**05 08 31.8**	**+5.7**
BHK				IAML		05 08 32.1	
	comp=E,894nm,0.4s						
BHK				IAML		05 08 34.1	
	comp=N,803nm,0.5s						
SMLA	**Simla**	**4.48**	**48**	*eP*	**Pn**	**05 07 44.1**	**+3.9**
SMLA				*eS*	**Sn**	**05 08 32.1**	**-0.3**
SMLA				IAML		05 08 39.2	
	comp=E,736nm,0.6s						
SMLA				IAML		05 08 40.2	
	comp=N,440nm,0.2s						
JMU	**Jammu**	**4.73**	**17**	*eP*	**Pn**	**05 07 47.6**	**+4.0**
JMU				*eS*	**Sn**	**05 08 40.0**	**+1.6**
JMU				IAML		05 08 43.1	
	comp=E,666nm,0.7s						
THN	**Thein Dam**	**4.73**	**26**	*eP*	**Pn**	**05 07 46.6**	**+2.9**
THN				*eS*	**Sn**	**05 08 40.3**	**+1.7**
THN				IAML		05 08 43.7	
	comp=E,407nm,0.4s						
THN				IAML		05 08 44.0	
	comp=N,591nm,0.5s						
DHRM	**DHARAMSHALA**	**4.82**	**32**	*eP*	**Pn**	**05 07 47.9**	**+2.7**
DHRM				*eS*	**Sn**	**05 08 40.9**	**-0.3**
DHRM				IAML		05 08 50.2	
	comp=N,430nm,0.7s						
DHRM				IAML		05 08 50.7	
	comp=E,553nm,0.3s						
TSSA	**Tissa**	**5.26**	**28**	*eP*	**Pn**	**05 07 53.1**	**+2.1**
TSSA				*eS*	**Sn**	**05 08 51.0**	**-0.8**
TSSA				IAML		05 08 55.6	
	comp=E,296nm,0.3s						
TSSA				IAML		05 08 57.5	
	comp=N,380nm,0.7s						
NIL	**Nilore**	**5.45**	**360**		**Pn**	**05 07 54.6**	**+1.2**
KLP	**Kalpa**	**5.46**	**51**	*eP*	**Pn**	**05 07 57.8**	**+3.8**
KLP				*eS*	**Sn**	**05 08 56.5**	**-0.6**
KLP				IAML		05 08 59.3	
	comp=N,314nm,0.3s						
KLP				IAML		05 09 03.5	
	comp=E,515nm,0.8s						
BHUJ	**Bhuj**	**5.89**	**214**	*eP*	**Pn**	**05 08 00.6**	**+0.9**
BHUJ				*eS*	**Sn**	**05 09 03.2**	**-4.0**
BHUJ				IAML		05 09 39.5	
	comp=N,409nm,0.5s						
BHUJ				IAML		05 09 40.9	
	comp=E,394nm,0.3s						
JOSI	**Joshimath**	**5.97**	**65**	*eP*	**Pn**	**05 08 01.7**	**+0.8**
JOSI				*eS*	**Sn**	**05 09 07.5**	**-2.0**
JOSI				IAML		05 09 11.1	
	comp=E,450nm,0.5s						
JOSI				IAML		05 09 11.5	
	comp=N,324nm,0.3s						
PTH	**Pithoragarh**	**6.24**	**76**	*eP*	**Pn**	**05 08 05.7**	**+1.2**
PTH				*eS*	**Sn**	**05 09 14.2**	**-1.9**
PTH				IAML		05 09 15.2	
	comp=N,145nm,0.3s						
PTH				IAML		05 09 15.9	
	comp=E,92nm,0.2s						
LGTI	**Lohaghat**	**6.25**	**77**	*eP*	**Pn**	**05 08 03.9**	**-0.6**
LGTI				*eS*	**Sn**	**05 09 11.1**	**-4.8**
LGTI				IAML		05 09 12.9	
	comp=E,101nm,0.3s						
LGTI				IAML		05 09 13.4	
	comp=N,127nm,0.1s						
BHV	**Bhavnagar**	**6.49**	**189**	*eP*	**Pn**	**05 08 08.5**	**+0.7**
BHV				*eS*	**Sn**	**05 09 18.0**	**-3.9**
BHV				IAML		05 10 04.0	
	comp=E,131nm,0.2s						
BHV				IAML		05 10 06.7	
	comp=N,110nm,0.5s						
HNLY	**HANLEY**	**6.72**	**46**	*eP*	**Pn**	**05 08 13.1**	**+1.6**
HNLY				*eS*	**Sn**	**05 09 26.2**	**-2.1**
HNLY				IAML		05 09 34.1	
	comp=E,298nm,0.5s						
HNLY				IAML		05 09 34.4	
	comp=N,326nm,0.7s						
ALCI	**Alchi Leh**	**6.88**	**28**	*eP*	**Pn**	**05 08 15.1**	**+1.6**
ALCI				*eS*	**Sn**	**05 09 29.6**	**-2.5**
ALCI				IAML		05 09 37.2	
	comp=E,72nm,0.4s						
ALCI				IAML		05 09 38.8	
	comp=N,62nm,0.7s						
KBL	**Kabul**	**7.29**	**331**		**Pn**	**05 08 19.8**	**+0.8**
KBL				Sn	**Sn**	**05 09 41.7**	**-0.2**
POO	**Poona**	**9.63**	**177**	*eP*	**Pn**	**05 08 51.8**	**+0.8**
POO				*eS*	**Sn**	**05 10 32.4**	**-6.9**
POO				IAML		05 11 36.1	
	comp=E,144nm,0.5s						
POO				IAML		05 11 44.9	
	comp=N,86nm,0.5s						
CHGR	**Chuyangaron**	**10.99**	**343**		**Pn**	**05 09 10.2**	**+0.6**
GAR	**Garm**	**11.06**	**348**		**Pn**	**05 09 11.9**	**+1.3**
KSH	**Kashi**	**11.52**	**11**	P	**Pn**	**05 09 13.9**	**-3.0**
KSH				pP		05 09 17.5	
KSH				pmax	pmax		
	comp=Z,13nm,0.6s						
ARSB	**Arslanbob**	**13.11**	**359**	Pn	**Pn**	**05 09 38.6**	**0.0**
TARG	**Taragay, Kyrgy**	**14.01**	**14**		**Pn**	**05 09 51.8**	**+0.7**
WSAR	**Wadi Sarin**	**14.08**	**253**	Pn	**Pn**	**05 09 51.2**	**-0.6**
	baz=73,slow=19,SNR=1.5						
WSAR				Sn	Sn	05 12 14.7	-14
	baz=37,slow=20,SNR=1.6						
BOOM	**Boomskoye usch**	**14.44**	**8**		**Pn**	**05 09 56.1**	**-0.7**
AAK	**Ala-Archa**	**14.45**	**4**		**Pn**	**05 09 59.2**	**+2.2**
AAK	**Ala-Archa**	**14.45**	**4**	Pn	**Pn**	**05 09 57.5**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=153,slow=5.0,SNR=4.7						
AAK				Sn	**Sn**	**05 12 33.7**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=198,slow=20,SNR=1.8						
KKAR	**Karatay Array**	**15.05**	**352**		**Pn**	**05 10 03.8**	**-1.1**
MAKZ	**Makanchi**	**19.81**	**18**	P	**P**	**05 11 03.5**	**+0.7**
MKAR	**Makanchi Array**	**19.88**	**18**	P	**Pn**	**05 11 05.5**	**+0.3**
MKAR	**Makanchi Array**	**19.88**	**18**	P	**P**	**05 11 04.3**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=197,slow=11,SNR=16						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**22.76**	**9**	P	**P**	**05 11 35.4**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=196,slow=11,SNR=14						
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**22.86**	**9**	P	**P**	**05 11 35.3**	**-0.3**
KURK				IAmb	IAmb	05 11 46.0	
	comp=Z,6.7nm,1.2s						
AB31	**Akbulak array**	**23.40**	**338**		**P**	**05 11 41.8**	**+0.7**
CHTO	**Chiang Mai**	**25.28**	**106**	P	**P**	**05 11 59.7**	**+0.7**
CHTO				IAmb	IAmb	05 12 02.3	
	comp=Z,2.3nm,0.7s						
PZH	**PanZhiHua**	**25.33**	**87**	PKP	P	05 12 09.8	+10
CMAR	**Chiang Mai Arr**	**25.44**	**107**	P	**P**	**05 12 01.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**25.44**	**107**	P	**P**	**05 12 00.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=290,slow=10,SNR=11						
CMAR				LR	LR	05 22 48.1	
	comp=Z,30nm,18.1s,baz=280,slow=38						
	comp=Z,1.3nm,0.3s						
ZAA0	**Zalesovo Array**	**27.10**	**15**	P	**P**	**05 12 16.1**	**+1.1**
ZAA0				IAmb	IAmb	05 12 22.4	
	comp=Z,5.5nm,1.4s						
ZALV	**Zalesovo Beam**	**27.10**	**15**	P	**P**	**05 12 16.4**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=202,slow=7.5,SNR=4.0						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**32.30**	**44**	P	**P**	**05 13 01.9**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=234,slow=7.0,SNR=1.7						
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**45.55**	**330**	P	**P**	**05 14 53.0**	**+1.1**
	comp=Z,2.5nm,0.9s,baz=116,slow=8.7,SNR=3.5						
	comp=Z,2.5nm,0.9s						
ARCES	**ARCESS Array B**	**49.57**	**340**	P	**P**	**05 15 24.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=118,slow=8.5,SNR=8.6						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	**50.91**	**326**	P	**P**	**05 15 33.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=97,slow=12,SNR=1.2						
	comp=Z,0.9nm,0.5s						
NB2	**NORSAR Subarra**	**52.28**	**327**	P	**P**	**05 15 43.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=101,slow=7.4						
NOA	**NORSAR Array B**	**52.28**	**327**	P	**P**	**05 15 43.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=100,slow=7.4,SNR=2.2						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.79**	**273**	P	**P**	**05 17 31.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=61,slow=5.6,SNR=3.0						
	comp=Z,0.4nm,0.7s						

LATG	**Datong**	**0.53 239**⇑	*i* P	**Pn**	**05 21 05.6 +0.7**
LATG			*e*S	**Sn**	**05 21 17.0 +0.6**
YM08	**YM08**	**0.54 313** ⇑	P	**Pn**	**05 21 04.7 -0.1**
YM08			*e*S	**Sn**	**05 21 15.1 -1.3**
EAHA	**Aohua**	**0.55 208**	*e*P	**Pn**	**05 21 05.1 +0.2**
EAHA			*e*S	**Sn**	**05 21 16.9 +0.5**
ZUZH	**Zhuzihu**	**0.56 309**	*e*P	**Pn**	**05 21 04.9 -0.1**
ZUZH			*e*S	**Sn**	**05 21 15.3 -1.3**
EOS3	**EOS3**	**0.59 153**	P	**Pn**	**05 21 06.0 +1.0**
EOS3			*e*S	**Sn**	**05 21 18.0 +1.3**
YHNB	**Yeheng**	**0.61 256**	P	**Pn**	**05 21 05.7 +0.3**
YHNB	**Yeheng**	**0.61 256**	S	**Sn**	**05 21 17.2 -0.3**
YHNB	**Yeheng**	**0.61 256** ⇑	*i* P	**Pn**	**05 21 05.9 +0.4**
YHNB			*e*S	**Sn**	**05 21 17.1 -0.3**
TWS1	**Kuangyinshan**	**0.62 298**	P	**Pn**	**05 21 05.8 +0.4**
TWS1			*e*S	**Sn**	**05 21 17.2 -0.3**
NSK	**Sanguang**	**0.62 257** ⇑	*i* P	**Pn**	**05 21 05.9 +0.4**
NSK			S	**Sn**	**05 21 17.1 -0.6**
NTST	**Danshui**	**0.63 304**	P	**Pn**	**05 21 05.9 +0.4**
NTST			*e*S	**Sn**	**05 21 17.2 -0.4**
NNSB	**Datong**	**0.70 237** ⇑	*i* P	**Pn**	**05 21 07.0 +0.7**
NNSB			S	**Sn**	**05 21 19.0 0.0**
NNS	**Nan Shan**	**0.70 238**	P	**Pn**	**05 21 07.0 +0.7**
NNS			S	**Sn**	**05 21 19.1 +0.1**
EOS4	**EOS4**	**0.74 159**	P	**Pn**	**05 21 06.5 +0.3**
EOS4			*e*S	**Sn**	**05 21 18.2 -0.6**
ETL	**Fush Village**	**0.75 209**	*e*P	**Pn**	**05 21 06.6 -0.1**
ETL			*e*S	**Sn**	**05 21 19.2 -0.5**
NACB	**Ninganchiao**	**0.75 212**	P	**Pn**	**05 21 06.4 -0.3**
NACB	**Ninganchiao**	**0.75 212** ⇑	*i* P	**Pn**	**05 21 06.4 -0.3**
NACB			*e*S	**Sn**	**05 21 19.0 -0.6**
KSHI	**Guanxi Townshi**	**0.77 267** ⇑⇑	P	**Pn**	**05 21 07.7 +0.9**
KSHI			S	**Sn**	**05 21 20.9 +0.9**
NCUH	**Zhongli**	**0.78 282** ⇑⇑	P	**Pn**	**05 21 07.6 +0.7**
NCUH			*e*S	**Sn**	**05 21 20.8 +0.7**
ETLH	**Xiulin Townshi**	**0.78 219**	*e*P	**Pn**	**05 21 07.1 0.0**
ETLH			*e*S	**Sn**	**05 21 19.4 -1.0**
TWD	**Chiawan**	**0.83 208**	P	**Pn**	**05 21 07.1 -0.4**
TWD			S	**Sn**	**05 21 20.0 -1.0**
NFF	**Wufeng Townshi**	**0.84 258** ⇑	*i* P	**Pn**	**05 21 08.1 +0.4**
NFF			S	**Sn**	**05 21 21.1 -0.3**
FUSS	**Fushou**	**0.91 232**	P	**Pn**	**05 21 09.4 +0.9**
FUSS			*e*S	**Sn**	**05 21 23.1 +0.2**
JYNG	**Yonagunijimaku**	**0.91 113**	*i* P	**Pn**	**05 21 08.8 +0.5**
JYNG			*e*S	**Sn**	**05 21 22.2 -0.3**
HWA	**Hwalien**	**0.92 205**	P	**Pn**	**05 21 08.8 +0.4**
HWA			*e*S	**Sn**	**05 21 22.4 -0.2**
LIOB	**Emei**	**0.93 260** ⇑	*i* P	**Pn**	**05 21 09.2 +0.6**
LIOB			*e*S	**Sn**	**05 21 22.8 -0.2**
SBCB	**Hsinchu**	**0.94 269** ⇑	*i* P	**Pn**	**05 21 09.4 +0.8**
SBCB			S	**Sn**	**05 21 23.3 +0.1**
NSTT	**Nanjuang**	**0.95 259** ⇑	*i* P	**Pn**	**05 21 09.2 +0.5**
NSTT			S	**Sn**	**05 21 23.0 -0.3**
TWT	**Tachien**	**0.95 234**	*e*P	**Pn**	**05 21 10.4 +1.4**
TWT			S	**Sn**	**05 21 24.5 +0.8**
HSN	**Hsinchu**	**0.96 269** ⇑⇑	P	**Pn**	**05 21 09.2 +0.5**
HSN			*e*S	**Sn**	**05 21 23.1 -0.3**
WHF	**Hehuan Shan**	**0.96 226**	P	**Pn**	**05 21 09.7 +0.4**
WHF			S	**Sn**	**05 21 24.0 -0.2**
YOJ	**Yonaguni jima**	**0.96 111**	P	**Pn**	**05 21 09.3 +0.4**
YOJ	**Yonaguni jima**	**0.96 111**	P	**Pn**	**05 21 09.3 +0.4**
YOJ	**Yonaguni jima**	**0.96 111**	P	**Pn**	**05 21 09.3 +0.4**
YOJ			*e*S	**Sn**	**05 21 23.5 0.0**
LXIB	**Xiulin Townshi**	**0.97 215** ⇑	*i* P	**Pn**	**05 21 08.7 -0.4**
LXIB			S	**Sn**	**05 21 23.2 -0.7**
TDCB	**Techi**	**0.97 235**	*i* P	**Pn**	**05 21 10.2 +1.1**
TDCB			S	**Sn**	**05 21 24.1 +0.2**
ETM	**Tongmen**	**0.97 210**	P	**Pn**	**05 21 08.5 +0.5**
ETM			*e*S	**Sn**	**05 21 22.4 -1.4**
TEYL	**Yanliau Villag**	**1.02 202**	*e*P	**Pn**	**05 21 09.5 0.0**
TEYL			*e*S	**Sn**	**05 21 24.5 -0.1**
SHUL	**Shoufeng**	**1.10 202**	P	**Pn**	**05 21 10.8 +0.3**
SHUL			*e*S	**Sn**	**05 21 26.5 +0.1**
WHP	**Taichung City**	**1.12 242** ⇑	*i* P	**Pn**	**05 21 11.9 +1.1**
WHP			S	**Sn**	**05 21 27.2 +0.4**
ESL	**Shilin**	**1.13 209**	*e*P	**Pn**	**05 21 09.9 -0.9**
ESL			*e*S	**Sn**	**05 21 25.0 -2.0**
OWD	**Renai**	**1.15 222**	*e*P	**Pn**	**05 21 11.7 +0.5**
OWD			*e*S	**Sn**	**05 21 27.5 -0.2**
NMLH	**Miaoli**	**1.16 256**	*e*P	**Pn**	**05 21 11.8 +0.8**
NMLH			*e*S	**Sn**	**05 21 27.5 0.0**
WUSB	**Renai**	**1.16 225** ⇑	*i* P	**Pn**	**05 21 12.2 +0.9**
WUSB			S	**Sn**	**05 21 27.9 +0.1**
TEGC	**Jichi Village**	**1.19 202**	*e*P	**Pn**	**05 21 12.1 +0.7**
TEGC			*e*S	**Sn**	**05 21 28.3 +0.2**
NSY	**Sanyi**	**1.22 251**	P	**Pn**	**05 21 13.3 +1.5**
NSY			S	**Sn**	**05 21 30.0 +1.3**
TWQ1	**Liyutan**	**1.23 248**	P	**Pn**	**05 21 12.7 +0.7**
TWQ1			S	**Sn**	**05 21 29.3 +0.2**
WARBT	**Fenglin Townsh**	**1.24 208** ⇑	*i* P	**Pn**	**05 21 11.1 -1.0**
WARBT			*e*S	**Sn**	**05 21 27.0 -2.2**
VWDT	**VWDT**	**1.33 218**	*i* P	**Pn**	**05 21 13.9 +0.8**
VWDT			S	**Sn**	**05 21 30.9 -0.2**
WDJ	**Dajia District**	**1.34 250**	*e*P	**Pn**	**05 21 14.0 +0.7**
WDJ			*e*S	**Sn**	**05 21 31.9 +0.4**
SMLT	**Sun Moon Lake**	**1.38 228**	P	**Pn**	**05 21 15.0 +1.1**
SMLT			*e*S	**Sn**	**05 21 34.4 +1.9**
TCU	**Taichung**	**1.40 242**	*e*S	**Sn**	**05 21 33.0 +0.4**
SSLB	**Suanglung**	**1.41 224**	P	**Pn**	**05 21 14.8 +0.6**
SSLB	**Suanglung**	**1.41 224**	P	**Pn**	**05 21 15.4 +1.1**
SSLB			S	**Sn**	**05 21 33.8 +0.8**
HGSD	**Ruisui**	**1.43 203**	P	**Pn**	**05 21 14.5 +0.1**
HGSD			*e*S	**Sn**	**05 21 33.3 +0.1**
EHY	**Hungye**	**1.45 206**	*e*P	**Pn**	**05 21 13.6 -1.1**
EHYH	**Wanrong**	**1.45 205**	*e*P	**Pn**	**05 21 14.8 +0.1**
WCHH	**Zhanghua**	**1.52 242**	*e*P	**Pn**	**05 21 16.1 +0.6**
WCHH			*e*S	**Sn**	**05 21 35.3 -0.1**
WCH1	**Changhua City**	**1.54 242**	*e*S	**Sn**	**05 21 36.0 +0.3**
WNT	**Mingjian**	**1.54 233**	*e*P	**Pn**	**05 21 16.5 +0.8**
WNT			*e*S	**Sn**	**05 21 36.3 +0.6**
WJS	**Zhushan**	**1.54 230**	*e*S	**Sn**	**05 21 36.9 +1.0**
WHYT	**Xinyi Township**	**1.54 224**	*e*P	**Pn**	**05 21 17.3 +1.4**
WHYT			*e*S	**Sn**	**05 21 37.7 +1.8**
YULB	**Yu-li**	**1.56 205**	P	**Pn**	**05 21 15.3 -0.8**
YULB	**Yu-li**	**1.56 205**	S	**Sn**	**05 21 35.9 -0.5**
YULB	**Yu-li**	**1.56 205**	*e*P	**Pn**	**05 21 15.1 -1.0**
ECBN	**Changbin**	**1.58 199**	*e*P	**Pn**	**05 21 16.3 +0.1**
ECBN			*e*S	**Sn**	**05 21 35.6 -1.1**
TWF1	**Yuli**	**1.60 205**	*e*P	**Pn**	**05 21 15.6 -0.9**
IRIF	**Iriomote-Funau**	**1.62 107**	*i* P	**Pn**	**05 21 17.2 +0.3**
IRIF			S	**Sn**	**05 21 37.7 0.0**
ALS	**Alishan**	**1.71 221**	*e*P	**Pn**	**05 21 19.6 +1.4**
ALS			*e*S	**Sn**	**05 21 41.9 +1.8**
CHKH	**Chenggong**	**1.71 200**	*e*S	**Sn**	**05 21 38.7 -1.0**
CHN5	**Tsauling**	**1.73 226**	*e*P	**Pn**	**05 21 19.3 +1.1**
CHN5			*e*S	**Sn**	**05 21 40.9 +0.8**
FULB	**Fuli**	**1.74 203**	*e*P	**Pn**	**05 21 18.9 +0.5**
FULB			*e*S	**Sn**	**05 21 40.6 +0.1**
WGK	**Gukeng**	**1.74 230**	*e*P	**Pn**	**05 21 19.4 +1.1**
WGK			*e*S	**Sn**	**05 21 41.6 +1.2**
WDLH	**Douliu**	**1.76 231**	*e*P	**Pn**	**05 21 19.5 +0.9**
WDLH			*e*S	**Sn**	**05 21 41.4 +0.6**
HATJ	**Hateruma jima**	**1.79 115**	P	**Pn**	**05 21 19.9 +1.0**
CHKT	**Chengkung**	**1.81 200**	*e*P	**Pn**	**05 21 19.1 -0.1**
CHKT			*e*S	**Sn**	**05 21 39.5 -2.5**
WTCT	**Ta-ch'eng**	**1.85 240**	*e*S	**Sn**	**05 21 42.5 -0.3**
ELDTW	**Lidau**	**1.86 210**	*e*P	**Pn**	**05 21 20.1 +0.1**
ELDTW			*e*S	**Sn**	**05 21 42.3 -1.0**
WTK	**Tuku**	**1.87 233**	*e*P	**Pn**	**05 21 20.7 +0.7**
WTK			*e*S	**Sn**	**05 21 43.4 +0.1**
WCKO	**Fanlu**	**1.89 224**	*e*P	**Pn**	**05 21 21.4 +1.2**
WCKO			*e*S	**Sn**	**05 21 45.1 +1.4**
JKRS	**Kuro-shima**	**1.90 107**	*e*P	**Pn**	**05 21 20.4 +0.1**
EDH	**Donghe**	**1.95 200**	*e*P	**Pn**	**05 21 20.7 -0.3**
EDH			*e*S	**Sn**	**05 21 43.2 -2.0**
CHY	**Chiayi**	**1.96 228**	*e*P	**Pn**	**05 21 21.7 +0.5**
CHY			*e*S	**Sn**	**05 21 46.0 +0.6**
TPUB	**Ta-pu**	**1.97 220**	P	**Pn**	**05 21 22.5 +1.1**
TPUB	**Ta-pu**	**1.97 220**	S	**Sn**	**05 21 47.0 +1.2**
TPUB	**Ta-pu**	**1.97 220**	*e*P	**Pn**	**05 21 22.7 +1.3**
TPUB			*e*S	**Sn**	**05 21 46.6 +0.9**
JIJ	**Ishigaki jima**	**1.98 103**	P	**Pn**	**05 21 22.2 +0.8**
JIJ			S	**Sn**	**05 21 45.4 -0.5**
STYH	**Taoyuan**	**2.00 215**	*e*P	**Pn**	**05 21 23.0 +1.4**
STYH			*e*S	**Sn**	**05 21 46.9 +0.7**
WSF	**Szhu**	**2.02 235**	*e*S	**Sn**	**05 21 47.3 +0.5**
WTP	**Ta-pu**	**2.02 220**	*e*P	**Pn**	**05 21 23.3 +1.2**
TWK	**Hsinying**	**2.08 223**	*e*P	**Pn**	**05 21 24.1 +1.3**
TWK			*e*S	**Sn**	**05 21 49.4 +0.9**
WSL	**Shuilin Townsh**	**2.08 232**	*e*P	**Pn**	**05 21 23.4 +0.7**
WSL			*e*S	**Sn**	**05 21 48.7 +0.4**
JISG	**Ishigakijimahi**	**2.09 96**	P	**Pn**	**05 21 24.1 +1.3**
JISG			*e*S	**Sn**	**05 21 49.0 +0.5**
SNST	**Tainan City**	**2.11 222**	*e*P	**Pn**	**05 21 24.0 +0.8**
CHN1	**Nanshi**	**2.12 220**	*e*P	**Pn**	**05 21 24.6 +1.3**
CHN1			*e*S	**Sn**	**05 21 50.1 +0.9**
TWGBT	**Beinan**	**2.17 204**	P	**Pn**	**05 21 22.8 -1.1**
LDUT	**Ludao**	**2.19 194**	*e*S	**Sn**	**05 21 48.0 -2.9**
CHN8	**Yiju**	**2.21 229**	*e*S	**Sn**	**05 21 52.3 +1.1**
MATB	**Ma-tsu**	**2.30 306**	P	**Pn**	**05 21 26.0 +0.4**
MATB			*e*S	**Sn**	**05 21 52.8 -0.6**
SCST	**Cishan**	**2.38 216**	*e*P	**Pn**	**05 21 28.3 +1.7**
SSD	**Sandimen**	**2.42 212**	*e*P	**Pn**	**05 21 29.5 +2.2**
JTJ	**Tarama**	**2.44 94**	P	**Pn**	**05 21 29.1 +1.7**
MASBT	**Mashibuluo**	**2.54 210**	*e*P	**Pn**	**05 21 29.6 +0.8**
MASBT			*e*S	**Sn**	**05 21 59.3 +0.3**
PHUB	**P'eng-hu**	**2.59 240**	*e*P	**Pn**	**05 21 29.2 -0.2**
PHUB			*e*S	**Sn**	**05 21 58.0 -2.2**
PTMZ	**Houxiangcun**	**2.65 275**	*e*P	**Pn**	**05 21 30.6 +0.4**
PTMZ			*e*S	**Sn**	**05 21 59.6 -1.9**
XPSS	**Dashiqiu**	**2.68 322**	*e*P	**Pn**	**05 21 31.2 +0.7**
LYUB	**Lan-yu**	**2.83 188**	*e*P	**Pn**	**05 21 31.6 -1.1**
LYUB			*e*S	**Sn**	**05 22 01.8 -4.2**
VCHM	**Qimei**	**2.86 237**	*e*P	**Pn**	**05 21 32.7 -0.4**
VCHM			*e*S	**Sn**	**05 22 05.3 -1.5**
KNMB	**Chin-men Tao**	**3.33 265**	*e*P	**Pn**	**05 21 39.1 -0.2**
KNMB			*e*S	**Sn**	**05 22 16.1 -1.8**
AXDP	**Jialang**	**3.68 272**	P	**Pn**	**05 21 44.6 +0.5**
AXDP			*e*S	**Sn**	**05 22 24.5 -2.0**

NEIC ***13*** *05:35:31.2±0.6, 20°.5S±0°.2×178°.84W±0°.10, h632km±19km, mb4.2/23, Error ellipse: s-maj=28.9km s-min=10.8km az=162.0*
IDC ***13*** *05:35:32.2±2.3, 19°.99S×179°.43W, h614km±25km, mb3.2/8, mbtmp4.1/8, Error ellipse: s-maj=48.9km s-min=13.3km az=155.0*
ISC 13 05:35:33.0±0.6,**20°.5S**±0°.1×**179°.1W**±0°.1,**h645**km,**n42,** σ1**§27**/45,**mb4.2**/20,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**6.19**	**9**	P	**P**	**05 37 16.0**	**-2.2**
AFI	**Afiamalu**	**9.56**	**48**	P	P	05 37 44.2	-4.4
DZM	**Mont Dzumac**	**13.57**	**261**	P	**P**	**05 38 26.9**	**+0.5**
SANVU	**Saraoutou**	**13.95**	**289**	P	**P**	**05 38 30.0**	**+0.2**
MLZ	**Mavora Lakes**	**26.99**	**200**	P	**P**	**05 40 23.2**	**-3.0**
EIDS	**Eidsvold**	**27.86**	**254**	P	**P**	**05 40 34.1**	**0.0**
EIDS				IAmb	IAmb	05 41 14.5	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**28.16**	**243**	P	**P**	**05 40 36.6**	**-0.1**
CTAO	**Charters Tower**	**32.47**	**264**	P	**P**	**05 41 14.4**	**+0.9**
PMG	**Port Moresby**	**34.33**	**284**	P	**P**	**05 41 29.2**	**+0.2**
COEN	**Coen**	**36.55**	**274**	P	**P**	**05 41 48.5**	**+1.2**
COEN				IAmb	IAmb	05 41 49.8	
	comp=Z,5.1nm,0.9s						
STKA	**Stephens Creek**	**36.88**	**244**	P	**P**	**05 41 49.8**	**+0.1**
STKA	**Stephens Creek**	**36.88**	**244**	P	**P**	**05 41 49.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=80,slow=8.7,SNR=4.2						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**41.64**	**243**	P	**P**	**05 42 27.3**	**-0.4**
BBOO				IAmb	IAmb	05 43 10.3	
	comp=Z,9.8nm,1.1s						
WR8	**Warramunga Arr**	**43.43**	**262**	P	**P**	**05 42 41.8**	**0.0**
WR8				IAmb	IAmb	05 42 42.7	
	comp=Z,6.6nm,0.4s						
AS31	**Alice Springs**	**43.52**	**257**	P	**P**	**05 42 42.7**	**+0.3**
ASAR	**Alice Springs**	**43.52**	**257**	P	**P**	**05 42 42.6**	**+0.2**
	comp=Z,7.7nm,0.6s,baz=96,slow=7.6,SNR=166						
ASAR				PcP	**PcP**	**05 44 15.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=104,slow=3.7,SNR=6.6						
ASAR				ScP	**ScP**	**05 47 11.8**	**+5.3**
	comp=Z,0.2nm,0.8s,baz=97,slow=4.1,SNR=4.1						
ASAR				S	**S**	**05 48 26.6**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=94,slow=16,SNR=9.4						
	comp=Z,7.7nm,0.6s						
WB0	**Warramunga Arr**	**43.56**	**262**	P	**P**	**05 42 43.0**	**+0.3**
WRAB	**Tennant Creek**	**43.58**	**262**		**P**	**05 42 42.9**	**0.0**
WRAB				IAmb	IAmb	05 42 43.4	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**43.58**	**262**		**P**	**05 42 42.8**	**-0.2**
WRA	**Warramunga Arr**	**43.58**	**262**	P	**P**	**05 42 42.8**	**-0.2**
	comp=Z,4.8nm,0.3s,baz=97,slow=7.8,SNR=150						
WRA				PcP	**PcP**	**05 44 16.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=88,slow=3.1,SNR=2.1						
WRA				S	**S**	**05 48 27.1**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=101,slow=11,SNR=4.4						
	comp=Z,4.8nm,0.3s						
MTN	**Manton Dam**	**48.13**	**271**	P	**P**	**05 43 18.0**	**+0.8**
MTN				IAmb	IAmb	05 43 18.1	
	comp=Z,7.3nm,0.7s						
FORT	**Forrest**	**48.37**	**247**	P	**P**	**05 43 18.5**	**-0.2**
FORT				IAmb	IAmb	05 43 42.5	
	comp=Z,8.3nm,0.8s						
KNRA	**Kununurra**	**49.63**	**267**	P	**P**	**05 43 28.8**	**+0.7**
KNRA				IAmb	IAmb	05 43 40.4	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	**05 43 45.2**	**0.0**
SOEI	**Soe**	**55.47**	**272**	P	**P**	**05 44 09.1**	**-0.6**
SOEI				IAmb	IAmb	05 44 13.0	
	comp=Z,18nm,0.6s						
PSA00	**Pilbara Seismi**	**56.67**	**257**	P	**P**	**05 44 16.5**	**-1.2**
PSA00				IAmb	IAmb	05 44 36.9	
	comp=Z,9.7nm,1.1s						
MBWA	**Marble Bar**	**56.85**	**258**	P	**P**	**05 44 19.2**	**+0.2**
MBWA				IAmb	IAmb	05 44 27.3	
	comp=Z,31nm,1.5s						
SBA	**Scott Base**	**57.85**	**184**	P	**P**	**05 44 24.6**	**-0.1**
MORW	**Morawa**	**58.89**	**248**	P	**P**	**05 44 32.6**	**+0.1**
MORW				IAmb	IAmb	05 45 01.0	
	comp=Z,25nm,1.4s						
MJAR	**Matsushiro Arr**	**69.57**	**324**	P	**P**	**05 45 36.5**	**-2.9**
	comp=Z,0.7nm,0.6s,baz=137,slow=4.5,SNR=1.5						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**69.61**	**180**	P	**P**	**05 45 38.7**	**-0.7**
TXAR	**Lajitas Array**	**87.90**	**58**	P	**P**	**05 47 17.8**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=215,slow=6.1,SNR=4.9						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**88.50**	**13**	P	**P**	**05 47 18.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=215,slow=5.2,SNR=5.8						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.13**	**290**	P	**P**	**05 47 23.6**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=131,slow=3.1,SNR=7.8						
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**89.64**	**44**	P	**P**	**05 47 25.1**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=246,slow=4.9,SNR=2.0						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**128.69**	**349**	PKP	**PKPdf**	**05 53 28.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=50,slow=1.4,SNR=7.1						
HFS	**Hagfors**	**139.33**	**350**	PKhKP	PKPpre	05 53 41.5	
	comp=Z,0.6nm,0.3s,baz=79,slow=3.1,SNR=9.0						
AKASG	**Malin Array Be**	**142.47**	**330**	PKP	**PKPdf**	**05 53 52.2**	**-1.7**
	comp=Z,3.4nm,0.4s,baz=44,slow=4.2,SNR=28						
EKA	**Eskdalemuir Ar**	**145.04**	**4**	PKP	**PKPbc**	**05 53 59.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=349,slow=3.3,SNR=4.9						
BRTR	**Keskin Array B**	**146.04**	**312**	PKPbc	**PKPbc**	**05 54 02.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=87,slow=3.3,SNR=6.1						
MMAI	**Mount Meron Ar**	**146.90**	**299**	PKPbc	**PKiKP**	**05 54 06.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=67,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**149.87**	**343**	PKPbc	**PKPbc**	**05 54 12.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=22,slow=1.4,SNR=7.3						

MOS ***13*** *06:09:00.2±0.9, 56°.35S×26°.27W, h14km, mb5.6/29, Error ellipse: s-maj=15.8km s-min=9.8km az=107.5*
NEIC ***13*** *06:09:02.9, 56°.32S×26°.20W, h26km, Moment Tensor Solution. Duration: 2§9 Moment tensor: Scale 10^17^Nm; M_{rr}-1.81; $M_{\theta\theta}$1.53; $M_{\phi\phi}$0.29; $M_{r\theta}$1.01; $M_{r\phi}$0.89; $M_{\theta\phi}$0.91; Fault plane solution: $M_0$2.34000×10^17^ NP1:ϕ_s72.18000°, δ28.34000°, λ-73.59000°. NP2:ϕ_s233.68000°, δ62.91000°, λ-98.66000°. Principal axes: T 2.4024, Plg17.0000°, Azm330.0000°; N -0.1280, Plg8.0000°, Azm238.0000°; P -2.2744, Plg71.0000°, Azm125.0000°;*
NEIC ***13*** *06:09:02.6, 56°.33S×26°.19W, h19km*
NEIC ***13*** *06:09:02.7±1.4, 56°.33S±0°.05×26°.2W±0°.2, h20km±3km, mb5.5/152, Ms_20 5.2/302, Mwb5.3/22, Mww5.5/18, Error ellipse: s-maj=14.2km s-min=2.2km az=59.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}-0.82; $M_{\theta\theta}$0.80; $M_{\phi\phi}$0.02; $M_{r\theta}$0.49; $M_{\theta\phi}$0.62; $M_{r\phi}$0.24; Fault plane solution: $M_0$1.15000×10^17^ NP1: ϕ_s243.12000°, δ59.50000°, λ-87.63000°. NP2:ϕ_s58.45000°, δ30.58000°, λ-94.02000°. Principal axes: T 1.2798, Plg14.0000°, Azm331.0000°; N -0.3202, Plg2.0000°, Azm62.0000°; P -0.9596, Plg75.0000°, Azm160.0000°;*
NEIC ***13*** *06:09:02.9, 56°.32S×26°.20W, h26km*
IDC ***13*** *06:09:04.5±1.2, 56°.225S×26°.04W, h32km±7km, mb4.9/20, mbtmp5.1/21, ML4.9/1, MS4.9/35, Error ellipse: s-maj=13.3km s-min=9.3km az=45.0*
GCMT ***13*** *06:09:04.7±0.1, 56°.42S±0°.01×25°.93W±0°.01, h12km, MW5.5/146, Moment Tensor Solution. s117,c208; s146,c290; Duration: 1§3 Moment tensor: Scale 10^17^ Nm; M_{rr}-1.52±.03; $M_{\theta\theta}$1.16±.02; $M_{\phi\phi}$0.36±.02; $M_{r\theta}$0.60±.06; $M_{\theta\phi}$1.13±.02; $M_{r\phi}$1.00±.07; Best double couple: $M_0$2.11000×10^17^ NP1:ϕ_s73.00000°, δ32.00000°, λ-60.00000°. NP2:ϕ_s219.00000°, δ63.00000°, λ-107.00000°. Principal axes: T 2.2640, Plg16.0000°, Azm322.0000°; N -0.3080, Plg15.0000°, Azm227.0000°; P -1.9560, Plg68.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
RSNC ***13*** *06:09:10.9±1.7, 55°.S±26°.×2°.7W±2°.1, h41km±13km, M5.4, mB5.8, mb5.5, Mw(mB)5.4*
ISC 13 06:09:02.3±0.6,**56°.34S**±0°.05×**26°.22W**±0°.05,**h18**km±2km, **h18**km:**pP-P**,**n895**,σ1**§33**/721,**mb5.5**/122,**MS5.2**/204, **19C-9D**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.21**	**285**		**Pn**	**06 10 33.6**	**+0.7**
HOPE	**Hope Point**	**6.21**	**285**	P	**Pn**	**06 10 33.7**	**+0.7**
VNA1	**Neumayer--Stat**	**16.32**	**159**	⇓P	**Pn**	**06 12 50.1**	**0.0**
	comp=Z,252nm,0.7s						
VNA1				⇑S	**S**	**06 16 07.3**	**+4.4**
VNA1				ScP	**ScP**	**06 21 16.2**	**+0.5**
VNA3	**Neumayer Olymp**	**16.54**	**161**	⇓P	**Pn**	**06 12 51.3**	**-1.6**
	comp=Z,121nm,0.6s						
VNA3				⇓S	**S**	**06 16 03.5**	**-3.8**
VNA3				ScP	**ScP**	**06 21 15.8**	**-0.4**
VNA2	**Neumayer--Watz**	**16.72**	**158**	⇑P	**Pn**	**06 12 54.3**	**-0.9**
	comp=Z,57nm,0.6s,baz=314,slow=16						
VNA2				⇑S	**S**	**06 16 07.9**	**-3.0**
	baz=334,slow=32						
VNA2				ScP	**ScP**	**06 21 17.0**	**+0.5**
ESPZ	**Base Esperanza**	**16.85**	**233**	P	**P**	**06 12 59.2**	**+0.4**
SNAA	**Sanae**	**18.25**	**156**	⇓P	**P**	**06 13 14.8**	**+0.4**
	comp=Z,2μm,0.6s						
SNAA				⇑S	**Sn**	**06 16 38.9**	**+1.5**
SNAA				ScP	**ScP**	**06 21 19.6**	**-0.2**
SNAA	**Sanae**	**18.25**	**156**		**P**	**06 13 15.0**	**+0.6**
SNAA				IAmb	IAmb	06 13 22.3	
	comp=Z,195nm,0.9s						
SNAA	**Sanae**	**18.25**	**156**	P	**P**	**06 13 15.0**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=303,slow=8.9,SNR=194						
SNAA				PcP	**PcP**	**06 17 45.1**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=251,slow=0.3,SNR=3.6						
SNAA				LR	LR	06 19 01.5	
	comp=Z,5μm,19.4s,baz=334,slow=33						
SNAA				ScP	**ScP**	**06 21 19.2**	**-0.5**
	comp=Z,7.7nm,1.1s,baz=329,slow=4.0,SNR=5.5						
	comp=Z,54nm,0.6s						
SNAA	**Sanae**	**18.25**	**156**	*ce*P	**Pn**	**06 13 13.1**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,384nm,1.7s						
EFI	**East Falkland**	**19.18**	**271**	P	**P

CPUP S **S** **06 22 04.3 +3.0**
comp=Z,0.5nm,0.8s,baz=98,slow=19,SNR=2.1
CPUP ScP **ScP** **06 22 17.1 -1.4**
comp=Z,1.7nm,1.1s,baz=208,slow=0.6,SNR=3.0
CPUP LR LR 06 33 55.8
comp=Z,601nm,18.2s,baz=12,slow=40
comp=Z,3.9nm,0.6s
LMEL Las Melosas 37.44 288 P **P** **06 16 13.8 -0.7**
BO01 Tunca 37.49 287 P **P** **06 16 13.2 -1.4**
BO04 La Punta 37.55 288 P **P** **06 16 14.0 -1.2**
LDASE Londrina, Braz 37.63 321 *eP* **P** **06 16 17.6 +1.7**
MT08 Bocatoma Ro 37.66 289 P **P** **06 16 16.9 +0.5**
MT03 Universidad Ad 37.88 288 P **P** **06 16 17.9 -0.2**
BSCB Bom Sucesso 37.90 331 *eP* **P** **06 16 19.8 +1.6**
MT09 Talagante 37.91 287 P **P** **06 16 16.8 -1.6**
MT16 CCHEN 37.94 288 P **P** **06 16 19.1 +0.6**
MT01 Popeta 37.99 287 P **P** **06 16 16.9 -2.0**
MT05 Renca 38.08 288 P **P** **06 16 19.0 -0.7**
CFA Coronel Fontan 38.17 292 P **P** **06 16 19.2 -1.3**
comp=Z,8.3nm,0.4s,baz=141,slow=7.2,SNR=38
CFA S **S** **06 22 10.5 -2.4**
comp=Z,2.1nm,1.1s,baz=4.4,slow=18,SNR=3.0
CFA ScP **ScP** **06 22 19.5 -1.8**
comp=Z,3.8nm,0.9s,baz=210,slow=2.1,SNR=5.9
CFA LR LR 06 34 40.3
comp=Z,757nm,18.4s,baz=144,slow=40
comp=Z,8.3nm,0.4s
PEL Peldehue 38.24 288 P **P** **06 16 20.5 -0.6**
PEL IAmb IAmb 06 16 24.1
comp=Z,239nm,1.8s
PEL Peldehue 38.24 288 P **P** **06 16 20.5 -0.6**
PEL pmax pmax
comp=Z,239nm,1.8s
MT02 Curacav 38.39 288 P **P** **06 16 21.0 -1.3**
ZON Zonda 38.45 292 **P** **06 16 21.8 -1.0**
ZON Zonda 38.45 292 P **P** **06 16 21.8 -1.0**
ZON pmax pmax
comp=Z,35nm,0.7s
VA03 San Esteban 38.47 289 P **P** **06 16 22.7 -0.3**
VA03 IAmb IAmb 06 16 29.1
comp=Z,76nm,1.4s
VA01 Torpederas 38.84 287 P **P** **06 16 26.1 0.0**
VA01 IAmb IAmb 06 16 34.4
comp=Z,210nm,1.9s
BB19B Bebedouro 38.93 326 *eP* **P** **06 16 28.7 +1.8**
VA06 Catapilco 39.02 288 P **P** **06 16 26.6 -0.9**
SJMB Sao Joao De Ma 39.23 337 *eP* **P** **06 16 30.3 +0.9**
AMBA Amambai (Brazi 39.49 316 *eP* **P** **06 16 31.7 +0.1**
MAW Mawson 39.59 143 P **P** **06 16 32.9 +1.0**
comp=Z,5.9nm,1.1s
MAW Mawson 39.59 143 P **P** **06 16 32.9 +1.0**
comp=Z,17nm,0.7s,baz=235,slow=7.6,SNR=64
MAW PcP **PcP** **06 18 39.1 +0.5**
comp=Z,15nm,0.8s,baz=258,slow=5.7,SNR=5.5
MAW ScP **ScP** **06 22 26.3 +0.2**
comp=Z,4.1nm,0.8s,baz=246,slow=5.6,SNR=6.2
MAW LR LR 06 30 40.1
comp=Z,2μm,20.6s,baz=260,slow=33
comp=Z,17nm,0.7s
CO02 Combarbal 39.92 290 P **P** **06 16 34.6 -0.6**
CO03 El Pedregal 40.05 291 P **P** **06 16 35.6 -0.6**
DIAM Diamantina, MG 40.20 334 *eP* **P** **06 16 38.8 +1.2**
SUR Sutherland 40.20 74 IAMs_20 IAMs_20 06 30 42.2
comp=Z,2μm,20.0s
CO01 Juntas del Tor 40.43 292 P **P** **06 16 40.0 +0.4**
GO04 Tololo Observa 40.64 291 P **P** **06 16 40.9 -0.4**
PMNB Patos De Minas 40.69 330 *eP* **P** **06 16 42.8 +1.1**
ITRB Iturama 40.79 324 *eP* **P** **06 16 43.5 +1.2**
GUA01 Guaratinga, BA 41.01 340 *eP* **P** **06 16 45.1 +0.9**
CO05 La Serena 41.07 291 P **P** **06 16 44.7 +0.2**
CO05 IAmb IAmb 06 16 52.8
comp=Z,47nm,0.8s
LCO Las Campanas 41.52 292 P **P** **06 16 47.6 -1.0**
LCO Las Campanas 41.52 292 P **P** **06 16 47.6 -1.0**
LCO pmax pmax
comp=Z,54nm,1.1s
MURT Porto Murtinho 41.67 313 *eP* **P** **06 16 49.3 -0.2**
IPMB Ipameri, GO 41.73 328 *eP* **P** **06 16 51.3 +1.2**
AQDB Aquidauana 41.98 316 P **P** **06 16 52.7 +0.6**
AQDB IAmb IAmb 06 16 58.8
comp=Z,233nm,1.7s
AQDB Aquidauana 41.98 316 *eP* **P** **06 16 52.2 +0.1**
CMC01 Camacan, BA 42.15 341 *eP* **P** **06 16 54.3 +0.8**
AC04 Llanos de Chal 42.36 293 P **P** **06 16 55.3 +0.2**
AC04 IAmb IAmb 06 17 08.6
comp=Z,77nm,0.8s
BDQN Bodoquena, MS 42.42 315 *eP* **P** **06 16 55.6 -0.1**
GO03 Copiapo 42.43 294 P **P** **06 16 54.7 -1.1**
GO03 IAmb IAmb 06 17 03.3
comp=Z,58nm,0.8s
AC02 Maricunga 42.49 296 IAmb IAmb 06 17 02.5
comp=Z,74nm,0.8s
C2SB Chapadao do Su 42.50 321 *eP* **P** **06 16 57.8 +1.5**
AC06 Mina Casimiro 42.68 294 IAmb IAmb 06 17 10.8
comp=Z,99nm,1.3s
AC01 Pan de Azucar 43.80 295 IAmb IAmb 06 17 14.0
comp=Z,112nm,1.4s
BDFB Brasilia 43.89 329 P **P** **06 17 07.9 +0.2**
BDFB Brasilia 43.89 329 P **P** **06 17 09.2 +1.5**
comp=Z,7.3nm,0.6s,baz=131,slow=4.5,SNR=17
BDFB LR LR 06 34 35.3
comp=Z,2μm,19.6s,baz=149,slow=35
comp=Z,7.3nm,0.6s
BDFB Brasilia 43.89 329 P **P** **06 17 07.9 +0.2**
BDFB pmax pmax
comp=Z,16nm,0.8s
PP1B Ponte de Pedra 44.30 319 *eP* **P** **06 17 11.7 +0.8**
PB14 IPOC Station P 44.96 296 IAmb IAmb 06 17 17.9
comp=Z,36nm,0.6s
ARAG Araguaiana, MT 45.00 324 *eP* **P** **06 17 17.6 +1.2**
BOSA Boshof 45.52 75 P **P** **06 17 19.9 -0.8**
BOSA Boshof 45.52 75 P **P** **06 17 19.4 -1.3**
comp=Z,6.8nm,0.7s,baz=219,slow=6.0,SNR=13
BOSA LR LR 06 33 06.1
comp=Z,3μm,18.7s,baz=216,slow=32
comp=Z,6.8nm,0.7s
BOSA Boshof 45.52 75 P **P** **06 17 19.9 -0.8**
BOSA pmax pmax
comp=Z,28nm,1.3s
SBA Scott Base 45.82 184 P **P** **06 17 23.5 +1.2**
SBA IAmb IAmb 06 17 25.1
comp=Z,37nm,0.8s
SBA Scott Base 45.82 184 P **P** **06 17 23.5 +1.2**
SBA pmax pmax
comp=Z,37nm,0.8s
SBA MLR MLR
comp=Z,1μm,19.0s
PB10 IPOC Station P 45.96 297 IAmb IAmb 06 17 26.9
comp=Z,87nm,1.2s
PB06 IPOC Station P 46.16 298 IAmb IAmb 06 17 31.4
comp=Z,75nm,1.2s
SDBA SAO DESIDERIO 46.16 334 *eP* **P** **06 17 26.2 +0.5**
SALV Santo Antonio 46.16 319 *eP* **P** **06 17 26.5 +0.8**
WIN Windhoek 46.26 61 P **P** **06 17 26.6 -0.1**
WIN IAmb IAmb 06 17 27.9
comp=Z,88nm,2.0s
WIN IAMs_20 IAMs_20 06 34 48.7
comp=Z,2μm,18.0s
WIN Windhoek 46.26 61 P **P** **06 17 26.6 -0.1**
WIN pmax pmax
comp=Z,89nm,2.0s
VNDA Vanda 46.30 182 P **P** **06 17 27.0 +0.9**
VNDA Vanda 46.30 182 P **P** **06 17 27.4 +1.3**
comp=Z,71nm,0.6s,baz=186,slow=6.9,SNR=866
VNDA ScP **ScP** **06 22 53.0 -0.1**
comp=Z,6.4nm,0.8s,baz=237,slow=3.1,SNR=8.9
VNDA LR LR 06 35 11.5
comp=Z,683nm,21.7s,baz=168,slow=34
comp=Z,71nm,0.6s
VNDA Vanda 46.30 182 P **P** **06 17 27.0 +0.9**
VNDA pmax pmax
comp=Z,75nm,0.7s
PHPEN Phepeng 46.77 70 P **P** **06 17 30.5 0.0**
PHPEN IAmb IAmb 06 17 31.2
comp=Z,45nm,1.2s
PB03 IPOC Station P 46.80 299 IAmb IAmb 06 17 36.5
comp=Z,47nm,0.8s
H04S2 CROZET ISLANDS 46.94 113 T T 07 09 00.2
baz=230,slow=75,SNR=34
H04S3 CROZET ISLANDS 46.94 113 T T 07 08 51.4
baz=230,slow=75,SNR=33
H04S1 CROZET ISLANDS 46.95 113 T T 07 09 14.2
baz=230,slow=75,SNR=32
CRZF Crozet Islands 47.20 113 IAMs_20 IAMs_20 06 33 03.5
comp=Z,2μm,19.0s

NBAN Anadia - AL 47.22 346 *eP* **P** **06 17 34.3 +0.4**
KOOLE Kule 47.44 65 P **P** **06 17 35.2 -0.7**
PB02 IPOC Station P 47.49 299 P **P** **06 17 36.6 +0.5**
PTLB Pontes e Lacer 47.88 315 P **P** **06 17 39.1 0.0**
PTLB IAmb IAmb 06 17 45.8
comp=Z,76nm,1.0s
PTLB Pontes e Lacer 47.88 315 *eP* **P** **06 17 39.4 +0.3**
PATCX Punta Patache 48.04 299 **P** **06 17 40.6 +0.2**
SKOMA Sekoma 48.11 70 *i P* **P** **06 17 41.8 +0.8**
H10S2 ASCENSION HYDR 48.13 15 T T 07 09 22.5
baz=189,slow=74,SNR=192
PB08 IPOC Station P 48.13 301 IAmb IAmb 06 17 47.5
comp=Z,56nm,0.8s
H10S3 ASCENSION HYDR 48.14 15 T T 07 09 30.2
baz=31,slow=74,SNR=158
SIV San Ignacio 48.17 312 P **P** **06 17 41.5 +0.1**
comp=Z,9.3nm,0.7s,baz=147,slow=8.2,SNR=35
SIV PcP **PcP** **06 19 09.4 +0.8**
comp=Z,7.7nm,0.7s,baz=159,slow=4.9,SNR=3.8
SIV ScP **ScP** **06 23 00.9 -0.9**
comp=Z,3.2nm,1.0s,baz=156,slow=5.5,SNR=5.2
SIV LR LR 06 40 16.5
comp=Z,1μm,18.7s,baz=160,slow=39
comp=Z,9.3nm,0.7s
TA01 Diego Aracena 48.27 299 IAmb IAmb 06 17 47.8
comp=Z,64nm,1.2s
SNDB Serra Nova Dou 48.34 326 *eP* **P** **06 17 43.8 +1.2**
KGCAE Kacgae 48.58 67 P **P** **06 17 43.8 -0.9**
KGCAE Kacgae 48.58 67 *i P* **P** **06 17 44.2 -0.4**
LBTB Lobatse 48.58 72 P **P** **06 17 43.5 -1.1**
LBTB IAmb IAmb 06 17 45.3
comp=Z,64nm,1.4s
LBTB Lobatse 48.58 72 LR LR 06 35 13.9
comp=Z,858nm,18.7s,baz=206,slow=32
LBTB Lobatse 48.58 72 P **P** **06 17 43.5 -1.1**
LBTB pmax pmax
comp=Z,64nm,1.4s
H10N1 ASCENSION HYDR 49.25 15 T T 07 11 05.9
baz=188,slow=74
H10N3 ASCENSION HYDR 49.25 15 T T 07 10 54.5
baz=188,slow=74
H10N2 ASCENSION HYDR 49.27 15 T T 07 10 53.2
baz=188
GRTLG Ghanzi 49.32 65 **P** **06 17 49.8 -0.5**
GRTLG IAmb IAmb 06 17 50.9
comp=Z,36nm,0.7s
GRTLG Ghanzi 49.32 65 *i P* **P** **06 17 49.6 -0.7**
TSUM Tsumeb 49.36 60 P **P** **06 17 50.8 +0.1**
TSUM Tsumeb 49.36 60 LR LR 06 36 54.4
comp=Z,756nm,18.0s,baz=180,slow=34
KDWAN Kaudwane 49.42 70 *i P* **P** **06 17 51.0 0.0**
PB16 IPOC Station P 49.85 302 IAmb IAmb 06 18 14.1
comp=Z,20nm,0.7s
LPHEP Lephephe 50.06 71 P **P** **06 17 55.8 -0.1**
LPHEP Lephephe 50.06 71 *i P* **P** **06 17 55.8 -0.1**
SMTB Santa Maria do 50.24 332 *eP* **P** **06 17 58.4 +1.2**
PB18 Visviri 50.49 302 IAmb IAmb 06 18 12.8
comp=Z,63nm,0.8s
PDRB Porto dos Gac 50.49 320 *eP* **P** **06 17 59.2 0.0**
VILB Vilhena 50.57 315 P **P** **06 17 59.5 -0.2**
VILB IAmb IAmb 06 18 06.6
comp=Z,48nm,0.9s
VILB Vilhena 50.57 315 *eP* **P** **06 17 60.0 +0.2**
CLDB Colider 50.85 321 *eP* **P** **06 18 01.7 -0.1**
LPAZ La Paz 50.99 304 **P** **06 18 04.0 +0.5**
LPAZ La Paz 50.99 304 P **P** **06 18 04.3 +0.7**
comp=Z,50nm,0.7s,baz=145,slow=5.1,SNR=164
LPAZ ScP **ScP** **06 23 12.7 -2.0**
comp=Z,4.1nm,1.0s,baz=137,slow=6.0,SNR=5.5
LPAZ LR LR 06 40 09.9
comp=Z,441nm,22.0s,baz=158,slow=37
comp=Z,50nm,0.7s
LPAZ La Paz 50.99 304 P **P** **06 18 04.0 +0.5**
LPAZ pmax pmax
comp=Z,315nm,1.8s
KHWEE KHWEE 51.01 70 P **P** **06 18 02.2 -0.9**
KHWEE IAmb IAmb 06 18 03.8
comp=Z,151nm,1.6s
KHWEE KHWEE 51.01 70 *i P* **P** **06 18 03.3 +0.3**
GMARE Gumare 51.45 64 P **P** **06 18 06.1 -0.3**
GMARE IAmb IAmb 06 18 08.1
comp=Z,104nm,1.2s
MREMI Moremi 51.55 72 P **P** **06 18 06.4 -0.7**
MREMI IAmb IAmb 06 18 28.0
comp=Z,42nm,0.8s
MREMI Moremi 51.55 72 *i P* **P** **06 18 06.5 -0.6**
PHDHD Phuduhudu 51.98 67 P **P** **06 18 09.4 -1.0**
PHDHD IAmb IAmb 06 18 11.6
comp=Z,39nm,0.7s
PHDHD Phuduhudu 51.98 67 *i P* **P** **06 18 10.4 0.0**
BROLN Tlhalogang 52.69 71 *i P* **P** **06 18 14.4 -1.2**
PRPB Paraua pebas 53.41 330 *eP* **P** **06 18 22.4 +1.6**
CASY Casey 53.45 160 P **P** **06 18 21.4 +0.9**
MATP Matopo 53.86 71 LR LR 06 37 25.5
comp=Z,709nm,20.3s,baz=209,slow=32
NPGB Novo Progresso 54.27 323 *eP* **P** **06 18 27.0 -0.2**
KSANE Kasane 54.31 66 P **P** **06 18 26.9 -0.6**
KSANE IAmb IAmb 06 18 29.0
comp=Z,53nm,1.1s
KSANE Kasane 54.31 66 *i P* **P** **06 18 28.6 +1.1**
TMAB Tom-Au,PA,Br 56.61 334 *eP* **P** **06 18 45.6 +1.7**
DRV Dumont d'Urvil 56.87 174 P **P** **06 18 45.4 +0.2**
ITTB Itaituba 56.91 324 *eP* **P** **06 18 46.8 +0.7**
LSZ Lusaka 57.98 68 P **P** **06 18 53.0 -0.8**
LSZ IAmb IAmb 06 19 16.9
comp=Z,79nm,1.7s
LSZ Lusaka 57.98 68 IAMs_20 IAMs_20 06 41 19.0
comp=Z,2μm,19.0s
LSZ Lusaka 57.98 68 LR LR 06 41 31.4
comp=Z,2μm,18.4s,baz=204,slow=34
LSZ Lusaka 57.98 68 P **P** **06 18 53.0 -0.8**
LSZ pmax pmax
comp=Z,79nm,1.7s
MAL2 Monte Alegre, 58.63 327 P **P** **06 18 57.9 -0.3**
NNA Nana 58.86 298 LR LR 06 45 18.0
comp=Z,376nm,19.8s,baz=156,slow=37
NNA Nana 58.86 298 *ceP* **P** **06 18 59.9 0.0**
NNA pmax pmax
comp=Z,104nm,1.0s
MACA Manacapuru-AM 59.74 319 P **P** **06 19 05.2 -0.6**
MACA Manacapuru-AM 59.74 319 *eP* **P** **06 19 05.6 -0.3**
TEFE Tefe 60.92 315 *eP* **P** **06 19 13.8 -0.2**
VOI Vohitsoka 62.67 89 P **P** **06 19 26.1 +0.2**
VOI IAMs_20 IAMs_20 06 39 26.5
comp=Z,2μm,20.0s
ATAH Atahualpa 63.81 299 LR LR 06 49 11.7
comp=Z,639nm,20.0s,baz=141,slow=38
BOAV Boa Vista 64.84 322 P **P** **06 19 39.8 -0.2**
BOAV IAmb IAmb 06 19 45.5
comp=Z,62nm,1.0s
BOAV Boa Vista 64.84 322 *eP* **P** **06 19 40.3 +0.3**
BOAV Boa Vista 64.84 322 P **P** **06 19 39.6 -0.4**
comp=Z,669nmcomp=Z,68nm,1.1s
SGC2 Sao Gabriel da 64.92 314 P **P** **06 19 40.0 -0.5**
comp=Z,528nmcomp=Z,42nm,1.2s
MDP Montagnes des 64.95 331 LR LR 06 47 06.8
comp=Z,1μm,19.4s,baz=138,slow=35
DBIC Dimbokro 65.22 23 P **P** **06 19 42.2 -0.1**
DBIC IAmb IAmb 06 19 44.4
comp=Z,31nm,0.9s
DBIC Dimbokro 65.22 23 P **P** **06 19 42.2 -0.1**
comp=Z,29nm,0.9s,baz=204,slow=7.0,SNR=24
DBIC LR LR 06 41 39.8
comp=Z,2μm,19.2s,baz=216,slow=30
comp=Z,29nm,0.9s
ABPO Ambohimpanom 65.22 87 P **P** **06 19 43.1 +0.4**
ABPO Ambohimpanom 65.22 87 P **P** **06 19 43.1 +0.4**
ABPO pmax pmax
comp=Z,16nm,1.2s
OPO Ambohidratompo 65.56 87 LR LR 06 43 33.7
comp=Z,2μm,18.9s,baz=334,slow=32
MCRA Macar, Loja 66.96 299 P **P** **06 19 53.5 -0.3**
comp=Z,615nmcomp=Z,66nm,0.8s
COHC Cochancay 68.28 301 IAmb IAmb 06 20 16.6
comp=Z,23nm,0.9s
COHC Cochancay 68.28 301 P **P** **06 20 02.8 +0.8**
comp=Z,984nmcomp=Z,105nm,0.7s
PTLC Puerto Leguiza 68.53 306 P **P** **06 19 59.9 -3.7**
comp=Z,764nmcomp=Z,49nm,1.3s
PIAT Ana Tenorio 69.10 302 P **P** **06 20 08.4 +0.8**
comp=Z,1μmcomp=Z,94nm,1.2s
SLOR San Lorenzo - 69.44 302 P **P** **06 20 10.1 +0.3**
SLOR IAmb IAmb 06 20 16.5
comp=Z,31nm,0.8s
MACC Macarena, Meta 69.87 308 P **P** **06 20 10.7 -1.2**

comp=Z,768nmcomp=Z,50nm,1.2s
OTAV Otavalo 70.27 303 P **P** **06 20 16.5 +1.6**
OTAV pmax pmax
comp=Z,102nm,1.3s
OTAV Otavalo 70.27 303 *eP* **P** **06 20 16.3 +1.4**
OTAV Otavalo 70.27 303 P **P** **06 20 14.8 -0.1**
comp=Z,1μmcomp=Z,99nm,1.3s
CUSE Cuicocha Este 70.30 303 P **P** **06 20 17.6 +2.5**
comp=Z,67nm,1.1s
TULM Tulcn-Chalpat 70.38 304 P **P** **06 20 17.3 +1.7**
comp=Z,2μmcomp=Z,157nm,1.2s
PAC1 Pacto, Paraso 70.45 303 P **P** **06 20 16.4 +0.8**
comp=Z,2μmcomp=Z,78nm,1.4s
CMBC Cumbal 70.59 304 P **P** **06 20 20.1 +3.3**
BBAC Balboa, Cauca 71.28 305 P **P** **06 20 20.4 -0.3**
comp=Z,461nmcomp=Z,33nm,0.9s
POPC Popayan, Colom 71.48 306 P **P** **06 20 21.6 -0.4**
comp=Z,617nmcomp=Z,39nm,1.4s
PRAC Prado 71.73 308 P **P** **06 20 21.4 -1.8**
comp=Z,1μmcomp=Z,69nm,1.3s
MBAR Mbarara 71.81 62 P **P** **06 20 23.8 -0.1**
MBAR Mbarara 71.81 62 IAMs_20 IAMs_20 06 52 38.5
comp=Z,1μm,18.0s
MBAR Mbarara 71.81 62 *i P* **P** **06 20 22.9 -1.0**
MBAR pmax pmax
comp=Z,16nm,1.3s
ORTC Ortega, Tolima 72.06 308 P **P** **06 20 24.1 -1.1**
comp=Z,1μmcomp=Z,110nm,0.9s
ROSC El Rosal 72.49 309 P **P** **06 20 27.9 -0.3**
ROSC IAmb IAmb 06 20 33.9
comp=Z,25nm,0.8s
ROSC El Rosal 72.49 309 P **P** **06 20 28.6 +0.5**
comp=Z,17nm,0.6s,baz=132,slow=14,SNR=8.3
ROSC LR LR 06 54 55.3
comp=Z,1μm,19.1s,baz=108,slow=38
comp=Z,17nm,0.6s
ROSC El Rosal 72.49 309 P **P** **06 20 27.9 -0.3**
ROSC pmax pmax
comp=Z,25nm,0.8s
RUSC La Rusia 72.90 311 IAmb IAmb 06 20 37.1
comp=Z,75nm,1.1s
TORD Torodi Ar. Bea 73.05 28 P **P** **06 20 28.2 -2.7**
comp=Z,36nm,0.9s,baz=318,slow=2.0,SNR=47
TORD LR LR 06 46 44.0
comp=Z,920nm,18.8s,baz=180,slow=31
comp=Z,36nm,0.9s
BAUV El Baul 73.64 317 **P** **06 20 34.6 +0.2**
KIBK Kibwezi 74.03 69 IAMs_20 IAMs_20 06 50 44.5
comp=Z,1μm,20.0s
GRGR Grenville 74.32 324 IAMs_20 IAMs_20 06 56 59.9
comp=Z,1μm,18.0s
SDV Santo Domingo 74.60 314 LR LR 06 56 21.6
comp=Z,2μm,18.5s,baz=150,slow=38
SDV Santo Domingo 74.60 314 *eP* **P** **06 20 41.6 +1.3**
SDV Santo Domingo 74.60 314 P **P** **06 20 42.5 +2.2**
comp=Z,899nmcomp=Z,60nm,1.1s
BBGH Gun Hill 74.61 326 IAMs_20 IAMs_20 06 59 57.3
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 74.64 68 P **P** **06 20 40.9 +0.1**
comp=Z,1.2nm,0.3s,baz=234,slow=8.3,SNR=3.3
KMBO LR LR 06 52 46.6
comp=Z,2μm,18.3s,baz=164,slow=35
comp=Z,1.2nm,0.3s
DBBC Dabeiba 75.25 308 P **P** **06 20 43.9 -0.1**
APAC Apartado, Choc 76.20 308 P **P** **06 20 50.0 +0.7**
comp=Z,648nmcomp=Z,43nm,1.1s
APZ The Paps 76.51 190 P **P** **06 20 50.9 +0.1**
FDF Fort de France 76.60 325 P **P** **06 20 53.4 +1.9**
FDF Fort de France 76.60 325 P **P** **06 20 53.4 +1.9**
FDF pmax pmax
comp=Z,134nm,1.3s
SYZ Scrubby Hill 76.68 191 P **P** **06 20 48.2 -3.4**
ARGC Ariguani, Magd 76.96 311 P **P** **06 20 56.4 +2.9**
comp=Z,1μmcomp=Z,76nm,1.2s
TUZ Tuapeka 77.21 191 P **P** **06 20 55.2 +0.6**
SJCC San Jacinto, C 77.39 310 P **P** **06 20 55.5 -0.5**
comp=Z,1μmcomp=Z,93nm,1.2s
WHZ Wether Hill Ro 77.44 190 IAmb IAmb 06 21 10.4
comp=Z,58nm,1.0s
WHZ Wether Hill Ro 77.44 190 P **P** **06 20 54.1 -1.9**
LODK Lodwar 77.57 64 IAMs_20 IAMs_20 06 54 25.0
comp=Z,1μm,18.0s
TDBA Terre de Bas, 77.80 325 P **P** **06 20 55.3 -2.8**
DCZ Deep Cove 77.94 190 IAmb IAmb 06 21 25.8
comp=Z,81nm,1.1s
DCZ Deep Cove 77.94 190 P **P** **06 20 59.9 +1.1**
MLZ Mavora Lakes 77.94 190 IAmb IAmb 06 21 12.9
comp=Z,48nm,1.0s
MLZ Mavora Lakes 77.94 190 P **P** **06 20 59.3 +0.4**
EAZ Earnscleugh 77.95 191 P **P** **06 20 59.3 +0.4**
ODZ Otahua Downs 77.99 192 P **P** **06 20 59.9 +0.9**
GDSD La Dsirade Is 78.06 326 IAmb IAmb 06 21 14.8
comp=Z,50nm,1.1s
WKZ Wanaka 78.39 191 IAmb IAmb 06 21 07.8
comp=Z,56nm,0.9s
WKZ Wanaka 78.39 191 P **P** **06 21 01.6 +0.4**
MSZ Milford Sound 78.65 190 P **P** **06 21 03.4 +0.7**
LBZ Lake Benmore 78.69 192 IAmb IAmb 06 21 05.3
comp=Z,26nm,0.9s
LBZ Lake Benmore 78.69 192 P **P** **06 21 03.9 +0.9**
BCIP Isla Barro Col 78.77 306 P P 06 21 08.9 +5.3
BCIP pmax pmax
comp=Z,45nm,1.7s
BCIP Isla Barro Col 78.77 306 P **P** **06 21 02.9 -0.7**
comp=Z,977nmcomp=Z,36nm,1.2s
MQZ McQueen's Vall 79.06 194 P **P** **06 21 05.3 +0.4**
MQZ IAmb IAmb 06 21 17.7
comp=Z,53nm,1.1s
MQZ McQueen's Vall 79.06 194 P **P** **06 21 05.1 +0.2**
RPZ Rata Peaks 79.25 193 P **P** **06 21 06.5 +0.5**
comp=Z,43nm,0.8s,baz=181,slow=3.4,SNR=16
RPZ LR LR 06 52 27.1
comp=Z,757nm,20.2s,baz=148,slow=33
comp=Z,43nm,0.8s
RPZ Rata Peaks 79.25 193 P **P** **06 21 06.5 +0.5**
FOZ Fox Glacier 79.58 192 P **P** **06 21 07.8 0.0**
GVZ Greta Valley S 79.73 194 P **P** **06 21 09.3 +0.7**
WVZ Waitaha Valley 79.92 193 P **P** **06 21 10.6 +0.9**
LTZ Lake Taylor 80.02 194 IAmb IAmb 06 21 17.2
comp=Z,66nm,1.0s
LTZ Lake Taylor 80.02 194 P **P** **06 21 10.5 +0.3**
INZ Inchbonnie 80.18 193 IAmb IAmb 06 21 14.6
comp=Z,25nm,0.7s
INZ Inchbonnie 80.18 193 P **P** **06 21 10.8 -0.3**
SMRT St. Maarten 80.33 325 IAmb IAmb 06 21 13.9
comp=Z,42nm,0.9s
THZ Tophouse 80.93 194 IAmb IAmb 06 21 21.0
comp=Z,58nm,0.8s
THZ Tophouse 80.93 194 P **P** **06 21 16.8 +1.6**
TAU Tasmania Unive 80.97 175 **P** **06 21 14.8 -0.5**
TAU Tasmania Unive 80.97 175 P **P** **06 21 14.8 -0.5**
TAU pmax pmax
comp=Z,290nm,2.0s
BHW Baring Head 80.99 196 IAMs_20 IAMs_20 06 54 57.0
comp=Z,775nm,19.0s
DSZ Denniston Nort 81.10 194 IAMs_20 IAMs_20 06 57 28.7
comp=Z,1μm,19.0s
DSZ Denniston Nort 81.10 194 P **P** **06 21 14.8 -1.3**
SNZO South Karori 81.11 196 IAMs_20 IAMs_20 06 55 01.2
comp=Z,1μm,19.0s
PDPR Patillas Dam, 81.28 322 IAmb IAmb 06 21 22.5
comp=Z,35nm,1.1s
NNZ Nelson 81.40 195 IAmb IAmb 06 21 25.0
comp=Z,54nm,1.1s
NNZ IAMs_20 IAMs_20 06 57 14.7
comp=Z,1μm,18.0s
SJG San Juan 81.41 322 P **P** **06 21 17.4 -0.3**
SJG IAmb IAmb 06 21 23.1
comp=Z,59nm,1.4s
SJG San Juan 81.41 322 LR LR 06 57 18.4
comp=Z,631nm,21.9s,baz=142,slow=36
SJG San Juan 81.41 322 P **P** **06 21 17.4 -0.3**
SJG pmax pmax
comp=Z,59nm,1.4s
SJG San Juan 81.41 322 P **P** **06 21 17.1 -0.6**
MOO Moorlands 81.43 175 P **P** **06 21 18.1 +0.3**
comp=Z,67nm,2.3s
HDC Heredia 81.48 302 *eP* **P** **06 21 20.5 +2.1**
BFZ Birch Farm 81.48 197 P **P** **06 21 17.2 -0.8**
MSEY Mahe Island 81.53 86 IAMs_20 IAMs_20 06 50 44.4
comp=Z,1μm,20.0s
GCPR Guaynabo City 81.57 322 IAmb IAmb 06 21 23.4
comp=Z,53nm,1.6s
MRZ Mangatainoka R 81.61 197 IAmb IAmb 06 21 20.6
comp=Z,24nm,0.8s
MRZ IAMs_20 IAMs_20 06 52 29.4

comp=Z,1µm,20.0s
MRZ Mangatainoka R 81.61 197 P **P 06 21 18.8 0.0**
PRHZ Porangahau 81.83 197 P **P 06 21 20.4 +0.5**
DVHZ Dannevirke 81.87 197 P **P 06 21 22.0 +1.9**
QRZ Quartz Range 81.90 194 P **P 06 21 18.5 -1.8**
JTS Las Juntas de 82.13 302 P **P 06 21 21.1 -0.6**
JTS IAmb IAmb 06 21 29.6
comp=Z,73nm,1.1s
JTS Las Juntas de 82.13 302 LR LR 07 00 47.8
comp=Z,167nm,19.9s,baz=130,slow=38
JTS Las Juntas de 82.13 302 *e*P **P 06 21 21.6 -0.1**
JTS pmax pmax
comp=Z,96nm,1.2s
WAZ Wanganui 82.59 196 P **P 06 21 25.0 +1.1**
MOVZ Moawhango 82.81 197 P **P 06 21 26.5 +1.4**
WNVZ Wahianoa 82.91 197 P **P 06 21 26.0 +0.2**
BKZ Black Stump Fm 82.92 198 IAmb IAmb 06 21 31.4
comp=Z,23nm,0.8s
BKZ IAMs_20 IAMs_20 06 58 58.1
comp=Z,1µm,19.0s
BKZ Black Stump Fm 82.92 198 P **P 06 21 26.8 +1.1**
TRVZ Turoa 82.95 197 P **P 06 21 26.5 +0.4**
WHVZ Whangaehu Hut 82.96 197 P **P 06 21 26.7 +0.6**
MAVZ Matarangi 82.98 197 P **P 06 21 27.4 +1.1**
PKVZ Pokaka 82.99 197 P **P 06 21 25.8 -0.3**
FWVZ Far West T-bar 82.99 197 P **P 06 21 26.5 +0.2**
SNVZ South Ngauruho 83.04 197 P **P 06 21 28.0 +1.5**
NGZ Ngauruhoe 83.06 197 P **P 06 21 26.9 +0.3**
OTVZ Oturere 83.06 197 P **P 06 21 26.6 +0.1**
ETVZ East Tongariro 83.08 197 P **P 06 21 26.7 +0.1**
NNVZ North Ngauruho 83.10 197 P **P 06 21 28.2 +1.4**
TMVZ Te Maari 83.10 197 P **P 06 21 27.0 +0.3**
WTVZ West Tongariro 83.12 197 P **P 06 21 28.0 +1.2**
NTVZ North Tongarir 83.12 197 P **P 06 21 27.4 +0.6**
RIGZ Rimuhau 83.15 199 P **P 06 21 27.9 +1.0**
MTHZ Maungataniwha 83.17 198 P **P 06 21 27.5 +0.5**
TWVZ Taurewa 83.19 197 P **P 06 21 26.9 -0.2**
NEZ North Egmont 83.20 196 P **P 06 21 27.0 -0.2**
VRZ Vera Road 83.24 196 P **P 06 21 28.5 +1.2**
TAM Tamanrasset 83.28 29 **P 06 21 27.3 -0.3**
TAM IAMs_20 IAMs_20 06 52 35.8
comp=Z,960nm,19.0s
TAM Tamanrasset 83.28 29 P **P 06 21 27.3 -0.3**
TAM pmax pmax
comp=Z,65nm,0.2s
RTZ Ruatahuna 83.38 198 IAMs_20 IAMs_20 06 59 19.1
comp=Z,1µm,19.0s
MWZ Matawai 83.55 199 P **P 06 21 30.5 +1.5**
URZ Urewera 83.70 198 P **P 06 21 30.1 +0.5**
comp=Z,17nm,0.7s,baz=162,slow=2.9,SNR=7.7
URZ LR LR 06 54 31.9
comp=Z,782nm,20.2s,baz=158,slow=32
comp=Z,17nm,0.7s
URZ Urewera 83.70 198 P **P 06 21 31.3 +1.7**
HIZ Hauiti 83.83 196 IAMs_20 IAMs_20 06 53 42.0
comp=Z,1µm,21.0s
HIZ Hauiti 83.83 196 P **P 06 21 29.8 -0.5**
FURI Furi 83.93 64 IAMs_20 IAMs_20 06 57 19.5
comp=Z,1µm,19.0s
SDDR Presa de Saban 84.06 318 IAmb IAmb 06 21 51.3
comp=Z,29nm,0.3s
TOZ Tahuroa Road 84.49 197 **P 06 21 33.0 -0.7**
TOZ IAmb IAmb 06 21 34.7
comp=Z,18nm,0.8s
TOZ IAMs_20 IAMs_20 07 00 34.5
comp=Z,873nm,18.0s
SIUN Universidad Ur 85.03 304 P **P 06 21 36.4 -0.2**
SIUN IAmb IAmb 06 21 42.4
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 85.80 150 LR LR 06 55 08.5
comp=Z,310nm,20.1s,baz=266,slow=32
MTDJ Mount Denham 85.84 312 IAMs_20 IAMs_20 07 02 23.0
comp=Z,1µm,20.0s
TOO Toolangi 86.18 173 P **P 06 21 41.6 -0.6**
comp=Z,7.8nm,1.2s
TOO Toolangi 86.18 173 **P 06 21 41.9 -0.3**
TOO Toolangi 86.18 173 P **P 06 21 41.9 -0.3**
TOO pmax pmax
comp=Z,4.0nm,0.8s
MUN Mundaring 86.40 149 P **P 06 21 43.2 -0.1**
comp=Z,67nm,0.9s
ARPS Mount Arapiles 86.69 170 P **P 06 21 43.8 -0.8**
comp=Z,5.7nm,1.2s
MILA Mila 86.88 176 P **P 06 21 46.0 +0.4**
comp=Z,11nm,1.2s
CHIV Chivirico 86.95 314 IAmb IAmb 06 21 54.1
comp=Z,33nm,1.0s
OUZ Omahuta 87.25 196 P **P 06 21 46.6 -0.7**
BLDU Ballidu 87.83 149 P **P 06 21 49.9 -0.4**
comp=Z,24nm,1.1s
ATD Arta Tunnel 88.28 66 IAMs_20 IAMs_20 07 01 11.9
comp=Z,1µm,18.0s
ATD Arta Tunnel 88.28 66 LR LR 07 01 14.6
comp=Z,52nm,18.3s,baz=184,slow=36
KMBL Kambalda 88.52 153 P **P 06 21 53.5 -0.1**
comp=Z,26nm,1.0s
CAN Canberra 88.60 176 IAmb IAmb 06 22 08.0
comp=Z,57nm,1.5s
CNB Canberra Magne 88.62 176 P **P 06 21 54.5 +0.4**
comp=Z,26nm,1.7s
MORW Morawa 89.08 148 P **P 06 21 56.0 -0.3**
comp=Z,23nm,0.8s
MORW Morawa 89.08 148 **P 06 21 56.1 -0.1**
MORW IAmb IAmb 06 21 57.2
comp=Z,16nm,0.8s
YNG Young 89.60 176 P **P 06 21 58.9 +0.3**
HTT Hallett 89.69 168 P **P 06 21 59.5 +0.4**
HTT Hallett 89.69 168 P **P 06 21 59.8 +0.7**
BBOO Buckleboo 89.92 165 P **P 06 21 59.7 -0.4**
BBOO Buckleboo 89.92 165 **P 06 21 59.7 -0.4**
BBOO IAmb IAmb 06 22 00.9
comp=Z,27nm,0.7s
PETF Flores 90.21 301 IAmb IAmb 06 22 08.1
comp=Z,75nm,1.6s
FORT Forrest 90.50 158 P **P 06 22 03.4 +0.6**
FORT Forrest 90.50 158 **P 06 22 02.1 -0.7**
FORT IAmb IAmb 06 22 04.4
comp=Z,20nm,0.8s
MDT Midelt 90.69 18 LR LR 06 58 02.2
comp=Z,2µm,18.9s,baz=224,slow=32
CCIG Comitan 90.76 299 IAmb IAmb 06 22 11.2
comp=Z,28nm,1.3s
STKA Stephens Creek 91.52 170 P **P 06 22 07.4 -0.1**
STKA Stephens Creek 91.52 170 **P 06 22 07.7 +0.2**
STKA Stephens Creek 91.52 170 P **P 06 22 08.0 +0.4**
comp=Z,6.8nm,0.7s,baz=152,slow=4.4,SNR=16
comp=Z,6.8nm,0.7s
STKA Stephens Creek 91.52 170 *i* P **P 06 22 05.0 -2.5**
CMSA Cobar Meteorol 92.20 173 P **P 06 22 10.6 -0.1**
TEIG Tepich 92.32 304 **P 06 22 10.9 -0.2**
PPT2 Papeete2 92.44 233 *e*S **S 06 33 07.9 -7.0**
comp=Z,236nm,23.5s
PPT2 Papeete2 92.44 233 *e*LR LR 06 51 50.3
comp=Z,516nm,23.0s
PPT2 *e*LR LR 06 51 51.0
comp=Z,518nm,29.2s
CMIG Matias Romero 92.80 297 LR LR 07 03 58.9
comp=Z,138nm,18.6s,baz=154,slow=36
PVAQ Vaqueiros 94.70 15 *e*SKSac **SKSac 06 33 02.6 +7.0**
PVAQ *e*LQ LQ 06 48 56.4
PVAQ *e*LR LR 06 53 14.0
PVAQ *i* IAMs_20 IAMs_20 07 01 49.0
comp=Z,679nm,20.0s
TAOE Nuku Hiva Isla 95.52 245 *e*S **S 06 33 41.1 -1.0**
comp=Z,119nm,26.6s
TAOE Nuku Hiva Isla 95.52 245 *e*LR LR 06 53 13.4
comp=Z,315nm,22.8s
CART Cartagena 95.99 20 IAMs_20 IAMs_20 07 01 23.4
comp=Z,863nm,20.0s
WRKA Warakurna 96.11 157 P **P 06 22 29.8 +1.0**
PMRV Marv??o 96.74 15 *e*LR LR 06 54 54.7
PMRV *i* IAMs_20 IAMs_20 07 00 10.6
comp=Z,798nm,22.0s
UNM Universidad Na 96.84 295 IAMs_20 IAMs_20 07 04 19.6
comp=Z,506nm,18.0s
PSA00 Pilbara Seismi 97.26 148 **P 06 22 33.7 -0.3**
PAB San Pablo 97.31 17 IAMs_20 IAMs_20 07 01 39.3
comp=Z,793nm,21.0s
ESDC Sonseca Array 97.50 17 P **P 06 22 33.7 -0.7**
comp=Z,1.2nm,0.9s,baz=188,slow=4.9,SNR=6.3
ESDC LR LR 07 02 18.7
comp=Z,848nm,20.2s,baz=194,slow=33
comp=Z,1.2nm,0.9s
MTE Manteigas 97.67 14 IAMs_20 IAMs_20 07 01 50.8
comp=Z,831nm,20.0s
MTE Manteigas 97.67 14 *e*SKSac **SKSac 06 33 19.6 +8.5**
MTE *e*LQ LQ 06 50 05.4
MTE *e*LR LR 06 54 58.7
MTE *i* IAMs_20 IAMs_20 07 04 15.1
comp=Z,709nm,18.0s
MVO Moncorvo 98.49 15 *e*LR LR 06 58 21.5
MVO *i* IAMs_20 IAMs_20 07 03 19.5
comp=Z,718nm,18.0s
ASAR Alice Springs 98.54 162 **P 06 22 39.0 -0.8**
ASAR Alice Springs 98.54 162 P **P 06 22 39.1 -0.6**
comp=Z,5.1nm,0.6s,baz=190,slow=3.8,SNR=59
ASAR PP **PP 06 26 38.8 -0.5**
comp=Z,1.5nm,0.9s,baz=183,slow=7.1,SNR=4.8
ASAR S **SKSac 06 33 12.9 -4.0**
comp=Z,0.8nm,0.9s,baz=178,slow=7.2,SNR=5.7
ASAR PKKP **PKKPdf 06 39 08.2 +0.2**
comp=Z,0.7nm,0.7s,baz=18,slow=2.3,SNR=8.4
comp=Z,5.1nm,0.6s
PGAV Gavieira, Arco 99.11 13 *e*LR LR 06 55 17.3
PGAV *i* IAMs_20 IAMs_20 07 01 56.3
comp=Z,892nm,20.0s
MAHO Mahon 99.30 23 IAMs_20 IAMs_20 07 06 47.9
comp=Z,930nm,18.0s
257A Skidaway Islan 99.50 315 IAMs_20 IAMs_20 07 12 10.8
comp=Z,569nm,19.0s
RAYN Ar Rayn 99.75 62 IAMs_20 IAMs_20 07 07 59.8
comp=Z,674nm,18.0s
EIL Elat 100.11 51 LR LR 07 03 00.1
comp=Z,509nm,21.5s,baz=163,slow=32
VSL Villasalto 100.13 27 IAMs_20 IAMs_20 07 04 39.0
comp=Z,828nm,18.0s
Y60A Bolivia 100.23 318 IAMs_20 IAMs_20 07 09 34.2
comp=Z,565nm,20.0s
CEL Celeste 100.78 33 IAMs_20 IAMs_20 07 06 12.2
comp=Z,725nm,20.0s
HMDM Hanimaadhoo 100.82 94 IAMs_20 IAMs_20 06 59 28.4
comp=Z,887nm,19.0s
154A Montrose 100.88 314 IAMs_20 IAMs_20 07 13 17.6
comp=Z,731nm,20.0s
X58A Rowland 101.14 318 IAMs_20 IAMs_20 07 11 21.2
comp=Z,581nm,20.0s
GOGA Godfrey 101.73 314 IAMs_20 IAMs_20 07 13 34.9
comp=Z,774nm,19.0s
GHAJ Ghor Haditha 101.78 50 IAMs_20 IAMs_20 07 09 51.6
comp=Z,906nm,18.0s
WRA Warramunga Arr 102.26 161 P **Pdif 06 22 55.6 -0.7**
comp=Z,4.2nm,0.7s,baz=196,slow=4.0,SNR=40
WRA PP **PP 06 27 08.2 +0.7**
comp=Z,1.4nm,0.8s,baz=186,slow=6.1,SNR=7.5
WRA S **SKSac 06 33 30.4 -4.7**
comp=Z,0.6nm,0.9s,baz=179,slow=8.2,SNR=3.9
WRA PKKP **PKKPbc 06 38 58.3 +2.3**
comp=Z,1.1nm,0.7s,baz=354,slow=3.4,SNR=10
WRAB Tennant Creek 102.27 161 *i* P **Pdif 06 22 53.7 -2.7**
WRAB pmax pmax
comp=Z,16nm,2.2s
Y52A Lilburn 102.36 314 IAMs_20 IAMs_20 07 14 11.7
comp=Z,762nm,19.0s
X51A Calhoun 103.30 314 IAMs_20 IAMs_20 07 13 46.4
comp=Z,517nm,20.0s
146A Union 103.38 310 IAMs_20 IAMs_20 07 15 09.6
comp=Z,878nm,20.0s
W52A Murphy 103.38 315 IAMs_20 IAMs_20 07 15 52.7
comp=Z,672nm,19.0s
Z47A Carrollton 103.44 311 IAMs_20 IAMs_20 07 15 06.2
comp=Z,714nm,18.0s
V53A Saluda 103.45 316 IAMs_20 IAMs_20 07 15 03.4
comp=Z,668nm,19.0s
R58B Mineral 103.64 320 IAMs_20 IAMs_20 07 10 02.5
comp=Z,496nm,19.0s
CBN Corbin Frederi 103.68 321 IAMs_20 IAMs_20 07 09 20.4
comp=Z,643nm,21.0s
U54A Nelsons Funny 103.81 317 IAMs_20 IAMs_20 07 12 37.1
comp=Z,513nm,19.0s
BLA Blacksburg 103.90 318 IAMs_20 IAMs_20 07 09 15.3
comp=Z,491nm,20.0s
W50A Signal Mountai 104.03 314 IAMs_20 IAMs_20 07 14 05.8
comp=Z,715nm,20.0s
TZTN Tazewell 104.50 316 IAMs_20 IAMs_20 07 15 52.3
comp=Z,643nm,20.0s
SSB Saint Sauveur 104.50 22 IAMs_20 IAMs_20 07 08 02.7
comp=Z,728nm,19.0s
Y45A Yeager Farm, C 104.64 310 IAMs_20 IAMs_20 07 11 12.0
comp=Z,1µm,22.0s
BNI Bardonecchia 104.75 23 IAMs_20 IAMs_20 07 06 08.4
comp=Z,873nm,20.0s
WSPT Westport, CT 104.99 325 IAMs_20 IAMs_20 07 09 43.1
comp=Z,903nm,20.0s
V48A Smith Brothers 105.11 313 IAMs_20 IAMs_20 07 10 19.5
comp=Z,746nm,22.0s
U49A Red Boiling Sp 105.36 314 IAMs_20 IAMs_20 07 15 20.0
comp=Z,492nm,20.0s
PALK Pallekele 105.38 100 IAMs_20 IAMs_20 07 01 32.1
comp=Z,689nm,20.0s
T50A Nancy 105.42 315 IAMs_20 IAMs_20 07 14 34.7
comp=Z,520nm,20.0s
SSPA Standing Stone 106.02 322 IAMs_20 IAMs_20 07 07 21.5
comp=Z,619nm,20.0s
T47A Sharon Grove 106.30 313 IAMs_20 IAMs_20 07 14 54.0
comp=Z,764nm,20.0s
R50A Paris 106.32 316 IAMs_20 IAMs_20 07 12 02.4
comp=Z,575nm,21.0s
UOSS Minazif 106.37 70 IAMs_20 IAMs_20 07 07 49.0
comp=Z,750nm,20.0s
R49A Shelbyville 106.66 315 IAMs_20 IAMs_20 07 16 49.3
comp=Z,672nm,18.0s
T45A Paducah 106.96 312 IAMs_20 IAMs_20 07 12 02.3
comp=Z,1µm,22.0s
WCI Wyandotte Cave 107.04 314 IAMs_20 IAMs_20 07 15 35.6
comp=Z,665nm,19.0s
FUORN Ofenpass-Fuorn 107.05 25 IAMs_20 IAMs_20 07 07 38.1
comp=Z,745nm,20.0s
TXAR Lajitas Array 107.41 297 Pdiff **Pdif 06 23 19.6 +0.7**
comp=Z,0.4nm,1.0s,baz=120,slow=4.7,SNR=2.8
TXAR PKiKP **PKiKP 06 27 25.8 -1.5**
comp=Z,0.7nm,1.0s,baz=149,slow=2.9,SNR=4.6
TXAR PKKP **PKKPab 06 38 54.7 -0.1**
comp=Z,0.7nm,0.7s,baz=296,slow=2.3,SNR=8.3
S44A Carbondale 107.79 312 IAMs_20 IAMs_20 07 12 38.3
comp=Z,947nm,21.0s
ECH Echery 107.85 23 IAMs_20 IAMs_20 07 08 19.3
comp=Z,805nm,20.0s
M52A Chesterland 108.05 320 IAMs_20 IAMs_20 07 14 02.2
comp=Z,696nm,18.0s
ERPA Erie 108.07 321 IAMs_20 IAMs_20 07 06 46.7
comp=Z,619nm,21.0s
BFO Black Forest 108.22 23 IAMs_20 IAMs_20 07 07 51.9
comp=Z,703nm,20.0s
BRTR Keskin Array B 108.25 45 PP **PP 06 27 52.3 -0.8**
comp=Z,1.1nm,0.7s,baz=210,slow=7.1,SNR=5.1
J55A Hilton 108.34 323 IAMs_20 IAMs_20 07 12 33.7
comp=Z,721nm,20.0s
M50A Fremont 108.55 318 IAMs_20 IAMs_20 07 15 54.3
comp=Z,507nm,20.0s
P46A Rosedale 108.60 315 IAMs_20 IAMs_20 07 17 21.8
comp=Z,874nm,19.0s
Q44A Meyer Farm, Va 108.72 313 IAMs_20 IAMs_20 07 11 35.0
comp=Z,639nm,20.0s
U38A Gravette 108.92 308 IAMs_20 IAMs_20 07 18 39.4
comp=Z,713nm,18.0s
WLF Walferdange 109.02 22 IAMs_20 IAMs_20 07 10 50.1
comp=Z,740nm,20.0s
TUL3 Leonard 109.10 306 IAMs_20 IAMs_20 07 19 12.2
comp=Z,550nm,18.0s
SFIN Lafayette 109.21 315 IAMs_20 IAMs_20 07 18 39.9
comp=Z,684nm,18.0s
P43A Skaggs, Pawnee 109.55 313 IAMs_20 IAMs_20 07 13 54.0
comp=Z,718nm,21.0s
GERES GERESS Array B 109.97 27 PKiKP **PKiKP 06 27 30.9 -0.6**
comp=Z,0.6nm,0.6s,baz=204,slow=2.9,SNR=4.4
GERES PP **PP 06 28 04.7 -0.7**
comp=Z,0.6nm,0.7s,baz=198,slow=2.7,SNR=3.6
OK048 Pawnee Station 110.04 306 IAMs_20 IAMs_20 07 22 24.1
comp=Z,553nm,20.0s
CKRC Cesky Krumlov 110.10 27 AMS AMS 07 10 20.0
comp=Z,600nm,9.1s
MNTX Cornudas Mount 110.19 297 IAMs_20 IAMs_20 07 12 54.0
comp=Z,481nm,21.0s
KHC Kasperske Hory 110.20 27 IAMs_20 IAMs_20 07 10 12.7
comp=Z,451nm,19.0s
KHC Kasperske Hory 110.20 27 *e*SP SP 06 37 39.0 +5.6
KHC AMS AMS 07 10 10.0
comp=Z,500nm,18.4s
HDIL Hopedale 110.23 314 IAMs_20 IAMs_20 07 14 42.1
comp=Z,503nm,20.0s
L46A Eue Claire 110.30 316 IAMs_20 IAMs_20 07 18 16.7
comp=Z,734nm,20.0s
MLR Muntele Rosu 110.50 36 IAMs_20 IAMs_20 07 16 37.4
comp=Z,519nm,18.0s
P40A Paris 110.50 311 IAMs_20 IAMs_20 07 14 25.2
comp=Z,956nm,22.0s
ZVC Zvikov 110.64 27 AMS AMS 07 11 20.0
comp=Z,400nm,18.6s
I49A Point Hope 110.67 320 IAMs_20 IAMs_20 07 08 31.5
comp=Z,576nm,22.0s
KRUC Moravsky 110.87 28 *e*PKiKP **PKiKP 06 27 37.1 +4.1**
N41A Harden Midland 111.00 313 IAMs_20 IAMs_20 07 14 37.3
comp=Z,681nm,21.0s
L44A Lake County Fo 111.06 315 IAMs_20 IAMs_20 07 24 50.0
comp=Z,811nm,21.0s
VRAC Vranov 111.14 28 *e*PKiKP **PKiKP 06 27 36.7 +3.1**
PRU Pruhonice 111.24 27 *e*SP SP 06 37 48.0 +5.2
PRU AMS AMS 07 11 50.0
comp=Z,500nm,15.5s
PRA Prague 111.29 27 AMS AMS 07 10 40.0
comp=Z,500nm,19.6s
HSKC Hora Svate Kat 111.53 26 AMS AMS 07 12 00.0
comp=Z,500nm,20.5s
L42A Oliver, Polo 111.61 314 IAMs_20 IAMs_20 07 23 31.5
comp=Z,609nm,19.0s
K43A Burlington 111.67 315 IAMs_20 IAMs_20 07 24 34.2
comp=Z,712nm,19.0s
PVCC Panska Ves 111.74 27 AMS AMS 07 11 00.0
comp=Z,600nm,19.2s
MORC Moravsky Berou 111.83 29 *e*PKiKP **PKiKP 06 27 32.3 -2.6**
KRLC Kraliky 111.89 28 AMS AMS 07 10 30.0
comp=Z,500nm,20.2s
DPC Dobruska-Polom 112.03 28 AMS AMS 07 11 00.0
comp=Z,500nm,17.5s
OKC Ostrava-Krasne 112.04 29 AMS AMS 07 11 30.0
comp=Z,500nm,14.0s
N38A Joes South For 112.06 311 IAMs_20 IAMs_20 07 15 11.3
comp=Z,912nm,21.0s
CLL Collm 112.08 25 *e*PKiKP **PKiKP 06 27 30.0 -5.2**
CLL *e* 06 28 21.0
CLL MLR MLR
comp=Z,400nm,19.9s
UPC Upice 112.09 28 AMS AMS 07 10 50.0
comp=Z,600nm,19.8s
KSU1 Kansas State U 112.11 308 IAMs_20 IAMs_20 07 18 48.0
comp=Z,768nm,20.0s
CHVC Chvalec 112.17 28 AMS AMS 07 10 40.0
comp=Z,500nm,22.0s
OSTC Ostas 112.19 28 AMS AMS 07 10 50.0
comp=Z,600nm,20.7s
CMBY CAMPBELL BAY 112.23 112 *e*P PKiKP 06 27 52.2 +15
L40A Anamosa 112.28 313 IAMs_20 IAMs_20 07 17 16.4
comp=Z,664nm,20.0s
HYB Hyderabad 112.50 92 *e*PKiKP **PKiKP 06 27 35.5 -1.7**
HYB *e*PP **PP 06 28 23.1 -0.5**
JFWS Jewell Farm 112.61 314 IAMs_20 IAMs_20 07 16 08.9
comp=Z,635nm,20.0s
EKA Eskdalemuir Ar 112.89 14 PKKPbc PKKPbc 06 38 23.4 -0.4
comp=Z,0.4nm,0.5s,baz=353,slow=3.6,SNR=4.7
N35A Tabor 113.14 309 IAMs_20 IAMs_20 07 19 22.9
comp=Z,828nm,20.0s
E46A Sault Ste Mari 113.29 320 IAMs_20 IAMs_20 07 13 17.9
comp=Z,571nm,19.0s
ANMO Albuquerque 113.33 298 *i* PKiKP **PKiKP 06 27 36.4 -2.1**
I40A Norwalk 113.57 315 IAMs_20 IAMs_20 07 25 52.4
comp=Z,846nm,20.0s
KULM Kulim 114.13 119 IAMs_20 IAMs_20 07 06 49.1
comp=Z,731nm,20.0s
F42A Maple Grove Fa 114.18 317 IAMs_20 IAMs_20 07 18 21.4
comp=Z,496nm,19.0s
G40A Rib Lake 114.56 316 IAMs_20 IAMs_20 07 20 26.5
comp=Z,796nm,20.0s
BGNE Belgrade 114.67 308 IAMs_20 IAMs_20 07 17 12.6
comp=Z,849nm,22.0s
KSCO Kaye Shedlock' 114.76 303 IAMs_20 IAMs_20 07 22 22.0
comp=Z,468nm,20.0s
RGN Rugen 115.15 24 IAMs_20 IAMs_20 07 12 35.3
comp=Z,723nm,20.0s
KBZ Khabaz 115.36 49 PKP **PKPdf 06 27 41.5 -0.2**
comp=Z,1.1nm,0.5s,baz=108,slow=0.4,SNR=3.9
KBZ Khabaz 115.36 49 *i* PKiKP **PKiKP 06 27 41.7 0.0**
KIV Kislovodsk 115.46 48 IAMs_20 IAMs_20 07 22 50.7
comp=Z,457nm,19.0s
KIV Kislovodsk 115.46 48 *i* PKiKP **PKiKP 06 27 42.0 -0.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
PBA Port Blair 115.53 108 *e*P PKiKP 06 27 56.2 +13
SPMN Marine on St. 115.55 314 IAMs_20 IAMs_20 07 25 50.8
comp=Z,704nm,20.0s
OGNE Ogallala 116.03 305 IAMs_20 IAMs_20 07 22 54.7
comp=Z,526nm,19.0s
KIEV Kiev 116.11 36 **PKPdf 06 27 41.1 -1.8**
KIEV Kiev 116.11 36 PKIKP **PKPdf 06 27 41.1 -1.8**
AKASG Malin Array Be 116.12 36 **PKPdf 06 27 42.0 -1.0**
AKASG Malin Array Be 116.12 36 PKP **PKPdf 06 27 42.4 -0.6**
comp=Z,2.4nm,0.7s,baz=242,slow=1.4,SNR=9.1
AKASG Malin Array Be 116.12 36 PKIKP **PKPdf 06 27 42.0 -1.0**
AKBB Malin Array Si 116.12 36 *c i* PKIKP **PKPdf 06 27 42.6 -0.4**
MVCO Mesa Verde 116.13 298 IAMs_20 IAMs_20 07 23 03.1
comp=Z,562nm,19.0s
K30B Basset 116.33 308 IAMs_20 IAMs_20 07 19 08.6
comp=Z,859nm,21.0s
MAK Makhachkala 116.71 52 *e*P **Pdif 06 23 56.4 -3.4**
MAK *i* 06 27 42.4
MAK *e* 06 28 50.1
MAK *e* 06 34 28.7
MAK *e*PS **PKKPdf 06 38 42.2 +5.1**
MAK *e*SSS SSS 06 49 17.0
ISCO Idaho Springs 116.78 302 IAMs_20 IAMs_20 07 18 29.6
comp=Z,445nm,20.0s
SBUM Sibu 116.84 132 **PKPdf 06 27 45.3 -0.3**
DGPR DIGLIPUR 116.89 107 *e*P PKiKP 06 27 59.0 +13
PV18 Skein Mesa, Pa 117.15 299 **PKiKP 06 27 45.7 0.0**
PV12 Saucer Basin, 117.15 299 **PKiKP 06 27 46.2 +0.5**
SUW Suwalki 117.18 30 IAMs_20 IAMs_20 07 27 44.8
comp=Z,497nm,22.0s
PV16 Nyswonger Mesa 117.20 299 **PKiKP 06 27 46.2 +0.4**
EYMN Ely 117.28 317 IAMs_20 IAMs_20 07 19 29.4
comp=Z,638nm,20.0s
BELC Belle Mtn. Jos 117.42 291 IAMs_20 IAMs_20 07 15 35.6
comp=Z,360nm,18.0s
O20A White River Ci 118.30 300 IAMs_20 IAMs_20 07 20 08.7
comp=Z,535nm,20.0s
PABE Paberze 118.71 30 IAMs_20 IAMs_20 07 15 36.4
comp=Z,742nm,20.0s
TOLI2 Tolitoli 118.88 142 **PKPdf 06 27 48.4 -1.1**
AGMN Agassiz Nation 119.27 314 IAMs_20 IAMs_20 07 21 38.2
comp=Z,754nm,20.0s
K22A Casper 119.44 303 IAMs_20 IAMs_20 07 24 08.9
comp=Z,457nm,19.0s
RSSD Black Hills 119.45 306 **PKPdf 06 27 49.4 -0.5**
RSSD Black Hills 119.45 306 PKIKP **PKPdf 06 27 49.4 -0.5**
E28A Huff 119.90 310 IAMs_20 IAMs_20 07 20 43.0
comp=Z,749nm,20.0s
HFS Hagfors 120.36 22 PKP **PKPdf 06 27 49.4 -1.4**
comp=Z,3.6nm,0.7s,baz=173,slow=3.9,SNR=8.9
HFS PKKPbc **PKKPab 06 37 56.5 +0.5**
comp=Z,1.2nm,0.6s,baz=58,slow=3.7,SNR=4.9
DUG Dugway, Tooele 120.57 297 IAMs_20 IAMs_20 07 30 52.0
comp=Z,481nm,19.0s
NB2 NORSAR Subarra120.69 20 PKPdf **PKPdf 06 27 51.1 -0.4**
comp=Z,2.0nm,0.9s,baz=202,slow=1.9
NB2 PKKP **PKKPbc 06 37 56.0 -0.2**
comp=Z,8.9nm,1.2s,baz=22,slow=4.3
NB2 NORSAR Subarra120.69 20 PKPdf **PKPdf 06 27 51.1 -0.4**
baz=202,slow=1.9
NOA NORSAR Array B120.69 20 PKP **PKPdf 06 27 51.2 -0.3**
comp=Z,2.7nm,0.7s,baz=202,slow=1.9,SNR=17
NOA PKKPbc **PKKPbc 06 37 55.7 -0.5**
comp=Z,1.3nm,0.8s,baz=27,slow=4.2,SNR=8.6
ULM Lac du Bonnet 120.84 315 PKP **PKPdf 06 27 50.7 -1.4**
comp=Z,4.4nm,0.6s,baz=340,slow=1.8,SNR=2.6
VRH Novokhopyorsk 120.94 43 *e*PKIKP **PKPdf 06 27 51.3 -0.9**
VRH pmax pmax
comp=Z,13nm,0.7s
PDAR Pinedale Array 120.96 301 **PKPdf 06 27 52.0 -0.9**
PDAR Pinedale Array 120.96 301 PKP **PKPdf 06 27 52.0 -0.9**
comp=Z,1.0nm,0.5s,baz=138,slow=5.0,SNR=11
PDAR PKKPbc **PKKPab 06 37 56.0 +0.7**
comp=Z,0.7nm,0.7s,baz=181,slow=0.7,SNR=6.4
LPSR Galich'ya Gora 121.03 40 *e*PKIKP **PKiKP 06 27 54.5 +2.0**
LPSR pmax pmax
comp=Z,12nm,0.8s
HWUT Hardware Ranch 121.04 299 IAMs_20 IAMs_20 07 27 13.2
comp=Z,420nm,20.0s
PKD Bear Valley Ra 121.30 289 IAMs_20 IAMs_20 07 18 24.2
comp=Z,421nm,18.0s
AHID Auburn Hatcher 121.69 300 IAMs_20 IAMs_20 07 25 56.6
comp=Z,486nm,18.0s

KKM	Kota Kinabalu	121.72	135		IAMs_20	IAMs_20	07 10 25.7	
	comp=Z,400nm,20.0s							
NVAR	Mina Array Bea	122.01	292			PKiKP	06 27 55.6	+0.4
NVAR	Mina Array Bea	122.01	292		PKP	PKiKP	06 27 55.4	+0.2
	comp=Z,2.1nm,0.7s,baz=145,slow=3.4,SNR=26							
NVAR					PKKPbc	PKKPbc	06 37 49.8	-1.2
	comp=Z,1.0nm,0.8s,baz=271,slow=4.3,SNR=9.0							
VSU	Vasula	122.03	30	*i*	PKIKP	PKPdf	06 27 52.5	-1.6
TPAW	Teton Pass	122.17	301		IAMs_20	IAMs_20	07 27 30.2	
	comp=Z,418nm,18.0s							
OBN	Obninsk	122.25	37		IAMs_20	IAMs_20	07 26 55.2	
	comp=Z,599nm,19.0s							
OBN	Obninsk	122.25	37	*e*	PKIKP	PKPdf	06 27 54.4	-0.2
OBN				*e*			06 29 29.2	
OBN				*e*	PPP	PPP	06 32 06.4	
OBN					pmax	pmax		
	comp=Z,11nm,1.0s							
NIL	Nilore	122.32	77			PKPdf	06 27 55.2	-0.4
NIL	Nilore	122.32	77		IAMs_20	IAMs_20	07 13 56.5	
	comp=Z,494nm,20.0s							
NIL	Nilore	122.32	77		PKIKP	PKPdf	06 27 55.2	-0.4
LAO	LASA Array	122.41	307		IAMs_20	IAMs_20	07 25 52.4	
	comp=Z,669nm,18.0s							
SMLA	Simla	122.54	82	*e*	P	PKiKP	06 28 10.2	+14
RLMT	Red Lodge	122.61	303		IAMs_20	IAMs_20	07 22 52.8	
	comp=Z,648nm,20.0s							
DHRM	DHARAMSHALA	122.92	80	*e*	P	PKiKP	06 28 12.2	+15
DY2G	Dye2	123.42	351	*i*	P	PKPdf	06 27 56.1	-0.8
HLID	Hailey	123.89	299		IAMs_20	IAMs_20	07 24 03.8	
	comp=Z,469nm,19.0s							
NSS	Namsos	124.04	19	*e*	P	PKPdf	06 27 57.0	-0.7
BOZ	Bozeman (W)	124.07	302		IAMs_20	IAMs_20	07 26 29.4	
	comp=Z,501nm,20.0s							
BELG	Belogornoye	124.16	45	*i*	PKIKP	PKPdf	06 27 56.8	-1.5
DLMT	Dillon	124.35	302		IAMs_20	IAMs_20	07 25 21.9	
	comp=Z,538nm,19.0s							
FINES	FINESS Array B	124.39	27		PKP	PKPdf	06 27 58.4	-0.1
	comp=Z,15nm,0.6s,baz=184,slow=1.5,SNR=65							
CMAR	Chiang Mai Arr	124.46	110		PKP	PKPdf	06 27 60.0	-0.1
	comp=Z,20nm,0.8s,baz=232,slow=3.8,SNR=99							
CMAR	Chiang Mai Arr	124.46	110		PKIKP	PKPdf	06 28 00.0	-0.1
MFID	Camas Ranch	124.48	298		IAMs_20	IAMs_20	07 22 07.3	
	comp=Z,416nm,19.0s							
AGT	Agartala	124.72	99	*e*	P	PKiKP	06 28 13.2	+13
CHTO	Chiang Mai	124.75	110			PKPdf	06 27 59.6	-1.0
CHTO	Chiang Mai	124.75	110		PKIKP	PKPdf	06 27 59.6	-1.0
EGMT	Eagleton	125.00	305		IAMs_20	IAMs_20	07 21 16.9	
	comp=Z,650nm,20.0s							
O02D	Mt. Diablo Mer	125.63	291		IAMs_20	IAMs_20	07 18 53.9	
	comp=Z,557nm,18.0s							
LEIR	Leirfjorden	125.68	19	*e*	P	PKPdf	06 27 59.9	-1.0
PLID	Pearl Lake	125.78	299		IAMs_20	IAMs_20	07 23 01.9	
	comp=Z,573nm,22.0s							
STOK	Stokkvaagen	125.86	18	*e*	P	PKPdf	06 28 00.9	-0.3
MOR8	Moi Rana	125.97	19	*e*	P	PKPdf	06 28 01.4	-0.1
MSO	Missoula	126.06	302		IAMs_20	IAMs_20	07 27 59.2	
	comp=Z,726nm,20.0s							
RAUS	Rausandaksla	126.14	19	*e*	P	PKiKP	06 28 02.2	0.0
BMO	Blue Mountains	126.25	298		IAMs_20	IAMs_20	07 22 45.3	
	comp=Z,600nm,21.0s							
VAGH	Vaagaholmen	126.27	18	*e*	P	PKPdf	06 28 01.9	0.0
SILR	SILCHAR	126.29	100	*e*	P	PKiKP	06 28 16.4	+13
SHL	Shillong	126.40	98	*e*	P	PKiKP	06 28 16.7	+12
ILULI	Ilulissat	126.56	349	*i*	P	PKPdf	06 28 00.9	-1.6
FFC	Flin Flon	126.67	315		IAMs_20	IAMs_20	07 27 52.7	
	comp=Z,598nm,20.0s							
AB31	Akbulak array	127.09	55	*i*	PKIKP	PKPdf	06 28 03.5	-0.6
ABKAR	Akbulak array	127.09	55			PKPdf	06 28 03.9	-0.2
FAUS	Fauske	127.21	19	*e*	P	PKPdf	06 28 03.8	0.0
LOF	Lofoten	127.58	18	*e*	P	PKPdf	06 28 04.4	-0.1
STEI	Steigen	127.69	18	*e*	P	PKPdf	06 28 04.6	0.0
KLMR	Klimovskoe	127.76	34	*e*	PKIKP	PKPdf	06 28 04.2	-0.8
KLMR				*e*			06 30 08.5	
KLMR					pmax	pmax		
	comp=Z,33nm,1.4s							
KK31	Karatay Array	127.83	67	*i*	PKIKP	PKPdf	06 28 05.0	-0.8
KKAR	Karatay Array	127.83	67			PKPdf	06 28 05.2	-0.6
KKAR	Karatay Array	127.83	67		PKIKP	PKPdf	06 28 05.2	-0.6
KSH	Kashi	128.13	74		PKP	PKiKP	06 28 06.8	-0.4
HAWA	Hanford	128.45	298		IAMs_20	IAMs_20	07 20 56.3	
	comp=Z,549nm,20.0s							
SUMG	Summit	128.91	355			PKiKP	06 28 08.3	+0.2
SUMG	Summit	128.91	355		PKIKP	PKiKP	06 28 08.3	+0.2
SUMG	Summit	128.91	355	*i*	P	PKPdf	06 28 06.0	-1.4
KIRV	Kirov	129.44	41	*ce*	PKIKP	PKiKP	06 28 08.6	-0.4
AAK	Ala-Archa	129.57	70		IAMs_20	IAMs_20	07 13 55.3	
	comp=Z,456nm,20.0s							
AAK	Ala-Archa	129.57	70		PKP	PKPdf	06 28 09.4	+0.1
	comp=Z,3.2nm,0.6s,baz=204,slow=2.6,SNR=10							
AAK	Ala-Archa	129.57	70	*ce*	PKIKP	PKiKP	06 28 09.7	-0.4
AAK					pmax	pmax		
	comp=Z,16nm,1.7s							
TRO	Tromso	129.84	19	*e*	P	PKPdf	06 28 08.3	-0.4
JETT	Jettan, Norway	130.04	19	*e*	P	PKPdf	06 28 08.8	-0.4
KTK1	Kautokeino	130.13	21	*e*	P	PKPdf	06 28 08.8	-0.5
QIZ	Qiongzhong	130.43	120		PKP	PKiKP	06 28 12.3	0.0
QIZ					PP	PP	06 30 28.0	+2.5
QIZ					PKS	PKSdf	06 31 49.3	+1.2
QIZ					SS	SS	06 47 57.0	+5.0
QIZ					LR	LR		
	comp=Z,350nm,19.2s							
QIZ					LR	LR		
	comp=Z,220nm,13.3s							
QIZ					LR	LR		
	comp=Z,470nm,20.1s							
ARA0	ARCESS Array S	131.02	21	*e*	P	PKPdf	06 28 10.6	-0.4
ARCES	ARCESS Array B	131.02	21			PKPdf	06 28 10.6	-0.4
ARCES	ARCESS Array B	131.02	21		PKP	PKPdf	06 28 10.4	-0.6
	comp=Z,7.9nm,0.6s,baz=186,slow=1.5,SNR=71							
APA	Apatity	131.22	26	⇓*i*	PKIKP	PKPdf	06 28 10.5	-0.9
APA					MLR	MLR		
	comp=Z,835nm,19.2s							
ARTI	Arti	131.40	48			PKPdf	06 28 12.2	+0.2
ARTI					IAMs_20	IAMs_20	07 19 54.2	
	comp=Z,400nm,20.0s							
ARTI	Arti	131.40	48	*d*	PKIKP	PKPdf	06 28 12.0	-0.1
ARTI					pmax	pmax		
	comp=Z,34nm,1.8s							
HAMF	Hammerfest	131.57	20	*e*	P	PKPdf	06 28 11.9	0.0
PZH	PanZhiHua	132.50	107		PKP	PKiKP	06 28 17.3	+0.9
SVE	Sverdlovsk	132.62	48	*e*	PKIKP	PKPdf	06 28 14.4	0.0
SVE					pmax	pmax		
	comp=Z,23nm,1.4s							
PDGK	Podgornoye	132.69	73		PKIKP	PKPdf	06 28 13.8	-1.4
DAG	Danmarks Havn	132.94	2	*i*	P	PKPdf	06 28 13.0	-1.4
BORK	Borovoye	134.47	57	*ce*	PKIKP	PKiKP	06 28 18.5	-0.9
BORK					pmax	pmax		
	comp=Z,9.0nm,1.0s							
GYA	Guiyang	135.06	112	⇑	PKP	PKPdf	06 28 20.6	+0.5
GYA					PP	PP	06 30 56.9	+1.5
GYA					SKKS		06 37 44.5	
GYA					AMB	AMB		
	comp=Z,270nm,5.6s							
GYA					LR	LR		
	comp=Z,160nm,5.4s							
GYA					LR	LR		
	comp=Z,240nm,6.7s							
GYA					LR	LR		
	comp=Z,400nm,12.5s							
MAKZ	Makanchi	136.31	71			PKiKP	06 28 22.5	-0.9
MAKZ	Makanchi	136.31	71		PKIKP	PKiKP	06 28 22.5	-0.9
MK31	Makanchi Array	136.47	71	*ce*	PKIKP	PKPdf	06 28 21.7	-0.3
MKAR	Makanchi Array	136.47	71			PKPdf	06 28 21.5	-0.5
MKAR	Makanchi Array	136.47	71		PKhKP	PKPpre	06 28 12.4	
	comp=Z,0.5nm,0.6s,baz=220,slow=4.8,SNR=3.8							
MKAR					PKP	PKPdf	06 28 20.6	-1.3
	comp=Z,2.0nm,0.7s,baz=258,slow=4.8,SNR=10							
MKAR					SKPbc	SKPbc	06 31 49.3	-3.8
	comp=Z,1.9nm,1.1s,baz=233,slow=5.3,SNR=3.6							
SPITS	Spitsbergen Ar	136.74	12		PKP	PKPdf	06 28 20.8	-0.7
	comp=Z,5.7nm,0.6s,baz=100,slow=3.6,SNR=6.1							
YKA	Yellowknife Ar	136.75	317		PKP	PKPdf	06 28 21.8	-0.1
	comp=Z,8.5nm,0.9s,baz=131,slow=1.3,SNR=8.0							
YKA					PP	PP	06 31 06.3	+0.6
	comp=Z,4.2nm,1.1s,baz=122,slow=5.2,SNR=4.3							
YKA					SKP		06 31 52.2	
	comp=Z,3.6nm,0.9s,baz=100,slow=3.6,SNR=4.6							
KURBB	Kurchatov Arra	136.94	64		PKhKP	PKPpre	06 28 11.7	
	comp=Z,3.7nm,0.8s,baz=240,slow=3.2,SNR=12							
KURBB					PKP	PKPdf	06 28 21.4	-1.2
	comp=Z,1.8nm,0.7s,baz=238,slow=2.4,SNR=4.5							
KURBB					SKPbc	SKPbc	06 31 51.8	-2.5
	comp=Z,0.9nm,0.8s,baz=233,slow=3.4,SNR=4.4							
KURBB					SKKPbc	SKKPbc	06 40 44.8	-1.4
	comp=Z,1.0nm,0.8s,baz=62,slow=4.4,SNR=4.4							
KURK	Kurchatov	137.04	64			PKPdf	06 28 21.9	-0.9
KURK	Kurchatov	137.04	64	*ce*	PKIKP	PKPdf	06 28 22.3	-0.5
KURK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
CD2	Chengdu	137.06	105		PKP	PKPdf	06 28 24.0	+0.4
WMQ	Urumqi	137.44	78	*e*	PKP	PKiKP	06 28 25.5	-0.3
WMQ					LR	LR		
	comp=Z,710nm,19.9s							
WMQ					LR	LR		
	comp=Z,450nm,22.1s							
WMQ					LR	LR		
	comp=Z,430nm,19.9s							
NOR	Nord	137.81	2	*i*	P	PKPdf	06 28 16.7	-6.7
LZDM	Lanzhou Array	140.85	100		PKhKP	PKPpre	06 28 21.0	
	comp=Z,5.1nm,0.6s,baz=211,slow=5.2,SNR=6.9							
LZDM					PKP	PKPdf	06 28 29.2	-1.6
	comp=Z,1.5nm,0.3s,baz=210,slow=5.0,SNR=4.9							
LZH	Lanzhou	141.03	100	*e*	PKP	PKPdf	06 28 30.3	-0.6
GTA	Gaotai	141.17	92	*e*	PKP	PKPdf	06 28 31.0	0.0
GTA					LR	LR		
	comp=Z,290nm,15.3s							
GTA					LR	LR		
	comp=Z,300nm,16.4s							
GTA					LR	LR		
	comp=Z,230nm,16.0s							
ZALV	Zalesovo Beam	142.01	64		PKhKP	PKPpre	06 28 26.4	
	comp=Z,1.8nm,0.5s,baz=234,slow=3.8,SNR=7.2							
XAN	Xi'an	142.24	107	⇓	PKP	PKPdf	06 28 30.3	-2.6
XAN					LR	LR		
	comp=Z,320nm,18.6s							
XAN					LR	LR		
	comp=Z,330nm,14.7s							
XAN					LR	LR		
	comp=Z,510nm,17.9s							
WHN	Wuhan	142.29	116		PKP	PKiKP	06 28 35.3	-0.8
LYN	LuoYang	144.50	110		PKP	PKPbc	06 28 35.6	+0.1
M31M	Drury Creek, Y	144.60	310		P	PKPbc	06 28 35.0	0.0
	baz=114							
O30N	Mendenhall	144.75	307		P	PKPbc	06 28 35.8	+0.3
	baz=115							
A36M	Sachs Harbour	144.75	328		P	PKPdf	06 28 35.9	-0.2
	baz=108							
P30M	Million Dollar	144.86	306		P	PKPdf	06 28 36.8	+0.1
	baz=115							
N31M	Braeburn, Yuko	144.91	308		P	PKPdf	06 28 36.2	-0.5
	baz=114							
P29M	Windy Craggy	145.00	304		P	PKPdf	06 28 36.9	-0.1
	baz=116							
JOW	Kunigami	145.28	138		PKPbc	PKPbc	06 28 36.9	-1.3
	comp=Z,81nm,0.8s,baz=137,slow=3.7,SNR=9.3							
HYT	Haines Junctio	145.40	306		P	PKPab	06 28 38.6	+0.7
	baz=114							
N30M	Aishikik Lake	145.47	308		P	PKPab	06 28 38.8	+0.7
	baz=114							
O29M	Mount Kennedy	145.67	305		P	PKPab	06 28 38.8	-0.2
	baz=114							
NJ2	Nanjing	145.73	120	*e*	PKPbc	PKPab	06 28 39.8	0.0
MAYO	Mayo, Yukon	145.77	312		P	PKPab	06 28 38.9	-0.2
	baz=111							
M30M	Minto, Yukon	145.78	310		P	PKPbc	06 28 38.5	-0.3
	baz=112							
PNL	Peninsula	145.78	304		P	PKPab	06 28 39.2	-0.1
	baz=115							
YUK6	Outpost Mounta	145.83	306		P	PKPab	06 28 39.3	-0.4
	baz=113							
H31M	Peel River	145.91	316		P	PKPbc	06 28 39.0	-0.1
	baz=109							
F31M	Tsiigehtchic	146.20	319		P	PKPbc	06 28 39.3	-0.5
	baz=107,SNR=16							
G31M	Satah River	146.24	318		P	PKPbc	06 28 39.6	-0.3
	baz=108,SNR=19							
J30M	Hart River	146.29	313		P	PKPbc	06 28 39.9	-0.4
	baz=110							
PINM	Pinnacle	146.35	304		P	PKPbc	06 28 40.0	-0.6
	baz=114							
INK	Inuvik	146.38	320		P	PKPbc	06 28 40.0	-0.3
	baz=106,SNR=34							
M29M	Somme Creek	146.45	309		P	PKPbc	06 28 40.4	-0.4
	baz=111,SNR=25							
I30M	Mount Dempster	146.53	314		P	PKPbc	06 28 40.6	-0.5
	baz=109							
K29M	Barlow Dome	146.54	312		P	PKPbc	06 28 40.9	-0.2
	baz=110,SNR=35							
L29M	L29M	146.54	310		P	PKPab	06 28 41.5	-0.6
	baz=111,SNR=77							
O28M	Mount Upton	146.59	305		P	PKPbc	06 28 41.6	+0.1
	baz=113							
KNGR	Kungurtug, Tuv	146.85	76	*i*	PKP2	PKPdf	06 28 40.8	+0.3
TIY	Taiyuan	146.88	107		PKPbc	PKPbc	06 28 42.3	-0.5
G30M	tAoh Zraii Nji	146.99	317		P	PKPbc	06 28 41.8	-0.4
	baz=106							
F30M	Barrier River	147.00	318		P	PKPbc	06 28 42.0	-0.2
	baz=106							
EPYK	Eagle Plains	147.01	316		P	PKPbc	06 28 41.4	-0.9
	baz=107							
J29N	Klondike Camp	147.03	312		P	PKPbc	06 28 42.5	0.0
	baz=108,SNR=5.9							
MESA	MESA	147.17	304		P	PKPbc	06 28 42.7	-0.4
	baz=112							
CTG	Chitna Glacier	147.18	305		P	PKPbc	06 28 43.0	0.0
	baz=112,SNR=6.8							
I29M	Ogilvie Camp,	147.34	314		P	PKPbc	06 28 41.9	-1.3
	baz=107,SNR=22							
DAWY	Dawson	147.39	311		P	PKPbc	06 28 42.8	-0.6
	baz=108							
H29M	Whitestone	147.61	315		P	PKPbc	06 28 43.4	-0.5
	baz=106,SNR=37							
BTO	Baotou	147.64	100	*e*	PKPbc	PKPdf	06 28 40.9	-1.2
BTO					PKPab	sPKPdf	06 28 47.5	-1.1
BTO					pPKP	sPKPab	06 28 51.8	-1.8
BTO					PP	PP	06 32 15.8	+3.6
BTO					LR	LR		
	comp=Z,620nm,11.2s							
BTO					LR	LR		
	comp=Z,550nm,6.2s							
BTO					LR	LR		
	comp=Z,760nm,18.3s							
G29M	Pine Creek	147.66	317		P	PKPbc	06 28 43.7	-0.3
	baz=105							
HNS	HongShan	147.85	109	⇓	PKPbc	PKPbc	06 28 45.5	+0.1
CRQE	Cirque	147.91	304		P	PKPbc	06 28 44.1	-0.9
	baz=111							
E29M	Blow River	147.97	320		P	PKPbc	06 28 44.3	-0.4
	baz=103							
I28M	Miner Creek	148.02	314		P	PKPbc	06 28 44.6	-0.5
	baz=106,SNR=19							
MCARA	McCarthy VSAT	148.09	306		P	PKPbc	06 28 45.1	-0.2
	baz=110,SNR=5.8							
BCAR	Beaver Creek A	148.09	309			PKPdf	06 28 41.4	-0.7
BCAR					PKPbc	pPKPdf	06 28 45.9	-1.0
L27K	Beaver Creek,	148.11	309		P	PKPbc	06 28 44.7	-0.6
	baz=108							
TIA	Tai'an	148.19	114		PKPbc	PKPdf	06 28 44.4	+1.4
TIA					LR	LR		
	comp=Z,1μm,20.3s							
TIA					LR	LR		
	comp=Z,660nm,22.6s							
TIA					LR	LR		
	comp=Z,1μm,20.1s							
KAIM	Kayak Island	148.22	303		P	PKPbc	06 28 44.9	-0.8
	baz=111							
EGAK	Eagle	148.33	312		P	PKPbc	06 28 45.1	-0.7
	baz=106							
K27K	Chicken	148.51	311		P	PKPbc	06 28 46.2	-0.1
	baz=106							
F28M	Old Crow	148.52	318		P	PKPbc	06 28 46.1	-0.1
	baz=102							
E28M	Babbage River	148.60	320		P	PKPbc	06 28 45.6	-0.8
	baz=101							
HHC	Hu-ho-hao-te	148.66	102	*e*	PKPbc	PKPdf	06 28 42.4	-1.4
BMRM	Bremner River	148.68	304		P	PKPbc	06 28 47.0	+0.1
	baz=110							
H27K	Steamboat Moun	148.85	315		P	PKPbc	06 28 47.0	-0.2
	baz=103,SNR=19							
N25K	Chitina, Valde	148.88	306		P	PKPbc	06 28 47.9	+0.5
	baz=109							
G27K	Doyon Strip	149.03	316		P	PKPbc	06 28 47.5	-0.1
	baz=102,SNR=8.6							
EYAK	Cordova Ski Ar	149.06	303		P	PKPbc	06 28 47.7	0.0
	baz=110,SNR=7.8							
D27M	Malcolm River	149.22	321			PKiKP	06 28 48.6	-0.6
D27M	Malcolm River	149.22	321		P	PKPbc	06 28 48.1	0.0
	baz=99							
MOY	Mondy	149.27	76	*e*	PKIKP	PKPdf	06 28 44.0	-0.4
MOY					pmax	pmax		
	comp=Z,74nm,2.3s							
E27K	Coleen River	149.28	319		P	PKPbc	06 28 48.2	+0.1
	baz=100							
I26K	Coal Creek Min	149.29	313		P	PKPbc	06 28 48.3	+0.1
	baz=104							
SCRK	Sand Creek	149.30	310		P	PKPbc	06 28 48.7	+0.2
	baz=105							
HARP	HAARP	149.38	307		P	PKPbc	06 28 48.8	+0.2
	baz=107							
KLU	Klutina	149.45	305		P	PKPbc	06 28 49.0	+0.2
	baz=108,SNR=9.6							
RIDG	Independent Ri	149.61	309		P	PKiKP	06 28 49.5	-0.7
	baz=105							
P23K	Montague Islan	149.66	302		P	PKPbc	06 28 49.2	0.0
	baz=110							
PAX	Paxson	149.68	308		P	PKPbc	06 28 49.3	-0.1
	baz=106							
M24K	Tolsona, Glenn	149.75	306		P	PKiKP	06 28 50.1	-0.4
	baz=107							
GLI	Glacier Island	149.80	303		P	PKiKP	06 28 50.1	-0.5
	baz=108							
ZAK	Zakamensk	149.87	80	*e*	PKIKP	PKPdf	06 28 44.2	-1.2
ZAK					pmax	pmax		
	comp=Z,51nm,1.8s							
G26K	Porcupine Rive	149.88	316		P	PKiKP	06 28 50.0	-0.5
	baz=100,SNR=12							
K24K	Donnelly Dome	150.03	309		P	PKPbc	06 28 50.3	+0.2
	baz=104							
F26K	Sheenjek River	150.14	317		P	PKiKP	06 28 50.9	-0.3
	baz=99,SNR=7.1							
SCM	Sheep Creek Mo	150.19	305		P	PKPbc	06 28 50.8	+0.2
	baz=107							
SONM	Songino Array	150.21	86			PKPdf	06 28 43.8	-2.2
SONM					PKPbc	sPKPdf	06 28 51.1	-1.4
SONM	Songino Array	150.21	86		PKPbc	PKPbc	06 28 50.9	-0.3
	comp=Z,15nm,0.9s,baz=200,slow=3.6,SNR=14							
C27K	Jago River	150.23	321		P	PKiKP	06 28 51.4	+0.2
	baz=96,SNR=9.2							
BMAR	Burnt Mountain	150.27	317			PKiKP	06 28 51.6	+0.2
PRP	Porcupine Dome	150.30	313		P	PKiKP	06 28 51.1	-0.5
	baz=102							
M23K	Glacier View	150.36	305		P	PKPbc	06 28 51.1	+0.1
	baz=106,SNR=13							
PWL	Port Wells	150.37	303		P	PKiKP	06 28 51.3	-0.4
	baz=108							
DHY	Denali Highway	150.54	308		P	PKiKP	06 28 51.8	-0.4
	baz=104							
H25L	Birch Creek	150.56	314		P	PKiKP	06 28 51.8	-0.2
	baz=100							
BJI	Beijing	150.57	108		PKPbc	PKPdf	06 28 48.9	+2.2
BJI					PKS	PKSdf	06 32 20.3	-1.0
BJI					PP	PP	06 32 35.4	+6.5
BJI					SKS	SKSdf	06 35 52.1	-1.0
BJI					AMB	AMB		
	comp=Z,220nm,6.1s							
BJI					LR	LR		
	comp=Z,350nm,18.2s							
BJI					LR	LR		
	comp=Z,250nm,15.5s							
BJI					LR	LR		
	comp=Z,470nm,17.8s							
WAT6	Susitna Watana	150.58	307		P	PKiKP	06 28 52.4	0.0
	baz=105,SNR=5.9							
KNK	Knik Glacier	150.59	304		P	PKiKP	06 28 51.8	-0.4
	baz=107,SNR=12							
ULN	Ulaanbaatar	150.59	87			PKPdf	06 28 46.6	-0.1
ULN					PKPbc	sPKPdf	06 28 51.7	-1.5
ULN	Ulaanbaatar	150.59	87		PKIKP	PKPdf	06 28 46.6	-0.1
ULN							06 28 51.7	
SML	Sawmill	150.64	305		P	PKiKP	06 28 52.0	-0.4
	baz=106,SNR=17							
SEW	Seward	150.66	301		P	PKPbc	06 28 51.8	+0.1
	baz=108							
HDA	Harding Lake	150.66	310		P	PKPbc	06 28 51.4	-0.2
	baz=102							
C26K	Camden Bay	150.68	322		P	PKiKP	06 28 52.1	0.0
	baz=94							
F25K	Christian Rive	150.70	317		P	PKiKP	06 28 52.1	-0.2
	baz=98,SNR=9.9							
ILAR	Eielson Array	150.72	311			PKPdf	06 28 42.7	-3.4
ILAR	Eielson Array	150.72	311		PKPbc	PKPbc	06 28 51.7	0.0
	comp=Z,2.4nm,0.9s,baz=304,slow=0.8,SNR=15							
ILAR	Eielson Array	150.72	311		PKIKP	PKPdf	06 28 42.7	-3.4
E25K	Arctic Village	150.74	318		P	PKiKP	06 28 52.4	+0.1
	baz=97,SNR=16							
G25K	Bearman Lake	150.75	315		P	PKiKP	06 28 52.7	+0.3
	baz=99,SNR=24							
O22K	Cooper Landing	150.91	302		P	PKiKP	06 28 52.5	-0.3
	baz=107							
PMR	Palmer	150.95	304		P	PKiKP	06 28 52.8	0.0
	baz=106,SNR=7.7							
WAT1	Susitna Watana	151.00	307		P	PKiKP	06 28 52.6	-0.4
	baz=104							
POKR	Poker Plat Res	151.01	312		P	PKiKP	06 28 52.6	-0.4
	baz=101							
RC01	Rabbit Creek A	151.09	303		P	PKiKP	06 28 53.0	-0.2
	baz=106							
COLA	College	151.14	311			PKiKP	06 28 52.7	-0.4
COLA	College	151.14	311		PKIKP	PKiKP	06 28 52.7	-0.4
COLA	College	151.14	311		P	PKPbc	06 28 52.6	0.0
	baz=101							
D25K	K

M20K	Styx River	152.87	304	P	PKPbc	06 28 56.3	-0.5
	baz=103						
CHUM	Lake Minchumin	152.88	308	P	PKiKP	06 28 56.6	-0.2
	baz=99						
G22K	Bettles	152.90	315	P	PKiKP	06 28 57.0	+0.2
	baz=94						
I21K	Tanana	152.92	311	P	PKiKP	06 28 57.1	+0.2
	baz=97						
Q18K	Katmai Hardscr	152.93	296	P	PKiKP	06 28 57.0	-0.2
	baz=108						
O19K	Port Alsworth	153.02	300	P	PKPbc	06 28 56.4	-0.7
	baz=105						
E22K	Anaktuvuk Pass	153.07	318	P	PKiKP	06 28 57.1	-0.1
	baz=91						
F22K	John River	153.19	316	P	PKiKP	06 28 57.5	+0.1
	baz=92						
P18K	Big Mountain,	153.25	298	P	PKPbc	06 28 56.8	-0.8
	baz=106						
N19K	Bonanza Creek	153.26	301	IAMs_20	IAMs_20	07 37 54.3	
	comp=Z,468nm,21.0s						
R17L	Mt. Peulik Vol	153.29	294	P	PKPbc	06 28 57.4	-0.3
	baz=109						
O18K	Koktuh Hills	153.37	299	P	PKPbc	06 28 57.6	-0.3
	baz=105						
D22K	Ayikyak River	153.39	319	P	PKiKP	06 28 58.4	+0.6
	baz=89						
M19K	Big River Lodg	153.45	304	P	PKiKP	06 28 58.3	+0.2
	baz=102						
B22K	Teshekpuk Lake	153.58	323	P	PKiKP	06 28 59.0	+0.9
	baz=86						
G21K	Allakaket	153.66	314	P	PKiKP	06 28 58.4	0.0
	baz=93						
F21K	Alatna River	153.68	316	P	PKiKP	06 28 58.7	+0.3
	baz=92						
Q16K	King Salmon	153.76	296	P	PKiKP	06 28 58.8	0.0
	baz=107						
E21K	Killik River	153.87	318	P	PKiKP	06 28 59.7	+0.9
	baz=89						
R16K	Pilot Point	153.89	293	P	PKiKP	06 28 59.5	+0.4
	baz=108						
I20K	Naaghedeneel	153.93	310	P	PKiKP	06 28 59.4	+0.5
	baz=96						
CHNA	Chernabura Isl	153.99	286	P	PKiKP	06 28 59.7	+0.3
	baz=113						
A22K	Sinclair Lake	154.02	324	P	PKiKP	06 28 59.3	+0.3
	baz=83						
M18K	Stony River	154.04	302	P	PKiKP	06 28 59.9	+0.6
	baz=102						
B21K	Ikpikpuk River	154.05	321		PKiKP	06 29 00.2	+1.2
B21K	Ikpikpuk River	154.05	321	P	PKiKP	06 28 59.9	+0.8
	baz=86						
C21K	Knifeblade Rid	154.14	320	P	PKiKP	06 29 00.4	+1.1
	baz=87						
H20K	Anotleneega Mo	154.16	312	P	PKiKP	06 29 00.1	+0.7
	baz=94						
O17K	Koliganek Bris	154.27	298	P	PKiKP	06 29 00.4	+0.6
	baz=104						
KSAR	Wonju Array Be	154.36	127		PKiKP	06 29 01.2	+0.5
KSRS	Korea Array	154.39	127	PKPbc	PKPbc	06 29 00.4	-0.3
	comp=Z,6.2nm,0.8s,baz=203,slow=2.6,SNR=12						
KSRS				PKPab	PKPab	06 29 14.8	-0.2
	comp=Z,4.7nm,0.8s,baz=222,slow=4.9,SNR=6.6						
N17K	Nushagak Hills	154.49	300	P	PKiKP	06 29 01.4	+1.2
	baz=103						
S14K	Fog Glacier	154.50	290	P	PKiKP	06 29 01.4	+0.9
	baz=110						
A21K	Barrow	154.50	325	P	PKiKP	06 29 01.2	+1.3
	baz=80						
P16K	Nushagak River	154.52	296	P	PKiKP	06 29 01.4	+1.1
	baz=105						
F20K	Avaraart Lake	154.56	315	P	PKiKP	06 29 01.5	+1.3
	baz=90						
SDPT	Sand Point	154.66	287	P	PKiKP	06 29 01.5	+0.8
	baz=111						
E20K	Nigu River	154.70	318	P	PKiKP	06 29 01.6	+1.1
	baz=87						
O16K	Kokwok River B	154.72	298	P	PKiKP	06 29 01.8	+1.1
	baz=104						
J18K	Innoko River	154.76	307	P	PKiKP	06 29 01.9	+1.2
	baz=97						
M17K	Holitna River	154.78	302	P	PKiKP	06 29 01.5	+0.7
	baz=101						
H19K	Roundabout Mou	154.81	312	P	PKiKP	06 29 01.5	+0.8
	baz=93						
D20K	Etivluk River	154.83	319	P	PKiKP	06 29 01.5	+0.7
	baz=86						
B20K	Meade River	154.88	322	P	PKiKP	06 29 02.2	+1.5
	baz=82						
GCSA	Galena City Sc	154.95	310	P	PKPab	06 29 18.9	+2.2
	baz=94						
E19K	Redstone River	155.13	316	P	PKPab	06 29 19.3	+1.9
	baz=88						
N16K	Nishlik Lake	155.24	299	P	PKPab	06 29 19.6	+1.5
	baz=102						
L17K	Donlin	155.31	303	P	PKPab	06 29 19.4	+1.1
	baz=98						
F19K	Shaleruckik Mo	155.37	315	P	PKPab	06 29 19.9	+1.4
	baz=89						
K17K	Iditarod	155.39	305	P	PKPab	06 29 20.0	+1.4
	baz=97						
D19K	Kuna River	155.40	319	P	PKPab	06 29 19.8	+1.2
	baz=85						
M16K	Timber Creek	155.44	301	P	PKPab	06 29 21.3	+2.4
	baz=100						
O15K	Ungalikthiuk R	155.48	296	P	PKPab	06 29 21.6	+2.5
	baz=104						
H18K	Honhosa River	155.60	311	P	PKPab	06 29 22.1	+2.6
	baz=92						
S12K	Black Hills	155.62	287	P	PKPab	06 29 21.7	+1.8
	baz=110						
G18K	Tagagawik	155.74	312	P	PKPab	06 29 22.1	+2.0
	baz=90						
L16K	Owhat River	155.79	302	P	PKPab	06 29 22.0	+1.6
	baz=99						
N15K	Kwethluk River	155.82	298	P	PKPab	06 29 22.3	+1.7
	baz=102						
C19K	Lookout Ridge	155.85	320	P	PKPab	06 29 22.6	+2.0
	baz=82						
FALS	False Pass	156.05	285	P	PKPab	06 29 22.8	+1.1
	baz=111						
F18K	Selawik	156.12	314	P	PKPab	06 29 23.4	+1.7
	baz=87						
A19K	Wainwright	156.17	323	P	PKPab	06 29 23.4	+1.7
	baz=78						
M15K	Kasigluk River	156.21	299	P	PKPab	06 29 23.5	+1.3
	baz=100						
O14K	Tigyukauivet M	156.21	296	P	PKPab	06 29 23.7	+1.4
	baz=103						
H17K	Granite Mounta	156.26	310	P	PKPab	06 29 23.6	+1.2
	baz=91						
E18K	Tukpahlearik C	156.43	316	P	PKPab	06 29 24.8	+1.8
	baz=85						
J16K	Anvik River	156.49	306	P	PKPab	06 29 25.0	+1.6
	baz=94						
C18K	Utukok River	156.50	319	P	PKPab	06 29 25.1	+1.8
	baz=81						
N14K	Kuskokwak Cree	156.56	297	P	PKPab	06 29 24.8	+1.1
	baz=101						
I17K	Unalakleet	156.56	307	P	PKPab	06 29 25.4	+1.8
	baz=93						
G17K	Kiwalik Mounta	156.57	312	P	PKPab	06 29 25.7	+2.0
	baz=89						
B18K	Kokolik River	156.59	321	P	PKPab	06 29 25.4	+1.8
	baz=79						
L15K	Ungalak Mounta	156.74	302	P	PKPab	06 29 26.3	+1.8
	baz=97						
F17K	Baldwin Pennin	156.77	314	P	PKPab	06 29 26.2	+1.8
	baz=86						
K15K	Wolf Creek Mou	156.83	303	P	PKPab	06 29 26.6	+1.7
	baz=96						
M14K	Bethel	156.84	299	P	PKPab	06 29 26.6	+1.7
	baz=99						
E17K	Hotham Inlet	156.94	316	P	PKPab	06 29 27.2	+2.0
	baz=84						
RDOG	Red Dog Mine	157.22	318	P	PKPab	06 29 27.9	+1.5
	baz=81						
H16K	Elim	157.25	309	P	PKPab	06 29 27.8	+1.2
	baz=90						
L14K	Kuka Creek	157.27	301	P	PKPab	06 29 28.1	+1.4
	baz=97						
G16K	Koyuk River	157.28	311	IAMs_20	IAMs_20	07 46 36.2	
	comp=Z,463nm,21.0s						
G16K	Koyuk River	157.28	311	P	PKPab	06 29 28.2	+1.5
	baz=88						
D17K	Noatak River	157.34	317	P	PKPab	06 29 28.7	+1.8
	baz=81						
UNV	Unalaska Valle	157.35	280	P	PKPab	06 29 28.2	+0.9
	baz=113						
M13K	Dall Lake	157.47	298	P	PKPab	06 29 29.2	+1.6
	baz=99						
MJAR	Matsushiro Arr	157.57	145		PKPab	06 29 29.2	+0.5
MJAR	Matsushiro Arr	157.57	145	PKPab	PKPab	06 29 28.3	-0.5
	comp=Z,111nm,0.8s,baz=184,slow=4.5,SNR=12						
J14K	Nanvaranak Lak	157.80	304	P	PKPab	06 29 30.1	+1.1
	baz=93						
G15K	Niukluk	158.01	310	P	PKPab	06 29 30.6	+0.8
	baz=87						
C16K	Lisburne Hills	158.07	319	P	PKPab	06 29 31.3	+1.2
	baz=78						
F15K	North Star Dit	158.21	312	IAMs_20	IAMs_20	07 44 13.8	
	comp=Z,472nm,20.0s						
F15K	North Star Dit	158.21	312	P	PKPab	06 29 31.8	+1.1
	baz=85						
K13K	Kusilvak Mount	158.26	302	P	PKPab	06 29 33.2	+2.2
	baz=94						
NIKH	Nikolski High	158.30	277	P	PKPab	06 29 33.1	+1.6
	baz=114						
ANM	Nome	158.60	309	P	PKPab	06 29 34.1	+1.6
	baz=87						
M11K	Mekoryuk	158.86	298	P	PKPab	06 29 34.8	+1.2
	baz=97						
F14K	Arctic Creek	158.93	312	P	PKPab	06 29 35.3	+1.4
	baz=84						
TNA	Tin City	159.58	312	IAMs_20	IAMs_20	07 39 28.9	
	comp=Z,454nm,21.0s						
TNA	Tin City	159.58	312	P	PKPab	06 29 36.4	-0.3
	baz=82						
P08K	Saint George I	159.89	286	P	PKPab	06 29 37.8	-0.5
	baz=105						
SPIA	Saint Paul Isl	160.40	287	P	PKPab	06 29 38.4	-2.0
	baz=103						
BNX	BinXian	160.44	112	⇑P	PKPab	06 29 39.8	-1.2
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
USRK	Ussuriysk Ar.	161.62	122	PKPab	PKPab	06 29 45.9	-0.3
	comp=Z,4.2nm,0.6s,baz=304,slow=0.5,SNR=5.3						
HEH	HeiHe	163.17	100	PKP	PKPdf	06 29 01.3	-1.1
HEH				LR	LR		
	comp=Z,230nm,19.4s						
HEH				LR	LR		
	comp=Z,280nm,19.0s						
HEH				LR	LR		
	comp=Z,560nm,19.3s						
ZEA	Zeya	164.61	89	*e*PKP2	PKPab	06 30 05.3	+6.2
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS	Yuzhno-Sakhali	168.39	139	*i* PKIKP	PKPdf	06 29 12.4	+5.7
YSS				*e*		06 30 15.1	
YSS				*e*		06 34 04.0	
YSS				*e*		06 36 10.5	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PETK	Petropavlovsk-	176.04	217	PKP	PKPdf	06 29 11.1	+1.2
	comp=Z,8.4nm,1.0s,baz=147,slow=3.5,SNR=4.4						
PETK				PKPab	PKPab	06 30 51.0	+1.4
	comp=Z,6.2nm,0.9s,baz=160,slow=5.6,SNR=3.9						

*IDC **13** 06:15:15.0± 1.2, 30°.66S× 177°.52W, h0km, mb3.9/2, mbtmp4.1/4, ML3.1/2, MS3.6/2, Error ellipse: s-maj=35.6km s-min=23.0km az=126.0*
*NEIC **13** 06:15:22.0± 1.5, 30°.44S± 0°.05× 177°.6W± 0°.2, h35km± 2km, mb4.3/11, Error ellipse: s-maj=28.9km s-min=7.4km az=94.0*
ISC 13 06:15:20.8± 0.8, **30°.45S**± 0°.06× **177°.6W**± 0°.1, **h33**km, **n32**, σ1§**39**/25, **mb4.2**/9, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.22	348		Pb	06 15 42.2	-1.2
RAO	Raoul Island	1.22	348	Pn	Pn	06 15 41.4	-0.1
	128nm,0.3s,baz=45,slow=18,SNR=7.9						
RAO				Sn	Sn	06 15 55.7	-1.2
	524nm,0.3s,baz=26,slow=22,SNR=7.6						
URZ	Urewera	8.92	208	Pn	Pn	06 17 22.0	-5.4
	0.2nm,0.3s,baz=166,slow=17,SNR=1.7						
URZ				Sn	Sn	06 19 02.0	-4.7
	2.0nm,0.3s,baz=215,slow=22,SNR=10						
	5.0nm,0.8s						
BKZ	Black Stump Fm	9.95	207		Pn	06 17 41.2	-0.3
DZM	Mont Dzumac	16.54	297	LR	LR	06 24 10.9	
	comp=Z,66nm,20.9s,baz=132,slow=32						
RAR	Rarotonga	18.49	64	P	P	06 19 32.3	-1.8
	0.6nm,0.3s,baz=61,slow=12,SNR=2.3						
	12nm,0.8s						
CTAO	Charters Tower	34.13	279	P	P	06 22 04.8	+2.0
CTAO				IAmb	IAmb	06 22 05.5	
	comp=Z,4.8nm,0.9s						
PMG	Port Moresby	38.92	295	P	P	06 22 43.5	-0.2
PMG				IAmb	IAmb	06 22 58.0	
	comp=Z,6.8nm,0.9s						
BBOO	Buckleboo	39.27	254	P	P	06 22 47.0	+0.5
ASAR	Alice Springs	43.43	267	P	P	06 23 21.0	+0.2
	comp=Z,0.5nm,0.4s,baz=113,slow=8.5,SNR=5.0						
	comp=Z,0.5nm,0.4s						
WR8	Warramunga Arr	44.28	272	P	P	06 23 28.0	+0.4
WR8				IAmb	IAmb	06 23 28.8	
	comp=Z,3.3nm,0.8s						
WB2	Warramunga Arr	44.41	272	P	P	06 23 28.6	-0.1
WB2				IAmb	IAmb	06 23 29.9	
	comp=Z,3.4nm,0.7s						
WRAB	Tennant Creek	44.42	272	P	P	06 23 29.2	+0.5
WRAB				IAmb	IAmb	06 23 29.9	
	comp=Z,2.2nm,0.8s						
WRA	Warramunga Arr	44.42	272	P	P	06 23 29.5	+0.7
WRA	Warramunga Arr	44.42	272	P	P	06 23 28.3	-0.5
	comp=Z,1.4nm,0.4s,baz=111,slow=8.2,SNR=18						
	comp=Z,1.4nm,0.4s						
WB0	Warramunga Arr	44.45	272	P	P	06 23 29.4	+0.4
WB0				IAmb	IAmb	06 23 36.9	
	comp=Z,1.9nm,0.7s						
FITZ	Fitzroy Crossi	52.69	270	P	P	06 24 33.6	+1.3
CASY	Casey	55.25	208	P	P	06 24 50.7	+0.4
CASY				IAmb	IAmb	06 24 51.1	
	comp=Z,3.7nm,0.7s						
QSPA	South Pole Qui	59.66	180	P	P	06 25 23.7	+2.0
KAPI	Kappang	63.94	280	LR	LR	06 55 11.0	
	comp=Z,164nm,18.4s,baz=44,slow=37						
H03S2	Juan Fernandez	80.17	123	T	T	07 56 34.9	
	baz=238,slow=75,SNR=13						
H03S1	Juan Fernandez	80.18	123	T	T	07 56 34.8	
	baz=238,slow=75,SNR=15						
H03S3	Juan Fernandez	80.18	123	T	T	07 56 39.5	
	baz=238,slow=75,SNR=14						
H03N3	Juan Fernandez	80.36	123	T	T	07 56 47.2	
	baz=242,slow=72,SNR=7.0						
H03N2	Juan Fernandez	80.36	123	T	T	07 56 51.9	
	baz=242,slow=72,SNR=7.7						
H03N1	Juan Fernandez	80.37	123	T	T	07 56 50.7	
	baz=242,slow=72,SNR=9.4						
KURBB	Kurchatov Arra	121.36	314	PKP	PKPdf	06 34 10.0	-0.2
	comp=Z,0.5nm,0.6s,baz=92,slow=2.8,SNR=4.1						
FINES	FINESS Array B	145.30	340	PKPbc	PKPdf	06 34 54.5	+0.1
	comp=Z,3.2nm,0.4s,baz=64,slow=3.2,SNR=32						
NB2	NORSAR Subarra	148.85	352	PKP	PKiKP	06 35 05.5	-0.2
	comp=Z,0.6nm,0.7s,baz=19,slow=2.9						
NOA	NORSAR Array B	148.85	352	PKPbc	PKPdf	06 35 02.1	+1.6
	comp=Z,0.5nm,0.8s,baz=13,slow=2.7,SNR=3.7						
HFS	Hagfors	149.36	349	PKPbc	PKPbc	06 35 05.9	+0.3
	comp=Z,3.0nm,1.0s,baz=67,slow=5.0,SNR=6.0						
AKASG	Malin Array Be	151.54	323	PKPbc	PKiKP	06 35 11.4	-0.1
	comp=Z,1.9nm,0.6s,baz=52,slow=2.6,SNR=8.7						

*IDC **13** 06:18:48.9± 0.9, 53°.58N× 161°.35E, h0km, mb3.9/16, mbtmp3.9/17, ML3.0/1, Error ellipse: s-maj=25.1km s-min=16.6km az=131.0*
*MOS **13** 06:18:50.7± 1.0, 53°.24N× 161°.77E, h41km, mb4.3/5, Error ellipse: s-maj=8.0km s-min=4.9km az=99.3*
*KRSC **13** 06:18:51.3± 1.3, 53°.37N× 161°.50E, h41km± 18km, Ml4.2*
ISC 13 06:18:52.1± 0.8, **53°.31N**± 0°.07× **161°.58E**± 0°.08, **h36**km± 2km, **n94**, σ1§**44**/104, **mb3.9**/19, **2C-4D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.25	4	PN	Pn	06 19 12.9	-0.1
MKZ				S	Sn	06 19 27.7	-1.0
MKZ	Mys Kozlova	1.25	4	*e*P	Pn	06 19 13.0	-0.1
MKZ				*e*S	Sn	06 19 27.7	-1.0
NLC	Nalytchevo	1.35	265	PN	Pn	06 19 14.3	0.0
NLC				S	Sn	06 19 30.1	-0.9
NLC	Nalytchevo	1.35	265	*e*P	Pn	06 19 14.4	0.0
NLC				*e*S	Sn	06 19 30.1	-0.9
KII	Karymskiy	1.47	301	PN	Pn	06 19 15.3	-0.7
KII	Karymskiy	1.47	301	*e*P	Pn	06 19 15.3	-0.7
SDLR	Sedlovina	1.62	270	PN	Pn	06 19 18.7	+0.5
SDLR	Sedlovina	1.62	270	*e*P	Pn	06 19 18.8	+0.5
SMAR	Somma	1.67	270	PN	Pn	06 19 19.1	+0.1
SMAR	Somma	1.67	270	*e*P	Pn	06 19 19.1	+0.1
KRER	Koryakskii	1.70	271	PN	Pn	06 19 20.1	+0.7
KRER	Koryakskii	1.70	271	*e*P	Pn	06 19 20.2	+0.7
AVH	Avacha	1.71	270	PN	Pn	06 19 20.0	+0.7
AVH	Avacha	1.71	270	*e*P	Pn	06 19 20.1	+0.7
DALK	Dalny	1.73	262	PN	Pn	06 19 19.7	+0.2
DALK				S	Sn	06 19 39.6	-0.6
DALK	Dalny	1.73	262	*e*P	Pn	06 19 19.7	+0.2
DALK				*e*S	Sn	06 19 39.7	-0.6
KRX	Arik	1.76	273	PN	Pn	06 19 20.5	+0.4
KRX	Arik	1.76	273	*e*P	Pn	06 19 20.5	+0.4
KOK	Koryaka	1.77	271	PN	Pn	06 19 20.9	+0.7
KOK	Koryaka	1.77	271	*e*P	Pn	06 19 20.9	+0.7
PET	Petropavlovsk	1.79	262	*e*PN	Pn	06 19 21.2	+0.8
PET				*e*S	Sn	06 19 42.8	+1.0
PET				pmax	pmax		
	comp=Z,120nm,0.4s						
PET				smax	smax		
	comp=E,347nm,0.4s						
PET				smax	smax		
	comp=N,516nm,0.5s						
PET	Petropavlovsk	1.79	262	*e*P	Pn	06 19 20.9	+0.6
INSR	Institute	1.81	264	PN	Pn	06 19 22.0	+1.4
INSR	Institute	1.81	264	*e*P	Pn	06 19 22.1	+1.4
KZV	Kizimen	1.96	338	PN	Pn	06 19 23.4	+0.5
KZV	Kizimen	1.96	338	*e*P	Pn	06 19 23.5	+0.5
RUS	Russkaya	2.06	246	PN	Pn	06 19 25.5	+1.4
RUS	Russkaya	2.06	246	*e*P	Pn	06 19 25.5	+1.4
KRMR	Karymshinskiy	2.14	258	PN	Pn	06 19 26.2	+1.1
KRMR				S	Sn	06 19 50.5	+0.1
KRMR	Karymshinskiy	2.14	258	*e*P	Pn	06 19 26.3	+1.1
KRMR				*e*S	Sn	06 19 50.6	+0.1
TUMR	Tumrok	2.15	338	PN	Pn	06 19 26.6	+1.1
TUMR				S	Sn	06 19 51.7	+0.7
TUMR	Tumrok	2.15	338	*e*P	Pn	06 19 26.7	+1.1
TUMR				*e*S	Sn	06 19 51.7	+0.7
GNL	Ganaly	2.21	282	PN	Pn	06 19 27.7	+1.4
GNL	Ganaly	2.21	282	*e*P	Pn	06 19 27.8	+1.4
MTVR	Mutnovka	2.22	250	PN	Pn	06 19 27.3	+0.9
MTVR	Mutnovka	2.22	250	*e*P	Pn	06 19 27.4	+0.9
GRL	Gorelyy	2.25	252	PN	Pn	06 19 28.7	+1.8
GRL	Gorelyy	2.25	252	*e*P	Pn	06 19 28.7	+1.8
PEA0B	Petropavlovsk-	2.34	267	PN	Pn	06 19 29.5	+1.4
PETK	Petropavlovsk-	2.34	267	Pn	Pn	06 19 28.5	+0.4
	comp=N,19nm,0.3s,baz=85,slow=20,SNR=298						
PETK				Sn	Sn	06 19 56.8	+1.2
	comp=N,16nm,0.3s,baz=110,slow=13,SNR=6.9						
	comp=N,40nm,0.4s						
ASAK	Asacha	2.42	249	PN	Pn	06 19 31.2	+2.1
ASAK	Asacha	2.42	249	*e*P	Pn	06 19 31.3	+2.1
KMNR	Kamenistaya	2.58	343	PN	Pn	06 19 33.3	+2.0
KMNR	Kamenistaya	2.58	343	*e*P	Pn	06 19 33.3	+2.0
BZGR	Bezymyannyi-Gr	2.69	349	PN	Pn	06 19 33.6	+0.7
BZGR	Bezymyannyi-Gr	2.69	349	*e*P	Pn	06 19 33.7	+0.7
BZMR	Bezymyannaya	2.71	347	PN	Pn	06 19 34.9	+1.7
BZMR	Bezymyannaya	2.71	347	*e*P	Pn	06 19 35.0	+1.7
BZWR	Bezymyannyi-We	2.74	347	PN	Pn	06 19 36.1	+2.5
BZWR	Bezymyannyi-We	2.74	347	*e*P	Pn	06 19 36.2	+2.5
KIRR	Kirishev	2.75	345	PN	Pn	06 19 35.8	+2.1
KIRR	Kirishev	2.75	345	*e*P	Pn	06 19 35.8	+2.1
ZLN	Zelenaya	2.75	351	PN	Pn	06 19 34.1	+0.4
ZLN	Zelenaya	2.75	351	*e*P	Pn	06 19 34.2	+0.4
KPT	Kopyto	2.78	344	PN	Pn	06 19 36.2	+2.1
KPT	Kopyto	2.78	344	*e*P	Pn	06 19 36.3	+2.1
KOZ	Kozyrevsk	2.93	341	PN	Pn	06 19 37.7	+1.6
KOZ	Kozyrevsk	2.93	341	*e*P	Pn	06 19 37.8	+1.6
KBTR	Krutoberegovo	3.00	13	PN	Pn	06 19 37.6	+0.6
KBTR	Krutoberegovo	3.00	13	*e*P	Pn	06 19 37.6	+0.6
KBG	Krutoberegovo	3.03	12	PN	Pn	06 19 38.6	+1.2
KBG	Krutoberegovo	3.03	12	*e*P	Pn	06 19 38.6	+1.2
KLY	Klyuchi	3.06	350	PN	Pn	06 19 40.1	+2.3
KLY	Klyuchi	3.06	350	*e*P	Pn	06 19 40.2	+2.3
SRDR	Sredinnyy	3.20	341	PN	Pn	06 19 41.3	+1.4
SRDR	Sredinnyy	3.20	341	*e*P	Pn	06 19 41.3	+1.4
SKR	Severo-Kuril's	4.28	234	*e*PN	Pn	06 19 50.7	-3.9
SKR				MLR	MLR		
	comp=Z,300nm,18.0s						
YAK	Yakutsk	18.98	310	*e*P	P	06 23 07.7	-2.4
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
TIXI	Tiksi	23.27	334⇓	*e*P	P	06 23 54.6	-1.3
TIXI				pmax	pmax		
	comp=Z,13nm,2.0s						
MJAR	Matsushiro Arr	23.39	234	P	P	06 24 00.3	+2.9
	comp=Z,2.3nm,0.6s,baz=12,slow=11,SNR=5.9						
	comp=Z,2.3nm,0.6s						
HIA	Hailar	26.20	278⇓	*e*P	P	06 24 21.9	-1.2
HIA				pmax	pmax		
	comp=Z,26nm,3.0s						
COLA	College	27.61	45⇓	*e*P	P	06 24 34.2	-1.4
COLA				pmax	pmax		
	comp=Z,14nm,2.3s						
KSRS	Korea Array	28.13	249	P	P	06 24 41.9	+1.4
	comp=Z,0.8nm,0.6s,baz=46,slow=10,SNR=2.2						
	comp=Z,0.8nm,0.6s						
SPITS	Spitsbergen Ar	47.07	351	P	P	06 27 19.1	-0.5
	comp=Z,12nm,1.1s,baz=33,slow=8.6,SNR=4.3						
	comp=Z,12nm,1.1s						
KURK	Kurchatov	48.38	302⇓	*e*P	P	06 27 29.2	-0.8
MK31	Makanchi Array	48.87	296⇓	*e*P	P	06 27 31.3	-2.5
MKAR	Makanchi Array	48.87	296	P	P	06 27 32.9	-1.0
	comp=Z,0.4nm,0.5s,baz=58,slow=7.7,SNR=3.8						
	comp=Z,0.4nm,0.5s						
KIRV	Kirov	55.75	324	*ce*P	P	06 28 21.4	-3.2
CMAR	Chiang Mai Arr	59.10	259	P	P	06 28 51.0	+2.2
	comp=Z,1.4nm,0.5s,baz=25,slow=7.3,SNR=4.4						
	comp=Z,1.4nm,0.5s						
CMAR	Chiang Mai Arr	59.10	259	*i* P	P	06 28 51.2	+2.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS

ellipse: s-maj=10.5km s-min=6.2km az=95.6
BJI ***13*** *06:32:12.4, 16˚.26N×146˚.18E, h35km, mB5.2/9, mb4.7/31, Ms4.8/33, Ms7 4.6/34*
GCMT ***13*** *06:32:13.6±0.2, 16˚.54N±0˚.01×146˚.63E±0˚.01, h14km±1km, MW5.1/129, Moment Tensor Solution. s53,c63; s129,c209; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~1.03±.15; Mθφ5.92±.15; Mφφ~4.90±.14; Mrθ~0.75±.31; Mθφ~2.82±.12; Mφr0.38±.30; Best double couple: M0 6.14800×10^16^ NP1:φs239.00000°, δ84.00000°, λ177.00000°. NP2:φs329.00000°, δ87.00000°, λ6.00000°. Principal axes: T 6.6970, Plg6.0000°, Azm194.0000°; N -1.1080, Plg83.0000°, Azm352.0000°; P -5.5990, Plg2.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *06:32:13.6, 16˚.51N×146˚.64E, h26km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16^Nm; Mrr~4.45; Mθφ5.20; Mφφ~0.74; Mrθ~4.62; Mφφ~4.85; Mφr~0.75; Fault plane solution: M0 8.32000×10^16^ NP1: φs333.03000°, δ40.91000°, λ-33.92000°. NP2:φs89.97000°, δ68.56000°, λ-125.72000°. Principal axes: T 8.9702, Plg16.0000°, Azm205.0000°; N -1.5126, Plg33.0000°, Azm105.0000°; P -7.4576, Plg52.0000°, Azm317.0000°;*
NEIC ***13*** *06:32:13.6, 16˚.51N×146˚.33E, h26km*
IDC ***13*** *06:32:13.1±1.4, 16˚.53N×146˚.42E, h46km±11km, mb4.0/21, mbtmp4.3/23, ML4.7/3, MS4.5/35, Error ellipse: s-maj=17.7km s-min=7.5km az=101.0*
DJA ***13*** *06:32:14.5±0.4, 16˚N±4˚×14˚7E±˚, h10km, M5.0/25, mb4.9/25, mB5.6/6, MLv4.9/1, Mw(mB)5.1/6*
ISC 13 06:32:12.2±0.3, 16˚.45N±0˚.04×146˚.50E±0˚.05, h35km, n429, σ1s93/288, mb5.0/235, MS4.6/48, 11C-9D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.25**	**209**	Sn		**Sn**	**06 33 39.2**	**+0.9**
GUMO	**Guam**	**3.25**	**209**	P		**Pn**	**06 33 01.7**	**+0.9**
	134nm,0.3s,baz=60,slow=1.1,SNR=112							
GUMO				S		**Sn**	**06 33 40.2**	**+2.0**
	864nm,0.3s,baz=0.4,slow=23,SNR=12							
GUMO				LR		LR	06 34 15.1	
	comp=Z,8μm,21.2s,baz=76,slow=37							
GUMO	**Guam**	**3.25**	**209**	P		**Pn**	**06 33 02.1**	**+1.3**
PATS	**Pohnpei**	**14.99**	**128**	P		**Pn**	**06 35 37.1**	**-4.6**
PATS	**Pohnpei**	**14.99**	**128**	Pn		Pn	06 35 36.1	-5.5
PATS	**Pohnpei**	**14.99**	**128**	P		**Pn**	**06 35 39.2**	**-2.5**
H11S3	**WAKE ISLAND Hy**	**19.36**	**81**	T		T	06 57 38.6	
	baz=269,slow=79							
H11S1	**WAKE ISLAND Hy**	**19.38**	**81**	T		T	06 57 39.5	
	baz=269,slow=79							
H11S2	**WAKE ISLAND Hy**	**19.38**	**81**	T		T	06 57 23.3	
	baz=269,slow=79							
H11N1	**WAKE ISLAND Hy**	**19.65**	**77**	T		T	06 57 31.4	
	baz=264,slow=75,SNR=402							
H11N2	**WAKE ISLAND Hy**	**19.66**	**77**	T		T	06 57 36.6	
	baz=264,slow=75,SNR=406							
H11N3	**WAKE ISLAND Hy**	**19.67**	**77**	T		T	06 57 40.3	
	baz=264,slow=75,SNR=453							
JAY	**Jayapura**	**19.69**	**197**	P		**Pn**	**06 36 40.9**	**+0.6**
	0.9nm,0.3s,baz=352,slow=14,SNR=4.4							
JAY				LR		LR	06 43 36.1	
	comp=Z,1μm,21.3s,baz=12,slow=35							
	34nm,0.8s							
JAY	**Jayapura**	**19.69**	**197**	P		**Pn**	**06 36 39.5**	**-0.8**
	950nm84nm,0.9s							
JOW	**Kunigami**	**19.82**	**304**	P		**P**	**06 36 36.3**	**-3.7**
JOW				IAmb		IAmb	06 37 01.0	
	comp=Z,110nm,1.4s							
JOW	**Kunigami**	**19.82**	**304**	P		**P**	**06 36 40.0**	**0.0**
	comp=Z,4.0nm,0.3s,baz=158,slow=16,SNR=4.0							
JOW				LR		LR	06 43 27.1	
	comp=Z,2μm,18.8s,baz=124,slow=34							
	comp=Z,21nm,0.7s							
SMPI	**Sarmi**	**19.87**	**203**	P		**Pn**	**06 36 41.7**	**-0.6**
	comp=Z,41nm,0.9s							
GENI	**Genyem**	**19.93**	**199**	P		**Pn**	**06 36 42.9**	**-0.1**
	comp=Z,4μmcomp=Z,144nm,1.1s							
INU	**Inuyama**	**20.64**	**338**	P		**P**	**06 36 44.9**	**-3.9**
JGF	**Kuroka**	**20.75**	**339**	P		**P**	**06 36 46.2**	**-3.8**
RABL	**Rabaul**	**21.26**	**164**	P		**P**	**06 36 54.0**	**-1.6**
MJAR	**Matsushiro Arr**	**21.33**	**341**	P		**P**	**06 36 53.4**	**-2.8**
MJAR	**Matsushiro Arr**	**21.33**	**341**	P		**P**	**06 36 54.6**	**-1.6**
	comp=Z,2.3nm,0.6s,baz=166,slow=9.1,SNR=11							
MJAR				LR		LR	06 44 02.3	
	comp=Z,1μm,18.4s,baz=164,slow=33							
	comp=Z,2.3nm,0.6s							
MJB9	**Matsu-Tunnel**	**21.33**	**341**	P		**P**	**06 36 54.1**	**-2.1**
JMM	**Marumori**	**21.92**	**348**	P		**P**	**06 37 00.1**	**-2.5**
JMM				IAmb		IAmb	06 37 24.2	
	comp=Z,81nm,1.2s							
DAV	**Davao City (W)**	**22.48**	**248**	LR		LR	06 45 21.4	
	comp=Z,504nm,20.3s,baz=68,slow=35							
JSD	**Sado**	**22.70**	**343**	P		**P**	**06 37 07.6**	**-3.2**
JSD				IAmb		IAmb	06 37 28.5	
	comp=Z,126nm,1.5s							
SWI	**Sorong**	**22.85**	**223**	P		**P**	**06 37 12.6**	**0.0**
	comp=Z,75nm,1.5s							
FAKI	**Fak Fak**	**23.84**	**217**			**P**	**06 37 21.8**	**-0.6**
FAKI				IAmb		IAmb	06 37 24.7	
	comp=Z,37nm,0.6s							
FAKI	**Fak Fak**	**23.84**	**217**	P		**P**	**06 37 23.2**	**+0.8**
FAKI	**Fak Fak**	**23.84**	**217**	P		**P**	**06 37 24.6**	**+2.2**
	comp=Z,62nm,1.1s							
NACB	**Ninganchiao**	**24.56**	**292**	P		**P**	**06 37 26.5**	**-2.5**
NACB	**Ninganchiao**	**24.56**	**292**	P		**P**	**06 37 26.9**	**-2.1**
YULB	**Yu-li**	**24.66**	**290**	P		**P**	**06 37 27.2**	**-2.7**
YULB				IAmb		IAmb	06 37 56.3	
	comp=Z,85nm,1.4s							
JTM	**Tenmabayashi**	**24.71**	**350**	P		**P**	**06 37 27.6**	**-2.5**
TGY	**Tagaytay City**	**24.77**	**268**	LR		LR	06 45 15.4	
	comp=Z,885nm,20.4s,baz=246,slow=32							
YHNB	**Yeheng**	**24.88**	**293**	P		**P**	**06 37 29.2**	**-2.7**
YHNB				IAmb		IAmb	06 37 46.0	
	comp=Z,84nm,1.4s							
YHNB	**Yeheng**	**24.88**	**293**	P		**P**	**06 37 29.8**	**-2.1**
SSLB	**Suanglung**	**25.05**	**291**			**P**	**06 37 35.2**	**+1.7**
SSLB				IAmb		IAmb	06 37 52.5	
	comp=Z,68nm,1.0s							
ERM	**Erimo**	**25.64**	**354**	P		**P**	**06 37 33.8**	**-4.7**
JEM	**Erimo**	**25.64**	**354**	P		**P**	**06 37 33.7**	**-4.9**
PMG	**Port Moresby**	**25.70**	**178**	P		**P**	**06 37 38.3**	**-0.9**
PMG				IAmb		IAmb	06 37 57.0	
	comp=Z,36nm,0.9s							
PMG	**Port Moresby**	**25.70**	**178**	LR		LR	06 46 40.4	
	comp=Z,602nm,21.6s,baz=339,slow=34							
PMG	**Port Moresby**	**25.70**	**178**	P		**P**	**06 37 39.9**	**+0.6**
PMG	**Port Moresby**	**25.70**	**178**	P		**P**	**06 37 39.8**	**+0.5**
PMG	**Port Moresby**	**25.70**	**178**	*c iP*		**P**	**06 37 40.8**	**+1.5**
PMG				pmax		pmax		
	comp=Z,36nm,0.9s							
TJN	**Taejon**	**26.13**	**323**	⇓*eP*		**P**	**06 37 46.3**	**+3.2**
KSRS	**Korea Array**	**26.59**	**325**	P		**P**	**06 37 45.5**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=145,slow=8.7,SNR=5.5							
	comp=Z,0.4nm,0.4s							
KSAR	**Wonju Array Be**	**26.60**	**325**	P		**P**	**06 37 45.6**	**-1.7**
KSAR	**Wonju Array Be**	**26.60**	**325**	P		**P**	**06 37 45.6**	**-1.7**
ASAJ	**Asahikawa**	**27.78**	**354**	P		**P**	**06 37 56.5**	**-1.4**
	comp=Z,8.5nm,0.8s,baz=189,slow=25,SNR=1.7							
ASAJ				LR		LR	06 48 47.0	
	comp=Z,693nm,20.6s,baz=180,slow=36							
	comp=Z,8.5nm,0.8s							
JKA	**Kamikawa-asahi**	**27.78**	**354**	P		**P**	**06 37 56.4**	**-1.4**
JKA				IAmb		IAmb	06 38 23.0	
	comp=Z,54nm,1.2s							
SAVO	**Savo Central**	**28.64**	**152**	P		**P**	**06 38 05.9**	**+0.1**
HNR	**Honiara**	**28.95**	**152**	LR		LR	06 48 07.4	
	comp=Z,972nm,22.0s,baz=348,slow=33							
NJ2	**Nanjing**	**29.49**	**307**	*eP*		**P**	**06 38 15.4**	**+2.2**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
NJ2				LR		LR		
	comp=Z,1μm,20.6s							
NJ2				LR		LR		
	comp=Z,910nm,20.4s							
NJ2				LR		LR		
	comp=Z,1μm,20.8s							
TOLI2	**Tolitoli**	**29.57**	**242**	P		**P**	**06 38 13.1**	**-0.9**
COEN	**Coen**	**30.39**	**186**	P		**P**	**06 38 21.7**	**+0.5**
	comp=Z,16nm,1.0s							
COEN	**Coen**	**30.39**	**186**			**P**	**06 38 21.6**	**+0.4**
COEN	**Coen**	**30.39**	**186**	P		**P**	**06 38 23.1**	**+1.9**
YSS	**Yuzhno-Sakhali**	**30.58**	**355**	*eP*		**P**	**06 38 25.1**	**+2.5**
YSS				*e*			06 41 23.9	
YSS				*eS*		**S**	**06 43 24.5**	**+2.4**
YSS				pmax		pmax		
	comp=Z,20nm,1.0s							
WHN	**Wuhan**	**32.52**	**301**	P		**P**	**06 38 39.9**	**0.0**
WHN				LR		LR		
	comp=Z,2μm,16.4s							
MTN	**Manton Dam**	**32.83**	**208**	P		**P**	**06 38 43.0**	**+0.3**
	comp=Z,12nm,0.6s							
MTN	**Manton Dam**	**32.83**	**208**	P		**P**	**06 38 42.5**	**-0.2**
MTSU	**Mount Surprise**	**34.43**	**184**	P		**P**	**06 38 58.0**	**+1.4**
	comp=Z,30nm,0.8s							
MTSU	**Mount Surprise**	**34.43**	**184**	P		**P**	**06 38 58.4**	**+1.8**
MMRI	**Maumere**	**34.61**	**226**	P		**P**	**06 38 56.4**	**-1.8**
QIZ	**Qiongzhong**	**34.97**	**280**	P		**P**	**06 39 02.9**	**+1.5**
QIZ				S		**S**	**06 44 33.3**	**+2.2**
QIZ				LR		LR		
	comp=Z,380nm,13.9s							
QIZ				LR		LR		
	comp=Z,280nm,12.8s							
QIZ				LR		LR		
	comp=Z,650nm,19.6s							
CTAO	**Charters Tower**	**36.31**	**180**			**P**	**06 39 13.2**	**+0.5**
CTAO				IAmb		IAmb	06 39 24.6	
	comp=Z,30nm,1.4s							
CTAO	**Charters Tower**	**36.31**	**180**	P		**P**	**06 39 13.2**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,30nm,1.5s							
KNRA	**Kununurra**	**36.40**	**210**	P		**P**	**06 39 13.2**	**-0.4**
	comp=Z,16nm,1.3s							
KNRA	**Kununurra**	**36.40**	**210**	P		**P**	**06 39 13.3**	**-0.3**
SBUM	**Sibu**	**36.47**	**251**	P		**P**	**06 39 13.1**	**-1.2**
HEH	**HeiHe**	**37.07**	**340**	*eP*		P	06 39 24.3	+5.4
HEH				LR		LR		
	comp=Z,230nm,14.9s							
HEH				LR		LR		
	comp=Z,860nm,15.2s							
HEH				LR		LR		
	comp=Z,660nm,16.2s							
QIS	**Mount Isa**	**37.39**	**191**	P		**P**	**06 39 22.7**	**+0.8**
	comp=Z,35nm,1.3s							
QIS	**Mount Isa**	**37.39**	**191**	P		**P**	**06 39 23.3**	**+1.3**
PEA0B	**Petropavlovsk-**	**37.63**	**11**	⇓*eP*		**P**	**06 39 26.2**	**+2.6**
PETK	**Petropavlovsk-**	**37.63**	**11**	P		**P**	**06 39 23.8**	**+0.2**
PETK	**Petropavlovsk-**	**37.63**	**11**	P		**P**	**06 39 22.6**	**-1.0**
	comp=Z,6.0nm,0.8s,baz=105,slow=5.1,SNR=4.6							
PETK				LR		LR	06 57 31.5	
	comp=Z,620nm,18.1s,baz=189,slow=40							
	comp=Z,6.0nm,0.8s							
PETK	**Petropavlovsk-**	**37.63**	**11**	P		**P**	**06 39 23.8**	**+0.2**
SANVU	**Saraoutou**	**37.71**	**146**	P		**P**	**06 39 25.0**	**+0.3**
SANVU				IAmb		IAmb	06 39 40.8	
	comp=Z,21nm,0.8s							
PLAI	**Plampang**	**37.93**	**231**	P		**P**	**06 39 28.4**	**+1.8**
XAN	**Xi'an**	**37.97**	**305**	*eP*		**P**	**06 39 24.5**	**-2.4**
XAN				LR		LR		
	comp=Z,680nm,15.2s							
XAN				LR		LR		
	comp=Z,600nm,18.5s							
XAN				LR		LR		
	comp=Z,700nm,19.9s							
WR0	**Warramunga Arr**	**38.04**	**198**	P		**P**	**06 39 27.8**	**+0.4**
WR0				IAmb		IAmb	06 39 30.1	
	comp=Z,24nm,0.6s							
WR8	**Warramunga Arr**	**38.05**	**199**	P		**P**	**06 39 27.8**	**+0.2**
WR8				IAmb		IAmb	06 39 29.8	
	comp=Z,36nm,1.1s							
WRAB	**Tennant Creek**	**38.07**	**199**	P		**P**	**06 39 28.9**	**+1.2**
WRAB	**Tennant Creek**	**38.07**	**199**	*c iP*		**P**	**06 39 28.0**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,42nm,0.9s							
WB2	**Warramunga Arr**	**38.08**	**199**	P		**P**	**06 39 27.9**	**+0.1**
WRA	**Warramunga Arr**	**38.09**	**199**	P		**P**	**06 39 28.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=6.7,slow=3.4,SNR=5.0							
WRA				S		**S**	**06 45 16.5**	**-2.0**
	comp=Z,3.0nm,1.1s,baz=19,slow=15,SNR=6.8							
WRA				ScP		**ScP**	**06 45 27.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=26,slow=3.7,SNR=6.6							
GYA	**Guiyang**	**38.26**	**292**	⇑P		**P**	**06 39 33.5**	**+4.0**
GYA				pmax		pmax		
	comp=Z,14nm,1.5s							
KSM	**Kuching**	**38.61**	**251**	P		**P**	**06 39 31.2**	**-1.2**
HHC	**Hu-ho-hao-te**	**38.73**	**316**	*eP*		**P**	**06 39 34.6**	**+1.4**
HHC				S		**S**	**06 45 35.5**	**+7.3**
HHC				SS		**SnSn**	**06 48 10.5**	**-8.1**
HHC				pmax		pmax		
	comp=Z,15nm,0.6s							
HHC				pmax		pmax		
	comp=Z,200nm,5.1s							
HHC				LR		LR		
	comp=Z,750nm,15.3s							
HHC				LR		LR		
	comp=Z,580nm,13.8s							
HHC				LR		LR		
	comp=Z,890nm,14.5s							
BTO	**Baotou**	**39.66**	**315**	*eP*		**P**	**06 39 44.4**	**+3.4**
BTO				pP		**pwP**	**06 39 54.0**	**-0.2**
BTO				S		**S**	**06 45 48.4**	**+6.3**
BTO				pmax		pmax		
	comp=Z,31nm,0.5s							
BTO				pmax		pmax		
	comp=Z,300nm,4.1s							
BTO				LR		LR		
	comp=Z,2μm,14.9s							
BTO				LR		LR		
	comp=Z,680nm,7.0s							
BTO				LR		LR		
	comp=Z,1μm,19.7s							
FITZ	**Fitzroy Crossi**	**40.00**	**212**	P		**P**	**06 39 43.8**	**-0.1**
	comp=Z,2.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**40.00**	**212**	P		**P**	**06 39 43.7**	**-0.2**
ZEA	**Zeya**	**40.13**	**342**	*eP*		**P**	**06 39 40.6**	**-4.0**
JAGI	**Jajag, Banyuwa**	**40.47**	**235**	P		**P**	**06 39 47.5**	**-0.4**
SLVN	**Son La**	**40.50**	**284**	P		**P**	**06 39 47.1**	**-1.1**
CD2	**Chengdu**	**41.45**	**298**	P		**P**	**06 39 56.0**	**+0.1**
CD2				pmax		pmax		
	comp=Z,20nm,1.0s							
CD2				LR		LR		
	comp=Z,1μm,12.7s							
CD2				LR		LR		
	comp=Z,960nm,14.6s							
CD2				LR		LR		
	comp=Z,950nm,19.0s							
AS31	**Alice Springs**	**41.72**	**197**	P		**P**	**06 39 58.6**	**+0.5**
	comp=Z,11nm,0.5s							
AS31	**Alice Springs**	**41.72**	**197**	P		**P**	**06 39 58.1**	**0.0**
ASAR	**Alice Springs**	**41.73**	**197**	P		**P**	**06 39 58.5**	**+0.4**
	comp=Z,9.7nm,0.5s,baz=18,slow=10,SNR=148							
ASAR				ScP		**ScP**	**06 45 42.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=20,slow=4.0,SNR=4.3							
ASAR				S		**S**	**06 46 12.2**	**-0.8**
	comp=Z,4.8nm,1.1s,baz=19,slow=17,SNR=15							
	comp=Z,9.7nm,0.5s							
EIDS	**Eidsvold**	**41.80**	**174**	P		**P**	**06 39 59.6**	**+1.0**
SHEM	**Shemya Is, Ala**	**42.22**	**25**	LR		LR	06 54 43.4	
	comp=Z,604nm,19.5s,baz=274,slow=32							
LZH	**Lanzhou**	**42.55**	**306**	*eP*		**P**	**06 40 07.6**	**+2.6**
LZH				pP		pwP	06 40 20.4	+2.2
LZH				sP		sP	06 40 25.5	+7.3
LZH				pmax		pmax		
	comp=Z,22nm,1.0s							
LZH				LR		LR		
	comp=Z,700nm,15.3s							
LZH				LR		LR		
	comp=Z,520nm,15.8s							
LZH				LR		LR		
	comp=Z,870nm,17.2s							
LZDM	**Lanzhou Array**	**42.63**	**306**	P		**P**	**06 40 06.0**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=356,slow=8.9,SNR=5.0							
LZDM				LR		LR	06 57 57.7	
	comp=Z,405nm,19.9s,baz=105,slow=36							
	comp=Z,1.9nm,0.4s							
PZH	**PanZhiHua**	**42.65**	**291**	P		**P**	**06 40 08.5**	**+2.7**
QLP	**Quilpie**	**42.83**	**183**	P		**P**	**06 40 07.1**	**+0.1**
	comp=Z,35nm,0.9s							
DZM	**Mont Dzumac**	**42.98**	**152**	*eP*		**P**	**06 40 09.4**	**+1.0**
	comp=Z,98nm,1.5s							
DZM	**Mont Dzumac**	**42.98**	**152**	*e*LR		LR	06 52 00.5	
	comp=Z,2μm,22.9s							
DZM	**Mont Dzumac**	**42.98**	**152**	P		**P**	**06 40 09.3**	**+0.9**
MA2	**Magadan**	**43.18**	**3**	LR		LR	06 55 52.4	
	comp=Z,437nm,20.7s,baz=174,slow=33							
INKA	**Innaminka**	**44.28**	**187**			**P**	**06 40 18.5**	**-0.1**
WRKA	**Warakurna**	**44.89**	**204**	P		**P**	**06 40 23.6**	**0.0**
	comp=Z,28nm,0.5s							
ULN	**Ulaanbaatar**	**45.01**	**323**	P		**P**	**06 40 23.6**	**-1.0**
ULN	**Ulaanbaatar**	**45.01**	**323**	⇑*eP*		**P**	**06 40 26.1**	**+1.6**
ULN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CHTO	**Chiang Mai**	**45.28**	**280**	P		**P**	**06 40 25.4**	**-1.5**
CHTO	**Chiang Mai**	**45.28**	**280**	P		**P**	**06 40 25.4**	**-1.5**
CHTO				pmax		pmax		
	comp=Z,11nm,1.3s							
CM31	**Chiang Mai Arr**	**45.31**	**280**	P		**P**	**06 40 26.1**	**-1.1**
CM31				IAmb		IAmb	06 40 42.6	
	comp=Z,25nm,1.1s							
CMAR	**Chiang Mai Arr**	**45.31**	**280**	P		**P**	**06 40 27.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**45.31**	**280**	P		**P**	**06 40 27.4**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=72,slow=6.7,SNR=26							
CMAR				LR		LR	07 00 12.3	
	comp=Z,269nm,18.9s,baz=90,slow=37							
	comp=Z,3.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**45.31**	**280**	*i* P		**P**	**06 40 28.2**	**+1.0**
CMAR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SONM	**Songino Array**	**45.38**	**322**	P		**P**	**06 40 26.5**	**-0.9**
SONM	**Songino Array**	**45.38**	**322**	P		**P**	**06 40 26.2**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=134,slow=5.4,SNR=5.5							
SONM				LR		LR	07 00 29.7	
	comp=Z,855nm,18.6s,baz=123,slow=38							
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**	**45.38**	**322**	P		**P**	**06 40 26.5**	**-0.9**
SONM				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TNCH	**TengChong**	**45.48**	**289**	*eP*		P	06 40 36.1	+7.5
TNCH				S		**S**	**06 47 08.4**	**0.0**
TNCH				LR		LR		
	comp=N,1μm,15.7s							
TNCH				LR		LR		
	comp=E,1μm,18.5s							
TNCH				LR		LR		
	comp=Z,610nm,19.0s							
KIWB	**Kanaga Island**	**45.57**	**31**	P		**P**	**06 40 29.8**	**+1.1**
KIWB				IAmb		IAmb	06 40 41.0	
	comp=Z,27nm,1.0s							
MBWA	**Marble Bar**	**45.68**	**216**	P		**P**	**06 40 28.9**	**-0.9**
MBWA				IAmb		IAmb	06 40 57.8	
	comp=Z,24nm,1.4s							
PSA00	**Pilbara Seismi**	**45.94**	**216**	P		**P**	**06 40 32.0**	**0.0**
PSA00				IAmb		IAmb	06 40 42.0	
	comp=Z,24nm,1.2s							
SEY	**Seymchan**	**46.62**	**4**	LR		LR	06 58 01.5	
	comp=Z,770nm,21.5s,baz=196,slow=33							
SEY	**Seymchan**	**46.62**	**4**	*eP*		P	06 40 41.9	+5.2
SEY				pmax		pmax		
	comp=Z,18nm,1.4s							
MDSI	**Maura Dua**	**46.73**	**247**	P		P	06 40 46.1	+7.8
	comp=Z,684nmcomp=Z,24nm,1.1s							
ARMA	**Armidale**	**46.85**	**174**	P		**P**	**06 40 39.7**	**+0.6**
ARMA				IAmb		IAmb	06 40 45.2	
	comp=Z,37nm,1.5s							
YAK	**Yakutsk**	**47.06**	**349**	LR		LR	06 59 27.9	
	comp=Z,266nm,21.8s,baz=148,slow=35							
YAK	**Yakutsk**	**47.06**	**349**	⇓*eP*		**P**	**06 40 41.8**	**+1.6**
YAK				pmax		pmax		
	comp=Z,20nm,0.6s							
STKA	**Stephens Creek**	**48.28**	**186**	P		**P**	**06 40 50.4**	**+0.4**
	comp=Z,70nm,2.2s							
STKA	**Stephens Creek**	**48.28**	**186**	P		**P**	**06 40 50.9**	**+0.9**
STKA	**Stephens Creek**	**48.28**	**186**	P		**P**	**06 40 50.6**	**+0.6**
	comp=Z,2.7nm,0.4s,baz=359,slow=6.7,SNR=14							
	comp=Z,2.7nm,0.4s							
PSI	**Prapat**	**48.68**	**259**	P		**P**	**06 40 52.8**	**-0.8**
PSI				pmax		pmax		
	comp=Z,40nm,1.3s							
RPSI	**Rantau Prapat**	**48.72**	**259**	P		**P**	**06 40 52.8**	**-1.0**
TLY	**Talaya**	**48.84**	**326**	⇑*eP*		**P**	**06 40 53.4**	**-0.8**
TLY				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KCSI	**Kotacane, Aceh**	**49.54**	**260**	P		P	06 41 08.0	+7.9
	comp=Z,364nmcomp=Z,9.0nm,1.5s							
GOMU	**GeErMu**	**49.71**	**304**	P		**P**	**06 41 01.1**	**-0.4**
GOMU				S		**S**	**06 48 05.4**	**-3.2**
GOMU				pmax		pmax		
	comp=Z,4.0nm,0.5s							
GOMU				LR		LR		
	comp=Z,240nm,14.2s							
GOMU				LR		LR		
	comp=Z,240nm,14.4s							
GOMU				LR		LR		
	comp=Z,340nm,14.1s							
LHMI	**Lhok Sumawe**	**49.80**	**263**	P		**P**	**06 41 01.1**	**-1.0**
BBOO	**Buckleboo**	**49.99**	**191**	P		**P**	**06 41 03.4**	**+0.3**
	comp=Z,25nm,0.7s							
BBOO	**Buckleboo**	**49.99**	**191**	P		**P**	**06 41 03.7**	**+0.6**
HTT	**Hallett**	**50.12**	**188**	P		**P**	**06 41 05.2**	**+1.0**
	comp=Z,5.2nm,1.1s							
FORT	**Forrest**	**50.19**	**201**	P		**P**	**06 41 04.8**	**+0.1**
	comp=Z,13nm,0.9s							
FORT	**Forrest**	**50.19**	**201**	P		**P**	**06 41 05.4**	**+0.7**
GSI	**Gunungsitoli**	**50.45**	**258**	P		**P**	**06 41 06.3**	**-0.7**
GSI	**Gunungsitoli**	**50.45**	**258**	P		P	06 41 15.7	+8.7
SHL	**Shillong**	**51.49**	**290**	P		**P**	**06 41 13.1**	**-1.8**
SHL	**Shillong**	**51.49**	**290**	P		**P**	**06 41 13.1**	**-1.8**
SHL				pmax		pmax		
	comp=Z,12nm,1.2s							
CAN	**Canberra**	**51.54**	**177**	P		**P**	**06 41 15.7**	**+0.9**
	comp=Z,15nm,1.4s							
CAN	**Canberra**	**51.54**	**177**	P		**P**	**06 41 15.6**	**+0.8**
CAN				IAmb		IAmb	06 41 19.0	
	comp=Z,36nm,1.4s							
CAN	**Canberra**	**51.54**	**177**	P		**P**	**06 41 15.6**	**+0.8**
CAN				pmax		pmax		
	comp=Z,36nm,1.4s	

comp=Z,18nm,0.8s
H17K Granite Mounta 60.19 23 P 06 42 17.3 +0.9
H17K IAmb IAmb 06 42 18.4
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 60.26 323 P **P 06 42 16.6 -0.5**
comp=Z,1.0nm,0.5s,baz=128,slow=9.5,SNR=3.6
ZALV LR LR 07 07 48.8
comp=Z,569nm,21.8s,baz=106,slow=36
comp=Z,1.0nm,0.5s
L18K Granite Mounta 60.35 27 IAmb IAmb 06 42 37.7
comp=Z,29nm,1.4s
F17K Baldwin Pennin 60.41 21 P 06 42 18.9 +1.1
MK31 Makanchi Array 60.57 315⇓ *e*P **P 06 42 21.2 +1.8**
MKAR Makanchi Array 60.57 315 P **P 06 42 19.0 -0.3**
MKAR Makanchi Array 60.57 315 P **P 06 42 18.9 -0.5**
comp=Z,0.3nm,0.4s,baz=89,slow=8.7,SNR=4.0
MKAR LR LR 07 09 54.1
comp=Z,288nm,19.2s,baz=91,slow=37
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 60.57 315 P **P 06 42 19.0 -0.3**
KDAK Kodiak Island 60.83 32⇓ *e*P **P 06 42 22.8 +2.0**
KDAK pmax pmax
comp=Z,145nm,2.5s
N19K Bonanza Creek 60.83 29 IAmb IAmb 06 42 36.7
comp=Z,18nm,0.8s
H18K Honhosa River 60.87 23 IAmb IAmb 06 42 29.2
comp=Z,14nm,0.9s
E18K Tukpahlearik C 61.11 21 IAmb IAmb 06 42 37.4
comp=Z,13nm,0.9s
L19K White Mountain 61.14 27 IAmb IAmb 06 42 40.2
comp=Z,11nm,1.0s
H19K Roundabout Mou 61.76 23 IAmb IAmb 06 42 51.9
comp=Z,21nm,1.1s
RTZ Ruatahuna 61.77 153 P **P 06 42 27.9 +0.3**
RTZ IAmb IAmb 06 42 50.7
comp=Z,20nm,0.9s
M20K Styx River 61.80 28 IAmb IAmb 06 42 40.0
comp=Z,13nm,1.0s
K20K Telida 61.89 26 IAmb IAmb 06 42 40.5
comp=Z,30nm,1.4s
CNPM China Poot 61.98 31 P **P 06 42 28.6 0.0**
PPLA Purkeypile 62.54 27 P **P 06 42 33.4 +0.9**
PPLA IAmb IAmb 06 42 48.9
comp=Z,22nm,1.0s
SKT Skwentna 62.55 28 IAmb IAmb 06 42 47.9
comp=Z,8.8nm,0.8s
F20K Avaraart Lake 62.64 22 IAmb IAmb 06 42 47.7
comp=Z,13nm,0.9s
SLKM Skilak Lake 62.74 30 P **P 06 42 33.8 +0.1**
IMAR Indian Mountai 62.96 23 P **P 06 42 35.5 +0.5**
H21K Melozitna Rive 63.21 24 IAmb IAmb 06 42 52.1
comp=Z,21nm,1.2s
G21K Allakaket 63.25 23 IAmb IAmb 06 42 55.8
comp=Z,17nm,1.1s
I21K Tanana 63.37 25 IAmb IAmb 06 42 54.2
comp=Z,16nm,0.9s
B20K Meade River 63.44 19 P **P 06 42 38.8 +0.7**
KURK Kurchatov 63.45 319 P **P 06 42 37.6 -1.0**
KURK IAmb IAmb 06 43 06.6
comp=Z,31nm,1.5s
KURK Kurchatov 63.45 319⇓ *e*P **P 06 42 38.1 -0.5**
KURK pmax pmax
comp=Z,21nm,1.4s
KURBB Kurchatov Arra 63.50 319 P **P 06 42 36.1 -2.7**
comp=Z,1.9nm,0.5s,baz=99,slow=6.8,SNR=20
KURBB LR LR 07 09 51.3
comp=Z,790nm,21.7s,baz=148,slow=36
comp=Z,1.9nm,0.5s
PMR Palmer 63.54 29 P **P 06 42 39.0 +0.1**
PMR IAmb IAmb 06 42 50.7
comp=Z,25nm,1.4s
PMR Palmer 63.54 29 P **P 06 42 39.0 +0.1**
PMR pmax pmax
comp=Z,25nm,1.4s
GHO Glory Hole Cre 63.68 29 P **P 06 42 40.0 0.0**
KNK Knik Glacier 63.80 29 IAmb IAmb 06 42 45.5
comp=Z,29nm,1.4s
MLY Manley 63.82 25 IAmb IAmb 06 42 56.5
comp=Z,14nm,0.7s
SML Sawmill 63.96 29 P 06 42 42.4 +0.6
B21K Ikpikpuk River 64.07 19 P 06 42 43.6 +1.4
RND Reindeer 64.14 27 IAmb IAmb 06 42 58.9
comp=Z,17nm,1.0s
MCK McKinley 64.19 27 IAmb IAmb 06 42 58.7
comp=Z,13nm,1.0s
NEA2 Nenana 64.37 26 IAmb IAmb 06 43 13.7
comp=Z,12nm,1.1s
E22K Anaktuvuk Pass 64.44 21 IAmb IAmb 06 43 01.8
comp=Z,18nm,0.9s
H23K Yukon River 64.54 24 IAmb IAmb 06 43 00.9
comp=Z,14nm,1.0s
G23K Bananza Creek 64.62 23 IAmb IAmb 06 43 04.4
comp=Z,12nm,0.9s
RAR Rarotonga 64.63 124 LR LR 07 05 09.7
comp=Z,212nm,19.3s,baz=243,slow=30
DHY Denali Highway 64.70 27 IAmb IAmb 06 43 06.0
comp=Z,11nm,0.9s
COLD Coldfoot 64.72 23 IAmb IAmb 06 43 03.8
comp=Z,9.6nm,0.9s
WRH Wood River Hil 64.75 26 IAmb IAmb 06 43 01.4
comp=Z,14nm,0.8s
KSH Kashi 64.80 306 P P 06 42 54.4 +6.6
KSH pP sP 06 43 05.9 +4.5
KSH pmax pmax
comp=Z,4.0nm,1.7s
KSH LR LR
comp=Z,520nm,21.3s
KSH LR LR
comp=Z,510nm,18.6s
KSH LR LR
comp=Z,670nm,16.8s
COLA College 64.95 25⇑ *e*P **P 06 42 49.8 +1.7**
COLA pmax pmax
comp=Z,11nm,0.8s
KLU Klutina 65.01 29 IAmb IAmb 06 43 05.2
comp=Z,14nm,0.8s
H24K Noodor Dome 65.20 24 IAmb IAmb 06 43 05.2
comp=Z,9.4nm,0.8s
HDA Harding Lake 65.21 26 IAmb IAmb 06 43 08.8
comp=Z,8.1nm,0.7s
ILAR Eielson Array 65.33 26 P 06 42 49.8 -0.8
ILAR Eielson Array 65.33 26 P **P 06 42 49.4 -1.2**
comp=Z,3.8nm,0.4s,baz=249,slow=6.1,SNR=47
ILAR LR LR 07 08 38.9
comp=Z,418nm,21.3s,baz=255,slow=34
comp=Z,3.8nm,0.4s
ILAR Eielson Array 65.33 26 P **P 06 42 49.8 -0.8**
C23K Itkillik River 65.44 20 P **P 06 42 52.3 +1.0**
PAX Paxson 65.52 28 IAmb IAmb 06 43 00.9
comp=Z,12nm,0.7s
K24K Donnelly Dome 65.57 27 IAmb IAmb 06 42 59.0
comp=Z,19nm,0.9s
G24K Hadweenzic Riv 65.59 24 IAmb IAmb 06 43 07.9
comp=Z,22nm,1.2s
E24K Your Creek 65.61 22 IAmb IAmb 06 43 07.9
comp=Z,15nm,1.0s
N25K Chitina, Valde 65.65 29 IAmb IAmb 06 43 09.1
comp=Z,11nm,0.7s
F24K Squaw Lake 65.66 23 IAmb IAmb 06 43 08.5
comp=Z,17nm,1.0s
AAK Ala-Archa 65.88 310⇓ *e*P **P 06 42 56.3 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.5s
GLB Gilahina Butte 66.00 30 IAmb IAmb 06 43 15.6
comp=Z,18nm,1.0s
VRDI Verde Repeater 66.13 30 IAmb IAmb 06 43 12.4
comp=Z,18nm,1.1s
CRQM Cirque 66.20 30 IAmb IAmb 06 43 17.2
comp=Z,20nm,0.9s
SCRK Sand Creek 66.38 27 IAmb IAmb 06 43 11.3
comp=Z,19nm,1.0s
L26K Log Cabin Wild 66.48 28 IAmb IAmb 06 43 14.5
comp=Z,13nm,0.8s
F25K Christian Rive 66.51 23 IAmb IAmb 06 43 13.5
comp=Z,19nm,1.1s
J26L Joseph Creek 66.66 26 IAmb IAmb 06 43 13.5
comp=Z,16nm,0.8s
E25K Arctic Village 66.67 22 IAmb IAmb 06 43 15.1
comp=Z,27nm,1.2s
BMAR Burnt Mountain 66.87 23 P 06 43 01.8 +1.3
GRNC Granite Creek 66.87 30 P **P 06 43 01.9 +1.0**
GRNC IAmb IAmb 06 43 17.5
comp=Z,14nm,0.8s
I26K Coal Creek Min 66.99 25 P **P 06 43 00.7 -0.5**
M27K Edge Creek, AK 67.05 29 P **P 06 43 02.7 +0.9**
M27K IAmb IAmb 06 43 19.6
comp=Z,13nm,1.0s
G26K Porcupine Rive 67.07 24 P 06 43 02.9 +1.2
G26K IAmb IAmb 06 43 17.5
comp=Z,22nm,1.1s
CTGM Chitina Glacie 67.11 30 IAmb IAmb 06 43 21.2
comp=Z,16nm,1.0s
BCAR Beaver Creek A 67.19 28 P 06 43 03.3 +0.7
K27K Chicken 67.22 27 IAmb IAmb 06 43 18.8
comp=Z,21nm,1.2s
LOGN Logan Glacier 67.25 30 IAmb IAmb 06 43 09.5
comp=Z,17nm,1.0s
NIL Nilore 67.30 300 P **P 06 43 02.4 -1.4**
NIL IAmb IAmb 06 43 20.1
comp=Z,18nm,1.0s
NIL Nilore 67.30 300 P **P 06 43 02.4 -1.4**
NIL pmax pmax
comp=Z,18nm,1.0s
O28M Mount Upton 67.64 31 IAmb IAmb 06 43 26.0
comp=Z,19nm,1.1s
EGAK Eagle 67.73 26 IAmb IAmb 06 43 21.0
comp=Z,17nm,1.1s
ARK Arkit 67.78 309 P **P 06 43 04.4 -2.5**
ARK pmax pmax
comp=Z,6.0nm,0.8s
H27K Steamboat Moun 67.81 25 IAmb IAmb 06 43 22.5
comp=Z,19nm,1.0s
I28M Miner Creek 68.34 26 IAmb IAmb 06 43 23.7
comp=Z,11nm,0.9s
D27M Malcolm River 68.56 21 IAmb IAmb 06 43 28.9
comp=Z,21nm,1.0s
M29M Somme Creek 68.63 29 P **P 06 43 13.2 +1.4**
M29M IAmb IAmb 06 43 28.8
comp=Z,17nm,1.0s
F28M Old Crow 68.68 23 P **P 06 43 12.4 +0.5**
F28M IAmb IAmb 06 43 27.3
comp=Z,20nm,1.1s
P29M Windy Craggy 68.76 32 P **P 06 43 13.8 +1.2**
KKAR Karatay Array 68.79 310 P **P 06 43 10.4 -2.6**
KKAR Karatay Array 68.79 310 P **P 06 43 10.4 -2.6**
L29M L29M 68.85 28 P 06 43 14.3 +1.2
HYT Haines Junctio 68.96 31 P **P 06 43 15.6 +1.7**
HYT IAmb IAmb 06 43 33.4
comp=Z,19nm,0.9s
E28M Babbage River 68.96 22 P 06 43 13.9 +0.3
E28M IAmb IAmb 06 43 31.6
comp=Z,20nm,1.0s
I29M Ogilvie Camp, 69.01 26 P **P 06 43 14.0 +0.1**
I29M IAmb IAmb 06 43 25.0
comp=Z,17nm,1.1s
H29M Whitestone 69.08 25 IAmb IAmb 06 43 29.6
comp=Z,27nm,1.3s
K29M Barlow Dome 69.19 27 IAmb IAmb 06 43 27.6
comp=Z,19nm,1.0s
N30M Aishikik Lake 69.20 30 IAmb IAmb 06 43 32.4
comp=Z,29nm,1.3s
G29M Pine Creek 69.30 24 IAmb IAmb 06 43 31.3
comp=Z,16nm,1.1s
M30M Minto, Yukon 69.42 29 IAmb IAmb 06 43 33.6
comp=Z,18nm,1.3s
EPYK Eagle Plains 69.76 25 IAmb IAmb 06 43 33.8
comp=Z,20nm,1.0s
J30M Hart River 69.77 27 IAmb IAmb 06 43 37.7
comp=Z,12nm,1.0s
I30M Mount Dempster 69.80 26 P **P 06 43 19.5 +0.5**
N31M Braeburn, Yuko 69.83 30 P **P 06 43 20.7 +1.6**
N31M IAmb IAmb 06 43 36.3
comp=Z,23nm,1.1s
CHGR Chuyangaron 70.14 306 P **P 06 43 20.4 -1.1**
CHGR IAmb IAmb 06 43 50.6
comp=Z,14nm,0.8s
CHGR Chuyangaron 70.14 306 P **P 06 43 20.4 -1.1**
CHGR pmax pmax
comp=Z,14nm,0.8s
F30M Barrier River 70.24 23 P 06 43 22.4 +0.9
WHY Whitehorse 70.24 31 P 06 43 22.4 +0.7
M31M Drury Creek, Y 70.52 29 IAmb IAmb 06 43 39.9
comp=Z,20nm,1.2s
H31M Peel River 70.69 25 P **P 06 43 25.5 +1.2**
INK Inuvik 71.14 23 P 06 43 27.2 +0.3
INK IAmb IAmb 06 43 43.5
comp=Z,27nm,1.3s
INK Inuvik 71.14 23 P **P 06 43 27.2 +0.3**
INK pmax pmax
comp=Z,27nm,1.3s
PPT Papeete 71.46 115 LR LR 07 08 15.7
comp=Z,361nm,20.0s,baz=256,slow=30
PPT2 Papeete2 71.47 115 *e*LR LR 07 05 04.1
PPT2 *e*LR LR 07 05 13.9
comp=Z,629nm,31.0s
Q32M Nakina River 71.55 33 P **P 06 43 31.5 +1.6**
Q32M IAmb IAmb 06 43 43.1
comp=Z,24nm,1.4s
WTLY Watson Lake, Y 73.27 31 IAmb IAmb 06 43 52.6
comp=Z,32nm,1.5s
AB31 Akbulak array 75.50 318 P **P 06 43 50.2 -2.8**
ABKAR Akbulak array 75.50 318 P 06 43 50.1 -2.9
OZB Mount Ozzard 76.49 43 P **P 06 43 60.0 +1.2**
TAOE Nuku Hiva Isla 76.78 103 *e*LR LR 07 07 26.0
comp=Z,824nm,29.9s
NLWA Neilton Lookou 77.84 44 P **P 06 44 06.4 +0.1**
NLWA IAmb IAmb 06 44 20.9
comp=Z,34nm,1.4s
PGC Sidney 77.87 43 P **P 06 44 07.7 +1.3**
GNW Green Mountain 78.50 44 IAmb IAmb 06 44 25.8
comp=Z,26nm,1.4s
I02E Swisshome, OR 78.50 47 IAmb IAmb 06 44 24.5
comp=Z,20nm,1.2s
COR Corvallis 78.78 47 P **P 06 44 07.7 -3.8**
COR pmax pmax
comp=Z,19nm,1.2s
KHMM Horse Mountain 79.26 51 IAmb IAmb 06 44 30.0
comp=Z,19nm,1.2s
I04A Tendick Farm, 79.58 47 IAmb IAmb 06 44 31.3
comp=Z,31nm,1.4s
YKA Yellowknife Ar 79.61 28 P **P 06 44 14.8 -0.8**
comp=Z,2.4nm,0.5s,baz=358,slow=11,SNR=8.9
comp=Z,2.4nm,0.5s
YKA Yellowknife Ar 79.61 28 *i* P **P 06 44 19.1 +3.4**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YBH Yreka Blue Hor 79.82 49 LR LR 07 11 46.0
comp=Z,13nm,20.0s,baz=238,slow=30
DCMP DeCamp, Califo 79.86 52 IAmb IAmb 06 44 16.9
comp=Z,16nm,1.1s
J04A Umpqua Nationa 79.92 48 IAmb IAmb 06 44 33.0
comp=Z,13nm,0.7s
WIFE Three Sisters- 79.94 47 IAmb IAmb 06 44 34.5
comp=Z,29nm,1.3s
L04D Klamath Falls 80.01 49 IAmb IAmb 06 44 34.1
comp=Z,26nm,1.4s
M03C McCloud 80.36 50 IAmb IAmb 06 44 45.7
comp=Z,16nm,1.0s
J05D Fort Rock, OR 80.53 48 IAmb IAmb 06 44 40.9
comp=Z,20nm,1.2s
PINE Pine Mountain 80.62 47 P 06 44 23.4 +1.7
PINE IAmb IAmb 06 44 36.0
comp=Z,25nm,0.9s
O03E Paynes Creek 80.82 51 IAmb IAmb 06 44 38.1
comp=Z,42nm,1.4s
WAH2 Wahluke Slope 80.85 44 IAmb IAmb 06 44 38.0
comp=Z,29nm,1.5s
K05A Summer Lake 80.91 48 IAmb IAmb 06 44 38.4
comp=Z,33nm,1.2s
ORV Oroville 81.22 51 IAmb IAmb 06 44 40.1
comp=Z,21nm,1.4s
SPITS Spitsbergen Ar 81.50 351 LR LR 07 24 17.3
comp=Z,244nm,18.6s,baz=318,slow=38
NEW Newport 82.06 42 IAmb IAmb 06 44 45.0
comp=Z,15nm,1.1s
WELL Weller Preserv 82.08 52 IAmb IAmb 06 44 45.3
comp=Z,23nm,1.4s
BELG Belogornoye 82.44 322⇑ *e*P **P 06 44 34.8 +3.9**
BELG pmax pmax
comp=Z,4.0nm,1.1s
CMB Columbia Colle 82.44 53 IAmb IAmb 06 44 46.9
comp=Z,14nm,1.2s
J08A Circle Bar Ran 82.46 47 IAmb IAmb 06 44 43.2
comp=Z,16nm,1.2s
WVOR Wild Horse Val 82.59 48 IAmb IAmb 06 44 45.9
comp=Z,25nm,1.4s
PAHR Pah Rah Range 82.77 51 IAmb IAmb 06 44 47.7
comp=Z,17nm,1.3s
BMO Blue Mountains 82.87 45 IAmb IAmb 06 44 48.8
comp=Z,17nm,1.4s
WAKR Walker 83.04 52 IAmb IAmb 06 44 49.9
comp=Z,20nm,1.4s
KLMR Klimovskoe 83.79 332 *e*P **P 06 44 36.5 -1.2**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR MLR MLR
comp=Z,512nm,18.0s
NVAR Mina Array Bea 83.92 52 P **P 06 44 39.9 +0.6**
NVAR Mina Array Bea 83.92 52 P **P 06 44 37.5 -1.7**
comp=Z,1.0nm,0.6s,baz=275,slow=6.3,SNR=19
comp=Z,1.0nm,0.6s
MFID Camas Ranch 84.30 47 IAmb IAmb 06 44 52.0
comp=Z,15nm,1.1s
ARCES ARCESS Array B 84.86 342 P **P 06 44 41.0 -2.0**
comp=Z,2.7nm,1.0s,baz=338,slow=9.5,SNR=4.3
ARCES LR LR 07 26 24.9
comp=Z,342nm,18.7s,baz=224,slow=38
comp=Z,2.7nm,1.0s
MPMC Manual Prospec 85.21 54 IAmb IAmb 06 45 15.0
comp=Z,12nm,1.4s
CCCA Chr Cany lake 85.46 54 IAmb IAmb 06 45 17.1
comp=Z,7.2nm,0.8s
ELK Elko 85.52 49 IAmb IAmb 06 45 10.6
comp=Z,10nm,1.1s
ELK Elko 85.52 49 LR LR 07 15 00.6
comp=Z,227nm,21.7s,baz=150,slow=30
NEEM North Greenlan 85.73 4 *i* P **P 06 44 46.7 -0.9**
DLMT Dillon 85.89 44 IAmb IAmb 06 45 02.3
comp=Z,10nm,0.9s
TPNV Topopah Spring 85.91 53 IAmb IAmb 06 45 03.9
comp=Z,12nm,1.3s
ELS Elsinore Mount 85.96 56 P **P 06 44 48.5 -0.9**
R11B Troy Canyon, C 85.99 51 IAmb IAmb 06 45 04.4
comp=Z,11nm,1.2s
CPE Camp Elliot 86.44 57 P **P 06 44 52.0 +0.4**
DAG Danmarks Havn 86.55 357 *i* P **P 06 44 50.0 -1.3**
DNR Dunn Ranch,Anz 86.62 56 P **P 06 44 51.7 -0.9**
DNR IAmb IAmb 06 45 07.2
comp=Z,15nm,1.4s
SPR3 Spring Creek 3 86.72 50 IAmb IAmb 06 45 07.4
comp=Z,11nm,1.2s
PFO Pinyon Flats O 86.74 56 P **P 06 44 56.7 +3.5**
PFO IAmb IAmb 06 45 23.5
comp=Z,15nm,1.5s
PFO Pinyon Flats O 86.74 56 P **P 06 44 56.7 +3.5**
PFO pmax pmax
comp=Z,15nm,1.5s
EGMT Eagleton 86.82 41 IAmb IAmb 06 45 07.0
comp=Z,24nm,1.3s
YHB Horse Butte 87.04 44 IAmb IAmb 06 45 16.8
comp=Z,20nm,1.1s
YMR Madison River 87.22 44 IAmb IAmb 06 45 21.8
comp=Z,18nm,1.0s
V12A Nelson 87.35 54 IAmb IAmb 06 45 25.7
comp=Z,13nm,1.3s
DUG Dugway, Tooele 87.44 49 IAmb IAmb 06 45 07.6
comp=Z,11nm,0.9s
DUG Dugway, Tooele 87.44 49 P **P 06 44 53.4 -3.2**
DUG pmax pmax
comp=Z,12nm,1.2s
BC3 Big Chuckawall 87.53 56 IAmb IAmb 06 45 26.3
comp=Z,13nm,1.4s
OBN Obninsk 87.57 327 LR LR 07 27 06.6
comp=Z,546nm,18.2s,baz=11,slow=38
OBN Obninsk 87.57 327 *e*P **P 06 44 57.3 +0.7**
OBN *e* 06 48 23.7
OBN pmax pmax
comp=Z,3.0nm,0.6s
TPAW Teton Pass 87.64 45 IAmb IAmb 06 45 17.9
comp=Z,17nm,1.5s
HWUT Hardware Ranch 87.86 47 IAmb IAmb 06 45 24.1
comp=Z,9.9nm,0.9s
CCUT Cedar City 87.91 52 IAmb IAmb 06 45 10.1
comp=Z,8.3nm,1.1s
LCMT Little Creek M 88.17 52 IAmb IAmb 06 45 14.4
comp=Z,11nm,1.4s
RLMT Red Lodge 88.18 43 IAmb IAmb 06 45 16.2
comp=Z,9.3nm,1.1s
KBZ Khabaz 88.27 315 P **P 06 44 57.5 -2.6**
comp=Z,3.6nm,1.0s,baz=119,slow=2.9,SNR=5.0
comp=Z,3.6nm,1.0s
KBZ Khabaz 88.27 315⇓ *e*P **P 06 45 00.4 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
JLU Jordanelle 88.29 48 IAmb IAmb 06 45 13.8
comp=Z,11nm,0.9s
KIV Kislovodsk 88.33 315 *e*P **P 06 44 59.3 -1.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
MPU Maple Canyon 88.36 49 IAmb IAmb 06 45 19.8
comp=Z,9.2nm,1.1s
KNB Kanab 88.49 52 IAmb IAmb 06 45 17.8
comp=Z,22nm,1.4s
PDAR Pinedale Array 88.85 46 P **P 06 45 03.9 +0.6**
PDAR Pinedale Array 88.85 46 P **P 06 45 02.6 -0.7**
comp=Z,0.4nm,0.5s,baz=244,slow=0.3,SNR=7.4
PDAR LR LR 07 24 47.1
comp=Z,96nm,18.1s,baz=78,slow=36
comp=Z,0.4nm,0.5s
Q16A Castle Valley 89.07 50 IAmb IAmb 06 45 28.3
comp=Z,14nm,1.2s
113A Mohawk Valley, 89.15 56 P 06 45 04.5 -0.1
FINES FINESS Array B 89.24 336 P **P 06 45 02.7 -1.7**
comp=Z,1.8nm,0.7s,baz=59,slow=3.9,SNR=7.3
comp=Z,1.8nm,0.7s
LAO LASA Array 89.55 41 IAmb IAmb 06 45 35.2
comp=Z,16nm,1.1s
RDMU Red Mountain 89.64 48 IAmb IAmb 06 45 21.5
comp=Z,15nm,1.2s
HMU Henry Mountain 89.73 50 IAmb IAmb 06 45 21.8
comp=Z,8.1nm,1.0s
WUAZ Wupatki 90.10 53 IAmb IAmb 06 45 25.2
comp=Z,8.9nm,1.1s
214A Organ Pipe Nat 90.18 57 P **P 06 45 08.3 -1.2**
214A IAmb IAmb 06 45 25.5
comp=Z,9.2nm,1.1s
SOC Sochi 90.46 316 *e*P **P 06 45 11.9 +1.4**
SOC *e* 06 48 42.3
SOC *e*PPP PPP 06 50 42.8
SOC *e*S **SKSac 06 55 39.6 +0.1**
SOC *e*SS **SS 07 02 08.3 +4.8**
SOC *e*SSS SSS 07 05 41.9
O20A White River Ci 90.74 48 IAmb IAmb 06 45 41.4
comp=Z,14nm,1.2s
PV21 Cone Mtn., Par 90.80 49 IAmb IAmb 06 45 30.2
comp=Z,6.3nm,0.7s
PV14 Lion Creek, Pa 90.84 50 IAmb IAmb 06 45 46.2
comp=Z,16nm,1.0s
PV03 Paradox Valley 91.01 50 IAmb IAmb 06 45 35.1
comp=Z,12nm,1.2s
PV01 Paradox Valley 91.26 50 IAmb IAmb 06 45 27.9
comp=Z,15nm,1.4s
HAYD Hayden 91.29 47 IAmb IAmb 06 45 43.9
comp=Z,14nm,1.2s
TUC Tucson 91.67 56 P **P 06 45 13.6 -2.9**
TUC pmax pmax
comp=Z,3.0nm,1.2s
RSSD Black Hills 92.01 43 P **P 06 45 15.1 -2.9**
RSSD pmax pmax
comp=Z,7.0nm,1.6s
ISCO Idaho Springs 92.73 47 P **P 06 45 18.2 -3.3**
ISCO pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 93.58 326 LR LR 07 30 33.0
comp=Z,365nm,18.5s,baz=60,slow=37
ANMO Albuquerque 94.05 52⇑ *e*P **P 06 45 30.6 +3.0**
ANMO pmax pmax
comp=Z,6.0nm,1.6s
VNDA Vanda 94.21 177 P **P 06 45 28.3 +1.4**
VNDA Vanda 94.21 177 P **P 06 45 28.1 +1.2**
comp=Z,0.3nm,0.3s,baz=360,slow=1.9,SNR=7.8
VNDA LR LR 07 24 54.2
comp=Z,78nm,21.9s,baz=346,slow=34
comp=Z,0.3nm,0.3s
LPIG La Paz 94.93 63 LR LR 07 22 39.2
comp=Z,187nm,18.7s,baz=156,slow=32
NOA NORSAR Array B 94.94 340 LR LR 07 30 20.8
comp=Z,321nm,21.7s,baz=35,slow=37
MLR Muntele Rosu 98.23 322 LR LR 07 31 44.3
comp=Z,292nm,21.6s,baz=180,slow=36
TXAR Lajitas Array 98.46 56 P **P 06 45 46.7 -0.8**
comp=Z,0.1nm,0.9s,baz=324,slow=6.2,SNR=1.4
comp=Z,0.1nm,0.9s
CLL Collm 101.28 332 *i* P **Pdif 06 45 58.7 -0.8**
CLL pmax pmax
comp=Z,30nm,2.2s
CLL MLR MLR
comp=Z,400nm,18.3s
CLL Collm 101.28 332 *es*Pdif **Pdif 06 46 06.0 +6.5**
CLL *e*PPS PPS 06 59 54.0

CLL *e*SS SS 07 04 36.0 +0.2
CLL LmV 07 35 00.0
comp=Z,400nm,18.3s
SYO Syowa Base 111.29 202⇑*e*pPdiff pPdif 06 46 51.0 -2.5
SYO Syowa Base 111.29 202⇓*e*sPdiff **Pdif 06 46 53.4 +10**
SNAA Sanae 121.88 191 PKP **PkiKP 06 51 02.4 +0.1**
comp=Z,0.8nm,0.7s,baz=192,slow=4,SNR=9.0
ROSC El Rosal 134.43 66 PKP **PKPdf 06 51 28.6 +0.4**
comp=Z,1.7nm,0.3s,baz=0.3,slow=22,SNR=1.2
TORD Torodi Ar. Bea 134.45 308 PKP **PKPdf 06 51 27.8 +0.1**
comp=Z,0.8nm,1.1s,baz=41,slow=3.6,SNR=2.9
PLCA Paso Flores 139.90 135 PKP **PKPdf 06 51 37.8 +0.6**
comp=Z,1.9nm,0.9s,baz=62,slow=4.6,SNR=4.5
BO02 Sierra Bellavi 142.02 126 PKPdf 06 51 39.7 -1.5
DBIC Dimbokro 143.52 307 PKP **PKPdf 06 51 44.9 +0.6**
comp=Z,11nm,1.1s,baz=86,slow=4.3,SNR=8.3
LCO Las Campanas 143.63 117 PKPdf 06 51 43.3 -1.1
LCO Las Campanas 143.63 117 PKIKP **PKPdf 06 51 43.3 -1.1**
CO01 Juntas del Tor 143.94 119 PKPdf 06 51 45.9 +1.0
AC06 Mina Casimiro 144.25 114 PKPbc 06 51 43.4 -0.1
GO03 Copiapo 144.31 115 PKPdf 06 51 46.6 +1.2
ZON Zonda 144.70 122 PKPab 06 51 44.8 +0.1
ZON Zonda 144.70 122 PKIKP PKPbc 06 51 44.8 0.0
TA01 Diego Aracena 145.02 102 PKPbc 06 51 45.0 -1.1
PB03 IPOC Station P 145.38 105 PKPbc 06 51 44.8 -2.6
PB11 IPOC Station P 145.52 101 PKPdf 06 51 46.7 -1.1
PB18 Visviri 145.61 97 PKPdf 06 51 46.0 -2.4
LPAZ La Paz 146.80 95 PKPbc 06 51 52.4 0.0
LPAZ La Paz 146.80 95 PKPbc **PKPab 06 51 53.5 -0.2**
comp=Z,5.7nm,0.4s,baz=18,slow=4.6,SNR=26
LPAZ La Paz 146.80 95 PKP2 **PKPbc 06 51 52.4 0.0**
BOAV Boa Vista 147.40 57 PKPdf **PKPdf 06 51 50.1 -0.8**
MACA Manacapuru-AM 150.20 67 PKPdf 06 51 53.3 -2.2

*IDC **13** 07:06:02.5±1.1, 49°.99N×78°.74E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=14.3km s-min=6.5km az=66.0*
*NNC **13** 07:06:05.7±1.4, 50°.17N×78°.35E, h0km, mb3.3, mpv2.6, Error ellipse: s-maj=15.6km s-min=6.6km az=88.0, Suspected Mining explosion.*
ISC 13 07:06:01.9±1.8, 49°.99N±0°.06×78°.6E±0°.2, h0km, n8, σ1$46/14, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.64**	**357**	Pg	**Pg**	**07 06 15.2**	**+1.0**
	0.9nm,0.3s,baz=164,slow=19,SNR=40						
KURBB				Lg	Lg	07 06 24.7	
	0.9nm,0.3s,baz=170,slow=21,SNR=5.8						
KURBB	**Kurchatov Arra**	**0.64**	**357**	⇑P	**Pg**	**07 06 14.2**	**+0.1**
	16nm,0.5s,baz=188,slow=15						
KURBB				⇓S	**Sg**	**07 06 22.2**	**-0.2**
	58nm,0.7s,baz=324,slow=26						
KURK	**Kurchatov**	**0.73**	**2**	⇑P	**Pg**	**07 06 17.2**	**+1.3**
	3.3nm,0.6s,baz=324,slow=26						
KURK				⇓S	**Sg**	**07 06 24.9**	**-0.5**
	16nm,0.8s,baz=324,slow=26						
MAKZ	**Makanchi**	**3.91**	**143**	⇑Pn	**Pb**	**07 07 10.9**	**-0.7**
	2.5nm,0.9s,baz=324,slow=26						
MAKZ				⇓Sn	**Sb**	**07 08 01.9**	**+2.5**
	6.8nm,0.7s,baz=324,slow=26						
MK31	**Makanchi Array**	**4.04**	**141**	Pn	**Pb**	**07 07 12.2**	**-1.8**
	1.8nm,0.7s,baz=328,slow=15,SNR=9.9						
MK31				⇓Sn	**Sb**	**07 08 05.2**	**+1.9**
	6.9nm,0.7s,baz=323,slow=28						
MKAR	**Makanchi Array**	**4.04**	**141**	Pn	**Pn**	**07 07 05.1**	**+0.1**
	0.1nm,0.3s,baz=324,slow=11,SNR=4.6						
MKAR				Pg	**Pb**	**07 07 11.6**	**-2.3**
	0.3nm,0.3s,baz=324,slow=14,SNR=11						
MKAR				Sn	**Sn**	**07 07 52.2**	**-0.8**
	0.1nm,0.3s,baz=333,slow=18,SNR=1.5						
MKAR				Lg	Lg	07 08 09.8	
	0.5nm,0.3s,baz=325,slow=25,SNR=13						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**5.53**	**42**	Pn	**Pn**	**07 07 25.7**	**+0.2**
	0.3nm,0.3s,baz=226,slow=14,SNR=3.2						
ZALV				Sn	**Sn**	**07 08 28.9**	**-0.8**
	0.1nm,0.3s,baz=220,slow=24,SNR=1.3						
ZALV				Lg	Lg	07 08 56.6	
	0.3nm,0.3s,baz=225,slow=26,SNR=2.1						
	0.7nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.54**	**42**	I	I	07 38 30.0	
	baz=224,slow=321,SNR=5.4						

*IDC **13** 07:17:26.0±1.4, 24°.18N×127°.55E, h0km, mb3.4/3, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=58.0km s-min=21.6km az=87.0*
*JMA **13** 07:17:26.3±0.2, 24°.N±2°.×12°.7E±°, h95km±3km, MV2.9/12, NEAR MIYAKOJIMA ISLAND*
ISC 13 07:17:28.1±1.2, 24°.36N±0°.09×126°.66E±0°.06, h35km, n11, σ0$80/14, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.21**	**289**	P	**Pn**	**07 17 48.1**	**-0.4**
JOGS				*e*S	**Sn**	**07 18 04.6**	**+0.9**
JMJ2	**Miyako jima3**	**1.27**	**288**	*e*P	**Pn**	**07 17 49.0**	**-0.4**
JMJ2				*e*S	**Sn**	**07 18 06.3**	**+1.1**
JTJ	**Tarama**	**1.80**	**279**	*e*P	**Pn**	**07 17 55.7**	**-1.1**
JKE	**Kume jima 2**	**1.96**	**3**	*e*P	**Pn**	**07 17 58.5**	**-0.4**
JKE				*e*S	**Sn**	**07 18 22.2**	**0.0**
JISG	**Ishigakijimahi**	**2.15**	**276**	*e*P	**Pn**	**07 18 00.5**	**-1.0**
JIJ	**Ishigaki jima**	**2.29**	**271**	*e*P	**Pn**	**07 18 02.4**	**-1.1**
JOW	**Kunigami**	**2.86**	**30**	Pn	**Pn**	**07 18 11.3**	**+0.1**
	3.7nm,0.3s,baz=158,slow=17,SNR=7.3						
JOW				Sn	**Sn**	**07 18 44.0**	**-0.5**
	5.0nm,0.3s,baz=126,slow=28,SNR=1.8						
	8.9nm,0.3s						
JAM	**Amami Oshima**	**4.82**	**33**	*e*P	**Pn**	**07 18 37.6**	**-0.6**
MKAR	**Makanchi Array**	**41.76**	**314**	P	P	07 25 23.1	+9.1
	0.4nm,0.6s,baz=99,slow=9.1,SNR=1.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.67**	**170**	P	**P**	**07 25 37.8**	**+0.2**
	0.8nm,0.8s,baz=349,slow=8.6,SNR=8.0						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**48.26**	**171**	P	**P**	**07 26 06.6**	**+0.8**
	0.2nm,0.6s,baz=351,slow=8.1,SNR=4.4						
	0.2nm,0.6s						

*IDC **13** 07:32:18.1±7.1, 24°.39S×179°.21E, h688km±88km, mb2.9/8, mbtmp3.9/8, Error ellipse: s-maj=41.6km s-min=24.0km az=77.0*
ISC 13 07:32:06.5±0.8, 24°.4S±0°.2×179°.6E±0°.2, h550km, n14, σ1$32/14, mb3.6/10, 3C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.24**	**249**	P	**P**	**07 38 07.5**	**+0.5**
	0.8nm,0.4s,baz=100,slow=9.3,SNR=4.6						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**41.63**	**261**	P	**P**	**07 39 07.8**	**+0.6**
	0.5nm,0.4s,baz=90,slow=6.6,SNR=31						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**42.04**	**267**	P	**P**	**07 39 10.8**	**+0.3**
	1.8nm,0.4s,baz=105,slow=7.8,SNR=57						
	1.8nm,0.4s						
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**07 41 58.2**	**+1.4**
	1.7nm,0.7s,baz=355,slow=0.7,SNR=13						
	1.7nm,0.7s						
MAW	**Mawson**	**77.20**	**201**	P	**P**	**07 43 02.9**	**-0.6**
	0.5nm,0.5s,baz=146,slow=3.6,SNR=1.9						
	0.5nm,0.5s						
TROLL	**Troll, Antarti**	**83.86**	**181**	⇑P	**P**	**07 43 37.5**	**-0.7**
	comp=Z,186nm,0.6s						
SNAA	**Sanae**	**84.21**	**179**	⇑P	**P**	**07 43 37.9**	**-1.9**
	comp=Z,12nm,0.5s						
SNAA	**Sanae**	**84.21**	**179**	P	**P**	**07 43 38.6**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=201,slow=9.6,SNR=7.4						
	comp=Z,0.5nm,0.6s						
VNA3	**Neumayer Olymp**	**84.43**	**177**	⇑P	**P**	**07 43 40.1**	**-0.8**
	comp=Z,0.8nm,0.4s						
VNA2	**Neumayer--Watz**	**84.84**	**178**	⇓P	**P**	**07 43 42.5**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=177,slow=4.9						
NVAR	**Mina Array Bea**	**85.32**	**44**	P	**P**	**07 43 46.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=268,slow=4.3,SNR=3.0						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.96**	**58**	P	**P**	**07 44 13.8**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=212,slow=5.6,SNR=6.4						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**142.94**	**348**	PKP	**PKPdf**	**07 50 35.6**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=66,slow=3.7,SNR=8.6						
EKA	**Eskdalemuir Ar**	**149.00**	**3**	PKPbc	**PKPbc**	**07 50 50.1**	**-2.2**
	comp=Z,1.0nm,0.8s,baz=12,slow=3.8,SNR=4.4						

IDC 13 07:52:35.0±5.2, 21°.28S×177°.51W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=309.6km s-min=59.4km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.80**	**257**	P	P	08 00 50.8	-0.1
	0.8nm,0.7s,baz=101,slow=7.6,SNR=16						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.96**	**263**	P	P	08 00 52.2	0.0
	0.3nm,0.3s,baz=97,slow=8.3,SNR=13						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**143.92**	**331**	PKP	PKPdf	08 12 11.9	-0.3
	0.3nm,0.4s,baz=66,slow=1.1,SNR=1.2						
MMAI	**Mount Meron Ar**	**148.60**	**299**	PKPbc	PKPbc	08 12 23.7	-0.8
	0.9nm,0.2s,baz=99,slow=4.8,SNR=5.0						

*IDC **13** 07:58:32.5±1.0, 54°.28N×35°.33W, h0km, mb3.4/11, mbtmp3.4/11, MS3.6/12, Error ellipse: s-maj=34.7km s-min=19.4km az=10.0*
ISC 13 07:58:34.0±0.9, 54°.3N±0°.2×35°.3W±0°.1, h10km, n23, σ0$42/13, mb3.4/10, MS3.5/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.65**	**28**	LR	LR	08 05 03.0	
	comp=Z,164nm,21.8s,baz=225,slow=31						
NOA	**NORSAR Array B**	**25.34**	**56**	LR	LR	08 12 21.7	
	comp=Z,52nm,20.8s,baz=30,slow=33						
ESDC	**Sonseca Array**	**25.64**	**112**	P	**P**	**08 04 03.6**	**0.0**
	1.0nm,1.1s,baz=319,slow=7.5,SNR=1.4						
ESDC				LR	LR	08 12 24.1	
	comp=Z,93nm,18.7s,baz=354,slow=32						
	1.0nm,1.1s						
GERES	**GERESS Array B**	**30.45**	**80**	P	**P**	**08 04 46.7**	**+0.1**
	0.1nm,0.4s,baz=292,slow=8.3,SNR=2.0						
GERES				LR	LR	08 15 57.5	
	comp=Z,120nm,20.4s,baz=66,slow=34						
	0.1nm,0.4s						
VRAC	**Vranov**	**31.89**	**77**	LR	LR	08 17 20.9	
	comp=Z,71nm,18.7s,baz=11,slow=35						
FINES	**FINESS Array B**	**32.32**	**52**	LR	LR	08 17 53.8	
	comp=Z,87nm,19.1s,baz=18,slow=36						
TKL	**Tuckaleechee C**	**38.10**	**261**	LR	LR	08 19 49.7	
	comp=Z,79nm,20.6s,baz=356,slow=34						
AKASG	**Malin Array Be**	**38.26**	**68**	P	**P**	**08 05 54.1**	**+0.2**
	0.2nm,0.3s,baz=298,slow=8.2,SNR=4.6						
	0.2nm,0.3s						
INK	**Inuvik**	**43.89**	**328**	LR	LR	08 23 32.7	
	comp=Z,116nm,18.0s,baz=74,slow=34						
BRTR	**Keskin Array B**	**47.33**	**78**	P	**P**	**08 07 08.2**	**+0.5**
	0.4nm,0.4s,baz=319,slow=6.6,SNR=5.7						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**48.29**	**288**	P	**P**	**08 07 15.6**	**+0.2**
	0.2nm,0.5s,baz=40,slow=7.9,SNR=1.4						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**50.26**	**329**	P	**P**	**08 07 30.1**	**+0.3**
	0.2nm,0.8s,baz=44,slow=7.4,SNR=2.9						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.27**	**130**	P	**P**	**08 07 30.3**	**-0.1**
	0.7nm,0.9s,baz=341,slow=9.1,SNR=3.6						
	0.7nm,0.9s						
ANMO	**Albuquerque**	**51.85**	**279**	LR	LR	08 29 20.9	
	comp=Z,175nm,18.0s,baz=88,slow=36						
ELK	**Elko**	**52.79**	**290**	LR	LR	08 29 26.0	
	comp=Z,92nm,18.0s,baz=8.5,slow=35						
DBIC	**Dimbokro**	**53.44**	**141**	LR	LR	08 27 28.9	
	comp=Z,101nm,18.8s,baz=72,slow=32						
TXAR	**Lajitas Array**	**54.28**	**272**	P	**P**	**08 08 00.3**	**+0.1**
	0.3nm,0.8s,baz=36,slow=8.4,SNR=4.5						
	0.3nm,0.8s						
ASF	**Jabal al Asfar**	**54.48**	**83**	LR	LR	08 30 50.1	
	comp=Z,53nm,19.2s,baz=70,slow=36						
KURBB	**Kurchatov Arra**	**61.76**	**41**	P	**P**	**08 08 52.2**	**-0.1**
	0.2nm,0.2s,baz=323,slow=7.4,SNR=5.4						
	0.2nm,0.2s						
MKAR	**Makanchi Array**	**66.33**	**42**	P	**P**	**08 09 22.4**	**0.0**
	0.4nm,0.7s,baz=325,slow=7.7,SNR=3.6						
	0.4nm,0.7s						
SONM	**Songino Array**	**73.25**	**26**	P	**P**	**08 10 04.5**	**-0.7**
	0.4nm,0.5s,baz=328,slow=5.2,SNR=2.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**144.84**	**17**	PKP	**PKPdf**	**08 18 10.1**	**-0.9**
	0.3nm,0.8s,baz=333,slow=2.2,SNR=7.0						
ASAR	**Alice Springs**	**148.40**	**19**	PKPbc	**PKPbc**	**08 18 20.4**	**0.0**
	0.7nm,0.6s,baz=350,slow=2.2,SNR=12						

GII 13 08:00:33.9±0.0, 32°.78N×35°.39E, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIR	**Sapir Facility**	**0.15**	**57**	P	Pg	08 00 37.8	+1.0
SPIR	**Sapir Facility**	**0.15**	**57**	S	Sg	08 00 40.7	+1.9
KNHM	**Kefar Nahum**	**0.19**	**58**	P	Pg	08 00 38.5	+1.0
KNHM	**Kefar Nahum**	**0.19**	**58**	S	Sg	08 00 42.1	+2.1
AMID	**Amiad**	**0.19**	**41**	P	Pg	08 00 38.2	+0.6
AMID	**Amiad**	**0.19**	**41**	S	Sg	08 00 42.2	+2.1
MMA0B	**Mount Meron ar**	**0.23**	**3**	P	Pg	08 00 39.6	+1.3
MMA0B	**Mount Meron ar**	**0.23**	**3**	S	Sg	08 00 43.9	+2.5
MMC7	**Mount Meron ar**	**0.24**	**1**	P	Pg	08 00 39.2	+0.8
HDNS	**Had-Ness**	**0.26**	**56**	P	Pg	08 00 39.8	+1.0
HDNS	**Had-Ness**	**0.26**	**56**	S	Sb	08 00 44.5	-1.9

IDC 13 08:16:26.3±5.3, 2°.97S×147°.80E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=155.3km s-min=35.7km az=100.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**217**	P	P	08 21 15.1	-0.6
	1.7nm,0.8s,baz=42,slow=11,SNR=22						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**24.57**	**212**	P	P	08 21 47.9	-0.4
	0.8nm,0.8s,baz=37,slow=7.4,SNR=12						
	0.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.41**	**234**	P	P	08 22 05.8	+0.9
	4.3nm,0.9s,baz=63,slow=11,SNR=6.6						
	4.3nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**28.30**	**40**	T	T	08 51 42.6	
	baz=222,slow=76,SNR=293						
H11S2	**WAKE ISLAND Hy**	**28.31**	**40**	T	T	08 51 44.6	
	baz=222,slow=76,SNR=339						
H11S1	**WAKE ISLAND Hy**	**28.32**	**40**	T	T	08 51 45.4	
	baz=222,slow=76,SNR=241						
H11N1	**WAKE ISLAND Hy**	**29.33**	**39**	T	T	08 53 00.6	
	baz=221,slow=76,SNR=65						
H11N3	**WAKE ISLAND Hy**	**29.34**	**39**	T	T	08 53 01.6	
	baz=221,slow=76,SNR=180						
H11N2	**WAKE ISLAND Hy**	**29.34**	**39**	T	T	08 53 03.8	
	baz=221,slow=76,SNR=123						
MKAR	**Makanchi Array**	**75.69**	**320**	P	P	08 28 13.6	-0.1
	0.1nm,0.4s,baz=127,slow=3.8,SNR=1.8						
	0.1nm,0.4s						

*IDC **13** 08:23:01.3±2.5, 10°.63S×120°.05E, h0km, mb3.5/1, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=205.1km s-min=28.1km az=52.0*
ISC 13 08:23:03.1±1.6, 10°.8S±0°.3×120°.2E±0°.3, h10km, n7, σ3$76/6, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.97**	**145**	Pn	**Pn**	**08 25 14.1**	**+1.3**
	0.1nm,0.3s,baz=329,slow=12,SNR=7.9						
FITZ				Sn	**Sn**	**08 26 50.3**	**-3.7**
	0.4nm,0.3s,baz=180,slow=20,SNR=6.9						
	2.1nm,1.0s						
WRA	**Warramunga Arr**	**16.37**	**126**	Pn	**Pn**	**08 26 54.9**	**+1.6**
	0.1nm,0.7s,baz=298,slow=13,SNR=1.2						
WRA				Sn	**Sn**	**08 29 52.2**	**-2.9**
	baz=300,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**18.29**	**136**	P	**Pn**	**08 27 20.8**	**+3.6**
	baz=321,slow=13,SNR=4.9						
	0.4nm,0.9s						
H08S2	**Diego Garcia H**	**47.18**	**270**	T	T	09 21 49.8	
	baz=96						
H08S3	**Diego Garcia H**	**47.20**	**270**	T	T	09 22 12.0	
	baz=96						
H08S1	**Diego Carcia H**	**47.20**	**270**	T	T	09 22 09.9	
	baz=96						
MKAR	**Makanchi Array**	**66.58**	**333**	P	**P**	**08 33 51.9**	**-1.6**
	0.3nm,0.6s,baz=120,slow=5.7,SNR=3.1						
	0.3nm,0.6s						

IDC 13 08:30:19.3±1.5, 2°.61S×138°.34E, h0km, mb3.3/2, mbtmp3.3/4, ML3.0/2, MS2.7/1, Error ellipse: s-maj=30.8km s-min=27.1km az=172.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.37**	**88**	Pn	Pn	08 30 59.3	-0.2
	3.3nm,0.3s,baz=230,slow=8.7,SNR=11						
JAY				Sn	Sn	08 31 30.7	+1.4
	1.1nm,0.3s,baz=132,slow=20,SNR=1.4						
JAY				LR	LR	08 32 08.9	
	comp=Z,152nm,18.9s,baz=17,slow=46						
	6.2nm,0.3s						
WRA	**Warramunga Arr**	**17.67**	**192**	P	Pn	08 34 27.1	0.0
	0.1nm,0.3s,baz=10,slow=12,SNR=4.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**21.37**	**191**	P	P	08 35 08.6	0.0
	0.4nm,0.8s,baz=22,slow=11,SNR=5.8						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**69.48**	**323**	P	P	08 41 29.8	0.0
	0.7nm,0.7s,baz=120,slow=7.2,SNR=5.9						
	0.7nm,0.7s						

*JSN **13** 08:36:06.5±2.4, 18°.04N×79°.12W, h15km±999km, MD4.0*
*SSNC **13** 08:36:08.7±2.6, 17°.74N×78°.85W, h96km±32km, MD3.5*
ISC 13 08:36:12.1±2.5, 18°.0N±0°.1×78°.76W±0°.09, h35km, n16, σ1$78/28, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.02**	**92**	⇑*i*P	**Pn**	**08 36 28.7**	**-1.3**
MTDJ	**Mount Denham**	**1.19**	**77**	⇑*i*P	**Pn**	**08 36 32.6**	**+0.1**
MTDJ				*i*S	**Sn**	**08 36 50.3**	**+2.9**
MTDJ	**Mount Denham**	**1.19**	**77**	*e*P	**Pn**	**08 36 32.3**	**-0.1**
MTDJ				*e*S	**Sn**	**08 36 49.3**	**+1.8**
STH	**Stony Hill**	**1.86**	**86**	*i*P	**Pn**	**08 36 40.9**	**-0.6**
HOJ	**Hope**	**1.91**	**89**	*i*P	**Pn**	**08 36 44.2**	**+2.0**
LMGC	**Las Mercedes**	**2.67**	**38**	*e*P	**Pn**	**08 36 52.0**	**-0.6**
LMGC				*e*S	**Sn**	**08 37 25.7**	**+2.0**
CHIV	**Chivirico**	**2.99**	**48**	*e*P	**Pn**	**08 36 55.5**	**-1.5**
CHIV				*e*S	**Sn**	**08 37 33.3**	**+1.6**
YAR	**Yar**	**3.30**	**43**	*e*P	**Pn**	**08 37 00.5**	**-0.8**
YAR				*e*S	**Sn**	**08 37 38.1**	**-1.2**
CCCC	**Cccc**	**3.35**	**16**	*e*P	**Pn**	**08 37 04.6**	**+2.6**
CCCC				*e*S	**Sn**	**08 37 43.4**	**+2.8**
MARVS	**Santiago de Cu**	**3.38**	**53**	*e*P	**Pn**	**08 37 05.1**	**+2.7**
MARVS				*e*S	**Sn**	**08 37 40.3**	**-1.0**
RCC	**Rio Carpintero**	**3.53**	**55**	*e*P	**Pn**	**08 37 05.0**	**+0.5**
RCC				*e*S	**Sn**	**08 37 44.5**	**-0.5**
PINC	**Pinares de May**	**3.76**	**48**	*e*P	**Pn**	**08 37 08.0**	**+0.3**
PINC				*e*S	**Sn**	**08 37 49.1**	**-1.7**
HLGC	**Holguin**	**3.87**	**41**	*e*P	**Pn**	**08 37 07.2**	**-1.9**
GTBY	**Guantanamo Bay**	**3.97**	**60**	*e*P	**Pn**	**08 37 11.1**	**+0.6**
GTBY				*e*S	**Sn**	**08 37 54.5**	**-1.3**
MGV	**Manicaragua**	**4.28**	**345**	*e*P	**Pn**	**08 37 14.8**	**-0.1**
MGV				*e*S	**Sn**	**08 38 01.4**	**-2.1**
QMBU	**Quimbuelo**	**4.34**	**59**	*e*P	**Pn**	**08 37 14.3**	**-1.4**
QMBU				*e*S	**Sn**	**08 38 01.6**	**-3.5**

*NEIC **13** 08:36:49.5±0.9, 56°.1S±0°.1×25°.7W±0°.1, h10km±1km, mb4.1/14, Error ellipse: s-maj=21.9km s-min=8.8km az=167.0*
*IDC **13** 08:36:49.5±1.1, 56°.14S×25°.92W, h0km, mb3.9/5, mbtmp3.8/6, ML3.4/1, MS3.5/2, Error ellipse: s-maj=45.7km s-min=22.4km az=75.0*
ISC 13 08:36:50.0±0.7, 56°.1S±0°.1×25°.9W±0°.1, h10km, n32, σ1$08/26, mb4.1/9, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.33**	**282**	Pn	**Pn**	**08 38 24.0**	**+0.8**
VNA1	**Neumayer--Stat**	**16.50**	**159**	⇑P	**Pn**	**08 40 41.7**	**+0.6**
	comp=Z,4.2nm,0.8s						
VNA3	**Neumayer Olymp**	**16.73**	**162**	⇓P	**Pn**	**08 40 43.7**	**-0.3**
	comp=Z,2.9nm,1.0s						
SNAA	**Sanae**	**18.42**	**157**	⇑P	**P**	**08 41 07.4**	**+2.3**
	comp=Z,49nm,0.8s						
SNAA	**Sanae**	**18.42**	**157**		**P**	**08 41 05.0**	**-0.2**
SNAA	**Sanae**	**18.42**	**157**	P	**P**	**08 41 04.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=313,slow=13,SNR=8.1						
	comp=Z,1.8nm,0.8s						
TROLL	**Troll, Antarti**	**19.90**	**154**	⇑P	**P**	**08 41 20.7**	**-0.6**
	comp=Z,29nm,0.6s						
BELA	**Belgrano 2**	**22.10**	**185**	P	**P**	**08 41 43.2**	**-1.7**
BELA				IAmb	IAmb	08 41 52.2	
	comp=Z,2.3nm,0.6s						
PLTB	**Pedras Altas**	**31.07**	**310**	P	**P**	**08 43 07.3**	**-0.7**
PLCA	**Paso Flores**	**32.72**	**279**	P	**P**	**08 43 21.0**	**-1.5**
PLCA				IAmb	IAmb	08 43 24.1	
	comp=Z,2.4nm,1.1s						
LL06	**Loncomilla**	**33.44**	**274**	P	**P**	**08 43 28.2**	**-0.6**
QSPA	**South Pole Qui**	**34.17**	**180**	P	**P**	**08 43 34.8**	**-0.3**
QSPA				IAmb	IAmb	08 43 37.5	
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**34.17**	**180**	P	**P**	**08 43 36.9**	**+1.9**
	comp=Z,2.9nm,0.6s,baz=178,slow=2.6,SNR=26						
	comp=Z,2.9nm,0.6s						
MT02	**Curacav**	**38.49**	**287**	P	**P**	**08 44 11.1**	**-1.0**
MT02				IAmb	IAmb	08 44 14.7	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**39.69**	**143**	P	**P**	**08 44 22.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=245,slow=0

	comp=E,14μm,0.2s						
PB01	**IPOC Station P**	**0.40**	**87**	*e*P	**Pn**	**08 39 39.5**	**+0.3**
PB01				*e*S	**Sn**	**08 39 46.4**	**+0.9**
PB01				IAML		08 39 46.9	
	comp=Z,6μm,0.1s						
TA01	**Diego Aracena**	**0.55**	**333⇓**	*e*P	**Pn**	**08 39 41.0**	**-0.1**
TA01				*e*S	**Sn**	**08 39 49.1**	**-0.1**
TA01	**Diego Aracena**	**0.55**	**333**	*e*P	**Pn**	**08 39 41.0**	**-0.1**
PX03	**IPOC Station P**	**0.71**	**22**	*e*P	**Pb**	**08 39 43.7**	**-0.1**
PX03				*e*S	**Sb**	**08 39 54.1**	**+0.9**
PX03				IAML		08 39 54.6	
	comp=N,6μm,0.3s						
TA02	**Huaiquique**	**0.81**	**346**	*e*P	**Pb**	**08 39 45.1**	**-0.3**
TA02				*e*S	**Sb**	**08 39 56.4**	**+0.3**
TA02				IAML		08 39 58.0	
	comp=N,6μm,0.2s						
TA02	**Huaiquique**	**0.81**	**346**	*e*P	**Pb**	**08 39 45.0**	**-0.3**
TA02				IAML		08 39 59.8	
	comp=Z,2μm,0.1s						
PB09	**IPOC Station P**	**0.96**	**139⇓**	*e*P	**Pb**	**08 39 48.3**	**+0.3**
PB09				*e*S	**Sb**	**08 40 01.4**	**+0.9**
PB09				IAML		08 40 02.5	
	comp=E,4μm,0.2s						
PB09	**IPOC Station P**	**0.96**	**139**	*e*P	**Pb**	**08 39 47.6**	**-0.4**
PB09				*e*S	**Sb**	**08 40 02.0**	**+1.5**
PB09				IAML		08 40 02.4	
	comp=Z,2μm,0.2s						
PB03	**IPOC Station P**	**0.99**	**171⇓**	*e*P	**Pb**	**08 39 47.7**	**-0.8**
PB03				*e*S	**Sb**	**08 40 00.0**	**-1.4**
PB03				IAML		08 40 03.9	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**0.99**	**171**	*e*P	**Pb**	**08 39 47.5**	**-1.0**
PB03				*e*S	**Sb**	**08 40 00.3**	**-1.0**
PB03				IAML		08 40 03.1	
	comp=Z,2μm,0.2s						
PB08	**IPOC Station P**	**1.16**	**38⇓**	*e*P	**Pb**	**08 39 51.8**	**+0.3**
PB08				*e*S	**Sb**	**08 40 07.5**	**+1.1**
PB08				IAML		08 40 08.9	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.16**	**38**	*e*P	**Pb**	**08 39 51.8**	**+0.3**
PB08				*e*S	**Sb**	**08 40 07.8**	**+1.4**
PB08				IAML		08 40 09.4	
	comp=Z,773nm,0.1s						
PB11	**IPOC Station P**	**1.32**	**11⇓**	*e*P	**Pb**	**08 39 53.5**	**-0.4**
PB11				*e*S	**Sb**	**08 40 11.3**	**+0.7**
PB11				IAML		08 40 12.4	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.32**	**11**	*e*P	**Pb**	**08 39 53.5**	**-0.4**
PB11				*e*S	**Sb**	**08 40 11.7**	**+1.1**
PB11				IAML		08 40 14.5	
	comp=Z,819nm,0.5s						
GO01	**Chusmiza**	**1.54**	**26⇓**	*e*P	**Pb**	**08 39 57.5**	**-0.5**
GO01				*e*S	**Sb**	**08 40 18.3**	**+1.0**
GO01	**Chusmiza**	**1.54**	**26**	*e*P	**Pb**	**08 39 57.5**	**-0.5**
GO01				*e*S	**Sb**	**08 40 18.4**	**+1.0**
GO01				IAML		08 40 19.4	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**1.67**	**169⇓**	*e*P	**Pb**	**08 39 57.7**	**-2.1**
PB06				*e*S	**Sb**	**08 40 18.9**	**-1.6**
PB06				IAML		08 40 23.0	
	comp=N,981nm,0.2s						
PB06	**IPOC Station P**	**1.67**	**169**	*e*P	**Pb**	**08 39 57.8**	**-2.1**
PB06				*e*S	**Sb**	**08 40 20.7**	**+0.1**
PB06				IAML		08 40 22.8	
	comp=Z,994nm,0.4s						
AF01	**San Pedro de A**	**2.48**	**140**	*e*P	**Pb**	**08 40 10.1**	**-3.5**
AF01				*e*S	**Sb**	**08 40 42.2**	**-1.7**
AF01				IAML		08 41 03.1	
	comp=Z,547nm,0.3s						
PB10	**IPOC Station P**	**2.51**	**194**	*e*P	**Pn**	**08 40 08.8**	**+0.7**
PB10				*e*S	**Sn**	**08 40 38.2**	**+0.6**
PB10	**IPOC Station P**	**2.51**	**194**	*e*P	**Pn**	**08 40 08.8**	**+0.7**
PB10				*e*S	**Sb**	**08 40 50.8**	**+6.2**
PB16	**IPOC Station P**	**2.74**	**8**	*e*P	**Pb**	**08 40 14.9**	**-3.4**
PB16				IAML		08 41 01.8	
	comp=N,140nm,0.6s						
PB16	**IPOC Station P**	**2.74**	**8**	*e*P	**Pb**	**08 40 15.0**	**-3.4**
PB16				*e*S	**Sb**	**08 40 51.2**	**-0.5**
PB18	**Visviri**	**3.48**	**7**	*e*P	**Pb**	**08 40 29.2**	**-1.7**
GO02	**Mina Guanaco**	**4.09**	**176**	*e*P	**Pn**	**08 40 32.1**	**+2.0**
GO02				*e*S	**Sb**	**08 41 29.9**	**-0.4**
GO02				IAML		08 41 37.5	
	comp=Z,87nm,0.5s						

IDC 13 09:03:49.1±3.7, 43°.41N×105°.74E, h0km, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=85.9km s-min=26.0km az=99.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**4.42**	**6**	I	I	09 29 30.0	
	baz=185,slow=338,SNR=3.6						
SONM	**Songino Array**	**4.45**	**6**	Pn	Pn	09 04 59.2	+1.3
	0.3nm,0.3s,baz=164,slow=16,SNR=1.9						
SONM				Pg	Pb	09 05 10.4	+2.3
	0.4nm,0.3s,baz=192,slow=19,SNR=8.6						
SONM				Lg	Lg	09 06 09.0	
	0.9nm,0.3s,baz=196,slow=30,SNR=9.7						
	0.4nm,0.3s						
LZDM	**Lanzhou Array**	**7.61**	**193**	Pg	Pb	09 06 06.5	+4.4
	baz=15,slow=18						

IDC 13 09:12:48.6±15.0, 6°.37S×129°.57E, h121km±166km, mb3.1/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=117.1km s-min=60.0km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.27**	**198**	P	Pn	09 15 41.2	+1.8
	0.2nm,0.3s,baz=14,slow=13,SNR=6.6						
FITZ				S	Sn	09 17 46.1	-8.5
	1.0nm,0.4s,baz=160,slow=14,SNR=1.9						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**14.27**	**162**	P	Pn	09 16 03.8	-1.5
	0.1nm,0.3s,baz=338,slow=13,SNR=12						
WRA				S	Sn	09 18 29.1	-14
	0.3nm,0.3s,baz=335,slow=22,SNR=10						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.70**	**167**	P	P	09 16 46.5	-0.3
	0.1nm,0.3s,baz=344,slow=9.4,SNR=7.1						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	09 23 31.5	0.0
	0.2nm,0.4s,baz=112,slow=9.9,SNR=2.8						
	0.2nm,0.4s						

*TXNET **13** 09:26:31.8, 31°.1N±0°.7×103°.3W±0°.7, h4km±2km, ML2.9/18, Error ellipse: s-maj=1.3km s-min=0.9km az=140.3, final*

NEIC 13 09:26:32.1±0.9, 31°.07N±0°.01×103°.33W±0°.01, h3km±2km, mb_Lg2.8/50, ML2.7/48, 2C, Error ellipse: s-maj=1.6km s-min=1.3km az=175.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	**Coyonosa**	**0.09**	**53**	⇑P	Pg	09 26 33.8	-0.1
TPB16				S	Sg	09 26 35.7	+0.5
TPB04	**Verhalen**	**0.13**	**25**	P	Pg	09 26 34.6	-0.1
TPB04				S	Sg	09 26 37.7	+1.4
TPB05	**Hovey Rd**	**0.15**	**178**	P	Pg	09 26 35.6	+0.4
TPB05				S	Sg	09 26 38.6	+1.4
TPB03	**Saragosa**	**0.16**	**274**	P	Pg	09 26 35.4	+0.2
TPB03				S	Sg	09 26 38.4	+1.0
TPB15	**Southwest of C**	**0.25**	**57**	P	Pg	09 26 37.7	+0.7
TPB15				S	Sb	09 26 42.6	-1.6
LWM2	**Layne Water Mi**	**0.29**	**312**	P	Pb	09 26 39.1	-1.0
LWM2				S	Sb	09 26 44.3	-1.1
LWM1	**Layne Water Mi**	**0.30**	**302**	P	Pg	09 26 39.0	+1.1
LWM1				S	Sb	09 26 44.4	-1.1
TPB19	**West of Imperi**	**0.30**	**41**	P	Pg	09 26 38.8	+0.8
TPB19				S	Sb	09 26 44.4	-1.3
PCOS	**Crockett Middl**	**0.37**	**336**		Sb	09 26 46.2	-1.4
PCOS	**Crockett Middl**	**0.37**	**336**	S	Sb	09 26 46.2	-1.4
TPB01	**Permian Basin**	**0.41**	**252**	P	Pg	09 26 40.5	+0.5
TPB01				S	Sg	09 26 46.9	+1.6
TPB08	**Permian Basin**	**0.41**	**116**	P	Pg	09 26 41.0	+1.0
TPB08				S	Sb	09 26 47.7	-0.9
TPB10	**Southeast of T**	**0.42**	**300**	P	Pb	09 26 41.3	-0.9
TPB10				S	Sb	09 26 47.6	-1.4
TPB27	**North of Pyote**	**0.53**	**19**	P	Pg	09 26 42.8	+0.5
TPB27				S	Sb	09 26 50.8	-1.5
PECS	**Pecos**	**0.55**	**303**	Pg	Pg	09 26 43.1	+0.5
PECS					Sg	09 26 51.1	+1.3
PECS				IAML		09 26 55.3	
	383nm,0.5s						
PECS				IAML		09 26 56.1	
	637nm,0.7s						
PECS	**Pecos**	**0.55**	**303**	P	Pg	09 26 43.0	+0.3
PECS				S	Sg	09 26 51.1	+1.3
TPB12	**Southwest of T**	**0.56**	**285**	P	Pg	09 26 43.4	+0.6
TPB12				S	Sb	09 26 51.5	-1.4
MNHN	**Monahans**	**0.56**	**61**		Pg	09 26 42.5	-0.3
MNHN					Sg	09 26 50.8	+0.8
MNHN				IAML		09 26 55.9	
	418nm,0.4s						
MNHN				IAML		09 26 59.5	
	411nm,0.6s						
MNHN	**Monahans**	**0.56**	**61**	P	Pg	09 26 42.7	-0.1
MNHN				S	Sg	09 26 50.8	+0.8
TPB06	**Permian Basin**	**0.58**	**10**	S	Sg	09 26 51.9	+1.0
TPB07	**Mentone**	**0.58**	**330**	P	Pg	09 26 43.8	+0.5
TPB07				S	Sg	09 26 51.7	+0.8
TPB13	**Reeves - Culbe**	**0.65**	**318**	S	Sb	09 26 54.9	-0.8
ALPN	**Alpine**	**0.74**	**201**		Pg	09 26 46.6	+0.2
ALPN					Sg	09 26 57.1	+1.0
ALPN				IAML		09 27 03.3	
	223nm,0.3s						
ALPN				IAML		09 27 04.0	
	286nm,0.3s						
ALPN	**Alpine**	**0.74**	**201**	P	Pg	09 26 46.6	+0.2
ALPN				S	Sg	09 26 57.1	+1.0
TPB11	**China Draw**	**1.05**	**325**	P	Pg	09 26 52.3	0.0
TPB11				S	Sg	09 27 06.5	+0.6
TPB09	**Culberson Coun**	**1.08**	**310**	P	Pg	09 26 53.0	+0.1
TPB09				S	Sb	09 27 07.9	-0.3
TMB02	**Rankin**	**1.12**	**83**	⇑P	Pg	09 26 53.2	-0.3
TMB02				S	Sg	09 27 08.4	+0.3
TMB01	**Midkiff**	**1.22**	**61**	P	Pg	09 26 55.1	-0.5
TMB01				S	Sb	09 27 12.3	+0.2
ODSA	**Odessa**	**1.24**	**32**		Pg	09 26 54.7	-1.3
ODSA					Sg	09 27 12.2	+0.2
ODSA	**Odessa**	**1.24**	**32**	P	Pg	09 26 55.0	-0.9
ODSA				S	Sg	09 27 12.2	+0.2
CLNB	**Carlsbad**	**1.28**	**339**		Pg	09 26 56.1	-0.5
CLNB	**Carlsbad**	**1.28**	**339**	P	Pg	09 26 56.7	+0.1
NM01	**Eunice**	**1.28**	**357**	P	Pg	09 26 56.3	-0.4
NM01				S	Sb	09 27 14.0	+0.2
CLN7	**Carlsbad 7**	**1.40**	**343**		Pn	09 26 58.5	-0.1
CLN7	**Carlsbad 7**	**1.40**	**343**	P	Pn	09 26 58.5	-0.1
HTMS	**Hat Mesa**	**1.42**	**350**		Pn	09 26 59.0	0.0
HTMS	**Hat Mesa**	**1.42**	**350**	P	Pb	09 26 59.2	-0.1
VHRN	**Van Horn**	**1.45**	**259**		Pn	09 26 59.0	-0.3
VHRN				IAML		09 27 22.8	
	174nm,0.5s						
VHRN	**Van Horn**	**1.45**	**259**	P	Pn	09 26 59.2	-0.1
VHRN				S	Sb	09 27 18.6	-0.1
SAND	**Sanderson**	**1.53**	**137**		Pb	09 27 00.9	-0.2
SAND	**Sanderson**	**1.53**	**137**	P	Pn	09 27 00.6	+0.3
SAND				S	Sg	09 27 22.2	+1.0
TMB06	**Greenwood**	**1.59**	**55**	P	Pn	09 27 01.3	+0.1
TMB06				S	Sb	09 27 22.8	+0.1
TMB04	**Seminole**	**1.71**	**25**	P	Pn	09 27 02.9	0.0
TXAR	**Lajitas Array**	**1.76**	**190**		Pn	09 27 04.1	+0.6
MNTX	**Cornudas Mount**	**1.86**	**290**		Pb	09 27 06.0	-0.8
MNTX				IAML		09 27 34.8	
	60nm,0.6s						
MNTX				IAML		09 27 35.9	
	43nm,0.4s						
MNTX	**Cornudas Mount**	**1.86**	**290**	P	Pn	09 27 05.8	+0.9
MNTX				S	Sb	09 27 31.2	+0.7
OZNA	**Ozona**	**1.90**	**94**		Pn	09 27 06.2	+0.7
CPRX	**Cap Rock**	**2.00**	**347**		Pn	09 27 07.3	+0.3
SGCY	**Sterling City**	**2.06**	**65**		Pn	09 27 08.4	+0.7
POST	**Post**	**2.52**	**38**		Pn	09 27 14.0	0.0
POST				IAmb_Lg		09 27 55.9	
	comp=Z,39nm,0.8s						
DRIO	**Del Rio**	**2.87**	**124**	IAmb_Lg		09 28 08.1	
	comp=Z,32nm,0.7s						
SN07	**Snyder 07**	**2.89**	**45**		Pn	09 27 19.3	+0.2
SN07				IAmb_Lg		09 28 08.7	
	comp=Z,37nm,0.7s						
DKNS	**Dickens**	**3.29**	**38**		Pn	09 27 24.7	+0.1
DKNS				IAmb_Lg		09 28 20.3	
	comp=Z,34nm,0.9s						
ABTX	**Abilene, Hawle**	**3.50**	**63**		Pn	09 27 28.3	+0.9
ABTX				IAmb_Lg		09 28 31.1	
	comp=Z,28nm,1.1s						
APMT	**Aspermont**	**3.53**	**50**		Pn	09 27 28.2	+0.4
APMT				IAmb_Lg		09 28 31.5	
	comp=Z,23nm,0.8s						
BRDY	**Brady**	**3.72**	**86**		Pn	09 27 31.1	+0.6
HNDO	**Hondo**	**3.83**	**113**		Pn	09 27 33.4	+1.5
HNDO				IAmb_Lg		09 28 42.4	
	comp=Z,27nm,0.8s						
AMTX	**Amarillo**	**4.05**	**20**	IAmb_Lg		09 28 48.6	
	comp=Z,29nm,1.0s						
PLPT	**Palo Pinto**	**4.60**	**67**	IAmb_Lg		09 29 09.9	
	comp=Z,16nm,0.7s						
ANMO	**Albuquerque**	**4.67**	**327**	IAmb_Lg		09 29 03.4	
	comp=Z,8.3nm,0.7s						
SMWD	**Samnorwood**	**4.78**	**32**	IAmb_Lg		09 29 05.8	
	comp=Z,19nm,0.8s						
WTFS	**Witchita Falls**	**4.91**	**56**	IAmb_Lg		09 29 09.6	
	comp=Z,13nm,1.1s						
WHTX	**Lake Whitney,**	**5.10**	**78**	IAmb_Lg		09 29 25.2	
	comp=Z,22nm,1.3s						
EF04	**Eagle Ford 04**	**5.15**	**110**	IAmb_Lg		09 29 21.0	
	comp=Z,18nm,0.8s						
FW06	**Azle**	**5.26**	**67**	IAmb_Lg		09 29 24.3	
	comp=Z,13nm,0.9s						
735A	**Kenedy**	**5.28**	**113**	IAmb_Lg		09 29 32.3	
	comp=Z,19nm,0.8s						
MLDN	**Muldoon**	**5.56**	**102**	IAmb_Lg		09 29 36.4	
	comp=Z,18nm,0.8s						
X34A	**Smith Ranch, M**	**5.81**	**51**	IAmb_Lg		09 29 43.8	
	comp=Z,9.9nm,0.8s						
NOKA	**Waynoka**	**6.64**	**32**	IAmb_Lg		09 30 19.3	
	comp=Z,8.9nm,0.8s						
Z38A	**Mt. Pleasant**	**7.41**	**71**	IAmb_Lg		09 30 42.8	
	comp=Z,11nm,0.9s						

*BJI **13** 09:58:37.6, 44°.49N×148°.96E, h65km, mB5.2/20, mb5.1/69, Ms4.6/6, Ms7 4.4/4*

*NIED **13** 09:58:40.0, 44°.59N×148°.88E, h30km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.09; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$0.20; $M_{r\theta}$0.51; $M_{\theta\phi}$0.74; $M_{\phi r}$0.47; Fault plane solution: $M_0$1.01000×10^{16} NP1: ϕ_s345.00000°, δ58.00000°, λ164.00000°. NP2: ϕ_s83.00000°, δ77.00000°, λ33.00000°.*

*JMA **13** 09:58:40.0±0.6, 45°N±2°×14°9E±°, h30km, MV5.4/18, SE OFF ETOROFU*

*GCMT **13** 09:58:40.0±0.4, 44°.47N±0°.03×148°.97E±0°.04, h72km±4km, MW4.7/68, Moment Tensor Solution. s17,c20; s68,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.08±.11; $M_{\theta\theta}$-0.69±.10; $M_{\phi\phi}$-0.38±.11; $M_{r\theta}$0.79±.06; $M_{\theta\phi}$0.99±.07; $M_{\phi r}$0.35±.05; Best double couple: $M_0$1.62300×10^{16} NP1:ϕ_s339.00000°, δ46.00000°, λ138.00000°. NP2: ϕ_s101.00000°, δ62.00000°, λ52.00000°. Principal axes: T 1.6430, Plg56.0000°, Azm321.0000°; N -0.0360, Plg32.0000°, Azm121.0000°; P -1.6030, Plg9.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SKHL **13** 09:58:40.7±0.2, 44°.40N×148°.90E, h83km±5km, mb6.2/4, mbv5.4/3, msha6.7/4*

*MOS **13** 09:58:40.5±1.0, 44°.54N×148°.79E, h81km, mb5.2/86, Error ellipse: s-maj=5.9km s-min=3.7km az=119.9*

MOS Felt (III) at Kuril'sk, Reydovo.

*IDC **13** 09:58:41.0±2.0, 44°.66N×148°.73E, h70km±17km, mb4.5/31, mbtmp4.8/37, MS3.5/56, Error ellipse: s-maj=11.7km s-min=9.8km az=124.0*

*NEIC **13** 09:58:43.0±1.1, 44°.56N±0°.08×148°.8E±0°.1, h87km±6km, mb5.0/57, Error ellipse: s-maj=13.2km s-min=11.5km az=113.0*

ISC 13 09:58:40.8±0.5, 44°.54N±0°.04×148°.82E±0°.04, h73km±3km, h73km:pP-P, n894, σ1§11/907, mb5.1/204, 73C-53D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**316**	*d* iPN	**Pn**	**09 58 58.5**	**-0.6**
KUR				*i* S	**Sn**	**09 59 12.6**	**-0.1**
KUR				pmax	pmax		
	comp=Z,9μm,0.6s						
KUR				pmax	pmax		
	comp=E,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,4μm,0.5s						
KUR				smax	smax		
	comp=N,27μm,0.6s						
KUR				smax	smax		
	comp=E,31μm,0.6s						
KUR	**Kuril'sk**	**0.97**	**316**	*i* P	**Pn**	**09 58 59.8**	**+0.7**
KUR				AMB	AMB	09 59 00.1	
	comp=E,12μm,0.4s						
KUR				*i* S	**Sn**	**09 59 14.0**	**+1.3**
KUR				A	A	09 59 14.4	
	comp=E,40μm,0.6s						
KUR				A	A	09 59 14.4	
	comp=E,38μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.18**	**258**	*e*PN	**Pn**	**09 59 15.1**	**+0.1**
YUK				*i* S	**Sn**	**09 59 40.1**	**-0.9**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,512nm,0.1s						
YUK				pmax	pmax		
	comp=E,465nm,0.1s						
YUK				smax	smax		
	comp=E,14μm,0.6s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.18**	**258**	*e*P	**Pn**	**09 59 15.1**	**+0.1**
YUK				AMB	AMB	09 59 16.4	
	comp=N,3μm,0.2s						
YUK				*e*S	**Sn**	**09 59 40.9**	**-0.1**
YUK				A	A	09 59 45.6	
	comp=N,3μm,0.4s						
YUK				A	A	09 59 45.6	
	comp=N,14μm,0.4s						
NEM2	**Nemuro 2**	**2.51**	**243**	P	**Pn**	**09 59 18.6**	**-0.8**
NEM2				*e*S	**Sn**	**09 59 47.7**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.52**	**244**	⇓*i*PN	**Pn**	**09 59 18.6**	**-0.9**
NMR				*i* S	**Sn**	**09 59 47.2**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.52**	**244**	*i* P	**Pn**	**09 59 18.6**	**-0.9**
NMR				*i* S	**Sn**	**09 59 47.2**	**-2.0**
RUSJ	**Misakicho**	**2.60**	**262**	⇓*i*PN	**Pn**	**09 59 22.3**	**+1.7**
RUSJ				*i* S	**Sn**	**09 59 53.1**	**+2.0**
JRA	**Rausu**	**2.73**	**259**	P	**Pn**	**09 59 23.6**	**+1.4**
JRA				*e*S	**Sn**	**09 59 55.6**	**+1.5**
JNK	**Nakash**	**3.11**	**254**	P	**Pn**	**09 59 28.1**	**+0.6**
JNK				*e*S	**Sn**	**10 00 03.7**	**+0.2**
AKK	**Akkeshi**	**3.26**	**244**	*e*P	**Pn**	**09 59 28.9**	**-0.6**
JAK	**Akkeshi**	**3.36**	**244**	P	**Pn**	**09 59 30.4**	**-0.5**
JAK				*e*S	**Sn**	**10 00 07.5**	**-2.2**
JAR	**Ashorobuto**	**3.85**	**253**	P	**Pn**	**09 59 38.8**	**+1.2**
JAR				S	**Sn**	**10 00 22.3**	**+0.6**
JOB	**Onbets**	**3.97**	**247**	P	**Pn**	**09 59 39.5**	**+0.3**
JOB				*e*S	**Sn**	**10 00 24.5**	**+0.1**
JCH	**Churui**	**4.41**	**246**	P	**Pn**	**09 59 45.0**	**-0.1**
JCH				*e*S	**Sn**	**10 00 34.8**	**-0.4**
JKK2	**Kamakawa 2**	**4.42**	**264**	P	**Pn**	**09 59 47.6**	**+2.3**
JKA	**Kamikawa-asahi**	**4.48**	**267**		**Pn**	**09 59 48.2**	**+2.0**
JKA	**Kamikawa-asahi**	**4.48**	**267**	*e*P	**Pn**	**09 59 48.2**	**+2.0**
ASAJ	**Asahikawa**	**4.49**	**267**	P	**Pn**	**09 59 49.0**	**+2.8**
	comp=N,68nm,0.6s,baz=72,slow=17,SNR=77						
ASAJ				S	**Sn**	**10 00 38.9**	**+1.8**
	comp=N,165nm,0.8s,baz=273,slow=13,SNR=5.0						
ASAJ				LR	LR	10 01 38.9	
	comp=N,526nm,22.0s,baz=98,slow=40						
ASAJ	**Asahikawa**	**4.49**	**267**	PN	**Pn**	**09 59 48.2**	**+1.9**
ERM	**Erimo**	**4.84**	**241**		**Pn**	**09 59 51.9**	**+0.8**
ERM	**Erimo**	**4.84**	**241**	PN	**Pn**	**09 59 51.9**	**+0.8**
JAB	**Ashibetsu**	**4.87**	**260**	P	**Pn**	**09 59 54.8**	**+3.3**
YSS	**Yuzhno-Sakhali**	**4.89**	**302**		**Pn**	**09 59 53.3**	**+1.6**
YSS	**Yuzhno-Sakhali**	**4.89**	**302**	*αe*PN	**Pn**	**09 59 53.7**	**+2.0**
YSS				*e*S	**Sn**	**10 00 46.8**	**-0.1**
YSS				pmax	pmax		
	comp=Z,100nm,0.6s						
YSS				pmax	pmax		
	comp=Z,200nm,3.7s						
YSS				pmax	pmax		
	comp=N,100nm,3.4s						
YSS				pmax	pmax		
	comp=E,300nm,3.2s						
YSS				smax	smax		
	comp=N,800nm,3.4s						
YSS				smax	smax		
	comp=E,700nm,4.9s						
YSS				smax	smax		
	comp=N,370nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=N,400nm,11.0s						
YSS	**Yuzhno-Sakhali**	**4.89**	**302**	*e*S	**Sn**	**10 00 49.1**	**+2.2**
YSS				*e*P	**Pn**	**09 59 53.7**	**+2.0**
YSS				AMB	AMB	09 59 55.6	
	comp=N,200nm,3.0s						
YSS				A	A	10 00 52.5	
	comp=N,510nm,3.0s						
YSS				A	A	10 00 52.5	
	comp=N,560nm,3.0s						
JNBK	**Urakawa-nobuka**	**4.96**	**245**	*e*P	**Pn**	**09 59 52.3**	**-0.5**
JNBK				*e*S	**Sn**	**10 00 48.8**	**0.0**
JWK2	**Keihoku**	**4.98**	**281**	P	**Pn**	**09 59 56.7**	**+3.7**
JRBN	**Rebuntou**	**5.57**	**282**	*e*P	**Pn**	**10 00 04.1**	**+3.0**
UGL	**Uglegorsk**	**6.49**	**317**	*e*PN	**Pn**	**10 00 16.7**	**+3.1**
UGL				S	**Sn**	**10 01 29.4**	**+3.3**
UGL				pmax	pmax		
	comp=Z,140nm,1.0s						
UGL				smax	smax		
	comp=N,1μm,6.9s						
UGL				smax	smax		
	comp=E,1μm,5.1s						
UGL	**Uglegorsk**	**6.49**	**317**	*e*P	**Pn**	**10 00 16.4**	**+2.8**
UGL				AMB	AMB	10 00 21.3	
	comp=E,560nm,3.0s						
UGL				*e*S	**Sn**	**10 01 28.3**	**+2.2**
UGL				A	A	10 01 32.0	
	comp=E,590nm,0.3s						
UGL				A	A	10 01 32.0	
	comp=E,650nm,0.3s						
JANG	**Nango**	**6.82**	**235**	*e*P	**Pn**	**10 00 15.5**	**-2.6**
JANG				S	**Sn**	**10 01 27.1**	**-7.1**
JTM	**Tenmabayashi**	**6.83**	**239**		**Pn**	**10 00 17.6**	**-0.7**
JTH	**Tanohata**	**6.91**	**231**	*e*P	**Pn**	**10 00 16.8**	**-2.5**
TYV	**Tymovskoe**	**7.57**	**329**	*e*PN	**Pn**	**10 00 31.5**	**+3.1**
TYV				*e*

PEA0B Petropavlovsk- 10.38 31 Pn **Pn 10 01 06.1 -0.6**
PEA0B Petropavlovsk- 10.38 31 *c iPN* **Pn 10 01 06.4 -0.2**
PETK Petropavlovsk- 10.38 31 P **Pn 10 01 05.8 -0.9**
comp=Z,26nm,0.5s,baz=205,slow=12,SNR=118
GRNR Gornyy 10.43 311 ⇑*iPN* **Pn 10 01 09.9 +2.6**
GRNR pmax pmax
comp=Z,5.0nm,1.1s
GRNR Gornyy 10.43 311 *eP* **Pn 10 01 09.9 +2.6**
PET Petropavlovsk 10.68 34 Pn **Pn 10 01 08.9 -1.8**
PET Petropavlovsk 10.68 34⇓*ePN* **Pn 10 01 09.6 -1.1**
PET Petropavlovsk 10.68 34 *eP* **Pn 10 01 09.6 -1.1**
MJAR Matsushiro Arr 11.35 229 **Pn 10 01 17.6 -2.3**
MJAR Matsushiro Arr 11.35 229 P **Pn 10 01 18.1 -1.9**
comp=Z,39nm,0.8s,baz=29,slow=13,SNR=22
MJAR Matsushiro Arr 11.35 229 PN **Pn 10 01 17.7 -2.3**
MJB9 Matsu-Tunnel 11.35 229 Pn **Pn 10 01 19.4 -0.6**
USRK Ussuriysk Ar. 12.06 274 P **Pn 10 01 30.2 +0.6**
comp=Z,22nm,0.7s,baz=89,slow=14,SNR=23
VLA Vladivostok 12.32 269⇓*ePN* **Pn 10 01 33.7 +0.6**
JGF Kuroka 12.51 228 **Pn 10 01 34.3 -1.5**
INU Inuyama 12.88 229 Pn **Pn 10 01 38.8 -2.0**
MSHR Mys Shultsa 12.96 268⇑*ePN* **Pn 10 01 41.7 -0.2**
JHJ2 Mitsune 13.38 215 Pn **Pn 10 01 49.1 +1.6**
JHJ Hachijo jima 2 13.39 215 P **Pn 10 01 48.8 +1.2**
comp=Z,178nm,0.8s,baz=86,slow=22,SNR=2.3
JHJ S Sn 10 03 59.9 -15
comp=Z,139nm,0.7s,baz=63,slow=22,SNR=6.7
JHJ LR LR 10 07 01.5
comp=Z,34nm,20.6s,baz=82,slow=37
MDJ Mudanjiang 13.71 277 **Pn 10 01 50.9 -0.9**
MDJ Mudanjiang 13.71 277 P **Pn 10 01 53.8 +2.0**
MDJ pmax pmax
comp=Z,20nm,1.5s
MA2 Magadan 15.11 4 Pn **Pn 10 02 10.6 +0.7**
MA2 Magadan 15.11 4 P **Pn 10 02 07.5 -2.3**
comp=Z,24nm,1.1s,baz=197,slow=12,SNR=7.4
MA2 LR LR 10 07 24.0
comp=Z,142nm,21.8s,baz=184,slow=35
MA2 Magadan 15.11 4⇓*eP* **Pn 10 02 09.9 0.0**
MA2 Magadan 15.11 4 *eP* **Pn 10 02 09.9 0.0**
BNX BinXian 15.16 282 ⇑P **Pn 10 02 10.0 -0.6**
BNX pmax pmax
comp=Z,20nm,0.6s
HEH HeiHe 15.56 299 *eP* **Pn 10 02 16.3 +0.6**
HEH pmax pmax
comp=Z,26nm,0.6s
CN2 Changchun 16.78 276 P **Pn 10 02 29.5 -1.5**
CN2 *eS* **Sn 10 05 30.5 -6.1**
CN2 pmax pmax
comp=Z,60nm,0.7s
ZEA Zeya 16.80 311 *eP* **Pn 10 02 31.2 +0.1**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA Zeya 16.80 311 *eP* **Pn 10 02 31.2 +0.1**
KSRS Korea Array 17.27 253 P **Pn 10 02 35.5 -1.4**
comp=Z,2.8nm,0.7s,baz=60,slow=11,SNR=9.2
KSRS LR LR 10 09 47.7
comp=Z,60μm,19.5s,baz=60,slow=39
KSAR Wonju Array Be 17.30 253 **P 10 02 37.9 +0.1**
KSAR Wonju Array Be 17.30 253 P **P 10 02 37.9 +0.1**
JCJ Chichijima 18.20 199 LR LR 10 08 01.4
comp=Z,165nm,19.6s,baz=358,slow=31
SHEM Shemya Is, Ala 18.54 55 LR LR 10 09 03.1
comp=Z,73nm,20.8s,baz=328,slow=34
SEY Seymchan 18.55 5 P **P 10 02 50.8 -0.6**
comp=Z,23nm,0.6s,baz=188,slow=9.6,SNR=55
SEY LR LR 10 09 33.9
comp=Z,168nm,21.6s,baz=186,slow=35
SEY Seymchan 18.55 5 *eP* **P 10 02 49.9 -1.4**
SEY pmax pmax
comp=Z,29nm,0.8s
SNY Shenyang 18.59 270⇓P **Pn 10 02 53.3 +0.3**
SNY pmax pmax
comp=Z,21nm,1.6s
HIA Hailar 20.36 294 P **P 10 03 09.7 -1.5**
HIA Hailar 20.36 294 P **P 10 03 09.7 -1.5**
HILR Hailar Array B 20.37 295 P **P 10 03 09.8 -1.5**
comp=Z,6.9nm,0.3s,baz=90,slow=9.2,SNR=16
HILR LR LR 10 12 00.4
comp=Z,119nm,20.6s,baz=200,slow=40
comp=Z,6.9nm,0.3s
YAK Yakutsk 20.78 334 P **P 10 03 13.5 -2.1**
comp=Z,225nm,0.8s,baz=120,slow=3.1,SNR=52
YAK LR LR 10 11 17.7
comp=Z,188nm,21.2s,baz=133,slow=37
comp=Z,225nm,0.8s
YAK Yakutsk 20.78 334 *eP* **P 10 03 13.1 -2.5**
YAK *eS* **S 10 06 58.4 -4.8**
YAK *e*SS* Sn 10 07 18.8 +6.2
YAK *e* 10 07 30.9
YAK pmax pmax
comp=Z,196nm,0.9s
YAK pmax pmax
comp=E,18nm,0.9s
YAK pmax pmax
comp=N,32nm,0.9s
YAK smax smax
comp=N,173nm,2.2s
YAK smax smax
comp=E,88nm,1.8s
DL2 Dalian 21.01 264 P **P 10 03 18.8 +0.5**
DL2 pmax pmax
comp=E,90nm,0.9s
XLT XiLinHaoTe 23.39 280 *eP* **P 10 03 42.3 -0.9**
XLT pmax pmax
comp=E,21nm,1.1s
XLT pmax pmax
comp=E,190nm,4.0s
BJI Beijing 24.47 271 P **P 10 03 53.0 +0.2**
BJI pP **pP 10 04 10.0 +0.3**
BJI S **S 10 08 04.6 -3.1**
BJI pmax pmax
comp=E,17nm,1.0s
BJI pmax pmax
comp=E,120nm,5.4s
BJT Baijiatuau 24.48 271 **P 10 03 52.8 -0.1**
BJT Baijiatuau 24.48 271 P **P 10 03 52.8 -0.1**
BILL Bilibino 25.28 15⇓*eP* **P 10 03 58.8 -1.1**
BILL pmax pmax
comp=Z,38nm,2.9s
BILL MLR MLR
comp=Z,111nm,17.0s
TIA Tai'an 25.42 262 P **P 10 04 01.9 +0.4**
TIA pmax pmax
comp=Z,29nm,0.9s
NJ2 Nanjing 26.46 252 *eP* **P 10 04 11.0 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
HNS HongShan 26.59 266 ⇑P **P 10 04 14.3 +2.3**
HNS pmax pmax
comp=Z,43nm,1.1s
HHC Hu-ho-hao-te 27.48 275 *eP* **P 10 04 21.1 +1.0**
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,260nm,4.3s
SPIA Saint Paul Isl 28.30 49 P **P 10 04 26.9 -0.2**
baz=261
P08K Saint George I 28.60 50 P **P 10 04 29.4 -0.4**
baz=263
BTO Baotou 28.66 276 *eP* **P 10 04 32.5 +1.9**
BTO pP **pP 10 04 44.9 -2.9**
BTO sP **sP 10 04 55.5 -0.8**
BTO PP **PP 10 05 30.4 -6.0**
BTO S **S 10 09 19.4 +5.2**
BTO pmax pmax
comp=Z,25nm,0.5s
BTO pmax pmax
comp=Z,370nm,4.4s
BTO LR LR
comp=Z,370nm,10.1s
BTO LR LR
comp=Z,270nm,5.2s
BTO LR LR
comp=Z,370nm,5.1s
NIKH Nikolski High 28.79 58 P **P 10 04 29.9 -1.6**
baz=270
ULN Ulaanbaatar 28.85 292 **P 10 04 32.3 0.0**
ULN IAmb IAmb 10 04 33.7
comp=Z,26nm,0.7s
ULN Ulaanbaatar 28.85 292 *c iP* **P 10 04 32.9 +0.6**
ULN pmax pmax
comp=Z,26nm,0.7s
ULN Ulaanbaatar 28.85 292 *eP* **P 10 04 32.9 +0.6**
TIXI Tiksi 28.85 347 P **P 10 04 28.7 -3.1**
TIXI Tiksi 28.85 347 LR LR 10 16 22.7
comp=Z,88nm,19.5s,baz=194,slow=37
TIXI Tiksi 28.85 347⇓*iP* **P 10 04 28.7 -3.1**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
TIXI MLR MLR
comp=Z,70nm,18.0s
H11N2 WAKE ISLAND Hy 28.95 143 T T 10 35 32.2
baz=334,slow=76,SNR=491
H11N1 WAKE ISLAND Hy 28.97 143 T T 10 35 32.1
baz=334,slow=76,SNR=915
H11N3 WAKE ISLAND Hy 28.97 143 T T 10 35 33.9
baz=334,slow=76,SNR=765
SONM Songino Array 29.29 292 **P 10 04 36.9 +0.7**
SONM IAmb IAmb 10 04 37.6
comp=Z,17nm,0.7s
SONM Songino Array 29.29 292 P **P 10 04 37.1 +0.9**
comp=Z,15nm,0.7s,baz=81,slow=8.3,SNR=65
SONM LR LR 10 17 05.0
comp=Z,115nm,19.9s,baz=5.5,slow=38
comp=Z,15nm,0.7s
SONM Songino Array 29.29 292 P **P 10 04 36.9 +0.7**
SONM pmax pmax
comp=Z,17nm,0.7s
LYN LuoYang 29.54 263 P **P 10 04 40.3 +1.9**
LYN pmax pmax
comp=Z,22nm,0.8s
H11S1 WAKE ISLAND Hy 29.96 144 T T 10 36 46.3
baz=335,slow=76,SNR=1000
H11S3 WAKE ISLAND Hy 29.96 144 T T 10 36 45.3
baz=335,slow=76,SNR=676
H11S2 WAKE ISLAND Hy 29.97 144 T T 10 36 46.2
baz=335,slow=76,SNR=517
UNV Unalaska Valle 30.19 56 P **P 10 04 43.4 -0.5**
baz=271
WHN Wuhan 30.45 254 P **P 10 04 46.9 +0.5**
TLY Talaya 30.59 300 *c iP* **P 10 04 47.8 +0.3**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 30.59 300 *eP* **P 10 04 47.8 +0.3**
M11K Mekoryuk 30.92 43 P **P 10 04 49.7 -0.5**
baz=260
GUMO Guam 31.03 187 LR LR 10 15 23.1
comp=Z,57nm,21.1s,baz=16,slow=32
TPUB Ta-pu 31.30 237 P **P 10 04 55.4 +1.4**
TNA Tin City 31.54 33 P **P 10 04 55.2 -0.4**
baz=250
K13K Kusilvak Mount 31.94 40 P **P 10 04 59.5 +0.3**
K13K Kusilvak Mount 31.94 40 P **P 10 04 59.1 -0.1**
baz=259
FALS False Pass 31.98 54 P **P 10 04 59.0 -0.6**
baz=271
F14K Arctic Creek 32.14 34 P **P 10 05 00.7 -0.2**
baz=252
ANM Nome 32.25 35 P **P 10 05 00.9 -1.1**
baz=254
M13K Dall Lake 32.32 43 P **P 10 05 01.7 -0.8**
baz=263
XAN Xi'an 32.32 265 P **P 10 05 03.3 +0.3**
XAN sP sP 10 05 29.0 +0.3
XAN pmax pmax
comp=Z,13nm,0.9s
J14K Nanvaranak Lak 32.61 39 P **P 10 05 05.7 +0.7**
J14K IAmb IAmb 10 05 26.3
comp=Z,43nm,1.7s
J14K Nanvaranak Lak 32.61 39 P **P 10 05 04.8 -0.2**
baz=259
S12K Black Hills 32.74 52 P **P 10 05 05.9 -0.4**
baz=271
L14K Kuka Creek 32.77 42 P **P 10 05 06.3 -0.1**
baz=262
F15K North Star Dit 32.87 34 P **P 10 05 07.5 +0.1**
baz=253
G15K Niukluk 32.92 35 P **P 10 05 07.2 -0.5**
baz=255
M14K Bethel 33.04 43 P **P 10 05 09.9 +1.1**
M14K IAmb IAmb 10 05 12.6
comp=Z,86nm,2.0s
M14K Bethel 33.04 43 P **P 10 05 08.7 -0.2**
baz=263
N14K Kuskokwak Cree 33.09 45 P **P 10 05 09.1 -0.2**
baz=265
O14K Tigyukauivet M 33.25 46 P **P 10 05 10.5 -0.2**
baz=266
L15K Ungalak Mounta 33.39 41 P **P 10 05 11.6 -0.2**
baz=262
K15K Wolf Creek Mou 33.45 40 P **P 10 05 12.3 -0.1**
baz=261
C16K Lisburne Hills 33.47 29 P **P 10 05 11.8 -0.6**
baz=249
H16K Elim 33.58 36 P **P 10 05 12.6 -0.9**
baz=257
SDPT Sand Point 33.65 53 P **P 10 05 13.5 -0.7**
baz=273
M15K Kasigluk River 33.66 43 P **P 10 05 13.8 -0.5**
baz=265
G16K Koyuk River 33.71 35 P **P 10 05 13.8 -0.8**
baz=256
N15K Kwethluk River 33.91 44 P **P 10 05 15.7 -0.7**
baz=266
O15K Ungalikthiuk R 33.99 46 P **P 10 05 16.6 -0.5**
baz=268
J16K Anvik River 34.03 39 P **P 10 05 16.9 -0.5**
baz=261
D17K Noatak River 34.07 30 P **P 10 05 17.4 -0.3**
baz=252
I17K Unalakleet 34.09 38 P **P 10 05 17.9 0.0**
baz=260
S14K Fog Glacier 34.13 51 P **P 10 05 18.4 0.0**
baz=272
CHNA Chernabura Isl 34.19 54 P **P 10 05 18.2 -0.7**
baz=274
RDOG Red Dog Mine 34.25 30 P **P 10 05 18.6 -0.6**
baz=252
C17K DeLong Mountai 34.29 29 P **P 10 05 19.3 -0.3**
baz=251
L16K Owhat River 34.34 42 P **P 10 05 19.9 -0.3**
baz=264
E17K Hotham Inlet 34.35 32 P **P 10 05 19.8 -0.4**
baz=254
F17K Baldwin Pennin 34.41 33 P **P 10 05 21.0 +0.4**
F17K IAmb IAmb 10 05 41.5
comp=Z,16nm,0.8s
F17K Baldwin Pennin 34.41 33 P **P 10 05 20.0 -0.6**
baz=256
G17K Kiwalik Mounta 34.42 35 P **P 10 05 20.8 0.0**
baz=258,SNR=5.4
M16K Timber Creek 34.53 43 P **P 10 05 21.9 +0.2**
baz=266
KNGR Kungurtug, Tuv 34.56 299⇓*eP* **P 10 05 22.1 -0.2**
N16K Nishlik Lake 34.59 44 P **P 10 05 21.7 -0.6**
baz=267
H17K Granite Mounta 34.62 36 P **P 10 05 22.6 +0.2**
baz=259
E18K Tukpahlearik C 34.90 31 P **P 10 05 24.3 -0.6**
baz=255
P16K Nushagak River 34.93 46 P **P 10 05 25.0 -0.2**
baz=270
L17K Donlin 34.94 41 P **P 10 05 25.0 -0.3**
baz=265
LZH Lanzhou 34.95 272 *eP* **P 10 05 27.3 +1.4**
LZH pP pP 10 05 40.3 -3.0
LZH pmax pmax
comp=Z,98nm,1.0s
K17K Iditarod 34.99 40 P **P 10 05 25.7 -0.1**
baz=264
C18K Utukok River 35.03 29 P **P 10 05 25.6 -0.5**
baz=253
B18K Kokolik River 35.05 28 P **P 10 05 25.8 -0.4**
baz=251
F18K Selawik 35.07 33 P **P 10 05 25.8 -0.5**
baz=257
LZDM Lanzhou Array 35.12 272 P **P 10 05 27.6 +0.1**
comp=Z,31nm,0.8s,baz=126,slow=2.0,SNR=24
comp=Z,31nm,0.8s
R16K Pilot Point 35.17 49 P **P 10 05 26.6 -0.6**
baz=272
M17K Holitna River 35.29 42 P **P 10 05 29.0 +0.7**
M17K IAmb IAmb 10 05 30.9
comp=Z,22nm,0.9s
M17K Holitna River 35.29 42 P **P 10 05 27.9 -0.4**
baz=267,SNR=6.1
H18K Honhosa River 35.30 36 P **P 10 05 28.3 -0.1**
baz=260
G18K Tagagawik 35.31 34 P **P 10 05 28.4 -0.1**
baz=259,SNR=5.3
N17K Nushagak Hills 35.37 44 P **P 10 05 28.8 -0.2**
baz=268
O17K Koliganek Bris 35.40 45 P **P 10 05 29.0 -0.2**
baz=269
A19K Wainwright 35.57 27 P **P 10 05 30.6 +0.1**
baz=251
Q16K King Salmon 35.63 47 P **P 10 05 31.4 +0.3**
baz=271
C19K Lookout Ridge 35.73 29 P **P 10 05 31.1 -0.9**
baz=254
P17K Kvichak River 35.73 46 P **P 10 05 31.5 -0.5**
baz=271
J18K Innoko River 35.79 39 P **P 10 05 33.2 +0.6**
J18K Innoko River 35.79 39 P **P 10 05 32.6 +0.1**
baz=264,SNR=5.1
R17L Mt. Peulik Vol 35.82 49 P **P 10 05 32.1 -0.8**
baz=273
F19K Shaleruckik Mo 35.84 33 P **P 10 05 32.5 -0.4**
baz=259
GCSA Galena City Sc 35.87 36 P **P 10 05 33.5 +0.4**
baz=262
Q17K Contact Creek 36.04 48 P **P 10 05 34.3 -0.6**
baz=272
M18K Stony River 36.07 42 P **P 10 05 34.6 -0.3**
baz=268
D19K Kuna River 36.08 30 P **P 10 05 34.9 -0.2**
baz=256
H19K Roundabout Mou 36.15 35 P **P 10 05 35.4 -0.2**
baz=262,SNR=13
E19K Redstone River 36.18 32 P **P 10 05 35.3 -0.5**
baz=258
P18K Big Mountain, 36.35 46 P **P 10 05 37.5 0.0**
baz=271
GTA Gaotai 36.35 279 *eP* **P 10 05 39.0 +1.2**
GTA pmax pmax
comp=Z,100nm,1.2s
O18K Koktuh Hills 36.35 45 P **P 10 05 37.6 +0.2**
baz=271
Q18K Katmai Hardscr 36.49 47 P **P 10 05 38.0 -0.7**
baz=273
GULI GuiLin 36.49 251 P **P 10 05 38.9 -0.1**
GULI pmax pmax
comp=Z,12nm,0.9s
GULI pmax pmax
comp=Z,170nm,5.7s
D20K Etivluk River 36.67 30 P **P 10 05 40.0 -0.1**
baz=257
F20K Avaraart Lake 36.68 33 P **P 10 05 40.0 -0.1**
baz=260
E20K Nigu River 36.73 31 P **P 10 05 39.8 -0.8**
baz=258
M19K Big River Lodg 36.76 41 P **P 10 05 40.9 0.0**
baz=269
B20K Meade River 36.79 28 P **P 10 05 40.4 -0.6**
baz=255,SNR=5.1
O19K Port Alsworth 36.79 44 P **P 10 05 40.5 -0.6**
baz=271
H20K Anotleneega Mo 36.80 35 P **P 10 05 40.9 -0.3**
baz=263,SNR=7.5
R18K Karluk 36.85 49 P **P 10 05 41.7 +0.1**
baz=274
I20K Naaghedeneel 36.89 37 P **P 10 05 40.5 -1.4**
baz=265
J20K Nowinta River 36.98 38 **P 10 05 43.2 +0.5**
J20K IAmb IAmb 10 05 44.8
comp=Z,7.3nm,0.7s
A21K Barrow 37.32 26 P **P 10 05 44.4 -1.0**
baz=254
M20K Styx River 37.36 41 P **P 10 05 44.5 -1.6**
baz=270
C21K Knifeblade Rid 37.41 29 P **P 10 05 46.6 +0.4**
baz=259
G21K Allakaket 37.47 34 P **P 10 05 46.1 -0.8**
baz=263
OHAK Old Harbor 37.51 49 P **P 10 05 46.8 -0.4**
baz=276
B21K Ikpikpuk River 37.56 29 P **P 10 05 48.2 +0.8**
B21K IAmb IAmb 10 05 52.0
comp=Z,26nm,0.7s
B21K Ikpikpuk River 37.56 29 P **P 10 05 47.1 -0.4**
baz=258
E21K Killik River 37.57 31 P **P 10 05 47.3 -0.4**
baz=260
F21K Alatna River 37.57 33 P **P 10 05 47.3 -0.3**
baz=263,SNR=6.5
O20K Slope Mountain 37.64 44 P **P 10 05 47.9 -0.5**
baz=273
CD2 Chengdu 37.68 264 P **P 10 05 49.4 +0.3**
CD2 pmax pmax
comp=Z,90nm,0.7s
A22K Sinclair Lake 37.75 26 P **P 10 05 48.6 -0.5**
baz=256
CHUM Lake Minchumin 37.77 38 P **P 10 05 49.6 +0.3**
baz=268
PPLA Purkeypile 37.81 40 P **P 10 05 49.8 0.0**
baz=269
SPCR Spurr Chakacha 37.81 43 P **P 10 05 49.0 -0.8**
baz=272
KDAK Kodiak Island 37.83 48 P **P 10 05 49.4 -0.5**
baz=276
I21K Tanana 37.98 36 P **P 10 05 50.9 -0.2**
baz=267
STLK Strandline Lak 37.98 42 P **P 10 05 51.5 +0.2**
D22K Ayikyak River 38.11 30 P **P 10 05 52.9 +0.7**
D22K IAmb IAmb 10 05 57.2
comp=Z,13nm,0.7s
D22K Ayikyak River 38.11 30 P **P 10 05 51.3 -0.8**
baz=261
F22K John River 38.11 32 P **P 10 05 52.2 0.0**
baz=264,SNR=6.1
B22K Teshekpuk Lake 38.11 28 P **P 10 05 51.8 -0.3**
baz=259
SKT Skwentna 38.12 41 P **P 10 05 51.9 -0.4**
baz=271
GYA Guiyang 38.28 256 ⇑P **P 10 05 54.1 -0.1**
GYA pmax pmax
comp=Z,24nm,1.0s
G22K Bettles 38.31 33 P **P 10 05 53.7 -0.1**
baz=265
E22K Anaktuvuk Pass 38.32 31 P **P 10 05 54.3 +0.3**
baz=263,SNR=9.7
CAPN Captain Cook N 38.34 43 P **P 10 05 54.2 0.0**
baz=273
BPAW Bear Paw Mtn. 38.37 38 P **P 10 05 54.2 -0.2**
baz=269
MLY Manley 38.50 36 P **P 10 05 54.6 -0.9**
baz=268
SUA Susitna One 38.51 42 P **P 10 05 55.5 -0.2**
baz=272
BRSE Bradley Lake S 38.61 45 P **P 10 05 55.9 -0.6**
baz=275
TRF Thorofare Moun 38.67 39 P **P 10 05 56.2 -0.9**
baz=270
CUT Chulitna 38.70 41 P **P 10 05 57.2 0.0**
baz=272
M22K Willow 38.79 42 P **P 10 05 57.4 -0.5**
baz=273
D23K Nanushuk River 38.83 30 P **P 10 05 57.8 -0.5**
baz=263
COLD Coldfoot 38.84 33 P **P 10 05 57.8 -0.5**
baz=266,SNR=7.8
G23K Bananza Creek 38.88 34 P **P 10 05 58.2 -0.4**
baz=267,SNR=9.2
C23K Itkillik River 38.97 29 P **P 10 05 58.8 -0.6**
baz=262
RC01 Rabbit Creek A 39.01 43 P **P 10 05 59.0 -0.8**
baz=274
H23K Yukon River 39.03 35 P **P 10 05 59.2 -0.8**
baz=268
O22K Cooper Landing 39.06 44 P **P 10 05 59.9 -0.3**
baz=275
I23K Minto, Yukon-K 39.09 36 P **P 10 05 59.3 -1.0**
baz=269
E23K Chandalar 39.13 32 P **P 10 05 59.8 -1.1**
baz=265,SNR=9.2
TOLK Toolik Lake Re 39.20 31 P **P 10 06 01.0 -0.3**
baz=265
NEA2 Nenana 39.20 37 P **P 10 06 00.9 -0.5**
baz=270,SNR=8.9
SEW Seward 39.23 44 P **P 10 06 01.2 -0.3**
baz=275
PMR Palmer 39.27 42 P **P 10 06 01.8 -0.1**
baz=274
MCK McKinley 39.27 38 P **P 10 06 01.5 -0.4**
baz=271

WAT1 **Susitna Watana** 39.48 40 P P 10 06 03.1 -0.6
baz=273
D24K **Happy Valley** 39.52 30 P P 10 06 03.6 -0.3
baz=265
E24K **Your Creek** 39.55 32 P P 10 06 03.4 -0.9
baz=266,SNR=15
KNK **Knik Glacier** 39.60 42 P P 10 06 03.8 -1.0
baz=274
C24K **Franklin Bluff** 39.62 29 P P 10 06 03.6 -1.2
baz=264
SML **Sawmill** 39.64 41 P P 10 06 03.9 -1.2
baz=274,SNR=8.0
PWL **Port Wells** 39.71 43 P P 10 06 04.4 -1.2
baz=275
COLA **College** 39.73 37*d iP* P
COLA pmax pmax 10 06 05.8 +0.2
comp=Z,10.0nm,0.9s
COLA **College** 39.73 37 P P 10 06 05.4 -0.3
baz=271
COLA **College** 39.73 37 P P 10 06 07.2 +1.6
F24K **Squaw Lake** 39.75 32 P P 10 06 05.4 -0.6
baz=268
WAT6 **Susitna Watana** 39.86 40 P P 10 06 06.2 -0.8
baz=274
G24K **Hadweenzic Riv** 39.89 34 P P 10 06 05.9 -1.1
baz=269,SNR=10
POKR **Poker Plat Res** 39.90 36 P P 10 06 06.4 -0.8
baz=271
M23K **Glacier View** 39.92 41 P P 10 06 06.6 -0.8
baz=275
DHY **Denali Highway** 40.00 39 P P 10 06 07.6 -0.6
baz=273
SCM **Sheep Creek Mo** 40.11 41 P P 10 06 08.0 -1.0
baz=275
HDA **Harding Lake** 40.13 37 P P 10 06 08.6 -0.4
baz=272,SNR=8.6
ILAR **Eielson Array** 40.14 37 P P 10 06 09.3 +0.2
comp=Z,2.3nm,0.6s,baz=268,slow=8.3,SNR=27
ILAR LR LR 10 23 48.6
comp=Z,18nm,19.2s,baz=226,slow=38
comp=Z,2.3nm,0.6s
P23K **Montague Islan** 40.26 44 P P 10 06 09.4 -0.7
baz=277
GLI **Glacier Island** 40.31 43 P P 10 06 10.1 -0.5
baz=276
D25K **Kavik River** 40.40 30 P P 10 06 11.0 -0.3
baz=267
G25K **Bearman Lake** 40.43 34 P P 10 06 10.9 -0.6
baz=270
H25L **Birch Creek** 40.55 34 P P 10 06 11.7 -0.7
baz=271
F25K **Christian Rive** 40.62 32 P P 10 06 12.6 -0.5
baz=270
M24K **Tolsona, Glenn** 40.63 41 P P 10 06 12.7 -0.5
baz=276
E25K **Arctic Village** 40.65 32 P P 10 06 14.3 +1.0
E25K IAmb IAmb 10 06 15.8
comp=Z,11nm,1.0s
E25K **Arctic Village** 40.65 32 P P 10 06 13.0 -0.4
baz=269,SNR=5.5
K24K **Donnelly Dome** 40.67 38 P P 10 06 13.0 -0.6
baz=274
PRP **Porcupine Dome** 40.69 36 P P 10 06 13.8 0.0
baz=272,SNR=9.5
KLU **Klutina** 40.81 42 P P 10 06 15.7 +0.9
KLU IAmb IAmb 10 06 36.1
comp=Z,16nm,1.0s
KLU **Klutina** 40.81 42 P P 10 06 15.0 +0.2
baz=276
PAX **Paxson** 40.87 40 P P 10 06 15.5 +0.2
baz=275
C26K **Camden Bay** 40.94 29 P P 10 06 16.1 +0.5
baz=268
EYAK **Cordova Ski Ar** 41.01 43 P P 10 06 17.1 +0.8
baz=278
HARP **HAARP** 41.07 40 P P 10 06 17.4 +0.5
baz=276
RIDG **Independent Ri** 41.09 38 P P 10 06 17.9 +0.9
baz=275
F26K **Sheenjek River** 41.19 32 P P 10 06 18.8 +1.0
baz=271,SNR=9.3
GOMU **GeErMu** 41.33 278 P P 10 06 20.3 +0.6
GOMU pmax pmax
comp=Z,56nm,0.8s
G26K **Porcupine Rive** 41.35 33 P P 10 06 19.7 +0.7
baz=272,SNR=10
C27K **Jago River** 41.35 29 P P 10 06 19.6 +0.5
baz=269,SNR=7.7
N25K **Chitina, Valde** 41.43 42 P P 10 06 20.2 +0.3
baz=277
SCRK **Sand Creek** 41.45 38 P P 10 06 20.4 +0.4
baz=275,SNR=7.4
ZALV **Zalesovo Beam** 41.49 307 P P 10 06 18.9 -1.4
ZALV **Zalesovo Beam** 41.49 307 P P 10 06 19.1 -1.2
comp=Z,4.0nm,0.5s,baz=66,slow=6.7,SNR=16
ZALV PcP PcP 10 08 16.9 +0.4
comp=Z,9.0nm,0.6s,baz=90,slow=3.0,SNR=19
ZALV LR LR 10 23 46.4
comp=Z,71nm,19.8s,baz=85,slow=36
comp=Z,4.0nm,0.5s
BMRM **Bremner River** 41.51 42 P P 10 06 21.1 +0.6
baz=278
I26K **Coal Creek Min** 41.69 36 P P 10 06 23.0 +1.1
baz=274
PZH **PanZhiHua** 41.70 261 P P 10 06 22.9 +0.4
KAIM **Kayak Island** 41.76 44 P P 10 06 23.2 +0.8
baz=279
KMI **Kunming** 41.86 258 P P 10 06 25.1 +1.1
KMI pmax pmax
comp=Z,27nm,1.3s
E27K **Coleen River** 42.14 31 P P 10 06 25.9 +0.4
baz=273
G27K **Doyon Strip** 42.19 34 P P 10 06 26.8 +0.8
baz=274
MCARA **McCarthy VSAT** 42.21 42 P P 10 06 27.3 +1.2
baz=279
CRQE **Cirque** 42.27 43 P P 10 06 27.4 +0.6
baz=280
K27K **Chicken** 42.28 38 P P 10 06 27.9 +1.2
baz=277
BGLC **Bering Glacier** 42.29 44 P P 10 06 27.9 +1.2
baz=280
H27K **Steamboat Moun** 42.29 34 P P 10 06 27.9 +1.2
baz=275,SNR=8.0
D27M **Malcolm River** 42.33 30 P P 10 06 27.2 +0.1
baz=272
L27K **Beaver Creek,** 42.51 39 P P 10 06 29.3 +0.7
baz=278,SNR=14
EGAK **Eagle** 42.59 37 P P 10 06 29.6 +0.5
baz=277,SNR=6.2
F28M **Old Crow** 42.82 32 P P 10 06 31.9 +0.8
baz=275,SNR=6.9
E28M **Babbage River** 42.88 31 P P 10 06 31.6 +0.1
baz=274
GRNC **Granite Creek** 42.92 42 P P 10 06 33.6 +1.4
GRNC IAmb IAmb 10 06 34.4
comp=Z,15nm,0.8s
WMQ **Urumqi** 42.93 291 *eP* P 10 06 33.5 +1.2
WMQ pmax pmax
comp=Z,76nm,0.9s
MESA **MESA** 42.93 43 P P 10 06 33.3 +1.1
baz=281
I28M **Miner Creek** 43.02 35 P P 10 06 32.8 0.0
baz=277,SNR=10.0
CTG **Chitna Glacier** 43.08 42 P P 10 06 33.9 +0.6
baz=281
D28M **Stokes Point** 43.11 30 P P 10 06 34.2 +0.9
baz=274
ZSN **Zaisan** 43.41 297 *eP* P 10 06 36.4 +0.3
ZSN **Zaisan** 43.41 297 *eP* P 10 06 36.4 +0.3
DAWY **Dawson** 43.45 37 P P 10 06 36.6 +0.4
baz=279
E29M **Blow River** 43.49 31 P P 10 06 37.4 +0.9
baz=276,SNR=11
SLVN **Son La** 43.53 253 P P 10 06 38.1 +0.7
H29M **Whitestone** 43.56 34 P P 10 06 37.5 +0.5
baz=278
G29M **Pine Creek** 43.61 33 P P 10 06 37.4 0.0
baz=277,SNR=6.8
O28M **Mount Upton** 43.67 42 P P 10 06 38.5 +0.2
baz=282
I29M **Ogilvie Camp,** 43.71 35 P P 10 06 38.5 +0.3
baz=279,SNR=12
PINM **Pinnacle** 43.78 43 P P 10 06 39.4 +0.5
baz=282
J29N **Klondike Camp** 43.89 37 P P 10 06 39.1 -0.6
baz=280
M29M **Somme Creek** 44.15 40 P P 10 06 41.6 -0.2
baz=281
L29M **L29M** 44.17 39 P P 10 06 42.8 +0.8
baz=281,SNR=6.2
EPYK **Eagle Plains** 44.20 34 P P 10 06 43.2 +1.0
EPYK IAmb IAmb 10 06 44.6
comp=Z,17nm,0.8s
EPYK **Eagle Plains** 44.20 34 P P 10 06 42.7 +0.5
baz=279,SNR=6.0
K29M **Barlow Dome** 44.30 38 P P 10 06 44.1 +1.1
baz=281
PNL **Peninsula** 44.30 44 P P 10 06 43.3 +0.3
baz=284
G30M **tAoh Zraii Nji** 44.30 33 P P 10 06 43.5 +0.5
baz=279,SNR=8.7
F30M **Barrier River** 44.38 32 P P 10 06 43.5 0.0
baz=278,SNR=14
YUK6 **Outpost Mounta** 44.51 42 P P 10 06 44.4 -0.5
baz=283
I30M **Mount Dempster** 44.53 35 P P 10 06 45.0 +0.1
baz=280,SNR=15
O29M **Mount Kennedy** 44.55 43 P P 10 06 45.0 -0.2
baz=284
J30M **Hart River** 44.67 36 P P 10 06 46.0 -0.1
baz=281
M30M **Minto, Yukon** 44.88 39 P P 10 06 47.8 +0.3
baz=283
HYT **Haines Junctio** 44.94 42 P P 10 06 48.1 -0.2
baz=284
N30M **Aishikik Lake** 44.99 41 P P 10 06 49.3 +0.8
baz=284
MAYO **Mayo, Yukon** 45.06 38 P P 10 06 49.4 +0.4
baz=282
G31M **Satah River** 45.07 33 P P 10 06 49.3 +0.4
baz=280
INK **Inuvik** 45.11 31 P 10 06 49.7 +0.4
INK IAmb IAmb 10 06 55.4
comp=Z,14nm,0.6s
INK **Inuvik** 45.11 31 P P 10 06 49.7 +0.4
INK pmax pmax
comp=Z,14nm,0.6s
INK **Inuvik** 45.11 31 P P 10 06 49.8 +0.4
baz=280
P29M **Windy Craggy** 45.12 43 P P 10 06 49.5 -0.1
baz=285,SNR=6.5
H31M **Peel River** 45.26 34 P P 10 06 51.1 +0.6
baz=281
MK31 **Makanchi Array** 45.29 298*c iP* P 10 06 50.8 -0.3
MKAR **Makanchi Array** 45.29 298 P P 10 06 50.9 -0.1
MKAR **Makanchi Array** 45.29 298 P P 10 06 51.2 +0.1
comp=Z,30nm,0.7s,baz=74,slow=8.4,SNR=236
MKAR PcP PcP 10 08 30.0 +0.3
comp=Z,5.3nm,0.8s,baz=68,slow=3.9,SNR=5.5
MKAR ScP ScP 10 12 14.7 -0.9
comp=Z,0.2nm,0.4s,baz=65,slow=6.8,SNR=2.4
MKAR LR LR 10 27 12.4
comp=Z,97nm,18.3s,baz=74,slow=38
comp=Z,30nm,0.7s
P30M **Million Dollar** 45.38 43 P P 10 06 51.9 +0.2
baz=285
MAKZ **Makanchi** 45.48 298 P P 10 06 52.9 +0.3
MAKZ **Makanchi** 45.48 298 P P 10 06 52.9 +0.3
MAKZ pmax pmax
comp=Z,37nm,0.7s
MAKZ **Makanchi** 45.48 298 P P 10 06 52.5 -0.1
N31M **Braeburn, Yuko** 45.59 41 P P 10 06 53.8 +0.5
baz=284
O30N **Mendenhall** 45.63 42 P P 10 06 54.0 +0.5
baz=285
PLBC **Pleasant Camp** 45.84 43 P P 10 06 56.1 +0.9
baz=286
M31M **Drury Creek, Y** 46.05 39 P P 10 06 57.3 +0.5
baz=285
KURK **Kurchatov** 46.09 304 P P 10 06 56.1 -1.1
KURK IAmb IAmb 10 06 58.0
comp=Z,15nm,0.5s
KURK **Kurchatov** 46.09 304*ceP* P 10 06 56.2 -1.1
KURK pmax pmax
comp=Z,10.0nm,0.5s
KURK MLR MLR
comp=Z,32nm,14.0s
KURK **Kurchatov** 46.09 304 P P 10 06 56.0 -1.3
KURK PcP PcP 10 08 32.1 -0.1
KURBB **Kurchatov Arra** 46.18 304 P P 10 06 57.0 -0.9
comp=Z,14nm,0.6s,baz=74,slow=8.6,SNR=79
KURBB PcP PcP 10 08 32.9 +0.3
comp=Z,6.8nm,0.7s,baz=72,slow=3.3,SNR=12
comp=Z,14nm,0.6s
KURBB **Kurchatov Arra** 46.18 304 P P 10 06 56.8 -1.1
WHY **Whitehorse** 46.23 41 P P 10 06 58.6 +0.3
baz=286
S31K **Pelican** 46.34 45 P P 10 06 58.9 -0.2
baz=287
SKAG **Skagway** 46.35 43 P P 10 06 58.4 -0.8
baz=287
R31K **City Hall, Gus** 46.45 45 P P 10 07 00.2 +0.2
baz=287
N32M **Quiet Lake** 46.94 41 P P 10 07 03.7 -0.1
baz=287
SIT **Sitka** 47.09 46 P P 10 07 04.7 -0.2
baz=289
P32M **Atlin** 47.10 43 P P 10 07 03.5 -1.6
baz=288
R32K **Eaglecrest** 47.11 45 P P 10 07 04.7 -0.4
baz=288
P33M **Teslin, Yukon** 47.34 42 P P 10 07 05.8 -1.2
baz=288
JAY **Jayapura** 47.40 191 P P 10 07 09.2 +1.3
comp=Z,15nm,0.8s,baz=165,slow=23,SNR=3.4
JAY LR LR 10 23 18.0
comp=Z,44nm,21.7s,baz=335,slow=31
comp=Z,15nm,0.8s
Q32M **Nakina River** 48.00 43 P P 10 07 11.2 -1.1
baz=289
C36M **Paulatuk** 48.22 28 P P 10 07 13.2 -0.3
baz=287
R33M **Jennings River** 48.49 42 P P 10 07 15.4 -0.5
baz=290
TDK **Taldyqorghan** 48.50 297 *eP* P 10 07 16.6 +0.5
TDK **Taldyqorghan** 48.50 297 *eP* P 10 07 16.5 +0.5
PDGK **Podgornoye** 48.54 294 P P 10 07 16.6 0.0
U33K **Whale Pass** 48.55 47 P P 10 07 16.0 -0.3
baz=291
SHLS **Shalkode** 48.64 294⇑ *iP* P 10 07 15.5 -1.9
comp=Z,13nm,0.6s
SHLS **Shalkode** 48.64 294*c iP* P 10 07 15.4 -1.9
SHLS pmax pmax
comp=Z,13nm,0.6s
CHTO **Chiang Mai** 48.65 255 P P 10 07 17.5 0.0
CHTO IAmb IAmb 10 07 19.4
comp=Z,12nm,0.8s
CHTO **Chiang Mai** 48.65 255 P P 10 07 17.5 0.0
CHTO pmax pmax
comp=Z,12nm,0.9s
CRAG **Craig** 48.79 48 P P 10 07 18.0 0.0
baz=292
WRAK **Wrangell Islan** 48.85 46 P P 10 07 18.1 -0.4
baz=291
CMAR **Chiang Mai Arr** 48.90 254 P P 10 07 19.2 -0.2
CMAR **Chiang Mai Arr** 48.90 254 P P 10 07 19.7 +0.3
comp=Z,5.0nm,0.7s,baz=43,slow=7.3,SNR=35
CMAR PcP PcP 10 08 43.5 +0.6
comp=Z,1.2nm,0.8s,baz=10.0,slow=2.7,SNR=5.2
CMAR LR LR 10 30 15.4
comp=Z,38nm,18.9s,baz=55,slow=39
comp=Z,5.0nm,0.7s
CMAR **Chiang Mai Arr** 48.90 254 *iP* P 10 07 20.6 +1.2
CMAR pmax pmax
comp=Z,4.0nm,0.6s
S34M **Telegraph Cree** 48.93 44 P P 10 07 19.0 -0.1
baz=291
UZB **Uzynbulak** 48.93 294⇑ *iP* P 10 07 19.9 +0.3
comp=Z,16nm,0.7s
UZB **Uzynbulak** 48.93 294*c iP* P 10 07 19.9 +0.3
UZB pmax pmax
comp=Z,16nm,0.7s
WTLY **Watson Lake, Y** 49.27 41 P P 10 07 21.5 -0.3
baz=291
SHL **Shillong** 49.28 267 P P 10 07 22.1 -0.4
SHL IAmb IAmb 10 07 23.2
comp=Z,22nm,0.8s
SHL **Shillong** 49.28 267 P P 10 07 22.1 -0.4
SHL pmax pmax
comp=Z,22nm,0.8s
DLBC **Dease Lake** 49.28 43 LR LR 10 28 04.2
comp=Z,276nm,21.7s,baz=271,slow=36
DLBC **Dease Lake** 49.28 43 P P 10 07 21.7 -0.2
baz=291
SATY **Saty** 49.37 295⇑ *iP* P 10 07 23.3 +0.4
comp=Z,16nm,0.7s
SATY **Saty** 49.37 295*c iP* P 10 07 23.3 +0.4
SATY pmax pmax
comp=Z,16nm,0.7s
FAKI **Fak Fak** 49.52 202 P P 10 07 24.3 +0.2
FAKI IAmb IAmb 10 07 26.4
comp=Z,33nm,1.6s
V35K **Ketchikan** 49.64 48 P P 10 07 24.4 -0.2
baz=293
PRZ **Przheval'sk** 49.64 294 P P 10 07 26.0 +1.0
PRZ pmax pmax
comp=Z,77nm,0.9s
T35M **Bob Quinn** 49.71 45 P P 10 07 25.0 -0.2
baz=292
BRZS **Berezniki** 49.88 305 *eP* P 10 07 26.4 -0.2
BRZS **Berezniki** 49.88 305 *eP* P 10 07 26.3 -0.2
CHKK **Chushkaly** 49.92 296 *eP* P 10 07 27.2 +0.3
CHKK **Chushkaly** 49.92 296 *eP* P 10 07 27.2 +0.3
BORK **Borovoye** 49.97 309*ceP* P 10 07 27.1 0.0
BORK pmax pmax
comp=Z,8.0nm,0.7s
MDOK **Medeo** 50.20 295 *eP* P 10 07 29.6 +0.3
MDOK **Medeo** 50.20 295 *eP* P 10 07 29.5 +0.3
AAA **Alma-Ata** 50.27 295 *eP* P 10 07 30.0 +0.3
AAA **Alma-Ata** 50.27 295 *eP* P 10 07 29.9 +0.3
AAA **Alma-Ata** 50.27 295 *eP* P 10 07 29.9 +0.3
TNSS **Tian-Shan** 50.33 295 *eP* P 10 07 30.5 0.0
TNSS **Tian-Shan** 50.33 295 *eP* P 10 07 30.5 0.0
TARG **Taragay, Kyrgy** 50.39 293 P P 10 07 32.1 +1.1
TARG IAmb IAmb 10 07 33.2
comp=Z,38nm,1.2s
TARG **Taragay, Kyrgy** 50.39 293 P P 10 07 32.1 +1.1
TARG pmax pmax
comp=Z,38nm,1.2s
WRGLY **Wrigley** 50.50 36 P P 10 07 31.8 +0.8
baz=292
KDJ **Kajisay** 50.60 294 P P 10 07 32.2 -0.1
KDJ pmax pmax
comp=Z,61nm,0.9s
LIRD **Liard River Hi** 50.80 41 P P 10 07 33.9 +0.5
baz=293
ULHL **Ulahol** 51.16 295 P P 10 07 37.6 +1.1
SNR=32
TKM2 **Tokmak 2** 51.25 296 P P 10 07 38.3 +1.0
SNR=51
EVN **Everest** 51.47 273 P P 10 07 40.0 +0.5
SGDS **Sogindy** 51.62 297 *eP* P 10 07 40.1 +0.4
comp=Z,22nm,0.9s
USP **Ospenovka** 51.79 296 P P 10 07 41.8 +0.8
SNR=40
FRU1 **Bishkek** 51.93 296 P P 10 07 42.5 +0.4
FRU1 pmax pmax
comp=Z,59nm,0.8s
AAK **Ala-Archa** 52.10 296 P P 10 07 43.7 +0.2
AAK **Ala-Archa** 52.10 296 LR LR 10 29 50.3
comp=Z,48nm,18.5s,baz=88,slow=36
AAK **Ala-Archa** 52.10 296 P P 10 07 44.2 +0.7
SNR=29
AAK **Ala-Archa** 52.10 296 *i P* P 10 07 44.2 +0.7
SNR=31
AAK **Ala-Archa** 52.10 296*c iP* P 10 07 44.0 +0.5
AAK pmax pmax
comp=Z,48nm,1.1s
AAK MLR MLR
comp=Z,36nm,16.0s
AAK **Ala-Archa** 52.10 296 *eP* P 10 07 44.0 +0.5
AAK **Ala-Archa** 52.10 296 P P 10 07 44.5 +1.0
UCH **Uchtor** 52.29 295 P P 10 07 46.5 +1.2
SNR=16
EKS2 **Erkin-Say** 52.55 296 P P 10 07 47.8 +1.0
SNR=8.8
KSH **Kashi** 52.69 292 P P 10 07 52.3 +4.4
KSH pmax pmax
comp=Z,29nm,1.0s
BBB **Bella Bella** 52.85 50 LR LR 10 26 28.0
comp=Z,11nm,21.8s,baz=280,slow=32
SVE **Sverdlovsk** 53.39 317 *eP* P 10 07 52.6 0.0
SVE pmax pmax
comp=Z,21nm,0.9s
PMG **Port Moresby** 53.71 182 LR LR 10 26 33.7
comp=Z,26nm,21.7s,baz=148,slow=31
ARSB **Arslanbob** 53.73 295 P P 10 07 55.9 +0.4
ARSB **Arslanbob** 53.73 295 P P 10 07 55.9 +0.4
RES **Resolute Bay** 53.87 17 P P 10 07 56.1 +0.3
RES pmax pmax
comp=Z,45nm,0.9s
NOR **Nord** 53.88 357 *i* P P 10 07 53.2 -2.6
NOR IAmb IAmb 10 07 55.1
comp=Z,2.3nm,0.6s
DZA **Taraz** 54.00 298 *eP* P 10 07 57.6 +0.3
comp=Z,21nm,1.2s
DZA **Taraz** 54.00 298 *eP* P 10 07 57.5 +0.3
DZA pmax pmax
comp=Z,21nm,1.2s
ARK **Arkit** 54.15 296 P P 10 07 59.2 +0.7
ARK pmax pmax
comp=Z,82nm,1.0s
KBS **Kingsbay** 54.21 351 *i* P P 10 07 56.6 -1.6
SPITS **Spitsbergen Ar** 54.24 349 P P 10 07 56.7 -1.8
comp=Z,3.7nm,0.7s,baz=72,slow=6.4,SNR=6.2
comp=Z,3.7nm,0.7s
OHH **Osh** 54.27 294 P P 10 07 58.4 -1.0
OHH pmax pmax
comp=Z,57nm,0.8s
KK31 **Karatay Array** 54.41 298 *i* P P 10 08 00.3 +0.1
KKAR **Karatay Array** 54.41 298 P P 10 07 60.0 -0.2
KKAR **Karatay Array** 54.41 298 P P 10 08 00.0 -0.2
YKA **Yellowknife Ar** 54.48 35 P P 10 08 01.1 +0.7
comp=Z,4.1nm,0.7s,baz=304,slow=8.0,SNR=6.1
YKA LR LR 10 32 44.7
comp=Z,39nm,18.9s,baz=297,slow=38
comp=Z,4.1nm,0.7s
HNR **Honiara** 54.65 167 LR LR 10 32 13.7
comp=Z,38nm,18.8s,baz=354,slow=37
ARTI **Arti** 54.70 317 LR LR 10 34 10.4
comp=Z,62nm,18.8s,baz=186,slow=39
ARTI **Arti** 54.70 317*c iP* P 10 08 00.6 -1.5
ARTI *PP pP 10 08 20.8 +0.2
ARTI 10 09 03.0
ARTI S S 10 15 35.5 -1.0
ARTI SS SS 10 19 18.3 -1.4
ARTI pmax pmax
comp=Z,21nm,0.8s
ARTI **Arti** 54.70 317 P P 10 08 00.4 -1.7
TRKS **Terek-Say** 54.81 296 P P 10 08 04.1 +0.7
TRKS pmax pmax
comp=Z,93nm,0.9s
CHM **Chimkent** 55.38 298 *eP* P 10 08 07.7 +0.4
CHM **Chimkent** 55.38 298 *eP* P 10 08 07.7 +0.4
GAR **Garm** 56.69 294 P P 10 08 16.9 +0.1
KULM **Kulim** 57.39 242 P P 10 08 21.2 -0.6
KULM IAmb IAmb 10 08 24.2
comp=Z,9.4nm,0.8s
AB31 **Akbulak array** 57.51 309 *i* P P 10 08 22.4 +0.2
ABKAR **Akbulak array** 57.51 309 P P 10 08 21.5 -0.7
PBKI **Pangkalan Bun** 57.55 226 P P 10 08 25.8 +3.0
LVZ **Lovozero** 57.58 336⇑ *eP* P 10 08 21.0 -1.5
LVZ pmax pmax
comp=Z,50nm,1.5s
CHGR **Chuyangaron** 57.64 294 P P 10 08 23.6 +0.2
CHGR **Chuyangaron** 57.64 294 P P 10 08 23.6 +0.2
CHGR pmax pmax
comp=Z,306nm,1.4s
NEEM **North Greenlan** 57.66 5 *i* P P 10 08 21.6 -1.6
NEEM IAmb IAmb 10 08 23.2
comp=Z,42nm,1.0s
KIRV **Kirov** 57.71 322 LR LR 10 35 34.4
comp=Z,67nm,18.9s,baz=47,slow=38
KIRV **Kirov** 57.71 322*deP* P 10 08 23.5 +0.1
NIL **Nilore** 57.71 287 P 10 08 24.1 +0.2
NIL **Nilore** 57.71 287 P P 10 08 24.2 +0.2
NIL pmax pmax
comp=Z,46nm,0.8s
SIMJ **Simiganj** 57.73 294 P P 10 08 24.3 +0.2
AKTO **Aktyubinsk** 57.93 311 LR LR 10 33 25.2
comp=Z,86nm,21.0s,baz=54,slow=36
APA **Apatity** 58.15 336⇓ *eP* P 10 08 18.1 -8.3
APA *e* 10 09 13.8
COEN **Coen** 58.44 186 P P 10 08 29.6 +0.6
COEN IAmb IAmb 10 08 31.4
comp=Z,11nm,1.1s
DAG **Danmarks Havn** 58.71 357 P P 10 08 28.8 -1.4
DAG pmax pmax
comp=Z,15nm,0.8s

DAG Danmarks Havn 58.71 357 *i* P **P 10 08 28.0 -2.2**
DAG IAmb IAmb 10 08 30.5
comp=Z,8.8nm,0.7s
ARCES ARCESS Array B 58.93 340 P **P 10 08 30.2 -1.6**
comp=Z,4.3nm,0.8s,baz=57,slow=7.6,SNR=12
ARCES PcP **PcP 10 09 20.3 0.0**
comp=Z,2.9nm,0.8s,baz=49,slow=3.7,SNR=4.7
ARCES LR LR 10 37 10.4
comp=Z,28nm,20.6s,baz=44,slow=39
comp=Z,4.3nm,0.8s
G04A Mulino 59.61 55 P **P 10 08 37.8 +0.9**
G04A IAmb IAmb 10 08 58.8
comp=Z,12nm,0.8s
KTK1 Kautokeino 59.86 340 *e*P **P 10 08 36.3 -2.0**
JETT Jettan, Norway 60.12 341 *e*P **P 10 08 38.2 -1.8**
TRO Tromso 60.39 342 *e*P **P 10 08 39.7 -2.1**
KLMR Klimovskoe 60.41 328 *e*P **P 10 08 40.4 -1.7**
KLMR pmax pmax
comp=Z,40nm,1.1s
MSF Maaselka 60.56 336 P **P 10 08 42.1 -0.9**
MSF pmax pmax
comp=Z,21nm,1.6s
NEW Newport 60.91 50 LR LR 10 36 04.0
comp=Z,12nm,19.1s,baz=296,slow=37
NEW Newport 60.91 50 P **P 10 08 46.5 +0.7**
NEW pmax pmax
comp=Z,8.0nm,1.2s
G08A Pilot Rock 61.61 53 P **P 10 08 51.2 +0.6**
G08A IAmb IAmb 10 09 51.3
comp=Z,12nm,1.9s
JOF Joensuu 61.95 333 *e*P **P 10 08 51.0 -1.4**
BELG Belogornoye 62.15 317 *de*P **P 10 08 53.1 -0.8**
BELG pmax pmax
comp=Z,7.0nm,0.7s
O02D Mt. Diablo Mer 62.32 60 P **P 10 08 56.6 +1.2**
O02D IAmb IAmb 10 09 24.3
comp=Z,21nm,1.9s
LOF Lofoten 62.76 343 *e*P **P 10 08 56.4 -1.4**
BMO Blue Mountains 62.81 53 P **P 10 08 59.3 +0.6**
BMO Blue Mountains 62.81 53 P **P 10 08 59.3 +0.6**
BMO pmax pmax
comp=Z,12nm,1.8s
O03E Paynes Creek 62.86 59 P **P 10 08 59.4 +0.3**
O03E IAmb IAmb 10 09 01.1
comp=Z,8.6nm,1.1s
SJUU Sjulsmark 62.94 338 *e*P **P 10 08 57.6 -1.4**
FAUS Fauske 63.00 342 *e*P **P 10 08 57.9 -1.5**
SUMG Summit 63.08 2 P **P 10 09 00.0 -0.4**
SUMG IAmb IAmb 10 09 01.9
comp=Z,42nm,1.2s
SUMG Summit 63.08 2 P **P 10 09 00.0 -0.4**
SUMG pmax pmax
comp=Z,42nm,1.2s
SUMG Summit 63.08 2 *i* P **P 10 09 00.2 -0.2**
SUMG IAmb IAmb 10 09 01.7
comp=Z,40nm,1.2s
WVOR Wild Horse Val 63.49 56 P **P 10 09 02.9 -0.3**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
HYB Hyderabad 63.99 269 *e*P **P 10 09 06.6 -0.1**
HYB IVmB_BB 10 09 06.9
comp=Z,163nm,0.6s
HYB *e*pP **pP 10 09 28.8 +3.1**
SAATT Saattut 64.02 7 *i* P **P 10 09 05.5 -0.5**
SAATT IAmb IAmb 10 09 07.0
comp=Z,58nm,0.9s
RAUS Rausandaksla 64.06 341 *e*P **P 10 09 04.6 -1.8**
MOR8 Moi Rana 64.19 341 *e*P **P 10 09 04.5 -2.8**
FFC Flin Flon 64.35 37 P **P 10 09 09.5 +1.0**
FFC Flin Flon 64.35 37 P **P 10 09 09.4 +1.0**
FFC PcP **PcP 10 09 42.7 +0.2**
CTAO Charters Tower 64.35 183 P **P 10 09 08.9 +0.1**
CTAO Charters Tower 64.35 183 P **P 10 09 08.9 +0.1**
CTAO pmax pmax
comp=Z,11nm,1.6s
PUL Pulkovo 64.52 330⇑ *e*P **P 10 09 10.0 +0.5**
PUL pmax pmax
comp=Z,120nm,0.8s
PUL Pulkovo 64.52 330 *e*P **P 10 09 10.0 +0.5**
VAF Ylistaro 64.54 336 *e*P **P 10 09 08.5 -1.1**
KEF Keuruu 64.55 334 *e*P **P 10 09 08.1 -1.5**
FINES FINESS Array B 64.72 333 P **P 10 09 09.4 -1.3**
FINES FINESS Array B 64.72 333 P **P 10 09 09.6 -1.2**
comp=Z,20nm,0.6s,baz=40,slow=7.9,SNR=141
FINES LR LR 10 41 57.2
comp=Z,37nm,18.4s,baz=54,slow=40
comp=Z,20nm,0.6s
SCO Scoresbysund 65.10 357 *i* P **P 10 09 12.3 -0.8**
SCO IAmb IAmb 10 09 13.4
comp=Z,13nm,0.8s
OBN Obninsk 65.39 324 *e*P **P 10 09 14.8 -0.4**
OBN *e**SP **pP 10 09 37.3 +3.1**
OBN *e* 10 09 45.0
OBN *e* 10 11 42.1
OBN *e*PPP PPP 10 13 15.3
OBN *e*S **S 10 17 53.1 -0.3**
OBN *e*SS **SS 10 22 07.9 +1.1**
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,43nm,18.0s
OBN Obninsk 65.39 324 *e*P **P 10 09 14.8 -0.4**
WRAB Tennant Creek 65.50 195 P **P 10 09 15.9 -0.4**
WRAB Tennant Creek 65.50 195⇑ *e*P **P 10 09 16.9 +0.6**
WRAB pmax pmax
comp=Z,24nm,3.7s
WRAB Tennant Creek 65.50 195 P **P 10 09 16.7 +0.4**
WRA Warramunga Arr 65.52 195 P **P 10 09 15.8 -0.5**
WRA Warramunga Arr 65.52 195 P **P 10 09 16.8 +0.5**
comp=Z,1.9nm,0.7s,baz=11,slow=6.8,SNR=17
comp=Z,1.9nm,0.7s
WRA Warramunga Arr 65.52 195 *i* P **P 10 09 16.7 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
VRH Novokhopyorsk 65.73 319 *e*P **P 10 09 17.2 -0.3**
VRH pmax pmax
comp=Z,64nm,0.8s
FITZ Fitzroy Crossi 65.83 204 P **P 10 09 19.1 +0.8**
comp=Z,1.9nm,0.8s,baz=0.0,slow=5.1,SNR=3.6
comp=Z,1.9nm,0.8s
LPSR Galich'ya Gora 66.08 321 *e*P **P 10 09 19.2 -0.5**
LPSR pmax pmax
comp=Z,64nm,0.8s
NSS Namsos 66.13 341 *e*P **P 10 09 17.7 -2.1**
NVAR Mina Array Bea 66.14 59 P **P 10 09 21.6 +1.0**
comp=Z,4.5nm,0.7s,baz=298,slow=7.0,SNR=37
comp=Z,4.5nm,0.7s
ARBE Arbavere 66.26 332 *e*P **P 10 09 19.8 -0.9**
RAF Rauma 66.38 335 *e*P **P 10 09 20.0 -1.5**
VORR Voronezh 66.58 320 *e*P **P 10 09 22.9 0.0**
VORR pmax pmax
comp=Z,52nm,1.0s
VSU Vasula 66.74 331⇑ *e*P **P 10 09 22.3 -1.5**
VSU pmax pmax
comp=Z,29nm,0.7s
VSR Storozhevoye 66.92 320 *e*P **P 10 09 23.6 -1.4**
VSR pmax pmax
comp=Z,40nm,0.8s
DSP Deep Springs 67.01 60 P **P 10 09 26.8 +1.0**
VORD Divnogorie 67.03 320 *e*P **P 10 09 24.6 -1.1**
VORD pmax pmax
comp=Z,50nm,0.9s
SOEG Soedalen 67.59 0 *i* P **P 10 09 28.6 -0.4**
SOEG IAmb IAmb 10 09 30.4
comp=Z,67nm,1.1s
AAL Aland 67.59 335 *e*P **P 10 09 28.4 -0.7**
SFJD Kangerlussuaq 67.81 8 LR LR 10 41 56.4
comp=Z,22nm,18.1s,baz=342,slow=38
SFJD Kangerlussuaq 67.81 8 *i* P **P 10 09 30.0 -0.4**
SFJD IAmb IAmb 10 09 31.0
comp=Z,24nm,0.9s
R11B Troy Canyon, C 67.85 58 P **P 10 09 31.9 +0.5**
FRB Frobisher Bay 68.08 17 LR LR 10 42 54.7
comp=Z,28nm,18.4s,baz=322,slow=39
DZM Mont Dzumac 68.21 162 *e*LR LR 10 30 00.3
comp=Z,90nm,35.2s
DUG Dugway, Tooele 68.31 55 P **P 10 09 34.2 0.0**
DUG pmax pmax
comp=Z,5.0nm,1.4s
PDAR Pinedale Array 68.48 51 P **P 10 09 35.8 +0.4**
comp=Z,2.1nm,0.8s,baz=263,slow=1.0,SNR=21
PDAR LR LR 10 41 16.5
comp=Z,8.2nm,19.1s,baz=300,slow=37
comp=Z,2.1nm,0.8s
UPP Uppsala 68.55 336 *e*P **P 10 09 34.4 -0.7**

DY2G Dye2 68.72 6 *i* P **P 10 09 35.6 -0.8**
DY2G IAmb IAmb 10 09 37.3
comp=Z,89nm,1.4s
DOMB Dombas 68.95 341 *e*P **P 10 09 36.7 -0.9**
AKT Akhty 69.03 308 *e*P **P 10 09 39.5 +0.8**
AKT *e**PP **pP 10 09 58.8 +0.9**
AKT *e* 10 12 14.1
AKT pmax pmax
comp=Z,57nm,0.7s
ISAL Salakas 69.16 329 *e*P **P 10 09 40.4 +1.4**
GOF Gofitskoye 69.19 313 *ce*P **P 10 09 40.3 +0.9**
ASAR Alice Springs 69.23 195 P **P 10 09 40.2 +0.4**
ASAR Alice Springs 69.23 195 P **P 10 09 40.6 +0.9**
comp=Z,0.8nm,0.6s,baz=12,slow=6.9,SNR=23
ASAR PKPPKP **P'P'df 10 37 48.5 +2.9**
comp=Z,0.6nm,0.8s,baz=176,slow=3.2,SNR=5.5
ASAR LR LR 10 41 51.7
comp=Z,36nm,18.5s,baz=334,slow=37
comp=Z,0.8nm,0.6s
NB2 NORSAR Subarra 69.30 339 P **P 10 09 38.9 -0.9**
comp=Z,22nm,0.7s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.30 339 P **P 10 09 38.9 -0.9**
baz=32,slow=6.5
NOA NORSAR Array B 69.30 339 P **P 10 09 39.0 -0.9**
comp=Z,13nm,0.6s,baz=31,slow=6.6,SNR=121
NOA LR LR 10 43 00.5
comp=Z,31nm,21.9s,baz=25,slow=38
comp=Z,13nm,0.6s
MNK Minsk 69.31 328 *i* P **P 10 09 38.8 -1.2**
MNK *i* *PP **pP 10 09 57.6 -1.6**
MNK *i* 10 12 13.8
MNK *i* PPP PPP 10 13 55.8
MNK *i* S **S 10 18 39.7 -0.8**
MNK *i* SS **SS 10 23 10.3 +2.8**
MNK pmax pmax
comp=Z,74nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=E,36nm,0.9s
MNK MLR MLR
comp=N,107nm,22.0s
MNK MLR MLR
comp=Z,77nm,22.0s
MNK MLR MLR
comp=E,109nm,26.0s
HFS Hagfors 69.42 338 P **P 10 09 39.6 -1.0**
comp=E,17nm,0.5s,baz=57,slow=5.5,SNR=101
HFS LR LR 10 42 37.1
comp=E,34nm,21.8s,baz=19,slow=38
comp=E,17nm,0.5s
NORES NORESS Array B 69.48 339 P **P 10 09 40.2 -0.7**
NC602 NORSAR Array S 69.48 339 *e*P **P 10 09 39.6 -1.3**
SEKA Sheki 69.51 308 P **P 10 09 43.9 +2.3**
VSVD Vaisvydziai 69.62 331 *e*P **P 10 09 41.8 -0.1**
MNGR Mingechevir, A 69.87 308 P **P 10 09 46.4 +2.8**
NCK Nalchik 69.96 312⇓ *e*P **P 10 09 45.0 +0.8**
NCK pmax pmax
comp=Z,66nm,1.0s
PABE Paberze 69.98 330 P **P 10 09 43.8 -0.2**
PABE Paberze 69.98 330 *e*P **P 10 09 44.2 +0.1**
KIV Kislovodsk 70.13 312 *i* P **P 10 09 47.2 +1.8**
SNR=15
KIV Kislovodsk 70.13 312 *e*P **P 10 09 46.1 +0.8**
KIV pmax pmax
comp=Z,123nm,1.1s
KIV MLR MLR
comp=Z,49nm,17.0s
ULM Lac du Bonnet 70.14 38 P **P 10 09 45.2 0.0**
comp=Z,10nm,0.6s,baz=304,slow=5.3,SNR=5.9
ULM LR LR 10 41 22.2
comp=Z,24nm,19.5s,baz=322,slow=36
comp=Z,10nm,0.6s
KBZ Khabaz 70.17 312 P **P 10 09 46.7 +1.3**
comp=Z,53nm,0.8s,baz=66,slow=3.3,SNR=92
KBZ LR LR 10 43 52.3
comp=Z,76nm,21.4s,baz=45,slow=39
KBZ Khabaz 70.17 312 *c i* P **P 10 09 46.1 +0.7**
KBZ pmax pmax
comp=Z,64nm,0.9s
KBZ Khabaz 70.17 312 *e*P **P 10 09 46.1 +0.7**
LKRN Lenkeran, Azer 70.26 305 P **P 10 09 49.1 +3.0**
PFO Pinyon Flats O 70.37 62 LR LR 10 34 56.4
comp=Z,15nm,20.7s,baz=301,slow=31
GANJ Ganja 70.38 308 P **P 10 09 49.6 +2.7**
RSSD Black Hills 70.54 47 P **P 10 09 48.5 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,1.2s
NEUR Neytrino 70.59 312 ⇓ *i*P **P 10 09 50.2 +1.9**
NEUR pmax pmax
comp=Z,17nm,1.2s
PSA00 Pilbara Seismi 70.92 208 P **P 10 09 50.0 -0.2**
STRU Stroemstad 71.03 338 *e*P **P 10 09 50.0 -0.4**
SUW Suwalki 71.44 330 *e*P **P 10 09 52.6 -0.3**
SUW Suwalki 71.44 330 *e*P **P 10 09 53.5 +0.5**
GNI Garni 71.61 308 LR LR 10 46 10.4
comp=Z,32nm,18.1s,baz=80,slow=40
GNI Garni 71.61 308 *c i*P **P 10 09 56.3 +1.8**
GNI pmax pmax
comp=Z,40nm,1.4s
AKASG Malin Array Be 71.65 324 P **P 10 09 53.8 -0.5**
comp=Z,36nm,0.8s,baz=38,slow=6.1,SNR=121
AKASG LR LR 10 44 22.3
comp=Z,37nm,18.7s,baz=50,slow=38
comp=Z,36nm,0.8s
AKASG Malin Array Be 71.65 324 *i* P **P 10 09 53.7 -0.6**
AKASG pmax pmax
comp=Z,36nm,0.8s
AKBB Malin Array Si 71.65 324 *c i*P **P 10 09 53.8 -0.5**
AKBB pmax pmax
comp=Z,71nm,0.9s
KIEV Kiev 71.66 324 **P 10 09 54.4 0.0**
KIEV Kiev 71.66 324 ⇓ P **P 10 09 54.3 0.0**
KIEV Kiev 71.66 324 *i* P **P 10 09 54.1 -0.2**
SNR=31
KIEV Kiev 71.66 324 P **P 10 09 54.4 0.0**
KIEV pmax pmax
comp=Z,52nm,0.8s
KIEV Kiev 71.66 324 P **P 10 09 54.5 +0.1**
KIEV pP **pP 10 10 15.7 +2.0**
NAX Nakhchivan 71.84 307 P **P 10 09 58.7 +2.9**
VSLR Vesyoloye 71.86 313 *de*P **P 10 09 57.1 +1.4**
VSLR pmax pmax
comp=Z,84nm,0.9s
SOC Sochi 71.94 314 *e*P **P 10 09 55.3 -0.8**
SOC *e*PPP PPP 10 14 20.6
SOC *e*S **S 10 19 10.7 -0.7**
SOC *e*SS **SS 10 23 48.8 +0.5**
SOC *e*SSS SSS 10 27 01.8
SOC pmax pmax
comp=Z,38nm,0.6s
SOC MLR MLR
comp=Z,122nm,17.0s
ANN Anapa 72.23 316 *e*P **P 10 09 56.1 -1.8**
ANN *e**PP **PcP 10 10 15.3 -0.4**
ANN *e*S **S 10 19 13.4 -1.3**
ANN pmax pmax
comp=Z,42nm,0.7s
ISCO Idaho Springs 72.67 51 P **P 10 10 01.3 +0.3**
ISCO pmax pmax
comp=Z,5.0nm,1.1s
LRW Lerwick 72.83 345 *e*P **P 10 10 01.1 0.0**
LRW IAmb IAmb 10 10 01.7
comp=Z,29nm,0.7s
COP Copenhagen 73.57 336 *i* P **P 10 10 05.5 -0.1**
COP IAmb IAmb 10 10 06.6
comp=Z,72nm,0.7s
IVI Ivigtut 73.71 8 *i* P **P 10 10 06.9 +0.6**
IVI IAmb IAmb 10 10 09.3
comp=Z,48nm,1.2s
SIM Simferopol' 73.75 318 *e*P **P 10 10 06.8 0.0**
SIM pmax pmax
comp=Z,73nm,1.0s
MUD Monsted U'grnd 73.81 338 *i* P **P 10 10 07.2 +0.2**
MUD IAmb IAmb 10 10 08.4
comp=Z,12nm,0.7s
SORM Soroca 73.98 323 ⇓ P **P 10 10 07.8 -0.3**
SORM Soroca 73.98 323 P **P 10 10 08.9 +0.8**
BANOM Banah 74.00 291 P **P 10 10 08.9 +0.2**
SHME Shamm 74.03 291 P **P 10 10 08.8 0.0**
BEL Belsk 74.06 329 *e*P **P 10 10 09.3 +0.8**
BEL Belsk 74.06 329 P **P 10 10 09.3 +0.8**
GKP Gorka Klasztor 74.11 332 *e*P **P 10 10 09.2 +0.4**
GKP Gorka Klasztor 74.11 332 *e*P **P 10 10 09.3 +0.5**
MSFE Esma-Masafi 74.47 290 P **P 10 10 11.9 +0.5**

MILM Milestii Mici 74.71 322⇑ *i*P **P 10 10 11.3 -1.1**
comp=Z,120nm,1.9s
MILM Milestii Mici 74.71 322 *c i*P **P 10 10 11.0 -1.4**
MILM pmax pmax
comp=Z,120nm,1.9s
UOSS Minazif 74.72 290 P **P 10 10 13.5 +0.6**
TUC Tucson 74.78 60 P **P 10 10 13.6 +0.4**
TUC pmax pmax
comp=Z,5.0nm,1.8s
HATD Hatta, Dubai 74.85 290 P **P 10 10 14.5 +0.9**
ASHO Ashiyiah 75.00 290 P **P 10 10 15.3 +0.8**
SOHO SOHO 75.04 289 P **P 10 10 15.1 +0.5**
NAZ Nazwa, Dubai 75.06 290 P **P 10 10 15.3 +0.6**
FAQ Al Faqa, Dubai 75.27 290 P **P 10 10 16.0 0.0**
ASUD Al Ashush, Dub 75.52 290 P **P 10 10 17.8 +0.4**
ANMO Albuquerque 75.57 55 LR LR 10 43 01.9
comp=Z,6.4nm,19.2s,baz=72,slow=35
ANMO Albuquerque 75.57 55⇑ *e*P **P 10 10 18.3 +0.5**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 75.57 55 P **P 10 10 18.7 +0.9**
MCD Coleburn Disti 75.61 345 *e*P **P 10 10 17.5 +0.1**
BSEG Bad Segeberg 75.70 336 P **P 10 10 18.1 +0.2**
BSEG pmax pmax
comp=Z,15nm,0.9s
BURAR Bucovina Array 75.71 324 **P 10 10 18.2 0.0**
BURAR IAmb IAmb 10 10 20.2
comp=Z,35nm,0.8s
BURAR Bucovina Array 75.71 324 ⇓ P **P 10 10 18.8 +0.6**
BURAR Bucovina Array 75.71 324 P **P 10 10 18.6 +0.3**
BIR Birlad 75.73 322 ⇓ P **P 10 10 18.9 +0.6**
BIR Birlad 75.73 322 P **P 10 10 18.8 +0.6**
OJC Ojcow 75.74 329 *e*P **P 10 10 18.5 +0.3**
OJC Ojcow 75.74 329 **P 10 10 18.3 +0.1**
OJC Ojcow 75.74 329 P **P 10 10 18.3 +0.1**
STHS Stebnicka Huta 75.85 328 *e*P **P 10 10 19.2 +0.3**
STHS pmax pmax
comp=Z,27nm,0.8s
STHS Stebnicka Huta 75.85 328 *e*P **P 10 10 19.1 +0.2**
RUE Ruedersdorf 75.91 334 *e*P **P 10 10 19.8 +0.6**
TESR Tescani 75.97 323 ⇑ P **P 10 10 21.1 +1.5**
GHRR 75.99 322 ⇓ P **P 10 10 21.4 +1.6**
BZK Bozkurt 76.01 316 ⇓ P **P 10 10 21.2 +1.2**
TLCR 76.04 321 ⇑ P **P 10 10 21.1 +1.1**
TLCR 76.04 321 P **P 10 10 21.1 +1.1**
NIE Niedzica 76.21 328 *e*P **P 10 10 22.1 +1.1**
NIE Niedzica 76.21 328 P **P 10 10 22.0 +1.1**
ONER Baraj Valea Uz 76.22 323 ⇑ P **P 10 10 21.7 +0.7**
PANC Panciu 76.25 322 ⇑ P **P 10 10 21.2 0.0**
KPL Plockton 76.27 346 *e*P **P 10 10 21.7 +0.6**
KPL IAmb IAmb 10 10 22.3
comp=Z,48nm,0.8s
STKA Stephens Creek 76.33 186 P **P 10 10 23.5 +1.9**
comp=Z,1.9nm,0.7s,baz=340,slow=5.5,SNR=3.7
STKA LR LR 10 45 15.1
comp=Z,18nm,19.9s,baz=22,slow=36
comp=Z,1.9nm,0.7s
CFR Carcaliu 76.35 321 ⇑ P **P 10 10 22.1 +0.3**
CFR Carcaliu 76.35 321 P **P 10 10 22.1 +0.3**
BMR Baia Mare 76.37 325 ⇑ P **P 10 10 23.5 +1.7**
BMR Baia Mare 76.37 325 P **P 10 10 23.5 +1.7**
ODBI Odobesti 76.38 322 ⇓ P **P 10 10 23.8 +1.9**
VRI Vrincioaia 76.44 322 ⇓ P **P 10 10 24.0 +1.6**
VRI Vrincioaia 76.44 322 P **P 10 10 23.1 +0.8**
KSP Ksiaz 76.47 331 *e*P **P 10 10 22.9 +0.5**
KSP Ksiaz 76.47 331 P **P 10 10 22.8 +0.5**
TPGR Topolog 76.47 321 ⇑ P **P 10 10 23.3 +0.8**
SCHQ Schefferville 76.47 20 P **P 10 10 23.1 +0.7**
comp=Z,71nm,0.7s,baz=19,slow=6.4,SNR=11
SCHQ LR LR 10 45 10.7
comp=Z,266nm,21.7s,baz=340,slow=36
PLOR Plostina 76.48 323 ⇓ P **P 10 10 23.4 +0.8**
PLOR Plostina 76.48 323 P **P 10 10 23.4 +0.8**
OKC Ostrava-Krasne 76.65 330 P **P 10 10 24.3 +0.9**
OKC pmax pmax
comp=Z,35nm,1.3s
OZUR 76.66 323 ⇓ P **P 10 10 24.3 +0.7**
STEB Steborice 76.71 330 *e*P **P 10 10 24.5 +0.8**
LANS Liptovska Anna 76.74 329 *e*P **P 10 10 25.5 +1.5**
LANS pmax pmax
comp=Z,30nm,0.9s
LANS Liptovska Anna 76.74 329 *e*P **P 10 10 25.5 +1.5**
CHVC Chvalec 76.76 331 *e*P **P 10 10 24.7 +0.6**
CHVC Chvalec 76.76 331 *e*P **P 10 10 24.7 +0.6**
TIRR Tirgusor 76.78 321 P **P 10 10 25.2 +1.0**
TIRR pmax pmax
comp=Z,24nm,1.0s
HARR Harsova 76.82 321 ⇓ P **P 10 10 26.0 +1.5**
HARR Harsova 76.82 321 P **P 10 10 25.3 +0.8**
UPC Upice 76.84 331 *e*P **P 10 10 25.3 +0.8**
UPC Upice 76.84 331 *e*P **P 10 10 25.3 +0.8**
INVG Invergeldie, C 76.85 345 *e*P **P 10 10 23.9 -0.5**
INVG IAmb IAmb 10 10 25.7
comp=Z,14nm,1.0s
DPC Dobruska-Polom 76.87 331 *e*P **P 10 10 25.6 +0.9**
DPC Dobruska-Polom 76.87 331 *e*P **P 10 10 25.6 +0.9**
TLBR Topalu 76.88 321 ⇓ P **P 10 10 25.8 +1.0**
KECS Kecovo 76.90 328 *e*P **P 10 10 26.3 +1.4**
KECS pmax pmax
comp=Z,35nm,1.0s
KECS Kecovo 76.90 328 *e*P **P 10 10 26.3 +1.4**
MORC Moravsky Berou 76.92 330 **P 10 10 25.4 +0.4**
MORC Moravsky Berou 76.92 330 ⇑ P **P 10 10 26.0 +0.9**
MORC Moravsky Berou 76.92 330 *e*P **P 10 10 25.8 +0.8**
MORC Moravsky Berou 76.92 330 P **P 10 10 25.4 +0.4**
MORC pmax pmax
comp=Z,43nm,0.9s
KRLC Kraliky 76.94 331 *e*P **P 10 10 25.9 +0.8**
KRLC Kraliky 76.94 331 *e*P **P 10 10 25.9 +0.8**
MESR Meseseni 77.01 325 ⇑ P **P 10 10 26.8 +1.3**
MLR Muntele Rosu 77.07 323 LR LR 10 46 15.5
comp=Z,51nm,21.0s,baz=48,slow=37
MLR Muntele Rosu 77.07 323 P **P 10 10 26.8 +0.7**
CJR Cluj-Napoca 77.09 325 ⇓ P **P 10 10 27.4 +1.3**
CJR Cluj-Napoca 77.09 325 P **P 10 10 27.3 +1.3**
CLL Collm 77.16 333 **P 10 10 26.2 0.0**
CLL Collm 77.16 333⇑ *i*P **P 10 10 26.3 0.0**
CLL pmax pmax
comp=Z,63nm,1.0s
CLL Collm 77.16 333⇑ *i*P **P 10 10 26.3 0.0**
comp=Z,63nm,1.0s
BRG Berggiesshubel 77.23 333 P **P 10 10 27.0 +0.3**
BRG pmax pmax
comp=Z,20nm,1.1s
BRG Berggiesshubel 77.23 333⇑ *i*P **P 10 10 26.9 +0.3**
BRG Amp 10 10 28.7
comp=Z,14nm,1.0s
LAWE Loch Awe, Argy 77.25 346 *e*P **P 10 10 26.8 +0.2**
LAWE IAmb IAmb 10 10 28.1
comp=Z,18nm,0.8s
PVCC Panska Ves 77.32 332 P **P 10 10 27.8 +0.7**
PVCC pmax pmax
comp=Z,35nm,1.1s
ICOR Ion Corvin 77.33 321 ⇑ P **P 10 10 28.9 +1.6**
DRGR 77.39 325 ⇑ P **P 10 10 28.2 +0.5**
DRGR 77.39 325 P **P 10 10 28.1 +0.3**
PGBU Glenifferbraes 77.51 345 *e*P **P 10 10 28.3 +0.2**
PGBU IAmb IAmb 10 10 30.0
comp=Z,165nm,1.2s
PSZ Piszkesteto 77.59 328 ⇑ P **P 10 10 29.8 +1.0**
PSZ Piszkesteto 77.59 328 *e*P **P 10 10 29.9 +1.0**
PSZ Piszkesteto 77.59 328 P **P 10 10 29.8 +1.0**
HSKC Hora Svate Kat 77.63 333 *e*P **P 10 10 29.4 +0.5**
JAVC Velka Javorina 77.64 329 *e*P **P 10 10 30.7 +1.6**
VRAC Vranov 77.65 330 LR LR 10 46 48.7
comp=Z,46nm,21.3s,baz=28,slow=37
VRAC Vranov 77.65 330 ⇑ P **P 10 10 30.2 +1.1**
VRAC Vranov 77.65 330 *e*P **P 10 10 30.0 +0.9**
VRAC Vranov 77.65 330 P **P 10 10 30.1 +1.1**
EKA Eskdalemuir Ar 77.71 344 P **P 10 10 29.4 +0.2**
comp=Z,9.3nm,0.8s,baz=24,slow=4.7,SNR=16
comp=Z,9.3nm,0.8s
ARR Arges 77.73 323 ⇑ P **P 10 10 31.1 +1.5**
ESK Eskdalemuir 77.73 344 *e*P **P 10 10 29.5 +0.1**
ESK IAmb IAmb 10 10 30.4
comp=Z,13nm,1.0s
PRU Pruhonice 77.79 332 *e*P **P 10 10 30.4 +0.6**
PRU Pruhonice 77.79 332 *e*P **P 10 10 30.4 +0.6**
BR131 Keskin Array S 77.86 314 *c i*P **P 10 10 31.1 +0.5**
BRTR Keskin Array B 77.86 314 P **P 10 10 31.1 +0.5**
BRTR Keskin Array B 77.86 314 P **P 10 10 31.2 +0.7**
comp=Z,8.4nm,0.8s,baz=72,slow=4.4,SNR=34
comp=Z,8.4nm,0.8s

MZR	Muzera	77.86 290	P	P	10 10 30.8	+0.1
MZR			*i* P	PcP	10 10 31.0	-9.3
SNR=16						
KRUC	Moravsky	77.93 330	*e*P	P	10 10 31.2	+0.6
KRUC	Moravsky	77.93 330	P	P	10 10 31.5	+0.9
KRUC			pmax	pmax		
comp=Z,41nm,1.2s						
SMOL	Smolenice	78.02 329	*e*P	P	10 10 32.4	+1.3
DEV	Deva	78.05 325	P	P	10 10 32.0	+0.7
DEV			pmax	pmax		
comp=Z,29nm,0.8s						
TREC	Trest	78.05 331	*e*P	P	10 10 32.1	+0.8
TREC	Trest	78.05 331	*e*P	P	10 10 32.1	+0.8
KIRS	Kirsehir-Merke	78.17 314	⇓P	P	10 10 33.2	+1.0
MOX	Moxa	78.18 334	P	P	10 10 32.4	+0.4
MOX			pmax	pmax		
comp=Z,21nm,1.6s						
ANTO	Ankara	78.19 315	⇑P	P	10 10 33.3	+1.0
ANTO	Ankara	78.19 315	P	P	10 10 33.3	+1.0
MODS	Modra-Piesok	78.19 329	*e*P	P	10 10 33.3	+1.2
MODS			pmax	pmax		
comp=Z,64nm,1.2s						
MODS	Modra-Piesok	78.19 329	*e*P	P	10 10 33.3	+1.2
SRO	Srobarova	78.28 328	*e*P	P	10 10 34.5	+2.0
SRO			pmax	pmax		
comp=Z,28nm,0.8s						
SRO	Srobarova	78.28 328	*e*P	P	10 10 34.5	+2.0
BUD	Budapest	78.28 328	P	P	10 10 32.7	+0.2
BUD			pmax	pmax		
comp=Z,29nm,1.3s						
RAZG	Razgrad	78.34 321	⇓P	P	10 10 33.2	+0.2
ZVC	Zvikov	78.37 332	*e*P	P	10 10 33.8	+0.8
ZST	Bratislava	78.40 329	*e*P	P	10 10 37.1	+3.9
ZST	Bratislava	78.40 329	*e*P	P	10 10 37.1	+3.9
MNTX	Cornudas Mount	78.49 57	P	P	10 10 34.2	+0.2
GZR	Gura Zlata	78.50 324	⇓P	P	10 10 34.6	+0.7
GZR	Gura Zlata	78.50 324	P	P	10 10 34.1	+0.2
IDGL	Inch Island, C	78.75 346	P	P	10 10 35.4	+0.4
IDGL	Inch Island, C	78.75 346	*e*P	P	10 10 35.3	+0.3
BUG	Bochum--Univer	78.78 337	P	P	10 10 35.8	+0.6
BUG			pmax	pmax		
comp=Z,27nm,1.8s						
BZS	Buzias	78.79 325	⇓P	P	10 10 35.8	+0.4
BZS	Buzias	78.79 325	P	P	10 10 35.5	+0.1
KHC	Kasperske Hory	78.85 332	*e*P	P	10 10 36.5	+0.8
KHC	Kasperske Hory	78.85 332	*e*P	P	10 10 36.5	+0.8
CKRC	Cesky Krumlov	78.86 331	*e*P	P	10 10 36.4	+0.6
CKRC	Cesky Krumlov	78.86 331	*e*P	P	10 10 36.4	+0.6
SOP	Sopron	79.03 329	P	P	10 10 38.0	+1.3
SOP			pmax	pmax		
comp=Z,51nm,0.8s						
GERES	GERESS Array B	79.05 332	P	P	10 10 37.1	+0.2
comp=Z,7.8nm,0.5s,baz=39,slow=6.2,SNR=83						
GERES			LR	LR	10 49 39.7	
comp=Z,49nm,18.6s,baz=47,slow=39						
comp=Z,7.8nm,0.5s						
HERR	Herculane	79.06 324	⇑P	P	10 10 37.3	+0.4
WET	Wettzell	79.07 332	P	P	10 10 37.8	+0.9
WET			pmax	pmax		
comp=Z,30nm,1.2s						
CONA	Conrad Observa	79.08 330	*i* P	P	10 10 38.0	+1.0
comp=Z,20nm,0.6s,SNR=20						
RONA	Rosalia, Austr	79.11 330	*e*P	P	10 10 38.3	+1.1
comp=Z,25nm,1.1s,SNR=24						
ELND	Elena	79.13 321	⇓P	P	10 10 37.8	+0.5
GRF	Grafenberg Arr	79.13 334	P	P	10 10 38.2	+1.0
GRF			pmax	pmax		
comp=Z,43nm,1.2s						
MORW	Morawa	79.13 209	P	P	10 10 37.1	-0.2
MORW			IAmb	IAmb	10 11 22.8	
comp=Z,66nm,1.9s						
GRB1	Grafenberg Arr	79.26 333	P	P	10 10 38.7	+0.8
GRB1			pmax	pmax		
comp=Z,44nm,1.2s						
PLVB	Pleven	79.32 322	⇓P	P	10 10 38.7	+0.4
PUNG	Punghina	79.33 324	⇑P	P	10 10 38.5	+0.2
MDVR	Moldovita	79.43 325	⇑P	P	10 10 39.0	0.0
MORH	Mrgy, Hungar	79.48 327	⇑*i*P	P	10 10 38.7	-0.4
TNS	Taunus Mts	79.52 335	P	P	10 10 39.8	+0.4
TNS			pmax	pmax		
comp=Z,17nm,1.4s						
GRC1	Grafenberg Arr	79.64 333	P	P	10 10 40.6	+0.6
GRC1			pmax	pmax		
comp=Z,27nm,1.3s						
MOA	Molln	79.71 331	*i* P	P	10 10 41.1	+0.7
comp=Z,5.6nm,0.6s,SNR=6.5						
CWF	Charnwood Fore	79.76 342	*e*P	P	10 10 40.8	+0.3
CWF			IAmb	IAmb	10 10 43.1	
comp=Z,22nm,1.0s						
ARSA	Arzberg	79.77 330	*e*P	P	10 10 41.4	+0.6
comp=Z,3.4nm,0.6s,SNR=8.5						
BEBN	Eben Emael	79.81 337	*d*P	P	10 10 41.0	+0.2
SHAO	Shalim	79.81 285	*i* P	P	10 10 41.8	+0.4
SNR=8.4						
BTNL	Ternell	79.87 337	*d*P	P	10 10 40.6	-0.6
MEM	Membach	79.88 337	*d*P	P	10 10 41.4	+0.2
BSTI	Sart Tilman	80.03 337	*d*P	P	10 10 43.5	+1.5
BIOA	Bad Ischl, Aus	80.06 331	*e*P	P	10 10 42.7	+0.4
comp=Z,17nm,1.0s,SNR=10						
WMOK	Wichita Mounta	80.09 51	P	P	10 10 43.0	+0.3
WMOK			pmax	pmax		
comp=Z,6.0nm,1.1s						
UCC	Uccle	80.16 338	*d*P	P	10 10 42.8	+0.1
BCLA	Clavier	80.25 337	*d*P	P	10 10 42.9	-0.3
comp=Z,8.7nm,1.1s						
DSB	Dublin	80.30 345	P	P	10 10 44.4	+1.0
HLM1	Long Mynd	80.30 343	*e*P	P	10 10 43.7	+0.3
BOVS	Bovan	80.37 324	⇑P	P	10 10 43.9	-0.1
SOKA	Soboth	80.44 330	*i* P	P	10 10 44.8	+0.3
comp=Z,16nm,0.7s,SNR=24						
PERS	Pernice	80.44 330	*i* P	P	10 10 44.8	+0.3
PERS			*i*		10 10 46.6	
comp=Z,36nm,0.8s						
BMRD	Maredsous	80.50 338	*d*P	P	10 10 44.8	+0.2
RCHB	Rochefort	80.51 337	*d*P	P	10 10 44.5	-0.1
LESA	Schwarzleotal	80.62 332	*i* P	P	10 10 46.0	+0.6
comp=Z,15nm,0.6s,SNR=17						
IGLA	Glengowla, Co	80.65 347	P	P	10 10 46.3	+1.0
ALN	Alexandroupoli	80.66 320	P	P	10 10 45.4	-0.2
ALN			pmax	pmax		
comp=Z,24nm,0.9s						
WLF	Walferdange	80.69 336	*d*P	P	10 10 47.2	+1.6
KBA	Koelnbreinsper	80.69 331	*i* P	P	10 10 46.8	+0.9
comp=Z,34nm,0.6s,SNR=42						
KBA	Koelnbreinsper	80.69 331	P	P	10 10 46.1	+0.2
KBA			pmax	pmax		
comp=Z,69nm,0.7s						
MOSL	Moslavina	80.70 328	⇑*i*P	P	10 10 45.3	-0.5
DOU	Dourbes	80.74 338	*d*P	P	10 10 46.1	+0.3
OBKA	Obir	80.76 330	*i* P	P	10 10 46.2	+0.1
comp=Z,8.6nm,0.7s,SNR=15						
LPIG	La Paz	80.76 65	LR	LR	10 45 14.4	
comp=Z,15nm,18.6s,baz=272,slow=35						
GOLS	Golise	80.79 329	*i* P	P	10 10 46.4	+0.2
ISP	Isparta	80.89 315	*e*P	P	10 10 47.3	+0.3
ISP	Isparta	80.89 315	⇓*i*P	P	10 10 47.3	+0.3
ISP			pmax	pmax		
comp=Z,15nm,0.7s						
MYKA	Terra Mystica	80.97 331	*i* P	P	10 10 47.0	-0.2
comp=Z,6.7nm,0.6s,SNR=8.8						
WATA	Walderalm	81.07 332	*i* P	P	10 10 48.4	+0.5
comp=Z,11nm,0.5s,SNR=16						
WTTA	Wattenberg	81.11 332	*i* P	P	10 10 48.8	+0.6
comp=Z,12nm,0.5s,SNR=19						
WTTA	Wattenberg	81.11 332	P	P	10 10 48.3	+0.2
WTTA			pmax	pmax		
comp=Z,41nm,0.7s						
OZLJ	Ozalj	81.18 329	⇑*i*P	P	10 10 47.9	-0.4
IWEX	Carrickbyrne,	81.20 345	P	P	10 10 48.8	+0.5
RETA	Reutte	81.21 333	*i* P	P	10 10 49.1	+0.6
comp=Z,8.5nm,0.6s,SNR=5.9						
TXAR	Lajitas Array	81.21 57	P	P	10 10 49.2	+0.3
TXAR	Lajitas Array	81.21 57	P	P	10 10 49.4	+0.6
comp=Z,6.1nm,0.7s,baz=296,slow=4.2,SNR=102						
comp=Z,6.1nm,0.7s						
TXAR	Lajitas Array	81.21 57	P	P	10 10 49.2	+0.3
MOTA	Moosalm	81.22 332	*i* P	P	10 10 49.1	+0.4
comp=Z,13nm,0.7s,SNR=16						
ABTA	Abfaltersbach	81.27 331	*i* P	P	10 10 49.0	+0.1
comp=Z,4.4nm,0.6s						
BLY	Banja Luka	81.27 327	⇑*i*P	P	10 10 48.5	-0.3
CADS	Cadrg	81.29 330	*i* P	P	10 10 47.9	-1.1
SQTA	Sankt Quirin	81.30 332	*i* P	P	10 10 49.6	+0.5
comp=Z,18nm,0.7s,SNR=13						
RUDO	Rudo	81.35 325	⇑*i*P	P	10 10 36.5	-13
EZN	Ezine	81.38 319	⇓P	P	10 10 50.0	+0.6
EZN	Ezine	81.38 319	P	P	10 10 50.0	+0.6
SADO	Sadowa	81.40 32	LR	LR	10 48 05.5	
comp=Z,284nm,18.4s,baz=354,slow=36						
PLE	Pljevlja	81.58 325	⇑*i*P	P	10 10 51.3	+0.7
SRS	Serrai	81.59 321	P	P	10 10 51.2	+0.6
SRS			pmax	pmax		
comp=Z,24nm,0.8s						
FETA	Feichten	81.63 332	*i* P	P	10 10 51.2	+0.4
comp=Z,6.5nm,0.7s						
DAVA	Damuels	81.67 333	*i* P	P	10 10 51.4	+0.3
comp=Z,14nm,0.6s,SNR=12						
ECH	Echery	81.69 335	P	P	10 10 51.1	+0.1
ECH			pmax	pmax		
comp=Z,16nm,0.8s						
ECH	Echery	81.69 335	P	P	10 10 51.2	+0.2
ASF	Jabal al Asfar	81.73 307	LR	LR	10 52 50.5	
comp=Z,29nm,18.7s,baz=153,slow=40						
IVA	Berane	81.75 325	*e*P	P	10 10 51.3	-0.2
SKO	Skopje	81.84 323	*i* P	P	10 10 52.9	+1.0
KNT	Kendrikon	81.87 322	P	P	10 10 52.5	+0.5
KNT			pmax	pmax		
comp=Z,13nm,0.9s						
UPM	Unac-Piva	81.88 325	*e*P	P	10 10 51.8	-0.5
VAY	Valandovo	81.88 322	*i* P	P	10 10 52.5	+0.5
KOME	Kolasin	81.93 325	⇑*i*P	P	10 10 52.2	-0.2
MMAI	Mount Meron Ar	81.94 309	P	P	10 10 53.9	+1.3
comp=Z,17nm,0.7s,baz=41,slow=5.6,SNR=18						
MMAI			LR	LR	10 50 47.9	
comp=Z,51nm,18.3s,baz=22,slow=38						
comp=Z,17nm,0.7s						
KIJV	Kijevo	82.20 327	⇑*i*P	P	10 10 53.5	-0.2
VAL	Valentia	82.22 347	P	P	10 10 53.6	0.0
BRY	Bratogost	82.28 326	*e*P	P	10 10 53.4	-0.9
PDG	Podgorica	82.38 325	⇑*i*P	P	10 10 53.5	-1.1
BRJN	Brijuni	82.42 330	⇑*i*P	P	10 10 53.7	-1.1
TREB	Trebinje	82.51 326	⇑*i*P	P	10 10 54.6	-0.7
DRME	Dracevica, Mon	82.61 325	⇑*i*P	P	10 10 55.5	-0.4
BUM	Brajici-Budva	82.64 325	⇑*i*P	P	10 10 55.4	-0.7
STON	Ston	82.64 326	⇑*i*P	P	10 10 54.5	-1.5
RAYN	Ar Rayn	82.75 296	*i* P	P	10 10 57.5	+0.5
SNR=5.7						
RAYN	Ar Rayn	82.75 296	P	P	10 10 57.7	+0.7
RAYN			pmax	pmax		
comp=Z,9.0nm,0.7s						
ULC	Ulcinj	82.77 325	⇑*i*P	P	10 10 55.9	-0.8
OHR	Ohrid	82.82 323	*i* P	P	10 10 57.5	+0.4
LIT	Litokhoron	82.91 321	P	P	10 10 56.5	-1.0
LIT			pmax	pmax		
comp=Z,20nm,0.9s						
MIAR	Mount Ida	83.05 47	P	P	10 10 58.8	+0.5
MIAR			pmax	pmax		
comp=Z,12nm,0.9s						
PPT	Papeete	83.41 122	LR	LR	10 52 26.5	
comp=Z,8.2nm,18.1s,baz=357,slow=39						
PPT2	Papeete2	83.42 122	*e*LR	LR	10 37 06.2	
comp=Z,88nm,27.8s						
LOR	Lormes	83.51 337	P	P	10 11 00.8	+0.4
LOR			pmax	pmax		
comp=Z,17nm,1.1s						
BNI	Bardonecchia	84.68 334	P	P	10 11 06.3	-0.3
BNI			pmax	pmax		
comp=Z,20nm,0.9s						
EIL	Elat	84.70 307	LR	LR	10 52 32.0	
comp=Z,52nm,19.0s,baz=104,slow=38						
WVT	Waverly	84.72 43	P	P	10 11 07.2	+0.5
AQU	L'Aquila	84.75 329	⇑*i*P	P	10 11 08.1	+1.3
AQU	L'Aquila	84.75 329	P	P	10 11 07.1	+0.3
AQU			pmax	pmax		
comp=Z,44nm,0.9s						
MATE	Matera	84.92 325	*e*P	P	10 11 07.6	0.0
ORIF	Oris-en-Rattie	85.05 335	P	P	10 11 08.5	+0.2
ORIF			pmax	pmax		
comp=Z,34nm,0.8s						
TKL	Tuckaleechee C	87.03 40	LR	LR	10 53 34.1	
comp=Z,21nm,18.0s,baz=342,slow=38						
VAE	Valguarnera	88.55 325	LR	LR	10 54 27.3	
comp=Z,36nm,18.1s,baz=357,slow=38						
THZ	Tophouse	88.59 162	P	P	10 11 25.7	+0.5
KEST	Kesra	92.06 328	P	P	10 11 41.5	-0.3
comp=Z,5.8nm,0.8s,baz=16,slow=7.2,SNR=5.0						
KEST			LR	LR	10 57 33.2	
comp=Z,64nm,18.8s,baz=15,slow=38						
comp=Z,5.8nm,0.8s						
ESDC	Sonseca Array	92.66 339	P	P	10 11 43.5	-1.1
comp=Z,1.8nm,0.7s,baz=6.3,slow=4.5,SNR=11						
ESDC			LR	LR	11 00 33.6	
comp=Z,34nm,18.8s,baz=13,slow=40						
comp=Z,1.8nm,0.7s						
CMIG	Matias Romero	95.67 60	LR	LR	10 49 52.9	
comp=Z,11nm,20.3s,baz=359,slow=32						
CMLA	Cha da Macela	97.92 355	*i* P	P	10 12 06.1	-2.4
MDT	Midelt	99.30 338	LR	LR	11 04 13.8	
comp=Z,20nm,18.0s,baz=45,slow=40						
TORD	Torodi Ar. Bea	115.29 324	PKP	PKiKP	10 17 13.1	-1.1
comp=Z,0.7nm,0.5s,baz=24,slow=2.8,SNR=6.2						
VNDA	Vanda	122.05 177	PKP	PKiKP	10 17 25.6	+0.2
comp=Z,0.7nm,0.6s,baz=286,slow=3.6,SNR=7.2						
DBIC	Dimbokro	123.79 328	PKP	PKPdf	10 17 30.0	-0.6
comp=Z,9.1nm,1.1s,baz=78,slow=2.8,SNR=4.0						
QSPA	South Pole Qui	134.27 180	PKP	PKiKP	10 17 50.2	-0.1
comp=Z,2.2nm,0.9s,baz=118,slow=0.9,SNR=10						
SYO	Syowa Base	137.47 210	⇓*e*pPdiff	pPdif	10 15 28.0	+5.2
LPAZ	La Paz	138.05 60	PKP	PKPdf	10 17 58.7	+0.5
comp=Z,1.1nm,0.6s,baz=50,slow=1.3,SNR=3.1						
H03N2	Juan Fernandez	141.76 90	T	T	12 56 17.9	
baz=304,slow=77,SNR=54						
H03N3	Juan Fernandez	141.77 90	T	T	12 56 07.2	
baz=304,slow=77,SNR=149						
H03N1	Juan Fernandez	141.77 90	T	T	12 56 21.3	
baz=304,slow=77,SNR=64						
NVL	N'lazarevskaya	146.38 204	*e*PKHKP	PKPpre	10 18 06.6	
NVL			*e*		10 21 31.7	
NVL			*e*		10 25 10.6	
NVL			*e*SS	SS	10 40 25.8	-1.0
NVL			*e*SSS	SSS	10 45 56.6	
NVL			pmax	pmax		
comp=Z,8.0nm,1.1s						
BDFB	Brasilia	147.86 32	PKPbc	PKPbc	10 18 17.5	-0.4
comp=Z,7.7nm,0.7s,baz=302,slow=3.2,SNR=14						
TROLL	Troll, Antarti	148.13 199	⇑PKPbc	PKPbc	10 18 17.6	+0.6
comp=Z,284nm,0.7s						
SNAA	Sanae	149.56 197	⇓PKPbc	PKPbc	10 18 20.0	-0.5
comp=Z,56nm,0.9s						
SNAA	Sanae	149.56 197	PKPbc	PKPbc	10 18 20.1	-0.5
comp=Z,1.8nm,0.7s,baz=306,slow=2.6,SNR=9.2						
PLCA	Paso Flores	150.98 96	PKPbc	PKiKP	10 18 25.5	0.0
comp=Z,4.9nm,0.8s,baz=268,slow=1.6,SNR=11						
VNA2	Neumayer--Watz	151.07 196	⇓PKPbc	PKiKP	10 18 24.7	+0.1
comp=Z,11nm,0.6s,baz=41,slow=1.0						
VNA3	Neumayer Olymp	151.24 194	⇓PKPbc	PKiKP	10 18 24.7	-0.2
comp=Z,6.2nm,0.7s						
VNA1	Neumayer--Stat	151.47 196	⇑PKPbc	PKiKP	10 18 25.4	+0.1
comp=Z,4.2nm,0.6s						

SJA ***13*** *10:08:49.0±0.8, 29°.22S×69°.51W, h115km±3km, ML3.3, MW3.5*

GUC ***13*** *10:08:50.2±0.9, 29°.22S×69°.60W, h120km±5km, ML3.5*

ISC 13 10:08:50.0±1.2, 29°.22S±0°.03×69°.52W±0°.03, h114km±8km, n52, σ1§50/93, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO01	Juntas del Tor	0.91	214	⇓*i*P	Pn	10 09 11.2	+0.2
CO01				*e*S	Sn	10 09 26.7	0.0
CO01	Juntas del Tor	0.91	214	*e*P	Pn	10 09 11.3	+0.4
CO01				*e*S	Sn	10 09 27.1	+0.4
CO01				IAML		10 09 28.3	
comp=Z,231nm,0.3s							
AGUA	GUANDACOL	0.93	107	*e*P	Pn	10 09 11.0	0.0
AGUA				*e*S	Sn	10 09 27.3	+0.4
AGUA				IAML		10 09 27.6	
comp=Z,2μm,0.3s							
AROD	Rodeo	0.94	178	*e*P	Pn	10 09 11.7	+0.3
AROD				*e*S	Sn	10 09 27.5	0.0
ACDV	Cuesta del Vie	1.01	160	*e*P	Pn	10 09 11.8	0.0
ACDV				*e*S	Sn	10 09 28.7	+0.3
ACDV				IAML		10 09 29.2	
comp=Z,252nm,0.4s							
LCO	Las Campanas	1.06	281	*e*P	Pn	10 09 11.6	-0.9
LCO				*e*S	Sn	10 09 28.9	-0.5
LCO	Las Campanas	1.06	281	*e*P	Pn	10 09 12.3	-0.1
LCO				*e*S	Sn	10 09 29.2	-0.1
VCA	Vinchina	1.25	67	⇑*i*P	Pn	10 09 15.5	+1.2
VCA				*e*S	Sn	10 09 34.3	+1.5
VCA	Vinchina	1.25	67	*e*P	Pn	10 09 10.0	-4.3
VCA				*e*S	Sn	10 09 34.6	+1.8
ACCO	Cerro Coronel	1.42	164	*e*P	Pn	10 09 16.9	+0.4
ACCO				*e*S	Sn	10 09 37.2	+0.7
GO04	Tololo Observa	1.46	229	*e*P	Pn	10 09 16.7	-0.2
GO04				*e*S	Sn	10 09 36.4	-1.0
GO04	Tololo Observa	1.46	229	*e*P	Pn	10 09 16.0	-0.9
GO04				*e*S	Sn	10 09 37.6	+0.2
GO04				IAML		10 09 41.9	
comp=Z,575nm,0.2s							
CO05	La Serena	1.65	245	*e*P	Pn	10 09 18.1	-0.8
CO05				*e*S	Sn	10 09 39.1	-1.7
CO05				IAML		10 09 41.4	
comp=E,751nm,0.3s							
AC04	Llanos de Chal	1.70	306	⇑*i*P	Pn	10 09 19.4	-0.1
AC04				*e*S	Sn	10 09 40.6	-1.4
AC04				IAML		10 09 45.8	
comp=E,585nm,0.2s							
AC04	Llanos de Chal	1.70	306	*e*P	Pn	10 09 19.5	-0.1
AC04				IAML		10 09 49.7	
comp=Z,177nm,0.4s							
GO03	Copiapo	1.74	339	*e*P	Pn	10 09 20.1	+0.1
GO03				*e*S	Sn	10 09 42.7	-0.2
GO03				IAML		10 09 46.0	
comp=N,469nm,0.2s							
GO03	Copiapo	1.74	339	*e*P	Pn	10 09 20.2	+0.1
GO03				*e*S	Sn	10 09 43.0	+0.1
GO03				IAML		10 09 44.9	
comp=Z,289nm,0.2s							
CO03	El Pedregal	1.91	212	⇓*i*P	Pn	10 09 22.3	+0.2
CO03				*e*S	Sn	10 09 46.1	-0.5
CO03				IAML		10 09 49.6	
comp=E,580nm,0.4s							
CO03	El Pedregal	1.91	212	*e*P	Pn	10 09 22.6	+0.5
CO03				*e*S	Sn	10 09 47.2	+0.6
CO03				IAML		10 09 52.3	
comp=Z,181nm,0.3s							
AC06	Mina Casimiro	2.00	338	*e*P	Pn	10 09 23.2	-0.1
AC06				*e*S	Sn	10 09 47.6	-1.0
ACLC	CERRO LA CRUZ	2.25	96	*e*P	Pn	10 09 26.6	0.0
ACLC				*e*S	Sn	10 09 54.2	-0.3
ACLC				IAML		10 09 57.5	
comp=Z,156nm,0.3s							
RTLL	Cerro Villicun	2.29	157	*e*P	Pn	10 09 27.3	+0.4
RTLL				*e*S	Sn	10 09 54.9	-0.3
RTLL				IAML		10 09 56.1	
comp=Z,217nm,0.4s							
AVFE	Valle Fertil	2.29	129	*e*P	Pn	10 09 27.0	0.0
AVFE				*e*S	Sn	10 09 54.9	-0.5
AANI	Anillaco	2.30	80	*e*P	Pn	10 09 27.7	+0.6
AANI				*e*S	Sn	10 09 55.8	+0.2
AANI				IAML		10 09 58.2	
comp=Z,416nm,1.0s							
CO06	Fray Jorge	2.34	231	*e*P	Pn	10 09 26.3	-1.2
CO06				IAML		10 10 07.2	
comp=E,230nm,0.4s							
CO02	Combarbal	2.36	213	⇑*i*P	Pn	10 09 27.5	-0.3
CO02				*e*S	Sn	10 09 55.6	-1.3
CO02	Combarbal	2.36	213	*e*P	Pn	10 09 27.6	-0.2
CO02				*e*S	Sn	10 09 56.5	-0.4
CO02				IAML		10 10 01.3	
comp=Z,264nm,0.3s							
AC02	Maricunga	2.40	8	⇓*i*P	Pn	10 09 30.3	+1.4
AC02	Maricunga	2.40	8	*e*P	Pn	10 09 30.3	+1.4
AC02				*e*S	Sn	10 10 00.9	+2.4
AC02				IAML		10 10 01.2	
comp=Z,85nm,1.1s							
ZON	Zonda	2.43	163	*e*P	Pn	10 09 29.0	+0.2
ZON				*e*S	Sn	10 09 58.1	-0.3
ZON				IAML		10 10 05.2	
comp=Z,91nm,0.7s							
SJA	San Juan	2.44	160	*e*P	Pn	10 09 30.4	+1.4
SJA				IAML		10 10 02.3	
comp=Z,73nm,0.2s							
RTLS	Leoncito	2.58	176	*e*P	Pn	10 09 31.9	+1.0
RTLS				*e*S	Sn	10 10 03.3	+1.1
RTLS				IAML		10 10 06.5	
comp=Z,314nm,0.3s							
CFA	Coronel Fontan	2.62	155	*e*P	Pn	10 09 30.6	-0.6
CFA				*e*S	Sn	10 10 02.5	-0.4
APLL	PUNTA DE LOS L	2.85	115	*e*P	Pn	10 09 34.2	0.0
APLL				*e*S	Sn	10 10 08.1	-0.2
CO04	Los Peladeros	3.08	204	*e*P	Pn	10 09 37.0	-0.4
CO04				IAML		10 10 15.3	
comp=N,158nm,0.3s							
ACHE	Chepes	3.14	129	*e*P	Pn	10 09 38.3	+0.2
ACHE				*e*S	Sn	10 10 14.3	-0.9
AC01	Pan de Azucar	3.21	342	*e*P	Pn	10 09 39.2	+0.2
AC01				IAML		10 10 15.8	
comp=E,84nm,0.1s							
AC01	Pan de Azucar	3.21	342	*e*P	Pn	10 09 27.3	-12
AC01				*e*P		10 09 38.5	
AC01				*e*S	Sn	10 10 03.4	-13
AC01				IAML		10 10 24.1	
comp=Z,52nm,0.5s							
CYA	Choya	3.35	77	*e*P	Pn	10 09 40.5	-0.3
CYA				*e*S	Sn	10 10 18.8	-1.3
CYA				IAML		10 10 21.3	
comp=Z,60nm,0.5s							
ASAL	Salagasta	3.41	170	*e*P	Pn	10 09 42.9	+1.3
ASAL				*e*S	Sn	10 10 09.4	-12
VA03	San Esteban	3.64	194	*e*P	Pn	10 09 45.3	+0.5
VA03				*e*S	Sn	10 10 26.3	-0.8
VA03				IAML		10 10 39.3	
comp=Z,43nm,0.2s							
ARCO	CERRO ARCO	3.64	172	*e*P	Pn	10 09 47.4	+2.5
ARCO				*e*S	Sn	10 10 28.6	+1.4
ARCO				IAML		10 10 36.9	
comp=Z,83nm,0.5s							
ACAN	Cantantal	3.64	147	*e*P	Pn	10 09 44.1	-0.6
AAGR	Agrelo	3.90	171	*e*P	Pn	10 09 49.4	+1.2
AAGR				*e*S	Sn	10 10 37.7	+4.5
AAGR				IAML		10 10 39.9	
comp=Z,41nm,0.8s							
MT02	Curacav	4.26	199	*e*P

MJAR S **S** **10 15 00.3 -1.0**
2.3nm,0.5s,baz=144,slow=29,SNR=4.3
JYTA Yamagatataniai 1.04 229 *e*P **Pn** **10 14 37.1 -0.8**
JYTA *e*S **S** **10 15 03.3 -2.3**
JKG Kaga 1.10 270 *e*P **Pn** **10 14 37.2 -1.0**
JAG Ashikaga 1.42 84 *e*P **Pn** **10 14 40.1 -0.3**
JSD Sado 1.81 14 *e*P **Pn** **10 14 42.0 -1.4**
JNS Sasagawa 2.01 40 *e*P **Pn** **10 14 44.5 -0.6**
JWT Wachi 2.12 243 *e*P **Pn** **10 14 45.5 -0.7**
JHJ Hachijo jima 2 3.59 151 P **Pn** **10 14 59.0 -2.7**
157nm,0.9s,baz=63,slow=18,SNR=2.0
JHJ S **S** **10 15 48.1 -0.5**
221nm,1.1s,baz=248,slow=22,SNR=1.9
PETK Petropavlovsk- 21.91 34 P P 10 18 52.3 +17
5.1nm,0.9s,baz=231,slow=9.1,SNR=2.8
5.1nm,0.9s
WRA Warramunga Arr 56.01 184 P **P** **10 23 18.4 +3.0**
0.3nm,0.3s,baz=0.1,slow=7.6,SNR=19
0.3nm,0.3s
ASAR Alice Springs 59.73 184 P **P** **10 23 44.1 +2.9**
0.2nm,0.8s,baz=357,slow=5.7,SNR=7.3
0.2nm,0.8s

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*ROM **13** 10:14:38.5±0.2, 45.″86N×0.″01×6.″97E±0.″02, h10km±1km, ML1.4/12, Error ellipse: s-maj=1.8km s-min=1.4km az=228.0*
*GEN **13** 10:14:38.6, 45.″87N×7.″00E, h7km±1km, Ml1.2*
*LDG **13** 10:14:39.5±0.0, 45.″86N×7.″00E, h5km, Md1.5/2, Ml1.9/10, Error ellipse: s-maj=0.8km s-min=0.8km az=96.0*
*ZUR **13** 10:14:39.4, 45.″87N×6.″98E, h1km, MLh1.0/11, Error ellipse: s-maj=1595.0km s-min=572.8km az=47.0*
STR 13 10:14:39.6±0.3, 46°N±2°×°±°, h4km, MLv1.4/13, 9C-2D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**253**	⇓Pg	Pg	10 14 40.8	-0.3
BLANC				Sg	Sg	10 14 41.5	-0.5
MRGE	**Morge**	**0.10**	**150**	⇑Pg	Pg	10 14 42.0	+0.2
MRGE				Sg	Sg	10 14 43.8	+0.7
MRGE	**Morge**	**0.10**	**150**	P	Pg	10 14 42.0	+0.3
MRGE				S	Sg	10 14 43.8	+0.7
MRGE	**Morge**	**0.10**	**150**	P	Pg	10 14 41.9	+0.2
MRGE				S	Sg	10 14 43.8	+0.7
MRGE				AML	AML		
	comp=E,666μm,0.4s						
MRGE				AML	AML		
	comp=N,897μm,0.2s						
MRGE				AML	AML		
	comp=E,666μm,1.6s						
MRGE				AML	AML		
	comp=N,897μm,1.8s						
REMY	**Saint-Rhmy-en**	**0.12**	**99**	⇑Pg	Pg	10 14 42.4	+0.3
REMY				Sg	Sg	10 14 44.6	+0.8
REMY	**Saint-Rhmy-en**	**0.12**	**99**	P	Pg	10 14 42.4	+0.3
REMY				S	Sg	10 14 44.6	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**99**	P	Pg	10 14 42.4	+0.3
REMY				S	Sg	10 14 44.6	+0.8
REMY				AML	AML		
	comp=E,218μm,0.1s						
REMY				AML	AML		
	comp=N,278μm,0.5s						
REMY	**Saint-Rhmy-en**	**0.12**	**99**	Pg	Pg	10 14 42.3	+0.2
REMY				Sg	Sg	10 14 44.5	+0.8
MFERR	**Prayon, Val Fe**	**0.13**	**42**	⇑Pg	Pg	10 14 42.2	-0.1
MFERR				Sg	Sg	10 14 44.0	0.0
OGSI	**Sixt**	**0.27**	**322**	⇑Pg	Pg	10 14 44.4	-0.3
OGSI				Sg	Sg	10 14 47.8	-0.5
OGSI	**Sixt**	**0.27**	**322**	Pg	Pg	10 14 44.4	-0.4
OGSI				Sg	Sg	10 14 47.8	-0.5
SALAN	**Lac Salanfe**	**0.29**	**358**	⇑Pg	Pg	10 14 45.1	-0.2
SALAN				Sg	Sg	10 14 49.0	-0.1
RSL	**Roselend**	**0.30**	**237**	⇑Pg	Pg	10 14 45.5	0.0
RSL				Sg	Sg	10 14 49.5	-0.1
RSL	**Roselend**	**0.30**	**237**	P	Pg	10 14 45.5	0.0
RSL				S	Sg	10 14 49.5	-0.1
RSL	**Roselend**	**0.30**	**237**	Pg	Pg	10 14 45.5	0.0
RSL				Sg	Sg	10 14 49.6	0.0
FULLY	**Reservoir Maze**	**0.32**	**19**	⇑Pg	Pg	10 14 45.6	-0.1
FULLY				Sg	Sg	10 14 49.7	-0.2
LAVEY	**Lavey les Bain**	**0.34**	**4**	⇑Pg	Pg	10 14 46.1	-0.2
LAVEY				Sg	Sg	10 14 50.6	-0.2
ILLEZ	**Chalet Vouargn**	**0.36**	**355**	Pg	Pg	10 14 46.5	-0.1
ILLEZ				Sg	Sg	10 14 51.2	-0.3
DIX	**Grande Dixence**	**0.37**	**52**	Pg	Pg	10 14 46.8	0.0
DIX				Sg	Sg	10 14 51.6	-0.1
DIX	**Grande Dixence**	**0.37**	**52**	P	Pg	10 14 46.8	0.0
DIX				S	Sg	10 14 51.7	+0.1
DIX	**Grande Dixence**	**0.37**	**52**	P	Pg	10 14 46.9	+0.1
DIX				S	Sg	10 14 51.6	-0.1
DIX				AML	AML		
	comp=E,119μm,0.6s						
DIX				AML	AML		
	comp=N,106μm,0.8s						
DIX				AML	AML		
	comp=E,119μm,1.4s						
DIX	**Grande Dixence**	**0.37**	**52**	Pg	Pg	10 14 46.8	0.0
DIX				Sg	Sg	10 14 51.6	-0.1
LPL	**La Plagne**	**0.39**	**208**	*e*Pg	Pg	10 14 46.4	-0.7
LPL				*e*Sg	Sg	10 14 53.1	+1.0
	comp=E,5.7nm,0.3s						
LPG	**La Plagne**	**0.40**	**205**	*e*Pg	Pg	10 14 46.9	-0.4
LPG				*e*Sg	Sg	10 14 53.0	+0.5
	comp=E,6.5nm,0.2s						
GRYON	**Gryon**	**0.40**	**12**	⇑Pg	Pg	10 14 47.3	-0.2
GRYON				Sg	Sg	10 14 52.5	-0.2
CIRO	**Champorcher**	**0.48**	**122**	Pg	Pg	10 14 48.8	0.0
CIRO				Sg	Sg	10 14 55.2	+0.1
CIRO	**Champorcher**	**0.48**	**122**	P	Pg	10 14 48.8	-0.1
CIRO				S	Sg	10 14 55.2	+0.2
CIRO	**Champorcher**	**0.48**	**122**	⇓P	Pg	10 14 48.9	+0.1
CIRO				S	Sg	10 14 55.2	+0.1
CIRO				AML	AML		
	comp=N,44μm,0.2s						
CIRO				AML	AML		
	comp=E,30μm,0.9s						
CIRO	**Champorcher**	**0.48**	**122**	Pg	Pg	10 14 48.7	-0.1
CIRO				Sg	Sg	10 14 55.2	+0.2
AIGLE	**Aigle**	**0.49**	**357**	Pg	Pg	10 14 48.8	-0.2
AIGLE				Sg	Sg	10 14 55.2	-0.1
A173A	**Vacheresse, 74**	**0.52**	**336**	Pg	Pg	10 14 49.6	-0.1
SENIN	**Lac Senin/Sane**	**0.55**	**23**	Pg	Pg	10 14 50.1	-0.1
SENIN				Sg	Sg	10 14 57.3	-0.1
SENIN	**Lac Senin/Sane**	**0.55**	**23**	P	Pg	10 14 50.1	-0.1
SENIN				S	Sg	10 14 57.3	-0.1
SATI	**Passo dei Sala**	**0.61**	**88**	P	Pg	10 14 52.0	+0.6
SATI				S	Sg	10 14 59.3	-0.1
SATI	**Passo dei Sala**	**0.61**	**88**	Pg	Pg	10 14 51.5	0.0
SATI				Sg	Sg	10 14 59.8	+0.4
TRAV	**Traversella**	**0.63**	**123**	P	Pg	10 14 51.6	-0.1
TRAV				S	Sg	10 14 59.6	-0.4
TRAV	**Traversella**	**0.63**	**123**	P	Pg	10 14 51.7	-0.1
TRAV				S	Sg	10 14 59.9	-0.1
TRAV				AML	AML		
	comp=E,28μm,1.6s						
TRAV				AML	AML		
	comp=N,44μm,0.4s						
TRAV				AML	AML		
	comp=E,28μm,0.4s						
TRAV	**Traversella**	**0.63**	**123**	Pg	Pg	10 14 51.6	-0.1
TRAV				Sg	Sg	10 14 60.0	0.0
EMBD	**Embd, Matterta**	**0.69**	**58**	S	Sg	10 15 01.0	-0.7
EMBD	**Embd, Matterta**	**0.69**	**58**	Pg	Pg	10 14 53.1	+0.3
EMBD				Sg	Sg	10 15 01.3	-0.4
MMK	**Mattmark**	**0.71**	**74**	Sg	Sg	10 15 02.4	0.0
MMK	**Mattmark**	**0.71**	**74**	P	Pg	10 14 52.9	-0.3
MMK				S	Sg	10 15 01.1	-1.2
RSP	**Reno Superiore**	**0.73**	**165**	P	Pb	10 14 54.4	-0.6
RSP				S	Sg	10 15 03.2	0.0
RSP	**Reno Superiore**	**0.73**	**165**	Pg	Pg	10 14 53.9	+0.2
RSP				Sg	Sg	10 15 03.4	+0.2
OGMY	**Moye**	**0.77**	**272**	Pg	Pg	10 14 54.0	-0.4
GIMEL	**St. Georges /**	**0.84**	**324**	Pg	Pg	10 14 55.6	-0.2
GIMEL				Sg	Sg	10 15 07.0	+0.2
TORNY	**Torny/Romont**	**0.92**	**359**	Pn	Pn	10 15 00.0	+0.7
TORNY				Sn	Sn	10 15 14.3	+1.2
OGSM	**Saint Maurice**	**0.94**	**255**	Pg	Pg	10 14 57.6	0.0
OGSM				Sg	Sg	10 15 10.2	+0.4
CABF	**La Chapelle**	**0.98**	**321**	*e*Pg	Pg	10 14 58.3	-0.1
CABF				*e*Sg	Sb	10 15 12.0	-0.6
	comp=E,4.4nm,0.3s						
OG35	**Corcelles**	**1.01**	**281**	Pg	Pg	10 14 58.7	-0.2
OG35				Sg	Sb	10 15 12.7	-0.6
BHB	**Bricherasio**	**1.03**	**169**	Sg	Sg	10 15 12.8	0.0
MBDF	**Montbardon**	**1.14**	**188**	*e*Pg	Pg	10 14 59.7	-1.8
MBDF				*e*Sg	Sg	10 15 15.8	-0.4
	comp=E,3.3nm,0.5s						
RIVEL	**MONT RIVEL**	**1.17**	**321**	Pg	Pn	10 15 03.2	+0.4
ORIF	**Oris-en-Rattie**	**1.22**	**220**	*e*Pg	Pg	10 15 02.9	-0.1
ORIF				*e*Sg	Sg	10 15 18.3	-0.5
	comp=E,1.8nm,0.3s						
PZZ	**Stroppo**	**1.35**	**176**	Pg	Pn	10 15 05.1	-0.3
VIVF	**Saint-Julien-l**	**1.92**	**239**	*e*Pn	Pn	10 15 11.5	-1.5
VIVF	**Saint-Julien-l**	**1.92**	**239**	*e*Pg	Pb	10 15 15.1	0.0
VIVF				*e*Sg	Sg	10 15 40.3	-0.8
	comp=E,4.0nm,0.3s						
HINF	**Hinteralfeld**	**1.96**	**357**	*e*Pg	Pn	10 15 14.5	+0.8
HINF				*e*Sg	Sb	10 15 41.3	+0.5
	comp=E,1.0nm,0.2s						
HAU	**Haudompre**	**2.19**	**349**	*e*Pn	Pn	10 15 15.1	-1.8
HAU	**Haudompre**	**2.19**	**349**	*e*Pg	Pb	10 15 20.3	+0.4
HAU				*e*Sg	Sg	10 15 48.8	-1.3
	comp=E,2.1nm,0.3s						
SMF	**Signal de Mont**	**2.32**	**291**	*e*Pg	Pb	10 15 22.6	+0.6
SMF				*e*Sg	Sb	10 15 52.3	+1.2
	comp=E,0.6nm,0.1s						
LOR	**Lormes**	**2.58**	**304**	*e*Pg	Pg	10 15 27.8	-1.2
LOR				*e*Sg	Sg	10 16 00.7	-1.8
	comp=E,0.6nm,0.3s						
SSF	**Saint Saulge**	**2.69**	**298**	*e*Pg	Pb	10 15 29.5	+1.2
SSF				*e*Sg	Sb	10 16 03.5	+1.8
	comp=E,0.5nm,0.1s						

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*TEH **13** 10:20:52.5, 30.″98N×50.″08E, h9km±19km*
*IDC **13** 10:20:57.8±15.0, 31.″95N×50.″35E, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=319.9km s-min=40.6km az=8.0*
ISC 13 10:20:53.1±0.8, 30.″99N±0.″04×50.″09E±0.″06, h10km, n27, σ1°41/27, mb3.8/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.42**	**160**	Pg	**Pg**	**10 21 01.1**	**-0.2**
KLNJ	**Kolanjah**	**1.29**	**89**	Pg	**Pb**	**10 21 17.3**	**-0.4**
ZNGN	**Zangian**	**1.30**	**30**	Pg	**Pg**	**10 21 17.9**	**-0.2**
JHBN	**Jahan bin**	**1.33**	**22**	Pg	**Pg**	**10 21 18.6**	**-0.1**
IBRJ	**Brojen**	**1.36**	**47**	Pg	**Pg**	**10 21 18.7**	**-0.5**
IPIR	**Pirpir**	**1.82**	**22**	Pn	**Pb**	**10 21 26.6**	**-0.1**
KAZ2	**Kazeron-Fars-I**	**1.94**	**135**	Pn	**Pb**	**10 21 27.5**	**-1.0**
IRAM	**Ramesheh**	**2.12**	**67**	Pn	**Pb**	**10 21 30.8**	**-1.0**
IGAR	**Gharneh**	**2.18**	**49**	Pn	**Pb**	**10 21 31.8**	**-1.0**
IKLH	**Kolahrood**	**2.64**	**28**	Pn	**Pb**	**10 21 38.2**	**-2.5**
DSBU	**Dashti - Bushe**	**2.81**	**158**	Pn	**Pn**	**10 21 39.5**	**+1.3**
BDRS	**Dareh Seyedi**	**3.12**	**341**	Pn	**Pn**	**10 21 44.3**	**+1.6**
ANAR	**Anarak**	**3.79**	**54**	Pn	**Pn**	**10 21 53.7**	**+2.0**
ISFB	**Sefidab**	**3.81**	**28**	Pn	**Pn**	**10 21 53.9**	**+1.9**
ICHK	**Chekchek**	**3.89**	**70**	Pn	**Pn**	**10 21 54.9**	**+1.8**
IMEH	**Mehriz**	**3.90**	**83**	Pn	**Pn**	**10 21 55.2**	**+1.9**
HAGD	**Aghdareh**	**3.90**	**348**	Pn	**Pn**	**10 21 54.5**	**+1.1**
IQOM	**Qom**	**3.93**	**12**	Pn	**Pn**	**10 21 55.5**	**+1.7**
IVRN	**Varamin**	**4.22**	**19**	Pn	**Pn**	**10 21 59.5**	**+1.9**
QABG	**Abgarm-Qazvin**	**4.72**	**355**	Pn	**Pn**	**10 22 06.5**	**+1.9**
IDHR	**Dehrash**	**4.83**	**321**	Pn	**Pn**	**10 22 07.6**	**+1.5**
IDMV	**Damavand**	**4.86**	**19**	Pn	**Pn**	**10 22 07.8**	**+1.4**
BRTR	**Keskin Array B**	**15.98**	**308**	Pn	**P**	**10 24 42.2**	**+0.6**
	0.1nm,0.3s,baz=113,slow=10.0,SNR=2.4						
	0.8nm,1.1s						
MKAR	**Makanchi Array**	**29.36**	**48**	P	**P**	**10 26 55.5**	**-0.7**
	0.1nm,0.4s,baz=234,slow=9.3,SNR=2.5						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**34.28**	**340**	P	**P**	**10 27 37.7**	**-1.5**
	2.6nm,0.9s,baz=154,slow=7.7,SNR=3.5						
	2.6nm,0.9s						
HFS	**Hagfors**	**37.85**	**331**	P	**P**	**10 28 09.9**	**+0.1**
	1.0nm,0.6s,baz=134,slow=6.2,SNR=1.7						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**41.04**	**347**	P	**P**	**10 28 35.6**	**-0.6**
	2.5nm,1.0s,baz=142,slow=8.2,SNR=1.9						
	2.5nm,1.0s						

IDC 13 10:32:57.5±1.4, 9.°65N×126.°19E, h0km, mb3.8/4, mbtmp3.8/5, ML4.0/1, MS3.0/1, Error ellipse: s-maj=80.0km s-min=22.8km az=84.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.63**	**193**	Pn	Pn	10 33 40.9	-0.4
	29nm,0.3s,baz=8.8,slow=3.8,SNR=1.6						
DAV				Sn	Sn	10 34 15.1	+1.2
	10.0nm,0.3s,baz=268,slow=6.0,SNR=1.1						
	62nm,0.3s						
WRA	**Warramunga Arr**	**30.48**	**165**	P	P	10 39 12.0	-0.3
	0.2nm,0.6s,baz=347,slow=8.1,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**33.96**	**167**	P	P	10 39 43.1	+0.3
	0.2nm,0.4s,baz=352,slow=6.8,SNR=8.1						
	0.2nm,0.4s						
HNR	**Honiara**	**38.58**	**118**	LR	LR	10 56 18.9	
	comp=Z,21nm,18.1s,baz=350,slow=36						
H11S3	**WAKE ISLAND Hy**	**40.18**	**73**	T	T	11 23 29.4	
	baz=262,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.19**	**73**	T	T	11 23 31.7	
	baz=262,slow=74,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	11 23 32.7	
	baz=262,slow=74,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**40.53**	**71**	T	T	11 23 57.6	
	baz=265,slow=74,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**40.54**	**71**	T	T	11 23 56.5	
	baz=265,slow=74,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	11 23 54.9	
	baz=265,slow=74,SNR=5.8						
ARCES	**ARCESS Array B**	**84.75**	**340**	P	P	10 45 33.5	+0.2
	3.2nm,1.1s,baz=75,slow=4.7,SNR=4.5						
	3.2nm,1.1s						
FINES	**FINESS Array B**	**86.40**	**332**	P	P	10 45 41.4	-0.2
	1.4nm,0.8s,baz=92,slow=4.2,SNR=3.4						
	1.4nm,0.8s						

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*IDC **13** 10:37:05.3±0.9, 5.″14N×125.″25E, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/1, Error ellipse: s-maj=53.3km s-min=16.5km az=76.0*
*DJA **13** 10:37:20.9±0.9, 5°N±6°×12°7E±°, h136km±14km, M4.1/7, mb4.2/2, MLv4.0/7*
ISC 13 10:37:15.4±1.0, 5.°82N±0.°08×126.°6E±0.°2, h100km, n10, σ1°75/11, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.63**	**320**	Pn	**Pn**	**10 37 40.3**	**-3.0**
	34nm,0.3s,baz=254,slow=17,SNR=2.0						
DAV				Sn	**Sn**	**10 38 07.2**	**+2.6**
	48nm,0.3s,baz=293,slow=23,SNR=4.7						
SGSI	**Sangihe**	**2.39**	**208**	P	**Pn**	**10 37 52.2**	**-1.0**
MRSI	**Marisa**	**7.08**	**222**	P	**Pn**	**10 38 54.9**	**-1.6**
	29nm,0.4s						
SANI	**Sanana**	**7.84**	**185**	P	Pn	10 39 01.4	-5.5
FITZ	**Fitzroy Crossi**	**23.79**	**182**	LR	LR	10 53 22.3	
	comp=Z,69nm,18.7s,baz=354,slow=42						
WRA	**Warramunga Arr**	**26.70**	**164**	P	**P**	**10 42 44.6**	**-0.8**
	0.2nm,0.4s,baz=343,slow=10.0,SNR=9.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**30.15**	**167**	P	**P**	**10 43 15.3**	**-0.8**
	0.6nm,0.6s,baz=345,slow=7.0,SNR=18						
ASAR				PcP	**PcP**	**10 46 16.4**	**+1.1**
	0.3nm,0.7s,baz=339,slow=2.4,SNR=4.1						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**40.10**	**160**	P	**P**	**10 44 41.6**	**+0.3**
	1.8nm,0.7s,baz=333,slow=11,SNR=3.3						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**55.81**	**325**	P	**P**	**10 46 42.7**	**+0.4**
	0.5nm,0.5s,baz=117,slow=6.6,SNR=4.8						
MKAR				PcP	**PcP**	**10 47 41.6**	**+1.4**
	0.2nm,0.5s,baz=106,slow=5.2,SNR=1.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**59.95**	**327**	P	**P**	**10 47 11.8**	**+0.6**
	0.4nm,0.3s,baz=131,slow=6.9,SNR=5.1						
	0.4nm,0.3s						

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*ASRS **13** 10:40:00.3±0.3, 46°N±3°×8°1E±°, h9km, MLh3.5/1, Error ellipse: s-maj=8.5km s-min=2.8km az=131.5, confirmed*
*SOME **13** 10:40:02.8, 45.″75N×81.″62E, h15km*
*NNC **13** 10:40:05.1±1.1, 45.″95N×81.″66E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.9km s-min=6.0km az=112.0*
ISC 13 10:40:01.9±1.4, 45.°81N±0.°05×81.°54E±0.°05, h1km±16km, n22, σ2°66/26, 7C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.04**	**17**	⇑P	**Pb**	**10 40 21.5**	**-1.3**
	2.4nm,0.3s						
MAKZ				⇑S	**Sb**	**10 40 34.6**	**-2.4**
	5.6nm,0.3s						
MAKZ	**Makanchi**	**1.04**	**17**	Pg	**Pb**	**10 40 21.4**	**-1.3**
MAKZ				Sg	**Sb**	**10 40 33.3**	**-3.7**
MK31	**Makanchi Array**	**1.11**	**27**	⇓P	**Pb**	**10 40 23.0**	**-1.0**
	1.4nm,0.2s,baz=205,slow=14,SNR=199						
MK31				⇑S	**Sb**	**10 40 37.6**	**-1.4**
	4.5nm,0.2s,baz=207,slow=31						
KAPS	**Kapalarasan**	**1.62**	**252**	P	**Pb**	**10 40 33.2**	**+0.6**
	20nm,0.1s						
KAPS				S	**Sg**	**10 40 55.1**	**+1.1**
	224nm,0.2s						
KNOS	**Konyrlen**	**2.21**	**230**	Pg	**Pb**	**10 40 43.8**	**+1.1**
	14nm,0.1s						
ZSN	**Zaisan**	**2.82**	**53**	Pg	**Pb**	**10 40 53.2**	**+0.2**
	2.1nm,0.2s						
ZSN	**Zaisan**	**2.82**	**53**	*e*P	**Pb**	**10 40 53.2**	**+0.2**
	2.1nm,0.2s						
ZSN				*e*S	**Sb**	**10 41 29.5**	**+1.6**
	12nm,0.5s						
PDGK	**Podgornoye**	**2.88**	**211**	⇑Pn	**Pg**	**10 40 56.4**	**-0.7**
	9.4nm,0.8s						
PDGK				⇑Sn	**Sg**	**10 41 33.1**	**-1.2**
	29nm,0.6s						
KPKS	**Kokpek**	**3.11**	**222**	Lg	Lg	10 41 39.8	
	34nm,0.5s						
UZB	**Uzynbulak**	**3.21**	**215**	Lg	Lg	10 41 42.6	
	23nm,0.4s						
UZB	**Uzynbulak**	**3.21**	**215**	*e*P	**Pb**	**10 41 01.0**	**+1.2**
	2.5nm,0.2s						
UZB				*e*S	**Sg**	**10 41 42.6**	**-2.5**
	23nm,0.4s						
KURS	**Kuram**	**3.34**	**227**	Lg	Lg	10 41 46.1	
	12nm,0.3s						
SATY	**Saty**	**3.55**	**220**	Lg	Lg	10 41 53.9	
	45nm,0.1s						
KTBS	**Karatobe**	**4.05**	**241**	Lg	Lg	10 42 08.2	
	13nm,0.6s						
KDJ	**Kajisay**	**4.84**	**222**	**Sg**	**Sg**	**10 42 39.4**	**+2.1**
BOOM	**Boomskoye usch**	**5.22**	**233**	Sg	**Sg**	**10 42 48.9**	**-0.7**
KURBB	**Kurchatov Arra**	**5.22**	**338**	⇑Lg	Lg	10 42 47.7	
	12nm,0.5s						
KURK	**Kurchatov**	**5.28**	**339**	⇑Lg	Lg	10 42 49.7	
	6.5nm,0.7s						
KURK	**Kurchatov**	**5.28**	**339**	Sg	**Sb**	**10 42 43.9**	**+5.1**
AAK	**Ala-Archa**	**5.97**	**240**	Sg	**Sg**	**10 43 09.7**	**-4.0**
CHBI	**Chibit, Altay**	**6.02**	**39**	Pn	**Pn**	**10 41 34.6**	**+2.5**
CHBI				S	**Sn**	**10 42 41.6**	**-0.1**
CHBI				Sg	**Sg**	**10 43 20.7**	**+5.5**
ELDR	**Elanda**	**6.20**	**28**	Pn	**Pn**	**10 41 30.6**	**-3.9**
ELDR				Pg	**Pb**	**10 41 54.8**	**+4.2**
ELDR				Sg	**Sg**	**10 43 20.5**	**-0.3**

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*SNET **13** 10:51:20.7±1.0, 13.°08N×89.°26W, h43km, ML4.1*
*CATAC **13** 10:51:21.0±0.4, 13°N±3°×8°9W±°, h30km±2km, M4.1/32, MLv4.1/32, Error ellipse: s-maj=7.8km s-min=3.6km az=32.3, confirmed*
*IDC **13** 10:51:22.6±1.7, 13.°29N×89.°18W, h63km±21km, mb2.9/2, mbtmp3.3/4, MS2.4/2, Error ellipse: s-maj=44.4km s-min=10.2km az=43.0*
*GCG **13** 10:51:23.2±1.5, 13.°25N×89.°34W, h48km±8km, MD4.3, ML4.1*
*UCR **13** 10:51:30.0±1.1, 12.°66N×88.°94W, h36km±999km, MW3.9*
ISC 13 10:51:20.7±1.1, 13.°09N±0.°04×89.°24W±0.°03, h34km±2km, n123, σ1°38/146, 4C-25D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.41**	**349**	*e*P	**Pn**	**10 51 31.2**	**+0.9**
LALI				*e*S	**Sn**	**10 51 37.9**	**+1.4**
LALI	**Alcalda de L**	**0.41**	**349**	*i* P	**Pn**	**10 51 31.0**	**+0.8**
LALI				⇓*i* S	**Sn**	**10 51 38.0**	**+1.5**
LALI				IAML		10 51 39.4	
	comp=N,6μm,0.3s						
LALI	**Alcalda de L**	**0.41**	**349**	⇓P	**Pn**	**10 51 31.0**	**+0.8**
PANCS	**Alcalda de**	**0.52**	**7**	*e*P	**Pb**	**10 51 32.1**	**+0.3**
PANCS	**Alcalda de**	**0.52**	**7**	S	**Sn**	**10 51 40.9**	**+1.2**
PANCS	**Alcalda de**	**0.52**	**7**	⇓P	**Pb**	**10 51 32.3**	**+0.5**
LOMA	**Loma Larga**	**0.56**	**7**	*e*P	**Pn**	**10 51 33.0**	**+0.6**
LOMA				*e*S	**Sn**	**10 51 42.0**	**+1.4**
LOMA	**Loma Larga**	**0.56**	**7**	S	**Sn**	**10 51 42.1**	**+1.6**
LOMA	**Loma Larga**	**0.56**	**7**	⇓P	**Pn**	**10 51 33.0**	**+0.6**
LFRS	**El Faro**	**0.56**	**18**	*e*P	**Pn**	**10 51 32.9**	**+0.5**
ITCA	**Escuela Especi**	**0.58**	**357**	S	**Sn**	**10 51 41.9**	**+0.8**
ITCA	**Escuela Especi**	**0.58**	**357**	⇓P	**Pb**	**10 51 33.1**	**+0.4**
MAGS	**Ministerio de**	**0.59**	**356**	*e*P	**Pb**	**10 51 33.2**	**+0.3**
MAGS				*e*S	**Sn**	**10 51 42.3**	**+0.9**
JAYA	**Jayaque - finc**	**0.60**	**340**	*e*P	**Pb**	**10 51 33.1**	**+0.1**
JAYA				*e*S	**Sn**	**10 51 41.6**	**+0.1**
JAYA	**Jayaque - finc**	**0.60**	**340**	⇓*i*P	**Pb**	**10 51 33.2**	**+0.1**
JAYA				*e*S	**Sn**	**10 51 41.7**	**+0.1**
JAYA	**Jayaque - finc**	**0.60**	**

LOAL	Lomas de Alarc	1.05 330	P		Pn	10 51 39.4	+0.4
FAME	Alcaldia de Sa	1.06 315	⇑P		Pn	10 51 38.8	-0.4
LLGN	La Laguna	1.11 15	*i* P		Pn	10 51 40.0	0.0
LLGN	La Laguna	1.11 15	P		Pn	10 51 40.0	0.0
RBDL	Robledal	1.11 337	*e*P		Pn	10 51 40.2	+0.2
CNRM	Centro Naciona	1.11 70	S		Sb	10 51 55.7	0.0
CNRM	Centro Naciona	1.11 70	P		Pn	10 51 40.9	+1.0
MTO3	Montecristo	1.31 355	*i* P		Pn	10 51 42.9	+0.1
MTO3	Montecristo	1.31 355	*i* P		Pn	10 51 42.9	+0.1
MTO3	Montecristo	1.31 355	S		Sn	10 51 59.7	+0.5
MTO3	Montecristo	1.31 355	⇓P		Pn	10 51 42.9	+0.1
JUAM	Asuncion Mita	1.32 340	*e*P		Pn	10 51 42.8	-0.1
JUAM			*i* S		Sn	10 51 59.6	+0.3
JUAM			IAML			10 52 00.4	
	comp=N,2μm,0.3s						
LCND	La Caada	1.33 80	*e*P		Pn	10 51 43.9	+0.9
LCND	La Caada	1.33 80	⇓P		Pn	10 51 43.8	+0.8
CNCH	Conchagua	1.38 82	*e*P		Pn	10 51 44.3	+0.5
CNCH	Conchagua	1.38 82	⇓P		Pn	10 51 44.4	+0.7
ESQI	Esquipulas	1.47 356	⇓*i*P		Pn	10 51 45.2	+0.4
ESQI			*e*S		Sn	10 52 03.2	+0.2
ESQI	Esquipulas	1.47 356	⇓P		Pn	10 51 45.3	+0.4
PCG5	San Vicente Pa	1.57 316	*e*P		Pb	10 51 51.5	+2.1
PCG5			*e*S		Sb	10 52 11.4	+2.4
CSGN	Cosiguina Volc	1.64 94	⇓P		Pn	10 51 47.9	+0.6
FG16	Alotenango, Sa	1.71 314	*e*P		Pb	10 51 53.9	+2.3
FG16			IAML			10 52 26.5	
	comp=N,5μm,0.3s						
FG8	Yepocapa, Chim	1.73 312	*e*P		Pb	10 51 54.8	+2.7
FG8			*e*S		Sb	10 52 18.8	+5.3
SARH	Santa Rosa de	1.74 16	*i* P		Pn	10 51 49.3	+0.7
ESSG	Sabana Grande	2.01 310	*e*P		Pn	10 51 52.6	+0.3
ESSG			*e*S		Sn	10 52 15.3	-1.1
ESSG			IAML			10 52 19.4	
	comp=N,981nm,0.4s						
APG	El Apazote	2.24 328	P		Pn	10 51 55.9	+0.2
	comp=N,1.1nm,0.4s,baz=143,slow=9.8,SNR=13						
APG			S		Sn	10 52 21.6	-0.7
	comp=N,2.7nm,0.3s,baz=65,slow=22,SNR=6.3						
APG	El Apazote	2.24 328	*i* P		Pn	10 51 56.1	+0.3
PKGN	Cerro Pekin	2.25 100	P		Pn	10 51 56.1	+0.6
POLN	Al Sur del Vol	2.41 100	P		Pn	10 51 56.7	-1.1
POLN			S		Sn	10 52 24.0	-2.1
PLRN	Geotermica Pol	2.46 101	P		Pn	10 51 59.9	+1.3
STG2	El Palmar, Qui	2.47 303	*e*P		Pb	10 52 03.7	-0.8
STG2			*e*S		Sb	10 52 34.3	-0.3
CNGA	Al SSO del Vol	2.55 103	P		Pn	10 52 00.6	+0.9
CNGN	Cerro Negro	2.55 103	P		Pn	10 52 01.1	+1.4
COPN	Copaltepe	2.74 109	P		Pn	10 52 03.6	+1.3
RTAL	Retalhuleu	2.78 301	P		Pn	10 52 04.8	+2.0
LIMN	Finca el Limon	2.80 90	P		Pn	10 52 03.4	+0.1
RCVN	Varillal2	3.01 80	⇑P		Pn	10 52 06.6	+0.5
TISN	Laguna Tiscapa	3.05 108	P		Pn	10 52 06.9	+0.3
RCPN	Sur Rio San Ju	3.10 82	P		Pn	10 52 08.3	+1.0
SMCA	Catarina	3.26 303	*e*P		Pn	10 52 10.8	+1.2
LCRUZ	La Cruz	4.06 119	*e*P		Pn	10 52 22.2	+1.7
LCRUZ			*e*S		Sn	10 53 05.4	-1.5
LAPC	Finca la Perla	4.38 121	*e*P		Pn	10 52 27.6	+2.7
ALIBA	Liberia Airpor	4.39 124	*e*P		Pn	10 52 27.7	+2.8
VORI	VORI	4.43 120	*e*P		Pn	10 52 29.4	+3.7
VMAR	Armenia, Volca	4.63 119	*e*P		Pn	10 52 32.2	+3.9
JUD3	Juan Diaz 3	4.65 128	*e*P		Pn	10 52 30.9	+2.2
CUI	Cuipilapa	4.67 121	*e*P		Pn	10 52 36.1	+7.2
MOTZ	Rio Naranjo	4.73 120	*e*P		Pn	10 52 31.2	+1.5
TENO	El Achiote	4.80 119	*e*P		Pn	10 52 34.0	+3.3
NYURE	Nandayure	4.97 128	*e*P		Pn	10 52 35.9	+2.9
JTS	Las Juntas de	5.04 123	P		Pn	10 52 35.1	+1.2
	comp=N,1.6nm,0.3s,baz=310,slow=20,SNR=4.8						
JTS			S		Sn	10 53 35.5	+4.4
	comp=N,5.0nm,0.4s,baz=280,slow=19,SNR=2.0						
JTS			LR		LR	10 54 39.3	
	comp=N,29nm,19.9s,baz=306,slow=38						
ARE1	Arenal 1	5.14 120	*e*P		Pn	10 52 38.7	+3.4
ACOS	Acosta	5.96 123	*e*P		Pn	10 52 51.8	+5.1
PAR1A	Puntarenas Pro	6.00 125	*e*P		Pn	10 52 51.0	+3.9
PIEC	Cerro El Cedra	6.22 123	*e*P		Pn	10 52 54.6	+4.1
CMIG	Matias Romero	6.75 307	P		Pn	10 52 58.6	+1.2
	comp=N,1.3nm,0.3s,baz=122,slow=9.2,SNR=7.6						
CMIG			S		Sn	10 54 13.6	+0.5
	comp=N,2.7nm,0.3s,baz=77,slow=22,SNR=8.1						
TEIG	Tepich	7.16 7	P		Pn	10 53 02.6	-0.5
	comp=N,0.1nm,0.5s,baz=133,slow=23,SNR=8.3						
TXAR	Lajitas Array	20.99 323	P		P	10 56 00.3	-1.1
	comp=N,0.6nm,0.5s,baz=143,slow=11,SNR=7.1						
TXAR			LR		LR	11 06 16.7	
	comp=N,15nm,18.5s,baz=154,slow=43						
	comp=N,0.6nm,0.5s						
PDAR	Pinedale Array	34.40 333	P		P	10 58 02.5	-2.6
	comp=N,0.1nm,0.5s,baz=119,slow=7.5,SNR=2.3						
	comp=N,0.1nm,0.5s						
H03N2	Juan Fernandez	47.30 168	T		T	11 50 20.7	
	baz=347						
H03N1	Juan Fernandez	47.31 168	T		T	11 50 16.2	
	baz=347						
H03N3	Juan Fernandez	47.32 168	T		T	11 50 16.1	
	baz=347						
WRA	Warramunga Arr	137.76 255	PKP		PKPdf	11 10 40.1	-2.4
	comp=N,0.3nm,0.8s,baz=88,slow=3.0,SNR=5.0						

*JMA **13** 10:58:49.1±0.2,33°N±3°×13°6E±°, h447km, MV3.2/34, SE OFF KII PENINSULA*
*IDC **13** 10:58:50.1±1.2,33.08N×136.25E, h428km±15km, mb2.8/5, mbtmp3.5/7, Error ellipse: s-maj=34.6km s-min=15.7km az=91.0*
ISC 13 10:58:51.3±1.0,33.2N±0.1×136.3E±0.1, h450km, n17, σ1§33/19, mb3.0/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	Tanabenakahech	0.86	320	*e*P	P	10 59 45.8	-1.3
JWY	Kouya	1.20	332	*e*P	P	10 59 46.7	-1.4
JIE	Ise	1.28	16	*e*P	P	10 59 47.2	-1.2
JAI	Aioi	1.64	293	*e*P	P	10 59 48.4	-1.5
JHMK	Hamakita	2.07	36	*e*P	P	10 59 51.1	-0.8
JWT	Wachi	2.24	342	P	P	10 59 51.8	-1.2
JYTA	Yamagatataniai	2.46	9	*e*P	P	10 59 53.6	-0.8
JKG	Kaga	3.11	1	*e*P	P	10 59 58.0	-1.0
JOD2	Odawara 2	3.14	47	*e*P	P	10 59 58.6	-0.7
JRY	Ryogami san	3.58	37	*e*P	P	11 00 02.8	0.0
JRY				*e*S	S	11 00 60.0	-1.2
MJAR	Matsushiro Arr	3.73	25	P	P	11 00 03.3	-0.7
	2.4nm,0.4s,baz=238,slow=13,SNR=17						
MJAR				S	S	11 01 00.2	-3.2
	5.1nm,0.7s,baz=285,slow=30,SNR=6.9						
KSRS	Korea Array	8.05	304	P	P	11 00 47.6	+0.5
	0.8nm,0.6s,baz=126,slow=9.6,SNR=2.4						
WRA	Warramunga Arr	52.83	182	P	P	11 07 23.3	-0.3
	0.5nm,0.3s,baz=2.4,slow=7.2,SNR=33						
	0.5nm,0.3s						
ILAR	Eielson Array	54.99	31	P	P	11 07 40.2	+1.8
	0.1nm,0.4s,baz=255,slow=5.9,SNR=4.4						
	0.1nm,0.4s						
ASAR	Alice Springs	56.55	183	P	P	11 07 49.9	+0.1
	0.1nm,0.4s,baz=1.1,slow=6.6,SNR=8.0						
	0.1nm,0.4s						
ARCES	ARCESS Array B	66.11	339	P	P	11 08 52.9	+0.8
	1.3nm,0.9s,baz=55,slow=6.8,SNR=5.0						
	1.3nm,0.9s						
NOA	NORSAR Array B	76.05	336	P	P	11 09 51.8	+0.8
	0.2nm,0.5s,baz=45,slow=5.6,SNR=2.1						
	0.2nm,0.5s						

NNC 13 11:05:57.0±6.1, 37.95N×71.52E, h0km, mb3.8, mpv3.8, 1C-2D, Error ellipse: s-maj=47.3km s-min=37.4km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	4.34	345	Pg	Pn	11 07 08.7	+4.3
	10nm,0.1s						
IUG				Lg	Lg	11 08 01.9	
	52nm,0.4s						
MRKS	Merke	4.96	15	Pg	Pn	11 07 13.7	+0.8
	3.4nm,0.2s						
MRKS				Lg	Lg	11 08 10.5	
	20nm,0.9s						
AAK	Ala-Archa	5.21	25	⇓P	Pn	11 07 16.4	+0.2
	0.5nm,0.4s						
AAK				⇑S	Sn	11 08 17.4	+0.3
	2.7nm,0.6s						
KK31	Karatay Array	5.21	352	P	Pn	11 07 16.2	+0.1
	7.1nm,0.4s,baz=171,slow=12,SNR=71						
KK31				⇓S	Sn	11 08 18.5	+1.6
	9.3nm,0.3s,baz=174,slow=22						
AB31	Akbulak array	14.05	327	P	Pn	11 09 13.4	-3.8
	0.2nm,0.3s,baz=134,slow=13,SNR=15						

*MEX **13** 11:21:41.3±0.9, 14.75N×92.39W, h88km±7km, MD4.1*
*CATAC **13** 11:21:41.6±0.5, 15°N±7°×9°2W±°, h58km±5km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=17.6km s-min=3.9km az=38.5, confirmed*
*GCG **13** 11:21:42.2±1.4, 14.63N×92.42W, h64km±9km, MD3.8, ML3.6*
ISC 13 11:21:40.0±1.3, 14.63N±0.05×92.50W±0.03, h77km±7km, n38, σ1§80/64, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.35	39	*e*P	Pn	11 21 52.4	0.0
THIG				*e*S	Sn	11 22 02.0	+0.6
THIG		0.35	39	*i* P	Pn	11 21 52.3	0.0
THIG				*e*S	Sn	11 22 01.7	+0.3
SMCA	Catarina	0.47	61	*i* P	Pn	11 21 53.3	+0.1
SMCA				*e*S	Sn	11 22 02.4	-0.6
SMCA				IAML		11 22 03.7	
	comp=E,4μm,0.1s						
PATR	El Naranjo	0.55	28	*e*P	Pn	11 21 53.7	-0.5
PATR				*e*S	Sn	11 22 03.6	-1.1
CHUJ	Union Juarez	0.59	39	*e*P	Pn	11 21 54.4	-0.3
CHUJ				*e*S	Sn	11 22 04.6	-0.9
PAVE	Pavencul	0.64	29	*e*P	Pn	11 21 54.9	-0.3
PAVE				*e*S	Sn	11 22 05.8	-0.4
RTAL	Retalhuleu	0.78	98	*e*P	Pn	11 21 56.8	+0.4
RTAL				*e*S	Sn	11 22 07.7	-0.9
RTAL	Retalhuleu	0.78	98	P	Pn	11 21 57.2	+0.8
RTAL				S	Sn	11 22 08.7	+0.2
QUEO	Labor Ovalle	0.98	76	*e*P	Pn	11 22 00.1	+1.2
QUEO				*e*S	Sn	11 22 14.0	+0.9
STG2	El Palmar, Qui	1.10	100	*e*P	Pn	11 21 57.4	-3.0
HUEH	Huehuetenango	1.18	54	*i* P	Pn	11 22 03.3	+1.9
HUEH				*e*S	Sn	11 22 19.8	+2.5
HUEH	Huehuetenango	1.18	54	*e*P	Pn	11 22 03.7	+2.4
HUEH				*e*S	Sn	11 22 19.5	+2.1
HUEH				IAML		11 22 25.3	
	comp=E,1μm,0.3s						
PCIG		1.27	327	*e*P	Pn	11 22 02.7	+0.3
PCIG				*e*S	Sn	11 22 18.6	-0.5
CCIG	Comitan	1.68	12	*e*P	Pn	11 22 08.9	+1.1
CCIG				*e*S	Sn	11 22 28.8	+0.1
CCIG	Comitan	1.68	12	*e*P	Pn	11 22 09.3	+1.6
CCIG				IAML		11 22 37.3	
	comp=N,228nm,0.5s						
CCIG	Comitan	1.68	12	P	Pn	11 22 09.4	+1.6
FG8	Yepocapa, Chim	1.91	101	*e*P	Pn	11 22 07.0	-3.8
TGIG		2.22	344	*e*P	Pn	11 22 15.0	+0.1
TGIG				*e*S	Sn	11 22 39.7	-1.8
FAME	Alcaldia de Sa	2.53	108	P	Pn	11 22 20.7	+1.7
FAME	Alcaldia de Sa	2.53	108	S	Sn	11 22 49.5	+0.6
NUBE	Las Nubes	2.73	105	P	Pn	11 22 24.0	+2.1
NUBE	Las Nubes	2.73	105	S	Sn	11 22 53.9	-0.1
NILT	Santiago Nilte	2.81	314	*e*P	Pn	11 22 23.9	+1.2
NILT				*i* S	Sn	11 22 55.2	-0.4
UXUV	UXUV	3.11	330	*e*P	Pn	11 22 28.1	+1.2
UXUV				*e*S	Sn	11 23 04.5	+1.6
CMIG	Matias Romero	3.35	317	*e*P	Pn	11 22 31.4	+1.2
CMIG				*e*S	Sn	11 23 06.9	-2.0
PETF	Flores	3.40	48	*e*P	Pn	11 22 31.2	+0.4
PETF				*e*S	Sn	11 23 06.7	-3.4
HUIG	Huatulco	3.67	288	*e*P	Pn	11 22 32.6	-1.8
HUIG				*e*S	Sn	11 23 09.8	-6.7
NEUV	Arroyo Zacate	4.41	314	*e*P	Pn	11 22 45.7	+1.1
NEUV				*e*S	Sn	11 23 33.0	-1.7
SCIG	Sabancuy	4.49	16	*e*P	Pn	11 22 45.7	+0.1
SCIG				*e*S	Sn	11 23 31.4	-5.2
PEIG	Puerto Escondi	4.69	287	*e*P	Pn	11 22 48.6	+0.3
PEIG				*e*S	Sn	11 23 37.9	-3.6
VHO	Vista Hermosa	4.74	301	*e*S	Sn	11 23 44.7	+1.6
YOIG	Yosondua	5.34	295	*e*P	Pn	11 23 04.5	+7.0
YOIG				*e*S	Sn	11 23 59.5	+1.6
TOIG	Toxpalan	5.58	309	*e*P	Pn	11 23 03.4	+2.9
TOIG				*e*S	Sn	11 24 01.0	-2.4
TXIG	Tlaxiaco	5.70	298	*e*P	Pn	11 23 04.9	+2.5
TXIG				*e*S	Sn	11 24 07.9	+1.2
HLIG	Huajuapan de L	6.01	303	*e*P	Pn	11 23 08.6	+2.0
HLIG				*e*S	Sn	11 24 14.9	+0.8
JAUV	Jalcomulco	6.26	319	*e*P	Pn	11 23 08.9	-0.9
JAUV				*e*S	Sn	11 24 18.0	-1.9
FTIG	Fresnillo de T	6.32	302	*e*P	Pn	11 23 13.0	+2.3
FTIG				*e*S	Sn	11 24 21.5	0.0
MGIG	Malinaltepec	6.45	294	*e*S	Sn	11 24 21.0	-3.8

IDC 13 11:50:37.3±22.0, 19.78S×177.72W, h455km±210km, mb3.0/2, mbtmp4.1/3, Error ellipse: s-maj=160.5km s-min=42.9km az=36.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.95	193	P	P	11 54 28.5	-0.2
	10nm,0.8s,baz=124,slow=17,SNR=1.8						
ASAR	Alice Springs	44.94	256	P	P	11 58 10.6	-0.1
	0.9nm,0.5s,baz=91,slow=7.3,SNR=34						
ASAR				PcP	PcP	11 59 42.3	-0.5
	0.4nm,1.0s,baz=97,slow=4.2,SNR=2.1						
	0.9nm,0.5s						
WRA	Warramunga Arr	44.96	261	P	P	11 58 10.7	-0.2
	0.5nm,0.3s,baz=97,slow=7.8,SNR=37						
	0.5nm,0.3s						
AKASG	Malin Array Be	142.51	332	PKP	PKPdf	12 09 16.9	-0.5
	0.7nm,0.4s,baz=46,slow=4.2,SNR=5.6						

SOME 13 11:57:14.4, 43.15N×78.43E, h0km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.09	192	P	Pg	11 57 16.4	+0.3
	13nm,0.1s						
SATY				S	Sg	11 57 18.0	+0.7
	126nm,0.1s						
UZB	Uzynbulak	0.43	90	P	Pg	11 57 23.5	+0.8
	0.4nm,0.1s						
UZB				S	Sg	11 57 29.9	+1.7
	5.1nm,0.1s						
UZB	Uzynbulak	0.43	90	*e*P	Pg	11 57 23.5	+0.8
	0.4nm,0.1s						
UZB				*e*S	Sg	11 57 29.9	+1.7
	5.1nm,0.1s						

NNC 13 11:58:18.3±3.1, 45.70N×84.91E, h0km, mb2.5, mpv3.0, 3C-1D, Error ellipse: s-maj=25.9km s-min=21.2km az=124.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.13	302	⇑Pn	Pn	11 58 55.7	+0.5
	0.4nm,0.4s,baz=120,slow=17,SNR=11						
MK31				⇑Lg	Lg	11 59 26.7	
	1.1nm,0.3s,baz=120,slow=29						
MAKZ	Makanchi	2.32	300	⇑Pn	Pn	11 58 57.2	-0.6
	1.0nm,0.8s						
MAKZ				⇓Lg	Lg	11 59 31.2	
	1.8nm,0.8s						

*IDC **13** 12:11:48.8±0.7, 52.39N×170.30W, h0km, mb4.1/24, mbtmp4.1/26, ML3.9/2, MS3.3/9, Error ellipse: s-maj=20.7km s-min=13.0km az=173.0*
*AEIC **13** 12:11:53.9±2.9, 52.26N±0.08×170.16W±0.07, h32km±5km, Error ellipse: s-maj=12.3km s-min=4.9km az=156.0*
*NEIC **13** 12:11:56.1±2.1, 52.34N±0.07×170.19W±0.08, h49km±6km, mb4.1/56, ML4.4/22, ML4.0(AEIC), Error ellipse: s-maj=11.7km s-min=5.4km az=155.0*
ISC 13 12:11:55.0±1.2, 52.22N±0.10×170.10W±0.04, h49km±9km, n219, σ1§35/210, mb4.2/33, MS3.2/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.61	22		Pn	12 12 06.3	-1.3
CLCO					Sn	12 12 16.2	-0.4
CLES	Cleveland East	0.62	11		Pn	12 12 06.5	-1.1
CLES					Sn	12 12 16.1	-0.6
CLES	Cleveland East	0.62	11	IAML		12 12 28.3	
	comp=N,25μm,0.4s						
NIKH	Nikolski High	1.07	45		Pn	12 12 12.0	-1.6
NIKH					Sn	12 12 25.9	-1.4
NIKH				IAML		12 12 27.3	
	comp=N,6μm,0.4s						
NIKH	Nikolski High	1.07	45	P	Pn	12 12 11.9	-1.6
NIKH	Nikolski High	1.07	45	S	Sn	12 12 25.6	-1.7
OKSP	Okmok Steeple	1.51	46		Pn	12 12 18.4	-1.2
OKSP					Sn	12 12 37.3	-0.8
OKCE	Okmok Cone E	1.69	43		Pn	12 12 21.6	-0.4
OKNC	Okmok New Cone	1.72	43		Pn	12 12 22.6	+0.1
OKNC					Sn	12 12 46.0	+2.6
OKFG	Magazine Ridge	1.78	47		Pn	12 12 22.8	-0.5
KOSE	Korovin Southe	2.43	275		Pn	12 12 32.0	-0.3
KOFP	Korovin Flat P	2.46	273		Pn	12 12 32.6	0.0
KOFP					Sn	12 13 02.8	+1.3
MAPS	Pakushin South	2.48	49		Pn	12 12 33.2	+0.3
MGOD	Makushin Gods	2.51	50		Pn	12 12 32.9	-0.3
MREP	Makushin Rep't	2.58	50		Pn	12 12 34.1	-0.1
MSW	Makushin Switc	2.62	48		Pn	12 12 34.9	0.0
MNAT	Makushin Natee	2.65	50		Pn	12 12 35.2	0.0
UNV	Unalaska Valle	2.71	52		Pn	12 12 35.1	-0.9
UNV	Unalaska Valle	2.71	52		Sn	12 13 08.4	+0.8
UNV	Unalaska Valle	2.71	52	P	Pn	12 12 35.8	-0.2
AKRB	Akutan Reef Bi	3.09	50		Pn	12 12 42.0	+0.8
AKMO	Akutan Morgan	3.09	51		Pn	12 12 41.5	+0.3
ZRO	Akutan Zero	3.11	51		Pn	12 12 42.5	+1.1
ZRO					Sn	12 13 18.1	+0.7
LVA	Lava Point	3.12	50		Pn	12 12 42.7	+1.0
LVA				IAML		12 13 34.0	
	comp=E,1μm,0.6s						
AKBBA	Akutan Broad B	3.13	51		Pn	12 12 41.9	0.0
AKV	Akutan Volcano	3.14	51		Pn	12 12 43.1	+1.2
AKLV	Akutan Long Va	3.16	50		Pn	12 12 43.6	+1.4
AKGG	Akutan Green G	3.17	50		Pn	12 12 43.5	+1.2
AHB	Akutan Harbor	3.20	52		Pn	12 12 43.7	+1.0
AKUT	Akutan	3.23	52		Pn	12 12 44.1	+0.9
AKUT	Akutan	3.23	52	P	Pn	12 12 44.5	+1.3
AKUT	Akutan	3.23	52	S	Sn	12 13 23.6	+3.2
AKSA	Akutan Strait	3.27	52		Pn	12 12 44.8	+1.2
GSIG	Igitkin Island	3.60	269		Pn	12 12 48.2	-0.1
GSIG					Sn	12 13 29.3	-0.3
GSTR	Great Sitkin T	3.67	270	Pn	Pn	12 12 49.4	+0.1
GSTR				IAML		12 13 58.1	
	comp=E,810nm,0.9s						
GSMY	Great Sitkin M	3.68	270		Pn	12 12 49.3	0.0
GSMY					Sn	12 13 31.2	-0.2
GSTD	Great Sitkin T	3.73	270		Pn	12 12 50.0	-0.1
GSCK	Great Sitkin C	3.75	269		Pn	12 12 50.2	0.0
GSCK					Sn	12 13 33.0	0.0
ETKA	Kagalaska Isla	3.91	267		Pn	12 12 52.7	+0.2
ETKA					Sn	12 13 37.3	+0.2
WEBT	Westdahl Beart	3.98	51		Pn	12 12 54.5	+1.0
ADAG	Mount Adagdak	4.02	269		Pn	12 12 53.3	-0.7
ADK	Adak	4.08	268		Pn	12 12 56.5	+1.7
ADK				IAML		12 13 58.1	
	comp=E,328nm,1.0s						
ADK				IAML		12 14 01.1	
	comp=E,279nm,0.6s						
ADK	Adak	4.08	268		Sn	12 13 41.2	0.0
ADK	Adak	4.08	268	P	Pn	12 12 55.2	+0.4
KIWB	Kanaga Island	4.37	268		Pn	12 12 58.7	-0.1
KIWB				IAML		12 14 09.5	
	comp=E,372nm,0.9s						
KIWB				IAML		12 14 09.8	
	comp=N,410nm,0.5s						
KIKV	Kanaga Island	4.38	268		Pn	12 12 59.5	+0.5
SSBA	Shishaldin	4.39	52		Pn	12 12 59.5	+0.4
P08K	Saint George I	4.40	4	Pn	Pn	12 12 59.2	0.0
P08K				IAML		12 13 46.7	
	comp=N,283nm,3.4s						
P08K				IAML		12 15 09.7	
	comp=E,250nm,3.0s						
ISNN	Isanotski Nort	4.59	53		Pn	12 13 02.8	+1.0
FALS	False Pass	4.78	54		Pn	12 13 04.8	+0.4
FALS	False Pass	4.78	54	P	Pn	12 13 05.4	+1.1
TAPA	Tanaga Point A	4.78	268		Pn	12 13 04.8	+0.3
TAFL	Tanaga Flats	4.84	268		Pn	12 13 06.0	+0.7
TASE	Tanaga Southea	4.92	269		Pn	12 13 06.8	+0.4
SPIA	Saint Paul Isl	4.97	359	Pn	Pn	12 13 07.7	+0.8
SPIA				IAML		12 14 27.4	
	comp=E,318nm,2.2s						
SPIA				IAML		12 16 03.7	
	comp=N,301nm,2.8s						
GANE	Gareloi Northe	5.38	269		Pn	12 13 11.6	-1.0
GAKI	Gareloi-Kavalg	5.44	266		Pn	12 13 14.3	+0.8
DT1	Dutton Round H	5.47	55		Pn	12 13 14.5	+0.6
DOL	Dolgoi Island	5.70	56		Pn	12 13 17.9	+0.8
S12K	Black Hills	5.89	50	Pn	Pn	12 13 20.1	+0.6
PS1A	Pavlof South-1	5.89	54		Pn	12 13 21.2	+1.5
CEPE	Semis' Perret	6.33	272		Pn	12 13 27.3	+1.7
CESW	Semis' Southwe	6.39	271		Pn	12 13 27.6	+1.2
SDPT	Sand Point	6.50	57	Pn	Pn	12 13 28.2	+0.2
SDPT	Sand Point	6.50	57	P	Pn	12 13 29.5	+1.5
SDPT	Sand Point	6.50	57	S	Sn	12 14 45.2	+4.4
AMKA	Amchitka	6.63	267	Pn	Pn	12 13 30.4	+0.6
CNBA	Chernabura Isl	6.79	63		Pn	12 13 31.6	-0.2
CHNA	Chernabura Isl	6.79	63	P	Pn	12 13 33.6	+1.4
M11K	Mekoryuk	8.47	13	Pn	Pn	12 13 56.8	+2.0
O14K	Tigyukauivet M	8.63	32	Pn	Pn	12 13 58.8	+1.7
M13K	Dall Lake	9.02	22	Pn	Pn	12 14 05.2	+2.8
N14K	Kuskokwak Cree	9.03	28		Pn	12 14 05.7	+3.1
O15K	Ungalikthiu

COLA College 17.06 33 P P 12 15 50.7 -0.1
K24K Donnelly Dome 17.20 38 P 12 15 51.9 -0.6
K24K IAmb IAmb 12 16 15.7
comp=Z,12nm,1.0s
ILAR Eielson Array 17.33 35 P Pn 12 15 50.4 -2.6
comp=Z,0.2nm,0.3s,baz=227,slow=11,SNR=9.8
ILAR PcP PcP 12 20 33.4 +0.8
comp=Z,0.6nm,0.6s,baz=276,slow=2.9,SNR=6.4
ILAR LR LR 12 22 33.8
comp=Z,65nm,19.8s,baz=224,slow=37
comp=Z,0.7nm,0.5s
YAH Yahtse 17.60 51 P Pn 12 15 56.0 -0.6
YAH IAmb IAmb 12 16 01.1
comp=Z,28nm,1.2s
G23K Bananza Creek 17.61 27 P 12 15 58.1 +1.0
H24K Noodor Dome 17.65 31 P Pn 12 15 56.5 -0.6
GRNC Granite Creek 17.70 50 P Pn 12 15 57.3 -0.5
GRNC IAmb IAmb 12 16 05.9
comp=Z,13nm,1.0s
SCRK Sand Creek 17.97 39 Pn 12 16 00.7 -0.4
M27K Edge Creek, AK 18.16 45 P P 12 16 02.8 -0.4
M27K IAmb IAmb 12 16 04.6
comp=Z,11nm,1.1s
PRP Porcupine Dome 18.23 34 P 12 16 02.5 -1.5
J26L Joseph Creek 18.39 38 P P 12 16 04.3 -1.3
J26L IAmb IAmb 12 16 11.3
comp=Z,9.5nm,0.6s
O28M Mount Upton 18.45 51 P P 12 16 06.2 -0.3
O28M IAmb IAmb 12 16 20.8
comp=Z,6.5nm,0.6s
PNL Peninsula 18.60 54 P Pn 12 16 10.0 +1.4
PET Petropavlovsk 18.92 285 P Pn 12 16 11.7 -0.7
PET IAmb IAmb 12 16 36.5
comp=Z,22nm,1.2s
O29M Mount Kennedy 19.12 53 P Pn 12 16 14.2 -0.8
D23K Nanushuk River 19.15 21 P Pn 12 16 14.3 -0.8
D23K IAmb IAmb 12 16 27.3
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 19.16 23 P Pn 12 16 14.5 -0.8
TOLK IAmb IAmb 12 16 48.4
comp=Z,16nm,1.3s
P29M Windy Craggy 19.43 55 P Pn 12 16 18.2 -0.3
EGAK Eagle 19.43 39 P 12 16 16.7 -0.2
EGAK IAmb IAmb 12 16 23.5
comp=Z,6.1nm,0.6s
F25K Christian Rive 19.47 28 Pn 12 16 18.0 -1.0
PETK Petropavlovsk- 19.47 285 P P 12 16 16.5 -1.0
comp=Z,2.9nm,0.3s,baz=84,slow=12,SNR=88
comp=Z,7.8nm,0.5s
DAWY Dawson 19.84 41 P P 12 16 21.4 -0.1
C23K Itkillik River 19.85 20 P Pn 12 16 22.1 -1.3
C23K IAmb IAmb 12 16 31.1
comp=Z,21nm,1.4s
H27K Steamboat Moun 20.00 35 P P 12 16 23.0 -0.2
L29M L29M 20.04 45 P 12 16 22.9 -0.7
N30M Aishikik Lake 20.07 50 Pn 12 16 24.8 -1.3
N30M IAmb IAmb 12 16 27.2
comp=Z,8.5nm,0.7s
I28M Miner Creek 20.20 37 P 12 16 24.5 -0.9
I28M IAmb IAmb 12 16 43.9
comp=Z,7.9nm,1.1s
O30N Mendenhall 20.41 52 P Pn 12 16 29.3 -0.9
O30N IAmb IAmb 12 17 07.5
comp=Z,8.1nm,0.9s
M30M Minto, Yukon 20.47 47 P Pn 12 16 30.4 -0.4
K29M Barlow Dome 20.53 43 P 12 16 29.1 0.0
SKAG Skagway 20.63 56 P Pn 12 16 31.9 -0.7
SKAG Skagway 20.63 56 P Pn 12 16 32.1 -0.5
N31M Braeburn, Yuko 20.69 50 P Pn 12 16 32.2 -1.2
N31M IAmb IAmb 12 16 40.7
comp=Z,7.2nm,0.8s
P32M Atlin 21.46 56 P P 12 16 40.4 +1.4
P32M IAmb IAmb 12 16 42.3
comp=Z,9.3nm,0.9s
Q32M Nakina River 22.17 57 P P 12 16 47.4 +0.7
MA2 Magadan 22.86 304 LR LR 12 27 48.4
comp=Z,38nm,18.1s,baz=87,slow=42
INK Inuvik 23.72 33 P P 12 17 02.2 +0.2
INK IAmb IAmb 12 17 03.6
comp=Z,12nm,1.1s
INK Inuvik 23.72 33 LR LR 12 27 25.8
comp=Z,94nm,18.6s,baz=68,slow=40
BBB Bella Bella 25.47 73 LR LR 12 25 51.2
comp=Z,28nm,20.3s,baz=263,slow=33
YKA Yellowknife Ar 30.68 49 P P 12 18 04.5 0.0
comp=Z,0.6nm,0.4s,baz=293,slow=8.6,SNR=11
YKA LR LR 12 30 17.2
comp=Z,62nm,20.8s,baz=286,slow=36
comp=Z,0.6nm,0.4s
B08A Colville Reser 32.12 76 P 12 18 19.0 +1.6
B08A IAmb IAmb 12 18 21.0
comp=Z,2.9nm,0.8s
TIXI Tiksi 32.63 329 LR LR 12 32 07.8
comp=Z,30nm,18.1s,baz=64,slow=38
HAWA Hanford 32.91 80 P 12 18 25.6 +1.2
HAWA IAmb IAmb 12 18 27.1
comp=Z,3.6nm,0.7s
NEW Newport 33.48 75 P P 12 18 31.2 +1.9
J08A Circle Bar Ran 35.12 84 P P 12 18 44.5 +0.8
J08A IAmb IAmb 12 18 47.2
comp=Z,2.5nm,0.8s
OVMT Ovando 36.50 75 P P 12 18 56.1 +0.6
BPMT Black Pine Rid 36.55 76 P P 12 18 56.3 +0.3
RES Resolute Bay 36.70 25 LR LR 12 37 52.4
comp=Z,35nm,18.8s,baz=4.5,slow=43
MFID Camas Ranch 36.71 82 P 12 18 58.5 +1.3
MFID IAmb IAmb 12 18 59.7
comp=Z,2.6nm,0.8s
LYMT Lyon Mountain 36.97 75 P P 12 19 00.8 +1.3
H11N2 WAKE ISLAND Hy 37.06 218 T T 12 58 50.0
baz=23,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 37.07 218 T T 12 58 50.7
baz=23,slow=75,SNR=19
H11N1 WAKE ISLAND Hy 37.08 218 T T 12 58 47.9
baz=23,slow=75,SNR=13
MCMT McKenzie Canyo 37.74 78 P P 12 19 07.4 +1.3
NVAR Mina Array Bea 38.11 90 P P 12 19 11.7 +2.4
comp=Z,1.0nm,0.7s,baz=298,slow=7.8,SNR=7.8
comp=Z,1.0nm,0.7s
H11S1 WAKE ISLAND Hy 38.25 217 T T 13 00 21.5
baz=23,slow=76,SNR=185
H11S2 WAKE ISLAND Hy 38.27 217 T T 13 00 20.5
baz=23,slow=76,SNR=162
H11S3 WAKE ISLAND Hy 38.27 217 T T 13 00 20.6
baz=23,slow=76,SNR=201
ELK Elko 38.59 85 LR LR 12 31 51.2
comp=Z,35nm,19.7s,baz=311,slow=31
YHH Holmes Hill 38.97 77 P 12 19 17.4 +0.9
MJAR Matsushiro Arr 39.24 267 P P 12 19 18.8 +0.3
comp=Z,1.2nm,0.6s,baz=70,slow=7.0,SNR=4.0
comp=Z,1.2nm,0.6s
GMN Gold Mountain 39.46 91 P P 12 19 22.4 +1.8
TPNV Topopah Spring 40.30 90 P P 12 19 29.1 +1.6
TPNV IAmb IAmb 12 19 30.4
comp=Z,3.2nm,0.7s
PDAR Pinedale Array 40.87 78 P P 12 19 32.9 +0.7
PDAR Pinedale Array 40.87 78 P P 12 19 33.5 +1.3
comp=Z,3.0nm,0.6s,baz=305,slow=3.1,SNR=44
comp=Z,3.0nm,0.6s
CCUT Cedar City 41.70 87 P P 12 19 40.2 +1.1
CCUT IAmb IAmb 12 19 45.5
comp=Z,4.1nm,1.4s
KSRS Korea Array 44.98 276 P P 12 20 05.8 +0.6
comp=Z,2.0nm,0.9s,baz=45,slow=7.4,SNR=5.3
comp=Z,2.0nm,0.9s
SPITS Spitsbergen Ar 49.81 358 P P 12 20 41.8 -0.4
comp=Z,6.6nm,0.8s,baz=326,slow=12,SNR=4.4
comp=Z,6.6nm,0.8s
SONM Songino Array 50.99 301 P P 12 20 51.6 -0.1
comp=Z,0.8nm,0.6s,baz=52,slow=6.4,SNR=5.1
SONM PcP PcP 12 22 07.4 +0.2
comp=Z,0.9nm,0.7s,baz=46,slow=4.2,SNR=3.7
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 53.20 88 P P 12 21 09.4 +1.1
comp=Z,3.6nm,0.8s,baz=298,slow=5.2,SNR=48
comp=Z,3.6nm,0.8s
SCHQ Schefferville 55.85 43 P P 12 21 27.6 +0.5
comp=Z,69nm,0.6s,baz=286,slow=6.8,SNR=12
ZALV Zalesovo Beam 57.23 317 PcP PcP 12 22 31.0 +0.3
comp=Z,1.9nm,0.7s,baz=46,slow=4.2,SNR=6.5
ARCES ARCESS Array B 58.02 354 P P 12 21 41.0 -1.2
comp=Z,3.8nm,0.9s,baz=17,slow=6.9,SNR=8.8
ARCES PcP PcP 12 22 33.9 +0.3
comp=Z,3.2nm,0.8s,baz=23,slow=4.9,SNR=4.1
comp=Z,3.8nm,0.9s
KURBB Kurchatov Arra 62.30 318 P P 12 22 10.3 -1.3
comp=Z,1.6nm,0.7s,baz=46,slow=0.7,SNR=18
KURBB PcP PcP 12 22 51.0 0.0
comp=Z,0.6nm,0.5s,baz=38,slow=3.6,SNR=4.1
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 63.58 313 P P 12 22 18.6 -1.7
comp=Z,0.5nm,0.4s,baz=41,slow=5.7,SNR=8.7
comp=Z,0.5nm,0.4s
FINES FINESS Array B 65.95 352 P P 12 22 34.4 -1.0
comp=Z,0.9nm,0.4s,baz=15,slow=8.9,SNR=13
comp=Z,0.9nm,0.4s
NB2 NORSAR Subarra 67.09 359 P P 12 22 42.4 -0.4
comp=Z,0.6nm,0.5s,baz=1.4,slow=6.9
NOA NORSAR Array B 67.09 359 P P 12 22 42.3 -0.4
comp=Z,0.4nm,0.5s,baz=1.2,slow=6.6,SNR=3.9
comp=Z,0.4nm,0.5s
HFS Hagfors 67.96 358 P P 12 22 47.6 -0.6
comp=Z,1.4nm,0.4s,baz=30,slow=3.9,SNR=21
comp=Z,1.4nm,0.4s
AKTO Aktyubinsk 69.92 330 P P 12 23 00.1 -0.5
comp=Z,4.3nm,0.4s,baz=41,slow=5.8,SNR=12
comp=Z,4.3nm,0.4s
AB31 Akbulak array 70.33 328 P P 12 23 02.6 -0.4
ABKAR Akbulak array 70.33 328 P P 12 23 03.0 0.0
KKAR Karatay Array 71.60 318 P P 12 23 10.6 -0.3
EKA Eskdalemuir Ar 72.27 8 P P 12 23 14.4 -0.2
comp=Z,0.4nm,0.4s,baz=342,slow=4.6,SNR=6.9
comp=Z,0.4nm,0.4s
CHGR Chuyangaron 75.87 316 P 12 23 36.1 +0.1
AKASG Malin Array Be 76.16 347 P P 12 23 36.5 -0.9
comp=Z,0.5nm,0.4s,baz=14,slow=6.0,SNR=4.5
comp=Z,0.5nm,0.4s
KIEV Kiev 76.17 347 P P 12 23 36.5 -0.9
CMAR Chiang Mai Arr 76.22 282 P P 12 23 38.3 +0.1
CMAR Chiang Mai Arr 76.22 282 P P 12 23 38.8 +0.5
comp=Z,4.1nm,0.8s,baz=26,slow=6.8,SNR=32
comp=Z,4.1nm,0.8s
NIL Nilore 78.19 310 P P 12 23 49.5 +0.3
GERES GERESS Array B 79.26 357 P P 12 23 55.5 +0.7
comp=Z,0.5nm,0.5s,baz=23,slow=7.2,SNR=5.5
comp=Z,0.5nm,0.5s
KBZ Khabaz 80.27 336 P P 12 24 01.1 +0.8
comp=Z,1.2nm,0.7s,baz=67,slow=10,SNR=3.9
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 86.13 342 P P 12 24 31.9 +1.2
comp=Z,0.4nm,0.4s,baz=41,slow=4.0,SNR=2.2
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 86.56 231 P P 12 24 31.9 -0.8
comp=Z,0.4nm,0.8s,baz=34,slow=5.9,SNR=6.9
comp=Z,0.4nm,0.8s
ESDC Sonseca Array 87.69 11 P P 12 24 37.9 -0.3
comp=Z,1.6nm,0.8s,baz=350,slow=4.6,SNR=11
comp=Z,1.6nm,0.8s
PSI Prapat 88.41 272 LR LR 13 08 31.6
comp=Z,89nm,18.9s,baz=238,slow=38
ASAR Alice Springs 89.96 229 P P 12 24 49.0 +0.1
comp=Z,1.5nm,0.7s,baz=31,slow=4.5,SNR=26
comp=Z,1.5nm,0.7s
IDI Anoyia 91.88 348 LR LR 13 12 51.4
comp=Z,424nm,18.3s,baz=154,slow=40
H03N2 Juan Fernandez 116.28 111 T T 14 37 40.4
baz=317,slow=77,SNR=11
H03N1 Juan Fernandez 116.30 111 T T 14 37 51.1
baz=317,slow=77,SNR=18
H03N3 Juan Fernandez 116.30 111 T T 14 37 46.6
baz=317,slow=77,SNR=10

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*IDC **13** 12:21:05.8±0.5, 44°.88S×35°.35E, h0km, mb4.5/20, mbtmp4.5/20, MS4.8/46, Error ellipse: s-maj=20.2km s-min=13.1km az=64.0*
*MOS **13** 12:21:06.0±1.3, 44°.91S×35°.09E, h10km, mb5.1/20, Error ellipse: s-maj=20.2km s-min=9.1km az=95.1*
*NEIC **13** 12:21:07.7, 44°.86S×34°.99E, h10km*
*NEIC **13** 12:21:07.6±1.4, 44°.90S±0°.09×35°.0E±0°.1, h10km±1km, mb5.1/53, Mwb5.5/15, Mww5.4/12, Error ellipse: s-maj=17.3km s-min=14.5km az=231.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.27; Mθθ1.42; Mφφ-1.69; Mrθ0.32; Mθφ1.86; Mφr0.09; Fault plane solution: M0 2.46000×10^17^ NP1:φs110.35000°, δ84.41000°, λ7.13000°. NP2:φs19.65000°, δ82.91000°, λ174.36000°. Principal axes: T 2.3409, Plg9.0000°, Azm335.0000°; N 0.2153, Plg81.0000°, Azm148.0000°; P -2.5561, Plg1.0000°, Azm245.0000°;*
*NEIC **13** 12:21:07.7, 44°.86S×34°.99E, h12km*
*NEIC **13** 12:21:07.7, 44°.86S×34°.99E, h12km, Moment Tensor Solution. Duration: 29s Moment tensor: Scale 10^17^Nm; Mrr-0.56; Mθθ1.01; Mφφ-0.45; Mrθ0.35; Mθφ1.30; Mφr-0.34; Fault plane solution: M0 1.64000×10^17^ NP1:φs17.84000°, δ68.30000°, λ-161.84000°. NP2:φs280.93000°, δ73.17000°, λ-22.72000°. Principal axes: T 1.7768, Plg3.0000°, Azm330.0000°; N -0.3158, Plg62.0000°, Azm66.0000°; P -1.4611, Plg28.0000°, Azm238.0000°;*
*GCMT **13** 12:21:11.6±0.1, 44°.94S±0°.01×35°.21E±0°.01, h16km, MW5.5/156, Moment Tensor Solution. s128,c217; s156,c290; Duration: 19s4 Moment tensor: Scale 10^17^ Nm; Mrr-0.30±.03; Mθθ1.55±.03; Mφφ-1.26±.03; Mrθ0.00±.08; Mφφ2.17±.03; Mφr0.16±.08; Best double couple: M0 2.59100×10^17^ NP1:φs106.00000°, δ86.00000°, λ-2.00000°. NP2:φs197.00000°, δ88.00000°, λ-176.00000°. Principal axes: T 2.7320, Plg1.0000°, Azm331.0000°; N -0.2900, Plg86.0000°, Azm220.0000°; P -2.4490, Plg4.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 12:21:07.7±0.3, 44°.88S±0°.05×35°.06E±0°.07, h10km, n194, σ19s60/154, mb5.0/61, MS4.9/54, 13C-3D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**11.86**	**103**	Pn	**Pn**	**12 23 56.5**	**-0.3**
H04S3	**CROZET ISLANDS**	**11.90**	**105**	T	T	12 36 03.0	
	baz=268,slow=75						
H04S2	**CROZET ISLANDS**	**11.90**	**106**	T	T	12 36 00.3	
	baz=268,slow=75						
H04S1	**CROZET ISLANDS**	**11.91**	**105**	T	T	12 36 28.9	
	baz=268,slow=75						
GRHM	**Grahamstown, E**	**13.39**	**327**		**Pn**	**12 24 15.3**	**-2.5**
SUR	**Sutherland**	**16.69**	**314**		**Pn**	**12 25 01.5**	**-0.3**
POGA	**Pongola**	**17.70**	**350**		**Pn**	**12 25 14.1**	**-0.2**
POGA				IAmb	IAmb	12 25 17.0	
	comp=Z,89nm,0.5s						
BOSA	**Boshof**	**18.01**	**331**		**Pn**	**12 25 16.6**	**-1.6**
BOSA				IAmb	IAmb	12 25 23.9	
	comp=Z,268nm,1.8s						
BOSA	**Boshof**	**18.01**	**331**	P	**Pn**	**12 25 15.4**	**-2.8**
	comp=Z,8.3nm,0.3s,baz=164,slow=12,SNR=48						
BOSA				S	Sn	12 28 25.2	-14
	comp=Z,9.0nm,0.5s,baz=214,slow=11,SNR=2.8						
BOSA				LR	LR	12 31 07.0	
	comp=Z,6μm,21.3s,baz=155,slow=33						
BOSA	**Boshof**	**18.01**	**331**	P	**Pn**	**12 25 16.6**	**-1.6**
BOSA				pmax	pmax		
	comp=Z,268nm,1.8s						
MAKGR	**Makgori**	**20.75**	**333**	*i* P	Pn	12 25 49.9	-1.2
LBTB	**Lobatse**	**21.25**	**336**		**P**	**12 25 53.6**	**-0.5**
LBTB				IAmb	IAmb	12 25 58.4	
	comp=Z,53nm,0.8s						
LBTB	**Lobatse**	**21.25**	**336**	P	**P**	**12 25 53.8**	**-0.3**
	comp=Z,27nm,0.6s,baz=157,slow=11,SNR=32						
LBTB				S	**S**	**12 29 43.0**	**-7.3**
	comp=Z,8.9nm,0.5s,baz=62,slow=16,SNR=5.0						
LBTB				LR	LR	12 33 04.7	
	comp=Z,5μm,20.2s,baz=152,slow=34						
	comp=Z,27nm,0.6s						
MOPA	**Mopani**	**21.52**	**351**	*i* P	P	12 26 04.0	+7.2
PHPEN	**Phepeng**	**21.73**	**329**	P	**P**	**12 25 59.1**	**-0.2**
PHPEN				IAmb	IAmb	12 26 09.3	
	comp=Z,135nm,1.2s						
PHPEN	**Phepeng**	**21.73**	**329**	*i* P	**P**	**12 26 01.1**	**+1.9**
FOMA	**Nahampoana Res**	**22.08**	**30**	P	**P**	**12 26 03.1**	**+0.2**
FOMA				IAmb	IAmb	12 26 05.9	
	comp=Z,66nm,1.1s						
SKOMA	**Sekoma**	**22.24**	**332**	*i* P	**P**	**12 26 05.4**	**+0.7**
LPHEP	**Lephephe**	**22.74**	**338**	P	**P**	**12 26 09.3**	**-0.8**
LPHEP				IAmb	IAmb	12 26 27.8	
	comp=Z,81nm,1.1s						
LPHEP	**Lephephe**	**22.74**	**338**	*i* P	**P**	**12 26 10.3**	**+0.3**
MUSN	**Musina, Limpop**	**22.93**	**348**	*i* P	**P**	**12 26 13.1**	**+1.1**
KDWAN	**Kaudwane**	**23.07**	**335**	*i* P	**P**	**12 26 14.5**	**+1.0**
MREMI	**Moremi**	**23.11**	**342**	P	**P**	**12 26 13.8**	**-0.1**
MREMI	**Moremi**	**23.11**	**342**	*i* P	**P**	**12 26 14.4**	**+0.5**
LKGWB	**Lokgwabe**	**23.58**	**327**		**P**	**12 26 16.9**	**-1.8**
KHWEE	**KHWEE**	**24.20**	**338**	P	**P**	**12 26 23.9**	**-0.7**
KHWEE	**KHWEE**	**24.20**	**338**	*i* P	**P**	**12 26 25.4**	**+0.8**
SYO	**Syowa Base**	**24.31**	**176**	⇑*i* P	**P**	**12 26 24.1**	**-0.9**
SYO	**Syowa Base**	**24.31**	**176**	⇓*i* P	**P**	**12 26 25.5**	**+0.5**
SYO	**Syowa Base**	**24.31**	**176**	⇑*i* sP	sP	12 26 29.4	+1.4
KGCAE	**Kacgae**	**24.36**	**330**	P	**P**	**12 26 25.7**	**-0.3**
KGCAE				IAmb	IAmb	12 26 43.2	
	comp=Z,81nm,0.9s						
KGCAE	**Kacgae**	**24.36**	**330**	*i* P	**P**	**12 26 26.7**	**+0.6**
BROLN	**Tlhalogang**	**24.56**	**342**	*i* P	**P**	**12 26 27.8**	**0.0**
VOI	**Vohitsoka**	**24.86**	**27**		**P**	**12 26 30.1**	**-0.4**
MATP	**Matopo**	**24.98**	**345**	P	**P**	**12 26 36.5**	**+4.9**
	comp=Z,20nm,0.7s,baz=170,slow=9.2,SNR=32						
MATP				LR	LR	12 35 17.0	
	comp=Z,3μm,19.6s,baz=166,slow=34						
KOOLE	**Kule**	**24.99**	**326**	P	**P**	**12 26 31.7**	**0.0**
KOOLE	**Kule**	**24.99**	**326**	*i* P	**P**	**12 26 32.7**	**+0.9**
BLWY	**Bulawayo**	**25.24**	**346**	*i* P	**P**	**12 26 31.5**	**-2.5**
GRTLG	**Ghanzi**	**26.09**	**330**	P	**P**	**12 26 41.4**	**-0.3**
PHDHD	**Phuduhudu**	**26.12**	**337**	*i* P	**P**	**12 26 42.5**	**+0.6**
WIN	**Windhoek**	**26.69**	**321**	P	**P**	**12 26 45.9**	**-1.3**
WIN				IAmb	IAmb	12 27 16.3	
	comp=Z,94nm,1.5s						
WIN	**Windhoek**	**26.69**	**321**	P	**P**	**12 26 45.9**	**-1.3**
WIN				pmax	pmax		
	comp=Z,94nm,1.5s						
MAW	**Mawson**	**27.06**	**157**	P	**P**	**12 26 48.7**	**-1.2**
	comp=Z,16nm,1.0s,baz=311,slow=9.2,SNR=41						
MAW				LR	LR	12 34 37.0	
	comp=Z,2μm,21.4s,baz=319,slow=30						
	comp=Z,16nm,1.0s						
GMARE	**Gumare**	**27.59**	**333**	P	**P**	**12 26 55.2**	**+0.1**
GMARE				IAmb	IAmb	12 27 04.0	
	comp=Z,24nm,0.9s						
ABPO	**Ambohimpanom**	**27.71**	**25**	P	**P**	**12 26 56.9**	**+0.6**
ABPO				IAmb	IAmb	12 27 21.7	
	comp=Z,53nm,1.9s						
ABPO	**Ambohimpanom**	**27.71**	**25**	P	**P**	**12 26 56.9**	**+0.6**
ABPO				pmax	pmax		
	comp=Z,53nm,2.0s						
KSANE	**Kasane**	**28.24**	**340**		**P**	**12 27 00.0**	**-1.0**
KSANE				IAmb	IAmb	12 27 41.6	
	comp=Z,31nm,0.8s						
NVL	**N'Iazarevskaya**	**28.36**	**196**	*e* P	P	12 26 55.2	-6.3
NVL				*e*PPP	PPP	12 27 52.8	
NVL				*e*S	**S**	**12 31 42.7**	**-5.1**
NVL				*e*SSS	SSS	12 33 15.5	
NVL				*e*		12 37 41.6	
NVL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVL				smax	smax		
	comp=N,833nm,16.4s						
NVL				MLR	MLR		
	comp=Z,90nm,20.0s						
TSUM	**Tsumeb**	**29.45**	**325**	P	**P**	**12 27 10.1**	**-1.7**
TSUM	**Tsumeb**	**29.45**	**325**	P	**P**	**12 27 12.9**	**+1.2**
	comp=Z,7.0nm,0.8s,baz=162,slow=8.0,SNR=11						
TSUM				LR	LR	12 38 03.4	
	comp=Z,3μm,20.3s,baz=154,slow=34						
	comp=Z,7.0nm,0.8s						
TSUM	**Tsumeb**	**29.45**	**325**	*i* P	P	12 27 19.8	+8.0
LSZ	**Lusaka**	**30.07**	**347**	P	**P**	**12 27 16.9**	**-0.4**
LSZ				IAmb	IAmb	12 27 20.4	
	comp=Z,19nm,0.8s						
LSZ	**Lusaka**	**30.07**	**347**	LR	LR	12 37 56.0	
	comp=Z,3μm,19.8s,baz=171,slow=34						
LSZ	**Lusaka**	**30.07**	**347**	P	**P**	**12 27 16.9**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,19nm,0.8s						
TROLL	**Troll, Antarti**	**31.28**	**199**	⇑P	**P**	**12 27 27.4**	**-0.1**
	comp=Z,2μm,0.8s						
SNAA	**Sanae**	**32.37**	**201**	⇑P	**P**	**12 27 37.2**	**+0.2**
	comp=Z,376nm,1.0s						
SNAA	**Sanae**	**32.37**	**201**	P	**P**	**12 27 37.0**	**0.0**
SNAA				IAmb	IAmb	12 27 38.9	
	comp=Z,33nm,1.1s						
SNAA	**Sanae**	**32.37**	**201**	P	**P**	**12 27 37.3**	**+0.3**
	comp=Z,27nm,1.1s,baz=69,slow=7.6,SNR=60						
SNAA				LR	LR	12 37 21.9	
	comp=Z,1μm,21.2s,baz=48,slow=30						
	comp=Z,27nm,1.1s						
SNAA	**Sanae**	**32.37**	**201***c*	*i* P	**P**	**12 27 37.5**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,33nm,1.1s						
VNA2	**Neumayer--Watz**	**33.22**	**204**	⇑P	**P**	**12 27 44.7**	**+0.3**
	comp=Z,28nm,0.8s,baz=52,slow=10.0						
VNA1	**Neumayer--Stat**	**33.34**	**205**	⇑P	**P**	**12 27 46.3**	**+0.9**
	comp=Z,44nm,1.0s						
VNA3	**Neumayer Olymp**	**34.02**	**204**	⇑P	**P**	**12 27 51.1**	**-0.3**
	comp=Z,13nm,0.8s						
BELA	**Belgrano 2**	**42.31**	**197**	P	**P**	**12 29 00.9**	**-0.1**
BELA				IAmb	IAmb	12 29 02.4	
	comp=Z,46nm,1.4s						
KMBO	**Kilima Mbogo**	**43.61**	**3**	LR	LR	12 45 27.8	
	comp=Z,29nm,19.6s,baz=172,slow=34						
MBAR	**Mbarara**	**44.25**	**354**⇑*e*	P	**P**	**12 29 19.8**	**+2.2**
MBAR				pmax	pmax		
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**45.34**	**180**	P	**P**	**12 29 26.2**	**+0.5**
QSPA	**South Pole Qui**	**45.34**	**180**	P	**P**	**12 29 25.7**	**0.0**
	comp=Z,28nm,0.7s,baz=254,slow=2.8,SNR=151						
QSPA				LR	LR	12 46 34.8	
	comp=Z,2μm,21.4s,baz=248,slow=34						
	comp=Z,28nm,0.7s						
H08S1	**Diego Garcia H**	**49.25**	**53**	T	T	13 22 59.6	
	baz=213						
H08S2	**Diego Garcia H**	**49.26**	**53**	T	T	13 23 05.1	
	baz=213						
H08S3	**Diego Garcia H**	**49.27**	**53**	T	T	13 22 45.1	
	baz=213						
ESPZ	**Base Esperanza**	**51.95**	**215**	P	**P**	**12 30 15.8**	**-0.4**
ESPZ				IAmb	IAmb	12 30 18.3	
	comp=Z,30nm,1.2s						
VNDA	**Vanda**	**53.58**	**167**		**P**	**12 30 27.6**	**-0.6**
VNDA				IAmb	IAmb	12 30 28.9	
	comp=Z,27nm,1.1s						
VNDA	**Vanda**	**53.58**	**167**	P	**P**	**12 30 27.2**	**-1.0**
	comp=Z,12nm,0.8s,baz=248,slow=7.8,SNR=73						
VNDA				LR	LR	12 51 23.9	
	comp=Z,2μm,20.2s,baz=221,slow=34						
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**53.58**	**167**	P	**P**	**12 30 27.6**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,27nm,1.2s						
PMSA	**Palmer Station**	**54.05**	**212**	LR	LR	12 49 23.3	
	comp=Z,844nm,19.3s,baz=120,slow=31						
SBA	**Scott Base**	**54.05**	**169**		**P**	**12 30 32.0**	**+0.4**
SBA	**Scott Base**	**54.05**	**169**	P	**P**	**12 30 32.0**	**+0.4**
SBA				pmax	pmax		
	comp=Z,114nm,1.4s						
ATD	**Arta Tunnel**	**56.58**	**9**	LR	LR	12 53 42.0	
	comp=Z,26nm,20.9s,baz=182,slow=35						
NWAO	**Narrogin (SRO)**	**62.49**	**110**	LR	LR	12 52 39.1	
	comp=Z,1μm,19.7s,baz=235,slow=30						
DBIC	**Dimbokro**	**62.58**	**314**	P	**P**	**12 31 31.9**	**-0.1**
DBIC	**Dimbokro**	**62.58**	**314**	P	**P**	**12 31 32.1**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=180,slow=6.6,SNR=9.4						
DBIC				LR	LR	12 54 13.5	
	comp=Z,1μm,22.0s,baz=172,slow=32						
	comp=Z,6.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.20**	**324**	P	**P**	**12 31 48.3**	**-0.9**
TORD				IAmb	IAmb	12 32 02.7	
	comp=Z,11nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.20**	**324**	P	**P**	**12 31 48.1**	**-1.1**
	comp=Z,8.3nm,0.6s,baz=148,slow=6.0,SNR=42						
TORD				LR	LR	13 01 14.2	
	comp=Z,471nm,18.3s,baz=150,slow=37						
	comp=Z,8.3nm,0.6s						
PALK	**Pallekele**	**66.13**	**51**	P	**P**	**12 31 55.4**	**+0.1**
PALK				IAmb	IAmb	12 31 57.5	
	comp=Z,23nm,1.3s						
PALK	**Pallekele**	**66.13**	**51**	P	**P**	**12 31 55.4**	**+0.1**
PALK				pmax	pmax		
	comp=Z,23nm,1.3s						
TRQA	**Tornquist**	**68.72**	**237**	P	**P**	**12 32 11.2**	**-0.3**
TRQA	**Tornquist**	**68.72**	**237**	P	**P**	**12 32 11.3**	**-0.3**
TRQA				pmax	pmax		
	comp=Z,68nm,1.8s						
RAYN	**Ar Rayn**	**68.73**	**10**	P	**P**	**12 32 10.8**	**-0.8**
RAYN	**Ar Rayn**	**68.73**	**10**	P	**P**	**12

PLCA LR LR 13 02 27.1
comp=Z,254nm,18.5s,baz=134,slow=34
comp=Z,2.5nm,1.0s
MDSI Maura Dua 72.10 78 P **P 12 32 33.2 +0.8**
comp=Z,21nm,1.4s
LEM Lembang 72.86 82 LR LR 13 00 10.2
comp=Z,466nm,18.1s,baz=206,slow=32
CPUP Villa Florida 73.53 249 P **P 12 32 41.0 +0.2**
CPUP Villa Florida 73.53 249 P **P 12 32 41.3 +0.5**
comp=Z,0.8nm,0.8s,baz=9.0,slow=7.9,SNR=8.1
CPUP LR LR 12 59 02.6
comp=Z,162nm,22.0s,baz=0.0,slow=31
comp=Z,0.8nm,0.8s
HYB Hyderabad 73.55 43 *e*P **P 12 32 40.2 -0.7**
HYB IVmB_BB 12 32 41.4
comp=Z,207nm,1.4s
HYB *e*pP **sP 12 32 44.1 +0.1**
HYB *e*SKSac **SKSac 12 42 47.1 -0.3**
KCSI Kotacane, Aceh 73.59 68 P **P 12 32 41.9 +0.6**
comp=Z,12nm,1.2s
RPSI Rantau Prapat 73.74 69 **P 12 32 42.3 +0.2**
RPSI IAmb IAmb 12 32 45.9
comp=Z,20nm,1.3s
PSI Prapat 73.82 69 LR LR 12 58 51.4
comp=Z,343nm,19.9s,baz=222,slow=31
PSI Prapat 73.82 69 P **P 12 32 42.3 -0.4**
PSI pmax pmax
comp=Z,20nm,1.3s
EIL Elat 74.19 360 LR LR 13 02 43.9
comp=Z,686nm,21.8s,baz=180,slow=34
BDFB Brasilia 74.28 264 P **P 12 32 48.4 +3.0**
comp=Z,3.2nm,0.8s,baz=107,slow=9.7,SNR=4.7
BDFB LR LR 12 59 58.5
comp=Z,611nm,19.1s,baz=135,slow=31
comp=Z,3.2nm,0.8s
BBOO Buckleboo 74.63 121 P **P 12 32 45.8 -1.4**
AQDB Aquidauana 76.37 255 **P 12 32 55.4 -1.9**
AQDB IAmb IAmb 12 33 09.2
comp=Z,12nm,0.7s
IPM Ipoh 76.46 69 P **P 12 32 57.0 -0.8**
APLL PUNTA DE LOS L 76.67 240 *e*P **P 12 32 59.6 +0.6**
ASF Jabal al Asfar 76.70 2 LR LR 13 08 21.6
comp=Z,506nm,18.0s,baz=219,slow=37
KULM Kulim 76.81 69 **P 12 32 58.8 -1.0**
KULM IAmb IAmb 12 33 01.1
comp=Z,26nm,1.2s
CFA Coronel Fontan 76.87 239 LR LR 13 00 03.2
comp=Z,144nm,21.7s,baz=222,slow=30
AVFE Valle Fertil 77.06 240 *e*P **P 12 33 02.3 +1.2**
MMAI Mount Meron Ar 77.53 0 LR LR 13 07 26.9
comp=Z,547nm,18.4s,baz=175,slow=36
FITZ Fitzroy Crossi 77.86 103 P **P 12 33 04.3 -1.4**
ACCO Cerro Coronel 78.09 239 *e*P **P 12 33 08.4 +1.1**
STKA Stephens Creek 78.61 124 **P 12 33 09.2 -0.6**
STKA Stephens Creek 78.61 124 P **P 12 33 08.6 -1.2**
comp=Z,4.5nm,0.7s,baz=229,slow=5.8,SNR=7.0
comp=Z,4.5nm,0.7s
STKA Stephens Creek 78.61 124 ⇓*i*P **P 12 33 09.4 -0.3**
AROD Rodeo 78.64 239 *e*P **P 12 33 11.8 +1.5**
ASAR Alice Springs 79.60 113 **P 12 33 14.1 -1.2**
ASAR Alice Springs 79.60 113 P **P 12 33 13.8 -1.6**
comp=Z,1.5nm,0.7s,baz=227,slow=5.3,SNR=21
ASAR LR LR 13 02 56.3
comp=Z,1μm,20.1s,baz=234,slow=32
comp=Z,1.5nm,0.7s
ASAR Alice Springs 79.60 113 P **P 12 33 14.1 -1.2**
AC02 Maricunga 80.79 241 **P 12 33 20.9 -1.4**
AC02 IAmb IAmb 12 33 41.8
comp=Z,17nm,1.0s
INKA Innaminka 81.07 120 **P 12 33 22.8 -0.3**
EDFI Ende, Flores 81.51 94 P **P 12 33 25.7 0.0**
GO02 Mina Guanaco 82.28 242 **P 12 33 28.6 -1.3**
GO02 IAmb IAmb 12 33 42.0
comp=Z,43nm,1.6s
WRA Warramunga Arr 82.50 111 P **P 12 33 29.6 -1.2**
WRA Warramunga Arr 82.50 111 P **P 12 33 29.6 -1.2**
comp=Z,2.1nm,1.1s,baz=226,slow=4.8,SNR=8.5
WRA LR LR 13 03 51.0
comp=Z,1μm,21.5s,baz=226,slow=31
comp=Z,2.1nm,1.1s
WRAB Tennant Creek 82.51 111 P **P 12 33 29.5 -1.3**
WRAB IAmb IAmb 12 34 14.3
comp=Z,20nm,1.6s
WRAB Tennant Creek 82.51 111⇑*e*P **P 12 33 29.9 -0.9**
WRAB pmax pmax
comp=Z,12nm,1.5s
SBUM Sibu 82.64 79 **P 12 33 31.4 -0.1**
KAPI Kappang 82.72 90 LR LR 13 03 23.6
comp=Z,307nm,21.8s,baz=218,slow=31
BKSI Bulukumba 82.78 90 P **P 12 33 32.2 0.0**
comp=Z,689nmcomp=Z,15nm,0.9s
SIV San Ignacio 83.14 254 LR LR 13 06 09.2
comp=Z,660nm,19.1s,baz=115,slow=32
KEST Kesra 83.55 339 P **P 12 33 37.6 +1.9**
comp=Z,1.0nm,0.6s,baz=67,slow=12,SNR=2.2
KEST LR LR 13 11 47.0
comp=Z,1μm,18.3s,baz=193,slow=36
comp=Z,1.0nm,0.6s
VAE Valguarnera 84.08 344 LR LR 13 13 07.7
comp=Z,1μm,18.7s,baz=149,slow=37
BR131 Keskin Array S 84.23 359⇓*e*P **P 12 33 40.4 +1.3**
BRTR Keskin Array B 84.23 359 P **P 12 33 39.1 0.0**
BRTR Keskin Array B 84.23 359 P **P 12 33 39.5 +0.3**
comp=Z,1.3nm,0.7s,baz=183,slow=6.9,SNR=7.7
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 84.23 359 *i* P **P 12 33 40.2 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR106 Keskin Array S 84.24 359 P **P 12 33 39.3 +0.1**
comp=Z,3.2nm,0.8s
BRDH Bariadhala 84.71 51 LR LR 13 05 02.8
comp=Z,595nm,21.9s,baz=212,slow=31
GNI Garni 85.09 7 LR LR 13 10 35.5
comp=Z,633nm,20.4s,baz=200,slow=35
GNI Garni 85.09 7⇑*e*P **P 12 33 45.7 +2.2**
GNI pmax pmax
comp=Z,13nm,1.3s
MDT Midelt 85.32 327 LR LR 13 13 12.4
comp=Z,1μm,18.5s,baz=162,slow=37
CMAR Chiang Mai Arr 85.65 59 **P 12 33 46.5 -0.2**
CMAR Chiang Mai Arr 85.65 59 P **P 12 33 45.9 -0.7**
comp=Z,3.6nm,1.1s,baz=230,slow=5.7,SNR=22
CMAR LR LR 13 06 35.6
comp=Z,100nm,18.2s,baz=225,slow=32
comp=Z,3.6nm,1.1s
CMAR Chiang Mai Arr 85.65 59 *i* P **P 12 33 47.0 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 85.92 59 P **P 12 33 47.1 -0.8**
CHTO Chiang Mai 85.92 59 P **P 12 33 47.2 -0.8**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
PB11 IPOC Station P 86.20 246 P **P 12 33 48.4 -1.3**
EVN Everest 86.48 44 P **P 12 33 50.1 -1.2**
EVN IAmb IAmb 12 34 11.2
comp=Z,7.9nm,0.6s
AKT Akhty 86.72 9 *e*P **P 12 33 51.0 -0.5**
AKT *e* 12 37 13.0
AKT *e*S **SKSac 12 44 15.1 -2.8**
AKT *e*SS **SS 12 50 05.2 -5.9**
AKT pmax pmax
comp=Z,12nm,1.2s
LPAZ La Paz 87.70 249 P **P 12 34 00.1 +2.4**
comp=Z,0.3nm,0.4s,baz=153,slow=4.5,SNR=5.4
LPAZ LR LR 13 09 22.9
comp=Z,642nm,19.2s,baz=116,slow=33
comp=Z,0.3nm,0.4s
MAK Makhachkala 88.16 9 *e*P P 12 33 44.2 -14
MAK *e* 12 37 22.1
MAK *e*PPP PPP 12 39 25.7
MAK *e*SS SS 12 50 37.9 +6.1
MAK *e*SSS SSS 12 54 04.4
MAK pmax pmax
comp=Z,80nm,0.9s
MAK MLR MLR
comp=Z,582nm,15.0s
SOC Sochi 88.17 3 *e*P P 12 34 03.6 +5.3
SOC *e* 12 37 25.7
SOC *e*PPP PPP 12 39 23.5
SOC *e*S S 12 44 33.0 -9.2
SOC *e*SS **SS 12 50 29.3 -2.7**
SOC *e*SSS SSS 12 54 07.7
SOC MLR MLR
comp=Z,335nm,22.0s
SHA1 Shidzhatmaz 88.49 5⇑*e*P **P 12 34 01.8 +1.7**
KBZ Khabaz 88.50 6 P **P 12 34 00.2 +0.5**
comp=Z,1.2nm,0.7s,baz=243,slow=4.5,SNR=2.1
KBZ LR LR 13 12 55.4
comp=Z,361nm,19.9s,baz=195,slow=35
comp=Z,1.2nm,0.7s
KBZ Khabaz 88.50 6⇑*e*P **P 12 33 59.2 -0.5**
KBZ pmax pmax
comp=Z,11nm,2.5s
KIV Kislovodsk 88.71 5 *e*P **P 12 34 01.1 +0.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,344nm,20.0s
KVAR Kislovodsk Arr 88.71 6 LR LR 13 12 28.9
comp=Z,185nm,19.7s,baz=84,slow=35
SIM Simferopol' 89.44 359 P **P 12 34 01.3 -2.9**
SIM *e* 12 37 34.8
TNCH TengChong 90.44 54 P **P 12 34 10.4 +0.8**
TNCH TengChong 90.44 54 S **S 12 45 05.3 +0.6**
TNCH pmax pmax
comp=Z,25nm,0.8s
TNCH pmax pmax
comp=Z,140nm,4.3s
TNCH LR LR
comp=N,190nm,14.6s
TNCH LR LR
comp=E,220nm,14.3s
TNCH LR LR
comp=Z,670nm,23.3s
VRI Vrincioaia 90.66 354 P **P 12 34 11.9 +2.0**
VRI pmax pmax
comp=Z,11nm,1.0s
ESDC Sonseca Array 91.20 331 P **P 12 34 14.6 +2.0**
comp=Z,0.4nm,0.8s,baz=153,slow=4.8,SNR=1.5
ESDC LR LR 13 15 48.7
comp=Z,995nm,20.7s,baz=150,slow=36
comp=Z,0.4nm,0.8s
MDP Montagnes des 91.93 275 LR LR 13 07 45.6
comp=Z,282nm,21.3s,baz=98,slow=30
BURAR Buovina Array 92.51 353 P **P 12 34 18.4 -0.1**
BURAR Bucovina Array 92.51 353 P **P 12 34 18.4 -0.1**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
QIZ Qiongzhong 92.94 66 P **P 12 34 23.8 +2.7**
QIZ Qiongzhong 92.94 66 S **S 12 45 29.3 +2.2**
QIZ Qiongzhong 92.94 66 SS SS 12 51 44.8 +3.2
QIZ LR LR
comp=N,270nm,19.0s
QIZ LR LR
comp=E,200nm,19.2s
QIZ LR LR
comp=Z,310nm,18.0s
PZH PanZhiHua 93.43 56 P **P 12 34 25.3 +1.9**
AAK Ala-Archa 93.98 28 LR LR 13 13 57.1
comp=Z,309nm,18.6s,baz=228,slow=34
VRAC Vranov 95.18 348 LR LR 13 20 38.0
comp=Z,402nm,19.6s,baz=174,slow=38
GERES GERESS Array B 95.19 346 LR LR 13 19 44.5
comp=Z,578nm,21.2s,baz=192,slow=37
DAV Davao City (W) 95.30 85 LR LR 13 11 09.2
comp=Z,204nm,21.4s,baz=216,slow=32
AKASG Malin Array Be 95.33 356 LR LR 13 19 37.9
comp=Z,273nm,21.0s,baz=177,slow=37
NNA Nana 96.57 246 LR LR 13 14 47.5
comp=Z,370nm,19.6s,baz=135,slow=33
BRG Berggiesshubel 97.11 347 *e*PP **PP 12 38 42.0 +5.9**
BRG Berggiesshubel 97.11 347 PS PS 12 47 32.0 +6.8
JAY Jayapura 99.26 103 LR LR 13 14 53.2
comp=Z,350nm,21.3s,baz=204,slow=33
OBN Obninsk 99.63 1 *e*P **Pdif 12 34 52.2 +1.7**
OBN *e*PPP PPP 12 41 03.1
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN MLR MLR
comp=Z,157nm,19.0s
WMQ Urumqi 99.95 36 *e*P **Pdif 12 34 54.8 +2.4**
WMQ LR LR
comp=N,340nm,19.9s
WMQ LR LR
comp=E,350nm,14.9s
WMQ LR LR
comp=Z,240nm,23.7s
DZM Mont Dzumac 99.98 135 *e*SS SS 12 53 23.1 +3.6
comp=Z,259nm,25.1s
DZM Mont Dzumac 99.98 135 *e*LR LR 13 07 35.3
comp=Z,2μm,32.2s
DZM Mont Dzumac 99.98 135 LR LR 13 10 32.2
comp=Z,688nm,21.0s,baz=206,slow=30
NJ2 Nanjing 107.82 62 *e*P **Pdif 12 35 28.1 +0.5**
NJ2 pmax pmax
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 109.41 51 *e*P **Pdif 12 35 32.3 -2.3**
PPT2 Papeete2 117.69 175 *e*S 12 47 28.8
comp=Z,161nm,25.0s
PPT2 *e*SS **SS 12 57 15.8 -1.5**
comp=Z,362nm,25.5s
PPT2 Papeete2 117.69 175 *e*LQ LQ 13 10 33.5
comp=Z,539nm,33.0s
PPT2 *e*LR LR 13 15 33.6
comp=Z,625nm,23.8s
PPT2 *e*LR LR 13 15 37.9
comp=Z,759nm,22.8s
TAOE Nuku Hiva Isla 126.34 186 *e*LR LR 13 19 36.0
comp=Z,741nm,22.9s
TXAR Lajitas Array 144.03 259 PKP PKPbc 12 40 42.5 +1.0
comp=Z,1.7nm,0.8s,baz=127,slow=4.0,SNR=19
ULM Lac du Bonnet 146.96 297 PKPbc **PKPdf 12 40 47.1 -0.6**
comp=Z,2.7nm,0.5s,baz=7.8,slow=1.6,SNR=1.8
ANMO Albuquerque 149.12 265 PKPbc **PKiKP 12 40 57.2 -0.3**
comp=Z,2.9nm,1.0s,baz=209,slow=5.1,SNR=4.7
PDAR Pinedale Array 154.51 278 PKPbc **PKPbc 12 41 07.8 -0.6**
comp=Z,0.5nm,0.6s,baz=98,slow=2.2,SNR=4.5
NVAR Mina Array Bea 159.14 261 PKPab **PKPab 12 41 46.8 +3.8**
comp=Z,0.6nm,0.8s,baz=87,slow=12,SNR=2.8

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*IDC **13** 12:21:37.0±1.2, 5°.36S×152°.87E, h0km, mb3.7/6, mbtmp3.8/7, ML2.0/1, Error ellipse: s-maj=32.8km s-min=21.9km az=124.0*
ISC 13 12:21:42.1±1.1, 5°.4S±0°.2×153°.0E±0°.1, h37km, n8, σ0°.91/10, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.00**	**235**	Pn	**Pn**	**12 23 21.8**	**-0.3**
	1.6nm,0.3s,baz=39,slow=13,SNR=4.0						
PMG				Sn	**Sn**	**12 24 41.2**	**+0.7**
	2.2nm,0.3s,baz=222,slow=12,SNR=5.9						
	14nm,0.8s						
DZM	**Mont Dzumac**	**21.06**	**143**	P	**P**	**12 26 24.0**	**+0.7**
	4.1nm,0.8s,baz=310,slow=17,SNR=1.4						
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	**12 26 44.8**	**-0.9**
	0.7nm,0.9s,baz=51,slow=10,SNR=6.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**25.82**	**223**	P	**P**	**12 27 09.9**	**-0.3**
	0.4nm,0.9s,baz=55,slow=9.4,SNR=5.5						
ASAR				PcP	**PcP**	**12 30 39.5**	**+0.3**
	0.3nm,1.1s,baz=53,slow=2.3,SNR=4.2						
	0.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.52**	**242**	P	**P**	**12 27 42.4**	**-0.9**
	0.7nm,0.6s,baz=90,slow=14,SNR=5.4						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.30**	**295**	P	**P**	**12 31 35.2**	**+1.4**
	0.5nm,0.3s,baz=112,slow=6.9,SNR=4.3						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**58.45**	**3**	P	**P**	**12 31 33.7**	**-0.4**
	3.1nm,0.9s,baz=163,slow=7.0,SNR=6.4						
	3.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.66**	**287**	PKPbc	**PKPbc**	**12 41 30.5**	**-0.9**
	0.8nm,0.8s,baz=58,slow=3.3,SNR=3.7						

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*SNET **13** 12:24:58.5±11.0, 12°.66N×87°.92W, h35km, ML4.0*
*CATAC **13** 12:25:11.5±0.2, 12°N±2°×8°.8W±°, h28km, M4.3/42, MLv4.3/42, Error ellipse: s-maj=5.2km s-min=1.9km az=30.1, confirmed*
*IDC **13** 12:25:13.7±1.6, 12°.56N×87°.72W, h84km±26km, mb3.1/3, mbtmp3.5/5, Error ellipse: s-maj=56.3km s-min=13.7km az=37.0*
*UCR **13** 12:25:13.2±0.8, 12°.41N×87°.82W, h31km±9km, MW4.5*
*GCG **13** 12:25:14.5±0.5, 12°.54N×88°.10W, h61km±53km, MD4.4*
ISC 13 12:25:11.7±1.0, 12°.47N±0°.05×87°.89W±0°.04, h63km±9km, n100, σ0°.98/122, mb3.4/3, 8C-16D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.60**	**33**	⇓P	**Pn**	**12 25 25.0**	**-0.2**
CSGN	**Cosiguina Volc**	**0.60**	**33**	*e*P	**Pn**	**12 25 24.9**	**-0.2**
CSGN				*e*S	**Sn**	**12 25 34.9**	**0.0**
CNCH	**Conchagua**	**0.81**	**4**	*e*P	**Pn**	**12 25 27.9**	**+0.3**
CNCH				*e*S	**Sn**	**12 25 39.7**	**+0.5**
CNCH	**Conchagua**	**0.81**	**4**	⇓P	**Pn**	**12 25 27.9**	**+0.3**
LCND	**La Caada**	**0.84**	**0**	*e*P	**Pn**	**12 25 28.1**	**+0.4**
LCND				*e*P		12 25 28.3	
LCND				*e*S	**Sn**	**12 25 40.5**	**+0.8**
LCND	**La Caada**	**0.84**	**0**	⇓P	**Pn**	**12 25 28.2**	**+0.4**
CRIN	**San Cristobal**	**0.85**	**74**	⇓P	**Pn**	**12 25 28.9**	**+0.8**
CRIN	**San Cristobal**	**0.85**	**74**	*e*P	**Pn**	**12 25 28.9**	**+0.8**
CRIN				*e*S	**Sn**	**12 25 41.9**	**+1.7**
PKGN	**Cerro Pekin**	**0.92**	**77**	⇓P	**Pn**	**12 25 29.2**	**+0.4**
PKGN				S	**Sn**	**12 25 42.4**	**+0.9**
CNRM	**Centro Naciona**	**1.04**	**345**	S	**Sn**	**12 25 44.6**	**+0.4**
CNRM	**Centro Naciona**	**1.04**	**345**	P	**Pn**	**12 25 30.8**	**+0.4**
POLN	**Al Sur del Vol**	**1.07**	**80**	⇓P	**Pn**	**12 25 29.4**	**-1.4**
POLN				S	**Sn**	**12 25 43.8**	**-1.2**
PACA	**Pacayal**	**1.08**	**337**	*e*P	**Pn**	**12 25 31.6**	**+0.6**
PACA				*e*S	**Sn**	**12 25 45.5**	**+0.1**
PACA	**Pacayal**	**1.08**	**337**	P	**Pn**	**12 25 31.4**	**+0.4**
PLRN	**Geotermica Pol**	**1.10**	**84**	⇑P	**Pn**	**12 25 31.2**	**-0.1**
PLRN				S	**Sn**	**12 25 45.4**	**-0.4**
CNGA	**Al SSO del Vol**	**1.16**	**89**	P	**Pn**	**12 25 32.1**	**+0.1**
CNGA				S	**Sn**	**12 25 47.0**	**-0.3**
CNGN	**Cerro Negro**	**1.17**	**88**	P	**Pn**	**12 25 32.0**	**-0.1**
CNGN	**Cerro Negro**	**1.17**	**88**	⇑*e*P	**Pn**	**12 25 32.2**	**+0.2**
CNGN				*e*S	**Sn**	**12 25 47.5**	**+0.2**
TECA	**Tecapa**	**1.18**	**330**	*e*P	**Pn**	**12 25 32.3**	**-0.1**
COPN	**Copaltepe**	**1.30**	**103**	⇓P	**Pn**	**12 25 33.7**	**-0.2**
COPN	**Copaltepe**	**1.30**	**103**	⇓*e*P	**Pn**	**12 25 33.6**	**-0.2**
COPN				*e*S	**Sn**	**12 25 50.3**	**-0.1**
MOM3	**MOM3**	**1.34**	**88**	P	**Pn**	**12 25 34.4**	**0.0**
MOM3				S	**Sn**	**12 25 51.6**	**+0.2**
TECO	**Alcaldia de Te**	**1.37**	**321**	*e*P	**Pn**	**12 25 34.5**	**-0.3**
TECO				*e*S	**Sn**	**12 25 51.2**	**-0.9**
TECO	**Alcaldia de Te**	**1.37**	**321**	⇓P	**Pn**	**12 25 34.7**	**-0.1**
AESN	**El Sauce Leon**	**1.39**	**72**	⇓P	**Pn**	**12 25 35.1**	**+0.1**
AMTN	**Mateare**	**1.45**	**99**	P	**Pn**	**12 25 35.9**	**+0.2**
AMTN	**Mateare**	**1.45**	**99**	S	**Sn**	**12 25 54.3**	**+0.4**
UESV	**Universidad de**	**1.45**	**323**	S	**Sn**	**12 25 54.4**	**+0.4**
UESV	**Universidad de**	**1.45**	**323**	P	**Pn**	**12 25 36.3**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.47**	**327**	*e*P	**Pn**	**12 25 36.7**	**+0.6**
SCLA				*e*S	**Sn**	**12 25 55.4**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.47**	**327**	P	**Pn**	**12 25 36.7**	**+0.6**
APQ3	**Volcan Apoyequ**	**1.50**	**97**	⇓P	**Pn**	**12 25 37.1**	**+0.6**
APYN	**Apoyeque**	**1.52**	**99**	P	**Pn**	**12 25 36.9**	**+0.1**
APYN				S	**Sn**	**12 25 55.5**	**-0.2**
APQ2	**Apoyeque**	**1.56**	**100**	P	**Pn**	**12 25 37.5**	**+0.3**
APQ2				S	**Sn**	**12 25 56.4**	**0.0**
LIMN	**Finca el Limon**	**1.60**	**68**	⇓P	**Pn**	**12 25 38.2**	**+0.3**
PAVA	**Las Pavas**	**1.60**	**321**	P	**Pn**	**12 25 38.9**	**+1.0**
LFRS	**El Faro**	**1.62**	**315**	*e*P	**Pn**	**12 25 38.4**	**+0.2**
TISN	**Laguna Tiscapa**	**1.62**	**101**	P	**Pn**	**12 25 37.4**	**-0.7**
UNAN	**Cigeo UNAN**	**1.62**	**102**	P	**Pn**	**12 25 38.3**	**+0.1**
MGAN	**Managua**	**1.64**	**101**	P	**Pn**	**12 25 38.7**	**+0.4**
MGAN	**Managua**	**1.64**	**101**	⇓*e*P	**Pn**	**12 25 38.5**	**+0.2**
MGAN				*e*S	**Sn**	**12 25 58.2**	**-0.3**
LBRS	**Las Brisas**	**1.69**	**319**	*e*P	**Pn**	**12 25 39.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.69**	**21**	⇑P	**Pn**	**12 25 40.3**	**+1.2**
WILN	**Americas 2**	**1.69**	**100**	P	**Pn**	**12 25 39.6**	**+0.5**
LOMA	**Loma Larga**	**1.71**	**313**	⇓P	**Pn**	**12 25 39.6**	**+0.2**
LALI	**Alcalda de L**	**1.72**	**306**	*e*S	**Sn**	**12 25 59.0**	**-1.5**
MAS3	**Al N del Volca**	**1.73**	**105**	⇑P	**Pn**	**12 25 39.8**	**+0.2**
SABN	**Sabanita**	**1.77**	**107**	⇑P	**Pn**	**12 25 39.3**	**-0.8**
MASN	**Masaya**	**1.77**	**105**	P	**Pn**	**12 25 40.6**	**+0.5**
UESS	**Universidad de**	**1.78**	**314**	*e*P	**Pn**	**12 25 40.8**	**+0.5**
YUSH	**Yuscaran**	**1.80**	**35**	⇑P	**Pn**	**12 25 41.6**	**+1.1**
OCON	**Estacion meteo**	**1.80**	**50**	⇑P	**Pn**	**12 25 41.4**	**+0.9**
UEES	**Universidad Ev**	**1.81**	**314**	P	**Pn**	**12 25 41.1**	**+0.5**
PIC2	**El Picacho**	**1.84**	**314**	*e*P	**Pn**	**12 25 41.7**	**+0.5**
BOQS	**Boqueron**	**1.85**	**313**	*e*P	**Pn**	**12 25 42.0**	**+0.6**
PMON	**Piamonte**	**1.86**	**312**	⇓P	**Pn**	**12 25 41.8**	**+0.4**
JAYA	**Jayaque - finc**	**1.92**	**308**	*e*P	**Pn**	**12 25 42.3**	**0.0**
JAYA	**Jayaque - finc**	**1.92**	**308**	*e*P	**Pn**	**12 25 42.4**	**+0.1**
JAYA	**Jayaque - finc**	**1.92**	**308**	P	**Pn**	**12 25 42.5**	**+0.2**
LLGN	**La Laguna**	**1.97**	**329**	*e*P	**Pn**	**12 25 43.8**	**+0.9**
MATN	**Matagalpa**	**1.97**	**76**	⇑P	**Pn**	**12 25 42.2**	**-0.7**
RCVN	**Varillal2**	**1.99**	**56**	⇓P	**Pn**	**12 25 44.4**	**+1.2**
RCPN	**Sur Rio San Ju**	**2.04**	**59**	P	**Pn**	**12 25 44.9**	**+1.0**
UNIC	**Universidad Ca**	**2.21**	**313**	P	**Pn**	**12 25 47.4**	**+1.3**
UNIC	**Universidad Ca**	**2.21**	**313**	S	**Sn**	**12 26 12.6**	**+0.3**
RTR	**El Retiro**	**2.22**	**310**	*e*P	**Pn**	**12 25 47.7**	**+1.3**
NUBE	**Las Nubes**	**2.33**	**308**	*e*P	**Pn**	**12 25 48.2**	**+0.4**
NUBE				*e*S	**Sn**	**12 26 14.9**	**-0.5**
NUBE	**Las Nubes**	**2.33**	**308**	P	**Pn**	**12 25 48.4**	**+0.6**
MORN	**Al O del Volca**	**2.38**	**112**	P	**Pn**	**12 25 48.6**	**+0.3**
CONN	**Concepcion**	**2.39**	**112**	P	**Pn**	**12 25 48.8**	**+0.3**
SARH	**Santa Rosa de**	**2.44**	**340**	*e*P	**Pn**	**12 25 50.6**	**+1.2**
SARH	**Santa Rosa de**	**2.44**	**340**	P	**Pn**	**12 25 50.5**	**+1.2**
FAME	**Alcaldia de Sa**	**2.48**	**304**	P	**Pn**	**12 25 50.1**	**+0.3**
ESQI	**Esquipulas**	**2.51**	**326**	P	**Pn**	**12 25 51.4**	**+1.1**
LCRUZ	**La Cruz**	**2.61**	**122**	*e*P	**Pn**	**12 25 51.7**	**+0.2**
CARN	**Rivas**	**2.65**	**118**	*e*P	**Pn**	**12 25 52.5**	**+0.5**
ACON	**Acoyapa**	**2.70**	**100**	*e*P	**Pn**	**12 25 52.5**	**-0.2**
LAPC	**Finca la Perla**	**2.94**	**125**	*e*P	**Pn**	**12 25 57.6**	**+1.5**
BUAI	**Buenos Aires**	**2.96**	**122**	*e*P	**Pn**	**12 25 57.7**	**+1.3**
BUAI				*e*S	**Sn**	**12 26 30.1**	**-0.7**
VORI	**VORI**	**2.98**	**123**	*e*P	**Pn**	**12 25 57.7**	**+0.9**
VRLE	**La Escondida,**	**2.99**	**124**	*e*P	**Pn**	**12 25 57.7**	**+1.0**
VMAR	**Armenia, Volca**	**3.18**	**121**	*e*P	**Pn**	**12 26 00.1**	**+0.7**
BAGA	**Bagaces**	**3.22**	**126**	*e*S	**Sn**	**12 26 38.5**	**+1.5**
JUD3	**Juan Diaz 3**	**3.25**	**134**	*e*P	**Pn**	**12 26 01.1**	**+0.8**
JUD3				*e*S	**Sn**	**12 26 35.1**	**-2.8**
MOTZ	**Rio Naranjo**	**3.28**	**122**	*e*P	**Pn**	**12 26 02.5**	**+1.8**
TIMP	**Tierras Morena**	**3.38**	**123**	*e*P	**Pn**	**12 26 02.7**	**+0.6**
APG	**El Apazote**	**3.55**	**316**	P	**Pn**	**12 26 08.2**	**+3.6**
	0.4nm,0.4s,baz=117,slow=11,SNR=6.1						
CHIK	**Chiripa**	**3.55**	**124**	*e*P	**Pn**	**12 26 06.3**	**+1.8**
JTS	**Las Juntas de**	**3.60**	**127**	P	**Pn**	**12 26 07.5**	**+2.3**
	5.5nm,0.3s,baz=302,slow=21,SNR=35						
JTS				S	**Sn**	**12 26 47.3**	**+0.8**
	12nm,0.4s,baz=281,slow=16,SNR=5.2						
JUNT	**Juntas**	**3.60**	**127**	*e*P	**Pn**	**12 26 08.3**	**+3.2**
ARE1	**Arenal 1**	**3.69**	**122**	*e*P	**Pn**	**12 26 08.0**	**+1.6**
VARE2	**V. Arenal**	**3.69**	**122**	*e*P	**Pn**	**12 26 07.5**	**+1.1**
PICV	**PH. Pirrs**	**4.60**	**127**	*e*P	**Pn**	**12 26 21.6**	**+2.8**
VERH	**Veragua Rainfo**	**5.26**	**118**	*e*P	**Pn**	**12 26 27.4**	**-0.4**
CMIG	**Matias Romero**	**8.18**	**305**	P	**Pn**	**12 27 09.4**	**+1.7**
	1.4nm,0.3s,baz=162,slow=12,SNR=5.9						
CMIG				S	**Sn**	**12 28 37.5**	**-1.1**
	1.1nm,0.4s,baz=174,slow=16,SNR=1.3						
TXAR	**Lajitas Array**	**22.29**	**321**	P	**P**	**12 30 05.1**	**+1.2**
	2.9nm,0.9s,baz=130,slow=8.0,SNR=27						
	2.9nm,0.9s						
PDAR	**Pinedale Array**	**35.55**	**332**	P	**P**	**12 32 03.3**	**+0.2**
	0.3nm,0.6s,baz=125,slow=9.8,SNR=4.9						
	0.3nm,0.6s						
SCHQ	**Schefferville**	**45.39**	**17**	P	**P**	**12 33 22.3**	**-1.4**
	26nm,0.4s,baz=209,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**65.83**	**336**	P	**P**	**12 35 49.3**	**-0.8**
	0.1nm,0.6s,baz=116,slow=2.1,SNR=2.2						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**138.86**	**254**	PKP	**PKiKP**	**12 44 32.9**	**-1.1**
	0.3nm,0.8s,baz=84,slow=2.2,SNR=4.8						

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*RSNC **13** 12:28:02.4±0.0, 10°N±18°×7°2W±1°8, h149km±23km, M2.1, ML2.1*
*FUNV **13** 12:28:03.4, 10°.20N×72°.32W, h104km, MW2.7*
ISC 13 12:28:04.8±1.3, 10°.38N±0°.06×72°.01W±0°.06, h100km, n5, σ3°.32/10, Venezuela

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

*NNC **13** 12:29:48.8±1.0, 45°.82N×81°.52E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=14.9km s-min=3.8km az=127.0*
*IDC **13** 12:29:48.7±0.8, 45°.83N×81°.61E, h0km, mb3.8/9, mbtmp3.8/13, ML3.3/4, MS2.8/3, Error ellipse: s-maj=12.8km s-min=7.1km az=124.0*
*MOS **13** 12:29:50.2±1.2, 45°.94N×81°.39E, h12km, mb4.3/8, Error ellipse: s-maj=8.0km s-min=4.1km az=66.6*
*SOME **13** 12:29:50.9, 45°.75N×81°.62E, h25km, MS3.3*
*NEIC **13** 12:29:52.2±1.8, 45°.97N±0°.02×81°.60E±0°.09, h20km±3km, mb4.0/10, Error ellipse: s-maj=8.9km s-min=3.4km az=83.0*
ISC 13 12:29:50.5±1.1, **45°.91N**±0°.03×**81°.51E**±0°.03, **h7**km±7km, **n142**, σ1§91/183, **mb3.8**/17, **MS3.9**/3, **9C-14D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.96**	**19**		**Pg**	**12 30 08.3**	**-0.5**
MAKZ				Sn	**Sg**	**12 30 21.3**	**+0.1**
MAKZ	**Makanchi**	**0.96**	**19**	⇓P	**Pg**	**12 30 08.3**	**-0.5**
MAKZ	51nm,0.3s 116nm,0.4s			⇑S	**Sn**	**12 30 23.3**	**-1.0**
MAKZ	**Makanchi**	**0.96**	**19**	PG	**Pg**	**12 30 08.3**	**-0.5**
MAKZ						12 30 19.3	
MK31	**Makanchi Array**	**1.04**	**31**	⇑P	**Pg**	**12 30 09.6**	**-0.8**
MK31	112nm,0.5s,baz=202,slow=18,SNR=3944			⇓S	**Sb**	**12 30 25.0**	**+0.4**
MK31	**Makanchi Array**	**1.04**	**31**	*i* PG	**Pg**	**12 30 09.5**	**-0.8**
MK31	74nm,0.2s,baz=210,slow=15 comp=Z,112nm,0.4s			pmax	pmax		
MKAR	**Makanchi Array**	**1.04**	**31**		**Pg**	**12 30 09.5**	**-0.8**
MKAR	**Makanchi Array**	**1.04**	**31**	Pg	**Pg**	**12 30 09.7**	**-0.7**
MKAR	comp=Z,55nm,0.3s,baz=203,slow=18,SNR=1267 comp=Z,121nm,0.3s,baz=208,slow=29,SNR=35			Lg	Lg	12 30 24.1	
KAPS	**Kapalarasan** comp=Z,2μm,0.2s	**1.64**	**248**	S	**Sn**	**12 30 41.5**	**+0.3**
KNOS	**Konyrlen** comp=Z,236nm,0.3s	**2.27**	**228**	Pg	**Pb**	**12 30 31.0**	**-0.8**
TDK	**Taldyqorghan** comp=Z,308nm,0.4s	**2.37**	**249**	Pg	**Pb**	**12 30 33.0**	**-0.4**
TDK	comp=Z,2μm,0.4s			Lg	Lg	12 31 03.5	
TDK	**Taldyqorghan** comp=Z,141nm,0.4s	**2.37**	**249**	*e*P	**Pb**	**12 30 33.0**	**-0.4**
TDK	comp=Z,2μm,0.4s			*e*S	**Sb**	**12 31 03.5**	**+0.6**
TDK	**Taldyqorghan**	**2.37**	**249**	*e*Pn	**Pn**	**12 30 30.5**	**+0.7**
TDK				*e*Pg	**Pb**	**12 30 32.0**	**-1.4**
TDK				*e*Lg	Lg	12 31 03.5	
TDK	**Taldyqorghan**	**2.37**	**249**	*e*PN	**Pn**	**12 30 30.5**	**+0.7**
TDK				*e*		12 30 32.0	
ZSN	**Zaisan** comp=Z,65nm,0.4s	**2.78**	**55**	*e*P	**Pb**	**12 30 40.2**	**-0.2**
ZSN				*e*S	**Sb**	**12 31 16.1**	**+1.5**
ZSN	**Zaisan** comp=Z,218nm,0.5s	**2.78**	**55**	*e*Pn	**Pb**	**12 30 40.1**	**-0.2**
ZSN				*e*Pg	**Pg**	**12 30 41.9**	**-1.8**
ZSN	**Zaisan**	**2.78**	**55**	*e*PN	**Pb**	**12 30 40.1**	**-0.3**
ZSN				*e*		12 30 41.8	
PDGK	**Podgornoye** comp=Z,242nm,0.8s	**2.96**	**210**	⇓Pg	**Pn**	**12 30 39.9**	**+1.9**
PDGK	comp=Z,845nm,0.7s			⇓Lg	Lg	12 31 19.9	
PDGK	**Podgornoye**	**2.96**	**210**	PN	**Pn**	**12 30 39.9**	**+1.9**
ARXS	**Arharly** comp=Z,65nm,0.3s	**3.11**	**238**	Pg	**Pb**	**12 30 46.3**	**+0.1**
ARXS				Lg	Lg	12 31 25.8	
ARXS	**Arharly** comp=Z,626nm,0.5s	**3.11**	**238**	*e*P	**Pb**	**12 30 46.3**	**+0.1**
ARXS				*e*S	**Sb**	**12 31 25.8**	**+1.4**
ARXS	**Arharly**	**3.11**	**238**	*e*PN	**Pn**	**12 30 40.3**	**+0.2**
SHLS	**Shalkode** comp=Z,324nm,0.7s	**3.12**	**209**	*e*P	**Pn**	**12 30 43.3**	**+3.1**
SHLS	comp=Z,1μm,0.8s			*e*S	**Sn**	**12 31 20.8**	**+3.0**
SHLS	**Shalkode**	**3.12**	**209**	*e*Pn	**Pn**	**12 30 38.8**	**-1.4**
SHLS				*e*Pg	**Pb**	**12 30 43.7**	**-2.6**
SHLS	**Shalkode**	**3.12**	**209**	*e*PN	**Pn**	**12 30 38.8**	**-1.4**
SHLS				*e*		12 30 43.6	
KPKS	**Kokpek** comp=Z,0.3nm,0.2s	**3.17**	**221**	Pg	**Pb**	**12 30 46.8**	**-0.4**
KPKS				Lg	Lg	12 31 27.0	
UZB	**Uzynbulak** comp=Z,634nm,0.4s	**3.29**	**214**	Pg	**Pb**	**12 30 46.8**	**-2.4**
UZB	comp=Z,19nm,0.3s			Lg	Lg	12 31 26.8	
UZB	**Uzynbulak** comp=Z,316nm,0.4s	**3.29**	**214**	*e*P	**Pb**	**12 30 48.1**	**-1.1**
UZB	comp=Z,20nm,0.2s			*e*S	**Sb**	**12 31 28.7**	**-0.7**
UZB	**Uzynbulak** comp=Z,404nm,0.3s	**3.29**	**214**	*e*Pn	**Pn**	**12 30 43.1**	**+0.6**
UZB				*e*Pg	**Pb**	**12 30 48.6**	**-0.6**
UZB	**Uzynbulak**	**3.29**	**214**	*e*PN	**Pn**	**12 30 43.1**	**+0.6**
UZB				*e*		12 30 48.6	
KURS	**Kuram** comp=Z,58nm,0.4s	**3.40**	**226**	Pg	**Pb**	**12 30 50.6**	**-0.4**
KURS				Lg	Lg	12 31 33.5	
SATY	**Saty** comp=Z,256nm,0.4s	**3.61**	**219**	Pg	**Pb**	**12 30 54.9**	**+0.1**
SATY	**Saty** comp=Z,42nm,0.5s	**3.61**	**219**	*e*Pn	**Pn**	**12 30 47.6**	**+0.6**
SATY				*e*Pg	**Pb**	**12 30 54.5**	**-0.2**
SATY	**Saty**	**3.61**	**219**	*e*PN	**Pn**	**12 30 47.6**	**+0.6**
SATY				*e*		12 30 54.5	
CHKK	**Chushkaly** comp=Z,62nm,0.5s	**3.82**	**239**	Pg	**Pb**	**12 30 59.3**	**+1.2**
CHKK				Lg	Lg	12 31 47.9	
CHKK	**Chushkaly** comp=Z,299nm,0.3s	**3.82**	**239**	*e*P	**Pb**	**12 30 59.3**	**+1.2**
CHKK	comp=Z,62nm,0.5s			*e*S	**Sb**	**12 31 47.9**	**+3.3**
PRZ	**Przheval'sk** comp=Z,299nm,0.3s	**4.09**	**214**		**Pn**	**12 30 53.7**	**+0.1**
PRZ	**Przheval'sk**	**4.09**	**214**	PN	**Pb**	**12 31 04.5**	**+1.6**
PRZ				S	**Sb**	**12 31 56.9**	**+4.3**
KUU	**Kurty** comp=Z,5.7nm,0.1s	**4.19**	**243**	*e*P	**Pb**	**12 31 05.2**	**+0.6**
KUU				*e*S	**Sb**	**12 31 58.0**	**+2.6**
KUU	**Kurty** comp=Z,218nm,0.5s	**4.19**	**243**	*e*Pn	**Pn**	**12 30 55.5**	**+0.6**
KUU	**Kurty**	**4.19**	**243**	*e*PN	**Pn**	**12 30 55.5**	**+0.6**
MDOK	**Medeo** comp=Z,63nm,0.6s	**4.21**	**231**	Pg	**Pb**	**12 31 05.2**	**+0.3**
MDOK	comp=Z,170nm,1.0s			Lg	Lg	12 31 58.1	
MDOK	**Medeo**	**4.21**	**231**	*e*Pn	**Pn**	**12 30 56.1**	**+0.9**
MDOK				*e*Pg	**Pb**	**12 31 05.7**	**+0.7**
MDOK	**Medeo**	**4.21**	**231**	*e*PN	**Pn**	**12 30 56.1**	**+0.9**
MDOK				*e*		12 31 05.6	
KNDC	**Almaty**	**4.22**	**232**	Pg	**Pb**	**12 31 03.4**	**-1.6**
KNDC				Lg	Lg	12 31 59.6	
KNDC	**Almaty**	**4.22**	**232**	PN	**Pb**	**12 31 03.4**	**-1.6**
AAA	**Alma-Ata** comp=Z,27nm,0.2s	**4.25**	**232**	Pg	**Pb**	**12 31 06.9**	**+1.2**
AAA	comp=Z,14nm,0.3s			Lg	Lg	12 32 01.0	
AAA	**Alma-Ata** comp=Z,27nm,0.2s	**4.25**	**232**	*e*P	**Pb**	**12 31 06.8**	**+1.2**
AAA	comp=Z,14nm,0.3s			*e*S	**Sb**	**12 32 00.9**	**+3.8**
TNSS	**Tian-Shan** comp=Z,10nm,0.4s	**4.35**	**230**	Pg	**Pb**	**12 31 09.0**	**+1.6**
TNSS				Lg	Lg	12 32 04.8	
TNSS	**Tian-Shan** comp=Z,60nm,0.8s	**4.35**	**230**	*e*P	**Pb**	**12 31 09.1**	**+1.6**
TNSS	comp=Z,10nm,0.4s			*e*S	**Sb**	**12 32 04.8**	**+4.4**
MTBS	**Maitube** comp=Z,60nm,0.8s	**4.58**	**234**	Pg	**Pb**	**12 31 12.1**	**+1.0**
MTBS	comp=Z,23nm,0.6s			Lg	Lg	12 32 09.9	
MTBS	**Maitube** comp=Z,248nm,0.5s	**4.58**	**234**	*e*P	**Pb**	**12 31 12.1**	**+1.0**
MTBS	comp=Z,23nm,0.6s			*e*S	**Sb**	**12 32 09.9**	**+3.4**
SEM	**Semipalatinsk** comp=Z,248nm,0.5s	**4.58**	**350**	*e*P	**Pg**	**12 31 17.7**	**-0.5**
SEM	comp=Z,4.0nm,0.2s			*e*S	**Sg**	**12 32 19.0**	**+1.5**
	comp=Z,126nm,0.5s						
DGS	**Degeres** comp=Z,35nm,0.4s	**4.89**	**239**	Pg	**Pb**	**12 31 18.7**	**+2.2**
DGS	comp=Z,192nm,0.5s			Lg	Lg	12 32 22.0	
KST	**Kastek** comp=Z,48nm,0.7s	**4.90**	**236**	Pg	**Pb**	**12 31 18.5**	**+1.9**
KST	comp=Z,112nm,1.0s			Lg	Lg	12 32 21.6	
KST	**Kastek** comp=Z,48nm,0.7s	**4.90**	**236**	*e*P	**Pb**	**12 31 18.5**	**+1.9**
KST	comp=Z,112nm,1.0s			*e*S	**Sb**	**12 32 21.6**	**+5.8**
KDJ	**Kajisay**	**4.90**	**221**		**Pn**	**12 31 06.4**	**+1.7**
KDJ	**Kajisay**	**4.90**	**221**	PN	**Pn**	**12 31 06.4**	**+1.7**
TARG	**Taragay, Kyrgy**	**4.96**	**214**		**Pn**	**12 31 07.8**	**+2.0**
TARG	**Taragay, Kyrgy**	**4.96**	**214**	PN	**Pn**	**12 31 07.8**	**+2.0**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.3s,baz=166,slow=12,SNR=32	**5.12**	**338**	Pn	**Pn**	**12 31 08.3**	**+0.8**
KURBB	comp=Z,6.0nm,0.3s,baz=169,slow=30,SNR=12			Lg	Lg	12 32 33.1	
KURBB	comp=Z,107nm,21.1s,baz=206,slow=40 comp=Z,2.1nm,0.4s			LR	LR	12 33 18.5	
KURBB	**Kurchatov Arra** comp=Z,8.3nm,0.7s,baz=160,slow=12	**5.12**	**338**	⇓Pn	**Pn**	**12 31 07.3**	**-0.2**
KURBB	comp=Z,33nm,0.7s,baz=166,slow=15			⇑Pg	**Pb**	**12 31 22.5**	**+2.2**
KURBB	comp=Z,406nm,0.7s,baz=170,slow=30			⇓Lg	Lg	12 32 33.3	
KURBB	**Kurchatov Arra**	**5.12**	**338**	PN	**Pn**	**12 31 08.1**	**+0.5**
KURBB						12 31 22.5	
KURK	**Kurchatov**	**5.18**	**339**	Pn	**Pn**	**12 31 09.2**	**+0.8**
KURK	**Kurchatov** comp=Z,0.8nm,0.6s	**5.18**	**339**	⇓Pn	**Pn**	**12 31 09.2**	**+0.8**
KURK	comp=Z,9.3nm,0.8s			⇑Pg	**Pb**	**12 31 24.1**	**+2.7**
KURK	comp=Z,188nm,0.7s			⇓Lg	Lg	12 32 35.4	
KURK	**Kurchatov**	**5.18**	**339**	*ce*PN	**Pn**	**12 31 08.9**	**+0.5**
BOOM	**Boomskoye usch**	**5.26**	**232**		**Pn**	**12 31 11.1**	**+1.3**
BOOM	**Boomskoye usch**	**5.26**	**232**	PN	**Pn**	**12 31 11.1**	**+1.3**
SGDS	**Sogindy**	**5.49**	**246**	*e*Pn	**Pn**	**12 31 13.3**	**+0.6**
SGDS				*e*Pg	**Pb**	**12 31 28.6**	**+1.9**
DGZ	**Jazzator, Alta**	**5.50**	**44**	PN	**Pn**	**12 31 15.4**	**+2.4**
DGZ				S	**Sn**	**12 32 19.8**	**+3.2**
DGZ						12 32 42.8	
FRU1	**Bishkek**	**5.83**	**240**	Pn	**Pn**	**12 31 19.4**	**+2.0**
FRU1	**Bishkek**	**5.83**	**240**	PN	**Pn**	**12 31 19.4**	**+2.0**
CHBI	**Chibit, Altay**	**5.96**	**40**	PN	**Pn**	**12 31 22.5**	**+3.3**
CHBI				S	**Sn**	**12 32 31.2**	**+3.5**
CHBI						12 32 56.3	
AAK	**Ala-Archa** comp=Z,0.9nm,0.3s,baz=65,slow=7.0,SNR=11	**6.01**	**240**	Pn	**Pn**	**12 31 20.6**	**+0.7**
AAK	comp=Z,4.7nm,0.3s,baz=109,slow=7.9,SNR=6.7			Pg	**Pb**	**12 31 38.6**	**+3.1**
AAK	comp=Z,2.0nm,0.3s,baz=288,slow=12,SNR=4.3			Sn	**Sn**	**12 32 30.5**	**+1.5**
AAK	comp=Z,3.7nm,0.3s,baz=247,slow=20,SNR=5.8			Lg	Lg	12 32 54.3	
AAK	comp=Z,54nm,19.1s,baz=48,slow=41 comp=Z,3.9nm,0.5s			LR	LR	12 33 55.0	
AAK	**Ala-Archa** comp=Z,1.4nm,0.5s	**6.01**	**240**	⇓Pn	**Pn**	**12 31 18.2**	**-1.7**
AAK	comp=Z,5.1nm,0.5s			⇑Pg	**Pb**	**12 31 37.4**	**+1.9**
AAK	comp=Z,16nm,0.8s			⇓Sn	**Sn**	**12 32 28.4**	**-0.6**
AAK	comp=Z,25nm,0.6s			⇓Lg	Lg	12 32 56.8	
AAK	**Ala-Archa**	**6.01**	**240**	PN	**Pn**	**12 31 20.1**	**+0.2**
AAK				PG	**Pb**	**12 31 38.7**	**+3.1**
ELDR	**Elanda**	**6.12**	**28**	PN	**Pn**	**12 31 23.2**	**+1.9**
CUR	**Chagan-Uzun**	**6.21**	**45**	PN	**Pn**	**12 31 25.3**	**+2.6**
CUR				S	**Sn**	**12 32 37.3**	**+3.2**
ULGR	**Ulagan, Altay**	**6.38**	**40**	PN	**Pn**	**12 31 28.7**	**+3.7**
ULGR				S	**Sn**	**12 32 40.4**	**+2.2**
MRKS	**Merke** comp=Z,7.0nm,0.4s	**6.73**	**245**	*e*P	**Pg**	**12 31 55.3**	**-4.1**
MRKS				*e*S	**Sg**	**12 33 23.8**	**-2.7**
ARTR	**Artybash** comp=Z,50nm,0.7s	**7.01**	**31**	PN	**Pn**	**12 31 36.2**	**+2.6**
ARTR				S	**Sn**	**12 32 55.0**	**+1.4**
YALR	**Yailyu, Altay**	**7.11**	**32**	PN	**Pn**	**12 31 37.5**	**+2.6**
YALR				S	**Sn**	**12 32 58.0**	**+2.0**
KSH	**Kashi** comp=Z,7.0nm,0.7s	**7.58**	**215**	P	Pb	12 31 52.3	-10
KSH				pmax	pmax		
TEL	**Teeli**	**7.71**	**45**	P	**Pn**	**12 31 45.3**	**+2.1**
ELT	**Eltsovka**	**7.97**	**21**	P	**Pn**	**12 31 48.9**	**+2.2**
TASR	**Tashtagol**	**8.02**	**29**	P	**Pn**	**12 31 51.5**	**+4.2**
ZAA0	**Zalesovo Array**	**8.33**	**14**	Pn	**Pn**	**12 31 49.9**	**-1.7**
ZALV	**Zalesovo Beam**	**8.33**	**14**	Pn	**Pn**	**12 31 50.9**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.3s,baz=196,slow=13,SNR=16	**8.33**	**14**	Pn	**Pn**	**12 31 52.5**	**+1.0**
ZALV	comp=Z,1.7nm,0.3s,baz=201,slow=14,SNR=5.9			Pg	Pb	12 32 22.1	+7.2
ZALV	comp=Z,1.6nm,0.3s,baz=194,slow=23,SNR=5.8			Sn	**Sn**	**12 33 27.0**	**+1.3**
ZALV	comp=Z,2.8nm,0.3s,baz=190,slow=28,SNR=7.4			Lg	Lg	12 34 15.2	
ZALV	comp=Z,88nm,18.8s,baz=194,slow=38 comp=Z,3.5nm,0.4s			LR	LR	12 35 10.1	
ZALV	**Zalesovo Beam**	**8.33**	**14**	*e*P	**Pn**	**12 31 52.9**	**+1.4**
ZALV	comp=Z,1.0nm,0.3s			pmax	pmax		
KK31	**Karatay Array** comp=Z,6.4nm,0.4s,baz=62,slow=13,SNR=64	**8.35**	**254**	Pn	**Pn**	**12 31 50.7**	**-1.2**
KK31	comp=Z,6.7nm,0.6s,baz=69,slow=21			⇑Sn	**Sn**	**12 33 26.5**	**+0.1**
KK31	comp=Z,46nm,0.8s,baz=62,slow=30			⇓Lg	Lg	12 34 12.5	
KK31	**Karatay Array**	**8.35**	**254**	*e*P	**Pn**	**12 31 51.4**	**-0.5**
KKAR	**Karatay Array**	**8.35**	**254**		**Pn**	**12 31 51.0**	**-0.9**
KKAR	**Karatay Array**	**8.35**	**254**	P	**Pn**	**12 31 51.0**	**-0.9**
IUG	**Iuzhnay**	**9.09**	**250**	*e*Pn	**Pn**	**12 32 06.2**	**+4.1**
IUG				*e*Lg	Lg	12 34 36.2	
IUG	**Iuzhnay**	**9.09**	**250**	*e*P	**Pn**	**12 32 06.2**	**+4.1**
BORK	**Borovoye**	**10.20**	**319**	⇓*e*P	**Pn**	**12 32 18.2**	**+1.0**
KBL	**Kabul**	**14.80**	**224**	Pn	**Pn**	**12 33 20.2**	**-0.2**
KBL	**Kabul**	**14.80**	**224**	P	**Pn**	**12 33 20.2**	**-0.2**
ABKAR	**Akbulak array**	**14.93**	**291**		**Pn**	**12 33 19.0**	**-2.8**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=102,slow=17,SNR=4.6	**16.29**	**295**	Pn	**Pn**	**12 33 37.2**	**-2.4**
AKTO	comp=Z,0.2nm,0.3s,baz=169,slow=14,SNR=2.2			Sn	**Sn**	**12 36 30.9**	**-10**
AKTO	comp=Z,0.2nm,0.3s,baz=81,slow=13,SNR=3.9 comp=Z,1.2nm,0.5s			Lg	Lg	12 38 29.1	
SONM	**Songino Array**	**17.10**	**75**	P	**Pn**	**12 33 50.5**	**+0.4**
SONM	**Songino Array** comp=Z,0.9nm,0.5s,baz=266,slow=12,SNR=5.9	**17.10**	**75**	P	**P**	**12 33 51.7**	**-0.2**
SONM	**Songino Array**	**17.10**	**75**	P	**Pn**	**12 33 50.5**	**+0.4**
SONM	comp=Z,1.0nm,0.6s			pmax	pmax		
ULN	**Ulaanbaatar**	**17.55**	**74**	P	**P**	**12 33 56.9**	**+0.1**
ULN	comp=Z,2.6nm,0.5s			IAmb	IAmb	12 34 04.2	
ULN	**Ulaanbaatar**	**17.55**	**74**	⇑*e*P	**P**	**12 33 58.6**	**+1.9**
ULN	comp=Z,12nm,2.3s			pmax	pmax		
ARTI	**Arti**	**17.81**	**314**	P	**Pn**	**12 33 58.1**	**-0.6**
ARTI				S	**Sn**	**12 37 17.3**	**0.0**
SHL	**Shillong**	**21.94**	**154**	P	**P**	**12 34 44.9**	**+0.2**
SHL	**Shillong**	**21.94**	**154**	P	**P**	**12 34 44.9**	**+0.2**
SHL	comp=Z,16nm,1.0s			pmax	pmax		
BELG	**Belogornoye**	**22.94**	**299**	⇑*e*P	**P**	**12 34 54.1**	**-0.9**
BELG	comp=Z,2.0nm,1.0s			pmax	pmax		
KIRV	**Kirov**	**23.13**	**315**	⇓*e*P	**P**	**12 34 55.2**	**-1.7**
XAN	**Xi'an**	**23.99**	**110**	*e*P	**P**	**12 35 09.8**	**+4.1**
XAN	comp=N,280nm,21.3s			LR	LR		
XAN	comp=E,320nm,17.2s			LR	LR		
XAN	comp=Z,310nm,20.6s			LR	LR		
OBN	**Obninsk**	**29.56**	**305**	*e*P	**P**	**12 35 56.1**	**+0.6**
OBN				*e*		12 36 50.9	
OBN				*e*PPP	PPP	12 36 58.0	
OBN	comp=Z,4.0nm,0.8s			pmax	pmax		
OBN				MLR	MLR		
	comp=Z,56nm,19.0s						
CM31	**Chiang Mai Arr**	**30.95**	**146**	P	**P**	**12 36 06.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.95**	**146**	P	**P**	**12 36 07.7**	**-0.5**
CMAR	**Chiang Mai Arr** comp=Z,3.1nm,0.7s,baz=325,slow=8.3,SNR=24 comp=Z,3.1nm,0.7s	**30.95**	**146**	P	**P**	**12 36 07.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.95**	**146**	*e*P	**P**	**12 36 08.2**	**0.0**
CMAR	comp=Z,3.0nm,0.6s			pmax	pmax		
TIXI	**Tiksi**	**34.02**	**25**	P	**P**	**12 36 32.9**	**-1.6**
TIXI	comp=Z,2.5nm,0.8s			IAmb	IAmb	12 36 45.2	
TIXI	**Tiksi**	**34.02**	**25**	P	**P**	**12 36 32.9**	**-1.6**
TIXI	comp=Z,3.0nm,0.9s			pmax	pmax		
FINES	**FINESS Array B**	**35.10**	**317**	P	**P**	**12 36 41.8**	**-2.2**
FINES	**FINESS Array B**	**35.10**	**317**	P	**P**	**12 36 41.8**	**-2.2**
BRTR	**Keskin Array B**	**35.23**	**277**	P	**P**	**12 36 45.0**	**-0.5**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.8s,baz=72,slow=7.9,SNR=4.6 comp=Z,1.0nm,0.8s	**35.23**	**277**	P	**P**	**12 36 45.0**	**-0.5**
BRTR	**Keskin Array B**	**35.23**	**277**	*e*P	**P**	**12 36 46.3**	**+0.8**
BRTR	comp=Z,1.0nm,0.8s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.7s,baz=94,slow=13,SNR=3.9 comp=Z,0.8nm,0.7s	**36.16**	**330**	P	**P**	**12 36 53.5**	**+0.5**
ARCES	**ARCESS Array B**	**36.16**	**330**	*e*P	**P**	**12 36 55.4**	**+2.4**
ARCES	comp=Z,3.0nm,1.1s			pmax	pmax		
BURAR	**Bucovina Array**	**37.88**	**294**	P	**P**	**12 37 08.5**	**+0.5**
BURAR	comp=Z,1.5nm,0.8s			IAmb	IAmb	12 37 10.3	
HFS	**Hagfors** comp=Z,1.8nm,0.9s,baz=83,slow=12,SNR=1.2 comp=Z,1.8nm,0.9s	**41.26**	**315**	P	**P**	**12 37 36.3**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=78,slow=8.6	**42.27**	**317**	P	**P**	**12 37 44.2**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.6s,baz=78,slow=8.1,SNR=6.5 comp=Z,1.0nm,0.6s	**42.27**	**317**	P	**P**	**12 37 44.3**	**0.0**
NBO00	**NORSAR Array S**	**42.48**	**317**	P	**P**	**12 37 44.5**	**-1.4**
NBO00	comp=Z,3.8nm,1.1s			IAmb	IAmb	12 37 49.5	
CLL	**Collm**	**44.12**	**303**	*e*P	**P**	**12 37 58.0**	**-1.3**
CLL	comp=Z,800nm,19.6s			MLR	MLR		
CLL	**Collm**	**44.12**	**303**	*e*P	**P**	**12 37 58.0**	**-1.3**
CLL				*e*PP	**PP**	**12 39 41.0**	**-0.8**
CLL				*e*PPP	PPP	12 40 14.0	
EKA	**Eskdalemuir Ar** comp=Z,0.7nm,0.5s,baz=68,slow=6.3,SNR=7.8 comp=Z,0.7nm,0.5s	**51.35**	**313**	P	**P**	**12 38 55.2**	**-0.1**
D22K	**Ayikyak River**	**58.72**	**20**	P	**P**	**12 39 48.4**	**0.0**
D22K	comp=Z,2.4nm,1.1s			IAmb	IAmb	12 40 12.6	
E22K	**Anaktuvuk Pass**	**59.50**	**20**	P	**P**	**12 39 53.2**	**-0.6**
E22K	comp=Z,0.6nm,0.7s			IAmb	IAmb	12 40 01.1	
ESDC	**Sonseca Array** comp=Z,0.9nm,1.1s,baz=68,slow=6.7,SNR=3.4 comp=Z,0.9nm,1.1s	**60.15**	**297**	P	**P**	**12 39 58.0**	**-0.8**
ILAR	**Eielson Array**	**63.38**	**21**	*e*P	**P**	**12 40 19.7**	**-0.3**
WRA	**Warramunga Arr**	**81.13**	**131**	P	**P**	**12 42 05.5**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=336,slow=5.6,SNR=4.8 comp=Z,0.6nm,0.8s	**81.13**	**131**	P	**P**	**12 42 04.9**	**-1.8**
ASAR	**Alice Springs** comp=Z,0.3nm,0.8s,baz=314,slow=4.9,SNR=5.7 comp=Z,0.3nm,0.8s	**83.97**	**133**	P	**P**	**12 42 19.8**	**-1.7**
GO01	**Chusmiza**	**144.43**	**308**	PKPdf	**PKPab**	**12 49 26.4**	**0.0**
HMBC	**Humberstone**	**145.30**	**308**	PKPbc	**PKPbc**	**12 49 27.1**	**-1.9**

*IDC **13** 12:36:20.1±0.7, 52°.40N×170°.34W, h0km, mb3.9/21, mbtmp3.9/23, ML3.8/2, MS3.6/7, Error ellipse: s-maj=22.0km s-min=14.0km az=176.0*
*AEIC **13** 12:36:24.4±1.6, 52°.13N±0°.08×170°.10W±0°.07, h28km±5km, Error ellipse: s-maj=12.2km s-min=4.1km az=152.0*
*NEIC **13** 12:36:26.8±2.2, 52°.26N±0°.07×170°.09W±0°.09, h35km±2km, mb4.0/26, ML4.3/22, ML3.9(AEIC), Error ellipse: s-maj=14.4km s-min=3.0km az=141.0*
ISC 13 12:36:26.5±1.2, **52°.3N**±0°.1×**170°.08W**±0°.05, **h51**km±9km, **n143**, σ1§46/136, **mb4.0**/24, **MS3.8**/5, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.53**	**24**		**Pn**	**12 36 37.9**	**-0.3**
CLCO					**Sn**	**12 36 47.4**	**+0.8**
CLES	**Cleveland East**	**0.53**	**12**		**Pn**	**12 36 38.1**	**-0.1**
CLES					**Sn**	**12 36 47.5**	**+0.9**
CLES	**Cleveland East** comp=N,16μm,0.4s	**0.53**	**12**	IAML		12 36 52.0	
CLES				IAML		12 36 52.4	
NIKH	**Nikolski High**	**1.00**	**48**		**Pn**	**12 36 43.4**	**-0.8**
NIKH					**Sn**	**12 36 57.3**	**0.0**
NIKH	**Nikolski High** comp=N,3μm,0.5s	**1.00**	**48**	IAML		12 37 04.0	
NIKH	**Nikolski High**	**1.00**	**48**	P	**Pn**	**12 36 43.5**	**-0.8**
NIKH	**Nikolski High**	**1.00**	**48**	S	**Sn**	**12 36 57.4**	**0.0**
OKSP	**Okmok Steeple**	**1.44**	**48**		**Pn**	**12 36 50.1**	**-0.2**
OKCE	**Okmok Cone E**	**1.62**	**45**		**Pn**	**12 36 53.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.64**	**48**		**Pn**	**12 36 53.4**	**+0.4**
OKNC	**Okmok New Cone**	**1.65**	**45**		**Pn**	**12 36 54.2**	**+1.0**
OKFG	**Magazine Ridge**	**1.72**	**49**		**Pn**	**12 36 54.4**	**+0.4**
MAPS	**Pakushin South**	**2.42**	**50**		**Pn**	**12 37 04.2**	**+0.6**
KOSE	**Korovin Southe**	**2.44**	**273**		**Pn**	**12 37 03.9**	**0.0**
KOSE					**Sn**	**12 37 33.0**	**+0.5**
MGOD	**Makushin Gods**	**2.44**	**51**		**Pn**	**12 37 04.7**	**+0.8**
KOFP	**Korovin Flat P**	**2.47**	**271**		**Pn**	**12 37 03.8**	**-0.5**
KOFP					**Sn**	**12 37 33.4**	**+0.2**
KONE	**Korovin Northe**	**2.48**	**274**		**Pn**	**12 37 03.5**	**-0.9**
KOKV	**Korovin Volcan**	**2.51**	**273**		**Pn**	**12 37 03.9**	**-0.9**
KOKV					**Sn**	**12 37 34.5**	**+0.3**
MREP	**Makushin Rep't**	**2.51**	**52**		**Pn**	**12 37 05.6**	**+0.7**
KOKL	**Mount Kliuchef**	**2.53**	**272**		**Pn**	**12 37 05.0**	**-0.1**
KONW	**Korovin Northw**	**2

KIKV Kanaga Island 4.39 267 Pn 12 37 31.2 +0.5
KIMD Kanaga Island 4.45 266 Pn 12 37 31.4 0.0
FALS False Pass 4.72 55 Pn 12 37 37.0 +1.9
FALS False Pass 4.72 55 P **Pn 12 37 37.0 +1.9**
TAPA Tanaga Point A 4.80 267 Pn 12 37 36.2 0.0
TAFL Tanaga Flats 4.86 267 Pn 12 37 37.1 +0.1
SPIA Saint Paul Isl 4.88 359 Pn **Pn 12 37 39.1 +1.8**
TASE Tanaga Southea 4.93 268 Pn 12 37 38.0 -0.1
DT1 Dutton Round H 5.42 56 Pn 12 37 46.3 +1.7
GAKI Gareloi-Kavalg 5.46 266 Pn 12 37 44.7 -0.5
DOL Dolgoi Island 5.65 56 Pn 12 37 49.6 +1.8
S12K Black Hills 5.83 51 Pn **Pn 12 37 51.8 +1.6**
CEPE Semis' Perret 6.34 271 Pn 12 37 59.4 +2.2
SDPT Sand Point 6.45 58 Pn **Pn 12 37 58.9 +0.2**
SDPT Sand Point 6.45 58 P **Pn 12 38 00.8 +2.0**
AMKA Amchitka 6.65 266 Pn **Pn 12 38 00.5 -1.0**
CNBA Chernabura Isl 6.74 64 Pn **Pn 12 38 03.6 +0.9**
CHNA Chernabura Isl 6.74 64 P **Pn 12 38 05.4 +2.7**
M11K Mekoryuk 8.38 13 Pn 12 38 28.5 +3.4
N14K Kuskokwak Cree 8.96 28 Pn 12 38 36.7 +3.7
SHEM Shemya Is, Ala 9.66 279 LR LR 12 42 11.4
comp=N,90nm,19.8s,baz=318,slow=37
M15K Kasigluk River 9.87 28 Pn 12 38 49.3 +3.8
O16K Kokwok River B 9.91 38 Pn **Pn 12 38 49.5 +3.4**
N17K Nushagak Hills 10.88 36 Pn 12 39 03.1 +3.7
L16K Owhat River 11.04 27 Pn 12 39 04.0 +2.4
KDAK Kodiak Island 11.42 54 Pn **Pn 12 39 04.8 -1.9**
comp=N,0.4nm,0.3s,baz=88,slow=0.9,SNR=17
KDAK Sn **Sn 12 41 06.2 -6.5**
comp=N,0.1nm,0.3s,baz=305,slow=8.0,SNR=1.5
N19K Bonanza Creek 12.08 39 Pn 12 39 17.6 +1.8
L19K White Mountain 12.84 34 Pn 12 39 29.7 +3.5
K20K Telida 13.93 31 Pn **Pn 12 39 43.1 +2.2**
J19K Poorman 13.94 27 Pn **Pn 12 39 42.7 +1.7**
SCM Sheep Creek Mo 15.54 43 Pn 12 40 00.8 -1.3
SCM IAmb IAmb 12 40 10.4
comp=Z,9.9nm,0.6s
RND Reindeer 15.76 37 Pn **Pn 12 40 04.7 -0.1**
DHY Denali Highway 16.13 39 Pn **Pn 12 40 10.2 +0.5**
DHY IAmb IAmb 12 40 29.7
comp=Z,12nm,1.4s
M24K Tolsona, Glenn 16.15 43 Pn **Pn 12 40 09.6 -0.2**
M24K IAmb IAmb 12 40 17.9
comp=Z,34nm,1.4s
BMRM Bremner River 16.38 48 Pn **Pn 12 40 12.5 -0.2**
BMRM IAmb IAmb 12 40 21.3
comp=Z,19nm,1.4s
NEA2 Nenana 16.39 33 Pn **Pn 12 40 13.2 +0.3**
WRH Wood River Hil 16.66 34 Pn **Pn 12 40 15.9 -0.1**
WRH IAmb IAmb 12 40 27.1
comp=Z,11nm,1.4s
I23K Minto, Yukon-K 16.66 31 P **Pn 12 40 16.4 +0.3**
PAX Paxson 16.84 41 Pn **Pn 12 40 18.3 -0.2**
CCB Clear Creek Bu 16.86 34 Pn 12 40 18.5 -0.2
ILAR Eielson Array 17.25 35 Pn 12 40 22.3 -1.2
comp=Z,0.1nm,0.3s,baz=235,slow=12,SNR=12
ILAR PcP **PcP 12 45 04.7 +0.9**
comp=Z,0.3nm,0.5s,baz=264,slow=3.4,SNR=5.7
ILAR LR LR 12 48 03.1
comp=Z,85nm,18.1s,baz=252,slow=41
comp=Z,0.4nm,0.5s
GRNC Granite Creek 17.63 50 Pn **P 12 40 28.5 -0.4**
GRNC IAmb IAmb 12 40 49.4
comp=Z,21nm,1.4s
L26K Log Cabin Wild 17.73 42 Pn **Pn 12 40 29.0 -0.4**
BARN Barnard Glacie 17.77 49 P 12 40 31.0 +0.7
BARN IAmb IAmb 12 40 50.7
comp=Z,14nm,1.3s
TABL Table Mountain 17.85 52 P 12 40 32.0 +0.8
O28M Mount Upton 18.38 51 P **P 12 40 36.8 -0.5**
O28M IAmb IAmb 12 40 44.0
comp=Z,7.6nm,1.0s
PET Petropavlovsk 18.91 285 P **Pn 12 40 42.5 -1.2**
E24K Your Creek 18.93 25 P **Pn 12 40 44.2 +0.2**
E24K IAmb IAmb 12 40 56.5
comp=Z,5.4nm,1.0s
D23K Nanushuk River 19.07 22 P **Pn 12 40 46.3 +0.8**
D23K IAmb IAmb 12 41 11.1
comp=Z,14nm,1.3s
EGAK Eagle 19.36 39 Pn 12 40 48.4 -0.7
EGAK IAmb IAmb 12 40 55.2
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 19.46 285 P **P 12 40 47.9 -0.8**
comp=Z,2.6nm,0.3s,baz=85,slow=12,SNR=74
comp=Z,6.8nm,0.5s
SKAG Skagway 20.57 56 P Pn 12 41 03.1 -0.2
WHY Whitehorse 20.93 53 Pn 12 41 07.3 -0.5
WHY IAmb IAmb 12 41 10.8
comp=Z,12nm,1.0s
H29M Whitestone 21.05 36 P **P 12 41 06.4 +0.5**
SEY Seymchan 22.40 313 LR LR 12 49 52.0
comp=Z,40nm,20.1s,baz=108,slow=36
LYMT Lyon Mountain 36.94 75 P **P 12 43 31.6 +1.0**
H11N2 WAKE ISLAND Hy 37.13 218 T T 13 22 52.7
baz=24,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 37.14 218 T T 13 22 51.6
baz=24,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 37.15 218 T T 13 22 54.1
baz=24,slow=76,SNR=13
HEH HeiHe 38.08 293 *eP* **P 12 43 38.3 -1.6**
HEH pmax pmax
comp=Z,9.0nm,0.8s
NVAR Mina Array Bea 38.10 90 P **P 12 43 43.1 +2.6**
comp=Z,1.0nm,0.8s,baz=292,slow=7.4,SNR=7.3
comp=Z,1.0nm,0.8s
H11S1 WAKE ISLAND Hy 38.32 217 T T 13 24 20.4
baz=22,slow=76,SNR=86
H11S2 WAKE ISLAND Hy 38.34 217 T T 13 24 42.4
baz=22,slow=76,SNR=67
H11S3 WAKE ISLAND Hy 38.34 217 T T 13 24 33.8
baz=22,slow=76,SNR=69
MJAR Matsushiro Arr 39.26 267 P **P 12 43 49.6 -0.4**
comp=Z,1.9nm,0.8s,baz=43,slow=7.1,SNR=3.2
comp=Z,1.9nm,0.8s
BW06 Boulder Array 40.84 79 P **P 12 44 04.7 +1.4**
BW06 IAmb IAmb 12 44 05.6
comp=Z,2.9nm,0.7s
PDAR Pinedale Array 40.84 79 P **P 12 44 04.4 +1.1**
PDAR Pinedale Array 40.84 79 P **P 12 44 05.0 +1.7**
comp=Z,2.2nm,0.7s,baz=306,slow=3.2,SNR=20
comp=Z,2.2nm,0.7s
HILR Hailar Array B 42.73 295 LR LR 13 02 46.2
comp=Z,122nm,19.8s,baz=190,slow=37
O20A White River Ci 43.20 81 P **P 12 44 23.9 +1.4**
KSRS Korea Array 44.98 276 P **P 12 44 36.4 -0.1**
comp=Z,0.8nm,0.5s,baz=45,slow=7.6,SNR=2.1
comp=Z,0.8nm,0.5s
FRB Frobisher Bay 49.28 35 LR LR 13 07 57.8
comp=Z,63nm,19.1s,baz=220,slow=38
SONM Songino Array 50.96 300 P **P 12 45 22.9 +0.2**
SONM IAmb IAmb 12 45 23.5
comp=Z,2.4nm,1.4s
SONM Songino Array 50.96 300 P **P 12 45 22.9 +0.2**
comp=Z,0.7nm,0.4s,baz=64,slow=6.8,SNR=5.1
SONM PcP **PcP 12 46 38.8 +0.4**
comp=Z,0.4nm,0.5s,baz=60,slow=2.0,SNR=4.0
comp=Z,0.7nm,0.4s
TXAR Lajitas Array 53.18 88 P **P 12 45 40.8 +1.3**
comp=Z,1.9nm,0.7s,baz=295,slow=5.2,SNR=23
comp=Z,1.9nm,0.7s
SCHQ Schefferville 55.78 43 P **P 12 45 58.9 +1.0**
comp=Z,7.1nm,0.9s,baz=290,slow=9.2,SNR=5.0
ZALV Zalesovo Beam 57.18 317 P **P 12 46 05.5 -2.2**
comp=Z,0.3nm,0.3s,baz=70,slow=4.4,SNR=1.8
ZALV PcP **PcP 12 47 02.4 +0.6**
comp=Z,0.9nm,0.6s,baz=29,slow=3.3,SNR=5.3
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 57.94 354 P **P 12 46 12.6 -0.3**
comp=Z,2.8nm,1.0s,baz=10,slow=7.4,SNR=7.3
comp=Z,2.8nm,1.0s
KURBB Kurchatov Arra 62.24 318 P **P 12 46 41.6 -1.0**
comp=Z,1.0nm,0.7s,baz=45,slow=6.9,SNR=12
KURBB PcP **PcP 12 47 22.4 +0.3**
comp=Z,0.3nm,0.5s,baz=39,slow=4.2,SNR=4.5
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 63.53 313 P **P 12 46 50.2 -1.1**
comp=Z,0.3nm,0.4s,baz=58,slow=5.6,SNR=5.0
MKAR LR LR 13 17 36.1
comp=Z,271nm,19.1s,baz=224,slow=39
comp=Z,0.3nm,0.4s
FINES FINESS Array B 65.87 352 P **P 12 47 06.3 0.0**
comp=Z,0.9nm,0.4s,baz=6.7,slow=7.1,SNR=8.8
comp=Z,0.9nm,0.4s
NOA NORSAR Array B 67.00 359 P **P 12 47 14.0 +0.5**
comp=Z,0.3nm,0.5s,baz=1.1,slow=6.4,SNR=3.5
comp=Z,0.3nm,0.5s
HFS Hagfors 67.88 358 P **P 12 47 18.8 -0.2**
comp=Z,1.3nm,0.4s,baz=28,slow=3.5,SNR=20
comp=Z,1.3nm,0.4s
EKA Eskdalemuir Ar 72.18 8 P **P 12 47 45.4 0.0**
comp=Z,0.4nm,0.4s,baz=347,slow=7.0,SNR=6.0
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 76.08 347 P **P 12 48 07.8 -0.5**
comp=Z,0.5nm,0.4s,baz=18,slow=6.2,SNR=3.5
comp=Z,0.5nm,0.4s
CMAR Chiang Mai Arr 76.21 282 P **P 12 48 10.2 +0.8**
comp=Z,2.6nm,0.7s,baz=27,slow=6.7,SNR=26
comp=Z,2.6nm,0.7s
JTS Las Juntas de 78.96 87 LR LR 13 24 22.0
comp=Z,157nm,19.9s,baz=135,slow=36
GERES GERESS Array B 79.18 357 P **P 12 48 25.9 +0.2**
comp=Z,0.4nm,0.6s,baz=26,slow=9.5,SNR=4.3
comp=Z,0.4nm,0.6s
KBZ Khabaz 80.20 336 P **P 12 48 31.0 -0.2**
comp=Z,1.3nm,0.7s,baz=67,slow=3.9,SNR=4.4
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 86.62 231 P **P 12 49 03.4 -0.9**
comp=Z,0.3nm,0.7s,baz=28,slow=5.1,SNR=4.9
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 87.60 11 P **P 12 49 09.8 +0.7**
comp=Z,1.1nm,0.8s,baz=344,slow=5.3,SNR=8.1
comp=Z,1.1nm,0.8s
ASAR Alice Springs 90.02 229 P **P 12 49 20.1 -0.3**
comp=Z,1.1nm,0.7s,baz=28,slow=5.0,SNR=17
comp=Z,1.1nm,0.7s
H03N2 Juan Fernandez 116.31 111 T T 15 02 16.0
baz=318,slow=78,SNR=7.7
H03N1 Juan Fernandez 116.32 111 T T 15 02 21.4
baz=318,slow=78,SNR=7.8
H03N3 Juan Fernandez 116.32 111 T T 15 02 37.7
baz=318,slow=78,SNR=6.6

AUST 13 12:44:17.9±2.0, 18°S±17'×12'0E±', h10km, mb3.6/2, ML2.5/6, Error ellipse: s-maj=35.7km s-min=11.2km az=1.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.70**	**131**	P	Pn	12 44 47.6	0.0
CAAN				S	Sn	12 45 09.9	+0.4
MBWA	**Marble Bar**	**3.03**	**188**	P	Pn	12 45 06.1	+0.1
MBWA				S	Sn	12 45 40.6	-1.7
PSAC1	**Pilbara Seismi**	**3.39**	**186**	P	Pn	12 45 11.1	+0.2
PSAC1				S	Sn	12 45 49.4	-1.9
PSA00	**Pilbara Seismi**	**3.43**	**185**	P	Pn	12 45 11.3	-0.2
PSA00				S	Sn	12 45 49.3	-2.9
FITZ	**Fitzroy Crossi**	**5.21**	**90**	S	Sn	12 46 29.2	-7.0
FITZ	**Fitzroy Crossi**	**5.21**	**90**	P	Pn	12 45 25.7	-10
MEEK	**Meekatharra**	**8.58**	**189**	P	Pn	12 46 22.0	-0.2
	comp=Z,0.1nmcomp=Z,9.7nm,1.5s						
WRKA	**Warakurna**	**10.21**	**134**	P	Pn	12 46 44.4	-0.3
	comp=Z,0.0nmcomp=Z,4.1nm,2.4s						

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*IDC **13** 12:48:27.4±1.1, 18°.28S×120°.45E, h0km, mb3.5/4, mbtmp3.9/8, ML4.1/4, Error ellipse: s-maj=25.4km s-min=20.4km az=25.0*
*AUST **13** 12:48:27.2±0.3, 18°S±2°×12°0E±°, h10km, mb4.7/19, ML3.9/10, MwMwp6.0/1, Mwp6.0/1, Error ellipse: s-maj=6.8km s-min=4.0km az=115.6*
*NEIC **13** 12:48:28.1±1.9, 18°.19S±0°.04×120°.35E±0°.07, h10km±1km, mb4.2/9, Error ellipse: s-maj=11.2km s-min=7.1km az=257.0*

ISC 13 12:48:27.1±0.5, 18°21S±0°.04×120°37E±0°.04, h10km, n79, σ2°18/91, mb3.8/6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.51**	**134**	P	**Pg**	**12 48 58.4**	**+2.4**
CAAN				S	**Sg**	**12 49 20.5**	**+4.9**
AUBRM	**Broome Senior**	**1.79**	**82**	P	**Pg**	**12 49 01.6**	**+0.1**
AUBRM				S	**Sg**	**12 49 25.1**	**+0.4**
MBWA	**Marble Bar**	**2.99**	**191**	P	**Pn**	**12 49 17.2**	**+2.5**
MBWA				S	**Sn**	**12 49 51.0**	**+0.4**
MBWA	**Marble Bar**	**2.99**	**191**		**Pn**	**12 49 17.1**	**+2.5**
MBWA				Sn	**Sn**	**12 49 49.7**	**-0.8**
PSAD1	**Pilbara Seismi**	**3.27**	**189**	P	**Pn**	**12 49 20.7**	**+2.3**
PSAC1	**Pilbara Seismi**	**3.34**	**189**	P	**Pn**	**12 49 21.9**	**+2.4**
PSAB2	**Pilbara Seismi**	**3.36**	**188**	P	**Pn**	**12 49 22.1**	**+2.4**
PSAB2				S	**Sn**	**12 50 00.3**	**+0.6**
PSAC2	**Pilbara Seismi**	**3.36**	**187**	P	**Pn**	**12 49 22.0**	**+2.3**
PSAC2				S	**Sn**	**12 50 00.3**	**+0.6**
PSA00	**Pilbara Seismi**	**3.38**	**188**	P	**Pn**	**12 49 22.4**	**+2.4**
PSA00				S	**Sn**	**12 50 00.5**	**+0.4**
PSA00	**Pilbara Seismi**	**3.38**	**188**		**Pn**	**12 49 22.3**	**+2.4**
PSA00	**Pilbara Seismi**	**3.38**	**188**	Sn	**Sn**	**12 49 59.3**	**-0.8**
PSAB3	**Pilbara Seismi**	**3.40**	**188**	P	**Pn**	**12 49 22.5**	**+2.3**
PSAB3				S	**Sn**	**12 50 00.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**5.01**	**90**	P	**Pn**	**12 49 43.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**5.01**	**90**	S	**Sn**	**12 50 39.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**5.01**	**90**		**Pn**	**12 49 43.7**	**+1.3**
FITZ				Sn	**Sn**	**12 50 38.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**5.01**	**90**	Pn	**Pn**	**12 49 44.0**	**+1.6**
	4.5nm,0.3s,baz=283,slow=9.2,SNR=57						
FITZ				Sn	**Sn**	**12 50 39.7**	**-0.8**
	13nm,0.3s,baz=47,slow=18,SNR=5.4						
FITZ				Lg	Lg	12 51 08.7	
	10nm,0.3s,baz=225,slow=20,SNR=1.5						
	28nm,0.6s						
GIRL	**Giralia**	**7.25**	**232**	P	**Pn**	**12 50 14.7**	**+1.6**
	comp=Z,0.2nmcomp=Z,55nm,0.5s						
GIRL				S	**Sn**	**12 51 32.2**	**-3.3**
GIRL	**Giralia**	**7.25**	**232**	Pn	**Pn**	**12 50 14.5**	**+1.4**
KNRA	**Kununurra**	**8.42**	**74**	P	**Pn**	**12 50 29.9**	**+0.7**
	comp=Z,0.2nmcomp=Z,39nm,0.6s						
KNRA	**Kununurra**	**8.42**	**74**		**Pn**	**12 50 30.0**	**+0.7**
KNRA				Sn	**Sn**	**12 51 59.8**	**-4.6**
CVQOZ	**Cooralya Stati**	**8.53**	**222**	P	**Pn**	**12 50 30.9**	**+0.1**
	comp=Z,1.1nmcomp=Z,348nm,0.8s						
MEEK	**Meekatharra**	**8.54**	**191**	P	**Pn**	**12 50 32.2**	**+1.3**
	comp=Z,0.4nmcomp=Z,41nm,0.5s						
MEEK	**Meekatharra**	**8.54**	**191**	S	**Sn**	**12 52 02.2**	**-5.2**
BATI	**Baumata**	**8.58**	**22**	Pn	**Pn**	**12 50 34.1**	**+2.7**
	comp=Z,2.3nm,0.3s,baz=198,slow=6.4,SNR=1.8						
BATI				Sn	**Sn**	**12 52 05.7**	**-2.6**
	comp=Z,2.9nm,0.3s,baz=131,slow=17,SNR=5.6						
	comp=Z,12nm,0.5s						
SOEI	**Soe**	**9.22**	**25**	Pn	**Pn**	**12 50 42.3**	**+2.0**
EDFI	**Ende, Flores**	**9.49**	**8**	P	**Pn**	**12 50 42.7**	**-1.4**
PLAI	**Plampang**	**9.66**	**345**	P	**Pn**	**12 50 46.4**	**+0.1**
	comp=Z,0.1nmcomp=Z,16nm,0.5s						
MMRI	**Mamere**	**9.69**	**11**	Pn	**Pn**	**12 50 46.4**	**-0.3**
TWSI	**Taliwang, Sumb**	**10.01**	**340**	P	**Pn**	**12 50 50.9**	**-0.1**
	comp=Z,0.1nmcomp=Z,33nm,0.7s						
WRKA	**Warakurna**	**10.02**	**134**	P	**Pn**	**12 50 52.4**	**+1.2**
	comp=Z,0.0nmcomp=Z,7.8nm,0.5s						
JAGI	**Jajag, Banyuwa**	**11.41**	**327**	Pn	**Pn**	**12 51 09.7**	**-0.6**
MORW	**Morawa**	**11.51**	**199**	P	**Pn**	**12 51 10.5**	**-1.1**
	comp=Z,16nm,0.5s						
MORW	**Morawa**	**11.51**	**199**		**Pn**	**12 51 10.5**	**-1.1**
MTN	**Manton Dam**	**11.66**	**64**	P	**Pn**	**12 51 13.5**	**-0.2**
	comp=Z,64nm,0.4s						
MTN	**Manton Dam**	**11.66**	**64**		**Pn**	**12 51 13.8**	**0.0**
DRS	**Darwin Rock St**	**11.67**	**62**	P	**Pn**	**12 51 14.4**	**+0.6**
	comp=Z,28nm,0.8s						
BLDU	**Ballidu**	**12.79**	**194**	P	**Pn**	**12 51 28.3**	**-0.7**
	comp=Z,24nm,1.1s						
KMBL	**Kambalda**	**13.17**	**174**	P	**Pn**	**12 51 33.1**	**-1.1**
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**13.32**	**100**		**Pn**	**12 51 35.5**	**-0.9**
WRA	**Warramunga Arr**	**13.32**	**100**	Pn	**Pn**	**12 51 35.1**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=277,slow=14,SNR=33						
WRA				Sn	Sn	12 53 52.6	-12
	comp=Z,3.2nm,0.3s,baz=278,slow=24,SNR=8.6						
WRA				Lg	Lg	12 55 25.6	
	baz=276,slow=33						
	comp=Z,2.7nm,0.4s						
WRAB	**Tennant Creek**	**13.33**	**100**	P	**Pn**	**12 51 35.9**	**-0.6**
	comp=Z,13nm,0.6s						
WRAB	**Tennant Creek**	**13.33**	**100**		**Pn**	**12 51 35.8**	**-0.6**
WB2	**Warramunga Arr**	**13.33**	**100**	P	**Pn**	**12 51 36.3**	**-0.2**
AS31	**Alice Springs**	**13.76**	**116**	P	**Pn**	**12 51 41.9**	**-0.5**
	comp=Z,6.3nm,0.6s						
AS31	**Alice Springs**	**13.76**	**116**	Pn	**Pn**	**12 51 41.4**	**-1.0**
ASAR	**Alice Springs**	**13.76**	**116**		**Pn**	**12 51 42.0**	**-0.4**
ASAR	**Alice Springs**	**13.76**	**116**	Pn	**Pn**	**12 51 40.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=293,slow=12,SNR=28						
ASAR				Sn	**Sn**	**12 54 08.3**	**-7.0**
	comp=Z,2.7nm,0.3s,baz=304,slow=24,SNR=16						
ASAR				Lg	Lg	12 55 44.7	
	baz=275,slow=23						
	comp=Z,1.4nm,0.3s						
UGM	**Wanagama**	**14.02**	**316**	Pn	**Pn**	**12 51 42.8**	**-3.2**
MUN	**Mundaring**	**14.21**	**195**	P	**Pn**	**12 51 47.3**	**-1.2**
	comp=Z,27nm,1.7s						
FORT	**Forrest**	**14.33**	**152**	P	**Pn**	**12 51 48.5**	**-1.6**
	comp=Z,20nm,0.6s						
FORT	**Forrest**	**14.33**	**152**		**Pn**	**12 51 46.5**	**-3.6**
DNDOZ	**Balladonia**	**14.53**	**168**	P	**Pn**	**12 51 51.2**	**-1.7**
	comp=Z,0.0nmcomp=Z,146nm,0.5s						
NWAO	**Narrogin (SRO)**	**14.92**	**190**		**Pn**	**12 51 55.9**	**-2.3**
NWAO	**Narrogin (SRO)**	**14.92**	**190**	Pn	**Pn**	**12 51 55.8**	**-2.4**
	comp=Z,4.3nm,0.3s,baz=6.5,slow=12,SNR=30						
NWAO				Sn	Sn	12 54 30.0	-14
	comp=Z,10nm,0.3s,baz=222,slow=3.2,SNR=8.3						
NWAO				Lg	Lg	12 56 12.4	
	comp=Z,1.0nm,0.3s,baz=103,slow=23,SNR=3.7						
RKGY	**Rocky Gully**	**16.61**	**190**	P	**Pn**	**12 52 19.4**	**-0.7**
	comp=Z,80nm,2.5s						
OOD	**Oodnadatta**	**17.01**	**127**	P	**Pn**	**12 52 23.8**	**-1.4**
	comp=Z,8.8nm,0.7s						
H01W3	**Cape Leeuwin H**	**17.51**	**197**	P	**Pn**	**12 52 31.6**	**+0.5**
	baz=24,slow=12,SNR=5.3						
H01W3				S	Sn	12 55 34.6	-11
H01W1	**Cape Leeuwin H**	**17.51**	**197**	P	**P**	**12 52 32.5**	**+0.2**
	baz=24,slow=12,SNR=4.4						
H01W1				S	Sn	12 55 34.6	-11
H01W2	**Cape Leeuwin H**	**17.52**	**197**	P	**P**	**12 52 32.8**	**+0.4**
	baz=24,slow=12,SNR=4.7						
H01W2				S	**Sn**	**12 55 36.9**	**-9.4**
	SNR=3.2						
FAKI	**Fak Fak**	**19.15**	**39**	P	**P**	**12 52 50.6**	**-0.1**
BBOO	**Buckleboo**	**20.25**	**139**	P	Pn	12 53 04.5	-0.1
BBOO				IAmb	IAmb	12 53 12.3	
	comp=Z,14nm,0.8s						
INKA	**Innaminka**	**21.00**	**121**	P	**P**	**12 53 12.0**	**+1.3**
INKA				IAmb	IAmb	12 53 32.7	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**22.31**	**82**	P	**P**	**12 53 29.1**	**+4.1**
COEN				IAmb	IAmb	12 53 55.5	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**23.50**	**129**		**P**	**12 53 38.3**	**+1.0**
STKA	**Stephens Creek**	**23.50**	**129**	P	**P**	**12 53 39.1**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=0.5,slow=11,SNR=2.9						
STKA				S	**S**	**12 57 50.0**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=128,slow=19,SNR=4.0						
	comp=Z,1.4nm,0.7s						
CTAO	**Charters Tower**	**24.52**	**99**	P	**P**	**12 53 47.8**	**+0.8**
CTAO				IAmb	IAmb	12 54 03.9	
	comp=Z,7.6nm,1.3s						
H08S2	**Diego Garcia H**	**47.70**	**276**	T	T	13 47 19.3	
	baz=107,slow=76						
H08S3	**Diego Garcia H**	**47.71**	**276**	T	T	13 47 22.5	
	baz=107,slow=76						
H08S1	**Diego Carcia H**	**47.72**	**276**	T	T	13 47 24.9	
	baz=107,slow=76						
WHZ	**Wether Hill Ro**	**47.92**	**136**	P	**P**	**12 57 06.3**	**+0.7**
THZ	**Tophouse**	**50.31**	**129**	P	**P**	**12 57 24.4**	**+0.3**
AMCZ	**Amberley**	**50.42**	**131**	P	**P**	**12 57 26.1**	**+1.2**
VNDA	**Vanda**	**62.73**	**171**	P	**P**	**12 58 52.9**	**+0.9**
VNDA	**Vanda**	**62.73**	**171**		**P**	**12 58 53.5**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=294,slow=12,SNR=2.4						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**12 59 51.8**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=330,slow=3.4,SNR=2.6						
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**73.24**	**334**	P	**P**	**12 59 59.2**	**+0.8**
MKAR	**Makanchi Array**	**73.24**	**334**	P	**P**	**13 00 00.9**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=136,slow=7.4,SNR=6.4						
	comp=Z,0.1nm,0.5s						
LPAZ	**La Paz**	**144.71**	**166**	PKPdf	**PKPab**	**13 08 03.5**	**-1.0**
LPAZ	**La Paz**	**144.71**	**166**	PKP	**PKPdf**	**13 08 06.7**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=178,slow=3.6,SNR=6.5						

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*OSPL **13** 13:07:22.1±2.9, 19°.68N×69°.79W, h5km±13km, ML2.4*
*SDD **13** 13:07:24.2±2.3, 19°.61N×69°.97W, h15km±12km, MD2.7, ML2.6, MW2.8*

ISC 13 13:07:23.7±1.0, 19°59N±0°.05×69°89W±0°.04, h16km±6km, n16, σ1°9°00/30, 8C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	**Cabrera**	**0.09**	**329**	⇑*e*P*g*	**Pg**	**13 07 26.5**	**-0.5**
CADR				⇓*e*S*g*	**Sg**	**13 07 29.4**	**+0.2**
CADR				IAML		13 07 29.8	
	comp=N,5μm,0.2s						
LONA1	**Toro Cenizo, N**	**0.21**	**173**	*i* P	**Pb**	**13 07 29.4**	**+0.2**
LONA1				*e*S	**Sb**	**13 07 33.7**	**+0.9**
LONA1				IAML		13 07 33.9	
	comp=Z,1μm,0.4s						
NADR	**Nagua**	**0.24**	**172**	⇑*e*P*g*	**Pg**	**13 07 28.8**	**-0.2**
NADR				⇑*e*S*g*	**Sg**	**13 07 33.6**	**+1.0**
NADR				IAML		13 07 34.7	
	comp=N,1μm,0.2s						
DR08	**Loma La Naviza**	**0.64**	**191**	⇑*e*P*g*	**Pg**	**13 07 35.1**	**-1.1**
DR08				⇓*e*S*g*	**Sg**	**13 07 44.6**	**-0.1**
DR08				IAML		13 07 46.3	
	comp=N,5μm,0.2s						
SMDR	**Samana, DR**	**0.73**	**114**	⇑*e*S*g*	**Sn**	**13 07 51.1**	**+0.9**
SMDR				IAML		13 07 54.9	
	comp=N,107nm,0.4s						
SC01	**Santiago de lo**	**0.81**	**259**	*i* P	**Pg**	**13 07 38.7**	**-0.7**
SC01				*e*S	**Sg**	**13 07 50.2**	**+0.2**
SC01				IAML		13 08 00.7	
	comp=Z,103nm,0.3s						
HATOM	**Hato Mayor del**	**0.93**	**149**	⇑*e*P*g*	**Pg**	**13 07 40.2**	**-1.6**
HATOM				⇑*e*S*g*	**Sg**	**13 07 54.1**	**+0.1**
HATOM				IAML		13 07 54.8	
	comp=N,77nm,0.2s						
MIDR	**Miches**	**1.00**	**127**	*e*P*g*	**Pg**	**13 07 42.3**	**-0.8**
MIDR				⇑*e*S*g*	**Sn**	**13 07 57.4**	**+0.6**
MIDR				IAML		13 07 58.5	
	comp=N,57nm,0.1s						
MIDR				IAML		13 07 58.6	
	comp=N,35nm,0.6s						
SDD	**Santo Domingo**	**1.12**	**181**	*i* P	**Pb**	**13 07 43.7**	**-1.1**
SDD				*e*S	**Sb**	**13 07 59.7**	**+0.5**
LOPP1	**Punta Rusia, P**	**1.26**	**282**	*i* P	**Pn**	**13 07 46.2**	**-0.5**
LOPP1				*e*S	**Sn**	**13 08 04.2**	**+0.8**
LOPP1				IAML		13 08 11.8	
	comp=Z,58nm,0.5s						
BANI	**BANI**	**1.27**	**200**	*e*P*g*	**Pn**	**13 07 46.0**	**-1.0**
BANI

ZSN	**Zaisan**	**2.69**	**54**	*eP*		**Pg**	**13 10 29.1**	**-0.1**
	1.8nm,0.1s							
ZSN				*eS*		**Sg**	**13 11 04.4**	**+0.3**
	7.0nm,0.5s							
PDGK	**Podgornoye**	**3.01**	**211**	⇑Pn		**Pb**	**13 10 30.5**	**-1.0**
	3.3nm,0.7s							
PDGK				⇑Sn		**Sb**	**13 11 08.3**	**-0.1**
	11nm,0.5s							
SHLS	**Shalkode**	**3.17**	**210**	Pg		**Pb**	**13 10 31.8**	**-2.4**
	7.9nm,0.3s							
SHLS				Lg		Lg	13 11 09.0	
	25nm,0.7s							
SHLS	**Shalkode**	**3.17**	**210**	*eP*		**Pb**	**13 10 31.8**	**-2.4**
	7.9nm,0.3s							
SHLS				*eS*		**Sn**	**13 11 09.0**	**+3.1**
	25nm,0.7s							
ARXS	**Arharly**	**3.20**	**239**	Lg		Lg	13 11 13.6	
	10nm,0.5s							
ARXS	**Arharly**	**3.20**	**239**	*eP*		**Pb**	**13 10 34.5**	**-0.1**
ARXS				*eS*		**Sb**	**13 11 13.6**	**-0.1**
KPKS	**Kokpek**	**3.24**	**222**	Lg		Lg	13 11 14.6	
	32nm,0.5s							
UZB	**Uzynbulak**	**3.35**	**215**	Lg		Lg	13 11 18.3	
	9.4nm,0.3s							
UZB	**Uzynbulak**	**3.35**	**215**	*eP*		**Pb**	**13 10 37.1**	**-0.1**
	2.4nm,0.2s							
UZB				*eS*		**Sb**	**13 11 18.3**	**+0.2**
	9.4nm,0.3s							
SATY	**Saty**	**3.68**	**220**	Lg		Lg	13 11 28.8	
	17nm,0.3s							

*NEIC **13** 13:23:56.6±0.8, 20°.9S±0°.1×177°.8W±0°.2, h541km±12km, mb4.2/14, Error ellipse: s-maj=23.8km s-min=18.7km az=122.0*
*IDC **13** 13:23:59.3±6.9, 20°.92S×177°.88W, h569km±78km, mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=38.0km s-min=27.5km az=76.0*
ISC 13 13:23:57.1±0.8, **20°.8S**±0°.1×**177°.9W**±0°.1, **h550**km, **n29**, σ**0**:**94**/28, **mb4.0**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.93**	**308**	P	**P**	**13 25 24.8**	**-1.8**
AFI	**Afiamalu**	**8.99**	**41**	P	**P**	**13 26 03.9**	**-1.1**
FUNA	**Funafuti**	**12.54**	**346**	P	**P**	**13 26 41.4**	**0.0**
DZM	**Mont Dzumac**	**14.66**	**262**	P	**P**	**13 27 04.0**	**+0.7**
URZ	**Urewera**	**17.92**	**193**	P	**P**	**13 27 35.1**	**+1.0**
	15nm,1.1s,baz=342,slow=13,SNR=1.5						
QRZ	**Quartz Range**	**21.56**	**200**	P	**P**	**13 28 06.0**	**-1.1**
FOZ	**Fox Glacier**	**24.88**	**202**	P	**P**	**13 28 36.9**	**+0.3**
STKA	**Stephens Creek**	**37.77**	**245**	P	**P**	**13 30 25.7**	**-1.0**
WR8	**Warramunga Arr**	**44.53**	**262**	P	**P**	**13 31 20.1**	**-0.4**
AS31	**Alice Springs**	**44.57**	**257**	P	**P**	**13 31 21.4**	**+0.6**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**13 31 21.3**	**+0.5**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**13 31 21.4**	**+0.6**
	1.1nm,0.7s,baz=96,slow=7.8,SNR=28						
ASAR				PcP	**PcP**	**13 32 53.8**	**+1.9**
	0.2nm,0.6s,baz=96,slow=3.6,SNR=1.7						
	1.1nm,0.7s						
WB0	**Warramunga Arr**	**44.66**	**263**	P	**P**	**13 31 21.1**	**-0.4**
WB0				IAmb	IAmb	13 31 53.7	
	comp=Z,6.1nm,1.2s						
WRAB	**Tennant Creek**	**44.67**	**262**	P	**P**	**13 31 21.4**	**-0.2**
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**13 31 21.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.4,SNR=24						
	comp=Z,0.6nm,0.5s						
MTN	**Manton Dam**	**49.29**	**271**	P	**P**	**13 31 56.2**	**-0.2**
MTN				IAmb	IAmb	13 32 33.0	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**50.77**	**266**	P	**P**	**13 32 07.3**	**+0.1**
KNRA				IAmb	IAmb	13 32 07.5	
	comp=Z,17nm,1.4s						
SOEI	**Soe**	**56.64**	**272**	P	**P**	**13 32 48.6**	**-0.3**
SOEI				IAmb	IAmb	13 32 54.8	
	comp=Z,12nm,0.9s						
PETK	**Petropavlovsk-**	**76.61**	**345**	P	**P**	**13 34 51.8**	**+0.7**
PETK	**Petropavlovsk-**	**76.61**	**345**	P	**P**	**13 34 52.2**	**+1.1**
	comp=Z,2.8nm,1.0s,baz=123,slow=6.8,SNR=5.8						
	comp=Z,2.8nm,1.0s						
RND	**Reindeer**	**86.97**	**13**	P	**P**	**13 35 45.2**	**+1.4**
RND				IAmb	IAmb	13 36 05.8	
	comp=Z,4.3nm,1.3s						
SNAA	**Sanae**	**87.69**	**178**	P	**P**	**13 35 46.4**	**-0.8**
SNAA				IAmb	IAmb	13 35 51.6	
	comp=Z,4.4nm,0.9s						
SNAA	**Sanae**	**87.69**	**178**	P	**P**	**13 35 46.3**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=185,slow=18,SNR=9.0						
	comp=Z,1.8nm,0.7s						
CCB	**Clear Creek Bu**	**88.29**	**12**	P	**P**	**13 35 50.7**	**+0.9**
CCB				IAmb	IAmb	13 35 51.3	
	comp=Z,1.3nm,0.5s						
IMAR	**Indian Mountai**	**88.44**	**10**	P	**P**	**13 35 51.4**	**+1.0**
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**13 35 52.4**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=219,slow=5.5,SNR=6.5						
	comp=Z,0.2nm,0.5s						
H23K	**Yukon River**	**89.01**	**11**	P	**P**	**13 35 53.9**	**+0.8**
H23K				IAmb	IAmb	13 36 19.1	
	comp=Z,4.4nm,1.4s						
HFS	**Hagfors**	**139.87**	**351**	PKhKP	PKPpre	13 42 17.6	
	comp=Z,2.9nm,1.1s,baz=62,slow=3.4,SNR=4.4						
AKASG	**Malin Array Be**	**143.35**	**331**	PKP	PKPbc	13 42 27.7	+0.2
	comp=Z,1.0nm,0.5s,baz=44,slow=4.1,SNR=6.2						

*CNRM **13** 13:28:42.0, 36°.35N×7°.75W, h21km, ML3.2*
*MDD **13** 13:28:45.4±0.5, 36°.55N×7°.62W, h4km±3km, mb_Lg2.9/16, Error ellipse: s-maj=3.7km s-min=2.8km az=33.0*
*INMG **13** 13:28:46.9±1.3, 36°.52N×7°.69W, h16km±3km, ML2.2, Error ellipse: s-maj=3.2km s-min=2.5km az=36.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
*IGIL **13** 13:28:46.4, 36°.55N×7°.64W, h13km, ML1.9*
*SFS **13** 13:28:47.8, 36°.70N×7°.54W, h7km, ML2.6/12, ML2.4/14, MLv2.3/14*
ISC 13 13:28:44.4±5.6, **36°.42N**±0°.04×**7°.70W**±0°.03, **h36**km±9km, **n78**, σ**1**:**73**/126, **2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.84**	**347**	Pg	**Pn**	**13 29 00.9**	**+1.1**
PBDV				Sg	**Sn**	**13 29 08.2**	**-2.8**
PBDV	**Barranco-do-Ve**	**0.84**	**347**	⇓*eP*	**Pn**	**13 29 00.8**	**+1.1**
PBDV				*eS*	**Sn**	**13 29 10.8**	**-0.2**
PBDV				*i* IAML		13 29 13.3	
PBDV				*i* IAML		13 29 13.6	
PBDV				*i* IAML		13 29 13.8	
PVAQ	**Vaqueiros**	**0.98**	**359**	⇓*iP*	**Pn**	**13 29 02.7**	**+1.1**
PVAQ				*eS*	**Sn**	**13 29 13.7**	**-0.6**
PVAQ				*i* IAML		13 29 14.8	
PVAQ				*i* IAML		13 29 14.8	
PVAQ				*i* IAML		13 29 15.1	
PVAQ	**Vaqueiros**	**0.98**	**359**	P	**Pn**	**13 29 01.3**	**-0.4**
PVAQ	**Vaqueiros**	**0.98**	**359**	S	**Sn**	**13 29 14.6**	**+0.3**
EGRO	**El Granado**	**1.12**	**9**	Pg	**Pn**	**13 29 04.9**	**+1.2**
EGRO				Sg	**Sn**	**13 29 14.1**	**-3.7**
EGRO	**El Granado**	**1.12**	**9**	Pg	**Pn**	**13 29 04.8**	**+1.2**
EGRO				Sg	**Sn**	**13 29 17.4**	**-0.4**
EGRO				*i* IVmb_Lg		13 29 18.3	
PFVI	**Vila Bisbo**	**1.15**	**309**	Pg	**Pn**	**13 29 05.4**	**+1.5**
PFVI	**Vila Bisbo**	**1.15**	**309**	*eP*	**Pn**	**13 29 05.6**	**+1.6**
PFVI				*i* IAML		13 29 24.2	
PFVI				*i* IAML		13 29 29.3	
PFVI				*i* IAML		13 29 29.4	
PFVI	**Vila Bisbo**	**1.15**	**309**	P	**Pn**	**13 29 03.6**	**-0.3**
PFVI	**Vila Bisbo**	**1.15**	**309**	S	**Sn**	**13 29 20.2**	**+1.7**
MORF	**Marmelete**	**1.17**	**319**	*eP*	**Pn**	**13 29 05.6**	**+1.4**
MORF	**Marmelete**	**1.17**	**319**	*eP*	**Pn**	**13 29 05.7**	**+1.4**
MORF				*i* IAML		13 29 27.7	
MORF				*i* IAML		13 29 28.0	
MORF				*i* IAML		13 29 28.4	
PCVE	**Castro Verde**	**1.24**	**348**	Pg	**Pn**	**13 29 06.6**	**+1.5**
PCVE				Sg	**Sn**	**13 29 19.9**	**-0.8**
PCVE	**Castro Verde**	**1.24**	**348**	*eP*	**Pn**	**13 29 06.6**	**+1.5**
PCVE				*eS*	**Sn**	**13 29 20.5**	**-0.1**
PCVE				*i* IAML		13 29 21.1	
PCVE				*i* IAML		13 29 21.3	
PCVE				*i* IAML		13 29 21.5	
PTEO	**Sao Teotonio**	**1.39**	**324**	*eP*	**Pn**	**13 29 09.0**	**+1.7**
PTEO				*eS*	**Sn**	**13 29 25.4**	**+1.0**
PTEO				*i* IAML		13 29 26.6	
PTEO				*i* IAML		13 29 27.0	
PTEO				*i* IAML		13 29 31.2	
MESJ	**Messejana**	**1.48**	**344**	*eP*	**Pn**	**13 29 09.7**	**+1.2**
MESJ				*eS*	**Sn**	**13 29 26.1**	**-0.4**
MESJ				IAML		13 29 27.4	
	comp=N,16nm,0.1s						
MESJ	**Messejana**	**1.48**	**344**	*eP*	**Pn**	**13 29 09.9**	**+1.4**
MESJ				*eS*	**Sn**	**13 29 26.2**	**-0.3**
MESJ				*i* IAML		13 29 27.2	
MESJ				*i* IAML		13 29 28.5	
MESJ				*i* IAML		13 29 29.0	
ESPR	**Espera**	**1.55**	**73**	Pn	**Pn**	**13 29 11.9**	**+2.5**
ESPR				Sn	**Sn**	**13 29 29.6**	**+1.4**
ESPR	**Espera**	**1.55**	**73**	Pg	**Pn**	**13 29 11.8**	**+2.4**
ESPR				Sg	**Sn**	**13 29 30.1**	**+1.8**
ESPR				*i* IVmb_Lg		13 29 32.7	
EMIN	**Mina Concepcio**	**1.58**	**31**	Pn	**Pn**	**13 29 10.9**	**+1.1**
EMIN				Sg	**Sn**	**13 29 27.6**	**-1.4**
EMIN	**Mina Concepcio**	**1.58**	**31**	Pg	**Pn**	**13 29 10.7**	**+0.9**
EMIN				Sg	**Sn**	**13 29 29.9**	**+1.0**
PBEJ	**Beja**	**1.61**	**355**	*eP*	**Pn**	**13 29 12.7**	**+2.4**
PBEJ				*eS*	**Sn**	**13 29 29.7**	**-0.1**
PBEJ				*i* IAML		13 29 30.2	
PBEJ				*i* IAML		13 29 32.1	
PBEJ				*i* IAML		13 29 32.4	
PBAR	**Barrancos**	**1.83**	**17**	Pn	**Pn**	**13 29 14.6**	**+1.3**
PBAR	**Barrancos**	**1.83**	**17**	*eP*	**Pn**	**13 29 14.6**	**+1.3**
PBAR				*eS*	**Sn**	**13 29 35.4**	**+0.2**
PBAR				*i* IAML		13 29 41.7	
PBAR				*i* IAML		13 29 43.0	
PBAR				*i* IAML		13 29 44.9	
E1302	**La Puebla de C**	**2.10**	**69**	Pn	**Pn**	**13 29 20.0**	**+3.0**
E1302				Sn	**Sn**	**13 29 43.6**	**+1.7**
E1302				*i* IVmb_Lg		13 29 46.2	
EVO	**Evora**	**2.12**	**353**	Pn	**Pn**	**13 29 19.1**	**+1.8**
EVO				Sn	**Sn**	**13 29 41.7**	**-0.8**
EVO	**Evora**	**2.12**	**353**	*eP*	**Pn**	**13 29 19.6**	**+2.3**
EVO				*eS*	**Sn**	**13 29 42.1**	**-0.3**
EVO				*i* IAML		13 29 43.4	
EVO				*i* IAML		13 29 44.6	
EVO				*i* IAML		13 29 44.7	
EBAD	**Badajoz**	**2.39**	**13**	Pn	**Pn**	**13 29 22.1**	**+1.0**
EBAD				Sn	**Sn**	**13 29 46.9**	**-2.2**
EBAD	**Badajoz**	**2.39**	**13**	Pn	**Pn**	**13 29 21.9**	**+0.8**
EBAD				Sn	**Sn**	**13 29 49.3**	**+0.1**
EBAD				*i* IVmb_Lg		13 29 50.2	
PESTR	**Estremoz**	**2.44**	**2**	Pn	**Pn**	**13 29 23.0**	**+1.2**
PESTR				Sn	**Sn**	**13 29 49.8**	**-0.6**
PESTR	**Estremoz**	**2.44**	**2**	*eP*	**Pn**	**13 29 22.9**	**+1.1**
PESTR				*eS*	**Sn**	**13 29 50.0**	**-0.4**
PESTR				*i* IAML		13 29 50.4	
PESTR				*i* IAML		13 29 50.6	
PESTR				*i* IAML		13 29 52.4	
PESTR	**Estremoz**	**2.44**	**2**	P	**Pn**	**13 29 22.2**	**+0.5**
PESTR	**Estremoz**	**2.44**	**2**	S	**Sn**	**13 29 52.1**	**+1.7**
ECAB	**El Cabril**	**2.46**	**47**	Pn	**Pn**	**13 29 23.8**	**+1.8**
ECAB				Sn	**Sn**	**13 29 48.4**	**-2.4**
ECAB	**El Cabril**	**2.46**	**47**	Pn	**Pn**	**13 29 23.7**	**+1.8**
ECAB				Sn	**Sn**	**13 29 50.9**	**+0.1**
PARRA	**Arraiolos**	**2.62**	**336**	*eP*	**Pn**	**13 29 22.8**	**-1.3**
PARRA				*eS*	**Sn**	**13 29 49.3**	**-5.4**
PARRA				*i* IAML		13 29 50.9	
PARRA				*i* IAML		13 29 51.0	
PARRA				*i* IAML		13 29 51.5	
PMTG	**Montargil**	**2.68**	**351**	*eP*	**Pn**	**13 29 26.5**	**+1.6**
PMTG				*eS*	**Sn**	**13 29 55.8**	**-0.3**
PMTG				*i* IAML		13 29 56.6	
PMTG				*i* IAML		13 29 58.1	
PMTG				*i* IAML		13 29 58.2	
PMAFR	**Mafra**	**2.82**	**334**	*eP*	**Pn**	**13 29 29.3**	**+2.3**
PMAFR				*eS*	**Sn**	**13 29 59.8**	**0.0**
PMAFR				*i* IAML		13 30 00.8	
PMAFR				*i* IAML		13 30 00.8	
PMAFR				*i* IAML		13 30 00.9	
PMRV	**Marv??o**	**3.01**	**5**	*eP*	**Pn**	**13 29 30.8**	**+1.2**
PMRV				*eS*	**Sn**	**13 30 03.5**	**-1.0**
PMRV				*i* IAML		13 30 04.3	
PMRV				*i* IAML		13 30 04.4	
PMRV				*i* IAML		13 30 05.0	
EADA	**Adamuz**	**3.04**	**54**	Pn	**Pn**	**13 29 31.9**	**+1.9**
EADA				Sn	**Sn**	**13 30 03.6**	**-1.6**
EADA	**Adamuz**	**3.04**	**54**	Pn	**Pn**	**13 29 31.9**	**+1.9**
EADA				Sn	**Sn**	**13 30 04.5**	**-0.6**
EADA				*i* IVmb_Lg		13 30 11.4	
PSARD	**Sardoal**	**3.19**	**354**	*eP*	**Pn**	**13 29 33.6**	**+1.5**
PSARD				*eS*	**Sn**	**13 30 08.3**	**-0.6**
PSARD				*i* IAML		13 30 09.1	
PSARD				*i* IAML		13 30 09.4	
PSARD				*i* IAML		13 30 10.2	
PSBE	**So Bento**	**3.21**	**345**	*eP*	**Pn**	**13 29 33.3**	**+1.1**
PSBE				*eS*	**Sn**	**13 30 09.1**	**-0.1**
PCBR	**Castelo Branco**	**3.42**	**3**	*eP*	**Pn**	**13 29 36.4**	**+1.3**
PCBR				*eS*	**Sn**	**13 30 13.4**	**-1.0**
PCBR				*i* IAML		13 30 14.4	
PCBR				*i* IAML		13 30 14.4	
PCBR				*i* IAML		13 30 14.5	
AKLM	**AKL**	**3.67**	**120**	P	**Pn**	**13 29 35.9**	**-2.8**
AKLM	**AKL**	**3.67**	**120**	S	**Sn**	**13 30 18.3**	**-2.4**
PCAS	**Casmilo, Conde**	**3.68**	**350**	*eS*	**Sn**	**13 30 19.8**	**-1.1**
PCAS				*i* IAML		13 30 20.9	
PCAS				*i* IAML		13 30 22.1	
PCAS				*i* IAML		13 30 22.4	
PSIM	**Granatula de C**	**3.94**	**51**	Pn	**Pn**	**13 29 43.9**	**+1.5**
PSIM				Sn	**Sn**	**13 30 27.3**	**-0.1**
SRHM	**Skhour des Reh**	**3.94**	**182**	P	**Pn**	**13 29 44.1**	**+1.6**
SRHM	**Skhour des Reh**	**3.94**	**182**	S	**Sn**	**13 30 30.1**	**+2.7**
EQES	**Quesada**	**3.95**	**68**	Pn	**Pn**	**13 29 43.9**	**+1.3**
EQES				Sn	**Sn**	**13 30 29.6**	**+1.9**
EQES				*i* IVmb_Lg		13 32 32.9	
MTE	**Manteigas**	**3.98**	**2**	*eP*	**Pn**	**13 29 44.0**	**+1.1**
MTE				*eS*	**Sn**	**13 30 26.7**	**-1.6**
MTE				*i* IAML		13 30 27.9	
MTE				*i* IAML		13 30 28.7	
MTE				*i* IAML		13 30 28.8	
PAB	**San Pablo**	**4.09**	**39**	Pn	**Pn**	**13 29 46.0**	**+1.5**
PAB				Sn	**Sn**	**13 30 27.3**	**-3.9**
PAB				*i* IVmb_Lg		13 30 27.5	
PVIS	**Viseu**	**4.29**	**358**	*eP*	**Pn**	**13 29 48.6**	**+1.5**
MD31	**MD31**	**4.29**	**145**	P	**Pn**	**13 29 46.3**	**-1.0**
MD31	**MD31**	**4.29**	**145**	S	**Sn**	**13 30 35.7**	**-0.5**
MDT	**Midelt**	**4.41**	**144**	P	**Pn**	**13 29 47.6**	**-1.3**
MDT	**Midelt**	**4.41**	**144**	S	**Sn**	**13 30 39.2**	**+0.2**
MVO	**Moncorvo**	**4.77**	**6**	*eP*	**Pn**	**13 29 55.0**	**+1.3**
MVO				*eS*	**Sn**	**13 30 45.0**	**-2.8**
MVO				*i* IAML		13 30 47.0	
MVO				*i* IAML		13 30 47.1	
MVO				*i* IAML		13 30 47.3	
POLO	**Lamas de Olo**	**4.95**	**359**	*eP*	**Pn**	**13 29 57.3**	**+1.1**
POLO				*eS*	**Sn**	**13 30 49.8**	**-2.4**
POLO				*i* IAML		13 30 51.6	
POLO				*i* IAML		13 30 51.6	
POLO				*i* IAML		13 30 51.7	
GUD	**Guadarrama**	**5.05**	**32**	Pn	**Pn**	**13 29 59.4**	**+1.7**
GUD				Sn	**Sn**	**13 30 51.7**	**-3.1**
GUD				*i* IVmb_Lg		13 31 30.0	
OUK	**Oukaimeden**	**5.20**	**182**	P	**Pn**	**13 29 58.7**	**-1.3**
OUK	**Oukaimeden**	**5.20**	**182**	S	**Sn**	**13 30 58.4**	**-0.5**
UCM	**Universidad Co**	**5.23**	**41**	Pn	**Pn**	**13 30 03.9**	**+1.9**
UCM				Sn	**Sn**	**13 30 55.1**	**-3.9**
PCAB	**Cabril**	**5.29**	**357**	*eP*	**Pn**	**13 30 02.3**	**+1.5**
PCAB				*eS*	**Sn**	**13 30 57.4**	**-3.1**
PCAB				*i* IAML		13 31 00.0	
PCAB				*i* IAML		13 31 00.3	
PCAB				*i* IAML		13 31 00.6	
ETOB	**Tobarra**	**5.37**	**64**	Pn	**Pn**	**13 30 02.8**	**+0.8**
ETOB				Sn	**Sn**	**13 31 02.3**	**-0.4**
ETOB				*i* IVmb_Lg		13 32 00.9	
ELOB	**Lobios**	**5.45**	**357**	Pn	**Pn**	**13 30 04.3**	**+1.2**
ELOB				*i* IVmb_Lg		13 31 01.5	
ELOB				Sn	**Sn**	**13 31 03.8**	**-0.7**
TIO	**Tiouine**	**5.49**	**176**	P	**Pn**	**13 30 01.4**	**-2.4**
TIO	**Tiouine**	**5.49**	**176**	S	**Sn**	**13 31 04.8**	**-1.0**
OUZM	**OUZ**	**5.55**	**172**	P	**Pn**	**13 30 04.1**	**-0.5**
OUZM	**OUZ**	**5.55**	**172**	S	**Sn**	**13 31 09.2**	**+1.9**
PGAV	**Gavieira, Arco**	**5.55**	**356**	*eS*	**Sn**	**13 31 04.4**	**-2.8**
PGAV				*i* IAML		13 31 07.8	
PGAV				*i* IAML		13 31 09.0	
ECAL	**Calabor**	**5.56**	**7**	Pn	**Pn**	**13 30 05.9**	**+1.2**
ECAL				Sn	**Sn**	**13 31 04.7**	**-2.7**
ECAL	**Calabor**	**5.56**	**7**	Pn	**Pn**	**13 30 05.8**	**+1.2**
ECAL				Sn	**Sn**	**13 31 05.9**	**-1.5**
ECAL				*i* IVmb_Lg		13 31 45.2	
TTIG	**Tnine Tigouga,**	**5.89**	**186**	P	**Pn**	**13 30 06.6**	**-2.7**
EVIV	**Cofrentes, Val**	**5.93**	**59**	Sn	**Sn**	**13 31 13.9**	**-2.6**
EAGO	**Agolada(Pontev**	**6.38**	**357**	Pn	**Pn**	**13 30 17.3**	**+1.4**
EAGO				Sn	**Sn**	**13 31 24.7**	**-2.8**

*VAO **13** 13:29:13.8±3.1, 17°.57S×70°.43W, h163km±22km, mb4.1*
*NEIC **13** 13:29:20.4±1.2, 17°.74S±0°.03×69°.39W±0°.10, h154km±4km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=3.6km az=84.0*
*IDC **13** 13:29:22.5±3.7, 17°.58S×69°.22W, h166km±26km, mb3.7/3, mbtmp4.2/4, MS4.0/4, Error ellipse: s-maj=64.8km s-min=29.2km az=6.0*
*GUC **13** 13:29:22.0±0.6, 17°.70S×69°.64W, h142km±4km, ML3.4*
ISC 13 13:29:20.2±0.8, **17°.67S**±0°.05×**69°.49W**±0°.08, **h155**km±6km, **n57**, σ**1**:**22**/61, **mb4.2**/3, **1C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.08**	**9**		**Pn**	**13 29 41.7**	**0.0**
PB18				Sn	**Sn**	**13 29 57.6**	**-0.3**
PB18	**Visviri**	**0.08**	**9**	*i P*	**Pn**	**13 29 41.9**	**+0.2**
PB18				*eS*	**Sn**	**13 29 58.2**	**+0.3**
PB18				IAML		13 29 59.1	
	comp=N,551nm,0.6s						
PB16	**IPOC Station P**	**0.66**	**181**		**Pn**	**13 29 43.5**	**-0.2**
PB16				Sn	**Sn**	**13 30 00.3**	**-1.4**
PB16	**IPOC Station P**	**0.66**	**181**	⇑*iP*	**Pn**	**13 29 43.6**	**-0.1**
PB16				*eS*	**Sn**	**13 30 01.0**	**-0.7**
PB16				IAML		13 30 02.5	
	comp=N,413nm,0.5s						
LPAZ	**La Paz**	**1.90**	**44**		**Pn**	**13 29 56.0**	**+0.9**
LPAZ	**La Paz**	**1.90**	**44**	P	**Pn**	**13 29 55.5**	**+0.4**
	comp=N,163nm,0.3s,baz=238,slow=6.0,SNR=762						
LPAZ				S	**Sn**	**13 30 21.0**	**-0.8**
	comp=N,64nm,0.7s,baz=50,slow=18,SNR=6.9						
GO01	**Chusmiza**	**2.01**	**172**		**Pn**	**13 29 56.7**	**+0.4**
GO01	**Chusmiza**	**2.01**	**172**	*eP*	**Pn**	**13 29 56.9**	**+0.7**
GO01				*eS*	**Sn**	**13 30 24.7**	**+0.8**
PB11	**IPOC Station P**	**2.08**	**184**		**Pn**	**13 29 56.5**	**-0.3**
PB11	**IPOC Station P**	**2.08**	**184**	*eP*	**Pn**	**13 29 56.5**	**-0.3**
PB11				*eS*	**Sn**	**13 30 23.3**	**-1.8**
PB11				IAML		13 30 27.4	
	comp=E,320nm,0.5s						
PB08	**IPOC Station P**	**2.48**	**173**		**Pn**	**13 30 01.9**	**+0.2**
PB08	**IPOC Station P**	**2.48**	**173**	*eP*	**Pn**	**13 30 02.5**	**+0.8**
PB08				*eS*	**Sn**	**13 30 33.5**	**-0.3**
PB08				IAML		13 30 38.9	
	comp=N,184nm,0.4s						
HMBC	**Humberstone**	**2.62**	**188**	Pn	**Pn**	**13 30 01.9**	**-1.3**
HMBC	**Humberstone**	**2.62**	**188**	*eP*	**Pn**	**13 30 02.2**	**-1.0**
TA02	**Huaiquique**	**2.66**	**193**	*eP*	**Pn**	**13 30 03.0**	**-0.4**
TA01	**Diego Aracena**	**2.95**	**193**		**Pn**	**13 30 05.3**	**-1.9**
TA01	**Diego Aracena**	**2.95**	**193**	*eP*	**Pn**	**13 30 05.4**	**-1.7**
PATCX	**Punta Patache**	**3.19**	**191**	*eP*	**Pn**	**13 30 10.2**	**-0.1**
PB01	**IPOC Station P**	**3.35**	**180**	Pn	**Pn**	**13 30 11.3**	**-1.1**
PB01	**IPOC Station P**	**3.35**	**180**	*eP*	**Pn**	**13 30 12.2**	**-0.2**
PB01				IAML		13 30 52.9	
	comp=E,105nm,0.4s						
PB02	**IPOC Station P**	**3.65**	**186**	Pn	**Pn**	**13 30 15.8**	**-0.4**
PB02	**IPOC Station P**	**3.65**	**186**	*eP*	**Pn**	**13 30 15.9**	**-0.2**
PB03	**IPOC Station P**	**4.36**	**183**		**Pn**	**13 30 24.6**	**-0.9**
PB06	**IPOC Station P**	**5.01**	**181**		**Pn**	**13 30 32.4**	**-1.6**
SIV	**San Ignacio**	**8.23**	**80**	P	**Pn**	**13 31 14.8**	**-2.1**
	comp=E,2.5nm,0.3s,baz=266,slow=9.0,SNR=17						
SIV				S	**Sn**	**13 32 44.2**	**-4.5**
	comp=E,6.2nm,0.7s,baz=333,slow=18,SNR=9.6						
VILB	**Vilhena**	**10.12**	**64**	Pn	Pn	13 31 38.4	-3.4
SALV	**Santo Antonio**	**13.33**	**84**	*eP*	**P**	**13 32 28.7**	**+1.0**
PDRB	**Porto dos Gac**	**13.74**	**66**	*eP*	**P**	**13 32 32.2**	**0.0**
PP1B	**Ponte de Pedra**	**13.93**	**92**	*eP*	**P**	**13 32 36.0**	**+1.6**
CLDB	**Colider**	**14.89**	**65**	*eP*	**Pn**	**13 32 44.5**	**+1.3**
NPGB	**Novo Progresso**	**17.37**	**54**	*eP*	**P**	**13 33 13.4**	**+1.1**
PTGB	**Pitanga**	**17.69**	**116**	*eP*	**P**	**13 33 17.6**	**+1.8**
LDASE	**Londrina, Braz**	**18.12**	**111**	*eP*	**P**	**13 33 21.4**	**+0.8**
ITRB	**Iturama**	**18.24**	**99**	*eP*	**Pn**	**13 33 25.2**	**+1.5**
SNDB	**Serra Nova Dou**	**18.48**	**75**	*eP*	**P**	**13 33 25.3**	**+0.8**
ITAB	**Concordia**	**18.64**	**124**	Pn	**P**	**13 33 26.6**	**+0.5**
ITAB				IAmb	IAmb	13 33 53.3	

HFS	**Hagfors**	**93.05 333**	LR	LR	14 35 20.9
	comp=Z,139nm,21.2s,baz=324,slow=38				
NOA	**NORSAR Array B**	**93.75 334**	LR	LR	14 34 49.5
	comp=Z,32nm,20.8s,baz=340,slow=38				

*NNC **13** 14:24:34.0±0.3, 45°.78N×81°.68E, $h0^{km}$, mb3.5, mpv3.5,*
Error ellipse: s-maj=4.0km s-min=1.2km az=123.0
*SOME **13** 14:24:36.5, 45°.80N×81°.55E, $h25^{km}$*
ISC 13 14:24:34.9±0.9, 45°.80N±0°.04×81°.81E±0°.05, h13km, n34,
σ1§63/38, 7C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.01**	**6**	⇓P	**Pn**	**14 24 54.0**	**-0.9**
	9.3nm,0.3s						
MAKZ				⇓S	**Sn**	**14 25 08.6**	**-0.5**
	12nm,0.3s						
MK31	**Makanchi Array**	**1.05**	**18**	⇑P	**Pn**	**14 24 55.4**	**0.0**
	3.2nm,0.2s,baz=201,slow=16,SNR=692						
MK31				⇑S	**Sn**	**14 25 10.1**	**+0.3**
	5.4nm,0.2s,baz=199,slow=15						
KAPS	**Kapalarasan**	**1.80**	**254**	S	**Sn**	**14 25 27.5**	**-1.0**
	407nm,0.2s						
KNOS	**Konyrlen**	**2.36**	**233**	Pg	**Pb**	**14 25 16.2**	**-1.2**
	52nm,0.1s						
KNOS				Lg	Lg	14 25 44.9	
	128nm,0.3s						
TDK	**Taldyqorghan**	**2.53**	**253**	Pg	**Pn**	**14 25 17.8**	**+2.1**
	27nm,0.1s						
TDK				Lg	Lg	14 25 47.8	
	330nm,0.4s						
TDK	**Taldyqorghan**	**2.53**	**253**	*e*P	**Pn**	**14 25 18.1**	**+2.4**
	23nm,0.1s						
TDK				*e*S	**Sn**	**14 25 47.8**	**+1.4**
	330nm,0.4s						
ZSN	**Zaisan**	**2.67**	**51**	*e*P	**Pg**	**14 25 26.1**	**-0.1**
	4.7nm,0.2s						
ZSN				*e*S	**Sg**	**14 26 01.9**	**+1.1**
	33nm,0.4s						
PDGK	**Podgornoye**	**2.98**	**215**	⇓Pg	**Pb**	**14 25 27.3**	**-0.6**
	22nm,0.8s						
PDGK				⇓Lg	Lg	14 26 05.5	
	97nm,0.6s						
SHLS	**Shalkode**	**3.13**	**213**	*e*P	**Pb**	**14 25 28.9**	**-1.7**
	33nm,0.2s						
SHLS				*e*S	**Sb**	**14 26 06.5**	**-2.1**
	163nm,0.4s						
KPKS	**Kokpek**	**3.23**	**225**	Pg	**Pb**	**14 25 31.8**	**-0.4**
	0.1nm,0.2s						
KPKS				Lg	Lg	14 26 11.6	
	120nm,0.4s						
ARXS	**Arharly**	**3.24**	**242**	Lg	Lg	14 26 10.9	
	83nm,0.4s						
ARXS	**Arharly**	**3.24**	**242**	*e*P	**Pb**	**14 25 31.5**	**-0.9**
ARXS				*e*S	**Sb**	**14 26 10.8**	**-0.9**
UZB	**Uzynbulak**	**3.32**	**218**	Pg	**Pb**	**14 25 34.4**	**+0.6**
	6.2nm,0.2s						
UZB	**Uzynbulak**	**3.32**	**218**	*e*P	**Pb**	**14 25 34.4**	**+0.6**
	6.2nm,0.2s						
UZB				*e*S	**Sb**	**14 26 15.9**	**+1.7**
	75nm,0.3s						
KURS	**Kuram**	**3.48**	**230**	Pg	**Pb**	**14 25 35.9**	**-0.5**
	7.6nm,0.3s						
KURS				Lg	Lg	14 26 18.5	
	49nm,0.3s						
SATY	**Saty**	**3.67**	**223**	Pg	**Pb**	**14 25 40.1**	**+0.4**
	5.7nm,0.2s						
SATY				Lg	Lg	14 26 25.9	
	134nm,0.3s						
KTBS	**Karatobe**	**4.21**	**242**	Pg	**Pb**	**14 25 49.5**	**+0.7**
	12nm,0.4s						
KTBS				Lg	Lg	14 26 42.3	
	39nm,0.4s						
KOTS	**Kotyrbulak**	**4.23**	**234**	Lg	Lg	14 26 42.0	
	37nm,0.2s						
KOTS	**Kotyrbulak**	**4.23**	**234**	*e*P	**Pb**	**14 25 49.7**	**+0.5**
	6.2nm,0.3s						
KOTS				*e*S	**Sb**	**14 26 42.0**	**+1.8**
	37nm,0.2s						
MDOK	**Medeo**	**4.31**	**234**	Lg	Lg	14 26 43.6	
	17nm,0.4s						
TNSS	**Tian-Shan**	**4.45**	**233**	Lg	Lg	14 26 48.7	
	1.9nm,0.3s						
TNSS	**Tian-Shan**	**4.45**	**233**	*e*P	**Pb**	**14 25 53.5**	**+0.4**
	1.5nm,0.5s						
TNSS				*e*S	**Sb**	**14 26 48.7**	**+1.9**
	1.9nm,0.3s						
MTBS	**Maitube**	**4.69**	**237**	Lg	Lg	14 26 54.4	
	49nm,0.3s						
MTBS	**Maitube**	**4.69**	**237**	*e*P	**Pb**	**14 25 56.9**	**-0.1**
	1.5nm,0.1s						
MTBS				*e*S	**Sb**	**14 26 54.4**	**+1.0**
	49nm,0.3s						
SEM	**Semipalatinsk**	**4.73**	**348**	*e*P	**Pg**	**14 26 02.2**	**-3.2**
	4.7nm,0.2s						
SEM				*e*S	**Sg**	**14 27 03.3**	**-3.3**
	7.9nm,0.1s						
KRBS	**Karabastau**	**4.85**	**246**	Lg	Lg	14 27 00.5	
	13nm,0.4s						
KST	**Kastek**	**5.01**	**239**	Lg	Lg	14 27 06.0	
	14nm,0.4s						
KST	**Kastek**	**5.01**	**239**	*e*P	**Pb**	**14 26 03.4**	**+0.8**
	2.6nm,0.2s						
KST				*e*S	**Sb**	**14 27 06.0**	**+3.2**
	14nm,0.4s						
DGS	**Degeres**	**5.02**	**241**	Lg	Lg	14 27 07.7	
	22nm,0.4s						
KURBB	**Kurchatov Arra**	**5.30**	**337**	⇑Pg	**Pb**	**14 26 10.4**	**+3.0**
	2.4nm,0.5s						
KURBB				⇑Lg	Lg	14 27 22.2	
	50nm,0.7s						
KURK	**Kurchatov**	**5.36**	**338**	⇑Pg	**Pb**	**14 26 11.4**	**+3.0**
	1.3nm,0.9s						
KURK				⇓Lg	Lg	14 27 23.8	
	12nm,0.7s						
AAK	**Ala-Archa**	**6.13**	**242**	⇑Pg	**Pb**	**14 26 23.4**	**+1.7**
	0.5nm,0.4s						
AAK				⇑Lg	Lg	14 27 44.7	
	2.8nm,0.5s						
KK31	**Karatay Array**	**8.52**	**256**	Pn	**Pn**	**14 26 37.5**	**-0.6**
	0.5nm,0.2s,baz=67,slow=13,SNR=24						
KK31				⇓Lg	Lg	14 29 00.5	
	1.7nm,0.4s,baz=67,slow=28						
AB31	**Akbulak array**	**15.16**	**291**	P	**Pn**	**14 28 08.3**	**-0.3**
	0.6nm,0.7s,baz=97,slow=13,SNR=4.7						

*NNC **13** 14:26:36.7±0.6, 45°.87N×81°.54E, $h0^{km}$, mb3.7, mpv3.3,*
Error ellipse: s-maj=7.4km s-min=2.9km az=118.0
*SOME **13** 14:26:37.9, 45°.80N×81°.52E, $h20^{km}$*
ISC 13 14:26:37.1±1.0, 45°.81N±0°.06×81°.61E±0°.07, h9km, n20,
σ1§48/25, 3C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.03**	**14**	⇑P	**Pg**	**14 26 55.9**	**-1.0**
	3.5nm,0.3s						
MAKZ				⇑S	**Sg**	**14 27 09.1**	**-1.3**
	5.5nm,0.2s						
MK31	**Makanchi Array**	**1.09**	**25**	⇓P	**Pg**	**14 26 57.3**	**-0.8**
	1.0nm,0.1s,baz=201,slow=16,SNR=6.0						
MK31				⇑S	**Sg**	**14 27 12.0**	**-0.3**
	5.4nm,0.3s,baz=211,slow=27						
KNOS	**Konyrlen**	**2.25**	**231**	Pg	**Pg**	**14 27 18.9**	**-1.4**
	19nm,0.2s						
TDK	**Taldyqorghan**	**2.40**	**252**	*e*P	**Pb**	**14 27 20.1**	**-0.4**
	16nm,0.1s						
TDK				*e*S	**Sb**	**14 27 50.2**	**+0.1**
	131nm,0.4s						
ZSN	**Zaisan**	**2.78**	**53**	*e*P	**Pb**	**14 27 28.8**	**+1.8**
	4.9nm,0.2s						
ZSN				*e*S	**Sg**	**14 28 05.0**	**-1.4**
	20nm,0.5s						
PDGK	**Podgornoye**	**2.91**	**212**	⇓Pg	**Pb**	**14 27 30.3**	**+1.1**
	10nm,0.8s						
PDGK				⇓Lg	Lg	14 28 10.0	
	67nm,0.9s						
SHLS	**Shalkode**	**3.06**	**211**	Pg	**Pb**	**14 27 30.4**	**-1.5**
	19nm,0.3s						
SHLS				Lg	Lg	14 28 08.1	
	71nm,0.7s						
SHLS	**Shalkode**	**3.06**	**211**	*e*P	**Pb**	**14 27 30.4**	**-1.5**
	19nm,0.3s						
SHLS				*e*S	**Sb**	**14 28 08.1**	**-1.3**
	71nm,0.7s						
ARXS	**Arharly**	**3.12**	**241**	Lg	Lg	14 28 12.1	
	34nm,0.5s						

ARXS	**Arharly**	**3.12**	**241**	*e*P	**Pb**	**14 27 32.5**	**-0.4**
ARXS				*e*S	**Sb**	**14 28 12.2**	**+1.1**
KPKS	**Kokpek**	**3.14**	**223**	Pg	**Pb**	**14 27 34.0**	**+0.9**
	0.2nm,0.1s						
KPKS				Lg	Lg	14 28 14.4	
	48nm,0.4s						
UZB	**Uzynbulak**	**3.24**	**216**	Pg	**Pb**	**14 27 35.5**	**+0.6**
	3.2nm,0.2s						
UZB				Lg	Lg	14 28 17.0	
	30nm,0.3s						
UZB	**Uzynbulak**	**3.24**	**216**	*e*P	**Pb**	**14 27 35.5**	**+0.6**
	3.2nm,0.2s						
UZB				*e*S	**Sb**	**14 28 17.0**	**+2.4**
	30nm,0.3s						
KURS	**Kuram**	**3.38**	**228**	Pg	**Pb**	**14 27 37.5**	**+0.3**
	3.9nm,0.7s						
KURS				Lg	Lg	14 28 20.5	
	15nm,0.5s						
SATY	**Saty**	**3.58**	**221**	Pg	**Pb**	**14 27 41.8**	**+1.1**
	4.3nm,0.5s						
SATY				Lg	Lg	14 28 27.8	
	60nm,0.3s						
MDOK	**Medeo**	**4.20**	**233**	Pg	**Pb**	**14 27 52.4**	**+1.1**
	1.2nm,0.2s						
MDOK				Lg	Lg	14 28 45.8	
	9.4nm,0.5s						
MTBS	**Maitube**	**4.58**	**236**	Pg	**Pb**	**14 27 58.8**	**+1.2**
	1.7nm,0.1s						
MTBS				Lg	Lg	14 28 56.8	
	19nm,0.4s						
MTBS	**Maitube**	**4.58**	**236**	*e*P	**Pb**	**14 27 58.8**	**+1.2**
	1.7nm,0.1s						
MTBS				*e*S	**Sb**	**14 28 56.8**	**+4.0**
	19nm,0.4s						
KURBB	**Kurchatov Arra**	**5.24**	**338**	⇓Lg	Lg	14 29 20.1	
	18nm,0.5s						
KURK	**Kurchatov**	**5.30**	**339**	⇓Lg	Lg	14 29 21.8	
	9.6nm,0.7s						

IDC 13 14:27:47.9±3.0, 1°.97S×136°.80E, $h0^{km}$, mb3.1/2,
mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=95.9km
s-min=29.7km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.03**	**187**	P	Pn	14 31 59.2	-0.9
	baz=8.4,slow=13,SNR=5.7						
	0.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.41**	**214**	P	Pn	14 32 16.9	0.0
	baz=18,slow=20,SNR=2.1						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**21.75**	**187**	P	P	14 32 41.0	-0.2
	0.4nm,0.8s,baz=15,slow=11,SNR=6.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**68.04**	**323**	P	P	14 38 49.4	0.0
	0.2nm,0.6s,baz=128,slow=4.4,SNR=2.4						
	0.2nm,0.6s						

*AEIC **13** 14:34:13.8±2.3, 52°.17N±0°.06×169°.91W±0°.09, $h23^{km}\pm7^{km}$,*
Error ellipse: s-maj=8.4km s-min=8.0km az=174.0
NEIC 13 14:34:15.1±1.9, 52°.21N±0°.02×169°.95W±0°.10, h35km±2km,
ML2.6/6, ML2.6(AEIC), Error ellipse: s-maj=10.7km
s-min=3.1km az=288.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.60**	**13**		Pn	14 34 26.3	-0.8
CLCO					Sn	14 34 36.1	+0.6
CLES	**Cleveland East**	**0.62**	**3**		Sn	14 34 36.1	+0.1
CLES	**Cleveland East**	**0.62**	**3**		Pn	14 34 26.2	-1.1
CLES				IAML		14 34 42.9	
	comp=E,1μm,0.3s						
NIKH	**Nikolski High**	**1.01**	**41**		Pn	14 34 31.8	-1.0
NIKH					Sn	14 34 45.6	-0.2
NIKH	**Nikolski High**	**1.01**	**41**	IAML		14 34 47.0	
	comp=E,104nm,0.6s						
NIKH				IAML		14 34 47.2	
	comp=N,150nm,0.4s						
OKSP	**Okmok Steeple**	**1.45**	**43**		Pn	14 34 38.6	-0.3
MSW	**Makushin Switc**	**2.56**	**47**		Pn	14 34 54.9	+0.8
UNV	**Unalaska Valle**	**2.65**	**50**		Sn	14 35 29.3	+3.3
UNV	**Unalaska Valle**	**2.65**	**50**	Pn	Pn	14 34 55.2	-0.1
UNV				IAML		14 36 21.2	
	comp=E,19nm,1.1s						
R31K	**City Hall, Gus**	**20.27**	**59**		Pn	14 38 49.8	+0.5

*IDC **13** 15:02:46.5±0.7, 5°.37S×11°.56W, $h0^{km}$, mb4.2/16,*
mbtmp4.1/16, MS3.6/38, Error ellipse: s-maj=29.3km
s-min=16.0km az=111.0
*NEIC **13** 15:02:48.7±1.4, 5°.50S±0°.08×11°.50W±0°.10, $h10^{km}\pm1^{km}$,*
mb4.7/33, Error ellipse: s-maj=17.8km s-min=11.5km
az=241.0
ISC 13 15:02:48.1±0.4, 5°.51S±0°.08×11°.56W±0°.08, h13km, n93,
σ0§91/53, mb4.5/28, MS3.7/37, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.68**	**229**	Pn	**Pn**	**15 03 41.6**	**-3.1**
H10N2	**ASCENSION HYDR**	**3.71**	**231**	T	T	15 07 39.1	
	baz=53,slow=74,SNR=2706						
H10N1	**ASCENSION HYDR**	**3.71**	**231**	T	T	15 07 20.3	
	baz=53,slow=74,SNR=3000						
H10N3	**ASCENSION HYDR**	**3.73**	**231**	T	T	15 07 27.5	
	baz=53,slow=74,SNR=3126						
H10S2	**ASCENSION HYDR**	**4.59**	**222**	T	T	15 08 40.2	
	baz=176,slow=74,SNR=303						
H10S3	**ASCENSION HYDR**	**4.60**	**222**	T	T	15 08 40.8	
	baz=44,slow=74,SNR=468						
SHEL	**Horse Pasture**	**11.85**	**152**	Pn	**Pn**	**15 05 36.3**	**-0.6**
DBIC	**Dimbokro**	**13.83**	**29**	LR	LR	15 10 06.4	
	comp=Z,271nm,21.8s,baz=214,slow=32						
TORD	**Torodi Ar. Bea**	**22.74**	**35**	P	**P**	**15 07 48.0**	**-2.2**
	3.9nm,0.6s,baz=215,slow=9.0,SNR=20						
	3.9nm,0.6s						
EDA	**Edea**	**23.57**	**67**	P	**P**	**15 07 57.6**	**-1.1**
EDA				IAmb	IAmb	15 07 59.6	
	comp=Z,23nm,1.2s						
TSUM	**Tsumeb**	**31.48**	**118**	LR	LR	15 19 37.8	
	comp=Z,204nm,21.1s,baz=331,slow=32						
GRTLG	**Ghanzi**	**35.44**	**120**	P	**P**	**15 09 44.4**	**-0.1**
GRTLG				IAmb	IAmb	15 09 45.6	
	comp=Z,9.7nm,0.9s						
KGCAE	**Kacgae**	**36.85**	**121**	P	**P**	**15 09 56.5**	**-0.1**
KGCAE				IAmb	IAmb	15 09 57.6	
	comp=Z,31nm,1.4s						
BDFB	**Brasilia**	**37.16**	**251**	P	**P**	**15 10 00.1**	**+0.9**
BDFB				IAmb	IAmb	15 10 30.8	
	comp=Z,12nm,1.3s						
BDFB	**Brasilia**	**37.16**	**251**	P	**P**	**15 09 59.0**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=105,slow=7.8,SNR=6.6						
BDFB				LR	LR	15 23 01.2	
	comp=Z,135nm,19.3s,baz=92,slow=33						
	comp=Z,5.3nm,0.9s						
MDT	**Midelt**	**38.68**	**9**	LR	LR	15 25 48.2	
	comp=Z,71nm,18.4s,baz=194,slow=36						
LPHEP	**Lephephe**	**40.17**	**120**	P	**P**	**15 10 24.6**	**+0.2**
LPHEP				IAmb	IAmb	15 10 55.6	
	comp=Z,12nm,1.3s						
LSZ	**Lusaka**	**40.22**	**107**	P	**P**	**15 10 25.0**	**+0.1**
LSZ	**Lusaka**	**40.22**	**107**	LR	LR	15 24 43.7	
	comp=Z,114nm,19.5s,baz=319,slow=33						
LBTB	**Lobatse**	**40.54**	**123**	P	**P**	**15 10 27.3**	**-0.2**
LBTB				IAmb	IAmb	15 10 28.0	
	comp=Z,18nm,1.4s						
LBTB	**Lobatse**	**40.54**	**123**	LR	LR	15 24 36.0	
	comp=Z,102nm,20.4s,baz=288,slow=32						
MATP	**Matopo**	**41.61**	**115**	LR	LR	15 25 26.0	
	comp=Z,120nm,20.9s,baz=282,slow=33						
BOSA	**Boshof**	**41.75**	**128**	P	**P**	**15 10 36.3**	**-1.1**
BOSA				IAmb	IAmb	15 10 38.0	
	comp=Z,24nm,1.4s						
BOSA	**Boshof**	**41.75**	**128**	P	**P**	**15 10 36.9**	**-0.5**
	comp=Z,5.1nm,1.0s,baz=294,slow=8.9,SNR=4.9						
BOSA				LR	LR	15 26 34.4	
	comp=Z,77nm,18.5s,baz=329,slow=34						
	comp=Z,5.1nm,1.0s						
MBAR	**Mbarara**	**42.50**	**85**	P	**P**	**15 10 44.7**	**+0.9**
CMLA	**Cha da Macela**	**44.97**	**344**	P	**P**	**15 11 04.1**	**+0.9**
PAB	**San Pablo**	**45.32**	**8**	P	**P**	**15 11 05.8**	**-0.2**
PAB				IAmb	IAmb	15 11 13.8	
	comp=Z,11nm,1.4s						
KEST	**Kesra**	**45.48**	**24**	P	**P**	**15 11 07.7**	**+0.4**
KEST				IAmb	IAmb	15 11 16.2	
	comp=Z,11nm,1.1s						
KEST	**Kesra**	**45.48**	**24**	P	**P**	**15 11 06.1**	**-1.2**
	comp=Z,6.6nm,1.1s,baz=215,slow=14,SNR=3.5						
	comp=Z,6.6nm,1.1s						
ESDC	**Sonseca Array**	**45.50**	**8**	P	**P**	**15 11 08.0**	**+0.6**
ESDC	**Sonseca Array**	**45.50**	**8**	P	**P**	**15 11 06.3**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=113,slow=12,SNR=4.4						
ESDC				LR	LR	15 30 29.2	
	comp=Z,24nm,18.0s,baz=190,slow=37						
	comp=Z,0.9nm,1.0s						
MAHO	**Mahon**	**47.48**	**17**	P	**P**	**15 11 22.5**	**-0.3**
LODK	**Lodwar**	**47.70**	**80**	P	**P**	**15 11 25.2**	**+0.1**
LODK				IAmb	IAmb	15 11 27.2	
	comp=Z,3.8nm,1.0s						
CPUP	**Villa Florida**	**48.30**	**239**	P	**P**	**15 11 30.2**	**+0.8**
CPUP	**Villa Florida**	**48.30**	**239**	LR	LR	15 30 18.8	
	comp=Z,9.4nm,19.0s,baz=269,slow=34						
KMBO	**Kilima Mbogo**	**48.91**	**87**	LR	LR	15 31 03.8	
	comp=Z,302nm,18.2s,baz=81,slow=35						
VAE	**Valguarnera**	**49.15**	**27**	LR	LR	15 32 03.3	
	comp=Z,74nm,19.3s,baz=160,slow=36						
BOAV	**Boa Vista**	**49.53**	**278**	P	**P**	**15 11 39.2**	**+0.1**
BOAV				IAmb	IAmb	15 11 40.7	
	comp=Z,7.0nm,0.9s						
H05S1	**Guadeloupe/Mar**	**52.73**	**293**	T	T	16 08 48.3	
	SNR=4.5						
H05N1	**Guadeloupe/Mar**	**53.55**	**295**	T	T	16 09 50.0	
STAL	**STALIGIAL**	**55.88**	**20**	P	**P**	**15 12 25.5**	**-0.1**
LPAZ	**La Paz**	**56.41**	**254**	P	**P**	**15 12 29.6**	**-1.0**
LPAZ	**La Paz**	**56.41**	**254**	LR	LR	15 34 26.6	
	comp=Z,60nm,21.3s,baz=74,slow=34						
EIL	**Elat**	**56.68**	**49**	LR	LR	15 35 43.6	
	comp=Z,65nm,20.6s,baz=158,slow=35						
RDO	**Rodhopi**	**57.51**	**33**	P	**P**	**15 12 38.0**	**+0.7**
RDO				IAmb	IAmb	15 12 39.2	
	comp=Z,15nm,1.4s						
BAUV	**El Baul**	**58.10**	**284**	P	**P**	**15 12 41.5**	**-0.3**
GERES	**GERESS Array B**	**58.46**	**19**	P	**P**	**15 12 43.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=193,slow=5.5,SNR=11						
GERES				LR	LR	15 37 48.1	
	comp=Z,38nm,19.4s,baz=212,slow=36						
	comp=Z,0.9nm,0.7s						
SJG	**San Juan**	**58.73**	**295**	LR	LR	15 32 15.5	
	comp=Z,67nm,21.0s,baz=114,slow=30						
MMAI	**Mount Meron Ar**	**58.73**	**46**	LR	LR	15 39 34.6	
	comp=Z,40nm,18.5s,baz=242,slow=38						
PATCX	**Punta Patache**	**58.74**	**249**	P	**P**	**15 12 47.0**	**+0.7**
ASF	**Jabal al Asfar**	**59.38**	**48**	LR	LR	15 39 00.8	
	comp=Z,58nm,18.4s,baz=323,slow=37						
VRAC	**Vranov**	**59.85**	**21**	LR	LR	15 40 45.4	
	comp=Z,30nm,18.3s,baz=226,slow=38						
PSZ	**Piszkesteto**	**59.96**	**24**	P	**P**	**15 12 54.0**	**-0.2**
PSZ				IAmb	IAmb	15 13 02.5	
	comp=Z,7.0nm,0.9s						
SDV	**Santo Domingo**	**60.60**	**283**	LR	LR	15 37 08.3	
	comp=Z,45nm,20.3s,baz=256,slow=34						
MLR	**Muntele Rosu**	**60.81**	**29**	P	**P**	**15 13 00.3**	**+0.1**
MLR				IAmb	IAmb	15 13 08.7	
	comp=Z,14nm,1.3s						
MLR	**Muntele Rosu**	**60.81**	**29**	LR	LR	15 41 01.1	
	comp=Z,50nm,20.0s,baz=206,slow=38						
BRTR	**Keskin Array B**	**61.30**	**39**	P	**P**	**15 13 04.6**	**+1.0**
BRTR	**Keskin Array B**	**61.30**	**39**	P	**P**	**15 13 04.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=198,slow=7.8,SNR=13						
	comp=Z,1.8nm,0.8s						
OJC	**Ojcow**	**61.77**	**22**	P	**P**	**15 13 06.7**	**+0.2**
BURAR	**Bucovina Array**	**62.02**	**27**	P	**P**	**15 13 08.9**	**+0.6**
BNN	**Bunyan**	**62.20**	**41**	P	**P**	**15 13 10.1**	**+0.4**
PLCA	**Paso Flores**	**63.15**	**227**	LR	LR	15 37 22.0	
	comp=Z,38nm,19.3s,baz=80,slow=33						
ROSC	**El Rosal**	**63.51**	**278**	LR	LR	15 37 52.7	
	comp=Z,94nm,21.1s,baz=224,slow=33						
NNA	**Nana**	**64.72**	**259**	LR	LR	15 39 52.5	
	comp=Z,128nm,21.2s,baz=94,slow=34						
KIEV	**Kiev**	**66.05**	**27**	P	**P**	**15 13 33.8**	**-0.8**
AKASG	**Malin Array Be**	**66.07**	**27**	P	**P**	**15 13 33.8**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=227,slow=7.3,SNR=17						
AKASG				LR	LR	15 44 02.0	
	comp=Z,25nm,19.9s,baz=210,slow=38						
	comp=Z,3.0nm,0.8s						
AKBB	**Malin Array Si**	**66.07**	**27**	P	**P**	**15 13 33.8**	**-0.9**
SNAA	**Sanae**	**66.31**	**177**	P	**P**	**15 13 37.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=314,slow=11,SNR=7.5						
SNAA				LR	LR	15 35 45.8	
	comp=Z,64nm,20.4s,baz=14,slow=30						
	comp=Z,1.5nm,0.8s						
ATAH	**Atahualpa**	**66.40**	**265**	LR	LR	15 42 37.0	
	comp=Z,205nm,18.5s,baz=86,slow=36						
COHC	**Cochancay**	**67.57**	**270**	P	**P**	**15 13 45.8**	**+0.8**
NOA	**NORSAR Array B**	**68.69**	**12**	LR	LR	15 44 45.0	
	comp=Z,12nm,20.4s,baz=55,slow=37						
KBZ	**Khabaz**	**69.28**	**39**	P	**P**	**15 13 55.2**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=250,slow=2.5,SNR=7.2						
	comp=Z,3.9nm,1.0s						
FINES	**FINESS Array B**	**72.84**	**18**	P	**P**	**15 14 15.9**	**-0.4**
	comp=Z,3.1nm,1.0s,baz=246,slow=14,SNR=3.7						
FINES				LR	LR	15 46 11.7	
	comp=Z,26nm,21.6s,baz=200,slow=36						
	comp=Z,3.1nm,1.0s						
JTS	**Las Juntas de**	**74.75**	**282**	LR	LR	15 46 19.6	
	comp=Z,41nm,21.5s,baz=86,slow=35						
MAW	**Mawson**	**79.02**	**158**	LR	LR	15 45 18.1	
	comp=Z,34nm,18.1s,baz=324,slow=32						
AKTO	**Aktyubinsk**	**81.44**	**37**	LR	LR	15 55 28.7	
	comp=Z,23nm,18.3s,baz=130,slow=39						
ABKAR	**Akbulak array**	**82.25**	**39**	P	**P**	**15 15 09.0**	**-0.2**
M44A	**Midewin, Midew**	**83.56**	**313**	P	**P**	**15 15 17.0**	**+0.8**
ARTI	**Arti**	**83.65**	**32**	P	**P**	**15 15 16.1**	**-0.2**
ARTI				IAmb	IAmb	15 15 16.9	
	comp=Z,4.7nm,0.9s						
QSPA	**South Pole Qui**	**84.59**	**180**	P	**P**	**15 15 23.4**	**+2.3**
	comp=Z,1.8nm,0.9s,baz=225,slow=3.1,SNR=6.0						
QSPA				LR	LR	15 47 54.3	
	comp=Z,24nm,18.6s,baz=246,slow=32						
	comp=Z,1.8nm,0.9s						
G40A	**Rib Lake**	**85.93**	**316**	P	**P**	**15 15 27.7**	**-0.4**
G40A				IAmb	IAmb	15 15 38.7	
	comp=

comp=E,2μm,0.3s
SKR Severo-Kuril's 1.38 344 *eP* **Pn 15 16 29.9 -2.1**
SKR *eS* **Sn 15 16 48.1 -1.1**
PAU Pauzhetka 2.11 2 PN **Pn 15 16 41.4 -0.5**
PAU S **Sn 15 17 06.9 -0.1**
PAU Pauzhetka 2.11 2 *eP* **Pn 15 16 41.5 -0.5**
PAU *eS* **Sn 15 17 07.0 -0.1**
ASAK Asacha 3.12 14 PN **Pn 15 16 56.4 +0.6**
ASAK Asacha 3.12 14 *eP* **Pn 15 16 56.4 +0.6**
MTVR Mutnovka 3.26 16 PN **Pn 15 16 57.4 -0.4**
MTVR S **Sn 15 17 35.1 -0.4**
MTVR Mutnovka 3.26 16 *eP* **Pn 15 16 57.5 -0.4**
MTVR *eS* **Sn 15 17 35.2 -0.4**
RUS Russkaya 3.28 20 PN **Pn 15 16 57.7 -0.2**
RUS S **Sn 15 17 34.7 -1.0**
RUS Russkaya 3.28 20 *eP* **Pn 15 16 57.7 -0.2**
RUS *eS* **Sn 15 17 34.8 -1.0**
GRL Gorelyy 3.31 15 PN **Pn 15 16 58.6 +0.1**
GRL S **Sn 15 17 36.8 +0.2**
GRL Gorelyy 3.31 15 *eP* **Pn 15 16 58.6 +0.1**
GRL *eS* **Sn 15 17 36.8 +0.2**
KRMR Karymshinskiy 3.59 14 PN **Pn 15 17 02.3 +0.2**
KRMR Karymshinskiy 3.59 14 *eP* **Pn 15 17 02.4 +0.2**
PEA0B Petropavlovsk- 3.81 9 PN **Pn 15 17 05.1 0.0**
PETK Petropavlovsk- 3.81 9 P **Pn 15 17 05.2 +0.1**
comp=E,3.7nm,0.4s,baz=200,slow=13,SNR=44
PETK S **Sn 15 17 52.5 +3.9**
comp=E,4.0nm,0.5s,baz=178,slow=16,SNR=1.8
PET Petropavlovsk 3.87 18 *eP* PN **Pn 15 17 06.2 +0.2**
PET *eS* **Sn 15 17 52.1 +2.0**
PET smax smax
comp=N,105nm,0.5s
PET smax smax
comp=E,93nm,0.6s
PET Petropavlovsk 3.87 18 *eP* **Pn 15 17 05.7 -0.2**
PET *eS* **Sn 15 17 50.3 +0.3**
DALK Dalny 3.90 18 PN **Pn 15 17 05.9 -0.4**
DALK S **Sn 15 17 51.4 +0.7**
DALK Dalny 3.90 18 *eP* **Pn 15 17 05.9 -0.4**
DALK *eS* **Sn 15 17 51.5 +0.7**
AVH Avacha 4.11 17 PN **Pn 15 17 10.7 +1.3**
AVH Avacha 4.11 17 *eP* **Pn 15 17 10.8 +1.3**
KOK Koryaka 4.12 16 PN **Pn 15 17 10.6 +1.1**
KOK Koryaka 4.12 16 *eP* **Pn 15 17 10.7 +1.1**
SMAR Somma 4.12 18 PN **Pn 15 17 10.9 +1.2**
SMAR Somma 4.12 18 *eP* **Pn 15 17 10.9 +1.2**
KRER Koryakskii 4.15 17 PN **Pn 15 17 10.7 +0.7**
KRER Koryakskii 4.15 17 *eP* **Pn 15 17 10.7 +0.7**
SDLR Sedlovina 4.16 18 PN **Pn 15 17 09.6 -0.4**
SDLR Sedlovina 4.16 18 *eP* **Pn 15 17 09.6 -0.4**
KRX Arik 4.19 16 PN **Pn 15 17 11.4 +1.0**
KRX Arik 4.19 16 *eP* **Pn 15 17 11.5 +1.0**
SPN Mys Shipunski 4.28 28 PN **Pn 15 17 11.7 +0.1**
SPN S **Sn 15 17 59.8 -0.5**
SPN Mys Shipunski 4.28 28 *eP* **Pn 15 17 11.8 +0.1**
SPN *eS* **Sn 15 17 59.8 -0.5**
GNL Ganaly 4.41 10 PN **Pn 15 17 14.8 +1.3**
GNL Ganaly 4.41 10 *eP* **Pn 15 17 14.9 +1.3**
KII Karymskiy 4.98 19 PN **Pn 15 17 20.6 -0.7**
KII Karymskiy 4.98 19 *eP* **Pn 15 17 20.6 -0.7**
MKZ Mys Kozlova 6.06 29 PN **Pn 15 17 34.5 -1.4**
MKZ Mys Kozlova 6.06 29 *eP* **Pn 15 17 34.5 -1.4**
KZV Kizimen 6.17 20 PN **Pn 15 17 38.5 +0.9**
KZV Kizimen 6.17 20 *eP* **Pn 15 17 38.6 +0.9**
TUMD Tumrok D 6.28 20 PN **Pn 15 17 39.5 +0.6**
TUMD S **Sn 15 18 49.7 +0.5**
TUMD Tumrok D 6.28 20 *eP* **Pn 15 17 39.6 +0.6**
TUMD *eS* **Sn 15 18 49.8 +0.5**
KBTR Krutoberegovo 7.79 26 PN **Pn 15 17 58.7 -0.9**
KBTR Krutoberegovo 7.79 26 *eP* **Pn 15 17 58.8 -0.9**
MA2 Magadan 10.80 344 P **Pn 15 18 40.1 -0.6**
comp=E,9.0nm,0.7s,baz=181,slow=20,SNR=1.8
ASAJ Asahikawa 11.01 247 P **Pn 15 18 44.0 +0.3**
comp=E,18nm,1.1s,baz=73,slow=16,SNR=2.6
ASAJ Asahikawa 11.01 247 PN **Pn 15 18 44.0 +0.3**
H11N2 WAKE ISLAND Hy 30.67 161 T T 15 55 10.9
baz=352
H11N1 WAKE ISLAND Hy 30.68 161 T T 15 55 19.5
baz=352
H11N3 WAKE ISLAND Hy 30.68 161 T T 15 55 23.4
baz=352
H11S1 WAKE ISLAND Hy 31.81 162 T T 15 56 42.1
baz=347,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 31.82 162 T T 15 56 39.4
baz=347,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 31.83 162 T T 15 56 43.6
baz=347,slow=76,SNR=18
MKAR Makanchi Array 47.90 297 P **P 15 24 40.4 -0.9**
comp=E,0.5nm,0.8s,baz=61,slow=7.7,SNR=4.6
comp=E,0.5nm,0.8s
KURK Kurchatov 47.94 303 P **P 15 24 40.7 -0.8**
KURBB Kurchatov Arra 48.04 303 P **P 15 24 40.7 -1.6**
comp=E,0.6nm,0.5s,baz=67,slow=8.1,SNR=2.4
comp=E,0.6nm,0.5s
CMAR Chiang Mai Arr 55.31 258 P **P 15 25 37.7 +0.8**
comp=E,0.9nm,0.9s,baz=31,slow=7.4,SNR=8.3
comp=E,0.9nm,0.9s
WRA Warramunga Arr 71.80 202 P **P 15 27 25.6 +0.1**
comp=E,0.3nm,0.9s,baz=15,slow=6.3,SNR=1.5
comp=E,0.3nm,0.9s
EKA Eskdalemuir Ar 74.32 348 P **P 15 27 40.1 +0.1**
comp=E,0.2nm,0.3s,baz=21,slow=5.4,SNR=5.9
comp=E,0.2nm,0.3s
ASAR Alice Springs 75.49 202 P **P 15 27 47.6 +0.6**
comp=E,0.2nm,0.8s,baz=16,slow=5.0,SNR=1.8
comp=E,0.2nm,0.8s

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*IDC **13** 15:19:44.8±0.9, 11°.25S×165°.74E, h0km, mb3.8/10, mbtmp3.9/12, ML4.0/2, MS3.5/9, Error ellipse: s-maj=26.2km s-min=22.4km az=146.0*
*NEIC **13** 15:19:46.5±1.6, 11°.2S±0°.1×165°.8E±0°.1, h10km±1km, mb4.4/7, Error ellipse: s-maj=27.1km s-min=14.8km az=54.0*
ISC 13 15:19:46.2±0.7, 11°.31S±0°.09×165°.7E±0°.1, h10km, n29, σ0°.74/27, mb3.8/11, MS3.4/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.35	161	Pn	Pn	15 20 53.5	+1.0
HNR	Honiara	5.99	288	Pn	Pn	15 21 14.4	-0.5
HNR	Honiara	5.99	288	Pn	Pn	15 21 14.0	-1.0
	3.9nm,0.3s,baz=198,slow=7.0,SNR=4.1						
HNR				Sn	Sn	15 22 23.8	+0.2
	2.2nm,0.3s,baz=128,slow=19,SNR=1.3						
HNR				LR	LR	15 23 54.8	
	comp=Z,255nm,19.2s,baz=52,slow=42						
	28nm,0.7s						
DZM	Mont Dzumac	10.72	176	Pn	Pn	15 22 19.5	-0.6
DZM	Mont Dzumac	10.72	176	Pn	Pn	15 22 20.4	+0.4
	1.1nm,0.3s,baz=337,slow=13,SNR=15						
DZM				Sn	Sn	15 24 18.9	-1.3
	0.1nm,0.3s,baz=284,slow=24,SNR=1.4						
DZM				LR	LR	15 26 24.7	
	comp=Z,115nm,18.4s,baz=14,slow=37						
	5.9nm,0.6s						
PMG	Port Moresby	18.36	274	LR	LR	15 30 55.5	
	comp=Z,209nm,19.2s,baz=145,slow=36						
BKZ	Black Stump Fm	29.35	163	P	P	15 25 49.4	-0.1
STKA	Stephens Creek	30.24	224	LR	LR	15 37 26.0	
	comp=Z,60nm,19.8s,baz=25,slow=35						
MSWZ	Moikau Station	31.13	166	P	P	15 26 04.8	-0.3
WR8	Warramunga Arr	31.23	250	P	P	15 26 06.8	+0.5
WR8				IAmb	IAmb	15 26 22.8	
	comp=Z,7.4nm,1.4s						
WB0	Warramunga Arr	31.29	251	P	P	15 26 07.3	+0.5
WRA	Warramunga Arr	31.38	250	P	P	15 26 08.1	+0.5
	comp=Z,1.0nm,0.8s,baz=82,slow=9.3,SNR=8.3						
WRA				LR	LR	15 38 54.9	
	comp=Z,77nm,18.4s,baz=356,slow=37						
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	32.66	244	P	P	15 26 18.4	-0.4
	comp=Z,0.6nm,0.9s,baz=68,slow=9.6,SNR=8.8						
ASAR				PcP	PcP	15 29 05.6	+0.7
	comp=Z,0.3nm,0.9s,baz=68,slow=2.1,SNR=1.9						
ASAR				LR	LR	15 38 47.7	
	comp=Z,81nm,18.2s,baz=58,slow=35						
	comp=Z,0.6nm,0.9s						
FITZ	Fitzroy Crossi	39.29	255	P	P	15 27 15.9	+0.2
	comp=Z,2.8nm,0.8s,baz=94,slow=2.3,SNR=4.4						
	comp=Z,2.8nm,0.8s						
PPT	Papeete	43.65	104	LR	LR	15 42 31.4	
	comp=Z,45nm,22.0s,baz=336,slow=31						
PSI	Prapat	67.89	278	LR	LR	16 03 13.1	
	comp=Z,176nm,18.4s,baz=268,slow=38						
CMAR	Chiang Mai Arr	72.20	294	P	P	15 31 11.7	-0.3
	comp=Z,0.2nm,0.3s,baz=113,slow=4.0,SNR=4.2						
	comp=Z,0.2nm,0.3s						
SEY	Seymchan	74.74	354	LR	LR	16 01 08.1	
	comp=Z,20nm,18.6s,baz=214,slow=33						
QSPA	South Pole Qui	78.69	180	P	P	15 31 49.9	+1.2
QSPA				IAmb	IAmb	15 32 17.2	
	comp=Z,4.5nm,1.2s						
QSPA	South Pole Qui	78.69	180	P	P	15 31 49.5	+0.9
	comp=Z,1.3nm,1.0s,baz=7.2,slow=4.5,SNR=3.8						
	comp=Z,1.3nm,1.0s						
SONM	Songino Array	78.87	324	P	P	15 31 51.0	+1.1
	comp=Z,0.3nm,0.3s,baz=144,slow=5.2,SNR=1.2						
	comp=Z,0.3nm,0.3s						
D19K	Kuna River	83.64	13	P	P	15 32 14.9	+0.3
ILAR	Eielson Array	83.77	18	P	P	15 32 14.8	-0.5
	comp=Z,0.4nm,0.6s,baz=249,slow=4.8,SNR=10						
	comp=Z,0.4nm,0.6s						
D20K	Etivluk River	84.14	13	P	P	15 32 16.9	-0.3
EGAK	Eagle	85.63	20	P	P	15 32 24.4	-0.3
MKAR	Makanchi Array	93.70	317	P	P	15 33 04.0	+0.7
	comp=Z,0.8nm,0.8s,baz=123,slow=10,SNR=7.2						
	comp=Z,0.8nm,0.8s						
ZALV	Zalesovo Beam	93.76	324	P	P	15 33 02.4	-0.9
	comp=Z,0.2nm,0.3s,baz=121,slow=1.6,SNR=1.7						
	comp=Z,0.2nm,0.3s						
TXAR	Lajitas Array	95.97	61	P	P	15 33 12.9	-1.3
	comp=Z,0.1nm,0.6s,baz=312,slow=1.8,SNR=5.2						
	comp=Z,0.1nm,0.6s						
ESDC	Sonseca Array	150.31	344	PKPbc	PKiKP	15 39 39.0	0.0
	comp=Z,0.2nm,0.5s,baz=96,slow=1.3,SNR=3.1						

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*AEIC **13** 15:24:45.8±0.6, 54°.7N±0°.3×163°.8W±0°.2, h130km±3km, Error ellipse: s-maj=43.1km s-min=6.5km az=159.0*
NEIC 13 15:24:45.0±0.6, 54°.7N±0°.3×163°.8W±0°.2, h131km±4km, ML2.5/14, ML2.4(AEIC), Error ellipse: s-maj=52.5km s-min=4.7km az=157.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	Shishaldin Sou	0.11	266		Pn	15 25 02.8	0.0
SSLS					Sn	15 25 16.6	+0.3
ISNN	Isanotski Nort	0.11	9		Pn	15 25 02.9	+0.2
ISNN					Sn	15 25 16.6	+0.3
SSBA	Shishaldin	0.19	286		Pn	15 25 02.6	-0.3
SSBA					Sn	15 25 16.4	-0.1
FALS	False Pass	0.27	59		Pn	15 25 02.7	-0.3
FALS	False Pass	0.27	59		Sn	15 25 16.6	-0.1
WEBT	Westdahl Beart	0.56	257		Pn	15 25 04.3	-0.2
DT1	Dutton Round H	0.96	66		Pn	15 25 07.2	-0.3
DT1					Sn	15 25 24.1	-0.7
DOL	Dolgoi Island	1.20	68		Pn	15 25 10.0	+0.1
DOL					Sn	15 25 29.5	+0.6
AKSA	Akutan Strait	1.25	243		Pn	15 25 10.6	+0.3
PN7A	Pavlof North-7	1.26	55		Pn	15 25 10.7	+0.2
AKUT	Akutan	1.29	244	Pn	Pn	15 25 10.7	0.0
AKUT				IAML		15 25 34.7	
	comp=E,35nm,1.2s						
PS4A	Pavlof South-4	1.29	60		Pn	15 25 10.9	+0.2
AHB	Akutan Harbor	1.32	243		Pn	15 25 11.2	+0.1
AKGG	Akutan Green G	1.38	249		Pn	15 25 11.7	-0.1
PS1A	Pavlof South-1	1.38	59		Pn	15 25 12.2	+0.5
S12K	Black Hills	1.41	45		Pn	15 25 11.7	-0.4
S12K	Black Hills	1.41	45	IAML		15 25 32.9	
	comp=N,25nm,1.1s						
LVA	Lava Point	1.41	248	Pn	Pn	15 25 11.9	-0.2
LVA				IAML		15 26 03.6	
	comp=E,44nm,1.2s						
ZRO	Akutan Zero	1.42	244		Pn	15 25 12.3	+0.1
UNV	Unalaska Valle	1.81	242		Pn	15 25 16.4	-0.1
UNV					Sn	15 25 40.3	-0.4
UNV	Unalaska Valle	1.81	242	IAML		15 25 46.6	
	comp=E,15nm,1.1s						
SDPT	Sand Point	2.02	70		Pn	15 25 19.1	-0.1
SDPT	Sand Point	2.02	70	IAML		15 25 50.0	
	comp=E,31nm,1.2s						
SDPT				IAML		15 25 50.8	
	comp=N,36nm,1.2s						
CNBA	Chernabura Isl	2.45	86		Pn	15 25 24.1	-0.3
CNBA	Chernabura Isl	2.45	86	IAML		15 26 05.6	
	comp=N,22nm,1.1s						
CNBA				IAML		15 26 06.9	
	comp=E,22nm,1.1s						

WEL 13 15:45:24.3±2.0, 33°S±37°×18°0W±5°5, h298km±70km, M4.0/7, mB4.3/2, MLv4.0/7, Mw(mB)3.4/2, Error ellipse: s-maj=74.7km s-min=44.4km az=109.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	4.74	200	P	Pn	15 46 38.7	0.0
WMGZ				S	S	15 47 40.7	+2.3
HAZ	Te Kaha	4.89	206	P	Pn	15 46 40.1	-0.3
HAZ				S	S	15 47 41.4	-0.1
PUZ	Puketiti	5.02	200	P	Pn	15 46 41.3	-0.6
PUZ				S	S	15 47 45.7	+1.4
RUGZ	Raukumara Rang	5.12	206	P	Pn	15 46 40.5	-2.7
RUGZ				S	S	15 47 46.5	0.0
TWGZ	Tauwhareparae	5.20	202	P	Pn	15 46 43.3	-0.8
TWGZ				S	S	15 47 49.9	+1.7
CNGZ	Carnagh Statio	5.42	199	P	Pn	15 46 46.3	-0.3
TKGZ	Te Karaka	5.49	202	P	Pn	15 46 45.8	-1.5
TKGZ				S	S	15 47 54.9	+0.8
MWZ	Matawai	5.50	205	P	Pn	15 46 45.4	-2.2
MWZ				S	S	15 47 55.3	+0.9
URZ	Urewera	5.59	208	P	Pn	15 46 46.7	-1.9
URZ				S	S	15 47 55.9	-0.5
RAGZ	Rawiri	5.68	205	P	Pn	15 46 48.1	-1.7
RAGZ				S	S	15 47 58.7	+0.2
RIGZ	Rimuhau	5.76	202	P	Pn	15 46 51.6	+1.0
RIGZ				S	S	15 47 59.9	-0.2
MUGZ	Murupara	5.91	209	P	Pn	15 46 50.1	-2.3
MUGZ				S	S	15 48 01.1	-2.4
RTZ	Ruatahuna	5.95	207	P	Pn	15 46 51.2	-1.8
RTZ				S	S	15 48 02.8	-1.5
SNGZ	Shannon Statio	5.96	204	P	Pn	15 46 51.8	-1.2
SNGZ				S	S	15 48 04.8	+0.2
MHGZ	Mahia Peninsul	6.13	199	P	Pn	15 46 54.1	-0.9
MHGZ				S	S	15 48 06.6	-1.5
TLZ	Tolley Road	6.36	218	P	Pn	15 46 58.8	+0.9
BKZ	Black Stump Fm	6.61	208	P	Pn	15 46 55.2	-5.7
BKZ				S	S	15 48 16.2	-2.7
HIZ	Hauiti	6.86	220	P	Pn	15 47 04.8	+1.0

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*IDC **13** 15:46:08.1±0.9, 9°.39N×127°.15E, h0km, mb3.8/8, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=38.0km s-min=15.9km az=77.0*
*NEIC **13** 15:46:09.8±1.3, 9°.4N±0°.1×127°.0E±0°.2, h10km±2km, mb4.3/11, Error ellipse: s-maj=26.3km s-min=18.3km az=99.0*
ISC 13 15:46:13.6±0.8, 9°36N±0°.08×127°.1E±0°.1, h41km, n26, σ1°.15/26, mb4.0/15, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.73	214	Pn	Pn	15 46 52.5	-2.6
DAV	Davao City (W)	2.73	214	Pn	Pn	15 46 55.5	+0.5
	20nm,0.3s,baz=34,slow=7.3,SNR=3.9						
DAV				Sn	Sn	15 47 29.4	+2.5
	26nm,0.3s,baz=42,slow=14,SNR=5.8						
	80nm,0.3s						
KNRA	Kununurra	24.93	176	P	P	15 51 33.2	+0.1
KNRA				IAmb	IAmb	15 51 41.0	
	comp=Z,13nm,1.1s						
PMG	Port Moresby	27.31	133	P	P	15 51 53.2	-1.6
PMG				IAmb	IAmb	15 52 00.1	
	comp=Z,16nm,1.0s						
FITZ	Fitzroy Crossi	27.32	183	P	P	15 51 54.9	+0.2
FITZ	Fitzroy Crossi	27.32	183	P	P	15 51 55.0	+0.2
	comp=Z,0.8nm,0.4s,baz=3.8,slow=7.5,SNR=7.9						
	comp=Z,0.8nm,0.4s						
CMAR	Chiang Mai Arr	28.77	291	P	P	15 52 07.4	-0.3
	comp=Z,0.1nm,0.3s,baz=110,slow=8.5,SNR=1.4						
	comp=Z,0.1nm,0.3s						
WB0	Warramunga Arr	29.82	166	P	P	15 52 16.1	-0.9
WB0				IAmb	IAmb	15 52 50.6	
	comp=Z,5.7nm,1.3s						
WRAB	Tennant Creek	29.97	166	P	P	15 52 17.8	-0.6
WRAB				IAmb	IAmb	15 52 44.6	
	comp=Z,6.4nm,1.4s						
WRA	Warramunga Arr	29.97	166	P	P	15 52 18.0	-0.4
	comp=Z,0.3nm,0.5s,baz=347,slow=9.3,SNR=5.6						
WRA				PcP	PcP	15 55 21.5	+1.2
	comp=Z,0.2nm,0.6s,baz=332,slow=3.1,SNR=1.7						
	comp=Z,0.3nm,0.5s						
WR8	Warramunga Arr	30.02	166	P	P	15 52 18.3	-0.5
WR8				IAmb	IAmb	15 52 41.6	
	comp=Z,3.2nm,1.1s						
GSI	Gunungsitoli	30.45	257	P	P	15 52 21.3	-1.5
AS31	Alice Springs	33.48	169	P	P	15 52 49.1	-0.1
ASAR	Alice Springs	33.49	169	P	P	15 52 49.2	-0.1
	comp=Z,0.3nm,0.3s,baz=353,slow=7.0,SNR=24						
ASAR				PcP	PcP	15 55 31.0	+1.2
	comp=Z,0.2nm,0.6s,baz=347,slow=3.0,SNR=5.1						
	comp=Z,0.3nm,0.3s						
H11S3	WAKE ISLAND Hy 39.39	72		T	T	16 36 49.3	
	baz=262,slow=74,SNR=15						
H11S1	WAKE ISLAND Hy 39.41	72		T	T	16 36 55.6	
	baz=262,slow=74,SNR=9.4						
H11S2	WAKE ISLAND Hy 39.41	72		T	T	16 36 50.6	
	baz=262,slow=74,SNR=6.4						
SONM	Songino Array	42.16	339	P	P	15 54 03.2	+0.8
	comp=Z,0.6nm,0.4s,baz=101,slow=7.5,SNR=2.5						
	comp=Z,0.6nm,0.4s						
BBOO	Buckleboo	42.79	169	P	P	15 54 08.3	+0.8
MKAR	Makanchi Array	53.25	323	P	P	15 55 27.1	-1.1
MKAR	Makanchi Array	53.25	323	P	P	15 55 27.8	-0.4
	comp=Z,0.6nm,0.6s,baz=118,slow=8.6,SNR=5.8						
	comp=Z,0.6nm,0.6s						
MAKZ	Makanchi	53.45	323	P	P	15 55 28.9	-0.8
MAKZ				IAmb	IAmb	15 55 49.2	
	comp=Z,1.4nm,1.1s						
KURBB	Kurchatov Arra	57.29	325	P	P	15 55 56.8	-0.4
	comp=Z,0.7nm,0.5s,baz=123,slow=6.8,SNR=1.8						
ARCES	ARCESS Array B	85.33	340	P	P	15 58 47.6	+1.5
ARCES				IAmb	IAmb	15 59 25.0	
	comp=Z,6.7nm,1.2s						
ARCES	ARCESS Array B	85.33	340	P	P	15 58 47.6	+1.5
	comp=Z,1.4nm,0.8s,baz=64,slow=5.5,SNR=6.1						
	comp=Z,1.4nm,0.8s						
FINES	FINESS Array B	87.08	332	P	P	15 58 55.5	+0.6
	comp=Z,1.4nm,0.8s,baz=53,slow=6.9,SNR=3.7						
	comp=Z,1.4nm,0.8s						

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*NEIC **13** 15:48:38.3±1.0, 35°.61N±0°.01×117°.418W±0°.009, h9km±4km, Error ellipse: s-maj=1.5km s-min=1.1km az=179.0*
PAS 13 15:48:38.9±0.7, 35°.606N±0°.008×117°.41W±0°.01, h5km±2km, ML3.1/120, ML2.8/170(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=212.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	Spangler Hills	0.07	264		Pg	15 48 40.4	0.0
WSHM					Sg	15 48 42.0	+0.4
WSHM	Spangler Hills	0.07	264	IAML		15 48 42.1	
	15μm,0.1s						
WSHM				IAML		15 48 42.5	
	27μm,0.1s						
CCCA	Chr Cany lake	0.09	154		Pg	15 48 41.1	+0.3
CCCA	Chr Cany lake	0.09	154		Sg	15 48 43.1	+1.0
LRMC	Laurel Mtn Rad	0.25	240		Pg	15 48 43.8	0.0
CLC	China Lake	0.26	324		Sg	15 48 47.8	+0.4
CLC	China Lake	0.26	324	Pg	Pg	15 48 43.9	0.0
CLC				IAML		15 48 48.0	
	comp=E,3μm,0.4s						
CLC				IAML		15 48 48.0	
	comp=N,2μm,0.3s						
SRTC	Snort	0.29	287		Pg	15 48 44.9	+0.4
SRTC					Sg	15 48 49.9	+1.6
TOW	Tower One	0.35	305		Pg	15 48 46.1	+0.4
TOW					Sb	15 48 52.1	-1.5
MPMC	Manual Prospec	0.46	352		Pg	15 48 47.5	-0.2
MPMC				IAML		15 48 55.8	
	comp=N,1μm,0.6s						
MPMC				IAML		15 48 56.0	
	comp=E,1μm,0.3s						
WNMM	Nine Mile Cany	0.47	301		Sg	15 48 55.1	+1.2
WVPM	Volcano Peak E	0.47	316		Pg	15 48 48.0	0.0
DTP	Desert Tortois	0.49	226		Pg	15 48 48.1	-0.2
DTP					Sg	15 48 54.9	+0.2
WCSM	Coso Springs S	0.51	326		Pg	15 48 48.7	0.0
WCSM					Sg	15 48 55.8	+0.4
WRVM	Rose V. Centra	0.56	316		Pg	15 48 49.5	-0.1
WRVM					Sg	15 48 57.2	+0.3
QSM	Queen of Sheba	0.57	51		Pg	15 48 49.7	-0.1
QSM					Sg	15 48 57.7	+0.5
QSM	Queen of Sheba	0.57	51	IAML		15 48 58.5	
	comp=N,416nm,0.1s						
QSM				IAML		15 49 01.5	
	comp=E,508nm,0.2s						
GSC	Goldstone, Bar	0.58	121		Pg	15 48 49.9	-0.1
GSC	Goldstone, Bar	0.58	121		Sg	15 48 57.9	+0.3
WBSM	Bird Springs	0.60	264		Sg	15 48 58.2	0.0
MFS	McCloud Flat S	0.62	325		Pg	15 48 50.7	-0.2
MFS					Sg	15 48 59.3	+0.2
CCAC	Calif City Air	0.67	228		Pg	15 48 51.5	-0.2
CCAC					Sg	15 49 00.8	+0.4
WORM	Onyx Ranch	0.68	278		Pg	15 48 51.6	-0.4
WORM					Sg	15 49 00.7	-0.1
HYS	Haystack Butte	0.75	190		Pg	15 48 52.7	-0.6
HYS					Sg	15 49 03.0	-0.1
WHFM	Hanning Flat	0.77	277		Pg	15 48 53.2	-0.4
WHFM					Sg	15 49 03.4	-0.2
RRX	Edison Barstow	0.81	155		Sg	15 49 04.6	-0.2
GWY	Greenwater Val	0.84	46		Pg	15 48 54.6	-0.4
GWY					Sg	15 49 05.8	0.0
GWY	Greenwater Val	0.84	46	IAML		15 49 11.1	
	comp=N,399nm,0.5s						
GWY				IAML		15 49 13.6	
	comp=E,385nm,0.4s						
ISA	Isabella, Lake	0.87	274		Pg	15 48 55.0	-0.6
ISA				IAML		15 49 09.7	
	comp=N,462nm,0.4s						
ISA				IAML		15 49 10.1	
	comp=E,408nm,0.5s						
ISA	Isabella, Lake	0.87	274		Sg	15 49 06.6	-0.2
WASM	Alta Sierra Ca	0.94	278		Pg	15 48 56.3	-0.6
WASM					Sg	15 49 09.0	-0.2
FURC	Furnace Creek,	0.97	27		Pg	15 48 57.0	-0.4
SHOC	Shoshone, Teco	0.97	72		Pg	15 48 57.2	-0.2
SHOC					Sg	15 49 10.7	+0.6
TPO	Tropico Hills	0.99	223		Pg	15 48 57.2	-0.6
TPO				IAML		15 49 15.2	
	comp=E,437nm,0.6s						
CWC	Cottonwood Cre	0.99	327		Pg	15 48 57.5	-0.4
DSCC	Desert Studies	1.17	113		Pg	15 49 00.1	-1.2
TUQ	Turquoise Moun	1.23	98		Pg	15 49 01.6	-0.8
AMDNV	Amargosa	1.25	47		Pg	15 49 01.6	-1.2
WCT	Wildcat Mounta	1.34	28		Pn	15 49 03.4	-1.1
WCT				IAML	

comp=N,82nm,0.5s
TPNV IAML 15 49 36.4
comp=N,86nm,0.6s
DSP Deep Springs 1.82 346 Pn 15 49 10.4 -0.5
DSP IAML 15 49 37.5
comp=N,62nm,0.4s
DSP IAML 15 49 37.7
comp=E,72nm,0.4s
ELS Elsinore Mount 1.95 180 Pn 15 49 11.9 -0.9
ELS IAML 15 49 41.3
comp=E,51nm,0.3s
BELC Belle Mtn. Jos 1.98 144 Pn 15 49 12.0 -1.3
BELC IAML 15 49 43.7
comp=E,80nm,0.4s
BELC IAML 15 49 44.6
comp=N,76nm,0.7s
SHPR Sheep Range 2.03 63 Pn 15 49 12.9 -1.1
PMD Palm Desert 2.13 156 IAML 15 49 48.1
comp=E,53nm,0.5s
PFO Pinyon Flats O 2.14 158 IAML 15 49 49.8
comp=E,35nm,0.6s
IRM Iron Mountain 2.36 127 IAML 15 49 56.1
comp=E,65nm,0.3s
IRM IAML 15 49 56.8
comp=N,60nm,0.3s
MDPB Devils Postpil 2.43 327 IAML 15 49 56.6
comp=N,30nm,0.3s
MDPB IAML 15 50 01.0
comp=E,29nm,0.9s
S11A Rachel 2.44 33 IAML 15 50 05.3
comp=E,49nm,0.5s
S11A IAML 15 50 21.4
comp=N,37nm,0.9s
TPH Tonopah 2.47 3 IAML 15 50 00.4
comp=E,28nm,0.7s
TPH IAML 15 50 00.5
comp=N,49nm,1.0s
BORC Borrego Spring 2.47 160 IAML 15 49 59.4
comp=E,33nm,0.8s
BORC IAML 15 50 04.4
comp=N,28nm,0.8s
BC3 Big Chuckawall 2.53 140 IAML 15 50 01.8
comp=N,50nm,0.6s
BC3 IAML 15 50 01.9
comp=E,35nm,0.4s
PRN Pahroc Range 2.62 46 IAML 15 50 11.8
comp=E,41nm,0.9s
PRN IAML 15 50 16.2
comp=N,36nm,0.5s
DPP Dos Picos Cty 2.63 171 IAML 15 50 01.9
comp=E,41nm,0.8s
CPE Camp Elliot 2.72 175 IAML 15 50 05.7
comp=N,34nm,0.2s
CPE IAML 15 50 05.8
comp=E,27nm,0.4s
LEGD La Grand CA 2.73 307 IAML 15 50 05.0
comp=N,63nm,0.9s
LHV Little Huntoon 2.78 342 IAML 15 50 13.7
comp=E,34nm,0.9s
LHV IAML 15 50 16.2
comp=N,23nm,0.9s
PMPB Monarch Peak 2.82 283 IAML 15 50 11.2
comp=E,44nm,0.8s
PMPB IAML 15 50 23.2
comp=N,43nm,0.9s
BAR Barrett 2.98 168 IAML 15 50 12.6
comp=E,24nm,0.3s
BAR IAML 15 50 16.0
comp=N,22nm,0.5s
BLYC Blythe 3.02 127 IAML 15 50 16.4
comp=E,30nm,0.5s
BLYC IAML 15 50 17.1
comp=N,32nm,0.5s
GLA Glamis 3.33 139 IAML 15 50 26.6
comp=N,30nm,0.7s
CMB Columbia Colle 3.40 316 IAML 15 50 31.2
comp=E,14nm,0.9s
CMB IAML 15 50 31.4
comp=N,12nm,0.7s
MHC Mount Hamilton 3.82 298 IAML 15 50 45.3
comp=N,12nm,1.1s
MHC IAML 15 50 45.8
comp=E,12nm,1.1s
Y14A Wickenburg 3.99 113 IAML 15 50 47.6
comp=E,14nm,0.4s
Y14A IAML 15 50 50.2
comp=N,17nm,0.7s
SPR3 Spring Creek 3 4.18 35 IAML 15 50 59.3
comp=E,6.9nm,3.1s
VTX Valle De La Tr 4.42 162 IAML 15 51 03.3
comp=N,6.3nm,1.1s
VTX IAML 15 51 20.2
comp=E,8.9nm,3.1s
BEKR Beckworth 4.85 332 IAML 15 51 18.7
comp=N,4.4nm,4.3s
BEKR IAML 15 51 23.5
comp=E,8.9nm,0.7s
X16A Lo Mia Camp, P 5.04 102 IAML 15 50 48.2
comp=N,4.2nm,4.2s
X16A IAML 15 51 22.9
comp=E,4.1nm,3.6s

*IDC **13** 15:52:25.9±0.7,7°.51S×119°.33E,h0km,mb3.9/10,*
mbtmp4.0/14,ML3.8/4,MS3.0/3,Error ellipse:
s-maj=35.4km s-min=13.7km az=65.0
*NEIC **13** 15:52:27.0±1.2,7°.55S±0°.06×119°.31E±0°.07,h10km±1km,*
mb4.4/16,Error ellipse: s-maj=12.5km s-min=10.4km
az=244.0
*DJA **13** 15:52:28.2±0.2,8°S±2°×11°9E±°,h10km,M4.2/18,mB4.9/3,*
mb4.4/6,MLv4.1/18,Mw(mB)4.1/3
ISC 13 15:52:27.8±2.8,7°.57S±0°.04×119°.32E±0°.04,h16km±18km,
n72,σ1°49/79,mb4.1/15,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.83**	**39**	P	**Pn**	**15 52 59.4**	**+0.8**
BSSI				S	**Sn**	**15 53 20.6**	**-0.9**
PLAI	**Plampang**	**1.97**	**231**	P	**Pb**	**15 53 02.3**	**-1.1**
PLAI	**Plampang**	**1.97**	**231**	P	**Pn**	**15 53 01.4**	**+0.8**
PLAI				S	**Sn**	**15 53 23.6**	**-1.4**
WBSI	**Waikabubak, Su**	**2.06**	**178**	P	**Pn**	**15 53 03.0**	**+1.2**
WBSI				S	**Sn**	**15 53 27.0**	**-0.2**
WSI	**Waingapu**	**2.30**	**155**	P	**Pn**	**15 53 06.7**	**+1.6**
WSI				S	**Sn**	**15 53 34.1**	**+1.1**
BKSI	**Bulukumba**	**2.37**	**20**	P	**Pn**	**15 53 07.4**	**+1.4**
BKSI				S	**Sn**	**15 53 33.5**	**-1.3**
KAPI	**Kappang**	**2.58**	**10**	Pn	**Pn**	**15 53 09.6**	**+0.8**
KAPI	**Kappang**	**2.58**	**10**	Pn	**Pn**	**15 53 10.1**	**+1.3**
	37nm,0.3s,baz=194,slow=5.4,SNR=168						
KAPI				Sn	**Sn**	**15 53 38.6**	**-1.2**
	33nm,0.3s,baz=165,slow=20,SNR=10						
KAPI				LR	LR	15 53 40.2	
	comp=Z,98nm,19.8s,baz=194,slow=30						
	104nm,0.2s						
EDFI	**Ende, Flores**	**2.62**	**117**	P	**Pn**	**15 53 11.0**	**+1.4**
TWSI	**Taliwang, Sumb**	**2.68**	**244**	P	**Pn**	**15 53 11.2**	**+0.9**
BASI	**Baing, Sumba**	**2.91**	**155**	P	**Pn**	**15 53 14.7**	**+1.2**
MMRI	**Maumere**	**3.08**	**110**		**Pn**	**15 53 15.0**	**-0.8**
MMRI	**Maumere**	**3.08**	**110**	P	**Pn**	**15 53 17.5**	**+1.7**
MMRI	**Maumere**	**3.08**	**110**	S	**Sn**	**15 53 53.0**	**+0.8**
MMRI	**Maumere**	**3.08**	**110**	P	**Pn**	**15 53 17.1**	**+1.3**
MMRI				S	**Sn**	**15 53 52.3**	**+0.1**
BNSI	**Bone**	**3.24**	**14**	P	**Pn**	**15 53 20.3**	**+2.2**
SPSI	**Sidrap Palu**	**3.61**	**7**	P	**Pn**	**15 53 25.1**	**+2.0**
BATI	**Baumata**	**5.03**	**122**	Pn	**Pn**	**15 53 44.0**	**+1.4**
	3.5nm,0.3s,baz=288,slow=18,SNR=4.2						
BATI				LR	LR	15 56 16.1	
	comp=Z,363nm,18.6s,baz=345,slow=46						
	22nm,0.6s						
BATI	**Baumata**	**5.03**	**122**	P	**Pn**	**15 53 44.2**	**+1.6**
	0.1nm32nm,1.0s						
ABJI	**Asem Bagus**	**5.05**	**267**	P	**Pn**	**15 53 43.5**	**+0.6**
	74nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.20**	**260**	Pn	**Pn**	**15 53 44.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**5.20**	**260**	P	**Pn**	**15 53 48.8**	**+3.9**
JAGI	**Jajag, Banyuwa**	**5.20**	**260**	P	**Pn**	**15 53 45.1**	**+0.2**
	0.2nm687nm26nm,1.1s						
KMMI	**Kalianget**	**5.34**	**275**	P	**Pn**	**15 53 49.0**	**+2.2**
	2μm44nm,1.0s						
SOEI	**Soe**	**5.35**	**114**		**Pn**	**15 53 46.7**	**-0.5**
SOEI	**Soe**	**5.35**	**114**	P	**Pn**	**15 53 49.1**	**+1.9**
LUWI	**Luwuk**	**7.34**	**28**	P	**Pn**	**15 54 17.0**	**+2.6**
TOLI2	**Tolitoli**	**8.75**	**10**	Pn	**Pn**	**15 54 31.9**	**-1.8**
TOLI2	**Tolitoli**	**8.75**	**10**	P	Pn	15 54 39.0	+5.3
FITZ	**Fitzroy Crossi**	**12.14**	**150**	Pn	**Pn**	**15 55 19.6**	**-0.6**
	0.2nm,0.3s,baz=330,slow=12,SNR=9.4						
FITZ				Sn	**Sn**	**15 57 28.1**	**-7.3**
	0.1nm,0.3s,baz=60,slow=17,SNR=1.4						
	2.1nm,0.8s						
KNRA	**Kununurra**	**12.26**	**132**	Pn	**Pn**	**15 55 21.1**	**-0.8**
MYLDM	**Lahad Datu**	**12.69**	**356**	Pn	**Pn**	**15 55 26.4**	**-1.4**
MTN	**Manton Dam**	**12.75**	**115**		**Pn**	**15 55 27.2**	**-1.4**
MBWA	**Marble Bar**	**13.52**	**178**	Pn	**Pn**	**15 55 38.3**	**-0.7**
MBWA	**Marble Bar**	**13.52**	**178**	P	**Pn**	**15 55 39.7**	**+0.7**
PSA00	**Pilbara Seismi**	**13.93**	**178**	Pn	**Pn**	**15 55 44.2**	**-0.5**
GIRL	**Giralia**	**15.77**	**198**	P	**P**	**15 56 12.2**	**-0.9**
MEEK	**Meekatharra**	**18.98**	**182**	P	**P**	**15 56 48.5**	**-0.2**
WB0	**Warramunga Arr**	**18.99**	**131**	P	**P**	**15 56 48.4**	**-0.5**
WRA	**Warramunga Arr**	**19.06**	**132**	P	**P**	**15 56 49.5**	**-0.1**
WRA	**Warramunga Arr**	**19.06**	**132**	P	**P**	**15 56 49.4**	**-0.1**
	0.6nm,0.3s,baz=307,slow=13,SNR=45						
	1.4nm,0.5s						
WRAB	**Tennant Creek**	**19.06**	**132**	P	**P**	**15 56 49.5**	**-0.1**
WRAB				IAmb	IAmb	15 56 51.3	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**19.06**	**132**	P	**P**	**15 56 49.8**	**+0.2**
WR8	**Warramunga Arr**	**19.18**	**131**	P	**P**	**15 56 51.0**	**0.0**
AS31	**Alice Springs**	**21.26**	**140**	P	**P**	**15 57 13.9**	**+0.4**
ASAR	**Alice Springs**	**21.26**	**140**	P	**P**	**15 57 14.6**	**+1.1**
ASAR	**Alice Springs**	**21.26**	**140**	P	**P**	**15 57 14.5**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=321,slow=11,SNR=58						
ASAR				PcP	**PcP**	**16 01 17.2**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=324,slow=1.3,SNR=2.5						
	comp=Z,6.0nm,0.7s						
QIS	**Mount Isa**	**23.49**	**125**	P	**P**	**15 57 37.9**	**+0.7**
COEN	**Coen**	**24.27**	**107**	P	**P**	**15 57 44.2**	**-0.3**
COEN				IAmb	IAmb	15 58 12.5	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**24.50**	**162**	P	**P**	**15 57 46.7**	**+0.2**
FORT				IAmb	IAmb	15 57 55.1	
	comp=Z,7.1nm,1.1s						
BBOO	**Buckleboo**	**29.53**	**151**	P	**P**	**15 58 32.0**	**+0.3**
STKA	**Stephens Creek**	**31.87**	**142**	P	**P**	**15 58 53.5**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=318,slow=11,SNR=3.7						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.76**	**322**	P	**P**	**15 59 01.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=102,slow=8.2,SNR=3.4						
	comp=Z,0.3nm,0.3s						
MSWZ	**Moikau Station**	**59.74**	**134**	P	**P**	**16 02 31.1**	**-0.9**
MKAR	**Makanchi Array**	**63.34**	**332**	P	**P**	**16 02 55.5**	**-0.6**
MKAR	**Makanchi Array**	**63.34**	**332**	P	**P**	**16 02 56.6**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=138,slow=7.2,SNR=23						
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**67.83**	**339**	P	**P**	**16 03 23.7**	**-1.3**
ZALV	**Zalesovo Beam**	**67.83**	**339**	P	**P**	**16 03 24.4**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=142,slow=7.5,SNR=6.1						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**67.84**	**333**	P	**P**	**16 03 25.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=145,slow=5.5,SNR=9.6						
	comp=Z,0.7nm,0.6s						
NIUE	**Niue**	**69.41**	**107**	P	**P**	**16 03 34.9**	**-0.8**
MAW	**Mawson**	**70.68**	**200**	P	**P**	**16 03 43.9**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=84,slow=5.2,SNR=4.1						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**73.34**	**171**	P	**P**	**16 03 59.9**	**+1.6**
VNDA				IAmb	IAmb	16 04 27.0	
	comp=Z,3.6nm,1.4s						
VNDA	**Vanda**	**73.34**	**171**	P	**P**	**16 03 59.5**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=313,slow=8.6,SNR=10						
	comp=Z,0.4nm,0.5s						
SBA	**Scott Base**	**74.34**	**171**	P	**P**	**16 04 06.3**	**+2.1**
SBA				IAmb	IAmb	16 04 36.3	
	comp=Z,3.0nm,1.4s						
ABKAR	**Akbulak array**	**76.58**	**325**	P	**P**	**16 04 17.2**	**-0.2**
QSPA	**South Pole Qui**	**82.42**	**180**	P	**P**	**16 04 51.8**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=333,slow=2.3,SNR=5.1						
	comp=Z,0.5nm,0.6s						
SNAA	**Sanae**	**92.45**	**196**	P	**P**	**16 05 37.7**	**0.0**
SNAA				IAmb	IAmb	16 06 16.0	
	comp=Z,5.2nm,1.5s						
SNAA	**Sanae**	**92.45**	**196**	P	**P**	**16 05 38.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=149,slow=5.5,SNR=5.1						
	comp=Z,0.6nm,0.7s						
H17K	**Granite Mounta**	**92.90**	**25**		**P**	**16 05 40.5**	**+0.7**
H17K				IAmb	IAmb	16 06 20.5	
	comp=Z,5.7nm,1.1s						
BELA	**Belgrano 2**	**93.46**	**185**	P	**P**	**16 05 42.6**	**+0.4**
BELA				IAmb	IAmb	16 05 59.7	
	comp=Z,5.1nm,1.4s						
C19K	**Lookout Ridge**	**93.85**	**21**	P	**P**	**16 05 43.9**	**-0.2**
AKASG	**Malin Array Be**	**95.86**	**320**	LR	LR	16 57 58.2	
	comp=Z,11nm,19.4s,baz=27,slow=41						

*IDC **13** 15:56:03.8±2.9,31°.58N×140°.13E,h0km,mb3.1/2,*
mbtmp3.1/3,ML2.0/1,Error ellipse: s-maj=220.3km
s-min=22.4km az=84.0
*JMA **13** 15:56:09.9±0.3,32°.1N±0°.9×14°1E±°,h53km±4km,*
MV2.8/14,E OFF HACHIJOJIMA ISLAND
ISC 13 15:56:10.0±1.4,31°.96N±0°.09×140°.5E±0°.2,h73km,n14,
σ1°85/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.77**	**311**	*e*S	**Sn**	**15 56 36.1**	**-1.5**
JHCJ	**Hachijojimakas**	**1.23**	**334**	*e*S	**Sn**	**15 56 46.2**	**-1.5**
JHJ	**Hachijo jima 2**	**1.28**	**334**	Pn	**Pn**	**15 56 32.1**	**0.0**
	8.3nm,0.3s,baz=90,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**15 56 46.0**	**-2.9**
	31nm,0.3s,baz=241,slow=19,SNR=2.0						
BSO3	**Boso 3**	**2.83**	**1**	*e*P	**Pn**	**15 56 53.0**	**+0.3**
JHO	**Hitachi**	**4.64**	**1**	*e*P	**Pn**	**15 57 17.8**	**+0.3**
JHO				*e*S	**Sn**	**15 58 08.9**	**-1.2**
MJAR	**Matsushiro Arr**	**4.93**	**339**	Pn	**Pn**	**15 57 23.6**	**+2.1**
	0.1nm,0.3s,baz=163,slow=10,SNR=5.3						
MJAR				Sn	**Sn**	**15 58 19.9**	**+2.7**
	baz=217,slow=33						
	1.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**26.66**	**111**	T	T	16 29 47.8	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.67**	**111**	T	T	16 29 51.2	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**26.68**	**111**	T	T	16 29 49.2	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**27.18**	**113**	T	T	16 30 19.1	
	baz=304,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**27.18**	**113**	T	T	16 30 25.8	
	baz=304,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.19**	**113**	T	T	16 30 22.4	
	baz=304,slow=75,SNR=9.5						
WRA	**Warramunga Arr**	**51.94**	**187**	P	**P**	**16 05 10.7**	**-0.8**
	0.3nm,0.6s,baz=5.0,slow=7.8,SNR=7.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**55.67**	**187**	P	**P**	**16 05 39.5**	**+0.8**
	0.1nm,0.8s,baz=3.8,slow=7.0,SNR=5.4						
	0.1nm,0.8s						

*CATAC **13** 16:05:10.7±0.5,13°N±3°×9°0W±°,h25km±2km,M3.8/18,*
MLv3.8/18,Error ellipse: s-maj=6.5km s-min=4.4km
az=15.3,confirmed
*SNET **13** 16:05:11.4±1.1,13°.07N×89°.53W,h41km,ML3.6*
*GCG **13** 16:05:13.0±0.6,13°.18N×89°.61W,h35km±3km,MD4.2,*
ML3.6
ISC 13 16:05:12.0±1.8,13°.08N±0°.08×89°.54W±0°.04,h34km±3km,
n63,σ0°52/72,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**28**	*e*P	**Pn**	**16 05 22.2**	**0.0**
LALI				*e*S	**Sn**	**16 05 29.6**	**+0.4**
LALI	**Alcalda de L**	**0.46**	**28**	*i* P	**Pn**	**16 05 22.2**	**0.0**
LALI				*e*S	**Sn**	**16 05 29.5**	**+0.4**
LALI	**Alcalda de L**	**0.46**	**28**	P	**Pn**	**16 05 22.2**	**0.0**
JAYA	**Jayaque - finc**	**0.58**	**9**	*i* P	**Pb**	**16 05 23.7**	**-0.4**
JAYA				*e*S	**Sb**	**16 05 32.2**	**-0.1**
JAYA	**Jayaque - finc**	**0.58**	**9**	P	**Pn**	**16 05 23.5**	**-0.5**
PANCS	**Alcalda de**	**0.64**	**33**	P	**Pn**	**16 05 24.2**	**-0.4**
PANCS	**Alcalda de**	**0.64**	**33**	S	**Sb**	**16 05 33.9**	**+0.1**
ITCA	**Escuela Especi**	**0.65**	**23**	S	**Sb**	**16 05 34.1**	**+0.1**
ITCA	**Escuela Especi**	**0.65**	**23**	P	**Pn**	**16 05 24.4**	**-0.4**
LOMA	**Loma Larga**	**0.67**	**32**	S	**Sb**	**16 05 35.3**	**+0.6**
LOMA	**Loma Larga**	**0.67**	**32**	P	**Pb**	**16 05 25.1**	**-0.4**
PMON	**Piamonte**	**0.67**	**19**	S	**Sb**	**16 05 35.9**	**+1.2**
PMON	**Piamonte**	**0.67**	**19**	P	**Pn**	**16 05 24.7**	**-0.4**
SEMO	**Seminario San**	**0.69**	**26**	P	**Pn**	**16 05 25.2**	**-0.3**
SEMO	**Seminario San**	**0.69**	**26**	S	**Sb**	**16 05 35.7**	**+0.4**
UEES	**Universidad Ev**	**0.70**	**25**	*e*P	**Pn**	**16 05 25.1**	**-0.5**
UEES	**Universidad Ev**	**0.70**	**25**	P	**Pn**	**16 05 25.2**	**-0.3**
UEES	**Universidad Ev**	**0.70**	**25**	S	**Sb**	**16 05 35.5**	**0.0**
BOQS	**Boqueron**	**0.70**	**21**	*e*P	**Pn**	**16 05 25.4**	**-0.2**
BOQS				*e*S	**Sb**	**16 05 36.3**	**+0.7**
UTEC	**Universidad Te**	**0.70**	**28**	P	**Pn**	**16 05 25.0**	**-0.5**
UTEC	**Universidad Te**	**0.70**	**28**	S	**Sb**	**16 05 36.0**	**+0.5**
LFRS	**El Faro**	**0.71**	**41**	*e*P	**Pn**	**16 05 25.4**	**-0.4**
IGN	**Direccin Gen**	**0.73**	**30**	P	**Pn**	**16 05 25.0**	**-0.9**
IGN	**Direccin Gen**	**0.73**	**30**	S	**Sn**	**16 05 35.8**	**-0.1**
CEDA	**San Andres**	**0.73**	**11**	P	**Pn**	**16 05 25.4**	**-0.6**
CEDA	**San Andres**	**0.73**	**11**	S	**Sb**	**16 05 36.9**	**+0.5**
UDBS	**Universidad Do**	**0.74**	**31**	P	**Pn**	**16 05 25.6**	**-0.4**
UDBS	**Universidad Do**	**0.74**	**31**	S	**Sb**	**16 05 36.7**	**+0.2**
CEVE	**Cerro Verde**	**0.75**	**354**	*e*P	**Pb**	**16 05 26.3**	**-0.6**
CEVE				*e*S	**Sb**	**16 05 37.2**	**+0.2**
CEVE	**Cerro Verde**	**0.75**	**354**	P	**Pn**	**16 05 26.0**	**-0.4**
SBLS	**San Blas**	**0.76**	**354**	*e*P	**Pn**	**16 05 26.2**	**-0.4**
NUBE	**Las Nubes**	**0.85**	**344**	*i* P	**Pn**	**16 05 27.3**	**-0.4**
NUBE				*e*S	**Sn**	**16 05 38.4**	**-0.7**
NUBE	**Las Nubes**	**0.85**	**344**	S	**Sb**	**16 05 39.4**	**-0.4**
NUBE	**Las Nubes**	**0.85**	**344**	P	**Pn**	**16 05 27.0**	**-0.7**
PAVA	**Las Pavas**	**0.86**	**43**	P	**Pn**	**16 05 27.6**	**-0.2**
PAVA	**Las Pavas**	**0.86**	**43**	S	**Sb**	**16 05 39.7**	**-0.3**
TECO	**Alcaldia de Te**	**0.87**	**58**	P	**Pn**	**16 05 27.0**	**-0.8**
TECO	**Alcaldia de Te**	**0.87**	**58**	S	**Sn**	**16 05 39.1**	**-0.2**
FAME	**Alcaldia de Sa**	**0.89**	**329**	S	**Sn**	**16 05 38.8**	**-1.0**
FAME	**Alcaldia de Sa**	**0.89**	**329**	P	**Pn**	**16 05 27.5**	**-0.6**
UNIC	**Universidad Ca**	**0.90**	**360**	S	**Sb**	**16 05 41.6**	**+0.5**
UNIC	**Universidad Ca**	**0.90**	**360**	P	**Pn**	**16 05 28.2**	**0.0**
UESV	**Universidad de**	**0.92**	**53**	P	**Pn**	**16 05 27.9**	**-0.6**
UESV	**Universidad de**	**0.92**	**53**	S	**Sn**	**16 05 40.4**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.00**	**52**	S	**Sb**	**16 05 43.5**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.00**	**52**	P	**Pn**	**16 05 29.6**	**-0.1**
LLGN	**La Laguna**	**1.22**	**28**	*e*P	**Pn**	**16 05 32.7**	**-0.1**
LLGN				*e*S	**Sb**	**16 05 49.4**	**-0.9**
LLGN	**La Laguna**	**1.22**	**28**	P	**Pn**	**16 05 32.9**	**+0.1**
PACA	**Pacayal**	**1.25**	**72**	*e*P	**Pn**	**16 05 33.0**	**-0.1**
PACA	**Pacayal**	**1.25**	**72**	S	**Sn**	**16 05 49.1**	**+0.3**
PACA	**Pacayal**	**1.25**	**72**	P	**Pn**	**16 05 33.4**	**+0.2**
JUAM	**Asuncion Mita**	**1.26**	**353**	*e*P	**Pn**	**16 05 33.0**	**-0.2**
JUAM				IAML		16 05 52.4	
	comp=E,567nm,0.5s						
MTO3	**Montecristo**	**1.32**	**8**	*e*P	**Pn**	**16 05 34.2**	**0.0**
MTO3	**Montecristo**	**1.32**	**8**	P	**Pn**	**16 05 34.3**	**0.0**
MTO3	**Montecristo**	**1.32**	**8**	S	**Sn**	**16 05 51.5**	**+0.6**
PCG5	**San Vicente Pa**	**1.39**	**324**	*e*P	**Pb**	**16 05 38.8**	**+1.2**
LCND	**La Caada**	**1.62**	**82**	*e*P	**Pn**	**16 05 37.8**	**-0.4**
ESSG	**Sabana Grande**	**1.81**	**316**	*e*P	**Pn**	**16 05 40.5**	**-0.3**
SARH	**Santa Rosa de**	**1.85**	**24**	*i* P	**Pn**	**16 05 41.9**	**+0.5**
APG	**El Apazote**	**2.11**	**335**	*e*P	**Pn**	**16 05 45.4**	**+0.2**
STG2	**El Palmar, Qui**	**2.24**	**307**	*e*P	**Pb**	**16 05 52.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.41**	**66**	P	**Pn**	**16 05 48.5**	**-0.6**
TGUH				S	**Sn**	**16 06 18.9**	**+1.3**
YUSH	**Yuscaran**	**2.77**	**71**	P	**Pn**	**16 05 53.6**	**-0.4**
YUSH				S	**Sn**	**16 06 27.1**	**+0.9**

*IDC **13** 16:21:04.6±2.3,3°.39S×130°.61E,h0km,mb4.2/3,*
mbtmp4.0/5,ML3.8/2,MS3.2/1,Error ellipse:
s-maj=132.5km s-min=24.5km az=75.0
*NEIC **13** 16:21:05.2±2.0,3°.42S±0°.07×130°.76E±0°.05,h10km±1km,*
mb4.1/13,Error ellipse: s-maj=14.8km s-min=3.4km
az=323.0
*DJA **13** 16:21:07.7±0.5,3°S±3°×13°1E±°,h10km±4km,M4.0/14,*
mB4.9/2,mb4.2/6,MLv3.8/14,Mw(mB)4.2/2
ISC 13 16:21:04.9±0.6,3°.39S±0°.05×130°.74E±0°.04,h10km,n39,
σ2°34/41,mb4.2/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.40**	**216**	P	**Pg**	**16 21 36.0**	**+4.2**
FAKI	**Fak Fak**	**1.58**	**73**		**Pn**	**16 21 33.8**	**+0.8**
FAKI				Sn	**Sn**	**16 21 53.8**	**-0.5**
FAKI	**Fak Fak**	**1.58**	**73**	P	**Pb**	**16 21 34.1**	**-0.1**
FAKI				S	**Sn**	**16 21 53.6**	**+0.1**
MSAI	**Masohi**	**1.81**	**271**	P	**Pg**	**16 21 40.0**	**+0.3**
AAI	**Ambon**	**2.56**	**263**	P	**Pb**	**16 21 51.5**	**+0.6**
SWI	**Sorong**	**2.56**	**12**	P	**Pn**	**16 21 45.8**	**-0.8**
SWI				S	**Sn**	**16 22 14.8**	**-3.0**
KMPI	**Kaimana, Papua**	**2.97**	**95**	P	**Pn**	**16 21 53.6**	**+1.4**
NLAI	**Namlea**	**3.64**	**272**	P	**Pn**	**16 22 04.2**	**+2.9**
RKPI	**Ransiki, Papua**	**3.91**	**62**	P	**Pn**	**16 22 06.1**	**+1.0**
SAUI	**Saumlaki**	**4.60**	**173**	P	Pn	16 22 19.4	+4.8
SANI	**Sanana**	**4.93**	**286**	P	**Pn**	**16 22 20.1**	**+1.0**
SRPI	**Serui, Papua**	**5.70**	**75**	P	**Pn**	**16 22 31.6**	**+1.9**
	0.3nm21nm,0.4s						
BAKI	**Biak**	**5.79**	**68**	P	**Pn**	**16 22 33.6**	**+2.6**
SMPI	**Sarmi**	**8.08**	**80**	P	**Pn**	**16 23 04.9**	**+2.4**
	18nm,1.4s						
SOEI	**Soe**	**9.02**	**225**	P	Pn	16 23 22.4	+7.0
	11nm,1.1s						
MTN	**Manton Dam**	**9.40**	**178**		**Pn**	**16 23 21.4**	**+0.8**
MTN					**Sn**	**16 25 05.0**	**-1.5**
MRSI	**Marisa**	**9.60**	**293**	P	**Pn**	**16 23 25.5**	**+2.2**
KAPI	**Kappang**	**11.08**	**261**	Pn	**Pn**	**16 23 44.7**	**+1.1**
KNRA	**Kununurra**	**12.36**	**189**	Pn	**Pn**	**16 24 00.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**15.45**	**199**	Pn	**Pn**	**16 24 42.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.45**	**199**	Pn	**Pn**	**16 24 42.5**	**-0.5**
	0.3nm,0.3s,baz=20,slow=13,SNR=6.6						
FITZ				Sn	**Sn**	**16 27 30.4**	**-4.0**
	0.1nm,0.3s,baz=286,slow=12,SNR=2.2						
	1.9nm,0.7s						
COEN	**Coen**	**16.15**	**131**		**Pn**	**16 24 53.7**	**+1.4**
COEN				IAmb	IAmb	16 25 33.5	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**16.66**	**168**	Pn	**Pn**	**16 24 57.5**	**-1.3**
WRAB	**Tennant Creek**	**16.82**	**168**	Pn	**

comp=E,263nm,0.2s
SEYI Kastamonu-Seyd 0.52 100 P **Pg 16 40 13.7 +0.7**
SEYI S **Sb 16 40 21.2 -1.2**
SEYI *i* IAML 16 40 22.0
comp=E,211nm,0.2s
SEYI *i* IAML 16 40 24.0
comp=N,115nm,0.6s
SAFT Safranbolu 0.56 210 Pg **Pg 16 40 13.9 +0.2**
SAFT Sg **Sb 16 40 22.6 -0.9**
KBUK KARABUK-Merkez 0.58 214 P **Pg 16 40 14.5 +0.3**
KBUK *i* IAML 16 40 23.0
comp=E,89nm,0.3s
KBUK S **Sb 16 40 23.5 -0.8**
KBUK *i* IAML 16 40 25.0
comp=N,78nm,0.5s
BTIN Bartın 0.61 262 P **Pg 16 40 15.5 +0.8**
BTIN S **Sb 16 40 25.0 -0.1**
BTIN *i* IAML 16 40 28.0
comp=N,193nm,0.4s
BTIN *i* IAML 16 40 29.0
comp=E,149nm,0.3s
KMON Kastamonu 0.65 122 Pg **Pg 16 40 15.1 -0.3**
BZK Bozkurt 0.74 71 Pg **Pb 16 40 17.8 -0.6**
BZK Sg **Sb 16 40 28.4 -0.4**
ILGA Ilgaz 0.83 143 P **Pb 16 40 19.9 -0.1**
ILGA S **Sb 16 40 32.7 +1.1**
ILGA *i* IAML 16 40 35.0
comp=N,76nm,0.7s
ILGA *i* IAML 16 40 35.0
comp=E,101nm,0.4s
DERS Karabk-Eskip 0.95 204 P **Pb 16 40 22.1 +0.1**
DERS S **Sn 16 40 36.4 -0.7**
DERS *i* IAML 16 40 38.0
comp=N,35nm,0.4s
DERS *i* IAML 16 40 39.0
comp=E,26nm,0.6s
DEVR Zonguldak/Devr 1.00 235 P **Pg 16 40 21.6 -0.5**
DEVR S **Sg 16 40 35.2 0.0**
DEVR *i* IAML 16 40 36.0
comp=E,27nm,0.3s
DEVR *i* IAML 16 40 40.0
comp=N,33nm,0.4s
BCAM Yenicaga 1.18 220 P **Pg 16 40 25.8 +0.3**
BCAM S **Sn 16 40 43.5 +0.9**
BCAM *i* IAML 16 40 45.0
comp=E,32nm,0.5s
BCAM *i* IAML 16 40 48.0
comp=N,21nm,0.6s
KAGI orum-Kargı 1.22 118 P **Pn 16 40 26.4 -0.3**
KAGI S **Sn 16 40 43.7 +0.2**
KAGI *i* IAML 16 40 46.0
comp=N,36nm,0.3s
KAGI *i* IAML 16 40 50.0
comp=E,29nm,0.5s
BOYA Sinop/Boyabat- 1.23 98 P **Pb 16 40 25.9 -0.8**
BOYA S **Sn 16 40 46.5 +2.7**
BOYA *i* IAML 16 40 50.0
comp=E,25nm,0.6s
BOYA *i* IAML 16 41 12.0
comp=N,40nm,1.8s
YUVA Yuva-Kibriscik 1.69 218 Pn **Pn 16 40 33.6 +0.4**

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*CATAC **13** 17:12:34.2±0.4, 8°N±3°×8°1W±°, h1km, M3.8/15, mb4.1/2, MLv3.7/15, Error ellipse: s-maj=7.5km s-min=3.2km az=167.9, confirmed*
*UCR **13** 17:12:35.4±1.4, 7°68N×80°90W, h1km±12km, MW3.8*
ISC 13 17:12:36.3±1.7, 7°7N±0°1×80°88W±0°04, h18km, n44, σ1¶56/45, 1C, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.36**	**282**	⇑*iP*	**Pg**	**17 12 42.9**	**-1.0**
GMAL				*eS*	**Sg**	**17 12 49.5**	**+0.5**
KKNTU	**Kakintº**	**1.47**	**321**	*eP*	**Pn**	**17 13 01.1**	**-0.8**
ZANG	**Zanguenga, Cho**	**1.61**	**38**	*eP*	**Pn**	**17 13 04.2**	**+0.3**
RBALA	**Bur**	**1.73**	**313**	*eP*	**Pn**	**17 13 05.6**	**+0.1**
PBNVO	**Pueblo Nuevo,**	**1.77**	**313**	*eP*	**Pn**	**17 13 06.0**	**0.0**
BCIP	**Isla Barro Col**	**1.80**	**35**	P	**Pn**	**17 13 07.1**	**+0.7**
BCIP				S	**Sb**	**17 13 32.4**	**+1.6**
BCIP	**Isla Barro Col**	**1.80**	**35**	*eP*	**Pn**	**17 13 07.3**	**+0.9**
WILLF	**Boquete**	**1.87**	**305**	*eP*	**Pn**	**17 13 07.5**	**-0.1**
DAP26	**falda E V. Bar**	**1.88**	**306**	*eP*	**Pn**	**17 13 07.9**	**+0.2**
BOTLY	**Boquete Panama**	**1.89**	**304**	*eP*	**Pn**	**17 13 08.3**	**+0.4**
JEFFS	**S de V. Baru**	**1.91**	**301**	*eP*	**Pn**	**17 13 08.8**	**+0.8**
BANCO	**falda S V. Bar**	**1.93**	**302**	*eP*	**Pn**	**17 13 08.8**	**+0.4**
LMNES	**Limones**	**2.00**	**282**	*eP*	**Pn**	**17 13 09.8**	**+0.5**
BRU2	**Volcan**	**2.10**	**302**	S	**Sb**	**17 13 40.6**	**+0.6**
BRU2	**Volcan**	**2.10**	**302**	P	**Pn**	**17 13 11.7**	**+0.9**
BRU2	**Volcan**	**2.10**	**302**	*eP*	**Pn**	**17 13 11.5**	**+0.7**
CAZU	**Cerro Azul, Pa**	**2.12**	**43**	*eP*	**Pn**	**17 13 11.7**	**+0.7**
DMCAL	**E. de Neily**	**2.13**	**297**	*eP*	**Pb**	**17 13 14.3**	**-0.1**
CDITO	**Canoas**	**2.16**	**294**	S	**Sb**	**17 13 42.2**	**+0.8**
CDITO	**Canoas**	**2.16**	**294**	P	**Pn**	**17 13 12.1**	**+0.7**
SCLRA	**Santa Clara, W**	**2.20**	**301**	*eP*	**Pb**	**17 13 15.5**	**-0.2**
NELY	**Ciudad Neily**	**2.26**	**295**	*eP*	**Pn**	**17 13 14.0**	**+1.2**
ALCO	**Alturas Coton,**	**2.31**	**303**	*eP*	**Pn**	**17 13 14.0**	**+0.4**
PIRO	**Carate, Puerto**	**2.54**	**286**	P	**Pn**	**17 13 17.1**	**+0.5**
PIRO	**Carate, Puerto**	**2.54**	**286**	*eP*	**Pn**	**17 13 16.4**	**-0.2**
DRK0	**Durika**	**2.82**	**304**	S	**Sb**	**17 13 59.3**	**-1.1**
DRK0	**Durika**	**2.82**	**304**	P	**Pn**	**17 13 22.0**	**+1.4**
DRK0	**Durika**	**2.82**	**304**	*eP*	**Pn**	**17 13 22.3**	**+1.7**
LAES	**El Progreso Va**	**2.98**	**314**	*eP*	**Pn**	**17 13 24.5**	**+1.8**
EDPE	**Pejibaye, P**	**3.04**	**299**	*eP*	**Pn**	**17 13 26.6**	**+3.0**
OCHAL	**Ojochal**	**3.08**	**297**	P	**Pn**	**17 13 26.2**	**+2.2**
OCHAL	**Ojochal**	**3.08**	**297**	S	**Sb**	**17 14 08.5**	**+0.7**
SAJE	**San Jernim**	**3.08**	**303**	*eP*	**Pn**	**17 13 27.6**	**+3.4**
VERH	**Veragua Rainfo**	**3.19**	**314**	*eP*	**Pn**	**17 13 27.5**	**+1.9**
LCOCO	**El Coco**	**3.56**	**312**	*eP*	**Pb**	**17 13 36.3**	**-2.5**
ABRB	**Las Abras (San**	**3.63**	**310**	*eP*	**Pn**	**17 13 35.5**	**+3.6**
CVTV	**Tajo**	**3.65**	**309**	*eP*	**Pn**	**17 13 35.2**	**+2.9**
CVTQ	**Turrialba Volc**	**3.67**	**309**	*eP*	**Pn**	**17 13 36.0**	**+3.5**
VTR0	**Volcan Turrial**	**3.67**	**309**	*eP*	**Pb**	**17 13 38.8**	**-2.1**
CVTR	**Volcan Turrial**	**3.67**	**309**	*eP*	Pn	17 13 38.0	+5.4
LCR2	**La Lucha 2**	**3.70**	**304**	P	**Pn**	**17 13 33.9**	**+1.1**
PICV	**PH. Pirrs**	**3.80**	**301**	*eP*	**Pn**	**17 13 35.6**	**+1.5**
TRT2	**Tortugero**	**4.01**	**316**	P	**Pn**	**17 13 37.6**	**+0.7**
HELC	**Santa Helena**	**5.51**	**105**	P	**Pn**	**17 13 56.3**	**-1.6**

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*CATAC **13** 17:15:25.0±0.3, 13°N±2°×8°9W±°, h30km, M4.2/25, MLv4.2/25, Error ellipse: s-maj=5.6km s-min=1.8km az=28.5, confirmed*
*SNET **13** 17:15:25.8±1.4, 12°78N×88°64W, h45km, ML4.2*
*GCG **13** 17:15:28.0±1.0, 12°89N×88°76W, h48km±36km, MD4.4, ML4.1*
*IDC **13** 17:15:30.0±1.5, 13°00N×88°61W, h94km±16km, mb3.2/4, mbtmp3.7/7, MS3.2/3, Error ellipse: s-maj=50.3km s-min=11.4km az=38.0*
ISC 13 17:15:24.7±1.2, 12°69N±0°07×88°65W±0°04, h55km±10km, n99, σ1¶12/112, mb3.5/4, MS2.7/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.84**	**23**	P	**Pn**	**17 15 40.5**	**0.0**
PACA	**Pacayal**	**0.84**	**23**	S	**Sn**	**17 15 51.6**	**-0.5**
BLLM	**Bellamira**	**0.85**	**29**	*eP*	**Pn**	**17 15 40.5**	**-0.1**
TECO	**Alcaldia de Te**	**0.85**	**352**	P	**Pn**	**17 15 40.3**	**-0.3**
TECO	**Alcaldia de Te**	**0.85**	**352**	S	**Sn**	**17 15 51.3**	**-0.9**
CNRM	**Centro Naciona**	**0.91**	**31**	*eP*	**Pn**	**17 15 41.3**	**-0.1**
CNRM				*eS*	**Sn**	**17 15 53.5**	**-0.1**
CNRM	**Centro Naciona**	**0.91**	**31**	P	**Pn**	**17 15 41.2**	**-0.1**
PQSS	**Presa 15 de Se**	**0.93**	**6**	P	**Pn**	**17 15 41.6**	**0.0**
PQSS	**Presa 15 de Se**	**0.93**	**6**	S	**Sn**	**17 15 53.5**	**-0.6**
UESV	**Universidad de**	**0.95**	**352**	P	**Pn**	**17 15 41.8**	**-0.1**
UESV	**Universidad de**	**0.95**	**352**	S	**Sn**	**17 15 54.1**	**-0.5**
LCND	**La Caada**	**0.96**	**51**	*eP*	**Pn**	**17 15 42.2**	**+0.1**
LCND				*eS*	**Sn**	**17 15 55.1**	**+0.2**
LCND	**La Caada**	**0.96**	**51**	P	**Pn**	**17 15 41.7**	**-0.4**
CNCH	**Conchagua**	**0.99**	**54**	*eP*	**Pn**	**17 15 43.3**	**+0.8**
CNCH				*eP*		17 15 45.3	
CNCH				*eS*	**Sn**	**17 15 57.4**	**+1.7**
CNCH	**Conchagua**	**0.99**	**54**	S	**Sn**	**17 15 56.4**	**+0.7**
CNCH	**Conchagua**	**0.99**	**54**	P	**Pn**	**17 15 42.2**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.00**	**356**	P	**Pn**	**17 15 43.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.00**	**356**	S	**Sn**	**17 15 55.8**	**-0.1**
LFRS	**El Faro**	**1.01**	**337**	*iP*	**Pn**	**17 15 42.8**	**0.0**
LALI	**Alcalda de L**	**1.02**	**321**	*eP*	**Pn**	**17 15 42.0**	**-0.9**
LALI				*eS*	**Sn**	**17 15 55.4**	**-0.9**
LALI	**Alcalda de L**	**1.02**	**321**	*eP*	**Pn**	**17 15 42.9**	**+0.1**
LALI	**Alcalda de L**	**1.02**	**321**	P	**Pn**	**17 15 43.0**	**+0.1**
PANCS	**Alcalda de**	**1.05**	**331**	S	**Sn**	**17 15 55.8**	**-1.2**
PANCS	**Alcalda de**	**1.05**	**331**	P	**Pn**	**17 15 43.7**	**+0.4**
PAVA	**Las Pavas**	**1.05**	**345**	P	**Pn**	**17 15 43.6**	**+0.2**
PAVA	**Las Pavas**	**1.05**	**345**	S	**Sn**	**17 15 56.7**	**-0.5**
LOMA	**Loma Larga**	**1.07**	**332**	P	**Pn**	**17 15 43.8**	**+0.1**
LOMA	**Loma Larga**	**1.07**	**332**	S	**Sn**	**17 15 57.2**	**-0.4**
CSGN	**Cosiguina Volc**	**1.10**	**75**	P	**Pn**	**17 15 43.9**	**-0.1**
CSGN				S	**Sn**	**17 15 58.8**	**+0.4**
LBRS	**Las Brisas**	**1.10**	**340**	*eP*	**Pn**	**17 15 44.4**	**+0.3**
UDBS	**Universidad Do**	**1.13**	**334**	S	**Sn**	**17 15 58.4**	**-0.4**
IGN	**Direccin Gen**	**1.13**	**334**	*eP*	**Pn**	**17 15 44.7**	**+0.4**
IGN				*eS*	**Sn**	**17 15 58.8**	**-0.2**
IGN	**Direccin Gen**	**1.13**	**334**	P	**Pn**	**17 15 44.8**	**+0.5**
UTEC	**Universidad Te**	**1.13**	**332**	P	**Pn**	**17 15 44.7**	**+0.3**
UTEC	**Universidad Te**	**1.13**	**332**	S	**Sn**	**17 15 58.6**	**-0.5**
LFU	**La Fuente**	**1.14**	**337**	*eS*	**Sn**	**17 15 59.2**	**0.0**
SEMO	**Seminario San**	**1.15**	**331**	S	**Sn**	**17 15 59.0**	**-0.4**
SEMO	**Seminario San**	**1.15**	**331**	P	**Pn**	**17 15 45.0**	**+0.4**
ITCA	**Escuela Especi**	**1.15**	**328**	*eS*	**Sn**	**17 15 59.0**	**-0.5**
ITCA	**Escuela Especi**	**1.15**	**328**	S	**Sn**	**17 15 58.7**	**-0.8**
ITCA	**Escuela Especi**	**1.15**	**328**	P	**Pn**	**17 15 44.9**	**+0.2**
CAHU	**Cacacuatique**	**1.16**	**22**	*eP*	**Pn**	**17 15 45.3**	**+0.5**
UEES	**Universidad Ev**	**1.17**	**331**	P	**Pn**	**17 15 45.3**	**+0.4**
UEES	**Universidad Ev**	**1.17**	**331**	S	**Sn**	**17 15 59.7**	**-0.2**
PMON	**Piamonte**	**1.20**	**328**	S	**Sn**	**17 16 00.4**	**-0.3**
PMON	**Piamonte**	**1.20**	**328**	P	**Pn**	**17 15 45.7**	**+0.4**
BOQS	**Boqueron**	**1.20**	**330**	*eP*	**Pn**	**17 15 45.9**	**+0.4**
BOQS				*eS*	**Sn**	**17 16 01.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.23**	**321**	*eP*	**Pn**	**17 15 44.8**	**-1.0**
JAYA				*eS*	**Sn**	**17 16 00.4**	**-1.1**
JAYA	**Jayaque - finc**	**1.23**	**321**	*eP*	**Pn**	**17 15 45.9**	**+0.1**
JAYA				*eS*	**Sn**	**17 16 00.3**	**-1.2**
JAYA	**Jayaque - finc**	**1.23**	**321**	P	**Pn**	**17 15 46.0**	**+0.2**
CEDA	**San Andres**	**1.32**	**327**	S	**Sn**	**17 16 03.3**	**-0.1**
CEVE	**Cerro Verde**	**1.47**	**320**	*eS*	**Sn**	**17 16 09.2**	**+1.8**
LLGN	**La Laguna**	**1.49**	**349**	*eP*	**Pn**	**17 15 49.5**	**+0.2**
LLGN	**La Laguna**	**1.49**	**349**	S	**Sn**	**17 16 07.7**	**0.0**
LLGN	**La Laguna**	**1.49**	**349**	P	**Pn**	**17 15 49.4**	**+0.2**
UNIC	**Universidad Ca**	**1.55**	**326**	P	**Pn**	**17 15 50.7**	**+0.7**
UNIC	**Universidad Ca**	**1.55**	**326**	S	**Sn**	**17 16 09.4**	**+0.3**
CRIN	**San Cristobal**	**1.57**	**90**	P	**Pn**	**17 15 51.4**	**+1.1**
CRIN	**San Cristobal**	**1.57**	**90**	S	**Sn**	**17 16 10.4**	**+1.0**
NUBE	**Las Nubes**	**1.63**	**318**	*eP*	**Pn**	**17 15 51.7**	**+0.6**
NUBE				*eS*	**Sn**	**17 16 09.4**	**-1.7**
NUBE	**Las Nubes**	**1.63**	**318**	S	**Sn**	**17 16 10.9**	**-0.2**
PKGN	**Cerro Pekin**	**1.64**	**91**	S	**Sn**	**17 16 11.8**	**+0.7**
INTHN	**La Esperanza I**	**1.70**	**18**	P	**Pn**	**17 15 52.4**	**+0.2**
LOAL	**Lomas de Alarc**	**1.70**	**320**	S	**Sn**	**17 16 13.5**	**+0.8**
FAME	**Alcaldia de Sa**	**1.75**	**311**	S	**Sn**	**17 16 13.2**	**-0.6**
POLN	**Al Sur del Vol**	**1.80**	**91**	P	**Pn**	**17 15 52.1**	**-1.3**
POLN				S	**Sn**	**17 16 12.7**	**-2.4**
MTO3	**Montecristo**	**1.83**	**338**	*eP*	**Pn**	**17 15 54.4**	**+0.4**
MTO3	**Montecristo**	**1.83**	**338**	S	**Sn**	**17 16 16.8**	**+0.6**
PLRN	**Geotermica Pol**	**1.84**	**93**	S	**Sn**	**17 16 16.6**	**+0.4**
CNGA	**Al SSO del Vol**	**1.92**	**96**	P	**Pn**	**17 15 55.6**	**+0.6**
CNGA				S	**Sn**	**17 16 18.8**	**+0.8**
CNGN	**Cerro Negro**	**1.92**	**96**	S	**Sn**	**17 16 19.3**	**+1.2**
CNGN	**Cerro Negro**	**1.92**	**96**	P	**Pn**	**17 15 55.6**	**+0.5**
ESQI	**Esquipulas**	**1.97**	**340**	*eP*	**Pn**	**17 15 56.8**	**+1.0**
ESQI				*eS*	**Sn**	**17 16 21.1**	**+1.7**
ESQI	**Esquipulas**	**1.97**	**340**	S	**Sn**	**17 16 20.0**	**+0.5**
ESQI	**Esquipulas**	**1.97**	**340**	P	**Pn**	**17 15 56.7**	**+0.8**
SARH	**Santa Rosa de**	**2.07**	**357**	*eP*	**Pn**	**17 15 58.1**	**+0.9**
SARH	**Santa Rosa de**	**2.07**	**357**	P	**Pn**	**17 15 58.1**	**+0.9**
SARH	**Santa Rosa de**	**2.07**	**357**	S	**Sn**	**17 16 21.1**	**-0.8**
COPN	**Copaltepe**	**2.08**	**104**	P	**Pn**	**17 15 58.4**	**+1.2**
YUSH	**Yuscaran**	**2.16**	**80**	P	**Pn**	**17 15 58.7**	**+0.3**
YUSH	**Yuscaran**	**2.16**	**54**	S	**Sn**	**17 16 23.5**	**-0.7**
LIMN	**Finca el Limon**	**2.26**	**80**	P	**Pn**	**17 16 00.1**	**+0.4**
LIMN				S	**Sn**	**17 16 26.5**	**0.0**
RCVN	**Varillal2**	**2.56**	**69**	P	**Pn**	**17 16 04.1**	**+0.3**
RCVN	**Varillal2**	**2.56**	**69**	S	**Sn**	**17 16 34.3**	**+0.5**
RCPN	**Sur Rio San Ju**	**2.63**	**71**	P	**Pn**	**17 16 05.7**	**+0.9**
MATN	**Matagalpa**	**2.67**	**85**	P	**Pn**	**17 16 04.9**	**-0.5**
APG	**El Apazote**	**2.89**	**323**	P	**Pn**	**17 16 09.8**	**+1.3**
	0.8nm,0.4s,baz=127,slow=12,SNR=11						
APG				S	**Sn**	**17 16 47.9**	**+5.7**
	1.6nm,0.4s,baz=87,slow=17,SNR=4.0						
STG2	**El Palmar, Qui**	**3.16**	**304**	*eS*	Sn	17 16 58.2	+9.5
JTS	**Las Juntas de**	**4.34**	**123**	P	Pn	17 16 34.4	+6.1
	6.2nm,0.4s,baz=313,slow=19,SNR=26						
JTS				S	Sn	17 17 28.2	+11
	26nm,0.7s,baz=288,slow=20,SNR=3.9						
CMIG	**Matias Romero**	**7.44**	**307**	P	**Pn**	**17 17 14.7**	**+4.0**
	1.1nm,0.3s,baz=111,slow=8.6,SNR=4.9						
CMIG				S	**Sn**	**17 18 37.4**	**+3.6**
	5.0nm,0.5s,baz=181,slow=8.1,SNR=3.6						
SDV	**Santo Domingo**	**18.10**	**100**	P	**Pn**	**17 19 35.5**	**+2.9**
	6.4nm,0.4s,baz=300,slow=20,SNR=1.8						
TXAR	**Lajitas Array**	**21.65**	**322**	P	**P**	**17 20 12.5**	**+1.7**
	1.0nm,0.7s,baz=134,slow=8.3,SNR=17						
TXAR				PcP	**PcP**	**17 24 11.3**	**+0.6**
	0.2nm,0.7s,baz=124,slow=2.7,SNR=2.0						
	1.0nm,0.7s						
SJG	**San Juan**	**22.35**	**73**	LR	LR	17 30 09.8	
	comp=Z,23nm,18.8s,baz=106,slow=40						
TKL	**Tuckaleechee C**	**23.29**	**10**	P	**P**	**17 20 27.8**	**+0.1**
	2.1nm,0.7s,baz=205,slow=19,SNR=2.6						
TKL				LR	LR	17 30 54.9	
	comp=Z,25nm,18.5s,baz=66,slow=40						
	2.1nm,0.7s						
SADO	**Sadowa**	**32.99**	**12**	LR	LR	17 36 36.6	
	comp=Z,235nm,18.2s,baz=349,slow=39						
PDAR	**Pinedale Array**	**35.01**	**333**	P	**P**	**17 22 10.3**	**-1.9**
	0.4nm,0.7s,baz=140,slow=8.8,SNR=5.3						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**65.33**	**336**	P	**P**	**17 25 60.0**	**-0.9**
	0.4nm,0.7s,baz=112,slow=6.0,SNR=6.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**138.21**	**254**	PKP	**PKiKP**	**17 34 45.2**	**-1.5**
	0.3nm,0.7s,baz=90,slow=2.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**148.15**	**346**	PKPbc	**PKPbc**	**17 35 03.1**	**-2.2**
	0.3nm,0.6s,baz=16,slow=3.3,SNR=4.5						

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*NOU **13** 17:21:43.5, 17°15S×119°58E, h63km, mb3.9/8, Northwest of Australia*
*AUST **13** 17:21:54.0±0.4, 18°S±3°×12°0E±°, h10km, ML2.7/9, Error ellipse: s-maj=8.3km s-min=4.6km az=131.4*
ISC 13 17:21:51.4±1.5, 18°14S±0°10×120°26E±0°08, h10km, n27, σ1¶86/32, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.63**	**134**	P	**Pb**	**17 22 23.0**	**+1.3**
AUBRM	**Broome Senior**	**1.88**	**85**	P	**Pb**	**17 22 26.1**	**+0.1**
AUBRM				S	**Sb**	**17 22 50.5**	**+0.9**
MBWA	**Marble Bar**	**3.05**	**189**	P	**Pn**	**17 22 42.0**	**+2.3**
MBWA				S	**Sn**	**17 23 16.1**	**-0.1**
MBWA	**Marble Bar**	**3.05**	**189**	P	**Pn**	**17 22 42.0**	**+2.3**
PSAC1	**Pilbara Seismi**	**3.40**	**187**	P	**Pn**	**17 22 46.8**	**+2.1**
PSAC1				S	**Sn**	**17 23 24.5**	**-0.6**
PSAC2	**Pilbara Seismi**	**3.42**	**186**	P	**Pn**	**17 22 47.2**	**+2.3**
PSAC2				S	**Sn**	**17 23 24.6**	**-1.0**
PSA00	**Pilbara Seismi**	**3.44**	**186**	P	**Pn**	**17 22 47.1**	**+2.0**
PSA00				S	**Sn**	**17 23 24.8**	**-1.1**
PSA00	**Pilbara Seismi**	**3.44**	**186**	P	**Pn**	**17 22 47.5**	**+2.4**
PSAB3	**Pilbara Seismi**	**3.46**	**186**	P	**Pn**	**17 22 47.4**	**+2.0**
PSAB3				S	**Sn**	**17 23 25.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**5.12**	**90**	P	**Pn**	**17 23 09.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**5.12**	**90**	S	**Sn**	**17 24 05.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**5.12**	**90**	P	**Pn**	**17 23 08.3**	**+0.1**
GIRL	**Giralia**	**7.21**	**231**	P	**Pn**	**17 23 39.5**	**+2.5**
GIRL				S	**Sn**	**17 24 56.5**	**-2.5**
KNRA	**Kununurra**	**8.50**	**75**	P	**Pn**	**17 23 55.5**	**+0.9**
MEEK	**Meekatharra**	**8.59**	**190**	P	**Pn**	**17 23 57.2**	**+1.3**
MEEK	**Meekatharra**	**8.59**	**190**	S	**Sn**	**17 25 27.2**	**-5.9**
MEEK	**Meekatharra**	**8.59**	**190**	P	**Pn**	**17 23 57.3**	**+1.3**
PLAI	**Plampang**	**9.56**	**345**	P	Pn	17 23 43.2	-26
WRKA	**Warakurna**	**10.15**	**134**	P	**Pn**	**17 24 18.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**11.30**	**327**	P	Pn	17 24 37.6	+4.6
MORW	**Morawa**	**11.54**	**199**	P	**Pn**	**17 24 35.2**	**-1.2**
MORW	**Morawa**	**11.54**	**199**	P	**Pn**	**17 24 36.4**	**0.0**
BLDU	**Ballidu**	**12.83**	**194**	P	**Pn**	**17 24 54.3**	**+0.2**
BLDU	**Ballidu**	**12.83**	**194**	P	**Pn**	**17 24 54.4**	**+0.4**
KMBL	**Kambalda**	**13.25**	**174**	P	**Pn**	**17 25 00.3**	**+0.6**
WRAB	**Tennant Creek**	**13.44**	**100**	P	**Pn**	**17 25 02.4**	**0.0**
NWAO	**Narrogin (SRO)**	**14.98**	**190**	P	**Pn**	**17 25 22.1**	**-1.2**

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*SNET **13** 17:31:16.7±0.5, 12°11N×87°24W, h10km±23km, ML3.2*
*UCR **13** 17:31:16.3±1.5, 12°01N×87°11W, h68km±21km, MW3.9*
*CATAC **13** 17:31:16.9±0.3, 12°N±2°×8°7W±°, h69km±2km, M3.4/27, MLv3.4/27, Error ellipse: s-maj=5.5km s-min=2.7km az=43.1, confirmed*
ISC 13 17:31:16.3±1.3, 12°22N±0°04×86°96W±0°04, h88km±6km, n69, σ0¶81/102, 4C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**0.25**	**20**	P	**Pn**	**17 31 28.9**	**-0.5**
ALEN	**Leon**	**0.25**	**20**	S	**Sn**	**17 31 38.6**	**-0.4**
COPN	**Copaltepe**	**0.36**	**96**	P	**Pn**	**17 31 29.2**	**-0.7**
COPN	**Copaltepe**	**0.36**	**96**	⇑*iP*	**Pn**	**17 31 29.6**	**-0.3**
COPN				*eS*	**Sn**	**17 31 39.4**	**-0.6**
CNGA	**Al SSO del Vol**	**0.37**	**42**	P	**Pn**	**17 31 29.7**	**-0.3**
CNGA				S	**Sn**	**17 31 40.0**	**-0.3**
CNGN	**Cerro Negro**	**0.38**	**42**	S	**Sn**	**17 31 40.9**	**+0.5**
CNGN	**Cerro Negro**	**0.38**	**42**	*eP*	**Pn**	**17 31 30.0**	**-0.1**
CNGN				*eS*	**Sn**	**17 31 41.4**	**+1.0**
PLRN	**Geotermica Pol**	**0.41**	**27**	P	**Pn**	**17 31 30.5**	**+0.3**
PLRN				S	**Sn**	**17 31 41.0**	**+0.3**
PKGN	**Cerro Pekin**	**0.45**	**358**	P	**Pn**	**17 31 30.5**	**-0.1**
PKGN				S	**Sn**	**17 31 41.7**	**+0.6**
POLN	**Al Sur del Vol**	**0.45**	**18**	P	**Pn**	**17 31 29.2**	**-1.4**
POLN				S	**Sn**	**17 31 39.8**	**-1.4**
CRIN	**San Cristobal**	**0.49**	**349**	P	**Pn**	**17 31 31.0**	**0.0**
CRIN	**San Cristobal**	**0.49**	**349**	⇑*eP*	**Pn**	**17 31 30.9**	**0.0**
CRIN				*eS*	**Sn**	**17 31 42.7**	**+0.9**
AMTN	**Mateare**	**0.52**	**88**	S	**Sn**	**17 31 42.8**	**+0.8**
AMTN	**Mateare**	**0.52**	**88**	P	**Pn**	**17 31 31.1**	**+0.1**
MOM3	**MOM3**	**0.52**	**56**	P	**Pn**	**17 31 30.8**	**-0.3**
MOM3				S	**Sn**	**17 31 42.3**	**+0.2**
APYN	**Apoyeque**	**0.59**	**88**	S	**Sn**	**17 31 43.3**	**+0.1**
APQ2	**Apoyeque**	**0.62**	**92**	P	**Pn**	**17 31 32.0**	**+0.1**
APQ2				S	**Sn**	**17 31 44.3**	**+0.7**
ABCN	**Banco Central**	**0.64**	**98**	S	**Sn**	**17 31 44.4**	**+0.4**
APQN	**BB Volcan Apoy**	**0.64**	**90**	S	**Sn**	**17 31 43.6**	**-0.3**
ALLN	**Telcor Managua**	**0.67**	**95**	S	**Sn**	**17 31 45.0**	**+0.6**
TISN	**Laguna Tiscapa**	**0.68**	**96**	P	**Pn**	**17 31 31.5**	**-1.0**
UNAN	**Cigeo UNAN**	**0.68**	**99**	P	**Pn**	**17 31 32.4**	**-0.1**
UNAN				S	**Sn**	**17 31 45.2**	**+0.6**
CRUN	**El Crucero**	**0.69**	**110**	P	**Pn**	**17 31 32.9**	**+0.3**
MGAN	**Managua**	**0.70**	**96**	⇓*iP*	**Pn**	**17 31 32.5**	**-0.2**
MGAN				*eS*	**Sn**	**17 31 45.5**	**+0.7**
WILN	**Americas 2**	**0.76**	**94**	P	**Pn**	**17 31 32.9**	**-0.3**
WILN				S	**Sn**	**17 31 46.2**	**+0.4**
MAS3	**Al N del Volca**	**0.79**	**104**	P	**Pn**	**17 31 33.3**	**-0.3**
MAS3				S	**Sn**	**17 31 46.9**	**+0.3**
SABN	**Sabanita**	**0.82**	**108**	P	**Pn**	**17 31 33.9**	**0.0**
MASN	**Masaya**	**0.82**	**106**	P	**Pn**	**17 31 34.1**	**+0.1**
MASN				S	**Sn**	**17 31 47.7**	**+0.5**
CSGN	**Cosiguina Volc**	**0.95**	**322**	P	**Pn**	**17 31 35.2**	**-0.3**
CSGN				S	**Sn**	**17 31 50.2**	**+0.3**
CSGN	**Cosiguina Volc**	**0.95**	**322**	⇓*eP*	**Pn**	**17 31 35.1**	**-0.4**
CSGN				*eS*	**Sn**	**17 31 50.2**	**+0.3**
LIMN	**Finca el Limon**	**1.02**	**34**	P	**Pn**	**17 31 36.3**	**+0.1**
LIMN				S	**Sn**	**17 31 51.3**	**+0.2**
NADN

NEUV eS **Sb** **17 34 08.5 -2.6**
SCIG Sabancuy 5.11 22 eS **Sn** **17 34 19.2 +0.8**

*IDC **13** 17:34:01.2±3.5, 18°.60N×146°.15E, h266km±33km, mb3.2/6, mbtmp3.9/7, Error ellipse: s-maj=29.9km s-min=20.8km az=78.0*
ISC 13 17:33:59.8±1.1, 18°.5N±0°.1×146°.1E±0°.2, h250km, n7, σ2°56/8, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.02**	**194**	P	**Pn**	**17 35 19.2**	**+3.2**
	13nm,0.3s,baz=38,slow=15,SNR=1.1						
GUMO				S	**S**	**17 36 12.1**	**-4.5**
	24nm,0.3s,baz=45,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**39.91**	**197**	P	**P**	**17 41 10.8**	**+0.9**
	0.8nm,0.6s,baz=20,slow=8.1,SNR=18						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**43.57**	**196**	P	**P**	**17 41 39.9**	**+0.5**
	0.2nm,0.7s,baz=14,slow=7.1,SNR=8.8						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.61**	**278**	P	**P**	**17 41 47.9**	**0.0**
	1.0nm,0.7s,baz=85,slow=7.3,SNR=15						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**61.71**	**318**	P	**P**	**17 43 51.1**	**-0.5**
	1.5nm,0.2s,baz=95,slow=7.1,SNR=2.5						
	1.5nm,0.2s						
NVAR	**Mina Array Bea**	**82.97**	**52**	P	**P**	**17 45 56.6**	**-0.9**
	0.3nm,0.5s,baz=288,slow=4.1,SNR=4.5						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**87.21**	**335**	P	**P**	**17 46 17.3**	**-0.3**
	2.2nm,1.0s,baz=60,slow=5.5,SNR=4.0						
	2.2nm,1.0s						

*NEIC **13** 17:36:37.2±0.9, 39°.25N±0°.02×111°.448W±0°.006, h3km±4km, Error ellipse: s-maj=2.3km s-min=0.6km az=189.0*
UUSS 13 17:36:37.7±1.0, 39°.24N±0°.01×111°.47W±0°.01, h3km±4km, ML2.6/15, ML2.8/78(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=215.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNO	**Snow College**	**0.09**	**323**		Pg	17 36 39.8	+0.2
SGU	**Sterling**	**0.15**	**246**		Pg	17 36 41.1	+0.5
TMUT	**Trail Mountain**	**0.21**	**75**		Pg	17 36 41.9	+0.1
TMUT				IAML		17 36 47.5	
	comp=E,5μm,0.6s						
TMUT				IAML		17 36 47.9	
	comp=N,5μm,0.7s						
DBD	**Des Bee Dove**	**0.30**	**77**		Pg	17 36 43.5	0.0
LEVU	**Levan**	**0.37**	**315**		Pg	17 36 44.9	0.0
Q16A	**Castle Valley**	**0.40**	**144**	Pg	Pg	17 36 45.1	-0.2
Q16A				IAML		17 36 51.6	
	comp=E,660nm,0.5s						
Q16A				IAML		17 36 57.4	
	comp=N,583nm,0.7s						
Q16A	**Castle Valley**	**0.40**	**144**		Sg	17 36 51.2	+0.6
ELU	**Electric Lake**	**0.45**	**27**		Pg	17 36 46.5	+0.2
OWUT	**Old Woman Plat**	**0.47**	**176**		Pg	17 36 47.0	+0.4
WCU	**Willow Creek**	**0.56**	**240**		Pg	17 36 48.5	+0.2
FLU	**Fool Peak**	**0.56**	**284**		Pg	17 36 48.5	+0.1
P17A	**Butcher Ranch,**	**0.61**	**68**		Pg	17 36 48.9	-0.5
P17A					Sg	17 36 57.6	+0.3
P17A	**Butcher Ranch,**	**0.61**	**68**	IAML		17 36 57.9	
	comp=E,541nm,0.6s						
P17A				IAML		17 36 58.0	
	comp=N,501nm,0.5s						
SUU	**Santaquin Cany**	**0.69**	**339**		Pg	17 36 51.0	0.0
SRU	**San Rafael Swe**	**0.75**	**100**		Pg	17 36 51.3	-0.7
SRU				IAML		17 37 12.6	
	comp=N,308nm,0.7s						
SRU				IAML		17 37 14.5	
	comp=E,500nm,0.8s						
EMUT	**Emma Park**	**0.76**	**41**		Pg	17 36 52.1	-0.2
MPU	**Maple Canyon**	**0.78**	**351**		Pg	17 36 52.6	-0.1
DCM	**Dugout Coal Mi**	**0.82**	**56**		Pg	17 36 53.0	-0.4
NLU	**North Lily Min**	**0.85**	**327**		Pg	17 36 54.0	+0.1
NLU	**North Lily Min**	**0.85**	**327**	IAML		17 37 13.6	
	comp=E,140nm,0.5s						
BCE	**Book Cliffs Ea**	**0.90**	**66**		Pg	17 36 54.4	-0.5
ARGU	**Argyle Ridge**	**0.92**	**51**		Pg	17 36 55.1	-0.2
ROA	**Roan Cliffs**	**0.95**	**64**		Pg	17 36 55.5	-0.4
P18A	**Preston Nutter**	**1.02**	**68**		Pg	17 36 56.7	-0.6
P18A				IAML		17 37 10.8	
	comp=N,181nm,0.6s						
P18A				IAML		17 37 10.8	
	comp=E,266nm,0.4s						
WTU	**Western Traver**	**1.27**	**343**		Pb	17 37 02.2	-0.1
CWU	**Camp Williams**	**1.29**	**338**		Pg	17 37 02.5	0.0
NMUT	**North Mineral**	**1.30**	**236**		Pg	17 37 02.2	-0.4
MTPU	**Mount Pierson**	**1.32**	**205**		Pg	17 37 02.4	-0.7
GMU	**Granite Mounta**	**1.35**	**350**		Pg	17 37 03.2	-0.3
JLU	**Jordanelle**	**1.36**	**1**		Pn	17 37 03.8	0.0
JLU				IAML		17 37 25.1	
	comp=E,100nm,0.7s						
JLU				IAML		17 37 26.9	
	comp=N,80nm,0.7s						
BSUT	**Blindstream Ca**	**1.40**	**23**		Pn	17 37 04.2	-0.3
BSUT				IAML		17 37 26.8	
	comp=E,76nm,1.1s						
BSUT				IAML		17 37 28.2	
	comp=N,64nm,1.1s						
DUG	**Dugway, Tooele**	**1.41**	**313**		Pn	17 37 03.3	-1.1
HMU	**Henry Mountain**	**1.42**	**156**		Pn	17 37 03.8	-0.9
HMU				IAML		17 37 30.3	
	comp=N,254nm,0.5s						
HMU				IAML		17 37 34.2	
	comp=E,325nm,0.6s						
CTU	**Camp Tracy**	**1.46**	**352**		Pn	17 37 04.8	-0.4
PV21	**Cone Mtn., Par**	**2.06**	**109**		Pb	17 37 15.0	-0.9
PV21				IAML		17 37 49.5	
	comp=E,156nm,0.7s						
PV23	**Carpenter Ridg**	**2.08**	**112**		Pb	17 37 15.1	-1.0
PV14	**Lion Creek, Pa**	**2.10**	**114**		Pn	17 37 15.2	+1.2
PV05	**Paradox Valley**	**2.19**	**121**		Pb	17 37 17.1	-1.0
PV11	**David Mesa, Pa**	**2.24**	**114**		Pn	17 37 16.9	+1.1
SPR3	**Spring Creek 3**	**2.24**	**265**		Pn	17 37 16.8	+0.8
PV07	**Paradox Valley**	**2.35**	**109**		Pb	17 37 19.3	-1.4
PV07				IAML		17 37 52.8	
	comp=N,142nm,0.6s						
PV07				IAML		17 37 59.8	
	comp=E,129nm,1.0s						
HWUT	**Hardware Ranch**	**2.36**	**358**		Pn	17 37 18.2	+0.7
HWUT				IAML		17 37 56.9	
	comp=E,24nm,0.8s						
HWUT				IAML		17 38 00.1	
	comp=E,32nm,1.2s						
PV02	**Paradox Valley**	**2.38**	**115**		Pn	17 37 19.1	+1.4
KNB	**Kanab**	**2.47**	**206**		Pn	17 37 18.5	-0.5
PV15	**Paradox Valley**	**2.50**	**110**		Pn	17 37 21.1	+1.6
PV15				IAML		17 38 06.6	
	comp=N,127nm,0.9s						
PV15				IAML		17 38 09.0	
	comp=E,114nm,0.9s						
PV01	**Paradox Valley**	**2.52**	**115**	IAML		17 37 58.3	
	comp=E,90nm,0.7s						
PV01				IAML		17 38 04.8	
	comp=N,76nm,1.0s						
LCMT	**Little Creek M**	**2.63**	**213**		Pn	17 37 21.2	0.0
O20A	**White River Ci**	**2.65**	**69**		Pn	17 37 18.2	-3.3
MVCO	**Mesa Verde**	**3.10**	**130**		Pn	17 37 29.5	+1.8
ELK	**Elko**	**3.26**	**299**		Pn	17 37 32.0	+2.0
R11B	**Troy Canyon, C**	**3.34**	**256**		Pn	17 37 33.0	+2.0
PRN	**Pahroc Range**	**3.36**	**238**		Pn	17 37 32.5	+1.3
PRN				IAML		17 38 33.2	
	comp=E,17nm,1.0s						
PRN				IAML		17 38 40.4	
	comp=N,13nm,0.6s						
WUAZ	**Wupatki**	**3.72**	**179**		Pn	17 37 38.6	+2.4
BW06	**Boulder Array**	**3.81**	**22**		Pn	17 37 38.4	+1.0
BW06				IAML		17 38 46.2	
	comp=N,9.7nm,1.2s						
BW06				IAML		17 38 48.4	
	comp=N,11nm,0.9s						
S22A	**4UR Ranch, Cre**	**3.94**	**111**	Pn	Pn	17 37 40.7	+1.4
S22A				IAML		17 38 54.4	
	comp=E,20nm,0.8s						
S22A				IAML		17 38 56.2	
	comp=N,15nm,1.4s						
TPNV	**Topopah Spring**	**4.41**	**240**		Pn	17 37 47.3	+1.6
TPNV				IAML		17 40 38.0	
	comp=N,6.8nm,4.8s						
TPNV				IAML		17 40 40.1	
	comp=N,6.2nm,4.1s						
ANMO	**Albuquerque**	**5.87**	**135**		Pn	17 38 04.4	-1.4

*IDC **13** 17:41:15.8±1.2, 32°.99N×73°.61E, h0km, mb3.6/8, mbtmp3.6/11, ML3.5/2, Error ellipse: s-maj=37.0km s-min=17.3km az=61.0*
*NEIC **13** 17:41:20.2±1.6, 33°.00N±0°.05×73°.5E±0°.1, h10km±2km, mb3.3/2, Error ellipse: s-maj=16.6km s-min=8.1km az=73.0*
*NDI **13** 17:41:21.2±1.7, 32°.92N×73°.52E, h10km, ML3.2, MW3.2*
ISC 13 17:41:18.4±0.8, 33°.01N±0°.06×73°.62E±0°.06, h15km, n43, σ2°69/57, mb3.5/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.71**	**335**		**Pg**	**17 41 32.7**	**+0.5**
JMU	**Jammu**	**1.12**	**105**	eP	**Pb**	**17 41 40.2**	**+0.8**
JMU				IAML		17 41 53.4	
	comp=E,240nm,0.5s						
JMU				IAML		17 41 53.9	
	comp=N,303nm,0.3s						
JMU				eS	**Sn**	**17 41 57.8**	**+3.2**
TSSA	**Tissa**	**2.14**	**94**	eP	**Pb**	**17 41 58.5**	**+1.6**
TSSA				eS	**Sg**	**17 42 25.7**	**-1.5**
TSSA				IAML		17 42 26.0	
	comp=E,187nm,0.4s						
TSSA				IAML		17 42 27.5	
	comp=N,192nm,0.6s						
TLWR	**Talawar**	**2.24**	**117**	eP	**Pb**	**17 41 59.0**	**+0.5**
TLWR				eS	**Sb**	**17 42 26.7**	**+0.6**
TLWR				IAML		17 42 30.3	
	comp=E,240nm,0.4s						
TLWR				IAML		17 42 31.9	
	comp=N,204nm,0.2s						
DHRM	**DHARAMSHALA**	**2.39**	**108**	eP	**Pb**	**17 42 01.7**	**+0.5**
DHRM				eS	**Sb**	**17 42 32.0**	**+1.4**
DHRM				IAML		17 42 34.4	
	comp=N,257nm,0.2s						
DHRM				IAML		17 42 34.6	
	comp=E,102nm,0.7s						
ALCI	**Alchi Leh**	**3.21**	**67**	eP	**Pb**	**17 42 14.2**	**-1.2**
ALCI				eS	**Sb**	**17 42 51.9**	**-2.5**
ALCI				IAML		17 42 57.4	
	comp=E,59nm,0.0s						
ALCI				IAML		17 42 57.8	
	comp=N,97nm,0.4s						
SMLA	**Simla**	**3.55**	**121**	eP	**Pn**	**17 42 16.7**	**+3.8**
SMLA				eS	**Sn**	**17 42 58.7**	**+4.1**
SMLA				IAmb	IAmb	17 43 25.8	
	comp=E,215nm,0.2s						
SMLA				IAmb	IAmb	17 43 25.9	
	comp=N,270nm,0.2s						
KBL	**Kabul**	**4.11**	**293**		**Pn**	**17 42 22.3**	**+1.5**
KLP	**Kalpa**	**4.19**	**109**	eP	**Pn**	**17 42 26.3**	**+4.2**
KLP				eS	**Sn**	**17 43 13.3**	**+2.4**
KLP				IAML		17 43 14.7	
	comp=E,140nm,0.2s						
KLP				IAML		17 43 15.0	
	comp=N,122nm,0.5s						
JOSI	**Joshimath**	**5.62**	**114**	eP	**Pn**	**17 42 45.3**	**+3.7**
JOSI				eS	**Sn**	**17 43 46.2**	**+0.2**
JOSI				IAML		17 43 49.7	
	comp=E,50nm,0.2s						
JOSI				IAML		17 43 50.8	
	comp=N,56nm,0.0s						
GAR	**Garm**	**6.55**	**337**	Pn	**Pn**	**17 42 57.4**	**+3.1**
DRK	**Karamyk**	**6.62**	**348**	Pn	**Pn**	**17 42 59.8**	**+4.3**
CHGR	**Chuyangaron**	**6.70**	**329**	Pn	**Pn**	**17 42 56.6**	**+0.3**
ARSB	**Arslanbob**	**8.32**	**357**	Pn	**Pn**	**17 43 20.3**	**+1.7**
TARG	**Taragay, Kyrgy**	**9.32**	**20**	Pn	**Pn**	**17 43 35.4**	**+2.8**
AAK	**Ala-Archa**	**9.64**	**4**	Pn	**Pn**	**17 43 40.4**	**+3.7**
AAK	**Ala-Archa**	**9.64**	**4**	Pn	**Pn**	**17 43 38.5**	**+1.8**
	comp=N,0.5nm,0.3s,baz=178,slow=13,SNR=6.1						
AAK				Sn	**Sn**	**17 45 26.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=192,slow=14,SNR=2.1						
	comp=N,2.9nm,0.6s						
BOOM	**Boomskoye usch**	**9.64**	**10**	Pn	**Pn**	**17 43 39.0**	**+2.2**
DANN	**Dangsing**	**9.89**	**115**	Pn	**Pn**	**17 43 41.1**	**+0.8**
	baz=134,slow=0.0						
DANN				Sn	**Sn**	**17 45 27.6**	**-3.6**
	comp=N,12nm,0.3s,baz=134,slow=0.0						
PRZ	**Przheval'sk**	**10.19**	**20**	Pn	**Pn**	**17 43 46.8**	**+2.6**
KKAR	**Karatay Array**	**10.37**	**347**	Pn	**Pn**	**17 43 48.0**	**+1.4**
GKN	**Gorkha**	**10.73**	**115**	Pn	**Pn**	**17 43 51.5**	**-0.2**
	baz=132,slow=0.0						
GKN				Sn	**Sn**	**17 45 46.9**	**-4.8**
	comp=N,12nm,0.3s,baz=132,slow=0.0						
DMN	**Daman**	**11.29**	**115**	Pn	**Pn**	**17 43 59.6**	**+0.2**
	baz=132,slow=0.0						
DMN				Sn	**Sn**	**17 46 00.5**	**-5.0**
	baz=132,slow=0.0						
KKN	**Kakani**	**11.33**	**114**	Sn	**Sn**	**17 45 59.9**	**-6.5**
	baz=131,slow=0.0						
PKIN	**Phulchoki**	**11.53**	**115**	Pn	**Pn**	**17 44 02.3**	**-0.4**
	baz=131,slow=0.0						
PKIN				Sn	**Sn**	**17 46 04.7**	**-6.6**
	comp=N,14nm,0.4s,baz=131,slow=0.0						
PKI	**Pulchoki**	**11.54**	**115**	Pn	**Pn**	**17 44 02.3**	**-0.6**
	baz=131,slow=0.0						
PKI				Sn	**Sn**	**17 46 04.6**	**-7.1**
	comp=N,12nm,0.5s,baz=131,slow=0.0						
GUN	**Gumba**	**11.73**	**112**	Pn	**Pn**	**17 44 03.1**	**-2.5**
	baz=129,slow=0.0						
EVN	**Everest**	**12.45**	**110**	Pn	**Pn**	**17 44 15.3**	**-0.3**
MAKZ	**Makanchi**	**15.19**	**22**		**P**	**17 44 56.2**	**-1.1**
MAKZ				IAmb	IAmb	17 44 58.9	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**15.28**	**23**		**Pn**	**17 44 55.7**	**+2.2**
MKAR	**Makanchi Array**	**15.28**	**23**	Pn	**Pn**	**17 44 52.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=200,slow=14,SNR=6.1						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**17.97**	**10**	P	**Pn**	**17 45 25.7**	**-1.8**
	comp=Z,0.5nm,0.2s,baz=198,slow=8.8,SNR=4.5						
KURK	**Kurchatov**	**18.07**	**10**		**Pn**	**17 45 28.0**	**-0.8**
KURK				IAmb	IAmb	17 45 32.6	
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**19.17**	**332**	P	**P**	**17 45 42.1**	**+0.9**
AKTO	**Aktyubinsk**	**20.87**	**331**	P	**P**	**17 46 00.2**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=145,slow=7.9,SNR=15						
	comp=Z,3.8nm,0.6s						
ZALV	**Zalesovo Beam**	**22.40**	**18**	P	**P**	**17 46 15.2**	**-0.9**
ZALV	**Zalesovo Beam**	**22.40**	**18**	P	**P**	**17 46 15.6**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=210,slow=8.6,SNR=13						
	comp=Z,2.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.93**	**116**	P	**P**	**17 47 00.3**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=305,slow=8.6,SNR=7.6						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**45.18**	**338**	P	**P**	**17 49 33.7**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=114,slow=10,SNR=1.1						
	comp=Z,1.2nm,0.9s						
HFS	**Hagfors**	**47.15**	**324**	P	**P**	**17 49 49.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=99,slow=14,SNR=1.5						
	comp=Z,0.9nm,0.6s						
NOA	**NORSAR Array B**	**48.47**	**325**	P	**P**	**17 49 59.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=99,slow=8.1,SNR=1.3						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**78.30**	**123**	P	**P**	**17 53 17.6**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=312,slow=5.7,SNR=5.9						
	comp=Z,0.1nm,0.6s						
ASAR	**Alice Springs**	**80.48**	**126**	P	**P**	**17 53 28.8**	**-1.1**
	comp=Z,0.1nm,0.8s,baz=316,slow=5.3,SNR=1.6						
	comp=Z,0.1nm,0.8s						

*IDC **13** 17:43:23.5±3.8, 13°.21S×166°.87E, h233km±28km, mb3.3/5, mbtmp3.9/6, Error ellipse: s-maj=41.1km s-min=25.8km az=59.0*
ISC 13 17:43:16.3±1.7, 12°.8S±0°.1×167°.1E±0°.3, h180km, n6, σ2°62/9, mb3.6/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.22**	**184**	P	**Pn**	**17 45 27.4**	**+1.6**
	4.3nm,0.8s,baz=349,slow=19,SNR=6.6						
DZM				S	**Sn**	**17 47 08.3**	**-0.4**
	5.0nm,0.9s,baz=350,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**32.14**	**253**	P	**P**	**17 49 26.7**	**-0.4**
	0.8nm,0.6s,baz=83,slow=8.9,SNR=14						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**33.20**	**246**	P	**P**	**17 49 35.8**	**-0.6**
	1.0nm,0.5s,baz=81,slow=8.6,SNR=52						
ASAR				PcP	**PcP**	**17 52 13.6**	**-1.3**
	0.1nm,0.6s,baz=76,slow=2.8,SNR=1.4						
ASAR				ScP	**ScP**	**17 55 36.9**	**-5.5**
	0.4nm,0.9s,baz=92,slow=2.6,SNR=4.2						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**74.00**	**294**	P	**P**	**17 54 35.0**	**+2.3**
	0.7nm,0.7s,baz=117,slow=5.3,SNR=9.9						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**77.19**	**180**	P	**P**	**17 54 49.7**	**-0.5**
	0.8nm,0.8s,baz=6.6,slow=4.7,SNR=2.1						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**95.69**	**317**	P	**P**	**17 56 22.3**	**+0.6**
	0.2nm,0.5s,baz=121,slow=5.6,SNR=4.1						
	0.2nm,0.5s						

*IDC **13** 18:02:29.2±8.2, 7°.40S×129°.45E, h137km±86km, mb3.0/1, mbtmp3.6/5, Error ellipse: s-maj=74.2km s-min=26.3km az=35.0*
ISC 13 18:02:30.2±1.6, 7°.6S±0°.1×129°.5E±0°.1, h150km, n5, σ2°32/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.34**	**246**	P	**Pn**	**18 04 02.4**	**+0.8**
	7.2nm,0.3s,baz=76,slow=4.2,SNR=2.8						
BATI				S	**Sn**	**18 05 11.9**	**-1.1**
	11nm,0.4s,baz=69,slow=17,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.09**	**200**	P	**Pn**	**18 05 05.5**	**+1.0**
	1.1nm,0.3s,baz=14,slow=12,SNR=15						
FITZ				S	**Sn**	**18 07 05.5**	**-1.6**
	1.3nm,0.6s,baz=94,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**13.11**	**160**	P	**Pn**	**18 05 31.6**	**+0.8**
	0.8nm,0.8s,baz=339,slow=13,SNR=16						
WRA				S	**Sn**	**18 07 53.2**	**-2.7**
	1.7nm,0.8s,baz=333,slow=23,SNR=10						
ASAR	**Alice Springs**	**16.50**	**166**	P	**Pn**	**18 06 17.3**	**+4.2**
	0.5nm,0.5s,baz=338,slow=10,SNR=24						
ASAR				S	**S**	**18 09 16.2**	**-0.3**
	0.3nm,0.6s,baz=353,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**68.49**	**327**	P	**P**	**18 13 15.1**	**-1.2**
	0.1nm,0.3s,baz=118,slow=8.0,SNR=2.0						
	0.1nm,0.3s						

*IDC **13** 18:04:13.3±1.0, 42°.34N×137°.60E, h270km±10km, mb3.2/14, mbtmp3.8/21, Error ellipse: s-maj=14.7km s-min=9.9km az=162.0*
*JMA **13** 18:04:13.7±0.5, 42°.N±1°.×13°.8E±°., h283km±3km, MV3.5/32, EASTERN SEA OF JAPAN*
ISC 13 18:04:14.8±0.6, 42°.27N±0°.06×137°.84E±0°.06, h300km, n43, σ1°94/48, mb3.4/13, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.23**	**98**	eP	**Pn**	**18 04 53.8**	**-2.6**
JHST	**Hiyamasetana**	**1.52**	**84**	eP	**Pn**	**18 04 56.0**	**-2.0**
JSH	**Shimam**	**1.68**	**76**	P	**Pn**	**18 04 57.1**	**-2.0**
JOMM	**Oshimamatsumae**	**1.78**	**114**	eP	**Pn**	**18 04 57.9**	**-2.0**
JIW	**Iwasaki**	**2.34**	**135**	P	**Pn**	**18 05 02.9**	**-1.5**
JKB	**Kayabe**	**2.41**	**98**	P	**Pn**	**18 05 03.5**	**-1.5**
JOG3	**Oga3**	**2.53**	**158**	eP	**Pn**	**18 05 07.3**	**+1.1**
JOT	**Ohata**	**2.56**	**109**	P	**Pn**	**18 05 04.6**	**-1.7**
JEW	**Eniwo**	**2.73**	**77**	eP	**Pn**	**18 05 07.0**	**-0.9**
JHR	**Hokuryu**	**3.21**	**61**	eP	**Pn**	**18 05 12.1**	**-0.5**
JANG	**Nango**	**3.35**	**123**	P	**Pn**	**18 05 12.2**	**-1.9**
JRG	**Rokugo**	**3.57**	**143**	P	**Pn**	**18 05 14.9**	**-1.5**
JRG				eS	**S**	**18 06 03.1**	**-2.6**
JNBK	**Urakawa-nobuka**	**3.65**	**88**	P	**Pn**	**18 05 15.6**	**-1.5**
JOM	**Ohasama**	**3.83**	**136**	P	**Pn**	**18 05 17.8**	**-1.4**
JYK	**Kaneyama**	**3.86**	**149**	P	**Pn**	**18 05 18.1**	**-1.5**
JKK2	**Kamakawa 2**	**3.94**	**64**	P	**Pn**	**18 05 19.5**	**-0.7**
JKK2				eS	**S**	**18 06 09.4**	**-3.3**
ASAJ	**Asahikawa**	**3.94**	**60**	P	**Pn**	**18 05 19.5**	**-0.8**
	4.6nm,0.3s,baz=240,slow=7.8,SNR=27						
ASAJ				S	**S**	**18 06 09.5**	**-3.2**
	16nm,0.9s,baz=285,slow=20,SNR=6.1						
JCH	**Churui**	**4.10**	**83**	P	**Pn**	**18 05 20.6**	**-1.4**
JCH				S	**S**	**18 06 11.1**	**-4.9**
JMK	**Ichinoseki**	**4.20**	**141**	eP	**Pn**	**18 05 20.9**	**-2.3**
JSD	**Sado**	**4.24**	**175**	eP	**Pn**	**18 05 22.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**4.69**	**296**	P	**Pn**	**18 05 25.2**	**-3.4**
	25nm,0.7s,baz=104,slow=11,SNR=68						
JTKR	**Abashiri--Toko**	**4.76**	**67**	eP	**Pn**	**18 05 28.9**	**-0.5**
JTKR				eS	**S**	**18 06 26.8**	**-2.6**
MJAR	**Matsushiro Arr**	**5.73**	**177**	P	**Pn**	**18 05 40.4**	**-0.6**
	1.8nm,0.4s,baz=348,slow=14,SNR=14						
KSRS	**Korea Array**	**9.01**	**241**	P	**Pn**	**18 06 19.4**	**-1.3**
	0.7nm,0.7s,baz=53,slow=13,SNR=1.5						
HILR	**Hailar Array B**	**14.53**	**306**	P	**P**	**18 07 25.0**	**-1.6**
	3.5nm,0.5s,baz=113,slow=12,SNR=4.5						
PETK	**Petropavlovsk-**	**17.15**	**44**	P	**P**	**18 07 55.6**	**+0.5**
	3.0nm,0.9s,baz=230,slow=8.0,SNR=5.8						
MA2	**Magadan**	**19.09**	**20**	P	**P**	**18 08 15.6**	**-0.1**
	9.7nm,0.8s,baz=194,slow=17,SNR=5.2						
YAK	**Yakutsk**	**20.38**	**349**	P	**P**	**18 08 29.2**	**0.0**
	6.3nm,0.3s,baz=197,slow=2.1,SNR=3.0						
	6.3nm,0.3s						
SONM	**Songino Array**	**22.80**	**295**	P	**P**	**18 08 51.9**	**-0.2**
	0.8nm,0.5s,baz=91,slow=8.4,SNR=5.0						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**36.44**	**307**	P	**P**	**18 10 49.0**	**-2.3**
	1.2nm,0.5s,baz=90,slow=7.6,SNR=5.3						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**39.16**	**296**	P	**P**	**18 11 12.7**	**-1.3**
	0.9nm,0.5s,baz=83,slow=11,SNR=8.4						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.60**	**246**	P	**P**	**18 11 25.6**	**-0.6**
	0.2nm,0.7s,baz=55,slow=8.5,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**40.72**	**303**	P	**P**	**18 11 26.4**	**-0.3**
	2

0.8nm,0.4s,baz=72,slow=4.8,SNR=7.9
AKASG Malin Array Be 146.59 328 PKPbc **PKPab 18 26 24.0 +0.3**
0.7nm,0.6s,baz=49,slow=2.8,SNR=1.8
BRTR Keskin Array B 149.49 307 PKPbc **PKPbc 18 26 30.6 -0.3**
0.2nm,0.6s,baz=41,slow=2.9,SNR=1.3
MMAI Mount Meron Ar 149.67 294 PKPbc **PKiKP 18 26 32.1 -0.3**
0.6nm,0.4s,baz=63,slow=5.7,SNR=5.0

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*CNRM **13** 18:19:57.5, 35°.66N×4°.79W, h109km, ML1.3*
*MDD **13** 18:19:59.0±1.2, 35°.71N×4°.70W, h29km±8km, mb_Lg2.7/6, Error ellipse: s-maj=10.0km s-min=5.4km az=163.0*
*SFS **13** 18:19:59.3, 35°.77N×4°.68W, h87km, ML2.8/10, MLv2.8/10*
*IGIL **13** 18:19:59.1, 35°.71N×4°.70W, h29km, ML1.7*
*INMG **13** 18:20:00.3±1.1, 35°.81N×4°.78W, h76km±5km, ML1.9, Error ellipse: s-maj=4.4km s-min=3.2km az=110.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: Alboran
ISC 13 18:19:56.4±1.3, 35°.74N±0°.03×4°.67W±0°.04, h113km±9km, n52, σ1§53/77, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	**Smir Dam**	**0.59**	**264**	P	**Pn**	**18 20 15.3**	**+1.1**
SMIR	**Smir Dam**	**0.59**	**264**	S	**Sn**	**18 20 27.7**	**+0.1**
CEU	**Ceuta**	**0.60**	**285**	P	**Pn**	**18 20 13.8**	**-0.5**
PALE	**Palemas**	**0.79**	**131**	P	**Pn**	**18 20 17.3**	**+1.4**
PALE	**Palemas**	**0.79**	**131**	S	**Sn**	**18 20 32.4**	**+1.8**
EMAL	**Malaga-Limoner**	**1.04**	**11**	S	**Sn**	**18 20 30.8**	**-3.9**
AKLM	**AKL**	**1.39**	**152**	P	**Pn**	**18 20 21.6**	**-0.7**
AKLM	**AKL**	**1.39**	**152**	S	**Sn**	**18 20 38.6**	**-3.2**
ELGU	**Los Guajares,**	**1.40**	**36**	P	**Pn**	**18 20 22.7**	**+0.4**
ELGU				S	**Sn**	**18 20 40.6**	**-1.5**
E1302	**La Puebla de C**	**1.47**	**342**	Pg	**Pn**	**18 20 25.4**	**+2.4**
E1302				Sg	**Sn**	**18 20 43.3**	**+0.1**
E1302				*i* IVmb_Lg		18 20 45.6	
ESPR	**Espera**	**1.48**	**320**	P	**Pn**	**18 20 25.5**	**+2.3**
ESPR				S	**Sn**	**18 20 43.6**	**+0.2**
JBK	**JBK**	**2.22**	**129**	P	**Pn**	**18 20 33.0**	**+0.4**
JBK	**JBK**	**2.22**	**129**	S	**Sn**	**18 21 00.0**	**-0.1**
ECAB	**El Cabril**	**2.41**	**346**	P	**Pn**	**18 20 36.2**	**+1.4**
ECAB				S	**Sn**	**18 21 02.7**	**-1.5**
ECAB	**El Cabril**	**2.41**	**346**	Pn	**Pn**	**18 20 36.0**	**+1.2**
ECAB				Sn	**Sn**	**18 21 02.8**	**-1.3**
EADA	**Adamuz**	**2.42**	**2**	P	**Pn**	**18 20 36.8**	**+1.9**
EADA				S	**Sn**	**18 21 03.5**	**-1.1**
EADA	**Adamuz**	**2.42**	**2**	Pn	**Pn**	**18 20 36.8**	**+1.9**
EADA				Sn	**Sn**	**18 21 04.4**	**-0.2**
EADA				*i* IVmb_Lg		18 21 05.2	
EMIN	**Mina Concepcio**	**2.59**	**322**	P	**Pn**	**18 20 37.8**	**+0.8**
EMIN				S	**Sn**	**18 21 06.2**	**-2.0**
EMIN	**Mina Concepcio**	**2.59**	**322**	Pn	**Pn**	**18 20 38.1**	**+1.1**
EMIN				Sn	**Sn**	**18 21 06.6**	**-1.7**
EMIN				*i* IVmb_Lg		18 21 07.6	
ZHG	**ZHG**	**2.81**	**216**	P	**Pn**	**18 20 41.4**	**+1.3**
ZHG	**ZHG**	**2.81**	**216**	S	**Sn**	**18 21 15.2**	**+1.5**
MD31	**MD31**	**2.87**	**182**	P	**Pn**	**18 20 41.1**	**+0.2**
MD31	**MD31**	**2.87**	**182**	S	**Sn**	**18 21 14.6**	**-0.5**
EGRO	**El Granado**	**2.89**	**309**	P	**Pn**	**18 20 41.7**	**+0.7**
EGRO				S	**Sn**	**18 21 13.7**	**-1.6**
EGRO	**El Granado**	**2.89**	**309**	Pn	**Pn**	**18 20 41.8**	**+0.9**
EGRO				Sn	**Sn**	**18 21 14.1**	**-1.3**
MDT	**Midelt**	**2.92**	**179**	P	**Pn**	**18 20 41.7**	**+0.1**
MDT	**Midelt**	**2.92**	**179**	S	**Sn**	**18 21 15.6**	**-0.8**
PVAQ	**Vaqueiros**	**2.96**	**305**	*eP*	**Pn**	**18 20 43.1**	**+1.1**
PVAQ				*eS*	**Sn**	**18 21 15.7**	**-1.5**
PVAQ				*i* IAML		18 21 16.8	
PVAQ				*i* IAML		18 21 17.0	
PVAQ				*i* IAML		18 21 17.1	
PVAQ	**Vaqueiros**	**2.96**	**305**	P	**Pn**	**18 20 42.8**	**+0.8**
PVAQ	**Vaqueiros**	**2.96**	**305**	S	**Sn**	**18 21 17.2**	**+0.1**
PBDV	**Barranco-do-Ve**	**3.03**	**301**	*eP*	**Pn**	**18 20 44.1**	**+1.2**
PBDV				*eS*	**Sn**	**18 21 17.4**	**-1.3**
PBDV				*i* IAML		18 21 18.1	
PBDV				*i* IAML		18 21 18.1	
PBDV				*i* IAML		18 21 18.1	
PBAR	**Barrancos**	**3.08**	**323**	P	**Pn**	**18 20 44.6**	**+1.0**
PBAR				S	**Sn**	**18 21 18.2**	**-1.7**
PBAR	**Barrancos**	**3.08**	**323**	*eP*	**Pn**	**18 20 45.0**	**+1.4**
PBAR				*eS*	**Sn**	**18 21 18.1**	**-1.9**
PBAR				*i* IAML		18 21 19.7	
PBAR				*i* IAML		18 21 20.4	
PBAR				*i* IAML		18 21 21.4	
PSIM	**Granatula de C**	**3.16**	**13**	Pn	**Pn**	**18 20 46.5**	**+1.9**
PSIM				Sn	**Sn**	**18 21 21.6**	**-0.2**
PCVE	**Castro Verde**	**3.30**	**306**	P	**Pn**	**18 20 46.6**	**+0.1**
PCVE				S	**Sn**	**18 21 23.8**	**-1.4**
PCVE	**Castro Verde**	**3.30**	**306**	*eP*	**Pn**	**18 20 47.6**	**+1.1**
PCVE				*eS*	**Sn**	**18 21 23.3**	**-1.8**
PCVE				*i* IAML		18 21 24.3	
PCVE				*i* IAML		18 21 24.7	
PCVE				*i* IAML		18 21 26.7	
MESJ	**Messejana**	**3.54**	**307**	*eP*	**Pn**	**18 20 50.9**	**+1.3**
MESJ				*eS*	**Sn**	**18 21 28.6**	**-2.2**
MESJ				IAML		18 21 31.2	
	comp=N,2.2nm,0.2s						
MESJ	**Messejana**	**3.54**	**307**	*eP*	**Pn**	**18 20 50.9**	**+1.3**
MESJ				*eS*	**Sn**	**18 21 29.2**	**-1.6**
MESJ				*i* IAML		18 21 30.6	
MESJ				*i* IAML		18 21 31.2	
MESJ				*i* IAML		18 21 31.3	
EBAD	**Badajoz**	**3.54**	**329**	P	**Pn**	**18 20 51.4**	**+1.8**
EBAD				S	**Sn**	**18 21 29.0**	**-1.9**
EBAD	**Badajoz**	**3.54**	**329**	Pn	**Pn**	**18 20 51.5**	**+1.8**
EBAD				Sn	**Sn**	**18 21 30.0**	**-0.9**
EBAD				*i* IVmb_Lg		18 21 32.0	
MORF	**Marmelete**	**3.57**	**297**	*eP*	**Pn**	**18 20 51.2**	**+1.1**
MORF	**Marmelete**	**3.57**	**297**	*eP*	**Pn**	**18 20 51.4**	**+1.3**
MORF				*eS*	**Sn**	**18 21 30.0**	**-1.6**
MORF				*i* IAML		18 21 30.9	
MORF				*i* IAML		18 21 32.9	
PAB	**San Pablo**	**3.81**	**4**	Sn	**Sn**	**18 21 35.7**	**-1.6**
EVO	**Evora**	**3.86**	**317**	P	**Pn**	**18 20 55.3**	**+1.4**
EVO				S	**Sn**	**18 21 36.6**	**-1.9**
EVO	**Evora**	**3.86**	**317**	*eP*	**Pn**	**18 20 55.7**	**+1.8**
EVO				*eS*	**Sn**	**18 21 37.3**	**-1.2**
EVO				*i* IAML		18 21 37.7	
EVO				*i* IAML		18 21 37.7	
EVO				*i* IAML		18 21 39.4	
PESTR	**Estremoz**	**3.90**	**324**	P	**Pn**	**18 20 56.0**	**+1.6**
PESTR				S	**Sn**	**18 21 36.9**	**-2.4**
PESTR	**Estremoz**	**3.90**	**324**	*eS*	**Sn**	**18 21 37.2**	**-2.1**
PESTR				*i* IAML		18 21 40.3	
PESTR				*i* IAML		18 21 40.3	
PESTR				*i* IAML		18 21 40.3	
PESTR	**Estremoz**	**3.90**	**324**	P	**Pn**	**18 20 55.4**	**+1.0**
PESTR	**Estremoz**	**3.90**	**324**	S	**Sn**	**18 21 40.4**	**+1.1**
PMTG	**Montargil**	**4.37**	**321**	*eS*	**Sn**	**18 21 49.2**	**-1.3**
PMTG				*i* IAML		18 21 51.4	
PMTG				*i* IAML		18 21 51.6	
PMTG				*i* IAML		18 21 55.0	
PARRA	**Arraiolos**	**4.65**	**313**	*eP*	Pn	18 20 58.6	-5.8
PARRA				*eS*	Sn	18 21 42.4	-15
PARRA				*i* IAML		18 21 45.0	
PARRA				*i* IAML		18 21 45.0	
PARRA				*i* IAML		18 21 45.1	
PSARD	**Sardoal**	**4.75**	**325**	*eS*	**Sn**	**18 21 57.1**	**-2.7**
PSARD				*i* IAML		18 21 58.5	
PSARD				*i* IAML		18 21 59.4	
PSARD				*i* IAML		18 22 03.1	

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*KRNET **13** 18:23:58.6±0.1, 43°.09N×80°.49E, mb3.4*
*SOME **13** 18:23:59.9, 42°.22N×80°.50E, h15km*
ISC 13 18:24:02.3±1.9, 42°.62N±0°.08×80°.52E±0°.05, h7km±12km, n22, σ1§69/44, 20C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.95**	**305**	*eP*	**Pg**	**18 24 19.7**	**-0.8**
	81nm,0.2s						
SHLS				*eS*	**Sb**	**18 24 33.8**	**-0.2**
	527nm,0.3s						
UZB	**Uzynbulak**	**1.22**	**296**	*eP*	**Pn**	**18 24 26.5**	**+0.5**
	22nm,0.2s						
UZB				*eS*	**Sn**	**18 24 45.8**	**+2.9**
	18nm,0.2s						
PRZ	**Przheval'sk**	**1.57**	**266**	⇑*iP*	**Pn**	**18 24 29.6**	**-1.3**
PRZ				⇑*iS*	**Sn**	**18 24 52.2**	**+0.5**
KDJ	**Kajisay**	**2.53**	**260**	⇑*iP*	**Pn**	**18 24 44.3**	**+0.3**
KDJ				⇑*iS*	**Sb**	**18 25 17.8**	**-1.7**
ARXS	**Arharly**	**2.53**	**310**	*eP*	**Pg**	**18 24 50.5**	**-0.3**
ARXS				*eS*	**Sg**	**18 25 26.9**	**+3.3**
KOTS	**Kotyrbulak**	**2.58**	**285**	*eP*	**Pb**	**18 24 49.9**	**+0.9**
	30nm,0.2s						
KOTS				*eS*	**Sg**	**18 25 26.1**	**+0.9**
	197nm,0.3s						
TNSS	**Tian-Shan**	**2.66**	**280**	*eP*	**Pb**	**18 24 49.8**	**-0.8**
	6.4nm,0.2s						
TNSS				*eS*	**Sb**	**18 25 26.0**	**+2.3**
	15nm,0.3s						
CHKK	**Chushkaly**	**2.86**	**297**	*eP*	**Pg**	**18 24 56.4**	**-0.7**
	1.5nm,0.1s						
CHKK				*eS*	**Sg**	**18 25 37.0**	**+2.8**
	38nm,0.2s						
MTBS	**Maitube**	**3.05**	**281**	*eP*	**Pb**	**18 24 55.9**	**-1.2**
	13nm,0.2s						
MTBS				*eS*	**Sb**	**18 25 36.0**	**+1.4**
	50nm,0.4s						
ULHL	**Ulahol**	**3.19**	**265**	⇑*iP*	**Pn**	**18 24 53.1**	**-0.1**
ULHL				⇑*iS*	**Sn**	**18 25 32.8**	**+1.2**
KST	**Kastek**	**3.38**	**279**	*eP*	**Pb**	**18 25 02.6**	**-0.1**
	11nm,0.3s						
KST				*eS*	**Sg**	**18 25 48.3**	**-2.6**
	45nm,0.5s						
BOOM	**Boomskoye usch**	**3.39**	**269**	⇑*iP*	**Pn**	**18 24 55.2**	**-0.6**
BOOM				⇑*iS*	**Sn**	**18 25 36.5**	**+0.1**
TKM2	**Tokmak 2**	**3.64**	**276**	⇑*iP*	**Pn**	**18 24 58.0**	**-1.3**
TKM2				⇑*iS*	**Sn**	**18 25 41.4**	**-1.2**
JNKS	**Jany-Kuch**	**3.96**	**248**	⇓*eP*	**Pn**	**18 25 05.3**	**+1.6**
JNKS				⇓*eS*	**Sn**	**18 25 54.3**	**+3.7**
KBK	**Karagaybulak**	**4.11**	**272**	⇑*iP*	**Pn**	**18 25 04.9**	**-0.9**
KBK				⇑*iS*	**Sn**	**18 25 53.2**	**-1.1**
CHMS	**Chumysh**	**4.26**	**277**	⇑*iP*	**Pn**	**18 25 06.4**	**-1.3**
CHMS				⇑*iS*	**Sn**	**18 25 55.7**	**-2.1**
AAK	**Ala-Archa**	**4.45**	**272**	⇑*iP*	**Pn**	**18 25 09.4**	**-1.0**
AAK				⇑*iS*	**Sn**	**18 26 01.3**	**-1.2**
UCH	**Uchtor**	**4.47**	**267**	⇓*eP*	**Pn**	**18 25 10.5**	**-0.4**
UCH				⇓*iS*	**Sn**	**18 26 03.1**	**-0.2**
USP	**Ospenovka**	**4.47**	**280**	⇑*iP*	**Pn**	**18 25 08.7**	**-1.9**
USP				⇑*iS*	**Sn**	**18 26 00.0**	**-2.8**
EKS2	**Erkin-Say**	**4.98**	**273**	⇓*eP*	**Pn**	**18 25 16.6**	**-1.0**
EKS2				⇓*iS*	**Sn**	**18 26 13.7**	**-1.8**
SALK	**Salom-Alik**	**5.31**	**253**	⇑*eP*	**Pn**	**18 25 23.4**	**+1.2**
SALK				⇑*iS*	**Sn**	**18 26 25.3**	**+1.7**
ZSN	**Zaisan**	**5.72**	**31**	*eP*	**Pg**	**18 25 50.0**	**-1.9**
	2.4nm,0.3s						
ZSN				*eS*	**Sg**	**18 27 08.7**	**+2.6**
	4.7nm,0.4s						

DJA 13 18:45:47.3±0.3, 4°S±3°×12°8E±°, h10km, M4.0/12, mB4.9/1, mb4.4/1, MLv3.7/12, Mw(mB)4.2/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.17**	**232**	P	Pg	18 45 50.9	-0.1
AAI				S	Sg	18 45 53.8	+0.2
MSAI	**Masohi**	**0.64**	**69**	P	Pg	18 45 58.8	-0.9
MSAI				S	Sg	18 46 08.0	-0.2
NLAI	**Namlea**	**1.27**	**285**	P	Pn	18 46 10.1	-1.1
BNDI	**Bandanaira**	**1.83**	**121**	P	Pn	18 46 19.3	+0.5
SANI	**Sanana**	**2.79**	**303**	P	Pn	18 46 32.9	+0.9
FAKI	**Fak Fak**	**3.97**	**81**	P	Pn	18 46 48.2	-0.1
SWI	**Sorong**	**3.98**	**47**	P	Pn	18 46 49.2	+0.8
LUWI	**Luwuk**	**6.10**	**294**	P	Pn	18 47 19.1	+1.5

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*GII **13** 19:01:30.1±0.0, 35°.240N±0°.002×27°.394E±0°.001, h10km, Mws2.8, confirmed*
*AFAD **13** 19:01:33.3, 35°.41N×27°.19E, h7km±2km, ML2.2*
*ATH **13** 19:01:34.2, 35°.36N×27°.36E, h18km±3km, ML2.6/6, Manual Solution by G.Panopoulou First location: 2019/10/13 19:02:54, This location: 2019/10/13 19:16:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*ISK **13** 19:01:35.2, 35°.43N×27°.26E, h29km, ML2.6/12*
*THE **13** 19:01:36.2, 35°N±4°×2°7E±°, h23km±5km, M2.6/5, MLh2.6/5*
ISC 13 19:01:33.3±0.9, 35°.36N±0°.03×27°.37E±0°.02, h31km±8km, n69, σ1§85/94, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.25**	**317**	Pg	**Pn**	**19 01 41.1**	**+0.1**
KARP				Sg	**Sb**	**19 01 45.2**	**0.0**
KARP	**Karpathos**	**0.25**	**317**	P	**Pn**	**19 01 41.0**	**+0.1**
KARP				S	**Sb**	**19 01 44.9**	**-0.2**
KARP	**Karpathos**	**0.25**	**317**	P	**Pn**	**19 01 41.0**	**+0.1**
KARP				S	**Sb**	**19 01 43.9**	**-1.3**
RGE1	**Gennadi, Rhode**	**0.80**	**34**	P	**Pb**	**19 01 49.8**	**+1.0**
RGE1				S	**Sn**	**19 02 00.8**	**+1.4**
ZKR	**Zakros**	**0.98**	**256**	P	**Pb**	**19 01 52.7**	**+0.9**
ZKR	**Zakros**	**0.98**	**256**	P	**Pb**	**19 01 52.7**	**+0.9**
ZKR				S	**Sb**	**19 02 05.7**	**+1.3**
ARG	**Arkhangelos**	**1.05**	**35**	Pg	**Pb**	**19 01 54.7**	**+1.8**
ARG				Sg	**Sb**	**19 02 08.3**	**+1.9**
ARG	**Arkhangelos**	**1.05**	**35**	P	**Pb**	**19 01 54.8**	**+1.8**
ARG				S	**Sb**	**19 02 08.2**	**+1.8**
ARG	**Arkhangelos**	**1.05**	**35**	P	**Pb**	**19 01 54.8**	**+1.8**
ARG				S	**Sb**	**19 02 08.3**	**+1.9**
YAZI	**Mula-Dat§a-**	**1.32**	**3**	P	**Pb**	**19 01 56.7**	**-0.8**
YAZI				S	**Sb**	**19 02 13.5**	**-0.6**
YAZI				*i* IAML		19 02 17.0	
	comp=E,26nm,0.3s						
YAZI				*i* IAML		19 02 23.0	
	comp=N,22nm,0.4s						
DAT	**Datca**	**1.37**	**7**	Pn	**Pb**	**19 01 58.3**	**-0.2**
DAT				Sn	**Sb**	**19 02 15.3**	**-0.4**
DAT	**Datca**	**1.37**	**7**	P	**Pb**	**19 01 58.0**	**-0.5**
DAT				S	**Sb**	**19 02 15.3**	**-0.4**
NPS	**Neapolis**	**1.44**	**267**	P	**Pb**	**19 02 00.2**	**+0.6**
NPS				S	**Sb**	**19 02 18.3**	**+0.7**
NPS	**Neapolis**	**1.44**	**267**	P	**Pb**	**19 02 00.2**	**+0.6**
NPS				S	**Sb**	**19 02 18.0**	**+0.3**
TURN	**Turunc**	**1.58**	**26**	Pn	**Pb**	**19 02 01.6**	**-0.3**
TURN	**Turunc**	**1.58**	**26**	P	**Pb**	**19 02 01.4**	**-0.4**
TURN				S	**Sb**	**19 02 25.2**	**+3.8**
TURN				*i* IAML		19 02 29.0	
	comp=N,42nm,0.4s						
TURN				*i* IAML		19 02 29.0	
	comp=E,54nm,0.3s						
BODT	**Bodrum**	**1.70**	**358**	Pn	**Pb**	**19 02 02.7**	**-1.2**
BODT	**Bodrum**	**1.70**	**358**	P	**Pb**	**19 02 03.3**	**-0.6**
BDRM	**Kayabasi**	**1.70**	**2**	P	**Pn**	**19 02 01.9**	**+1.1**
BDRM				S	**Sn**	**19 02 21.8**	**+0.2**
BDRM				*i* IAML		19 02 25.0	
	comp=E,21nm,1.6s						
DALY	**Dalyan (Mula)**	**1.78**	**35**	Pn	**Pb**	**19 02 05.0**	**-0.4**
THERA	**Ancient Thera,**	**1.84**	**304**	P	**Pn**	**19 02 04.6**	**+1.9**
IZZE	**Mula-Seydike**	**1.85**	**54**	P	**Pb**	**19 02 05.9**	**-0.6**
IZZE				S	**Sb**	**19 02 32.6**	**+3.5**
IZZE				*i* IAML		19 02 46.0	
	comp=E,30nm,0.4s						
IZZE				*i* IAML		19 02 47.0	
	comp=N,47nm,0.5s						
FETY	**Fethiye**	**1.88**	**47**	P	**Pn**	**19 02 00.1**	**-3.2**
FETY				S	**Sb**	**19 02 31.8**	**+1.7**
SNT5	**Nea Kammeni, S**	**1.91**	**303**	P	**Pn**	**19 02 05.6**	**+1.8**
SNT5				S	**Sn**	**19 02 28.3**	**+1.5**
SNT5	**Nea Kammeni, S**	**1.91**	**303**	P	**Pb**	**19 02 06.0**	**-1.6**
YER	**Yerkesik**	**1.92**	**22**	Pn	**Pb**	**19 02 06.5**	**-1.2**
SABU	**Mula-Dalaman**	**1.95**	**41**	P	**Pb**	**19 02 07.5**	**-0.6**
SABU				S	**Sb**	**19 02 37.8**	**+5.7**
SABU				*i* IAML		19 02 41.0	
	comp=E,29nm,0.7s						
SABU				*i* IAML		19 02 42.0	
	comp=N,27nm,0.5s						
MLSB	**Milas**	**1.96**	**9**	Pn	**Pb**	**19 02 03.9**	**-0.5**
KSL	**Kastellorizon**	**1.96**	**66**	P	**Pb**	**19 02 07.8**	**-0.6**
KSL				S	**Sb**	**19 02 31.8**	**-0.6**
KSL	**Kastellorizon**	**1.96**	**66**	P	**Pb**	**19 02 07.6**	**-0.8**
AKAS	**Kas**	**2.01**	**64**	Pn	**Pb**	**19 02 08.6**	**-0.7**
IDI	**Anoyia**	**2.03**	**269**	P	**Pn**	**19 02 07.9**	**+2.4**
IDI				S	**Sn**	**19 02 32.4**	**+2.6**
IDI	**Anoyia**	**2.03**	**269**	P	**Pn**	**19 02 07.8**	**+2.3**
MULA	**Mugla, Merkez-**	**2.04**	**22**	P	**Pb**	**19 02 08.6**	**-1.1**
MULA				S	**Sb**	**19 02 39.1**	**+4.3**
MULA				*i* IAML		19 02 42.0	
	comp=N,14nm,0.7s						
MULA				*i* IAML		19 02 42.0	
	comp=E,24nm,0.6s						
CAME	**Cameli-Denizli**	**2.22**	**44**	Pn	**Pb**	**19 02 11.4**	**-1.5**
AYDN	**Tasoluk**	**2.33**	**10**	P	**Pn**	**19 02 11.5**	**+1.9**
AYDN				S	**Sb**	**19 02 39.7**	**-3.4**
AYDN				*i* IAML		19 02 44.0	
	comp=N,15nm,0.4s						
AYDN				*i* IAML		19 02 44.0	
	comp=E,18nm,1.1s						
DNZT	**Denizli-Tavas-**	**2.33**	**34**	P	**Pb**	**19 02 12.9**	**-1.9**
DNZT				S	**Sb**	**19 02 46.4**	**+3.2**
DNZT				*i* IAML		19 02 52.0	
	comp=N,13nm,0.5s						
DNZT				*i* IAML		19 02 52.0	
	comp=E,12nm,0.7s						
TAVA	**DENIZLI_Tavas**	**2.44**	**30**	P	**Pb**	**19 02 14.4**	**-2.2**
TAVA				S	**Sb**	**19 02 49.7**	**+3.5**
TAVA				*i* IAML		19 02 52.0	
	comp=E,19nm,0.5s						
TAVA				*i* IAML		19 02 54.0	
	comp=N,26nm,0.5s						
ESEN	**Aydn-Nazilli**	**2.55**	**18**	P	**Pb**	**19 02 15.2**	**-3.2**
ESEN				*i* IAML		19 02 49.0	
	comp=N,6.5nm,0.4s						
ESEN				*i* IAML		19 02 57.0	
	comp=E,9.1nm,0.7s						
AYDB	**Zeytinkoy-Aydi**	**2.61**	**9**	Pn	**Pn**	**19 02 15.5**	**+2.0**
APMY	**Acipayam-Deniz**	**2.62**	**36**	Pn	**Pb**	**19 02 16.9**	**-2.7**
VLI	**Velial**	**3.84**	**292**	P	**Pn**	**19 02 32.3**	**+2.0**
ALFC	**Alefka**	**4.28**	**91**	P	**Pn**	**19 02 38.3**	**+1.9**
NATA	**Nata**	**4.30**	**96**	P	**Pn**	**19 02 38.3**	**+1.6**
ASGA	**Asgata**	**4.85**	**95**	P	**Pn**	**19 02 45.7**	**+1.5**
CSS	**Mathiatis**	**4.90**	**93**	P	**Pn**	**19 02 43.8**	**-1.0**
CSS	**Mathiatis**	**4.90**	**93**	S	**Sn**	**19 03 40.1**	**-0.3**
MMA0	**Mount Meron ar**	**7.05**	**107**	P	**Pn**	**19 03 12.8**	**-1.7**
MMA0	**Mount Meron ar**	**7.05**	**107**	S	**Sn**	**19 04 32.8**	**-0.8**
KZIT	**Kziot**	**7.38**	**125**	P	**Pn**	**19 03 17.0**	**-1.9**
KZIT	**Kziot**	**7.38**	**125**	S	**Sn**	**19 04 39.7**	**-1.8**
YTIR	**Yattir**	**7.61**	**119**	P	**Pn**	**19 03 20.3**	**-1.8**
YTIR	**Yattir**	**7.61**	**119**	S	**Sn**	**19 04 46.2**	**-1.1**
DSI	**Dead Sea**	**7.68**	**117**	P	**Pn**	**19 03 21.5**	**-1.6**
DSI	**Dead Sea**	**7.68**	**117**	S	**Sn**	**19 04 48.3**	**-0.8**
MSBI	**Mazada**	**7.81**	**119**	P	**Pn**	**19 03 22.8**	**-1.9**
MSBI	**Mazada**	**7.81**	**119**	S	**Sn**	**19 04 50.6**	**-1.4**
RMNI	**Mount Ramon**	**7.82**	**125**	P	**Pn**	**19 03 22.8**	**-2.2**
RMNI	**Mount Ramon**	**7.82**	**125**	S	**Sn**	**19 04 51.2**	**-1.3**
KRMI	**Paran Flat**	**8.10**	**128**	P	**Pn**	**19 03 26.9**	**-1.9**
KRMI	**Paran Flat**	**8.10**	**128**	S	**Sn**	**19 04 57.9**	**-1.6**
PRNI	**Paran**	**8.13**	**126**	P	**Pn**	**19 03 27.4**	**-1.9**
PRNI	**Paran**	**8.13**	**126**	S	**Sn**	**19 04 58.3**	**-1.9**
HRFI	**Mount Harif**	**8.36**	**127**	P	**Pn**	**19 03 30.5**	**-1.9**
HRFI	**Mount Harif**	**8.36**	**127**	S	**Sn**	**19 05 04.1**	**-1.6**
MBRI	**Mt Berech**	**8.44**	**129**	P	**Pn**	**19 03 32.0**	**-1.6**
MBRI	**Mt Berech**	**8.44**	**129**	S	**Sn**	**19 05 06.4**	**-1.5**
EIL	**Elat**	**8.55**	**129**	P	**Pn**	**19 03 33.0**	**-2.0**
EIL	**Elat**	**8.55**	**129**	S	**Sn**	**19 05 08.3**	**-2.1**

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*JMA **13** 19:07:16.1±0.3, 44°N±1°×14°1E±°, h235km±2km, MV2.7/24, NW OFF HOKKAIDO*
*SKHL **13** 19:07:17.0±0.3, 44°.30N×141°.70E, h205km±1km, mb4.1/3, msha4.3/3*
ISC 13 19:07:14.3±2.3, 44°.18N±0°.06×141°.49E±0°.08, h247km±15km, n13, σ1§38/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.47**	**158**	*eP*	**Pn**	**19 07 47.9**	**+1.1**
ASAJ	**Asahikawa**	**0.80**	**94**	*eP*	**Pn**	**19 07 48.4**	**+0.4**
ASAJ				*eS*	**S**	**19 08 13.2**	**-1.1**
JAB	**Ashibetsu**	**0.86**	**141**	*eP*	**Pn**	**19 07 49.2**	**+0.9**
JAB				*eS*	**S**	**19 08 15.0**	**+0.1**
JKK2	**Kamakawa 2**	**0.96**	**108**	*eP*	**Pn**	**19 07 49.7**	**+0.9**
JKK2				*eS*	**S**	**19 08 15.2**	**-0.6**
JRBN	**Rebuntou**	**1.28**	**347**	*eP*	**Pn**	**19 07 51.0**	**+0.4**
JEW	**Eniwo**	**1.33**	**181**	*eS*	**S**	**19 08 20.4**	**+0.3**
JTKR	**Abashiri--Toko**	**1.76**	**96**	*eP*	**Pn**	**19 07 56.1**	**+1.8**
JAR	**Ashorobuto**	**1.87**	**117**	*eP*	**Pn**	**19 07 57.1**	**+1.7**
JCH	**Churui**	**2.07**	**138**	*eP*	**Pn**	**19 07 57.7**	**+0.5**
JCH				*eS*	**S**	**19 08 28.9**	**-2.1**
JOSM	**Okushiri--Mats**	**2.56**	**216**	*eP*	**Pn**	**19 08 02.6**	**+0.7**
JOT	**Ohata**	**2.81**	**187**	*eS*	**S**	**19 08 42.4**	**-1.9**
YSS	**Yuzhno-Sakhali**	**2.92**	**17**	*eP*	**Pn**	**19 08 06.3**	**+0.7**
YSS				AMB	AMB	19 08 07.0	
	30nm,

2.1nm6µm613nm,1.0s
SPSI Sidrap Palu 6.25 232 P **Pn 19 36 46.8 +1.6**
BNSI Bone 6.28 227 P **Pn 19 36 46.7 +1.3**
SWI Sorong 6.57 96 P **Pn 19 36 51.4 +1.9**
2µm133nm,0.9s
BNDI Bandanaira 6.77 130 P **Pn 19 36 53.6 +1.4**
BNDI Bandanaira 6.77 130 S **Sn 19 38 09.4 +1.4**
BNDI Bandanaira 6.77 130 P **Pn 19 36 51.8 -0.4**
BKSI Bulukumba 6.92 222 P **Pn 19 36 55.5 +1.3**
3.0nm3µm4µm284nm,0.6s
KAPI Kappang 6.95 226 **Pn 19 36 56.8 +2.1**
KAPI Kappang 6.95 226 P **Pn 19 36 56.1 +1.4**
200nm,0.5s,baz=53,slow=9.9,SNR=35
KAPI S **Sn 19 38 11.0 -1.4**
171nm,0.5s,baz=53,slow=20,SNR=11
KAPI LR LR 19 40 11.1
comp=Z,3µm,21.1s,baz=45,slow=43
KAPI Kappang 6.95 226 P **Pn 19 36 56.8 +2.1**
KAPI Kappang 6.95 226 S **Sn 19 38 14.9 +2.5**
SGKI Sangatta, Kali 7.14 267 P **Pn 19 36 59.4 +2.1**
1.7nm264nm,0.6s
DAV Davao City (W) 7.20 7 P **Pn 19 37 01.9 +3.9**
128nm,0.3s,baz=117,slow=4.0,SNR=10
DAV S **Sn 19 38 14.5 -3.9**
184nm,0.4s,baz=276,slow=24,SNR=1.5
DAV LR LR 19 40 02.2
comp=Z,6µm,20.9s,baz=196,slow=40
DAV Davao City (W) 7.20 7 P **Pn 19 37 00.0 +2.0**
DAV Davao City (W) 7.20 7 P **Pn 19 37 01.0 +3.0**
BSSI Bau Bau, Buton 7.33 215 P **Pn 19 37 00.6 +0.8**
BKB Balikpapan 7.91 262 **Pn 19 37 11.7 +3.8**
BKB Balikpapan 7.91 262 P **Pn 19 37 09.8 +1.9**
BKB Balikpapan 7.91 262 P **Pn 19 37 09.5 +1.6**
FAKI Fak Fak 8.01 110 **Pn 19 37 08.1 -1.1**
FAKI Fak Fak 8.01 110 P **Pn 19 37 08.4 -0.9**
FAKI Fak Fak 8.01 110 P **Pn 19 37 08.2 -1.1**
0.6nm1µm70nm,0.5s
MYLDM Lahad Datu 8.15 310 P **Pn 19 37 14.2 +3.1**
MMRI Maumere 8.81 196 **Pn 19 37 19.8 -0.4**
MMRI Maumere 8.81 196 P **Pn 19 37 21.5 +1.3**
MMRI Maumere 8.81 196 P **Pn 19 37 20.2 0.0**
3µm2µm86nm,1.1s
EDFI Ende, Flores 9.09 199 P **Pn 19 37 23.9 -0.2**
RKPI Ransiki, Papua 9.55 98 P **Pn 19 37 31.8 +1.6**
127nm,1.0s
SOEI Soe 9.58 183 P **Pn 19 37 34.0 +3.2**
SOEI Soe 9.58 183 P **Pn 19 37 32.9 +2.1**
KMPI Kaimana, Papua 9.63 112 P **Pn 19 37 31.0 -0.4**
3µm220nm,0.7s
MTKI Muara Teweh, K 9.87 265 P **Pn 19 37 36.8 +2.2**
83nm,0.7s
BATI Baumata 10.07 186 P **Pn 19 37 39.2 +1.7**
86nm,0.8s,baz=16,slow=7.7,SNR=19
BATI LR LR 19 42 03.1
comp=Z,2µm,21.3s,baz=352,slow=40
BATI Baumata 10.07 186 P **Pn 19 37 39.7 +2.2**
2µm263nm,1.1s
SAUI Saumlaki 10.19 140 P **Pn 19 37 40.5 +1.4**
SAUI Saumlaki 10.19 140 P **Pn 19 37 40.3 +1.2**
BBKI Banjar Baru 10.42 251 P **Pn 19 37 45.7 +3.5**
3µm156nm,0.6s
WSI Waingapu 10.46 205 P **Pn 19 37 44.1 +1.4**
3µm144nm,1.0s
KKM Kota Kinabalu 10.48 306 **Pn 19 37 45.7 +2.7**
KKM Kota Kinabalu 10.48 306 P **Pn 19 37 46.0 +3.0**
BASI Baing, Sumba 10.85 202 P **Pn 19 37 49.3 +1.3**
3µm3µm122nm,1.1s
WBSI Waikabubak, Su 10.85 209 P **Pn 19 37 48.5 +0.5**
1µm49nm,1.2s
PLAI Plampang 11.08 219 P **Pn 19 37 53.1 +1.9**
PLAI Plampang 11.08 219 P **Pn 19 37 52.9 +1.7**
1µm92nm,1.0s
BAKI Biak 11.43 95 P **Pn 19 37 57.2 +1.3**
78nm,0.8s
TWSI Taliwang, Sumb 11.59 222 P **Pn 19 38 00.5 +2.3**
SRBI Singaraja 12.35 230 P **Pn 19 38 10.5 +2.0**
36nm,0.9s
KMMI Kalianget 12.75 237 P **Pn 19 38 17.7 +3.7**
90nm,1.6s
SBUM Sibu 12.76 282 P **Pn 19 38 17.3 +3.1**
JAGI Jajag, Banyuwa 13.41 232 P **Pn 19 38 25.1 +2.1**
JAGI Jajag, Banyuwa 13.41 232 P **Pn 19 38 25.8 +2.8**
57nm,1.2s
AUDHS Darwin High Sc 13.65 154 P **Pn 19 38 25.9 -0.3**
DRS Darwin Rock St 13.68 154 P **Pn 19 38 27.5 +1.0**
SMPI Sarmi 14.10 98 P **Pn 19 38 33.4 +1.2**
1µm64nm,1.1s
MTN Manton Dam 14.14 154 P Pn 19 38 27.1 -5.6
KSM Kuching 14.51 276 P **P 19 38 45.1 +2.6**
KSM Kuching 14.51 276 P **Pn 19 38 40.0 +2.4**
TGY Tagaytay City 14.62 345 P **P 19 38 42.9 -1.0**
143nm,0.4s,baz=214,slow=3.6,SNR=7.2
TGY LR LR 19 45 42.9
comp=Z,912nm,18.7s,baz=158,slow=43
NGJI Ngawi 15.06 241 P **P 19 38 49.9 +1.1**
107nm,0.9s
GENI Genyem 15.63 99 P **Pn 19 38 52.9 +0.9**
GENI Genyem 15.63 99 P **Pn 19 38 52.5 +0.5**
72nm,1.2s
PCJI Pacitan 15.71 239 P **P 19 38 54.7 -1.2**
111nm,0.8s
KNRA Kununurra 15.96 166 P **Pn 19 38 55.7 -0.5**
comp=Z,224nm,0.9s
KNRA Kununurra 15.96 166 **Pn 19 38 53.8 -2.4**
KNRA IAmb IAmb 19 39 00.9
comp=Z,239nm,1.0s
UGM Wanagama 16.14 241 P **P 19 39 01.5 +0.7**
comp=Z,71nm,1.6s
JAY Jayapura 16.15 99 P **P 19 39 01.3 +0.5**
comp=Z,17nm,0.6s,baz=301,slow=12,SNR=6.2
JAY LR LR 19 45 52.1
comp=Z,415nm,20.6s,baz=212,slow=39
JAY Jayapura 16.15 99 P **Pn 19 38 56.9 -1.7**
TPI Tanjungpandan 17.27 261 P **P 19 39 14.6 +1.4**
comp=Z,50nm,1.2s
KPJI Karang Pucung 17.31 245 P **P 19 39 14.8 +1.1**
comp=Z,2µmcomp=Z,119nm,0.8s
MMPI Merauke 17.66 118 P **P 19 39 18.4 +0.8**
comp=Z,4µmcomp=Z,310nm,1.0s
FITZ Fitzroy Crossi 17.89 177 P **P 19 39 19.1 -1.0**
comp=Z,40nm,1.3s
FITZ Fitzroy Crossi 17.89 177 **P 19 39 17.3 -2.7**
FITZ Fitzroy Crossi 17.89 177 P **P 19 39 19.2 -0.8**
comp=Z,100nm,0.8s,baz=13,slow=8.6,SNR=110
FITZ LR LR 19 46 27.7
comp=Z,433nm,20.4s,baz=354,slow=38
FITZ Fitzroy Crossi 17.89 177 P **P 19 39 19.7 -0.3**
SZP Santa 18.06 347 P **Pn 19 39 25.4 +3.2**
LEM Lembang 18.32 248 P **Pn 19 39 27.2 +1.6**
comp=Z,31nm,0.8s,baz=94,slow=15,SNR=8.2
LEM S **Sn 19 42 44.6 -5.2**
comp=Z,4.9nm,0.4s,baz=158,slow=22,SNR=1.2
LEM LR LR 19 47 04.2
comp=Z,999nm,18.1s,baz=60,slow=39
LEM Lembang 18.32 248 P **Pn 19 39 26.8 +1.2**
BBJI Bungbulang 18.53 246 P **Pn 19 39 29.6 +1.6**
CNJI Cibinong 18.95 247 P **Pn 19 39 33.3 +0.3**
SKJI Sukabumi 19.37 249 P **P 19 39 33.3 -3.1**
comp=Z,3µmcomp=Z,179nm,0.5s
CGJI Cibinong 20.06 251 P Pn 19 39 45.1 -1.0
comp=Z,1µmcomp=Z,95nm,0.7s
DLV Lat 20.09 307 P Pn 19 39 46.1 -0.6
DSRI Dabo 20.15 269 P **P 19 39 46.0 +1.1**
comp=Z,49nm,0.6s
TPRI Tanjung Pinang 20.23 273 P Pn 19 39 47.3 -0.8
comp=Z,928nmcomp=Z,72nm,0.7s
MYKOM Kota Tinggi 20.96 275 P Pn 19 39 55.4 -1.5
MYKOM Kota Tinggi 20.96 275 P Pn 19 39 55.8 -1.0
MDSI Maura Dua 20.98 258 P **P 19 39 54.9 +1.1**
comp=Z,34nm,0.8s
BTDF Bukit Timah Da 21.01 274 P **P 19 39 57.1 +3.0**
LWLI Liwa 21.21 256 P **P 19 39 57.7 +1.3**
comp=Z,1µmcomp=Z,110nm,0.8s
MBWA Marble Bar 21.47 193 P **P 19 39 59.1 +0.1**
comp=Z,190nm,1.2s
MBWA Marble Bar 21.47 193 P **P 19 39 59.2 +0.3**
MBWA Marble Bar 21.47 193 P **P 19 39 59.6 +0.6**
PSAC1 Pilbara Seismi 21.82 192 P **P 19 40 02.8 +0.2**
comp=Z,175nm,1.2s
PSAC2 Pilbara Seismi 21.82 192 P **P 19 40 02.8 +0.1**
comp=Z,152nm,1.1s
WRAB Tennant Creek 21.83 155 P **P 19 40 02.2 -0.6**
WRAB Tennant Creek 21.83 155 *d iP* **P 19 40 01.8 -1.0**
WRAB pmax pmax
comp=Z,134nm,1.0s
WRA Warramunga Arr 21.83 155 P **P 19 40 02.3 -0.6**
comp=Z,86nm,0.9s,baz=331,slow=11,SNR=94
WRA PcP **PcP 19 44 00.3 -0.7**
comp=Z,4.8nm,0.9s,baz=314,slow=3.0,SNR=4.8
WRA ScP **ScP 19 47 34.3 +1.2**
comp=Z,4.8nm,0.9s,baz=338,slow=3.0,SNR=11
WRA LR LR 19 49 00.5
comp=Z,276nm,21.6s,baz=343,slow=38
comp=Z,86nm,0.9s
WRA Warramunga Arr 21.83 155 *i* P **P 19 40 00.3 -2.6**
WRA pmax pmax
comp=Z,86nm,0.9s
PSA00 Pilbara Seismi 21.85 192 P **P 19 40 03.0 0.0**
PSA00 IAmb IAmb 19 40 04.5
comp=Z,123nm,0.9s
PSA00 Pilbara Seismi 21.85 192 P **P 19 40 02.4 -0.6**
PSA00 IAmb IAmb 19 40 04.5
comp=Z,87nm,1.1s
PSA00 Pilbara Seismi 21.85 192 P **P 19 40 03.5 +0.5**
MNAI Manna 22.16 259 P **P 19 40 07.7 +1.2**
MNAI Manna 22.16 259 P **P 19 40 07.6 +1.2**
comp=Z,147nm,1.1s
MASI Maura Aman, Be 22.68 262 P **P 19 40 12.0 -0.1**
comp=Z,2µmcomp=Z,170nm,0.8s
COEN Coen 22.86 128 P **P 19 40 13.2 -0.6**
comp=Z,92nm,1.1s
COEN Coen 22.86 128 P **P 19 40 13.4 -0.4**
COEN IAmb IAmb 19 40 22.8
comp=Z,86nm,1.0s
COEN Coen 22.86 128 P **P 19 40 14.1 +0.2**
TWGBT Beinan 23.08 351 P **P 19 40 18.9 +2.9**
KRJI Kerinci 23.34 265 P **P 19 40 19.5 +0.7**
comp=Z,4µmcomp=Z,182nm,0.9s
YULB Yu-li 23.61 352 P **P 19 40 20.2 -0.8**
YULB Yu-li 23.61 352 P **P 19 40 21.1 +0.1**
TPUB Ta-pu 23.62 351 P **P 19 40 20.2 -0.9**
TPUB Ta-pu 23.62 351 P **P 19 40 21.5 +0.4**
QIZ Qiongzhong 23.99 323 P **P 19 40 25.8 +1.2**
QIZ S **S 19 44 40.1 +2.7**
QIZ sS Sn 19 45 08.6 +3.1
QIZ SS SnSn 19 45 38.4 +15
QIZ pmax pmax
comp=Z,26nm,1.9s
QIZ LR LR
comp=Z,290nm,17.8s
QIZ LR LR
comp=Z,300nm,13.1s
QIZ LR LR
comp=Z,410nm,18.1s
SSLB Suanglung 24.05 351 P **P 19 40 24.8 -0.2**
SSLB IAmb IAmb 19 40 31.0
comp=Z,55nm,0.8s
SSLB Suanglung 24.05 351 P **P 19 40 25.2 +0.2**
IPM Ipoh 24.12 281 P **P 19 40 26.1 +0.3**
IPM Ipoh 24.12 281 P **P 19 40 27.2 +1.4**
PMG Port Moresby 24.16 113 P **P 19 40 27.9 +1.8**
PMG IAmb IAmb 19 40 28.5
comp=Z,128nm,1.7s
PMG Port Moresby 24.16 113 P **P 19 40 27.3 +1.2**
comp=Z,24nm,0.5s,baz=320,slow=7.7,SNR=15
comp=Z,24nm,0.5s
PMG Port Moresby 24.16 113 P **P 19 40 28.1 +2.0**
PMG Port Moresby 24.16 113 *d iP* **P 19 40 27.0 +0.9**
PMG pmax pmax
comp=Z,69nm,1.7s
GUMO Guam 24.16 55 P **P 19 40 24.6 -1.5**
GUMO pmax pmax
comp=Z,191nm,1.5s
PDSI Padang 24.28 268 P **P 19 40 25.5 -1.8**
comp=Z,51nm,1.0s
PPI Padang Panjang 24.33 269 P **P 19 40 28.2 +0.5**
comp=Z,28nm,0.7s
GIRL Giralia 24.61 204 P **P 19 40 28.4 -1.7**
KULM Kulim 24.64 283 P **P 19 40 30.4 -0.1**
KULM Kulim 24.64 283 P **P 19 40 33.7 +3.2**
QIS Mount Isa 24.98 145 P **P 19 40 34.7 +1.1**
comp=Z,466nm,0.9s
QIS Mount Isa 24.98 145 P **P 19 40 34.7 +1.1**
WRKA Warakurna 25.01 172 P **P 19 40 34.1 +0.3**
comp=Z,76nm,1.3s
AS31 Alice Springs 25.04 160 P **P 19 40 34.1 0.0**
comp=Z,51nm,1.1s
ASAR Alice Springs 25.04 160 P **P 19 40 33.3 -0.8**
ASAR Alice Springs 25.04 160 P **P 19 40 34.7 +0.6**
comp=Z,218nm,1.0s,baz=327,slow=6.8,SNR=343
ASAR PcP **PcP 19 44 08.3 +0.6**
comp=Z,4.6nm,0.4s,baz=350,slow=2.1,SNR=12
ASAR S **S 19 44 54.2 0.0**
comp=Z,1.0nm,0.6s,baz=339,slow=17,SNR=1.0
ASAR ScP **ScP 19 47 42.8 +1.0**
comp=Z,4.7nm,1.1s,baz=346,slow=2.9,SNR=10
ASAR LR LR 19 51 47.4
comp=Z,197nm,21.8s,baz=332,slow=40
comp=Z,218nm,1.0s
RPSI Rantau Prapat 25.95 276 P **P 19 40 40.9 -1.5**
PSI Prapat 25.96 277 P **P 19 40 41.8 -0.9**
comp=Z,5.6nm,0.3s,baz=121,slow=3.3,SNR=9.8
PSI ScP **ScP 19 47 44.5 -0.2**
comp=Z,3.7nm,0.3s,baz=138,slow=6.1,SNR=7.1
PSI LR LR 19 52 42.7
comp=Z,221nm,19.8s,baz=110,slow=41
comp=Z,5.6nm,0.3s
PSI Prapat 25.96 277 P **P 19 40 42.4 -0.2**
MTSU Mount Surprise 26.29 134 P **P 19 40 46.4 +0.9**
comp=Z,33nm,0.9s
MTSU Mount Surprise 26.29 134 P **P 19 40 47.2 +1.7**
MEEK Meekatharra 27.01 192 P **P 19 40 51.3 -0.6**
comp=Z,49nm,0.8s
MEEK Meekatharra 27.01 192 P **P 19 40 51.7 -0.2**
JOW Kunigami 27.02 7 IAmb IAmb 19 40 54.5
comp=Z,113nm,1.3s
JOW Kunigami 27.02 7 LR LR 19 50 49.9
comp=Z,699nm,21.8s,baz=158,slow=35
JOW Kunigami 27.02 7 P **P 19 40 54.5 +2.7**
KCSI Kotacane, Aceh 27.18 278 P **P 19 40 51.5 -2.1**
GSI Gunungsitoli 27.19 273 P **P 19 40 51.0 -2.6**
comp=Z,20nm,0.7s
RABL Rabaul 27.71 99 P **P 19 40 54.7 -3.5**
MLSI Meulaboh, Aceh 28.63 279 P **P 19 41 05.0 -1.5**
comp=Z,55nm,0.7s
TV1H Townsville Har 28.81 133 P **P 19 41 09.9 +1.9**
GULI GuiLin 28.83 332 P **P 19 41 10.3 +2.2**
GULI pmax pmax
comp=Z,14nm,1.0s
GULI pmax pmax
comp=Z,240nm,3.5s
CTAO Charters Tower 28.95 135 P **P 19 41 06.8 -2.4**
CTAO Charters Tower 28.95 135 P **P 19 41 11.1 +1.9**
CTAO Charters Tower 28.95 135 P **P 19 41 06.8 -2.4**
CTAO pmax pmax
comp=Z,50nm,1.4s
SLVN Son La 29.47 318 P **P 19 41 13.6 -0.3**
MORW Morawa 29.96 195 P **P 19 41 17.2 -0.8**
comp=Z,44nm,1.3s
MORW Morawa 29.96 195 IAmb IAmb 19 41 19.2
comp=Z,86nm,1.4s
MORW Morawa 29.96 195 P **P 19 41 18.4 +0.4**
FORT Forrest 30.65 174 P **P 19 41 24.3 +0.2**
comp=Z,107nm,0.8s
FORT Forrest 30.65 174 P **P 19 41 21.9 -2.2**
KMBL Kambalda 31.19 185 P **P 19 41 28.6 -0.3**
comp=Z,33nm,0.9s
BLDU Ballidu 31.27 193 P **P 19 41 29.1 -0.4**
comp=Z,44nm,1.3s
BLDU Ballidu 31.27 193 P **P 19 41 29.5 -0.1**
CMAR Chiang Mai Arr 31.35 307 P **P 19 41 30.6 +0.1**
CMAR PcP **PcP 19 44 25.4 +2.1**
CMAR Chiang Mai Arr 31.35 307 P **P 19 41 30.4 -0.1**
comp=Z,3.5nm,0.7s,baz=134,slow=7.2,SNR=58
CMAR PcP **PcP 19 44 24.1 +0.8**
comp=Z,2.6nm,0.8s,baz=151,slow=2.0,SNR=7.3
CMAR ScP **ScP 19 48 01.3 0.0**
comp=Z,3.8nm,1.1s,baz=148,slow=2.0,SNR=14
comp=Z,3.5nm,0.7s
CMAR Chiang Mai Arr 31.35 307 *i* P **P 19 41 31.2 +0.7**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
INKA Innaminka 31.47 152 P **P 19 41 30.2 -1.1**
INKA IAmb IAmb 19 41 34.2
comp=Z,48nm,0.8s
CHTO Chiang Mai 31.55 308 P **P 19 41 32.5 +0.4**
CHTO Chiang Mai 31.55 308 P **P 19 41 32.6 +0.4**
CHTO Chiang Mai 31.55 308 P **P 19 41 32.6 +0.4**
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 31.55 308 P **P 19 41 33.0 +0.8**
GYA Guiyang 31.64 328 ⇓P **P 19 41 34.8 +1.7**
GYA pP pwP 19 41 50.3 -1.2
GYA S **S 19 46 40.0 +1.8**
GYA pmax pmax
comp=Z,17nm,1.7s
GYA pmax pmax
comp=Z,160nm,3.2s
GYA LR LR
comp=Z,270nm,11.1s
GYA LR LR
comp=Z,190nm,9.6s
GYA LR LR
comp=Z,360nm,20.8s
JCJ Chichijima 31.85 30 LR LR 19 52 47.9
comp=Z,156nm,20.6s,baz=226,slow=33
WHN Wuhan 32.05 343 P **P 19 41 37.5 +1.1**
WHN sP sP 19 42 05.3 +8.1
WHN LR LR
comp=Z,2µm,20.3s
QLP Quilpie 32.32 146 P **P 19 41 40.0 +1.1**
comp=Z,51nm,1.0s
QLP Quilpie 32.32 146 P **P 19 41 40.5 +1.6**
NJ2 Nanjing 32.48 351 *e*P **P 19 41 40.9 +0.8**
NJ2 S **S 19 46 52.0 +1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,860nm,20.8s
NJ2 LR LR
comp=Z,770nm,19.9s
NJ2 LR LR
comp=Z,780nm,22.7s
NWAO Narrogin (SRO) 33.39 192 P **P 19 41 47.7 -0.4**
comp=Z,40nm,0.9s
NWAO Narrogin (SRO) 33.39 192 LR LR 19 56 36.6
comp=Z,168nm,18.4s,baz=356,slow=38
NWAO Narrogin (SRO) 33.39 192 P **P 19 41 47.7 -0.4**
ENH Enshi 33.53 336 IAmb IAmb 19 41 52.1
comp=Z,35nm,0.9s
ENH Enshi 33.53 336 P **P 19 41 51.4 +2.0**
JNU Nakatsue 33.57 9 P **P 19 41 48.1 -1.6**
JNU Nakatsue 33.57 9 P **P 19 41 49.6 -0.1**
comp=Z,67nm,0.9s,baz=169,slow=3.2,SNR=19
JNU LR LR 19 55 17.5
comp=Z,216nm,21.2s,baz=181,slow=36
comp=Z,67nm,0.9s
JNU Nakatsue 33.57 9 P **P 19 41 50.5 +0.8**
AUNRC North Rockhamp 34.08 134 P **P 19 41 56.1 +1.9**
BBOO Buckleboo 34.22 163 P **P 19 41 55.5 +0.2**
comp=Z,62nm,0.9s
BBOO Buckleboo 34.22 163 P **P 19 41 53.8 -1.6**
BBOO IAmb IAmb 19 41 57.3
comp=Z,46nm,0.8s
BBOO Buckleboo 34.22 163 P **P 19 41 56.1 +0.7**
PZH PanZhiHua 34.51 322 P **P 19 41 59.0 +0.9**
PZH S **S 19 47 19.3 -3.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH LR LR
comp=Z,140nm,18.1s
PZH LR LR
comp=Z,190nm,19.6s
PZH LR LR
comp=Z,230nm,17.8s
JMN Monobe 34.75 13 P **P 19 42 01.0 +1.1**
JMN Monobe 34.75 13 P **P 19 42 02.1 +2.1**
WHYH Whyalla 34.90 161 P **P 19 42 02.1 +0.9**
RKGY Rocky Gully 35.07 191 P **P 19 42 03.7 +1.1**
comp=Z,95nm,1.6s
STKA Stephens Creek 35.38 155 P **P 19 42 06.3 +1.0**
comp=Z,508nm,1.1s
STKA Stephens Creek 35.38 155 P **P 19 42 04.8 -0.6**
STKA Stephens Creek 35.38 155 P **P 19 42 06.5 +1.2**
comp=Z,79nm,0.9s,baz=324,slow=8.8,SNR=89
STKA ScP **ScP 19 48 15.0 -0.1**
comp=Z,3.5nm,0.8s,baz=329,slow=7.5,SNR=3.8
STKA LR LR 19 58 30.7
comp=Z,132nm,19.4s,baz=343,slow=39
comp=Z,79nm,0.9s
STKA Stephens Creek 35.38 155 P **P 19 42 06.6 +1.2**
STKA Stephens Creek 35.38 155 *d iP* **P 19 42 06.4 +1.0**
AUJCS Jamestown Cent 35.40 160 P **P 19 42 06.7 +1.1**
AUCAS Cummins Area S 35.49 164 P **P 19 42 08.3 +2.1**
TNCH TengChong 35.61 317 ⇓ *iP* **P 19 42 08.6 +1.0**
TNCH pP pP 19 42 23.6 +1.8
TNCH sP sP 19 42 31.5 +3.0
TNCH pmax pmax
comp=Z,17nm,1.4s
TNCH LR LR
comp=Z,230nm,21.0s
TNCH LR LR
comp=Z,260nm,17.0s
TNCH LR LR
comp=Z,560nm,23.9s
HTT Hallett 35.72 159 P **P 19 42 09.0 +0.7**
comp=Z,12nm,1.2s
HTT Hallett 35.72 159 P **P 19 42 09.6 +1.3**
EIDS Eidsvold 35.75 137 P **P 19 42 08.9 +0.2**
comp=Z,19nm,1.5s
EIDS Eidsvold 35.75 137 P **P 19 42 11.3 +2.7**
JHJ Hachijo jima 2 35.98 22 LR LR 19 55 03.6
comp=Z,304nm,21.6s,baz=334,slow=33
HNR Honiara 36.25 106 LR LR 20 00 17.1
comp=Z,72nm,18.3s,baz=171,slow=41
LYN LuoYang 36.35 343 P **P 19 42 14.0 +0.4**
LYN sP sP 19 42 40.0 +5.4
LYN pmax pmax
comp=Z,39nm,1.0s
LYN pmax pmax
comp=Z,240nm,11.0s
LYN LR LR
comp=Z,460nm,17.2s
LYN LR LR
comp=Z,450nm,17.2s
LYN LR LR
comp=Z,690nm,24.7s
AULRC Lightning Ridg 36.63 145 P **P 19 42 17.9 +1.9**
CD2 Chengdu 36.73 329 P **P 19 42 17.5 +0.5**
CD2 pmax pmax
comp=Z,40nm,1.3s
CD2 LR LR
comp=Z,510nm,17.8s
CD2 LR LR
comp=Z,520nm,17.1s
CD2 LR LR
comp=Z,460nm,20.3s
CMSA Cobar Meteorol 37.02 150 P **P 19 42 20.9 +1.5**
comp=Z,204nm,1.0s
CMSA Cobar Meteorol 37.02 150 P **P 19 42 21.1 +1.7**
XAN Xi'an 37.08 338 P **P 19 42 19.6 -0.3**
XAN pP pwP 19 42 37.3 -1.4
XAN pmax pmax
comp=Z,50nm,1.1s
XAN LR LR
comp=Z,600nm,19.4s
XAN LR LR
comp=Z,360nm,15.5s
XAN LR LR
comp=Z,610nm,17.9s
INU Inuyama 37.11 17 P **P 19 42 20.1 +0.1**
INU IAmb IAmb 19 42 21.8
comp=Z,108nm,1.6s
INU Inuyama 37.11 17 P **P 19 42 21.3 +1.3**
INU Inuyama 37.11 17 P **P 19 42 21.0 +1.0**
AUMBR Murray Bridge 37.39 160 P **P 19 42 24.7 +2.3**
JGF Kuroka 37.44 17 P **P 19 42 22.1 -0.8**
JGF IAmb IAmb 19 42 32.3
comp=Z,23nm,0.7s
JGF Kuroka 37.44 17 P **P 19 42 23.8 +0.9**
KSAR Wonju Array Be 37.49 4 P **P 19 42 22.0 -1.2**
KSAR Wonju Array Be 37.49 4 P **P 19 42 22.0 -1.2**
KSRS Korea Array 37.51 4 P **P 19 42 24.1 +0.8**
comp=Z,10nm,0.8s,baz=176,slow=9.9,SNR=36
KSRS PcP **PcP 19 44 40.2 -0.4**
comp=Z,4.2nm,0.7s,baz=184,slow=3.2,SNR=8.5
comp=Z,10nm,0.8s
HNS HongShan 38.47 347 ⇑P **P 19 42 31.8 +0.3**
HNS pmax pmax
comp=Z,14nm,0.9s
HNS LR LR
comp=Z,290nm,18.3s
HNS LR LR
comp=Z,200nm,17.5s
HNS LR LR
comp=Z,310nm,19.1s
MJAR Matsushiro Arr 38.57 18 P **P 19 42 30.9 -1.4**

MJAR Matsushiro Arr 38.57 18 P P 19 42 32.1 -0.2
comp=Z,15nm,0.8s,baz=193,slow=8.9,SNR=33
MJAR PcP **PcP 19 44 44.8 +0.8**
comp=Z,1.8nm,0.8s,baz=182,slow=5.0,SNR=2.1
MJAR ScP **ScP 19 48 27.5 +0.5**
comp=Z,2.5nm,0.8s,baz=187,slow=4.9,SNR=5.9
MJAR LR LR 19 57 20.5
comp=Z,204nm,21.4s,baz=195,slow=34
comp=Z,15nm,0.8s
DL2 Dalian 38.94 356 *e*P **P 19 42 35.4 0.0**
DL2 pP **pwP 19 42 52.5 -2.1**
DL2 *e*S **S 19 48 28.5 -1.1**
DL2 pmax pmax
comp=Z,49nm,1.1s
DL2 LR LR
comp=Z,960nm,14.7s
DL2 LR LR
comp=Z,1μm,19.1s
DL2 LR LR
comp=Z,780nm,22.0s
BRDH Bariadhala 39.37 307 LR LR 19 59 31.0
comp=Z,277nm,21.9s,baz=126,slow=37
ARMA Armidale 39.52 142 P **P 19 42 42.4 +1.9**
AUPHS Peel High Scho 39.55 144 P **P 19 42 44.0 +3.3**
ARPS Mount Arapiles 39.76 158 P **P 19 42 43.5 +1.2**
comp=Z,37nm,1.2s
JMM Marumori 40.60 20 P **P 19 42 49.8 +0.5**
JMM IAmb IAmb 19 42 56.6
comp=Z,90nm,1.1s
JMM Marumori 40.60 20 P **P 19 42 51.8 +2.6**
BJT Baijiatuau 40.71 350 IAmb IAmb 19 42 54.9
comp=Z,81nm,1.9s
BJT Baijiatuau 40.71 350 P **P 19 42 50.5 +0.4**
SHL Shillong 40.72 311 P **P 19 42 50.0 -0.6**
SHL Shillong 40.72 311 P **P 19 42 50.0 -0.6**
SHL pmax pmax
comp=Z,15nm,0.9s
BJI Beijing 40.73 350 P **P 19 42 49.8 -0.4**
BJI pP **pwP 19 43 07.8 -1.7**
BJI sP **sP 19 43 17.1 +5.9**
BJI S **S 19 48 53.9 -2.4**
BJI pmax pmax
comp=Z,7.0nm,1.5s
BJI pmax pmax
comp=Z,100nm,3.5s
BJI LR LR
comp=Z,160nm,26.2s
BJI LR LR
comp=Z,140nm,25.2s
BJI LR LR
comp=Z,340nm,31.1s
LZH Lanzhou 40.93 334 *e*P **P 19 42 53.8 +1.6**
LZH pP pwP 19 43 09.5 -1.5
LZH PcP **PcP 19 44 53.5 +1.8**
LZH S **S 19 49 01.3 +1.5**
LZH sS sS 19 49 33.1 +9.2
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.5s
LZH LR LR
comp=Z,270nm,14.4s
LZH LR LR
comp=Z,550nm,15.6s
LZH LR LR
comp=Z,690nm,18.2s
BRAT Ballarat 41.25 157 P **P 19 42 56.6 +2.1**
AUMTC Mt Clear Colle 41.28 157 P **P 19 42 56.6 +1.8**
SYDH Sydney Hard Ro 41.42 146 P **P 19 42 59.3 +3.2**
AUMTS Mt Stromlo 41.70 150 P **P 19 43 01.3 +3.0**
CAN Canberra 41.70 150 P **P 19 42 56.1 -2.3**
CAN Canberra 41.70 150 P **P 19 43 01.4 +3.0**
CAN Canberra 41.70 150 P **P 19 42 56.1 -2.3**
CAN pmax pmax
comp=Z,265nm,1.7s
CAN Canberra 41.70 150 P **P 19 43 00.9 +2.5**
CAN PcP **PcP 19 44 56.5 +2.4**
RIV Riverview 41.70 146 P **P 19 43 00.5 +2.2**
AUDAR Daramalan Coll 41.71 149 P **P 19 43 00.9 +2.4**
AUSIS Research Schoo 41.72 150 P **P 19 43 01.6 +3.1**
AUMHS Melrose High S 41.77 150 P **P 19 43 01.5 +2.5**
CNB Canberra Magne 41.88 149 P **P 19 43 01.4 +1.6**
comp=Z,43nm,1.4s
CNB Canberra Magne 41.88 149 P **P 19 43 02.4 +2.6**
TOO Toolangi 41.91 155 P **P 19 43 02.1 +2.1**
comp=Z,44nm,1.3s
TOO Toolangi 41.91 155 P **P 19 42 59.7 -0.3**
TOO IAmb IAmb 19 43 03.8
comp=Z,58nm,1.2s
TOO Toolangi 41.91 155 P **P 19 42 59.7 -0.3**
TOO pmax pmax
comp=Z,58nm,1.3s
AUSMG Snowy Mountain 42.37 151 P **P 19 43 06.9 +3.0**
HHC Hu-ho-hao-te 42.50 345 *e*P **P 19 43 08.3 +3.4**
HHC *e*S **S 19 49 29.9 +7.1**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,230nm,4.8s
HHC LR LR
comp=Z,220nm,16.0s
HHC LR LR
comp=Z,220nm,16.8s
HHC LR LR
comp=Z,220nm,16.8s
MSHR Mys Shultsa 42.90 7⇓ *e*P **P 19 43 09.7 +1.8**
MSHR pmax pmax
comp=Z,107nm,2.0s
VLA Vladivostok 43.52 8*c i*P **P 19 43 14.5 +1.5**
VLA pmax pmax
comp=Z,191nm,1.9s
LSA Lhasa 43.63 316 P **P 19 43 15.1 +0.5**
LSA Lhasa 43.63 316 P **P 19 43 12.5 -2.1**
LSA S **S 19 49 40.1 -0.3**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA LR LR
comp=Z,140nm,30.2s
LSA LR LR
comp=Z,170nm,34.5s
LSA LR LR
comp=Z,240nm,36.7s
LSA Lhasa 43.63 316 P **P 19 43 15.1 +0.5**
LSA pmax pmax
comp=Z,13nm,0.8s
XLT XiLinHaoTe 44.51 351 *e*P **P 19 43 22.8 +1.9**
XLT pmax pmax
comp=Z,28nm,0.7s
XLT pmax pmax
comp=Z,89nm,5.7s
PALK Pallekele 44.52 280 LR LR 20 04 19.9
comp=Z,129nm,18.6s,baz=101,slow=39
USRK Ussuriysk Ar. 44.60 7 P **P 19 43 22.6 +1.0**
comp=Z,19nm,0.4s,baz=186,slow=7.2,SNR=132
comp=Z,19nm,0.4s
SANVU Saraoutou 44.62 112 P **P 19 43 21.2 -1.0**
SANVU Saraoutou 44.62 112 P **P 19 43 24.7 +2.6**
SANVU Saraoutou 44.62 112 P **P 19 43 24.8 +2.6**
MDJ Mudanjiang 44.76 5 P **P 19 43 23.3 +0.5**
MDJ Mudanjiang 44.76 5 P **P 19 43 23.5 +0.7**
MDJ pmax pmax
comp=Z,97nm,1.3s
MDJ Mudanjiang 44.76 5 P **P 19 43 24.0 +1.2**
MDJ Mudanjiang 44.76 5 P **P 19 43 24.1 +1.3**
AUBRN Burnie High Sc 45.02 157 P **P 19 43 27.3 +2.4**
GTA Gaotai 45.47 333 P **P 19 43 29.8 +1.0**
GTA S **S 19 50 07.1 +1.0**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA LR LR
comp=Z,330nm,16.7s
GTA LR LR
comp=Z,360nm,17.8s
GTA LR LR
comp=Z,620nm,18.5s
GOMU GeErMu 45.59 326 P **P 19 43 31.3 +1.3**
GOMU S **S 19 50 07.0 -1.4**
GOMU SS **ScS 19 53 24.0 +2.8**
GOMU pmax pmax
comp=Z,8.0nm,1.1s
GOMU LR LR
comp=Z,87nm,18.6s
GOMU LR LR
comp=Z,210nm,18.3s
GOMU LR LR
comp=Z,320nm,18.1s
BNX BinXian 45.73 3⇑P **P 19 43 30.4 -0.1**
BNX pmax pmax
comp=Z,43nm,1.1s
EVN Everest 45.82 311 P **P 19 43 32.0 -0.3**
GLAD Gladstone 45.83 155 P **P 19 43 33.7 +2.3**
DZM Mont Dzumac 46.12 121 *e*S **S 19 50 07.6 -8.2**
comp=Z,138nm,31.8s
DZM *e*SS **SS 19 53 34.8 -7.0**
comp=Z,201nm,25.8s
DZM *e*LR LR 19 56 27.1
comp=Z,319nm,26.5s
ASAJ Asahikawa 46.84 18 P **P 19 43 40.5 +1.3**
comp=Z,14nm,0.5s,baz=227,slow=8.2,SNR=24
ASAJ LR LR 20 01 47.3
comp=Z,180nm,21.4s,baz=192,slow=34
comp=Z,14nm,0.5s
HYB Hyderabad 48.66 293 *e*P **P 19 43 53.4 -0.5**
HYB IVmB_BB 19 43 54.1
comp=Z,162nm,0.8s
HYB *e*pP **pP 19 44 03.8 -4.8**
HYB *e*PcS **PcS 19 49 14.9 -0.1**
HYB *e*S **S 19 50 55.3 +3.2**
HIA Hailar 49.38 356 IAmb IAmb 19 44 02.7
comp=Z,25nm,0.9s
HIA Hailar 49.38 356 P **P 19 43 59.8 +1.0**
YSS Yuzhno-Sakhali 49.47 16 *e*P **P 19 44 00.2 +0.8**
YSS *e* 19 45 54.7
YSS *e*S **S 19 51 01.9 -0.4**
YSS pmax pmax
comp=Z,200nm,4.8s
YSS pmax pmax
comp=Z,20nm,1.1s
HILR Hailar Array B 49.67 356 P **P 19 44 02.0 +1.0**
comp=Z,31nm,0.6s,baz=182,slow=9.6,SNR=35
HILR LR LR 20 07 19.5
comp=Z,101nm,19.8s,baz=125,slow=39
comp=Z,31nm,0.6s
ULN Ulaanbaatar 50.21 345 P **P 19 44 04.0 -1.2**
ULN IAmb IAmb 19 44 08.2
comp=Z,23nm,1.1s
ULN Ulaanbaatar 50.21 345*d i*P **P 19 44 05.4 +0.1**
ULN pmax pmax
comp=Z,36nm,1.5s
HEH HeiHe 50.24 2 *e*P **P 19 44 05.8 +0.6**
HEH S **S 19 51 12.3 -0.7**
HEH pmax pmax
comp=Z,160nm,1.2s
HEH LR LR
comp=Z,210nm,18.6s
HEH LR LR
comp=Z,290nm,18.1s
HEH LR LR
comp=Z,530nm,20.5s
SONM Songino Array 50.36 344 P **P 19 44 06.1 -0.3**
SONM IAmb IAmb 19 44 09.2
comp=Z,20nm,1.0s
SONM Songino Array 50.36 344 P **P 19 44 06.3 -0.1**
comp=Z,14nm,0.9s,baz=159,slow=8.4,SNR=41
SONM ScP **ScP 19 49 14.8 -0.3**
comp=Z,1.9nm,0.9s,baz=162,slow=4.4,SNR=5.6
comp=Z,14nm,0.9s
GRNR Gornyy 51.67 9⇑ *i*P **P 19 44 17.3 +1.3**
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.2s
TYV Tymovskoe 53.03 14 *e*P P 19 44 17.3 -8.8
TYV pmax pmax
comp=Z,200nm,3.9s
TYV pmax pmax
comp=Z,12nm,1.4s
ZAK Zakamensk 53.54 343 *e*P **P 19 44 28.4 -1.6**
ZAK pmax pmax
comp=Z,13nm,1.5s
ZEA Zeya 53.72 2 *e*P **P 19 44 31.6 +0.6**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 54.81 328 *e*P **P 19 44 35.5 -3.8**
WMQ S **S 19 52 15.9 +0.1**
WMQ pmax pmax
comp=Z,52nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.1s
WMQ LR LR
comp=Z,290nm,17.5s
WMQ LR LR
comp=Z,310nm,17.5s
WMQ LR LR
comp=Z,240nm,20.5s
IRK Irkutsk 54.94 345 *e*P **P 19 44 39.3 -0.7**
IRK pmax pmax
comp=E,36nm,1.6s
MOY Mondy 55.36 342 *e*P **P 19 44 43.4 +0.2**
MOY pmax pmax
comp=Z,35nm,1.8s
KNGR Kungurtug, Tuv 55.59 339⇓ *e*P **P 19 44 46.8 +1.9**
KNGR pmax pmax
comp=Z,21nm,1.3s
ZSN Zaisan 58.71 329 *e*P **P 19 45 07.2 +0.4**
ZSN Zaisan 58.71 329 *e*P **P 19 45 07.2 +0.4**
SHLS Shalkode 59.10 323 *e*P **P 19 45 08.1 -1.7**
comp=Z,17nm,1.1s
SHLS Shalkode 59.10 323 *e*P **P 19 45 08.0 -1.7**
SHLS pmax pmax
comp=Z,17nm,1.1s
TARG Taragay, Kyrgy 59.35 321 P **P 19 45 11.8 -0.1**
TARG IAmb IAmb 19 45 24.4
comp=Z,17nm,1.1s
TARG Taragay, Kyrgy 59.35 321 P **P 19 45 11.8 -0.1**
TARG pmax pmax
comp=Z,17nm,1.1s
UZB Uzynbulak 59.36 322 *e*P **P 19 45 11.7 0.0**
comp=Z,12nm,1.1s
UZB Uzynbulak 59.36 322 *e*P **P 19 45 11.6 0.0**
UZB pmax pmax
comp=Z,12nm,1.1s
PRZ Przheval'sk 59.38 322 IAmb IAmb 19 45 14.8
comp=Z,24nm,0.8s
KSH Kashi 59.43 318 P **P 19 45 13.8 +1.7**
KSH pmax pmax
comp=Z,14nm,0.9s
KSH LR LR
comp=Z,590nm,23.4s
KSH LR LR
comp=Z,310nm,23.4s
KSH LR LR
comp=Z,260nm,19.9s
MK31 Makanchi Array 59.63 327*d i*P **P 19 45 12.6 -0.6**
MKAR Makanchi Array 59.63 327 P **P 19 45 12.2 -1.0**
MKAR Makanchi Array 59.63 327 P **P 19 45 12.4 -0.8**
comp=Z,12nm,0.4s,baz=125,slow=8.0,SNR=92
MKAR ScP **ScP 19 49 54.7 -0.9**
comp=Z,1.7nm,0.7s,baz=113,slow=5.8,SNR=4.7
MKAR LR LR 20 11 47.4
comp=Z,193nm,20.6s,baz=114,slow=37
comp=Z,12nm,0.4s
MKAR Makanchi Array 59.63 327 *i*P **P 19 45 12.3 -1.0**
MKAR pmax pmax
comp=Z,12nm,0.4s
SATY Saty 59.69 322 *e*P **P 19 45 13.5 -0.3**
comp=Z,20nm,1.0s
SATY Saty 59.69 322 *e*P **P 19 45 13.5 -0.3**
SATY pmax pmax
comp=Z,20nm,1.0s
PEA0B Petropavlovsk- 59.73 22⇓ *e*P **P 19 45 14.8 +1.1**
PETK Petropavlovsk- 59.73 22 P **P 19 45 14.5 +0.8**
PETK Petropavlovsk- 59.73 22 P **P 19 45 14.8 +1.1**
comp=Z,14nm,0.9s,baz=181,slow=3.5,SNR=23
PETK LR LR 20 12 12.8
comp=Z,69nm,20.2s,baz=202,slow=37
comp=Z,14nm,0.9s
MAKZ Makanchi 59.81 327 P **P 19 45 13.6 -0.9**
MAKZ IAmb IAmb 19 45 16.8
comp=Z,40nm,1.4s
MAKZ Makanchi 59.81 327 P **P 19 45 13.6 -0.9**
MAKZ pmax pmax
comp=Z,40nm,1.4s
RPZ Rata Peaks 59.85 143 LR LR 20 11 22.2
comp=Z,274nm,20.7s,baz=325,slow=36
TNSS Tian-Shan 60.58 321 *e*P **P 19 45 19.9 -0.3**
TNSS Tian-Shan 60.58 321 *e*P **P 19 45 19.9 -0.3**
MDOK Medeo 60.58 322 *e*P **P 19 45 19.6 -0.4**
MDOK Medeo 60.58 322 *e*P **P 19 45 19.5 -0.4**
AAA Alma-Ata 60.69 322 *e*P **P 19 45 20.6 0.0**
comp=Z,14nm,0.8s
AAA Alma-Ata 60.69 322 *e*P **P 19 45 20.6 0.0**
AAA pmax pmax
comp=Z,14nm,0.8s
TDK Taldyqorghan 60.76 324 *e*P **P 19 45 21.2 +0.2**
comp=Z,13nm,1.0s
TDK Taldyqorghan 60.76 324 *e*P **P 19 45 21.2 +0.2**
TDK pmax pmax
comp=Z,13nm,1.0s
BHW Baring Head 61.09 139 P **P 19 45 20.4 -2.8**
BHW IAmb IAmb 19 45 24.4
comp=Z,33nm,0.9s
URZ Urewera 61.20 135 P **P 19 45 24.4 +0.4**
comp=Z,21nm,0.9s,baz=347,slow=3.5,SNR=6.3
URZ LR LR 20 13 21.2
comp=Z,73nm,19.2s,baz=308,slow=37
comp=Z,21nm,0.9s
TKM2 Tokmak 2 61.37 321 P **P 19 45 26.7 +1.4**
SNR=21
UCH Uchtor 61.72 320 P **P 19 45 29.9 +1.8**
SNR=21
RAO Raoul Island 61.81 123 LR LR 20 10 57.4
comp=Z,62nm,21.9s,baz=75,slow=35
AAK Ala-Archa 61.93 320 P **P 19 45 28.9 -0.3**
AAK IAmb IAmb 19 45 32.0
comp=Z,15nm,0.9s
AAK Ala-Archa 61.93 320 LR LR 20 15 00.2
comp=Z,92nm,21.4s,baz=104,slow=39
AAK Ala-Archa 61.93 320 P **P 19 45 30.9 +1.8**
SNR=13
AAK Ala-Archa 61.93 320⇑ *e*P **P 19 45 28.8 -0.3**
AAK pmax pmax
comp=Z,16nm,0.9s
CHMS Chumysh 61.94 320 P **P 19 45 29.9 +0.9**
SNR=5.5
YAK Yakutsk 62.11 3 P **P 19 45 29.6 0.0**
YAK Yakutsk 62.11 3 P **P 19 45 30.2 +0.6**
comp=Z,51nm,0.5s,baz=207,slow=3.1,SNR=19
YAK LR LR 20 12 37.5
comp=Z,108nm,21.9s,baz=184,slow=36
comp=Z,51nm,0.5s
YAK Yakutsk 62.11 3 *e*P **P 19 45 29.7 0.0**
YAK *e**PP **pwP 19 45 50.0 -0.1**
YAK *e*S **S 19 53 50.8 +0.9**
YAK *e**SS sS 19 54 28.9 +11
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=N,14nm,1.5s
YAK smax smax
comp=N,47nm,1.4s
YAK smax smax
comp=E,112nm,1.9s
YAK Yakutsk 62.11 3 P **P 19 45 30.4 +0.8**
YAK pP **pP 19 45 39.0 -5.7**
YAK sP **pwP 19 45 43.3 -6.8**
USP Ospenovka 62.23 321 P **P 19 45 32.4 +1.4**
SNR=28
SGDS Sogindy 62.24 321 *e*P **P 19 45 31.1 +0.1**
ARSB Arslanbob 62.30 318 IAmb IAmb 19 45 33.5
comp=Z,17nm,0.8s
KBL Kabul 62.34 310 P **P 19 45 30.4 -1.6**
KBL IAmb IAmb 19 45 33.6
comp=Z,15nm,0.7s
KBL Kabul 62.34 310 P **P 19 45 30.5 -1.6**
KBL pmax pmax
comp=Z,15nm,0.7s
EKS2 Erkin-Say 62.40 320 P **P 19 45 32.5 +0.2**
SNR=21
MA2 Magadan 62.91 15 P **P 19 45 36.7 +1.7**
comp=Z,32nm,0.6s,baz=196,slow=6.2,SNR=14
MA2 LR LR 20 11 28.1
comp=Z,60nm,21.9s,baz=214,slow=34
comp=Z,32nm,0.6s
MA2 Magadan 62.91 15*d i*P **P 19 45 37.1 +2.1**
MA2 pmax pmax
comp=Z,53nm,0.9s
MA2 Magadan 62.91 15 P **P 19 45 36.9 +1.8**
ZALV Zalesovo Beam 63.15 335 **P 19 45 35.5 -1.2**
ZALV Zalesovo Beam 63.15 335 P **P 19 45 35.3 -1.5**
comp=Z,4.8nm,0.4s,baz=126,slow=4.4,SNR=36
ZALV S **S 19 53 57.0 -6.3**
comp=Z,0.6nm,0.6s,baz=132,slow=8.7,SNR=1.6
ZALV LR LR 20 14 14.7
comp=Z,157nm,18.9s,baz=132,slow=37
comp=Z,4.8nm,0.4s
ZALV Zalesovo Beam 63.15 335 *i*P **P 19 45 35.9 -0.8**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
CHGR Chuyangaron 63.81 314 P **P 19 45 40.0 -1.6**
CHGR Chuyangaron 63.81 314 P **P 19 45 40.0 -1.6**
CHGR pmax pmax
comp=Z,45nm,1.2s
KURBB Kurchatov Arra 63.94 329 P **P 19 45 41.3 -0.8**
comp=Z,12nm,0.6s,baz=128,slow=6.0,SNR=54
KURBB S **S 19 54 06.9 -6.4**
comp=Z,0.2nm,0.6s,baz=135,slow=11,SNR=5.4
KURBB LR LR 20 15 55.8
comp=Z,110nm,19.5s,baz=174,slow=38
comp=Z,12nm,0.6s
KURK Kurchatov 63.95 329 P **P 19 45 40.8 -1.4**
KURK Kurchatov 63.95 329*c i*P **P 19 45 41.1 -1.0**
KURK pmax pmax
comp=Z,27nm,0.6s
KURK Kurchatov 63.95 329 P **P 19 45 41.4 -0.8**
DZA Taraz 64.10 319 *e*P **P 19 45 43.4 0.0**
DZA Taraz 64.10 319 *e*P **P 19 45 43.3 0.0**
IUG Iuzhnay 64.64 318 *e*P **P 19 45 47.0 0.0**
comp=Z,13nm,0.6s
IUG Iuzhnay 64.64 318 *e*P **P 19 45 47.0 0.0**
IUG pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 64.73 319 **P 19 45 45.9 -1.6**
KKAR Karatay Array 64.73 319 P **P 19 45 45.9 -1.6**
CHM Chimkent 65.00 318 *e*P **P 19 45 49.1 -0.1**
CHM Chimkent 65.00 318 *e*P **P 19 45 49.1 -0.1**
SEY Seymchan 66.21 13 P **P 19 45 57.5 +0.9**
comp=Z,11nm,0.9s,baz=195,slow=5.5,SNR=14
SEY LR LR 20 13 48.6
comp=Z,82nm,21.8s,baz=192,slow=35
comp=Z,11nm,0.9s
SEY Seymchan 66.21 13 *e*P **P 19 45 56.9 +0.4**
SEY pmax pmax
comp=Z,18nm,1.2s
BRZS Berezniki 66.71 326 *e*P **P 19 46 00.4 +0.3**
BRZS Berezniki 66.71 326 *e*P **P 19 46 00.3 +0.3**
SHEM Shemya Is, Ala 66.78 30 LR LR 20 12 18.1
comp=Z,31nm,19.9s,baz=125,slow=33
CASY Casey 66.79 186 **P 19 46 01.0 +0.8**
CASY IAmb IAmb 19 46 02.5
comp=Z,27nm,0.8s
CASY Casey 66.79 186 P **P 19 46 01.3 +1.2**
CASY pP **pP 19 46 09.2 -6.8**
DRV Dumont d'Urvil 67.28 173 P **P 19 46 04.2 +0.9**
BORK Borovoye 69.53 328*c i*P **P 19 46 18.5 +0.9**
BORK pmax pmax
comp=Z,23nm,0.9s
BORK Borovoye 69.53 328 P **P 19 46 17.3 -0.3**
TIXI Tiksi 71.70 1 P **P 19 46 29.8 -0.7**
TIXI IAmb IAmb 19 46 35.9
comp=Z,23nm,1.1s
TIXI Tiksi 71.70 1 P **P 19 46 30.3 -0.1**
comp=Z,8.2nm,0.3s,baz=181,slow=5.1,SNR=26
TIXI LR LR 20 18 56.6
comp=Z,249nm,21.9s,baz=201,slow=37
comp=Z,8.2nm,0.3s
TIXI Tiksi 71.70 1⇓ *i*P **P 19 46 30.5 +0.1**
TIXI pmax pmax
comp=Z,25nm,1.2s
TIXI Tiksi 71.70 1 P **P 19 46 30.5 +0.1**
ABKAR Akbulak array 73.89 322 **P 19 46 42.4 -1.5**
CCD Concordia, Ant 74.89 180 P **P 19 46 51.8 +2.1**
AKTO Aktyubinsk 75.45 323 LR LR 20 23 20.8
comp=Z,195nm,21.3s,baz=126,slow=38
SVE Sverdlovsk 76.21 329 *e*P **P 19 46 56.3 -0.7**
SVE pmax pmax
comp=Z,21nm,0.8s
RAR Rarotonga 76.44 112 LR LR 20 20 39.2
comp=Z,34nm,21.4s,baz=296,slow=36
ARTI Arti 77.21 329 **P 19 47 01.2 -1.5**
ARTI IAmb IAmb 19 47 04.6
comp=Z,17nm,0.6s
ARTI Arti 77.21 329*ce*P **P 19 47 01.8 -0.9**

ARTI pmax pmax
comp=Z,15nm,0.8s
VOI Vohitsoka 78.76 248 P 19 47 13.1 +0.9
VOI IAmb IAmb 19 47 24.2
comp=Z,16nm,0.7s
MAW Mawson 79.47 200 P **P 19 47 15.9 +0.9**
comp=Z,11nm,0.9s,baz=61,slow=5.1,SNR=38
MAW LR LR 20 18 59.6
comp=Z,99nm,19.1s,baz=46,slow=33
comp=Z,11nm,0.9s
VNDA Vanda 79.89 172 P 19 47 18.1 +1.0
VNDA Vanda 79.89 172 P **P 19 47 18.4 +1.3**
comp=Z,6.0nm,0.8s,baz=318,slow=5.9,SNR=56
VNDA LR LR 20 25 06.1
comp=Z,42nm,18.3s,baz=338,slow=37
comp=Z,6.0nm,0.8s
VNDA Vanda 79.89 172 P **P 19 47 18.1 +1.0**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 79.89 172 P **P 19 47 18.3 +1.3**
VNDA PcP **PcP 19 47 25.6 +1.2**
AKT Akhty 80.35 312 *e*P **P 19 47 19.4 -1.0**
AKT *e**PP **pwP 19 47 40.1 -1.3**
AKT pmax pmax
comp=Z,24nm,1.7s
MAK Makhachkala 80.74 314 *e*P **P 19 47 17.6 -4.7**
MAK *e*S **S 19 57 18.2 -7.3**
MAK pmax pmax
comp=Z,117nm,1.4s
K13K Kusilvak Mount 81.08 27 IAmb IAmb 19 47 27.4
comp=Z,56nm,1.5s
L14K Kuka Creek 81.81 28 IAmb IAmb 19 47 31.2
comp=Z,32nm,1.1s
M14K Bethel 82.00 28 P 19 47 30.5 +2.0
M14K IAmb IAmb 19 47 32.1
comp=Z,24nm,0.7s
F15K North Star Dit 82.22 23 IAmb IAmb 19 47 34.3
comp=Z,40nm,1.3s
BELG Belogornoye 82.24 323 *ce*P **P 19 47 29.0 -1.0**
BELG pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 82.47 329‖ *e*P **P 19 47 31.6 +0.5**
N15K Kwethluk River 82.76 29 IAmb IAmb 19 47 36.9
comp=Z,33nm,1.0s
KBZ Khabaz 84.17 314 P **P 19 47 39.8 -0.4**
comp=Z,2.6nm,0.8s,baz=105,slow=7.6,SNR=5.9
KBZ LR LR 20 29 32.5
comp=Z,36nm,21.8s,baz=80,slow=39
comp=Z,2.6nm,0.8s
KBZ Khabaz 84.17 314‖ *e*P **P 19 47 40.7 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
N17K Nushagak Hills 84.25 29 IAmb IAmb 19 47 44.0
comp=Z,27nm,1.1s
M17K Holitna River 84.29 28 IAmb IAmb 19 47 44.9
comp=Z,22nm,1.1s
KIV Kislovodsk 84.35 314 *e*P **P 19 47 38.9 -2.3**
KIV pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 84.35 314‖ *e*P **P 19 47 41.1 -0.3**
N18K Kilae Creek 84.90 29 IAmb IAmb 19 47 47.1
comp=Z,28nm,1.3s
C19K Lookout Ridge 85.02 20 IAmb IAmb 19 47 47.9
comp=Z,27nm,0.9s
H19K Roundabout Mou 85.48 24 IAmb IAmb 19 47 49.4
comp=Z,16nm,0.9s
E19K Redstone River 85.53 22 IAmb IAmb 19 47 50.9
comp=Z,28nm,1.0s
N19K Bonanza Creek 85.61 29 IAmb IAmb 19 47 50.2
comp=Z,15nm,0.9s
VRH Novokhopyorsk 85.70 321 *e*P **P 19 47 45.8 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
LABN Labinsk 85.81 315 *e*P **P 19 47 44.9 -3.5**
LABN *e*S S 19 58 01.9 -15
LABN pmax pmax
comp=Z,8.0nm,0.7s
PPT Papeete 85.86 107 LR LR 20 24 32.8
comp=Z,28nm,20.4s,baz=326,slow=34
PPT2 Papeete2 85.86 108 *e*S **SKSac 19 58 09.9 -0.5**
PPT2 *e*SS **SS 20 03 53.6 -3.4**
comp=Z,228nm,32.0s
ERBR Yeremizino-Bor 86.06 316 *e*P **P 19 47 47.9 -1.7**
ERBR *e*S **SKSac 19 58 05.6 -4.9**
ERBR pmax pmax
comp=Z,7.0nm,0.7s
KDAK Kodiak Island 86.19 32 LR LR 20 24 12.2
comp=Z,43nm,19.8s,baz=243,slow=34
J20K Nowinta River 86.23 26 IAmb IAmb 19 49 14.3
comp=Z,28nm,1.8s
IMAR Indian Mountai 86.65 24 P **P 19 47 53.1 +1.0**
VORD Divnogorie 87.21 321 *e*P **P 19 47 52.9 -2.2**
VORD pmax pmax
comp=Z,20nm,0.9s
ARPR Arapgir-MALATY 87.27 309 IAmb IAmb 19 48 13.2
comp=Z,14nm,1.0s
VSR Storozhevoye 87.31 321 *e*P **P 19 47 52.9 -2.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 87.31 322 *e*P **P 19 47 55.7 +0.2**
VORR pmax pmax
comp=Z,43nm,0.9s
KMBO Kilima Mbogo 87.47 269 P **P 19 47 57.7 +0.2**
comp=Z,5.9nm,0.4s,baz=45,slow=6.9,SNR=3.7
KMBO LR LR 20 24 53.2
comp=Z,57nm,21.9s,baz=100,slow=34
comp=Z,5.9nm,0.4s
LPSR Galich'ya Gora 87.54 322 *e*P **P 19 47 56.6 0.0**
LPSR pmax pmax
comp=Z,39nm,0.8s
SLKM Skilak Lake 87.66 30 IAmb IAmb 19 47 59.5
comp=Z,22nm,1.0s
E22K Anaktuvuk Pass 87.67 22 IAmb IAmb 19 48 00.4
comp=Z,28nm,1.4s
KLMR Klimovskoe 87.76 331 *e*P **P 19 47 55.7 -1.8**
KLMR *e* 19 51 22.5
KLMR pmax pmax
comp=Z,36nm,1.2s
TRF Thorofare Moun 87.86 27 IAmb IAmb 19 47 59.5
comp=Z,17nm,1.4s
SYO Syowa Base 88.14 201‖ *e*P **P 19 48 00.2 +1.1**
SYO Syowa Base 88.14 201‖ *e*pP pP 19 48 10.8 -4.5
ANN Anapa 88.16 315 *e*P **P 19 47 58.2 -1.6**
ANN *e**PP **pwP 19 48 19.7 -1.4**
ANN *e*S **SKSac 19 58 18.9 -4.4**
ANN pmax pmax
comp=Z,17nm,0.7s
COLD Coldfoot 88.19 23 IAmb IAmb 19 48 02.2
comp=Z,13nm,0.9s
G23K Bananza Creek 88.22 23 IAmb IAmb 19 48 02.5
comp=Z,18nm,0.9s
ASF Jabal al Asfar 88.23 302 LR LR 20 33 27.7
comp=Z,46nm,20.1s,baz=144,slow=40
H23K Yukon River 88.35 24 IAmb IAmb 19 48 02.9
comp=Z,11nm,1.0s
I23K Minto, Yukon-K 88.38 25 IAmb IAmb 19 48 02.7
comp=Z,16nm,1.0s
MOS Moscow 88.46 326 *e*P **P 19 47 58.9 -2.0**
MOS *e*S **SKSac 19 58 22.7 -1.9**
MOS pmax pmax
comp=Z,31nm,0.9s
MCK McKinley 88.48 26 IAmb IAmb 19 48 02.8
comp=Z,12nm,1.0s
E23K Chandalar 88.48 22 IAmb IAmb 19 48 05.3
comp=Z,20nm,1.0s
RND Reindeer 88.50 27 IAmb IAmb 19 48 02.2
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 88.54 21 IAmb IAmb 19 48 04.5
comp=Z,13nm,1.0s
KNK Knik Glacier 88.57 29 IAmb IAmb 19 48 03.5
comp=Z,16nm,1.0s
PWL Port Wells 88.61 29 IAmb IAmb 19 48 03.4
comp=Z,17nm,1.0s
SML Sawmill 88.65 28 IAmb IAmb 19 48 03.6
comp=Z,18nm,1.0s
H24K Noodor Dome 89.04 24 IAmb IAmb 19 48 09.1
comp=Z,29nm,1.9s
OBN Obninsk 89.04 325 LR LR 20 29 40.9
comp=Z,112nm,21.3s,baz=119,slow=37
OBN Obninsk 89.04 325 *ce*P **P 19 48 03.0 -0.7**
OBN *e**PP **pwP 19 48 24.5 -0.5**
OBN *e* 19 51 33.8
OBN *e*PPP PPP 19 53 29.8
OBN pmax pmax
comp=Z,38nm,1.4s

F24K Squaw Lake 89.11 23 IAmb IAmb 19 48 06.7
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 89.13 28 IAmb IAmb 19 48 26.6
comp=Z,30nm,1.4s
ILAR Eielson Array 89.42 25 P **P 19 48 04.7 -0.6**
comp=Z,1.0nm,0.7s,baz=240,slow=5.1,SNR=7.9
ILAR PP **PP 19 51 35.5 -1.5**
comp=Z,0.6nm,0.9s,baz=264,slow=5.2,SNR=4.2
ILAR LR LR 20 27 03.0
comp=Z,41nm,20.4s,baz=247,slow=35
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 89.50 303 P **P 19 48 06.9 +0.4**
comp=Z,1.0nm,0.5s,baz=85,slow=2.1,SNR=5.4
MMAI LR LR 20 35 54.5
comp=Z,26nm,18.1s,baz=82,slow=41
comp=Z,1.0nm,0.5s
QSPA South Pole Qui 89.81 180 P **P 19 48 08.5 +1.3**
QSPA IAmb IAmb 19 48 12.3
comp=Z,23nm,1.1s
QSPA South Pole Qui 89.81 180 P **P 19 48 06.6 -0.7**
comp=Z,12nm,1.0s,baz=328,slow=2.9,SNR=24
QSPA PP **PP 19 51 37.4 -2.7**
comp=Z,3.2nm,1.0s,baz=312,slow=1.4,SNR=3.3
QSPA LR LR 20 28 06.4
comp=Z,198nm,20.4s,baz=356,slow=35
comp=Z,12nm,1.0s
DIV Divide 89.86 29 IAmb IAmb 19 48 09.9
comp=Z,19nm,1.1s
EIL Elat 89.87 300 LR LR 20 34 13.7
comp=Z,71nm,20.3s,baz=148,slow=39
K24K Donnelly Dome 89.88 26 IAmb IAmb 19 48 10.1
comp=Z,16nm,1.0s
E25K Arctic Village 90.00 22 IAmb IAmb 19 48 10.9
comp=Z,17nm,1.1s
PAX Paxson 90.02 27 IAmb IAmb 19 48 10.3
comp=Z,17nm,1.2s
RIDG Independent Ri 90.30 26 IAmb IAmb 19 48 11.7
comp=Z,11nm,0.9s
BMAR Burnt Mountain 90.38 23 P 19 48 11.0 +1.2
N25K Chitina, Valde 90.43 29 P 19 48 11.5 +1.3
BRTR Keskin Array B 90.92 310 P **P 19 48 12.2 -0.9**
comp=Z,0.6nm,0.5s,baz=137,slow=5.8,SNR=5.5
comp=Z,0.6nm,0.5s
I26K Coal Creek Min 91.00 25 IAmb IAmb 19 49 52.7
comp=Z,28nm,2.0s
MCARA McCarthy VSAT 91.19 29 IAmb IAmb 19 48 24.2
comp=Z,14nm,1.1s
E27K Coleen River 91.48 22 IAmb IAmb 19 48 17.6
comp=Z,13nm,0.9s
K27K Chicken 91.52 26 IAmb IAmb 19 48 19.0
comp=Z,18nm,1.1s
G27K Doyon Strip 91.54 23 IAmb IAmb 19 48 18.2
comp=Z,11nm,1.2s
H27K Steamboat Moun 91.63 24 IAmb IAmb 19 48 19.5
comp=Z,17nm,1.2s
L27K Beaver Creek, 91.68 27 IAmb IAmb 19 48 18.7
comp=Z,8.6nm,0.9s
BCAR Beaver Creek A 91.69 27 P 19 48 17.6 +1.6
GRNC Granite Creek 91.83 29 IAmb IAmb 19 48 19.7
comp=Z,12nm,0.9s
CTGM Chitina Glacie 92.03 29 IAmb IAmb 19 48 20.6
comp=Z,15nm,0.8s
F28M Old Crow 92.18 22 IAmb IAmb 19 48 21.1
comp=Z,17nm,1.1s
E28M Babbage River 92.22 21 IAmb IAmb 19 48 21.4
comp=Z,11nm,1.0s
I28M Miner Creek 92.34 25 IAmb IAmb 19 48 21.8
comp=Z,21nm,1.2s
O28M Mount Upton 92.60 29 IAmb IAmb 19 48 23.3
comp=Z,13nm,1.1s
DAWY Dawson 92.69 26 IAmb IAmb 19 48 23.1
comp=Z,18nm,1.4s
H29M Whitestone 92.90 24 IAmb IAmb 19 48 24.9
comp=Z,14nm,1.1s
I29M Ogilvie Camp, 93.02 25 IAmb IAmb 19 48 24.9
comp=Z,19nm,1.1s
M29M Somme Creek 93.27 28 IAmb IAmb 19 48 26.5
comp=Z,13nm,1.1s
ARA0 ARCESS Array S 93.34 340 *e*P **P 19 48 23.7 +0.3**
ARCES ARCESS Array B 93.34 340 P **P 19 48 22.3 -1.1**
comp=Z,1.9nm,0.5s,baz=82,slow=6.2,SNR=26
ARCES LR LR 20 35 52.9
comp=Z,70nm,18.2s,baz=76,slow=39
comp=Z,1.9nm,0.5s
K29M Barlow Dome 93.54 26 P 19 48 26.2 +1.6
K29M IAmb IAmb 19 48 27.5
comp=Z,20nm,1.5s
AK09 Malin Array Si 93.56 321 P **P 19 48 27.0 +2.2**
AK08 Malin Array Si 93.58 321 P **P 19 48 26.4 +1.6**
AK10 Malin Array Si 93.58 321 P **P 19 48 26.9 +2.0**
AKASG Malin Array Be 93.59 321 P **P 19 48 23.4 -1.5**
comp=Z,2.2nm,0.7s,baz=71,slow=4.6,SNR=9.4
AKASG LR LR 20 35 02.8
comp=Z,85nm,20.8s,baz=68,slow=38
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 93.59 321 *i* P **P 19 48 26.8 +1.9**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 93.59 321 *ce*P **P 19 48 26.5 +1.6**
AKBB pmax pmax
comp=Z,9.0nm,2.0s
AK01 Malin Array Si 93.60 321 P **P 19 48 26.7 +1.7**
AK02 Malin Array Si 93.61 321 P **P 19 48 26.6 +1.6**
AK05 Malin Array Si 93.61 321 P **P 19 48 26.4 +1.4**
AK04 Malin Array Si 93.63 321 P **P 19 48 26.3 +1.2**
G30M tAoh Zraii Nji 93.66 23 P 19 48 25.1 +0.2
HAMF Hammerfest 93.78 341 *e*P **P 19 48 25.6 +0.2**
SPA0 Spitsbergen Ar 93.84 349 *e*P **P 19 48 26.1 +0.6**
SPITS Spitsbergen Ar 93.84 349 P **P 19 48 25.6 0.0**
comp=Z,3.5nm,0.5s,baz=93,slow=8.4,SNR=13
SPITS LR LR 20 37 09.3
comp=Z,60nm,19.2s,baz=56,slow=40
comp=Z,3.5nm,0.5s
I30M Mount Dempster 93.85 25 IAmb IAmb 19 48 28.1
comp=Z,11nm,1.1s
J30M Hart River 93.96 25 IAmb IAmb 19 48 29.2
comp=Z,12nm,1.3s
M30M Minto, Yukon 94.02 27 IAmb IAmb 19 48 29.9
comp=Z,14nm,1.1s
N30M Aishikik Lake 94.03 28 IAmb IAmb 19 48 29.8
comp=Z,9.6nm,0.9s
MNK Minsk 94.08 325 *i* P **P 19 48 25.4 -1.7**
MNK *i* 19 52 11.7
MNK *i* PPP PPP 19 54 13.1
MNK *i* S **SKSac 19 58 52.7 -4.0**
MNK *i* SS **SS 20 05 53.7 -0.3**
MNK *i* SSS SSS 20 09 35.3
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=N,130nm,26.0s
MNK MLR MLR
comp=Z,121nm,24.0s
MNK MLR MLR
comp=E,65nm,19.0s
KTK1 Kautokeino 94.23 339 *e*P **P 19 48 26.9 -0.6**
FINES FINESS Array B 94.25 332 P **P 19 48 26.9 -0.8**
comp=E,1.2nm,0.5s,baz=93,slow=5.2,SNR=10
FINES LR LR 20 33 47.8
comp=E,65nm,21.5s,baz=78,slow=37
comp=E,1.2nm,0.5s
FINES FINESS Array B 94.25 332 *i* P **P 19 48 28.5 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 94.45 21 IAmb IAmb 19 48 30.8
comp=Z,13nm,1.1s
LUBAR Lubar, Ukraine 94.59 320 P **P 19 48 31.8 +2.2**
JETT Jettan, Norway 95.10 340 *e*P **P 19 48 31.3 -0.2**
SKAG Skagway 95.16 30 IAmb IAmb 19 48 34.9
comp=Z,13nm,0.9s
M31M Drury Creek, Y 95.18 28 IAmb IAmb 19 48 34.5
comp=Z,13nm,1.2s
KMPD K-Podol'skiy 95.57 319 P **P 19 48 35.4 +1.4**
TRO Tromso 95.58 340 *e*P **P 19 48 32.6 -1.1**
RNPP9 Sopachiv 95.62 322 P **P 19 48 35.8 +1.6**
MATP Matopo 95.80 250 LR LR 20 25 40.1
comp=Z,77nm,21.3s,baz=88,slow=32
MLR Muntele Rosu 96.25 316 LR LR 20 39 39.8
comp=Z,33nm,19.3s,baz=72,slow=40
LSZ Lusaka 96.28 255 LR LR 20 28 27.6
comp=Z,153nm,20.2s,baz=112,slow=33
BURAR Bucovina Array 96.51 318 P **P 19 48 39.1 +0.6**
STEI Steigen 97.36 339 *e*P **P 19 48 41.0 -0.7**

FAUS Fauske 97.51 338 *e*P **P 19 48 41.9 -0.5**
DLBC Dease Lake 98.05 31 LR LR 20 27 17.4
comp=Z,792nm,21.9s,baz=256,slow=32
LBTB Lobatse 98.23 245 LR LR 20 30 17.1
comp=Z,49nm,18.0s,baz=106,slow=34
BOSA Boshof 98.26 241 P **P 19 48 44.9 -2.0**
comp=Z,3.1nm,1.0s,baz=26,slow=4.7,SNR=3.3
BOSA LR LR 20 27 18.5
comp=Z,163nm,21.6s,baz=104,slow=32
comp=Z,3.1nm,1.0s
HFS Hagfors 100.46 332 P **Pdif 19 48 54.2 -1.5**
comp=Z,0.9nm,0.5s,baz=75,slow=7.8,SNR=8.4
SNAA Sanae 101.00 195 P **Pdif 19 48 57.8 -0.3**
comp=Z,3.4nm,1.1s,baz=50,slow=1.4,SNR=6.4
NB2 NORSAR Subarra101.31 333 P **Pdif 19 48 58.0 -1.6**
comp=Z,0.9nm,0.8s,baz=72,slow=4.4
NB2 NORSAR Subarra101.31 333 P **Pdif 19 48 58.0 -1.6**
baz=72,slow=4.4
NOA NORSAR Array B 101.31 333 P **Pdif 19 48 58.2 -1.4**
comp=Z,0.8nm,0.9s,baz=72,slow=4.7,SNR=3.7
DPC Dobruska-Polom 101.77 322 AMS AMS 20 40 30.0
comp=Z,100nm,22.0s
PRU Pruhonice 102.97 322 AMS AMS 20 41 20.0
comp=Z,100nm,22.5s
CKRC Cesky Krumlov 103.43 320 AMS AMS 20 44 50.0
comp=Z,100nm,23.0s
GERES GERESS Array B 103.81 321 Pdiff **Pdif 19 49 10.8 -0.2**
comp=Z,0.3nm,0.5s,baz=34,slow=9.7,SNR=3.6
PDAR Pinedale Array 115.55 42 PKP **PKPdf 19 53 52.1 +0.9**
comp=Z,0.5nm,0.6s,baz=166,slow=2.6,SNR=6.1
ESDC Sonseca Array 118.94 317 PKP **PKiKP 19 53 58.3 +0.7**
comp=Z,0.6nm,1.1s,baz=352,slow=2.1,SNR=4.2
ULM Lac du Bonnet 119.28 29 PKP **PKiKP 19 53 58.4 +0.5**
comp=Z,3.4nm,0.7s,baz=136,slow=7.6,SNR=3.6
TORD Torodi Ar. Bea 122.11 285 PKP **PKPdf 19 54 03.9 -0.4**
comp=Z,1.8nm,0.6s,baz=44,slow=3.3,SNR=12
TORD SKP 19 57 35.2
comp=Z,1.2nm,0.9s,baz=44,slow=3.8,SNR=4.6
TORD PKKPab **PKKPab 20 04 03.2 +1.6**
comp=Z,2.1nm,1.0s,baz=299,slow=4.0,SNR=9.3
SCHQ Schefferville 124.65 8 PKP **PKiKP 19 54 08.7 +0.4**
comp=Z,29nm,0.7s,baz=268,slow=2.9,SNR=6.6
TXAR Lajitas Array 125.51 53 PKP **PKiKP 19 54 11.8 +0.9**
comp=Z,0.7nm,0.7s,baz=171,slow=0.6,SNR=12
PLCA Paso Flores 137.03 163 PKP **PKPdf 19 54 32.7 +0.7**
comp=Z,2.9nm,1.0s,baz=166,slow=5.1,SNR=3.5
MT08 Bocatoma Ro 143.84 159 PKPdf 19 54 45.7 +0.9
VA06 Catapilco 144.15 157 PKPdf 19 54 44.8 -0.1
CPUP Villa Florida 153.63 176 PKP **PKPdf 19 55 00.8 +0.4**
comp=Z,0.4nm,0.8s,baz=207,slow=2.3,SNR=2.0
CPUP PKPbc **PKiKP 19 55 09.1 +0.9**
comp=Z,1.3nm,0.8s,baz=102,slow=2.3,SNR=8.9
CPUP PKPab **PKPab 19 55 20.2 -0.4**
comp=Z,1.7nm,0.8s,baz=132,slow=3.5,SNR=6.3
LPAZ La Paz 159.34 143 PKP **PKPdf 19 55 08.2 -0.6**
comp=Z,1.5nm,1.0s,baz=225,slow=1.4,SNR=3.6
LPAZ PKPab **PKPab 19 55 48.5 +2.2**
comp=Z,7.7nm,0.8s,baz=190,slow=4.3,SNR=16

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*SKHL **13** 19:35:53.9±0.2, 49.°70N×148.°90E, h584km±5km, mb4.5/8, mbv4.7/2, msh4.7/2, msha5.0/4*
*MOS **13** 19:35:56.9±0.8, 49.°82N×147.°74E, h593km, mb4.3/26, Error ellipse: s-maj=11.0km s-min=7.0km az=99.2*
*IDC **13** 19:35:57.6±1.1, 49.°80N×147.°71E, h584km±13km, mb3.3/24, mbtmp4.3/33, Error ellipse: s-maj=10.7km s-min=9.2km az=124.0*
*NEIC **13** 19:35:57.9±1.2, 49.°8N±0.°1×147.°7E±0.°2, h586km±10km, mb4.3/53, Error ellipse: s-maj=20.3km s-min=14.8km az=127.0*

ISC 13 19:35:57.0±0.5, 49.°71N±0.°06×147.°87E±0.°07, h583km, n181, σ0.°99/189, mb4.1/82, 3C-15D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**3.53**	**291**	*e*P		**P**	**P**	**19 37 19.9**	**+2.1**
TYV				*e*S			**S**	**19 38 26.6**	**+2.6**
TYV	comp=Z,18nm,1.2s			pmax		pmax	pmax		
TYV	comp=Z,100nm,2.4s			pmax		pmax	pmax		
TYV	comp=N,16nm,1.0s			smax		smax	smax		
TYV	comp=E,22nm,1.0s			smax		smax	smax		
TYV	comp=N,100nm,3.5s			smax		smax	smax		
TYV	comp=E,100nm,3.5s			smax		smax	smax		
TYV	**Tymovskoe**	**3.53**	**291**	*e*P		**P**	**P**	**19 37 19.9**	**+2.1**
TYV	comp=E,50nm,0.4s			AMB		AMB	AMB	19 37 20.7	
TYV				*e*S			**S**	**19 38 26.8**	**+2.8**
TYV	comp=E,40nm,0.5s			A		A	A	19 38 26.9	
TYV	comp=E,50nm,0.5s			A		A	A	19 38 26.9	
YSS	**Yuzhno-Sakhali**	**4.38**	**233**				**P**	**19 37 25.3**	**+1.4**
YSS	**Yuzhno-Sakhali**	**4.38**	**233**	*e*P			**P**	**19 37 25.4**	**+1.4**
YSS				*e*S			**S**	**19 38 38.0**	**+3.0**
YSS	comp=N,30nm,0.6s			pmax		pmax	pmax		
YSS	comp=Z,50nm,0.6s			pmax		pmax	pmax		
YSS	comp=E,30nm,0.7s			pmax		pmax	pmax		
YSS	comp=N,20nm,0.9s			smax		smax	smax		
YSS	comp=E,30nm,0.7s			smax		smax	smax		
YSS	**Yuzhno-Sakhali**	**4.38**	**233**	*e*P		**P**	**P**	**19 37 25.4**	**+1.4**
YSS	comp=E,50nm,0.6s			AMB		AMB	AMB	19 37 26.6	
YSS	comp=E,210nm,3.0s			AMB		AMB	AMB	19 37 28.6	
YSS				*e*S			**S**	**19 38 36.9**	**+1.9**
YSS	comp=E,170nm,2.5s			A		A	A	19 38 39.1	
YSS	comp=E,260nm,2.5s			A		A	A	19 38 39.1	
YSS	comp=E,20nm,0.8s			A		A	A	19 38 39.5	
YSS	comp=E,30nm,0.8s			A		A	A	19 38 39.5	
KUR	**Kuril'sk**	**4.48**	**180**	*e*P		**P**	**P**	**19 37 22.3**	**-2.5**
KUR	comp=E,80nm,0.5s			AMB		AMB	AMB	19 37 24.0	
SKR	**Severo-Kuril's**	**5.39**	**76**	*de*P		**P**	**P**	**19 37 33.2**	**+1.4**
NKL	**Nikolayevsk**	**5.66**	**310**	*e*P		**P**	**P**	**19 37 35.3**	**+1.3**
NKL	comp=E,30nm,0.4s			AMB		AMB	AMB	19 37 36.0	
PAU	**Pauzhetka**	**5.96**	**69**	*e*P		P	P	19 37 28.7	-8.0
PAU	comp=E,30nm,0.5s			AMB		AMB	AMB	19 37 32.0	
NMR	**Nemuro--Hokkai**	**6.51**	**194**	*e*P		**P**	**P**	**19 37 39.2**	**-2.6**
JKA	**Kamikawa-asahi**	**6.66**	**215**	P		**P**	**P**	**19 37 44.2**	**+1.1**
JKA	**Kamikawa-asahi**	**6.66**	**215**	*e*P		**P**	**P**	**19 37 43.6**	**+0.5**
ASAJ	**Asahikawa**	**6.66**	**215**	P		**P**	**P**	**19 37 43.6**	**+0.5**
	comp=E,3.7nm,0.5s,baz=65,slow=17,SNR=8.8								
PEA0B	**Petropavlovsk-**	**7.03**	**57**	P		**P**	**P**	**19 37 46.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**7.03**	**57**	P		**P**	**P**	**19 37 46.6**	**+0.3**
PETK	**Petropavlovsk-**	**7.03**	**57**	P		**P**	**P**	**19 37 46.8**	**+0.5**
PETK	**Petropavlovsk-**	**7.03**	**57**	P		**P**	**P**	**19 37 47.1**	**+0.9**
	comp=E,2.9nm,0.6s,baz=197,slow=5.7,SNR=9.0								
PETK	**Petropavlovsk-**	**7.03**	**57**	P		**P**	**P**	**19 37 46.8**	**+0.5**
ERM	**Erimo**	**8.37**	**205**	P		**P**	**P**	**19 37 58.8**	**-0.5**
ERM	**Erimo**	**8.37**	**205**	P		**P**	**P**	**19 37 58.8**	**-0.5**
MA2	**Magadan**	**10.03**	**9**	P		**P**	**P**	**19 38 15.9**	**+0.6**
MA2	**Magadan**	**10.03**	**9**	P		**P**	**P**	**19 38 15.1**	**-0.2**
	comp=E,14nm,0.4s,baz=187,slow=10,SNR=15								
JTM	**Tenmabayashi**	**10.12**	**211**	P		**P**	**P**	**19 38 15.3**	**-1.3**
USRK	**Ussuriysk Ar.**	**12.16**	**249**	P		**P**	**P**	**19 38 36.0**	**-1.2**
	comp=E,2.2nm,0.7s,baz=60,slow=13,SNR=7.2								
JMM	**Marumori**	**12.89**	**206**	P		**P**	**P**	**19 38 44.3**	**-0.4**
HEH	**HeiHe**	**13.17**	**280**	*e*P		**P**	**P**	**19 38 44.9**	**-2.5**
ZEA	**Zeya**	**13.39**	**295**	*e*P		**P**	**P**	**19 38 48.6**	**-1.0**
ZEA				*e*				19 41 14.5	
ZEA	comp=Z,10.0nm,1.0s			pmax		pmax	pmax		
SEY	**Seymchan**	**13.48**	**9**	P		**P**	**P**	**19 38 50.6**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=200,slow=10,SNR=7.4								
SEY	**Seymchan**	**13.48**	**9**	*i* P		**P**	**P**	**19 38 50.5**	**+0.1**
JSD	**Sado**	**13.56**	**214**	P		**P**	**P**	**19 38 52.1**	**+0.5**
MJA0	**Matsu Arr-Jizo**	**14.90**	**212**	*e*P		**P**	**P**	**19 39 05.8**	**+1.0**
MJA0				pmax		pmax	pmax		

comp=Z,10.0nm,0.4s
MJB9 Matsu-Tunnel 14.91 212 P P 19 39 06.3 +1.5
MJAR Matsushiro Arr 14.91 212 P P 19 39 05.8 +0.9
comp=Z,9.4nm,0.4s,baz=21,slow=9.3,SNR=65
YAK Yakutsk 15.93 328 P 19 39 12.8 -1.3
YAK Yakutsk 15.93 328 P P 19 39 13.5 -0.5
comp=Z,14nm,0.5s,baz=118,slow=1.9,SNR=21
YAK Yakutsk 15.93 328 *eP* **P 19 39 13.1 -0.9**
YAK *eS* **S 19 41 54.2 -0.5**
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK smax smax
comp=E,99nm,2.0s
YAK smax smax
comp=N,319nm,3.3s
YAK Yakutsk 15.93 328 *eP* **P 19 39 13.1 -0.9**
JGF Kuroka 16.06 213 P P 19 39 16.1 +0.4
INU Inuyama 16.40 213 P P 19 39 18.9 +0.1
HILR Hailar Array B 18.17 280 P P 19 39 33.9 -0.8
comp=N,3.1nm,0.3s,baz=66,slow=9.7,SNR=10
KSRS Korea Array 18.87 237 P P 19 39 41.6 +0.4
comp=N,1.8nm,0.7s,baz=37,slow=10.0,SNR=8.4
BILL Bilibino 20.53 20 *ceP* **P 19 39 56.9 +1.1**
BILL pmax pmax
comp=Z,23nm,1.9s
BILL Bilibino 20.53 20 *eP* **P 19 39 56.9 +1.1**
TIXI Tiksi 23.66 345 P P 19 40 22.9 -0.6
comp=Z,2.7nm,0.3s,baz=171,slow=7.5,SNR=10
comp=Z,2.7nm,0.3s
TIXI Tiksi 23.66 345 ||*iP* **P 19 40 23.0 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 26.72 282 *deP* **P 19 40 49.3 -1.8**
ULN pmax pmax
comp=Z,5.0nm,1.6s
SONM Songino Array 27.15 282 P P 19 40 54.7 -0.1
comp=Z,0.9nm,0.6s,baz=92,slow=8.1,SNR=4.4
comp=Z,0.9nm,0.6s
G16K Koyuk River 29.97 40 P P 19 41 19.5 +0.7
G16K IAmb IAmb 19 41 20.6
comp=Z,5.1nm,0.9s
N15K Kwethluk River 30.86 50 P P 19 41 28.4 +1.9
L16K Owhat River 31.09 47 P P 19 41 28.8 +0.4
L16K IAmb IAmb 19 42 00.6
comp=Z,14nm,1.4s
G18K Tagagawik 31.55 39 P P 19 41 33.0 +0.7
C19K Lookout Ridge 31.61 33 P P 19 41 33.6 +0.8
C19K IAmb IAmb 19 41 59.3
comp=Z,8.4nm,1.3s
KNGR Kungurtug, Tuv 31.77 291 ||*eP* **P 19 41 34.9 +0.4**
KNGR pmax pmax
comp=Z,4.0nm,0.8s
F19K Shaleruckik Mo 31.98 37 P P 19 41 35.8 -0.1
F19K IAmb IAmb 19 42 10.8
comp=Z,12nm,1.5s
D19K Kuna River 32.04 34 P P 19 41 36.8 +0.3
D19K IAmb IAmb 19 41 53.2
comp=Z,13nm,1.4s
E19K Redstone River 32.25 36 P P 19 41 37.9 -0.4
E19K IAmb IAmb 19 41 40.0
comp=Z,4.8nm,0.7s
L18K Granite Mounta 32.38 46 P P 19 41 40.5 +1.1
L18K IAmb IAmb 19 42 01.3
comp=Z,11nm,1.5s
H19K Roundabout Mou 32.44 40 P P 19 41 40.6 +0.9
B20K Meade River 32.61 32 P P 19 41 41.6 +0.4
B21K Ikpikpuk River 33.43 32 P P 19 41 49.1 +1.0
B21K IAmb IAmb 19 41 52.1
comp=Z,15nm,1.2s
IMAR Indian Mountai 33.56 39 P P 19 41 50.0 +0.8
G21K Allakaket 33.66 38 P P 19 41 50.3 +0.2
G21K IAmb IAmb 19 41 52.1
comp=Z,4.7nm,0.9s
B22K Teshekpuk Lake 33.92 31 P P 19 41 51.9 -0.3
D22K Ayikyak River 34.05 34 P P 19 41 54.2 +0.8
E22K Anaktuvuk Pass 34.34 35 P P 19 41 56.4 +0.6
E22K IAmb IAmb 19 41 57.3
comp=Z,6.5nm,0.7s
D23K Nanushuk River 34.78 34 P P 19 42 00.6 +1.2
D23K IAmb IAmb 19 42 05.4
comp=Z,16nm,1.4s
C23K Itkillik River 34.84 32 P P 19 42 00.2 +0.4
TOLK Toolik Lake Re 35.18 34 P P 19 42 03.1 +0.4
TOLK IAmb IAmb 19 42 40.7
comp=Z,11nm,1.2s
GTA Gaotai 35.20 272 *eP* **P 19 42 04.4 +1.0**
GTA pmax pmax
comp=Z,10.0nm,0.7s
I23K Minto, Yukon-K 35.42 40 P P 19 42 05.4 +0.7
I23K IAmb IAmb 19 42 24.9
comp=Z,6.6nm,1.4s
D24K Happy Valley 35.45 33 P P 19 42 05.5 +0.6
C24K Franklin Bluff 35.50 32 P P 19 42 05.4 +0.1
E24K Your Creek 35.59 35 P P 19 42 07.0 +0.8
E24K IAmb IAmb 19 42 07.5
comp=Z,3.3nm,0.6s
NEA2 Nenana 35.60 41 P P 19 42 07.2 +0.9
F24K Squaw Lake 35.84 36 P P 19 42 09.1 +0.8
F24K IAmb IAmb 19 42 09.6
comp=Z,4.6nm,0.5s
G24K Hadweenzic Riv 36.06 38 P P 19 42 11.2 +1.2
COLA College 36.09 41 ||*iP* **P 19 42 11.3 +1.1**
COLA pmax pmax
comp=Z,8.0nm,0.9s
D25K Kavik River 36.32 33 P P 19 42 12.3 +0.2
D25K IAmb IAmb 19 42 37.6
comp=Z,12nm,1.3s
ILAR Eielson Array 36.51 41 P P 19 42 14.9 +1.2
comp=Z,2.2nm,0.7s,baz=281,slow=8.3,SNR=30
comp=Z,2.2nm,0.7s
DHY Denali Highway 36.56 44 P P 19 42 14.4 +0.2
PRP Porcupine Dome 36.98 39 P P 19 42 17.5 -0.2
PRP IAmb IAmb 19 42 19.8
comp=Z,3.9nm,0.8s
BMAR Burnt Mountain 37.12 36 P P 19 42 20.0 +1.3
F26K Sheenjek River 37.26 36 P P 19 42 20.7 +0.9
F26K IAmb IAmb 19 42 22.4
comp=Z,4.1nm,0.7s
G26K Porcupine Rive 37.49 37 P P 19 42 22.9 +1.3
G26K IAmb IAmb 19 42 23.9
comp=Z,6.5nm,0.6s
RIDG Independent Ri 37.56 42 P P 19 42 21.7 -0.6
RIDG IAmb IAmb 19 42 32.8
comp=Z,8.9nm,1.4s
SCRK Sand Creek 37.89 42 P P 19 42 24.5 -0.6
ZALV Zalesovo Beam 38.05 301 P 19 42 25.9 -0.5
ZALV Zalesovo Beam 38.05 301 P P 19 42 26.0 -0.4
comp=Z,4.3nm,0.5s,baz=66,slow=7.0,SNR=25
comp=Z,4.3nm,0.5s
E27K Coleen River 38.15 35 P P 19 42 27.7 +0.7
E27K IAmb IAmb 19 42 46.3
comp=Z,13nm,1.5s
K27K Chicken 38.70 41 P P 19 42 31.8 +0.3
EGAK Eagle 38.93 40 P P 19 42 33.3 0.0
BCAR Beaver Creek A 39.05 43 P P 19 42 34.9 +0.5
H31M Peel River 41.44 37 P P 19 42 54.4 +1.0
H31M IAmb IAmb 19 42 57.3
comp=Z,21nm,1.5s
HYT Haines Junctio 41.63 45 P P 19 42 55.7 +0.7
MK31 Makanchi Array 42.51 292 *diP* **P 19 43 01.9 -0.1**
MKAR Makanchi Array 42.51 292 P 19 43 01.9 -0.2
MKAR Makanchi Array 42.51 292 P P 19 43 02.0 0.0
comp=Z,5.2nm,0.7s,baz=70,slow=7.9,SNR=43
comp=Z,5.2nm,0.7s
MAKZ Makanchi 42.70 292 P P 19 43 03.5 +0.1
MAKZ IAmb IAmb 19 43 03.7
comp=Z,3.5nm,0.6s
MAKZ Makanchi 42.70 292 P P 19 43 03.5 +0.1
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 42.83 299 P 19 43 04.0 -0.3
KURK Kurchatov 42.83 299 *i* P **P 19 43 04.2 -0.1**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 42.83 299 *eP* **P 19 43 04.2 -0.1**
KURBB Kurchatov Arra 42.92 299 P P 19 43 05.0 -0.1
comp=Z,12nm,0.7s,baz=69,slow=8.3,SNR=68
comp=Z,12nm,0.7s
BORK Borovoye 46.30 305 *diP* **P 19 43 30.9 0.0**
BORK pmax pmax
comp=Z,3.0nm,0.5s
TARG Taragay, Kyrgy 47.92 289 P P 19 43 44.1 +0.4
TARG Taragay, Kyrgy 47.92 289 P P 19 43 44.1 +0.4
TARG pmax pmax
comp=Z,4.0nm,1.2s
KDJ Kajisay 48.08 289 P P 19 43 44.8 +0.1
KDJ IAmb IAmb 19 43 45.5
comp=Z,4.0nm,0.5s
KDJ Kajisay 48.08 289 P P 19 43 44.8 +0.1
KDJ pmax pmax
comp=Z,4.0nm,0.5s
BOOM Boomskoye usch 48.63 290 P P 19 43 48.0 -0.7
BOOM IAmb IAmb 19 43 49.8
comp=Z,5.0nm,0.5s
BOOM Boomskoye usch 48.63 290 P P 19 43 48.0 -0.7
BOOM pmax pmax
comp=Z,5.0nm,0.5s
SPITS Spitsbergen Ar 49.03 348 P P 19 43 49.0 -1.9
comp=Z,7.5nm,0.8s,baz=306,slow=9.1,SNR=5.7
comp=Z,7.5nm,0.8s
SPITS Spitsbergen Ar 49.03 348 P P 19 43 49.0 -1.9
RES Resolute Bay 49.13 18 P P 19 43 50.3 -1.3
RES Resolute Bay 49.13 18 P P 19 43 50.3 -1.3
RES pmax pmax
comp=Z,24nm,1.1s
AAK Ala-Archa 49.42 291 P 19 43 54.3 -0.2
AAK Ala-Archa 49.42 291 *deP* **P 19 43 54.7 +0.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 49.42 291 *eP* **P 19 43 54.7 +0.2**
KSH Kashi 50.35 287 P P 19 44 05.5 +4.2
ARTI Arti 50.55 314 P 19 44 01.6 -0.7
ARTI Arti 50.55 314 *diP* **P 19 44 01.9 -0.4**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 50.64 37 P P 19 44 03.3 +0.5
comp=Z,0.9nm,0.6s,baz=248,slow=7.0,SNR=2.3
comp=Z,0.9nm,0.6s
KKAR Karatay Array 51.54 294 P 19 44 08.8 -0.9
KKAR Karatay Array 51.54 294 P P 19 44 08.8 -0.9
APA Apatity 53.18 334 ||*eP* **P 19 44 16.9 -4.0**
APA *e* 19 45 19.0
APA *e**PP **pP 19 46 09.7 +0.1**
AB31 Akbulak array 53.84 306 P P 19 44 25.6 -0.2
ABKAR Akbulak array 53.84 306 P 19 44 25.6 -0.3
ARCES ARCESS Array B 53.85 338 P P 19 44 24.3 -1.4
ARCES ARCESS Array B 53.85 338 P P 19 44 25.7 0.0
comp=Z,0.8nm,0.6s,baz=33,slow=8.9,SNR=8.4
comp=Z,0.8nm,0.6s
GAR Garm 54.14 290 P 19 44 27.0 -1.3
GAR IAmb IAmb 19 44 29.2
comp=Z,8.1nm,0.7s
CHGR Chuyangaron 55.06 291 P P 19 44 34.5 -0.2
CHGR IAmb IAmb 19 44 35.8
comp=Z,13nm,0.8s
CHGR Chuyangaron 55.06 291 P P 19 44 34.5 -0.2
CHGR pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 55.72 326 *eP* **P 19 44 36.8 -2.0**
KLMR pmax pmax
comp=Z,3.0nm,0.6s
BELG Belogornoye 57.97 315 *diP* **P 19 44 53.9 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 59.82 332 P P 19 45 06.0 -0.4
comp=Z,4.2nm,0.5s,baz=31,slow=8.3,SNR=53
comp=Z,4.2nm,0.5s
OBN Obninsk 60.85 322 *diP* **P 19 45 13.3 0.0**
OBN *e* 19 45 50.9
OBN *e**PP **pP 19 47 07.3 +0.6**
OBN *e* 19 47 36.3
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 60.85 322 *eP* **P 19 45 13.3 0.0**
NVAR Mina Array Bea 64.10 61 P P 19 45 35.8 +0.9
comp=Z,0.9nm,0.8s,baz=300,slow=4.7,SNR=5.8
comp=Z,0.9nm,0.8s
NB2 NORSAR Subarra 64.23 338 P P 19 45 34.9 -0.2
comp=Z,1.5nm,0.5s,baz=28,slow=6.5
NB2 NORSAR Subarra 64.23 338 P P 19 45 34.9 -0.2
NOA NORSAR Array B 64.23 338 P P 19 45 34.9 -0.2
comp=Z,3.4nm,0.6s,baz=29,slow=6.6,SNR=19
comp=Z,3.4nm,0.6s
NOA NORSAR Array B 64.23 338 *eP* **P 19 45 34.9 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 64.40 337 P P 19 45 35.6 -0.4
comp=Z,4.4nm,0.6s,baz=41,slow=4.7,SNR=24
comp=Z,4.4nm,0.6s
NORES NORESS Array B 64.42 338 P P 19 45 35.3 -0.9
MNK Minsk 64.62 326 *i* P **P 19 45 37.4 -0.1**
MNK *i* *PP **pP 19 47 34.1 +1.3**
MNK *i* 19 48 09.1
MNK *i* PPP PPP 19 49 53.6
MNK *i* S **S 19 53 31.9 -0.2**
MNK *i* SS **SS 19 57 59.0 +2.4**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,99nm,24.0s
MNK MLR MLR
comp=N,113nm,27.0s
MNK MLR MLR
comp=Z,31nm,21.0s
NACGM Naroch 64.70 327 *eP* **P 19 45 38.0 0.0**
comp=Z,6.0nm,0.8s,baz=38
PDAR Pinedale Array 65.76 52 P P 19 45 46.1 +0.9
comp=Z,0.6nm,0.6s,baz=7.2,slow=0.9,SNR=8.8
comp=Z,0.6nm,0.6s
NCK Nalchik 66.09 310 ||*eP* **P 19 45 48.1 +1.1**
NCK pmax pmax
comp=Z,5.0nm,0.3s
KIV Kislovodsk 66.21 310 *eP* **P 19 45 47.5 -0.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 66.21 310 *eP* **P 19 45 47.6 -0.3**
KBZ Khabaz 66.27 310 P P 19 45 48.4 +0.4
comp=Z,3.0nm,0.6s,baz=90,slow=3.4,SNR=11
comp=Z,3.0nm,0.6s
KBZ Khabaz 66.27 310 *diP* **P 19 45 48.4 +0.4**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SHA1 Shidzhatmaz 66.38 310 ||*iP* **P 19 45 49.1 0.0**
AKASG Malin Array Be 67.10 323 P P 19 45 52.3 -0.8
comp=Z,3.6nm,0.5s,baz=38,slow=6.1,SNR=16
comp=Z,3.6nm,0.5s
AKASG Malin Array Be 67.10 323 *eP* **P 19 45 52.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 67.10 323 *diP* **P 19 45 52.1 -0.9**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
FITZ Fitzroy Crossi 70.32 202 P P 19 46 13.0 +0.3
comp=Z,4.7nm,0.8s,baz=27,slow=6.8,SNR=3.6
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 70.38 194 P P 19 46 13.7 +0.6
comp=Z,3.7nm,0.6s,baz=8.8,slow=6.3,SNR=8.0
comp=Z,3.7nm,0.6s
SCHQ Schefferville 71.84 20 P P 19 46 20.5 -0.7
comp=Z,27nm,0.7s,baz=245,slow=14,SNR=2.0
CLL Collm 72.26 332 *i* **P P 19 46 23.0 -0.7**
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 72.26 332 *i* **P P 19 46 23.0 -0.7**
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 72.56 343 P P 19 46 24.8 -0.5
comp=Z,1.6nm,0.7s,baz=20,slow=5.4,SNR=4.3
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 73.81 313 P P 19 46 33.0 +0.1
comp=Z,1.0nm,0.8s,baz=50,slow=2.7,SNR=4.9
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 73.99 331 *ceP* **P 19 46 33.9 +0.3**
KHC pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 74.10 193 P P 19 46 35.8 +1.3
ASAR Alice Springs 74.10 193 P P 19 46 36.0 +1.6
comp=Z,6.5nm,0.5s,baz=5.1,slow=5.1,SNR=28
comp=Z,6.5nm,0.5s
ASAR Alice Springs 74.10 193 P P 19 46 35.8 +1.3
GERES GERESS Array B 74.20 330 P P 19 46 34.6 -0.3
comp=Z,0.7nm,0.5s,baz=34,slow=5.9,SNR=5.8
comp=Z,0.7nm,0.5s
CONA Conrad Observa 74.29 329 *i* P **P 19 46 36.0 +0.6**
comp=Z,2.2nm,0.6s
RONA Rosalia, Austr 74.34 328 *i* P **P 19 46 36.4 +0.8**
comp=Z,4.1nm,0.8s
MOA Molln 74.89 330 *eP* **P 19 46 38.7 0.0**
comp=Z,1.8nm,0.9s
LESA Schwarzleotal 75.78 330 *i* P **P 19 46 44.1 +0.4**
comp=Z,1.4nm,0.5s
KBA Koelnbreinsper 75.86 330 *i* P **P 19 46 44.4 +0.1**
comp=Z,3.4nm,0.6s
OBKA Obir 75.97 329 *i* P **P 19 46 44.6 -0.2**
comp=Z,1.5nm,0.6s
WATA Walderalm 76.20 331 *eP* **P 19 46 46.4 +0.3**
comp=Z,1.9nm,0.5s
WTTA Wattenberg 76.25 331 *eP* **P 19 46 46.9 +0.5**
comp=Z,3.0nm,0.5s
MOTA Moosalm 76.34 331 *eP* **P 19 46 47.2 +0.3**
comp=Z,2.7nm,0.6s
SQTA Sankt Quirin 76.42 331 *eP* **P 19 46 47.6 +0.3**
comp=Z,3.0nm,0.8s
MMAI Mount Meron Ar 78.22 308 P P 19 46 57.4 +0.2
comp=Z,1.6nm,0.5s,baz=41,slow=5.5,SNR=5.6
comp=Z,1.6nm,0.5s
TXAR Lajitas Array 78.98 58 P P 19 47 02.7 +1.4
comp=Z,0.3nm,0.5s,baz=294,slow=4.5,SNR=6.6
comp=Z,0.3nm,0.5s
QSPA South Pole Qui 139.45 180 PKP PKPdf 19 54 16.4 -1.0
comp=Z,0.5nm,0.2s,baz=309,slow=2.3,SNR=15
SNAA Sanae 154.25 201 PKPab PKPab 19 55 07.5 -0.1
comp=Z,1.1nm,1.0s,baz=216,slow=6.1,SNR=6.9

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*DJA **13** 19:46:10.2±0.4, 10°S±4°×10°8E±°, h10km, M4.5/21, mB5.4/4, mb4.6/10, MLv4.4/21, Mw(mB)4.8/4*
*IDC **13** 19:46:27.7±1.2, 6°67S×109°53E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=31.4km s-min=20.5km az=28.0*
ISC 13 19:46:09.0±1.2, 10°04S±0°09×108°46E±0°08, h10km, n35, σ1$31/33, mb3.2/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BBJI	**Bungbulang**	**2.69**	**343**	P	**Pn**	**19 46 51.5**	**-0.8**
KPJI	**Karang Pucung**	**2.73**	**10**	P	**Pn**	**19 46 53.7**	**+0.8**
XMI	**Christmas Isla**	**2.75**	**261**	P	**Pn**	**19 46 54.1**	**+0.8**
YOGI	**Yogyakarta**	**2.86**	**40**	P	**Pn**	**19 46 54.6**	**-0.1**
UGM	**Wanagama**	**2.94**	**44**	P	**Pn**	**19 46 56.2**	**+0.4**
UGM	**Wanagama**	**2.94**	**44**	P	**Pn**	**19 46 56.0**	**+0.2**
CNJI	**Cibinong**	**3.02**	**334**	P	**Pn**	**19 46 56.2**	**-0.6**
PCJI	**Pacitan**	**3.25**	**56**	P	**Pn**	**19 47 00.2**	**+0.1**
LEM	**Lembang**	**3.30**	**345**	Pn	**Pn**	**19 47 02.2**	**+1.3**
	13nm,0.3s,baz=148,slow=19,SNR=9.5						
LEM				Sn	Sn	19 47 26.9	-13
	12nm,0.3s,baz=129,slow=14,SNR=6.4						
LEM	**Lembang**	**3.30**	**345**	P	**Pn**	**19 47 02.4**	**+1.5**
LEM				S	**Sn**	**19 47 40.8**	**+0.5**
SKJI	**Sukabumi**	**3.56**	**328**	P	**Pn**	**19 47 04.1**	**-0.2**
SMRI	**Semarang**	**3.56**	**34**	P	**Pn**	**19 47 05.0**	**+0.6**
SMRI	**Semarang**	**3.56**	**34**	P	**Pn**	**19 47 05.9**	**+1.5**
DBJI	**Dramaga**	**3.86**	**334**	P	**Pn**	**19 47 08.7**	**+0.3**
NGJI	**Ngawi**	**3.98**	**48**	P	**Pn**	**19 47 13.4**	**+3.3**
CGJI	**Cibinong**	**4.37**	**321**	P	**Pn**	**19 47 16.0**	**+0.5**
BLJI	**Banyuglugur**	**5.56**	**66**	P	**Pn**	**19 47 33.3**	**+1.4**
	0.4nm4µm37nm,0.6s						
JAGI	**Jajag, Banyuwa**	**5.83**	**75**	P	**Pn**	**19 47 37.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**5.83**	**75**	P	**Pn**	**19 47 35.8**	**+0.2**
ABJI	**Asem Bagus**	**6.13**	**69**	P	**Pn**	**19 47 42.0**	**+2.4**
	0.3nm52nm,0.8s						
LWLI	**Liwa**	**6.63**	**319**	P	**Pn**	**19 47 47.2**	**+0.6**
MDSI	**Maura Dua**	**6.96**	**322**	P	**Pn**	**19 47 49.5**	**-1.6**
MNAI	**Manna**	**7.85**	**316**	P	**Pn**	**19 48 03.0**	**-0.3**
MNAI	**Manna**	**7.85**	**316**	P	**Pn**	**19 48 02.7**	**-0.6**
TWSI	**Taliwang, Sumb**	**8.41**	**82**	P	**Pn**	**19 48 11.4**	**+0.4**
	15nm,1.0s						
KSI	**Kapahiang**	**8.61**	**317**	P	**Pn**	**19 48 13.6**	**-0.3**
	44nm,0.6s						
MASI	**Maura Aman, Be**	**9.23**	**318**	P	**Pn**	**19 48 22.3**	**+0.1**
	40nm,0.9s						
PLAI	**Plampang**	**9.27**	**83**	P	**Pn**	**19 48 23.3**	**+0.5**
EDFI	**Ende, Flores**	**13.12**	**85**	P	**Pn**	**19 49 13.7**	**-1.9**
WRA	**Warramunga Arr**	**26.83**	**115**	P	P	19 52 15.4	+26
	0.1nm,0.3s,baz=289,slow=9.8,SNR=1.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**27.80**	**122**	P	P	19 52 28.4	+30
	0.1nm,0.5s,baz=308,slow=10,SNR=1.1						
	0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.84**	**342**	P	P	19 52 10.7	-5.8
	0.1nm,0.3s,baz=175,slow=7.1,SNR=4.6						
	0.1nm,0.3s						
SONM	**Songino Array**	**57.65**	**358**	P	**P**	**19 55 57.9**	**-1.7**
	0.2nm,0.5s,baz=190,slow=7.3,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**61.22**	**340**	P	**P**	**19 56 24.2**	**+0.1**
	0.5nm,0.7s,baz=147,slow=7.2,SNR=4.2						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**65.79**	**340**	P	**P**	**19 56 57.5**	**+3.4**
	0.3nm,0.7s,baz=154,slow=6.3,SNR=2.3						
	0.3nm,0.7s						

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*NEIC **13** 19:46:51.2±2.3, 26°3S±0°1×179°7E±0°2, h494km±10km, mb4.4/22, Error ellipse: s-maj=25.1km s-min=19.5km az=93.0*
*IDC **13** 19:46:51.4±0.8, 26°14S×179°58E, h488km±9km, mb3.6/17, mbtmp4.5/22, Error ellipse: s-maj=12.1km s-min=11.6km az=3.0*
*NOU **13** 19:46:56.6, 26°38S×179°29E, h528km, mb4.3/17, South of Fiji Islands*
ISC 13 19:46:51.8±0.4, 26°26S±0°06×179°48E±0°07, h495km, n129, σ1$34/139, mb4.2/29, 9C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.77**	**143**	P	**P**	**19 48 06.0**	**-1.9**
RAO	**Raoul Island**	**3.77**	**143**	P	**P**	**19 48 07.7**	**-0.2**
	545nm,0.6s,baz=270,slow=20,SNR=7.7						
RAO				S	**S**	**19 49 10.8**	**+0.8**
	210nm,0.3s,baz=258,slow=23,SNR=1.3						
MSVF	**Nonsavu**	**8.59**	**351**	P	**P**	**19 48 51.4**	**-3.0**
MXZ	**Matakaoa Point**	**11.32**	**185**	P	**P**	**19 49 26.9**	**+4.0**
PINNC	**Pines Island,**	**11.55**	**286**	P	**P**	**19 49 24.7**	**-0.9**
URZ	**Urewera**	**12.13**	**189**	P	**P**	**19 49 30.7**	**-0.9**
	9.7nm,0.5s,baz=304,slow=3.6,SNR=5.6						
URZ				S	**S**	**19 51 39.5**	**-3.8**
	5.3nm,0.5s,baz=0.0,slow=20,SNR=1.7						
URZ	**Urewera**	**12.13**	**189**	P	**P**	**19 49 34.1**	**+2.5**
YATNC	**Mamie plateau,**	**12.23**	**287**	P	**P**	**19 49 35.9**	**+3.0**
DZM	**Mont Dzumac**	**12.61**	**287**	P	**P**	**19 49 36.0**	**-1.0**
DZM	**Mont Dzumac**	**12.61**	**287**	P	**P**	**19 49 35.7**	**-1.3**
	8.6nm,0.7s,baz=82,slow=15,SNR=6.5						
DZM	**Mont Dzumac**	**12.61**	**287**	P	**P**	**19 49 40.3**	**+3.3**
BKZ	**Black Stump Fm**	**13.12**	**190**	P	**P**	**19 49 40.0**	**-2.1**
BKZ	**Black Stump Fm**	**13.12**	**190**	P	**P**	**19 49 45.7**	**+3.6**
MRZ	**Mangatainoka R**	**14.73**	**192**	P	**P**	**19 49 56.3**	**-2.7**
QRZ	**Quartz Range**	**15.63**	**200**	P	**P**	**19 50 07.6**	**-0.9**
QRZ				IAmb	IAmb	19 50 18.2	
	comp=Z,22nm,1.2s						
SANVU	**Saraoutou**	**15.71**	**311**		**P**	**19 50 12.2**	**+2.6**
SANVU	**Saraoutou**	**15.71**	**311**	P	**P**	**19 50 13.1**	**+3.4**
RPZ	**Rata Peaks**	**18.72**	**199**	P	**P**	**19 50 38.4**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=342,slow=18,SNR=2.0						
RAR	**Rarotonga**	**19.64**	**80**	P	**P**	**19 50 46.2**	**-1.3**
	comp=Z,18nm,0.9s,baz=284,slow=14,SNR=2.0						
JCZ	**Jackson Bay**	**19.78**	**203**	P	**P**	**19 50 49.5**	**+0.9**
ARMA	**Armidale**	**24.84**	**254**	P	**P**	**19 51 33.3**	**-0.9**
ARMA				IAmb	IAmb	19 51 46.1	
	comp=Z,8.9nm,1.1s						
EIDS	**Eidsvold**	**25.56**	**266**		**P**	**19 51 42.2**	**+1.6**
EIDS				IAmb	IAmb	19 51 43.2	
	comp=Z,19nm,0.6s						
EIDS	**Eidsvold**	**25.56**	**266**	P	**P**	**19 51 42.5**	**+1.9**
CTAO	**Charters Tower**	**31.10**	**274**		**P**	**19 52 30.8**	**+1.7**
CTAO	**Charters Tower**	**31.10**	**274**	P	**P**	**19 52 30.7**	**+1.6**
QLP	**Quilpie**	**31.51**	**261**	P	**P**	**19 52 33.9**	**+1.4**
MTSU	**Mount Surprise**	**33.47**	**277**	P	**P**	**19 52 50.9**	**+1.6**
STKA	**Stephens Creek**	**33.47**	**251**	P	**P**	**19 52 50.3**	**+1.1**
STKA	**Stephens Creek**	**33.47**	**251**	P	**P**	**19 52 50.2**	**+1.1**
	comp=Z,4.7nm,0.4s,baz=93,slow=11,SNR=27						
STKA				PcP	**PcP**	**19 55 16.1**	**0.0**
	comp=Z,2.8nm,0.5s,baz=77,slow=4.8,SNR=6.7						
	comp=Z,4.7nm,0.4s						
STKA	**Stephens Creek**	**33.47**	**251**	P	**P**	**19 52 50.3**	**+1.1**
RABL	**Rabaul**	**34.14**	**305**	P	**P**	**19 52 55.3**	**+0.3**
INKA	**Innaminka**	**34.45**	**259**	P	**P**	**19 52 56.0**	**-1.5**
INKA				IAmb	IAmb	19 53 00.4	

comp=Z,6.6nm,0.9s
PMG Port Moresby 34.89 293 P P 19 53 02.0 +0.7
PMG IAmb IAmb 19 53 03.5
comp=Z,20nm,0.7s
HTT Hallett 35.73 249 P P 19 53 09.0 +0.8
COEN Coen 36.10 283 P P 19 53 11.1 -0.2
COEN Coen 36.10 283 P P 19 53 12.7 +1.3
QIS Mount Isa 36.93 270 P P 19 53 19.1 +0.9
BBOO Buckleboo 38.14 250 P P 19 53 27.9 -0.1
BBOO IAmb IAmb 19 53 29.0
comp=Z,8.0nm,0.8s
BBOO Buckleboo 38.14 250 P P 19 53 28.2 +0.2
ASAR Alice Springs 41.24 263 P 19 53 52.6 -0.6
ASAR Alice Springs 41.24 263 P P 19 53 53.6 +0.5
comp=Z,12nm,0.9s,baz=108,slow=8.2,SNR=66
ASAR PcP **PcP 19 55 39.9 -0.6**
comp=Z,0.9nm,1.0s,baz=106,slow=4.0,SNR=4.4
ASAR ScP **ScP 19 58 44.1 +1.1**
comp=Z,0.5nm,0.8s,baz=114,slow=3.9,SNR=3.1
ASAR S **S 19 59 29.6 -1.3**
comp=Z,0.5nm,0.7s,baz=103,slow=16,SNR=6.6
comp=Z,12nm,0.9s
WRAB Tennant Creek 41.83 269 P P 19 53 58.1 +0.3
WRA Warramunga Arr 41.84 269 P 19 53 57.8 -0.1
WRA Warramunga Arr 41.84 269 P P 19 53 58.2 +0.3
comp=Z,12nm,0.7s,baz=105,slow=7.9,SNR=54
WRA PcP **PcP 19 55 42.5 -0.1**
comp=Z,0.5nm,0.5s,baz=101,slow=7.3,SNR=6.7
WRA ScP **ScP 19 58 46.9 +1.4**
comp=Z,0.2nm,0.3s,baz=101,slow=3.9,SNR=4.7
WRA S **S 19 59 36.5 -3.0**
comp=Z,0.8nm,0.8s,baz=103,slow=12,SNR=4.8
comp=Z,12nm,0.7s
FORT Forrest 45.09 252 P P 19 54 20.3 -2.8
FORT IAmb IAmb 19 54 23.6
comp=Z,6.4nm,0.7s
MTN Manton Dam 47.22 277 P P 19 54 39.1 -0.4
KNRA Kununurra 48.26 272 P P 19 54 47.2 -0.1
KNRA IAmb IAmb 19 54 49.0
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 50.22 268 P 19 55 01.9 +0.1
FITZ Fitzroy Crossi 50.22 268 P P 19 55 02.6 +0.8
comp=Z,4.9nm,0.5s,baz=122,slow=8.0,SNR=9.4
comp=Z,4.9nm,0.5s
FAKI Fak Fak 50.86 289 P P 19 55 06.2 -0.3
FAKI IAmb IAmb 19 55 08.7
comp=Z,14nm,1.1s
VNDA Vanda 52.00 185 P P 19 55 14.3 +0.5
comp=Z,0.2nm,0.7s,baz=354,slow=8.2,SNR=1.6
VNDA ScP **ScP 19 59 28.1 +1.0**
comp=Z,1.2nm,0.7s,baz=4.5,slow=3.2,SNR=9.6
BATI Baumata 54.97 276 P P 19 55 37.4 +1.4
comp=Z,9.6nm,0.5s,baz=159,slow=0.8,SNR=2.1
comp=Z,9.6nm,0.5s
MORW Morawa 55.66 252 P P 19 55 39.8 -0.8
CASY Casey 57.80 206 P P 19 55 53.5 -1.1
QSPA South Pole Qui 63.84 180 P P 19 56 37.6 +2.9
comp=Z,2.4nm,0.7s,baz=24,slow=2.0,SNR=8.6
comp=Z,2.4nm,0.7s
JAGI Jajag, Banyuwa 64.20 273 P P 19 56 36.0 -1.8
JAGI IAmb IAmb 19 56 37.8
comp=Z,12nm,0.7s
JGF Kuroka 73.28 325 P P 19 57 31.1 -1.1
JGF IAmb IAmb 19 57 39.0
comp=Z,11nm,1.0s
MJAR Matsushiro Arr 73.58 326 P 19 57 32.6 -1.3
MJAR IAmb IAmb 19 57 34.5
comp=Z,7.3nm,1.0s
MJAR Matsushiro Arr 73.58 326 P P 19 57 33.7 -0.2
comp=Z,8.2nm,0.9s,baz=163,slow=5.3,SNR=14
comp=Z,8.2nm,0.9s
MAW Mawson 75.39 201 P P 19 57 44.1 +0.4
comp=Z,1.1nm,0.6s,baz=151,slow=7.8,SNR=8.0
comp=Z,1.1nm,0.6s
KSRS Korea Array 79.76 321 P P 19 58 08.9 +1.2
comp=Z,3.9nm,0.7s,baz=135,slow=6.0,SNR=13
comp=Z,3.9nm,0.7s
PETK Petropavlovsk- 81.28 347 P P 19 58 15.3 0.0
comp=Z,6.0nm,0.6s,baz=114,slow=7.6,SNR=22
comp=Z,6.0nm,0.6s
SNAA Sanae 82.33 179 P P 19 58 20.8 +0.1
comp=Z,0.4nm,0.7s,baz=238,slow=9.5,SNR=1.9
comp=Z,0.4nm,0.7s
USRK Ussuriysk Ar. 82.49 328 P P 19 58 22.8 +1.1
comp=Z,4.9nm,0.6s,baz=131,slow=4.9,SNR=14
comp=Z,4.9nm,0.6s
NVAR Mina Array Bea 86.77 44 P P 19 58 43.3 +0.1
comp=Z,0.8nm,0.7s,baz=222,slow=9.1,SNR=6.1
comp=Z,0.8nm,0.7s
PLCA Paso Flores 86.96 134 P P 19 58 44.5 +0.5
comp=Z,1.9nm,0.9s,baz=239,slow=5.9,SNR=1.3
comp=Z,1.9nm,0.9s
XAN Xi'an 89.83 308 *eP* **P 19 58 59.4 +2.1**
CMAR Chiang Mai Arr 89.91 291 P P 19 58 59.1 +1.1
comp=Z,1.1nm,0.9s,baz=134,slow=3.1,SNR=9.3
comp=Z,1.1nm,0.9s
PZH PanZhiHua 91.40 299 P P 19 59 06.3 +1.4
HHC Hu-ho-hao-te 91.75 315 *eP* **P 19 59 05.9 -0.2**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,190nm,4.6s
ILAR Eielson Array 94.42 14 P P 19 59 16.4 -1.2
comp=Z,0.5nm,0.8s,baz=234,slow=5.0,SNR=6.6
comp=Z,0.5nm,0.8s
SONM Songino Array 98.58 319 P P 19 59 37.5 +0.6
comp=Z,0.5nm,0.9s,baz=163,slow=3.6,SNR=2.8
comp=Z,0.5nm,0.9s
KURBB Kurchatov Arra 116.61 316 PKP **PKPdf 20 04 37.5 -1.3**
comp=Z,0.9nm,0.6s,baz=114,slow=1.9,SNR=8.2
SPITS Spitsbergen Ar 127.43 356 PKP **PKPdf 20 04 58.0 -0.9**
comp=Z,3.0nm,0.6s,baz=93,slow=5.0,SNR=4.7
ARCES ARCESS Array B 134.08 348 PKhKP PKPpre 20 05 04.7
comp=Z,0.5nm,0.4s,baz=331,slow=0.9,SNR=6.8
ARCES PKP **PKPdf 20 05 11.1 -0.5**
comp=Z,2.4nm,0.7s,baz=38,slow=2.2,SNR=7.5
ARCES SKPbc **SKPbc 20 07 54.5 +0.2**
comp=Z,4.7nm,0.9s,baz=46,slow=5.6,SNR=5.7
FINES FINESS Array B 140.51 340 PKhKP PKPpre 20 05 17.0
comp=Z,2.6nm,0.6s,baz=34,slow=4.8,SNR=25
FINES PKP **PKiKP 20 05 25.0 -1.3**
comp=Z,1.1nm,0.4s,baz=66,slow=3.1,SNR=5.0
FINES SKPbc **SKPbc 20 08 13.6 +0.5**
comp=Z,1.7nm,0.7s,baz=349,slow=1.9,SNR=5.2
MOL Molde 143.30 354 *eP* PKPab 20 05 26.2 -0.2
DOMB Dombas 143.65 352 *eP* PKPab 20 05 27.0 -0.9
AKN Aaknes 143.73 354 *eP* PKPab 20 05 27.8 -0.4
NB2 NORSAR Subarra 144.32 350 PKP PKPbc 20 05 29.3 -0.8
comp=Z,14nm,0.8s,baz=24,slow=4.0
NB2 NORSAR Subarra 144.32 350 PKP PKPbc 20 05 29.3 -0.8
baz=24,slow=4.0
NOA NORSAR Array B 144.32 350 PKP PKPbc 20 05 29.1 -1.0
comp=Z,6.4nm,0.7s,baz=20,slow=2.8,SNR=50
NC602 NORSAR Array S 144.56 350 *eP* **PKPdf 20 05 30.0 -0.9**
HFS Hagfors 144.75 348 PKP **PKPdf 20 05 30.7 -0.5**
comp=Z,8.2nm,0.3s,baz=64,slow=3.4,SNR=147
HYA Hoyanger 144.80 354 *eP* **PKPdf 20 05 30.8 -0.4**
SUE Sulen 145.03 356 *eP* **PKPdf 20 05 31.7 +0.1**
SKAR Skarslia 145.06 352 *eP* **PKPdf 20 05 31.9 +0.2**
NACGM Naroch 145.09 332 ⇓*i*PKP **PKPbc 20 05 32.4 -0.2**
comp=Z,21nm,0.7s,baz=45
ASK Askoy 145.56 355 *eP* **PKPbc 20 05 33.3 -0.5**
BER Bergen 145.65 355 *eP* **PKPbc 20 05 33.7 -0.4**
KONO Kongsberg 145.89 351 *eP* **PKPbc 20 05 34.1 -0.7**
BLS5 Blasjo 146.50 354 *eP* **PKPdf 20 05 35.3 +1.1**
AKASG Malin Array Be 146.66 325 PKPbc **PKPbc 20 05 36.7 -0.5**
comp=Z,8.3nm,0.6s,baz=46,slow=4.5,SNR=26
KIEV Kiev 146.67 325 ⇓P **PKPbc 20 05 36.7 -0.5**
MMAI Mount Meron Ar 148.17 291 PKPbc **PKiKP 20 05 42.6 -0.5**
comp=Z,4.2nm,0.4s,baz=82,slow=6.0,SNR=39
BRTR Keskin Array B 148.56 304 PKPbc **PKPbc 20 05 42.5 -0.3**
comp=Z,1.9nm,0.6s,baz=137,slow=3.6,SNR=13
SORM Soroca 148.59 322 ⇓P **PKPbc 20 05 42.2 0.0**
MILM Milestii Mici 148.98 319 ⇑P **PKPbc 20 05 41.7 -1.6**
ANTO Ankara 149.15 304 ⇑P **PKiKP 20 05 44.6 -0.4**
TLCR 149.85 316 ⇑P **PKPbc 20 05 45.4 0.0**
VLDR Vladesti 149.97 318 ⇓P **PKiKP 20 05 47.9 +1.5**
GHRR 150.26 319 ⇓P **PKiKP 20 05 47.4 +0.4**
CFR Carcaliu 150.27 317 ⇑P **PKiKP 20 05 46.9 -0.1**
TESR Tescani 150.46 320 ⇓P **PKiKP 20 05 47.3 -0.1**
BURAR Bucovina Array 150.61 323 ⇑P **PKiKP 20 05 48.1 +0.3**
TLBR Topalu 150.64 316 ⇑P **PKiKP 20 05 47.9 +0.1**
HARR Harsova 150.64 316 ⇓P **PKiKP 20 05 48.4 +0.7**
VRI Vrincioaia 150.76 319 ⇓P **PKiKP 20 05 47.9 -0.2**
EKA Eskdalemuir Ar 150.89 3 PKPbc **PKPbc 20 05 45.8 -1.8**
comp=Z,1.4nm,0.4s,baz=329,slow=2.4,SNR=25
EKA PKPab **PKPab 20 05 56.1 -0.9**
comp=Z,0.3nm,0.5s,baz=347,slow=3.9,SNR=3.9
BISRR Bisoca 150.95 319 ⇑P **PKPbc 20 05 47.7 -0.4**
TURR Turia 151.08 320 ⇓P **PKPab 20 05 59.9 +1.6**
DRGR 152.46 324 ⇑P **PKiKP 20 05 51.6 0.0**
CLL Collm 152.95 341 *i* PKPbc **PKiKP 20 05 52.2 -0.1**
comp=Z,5.0nm,0.9s
CLL *i* PKPab **PKPab 20 06 05.9 0.0**
comp=Z,8.0nm,0.6s
CLL *e*pPKPbc **pPKPbc 20 07 51.0 +2.6**
CLL *i* x x 20 08 10.3
BRG Berggiesshubel 153.04 340 *e*PKP **PKiKP 20 05 52.9 +0.3**
BRG Amp 20 05 53.5
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 153.04 340 P **PKPab 20 06 06.8 +0.5**
BRG Amp 20 06 07.4
comp=Z,4.3nm,0.7s
BRG ⇓*e*PKPf 20 21 17.1
BRG Amp 20 21 17.8
comp=Z,2.5nm,0.8s
BRG ⇑PKP 20 21 21.5
BRG Amp 20 21 21.8
comp=Z,15nm,0.9s
BRG PKPab PKPab 20 21 26.5
BRG Amp 20 21 27.1
comp=Z,6.2nm,0.7s
VRAC Vranov 153.43 334 *e*PKP **PKPab 20 06 08.7 +0.6**
KRUC Moravsky 153.71 334 *e*PKP **PKPab 20 06 09.6 +0.4**
MDVR Moldovita 154.27 322 ⇓P **PKPab 20 06 12.4 +0.5**
CONA Conrad Observa 154.83 334 *e*PKP **PKPab 20 06 14.8 +0.6**
comp=Z,1.9nm,0.6s
GERES GERESS Array B 154.87 338 PKP **PKPdf 20 05 48.0 +0.6**
comp=Z,0.2nm,0.4s,baz=90,slow=1.0,SNR=2.1
GERES PKPab **PKPab 20 06 11.8 -2.6**
comp=Z,0.3nm,0.6s,baz=0.0,slow=2.9,SNR=4.2
MYKA Terra Mystica 156.76 335 *e*PKP **PKPab 20 06 22.1 -0.5**
comp=Z,3.8nm,0.8s
WTTA Wattenberg 156.94 339 *e*PKP **PKPab 20 06 23.7 +0.3**
comp=Z,4.9nm,1.1s
RETA Reutte 157.02 340 *e*PKP **PKPab 20 06 23.9 +0.2**
comp=Z,2.7nm,0.6s
MOTA Moosalm 157.04 339 *e*PKP **PKPab 20 06 24.1 +0.3**
comp=Z,3.8nm,0.9s
GBRS Gornja Briga 157.18 331 *i* PKPbc **PKPab 20 06 24.2 -0.1**
JAVS Javornik 157.20 333 *i* PKPbc **PKPab 20 06 23.8 -0.7**
DAVA Damuels 157.46 341 *e*PKP **PKPab 20 06 25.9 +0.2**
comp=Z,3.7nm,0.6s
ESDC Sonseca Array 166.31 11 PKPab **PKPab 20 07 03.8 -0.7**
comp=Z,1.0nm,0.9s,baz=347,slow=4.9,SNR=5.8
KEST Kesra 167.33 321 PKPab **PKPab 20 07 10.2 +1.0**
comp=Z,3.5nm,1.0s,baz=90,slow=2.0,SNR=4.8

BJI ***13*** *20:02:39.7,20.°61S×178.°07W,h610km,mB5.0/3, mb4.7/24*
NOU ***13*** *20:02:42.4,20.°65S×178.°61W,h604km,mb4.8/44,Fiji Islands Region*
NEIC ***13*** *20:02:43.4±2.7,20.°6S±0.°1×178.°8W±0.°1,h607km±7km, mb4.6/147,Error ellipse: s-maj=19.4km s-min=18.5km az=137.0*
IDC ***13*** *20:02:46.4±1.4,20.°52S×178.°93W,h646km±16km, mb4.0/26,mbtmp5.0/27,Error ellipse: s-maj=11.1km s-min=9.2km az=136.0*

ISC 13 20:02:41.8±0.3,20.°62S±0.°06×178.°68W±0.°06,h600km, n686,σ1§19/633,mb4.6/125,46C-33D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.22**	**312**		**P**	**20 04 09.8**	**+0.8**
MSVF	**Nonsavu**	**4.22**	**312**	P	**P**	**20 04 10.0**	**+1.0**
FUTU	**Fugatoga**	**6.30**	**5**	P	**P**	**20 04 23.8**	**-1.9**
FUTU	**Fugatoga**	**6.30**	**5**	P	**P**	**20 04 26.5**	**+0.8**
NIUE	**Niue**	**8.38**	**81**	P	**P**	**20 04 44.9**	**+0.2**
NIUE	**Niue**	**8.38**	**81**	P	**P**	**20 04 44.8**	**+0.1**
RAO	**Raoul Island**	**8.62**	**176**	S	**S**	**20 06 28.4**	**-1.1**
	466nm,0.5s,baz=72,slow=20,SNR=6.1						
YATNC	**Mamie plateau,**	**13.52**	**261**	P	**P**	**20 05 38.0**	**+2.1**
DZM	**Mont Dzumac**	**13.94**	**261**		**P**	**20 05 38.8**	**-1.4**
DZM	**Mont Dzumac**	**13.94**	**261**	P	**P**	**20 05 40.1**	**-0.1**
	44nm,0.5s,baz=82,slow=18,SNR=69						
DZM	**Mont Dzumac**	**13.94**	**261**	P	**P**	**20 05 40.8**	**+0.6**
DZM	**Mont Dzumac**	**13.94**	**261**	P	**P**	**20 05 42.6**	**+2.4**
ONTNC	**Ouen Toro**	**13.94**	**260**	P	**P**	**20 05 42.9**	**+2.8**
SANVU	**Saraoutou**	**14.38**	**289**	P	**P**	**20 05 45.6**	**+1.3**
SANVU	**Saraoutou**	**14.38**	**289**	S	**S**	**20 08 15.5**	**+2.0**
OUZ	**Omahuta**	**16.05**	**203**	P	**P**	**20 06 01.5**	**+2.1**
OUZ	**Omahuta**	**16.05**	**203**	P	**P**	**20 06 02.9**	**+3.5**
WCZ	**Waipu Caves**	**16.44**	**200**	P	**P**	**20 06 06.0**	**+3.0**
KUZ	**Kuaotunu**	**16.79**	**196**	P	**P**	**20 06 06.0**	**-0.2**
KUZ	**Kuaotunu**	**16.79**	**196**	P	**P**	**20 06 08.0**	**+1.9**
WIAZ	**Waiheke Island**	**16.99**	**197**	P	**P**	**20 06 10.5**	**+2.5**
MXZ	**Matakaoa Point**	**17.08**	**188**	P	**P**	**20 06 08.4**	**-0.4**
MXZ	**Matakaoa Point**	**17.08**	**188**	P	**P**	**20 06 09.1**	**+0.3**
MKAZ	**Moumakai**	**17.28**	**197**	P	**P**	**20 06 12.8**	**+2.2**
WMGZ	**Waiomatatini S**	**17.32**	**188**	P	**P**	**20 06 11.0**	**0.0**
HAZ	**Te Kaha**	**17.35**	**189**	P	**P**	**20 06 11.0**	**-0.2**
PKGZ	**Pakihiroa**	**17.41**	**189**	P	**P**	**20 06 11.6**	**-0.3**
RUGZ	**Raukumara Rang**	**17.57**	**190**	P	**P**	**20 06 12.9**	**-0.5**
PUZ	**Puketiti**	**17.59**	**188**	P	**P**	**20 06 14.7**	**+1.2**
TWGZ	**Tauwhareparae**	**17.73**	**189**	P	**P**	**20 06 14.4**	**-0.4**
TOZ	**Tahuroa Road**	**17.78**	**195**		**P**	**20 06 17.2**	**+2.1**
TOZ				IAmb	IAmb	20 06 18.1	
	comp=Z,21nm,0.8s						
URZ	**Urewera**	**17.95**	**191**	P	**P**	**20 06 14.7**	**-2.0**
	comp=Z,13nm,0.3s,baz=274,slow=3.0,SNR=23						
URZ				S	**S**	**20 09 05.5**	**-5.8**
	comp=Z,7.7nm,0.6s,baz=38,slow=23,SNR=6.6						
URZ	**Urewera**	**17.95**	**191**	P	**P**	**20 06 15.9**	**-0.8**
URZ	**Urewera**	**17.95**	**191**	P	**P**	**20 06 14.9**	**-1.8**
MWZ	**Matawai**	**17.95**	**190**	P	**P**	**20 06 15.8**	**-1.0**
CNGZ	**Carnagh Statio**	**18.00**	**188**	P	**P**	**20 06 17.7**	**+0.5**
MUGZ	**Murupara**	**18.22**	**191**	P	**P**	**20 06 18.3**	**-0.9**
RTZ	**Ruatahuna**	**18.32**	**191**	P	**P**	**20 06 18.9**	**-1.2**
RTZ				IAmb	IAmb	20 06 22.2	
	comp=Z,11nm,0.7s						
RTZ	**Ruatahuna**	**18.32**	**191**	P	**P**	**20 06 19.2**	**-1.0**
WHTZ	**Whakaora**	**18.57**	**193**	P	**P**	**20 06 25.6**	**+3.1**
MTHZ	**Maungataniwha**	**18.57**	**191**	P	**P**	**20 06 20.8**	**-1.6**
NMHZ	**Naumai**	**18.82**	**191**	P	**P**	**20 06 24.8**	**+0.1**
BKZ	**Black Stump Fm**	**18.94**	**192**	P	**P**	**20 06 24.7**	**-1.1**
BKZ	**Black Stump Fm**	**18.94**	**192**	P	**P**	**20 06 24.1**	**-1.7**
TMVZ	**Te Maari**	**19.05**	**193**	P	**P**	**20 06 27.2**	**+0.3**
ETVZ	**East Tongariro**	**19.07**	**193**	P	**P**	**20 06 26.8**	**-0.3**
OTVZ	**Oturere**	**19.11**	**194**	P	**P**	**20 06 27.5**	**0.0**
WHVZ	**Whangaehu Hut**	**19.24**	**194**	P	**P**	**20 06 28.6**	**-0.1**
WNVZ	**Wahianoa**	**19.28**	**194**	P	**P**	**20 06 28.8**	**-0.2**
KRHZ	**Kereru**	**19.43**	**192**	P	**P**	**20 06 29.8**	**-0.3**
BFZ	**Birch Farm**	**20.46**	**191**	P	**P**	**20 06 38.9**	**-0.5**
QRZ	**Quartz Range**	**21.48**	**198**	P	**P**	**20 06 48.7**	**0.0**
QRZ				IAmb	IAmb	20 07 19.5	
	comp=Z,21nm,1.1s						
QRZ	**Quartz Range**	**21.48**	**198**	P	**P**	**20 06 49.4**	**+0.8**
QRZ	**Quartz Range**	**21.48**	**198**	S	**S**	**20 10 08.0**	**+0.6**
QRZ	**Quartz Range**	**21.48**	**198**	P	**P**	**20 06 48.8**	**+0.2**
THZ	**Tophouse**	**22.25**	**197**	P	**P**	**20 06 54.2**	**-1.3**
THZ				IAmb	IAmb	20 06 59.1	
	comp=Z,29nm,1.4s						
KHZ	**Kahutara**	**22.70**	**195**	P	**P**	**20 06 58.5**	**-0.8**
LTZ	**Lake Taylor**	**23.37**	**197**	P	**P**	**20 07 04.2**	**-1.2**
LTZ				IAmb	IAmb	20 07 07.0	
	comp=Z,7.9nm,0.7s						
RPZ	**Rata Peaks**	**24.57**	**198**	P	**P**	**20 07 16.7**	**+0.7**
JCZ	**Jackson Bay**	**25.61**	**201**	P	**P**	**20 07 25.6**	**+0.4**
WHZ	**Wether Hill Ro**	**27.49**	**200**		**P**	**20 07 41.6**	**0.0**
TW1H	**Toowoomba 1 Ha**	**27.62**	**250**	P	**P**	**20 07 44.1**	**+1.0**
EIDS	**Eidsvold**	**28.20**	**255**	P	**P**	**20 07 46.8**	**-1.3**
EIDS				IAmb	IAmb	20 07 49.2	
	comp=Z,12nm,0.6s						
ARMA	**Armidale**	**28.44**	**244**	P	**P**	**20 07 48.0**	**-2.2**
ARMA				IAmb	IAmb	20 07 52.0	
	comp=Z,9.5nm,0.6s						
AULRC	**Lightning Ridg**	**31.37**	**247**	P	**P**	**20 08 16.2**	**+1.0**
AULRC	**Lightning Ridg**	**31.37**	**247**	S	**S**	**20 12 42.7**	**+1.0**
TV1H	**Townsville Har**	**32.45**	**266**	P	**P**	**20 08 25.1**	**+0.6**
CTAO	**Charters Tower**	**32.84**	**265**		**P**	**20 08 26.1**	**-1.8**
CTAO	**Charters Tower**	**32.84**	**265**	P	**P**	**20 08 28.7**	**+0.9**
CTAO	**Charters Tower**	**32.84**	**265**	P	**P**	**20 08 28.3**	**+0.5**
CMSA	**Cobar Meteorol**	**33.66**	**244**	P	**P**	**20 08 35.1**	**+0.6**
QLP	**Quilpie**	**34.41**	**253**	P	**P**	**20 08 41.7**	**+0.8**
PMG	**Port Moresby**	**34.75**	**284**		**P**	**20 08 41.0**	**-2.8**
PMG	**Port Moresby**	**34.75**	**284**	P	**P**	**20 08 43.7**	**-0.1**
	comp=Z,62nm,0.6s,baz=74,slow=6.8,SNR=21						
	comp=Z,62nm,0.6s						
PMG	**Port Moresby**	**34.75**	**284**	P	**P**	**20 08 44.6**	**+0.7**
PMG	**Port Moresby**	**34.75**	**284**	P	**P**	**20 08 44.5**	**+0.7**
PMG	**Port Moresby**	**34.75**	**284**	P	**P**	**20 08 44.0**	**+0.2**
MTSU	**Mount Surprise**	**34.95**	**268**	P	**P**	**20 08 46.5**	**+1.1**
TOO	**Toolangi**	**35.31**	**234**	P	**P**	**20 08 48.0**	**-0.2**
COEN	**Coen**	**36.96**	**274**		**P**	**20 09 01.6**	**-0.3**
COEN	**Coen**	**36.96**	**274**	P	**P**	**20 09 02.7**	**+0.7**
STKA	**Stephens Creek**	**37.16**	**244**		**P**	**20 09 04.2**	**+0.7**
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**20 09 03.9**	**+0.5**
	comp=Z,7.3nm,0.4s,baz=94,slow=10,SNR=51						
	comp=Z,7.3nm,0.4s						
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**20 09 04.2**	**+0.7**
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**20 09 04.1**	**+0.7**
INKA	**Innaminka**	**37.56**	**251**		**P**	**20 09 07.8**	**+1.1**
MANU	**Manus Island**	**37.92**	**295**		**P**	**20 09 10.4**	**+0.6**
QIS	**Mount Isa**	**38.97**	**263**	P	**P**	**20 09 17.7**	**-0.5**
AUMBR	**Murray Bridge**	**39.57**	**239**	P	**P**	**20 09 23.5**	**+0.7**
HTT	**Hallett**	**39.60**	**242**	P	**P**	**20 09 24.1**	**+0.9**
HTT	**Hallett**	**39.60**	**242**	P	**P**	**20 09 23.6**	**+0.4**
AUJCS	**Jamestown Cent**	**39.83**	**243**	P	**P**	**20 09 25.8**	**+0.8**
WHYH	**Whyalla**	**40.68**	**243**	P	**P**	**20 09 32.3**	**+0.7**
BBOO	**Buckleboo**	**41.92**	**244**		**P**	**20 09 39.4**	**-2.1**
BBOO	**Buckleboo**	**41.92**	**244**	P	**P**	**20 09 42.1**	**+0.7**
BBOO	**Buckleboo**	**41.92**	**244**	P	**P**	**20 09 41.4**	**0.0**
JAY	**Jayapura**	**43.48**	**289**	P	**P**	**20 09 54.0**	**+0.2**
	comp=Z,136nm,0.6s,baz=151,slow=4.8,SNR=55						
	comp=Z,136nm,0.6s						
JAY	**Jayapura**	**43.48**	**289**	P	**P**	**20 09 53.8**	**0.0**
ASAR	**Alice Springs**	**43.87**	**257**	P	**P**	**20 09 56.9**	**+0.1**
	comp=Z,42nm,0.7s,baz=95,slow=7.5,SNR=649						
ASAR				PcP	**PcP**	**20 11 29.6**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=105,slow=3.9,SNR=9.8						
ASAR				ScP	**ScP**	**20 14 22.4**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=86,slow=4.9,SNR=3.9						
ASAR				S	**S**	**20 15 42.8**	**-2.9**
	comp=Z,2.7nm,0.8s,baz=94,slow=16,SNR=11						
	comp=Z,42nm,0.7s						
GENI	**Genyem**	**43.92**	**289**	P	**P**	**20 09 58.1**	**+0.9**
GENI	**Genyem**	**43.92**	**289**	P	**P**	**20 09 57.7**	**+0.5**
	comp=Z,119nm,0.8s						
WRAB	**Tennant Creek**	**43.95**	**262**		**P**	**20 09 55.8**	**-1.6**
WRAB	**Tennant Creek**	**43.95**	**262**	P	**P**	**20 09 57.2**	**-0.1**
WRAB	**Tennant Creek**	**43.95**	**262**	P	**P**	**20 09 56.7**	**-0.6**
WRA	**Warramunga Arr**	**43.95**	**262**	P	**P**	**20 09 53.8**	**-3.6**
WRA	**Warramunga Arr**	**43.95**	**262**	P	**P**	**20 09 56.8**	**-0.6**
	comp=Z,14nm,0.3s,baz=98,slow=7.7,SNR=372						
WRA				PcP	**PcP**	**20 11 29.9**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=96,slow=3.2,SNR=5.7						
WRA				S	**S**	**20 15 40.9**	**-6.0**
	comp=Z,0.7nm,0.8s,baz=97,slow=14,SNR=2.6						
	comp=Z,14nm,0.3s						
SMPI	**Sarmi**	**45.49**	**288**	P	**P**	**20 10 08.8**	**-0.4**
	comp=Z,52nm,0.9s						
BAKI	**Biak**	**48.17**	**288**	P	**P**	**20 10 30.6**	**+1.3**
	comp=Z,83nm,1.0s						
MTN	**Manton Dam**	**48.53**	**271**		**P**	**20 10 30.7**	**-1.3**
FORT	**Forrest**	**48.66**	**247**		**P**	**20 10 30.4**	**-2.3**
DRS	**Darwin Rock St**	**48.86**	**271**	P	**P**	**20 10 34.0**	**-0.4**
KNRA	**Kununurra**	**50.02**	**267**		**P**	**20 10 40.4**	**-2.5**
FAKI	**Fak Fak**	**50.91**	**284**	P	**P**	**20 10 48.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.38**	**263**		**P**	**20 11 00.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.38**	**263**	P	**P**	**20 11 00.0**	**+0.2**
	comp=Z,11nm,0.5s,baz=88,slow=4.5,SNR=64						
	comp=Z,11nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.38**	**263**	P	**P**	**20 11 00.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.38**	**263**	P	**P**	**20 10 59.9**	**+0.1**
SWI	**Sorong**	**52.66**	**285**	P	**P**	**20 11 01.7**	**-0.2**
AAI	**Ambon**	**54.32**	**281**	P	**P**	**20 11 13.1**	**-0.5**
	comp=Z,42nm,0.6s						
NLAI	**Namlea**	**55.50**	**281**	P	**P**	**20 11 21.3**	**-0.5**
	comp=Z,40nm,0.8s						
SOEI	**Soe**	**55.87**	**272**	P	**P**	**20 11 25.6**	**+1.1**
SOEI	**Soe**	**55.87**	**272**	P	**P**	**20 11 25.1**	**+0.6**
SOEI	**Soe**	**55.87**	**272**	P	**P**	**20 11 25.3**	**+0.8**
	comp=Z,107nm,0.8s						
BATI	**Baumata**	**56.30**	**271**	P	**P**	**20 11 27.4**	**+0.1**
	comp=Z,32nm,0.7s,baz=106,slow=1.5,SNR=11						
	comp=Z,32nm,0.7s						
BATI	**Baumata**	**56.30**	**271**	P	**P**	**20 11 27.5**	**+0.1**
	comp=Z,1μmcomp=Z,37nm,0.7s						
TNTI	**Ternate**	**56.88**	**285**	P	**P**	**20 11 32.3**	**+1.1**
TNTI	**Ternate**	**56.88**	**285**	P	**P**	**20 11 31.2**	**-0.1**
	comp=Z,965nmcomp=Z,43nm,1.0s						
SANI	**Sanana**	**56.98**	**281**	P	**P**	**20 11 31.3**	**-0.7**
	comp=Z,36nm,0.9s						
PSA00	**Pilbara Seismi**	**57.02**	**257**		**P**	**20 11 31.9**	**-0.2**
PSA00				IAmb	IAmb	20 11 32.6	
	comp=Z,37nm,0.8s						
PSA00	**Pilbara Seismi**	**57.02**	**257**	P	**P**	**20 11 29.9**	**-2.3**
PSA00				IAmb	IAmb	20 11 32.7	
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**57.02**	**257**	P	**P**	**20 11 32.0**	**-0.2**
PSA00	**Pilbara Seismi**	**57.02**	**257**	P	**P**	**20 11 31.7**	**-0.4**
MBWA	**Marble Bar**	**57.20**	**258**	P	**P**	**20 11 33.4**	**0.0**
MBWA	**Marble Bar**	**57.20**	**258**	P	**P**	**20 11 32.9**	**-0.5**
MEEK	**Meekatharra**	**57.28**	**251**	P	**P**	**20 11 33.0**	**-0.9**
VNDA	**Vanda**	**57.73**	**185**	P	**P

FALS	**False Pass**	76.30	9	P	P	20 13 27.7	-2.0
	baz=195						
KSRS	**Korea Array**	76.56	319	P	P	20 13 31.6	+0.1
	comp=Z,3.3nm,0.7s,baz=122,slow=5.9,SNR=11						
	comp=Z,3.3nm,0.7s						
CHNA	**Chernabura Isl**	76.91	11	P	P	20 13 30.8	-2.2
	baz=198						
SDPT	**Sand Point**	77.24	11	P	P	20 13 33.4	-1.4
	baz=198						
P08K	**Saint George I**	77.31	5	P	P	20 13 33.7	-1.4
	baz=189						
S12K	**Black Hills**	77.33	10	P	P	20 13 33.3	-2.0
	baz=196						
MNAI	**Manna**	77.60	270	P	P	20 13 36.3	-1.5
SPIA	**Saint Paul Isl**	77.82	5	P	P	20 13 35.5	-2.4
	baz=188						
KSI	**Kapahiang**	78.18	271	P	P	20 13 39.7	-1.3
S14K	**Fog Glacier**	78.30	11	P	P	20 13 38.7	-1.9
	baz=198						
SAO	**San Andreas Ge**	78.55	44	P	P	20 13 41.7	-0.6
USRK	**Ussuriysk Ar.**	78.71	326	P	P	20 13 43.1	+0.1
	comp=Z,7.7nm,0.7s,baz=132,slow=1.5,SNR=23						
	comp=Z,7.7nm,0.7s						
SMAI	**San Martin Ant**	78.72	159	P	P	20 13 44.4	+1.7
SMAI				IAmb	IAmb	20 13 45.5	
	comp=Z,12nm,0.8s						
MYKOM	**Kota Tinggi**	78.92	276	P	P	20 13 45.7	+0.9
MNRC	**McLaughlin Min**	79.20	41	IAmb	IAmb	20 13 48.7	
	comp=Z,16nm,0.9s						
NJ2	**Nanjing**	79.47	310	*e*P	P	20 13 48.8	+1.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
O02D	**Mt. Diablo Mer**	79.78	40	P	P	20 13 50.6	+1.8
R16K	**Pilot Point**	79.87	11	P	P	20 13 47.3	-1.4
	baz=200						
R17L	**Mt. Peulik Vol**	80.16	12	P	P	20 13 49.3	-1.0
	baz=201						
MDJ	**Mudanjiang**	80.26	325	P	P	20 13 51.8	+0.7
OHAK	**Old Harbor**	80.42	14	P	P	20 13 50.0	-1.6
	baz=204						
R18K	**Karluk**	80.48	13	P	P	20 13 51.1	-0.8
	baz=203						
M02C	**Callahan**	80.49	39	P	P	20 13 54.1	+1.7
M02C				IAmb	IAmb	20 13 55.1	
	comp=Z,14nm,0.9s						
Q17K	**Contact Creek**	80.84	12	P	P	20 13 52.7	-1.2
	baz=202						
O14K	**Tigyukauivet M**	80.86	9	P	P	20 13 53.4	-0.5
	baz=197						
WAKR	**Walker**	80.87	43	IAmb	IAmb	20 13 57.3	
	comp=Z,16nm,1.1s						
O15K	**Ungalikthiuk R**	81.01	10	P	P	20 13 53.6	-1.0
	baz=198						
Q16K	**King Salmon**	81.08	11	P	P	20 13 54.6	-0.3
	baz=201						
KDAK	**Kodiak Island**	81.09	14	P	P	20 13 55.2	+0.2
	comp=Z,18nm,1.1s,baz=236,slow=1.0,SNR=3.0						
	comp=Z,18nm,1.1s						
KDAK	**Kodiak Island**	81.09	14	P	P	20 13 53.4	-1.6
	baz=205						
P16K	**Nushagak River**	81.17	11	P	P	20 13 54.3	-1.2
	baz=200						
MAW	**Mawson**	81.23	200	P	P	20 13 56.8	+1.0
	comp=Z,0.8nm,0.5s,baz=119,slow=6.8,SNR=6.7						
	comp=Z,0.8nm,0.5s						
L04D	**Klamath Falls**	81.32	39	IAmb	IAmb	20 13 59.2	
	comp=Z,21nm,1.0s						
M11K	**Mekoryuk**	81.35	6	P	P	20 13 55.3	-1.0
	baz=192						
Q18K	**Katmai Hardscr**	81.37	12	P	P	20 13 55.6	-1.0
	baz=202						
N14K	**Kuskokwak Cree**	81.45	9	P	P	20 13 56.3	-0.5
	baz=196						
RYN	**Ryan**	81.52	43	P	P	20 13 57.5	-0.4
NVAR	**Mina Array Bea**	81.55	44	P	P	20 13 58.3	+0.1
NVAR	**Mina Array Bea**	81.55	44	P	P	20 13 59.4	+1.2
	comp=Z,5.6nm,0.8s,baz=223,slow=8.8,SNR=34						
	comp=Z,5.6nm,0.8s						
P17K	**Kvichak River**	81.61	11	P	P	20 13 56.4	-1.2
	baz=201						
O16K	**Kokwok River B**	81.69	10	P	P	20 13 57.8	-0.3
	baz=200						
WCT	**Wildcat Mounta**	81.75	46	P	P	20 14 00.1	+1.0
N15K	**Kwethluk River**	81.92	9	IAmb	IAmb	20 14 01.1	
	comp=Z,25nm,0.9s						
N15K	**Kwethluk River**	81.92	9	P	P	20 13 59.5	+0.2
	baz=198						
WHN	**Wuhan**	82.01	307	P	P	20 14 01.3	+0.9
P18K	**Big Mountain,**	82.02	12	P	P	20 13 59.0	-0.8
	baz=202						
O17K	**Koliganek Bris**	82.03	11	P	P	20 13 59.5	-0.2
	baz=200						
TPNV	**Topopah Spring**	82.08	46	P	P	20 14 01.8	+0.9
BNX	**BinXian**	82.16	325	⇑P	P	20 14 01.1	+0.3
BNX				pmax	pmax		
	comp=Z,21nm,0.7s						
M14K	**Bethel**	82.21	8	IAmb	IAmb	20 14 02.3	
	comp=Z,24nm,1.0s						
M14K	**Bethel**	82.21	8	P	P	20 14 00.7	0.0
	baz=196						
M15K	**Kasigluk River**	82.33	9	P	P	20 14 01.3	0.0
	baz=197,SNR=5.2						
N16K	**Nishlik Lake**	82.41	10	P	P	20 14 01.6	-0.1
	baz=199,SNR=7.1						
O18K	**Koktub Hills**	82.45	12	P	P	20 14 01.3	-0.6
	baz=202						
K05A	**Summer Lake**	82.46	39	IAmb	IAmb	20 14 05.3	
	comp=Z,24nm,0.9s						
IPM	**Ipoh**	82.52	278		P	20 14 03.3	-0.1
IPM				IAmb	IAmb	20 14 04.4	
	comp=Z,14nm,0.7s						
IPM	**Ipoh**	82.52	278	P	P	20 14 04.1	+0.7
J05D	**Fort Rock, OR**	82.60	38	P	P	20 14 04.3	+1.0
L14K	**Kuka Creek**	82.69	8	P	P	20 14 02.5	-0.5
	baz=195						
N17K	**Nushagak Hills**	82.72	11	P	P	20 14 03.1	-0.1
	baz=200						
M16K	**Timber Creek**	82.90	10	IAmb	IAmb	20 14 07.1	
	comp=Z,18nm,1.0s						
M16K	**Timber Creek**	82.90	10	P	P	20 14 04.6	+0.5
	baz=199,SNR=7.2						
O19K	**Port Alsworth**	82.94	12	P	P	20 14 04.2	-0.1
	baz=203						
ILSW	**Iliamna Southw**	82.98	13	P	P	20 14 04.0	-0.7
K13K	**Kusilvak Mount**	83.03	7	P	P	20 14 04.5	-0.2
	baz=193						
L15K	**Ungalak Mounta**	83.17	8	P	P	20 14 04.1	-1.4
	baz=196						
O20K	**Slope Mountain**	83.17	13	P	P	20 14 04.2	-1.4
	baz=205						
BRLK	**Bradley Lake**	83.26	14	IAmb	IAmb	20 14 06.8	
	comp=Z,21nm,0.9s						
BRSE	**Bradley Lake S**	83.27	14	P	P	20 14 04.6	-1.5
	baz=206						
N19K	**Bonanza Creek**	83.48	12	IAmb	IAmb	20 14 07.3	
	comp=Z,11nm,0.9s						
L16K	**Owhat River**	83.48	9	P	P	20 14 05.7	-1.3
	baz=198						
M17K	**Holitna River**	83.50	10	P	P	20 14 06.4	-0.7
	baz=200						
K15K	**Wolf Creek Mou**	83.75	8	P	P	20 14 07.4	-1.0
	baz=196						
M18K	**Stony River**	83.86	11	P	P	20 14 08.4	-0.5
	baz=202						
PSI	**Prapat**	83.87	275	P	P	20 14 10.0	-0.2
SEW	**Seward**	83.89	14	P	P	20 14 08.2	-0.8
	baz=207						
J14K	**Nanvaranak Lak**	83.95	7	P	P	20 14 09.1	-0.1
	baz=194						
L17K	**Donlin**	84.06	9	P	P	20 14 09.5	-0.4
	baz=199						
O22K	**Cooper Landing**	84.17	14	P	P	20 14 09.8	-0.6
	baz=207						
SPCR	**Spurr Chakacha**	84.28	13	P	P	20 14 10.4	-0.7
	baz=205						
P23K	**Montague Islan**	84.28	15	P	P	20 14 10.6	-0.4
	baz=209						
M19K	**Big River Lodg**	84.50	11	IAmb	IAmb	20 14 12.6	
	comp=Z,9.7nm,0.8s						
M19K	**Big River Lodg**	84.50	11	P	P	20 14 11.5	-0.6
	baz=203						
K17K	**Iditarod**	84.61	9	P	P	20 14 11.7	-0.9
	baz=199						
L19K	**White Mountain**	84.68	11	IAmb	IAmb	20 14 14.2	
	comp=Z,18nm,1.1s						
RC01	**Rabbit Creek A**	84.70	14	P	P	20 14 12.2	-0.9
	baz=207						
M20K	**Styx River**	84.72	12	P	P	20 14 11.4	-1.8
	baz=204						
BBB	**Bella Bella**	84.81	29	P	P	20 14 14.1	+0.3
	comp=Z,9.1nm,0.9s,baz=243,slow=4.5,SNR=1.7						
	comp=Z,9.1nm,0.9s						
PWL	**Port Wells**	84.82	14	P	P	20 14 12.0	-1.6
PWL				IAmb	IAmb	20 14 14.2	
	comp=Z,14nm,0.8s						
PWL	**Port Wells**	84.82	14	P	P	20 14 12.8	-0.8
	baz=208						
SUA	**Susitna One**	84.82	13	P	P	20 14 12.1	-1.6
	baz=206						
J16K	**Anvik River**	84.83	8	P	P	20 14 12.6	-1.0
	baz=197						
KAIM	**Kayak Island**	84.99	17	P	P	20 14 13.8	-0.7
	baz=212						
HEH	**HeiHe**	85.08	329	*e*P	P	20 14 14.9	-0.2
HEH				pmax	pmax		
	comp=Z,11nm,0.6s						
CRAG	**Craig**	85.09	24	P	P	20 14 13.4	-1.5
	baz=222						
SKT	**Skwentna**	85.13	12	P	P	20 14 14.3	-0.7
	baz=206						
GLI	**Glacier Island**	85.13	15	P	P	20 14 14.4	-0.7
	baz=210						
HNS	**HongShan**	85.16	313	⇑P	P	20 14 16.9	+1.1
HNS				pmax	pmax		
	comp=Z,14nm,0.9s						
EYAK	**Cordova Ski Ar**	85.17	16	P	P	20 14 14.0	-1.3
	baz=211						
M22K	**Willow**	85.22	13	P	P	20 14 14.8	-0.7
	baz=207						
KNK	**Knik Glacier**	85.28	14	IAmb	IAmb	20 14 16.6	
	comp=Z,9.0nm,0.8s						
KNK	**Knik Glacier**	85.28	14	P	P	20 14 14.8	-1.0
	baz=208						
PMR	**Palmer**	85.29	14	P	P	20 14 16.0	+0.2
PMR	**Palmer**	85.29	14	P	P	20 14 15.1	-0.7
	baz=208						
LYN	**LuoYang**	85.34	309	*e*P	P	20 14 18.3	+1.6
LYN				pmax	pmax		
	comp=Z,42nm,0.5s						
E07A	**Sunnyside**	85.34	36	IAmb	IAmb	20 14 18.8	
	comp=Z,10nm,1.0s						
I17K	**Unalakleet**	85.40	8	P	P	20 14 15.8	-0.5
	baz=197						
BJI	**Beijing**	85.53	316	P	P	20 14 18.0	+0.5
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANM	**Nome**	85.54	6	P	P	20 14 16.0	-0.9
	baz=193						
J18K	**Innoko River**	85.56	10	IAmb	IAmb	20 14 18.3	
	comp=Z,15nm,1.4s						
J18K	**Innoko River**	85.56	10	P	P	20 14 16.1	-1.1
	baz=201						
U33K	**Whale Pass**	85.57	24	P	P	20 14 16.2	-1.0
	baz=222						
V35K	**Ketchikan**	85.57	25	P	P	20 14 15.9	-1.4
	baz=224						
ENH	**Enshi**	85.58	304	P	P	20 14 18.8	+0.7
SML	**Sawmill**	85.66	14	P	P	20 14 16.7	-0.9
	baz=208						
DIV	**Divide**	85.67	15	IAmb	IAmb	20 14 18.6	
	comp=Z,14nm,1.0s						
E08A	**Dider Farm, El**	85.75	37	IAmb	IAmb	20 14 20.0	
	comp=Z,20nm,1.3s						
CUT	**Chulitna**	85.77	13	P	P	20 14 17.3	-0.8
	baz=207						
M23K	**Glacier View**	85.78	14	P	P	20 14 16.5	-1.7
	baz=209						
BMO	**Blue Mountains**	85.81	39	P	P	20 14 19.0	+0.2
BMRM	**Bremner River**	85.83	16	P	P	20 14 16.7	-1.7
	baz=212						
PPLA	**Purkeypile**	85.83	12	P	P	20 14 16.8	-1.8
	baz=205						
S31K	**Pelican**	85.86	21	P	P	20 14 17.1	-1.5
	baz=219						
MESA	**MESA**	85.87	17	P	P	20 14 17.5	-1.4
	baz=214						
K20K	**Telida**	85.91	11	IAmb	IAmb	20 14 19.7	
	comp=Z,17nm,1.4s						
SCM	**Sheep Creek Mo**	85.91	14	P	P	20 14 17.6	-1.3
	baz=209,SNR=5.5						
H16K	**Elim**	85.93	7	P	P	20 14 17.7	-1.1
	baz=196						
KLU	**Klutina**	85.95	15	P	P	20 14 18.2	-0.9
	baz=211						
CRQE	**Cirque**	86.04	17	P	P	20 14 17.9	-1.7
	baz=213						
WRAK	**Wrangell Islan**	86.08	24	P	P	20 14 18.3	-1.4
	baz=223						
G15K	**Niukluk**	86.09	6	P	P	20 14 18.4	-1.2
	baz=194						
D08A	**Wollman Farm,**	86.16	36	IAmb	IAmb	20 14 22.6	
	comp=Z,11nm,1.0s						
PNL	**Peninsula**	86.20	19	P	P	20 14 19.2	-1.1
	baz=216						
PINM	**Pinnacle**	86.29	18	P	P	20 14 19.4	-1.3
	baz=216						
TNA	**Tin City**	86.31	4	P	P	20 14 18.9	-1.6
	baz=190						
F14K	**Arctic Creek**	86.34	5	P	P	20 14 19.2	-1.5
	baz=192						
SEY	**Seymchan**	86.35	347	P	P	20 14 20.7	-0.1
	comp=Z,10nm,0.7s,baz=148,slow=5.8,SNR=27						
	comp=Z,10nm,0.7s						
N25K	**Chitina, Valde**	86.37	16	IAmb	IAmb	20 14 21.8	
	comp=Z,10nm,0.7s						
N25K	**Chitina, Valde**	86.37	16	P	P	20 14 19.6	-1.5
	baz=212						
M24K	**Tolsona, Glenn**	86.42	15	P	P	20 14 20.0	-1.3
	baz=210						
GLB	**Gilahina Butte**	86.43	16	IAmb	IAmb	20 14 21.9	
	comp=Z,5.9nm,0.6s						
WAT6	**Susitna Watana**	86.47	14	P	P	20 14 20.4	-1.2
	baz=209,SNR=8.2						
H17K	**Granite Mounta**	86.50	8	P	P	20 14 20.6	-1.0
	baz=198						
WAT1	**Susitna Watana**	86.51	13	P	P	20 14 20.4	-1.3
	baz=208						
MCARA	**McCarthy VSAT**	86.59	16	P	P	20 14 21.5	-0.5
	baz=213						
G16K	**Koyuk River**	86.65	7	P	P	20 14 21.6	-0.6
	baz=195						
KTH	**Kantishna Hill**	86.67	12	IAmb	IAmb	20 14 22.1	
	comp=Z,10nm,0.9s						
LOGN	**Logan Glacier**	86.67	17	IAmb	IAmb	20 14 23.9	
	comp=Z,25nm,1.4s						
P29M	**Windy Craggy**	86.68	19	P	P	20 14 22.0	-0.5
	baz=218						
BARN	**Barnard Glacie**	86.69	17	IAmb	IAmb	20 14 24.1	
	comp=Z,10nm,0.7s						
CTG	**Chitna Glacier**	86.70	17	P	P	20 14 22.2	-0.5
	baz=215						
B08A	**Colville Reser**	86.70	35	IAmb	IAmb	20 14 24.2	
	comp=Z,9.0nm,0.7s						
TRF	**Thorofare Moun**	86.70	12	P	P	20 14 22.0	-0.7
	baz=207,SNR=11						
CHUM	**Lake Minchumin**	86.71	11	P	P	20 14 22.2	-0.3
	baz=205						
PLID	**Pearl Lake**	86.71	39	IAmb	IAmb	20 14 25.1	
	comp=Z,21nm,1.4s						
F15K	**North Star Dit**	86.72	6	P	P	20 14 22.4	-0.2
	baz=193						
LLLB	**Lillooet**	86.74	32	IAmb	IAmb	20 14 24.3	
	comp=Z,5.5nm,0.7s						
GCSA	**Galena City Sc**	86.75	9	P	P	20 14 22.7	0.0
	baz=200						
HLID	**Hailey**	86.84	41	IAmb	IAmb	20 14 26.2	
	comp=Z,8.4nm,0.9s						
O28M	**Mount Upton**	86.86	18	IAmb	IAmb	20 14 24.9	
	comp=Z,12nm,0.8s						
O28M	**Mount Upton**	86.86	18	P	P	20 14 22.5	-1.2
	baz=216						
HARP	**HAARP**	86.91	15	P	P	20 14 23.5	0.0
	baz=211						
H18K	**Honhosa River**	86.92	8	P	P	20 14 23.7	+0.2
	baz=199						
G17K	**Kiwalik Mounta**	86.95	7	P	P	20 14 23.5	-0.1
	baz=197						
O29M	**Mount Kennedy**	86.96	19	P	P	20 14 23.1	-0.9
	baz=217						
PLBC	**Pleasant Camp**	86.98	20	P	P	20 14 22.9	-0.9
	baz=219						
DHY	**Denali Highway**	86.99	14	P	P	20 14 23.0	-1.1
	baz=209						
BPAW	**Bear Paw Mtn.**	87.15	12	P	P	20 14 24.3	-0.4
	baz=206						
I20K	**Naaghedeneel**	87.17	10	IAmb	IAmb	20 14 25.9	
	comp=Z,15nm,1.0s						
I20K	**Naaghedeneel**	87.17	10	P	P	20 14 24.7	+0.1
	baz=203						
MCK	**McKinley**	87.23	13	IAmb	IAmb	20 14 26.0	
	comp=Z,11nm,0.9s						
MCK	**McKinley**	87.23	13	P	P	20 14 24.5	-0.5
	baz=208,SNR=9.8						
VHRN	**Van Horn**	87.25	56	IAmb	IAmb	20 14 28.7	
	comp=Z,8.7nm,1.1s						
T35M	**Bob Quinn**	87.29	24	P	P	20 14 24.7	-0.7
	baz=225						
P30M	**Million Dollar**	87.31	19	P	P	20 14 25.0	-0.5
	baz=219						
SKAG	**Skagway**	87.32	21	P	P	20 14 24.6	-0.8
	baz=220						
PAX	**Paxson**	87.33	15	P	P	20 14 25.1	-0.5
	baz=211						
YUK6	**Outpost Mounta**	87.53	18	P	P	20 14 25.8	-0.9
	baz=217						
H19K	**Roundabout Mou**	87.54	9	IAmb	IAmb	20 14 27.1	
	comp=Z,6.3nm,0.8s						
H19K	**Roundabout Mou**	87.54	9	P	P	20 14 26.2	-0.1
	baz=201						
G18K	**Tagagawik**	87.58	8	P	P	20 14 25.8	-0.8
	baz=199						
TROLL	**Troll, Antarti**	87.60	180	⇓P	P	20 14 27.0	0.0
	comp=Z,39nm,0.3s						
S34M	**Telegraph Cree**	87.63	23	IAmb	IAmb	20 14 29.4	
	comp=Z,14nm,1.0s						
S34M	**Telegraph Cree**	87.63	23	P	P	20 14 26.1	-0.8
	baz=224						
TXAR	**Lajitas Array**	87.66	58		P	20 14 29.5	+1.6
TXAR	**Lajitas Array**	87.66	58	P	P	20 14 29.6	+1.7
	comp=Z,4.8nm,0.8s,baz=220,slow=5.6,SNR=42						
	comp=Z,4.8nm,0.8s						
HYT	**Haines Junctio**	87.70	19	P	P	20 14 26.5	-0.9
	baz=218						
XAN	**Xi'an**	87.70	308	P	P	20 14 29.0	+1.0
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
H20K	**Anotleneega Mo**	87.75	10	P	P	20 14 27.8	+0.4
	baz=202						
PV18	**Skein Mesa, Pa**	87.75	48	IAmb	IAmb	20 14 30.1	
	comp=Z,6.6nm,0.9s						
YUK4	**Talbot Arm**	87.77	18	P	P	20 14 27.5	-0.3
	baz=217						
PV23	**Carpenter Ridg**	87.78	47	IAmb	IAmb	20 14 30.3	
	comp=Z,6.8nm,0.8s						
F17K	**Baldwin Pennin**	87.79	7	P	P	20 14 27.1	-0.4
	baz=196						
PV12	**Saucer Basin,**	87.86	48	IAmb	IAmb	20 14 32.7	
	comp=Z,4.9nm,0.7s						
SNAA	**Sanae**	87.90	179	P	P	20 14 27.9	-0.4
	comp=Z,0.8nm,0.9s,baz=203,slow=14,SNR=5.9						
I21K	**Tanana**	87.95	11	IAmb	IAmb	20 14 28.9	
	comp=Z,13nm,0.9s						
I21K	**Tanana**	87.95	11	P	P	20 14 27.9	-0.4
	baz=205						
P32M	**Atlin**	87.95	21	P	P	20 14 27.7	-0.8
	baz=222						
NEA2	**Nenana**	87.97	12	IAmb	IAmb	20 14 28.5	
	comp=Z,5.4nm,0.7s						
NEA2	**Nenana**	87.97	12	P	P	20 14 27.3	-1.2
	baz=208,SNR=6.9						
K24K	**Donnelly Dome**	87.98	14	P	P	20 14 28.1	-0.4
	baz=211,SNR=7.2						
Q32M	**Nakina River**	87.98	22	P	P	20 14 27.7	-1.2
	baz=223						
MLY	**Manley**	88.04	11	IAmb	IAmb	20 14 28.6	
	comp=Z,5.7nm,0.7s						
MLY	**Manley**	88.04	11	P	P	20 14 28.1	-0.7
	baz=206						
VNA3	**Neumayer Olymp**	88.06	176	⇓P	P	20 14 28.9	0.0
	comp=Z,3.6nm,0.7s						
WRH	**Wood River Hil**	88.06	13		P	20 14 28.1	-0.7
O30N	**Mendenhall**	88.09	19	P	P	20 14 28.5	-0.6
	baz=219,SNR=5.7						
F18K	**Selawik**	88.13	7	P	P	20 14 29.5	+0.5
	baz=198						
RIDG	**Independent Ri**	88.14	14	P	P	20 14 28.6	-0.6
	baz=212						
H21K	**Melozitna Rive**	88.24	10	IAmb	IAmb	20 14 30.6	
	comp=Z,8.3nm,0.9s						
DOT	**Dot Lake**	88.24	15	IAmb	IAmb	20 14 30.6	
	comp=Z,6.7nm,0.8s						
L27K	**Beaver Creek,**	88.30	16	P	P	20 14 29.5	-0.5
	baz=214						
N30M	**Aishikik Lake**	88.32	19	P	P	20 14 29.2	-1.0
	baz=218						
E17K	**Hotham Inlet**	88.34	7	P	P	20 14 30.6	+0.5
	baz=196						
WHY	**Whitehorse**	88.38	20	P	P	20 14 30.0	-0.5
	baz=220						
IMAR	**Indian Mountai**	88.39	10	P	P	20 14 30.2	-0.1
I23K	**Minto, Yukon-K**	88.41	12	IAmb	IAmb	20 14 30.6	
	comp=Z,3.8nm,0.6s						
I23K	**Minto, Yukon-K**	88.41	12	P	P	20 14 30.4	0.0
	baz=207						
DLBC	**Dease Lake**	88.41	23	P	P	20 14 31.1	+0.4
	comp=Z,24nm,0.7s,baz=202,slow=7.1,SNR=6.2						
	comp=Z,24nm,0.7s						
DLBC	**Dease Lake**	88.41	23	P	P	20 14 29.9	-0.8
	baz=225						
COLA	**College**	88.47	13	P	P	20 14 29.4	-1.2
COLA	**College**	88.47	13	P	P	20 14 30.0	-0.7
COLA	**College**	88.47	13	P	P	20 14 30.4	-0.3
	baz=209						
VNA2	**Neumayer--Watz**	88.49	177	⇑P	P	20 14 30.0	-0.9
	comp=Z,1.8nm,0.7s,baz=193,slow=4.3						
SCRK	**Sand Creek**	88.54	15	IAmb	IAmb	20 14 32.2	
	comp=Z,5.3nm,1.0s						
SCRK	**Sand Creek**	88.54	15	P	P	20 14 30.8	-0.5
	baz=212,SNR=5.8						
ILAR	**Eielson Array**	88.58	13		P	20 14 29.6	-1.6
ILAR	**Eielson Array**	88.58	13	P	P	20 14 30.4	-0.8
	comp=Z,5.1nm,0.8s,baz=220,slow=5.6,SNR=38						
	comp=Z,5.1nm,0.8s						
HILR	**Hailar Array B**	88.59	325	P	P	20 14 31.5	-0.2
	comp=Z,4.0nm,0.5s,baz=135,slow=6.4,SNR=7.8						
	comp=Z,4.0nm,0.5s						
F19K	**Shaleruckik Mo**	88.59	8	P	P	20 14 31.0	-0.2
	baz=200						
M29M	**Somme Creek**	88.70	17	P	P	20 14 31.4	-0.7
	baz=217,SNR=9.7						
P33M	**Teslin, Yukon**	88.72	21	P	P	20 14 31.8	-0.3
	baz=222						
VNA1	**Neumayer--Stat**	88.72	177	⇑P	P	20 14 32.7	+0.7
	comp=Z,3.9nm,0.8s						
N31M	**Braeburn, Yuko**	88.74	19	P	P	20 14 31.9	-0.2
	baz=220,SNR=5.1						
R33M	**Jennings River**	88.76	22	P	P	20 14 31.5	-0.8
	baz=224						
POKR	**Poker Plat Res**	88.77	13	P	P	20 14 31.8	-0.3
	baz=209						
J25K	**Salcha River,**	88.77	14	IAmb	IAmb	20 14 32.8	
	comp=Z,5.8nm,0.6s						
E18K	**Tukpahlearik C**	88.81	7	P	P	20 14 31.2	-1.0
	baz=197						
D17K	**Noatak River**	88.81	6	P	P	20 14 32.5	+0.3
	baz=195						
KMI	**Kunming**	88.84	297	P	P	20 14 34.0	+0.3
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
G21K	**Allakaket**	88.92	10

C16K	Lisburne Hills baz=193	89.18	5	P		P	20 14 33.5 -0.4
E19K	Redstone River baz=200	89.25	8	P		P	20 14 34.6 +0.3
M30M	Minto, Yukon baz=219,SNR=12	89.28	18	P		P	20 14 34.3 -0.3
L29M	L29M baz=218,SNR=11	89.33	17	P		P	20 14 34.7 -0.1
N32M	Quiet Lake baz=222	89.33	20	P		P	20 14 34.5 -0.4
PDAR	Pinedale Array	89.49	43	P		P	20 14 35.8 -0.5
PDAR	Pinedale Array comp=Z,3.6nm,0.6s,baz=212,slow=3.4,SNR=26 comp=Z,3.6nm,0.6s	89.49	43	P		P	20 14 37.0 +0.7
PRP	Porcupine Dome baz=211	89.51	13	P		P	20 14 35.4 -0.3
CMAR	Chiang Mai Arr	89.56	290			P	20 14 38.0 +1.2
CMAR	Chiang Mai Arr comp=Z,5.7nm,0.9s,baz=123,slow=2.9,SNR=58 comp=Z,5.7nm,0.9s	89.56	290	P		P	20 14 37.5 +0.6
C17K	DeLong Mountai baz=195	89.56	6	P		P	20 14 36.3 +0.5
F21K	Alatna River baz=204	89.57	10	P		P	20 14 35.9 +0.1
BOZ	Bozeman (W) comp=Z,5.8nm,1.0s	89.59	40	IAmb		IAmb	20 14 38.8
G22K	Bettles baz=205	89.62	10	P		P	20 14 36.0 +0.1
G23K	Bananza Creek baz=207	89.68	11	P		P	20 14 36.2 -0.1
CHTO	Chiang Mai	89.69	290			P	20 14 38.6 +1.2
CHTO	comp=Z,8.7nm,0.7s			IAmb		IAmb	20 14 39.6
CHTO	Chiang Mai	89.69	290	P		P	20 14 38.4 +0.9
M31M	Drury Creek, Y baz=221	89.71	19	P		P	20 14 35.7 -0.9
DAWY	Dawson baz=216,SNR=5.5	89.75	16	P		P	20 14 36.4 -0.4
I26K	Coal Creek Min baz=213	89.86	14	P		P	20 14 36.7 -0.4
EGAK	Eagle baz=215	89.89	15	P		P	20 14 37.5 +0.2
K29M	Barlow Dome baz=218,SNR=6.1	90.08	17	P		P	20 14 37.8 -0.5
H25L	Birch Creek baz=211	90.10	13	P		P	20 14 37.9 -0.3
COLD	Coldfoot baz=207	90.12	11	P		P	20 14 37.9 -0.4
DRIO	Del Rio comp=Z,8.6nm,0.8s	90.12	59	IAmb		IAmb	20 14 41.1
D19K	Kuna River baz=199	90.12	7	P		P	20 14 38.0 -0.4
E20K	Nigu River baz=201	90.14	8	P		P	20 14 38.0 -0.5
PZH	PanZhiHua	90.21	298	P		P	20 14 39.8 -0.1
J29N	Klondike Camp baz=218	90.37	16	P		P	20 14 38.8 -0.9
G25K	Bearman Lake baz=210	90.47	12	P		P	20 14 39.2 -0.7
D20K	Etivluk River baz=201	90.52	8	P		P	20 14 39.5 -0.6
TOAD	Toad River Com baz=229	90.52	25	P		P	20 14 40.1 -0.4
C19K	Lookout Ridge baz=198	90.53	7	P		P	20 14 40.1 -0.2
B18K	Kokolik River baz=196	90.55	6	P		P	20 14 40.1 -0.1
E21K	Killik River baz=203	90.62	9	P		P	20 14 41.0 +0.3
E22K	Anaktuvuk Pass baz=205	90.67	10	P		P	20 14 41.4 +0.5
I28M	Miner Creek baz=216	90.74	15	P		P	20 14 41.1 -0.3
F24K	Squaw Lake baz=209	90.79	11	P		P	20 14 41.1 -0.3
E23K	Chandalar baz=207	90.96	11	P		P	20 14 41.8 -0.5
J30M	Hart River baz=219	90.97	17	P		P	20 14 41.6 -0.9
MMPY	Sheldon Lake, baz=224	91.00	20	P		P	20 14 41.3 -1.3
H27K	Steamboat Moun comp=Z,5.3nm,0.9s	91.00	14	IAmb		IAmb	20 14 44.3
H27K	Steamboat Moun baz=214	91.00	14	P		P	20 14 41.9 -0.6
I29M	Ogilvie Camp, baz=217	91.07	16	P		P	20 14 42.7 -0.1
G26K	Porcupine Rive comp=Z,5.5nm,0.8s	91.11	13	IAmb		IAmb	20 14 45.1
G26K	Porcupine Rive baz=212	91.11	13	P		P	20 14 42.8 0.0
C21K	Knifeblade Rid baz=202	91.17	8	P		P	20 14 43.2 +0.1
E24K	Your Creek baz=208	91.17	11	P		P	20 14 42.8 -0.5
D22K	Ayikyak River baz=204	91.22	9	P		P	20 14 42.5 -0.9
TGTN	Hyland Airport baz=226	91.22	22	P		P	20 14 42.6 -1.0
HNDO	Hondo comp=Z,7.0nm,0.8s	91.23	59	IAmb		IAmb	20 14 46.6
F25K	Christian Rive baz=211	91.28	12	P		P	20 14 42.8 -0.9
G27K	Doyon Strip baz=214	91.45	14	P		P	20 14 43.5 -1.0
I30M	Mount Dempster baz=219	91.47	16	P		P	20 14 43.6 -1.2
TOLK	Toolik Lake Re baz=207	91.49	10	P		P	20 14 44.0 -0.7
D23K	Nanushuk River baz=206	91.60	10	P		P	20 14 44.3 -0.9
B21K	Ikpikpuk River baz=203	91.63	8	P		P	20 14 44.8 -0.4
F26K	Sheenjek River baz=212	91.67	13	P		P	20 14 45.7 +0.2
B20K	Meade River baz=200	91.67	7	P		P	20 14 44.3 -1.0
H29M	Whitestone comp=Z,5.3nm,0.8s	91.74	15	IAmb		IAmb	20 14 46.9
H29M	Whitestone baz=217	91.74	15	P		P	20 14 45.6 -0.3
E25K	Arctic Village baz=211	91.75	12	P		P	20 14 45.0 -0.9
D24K	Happy Valley baz=208	92.07	10	P		P	20 14 46.5 -0.8
EPYK	Eagle Plains baz=219	92.28	16	P		P	20 14 47.4 -0.9
G29M	Pine Creek baz=218	92.38	15	P		P	20 14 48.2 -0.6
C23K	Itkillik River baz=206	92.40	9	P		P	20 14 47.9 -0.9
B22K	Teshekpuk Lake baz=204	92.45	8	P		P	20 14 48.0 -1.0
H31M	Peel River baz=221	92.46	17	P		P	20 14 48.6 -0.6
F28M	Old Crow baz=216	92.51	14	P		P	20 14 48.9 -0.5
C24K	Franklin Bluff baz=208	92.60	10	P		P	20 14 49.1 -0.5
E27K	Coleen River baz=214	92.61	13	P		P	20 14 49.4 -0.4
D25K	Kavik River baz=210	92.64	11	P		P	20 14 49.1 -0.9
A22K	Sinclair Lake baz=202	92.87	8	P		P	20 14 51.0 +0.2
G30M	tAoh Zraii Nji baz=219	92.88	15	P		P	20 14 50.6 -0.5
A21K	Barrow baz=201	92.97	7	P		P	20 14 51.1 -0.2
G31M	Satah River baz=221	93.33	16	P		P	20 14 52.4 -0.6
C27K	Jago River baz=213	93.39	12	P		P	20 14 52.9 -0.4
E28M	Babbage River baz=216	93.39	13	P		P	20 14 53.4 0.0
C26K	Camden Bay baz=212	93.42	11	P		P	20 14 52.6 -0.8
F30M	Barrier River baz=220	93.47	15	P		P	20 14 53.5 -0.3
E29M	Blow River baz=218	93.58	14	P		P	20 14 53.7 -0.5
D27M	Malcolm River baz=215	93.61	13	P		P	20 14 53.9 -0.5
WRGLY	Wrigley baz=230	94.03	22	P		P	20 14 55.2 -1.0
INK	Inuvik baz=222	94.56	15	P		P	20 14 57.7 -0.9
GTA	Gaotai	96.56	310	*e*P		P	20 15 11.4 +2.9
GTA	comp=Z,2.0nm,0.9s				pmax	pmax	
C36M	Paulatuk baz=230	97.75	17	P		Pdif	20 15 12.3 -0.6
WMQ	Urumqi	106.53	311	Pdif		Pdif	20 15 52.9 +0.2
ZALV	Zalesovo Beam comp=Z,2.2nm,0.6s,baz=154,slow=1.4,SNR=14	110.19	321	PKiKP		PKiKP	20 20 04.8 -1.2
MKAR	Makanchi Array comp=Z,1.4nm,0.5s,baz=68,slow=1.4,SNR=13	110.82	313	PKiKP		PKiKP	20 20 06.5 -1.1
KURBB	Kurchatov Arra comp=Z,2.5nm,0.7s,baz=94,slow=1.8,SNR=23	113.70	317	PKiKP		PKiKP	20 20 11.5 -1.3
GAR	Garm	118.76	304			PKPdf	20 20 22.9 -0.3
KKAR	Karatay Array	118.83	309			PKPdf	20 20 22.0 -1.0
SPITS	Spitsbergen Ar comp=Z,3.5nm,0.6s,baz=74,slow=4.4,SNR=6.6	121.95	356	PKP		PKPdf	20 20 27.0 -1.0
HAMF	Hammerfest	128.24	351	*e*PKPdf		PKPdf	20 20 40.0 -0.1
ARA0	ARCESS Array S	128.93	349	*e*PKPdf		PKPdf	20 20 41.5 -0.1
ARCES	ARCESS Array B comp=Z,4.0nm,0.6s,baz=24,slow=1.1,SNR=36	128.93	349	PKP		PKPdf	20 20 41.0 -0.5
KTK1	Kautokeino	129.77	350	*e*PKPdf		PKPdf	20 20 43.2 0.0
TRO	Tromso	129.84	352	*e*PKPdf		PKPdf	20 20 43.2 0.0
LOF	Lofoten	131.88	354	*e*PKPdf		PKPdf	20 20 47.3 +0.2
STEI	Steigen	131.90	353	*e*PKPdf		PKPdf	20 20 47.0 -0.1
FAUS	Fauske	132.41	353	*e*PKPdf		PKPdf	20 20 48.2 +0.1
VAGH	Vaagaholmen	133.27	354	*e*PKPdf		PKPdf	20 20 49.7 0.0
STOK	Stokkvaagen	133.68	354	*e*PKPdf		PKPdf	20 20 50.6 +0.1
LEIR	Leirfjorden	133.88	353	*e*PKPdf		PKPdf	20 20 51.0 +0.1
FINES	FINESS Array B	135.71	343	PKhKP		PKPpre	20 20 42.7
FINES	comp=Z,0.7nm,0.5s,baz=37,slow=4.8,SNR=5.9			PKP		PKPdf	20 20 53.6 -0.9
KBZ	comp=Z,2.7nm,0.5s,baz=74,slow=1.8,SNR=4.1 Khabaz	138.52	313	PKP		PKPdf	20 21 00.6 +0.4
NB2	comp=Z,1.0nm,0.8s,baz=161,slow=1.8,SNR=3.6 NORSAR Subarra	139.03	353	PKP		PKPdf	20 20 51.6 -9.0
NB2	comp=Z,0.4nm,0.4s,baz=16,slow=3.2			pPKP		SKPbc	20 23 41.2 +1.2
NB2	comp=Z,0.8nm,0.0s,baz=312 NORSAR Subarra	139.03	353	PKPab		PKPdf	20 20 51.6 -9.0
NOA	baz=16,slow=3.2 NORSAR Array B	139.03	353	PKhKP		PKPpre	20 20 50.8
NOA	comp=Z,0.8nm,0.5s,baz=16,slow=4.7,SNR=9.8			PKP		PKPdf	20 21 00.8 +0.1
NOA	comp=Z,0.4nm,0.5s,baz=21,slow=3.6,SNR=6.2			SKPbc		SKPbc	20 23 34.6 -5.4
HFS	comp=Z,2.0nm,0.9s,baz=14,slow=4.6,SNR=6.0 Hagfors	139.56	350	PKhKP		PKPpre	20 20 53.3
STRU	comp=Z,3.5nm,0.4s,baz=72,slow=4.8,SNR=40 Stroemstad	140.98	352	*i* P		PKPdf	20 20 58.4 -5.7
TJOU	Tjoern	141.89	351	*i* P		PKPdf	20 21 01.4 -4.4
HOMB	Homborsund	142.04	354	*i* P		PKPdf	20 21 02.8 -3.3
BORU	Boraas	142.09	350	*i* P		PKPdf	20 21 01.5 -4.6
ONAU	Onsala	142.46	351	*i* P		PKPdf	20 21 03.1 -3.6
FABU	Falkenberg	142.71	357	*i* P		PKPdf	20 21 03.9 -3.3
LODK	Lodwar	142.71	247			PKPdf	20 21 07.2 -1.5
SUW	Suwalki	142.73	339	*e*PKP		PKPdf	20 21 05.1 -2.3
AKASG	Malin Array Be	142.81	331			PKPdf	20 21 04.5 -3.2
AKASG	Malin Array Be comp=Z,12nm,0.4s,baz=44,slow=4.3,SNR=94	142.81	331	PKhKP		PKPpre	20 21 03.9
AKASG	comp=Z,0.4nm,0.4s,baz=50,slow=2.0,SNR=4.2			SKPbc		SKPbc	20 23 46.0 -4.0
KIEV	Kiev	142.82	331			PKPdf	20 21 04.5 -3.2
KIEV	Kiev	142.82	331	⇓P		PKPdf	20 21 04.4 -3.2
KPL	Plockton	142.97	6	*e*P		PKPdf	20 21 05.2 -2.5
DEL	Delary	143.01	348	*i* P		PKPdf	20 21 05.4 -2.4
BJUU	Bjuv	143.54	349	*i* P		PKPab	20 21 07.0 -0.6
DRUM	Mains of Drumt	143.65	4	*e*P		PKPab	20 21 06.9 -1.2
MUD	Monsted U'grnd	143.75	353	*i* P		PKPbc	20 21 07.8 -0.5
LUNU	Lund	143.88	348	*i* P		PKPbc	20 21 08.0 -0.8
INVG	Invergeldie, C	144.03	5	*e*P		PKPbc	20 21 08.8 -0.4
LAWE	Loch Awe, Argy	144.06	6	*e*P		PKPbc	20 21 08.5 -0.8
PGBU	Glenifferbraes	144.60	6	*e*P		PKPdf	20 21 10.8 +0.2
ESY	Stoneypath	144.63	4	*e*P		PKPdf	20 21 10.3 -0.4
IDGL	Inch Island, C	144.96	9	*e*P		PKPdf	20 21 12.4 +1.2
SORM	Soroca	144.98	328	⇓P		PKPdf	20 21 11.9 +0.4
EKA	Eskdalemuir Ar comp=Z,7.0nm,0.7s,baz=332,slow=2.2,SNR=15	145.18	4	PKPbc		PKPdf	20 21 12.2 +0.6
GKP	Gorka Klasztor	145.19	343	*e*PKP		PKPdf	20 21 12.7 +1.1
ESK	Eskdalemuir	145.19	5	*e*P		PKPdf	20 21 12.1 +0.4
BEL	Belsk	145.34	339	*e*PKP		PKPdf	20 21 13.6 +1.6
MILM	Milestii Mici	145.54	326	⇓P		PKPdf	20 21 12.8 +0.4
MILM	Milestii Mici comp=Z,40nm,0.7s	145.54	326	⇓/PKP		PKPdf	20 21 12.5 0.0
EDMD	Edmundbyers	145.76	3	*e*P		PKPdf	20 21 13.6 +1.0
ILGA	Ilgaz	145.82	314			PKPbc	20 21 15.8 +0.4
IGLA	Glengowla, Co	146.24	12	*e*P		PKPdf	20 21 15.4 +2.0
VASR	Vaslui	146.25	326	⇑P		PKPbc	20 21 16.5 +0.4
KWP	Kalwaria Pacla	146.42	335	*e*PKP		PKPdf	20 21 16.5 +2.5
BRTR	Keskin Array B	146.45	312			PKPdf	20 21 16.8 +2.4
BRTR	Keskin Array B comp=Z,5.9nm,0.6s,baz=119,slow=1.5,SNR=38	146.45	312	PKPbc		PKPdf	20 21 15.0 +0.5
KIRS	Kirsehir-Merke	146.50	311	⇓P		PKPdf	20 21 16.9 +2.5
BIR	Birlad	146.59	326	⇓P		PKPbc	20 21 17.6 +0.7
VLDR	Vladesti	146.62	325	⇑P		PKPbc	20 21 17.3 +0.2
TLCR		146.63	324	⇑P		PKPbc	20 21 17.3 +0.2
GHRR		146.84	326	⇓P		PKPbc	20 21 18.5 +0.8
BURAR	Bucovina Array	146.85	330			PKPbc	20 21 18.4 +0.6
BURAR	Bucovina Array	146.85	330	⇑P		PKPbc	20 21 18.4 +0.6
TESR	Tescani	146.93	327	⇓P		PKPbc	20 21 17.5 +2.6
ANTO	Ankara	146.97	313			PKPbc	20 21 18.8 +0.5
ANTO	Ankara	146.97	313	⇓P		PKPbc	20 21 18.5 +0.2
CFR	Carcaliu	147.01	324	⇑P		PKPbc	20 21 18.4 +0.3
COSR	Cosmesti PH	147.02	326	⇑P		PKPbc	20 21 19.1 +1.0
OJC	Ojcow	147.04	338	*e*PKP		PKPbc	20 21 18.4 +0.3
TPGR	Topolog	147.06	323	⇑P		PKPbc	20 21 18.8 +0.5
WLF1	Llynfaes	147.10	6	*e*P		PKPdf	20 21 17.6 +2.7
PANC	Panciu	147.10	326	⇑P		PKPab	20 21 22.4 +0.5
STHS	Stebnicka Huta	147.17	336	*e*PKP		PKPdf	20 21 18.0 +2.8
STHS				*e*			20 21 22.7
ONER	Baraj Valea Uz	147.18	327	⇓P		PKPbc	20 21 19.2 +0.6
MMAI	Mount Meron Ar comp=Z,12nm,0.5s,baz=72,slow=5.5,SNR=76	147.32	299	PKPbc		PKPbc	20 21 20.1 +0.7
VRI	Vrincioaia	147.32	326	⇓P		PKPdf	20 21 18.2 +2.7
PLOR	Plostina	147.37	326	⇑P		PKPbc	20 21 19.0 -0.1
HARR	Harsova	147.43	324	⇑P		PKPbc	20 21 19.7 +0.5
TLBR	Topalu	147.46	323	⇓P		PKPbc	20 21 19.7 +0.4
BISRR	Bisoca	147.54	326	⇑P		PKPbc	20 21 20.1 +0.5
TURR	Turia	147.56	327	⇑P		PKPdf	20 21 17.9 +1.9
MANR	Mangalia	147.60	322	⇑P		PKPbc	20 21 20.4 +0.7
BMR	Baia Mare	147.60	332	⇑P		PKPbc	20 21 20.1 +0.5
FOEL	Foel Wylfa	147.60	5	*e*P		PKPdf	20 21 18.7 +2.9
OZUR		147.65	327	⇑P		PKPbc	20 21 20.2 +0.4
BOSR	Bodos	147.72	328	⇓P		PKPbc	20 21 20.6 +0.6
SAHE	Sakarya_HENDEK	147.82	315	⇑P		PKPdf	20 21 19.1 +2.6
NEHR	Nehoiu	147.84	326	⇑P		PKPbc	20 21 20.3 0.0
CWF	Charnwood Fore	147.88	3	*e*P		PKPbc	20 21 19.6 -0.4
OSTC	Ostas	147.90	342	⇑*e*PKP		PKPbc	20 21 21.3 +1.0
CHVC	Chvalec	147.91	342	⇑*e*PKP		PKPbc	20 21 21.0 +0.7
OKC	Ostrava-Krasne	147.93	339	⇑*e*PKP		PKPbc	20 21 20.7 +0.4
DOPR	Dopca	147.94	328	⇑P		PKPbc	20 21 21.5 +1.0
STEB	Steborice	147.97	340	⇑*e*PKP		PKPbc	20 21 21.0 +0.6
STEB				*e*PKPAB		PKPab	20 21 26.1 +0.7
MLR	Muntele Rosu	147.98	326	⇑P		PKPbc	20 21 20.6 -0.1
HLM1	Long Mynd	148.00	5	*e*P		PKPdf	20 21 19.7 +3.2
UPC	Upice	148.00	342	⇑*e*PKP		PKPbc	20 21 21.1 +0.6
DPC	Dobruska-Polom	148.05	342	⇑*e*PKP		PKPbc	20 21 21.3 +0.6
LANS	Liptovska Anna	148.05	337	*e*PKP		PKPbc	20 21 22.0 +1.3
LANS				*e*			20 21 27.0
KRLC	Kraliky	148.16	341	⇑*e*PKP		PKPbc	20 21 21.5 +0.5
MORC	Moravsky Berou	148.18	340	⇑P		PKPbc	20 21 21.6 +0.5
MORC	Moravsky Berou	148.18	340	*e*PKP		PKPbc	20 21 21.5 +0.5
MORC				*e*			20 21 26.6
PVCC	Panska Ves	148.37	344	⇑*e*PKP		PKPbc	20 21 22.1 +0.7
MAUC	Maruska	148.44	339	⇑*e*PKP		PKPbc	20 21 22.3 +0.6
MCH1	Michaelchurch	148.51	5	*e*P		PKPbc	20 21 21.0 -0.7
HSKC	Hora Svate Kat	148.59	345	⇑*e*PKP		PKPbc	20 21 22.4 +0.4
MONM	Monmouth	148.68	5	*e*P		PKPbc	20 21 21.7 -0.4
PRU	Pruhonice	148.87	343	⇑*e*PKP		PKPbc	20 21 23.0 +0.3
VRAC	Vranov	148.89	341	⇑P		PKPbc	20 21 23.3 +0.5
VRAC	Vranov	148.89	341	*e*PKP		PKPbc	20 21 23.2 +0.5
VRAC				*e*			20 21 29.6
PSZ	Piszkesteto	148.91	335	⇑P		PKPbc	20 21 24.2 +1.3
JAVC	Velka Javorina	148.93	339	*e*PKP		PKPbc	20 21 24.4 +1.5
JAVC				*e*			20 21 30.8
RAZG	Razgrad	148.94	323	⇓P		PKPdf	20 21 20.6 +2.4
KRUC	Moravsky	149.17	341	*e*PKP		PKPbc	20 21 23.4 0.0
KRUC				*e*			20 21 30.7
DEV	Deva	149.21	330	⇓P		PKPbc	20 21 24.0 +0.4
WOL	Wolverton	149.31	3	*e*P		PKPbc	20 21 23.1 -0.5
ZVC	Zvikov	149.47	343	⇑*e*PKP		PKPbc	20 21 24.5 +0.4
ZVC				*e*PKPAB		PKPab	20 21 32.3 +0.7
MODS	Modra-Piesok	149.48	339	*e*PKP		PKPbc	20 21 25.1 +0.9
MODS				*e*			20 21 32.5
SIRR	Siria	149.48	332	⇓P		PKPbc	20 21 24.2 0.0
SRO	Srobarova	149.59	337	*e*PKP		PKPbc	20 21 25.0 +0.6
SRO				*e*			20 21 33.2
GZR	Gura Zlata	149.63	329	⇓P		PKPbc	20 21 24.9 +0.2
SURR	Surduc	149.66	331	⇓P		PKPbc	20 21 24.2 -0.4
ELND	Elena	149.70	323	⇓P		PKPbc	20 21 24.9 0.0
MEM	Membach	149.85	354	*d*PKP		PKPbc	20 21 24.9 0.0
BTNL	Ternell	149.86	354	*d*PKiKP		PKPbc	20 21 25.2 +0.1
BAND	Balkesir-Ban	149.87	317	⇓P		PKPbc	20 21 25.5 +0.1
KHC	Kasperske Hory	149.91	344	⇑*e*PKP		PKPbc	20 21 25.5 +0.3
KHC				*e*PKPAB		PKPab	20 21 34.1 +0.6
BSTI	Sart Tilman	149.91	355	*d*PKP		PKPbc	20 21 25.5 +0.4
SRE	Strehaia	149.95	328	⇑P		PKPbc	20 21 25.9 +0.5
CKRC	Cesky Krumlov	150.00	343	⇑*e*PKP		PKPbc	20 21 25.7 +0.3
BZS	Buzias	150.00	331	⇑P		PKPbc	20 21 25.3 -0.2
GERES	GERESS Array B	150.14	343	PKP		PKPdf	20 21 19.2 -0.9
GERES	comp=Z,0.5nm,0.9s,baz=336,slow=2.9,SNR=4.0			PKPbc		PKPbc	20 21 25.8 -0.1
HERR	comp=Z,5.2nm,0.7s,baz=29,slow=3.0,SNR=33 Herculane	150.18	329	⇓P		PKPbc	20 21 28.6 +0.9
BMRD	Maredsous	150.26	356	*d*PKP		PKPbc	20 21 25.9 0.0
CONA	Conrad Observa comp=Z,6.4nm,0.6s,SNR=7.4	150.33	340	*i* PKiKP		PKPbc	20 21 26.4 +0.1
RCHB	Rochefort	150.37	355	*d*PKP		PKPbc	20 21 26.2 0.0
RONA	Rosalia, Austr comp=Z,7.6nm,0.5s,SNR=9.3	150.39	339	*i* PKiKP		PKPbc	20 21 26.4 0.0
BANR	Banloc	150.40	331	⇓P		PKPbc	20 21 27.0 +0.6
DOU	Dourbes	150.48	356	*d*PKP		PKPbc	20 21 26.8 +0.3
MDVR	Moldovita	150.59	330	⇓P		PKPbc	20 21 26.7 -0.2
WLF	Walferdange	150.77	354	*d*PKP		PKPbc	20 21 27.7 +0.6
MORH	Mrgy, Hungar	150.80	335	⇑P		PKPbc	20 21 27.2 0.0
ALN	Alexandroupoli	150.85	319			PKPbc	20 21 27.0 -0.6
MOA	Molln comp=Z,4.9nm,0.6s	150.89	342	*i* PKP		PKPbc	20 21 27.1 -0.4
RDO	Rodhopi	151.01	320			PKPbc	20 21 27.4 -0.5
BIOA	Bad Ischl, Aus comp=Z,2.5nm,0.5s	151.21	343	*e*PKP		PKPbc	20 21 27.3 -0.9
EZN	Ezine	151.30	317	⇑P		PKPbc	20 21 28.4 -0.2
BOVS	Bovan	151.44	328	⇓P		PKPbc	20 21 27.7 -1.1
SOKA	Soboth comp=Z,4.9nm,0.8s	151.70	340	*i* PKP		PKPbc	20 21 28.5 -0.9
PERS	Pernice	151.71	340	*i* PKPbc		PKPbc	20 21 28.5 -0.9
LESA	Schwarzleotal comp=Z,6.0nm,0.6s	151.72	344	*i* PKP		PKPbc	20 21 28.8 -0.7
BFO	Black Forest	151.79	350			PKPbc	20 21 29.4 -0.1
KBA	Koelnbreinsper comp=Z,4.6nm,0.6s,SNR=5.6	151.85	342	*i* PKP		PKPbc	20 21 28.7 -1.2
OBKA	Obir comp=Z,3.1nm,0.9s	152.01	340	*i* PKP		PKPbc	20 21 28.9 -1.2
WATA	Walderalm comp=Z,4.4nm,0.5s	152.08	345	*i* PKP		PKPbc	20 21 29.7 -0.6
RETA	Reutte comp=Z,4.4nm,0.6s	152.13	346	*e*PKP		PKPbc	20 21 30.0 -0.4
WTTA	Wattenberg comp=Z,6.6nm,0.5s,SNR=6.8	152.13	345	*e*PKiKP		PKPbc	20 21 30.1 -0.4
MYKA	Terra Mystica comp=Z,3.3nm,0.7s	152.18	342	*i* PKP		PKPbc	20 21 29.4 -1.0
MOTA	Moosalm comp=Z,7.3nm,0.7s	152.19	346	*i* PKP		PKPbc	20 21 29.9 -0.7
SQTA	Sankt Quirin comp=Z,8.5nm,0.8s	152.28	345	*i* PKP		PKPbc	20 21 30.2 -0.5
CRES	Cresnjevec Ost	152.31	338	*i* PKPbc		PKPbc	20 21 30.2 -0.5
ABTA	Abfaltersbach comp=Z,10nm,0.6s,SNR=7.8	152.39	343	*i* PKP		PKPbc	20 21 30.0 -0.9
LJU	Ljubljana	152.43	340	*i* PKPbc		PKPbc	20 21 30.6 -0.3
FETA	Feichten comp=Z,8.2nm,0.8s	152.58	346	*i* PKiKP		PKPbc	20 21 31.2 -0.3
SABO	M.te Sabotino	152.78	341			PKPbc	20 21 31.4 -0.4
FUORN	Ofenpass-Fuorn	153.06	346			PKPbc	20 21 32.1 -0.5
MATE	Matera	156.12	330	⇑P		PKPab	20 21 59.6 -0.5
TIP	Timpagrande	157.24	328	⇑P		PKPab	20 22 05.3 +0.2
ESDC	Sonseca Array comp=Z,3.1nm,1.0s,baz=343,slow=4.2,SNR=12	160.48	12	PKPab		PKPab	20 22 18.8 -0.4
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.8s,baz=222,slow=1.9,SNR=7.7	172.56	183	PKP		PKPdf	20 21 41.8 -1.8
TORD	comp=Z,0.2nm,0.6s,baz=226,slow=6.2,SNR=2.3			PKPab		PKPab	20 23 13.6 +0.6

DJA ***13*** *20:05:40.3±0.2, 0°S±2°×12°5E±°, h10km, M4.4/23, mB5.2/2, mb4.4/12, MLv4.4/23, Mw(mB)4.7/2*
IDC ***13*** *20:05:44.4±5.7, 0°11S×124°66E, h85km±56km, mb3.7/8, mbtmp4.1/11, ML3.8/3, MS3.3/4, Error ellipse: s-maj=46.6km s-min=15.9km az=55.0*

ISC 13 20:05:41.4±0.7, 0°03S±0°07×124°80E±0°06, h50km, n30, σ1972/32, mb4.2/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.02	306	Pg	Pn	20 05 59.7	+0.3

ISC 13 20:16:31.3±1.8, 56°.3S±0°.2×26°.3W±0°.4, h33km, n8, σ1°.05/8, mb3.7/3, 3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.39	159	⇓P	Pn	20 20 19.3	+0.8
	comp=Z,0.4nm,0.4s						
VNA3	Neumayer Olymp	16.60	161	⇓P	Pn	20 20 21.2	0.0
	comp=Z,0.1nm,0.2s						
SNAA	Sanae	18.32	156	⇓P	P	20 20 40.5	-1.9
	comp=Z,2.0nm,0.2s						
SNAA	Sanae	18.32	156	P	Pn	20 20 42.9	+0.4
	comp=Z,0.1nm,0.3s,baz=306,slow=13,SNR=6.5						
	comp=Z,0.7nm,0.8s						
QSPA	South Pole Qui	33.97	180	P	P	20 23 12.1	+0.6
	comp=Z,2.0nm,0.6s,baz=199,slow=4.7,SNR=11						
	comp=Z,2.0nm,0.6s						
MAW	Mawson	39.65	143	P	P	20 24 00.1	+0.7
	comp=Z,0.2nm,0.5s,baz=230,slow=7.9,SNR=1.4						
	comp=Z,0.2nm,0.5s						
VNDA	Vanda	46.37	182	P	P	20 24 53.2	-0.4
	comp=Z,0.5nm,0.6s,baz=168,slow=7.3,SNR=5.4						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	73.00	29	P	P	20 27 57.4	-0.1
	comp=Z,0.4nm,0.8s,baz=196,slow=5.4,SNR=4.4						
	comp=Z,0.4nm,0.8s						

DJA 13 20:16:35.8±0.4, 3°N±4°×12°8E±°, h137km±7km, M3.6/7, mb4.2/4, MLv3.3/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.01	204	P	Pn	20 17 10.7	+0.4
SANI	Sanana	5.13	205	P	Pn	20 17 50.3	-0.5
	0.0nm3.6nm,2.3s						
MSAI	Masohi	5.97	173	P	Pn	20 18 02.2	+0.1
	0.1nm12nm,0.5s						

NNC 13 20:17:07.0±0.4, 42°.97N×77°.79E, h0km, mb1.9, mpv2.6, Error ellipse: s-maj=5.2km s-min=1.7km az=177.0
SOME 13 20:17:07.6, 42°.95N×77°.72E, h10km
KRNET 13 20:17:07.9±0.1, 42°.91N×77°.71E, h18km, mb2.3

ISC 13 20:17:06.1±1.1, 42°.92N±0°.03×77°.83E±0°.02, h13km±9km, n34, σ0°.91/63, 22C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.45	71	P	Pb	20 17 16.8	+0.8
	7.1nm,0.1s						
SATY				S	Sb	20 17 23.5	+0.9
	60nm,0.1s						
PRZ	Przheval'sk	0.61	136	⇑iP	Pn	20 17 20.5	-0.1
PRZ				⇑iS	Sn	20 17 29.5	-0.9
KOTS	Kotyrbulak	0.61	301	P	Pg	20 17 18.3	+0.2
	2.1nm,0.2s						
KOTS				S	Sg	20 17 26.2	+0.1
	3.1nm,0.1s						
KOTS	Kotyrbulak	0.61	301	eP	Pg	20 17 18.3	+0.2
	2.1nm,0.2s						
KOTS				eS	Sg	20 17 26.2	+0.1
	3.1nm,0.1s						
MDOK	Medeo	0.62	294	Pg	Pg	20 17 18.4	+0.1
	2.1nm,0.1s						
MDOK				Lg	Lg	20 17 26.2	
	9.7nm,0.2s						
KURS	Kuram	0.62	24	P	Pn	20 17 19.5	-1.2
	1.3nm,0.1s						
KURS				S	Sb	20 17 28.1	+0.5
	2.5nm,0.1s						
TNSS	Tian-Shan	0.66	281	P	Pg	20 17 19.3	+0.3
	0.7nm,0.1s						
TNSS				S	Sg	20 17 27.7	0.0
	1.4nm,0.1s						
TNSS	Tian-Shan	0.66	281	eP	Pg	20 17 19.3	+0.3
	0.7nm,0.1s						
TNSS				eS	Sg	20 17 27.7	0.0
	1.4nm,0.1s						
KPKS	Kokpek	0.83	49	P	Pb	20 17 22.7	+0.2
	0.3nm,0.1s						
KPKS				S	Sb	20 17 33.5	-0.2
	1.8nm,0.1s						
UZB	Uzynbulak	0.91	75	P	Pn	20 17 24.7	0.0
	3.0nm,0.1s						
UZB				S	Sn	20 17 36.8	-0.9
	16nm,0.1s						
UZB	Uzynbulak	0.91	75	eP	Pn	20 17 24.7	0.0
	3.0nm,0.1s						
UZB				eS	Sn	20 17 36.9	-0.9
	16nm,0.1s						
KDJ	Kajisay	0.92	211	⇑iP	Pb	20 17 24.2	+0.2
KDJ				⇑iS	Sg	20 17 36.3	+0.4
MTBS	Maitube	1.05	282	P	Pg	20 17 26.3	0.0
	2.4nm,0.1s						
MTBS				S	Sb	20 17 39.6	-0.2
	3.1nm,0.1s						
MTBS	Maitube	1.05	282	eP	Pg	20 17 26.3	0.0
	2.4nm,0.1s						
MTBS				eS	Sb	20 17 39.6	-0.2
	3.1nm,0.1s						
CHKK	Chushkaly	1.12	327	P	Pn	20 17 27.2	-0.3
	3.7nm,0.1s						
CHKK				S	Sb	20 17 41.3	-0.5
	15nm,0.1s						
CHKK	Chushkaly	1.12	327	eP	Pn	20 17 27.2	-0.3
	3.7nm,0.1s						
CHKK				eS	Sb	20 17 41.3	-0.5
	15nm,0.1s						
KTBS	Karatobe	1.15	314	P	Pg	20 17 28.1	-0.1
	0.4nm,0.1s						
KTBS				S	Sg	20 17 42.8	-0.5
	6.3nm,0.2s						
SHLS	Shalkode	1.22	78	P	Pg	20 17 36.2	+6.5
	0.8nm,0.1s						
SHLS				S	Sg	20 17 56.7	+11
	5.4nm,0.1s						
SHLS	Shalkode	1.22	78	eP	Pg	20 17 36.1	+6.5
	0.8nm,0.1s						
SHLS				eS	Sg	20 17 56.7	+11
	5.4nm,0.1s						
PDGK	Podgornoye	1.29	71	⇑P	Pg	20 17 31.7	+0.9
	0.3nm,0.4s						
PDGK				⇑S	Sg	20 17 47.8	+0.2
	3.7nm,0.6s						
ULHL	Ulahol	1.35	241	⇑iP	Pb	20 17 31.5	+0.1
ULHL				⇑iS	Sn	20 17 48.6	-0.2
KST	Kastek	1.37	276	P	Pb	20 17 32.0	+0.3
	1.2nm,0.1s						
KST				S	Sb	20 17 49.4	+0.1
	7.6nm,0.3s						
KST	Kastek	1.37	276	eP	Pb	20 17 32.0	+0.3
	1.2nm,0.1s						
KST				eS	Sb	20 17 49.4	+0.1
	7.6nm,0.3s						
BOOM	Boomskoye usch	1.45	254	⇓iP	Pb	20 17 33.0	-0.1
BOOM				⇓iS	Sn	20 17 51.5	+0.2
DGS	Degeres	1.54	283	P	Pb	20 17 35.0	+0.4
	1.2nm,0.1s						
DGS				S	Sg	20 17 54.8	-0.8
	3.2nm,0.2s						
TKM2	Tokmak 2	1.64	271	⇑iP	Pb	20 17 36.4	+0.1
TKM2				⇑iS	Sb	20 17 57.1	+0.2
KNOS	Konyrlen	1.74	34	P	Pg	20 17 39.4	-0.2
	2.3nm,0.1s						
KNOS				S	Sg	20 18 02.1	-0.1
	3.3nm,0.2s						
KRBS	Karabastau	1.75	297	P	Pb	20 17 38.4	+0.3
	1.5nm,0.2s						
KRBS				S	Sb	20 18 01.0	+0.9
	4.0nm,0.2s						
USP	Ospenovka	2.46	279	⇑iP	Pb	20 17 48.8	-1.4
USP				⇑iS	Sb	20 18 18.5	-2.0
JNKS	Jany-Kuch	2.46	222	⇑iP	Pb	20 17 49.2	-1.2
JNKS				⇑iS	Sb	20 18 19.3	-1.5
AAK	Ala-Archa	2.47	265	⇑Pn	Pb	20 17 49.1	-1.3
	0.6nm,0.7s						
AAK				⇑Sn	Sb	20 18 21.3	+0.5
	0.6nm,0.4s						
AAK	Ala-Archa	2.47	265	⇑iP	Pb	20 17 48.9	-1.5
AAK				⇑iS	Sb	20 18 18.7	-2.1
UCH	Uchtor	2.54	255	⇑iP	Pb	20 17 50.1	-1.7
UCH				⇑iS	Sn	20 18 20.8	+2.3
EKS2	Erkin-Say	2.99	266	⇑iP	Pn	20 17 56.1	+2.7
EKS2				⇑iS	Sn	20 18 31.4	+2.2

ISK 13 20:18:46.6, 39°.98N×26°.10E, h11km±1km, ML1.3/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	Ezine	0.23	131	Pg	Pg	20 18 51.8	+0.4
EZN				Sg	Sg	20 18 55.6	+1.0
GADA	Gvkgeada	0.27	324	Pg	Pg	20 18 52.6	+0.5
GADA				Sg	Sg	20 18 56.8	+1.1
COMU	Canakkale	0.31	66	Pg	Pg	20 18 53.4	+0.5
COMU				Sg	Sb	20 18 58.4	-0.9
GELI	Tayfur-Gelibol	0.51	34	Pg	Pg	20 18 56.8	+0.2
ERIK	Erikli-Kesan	0.76	24	Pg	Pb	20 19 01.8	-0.1
YAYO	Edremit-Balk	0.83	116	Pg	Pb	20 19 03.4	+0.4
ALN	Alexandroupoli	0.92	357	Pg	Pb	20 19 04.6	0.0

NEIC 13 20:25:55.4±1.0, 19°.26N±0°.05×67°.34W±0°.07, h25km±13km, ML2.5/13, Md2.9/14(RSPR), Error ellipse: s-maj=10.3km s-min=6.0km az=109.0
SDD 13 20:25:56.5±0.8, 19°.24N×67°.22W, h22km±78km, MD3.1, ML2.5, MW3.0
RSPR 13 20:25:58.2, 19°.21N×67°.42W, h40km±13km, MD2.9/14

ISC 13 20:25:54.8±1.5, 19°.24N±0°.06×67°.27W±0°.03, h15km±9km, n48, σ0°.35/59, 17C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.87	193		Pg	20 26 12.0	+0.3
IDE					Sg	20 26 23.3	+0.1
IDE	Isla Desecheo	0.87	193	⇓iP	Pg	20 26 12.0	+0.3
IDE	Isla Desecheo	0.87	193	eS	Sg	20 26 23.3	+0.1
AOPR	Arecibo Observ	1.02	151		Pb	20 26 14.2	+0.1
AOPR	Arecibo Observ	1.02	151	⇑eP	Pb	20 26 14.2	+0.1
AOPR	Arecibo Observ	1.02	151	⇑ePg	Pb	20 26 14.2	+0.1
AOPR				⇑eSg	Sb	20 26 27.4	+0.1
AOPR				IAML		20 26 28.9	
	comp=N,215nm,0.2s						
PRSN	Puerto Rico Se	1.02	173		Pb	20 26 14.3	+0.1
PRSN					Sg	20 26 28.1	0.0
PRSN	Puerto Rico Se	1.02	173	⇑eP	Pb	20 26 14.3	+0.1
PRSN	Puerto Rico Se	1.02	173	eS	Sg	20 26 28.1	0.0
PRSN	Puerto Rico Se	1.02	173	⇑ePg	Pb	20 26 13.7	-0.6
PRSN				⇑eSg	Sb	20 26 27.6	+0.1
PRSN				IAML		20 26 32.1	
	comp=N,299nm,0.2s						
EMPR	Esperanza - Ma	1.04	137	Pn	Pb	20 26 14.6	+0.1
LSP	Las Mesas	1.07	170		Pg	20 26 15.7	+0.1
LSP					Sn	20 26 30.0	0.0
LSP	Las Mesas	1.07	170	⇑eP	Pg	20 26 15.7	+0.1
LSP	Las Mesas	1.07	170	eS	Sn	20 26 30.0	0.0
UUPR	Utuado, UPR, P	1.11	152		Pg	20 26 16.4	0.0
UUPR	Utuado, UPR, P	1.11	152	Pn	Pb	20 26 15.0	-0.8
UUPR	Utuado, UPR, P	1.11	152	⇓eP	Pg	20 26 16.4	0.0
CRPR	Cabo Rojo, PR	1.24	173		Sn	20 26 33.9	0.0
CRPR	Cabo Rojo, PR	1.24	173		Pn	20 26 17.6	+0.1
CRPR				IAML		20 26 34.5	
	comp=E,78nm,0.5s						
CRPR	Cabo Rojo, PR	1.24	173	⇑eP	Pb	20 26 18.0	+0.1
CRPR	Cabo Rojo, PR	1.24	173	eS	Sn	20 26 33.9	0.0
CRPR	Cabo Rojo, PR	1.24	173	⇑ePg	Pn	20 26 17.6	+0.1
CRPR				⇓eSg	Sn	20 26 34.0	0.0
CRPR				IAML		20 26 36.0	
	comp=N,95nm,0.2s						
ECPR	Experimental S	1.26	137	⇑iP	Pg	20 26 19.9	+0.8
ECPR	Experimental S	1.26	137	eS	Sg	20 26 35.2	-0.3
MLPR	Magueyes Islan	1.28	170	⇓iP	Pb	20 26 18.6	0.0
MLPR	Magueyes Islan	1.28	170	eS	Sb	20 26 34.5	-0.4
MLPR	Magueyes Islan	1.28	170	⇓ePg	Pb	20 26 18.5	-0.1
MLPR				⇑eSg	Sn	20 26 35.0	0.0
MLPR				IAML		20 26 42.0	
	comp=N,21nm,0.6s						
CELP	Cerrillos	1.33	150		Pb	20 26 19.5	0.0
CELP					Sn	20 26 36.0	-0.3
CELP	Cerrillos	1.33	150	IAML		20 26 40.8	
	comp=N,77nm,0.2s						
CELP				IAML		20 26 41.3	
	comp=E,61nm,0.4s						
CELP	Cerrillos	1.33	150	⇓iP	Pb	20 26 19.5	0.0
CELP	Cerrillos	1.33	150	eS	Sn	20 26 36.0	-0.3
CELP	Cerrillos	1.33	150	⇓ePg	Pb	20 26 19.5	0.0
CELP				eSg	Sn	20 26 36.1	-0.3
CELP				IAML		20 26 40.8	
	comp=N,78nm,0.2s						
OBIP	Obispado Ponce	1.35	152		Sb	20 26 37.0	+0.1
OBIP	Obispado Ponce	1.35	152		Pn	20 26 19.1	0.0
OBIP				IAML		20 26 40.5	
	comp=N,66nm,0.3s						
OBIP	Obispado Ponce	1.35	152	⇑eP	Pb	20 26 19.8	0.0
OBIP	Obispado Ponce	1.35	152	eS	Sb	20 26 37.0	+0.1
GCPR	Guaynabo City	1.46	129		Pg	20 26 23.2	+0.3
GCPR					Sg	20 26 41.2	-0.7
GCPR	Guaynabo City	1.46	129	⇑eP	Pg	20 26 23.2	+0.3
GCPR	Guaynabo City	1.46	129	eS	Sg	20 26 41.2	-0.7
SJG	San Juan	1.55	136	Pn	Pn	20 26 22.2	+0.4
SJG				IAML		20 26 48.4	
	comp=N,49nm,0.2s						
SJG				IAML		20 26 52.1	
	comp=N,56nm,0.3s						
IGPR	InterUniversit	1.68	139		Pb	20 26 25.2	-0.2
IGPR					Sn	20 26 44.8	-0.2
IGPR	InterUniversit	1.68	139	⇑eP	Pb	20 26 25.2	-0.2
IGPR	InterUniversit	1.68	139	eS	Sn	20 26 44.8	-0.2
MIDR	Miches	1.70	262	⇓eP	Pg	20 26 27.1	-0.4
PDPR	Patillas Dam,	1.70	135	Pn	Pb	20 26 25.6	-0.2
PDPR				IAML		20 26 54.7	
	comp=N,40nm,0.1s						
PDPR	Patillas Dam,	1.70	135	⇑eP	Pb	20 26 26.0	+0.2
PDPR	Patillas Dam,	1.70	135	eS	Sn	20 26 45.9	+0.5
HATOM	Hato Mayor del	2.04	258	⇑ePg	Pb	20 26 32.6	+1.0
HATOM				⇑eSg	Sg	20 26 59.4	-1.2
HATOM				IAML		20 27 04.1	
	comp=N,24nm,0.6s						

IDC 13 20:42:22.9±1.4, 7°.00S×155°.35E, h0km, mb3.5/4, mbtmp3.7/5, ML4.0/1, MS2.8/1, Error ellipse: s-maj=37.2km s-min=28.0km az=20.0

ISC 13 20:42:29.4±1.1, 7°.1S±0°.3×155°.4E±0°.1, h50km, n9, σ2°.15/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.11	118	Pn	Pn	20 43 41.0	-2.5
	5.9nm,0.3s,baz=204,slow=16,SNR=1.3						
HNR				Sn	Sn	20 44 44.3	+3.1
	8.6nm,0.3s,baz=336,slow=19,SNR=1.4						
HNR				LR	LR	20 45 42.0	
	comp=Z,87nm,18.9s,baz=348,slow=39						
	23nm,0.4s						
WRA	Warramunga Arr	24.09	236	P	P	20 47 40.4	-0.1
	0.7nm,0.7s,baz=60,slow=9.4,SNR=6.9						
	0.7nm,0.7s						
ASAR	Alice Springs	26.41	229	P	P	20 48 01.3	-0.3
	0.2nm,0.4s,baz=58,slow=10,SNR=6.3						
	0.2nm,0.4s						
H11S3	WAKE ISLAND Hy	27.74	24	T	T	21 16 39.4	
	baz=203,slow=75,SNR=30						
H11S2	WAKE ISLAND Hy	27.74	24	T	T	21 16 31.7	
	baz=203,slow=75,SNR=39						
H11S1	WAKE ISLAND Hy	27.75	24	T	T	21 16 32.2	
	baz=203,slow=75,SNR=16						
CMAR	Chiang Mai Arr	61.14	295	P	P	20 52 40.5	+1.2
	0.2nm,0.3s,baz=136,slow=4.1,SNR=4.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	83.69	319	P	P	20 54 52.4	-0.7
	0.6nm,0.7s,baz=104,slow=5.1,SNR=3.8						
	0.6nm,0.7s						
TORD	Torodi Ar. Bea	153.40	285	PKPbc	PKiKP	21 02 24.3	+0.9
	0.4nm,0.8s,baz=78,slow=3.2,SNR=2.5						

DJA 13 20:54:11.7±0.6, 5°S±3°×10°2E±°, h24km±8km, M3.9/13, mB5.0/1, mb4.3/4, MLv3.7/13, Mw(mB)4.3/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.06	69	P	Pn	20 54 30.2	-1.0
KSI	Kapahiang	1.26	30	P	Pn	20 54 33.5	-0.4
KSI				S	Sn	20 54 50.4	+0.3
MASI	Maura Aman, Be	1.62	10	P	Pb	20 54 40.3	-0.7
LHSI	Lahat	1.81	60	P	Pn	20 54 41.6	+0.2
LWLI	Liwa	2.11	97	P	Pn	20 54 46.4	+0.8
MDSI	Maura Dua	2.23	83	P	Pn	20 54 47.0	-0.1
MDSI				S	Sn	20 55 14.0	+0.1
KRJI	Kerinci	2.69	349	P	Pn	20 54 55.5	+1.9
PPSI	Pulau Pagai	2.77	315	P	Pn	20 54 54.5	-0.1
PDSI	Padang	4.10	339	P	Pn	20 55 12.2	-0.7
CGJI	Cibinong	4.15	117	P	Pn	20 55 15.2	+1.6
CNJI	Cibinong	5.74	117	P	Pn	20 55 34.5	-0.9
	0.1nm31nm,1.2s						
PBSI	Pulau Batu	5.94	322	P	Pn	20 55 37.2	-1.0
	118nm,1.8s						

IDC 13 21:05:29.7±1.1, 5°.88N×125°.77E, h93km±8km, mb3.6/17, mbtmp3.9/17, MS2.7/2, Error ellipse: s-maj=28.1km s-min=12.4km az=76.0
DJA 13 21:05:30.5±0.5, 6°N±3°×12°6E±°, h72km±15km, M4.4/13, mB5.0/6, mb4.5/8, MLv4.5/13, Mw(mB)4.3/6
NEIC 13 21:05:31.0±1.0, 5°.95N±0°.06×125°.7E±0°.1, h92km±7km, mb4.4/29, Error ellipse: s-maj=21.5km s-min=9.1km az=82.0

ISC 13 21:05:30.7±0.5, 5°.90N±0°.05×125°.81E±0°.10, h100km, n65, σ1°.19/69, mb4.3/32, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.18	349	P	Pn	21 05 51.6	-1.6
	114nm,0.3s,baz=105,slow=3.7,SNR=7.0						
DAV				S	Sn	21 06 08.7	-1.4
	707nm,0.3s,baz=90,slow=20,SNR=36						
SGSI	Sangihe	2.22	187	P	Pn	21 06 06.3	+0.1
SGSI				S	Sn	21 06 33.3	0.0
TNTI	Ternate	5.33	163		Pn	21 06 49.0	+1.1
TNTI	Ternate	5.33	163	P	Pn	21 06 47.7	-0.2
	22nm,0.5s						
KMSI	Cibinong	5.60	199	P	Pn	21 06 53.7	+2.1
MRSI	Marisa	6.63	216	P	Pn	21 07 06.5	+0.8
	0.3nm33nm,0.5s						
TOLI2	Tolitoli	6.92	227		Pn	21 07 08.8	-0.8
LUWI	Luwuk	7.54	204	Pn	Pn	21 07 18.1	+0.1
LUWI	Luwuk	7.54	204	P	Pn	21 07 20.7	+2.7
	1μm44nm,1.1s						
SANI	Sanana	7.90	179	P	Pn	21 07 20.3	-2.6
	0.1nm879nm19nm,0.7s						
APSI	Ampana	7.95	212	P	Pn	21 07 26.3	+2.8
	25nm,0.6s						
SWI	Sorong	8.65	141	P	Pn	21 07 31.4	-1.7
	13nm,0.5s						
NLAI	Namlea	9.17	172	P	Pn	21 07 39.9	-0.3
GUMO	Guam	20.26	66	LR	LR	21 16 22.9	
	comp=Z,20nm,21.3s,baz=234,slow=32						
WB0	Warramunga Arr	26.87	162	P	P	21 11 01.7	-0.6
WRA	Warramunga Arr	27.02	162	P	P	21 11 05.3	+1.7
WRA	Warramunga Arr	27.02	162	P	P	21 11 02.9	-0.7
	0.3nm,0.5s,baz=344,slow=10.0,SNR=8.7						
	0.3nm,0.5s						
WB2	Warramunga Arr	27.02	162	P	P	21 11 04.7	+1.0
WR8	Warramunga Arr	27.08	162	P	P	21 11 04.8	+0.6
PSA00	Pilbara Seismi	27.93	192	P	P	21 11 10.3	-1.4
CMAR	Chiang Mai Arr	29.02	298	P	P	21 11 22.6	+1.1
	0.2nm,0.6s,baz=113,slow=7.6,SNR=4.1						
CMAR				LR	LR	21 24 15.0	
	comp=Z,19nm,18.2s,baz=190,slow=39						
	0.2nm,0.6s						
ASAR	Alice Springs	30.43	165	P	P	21 11 33.1	-0.8
	0.1nm,0.3s,baz=343,slow=7.2,SNR=6.5						
	0.1nm,0.3s						
KSRS	Korea Array	31.46	3	P	P	21 11 42.8	0.0
	1.4nm,0.8s,baz=188,slow=11,SNR=3.0						
	1.4nm,0.8s						
SHL	Shillong	37.88	305	P	P	21 12 38.6	+0.1
SHL				IAmb	IAmb	21 12 40.1	
	comp=Z,3.1nm,0.7s						
USRK	Ussuriysk Ar.	38.53	7	P	P	21 12 44.9	+1.5
	comp=Z,3.0nm,0.7s,baz=192,slow=7.9,SNR=6.7						
	comp=Z,3.0nm,0.7s						
STKA	Stephens Creek	40.47	159	P	P	21 13 00.8	+1.0
	comp=Z,1.2nm,0.7s,baz=312,slow=12,SNR=3.7						
	comp=Z,1.2nm,0.7s						
SONM	Songino Array	44.96	342	P	P	21 13 36.9	+1.0
	comp=Z,0.3nm,0.7s,baz=161,slow=6.1,SNR=2.0						
SONM				PcP	PcP	21 15 15.6	0.0
	comp=Z,0.9nm,0.8s,baz=141,slow=2.8,SNR=5.7						
	comp=Z,0.3nm,0.7s						
PETK	Petropavlovsk-	53.79	23	P	P	21 14 43.6	+0.7
	comp=Z,3.3nm,0.8s,baz=216,slow=7.1,SNR=2.6						
	comp=Z,3.3nm,0.8s						
MKAR	Makanchi Array	55.26	325	P	P	21 14 53.8	+0.1
MKAR				PcP	PcP	21 15 52.5	-0.8
MKAR	Makanchi Array	55.26	325	P	P	21 14 54.0	+0.3
	comp=Z,0.4nm,0.3s,baz=116,slow=7.5,SNR=16						
MKAR				PcP	PcP	21 15 52.8	-0.6
	comp=Z,0.6nm,0.6s,baz=121,slow=4.0,SNR=4.0						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	58.25	333	P	P	21 15 13.5	-1.1
	comp=Z,0.3nm,0.3s,baz=117,slow=8.4,SNR=1.8						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	59.43	327	P	P	21 15 21.8	-1.0
	comp=Z,0.5nm,0.6s,baz=126,slow=6.3,SNR=5.0						
	comp=Z,0.5nm,0.6s						
KURK	Kurchatov	59.43	327	P	P	21 15 22.6	-0.2
ABKAR	Akbulak array	69.90	320	P	P	21 16 30.7	-0.3
H19K	Roundabout Mou	79.58	24		P	21 17 27.5	+1.0
H19K				IAmb	IAmb	21 17 28.6	
	comp=Z,4.5nm,0.8s						
E19K	Redstone River	79.58	22	P	P	21 17 28.1	+1.6
E19K				IAmb	IAmb	21 17 30.1	
	comp=Z,7.5nm,1.1s						
G21K	Allakaket	80.90	24		P	21 17 34.7	+1.1
G21K				IAmb	IAmb	21 17 36.6	
	comp=Z,4.5nm,0.9s						
I21K	Tanana	81.40	25	P	P	21 17 37.5	+1.3
I21K				IAmb	IAmb	21 17 38.9	
	comp=Z,7.3nm,0.9s						
E22K	Anaktuvuk Pass	81.71	22		P	21 17 39.1	+1.2
E22K				IAmb	IAmb	21 17 41.5	
	comp=Z,4.9nm,0.8s						
MLY	Manley	81.91	25	P	P	21 17 40.0	+1.0
MLY				IAmb	IAmb	21 17 40.8	
	comp=Z,4.5nm,0.8s						
COLD	Coldfoot	82.26	23	P	P	21 17 42.2	+1.5
COLD				IAmb	IAmb	21 17 43.4	
	comp=Z,5.1nm,0.8s						
G23K	Bananza Creek	82.30	24		P	21 17 42.5	+1.5
G23K				IAmb	IAmb	21 17 44.2	
	comp=Z,3.8nm,0.8s						
NEA2	Nenana	82.61	26	P	P	21 17 43.6	+1.0
MCK	McKinley	82.64	27	P	P	21 17 43.5	+0.7
WRH	Wood River Hil	83.03	26	P	P	21 17 46.2	+1.4
WRH				IAmb	IAmb	21 17 46.6	
	comp=Z,4.2nm,0.9s						
H24K	Noodor Dome	83.14	24	P

FINES	FINESS Array B	89.50	332	P	P	21 18 15.3	-1.1
	comp=Z,1.5nm,0.8s,baz=95,slow=4.2,SNR=7.1						
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	121.36	289	PKP	PKPdf	21 24 12.6	-0.8
	comp=Z,0.1nm,0.4s,baz=63,slow=2.9,SNR=7.8						
Y60A	Bolivia	134.26	28	PKPdf	PKPdf	21 24 37.7	+0.3
TRQA	Tornquist	147.22	169	PKPbc	PKPbc	21 25 03.5	+0.6

NOU ***13*** *21:57:25.5, 30.°70S×175.°79W, h67km, mb5.5/72, Kermadec Islands Region*
IDC ***13*** *21:57:29.1±0.4, 30.°24S×177.°93W, h0km, mb4.8/18, mbtmp4.8/19, ML3.6/1, MS4.2/51, Error ellipse: s-maj=17.4km s-min=15.2km az=111.0*
MOS ***13*** *21:57:35.0±1.0, 30.°29S×177.°97W, h46km, mb5.4/20, Error ellipse: s-maj=10.0km s-min=9.1km az=89.7*
NEIC ***13*** *21:57:36.5±1.6, 30.°23S±0.°06×178.°0W±0.°1, h45km±6km, mb5.2/209, Mww5.0/15, Error ellipse: s-maj=15.1km s-min=8.3km az=98.0*
NEIC ***13*** *21:57:36.2, 30.°44S×177.°30W, h50km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr4.19; Mθθ-0.22; Mφφ-3.98; Mrθ0.16; Mrφ-1.27; Mθφ1.67; Fault plane solution: M0 4.60000×10^16 NP1: φs201.47000°, δ34.64000°, λ97.30000°. NP2: φs12.61000°, δ55.68000°, λ84.98000°. Principal axes: T 4.5242, Plg79.0000°, Azm264.0000°; N 0.1456, Plg4.0000°, Azm15.0000°; P -4.6699, Plg11.0000°, Azm106.0000°;*
NEIC ***13*** *21:57:36.2, 30.°24S×177.°99W, h50km*
GCMT ***13*** *21:57:38.0±0.2, 30.°32S±0.°01×177.°56W±0.°01, h48km, MW5.1/112, Moment Tensor Solution. s98, c134; s112, c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.33±.14; Mθθ-0.52±.10; Mφφ-4.81±.09; Mrθ0.08±.08; Mθφ-1.51±.09; Mrφ2.44±.09; Best double couple: M0 5.84300×10^16 NP1: φs204.00000°, δ33.00000°, λ101.00000°. NP2: φs11.00000°, δ57.00000°, λ83.00000°. Principal axes: T 5.8970, Plg77.0000°, Azm260.0000°; N -0.1050, Plg6.0000°, Azm15.0000°; P -5.7880, Plg12.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 21:57:35.5±0.2, 30.°50S±0.°02×177.°71W±0.°03, h50km, n744, σ1.9 78/620, mb5.3/189, MS4.3/56, 44C-36D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.24 352		P	Pn	21 57 53.1	-3.4
GLKZ				S	Sn	21 58 05.7	-6.5
RAO	Raoul Island	1.25 352			Pn	21 57 52.8	-3.8
RAO				Sn	Sn	21 58 06.2	-6.2
RAO	Raoul Island	1.25 352		P	Pn	21 57 52.8	-3.8
RAO						21 58 06.2	
RIZ	Raoul Island	1.26 351		P	Pn	21 57 53.3	-3.5
RIZ				S	Sn	21 58 07.0	-5.6
MXZ	Matakaoa Point	7.78 204		P	Pn	21 59 24.2	-2.0
MXZ				S	Sn	22 00 52.9	0.0
WMGZ	Waiomatatini S	7.98 203		P	Pn	21 59 27.0	-1.8
WMGZ				S	Sn	22 00 59.0	+1.4
GRZ	Great Barrier	8.09 223		P	Pn	21 59 39.9	+10
PKGZ	Pakihiroa	8.13 204		P	Pn	21 59 27.9	-3.1
PKGZ				S	Sn	22 01 01.8	+0.3
HAZ	Te Kaha	8.15 206		P	Pn	21 59 28.8	-2.3
HAZ				S	Sn	22 01 01.1	-0.6
PUZ	Puketiti	8.26 203		P	Pn	21 59 29.1	-3.5
PUZ				S	Sn	22 01 04.5	0.0
RUGZ	Raukumara Rang	8.37 206		P	Pn	21 59 30.9	-3.4
RUGZ				S	Sn	22 01 08.6	+1.2
TWGZ	Tauwhareparae	8.45 204		P	Pn	21 59 32.3	-3.0
WCZ	Waipu Caves	8.58 229		P	Pn	21 59 44.7	+7.6
CNGZ	Carnagh Statio	8.65 202		P	Pn	21 59 35.2	-2.8
OUZ	Omahuta	8.70 235		P	Pn	21 59 44.9	+6.3
OUZ	Omahuta	8.70 235		P	Pn	21 59 45.0	+6.4
TKGZ	Te Karaka	8.73 204		P	Pn	21 59 35.3	-3.7
MWZ	Matawai	8.75 205		P	Pn	21 59 36.1	-3.3
URZ	Urewera	8.84 208		Pn	Pn	21 59 37.3	-3.4
	2.3nm,0.3s,baz=258,slow=4.0,SNR=24						
URZ				Sn	Sn	22 01 17.9	-1.0
	34nm,0.3s,baz=275,slow=8.2,SNR=14						
URZ	Urewera	8.84 208		P	Pn	21 59 37.1	-3.5
RAGZ	Rawiri	8.93 205		P	Pn	21 59 39.2	-2.7
RIGZ	Rimuhau	9.00 203		P	Pn	21 59 40.2	-2.6
TOZ	Tahuroa Road	9.15 216			Pn	21 59 45.7	+0.9
TOZ	Tahuroa Road	9.15 216		P	Pn	21 59 48.1	+3.4
MUGZ	Murupara	9.17 208		P	Pn	21 59 41.0	-4.2
RTZ	Ruatahuna	9.20 207			Pn	21 59 41.6	-4.1
SNGZ	Shannon Statio	9.21 205		P	Pn	21 59 42.7	-3.0
KNZ	Kokohu	9.31 203		P	Pn	21 59 43.2	-3.8
MHGZ	Mahia Peninsul	9.35 201		P	Pn	21 59 43.2	-4.5
RAHZ	Arahi	9.43 206		P	Pn	21 59 45.9	-2.7
MTHZ	Maungataniwha	9.46 207		P	Pn	21 59 46.0	-3.1
TLZ	Tolley Road	9.60 214		P	Pn	21 59 50.5	-0.4
NMHZ	Naumai	9.69 206		P	Pn	21 59 49.1	-3.2
ARHZ	Aropaoanui	9.76 205		P	Pn	21 59 50.0	-3.2
BKZ	Black Stump Fm	9.87 207			Pn	21 59 49.7	-5.0
BKZ	Black Stump Fm	9.87 207		P	Pn	21 59 52.9	-1.8
BKZ	Black Stump Fm	9.87 207		P	Pn	21 59 49.5	-5.3
MCHZ	McNeill Hill	10.03 206		P	Pn	21 59 52.8	-4.1
HIZ	Hauiti	10.07 215			Pn	21 59 58.3	+0.9
HIZ	Hauiti	10.07 215		P	Pn	22 00 00.4	+2.9
HIZ	Hauiti	10.07 215		P	Pn	21 59 57.4	0.0
CKHZ	Cape Kidnapper	10.09 204		P	Pn	21 59 52.3	-5.4
KWHZ	Kaweka Forest	10.12 207		P	Pn	21 59 56.9	-1.3
NTVZ	North Tongarir	10.15 211		P	Pn	21 59 55.2	-3.5
TMVZ	Te Maari	10.16 210		P	Pn	21 59 56.0	-2.7
ETVZ	East Tongariro	10.17 210		P	Pn	21 59 57.5	-1.4
NNVZ	North Ngauruho	10.21 211		P	Pn	21 59 58.8	-0.7
OTVZ	Oturere	10.21 210		P	Pn	21 59 56.8	-2.7
SNVZ	South Ngauruho	10.24 210		P	Pn	21 59 57.8	-2.2
NGZ	Ngauruhoe	10.25 211		P	Pn	22 00 04.1	+4.0
KAHZ	Kahuranaki	10.28 204		P	Pn	21 59 55.4	-4.9
TUVZ	Tukino	10.30 210		P	Pn	21 59 59.8	-1.0
KRHZ	Kereru	10.33 206		P	Pn	21 59 55.6	-5.4
WHVZ	Whangaehu Hut	10.34 210		P	Pn	21 59 59.6	-1.8
MOVZ	Moawhango	10.38 209		P	Pn	21 59 57.9	-3.9
WNVZ	Wahianoa	10.38 210		P	Pn	22 00 00.2	-1.6
PRHZ	Porangahau	10.78 204		P	Pn	22 00 01.4	-5.7
PRWZ	Pori Road	11.27 205		P	Pn	22 00 10.2	-3.7
BFZ	Birch Farm	11.29 204			Pn	22 00 07.3	-6.7
BFZ	Birch Farm	11.29 204		P	Pn	22 00 12.5	-1.5
BFZ	Birch Farm	11.29 204		P	Pn	22 00 07.1	-7.0
MRZ	Mangatainoka R	11.51 206		P	Pn	22 00 10.0	-7.1
HOWZ	Holdsworth Sta	11.74 206		P	Pn	22 00 13.1	-7.2
OGWZ	Otaki Gorge	11.81 207		P	Pn	22 00 15.2	-5.9
TRWZ	Traveller	12.12 204		P	Pn	22 00 20.3	-5.1
PAWZ	Paruwai Farm	12.20 205		P	Pn	22 00 19.5	-7.0
MSWZ	Moikau Station	12.29 206			Pn	22 00 20.7	-7.1
MSWZ	Moikau Station	12.29 206		P	Pn	22 00 20.7	-7.0
PLWZ	Palliser	12.42 205		Pn	Pn	22 00 28.6	-1.0
PLWZ	Palliser	12.42 205		P	Pn	22 00 22.8	-6.8
BHW	Baring Head	12.43 207		P	Pn	22 00 25.5	-4.1
TUWZ	Tuamarina	12.82 209			Pn	22 00 30.9	-4.1
TUWZ	Tuamarina	12.82 209		P	Pn	22 00 29.9	-5.1
TKNZ	Takaka Hill	12.95 213		P	Pn	22 00 33.7	-3.1
QRZ	Quartz Range	13.00 215		P	Pn	22 00 37.1	-0.3
QRZ	Quartz Range	13.00 215		P	Pn	22 00 34.3	-3.1
CTZ	Chatham Island	13.24 177			Pn	22 00 37.0	-3.7
CTZ	Chatham Island	13.24 177		P	Pn	22 00 25.2	-16
CTZ	Chatham Island	13.24 177		S	Sn	22 02 53.3	-13
CTZ	Chatham Island	13.24 177		P	Pn	22 00 37.1	-3.7
MSVF	Nonsavu	13.28 342			Pn	22 00 40.2	-1.3
MSVF	Nonsavu	13.28 342		P	Pn	22 00 43.4	+1.9
MSVF	Nonsavu	13.28 342	||eP	Pn	22 00 40.2	-1.3
MRNZ	Matariki Terra	13.33 213		P	Pn	22 00 38.6	-3.3
NIUE	Niue	13.38 34		P	Pn	22 00 35.1	-7.7
NIUE	comp=Z,174nm,2.0s						
NIUE				S	Sn	22 02 50.8	-19
NIUE	Niue	13.38 34		P	Pn	22 00 35.4	-7.4
THZ	Tophouse	13.55 211			Pn	22 00 38.8	-6.2
KHZ	Kahutara	13.81 208		P	Pn	22 00 45.6	-2.9
KHZ	Kahutara	13.81 208		P	Pn	22 00 41.1	-7.4
DSZ	Denniston Nort	14.05 214		P	Pn	22 00 48.8	-3.0
GVZ	Greta Valley S	14.48 208			Pn	22 00 51.0	-6.4
GVZ	Greta Valley S	14.48 208		P	Pn	22 00 51.5	-5.9
LTZ	Lake Taylor	14.65 210		P	Pn	22 00 54.0	-5.7
AMCZ	Amberley	14.81 209		P	Pn	22 01 00.2	-1.6
INZ	Inchbonnie	14.97 212		Pn	Pn	22 01 05.7	+1.8
OXZ	Oxford	15.19 210		P	Pn	22 01 04.1	-2.5
MHCZ	Mount Hutt	15.55 210		P	Pn	22 01 08.0	-3.5
RPZ	Rata Peaks	15.93 211			Pn	22 01 16.6	+0.4
RPZ	Rata Peaks	15.93 211		Pn	Pn	22 01 13.3	-2.9
	comp=Z,3.8nm,0.3s,baz=9.9,slow=0.8,SNR=12						
RPZ				Sn	Sn	22 03 55.8	-16
	comp=Z,8.1nm,0.3s,baz=321,slow=21,SNR=11						
OUENC	Ouen Island, N	15.99 297		P	P	22 01 26.4	+6.5
ARCZ	Arundel	16.06 210		P	Pn	22 01 13.3	-4.5
YATNC	Mamie plateau,	16.15 298		P	P	22 01 26.7	+5.0
ONTNC	Ouen Toro	16.35 296		Pn	Pn	22 01 17.5	-4.2
ONTNC	Ouen Toro	16.35 296		P	P	22 01 32.4	+8.5
FOZ	Fox Glacier	16.36 214		Pn	Pn	22 01 21.4	-0.2
DZM	Mont Dzumac	16.49 297		eP	P	22 01 27.2	+1.7
	comp=Z,290nm,1.0s						
DZM				eLR	LR	22 04 49.6	
	comp=Z,5μm,25.1s						
DZM	Mont Dzumac	16.49 297		Pn	Pn	22 01 19.2	-4.3
DZM	Mont Dzumac	16.49 297		Pn	P	22 01 27.5	+2.0
	comp=Z,1.7nm,0.3s,baz=69,slow=15,SNR=17						
DZM				LR	LR	22 06 28.6	
	comp=Z,2μm,18.8s,baz=96,slow=33						
DZM	Mont Dzumac	16.49 297		P	P	22 01 29.7	+4.2
LBZ	Lake Benmore	16.84 211		Pn	P	22 01 28.8	-0.4
ODZ	Otahua Downs	17.16 209		Pn	Pn	22 01 31.2	-0.5
ODZ	Otahua Downs	17.16 209		P	Pn	22 01 27.6	-4.1
JCZ	Jackson Bay	17.26 215		P	Pn	22 01 31.2	-1.8
MLZ	Mavora Lakes	18.54 213		P	P	22 01 45.5	-2.4
RAR	Rarotonga	18.59 64		P	P	22 01 47.9	-0.6
	comp=Z,1.9nm,0.3s,baz=229,slow=8.4,SNR=4.8						
RAR				S	Sn	22 04 59.9	-16
	comp=Z,12nm,0.9s,baz=68,slow=18,SNR=1.6						
RAR				LR	LR	22 08 35.1	
	comp=Z,332nm,18.4s,baz=258,slow=36						
	comp=Z,21nm,0.8s						
KOUNC	Koumac, New Ca	19.00 297		P	Pn	22 02 00.3	+6.0
WHZ	Wether Hill Ro	19.01 212			P	22 01 50.9	-2.2
SANVU	Saraoutou	20.39 314		P	P	22 02 03.5	-4.7
SANVU	Saraoutou	20.39 314		P	Pn	22 02 13.8	+3.1
GC1S	Gold Coast 1 S	25.17 268		P	P	22 02 59.8	+3.6
AUWSH	Wavell State H	25.75 270		P	P	22 03 04.2	+2.7
AUKHS	Kincumber High	26.34 255		P	P	22 03 10.2	+3.5
ARMA	Armidale	26.39 262		P	P	22 03 10.1	+2.6
	comp=Z,82nm,1.3s						
ARMA	Armidale	26.39 262		P	P	22 03 06.3	-1.1
ARMA				IAmb	IAmb	22 03 11.6	
	comp=Z,64nm,0.9s						
ARMA	Armidale	26.39 262		P	P	22 03 10.3	+2.9
RIV	Riverview	26.51 255		P	P	22 03 10.8	+2.4
	comp=Z,225nm,1.2s						
RIV	Riverview	26.51 255		P	P	22 03 11.6	+3.3
RIV	Riverview	26.51 255		P	P	22 03 10.7	+2.4
MGCD	Mangrove Creek	26.57 256		P	P	22 03 11.8	+2.9
	comp=Z,231nm,0.8s						
MGCD	Mangrove Creek	26.57 256		P	P	22 03 12.3	+3.4
TW1H	Toowoomba 1 Ha	26.63 269		P	P	22 03 12.3	+2.7
SYDH	Sydney Hard Ro	26.86 255		P	P	22 03 14.5	+3.1
AUPHS	Peel High Scho	26.93 261		P	P	22 03 15.1	+2.9
AUUHS	Ulladulla High	27.07 251		P	P	22 03 15.9	+2.5
CNB	Canberra Magne	27.98 251		P	P	22 03 23.9	+2.3
	comp=Z,130nm,1.0s						
CNB	Canberra Magne	27.98 251		P	P	22 03 23.9	+2.3
EIDS	Eidsvold	27.99 273		P	P	22 03 22.3	+0.7
	comp=Z,87nm,0.9s						
EIDS	Eidsvold	27.99 273			P	22 03 21.6	-0.1
EIDS				IAmb	IAmb	22 03 23.9	
	comp=Z,64nm,0.8s						
EIDS	Eidsvold	27.99 273		P	P	22 03 23.1	+1.4
AUDAR	Daramalan Coll	28.16 251		P	P	22 03 25.4	+2.2
AUMHS	Melrose High S	28.20 251		P	P	22 03 25.5	+1.9
MILA	Mila	28.21 248		P	P	22 03 25.9	+2.3
	comp=Z,39nm,0.8s						
AUMTS	Mt Stromlo	28.28 251		P	P	22 03 26.1	+1.9
CAN	Canberra	28.28 251		P	P	22 03 26.4	+2.2
	comp=Z,161nm,0.9s						
CAN	Canberra	28.28 251			P	22 03 24.8	+0.6
CAN	Canberra	28.28 251		P	P	22 03 26.1	+1.9
CAN	Canberra	28.28 251		P	P	22 03 24.8	+0.6
CAN				pmax	pmax		
	comp=Z,120nm,0.8s						
GD1S	Gladstone Soft	28.41 276		P	P	22 03 27.8	+2.4
AUSMG	Snowy Mountain	28.62 249		P	P	22 03 29.5	+2.2
PPT2	Papeete2	28.64 70		eS	S	22 08 09.6	-3.3
	comp=Z,287nm,26.2s						
PPT2				eLR	LR	22 10 45.3	
	comp=Z,1μm,25.0s						
PPT2				eLR	LR	22 10 51.2	
	comp=Z,1μm,24.2s						
PPT	Papeete	28.65 70		LR	LR	22 12 06.3	
	comp=Z,330nm,21.3s,baz=202,slow=30						
YNG	Young	28.79 253		P	P	22 03 31.2	+2.5
	comp=Z,86nm,0.9s						
AUNRC	North Rockhamp	29.13 276		P	P	22 03 33.3	+1.5
HNR	Honiara	29.55 310		LR	LR	22 13 26.8	
	comp=Z,399nm,21.9s,baz=168,slow=33						
GLAD	Gladstone	29.56 240		P	P	22 03 37.0	+1.6
RMQ	Roma	29.68 269		P	P	22 03 38.4	+1.7
	comp=Z,63nm,1.2s						
RMQ	Roma	29.68 269		P	P	22 03 39.1	+2.4
AULRC	Lightning Ridg	29.68 263		P	P	22 03 39.3	+2.7
MOO	Moorlands	30.43 237		P	P	22 03 44.5	+1.3
	comp=Z,70nm,0.9s						
MOO	Moorlands	30.43 237		P	P	22 03 44.6	+1.5
TAU	Tasmania Unive	30.43 236		P	P	22 03 43.5	+0.3
TAU				IAmb	IAmb	22 03 45.2	
	comp=Z,58nm,1.0s						
TAU	Tasmania Unive	30.43 236		P	P	22 03 43.5	+0.3
TAU				pmax	pmax		
	comp=Z,58nm,1.0s						
TOO	Toolangi	31.15 247		P	P	22 03 51.3	+1.7
	comp=Z,29nm,1.4s						
TOO	Toolangi	31.15 247			P	22 03 50.9	+1.2
TOO	Toolangi	31.15 247		P	P	22 03 50.9	+1.2
TOO				pmax	pmax		
	comp=Z,39nm,1.2s						
CMSA	Cobar Meteorol	31.29 259		P	P	22 03 52.6	+1.7
	comp=Z,188nm,1.0s						
CMSA	Cobar Meteorol	31.29 259		P	P	22 03 52.5	+1.7
BRAT	Ballarat	32.39 247		P	P	22 04 02.4	+2.0
AUMTC	Mt Clear Colle	32.43 247		P	P	22 04 03.2	+2.4
QLP	Quilpie	33.55 267		P	P	22 04 11.5	+0.8
QLP	Quilpie	33.55 267		P	P	22 04 11.5	+0.8
TV1H	Townsville Har	33.95 281		P	P	22 04 15.4	+1.2
CTAO	Charters Tower	34.06 279			P	22 04 15.3	+0.1
CTAO	Charters Tower	34.06 279		P	P	22 04 16.5	+1.3
CTAO	Charters Tower	34.06 279		P	P	22 04 15.3	+0.1
CTAO				pmax	pmax		
	comp=Z,262nm,0.7s						
ARPS	Mount Arapiles	34.07 248		P	P	22 04 16.2	+1.1
	comp=Z,25nm,1.0s						
STKA	Stephens Creek	34.70 257		P	P	22 04 22.3	+1.7
	comp=Z,1μm,0.8s						
STKA	Stephens Creek	34.70 257			P	22 04 21.4	+0.8
STKA	Stephens Creek	34.70 257		P	P	22 04 22.2	+1.7
	comp=Z,226nm,0.8s,baz=99,slow=10.0,SNR=421						
STKA				ScP	ScP	22 10 37.5	+2.7
	comp=Z,1.3nm,0.5s,baz=191,slow=17,SNR=3.3						
STKA				LR	LR	22 17 36.4	
	comp=Z,773nm,18.5s,baz=74,slow=35						
STKA	Stephens Creek	34.70 257		P	P	22 04 22.4	+1.8
STKA	Stephens Creek	34.70 257	c	iP	P	22 04 21.9	+1.3
AUMBR	Murray Bridge	36.23 251		P	P	22 04 35.3	+1.6
MTSU	Mount Surprise	36.56 281		P	P	22 04 37.5	+0.9
	comp=Z,119nm,0.7s						
MTSU	Mount Surprise	36.56 281		P	P	22 04 37.7	+1.0
HTT	Hallett	36.71 254		P	P	22 04 39.2	+1.3
	comp=Z,51nm,1.0s						
HTT	Hallett	36.71 254		P	P	22 04 38.9	+1.0
HTT	Hallett	36.71 254		P	P	22 04 39.2	+1.3
PTPS	Port Pirie	37.52 254		P	P	22 04 46.5	+1.8
WHYH	Whyalla	37.89 254		P	P	22 04 49.1	+1.3
PMG	Port Moresby	38.87 295		P	P	22 04 55.3	-0.9
PMG				IAmb	IAmb	22 04 57.2	
	comp=Z,40nm,1.1s						
PMG	Port Moresby	38.87 295		LR	LR	22 18 31.4	
	comp=Z,463nm,20.2s,baz=104,slow=33						
PMG	Port Moresby	38.87 295	c	iP	P	22 04 55.9	-0.3
PMG				pmax	pmax		
	comp=Z,42nm,1.2s						
BBOO	Buckleboo	39.18 254		P	P	22 04 58.7	0.0
	comp=Z,218nm,1.3s						
BBOO	Buckleboo	39.18 254			P	22 04 58.6	0.0
BBOO	Buckleboo	39.18 254		P	P	22 04 59.3	+0.6
COEN	Coen	39.53 286		P	P	22 05 01.9	+0.1
	comp=Z,64nm,0.8s						
COEN	Coen	39.53 286			P	22 05 00.2	-1.6
COEN				IAmb	IAmb	22 05 03.6	
	comp=Z,42nm,0.8s						
COEN	Coen	39.53 286		P	P	22 05 02.8	+1.0
QIS	Mount Isa	39.57 274		P	P	22 05 02.0	-0.1
	comp=Z,60nm,1.1s						
QIS	Mount Isa	39.57 274		P	P	22 05 02.3	+0.3
TAOE	Nuku Hiva Isla	41.12 66		eS	S	22 11 16.3	-8.5
	comp=Z,233nm,26.0s						
TAOE				eSS	SS	22 14 23.9	-5.0
	comp=Z,244nm,28.1s						
TAOE				eLR	LR	22 16 35.1	
	comp=Z,832nm,24.5s						
ASAR	Alice Springs	43.35 267			P	22 05 31.8	-1.3
ASAR	Alice Springs	43.35 267		P	P	22 05 32.6	-0.4
	comp=Z,38nm,0.6s,baz=104,slow=7.5,SNR=461						
ASAR				ScP	ScP	22 11 10.7	+2.4
	comp=Z,2.3nm,0.8s,baz=117,slow=4.4,SNR=6.0						
ASAR				PKiKP	PKiKP	22 14 21.1	-2.8
	comp=Z,0.6nm,0.7s,baz=122,slow=3.2,SNR=4.1						
ASAR				LR	LR	22 23 28.0	
	comp=Z,1μm,18.0s,baz=106,slow=36						
	comp=Z,38nm,0.6s						
MANU	Manus Island	43.52 304		P	P	22 05 33.1	-1.3
MANU				IAmb	IAmb	22 05 34.4	
	comp=Z,29nm,0.8s						
DRV	Dumont d'Urvil	44.15 203		P	P	22 05 40.2	+1.4
DRV				pP	pP	22 05 51.5	+0.6
WRAB	Tennant Creek	44.34 272			P	22 05 39.8	-1.3
WRAB	Tennant Creek	44.34 272		P	P	22 05 40.1	-1.0
WRAB	Tennant Creek	44.34 272	c	iP	P	22 05 40.0	-1.0
WRAB				pmax	pmax		
	comp=Z,96nm,0.6s						
WRAB	Tennant Creek	44.34 272		P	P	22 05 40.0	-1.0
WRAB				pP	pP	22 05 53.0	-0.6
WRA	Warramunga Arr	44.35 272			P	22 05 40.0	-1.1
WRA	Warramunga Arr	44.35 272		P	P	22 05 40.1	-0.9
	comp=Z,112nm,0.6s,baz=111,slow=7.9,SNR=388						
WRA				ScP	ScP	22 11 16.2	+3.8
	comp=Z,4.0nm,0.9s,baz=109,slow=3.9,SNR=8.0						
WRA				S	S	22 12 09.4	-2.6
	comp=Z,2.2nm,1.0s,baz=110,slow=14,SNR=4.4						
WRA				PKiKP	PKiKP	22 14 23.9	-1.0
	comp=Z,0.7nm,0.6s,baz=137,slow=0.3,SNR=5.1						
WRA				LR	LR	22 22 41.6	
	comp=Z,658nm,20.6s,baz=100,slow=34						
FORT	Forrest	46.26 255		P	P	22 05 56.7	+0.6
	comp=Z,61nm,0.8s						
FORT	Forrest	46.26 255			P	22 05 55.4	-0.7
WRKA	Warakurna	47.71 263		P	P	22 06 05.7	-1.8
	comp=Z,40nm,0.9s						
SBA	Scott Base	47.96 184			P	22 06 12.4	+3.8
SBA	Scott Base	47.96 184		P	P	22 06 12.5	+3.8
SBA				pmax	pmax		
	comp=Z,48nm,0.8s						
SBA	Scott Base	47.96 184		P	P	22 06 13.6	+5.0
SBA				PcP	PcP	22 07 38.6	+2.5
VNDA	Vanda	48.02 186			P	22 06 12.9	+3.8
VNDA				IAmb	IAmb	22 06 17.7	
	comp=Z,42nm,1.8s						
VNDA	Vanda	48.02 186		P	P	22 06 12.7	+3.5
	comp=Z,6.2nm,0.6s,baz=2.6,slow=6.4,SNR=33						
VNDA				LR	LR	22 24 27.8	
	comp=Z,86nm,19.1s,baz=29,slow=34						
	comp=Z,6.2nm,0.6s						
VNDA	Vanda	48.02 186		P	P	22 06 12.9	+3.8
VNDA				pmax	pmax		
	comp=Z,43nm,1.8s						
VNDA	Vanda	48.02 186		P	P	22 06 13.1	+4.0
VNDA				pP	pwP	22 06 25.0	-1.7
VNDA				PcP	PcP	22 07 38.9	+2.6
VNDA				ScP	ScP	22 11 28.5	+1.9
JAY	Jayapura	48.16 297		LR	LR	22 23 51.1	
	comp=Z,190nm,20.7s,baz=315,slow=33						
GENI	Genyem	48.53 297		P	P	22 06 13.9	+0.1
MTN	Manton Dam	50.24 279		P	P	22 06 25.7	-1.2
	comp=Z,26nm,0.7s						
MTN	Manton Dam	50.24 279			P	22 06 26.1	-0.8
MTN				IAmb	IAmb	22 06 28.2	
	comp=Z,17nm,0.7s						
DRS	Darwin Rock St	50.64 279		P	P	22 06 29.3	-0.6
KNRA	Kununurra	50.96 274		P	P	22 06 31.4	-0.9
	comp=Z,54nm,0.5s						
KNRA	Kununurra	50.96 274			P	22 06 31.6	-0.8
KMBL	Kambalda	51.23 253		P	P	22 06 32.5	-1.7
	comp=Z,23nm,1.2s						
FITZ	Fitzroy Crossi	52.61 270		P	P	22 06 43.7	-0.9
FITZ	Fitzroy Crossi	52.61 270			P	22 06 43.9	-0.7
FITZ	Fitzroy Crossi	52.61 270		LR	LR	22 27 41.2	
	comp=Z,620nm,21.1s,baz=122,slow=35						
FITZ	Fitzroy Crossi	52.61 270		P	P	22 06 44.0	-0.6
CCD	Concordia, Ant	52.93 196		P	P	22 06 48.7	+2.1
HMH	Humu'ula Sheep	54.21 26		P	P	22 06 57.4	+0.9
MHA	Mahukona	54.59 25		P	P	22 06 59.4	+0.6
MHA	Mahukona	54.59 25		P	P	22 06 59.4	+0.6
NWAO	Narrogin (SRO)	54.59 249

MMRI Maumere 59.91 278 P **P** **22 07 35.8 -0.9**
comp=Z,64nm,1.1s
SANI Sanana 60.23 287 P **P** **22 07 37.2 -1.7**
SANI Sanana 60.23 287 P **P** **22 07 37.2 -1.7**
comp=Z,48nm,1.4s
EDFI Ende, Flores 60.32 278 P **P** **22 07 38.4 -1.2**
comp=Z,23nm,0.5s
BASI Baing, Sumba 60.55 275 P **P** **22 07 40.1 -1.0**
comp=Z,72nm,1.1s
GIRL Giralia 60.57 260 P **P** **22 07 41.5 +0.3**
comp=Z,78nm,1.4s
TNTI Ternate 60.71 290 P **P** **22 07 41.6 -0.6**
TNTI Ternate 60.71 290 P **P** **22 07 40.5 -1.7**
comp=Z,1µmcomp=Z,33nm,1.1s
WSI Waingapu 61.06 276 P **P** **22 07 43.5 -1.0**
LUWI Luwuk 63.45 286 **P** **22 07 57.2 -3.3**
LUWI Luwuk 63.45 286 P **P** **22 07 59.4 -1.2**
comp=Z,89nm,0.8s
PLAI Plampang 63.63 275 P **P** **22 07 59.3 -2.5**
comp=Z,60nm,0.9s
KAPI Kappang 63.87 280 LR LR 22 36 42.6
comp=Z,195nm,18.1s,baz=133,slow=37
KAPI Kappang 63.87 280⇓*iP* **P** **22 08 02.7 -0.6**
KAPI pmax pmax
comp=Z,25nm,1.3s
BNSI Bone 63.89 281 P **P** **22 08 01.6 -1.8**
comp=Z,27nm,0.9s
SPSI Sidrap Palu 64.40 281 P **P** **22 08 04.1 -2.7**
comp=Z,874nmcomp=Z,17nm,1.1s
TWSI Taliwang, Sumb 64.45 275 P **P** **22 08 04.5 -2.6**
comp=Z,45nm,0.8s
APSI Ampana 64.46 285 P **P** **22 08 06.3 -0.9**
comp=Z,40nm,1.1s
DAV Davao City (W) 65.89 295 LR LR 22 35 37.5
comp=Z,38nm,20.0s,baz=133,slow=35
TOLI2 Tolitoli 66.30 286 **P** **22 08 17.1 -2.0**
JAGI Jajag, Banyuwa 66.93 274 **P** **22 08 21.6 -1.6**
JAGI Jajag, Banyuwa 66.93 274 P **P** **22 08 20.9 -2.2**
comp=Z,37nm,1.1s
JCJ Chichijima 68.91 322 LR LR 22 32 42.7
comp=Z,214nm,20.0s,baz=128,slow=31
SMAI San Martin Ant 69.25 158 P **P** **22 08 39.7 +2.9**
SMAI IAmb IAmb 22 08 41.0
comp=Z,32nm,1.1s
PCJI Pacitan 69.63 272 P **P** **22 08 38.2 -1.8**
BELA Belgrano 2 69.66 172 **P** **22 08 41.2 +2.0**
BELA IAmb IAmb 22 08 49.9
comp=Z,19nm,0.7s
KPJI Karang Pucung 71.99 272 P **P** **22 08 53.1 -1.3**
comp=Z,53nm,1.0s
PMSA Palmer Station 72.08 156 LR LR 22 33 55.0
comp=Z,125nm,18.9s,baz=260,slow=30
MAW Mawson 72.31 201 P **P** **22 08 54.9 -0.4**
MAW Mawson 72.31 201 P **P** **22 08 57.2 +1.9**
comp=Z,35nm,1.1s,baz=131,slow=7.6,SNR=65
MAW LR LR 22 39 30.9
comp=Z,293nm,20.4s,baz=118,slow=35
comp=Z,35nm,1.1s
KKM Kota Kinabalu 72.82 288 **P** **22 08 57.8 -1.6**
KKM IAmb IAmb 22 08 59.3
comp=Z,42nm,0.9s
LEM Lembang 73.37 272 LR LR 22 42 05.2
comp=Z,189nm,18.8s,baz=6.5,slow=37
LEM Lembang 73.37 272 P **P** **22 09 02.4 -0.4**
SBUM Sibu 74.18 283 **P** **22 09 06.4 -0.9**
DBJI Dramaga 74.25 272 P **P** **22 09 06.0 -1.8**
JHJ Hachijo jima 2 74.96 324 LR LR 22 38 13.7
comp=Z,81nm,18.3s,baz=88,slow=33
KSM Kuching 75.28 281 **P** **22 09 13.0 -0.7**
KSM IAmb IAmb 22 09 13.6
comp=Z,27nm,0.9s
ESPZ Base Esperanza 75.38 156 P **P** **22 09 16.1 +2.7**
ESPZ IAmb IAmb 22 09 16.9
comp=Z,47nm,1.0s
KASI Kota Agung 76.70 271 P **P** **22 09 19.5 -2.3**
comp=Z,43nm,0.9s
JOW Kunigami 76.91 312 LR LR 22 38 32.4
comp=Z,138nm,21.2s,baz=138,slow=32
SYO Syowa Base 77.08 193⇑*iP* **P** **22 09 24.3 +1.4**
SYO Syowa Base 77.08 193⇑*e*PcP **PcP** **22 09 34.0 +0.3**
LWLI Liwa 77.33 272 P **P** **22 09 24.1 -1.4**
comp=Z,92nm,1.0s
MDSI Maura Dua 77.49 272 P **P** **22 09 24.1 -2.1**
comp=Z,71nm,1.0s
TROLL Troll, Antarti 77.78 180 ⇑P **P** **22 09 29.2 +2.1**
comp=Z,1µm,0.8s
SNAA Sanae 78.05 178 ⇑P **P** **22 09 30.4 +1.9**
comp=Z,239nm,1.2s
SNAA Sanae 78.05 178 **P** **22 09 30.5 +2.0**
SNAA IAmb IAmb 22 09 37.9
comp=Z,21nm,0.6s
SNAA Sanae 78.05 178 P **P** **22 09 30.3 +1.9**
comp=Z,11nm,1.0s,baz=202,slow=5.5,SNR=24
SNAA LR LR 22 43 22.3
comp=Z,66nm,19.0s,baz=248,slow=35
comp=Z,11nm,1.0s
SNAA Sanae 78.05 178*c iP* **P** **22 09 29.4 +0.9**
SNAA pmax pmax
comp=Z,19nm,0.7s
INU Inuyama 78.13 324 **P** **22 09 27.9 -1.3**
INU IAmb IAmb 22 09 31.3
comp=Z,31nm,1.1s
JGF Kuroka 78.15 324 P **P** **22 09 29.1 -0.3**
JGF IAmb IAmb 22 09 29.4
comp=Z,20nm,0.8s
VNA3 Neumayer Olymp 78.19 176 ⇑P **P** **22 09 30.8 +1.6**
comp=Z,32nm,0.7s
MJAR Matsushiro Arr 78.46 325 **P** **22 09 30.2 -0.8**
MJAR Matsushiro Arr 78.46 325 P **P** **22 09 29.5 -1.6**
comp=Z,7.0nm,0.8s,baz=161,slow=5.7,SNR=15
MJAR LR LR 22 42 56.6
comp=Z,48nm,19.1s,baz=141,slow=35
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 78.46 325 P **P** **22 09 30.2 -0.8**
MJAR pmax pmax
comp=Z,12nm,1.1s
VNA2 Neumayer--Watz 78.63 177 ⇑P **P** **22 09 33.6 +2.0**
comp=Z,25nm,0.7s,baz=166,slow=4.4
COYC Coyhaique 78.69 136 P **P** **22 09 36.1 +3.7**
COYC IAmb IAmb 22 09 52.8
comp=Z,27nm,1.0s
NVL N'lazarevskaya 78.79 183 *e*P **P** **22 09 30.8 -1.7**
NVL *e*S **S** **22 19 29.5 +3.4**
NVL *e* 22 19 52.4
NVL *e*SSS SSS 22 28 00.3
NVL pmax pmax
comp=Z,10.0nm,0.9s
NVL MLR MLR
comp=Z,117nm,20.0s
VNA1 Neumayer--Stat 78.86 176 ⇑P **P** **22 09 34.9 +2.1**
comp=Z,27nm,0.9s
KSI Kapahiang 79.28 272 P **P** **22 09 32.4 -3.8**
JNU Nakatsue 79.79 318 LR LR 22 43 14.1
comp=Z,52nm,18.6s,baz=97,slow=34
MASI Maura Aman, Be 79.84 272 P **P** **22 09 37.8 -1.4**
LL02 Futaleuf 80.11 134 **P** **22 09 43.4 +3.2**
H03S2 Juan Fernandez 80.20 123 T T 23 38 52.4
baz=237,slow=74
H03S1 Juan Fernandez 80.22 123 T T 23 38 53.5
baz=237,slow=74
H03S3 Juan Fernandez 80.22 123 T T 23 38 55.5
baz=237,slow=74
H03N3 Juan Fernandez 80.40 123 T T 23 39 06.3
baz=241,slow=72,SNR=134
H03N2 Juan Fernandez 80.40 123 T T 23 39 04.7
baz=241,slow=72,SNR=84
H03N1 Juan Fernandez 80.41 123 T T 23 39 12.4
baz=241,slow=72,SNR=127
MYKOM Kota Tinggi 80.95 277 **P** **22 09 44.2 -0.9**
MYKOM IAmb IAmb 22 09 45.4
comp=Z,25nm,1.0s
KRJI Kerinci 81.03 273 P **P** **22 09 44.1 -1.6**
KIWB Kanaga Island 82.00 0 P **P** **22 09 50.3 +0.7**
ADK Adak 82.03 1 **P** **22 09 49.7 -0.1**
ADK Adak 82.03 1 P **P** **22 09 49.7 -0.1**
ADK pmax pmax
comp=Z,138nm,1.1s
ADK Adak 82.03 1 P **P** **22 09 49.5 -0.3**
PLCA Paso Flores 82.26 133 IAmb IAmb 22 09 55.9
comp=Z,26nm,1.3s
PLCA Paso Flores 82.26 133 P **P** **22 09 54.2 +2.4**
comp=Z,8.8nm,1.0s,baz=237,slow=5.2,SNR=7.2
PLCA LR LR 22 38 15.4
comp=Z,198nm,18.9s,baz=246,slow=30
comp=Z,8.8nm,1.0s
PDSI Padang 82.49 273 P **P** **22 09 50.4 -2.9**
comp=Z,16nm,0.6s
EFI East Falkland 82.57 147*ce*P **P** **22 09 54.8 +1.8**
EFI pmax pmax
comp=Z,180nm,1.1s
ASAJ Asahikawa 82.64 332 LR LR 22 42 53.3
comp=Z,272nm,18.6s,baz=158,slow=33
SHEM Shemya Is, Ala 83.18 355 LR LR 22 43 57.6
comp=Z,167nm,18.9s,baz=139,slow=34
MNSI Mandailing Nat 84.11 274 P **P** **22 09 58.5 -3.1**
comp=Z,16nm,0.9s
LPIG La Paz 84.38 58 LR LR 22 43 33.7
comp=Z,143nm,18.2s,baz=244,slow=33
KSRS Korea Array 84.58 319 P **P** **22 10 03.0 -0.3**
comp=Z,3.6nm,0.8s,baz=147,slow=6.7,SNR=12
comp=Z,3.6nm,0.8s
IPM Ipoh 84.75 278 **P** **22 10 03.9 -0.9**
IPM IAmb IAmb 22 10 04.7
comp=Z,16nm,0.8s
YSS Yuzhno-Sakhali 84.94 334 *e*P **P** **22 10 05.5 +0.6**
YSS *e*S **S** **22 20 27.1 -2.5**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.5s
YSS smax smax
comp=N,300nm,4.6s
YSS smax smax
comp=E,200nm,4.6s
PMPB Monarch Peak 85.18 43 IAmb IAmb 22 10 41.0
comp=Z,19nm,1.1s
BBGB Big Mountain B 85.29 42 IAmb IAmb 22 10 11.4
comp=Z,30nm,1.3s
ESJX Sierra Juarez 85.38 49 IAmb IAmb 22 10 11.3
comp=Z,22nm,1.4s
DPP Dos Picos Cty 85.38 47 IAmb IAmb 22 12 55.5
comp=Z,15nm,0.6s
MHC Mount Hamilton 85.47 42 IAmb IAmb 22 10 11.2
comp=Z,16nm,1.1s
KULM Kulim 85.48 279 **P** **22 10 07.7 -0.7**
KULM IAmb IAmb 22 10 08.6
comp=Z,26nm,1.1s
MWC Mount Wilson 85.49 46 IAmb IAmb 22 10 11.2
comp=Z,18nm,1.2s
ELS Elsinore Mount 85.50 47 P **P** **22 10 10.1 +1.9**
ELS IAmb IAmb 22 10 11.4
comp=Z,27nm,1.6s
MT01 Popeta 85.61 127 P **P** **22 10 11.3 +2.4**
RPSI Rantau Prapat 85.64 276 IAmb IAmb 22 10 08.5
comp=Z,26nm,1.2s
PSI Prapat 85.69 276 LR LR 22 49 09.2
comp=Z,302nm,20.6s,baz=160,slow=36
BFSC Mount Baldy Ra 85.75 46 IAmb IAmb 22 10 28.4
comp=Z,12nm,1.0s
TPO Tropico Hills 85.82 45 IAmb IAmb 22 10 13.0
comp=Z,22nm,1.1s
GDXM Geysers 85.85 40 IAmb IAmb 22 10 13.1
comp=Z,24nm,1.4s
BORC Borrego Spring 85.89 47 IAmb IAmb 22 10 13.4
comp=Z,31nm,1.5s
DNR Dunn Ranch,Anz 85.95 47 IAmb IAmb 22 10 13.8
comp=Z,24nm,1.3s
PEA0B Petropavlovsk- 85.97 345*ce*P **P** **22 10 09.2 -0.7**
PETK Petropavlovsk- 85.97 345 **P** **22 10 09.6 -0.3**
PETK Petropavlovsk- 85.97 345 P **P** **22 10 09.9 0.0**
comp=Z,20nm,0.9s,baz=131,slow=6.1,SNR=15
PETK LR LR 22 45 20.8
comp=Z,95nm,18.5s,baz=151,slow=34
comp=Z,20nm,0.9s
PFO Pinyon Flats O 86.09 47 P **P** **22 10 12.8 +1.7**
PFO IAmb IAmb 22 10 14.4
comp=Z,15nm,1.4s
PFO Pinyon Flats O 86.09 47 P **P** **22 10 13.2 +2.0**
comp=Z,6.4nm,1.1s,baz=230,slow=3.5,SNR=10.0
PFO LR LR 22 41 35.3
comp=Z,110nm,20.7s,baz=224,slow=31
comp=Z,6.4nm,1.1s
PFO Pinyon Flats O 86.09 47⇑*iP* **P** **22 10 13.2 +2.0**
PFO pmax pmax
comp=Z,21nm,1.3s
MNRC McLaughlin Min 86.09 40 IAmb IAmb 22 10 14.3
comp=Z,22nm,1.1s
GSI Gunungsitoli 86.09 274 P **P** **22 10 11.3 -0.2**
comp=Z,79nm,1.0s
PMD Palm Desert 86.17 47 IAmb IAmb 22 10 14.6
comp=Z,17nm,1.4s
ISA Isabella, Lake 86.19 45 IAmb IAmb 22 10 14.8
comp=Z,19nm,1.1s
LMEL Las Melosas 86.34 127 IAmb IAmb 22 10 17.1
comp=Z,37nm,1.6s
NJ2 Nanjing 86.50 310 *e*P **P** **22 10 14.3 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
LRMC Laurel Mtn Rad 86.55 45 IAmb IAmb 22 10 16.6
comp=Z,18nm,1.1s
BELC Belle Mtn. Jos 86.63 47 IAmb IAmb 22 10 17.3
comp=Z,26nm,1.4s
WSHM Spangler Hills 86.75 45 P **P** **22 10 16.0 +1.8**
WSHM IAmb IAmb 22 10 17.3
comp=Z,21nm,1.1s
BC3 Big Chuckawall 86.76 48 IAmb IAmb 22 10 18.2
comp=Z,25nm,1.3s
CCCA Chr Cany lake 86.78 45 IAmb IAmb 22 10 17.7
comp=Z,26nm,1.2s
CLC China Lake 86.83 45 IAmb IAmb 22 10 17.7
comp=Z,23nm,1.1s
KCSI Kotacane, Aceh 87.05 276 P **P** **22 10 14.4 -1.8**
IRM Iron Mountain 87.28 47 IAmb IAmb 22 10 20.7
comp=Z,31nm,1.3s
QSM Queen of Sheba 87.37 45 IAmb IAmb 22 10 20.1
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 87.38 326 P **P** **22 10 16.6 -0.3**
comp=Z,10nm,1.0s,baz=172,slow=3.9,SNR=11
comp=Z,10nm,1.0s
214A Organ Pipe Nat 87.41 50 IAmb IAmb 22 10 21.3
comp=Z,26nm,1.7s
N02D Trinity Center 87.42 38 IAmb IAmb 22 10 20.7
comp=Z,29nm,1.4s
O03E Paynes Creek 87.44 39 P **P** **22 10 19.1 +1.6**
O03E IAmb IAmb 22 10 30.9
comp=Z,33nm,1.6s
WAKR Walker 87.53 42 **P** **22 10 19.0 +0.8**
WAKR IAmb IAmb 22 10 21.2
comp=Z,17nm,1.2s
DSP Deep Springs 87.63 44 IAmb IAmb 22 10 21.5
comp=Z,16nm,1.4s
GRAC Grapevine Rang 87.75 44 IAmb IAmb 22 10 22.3
comp=Z,18nm,1.1s
MTPC Mountain Pass 87.87 46 IAmb IAmb 22 10 23.4
comp=Z,20nm,1.3s
LHV Little Huntoon 87.91 43 IAmb IAmb 22 10 22.7
comp=Z,12nm,1.0s
M03C McCloud 87.95 38 IAmb IAmb 22 10 22.4
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 87.96 38 P **P** **22 10 21.4 +1.4**
comp=Z,0.2nm,1.0s,baz=261,slow=0.8,SNR=6.1
YBH LR LR 22 42 13.6
comp=Z,6.4nm,21.8s,baz=243,slow=31
GMN Gold Mountain 88.01 44 IAmb IAmb 22 10 23.3
comp=Z,20nm,1.6s
NVAR Mina Array Bea 88.14 43 P **P** **22 10 22.2 +1.1**
NVAR Mina Array Bea 88.14 43 P **P** **22 10 22.6 +1.6**
comp=Z,5.8nm,0.9s,baz=218,slow=7.7,SNR=28
NVAR PKKPbc **PKKPbc** **22 28 08.4 +2.0**
comp=Z,0.6nm,0.5s,baz=89,slow=2.9,SNR=5.7
NVAR LR LR 22 47 22.0
comp=Z,195nm,18.1s,baz=269,slow=34
comp=Z,5.8nm,0.9s
TPNV Topopah Spring 88.39 45 IAmb IAmb 22 10 25.5
comp=Z,22nm,1.4s
Y14A Wickenburg 88.51 49 IAmb IAmb 22 10 26.2
comp=Z,21nm,1.3s
TPH Topopah 88.54 43 IAmb IAmb 22 10 25.7
comp=Z,25nm,1.3s
WHN Wuhan 88.60 307 P **P** **22 10 22.6 -0.5**
W13A Hualapai Mount 88.67 47 IAmb IAmb 22 10 27.2
comp=Z,13nm,1.2s
TUC Tucson 88.98 51 P **P** **22 10 27.1 +2.1**
TUC IAmb IAmb 22 10 29.1
comp=Z,25nm,1.4s
TUC Tucson 88.98 51 P **P** **22 10 27.1 +2.1**
TUC pmax pmax
comp=Z,25nm,1.4s
PRN Pahroc Range 89.42 45 IAmb IAmb 22 10 30.7
comp=Z,19nm,1.2s
J05D Fort Rock, OR 89.82 38 IAmb IAmb 22 10 31.7
comp=Z,19nm,1.2s
X16A Lo Mia Camp, P 89.83 49 IAmb IAmb 22 10 32.9
comp=Z,15nm,1.0s
WIFE Three Sisters- 90.06 37 IAmb IAmb 22 10 32.5
comp=Z,18nm,1.0s
CN2 Changchun 90.37 323 P **P** **22 10 30.4 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KDAK Kodiak Island 90.44 13 LR LR 22 46 30.5
comp=Z,90nm,19.2s,baz=203,slow=33
I05D Terrebonne, OR 90.50 37 IAmb IAmb 22 10 34.4
comp=Z,19nm,1.0s
WUAZ Wupatki 90.54 48 IAmb IAmb 22 10 35.9
comp=Z,16nm,1.1s
KNB Kanab 90.55 46 IAmb IAmb 22 10 35.9
comp=Z,11nm,1.1s
BNX BinXian 90.73 325 ⇑P **P** **22 10 32.6 -0.1**
BNX pmax pmax
comp=Z,10.0nm,1.2s
X18A Snowflake 90.87 50 IAmb IAmb 22 10 37.6
comp=Z,17nm,1.3s
121A Cookes Peak, D 91.15 53 IAmb IAmb 22 10 39.1
comp=Z,24nm,1.8s
J08A Circle Bar Ran 91.34 39 IAmb IAmb 22 10 38.4
comp=Z,14nm,1.2s
ELK Elko 91.45 42 P **P** **22 10 37.3 +0.8**
comp=Z,3.4nm,1.0s,baz=237,slow=6.2,SNR=7.6
comp=Z,3.4nm,1.0s
GYA Guiyang 91.81 300 ⇓P **P** **22 10 40.4 +2.0**
GYA pmax pmax
comp=Z,10.0nm,1.2s
VHRN Van Horn 92.10 55 IAmb IAmb 22 10 58.9
comp=Z,21nm,1.9s
TXAR Lajitas Array 92.23 57 P **P** **22 10 41.5 +1.3**
comp=Z,0.9nm,0.9s,baz=201,slow=6.6,SNR=7.6
TXAR LR LR 22 48 20.1
comp=Z,53nm,18.5s,baz=226,slow=33
comp=Z,0.9nm,0.9s
LYN LuoYang 92.25 309 P **P** **22 10 40.8 +0.7**
LYN pmax pmax
comp=Z,17nm,0.6s
HNS HongShan 92.48 313 ⇑P **P** **22 10 42.3 +1.3**
Y22A Socorro 92.52 52 IAmb IAmb 22 10 44.8
comp=Z,8.6nm,1.2s
CMIG Matias Romero 92.55 72 LR LR 22 45 53.0
comp=Z,38nm,18.4s,baz=184,slow=31
ALPN Alpine 92.83 56 IAmb IAmb 22 10 45.5
comp=Z,18nm,1.7s
MFID Camas Ranch 92.83 40 IAmb IAmb 22 10 45.0
comp=Z,11nm,1.2s
HAWA Hanford 92.84 36 IAmb IAmb 22 10 45.0
comp=Z,13nm,1.2s
L16K Owhat River 93.06 9 IAmb IAmb 22 10 48.6
comp=Z,12nm,0.9s
BBB Bella Bella 93.06 28 P **P** **22 10 42.4 -0.9**
comp=Z,12nm,0.9s,baz=217,slow=5.1,SNR=3.2
BBB LR LR 22 44 32.4
comp=Z,72nm,21.2s,baz=243,slow=30
comp=Z,12nm,0.9s
NNA Nana 93.16 106 LR LR 22 42 16.8
comp=Z,153nm,21.8s,baz=254,slow=29
BJI Beijing 93.17 315 P **P** **22 10 47.3 +3.2**
BJI pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 93.44 51 P **P** **22 10 47.5 +1.6**
ANMO Albuquerque 93.44 51 P **P** **22 10 47.3 +1.4**
comp=Z,3.1nm,1.0s,baz=322,slow=3.5,SNR=5.2
ANMO LR LR 22 49 45.5
comp=Z,104nm,18.1s,baz=325,slow=34
comp=Z,3.1nm,1.0s
ANMO Albuquerque 93.44 51⇓*iP* **P** **22 10 46.9 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
MA2 Magadan 93.45 345 LR LR 22 47 18.4
comp=Z,188nm,21.8s,baz=152,slow=32
CMAR Chiang Mai Arr 93.67 289 **P** **22 10 46.3 -0.7**
CMAR Chiang Mai Arr 93.67 289 P **P** **22 10 47.5 +0.6**
comp=Z,2.1nm,0.8s,baz=129,slow=3.3,SNR=16
CMAR LR LR 22 56 54.7
comp=Z,31nm,18.2s,baz=125,slow=38
comp=Z,2.1nm,0.8s
F10A Beach Ranch, E 93.75 37 IAmb IAmb 22 10 48.3
comp=Z,7.5nm,1.0s
PLID Pearl Lake 93.82 39 IAmb IAmb 22 10 49.4
comp=Z,10nm,1.1s
CHTO Chiang Mai 93.85 289 **P** **22 10 47.9 +0.1**
CHTO Chiang Mai 93.85 289 P **P** **22 10 47.9 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
HEH HeiHe 93.92 328 *e*P **P** **22 10 46.8 -0.6**
L19K White Mountain 94.18 11 IAmb IAmb 22 10 50.6
comp=Z,23nm,1.6s
XAN Xi'an 94.37 307 P **P** **22 10 52.1 +2.2**
XAN pmax pmax
comp=Z,5.0nm,1.0s
ATAH Atahualpa 94.38 101 LR LR 22 43 10.2
comp=Z,87nm,20.9s,baz=260,slow=29
J16K Anvik River 94.45 8 IAmb IAmb 22 10 54.8
comp=Z,12nm,0.8s
PB11 IPOC Station P 94.72 116 **P** **22 10 54.2 +2.1**
PB11 IAmb IAmb 22 10 55.8
comp=Z,11nm,1.1s
J18K Innoko River 95.12 9 IAmb IAmb 22 10 57.4
comp=Z,7.4nm,0.9s
NEW Newport 95.31 36 LR LR 22 49 41.3
comp=Z,128nm,18.1s,baz=214,slow=33
PZH PanZhiHua 95.57 297 P **P** **22 10 55.5 -0.2**
TPAW Teton Pass 95.65 42 IAmb IAmb 22 10 58.5
comp=Z,8.5nm,1.3s
SNOW Snow King Moun 95.75 42 IAmb IAmb 22 10 58.7
comp=Z,14nm,1.4s
PDAR Pinedale Array 96.03 43 P **P** **22 10 58.4 +0.8**
comp=Z,1.0nm,0.9s,baz=198,slow=4.4,SNR=4.9
PDAR PKKPbc **PKKPbc** **22 27 45.9 -0.2**
comp=Z,1.2nm,0.7s,baz=81,slow=3.9,SNR=12
PDAR LR LR 22 52 25.5
comp=Z,79nm,18.1s,baz=228,slow=34
comp=Z,1.0nm,0.9s
SEY Seymchan 96.13 347 LR LR 22 50 06.2
comp=Z,137nm,21.2s,baz=152,slow=33
SEY Seymchan 96.13 347⇓*eP* **P** **22 10 57.2 +0.1**
SEY pmax pmax
comp=Z,21nm,1.6s
TRF Thorofare Moun 96.13 12 IAmb IAmb 22 11 03.6
comp=Z,11nm,1.1s
J20K Nowinta River 96.17 10 IAmb IAmb 22 11 02.4
comp=Z,10nm,1.3s
YHL Hebgen Lake 96.34 41 IAmb IAmb 22 11 03.4
comp=Z,9.8nm,1.3s
RND Reindeer 96.36 13 IAmb IAmb 22 11 17.9
comp=Z,7.5nm,0.9s
HHC Hu-ho-hao-te 96.48 314 *e*P **P** **22 11 01.3 +1.8**
HHC pmax pmax
comp=Z,13nm,0.6s
BOZ Bozeman (W) 96.54 40 IAmb IAmb 22 11 19.0
comp=Z,16nm,1.8s
DLBC Dease Lake 97.11 23 LR LR 22 47 11.9
comp=Z,927nm,21.0s,baz=187,slow=31
BTO Baotou 97.31 313 *e*P Pdif 22 11 07.9 +4.6
BTO S S 22 22 32.4 +9.1
BTO pmax pmax
comp=Z,9.0nm,0.8s
BTO LR LR
comp=Z,290nm,5.9s
BTO LR LR
comp=Z,390nm,17.4s
WRH Wood River Hil 97.47 12 IAmb IAmb 22 11 05.8
comp=Z,9.5nm,1.2s
JTS Las Juntas de 97.50 83 LR LR 22 45 33.6
comp=Z,101nm,20.9s,baz=241,slow=30
CCB Clear Creek Bu 97.68 13 IAmb IAmb 22 11 05.0
comp=Z,20nm,1.8s
COLA College 97.88 12⇑*iP* Pdif 22 11 06.5 +1.5
COLA pmax pmax
comp=Z,17nm,2.3s
LPAZ La Paz 97.88 114 LR LR 22 46 41.2
comp=Z,69nm,20.7s,baz=222,slow=30
ILAR Eielson Array 97.97 13 P **P** **22 11 05.3 -0.1**
comp=Z,0.8nm,0.7s,baz=217,slow=6.1,SNR=7.0
ILAR PKKPbc **PKKPdf** **22 27 43.6 -0.9**
comp=Z,0.5nm,0.5s,baz=28,slow=3.0,SNR=7.4
ILAR LR LR 22 49 51.0
comp=Z,31nm,19.2s,baz=228,slow=32
comp=Z,0.8nm,0.7s
J26L Joseph Creek 98.40 14 IAmb IAmb 22 11 25.2
comp=Z,8.2nm,1.0s
LZH Lanzhou 98.98 307 *e*P Pdif 22 11 20.0 +9.1
LZH sP sP 22 11 31.4 +1.9
LZH pmax pmax
comp=Z,8.0nm,1.0s
CPUP Villa Florida 99.73 128 P **Pdif** **22 11 15.5 +1.0**

comp=Z,0.1nm,0.4s,baz=297,slow=2.3,SNR=2.9
CPUP PKPbc **PKKPbc** **22 27 31.5 -2.9**
comp=Z,0.3nm,0.5s,baz=326,slow=4.2,SNR=3.2
ULN Ulaanbaatar 103.01 318⇑*e*P **Pdif** **22 11 28.0 -0.6**
ULN pmax pmax
comp=Z,8.0nm,2.5s
SONM Songino Array 103.38 318 Pdiff **Pdif** **22 11 29.9 -0.3**
comp=Z,0.2nm,0.4s,baz=112,slow=6.4,SNR=1.6
WMQ Urumqi 113.48 308 *e*PKP **PKiKP** **22 16 09.6 +1.7**
BOSA Boshof 117.27 203 PKP **PKiKP** **22 16 17.2 +1.3**
comp=Z,4.0nm,0.6s,baz=131,slow=3.0,SNR=9.7
MK31 Makanchi Array 118.02 310*d i*PKIKP **PKPdf** **22 16 15.7 -0.8**
MKAR Makanchi Array 118.02 310 **PKPdf** **22 16 15.6 -0.9**
MKAR Makanchi Array 118.02 310 PKP **PKPdf** **22 16 15.8 -0.7**
comp=Z,3.9nm,0.5s,baz=194,slow=0.9,SNR=50
MAKZ Makanchi 118.23 310 **PKPdf** **22 16 16.3 -0.6**
MAKZ Makanchi 118.23 310 PKIKP **PKPdf** **22 16 16.3 -0.6**
ZALV Zalesovo Beam 118.27 318 **PKPdf** **22 16 15.3 -1.3**
ZALV Zalesovo Beam 118.27 318 PKP **PKPdf** **22 16 15.6 -1.1**
comp=Z,4.0nm,0.7s,baz=152,slow=0.8,SNR=21
MAKGR Makgori 120.00 203 *i* P **PKiKP** **22 16 21.5 +0.2**
KSH Kashi 120.50 300 PKP **PKiKP** **22 16 22.5 +0.8**
NIL Nilore 120.89 293 **PKPdf** **22 16 21.7 -0.7**
NIL Nilore 120.89 293 PKIKP **PKPdf** **22 16 21.7 -0.7**
ULHL Ulahol 121.02 304 P **PKiKP** **22 16 23.1 +0.4**
SNR=6.2
KURK Kurchatov 121.29 314 **PKPdf** **22 16 21.9 -0.6**
KURK Kurchatov 121.29 314*c i*PKIKP **PKPdf** **22 16 21.6 -1.0**
KURBB Kurchatov Arra 121.33 314 **PKPdf** **22 16 21.8 -0.9**
comp=Z,16nm,0.7s,baz=110,slow=1.8,SNR=165
KURBB PP **PP** **22 17 54.6 0.0**
comp=Z,0.9nm,1.0s,baz=99,slow=7.0,SNR=4.8
SKOMA Sekoma 121.50 203 *i* P **PKiKP** **22 16 25.1 +0.9**
TKM2 Tokmak 2 121.65 304 P **PKPdf** **22 16 23.3 -0.5**
SNR=23
LPHEP Lephephe 121.86 206 **PKiKP** **22 16 25.3 +0.3**
MREMI Moremi 121.97 208 *i* P **PKiKP** **22 16 26.3 +1.1**
KBK Karagaybulak 122.05 304 P **PKPdf** **22 16 24.4 -0.2**
SNR=12
UCH Uchtor 122.26 303 P **PKiKP** **22 16 25.6 +0.1**
SNR=38
CHMS Chumysh 122.27 304 P **PKPdf** **22 16 24.5 -0.3**
SNR=14
AAK Ala-Archa 122.37 304 **PKiKP** **22 16 25.4 0.0**
AAK Ala-Archa 122.37 304 P **PKPdf** **22 16 25.1 -0.1**
SNR=13
AAK Ala-Archa 122.37 304*c i*PKIKP **PKPdf** **22 16 24.8 -0.4**
AAK pmax pmax
comp=Z,15nm,1.3s
USP Ospenovka 122.51 304 P **PKPdf** **22 16 24.8 -0.4**
SNR=25
EKS2 Erkin-Say 122.89 304 P **PKPdf** **22 16 25.9 -0.2**
SNR=18
BROLN Tlhalogang 123.33 208 *i* P **PKiKP** **22 16 28.7 +0.8**
KGCAE Kacgae 123.61 202 *i* P **PKiKP** **22 16 29.7 +1.3**
KOOLE Kule 124.11 200 *i* P **PKiKP** **22 16 30.5 +1.1**
KBL Kabul 124.48 293 **PKiKP** **22 16 29.8 -0.1**
KBL Kabul 124.48 293 PKIKP **PKiKP** **22 16 29.8 -0.1**
GRTLG Ghanzi 125.32 202 *i* P **PKiKP** **22 16 32.7 +0.8**
KKAR Karatay Array 125.33 304 **PKPdf** **22 16 30.2 -0.4**
KKAR Karatay Array 125.33 304 PKIKP **PKPdf** **22 16 30.2 -0.4**
SCHQ Schefferville 126.15 42 PKP **PKPdf** **22 16 31.3 -0.5**
comp=Z,28nm,0.8s,baz=274,slow=8.1,SNR=4.0
LMN Caledonia Moun 126.58 53 **PKiKP** **22 16 33.5 +0.1**
BORK Borovoye 126.69 316*c i*PKIKP **PKPdf** **22 16 32.2 -0.7**
KSANE Kasane 127.17 208 **PKiKP** **22 16 35.7 +0.1**
KSANE Kasane 127.17 208 *i* P **PKiKP** **22 16 36.6 +1.0**
NEEM North Greenlan 127.26 13 *i* P **PKPdf** **22 16 33.3 -0.4**
LSZ Lusaka 128.11 212 **PKiKP** **22 16 37.3 -0.2**
LSZ Lusaka 128.11 212 PKIKP **PKiKP** **22 16 37.3 -0.2**
KBS Kingsbay 131.29 358 **PKiKP** **22 16 43.4 +1.5**
KBS Kingsbay 131.29 358 PKIKP **PKiKP** **22 16 43.4 +1.5**
KBS Kingsbay 131.29 358 *e*P **PKiKP** **22 16 43.2 +1.3**
KBS Kingsbay 131.29 358 *i* P **PKiKP** **22 16 45.5 +3.6**
SVE Sverdlovsk 132.13 321 *e*PKIKP **PKPdf** **22 16 42.9 -0.2**
SVE pmax pmax
comp=Z,15nm,1.2s
DAG Danmarks Havn 132.61 6 *i* P **PKPdf** **22 16 42.0 -1.5**
ABKAR Akbulak array 133.16 311 **PKPdf** **22 16 45.5 +0.2**
ARTI Arti 133.43 321 **PKPdf** **22 16 45.6 +0.1**
ARTI Arti 133.43 321 *i* PKIKP **PKPdf** **22 16 44.7 -0.8**
ARTI 22 19 10.6
ARTI SS SS 22 36 47.9 -7.3
KMBO Kilima Mbogo 134.22 233 PKP **PKPdf** **22 16 48.5 -0.2**
comp=Z,2.7nm,0.3s,baz=230,slow=3.9,SNR=3.0
KIRV Kirov 137.54 325*d i*PKIKP **PKiKP** **22 16 54.7 -0.3**
ARCES ARCESS Array B 138.74 348 PKhKP PKPpre 22 16 46.5
comp=Z,2.5nm,0.6s,baz=20,slow=0.9,SNR=11
ARCES PKP **PKPdf** **22 16 54.1 -1.0**
comp=Z,3.1nm,0.5s,baz=48,slow=1.0,SNR=13
BELG Belogornoye 140.43 317*c i*PKIKP **PKPdf** **22 16 57.7 -0.9**
KLMR Klimovskoe 140.96 332 *e*PKIKP **PKPdf** **22 16 57.7 -1.6**
KLMR pmax pmax
comp=Z,35nm,1.4s
RAYN Ar Rayn 141.06 270 **PKPdf** **22 16 59.9 -0.9**
RAYN Ar Rayn 141.06 270 PKIKP **PKPdf** **22 16 59.9 -0.9**
AKT Akhty 142.02 300 *e*PKIKP **PKPdf** **22 17 00.7 -1.3**
AKT pmax pmax
comp=Z,17nm,1.1s
VRH Novokhopyorsk 144.28 317 *e*PKIKP **PKPab** **22 17 03.3 -0.2**
VRH pmax pmax
comp=Z,11nm,0.7s
GNI Garni 144.34 297*c i*PKIKP **PKPab** **22 17 03.9 -0.4**
MOS Moscow 144.55 326 *e*PKHKP PKPpre 22 17 02.6
MOS pmax pmax
comp=Z,45nm,1.2s
NCK Nalchik 144.90 303*d i*PKIKP PKPbc 22 17 06.2 0.0
GOF Gofitskoye 145.05 306*ce*PKIKP **PKPbc** **22 17 06.5 -0.1**
PUL Pulkovo 145.19 335*ce*PKIKP **PKPbc** **22 17 06.0 -0.5**
FINES FINESS Array B 145.32 340 **PKPbc** **22 17 06.3 -0.5**
FINES FINESS Array B 145.32 340 PKPbc **PKPbc** **22 17 06.1 -0.8**
comp=Z,111nm,0.8s,baz=60,slow=3.6,SNR=412
LPSR Galich'ya Gora 145.34 320 *e*PKP2 **PKPbc** **22 17 06.3 -0.9**
LPSR pmax pmax
comp=Z,53nm,0.9s
KBZ Khabaz 145.37 304 PKPbc **PKPbc** **22 17 07.2 -0.3**
comp=Z,16nm,1.0s,baz=121,slow=1.6,SNR=21
KBZ Khabaz 145.37 304*c i*PKIKP **PKPbc** **22 17 06.9 -0.7**
OBN Obninsk 145.39 325 **PKPdf** **22 17 07.3 0.0**
OBN Obninsk 145.39 325 ⇓P **PKPbc** **22 17 06.5 -0.8**
OBN Obninsk 145.39 325 ⇓PKP2 **PKPbc** **22 17 06.5 -0.8**
KIV Kislovodsk 145.49 304 **PKPbc** **22 17 08.1 0.0**
KIV Kislovodsk 145.49 304 ⇑P **PKPdf** **22 17 07.4 -0.6**
KIV Kislovodsk 145.49 304 *i* PKP2 **PKPdf** **22 17 06.5 -1.5**
KIV pmax pmax
comp=Z,28nm,1.0s
SHA1 Shidzhatmaz 145.54 304*c i*PKIKP **PKPdf** **22 17 07.5 -0.8**
VORR Voronezh 145.57 319 *e*PKP2 **PKPdf** **22 17 05.9 -1.8**
VORR pmax pmax
comp=Z,30nm,1.0s
NEUR Neytrino 145.58 303 *i* PKIKP **PKPbc** **22 17 08.4 -0.2**
VSR Storozhevoye 145.77 318 *e*PKHKP PKPpre 22 17 04.6
VSR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 145.80 317 *e*PKP2 **PKPdf** **22 17 05.9 -2.2**
VORD pmax pmax
comp=Z,40nm,1.0s
ERBR Yeremizino-Bor 146.68 308 *i* PKP2 **PKPbc** **22 17 11.7 +0.2**
ERBR pmax pmax
comp=Z,129nm,1.1s
LABN Labinsk 146.75 306 *i* PKP2 **PKPab** **22 17 13.1 0.0**
LABN pmax pmax
comp=Z,20nm,0.8s
VSU Vasula 147.41 336*c i*PKIKP **PKPdf** **22 17 11.7 +1.1**
VSLR Vesyoloye 147.47 304*d i*PKIKP **PKPdf** **22 17 10.9 -0.3**
MOL Molde 147.74 355 *e*P **PKPbc** **22 17 13.2 -0.7**
DOMB Dombas 148.14 354 *e*P **PKPbc** **22 17 14.9 -0.2**
AKN Aaknes 148.16 356 *e*P **PKPbc** **22 17 15.6 +0.5**
NB2 NORSAR Subarra 148.88 352 PKP **PKPbc** **22 17 16.5 -0.5**
comp=Z,57nm,1.0s,baz=13,slow=2.8
NB2 NORSAR Subarra 148.88 352 PKPab **PKPbc** **22 17 16.5 -0.5**
baz=13,slow=2.8
NOA NORSAR Array B 148.88 352 PKPbc **PKPbc** **22 17 16.7 -0.3**
comp=Z,30nm,1.0s,baz=14,slow=4.2,SNR=60
ANN Anapa 148.99 307 *i* PKP2 **PKPbc** **22 17 17.0 -0.7**
ANN pmax pmax
comp=Z,65nm,0.9s
NC602 NORSAR Array S 149.13 351 *e*P **PKPbc** **22 17 16.8 -0.8**
HYA Hoyanger 149.22 356 *e*P **PKPab** **22 17 21.4 -0.9**
HFS Hagfors 149.39 349 PKPbc **PKPbc** **22 17 17.6 -0.6**
comp=Z,30nm,0.8s,baz=51,slow=4.6,SNR=20
SUE Sulen 149.39 358 *e*P **PKPbc** **22 17 18.6 +0.4**
SKAR Skarslia 149.55 354 *e*P **PKPbc** **22 17 18.6 -0.1**
MNK Minsk 149.79 330 *i* PKP2 **PKPbc** **22 17 18.9 -0.5**

MNK *i* 22 20 51.2
MNK *i* PPP PPP 22 24 12.8
MNK *i* 22 24 18.2
MNK *i* SS SS 22 40 04.8 +0.1
MNK *i* SSS SSS 22 45 45.3
MNK MLR MLR
comp=Z,178nm,23.0s
ASK Askoy 149.95 357 *e*P **PKiKP** **22 17 20.1 -0.4**
BER Bergen 150.04 357 *e*P **PKPbc** **22 17 20.1 +0.3**
KONO Kongsberg 150.43 352 PKPdf **PKPdf** **22 17 16.8 +1.3**
KONO Kongsberg 150.43 352 PKIKP **PKPdf** **22 17 16.8 +1.3**
KONO Kongsberg 150.43 352 *e*P **PKPbc** **22 17 20.1 -0.7**
ODD1 Odda 150.44 356 *e*P **PKPbc** **22 17 21.0 +0.2**
STRU Stroemstad 150.83 351 *i* P **PKPbc** **22 17 21.4 -0.3**
BLS5 Blasjo 150.94 356 *e*P **PKiKP** **22 17 23.9 +1.3**
SIM Simferopol' 151.20 309 *e*PKIKP **PKPbc** **22 17 23.0 -0.1**
SIM pmax pmax
comp=Z,87nm,1.1s
KMY Karmoy 151.22 357 *e*P **PKiKP** **22 17 22.9 -0.2**
GHAJ Ghor Haditha 151.49 280 **PKPdf** **22 17 19.1 +1.1**
AKASG Malin Array Be 151.53 323 PKPdf **PKPdf** **22 17 19.1 +1.8**
AKASG Malin Array Be 151.53 323 PKPbc **PKPbc** **22 17 23.1 -0.5**
comp=Z,51nm,0.7s,baz=50,slow=2.7,SNR=7.0
AKASG Malin Array Be 151.53 323 PKIKP **PKPdf** **22 17 19.2 +1.8**
KIEV Kiev 151.54 323 **PKPdf** **22 17 18.9 +1.5**
KIEV Kiev 151.54 323 ⇑P **PKPbc** **22 17 22.8 -0.8**
KIEV Kiev 151.54 323 PKIKP **PKPdf** **22 17 18.9 +1.5**
TJOU Tjoern 151.72 350 *i* P **PKPbc** **22 17 22.8 -1.0**
MMAI Mount Meron Ar 151.79 284 PKPbc **PKiKP** **22 17 26.0 +0.7**
comp=Z,28nm,0.6s,baz=77,slow=5.4,SNR=26
HOMB Homborsund 151.90 353 *e*P **PKPbc** **22 17 23.0 -1.2**
HOMB Homborsund 151.90 353 *i* P **PKiKP** **22 17 24.8 +0.3**
BORU Boraas 151.91 348 *i* P **PKPbc** **22 17 23.8 -0.5**
SNART Snartemo 151.96 354 *i* P **PKPbc** **22 17 24.4 0.0**
SUW Suwalki 152.07 333 *e*PKP **PKiKP** **22 17 24.9 -0.1**
ONAU Onsala 152.28 349 *i* P **PKPbc** **22 17 24.7 -0.4**
FABU Falkenberg 152.52 348 *i* P **PKPbc** **22 17 25.2 -0.4**
KIRS Kirsehir-Merke 152.75 297 ⇑P **PKPbc** **22 17 26.4 -0.5**
DEL Delary 152.79 346 *i* P **PKPbc** **22 17 25.5 -0.7**
BRTR Keskin Array B 152.86 298 **PKPdf** **22 17 18.9 -1.1**
BRTR Keskin Array B 152.86 298 PKP **PKPdf** **22 17 19.2 -0.8**
comp=Z,2.1nm,1.0s,baz=90,slow=2.5,SNR=10.0
BRTR PKPbc **PKPbc** **22 17 27.0 -0.2**
comp=Z,15nm,1.0s,baz=135,slow=2.2,SNR=30
PURM Purcari 153.31 315 ⇑P **PKPbc** **22 17 26.0 -1.7**
BJUU Bjuv 153.33 347 *i* P **PKiKP** **22 17 27.5 -0.1**
SORM Soroca 153.42 319 ⇓P **PKPdf** **22 17 23.9 +3.6**
SORM Soroca 153.42 319 ⇓PKIKP **PKPdf** **22 17 23.9 +3.6**
ANTO Ankara 153.48 299 **PKPdf** **22 17 21.4 +0.6**
ANTO Ankara 153.48 299 ⇓P **PKPbc** **22 17 28.1 -0.3**
ANTO Ankara 153.48 299 PKIKP **PKPdf** **22 17 21.4 +0.6**
CSS Mathiatis 153.57 288 PKPdf **PKPdf** **22 17 21.6 +0.6**
MILM Milestii Mici 153.77 316 ⇑P **PKPbc** **22 17 26.9 -1.8**
MILM Milestii Mici 153.77 316 ⇑/PKP **PKPbc** **22 17 27.0 -1.7**
comp=Z,24nm,1.4s
MILM Milestii Mici 153.77 316 ⇑PKIKP **PKPbc** **22 17 26.9 -1.8**
TLCR 154.58 313 ⇑P **PKPbc** **22 17 30.2 -0.3**
TLCR 154.58 313 ⇑PKIKP **PKPbc** **22 17 30.2 -0.3**
BEL Belsk 154.67 333 *e*PKP **PKiKP** **22 17 30.9 +0.3**
SAHE Sakarya_HENDEK 154.70 302 ⇑P **PKPbc** **22 17 30.5 -0.5**
EKA Eskdalemuir Ar 154.87 7 PKP **PKPdf** **22 17 21.8 -0.3**
comp=Z,1.0nm,0.6s,baz=326,slow=1.3,SNR=5.6
EKA PKPab **PKPab** **22 17 46.0 -0.2**
comp=Z,2.4nm,0.7s,baz=325,slow=3.0,SNR=6.2
TPGR Topolog 154.97 312 ⇓P **PKPbc** **22 17 27.3 -4.1**
CFR Carcaliu 155.01 313 ⇓P 22 17 30.8
CFR Carcaliu 155.01 313 ⇓PKIKP 22 17 30.8
DBIC Dimbokro 155.37 163 PKP **PKPdf** **22 17 24.4 +0.4**
comp=Z,7.5nm,1.1s,baz=327,slow=2.7,SNR=4.0
DBIC PKPab sPKPbc 22 17 50.8 -1.2
comp=Z,7.4nm,0.8s,baz=209,slow=2.3,SNR=5.6
KWP Kalwaria Pacla 155.45 327 *e*PKP **PKPab** **22 17 48.3 -0.6**
BURAR Bucovina Array 155.46 321 **PKPdf** **22 17 24.1 +0.8**
BURAR Bucovina Array 155.46 321 ⇓P PKPdf 22 17 32.0 +8.7
BURAR Bucovina Array 155.46 321 PKIKP **PKPdf** **22 17 24.4 +1.1**
ONER Baraj Valea Uz 155.50 317 ⇓P PKPdf 22 17 31.8 +8.5
VRI Vrincioaia 155.55 316 ⇓P PKPdf 22 17 31.6 +8.2
VRI Vrincioaia 155.55 316 ⇓PKIKP PKPdf 22 17 31.6 +8.2
TURR Turia 155.88 317 ⇑P **PKPab** **22 17 49.9 -1.0**
STHS Stebnicka Huta 156.28 328 *e*PKIKP **PKPdf** **22 17 31.9 +7.7**
STHS *e* 22 17 52.5
STHS Stebnicka Huta 156.28 328 *e*PKP **PKPab** **22 17 52.5 0.0**
DOPR Dopca 156.29 317 ⇓P PKPdf 22 17 34.4 +10
OJC Ojcow 156.31 331 *e*PKP **PKPdf** **22 17 25.1 +0.8**
NIE Niedzica 156.70 329 *e*PKP **PKPdf** **22 17 26.0 +1.2**
ARR Arges 157.06 317 ⇑P **PKPdf** **22 17 23.9 -1.6**
KSP Ksiaz 157.14 337 *e*PKP **PKPab** **22 17 55.8 -0.3**
LANS Liptovska Anna 157.26 330 *e*PKIKP PKPdf 22 17 34.8 +9.3
LANS Liptovska Anna 157.26 330 *e*PKP **PKPab** **22 17 57.6 +0.9**
OSTC Ostas 157.41 336 *e*PKIKP **PKPdf** **22 17 26.6 +0.9**
OSTC Ostas 157.41 336 *e*PKPDF **PKPdf** **22 17 26.6 +0.9**
OSTC *e*PKPAB **PKPab** **22 17 58.4 +1.1**
CHVC Chvalec 157.44 337 *e*PKP2 **PKPab** **22 17 57.0 -0.4**
CHVC Chvalec 157.44 337 *e*PKPAB **PKPab** **22 17 57.0 -0.4**
ELND Elena 157.47 310 ⇓P **PKPdf** **22 17 25.9 -0.1**
UPC Upice 157.52 337 AMS AMS 23 29 40.0
comp=Z,100nm,18.4s
DPC Dobruska-Polom 157.54 336 *e*PKP2 **PKPab** **22 17 58.1 +0.2**
DPC Dobruska-Polom 157.54 336 *e*PKPAB **PKPab** **22 17 58.1 +0.2**
MORC Moravsky Berou 157.57 333 *e*PKP **PKPab** **22 17 57.6 -0.4**
CLL Collm 157.73 342⇓*e*PKIKP **PKPdf** **22 17 28.0 +2.0**
CLL *i* 22 17 37.8
CLL pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 157.86 340⇓*e*PKPf 22 17 26.0
BRG Berggiesshubel 157.86 340 Amp 22 17 28.1
comp=Z,15nm,1.5s
PVCC Panska Ves 157.97 339 *e*PKP2 **PKPab** **22 17 59.8 +0.1**
PVCC Panska Ves 157.97 339 *e*PKPAB **PKPab** **22 17 59.8 +0.1**
JAVC Velka Javorina 158.25 332 *e*PKP **PKPab** **22 18 01.2 +0.2**
VRAC Vranov 158.31 334 *e*PKP **PKPab** **22 18 01.2 0.0**
PRU Pruhonice 158.45 338 AMS AMS 23 33 00.0
comp=Z,100nm,21.5s
KRUC Moravsky 158.59 334 *e*PKP **PKPab** **22 18 01.9 -0.5**
SMOL Smolenice 158.62 332 *e*PKP2 **PKPab** **22 18 02.8 +0.2**
BZS Buzias 158.65 320 ⇑P **PKPdf** **22 17 27.1 -0.2**
BZS Buzias 158.65 320 ⇑PKIKP **PKPdf** **22 17 27.1 -0.2**
SRO Srobarova 158.78 329 *e*PKIKP **PKPdf** **22 17 28.3 +1.0**
SRO Srobarova 158.78 329 *e*PKP **PKPdf** **22 17 28.3 +1.0**
SRO *e* 22 18 05.3
MODS Modra-Piesok 158.79 332 *e*PKP2 **PKPab** **22 18 03.5 +0.2**
MODS Modra-Piesok 158.79 332 *e*PKP **PKPab** **22 18 03.5 +0.2**
KHC Kasperske Hory 159.51 338 *e*PKIKP **PKPdf** **22 17 28.8 +0.6**
KHC *e* 22 18 06.2
KHC MLR MLR
comp=Z,200nm,20.7s
KHC Kasperske Hory 159.51 338 *e*PKPDF **PKPdf** **22 17 28.8 +0.6**
KHC *e*PKPAB **PKPab** **22 18 06.2 -0.2**
KHC AMS AMS 23 27 50.0
comp=Z,200nm,20.7s
CKRC Cesky Krumlov 159.54 337 *e*PKIKP **PKPdf** **22 17 28.6 +0.3**
CKRC *e* 22 18 03.9
CKRC Cesky Krumlov 159.54 337 *e*PKPDF **PKPdf** **22 17 28.6 +0.3**
CKRC *e*PKPAB **PKPab** **22 18 03.9 -2.7**
BEBN Eben Emael 159.56 354 *d*PKP **PKPab** **22 18 05.7 -0.8**
GRFO Grafenberg 159.67 343 **PKPab** **22 18 07.2 +0.1**
GRFO Grafenberg 159.67 343 PKP2 **PKPab** **22 18 07.2 +0.1**
CONA Conrad Observa 159.72 333 *e*PKP **PKPdf** **22 17 28.2 -0.4**
comp=Z,3.8nm,1.1s
CONA *e*PKP **PKPab** **22 18 07.4 -0.1**
comp=Z,5.0nm,1.0s
MEM Membach 159.72 353 *d*PKP **PKPab** **22 18 07.1 -0.1**
GERES GERESS Array B 159.72 338 PKP **PKPdf** **22 17 28.6 +0.1**
comp=Z,1.7nm,0.9s,baz=48,slow=2.0,SNR=10
GERES PKPab **PKPab** **22 18 06.8 -0.7**
comp=Z,1.9nm,0.6s,baz=32,slow=5.2,SNR=7.8
RONA Rosalia, Austr 159.72 332 *e*PKP **PKPab** **22 18 07.2 -0.2**
comp=Z,4.8nm,1.1s
BTNL Ternell 159.73 353 *d*PKP **PKPab** **22 18 08.2 +0.9**
BOVS Bovan 159.76 316 ⇑P **PKPdf** **22 17 27.3 -1.3**
BST1 Sart Tilman 159.78 354 *d*PKP **PKPab** **22 18 07.5 0.0**
MORH Mrgy, Hungar 159.79 326 ⇓P **PKPdf** **22 17 27.7 -0.9**
BHOU Houvegnez 159.97 353 *d*PKP **PKPab** **22 18 08.0 -0.3**
BGES Gesves 160.02 355 *d*PKP **PKPab** **22 18 07.5 -1.0**
BMRD Maredsous 160.13 355 *d*PKP **PKPab** **22 18 08.0 -1.0**
DOU Dourbes 160.34 356 *d*PKP **PKPab** **22 18 08.6 -1.3**
MOA Molln 160.38 335 *e*PKP **PKPab** **22 18 09.8 -0.4**
comp=Z,4.7nm,0.9s
ARSA Arzberg 160.40 332 *e*PKP **PKPab** **22 18 09.4 -1.0**
comp=Z,2.3nm,0.8s
WLF Walferdange 160.63 352 *d*PKPdf **PKPdf** **22 17 28.5 -0.9**
WLF *d*PKP **PKPab** **22 18 11.3 +0.1**

BIOA Bad Ischl, Aus 160.74 336 *e*PKP **PKPab** **22 18 11.6 -0.2**
comp=Z,2.1nm,0.4s
SOKA Soboth 161.06 332 *e*PKP **PKPdf** **22 17 29.6 -0.5**
comp=Z,4.3nm,1.4s
LESA Schwarzleotal 161.29 338 *e*PKP **PKPdf** **22 17 29.5 -0.8**
comp=Z,9.4nm,1.9s
LESA *e*PKP **PKPab** **22 18 14.0 -0.4**
comp=Z,5.1nm,0.9s
KBA Koelnbreinsper 161.37 336 *e*PKP **PKPdf** **22 17 29.5 -1.0**
comp=Z,7.3nm,1.5s
OBKA Obir 161.39 333 *e*PKP **PKPab** **22 18 13.4 -1.4**
comp=Z,1.3nm,0.6s
BFO Black Forest 161.60 347 **PKPab** **22 18 14.2 -1.3**
BFO Black Forest 161.60 347 PKP2 **PKPab** **22 18 14.2 -1.3**
MYKA Terra Mystica 161.64 334 *e*PKP **PKPdf** **22 17 30.6 -0.1**
comp=Z,0.9nm,0.5s
MYKA *e*PKP **PKPab** **22 18 14.5 -1.3**
comp=Z,2.1nm,0.6s
WATA Walderalm 161.72 340 *e*PKP **PKPab** **22 18 15.6 -0.6**
comp=Z,8.9nm,0.9s
WTTA Wattenberg 161.77 339 *e*PKP **PKPdf** **22 17 30.4 -0.5**
comp=Z,5.0nm,1.2s
WTTA *e*PKP **PKPab** **22 18 16.2 -0.3**
comp=Z,14nm,0.8s
LJU Ljubljana 161.78 332 *e*PKPdf **PKPdf** **22 17 30.1 -0.7**
LJU *i* PKPab **PKPab** **22 18 15.3 -1.1**
RETA Reutte 161.82 341 *e*PKP **PKPab** **22 18 16.2 -0.4**
comp=Z,10.0nm,0.8s
MOTA Moosalm 161.85 340 *e*PKP **PKPdf** **22 17 30.3 -0.7**
comp=Z,5.1nm,1.1s
MOTA *e*PKP **PKPab** **22 18 16.5 -0.3**
comp=Z,12nm,0.9s,SNR=14
BOJS Bojanci 161.90 329 *i* PKPdf **PKPdf** **22 17 30.4 -0.5**
BOJS *e*PKPab **PKPab** **22 18 20.7 +3.8**
SQTA Sankt Quirin 161.94 340 *e*PKP **PKPdf** **22 17 30.2 -0.9**
comp=Z,4.0nm,1.3s
SQTA *e*PKP **PKPab** **22 18 17.1 -0.1**
comp=Z,19nm,1.0s,SNR=8.6
ABTA Abfaltersbach 161.94 337 *e*PKP **PKPdf** **22 17 30.4 -0.6**
comp=Z,5.5nm,1.3s
ABTA *e*PKP **PKPab** **22 18 16.1 -1.0**
comp=Z,5.7nm,1.1s
DAVA Damuels 162.24 343 *e*PKP **PKPab** **22 18 18.1 -0.5**
comp=Z,8.8nm,1.1s
FETA Feichten 162.25 341 *e*PKP **PKPdf** **22 17 31.5 +0.1**
comp=Z,5.6nm,1.0s
FETA *e*PKP **PKPab** **22 18 18.6 -0.1**
comp=Z,4.8nm,0.9s
TORD Torodi Ar. Bea 162.73 178 **PKPdf** **22 17 32.7 0.0**
TORD Torodi Ar. Bea 162.73 178 PKP **PKPdf** **22 17 35.0 +2.3**
comp=Z,3.3nm,1.1s,baz=342,slow=1.9,SNR=8.1
TORD PKPab **PKPab** **22 18 22.9 +1.7**
comp=Z,10nm,0.9s,baz=196,slow=1.1,SNR=18
TORD PP **PP** **22 22 05.9 +1.5**
comp=Z,1.7nm,1.0s,baz=86,slow=6.1,SNR=4.7
TIP Timpagrande 165.31 310 ⇑P **PKPdf** **22 17 34.7 +0.4**
MVO Moncorvo 166.96 33 *e*PKPdf **PKPdf** **22 17 37.7 +2.1**
MTE Manteigas 167.29 36 *e*PKPdf **PKPdf** **22 17 37.5 +1.6**
PARRA Arraiolos 167.53 45 *e*PKPdf **PKPdf** **22 17 38.9 +2.8**
EVO Evora 168.33 44 *e*PKPdf **PKPdf** **22 17 38.7 +2.1**
PFVI Vila Bisbo 168.64 51 *e*PKPdf **PKPdf** **22 17 38.7 +1.8**
MORF Marmelete 168.66 50 *e*PKPdf **PKPdf** **22 17 39.7 +2.8**
PBAR Barrancos 169.14 43 *e*PKPdf **PKPdf** **22 17 39.3 +2.1**
PBDV Barranco-do-Ve 169.17 49 *e*PKPdf **PKPdf** **22 17 39.1 +1.9**
PAB San Pablo 169.46 29 PKPdf **PKPdf** **22 17 38.2 +0.8**
PAB San Pablo 169.46 29 PKIKP **PKPdf** **22 17 38.2 +0.8**
ESDC Sonseca Array 169.51 27 PKPdf **PKPdf** **22 17 37.5 +0.1**
ESDC Sonseca Array 169.51 27 PKP **PKPdf** **22 17 38.1 +0.8**
comp=Z,3.7nm,1.1s,baz=352,slow=3.4,SNR=14
ESDC PKPab **PKPab** **22 18 50.8 +0.1**
comp=Z,1.1nm,1.0s,baz=336,slow=3.4,SNR=2.4
ESDC PP **PP** **22 22 38.8 -1.2**
comp=Z,0.6nm,1.0s,baz=341,slow=2.7,SNR=4.1
TAM Tamanrasset 171.80 201 PKPab **PKPab** **22 19 02.2 +0.9**
TAM Tamanrasset 171.80 201 PKP2 **PKPab** **22 19 02.2 +0.9**
KEST Kesra 172.11 313 PKP **PKPdf** **22 17 39.7 +0.8**
comp=Z,3.2nm,0.9s,baz=358,slow=7.1,SNR=3.9

NNC 13 22:01:22.3±6.7, 37°.25N×70°.25E, h0km, mb3.5, mpv3.1, 3C, Error ellipse: s-maj=54.4km s-min=42.7km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.85**	**2**	P	Pn	22 02 51.0	+0.6
	3.7nm,0.4s,baz=181,slow=13,SNR=68						
KK31				⇑S	Sn	22 03 60.0	+1.9
	2.1nm,0.3s,baz=186,slow=22						
AAK	**Ala-Archa**	**6.29**	**30**	⇑P	Pn	22 02 55.8	-0.7
	0.2nm,0.4s						
AAK				⇑S	Sn	22 04 09.1	0.0
	1.5nm,0.6s						
AB31	**Akbulak array**	**14.14**	**331**	P	Pn	22 04 44.6	+0.8
	0.3nm,0.3s,baz=138,slow=15,SNR=16						

SDD ***13*** *22:02:32.0±2.4, 17°.78N×71°.90W, h31km±72km, MD2.8, ML1.7, MW2.9*
OSPL ***13*** *22:02:34.8±0.8, 18°.05N×71°.90W, h14km±226km, ML1.7*
ISC 13 22:02:33.0±2.7, 17°.97N±0°.09×71°.9W±0°.1, h30km±13km, n9, g0877/16, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOBH	**Bahia de las A**	**0.24**	**116**	*i* P	**Pn**	**22 02 40.8**	**+0.4**
LOBH				*e*S	**Sn**	**22 02 44.9**	**+0.8**
LOBH				IAML		22 02 45.5	
	comp=Z,91nm,0.1s						
JIDR	**Jimani**	**0.52**	**1**	⇓*e*Pg	**Pb**	**22 02 43.2**	**-0.5**
JIDR				*e*Sg	**Sn**	**22 02 52.7**	**+0.5**
JIDR				IAML		22 02 52.9	
	comp=N,44nm,0.3s						
LODU1	**El Espartillar**	**0.53**	**44**	*i* P	**Pn**	**22 02 44.4**	**-0.2**
LODU1				*e*S	**Sb**	**22 02 50.9**	**-0.5**
LODU1				IAML		22 02 53.2	
	comp=Z,228nm,0.5s						
PODR	**Polo**	**0.59**	**70**	⇑*e*Pg	**Pn**	**22 02 45.2**	**-0.2**
PODR				⇑*e*Sg	**Sb**	**22 02 53.5**	**+0.4**
PODR				IAML		22 02 58.1	
	comp=N,61nm,1.1s						
PODR	**Polo**	**0.59**	**70**	*i* P	**Pn**	**22 02 45.3**	**-0.2**
PODR				*e*S	**Sb**	**22 02 54.0**	**+0.8**
NEDR	**Neiba UASD**	**0.66**	**39**	⇑*e*Sg	**Sb**	**22 02 55.7**	**+0.6**
NEDR				IAML		22 02 58.5	
	comp=N,37nm,0.2s						
LONE3	**El Aguacate, B**	**0.74**	**31**	*i* P	**Pb**	**22 02 47.3

CRMI	**Carmignano**	**0.35 82**	P	Pb	22 14 51.6	-0.2
CRMI			S	Sb	22 14 57.2	-0.3
POPM	**Popiglio**	**0.36 32**	P	Pb	22 14 51.5	-0.4
POPM			S	Sb	22 14 56.7	-1.1
POPM			AML	AML		
	comp=E,31μm,1.2s					
POPM			AML	AML		
	comp=N,35μm,1.3s					
POPM			AML	AML		
	comp=N,35μm,0.7s					
MAGO	**Bibbona**	**0.48 166**	P	Pb	22 14 54.0	-0.2
MAGO			S	Sb	22 15 00.2	-1.1

PRU 13 22:15:01.8, 51°.45N×16°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.86**	**181**	*e*PG	Pg	22 15 17.7	-0.6
CHVC				*e*SG	Sg	22 15 30.1	+0.6
	4.4nm,0.3s						
UPC	**Upice**	**0.94**	**183**	*e*PG	Pg	22 15 19.6	-0.3
UPC				*e*SG	Sg	22 15 32.3	+0.2
	comp=Z,7.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	Pg	22 15 22.2	-0.9
DPC				*e*SG	Sg	22 15 36.3	-1.1
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	Pg	22 15 26.0	-1.3
PVCC				*e*SG	Sg	22 15 44.3	-0.3
	comp=Z,5.7nm,0.2s						
KRLC	**Kraliky**	**1.45**	**162**	*e*SG	Sg	22 15 47.3	-0.9
BRG	**Berggiesshubel**	**1.47**	**248**	Pg	Pn	22 15 28.5	-1.0
BRG				Sg	Sg	22 15 48.4	-0.6
BRG				Amp		22 15 49.2	
	comp=Z,2.8nm,0.4s						
STEB	**Steborice**	**1.86**	**144**	*e*SG	Sb	22 15 59.9	-0.4
HSKC	**Hora Svate Kat**	**1.88**	**244**	*e*SG	Sn	22 16 00.2	+0.6
TREC	**Trest**	**2.19**	**190**	*e*SG	Sb	22 16 11.0	+1.0
ZVC	**Zvikov**	**2.35**	**212**	*e*SG	Sg	22 16 17.4	+0.1
KHC	**Kasperske Hory**	**2.83**	**216**	*e*SG	Sg	22 16 31.0	-1.5
CKRC	**Cesky Krumlov**	**2.87**	**204**	*e*SG	Sg	22 16 33.2	-0.8

*NEIC **13** 22:34:36.2±1.0, 43°.64N±0°.06×105°.42W±0°.05, h0km±1km, ML3.1/68, Error ellipse: s-maj=9.8km s-min=5.4km az=161.0*
*IDC **13** 22:34:38.1±1.9, 43°.78N×105°.57W, h0km, mbtmp3.7/2, ML3.5/2, Error ellipse: s-maj=55.8km s-min=8.8km az=149.0*
ISC 13 22:34:37.2±1.1, 43°.72N±0°.06×105°.27W±0°.05, h0km, n27, σ0°88/22, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**66**		**Pn**	**22 34 58.4**	**0.0**
RSSD				Sg	**Sn**	**22 35 12.6**	**-0.5**
K22A	**Casper**	**1.41**	**221**	Pn	**Pb**	**22 35 05.0**	**+0.5**
K22A				IAML		22 35 30.1	
	348nm,0.3s						
K22A				IAML		22 35 30.5	
	490nm,0.3s						
LAO	**LASA Array**	**3.04**	**348**		**Pn**	**22 35 26.6**	**0.0**
RLMT	**Red Lodge**	**3.19**	**297**	Pn	**Pn**	**22 35 28.4**	**-0.4**
RLMT				IAML		22 36 22.0	
	45nm,0.3s						
RLMT				IAML		22 36 28.1	
	64nm,0.3s						
BW06	**Boulder Array**	**3.27**	**255**	Pn	**Pn**	**22 35 29.4**	**-0.5**
BW06				IAML		22 36 21.1	
	40nm,0.3s						
BW06				IAML		22 36 23.2	
	45nm,0.4s						
PD31	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**22 35 29.4**	**-0.6**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**22 35 29.6**	**-0.4**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**22 35 31.4**	**+1.4**
	3.3nm,0.3s,baz=61,slow=15,SNR=54						
PDAR				Pg	**Pb**	**22 35 37.2**	**+0.9**
	12nm,0.3s,baz=61,slow=17,SNR=56						
PDAR				Lg	Lg	22 36 14.4	
	2.4nm,0.3s,baz=71,slow=33,SNR=3.1						
	2.6nm,0.3s						
HAYD	**Hayden**	**3.52**	**205**	Pn	**Pn**	**22 35 32.3**	**-1.1**
YNE	**Yellowstone No**	**3.63**	**292**	Pn	**Pn**	**22 35 34.6**	**-0.3**
YNE				IAML		22 36 37.7	
	comp=N,51nm,0.3s						
YNE				IAML		22 36 39.9	
	comp=E,63nm,0.7s						
YMP	**Mirror Lake Pl**	**3.65**	**288**	Pn	**Pn**	**22 35 34.7**	**-0.5**
OGNE	**Ogallala**	**3.67**	**138**		**Pn**	**22 35 35.0**	**-0.3**
OGNE				IAML		22 36 44.4	
	comp=E,60nm,0.9s						
LOHW	**Long Hollow**	**3.87**	**270**	Pn	**Pn**	**22 35 37.3**	**-0.8**
H17A	**Grant Village**	**3.88**	**282**	Pn	**Pn**	**22 35 36.9**	**-1.5**
H17A				IAML		22 36 43.5	
	comp=N,23nm,0.2s						
H17A				IAML		22 36 44.7	
	comp=E,23nm,0.1s						
ISCO	**Idaho Springs**	**3.93**	**184**		**Pn**	**22 35 38.2**	**-0.9**
SNOW	**Snow King Moun**	**3.99**	**268**		**Pn**	**22 35 39.2**	**-0.7**
SNOW				IAML		22 36 06.0	
	comp=E,19nm,0.4s						
SNOW				IAML		22 36 55.6	
	comp=E,23nm,1.9s						
YPP	**Pitchstone Pla**	**4.03**	**280**	Pn	**Pn**	**22 35 39.8**	**-0.6**
TPAW	**Teton Pass**	**4.13**	**269**		**Pn**	**22 35 41.2**	**-0.6**
TPAW				IAML		22 36 57.7	
	comp=E,23nm,0.8s						
YHH	**Holmes Hill**	**4.14**	**287**	Pn	**Pn**	**22 35 40.0**	**-2.0**
O20A	**White River Ci**	**4.21**	**213**	IAML		22 37 08.2	
	comp=E,22nm,2.0s						
O20A				IAML		22 37 11.0	
	comp=E,23nm,0.7s						
YHL	**Hebgen Lake**	**4.39**	**287**	IAML		22 37 12.8	
	comp=N,18nm,0.7s						
YHL				IAML		22 37 22.2	
	comp=E,17nm,1.2s						
RDMU	**Red Mountain**	**4.48**	**227**	IAML		22 37 06.3	
	comp=N,18nm,1.1s						
RDMU				IAML		22 37 06.5	
	comp=E,16nm,1.0s						
BOZ	**Bozeman (W)**	**4.91**	**295**	IAML		22 37 13.7	
	comp=E,11nm,0.7s						
BOZ				IAML		22 37 16.3	
	comp=E,9.8nm,0.8s						
HWUT	**Hardware Ranch**	**5.10**	**248**	IAML		22 37 28.6	
	comp=E,17nm,0.9s						
HWUT				IAML		22 37 31.6	
	comp=E,18nm,0.9s						
BSUT	**Blindstream Ca**	**5.17**	**234**	IAML		22 37 36.6	
	comp=E,8.5nm,1.2s						
I10CA	**LAC DU BONNET**	**9.05**	**41**	I	I	23 30 50.0	
	baz=224,slow=314,SNR=23						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**22 36 50.8**	**+0.3**
	comp=E,1.7nm,0.3s,baz=224,slow=12,SNR=8.4						
ULM				Lg	Lg	22 39 21.6	
	comp=E,0.6nm,0.3s,baz=319,slow=22,SNR=1.4						
	comp=E,2.9nm,0.3s						

*IDC **13** 22:43:05.7±3.4, 9°.82N×93°.18E, h0km, mb3.5/6, mbtmp3.5/6, MS3.7/3, Error ellipse: s-maj=197.8km s-min=21.7km az=58.0*
ISC 13 22:43:13.5±3.4, 10°.5N±0°.8×94°.4E±°, h35km, n12, σ1°88/6, mb3.5/6, MS3.7/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**28.12**	**231**	T	T	23 16 01.5	
	baz=52,slow=76,SNR=9.5						
H08S2	**Diego Garcia H**	**28.12**	**231**	T	T	23 15 37.0	
	baz=52,slow=76,SNR=8.3						
H08S1	**Diego Carcia H**	**28.14**	**231**	T	T	23 15 51.8	
	baz=52,slow=76,SNR=9.0						
MKAR	**Makanchi Array**	**37.60**	**347**	P	**P**	**22 50 27.3**	**+2.4**
	0.2nm,0.3s,baz=173,slow=9.1,SNR=4.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**42.08**	**345**	P	**P**	**22 51 01.9**	**-0.1**
	0.2nm,0.6s,baz=163,slow=8.0,SNR=1.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.02**	**352**	P	**P**	**22 51 17.2**	**-0.4**
	0.4nm,0.4s,baz=171,slow=9.9,SNR=2.1						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**49.73**	**127**	P	**P**	**22 52 01.8**	**-1.0**
	0.1nm,0.3s,baz=301,slow=7.8,SNR=5.0						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**51.54**	**132**	P	**P**	**22 52 17.7**	**+1.4**
	0.4nm,0.5s,baz=301,slow=7.2,SNR=6.1						
	0.4nm,0.5s						
ASF	**Jabal al Asfar**	**56.91**	**302**	LR	LR	23 21 21.1	
	comp=Z,51nm,21.7s,baz=148,slow=41						
EIL	**Elat**	**58.24**	**298**	LR	LR	23 21 04.8	
	comp=Z,105nm,21.2s,baz=108,slow=40						
MMAI	**Mount Meron Ar**	**58.28**	**302**	LR	LR	23 21 45.4	
	comp=Z,64nm,21.6s,baz=98,slow=40						
ARCES	**ARCESS Array B**	**72.88**	**340**	P	**P**	**22 54 37.3**	**-1.3**
	0.4nm,0.4s,baz=107,slow=6.0,SNR=7.8						
	0.4nm,0.4s						

*IDC **13** 22:52:53.2±2.1, 6°.24S×146°.49E, h99km±16km, mb3.8/5, mbtmp4.3/8, MS3.3/1, Error ellipse: s-maj=19.9km s-min=16.4km az=81.0*
ISC 13 22:52:53.7±1.3, 6°.23S±0°.09×146°.5E±0°.1, h100km, n25, σ0°95/27, mb4.0/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**169**	P	**Pn**	**22 53 41.9**	**-0.4**
	81nm,0.3s,baz=333,slow=11,SNR=43						
PMG				S	**Sn**	**22 54 20.0**	**+0.1**
	150nm,0.3s,baz=106,slow=21,SNR=29						
PMG	**Port Moresby**	**3.21**	**169**	S	**Sn**	**22 54 20.3**	**+0.4**
PMG	**Port Moresby**	**3.21**	**169**	P	**Pn**	**22 53 41.8**	**-0.5**
PMG	**Port Moresby**	**3.21**	**169**	S	**Sn**	**22 54 20.4**	**+0.5**
JAY	**Jayapura**	**6.89**	**302**	P	**Pn**	**22 54 30.9**	**-1.2**
	18nm,0.3s,baz=156,slow=8.0,SNR=17						
JAY				S	Sn	22 55 38.0	-11
	13nm,0.7s,baz=50,slow=7.6,SNR=2.0						
COEN	**Coen**	**8.36**	**203**	P	**Pn**	**22 54 53.5**	**+1.3**
CTAO	**Charters Tower**	**13.78**	**181**	P	**Pn**	**22 56 05.7**	**+0.9**
FAKI	**Fak Fak**	**14.62**	**282**	P	**P**	**22 56 19.8**	**+0.5**
SAUI	**Saumlaki**	**15.22**	**263**	P	**P**	**22 56 25.9**	**-0.1**
QIS	**Mount Isa**	**15.75**	**205**	P	**P**	**22 56 30.6**	**-1.3**
WRAB	**Tennant Creek**	**18.05**	**220**	P	**Pn**	**22 56 57.0**	**-1.1**
WRA	**Warramunga Arr**	**18.06**	**220**	P	**Pn**	**22 56 57.4**	**-0.9**
	7.3nm,0.6s,baz=42,slow=12,SNR=46						
WRA				S	**Sn**	**23 00 18.6**	**-1.4**
	0.6nm,0.8s,baz=43,slow=23,SNR=2.6						
ASAR	**Alice Springs**	**21.17**	**214**	P	**P**	**22 57 31.2**	**+0.1**
	4.1nm,0.5s,baz=48,slow=9.4,SNR=52						
ASAR				S	**S**	**23 01 21.1**	**0.0**
	0.4nm,0.9s,baz=30,slow=23,SNR=2.1						
	4.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.55**	**238**	P	**P**	**22 57 55.0**	**-0.3**
	7.5nm,0.4s,baz=62,slow=8.8,SNR=46						
	7.5nm,0.4s						
ARMA	**Armidale**	**24.53**	**169**	P	**P**	**22 58 04.3**	**+0.2**
STKA	**Stephens Creek**	**25.93**	**190**	P	**P**	**22 58 15.3**	**-1.3**
	2.0nm,0.4s,baz=5.6,slow=7.9,SNR=6.2						
	2.0nm,0.4s						
HTT	**Hallett**	**27.97**	**194**	P	**P**	**22 58 36.0**	**+1.0**
BBOO	**Buckleboo**	**28.19**	**199**	P	**P**	**22 58 36.5**	**-0.4**
MEEK	**Meekatharra**	**33.45**	**229**	P	**P**	**22 59 23.9**	**+0.5**
UGM	**Wanagama**	**35.77**	**265**	P	**P**	**22 59 45.6**	**+2.1**
MORW	**Morawa**	**36.67**	**228**	P	**P**	**22 59 51.8**	**+0.8**
BLDU	**Ballidu**	**37.04**	**225**	P	**P**	**22 59 55.3**	**+1.2**
RAR	**Rarotonga**	**53.98**	**112**	LR	LR	23 21 56.9	
	comp=Z,26nm,19.3s,baz=216,slow=32						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**23 04 03.3**	**-1.1**
	0.6nm,0.6s,baz=340,slow=7.7,SNR=3.1						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**83.74**	**180**	P	**P**	**23 05 11.2**	**-0.3**
	0.8nm,0.6s,baz=308,slow=0.2,SNR=9.1						
	0.8nm,0.6s						

*IDC **13** 23:23:50.4±1.1, 2°.64S×138°.32E, h0km, mb3.6/6, mbtmp3.5/9, ML3.4/3, MS2.8/1, Error ellipse: s-maj=30.6km s-min=22.4km az=94.0*
ISC 13 23:23:55.1±0.8, 2°.7S±0°.1×138°.40E±0°.10, h32km, n10, σ0°77/10, mb3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.31**	**85**	Pn	**Pn**	**23 24 31.1**	**+0.1**
	2.9nm,0.3s,baz=237,slow=10,SNR=7.8						
JAY				Sn	**Sn**	**23 24 58.4**	**0.0**
	1.6nm,0.3s,baz=90,slow=9.9,SNR=5.2						
	25nm,0.7s						
PMG	**Port Moresby**	**10.96**	**128**	LR	LR	23 31 33.6	
	comp=Z,46nm,18.3s,baz=29,slow=42						
WRA	**Warramunga Arr**	**17.59**	**193**	P	**Pn**	**23 27 58.0**	**+0.1**
	0.3nm,0.3s,baz=14,slow=12,SNR=6.3						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.77**	**218**	P	**P**	**23 28 23.0**	**+0.4**
	0.1nm,0.3s,baz=36,slow=14,SNR=1.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.29**	**191**	P	**P**	**23 28 38.9**	**-0.3**
	0.7nm,0.5s,baz=20,slow=11,SNR=8.8						
	0.7nm,0.5s						
SONM	**Songino Array**	**57.58**	**335**	P	**P**	**23 33 42.8**	**+0.8**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.59**	**323**	P	**P**	**23 35 01.6**	**+0.4**
	0.3nm,0.6s,baz=136,slow=11,SNR=5.6						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**71.77**	**330**	P	**P**	**23 35 13.2**	**-1.1**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.54**	**325**	P	**P**	**23 35 23.5**	**-1.4**
	0.5nm,0.2s,baz=126,slow=4.7,SNR=1.2						
	0.5nm,0.2s						
ILAR	**Eielson Array**	**85.95**	**24**	P	**P**	**23 36 32.0**	**+0.1**
	0.3nm,0.8s,baz=267,slow=6.2,SNR=1.8						
	0.3nm,0.8s						

*IDC **13** 23:31:47.4±0.8, 11°.29S×165°.63E, h0km, mb4.2/11, mbtmp4.3/13, ML4.6/2, MS3.8/32, Error ellipse: s-maj=24.7km s-min=19.3km az=104.0*
*NEIC **13** 23:31:50.2±1.4, 11°.24S±0°.09×165°.88E±0°.10, h23km±6km, mb4.6/22, Error ellipse: s-maj=15.4km s-min=11.6km az=54.0*
ISC 13 23:31:51.8±0.5, 11°.37S±0°.07×165°.82E±0°.08, h37km, n70, σ1°22/48, mb4.4/20, MS3.8/30, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.27**	**162**	Pn	**Pn**	**23 32 55.0**	**+0.6**
HNR	**Honiara**	**6.09**	**288**	Pn	**Pn**	**23 33 18.7**	**-0.6**
HNR	**Honiara**	**6.09**	**288**	Pn	**Pn**	**23 33 17.8**	**-1.5**
	16nm,0.3s,baz=243,slow=10,SNR=7.2						
HNR				LR	LR	23 35 54.4	
	comp=Z,966nm,18.6s,baz=173,slow=42						
	108nm,0.5s						
DZM	**Mont Dzumac**	**10.66**	**177**	Pn	**Pn**	**23 34 22.8**	**+0.6**
	3.7nm,0.3s,baz=4.4,slow=9.4,SNR=30						
DZM				Sn	**Sn**	**23 36 16.4**	**-4.0**
	baz=126,slow=19						
	11nm,0.4s						
ONTNC	**Ouen Toro**	**10.90**	**177**	Pn	**Pn**	**23 34 25.9**	**+0.6**
PINNC	**Pines Island,**	**11.29**	**172**	Pn	**Pn**	**23 34 31.7**	**+1.0**
FUNA	**Funafuti**	**13.47**	**79**	Pn	**Pn**	**23 34 58.6**	**-1.9**
PMG	**Port Moresby**	**18.46**	**274**	P	**Pn**	**23 36 04.7**	**-0.2**
PMG	**Port Moresby**	**18.46**	**274**	LR	LR	23 42 45.6	
	comp=Z,613nm,19.6s,baz=124,slow=36						
EIDS	**Eidsvold**	**19.71**	**223**	P	**P**	**23 36 18.6**	**+0.4**
MANU	**Manus Island**	**20.52**	**296**		**P**	**23 36 26.9**	**-0.2**
CTAO	**Charters Tower**	**20.72**	**243**		**P**	**23 36 30.0**	**+0.8**
CTAO				IAmb	IAmb	23 36 44.5	
	comp=Z,24nm,1.1s						
ARMA	**Armidale**	**23.09**	**213**	P	**P**	**23 36 54.8**	**+0.2**
ARMA				IAmb	IAmb	23 37 08.3	
	comp=Z,33nm,1.5s						
INKA	**Innaminka**	**28.61**	**232**	P	**P**	**23 37 43.9**	**-0.9**
URZ	**Urewera**	**28.62**	**161**	LR	LR	23 47 37.5	
	comp=Z,86nm,18.6s,baz=351,slow=33						
STKA	**Stephens Creek**	**30.26**	**224**	P	**P**	**23 37 59.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=48,slow=11,SNR=5.0						
STKA				LR	LR	23 49 25.7	
	comp=Z,174nm,20.1s,baz=26,slow=35						
	comp=Z,2.4nm,0.8s						
MRNZ	**Matariki Terra**	**30.53**	**170**	P	**P**	**23 38 01.7**	**0.0**
WRA	**Warramunga Arr**	**31.44**	**250**	P	**P**	**23 38 09.3**	**-0.7**
WRA	**Warramunga Arr**	**31.44**	**250**	P	**P**	**23 38 09.0**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=81,slow=9.1,SNR=31						
WRA				LR	LR	23 50 47.0	
	comp=Z,204nm,18.8s,baz=80,slow=36						
	comp=Z,4.4nm,0.8s						
GUMO	**Guam**	**32.35**	**319**	LR	LR	23 50 37.5	
	comp=Z,90nm,20.4s,baz=146,slow=35						
ASAR	**Alice Springs**	**32.72**	**244**	P	**P**	**23 38 20.1**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=65,slow=9.9,SNR=13						
ASAR				PcP	**PcP**	**23 41 06.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=67,slow=3.0,SNR=4.3						
ASAR				LR	LR	23 50 48.4	
	comp=Z,300nm,18.8s,baz=94,slow=35						
	comp=Z,1.2nm,0.8s						
RAR	**Rarotonga**	**34.38**	**111**	LR	LR	23 49 58.5	
	comp=Z,125nm,20.4s,baz=286,slow=32						
FITZ	**Fitzroy Crossi**	**39.37**	**255**	P	**P**	**23 39 16.9**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=112,slow=6.2,SNR=14						
FITZ				LR	LR	23 54 44.3	
	comp=Z,229nm,19.9s,baz=72,slow=35						
	comp=Z,5.2nm,0.8s						
BATI	**Baumata**	**41.40**	**267**	LR	LR	23 56 43.1	
	comp=Z,184nm,19.3s,baz=196,slow=36						
PPT	**Papeete**	**43.55**	**104**	LR	LR	23 55 38.7	
	comp=Z,129nm,19.7s,baz=241,slow=33						
DAV	**Davao City (W)**	**44.03**	**293**	LR	LR	23 55 40.7	
	comp=Z,67nm,20.7s,baz=147,slow=33						
KAPI	**Kappang**	**45.99**	**274**	LR	LR	00 00 59.9	
	comp=Z,43nm,18.3s,baz=94,slow=38						
NWAO	**Narrogin (SRO)**	**49.35**	**236**	LR	LR	00 01 38.4	
	comp=Z,361nm,18.4s,baz=56,slow=36						
PETK	**Petropavlovsk-**	**64.59**	**355**	LR	LR	00 06 07.4	
	comp=Z,33nm,21.8s,baz=168,slow=32						
CASY	**Casey**	**66.11**	**201**	P	**P**	**23 42 34.9**	**0.0**
VNDA	**Vanda**	**66.18**	**181**	P	**P**	**23 42 36.1**	**+0.8**
VNDA	**Vanda**	**66.18**	**181**	P	**P**	**23 42 36.0**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=320,slow=2.6,SNR=5.2						
	comp=Z,0.9nm,1.0s						
SBA	**Scott Base**	**66.48**	**180**	P	**P**	**23 42 38.6**	**+1.4**
SBA				IAmb	IAmb	23 42 52.5	
	comp=Z,3.7nm,0.9s						
MA2	**Magadan**	**71.73**	**352**	LR	LR	00 08 00.1	
	comp=Z,40nm,20.5s,baz=158,slow=30						
CMAR	**Chiang Mai Arr**	**72.31**	**294**	P	**P**	**23 43 12.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**72.31**	**294**	P	**P**	**23 43 15.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=113,slow=4.1,SNR=6.2						
CMAR				LR	LR	00 14 45.1	
	comp=Z,12nm,19.5s,baz=235,slow=36						
	comp=Z,0.5nm,0.3s						
CHTO	**Chiang Mai**	**72.42**	**294**	P	**P**	**23 43 15.5**	**+0.6**
CHTO				IAmb	IAmb	23 43 23.0	
	comp=Z,3.4nm,1.2s						
SEY	**Seymchan**	**74.80**	**354**	LR	LR	00 12 29.0	
	comp=Z,52nm,19.0s,baz=157,slow=33						
KDAK	**Kodiak Island**	**76.85**	**21**	LR	LR	00 18 09.0	
	comp=Z,52nm,18.5s,baz=239,slow=36						
QSPA	**South Pole Qui**	**78.64**	**180**	P	**P**	**23 43 51.7**	**+1.9**
QSPA				IAmb	IAmb	23 44 09.9	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**78.64**	**180**	P	**P**	**23 43 52.9**	**+3.0**
	comp=Z,3.7nm,1.0s,baz=17,slow=2.2,SNR=8.4						
QSPA				LR	LR	00 16 33.4	
	comp=Z,38nm,18.4s,baz=333,slow=34						
	comp=Z,3.7nm,1.0s						
L18K	**Granite Mounta**	**78.95**	**17**	P	**P**	**23 43 51.5**	**+0.1**
SONM	**Songino Array**	**78.97**	**324**	P	**P**	**23 43 52.4**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=138,slow=6.1,SNR=6.0						
	comp=Z,1.3nm,0.9s						
J17K	**VABM Dome**	**79.26**	**15**	P	**P**	**23 43 52.5**	**-0.5**
J17K				IAmb	IAmb	23 43 54.7	
	comp=Z,8.2nm,1.0s						
M19K	**Big River Lodg**	**79.38**	**18**	P	**P**	**23 43 53.5**	**-0.2**
M19K				IAmb	IAmb	23 43 55.7	
	comp=Z,10nm,1.2s						
L19K	**White Mountain**	**79.46**	**18**	P	**P**	**23 43 54.1**	**-0.1**
L19K				IAmb	IAmb	23 44 06.9	
	comp=Z,5.6nm,0.9s						
RPN	**Rapa Nui**	**80.37**	**116**	LR	LR	00 14 36.7	
	comp=Z,64nm,18.9s,baz=216,slow=32						
M26K	**Nabesna, AK**	**83.51**	**21**	P	**P**	**23 44 14.3**	**-1.3**
H23K	**Yukon River**	**83.75**	**17**	P	**P**	**23 44 16.2**	**-0.5**
H23K				IAmb	IAmb	23 44 18.6	
	comp=Z,5.0nm,1.0s						
RIDG	**Independent Ri**	**83.75**	**20**	P	**P**	**23 44 15.7**	**-1.1**
ILAR	**Eielson Array**	**83.79**	**18**	P	**P**	**23 44 17.0**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=243,slow=5.1,SNR=17						
ILAR				LR	LR	00 22 22.5	
	comp=Z,32nm,18.2s,baz=276,slow=36						
	comp=Z,1.7nm,0.8s						
L27K	**Beaver Creek,**	**84.35**	**21**	P	**P**	**23 44 19.5**	**-0.3**
L27K				IAmb	IAmb	23 44 20.7	
	comp=Z,4.5nm,1.1s						
MAW	**Mawson**	**84.45**	**202**	LR	LR	00 20 11.1	
	comp=Z,23nm,18.8s,baz=70,slow=34						
BBB	**Bella Bella**	**84.80**	**34**	LR	LR	00 16 03.4	
	comp=Z,95nm,18.5s,baz=230,slow=31						
K27K	**Chicken**	**84.87**	**20**	P	**P**	**23 44 22.7**	**+0.3**
K27K				IAmb	IAmb	23 44 24.4	
	comp=Z,8.5nm,1.2s						
NVAR	**Mina Array Bea**	**86.17**	**50**	LR	LR	00 17 36.2	
	comp=Z,123nm,18.6s,baz=272,slow=32						
PFO	**Pinyon Flats O**	**86.21**	**55**	LR	LR	00 20 34.9	
	comp=Z,85nm,18.1s,baz=263,slow=34						
DLBC	**Dease Lake**	**86.66**	**28**	LR	LR	00 19 08.0	
	comp=Z,441nm,18.2s,baz=248,slow=33						
PALK	**Pallekele**	**86.67**	**278**	LR	LR	00 26 18.3	
	comp=Z,35nm,18.5s,baz=42,slow=38						
ELK	**Elko**	**89.11**	**48**	LR	LR	00 18 39.9	
	comp=Z,51nm,18.7s,baz=288,slow=32						
MKAR	**Makanchi Array**	**93.81**	**317**	P	**P**	**23 45 05.9**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=101,slow=6.3,SNR=11						
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**93.86**	**324**	P	**P**	**23 45 05.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=96,slow=7.4,SNR=4.1						
	comp=Z,1.0nm,0.9s						
ANMO	**Albuquerque**	**94.57**	**55**	LR	LR	00 19 51.6	
	comp=Z,79nm,20.9s,baz=4.0,

comp=N,6μm,0.2s
TA02 Huaiquique 1.06 278 *e*P **Pn 23 32 34.8 -0.5**
TA02 *e*S **Sn 23 32 52.4 +1.7**
TA02 IAML 23 32 53.3
comp=Z,2μm,0.1s
TA01 Diego Aracena 1.10 262 ⇑*i*P **Pn 23 32 34.9 -0.8**
TA01 *i*S **Sn 23 32 51.4 -0.2**
TA01 Diego Aracena 1.10 262 *e*P **Pn 23 32 35.0 -0.8**
TA01 *e*S **Sn 23 32 53.2 +1.7**
TA01 IAML 23 32 57.6
comp=Z,633nm,0.3s
PATCX Punta Patache 1.14 249 ⇑*i*P **Pn 23 32 35.5 -0.8**
PATCX *i*S **Sn 23 32 52.3 -0.2**
PATCX IAML 23 32 58.9
comp=E,2μm,0.2s
PB02 IPOC Station P 1.21 223 ⇑*i*P **Pn 23 32 36.5 -0.8**
PB02 *i*S **Sn 23 32 55.3 +1.1**
PB02 IAML 23 32 57.6
comp=E,5μm,0.2s
PB02 IPOC Station P 1.21 223 *e*P **Pn 23 32 36.5 -0.8**
PB02 *e*S **Sn 23 32 56.0 +1.9**
PB02 IAML 23 32 56.8
comp=Z,5μm,0.3s
PB09 IPOC Station P 1.38 189 *e*P **Pn 23 32 38.4 -1.0**
PB09 *i*S **Sn 23 32 58.4 +0.5**
PB09 IPOC Station P 1.38 189 *e*P **Pn 23 32 38.4 -1.0**
PB09 *e*S Sn 23 32 49.3 -8.6
PB09 IAML 23 33 05.8
comp=Z,744nm,0.4s
PB03 IPOC Station P 1.76 203 *e*P **Pn 23 32 42.7 -1.4**
PB03 *i*S **Sn 23 33 04.7 -1.7**
PB03 IAML 23 33 13.0
comp=N,1μm,0.5s
PB03 IPOC Station P 1.76 203 *e*P **Pn 23 32 42.7 -1.4**
PB03 *e*S **Sn 23 33 08.2 +1.8**
PB03 IAML 23 33 13.7
comp=Z,980nm,0.2s
PX02 IPOC Station P 1.83 322 *e*P **Pn 23 32 43.1 -1.9**
PB16 IPOC Station P 2.13 347 ⇓*i*P **Pn 23 32 48.6 -0.7**
PB16 *i*S **Sn 23 33 16.6 +1.0**
PB16 IPOC Station P 2.13 347 *e*P **Pn 23 32 48.1 -1.2**
PB16 *e*S **Sn 23 33 16.1 +0.6**
PB06 IPOC Station P 2.33 193 *e*P **Pn 23 32 50.5 -1.1**
PB06 IPOC Station P 2.33 193 *e*P **Pn 23 32 50.5 -1.1**
PB06 *e*S **Sn 23 33 22.7 +3.0**
PB06 IAML 23 33 27.4
comp=Z,509nm,0.3s
AF01 San Pedro de A 2.63 163 *e*P **Pn 23 32 55.1 -0.6**
AF01 San Pedro de A 2.63 163 *e*P Pn 23 33 04.6 +8.8
AF01 *e*S **Sn 23 33 26.4 -0.8**
AF01 IAML 23 34 05.5
comp=Z,227nm,0.5s
PB18 Visviri 2.85 351 *e*P **Pn 23 33 00.2 +1.3**
PB10 IPOC Station P 3.39 205 *e*P **Pn 23 33 03.7 -2.0**
PB10 IPOC Station P 3.39 205 *e*P **Pn 23 33 04.0 -1.6**
PB10 *e*S **Sn 23 33 48.6 +3.7**
PB10 IAML 23 33 57.8
comp=Z,138nm,0.5s
YJA Yavi 3.70 119 *e*P **Pn 23 33 09.1 -1.2**
HJA Humahuaca 4.35 130 *e*P **Pn 23 33 18.2 -0.8**
HJA *e*S **Sn 23 34 11.0 +2.3**
GO02 Mina Guanaco 4.75 186 *e*P **Pn 23 33 22.3 -2.0**
GO02 *e*S Sn 23 34 34.1 +16
GO02 IAML 23 34 45.9
comp=Z,83nm,0.6s

*HEL **13** 23:33:41.8±0.3, 67°.85N×19°.97E, h0km, ML2.0, Explosion*
*IDC **13** 23:33:42.5±1.2, 67°.79N×20°.29E, h0km, mbtmp2.9/4, ML2.1/3, Error ellipse: s-maj=19.4km s-min=8.1km az=118.0*
*UPP **13** 23:33:42.8±0.0, 67°.84N×20°.21E, h0km, ML2.3, Suspected explosion*
ISC 13 23:33:43.0±0.8, 67°.83N±0°.02×20°.22E±0°.02, h0km, n38, σ1§36/68, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**20**	P	**Pg**	**23 33 45.2**	**-0.2**
KUA				S	**Sg**	**23 33 46.9**	**-0.2**
RATU	**Laukkuluspa**	**0.24**	**268**	P	**Pg**	**23 33 47.4**	**-0.1**
RATU				S	**Sg**	**23 33 51.0**	**+0.4**
KOVU	**Salmi**	**0.39**	**357**	P	**Pg**	**23 33 50.1**	**-0.4**
KOVU				S	**Sg**	**23 33 55.2**	**-0.4**
NIKU	**Nikkaluokta**	**0.45**	**275**	P	**Pg**	**23 33 51.3**	**-0.3**
NIKU				S	**Sg**	**23 33 57.7**	**+0.3**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 33 56.1**	**-0.3**
LANU				S	**Sg**	**23 34 05.4**	**-0.1**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**23 33 55.8**	**-0.7**
LANU				SG	**Sg**	**23 34 05.6**	**0.0**
DUNU	**Dundret**	**0.73**	**169**	P	**Pg**	**23 33 56.6**	**-0.3**
DUNU				S	**Sg**	**23 34 07.0**	**+0.8**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 33 57.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**23 34 05.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	PN	**Pg**	**23 34 05.6**	**-0.3**
KIF				MSG		23 34 19.1	
	comp=Z,20nm,0.2s						
KIF				SB	**Sg**	**23 34 21.3**	**-0.1**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 34 08.2**	**-1.1**
PAJU				S	**Sg**	**23 34 27.0**	**-0.2**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**23 34 08.3**	**-1.1**
	baz=303						
PAJU				SG	**Sg**	**23 34 27.6**	**+0.3**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**23 34 08.5**	**-1.4**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**23 34 08.7**	**-1.2**
HEF				MSG		23 34 26.6	
	comp=Z,14nm,0.2s						
HEF				SG	**Sg**	**23 34 27.5**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**23 34 10.3**	**-0.8**
ERTU				S	**Sn**	**23 34 31.3**	**+0.1**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	**Pn**	**23 34 10.2**	**-0.8**
ERTU				SN	**Sn**	**23 34 31.5**	**+0.3**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**23 34 12.4**	**-0.5**
KTK1				SN	**Sn**	**23 34 34.0**	**-0.5**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**23 34 14.0**	**+0.1**
HARU				S	**Sb**	**23 34 37.1**	**+0.1**
KALU	**Kalix**	**2.34**	**147**	PG	**Pn**	**23 34 23.5**	**+1.0**
	baz=323						
KALU				SG	**Sb**	**23 34 54.3**	**-1.0**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**23 34 24.6**	**+1.3**
TOF				MSG		23 34 54.9	
	comp=Z,5.4nm,0.2s						
TOF				SG	**Sb**	**23 34 56.8**	**0.0**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**23 34 27.4**	**+1.6**
RNF				SB	**Sb**	**23 34 51.5**	**-0.4**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**23 34 26.4**	**+0.5**
ARA0				SB	**Sb**	**23 35 00.5**	**-1.8**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 34 26.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=227,slow=15,SNR=27						
ARCES				Sn	**Sn**	**23 34 59.0**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=228,slow=23,SNR=17						
	comp=Z,1.4nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**23 34 33.0**	**0.0**
RAJF				SB	**Sb**	**23 35 16.6**	**-0.5**
KEV	**Kevo**	**3.13**	**49**	PB	**Pn**	**23 34 34.1**	**+0.6**
KEV				SN	**Sn**	**23 35 12.2**	**+0.6**
RANF	**Ranua**	**3.17**	**122**	PN	**Pn**	**23 34 35.3**	**+1.4**
RANF				SG	**Sb**	**23 35 20.2**	**+1.1**
BURU	**Burvik**	**3.30**	**171**	PB	**Pn**	**23 34 37.9**	**+2.2**
BURU				SB	**Sn**	**23 35 18.8**	**+3.2**
VRF	**Varrio**	**3.57**	**87**	PN	**Pn**	**23 34 40.4**	**+0.9**
VRF				SG	**Sb**	**23 35 33.2**	**+2.5**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**23 34 47.7**	**+0.7**
OBF0	**Syolatti, Pyha**	**3.73**	**152**	PG	**Pb**	**23 34 51.4**	**+1.9**
	baz=339						
KU2	**Taivalkoski**	**3.82**	**120**	PN	**Pn**	**23 34 44.1**	**+1.1**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**23 34 44.9**	**+0.9**
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**23 34 46.3**	**+1.2**
MSF				SN	**Sn**	**23 35 33.8**	**+1.3**
KU6	**Riekki**	**4.22**	**111**	PN	**Pn**	**23 34 49.3**	**+0.9**
KU6				SG	**Sg**	**23 35 56.2**	**-2.0**
KU1	**Kurvinen**	**4.35**	**117**	PN	**Pn**	**23 34 51.7**	**+1.4**
KU1				SN	**Sn**	**23 35 42.5**	**+0.9**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**23 35 23.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=2.8						
FINES				Sn	**Sn**	**23 36 42.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=339,slow=19,SNR=2.0						
FINES				Lg	Lg	23 37 15.1	
	comp=Z,0.1nm,0.3s,baz=347,slow=25,SNR=1.9						
	comp=Z,2.2nm,0.9s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 35 33.9**	**-4.3**
	baz=7.3,slow=10,SNR=1.6						
NOA				Lg	Lg	23 37 45.9	
	baz=41,slow=25,SNR=3.6						
	comp=Z,0.2nm,0.6s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**23 35 43.0**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=20,slow=17,SNR=1.1						
HFS				Sn	**Sn**	**23 37 11.5**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=23,SNR=1.0						
HFS				Lg	Lg	23 38 01.6	
	comp=Z,0.2nm,0.3s,baz=36,slow=28,SNR=2.0						

*UCR **13** 23:36:30.6±1.2, 11°.62N×85°.78W, h185km±9km, MW3.6*
*CATAC **13** 23:36:32.2±0.7, 11°.N±6°.×8°.6W±°., h175km±4km, M2.6/7, MLv2.6/7, Error ellipse: s-maj=15.5km s-min=6.2km az=44.5, confirmed*
ISC 13 23:36:32.0±2.4, 11°.53N±0°.08×85°.79W±0°.10, h181km±14km, n48, σ0§61/53, 10C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORN	**Al O del Volca**	**0.14**	**84**	P	**Pn**	**23 36 56.4**	**+0.5**
CONN	**Concepcion**	**0.16**	**79**	P	**Pn**	**23 36 56.3**	**+0.3**
CONN				S	**Sn**	**23 37 15.4**	**+1.1**
CARN	**Rivas**	**0.43**	**142**	P	**Pn**	**23 36 56.8**	**+0.1**
CARN				S	**Sn**	**23 37 16.2**	**+0.6**
CARN	**Rivas**	**0.43**	**142**	*e*P	**Pn**	**23 36 56.7**	**+0.1**
CARN				*e*S	**Sn**	**23 37 16.3**	**+0.6**
LCRUZ	**La Cruz**	**0.48**	**161**	*e*P	**Pn**	**23 36 56.3**	**-0.5**
ACON	**Acoyapa**	**0.74**	**54**	P	**Pn**	**23 36 57.3**	**-0.8**
ACON	**Acoyapa**	**0.74**	**54**	*e*P	**Pn**	**23 36 57.1**	**-1.0**
ACON				*e*S	**Sn**	**23 37 17.2**	**-1.1**
UNAN	**Cigeo UNAN**	**0.74**	**321**	P	**Pn**	**23 36 58.3**	**+0.2**
UNAN				S	**Sn**	**23 37 19.3**	**+1.0**
PEJA	**Penjamo Buenos**	**0.79**	**143**	*e*P	**Pn**	**23 36 58.5**	**0.0**
BUAI	**Buenos Aires**	**0.79**	**145**	⇑*i*P	**Pn**	**23 36 58.6**	**+0.2**
VORI	**VORI**	**0.83**	**148**	*e*P	**Pn**	**23 36 59.1**	**+0.2**
LAPC	**Finca la Perla**	**0.84**	**155**	⇑*i*P	**Pn**	**23 36 58.2**	**-0.6**
VRLE	**La Escondida,**	**0.85**	**151**	*e*P	**Pn**	**23 36 58.7**	**-0.3**
GPS1	**Guardaparques**	**0.87**	**150**	*e*P	**Pn**	**23 36 59.7**	**+0.7**
GPS3	**Bodega del ICE**	**0.88**	**152**	*e*P	**Pn**	**23 36 59.0**	**-0.1**
GPS2	**Hotel Rincn d**	**0.89**	**151**	*e*P	**Pn**	**23 36 59.5**	**+0.3**
ELI1	**Hacienda Flor**	**0.91**	**165**	P	**Pn**	**23 36 59.0**	**-0.2**
ELI1	**Hacienda Flor**	**0.91**	**165**	S	**Sn**	**23 37 19.8**	**-0.5**
ALIBA	**Liberia Airpor**	**0.96**	**166**	*e*P	**Pn**	**23 36 59.2**	**-0.3**
VMAR	**Armenia, Volca**	**0.97**	**137**	*e*P	**Pn**	**23 36 59.9**	**+0.2**
HORNC	**Hornillas**	**1.01**	**144**	*e*P	**Pn**	**23 37 00.3**	**+0.3**
COPN	**Copaltepe**	**1.01**	**309**	*e*P	**Pn**	**23 36 57.8**	**-2.2**
COLC	**Colonia**	**1.04**	**146**	*e*P	**Pn**	**23 36 59.1**	**-1.0**
CUI	**Cuipilapa**	**1.06**	**145**	⇑*i*P	Pn	23 37 05.3	+4.9
MOTZ	**Rio Naranjo**	**1.10**	**140**	*e*P	**Pn**	**23 37 00.6**	**0.0**
MOM2	**El Cardon**	**1.13**	**323**	S	**Sn**	**23 37 23.2**	**+0.1**
TENO	**El Achiote**	**1.15**	**136**	*e*P	**Pn**	**23 37 01.5**	**+0.5**
TIMP	**Tierras Morena**	**1.21**	**141**	⇑*i*P	**Pn**	**23 37 01.4**	**-0.2**
QUEB	**Quebradon, Cot**	**1.26**	**136**	*e*P	**Pn**	**23 37 01.5**	**-0.5**
INVE	**Universidad In**	**1.27**	**146**	*e*P	**Pn**	**23 37 01.8**	**-0.2**
TILA	**Tilaran**	**1.33**	**143**	⇑*i*P	**Pn**	**23 37 02.5**	**-0.1**
JUD3	**Juan Diaz 3**	**1.38**	**170**	⇑*i*P	**Pn**	**23 37 02.4**	**-0.6**
CHIK	**Chiripa**	**1.39**	**141**	⇓*i*P	**Pn**	**23 37 03.4**	**+0.3**
NICO	**Nicoya**	**1.43**	**166**	*e*P	**Pn**	**23 37 02.9**	**-0.5**
TABAC	**Tabacon**	**1.44**	**136**	*e*P	**Pn**	**23 37 03.2**	**-0.3**
JTS	**Las Juntas de**	**1.48**	**146**	⇑*i*P	**Pn**	**23 37 03.4**	**-0.6**
CEDE	**Laguna Cedeo**	**1.49**	**134**	*e*P	**Pn**	**23 37 04.6**	**+0.6**
ARE1	**Arenal 1**	**1.50**	**135**	⇑*i*P	**Pn**	**23 37 04.4**	**+0.4**
VARE2	**V. Arenal**	**1.50**	**135**	⇑*e*P	**Pn**	**23 37 04.4**	**+0.3**
NYURE	**Nandayure**	**1.61**	**161**	*e*P	**Pn**	**23 37 04.5**	**-0.7**
PKGN	**Cerro Pekin**	**1.62**	**314**	P	**Pn**	**23 37 05.9**	**+0.7**
PKGN				S	**Sn**	**23 37 31.7**	**+0.7**
SOCE	**Pocosol**	**1.62**	**135**	S	**Sn**	**23 37 30.8**	**-0.3**
SOCE	**Pocosol**	**1.62**	**135**	P	**Pn**	**23 37 05.2**	**-0.1**
SOCE	**Pocosol**	**1.62**	**135**	⇑*i*P	**Pn**	**23 37 05.2**	**-0.1**
JCR1	**Jicaral**	**1.80**	**158**	*e*P	**Pn**	**23 37 06.7**	**-0.4**
PAR1A	**Puntarenas Pro**	**2.45**	**142**	*e*P	**Pn**	**23 37 14.5**	**+0.4**
PICV	**PH. Pirrs**	**2.46**	**140**	*e*P	**Pn**	**23 37 14.7**	**+0.3**
PIEC	**Cerro El Cedra**	**2.62**	**136**	*e*P	**Pn**	**23 37 16.5**	**+0.1**

*IDC **13** 23:41:12.0±1.5, 3°.89N×64°.30E, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/1, Error ellipse: s-maj=48.8km s-min=23.3km az=46.0*
*NEIC **13** 23:41:12.2±1.1, 3°.85N±0°.06×64°.32E±0°.07, h10km±1km, mb4.6/43, Error ellipse: s-maj=12.4km s-min=9.2km az=244.0*
ISC 13 23:41:11.7±0.5, 3°.85N±0°.09×64°.28E±0°.07, h10km, n60, σ1§00/56, mb4.4/30, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDM	**Hanimaadhoo**	**9.32**	**71**	Pn	**Pn**	**23 43 25.3**	**-1.0**
MSEY	**Mahe Island**	**12.21**	**226**	Pn	**Pn**	**23 44 06.0**	**+0.2**
PALK	**Pallekele**	**16.69**	**78**	P	**P**	**23 45 08.2**	**-0.1**
KIBK	**Kibwezi**	**26.93**	**257**	P	**P**	**23 46 53.3**	**-0.3**
KIBK				IAmb	IAmb	23 47 27.7	
	comp=Z,6.9nm,1.3s						
LODK	**Lodwar**	**28.86**	**270**	P	**P**	**23 47 10.5**	**-0.4**
VOI	**Vohitsoka**	**30.80**	**213**	P	**P**	**23 47 27.3**	**-0.6**
VOI				IAmb	IAmb	23 47 30.0	
	comp=Z,16nm,1.2s						
NIL	**Nilore**	**30.80**	**15**	P	**P**	**23 47 26.7**	**-1.1**
NIL				IAmb	IAmb	23 48 02.3	
	comp=Z,3.3nm,0.9s						
KBL	**Kabul**	**30.86**	**8**	P	**P**	**23 47 27.9**	**-0.5**
KBL				IAmb	IAmb	23 48 05.6	
	comp=Z,3.6nm,0.4s						
EVN	**Everest**	**32.18**	**40**	P	**P**	**23 47 37.0**	**-3.7**
DRK	**Karamyk**	**36.12**	**10**	P	**P**	**23 48 15.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**36.87**	**64**	P	**P**	**23 48 22.9**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=265,slow=9.1,SNR=4.9						
	comp=Z,1.1nm,0.3s						
GNI	**Garni**	**40.22**	**337**	P	**P**	**23 48 49.2**	**+0.5**
GNI				IAmb	IAmb	23 48 54.4	
	comp=Z,7.5nm,1.1s						
BNN	**Bunyan**	**43.38**	**327**	P	**P**	**23 49 14.7**	**+0.1**
KBZ	**Khabaz**	**43.99**	**338**	P	**P**	**23 49 21.1**	**+1.9**
	comp=Z,2.1nm,0.9s,baz=96,slow=10,SNR=5.2						
	comp=Z,2.1nm,0.9s						
KIV	**Kislovodsk**	**44.26**	**338**	P	**P**	**23 49 22.6**	**+1.0**
KIV				IAmb	IAmb	23 49 26.3	
	comp=Z,12nm,1.4s						
BRTR	**Keskin Array B**	**45.21**	**326**	P	**P**	**23 49 30.9**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=146,slow=8.0,SNR=3.9						
	comp=Z,0.5nm,0.8s						
AB31	**Akbulak array**	**45.39**	**356**	P	**P**	**23 49 30.9**	**+0.5**
ABKAR	**Akbulak array**	**45.39**	**356**	P	**P**	**23 49 30.1**	**-0.3**
MAKZ	**Makanchi**	**45.46**	**17**	P	**P**	**23 49 30.0**	**-1.0**
MAKZ				IAmb	IAmb	23 49 39.8	
	comp=Z,11nm,1.4s						
ELL	**Elmali**	**45.48**	**321**	P	**P**	**23 49 29.6**	**-1.8**
ELL				IAmb	IAmb	23 49 36.5	
	comp=Z,6.6nm,1.2s						
MKAR	**Makanchi Array**	**45.54**	**17**	P	**P**	**23 49 31.2**	**-0.4**
MDUB	**Mudurnu**	**47.09**	**325**	P	**P**	**23 49 44.6**	**+0.6**
MDUB				IAmb	IAmb	23 49 50.8	
	comp=Z,8.0nm,0.7s						
UGM	**Wanagama**	**47.59**	**104**	P	**P**	**23 49 48.7**	**+0.5**
IDI	**Anoyia**	**47.99**	**316**	P	**P**	**23 49 51.1**	**0.0**
IDI				IAmb	IAmb	23 49 59.1	
	comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**48.24**	**12**	P	**P**	**23 49 53.9**	**+1.3**
GRTLG	**Ghanzi**	**49.06**	**237**	P	**P**	**23 49 59.6**	**0.0**
GRTLG				IAmb	IAmb	23 50 39.6	
	comp=Z,3.9nm,1.2s						
ENH	**Enshi**	**50.09**	**53**	P	**P**	**23 50 07.2**	**0.0**
ENH				IAmb	IAmb	23 50 44.7	
	comp=Z,11nm,1.2s						
TSUM	**Tsumeb**	**51.33**	**242**	LR	LR	00 11 09.3	
	comp=Z,48nm,18.1s,baz=145,slow=35						
GRHM	**Grahamstown, E**	**51.46**	**221**	P	**P**	**23 50 16.9**	**-0.6**
HKPS	**Hong Kong Po S**	**51.62**	**65**	P	**P**	**23 50 18.6**	**-0.2**
ZALV	**Zalesovo Beam**	**52.69**	**15**	P	**P**	**23 50 26.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=221,slow=5.9,SNR=4.5						
	comp=Z,0.8nm,0.6s						
MLR	**Muntele Rosu**	**53.28**	**327**	P	**P**	**23 50 30.8**	**-0.1**
MLR				IAmb	IAmb	23 50 57.2	
	comp=Z,7.1nm,1.4s						
BURAR	**Bucovina Array**	**55.02**	**329**	P	**P**	**23 50 44.0**	**+0.4**
CEL	**Celeste**	**55.75**	**315**	P	**P**	**23 50 48.6**	**-0.4**
CEL				IAmb	IAmb	23 50 54.0	
	comp=Z,3.3nm,0.8s						
RAFF	**Raffo Rosso**	**56.43**	**313**	P	**P**	**23 50 53.1**	**-0.6**
RAFF				IAmb	IAmb	23 51 21.7	
	comp=Z,26nm,1.5s						
SONM	**Songino Array**	**56.77**	**33**	P	**P**	**23 50 56.2**	**+0.1**
SONM	**Songino Array**	**56.77**	**33**	P	**P**	**23 50 57.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=236,slow=11,SNR=4.1						
	comp=Z,0.6nm,0.6s						
SGRT	**San Giovanni R**	**57.41**	**318**	P	**P**	**23 51 01.0**	**+0.2**
SGRT				IAmb	IAmb	23 51 33.4	
	comp=Z,5.8nm,0.9s						
PSZ	**Piszkesteto**	**58.06**	**326**	P	**P**	**23 51 05.5**	**+0.3**
PSZ				IAmb	IAmb	23 51 06.8	
	comp=Z,2.7nm,1.0s						
NRCA	**Norcia**	**59.64**	**318**	P	**P**	**23 51 15.4**	**-0.8**
NRCA				IAmb	IAmb	23 51 18.8	
	comp=Z,2.5nm,1.0s						
H01W3	**Cape Leeuwin H**	**60.60**	**134**	T	T	00 57 01.8	
	baz=299,slow=75,SNR=9.3						
H01W2	**Cape Leeuwin H**	**60.61**	**134**	T	T	00 56 54.7	
	baz=299,slow=75,SNR=9.5						
H01W1	**Cape Leeuwin H**	**60.62**	**134**	T	T	00 57 07.1	
	baz=299,slow=75,SNR=8.5						
PRMA	**PARMA**	**62.29**	**319**	P	**P**	**23 51 33.9**	**-0.2**
PRMA				IAmb	IAmb	23 51 46.2	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**64.26**	**112**	P	**P**	**23 51 46.7**	**-1.0**
KS19	**Wonju Array Si**	**66.83**	**51**	P	**P**	**23 52 03.8**	**-0.2**
MD31	**MD31**	**70.34**	**303**	P	**P**	**23 52 25.9**	**-0.2**
MD31				IAmb	IAmb	23 52 39.6	
	comp=Z,5.0nm,1.4s						
ESDC	**Sonseca Array**	**70.86**	**311**	P	**P**	**23 52 28.8**	**-0.4**
JMN	**Monobe**	**70.93**	**56**	P	**P**	**23 52 29.5**	**-0.2**
SHEL	**Horse Pasture**	**71.96**	**252**	P	**P**	**23 52 36.0**	**-0.2**
WRA	**Warramunga Arr**	**72.69**	**112**	P	**P**	**23 52 42.3**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=288,slow=5.2,SNR=8.0						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**73.03**	**116**	P	**P**	**23 52 41.8**	**-0.6**
ASAR	**Alice Springs**	**73.03**	**116**	P	**P**	**23 52 44.3**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=290,slow=5.7,SNR=11						
	comp=Z,0.9nm,0.7s						
PESTR	**Estremoz**	**73.50**	**309**	P	**P**	**23 52 43.9**	**-0.9**
PESTR				IAmb	IAmb	23 52 48.6	
	comp=Z,25nm,1.5s						
MJAR	**Matsushiro Arr**	**74.81**	**53**	P	**P**	**23 52 51.8**	**-0.8**
MJAR				IAmb	IAmb	23 53 15.8	
	comp=Z,5.2nm,1.4s						
JSD	**Sado**	**75.03**	**52**	P	**P**	**23 52 54.5**	**+0.7**
DSB	**Dublin**	**75.41**	**324**	P	**P**	**23 52 56.2**	**+0.6**
JHJ2	**Mitsune**	**75.79**	**57**	P	**P**	**23 52 58.2**	**-0.1**
KBS	**Kingsbay**	**79.44**	**351**	P	**P**	**23 53 18.1**	**+0.3**
KBS				IAmb	IAmb	23 53 27.9	
	comp=Z,22nm,1.3s						
TXAR	**Lajitas Array**	**145.04**	**341**	PKPbc	**PKPdf**	**00 00 50.9**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=45,slow=3.8,SNR=12						

*NEIC **14** 00:01:07.6±2.6, 31°.85S±0°.05×69°.34W±0°.10, h123km±7km, mb4.2/5, Error ellipse: s-maj=11.9km s-min=7.8km az=95.0*
*SJA **14** 00:01:07.0±0.7, 31°.85S×69°.22W, h125km±2km, ML3.8, MW3.8*
*IDC **14** 00:01:07.7±3.9, 31°.97S×69°.15W, h116km±39km, mb3.4/2, mbtmp3.8/4, Error ellipse: s-maj=45.4km s-min=33.7km az=109.0*
ISC 14 00:01:07.4±0.7, 31°.87S±0°.03×69°.21W±0°.03, h126km±6km, n95, σ1§55/125, mb4.0/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.10**	**314**	*e*P	**Pn**	**00 01 24.5**	**-0.6**
RTLS				*e*S	**Sn**	**00 01 37.5**	**-0.8**
ZON	**Zonda**	**0.56**	**55**	Pn	**Pn**	**00 01 26.6**	**0.0**
ZON				Sn	**Sn**	**00 01 39.5**	**-1.4**
ZON	**Zonda**	**0.56**	**55**	*e*P	**Pn**	**00 01 26.5**	**0.0**
ZON				*e*S	**Sn**	**00 01 40.6**	**-0.3**
ZON				IAML		00 01 42.3	
	comp=Z,2μm,0.3s						
SJA	**San Juan**	**0.65**	**59**	*e*P	**Pn**	**00 01 25.8**	**-1.3**
SJA				*e*S	**Sn**	**00 01 42.5**	**+0.5**
SJA				IAML		00 01 53.8	
	comp=Z,821nm,0.7s						
ASAL	**Salagasta**	**0.79**	**156**	*e*P	**Pn**	**00 01 28.7**	**+0.5**
RTLL	**Cerro Villicun**	**0.83**	**50**	*e*P	**Pn**	**00 01 28.5**	**-0.1**
RTLL				*e*S	**Sn**	**00 01 44.4**	**0.0**
RTLL				IAML		00 01 44.8	
	comp=Z,2μm,0.3s						
CFA	**Coronel Fontan**	**0.87**	**73**	*e*P	**Pn**	**00 01 28.8**	**0.0**
CFA				*e*S	**Sn**	**00 01 43.7**	**-1.4**
ARCO	**CERRO ARCO**	**1.00**	**166**	*e*P	**Pn**	**00 01 30.7**	**+0.6**
ARCO				*e*S	**Sn**	**00 01 48.0**	**+0.6**
ARCO				IAML		00 01 49.3	
	comp=Z,3μm,0.3s						
AAGR	**Agrelo**	**1.25**	**165**	*e*P	Pn	00 01 27.6	-5.0
AAGR				*e*P		00 01 33.2	
AAGR				*e*S	**Sn**	**00 01 53.4**	**+1.4**
AAGR				IAML		00 01 55.9	
	comp=Z,1μm,2.1s						

GO04 IAML 00 02 12.0
comp=Z,923nm,0.2s
ACHE Chepes 2.29 73 *eS* **Sn 00 02 06.8 -6.9**
VA01 Torpederas 2.36 240 **Pn 00 01 43.1 -2.5**
VA01 Torpederas 2.36 240 *eP* Pn 00 01 26.4 -19
VA01 *eS* **Sn 00 02 11.9 -3.1**
VA01 IAML 00 02 18.7
comp=Z,228nm,0.3s
CO06 Fray Jorge 2.39 299 **Pn 00 01 44.5 -1.6**
BO04 La Punta 2.42 209 **Pn 00 01 46.2 -0.3**
MT09 Talagante 2.42 218 **Pn 00 01 46.0 -0.6**
AGUA GUANDACOL 2.45 15 *eS* **Sn 00 02 20.2 +2.8**
AGUA IAML 00 02 20.9
comp=Z,666nm,0.3s
CO05 La Serena 2.61 318 **Pn 00 01 47.7 -1.1**
MT01 Popeta 2.63 220 **Pn 00 01 47.7 -1.3**
MT01 Popeta 2.63 220 *eP* **Pn 00 01 47.8 -1.3**
MT01 *eS* **Sn 00 02 18.7 -2.4**
MT01 IAML 00 02 19.1
comp=Z,268nm,0.2s
APLL PUNTA DE LOS L 2.73 58 *eP* Pn 00 01 45.5 -5.0
APLL *eS* **Sn 00 02 22.1 -1.5**
RFA San Rafael 2.96 168 *eP* **Pn 00 01 53.5 +0.1**
RFA *eS* Sn 00 02 42.8 +14
RFA IAML 00 02 59.1
comp=Z,165nm,0.3s
BO01 Tunca 2.97 211 **Pn 00 01 52.2 -1.2**
BO01 Tunca 2.97 211 *eP* **Pn 00 01 52.4 -1.1**
BO01 *eS* **Sn 00 02 27.6 -1.3**
BO01 IAML 00 02 28.4
comp=Z,224nm,0.3s
MRA San Martin 3.01 101 *eP* **Pn 00 01 55.0 +0.8**
MRA *eS* **Sn 00 02 30.3 +0.1**
MRA IAML 00 02 31.0
comp=Z,259nm,0.7s
ACLC CERRO LA CRUZ 3.12 39 *eP* **Pn 00 01 56.2 +0.5**
ACLC *eS* **Sn 00 02 32.2 -0.6**
ACLC IAML 00 02 33.8
comp=Z,129nm,0.4s
LCO Las Campanas 3.13 335 **Pn 00 01 54.9 -1.0**
LCO Las Campanas 3.13 335 *eP* **Pn 00 01 54.8 -1.0**
LCO *eS* **Sn 00 02 32.8 -0.3**
LCO IAML 00 02 34.2
comp=Z,621nm,0.2s
BO02 Sierra Bellavi 3.20 204 **Pn 00 01 56.1 -0.4**
BO02 Sierra Bellavi 3.20 204 *eP* **Pn 00 01 56.6 +0.1**
BO02 *eS* **Sn 00 02 35.7 +1.2**
BO02 IAML 00 02 39.0
comp=Z,302nm,0.2s
VCA Vinchina 3.24 16 *eP* **Pn 00 01 57.7 +0.5**
VCA *eS* Sn 00 02 23.3 -12
VCA IAML 00 02 42.8
comp=Z,396nm,0.6s
EDS3 Malargue 3.89 182 *eP* **Pn 00 02 07.0 +1.2**
EDS3 *eS* Sn 00 02 39.8 -11
TCA Tanti 3.97 84 *eP* **Pn 00 02 07.3 +0.5**
TCA *eS* Sn 00 02 35.3 -18
TCA IAML 00 02 52.5
comp=Z,89nm,0.7s
AC04 Llanos de Chal 3.99 336 **Pn 00 02 05.9 -1.1**
AC04 Llanos de Chal 3.99 336 *eP* **Pn 00 02 05.4 -1.6**
AC04 IAML 00 03 26.0
comp=Z,69nm,0.6s
ML02 Panimavida 4.30 205 **Pn 00 02 09.4 -1.6**
GO03 Copiapo 4.35 348 **Pn 00 02 11.3 -0.6**
GO03 Copiapo 4.35 348 *eP* **Pn 00 02 10.8 -1.1**
GO03 IAML 00 03 32.6
comp=Z,47nm,1.1s
AC06 Mina Casimiro 4.61 347 **Pn 00 02 14.4 -0.8**
AC02 Maricunga 5.02 1 **Pn 00 02 20.2 -0.9**
AC02 Maricunga 5.02 1 *eP* **Pn 00 02 22.0 +0.8**
AC02 *eS* **Sn 00 03 17.5 -0.9**
AC02 IAML 00 03 25.3
comp=Z,27nm,0.4s
BI02 San Fabin de 5.08 199 **Pn 00 02 20.2 -1.3**
BI02 San Fabin de 5.08 199 *eP* **Pn 00 02 20.6 -0.9**
BI02 IAML 00 03 21.2
comp=Z,38nm,0.5s
AC01 Pan de Azucar 5.83 348 **Pn 00 02 29.7 -1.9**
BI05 Punta Hualpn 5.88 213 Pn **Pn 00 02 28.6 -3.5**
GO02 Mina Guanaco 6.69 357 Pn **Pn 00 02 42.4 -1.2**
TRQA Tornquist 8.56 138 **Pn 00 03 08.8 +0.4**
PLCA Paso Flores 8.91 187 Pn **Pn 00 03 12.2 -1.0**
PLCA Paso Flores 8.91 187 P **Pn 00 03 12.3 -0.9**
comp=Z,0.9nm,0.3s,baz=1.3,slow=9.2,SNR=2.1
PB06 IPOC Station P 9.13 358 Pn **Pn 00 03 16.5 +0.1**
PB03 IPOC Station P 9.79 357 **Pn 00 03 22.1 -3.2**
PB09 IPOC Station P 10.03 360 Pn **Pn 00 03 25.1 -3.3**
PB02 IPOC Station P 10.53 357 **Pn 00 03 32.1 -2.9**
PB01 IPOC Station P 10.79 359 Pn **Pn 00 03 35.2 -3.2**
LL01 San Ignacio de 10.79 193 Pn **Pn 00 03 35.8 -2.5**
PB11 IPOC Station P 12.06 358 **Pn 00 03 54.1 -1.4**
PB16 IPOC Station P 13.48 359 **Pn 00 04 13.8 -0.4**
LPAZ La Paz 15.54 4 **P 00 04 42.6 +0.6**
LPAZ La Paz 15.54 4 P **P 00 04 43.0 +1.0**
comp=Z,3.8nm,0.7s,baz=183,slow=3.9,SNR=14
MG05 Puerto Natales 19.94 186 P **Pn 00 05 31.7 -0.4**
MG05 IAmb IAmb 00 05 53.4
comp=Z,22nm,1.1s
BDFB Brasilia 25.17 55 P **P 00 06 22.0 +0.8**
BDFB IAmb IAmb 00 06 36.4
comp=Z,8.7nm,1.4s
BDFB Brasilia 25.17 55 P **P 00 06 22.4 +1.1**
comp=Z,1.9nm,0.5s,baz=211,slow=11,SNR=3.2
comp=Z,1.9nm,0.5s
BOAV Boa Vista 35.06 15 P **P 00 07 48.6 +0.2**
BOAV IAmb IAmb 00 08 15.6
comp=Z,5.2nm,1.3s
RUSC La Rusia 37.73 354 P **P 00 08 12.1 +0.5**
TXAR Lajitas Array 69.11 328 P **P 00 12 01.9 +1.9**
comp=Z,0.2nm,0.6s,baz=158,slow=8.3,SNR=4.1
comp=Z,0.2nm,0.6s
ZALV Zalesovo Beam 151.16 32 PKPbc **PKiKP 00 20 46.9 +1.3**
comp=Z,1.7nm,0.6s,baz=311,slow=3.0,SNR=9.7

KRSC 14 00:07:40.3±1.4, 50°.99N×158°.04E, h48km±23km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.91**	**302**	*eP*	Pn	00 07 58.1	+1.3
PAU				*eS*	Sn	00 08 10.0	+1.2
SKR	**Severo-Kuril's**	**1.26**	**257**	*eP*	Pn	00 08 02.5	+1.1
SKR				*eS*	Sn	00 08 17.5	+0.3
RUS	**Russkaya**	**1.48**	**11**	*eP*	Pn	00 08 05.8	+1.4
RUS				*eS*	Sn	00 08 23.2	+0.6
MTVR	**Mutnovka**	**1.50**	**3**	*eP*	Pn	00 08 07.0	+2.1
MTVR				*eS*	Sn	00 08 25.0	+1.6
GRL	**Gorelyy**	**1.57**	**1**	*eP*	Pn	00 08 07.8	+2.0
KRMR	**Karymshinskiy**	**1.85**	**2**	*eP*	Pn	00 08 12.7	+3.2
KRMR				*eS*	Sn	00 08 35.5	+3.8
PET	**Petropavlovsk**	**2.08**	**10**	*eP*	Pn	00 08 15.2	+2.6
DALK	**Dalny**	**2.10**	**12**	*eP*	Pn	00 08 15.6	+2.7
DALK				*eS*	Sn	00 08 39.1	+1.4
AVH	**Avacha**	**2.32**	**10**	*eP*	Pn	00 08 19.8	+3.7
SMAR	**Somma**	**2.33**	**11**	*eP*	Pn	00 08 19.7	+3.4
KOK	**Koryaka**	**2.34**	**9**	*eP*	Pn	00 08 19.6	+3.3
SDLR	**Sedlovina**	**2.35**	**12**	*eP*	Pn	00 08 18.9	+2.4
KRER	**Koryakskii**	**2.36**	**10**	*eP*	Pn	00 08 19.9	+3.2
KRX	**Arik**	**2.41**	**9**	*eP*	Pn	00 08 21.3	+4.0
SPN	**Mys Shipunski**	**2.44**	**29**	*eP*	Pn	00 08 20.9	+3.2
SPN				*eS*	Sn	00 08 49.5	+3.2
GNL	**Ganaly**	**2.71**	**359**	*eP*	Pn	00 08 25.3	+3.8
MKZ	**Mys Kozlova**	**4.22**	**31**	*eP*	Pn	00 08 45.3	+3.3
KBTR	**Krutoberegovo**	**5.95**	**27**	*eP*	Pn	00 09 09.0	+3.2

*IDC **14** 00:10:54.8±2.9, 30°.13S×177°.77W, h52km±22km, mb4.0/4, mbtmp4.2/4, Error ellipse: s-maj=35.1km s-min=23.1km az=130.0*
*NEIC **14** 00:10:55.9±1.0, 30°.13S±0°.07×177°.9W±0°.1, h48km±6km, mb4.4/13, Error ellipse: s-maj=15.8km s-min=10.4km az=77.0*
ISC 14 00:10:55.1±0.7, 30°.11S±0°.08×177°.9W±0°.1, h50km, n42, σ1$07/31, mb4.3/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.86**	**1**	P	**Pn**	**00 11 11.3**	**+0.3**
	651nm,0.2s,baz=106,slow=18,SNR=11						
RAO				S	**Sn**	**00 11 23.7**	**+1.2**
	3μm,0.2s,baz=158,slow=22,SNR=28						

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URZ Urewera 9.10 205 P Pn 00 12 51.5 -12
2.9nm,0.6s,baz=72,slow=10.0,SNR=0.9
URZ S Sn 00 14 35.6 -9.1
7.9nm,0.4s,baz=221,slow=23,SNR=16
THZ Tophouse 13.78 210 Pn **Pn 00 14 08.4 +0.6**
EIDS Eidsvold 27.77 272 P **P 00 16 39.8 +0.4**
EIDS IAmb IAmb 00 16 53.1
comp=Z,11nm,1.4s
CTAO Charters Tower 33.80 279 P **P 00 17 35.0 +2.4**
CTAO IAmb IAmb 00 17 35.7
comp=Z,5.1nm,0.6s
STKA Stephens Creek 34.59 257 P **P 00 17 40.5 +1.2**
STKA Stephens Creek 34.59 257 P **P 00 17 41.0 +1.6**
comp=Z,5.5nm,0.7s,baz=87,slow=7.4,SNR=11
comp=Z,5.5nm,0.7s
BBOO Buckleboo 39.10 254 P **P 00 18 18.1 +0.5**
COEN Coen 39.24 286 P **P 00 18 18.1 -0.9**
COEN IAmb IAmb 00 18 29.9
comp=Z,12nm,1.4s
ASAR Alice Springs 43.18 267 P **P 00 18 51.6 +0.3**
comp=Z,1.2nm,0.5s,baz=105,slow=7.8,SNR=19
comp=Z,1.2nm,0.5s
WR8 Warramunga Arr 43.99 272 P **P 00 18 58.1 +0.2**
WRA Warramunga Arr 44.14 272 P **P 00 18 59.1 +0.1**
WRA Warramunga Arr 44.14 272 P **P 00 18 59.0 0.0**
comp=Z,2.6nm,0.4s,baz=111,slow=7.9,SNR=24
comp=Z,2.6nm,0.4s
WB0 Warramunga Arr 44.16 272 P **P 00 18 59.1 -0.1**
WB0 IAmb IAmb 00 19 01.4
comp=Z,4.5nm,0.7s
FORT Forrest 46.17 255 P **P 00 19 14.2 -0.8**
FORT IAmb IAmb 00 19 16.6
comp=Z,3.3nm,0.8s
VNDA Vanda 48.39 186 P **P 00 19 32.0 +0.4**
CASY Casey 55.42 208 P **P 00 20 22.4 -1.6**
CASY IAmb IAmb 00 21 06.3
comp=Z,4.1nm,1.1s
PSA00 Pilbara Seismi 56.05 263 P **P 00 20 28.4 -0.9**
QSPA South Pole Qui 60.00 180 P **P 00 20 58.7 +2.4**
QSPA IAmb IAmb 00 21 05.1
comp=Z,4.4nm,0.9s
MAW Mawson 72.59 201 P **P 00 22 16.1 -0.6**
comp=Z,1.0nm,0.7s,baz=135,slow=9.2,SNR=4.1
comp=Z,1.0nm,0.7s
MG05 Puerto Natales 75.70 142 P **P 00 22 35.7 +0.6**
H03S2 Juan Fernandez 80.58 124 T T 01 52 09.7
baz=238,slow=74,SNR=26
H03S1 Juan Fernandez 80.59 124 T T 01 52 09.2
baz=238,slow=74,SNR=26
H03S3 Juan Fernandez 80.60 124 T T 01 52 12.6
baz=238,slow=74,SNR=24
H03N3 Juan Fernandez 80.77 123 T T 01 52 20.1
baz=242,slow=72,SNR=9.6
H03N2 Juan Fernandez 80.77 123 T T 01 52 18.5
baz=242,slow=72,SNR=10
H03N1 Juan Fernandez 80.79 123 T T 01 52 20.0
baz=242,slow=72,SNR=15
MKAR Makanchi Array 117.63 310 PKP **PKPdf 00 29 33.4 -1.9**
comp=Z,0.2nm,0.7s,baz=76,slow=1.9,SNR=1.4
KURBB Kurchatov Arra 120.93 314 PKP **PKPdf 00 29 40.0 -1.5**
comp=Z,0.8nm,0.7s,baz=106,slow=1.9,SNR=5.4
H10S3 ASCENSION HYDR 137.96 155 T T 03 04 32.6
baz=16,slow=74,SNR=20
H10S2 ASCENSION HYDR 137.96 155 T T 03 04 31.1
baz=204,slow=74,SNR=18
ARCES ARCESS Array B 138.32 348 PKP **PKPdf 00 30 14.1 +0.2**
comp=Z,1.9nm,1.0s,baz=30,slow=2.6,SNR=4.1
H10N3 ASCENSION HYDR 139.05 154 T T 03 05 58.2
baz=203,slow=75,SNR=25
H10N1 ASCENSION HYDR 139.05 155 T T 03 05 58.4
baz=203,slow=75,SNR=35
H10N2 ASCENSION HYDR 139.06 154 T T 03 05 59.5
baz=203,slow=75,SNR=29
FINES FINESS Array B 144.89 340 PKP **PKPab 00 30 25.1 -0.1**
comp=Z,6.8nm,0.7s,baz=54,slow=3.6,SNR=45
NB2 NORSAR Subarra 148.47 351 PKP **PKPbc 00 30 35.4 -0.2**
comp=Z,0.4nm,0.5s,baz=16,slow=2.7
NOA NORSAR Array B 148.47 351 PKPbc **PKPbc 00 30 35.5 -0.2**
comp=Z,0.5nm,0.5s,baz=16,slow=3.9,SNR=4.4
HFS Hagfors 148.97 349 PKPbc **PKPbc 00 30 36.5 -0.4**
comp=Z,1.5nm,0.6s,baz=359,slow=5.9,SNR=6.1
AKASG Malin Array Be 151.10 323 PKPbc **PKPbc 00 30 42.1 -0.1**
comp=Z,0.7nm,0.4s,baz=52,slow=2.4,SNR=6.8
BRTR Keskin Array B 152.51 299 PKPbc **PKPbc 00 30 44.9 -1.2**
comp=Z,0.4nm,0.3s,baz=162,slow=6.2,SNR=5.2
TORD Torodi Ar. Bea 163.11 179 PKPab **PKPab 00 31 41.5 -1.0**
comp=Z,0.8nm,0.8s,baz=153,slow=1.9,SNR=5.2

NNC 14 00:19:02.3±3.0, 38°.04N×70°.25E, h3km±10km, mb3.6, mpv3.7, 4C-2D, Error ellipse: s-maj=24.0km s-min=17.3km az=150.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.10**	**358**	Pg	Pg	00 20 20.1	-0.8
	19nm,0.3s						
IUG				Lg	Lg	00 21 22.4	
	30nm,0.4s						
DZA	**Taraz**	**4.92**	**9**	Pg	Pg	00 20 38.6	+2.1
	29nm,0.1s						
DZA				Lg	Lg	00 21 53.0	
	51nm,0.3s						
KK31	**Karatay Array**	**5.06**	**2**	⇑Pn	Pn	00 20 19.8	+0.7
	0.2nm,0.2s,baz=193,slow=15,SNR=8.9						
KK31				⇑Pg	Pb	00 20 32.9	+1.4
	1.1nm,0.4s,baz=191,slow=15,SNR=7.5						
KK31				⇓Lg	Lg	00 21 42.4	
	4.1nm,0.5s,baz=191,slow=32,SNR=4.9						
MRKS	**Merke**	**5.22**	**25**	Pg	Pb	00 20 37.9	+3.7
	2.3nm,0.4s						
MRKS				Lg	Lg	00 21 52.4	
	6.8nm,0.5s						
AAK	**Ala-Archa**	**5.62**	**34**	⇑Pn	Pn	00 20 27.4	+0.5
	0.1nm,0.3s						
AAK				⇑Sn	Sn	00 21 32.4	+0.4
	1.1nm,0.6s						
AAK				⇓Lg	Lg	00 21 59.3	
	2.4nm,0.6s						
CHMS	**Chumysh**	**6.02**	**33**	Pg	Pn	00 20 38.8	+6.5
	73nm,0.1s						
CHMS				Lg	Lg	00 21 53.6	
	50nm,0.1s						
KST	**Kastek**	**6.62**	**39**	Pg	Pb	00 21 02.4	+4.2
	0.7nm,0.3s						
KST				Lg	Lg	00 22 33.6	
	3.1nm,0.6s						
KTBS	**Karatobe**	**7.47**	**39**	Pg	Pb	00 21 18.4	+5.8
	0.6nm,0.2s						
KTBS				Lg	Lg	00 23 00.9	
	5.1nm,0.6s						

*BER **14** 00:29:48.5±4.6, 80°.32N×0°.99W, h10km, Mw3.5, ML2.0(DNK), Confirmed Earthquake*
*DNK **14** 00:29:50.8±3.3, 80°.18N×0°.83W, h36km±24km, ML2.0*
*KOLA **14** 00:29:52.7, 80°.89N×5°.34E, h0km, ML2.3, Error ellipse: s-maj=98.7km s-min=25.7km az=40.0, Greenland sea*
*FCIAR **14** 00:29:53.0, 80°.10N×0°.07W, h10km, station ZFI2 has station magnitude of 4.10 station OMEGA has station magnitude of 4.00*
ISC 14 00:29:42.2±0.7, 80°.26N±0°.05×0°.60W±0°.04, h10km, n31, σ3$02/42, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.64**	**114**	P	**Pb**	**00 30 30.0**	**+0.7**
KBS				*S*	**Sn**	**00 30 58.5**	**+1.6**
KBS	**Kingsbay**	**2.64**	**114**	*eP*	**Pb**	**00 30 30.1**	**+0.7**
KBS				*eS*	**Sn**	**00 30 58.7**	**+2.0**
KBS				IAML		00 31 04.7	
	comp=Z,20nm,0.2s						
KBS	**Kingsbay**	**2.64**	**114**	*i* P	**Pb**	**00 30 30.1**	**+0.7**
KBS				*eS*	**Sn**	**00 30 58.5**	**+1.8**
NOR	**Nord**	**2.88**	**306**	*eP*	**Pb**	**00 30 33.2**	**-0.3**
NOR				*eS*	**Sn**	**00 31 03.2**	**+0.7**
NOR	**Nord**	**2.88**	**306**	*eP*	**Pb**	**00 30 33.2**	**-0.3**
NOR				*i* S	**Sn**	**00 31 02.5**	**0.0**
NOR				IAML		00 31 06.3	
	comp=Z,5.2nm,0.3s						
BRBB	**Barentsburg B**	**3.53**	**120**	P	**Pb**	**00 30 43.7**	**-0.9**
BRBB				S	**Sn**	**00 31 19.3**	**+0.7**
BRBB	**Barentsburg B**	**3.53**	**120**	*eP*	**Pb**	**00 30 44.0**	**-0.6**
BRBB				*eS*	**Sn**	**00 31 22.1**	**+3.5**
BRBA	**Barentsburg A**	**3.56**	**121**	*eP*	**Pb**	**00 30 44.8**	**-0.3**
BRBA				*eS*	**Sn**	**00 31 22.4**	**+3.1**
SPA0	**Spitsbergen Ar**	**3.80**	**115**	*eP*	**Pb**	**00 30 45.7**	**-3.4**
SPA0				*eS*	**Sn**	**00 31 27.1**	**+1.8**
SPA0	**Spitsbergen Ar**	**3.80**	**115**	*eP*	**Pb**	**00 30 46.9**	**-2.3**
SPA0				*eS*	**Sn**	**00 31 27.9**	**+2.6**
SPA0				IAML		00 31 31.8	
	comp=Z,11nm,0.3s						
SPITS	**Spitsbergen Ar**	**3.80**	**115**	P	**Pb**	**00 30 46.7**	**-2.5**
SPITS				S	**Sn**	**00 31 25.5**	**+0.2**
HSPB	**Hornsund (broa**	**4.55**	**128**	P	Pb	00 30 57.1	-4.8
HSPB				S	**Sn**	**00 31 47.7**	**+4.0**
HSPB	**Hornsund (broa**	**4.55**	**128**	*eP*	Pb	00 30 57.1	-4.8
HSPB				*eS*	**Sn**	**00 31 44.7**	**+0.9**
HSPB	**Hornsund (broa**	**4.55**	**128**	*eP*	Pb	00 30 57.4	-4.6
HSPB				*eS*	**Sn**	**00 31 46.5**	**+2.7**
HSPB				IAML		00 31 50.6	
	comp=Z,9.2nm,0.5s						
DAG	**Danmarks Havn**	**5.00**	**235**	*eP*	**Pn**	**00 31 00.5**	**+3.4**
DAG				*eS*	**Sn**	**00 31 52.0**	**-2.8**
DAG	**Danmarks Havn**	**5.00**	**235**	*i* P	**Pn**	**00 31 00.4**	**+3.4**
DAG				*i* S	**Sn**	**00 31 52.0**	**-2.8**
DAG				IAML		00 31 53.9	
	comp=Z,10.0nm,0.4s						
HOPEN	**Hopen**	**6.33**	**113**	*eP*	Pn	00 31 23.3	+8.0
HOPEN				*eS*	**Sn**	**00 32 28.9**	**+1.4**
DBG	**Daneborg**	**7.32**	**226**	*eP*	**Pn**	**00 31 32.2**	**+3.4**
DBG				*eS*	**Sn**	**00 32 46.1**	**-5.7**
DBG	**Daneborg**	**7.32**	**226**	*i* P	**Pn**	**00 31 32.1**	**+3.3**
DBG				*i* S	**Sn**	**00 32 46.8**	**-5.0**
DBG				IAML		00 32 51.2	
	comp=Z,7.1nm,0.3s						
DBG				IAML		00 32 52.0	
	comp=Z,12nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.78**	**62**	*eP*	Pn	00 31 40.9	+5.7
ZFI2				*eS*	**Sn**	**00 33 01.6**	**-1.5**
	comp=Z,48nm,2.3s						
OMEGA	**Omega**	**7.80**	**63**	*eP*	Pn	00 31 41.3	+5.9
OMEGA				*eS*	**Sn**	**00 33 02.6**	**-1.0**
	comp=Z,41nm,1.4s						
JNW	**Jan Mayen West**	**9.46**	**196**	*eP*	Pn	00 32 03.6	+5.3
JNE	**Jan Mayen East**	**9.50**	**195**	*eP*	Pn	00 32 04.5	+5.8
JMIC	**Jan Mayen**	**9.51**	**196**	*eP*	Pn	00 32 04.2	+5.3
JMI	**Jan Mayen**	**9.58**	**196**	*eP*	Pn	00 32 05.7	+5.8
NEEM	**North Greenlan**	**9.86**	**280**	*i* P	**Pn**	**00 32 06.6**	**+2.6**
NEEM				*eS*	**Sn**	**00 33 47.0**	**-7.6**
NEEM	**North Greenlan**	**9.86**	**280**	*i* P	**Pn**	**00 32 06.6**	**+2.6**
NEEM				*eS*	**Sn**	**00 33 47.0**	**-7.6**
SCO	**Scoresbysund**	**11.07**	**220**	*eS*	Sn	00 34 08.9	-15
SCO	**Scoresbysund**	**11.07**	**220**	*eS*	Sn	00 34 08.9	-15
SUMG	**Summit**	**11.44**	**249**	*i* P	**Pn**	**00 32 28.0**	**+2.3**
SUMG				IAML		00 34 35.3	
	comp=Z,1.5nm,0.3s						
SUMG	**Summit**	**11.44**	**249**	*i* P	**Pn**	**00 32 28.0**	**+2.3**
SUMG				IAML		00 34 35.3	
	comp=Z,1.5nm,0.3s						

*DJA **14** 00:48:12.0±2.0, 7°.N±5°×12°.4E±°, h12km±15km, M4.9/12, mb4.9/12, mB5.4/9, MLv4.9/12, Mw(mB)4.9/9*
*NEIC **14** 00:48:15.9±2.7, 6°.91N±0°.08×123°.75E±0°.07, h42km±10km, mb4.5/18, Error ellipse: s-maj=12.1km s-min=9.2km az=161.0*
*IDC **14** 00:48:19.0±4.0, 6°.60N×124°.04E, h49km±44km, mb3.9/8, mbtmp4.2/9, ML4.2/1, MS3.1/6, Error ellipse: s-maj=33.8km s-min=15.5km az=65.0*
ISC 14 00:48:16.8±0.6, 6.72N±0°.07×123°.88E±0°.06, h35km, n49, σ2$01/46, mb4.4/17, MS3.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.73**	**78**	Pn	**Pn**	**00 48 43.6**	**-0.8**
DAV	**Davao City (W)**	**1.73**	**78**	P	**Pn**	**00 48 43.4**	**-1.0**
	1μm,0.4s,baz=315,slow=2.2,SNR=48						
DAV				S	**Sn**	**00 49 04.9**	**-0.3**
	555nm,0.4s,baz=252,slow=23,SNR=5.7						
DAV				LR	LR	00 49 35.8	
	comp=Z,921nm,20.6s,baz=285,slow=48						
DAV	**Davao City (W)**	**1.73**	**78**	P	**Pn**	**00 48 41.0**	**-3.4**
SGSI	**Sangihe**	**3.43**	**151**	P	**Pn**	**00 49 12.1**	**+4.2**
MYLDM	**Lahad Datu**	**5.56**	**254**	Pn	**Pn**	**00 49 35.3**	**-1.8**
KMSI	**Cibinong**	**6.10**	**179**	P	**Pn**	**00 49 46.5**	**+1.9**
	246nm,0.5s						
TOLI2	**Tolitoli**	**6.36**	**209**		**Pn**	**00 49 47.2**	**-1.0**
TOLI2				Sn	**Sn**	**00 50 59.6**	**-0.1**
MRSI	**Marisa**	**6.49**	**197**	P	**Pn**	**00 49 51.8**	**+1.9**
	0.9nm2μm65nm,0.4s						
TNTI	**Ternate**	**6.85**	**149**	P	**Pn**	**00 49 57.8**	**+2.9**
	0.2nm1μm27nm,0.7s						
KKM	**Kota Kinabalu**	**7.64**	**265**	Pn	**Pn**	**00 50 02.4**	**-3.4**
LUWI	**Luwuk**	**7.78**	**188**	Pn	**Pn**	**00 50 11.0**	**+3.3**
LUWI	**Luwuk**	**7.78**	**188**	P	**Pn**	**00 50 11.4**	**+3.7**
	4μm133nm,0.5s						
APSI	**Ampana**	**7.89**	**196**	P	**Pn**	**00 50 11.2**	**+2.0**
	1μm64nm,0.7s						
SANI	**Sanana**	**8.96**	**166**	P	**Pn**	**00 50 25.5**	**+1.7**
	45nm,0.8s						
NLAI	**Namlea**	**10.40**	**162**	P	**Pn**	**00 50 46.1**	**+2.5**
	25nm,0.8s						
MSAI	**Masohi**	**11.20**	**153**	P	**Pn**	**00 50 57.8**	**+3.3**
EDFI	**Ende, Flores**	**15.52**	**188**	P	**P**	**00 51 56.2**	**-1.1**
JAY	**Jayapura**	**19.14**	**118**	P	**P**	**00 52 36.2**	**-1.0**
	0.8nm,0.3s,baz=307,slow=3.6,SNR=4.6						
JAY				LR	LR	00 59 29.5	
	comp=Z,49nm,20.7s,baz=358,slow=35						
	16nm,0.8s						
MTN	**Manton Dam**	**20.73**	**160**	P	**P**	**00 52 55.3**	**+0.9**
MTN				IAmb	IAmb	00 52 56.7	
	comp=Z,21nm,1.1s						
GUMO	**Guam**	**21.75**	**70**	LR	LR	00 59 59.3	
	comp=Z,30nm,20.2s,baz=171,slow=32						
KNRA	**Kununurra**	**22.77**	**168**	P	**P**	**00 53 17.1**	**+0.8**
KNRA				IAmb	IAmb	00 53 28.8	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**24.72**	**176**	P	**P**	**00 53 34.6**	**-0.4**
GSI	**Gunungsitoli**	**26.77**	**260**	P	**P**	**00 53 50.7**	**-3.0**
GSI				IAmb	IAmb	00 53 55.1	
	comp=Z,20nm,1.0s						
CMAR	**Chiang Mai Arr**	**26.94**	**298**	P	**P**	**00 53 59.1**	**+3.9**
	comp=Z,1.3nm,0.3s,baz=122,slow=8.4,SNR=7.8						
	comp=Z,1.3nm,0.3s						
COEN	**Coen**	**28.09**	**137**	P	**P**	**00 54 02.6**	**-2.8**
COEN				IAmb	IAmb	00 54 30.6	
	comp=Z,8.0nm,0.9s						
WB0	**Warramunga Arr**	**28.28**	**159**	P	**P**	**00 54 05.6**	**-1.5**
PSA00	**Pilbara Seismi**	**28.39**	**188**	P	**P**	**00 54 07.6**	**-0.5**
PSA00				IAmb	IAmb	00 54 21.1	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**28.42**	**159**	P	**P**	**00 54 07.4**	**-1.0**
WRA	**Warramunga Arr**	**28.42**	**159**	P	**P**	**00 54 07.3**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=332,slow=11,SNR=28						
	comp=Z,3.7nm,0.8s						
WR8	**Warramunga Arr**	**28.49**	**159**	P	**P**	**00 54 07.6**	**-1.4**
ASAR	**Alice Springs**	**31.75**	**162**	P	**P**	**00 54 37.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=334,slow=7.1,SNR=19						
ASAR				LR	LR	01 08 39.7	
	comp=Z,41nm,18.6s,baz=294,slow=39						
	comp=Z,1.2nm,0.6s						
MJAR	**Matsushiro Arr**	**32.45**	**22**	LR	LR	01 06 18.0	
	comp=Z,34nm,20.5s,baz=192,slow=33						
CTAO	**Charters Tower**	**34.56**	**141**	P	**P**	**00 55 01.4**	**-0.9**
CTAO				IAmb	IAmb	00 55 14.6	
	comp=Z,13nm,1.4s						
JTM	**Tenmabayashi**	**37.24**	**22**	P	**P**	**00 55 26.2**	**+1.0**
FORT	**Forrest**	**37.49**	**174**	P	**P**	**00 55 26.9**	**-0.5**
FORT				IAmb	IAmb	00 55 27.9	
	comp=Z,5.1nm,0.6s	

KAAM	Kaadhehdhoo	51.12	265	P	P	00 57 16.4	-0.3
MKAR	Makanchi Array	53.50	325	P	P	00 57 27.8	-6.1
MKAR	Makanchi Array	53.50	325	P	P	00 57 35.1	+1.2
	comp=Z,0.8nm,0.6s,baz=128,slow=7.0,SNR=5.0						
	comp=Z,0.8nm,0.6s						
KURBB	Kurchatov Arra	57.71	328	P	P	00 58 05.6	+1.6
	comp=Z,1.1nm,0.2s,baz=129,slow=5.9,SNR=4.9						
	comp=Z,1.1nm,0.2s						
BRTR	Keskin Array B	85.94	309	P	P	01 00 56.1	+2.3
	comp=Z,1.3nm,0.9s,baz=75,slow=4.8,SNR=7.7						
	comp=Z,1.3nm,0.9s						
ARCES	ARCESS Array B	86.68	340	P	P	01 00 57.0	+0.3
	comp=Z,0.8nm,0.7s,baz=63,slow=5.5,SNR=3.8						
	comp=Z,0.8nm,0.7s						

CATAC 14 01:06:29.5±0.5, 11°N±4°×8°6W±°, h136km±3km, M2.7/13, MLv2.7/13, Error ellipse: s-maj=12.8km s-min=3.1km az=46.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORN	Al O del Volca	0.16	66	P	Pn	01 06 48.8	+0.8
CONN	Concepcion	0.18	64	P	Pn	01 06 48.6	+0.5
CARN	Rivas	0.40	138	P	Pn	01 06 49.9	+1.1
CARN				S	Sn	01 07 05.8	+2.5
ACON	Acoyapa	0.78	52	P	Pn	01 06 50.9	-0.2
ACON	Acoyapa	0.78	52	S	Sn	01 07 08.8	+1.2
UNAN	Cigeo UNAN	0.78	323	S	Sn	01 07 09.7	+2.1
ELI1	Hacienda Flor	0.87	164	S	Sn	01 07 10.4	+1.6
ELI1	Hacienda Flor	0.87	164	P	Pn	01 06 52.6	+0.8
MOM2	El Cardon	1.16	325	P	Pn	01 06 59.2	+4.7
MOM2				S	Sn	01 07 15.7	+2.1
MOM3	MOM3	1.24	325	S	Sn	01 07 18.3	+3.3
CNGA	Al SSO del Vol	1.34	319	P	Pn	01 06 56.1	-0.4
CNGA				S	Sn	01 07 18.5	+1.5
CNGN	Cerro Negro	1.34	319	S	Sn	01 07 18.9	+2.0
CNGN	Cerro Negro	1.34	319	P	Pn	01 06 56.2	-0.2
JTS	Las Juntas de	1.45	145	P	Pn	01 06 58.0	+0.5
JTS				S	Sn	01 07 19.2	+0.3
PLRN	Geotermica Pol	1.45	319	P	Pn	01 06 57.2	-0.3
PLRN				S	Sn	01 07 20.0	+1.1
POLN	Al Sur del Vol	1.53	319	P	Pn	01 07 03.5	+5.1
POLN				S	Sn	01 07 20.5	0.0
SOCE	Pocosol	1.59	133	S	Sn	01 07 21.6	-0.2
SOCE	Pocosol	1.59	133	P	Pn	01 06 59.5	+0.4
PKGN	Cerro Pekin	1.65	316	P	Pn	01 06 59.0	-0.7
PKGN				S	Sn	01 07 23.9	+1.0
LCR2	La Lucha 2	2.47	134	S	Sn	01 07 41.3	+0.5
OCHAL	Ojochal	3.18	138	S	Sn	01 07 58.2	+1.6
OCHAL	Ojochal	3.18	138	P	Pn	01 07 19.8	+1.1
DRK0	Durika	3.34	131	P	Pn	01 07 21.2	+0.3
DRK0	Durika	3.34	131	S	Sn	01 08 00.6	-0.1
PIRO	Carate, Puerto	3.90	141	S	Sn	01 08 13.5	-0.2
CDITO	Canoas	4.08	135	S	Sn	01 08 12.0	-5.8

*MOS **14** 01:11:27.1±0.9, 36°.49N×70°.69E, h199km, mb5.3/51, Error ellipse: s-maj=4.2km s-min=3.0km az=98.2*
*BJI **14** 01:11:28.0, 36°.59N×70°.70E, h200km, mB5.0/18, mb5.2/69*
*NEIC **14** 01:11:29.1, 36°.23N×70°.85E, h190km, Moment Tensor Solution. Duration: 1ŝ7 Moment tensor: Scale 10^16^Nm; M_{rr}2.95; $M_{\theta\theta}$-1.75; $M_{\phi\phi}$-1.20; $M_{r\theta}$2.27; $M_{\theta\phi}$1.26; $M_{\phi r}$-2.07; Fault plane solution: $M_0$4.20000×10^16^ NP1: ϕ_s306.76000°, δ21.53000°, λ85.73000°. NP2: ϕ_s131.35000°, δ68.53000°, λ91.68000°. Principal axes: T 4.2881, Plg66.0000°, Azm44.0000°; N -0.1921, Plg2.0000°, Azm311.0000°; P -4.0960, Plg24.0000°, Azm220.0000°;*
*NEIC **14** 01:11:29.0±1.7, 36°.53N±0°.06×70°.60E±0°.07, h203km±4km, mb5.2/349, Mww5.0/19 Error ellipse: s-maj=8.7km s-min=8.2km az=99.0*
*IDC **14** 01:11:29.4±0.4, 36°.44N×70°.63E, h210km±2km, mb4.6/35, mbtmp5.2/39, Error ellipse: s-maj=8.0km s-min=5.7km az=16.0*
*NEIC **14** 01:11:29.1, 36°.53N×70°.60E, h190km*
*GCMT **14** 01:11:30.1±0.2, 36°.49N±0°.01×70°.54E±0°.02, h203km±1km, MW5.1/134, Moment Tensor Solution. s64,c80; s134,c223; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}4.07±.10; $M_{\theta\theta}$-3.52±.10; $M_{\phi\phi}$-0.55±.10; $M_{r\theta}$3.21±.09; $M_{\theta\phi}$0.75±.10; $M_{\phi r}$-1.94±.08; Best double couple: $M_0$5.39000×10^16^ NP1:ϕ_s275.00000°, δ24.00000°, λ71.00000°. NP2:ϕ_s115.00000°, δ67.00000°, λ98.00000°. Principal axes: T 5.6520, Plg67.0000°, Azm40.0000°; N -0.5240, Plg7.0000°, Azm292.0000°; P -5.1280, Plg22.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NNC **14** 01:11:31.9±5.8, 36°.92N×70°.54E, h210km±45km, mb4.8, mpv6.1 Error ellipse: s-maj=49.5km s-min=27.5km az=18.0*

ISC 14 01:11:28.8±0.2, 36°.47N±0°.03×70°.64E±0°.03, h204km±1km, h204km:pP-P, n1235, σ1ŝ32/1266, mb5.1/332, 53C-44D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.33	214	Pn	Pn	01 12 10.6	-0.7
KBL	Kabul	2.33	214	PN	Pn	01 12 10.6	-0.7
CHGR	Chuyangaron	2.48	332	Pn	Pn	01 12 11.1	-1.6
CHGR	Chuyangaron	2.48	332	PN	Pn	01 12 11.1	-1.6
GAR	Garm	2.54	354	Pn	Pn	01 12 12.1	-1.2
DRK	Karamyk	3.14	17	Pn	Pn	01 12 19.9	-0.6
DRK	Karamyk	3.14	17	PN	Pn	01 12 19.9	-0.6
NIL	Nilore	3.54	142	Pn	Pn	01 12 25.6	+0.5
NIL	Nilore	3.54	142	P	Pn	01 12 26.6	+1.4
NIL	Nilore	3.54	142	PN	Pn	01 12 25.6	+0.5
SRNI	Srinagar	4.18	123	eP	Pn	01 12 31.8	-1.1
SRNI				eS	S	01 13 19.9	-3.0
SRNI				IAML		01 13 27.4	
	comp=E,4μm,0.2s						
SRNI				IAML		01 13 28.2	
	comp=N,3μm,0.7s						
OHH	Osh	4.38	22	PN	Pn	01 12 32.9	-2.5
TRKS	Terek-Say	5.06	4	PN	Pn	01 12 42.6	-1.6
JMU	Jammu	5.14	136	eP	Pn	01 12 43.6	-1.4
JMU				eS	S	01 13 38.1	-6.7
JMU				IAML		01 13 44.0	
	comp=E,4μm,0.5s						
JMU				IAML		01 13 44.4	
	comp=N,4μm,0.4s						
ARSB	Arslanbob	5.18	20	Pn	Pn	01 12 43.9	-1.7
ARSB	Arslanbob	5.18	20	PN	Pn	01 12 43.9	-1.7
KSH	Kashi	5.19	53	P	Pn	01 12 41.1	-4.7
KSH				S	S	01 13 35.4	-11
KSH				smax	smax		
	comp=N,10μm,0.7s						
KSH				smax	smax		
	comp=N,11μm,0.8s						
ARK	Arkit	5.42	11	PN	Pn	01 12 47.5	-1.1
ARK				pmax	pmax		
	comp=Z,5μm,1.0s						
IUG	Iuzhnay	5.69	355	eP	Pn	01 12 51.3	-0.8
IUG	Iuzhnay	5.69	355	ePN	Pn	01 12 51.2	-0.8
ALCI	Alchi Leh	5.81	111	eP	Pn	01 12 53.5	-0.5
TSSA	Tissa	5.81	127	eP	Pn	01 12 53.2	-0.7
TSSA				eS	S	01 13 55.5	-5.4
TSSA				IAML		01 13 59.8	
	comp=N,4μm,0.3s						
TSSA				IAML		01 14 00.3	
	comp=E,4μm,0.4s						
CHM	Chimkent	5.89	353	⇓iP	Pn	01 12 53.1	-1.5
CHM	Chimkent	5.89	353	d iPN	Pn	01 12 53.9	-0.7
DHRM	DHARAMSHALA	6.30	130	eP	Pn	01 13 00.1	-0.1
DHRM				eS	S	01 14 06.2	-6.1
DHRM				IAML		01 14 11.1	
	comp=E,3μm,0.5s						
DHRM				IAML		01 14 11.2	
	comp=N,2μm,0.2s						
TLWR	Talawar	6.30	134	eP	Pn	01 13 00.4	+0.3
TLWR				eS	S	01 14 05.3	-6.8
TLWR				IAML		01 14 10.5	
	comp=N,3μm,0.6s						
TLWR				IAML		01 14 11.5	
	comp=E,2μm,0.5s						
DZA	Taraz	6.43	5	eP	Pn	01 13 00.5	-1.1
DZA	Taraz	6.43	5	ePN	Pn	01 13 00.5	-1.1
UCH	Uchtor	6.48	26	P	Pn	01 13 01.8	-0.9
	SNR=1771						
KK31	Karatay Array	6.62	359	⇓P	Pn	01 13 02.8	-1.2
	comp=E,747nm,0.5s,baz=179,slow=12,SNR=7301						
KK31				⇓S	S	01 14 13.2	-6.3
	comp=E,1μm,0.7s,baz=190,slow=21,SNR=12						
KK31	Karatay Array	6.62	359	ePN	Pn	01 13 02.3	-1.7
KKAR	Karatay Array	6.62	359	Pn	Pn	01 13 02.2	-1.8
KKAR	Karatay Array	6.62	359	PN	Pn	01 13 02.2	-1.8
EKS2	Erkin-Say	6.64	20	P	Pn	01 13 03.6	-0.8
	SNR=522						
AAK	Ala-Archa	6.84	25	Pn	Pn	01 13 05.4	-1.6
AAK	Ala-Archa	6.84	25	P	Pn	01 13 06.6	-0.3
	comp=E,678nm,0.5s,baz=216,slow=4.1,SNR=1467						
AAK				S	S	01 14 21.2	-3.6
	comp=E,1μm,0.9s,baz=260,slow=13,SNR=15						
AAK	Ala-Archa	6.84	25	P	Pn	01 13 06.9	-0.1
AAK				P	Pn	01 13 06.9	-0.1
AAK				S	S	01 14 22.4	-2.4
AAK				S	S	01 14 22.4	-2.4
AAK	Ala-Archa	6.84	25	P	Pn	01 13 06.3	-0.7
	SNR=318						
AAK	Ala-Archa	6.84	25	⇓P	Pn	01 13 06.2	-0.8
	comp=E,347nm,0.6s						
AAK				⇑S	S	01 14 21.1	-3.6
	comp=E,1μm,0.7s						
AAK	Ala-Archa	6.84	25	i P	Pn	01 13 06.2	-0.8
	SNR=1611						
AAK	Ala-Archa	6.84	25	d iPN	Pn	01 13 06.1	-0.8
BHK	Bhakra	6.96	135	eP	Pn	01 13 12.1	+3.5
BHK				eS	S	01 14 26.8	-0.9
BHK				IAML		01 14 27.5	
	comp=N,4μm,0.3s						
BHK				IAML		01 14 27.5	
	comp=E,3μm,0.4s						
KBK	Karagaybulak	7.01	27	P	Pn	01 13 08.9	-0.4
	SNR=129						
FRU1	Bishkek	7.04	25	Pn	Pn	01 13 08.8	-0.7
FRU1	Bishkek	7.04	25	PN	Pn	01 13 08.8	-0.7
HRA	Herat	7.16	256	Pn	Pn	01 13 09.7	-1.6
ULHL	Ulahol	7.21	35	P	Pn	01 13 10.7	-1.3
	SNR=111						
CHMS	Chumysh	7.25	25	P	Pn	01 13 11.0	-1.2
	SNR=865						
BOOM	Boomskoye usch	7.27	33	Pn	Pn	01 13 11.2	-1.4
BOOM	Boomskoye usch	7.27	33	PN	Pn	01 13 11.2	-1.4
USP	Ospenovka	7.41	22	P	Pn	01 13 12.5	-1.7
	SNR=622						
TKM2	Tokmak 2	7.49	29	P	Pn	01 13 14.6	-0.9
	SNR=4250						
KDJ	Kajisay	7.59	40	Pn	Pn	01 13 14.1	-2.6
KDJ	Kajisay	7.59	40	PN	Pn	01 13 14.1	-2.6
SMLA	Simla	7.61	133	eP	Pn	01 13 16.4	-0.6
SMLA				eS	S	01 14 35.7	-7.3
SMLA				IAML		01 14 40.2	
	comp=N,1μm,0.4s						
SMLA				IAML		01 14 41.3	
	comp=E,913nm,0.3s						
SGDS	Sogindy	7.61	22	eP	Pn	01 13 15.2	-1.7
TARG	Taragay, Kyrgy	7.65	45	Pn	Pn	01 13 16.1	-1.7
TARG	Taragay, Kyrgy	7.65	45	PN	Pn	01 13 16.1	-1.7
CGRH	CHANDIGARH	7.68	136	eP	Pn	01 13 17.6	-0.4
CGRH				eS	S	01 14 37.2	-7.5
CGRH				IAML		01 14 40.4	
	comp=E,2μm,0.7s						
CGRH				IAML		01 14 41.9	
	comp=N,1μm,0.5s						
TNSS	Tian-Shan	8.16	35	eP	Pn	01 13 22.9	-1.5
TNSS	Tian-Shan	8.16	35	ePN	Pn	01 13 22.8	-1.5
AAA	Alma-Ata	8.28	34	eP	Pn	01 13 24.8	-0.8
AAA	Alma-Ata	8.28	34	ePN	Pn	01 13 24.7	-0.8
MDOK	Medeo	8.30	34	eP	Pn	01 13 25.0	-1.0
MDOK				eS	S	01 14 58.6	-0.9
MDOK	Medeo	8.30	34	ePN	Pn	01 13 25.0	-1.0
MDOK				eS	S	01 14 58.6	-0.9
KNDC	Almaty	8.31	34	⇑P	Pn	01 13 24.5	-1.5
	comp=N,3μm,0.9s						
KNDC	Almaty	8.31	34	PN	Pn	01 13 24.5	-1.5
PRZ	Przheval'sk	8.48	43	Pn	Pn	01 13 27.2	-1.1
PRZ	Przheval'sk	8.48	43	PN	Pn	01 13 27.3	-1.1
BKNR	BIKANER	8.72	164	eP	Pn	01 13 30.1	-1.4
BKNR				eS	S	01 14 56.7	-13
BKNR				IAML		01 15 04.0	
	comp=N,713nm,0.6s						
BKNR				IAML		01 15 04.7	
	comp=E,948nm,0.5s						
DDI	Dehra Dun	8.72	133	eP	Pn	01 13 31.3	-0.1
DDI				eS	S	01 15 00.5	-9.1
DDI				IAML		01 15 07.5	
	comp=E,743nm,0.2s						
DDI				IAML		01 15 07.7	
	comp=N,578nm,0.2s						
SATY	Saty	8.89	40	⇓i P	Pn	01 13 32.2	-1.4
SATY				eS	S	01 15 12.0	-1.4
SATY	Saty	8.89	40	d iPN	Pn	01 13 32.1	-1.4
SATY				eS	S	01 15 12.0	-1.4
UZB	Uzynbulak	9.27	41	⇓i P	Pn	01 13 37.2	-1.4
UZB	Uzynbulak	9.27	41	d iP	Pn	01 13 37.2	-1.4
ARXS	Arharly	9.48	33	eP	Pn	01 13 39.0	-2.1
JOSI	Joshimath	9.50	126	eP	Pn	01 13 41.5	-0.2
JOSI				eS	S	01 15 19.1	-9.2
JOSI				IAML		01 15 28.7	
	comp=N,866nm,1.2s						
JOSI				IAML		01 15 30.4	
	comp=E,799nm,0.0s						
SHLS	Shalkode	9.52	43	eP	Pn	01 13 43.5	+1.7
SHLS	Shalkode	9.52	43	eP	Pn	01 13 43.4	+1.7
JASL	Jaisalmer	9.52	179	eP	Pn	01 13 40.3	-1.5
JASL				eS	S	01 15 19.4	-9.2
NPLP	NPLP New Delhi	9.56	143	eP	Pn	01 13 42.8	+0.5
NPLP				eS	S	01 15 19.9	-10
NPLP				IAML		01 15 23.8	
	comp=N,852nm,0.1s						
NPLP				IAML		01 15 26.5	
	comp=E,770nm,0.6s						
PDGK	Podgornoye	9.65	42	⇑P	Pn	01 13 41.5	-1.9
	comp=E,201nm,1.0s						
PDGK				⇓S	S	01 15 24.6	-6.9
	comp=E,276nm,1.1s						
PDGK	Podgornoye	9.65	42	P	Pn	01 13 41.5	-1.9
JMIU	JAMIA UNIVERSI	9.68	143	eP	Pn	01 13 43.7	-0.1
JMIU				eS	S	01 15 22.9	-9.3
JMIU				IAML		01 15 25.0	
	comp=E,481nm,0.7s						
JMIU				IAML		01 15 35.4	
	comp=N,538nm,0.6s						
TDK	Taldyqorghan	10.35	32	eP	Pn	01 13 50.8	-1.6
TDK	Taldyqorghan	10.35	32	eP	Pn	01 13 50.8	-1.6
LGTI	Lohaghat	10.68	128	eP	Pn	01 13 56.5	-0.2
LGTI				eS	S	01 15 45.2	-11
LGTI				IAML		01 15 49.5	
	comp=E,111nm,0.5s						
LGTI				IAML		01 15 51.5	
	comp=N,216nm,0.7s						
FRKB	FARRUKHABAD	11.80	138	eP	Pn	01 14 12.8	+1.7
FRKB				eS	S	01 16 12.5	-10
FRKB				IAML		01 16 16.5	
	comp=E,273nm,0.6s						
FRKB				IAML		01 16 17.2	
	comp=N,332nm,1.1s						
BHUJ	Bhuj	13.20	184	eP	Pn	01 14 29.0	+0.3
BHUJ				eS	S	01 16 44.7	-11
BHUJ				IAML		01 16 55.5	
	comp=E,282nm,0.7s						
BHUJ				IAML		01 16 56.0	
	comp=N,375nm,0.4s						
MAKZ	Makanchi	13.35	36	Pn	Pn	01 14 28.9	-1.4
MAKZ	Makanchi	13.35	36	⇓P	Pn	01 14 29.2	-1.1
	comp=N,626nm,0.8s						
MAKZ	Makanchi	13.35	36	P	Pn	01 14 28.9	-1.4
MK31	Makanchi Array	13.48	37	⇑P	Pn	01 14 29.7	-2.3
	comp=N,369nm,0.7s,baz=220,slow=9.8,SNR=992						
MK31	Makanchi Array	13.48	37	d iP	Pn	01 14 30.6	-1.4
MKAR	Makanchi Array	13.48	37	Pn	Pn	01 14 31.0	-1.1
MKAR	Makanchi Array	13.48	37	P	Pn	01 14 31.7	-0.3
	comp=N,327nm,0.8s,baz=223,slow=12,SNR=119						
MKAR				S	S	01 17 00.6	-1.2
	comp=N,22nm,1.1s,baz=202,slow=9.0,SNR=2.2						
MKAR	Makanchi Array	13.48	37	i P	Pn	01 14 30.8	-1.2
MKAR				pmax	pmax		
	comp=Z,364nm,0.8s						
BRZS	Berezniki	13.58	6	eP	Pn	01 14 32.8	-0.4
BRZS	Berezniki	13.58	6	eP	Pn	01 14 32.8	-0.4
NGCH	Negor - Chabah	13.75	219	P	Pn	01 14 35.8	+0.3
	SNR=48						
ALBI	Allahabad	14.68	136	eP	P	01 14 47.9	+0.1
NRDN	NARMADA NAGAR	14.83	156	eP	Pn	01 14 48.7	-0.1
NRDN				eS	S	01 17 32.9	-0.5
NRDN				IAML		01 17 36.0	
	comp=E,212nm,0.7s						
NRDN				IAML		01 17 36.0	
	comp=N,231nm,0.8s						
WMQ	Urumqi	14.95	55	eP	Pn	01 14 50.3	+0.1
WMQ				S	S	01 17 33.3	-2.6
WMQ				pmax	pmax		
	comp=N,100nm,0.7s						
WMQ				pmax	pmax		
	comp=N,490nm,3.7s						
AB31	Akbulak array	14.97	332	⇑P	Pn	01 14 48.2	-2.0
	comp=N,156nm,0.7s,baz=143,slow=12,SNR=1056						
AB31				⇓S	S	01 17 29.5	-6.5
	comp=N,47nm,0.8s,baz=154,slow=21,SNR=4.3						
AB31	Akbulak array	14.97	332	i P	Pn	01 14 48.5	-1.7
ABKAR	Akbulak array	14.97	332	Pn	Pn	01 14 48.2	-2.0
ZSN	Zaisan	15.21	39	eP	Pn	01 14 52.4	-0.9
ZSN	Zaisan	15.21	39	eP	Pn	01 14 52.3	-0.9
KURBB	Kurchatov Arra	15.24	19	P	Pn	01 14 52.9	-0.7
	comp=N,26nm,0.4s,baz=208,slow=11,SNR=104						
KURBB				S	S	01 17 43.5	+1.1
	comp=N,11nm,0.8s,baz=214,slow=21,SNR=5.5						
KURBB	Kurchatov Arra	15.24	19	⇓P	Pn	01 14 51.5	-2.1
	comp=N,105nm,1.1s						
KURBB	Kurchatov Arra	15.24	19	P	Pn	01 14 51.1	-2.4
KURK	Kurchatov	15.35	19	Pn	Pn	01 14 52.1	-2.8
KURK	Kurchatov	15.35	19	⇓P	Pn	01 14 52.5	-2.4
	comp=N,41nm,0.9s						
KURK	Kurchatov	15.35	19	d iP	Pn	01 14 52.4	-2.4
KURK				pmax	pmax		
	comp=Z,146nm,1.0s						
EVN	Everest	16.10	117	P	P	01 15 03.7	-0.5
BANOM	Banah	16.14	233	P	P	01 15 03.6	-0.4
BANOM				P	P	01 15 03.6	-0.4
BANOM	Banah	16.14	233	i P	P	01 15 03.4	-0.7
	SNR=55						
SHME	Shamm	16.16	234	P	P	01 15 03.9	-0.3
	SNR=11						
SHME	Shamm	16.16	234	i P	P	01 15 03.6	-0.6
	SNR=39						
BORK	Borovoye	16.57	359	d iP	P	01 15 08.4	-0.1
BORK				pmax	pmax		
	comp=Z,243nm,1.3s						
MDH	Madha	16.58	232	P	P	01 15 07.7	-1.1
	SNR=18						
MDH	Madha	16.58	232	i P	P	01 15 07.3	-1.5
	SNR=32						
MASF	Masafi	16.62	232	P	Pn	01 15 10.2	-0.2
	SNR=6.8						
MSFE	Esma-Masafi	16.62	232	i P	P	01 15 09.4	+0.1
	SNR=61						
AKTO	Aktyubinsk	16.66	331	P	Pn	01 15 10.2	-0.4
	comp=Z,408nm,0.8s,baz=142,slow=8.9,SNR=891						
AKTO				S	S	01 18 07.5	-5.5
	comp=Z,29nm,0.8s,baz=281,slow=23,SNR=6.3						
AKTO	Aktyubinsk	16.66	331	⇑P	P	01 15 09.4	-0.1
	comp=Z,266nm,0.8s						
AKTO				⇓S	S	01 18 07.1	-5.9
	comp=Z,118nm,1.2s						
AKTO	Aktyubinsk	16.66	331	P	Pn	01 15 10.2	-0.4
WSAR	Wadi Sarin	16.79	222	P	Pn	01 15 12.6	+0.3
	comp=Z,0.5nm,0.6s,baz=68,slow=24,SNR=65						
WSAR	Wadi Sarin	16.79	222	P	Pn	01 15 12.3	-0.1
	SNR=28						
UMQ	Umm Al-Quwin	16.83	234	P	Pn	01 15 13.9	+1.1
	SNR=7.8						
BIDO	Bidbid	16.83	223	P	Pn	01 15 12.3	-0.5
	SNR=24						
UOSS	Minazif	16.89	231	P	P	01 15 11.0	-1.2
UOSS	Minazif	16.89	231	P	P	01 15 11.2	-1.1
UOSS	Minazif	16.89	231	i P	P	01 15 11.8	-0.5
	SNR=62						
HATD	Hatta, Dubai	17.02	231	P	Pn	01 15 14.5	-0.7
	SNR=26						
HATD				P	Pn	01 15 14.5	-0.7
	SNR=26						
HATD	Hatta, Dubai	17.02	231	i P	P	01 15 13.3	-0.4
	SNR=25						
ASHO	Ashiyiah	17.17	231	P	P	01 15 16.0	+0.6
	SNR=110						
ASHO	Ashiyiah	17.17	231	i P	P	01 15 15.6	+0.2
	SNR=276						
NAZ	Nazwa, Dubai	17.20	232	P	P	01 15 16.4	+0.7
	SNR=53						
NAZ	Nazwa, Dubai	17.20	232	i P	P	01 15 15.6	-0.1
	SNR=75						
SMDO	Samad	17.24	223	P	P	01 15 16.9	+0.7
	SNR=24						
HOQ	Hoqain	17.25	226	P	P	01 15 16.7	+0.5
	SNR=13						
SOHO	SOHO	17.28	229	P	P	01 15 16.7	+0.1
SOHO				P	P	01 15 16.7	+0.1
SOHO	SOHO	17.28	229	i P	P	01 15 14.9	-1.6
	SNR=30						
JLN	Jalan Bani Buh	17.29	217	P	Pn	01 15 17.9	-0.4
	SNR=45						
FAQ	Al Faqa, Dubai	17.42	232	P	P	01 15 18.3	+0.2
	SNR=30						
FAQ	Al Faqa, Dubai	17.42	232	i P	P	01 15 17.8	-0.2
	SNR=33						
LKRN	Lenkeran, Azer	17.46	284	P	Pn	01 15 20.1	-0.1
ASUD	Al Ashush, Dub	17.67	232	P	P	01 15 21.5	+0.7
	SNR=71						
ASUD	Al Ashush, Dub	17.67	232	i P	P	01 15 21.2	+0.4
	SNR=71						
JMDO	Jabal Madar	17.77	221	P	Pn	01 15 23.4	-0.6
	SNR=30						
JMDO				P	Pn	01 15 23.4	-0.6
	SNR=30						
ALNE	Al Ain	17.82	230	P	P	01 15 22.9	+0.5
	SNR=72						
ALNE	Al Ain	17.82	230	i P	P	01 15 22.7	+0.2
	SNR=104						
ARQ	Araqi	17.89	227	P	P	01 15 24.2	+1.0
	SNR=114						
ARQ				P	P	01 15 24.2	+1.0
	SNR=114						
AJN	Ajban	17.94	233	P	P	01 15 23.8	+0.1
	SNR=26						
AJN	Ajban	17.94	233	i P	P	01 15 23.7	0.0
	SNR=45						
LSA	Lhasa	18.45	106	P	Pn	01 15 31.5	-0.8
LSA	Lhasa	18.45	106	P	P	01 15 29.4	-0.3
LSA	Lhasa	18.45	106	P	Pn	01 15 32.6	+0.3
LSA	Lhasa	18.45	106	P	Pn	01 15 31.5	-0.8
AKT	Akhty	18.48	293	⇑i P	P	01 15 30.5	+0.9
AKT				eS	S	01 18 50.2	+0.5
AKT				pmax	pmax		
	comp=Z,26nm,0.5s						
AKT				smax	smax		
	comp=E,22nm,0.6s						
AKT				smax

MZR Muzera 20.01 233 *i* P **P 01 15 44.6 -1.5**
SNR=53
NAX Nakhchivan 20.03 285 P **P 01 15 47.3 +1.1**
ZAA0 Zalesovo Array 20.06 25 ⇑P **P 01 15 45.8 -0.4**
comp=Z,49nm,0.8s
ZALV Zalesovo Beam 20.06 25 P **P 01 15 45.9 -0.3**
ZALV Zalesovo Beam 20.06 25 P **P 01 15 46.2 0.0**
comp=Z,161nm,0.5s,baz=220,slow=11,SNR=646
ZALV sP **sP 01 16 46.7 -1.0**
comp=Z,75nm,0.8s,baz=224,slow=10,SNR=2.1
ZALV S **S 01 19 17.8 -2.3**
comp=Z,48nm,1.0s,baz=204,slow=22,SNR=5.3
comp=Z,161nm,0.5s
ZALV Zalesovo Beam 20.06 25 *i* P **P 01 15 46.2 0.0**
ZALV pmax pmax
comp=Z,159nm,0.5s
SAKB Bahrain 20.09 244 P **P 01 15 46.3 -0.5**
DQM DQM 20.09 218 P **P 01 15 47.4 +0.5**
DQM P **P 01 15 47.4 +0.5**
HYB Hyderabad 20.23 158 *e*P **P 01 15 49.3 +0.8**
HYB IVmB_BB 01 15 51.6
comp=Z,2μm,0.8s
HYB *ep*P **pP 01 16 22.8 +0.4**
HYB *es*P **sP 01 16 48.7 +0.5**
HYB *e*S **S 01 19 23.7 -0.5**
TRNA Turayna 20.36 240 P **P 01 15 48.1 -1.7**
TRNA S **S 01 19 22.0 -4.6**
SNR=23
GNI Garni 20.62 288 P **P 01 15 54.0 +1.4**
GNI Garni 20.62 288 P **P 01 15 52.7 +0.1**
comp=Z,40nm,0.9s,baz=1.0,slow=4.1,SNR=30
GNI pP **pP 01 16 27.0 +0.4**
comp=Z,32nm,0.7s,baz=346,slow=19,SNR=2.6
comp=Z,40nm,0.9s
GNI Garni 20.62 288*c i*P **P 01 15 54.7 +2.1**
SMRA Abu-Samra 20.63 241 P **P 01 15 51.3 -1.3**
SNR=9.3
SMRA S **S 01 19 27.0 -4.6**
SNR=18
GUDG Gudauri 21.02 295 P **P 01 15 57.3 +0.5**
SHL Shillong 21.16 115 P **P 01 15 58.1 -0.3**
SHL Shillong 21.16 115 P **P 01 15 58.1 -0.3**
TRLG Trialeti 21.19 292 P **P 01 15 59.2 +0.6**
SVE Sverdlovsk 21.44 345*de*P **P 01 16 01.0 +0.2**
SVE *e*S **S 01 19 46.8 +1.7**
SVE pmax pmax
comp=Z,146nm,1.2s
ARTI Arti 21.57 341 P **P 01 16 02.0 -0.1**
ARTI Arti 21.57 341 P **P 01 16 02.7 +0.6**
comp=Z,132nm,0.7s,baz=152,slow=7.0,SNR=113
ARTI pP **pP 01 16 37.3 +0.1**
comp=Z,63nm,0.9s,baz=176,slow=9.3,SNR=2.3
ARTI S **S 01 19 49.6 +2.4**
comp=Z,9.9nm,0.8s,baz=319,slow=9.0,SNR=1.5
comp=Z,132nm,0.7s
ARTI Arti 21.57 341*c i*P **P 01 16 01.9 -0.2**
ARTI *PP **pP 01 16 37.1 -0.1**
ARTI S **S 01 19 47.4 +0.2**
ARTI pmax pmax
comp=Z,251nm,0.9s
NCK Nalchik 21.82 297⇓*e*P **P 01 16 05.1 +0.4**
NCK pmax pmax
comp=Z,40nm,0.8s
KBZ Khabaz 22.35 297 P **P 01 16 10.2 +0.4**
comp=Z,4.6nm,0.6s,baz=121,slow=8.3,SNR=27
KBZ pP **pP 01 16 47.6 +2.1**
comp=Z,20nm,0.8s,baz=116,slow=10,SNR=4.2
comp=Z,4.6nm,0.6s
KBZ Khabaz 22.35 297*c i*P **P 01 16 09.5 -0.3**
KBZ pmax pmax
comp=Z,28nm,2.0s
NEUR Neytrino 22.42 296 *i* P **P 01 16 12.4 +1.7**
NEUR pmax pmax
comp=Z,32nm,1.6s
GOF Gofitskoye 22.51 301*ce*P **P 01 16 12.0 +0.8**
GOF *e*S **S 01 20 06.9 +4.5**
SHA1 Shidzhatmaz 22.53 297*d i*P **S 01 16 11.2 -0.4**
KIV Kislovodsk 22.54 298 P **P 01 16 11.4 -0.2**
KIV Kislovodsk 22.54 298 *e*P **P 01 16 11.6 0.0**
KIV *e*S **S 01 20 04.5 +1.3**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,43nm,14.0s
KIV Kislovodsk 22.54 298 P **P 01 16 13.2 +1.6**
comp=Z,465nmcomp=Z,31nm,1.0s
SHAO Shalim 22.66 220 P **P 01 16 13.2 +0.4**
BELG Belogornoye 22.73 322 P **P 01 16 13.5 +0.5**
comp=Z,435nm,0.7s,baz=319,slow=1.2,SNR=134
BELG Belogornoye 22.73 322*c i*P **P 01 16 13.3 +0.3**
BELG pmax pmax
comp=Z,76nm,0.8s
GURO Guroymak-BITLI 22.75 284 P **P 01 16 14.9 +1.3**
DOK Doka 22.97 224 P **P 01 16 15.9 +0.3**
DOK S **S 01 20 11.4 +1.0**
GTA Gaotai 23.15 74 ⇑P **P 01 16 18.3 +1.1**
GTA pP pP 01 16 59.4 +3.9
GTA sP sP 01 17 21.3 0.0
GTA S **S 01 20 15.1 +1.8**
GTA pmax pmax
comp=Z,86nm,0.9s
GTA pmax pmax
comp=Z,480nm,4.8s
DMTO DMTO 23.27 221 P **P 01 16 18.9 +0.6**
SNR=5.2
WHFO Wadi Hawf 23.74 223 P **P 01 16 22.4 -0.2**
SNR=23
RBK Rabkut 23.84 222 P **P 01 16 23.3 -0.2**
SNR=17
MARD Mardin 23.85 281 P **P 01 16 24.6 +1.0**
KOPT Kop Dagi 23.88 288 P **P 01 16 26.0 +2.0**
KNGR Kungurtug, Tuv 23.90 45*c i*P **P 01 16 25.7 +1.9**
KNGR pmax pmax
comp=Z,194nm,0.8s
LABN Labinsk 24.05 299 *e*P **P 01 16 28.8 +3.7**
LABN *e**PP **pP 01 17 09.6 +5.9**
LABN pmax pmax
comp=Z,48nm,1.2s
VSLR Vesyoloye 24.38 296⇓*e*P **P 01 16 30.9 +2.7**
VSLR pmax pmax
comp=Z,24nm,1.2s
ERBR Yeremizino-Bor 24.41 302 *e*P **P 01 16 27.5 -0.9**
ERBR *e**PP **pP 01 17 15.4 +7.7**
ERBR *e*S **S 01 20 35.2 +2.3**
ERBR pmax pmax
comp=Z,59nm,1.3s
ABTO Aybut 24.46 223 P **P 01 16 29.0 -0.1**
SNR=56
ABTO P **P 01 16 29.0 -0.1**
SNR=56
SOC Sochi 24.62 296 *e*P **P 01 16 29.8 -0.5**
SOC *e*S **S 01 20 37.3 +1.0**
RAYN Ar Rayn 25.22 246 P **P 01 16 35.7 -0.3**
RAYN IAmb IAmb 01 16 37.0
comp=Z,109nm,1.1s
RAYN Ar Rayn 25.22 246 *i* P **P 01 16 36.2 +0.2**
SNR=9.5
RAYN Ar Rayn 25.22 246 P **P 01 16 35.8 -0.2**
VRH Novokhopyorsk 25.32 315 *e*P **P 01 16 35.8 -0.7**
VRH pmax pmax
comp=Z,89nm,1.5s
ARPR Arapgir-MALATY 25.59 286 IAmb IAmb 01 17 26.0
comp=Z,54nm,1.3s
KIRV Kirov 26.14 335 P **P 01 16 44.5 +0.8**
comp=Z,105nm,0.8s,baz=137,slow=3.4,SNR=74
KIRV pP **pP 01 17 25.8 +0.9**
comp=Z,90nm,0.8s,baz=110,slow=1.6,SNR=4.3
KIRV sP **sP 01 17 50.2 +1.5**
comp=Z,103nm,0.8s,baz=167,slow=2.9,SNR=4.7
comp=Z,105nm,0.8s
KIRV Kirov 26.14 335*d i*P **P 01 16 43.9 +0.2**
MOY Mondy 26.33 45 *e*P **P 01 16 47.2 +1.4**
MOY *e* 01 17 31.7
MOY pmax pmax
comp=Z,86nm,1.9s
ANN Anapa 26.39 299 *e*P **P 01 16 45.3 -0.9**
ANN *e*S **S 01 21 07.0 +2.9**
ANN pmax pmax
comp=Z,18nm,0.9s
TNCH TengChong 26.45 108 P **P 01 16 48.9 +1.8**
TNCH pP pP 01 17 33.6 +4.1
TNCH sP sP 01 17 54.8 +1.1
TNCH S **S 01 21 10.3 +4.5**
TNCH pmax pmax
comp=Z,110nm,1.2s

LZDM Lanzhou Array 26.61 81 P **P 01 16 49.2 +0.6**
comp=Z,4.1nm,0.5s,baz=270,slow=12,SNR=7.3
comp=Z,4.1nm,0.5s
VORD Divnogorie 26.64 313 *e*P **P 01 16 46.5 -1.9**
VORD pmax pmax
comp=Z,30nm,1.0s
LZH Lanzhou 26.70 81 *e*P **P 01 16 50.9 +1.6**
LZH pP pP 01 17 35.5 +3.8
LZH sP sP 01 17 56.6 +0.9
LZH S **S 01 21 16.8 +7.2**
LZH SS SS 01 22 44.0 -26
LZH pmax pmax
comp=Z,37nm,1.0s
VSR Storozhevoye 26.81 313 *e*P **P 01 16 47.6 -2.3**
VSR pmax pmax
comp=Z,40nm,1.0s
VORR Voronezh 26.95 314 *e*P **P 01 16 50.4 -0.7**
VORR pmax pmax
comp=Z,111nm,1.4s
ZAK Zakamensk 27.23 49 *e*P **P 01 16 54.7 +0.9**
ZAK pmax pmax
comp=Z,50nm,1.7s
LPSR Galich'ya Gora 27.47 316 *e*P **P 01 16 55.8 +0.1**
LPSR pmax pmax
comp=Z,125nm,1.5s
TLY Talaya 27.87 47 P **P 01 17 00.6 +1.2**
TLY IAmb IAmb 01 17 02.3
comp=Z,68nm,1.4s
TLY Talaya 27.87 47*c i*P **P 01 17 01.2 +1.9**
TLY pmax pmax
comp=Z,47nm,1.4s
CD2 Chengdu 28.02 92 P **P 01 17 02.8 +1.8**
CD2 pmax pmax
comp=Z,130nm,1.0s
PZH PanZhiHua 28.22 102 P **P 01 17 03.8 +1.0**
PZH pmax pmax
comp=Z,30nm,0.9s
IRK Irkutsk 28.43 46 *e*P **P 01 17 04.8 +0.5**
IRK *e* 01 17 49.6
IRK pmax pmax
comp=Z,86nm,1.6s
SONM Songino Array 28.59 55 P **P 01 17 06.4 +0.5**
SONM IAmb IAmb 01 17 08.4
comp=Z,42nm,1.0s
SONM Songino Array 28.59 55 P **P 01 17 07.3 +1.4**
comp=Z,30nm,0.9s,baz=257,slow=9.9,SNR=116
SONM pP **pP 01 17 50.0 +1.6**
comp=Z,21nm,0.9s,baz=259,slow=9.1,SNR=7.1
SONM PcP **PcP 01 20 11.5 -0.1**
comp=Z,8.1nm,0.9s,baz=246,slow=3.2,SNR=4.1
comp=Z,30nm,0.9s
SONM Songino Array 28.59 55 P **P 01 17 07.3 +1.4**
SONM *PP **pP 01 17 50.0 +1.6**
SONM 01 20 11.5
ULN Ulaanbaatar 29.03 55 P **P 01 17 10.6 +0.7**
ULN Ulaanbaatar 29.03 55*c i*P **P 01 17 10.8 +1.0**
ULN pmax pmax
comp=Z,62nm,1.7s
MMAI Mount Meron Ar 29.06 274 P **P 01 17 10.5 +0.3**
comp=Z,1.1nm,0.5s,baz=69,slow=7.2,SNR=4.9
MMAI PcP **PcP 01 20 13.4 +0.4**
comp=Z,3.8nm,0.6s,baz=101,slow=4.3,SNR=7.8
MMAI ScP **ScP 01 23 34.5 -0.6**
comp=Z,4.7nm,0.8s,baz=216,slow=4.1,SNR=5.0
BR104 Keskin Array S 29.16 288 P **P 01 17 12.8 +1.7**
comp=Z,81nmcomp=Z,5.9nm,0.9s
BR131 Keskin Array S 29.16 288*c i*P **P 01 17 11.5 +0.4**
BRTR Keskin Array B 29.16 288 P **P 01 17 11.4 +0.4**
BRTR Keskin Array B 29.16 288 P **P 01 17 11.6 +0.4**
comp=Z,3.6nm,0.8s,baz=104,slow=8.3,SNR=24
BRTR pP **pP 01 17 55.2 +2.7**
comp=Z,5.6nm,0.8s,baz=96,slow=8.8,SNR=3.8
BRTR ScP **ScP 01 23 34.2 -1.1**
comp=Z,1.2nm,0.8s,baz=104,slow=2.5,SNR=3.6
comp=Z,3.6nm,0.8s
BRTR Keskin Array B 29.16 288 *i* P **P 01 17 11.6 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR106 Keskin Array S 29.18 288 P **P 01 17 11.5 +0.3**
comp=Z,84nmcomp=Z,6.4nm,0.7s
BR105 Keskin Array S 29.18 288 P **P 01 17 11.8 +0.6**
comp=Z,110nmcomp=Z,7.4nm,0.8s
MOS Moscow 29.50 321 *e*P **P 01 17 11.0 -2.6**
MOS *e**PP **pP 01 17 52.2 -3.0**
MOS *e*S **S 01 21 50.8 -1.9**
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=Z,210nm,1.0s
MOS pmax pmax
comp=N,100nm,1.1s
MOS pmax pmax
comp=N,71nm,1.0s
MOS pmax pmax
comp=E,145nm,1.0s
MOS pmax pmax
comp=E,200nm,1.1s
HMDM Hanimaadhoo 29.65 175 P **P 01 17 17.6 +2.2**
KMI Kunming 29.68 103 ⇑P **P 01 17 16.8 +1.0**
KMI S **S 01 21 56.9 +0.3**
KMI pmax pmax
comp=E,23nm,1.3s
OBN Obninsk 29.77 320 P **P 01 17 16.1 +0.1**
OBN Obninsk 29.77 320 P **P 01 17 16.6 +0.7**
comp=E,156nm,0.7s,baz=55,slow=3.7,SNR=45
comp=E,156nm,0.7s
OBN Obninsk 29.77 320 ⇓P **P 01 17 16.2 +0.2**
OBN Obninsk 29.77 320*c i*P **P 01 17 16.4 +0.4**
OBN *e**PP **pP 01 17 55.2 -2.4**
OBN *e* 01 18 21.9
OBN *e*S **S 01 21 49.1 -7.8**
OBN *e*SS ScP 01 23 47.8 +11
OBN pmax pmax
comp=Z,164nm,0.7s
OBN Obninsk 29.77 320 P **P 01 17 16.3 +0.3**
comp=Z,2μmcomp=Z,252nm,1.3s
CHTO Chiang Mai 30.46 118 P **P 01 17 22.2 -0.4**
CHTO Chiang Mai 30.46 118 P **P 01 17 24.4 +1.8**
CHTO Chiang Mai 30.46 118 P **P 01 17 22.2 -0.4**
CHTO pmax pmax
comp=Z,24nm,1.4s
PALK Pallekele 30.48 160 P **P 01 17 23.5 +0.7**
PALK IAmb IAmb 01 17 25.0
comp=Z,65nm,1.7s
PALK Pallekele 30.48 160 P **P 01 17 23.5 +0.7**
CMAR Chiang Mai Arr 30.70 118 P **P 01 17 25.3 +0.7**
CMAR Chiang Mai Arr 30.70 118 P **P 01 17 25.8 +1.1**
comp=Z,6.0nm,0.7s,baz=301,slow=7.7,SNR=43
CMAR pP **pP 01 18 07.9 +0.4**
comp=Z,4.4nm,0.7s,baz=303,slow=9.0,SNR=2.2
CMAR PcP **PcP 01 20 17.4 0.0**
comp=Z,5.4nm,0.6s,baz=293,slow=5.5,SNR=5.7
CMAR ScP **ScP 01 23 39.8 -0.6**
comp=Z,1.6nm,0.3s,baz=300,slow=3.7,SNR=6.5
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 30.70 118 *i* P **P 01 17 26.5 +1.9**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
BTO Baotou 30.90 70 *e*P **P 01 17 26.8 +0.5**
BTO sP **sP 01 18 26.6 -6.6**
BTO S **S 01 22 17.8 +2.6**
BTO pmax pmax
comp=Z,100nm,0.9s
BTO pmax pmax
comp=Z,250nm,4.0s
BTO LR LR
comp=Z,380nm,4.8s
BTO LR LR
comp=Z,310nm,6.6s
XAN Xi'an 31.22 83 ⇑P **P 01 17 29.8 +0.7**
XAN pP pP 01 18 16.1 +4.2
XAN PcP **PcP 01 20 18.6 0.0**
XAN pmax pmax
comp=Z,62nm,1.1s
KLMR Klimovskoe 31.36 331 *e*P **P 01 17 28.5 -1.4**
KLMR *e**PP **pP 01 18 09.6 -2.2**
KLMR pmax pmax
comp=Z,167nm,1.0s
BORA Eskisehir 31.59 289 P **P 01 17 33.0 +0.7**
HHC Hu-ho-hao-te 32.05 69 *e*P **P 01 17 37.8 +1.5**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.4s
BAL3X Bal3x, Balta 32.12 304 P **P 01 17 37.0 +0.2**

GYA Guiyang 32.15 98 ⇓P **P 01 17 38.8 +1.4**
GYA sP sP 01 18 45.8 +1.7
GYA S **S 01 22 32.5 -2.4**
GYA pmax pmax
comp=Z,100nm,0.9s
GYA pmax pmax
comp=Z,180nm,3.1s
SLVN Son La 32.61 108 P **P 01 17 43.4 +2.0**
AK09 Malin Array Si 32.68 309 P **P 01 17 41.5 -0.1**
AK10 Malin Array Si 32.70 309 P **P 01 17 41.9 +0.2**
AK08 Malin Array Si 32.70 309 P **P 01 17 41.8 0.0**
AK07 Malin Array Si 32.72 309 P **P 01 17 42.1 +0.2**
AK06 Malin Array Si 32.73 309 P **P 01 17 42.1 +0.1**
AK05 Malin Array Si 32.73 309 P **P 01 17 41.9 -0.1**
AKASG Malin Array Be 32.73 309 P **P 01 17 41.6 -0.5**
AKASG IAmb IAmb 01 17 43.4
comp=Z,77nm,1.1s
AKASG Malin Array Be 32.73 309 P **P 01 17 42.0 -0.1**
comp=Z,14nm,0.7s,baz=82,slow=7.1,SNR=129
AKASG pP **pP 01 18 25.5 +1.3**
comp=Z,20nm,0.8s,baz=86,slow=6.9,SNR=4.5
AKASG sP **sP 01 18 49.5 +2.0**
comp=Z,10nm,0.8s,baz=86,slow=7.2,SNR=2.1
AKASG ScP **ScP 01 23 45.8 -1.0**
comp=Z,4.1nm,0.8s,baz=78,slow=3.7,SNR=6.9
comp=Z,14nm,0.7s
AKASG Malin Array Be 32.73 309 *i* P **P 01 17 42.0 -0.1**
AKASG pmax pmax
comp=Z,17nm,0.5s
AKBB Malin Array Si 32.73 309*c i*P **P 01 17 41.6 -0.5**
AKBB pmax pmax
comp=Z,41nm,0.8s
AKBB Malin Array Si 32.73 309 P **P 01 17 41.5 -0.5**
AK02 Malin Array Si 32.74 309 P **P 01 17 42.3 +0.2**
AK01 Malin Array Si 32.74 309 P **P 01 17 42.0 -0.1**
AK03 Malin Array Si 32.74 309 P **P 01 17 41.9 -0.2**
KIEV Kiev 32.74 309 P **P 01 17 41.2 -0.9**
KIEV IAmb IAmb 01 17 43.3
comp=Z,32nm,0.8s
KIEV Kiev 32.74 309 ⇓P **P 01 17 41.2 -0.9**
KIEV Kiev 32.74 309 *i* P **P 01 17 41.8 -0.4**
SNR=31
KIEV Kiev 32.74 309 P **P 01 17 41.2 -0.9**
KIEV Kiev 32.74 309 P **P 01 17 41.7 -0.4**
comp=Z,2μmcomp=Z,210nm,0.8s
AK11 Malin Array Si 32.77 309 P **P 01 17 42.6 +0.3**
AK12 Malin Array Si 32.77 309 P **P 01 17 42.4 +0.1**
AK04 Malin Array Si 32.77 309 P **P 01 17 42.1 -0.3**
AK14 Malin Array Si 32.80 309 P **P 01 17 42.5 -0.1**
AK15 Malin Array Si 32.80 309 P **P 01 17 42.8 +0.2**
AK16 Malin Array Si 32.80 309 P **P 01 17 42.3 -0.3**
AK13 Malin Array Si 32.82 309 P **P 01 17 42.9 +0.1**
AK17 Malin Array Si 32.84 309 P **P 01 17 42.5 -0.4**
AK18 Malin Array Si 32.84 309 P **P 01 17 42.4 -0.5**
AK22 Malin Array Si 32.84 309 P **P 01 17 42.4 -0.6**
AK21 Malin Array Si 32.86 309 P **P 01 17 43.1 0.0**
ENH Enshi 32.87 89 IAmb IAmb 01 17 45.9
comp=Z,50nm,0.9s
ENH Enshi 32.87 89 P **P 01 17 44.9 +1.4**
AK19 Malin Array Si 32.87 309 P **P 01 17 42.9 -0.3**
AK20 Malin Array Si 32.88 309 P **P 01 17 42.9 -0.4**
SORM Soroca 32.98 304 ⇑P **P 01 17 43.3 -0.9**
SORM Soroca 32.98 304 P **P 01 17 43.3 -0.9**
CFR Carcaliu 32.99 299 ⇓P **P 01 17 44.0 -0.4**
CFR Carcaliu 32.99 299 P **P 01 17 43.9 -0.4**
MANT Manisa 33.25 286 P **P 01 17 46.8 -0.1**
LUBAR Lubar, Ukraine 33.55 307 P **P 01 17 48.4 -0.7**
MI29 MI29, Kamyanyy 33.56 308 P **P 01 17 48.7 -0.5**
comp=Z,214nm,0.9s
MI28 Mi28,Pidlybu 33.74 309 P **P 01 17 50.3 -0.5**
CIT Chita 33.89 49 *e*P **P 01 17 51.6 -0.5**
CIT *e* 01 18 56.6
CIT *e* 01 20 24.8
CIT pmax pmax
comp=Z,242nm,1.3s
LYN LuoYang 33.91 81 P **P 01 17 54.4 +1.9**
LYN pP pP 01 18 40.9 +5.1
LYN sP sP 01 19 01.8 +1.9
LYN S **S 01 23 04.8 +3.0**
LYN pmax pmax
comp=Z,74nm,1.1s
VRI Vrincioaia 33.99 300 ⇑P **P 01 17 54.1 +1.1**
VRI Vrincioaia 33.99 300 P **P 01 17 54.0 +1.1**
VRI Vrincioaia 33.99 300 P **P 01 17 54.4 +1.4**
comp=Z,389nmcomp=Z,10nm,1.0s
PLOR5 Plostina Array 34.03 300 P **P 01 17 54.7 +1.3**
comp=Z,18nm,0.7s
PLOR Plostina 34.04 300 ⇓P **P 01 17 54.1 +0.6**
PLOR Plostina 34.04 300 P **P 01 17 54.0 +0.6**
TESR Tescani 34.05 301 P **P 01 17 53.8 +0.3**
comp=Z,381nmcomp=Z,14nm,0.7s
ISR Istrita 34.12 299 ⇑P **P 01 17 54.2 -0.1**
ISR Istrita 34.12 299 P **P 01 17 54.1 -0.1**
KMPD K-Podol'skiy 34.27 305 P **P 01 17 55.3 0.0**
KMPD P **P 01 17 54.8 -0.5**
MNK Minsk 34.31 315 *i* P **P 01 17 55.8 +0.2**
comp=E,25nm,1.0s
MNK *i* P **P 01 17 55.8 +0.2**
comp=N,90nm,1.0s
MNK *i* P **P 01 17 55.8 +0.2**
comp=Z,81nm,0.8s,baz=104
MNK *i* pP **pP 01 18 37.2 -0.7**
MNK *i* PP **PnPn 01 19 18.0 0.0**
MNK *i* S **S 01 23 09.0 +1.6**
MNK *i* sS **sS 01 24 23.0 -1.0**
MNK *i* SS **SS 01 25 44.9 +2.3**
MNK *i* LR LR 01 32 53.0
MNK *i* LRM MLR 01 34 29.6
comp=E,73nm,15.5s
MNK *i* LRM MLR 01 34 46.8
comp=N,66nm,17.7s
MNK *i* LRM MLR 01 34 50.6
comp=Z,97nm,18.1s
MNK Minsk 34.31 315 *i* P **P 01 17 55.8 +0.2**
MNK *i* *PP **pP 01 18 37.2 -0.7**
MNK *i* 01 19 18.0
MNK *i* 01 20 26.8
MNK *i* S **S 01 23 08.9 +1.6**
MNK *i* *SS **sS 01 24 23.0 -1.0**
MNK *i* 01 27 55.7
MNK pmax pmax
comp=Z,81nm,0.8s
MNK pmax pmax
comp=N,90nm,1.0s
MNK pmax pmax
comp=E,25nm,1.0s
MNK MLR MLR
comp=E,73nm,16.0s
MNK MLR MLR
comp=N,66nm,18.0s
MNK MLR MLR
comp=Z,97nm,18.0s
HORU Horodok 34.34 306 P **P 01 17 56.3 +0.4**
MLR Muntele Rosu 34.54 299 IAmb IAmb 01 18 45.1
comp=Z,77nm,1.1s
MLR Muntele Rosu 34.54 299 ⇓P **P 01 17 58.0 +0.1**
MLR Muntele Rosu 34.54 299 P **P 01 17 57.9 +0.1**
ELND Elena 34.71 295 ⇑P **P 01 17 59.0 -0.2**
EZN Ezine 34.74 289 ⇑P **P 01 17 58.7 -0.8**
EZN Ezine 34.74 289 P **P 01 17 58.6 -0.8**
PUL Pulkovo 34.77 325*d i*P **P 01 18 00.4 +1.0**
PUL pmax pmax
comp=Z,205nm,1.1s
RNPP5 Staryi Chortor 34.90 309 P **P 01 18 00.9 +0.2**
RNPP9 Sopachiv 34.92 310 P **P 01 18 00.9 0.0**
DOPR Dopca 34.92 300 ⇑P **P 01 18 01.2 +0.2**
RNPP8 Varash 34.93 309 P **P 01 18 01.0 0.0**
HNS HongShan 35.00 75 ⇑P **P 01 18 03.3 +1.6**
HNS pmax pmax
comp=Z,19nm,1.1s
NACGM Naroch 35.03 316⇑*i*P **P 01 18 01.9 +0.2**
comp=Z,216nm,0.9s,baz=103
BURAR Bucovina Array 35.05 303 P **P 01 18 02.6 +0.4**
BURAR Bucovina Array 35.05 303 ⇑P **P 01 18 02.6 +0.4**
BURAR Bucovina Array 35.05 303 P **P 01 18 02.5 +0.3**
XLT XiLinHaoTe 35.14 64 *e*P **P 01 18 05.1 +2.2**
XLT PP **PnPn 01 19 31.3 +3.1**
XLT pmax pmax
comp=Z,15nm,1.2s
XLT pmax pmax
comp=Z,160nm,4.1s
KSV Kosov 35.18 304 P **P 01 18 03.1 -0.1**
ATD Arta Tunnel 35.27 232 P **P 01 18 04.9 +0.6**

ISAL Salakas 35.55 317 *eP* **P 01 18 08.5 +2.3**
STNU Starunia 35.57 305 P **P 01 18 06.9 +0.4**
BJT Baijiatuau 35.64 70 P **P 01 18 07.4 +0.3**
BJT Baijiatuau 35.64 70 P **P 01 18 08.7 +1.6**
BJT Baijiatuau 35.64 70 P **P 01 18 07.4 +0.3**
BJT pmax pmax
comp=Z,9.0nm,0.7s
BJI Beijing 35.64 70 P **P 01 18 08.0 +0.9**
BJI PP **PnPn 01 19 36.8 +2.6**
BJI PcP **PcP 01 20 31.4 +0.5**
BJI ScP **ScP 01 23 57.8 +0.4**
BJI pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 35.75 330 *eP* **P 01 18 08.5 +0.8**
MORS Morshin 35.99 306 P **P 01 18 10.6 +0.6**
VSU Vasula 36.02 322*c iP* **P 01 18 08.6 -1.5**
VSU pmax pmax
comp=Z,194nm,0.8s
CJR Cluj-Napoca 36.15 301 P **P 01 18 14.1 +2.6**
SHIU Shidnytsya 36.35 306 P **P 01 18 13.9 +0.8**
CNSH ChangSha 36.45 91 P **P 01 18 13.8 -0.3**
CNSH pmax pmax
comp=Z,62nm,1.2s
MARR Marisel-Cluj 36.48 301 ⇓P **P 01 18 15.0 +0.6**
DEV Deva 36.66 300 P **P 01 18 17.5 +1.8**
WHN Wuhan 36.69 86 P **P 01 18 17.0 +0.9**
WHN pmax pmax
comp=Z,72nm,1.1s
ARBE Arbavere 36.70 323 *eP* **P 01 18 16.7 +0.9**
PABE Paberze 36.73 316 *eP* **P 01 18 16.9 +0.8**
DRGR 36.76 302 ⇑P **P 01 18 17.1 +0.4**
DRGR 36.76 302 P **P 01 18 17.0 +0.4**
KWP Kalwaria Pacla 36.79 306 *eP* **P 01 18 17.9 +1.1**
KWP Kalwaria Pacla 36.79 306 P **P 01 18 18.1 +1.3**
KWP Kalwaria Pacla 36.79 306 P **P 01 18 17.5 +0.7**
comp=Z,44nm,1.5s
VSVD Vaisvydziai 36.85 317 *eP* **P 01 18 18.7 +1.5**
SUW Suwalki 36.92 314 *eP* **P 01 18 18.2 +0.4**
SUW Suwalki 36.92 314 *eP* **P 01 18 18.2 +0.4**
TIA Tai'an 37.16 76 P **P 01 18 21.9 +1.8**
TIA pmax pmax
comp=Z,23nm,0.9s
SURR Surduc 37.21 300 ⇑P **P 01 18 21.0 +0.6**
FINES FINESS Array B 37.34 326 P **P 01 18 21.3 +0.1**
FINES FINESS Array B 37.34 326 P **P 01 18 21.7 +0.5**
comp=Z,93nm,0.7s,baz=112,slow=10,SNR=270
comp=Z,93nm,0.7s
FINES FINESS Array B 37.34 326 *i P* **P 01 18 21.7 +0.5**
FINES pmax pmax
comp=Z,93nm,0.7s
LVZ Lovozero 37.38 339 P **P 01 18 21.5 +0.1**
LVZ lAmb lAmb 01 18 22.9
comp=Z,88nm,0.8s
LVZ Lovozero 37.38 339*c iP* **P 01 18 21.7 +0.2**
LVZ pmax pmax
comp=Z,108nm,0.8s
LVZ Lovozero 37.38 339 P **P 01 18 21.6 +0.1**
comp=Z,1µmcomp=Z,147nm,1.2s
LVZ Lovozero 37.38 339 P **P 01 18 21.9 +0.4**
LVZ sP **sP 01 19 27.6 -0.5**
HIA Hailar 37.55 54 P **P 01 18 24.7 +1.5**
APA Apatity 37.55 338 ⇓*iP* **P 01 18 21.8 -1.1**
APA *i* *PP **pP 01 18 59.8 -6.2**
APA *i* S **S 01 23 53.0 -3.3**
APA *i* SS **SS 01 26 46.7 -3.1**
APA MLR MLR
comp=Z,486nm,4.6s
HILR Hailar Array B 37.56 54 P **P 01 18 24.8 +1.5**
comp=Z,3.0nm,0.4s,baz=270,slow=7.4,SNR=7.2
HILR PcP **PcP 01 20 36.7 0.0**
comp=Z,10nm,0.7s,baz=226,slow=3.9,SNR=8.4
HILR ScP **ScP 01 24 04.8 +0.4**
comp=Z,0.8nm,0.3s,baz=204,slow=3.3,SNR=6.3
comp=Z,3.0nm,0.4s
BZS Buzias 37.57 300 P **P 01 18 24.6 +1.2**
MEF Metsahovi 37.71 324 *eP* **P 01 18 25.1 +0.8**
STHS Stebnicka Huta 37.74 306 *eP* **P 01 18 26.7 +1.9**
STHS Stebnicka Huta 37.74 306 *eP* **P 01 18 26.7 +1.9**
R9F13 Warsaw-Wawer 37.94 310 *eP* **P 01 18 27.2 +0.9**
R9F13 *e*S **S 01 24 05.0 +2.5**
PBUR Paburge 37.96 317 *eP* **P 01 18 27.6 +1.1**
BEL Belsk 38.13 310 *eP* **P 01 18 29.1 +1.1**
KEF Keuruu 38.14 327 *eP* **P 01 18 28.6 +0.7**
NIE Niedzica 38.35 306 *eP* **P 01 18 31.8 +1.8**
NIE Niedzica 38.35 306 P **P 01 18 31.3 +1.3**
NIE Niedzica 38.35 306 P **P 01 18 31.2 +1.3**
comp=Z,278nmcomp=Z,15nm,1.7s
PSZ Piszkesteto 38.64 303 *eP* **P 01 18 33.8 +1.4**
PSZ Piszkesteto 38.64 303 P **P 01 18 33.8 +1.4**
OJC Ojcow 38.69 307 *eP* **P 01 18 33.2 +0.6**
OJC Ojcow 38.69 307 P **P 01 18 33.2 +0.6**
LANS Liptovska Anna 38.90 305 *eP* **P 01 18 36.3 +1.8**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 38.90 305 *eP* **P 01 18 36.3 +1.8**
RAF Rauma 39.19 325 *eP* **P 01 18 36.8 +0.2**
VAF Ylistaro 39.40 328 *eP* **P 01 18 39.0 +0.7**
SRO Srobarova 39.71 303 *eP* **P 01 18 42.9 +1.8**
SRO pmax pmax
comp=Z,29nm,1.0s
SRO Srobarova 39.71 303 *eP* **P 01 18 42.9 +1.8**
NJ2 Nanjing 39.77 82 *eP* **P 01 18 42.3 +0.5**
NJ2 pmax pmax
comp=Z,16nm,0.6s
AAL Aland 39.82 323 *eP* **P 01 18 42.0 +0.2**
FURI Furi 39.94 235 P **P 01 18 45.4 +1.6**
DL2 Dalian 40.00 71 P **P 01 18 44.8 +1.2**
DL2 pP **pP 01 19 31.5 +3.8**
DL2 *e*S **S 01 24 37.0 +3.4**
DL2 pmax pmax
comp=Z,65nm,1.1s
DL2 pmax pmax
comp=Z,1µm,3.7s
JAVC Velka Javorina 40.09 305 *eP* **P 01 18 45.7 +1.4**
MORC Moravsky Berou 40.14 306 ⇑P **P 01 18 44.7 0.0**
MORC Moravsky Berou 40.14 306 *eP* **P 01 18 45.4 +0.7**
MORC Moravsky Berou 40.14 306 P **P 01 18 44.7 0.0**
VADS Vadso 40.24 340 *eP* **P 01 18 45.7 +0.6**
SMOL Smolenice 40.27 305 *eP* **P 01 18 46.8 +1.1**
SMOL pmax pmax
comp=Z,4.0nm,0.9s
GKP Gorka Klasztor 40.37 312 *eP* **P 01 18 47.0 +0.5**
GKP Gorka Klasztor 40.37 312 *eP* **P 01 18 47.2 +0.7**
GKP Gorka Klasztor 40.37 312 P **P 01 18 48.1 +1.7**
MODS Modra-Piesok 40.37 304 *eP* **P 01 18 47.5 +0.9**
MODS pmax pmax
comp=Z,18nm,1.2s
MODS Modra-Piesok 40.37 304 *eP* **P 01 18 47.5 +0.9**
KRLC Kraliky 40.63 307 *eP* **P 01 18 49.7 +1.0**
KRLC Kraliky 40.63 307 *eP* **P 01 18 49.7 +1.0**
SJUU Sjulsmark 40.69 331 *eP* **P 01 18 49.6 +0.8**
KEV Kevo 40.72 338 P **P 01 18 49.4 +0.3**
KEV lAmb lAmb 01 18 50.7
comp=Z,87nm,0.8s
KEV Kevo 40.72 338 P **P 01 18 49.4 +0.3**
KEV pmax pmax
comp=Z,87nm,0.8s
KEV Kevo 40.72 338 P **P 01 18 49.6 +0.6**
VRAC Vranov 40.78 306 *eP* **P 01 18 50.8 +0.9**
SOP Sopron 40.90 303 P **P 01 18 51.8 +0.9**
UPP Uppsala 40.91 322 *eP* **P 01 18 51.1 +0.4**
DPC Dobruska-Polom 40.92 307 *eP* **P 01 18 52.2 +1.2**
DPC Dobruska-Polom 40.92 307 *eP* **P 01 18 52.2 +1.2**
DPC Dobruska-Polom 40.92 307 P **P 01 18 51.8 +0.8**
comp=Z,19nm,1.2s
KRUC Moravsky 40.92 305 *eP* **P 01 18 51.6 +0.6**
KSP Ksiaz 40.92 308 *eP* **P 01 18 51.1 +0.1**
KSP Ksiaz 40.92 308 P **P 01 18 52.0 +1.0**
KSP Ksiaz 40.92 308 P **P 01 18 51.3 +0.3**
comp=Z,12nm,2.0s
OSTC Ostas 40.98 308 *eP* **P 01 18 52.0 +0.5**
OSTC Ostas 40.98 308 *eP* **P 01 18 52.0 +0.5**
ARA0 ARCESS Array S 41.06 338 *eP* **P 01 18 52.4 +0.5**
ARCES ARCESS Array B 41.06 338 P **P 01 18 52.5 +0.6**
ARCES ARCESS Array B 41.06 338 P **P 01 18 52.6 +0.7**
comp=Z,117nm,0.8s,baz=110,slow=8.1,SNR=381
ARCES pP **pP 01 19 34.7 -0.9**
comp=Z,17nm,0.8s,baz=116,slow=8.2,SNR=2.4
ARCES sP **sP 01 19 59.8 +1.0**
comp=Z,9.6nm,0.7s,baz=113,slow=9.3,SNR=2.0
comp=Z,117nm,0.8s
ARCES ARCESS Array B 41.06 338 P **P 01 18 52.6 +0.7**
ARCES *PP **pP 01 19 34.7 -0.9**
ARCES *SP **sP 01 19 59.8 +1.0**
RONA Rosalia, Austr 41.08 303 *i P* **P 01 18 52.5 +0.1**
comp=Z,9.1nm,0.9s
CHVC Chvalec 41.08 308 *eP* **P 01 18 53.4 +1.1**
CHVC Chvalec 41.08 308 *eP* **P 01 18 53.4 +1.1**
UPC Upice 41.11 308 *eP* **P 01 18 53.6 +1.0**
UPC Upice 41.11 308 *eP* **P 01 18 53.6 +1.0**
KCSI Kotacane, Aceh 41.23 136 P **P 01 18 52.2 -1.7**
CONA Conrad Observa 41.35 304 *i P* **P 01 18 55.4 +0.7**
comp=Z,18nm,0.9s,SNR=8.4
SNSI Sinabang, Aceh 41.37 139 P **P 01 18 55.5 +0.5**
KULM Kulim 41.48 131 P **P 01 18 57.3 +1.4**
PTJ Puntijarka 41.48 301 P **P 01 18 56.4 +0.6**
TREC Trest 41.50 306 *eP* **P 01 18 56.9 +1.1**
TREC Trest 41.50 306 *eP* **P 01 18 56.9 +1.1**
LANU Lannavaara 41.52 335 *eP* **P 01 18 56.4 +0.7**
KTK1 Kautokeino 41.52 336 *eP* **P 01 18 55.9 +0.2**
ARSA Arzberg 41.64 303 *i P* **P 01 18 57.5 +0.5**
comp=Z,3.8nm,0.7s
GROS Grobnik 41.74 302 *i P* **P 01 18 58.1 +0.3**
CN2 Changchun 41.88 62 *eP* **P 01 18 58.3 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PERS Pernice 41.98 302 ⇑*iP* **P 01 19 00.3 +0.6**
SOKA Soboth 42.04 302 *i P* **P 01 19 00.7 +0.5**
comp=Z,18nm,0.9s,SNR=17
PRU Pruhonice 42.08 307 *eP* **P 01 19 01.2 +0.8**
PRU Pruhonice 42.08 307 *eP* **P 01 19 01.2 +0.8**
TIP Timpagrande 42.12 291 P **P 01 19 00.6 -0.4**
comp=Z,7.0nm,1.1s
HAMF Hammerfest 42.14 339 *eP* **P 01 19 01.3 +0.7**
ZEA Zeya 42.30 47 *eP* **P 01 19 04.1 +2.0**
ZEA *e* 01 20 12.4
ZEA pmax pmax
comp=E,30nm,1.2s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,60nm,0.9s
CKRC Cesky Krumlov 42.31 305 *eP* **P 01 19 03.2 +0.9**
CKRC Cesky Krumlov 42.31 305 *eP* **P 01 19 03.2 +0.9**
SGRT San Giovanni R 42.31 295 lAmb lAmb 01 19 49.1
comp=Z,66nm,1.2s
ZVC Zvikov 42.34 306 *eP* **P 01 19 03.4 +0.9**
IPM Ipoh 42.34 132 P **P 01 19 02.2 -0.8**
IPM lAmb lAmb 01 19 04.4
comp=Z,37nm,0.7s
IPM Ipoh 42.34 132 P **P 01 19 03.6 +0.7**
OBKA Obir 42.39 302 P **P 01 19 03.7 +0.7**
comp=Z,6.9nm,0.9s,SNR=5.3
BRG Berggiesshubel 42.41 308 ⇓*iP* **P 01 19 04.2 +1.1**
BRG Amp 01 19 05.0
comp=Z,13nm,0.8s
BRG Berggiesshubel 42.41 308 sS sS 01 26 29.0 +1.5
MOA Molin 42.43 304 *i P* **P 01 19 03.7 +0.4**
comp=Z,15nm,0.8s,SNR=7.3
PSI Prapat 42.47 135 P **P 01 19 03.3 -0.7**
PSI pmax pmax
comp=Z,17nm,0.8s
DEL Delary 42.48 317 *i P* **P 01 19 04.2 +0.7**
DEL lAmb lAmb 01 19 05.4
comp=Z,18nm,0.6s
HEH HeiHe 42.49 53 *eP* **P 01 19 05.0 +1.3**
HEH pmax pmax
comp=Z,180nm,0.8s
RPSI Rantau Prapat 42.55 136 P **P 01 19 03.3 -1.3**
JETT Jettan, Norway 42.67 337 *eP* **P 01 19 05.0 +0.1**
LUNU Lund 42.68 315 *i P* **P 01 19 06.1 +1.0**
GERES GERESS Array B 42.71 305 P **P 01 19 06.2 +0.6**
comp=Z,1.8nm,0.7s,baz=81,slow=8.2,SNR=17
GERES pP **pP 01 19 51.8 +2.5**
comp=Z,3.1nm,1.0s,baz=87,slow=7.2,SNR=2.9
GERES ScP **ScP 01 24 24.3 -0.4**
comp=Z,0.7nm,0.6s,baz=134,slow=2.8,SNR=3.2
GERES GERESS Array B 42.71 305 P **P 01 19 06.2 +0.6**
GERES *PP **pP 01 19 51.8 +2.5**
KHC Kasperske Hory 42.76 306*d iP* **P 01 19 06.9 +0.9**
KHC pmax pmax
comp=Z,12nm,2.1s
KHC Kasperske Hory 42.76 306 *eP* **P 01 19 06.3 +0.3**
KHC pP **pP 01 19 47.5 -2.2**
BIOA Bad Ischl, Aus 42.87 304 *i P* **P 01 19 07.0 +0.2**
comp=Z,8.5nm,1.0s
HFS Hagfors 42.91 322 P **P 01 19 07.3 +0.4**
comp=Z,96nm,0.7s,baz=98,slow=11,SNR=231
comp=Z,96nm,0.7s
HFS Hagfors 42.91 322 P **P 01 19 07.3 +0.4**
BJUU Bjuv 42.93 316 *i P* **P 01 19 07.9 +0.8**
BNX BinXian 42.96 59 ⇑P **P 01 19 07.9 +0.4**
BNX pmax pmax
comp=Z,15nm,1.4s
GSI Gunungsitoli 42.97 138 P **P 01 19 07.9 0.0**
GSI lAmb lAmb 01 19 10.1
comp=Z,49nm,0.6s
GSI Gunungsitoli 42.97 138 P **P 01 19 09.3 +1.4**
GSI Gunungsitoli 42.97 138 P **P 01 19 09.0 +1.1**
CADS Cadrg 42.98 301 ⇑*iP* **P 01 19 07.8 0.0**
CLL Collm 42.98 309 *i P* **P 01 19 07.6 0.0**
CLL *e**PP **pP 01 19 52.0 +0.6**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 42.98 309 *i P* **P 01 19 07.6 0.0**
comp=Z,13nm,1.1s
CLL *e*pP **pP 01 19 52.0 +0.6**
CLL *e*sP **sP 01 20 12.0 -2.4**
CLL *e*PP **PP 01 20 51.0 -0.6**
CLL *i* x x 01 21 09.5
CLL *e*PPP PPP 01 21 33.0
CLL *e*sPP 01 21 50.0
CLL *e*x x 01 24 20.0
CLL *e*SS SS 01 28 26.0 -11
MYKA Terra Mystica 42.99 302 *i P* **P 01 19 08.5 +0.6**
comp=Z,5.0nm,0.9s
SABO M.te Sabotino 43.11 301 P **P 01 19 08.9 +0.1**
KBA Koelnbreinsper 43.14 303 *i P* **P 01 19 09.5 +0.4**
comp=Z,2.7nm,0.6s,SNR=7.7
FABU Falkenberg 43.14 317 *i P* **P 01 19 09.3 +0.5**
BORU Boraas 43.15 318 *i P* **P 01 19 09.5 +0.7**
TRO Tromso 43.17 336 *eP* **P 01 19 09.3 +0.4**
LESA Schwarzleotal 43.54 303 *eP* **P 01 19 12.2 -0.1**
comp=Z,13nm,0.9s,SNR=10.0
ONAU Onsala 43.60 318 *i P* **P 01 19 12.8 +0.4**
FAUS Fauske 43.69 333 *eP* **P 01 19 13.3 +0.2**
MOR8 Moi Rana 43.70 331 *eP* **P 01 19 12.6 -0.5**
ABTA Abfaltersbach 43.75 302 *i P* **P 01 19 13.7 -0.2**
comp=Z,5.3nm,0.9s
TJOU Tjoern 43.79 319 *i P* **P 01 19 14.4 +0.5**
STEI Steigen 43.87 333 *eP* **P 01 19 14.6 +0.2**
RAUS Rausandaksla 43.92 331 *eP* **P 01 19 14.3 -0.6**
NC602 NORSAR Array S 44.04 323 *eP* **P 01 19 15.3 -0.6**
NORES NORESS Array B 44.04 323 P **P 01 19 16.1 +0.2**
NORES pmax pmax
comp=Z,3.0nm,0.5s
STRU Stroemstad 44.08 320 *eP* **P 01 19 16.2 0.0**
STRU Stroemstad 44.08 320 *i P* **P 01 19 16.6 +0.4**
YAK Yakutsk 44.16 35 P **P 01 19 16.7 -0.1**
YAK Yakutsk 44.16 35*c iP* **P 01 19 16.9 +0.1**
YAK pmax pmax
comp=Z,252nm,0.8s
LEIR Leirfjorden 44.21 330 *eP* **P 01 19 16.9 -0.2**
NB2 NORSAR Subarra 44.23 323 P **P 01 19 17.3 -0.2**
comp=Z,89nm,0.8s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.23 323 P **P 01 19 13.5 -4.0**
NB2 pmax pmax
comp=Z,40nm,1.2s
NB2 NORSAR Subarra 44.23 323 P **P 01 19 17.3 -0.2**
baz=95,slow=7.9
NOA NORSAR Array B 44.23 323 P **P 01 19 17.1 -0.4**
comp=Z,80nm,0.8s,baz=96,slow=7.8,SNR=317
NOA PP **PP 01 21 05.2 +0.6**
comp=Z,9.0nm,0.8s,baz=94,slow=9.7,SNR=3.7
comp=Z,80nm,0.8s
NOA NORSAR Array B 44.23 323 P **P 01 19 17.1 -0.4**
GRFO Grafenberg 44.24 307 P **P 01 19 18.3 +0.6**
GRFO Grafenberg 44.24 307 P **P 01 19 18.3 +0.6**
GRFO pmax pmax
comp=Z,30nm,1.2s
WTTA Wattenberg 44.27 303 *i P* **P 01 19 18.2 0.0**
comp=Z,14nm,0.9s,SNR=10.0
VAGH Vaagaholmen 44.29 331 *eP* **P 01 19 17.9 +0.2**
STOK Stokkvaagen 44.30 331 *eP* **P 01 19 17.3 -0.6**
WATA Walderalm 44.30 303 *i P* **P 01 19 18.2 -0.1**
comp=Z,8.7nm,0.8s
MURB Monte Urbino 44.34 297 lAmb lAmb 01 20 07.3
comp=Z,146nm,1.4s
NSS Namsos 44.37 328 *eP* **P 01 19 17.6 -0.8**
OSL Oslo 44.37 321 *eP* **P 01 19 18.8 +0.2**
CTI Castel Tesino 44.44 302 P **P 01 19 19.5 0.0**
CTI Castel Tesino 44.44 302 P **P 01 19 19.5 0.0**
CTI pmax pmax
comp=Z,11nm,0.8s
RAFF Raffo Rosso 44.46 289 P **P 01 19 20.7 +1.0**
MNSI Mandailing Nat 44.48 136 P **P 01 19 20.5 +0.5**
LOF Lofoten 44.54 333 *eP* **P 01 19 19.2 -0.5**
SQTA Sankt Quirin 44.56 303 *i P* **P 01 19 19.8 -0.6**
comp=Z,6.0nm,0.7s
MOTA Moosalm 44.61 303 *i P* **P 01 19 20.1 -0.7**
comp=Z,13nm,0.8s,SNR=7.8
RETA Reutte 44.82 304 *i P* **P 01 19 22.0 -0.5**
comp=Z,8.8nm,1.0s
SSLB Suanglung 44.86 92 P **P 01 19 23.3 +0.4**
SSLB lAmb lAmb 01 19 25.8
comp=Z,84nm,0.9s
FETA Feichten 44.91 303 *i P* **P 01 19 22.9 -0.4**
comp=Z,8.1nm,0.7s,SNR=5.1
KONO Kongsberg 44.92 321 P **P 01 19 22.5 -0.4**
KONO Kongsberg 44.92 321*c iP* **P 01 19 22.6 -0.4**
KONO pmax pmax
comp=Z,54nm,0.8s
KONO Kongsberg 44.92 321 *eP* **P 01 19 22.3 -0.6**
KONO Kongsberg 44.92 321 P **P 01 19 22.9 0.0**
KONO pP **pP 01 20 08.8 +1.7**
KSAR Wonju Array Be 45.14 71 P **P 01 19 24.4 -0.5**
KSAR Wonju Array Be 45.14 71 P **P 01 19 24.4 -0.5**
KSRS Korea Array 45.16 71 P **P 01 19 25.5 +0.4**
comp=Z,4.6nm,0.5s,baz=274,slow=6.8,SNR=18
KSRS pP **pP 01 20 11.5 +1.1**
comp=Z,3.7nm,0.8s,baz=277,slow=8.1,SNR=2.4
KSRS sP **sP 01 20 35.9 +2.1**
comp=Z,6.2nm,0.9s,baz=283,slow=7.3,SNR=3.2
KSRS PcP **PcP 01 21 01.6 -0.2**
comp=Z,6.3nm,0.8s,baz=290,slow=4.3,SNR=5.5
comp=Z,4.6nm,0.5s
KSRS Korea Array 45.16 71 P **P 01 19 25.5 +0.4**
KSRS *PP **pP 01 20 11.5 +1.1**
KSRS *SP **sP 01 20 35.9 +2.1**
KSRS 01 21 01.6
BJO1 Bjornoya 45.20 343 *eP* **P 01 19 25.6 +0.6**
YULB Yu-li 45.32 92 lAmb lAmb 01 19 29.7
comp=Z,58nm,0.9s
DOMB Dombas 45.34 324 *eP* **P 01 19 25.9 -0.3**
TWG Pinlang 45.42 93 P **P 01 19 29.3 +2.0**
TWG lAmb lAmb 01 19 30.9
comp=Z,145nm,0.9s
DAVA Damuels 45.45 304 *i P* **P 01 19 27.0 -0.4**
comp=Z,45nm,0.8s,SNR=16
HOMB Homborsund 45.45 319 *eP* **P 01 19 27.8 +0.8**
HOMB lAmb lAmb 01 19 28.2
comp=Z,39nm,0.8s
SKAR Skarslia 45.62 322 *eP* **P 01 19 29.3 +0.9**
TIXI Tiksi 45.91 22 P **P 01 19 30.8 +0.3**
TIXI lAmb lAmb 01 19 32.1
comp=Z,134nm,0.9s
TIXI Tiksi 45.91 22*c iP* **P 01 19 31.0 +0.6**
TIXI pmax pmax
comp=Z,150nm,0.9s
TIXI Tiksi 45.91 22 P **P 01 19 31.1 +0.6**
TIXI pP **pP 01 20 15.7 -0.1**
TIXI PcP **PcP 01 21 03.1 -0.7**
TUE Stuetta 45.94 302 P **P 01 19 30.4 -1.1**
PPI Padang Panjang 45.97 136 P **P 01 19 32.0 +0.3**
comp=Z,47nm,0.8s
MOL Molde 46.09 325 *eP* **P 01 19 32.1 +0.1**
SNART Snartemo 46.13 319 *eP* **P 01 19 32.9 +0.6**
MYKOM Kota Tinggi 46.18 131 P **P 01 19 34.6 +1.3**
LODK Lodwar 46.22 233 P **P 01 19 34.4 +0.7**
LODK Lodwar 46.22 233 P **P 01 19 35.3 +1.6**
SNR=5.8
BFO Black Forest 46.31 305 P **P 01 19 33.5 -0.5**
BFO Black Forest 46.31 305 P **P 01 19 33.5 -0.5**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 46.31 305 P **P 01 19 33.9 -0.1**
BFO pP **pP 01 20 20.0 +1.7**
AKN Aaknes 46.32 324 *eP* **P 01 19 34.6 +0.7**
PDSI Padang 46.38 137 P **P 01 19 34.6 -0.3**
comp=Z,10µmcomp=Z,35nm,0.5s
ODD1 Odda 46.43 321 *eP* **P 01 19 35.6 +0.8**
USRK Ussuriysk Ar. 46.44 61 P **P 01 19 34.8 -0.2**
comp=Z,5.7nm,0.7s,baz=274,slow=10,SNR=11
comp=Z,5.7nm,0.7s
USRK Ussuriysk Ar. 46.44 61 P **P 01 19 34.8 -0.2**
BLS5 Blasjo 46.52 321 *eP* **P 01 19 36.0 +0.6**
HYA Hoyanger 46.67 323 *eP* **P 01 19 36.6 0.0**
BER Bergen 47.08 322 *eP* **P 01 19 39.2 -0.5**
ECH Echery 47.10 305 P **P 01 19 40.2 +0.1**
ASK Askoy 47.15 322 *eP* **P 01 19 40.2 0.0**
TPRI Tanjung Pinang 47.28 131 P **P 01 19 42.8 +1.0**
SUE Sulen 47.36 323 *eP* **P 01 19 41.2 -0.6**
BTNL Ternell 47.38 309 *dP* **P 01 19 42.6 +0.4**
comp=Z,10.0nm,0.8s
MEM Membach 47.45 309 *dP* **P 01 19 43.1 +0.4**
comp=Z,10nm,0.9s
SPA0 Spitsbergen Ar 47.45 347 *eP* **P 01 19 43.5 +1.1**
SPITS Spitsbergen Ar 47.45 347 P **P 01 19 43.7 +1.3**
comp=Z,65nm,0.8s,baz=116,slow=12,SNR=30
comp=Z,65nm,0.8s
SPITS Spitsbergen Ar 47.45 347 P **P 01 19 43.7 +1.3**
WLF Walferdange 47.51 307 *dP* **P 01 19 44.0 +0.8**
comp=Z,17nm,0.8s
KRJI Kerinci 47.91 136 P **P 01 19 47.1 +0.3**
RCHB Rochefort 48.02 308 *dP* **P 01 19 47.7 +0.6**
comp=Z,7.4nm,0.7s
GRNR Gornyy 48.15 51 ⇑*iP* **P 01 19 49.2 +1.1**
GRNR pmax pmax
comp=Z,30nm,0.9s
BMRD Maredsous 48.28 308 *dP* **P 01 19 48.4 -0.7**
comp=Z,12nm,0.9s
BMRD *d*pP **pP 01 20 32.1 -1.7**
DSRI Dabo 48.41 132 P **P 01 19 51.2 +0.7**
comp=Z,83nm,0.9s
KBS Kingsbay 48.57 347 P **P 01 19 51.9 +0.9**
KBS lAmb lAmb 01 19 53.3
comp=Z,116nm,0.8s
KBS Kingsbay 48.57 347*c iP* **P 01 19 52.1 +1.2**
KBS pmax pmax
comp=Z,205nm,1.3s
KBS Kingsbay 48.57 347 *eP* **P 01 19 51.8 +0.9**
KBS Kingsbay 48.57 347 *i P* **P 01 19 50.5 -0.5**
KBS Kingsbay 48.57 347 P **P 01 19 52.3 +1.4**
KBS pP **pP 01 20 36.6 +0.5**
KEST Kesra 48.77 288 P **P 01 19 53.9 +0.7**
comp=Z,13nm,1.0s,baz=20,slow=1.8,SNR=9.1
KEST pP **pP 01 20 39.7 +1.7**
comp=Z,9.0nm,1.0s,baz=297,slow=1.9,SNR=2.4
comp=Z,13nm,1.0s
KIBK Kibwezi 49.12 225 P **P 01 19 56.9 +0.9**
KIBK Kibwezi 49.12 225 P **P 01 19 57.4 +1.4**
SNR=22
MASI Maura Aman, Be 49.21 136 P **P 01 19 56.3 -0.3**
SSB Saint Sauveur 49.48 302 P **P 01 19 58.2 -0.1**
KSI Kapahiang 49.83 136 P **P 01 20 00.8 -0.5**
LRW Lerwick 50.34 322 *eP* **P 01 20 03.7 -0.8**
LRW lAmb lAmb 01 20 06.2
comp=Z,59nm,1.0s
KSM Kuching 50.55 124 P **P 01 20 07.4 +0.6**
KSM Kuching 50.55 124 P **P 01 20 08.2 +1.5**
SBUM Sibu 51.13 122 P **P 01 20 12.8 +1.8**
DRUM Mains of Drumt 51.45 318 *eP* **P 01 20 12.1 -0.7**
KKM Kota Kinabalu 51.46 115 lAmb lAmb 01 20 16.4
comp=Z,112nm,1.2s
KKM Kota Kinabalu 51.46 115 P **P 01 20 15.4 +1.8**
HPK Haverah Park 51.49 314 *eP* **P 01 20 13.2 0.0**
EDMD Edmundbyers 51.52 315 *eP* **P 01 20 13.1 -0.3**
TPI Tanjungpandan 52.08 130 P **P 01 20 18.2 +0.2**
EKA Eskdalemuir Ar 52.10 316 P **P 01 20 17.1 -0.6**
comp=Z,6.8nm,0.7s,baz=100,slow=6.5,SNR=24
EKA pP **pP 01 21 03.6 +0.4**
comp=Z,6.4nm,0.7s,baz=92,slow=7.3,SNR=4.3
EKA sP **PcP 01 21 27.8 +1.1**
comp=Z,14nm,1.0s,baz=88,slow=7.9,SNR=3.1
comp=Z,6.8nm,0.7s
EKA Eskdalemuir Ar 52.10 316 P **P 01 20 17.1 -0.6**
EKA *PP **pP 01 21 03.6 +0.4**
EKA *SP **PcP 01 21 27.8 +1.1**
ESK Eskdalemuir 52.13 316 *eP* **P 01 20 17.4 -0.5**
MBAR Mbarara 52.26 234 P **P 01 20 19.5 0.0**
MBAR lAmb lAmb 01 20 21.0

comp=Z,28nm,0.7s
MBAR Mbarara 52.26 234 *d* iP **P 01 20 20.2 +0.7**
MBAR pmax pmax
comp=Z,25nm,0.6s
MBAR Mbarara 52.26 234 P **P 01 20 20.2 +0.7**
STKI Sintang 52.38 124 P **P 01 20 21.1 +0.9**
INVG Invergeldie, C 52.38 317 *e*P **P 01 20 18.7 -1.0**
INVG IAmb IAmb 01 20 20.8
comp=Z,52nm,1.6s
LINV Loch Inver, As 52.67 320 *e*P **P 01 20 21.5 -0.3**
LINV IAmb IAmb 01 20 23.4
comp=Z,55nm,1.2s
MCH1 Michaelchurch 52.73 312 *e*P **P 01 20 21.5 -0.8**
MCH1 IAmb IAmb 01 20 22.6
comp=Z,35nm,0.8s
NEWG New Galloway 52.75 316 *e*P **P 01 20 22.3 -0.1**
KPL Plockton 53.07 319 *e*P **P 01 20 23.9 -0.7**
KPL IAmb IAmb 01 20 25.3
comp=Z,72nm,1.4s
YSS Yuzhno-Sakhali 53.08 55 P **P 01 20 25.2 +0.3**
YSS IAmb IAmb 01 20 26.4
comp=Z,49nm,0.9s
YSS Yuzhno-Sakhali 53.08 55 P **P 01 20 25.9 +1.0**
YSS Yuzhno-Sakhali 53.08 55 *e*P **P 01 20 25.5 +0.6**
YSS *e* 01 21 12.4
YSS *e* 01 21 36.1
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,200nm,2.6s
LAWE Loch Awe, Argy 53.15 317 *e*P **P 01 20 25.1 -0.2**
LAWE IAmb IAmb 01 20 27.5
comp=Z,32nm,1.2s
MJAR Matsushiro Arr 53.23 68 P **P 01 20 25.5 -0.8**
MJAR Matsushiro Arr 53.23 68 P **P 01 20 26.6 +0.3**
comp=Z,21nm,1.0s,baz=291,slow=9.1,SNR=27
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 53.23 68 P **P 01 20 26.6 +0.3**
MYLDM Lahad Datu 53.72 114 IAmb IAmb 01 20 33.5
comp=Z,50nm,1.0s
NOR Nord 53.77 350 *i* P **P 01 20 29.9 +0.4**
NOR IAmb IAmb 01 20 31.4
comp=Z,14nm,1.0s
ILTH Belurgan, Co L 54.19 315 P **P 01 20 32.7 -0.2**
MA2 Magadan 54.56 38⇓ *e*P **P 01 20 36.3 +0.8**
MA2 pmax pmax
comp=Z,97nm,1.7s
IDGL Inch Island, C 54.59 316 P **P 01 20 35.7 -0.1**
IDGL Inch Island, C 54.59 316 *e*P **P 01 20 35.5 -0.2**
IDGL IAmb IAmb 01 20 36.8
comp=Z,32nm,1.1s
SEY Seymchan 54.60 34 *e*P **P 01 20 34.7 -1.0**
SEY pmax pmax
comp=Z,96nm,1.4s
JMM Marumori 54.67 66 IAmb IAmb 01 20 37.5
comp=Z,74nm,1.1s
DAG Danmarks Havn 54.67 344 *i* P **P 01 20 36.0 0.0**
DAG IAmb IAmb 01 20 37.8
comp=Z,66nm,0.8s
IWEX Carrickbyrne, 54.88 313 P **P 01 20 38.4 +0.5**
DBG Daneborg 55.51 341 *i* P **P 01 20 41.9 -0.2**
IGLA Glengowla, Co 56.09 315 P **P 01 20 47.6 +1.1**
ESDC Sonseca Array 57.21 298 P **P 01 20 54.0 -0.7**
ESDC Sonseca Array 57.21 298 P **P 01 20 54.2 -0.5**
comp=Z,5.6nm,1.0s,baz=55,slow=7.6,SNR=31
ESDC pP **pP 01 21 42.0 +1.0**
comp=Z,7.3nm,1.0s,baz=56,slow=7.1,SNR=4.5
ESDC sP **sP 01 22 05.2 +1.6**
comp=Z,5.8nm,0.9s,baz=59,slow=6.9,SNR=2.9
comp=Z,5.6nm,1.0s
BBKI Banjar Baru 57.23 124 P **P 01 20 55.9 +0.9**
comp=Z,70nm,0.8s
TAM Tamanrasset 57.25 276 P **P 01 20 54.2 -1.1**
TAM Tamanrasset 57.25 276 P **P 01 20 54.2 -1.1**
TAM pmax pmax
comp=Z,10.0nm,0.7s
TOLI2 Tolitoli 58.14 115 P **P 01 21 00.7 -0.6**
TOLI2 Tolitoli 58.14 115 P **P 01 21 02.4 +1.0**
PBRG Braganca 58.35 301 *e*pP pP 01 21 47.1 -1.9
BILL Bilibino 58.76 26 P **P 01 21 05.5 +0.6**
BILL IAmb IAmb 01 21 07.2
comp=Z,76nm,0.9s
BILL Bilibino 58.76 26 *c i* P **P 01 21 06.1 +1.2**
BILL pmax pmax
comp=Z,100nm,1.0s
MVO Moncorvo 58.80 300 *e*pP pP 01 21 53.0 +0.8
ALE Alert 59.03 354 P **P 01 21 07.7 +1.2**
PGAV Gavieira, Arco 59.34 302 *e*P **P 01 21 09.4 0.0**
PGAV *e*pP **pP 01 21 57.2 +1.1**
MRSI Marisa 59.41 115 P **P 01 21 10.8 +0.7**
MTE Manteigas 59.46 300 *e*P **P 01 21 10.4 +0.2**
MTE *e*pP **pP 01 21 58.5 +1.7**
ABPO Ambohimpanom 59.46 206 P **P 01 21 10.9 +0.5**
ABPO Ambohimpanom 59.46 206 P **P 01 21 11.0 +0.5**
ABPO pmax pmax
comp=Z,27nm,1.4s
ABPO Ambohimpanom 59.46 206 P **P 01 21 11.7 +1.2**
ABPO pP **pP 01 21 59.9 +1.8**
PVIS Viseu 59.58 300 *e*P **P 01 21 11.7 +0.6**
PVIS *e*pP **pP 01 21 59.4 +1.8**
PCBR Castelo Branco 59.64 299 *e*pP pP 01 21 60.0 +1.9
PMRV Marv??o 59.74 299 *e*P **P 01 21 12.7 +0.6**
PMRV *e*pP **pP 01 22 00.3 +1.5**
PBAR Barrancos 60.01 297 *e*P **P 01 21 14.4 +0.5**
PESTR Estremoz 60.12 298 *e*P **P 01 21 14.9 +0.2**
APSI Ampana 60.15 116 P **P 01 21 15.6 +0.5**
PEA0B Petropavlovsk- 60.19 44⇑ *e*P **P 01 21 15.0 +0.1**
PETK Petropavlovsk- 60.19 44 P **P 01 21 13.6 -1.3**
PETK Petropavlovsk- 60.19 44 P **P 01 21 13.9 -1.0**
comp=Z,7.3nm,0.8s,baz=308,slow=4.3,SNR=8.6
comp=Z,7.3nm,0.8s
PETK Petropavlovsk- 60.19 44 P **P 01 21 13.9 -1.0**
PMTG Montargil 60.48 299 *e*P **P 01 21 18.5 +1.4**
EVO Evora 60.55 298 *e*P **P 01 21 18.3 +0.7**
PBEJ Beja 60.66 297 *e*P **P 01 21 19.0 +0.6**
PBEJ *e*pP **pP 01 22 03.5 -1.7**
PSBE So Bento 60.70 299 *e*P **P 01 21 19.4 +0.7**
PSBE *e*pP **pP 01 22 07.6 +2.1**
PVAQ Vaqueiros 60.82 297 *e*P **P 01 21 19.9 +0.5**
PCVE Castro Verde 60.95 297 *e*P **P 01 21 19.4 -0.9**
SPSI Sidrap Palu 60.95 120 P **P 01 21 19.9 -0.7**
SUMG Summit 60.99 341 P **P 01 21 21.3 +0.8**
SUMG Summit 60.99 341 P **P 01 21 21.3 +0.8**
SUMG pmax pmax
comp=Z,124nm,1.3s
SUMG Summit 60.99 341 *i* P **P 01 21 21.0 +0.5**
SUMG IAmb IAmb 01 21 22.7
comp=Z,33nm,0.8s
NEEM North Greenlan 61.00 348 *i* P **P 01 21 20.0 -0.4**
PBDV Barranco-do-Ve 61.04 297 *e*P **P 01 21 21.6 +0.7**
LUWI Luwuk 61.05 116 P P 01 21 09.5 -12
PARRA Arraiolos 61.16 299 *e*P **P 01 21 17.6 -4.1**
KAPI Kappang 61.69 121 P **P 01 21 24.4 -1.1**
KAPI Kappang 61.69 121 P **P 01 21 25.8 +0.3**
KAPI Kappang 61.69 121 P **P 01 21 24.4 -1.1**
KAPI pmax pmax
comp=Z,24nm,1.0s
VOI Vohitsoka 62.28 205 P **P 01 21 29.6 +0.2**
VOI IAmb IAmb 01 22 19.8
comp=Z,37nm,1.0s
VOI Vohitsoka 62.28 205 P **P 01 21 30.7 +1.3**
SNR=7.9
BSSI Bau Bau, Buton 63.01 121 P **P 01 21 33.4 -0.8**
TNTI Ternate 63.25 111 P **P 01 21 35.5 -0.3**
TNTI Ternate 63.25 111 P **P 01 21 36.0 +0.1**
TNTI Ternate 63.25 111 P **P 01 21 35.6 -0.3**
comp=Z,2μmcomp=Z,124nm,1.6s
BBSI Bau Bau 63.99 119 P **P 01 21 41.3 +0.6**
SANI Sanana 64.09 114 P **P 01 21 41.2 -0.1**
SANI Sanana 64.09 114 P **P 01 21 40.5 -0.8**
EDA Edea 64.22 255 P **P 01 21 41.8 -0.4**
EDA IAmb IAmb 01 21 44.0
comp=Z,19nm,0.7s
WBSI Waikabubak, Su 64.81 125 P **P 01 21 43.5 -2.5**
LSZ Lusaka 65.23 226 P **P 01 21 48.7 0.0**
LSZ Lusaka 65.23 226 P **P 01 21 48.7 0.0**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
TORD Torodi Ar. Bea 65.42 268 P **P 01 21 48.6 -1.4**
comp=Z,24nm,0.5s,baz=41,slow=7.1,SNR=6.2
TORD pP **pP 01 22 39.0 +1.3**
comp=Z,7.2nm,0.7s,baz=46,slow=8.1,SNR=3.0
comp=Z,24nm,0.5s
NLAI Namlea 65.71 114 P **P 01 21 51.5 -0.2**

BASI Baing, Sumba 66.03 124 P **P 01 21 51.8 -1.9**
ILULI Ilulissat 66.33 341 P **P 01 21 55.2 +0.3**
ILULI Ilulissat 66.33 341 P **P 01 21 55.2 +0.3**
ILULI pmax pmax
comp=Z,135nm,1.4s
MSAI Masohi 67.13 113 P **P 01 22 00.2 -0.6**
SWI Sorong 67.26 109 P **P 01 22 00.5 -1.1**
SWI Sorong 67.26 109 P **P 01 22 01.2 -0.4**
A19K Wainwright 67.28 17 P **P 01 22 01.4 +0.6**
baz=317
A21K Barrow 67.42 15 P **P 01 22 02.1 +0.4**
baz=320
C16K Lisburne Hills 67.58 20 IAmb IAmb 01 22 04.3
comp=Z,52nm,0.8s
C16K Lisburne Hills 67.58 20 P **P 01 22 02.7 0.0**
baz=314
B18K Kokolik River 67.71 18 P **P 01 22 03.7 +0.1**
baz=316,SNR=6.9
A22K Sinclair Lake 68.00 15 P **P 01 22 06.0 +0.7**
baz=322
C17K DeLong Mountai 68.01 19 P **P 01 22 05.5 0.0**
baz=316,SNR=9.2
BATI Baumata 68.10 122 P **P 01 22 05.4 -1.4**
SOEI Soe 68.19 121 P **P 01 22 05.9 -1.6**
SOEI Soe 68.19 121 P **P 01 22 06.7 -0.8**
SOEI Soe 68.19 121 P **P 01 22 05.4 -2.1**
B20K Meade River 68.31 16 IAmb IAmb 01 22 09.3
comp=Z,54nm,0.8s
B20K Meade River 68.31 16 P **P 01 22 08.0 +0.7**
baz=320
RDOG Red Dog Mine 68.38 19 P **P 01 22 07.5 -0.3**
RDOG IAmb IAmb 01 22 10.1
comp=Z,140nm,1.7s
RDOG Red Dog Mine 68.38 19 P **P 01 22 07.8 0.0**
baz=316
C18K Utukok River 68.39 18 IAmb IAmb 01 22 09.6
comp=Z,54nm,0.8s
C18K Utukok River 68.39 18 P **P 01 22 08.0 +0.1**
baz=317,SNR=14
C19K Lookout Ridge 68.44 17 P **P 01 22 08.9 +0.7**
baz=318,SNR=15
D17K Noatak River 68.59 19 P **P 01 22 09.4 +0.4**
baz=316,SNR=22
GAMB Gambell 68.65 25 P **P 01 22 09.7 +0.2**
baz=310
TNA Tin City 68.70 22 P **P 01 22 09.7 -0.1**
baz=312
B22K Teshekpuk Lake 68.84 15 IAmb IAmb 01 22 12.6
comp=Z,58nm,0.8s
B22K Teshekpuk Lake 68.84 15 P **P 01 22 11.1 +0.5**
baz=323
B21K Ikpikpuk River 69.17 15 IAmb IAmb 01 22 14.7
comp=Z,47nm,0.8s
B21K Ikpikpuk River 69.17 15 P **P 01 22 13.1 +0.5**
baz=322
F14K Arctic Creek 69.24 22 P **P 01 22 13.4 +0.3**
baz=314,SNR=6.6
D19K Kuna River 69.25 17 P **P 01 22 13.4 +0.2**
D19K Kuna River 69.25 17 P **P 01 22 13.7 +0.5**
baz=320,SNR=29
FAKI Fak Fak 69.34 110 P **P 01 22 13.9 -0.6**
FAKI Fak Fak 69.34 110 P **P 01 22 14.7 +0.2**
FAKI Fak Fak 69.34 110 P **P 01 22 14.3 -0.2**
E17K Hotham Inlet 69.37 19 P **P 01 22 13.9 0.0**
baz=317,SNR=10
D20K Etivluk River 69.44 17 P **P 01 22 14.6 +0.2**
baz=321,SNR=15
E18K Tukpahlearik C 69.44 19 P **P 01 22 14.8 +0.4**
baz=318,SNR=24
C21K Knifeblade Rid 69.50 16 P **P 01 22 15.3 +0.6**
baz=322,SNR=8.6
F15K North Star Dit 69.58 21 P **P 01 22 16.0 +0.8**
baz=315,SNR=18
C23K Itkillik River 69.82 14 P **P 01 22 17.6 +1.0**
baz=326,SNR=16
E20K Nigu River 69.89 17 P **P 01 22 17.4 +0.3**
baz=321,SNR=23
F17K Baldwin Pennin 70.00 20 IAmb IAmb 01 22 20.6
comp=Z,75nm,0.9s
F17K Baldwin Pennin 70.00 20 P **P 01 22 18.6 +0.9**
baz=318,SNR=15
ANM Nome 70.17 22 P **P 01 22 19.0 +0.2**
baz=315
D22K Ayikyak River 70.18 15 P **P 01 22 19.3 +0.4**
D22K Ayikyak River 70.18 15 P **P 01 22 19.5 +0.6**
baz=324,SNR=9.7
E21K Killik River 70.25 16 P **P 01 22 19.5 +0.2**
baz=323
G15K Niukluk 70.27 22 P **P 01 22 19.9 +0.5**
baz=316
E19K Redstone River 70.27 18 IAmb IAmb 01 22 21.7
comp=Z,44nm,0.8s
E19K Redstone River 70.27 18 P **P 01 22 19.6 +0.2**
baz=321,SNR=25
C24K Franklin Bluff 70.28 14 P **P 01 22 20.3 +0.9**
baz=327
F18K Selawik 70.31 19 P **P 01 22 19.9 +0.3**
baz=319,SNR=24
BROLN Tlhalogang 70.37 223 *i* P **P 01 22 20.7 0.0**
G16K Koyuk River 70.47 21 IAmb IAmb 01 22 22.8
comp=Z,122nm,1.6s
G16K Koyuk River 70.47 21 P **P 01 22 21.5 +0.9**
baz=317,SNR=11
D23K Nanushuk River 70.53 15 P **P 01 22 21.5 +0.6**
baz=326,SNR=14
F19K Shaleruckik Mo 70.62 18 IAmb IAmb 01 22 22.6
comp=Z,102nm,1.6s
F19K Shaleruckik Mo 70.62 18 P **P 01 22 21.2 -0.2**
baz=320,SNR=21
D24K Happy Valley 70.74 14 P **P 01 22 22.8 +0.7**
baz=327
C26K Camden Bay 70.80 12 P **P 01 22 22.7 +0.2**
baz=330
G17K Kiwalik Mounta 70.87 20 P **P 01 22 23.3 +0.3**
baz=318,SNR=22
F20K Avaraart Lake 70.95 17 IAmb IAmb 01 22 24.8
comp=Z,55nm,1.4s
F20K Avaraart Lake 70.95 17 P **P 01 22 23.3 -0.2**
baz=322
E22K Anaktuvuk Pass 70.97 16 P **P 01 22 24.0 +0.3**
baz=325,SNR=24
TOLK Toolik Lake Re 71.02 14 P **P 01 22 24.0 +0.1**
TOLK Toolik Lake Re 71.02 14 P **P 01 22 24.5 +0.5**
baz=327,SNR=33
D25K Kavik River 71.06 13 P **P 01 22 25.0 +0.8**
baz=329
H16K Elim 71.06 21 P **P 01 22 24.5 +0.4**
baz=317,SNR=6.6
G18K Tagagawik 71.11 19 IAmb IAmb 01 22 25.9
comp=Z,53nm,1.4s
G18K Tagagawik 71.11 19 P **P 01 22 24.3 -0.2**
baz=320,SNR=14
C27K Jago River 71.26 12 P **P 01 22 26.5 +1.2**
baz=331,SNR=14
A36M Sachs Harbour 71.26 5 P **P 01 22 25.6 +0.4**
baz=347
ACRG Accra 71.28 263 P **P 01 22 25.0 -1.3**
ACRG IAmb IAmb 01 22 27.7
comp=Z,29nm,0.7s
F21K Alatna River 71.35 17 P **P 01 22 26.2 +0.4**
baz=324,SNR=35
F22K John River 71.41 16 P **P 01 22 27.0 +0.8**
baz=325
H17K Granite Mounta 71.50 20 P **P 01 22 27.1 +0.3**
baz=319,SNR=18
MREMI Moremi 71.50 222 *i* P **P 01 22 27.6 +0.2**
E23K Chandalar 71.50 15 IAmb IAmb 01 22 28.8
comp=Z,115nm,1.5s
E23K Chandalar 71.50 15 P **P 01 22 27.4 +0.5**
baz=327,SNR=22
E24K Your Creek 71.72 14 P **P 01 22 28.9 +0.8**
baz=328
H18K Honhosa River 71.76 20 IAmb IAmb 01 22 30.2
comp=Z,142nm,1.6s
H18K Honhosa River 71.76 20 P **P 01 22 28.7 +0.4**
baz=320,SNR=12
G21K Allakaket 71.91 17 IAmb IAmb 01 22 31.1
comp=Z,33nm,0.9s
G21K Allakaket 71.91 17 P **P 01 22 29.1 -0.2**
baz=324,SNR=20
SAUI Saumlaki 71.97 115 P **P 01 22 30.9 +0.5**
SAUI Saumlaki 71.97 115 P **P 01 22 31.5 +1.1**
SAUI Saumlaki 71.97 115 P **P 01 22 30.9 +0.5**
H19K Roundabout Mou 71.97 19 P **P 01 22 30.1 +0.5**
baz=322,SNR=33
J14K Nanvaranak Lak 72.04 23 P **P 01 22 31.0 +1.0**
baz=317

G22K Bettles 72.04 16 P **P 01 22 30.4 +0.4**
baz=325
D27M Malcolm River 72.05 11 IAmb IAmb 01 22 32.6
comp=Z,170nm,2.0s
D27M Malcolm River 72.05 11 P **P 01 22 30.9 +0.8**
baz=334
I17K Unalakleet 72.07 21 P **P 01 22 30.4 +0.3**
baz=319,SNR=9.5
COLD Coldfoot 72.07 16 P **P 01 22 30.7 +0.5**
baz=326,SNR=40
KHWEE KHWEE 72.09 224 IAmb IAmb 01 22 34.6
comp=Z,35nm,0.8s
KHWEE KHWEE 72.09 224 *i* P **P 01 22 31.3 +0.3**
E25K Arctic Village 72.25 13 IAmb IAmb 01 22 33.2
comp=Z,148nm,1.7s
E25K Arctic Village 72.25 13 P **P 01 22 31.7 +0.5**
baz=330,SNR=18
K13K Kusilvak Mount 72.28 24 IAmb IAmb 01 22 33.6
comp=Z,112nm,1.4s
K13K Kusilvak Mount 72.28 24 P **P 01 22 32.4 +0.9**
baz=316,SNR=8.0
IMAR Indian Mountai 72.29 17 P **P 01 22 30.8 -0.6**
D28M Stokes Point 72.31 11 P **P 01 22 32.7 +1.2**
baz=336
F24K Squaw Lake 72.31 15 IAmb IAmb 01 22 33.8
comp=Z,65nm,1.6s
F24K Squaw Lake 72.31 15 P **P 01 22 32.1 +0.5**
baz=328,SNR=8.9
H20K Anotleneega Mo 72.40 18 P **P 01 22 32.4 +0.2**
baz=323,SNR=48
GCSA Galena City Sc 72.47 19 P **P 01 22 33.2 +0.6**
baz=322,SNR=14
G23K Bananza Creek 72.55 16 IAmb IAmb 01 22 34.9
comp=Z,63nm,1.4s
G23K Bananza Creek 72.55 16 P **P 01 22 33.6 +0.6**
baz=327,SNR=26
J16K Anvik River 72.55 22 IAmb IAmb 01 22 36.4
comp=Z,60nm,0.8s
J16K Anvik River 72.55 22 P **P 01 22 33.9 +0.9**
baz=319,SNR=27
F25K Christian Rive 72.69 14 IAmb IAmb 01 22 37.5
comp=Z,38nm,1.0s
F25K Christian Rive 72.69 14 P **P 01 22 35.0 +1.1**
baz=330,SNR=26
H21K Melozitna Rive 72.78 17 IAmb IAmb 01 22 36.8
comp=Z,89nm,1.2s
E28M Babbage River 72.85 11 IAmb IAmb 01 22 37.3
comp=Z,116nm,1.5s
E28M Babbage River 72.85 11 P **P 01 22 35.9 +1.1**
baz=335,SNR=18
M11K Mekoryuk 72.86 26 P **P 01 22 35.9 +1.1**
baz=315
F26K Sheenjek River 72.88 13 P **P 01 22 35.9 +0.9**
baz=331,SNR=13
E27K Coleen River 72.89 12 P **P 01 22 36.0 +1.0**
baz=333,SNR=21
J17K VABM Dome 72.91 21 P **P 01 22 35.7 +0.5**
J17K IAmb IAmb 01 22 37.3
comp=Z,114nm,1.6s
LPHEP Lephephe 73.00 223 *i* P **P 01 22 36.6 +0.3**
K15K Wolf Creek Mou 73.01 23 IAmb IAmb 01 22 38.5
comp=Z,109nm,1.5s
K15K Wolf Creek Mou 73.01 23 P **P 01 22 37.1 +1.3**
baz=318,SNR=8.4
BMAR Burnt Mountain 73.03 13 P **P 01 22 36.6 +0.7**
I20K Naaghedeneel 73.06 18 P **P 01 22 36.8 +0.8**
baz=323,SNR=16
G24K Hadweenzic Riv 73.10 15 IAmb IAmb 01 22 39.2
comp=Z,39nm,0.9s
G24K Hadweenzic Riv 73.10 15 P **P 01 22 37.4 +1.1**
baz=329,SNR=31
E29M Blow River 73.30 11 P **P 01 22 38.4 +1.1**
baz=336,SNR=26
POGA Pongola 73.30 216 IAmb IAmb 01 22 42.1
comp=Z,26nm,0.8s
G25K Bearman Lake 73.32 14 P **P 01 22 38.8 +1.3**
baz=330,SNR=18
L14K Kuka Creek 73.35 24 IAmb IAmb 01 22 40.9
comp=Z,66nm,0.9s
L14K Kuka Creek 73.35 24 P **P 01 22 39.0 +1.2**
baz=318,SNR=23
I21K Tanana 73.37 17 IAmb IAmb 01 22 39.8
comp=Z,95nm,1.4s
I21K Tanana 73.37 17 P **P 01 22 38.6 +0.7**
baz=325
H23K Yukon River 73.40 16 P **P 01 22 39.1 +1.1**
baz=327
L15K Ungalak Mounta 73.49 23 P **P 01 22 39.5 +1.0**
baz=318
J18K Innoko River 73.53 20 P **P 01 22 39.5 +0.7**
baz=322,SNR=47
SPIA Saint Paul Isl 73.57 30 P **P 01 22 40.0 +0.9**
baz=313
G26K Porcupine Rive 73.61 13 P **P 01 22 40.2 +1.1**
baz=332,SNR=8.2
K17K Iditarod 73.66 21 P **P 01 22 40.5 +0.9**
baz=321,SNR=30
FYU Fort Yukon 73.67 14 P **P 01 22 40.5 +1.0**
KDWAN Kaudwane 73.67 224 *i* P **P 01 22 40.5 +0.3**
F28M Old Crow 73.70 12 IAmb IAmb 01 22 42.0
comp=Z,72nm,1.4s
F28M Old Crow 73.70 12 P **P 01 22 40.6 +0.9**
baz=335,SNR=19
H24K Noodor Dome 73.75 15 IAmb IAmb 01 22 42.5
comp=Z,104nm,1.5s
MLY Manley 73.79 17 IAmb IAmb 01 22 42.2
comp=Z,100nm,1.4s
MLY Manley 73.79 17 P **P 01 22 40.9 +0.6**
baz=326,SNR=20
H25L Birch Creek 73.81 15 P **P 01 22 41.7 +1.4**
baz=330,SNR=20
M13K Dall Lake 73.82 25 P **P 01 22 42.1 +1.6**
baz=317
C36M Paulatuk 73.93 5 P **P 01 22 41.0 0.0**
baz=348
INK Inuvik 73.98 9 P **P 01 22 42.2 +0.9**
baz=340,SNR=36
I23K Minto, Yukon-K 74.01 16 IAmb IAmb 01 22 44.3
comp=Z,75nm,1.0s
I23K Minto, Yukon-K 74.01 16 P **P 01 22 42.4 +0.8**
baz=328,SNR=42
M14K Bethel 74.03 24 P **P 01 22 43.2 +1.5**
baz=318,SNR=25
GRTLG Ghanzi 74.08 227 P **P 01 22 43.0 +0.4**
GRTLG Ghanzi 74.08 227 *i* P **P 01 22 43.9 +1.2**
L16K Owhat River 74.09 22 P **P 01 22 43.2 +1.2**
baz=320,SNR=27
PSA00 Pilbara Seismi 74.11 133 P **P 01 22 42.4 -0.3**
comp=Z,28nm,1.2s
PSA00 Pilbara Seismi 74.11 133 P **P 01 22 42.2 -0.5**
PSA00 Pilbara Seismi 74.11 133 P **P 01 22 42.8 +0.1**
L17K Donlin 74.12 22 P **P 01 22 43.4 +1.2**
baz=321,SNR=21
G27K Doyon Strip 74.12 13 P **P 01 22 43.5 +1.3**
baz=334,SNR=78
PSAC2 Pilbara Seismi 74.14 133 P **P 01 22 42.7 -0.2**
comp=Z,32nm,1.0s
P08K Saint George I 74.25 30 P **P 01 22 43.9 +0.8**
baz=314
F30M Barrier River 74.32 10 P **P 01 22 44.2 +0.9**
baz=338,SNR=16
CHUM Lake Minchumin 74.36 18 P **P 01 22 44.3 +0.7**
baz=325,SNR=11
DBIC Dimbokro 74.41 267 P **P 01 22 43.6 -1.1**
comp=Z,20nm,0.7s,baz=67,slow=6.2,SNR=29
DBIC pP **pP 01 23 32.3 -1.3**
comp=Z,9.3nm,0.9s,baz=50,slow=4.7,SNR=3.2
comp=Z,20nm,0.7s
DBIC Dimbokro 74.41 267 P **P 01 22 43.6 -1.1**
LBTB Lobatse 74.46 222 P **P 01 22 45.3 +0.5**
LBTB pP **pP 01 23 35.8 +1.0**
POKR Poker Plat Res 74.47 16 P **P 01 22 45.1 +0.9**
baz=329,SNR=30
M15K Kasigluk River 74.48 23 P **P 01 22 45.3 +1.0**
baz=319,SNR=16
BPAW Bear Paw Mtn. 74.51 18 P **P 01 22 44.2 -0.3**
BPAW IAmb IAmb 01 22 45.9
comp=Z,78nm,1.3s
BPAW Bear Paw Mtn. 74.51 18 P **P 01 22 44.4 -0.1**
baz=326,SNR=17
L18K Granite Mounta 74.52 21 IAmb IAmb 01 22 46.6
comp=Z,86nm,1.4s
PRP Porcupine Dome 74.52 15 IAmb IAmb 01 22 47.0
comp=Z,64nm,1.4s
PRP Porcupine Dome 74.52 15 P **P 01 22 45.5 +0.8**
baz=330,SNR=26
NEA2 Nenana 74.55 17 P **P 01 22 44.8 +0.1**
baz=328,SNR=78

COLA College 74.58 16 P P 01 22 45.2 +0.4
COLA College 74.58 16 P P 01 22 45.5 +0.6
COLA College 74.58 16c *i* P **P 01 22 45.4 +0.6**
COLA pmax pmax
comp=Z,106nm,0.9s
COLA College 74.58 16 P P 01 22 45.2 +0.4
baz=329
COLA College 74.58 16 P P 01 22 45.2 +0.4
COLA pP **pP 01 23 35.3 +1.1**
G29M Pine Creek 74.64 11 IAmb IAmb 01 22 47.3
comp=Z,90nm,1.4s
G29M Pine Creek 74.64 11 P P 01 22 45.8 +0.6
baz=336,SNR=14
KGCAE Kacgae 74.65 226 IAmb IAmb 01 23 37.6
comp=Z,40nm,1.0s
KGCAE Kacgae 74.65 226 *i* P **P 01 22 46.7 +0.8**
H27K Steamboat Moun 74.66 13 IAmb IAmb 01 22 48.3
comp=Z,63nm,0.9s
H27K Steamboat Moun 74.66 13 P P 01 22 46.4 +1.1
baz=334,SNR=46
TSUM Tsumeb 74.67 232 P P 01 22 46.0 -0.2
DRS Darwin Rock St 74.69 118 P P 01 22 46.4 +0.2
N14K Kuskokwak Cree 74.74 24 P P 01 22 47.2 +1.4
baz=319
M16K Timber Creek 74.78 23 IAmb IAmb 01 22 48.8
comp=Z,70nm,1.1s
M16K Timber Creek 74.78 23 P P 01 22 47.5 +1.5
baz=321,SNR=14
CCB Clear Creek Bu 74.79 16 IAmb IAmb 01 22 48.1
comp=Z,135nm,2.0s
G30M tAoh Zrail Nji 74.85 11 P P 01 22 46.8 +0.4
baz=338,SNR=30
WRH Wood River Hil 74.87 16 IAmb IAmb 01 22 47.5
comp=Z,62nm,1.4s
ILAR Eielson Array 74.88 16 P P 01 22 46.0 -0.6
ILAR Eielson Array 74.88 16 P P 01 22 46.1 -0.4
comp=Z,29nm,0.9s,baz=322,slow=4.1,SNR=119
ILAR pP **pP 01 25 35.6 -0.7**
comp=Z,5.2nm,1.1s,baz=323,slow=6.8,SNR=4.3
comp=Z,29nm,0.9s
ILAR Eielson Array 74.88 16 P P 01 22 46.2 -0.4
M17K Holitna River 74.95 22 P P 01 22 48.5 +1.5
baz=322,SNR=28
SKOMA Sekoma 74.97 223 *i* P **P 01 22 47.9 +0.1**
L19K White Mountain 75.07 20 IAmb IAmb 01 22 50.5
comp=Z,64nm,1.2s
N15K Kwethluk River 75.08 24 IAmb IAmb 01 22 50.7
comp=Z,69nm,1.0s
N15K Kwethluk River 75.08 24 P P 01 22 49.3 +1.5
baz=320,SNR=12
FITZ Fitzroy Crossi 75.11 126 P P 01 22 48.2 -0.3
MTN Manton Dam 75.14 119 P P 01 22 48.0 -0.8
comp=Z,26nm,0.8s
G31M Satah River 75.18 10 P P 01 22 48.8 +0.6
baz=340,SNR=16
HDA Harding Lake 75.18 16 P P 01 22 47.4 -0.9
baz=330
I26K Coal Creek Min 75.18 14 IAmb IAmb 01 22 50.2
comp=Z,90nm,1.4s
I26K Coal Creek Min 75.18 14 P P 01 22 48.8 +0.6
baz=332
PPLA Purkeypile 75.20 19 P P 01 22 48.4 -0.3
baz=326,SNR=15
H29M Whitestone 75.22 12 P P 01 22 49.2 +0.7
baz=336,SNR=36
TRF Thorofare Moun 75.22 18 P P 01 22 48.0 -0.7
baz=327,SNR=7.6
GENI Genyem 75.23 105 P P 01 22 49.7 +0.4
GENI Genyem 75.23 105 P P 01 22 49.5 +0.2
N16K Nishlik Lake 75.26 23 P P 01 22 50.1 +1.3
baz=321,SNR=20
MCK McKinley 75.31 17 IAmb IAmb 01 22 50.9
comp=Z,32nm,0.7s
MCK McKinley 75.31 17 P P 01 22 48.9 -0.1
baz=328,SNR=21
EPYK Eagle Plains 75.34 11 IAmb IAmb 01 22 50.7
comp=Z,89nm,1.4s
EPYK Eagle Plains 75.34 11 P P 01 22 49.4 +0.1
baz=338,SNR=15
J25K Salcha River, 75.35 15 IAmb IAmb 01 22 51.7
comp=Z,27nm,0.6s
M18K Stony River 75.35 21 P P 01 22 50.2 +0.9
baz=323,SNR=12
O14K Tigyukauivet M 75.39 25 IAmb IAmb 01 22 51.9
comp=Z,49nm,1.0s
O14K Tigyukauivet M 75.39 25 P P 01 22 50.5 +1.0
baz=319
M19K Big River Lodg 75.42 20 P P 01 22 50.0 +0.3
M19K Big River Lodg 75.42 20 P P 01 22 50.6 +0.9
baz=324
KNRA Kununurra 75.46 122 P P 01 22 50.4 -0.1
comp=Z,125nm,1.0s
MAKGR Makgori 75.53 222 IAmb IAmb 01 23 42.4
comp=Z,32nm,0.9s
MAKGR Makgori 75.53 222 *i* P **P 01 22 51.3 +0.4**
I28M Miner Creek 75.66 13 IAmb IAmb 01 22 52.6
comp=Z,121nm,1.4s
I28M Miner Creek 75.66 13 P P 01 22 51.4 +0.3
baz=335,SNR=48
N17K Nushagak Hills 75.71 22 IAmb IAmb 01 22 54.2
comp=Z,68nm,1.2s
N17K Nushagak Hills 75.71 22 P P 01 22 52.5 +1.1
baz=322,SNR=16
M20K Styx River 75.79 20 P P 01 22 52.1 +0.2
baz=325
J26L Joseph Creek 75.82 15 P **P 01 22 51.9 -0.1**
J26L IAmb IAmb 01 22 54.1
comp=Z,57nm,0.8s
O15K Ungalikthiuk R 75.93 24 IAmb IAmb 01 22 54.9
comp=Z,65nm,0.9s
O15K Ungalikthiuk R 75.93 24 P P 01 22 53.4 +0.8
baz=320,SNR=8.7
KOOLE Kule 75.93 227 *i* P **P 01 22 54.0 +0.7**
K24K Donnelly Dome 75.97 16 P P 01 22 52.7 -0.1
baz=330,SNR=57
N18K Kilae Creek 75.98 22 IAmb IAmb 01 22 55.4
comp=Z,43nm,1.2s
I29M Ogilvie Camp, 76.02 12 IAmb IAmb 01 22 54.4
comp=Z,110nm,1.3s
I29M Ogilvie Camp, 76.02 12 P P 01 22 53.1 0.0
baz=336,SNR=28
EGAK Eagle 76.04 13 IAmb IAmb 01 22 54.9
comp=Z,70nm,1.3s
EGAK Eagle 76.04 13 P P 01 22 53.5 +0.3
baz=334
CUT Chulitna 76.11 18 P **P 01 22 52.9 -0.7**
CUT IAmb IAmb 01 22 55.4
comp=Z,68nm,1.0s
CUT Chulitna 76.11 18 P P 01 22 52.9 -0.7
baz=327,SNR=7.1
SKT Skwentna 76.14 19 P P 01 22 53.2 -0.6
baz=326,SNR=55
O16K Kokwok River B 76.16 23 P P 01 22 55.5 +1.5
baz=322,SNR=20
WAT1 Susitna Watana 76.17 17 P P 01 22 53.1 -0.9
baz=328
SCRK Sand Creek 76.20 15 IAmb IAmb 01 22 56.0
comp=Z,111nm,1.3s
SCRK Sand Creek 76.20 15 P P 01 22 54.6 +0.4
baz=332,SNR=62
H31M Peel River 76.22 10 P P 01 22 54.4 +0.2
baz=340,SNR=18
RIDG Independent Ri 76.22 15 IAmb IAmb 01 22 55.4
comp=Z,37nm,0.7s
RIDG Independent Ri 76.22 15 P P 01 22 54.0 -0.3
baz=331,SNR=35
DHY Denali Highway 76.24 17 P P 01 22 54.1 -0.4
baz=329,SNR=30
N19K Bonanza Creek 76.28 21 IAmb IAmb 01 22 58.8
comp=Z,45nm,1.1s
PHPEN Phepeng 76.33 224 *i* P **P 01 22 55.2 -0.2**
O17K Koliganek Bris 76.34 23 P P 01 22 56.0 +1.1
baz=322,SNR=10.0
I30M Mount Dempster 76.46 11 IAmb IAmb 01 22 57.8
comp=Z,58nm,0.9s
I30M Mount Dempster 76.46 11 P P 01 22 56.1 +0.4
baz=338,SNR=40
DOT Dot Lake 76.47 15 IAmb IAmb 01 22 57.5
comp=Z,33nm,0.9s
K27K Chicken 76.54 14 IAmb IAmb 01 22 58.2
comp=Z,109nm,1.2s
K27K Chicken 76.54 14 P P 01 22 56.9 +0.9
baz=334,SNR=62
WAT6 Susitna Watana 76.58 17 P P 01 22 56.0 -0.5
baz=329,SNR=20
SPCR Spurr Chakacha 76.60 20 P P 01 22 56.0 -0.5
baz=326

P16K Nushagak River 76.64 24 P P 01 22 57.7 +1.1
P16K Nushagak River 76.64 24 P P 01 22 57.9 +1.3
baz=322,SNR=5.8
M22K Willow 76.69 19 P P 01 22 56.5 -0.3
baz=327
PAX Paxson 76.76 16 P P 01 22 57.2 -0.2
baz=331,SNR=68
O19K Port Alsworth 76.83 21 P P 01 22 57.7 +0.1
O19K IAmb IAmb 01 22 59.5
comp=Z,70nm,1.1s
O19K Port Alsworth 76.83 21 P P 01 22 58.0 +0.4
baz=324
O18K Koktuh Hills 76.85 22 P P 01 22 58.7 +0.9
baz=324,SNR=16
J29N Klondike Camp 76.87 12 IAmb IAmb 01 23 00.1
comp=Z,103nm,1.4s
J29N Klondike Camp 76.87 12 P P 01 22 58.6 +0.7
baz=336,SNR=6.0
GHO Glory Hole Cre 76.98 18 IAmb IAmb 01 23 00.1
comp=Z,102nm,1.2s
P17K Kvichak River 77.00 23 P P 01 22 59.8 +1.2
baz=323
DAWY Dawson 77.01 13 IAmb IAmb 01 23 00.9
comp=Z,64nm,1.0s
DAWY Dawson 77.01 13 P P 01 22 59.2 +0.5
baz=336,SNR=65
NIKH Nikolski High 77.06 32 P P 01 22 59.7 +0.6
baz=315
J30M Hart River 77.07 12 IAmb IAmb 01 23 01.1
comp=Z,73nm,1.2s
J30M Hart River 77.07 12 P P 01 22 59.9 +0.7
baz=338,SNR=31
PMR Palmer 77.08 18 IAmb IAmb 01 23 00.2
comp=Z,64nm,1.2s
PMR Palmer 77.08 18 P P 01 22 59.2 +0.2
PMR Palmer 77.08 18 P P 01 22 58.9 -0.1
baz=328,SNR=12
SML Sawmill 77.10 18 P P 01 22 59.2 0.0
baz=329,SNR=33
L26K Log Cabin Wild 77.17 15 IAmb IAmb 01 23 01.5
comp=Z,50nm,1.2s
P18K Big Mountain, 77.21 22 IAmb IAmb 01 23 01.7
comp=Z,64nm,0.9s
P18K Big Mountain, 77.21 22 P P 01 22 59.9 +0.1
baz=324,SNR=6.1
CAPN Captain Cook N 77.25 20 P P 01 23 00.3 +0.3
baz=327
M23K Glacier View 77.26 18 P P 01 22 59.8 -0.3
baz=329,SNR=37
SCM Sheep Creek Mo 77.32 17 P P 01 23 00.7 +0.2
baz=330,SNR=23
HARP HAARP 77.34 16 P P 01 23 01.6 +1.1
baz=331,SNR=71
Q16K King Salmon 77.34 23 P P 01 23 01.5 +0.9
baz=323
MEEK Meekatharra 77.35 137 P P 01 23 01.0 0.0
RC01 Rabbit Creek A 77.36 19 IAmb IAmb 01 23 01.7
comp=Z,72nm,1.1s
RC01 Rabbit Creek A 77.36 19 P P 01 23 00.5 -0.1
baz=328,SNR=6.6
M24K Tolsona, Glenn 77.36 17 P P 01 23 01.4 +0.7
M24K Tolsona, Glenn 77.36 17 P P 01 23 01.7 +1.0
baz=330,SNR=48
KNK Knik Glacier 77.41 18 P P 01 23 01.3 +0.4
baz=329,SNR=25
O20K Slope Mountain 77.42 21 P P 01 23 01.6 +0.6
baz=326
UNV Unalaska Valle 77.43 31 P P 01 23 01.7 +0.6
baz=316
L27K Beaver Creek, 77.46 15 IAmb IAmb 01 23 03.4
comp=Z,68nm,1.2s
L27K Beaver Creek, 77.46 15 P P 01 23 02.0 +0.8
baz=334
BCAR Beaver Creek A 77.46 14 P P 01 23 01.4 +0.2
BOSA Boshof 77.54 220 P P 01 23 02.2 +0.1
comp=Z,20nm,0.8s,baz=16,slow=3.6,SNR=42
comp=Z,20nm,0.8s
BOSA Boshof 77.54 220 P P 01 23 02.2 +0.1
BOSA Boshof 77.54 220 P P 01 23 02.2 +0.1
BOSA pP **pP 01 23 51.9 -0.6**
K29M Barlow Dome 77.55 12 IAmb IAmb 01 23 03.8
comp=Z,78nm,1.2s
K29M Barlow Dome 77.55 12 P P 01 23 02.7 +0.9
baz=337,SNR=45
SLKM Skilak Lake 77.72 19 IAmb IAmb 01 23 03.3
comp=Z,82nm,1.2s
S12K Black Hills 77.80 27 P P 01 23 04.1 +0.9
baz=319
M26K Nabesna, AK 77.81 15 IAmb IAmb 01 23 05.1
comp=Z,36nm,1.1s
O22K Cooper Landing 77.88 19 P P 01 23 03.3 -0.1
baz=328
Q18K Katmai Hardscr 77.88 22 P P 01 23 02.8 -0.9
baz=324,SNR=7.0
PWL Port Wells 77.91 18 IAmb IAmb 01 23 05.4
comp=Z,56nm,0.9s
PWL Port Wells 77.91 18 P P 01 23 03.8 +0.1
baz=329,SNR=19
MORW Morawa 77.92 140 IAmb IAmb 01 23 04.5
comp=Z,84nm,1.8s
MORW Morawa 77.92 140 P P 01 23 04.0 0.0
Q17K Contact Creek 77.92 23 P P 01 23 03.3 -0.5
baz=323
KLU Klutina 77.95 17 P P 01 23 04.4 +0.5
KLU IAmb IAmb 01 23 06.4
comp=Z,70nm,0.9s
KLU Klutina 77.95 17 P P 01 23 04.5 +0.5
baz=331,SNR=34
L29M L29M 78.12 13 IAmb IAmb 01 23 07.6
comp=Z,77nm,1.1s
L29M L29M 78.12 13 P P 01 23 05.5 +0.7
baz=337,SNR=45
N25K Chitina, Valde 78.16 16 IAmb IAmb 01 23 07.2
comp=Z,47nm,1.2s
N25K Chitina, Valde 78.16 16 P P 01 23 05.7 +0.6
baz=332,SNR=17
BRLK Bradley Lake 78.17 20 IAmb IAmb 01 23 06.0
comp=Z,70nm,0.9s
GLI Glacier Island 78.20 18 IAmb IAmb 01 23 07.0
comp=Z,64nm,0.8s
GLI Glacier Island 78.20 18 P P 01 23 05.2 0.0
baz=330,SNR=10
BRSE Bradley Lake S 78.22 20 P P 01 23 04.7 -0.8
baz=327
S14K Fog Glacier 78.26 26 P P 01 23 05.7 -0.1
baz=321
SEW Seward 78.27 19 IAmb IAmb 01 23 06.7
comp=Z,49nm,1.0s
SEW Seward 78.27 19 P P 01 23 05.2 -0.4
baz=328,SNR=8.5
CNPM China Poot 78.27 20 IAmb IAmb 01 23 06.6
comp=Z,38nm,1.0s
R17L Mt. Peulik Vol 78.28 24 P P 01 23 05.7 0.0
baz=323
DIV Divide 78.31 17 IAmb IAmb 01 23 08.0
comp=Z,58nm,0.8s
FID Port Fidalgo 78.47 18 IAmb IAmb 01 23 08.4
comp=Z,73nm,1.1s
SDPT Sand Point 78.65 27 P P 01 23 08.0 +0.3
baz=320
M29M Somme Creek 78.67 13 IAmb IAmb 01 23 10.3
comp=Z,40nm,1.0s
M29M Somme Creek 78.67 13 P P 01 23 08.8 +0.9
baz=336,SNR=36
MCARA McCarthy VSAT 78.71 16 IAmb IAmb 01 23 09.9
comp=Z,34nm,1.0s
MCARA McCarthy VSAT 78.71 16 P P 01 23 08.6 +0.5
baz=333,SNR=11
BMRM Bremner River 78.72 17 P P 01 23 09.0 +0.8
baz=332,SNR=27
VRDI Verde Repeater 78.75 16 IAmb IAmb 01 23 10.8
comp=Z,53nm,1.0s
EYAK Cordova Ski Ar 78.82 17 P P 01 23 09.5 +0.9
EYAK Cordova Ski Ar 78.82 17 P P 01 23 09.2 +0.6
baz=331,SNR=19
M30M Minto, Yukon 78.85 13 P P 01 23 09.2 +0.4
baz=338,SNR=15
P23K Montague Islan 78.89 18 P P 01 23 08.5 -0.5
baz=330
R18K Karluk 78.94 23 P P 01 23 08.5 -0.8
baz=324
RAGM Ragged Mountai 79.22 17 P P 01 23 11.4 +0.6
RAGM IAmb IAmb 01 23 13.1
comp=Z,47nm,0.9s
CRQE Cirque 79.26 16 P P 01 23 11.8 +0.6
baz=333
BARN Barnard Glacie 79.30 15 IAmb IAmb 01 23 14.1
comp=Z,69nm,1.2s

TGL Tana Glacier 79.31 16 IAmb IAmb 01 23 13.7
comp=Z,52nm,1.0s
KDAK Kodiak Island 79.33 22 P 01 23 11.6 +0.2
KDAK Kodiak Island 79.33 22 P P 01 23 11.6 +0.2
KDAK pmax pmax
comp=Z,139nm,1.0s
KDAK Kodiak Island 79.33 22 P P 01 23 11.8 +0.4
baz=326
KDAK Kodiak Island 79.33 22 P P 01 23 11.9 +0.4
HMT Hamilton 79.36 17 IAmb IAmb 01 23 13.6
comp=Z,33nm,1.0s
CHNA Chernabura Isl 79.37 27 P P 01 23 12.2 +0.5
baz=321
CTG Chitna Glacier 79.45 15 P P 01 23 13.1 +0.9
baz=334,SNR=22
CTGM Chitina Glacie 79.45 15 IAmb IAmb 01 23 14.3
comp=Z,68nm,1.0s
BLDU Ballidu 79.50 141 P P 01 23 11.8 -0.9
ISLE Juniper Island 79.56 16 IAmb IAmb 01 23 14.4
comp=Z,46nm,1.0s
GRNC Granite Creek 79.57 16 IAmb IAmb 01 23 14.8
comp=Z,52nm,1.0s
OHAK Old Harbor 79.58 23 P P 01 23 12.9 +0.2
baz=325
WAX Waxell Ridge 79.58 16 IAmb IAmb 01 23 15.1
comp=Z,32nm,0.8s
M31M Drury Creek, Y 79.61 12 IAmb IAmb 01 23 14.7
comp=Z,58nm,1.1s
M31M Drury Creek, Y 79.61 12 P P 01 23 13.4 +0.5
baz=340,SNR=40
LOGN Logan Glacier 79.65 15 IAmb IAmb 01 23 15.2
comp=Z,56nm,1.0s
MMPY Sheldon Lake, 79.69 10 P P 01 23 14.4 +1.0
baz=342,SNR=17
KAIM Kayak Island 79.69 17 IAmb IAmb 01 23 15.7
comp=Z,81nm,1.2s
KAIM Kayak Island 79.69 17 P P 01 23 14.4 +1.1
baz=332
SUCK Suckling Hills 79.71 17 IAmb IAmb 01 23 16.1
comp=Z,51nm,1.0s
KUQ Kuujjuuaa 79.72 339 IAmb IAmb 01 23 14.6
comp=Z,46nm,0.9s
BGLC Bering Glacier 79.78 16 P P 01 23 14.8 +1.0
baz=333
SNH Sunshine Point 79.83 16 IAmb IAmb 01 23 16.9
comp=Z,84nm,1.0s
N30M Aishikik Lake 79.83 13 IAmb IAmb 01 23 16.4
comp=Z,45nm,1.1s
N30M Aishikik Lake 79.83 13 P P 01 23 15.1 +0.9
baz=338,SNR=25
O28M Mount Upton 79.86 15 P P 01 23 15.3 +0.7
baz=335,SNR=16
YAH Yahtse 79.91 16 IAmb IAmb 01 23 16.8
comp=Z,56nm,1.0s
WRGLY Wrigley 80.00 6 P P 01 23 16.0 +1.1
baz=349,SNR=16
MESA MESA 80.03 16 P P 01 23 15.6 +0.2
MESA IAmb IAmb 01 23 17.6
comp=Z,55nm,1.0s
MESA MESA 80.03 16 P P 01 23 16.5 +1.1
baz=334
N31M Braeburn, Yuko 80.04 13 IAmb IAmb 01 23 17.5
comp=Z,82nm,1.0s
N31M Braeburn, Yuko 80.04 13 P P 01 23 15.7 +0.4
baz=339
PINM Pinnacle 80.47 15 P P 01 23 18.4 +0.8
baz=335,SNR=18
O29M Mount Kennedy 80.62 14 P P 01 23 18.8 +0.3
baz=337,SNR=6.1
O30N Mendenhall 80.66 13 IAmb IAmb 01 23 20.4
comp=Z,50nm,0.9s
O30N Mendenhall 80.66 13 P P 01 23 19.3 +0.7
baz=338,SNR=34
BCPM Bancas Point 80.73 15 IAmb IAmb 01 23 21.1
comp=Z,46nm,0.9s
N32M Quiet Lake 80.81 11 IAmb IAmb 01 23 20.5
comp=Z,35nm,1.0s
N32M Quiet Lake 80.81 11 P P 01 23 19.2 -0.2
baz=341
WHY Whitehorse 80.97 12 IAmb IAmb 01 23 21.3
comp=Z,61nm,0.9s
WHY Whitehorse 80.97 12 P P 01 23 20.0 -0.3
baz=340,SNR=19
PNL Peninsula 81.03 15 P P 01 23 22.2 +1.6
PNL Peninsula 81.03 15 P P 01 23 21.5 +0.9
baz=336,SNR=9.6
P30M Million Dollar 81.10 14 P P 01 23 21.6 +0.7
baz=338,SNR=13
TGTN Hyland Airport 81.14 9 P P 01 23 22.2 +1.1
baz=345,SNR=20
YKA Yellowknife Ar 81.28 2 P P 01 23 21.2 -0.6
YKA Yellowknife Ar 81.28 2 P P 01 23 21.9 +0.1
comp=Z,21nm,0.9s,baz=353,slow=6.3,SNR=40
YKA pP **pP 01 24 12.7 +0.9**
comp=Z,14nm,0.8s,baz=344,slow=6.2,SNR=7.5
YKA sP **sP 01 24 34.0 +0.3**
comp=Z,10.0nm,0.9s,baz=344,slow=6.1,SNR=3.1
comp=Z,21nm,0.9s
YKA Yellowknife Ar 81.28 2 *i* P **P 01 23 21.8 +0.1**
YKA pmax pmax
comp=Z,24nm,0.9s
P29M Windy Craggy 81.41 14 P P 01 23 22.9 +0.4
baz=337,SNR=18
NWAO Narrogin (SRO) 81.63 142 P P 01 23 23.4 -0.5
comp=Z,8.6nm,0.8s,baz=246,slow=1.4,SNR=3.9
comp=Z,8.6nm,0.8s
NWAO Narrogin (SRO) 81.63 142 P P 01 23 23.4 -0.5
P33M Teslin, Yukon 81.74 12 P P 01 23 24.4 +0.1
baz=341,SNR=89
PLBC Pleasant Camp 81.83 14 P P 01 23 25.6 +0.9
baz=338,SNR=30
SCHQ Schefferville 82.00 337 P P 01 23 26.0 +0.3
comp=Z,104nm,0.7s,baz=24,slow=4.7,SNR=14
comp=Z,104nm,0.7s
SKAG Skagway 82.02 13 IAmb IAmb 01 23 27.9
comp=Z,57nm,1.0s
SKAG Skagway 82.02 13 P P 01 23 26.9 +1.2
SKAG Skagway 82.02 13 P P 01 23 26.9 +1.2
baz=339,SNR=28
P32M Atlin 82.18 12 IAmb IAmb 01 23 28.2
comp=Z,43nm,1.1s
P32M Atlin 82.18 12 P P 01 23 27.0 +0.4
baz=340,SNR=17
WRA Warramunga Arr 82.22 122 P P 01 23 25.5 -1.8
WRA Warramunga Arr 82.22 122 P P 01 23 26.1 -1.2
comp=Z,38nm,0.8s,baz=323,slow=4.9,SNR=344
WRA pP **pP 01 24 17.5 -0.4**
comp=Z,6.3nm,0.9s,baz=322,slow=5.3,SNR=3.0
comp=Z,38nm,0.8s
WRA Warramunga Arr 82.22 122 *i* P **P 01 23 26.1 -1.2**
WRA pmax pmax
comp=Z,41nm,0.8s
WRAB Tennant Creek 82.23 122 P P 01 23 26.3 -1.0
WRAB IAmb IAmb 01 23 27.2
comp=Z,50nm,0.8s
WRAB Tennant Creek 82.23 122 P P 01 23 26.5 -0.8
WRAB Tennant Creek 82.23 122 P P 01 23 26.3 -1.0
WRAB pmax pmax
comp=Z,50nm,0.8s
WRAB Tennant Creek 82.23 122 P P 01 23 26.0 -1.3
WTLY Watson Lake, Y 82.44 10 IAmb IAmb 01 23 29.4
comp=Z,45nm,0.9s
WTLY Watson Lake, Y 82.44 10 P P 01 23 28.4 +0.6
baz=344,SNR=30
R33M Jennings River 82.81 11 IAmb IAmb 01 23 31.7
comp=Z,44nm,0.9s
R33M Jennings River 82.81 11 P P 01 23 30.5 +0.5
baz=343,SNR=32
BESE Bessie Mountai 82.93 13 IAmb IAmb 01 23 32.7
comp=Z,40nm,0.9s
KOTAN Kotaneelee Air 82.99 7 P P 01 23 31.2 +0.6
baz=348
Q32M Nakina River 83.02 12 P P 01 23 31.0 -0.1
Q32M IAmb IAmb 01 23 32.9
comp=Z,36nm,0.9s
Q32M Nakina River 83.02 12 P P 01 23 31.6 +0.5
baz=342,SNR=17
S31K Pelican 83.25 14 P P 01 23 32.8 +0.8
baz=339
R32K Eaglecrest 83.28 13 IAmb IAmb 01 23 35.2
comp=Z,35nm,1.0s
R32K Eaglecrest 83.28 13 P P 01 23 33.1 +0.9
baz=340,SNR=14
JIS Juneau Island 83.31 13 P P 01 23 33.5 +1.2
DLBC Dease Lake 83.88 11 P P 01 23 36.3 +1.0
baz=343,SNR=17
S34M Telegraph Cree 84.21 11 P P 01 23 38.1 +1.2
baz=343,SNR=36

SIT Sitka 84.28 14 IAmb IAmb 01 23 39.4
comp=Z,40nm,0.9s
SIT Sitka 84.28 14 P **P** **01 23 38.4 +1.2**
baz=339
ASAR Alice Springs 84.48 125 P **P** **01 23 37.4 -1.3**
ASAR Alice Springs 84.48 125 P **P** **01 23 37.7 -1.1**
comp=Z,33nm,0.8s,baz=319,slow=5.3,SNR=304
ASAR pP **pP** **01 24 29.4 -0.4**
comp=Z,5.0nm,0.7s,baz=322,slow=5.5,SNR=3.3
ASAR sP **sP** **01 24 51.7 +0.1**
comp=Z,5.7nm,0.9s,baz=305,slow=5.2,SNR=2.3
comp=Z,33nm,0.8s
ASAR Alice Springs 84.48 125 P **P** **01 23 37.7 -1.1**
ASAR *PP **pP** **01 24 29.4 -0.4**
ASAR *SP **sP** **01 24 51.7 +0.1**
AS01 Alice Springs 84.51 125 P **P** **01 23 38.0 -0.9**
COEN Coen 84.67 112 P **P** **01 23 39.0 -0.8**
PMG Port Moresby 84.88 106 P **P** **01 23 40.0 -1.0**
PMG IAmb IAmb 01 23 41.4
comp=Z,36nm,1.1s
PMG Port Moresby 84.88 106 P **P** **01 23 41.0 +0.1**
PMG Port Moresby 84.88 106 *ce*P **P** **01 23 40.4 -0.5**
PMG pmax pmax
comp=Z,38nm,1.1s
T35M Bob Quinn 85.24 11 IAmb IAmb 01 23 44.4
comp=Z,29nm,0.8s
T35M Bob Quinn 85.24 11 P **P** **01 23 43.1 +1.0**
baz=343,SNR=14
WRAK Wrangell Islan 85.43 13 IAmb IAmb 01 23 45.0
comp=Z,39nm,0.8s
WRAK Wrangell Islan 85.43 13 P **P** **01 23 43.9 +0.9**
baz=342,SNR=8.0
U33K Whale Pass 85.58 13 P **P** **01 23 44.6 +0.9**
baz=341
FORT Forrest 85.86 133 IAmb IAmb 01 23 45.8
comp=Z,23nm,0.8s
CRAG Craig 86.19 13 P **P** **01 23 47.5 +0.7**
baz=341
QIS Mount Isa 86.30 119 P **P** **01 23 46.5 -1.3**
V35K Ketchikan 86.59 13 P **P** **01 23 49.0 +0.3**
baz=342
MTSU Mount Surprise 88.15 114 P **P** **01 23 56.5 -0.2**
FFC Flin Flon 88.94 356 P **P** **01 23 59.5 -0.4**
FFC IAmb IAmb 01 24 01.2
comp=Z,25nm,1.1s
FFC Flin Flon 88.94 356 P **P** **01 23 59.5 -0.4**
FFC pmax pmax
comp=Z,25nm,1.1s
FFC Flin Flon 88.94 356 P **P** **01 23 59.9 0.0**
FFC pP **pP** **01 24 51.3 +0.8**
CTAO Charters Tower 90.80 114 P **P** **01 24 07.8 -1.2**
CTAO IAmb IAmb 01 24 09.0
comp=Z,24nm,0.8s
CTAO Charters Tower 90.80 114 P **P** **01 24 08.2 -0.8**
CTAO Charters Tower 90.80 114 P **P** **01 24 07.8 -1.2**
CTAO pmax pmax
comp=Z,24nm,0.8s
LLLB Lillooet 92.59 8 IAmb IAmb 01 24 19.0
comp=Z,20nm,1.0s
ULM Lac du Bonnet 92.83 351 P **P** **01 24 17.9 -0.1**
comp=Z,3.9nm,0.5s,baz=103,slow=4.0,SNR=3.5
comp=Z,3.9nm,0.5s
ULM Lac du Bonnet 92.83 351 P **P** **01 24 17.9 -0.1**
HTT Hallett 94.31 129 P **P** **01 24 24.2 -0.8**
AGMN Agassiz Nation 94.75 351 IAmb IAmb 01 24 28.2
comp=Z,32nm,1.7s
B04A Port Angeles 94.90 9 IAmb IAmb 01 24 29.6
comp=Z,13nm,0.9s
STKA Stephens Creek 95.01 126 P **P** **01 24 26.9 -1.2**
comp=Z,3.3nm,0.7s,baz=342,slow=4.8,SNR=7.8
comp=Z,3.3nm,0.7s
STKA Stephens Creek 95.01 126 P **P** **01 24 26.9 -1.2**
NEW Newport 95.35 5 P **P** **01 24 29.1 -0.5**
NEW IAmb IAmb 01 24 31.2
comp=Z,11nm,1.0s
NEW Newport 95.35 5 P **P** **01 24 29.2 -0.5**
NEW pmax pmax
comp=Z,11nm,1.0s
GNW Green Mountain 95.47 9 IAmb IAmb 01 24 32.3
comp=Z,11nm,1.0s
LTY Liberty 96.03 8 P **P** **01 24 32.6 -0.2**
MXC Moxie City 96.74 8 IAmb IAmb 01 24 37.4
comp=Z,9.6nm,1.0s
OVMT Ovando 96.77 3 P **P** **01 24 36.1 -0.2**
E09A Wood Farm, Sta 97.01 6 P Pdif 01 24 37.4 +0.2
E09A IAmb IAmb 01 24 38.6
comp=Z,9.0nm,1.1s
LAO LASA Array 97.17 358 IAmb IAmb 01 24 40.1
comp=Z,8.2nm,0.9s
LRM Limekiln Ridge 98.03 2 P **P** **01 24 41.6 -0.5**
YNE Yellowstone No 98.89 0 IAmb IAmb 01 24 48.5
comp=Z,7.4nm,1.1s
MCMT McKenzie Canyo 99.01 3 P **Pdif** **01 24 46.6 +0.1**
ECSD EROS Data Cent 99.33 351 **Pdif** **01 24 46.3 -1.3**
ECSD IAmb IAmb 01 24 50.2
comp=Z,13nm,1.5s
RSSD Black Hills 99.64 356 Pdif **Pdif** **01 24 48.5 -0.7**
RSSD Black Hills 99.64 356 *i* P **Pdif** **01 24 48.5 -0.7**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 101.14 0 P **Pdif** **01 24 56.1 +0.2**
comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=3.8
PDAR PKKPbc **PKKPbc** **01 41 05.6 +0.1**
comp=Z,0.4nm,0.6s,baz=101,slow=3.0,SNR=4.9
NVAR Mina Array Bea 105.01 7 Pdiff **Pdif** **01 25 14.6 +1.3**
comp=Z,1.5nm,1.1s,baz=353,slow=6.4,SNR=6.1
NVAR PKKPbc **PKKPbc** **01 40 55.9 +1.8**
comp=Z,0.7nm,0.7s,baz=200,slow=5.7,SNR=8.8
TXAR Lajitas Array 114.32 355 PKP **PKiKP** **01 29 44.0 -0.5**
comp=Z,0.1nm,0.4s,baz=64,slow=2.9,SNR=4.1
TXAR PKKPbc **PKKPbc** **01 40 22.7 -1.4**
comp=Z,0.9nm,0.8s,baz=198,slow=3.5,SNR=11
TXAR Lajitas Array 114.32 355 PKIKP **PKiKP** **01 29 44.0 -0.5**
TROLL Troll, Antarti 117.98 199 ⇑P **PKPdf** **01 29 49.6 -0.5**
comp=Z,789nm,0.6s
SNAA Sanae 119.27 200 ⇑P **PKPdf** **01 29 51.8 -0.7**
comp=Z,119nm,0.8s
SNAA Sanae 119.27 200 **PKPdf** **01 29 51.9 -0.6**
SNAA Sanae 119.27 200 PKP **PKPdf** **01 29 51.4 -1.1**
comp=Z,5.2nm,0.8s,baz=86,slow=3.3,SNR=19
SNAA PKKPbc **PKKPab** **01 40 05.9 +0.1**
comp=Z,2.6nm,0.7s,baz=244,slow=4.6,SNR=16
SNAA Sanae 119.27 200 PKIKP **PKPdf** **01 29 51.9 -0.6**
VNA2 Neumayer--Watz 120.27 202 ⇑P **PKPdf** **01 29 53.6 -0.7**
comp=Z,16nm,0.6s,baz=31,slow=3.0
VNA1 Neumayer--Stat 120.42 202 ⇑P **PKPdf** **01 29 53.9 -0.7**
comp=Z,9.8nm,0.8s
VNA3 Neumayer Olymp 121.07 202 ⇑P **PKPdf** **01 29 55.2 -0.7**
comp=Z,16nm,0.8s
VNDA Vanda 125.55 164 PKPpre PKPpre 01 29 56.5
VNDA Vanda 125.55 164 PKhKP PKPpre 01 29 57.1
comp=Z,0.9nm,0.9s,baz=212,slow=1.2,SNR=7.1
VNDA PKP **PKPdf** **01 30 03.4 -0.9**
comp=Z,2.3nm,0.8s,baz=304,slow=4.6,SNR=16
VNDA Vanda 125.55 164 PKIKP **PKPdf** **01 30 03.4 -0.9**
QSPA South Pole Qui 126.27 180 PKP **PKiKP** **01 30 06.9 +0.4**
comp=Z,21nm,0.8s,baz=265,slow=1.3,SNR=52
SBA Scott Base 126.63 165 **PKiKP** **01 30 06.9 0.0**
SBA Scott Base 126.63 165 PKIKP **PKiKP** **01 30 06.9 0.0**
ROSC El Rosal 127.44 314 PKP **PKiKP** **01 30 10.9 0.0**
comp=Z,9.3nm,0.7s,baz=72,slow=2.5,SNR=4.8
ROSC El Rosal 127.44 314 PKIKP **PKiKP** **01 30 11.0 0.0**
FLOC Florencia 130.84 313 PKPdf **PKPdf** **01 30 15.4 -1.0**
CPUP Villa Florida 134.92 268 PKPdf **PKPdf** **01 30 21.7 -1.9**
CPUP Villa Florida 134.92 268 PKP **PKPdf** **01 30 22.6 -1.0**
comp=Z,2.0nm,0.6s,baz=256,slow=1.4,SNR=16
CPUP Villa Florida 134.92 268 PKIKP **PKPdf** **01 30 22.6 -1.0**
LPAZ La Paz 138.34 288 PKP **PKPdf** **01 30 30.2 -0.8**
comp=Z,2.6nm,0.8s,baz=194,slow=1.0,SNR=9.3
LPAZ SKP 01 33 44.0
comp=Z,1.2nm,0.8s,baz=65,slow=3.9,SNR=4.1
LPAZ La Paz 138.34 288 PKIKP **PKPdf** **01 30 30.2 -0.8**
PB16 IPOC Station P 140.61 286 PKPdf **PKPdf** **01 30 34.7 -0.3**
PB11 IPOC Station P 141.53 285 PKPdf **PKPdf** **01 30 33.8 -2.3**
TRQA Tornquist 142.58 253 PKPdf **PKPdf** **01 30 37.2 -0.1**
TRQA Tornquist 142.58 253 PKIKP **PKPdf** **01 30 37.2 -0.1**
GO03 Copiapo 145.86 274 PKPdf **PKPdf** **01 30 43.0 -0.4**
LCO Las Campanas 146.81 272 PKPdf **PKPdf** **01 30 43.9 -1.3**
LCO Las Campanas 146.81 272 PKIKP **PKPdf** **01 30 43.9 -1.3**
BO04 La Punta 148.39 263 **PKPbc** **01 30 50.6 -0.5**
ML02 Panimavida 149.47 260 PKPbc **PKPbc** **01 30 52.6 -1.0**
PLCA Paso Flores 149.54 250 PKPbc **PKPbc** **01 30 54.0 +0.3**
comp=Z,27nm,0.9s,baz=140,slow=3.6,SNR=26
PLCA Paso Flores 149.54 250 PKP2 **PKPbc** **01 30 54.1 +0.3**
AY03 Cochrane 150.82 237 PKPbc **PKPbc** **01 30 56.7 +0.2**

*SLM **14** 01:40:25.3±0.7,36°.448N±0°.003×89°.800W±0°.009, h6km±2km, Error ellipse: s-maj=1.0km s-min=0.3km az=104.0*

NEIC 14 01:40:25.8±0.6,36°.451N±0°.005×89°.802W±0°.007, h8km±2km,mb_Lg2.1/4,ML2.3/32,Md2.5/41(SLM),Error ellipse: s-maj=1.1km s-min=0.4km az=223.0,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGVM	**Portageville**	**0.06**	**81**		Pg	01 40 27.3	-0.4
PGVM					Sg	01 40 28.9	0.0
WADM	**Wardell**	**0.09**	**177**		Pg	01 40 27.6	-0.4
WADM					Sg	01 40 29.4	-0.1
PVMO	**Portageville**	**0.09**	**114**	Pg	Pg	01 40 27.5	-0.5
PVMO				Sg	Sg	01 40 29.4	-0.2
PVMO				IAML		01 40 29.7	
	comp=E,2μm,0.3s						
TOPM	**Tallapoosa**	**0.10**	**317**		Pg	01 40 28.1	-0.1
TOPM					Sg	01 40 30.3	+0.4
POBM	**Portage Bay**	**0.12**	**111**		Pg	01 40 28.2	-0.3
POBM					Sg	01 40 30.6	+0.2
MARMO	**Marston**	**0.13**	**54**		Pg	01 40 28.6	-0.2
MARMO					Sg	01 40 31.1	+0.4
PENMO	**Penman**	**0.14**	**90**		Pg	01 40 28.6	-0.3
PENMO					Sg	01 40 31.1	+0.2
PPLM	**Point Pleasant**	**0.18**	**105**		Pg	01 40 29.3	-0.3
PPLM					Sg	01 40 32.4	+0.3
MLDM	**Malden**	**0.20**	**331**		Pg	01 40 29.7	-0.2
MLDM					Sg	01 40 33.1	+0.5
CATM	**Catron**	**0.20**	**38**		Pg	01 40 29.9	-0.1
CATM					Sg	01 40 33.3	+0.5
PARMO	**Parma**	**0.22**	**11**	Pg	Pg	01 40 30.1	-0.1
PARMO				Sg	Sg	01 40 33.6	+0.5
PARMO				IAML		01 40 34.1	
	comp=N,482nm,0.2s						
WALK	**Watson Lake**	**0.23**	**67**		Pg	01 40 30.2	-0.2
NMMO	**New Madrid**	**0.24**	**56**		Pg	01 40 30.6	-0.1
NMMO					Sg	01 40 34.6	+0.6
BRGM	**Braggadocio**	**0.25**	**191**		Pg	01 40 30.4	-0.4
BRGM					Sg	01 40 34.4	+0.2
BETM	**Bethany**	**0.26**	**308**		Pg	01 40 30.9	-0.2
BETM					Sg	01 40 34.9	+0.3
COKM	**Charter Oak**	**0.27**	**13**		Pg	01 40 31.0	-0.1
WYBT	**Wynnburg**	**0.27**	**113**		Pg	01 40 30.9	-0.2
KEWM	**Kewanee**	**0.30**	**34**		Pg	01 40 31.5	-0.2
KEWM					Sg	01 40 36.1	+0.4
BRNM	**Bernie**	**0.32**	**330**		Pg	01 40 31.9	-0.2
SJMO	**Saint John's B**	**0.32**	**56**		Pg	01 40 31.8	-0.3
SJMO					Sg	01 40 36.7	+0.4
PEBM	**Pemiscott Bayo**	**0.34**	**188**		Pg	01 40 32.0	-0.5
PEBM					Sg	01 40 37.4	+0.4
PEBM	**Pemiscott Bayo**	**0.34**	**188**	IAML		01 40 37.5	
	comp=E,668nm,0.4s						
PEBM				IAML		01 40 37.6	
	comp=N,382nm,0.2s						
MATM	**Matthews**	**0.36**	**26**		Pg	01 40 32.6	-0.3
MATM					Sg	01 40 38.1	+0.4
MIST	**Miston**	**0.37**	**139**		Pg	01 40 32.7	-0.4
MIST					Sg	01 40 38.0	0.0
HENM	**Henderson Moun**	**0.38**	**45**		Pg	01 40 32.9	-0.3
HENM					Sg	01 40 38.5	+0.3
FLPT	**Flippin**	**0.39**	**96**		Pg	01 40 33.1	-0.3
CHNM	**Channel**	**0.42**	**194**		Pg	01 40 33.8	-0.2
CHNM					Sg	01 40 39.8	+0.3
DWDM	**Dogwood**	**0.42**	**36**		Pg	01 40 33.8	-0.3
DWDM					Sg	01 40 40.0	+0.2
LNXT	**Lenox**	**0.43**	**144**	Pg	Pg	01 40 33.4	-0.7
LNXT				Sg	Sg	01 40 39.5	-0.3
LNXT				IAML		01 40 43.0	
	comp=E,185nm,0.3s						
GUAMO	**Guam**	**0.44**	**356**		Pg	01 40 34.0	-0.4
EPRM	**East Prairie**	**0.45**	**53**		Pg	01 40 34.1	-0.4
EPRM					Sg	01 40 40.5	+0.2
GLAT	**Glass**	**0.45**	**113**	Pg	Pg	01 40 33.9	-0.7
GLAT				Sg	Sg	01 40 40.0	-0.6
GLAT				IAML		01 40 41.7	
	comp=N,192nm,0.4s						
CWPT	**Cottonwood Poi**	**0.46**	**162**		Pg	01 40 34.5	-0.3
HICK	**Hickman**	**0.47**	**79**	Pg	Pg	01 40 34.4	-0.6
HICK				IAML		01 40 47.7	
	comp=N,162nm,0.3s						
HICK				IAML		01 40 50.3	
	comp=E,183nm,0.3s						
GNAR	**Gosnell**	**0.52**	**200**	Pg	Pg	01 40 35.4	-0.4
GNAR				Sg	Sg	01 40 42.2	-0.3
GNAR				IAML		01 40 44.3	
	comp=E,210nm,0.4s						
GNAR				IAML		01 40 47.5	
	comp=N,212nm,0.5s						
FPST	**Four Points**	**0.55**	**149**		Pg	01 40 36.0	-0.4
PBMO	**Poplar Bluff**	**0.60**	**303**	Pg	Pg	01 40 36.7	-0.8
PBMO				Sg	Sg	01 40 44.8	-0.5
PBMO				IAML		01 40 45.3	
	comp=E,232nm,0.2s						
PBMO				IAML		01 40 46.1	
	comp=N,205nm,0.3s						
HALT	**Halls**	**0.66**	**145**	Pg	Pg	01 40 37.8	-0.7
HALT				Sg	Sg	01 40 47.4	+0.4
UTMT	**University of**	**0.76**	**98**	Pg	Pg	01 40 40.0	-0.6
CGM3	**Cape Girardeau**	**0.85**	**8**	Pg	Pg	01 40 40.9	-1.3
CGM3				Sg	Sg	01 40 52.3	-1.1
CGM3				IAML		01 40 59.8	
	comp=E,107nm,0.2s						
CGM3				IAML		01 40 59.8	
	comp=N,89nm,0.2s						
LPAR	**Lepanto**	**0.94**	**206**		Pg	01 40 43.1	-0.7
T45A	**Paducah**	**1.09**	**58**	Pg	Pg	01 40 45.7	-1.0
T45A				Sg	Sg	01 40 60.0	-0.9
T45A				IAML		01 41 02.8	
	comp=N,103nm,0.5s						
T45A				IAML		01 41 03.0	
	comp=N,101nm,0.3s						
HBAR	**Harrisburg**	**1.13**	**218**	Pg	Pg	01 40 46.6	-1.0
HBAR				Sg	Sg	01 41 01.6	-0.6
LCAR	**Lake Charles**	**1.16**	**251**	Pg	Pg	01 40 46.0	-2.0
LCAR				Sg	Sg	01 41 01.6	-1.4
S44A	**Carbondale**	**1.31**	**19**		Pn	01 40 49.2	-1.2
S44A				IAML		01 41 09.1	
	comp=N,76nm,0.1s						
SIUC	**Southern Illin**	**1.34**	**20**		Pn	01 40 49.5	-1.3
EBZ	**Ebenezer Churc**	**1.36**	**164**		Pn	01 40 50.4	-0.7
FVM	**French Village**	**1.61**	**342**	Pn	Pn	01 40 53.8	-0.7
WVT	**Waverly**	**1.62**	**101**	Pn	Pn	01 40 54.0	-0.7
FCAR	**Ozark Folk Cen**	**1.96**	**254**	Pn	Pn	01 40 58.9	-0.5
OXF	**Oxford**	**1.96**	**170**	Pn	Pn	01 40 58.6	-0.7
CCM	**Cathedral Cave**	**1.97**	**325**	Pn	Pn	01 40 58.8	-0.7
CCM	**Cathedral Cave**	**1.97**	**325**	IAmb_Lg		01 41 28.5	
	comp=Z,7.2nm,0.8s						
PWLA	**Pickwick Lake**	**2.04**	**136**		Pn	01 40 60.0	-0.4
MGMO	**Mountain Grove**	**2.10**	**290**	Pn	Pn	01 41 00.9	-0.4
MGMO				IAmb_Lg		01 41 31.6	
	comp=Z,9.3nm,0.9s						
T47A	**Sharon Grove**	**2.23**	**75**	Pn	Pn	01 41 02.6	-0.5
WHAR	**Wooly Hollow**	**2.33**	**241**	Pn	Pn	01 41 04.6	+0.2
U40A	**Yellville**	**2.46**	**269**		Pn	01 41 07.5	+1.3
X48A	**Hartselle**	**3.01**	**131**	Pn	Pn	01 41 11.4	-2.4
Y49A	**Blount Mountai**	**3.79**	**132**	Pn	Pn	01 41 23.6	-1.0
FPAL	**Fort Paine**	**3.91**	**118**	Pn	Pn	01 41 25.8	-0.4
P38A	**Dawn**	**4.33**	**318**	Pn	Pn	01 41 31.7	-0.2

*NEIC **14** 01:44:13.7±2.0,31°.96S±0°.06×179°.9E±0°.2,h325km±7km, mb4.2/20,Error ellipse: s-maj=20.0km s-min=9.1km az=91.0*

*IDC **14** 01:44:15.6±1.0,31°.75S×179°.73E,h351km±9km,mb3.9/6, mbtmp4.6/7,Error ellipse: s-maj=13.6km s-min=12.9km az=9.0*

*WEL **14** 01:44:15.4±1.0,32°S±5°×17°9W±1°4,h318km±12km, mB5.3/10,ML5.2/7,MLv5.3/12,Mw(mB)4.7/10,Error ellipse: s-maj=18.9km s-min=3.8km az=108.7,confirmed*

ISC 14 01:44:14.3±0.5,32°.17S±0°.05×179°.91W±0°.07,h350km, n140,σ2°09/162,mb4.3/18,5C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**31**	P	**Pn**	**01 45 16.4**	**-0.8**
GLKZ				S	**S**	**01 46 03.8**	**-3.8**
RAO	**Raoul Island**	**3.38**	**31**	Pn	**Pn**	**01 45 13.5**	**-3.7**
RAO	**Raoul Island**	**3.38**	**31**	P	**Pn**	**01 45 17.0**	**-0.2**
	281nm,0.3s,baz=58,slow=19,SNR=5.4						
RAO				S	**S**	**01 46 05.6**	**-2.2**
	581nm,0.3s,baz=212,slow=23,SNR=6.1						
RIZ	**Raoul Island**	**3.38**	**31**	P	**Pn**	**01 45 16.9**	**-0.4**
RIZ				S	**S**	**01 46 05.2**	**-2.7**
MXZ	**Matakaoa Point**	**5.57**	**195**		**Pn**	**01 45 39.5**	**-0.6**
MXZ	**Matakaoa Point**	**5.57**	**195**	P	**Pn**	**01 45 39.6**	**-0.6**
MXZ				S	**S**	**01 46 47.5**	**-2.2**
WMGZ	**Waiomatatini S**	**5.80**	**193**	P	**Pn**	**01 45 42.6**	**-0.1**
WMGZ				S	**S**	**01 46 54.1**	**-0.3**
KUZ	**Kuaotunu**	**5.82**	**217**	P	**Pn**	**01 45 45.9**	**+3.0**
HAZ	**Te Kaha**	**5.88**	**198**	P	**Pn**	**01 45 42.4**	**-1.2**
HAZ				S	**S**	**01 46 54.3**	**-1.8**
PKGZ	**Pakihiroa**	**5.92**	**196**	P	**Pn**	**01 45 43.3**	**-0.7**
PKGZ				S	**S**	**01 46 56.8**	**0.0**
WCZ	**Waipu Caves**	**6.07**	**230**	P	**Pn**	**01 45 48.7**	**+2.9**
PUZ	**Puketiti**	**6.08**	**194**	P	**Pn**	**01 45 45.0**	**-0.8**
PUZ				S	**S**	**01 46 57.9**	**-2.3**
RUGZ	**Raukumara Rang**	**6.11**	**198**	P	**Pn**	**01 45 45.4**	**-1.0**
RUGZ				S	**S**	**01 46 58.2**	**-2.8**
OUZ	**Omahuta**	**6.21**	**239**	P	**Pn**	**01 45 49.1**	**+1.7**
TWGZ	**Tauwhareparae**	**6.24**	**196**	P	**Pn**	**01 45 47.6**	**-0.1**
TWGZ				S	**S**	**01 47 03.6**	**+0.1**
MBAZ	**Motutapu North**	**6.28**	**222**	P	**Pn**	**01 45 51.4**	**+3.2**
OPRZ	**Ohinepanea**	**6.36**	**206**	P	**Pn**	**01 45 49.5**	**+0.4**
OPRZ				S	**S**	**01 47 08.1**	**+2.0**
MKAZ	**Moumakai**	**6.38**	**218**	P	**Pn**	**01 45 52.6**	**+3.3**
MARZ	**Manawahe**	**6.44**	**205**	P	**Pn**	**01 45 52.6**	**+2.5**
MARZ				S	**S**	**01 47 10.6**	**+2.7**
CNGZ	**Carnagh Statio**	**6.48**	**193**	P	**Pn**	**01 45 50.1**	**-0.4**
CNGZ				S	**S**	**01 47 09.8**	**+1.2**
MWZ	**Matawai**	**6.50**	**198**	P	**Pn**	**01 45 49.5**	**-1.2**
MWZ				S	**S**	**01 47 06.3**	**-2.7**
TKGZ	**Te Karaka**	**6.52**	**196**	P	**Pn**	**01 45 49.7**	**-1.2**
TKGZ				S	**S**	**01 47 07.5**	**-1.8**
EDRZ	**Edgecumbe**	**6.53**	**204**	P	**Pn**	**01 45 54.1**	**+3.0**
URZ	**Urewera**	**6.54**	**201**	P	**Pn**	**01 45 49.5**	**-1.8**
	68nm,0.3s,baz=268,slow=5.2,SNR=49						
URZ				S	**S**	**01 47 07.1**	**-2.8**
	208nm,0.3s,baz=239,slow=22,SNR=22						
URZ	**Urewera**	**6.54**	**201**	P	**Pn**	**01 45 49.4**	**-1.8**
URZ				S	**S**	**01 47 08.7**	**-1.3**
AWAZ	**Awhitu Peninsu**	**6.63**	**221**	P	**Pn**	**01 45 56.2**	**+3.9**
RAGZ	**Rawiri**	**6.68**	**198**	P	**Pn**	**01 45 51.6**	**-1.3**
RAGZ				S	**S**	**01 47 10.8**	**-2.1**
TOZ	**Tahuroa Road**	**6.71**	**213**	Pn	**Pn**	**01 45 54.8**	**+1.7**
TOZ	**Tahuroa Road**	**6.71**	**213**	P	**Pn**	**01 45 55.2**	**+2.2**
TARZ	**Mount Tarawera**	**6.72**	**205**	P	**Pn**	**01 45 56.8**	**+3.4**
RIGZ	**Rimuhau**	**6.79**	**196**	P	**Pn**	**01 45 52.6**	**-1.6**
RIGZ				S	**S**	**01 47 12.7**	**-2.6**
RRRZ	**Republican Roa**	**6.81**	**204**	P	**Pn**	**01 45 57.1**	**+2.7**
MUGZ	**Murupara**	**6.85**	**202**	P	**Pn**	**01 45 53.3**	**-1.5**
HSRZ	**Hossack Road**	**6.89**	**206**	P	**Pn**	**01 45 58.5**	**+3.3**
RTZ	**Ruatahuna**	**6.91**	**201**	Pn	**Pn**	**01 45 54.9**	**-0.7**
RTZ	**Ruatahuna**	**6.91**	**201**	P	**Pn**	**01 45 55.9**	**+0.3**
HRRZ	**Handcock Road**	**6.94**	**206**	P	**Pn**	**01 45 59.0**	**+3.1**
SNGZ	**Shannon Statio**	**6.97**	**198**	P	**Pn**	**01 45 54.9**	**-1.2**
GRRZ	**Galatos Road**	**6.97**	**207**	P	**Pn**	**01 45 59.5**	**+3.3**
PRGZ	**Paritu Road**	**6.97**	**194**	P	**Pn**	**01 45 58.7**	**+2.5**
PRRZ	**Plateau Road**	**7.00**	**205**	P	**Pn**	**01 45 58.4**	**+1.9**
ALRZ	**Allen Road**	**7.07**	**205**	P	**Pn**	**01 45 58.0**	**+0.6**
WPRZ	**Whakapapatarin**	**7.10**	**206**	P	**Pn**	**01 46 00.2**	**+2.5**
KNZ	**Kokohu**	**7.11**	**195**	P	**Pn**	**01 45 55.8**	**-2.0**
RAHZ	**Arahi**	**7.16**	**199**	P	**Pn**	**01 45 56.8**	**-1.6**
MTHZ	**Maungataniwha**	**7.17**	**201**	P	**Pn**	**01 45 57.3**	**-1.3**
TLZ	**Tolley Road**	**7.18**	**210**	P	**Pn**	**01 45 59.9**	**+1.2**
MHGZ	**Mahia Peninsul**	**7.19**	**194**	P	**Pn**	**01 45 58.9**	**+0.1**
KUTZ	**Kaahu Road**	**7.20**	**208**	P	**Pn**	**01 46 02.4**	**+3.5**
WHHZ	**Waihua**	**7.27**	**198**	P	**Pn**	**01 46 01.4**	**+1.7**
MRHZ	**Matea Rd**	**7.29**	**203**	P	**Pn**	**01 46 01.2**	**+1.2**
NMHZ	**Naumai**	**7.41**	**200**	P	**Pn**	**01 45 59.8**	**-1.6**
WATZ	**Wairara**	**7.43**	**207**	P	**Pn**	**01 46 04.5**	**+2.9**
ARHZ	**Aropaoanui**	**7.51**	**199**	P	**Pn**	**01 46 02.1**	**-0.4**
BKZ	**Black Stump Fm**	**7.57**	**202**	Pn	**Pn**	**01 46 00.7**	**-2.6**
BKZ	**Black Stump Fm**	**7.57**	**202**	P	**Pn**	**01 46 01.4**	**-1.9**
RITZ	**Rihia Road**	**7.62**	**206**	P	**Pn**	**01 46 06.0**	**+2.2**
HIZ	**Hauiti**	**7.64**	**213**	Pn	**Pn**	**01 46 03.5**	**-0.5**
HIZ	**Hauiti**	**7.64**	**213**	P	**Pn**	**01 46 08.3**	**+4.3**
MCHZ	**McNeill Hill**	**7.76**	**200**	P	**Pn**	**01 46 04.9**	**-0.5**
NTVZ	**North Tongarir**	**7.79**	**206**	P	**Pn**	**01 46 06.9**	**+0.9**
TMVZ	**Te Maari**	**7.79**	**206**	P	**Pn**	**01 46 06.6**	**+0.6**
WTVZ	**West Tongariro**	**7.84**	**207**	P	**Pn**	**01 46 07.1**	**+0.6**
NNVZ	**North Ngauruho**	**7.84**	**206**	P	**Pn**	**01 46 07.3**	**+0.7**
CKHZ	**Cape Kidnapper**	**7.86**	**197**	P	**Pn**	**01 46 06.1**	**-0.6**
SNVZ	**South Ngauruho**	**7.88**	**206**	P	**Pn**	**01 46 07.4**	**+0.4**
NGZ	**Ngauruhoe**	**7.88**	**206**	P	**Pn**	**01 46 07.9**	**+0.8**
TUVZ	**Tukino**	**7.95**	**206**	P	**Pn**	**01 46 07.9**	**+0.1**
FWVZ	**Far West T-bar**	**7.97**	**206**	P	**Pn**	**01 46 08.6**	**+0.4**
MAVZ	**Matarangi**	**7.98**	**206**	P	**Pn**	**01 46 08.8**	**+0.4**
WHVZ	**Whangaehu Hut**	**7.98**	**206**	P	**Pn**	**01 46 08.3**	**0.0**
MOVZ	**Moawhango**	**8.03**	**205**	P	**Pn**	**01 46 07.8**	**-1.0**
KAHZ	**Kahuranaki**	**8.04**	**198**	P	**Pn**	**01 46 07.9**	**-0.9**
KRHZ	**Kereru**	**8.04**	**201**	P	**Pn**	**01 46 05.9**	**-2.9**
PKVZ	**Pokaka**	**8.08**	**207**	P	**Pn**	**01 46 10.1**	**+0.8**
PXZ	**Pawanui**	**8.27**	**198**	P	**Pn**	**01 46 10.4**	**-1.1**
PNHZ	**Pukenui**	**8.34**	**201**	P	**Pn**	**01 46 09.1**	**-3.3**
PRHZ	**Porangahau**	**8.55**	**198**	P	**Pn**	**01 46 12.1**	**-2.7**
DVHZ	**Dannevirke**	**8.71**	**200**	P	**Pn**	**01 46 14.5**	**-2.2**
BFZ	**Birch Farm**	**9.04**	**199**	Pn	**Pn**	**01 46 17.1**	**-3.6**
MSWZ	**Moikau Station**	**10.01**	**201**	Pn	**Pn**	**01 46 28.9**	**-3.2**

QSPA S **S** **02 01 09.0 +6.5**
comp=Z,0.3nm,0.5s,baz=309,slow=4.3,SNR=1.0
comp=Z,9.9nm,0.7s
TROLL Troll, Antarti 76.09 181 ⇑P **P** **01 55 25.2 +1.4**
comp=Z,117nm,0.6s
SNAA Sanae 76.42 179 ⇑P **P** **01 55 27.2 +1.6**
comp=Z,45nm,0.4s
SNAA Sanae 76.42 179 P **P** **01 55 27.2 +1.6**
SNAA IAmb IAmb 01 55 28.0
comp=Z,5.7nm,1.3s
SNAA Sanae 76.42 179 P **P** **01 55 27.3 +1.8**
comp=Z,1.3nm,0.3s,baz=197,slow=3.1,SNR=21
comp=Z,1.3nm,0.3s
VNA3 Neumayer Olymp 76.64 177 ⇑P **P** **01 55 28.5 +1.8**
comp=Z,11nm,0.7s
VNA2 Neumayer--Watz 77.06 177 ⇑P **P** **01 55 31.0 +2.0**
comp=Z,5.3nm,0.4s,baz=180,slow=6.1
VNA1 Neumayer--Stat 77.30 177 ⇑P **P** **01 55 32.4 +2.1**
comp=Z,3.5nm,0.5s
PLCA Paso Flores 82.48 134 P **P** **01 56 02.3 +3.7**
PLCA IAmb IAmb 01 56 14.5
comp=Z,9.8nm,1.4s
BO02 Sierra Bellavi 85.85 129 P **P** **01 56 18.5 +3.0**
BO02 IAmb IAmb 01 56 26.6
comp=Z,9.3nm,1.1s
MT01 Popeta 86.09 128 P **P** **01 56 19.4 +2.8**
NVAR Mina Array Bea 90.64 44 P **P** **01 56 40.1 +2.3**
comp=Z,0.4nm,0.6s,baz=228,slow=7.4,SNR=6.1
comp=Z,0.4nm,0.6s
HHC Hu-ho-hao-te 96.30 315 *eP* **P** **01 57 06.3 +2.7**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.4s
MKAR Makanchi Array 117.66 310 PKP **PKPdf** **02 02 18.0 -0.8**
comp=Z,0.5nm,0.6s,baz=107,slow=1.5,SNR=2.5
KURBB Kurchatov Arra 121.12 313 PKP **PKPdf** **02 02 24.6 -0.7**
comp=Z,0.8nm,0.5s,baz=112,slow=2.0,SNR=8.1
KKAR Karatay Array 124.68 303 PKPdf **PKPdf** **02 02 31.9 -0.5**
ARTI Arti 133.50 319 PKPdf **PKPdf** **02 02 49.2 +0.5**
ARCES ARCESS Array B 139.95 346 PKPpre PKPpre 02 02 52.3
ARCES ARCESS Array B 139.95 346 PKhKP PKPpre 02 02 53.8
comp=Z,1.0nm,0.7s,baz=39,slow=2.2,SNR=7.1
ARCES PKP **PKPdf** **02 03 00.8 +0.6**
comp=Z,1.2nm,0.7s,baz=48,slow=1.8,SNR=4.9
KBZ Khabaz 144.69 302 PKP PKPbc 02 03 09.0 -0.3
comp=Z,2.6nm,0.9s,baz=142,slow=3.8,SNR=6.5
FINES FINESS Array B 146.21 338 PKPdf **PKPbc** **02 03 12.5 -0.7**
FINES FINESS Array B 146.21 338 PKPbc **PKPbc** **02 03 12.9 -0.3**
comp=Z,11nm,0.5s,baz=42,slow=4.1,SNR=112
NB2 NORSAR Subarra150.22 349 PKP **PKPbc** **02 03 23.5 -0.1**
comp=Z,2.0nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 150.22 349 PKPbc **PKPbc** **02 03 22.8 -0.8**
comp=Z,2.9nm,0.6s,baz=24,slow=3.6,SNR=18
NOA PKPab **PKPab** **02 03 30.7 -0.4**
comp=Z,2.4nm,0.7s,baz=24,slow=3.3,SNR=11
HFS Hagfors 150.61 346 PKPab **PKPab** **02 03 32.2 -0.5**
comp=Z,2.9nm,0.5s,baz=62,slow=3.4,SNR=10
PABE Paberze 151.28 331 PKPbc **PKPbc** **02 03 26.0 -0.1**
AKASG Malin Array Be 151.65 319 PKPbc **PKPbc** **02 03 26.8 -0.3**
comp=Z,1.4nm,0.4s,baz=49,slow=3.0,SNR=9.4
KIEV Kiev 151.66 319 PKPbc **PKPbc** **02 03 26.2 -0.9**
BRTR Keskin Array B 151.94 295 PKPbc **PKPbc** **02 03 27.6 -0.7**
comp=Z,0.6nm,0.6s,baz=140,slow=3.2,SNR=6.8
EKA Eskdalemuir Ar 156.73 5 PKPab **PKPab** **02 03 58.1 -0.8**
comp=Z,0.6nm,0.5s,baz=357,slow=2.3,SNR=4.8
CLL Collm 158.65 337 *i* PKPab **PKPab** **02 04 06.8 -0.5**
comp=Z,4.0nm,1.0s
TORD Torodi Ar. Bea 161.01 185 PKPab **PKPab** **02 04 20.9 +2.5**
comp=Z,0.3nm,0.9s,baz=188,slow=2.2,SNR=4.8

*AEIC **14** 01:48:48.4±0.7,56°.7N±0°.04×153°.0W±0°.2,h1km±8km, ML2.7,ML2.8/32(NEIC),Error ellipse: s-maj=12.3km s-min=6.4km az=88.0*

NEIC 14 01:48:44.9±0.6,56°.15N±0°.03×153°.1W±0°.1,h10km±2km, Error ellipse: s-maj=12.9km s-min=3.2km az=251.0, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.08**	**353**		Pg	01 49 05.7	0.0
OHAK					Sg	01 49 19.6	-0.2
OHAK				IAML		01 49 34.6	
comp=E,207nm,0.7s							
KDAK	**Kodiak Island**	**1.66**	**9**	Pn	Pn	01 49 14.0	-0.1
KDAK				IAML		01 49 34.1	
comp=E,97nm,0.4s							
CAHL	**Cahill**	**2.27**	**328**		Pn	01 49 22.2	-0.3
PLK3	**Peulik 3**	**2.34**	**313**		Pn	01 49 23.7	+0.3
PLK4	**Peulik 4**	**2.34**	**311**	Pn	Pn	01 49 23.8	+0.3
PLK4				IAML		01 50 12.4	
comp=N,91nm,1.5s							
KJL	**Kejulik**	**2.35**	**325**		Pn	01 49 23.6	0.0
ACHA	**Angle Creek He**	**2.41**	**330**	Pn	Pn	01 49 26.0	+1.5
KAKN	**Katmai Knife C**	**2.41**	**334**		Pn	01 49 24.5	0.0
KAKN					Pb	01 49 24.8	-3.7
PLK2	**Peulik 2**	**2.41**	**314**		Pn	01 49 24.8	+0.4
KAWH	**Katmai**	**2.43**	**338**		Pn	01 49 24.7	-0.1
ANCK	**Angle Creek**	**2.44**	**328**		Pn	01 49 24.8	-0.1
CNTC	**Contact Creek**	**2.62**	**325**		Pn	01 49 27.2	-0.2
ANNE	**Aniakchak Nort**	**2.87**	**288**		Pn	01 49 30.4	-0.4
VNHG	**Veniaminof 1**	**3.41**	**274**		Pn	01 49 38.6	+0.4
CNPM	**China Poot**	**3.52**	**15**	Pn	Pn	01 49 40.4	+0.7
CNPM				IAML		01 50 20.8	
comp=E,22nm,0.9s							
CNPM				IAML		01 50 36.9	
comp=N,17nm,1.3s							
BRLK	**Bradley Lake**	**3.81**	**17**	Pn	Pn	01 49 43.6	0.0
BRSE	**Bradley Lake S**	**3.81**	**18**		Pn	01 49 43.4	-0.2
ILSW	**Iliamna Southw**	**3.84**	**359**	Pn	Pn	01 49 44.7	+0.5
ILSW				IAML		01 50 57.2	
comp=E,14nm,1.1s							
ILSW				IAML		01 51 35.0	
comp=N,14nm,1.5s							
O16K	**Kokwok River B**	**4.37**	**324**	Pn	Pn	01 49 52.5	+1.2
SEW	**Seward**	**4.40**	**24**	Pn	Pn	01 49 51.6	-0.1
SEW				IAML		01 50 39.5	
comp=E,8.3nm,0.9s							
SEW				IAML		01 51 42.6	
comp=N,8.2nm,1.5s							
SLKM	**Skilak Lake**	**4.62**	**18**	Pn	Pn	01 49 54.7	-0.1
SLKM				IAML		01 50 55.2	
comp=N,16nm,1.4s							
O15K	**Ungalikthiuk R**	**4.73**	**313**	Pn	Pn	01 49 55.7	-0.6
O15K				IAML		01 50 54.1	
comp=E,13nm,1.4s							
O15K				IAML		01 52 05.7	
comp=N,9.7nm,1.4s							
N19K	**Bonanza Creek**	**4.74**	**352**	Pn	Pn	01 49 57.2	+0.7
N19K				IAML		01 51 34.5	
comp=E,5.7nm,1.2s							
N19K				IAML		01 51 45.1	
comp=N,5.8nm,1.4s							
N18K	**Kilae Creek**	**4.78**	**343**	Pn	Pn	01 49 57.2	+0.2
N18K				IAML		01 51 30.3	
comp=E,6.0nm,1.4s							
N17K	**Nushagak Hills**	**4.90**	**335**	Pn	Pn	01 49 59.9	+1.4
N17K				IAML		01 51 43.8	
comp=E,5.5nm,1.1s							
SPU	**Mount Spurr**	**5.07**	**6**	Pn	Pn	01 50 00.9	-0.2
RC01	**Rabbit Creek A**	**5.25**	**18**	Pn	Pn	01 50 03.0	-0.3
PWL	**Port Wells**	**5.33**	**26**	Pn	Pn	01 50 04.6	0.0
STLK	**Strandline Lak**	**5.40**	**6**	Pn	Pn	01 50 06.9	+1.3
N15K	**Kwethluk River**	**5.48**	**320**	Pn	Pn	01 50 06.6	0.0
HIN	**Hinchinbrook I**	**5.49**	**36**	Pn	Pn	01 50 07.3	+0.6
M18K	**Stony River**	**5.54**	**346**		Pn	01 50 06.5	-0.9
GLI	**Glacier Island**	**5.68**	**31**	Pn	Pn	01 50 10.0	+0.7
M17K	**Holitna River**	**5.74**	**338**	Pn	Pn	01 50 10.7	+0.7
FID	**Port Fidalgo**	**5.76**	**34**	Pn	Pn	01 50 09.1	-1.3
M16K	**Timber Creek**	**5.78**	**330**	Pn	Pn	01 50 10.3	-0.3
KNK	**Knik Glacier**	**5.79**	**22**	Pn	Pn	01 50 12.1	+1.2
M19K	**Big River Lodg**	**5.81**	**354**	Pn	Pn	01 50 10.6	-0.6
PMR	**Palmer**	**5.83**	**19**	Pn	Pn	01 50 14.0	+2.7
EYAK	**Cordova Ski Ar**	**5.85**	**38**	Pn	Pn	01 50 11.2	-0.4
SKT	**Skwentna**	**5.90**	**7**	Pn	Pn	01 50 13.6	+1.3
GHO	**Glory Hole Cre**	**6.03**	**19**	Pn	Pn	01 50 12.8	-1.4
L19K	**White Mountain**	**6.12**	**352**	Pn	Pn	01 50 15.4	0.0
RAGM	**Ragged Mountai**	**6.13**	**43**	Pn	Pn	01 50 15.2	-0.3
HMT	**Hamilton**	**6.26**	**44**	Pn	Pn	01 50 18.5	+1.2
L18K	**Granite Mounta**	**6.37**	**344**	Pn	Pn	01 50 19.4	+0.7
SCM	**Sheep Creek Mo**	**6.42**	**25**	Pn	Pn	01 50 19.6	+0.1
L16K	**Owhat River**	**6.49**	**332**	Pn	Pn	01 50 20.4	+0.1
KLU	**Klutina**	**6.51**	**32**	Pn	Pn	01 50 20.9	+0.1
PPLA	**Purkeypile**	**6.78**	**3**	Pn	Pn	01 50 27.8	+3.3
M24K	**Tolsona, Glenn**	**6.94**	**28**	Pn	Pn	01 50 29.2	+2.6
N25K	**Chitina, Valde**	**7.01**	**35**	Pn	Pn	01 50 27.3	-0.3
K17K	**Iditarod**	**7.11**	**340**	Pn	Pn	01 50 30.6	+1.8
MESA	**MESA**	**7.13**	**51**	Pn	Pn	01 50 33.2	+3.8
GLB	**Gilahina Butte**	**7.16**	**38**	Pn	Pn	01 50 29.6	+0.1
TRF	**Thorofare Moun**	**7.46**	**10**	Pn	Pn	01 50 34.3	+0.5
KTH	**Kantishna Hill**	**7.50**	**7**	Pn	Pn	01 50 35.4	+1.0
DHY	**Denali Highway**	**7.52**	**20**	Pn	Pn	01 50 34.8	+0.1

*DSN **14** 01:53:36.9±1.5,28°.19N×55°.84E,h10km,ML3.5/9,Error ellipse: s-maj=21.0km s-min=9.0km az=52.0*
*NEIC **14** 01:53:38.2±1.6,27°.95N±0°.07×55°.90E±0°.07,h10km±1km, mb4.3/14,Error ellipse: s-maj=12.5km s-min=10.8km az=199.0*
*THR **14** 01:53:39.3±0.0,28°.01N×56°.01E,h14km±308km,ML4.0*
*TEH **14** 01:53:39.7,27°.96N×56°.04E,h22km±26km*
*OMAN **14** 01:53:40.6±1.0,27°.91N×56°.02E,h10km,mb4.1/8, ml3.6/13,Error ellipse: s-maj=8.6km s-min=4.2km az=18.0*
*IDC **14** 01:53:43.5±2.6,27°.65N×56°.00E,h83km±32km,mb3.5/10, mbtmp3.8/13,MS3.0/2,Error ellipse: s-maj=21.4km s-min=17.5km az=29.0*

ISC 14 01:53:39.2±0.5,28°.00N±0°.04×56°.04E±0°.04,h16km,n130, σ1$81/144,mb4.0/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.61**	**169**	Pg	**Pg**	**01 53 50.9**	**-0.3**
GENO	**Geno**	**0.61**	**169**	Pg	**Pg**	**01 53 51.0**	**-0.2**
IBND	**Bandar-abas**	**0.70**	**141**	Pg	**Pg**	**01 53 53.1**	**+0.1**
KHNJ	**Kahnooj**	**1.47**	**92**	Pg	**Pn**	**01 54 05.6**	**+0.5**
LAR1	**LAR**	**1.51**	**258**	Pg	**Pn**	**01 54 07.1**	**+1.4**
NGRK	**Negar Kerman**	**1.75**	**20**	Pg	**Pn**	**01 54 10.4**	**+1.2**
SHME	**Shamm**	**1.94**	**177**	P	**Pn**	**01 54 12.7**	**+1.1**
SNR=12							
SHME				S	**Sn**	**01 54 36.9**	**+1.2**
SHME	**Shamm**	**1.94**	**177**	*eP*	**Pn**	**01 54 12.6**	**+1.1**
SNR=11							
SHME				S	**Sb**	**01 54 40.5**	**+2.2**
KRBR	**Kerman**	**2.07**	**17**	Pn	**Pn**	**01 54 15.6**	**+1.9**
KRBR	**Kerman**	**2.07**	**17**	*e*Pn	**Pn**	**01 54 16.0**	**+2.3**
KRBR				IAML		01 54 20.1	
comp=Z,840nm,1.0s							
BANOM	**Banah**	**2.08**	**174**	*eP*	**Pn**	**01 54 15.2**	**+1.7**
SNR=50							
JHRM	**Jahrom**	**2.23**	**284**	Pn	**Pn**	**01 54 17.1**	**+1.5**
CHMN	**Cheshme madani**	**2.27**	**35**	Pn	**Pn**	**01 54 18.3**	**+1.9**
KHGB	**Koh Gabri**	**2.40**	**9**	Pn	**Pn**	**01 54 20.1**	**+2.1**
KBAM	**BAM**	**2.40**	**61**	Pn	**Pn**	**01 54 19.9**	**+1.9**
MASF	**Masafi**	**2.62**	**178**	P	**Pn**	**01 54 23.3**	**+2.3**
SNR=18							
MSFE	**Esma-Masafi**	**2.63**	**178**	*eP*	**Pn**	**01 54 22.2**	**+1.2**
SNR=18							
LMD1	**Lamerd**	**2.64**	**256**	Pn	**Pn**	**01 54 22.5**	**+1.4**
LMD1	**Lamerd**	**2.64**	**256**	*e*Pn	**Pn**	**01 54 23.1**	**+2.0**
LMD1				IAML		01 55 26.4	
comp=Z,680nm,1.0s							
QIR1	**Qir**	**2.69**	**281**	Pn	**Pn**	**01 54 23.4**	**+1.5**
MDH	**Madha**	**2.70**	**175**	P	**Pn**	**01 54 24.3**	**+2.3**
MDH	**Madha**	**2.70**	**175**	P	**Pn**	**01 54 23.4**	**+1.4**
ZRDN	**Zarand Kerman**	**2.99**	**8**	Pn	**Pn**	**01 54 28.4**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.02**	**187**	P	**Pn**	**01 54 28.0**	**+1.6**
UOSS	**Minazif**	**3.04**	**177**	Pn	**Pn**	**01 54 26.6**	**-0.1**
UOSS	**Minazif**	**3.04**	**177**	P	**Pn**	**01 54 28.3**	**+1.6**
UOSS	**Minazif**	**3.04**	**177**	Pn	**Pn**	**01 54 27.7**	**+1.0**
UOSS	**Minazif**	**3.04**	**177**	*i* P	**Pn**	**01 54 28.0**	**+1.2**
SNR=14							
HATD	**Hatta, Dubai**	**3.16**	**179**	P	**Pn**	**01 54 30.5**	**+2.1**
HATD	**Hatta, Dubai**	**3.16**	**179**	P	**Pn**	**01 54 29.6**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.27**	**187**	P	**Pn**	**01 54 32.8**	**+3.0**
FAQ	**Al Faqa, Dubai**	**3.27**	**187**	P	**Pn**	**01 54 31.5**	**+1.7**
ASHO	**Ashiyiah**	**3.30**	**180**	P	**Pn**	**01 54 32.5**	**+2.2**
SNR=54							
ASHO				S	**Sn**	**01 55 12.2**	**+3.0**
ASHO	**Ashiyiah**	**3.30**	**180**	*i* P	**Pn**	**01 54 31.8**	**+1.5**
SNR=54							
ASUD	**Al Ashush, Dub**	**3.42**	**191**	P	**Pn**	**01 54 34.9**	**+3.0**
SNR=11							
ASUD	**Al Ashush, Dub**	**3.42**	**191**	*i* P	**Pn**	**01 54 33.7**	**+1.8**
SNR=10							
SHI	**Shiraz**	**3.50**	**299**	Pn	**Pn**	**01 54 34.5**	**+1.3**
IMEH	**Mehriz**	**3.60**	**340**	Pn	**Pn**	**01 54 37.0**	**+2.3**
IBAF	**Bafgh**	**3.60**	**354**	Pn	**Pn**	**01 54 36.7**	**+2.2**
SOHO	**SOHO**	**3.87**	**173**	P	**Pn**	**01 54 39.4**	**+1.2**
ALNE	**Al Ain**	**3.94**	**184**	P	**Pn**	**01 54 41.0**	**+2.0**
ALNE				S	**Sn**	**01 55 26.9**	**+2.1**
KAZ2	**Kazeron-Fars-I**	**4.17**	**294**	Pn	**Pn**	**01 54 43.4**	**+1.1**
DSBU	**Dashti - Bushe**	**4.24**	**276**	Pn	**Pn**	**01 54 44.7**	**+1.6**
ZHSF	**Zahedan**	**4.45**	**68**	Pn	**Pn**	**01 54 48.2**	**+2.0**
ZHSF	**Zahedan**	**4.45**	**68**	*e*Pn	**Pn**	**01 54 49.3**	**+3.1**
ZHSF				IAML		01 55 04.0	
comp=Z,66nm,1.0s							
ICHK	**Chekchek**	**4.46**	**342**	Pn	**Pn**	**01 54 48.5**	**+2.1**
HOQ	**Hoqain**	**4.54**	**165**	P	**Pn**	**01 54 47.1**	**-0.3**
SNR=7.7							
HOQ				S	**Sn**	**01 55 40.9**	**+1.0**
HOQ	**Hoqain**	**4.54**	**165**	Pn	**Pn**	**01 54 47.1**	**-0.3**
YZKH	**Yazd**	**4.55**	**344**	*e*Pn	**Pn**	**01 54 50.1**	**+2.5**
YZKH				IAML		01 54 51.5	
comp=Z,73nm,1.0s							
CHBR	**Chabahar**	**4.63**	**120**	Pn	**Pn**	**01 54 49.8**	**+1.2**
ARQ	**Araqi**	**4.66**	**175**	P	**Pn**	**01 54 51.3**	**+2.3**
ARQ				S	**Sn**	**01 55 45.4**	**+2.5**
BSRN	**Basiran**	**4.77**	**33**	Pn	**Pn**	**01 54 52.9**	**+2.3**
BSRN	**Basiran**	**4.77**	**33**	*e*Pn	**Pn**	**01 54 52.9**	**+2.3**
BSRN				IAML		01 56 14.5	
comp=Z,83nm,1.0s							
NHDN	**Nehbandan**	**4.86**	**45**	Pn	**Pn**	**01 54 53.7**	**+2.0**
KLNJ	**Kolanjah**	**4.90**	**309**	Pn	**Pn**	**01 54 54.1**	**+1.5**
KLNJ	**Kolanjah**	**4.90**	**309**	*i* P	**Pn**	**01 54 54.0**	**+1.4**
KLNJ				IAML		01 56 31.6	
comp=Z,82nm,1.0s							
IRAM	**Ramesheh**	**4.95**	**321**	Pn	**Pn**	**01 54 55.0**	**+1.8**
SHMA	**Al-Shehemyia**	**5.01**	**246**	P	**Pn**	**01 54 55.0**	**+1.3**
SNR=57							
SHMA				S	**Sn**	**01 55 52.8**	**+1.4**
TPRV	**Parvadeh(Tabas**	**5.04**	**6**	Pn	**Pn**	**01 54 56.1**	**+1.8**
IKOO	**Kooshah**	**5.10**	**29**	Pn	**Pn**	**01 54 57.3**	**+2.0**
SMDO	**Samad**	**5.24**	**159**	P	**Pn**	**01 54 58.8**	**+1.7**
SMDO				S	**Sn**	**01 55 58.6**	**+1.3**
NGCH	**Negor - Chabah**	**5.26**	**119**	Pn	**Pn**	**01 54 58.3**	**+1.1**
WSAR	**Wadi Sarin**	**5.28**	**153**	P	**Pn**	**01 54 56.9**	**-0.7**
comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=26							
WSAR				S	**Sn**	**01 55 52.7**	**-5.4**
comp=Z,0.1nm,0.3s,baz=330,slow=24,SNR=12							
WSAR	**Wadi Sarin**	**5.28**	**153**	P	**Pn**	**01 54 58.0**	**+0.4**
WSAR				S	**Sn**	**01 55 59.0**	**+0.8**
TRNA	**Turayna**	**5.42**	**234**	P	**Pn**	**01 55 00.8**	**+1.5**
SNR=9.8							
TRNA				S	**Sn**	**01 56 02.2**	**+0.9**
NASN	**Na'in**	**5.54**	**331**	*e*Pn	**Pn**	**01 55 03.1**	**+1.8**
NASN				IAML		01 55 06.8	
comp=Z,27nm,1.0s							
ANAR	**Anarak**	**5.54**	**339**	Pn	**Pn**	**01 55 03.2**	**+2.0**
IGAR	**Gharneh**	**5.59**	**323**	Pn	**Pn**	**01 55 03.5**	**+1.6**
SRVN	**Saravan**	**5.67**	**95**	Pn	**Pn**	**01 55 04.6**	**+1.7**
SRVN	**Saravan**	**5.67**	**95**	*i* P	**Pn**	**01 55 05.6**	**+2.7**
SRVN				IAML		01 57 01.9	
comp=Z,37nm,1.0s							
TKDS	**Koohdasht(Taba**	**5.67**	**9**	Pn	**Pn**	**01 55 05.2**	**+2.2**
IBRJ	**Brojen**	**5.69**	**314**	Pn	**Pn**	**01 55 05.6**	**+2.2**
SMRA	**Abu-Samra**	**5.69**	**236**	P	**Pn**	**01 55 05.0**	**+1.9**
SNR=14							
SMRA				S	**Sn**	**01 56 09.8**	**+1.7**
TABS	**Tabas**	**5.71**	**9**	*i* P	**Pn**	**01 55 06.2**	**+2.8**
TABS				IAML		01 56 59.2	
comp=Z,72nm,1.0s							
JMDO	**Jabal Madar**	**5.91**	**161**	P	**Pn**	**01 55 07.5**	**+1.4**
SNR=9.8							
JMDO				S	**Sn**	**01 56 15.1**	**+1.6**
TNSJ	**Nastanj**	**5.96**	**5**	Pn	**Pn**	**01 55 09.2**	**+2.2**
ZNGN	**Zangian**	**6.09**	**314**	Pn	**Pn**	**01 55 10.6**	**+1.8**
JHBN	**Jahan bin**	**6.28**	**313**	Pn	**Pn**	**01 55 13.0**	**+1.5**
IPIR	**Pirpir**	**6.45**	**318**	Pn	**Pn**	**01 55 15.1**	**+1.3**
JLN	**Jalan Bani Buh**	**6.58**	**152**	P	**Pn**	**01 55 15.5**	**+0.2**
JLN				S	**Sn**	**01 56 31.6**	**+1.7**
SHRT	**Shahrakht**	**6.71**	**32**	Pn	**Pn**	**01 55 19.1**	**+1.9**
SHRT	**Shahrakht**	**6.71**	**32**	*e*Pn	**Pn**	**01 55 20.4**	**+3.2**
SHRT				IAML		01 57 32.6	
comp=Z,27nm,1.0s							
QAMS	**Qamsar**	**6.97**	**326**	Pn	**Pn**	**01 55 22.1**	**+1.2**
ISFB	**Sefidab**	**7.12**	**334**	Pn	**Pn**	**01 55 24.8**	**+2.0**
MHTO	**MHTO**	**7.20**	**165**	P	**Pn**	**01 55 25.1**	**+1.2**
MHTO				S	**Sn**	**01 56 45.4**	**+0.1**
SNR=8.2							
KHMZ	**Khomeyn**	**7.75**	**319**	*i* P	**Pn**	**01 55 32.6**	**+1.0**
KHMZ				IAML		01 57 05.3	
comp=Z,27nm,1.0s							
SHRO	**Shahrood**	**7.97**	**360**	*i* P	**Pn**	**01 55 36.3**	**+1.8**
SHRO				IAML		01 55 59.5	
comp=Z,10.0nm,1.0s							
IFIR	**Firoozkooh**	**8.12**	**341**	Pn	**Pn**	**01 55 38.9**	**+2.3**
HRA	**Herat**	**8.29**	**38**	Pn	**Pn**	**01 55 40.6**	**+1.6**
ASAO	**Ashtian**	**8.31**	**323**	*i* P	**Pn**	**01 55 40.6**	**+1.3**
ASAO				IAML		01 55 43.2	
comp=Z,9.3nm,0.5s							
DOK	**Doka**	**9.50**	**191**	P	**Pn**	**01 55 55.8**	**+0.3**
SNR=9.6							
SHAO	**Shalim**	**9.94**	**182**	P	**Pn**	**01 56 00.7**	**-0.7**
SNR=35							
SHAO	**Shalim**	**9.94**	**182**	*i* P	**Pn**	**01 56 00.7**	**-0.7**
SNR=35							
WHFO	**Wadi Hawf**	**10.25**	**192**	P	**Pn**	**01 56 05.0**	**-0.7**
SNR=58							
DMTO	**DMTO**	**10.29**	**186**	P	**Pn**	**01 56 05.1**	**-1.1**
SNR=15							
RAYN	**Ar Rayn**	**10.49**	**247**	Pn	**Pn**	**01 56 06.4**	**-2.7**
RAYN	**Ar Rayn**	**10.49**	**247**	*i* P	**Pn**	**01 56 05.8**	**-3.2**
SNR=18							
RBK	**Rabkut**	**10.58**	**190**	P	**Pn**	**01 56 09.5**	**-0.9**
ABTO	**Aybut**	**10.89**	**194**	P	**Pn**	**01 56 14.0**	**-0.6**
SNR=32							
GNI	**Garni**	**15.30**	**325**	P	**Pn**	**01 57 17.9**	**+3.3**
comp=Z,1.4nm,0.5s,baz=84,slow=14,SNR=2.3							
MARD	**Mardin**	**15.84**	**310**		**Pn**	**01 57 18.6**	**-3.1**
MARD				IAmb	IAmb	01 57 37.1	
comp=Z,11nm,0.6s							
ASF	**Jabal al Asfar**	**17.08**	**289**	P	**Pn**	**01 57 37.3**	**-0.1**
comp=Z,1.3nm,0.5s,baz=54,slow=21,SNR=1.5							
MMAI	**Mount Meron Ar**	**18.47**	**291**	P	**P**	**01 57 54.5**	**+0.1**
comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=1.4							
MMAI				LR	LR	02 06 59.4	
comp=Z,38nm,18.3s,baz=94,slow=43							
EIL	**Elat**	**18.55**	**280**	LR	LR	02 06 47.0	
comp=Z,49nm,18.4s,baz=158,slow=42							
AB31	**Akbulak array**	**21.44**	**7**	P	**P**	**01 58 27.3**	**+0.8**
ABKAR	**Akbulak array**	**21.44**	**7**	P	**P**	**01 58 27.9**	**+1.4**
BRTR	**Keskin Array B**	**21.91**	**308**	P	**P**	**01 58 32.1**	**+0.2**
comp=Z,3.2nm,0.8s,baz=131,slow=13,SNR=22							
comp=Z,3.2nm,0.8s							
BORA	**Eskisehir**	**24.23**	**306**	P	**P**	**01 58 55.3**	**-0.1**
BORA				IAmb	IAmb	01 59 06.1	
comp=Z,7.2nm,1.4s							
MKAR	**Makanchi Array**	**27.84**	**41**	P	**P**	**01 59 28.0**	**+0.1**
comp=Z,0.3nm,0.3s,baz=223,slow=8.4,SNR=2.7							
comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**28.31**	**31**	P	**P**	**01 59 32.2**	**+0.3**
comp=Z,0.1nm,0.3s,baz=230,slow=7.2,SNR=2.2							
comp=Z,0.1nm,0.3s							
ITM	**Ithomi**	**30.04**	**296**	P	**P**	**01 59 46.4**	**-1.1**
AKASG	**Malin Array Be**	**30.43**	**325**	P	**P**	**01 59 49.4**	**-1.3**
comp=Z,0.9nm,0.6s,baz=131,slow=8.6,SNR=5.4							
comp=Z,0.9nm,0.6s							
AKBB	**Malin Array Si**	**30.43**	**325**	P	**P**	**01 59 49.8**	**-0.9**
AKBB				IAmb	IAmb	02 00 22.1	
comp=Z,3.6nm,1.1s							
ZALV	**Zalesovo Beam**	**33.40**	**31**		**P**	**02 00 15.9**	**-1.0**
ZALV	**Zalesovo Beam**	**33.40**	**31**	P	**P**	**02 00 16.2**	**-0.6**
comp=Z,1.2nm,0.4s,baz=248,slow=9.5,SNR=5.4							
comp=Z,1.2nm,0.4s							
CUC	**Castrocucco**	**35.15**	**300**	P	**P**	**02 00 32.3**	**0.0**
CUC				IAmb	IAmb	02 00 57.5	
comp=Z,3.5nm,0.9s							
NRCA	**Norcia**	**37.57**	**305**	P	**P**	**02 00 51.8**	**-1.1**
NRCA				IAmb	IAmb	02 01 09.0	
comp=Z,4.2nm,1.4s							
FIA1	**FINESS Array S**	**38.95**	**338**	P	**P**	**02 01 03.6**	**-0.5**
FINES	**FINESS Array B**	**38.95**	**338**	P	**P**	**02 01 03.5**	**-0.7**
FINES	**FINESS Array B**	**38.95**	**338**	P	**P**	**02 01 03.8**	**-0.4**
comp=Z,1.4nm,0.5

*WEL **14** 02:19:18.2±0.5, 40°S±3°×17°5E±°, h57km±5km, M4.0/26, ML4.3/26, MLv4.0/26, Error ellipse: s-maj=3.6km s-min=3.6km az=41.6, confirmed*
*IDC **14** 02:19:19.2±1.8, 39°36S×175°43E, h112km±19km, mb3.6/5, mbtmp4.0/5, Error ellipse: s-maj=23.0km s-min=20.4km az=22.0*
ISC 14 02:19:16.7±0.7, 39°63S±0°03×175°31E±0°03, h86km±4km, n198, σ1°17/227, mb4.1/7, 4C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCS	**Ohakune Ruapeh**	**0.23**	**21**	P	**Pn**	**02 19 28.8**	**-0.6**
ORCS				S	**Sn**	02 19 37.1	-1.6
MTVZ	**Mangateitei**	**0.28**	**27**	P	**Pn**	**02 19 29.1**	**-0.5**
MTVZ				S	**Sn**	02 19 37.9	-1.3
WAZ	**Wanganui**	**0.28**	**243**	P	**Pn**	**02 19 29.7**	**+0.1**
WAZ				S	**Sn**	02 19 38.8	-0.3
PKVZ	**Pokaka**	**0.34**	**5**	P	**Pn**	**02 19 29.5**	**-0.5**
PKVZ				S	**Sn**	02 19 38.4	-1.4
WCDS	**Wanganui Civil**	**0.36**	**213**	P	**Pn**	**02 19 30.4**	**+0.4**
WNVZ	**Wahianoa**	**0.38**	**37**	P	**Pn**	**02 19 29.8**	**-0.5**
WNVZ				S	**Sn**	02 19 38.8	-1.6
THHS	**Taihape Hospit**	**0.38**	**98**	P	**Pn**	**02 19 29.8**	**-0.4**
TRVZ	**Turoa**	**0.38**	**29**	P	**Pn**	**02 19 29.9**	**-0.6**
TRVZ				S	**Sn**	02 19 38.6	-2.0
MOVZ	**Moawhango**	**0.41**	**57**	P	**Pn**	**02 19 29.6**	**-0.8**
MOVZ				S	**Sn**	02 19 38.3	-2.3
WHVZ	**Whangaehu Hut**	**0.41**	**32**	P	**Pn**	**02 19 30.0**	**-0.6**
WHVZ				S	**Sn**	02 19 39.1	-1.8
MAVZ	**Matarangi**	**0.41**	**29**	P	**Pn**	**02 19 30.0**	**-0.7**
MAVZ				S	**Sn**	02 19 39.0	-2.1
MNGS	**Mangaweka Scho**	**0.41**	**115**	P	**Pn**	**02 19 30.2**	**-0.1**
FWVZ	**Far West T-bar**	**0.42**	**27**	P	**Pn**	**02 19 30.1**	**-0.6**
FWVZ				S	**Sn**	02 19 39.0	-2.0
TUVZ	**Tukino**	**0.45**	**37**	P	**Pn**	**02 19 30.4**	**-0.4**
TUVZ				S	**Sn**	02 19 39.9	-1.4
COVZ	**Chateau Observ**	**0.47**	**23**	P	**Pn**	**02 19 30.3**	**-0.6**
NGZ	**Ngauruhoe**	**0.51**	**27**	P	**Pn**	**02 19 30.7**	**-0.6**
SNVZ	**South Ngauruho**	**0.51**	**30**	P	**Pn**	**02 19 31.0**	**-0.3**
OTVZ	**Oturere**	**0.54**	**31**	P	**Pn**	**02 19 31.3**	**-0.3**
NNVZ	**North Ngauruho**	**0.55**	**26**	P	**Pn**	**02 19 31.2**	**-0.5**
WTVZ	**West Tongariro**	**0.56**	**23**	P	**Pn**	**02 19 31.1**	**-0.6**
TWVZ	**Taurewa**	**0.57**	**10**	P	**Pn**	**02 19 31.0**	**-0.7**
OHWZ	**Ohakea**	**0.57**	**179**	P	**Pn**	**02 19 32.6**	**+1.0**
ETVZ	**East Tongariro**	**0.58**	**32**	P	**Pn**	**02 19 31.6**	**-0.4**
KRVZ	**Karewarewa**	**0.59**	**26**	P	**Pn**	**02 19 31.4**	**-0.6**
TMVZ	**Te Maari**	**0.60**	**31**	P	**Pn**	**02 19 31.7**	**-0.3**
NTVZ	**North Tongarir**	**0.60**	**28**	P	**Pn**	**02 19 31.8**	**-0.3**
FAHS	**Feilding Agric**	**0.62**	**161**	P	**Pn**	**02 19 33.8**	**+1.0**
TSZ	**Takapari Road**	**0.66**	**131**	P	**Pn**	**02 19 32.6**	**+0.1**
VRZ	**Vera Road**	**0.66**	**320**	P	**Pn**	**02 19 32.2**	**-0.2**
LREZ	**Lake Rotokare**	**0.72**	**283**	P	**Pn**	**02 19 33.2**	**+0.2**
KATZ	**Kakaramea**	**0.72**	**25**	P	**Pn**	**02 19 32.7**	**-0.5**
PNHZ	**Pukenui**	**0.74**	**113**	P	**Pn**	**02 19 33.2**	**-0.1**
RITZ	**Rihia Road**	**0.78**	**33**	P	**Pn**	**02 19 33.6**	**-0.2**
KRHZ	**Kereru**	**0.82**	**91**	P	**Pn**	**02 19 34.1**	**0.0**
POWZ	**Post Office Ro**	**0.84**	**155**	P	**Pn**	**02 19 34.2**	**-0.1**
RATZ	**Rangitukua**	**0.84**	**25**	P	**Pn**	**02 19 34.4**	**0.0**
KWHZ	**Kaweka Forest**	**0.89**	**77**	P	**Pn**	**02 19 35.3**	**+0.4**
PREZ	**Palmer Road**	**0.93**	**288**	P	**Pn**	**02 19 36.2**	**+0.8**
PREZ				S	**Sn**	02 19 50.5	+1.2
DVHZ	**Dannevirke**	**0.94**	**136**	P	**Pn**	**02 19 35.6**	**+0.1**
DVHZ				S	**Sn**	02 19 52.1	+2.7
MHEZ	**Mangahewa**	**0.94**	**306**	P	**Pn**	**02 19 36.1**	**+0.7**
MHEZ				S	**Sn**	02 19 50.3	+0.8
HATZ	**Hinemaiaia**	**0.96**	**40**	P	**Pn**	**02 19 35.2**	**-0.6**
HATZ				S	**Sn**	02 19 48.0	-1.8
DREZ	**Durham Road**	**0.96**	**297**	P	**Pn**	**02 19 36.2**	**+0.5**
WPHZ	**Waipukurau**	**0.97**	**117**	P	**Pn**	**02 19 35.8**	**-0.1**
WPHZ				S	**Sn**	02 19 53.9	+3.8
WATZ	**Wairara**	**0.98**	**20**	P	**Pn**	**02 19 35.7**	**-0.2**
WATZ				S	**Sn**	02 19 49.6	-0.6
NEZ	**North Egmont**	**1.00**	**291**	P	**Pn**	**02 19 36.9**	**+0.7**
NEZ				S	**Sn**	02 19 52.2	+1.3
BKZ	**Black Stump Fm**	**1.03**	**64**	P	**Pn**	**02 19 36.3**	**-0.2**
BKZ	**Black Stump Fm**	**1.03**	**64**	S	**Sn**	**02 19 50.8**	**-0.5**
BKZ	**Black Stump Fm**	**1.03**	**64**	P	**Pn**	**02 19 36.3**	**-0.2**
BKZ				S	**Sn**	02 19 50.4	-1.0
MRZ	**Mangatainoka R**	**1.05**	**169**	P	**Pn**	**02 19 36.8**	**+0.1**
MRZ				S	**Sn**	02 19 50.8	-0.8
PRWZ	**Pori Road**	**1.05**	**151**	P	**Pn**	**02 19 37.0**	**+0.3**
PRWZ				S	**Sn**	02 19 51.4	-0.4
KHEZ	**Kahui Hut**	**1.06**	**288**	P	**Pn**	**02 19 37.5**	**+0.7**
KHEZ	**Kahui Hut**	**1.06**	**288**	S	**Sn**	**02 19 53.3**	**+1.4**
KHEZ	**Kahui Hut**	**1.06**	**288**	P	**Pn**	**02 19 37.3**	**+0.5**
KHEZ				S	**Sn**	02 19 53.6	+1.7
WHTZ	**Whakaora**	**1.09**	**28**	P	**Pn**	**02 19 37.6**	**+0.4**
MCHZ	**McNeill Hill**	**1.09**	**81**	P	**Pn**	**02 19 37.8**	**+0.6**
MCHZ				S	**Sn**	02 19 57.9	+5.4
PKE	**Pukeiti**	**1.11**	**293**	P	**Pn**	**02 19 37.9**	**+0.5**
PKE				S	**Sn**	02 19 53.6	+0.5
NMEZ	**Namu Road**	**1.13**	**281**	P	**Pn**	**02 19 38.1**	**+0.5**
HIZ	**Hauiti**	**1.17**	**342**	P	**Pn**	**02 19 38.0**	**-0.1**
HIZ	**Hauiti**	**1.17**	**342**	P	**Sn**	**02 19 53.8**	**-0.4**
HIZ	**Hauiti**	**1.17**	**342**	P	**Pn**	**02 19 38.0**	**-0.1**
HIZ				S	**Sn**	02 19 53.8	-0.4
NBEZ	**Newall Road No**	**1.17**	**288**	P	**Pn**	**02 19 38.4**	**+0.3**
MRHZ	**Matea Rd**	**1.17**	**48**	P	**Pn**	**02 19 37.6**	**-0.6**
MRHZ				S	**Sn**	02 19 53.6	-0.8
OGWZ	**Otaki Gorge**	**1.19**	**185**	P	**Pn**	**02 19 38.9**	**+0.5**
PRHZ	**Porangahau**	**1.20**	**122**	P	**Pn**	**02 19 38.3**	**-0.2**
KAUZ	**Kaahu Road**	**1.21**	**28**	P	**Pn**	**02 19 38.6**	**-0.1**
ANWZ	**Angora Road**	**1.22**	**133**	P	**Pn**	**02 19 39.3**	**+0.5**
KAHZ	**Kahuranaki**	**1.22**	**98**	P	**Pn**	**02 19 38.5**	**-0.3**
TIWZ	**Tintock**	**1.23**	**159**	P	**Pn**	**02 19 39.1**	**+0.2**
PXZ	**Pawanui**	**1.26**	**109**	P	**Pn**	**02 19 39.1**	**-0.2**
KIW	**Kapiti Island**	**1.27**	**194**	P	**Pn**	**02 19 39.6**	**+0.2**
BFZ	**Birch Farm**	**1.27**	**146**	P	**Pn**	**02 19 36.6**	**-2.8**
BFZ	**Birch Farm**	**1.27**	**146**	S	**Sn**	**02 19 54.8**	**-1.7**
HOWZ	**Holdsworth Sta**	**1.27**	**173**	P	**Pn**	**02 19 39.4**	**0.0**
NMHZ	**Naumai**	**1.28**	**66**	P	**Pn**	**02 19 40.3**	**+0.7**
WPRZ	**Whakapapatarin**	**1.29**	**31**	P	**Pn**	**02 19 39.5**	**-0.2**
TLZ	**Tolley Road**	**1.31**	**8**	P	**Pn**	**02 19 39.6**	**-0.4**
ALRZ	**Allen Road**	**1.34**	**37**	P	**Pn**	**02 19 40.0**	**-0.2**
ARHZ	**Aropaoanui**	**1.36**	**75**	P	**Pn**	**02 19 40.7**	**+0.2**
CKHZ	**Cape Kidnapper**	**1.37**	**92**	P	**Pn**	**02 19 40.3**	**-0.2**
PRRZ	**Plateau Road**	**1.41**	**37**	P	**Pn**	**02 19 41.0**	**-0.2**
MTHZ	**Maungataniwha**	**1.42**	**57**	P	**Pn**	**02 19 41.1**	**-0.3**
GRRZ	**Galatos Road**	**1.42**	**26**	P	**Pn**	**02 19 39.9**	**-1.4**
CPNZ	**Castlepoint**	**1.45**	**152**	P	**Pn**	**02 19 42.9**	**+1.3**
HRRZ	**Handcock Road**	**1.45**	**32**	P	**Pn**	**02 19 42.0**	**+0.3**
CAW	**Cannon Point**	**1.49**	**187**	P	**Pn**	**02 19 42.2**	**+0.1**
HSRZ	**Hossack Road**	**1.51**	**29**	P	**Pn**	**02 19 42.5**	**+0.2**
MTW	**Mount Morrison**	**1.53**	**174**	P	**Pn**	**02 19 42.5**	**-0.2**
TMWZ	**Te Maipa**	**1.54**	**163**	P	**Pn**	**02 19 42.7**	**-0.1**
RAHZ	**Arahi**	**1.55**	**63**	P	**Pn**	**02 19 43.2**	**+0.2**
DUWZ	**D'Urville Isla**	**1.58**	**222**	P	**Pn**	**02 19 43.3**	**0.0**
WHHZ	**Waihua**	**1.59**	**70**	P	**Pn**	**02 19 43.6**	**+0.1**
RRRZ	**Republican Roa**	**1.60**	**36**	P	**Pn**	**02 19 43.4**	**-0.1**
HLRZ	**Highlands Stat**	**1.60**	**31**	P	**Pn**	**02 19 44.4**	**+0.8**
UTU	**Utuhina**	**1.61**	**26**	P	**Pn**	**02 19 44.0**	**+0.3**
MUGZ	**Murupara**	**1.62**	**45**	P	**Pn**	**02 19 43.2**	**-0.6**
RTZ	**Ruatahuna**	**1.65**	**53**	P	**Pn**	**02 19 43.8**	**-0.5**
NGRZ	**Ngongotaha**	**1.68**	**25**	P	**Pn**	**02 19 44.8**	**+0.2**
TARZ	**Mount Tarawera**	**1.68**	**34**	P	**Pn**	**02 19 45.0**	**+0.3**
WEL	**Wellington**	**1.70**	**194**	P	**Pn**	**02 19 44.7**	**-0.2**
OMRZ	**Omania**	**1.73**	**29**	P	**Pn**	**02 19 45.3**	**+0.1**
SNZO	**South Karori**	**1.74**	**195**	P	**Pn**	**02 19 44.8**	**-0.5**
MKRZ	**Makatiti**	**1.74**	**32**	P	**Pn**	**02 19 46.2**	**+0.7**
PAWZ	**Paruwai Farm**	**1.75**	**177**	P	**Pn**	**02 19 45.0**	**-0.5**
TCW	**Tory Channel**	**1.76**	**206**	P	**Pn**	**02 19 45.5**	**-0.1**
KARZ	**Kaharoa**	**1.77**	**25**	P	**Pn**	**02 19 45.9**	**+0.2**
MSWZ	**Moikau Station**	**1.78**	**181**	P	**Pn**	**02 19 45.5**	**-0.4**
TRWZ	**Traveller**	**1.79**	**171**	P	**Pn**	**02 19 46.2**	**+0.2**
SNGZ	**Shannon Statio**	**1.79**	**62**	P	**Pn**	**02 19 45.9**	**-0.2**
BHW	**Baring Head**	**1.81**	**190**	P	**Pn**	**02 19 45.8**	**-0.4**
EDRZ	**Edgecumbe**	**1.89**	**37**	P	**Pn**	**02 19 47.1**	**-0.2**
TOZ	**Tahuroa Road**	**1.90**	**5**	P	**Pn**	**02 19 47.2**	**-0.3**
KNZ	**Kokohu**	**1.93**	**72**	P	**Pn**	**02 19 47.2**	**-0.6**
PLWZ	**Palliser**	**1.94**	**181**	P	**Pn**	**02 19 47.3**	**-0.6**
MARZ	**Manawahe**	**1.96**	**33**	P	**Pn**	**02 19 48.2**	**-0.1**
URZ	**Urewera**	**1.96**	**46**	P	**Pn**	**02 19 47.3**	**-0.9**
	606nm,0.3s,baz=238,slow=4.1,SNR=330						
URZ				S	**Sn**	**02 20 11.5**	**-0.7**
	652nm,0.4s,baz=352,slow=21,SNR=24						
URZ	**Urewera**	**1.96**	**46**	P	**Pn**	**02 19 47.4**	**-0.9**
URZ	**Urewera**	**1.96**	**46**	S	**Sn**	**02 20 11.6**	**-0.7**
URZ	**Urewera**	**1.96**	**46**	P	**Pn**	**02 19 47.4**	**-0.9**
RAGZ	**Rawiri**	**2.00**	**56**	P	**Pn**	**02 19 48.5**	**-0.3**
OPRZ	**Ohinepanea**	**2.03**	**29**	P	**Pn**	**02 19 49.3**	**+0.1**
TGRZ	**Tauranga**	**2.04**	**22**	P	**Pn**	**02 19 49.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.07**	**77**	P	**Pn**	**02 19 49.2**	**-0.5**
TUWZ	**Tuamarina**	**2.08**	**210**	P	**Pn**	**02 19 50.2**	**+0.5**
RIGZ	**Rimuhau**	**2.12**	**65**	P	**Pn**	**02 19 49.9**	**-0.5**
PRGZ	**Paritu Road**	**2.12**	**71**	P	**Pn**	**02 19 49.8**	**-0.6**
MWZ	**Matawai**	**2.16**	**54**	P	**Pn**	**02 19 50.0**	**-1.0**
NNZ	**Nelson**	**2.16**	**222**	P	**Pn**	**02 19 50.4**	**-0.5**
WHRZ	**Whale Island**	**2.20**	**37**	P	**Pn**	**02 19 53.1**	**+1.6**
CMWZ	**Cape Campbell**	**2.27**	**201**	P	**Pn**	**02 19 52.5**	**+0.1**
TKNZ	**Takaka Hill**	**2.28**	**231**	P	**Pn**	**02 19 52.0**	**-0.5**
TKGZ	**Te Karaka**	**2.31**	**60**	P	**Pn**	**02 19 52.1**	**-0.7**
BSWZ	**Blackbirch Sta**	**2.35**	**207**	P	**Pn**	**02 19 52.8**	**-0.6**
QRZ	**Quartz Range**	**2.44**	**240**	P	**Pn**	**02 19 53.8**	**-0.8**
QRZ	**Quartz Range**	**2.44**	**240**	S	**Sn**	**02 20 23.0**	**-0.6**
QRZ	**Quartz Range**	**2.44**	**240**	P	**Pn**	**02 19 54.0**	**-0.6**
RUGZ	**Raukumara Rang**	**2.49**	**49**	P	**Pn**	**02 19 53.8**	**-1.6**
MKAZ	**Moumakai**	**2.53**	**357**	P	**Pn**	**02 19 55.6**	**-0.1**
CNGZ	**Carnagh Statio**	**2.53**	**64**	P	**Pn**	**02 19 55.0**	**-0.8**
TWGZ	**Tauwhareparae**	**2.54**	**56**	P	**Pn**	**02 19 55.7**	**-0.4**
AWAZ	**Awhitu Peninsu**	**2.62**	**348**	P	**Pn**	**02 19 57.6**	**+0.6**
MRNZ	**Matariki Terra**	**2.63**	**227**	P	**Pn**	**02 19 56.6**	**-0.5**
ETAZ	**East Tamaki Re**	**2.69**	**354**	P	**Pn**	**02 19 58.1**	**+0.1**
HAZ	**Te Kaha**	**2.69**	**47**	P	**Pn**	**02 19 56.0**	**-2.0**
WTAZ	**Waiatarua**	**2.75**	**348**	P	**Pn**	**02 19 59.7**	**+0.9**
PUZ	**Puketiti**	**2.78**	**57**	P	**Pn**	**02 19 57.8**	**-1.4**
EPAZ	**Eden Park BICE**	**2.79**	**351**	P	**Pn**	**02 19 59.0**	**-0.2**
PKGZ	**Pakihiroa**	**2.79**	**52**	P	**Pn**	**02 19 58.1**	**-1.3**
THZ	**Tophouse**	**2.81**	**220**	P	**Pn**	**02 19 58.9**	**-0.7**
HBAZ	**Herne Bay Bore**	**2.81**	**351**	P	**Pn**	**02 20 00.0**	**+0.4**
WIAZ	**Waiheke Island**	**2.84**	**357**	P	**Pn**	**02 20 00.1**	**+0.2**
MBAZ	**Motutapu North**	**2.88**	**353**	P	**Pn**	**02 20 00.5**	**0.0**
KUZ	**Kuaotunu**	**2.90**	**7**	P	**Pn**	**02 20 00.3**	**-0.5**
KUZ	**Kuaotunu**	**2.90**	**7**	S	**Sn**	**02 20 33.7**	**-1.0**
KUZ	**Kuaotunu**	**2.90**	**7**	P	**Pn**	**02 20 00.3**	**-0.5**
RVAZ	**Riverhead Bore**	**2.91**	**348**	P	**Pn**	**02 20 01.7**	**+0.7**
WMGZ	**Waiomatatini S**	**3.03**	**54**	P	**Pn**	**02 20 01.1**	**-1.5**
KHZ	**Kahutara**	**3.09**	**205**	P	**Pn**	**02 20 01.9**	**-1.4**
KHZ	**Kahutara**	**3.09**	**205**	S	**Sn**	**02 20 38.3**	**-0.9**
KHZ	**Kahutara**	**3.09**	**205**	P	**Pn**	**02 20 02.2**	**-1.1**
MXZ	**Matakaoa Point**	**3.13**	**50**	P	**Pn**	**02 20 02.8**	**-1.1**
MXZ	**Matakaoa Point**	**3.13**	**50**	S	**Sn**	**02 20 40.1**	**-0.1**
MXZ	**Matakaoa Point**	**3.13**	**50**	P	**Pn**	**02 20 02.7**	**-1.2**
DSZ	**Denniston Nort**	**3.40**	**230**	P	**Pn**	**02 20 06.2**	**-1.4**
GVZ	**Greta Valley S**	**3.75**	**206**	P	**Pn**	**02 20 10.4**	**-1.9**
WCZ	**Waipu Caves**	**3.76**	**348**	P	**Pn**	**02 20 13.2**	**+0.7**
LTZ	**Lake Taylor**	**3.89**	**215**	P	**Pn**	**02 20 12.2**	**-2.1**
AMCZ	**Amberley**	**4.07**	**209**	P	**Pn**	**02 20 14.4**	**-2.1**
OUZ	**Omahuta**	**4.61**	**342**	P	**Pn**	**02 20 24.4**	**+0.4**
OUZ	**Omahuta**	**4.61**	**342**	S	**Sn**	**02 21 15.4**	**-0.8**
WVZ	**Waitaha Valley**	**4.86**	**224**	P	**Pn**	**02 20 28.2**	**+0.8**
RPZ	**Rata Peaks**	**5.17**	**217**	P	**Pn**	**02 20 30.3**	**-1.3**
RPZ				S	**Sn**	**02 21 24.4**	**-5.6**
	48nm,0.4s,baz=324,slow=20,SNR=22						
RPZ	**Rata Peaks**	**5.17**	**217**	P	**Pn**	**02 20 29.9**	**-1.7**
RPZ	**Rata Peaks**	**5.17**	**217**	P	**Pn**	**02 20 29.9**	**-1.7**
ODZ	**Otahua Downs**	**6.42**	**211**	P	**Pn**	**02 20 45.3**	**-3.2**
JCZ	**Jackson Bay**	**6.59**	**226**	P	**Pn**	**02 20 48.7**	**-2.3**
WKZ	**Wanaka**	**6.98**	**220**	P	**Pn**	**02 20 55.0**	**-1.3**
EAZ	**Earnscleugh**	**7.14**	**216**	P	**Pn**	**02 20 56.3**	**-2.1**
CTZ	**Chatham Island**	**7.30**	**127**	P	**Pn**	**02 20 59.1**	**-1.5**
CTZ	**Chatham Island**	**7.30**	**127**	P	**Pn**	**02 20 59.4**	**-1.2**
MLZ	**Mavora Lakes**	**7.81**	**220**	P	**Pn**	**02 21 06.5**	**-1.1**
SYZ	**Scrubby Hill**	**8.24**	**211**	P	**Pn**	**02 21 10.8**	**-2.6**
WHZ	**Wether Hill Ro**	**8.27**	**218**	P	**Pn**	**02 21 16.8**	**+3.0**
PYZ	**Puysegur Point**	**9.09**	**221**	P	**Pn**	**02 21 23.4**	**-1.6**
PYZ	**Puysegur Point**	**9.09**	**221**	P	**Pn**	**02 21 23.0**	**-2.0**
STKA	**Stephens Creek**	**28.31**	**275**	P	**P**	**02 25 02.8**	**+0.6**
	1.0nm,0.5s,baz=94,slow=7.9,SNR=3.3						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**38.31**	**282**	P	**P**	**02 26 29.3**	**+0.2**
	2.7nm,0.4s,baz=129,slow=7.7,SNR=45						
	2.7nm,0.4s						
VNDA	**Vanda**	**38.42**	**185**	P	**P**	**02 26 31.6**	**+2.2**
	0.6nm,0.9s,baz=4.8,slow=5.4,SNR=3.7						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**40.18**	**287**	P	**P**	**02 26 44.8**	**0.0**
	0.7nm,0.3s,baz=126,slow=8.1,SNR=15						
	0.7nm,0.3s						
MAW	**Mawson**	**61.72**	**204**	P	**P**	**02 29 27.1**	**+1.7**
	0.7nm,0.4s,baz=129,slow=8.9,SNR=6.1						
	0.7nm,0.4s						
TROLL	**Troll, Antarti**	**68.55**	**182**	⇑P	P	02 30 15.1	+5.3
	comp=Z,96nm,0.3s						
SNAA	**Sanae**	**69.00**	**181**	⇑P	**P**	**02 30 15.4**	**+2.9**
	comp=Z,15nm,0.3s						
VNA3	**Neumayer Olymp**	**69.38**	**178**	⇑P	**P**	**02 30 16.0**	**+1.3**
	comp=Z,0.6nm,0.2s						
VNA2	**Neumayer--Watz**	**69.73**	**179**	⇑P	**P**	**02 30 17.8**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=170,slow=6.5						
ARCES	**ARCESS Array B**	**146.04**	**342**	PKPbc	**PKPdf**	**02 38 44.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=70,slow=1.6,SNR=25						
DBIC	**Dimbokro**	**147.18**	**180**	PKPbc	**PKPbc**	**02 38 50.5**	**0.0**
	comp=Z,1.8nm,0.5s,baz=186,slow=4.1,SNR=4.9						
BRTR	**Keskin Array B**	**150.65**	**283**	PKPbc	**PKPbc**	**02 38 56.6**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=98,slow=2.9,SNR=1.9						
FINES	**FINESS Array B**	**151.16**	**329**	PKPbc	**PKPbc**	**02 38 56.6**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=61,slow=3.5,SNR=3.7						
FINES				PKPab	**PKPab**	**02 39 05.4**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=43,slow=4.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**153.03**	**194**	PKPbc	**PKPbc**	**02 39 03.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=151,slow=2.5,SNR=9.7						
TORD				PKPab	**PKPab**	**02 39 16.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=143,slow=3.1,SNR=11						

*NEIC **14** 02:41:48.7±2.4, 6°52S±0°08×128°90E±0°04, h216km±9km, mb4.0/10, Error ellipse: s-maj=12.3km s-min=5.7km az=190.0*
*DJA **14** 02:41:48.0±0.3, 6°S±4°×12°9E±°, h258km±8km, M4.5/11, mB4.9/3, mb4.3/7, MLv4.7/11, Mw(mB)4.2/3, MwMwp4.9/1, Mwp5.2/1*
*IDC **14** 02:41:49.4±2.5, 6°57S×128°82E, h223km±26km, mb3.5/4, mbtmp4.3/9, MS3.4/1, Error ellipse: s-maj=24.2km s-min=18.6km az=56.0*
ISC 14 02:41:49.8±0.6, 6°64S±0°06×128°88E±0°07, h250km, n43, σ2°22/44, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.34**	**26**	P	**Pn**	**02 42 34.1**	**-1.4**
SAUI	**Saumlaki**	**2.74**	**119**	Pn	**Pn**	**02 42 35.9**	**-3.6**
SAUI	**Saumlaki**	**2.74**	**119**	P	**Pn**	**02 42 38.5**	**-1.1**
FAKI	**Fak Fak**	**4.99**	**42**	Pn	**Pn**	**02 43 01.0**	**-4.6**
FAKI	**Fak Fak**	**4.99**	**42**	P	**Pn**	**02 43 02.0**	**-3.6**
SOEI	**Soe**	**5.52**	**236**	Pn	**Pn**	**02 43 12.1**	**0.0**
SOEI	**Soe**	**5.52**	**236**	P	**Pn**	**02 43 12.8**	**+0.7**
	0.5nm1μm41nm,0.7s						
KMPI	**Kaimana, Papua**	**5.64**	**59**	P	**Pn**	**02 43 11.3**	**-2.2**
SWI	**Sorong**	**6.21**	**23**	P	Pn	02 43 15.5	-5.2
	0.4nm6μm3μm36nm,0.7s						
BATI	**Baumata**	**6.26**	**235**	P	**Pn**	**02 43 21.4**	**+0.2**
	107nm,0.6s,baz=71,slow=2.9,SNR=9.4						
BATI				S	**S**	**02 44 32.7**	**-1.7**
	245nm,0.8s,baz=61,slow=19,SNR=12						
BATI	**Baumata**	**6.26**	**235**	P	**Pn**	**02 43 21.9**	**+0.6**
	0.9nm149nm,0.9s						
MTN	**Manton Dam**	**6.55**	**160**	Pn	**Pn**	**02 43 24.7**	**-0.2**
RKPI	**Ransiki, Papua**	**7.34**	**46**	P	**Pn**	**02 43 31.6**	**-3.3**
	44nm,0.5s						
KNRA	**Kununurra**	**8.98**	**181**	Pn	**Pn**	**02 43 55.3**	**-0.2**
PLAI	**Plampang**	**11.22**	**258**	P	**Pn**	**02 44 19.9**	**-3.9**
	27nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.82**	**195**	Pn	**Pn**	**02 44 31.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.82**	**195**	P	**Pn**	**02 44 31.5**	**+0.3**
	11nm,0.4s,baz=20,slow=14,SNR=76						
FITZ				S	**S**	**02 46 36.0**	**-7.1**
	4.6nm,0.3s,baz=82,slow=20,SNR=5.8						
JAY	**Jayapura**	**12.48**	**71**	P	**P**	**02 44 41.1**	**-0.8**
	10nm,0.6s,baz=154,slow=12,SNR=5.2						
WB0	**Warramunga Arr**	**14.10**	**158**	Pn	**Pn**	**02 44 58.3**	**-1.0**
WRAB	**Tennant Creek**	**14.24**	**159**	Pn	**Pn**	**02 45 00.9**	**0.0**
WRA	**Warramunga Arr**	**14.24**	**159**	P	**P**	**02 45 02.6**	**+1.3**
WRA	**Warramunga Arr**	**14.24**	**159**	P	**Pn**	**02 45 00.8**	**-0.2**
	1.3nm,0.3s,baz=334,slow=13,SNR=19						
WRA				S	**S**	**02 47 38.6**	**-0.2**
	1.8nm,0.4s,baz=330,slow=23,SNR=7.9						
WR8	**Warramunga Arr**	**14.31**	**158**	Pn	**Pn**	**02 45 01.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**14.71**	**262**	Pn	**P**	**02 45 04.2**	**-2.5**
COEN	**Coen**	**15.82**	**118**	P	**Pn**	**02 45 19.2**	**-0.8**
COEN				IAmb	IAmb	02 45 42.2	
	comp=Z,5.2nm,0.8s						
MBWA	**Marble Bar**	**16.93**	**211**	P	**Pn**	**02 45 33.5**	**+0.6**
MBWA				IAmb	IAmb	02 45 52.4	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**17.22**	**210**	P	**Pn**	**02 45 36.5**	**+0.1**
PSA00	**Pilbara Seismi**	**17.22**	**210**	P	**Pn**	**02 45 35.3**	**-1.0**
PSA00				IAmb	IAmb	02 45 37.6	
	comp=Z,3.1nm,0.7s						
AS31	**Alice Springs**	**17.60**	**165**	P	**Pn**	**02 45 41.0**	**+0.2**
AS31				IAmb	IAmb	02 45 48.1	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**17.60**	**165**	P	**Pn**	**02 45 41.4**	**+0.6**
ASAR	**Alice Springs**	**17.60**	**165**	P	**Pn**	**02 45 40.6**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=346,slow=11,SNR=37						
TGY	**Tagaytay City**	**22.07**	**339**	LR	LR	02 57 32.7	
	comp=Z,105nm,19.1s,baz=102,slow=43						
FORT	**Forrest**	**24.02**	**182**	P	**P**	**02 46 45.4**	**+3.2**
FORT				IAmb	IAmb	02 47 02.8	
	comp=Z,4.0nm,1.1s						
MORW	**Morawa**	**25.39**	**207**	P	**P**	**02 46 56.8**	**+2.2**
**B

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	Lacayo	0.81	7	eP	Pn	03 14 55.1	+0.6
RANC	El Ranchito	0.82	8	S	Sn	03 15 06.0	-0.7
RANC	El Ranchito	0.82	8	P	Pn	03 14 55.5	+0.9
BLLM	Bellamira	0.84	11	eP	Pn	03 14 55.5	+0.7
LCND	La Caada	0.85	36	eP	Pn	03 14 55.1	+0.2
LCND	La Caada	0.85	36	S	Sn	03 15 06.0	-1.2
PACA	Pacayal	0.85	5	eP	Pn	03 14 55.8	+0.8
PACA				eS	Sn	03 15 07.0	-0.5
PACA	Pacayal	0.85	5	P	Pn	03 14 56.0	+1.0
CNCH	Conchagua	0.86	40	eP	Pn	03 14 55.4	+0.3
CNCH				eS	Sn	03 15 09.0	+1.4
CNCH	Conchagua	0.86	40	P	Pn	03 14 55.4	+0.3
CNCH	Conchagua	0.86	40	S	Sn	03 15 07.0	-0.7
CNRM	Centro Naciona	0.88	15	S	Sn	03 15 07.4	-0.6
CNRM	Centro Naciona	0.88	15	P	Pn	03 14 55.4	+0.1
CSGN	Cosiguina Volc	0.90	66	P	Pn	03 14 56.0	+0.4
CSGN				S	Sb	03 15 08.1	+1.5
TECO	Alcaldia de Te	0.99	338	P	Pn	03 14 57.6	+0.8
TECO	Alcaldia de Te	0.99	338	S	Sn	03 15 09.7	-1.0
PQSS	Presa 15 de Se	1.01	351	S	Sn	03 15 11.3	0.0
PQSS	Presa 15 de Se	1.01	351	P	Pn	03 14 57.7	+0.6
UESV	Universidad de	1.08	340	P	Pn	03 14 59.1	+1.0
UESV	Universidad de	1.08	340	S	Sn	03 15 12.6	-0.5
SCLA	Alcaldia de Sa	1.13	344	S	Sn	03 15 13.9	-0.2
SCLA	Alcaldia de Sa	1.13	344	P	Pn	03 14 59.7	+0.9
LFRS	El Faro	1.19	327	eP	Pn	03 15 00.7	+1.1
LFRS				eS	Sb	03 15 14.9	-0.2
PAVA	Las Pavas	1.21	334	eP	Pn	03 15 01.2	+1.2
PAVA				eS	Sn	03 15 16.1	-0.2
PAVA	Las Pavas	1.21	334	P	Pn	03 15 01.1	+1.1
PAVA	Las Pavas	1.21	334	S	Sn	03 15 15.8	-0.5
PANCS	Alcalda de	1.25	323	S	Sn	03 15 16.9	-0.3
LALI	Alcalda de L	1.25	314	S	Sb	03 15 16.1	-0.5
LOMA	Loma Larga	1.27	324	eP	Pg	03 15 02.0	+0.4
LOMA				eS	Sn	03 15 17.4	-0.4
LOMA	Loma Larga	1.27	324	P	Pg	03 15 02.1	+0.4
LBRS	Las Brisas	1.28	331	eP	Pg	03 15 02.8	+0.9
UDBS	Universidad Do	1.32	326	S	Sg	03 15 18.4	-1.3
UDBS	Universidad Do	1.32	326	P	Pb	03 15 01.9	+0.1
CRIN	San Cristobal	1.32	86	S	Sb	03 15 19.1	+0.3
CRIN	San Cristobal	1.32	86	P	Pb	03 15 02.9	+1.0
IGN	Direccin Gen	1.32	326	S	Sn	03 15 18.9	-0.1
IGN	Direccin Gen	1.32	326	P	Pn	03 15 01.5	+0.1
UTEC	Universidad Te	1.33	324	P	Pg	03 15 02.9	+0.1
UTEC	Universidad Te	1.33	324	S	Sb	03 15 18.7	-0.4
SEMO	Seminario San	1.35	324	S	Sb	03 15 18.7	-0.8
ITCA	Escuela Especi	1.35	321	S	Sb	03 15 19.6	-0.3
UEES	Universidad Ev	1.36	323	S	Sn	03 15 19.9	-0.2
UEES	Universidad Ev	1.36	323	P	Pn	03 15 02.4	+0.3
PKGN	Cerro Pekin	1.39	88	P	Pn	03 15 03.6	+1.2
PKGN				S	Sb	03 15 20.3	-0.4
PMON	Piamonte	1.41	321	P	Pg	03 15 04.3	0.0
PMON	Piamonte	1.41	321	S	Sn	03 15 21.1	-0.1
JAYA	Jayaque - finc	1.45	315	eP	Pb	03 15 04.4	+0.2
JAYA				eS	Sg	03 15 22.9	-1.1
JAYA	Jayaque - finc	1.45	315	P	Pb	03 15 04.5	+0.3
QUEN	Al S del Volca	1.51	91	P	Pn	03 15 02.4	-1.6
QUEN				S	Sn	03 15 22.0	-1.7
CEDA	San Andres	1.53	321	P	Pn	03 15 04.5	+0.2
CEDA	San Andres	1.53	321	S	Sn	03 15 23.6	-0.4
POLN	Al Sur del Vol	1.55	89	P	Pn	03 15 03.2	-1.3
POLN				S	Sn	03 15 21.8	-2.8
PLRN	Geotermica Pol	1.59	91	P	Pn	03 15 06.2	+1.1
PLRN				S	Sn	03 15 25.0	-0.6
CNGA	Al SSO del Vol	1.66	94	P	Pn	03 15 07.0	+0.8
CNGA				S	Sn	03 15 27.3	-0.1
CNGN	Cerro Negro	1.67	94	P	Pn	03 15 07.2	+1.0
CNGN	Cerro Negro	1.67	94	S	Sn	03 15 27.3	-0.1
CEVE	Cerro Verde	1.69	315	S	Sb	03 15 29.6	-0.1
CEVE	Cerro Verde	1.69	315	P	Pn	03 15 07.4	+0.6
TGUH	Tegucigalpa,Un	1.81	37	P	Pn	03 15 08.0	-0.1
TGUH				S	Sn	03 15 30.0	-1.0
COPN	Copaltepe	1.82	104	P	Pn	03 15 09.6	+1.4
MOM3	MOM3	1.84	93	S	Sn	03 15 32.2	+0.5
NUBE	Las Nubes	1.85	314	eP	Pb	03 15 10.8	-0.2
NUBE				eS	Sn	03 15 32.2	0.0
NUBE	Las Nubes	1.85	314	P	Pb	03 15 10.3	-0.8
FAME	Alcaldia de Sa	1.99	308	P	Pn	03 15 11.9	+1.3
FAME	Alcaldia de Sa	1.99	308	S	Sn	03 15 35.1	-0.3
MTO3	Montecristo	2.00	332	P	Pn	03 15 11.6	+0.6
APQ3	Volcan Apoyequ	2.01	100	S	Sn	03 15 37.0	+1.0
YUSH	Yuscaran	2.02	49	P	Pn	03 15 11.3	+0.3
YUSH	Yuscaran	2.02	49	S	Sn	03 15 35.7	-0.5
LIMN	Finca el Limon	2.03	77	P	Pn	03 15 11.6	+0.3
LIMN				S	Sn	03 15 35.6	-1.0
UNAN	Cigeo UNAN	2.14	103	S	Sn	03 15 38.9	-0.2
SARH	Santa Rosa de	2.18	351	S	Sn	03 15 40.2	+0.2
SARH	Santa Rosa de	2.18	351	P	Pn	03 15 14.7	+1.5
WILN	Americas 2	2.21	102	P	Pn	03 15 13.8	+0.3
WILN				S	Sn	03 15 40.1	-0.7
MAS3	Al N del Volca	2.25	105	P	Pn	03 15 14.1	-0.1
MAS3				S	Sn	03 15 40.3	-1.6
RCVN	Varilla2	2.36	66	P	Pn	03 15 16.3	+0.5
RCPN	Sur Rio San Ju	2.42	68	P	Pn	03 15 17.4	+0.7
MATN	Matagalpa	2.44	82	P	Pn	03 15 16.4	-0.4

*IDC **14** 03:15:49.6±5.5, 36°.34N×71°.16E, h182km±67km, mb3.3/5, mbtmp3.8/8, Error ellipse: s-maj=84.2km s-min=42.1km az=103.0*

ISC 14 03:15:52.6±1.9, 36°.7N±0°.2×70°.9E±0°.2, h188km, n11, σ1§28/14, mb3.6/4, 3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.45	358	P	Pn	03 17 27.6	+2.1
	0.4nm,0.2s,baz=173,slow=12,SNR=6.1						
KK31				⇓S	Sn	03 18 36.8	-2.2
	4.3nm,0.4s,baz=181,slow=22,SNR=7.8						
AAK	Ala-Archa	6.60	24	P	Pn	03 17 28.7	+1.0
	5.1nm,0.3s,baz=203,slow=13,SNR=17						
AAK				S	Sn	03 18 42.9	+0.1
	5.4nm,0.6s,baz=155,slow=24,SNR=6.1						
AAK	Ala-Archa	6.60	24	⇓P	Pn	03 17 28.5	+0.8
	1.4nm,0.4s						
AAK				⇓S	Sn	03 18 42.5	-0.3
	3.4nm,0.5s						
MKAR	Makanchi Array	13.24	36	P	Pn	03 18 52.2	-1.2
	1.0nm,0.8s,baz=217,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	15.02	19	P	Pn	03 19 14.2	-1.1
	0.2nm,0.4s,baz=204,slow=10,SNR=2.1						
FINES	FINESS Array B	37.30	326	P	P	03 22 47.0	+0.8
	1.6nm,0.9s,baz=110,slow=9.2,SNR=5.6						
	1.6nm,0.9s						
ARCES	ARCESS Array B	40.96	338	P	P	03 23 17.6	+1.1
	1.6nm,0.9s,baz=123,slow=8.0,SNR=7.6						
	1.6nm,0.9s						
HFS	Hagfors	42.88	322	P	P	03 23 32.8	+0.7
	3.6nm,0.8s,baz=99,slow=9.2,SNR=7.7						
	3.6nm,0.8s						
NB2	NORSAR Subarra	44.19	323	P	P	03 23 43.2	+0.6
	comp=Z,0.3nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.19	323	P	P	03 23 42.9	+0.3
	comp=Z,0.6nm,0.7s,baz=96,slow=7.7,SNR=3.4						
	comp=Z,0.6nm,0.7s						
TORD	Torodi Ar. Bea	65.61	268	P	P	03 26 15.4	-1.3
	comp=Z,0.4nm,0.5s,baz=52,slow=7.2,SNR=5.7						
	comp=Z,0.4nm,0.5s						

*JMA **14** 03:22:16.9±0.7, 47°.N±4°.×15°.0E±°, h385km, MV3.8/14, KURILE ISLANDS REGION*

*SKHL **14** 03:22:16.8±0.5, 47°.40N×149°.10E, h372km±2km, mb4.6/7, msha5.0/4*

*IDC **14** 03:22:19.1±1.4, 47°.98N×148°.78E, h371km±15km, mb3.2/16, mbtmp4.1/23, Error ellipse: s-maj=13.9km s-min=10.7km az=134.0*

ISC 14 03:22:16.2±0.6, 47°.57N±0°.06×149°.04E±0°.08, h357km, n42, σ1§85/49, mb3.5/16, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.47	200	eP	Pn	03 23 13.4	+1.7
KUR				AMB	AMB	03 23 15.0	
	50nm,0.5s						
KUR				eS	S	03 23 58.0	+1.7
KUR				A	A	03 24 02.6	
	160nm,0.6s						
KUR				A	A	03 24 02.6	
	130nm,0.6s						
SHO	Shikotan	4.01	204	eP	Pn	03 23 32.7	+7.0
SHO				AMB	AMB	03 23 34.2	
	140nm,0.5s						
SHO				eS	S	03 24 26.2	+4.4
SHO				A	A	03 24 29.8	
	150nm,0.6s						
SHO				A	A	03 24 29.8	
	190nm,0.6s						
YSS	Yuzhno-Sakhali	4.32	264	eP	Pn	03 23 31.4	+2.5
YSS				AMB	AMB	03 23 32.2	
	40nm,0.7s						
YSS				eS	S	03 24 29.7	+2.1
YSS				A	A	03 24 35.3	
	40nm,0.7s						
YSS				A	A	03 24 35.3	
	40nm,0.7s						
NEM2	Nemuro 2	4.80	210	P	Pn	03 23 35.0	+1.0
NEM2				S	S	03 24 36.1	-0.7
NMR	Nemuro--Hokkai	4.80	210	eP	Pn	03 23 35.2	+1.2
NMR				eS	S	03 24 36.1	-0.8
JNK	Nakash	5.00	219	eP	Pn	03 23 38.5	+2.3
JTKR	Abashiri--Toko	5.08	227	eP	Pn	03 23 40.2	+3.2
TYV	Tymovskoe	5.33	311	eP	Pn	03 23 43.3	+3.7
TYV				AMB	AMB	03 23 43.9	
	40nm,0.4s						
AKK	Akkeshi	5.43	215	eP	Pn	03 23 41.5	+0.6
AKK				eS	S	03 24 47.2	-2.2
JAK	Akkeshi	5.50	215	eP	Pn	03 23 43.1	+1.4
JAK				eS	S	03 24 50.5	-0.4
JAR	Ashorobuto	5.65	223	eP	Pn	03 23 45.8	+2.4
JAR				eS	S	03 24 55.9	+1.8
ASAJ	Asahikawa	5.67	235	P	Pn	03 23 47.9	+4.3
	78nm,0.7s,baz=54,slow=8.8,SNR=59						
JKK2	Kamakawa 2	5.75	232	P	Pn	03 23 48.8	+4.4
JOB	Onbets	5.94	220	eP	Pn	03 23 48.0	+1.4
JOB				eS	S	03 24 59.5	-0.3
JAB	Ashibetsu	6.28	232	eP	Pn	03 23 54.6	+4.2
JCH	Churui	6.38	221	eP	Pn	03 23 52.5	+1.0
JCH				eS	S	03 25 07.1	-1.9
JNBK	Urakawa-nobuka	6.92	222	eP	P	03 23 58.3	-0.8
PETK	Petropavlovsk-	7.84	42	P	Pn	03 24 07.6	-0.8
	12nm,0.9s,baz=220,slow=10.0,SNR=4.9						
JANG	Nango	9.00	220	eP	P	03 24 23.2	-1.1
JANG				eS	S	03 26 00.5	-5.1
MA2	Magadan	12.08	4	P	P	03 24 56.7	-1.4
	18nm,0.6s,baz=185,slow=8.8,SNR=7.7						
USRK	Ussuriysk Ar.	12.35	260	P	Pn	03 25 03.0	+1.1
	5.0nm,0.7s,baz=68,slow=12,SNR=9.3						
MJAR	Matsushiro Arr	13.62	220	P	Pn	03 25 21.2	+4.3
	25nm,0.8s,baz=21,slow=12,SNR=46						
SEY	Seymchan	15.52	6	P	P	03 25 35.4	-0.4
	2.5nm,0.7s,baz=197,slow=6.1,SNR=4.3						
KSRS	Korea Array	18.50	245	P	P	03 26 11.7	+3.6
	4.9nm,0.9s,baz=42,slow=10,SNR=8.9						
ILAR	Eielson Array	37.66	39	P	P	03 28 57.8	-0.1
	0.5nm,0.6s,baz=255,slow=6.0,SNR=11						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	39.86	304	P	P	03 29 15.2	-1.0
	0.4nm,0.4s,baz=91,slow=12,SNR=1.4						
ZALV				PcP	PcP	03 31 14.3	+0.5
	0.6nm,0.4s,baz=90,slow=4.3,SNR=4.5						
	0.4nm,0.4s						
INK	Inuvik	42.45	33	P	P	03 29 36.9	+0.1
	1.4nm,0.7s,baz=305,slow=12,SNR=6.0						
	1.4nm,0.7s						
MKAR	Makanchi Array	44.09	295	P	P	03 29 49.4	-0.7
	1.9nm,0.7s,baz=64,slow=7.1,SNR=8.4						
MKAR				PcP	PcP	03 31 28.5	+0.4
	0.6nm,0.8s,baz=66,slow=4.9,SNR=3.5						
	1.9nm,0.7s						
KURBB	Kurchatov Arra	44.67	301	P	P	03 29 53.2	-1.4
	1.4nm,0.7s,baz=69,slow=8.4,SNR=7.1						
KURBB				PcP	PcP	03 31 29.4	-0.6
	0.2nm,0.2s,baz=74,slow=3.8,SNR=4.7						
	1.4nm,0.7s						
ARTI	Arti	52.61	316	P	P	03 30 52.6	-1.6
	1.0nm,0.4s,baz=48,slow=4.5,SNR=3.8						
	1.0nm,0.4s						
AKTO	Aktyubinsk	56.09	310	P	P	03 31 17.6	-1.5
	0.9nm,0.6s,baz=94,slow=3.4,SNR=4.2						
	0.9nm,0.6s						
FINES	FINESS Array B	62.08	333	P	P	03 31 57.7	-1.9
	2.0nm,0.6s,baz=35,slow=8.1,SNR=18						
	2.0nm,0.6s						
PDAR	Pinedale Array	66.47	52	P	P	03 32 29.6	+1.1
	0.5nm,0.6s,baz=300,slow=2.2,SNR=7.5						
	0.5nm,0.6s						
NOA	NORSAR Array B	66.52	339	P	P	03 32 26.6	-1.5
	0.5nm,0.6s,baz=28,slow=6.7,SNR=1.9						
	0.5nm,0.6s						
HFS	Hagfors	66.68	337	P	P	03 32 27.4	-1.7
	6.3nm,1.2s,baz=39,slow=9.3,SNR=4.1						
	6.3nm,1.2s						
WRA	Warramunga Arr	68.48	195	P	P	03 32 43.3	+2.5
	1.0nm,0.7s,baz=11,slow=6.4,SNR=8.4						
	1.0nm,0.7s						
AKASG	Malin Array Be	69.28	324	P	P	03 32 43.7	-1.7
	1.3nm,0.4s,baz=38,slow=6.3,SNR=11						
	1.3nm,0.4s						
ASAR	Alice Springs	72.20	195	P	P	03 33 07.4	+4.3
	0.8nm,0.8s,baz=9.8,slow=5.9,SNR=8.4						
	0.8nm,0.8s						
GERES	GERESS Array B	76.46	331	P	P	03 33 26.3	-0.9
	0.2nm,0.4s,baz=19,slow=6.4,SNR=2.3						
	0.2nm,0.4s						
TXAR	Lajitas Array	79.46	58	P	P	03 33 45.2	+1.2
	1.0nm,0.8s,baz=289,slow=4.4,SNR=13						
	1.0nm,0.8s						
BDFB	Brasilia	145.18	30	PKP	PKPbc	03 41 13.1	+0.7
	2.8nm,0.9s,baz=274,slow=4.8,SNR=4.1						
PLCA	Paso Flores	151.03	91	PKPbc	PKiKP	03 41 28.2	+0.9
	2.0nm,0.7s,baz=300,slow=8.1,SNR=4.6						

*IDC **14** 03:29:14.5±0.6, 56°.20N×156°.56W, h0km, mb4.4/27, mbtmp4.4/30, ML4.9/3, MS3.4/28, Error ellipse: s-maj=17.8km s-min=10.9km az=7.0*

*MOS **14** 03:29:18.5±1.0, 56°.28N×156°.46W, h26km, mb4.8/31, Error ellipse: s-maj=12.9km s-min=6.0km az=91.8*

*NEIC **14** 03:29:19.1±1.8, 55°.98N±0°.05×156°.21W±0°.07, h34km±4km, Error ellipse: s-maj=7.3km s-min=5.0km az=149.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.41; $M_{\theta\theta}$0.19; $M_{\phi\phi}$0.22; $M_{r\theta}$-0.10; $M_{\theta\phi}$1.73; $M_{r\phi}$1.23; Fault plane solution: $M_0$2.15000×10^{15} NP1: ϕ_s183.19000°, δ81.79000°, λ-143.34000°. NP2: ϕ_s87.13000°, δ53.78000°, λ-10.19000°. Principal axes: T 2.2052, Plg18.0000°, Azm310.0000°; N -0.1047, Plg53.0000°, Azm194.0000°; P -2.1005, Plg31.0000°, Azm52.0000°;*

*AEIC **14** 03:29:20.2±1.6, 55°.98N±0°.05×156°.26W±0°.08, h43km±5km, ML4.1, mb4.6/115(NEIC), ML4.2/50(NEIC), Mwr4.2/13(NEIC) Error ellipse: s-maj=8.3km s-min=6.0km az=153.0*

*NEIC **14** 03:29:20.3, 55°.99N×156°.25W, h42km*

ISC 14 03:29:19.2±0.7, 56°.10N±0°.04×156°.33W±0°.03, h34km±1km, n473, σ1§23/475, mb4.5/106, MS3.4/28, 7C-13D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	Aniakchak Peak	1.24	308		Pn	03 29 41.5	+1.3
ANNE	Aniakchak Nort	1.26	311		Pn	03 29 41.9	+1.5
BPBCA	Veniaminof	1.28	294		Pn	03 29 41.9	+1.2
ANPB	Aniakchak Plen	1.29	304		Pn	03 29 42.1	+1.3
PLK4	Peulik 4	1.54	359		Pb	03 29 46.5	-0.6
PLK4				Sn	Sb	03 30 05.7	-0.6
VNSG	Veniaminof 6	1.54	272		Pn	03 29 45.4	+1.1
VNSG					Sn	03 30 05.6	+2.4
PLK3	Peulik 3	1.60	1		Pb	03 29 47.4	-0.6
PLK3					Sn	03 30 06.3	+1.9
R16K	Pilot Point	1.62	336		Pn	03 29 47.2	+1.9
R16K				Sn	Sn	03 30 06.9	+1.9
R16K				IAML		03 30 21.9	
	comp=N,2μm,0.8s						
R16K				IAML		03 30 36.1	
	comp=E,2μm,1.1s						
PLBL	Peulik Blue Cr	1.63	351		Pb	03 29 47.9	-0.7
PLBL					Sb	03 30 08.1	-0.7
PLK2	Peulik 2	1.67	0		Pb	03 29 48.6	-0.7
VNNF	Veniaminof 3	1.68	278		Pn	03 29 47.9	+1.8
VNKR	Veniaminof 5	1.70	269		Pn	03 29 47.7	+1.2
PLK1	Peulik 1	1.72	355		Pb	03 29 49.0	-1.1
PLK1					Sb	03 30 11.0	-0.2
VNFG	Fog Glacier, M	1.81	277		Pn	03 29 49.9	+1.9
VNFG	Fog Glacier, M	1.81	277		Pn	03 29 49.4	+1.4
VNFG				IAML		03 30 24.8	
	comp=N,13μm,0.6s						
VNFG				IAML		03 30 27.6	
	comp=E,14μm,0.7s						
PLK5	Peulik 5	1.93	351		Pn	03 29 51.6	+2.1
OHAK	Old Harbor	2.02	55	Pn	Pn	03 29 50.9	+0.1
OHAK				Sn	Sn	03 30 14.0	-0.8
MGLS	Mageik Landsli	2.14	17		Pn	03 29 54.2	+1.7
CNTC	Contact Creek	2.19	6		Pn	03 29 55.0	+1.8
ACHA	Angle Creek He	2.19	14		Pn	03 29 54.5	+1.4
KABU	Katmai Buttres	2.25	14		Pn	03 29 56.2	+2.1
CNBA	Chernabura Isl	2.25	237		Sn	03 30 19.6	-1.0
CNBA	Chernabura Isl	2.25	237		Pn	03 29 53.8	-0.2
CNBA				IAML		03 30 44.5	
	comp=N,2μm,0.8s						
CNBA				IAML		03 30 46.1	
	comp=E,1μm,0.8s						
SDPT	Sand Point	2.46	254		Pn	03 29 57.4	+0.5
SDPT				Sn	Sn	03 30 25.9	+0.2
KDAK	Kodiak Island	2.66	49	Pn	Pn	03 29 59.7	+0.1
KDAK				Sn	Sn	03 30 29.5	-1.1
KDAK				IAML		03 30 59.0	
	comp=E,637nm,0.8s						
KDAK	Kodiak Island	2.66	49	Pn	Pn	03 29 59.6	+0.1
	comp=E,54nm,0.3s,baz=218,slow=3.0,SNR=2249						
KDAK				Sn	Sn	03 30 30.3	-0.3
	comp=E,86nm,0.3s,baz=40,slow=18,SNR=19						
	comp=E,124nm,0.3s						
KDAK	Kodiak Island	2.66	49	dP	Pn	03 30 00.0	+0.5
P16K	Nushagak River	3.08	344	Pn	Pn	03 30 06.9	+1.7
P16K				IAML		03 31 05.2	
	comp=E,831nm,0.6s						
P16K				IAML		03 31 20.0	
	comp=N,762nm,1.3s						
PS1A	Pavlof South-1	3.13	260		Pn	03 30 06.8	+0.7
PS4A	Pavlof South-4	3.21	259		Pn	03 30 07.9	+0.7
S12K	Black Hills	3.25	265	Pn	Pn	03 30 08.0	+0.3
S12K				IAML		03 30 60.0	
	comp=E,797nm,0.7s						
DOL	Dolgoi Island	3.28	255		Pn	03 30 08.4	+0.3
P18K	Big Mountain,	3.36	10	Pn	Pn	03 30 10.2	+1.0
P18K				IAML		03 31 18.3	
	comp=E,330nm,0.9s						
O15K	Ungalikthiuk R	3.61	330	Pn	Pn	03 30 14.2	+1.5
O15K				IAML		03 31 31.7	
	comp=E,275nm,0.7s						
AUJK	Augustine Jueg	3.62	24		Pn	03 30 15.0	+2.3
O16K	Kokwok River B	3.63	346	Pn	Pn	03 30 14.9	+2.0
O16K				IAML		03 31 17.8	
	comp=E,292nm,0.8s						
O17K	Koliganek Bris	3.71	354		Pn	03 30 15.7	+1.8
O14K	Tigyukauivet M	4.13	322	Pn	Pn	03 30 21.3	+1.6
O14K				IAML		03 31 52.4	
	comp=N,194nm,0.8s						
FALS	False Pass	4.22	256	Pn	Pn	03 30 21.5	+0.5
O19K	Port Alsworth	4.25	14	Pn	Pn	03 30 22.6	+1.3
O19K				IAML		03 31 37.3	
	comp=N,410nm,0.5s						
ILSW	Iliamna Southw	4.25	22		Pn	03 30 23.0	+1.5
IVE	Iliamna Volcan	4.31	23		Pn	03 30 24.0	+1.7
CNPM	China Poot	4.39	36		Pn	03 30 24.3	+1.0
CNPM				IAML		03 31 53.8	
	comp=N,182nm,1.3s						
CNPM				IAML		03 32 02.0	
	comp=E,185nm,1.1s						
N17K	Nushagak Hills	4.47	355		Pn	03 30 25.8	+1.4
N17K				IAML		03 31 48.0	
	comp=N,154nm,0.9s						
N17K				IAML		03 31 49.2	
	comp=E,141nm,1.4s						
N15K	Kwethluk River	4.54	336		Pn	03 30 27.2	+1.8
N15K				IAML		03 31 53.8	
	comp=N,219nm,1.0s						
N15K				IAML		03 31 54.4	
	comp=E,267nm,0.7s						
SSLS	Shishaldin Sou	4.58	256		Pn	03 30 26.8	+0.8
N18K	Kilae Creek	4.60	3	Pn	Pn	03 30 27.6	+1.4
N18K				IAML		03 32 00.1	
	comp=E,229nm,1.5s						
BRLK	Bradley Lake	4.68	36		Pn	03 30 27.6	+0.2
BRLK				IAML		03 31 19.4	
	comp=N,173nm,0.3s						
BRLK				IAML		03 31 22.9	
	comp=E,141nm,0.4s						
N14K	Kuskokwak Cree	4.78	326		Pn	03 30 30.1	+1.5
N19K	Bonanza Creek	4.83	11		Pn	03 30 31.0	+1.6
N19K				IAML		03 32 06.5	
	comp=E,151nm,1.7s						
N19K				IAML		03 32 07.0	
	comp=N,107nm,1.2s						
RDJH	Redoubt Jeurge	4.87	21		Pn	03 30 31.9	+1.8
M16K	Timber Creek	5.13	346		Pn	03 30 35.2	+1.8
M16K				IAML		03 32 15.1	
	comp=E,125nm,2.2s						
M16K				IAML		03 32 21.0	
	comp=N,112nm,1.2s						
M17K	Holitna River	5.35	354		Pn	03 30 38.2	+1.7
SEW	Seward	5.42	39	Pn	Pn	03 30 36.6	-0.9
SLKM	Skilak Lake	5.47	34	Pn	Pn	03 30 37.9	-0.3
M14K	Bethel	5.52	330		Pn	03 30 40.4	+1.5
SPCR	Spurr Chakacha	5.55	21		Pn	03 30 40.8	+1.5
SPCR	Spurr Chakacha	5.55	21		Pn	03 30 41.0	+1.7
SPU	Mount Spurr	5.57	22		Pn	03 30 40.8	+1.3
O22K	Cooper Landing	5.61	36	Pn	Pn	03 30 40.5	+0.5
SPCP	Crater Peak Br	5.62	21		Pn	03 30 41.6	+1.3
M13K	Dall Lake	5.70

MCK McKinley 8.51 23 Pn Pn 03 31 19.8 0.0
MCK McKinley 8.51 23 P Pn 03 31 19.8 0.0
WACK Wrangell Chich 8.54 41 Pn 03 31 20.4 0.0
ISLE Juniper Island 8.63 53 Pn Pn 03 31 21.0 -0.6
MESA MESA 8.63 56 Pn 03 31 21.7 +0.1
MCARA McCarthy VSAT 8.71 47 Pn 03 31 22.9 +0.3
KIAG Kiagna River 8.76 51 Pn 03 31 22.6 -0.8
I20K Naaghedeneel 8.78 5 Pn Pn 03 31 24.9 +1.5
YAH Yahtse 8.80 55 Pn Pn 03 31 23.0 -1.0
PAX Paxson 8.82 34 Pn 03 31 24.7 +0.6
PAX Paxson 8.82 34 P Pn 03 31 24.7 +0.6
PTPK Patty Peak 8.84 49 Pn 03 31 24.1 -0.4
GRNC Granite Creek 8.94 53 Pn Pn 03 31 25.3 -0.7
RKAV Rock Avalanche 8.96 56 Pn 03 31 25.4 -0.7
H17K Granite Mounta 9.04 350 Pn Pn 03 31 28.6 +1.5
TABL Table Mountain 9.10 55 Pn 03 31 27.2 -1.0
BARN Barnard Glacie 9.13 51 Pn Pn 03 31 27.5 -0.9
H18K Honhosa River 9.14 355 Pn Pn 03 31 29.6 +1.1
CTGM Chitina Glacie 9.23 52 Pn Pn 03 31 29.2 -0.6
NEA2 Nenana 9.24 20 Pn Pn 03 31 27.9 -2.0
M26K Nabesna, AK 9.29 42 Pn Pn 03 31 30.6 0.0
I21K Tanana 9.36 11 Pn Pn 03 31 31.7 +0.3
MLY Manley 9.37 15 Pn Pn 03 31 32.4 +0.7
PCA Pinnacle 9.40 58 Pn Pn 03 31 30.5 -1.6
H19K Roundabout Mou 9.46 360 Pn Pn 03 31 33.5 +0.7
CCB Clear Creek Bu 9.55 23 Pn Pn 03 31 32.0 -2.0
L26K Log Cabin Wild 9.56 38 Pn Pn 03 31 35.0 +0.8
RIDG Independent Ri 9.58 32 Pn Pn 03 31 34.5 0.0
ANM Nome 9.59 336 Pn Pn 03 31 36.3 +1.7
ANM Nome 9.59 336 P Pn 03 31 36.3 +1.7
BCPM Bancas Point 9.65 60 Pn Pn 03 31 35.2 -0.3
O28M Mount Upton 9.66 54 Pn Pn 03 31 35.2 -0.6
M27K Edge Creek, AK 9.69 44 Pn Pn 03 31 36.5 +0.4
PNL Peninsula 9.70 61 Pn 03 31 35.2 -0.9
I23K Minto, Yukon-K 9.70 18 Pn Pn 03 31 34.6 -1.4
COLA College 9.74 22 *c iP* Pn 03 31 36.0 -0.6
H21K Melozitna Rive 9.74 9 Pn Pn 03 31 37.5 +0.8
DOT Dot Lake 9.75 34 Pn Pn 03 31 37.1 +0.3
G16K Koyuk River 9.78 345 Pn Pn 03 31 40.2 +3.1
IL31 9.86 24 Pn Pn 03 31 36.4 -1.9
ILAR Eielson Array 9.86 24 Pn 03 31 36.9 -1.4
ILAR Eielson Array 9.86 24 Pn Pn 03 31 36.1 -2.1
comp=N,1.8nm,0.3s,baz=216,slow=14,SNR=73
ILAR Sn Sn 03 33 21.1 -6.5
comp=N,1.0nm,0.3s,baz=14,slow=25,SNR=5.5
ILAR Eielson Array 9.86 24 P Pn 03 31 36.9 -1.4
G18K Tagagawik 9.89 354 Pn Pn 03 31 40.4 +1.6
IMAR Indian Mountai 10.00 6 Pn 03 31 41.6 +1.4
SCRK Sand Creek 10.01 33 Pn 03 31 40.2 -0.3
POKR Poker Plat Res 10.04 22 Pn 03 31 40.1 -0.6
J25K Salcha River, 10.10 28 Pn Pn 03 31 40.5 -1.1
L27K Beaver Creek, 10.12 40 Pn Pn 03 31 42.0 +0.1
BCAR Beaver Creek A 10.14 41 Pn Pn 03 31 41.6 -0.5
O29M Mount Kennedy 10.26 58 Pn Pn 03 31 43.7 -0.3
H23K Yukon River 10.29 16 Pn Pn 03 31 43.5 -0.7
F15K North Star Dit 10.45 341 Pn Pn 03 31 48.8 +2.5
P29M Windy Craggy 10.51 63 Pn Pn 03 31 46.7 -0.5
J26L Joseph Creek 10.52 32 Pn 03 31 47.0 -0.5
G21K Allakaket 10.54 6 Pn Pn 03 31 48.4 +0.8
H24K Noodor Dome 10.59 19 Pn Pn 03 31 46.4 -1.9
F17K Baldwin Pennin 10.64 349 Pn Pn 03 31 51.7 +2.8
K27K Chicken 10.65 36 Pn Pn 03 31 49.8 +0.7
F19K Shaleruckik Mo 10.80 357 Pn Pn 03 31 52.7 +1.6
PRP Porcupine Dome 10.80 25 Pn Pn 03 31 50.2 -1.1
HYT Haines Junctio 10.92 57 Pn Pn 03 31 53.4 +0.5
F20K Avaraart Lake 10.99 1 Pn Pn 03 31 55.8 +2.1
TNA Tin City 11.03 334 Pn Pn 03 31 56.6 +2.4
G23K Bananza Creek 11.06 13 Pn Pn 03 31 53.6 -1.2
S31K Pelican 11.11 72 Pn Pn 03 31 55.0 -0.3
M29M Somme Creek 11.11 48 Pn Pn 03 31 55.4 -0.1
I26K Coal Creek Min 11.24 29 Pn Pn 03 31 57.0 -0.2
F21K Alatna River 11.24 6 Pn 03 31 59.4 +2.2
N30M Aishikik Lake 11.32 54 Pn Pn 03 31 58.1 -0.2
E19K Redstone River 11.41 358 Pn Pn 03 32 01.3 +1.9
G24K Hadweenzic Riv 11.44 18 Pn Pn 03 31 57.3 -2.5
EGAK Eagle 11.45 34 Pn Pn 03 32 00.3 +0.3
COLD Coldfoot 11.53 12 Pn Pn 03 32 00.6 -0.5
E18K Tukpahlearik C 11.54 352 Pn 03 32 04.0 +2.8
L29M L29M 11.56 45 Pn 03 32 02.1 +0.5
O30N Mendenhall 11.57 58 Pn Pn 03 32 00.9 -0.9
DAWY Dawson 11.60 40 Pn 03 32 03.2 +1.2
SIT Sitka 11.62 77 Pn Pn 03 32 00.1 -2.2
SIT Sitka 11.62 77 P Pn 03 32 00.1 -2.2
SKAG Skagway 11.69 65 Pn 03 32 03.3 0.0
FYU Fort Yukon 11.75 22 Pn Pn 03 32 02.0 -2.1
BESE Bessie Mountai 11.85 69 Pn Pn 03 32 06.0 +0.4
M30M Minto, Yukon 11.87 49 Pn Pn 03 32 06.2 +0.4
N31M Braeburn, Yuko 11.92 55 Pn Pn 03 32 07.2 +0.8
R32K Eaglecrest 12.02 71 Pn Pn 03 32 07.7 -0.1
WHY Whitehorse 12.12 59 Pn Pn 03 32 08.4 -1.0
K29M Barlow Dome 12.16 43 Pn Pn 03 32 11.0 +1.1
E22K Anaktuvuk Pass 12.26 8 Pn Pn 03 32 11.1 0.0
H27K Steamboat Moun 12.38 29 Pn Pn 03 32 12.2 -0.5
G26K Porcupine Rive 12.39 23 Pn Pn 03 32 10.5 -2.3
E24K Your Creek 12.55 14 Pn Pn 03 32 13.6 -1.5
F25K Christian Rive 12.56 19 Pn Pn 03 32 12.3 -2.9
BMAR Burnt Mountain 12.62 21 Pn Pn 03 32 12.9 -3.2
M31M Drury Creek, Y 12.77 52 Pn Pn 03 32 18.7 +0.6
G27K Doyon Strip 12.79 27 Pn Pn 03 32 16.1 -2.2
KIWB Kanaga Island 12.99 260 Pn Pn 03 32 19.5 -1.1
TOLK Toolik Lake Re 12.96 11 Pn Pn 03 32 21.5 +0.9
J30M Hart River 12.99 41 Pn Pn 03 32 22.6 +1.4
G29M Pine Creek 13.85 31 Pn Pn 03 32 33.2 +0.4
R33M Jennings River 13.90 66 Pn Pn 03 32 34.0 +0.3
MMPY Sheldon Lake, 14.29 53 Pn Pn 03 32 39.1 +0.3
H31M Peel River 14.36 38 Pn Pn 03 32 40.5 +0.8
DLBC Dease Lake 14.39 70 Pn Pn 03 32 40.8 +0.6
comp=N,10nm,0.3s,baz=265,slow=9.7,SNR=12
DLBC Sn Sn 03 35 18.1 -0.3
comp=N,1.1nm,0.3s,baz=284,slow=23,SNR=2.0
DLBC LR LR 03 38 09.3
comp=N,983nm,19.1s,baz=250,slow=37
comp=N,14nm,0.3s
G30M tAoh Zraii Nji 14.43 33 Pn Pn 03 32 41.0 +0.3
E29M Blow River 14.93 27 Pn Pn 03 32 45.6 -1.8
E29M IAmb IAmb 03 32 57.8
comp=Z,14nm,0.7s
F30M Barrier River 14.97 31 Pn Pn 03 32 46.9 -1.0
G31M Satah River 15.01 35 Pn Pn 03 32 47.7 -0.7
G31M IAmb IAmb 03 32 55.2
comp=Z,13nm,0.6s
INK Inuvik 16.07 31 Pn Pn 03 33 02.0 -0.1
INK Inuvik 16.07 31 Pn Pn 03 33 01.7 -0.4
comp=Z,1.2nm,0.3s,baz=237,slow=11,SNR=21
INK LR LR 03 39 53.6
comp=Z,105nm,19.1s,baz=135,slow=40
comp=Z,5.8nm,0.6s
INK Inuvik 16.07 31 P Pn 03 33 02.0 -0.1
INK pmax pmax
comp=Z,11nm,0.6s
BBB Bella Bella 16.93 92 LR LR 03 38 04.7
comp=Z,82nm,21.1s,baz=274,slow=31
SHEM Shemya Is, Ala 17.47 271 LR LR 03 39 18.1
comp=Z,112nm,20.0s,baz=154,slow=35
C36M Paulatuk 19.53 35 P 03 33 43.5 +0.3
A36M Sachs Harbour 20.54 27 P P 03 33 55.5 +1.3
BILL Bilibino 20.79 320 ↓ *iP* P 03 33 56.3 -0.7
BILL pmax pmax
comp=Z,15nm,1.0s
YKAW3 Yellowknife Wh 21.91 56 P P 03 34 09.0 0.0
YKAW3 IAmb IAmb 03 34 10.3
comp=Z,11nm,0.8s
YKA Yellowknife Ar 21.91 56 P P 03 34 06.9 -2.1
YKA Yellowknife Ar 21.91 56 P P 03 34 09.4 +0.3
comp=Z,7.0nm,0.7s,baz=318,slow=16,SNR=26
YKA LR LR 03 43 21.3
comp=Z,81nm,21.3s,baz=299,slow=38
comp=Z,7.0nm,0.7s
YKAW1 Yellowknife Wh 21.97 56 P P 03 34 09.3 -0.4
YKAW1 IAmb IAmb 03 34 11.0
comp=Z,11nm,0.8s
B08A Colville Reser 23.71 93 P P 03 34 28.8 +1.1
NEW Newport 25.00 92 LR LR 03 43 07.8
comp=Z,65nm,19.5s,baz=298,slow=33
J05D Fort Rock, OR 25.76 105 P P 03 34 49.5 +2.9
J05D IAmb IAmb 03 34 50.5
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 26.04 109 LR LR 03 42 51.5
comp=Z,6.5nm,19.4s,baz=297,slow=31
SEY Seymchan 26.26 306 P P 03 34 49.1 -1.6
comp=Z,7.1nm,0.6s,baz=98,slow=10,SNR=15
SEY LR LR 03 46 47.0
comp=Z,67nm,18.3s,baz=58,slow=40
comp=Z,7.1nm,0.6s
SEY Seymchan 26.26 306 ↓ *iP* P 03 34 49.3 -1.4
SEY pmax pmax
comp=Z,7.0nm,0.6s
K05A Summer Lake 26.32 105 P P 03 34 53.9 +2.1
PEA0B Petropavlovsk- 26.41 283 P P 03 34 50.8 -1.5
PEA0B IAmb IAmb 03 34 54.5
comp=Z,17nm,0.7s
PEA0B Petropavlovsk- 26.41 283 ↑ *eP* P 03 34 52.9 +0.6
PETK Petropavlovsk- 26.41 283 P P 03 34 51.1 -1.2
comp=Z,7.7nm,0.5s,baz=73,slow=13,SNR=23
comp=Z,7.7nm,0.5s
O03E Paynes Creek 27.55 110 P P 03 35 04.6 +1.9
MA2 Magadan 27.75 299 LR LR 03 46 46.6
comp=Z,57nm,18.5s,baz=111,slow=38
PAHR Pah Rah Range 29.25 108 P P 03 35 18.9 +1.0
EGMT Eagleton 29.25 86 P P 03 35 18.4 +0.7
FFC Flin Flon 30.22 69 P P 03 35 26.6 +0.4
FFC Flin Flon 30.22 69 P P 03 35 26.6 +0.4
FFC pmax pmax
comp=Z,3.0nm,1.0s
YHH Holmes Hill 30.54 92 P P 03 35 30.6 +1.2
NVAR Mina Array Bea 30.76 109 P P 03 35 33.8 +2.5
NVAR Mina Array Bea 30.76 109 P P 03 35 33.2 +1.9
comp=Z,2.6nm,0.7s,baz=308,slow=8.8,SNR=26
NVAR PcP PcP 03 38 28.7 +0.6
comp=Z,0.5nm,0.5s,baz=307,slow=2.7,SNR=8.7
NVAR LR LR 03 45 25.6
comp=Z,103nm,21.6s,baz=314,slow=31
comp=Z,2.6nm,0.7s
NV11 Mina Array Sit 30.83 109 P P 03 35 33.4 +1.5
YNE Yellowstone No 30.88 91 P P 03 35 33.8 +1.5
DSP Deep Springs 31.72 110 P P 03 35 42.4 +2.9
R11B Troy Canyon, C 32.27 106 P P 03 35 46.6 +2.1
R11B IAmb IAmb 03 35 47.5
comp=Z,5.0nm,0.7s
PD31 Pinedale Array 32.55 94 P P 03 35 48.2 +1.3
PDAR Pinedale Array 32.55 94 P P 03 35 48.3 +1.3
comp=Z,0.8nm,0.5s,baz=322,slow=4.2,SNR=17
PDAR LR LR 03 46 53.2
comp=Z,22nm,19.8s,baz=295,slow=32
comp=Z,0.8nm,0.5s
TPNV Topopah Spring 32.95 108 P P 03 35 53.0 +2.5
TPNV IAmb IAmb 03 35 53.8
comp=Z,8.2nm,0.8s
TPNV Topopah Spring 32.95 108 P P 03 35 53.0 +2.5
TPNV pmax pmax
comp=Z,8.0nm,0.9s
PRN Pahroc Range 33.24 107 P P 03 35 54.9 +1.8
PRN IAmb IAmb 03 35 56.3
comp=Z,10nm,0.9s
BSUT Blindstream Ca 33.37 98 P P 03 35 56.2 +1.9
TIXI Tiksi 33.68 327 P P 03 35 54.2 -2.1
TIXI IAmb IAmb 03 35 55.7
comp=Z,6.4nm,0.6s
TIXI Tiksi 33.68 327 ↓ *iP* P 03 35 55.2 -1.1
TIXI pmax pmax
comp=Z,5.0nm,0.6s
CCUT Cedar City 34.05 105 P P 03 36 01.8 +1.6
Q16A Castle Valley 34.27 101 P P 03 36 04.4 +2.4
Q16A IAmb IAmb 03 36 05.5
comp=Z,5.5nm,0.9s
SRU San Rafael Swe 34.49 100 P P 03 36 06.7 +2.8
SRU San Rafael Swe 34.49 100 P P 03 36 06.7 +2.8
SRU pmax pmax
comp=Z,13nm,0.8s
LCMT Little Creek M 34.51 105 P P 03 36 05.6 +1.6
LCMT IAmb IAmb 03 36 07.2
comp=Z,4.6nm,0.8s
V12A Nelson 34.61 108 P P 03 36 06.8 +1.9
V12A IAmb IAmb 03 36 08.3
comp=Z,6.9nm,0.8s
KIP Kipapa 34.65 183 ↓ *eP* P 03 36 08.2 +3.1
KIP pmax pmax
comp=Z,161nm,2.5s
KNB Kanab 34.73 105 P P 03 36 08.2 +2.1
KNB IAmb IAmb 03 36 09.3
comp=Z,5.5nm,0.9s
KNB Kanab 34.73 105 P P 03 36 08.2 +2.1
KNB pmax pmax
comp=Z,6.0nm,0.9s
O20A White River Ci 35.04 96 P P 03 36 09.9 +1.2
HMU Henry Mountain 35.20 102 P P 03 36 11.9 +1.7
PFO Pinyon Flats O 35.39 113 LR LR 03 48 30.6
comp=Z,58nm,18.7s,baz=268,slow=32
ULM Lac du Bonnet 35.67 73 P P 03 36 14.4 +0.7
comp=Z,6.7nm,0.5s,baz=301,slow=7.5,SNR=4.7
ULM LR LR 03 50 35.4
comp=Z,52nm,20.4s,baz=346,slow=36
comp=Z,6.7nm,0.5s
PV22 Blue Mesa, Par 35.85 99 P P 03 36 16.6 +0.9
PV22 IAmb IAmb 03 36 20.2
comp=Z,5.5nm,1.0s
PV04 Paradox Valley 35.89 99 P P 03 36 14.5 -1.4
PV04 IAmb IAmb 03 36 19.3
comp=Z,6.0nm,1.0s
PV20 West Nyswonger 35.89 99 P P 03 36 17.6 +1.6
PV20 IAmb IAmb 03 36 19.8
comp=Z,6.9nm,0.8s
PV19 Morning Glory 35.90 99 P P 03 36 16.5 +0.3
PV19 IAmb IAmb 03 36 19.4
comp=Z,9.9nm,1.1s
PV18 Skein Mesa, Pa 35.99 99 P P 03 36 17.5 +0.7
PV18 IAmb IAmb 03 36 21.2
comp=Z,7.9nm,0.9s
PV03 Paradox Valley 36.02 99 P P 03 36 18.0 +0.9
PV03 IAmb IAmb 03 36 20.3
comp=Z,5.2nm,1.2s
PV13 Radium Mtn., P 36.10 99 P P 03 36 19.1 +1.2
PV13 IAmb IAmb 03 36 20.4
comp=Z,7.4nm,1.0s
PV02 Paradox Valley 36.11 99 P P 03 36 17.4 -0.5
YAK Yakutsk 36.55 310 LR LR 03 52 58.6
comp=Z,50nm,19.1s,baz=57,slow=39
YAK Yakutsk 36.55 310 *eP* P 03 36 18.9 -2.2
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.5s
AGMN Agassiz Nation 36.78 76 P P 03 36 23.6 +0.4
MVCO Mesa Verde 36.96 100 P P 03 36 25.5 +0.4
MVCO IAmb IAmb 03 36 27.3
comp=Z,5.8nm,0.9s
EPLO Experimental L 37.14 73 P P 03 36 26.7 +0.5
EPLO IAmb IAmb 03 36 27.3
comp=Z,7.0nm,0.7s
X16A Lo Mia Camp, P 37.42 106 P P 03 36 31.4 +2.3
X16A IAmb IAmb 03 36 32.6
comp=Z,6.4nm,0.9s
NEEM North Greenlan 39.11 20 *iP* P 03 36 41.8 -1.1
NEEM IAmb IAmb 03 36 45.9
comp=Z,6.6nm,1.0s
EYMN Ely 39.35 74 P P 03 36 45.2 +0.3
JKA Kamikawa-asahi 39.66 279 P P 03 36 47.3 -0.2
JKA IAmb IAmb 03 36 52.3
comp=Z,11nm,1.1s
ASAJ Asahikawa 39.66 279 LR LR 03 55 22.0
comp=Z,24nm,18.9s,baz=139,slow=40
ASAJ Asahikawa 39.66 279 P P 03 36 47.3 -0.2
ASAJ pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 39.74 101 LR LR 03 51 10.8
comp=Z,58nm,20.3s,baz=55,slow=33
ANMO Albuquerque 39.74 101 ↓ *eP* P 03 36 49.8 +1.3
ANMO pmax pmax
comp=Z,2.0nm,0.8s
E38A The Farm, Brul 40.13 75 P P 03 36 51.9 +0.5
NOR Nord 40.85 8 *iP* P 03 36 56.2 -0.7
FRB Frobisher Bay 41.28 42 LR LR 03 54 42.1
comp=Z,82nm,18.6s,baz=288,slow=37
G40A Rib Lake 41.71 76 P P 03 37 04.3 -0.1
G40A IAmb IAmb 03 37 10.5
comp=Z,9.4nm,1.1s
I40A Norwalk 42.37 78 P P 03 37 09.3 -0.5
I40A IAmb IAmb 03 37 10.5
comp=Z,10nm,0.6s
CLN7 Carlsbad 7 43.10 101 P P 03 37 17.3 +1.4
I42A Draeger Farm, 43.30 77 P P 03 37 16.6 -0.7
I42A IAmb IAmb 03 37 18.4
comp=Z,9.9nm,0.8s
P38A Dawn 43.62 85 P P 03 37 19.5 -0.4
WMOK Wichita Mounta 44.16 94 P P 03 37 25.6 +1.2
WMOK IAmb IAmb 03 37 26.3
comp=Z,6.0nm,0.8s
WMOK Wichita Mounta 44.16 94 P P 03 37 25.6 +1.2
WMOK pmax pmax
comp=Z,6.0nm,0.8s
E46A Sault Ste Mari 44.17 71 P P 03 37 24.5 +0.2
P40A Paris 44.51 84 P P 03 37 26.8 -0.3
SUMG Summit 44.70 22 *iP* P 03 37 28.5 -0.2
SUMG IAmb IAmb 03 37 32.2
comp=Z,7.5nm,0.9s
DAG Danmarks Havn 44.72 13 *iP* P 03 37 28.0 -0.3
DAG IAmb IAmb 03 37 28.6
comp=Z,9.9nm,0.7s
HDIL Hopedale 45.33 81 P P 03 37 33.0 -0.5
TX31 Lajitas Ar. Si 45.54 103 P P 03 37 37.2 +1.8
TXAR Lajitas Array 45.54 103 P P 03 37 36.7 +1.2
comp=Z,3.0nm,0.7s,baz=310,slow=5.6,SNR=49
TXAR PcP PcP 03 39 14.0 +0.3
comp=Z,1.1nm,0.6s,baz=334,slow=0.5,SNR=7.4
TXAR LR LR 03 54 58.6
comp=Z,35nm,20.3s,baz=274,slow=34
comp=Z,3.0nm,0.7s
OZNA Ozona 45.71 100 P P 03 37 37.5 +0.7
OZNA IAmb IAmb 03 37 38.1
comp=Z,6.1nm,0.6s
PLPT Palo Pinto 45.84 95 P P 03 37 38.1 +0.4
PLPT IAmb IAmb 03 37 39.7
comp=Z,7.2nm,0.7s
SPITS Spitsbergen Ar 45.91 2 P P 03 37 37.5 -0.2
comp=Z,1.3nm,0.3s,baz=19,slow=5.3,SNR=24
comp=Z,1.3nm,0.3s
SPB2 Spitsbergen Ar 45.91 2 P P 03 37 37.6 -0.1
LPIG La Paz 46.22 114 LR LR 03 54 19.9
comp=Z,34nm,19.6s,baz=32,slow=32
VLDQ Val d'Or 46.59 65 P P 03 37 41.9 -1.5
VLDQ IAmb IAmb 03 37 42.7
comp=Z,8.1nm,0.8s
DBG Daneborg 46.60 15 *iP* P 03 37 42.3 -0.9
DBG IAmb IAmb 03 37 43.6
comp=Z,7.4nm,0.6s
BRDY Brady 46.61 97 P P 03 37 43.8 0.0
BRDY IAmb IAmb 03 37 45.3
comp=Z,5.3nm,0.8s
DY2G Dye2 47.05 31 *iP* P 03 37 41.6 -5.4
MJAR Matsushiro Arr 47.28 274 P P 03 37 47.5 -1.5
comp=Z,1.6nm,0.6s,baz=38,slow=6.1,SNR=5.2
MJAR LR LR 03 55 22.7
comp=Z,20nm,21.8s,baz=251,slow=33
comp=Z,1.6nm,0.6s
SCHQ Schefferville 47.28 52 P P 03 37 48.1 -0.6
SCHQ Schefferville 47.28 52 P P 03 37 48.5 -0.3
comp=Z,48nm,0.5s,baz=302,slow=6.7,SNR=18
SCHQ LR LR 03 58 58.2
comp=Z,637nm,18.1s,baz=281,slow=38
TRQ Mont Tremblant 49.33 65 P P 03 38 03.5 -1.2
LDAQ Lac Daran 49.79 61 P P 03 38 08.2 0.0
LDAQ IAmb IAmb 03 38 08.4
comp=Z,7.3nm,1.1s
CLTN Cedars of Leba 50.13 83 P P 03 38 11.2 +0.3
P53A Whipple 50.41 76 P P 03 38 11.4 -1.5
P53A IAmb IAmb 03 38 12.6
comp=Z,9.1nm,1.0s
L56A Greenwood 50.60 71 P P 03 38 14.0 -0.3
FRNY Flat Rock 50.78 66 P P 03 38 15.0 -0.6
NCB Newcomb 51.05 67 P P 03 38 17.4 -0.3
NCB IAmb IAmb 03 38 18.1
comp=Z,9.5nm,1.1s
J59A Piesco 51.26 68 P P 03 38 18.6 -0.7
J59A IAmb IAmb 03 38 19.8
comp=Z,7.1nm,0.7s
M57A Sunshine Farm, 51.39 71 P P 03 38 19.9 -0.4
M57A IAmb IAmb 03 38 33.4
comp=Z,6.1nm,0.8s
D62A Allapoint, All 51.48 61 P P 03 38 19.8 -1.1
D62A IAmb IAmb 03 38 21.9
comp=Z,10nm,1.1s
FPAL Fort Paine 51.67 83 P P 03 38 21.8 -0.7
TKL Tuckaleechee C 51.87 81 LR LR 03 59 29.2
comp=Z,44nm,19.6s,baz=328,slow=35
G62A West of Eustis 52.05 63 P P 03 38 24.7 -0.5
G62A IAmb IAmb 03 38 25.7
comp=Z,7.8nm,0.9s
KSRS Korea Array 52.31 283 P P 03 38 27.0 -0.1
comp=Z,4.8nm,0.8s,baz=41,slow=7.2,SNR=8.8
KSRS LR LR 04 00 38.0
comp=Z,8μm,20.3s,baz=45,slow=36
comp=Z,4.8nm,0.8s
PKME Peaks-Kenny Pk 52.64 63 P P 03 38 29.1 -0.4
PKME IAmb IAmb 03 38 29.2
comp=Z,3.5nm,0.8s
I63A Otisfield 52.86 64 P P 03 38 30.5 -0.6
I63A IAmb IAmb 03 38 38.8
comp=Z,7.8nm,1.2s
WVL Waterville 52.95 63 P P 03 38 31.1 -0.7
K62A Royalston 53.00 67 P P 03 38 32.4 +0.2
KSCT Kent School, K 53.03 68 P P 03 38 32.4 0.0
G65A Princeton 53.54 62 P P 03 38 35.1 -1.0
G65A IAmb IAmb 03 38 43.0
comp=Z,4.6nm,1.0s
HAMF Hammerfest 53.56 360 *eP* P 03 38 35.9 0.0
WES Weston 53.67 66 P P 03 38 36.0 -1.1
WES Weston 53.67 66 P P 03 38 36.0 -1.1
WES pmax pmax
comp=Z,12nm,0.6s
JNU Nakatsue 53.87 277 LR LR 04 02 55.2
comp=Z,65nm,18.8s,baz=54,slow=38
VADS Vadso 54.02 358 *eP* P 03 38 38.6 -0.6
TLY Talaya 54.03 311 *cP* P 03 38 39.5 -0.1
TLY pmax pmax
comp=Z,12nm,0.8s
LMN Caledonia Moun 54.41 59 P P 03 38 41.5 -1.0
TRO Tromso 54.53 2 *eP* P 03 38 43.5 +0.5
JETT Jettan, Norway 54.63 1 *eP* P 03 38 44.4 +0.7
ARA0 ARCESS Array S 54.66 359 *eP* P 03 38 44.0 0.0
ARCES ARCESS Array B 54.66 359 P P 03 38 43.4 -0.6
comp=Z,1.4nm,0.4s,baz=14,slow=7.9,SNR=34
comp=Z,1.4nm,0.4s
KTK1 Kautokeino 55.20 0 *eP* P 03 38 49.1 +1.2
ULN Ulaanbaatar 55.33 306 *dP* P 03 38 49.3 0.0
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 55.65 306 P P 03 38 51.3 -0.3
SONM IAmb IAmb 03 38 52.6
comp=Z,5.3nm,0.7s
SONM Songino Array 55.65 306 P P 03 38 51.2 -0.4
comp=Z,5.0nm,0.5s,baz=43,slow=6.6,SNR=28
SONM LR LR 04 05 01.4
comp=Z,64nm,18.3s,baz=87,slow=39
comp=Z,5.0nm,0.5s
SONM Songino Array 55.65 306 P P 03 38 51.3 -0.3
SONM pmax pmax
comp=Z,5.0nm,0.7s
LEIR Leirfjorden 57.85 5 *eP* P 03 39 07.0 +0.3
HHC Hu-ho-hao-te 58.40 297 *eP* P 03 39 11.3 +0.2
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,66nm,5.1s
NSS Namsos 59.37 6 *eP* P 03 39 16.8 -0.4
ZAA0 Zalesovo Array 59.45 323 P P 03 39 16.8 -1.2
ZAA0 IAmb IAmb 03 39 18.8
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 59.45 323 P P 03 39 17.2 -0.9
ZALV Zalesovo Beam 59.45 323 P P 03 39 17.7 -0.3
comp=Z,1.0nm,0.3s,baz=46,slow=6.4,SNR=5.0
ZALV LR LR 04 07 53.0
comp=Z,28nm,18.1s,baz=92,slow=39
comp=Z,1.0nm,0.3s
MOL Molde 61.00 8 *eP* P 03 39 29.6 +1.2
AKN Aaknes 61.34 9 *eP* P 03 39 31.4 +0.6
DOMB Dombas 61.64 8 *eP* P 03 39 33.4 +0.5
NC303 NORSAR Array S 62.62 7 P P 03 39 39.8 +0.4
KLMR Klimovskoe 62.72 351 *eP* P 03 39 38.4 -1.7
KLMR pmax pmax
comp=Z,12nm,1.2s
FINES FINESS Array B 62.78 359 P P 03 39 40.3 -0.1
comp=Z,2.0nm,0.5s,baz=12,slow=7.2,SNR=15
comp=Z,2.2nm,0.5s
FINES FINESS Array B 62.78 359 *iP* P 03 39 40.5 0.0
FINES pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 62.79 7 P P 03 39 40.4 -0.2
comp=Z,2.1nm,0.6s,baz=352,slow=6.9
NB2 NORSAR Subarra 62.79 7 P P 03 39 41.2 +0.6
NB2 NORSAR Subarra 62.79 7 P P 03 39 40.4 -0.2
baz=352,slow=6.9

NOA	NORSAR Array B	62.79	7	P	P	03 39 40.5	-0.1
	comp=Z,3.4nm,0.7s,baz=352,slow=6.7,SNR=21						
	comp=Z,3.4nm,0.7s						
NORES	NORESS Array B	63.12	7	P	P	03 39 43.6	+0.9
KIRV	Kirov	63.82	345⇑	eP	P	03 39 47.3	-0.1
HFS	Hagfors	63.84	6	P	P	03 39 47.3	-0.2
	comp=Z,3.2nm,0.6s,baz=24,slow=4.0,SNR=20						
	comp=Z,3.2nm,0.6s						
KURK	Kurchatov	64.23	325	P	P	03 39 50.4	+0.2
KURK				IAmb	IAmb	03 39 50.8	
	comp=Z,3.5nm,0.7s						
KURK	Kurchatov	64.23	325d	iP	P	03 39 50.2	0.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURBB	Kurchatov Arra	64.34	325	P	P	03 39 50.4	-0.5
	comp=Z,2.2nm,0.7s,baz=28,slow=6.4,SNR=14						
	comp=Z,2.2nm,0.7s						
ARTI	Arti	64.39	339	P	P	03 39 50.1	-1.1
ARTI	Arti	64.39	339	P	P	03 39 50.5	-0.6
	comp=Z,10nm,0.8s,baz=59,slow=4.1,SNR=15						
	comp=Z,10nm,0.8s						
ARTI	Arti	64.39	339c	iP	P	03 39 50.6	-0.6
ARTI				*PP	sP	03 40 03.8	-1.7
ARTI						03 42 08.1	
ARTI				S	S	03 48 28.2	+1.4
ARTI				SS	SS	03 52 35.3	-0.7
ARTI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BORK	Borovoye	64.66	331⇑	eP	P	03 39 52.4	-0.6
BORK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA	Gaotai	65.18	304	eP	P	03 39 56.3	-0.5
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
MK31	Makanchi Array	66.34	320	deP	P	03 40 03.4	-0.6
MKAR	Makanchi Array	66.34	320	P	P	03 40 03.1	-0.9
MKAR	Makanchi Array	66.34	320	P	P	03 40 03.4	-0.6
	comp=Z,1.9nm,0.7s,baz=43,slow=5.7,SNR=9.5						
	comp=Z,1.9nm,0.7s						
EKB	Eskdalemuir	66.79	16	P	P	03 40 06.3	-0.3
EKA	Eskdalemuir Ar	66.80	16	P	P	03 40 06.9	+0.2
	comp=Z,3.5nm,0.7s,baz=333,slow=4.9,SNR=20						
	comp=Z,3.5nm,0.7s						
ESK	Eskdalemuir	66.81	16	P	P	03 40 07.1	+0.3
ESK	Eskdalemuir	66.81	16	P	P	03 40 07.1	+0.3
PABE	Paberze	68.75	360	P	P	03 40 18.8	-0.2
MNK	Minsk	69.71	357	iP	P	03 40 23.3	-1.6
MNK				i *PP	pP	03 40 35.2	-0.2
MNK				i		03 40 45.5	
MNK				i		03 42 57.7	
MNK				i PPP	PPP	03 44 39.6	
MNK				i S	S	03 49 30.2	-0.6
MNK				i *SS	sS	03 49 50.6	+2.6
MNK				i		03 50 21.6	
MNK				i SS	SS	03 54 00.2	+2.1
MNK				pmax	pmax		
	comp=E,4.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,8.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,18nm,14.0s						
AKTO	Aktyubinsk	70.07	337	P	P	03 40 26.9	-0.4
	comp=Z,4.4nm,0.8s,baz=3.7,slow=3.6,SNR=11						
	comp=Z,4.4nm,0.8s						
AB31	Akbulak array	70.75	336	P	P	03 40 31.0	-0.4
AB31				IAmb	IAmb	03 40 32.1	
	comp=Z,4.7nm,1.1s						
ABKAR	Akbulak array	70.75	336	P	P	03 40 31.1	-0.3
BOOM	Boomskoye usch	72.31	322	P	P	03 40 41.7	+0.5
BOOM				IAmb	IAmb	03 40 42.5	
	comp=Z,4.7nm,0.6s						
BOOM	Boomskoye usch	72.31	322	P	P	03 40 41.7	+0.5
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TARG	Taragay, Kyrgy	72.33	320	P	P	03 40 42.4	+0.8
TARG				IAmb	IAmb	03 40 43.5	
	comp=Z,2.6nm,0.5s						
TARG	Taragay, Kyrgy	72.33	320	P	P	03 40 42.4	+0.8
TARG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	Ala-Archa	72.68	323⇓	iP	P	03 40 44.1	+0.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DR12	Loma Pena Alta	72.94	82	P	P	03 40 44.6	-0.4
AKASG	Malin Array Be	73.47	356	P	P	03 40 47.1	-0.6
AKASG	Malin Array Be	73.47	356	P	P	03 40 46.9	-0.8
	comp=Z,3.5nm,0.4s,baz=8.7,slow=5.7,SNR=30						
	comp=Z,3.5nm,0.4s						
AKASG	Malin Array Be	73.47	356ce	P	P	03 40 47.0	-0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKBB	Malin Array Si	73.47	356	P	P	03 40 47.3	-0.3
AKBB	Malin Array Si	73.47	356de	P	P	03 40 47.0	-0.6
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKBB	Malin Array Si	73.47	356	P	P	03 40 47.0	-0.6
KIEV	Kiev	73.48	356	P	P	03 40 46.5	-1.2
KIEV	Kiev	73.48	356	P	P	03 40 46.5	-1.2
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIEV	Kiev	73.48	356	P	P	03 40 47.0	-0.7
	comp=Z,1μmcomp=Z,58nm,0.5s						
AK15	Malin Array Si	73.48	356	P	P	03 40 46.9	-0.8
AK01	Malin Array Si	73.48	356	P	P	03 40 46.9	-0.8
AK17	Malin Array Si	73.49	356	P	P	03 40 47.0	-0.8
AK11	Malin Array Si	73.49	356	P	P	03 40 47.0	-0.8
AK16	Malin Array Si	73.50	356	P	P	03 40 47.1	-0.7
AK02	Malin Array Si	73.51	356	P	P	03 40 47.1	-0.8
KKAR	Karatay Array	73.55	326	P	P	03 40 48.6	+0.3
KKAR	Karatay Array	73.55	326	P	P	03 40 48.6	+0.3
LUBAR	Lubar, Ukraine	74.30	357	P	P	03 40 51.7	-0.8
ARSB	Arslanbob	74.36	324	P	P	03 40 52.7	-0.5
ARSB				IAmb	IAmb	03 40 54.2	
	comp=Z,3.3nm,0.8s						
ARSB	Arslanbob	74.36	324	P	P	03 40 52.7	-0.5
ARSB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KWP	Kalwaria Pacla	74.64	1	P	P	03 40 54.5	0.0
	comp=Z,1nm,2.5s						
HNR	Honiara	74.65	225	LR	LR	04 07 14.3	
	comp=Z,26nm,19.7s,baz=144,slow=30						
PZH	PanZhiHua	74.70	295	P	P	03 40 55.8	+0.4
KHC	Kasperske Hory	74.80	7	eP	P	03 40 50.0	-5.5
KHC	Kasperske Hory	74.80	7	eP	P	03 40 50.0	-5.5
KHC	Kasperske Hory	74.80	7	P	P	03 40 55.2	-0.3
	comp=Z,6.7nm,2.5s						
KSH	Kashi	74.94	321	P	P	03 41 00.1	+3.5
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LANS	Liptovska Anna	75.06	3	eP	P	03 40 58.9	+1.9
LANS	Liptovska Anna	75.06	3	eP	P	03 40 58.9	+1.9
CELP	Cerrillos	75.06	80	P	P	03 40 56.8	-0.6
CELP				IAmb	IAmb	03 41 11.6	
	comp=Z,6.8nm,0.9s						
GERES	GERESS Array B	75.10	7	P	P	03 40 57.7	+0.4
	comp=Z,1.0nm,0.5s,baz=357,slow=5.3,SNR=9.7						
	comp=Z,1.0nm,0.5s						
BUR08	Bucovina Ar. S	76.62	359	P	P	03 41 05.9	-0.1
BURAR	Bucovina Array	76.65	359	P	P	03 41 06.1	-0.1
FUORN	Ofenpass-Fuorn	77.03	9	P	P	03 41 09.2	+0.7
FUORN				IAmb	IAmb	03 41 27.8	
	comp=Z,2.7nm,0.8s						
TUE	Stuetta	77.09	10	P	P	03 41 09.8	+0.9
GAR	Garm	77.33	324	P	P	03 41 10.2	+0.1
CHGR	Chuyangaron	78.01	325	P	P	03 41 14.1	+0.1
CHGR	Chuyangaron	78.01	325	P	P	03 41 14.1	+0.1
CHGR				pmax	pmax		
	comp=Z,23nm,0.7s						
KIV	Kislovodsk	79.03	346	eP	P	03 41 20.2	+0.7
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	79.23	346	P	P	03 41 21.2	+0.9
	comp=Z,2.4nm,0.9s,baz=306,slow=3.3,SNR=5.2						
	comp=Z,2.4nm,0.9s						
KBZ	Khabaz	79.23	346⇓	eP	P	03 41 21.6	+1.2
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PMG	Port Moresby	80.18	237	LR	LR	04 14 43.0	
	comp=Z,36nm,19.0s,baz=170,slow=34						
EVN	Everest	80.66	307	P	P	03 41 29.4	+0.2
EVN				IAmb	IAmb	03 41 30.5	
	comp=Z,5.1nm,0.8s						
ESDC	Sonseca Array	81.75	21	P	P	03 41 34.5	+0.4
ESDC	Sonseca Array	81.75	21	P	P	03 41 34.6	+0.5
	comp=Z,0.7nm,0.6s,baz=346,slow=4.8,SNR=7.5						
ESDC				LR	LR	04 22 54.2	
	comp=Z,15nm,18.1s,baz=227,slow=39						
	comp=Z,0.7nm,0.6s						
PDG	Podgorica	81.77	3	P	P	03 41 33.7	-0.3
PDG				IAmb	IAmb	03 41 38.7	
	comp=Z,5.3nm,1.1s						
CMAR	Chiang Mai Arr	82.79	292	P	P	03 41 39.2	-0.6
	comp=Z,1.7nm,0.4s,baz=32,slow=5.0,SNR=5.5						
CMAR				LR	LR	04 21 52.5	
	comp=Z,16nm,18.1s,baz=280,slow=38						
	comp=Z,1.7nm,0.4s						
CMAR	Chiang Mai Arr	82.79	292	iP	P	03 41 42.7	+2.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ANTO	Ankara	84.09	353	P	P	03 41 45.8	-0.4
	comp=Z,2.4nm,0.6s						
BR106	Keskin Array S	84.16	352	P	P	03 41 46.2	-0.5
	comp=Z,1.8nm,1.0s						
BR131	Keskin Array S	84.17	352⇓	eP	P	03 41 48.3	+1.6
BRTR	Keskin Array B	84.17	352	P	P	03 41 47.4	+0.7
BRTR	Keskin Array B	84.17	352	P	P	03 41 47.0	+0.2
	comp=Z,1.0nm,0.7s,baz=40,slow=2.7,SNR=7.3						
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	84.17	352	P	P	03 41 47.4	+0.7
BR105	Keskin Array S	84.18	352	P	P	03 41 46.3	-0.5
	comp=Z,1.9nm,1.0s						
BR104	Keskin Array S	84.19	352	P	P	03 41 46.4	-0.4
BNN	Bunyan	84.85	350	P	P	03 41 50.8	+0.6
BNN				IAmb	IAmb	03 41 53.0	
	comp=Z,4.8nm,0.8s						
MDP	Montagnes des	93.38	76	LR	LR	04 30 03.9	
	comp=Z,11nm,18.0s,baz=166,slow=39						
QSPA	South Pole Qui	145.88	180	PKPbc	PKPab	03 48 55.1	+1.2
	comp=Z,7.1nm,0.7s,baz=31,slow=0.6,SNR=39						
KGCAE	Kacgae	146.78	2	PKPbc	PKPdf	03 48 56.8	+1.1
BELA	Belgrano 2	150.67	158	PKPbc	PKPbc	03 49 04.5	-1.2

GCG 14 03:34:07.4±1.4, 14°.05N×91°.51W, h51km±27km, MD3.7, ML3.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKI	Kika Raxquin	0.77	8	iP	Pn	03 34 23.4	+0.8
SOKI				iS	Sn	03 34 34.9	+1.4
FG8	Yepocapa, Chim	0.95	77	iP	Pn	03 34 21.7	-2.9
FG8				eS	Sn	03 34 32.2	-5.0
SMCA	Catarina	0.97	326	eP	Pn	03 34 24.5	-0.2
FG16	Alotenango, Sa	1.00	77	eP	Pn	03 34 23.0	-2.4
FG16				iS	Sn	03 34 34.7	-3.8
FG16				IAML		03 34 40.0	
	comp=N,5μm,0.2s						
THIG		1.12	320	iP	Pn	03 34 26.7	-0.1
THIG				iS	Sn	03 34 41.7	+0.6
THIG				IAML		03 34 42.5	
	comp=N,331nm,0.5s						
APG	El Apazote	1.39	47	eP	Pn	03 34 32.4	+1.8
NUBE	Las Nubes	1.69	95	eP	Pn	03 34 34.6	0.0
JAYA	Jayaque - finc	2.04	101	eS	Sn	03 35 03.6	-0.4

IDC 14 03:53:08.2±4.6, 36°.08N×71°.25E, h93km±42km, mb3.5/9, mbtmp3.8/13, Error ellipse: s-maj=29.0km s-min=24.7km az=41.0
NNC 14 03:53:15.8±3.8, 36°.71N×71°.00E, h185km±39km, mb3.0, mpv3.9, Error ellipse: s-maj=35.6km s-min=26.6km az=54.0

ISC 14 03:53:19.8±1.6, 36°.9N±0°.1×70°.9E±0°.1, h150km, n18, σ1°87/20, mb3.5/7, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.19	357	⇑P	Pn	03 54 48.0	-1.0
	12nm,0.3s,baz=180,slow=12,SNR=98						
KK31				⇑S	Sn	03 56 01.4	+2.6
	7.1nm,0.4s,baz=188,slow=22,SNR=6.4						
AAK	Ala-Archa	6.35	25	P	Pn	03 54 49.2	-2.1
	5.3nm,0.3s,baz=169,slow=7.4,SNR=14						
AAK				S	Sn	03 56 05.0	+2.2
	4.7nm,0.6s,baz=306,slow=18,SNR=1.8						
AAK	Ala-Archa	6.35	25	⇓P	Pn	03 54 48.4	-2.9
	1.2nm,0.4s						
AAK				⇓S	Sn	03 56 04.5	+1.7
	7.2nm,1.0s						
MKAR	Makanchi Array	13.00	37	P	Pn	03 56 18.1	-0.9
	0.4nm,0.7s,baz=222,slow=9.4,SNR=1.7						
AB31	Akbulak array	14.69	331	⇓P	Pn	03 56 39.6	-0.5
	0.8nm,0.3s,baz=141,slow=13,SNR=89						
AB31				⇓S	Sn	03 59 22.0	-1.0
	2.4nm,0.6s,baz=150,slow=23,SNR=8.3						
KURBB	Kurchatov Arra	14.76	19	P	Pn	03 56 42.4	+1.5
	0.8nm,0.8s,baz=208,slow=10,SNR=4.9						
AKTO	Aktyubinsk	16.39	330	P	P	03 57 02.5	+1.3
	5.1nm,0.6s,baz=128,slow=8.7,SNR=15						
AKTO	Aktyubinsk	16.39	330	⇓P	Pn	03 56 57.9	-3.1
	4.5nm,0.8s						
AKTO				⇑S	S	04 00 00.6	-2.3
	2.0nm,0.8s						
ZALV	Zalesovo Beam	19.57	25	P	P	03 57 34.7	-1.2
	1.2nm,0.3s,baz=203,slow=9.9,SNR=5.9						
	1.2nm,0.3s						
FINES	FINESS Array B	37.10	326	P	P	04 00 16.9	+1.6
	2.2nm,0.9s,baz=129,slow=13,SNR=1.9						
	2.2nm,0.9s						
ARCES	ARCESS Array B	40.73	337	P	P	04 00 47.2	+1.8
	0.4nm,0.4s,baz=115,slow=8.6,SNR=6.8						
	0.4nm,0.4s						
HFS	Hagfors	42.70	322	P	P	04 01 02.5	+1.0
	1.9nm,0.6s,baz=111,slow=9.9,SNR=5.8						
	1.9nm,0.6s						
NB2	NORSAR Subarra	44.01	323	P	P	04 01 13.2	+1.2
	comp=Z,0.5nm,0.5s,baz=95,slow=7.9						
NOA	NORSAR Array B	44.01	323	P	P	04 01 12.9	+0.8
	comp=Z,0.4nm,0.5s,baz=96,slow=7.7,SNR=4.3						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	65.65	268	P	P	04 03 43.1	-5.1
	comp=Z,0.6nm,0.6s,baz=48,slow=7.5,SNR=9.3						
	comp=Z,0.6nm,0.6s						
BOSA	Boshof	78.02	220	P	P	04 04 55.2	-6.5
	comp=Z,2.3nm,0.8s,baz=19,slow=8.4,SNR=4.8						
	comp=Z,2.3nm,0.8s						
YKA	Yellowknife Ar	80.83	3	P	P	04 05 15.8	-0.6
	comp=Z,1.0nm,0.9s,baz=352,slow=6.4,SNR=1.7						
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	82.27	122	P	P	04 05 15.7	-8.9
	comp=Z,0.1nm,0.4s,baz=314,slow=5.4,SNR=4.7						
	comp=Z,0.1nm,0.4s						

NEIC 14 03:55:29.7±0.7, 33°.321N±0°.007×116°.430W±0°.007, h4km±1km, Error ellipse: s-maj=1.1km s-min=1.0km az=195.0

PAS 14 03:55:30.4±0.7, 33°.320N±0°.007×116°.421W±0°.009, h7km±1km, ML3.0/124, ML2.8/62(NEIC), Error ellipse: s-maj=1.0km s-min=1.0km az=62.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORC	Borrego Spring	0.05	176		Pg	03 55 32.1	+0.1
BORC				Sg	Sg	03 55 33.2	+0.1
BORC				IAML		03 55 33.5	
	comp=E,13μm,0.2s						
BORC				IAML		03 55 33.9	
	comp=N,6μm,0.3s						
SLH	Sleepy Hollow	0.19	132		Pg	03 55 34.4	+0.2
SLH					Sg	03 55 37.2	+0.4
MATG	Mataguay Scout	0.22	238		Pg	03 55 35.0	+0.2
MATG					Sg	03 55 38.2	+0.3
FRD	Ford Ranch, An	0.23	319		Pg	03 55 35.0	0.0
FRD					Sg	03 55 38.3	+0.2
FRD	Ford Ranch, An	0.23	319		Pg	03 55 35.1	+0.1
FRD					Sg	03 55 38.3	+0.1
BZNA	Buzz No.'s Pla	0.27	310		Pg	03 55 35.9	+0.2
BZNA					Sg	03 55 39.5	+0.2
JUEM	Julian Eagle M	0.28	212		Pg	03 55 36.1	+0.1
JUEM					Sg	03 55 40.2	+0.5
SNDA	J Saunders Pla	0.28	325		Pg	03 55 36.0	+0.1
SNDA					Sg	03 55 40.2	+0.5
XPFO	Pinon Flat	0.29	354		Pg	03 55 35.8	-0.4
XPFO					Sg	03 55 39.7	-0.4
PFO	Pinyon Flats O	0.29	354		Pg	03 55 35.6	-0.6
PFO				Sg	Sg	03 55 39.2	-0.9
PFO	Pinyon Flats O	0.29	354		Pg	03 55 35.9	-0.3
PFO					Sg	03 55 39.8	-0.3
DNR	Dunn Ranch,Anz	0.30	325		Pg	03 55 36.4	0.0
DNR				Sg	Sg	03 55 40.8	+0.4
PMD	Palm Desert	0.33	6		Pg	03 55 36.1	-0.7
PMD				Sg	Sg	03 55 40.5	-0.7
CRY	Cary Ranch	0.36	313		Pg	03 55 37.5	+0.1
CRY					Sg	03 55 42.4	+0.1
SALN	Salton City	0.37	96		Pg	03 55 37.6	+0.1
SALN				Sg	Sg	03 55 42.9	+0.6
SALN				IAML		03 55 43.5	
	comp=N,2μm,0.5s						
SALN				IAML		03 55 43.8	
	comp=E,2μm,0.5s						
PLM	Palomar	0.37	275		Pg	03 55 37.8	+0.1
PLM					Sg	03 55 43.1	+0.5
GVDA	Garner Valley	0.41	329		Sg	03 55 43.3	-0.4
GVDA	Garner Valley	0.41	329		Pg	03 55 38.0	-0.3
CTCC	Cactus City	0.49	47		Pg	03 55 39.8	-0.1
CTCC					Sg	03 55 46.4	0.0
DPP	Dos Picos Cty	0.54	234		Pg	03 55 40.4	-0.5
DPP				Sg	Sg	03 55 47.5	-0.4
DPP				IAML		03 55 47.9	
	comp=E,1μm,0.2s						
ERRC	Elmore Ranch	0.54	112		Pg	03 55 41.3	+0.6
ERRC					Sb	03 55 49.8	-0.3
EML	El Monte Cty P	0.56	220		Pg	03 55 40.8	-0.3
EML					Sg	03 55 48.1	-0.3
POB	Polly Butte	0.56	311		Pg	03 55 40.9	-0.2
POB					Sg	03 55 48.0	-0.4
CRR	Carrizo Plain	0.57	139		Pg	03 55 41.3	-0.2
CRR					Sg	03 55 49.8	+0.8
BOMB	Bombay Beach	0.58	85		Pg	03 55 41.6	0.0
BOMB					Sg	03 55 50.1	+1.0
CTW	Cottonwood Mou	0.58	52		Pg	03 55 41.3	-0.3
CTW					Sg	03 55 49.2	0.0
DGR	Domenigoni Val	0.59	304		Pg	03 55 41.5	-0.3
DGR					Sg	03 55 49.3	-0.2
BACC	Bachelor Mtn.	0.59	300		Pg	03 55 41.5	-0.3
BACC					Sg	03 55 49.1	-0.5
EW2	E Wide Canyon	0.62	1		Pg	03 55 41.9	-0.4
HMTC	Hemet	0.62	309		Pg	03 55 42.0	-0.4
HMTC					Sg	03 55 49.9	-0.7
DEVC	Devers	0.63	348		Pg	03 55 42.2	-0.3
DEVC					Sg	03 55 51.2	+0.5
SWSC	Sam W. Stewart	0.64	125		Pg	03 55 42.6	-0.1
SWSC					Sg	03 55 51.3	+0.2
FRK	Frink	0.66	83		Pg	03 55 42.7	-0.4
FRK					Sg	03 55 51.6	-0.1
BAR	Barrett	0.67	198		Pg	03 55 42.8	-0.5
BAR				Sg	Sg	03 55 51.3	-0.7
BAR				IAML		03 55 51.8	
	comp=N,869nm,0.2s						
BAR				IAML		03 55 51.9	
	comp=E,982nm,0.3s						
GORC	Green Oak Ranc	0.70	256		Pg	03 55 43.2	-0.6
GORC					Sg	03 55 52.5	-0.4
MURC	Murrieta	0.70	294		Pg	03 55 43.5	-0.4
MURC					Sg	03 55 53.1	0.0
CPE	Camp Elliot	0.72	233		Pg	03 55 43.5	-0.7
CPE				Sg	Sg	03 55 52.7	-0.8
IKP	In-Ko-Pah, Jac	0.72	159		Pg	03 55 43.8	-0.3
IKP					Sg	03 55 53.4	-0.1
HAY	Hayfield	0.73	58		Pg	03 55 44.4	0.0
HAY					Sg	03 55 54.4	+0.5
SDRC	San Diego Road	0.73	217		Pg	03 55 43.7	-0.7
SDRC					Sg	03 55 53.3	-0.5
MTRP	Mission Trails	0.73	227		Pg	03 55 43.8	-0.6
MTRP					Sg	03 55 53.2	-0.6
COK2	Cook Ranch 2	0.75	129		Pg	03 55 45.0	+0.3
COK2					Sb	03 55 55.5	-0.6
BLAC	Blackrock camp	0.75	2		Pg	03 55 44.2	-0.6
BLAC					Sg	03 55 54.7	+0.1
BELC	Belle Mtn. Jos	0.77	27		Pg	03 55 44.5	-0.6
BELC				Sg	Sg	03 55 54.5	-0.5
BELC				IAML		03 55 54.9	
	comp=E,315nm,0.5s						
TKX	Tecate	0.77	192		Pg	03 55 44.4	-0.7
TKX					Sg	03 55 54.4	-0.7
DUZA	Dulzura	0.77	203		Pg	03 55 44.4	-0.7
DUZA					Sg	03 55 54.3	-0.9
RMX	La Rumorosa	0.77	158		Pb	03 55 45.8	-0.3
RMX					Sb	03 55 56.7	-0.2
YUH	Yuha Desert	0.79	148		Pg	03 55 45.1	-0.4
YUH				Sg	Sg	03 55 55.6	-0.2
SDMC	San Diego Miss	0.81	229		Sg	03 55 55.9	-0.3
WESC	Westside Schoo	0.81	134		Pg	03 55 45.5	-0.3
WESC					Sg	03 55 56.8	+0.5
OLP	Otay Lakes Par	0.83	211		Pg	03 55 45.4	-0.9
OLP					Sg	03 55 56.1	-0.9
PEC	Perris	0.84	313		Pg	03 55 45.9	-0.6
PEC					Sg	03 55 56.6	-0.9
TPC	Twentynine Pal	0.84	21		Pg	03 55 45.7	-0.8
BC3	Big Chuckawall	0.88	67	Pg	Pg	03 55 46.4	-0.8
BC3				Sg	Sg	03 55 57.9	-0.7
BC3				IAML		03 55 59.2	
	comp=N,300nm,0.6s						
SGL	Mount Signal	0.89	139		Pg	03 55 47.1	-0.3
SGL					Sg	03 55 59.5	+0.6
ELS	Elsinore Mount	0.90	292		Pg	03 55 46.6	-1.1
ELS				Sg	Sg	03 55 58.4	-1.0
ELS				IAML		03 55 58.9	
	comp=E,228nm,0.3s						
ELS				IAML		03 55 59.0	
	comp=N,289nm,0.2s						
CFT	Crafton Hills	0.92	321		Pg	03 55 47.6	-0.3
CFT					Pb	03 55 47.7	-0.9
SLVP	Salvation Pass	0.94	95		Pg	03 55 46.7	-1.7
SLVP					Sg	03 55 59.8	-0.8
SLVP					Sb	03 55 60.0	-1.6
TJX	Tijuana	0.97	214	Pg	Pg	03 55 48.2	-0.7
TJX				Sg	Sg	03 56 00.8	-0.7
GTM	Goat Mountain	0.97	3		Pg	03 55 48.1	-1.0
GTM					Sg	03 56 01.1	-0.6
CBX	Cerro Bola	1.02	192		Pg	03 55 48.8	-1.2
CBX				Sg	Sg	03 56 02.4	-1.0
CBX				IAML		03 56 03.8	
	comp=E,383nm,0.3s						
CBX				IAML		03 56 05.8	
	comp=N,314nm,0.6s						
BBRC	Big Bear Solar	1.03	336		Pg	03 55 49.4	-0.8
RVR	Riverside	1.04	310		Pg	03 55 49.2	-1.1

PASC IAML 03 56 25.0
comp=E,58nm,0.4s
VTX Valle De La Tr 2.00 164 Pn Pn 03 56 04.2 -0.3
GSC Goldstone, Bar 2.00 351 Pn Pn 03 56 04.6 0.0
GSC IAML 03 56 39.5
comp=E,73nm,0.5s
113A Mohawk Valley, 2.30 103 Pn Pn 03 56 09.1 +0.4
LRMC Laurel Mtn Rad 2.39 335 Pn Pn 03 56 09.5 -0.6
WSHM Spangler Hills 2.44 339 Pn Pn 03 56 11.0 +0.3
QSM Queen of Sheba 2.67 352 Pn Pn 03 56 14.0 +0.3
CLC China Lake 2.67 339 Pn Pn 03 56 14.2 +0.4
V12A Nelson 2.73 28 Pn Pn 03 56 14.7 0.0
W13A Hualapai Mount 2.75 49 Pn Pn 03 56 14.3 -0.8
GWY Greenwater Val 2.87 356 Pn Pn 03 56 15.7 -0.9
MPMC Manual Prospec 2.87 342 Pn Pn 03 56 16.4 -0.3
ISA Isabella, Lake 2.89 325 Pn Pn 03 56 17.0 +0.2
ISA IAML 03 57 06.5
comp=E,19nm,1.1s
Y14A Wickenburg 2.92 77 Pn Pn 03 56 16.0 -1.2
SHPR Sheep Range 3.34 18 Pn Pn 03 56 22.8 -0.3
WCT Wildcat Mounta 3.47 357 Pn Pn 03 56 25.0 +0.2
TPNV Topopah Spring 3.62 2 Pn Pn 03 56 27.5 +0.5
GRAC Grapevine Rang 3.75 348 Pn Pn 03 56 29.1 +0.5
GRAC IAML 03 57 34.4
comp=E,12nm,1.4s
GRAC IAML 03 57 35.3
comp=N,19nm,0.8s
PRN Pahroc Range 4.23 15 Pn Pn 03 56 35.1 -0.2
DSP Deep Springs 4.24 343 Pn Pn 03 56 36.0 +0.8
X16A Lo Mia Camp, P 4.29 74 Pn Pn 03 56 35.3 -0.9
LCMT Little Creek M 4.51 34 Pn Pn 03 56 38.4 -0.8
KNB Kanab 4.72 38 Pn Pn 03 56 42.3 +0.2
MDPB Devils Postpil 4.82 334 Pn Pn 03 56 43.5 0.0
R11B Troy Canyon, C 5.06 7 Pn Pn 03 56 47.3 +0.4

*NIED **14** 04:01:56.8, 33°.82N×131°.69E, h16km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.34; $M_{\theta\theta}$2.04; $M_{\phi\phi}$-1.70; $M_{r\theta}$-1.05; $M_{\theta\phi}$0.43; $M_{\phi r}$0.86; Fault plane solution: $M_0$2.37000×10^{14} NP1: ϕ_s220.00000°, δ54.00000°, λ-173.00000°. NP2: ϕ_s126.00000°, δ84.00000°, λ-36.00000°.*

JMA 14 04:01:56.8±0.0, 33°.8N±0°.1×131°.7E±0°.1, h16km, MD3.9/20, MV4.0/20, SUONADA SETONAIKAI, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.21**	**208**	P	Pg	04 02 01.8	+0.1
JKI				S	Sg	04 02 04.9	-0.1
JKI	**Kunimi**	**0.21**	**208**	A	A	04 02 01.8	
	comp=N,48nm,0.5s,comp=E,49nm,0.4s						
JKD	**Kudamatsu**	**0.28**	**33**	P	Pg	04 02 02.8	0.0
JKD				S	Sg	04 02 06.8	-0.2
JKD	**Kudamatsu**	**0.28**	**33**	A	A	04 02 02.8	
	comp=N,15nm,0.5s,comp=E,20nm,1.4s						
JBEP	**Beppuamama**	**0.54**	**206**	A	A	04 02 07.2	
	comp=N,19nm,0.7s,comp=E,11nm,0.4s						
JTY	**Toyota**	**0.68**	**311**	A	A	04 02 09.8	
	comp=N,11nm,0.3s,comp=E,8.0nm,0.2s						
JNA	**Nagahama**	**0.71**	**111**	*i* P	Pg	04 02 09.8	-0.9
JNA				S	Sg	04 02 19.3	-0.7
UWA2	**Uwa jima 2**	**0.99**	**127**	*i* P	Pb	04 02 15.5	-0.1
UWA2				*e*S	Sg	04 02 28.9	0.0
JHT	**Toyohira**	**1.04**	**36**	*i* P	Pb	04 02 15.9	-0.5
JHT				S	Sb	04 02 29.7	-0.1
JHGM	**Hagimishima**	**1.06**	**335**	P	Pb	04 02 16.5	-0.3
JHGM				*e*S	Sb	04 02 30.8	+0.3

*IDC **14** 04:20:38.8±2.0, 1°.80N×126°.97E, h0km, mb3.5/3, mbtmp3.5/4, ML3.3/1, MS3.0/1, Error ellipse: s-maj=122.0km s-min=25.2km az=69.0*
*DJA **14** 04:20:45.5±0.9, 2°.N±3°×12°.7E±°, h12km±8km, M3.4/8, MLv3.4/8*

ISC 14 04:20:41.9±1.1, 1°.5N±0°.1×126°.3E±0°.2, h10km, n7, σ1°.33/8, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**126**	P	**Pn**	**04 21 07.0**	**+1.1**
TNTI				S	**Sn**	**04 21 23.2**	**+0.1**
SGSI	**Sangihe**	**2.29**	**339**	P	**Pb**	**04 21 23.1**	**-0.2**
LBMI	**Labuha**	**2.45**	**152**	P	**Pb**	**04 21 25.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**04 25 11.2**	**+1.6**
	0.1nm,0.3s,baz=20,slow=12,SNR=1.0						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**22.74**	**160**	P	**P**	**04 25 42.5**	**-2.0**
	0.5nm,0.5s,baz=340,slow=11,SNR=8.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.11**	**164**	P	**P**	**04 26 16.1**	**-0.2**
	0.4nm,0.5s,baz=342,slow=10,SNR=6.8						
ASAR				LR	LR	04 38 20.0	
	comp=Z,36nm,20.0s,baz=293,slow=40						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.13**	**326**	P	**P**	**04 30 42.2**	**-0.7**
	0.4nm,0.5s,baz=121,slow=7.3,SNR=4.9						
	0.4nm,0.5s						

*NEIC **14** 05:07:18.4±2.0, 19°.17N±0°.03×67°.12W±0°.02, h10km±1km, mb3.9/10, ML3.6/21, Md3.4/12(RSPR), Error ellipse: s-maj=5.5km s-min=3.5km az=340.0*
*RSPR **14** 05:07:22.7, 19°.10N×67°.15W, h44km±6km, MD3.4/12*
*OSPL **14** 05:07:22.5±1.6, 19°.03N×67°.01W, h0km±51km, ML3.6*
*SDD **14** 05:07:23.8±2.3, 18°.96N×67°.03W, h8km±13km, MD3.4, ML3.6, MW3.6*

ISC 14 05:07:20.2±1.2, 19°.14N±0°.04×67°.06W±0°.03, h28km±10km, n87, σ1°.45/108, mb3.9/4, 34C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.83**	**142**		**Pn**	**05 07 37.0**	**+1.0**
EMPR	**Esperanza - Ma**	**0.83**	**142**		**Sn**	**05 07 49.0**	**+1.7**
EMPR	**Esperanza - Ma**	**0.83**	**142**	Pn	**Pn**	**05 07 37.3**	**+1.3**
EMPR					**Sn**	**05 07 47.6**	**+0.3**
EMPR	**Esperanza - Ma**	**0.83**	**142**	⇑*e*P	**Pn**	**05 07 37.0**	**+1.0**
EMPR	**Esperanza - Ma**	**0.83**	**142**	*e*S	**Sn**	**05 07 49.0**	**+1.7**
AOPR	**Arecibo Observ**	**0.84**	**160**		**Pn**	**05 07 36.4**	**+0.2**
AOPR					**Sb**	**05 07 46.4**	**-0.8**
AOPR	**Arecibo Observ**	**0.84**	**160**	⇓*e*P	**Pn**	**05 07 36.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.84**	**160**	⇑*i*P	**Pn**	**05 07 36.5**	**+0.2**
AOPR				⇑*i*S	**Sb**	**05 07 44.7**	**-2.6**
AOPR				IAML		05 07 47.2	
	comp=N,3μm,0.2s						
IDE	**Isla Desecheo**	**0.84**	**207**		**Pb**	**05 07 36.5**	**+0.2**
IDE					**Sb**	**05 07 47.0**	**-0.3**
IDE	**Isla Desecheo**	**0.84**	**207**	⇑*e*P	**Pb**	**05 07 36.5**	**+0.2**
IDE	**Isla Desecheo**	**0.84**	**207**	*e*S	**Sb**	**05 07 47.0**	**-0.3**
PRSN	**Puerto Rico Se**	**0.92**	**185**		**Pn**	**05 07 37.4**	**+0.1**
PRSN	**Puerto Rico Se**	**0.92**	**185**		**Sb**	**05 07 48.1**	**-1.4**
PRSN	**Puerto Rico Se**	**0.92**	**185**	⇑*e*P	**Pn**	**05 07 37.4**	**+0.1**
PRSN	**Puerto Rico Se**	**0.92**	**185**	*e*S	**Sb**	**05 07 49.2**	**-0.3**
PRSN	**Puerto Rico Se**	**0.92**	**185**	⇑*i*P	**Pn**	**05 07 37.4**	**+0.1**
PRSN				⇑*i*S	**Sb**	**05 07 47.5**	**-2.0**
PRSN				IAML		05 07 53.6	
	comp=N,5μm,0.2s						
UUPR	**Utuado, UPR, P**	**0.94**	**160**	Pn	**Pb**	**05 07 37.8**	**-0.1**
UUPR					**Sb**	**05 07 49.4**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.94**	**160**	⇑*e*P	**Pb**	**05 07 37.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.94**	**160**	*e*S	**Sb**	**05 07 49.9**	**-0.1**
LSP	**Las Mesas**	**0.96**	**181**		**Pn**	**05 07 38.2**	**+0.3**
LSP					**Sb**	**05 07 50.6**	**0.0**
LSP	**Las Mesas**	**0.96**	**181**	⇓*e*P	**Pn**	**05 07 38.2**	**+0.3**
LSP	**Las Mesas**	**0.96**	**181**	*e*S	**Sb**	**05 07 50.6**	**0.0**
ECPR	**Experimental S**	**1.05**	**141**	⇑*e*P	**Pb**	**05 07 40.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.13**	**182**		**Pn**	**05 07 40.6**	**+0.5**
CRPR				Sn	**Sn**	**05 07 54.9**	**+0.3**
CRPR				IAML		05 07 55.2	
	comp=N,1μm,0.6s						
CRPR				IAML		05 07 56.6	
	comp=E,1μm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.13**	**182**	⇑*e*P	**Pn**	**05 07 40.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.13**	**182**	⇑*i*P	**Pn**	**05 07 40.6**	**+0.5**
CRPR				*i* S	**Sn**	**05 07 53.1**	**-1.6**
CRPR				IAML		05 07 55.0	
	comp=N,1μm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.13**	**182**	*i* P	**Pn**	**05 07 40.6**	**+0.5**
CRPR				*e*S	**Sn**	**05 07 54.2**	**-0.5**
CRPR				IAML		05 07 55.1	
	comp=Z,837nm,0.3s						
CELP	**Cerrillos**	**1.16**	**157**		**Pb**	**05 07 41.3**	**-0.2**
CELP					**Sb**	**05 07 55.8**	**-0.3**
CELP				IAML		05 07 56.3	
	comp=N,2μm,0.4s						
CELP				IAML		05 07 56.4	
	comp=E,1μm,0.2s						
CELP	**Cerrillos**	**1.16**	**157**	⇑*e*P	**Pb**	**05 07 41.3**	**-0.2**
CELP	**Cerrillos**	**1.16**	**157**	*e*S	**Sb**	**05 07 55.8**	**-0.3**
CELP	**Cerrillos**	**1.16**	**157**	⇑*i*P	**Pb**	**05 07 41.4**	**-0.1**
CELP				⇑*i*S	**Sn**	**05 07 53.7**	**-1.6**
CELP				IAML		05 07 56.5	
	comp=N,2μm,0.2s						
MLPR	**Magueyes Islan**	**1.17**	**179**	⇑*e*P	**Pn**	**05 07 41.1**	**+0.5**
MLPR	**Magueyes Islan**	**1.17**	**179**	*e*S	**Sn**	**05 07 55.1**	**-0.4**
MLPR	**Magueyes Islan**	**1.17**	**179**	⇑*i*P	**Pn**	**05 07 41.2**	**+0.5**
MLPR				⇑*i*S	**Sn**	**05 07 54.2**	**-1.4**
MLPR				IAML		05 08 03.1	
	comp=N,281nm,0.3s						
OBIP	**Obispado Ponce**	**1.18**	**158**		**Pb**	**05 07 41.6**	**-0.2**
OBIP					**Sn**	**05 07 56.1**	**+0.3**
OBIP				IAML		05 07 56.7	
	comp=N,2μm,0.2s						
OBIP				IAML		05 07 59.0	
	comp=E,864nm,0.4s						
OBIP	**Obispado Ponce**	**1.18**	**158**	⇑*e*P	**Pb**	**05 07 41.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.18**	**158**	*e*S	**Sn**	**05 07 56.1**	**+0.3**
GCPR	**Guaynabo City**	**1.24**	**132**		**Pb**	**05 07 42.9**	**-0.2**
GCPR					**Sb**	**05 07 59.1**	**+0.5**
GCPR	**Guaynabo City**	**1.24**	**132**	⇑*e*P	**Pb**	**05 07 42.8**	**-0.2**
GCPR	**Guaynabo City**	**1.24**	**132**	*e*S	**Sb**	**05 07 59.1**	**+0.5**
SJG	**San Juan**	**1.34**	**140**		**Pb**	**05 07 44.2**	**-0.5**
SJG				Sn	**Sb**	**05 08 01.5**	**+0.1**
SJG				IAML		05 08 09.4	
	comp=E,596nm,0.4s						
SJG				IAML		05 08 10.9	
	comp=E,566nm,0.4s						
SJG	**San Juan**	**1.34**	**140**	⇑*e*P	**Pb**	**05 07 44.7**	**0.0**
SJG	**San Juan**	**1.34**	**140**	*e*S	**Sb**	**05 08 01.3**	**-0.1**
SJG	**San Juan**	**1.34**	**140**	*i* P	**Pb**	**05 07 45.5**	**+0.9**
SJG				⇑*i*S	**Sn**	**05 07 59.7**	**-0.2**
SJG	**San Juan**	**1.34**	**140**	*i* P	**Pb**	**05 07 44.6**	**0.0**
SJG				IAML		05 08 06.8	
	comp=Z,243nm,0.2s						
IGPR	**InterUniversit**	**1.48**	**142**		**Pb**	**05 07 46.5**	**-0.6**
IGPR	**InterUniversit**	**1.48**	**142**	⇑*e*P	**Pb**	**05 07 46.5**	**-0.6**
PDPR	**Patillas Dam,**	**1.49**	**138**		**Pb**	**05 07 46.3**	**-0.9**
PDPR				IAML		05 08 08.4	
	comp=N,443nm,0.2s						
PDPR	**Patillas Dam,**	**1.49**	**138**	⇑*e*P	**Pb**	**05 07 46.4**	**-0.8**
PDPR	**Patillas Dam,**	**1.49**	**138**	*e*S	**Sn**	**05 08 02.3**	**-1.3**
HIDR	**Higuey Centro**	**1.66**	**251**	⇑*e*P	**Pb**	**05 07 49.7**	**-0.3**
HIDR	**Higuey Centro**	**1.66**	**251**	⇑*i*P	**Pb**	**05 07 49.4**	**-0.7**
HIDR				⇑*i*S	**Sb**	**05 08 10.8**	**+0.3**
HIDR				IAML		05 08 21.7	
	comp=N,639nm,0.3s						
MIDR	**Miches**	**1.89**	**266**	⇑*e*P	**Pb**	**05 07 52.9**	**-1.0**
MIDR	**Miches**	**1.89**	**266**	⇑*i*P	**Pb**	**05 07 53.0**	**-0.9**
MIDR				⇑*i*S	**Sb**	**05 08 18.3**	**+1.2**
MIDR				IAML		05 08 24.1	
	comp=N,222nm,0.3s						
MIDR				IAML		05 08 26.9	
	comp=N,174nm,1.0s						
DR12	**Loma Pena Alta**	**2.22**	**261**		**Pn**	**05 07 55.3**	**+0.1**
HATOM	**Hato Mayor del**	**2.22**	**261**	⇑*i*P	**Pb**	**05 07 58.2**	**-1.5**
HATOM				⇑*i*S	**Sb**	**05 08 26.5**	**-0.3**
HATOM				IAML		05 08 37.6	
	comp=N,186nm,0.7s						
NADR	**Nagua**	**2.65**	**275**	⇑*i*P	**Pb**	**05 08 07.9**	**+1.0**
NADR				*i* S	**Sb**	**05 08 37.5**	**-1.5**
NADR				IAML		05 08 60.0	
	comp=N,823nm,0.3s						
SDD	**Santo Domingo**	**2.78**	**256**	Pn	**Pn**	**05 08 01.6**	**-1.2**
SDD	**Santo Domingo**	**2.78**	**256**	*i* P	**Pn**	**05 08 06.2**	**+3.3**
DR08	**Loma La Naviza**	**2.80**	**267**	⇑*i*P	**Pn**	**05 08 06.8**	**+3.5**
DR08				⇓*i*S	**Sn**	**05 08 39.8**	**+3.7**
DR08				IAML		05 08 57.1	
	comp=N,2μm,0.2s						
SC01	**Santiago de lo**	**3.47**	**275**	Pn	**Pn**	**05 08 12.1**	**-0.3**
SC01	**Santiago de lo**	**3.47**	**275**	*i* P	Pn	05 08 16.8	+4.4
SMRT	**St. Maarten**	**3.94**	**105**		**Pn**	**05 08 20.3**	**+1.6**
SMRT				IAML		05 10 59.5	
	comp=N,121nm,0.2s						
LOPP1	**Punta Rusia, P**	**3.96**	**281**	*i* P	**Pn**	**05 08 22.3**	**+3.2**
LOPP1				IAML		05 09 40.4	
	comp=Z,102nm,0.9s						
SDDR	**Presa de Saban**	**4.00**	**268**	Pn	**Pn**	**05 08 19.1**	**-0.6**
SDDR				IAML		05 09 30.2	
	comp=Z,106nm,0.8s						
SDDR	**Presa de Saban**	**4.00**	**268**	*i* P	**Pn**	**05 08 23.9**	**+4.3**
SDDR				IAML		05 09 32.4	
	comp=Z,80nm,0.6s						
PODR	**Polo**	**4.12**	**257**	*i* P	**Pn**	**05 08 25.3**	**+3.9**
LONE3	**El Aguacate, B**	**4.20**	**263**	*i* P	Pn	05 08 27.1	+4.7
LONE3				IAML		05 09 34.7	
	comp=Z,40nm,1.9s						
LODU1	**El Espartillar**	**4.25**	**260**	*i* P	Pn	05 08 28.1	+5.0
LODU1				IAML		05 09 40.8	
	comp=Z,66nm,0.4s						
LOBH	**Bahia de las A**	**4.52**	**254**	*i* P	**Pn**	**05 08 31.0**	**+4.2**
LOBH				IAML		05 09 38.7	
	comp=Z,50nm,1.2s						
MASC	**Masc**	**6.83**	**280**	*e*P	**Pn**	**05 08 57.2**	**-1.4**
MASC				*e*S	**Sn**	**05 10 12.1**	**-3.3**
QMBU	**Quimbuelo**	**7.38**	**279**	*e*P	**Pn**	**05 09 04.9**	**-1.2**
QMBU				*e*S	**Sn**	**05 10 23.6**	**-5.3**
MOAC	**Moa**	**7.58**	**283**	*e*P	**Pn**	**05 09 07.9**	**-0.9**
RCC	**Rio Carpintero**	**8.18**	**277**	*e*P	**Pn**	**05 09 15.5**	**-1.6**
PINC	**Pinares de May**	**8.32**	**281**	*e*P	**Pn**	**05 09 16.4**	**-2.6**
MARVS	**Santiago de Cu**	**8.38**	**277**	*e*P	**Pn**	**05 09 18.3**	**-1.4**
HLGC	**Holguin**	**8.64**	**283**	*e*P	**Pn**	**05 09 23.3**	**0.0**
YAR	**Yar**	**8.84**	**279**	*e*P	**Pn**	**05 09 24.3**	**-1.8**
SIUN	**Universidad Ur**	**17.82**	**255**	Pn	**Pn**	**05 11 24.2**	**-2.0**
SIUN				IAmb	IAmb	05 11 27.9	
	comp=Z,7.4nm,1.4s						
BOAV	**Boa Vista**	**17.83**	**158**	Pn	**Pn**	**05 11 25.7**	**-0.7**
NHSC	**New Hope**	**18.20**	**322**	P	**Pn**	**05 11 30.2**	**-0.6**
PAULI	**Pauline**	**20.37**	**323**	P	**P**	**05 11 54.0**	**-0.6**
PAULI				IAmb	IAmb	05 12 08.7	
	comp=Z,5.7nm,0.6s						
S54A	**Dingess, Beckl**	**22.36**	**329**	P	**P**	**05 12 15.3**	**-0.8**
S54A				IAmb	IAmb	05 12 34.3	
	comp=Z,5.2nm,1.3s						
CPCT	**Cooper Cave**	**22.41**	**320**	P	**P**	**05 12 16.4**	**-0.1**
CPCT				IAmb	IAmb	05 12 20.8	
	comp=Z,7.0nm,1.5s						
M63A	**Gales Ferry**	**22.59**	**350**	P	**P**	**05 12 17.2**	**-1.2**
MACA	**Manacapuru-AM**	**23.03**	**164**	P	**P**	**05 12 23.0**	**-0.3**
MACA				IAmb	IAmb	05 12 43.7	
	comp=Z,4.3nm,0.8s						
PB16	**IPOC Station P**	**37.32**	**184**	P	**P**	**05 14 29.3**	**-1.5**
PB16				IAmb	IAmb	05 14 45.8	
	comp=Z,1.8nm,1.1s						

*IDC **14** 05:07:42.4±2.5, 15°.12S×167°.50E, h117km±20km, mb4.0/13, mbtmp4.4/14, MS3.6/6, Error ellipse: s-maj=22.4km s-min=16.6km az=85.0*
*NEIC **14** 05:07:43.9±1.3, 15°.1S±0°.1×167°.5E±0°.1, h121km±4km, mb4.6/21, Error ellipse: s-maj=18.9km s-min=17.7km az=97.0*

ISC 14 05:07:43.8±0.6, 15°.14S±0°.07×167°.5E±0°.1, h129km, n50, σ0°.97/52, mb4.6/24, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.41**	**222**		**Pn**	**05 08 01.5**	**-0.8**
DZM	**Mont Dzumac**	**6.97**	**188**	P	**Pn**	**05 09 23.1**	**-0.4**
	15nm,0.4s,baz=45,slow=3.4,SNR=76						
DZM				S	**Sn**	**05 10 39.6**	**-1.7**
ONTNC	**Ouen Toro**	**7.20**	**188**		**Pn**	**05 09 27.2**	**+0.7**
PINNC	**Pines Island,**	**7.43**	**180**	Pn	**Pn**	**05 09 30.3**	**+0.6**
TOZ	**Tahuroa Road**	**23.60**	**164**	P	**P**	**05 12 43.9**	**+1.0**
TOZ				IAmb	IAmb	05 12 45.1	
	comp=Z,22nm,0.7s						
INZ	**Inchbonnie**	**27.70**	**174**		**P**	**05 13 20.2**	**+0.4**
STKA	**Stephens Creek**	**28.89**	**230**		**P**	**05 13 31.5**	**+1.0**
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**05 13 31.2**	**+0.7**
	comp=Z,10nm,0.6s,baz=48,slow=8.0,SNR=25						
STKA				PcP	**PcP**	**05 16 36.8**	**0.0**
	comp=Z,3.0nm,0.6s,baz=75,slow=4.8,SNR=5.8						
STKA				LR	LR	05 24 50.3	
	comp=Z,73nm,18.5s,baz=31,slow=36						
	comp=Z,10nm,0.6s						
TOO	**Toolangi**	**29.65**	**217**	P	**P**	**05 13 37.9**	**+0.6**
WB0	**Warramunga Arr**	**31.87**	**257**	P	**P**	**05 13 56.0**	**-1.0**
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**05 13 56.6**	**-0.9**
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**05 13 56.5**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=86,slow=8.6,SNR=20						
WRA				PcP	**PcP**	**05 16 44.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=93,slow=2.2,SNR=6.3						
WRA				ScP	**ScP**	**05 20 17.2**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=84,slow=3.8,SNR=3.6						
WRA				LR	LR	05 26 42.6	
	comp=Z,32nm,19.9s,baz=216,slow=36						
	comp=Z,1.7nm,0.6s						
AS31	**Alice Springs**	**32.73**	**250**	P	**P**	**05 14 03.7**	**-0.8**
AS31				IAmb	IAmb	05 14 04.8	
	comp=Z,4.1nm,0.5s						
ASAR	**Alice Springs**	**32.73**	**250**	P	**P**	**05 14 03.0**	**-1.4**
ASAR	**Alice Springs**	**32.73**	**250**	P	**P**	**05 14 03.7**	**-0.8**
	comp=Z,8.4nm,0.7s,baz=77,slow=9.2,SNR=77						
ASAR				PcP	**PcP**	**05 16 46.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=78,slow=3.6,SNR=3.0						
ASAR				ScP	**ScP**	**05 20 20.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=100,slow=2.7,SNR=1.9						
ASAR				LR	LR	05 26 59.5	
	comp=Z,28nm,18.6s,baz=102,slow=35						
	comp=Z,8.4nm,0.7s						
BBOO	**Buckleboo**	**33.50**	**233**		**P**	**05 14 11.9**	**+0.9**
FORT	**Forrest**	**39.27**	**240**	P	**P**	**05 15 00.5**	**+0.4**
FORT				IAmb	IAmb	05 15 01.0	
	comp=Z,8.1nm,0.7s						
PSA00	**Pilbara Seismi**	**45.53**	**255**	P	**P**	**05 15 51.5**	**+0.7**
PSA00	**Pilbara Seismi**	**45.53**	**255**	P	**P**	**05 15 51.6**	**+0.7**
PSA00				IAmb	IAmb	05 16 23.2	
	comp=Z,18nm,1.4s						
MORW	**Morawa**	**49.28**	**245**	P	**P**	**05 16 20.2**	**+0.4**
MORW				IAmb	IAmb	05 16 20.2	
	comp=Z,9.0nm,0.8s						
TGY	**Tagaytay City**	**54.44**	**300**	LR	LR	05 39 28.8	
	comp=Z,73nm,20.2s,baz=16,slow=35						
VNDA	**Vanda**	**62.46**	**181**		**P**	**05 17 52.9**	**+0.1**
VNDA	**Vanda**	**62.46**	**181**	P	**P**	**05 17 52.5**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=356,slow=7.9,SNR=33						
	comp=Z,2.3nm,0.5s						
SBA	**Scott Base**	**62.73**	**180**		**P**	**05 17 55.7**	**+1.0**
SBA				IAmb	IAmb	05 17 56.2	
	comp=Z,7.3nm,0.8s						
CASY	**Casey**	**63.23**	**202**	P	**P**	**05 17 57.4**	**-0.7**
CASY				IAmb	IAmb	05 18 38.1	
	comp=Z,10.0nm,1.4s						
PSI	**Prapat**	**70.13**	**279**	LR	LR	05 49 27.4	
	comp=Z,111nm,20.2s,baz=247,slow=36						
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**05 19 11.8**	**+1.6**
QSPA				IAmb	IAmb	05 19 12.8	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**05 19 11.9**	**+1.6**
	comp=Z,8.7nm,0.8s,baz=5.1,slow=2.6,SNR=48						
	comp=Z,8.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.31**	**294**	P	**P**	**05 19 14.6**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=134,slow=4.5,SNR=7.6						
	comp=Z,1.3nm,0.3s						
MAW	**Mawson**	**81.59**	**202**	P	**P**	**05 19 46.6**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=112,slow=5.4,SNR=6.0						
	comp=Z,1.9nm,0.9s						
SONM	**Songino Array**	**82.95**	**324**	P	**P**	**05 19 55.0**	**+0.6**
SONM	**Songino Array**	**82.95**	**324**	P	**P**	**05 19 54.8**	**+0.3**
	comp=Z,2.5nm,1.1s,baz=143,slow=4.8,SNR=9.2						
	comp=Z,2.5nm,1.1s						
BRDH	**Bariadhala**	**83.19**	**296**	LR	LR	05 58 32.7	
	comp=Z,83nm,18.0s,baz=190,slow=37						
SHL	**Shillong**	**83.95**	**298**		**P**	**05 20 00.8**	**+0.6**
SHL				IAmb	IAmb	05 20 01.2	
	comp=Z,9.6nm,0.8s						
BERG	**Berg Lake**	**84.81**	**22**	P	**P**	**05 20 04.1**	**+0.7**
ILAR	**Eielson Array**	**86.85**	**18**	P	**P**	**05 20 12.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=231,slow=5.7,SNR=5.7						
	comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**87.38**	**49**	P	**P**	**05 20 17.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=263,slow=5.1,SNR=2.7						
	comp=Z,0.3nm,0.8s						
EVN	**Everest**	**89.00**	**299**		**P**	**05 20 25.4**	**+0.1**
EVN				IAmb	IAmb	05 20 26.6	
	comp=Z,7.3nm,1.3s						
TROLL	**Troll, Antarti**	**92.47**	**185**	⇑P	**P**	**05 20 38.9**	**-1.1**
	comp=Z,214nm,0.7s						
SNAA	**Sanae**	**93.15**	**183**	⇑P	**P**	**05 20 41.5**	**-1.6**
	comp=Z,41nm,0.7s						
SNAA	**Sanae**	**93.15**	**183**	P	**P**	**05 20 41.7**	**-1.4**
SNAA				IAmb	IAmb	05 20 43.7	
	comp=Z,3.4nm,1.1s						
SNAA	**Sanae**	**93.15**	**183**	P	**P**	**05 20 41.4**	**-1.6**
	comp=Z,2.0nm,0.8s

7.7nm,0.2s
USP Ospenovka 1.06 315 ⇑P Pg 05 15 22.3 -0.1
2.4nm,0.1s,SNR=17
USP ⇓S Sb 05 15 37.1 +0.1
5.9nm,0.1s
USP Ospenovka 1.06 315 ⇓iP Pg 05 15 22.1 -0.3
USP ⇓iS Sg 05 15 36.1 -0.1
TNSS Tian-Shan 1.16 63 eP Pn 05 15 25.5 +0.4
0.4nm,0.1s
TNSS eS Sn 05 15 41.1 -0.4
2.1nm,0.2s
KRBS Karabastau 1.18 5 P Pb 05 15 24.9 +0.1
1.4nm,0.1s
KRBS S Sg 05 15 40.0 0.0
6.2nm,0.2s
KDJ Kajisay 1.28 107 ⇑iP Pn 05 15 27.1 +0.5
KDJ ⇑iS Sn 05 15 44.7 +0.6
EKS2 Erkin-Say 1.30 277 ⇑P Pn 05 15 27.5 +0.7
5.0nm,0.1s,SNR=23
EKS2 ⇓S Sn 05 15 45.0 +0.4
3.7nm,0.2s
EKS2 Erkin-Say 1.30 277 ⇑iP Pg 05 15 26.6 -0.4
EKS2 ⇑iS Sb 05 15 43.9 0.0
KTBS Karatobe 1.46 35 P Pg 05 15 30.3 +0.3
10nm,0.2s
KTBS S Sn 05 15 49.2 +0.9
3.0nm,0.2s
JNKS Jany-Kuch 1.46 176 ⇑iP Pb 05 15 30.2 +0.5
JNKS ⇑iS Sn 05 15 50.0 +1.4
MRKS Merke 1.72 278 eP Pg 05 15 35.2 +0.4
3.2nm,0.1s
MRKS eS Sg 05 15 57.7 +0.6
9.2nm,0.1s
TARG Taragay, Kyrgy 1.87 114 ⇑iP Pg 05 15 36.7 -1.1
TARG ⇑iS Sg 05 16 01.2 -0.8
SALK Salom-Alik 2.08 219 ⇓iP Pb 05 15 39.3 -0.8
SALK ⇓iS Sb 05 16 05.7 -0.5
ARXS Arharly 2.38 44 Pg Pb 05 15 45.9 +0.6
3.3nm,0.3s
ARXS Lg Lg 05 16 16.0
2.9nm,0.2s
ARXS Arharly 2.38 44 eP Pg 05 15 46.3 -1.3
4.3nm,0.2s
ARXS eS Sg 05 16 16.9 -1.5
4.5nm,0.1s
KPKS Kokpek 2.50 67 Pg Pg 05 15 49.8 -0.1
3.4nm,0.4s
KPKS Lg Lg 05 16 23.0
4.2nm,0.4s
UZB Uzynbulak 2.64 75 Pg Pg 05 15 52.3 -0.3
8.7nm,0.4s
UZB Lg Lg 05 16 27.0
2.5nm,0.4s
UZB Uzynbulak 2.64 75 eP Pg 05 15 52.3 -0.3
0.5nm,0.1s
UZB eS Sg 05 16 27.2 +0.3
3.9nm,0.3s

*IDC **14** 05:16:16.8±1.4, 37.°70N×21.°21E, h0km, mb3.6/7, mbtmp3.5/9, ML3.8/1, MS3.0/5, Error ellipse: s-maj=30.0km s-min=23.7km az=128.0*
*ATH **14** 05:16:18.2, 37.°64N×20.°87E, h19km, ML3.6/15, Manual Solution by P.Lantzourakis First location: 2019/10/14 05:17:11, This location: 2021/06/18 15:30:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **14** 05:16:20.4, 38.°N±2.°×2.°1E±.°, h11km±1km, M3.4/23, MLh3.4/23*
*NAO **14** 05:16:48.8, 40.°48N×21.°24E, h33km, mb3.1*
ISC 14 05:16:19.3±0.8, 37.°67N±0.°02×20.°92E±0.°02, h15km±5km, n86, σ1°07/110, mb3.5/6, 7C-6D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
LTHK	**Lithakia**	**0.08**	**297**	P	**Pg**	**05 16 22.3**		**-0.1**
LTHK	**Lithakia**	**0.08**	**297**	P	**Pg**	**05 16 21.8**		**-0.6**
LTHK				S	**Sg**	**05 16 24.4**		**0.0**
ZAK2	**Zakynthos**	**0.12**	**351**	P	**Pg**	**05 16 23.0**		**+0.2**
KYPS	**Kipseli, Zakin**	**0.17**	**331**	P	**Pb**	**05 16 23.6**		**-0.5**
KYPS				S	**Sb**	**05 16 27.4**		**+0.2**
ORTH	**Orthonies,Zaky**	**0.25**	**315**	P	**Pg**	**05 16 24.9**		**+0.1**
ORTH				S	**Sb**	**05 16 30.2**		**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.27**	**37**	P	**Pb**	**05 16 25.4**		**-0.5**
CLEM				S	**Sb**	**05 16 30.4**		**0.0**
LCHA	**Lechaina**	**0.38**	**46**	P	**Pb**	**05 16 27.5**		**-0.2**
LCHA				S	**Sb**	**05 16 33.3**		**0.0**
RTZL	**Ratzakli, Kefa**	**0.42**	**343**	P	**Pb**	**05 16 28.2**		**-0.2**
PSDA	**Pessada-Kefalo**	**0.52**	**329**	P	**Pg**	**05 16 29.2**		**-0.3**
PSDA				S	**Sb**	**05 16 36.9**		**-0.4**
VLS	**Valsamata**	**0.57**	**332**	P	**Pg**	**05 16 30.3**		**-0.2**
VLS	**Valsamata**	**0.57**	**332**	P	**Pg**	**05 16 30.0**		**-0.6**
VLS				S	**Sb**	**05 16 38.6**		**-0.2**
RLS	**Riolos of Patr**	**0.58**	**48**	P	**Pb**	**05 16 31.0**		**0.0**
RLS	**Riolos of Patr**	**0.58**	**48**	P	**Pg**	**05 16 30.3**		**-0.4**
RLS				S	**Sb**	**05 16 39.2**		**+0.2**
ZARO	**Zacharo**	**0.61**	**108**	P	**Pg**	**05 16 31.0**		**-0.2**
ZARO				S	**Sb**	**05 16 40.2**		**+0.4**
ARG2	**Argostoli**	**0.61**	**326**	P	**Pb**	**05 16 31.5**		**-0.2**
ARG2	**Argostoli**	**0.61**	**326**	P	**Pg**	**05 16 30.9**		**-0.4**
ARG2				S	**Sb**	**05 16 39.9**		**-0.1**
SMHA	**Samh**	**0.62**	**339**	P	**Pg**	**05 16 29.9**		**-1.6**
SMHA				S	**Sg**	**05 16 39.3**		**-0.3**
AXS	**Araxos**	**0.63**	**34**	P	**Pb**	**05 16 31.9**		**-0.1**
AXS	**Araxos**	**0.63**	**34**	P	**Pb**	**05 16 31.6**		**-0.4**
AXS				S	**Sb**	**05 16 41.2**		**+0.6**
DRO	**Drossia**	**0.68**	**66**	P	**Pb**	**05 16 33.0**		**+0.1**
DRO	**Drossia**	**0.68**	**66**	P	**Pb**	**05 16 32.5**		**-0.4**
DRO				S	**Sb**	**05 16 42.7**		**+0.5**
FSK	**Fiskardo**	**0.83**	**340**	P	**Pg**	**05 16 35.2**		**-0.3**
FSK	**Fiskardo**	**0.83**	**340**	P	**Pg**	**05 16 34.4**		**-1.1**
FSK				S	**Sb**	**05 16 47.3**		**+0.8**
PATC	**Patra C**	**0.89**	**48**	P	**Pb**	**05 16 36.4**		**+0.1**
PATC				S	**Sn**	**05 16 49.1**		**-0.7**
UPR	**University Cam**	**0.91**	**48**	P	**Pb**	**05 16 36.7**		**-0.1**
UPR				S	**Sn**	**05 16 50.8**		**+0.4**
ITM	**Ithomi**	**0.94**	**121**	P	**Pn**	**05 16 38.3**		**+0.4**
ITM	**Ithomi**	**0.94**	**121**	P	**Pg**	**05 16 36.6**		**-0.9**
ITM				S	**Sb**	**05 16 50.5**		**+1.0**
EVGI	**Lefkada island**	**0.97**	**348**	P	**Pg**	**05 16 36.9**		**-1.2**
EVGI				S	**Sn**	**05 16 51.4**		**-0.4**
PYL1	**Pylos**	**0.98**	**141**	P	**Pb**	**05 16 36.6**		**-1.2**
PYL1				S	**Sb**	**05 16 50.5**		**0.0**
KLV	**Kalavryta, Ach**	**1.04**	**69**	P	**Pn**	**05 16 39.5**		**+0.1**
KLV	**Kalavryta, Ach**	**1.04**	**69**	P	**Pb**	**05 16 38.2**		**-0.8**
KLV				S	**Sg**	**05 16 52.9**		**-0.1**
NYDR	**Nydri-Lefkada**	**1.05**	**350**	P	**Pg**	**05 16 39.4**		**-0.3**
NYDR	**Nydri-Lefkada**	**1.05**	**350**	P	**Pb**	**05 16 38.6**		**-0.5**
MTHA	**Methoni**	**1.06**	**144**	P	**Pb**	**05 16 39.0**		**-0.3**
MTHA				S	**Sb**	**05 16 52.4**		**-0.4**
EFP	**Efpalio**	**1.08**	**46**	P	**Pn**	**05 16 39.9**		**+0.1**
EFP	**Efpalio**	**1.08**	**46**	P	**Pb**	**05 16 39.3**		**-0.3**
EFP				S	**Sn**	**05 16 54.8**		**+0.3**
LKD2	**Lefkada island**	**1.13**	**349**	P	**Pb**	**05 16 39.5**		**-1.1**
LKD2				S	**Sn**	**05 16 55.8**		**-0.1**
GUR	**Goura**	**1.15**	**76**	P	**Pb**	**05 16 40.3**		**-0.7**
GUR				S	**Sn**	**05 16 58.1**		**+1.6**
SERG	**Sergoula**	**1.16**	**50**	P	**Pb**	**05 16 40.2**		**-0.8**
SERG				S	**Sg**	**05 16 56.2**		**-0.7**
TSLK	**Tsoukalades, L**	**1.17**	**350**	P	**Pg**	**05 16 41.4**		**-0.5**
TSLK				S	**Sn**	**05 16 57.6**		**+0.8**
TSLK	**Tsoukalades, L**	**1.17**	**350**	P	**Pb**	**05 16 40.4**		**-0.8**
VLX	**Vlachokerasia**	**1.20**	**104**	P	**Pg**	**05 16 42.8**		**+0.4**
KALE	**Kalithea**	**1.20**	**53**	S	**Sn**	**05 16 59.0**		**+1.4**
KALE	**Kalithea**	**1.20**	**53**	P	**Pb**	**05 16 40.6**		**-1.1**
KALE				S	**Sn**	**05 16 58.1**		**+0.6**
ANX	**Ano Chora**	**1.21**	**40**	P	**Pb**	**05 16 41.3**		**-0.6**
AMPL	**Ampelaki**	**1.27**	**10**	P	**Pb**	**05 16 42.6**		**-0.2**
EVR	**Evrytania**	**1.42**	**29**	S	**Sg**	**05 17 04.4**		**-0.9**
EVR	**Evrytania**	**1.42**	**29**	P	**Pn**	**05 16 44.5**		**-0.1**
MAKR	**Makrakomi, Fth**	**1.64**	**35**	S	**Sb**	**05 17 10.2**		**+0.5**
LOUT	**Loutraki**	**1.65**	**78**	P	**Pn**	**05 16 48.4**		**+0.6**
LTK	**Loutraki**	**1.66**	**77**	P	**Pb**	**05 16 48.9**		**-0.6**
TETR	**Tetrakomo, Epi**	**1.69**	**9**	P	**Pn**	**05 16 48.7**		**+0.4**
PRMD	**Pramanda**	**1.86**	**4**	S	**Sb**	**05 17 14.9**		**-1.1**
VLI	**Veliai**	**1.87**	**120**	S	**Sb**	**05 17 16.5**		**+0.3**
MET2	**Kameni Chora,**	**1.91**	**91**	P	**Pn**	**05 16 51.5**		**+0.3**
IGT	**Igoumenitsa**	**1.91**	**346**	S	**Sn**	**05 17 16.1**		**+1.0**
VILL	**Villia**	**1.95**	**75**	S	**Sb**	**05 17 18.3**		**-0.4**
THL	**Klokotos Trika**	**2.07**	**24**	S	**Sb**	**05 17 20.4**		**-1.7**
STFN	**Stefani**	**2.13**	**76**	S	**Sb**	**05 17 22.9**		**-1.0**
OHR	**Ohrid**	**3.43**	**358**	*i* Pn	**Pn**	**05 17 15.5**		**+3.2**
TIP	**Timpagrande**	**3.60**	**296**	⇑P	**Pn**	**05 17 15.1**		**+0.6**
TIP				⇑S	**Sn**	**05 17 55.9**		**-0.9**
MATE	**Matera**	**4.42**	**313**	⇑P	**Pn**	**05 17 26.6**		**+0.8**
PDG	**Podgorica**	**4.92**	**345**	⇓P	**Pn**	**05 17 32.4**		**-0.2**
BOVS	**Bovan**	**5.99**	**5**	⇓P	**Pn**	**05 17 48.7**		**+1.5**
ELND	**Elena**	**6.47**	**34**	⇓P	**Pn**	**05 17 57.5**		**+3.6**
HERR	**Herculane**	**7.29**	**8**	⇑P	**Pn**	**05 18 06.8**		**+1.6**
GZR	**Gura Zlata**	**7.84**	**10**	⇓P	**Pn**	**05 18 14.3**		**+1.6**
BZS	**Buzias**	**7.95**	**4**	⇑P	**Pn**	**05 18 15.3**		**+1.1**
ARR	**Arges**	**8.17**	**19**	⇓P	**Pn**	**05 18 19.3**		**+1.9**
MLR	**Muntele Rosu**	**8.67**	**24**	LR	LR	05 22 08.7		
comp=Z,71nm,19.6s,baz=217,slow=41
MLR Muntele Rosu 8.67 24 ⇑P Pn 05 18 27.1 +2.9
PLOR Plostina 9.22 26 ⇑P Pn 05 18 35.3 +3.7
VRI Vrincioaia 9.26 26 ⇓P Pn 05 18 35.8 +3.7
VRAC Vranov 12.04 346 LR LR 05 24 15.1
comp=Z,45nm,19.2s,baz=156,slow=40
GERES GERESS Array B 12.34 337 Pn **Pn 05 19 15.4 +1.1**
0.2nm,0.3s,baz=144,slow=14,SNR=1.3
AKASG Malin Array Be 14.31 22 LR LR 05 25 40.4
comp=Z,38nm,19.4s,baz=190,slow=40
ESDC Sonseca Array 19.52 284 P **Pn 05 20 49.8 +2.5**
0.1nm,0.3s,baz=89,slow=11,SNR=2.5
0.3nm,0.5s
FINES FINESS Array B 24.01 6 P **P 05 21 32.2 -0.9**
1.4nm,0.8s,baz=190,slow=9.7,SNR=4.7
1.4nm,0.8s
NB2 NORSAR Subarra 24.17 348 P **P 05 21 34.4 -0.3**
comp=Z,0.6nm,0.6s,baz=159,slow=11
NOA NORSAR Array B 24.17 348 P **P 05 21 34.4 -0.3**
comp=Z,0.3nm,0.5s,baz=157,slow=9.2,SNR=5.1
NOA LR LR 05 31 50.3
comp=Z,10nm,19.6s,baz=125,slow=39
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 29.84 220 P **P 05 22 26.6 +0.6**
comp=Z,0.6nm,0.9s,baz=33,slow=11,SNR=5.2
comp=Z,0.6nm,0.9s
ARCES ARCESS Array B 32.02 3 P **P 05 22 43.9 -0.7**
comp=Z,0.4nm,0.5s,baz=193,slow=10.0,SNR=4.7
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 45.30 58 P **P 05 24 34.7 -1.6**
comp=Z,0.3nm,0.5s,baz=268,slow=7.3,SNR=5.0
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 45.79 48 P **P 05 24 38.4 -1.7**
comp=Z,1.2nm,0.5s,baz=276,slow=8.1,SNR=4.6
comp=Z,1.2nm,0.5s
MATP Matopo 58.23 172 LR LR 05 50 48.5
comp=Z,84nm,21.0s,baz=54,slow=36
ILAR Eielson Array 77.44 355 P **P 05 28 14.0 +0.6**
comp=Z,0.4nm,0.9s,baz=2.9,slow=3.6,SNR=3.1
comp=Z,0.4nm,0.9s

*NOU **14** 05:28:24.1, 24.°87S×179.°49W, h563km, mb4.3/14, South of Fiji Islands*
*NEIC **14** 05:28:31.9±2.2, 25.°4S±0.°1×179.°4E±0.°1, h513km±7km, mb4.5/64, Error ellipse: s-maj=16.2km s-min=15.2km az=122.0*
*IDC **14** 05:28:32.2±0.9, 25.°41S×179.°21E, h524km±10km, mb3.7/16, mbtmp4.6/18, Error ellipse: s-maj=12.4km s-min=10.3km az=169.0*
ISC 14 05:28:30.6±0.3, 25.°49S±0.°05×179.°23E±0.°06, h500km, n156, σ1°78/168, mb4.5/47, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
RAO	**Raoul Island**	**4.53**	**147**	P	**P**	**05 29 56.6**		**+3.3**
RAO	**Raoul Island**	**4.53**	**147**	P	**P**	**05 29 56.3**		**+3.0**
739nm,0.5s,baz=270,slow=20,SNR=6.6
RAO S **S 05 31 06.5 +5.6**
174nm,0.3s,baz=89,slow=22,SNR=1.3
GLKZ Green Lake 4.54 147 P **P 05 29 56.4 +3.0**
GLKZ S **S 05 31 04.8 +3.8**
MSVF Nonsavu 7.79 352 **P 05 30 27.3 +2.2**
PINNC Pines Island, 11.14 282 P **P 05 31 03.1 +3.0**
PINNC Pines Island, 11.14 282 P **P 05 31 04.3 +4.2**
WCZ Waipu Caves 11.23 201 P **P 05 31 04.7 +3.8**
KUZ Kuaotunu 11.62 194 P **P 05 31 07.8 +2.9**
OUENC Ouen Island, N 11.73 283 P **P 05 31 10.7 +4.3**
YATNC Mamie plateau, 11.80 284 P **P 05 31 11.2 +4.1**
NIUE Niue 11.89 60 P **P 05 31 07.6 -0.5**
NIUE Niue 11.89 60 P **P 05 31 07.8 -0.3**
NIUE S **S 05 33 21.2 +3.3**
MXZ Matakaoa Point 12.07 184 P **P 05 31 11.3 +1.6**
MKAZ Moumakai 12.09 196 P **P 05 31 12.8 +2.9**
DZM Mont Dzumac 12.19 284 P **P 05 31 14.3 +3.0**
34nm,0.7s,baz=102,slow=16,SNR=24
HAZ Te Kaha 12.30 185 P **P 05 31 12.8 +0.7**
HAZ S **S 05 33 19.9 -5.3**
WMGZ Waiomatatini S 12.32 183 P **P 05 31 13.8 +1.5**
RUGZ Raukumara Rang 12.51 186 P **P 05 31 14.5 0.0**
RUGZ S **S 05 33 26.8 -2.8**
PUZ Puketiti 12.58 184 P **P 05 31 16.1 +1.0**
TOZ Tahuroa Road 12.61 194 P **P 05 31 18.0 +2.6**
URZ Urewera 12.86 188 P **P 05 31 16.9 -1.2**
18nm,0.5s,baz=2.8,slow=3.0,SNR=16
URZ S **S 05 33 31.8 -4.4**
19nm,0.6s,baz=42,slow=21,SNR=6.8
URZ Urewera 12.86 188 P **P 05 31 17.6 -0.5**
URZ Urewera 12.86 188 P **P 05 31 17.2 -0.8**
URZ S **S 05 33 31.2 -5.0**
MWZ Matawai 12.89 186 P **P 05 31 17.8 -0.7**
TLZ Tolley Road 13.18 193 P **P 05 31 23.2 +1.7**
RIGZ Rimuhau 13.24 185 P **P 05 31 22.0 -0.1**
RIGZ S **S 05 33 39.1 -4.5**
SNGZ Shannon Statio 13.35 186 P **P 05 31 23.7 +0.4**
SNGZ S **S 05 33 47.7 +1.9**
MTHZ Maungataniwha 13.48 188 P **P 05 31 24.6 -0.1**
HIZ Hauiti 13.51 195 P **P 05 31 28.8 +3.9**
HIZ Hauiti 13.51 195 P P 05 31 31.1 +6.2
BKZ Black Stump Fm 13.84 189 P **P 05 31 29.8 +1.4**
TMVZ Te Maari 13.91 191 P **P 05 31 30.3 +0.9**
OTVZ Oturere 13.97 192 P **P 05 31 29.5 -0.4**
SANVU Saraoutou 15.04 309 P **P 05 31 43.8 +2.4**
BFZ Birch Farm 15.36 189 P **P 05 31 43.4 -0.9**
SNZO South Karori 16.23 192 P **P 05 31 53.5 +0.2**
QRZ Quartz Range 16.29 198 P **P 05 31 53.6 -0.4**
KHZ Kahutara 17.53 194 P **P 05 32 04.6 -1.8**
RPZ Rata Peaks 19.37 198 P **P 05 32 22.9 -0.4**
6.3nm,0.5s,baz=43,slow=3.2,SNR=6.5
RPZ Rata Peaks 19.37 198 P **P 05 32 22.6 -0.7**
JCZ Jackson Bay 20.40 202 P **P 05 32 32.1 -0.7**
EIDS Eidsvold 25.40 264 P **P 05 33 19.5 +1.7**
EIDS IAmb IAmb 05 33 20.1
comp=Z,5.7nm,0.7s
TARA Tarawa 27.37 346 P **P 05 33 35.2 0.0**
CTAO Charters Tower 30.82 273 **P 05 34 06.7 +1.5**
CTAO IAmb IAmb 05 34 07.3
comp=Z,22nm,0.8s
TOO Toolangi 31.02 239 P **P 05 34 07.8 +1.1**
STKA Stephens Creek 33.51 250 P **P 05 34 28.8 +0.9**
STKA IAmb IAmb 05 34 29.7
comp=Z,9.6nm,0.6s
STKA Stephens Creek 33.51 250 P **P 05 34 28.5 +0.5**
comp=Z,1.4nm,0.3s,baz=100,slow=15,SNR=6.4
STKA PcP **PcP 05 36 54.1 -0.4**
comp=Z,1.6nm,0.5s,baz=121,slow=6.2,SNR=3.9
comp=Z,1.4nm,0.3s
PMG Port Moresby 34.39 292 **P 05 34 36.2 +0.6**
COEN Coen 35.71 282 **P 05 34 48.0 +1.4**
COEN IAmb IAmb 05 34 48.6
comp=Z,22nm,0.8s
BBOO Buckleboo 38.20 249 P **P 05 35 06.8 -0.1**
BBOO IAmb IAmb 05 35 21.6
comp=Z,16nm,1.4s
ASAR Alice Springs 41.11 263 **P 05 35 31.0 +0.4**
ASAR Alice Springs 41.11 263 P **P 05 35 30.4 -0.1**
comp=Z,13nm,0.8s,baz=102,slow=8.2,SNR=104
ASAR PcP **PcP 05 37 17.2 -1.2**
comp=Z,1.7nm,0.8s,baz=98,slow=5.8,SNR=5.3
ASAR ScP **ScP 05 40 18.0 -2.4**
comp=Z,0.3nm,0.7s,baz=102,slow=4.9,SNR=4.1
ASAR S **S 05 41 04.7 -2.5**
comp=Z,1.2nm,0.5s,baz=100,slow=15,SNR=11
comp=Z,13nm,0.8s
WRAB Tennant Creek 41.62 268 **P 05 35 34.5 -0.1**
WRAB IAmb IAmb 05 35 35.1
comp=Z,16nm,0.8s
WRA Warramunga Arr 41.63 268 **P 05 35 34.5 -0.2**
WRA Warramunga Arr 41.63 268 P **P 05 35 34.2 -0.5**
comp=Z,15nm,0.6s,baz=104,slow=8.0,SNR=117
WRA PcP **PcP 05 37 18.8 -1.3**
comp=Z,1.7nm,1.0s,baz=97,slow=3.1,SNR=3.4
WRA ScP **ScP 05 40 20.1 -2.4**
comp=Z,0.5nm,0.5s,baz=102,slow=3.4,SNR=3.4
WRA S **S 05 41 12.2 -2.5**
comp=Z,2.0nm,0.8s,baz=99,slow=14,SNR=8.2
comp=Z,15nm,0.6s
FORT Forrest 45.12 251 **P 05 36 01.3 -0.5**
FORT IAmb IAmb 05 36 01.6
comp=Z,5.5nm,0.7s
KNRA Kununurra 48.00 272 **P 05 36 24.3 +0.5**
FITZ Fitzroy Crossi 50.03 267 P **P 05 36 38.9 0.0**
FITZ Fitzroy Crossi 50.03 267 P **P 05 36 38.7 -0.2**
comp=Z,15nm,0.8s,baz=108,slow=7.0,SNR=65
comp=Z,15nm,0.8s
FAKI Fak Fak 50.39 289 P **P 05 36 41.9 +0.3**
FAKI IAmb IAmb 05 36 55.3
comp=Z,20nm,0.9s
VNDA Vanda 52.75 185 P **P 05 36 58.0 +0.4**
VNDA Vanda 52.75 185 P **P 05 36 57.9 +0.2**
comp=Z,0.3nm,0.5s,baz=9.3,slow=8.9,SNR=7.5
PSA00 Pilbara Seismi 54.20 261 P **P 05 37 07.9 -1.1**
PSA00 Pilbara Seismi 54.20 261 P **P 05 37 08.2 -0.8**
PSA00 IAmb IAmb 05 37 24.5
comp=Z,20nm,1.4s
MBWA Marble Bar 54.42 261 P **P 05 37 09.8 -0.7**
MORW Morawa 55.69 251 P **P 05 37 18.9 -0.3**
MORW IAmb IAmb 05 37 34.1
comp=Z,22nm,1.4s
CASY Casey 58.38 206 P **P 05 37 36.2 -0.9**
GIRL Giralia 58.88 258 P **P 05 37 41.1 -0.1**
TOLI2 Tolitoli 62.31 286 P **P 05 38 04.4 +0.4**
TOLI2 IAmb IAmb 05 38 17.3
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 64.61 180 P **P 05 38 20.4 +2.4**
QSPA IAmb IAmb 05 38 26.4
comp=Z,10.0nm,1.5s
QSPA South Pole Qui 64.61 180 P **P 05 38 19.4 +1.4**
comp=Z,1.2nm,0.8s,baz=40,slow=0.4,SNR=12
comp=Z,1.2nm,0.8s
LEM Lembang 70.51 272 P **P 05 38 54.8 -0.4**
comp=Z,17nm,0.5s,baz=324,slow=23,SNR=2.0
comp=Z,17nm,0.5s
JGF Kuroka 72.51 325 P **P 05 39 05.8 -0.5**
JGF IAmb IAmb 05 39 45.9
comp=Z,28nm,1.3s
MJAR Matsushiro Arr 72.81 326 P **P 05 39 07.5 -0.4**
MJAR IAmb IAmb 05 39 07.8
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 72.81 326 P **P 05 39 07.0 -1.0**
comp=Z,12nm,0.8s,baz=158,slow=5.3,SNR=20
comp=Z,12nm,0.8s
JNU Nakatsue 74.26 319 P **P 05 39 16.3 0.0**
NACB Ninganchiao 74.47 307 P **P 05 39 17.4 -0.2**
NACB IAmb IAmb 05 39 54.5
comp=Z,21nm,1.0s
TPUB Ta-pu 74.65 306 P **P 05 39 17.5 -1.2**
JTM Tenmabayashi 74.86 331 P **P 05 39 19.7 +0.3**
JKA Kamikawa-asahi 76.96 334 P **P 05 39 30.7 -0.3**
JKA IAmb IAmb 05 39 33.5
comp=Z,31nm,1.1s
ADK Adak 77.12 3 P **P 05 39 30.7 -0.9**
NIKH Nikolski High 78.81 7 P **P 05 39 39.7 -1.0**
KSRS Korea Array 79.02 321 P **P 05 39 42.2 -0.1**
comp=Z,3.7nm,0.7s,baz=136,slow=6.1,SNR=11
comp=Z,3.7nm,0.7s
PETK Petropavlovsk- 80.47 347 P **P 05 39 49.0 -0.6**
PETK Petropavlovsk- 80.47 347 P **P 05 39 48.9 -0.6**
comp=Z,4.1nm,0.5s,baz=120,slow=6.8,SNR=5.0
comp=Z,4.1nm,0.5s
NJ2 Nanjing 81.18 312 *eP* **P 05 39 55.8 +2.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
USRK Ussuriysk Ar. 81.72 328 P **P 05 39 56.2 0.0**
comp=Z,7.6nm,0.6s,baz=127,slow=4.6,SNR=7.6
comp=Z,7.6nm,0.6s
DPP Dos Picos Cty 84.09 49 P **P 05 40 08.3 -0.1**
ISA Isabella, Lake 84.62 46 P **P 05 40 10.5 -0.6**
O02D Mt. Diablo Mer 84.71 41 P **P 05 40 10.4 -1.0**
O02D IAmb IAmb 05 40 32.5
comp=Z,19nm,1.4s
TIA Tai'an 84.82 314 P **P 05 40 12.3 +0.4**
TIA pmax pmax
comp=Z,19nm,0.9s
CLC China Lake 85.28 47 P **P 05 40 13.9 -0.4**
BELC Belle Mtn. Jos 85.31 49 P **P 05 40 14.7 +0.2**
MPMC Manual Prospec 85.50 47 P **P 05 40 14.7 -0.8**
BEKR Beckworth 85.97 42 P **P 05 40 17.7 0.0**
NVAR Mina Array Bea 86.37 44 P **P 05 40 19.0 -0.6**
NVAR Mina Array Bea 86.37 44 P **P 05 40 18.9 -0.8**
comp=Z,0.7nm,0.6s,baz=227,slow=7.9,SNR=8.6
comp=Z,0.7nm,0.6s
TPNV Topopah Spring 86.83 46 P **P 05 40 21.5 -0.3**
N15K Kwethluk River 87.01 10 P **P 05 40 21.0 -0.9**
N15K IAmb IAmb 05 40 27.9
comp=Z,18nm,1.4s
K05A Summer Lake 87.42 40 P **P 05 40 25.1 +0.6**
PLCA Paso Flores 87.66 134 P **P 05 40 25.6 0.0**
PLCA IAmb IAmb 05 40 55.6
comp=Z,11nm,1.4s
PLCA Paso Flores 87.66 134 P **P 05 40 25.5 -0.2**
comp=Z,1.8nm,0.9s,baz=270,slow=4.0,SNR=3.7
comp=Z,1.8nm,0.9s
PINE Pine Mountain 88.06 39 P **P 05 40 28.0 +0.6**
PINE IAmb IAmb 05 40 28.4
comp=Z,3.6nm,0.7s
M17K Holitna River 88.61 11 P **P 05 40 29.1 -0.3**
X16A Lo Mia Camp, P 88.68 51 P **P 05 40 29.5 -1.1**
XAN Xi'an 89.17 309 P **P 05 40 32.9 +0.3**
XAN pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 89.42 291 P **P 05 40 34.8 +0.7**
CMAR Chiang Mai Arr 89.42 291 P **P 05 40 34.5 +0.5**
comp=Z,1.2nm,0.3s,baz=133,slow=3.4,SNR=13
comp=Z,1.2nm,0.3s
K17K Iditarod 89.71 10 P **P 05 40 34.2 -0.1**
STLK Strandline Lak 89.78 13 P **P 05 40 32.8 -2.0**
STLK IAmb IAmb 05 40 58.7
comp=Z,3.7nm,1.2s
X18A Snowflake 89.79 51 P **P 05 40 34.6 -1.1**
X18A IAmb IAmb 05 40 36.2
comp=Z,2.0nm,0.6s
PWL Port Wells 89.99 15 P **P 05 40 34.5 -1.2**
PWL IAmb IAmb 05 41 13.8
comp=Z,15nm,1.3s
GLI Glacier Island 90.31 16 P **P 05 40 36.4 -0.7**
EYAK Cordova Ski Ar 90.36 16 P **P 05 40 36.4 -1.0**
KNK Knik Glacier 90.45 15 P **P 05 40 37.1 -0.8**
KNK IAmb IAmb 05 40 41.9
comp=Z,5.4nm,0.9s
PMR Palmer 90.45 15 P **P 05 40 37.0 -0.8**
PMR IAmb IAmb 05 40 53.0
comp=Z,9.6nm,1.4s
GHO Glory Hole Cre 90.66 15 P **P 05 40 38.0 -0.9**
GHO IAmb IAmb 05 40 58.2
comp=Z,16nm,1.4s
PZH PanZhiHua 90.83 299 P **P 05 40 40.3 -0.3**
CUT Chulitna 90.92 14 P **P 05 40 38.8 -1.2**
HHC Hu-ho-hao-te 91.05 315 *eP* **P 05 40 45.3 +4.1**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,62nm,5.2s
TMUT Trail Mountain 91.44 47 P **P 05 40 43.3 0.0**
TMUT IAmb IAmb 05 40 44.4
comp=Z,3.9nm,0.7s
TABL Table Mountain 91.52 18 P **P 05 40 40.2 -2.8**
TXAR Lajitas Array 91.86 58 P **P 05 40 45.0 -0.3**
TXAR Lajitas Array 91.86 58 P **P 05 40 44.5 -0.7**
comp=Z,0.8nm,0.8s,baz=214,slow=6.6,SNR=13
comp=Z,0.8nm,0.8s
RND Reindeer 92.11 14 P **P 05 40 44.1 -1.4**
RND IAmb IAmb 05 40 44.7
comp=Z,2.9nm,0.7s
BSUT Blindstream Ca 92.38 46 P **P 05 40 47.9 +0.2**
BSUT IAmb IAmb 05 40 48.4
comp=Z,3.2nm,0.8s
I21K Tanana 93.07 12 P **P 05 40 48.8 -1.0**
I21K IAmb IAmb 05 41 29.2
comp=Z,11nm,1.5s
HDA Harding Lake 93.40 14 P **P 05 40 50.6 -0.8**
HDA IAmb IAmb 05 40 50.8
comp=Z,7.3nm,1.4s
BCAR Beaver Creek A 93.50 17 P **P 05 40 51.3 -0.6**
ILAR Eielson Array 93.73 14 P **P 05 40 50.5 -2.3**
comp=Z,0.5nm,0.6s,baz=220,slow=5.4,SNR=8.4
comp=Z,0.5nm,0.6s

SONM	Songino Array	97.84 319	P	Pdif	05 41 12.0	0.0
	comp=Z,0.5nm,0.5s,baz=99,slow=4.8,SNR=1.8					
	comp=Z,0.5nm,0.5s					
KURBB	Kurchatov Arra	115.90 316	PKP	PKPdf	05 46 13.3	-2.4
	comp=Z,1.0nm,0.3s,baz=93,slow=1.9,SNR=6.1					
ARTI	Arti	127.83 323	PKP	PKPdf	05 46 36.9	-1.6
	comp=Z,3.2nm,0.3s,baz=146,slow=3.6,SNR=5.2					
ARCES	ARCESS Array B	133.28 348	PKhKP	PKPpre	05 46 40.4	
	comp=Z,0.5nm,0.4s,baz=106,slow=0.5,SNR=9.6					
ARCES			SKPbc	SKPdf	05 46 46.4	-2.1
	comp=Z,1.1nm,0.5s,baz=7.6,slow=1.8,SNR=12					
ARCES			SKPbc	SKPbc	05 49 26.0	-3.6
	comp=Z,3.2nm,0.6s,baz=37,slow=4.1,SNR=14					
FINES	FINESS Array B	139.71 340	PKhKP	PKPpre	05 46 50.9	
	comp=Z,1.9nm,0.8s,baz=45,slow=5.6,SNR=8.1					
FINES			PKP	sPdif	05 46 58.9	+0.5
	comp=Z,1.0nm,0.4s,baz=31,slow=0.8,SNR=8.2					
FINES			SKPbc	SKPbc	05 49 45.1	-3.8
	comp=Z,3.6nm,0.7s,baz=92,slow=6.7,SNR=8.1					
NB2	NORSAR Subarra	143.52 350	PKP	PKPab	05 47 03.8	-2.0
	comp=Z,8.6nm,0.5s,baz=17,slow=3.4					
NOA	NORSAR Array B	143.52 350	PKP	PKPab	05 47 03.7	-2.1
	comp=Z,10nm,0.7s,baz=22,slow=3.8,SNR=49					
HFS	Hagfors	143.95 348	PKP	PKPbc	05 47 05.0	-2.3
	comp=Z,12nm,0.4s,baz=49,slow=3.1,SNR=83					
PABE	Paberze	144.98 335		PKPdf	05 47 09.0	-0.9
KONO	Kongsberg	145.10 351	PKPdf	PKPdf	05 47 09.4	-0.7
AKASG	Malin Array Be	145.90 325		PKPdf	05 47 11.8	+0.1
AKASG	Malin Array Be	145.90 325	PKPbc	PKPdf	05 47 11.2	-0.6
	comp=Z,7.2nm,0.5s,baz=44,slow=4.2,SNR=26					
KIEV	Kiev	145.91 325		PKPdf	05 47 11.0	-0.7
BNN	Bunyan	146.49 302		PKPbc	05 47 15.1	-0.6
ILGA	Ilgaz	147.50 307		PKPbc	05 47 18.2	-0.2
MMAI	Mount Meron Ar	147.68 292	PKPbc	PKPbc	05 47 18.5	-0.5
	comp=Z,10nm,0.5s,baz=87,slow=4.3,SNR=20					
BRTR	Keskin Array B	147.94 305		PKPdf	05 47 17.6	+1.9
BRTR	Keskin Array B	147.94 305	PKPbc	PKPdf	05 47 17.9	+2.2
	comp=Z,2.4nm,0.7s,baz=78,slow=1.8,SNR=10					
ANTO	Ankara	148.52 305		PKPbc	05 47 20.2	-0.7
BURAR	Bucovina Array	149.86 324		PKPbc	05 47 23.3	-0.6
EKA	Eskdalemuir Ar	150.13 3	PKPbc	PKPbc	05 47 22.1	-2.0
	comp=Z,1.5nm,0.4s,baz=356,slow=2.7,SNR=29					
BORA	Eskisehir	150.23 307		PKPbc	05 47 23.9	-1.0
OJC	Ojcow	150.64 333		PKPbc	05 47 24.4	-1.1
GERES	GERESS Array B	154.07 338	PKPab	PKPab	05 47 47.7	-1.6
	comp=Z,0.3nm,0.3s,baz=46,slow=9.9,SNR=4.0					
ESDC	Sonseca Array	165.60 10	PKPab	PKPab	05 48 37.9	-1.8
	comp=Z,2.2nm,1.2s,baz=351,slow=3.7,SNR=5.9					
TORD	Torodi Ar. Bea	167.51 191	PKPab	PKPab	05 48 47.5	-1.1
	comp=Z,0.5nm,0.7s,baz=158,slow=1.6,SNR=3.3					

DJA 14 05:34:48.7±0.4, 8°S±2°×11°9E±°, h154km±5km, M3.8/14, MLv3.8/14
IDC 14 05:34:51.4±2.5, 8°57S×119°56E, h174km±20km, mb3.4/3, mbtmp3.9/6, MS3.0/1, Error ellipse: s-maj=54.8km s-min=19.7km az=29.0
ISC 14 05:34:47.9±0.9, 8°39S±0°05×119°41E±0°04, h164km±8km, n20, σ1§07/31, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.25	181	P		Pn	05 35 16.8	+0.6
WBSI				S		Sn	05 35 38.0	0.0
WSI	Waingapu	1.55	146	P		Pn	05 35 19.6	+0.6
WSI				S		Sn	05 35 43.2	+0.2
PLAI	Plampang	1.68	255	P		Pn	05 35 21.0	+0.6
PLAI				S		Sn	05 35 45.2	-0.1
BASI	Baing, Sumba	2.15	148	P		Pn	05 35 26.4	+0.7
BASI				S		Sn	05 35 55.5	+0.6
EDFI	Ende, Flores	2.28	99	P		Pn	05 35 27.5	+0.3
EDFI				S		Sn	05 35 57.7	+0.1
BSSI	Bau Bau, Buton	2.47	26	P		Pn	05 35 29.1	-0.3
BSSI				S		Sn	05 36 01.6	+0.1
TWSI	Taliwang, Sumb	2.53	262	P		Pn	05 35 30.3	+0.3
TWSI				S		Sn	05 36 03.1	+0.4
MMRI	Maumere	2.81	95	P		Pn	05 35 34.2	+0.8
BNSI	Bone	4.02	10	P		Pn	05 35 48.9	+0.1
BBSI	Bau Bau	4.25	48	P		Pn	05 35 51.9	0.0
BATI	Baumata	4.57	114	P		Pn	05 35 57.5	+1.5
	21nm,0.3s,baz=262,slow=19,SNR=1.8							
BATI				S		Sn	05 36 49.0	-0.2
	27nm,0.4s,baz=310,slow=23,SNR=2.0							
BATI	Baumata	4.57	114	P		Pn	05 35 57.1	+1.1
BATI				S		Sn	05 36 49.4	+0.3
SOEI	Soe	4.98	106	P		Pn	05 36 02.7	+1.2
JAGI	Jajag, Banyuwa	5.21	269	P		Pn	05 36 04.4	+0.1
FITZ	Fitzroy Crossi	11.40	149	P		Pn	05 37 26.2	+0.2
	1.6nm,0.5s,baz=328,slow=10,SNR=8.1							
FITZ				S		Sn	05 39 28.3	-4.0
	5.3nm,0.8s,baz=354,slow=23,SNR=9.7							
WRA	Warramunga Arr	18.46	130	P		P	05 38 51.1	-0.3
	0.8nm,0.4s,baz=304,slow=12,SNR=7.5							
WRA				S		S	05 42 12.0	-1.6
	0.4nm,0.5s,baz=309,slow=22,SNR=6.6							
ASAR	Alice Springs	20.58	139	P		P	05 39 14.3	+0.1
	2.9nm,0.4s,baz=317,slow=10,SNR=28							
ASAR				S		S	05 42 54.2	-1.4
	0.8nm,0.9s,baz=312,slow=18,SNR=4.7							
	2.9nm,0.4s							
STKA	Stephens Creek	31.17	142	P		P	05 40 52.6	+1.1
	1.8nm,0.5s,baz=308,slow=12,SNR=5.7							
	1.8nm,0.5s							
CMAR	Chiang Mai Arr	33.46	323	LR		LR	05 55 27.6	
	comp=Z,23nm,19.2s,baz=200,slow=37							
VNDA	Vanda	72.53	171	P		P	05 45 57.4	+1.0
	0.3nm,0.5s,baz=317,slow=7.4,SNR=5.8							
	0.3nm,0.5s							

RSPR 14 05:35:32.5, 18°76N×67°44W, h16km±4km, MD2.5/10
SDD 14 05:35:33.3±1.5, 18°63N×67°43W, h22km±44km, MD2.4, ML1.3, MW2.0
ISC 14 05:35:30.7±1.6, 18°73N±0°06×67°38W±0°03, h5km±13km, n27, σ0§48/35, 18C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.35	195	⇑eP		Pb	05 35 39.7	+0.2
IDE	Isla Desecheo	0.35	195	eS		Sb	05 35 45.6	+0.3
LSP	Las Mesas	0.61	153	⇑eP		Pb	05 35 44.1	+0.1
LSP	Las Mesas	0.61	153	eS		Sb	05 35 53.8	+0.8
AOPR	Arecibo Observ	0.70	122	⇓eP		Pb	05 35 45.3	-0.2
AOPR	Arecibo Observ	0.70	122	eS		Sb	05 35 55.5	-0.1
AOPR	Arecibo Observ	0.70	122	⇑ePg		Pb	05 35 45.3	-0.2
AOPR				⇑eSg		Sb	05 35 55.4	-0.1
AOPR				IAML			05 35 55.6	
	comp=N,32nm,0.7s							
CRPR	Cabo Rojo, PR	0.76	160	⇑eP		Pb	05 35 46.1	-0.4
CRPR	Cabo Rojo, PR	0.76	160	eS		Sb	05 35 56.9	-0.3
CRPR	Cabo Rojo, PR	0.76	160	⇑ePg		Pb	05 35 46.1	-0.4
CRPR				⇑eSg		Sg	05 35 54.6	-0.6
CRPR				⇓eSg		Sb	05 35 55.6	-1.5
CRPR				IAML			05 36 01.2	
	comp=N,7.4nm,0.3s							
UUPR	Utuado, UPR, P	0.78	127	⇓eP		Pb	05 35 46.8	0.0
UUPR	Utuado, UPR, P	0.78	127	eS		Sb	05 35 57.7	-0.1
MLPR	Magueyes Islan	0.82	157	⇓eP		Pg	05 35 47.0	+0.6
MLPR	Magueyes Islan	0.82	157	eS		Sb	05 35 58.7	-0.1
MLPR	Magueyes Islan	0.82	157	⇓ePg		Pg	05 35 47.0	+0.6
MLPR				⇑eSg		Sg	05 35 57.1	0.0
MLPR				IAML			05 36 02.6	
	comp=N,1.2nm,0.3s							
CELP	Cerrillos	1.00	130	⇑eP		Pb	05 35 50.3	-0.3
CELP	Cerrillos	1.00	130	eS		Sb	05 36 03.9	-0.1
CELP	Cerrillos	1.00	130	⇑ePg		Pg	05 35 49.9	0.0
CELP				⇑eSg		Sb	05 36 04.6	+0.6
CELP				IAML			05 36 06.7	
	comp=N,4.2nm,0.2s							
OBIP	Obispado Ponce	1.00	133	⇑eP		Pg	05 35 50.0	+0.1
OBIP	Obispado Ponce	1.00	133	eS		Sb	05 36 03.7	-0.3
ECPR	Experimental S	1.05	113	⇑eP		Pb	05 35 51.0	-0.3
ECPR	Experimental S	1.05	113	eS		Sg	05 36 04.2	-0.2
SJG	San Juan	1.32	117	⇑ePg		Pb	05 35 56.7	+0.7
SJG				eSg		Sb	05 36 13.2	0.0
PDPR	Patillas Dam,	1.47	118	⇑eP		Pn	05 35 57.6	-0.3
PDPR	Patillas Dam,	1.47	118	eS		Sg	05 36 18.0	0.0
MIDR	Miches	1.60	279	⇑ePg		Pb	05 36 00.9	+0.1
MIDR				⇑eSg		Sn	05 36 21.6	+0.7
MIDR				IAML			05 36 23.4	
	comp=N,2.4nm,0.6s							
MIDR				IAML			05 36 34.9	
	comp=N,7.9nm,1.5s							
HATOM	Hato Mayor del	1.90	272	ePg		Pb	05 36 05.2	-0.7
HATOM				IAML			05 36 28.3	
	comp=N,14nm,3.5s							
HATOM				⇑eSg		Sn	05 36 28.3	+0.1

SJA 14 05:48:33.9±0.7, 24°38S×67°25W, h193km±6km, ML3.5, MW3.4
GUC 14 05:48:36.2±0.8, 24°39S×67°27W, h163km±10km, ML4.0
ISC 14 05:48:32.9±1.7, 24°39S±0°04×67°21W±0°04, h197km±13km, n34, σ1§71/51, 8C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALTA		0.81	78	⇓eP		Pn	05 49 02.2	+0.4
SALTA		0.81	78	eP		Pn	05 49 02.4	+0.7
SLA	San Lorenzo	1.59	102	⇑eP		Pn	05 49 09.1	+1.8
SLA				i S		Sn	05 49 34.1	+0.1
SLA	San Lorenzo	1.59	102	eP		Pn	05 49 09.1	+1.8
SLA				eS		Sn	05 49 34.9	+0.9
AF01	San Pedro de A	1.69	328	eP		Pn	05 49 09.8	+1.4
AF01				eS		Sn	05 49 36.5	+0.6
AF01	San Pedro de A	1.69	328	eP		Pn	05 49 09.6	+1.2
AF01				eS		Sn	05 49 33.8	-2.1
AF01				IAML			05 49 54.5	
	comp=Z,162nm,0.7s							
HJA	Humahuaca	2.03	55	eP		Pn	05 49 13.8	+1.8
FSA	Cafayete	2.04	147	eP		Pn	05 49 13.6	+1.7
FSA				eS		Sn	05 49 36.3	-5.9
GO02	Mina Guanaco	2.29	250	⇑eP		Pn	05 49 16.2	+1.6
GO02				eS		Sn	05 49 46.6	-0.4
GO02				IAML			05 49 48.1	
	comp=N,875nm,0.3s							
GO02	Mina Guanaco	2.29	250	eP		Pn	05 49 15.6	+1.0
GO02				eS		Sn	05 49 47.8	+0.8
GO02				IAML			05 49 48.2	
	comp=Z,369nm,0.2s							
YJA	Yavi	2.70	36	eP		Pn	05 49 21.6	+2.2
YJA				eS		Sn	05 49 50.8	-4.8
PB06	IPOC Station P	2.74	307	⇓eP		Pn	05 49 20.9	+1.3
PB06				IAML			05 49 58.0	
	comp=E,440nm,0.4s							
PB06	IPOC Station P	2.74	307	eP		Pn	05 49 20.4	+0.8
PB06				eS		Sn	05 49 54.9	-1.0
PB06				IAML			05 49 57.6	
	comp=Z,163nm,0.2s							
AC02	Maricunga	2.98	215	⇑eP		Pn	05 49 25.0	+2.3
AC02	Maricunga	2.98	215	eP		Pn	05 49 24.5	+1.9
PB10	IPOC Station P	3.18	285	⇑eP		Pn	05 49 25.1	+0.5
PB10				eS		Sn	05 50 02.7	-2.1
PB10				IAML			05 50 08.4	
	comp=E,149nm,0.3s							
PB10	IPOC Station P	3.18	285	eP		Pn	05 49 25.4	+0.9
PB10				eS		Sn	05 50 03.9	-1.0
PB10				IAML			05 50 08.4	
	comp=Z,87nm,0.3s							
PB09	IPOC Station P	3.19	324	⇓eP		Pn	05 49 27.0	+2.2
PB09				IAML			05 50 06.1	
	comp=N,201nm,0.1s							
PB03	IPOC Station P	3.30	314	⇑eP		Pn	05 49 27.4	+1.2
PB03				IAML			05 50 08.2	
	comp=E,286nm,0.2s							
PB03	IPOC Station P	3.30	314	eP		Pn	05 49 26.9	+0.6
PB03				eS		Sn	05 50 06.3	-1.6
PB03				IAML			05 50 10.4	
	comp=Z,191nm,0.2s							
AC01	Pan de Azucar	3.53	240	⇑eP		Pn	05 49 29.5	+0.8
AC01	Pan de Azucar	3.53	240	eP		Pn	05 49 29.6	+0.8
AC01				eS		Sn	05 50 11.3	-1.2
AC01				IAML			05 50 12.4	
	comp=Z,51nm,0.5s							
PB02	IPOC Station P	3.94	320	⇑eP		Pn	05 49 34.8	+0.9
PB01	IPOC Station P	3.94	327	eP		Pn	05 49 35.2	+1.2
PB01	IPOC Station P	3.94	327	eP		Pn	05 49 35.0	+1.1
PB01				eS		Sn	05 50 20.6	-1.3
PB01				IAML			05 50 23.4	
	comp=Z,59nm,0.2s							
AC06	Mina Casimiro	4.09	223	⇑eP		Pn	05 49 36.5	+0.8
GO03	Copiapo	4.19	220	eP		Pn	05 49 37.7	+0.7
GO03	Copiapo	4.19	220	eP		Pn	05 49 38.0	+1.0
GO03				eS		Sn	05 50 26.6	-0.8
GO03				IAML			05 50 28.3	
	comp=Z,41nm,0.2s							
PATCX	Punta Patache	4.47	322	eP		Pn	05 49 41.7	+1.0
PB08	IPOC Station P	4.60	337	eP		Pn	05 49 44.3	+1.8
PB08	IPOC Station P	4.60	337	eP		Pn	05 49 44.1	+1.5
PB08				eS		Sn	05 50 36.4	-0.8
PB08				IAML			05 50 38.4	
	comp=Z,17nm,0.3s							
TA01	Diego Aracena	4.70	324	eP		Pn	05 49 43.9	+0.5
TA01	Diego Aracena	4.70	324	eP		Pn	05 49 44.3	+0.9
TA01				eS		Sn	05 50 37.4	-1.5
TA01				IAML			05 50 49.6	
	comp=Z,23nm,0.7s							
AC04	Llanos de Chal	5.14	222	eP		Pn	05 49 49.3	+0.3
AC04				IAML			05 50 49.2	
	comp=Z,18nm,0.5s							

IDC 14 06:23:02.7±1.9, 0°41S×124°16E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=207.0km s-min=28.2km az=63.0
DJA 14 06:23:07.5±0.3, 0°S±2°×12°5E±°, h10km, M3.8/9, MLv3.8/9
ISC 14 06:23:08.7±1.2, 0°11S±0°09×124°83E±0°08, h53km, n8, σ1§01/11, mb3.5/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.09	309	P		Pn	06 23 27.1	-0.6
KMSI				S		Sn	06 23 41.3	-0.5
SANI	Sanana	2.25	149	P		Pn	06 23 43.1	-0.4
LUWI	Luwuk	2.25	246	P		Pn	06 23 43.0	-0.6
LUWI				S		Sn	06 24 11.0	+0.8
MRSI	Marisa	2.94	281	P		Pn	06 23 53.0	-0.1
MRSI				S		Sn	06 24 28.7	+1.5
APSI	Ampana	3.27	256	P		Pn	06 23 55.9	-1.7
WRA	Warramunga Arr	21.80	155	P		P	06 27 55.9	-0.6
	0.4nm,0.5s,baz=331,slow=10,SNR=5.3							
	0.4nm,0.5s							
ASAR	Alice Springs	25.02	160	P		P	06 28 28.9	+0.9
	1.3nm,0.9s,baz=341,slow=8.3,SNR=12							
	1.3nm,0.9s							
MKAR	Makanchi Array	59.68	327	P		P	06 33 08.2	+0.4
	0.3nm,0.4s,baz=135,slow=6.5,SNR=2.0							
	0.3nm,0.4s							

SJA 14 06:29:14.0±0.8, 31°52S×71°94W, h12km±12km, ML3.5, MW3.4
GUC 14 06:29:15.5±0.8, 31°48S×71°69W, h33km±6km, ML3.1
ISC 14 06:29:12.5±1.6, 31°50S±0°03×71°96W±0°06, h2km±11km, n33, σ1§77/53, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.86	19	⇓eP		Pg	06 29 31.0	+1.9
CO06				IAML			06 29 44.7	
	comp=E,2μm,0.3s							
CO02	Combarbal	0.87	71	⇓iP		Pg	06 29 29.5	+0.2
CO02				eS		Sg	06 29 39.2	-1.5
CO02				IAML			06 29 44.0	
	comp=N,3μm,0.2s							
CO04	Los Peladeros	1.00	123	⇓iP		Pg	06 29 32.1	+0.3
CO04				IAML			06 29 46.7	
	comp=N,2μm,0.3s							
VA06	Catapilco	1.21	152	⇓eP		Pb	06 29 36.1	0.0
VA06				IAML			06 29 53.1	
	comp=N,1μm,0.3s							
CO03	El Pedregal	1.27	59	⇓eP		Pn	06 29 36.0	-1.5
CO03				eS		Sb	06 29 51.0	-3.2
CO03				IAML			06 29 55.1	
	comp=E,690nm,0.1s							
GO04	Tololo Observa	1.66	38	eP		Pn	06 29 42.6	-0.3
GO04				eS		Sn	06 30 03.0	-1.8
GO04				IAML			06 30 10.5	
	comp=N,2μm,0.4s							
ROCH	El Roble	1.68	152	eP		Pb	06 29 43.5	-0.8
ROCH				⇑eP		Pn	06 29 43.4	+0.2
ROCH				eS		Sn	06 30 03.2	-2.2
ROCH				IAML			06 30 09.1	
	comp=N,206nm,0.3s							
ROCH				IAML			06 30 09.1	
	comp=N,418nm,0.4s							
ROC1	El Roble	1.68	152	eP		Pg	06 29 45.2	+0.4
ROC1				eS		Sg	06 30 07.9	+1.3
CO05	La Serena	1.69	22	eP		Pn	06 29 43.2	+0.1
CO05				IAML			06 30 07.9	
	comp=E,323nm,0.2s							
VA03	San Esteban	1.74	137	eP		Pn	06 29 44.3	+0.3
VA03				eS		Sn	06 30 05.5	-1.3
VA03				IAML			06 30 07.8	
	comp=E,706nm,0.3s							
PEL	Peldehue	1.97	147	eP		Pn	06 29 47.6	+0.6
PEL				IAML			06 30 14.7	
	comp=E,160nm,0.3s							
MT10	Hacienda Santa	2.15	146	⇓eP		Pn	06 29 50.4	+0.8
MT10				IAML			06 30 23.7	
	comp=E,372nm,0.5s							
MT05	Renca	2.16	152	eP		Pb	06 29 51.3	-1.1
MT05				IAML			06 30 21.7	
	comp=E,316nm,0.4s							
CO01	Juntas del Tor	2.21	47	eP		Pn	06 29 51.0	+0.5
CO01				IAML			06 30 27.3	
	comp=N,151nm,0.3s							
MT14	Cerro Calın	2.25	148	eP		Pn	06 29 52.2	+1.3
MT14				IAML			06 30 29.6	
	comp=E,263nm,0.5s							
MT16	CCHEN	2.28	148	eP		Pb	06 29 53.7	-0.8
MT16				IAML			06 30 28.9	
	comp=N,111nm,0.8s							
RTLS	Leoncito	2.29	98	eP		Pb	06 29 53.5	-1.4
RTLS				eS		Sg	06 30 25.4	-0.9
RTLS				IAML			06 30 26.5	
	comp=Z,220nm,0.6s							
AUSP	Uspallata	2.31	109	eP		Pb	06 29 54.1	-1.1
AUSP				eS		Sb	06 30 23.7	-0.6
MT03	Universidad Ad	2.34	149	eP		Pn	06 29 52.9	+0.7
MT03				IAML			06 30 29.6	
	comp=E,277nm,0.3s							
MT09	Talagante	2.42	160	eP		Pb	06 29 55.0	-1.9
MT09				IAML			06 30 32.6	
	comp=N,142nm,0.5s							
MT04	Ro Olivares	2.45	141	eP		Pn	06 29 55.2	+1.4
MT04				IAML			06 30 32.5	
	comp=E,114nm,0.6s							
AROD	Rodeo	2.52	59	eP		Pb	06 29 57.3	-1.4
AROD				eS		Sb	06 30 29.9	-0.4
MT08	Bocatoma Ro	2.55	140	IAML			06 30 35.7	
	comp=E,88nm,0.5s							
ACCO	Cerro Coronel	2.65	71	eP		Pb	06 29 59.4	-1.5
ACCO				eS		Sb	06 30 33.7	-0.3
ZON	Zonda	2.81	92	eP		Pb	06 30 01.1	-2.4
ZON				eS		Sb	06 30 38.6	+0.3
ASAL	Salagasta	2.87	113	eP		Pb	06 30 03.6	-1.0
ASAL				eP		Pn	06 30 03.8	+4.3
ASAL				eS		Sb	06 30 40.8	+0.5
RTLL	Cerro Villicun	2.99	88	eP		Pn	06 30 03.8	+2.8
RTLL				eS		Sn	06 30 38.8	+1.3
RTLL				IAML			06 30 50.5	
	comp=Z,90nm,0.5s							
AAGR	Agrelo	3.09	122	eP		Pb	06 30 06.3	-2.1
AAGR				eS		Sb	06 30 45.3	-1.3
AGUA	GUANDACOL	3.60	57	eP		Pn	06 30 13.0	+3.5
AGUA				eS		Sb	06 30 58.8	-2.5
AGUA				IAML			06 31 08.6	
	comp=Z,95nm,0.7s							
AVFE	Valle Fertil	3.96	79	eP		Pn	06 30 15.8	+1.4
AVFE				eS		Sn	06 31 05.3	+3.9
AVFE				IAML			06 31 11.9	
	comp=Z,74nm,0.5s							
VCA	Vinchina	4.26	51	eP		Pn	06 30 22.3	+3.6
VCA				eS		Sb	06 31 22.5	+2.2
VCA				IAML			06 31 36.9	
	comp=Z,57nm,0.5s							
ACLC	CERRO LA CRUZ	4.79	66	eS		Sn	06 31 20.8	-1.4
ACLC				IAML			06 31 31.0	
	comp=Z,46nm,0.6s							
APLL	PUNTA DE LOS L	4.80	78	eP		Pn	06 30 27.7	+1.8
APLL				eS		Sn	06 31 22.3	+0.2
APLL				eS		Sn	06 31 23.8	+1.7

GCG 14 06:47:09.3±1.2, 14°11N×91°55W, h54km±19km, MD3.6, ML3.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.37	27	i P		Pn	06 47 22.5	+3.0
STG2				eS		Sn	06 47 32.2	+5.3
SOKI	Kika Raxquin	0.72	11	eP		Pn	06 47 24.5	+0.6
FG8	Yepocapa, Chim	0.97	81	eP		Pn	06 47 23.4	-3.4
FG16	Alotenango, Sa	1.02	81	eP		Pn	06 47 24.7	-2.9
FG16				eS		Sn	06 47 36.6	-4.5
FG16				IAML			06 47 37.7	
	comp=E,2μm,0.2s							
APG	El Apazote	1.38	50	eP		Pn	06 47 34.6	+2.2
NUBE	Las Nubes	1.73	97	eP		Pn	06 47 37.0	-0.1

GCG 14 07:14:21.7±0.7, 14°98N×92°34W, h99km±10km, MD4.0
MEX 14 07:14:21.8±0.4, 15°13N×92°53W, h102km±10km, MD3.6
ISC 14 07:14:22.2±3.8, 15°0N±0°1×92°3W±0°3, h97km±19km, n8, σ0§85/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		0.09	142	eP		Pn	07 14 35.7	0.0
THIG				eS		Sn	07 14 46.7	+0.9
PATR	El Naranjo	0.16	33	eP		Pn	07 14 35.5	-0.7
PATR				i S		Sn	07 14 46.2	-0.4
CHUJ	Union Juarez	0.24	62	eP		Pn	07 14 36.0	-0.4
CHUJ				eS		Sn	07 14 47.5	+0.5
PAVE	Pavencul	0.26	34	eP		Pn	07 14 36.3	-0.2
PAVE				eS		Sn	07 14 47.1	-0.1
SMCA	Catarina	0.27	117	eP		Pn	07 14 36.0	-0.3
SMCA				eS		Sn	07 14 47.0	+0.2
RTAL	Retalhule

BARC	**Barichara**	**3.39**	**65**	P	Pn	07 21 26.4	-0.1
BARC				S	Sn	07 22 05.6	-0.2
FLOC	**Florencia**	**3.63**	**170**	P	Pn	07 21 28.6	-1.0
CRUC	**La Cruz**	**3.65**	**191**	P	Pn	07 21 30.4	+0.2
CRUC				S	Sn	07 22 13.1	+0.7
MACC	**Macarena, Meta**	**3.87**	**141**	P	Pn	07 21 31.6	-1.3
MACC				S	Sn	07 22 16.8	-0.5
OCAC	**Ocana**	**4.23**	**44**	P	Pn	07 21 37.2	-0.7
OCAC				S	Sn	07 22 23.3	-2.9
BCIP	**Isla Barro Col**	**5.30**	**318**	P	Pn	07 21 49.9	-2.5
	12nm,1.5s						
BCIP				S	Sn	07 22 50.7	-1.5
	12nm,1.5s						
PAC1	**Pacto, Paraso**	**5.49**	**207**	P	Pn	07 21 54.3	-0.7
PAC1				S	Sn	07 22 48.7	-8.2
URIC	**Uribia, Colomb**	**7.74**	**33**	P	Pn	07 22 23.2	-2.5
URIC				S	Sn	07 23 43.5	-8.3

*SJA **14** 07:24:40.7±0.7, 31°.26S×67°.49W, h105km±2km, ML3.7, MW3.7*
*IDC **14** 07:24:41.1±0.7, 31°.09S×67°.81W, h106km±6km, mb3.2/4, mbtmp3.5/8, Error ellipse: s-maj=25.2km s-min=18.1km az=116.0*

ISC 14 07:24:41.4±0.7,**31°.24S**±0°.03×**67°.48W**±0°.03,**h103**km±6km, **n62**,σ1§**88**/99,**mb4.0**/5,**4C**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVFE	**Valle Fertil**	**0.58**	**2**	*e*P	**Pn**	**07 24 58.8**	**+0.6**
AVFE				*e*S	**Sn**	**07 25 12.2**	**+1.4**
AVFE				IAML		07 25 12.6	
	comp=Z,3μm,0.5s						
ACHE	**Chepes**	**0.70**	**84**	*e*P	**Pn**	**07 25 00.3**	**+1.0**
ACHE				*e*S	**Pn**	**07 25 00.3**	**+1.0**
CFA	**Coronel Fontan**	**0.75**	**240**	LR	LR	07 24 44.9	
	comp=Z,45nm,21.6s,baz=334,slow=6.1						
CFA				P	**Pn**	**07 24 59.1**	**-0.4**
	comp=Z,168nm,0.3s,baz=2.3,slow=3.7,SNR=5931						
CFA				S	**Sn**	**07 25 12.9**	**-0.4**
	comp=Z,1μm,0.3s,baz=193,slow=17,SNR=107						
CFA	**Coronel Fontan**	**0.75**	**240**	*e*P	**Pn**	**07 24 59.7**	**+0.1**
CFA				*e*S	**Sn**	**07 25 13.4**	**+0.1**
RTLL	**Cerro Villicun**	**0.86**	**264**	*e*P	**Pn**	**07 25 00.6**	**0.0**
RTLL				*e*S	**Sn**	**07 25 15.4**	**+0.2**
RTLL				IAML		07 25 16.8	
	comp=Z,1μm,0.5s						
SJA	**San Juan**	**0.97**	**252**	*e*P	**Pn**	**07 25 02.1**	**+0.3**
SJA				*e*S	**Sn**	**07 25 17.4**	**+0.2**
SJA				IAML		07 25 18.9	
	comp=Z,1μm,0.2s						
ACAN	**Cantantal**	**1.06**	**167**	*e*P	**Pn**	**07 25 02.8**	**0.0**
ZON	**Zonda**	**1.07**	**253**	*e*P	**Pn**	**07 25 03.0**	**+0.1**
ZON				*e*S	**Sn**	**07 25 19.7**	**+0.6**
ZON				IAML		07 25 20.0	
	comp=Z,770nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.17**	**44**	*e*P	**Pn**	**07 25 04.0**	**0.0**
APLL				*e*S	**Sn**	**07 25 22.3**	**+1.2**
ACCO	**Cerro Coronel**	**1.51**	**295**	*e*P	**Pn**	**07 25 08.6**	**+0.3**
ACCO				*e*S	**Sn**	**07 25 29.4**	**+0.7**
RTLS	**Leoncito**	**1.65**	**250**	*e*P	**Pn**	**07 25 10.5**	**+0.5**
RTLS				*e*S	**Sn**	**07 25 32.9**	**+1.2**
RTLS				IAML		07 25 33.9	
	comp=Z,648nm,0.4s						
ACDV	**Cuesta del Vie**	**1.77**	**307**	*e*P	**Pn**	**07 25 11.9**	**+0.6**
ACDV				IAML		07 25 37.0	
	comp=Z,256nm,0.1s						
ASAL	**Salagasta**	**1.78**	**220**	*e*P	**Pn**	**07 25 11.4**	**+0.1**
ASAL				*e*S	**Sn**	**07 25 35.5**	**+1.3**
ACLC	**CERRO LA CRUZ**	**1.86**	**14**	*e*P	**Pn**	**07 25 11.4**	**-1.2**
ACLC				*e*S	**Sn**	**07 25 31.9**	**-4.3**
ACLC				IAML		07 25 37.8	
	comp=Z,420nm,0.5s						
MRA	**San Martin**	**1.91**	**129**	*e*P	**Pn**	**07 25 13.5**	**+0.5**
MRA				*e*S	**Sn**	**07 25 37.7**	**+0.7**
MRA				IAML		07 25 38.7	
	comp=Z,1μm,0.4s						
AGUA	**GUANDACOL**	**1.95**	**333**	*e*P	**Pn**	**07 25 14.2**	**+0.6**
AGUA				*e*S	**Sn**	**07 25 39.7**	**+1.6**
AGUA				IAML		07 25 41.0	
	comp=Z,447nm,0.4s						
ARCO	**CERRO ARCO**	**2.02**	**217**	*e*P	**Pn**	**07 25 14.8**	**+0.3**
ARCO				*e*S	**Sn**	**07 25 33.2**	**-6.6**
ARCO				IAML		07 25 44.7	
	comp=Z,481nm,0.3s						
AROD	**Rodeo**	**2.02**	**301**	*e*P	**Pn**	**07 25 15.2**	**+0.4**
AROD				*e*S	**Sn**	**07 25 41.4**	**+1.2**
AAGR	**Agrelo**	**2.17**	**212**	*e*P	**Pn**	**07 25 16.7**	**+0.3**
AAGR				*e*S	**Sn**	**07 25 43.0**	**-0.1**
AAGR				IAML		07 25 45.4	
	comp=Z,485nm,0.3s						
AVIZ	**Vizcacheras**	**2.40**	**201**	*e*P	**Pn**	**07 25 19.4**	**+0.1**
AVIZ				*e*S	**Sn**	**07 25 44.8**	**-3.6**
AANI	**Anillaco**	**2.46**	**11**	*e*P	**Pn**	**07 25 20.4**	**+0.1**
AANI				*e*S	**Sn**	**07 25 43.0**	**-7.0**
AANI				*e*S		07 25 48.4	
AANI				IAML		07 25 48.5	
	comp=Z,1μm,0.8s						
TCA	**Tanti**	**2.47**	**93**	*e*P	**Pn**	**07 25 20.6**	**+0.4**
TCA				*e*S	**Sn**	**07 25 50.5**	**+0.4**
TCA				IAML		07 25 51.2	
	comp=Z,480nm,0.9s						
VCA	**Vinchina**	**2.57**	**346**	*e*P	**Pn**	**07 25 22.5**	**+0.8**
VCA				*e*S	**Sn**	**07 25 57.2**	**+4.6**
VCA				IAML		07 25 59.7	
	comp=Z,298nm,0.3s						
CO01	**Juntas del Tor**	**2.58**	**298**	*e*P	**Pn**	**07 25 23.1**	**+1.2**
CO01				*e*S	**Sn**	**07 25 54.4**	**+1.3**
CO01				IAML		07 25 54.8	
	comp=Z,238nm,0.8s						
CO03	**El Pedregal**	**2.79**	**277**	*e*P	**Pn**	**07 25 25.6**	**+1.1**
CO03				*e*S	**Sn**	**07 25 58.9**	**+1.3**
CO03				IAML		07 25 60.0	
	comp=Z,186nm,0.5s						
CO02	**Combarbal**	**3.02**	**270**	*e*P	**Pn**	**07 25 27.9**	**+0.3**
CO02				*e*S	**Sn**	**07 26 05.2**	**+2.0**
CO02				IAML		07 26 06.9	
	comp=Z,212nm,0.4s						
VA03	**San Esteban**	**3.02**	**239**	*e*P	**Pn**	**07 25 28.5**	**+0.9**
VA03				IAML		07 26 08.0	
	comp=Z,146nm,0.5s						
GO04	**Tololo Observa**	**3.05**	**290**	*e*P	Pn	07 25 18.4	-10
GO04				*e*S	**Sn**	**07 26 05.8**	**+1.6**
GO04				IAML		07 26 07.5	
	comp=Z,274nm,0.4s						
MT08	**Bocatoma Ro**	**3.08**	**224**	*e*P	**Pn**	**07 25 29.2**	**+0.8**
MT08				*e*S	**Sn**	**07 26 06.2**	**+1.5**
MT08				IAML		07 26 06.6	
	comp=Z,184nm,0.5s						
PIL	**Pilar**	**3.10**	**99**	*e*P	**Pn**	**07 25 29.3**	**+0.8**
PIL				*e*S	Sn	07 25 52.1	-13
MT04	**Ro Olivares**	**3.12**	**225**	*e*P	**Pn**	**07 25 30.1**	**+1.1**
MT04				*e*S	**Sn**	**07 26 07.7**	**+2.0**
CYA	**Choya**	**3.14**	**28**	*e*P	**Pn**	**07 25 28.8**	**-0.4**
CYA				*e*S	**Sn**	**07 26 04.9**	**-1.2**
CYA				IAML		07 26 06.1	
	comp=Z,171nm,0.8s						
PEL	**Peldehue**	**3.32**	**234**	*e*P	**Pn**	**07 25 31.9**	**+0.4**
PEL				*e*S	Sn	07 25 56.4	-14
PEL				IAML		07 26 15.1	
	comp=Z,77nm,0.6s						
MT03	**Universidad Ad**	**3.41**	**228**	*e*P	**Pn**	**07 25 33.5**	**+0.7**
MT03				*e*S	**Sn**	**07 26 10.6**	**-1.9**
MT03				IAML		07 26 22.6	
	comp=Z,98nm,0.2s						
ROC1	**El Roble**	**3.47**	**239**	*e*P	**Pn**	**07 25 33.0**	**-0.7**
ROC1				*e*S	**Sn**	**07 26 14.0**	**-0.1**
LMEL	**Las Melosas**	**3.48**	**221**	*e*P	**Pn**	**07 25 34.5**	**+0.8**
MT05	**Renca**	**3.50**	**231**	*e*P	**Pn**	**07 25 34.3**	**+0.4**
MT05				*e*S	**Sn**	**07 26 16.7**	**+2.2**
MT05				IAML		07 26 18.4	
	comp=Z,64nm,0.3s						
LCO	**Las Campanas**	**3.57**	**308**	*e*P	**Pn**	**07 25 36.0**	**+0.9**
LCO				*e*S	**Sn**	**07 26 17.4**	**+0.9**
LCO				IAML		07 26 18.3	
	comp=Z,341nm,0.2s						
RFA	**San Rafael**	**3.62**	**193**	*e*P	**Pn**	**07 25 34.9**	**-0.7**
RFA				*e*S	Sn	07 26 05.0	-13
RFA				IAML		07 26 36.2	
	comp=Z,116nm,0.4s						
MT02	**Curacav**	**3.70**	**236**	*e*P	**Pn**	**07 25 35.2**	**-1.3**
MT02				*e*S	**Sn**	**07 26 18.1**	**-1.2**
AC04	**Llanos de Chal**	**4.35**	**313**	*e*P	**Pn**	**07 25 44.0**	**-1.4**
AC04				*e*S	**Sn**	**07 26 35.5**	**+0.5**
AC04				IAML		07 26 37.2	
	comp=Z,48nm,0.5s						
GO03	**Copiapo**	**4.36**	**326**	*e*P	**Pn**	**07 25 45.9**	**+0.4**
GO03				*e*S	**Sn**	**07 26 35.8**	**+0.5**
GO03				IAML		07 26 40.4	
	comp=Z,67nm,0.5s						
BO01	**Tunca**	**4.37**	**223**	*e*P	**Pn**	**07 25 44.0**	**-1.6**
BO01				IAML		07 26 37.6	
	comp=Z,44nm,0.7s						
BO02	**Sierra Bellavi**	**4.50**	**217**	*e*P	**Pn**	**07 25 47.2**	**-0.3**
BO02				*e*S	**Sn**	**07 26 42.6**	**+3.8**
BO02				IAML		07 26 45.1	
	comp=Z,42nm,0.1s						
AC02	**Maricunga**	**4.62**	**341**	*e*P	**Pn**	**07 25 51.2**	**+1.7**
AC02				*e*S	**Sn**	**07 26 43.7**	**+1.4**
AC02				IAML		07 26 51.0	
	comp=Z,25nm,0.3s						
FSA	**Cafayete**	**5.28**	**15**	*e*P	**Pn**	**07 25 58.2**	**+0.1**
PLCA	**Paso Flores**	**9.80**	**194**	P	**Pn**	**07 26 58.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=353,slow=9.9,SNR=7.1						
CPUP	**Villa Florida**	**10.15**	**64**	P	**Pn**	**07 27 06.8**	**+2.7**
	comp=Z,0.2nm,0.4s,baz=272,slow=18,SNR=2.1						
CPUP				S	**Sn**	**07 29 01.1**	**+5.0**
	comp=Z,0.4nm,0.5s,baz=358,slow=8.9,SNR=1.4						
LPAZ	**La Paz**	**14.89**	**358**	P	**Pn**	**07 28 06.0**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=182,slow=10,SNR=11						
SIV	**San Ignacio**	**16.27**	**23**	P	**Pn**	**07 28 23.3**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=148,slow=6.9,SNR=4.4						
VNA3	**Neumayer Olymp**	**50.51**	**159**	⇑P	**P**	**07 33 32.2**	**+3.6**
	comp=Z,1.7nm,0.7s						
VNA2	**Neumayer-Watz**	**51.11**	**159**	⇑P	**P**	**07 33 36.8**	**+3.7**
	comp=Z,0.9nm,0.5s,baz=282,slow=7.9						
SNAA	**Sanae**	**52.73**	**159**	⇑P	**P**	**07 33 48.6**	**+3.5**
	comp=Z,8.7nm,0.2s						
SNAA	**Sanae**	**52.73**	**159**	P	**P**	**07 33 47.6**	**+2.5**
	comp=Z,0.6nm,0.4s,baz=268,slow=7.6,SNR=10						
	comp=Z,0.6nm,0.4s						
TROLL	**Troll, Antarti**	**54.44**	**159**	⇑P	**P**	**07 34 01.7**	**+4.0**
	comp=Z,7.1nm,0.8s						
TXAR	**Lajitas Array**	**69.38**	**327**	P	**P**	**07 35 36.7**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=156,slow=5.2,SNR=2.0						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**79.63**	**68**	P	**P**	**07 36 37.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=291,slow=4.3,SNR=3.5						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**83.17**	**330**	P	**P**	**07 36 54.5**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=203,slow=1.3,SNR=2.9						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**124.97**	**205**	PKP	**PKPdf**	**07 43 27.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=157,slow=1.8,SNR=7.8						
KURBB	**Kurchatov Arra**	**148.23**	**43**	PKPbc	**PKPbc**	**07 44 14.1**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=297,slow=2.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**149.83**	**33**	PKPbc	**PKPbc**	**07 44 17.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=264,slow=5.5,SNR=2.8						
MKAR	**Makanchi Array**	**152.06**	**48**	PKPbc	**PKPbc**	**07 44 23.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=263,slow=3.4,SNR=4.7						

*IDC **14** 07:49:04.3±3.6, 36°.39N×70°.89E, h164km±32km, mb3.5/12, mbtmp4.0/16, MS3.3/2, Error ellipse: s-maj=24.7km s-min=14.3km az=36.0*
*MOS **14** 07:49:06.5±1.0, 36°.57N×70°.84E, h202km, mb4.5/7, Error ellipse: s-maj=10.2km s-min=5.0km az=82.6*
*NEIC **14** 07:49:07.4±1.7, 36°.55N±0°.07×70°.84E±0°.08, h201km±8km, mb4.5/12, Error ellipse: s-maj=10.0km s-min=9.6km az=144.0*
*NNC **14** 07:49:10.4±2.9, 36°.83N×70°.75E, h163km±39km, mb3.5, mpv4.0, Error ellipse: s-maj=27.4km s-min=18.9km az=48.0*

ISC 14 07:49:06.1±0.5,**36°.56N**±0°.05×**70°.96E**±0°.05,**h188**km,**n111**, σ1§**97**/128,**mb4.1**/25,**9C-5D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.49**	**348**		**Pn**	**07 49 51.2**	**+2.0**
CHGR	**Chuyangaron**	**2.53**	**326**		**Pn**	**07 49 51.2**	**+1.6**
CHGR	**Chuyangaron**	**2.53**	**326**	PN	**Pn**	**07 49 51.2**	**+1.6**
KBL	**Kabul**	**2.55**	**218**		**Pn**	**07 49 51.4**	**+1.3**
KBL	**Kabul**	**2.55**	**218**	PN	**Pn**	**07 49 51.4**	**+1.3**
NIL	**Nilore**	**3.46**	**146**		**Pn**	**07 50 03.2**	**+2.5**
NIL	**Nilore**	**3.46**	**146**	PN	**Pn**	**07 50 03.2**	**+2.5**
KSH	**Kashi**	**4.94**	**52**	Pn	**Pn**	**07 50 17.5**	**-1.9**
KSH				Sn	**Sn**	**07 51 10.5**	**-6.7**
KSH				smax	smax		
	comp=N,200nm,0.5s						
KSH				smax	smax		
	comp=E,130nm,0.5s						
ARSB	**Arslanbob**	**5.01**	**18**		**Pn**	**07 50 21.6**	**+1.2**
ARSB	**Arslanbob**	**5.01**	**18**	PN	**Pn**	**07 50 21.6**	**+1.2**
JMU	**Jammu**	**5.03**	**139**	*e*P	**Pn**	**07 50 21.2**	**+0.7**
JMU				⇓*e*S	**Sn**	**07 51 17.1**	**-1.9**
JMU				IAML		07 51 18.3	
	comp=E,656nm,0.7s						
JMU				IAML		07 51 19.2	
	comp=N,578nm,0.5s						
ALCI	**Alchi Leh**	**5.60**	**113**	*e*P	**Pn**	**07 50 29.4**	**+1.2**
ALCI				*e*S	**Sn**	**07 51 30.6**	**-2.3**
ALCI				IAML		07 51 35.3	
	comp=N,343nm,0.2s						
ALCI				IAML		07 51 36.0	
	comp=E,212nm,0.6s						
IUG	**Iuzhnay**	**5.62**	**353**	*e*P	**Pn**	**07 50 30.2**	**+1.9**
IUG	**Iuzhnay**	**5.62**	**353**	*e*PN	**Pn**	**07 50 30.1**	**+1.9**
THN	**Thein Dam**	**5.69**	**135**	*e*P	**Pn**	**07 50 31.7**	**+2.6**
THN				*e*S	**Sn**	**07 51 32.6**	**-1.9**
THN				IAML		07 51 35.1	
	comp=E,296nm,0.4s						
THN				IAML		07 51 35.2	
	comp=N,277nm,0.6s						
CHM	**Chimkent**	**5.84**	**350**	*e*P	**Pn**	**07 50 32.8**	**+1.7**
CHM	**Chimkent**	**5.84**	**350**	*e*PN	**Pn**	**07 50 32.7**	**+1.7**
DHRM	**DHARAMSHALA**	**6.16**	**133**	*e*P	**Pn**	**07 50 37.1**	**+1.6**
DHRM				*e*S	**Sn**	**07 51 42.7**	**-3.4**
DHRM				IAML		07 51 46.3	
	comp=N,224nm,0.3s						
DHRM				IAML		07 51 48.6	
	comp=E,422nm,0.4s						
UCH	**Uchtor**	**6.29**	**25**	P	**Pn**	**07 50 38.7**	**+1.4**
	SNR=49						
DZA	**Taraz**	**6.33**	**2**	*e*P	**Pn**	**07 50 39.0**	**+1.6**
DZA	**Taraz**	**6.33**	**2**	*e*PN	**Pn**	**07 50 39.0**	**+1.6**
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**07 50 41.0**	**+1.8**
	SNR=25						
KK31	**Karatay Array**	**6.54**	**357**	⇑P	**Pn**	**07 50 41.4**	**+1.2**
	comp=E,7.4nm,0.3s,baz=186,slow=15,SNR=140						
KK31				⇓S	**Sn**	**07 51 51.8**	**-2.9**
	comp=E,44nm,0.5s,baz=182,slow=21,SNR=22						
KK31	**Karatay Array**	**6.54**	**357**	*e*PN	**Pn**	**07 50 41.3**	**+1.2**
KKAR	**Karatay Array**	**6.54**	**357**		**Pn**	**07 50 41.6**	**+1.5**
KKAR	**Karatay Array**	**6.54**	**357**	PN	**Pn**	**07 50 41.6**	**+1.5**
AAK	**Ala-Archa**	**6.65**	**23**		**Pn**	**07 50 43.5**	**+1.8**
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**07 50 43.3**	**+1.6**
	comp=E,15nm,0.3s,baz=167,slow=2.8,SNR=50						
AAK				S	**Sn**	**07 51 56.9**	**-0.5**
	comp=E,9.2nm,0.3s,baz=230,slow=18,SNR=3.7						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**07 50 44.0**	**+2.2**
	SNR=15						
AAK	**Ala-Archa**	**6.65**	**23**	⇓P	**Pn**	**07 50 43.6**	**+1.9**
	comp=E,2.7nm,0.4s						
AAK				⇑S	**Sn**	**07 51 57.1**	**-0.3**
	comp=E,32nm,0.8s						
AAK	**Ala-Archa**	**6.65**	**23**	*de*PN	**Pn**	**07 50 43.5**	**+1.8**
AAK				pmax	pmax		
	comp=Z,18nm,0.8s						
KBK	**Karagaybulak**	**6.82**	**26**	P	**Pn**	**07 50 46.4**	**+2.5**
	SNR=9.4						
CHMS	**Chumysh**	**7.06**	**23**	P	**Pn**	**07 50 48.7**	**+1.7**
	SNR=5.4						
BOOM	**Boomskoye usch**	**7.06**	**32**		**Pn**	**07 50 48.8**	**+1.7**
BOOM	**Boomskoye usch**	**7.06**	**32**	PN	**Pn**	**07 50 48.8**	**+1.7**
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**07 50 49.5**	**+0.4**
	SNR=16						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**07 50 51.7**	**+1.6**
	SNR=58						
KDJ	**Kajisay**	**7.36**	**39**	Pn	**Pn**	**07 50 52.2**	**+1.3**
KDJ	**Kajisay**	**7.36**	**39**	PN	**Pn**	**07 50 52.3**	**+1.3**
TARG	**Taragay, Kyrgy**	**7.41**	**44**		**Pn**	**07 50 53.0**	**+1.1**
TARG	**Taragay, Kyrgy**	**7.41**	**44**	PN	**Pn**	**07 50 53.0**	**+1.1**
SMLA	**Simla**	**7.48**	**135**	*e*P	**Pn**	**07 50 53.3**	**+0.8**
SMLA				*e*S	**Sn**	**07 52 12.7**	**-4.3**
SMLA				IAML		07 52 17.6	
	comp=N,206nm,0.4s						
SMLA				IAML		07 52 18.0	
	comp=E,220nm,0.3s						
KLP	**Kalpa**	**7.86**	**128**	*e*P	**Pn**	**07 50 59.8**	**+2.0**
KLP				*e*S	**Sn**	**07 52 21.1**	**-5.3**
KLP				IAML		07 52 24.8	
	comp=N,462nm,0.6s						
KLP				IAML		07 52 26.0	
	comp=E,551nm,0.4s						
AAA	**Alma-Ata**	**8.06**	**33**	*e*P	**Pn**	**07 51 02.3**	**+2.2**
AAA	**Alma-Ata**	**8.06**	**33**	*e*PN	**Pn**	**07 51 02.3**	**+2.2**
MDOK	**Medeo**	**8.08**	**34**	*e*P	**Pn**	**07 51 02.2**	**+1.7**
MDOK	**Medeo**	**8.08**	**34**	*e*PN	**Pn**	**07 51 02.2**	**+1.7**
SATY	**Saty**	**8.65**	**39**	*e*P	**Pn**	**07 51 09.6**	**+1.7**
SATY				*e*S	**Sn**	**07 52 48.4**	**+3.5**
SATY	**Saty**	**8.65**	**39**	*e*PN	**Pn**	**07 51 09.6**	**+1.7**
SATY				*e*S	**Sn**	**07 52 48.3**	**+3.5**
UZB	**Uzynbulak**	**9.04**	**41**	*e*P	**Pn**	**07 51 14.6**	**+1.6**
UZB	**Uzynbulak**	**9.04**	**41**	*e*P	**Pn**	**07 51 14.5**	**+1.6**
KUDL	**Kundal**	**9.61**	**149**	*e*P	**Pn**	**07 51 21.8**	**+1.4**
KUDL				*e*S	Sn	07 52 59.1	-8.5
KUDL				IAML		07 53 01.3	
	comp=E,234nm,0.5s						
KUDL				IAML		07 53 04.6	
	comp=N,317nm,0.7s						
MAKZ	**Makanchi**	**13.12**	**35**	Pn	**Pn**	**07 52 06.5**	**+1.2**
MAKZ	**Makanchi**	**13.12**	**35**	P	**Pn**	**07 52 06.5**	**+1.2**
MK31	**Makanchi Array**	**13.26**	**36**	*ce*P	**Pn**	**07 52 08.8**	**+1.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**13.26**	**36**	Pn	**Pn**	**07 52 09.0**	**+1.9**
MKAR	**Makanchi Array**	**13.26**	**36**	P	**P**	**07 52 09.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=224,slow=15,SNR=4.9						
WMQ	**Urumqi**	**14.69**	**55**	*e*P	**P**	**07 52 27.6**	**+1.4**
AB31	**Akbulak array**	**15.01**	**331**		**P**	**07 52 29.2**	**-0.5**
AB31	**Akbulak array**	**15.01**	**331**	⇓P	**P**	**07 52 29.1**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=143,slow=12,SNR=70						
AB31				⇑S	**Sn**	**07 55 14.3**	**-2.2**
	comp=Z,1.7nm,0.5s,baz=156,slow=23,SNR=16						
AB31	**Akbulak array**	**15.01**	**331**	*i* P	**P**	**07 52 29.3**	**-0.3**
ABKAR	**Akbulak array**	**15.01**	**331**		**P**	**07 52 29.1**	**-0.6**
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**Pn**	**07 52 29.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=210,slow=10,SNR=8.3						
KURK	**Kurchatov**	**15.18**	**19**	*ce*P	**Pn**	**07 52 30.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
EVN	**Everest**	**15.91**	**118**	P	**P**	**07 52 40.6**	**+0.2**
EVN				IAmb	IAmb	07 52 45.4	
	comp=Z,7.6nm,0.5s						
BORK	**Borovoye**	**16.49**	**359**	*i* P	**Pn**	**07 52 46.3**	**-0.3**
BORK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**	**07 52 49.6**	**+0.3**
	comp=Z,16nm,0.7s,baz=143,slow=9.0,SNR=39						
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**Pn**	**07 52 50.0**	**+0.7**
	comp=Z,10nm,0.8s						
AKTO				⇑S	**Sn**	**07 55 55.2**	**-1.6**
	comp=Z,4.9nm,1.4s						
AKT	**Akhty**	**18.69**	**292**	*e*P	**P**	**07 53 07.2**	**-2.9**
AKT				*e*S	**S**	**07 56 28.6**	**-4.4**
AKT				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**07 53 22.3**	**-0.4**
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**07 53 24.6**	**+1.9**
	comp=Z,2.5nm,0.4s,baz=216,slow=11,SNR=9.7						
	comp=Z,2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**19.87**	**25**	*i* P	**P**	**07 53 24.7**	**+2.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SHL	**Shillong**	**20.96**	**116**	P	**P**	**07 53 35.5**	**+0.8**
SHL	**Shillong**	**20.96**	**116**	P	**P**	**07 53 35.6**	**+0.8**
SHL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARTI	**Arti**	**21.57**	**341**	*c i*P	**P**	**07 53 42.9**	**+2.3**
ARTI				S	**S**	**07 57 30.1**	**+3.1**
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KBZ	**Khabaz**	**22.54**	**297**	*i* P	**P**	**07 53 48.9**	**-1.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KVAR	**Kislovodsk Arr**	**22.72**	**298**	LR	LR	08 06 06.0	
	comp=Z,65nm,19.5s,baz=282,slow=45						
KIV	**Kislovodsk**	**22.73**	**298**	*e*P	**P**	**07 53 50.5**	**-1.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH	**Lanzhou**	**26.43**	**81**	*e*P	**P**	**07 54 24.4**	**-1.2**
LZH				sP	PP	07 55 30.4	+1.3
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH	**PanZhiHua**	**27.98**	**102**	P	**P**	**07 54 41.1**	**+1.6**
SONM	**

IMAR	**Indian Mountai**	**72.12**	**18**	P	**P**	**08 00 11.1**	**+1.6**
BMAR	**Burnt Mountain**	**72.89**	**14**	P	**P**	**08 00 17.2**	**+3.1**
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**08 00 43.1**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=42,slow=2.6,SNR=3.1						
	comp=Z,3.5nm,0.9s						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**08 01 02.2**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=352,slow=5.8,SNR=16						
	comp=Z,0.5nm,0.4s						
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**08 01 05.5**	**0.0**
	comp=Z,1.6nm,0.5s,baz=323,slow=4.8,SNR=24						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**08 01 17.2**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=310,slow=5.0,SNR=52						
	comp=Z,2.2nm,0.6s						

*DJA **14** 08:14:27.8±0.6, 0°S±5°×13°4E±°, h10km, M3.9/6, MLv3.9/6*
*IDC **14** 08:14:34.3±3.4, 1°29S×134°51E, h0km, mb3.2/2,*
mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=161.0km
s-min=29.7km az=77.0

ISC 14 08:14:27.7±2.6, 0°4S±0°2×134°38E±0°08, h10km, n8,
σ1§28/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.08**	**191**	P	**Pg**	**08 14 47.1**	**-1.4**
RKPI				S	**Sb**	**08 15 03.7**	**+1.0**
BAKI	**Biak**	**1.88**	**113**	P	**Pn**	**08 14 59.8**	**-0.2**
BAKI				S	**Sn**	**08 15 25.1**	**+1.3**
SRPI	**Serui, Papua**	**2.34**	**127**	P	**Pn**	**08 15 07.4**	**+1.1**
FAKI	**Fak Fak**	**3.25**	**221**	P	**Pn**	**08 15 20.4**	**+1.6**
FAKI				S	**Sn**	**08 15 57.7**	**0.0**
SMPI	**Sarmi**	**4.60**	**110**	P	**Pn**	**08 15 38.2**	**+0.9**
WRA	**Warramunga Arr**	**19.38**	**180**	P	**P**	**08 18 52.5**	**-1.4**
	0.1nm,0.3s,baz=360,slow=12,SNR=8.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**23.09**	**181**	P	**P**	**08 19 33.1**	**-0.7**
	0.3nm,0.5s,baz=7.6,slow=11,SNR=11						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.38**	**323**	P	P	08 25 23.5	+13
	0.2nm,0.4s,baz=112,slow=7.3,SNR=2.0						
	0.2nm,0.4s						

STR 14 08:20:10.0±0.8, 46°N±4°×°±°, h0km, MLv1.8/7, LOCSAT
earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.19**	**104**	Pg	Pg	08 20 14.0	+0.3
OG35				Sg	Sg	08 20 17.8	+1.5
OGMY	**Moye**	**0.46**	**117**	Pg	Pg	08 20 19.6	+0.7
OGSM	**Saint Maurice**	**0.56**	**150**	Pg	Pg	08 20 21.5	+0.8
OGSM				Sg	Sg	08 20 27.8	-0.1
GIMEL	**St. Georges /**	**0.80**	**56**	Pn	Pn	08 20 28.5	-0.2
GIMEL				Sg	Sn	08 20 41.6	+0.2
SSB	**Saint Sauveur**	**0.97**	**213**	Pg	Pg	08 20 28.8	+0.1
SSB				Sg	Sb	08 20 42.7	-0.4
RSL	**Roselend**	**1.01**	**113**	Pn	Pb	08 20 30.8	+0.3
ORIF	**Oris-en-Rattie**	**1.24**	**161**	Pg	Pg	08 20 33.9	0.0
ORIF				Sg	Sb	08 20 50.5	-0.5
COLF	**Collangettes**	**1.26**	**243**	Pg	Pg	08 20 34.4	+0.2
DIX	**Grande Dixence**	**1.47**	**90**	Pg	Pb	08 20 38.6	+0.3

*SDD **14** 09:00:16.8±2.0, 18°22N×67°41W, h18km±19km, MD2.6,*
ML1.7, MW2.2
*RSPR **14** 09:00:17.1, 18°15N×67°44W, h18km±1km, MD2.4/10*

ISC 14 09:00:15.3±1.3, 18°13N±0°04×67°43W±0°03, h8km±10km,
n54, σ0§51/62, 28C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.25**	**351**	⇓eP	**Pb**	**09 00 22.5**	**+0.4**
IDE	**Isla Desecheo**	**0.25**	**351**	eS	**Sb**	**09 00 27.1**	**+0.5**
IDE	**Isla Desecheo**	**0.25**	**351**	⇓eP	**Pb**	**09 00 22.5**	**+0.4**
IDE	**Isla Desecheo**	**0.25**	**351**	eS	**Sb**	**09 00 26.9**	**+0.2**
PRSN	**Puerto Rico Se**	**0.29**	**73**	eS	**Sb**	**09 00 28.6**	**+1.0**
PRSN	**Puerto Rico Se**	**0.29**	**73**	⇑eP	**Pb**	**09 00 22.9**	**+0.2**
PRSN	**Puerto Rico Se**	**0.29**	**73**	eS	**Sb**	**09 00 27.9**	**+0.3**
PRSN	**Puerto Rico Se**	**0.29**	**73**	⇑ePg	**Pg**	**09 00 20.6**	**-0.4**
PRSN				eSg	**Sb**	**09 00 26.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.33**	**112**	⇑eP	**Pb**	**09 00 23.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.33**	**112**	eS	**Sb**	**09 00 30.0**	**+1.1**
CRPR	**Cabo Rojo, PR**	**0.33**	**112**	⇓eP	**Pb**	**09 00 23.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.33**	**112**	eS	**Sb**	**09 00 29.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.33**	**112**	⇓ePg	**Pb**	**09 00 23.6**	**+0.1**
CRPR				⇓eSg	**Sb**	**09 00 28.1**	**-0.8**
CRPR				⇑eSg	**Sb**	**09 00 29.9**	**+1.1**
CRPR				IAML		09 00 31.7	
	comp=N,74nm,0.2s						
LSP	**Las Mesas**	**0.33**	**83**	⇑eP	**Pb**	**09 00 23.7**	**+0.2**
LSP	**Las Mesas**	**0.33**	**83**	eS	**Sb**	**09 00 30.3**	**+1.4**
LSP	**Las Mesas**	**0.33**	**83**	⇑eP	**Pb**	**09 00 23.6**	**+0.1**
LSP	**Las Mesas**	**0.33**	**83**	eS	**Sb**	**09 00 29.7**	**+0.8**
MLPR	**Magueyes Islan**	**0.41**	**114**	⇑eP	**Pb**	**09 00 24.8**	**+0.2**
MLPR	**Magueyes Islan**	**0.41**	**114**	eS	**Sb**	**09 00 31.3**	**+0.3**
MLPR	**Magueyes Islan**	**0.41**	**114**	⇑eP	**Pb**	**09 00 24.9**	**+0.3**
MLPR	**Magueyes Islan**	**0.41**	**114**	eS	**Sb**	**09 00 31.0**	**+0.1**
MLPR	**Magueyes Islan**	**0.41**	**114**	⇑ePg	**Pb**	**09 00 24.7**	**0.0**
MLPR				⇑eSg	**Sb**	**09 00 30.7**	**-0.3**
MLPR				IAML		09 00 31.8	
	comp=N,36nm,0.2s						
AOPR	**Arecibo Observ**	**0.68**	**72**	⇑eP	**Pb**	**09 00 28.8**	**-0.6**
AOPR	**Arecibo Observ**	**0.68**	**72**	eS	**Sg**	**09 00 37.7**	**+0.4**
AOPR	**Arecibo Observ**	**0.68**	**72**	⇑eP	**Pb**	**09 00 28.7**	**-0.6**
AOPR	**Arecibo Observ**	**0.68**	**72**	eS	**Sg**	**09 00 37.7**	**+0.4**
AOPR	**Arecibo Observ**	**0.68**	**72**	⇑ePg	**Pg**	**09 00 27.8**	**-0.6**
AOPR				⇑eSg	**Sg**	**09 00 36.9**	**-0.4**
AOPR				IAML		09 00 39.1	
	comp=N,176nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.69**	**80**	⇑eP	**Pg**	**09 00 28.8**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.69**	**80**	eS	**Sg**	**09 00 38.2**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.69**	**80**	⇑eP	**Pg**	**09 00 28.9**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.69**	**80**	eS	**Sg**	**09 00 37.7**	**+0.1**
OBIP	**Obispado Ponce**	**0.79**	**96**	⇑eP	**Pb**	**09 00 30.8**	**-0.5**
OBIP	**Obispado Ponce**	**0.79**	**96**	eS	**Sb**	**09 00 41.5**	**-0.6**
OBIP	**Obispado Ponce**	**0.79**	**96**	⇑eP	**Pg**	**09 00 30.7**	**+0.1**
OBIP	**Obispado Ponce**	**0.79**	**96**	eS	**Sb**	**09 00 41.7**	**-0.5**
CELP	**Cerrillos**	**0.81**	**94**	⇑eP	**Pg**	**09 00 31.1**	**+0.1**
CELP	**Cerrillos**	**0.81**	**94**	eS	**Sb**	**09 00 42.2**	**-0.6**
CELP	**Cerrillos**	**0.81**	**94**	⇑eP	**Pg**	**09 00 31.0**	**0.0**
CELP	**Cerrillos**	**0.81**	**94**	eS	**Sg**	**09 00 42.1**	**+0.5**
CELP	**Cerrillos**	**0.81**	**94**	⇑ePg	**Pg**	**09 00 31.0**	**0.0**
CELP				⇑eSg	**Sg**	**09 00 41.8**	**+0.2**
CELP				IAML		09 00 43.4	
	comp=N,42nm,0.3s						
ECPR	**Experimental S**	**1.03**	**80**	⇑eP	**Pg**	**09 00 34.8**	**-0.4**
ECPR	**Experimental S**	**1.03**	**80**	eS	**Sg**	**09 00 48.5**	**-0.1**
ECPR	**Experimental S**	**1.03**	**80**	⇑eP	**Pg**	**09 00 34.8**	**-0.4**
ECPR	**Experimental S**	**1.03**	**80**	eS	**Sb**	**09 00 48.9**	**-0.3**
IGPR	**InterUniversit**	**1.27**	**97**	eS	**Sn**	**09 00 56.5**	**-0.1**
IGPR	**InterUniversit**	**1.27**	**97**	⇑eP	**Pb**	**09 00 39.3**	**-0.2**
IGPR	**InterUniversit**	**1.27**	**97**	eS	**Sb**	**09 00 56.0**	**0.0**
GCPR	**Guaynabo City**	**1.29**	**82**	eS	**Sb**	**09 00 55.6**	**-1.0**
PDPR	**Patillas Dam,**	**1.35**	**95**	⇑eP	**Pb**	**09 00 40.5**	**-0.2**
PDPR	**Patillas Dam,**	**1.35**	**95**	eS	**Sg**	**09 00 58.5**	**-0.1**
PDPR	**Patillas Dam,**	**1.35**	**95**	⇑eP	**Pb**	**09 00 40.5**	**-0.2**
PDPR	**Patillas Dam,**	**1.35**	**95**	eS	**Sb**	**09 00 57.9**	**-0.2**
MIDR	**Miches**	**1.75**	**299**	⇑ePg	**Pn**	**09 00 46.1**	**+0.3**
MIDR				⇑eSg	**Sn**	**09 01 08.1**	**-0.2**
MIDR				IAML		09 01 16.8	
	comp=N,13nm,5.0s						
MIDR				IAML		09 01 17.0	
	comp=N,3.0nm,0.3s						
HATOM	**Hato Mayor del**	**1.96**	**290**	ePg	**Pg**	**09 00 52.2**	**-0.7**
HATOM				eSg	**Sb**	**09 01 15.7**	**-0.1**
HATOM				IAML		09 01 21.1	
	comp=N,2.1nm,0.2s						

*IDC **14** 09:04:10.6±1.6, 53°69N×164°64W, h0km, mb3.8/8,*
mbtmp3.8/10, ML3.0/2, Error ellipse: s-maj=38.6km
s-min=19.9km az=173.0
*AEIC **14** 09:04:14.8±1.9, 53°58N±0°05×164°59W±0°06, h26km±7km,*
Error ellipse: s-maj=7.6km s-min=5.1km az=191.0
*NEIC **14** 09:04:15.3±1.6, 53°57N±0°04×164°61W±0°06, h34km±9km,*
mb3.6/2, ML3.6/20, ML3.4(AEIC), Error ellipse:
s-maj=6.6km s-min=2.8km az=222.0

ISC 14 09:04:13.4±1.9, 53°53N±0°09×164°54W±0°05,
h23km±13km, n75, σ1§66/69, mb3.8/7, Unimak Island
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.92**	**312**		**Pb**	**09 04 30.5**	**-0.1**
AKSA					**Sb**	**09 04 41.7**	**-0.7**
AKUT	**Akutan**	**0.95**	**310**		**Pb**	**09 04 31.2**	**0.0**
AKUT					**Sb**	**09 04 42.8**	**-0.6**
AKUT	**Akutan**	**0.95**	**310**	IAML		09 04 47.9	
	comp=E,1μm,0.4s						
AHB	**Akutan Harbor**	**0.96**	**308**		**Pb**	**09 04 31.4**	**0.0**
AHB					**Sb**	**09 04 42.9**	**-0.7**
AKBBA	**Akutan Broad B**	**1.01**	**305**		**Pn**	**09 04 31.9**	**-0.1**
AKBBA					**Sn**	**09 04 45.8**	**+0.3**
ZRO	**Akutan Zero**	**1.03**	**304**		**Pn**	**09 04 32.2**	**-0.1**
AKV	**Akutan Volcano**	**1.04**	**306**		**Pn**	**09 04 32.4**	**-0.2**
AKMO	**Akutan Morgan**	**1.04**	**304**		**Pn**	**09 04 32.5**	**0.0**
AKLV	**Akutan Long Va**	**1.06**	**308**		**Pn**	**09 04 32.5**	**-0.2**
WEBT	**Westdahl Beart**	**1.07**	**353**		**Pn**	**09 04 32.9**	**-0.1**
WEBT					**Sn**	**09 04 47.7**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.09**	**304**		**Pn**	**09 04 33.2**	**0.0**
LVA	**Lava Point**	**1.09**	**306**		**Pn**	**09 04 33.2**	**0.0**
LVA				IAML		09 04 54.6	
	comp=N,2μm,0.7s						
LVA	**Lava Point**	**1.09**	**306**		**Sn**	**09 04 48.2**	**+0.7**
UNV	**Unalaska Valle**	**1.21**	**286**		**Pn**	**09 04 34.6**	**-0.3**
UNV				IAML		09 04 53.0	
	comp=N,967nm,0.6s						
UNV	**Unalaska Valle**	**1.21**	**286**		**Sn**	**09 04 49.9**	**-0.6**
SSBA	**Shishaldin**	**1.27**	**11**		**Pn**	**09 04 35.4**	**-0.4**
ISNN	**Isanotski Nort**	**1.38**	**18**		**Pn**	**09 04 37.4**	**+0.2**
MSW	**Makushin Switc**	**1.39**	**287**		**Sb**	**09 04 55.6**	**-0.3**
MGOD	**Makushin Gods**	**1.42**	**282**		**Pn**	**09 04 37.8**	**+0.1**
MAPS	**Pakushin South**	**1.46**	**282**		**Pn**	**09 04 38.4**	**+0.2**
FALS	**False Pass**	**1.49**	**26**		**Pn**	**09 04 38.5**	**0.0**
FALS	**False Pass**	**1.49**	**26**		**Sn**	**09 04 58.0**	**+0.8**
OKFG	**Magazine Ridge**	**2.02**	**268**		**Pn**	**09 04 47.1**	**+1.2**
DT1	**Dutton Round H**	**2.06**	**39**		**Pn**	**09 04 47.4**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.10**	**268**		**Pn**	**09 04 48.9**	**+1.8**
OKNC	**Okmok New Cone**	**2.15**	**270**		**Pn**	**09 04 49.1**	**+1.5**
OKCE	**Okmok Cone E**	**2.17**	**269**		**Pn**	**09 04 49.7**	**+1.7**
DOL	**Dolgoi Island**	**2.26**	**43**		**Pn**	**09 04 50.1**	**+0.8**
PS4A	**Pavlof South-4**	**2.40**	**40**		**Pn**	**09 04 53.1**	**+1.9**
PN7A	**Pavlof North-7**	**2.42**	**37**		**Pn**	**09 04 53.1**	**+1.7**
PS1A	**Pavlof South-1**	**2.50**	**40**		**Pn**	**09 04 55.0**	**+2.4**
S12K	**Black Hills**	**2.61**	**36**		**Pn**	**09 04 55.6**	**+1.5**
S12K	**Black Hills**	**2.61**	**32**	IAML		09 05 36.0	
	comp=N,204nm,0.6s						
S12K				IAML		09 05 36.5	
	comp=E,262nm,0.6s						
NIKH	**Nikolski High**	**2.65**	**260**		**Pn**	**09 04 55.5**	**+0.8**
NIKH	**Nikolski High**	**2.65**	**260**	IAML		09 05 35.8	
	comp=E,329nm,0.8s						
NIKH				IAML		09 05 36.3	
	comp=N,408nm,0.6s						
SDPT	**Sand Point**	**2.99**	**51**		**Pn**	**09 05 00.5**	**+1.2**
SDPT				IAML		09 05 52.5	
	comp=N,211nm,1.3s						
SDPT				IAML		09 05 54.0	
	comp=E,189nm,1.3s						
CNBA	**Chernabura Isl**	**3.18**	**64**	Pn	**Pn**	**09 05 04.1**	**+2.2**
CLCO	**Concord Point,**	**3.21**	**259**		**Pn**	**09 05 04.1**	**+1.8**
CLES	**Cleveland East**	**3.30**	**260**	Pn	**Pn**	**09 05 01.3**	**-2.2**
CLES				IAML		09 05 58.4	
	comp=E,227nm,1.3s						
VNKR	**Veniaminof 5**	**3.91**	**48**		**Pn**	**09 05 13.6**	**+1.7**
SPIA	**Saint Paul Isl**	**4.90**	**321**	Pn	**Pn**	**09 05 23.8**	**-1.6**
O14K	**Tigyukauivet M**	**6.02**	**16**	Pn	**Pn**	**09 05 44.1**	**+3.3**
M14K	**Bethel**	**7.38**	**10**		**Pn**	**09 06 02.4**	**+2.9**
L14K	**Kuka Creek**	**7.90**	**7**		**Pn**	**09 06 09.0**	**+2.4**
KDAK	**Kodiak Island**	**7.99**	**53**	Pn	**Pn**	**09 06 07.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=50,slow=1.9,SNR=10						
KDAK				Sn	**Sn**	**09 07 31.2**	**-6.2**
	baz=319,slow=11						
	comp=E,15nm,1.0s						
M16K	**Timber Creek**	**8.10**	**20**	Pn	**Pn**	**09 06 11.9**	**+2.5**
L16K	**Owhat River**	**8.64**	**16**	Pn	**Pn**	**09 06 19.4**	**+2.6**
M17K	**Holitna River**	**8.77**	**23**		**Pn**	**09 06 20.4**	**+1.9**
K15K	**Wolf Creek Mou**	**8.94**	**9**		**Pn**	**09 06 23.1**	**+2.3**
N19K	**Bonanza Creek**	**9.11**	**33**	Pn	**Pn**	**09 06 26.3**	**+3.0**
M19K	**Big River Lodg**	**9.99**	**29**	Pn	**Pn**	**09 06 37.5**	**+2.3**
J17K	**VABM Dome**	**10.30**	**14**		**Pn**	**09 06 42.3**	**+2.9**
SKT	**Skwentna**	**10.94**	**34**	Pn	**Pn**	**09 06 51.1**	**+2.9**
HIN	**Hinchinbrook I**	**11.98**	**48**	Pn	**Pn**	**09 07 02.0**	**-0.5**
SCM	**Sheep Creek Mo**	**12.38**	**41**	Pn	**Pn**	**09 07 07.7**	**-0.2**
ILAR	**Eielson Array**	**14.39**	**32**	Pn	**Pn**	**09 07 33.1**	**-2.1**
	baz=234,slow=13,SNR=1.6						
	comp=E,0.2nm,0.6s						
J30M	**Hart River**	**18.06**	**41**		**Pn**	**09 08 23.0**	**+0.5**
J30M				IAmb	IAmb	09 08 34.7	
	comp=Z,2.7nm,0.8s						
MMPY	**Sheldon Lake,**	**19.59**	**49**	P	**P**	**09 08 40.9**	**+1.4**
MMPY				IAmb	IAmb	09 08 56.2	
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**20.78**	**33**	P	**P**	**09 08 51.9**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=220,slow=7.9,SNR=10						
	comp=Z,2.9nm,0.7s						
PETK	**Petropavlovsk-**	**22.40**	**284**	P	**P**	**09 09 10.8**	**+1.0**
	comp=Z,5.7nm,1.0s,baz=80,slow=13,SNR=6.0						
	comp=Z,5.7nm,1.0s						
YKA	**Yellowknife Ar**	**27.26**	**51**	P	**P**	**09 09 56.3**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=280,slow=12,SNR=4.0						
	comp=Z,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**40.26**	**224**	T	T	09 54 51.9	
	baz=26,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**40.26**	**224**	T	T	09 54 54.5	
	baz=26,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**40.27**	**224**	T	T	09 54 55.0	
	baz=26,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**41.43**	**224**	T	T	09 56 31.8	
	baz=25,slow=76,SNR=86						
H11S2	**WAKE ISLAND Hy**	**41.44**	**224**	T	T	09 56 30.9	
	baz=25,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**41.45**	**224**	T	T	09 56 27.3	
	baz=25,slow=76,SNR=67						
TXAR	**Lajitas Array**	**49.85**	**94**	P	**P**	**09 13 05.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=299,slow=5.3,SNR=8.5						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**53.18**	**303**	P	**P**	**09 13 29.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=41,slow=4.6,SNR=2.0						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**57.03**	**356**	P	**P**	**09 13 56.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=11,slow=8.7,SNR=3.9						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**66.68**	**1**	P	**P**	**09 15 00.7**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=60,slow=3.5,SNR=9.2						
	comp=Z,3.3nm,1.0s						
AKTO	**Aktyubinsk**	**70.40**	**333**	P	**P**	**09 15 24.6**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=52,slow=6.1,SNR=9.1						
	comp=Z,2.6nm,0.6s						
H03N2	**Juan Fernandez**	**113.69**	**114**	T	T	11 26 47.4	
	baz=322,slow=77,SNR=8.8						
H03N1	**Juan Fernandez**	**113.70**	**114**	T	T	11 26 48.8	
	baz=322,slow=77,SNR=12						
H03N3	**Juan Fernandez**	**113.70**	**114**	T	T	11 26 47.9	
	baz=322,slow=77,SNR=14						

JMA 14 09:14:45.8±0.1, 30°0N±0°9×14°0E±°, h289km, MV3.5/20,
NEAR TORISHIMA IS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.56**	**144**	eP	Pn	09 15 46.7	0.0
CBIJ				eS	S	09 16 35.1	-0.2
BSO1	**Boso 1**	**4.72**	**11**	eS	S	09 16 58.2	+0.4
BSO3	**Boso 3**	**4.80**	**6**	eS	S	09 16 58.3	-1.7
BSO4	**Boso 4**	**4.98**	**5**	eS	S	09 17 03.6	-0.3
JAG	**Ashikaga**	**6.40**	**357**	eP	Pn	09 16 19.7	+0.1
JHO	**Hitachi**	**6.61**	**5**	eS	S	09 17 35.8	-3.8
JFK	**Kawauchi**	**7.38**	**6**	eS	S	09 17 53.3	-3.8

*IDC **14** 09:16:38.6±1.6, 14°61N×53°75E, h0km, mb3.8/10,*
mbtmp3.8/10, ML1.3/1, MS3.4/25, Error ellipse:
s-maj=44.2km s-min=21.7km az=41.0

ISC 14 09:16:41.4±1.2, 14°8N±0°1×53°9E±0°1, h10km, n35,
σ1§56/12, mb3.7/10, MS3.4/25, Owen Fracture Zone
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.49**	**27**	Pn	**Pn**	**09 19 00.5**	**+2.2**
	baz=0.0,slow=20,SNR=1.4						
WSAR				Sn	**Sn**	**09 20 42.3**	**-2.9**
	baz=303,slow=24,SNR=8.8						

ATD	**Arta Tunnel**	**11.24**	**254**	LR	LR	09 22 37.4	
	comp=Z,15nm,19.3s,baz=67,slow=32						
EIL	**Elat**	**22.88**	**313**	LR	LR	09 31 02.9	
	comp=Z,199nm,19.7s,baz=150,slow=38						
ASF	**Jabal al Asfar**	**23.21**	**321**	P	**P**	**09 21 48.5**	**-0.3**
	4.2nm,0.9s,baz=136,slow=10.0,SNR=4.2						
ASF				LR	LR	09 31 21.7	
	comp=Z,200nm,18.6s,baz=168,slow=38						
	4.2nm,0.9s						
MMAI	**Mount Meron Ar**	**24.70**	**320**	LR	LR	09 31 45.9	
	comp=Z,125nm,19.4s,baz=138,slow=37						
GNI	**Garni**	**26.47**	**344**	LR	LR	09 34 41.7	
	comp=Z,50nm,19.6s,baz=166,slow=41						
PALK	**Pallekele**	**27.34**	**103**	LR	LR	09 31 00.9	
	comp=Z,70nm,18.8s,baz=290,slow=31						
KBZ	**Khabaz**	**30.30**	**344**	LR	LR	09 37 16.4	
	comp=Z,113nm,20.5s,baz=158,slow=41						
BRTR	**Keskin Array B**	**30.50**	**328**	P	**P**	**09 22 54.6**	**-0.4**
	0.7nm,0.9s,baz=121,slow=14,SNR=3.9						
	0.7nm,0.9s						
AAK	**Ala-Archa**	**32.90**	**29**	LR	LR	09 38 34.9	
	comp=Z,30nm,20.1s,baz=256,slow=40						
AKTO	**Aktyubinsk**	**35.68**	**5**	P	**P**	**09 23 40.2**	**+0.4**
	3.6nm,0.8s,baz=217,slow=8.1,SNR=6.3						
AKTO				LR	LR	09 41 54.9	
	comp=Z,57nm,18.4s,baz=118,slow=42						
	3.6nm,0.8s						
LSZ	**Lusaka**	**39.24**	**221**	LR	LR	09 40 33.6	
	comp=Z,74nm,20.6s,baz=146,slow=37						
MKAR	**Makanchi Array**	**39.71**	**31**	P	**P**	**09 24 16.2**	**+2.1**
	0.4nm,0.7s,baz=224,slow=6.0,SNR=2.2						
	0.4nm,0.7s						
AKASG	**Malin Array Be**	**40.97**	**336**	P	**P**	**09 24 24.4**	**+0.1**
	0.2nm,0.2s,baz=144,slow=7.4,SNR=6.5						
AKASG				LR	LR	09 45 21.0	
	comp=Z,36nm,18.1s,baz=232,slow=42						
	0.2nm,0.2s						
CMAR	**Chiang Mai Arr**	**43.23**	**79**	P	**P**	**09 24 42.4**	**-0.9**
	0.7nm,0.4s,baz=265,slow=7.2,SNR=6.4						
CMAR				LR	LR	09 42 52.8	
	comp=Z,22nm,18.4s,baz=260,slow=36						
	0.7nm,0.4s						
KIRV	**Kirov**	**43.81**	**357**	LR	LR	09 47 04.3	
	comp=Z,37nm,20.4s,baz=221,slow=42						
VRAC	**Vranov**	**45.91**	**326**	LR	LR	09 46 20.1	
	comp=Z,36nm,20.5s,baz=140,slow=39						
ZALV	**Zalesovo Beam**	**45.94**	**25**	LR	LR	09 46 15.6	
	comp=Z,20nm,19.9s,baz=336,slow=38						
PSI	**Prapat**	**45.97**	**101**	LR	LR	09 40 56.5	
	comp=Z,39nm,19.5s,baz=260,slow=32						
FINES	**FINESS Array B**	**50.66**	**343**	P	**P**	**09 25 39.0**	**-1.6**
	2.0nm,0.8s,baz=127,slow=8.2,SNR=3.6						
	2.0nm,0.8s						
SONM	**Songino Array**	**54.23**	**41**	LR	LR	09 51 42.0	
	comp=Z,36nm,18.9s,baz=260,slow=39						
NOA	**NORSAR Array B**	**55.38**	**336**	LR	LR	09 52 07.8	
	comp=Z,30nm,21.8s,baz=120,slow=38						
MDT	**Midelt**	**55.76**	**300**	LR	LR	09 50 56.5	
	comp=Z,83nm,19.2s,baz=58,slow=37						
ESDC	**Sonseca Array**	**56.03**	**308**	LR	LR	09 51 34.2	
	comp=Z,27nm,18.8s,baz=229,slow=37						
ARCES	**ARCESS Array B**	**57.51**	**349**	P	**P**	**09 26 30.5**	**-0.1**
	0.8nm,0.7s,baz=124,slow=8.3,SNR=1.5						
ARCES				LR	LR	09 54 05.7	
	comp=Z,44nm,19.1s,baz=187,slow=39						
	0.8nm,0.7s						
DBIC	**Dimbokro**	**58.15**	**269**	LR	LR	09 51 09.1	
	comp=Z,36nm,19.5s,baz=139,slow=36						
YAK	**Yakutsk**	**70.36

PB11				*e*S	**Sn**	**09 18 43.0**	**-0.6**
PB11				IAML		09 18 44.8	
	comp=E,689nm,0.2s						
PB11	**IPOC Station P**	**2.29**	**335**	*e*P	**Pn**	**09 18 14.9**	**-0.3**
PB11				*e*S	**Sn**	**09 18 42.9**	**-0.7**
PB11				IAML		09 18 44.6	
	comp=Z,274nm,0.3s						
PB10	**IPOC Station P**	**2.42**	**227**	*e*P	**Pn**	**09 18 18.6**	**+1.9**
PB10	**IPOC Station P**	**2.42**	**227**	*e*P	**Pn**	**09 18 18.8**	**+2.0**
PB10				*e*S	**Sn**	**09 18 44.3**	**-2.1**
YJA	**Yavi**	**2.91**	**97**	*e*P	**Pn**	**09 18 22.8**	**-0.7**
YJA				*e*S	Sn	09 18 41.0	-17
SALTA		**3.16**	**139**	*e*P	**Pn**	**09 18 25.3**	**-1.6**
GO02	**Mina Guanaco**	**3.41**	**195**	*e*P	**Pn**	**09 18 30.5**	**+0.6**
GO02				*e*S	**Sn**	**09 19 10.7**	**+0.8**
GO02				IAML		09 19 34.2	
	comp=Z,56nm,0.5s						
AC01	**Pan de Azucar**	**4.64**	**202**	*e*P	**Pn**	**09 18 44.7**	**-1.4**
AC01				*e*S	**Sn**	**09 19 36.1**	**-2.9**
AC01				IAML		09 19 57.0	
	comp=Z,49nm,0.7s						
AC02	**Maricunga**	**4.98**	**185**	*e*P	**Pn**	**09 18 52.0**	**+0.8**
AC02				*e*S	**Sn**	**09 19 50.8**	**+2.9**

*IDC **14** 09:24:17.4±1.0,38°.16N×22°.63E,h0km,mb3.7/8, mbtmp3.7/11,ML4.3/1,Error ellipse: s-maj=22.7km s-min=18.2km az=90.0*
*PDG **14** 09:24:18.7±0.7,38°.21N×22°.70E,h10km±1km,ML3.8/11, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*
*THE **14** 09:24:19.9,38°.2N±0°.7×22°.7E±0°.5,h3km±1km,M3.6/11, MLh3.6/11*
*ATH **14** 09:24:19.2,38°.19N×22°.65E,h11km±1km,ML3.7/7, Manual Solution by I.Dede First location: 2019/10/14 09:25:10, This location: 2020/10/23 14:21:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 14 09:24:19.6±0.8,38°.18N±0°.01×22°.66E±0°.01,h12km±6km, n120,σ0$94/172,mb3.7/7,12C-8D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIAA	**Kiato**	**0.18**	**158**	P	**Pg**	**09 24 23.8**	**+0.2**
KIAA				S	**Sg**	**09 24 25.9**	**-0.5**
LTK	**Loutraki**	**0.29**	**123**	P	**Pg**	**09 24 25.5**	**0.0**
LTK	**Loutraki**	**0.29**	**123**	P	**Pg**	**09 24 25.3**	**-0.2**
LTK				S	**Sg**	**09 24 29.7**	**+0.2**
LOUT	**Loutraki**	**0.31**	**128**	P	**Pg**	**09 24 25.8**	**-0.2**
LOUT				S	**Sg**	**09 24 30.3**	**+0.1**
DLFA	**Delphi**	**0.32**	**336**	P	**Pg**	**09 24 25.7**	**-0.5**
DLFA				S	**Sg**	**09 24 30.3**	**-0.2**
GUR	**Goura**	**0.35**	**226**	P	**Pg**	**09 24 26.7**	**0.0**
GUR				S	**Sg**	**09 24 32.0**	**+0.5**
GUR	**Goura**	**0.35**	**226**	P	**Pg**	**09 24 26.5**	**-0.2**
GUR				S	**Sg**	**09 24 31.0**	**-0.4**
KLV	**Kalavryta, Ach**	**0.43**	**251**	P	**Pg**	**09 24 28.1**	**0.0**
KLV				S	**Sg**	**09 24 34.5**	**+0.7**
KLV	**Kalavryta, Ach**	**0.43**	**251**	P	**Pg**	**09 24 27.6**	**-0.4**
KLV				S	**Sg**	**09 24 33.9**	**+0.1**
KALE	**Kalithea**	**0.46**	**297**	P	**Pg**	**09 24 29.0**	**+0.4**
KALE	**Kalithea**	**0.46**	**297**	P	**Pg**	**09 24 28.4**	**-0.3**
KALE				S	**Sg**	**09 24 34.6**	**-0.2**
KLV1	**Kalavrita**	**0.46**	**251**	P	**Pg**	**09 24 28.6**	**-0.1**
KLV1				S	**Sg**	**09 24 34.5**	**-0.4**
VIL2	**Platees**	**0.48**	**86**	P	**Pg**	**09 24 29.3**	**+0.3**
VIL2				S	**Sb**	**09 24 37.0**	**0.0**
VILL	**Villia**	**0.51**	**92**	P	**Pg**	**09 24 29.9**	**+0.3**
SERG	**Sergoula**	**0.53**	**296**	P	**Pg**	**09 24 29.8**	**-0.1**
SERG	**Sergoula**	**0.53**	**296**	P	**Pg**	**09 24 29.6**	**-0.4**
SERG				S	**Sg**	**09 24 37.5**	**+0.6**
LKR	**Lokris**	**0.54**	**30**	S	**Sb**	**09 24 38.0**	**-0.6**
LKR	**Lokris**	**0.54**	**30**	P	**Pg**	**09 24 29.2**	**-0.9**
LKR				S	**Sg**	**09 24 37.4**	**+0.1**
ARS1	**Argos**	**0.55**	**174**	P	**Pg**	**09 24 30.3**	**0.0**
ARS1				S	**Sb**	**09 24 38.5**	**-0.5**
ATAL	**Atalanti**	**0.58**	**29**	P	**Pg**	**09 24 30.2**	**-0.8**
ATAL				S	**Sg**	**09 24 39.2**	**+0.6**
AXAR	**Agios Charalam**	**0.58**	**360**	P	**Pg**	**09 24 30.7**	**-0.2**
AXAR	**Agios Charalam**	**0.58**	**360**	P	**Pg**	**09 24 30.4**	**-0.6**
AXAR				S	**Sb**	**09 24 39.7**	**-0.3**
EFP	**Efpalio**	**0.64**	**293**	P	**Pb**	**09 24 32.4**	**-0.3**
EFP	**Efpalio**	**0.64**	**293**	P	**Pg**	**09 24 32.1**	**0.0**
EFP				S	**Sg**	**09 24 39.8**	**-0.7**
MAGU	**Magoula**	**0.68**	**99**	P	**Pg**	**09 24 32.8**	**0.0**
MAGU				S	**Sb**	**09 24 42.6**	**-0.2**
STFN	**Stefani**	**0.70**	**90**	P	**Pg**	**09 24 32.9**	**-0.2**
STFN				S	**Sb**	**09 24 42.8**	**-0.4**
UPR	**University Cam**	**0.70**	**279**	P	**Pb**	**09 24 34.0**	**+0.4**
ANX	**Ano Chora**	**0.71**	**305**	P	**Pb**	**09 24 34.0**	**0.0**
ANX	**Ano Chora**	**0.71**	**305**	P	**Pg**	**09 24 33.4**	**0.0**
ANX				S	**Sb**	**09 24 44.1**	**+0.3**
PATC	**Patra C**	**0.71**	**277**	P	**Pb**	**09 24 33.9**	**-0.1**
AIDA	**Aidipsos**	**0.74**	**24**	P	**Pb**	**09 24 34.3**	**-0.1**
LAM2	**Lamia**	**0.74**	**346**	P	**Pg**	**09 24 33.7**	**-0.2**
MET2	**Kameni Chora,**	**0.78**	**137**	P	**Pg**	**09 24 34.4**	**-0.2**
MET2				S	**Sb**	**09 24 45.8**	**+0.2**
DRO	**Drossia**	**0.79**	**253**	P	**Pg**	**09 24 34.8**	**0.0**
DRO				S	**Sb**	**09 24 46.1**	**+0.3**
MET5	**Makryloggos,Me**	**0.79**	**135**	P	**Pg**	**09 24 34.8**	**0.0**
MET5				S	**Sb**	**09 24 45.6**	**-0.2**
MET6	**Megalochori,Me**	**0.81**	**137**	P	**Pg**	**09 24 35.1**	**-0.1**
MET6				S	**Sb**	**09 24 46.3**	**-0.1**
MET4	**Agioi Theodoro**	**0.81**	**134**	P	**Pg**	**09 24 34.8**	**-0.4**
MET4				S	**Sb**	**09 24 46.3**	**-0.1**
VLX	**Vlachokerasia**	**0.84**	**195**	P	**Pg**	**09 24 35.8**	**-0.1**
VLX				S	**Sb**	**09 24 47.9**	**+0.4**
ACHAR	**Athens-Acharne**	**0.86**	**97**	P	**Pn**	**09 24 37.0**	**-0.5**
ATH	**Athens Observa**	**0.86**	**104**	S	**Sb**	**09 24 48.3**	**+0.4**
ATH	**Athens Observa**	**0.86**	**104**	P	**Sb**	**09 24 48.3**	**+0.4**
ATH	**Athens Observa**	**0.86**	**104**	P	**Pb**	**09 24 36.6**	**+0.2**
ATH				S	**Sb**	**09 24 47.7**	**-0.2**
NOAC	**Athens-Thissio**	**0.86**	**104**	P	**Pb**	**09 24 36.6**	**+0.2**
ATHP	**Athens-Neo Psi**	**0.90**	**101**	P	**Pn**	**09 24 37.6**	**-0.4**
ATHU	**Athens Univers**	**0.91**	**103**	P	**Pg**	**09 24 37.2**	**0.0**
ATHU	**Athens Univers**	**0.91**	**103**	P	**Sb**	**09 24 49.5**	**0.0**
ATHU	**Athens Univers**	**0.91**	**103**	P	**Pb**	**09 24 37.4**	**+0.1**
ATHU				S	**Sb**	**09 24 49.4**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.93**	**334**	P	**Pg**	**09 24 37.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.93**	**334**	P	**Pg**	**09 24 37.0**	**-0.5**
MAKR				S	**Sg**	**09 24 49.0**	**-0.7**
RLS	**Riolos of Patr**	**0.95**	**263**	P	**Pg**	**09 24 37.7**	**-0.2**
RLS	**Riolos of Patr**	**0.95**	**263**	P	**Pg**	**09 24 37.6**	**-0.3**
RLS				S	**Sg**	**09 24 50.2**	**-0.1**
VLY	**Voula,Athens**	**0.95**	**110**	S	**Sb**	**09 24 51.4**	**+0.8**
VLY	**Voula,Athens**	**0.95**	**110**	P	**Sb**	**09 24 50.6**	**0.0**
VLY	**Voula,Athens**	**0.95**	**110**	P	**Pn**	**09 24 38.4**	**-0.4**
VLY				S	**Sb**	**09 24 50.6**	**0.0**
PTL	**Penteli**	**0.96**	**98**	P	**Pg**	**09 24 37.7**	**-0.3**
PTL				S	**Sn**	**09 24 51.8**	**-0.7**
PTL	**Penteli**	**0.96**	**98**	P	**Pb**	**09 24 38.1**	**0.0**
PTL				S	**Sg**	**09 24 50.5**	**-0.1**
EVR	**Evrytania**	**0.99**	**318**	P	**Pg**	**09 24 38.6**	**-0.1**
EVR	**Evrytania**	**0.99**	**318**	P	**Sb**	**09 24 51.8**	**0.0**
EVR	**Evrytania**	**0.99**	**318**	P	**Pg**	**09 24 38.4**	**-0.3**
EVR				S	**Sg**	**09 24 51.4**	**-0.3**
DION	**Dionisos Attik**	**1.01**	**96**	P	**Pg**	**09 24 39.1**	**+0.1**
DION				S	**Sn**	**09 24 53.9**	**+0.2**
DION	**Dionisos Attik**	**1.01**	**96**	P	**Pb**	**09 24 38.8**	**-0.2**
DION				S	**Sb**	**09 24 52.8**	**+0.6**
AXS	**Araxos**	**1.01**	**271**	P	**Pg**	**09 24 39.1**	**0.0**
ITM	**Ithomi**	**1.16**	**210**	P	**Pb**	**09 24 41.4**	**-0.1**
ITM	**Ithomi**	**1.16**	**210**	P	**Pb**	**09 24 41.0**	**-0.5**
NEO	**Neokhori**	**1.21**	**21**	P	**Pn**	**09 24 41.7**	**-0.6**
NEO				S	**Sb**	**09 24 57.3**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.22**	**68**	S	**Sn**	**09 25 00.1**	**+1.3**
KYMI	**Kymi, Euboea I**	**1.22**	**68**	P	**Pn**	**09 24 41.7**	**-0.7**
KYMI				S	**Sb**	**09 24 58.4**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**1.24**	**257**	P	**Pn**	**09 24 42.5**	**-0.2**
KARY	**Karystos**	**1.41**	**96**	P	**Pn**	**09 24 44.8**	**-0.3**
THL	**Klokotos Trika**	**1.47**	**340**	S	**Sg**	**09 25 07.5**	**+0.6**
THL	**Klokotos Trika**	**1.47**	**340**	P	**Pb**	**09 24 46.8**	**-0.1**
VLI	**Veliai**	**1.48**	**171**	P	**Pb**	**09 24 47.0**	**0.0**
VLI				S	**Sg**	**09 25 06.9**	**-0.3**
VLI	**Veliai**	**1.48**	**171**	P	**Pn**	**09 24 46.0**	**0.0**
KYPS	**Kipseli, Zakin**	**1.50**	**257**	P	**Pb**	**09 24 47.7**	**+0.4**
LTHK	**Lithakia**	**1.52**	**252**	P	**Pg**	**09 24 48.6**	**-0.1**
ORTH	**Orthonies,Zaky**	**1.59**	**259**	P	**Pb**	**09 24 48.8**	**-0.1**
TETR	**Tetrakomo, Epi**	**1.59**	**317**	P	**Pn**	**09 24 48.1**	**+0.5**
VLS	**Valsamata**	**1.63**	**270**	P	**Pn**	**09 24 48.4**	**+0.3**
EVGI	**Lefkada island**	**1.64**	**286**	P	**Pb**	**09 24 48.9**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.64**	**268**	P	**Pn**	**09 24 48.5**	**+0.3**
FSK	**Fiskardo**	**1.67**	**280**	P	**Pn**	**09 24 48.4**	**-0.3**
LKD2	**Lefkada island**	**1.69**	**292**	P	**Pn**	**09 24 48.8**	**-0.1**
TSLK	**Tsoukalades, L**	**1.70**	**293**	P	**Pn**	**09 24 49.2**	**+0.1**
LIT	**Litokhoron**	**1.92**	**356**	P	**Pn**	**09 24 52.8**	**+0.6**
KZN	**Kozani**	**2.23**	**342**	P	**Pn**	**09 24 57.1**	**+0.6**
VAY	**Valandovo**	**3.13**	**359**	*i* Pn	**Pn**	**09 25 10.3**	**+1.5**
OHR	**Ohrid**	**3.26**	**334**	*i* Pn	**Pb**	**09 25 14.7**	**-2.7**
EZN	**Ezine**	**3.29**	**59**	⇑P	**Pg**	**09 25 21.8**	**-0.9**
EZN				⇑S	**Sg**	**09 26 03.9**	**-1.4**
IDI	**Anoyia**	**3.40**	**148**	Pn	**Pn**	**09 25 13.8**	**+1.3**
	5.4nm,0.3s,baz=286,slow=15,SNR=18						
IDI				Sn	**Sn**	**09 25 52.8**	**+0.1**
	12nm,0.3s,baz=29,slow=9.9,SNR=4.7						
CAVK	**Edirne/Enez-Ca**	**3.69**	**46**	⇑P	**Pb**	**09 25 25.2**	**+0.5**
ULC	**Ulcinj**	**4.60**	**326**	⇑*i*Pn	**Pn**	**09 25 29.9**	**+1.0**
ULC				*i* Sn	**Sn**	**09 26 22.4**	**+0.2**
TIP	**Timpagrande**	**4.72**	**284**	⇓P	**Pn**	**09 25 33.3**	**+2.6**
DRME	**Dracevica, Mon**	**4.80**	**327**	⇓*i*Pn	**Pn**	**09 25 32.3**	**+0.6**
DRME				*i* Sn	**Sn**	**09 26 28.0**	**+0.7**
PDG	**Podgorica**	**4.98**	**330**	*e*Pn	**Pn**	**09 25 35.4**	**+1.3**
PDG				*i* Sn	**Sn**	**09 26 32.2**	**+0.7**
BUM	**Brajici-Budva**	**5.02**	**326**	⇓*i*Pn	**Pn**	**09 25 33.7**	**-1.1**
BUM				*i* Sn	**Sn**	**09 26 33.7**	**+0.9**
IVA	**Berane**	**5.14**	**337**	⇑*i*Pn	**Pn**	**09 25 37.8**	**+1.4**
IVA				*i* Sn	**Sn**	**09 26 37.3**	**+1.7**
KOME	**Kolasin**	**5.24**	**334**	⇑*i*Pn	**Pn**	**09 25 40.5**	**+2.7**
KOME				*i* Sn	**Sn**	**09 26 38.4**	**+0.1**
HCY	**Herceg Novi**	**5.32**	**325**	⇑*i*Pn	**Pn**	**09 25 39.5**	**+0.7**
HCY				*i* Sn	**Sn**	**09 26 40.2**	**+0.2**
NKME	**Niksic**	**5.38**	**329**	⇓*i*Pn	**Pn**	**09 25 39.8**	**+0.1**
NKME				*i* Sn	**Sn**	**09 26 41.8**	**+0.2**
BOVS	**Bovan**	**5.50**	**353**	⇑P	**Pn**	**09 25 42.2**	**+1.0**
BRY	**Bratogost**	**5.66**	**328**	⇑*i*Pn	**Pn**	**09 25 45.1**	**+1.4**
BRY				*i* Sn	**Sn**	**09 26 49.8**	**+1.1**
PLE	**Pljevlja**	**5.71**	**335**	⇓*i*Pn	**Pn**	**09 25 44.9**	**+0.6**
PLE				*i* Sn	**Sn**	**09 26 50.2**	**+0.4**
UPM	**Unac-Piva**	**5.77**	**332**	⇑*i*Pn	**Pn**	**09 25 46.4**	**+1.2**
UPM				*i* Sn	**Sn**	**09 26 51.5**	**+0.1**
MDVR	**Moldovita**	**6.63**	**354**	⇓P	**Pn**	**09 25 58.5**	**+1.6**
GZR	**Gura Zlata**	**7.21**	**1**	⇑P	**Pn**	**09 26 06.9**	**+2.1**
MLR	**Muntele Rosu**	**7.70**	**17**	Pn	**Pn**	**09 26 13.4**	**+1.8**
	1.5nm,0.3s,baz=256,slow=2.4,SNR=7.2						
MLR				Lg	Lg	09 28 26.8	
	0.1nm,0.3s,baz=299,slow=13,SNR=1.9						
	5.9nm,0.5s						
MLR	**Muntele Rosu**	**7.70**	**17**	⇓P	**Pn**	**09 26 16.0**	**+4.4**
PLOR	**Plostina**	**8.22**	**20**	⇓P	**Pn**	**09 26 23.3**	**+4.7**
VRI	**Vrincioaia**	**8.25**	**20**	⇑P	**Pn**	**09 26 22.9**	**+3.8**
BRTR	**Keskin Array B**	**8.69**	**76**	Pn	**Pn**	**09 26 28.2**	**+3.0**
	0.7nm,0.5s,baz=263,slow=11,SNR=3.7						
HFS	**Hagfors**	**22.70**	**348**	P	**P**	**09 29 18.9**	**-1.9**
	4.5nm,1.0s,baz=153,slow=13,SNR=2.5						
	4.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**24.42**	**323**	P	**P**	**09 29 38.3**	**+0.5**
	0.5nm,0.5s,baz=122,slow=9.4,SNR=3.6						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**31.13**	**222**	P	**P**	**09 30 38.4**	**+0.2**
	0.3nm,0.5s,baz=35,slow=11,SNR=5.0						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**31.45**	**2**	P	**P**	**09 30 41.0**	**+0.5**
	0.4nm,0.7s,baz=180,slow=9.8,SNR=1.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**40.87**	**54**	P	**P**	**09 32 01.0**	**-0.2**
	0.6nm,0.4s,baz=282,slow=8.8,SNR=11						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.86**	**59**	P	**P**	**09 32 25.1**	**-0.6**
	0.6nm,0.4s,baz=271,slow=7.8,SNR=11						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**44.43**	**48**	P	**P**	**09 32 29.9**	**-0.2**
	1.3nm,0.4s,baz=267,slow=9.5,SNR=4.7						
	1.3nm,0.4s						
ILAR	**Eielson Array**	**77.05**	**355**	P	**P**	**09 36 12.2**	**+0.1**
	0.2nm,0.5s,baz=20,slow=2.9,SNR=3.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**118.85**	**93**	PKP	**PKPdf**	**09 43 06.6**	**-1.6**
	0.1nm,0.4s,baz=311,slow=2.6,SNR=5.7						
ASAR	**Alice Springs**	**120.50**	**97**	PKP	**PKPdf**	**09 43 09.6**	**-1.7**
	0.1nm,0.4s,baz=302,slow=1.7,SNR=5.7						

ATH 14 09:24:32.6,38°.17N×22°.66E,h18km,ML3.9/20,Manual Solution by N.Liadopoulou First location: 2019/10/14 09:56:18, This location: 2019/10/14 09:52:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIAA	**Kiato**	**0.17**	**154**	P	Pg	09 24 36.9	-0.2
KIAA				S	Sg	09 24 40.5	+0.5
LTK	**Loutraki**	**0.28**	**120**	P	Pg	09 24 39.0	+0.1
LTK				S	Sg	09 24 43.2	+0.1
LOUT	**Loutraki**	**0.31**	**125**	P	Pg	09 24 39.4	+0.2
LOUT				S	Sg	09 24 43.9	+0.1
DLFA	**Delphi**	**0.34**	**338**	P	Pb	09 24 40.0	-0.1
DLFA				S	Sg	09 24 44.5	-0.1
GUR	**Goura**	**0.34**	**227**	P	Pb	09 24 41.0	+0.8
GUR				S	Sg	09 24 45.0	+0.2
KLV	**Kalavryta, Ach**	**0.42**	**253**	P	Pb	09 24 41.5	0.0
KLV				S	Sb	09 24 47.4	-0.1
KLV1	**Kalavrita**	**0.45**	**253**	P	Pg	09 24 41.9	0.0
KLV1				S	Sb	09 24 48.6	+0.1
KALE	**Kalithea**	**0.46**	**299**	P	Pg	09 24 41.9	-0.2
VIL2	**Platees**	**0.48**	**85**	P	Pb	09 24 43.0	+0.4
VIL2				S	Sb	09 24 50.3	+0.9
SERG	**Sergoula**	**0.53**	**298**	P	Pb	09 24 43.4	-0.1
ARS1	**Argos**	**0.53**	**174**	P	Pb	09 24 43.6	+0.2
LKR	**Lokris**	**0.55**	**29**	P	Pb	09 24 44.0	+0.3
ATAL	**Atalanti**	**0.60**	**28**	P	Pb	09 24 44.9	+0.3
ATAL				S	Sb	09 24 52.6	0.0
AXAR	**Agios Charalam**	**0.60**	**0**	P	Pg	09 24 43.9	-0.6
AXAR				S	Sg	09 24 52.5	0.0
NPLA	**Nafplio**	**0.61**	**169**	P	Pg	09 24 44.4	-0.3
EFP	**Efpalio**	**0.65**	**294**	P	Pg	09 24 45.4	0.0
EFP				S	Sg	09 24 54.0	0.0
MAGU	**Magoula**	**0.68**	**97**	P	Pb	09 24 45.8	-0.2
MAGU				S	Sg	09 24 55.8	+0.7
UPR	**University Cam**	**0.69**	**280**	P	Pb	09 24 46.1	-0.1
STFN	**Stefani**	**0.70**	**89**	P	Pg	09 24 46.4	0.0
STFN				S	Sg	09 24 56.5	+0.9
ELFA	**Athens-Elefsin**	**0.71**	**100**	P	Pb	09 24 46.4	0.0
ELFA				S	Sg	09 24 56.1	+0.2
PATC	**Patra C**	**0.71**	**279**	P	Pg	09 24 46.6	0.0
ANX	**Ano Chora**	**0.72**	**307**	P	Pb	09 24 46.6	0.0
PATG	**Patra B**	**0.74**	**276**	P	Pg	09 24 47.0	0.0
AIDA	**Aidipsos**	**0.75**	**24**	P	Pb	09 24 47.0	-0.1
LAM2	**Lamia**	**0.76**	**347**	P	Pb	09 24 46.5	-0.7
MET2	**Kameni Chora,**	**0.77**	**136**	P	Pg	09 24 47.6	0.0
DRO	**Drossia**	**0.78**	**254**	P	Pb	09 24 47.3	-0.3
MET5	**Makryloggos,Me**	**0.78**	**134**	P	Pb	09 24 47.3	-0.3
MET6	**Megalochori,Me**	**0.80**	**136**	P	Pb	09 24 47.2	-0.8
MET4	**Agioi Theodoro**	**0.80**	**133**	P	Pb	09 24 47.3	-0.7
NOAC	**Athens-Thissio**	**0.86**	**103**	P	Pb	09 24 49.0	0.0
ACHAR	**Athens-Acharne**	**0.86**	**96**	P	Pg	09 24 49.4	+0.1
ATH5	**Athens Parliam**	**0.87**	**102**	P	Pb	09 24 49.2	0.0
ATHP	**Athens-Neo Psi**	**0.90**	**100**	P	Pb	09 24 49.8	+0.2
MAKR	**Makrakomi, Fth**	**0.94**	**334**	P	Pg	09 24 50.9	0.0
RLS	**Riolos of Patr**	**0.94**	**264**	P	Pn	09 24 51.0	0.0
PTL	**Penteli**	**0.96**	**97**	P	Pn	09 24 51.1	-0.2
AXS	**Araxos**	**1.01**	**272**	P	Pg	09 24 52.0	-0.1
DION	**Dionisos Attik**	**1.01**	**95**	P	Pg	09 24 52.2	0.0
ZARO	**Zacharo**	**1.05**	**230**	P	Pg	09 24 52.7	-0.2
ITM	**Ithomi**	**1.14**	**211**	P	Pn	09 24 53.3	-0.5
LVRA	**Laurium**	**1.20**	**112**	P	Pn	09 24 54.3	-0.1
VLI	**Veliai**	**1.46**	**171**	P	Pn	09 24 57.4	-0.8
LTHK	**Lithakia**	**1.51**	**253**	P	Pn	09 24 58.4	-0.3

*NNC **14** 09:50:24.5±3.0,43°.69N×83°.68E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=33.7km s-min=20.3km az=175.0*

SOME 14 09:50:23.1,43°.62N×83°.77E,h15km,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.17**	**263**	Pg	Pb	09 51 16.4	-2.8
	3.7nm,0.2s						
SHLS				Lg	Lg	09 51 54.8	
	23nm,0.5s						
SHLS	**Shalkode**	**3.17**	**263**	*e*P	Pb	09 51 16.5	-2.7
	1.0nm,0.1s						
SHLS				*e*S	Sb	09 51 54.9	-2.8
	18nm,0.3s						
KNOS	**Konyrlen**	**3.39**	**284**	Pg	Pb	09 51 24.9	+1.9
	1.8nm,0.2s						
KNOS				Lg	Lg	09 52 10.1	
	6.6nm,0.4s						
UZB	**Uzynbulak**	**3.49**	**264**	Pg	Pb	09 51 26.3	+1.6
	2.2nm,0.2s						
UZB				Lg	Lg	09 52 12.1	
	2.6nm,0.5s						
UZB	**Uzynbulak**	**3.49**	**264**	*e*P	Pb	09 51 26.3	+1.6
	1.8nm,0.1s						
UZB				*e*S	Sg	09 52 11.8	-3.4
	3.5nm,0.2s						
KPKS	**Kokpek**	**3.70**	**269**	Pg	Pg	09 51 31.5	-2.4
	1.5nm,0.2s						
KPKS				Lg	Lg	09 52 21.1	
	5.5nm,0.5s						

*ASRS **14** 09:58:30.0±2.4,53°.74N×91°.05E,h0km,M3.0,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **14** 09:58:39.5±2.8,53°.84N×90°.23E,h3km±14km,mb3.4, mpv3.1,Error ellipse: s-maj=24.3km s-min=17.4km az=25.0,Suspected Mining explosion.*
*IDC **14** 09:58:40.9±3.8,53°.27N×90°.52E,h0km,mbtmp2.9/3, ML2.5/3,Error ellipse: s-maj=34.6km s-min=31.6km az=23.0*

ISC 14 09:58:36.3±3.7,53°.9N±0°.1×90°.5E±0°.2,h0km,n9,σ1$19/14, 12C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.36**	**273**	⇑Pg	**Pg**	**09 59 39.0**	**-1.7**
	0.9nm,0.8s						
ZAA0				⇑Lg	Lg	10 00 18.1	
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**3.36**	**273**	Pn	**Pb**	**09 59 37.8**	**+1.1**
	0.7nm,0.3s,baz=101,slow=16,SNR=8.2						
ZALV				Sn	**Sb**	**10 00 19.0**	**+0.9**
	4.0nm,0.3s,baz=100,slow=25,SNR=14						
	2.3nm,0.5s						
KURK	**Kurchatov**	**7.95**	**251**	⇑Pn	**Pn**	**10 00 32.3**	**-0.7**
	0.5nm,0.6s						
KURK				⇑Sn	**Sn**	**10 02 02.7**	**-0.9**
	0.9nm,0.8s						
KURK				⇓Lg	Lg	10 02 47.2	
	6.8nm,1.1s						
KURBB	**Kurchatov Arra**	**8.05**	**251**	Pn	**Pn**	**10 00 35.9**	**+1.6**
	0.1nm,0.3s,baz=64,slow=14,SNR=5.2						
KURBB				Sn	**Sn**	**10 02 04.5**	**-1.4**
	0.1nm,0.3s,baz=67,slow=24,SNR=6.8						
KURBB				Lg	Lg	10 02 50.4	
	0.1nm,0.3s,baz=63,slow=30,SNR=4.9						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**8.05**	**251**	⇑Pn	**Pn**	**10 00 34.7**	**+0.4**
	0.9nm,0.5s						
KURBB				⇓Sn	**Sn**	**10 02 07.4**	**+1.5**
	7.0nm,0.7s						
KURBB				⇑Lg	Lg	10 02 50.4	
	20nm,1.0s						
MK31	**Makanchi Array**	**8.84**	**220**	⇑Pn	**Pn**	**10 00 46.4**	**+1.2**
	1.4nm,0.8s,baz=32,slow=13,SNR=4.8						
MK31				⇑Sn	**Sn**	**10 02 25.5**	**+0.1**
	2.8nm,0.9s						
MK31				⇑Lg	Lg	10 03 13.6	
	4.0nm,1.0s,baz=34,slow=29,SNR=3.5						
MKAR	**Makan

comp=Z,2.0nm,0.8s,baz=24,slow=1.8,SNR=8.9
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 75.35 42 P P 10 10 23.6 +2.0
comp=Z,0.2nm,0.5s,baz=244,slow=6.9,SNR=2.9
comp=Z,0.2nm,0.5s
KDAK Kodiak Island 76.51 11 LR LR 10 36 48.2
comp=Z,58nm,19.5s,baz=211,slow=30
MA2 Magadan 81.88 342 LR LR 10 43 14.8
comp=Z,19nm,20.8s,baz=144,slow=33
NEW Newport 81.91 34 LR LR 10 38 58.4
comp=Z,34nm,19.6s,baz=184,slow=30
DLBC Dease Lake 83.14 21 LR LR 10 46 40.5
comp=Z,209nm,18.6s,baz=180,slow=35
PDAR Pinedale Array 83.29 42 P P 10 11 05.8 +0.9
comp=Z,0.5nm,0.8s,baz=178,slow=3.0,SNR=4.5
comp=Z,0.5nm,0.8s
ILAR Eielson Array 84.03 11 P P 10 11 08.9 +1.1
comp=Z,0.6nm,0.7s,baz=230,slow=6.0,SNR=8.9
comp=Z,0.6nm,0.7s
CMIG Matias Romero 84.11 70 LR LR 10 40 03.7
comp=Z,31nm,18.9s,baz=178,slow=29
SEY Seymchan 84.24 345 P P 10 11 10.4 +1.5
comp=Z,3.5nm,1.0s,baz=116,slow=7.7,SNR=3.7
comp=Z,3.5nm,1.0s
MAW Mawson 86.31 199 P P 10 11 21.4 +2.0
comp=Z,0.9nm,0.7s,baz=121,slow=6.9,SNR=4.0
comp=Z,0.9nm,0.7s
JTS Las Juntas de 91.16 80 LR LR 10 41 49.1
comp=Z,27nm,20.8s,baz=278,slow=28
ULM Lac du Bonnet 95.02 39 LR LR 10 48 40.8
comp=Z,30nm,19.1s,baz=274,slow=32
BRTR Keskin Array B 147.68 320 PKPbc **PKiKP 10 18 24.1 -0.8**
comp=Z,1.9nm,0.8s,baz=113,slow=2.8,SNR=9.0
GERES GERESS Array B 147.86 352 PKPbc **PKiKP 10 18 25.0 0.0**
comp=Z,0.2nm,0.4s,baz=266,slow=5.4,SNR=5.0

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*IDC **14** 10:00:50.9±1.8, 52°.67N×171°.85W, h0km, mb3.9/4, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=67.7km s-min=26.5km az=148.0*
*AEIC **14** 10:01:04.3±0.7, 52°.7N±0°.3×171°.4W±0°.1, h115km±8km, Error ellipse: s-maj=40.4km s-min=1.2km az=162.0*
*NEIC **14** 10:01:05.4±0.7, 52°.7N±0°.4×171°.4W±0°.2, h114km±14km, ML3.8/16, ML3.7(AEIC), Error ellipse: s-maj=52.7km s-min=6.4km az=166.0*
ISC 14 10:01:04.8±0.8, 52°.9N±0°.2×171°.53W±0°.05, h100km, n48, σ1§40/43, mb3.9/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.99**	**93**		**Pn**	**10 01 26.3**	**+1.2**
CLES	**Cleveland East**	**0.99**	**93**		**Sn**	**10 01 42.7**	**+2.3**
CLCO	**Concord Point,**	**1.10**	**94**		**Pn**	**10 01 27.2**	**+0.9**
CLCO					**Sn**	**10 01 45.0**	**+2.5**
NIKH	**Nikolski High**	**1.62**	**86**		**Pn**	**10 01 32.8**	**+0.3**
NIKH				IAML		10 01 59.5	
	comp=N,734nm,0.5s						
NIKH				IAML		10 02 04.0	
	comp=E,618nm,0.5s						
NIKH	**Nikolski High**	**1.62**	**86**		**Sn**	**10 01 54.1**	**+0.6**
KOSE	**Korovin Southe**	**1.63**	**252**		**Pn**	**10 01 33.4**	**+0.8**
KONE	**Korovin Northe**	**1.65**	**254**		**Pn**	**10 01 33.9**	**+0.9**
KONE					**Sn**	**10 01 55.3**	**+1.0**
KOFP	**Korovin Flat P**	**1.68**	**250**		**Pn**	**10 01 34.7**	**+1.3**
KOFP					**Sn**	**10 01 57.8**	**+2.8**
KOWE	**Korovin West**	**1.74**	**254**		**Pn**	**10 01 35.6**	**+1.5**
OKSP	**Okmok Steeple**	**1.99**	**78**		**Pn**	**10 01 38.3**	**+1.1**
OKCE	**Okmok Cone E**	**2.10**	**74**		**Pn**	**10 01 39.9**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**2.16**	**75**		**Pn**	**10 01 40.7**	**+1.2**
GSIG	**Igitkin Island**	**2.84**	**253**		**Pn**	**10 01 48.8**	**+0.4**
GSTD	**Great Sitkin T**	**2.94**	**256**		**Pn**	**10 01 50.8**	**+1.0**
GSCK	**Great Sitkin C**	**2.97**	**255**		**Pn**	**10 01 50.7**	**+0.6**
MNAT	**Makushin Natee**	**3.07**	**69**		**Pn**	**10 01 52.6**	**+1.1**
ETKA	**Kagalaska Isla**	**3.16**	**253**		**Pn**	**10 01 53.5**	**+0.8**
UNV	**Unalaska Valle**	**3.16**	**70**		**Pn**	**10 01 53.9**	**+1.2**
ADK	**Adak**	**3.31**	**255**		**Pn**	**10 01 56.1**	**+1.4**
ADK				IAML		10 02 44.0	
	comp=E,186nm,0.6s						
ADK				IAML		10 02 46.8	
	comp=E,188nm,0.3s						
AKRB	**Akutan Reef Bi**	**3.49**	**67**		**Pn**	**10 01 58.5**	**+1.4**
LVA	**Lava Point**	**3.52**	**66**		**Pn**	**10 01 59.3**	**+1.8**
LVA				IAML		10 02 56.2	
	comp=E,139nm,0.6s						
LVA				IAML		10 03 10.9	
	comp=N,226nm,0.6s						
AKGG	**Akutan Green G**	**3.56**	**66**		**Pn**	**10 01 59.5**	**+1.6**
AKLV	**Akutan Long Va**	**3.57**	**67**		**Pn**	**10 01 59.5**	**+1.4**
KIWB	**Kanaga Island**	**3.60**	**256**	IAML		10 02 54.6	
	comp=E,176nm,0.5s						
KIWB				IAML		10 02 54.8	
	comp=N,173nm,0.7s						
AKUT	**Akutan**	**3.66**	**68**		**Pn**	**10 02 01.2**	**+1.9**
KIMD	**Kanaga Island**	**3.68**	**255**		**Pn**	**10 02 00.6**	**+1.1**
AKSA	**Akutan Strait**	**3.70**	**68**		**Pn**	**10 02 00.8**	**+0.9**
WEBT	**Westdahl Beart**	**4.37**	**64**		**Pn**	**10 02 10.5**	**+1.5**
ISNN	**Isanotski Nort**	**4.99**	**64**		**Pn**	**10 02 18.9**	**+1.6**
FALS	**False Pass**	**5.19**	**64**		**Pn**	**10 02 21.1**	**+1.1**
DT1	**Dutton Round H**	**5.89**	**64**		**Pn**	**10 02 30.1**	**+0.6**
HAG	**Hague Volcano**	**6.17**	**63**		**Pn**	**10 02 34.9**	**+1.6**
PS4A	**Pavlof South-4**	**6.20**	**63**		**Pn**	**10 02 35.3**	**+1.5**
S12K	**Black Hills**	**6.22**	**59**	Pn	**Pn**	**10 02 35.2**	**+1.2**
PS1A	**Pavlof South-1**	**6.29**	**62**		**Pn**	**10 02 36.6**	**+1.7**
SDPT	**Sand Point**	**6.95**	**65**	Pn	**Pn**	**10 02 44.1**	**+0.2**
KDAK	**Kodiak Island**	**11.84**	**58**	Pn	Pn	10 03 46.2	-3.8
	comp=N,1.0nm,0.3s,baz=109,slow=6.1,SNR=17						
	comp=N,6.8nm,0.8s						
ILAR	**Eielson Array**	**17.30**	**37**	P	**P**	**10 04 58.3**	**-1.4**
	comp=N,0.1nm,0.3s,baz=233,slow=9.9,SNR=8.5						
	comp=N,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**37.07**	**215**	T	T	10 46 36.5	
	baz=19,slow=74,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**37.08**	**215**	T	T	10 46 37.0	
	baz=19,slow=74,SNR=2.3						
H11N1	**WAKE ISLAND Hy**	**37.09**	**215**	T	T	10 46 39.9	
	baz=19						
H11S1	**WAKE ISLAND Hy**	**38.27**	**215**	T	T	10 49 03.0	
	baz=22,slow=74,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**38.29**	**215**	T	T	10 49 03.5	
	baz=22,slow=74,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**38.29**	**215**	T	T	10 48 58.9	
	baz=22						
NVAR	**Mina Array Bea**	**38.98**	**90**	P	**P**	**10 08 21.4**	**0.0**
	comp=N,0.8nm,0.7s,baz=301,slow=8.2,SNR=8.7						
	comp=N,0.8nm,0.7s						
PDAR	**Pinedale Array**	**41.59**	**78**	P	**P**	**10 08 42.1**	**-0.8**
	comp=N,1.1nm,0.8s,baz=304,slow=8.2,SNR=12						
	comp=N,1.1nm,0.8s						
TXAR	**Lajitas Array**	**54.05**	**88**	P	**P**	**10 10 17.9**	**-1.0**
	comp=N,2.0nm,0.9s,baz=308,slow=6.1,SNR=20						
	comp=N,2.0nm,0.9s						
ASAR	**Alice Springs**	**89.73**	**228**	P	**P**	**10 13 49.5**	**-2.1**
	comp=N,0.8nm,0.6s,baz=28,slow=4.6,SNR=8.4						
	comp=N,0.8nm,0.6s						

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*CATAC **14** 10:13:42.9±0.4, 13°N±2°×9°0W±°, h24km±2km, M3.3/25, MLv3.3/25, Error ellipse: s-maj=5.4km s-min=3.3km az=31.3, confirmed*
*SNET **14** 10:13:43.2±1.6, 13°.04N×89°.53W, h39km, ML3.2*
*GCG **14** 10:13:44.6±0.5, 13°.14N×89°.57W, h36km±3km, MD3.7*
ISC 14 10:13:42.7±1.8, 13°.04N±0°.07×89°.51W±0°.05, h26km±12km, n70, σ0§53/82, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.49**	**22**	*eP*	**Pn**	**10 13 54.0**	**0.0**
LALI				*eS*	**Sn**	**10 14 02.1**	**+0.4**
LALI	**Alcalda de L**	**0.49**	**22**	*i P*	**Pn**	**10 13 54.0**	**0.0**
LALI				*i* S	**Sn**	**10 14 01.3**	**-0.3**
LALI	**Alcalda de L**	**0.49**	**22**	P	**Pn**	**10 13 54.0**	**0.0**
JAYA	**Jayaque - finc**	**0.62**	**5**	*eP*	**Pn**	**10 13 55.7**	**-0.4**
JAYA				*eS*	**Sn**	**10 14 04.3**	**-0.9**
JAYA	**Jayaque - finc**	**0.62**	**5**	*i P*	**Pn**	**10 13 55.6**	**-0.4**
JAYA				*i* S	**Sb**	**10 14 03.6**	**0.0**
JAYA	**Jayaque - finc**	**0.62**	**5**	P	**Pn**	**10 13 55.6**	**-0.4**
JAYA	**Jayaque - finc**	**0.62**	**5**	S	**Sn**	**10 14 05.1**	**-0.1**
PANCS	**Alcalda de**	**0.66**	**29**	P	**Pn**	**10 13 55.9**	**-0.5**
PANCS	**Alcalda de**	**0.66**	**29**	S	**Sn**	**10 14 05.7**	**-0.3**
ITCA	**Escuela Especi**	**0.67**	**19**	P	**Pn**	**10 13 56.3**	**-0.4**
ITCA	**Escuela Especi**	**0.67**	**19**	S	**Sn**	**10 14 06.1**	**-0.4**
LOMA	**Loma Larga**	**0.69**	**28**	P	**Pn**	**10 13 56.6**	**-0.3**
LOMA	**Loma Larga**	**0.69**	**28**	S	**Sn**	**10 14 06.9**	**0.0**
PMON	**Piamonte**	**0.70**	**16**	P	**Pn**	**10 13 56.7**	**-0.4**
PMON	**Piamonte**	**0.70**	**16**	S	**Sn**	**10 14 07.5**	**+0.4**
SEMO	**Seminario San**	**0.72**	**23**	S	**Sn**	**10 14 07.5**	**0.0**
SEMO	**Seminario San**	**0.72**	**23**	P	**Pn**	**10 13 57.0**	**-0.3**
UEES	**Universidad Ev**	**0.73**	**21**	P	**Pn**	**10 13 57.0**	**-0.4**
UEES	**Universidad Ev**	**0.73**	**21**	S	**Sn**	**10 14 07.8**	**+0.1**
UTEC	**Universidad Te**	**0.73**	**24**	P	**Pb**	**10 13 56.9**	**0.0**
UTEC	**Universidad Te**	**0.73**	**24**	S	**Sn**	**10 14 07.6**	**-0.1**
LFRS	**El Faro**	**0.73**	**37**	*eP*	**Pn**	**10 13 57.3**	**-0.2**
LFRS				*eS*	**Sn**	**10 14 07.7**	**-0.1**
BOQS	**Boqueron**	**0.73**	**18**	*eP*	**Pn**	**10 13 57.4**	**-0.2**
IGN	**Direccin Gen**	**0.75**	**26**	P	**Pn**	**10 13 57.4**	**-0.3**
IGN	**Direccin Gen**	**0.75**	**26**	S	**Sn**	**10 14 08.5**	**+0.2**
CEDA	**San Andres**	**0.77**	**8**	S	**Sn**	**10 14 08.4**	**-0.4**
CEDA	**San Andres**	**0.77**	**8**	P	**Pn**	**10 13 57.7**	**-0.3**
CEVE	**Cerro Verde**	**0.80**	**352**	*eP*	**Pn**	**10 13 58.5**	**0.0**
CEVE				*eS*	**Sn**	**10 14 12.8**	**+3.1**
CEVE	**Cerro Verde**	**0.80**	**352**	P	**Pn**	**10 13 58.4**	**-0.1**
CEVE	**Cerro Verde**	**0.80**	**352**	S	**Sn**	**10 14 09.8**	**+0.1**
LBRS	**Las Brisas**	**0.83**	**33**	*eP*	**Pb**	**10 13 59.0**	**+0.4**
TECO	**Alcaldia de Te**	**0.87**	**55**	P	**Pn**	**10 13 58.6**	**-0.7**
TECO	**Alcaldia de Te**	**0.87**	**55**	S	**Sb**	**10 14 10.6**	**+0.1**
PAVA	**Las Pavas**	**0.87**	**39**	*eP*	**Pb**	**10 13 59.4**	**0.0**
PAVA				*eS*	**Sn**	**10 14 11.7**	**+0.2**
PAVA	**Las Pavas**	**0.87**	**39**	P	**Pn**	**10 13 59.1**	**-0.4**
NUBE	**Las Nubes**	**0.90**	**343**	*eP*	**Pb**	**10 13 59.5**	**-0.4**
NUBE				*eS*	**Sn**	**10 14 11.6**	**-0.6**
NUBE	**Las Nubes**	**0.90**	**343**	*i* P	**Pb**	**10 13 59.4**	**-0.4**
NUBE				*eS*	**Sn**	**10 14 11.5**	**-0.6**
NUBE	**Las Nubes**	**0.90**	**343**	P	**Pb**	**10 13 59.5**	**-0.4**
UESV	**Universidad de**	**0.92**	**49**	S	**Sn**	**10 14 11.9**	**-0.6**
UESV	**Universidad de**	**0.92**	**49**	P	**Pn**	**10 13 59.6**	**-0.5**
UNIC	**Universidad Ca**	**0.94**	**358**	S	**Sb**	**10 14 13.2**	**+0.5**
UNIC	**Universidad Ca**	**0.94**	**358**	P	**Pb**	**10 14 00.4**	**-0.1**
FAME	**Alcaldia de Sa**	**0.94**	**329**	P	**Pb**	**10 14 00.1**	**-0.4**
LOAL	**Lomas de Alarc**	**0.99**	**345**	S	**Sb**	**10 14 14.9**	**+0.7**
LOAL	**Lomas de Alarc**	**0.99**	**345**	P	**Pb**	**10 14 01.8**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.01**	**49**	P	**Pb**	**10 14 01.4**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.01**	**49**	S	**Sb**	**10 14 15.0**	**+0.5**
PQSS	**Presa 15 de Se**	**1.09**	**57**	S	**Sn**	**10 14 16.1**	**-0.5**
PQSS	**Presa 15 de Se**	**1.09**	**57**	P	**Pn**	**10 14 02.1**	**-0.2**
PACA	**Pacayal**	**1.23**	**69**	*eP*	**Pb**	**10 14 05.2**	**-0.3**
PACA				*eS*	**Sn**	**10 14 20.6**	**+0.3**
PACA	**Pacayal**	**1.23**	**69**	P	**Pb**	**10 14 05.2**	**-0.3**
LCY	**Lacayo**	**1.24**	**72**	*eP*	**Pn**	**10 14 04.8**	**+0.2**
LCY				*eS*	**Sn**	**10 14 20.7**	**+0.1**
LLGN	**La Laguna**	**1.25**	**26**	S	**Sb**	**10 14 21.2**	**-0.3**
LLGN	**La Laguna**	**1.25**	**26**	P	**Pn**	**10 14 04.4**	**-0.2**
MTO3	**Montecristo**	**1.36**	**6**	*eP*	**Pn**	**10 14 05.9**	**-0.4**
MTO3	**Montecristo**	**1.36**	**6**	S	**Sn**	**10 14 23.4**	**-0.3**
MTO3	**Montecristo**	**1.36**	**6**	P	**Pn**	**10 14 06.2**	**-0.1**
CNRM	**Centro Naciona**	**1.37**	**71**	S	**Sb**	**10 14 24.4**	**-0.5**
CNRM	**Centro Naciona**	**1.37**	**71**	P	**Pn**	**10 14 06.1**	**-0.1**
ESQI	**Esquipulas**	**1.52**	**6**	S	**Sn**	**10 14 27.9**	**+0.4**
ESQI	**Esquipulas**	**1.52**	**6**	P	**Pn**	**10 14 08.6**	**+0.2**
LCND	**La Caada**	**1.60**	**80**	S	**Sn**	**10 14 30.4**	**+1.3**
LCND	**La Caada**	**1.60**	**80**	P	**Pn**	**10 14 09.6**	**+0.2**
CNCH	**Conchagua**	**1.65**	**81**	S	**Sn**	**10 14 31.5**	**+1.0**
CNCH	**Conchagua**	**1.65**	**81**	P	**Pn**	**10 14 10.1**	**0.0**
SARH	**Santa Rosa de**	**1.88**	**23**	*i* P	**Pn**	**10 14 13.7**	**+0.5**
SARH	**Santa Rosa de**	**1.88**	**23**	P	**Pn**	**10 14 13.8**	**+0.5**
SARH	**Santa Rosa de**	**1.88**	**23**	S	**Sn**	**10 14 36.4**	**+0.3**
CSGN	**Cosiguina Volc**	**1.90**	**92**	P	**Pn**	**10 14 13.7**	**+0.1**
CSGN				S	**Sn**	**10 14 36.8**	**+0.1**
PKGN	**Cerro Pekin**	**2.50**	**98**	P	**Pn**	**10 14 21.2**	**-0.5**

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*SOME **14** 10:14:42.7, 39°.92N×75°.87E, h10km*
*KRNET **14** 10:14:43.1±0.1, 39°.95N×76°.02E, mb3.0*
*NNC **14** 10:14:44.6±3.2, 40°.02N×75°.80E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=22.1km s-min=20.4km az=69.0*
ISC 14 10:14:47.2±2.1, 40°.15N±0°.09×75°.76E±0°.04, h8km±12km, n23, σ1§90/38, 10C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**0.91**	**355**	↑*iP*	**Pb**	**10 15 04.9**	**-0.5**
JNKS				↑*iS*	**Sn**	**10 15 20.8**	**+0.7**
SALK	**Salom-Alik**	**1.65**	**297**	↑*iP*	**Pg**	**10 15 18.8**	**0.0**
SALK				↑*iS*	**Sg**	**10 15 44.9**	**+4.7**
ULHL	**Ulahol**	**2.13**	**10**	↑*iP*	**Pb**	**10 15 24.3**	**-1.8**
ULHL				↑*iS*	**Sb**	**10 15 54.4**	**+1.6**
TARG	**Taragay, Kyrgy**	**2.21**	**44**	↓*iP*	**Pn**	**10 15 23.7**	**-0.9**
TARG				↓*iS*	**Sb**	**10 15 52.9**	**-2.6**
KDJ	**Kajisay**	**2.25**	**28**	*eP*	**Pn**	**10 15 25.1**	**+0.1**
KDJ				↑*iS*	**Sb**	**10 15 55.6**	**-0.8**
UCH	**Uchtor**	**2.28**	**336**	↓*iP*	**Pb**	**10 15 28.0**	**-0.9**
UCH				↓*iS*	**Sg**	**10 16 00.5**	**0.0**
BOOM	**Boomskoye usch**	**2.34**	**3**	↑*iP*	**Pb**	**10 15 27.8**	**-2.0**
BOOM				↑*iS*	**Sb**	**10 15 59.9**	**+0.9**
AAK	**Ala-Archa**	**2.66**	**340**	↓*iP*	**Pb**	**10 15 32.9**	**-2.3**
AAK				↓*iS*	**Sb**	**10 16 09.2**	**+1.1**
EKS2	**Erkin-Say**	**2.92**	**330**	↓*eP*	**Pb**	**10 15 36.7**	**-2.9**
EKS2				↓*iS*	**Sb**	**10 16 15.7**	**+0.2**
MTBS	**Maitube**	**3.02**	**9**	Pg	**Pg**	**10 15 43.5**	**-1.7**
	5.1nm,0.4s						
MTBS				Lg	Lg	10 16 27.0	
	6.3nm,0.2s						
MTBS	**Maitube**	**3.02**	**9**	*eP*	**Pg**	**10 15 43.5**	**-1.7**
	2.4nm,0.1s						
MTBS				*eS*	**Sg**	**10 16 27.2**	**+2.9**
	4.4nm,0.1s						
TNSS	**Tian-Shan**	**3.02**	**17**	*eP*	**Pg**	**10 15 42.7**	**-2.4**
	0.4nm,0.1s						
TNSS				*eS*	**Sg**	**10 16 25.8**	**+1.5**
	1.9nm,0.3s						
PRZ	**Przheval'sk**	**3.07**	**40**	↓*eP*	**Pn**	**10 15 35.7**	**-0.5**
PRZ				↓*eS*	**Sn**	**10 16 14.3**	**+1.2**
DGS	**Degeres**	**3.09**	**0**	Pg	**Pb**	**10 15 41.1**	**-1.4**
	8.0nm,0.7s						
DGS				Lg	Lg	10 16 23.0	
	11nm,0.7s						
MDOK	**Medeo**	**3.17**	**17**	Pg	**Pb**	**10 15 44.7**	**+0.9**
	4.2nm,0.3s						
MDOK				Lg	Lg	10 16 29.1	
	6.2nm,0.5s						
MRKS	**Merke**	**3.22**	**325**	*eP*	**Pg**	**10 15 46.3**	**-2.5**
	0.9nm,0.1s						
MRKS				*eS*	**Sg**	**10 16 31.9**	**+1.4**
	3.4nm,0.4s						
KOTS	**Kotyrbulak**	**3.25**	**18**	*eP*	**Pb**	**10 15 46.0**	**+0.8**
	3.7nm,0.2s						
KOTS				*eS*	**Sg**	**10 16 31.4**	**-0.1**
	18nm,0.7s						
SATY	**Saty**	**3.52**	**33**	Pg	**Pb**	**10 15 50.6**	**+0.8**
	3.1nm,0.5s						
SATY				Lg	Lg	10 16 39.3	
	8.8nm,0.4s						
KRBS	**Karabastau**	**3.55**	**359**	Pg	**Pb**	**10 15 52.2**	**+1.9**
	2.1nm,0.3s						
KRBS				Lg	Lg	10 16 42.3	
	7.0nm,0.7s						
KTBS	**Karatobe**	**3.63**	**11**	Pg	**Pb**	**10 15 53.4**	**+1.8**
	6.2nm,0.4s						
KTBS				Lg	Lg	10 16 44.9	
	4.4nm,0.5s						
KPKS	**Kokpek**	**3.97**	**32**	Pg	**Pb**	**10 15 57.6**	**+0.1**
	0.5nm,0.3s						
KPKS				Lg	Lg	10 16 51.3	
	6.4nm,0.6s						
SHLS	**Shalkode**	**4.09**	**42**	Pg	**Pg**	**10 16 04.3**	**-1.3**
	4.5nm,0.4s						
SHLS				Lg	Lg	10 17 02.7	
	10nm,0.5s						
SHLS	**Shalkode**	**4.09**	**42**	*eP*	**Pg**	**10 16 04.3**	**-1.3**
	0.8nm,0.1s						
SHLS				*eS*	**Sg**	**10 17 02.9**	**+4.3**
	4.9nm,0.3s						

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*GCMT **14** 10:44:49.0±0.3, 3°.28S±0°.03×68°.02E±0°.03, h12km, MW4.8/85, Moment Tensor Solution. s16,c17; s85,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.69±.05; Mθθ 1.05±.05; Mφφ 0.63±.06; Mrθ 0.69±.27; Mφφ-0.62±.04; Mφr-0.57±.31; Best double couple: M0 1.82900×10^16 NP1: φs=308.00000°, δ60.00000°, λ-88.00000°. Principal axes: T 1.7320, Plg15.0000°, Azm36.0000°; N 0.1870, Plg1.0000°, Azm127.0000°; P -1.9250, Plg75.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 14 10:44:45.7±1.4, 3°.13S×68°.21E, h0km, mb3.7/5, mbtmp3.7/5, MS3.8/52 Error ellipse: s-maj=40.3km s-min=32.6km az=75.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**6.16**	**137**	T	T	10 52 50.7	
	baz=308,slow=74,SNR=6.3						
H08S1	**Diego Garcia H**	**6.17**	**137**	T	T	10 52 42.0	
	baz=308,slow=74,SNR=7.5						
H08S2	**Diego Garcia H**	**6.18**	**137**	T	T	10 52 42.6	
	baz=308,SNR=58						
PALK	**Pallekele**	**16.19**	**50**	LR	LR	10 53 33.0	
	comp=Z,889nm,20.4s,baz=225,slow=33						
OPO	**Ambohidratompo**	**25.67**	**232**	LR	LR	10 58 15.6	
	comp=Z,401nm,18.7s,baz=186,slow=32						
PSI	**Prapat**	**31.26**	**79**	LR	LR	11 01 43.6	
	comp=Z,345nm,21.2s,baz=262,slow=33						
BRDH	**Bariadhala**	**34.37**	**41**	LR	LR	11 07 38.2	
	comp=Z,222nm,18.0s,baz=237,slow=40						
CMAR	**Chiang Mai Arr**	**37.09**	**54**	P	P	10 51 56.9	-1.2
	0.4nm,0.4s,baz=233,slow=8.0,SNR=5.2						
CMAR				LR	LR	11 05 34.0	
	comp=Z,128nm,21.4s,baz=240,slow=34						
	0.4nm,0.4s						
LEM	**Lembang**	**39.41**	**97**	LR	LR	11 05 44.7	
	comp=Z,132nm,21.0s,baz=180,slow=32						
LSZ	**Lusaka**	**41.22**	**250**	LR	LR	11 07 03.7	
	comp=Z,333nm,18.6s,baz=120,slow=32						
MATP	**Matopo**	**42.33**	**243**	LR	LR	11 08 00.2	
	comp=Z,97nm,18.8s,baz=62,slow=33						
EIL	**Elat**	**45.58**	**318**	LR	LR	11 09 33.9	
	comp=Z,38nm,18.6s,baz=158,slow=33						
AAK	**Ala-Archa**	**45.91**	**6**	LR	LR	11 12 16.3	
	comp=Z,123nm,21.6s,baz=205,slow=36						
ASF	**Jabal al Asfar**	**46.00**	**322**	LR	LR	11 09 41.6	
	comp=Z,66nm,21.2s,baz=161,slow=32						
LBTB	**Lobatse**	**46.41**	**238**	LR	LR	11 09 41.3	
	comp=Z,266nm,19.8s,baz=68,slow=32						
MMAI	**Mount Meron Ar**	**47.49**	**322**	LR	LR	11 11 17.3	
	comp=Z,54nm,20.8s,baz=121,slow=34						
BOSA	**Boshof**	**48.06**	**234**	LR	LR	11 10 30.8	
	comp=Z,135nm,19.7s,baz=28,slow=32						
GNI	**Garni**	**48.15**	**336**	LR	LR	11 14 50.8	
	comp=Z,34nm,18.1s,baz=117,slow=38						
MKAR	**Makanchi Array**	**51.24**	**12**	LR	LR	11 14 34.7	
	comp=Z,70nm,21.0s,baz=184,slow=35						
KAPI	**Kappang**	**51.43**	**94**	LR	LR	11 15 04.4	
	comp=Z,75nm,18.2s,baz=274,slow=35						
TSUM	**Tsumeb**	**51.95**	**248**	LR	LR	11 14 51.2	
	comp=Z,111nm,18.4s,baz=154,slow=35						
AKTO	**Aktyubinsk**	**54.08**	**352**	LR	LR	11 17 57.6	
	comp=Z,46nm,19.8s,baz=209,slow=37						
KURBB	**Kurchatov Arra**	**54.28**	**8**	LR	LR	11 18 01.5	
	comp=Z,70nm,18.1s,baz=162,slow=37						
DAV	**Davao City (W)**	**58.14**	**80**	LR	LR	11 22 05.9	
	comp=Z,31nm,19.0s,baz=324,slow=38						
ZALV	**Zalesovo Beam**	**58.55**	**11**	LR	LR	11 20 13.8	
	comp=Z,69nm,20.3s,baz=196,slow=36						
ARTI	**Arti**	**59.87**	**354**	LR	LR	11 22 33.5	
	comp=Z,30nm,18.3s,baz=232,slow=38						
SONM	**Songino Array**	**60.74**	**29**	LR	LR	11 21 16.6	
	comp=Z,367nm,19.6s,baz=182,slow=36						
AKASG	**Malin Array Be**	**63.15**	**333**	P	P	10 55 15.7	+0.4
	0.2nm,0.3s,baz=133,slow=9.5,SNR=2.7						
AKASG				LR	LR	11 25 28.2	
	comp=Z,31nm,19.9s,baz=150,slow=39						
	0.2nm,0.3s						
KIRV	**Kirov**	**63.33**	**349**	LR	LR	11 23 47.7	
	comp=Z,43nm,20.4s,baz=139,slow=37						
MAW	**Mawson**	**64.46**	**182**	P	P	10 55 22.8	-0.8
	1.1nm,0.9s,baz=350,slow=9.2,SNR=3.6						
MAW				LR	LR	11 16 43.1	
	comp=Z,95nm,20.7s,baz=346,slow=30						
	1.1nm,0.9s						
JOW	**Kunigami**	**65.11**	**59**	LR	LR	11 23 49.7	
	comp=Z,69nm,19.2s,baz=328,slow=36						
WRA	**Warramunga Arr**	**66.51**	**110**	P	P	10 55 38.5	+0.6
	1.0nm,0.9s,baz=284,slow=6.3,SNR=7.1						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**66.51**	**114**	P	P	10 55 38.3	+0.4
	0.7nm,0.8s,baz=277,slow=6.1,SNR=7.1						
ASAR				LR	LR

*IDC **14** 10:56:38.1±5.2, 11°.82S×166°.73E, h268km±50km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=35.3km s-min=24.9km az=157.0*

ISC 14 10:56:32.7±1.0, **12°.0S**±0°.2×**166°.9E**±0°.2, **h220**km, **n7**, σ0^{s}**94/7, mb3.3/5, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.07**	**183**	P	**P**	**10 58 59.1**	**-0.6**
	5.0nm,0.9s,baz=192,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**32.29**	**252**	P	**P**	**11 02 41.4**	**+0.1**
	0.2nm,0.4s,baz=82,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**33.45**	**245**	P	**P**	**11 02 51.1**	**-0.2**
	0.2nm,0.4s,baz=68,slow=10,SNR=10						
QSPA	**South Pole Qui**	**78.05**	**180**	P	**P**	**11 08 08.2**	**+1.3**
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.00**	**18**	P	**P**	**11 08 38.5**	**+0.5**
	0.9nm,0.9s,baz=17,slow=0.6,SNR=5.8						
NVAR	**Mina Array Bea**	**85.72**	**49**	P	**P**	**11 08 47.0**	**-0.5**
	1.6nm,0.6s,baz=231,slow=5.6,SNR=42						
ARCES	**ARCESS Array B**	**117.50**	**346**	PKP	**PKiKP**	**11 14 50.8**	**-1.0**
	0.4nm,0.4s,baz=254,slow=4.7,SNR=4.6						
	0.4nm,0.7s						
	0.6nm,0.4s,baz=64,slow=2.1,SNR=6.7						

*DJA **14** 11:34:00.9±0.2, 8°.5±3°×10°.9E±°, h69km±3km, M4.7/54, mb4.8/54, mB5.2/15, MLv5.0/31, Mw(mB)4.5/15*
*IDC **14** 11:34:02.9±1.2, 7°.84S×109°.57E, h101km±10km, mb4.1/20, mbtmp4.5/23, MS3.2/13, Error ellipse: s-maj=17.0km s-min=9.0km az=49.0*
*NEIC **14** 11:34:02.2±2.6, 8°.22S±0°.08×109°.39E±0°.05, h89km±5km, mb4.5/32, Error ellipse: s-maj=11.7km s-min=6.4km az=205.0*

ISC 14 11:34:02.5±0.3, **8°.15S**±0°.05×**109°.35E**±0°.04, **h100**km, **n193**, σ1^{s}**64/179, mb4.4/37, 1C, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.91**	**333**	P	**Pn**	**11 34 20.6**	**-1.4**
YOGI	**Yogyakarta**	**0.99**	**71**	P	**Pn**	**11 34 20.5**	**-2.3**
UGM	**Wanagama**	**1.19**	**79**		**Pn**	**11 34 22.9**	**-2.1**
UGM					**Sn**	**11 34 39.6**	**-2.5**
UGM	**Wanagama**	**1.19**	**79**	P	**Pn**	**11 34 23.2**	**-1.8**
UGM	**Wanagama**	**1.19**	**79**	S	**Sn**	**11 34 40.1**	**-2.0**
UGM	**Wanagama**	**1.19**	**79**	P	**Pn**	**11 34 22.9**	**-2.1**
SMRI	**Semarang**	**1.54**	**45**		**Pn**	**11 34 29.5**	**+0.2**
SMRI				Sn	**Sn**	**11 34 48.5**	**-1.0**
SMRI	**Semarang**	**1.54**	**45**	P	**Pn**	**11 34 29.8**	**+0.5**
SMRI	**Semarang**	**1.54**	**45**	P	**Pn**	**11 34 29.4**	**+0.2**
WOJI	**Wonogiri, Jawa**	**1.59**	**79**	P	**Pn**	**11 34 27.5**	**-2.3**
PCJI	**Pacitan**	**1.81**	**91**	P	**Pn**	**11 34 31.2**	**-1.4**
BBJI	**Bungbulang**	**1.82**	**292**	P	**Pn**	**11 34 30.1**	**-2.7**
BBJI	**Bungbulang**	**1.82**	**292**	S	**Sn**	**11 34 52.5**	**-3.4**
LEM	**Lembang**	**2.16**	**307**	P	**Pn**	**11 34 37.5**	**+0.1**
	375nm,0.4s,baz=95,slow=8.1,SNR=65						
LEM				S	**Sn**	**11 35 06.2**	**+2.2**
	2μm,0.7s,baz=12,slow=23,SNR=12						
LEM				LR	LR	11 35 50.7	
	comp=Z,465nm,21.4s,baz=24,slow=49						
LEM	**Lembang**	**2.16**	**307**	P	**Pn**	**11 34 36.8**	**-0.6**
NGJI	**Ngawi**	**2.23**	**70**	P	**Pn**	**11 34 38.9**	**+0.8**
CNJI	**Cibinong**	**2.35**	**291**	P	**Pn**	**11 34 36.9**	**-2.8**
TBJI	**Tambak Boyo**	**2.81**	**62**	P	**Pn**	**11 34 45.6**	**-0.1**
SKJI	**Sukabumi**	**2.99**	**292**	P	**Pn**	**11 34 46.4**	**-1.8**
DBJI	**Dramaga**	**3.03**	**301**	P	**Pn**	**11 34 48.1**	**-0.5**
GRJI	**Gresik**	**3.34**	**69**	P	**Pn**	**11 34 52.8**	**0.0**
SBJI	**Serang**	**3.78**	**302**	P	**Pn**	**11 34 58.2**	**-0.5**
CGJI	**Cibinong**	**3.94**	**293**	P	**Pn**	**11 34 58.5**	**-2.3**
BWJI	**Bawean**	**4.00**	**55**	P	**Pn**	**11 35 01.4**	**-0.3**
BLJI	**Banyuglugur**	**4.22**	**85**	P	**Pn**	**11 35 04.1**	**-0.6**
KMMI	**Kalianget**	**4.71**	**77**	P	**Pn**	**11 35 10.2**	**-1.0**
JAGI	**Jajag, Banyuwa**	**4.76**	**94**		**Pn**	**11 35 11.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**4.76**	**94**	P	**Pn**	**11 35 12.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.76**	**94**	S	**Sn**	**11 36 05.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.76**	**94**	P	**Pn**	**11 35 12.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.76**	**94**	P	**Pn**	**11 35 11.9**	**-0.1**
ABJI	**Asem Bagus**	**4.85**	**86**	P	**Pn**	**11 35 13.1**	**-0.1**
BLSI	**Bandar Lampung**	**4.92**	**304**	P	**Pn**	**11 35 15.0**	**+0.8**
	0.7nm168nm,0.8s						
KASI	**Kota Agung**	**5.48**	**298**	P	**Pn**	**11 35 21.7**	**0.0**
	0.6nm76nm,0.9s						
KLI	**Kotabumi**	**5.53**	**306**	P	**Pn**	**11 35 24.4**	**+2.0**
	0.9nm127nm,0.6s						
TPI	**Tanjungpandan**	**5.62**	**342**	P	**Pn**	**11 35 24.0**	**+0.4**
	1.1nm1μm89nm,0.8s						
DNP	**Denpasar**	**5.82**	**96**	P	**Pn**	**11 35 27.8**	**+1.4**
LWLI	**Liwa**	**6.11**	**300**	P	**Pn**	**11 35 30.4**	**0.0**
	1.1nm129nm,0.5s						
MDSI	**Maura Dua**	**6.30**	**305**	P	**Pn**	**11 35 32.6**	**-0.3**
	58nm,1.2s						
PPBI	**Pangkal Pinang**	**6.76**	**332**	P	**Pn**	**11 35 39.6**	**+0.5**
LHSI	**Lahat**	**7.21**	**306**	P	**Pn**	**11 35 46.5**	**+1.2**
	0.3nm1μm53nm,0.9s						
MNAI	**Manna**	**7.39**	**300**	Pn	**Pn**	**11 35 46.4**	**-1.3**
TWSI	**Taliwang, Sumb**	**7.47**	**95**	P	**Pn**	**11 35 47.1**	**-1.8**
	0.5nm2μm55nm,0.5s						
KSI	**Kapahiang**	**8.07**	**303**	P	**Pn**	**11 35 57.1**	**0.0**
PLAI	**Plampang**	**8.36**	**95**	P	**Pn**	**11 36 00.6**	**-0.4**
PLAI	**Plampang**	**8.36**	**95**	S	**Sn**	**11 37 34.1**	**+0.3**
PLAI	**Plampang**	**8.36**	**95**	P	**Pn**	**11 35 59.5**	**-1.5**
MASI	**Maura Aman, Be**	**8.65**	**305**	P	**Pn**	**11 36 03.7**	**-1.2**
	75nm,1.2s						
DSRI	**Dabo**	**8.98**	**328**	P	**Pn**	**11 36 10.2**	**+0.8**
	35nm,1.0s						
KSM	**Kuching**	**9.61**	**6**	P	**Pn**	**11 36 21.2**	**+3.3**
WBSI	**Waikabubak, Su**	**10.03**	**99**	P	**Pn**	**11 36 22.0**	**-1.7**
	767nm57nm,0.9s						
KAPI	**Kappang**	**10.79**	**74**	LR	LR	11 41 36.1	
	comp=Z,49nm,20.1s,baz=302,slow=43						
SBUM	**Sibu**	**10.91**	**15**	P	**Pn**	**11 36 39.7**	**+4.0**
BKSI	**Bulukumba**	**11.06**	**76**	P	**Pn**	**11 36 36.6**	**-1.1**
	31nm,1.0s						
BSSI	**Bau Bau, Buton**	**11.23**	**80**	P	**Pn**	**11 36 41.0**	**+1.0**
	49nm,0.8s						
BASI	**Baing, Sumba**	**11.27**	**101**	P	**Pn**	**11 36 40.4**	**-0.1**
	92nm,1.0s						
MYKOM	**Kota Tinggi**	**11.30**	**331**	P	**Pn**	**11 36 44.4**	**+3.6**
BNSI	**Bone**	**11.32**	**71**	P	**Pn**	**11 36 42.4**	**+1.2**
	31nm,0.9s						
PDSI	**Padang**	**11.41**	**309**	P	**Pn**	**11 36 42.4**	**0.0**
	18nm,1.2s						
EDFI	**Ende, Flores**	**12.22**	**94**	P	**Pn**	**11 36 49.1**	**-4.2**
	41nm,0.7s						
MMRI	**Maumere**	**12.76**	**93**	Pn	**Pn**	**11 36 57.9**	**-2.5**
MMRI	**Maumere**	**12.76**	**93**	P	**Pn**	**11 37 00.9**	**+0.6**
MMRI	**Maumere**	**12.76**	**93**	P	**Pn**	**11 36 58.7**	**-1.6**
	63nm,0.7s						
APSI	**Ampana**	**14.21**	**60**	P	**Pn**	**11 37 19.5**	**+0.3**
	45nm,0.9s						
BATI	**Baumata**	**14.28**	**99**	P	**Pn**	**11 37 17.1**	**-3.0**
	30nm,0.5s,baz=283,slow=5.1,SNR=4.0						
BATI				S	Sn	11 39 47.1	-10
	20nm,0.6s,baz=287,slow=19,SNR=1.6						
BATI	**Baumata**	**14.28**	**99**	P	**Pn**	**11 37 17.6**	**-2.5**
	67nm,0.6s						
TOLI2	**Tolitoli**	**14.65**	**52**		**P**	**11 37 27.4**	**-1.1**
SOEI	**Soe**	**14.82**	**97**		**Pn**	**11 37 23.4**	**-3.8**
SOEI	**Soe**	**14.82**	**97**	P	**P**	**11 37 29.2**	**-1.3**
SOEI	**Soe**	**14.82**	**97**	P	**Pn**	**11 37 23.7**	**-3.5**
	1μm88nm,0.8s						
IPM	**Ipoh**	**15.04**	**326**	P	**P**	**11 37 33.7**	**+0.8**
PSI	**Prapat**	**15.05**	**316**	LR	LR	11 43 54.5	
	comp=Z,143nm,20.1s,baz=105,slow=40						
MRSI	**Marisa**	**15.20**	**56**	P	**P**	**11 37 35.6**	**+1.1**
	918nm45nm,0.9s						
KKM	**Kota Kinabalu**	**15.68**	**26**		**Pn**	**11 37 38.6**	**+0.7**
KKM				IAmb	IAmb	11 37 45.0	
	comp=Z,29nm,0.9s						
KKM	**Kota Kinabalu**	**15.68**	**26**	P	**P**	**11 37 43.6**	**+3.7**
KULM	**Kulim**	**15.92**	**327**	Pn	**Pn**	**11 37 41.4**	**+0.5**
MYLDM	**Lahad Datu**	**16.08**	**35**	P	**P**	**11 37 47.8**	**+3.5**
MBWA	**Marble Bar**	**16.36**	**143**		**Pn**	**11 37 43.5**	**-2.8**
MBWA	**Marble Bar**	**16.36**	**143**	P	**P**	**11 37 46.4**	**-1.0**
MBWA	**Marble Bar**	**16.36**	**143**	P	**Pn**	**11 37 44.5**	**-1.8**
PSA00	**Pilbara Seismi**	**16.75**	**144**		**Pn**	**11 37 47.7**	**-3.3**
PSA00				IAmb	IAmb	11 37 53.9	
	comp=Z,18nm,0.9s						
PSA00	**Pilbara Seismi**	**16.75**	**144**	P	**P**	**11 37 50.4**	**-1.3**
PSA00	**Pilbara Seismi**	**16.75**	**144**	P	**Pn**	**11 37 49.7**	**-1.4**
SANI	**Sanana**	**17.64**	**71**	P	**Pn**	**11 38 06.0**	**+4.0**
SANI	**Sanana**	**17.64**	**71**	P	**Pn**	**11 38 03.4**	**+1.4**
	comp=Z,15nm,0.8s						
NLAI	**Namlea**	**18.32**	**76**	P	**Pn**	**11 38 11.0**	**+0.8**
	comp=Z,86nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.68**	**124**		**Pn**	**11 38 13.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.68**	**124**	P	**Pn**	**11 38 13.8**	**-0.6**
	comp=Z,29nm,0.8s,baz=293,slow=6.8,SNR=54						
FITZ				S	S	11 41 28.6	-12
	comp=Z,4.3nm,0.5s,baz=65,slow=15,SNR=6.7						
FITZ				LR	LR	11 44 17.4	
	comp=Z,55nm,20.4s,baz=352,slow=33						
FITZ	**Fitzroy Crossi**	**18.68**	**124**	P	**Pn**	**11 38 14.1**	**-0.3**
AAI	**Ambon**	**19.26**	**78**	P	**Pn**	**11 38 20.4**	**-0.9**
	comp=Z,5μmcomp=Z,91nm,0.8s						
TNTI	**Ternate**	**20.03**	**65**		Pn	11 38 28.9	-1.4
TNTI				IAmb	IAmb	11 38 33.5	
	comp=Z,24nm,0.8s						
TNTI	**Ternate**	**20.03**	**65**	P	Pn	11 38 32.2	+1.9
TNTI	**Ternate**	**20.03**	**65**	P	Pn	11 38 30.2	-0.1
	comp=Z,30nm,0.9s						
KNRA	**Kununurra**	**20.40**	**113**		**P**	**11 38 31.3**	**-0.4**
MTN	**Manton Dam**	**21.91**	**104**		**P**	**11 38 48.0**	**+0.2**
MTN				IAmb	IAmb	11 38 53.9	
	comp=Z,50nm,1.2s						
DAV	**Davao City (W)**	**22.15**	**47**	LR	LR	11 48 36.9	
	comp=Z,50nm,18.5s,baz=302,slow=40						
SWI	**Sorong**	**23.00**	**73**	P	**P**	**11 38 59.2**	**+0.2**
	comp=Z,22nm,0.6s						
FAKI	**Fak Fak**	**23.37**	**78**	P	**P**	**11 39 00.5**	**-2.0**
FAKI	**Fak Fak**	**23.37**	**78**	P	**P**	**11 39 00.5**	**-2.0**
	comp=Z,20nm,1.2s						
RKPI	**Ransiki, Papua**	**25.59**	**76**	P	**P**	**11 39 24.8**	**+2.2**
WRA	**Warramunga Arr**	**26.88**	**118**		**P**	**11 39 34.4**	**+0.3**
WRA	**Warramunga Arr**	**26.88**	**118**	P	**P**	**11 39 34.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=288,slow=9.9,SNR=94						
WRA				LR	LR	11 50 51.7	
	comp=Z,41nm,19.1s,baz=228,slow=38						
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**26.89**	**118**		**P**	**11 39 34.1**	**-0.1**
WRAB				IAmb	IAmb	11 39 35.8	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**26.89**	**118**	P	**P**	**11 39 34.8**	**+0.5**
WRAB	**Tennant Creek**	**26.89**	**118**	P	**P**	**11 39 33.5**	**-0.8**
H01W3	**Cape Leeuwin H**	**26.97**	**171**	T	T	12 07 37.4	
	baz=341,slow=76,SNR=3.9						
H01W1	**Cape Leeuwin H**	**26.98**	**171**	T	T	12 07 37.1	
	baz=341,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**26.98**	**171**	T	T	12 07 40.9	
	baz=341,slow=76,SNR=3.7						
AS31	**Alice Springs**	**28.13**	**126**	P	**P**	**11 39 45.5**	**+0.2**
AS31				IAmb	IAmb	11 39 47.0	
	comp=Z,8.4nm,1.1s						
ASAR	**Alice Springs**	**28.13**	**126**		**P**	**11 39 45.6**	**+0.2**
ASAR	**Alice Springs**	**28.13**	**126**	P	**P**	**11 39 45.7**	**+0.3**
	comp=Z,13nm,0.7s,baz=305,slow=9.5,SNR=195						
ASAR				PcP	**PcP**	**11 42 58.2**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=323,slow=2.4,SNR=6.2						
ASAR				ScP	**ScP**	**11 46 30.9**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=334,slow=2.6,SNR=8.0						
ASAR				LR	LR	11 50 41.0	
	comp=Z,48nm,21.5s,baz=290,slow=36						
	comp=Z,13nm,0.7s						
AS01	**Alice Springs**	**28.17**	**126**	P	**P**	**11 39 46.7**	**+1.0**
AS01	**Alice Springs**	**28.17**	**126**	P	**P**	**11 39 46.2**	**+0.5**
CM31	**Chiang Mai Arr**	**28.36**	**339**	P	**P**	**11 39 48.0**	**+0.6**
CM31				IAmb	IAmb	11 40 34.1	
	comp=Z,6.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.36**	**339**	P	**P**	**11 39 47.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.36**	**339**	P	**P**	**11 39 47.2**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=162,slow=8.4,SNR=9.7						
CMAR				ScP	**ScP**	**11 46 32.1**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=160,slow=3.1,SNR=4.8						
CMAR				LR	LR	11 51 53.4	
	comp=Z,45nm,18.5s,baz=150,slow=38						
	comp=Z,1.4nm,0.4s						
QIS	**Mount Isa**	**31.73**	**116**	P	**P**	**11 40 18.8**	**+1.6**
QIS	**Mount Isa**	**31.73**	**116**	P	**P**	**11 40 18.0**	**+0.8**
COEN	**Coen**	**33.67**	**103**	P	**P**	**11 40 35.9**	**+1.7**
COEN	**Coen**	**33.67**	**103**	P	**P**	**11 40 33.8**	**-0.4**
BBOO	**Buckleboo**	**34.84**	**139**		**P**	**11 40 44.4**	**+0.3**
BBOO	**Buckleboo**	**34.84**	**139**	P	**P**	**11 40 44.6**	**+0.5**
MTSU	**Mount Surprise**	**35.40**	**110**	P	**P**	**11 40 51.7**	**+2.6**
INKA	**Innaminka**	**35.49**	**127**	IAmb	IAmb	11 40 52.2	
	comp=Z,9.6nm,0.9s						
AUCAS	**Cummins Area S**	**35.55**	**141**	P	**P**	**11 40 51.6**	**+1.5**
WHYH	**Whyalla**	**35.98**	**137**	P	**P**	**11 40 55.0**	**+1.2**
H08S2	**Diego Garcia H**	**36.50**	**268**	T	T	12 19 26.1	
	baz=93,slow=75,SNR=93						
H08S3	**Diego Garcia H**	**36.51**	**268**	T	T	12 19 27.0	
	baz=93,slow=75,SNR=129						
H08S1	**Diego Carcia H**	**36.52**	**268**	T	T	12 19 25.5	
	baz=93,slow=75,SNR=94						
AUJCS	**Jamestown Cent**	**36.78**	**137**	P	**P**	**11 41 02.1**	**+1.4**
HTT	**Hallett**	**37.13**	**137**	P	**P**	**11 41 05.2**	**+1.6**
CTAO	**Charters Tower**	**37.61**	**112**	P	**P**	**11 41 07.3**	**-0.6**
CTAO	**Charters Tower**	**37.61**	**112**	P	**P**	**11 41 10.7**	**+2.9**
QLP	**Quilpie**	**37.82**	**123**	P	**P**	**11 41 12.5**	**+3.0**
STKA	**Stephens Creek**	**38.15**	**133**		**P**	**11 41 11.9**	**-0.3**
STKA	**Stephens Creek**	**38.15**	**133**	P	**P**	**11 41 13.2**	**+1.0**
	comp=Z,11nm,0.4s,baz=317,slow=8.3,SNR=56						
STKA				PcP	**PcP**	**11 43 26.0**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=322,slow=4.5,SNR=3.1						
STKA				LR	LR	11 59 10.8	
	comp=Z,39nm,18.5s,baz=295,slow=40						
	comp=Z,11nm,0.4s						
STKA	**Stephens Creek**	**38.15**	**133**	P	**P**	**11 41 14.1**	**+1.9**
AUMBR	**Murray Bridge**	**38.38**	**139**	P	**P**	**11 41 15.7**	**+1.6**
CMSA	**Cobar Meteorol**	**41.04**	**130**	P	**P**	**11 41 38.2**	**+2.0**
AULRC	**Lightning Ridg**	**41.97**	**125**	P	**P**	**11 41 46.0**	**+2.2**
AUPHS	**Peel High Scho**	**44.92**	**126**	P	**P**	**11 42 09.7**	**+2.1**
JNU	**Nakatsue**	**45.87**	**25**	LR	LR	12 00 39.5	
	comp=Z,33nm,21.9s,baz=8.5,slow=35						
BTO	**Baotou**	**48.52**	**1**	*e*P	P	11 42 41.6	+6.2
BTO				pP	pP	11 42 50.6	-8.7
BTO				S	S	11 49 46.3	+17
BTO				pmax	pmax		
	comp=Z,16nm,0.8s						
BTO				pmax	pmax		
	comp=Z,230nm,4.6s						
BTO				LR	LR		
	comp=N,200nm,4.8s						
BTO				LR	LR		
	comp=E,290nm,4.6s						
BTO				LR	LR		
	comp=Z,210nm,9.2s						
KSRS	**Korea Array**	**48.58**	**20**	LR	LR	12 04 14.6	
	comp=Z,5μm,18.9s,baz=205,slow=38						
MJAR	**Matsushiro Arr**	**52.06**	**30**	P	**P**	**11 42 59.3**	**-2.9**
	comp=Z,1.3nm,0.6s,baz=198,slow=8.2,SNR=4.7						
MJAR				PcP	**PcP**	**11 44 13.8**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=204,slow=4.3,SNR=6.2						
MJAR				LR	LR	12 06 37.8	
	comp=Z,20nm,18.9s,baz=224,slow=38						
	comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**55.80**	**358**	P	**P**	**11 43 30.3**	**+0.9**
SONM	**Songino Array**	**55.80**	**358**	P	**P**	**11 43 29.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=165,slow=6.0,SNR=2.8						
CASY	**Casey**	**58.05**	**179**	P	**P**	**11 43 45.1**	**+0.4**
CASY				IAmb	IAmb	11 43 57.1	
	comp=Z,3.7nm,1.1s						
MK31	**Makanchi Array**	**59.77**	**339**	P	**P**	**11 43 55.5**	**-1.5**
MKAR	**Makanchi Array**	**59.77**	**339**	P	**P**	**11 43 55.6**	**-1.4**
MKAR	**Makanchi Array**	**59.77**	**339**	P	**P**	**11 43 55.7**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=150,slow=7.8,SNR=7.8						
	comp=Z,1.4nm,0.5s						
HEH	**HeiHe**	**60.25**	**13**	*e*P	**P**	**11 43 59.4**	**-0.7**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.93**	**222**	T	T	12 51 26.2	
	baz=71,slow=75,SNR=454						
H04N1	**CROZET ISLANDS**	**61.95**	**222**	T	T	12 51 30.7	
	baz=71,slow=75,SNR=348						
H04N3	**CROZET ISLANDS**	**61.95**	**222**	T	T	12 51 29.4	
	baz=71,slow=75,SNR=325						
H04S1	**CROZET ISLANDS**	**62.08**	**221**	T	T	12 51 33.2	
	baz=68,slow=75,SNR=18						
H04S3	**CROZET ISLANDS**	**62.10**	**221**	T	T	12 51 35.6	
	baz=68,slow=75,SNR=6.0						
H04S2	**CROZET ISLANDS**	**62.10**	**221**	T	T	12 51 36.6	
	baz=68,slow=75,SNR=5.4						
KURBB	**Kurchatov Arra**	**64.34**	**339**	P	**P**	**11 44 26.0**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=149,slow=5.8,SNR=7.7						
KURBB				PcP	**PcP**	**11 45 01.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=150,slow=3.3,SNR=6.1						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**65.24**	**344**	P	**P**	**11 44 30.9**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=174,slow=4.6,SNR=5.9						
	comp=Z,1.0nm,0.3s						
MAW	**Mawson**	**66.96**	**198**	P	**P**	**11 44 45.2**	**+1.1**
	comp=Z,5.5nm,0.9s,baz=55,slow=6.4,SNR=16						
	comp=Z,5.5nm,0.9s						
RAYN	**Ar Rayn**	**69.84**	**299**	P	**P**	**11 45 02.7**	**-0.2**
AB31	**Akbulak array**	**71.60**	**328**	P	**P**	**11 45 12.0**	**-0.9**
AB31				IAmb	IAmb	11 45 14.4	
	comp=Z,5.2nm,0.8s						
ABKAR	**Akbulak array**	**71.60**	**328**		**P**	**11 45 11.6**	**-1.3**
AKTO	**Aktyubinsk**	**73.31**	**329**	P	**P**	**11 45 21.9**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=72,slow=4.4,SNR=5.3						
	comp=Z,1.7nm,0.5s						
PEA0B	**Petropavlovsk-**	**73.48**	**28**	P	**P**	**11 45 23.7**	**-0.4**
PETK	**Petropavlovsk-**	**73.48**	**28**	P	**P**	**11 45 23.7**	**-0.3**
PETK	**Petropavlovsk-**	**73.48**	**28**	P	**P**	**11 45 22.4**	**-1.7**
	comp=Z,4.5nm,0.9s,baz=242,slow=2.8,SNR=4.7						
	comp=Z,4.5nm,0.9s						
VNDA	**Vanda**	**74.42**	**170**		**P**	**11 45 30.1**	**+0.9**
VNDA	**Vanda**	**74.42**	**170**	P	**P**	**11 45 30.4**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=318,slow=6.3,SNR=22						
	comp=Z,1.3nm,0.4s						
SBA	**Scott Base**	**75.49**	**169**		**P**	**11 45 37.3**	**+2.0**
SBA				IAmb	IAmb	11 45 38.5	
	comp=Z,7.0nm,1.1s						
ARTI	**Arti**	**76.72**	**334**	P	**P**	**11 45 39.7**	**-2.8**
	comp=Z,3.1nm,0.5s,baz=66,slow=1.2,SNR=4.7						
KBZ	**Khabaz**	**79.06**	**317**	P	**P**	**11 45 54.4**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=158,slow=5.5,SNR=4.2						
	comp=Z,1.2nm,0.7s						
TIXI	**Tiksi**	**80.68**	**6**		**P**	**11 46 02.8**	**-1.1**
TIXI				IAmb	IAmb	11 46 04.9	
	comp=Z,6.6nm,0.8s						
LBTB	**Lobatse**	**80.97**	**246**	LR	LR	12 15 16.3	
	comp=Z,22nm,20.2s,baz=48,slow=30						
BOSA	**Boshof**	**80.99**	**242**	LR	LR	12 13 35.3	
	comp=Z,26nm,21.9s,baz=27,slow=29						
MMAI	**Mount Meron Ar**	**81.16**	**305**	P	**P**	**11 46 08.0**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=140,slow=7.5,SNR=2.9						
	comp=Z,1.3nm,0.4s						
QSPA	**South Pole Qui**	**81.84**	**180**		**P**	**11 46 11.4**	**+0.9**
QSPA				IAmb	IAmb	11 46 14.9	
	comp=Z,10.0nm,1.1s						
QSPA	**South Pole Qui**	**81.84**	**180**	P	**P**	**11 46 13.8**	**+3.3**
	comp=Z,6.7nm,1.0s,baz=320,slow=2.5,SNR=24						
	comp=Z,6.7nm,1.0s						
BRTR	**Keskin Array B**	**84.33**	**311**	P	**P**	**11 46 23.8**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=131,slow=6.4,SNR=18						
	comp=Z,3.8nm,0.7s						
SNAA	**Sanae**	**89.12**	**197**	⇑P	**P**	**11 46 48.1**	**+1.7**
	comp=Z,55nm,0.5s						
SNAA	**Sanae**	**89.12**	**197**		**P**	**11 46 47.8**	**+1.4**
SNAA				IAmb	IAmb	11 46 49.2	
	comp=Z,5.7nm,1.1s						
SNAA	**Sanae**	**89.12**	**197**	P	**P**	**11 46 48.4**	**+1.9**
	comp=Z,3.4nm,0.8s,baz=175,slow=5.4,SNR=15						
	comp=Z,3.4nm,0.8s						
AKASG	**Malin Array Be**	**90.04**	**321**	P	**P**	**11 46 50.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=91,slow=4.8,SNR=6.9						
	comp=Z,1.1nm,0.6s						
KIEV	**Kiev**	**90.05**	**321**	P	**P**	**11 46 50.8**	**-0.2**
KIEV				IAmb	IAmb	11 46 50.8	
	comp=Z,2.5nm,0.6s						
BURAR	**Bucovina Array**	**92.02**	**318**	P	**P**	**11 47 01.4**	**+1.0**
BURAR				IAmb	IAmb	11 47 03.6

PV23	Carpenter Ridg	2.08	112		Pn	11 37 53.3 +1.1
SPR3	Spring Creek 3	2.23	265		Pn	11 37 55.2 +0.9
CCUT	Cedar City	2.25	222		Pn	11 37 54.8 +0.4
PV03	Paradox Valley	2.28	115	IAML		11 38 29.3
	comp=N,153nm,0.7s					
HWUT	Hardware Ranch	2.36	358		Pn	11 37 57.0 +1.0
HWUT				IAML		11 38 35.8
	comp=N,36nm,0.9s					
HWUT				IAML		11 38 38.9
	comp=N,59nm,1.2s					
LCMT	Little Creek M	2.63	213	IAML		11 38 42.7
	comp=E,22nm,0.6s					
MVCO	Mesa Verde	3.10	130		Pn	11 38 06.4 +0.2
ELK	Elko	3.26	299		Pn	11 38 08.3 0.0
ELK	Elko	3.26	299	Pn	Pb	11 38 12.7 -2.1
	comp=E,1.0nm,0.3s,baz=115,slow=12,SNR=25					
ELK				Pg	Pg	11 38 16.6 -2.3
	comp=E,1.1nm,0.3s,baz=98,slow=14,SNR=22					
ELK				Lg	Lg	11 38 58.7
	comp=E,1.1nm,0.3s,baz=21,slow=20,SNR=8.8					
	comp=E,5.1nm,0.6s					
R11B	Troy Canyon, C	3.33	256	Pn	Pn	11 38 09.7 +0.4
R11B				IAML		11 39 07.0
	comp=E,16nm,0.8s					
R11B				IAML		11 39 08.4
	comp=N,13nm,0.8s					
PRN	Pahroc Range	3.36	238		Pn	11 38 10.6 +1.0
PRN				IAML		11 39 12.0
	comp=E,34nm,1.0s					
PRN				IAML		11 39 13.1
	comp=N,25nm,1.6s					
HAYD	Hayden	3.48	67		Pn	11 38 11.9 +0.5
HAYD				IAML		11 39 21.7
	comp=E,51nm,0.8s					
S11A	Rachel	3.71	246	IAML		11 39 24.2
	comp=N,34nm,0.9s					
S11A				IAML		11 39 32.8
	comp=E,34nm,1.3s					
BW06	Boulder Array	3.81	22	IAML		11 39 24.7
	comp=E,12nm,1.4s					
BW06				IAML		11 39 26.9
	comp=E,17nm,1.3s					
PD31	Pinedale Array	3.81	22	Pn	Pn	11 38 15.6 -0.3
PDAR	Pinedale Array	3.81	22	Pn	Pn	11 38 18.6 +2.7
	comp=E,0.5nm,0.3s,baz=207,slow=15,SNR=12					
PDAR				Pg	Pb	11 38 25.9 +1.8
	comp=E,2.1nm,0.3s,baz=208,slow=12,SNR=27					
PDAR				Lg	Lg	11 39 15.7
	comp=E,1.4nm,0.3s,baz=201,slow=29,SNR=6.1					
	comp=E,0.8nm,0.5s					
SNOW	Snow King Moun	4.25	7	Pn	Pn	11 38 23.0 +1.1
SNOW				IAML		11 39 34.4
	comp=E,18nm,0.8s					
SNOW				IAML		11 39 53.0
	comp=E,21nm,2.2s					
TPNV	Topopah Spring	4.41	240	IAML		11 40 01.2
	comp=E,12nm,2.3s					
TPNV				IAML		11 40 01.6
	comp=E,8.5nm,2.1s					
LOHW	Long Hollow	4.41	8		Pn	11 38 25.2 +1.0
LOHW				IAML		11 40 17.1
	comp=E,8.8nm,1.9s					
LOHW				IAML		11 40 26.8
	comp=E,7.0nm,3.5s					
V12A	Nelson	4.42	218	IAML		11 39 51.4
	comp=E,6.0nm,2.4s					
V12A				IAML		11 39 59.8
	comp=N,5.8nm,2.1s					
X18A	Snowflake	4.86	165		Pn	11 38 32.5 +2.2
NVAR	Mina Array Bea	5.39	263	Pn	Pn	11 38 40.6 +3.0
	comp=N,0.3nm,0.3s,baz=80,slow=14,SNR=6.9					
NVAR				Pg	Pg	11 38 57.6 -2.2
	comp=N,0.8nm,0.3s,baz=74,slow=18,SNR=9.3					
NVAR				Lg	Lg	11 40 08.2
	comp=N,0.3nm,0.3s,baz=90,slow=33,SNR=1.5					
	comp=N,0.3nm,0.4s					
ANMO	Albuquerque	5.87	135	Pn	Pn	11 38 44.6 +0.5
ANMO	Albuquerque	5.87	135	Pn	Pn	11 38 44.7 +0.5
ANMO	Albuquerque	5.87	135		Pn	11 38 44.9 +0.7
ANMO	Albuquerque	5.87	135	Pn	Pn	11 38 45.1 +0.9
	comp=N,0.7nm,0.3s,baz=60,slow=12,SNR=15					
ANMO				Pg	Pg	11 39 05.3 -3.7
	comp=N,0.5nm,0.3s,baz=63,slow=11,SNR=4.9					
ANMO				Lg	Lg	11 40 16.4
	comp=N,0.7nm,0.3s,baz=14,slow=22,SNR=3.2					
	comp=N,2.5nm,0.5s					
LENM	Lemitar	6.22	143	Pn	Pn	11 38 49.2 +0.1
TXAR	Lajitas Array	11.80	145	Pn	Pn	11 40 11.1 +5.7
	baz=333,slow=12,SNR=2.5					
	comp=N,0.2nm,0.8s					

*ISN **14** 11:40:53.6±0.6, 34°.41N×45°.62E, h6km±6km, ML2.9*
*TEH **14** 11:40:54.6, 34°.40N×45°.64E, h10km±102km*
ISC 14 11:40:54.9±1.0, 34°.41N±0°.06×45°.66E±0°.04, h8km±11km, n8, σ1°.03/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.11	328	Pg	Pg	11 40 57.4	0.0
KGS1				Sg	Sg	11 40 60.0	+0.7
GLG1	Gilan-e-Gharb	0.36	145	Pg	Pb	11 41 02.3	-1.4
IDHR	Dehrash	0.67	64	Pg	Pg	11 41 07.6	-0.2
IDHR				Sg	Sb	11 41 18.8	+0.5
IGHG	Ghaleghazi	0.76	96	Pg	Pb	11 41 09.7	-0.8
KCHF	Cheshme Sefid,	1.15	97	Pg	Pn	11 41 17.1	-0.4
IKRK	Kirkuk	1.46	313	*e*Pn	Pg	11 41 22.0	-1.0
IKRK				*e*Sn	Sg	11 41 43.0	+1.0
IKRK				AML	AML	11 41 44.8	
	comp=N,156nm,0.8s						
IKRK				AML	AML	11 41 52.5	
	comp=E,215nm,0.4s						
BHD	Baghdad	1.56	223	*e*Pn	Pb	11 41 23.0	-1.0
BHD				*e*Sn	Sg	11 41 45.0	-0.1
RAFI	Al-Rafai	2.71	172	*e*Pn	Pn	11 41 40.0	+1.3
RAFI				*e*Sn	Sn	11 42 13.0	+1.3

IDC 14 11:56:51.1±5.0, 29°.57S×178°.45W, h0km, mb3.6/3, mbtmp3.5/3, Error ellipse: s-maj=220.7km s-min=15.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.56	56	Pn	Pn	11 57 06.2	-0.1
	72nm,0.3s,baz=287,slow=19,SNR=1.7						
RAO				Sn	Sn	11 57 17.2	+0.9
	262nm,0.3s,baz=46,slow=20,SNR=12						
ASAR	Alice Springs	42.77	266	P	P	12 04 51.0	+0.3
	0.3nm,0.9s,baz=103,slow=7.4,SNR=4.6						
	0.3nm,0.9s						
WRA	Warramunga Arr	43.68	272	P	P	12 04 57.4	-0.6
	0.2nm,0.3s,baz=110,slow=8.2,SNR=11						
	0.2nm,0.3s						
ILAR	Eielson Array	97.20	13	P	Pdif	12 10 25.2	+0.2
	0.4nm,1.0s,baz=226,slow=4.8,SNR=1.9						
	0.4nm,1.0s						

*MOS **14** 12:13:48.0±0.8, 56°.36N×153°.26W, h12km, mb4.9/25, Error ellipse: s-maj=15.0km s-min=5.3km az=89.1*
*IDC **14** 12:13:48.3±0.6, 56°.37N×153°.31W, h0km, mb4.5/30, mbtmp4.5/33, ML4.1/3, MS3.9/42, Error ellipse: s-maj=15.4km s-min=10.8km az=17.0*
*NEIC **14** 12:13:49.6±1.6, 56°.28N±0°.05×153°.1W±0°.1, h15km±9km, Error ellipse: s-maj=9.5km s-min=7.2km az=124.0*
*AEIC **14** 12:13:51.7±1.8, 56°.14N±0°.05×153°.1W±0°.1, h7km±7km, ML4.1, mb4.5/129(NEIC), ML4.1/52(NEIC), Error ellipse: s-maj=9.6km s-min=7.6km az=92.0*
ISC 14 12:13:50.8±0.4, 56°.27N±0°.05×153°.16W±0°.04, h22km, n361, σ1°.32/266, mb4.5/124, MS4.0/46, 16C-1D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.95	356		Sn	12 14 22.4	+0.8
OHAK	Old Harbor	0.95	356		Pb	12 14 07.8	-0.7
OHAK				IAML		12 14 38.4	
	comp=E,4μm,1.4s						
OHAK	Old Harbor	0.95	356	P	Pn	12 14 08.2	-0.6
KDAK	Kodiak Island	1.55	12		Sn	12 14 34.9	-1.4
KDAK					Sb	12 14 35.8	-2.0
KDAK	Kodiak Island	1.55	12		Pn	12 14 16.2	-0.7
KDAK	Kodiak Island	1.55	12	Pn	Pn	12 14 16.5	-0.4
	comp=E,240nm,0.3s,baz=199,slow=6.1,SNR=4026						
KDAK				Sn	Sn	12 14 36.0	-0.3
	comp=E,88nm,0.3s,baz=226,slow=12,SNR=8.5						
KDAK				LR	LR	12 14 51.4	
	comp=E,2μm,19.8s,baz=347,slow=43						
KDAK	Kodiak Island	1.55	12	*c i*P	Pn	12 14 16.4	-0.5
CAHL	Cahill	2.13	328		Pn	12 14 24.6	-0.4
MGLS	Mageik Landsli	2.16	331		Pn	12 14 25.0	-0.4
PLK3	Peulik 3	2.21	311		Pn	12 14 25.5	-0.7
KJL	Kejulik	2.22	325		Pn	12 14 25.9	-0.3
PLK4	Peulik 4	2.22	309		Pn	12 14 25.7	-0.5
PLK4				IAML		12 15 26.8	
	comp=N,2μm,1.0s						
ACHA	Angle Creek He	2.27	330		Pn	12 14 26.3	-0.7
KAKN	Katmai Knife C	2.28	334		Pn	12 14 26.9	-0.1
PLK2	Peulik 2	2.29	312		Pn	12 14 27.1	-0.1
KAWH	Katmai	2.29	338		Pn	12 14 27.0	-0.3
ANCK	Angle Creek	2.31	328		Pn	12 14 27.1	-0.4
KABU	Katmai Buttres	2.31	331		Pn	12 14 27.7	+0.1
KAPH	Katmai Pasha	2.42	345		Pn	12 14 29.3	+0.3
PLK1	Peulik 1	2.43	311		Pn	12 14 29.1	0.0
PLBL	Peulik Blue Cr	2.46	307		Pn	12 14 29.8	+0.3
CNTC	Contact Creek	2.48	325		Pn	12 14 29.7	-0.3
KAHC	Katmai Hardscr	2.58	338		Pn	12 14 31.2	-0.1
R16K	Pilot Point	2.75	300		Pn	12 14 32.9	-0.5
ANNE	Aniakchak Nort	2.78	285		Pn	12 14 32.7	-1.3
ANPK	Aniakchak Peak	2.81	284		Pn	12 14 33.3	-1.1
AZAC	Aniakchak	2.87	285		Pn	12 14 34.3	-1.0
AUJK	Augustine Jueg	3.09	358		Pn	12 14 38.9	+0.8
VNSG	Veniaminof 6	3.31	270		Pn	12 14 40.0	-1.3
VNSG					Sn	12 15 16.7	-3.3
P18K	Big Mountain,	3.32	341		Pn	12 14 40.7	-0.6
P18K				IAML		12 15 54.3	
	comp=E,345nm,1.5s						
VNHG	Veniaminof 1	3.35	272		Pn	12 14 40.8	-1.0
CNPM	China Poot	3.42	17		Sn	12 15 20.0	-2.5
CNPM	China Poot	3.42	17		Pn	12 14 42.2	-0.5
CNPM				IAML		12 16 14.7	
	comp=E,337nm,2.0s						
ILS	Iliamna Low So	3.69	1		Pn	12 14 47.0	+0.5
BRLK	Bradley Lake	3.70	18		Pn	12 14 45.7	-0.9
BRLK				IAML		12 16 18.7	
	comp=E,252nm,1.4s						
ILSW	Iliamna Southw	3.72	0		Pn	12 14 46.7	-0.2
ILSW				IAML		12 16 18.2	
	comp=N,300nm,1.6s						
ILSW				IAML		12 16 24.9	
	comp=E,292nm,2.3s						
P16K	Nushagak River	3.79	319		Pn	12 14 47.2	-0.6
CHNA	Chernabura Isl	3.93	251	P	Pn	12 14 49.3	-0.3
CNBA	Chernabura Isl	3.93	251		Pn	12 14 47.3	-2.4
CNBA				IAML		12 15 38.9	
	comp=N,306nm,0.8s						
O19K	Port Alsworth	3.98	352		Pn	12 14 50.1	-0.2
O19K				IAML		12 15 53.4	
	comp=N,279nm,0.5s						
SDPT	Sand Point	4.23	260		Pn	12 14 51.7	-2.1
SDPT	Sand Point	4.23	260	P	Pn	12 14 52.5	-1.3
O16K	Kokwok River B	4.24	324		Pn	12 14 53.6	-0.3
SEW	Seward	4.31	26		Pn	12 14 53.2	-1.7
SEW	Seward	4.31	26	IAML		12 16 43.3	
	comp=E,158nm,2.2s						
SLKM	Skilak Lake	4.52	19		Pn	12 14 56.9	-0.9
SLKM				IAML		12 16 53.1	
	comp=E,241nm,2.0s						
SLKM				IAML		12 16 54.2	
	comp=N,144nm,1.5s						
O22K	Cooper Landing	4.59	22		Pn	12 14 57.4	-1.4
N19K	Bonanza Creek	4.61	352	IAML		12 16 30.1	
	comp=N,122nm,1.3s						
N19K				IAML		12 16 38.4	
	comp=E,163nm,2.0s						
O15K	Ungalikthiuk R	4.61	312	IAML		12 16 48.0	
	comp=E,136nm,1.1s						
N18K	Kilae Creek	4.65	343		Pn	12 14 59.7	+0.1
N18K	Kilae Creek	4.65	343	IAML		12 16 33.6	
	comp=E,183nm,1.2s						
N18K				IAML		12 16 44.9	
	comp=N,143nm,1.9s						
N17K	Nushagak Hills	4.76	335	IAML		12 16 51.0	
	comp=E,124nm,2.3s						
N17K				IAML		12 17 00.8	
	comp=N,151nm,1.9s						
P23K	Montague Islan	4.82	37		Pn	12 14 59.9	-2.0
P23K	Montague Islan	4.82	37	IAML		12 17 18.6	
	comp=E,150nm,2.8s						
SPU	Mount Spurr	4.96	6		Pn	12 15 04.7	+0.8
PS4A	Pavlof South-4	4.99	263		Pn	12 15 02.9	-1.4
SPWE	Spurr West	5.03	3		Pn	12 15 05.1	+0.3
S12K	Black Hills	5.03	267		Pn	12 15 02.9	-2.0
S12K	Black Hills	5.03	267	IAML		12 17 21.0	
	comp=E,135nm,3.2s						
SPNN	North Nagishla	5.12	2		Pn	12 15 06.5	+0.4
RC01	Rabbit Creek A	5.15	19		Pn	12 15 05.4	-1.0
RC01	Rabbit Creek A	5.15	19	IAML		12 17 03.4	
	comp=E,148nm,2.1s						
RC01				IAML		12 17 07.8	
	comp=N,131nm,1.8s						
PWL	Port Wells	5.25	27		Pn	12 15 06.8	-1.0
PWL				IAML		12 16 08.7	
	comp=E,144nm,0.6s						
O14K	Tigyukauivet M	5.27	308		Pn	12 15 08.4	+0.3
O14K				IAML		12 16 49.3	
	comp=E,93nm,2.1s						
O14K				IAML		12 17 07.5	
	comp=N,114nm,1.3s						
STLK	Strandline Lak	5.29	7		Pn	12 15 08.4	0.0
HIN	Hinchinbrook I	5.42	38		Pn	12 15 08.8	-1.3
M17K	Holitna River	5.60	338		Pn	12 15 12.9	+0.2
GLI	Glacier Island	5.60	32		Pn	12 15 10.7	-1.9
M16K	Timber Creek	5.64	330		Pn	12 15 13.0	-0.2
M19K	Big River Lodg	5.68	354		Pn	12 15 13.7	0.0
M22K	Willow	5.72	15		Pn	12 15 14.6	+0.5
PMR	Palmer	5.73	20		Pn	12 15 12.8	-1.5
PMR	Palmer	5.73	20	P	Pn	12 15 13.0	-1.3
PMR	Palmer	5.73	20	P	Pn	12 15 12.8	-1.5
SKT	Skwentna	5.79	8		Pn	12 15 15.3	+0.1
EYAK	Cordova Ski Ar	5.79	39		Pn	12 15 13.4	-1.8
EYAK	Cordova Ski Ar	5.79	39	P	Pn	12 15 13.9	-1.3
GHO	Glory Hole Cre	5.93	20		Pn	12 15 16.0	-1.3
L19K	White Mountain	5.99	352		Pn	12 15 18.2	+0.2
FALS	False Pass	5.99	261		Pn	12 15 18.2	+0.2
FALS	False Pass	5.99	261	P	Pn	12 15 18.0	0.0
RAGM	Ragged Mountai	6.08	44		Pn	12 15 17.8	-1.5
SML	Sawmill	6.08	22		Pn	12 15 19.9	+0.6
SML	Sawmill	6.08	22	P	Pn	12 15 18.8	-0.5
GOAT	Goat Mountain	6.18	42		Pn	12 15 19.3	-1.4
ISNN	Isanotski Nort	6.20	261		Pn	12 15 19.6	-1.3
L18K	Granite Mounta	6.23	345		Pn	12 15 21.3	0.0
SSLS	Shishaldin Sou	6.36	260		Pn	12 15 21.3	-1.7
M14K	Bethel	6.43	318		Pn	12 15 23.8	-0.2
KLU	Klutina	6.44	33		Pn	12 15 23.2	-1.0
L17K	Donlin	6.44	338		Pn	12 15 24.1	-0.1
BMRM	Bremner River	6.49	40		Pn	12 15 23.5	-1.3
PPLA	Purkeypile	6.66	4		Pn	12 15 28.5	+1.2
WAX	Waxell Ridge	6.85	48		Pn	12 15 28.9	-0.9
M24K	Tolsona, Glenn	6.86	29		Pn	12 15 30.4	+0.4
WAT6	Susitna Watana	6.90	21		Pn	12 15 29.6	-1.0
CRQM	Cirque	6.91	45		Pn	12 15 29.9	-0.8
WAT7	Susitna Watana	6.93	17		Pn	12 15 30.4	-0.6
N25K	Chitina, Valde	6.94	36		Pn	12 15 29.9	-1.2
K17K	Iditarod	6.97	340		Pn	12 15 32.6	+1.2
TGL	Tana Glacier	7.03	46		Pn	12 15 30.1	-2.2
VRDI	Verde Repeater	7.08	41		Pn	12 15 31.4	-1.7
L14K	Kuka Creek	7.09	320		Pn	12 15 32.6	-0.4
GLB	Gilahina Butte	7.09	39		Pn	12 15 32.1	-1.1
BAGL	Bagley Icefiel	7.19	49		Pn	12 15 33.3	-1.0
KIAG	Kiagna River	7.32	46		Pn	12 15 35.1	-1.2
MCARA	McCarthy VSAT	7.34	42		Pn	12 15 35.5	-1.0
TRF	Thorofare Moun	7.34	10		Pn	12 15 36.0	-0.7
BALM	Baldy	7.38	45		Pn	12 15 36.1	-1.1
DHY	Denali Highway	7.42	21		Pn	12 15 37.0	-0.7
PTPK	Patty Peak	7.43	44		Pn	12 15 36.9	-0.9
J18K	Innoko River	7.43	348		Pn	12 15 38.2	+0.4
GRNC	Granite Creek	7.46	48		Pn	12 15 38.1	-0.2
RND	Reindeer	7.47	15		Pn	12 15 38.1	-0.3
RND	Reindeer	7.47	15	P	Pn	12 15 38.1	-0.3
AKUT	Akutan	7.53	259	P	Pn	12 15 38.4	-0.6
TABL	Table Mountain	7.57	52		Pn	12 15 39.2	-0.7
PAX	Paxson	7.76	27		Pn	12 15 42.6	+0.3
PAX	Paxson	7.76	27	P	Pn	12 15 42.6	+0.3
MCK	McKinley	7.78	14		Pn	12 15 42.4	0.0
MCK	McKinley	7.78	14	P	Pn	12 15 42.4	0.0
PCA	Pinnacle	7.82	55		Pn	12 15 42.1	-1.0
LOGN	Logan Glacier	7.82	49		Pn	12 15 42.9	-0.3
J19K	Poorman	7.84	352		Pn	12 15 43.7	+0.4
UNV	Unalaska Valle	8.04	258		Pn	12 15 43.2	-2.8
PNL	Peninsula	8.07	59		Pn	12 15 45.7	-0.8
PNL	Peninsula	8.07	59	P	Pn	12 15 45.9	-0.6
O28M	Mount Upton	8.14	51		Pn	12 15 47.2	-0.6
MGOD	Makushin Gods	8.26	258		Pn	12 15 46.8	-2.3
P29M	Windy Craggy	8.86	61		Pn	12 15 56.6	-0.7
COLA	College	9.01	15	P	Pn	12 15 59.1	-0.2
COLA	College	9.01	15	*i* P	Pn	12 16 00.3	+1.0
COLA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ILAR	Eielson Array	9.06	17		Pn	12 16 00.7	+0.6
ILAR	Eielson Array	9.06	17	Pn	Pn	12 15 59.4	-0.7
	comp=Z,0.7nm,0.3s,baz=204,slow=12,SNR=45						
ILAR				Sn	Sn	12 17 38.9	-2.4
	comp=Z,0.9nm,0.3s,baz=207,slow=22,SNR=4.8						
ILAR				LR	LR	12 20 03.9	
	comp=Z,2μm,18.2s,baz=200,slow=42						
ILAR	Eielson Array	9.06	17	P	Pn	12 16 00.7	+0.6
H18K	Honhosa River	9.26	346		Pn	12 16 02.8	0.0
H20K	Anotleneega Mo	9.29	356		Pn	12 16 03.5	+0.3
S31K	Pelican	9.36	73		Pn	12 16 02.7	-1.4
M29M	Somme Creek	9.71	44		Pn	12 16 08.6	-0.4
IMAR	Indian Mountai	9.75	359		Pn	12 16 09.6	+0.2
SIT	Sitka	9.85	78		Pn	12 16 07.9	-2.9
SIT	Sitka	9.85	78	P	Pn	12 16 07.9	-2.9
PRP	Porcupine Dome	9.98	19		Pn	12 16 13.4	+0.7
L29M	L29M	10.21	42		Pn	12 16 15.8	0.0
G21K	Allakaket	10.28	359		Pn	12 16 16.4	-0.4
F20K	Avaraart Lake	10.88	355		Pn	12 16 26.3	+1.4
F21K	Alatna River	10.99	359		Pn	12 16 27.9	+1.4
FYU	Fort Yukon	10.99	17		Pn	12 16 26.9	+0.5
G26K	Porcupine Rive	11.58	19		Pn	12 16 36.2	+1.7
F25K	Christian Rive	11.88	14		Pn	12 16 39.1	+0.4
H02S2	DAWSON INLET T	12.33	96	T	T	12 29 08.6	
	SNR=84						
DLBC	Dease Lake	12.66	71	Pn	Pn	12 16 49.9	+0.5
	comp=Z,3.5nm,0.3s,baz=206,slow=8.0,SNR=6.8						
DLBC				Sn	Sn	12 19 05.7	-3.7
	comp=Z,2.4nm,0.3s,baz=105,slow=19,SNR=1.3						
DLBC				LR	LR	12 21 11.8	
	comp=Z,8μm,18.9s,baz=265,slow=35						
	comp=Z,14nm,0.5s						
INK	Inuvik	15.03	29	Pn	Pn	12 17 21.7	+0.3
	comp=Z,0.2nm,0.3s,baz=232,slow=21,SNR=3.5						
	comp=Z,6.8nm,0.8s						
BBB	Bella Bella	15.17	95	Pn	P	12 17 26.9	-1.4
	comp=Z,0.1nm,0.3s,baz=281,slow=10,SNR=3.2						
BBB				LR	LR	12 21 51.5	
	comp=Z,353nm,20.0s,baz=306,slow=32						
	comp=Z,9.4nm,0.9s						
YKA	Yellowknife Ar	20.34	56	P	Pn	12 18 26.4	-0.9
	comp=Z,7.5nm,0.9s,baz=273,slow=12,SNR=16						
	comp=Z,7.5nm,0.9s						
YKA	Yellowknife Ar	20.34	56	*i* P	Pn	12 18 26.2	-1.1
YKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	Bilibino	21.81	319	*ce*P	P	12 18 40.3	-0.7
BILL				pmax	pmax		
	comp=Z,44nm,2.0s						
MXC	Moxie City	22.47	102	P	P	12 18 46.4	-1.8
MXC				IAmb	IAmb	12 19 01.1	
	comp=Z,17nm,1.2s						
H04A	Detroit Lake	22.66	108	P	P	12 18 49.2	-1.1
H04A				IAmb	IAmb	12 18 53.9	
	comp=Z,21nm,1.1s						
G05A	Wamic	22.76	105	P	P	12 18 51.6	+0.3
F07A	Phinny Hill Vi	23.09	103	IAmb	IAmb	12 18 56.8	
	comp=Z,19nm,1.1s						
I04A	Tendick Farm,	23.14	110	IAmb	IAmb	12 18 57.4	
	comp=Z,17nm,1.1s						
NEW	Newport	23.24	95	P	P	12 18 57.4	+1.2
	comp=Z,4.2nm,0.8s,baz=324,slow=11,SNR=7.4						
NEW				LR	LR	12 26 44.7	
	comp=Z,209nm,20.1s,baz=298,slow=33						
	comp=Z,4.2nm,0.8s						
WIFE	Three Sisters-	23.27	108	IAmb	IAmb	12 18 59.1	
	comp=Z,19nm,1.0s						
BBOR	Butler Butte	23.64	112	IAmb	IAmb	12 19 03.5	
	comp=Z,16nm,0.8s						
E09A	Wood Farm, Sta	23.69	99	IAmb	IAmb	12 19 16.8	
	comp=Z,20nm,1.2s						
PINE	Pine Mountain	23.92	108	IAmb	IAmb	12 19 07.4	
	comp=Z,20nm,1.0s						
YBH	Yreka Blue Hor	24.45	114	IAmb	IAmb	12 19 10.7	
	comp=Z,8.8nm,0.9s						
YBH	Yreka Blue Hor	24.45	114	LR	LR	12 26 30.0	
	comp=Z,15nm,19.0s,baz=296,slow=31						
F10A	Beach Ranch, E	24.52	100	IAmb	IAmb	12 19 23.3	
	comp=Z,9.1nm,1.0s						
N02D	Trinity Center	25.01	115	P	P	12 19 15.2	+2.4
N02D				IAmb	IAmb	12 19 15.7	
	comp=Z,14nm,0.9s						
J08A	Circle Bar Ran	25.53	106	IAmb	IAmb	12 19 21.4	
	comp=Z,8.2nm,0.9s						
WVOR	Wild Horse Val	26.08	107	IAmb	IAmb	12 19 27.7	
	comp=Z,14nm,0.9s						
DLMT	Dillon	27.46	96	IAmb	IAmb	12 19 53.4	
	comp=Z,7.0nm,1.1s						
SEY	Seymchan	27.58	306	P	P	12 19 35.0	-0.7
	comp=Z,4.3nm,0.9s,baz=108,slow=5.4,SNR=5.3						
	comp=Z,4.3nm,0.9s						
SEY	Seymchan	27.58	306	*ce*P	P	12 19 36.6	+0.8
SEY				pmax	pmax		
	comp=Z,12nm,1.7s						
PAHR	Pah Rah Range	27.65	112	IAmb	IAmb	12 19 39.2	
	comp=Z,8.7nm,1.2s						
PETK	Petropavlovsk-	28.09	284	P	P	12 19 41.1	+0.6
	comp=Z,4.7nm,0.8s,baz=101,slow=12,SNR=5.9						

comp=Z,7.5nm,1.0s
BELC Belle Mtn. Jos 33.77 115 IAmb IAmb 12 20 41.0
comp=Z,5.4nm,1.0s
PFO Pinyon Flats O 33.85 116 LR LR 12 31 31.2
comp=Z,109nm,20.0s,baz=316,slow=31
PMD Palm Desert 33.86 116 IAmb IAmb 12 20 33.4
comp=Z,7.0nm,1.1s
ULM Lac du Bonnet 33.91 75 LR LR 12 34 08.9
comp=Z,402nm,18.9s,baz=308,slow=36
W13A Hualapai Mount 33.99 112 IAmb IAmb 12 20 34.9
comp=Z,4.5nm,1.0s
DPP Dos Picos Cty 34.10 118 IAmb IAmb 12 20 44.1
comp=Z,6.7nm,0.9s
PV10 Paradox Valley 34.12 103 IAmb IAmb 12 20 53.2
comp=Z,4.7nm,1.0s
BORC Borrego Spring 34.14 117 IAmb IAmb 12 20 43.7
comp=Z,5.8nm,1.1s
PV20 West Nyswonger 34.18 103 IAmb IAmb 12 20 45.5
comp=Z,11nm,1.1s
PV13 Radium Mtn., P 34.40 103 IAmb IAmb 12 20 58.5
comp=Z,4.6nm,1.1s
BAR Barrett 34.49 118 IAmb IAmb 12 20 39.4
comp=Z,5.2nm,0.8s
TIXI Tiksi 34.51 327 IAmb IAmb 12 20 37.3
comp=Z,9.6nm,1.0s
TIXI Tiksi 34.51 327 P **P 12 20 35.8 -0.8**
comp=Z,4.9nm,0.8s,baz=85,slow=9.0,SNR=11
comp=Z,4.9nm,0.8s
TIXI Tiksi 34.51 327 *ce*P **P 12 20 36.6 0.0**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
PV01 Paradox Valley 34.55 103 IAmb IAmb 12 20 39.8
comp=Z,5.7nm,1.2s
YUH Yuha Desert 34.89 117 IAmb IAmb 12 20 42.7
comp=Z,5.3nm,1.1s
AGMN Agassiz Nation 35.01 78 IAmb IAmb 12 20 42.9
comp=Z,8.9nm,0.9s
Y14A Wickenburg 35.35 112 IAmb IAmb 12 20 46.9
comp=Z,7.7nm,1.2s
X16A Lo Mia Camp, P 35.79 110 IAmb IAmb 12 20 50.9
comp=Z,4.8nm,0.9s
YAK Yakutsk 37.78 311 P **P 12 21 03.6 -1.0**
comp=Z,29nm,0.6s,baz=59,slow=1.0,SNR=7.6
YAK LR LR 12 37 51.2
comp=Z,236nm,18.0s,baz=77,slow=38
comp=Z,29nm,0.6s
YAK Yakutsk 37.78 311 *e*P **P 12 21 03.2 -1.5**
YAK *e**PP **pP 12 21 06.3 -5.1**
YAK *e* 12 22 28.6
YAK *e*PPP PPP 12 22 49.0
YAK *e*S **S 12 26 55.2 +1.5**
YAK *e**SS **pS 12 27 02.3 +1.1**
YAK *e*SS **SnSn 12 29 35.7 +1.6**
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,51nm,3.6s
YAK pmax pmax
comp=N,53nm,3.4s
YAK pmax pmax
comp=E,113nm,4.5s
YAK smax smax
comp=E,100nm,3.2s
YAK smax smax
comp=N,41nm,2.8s
YAK MLR MLR
comp=Z,295nm,23.0s
YAK MLR MLR
comp=N,411nm,25.0s
YAK MLR MLR
comp=E,340nm,23.0s
ANMO Albuquerque 38.05 104 LR LR 12 35 24.3
comp=E,69nm,18.1s,baz=46,slow=34
ANMO Albuquerque 38.05 104 *i* P **P 12 21 06.7 -0.8**
ANMO pmax pmax
comp=Z,7.0nm,2.0s
NEEM North Greenlan 38.34 20 *i* P **P 12 21 08.9 -0.7**
NEEM IAmb IAmb 12 21 10.7
comp=Z,10nm,0.8s
YSS Yuzhno-Sakhali 39.50 284 *e*P **P 12 21 19.8 +0.5**
YSS *e*S **S 12 27 17.6 -2.4**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=E,400nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
FRB Frobisher Bay 39.95 44 LR LR 12 38 39.5
comp=Z,797nm,19.3s,baz=298,slow=37
NOR Nord 40.41 9 *i* P **P 12 21 25.8 -0.7**
NOR IAmb IAmb 12 21 27.6
comp=Z,5.3nm,1.1s
ASAJ Asahikawa 41.38 281 P **P 12 21 34.5 -0.4**
comp=Z,16nm,0.8s,baz=351,slow=8.6,SNR=6.3
ASAJ LR LR 12 38 40.5
comp=Z,182nm,21.5s,baz=44,slow=36
comp=Z,16nm,0.8s
POST Post 42.16 101 IAmb IAmb 12 21 51.5
comp=Z,5.2nm,0.8s
WMOK Wichita Mounta 42.41 97 IAmb IAmb 12 21 45.4
comp=Z,5.5nm,0.8s
P40A Paris 42.73 86 IAmb IAmb 12 21 55.4
comp=Z,9.1nm,0.8s
ZEA Zeya 43.32 302 *e*P **P 12 21 49.7 -0.9**
R40A Maddies Statio 43.47 88 IAmb IAmb 12 21 52.2
comp=Z,7.0nm,0.6s
U38A Gravette 43.61 91 IAmb IAmb 12 22 02.4
comp=Z,8.7nm,1.1s
SUMG Summit 43.85 23 *i* P **P 12 21 55.0 -0.1**
SUMG IAmb IAmb 12 21 58.3
comp=Z,16nm,0.8s
TXAR Lajitas Array 43.87 107 P **P 12 21 56.9 +1.5**
comp=Z,2.1nm,0.8s,baz=315,slow=6.0,SNR=25
TXAR PcP **PcP 12 23 42.1 +0.8**
comp=Z,0.3nm,0.8s,baz=325,slow=5.4,SNR=1.4
TXAR LR LR 12 39 28.1
comp=Z,120nm,18.3s,baz=326,slow=35
comp=Z,2.1nm,0.8s
DAG Danmarks Havn 44.14 14 *i* P **P 12 21 56.0 -0.9**
DAG IAmb IAmb 12 21 57.9
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 44.31 33 LR LR 12 42 12.0
comp=Z,185nm,18.6s,baz=312,slow=38
LPIG La Paz 44.70 118 LR LR 12 37 52.5
comp=Z,60nm,18.4s,baz=356,slow=32
DRIO Del Rio 45.44 104 IAmb IAmb 12 22 08.8
comp=Z,5.4nm,0.7s
SPITS Spitsbergen Ar 45.65 3 P **P 12 22 09.2 +0.2**
comp=Z,8.1nm,0.8s,baz=358,slow=13,SNR=7.1
comp=Z,8.1nm,0.8s
SCHQ Schefferville 45.76 54 P **P 12 22 10.8 +0.8**
comp=Z,34nm,0.9s,baz=350,slow=12,SNR=2.3
SCHQ LR LR 12 43 39.2
comp=Z,3μm,18.6s,baz=308,slow=39
comp=Z,34nm,0.9s
DBG Daneborg 45.96 16 *i* P **P 12 22 10.5 -0.8**
DBG IAmb IAmb 12 22 11.9
comp=Z,8.5nm,0.8s
H11N2 WAKE ISLAND Hy 47.05 236 T T 13 12 42.7
baz=29,slow=76,SNR=52
H11N3 WAKE ISLAND Hy 47.05 236 T T 13 12 47.5
baz=29,slow=76,SNR=80
H11N1 WAKE ISLAND Hy 47.06 236 T T 13 12 44.0
baz=29,slow=76,SNR=38
H11S1 WAKE ISLAND Hy 48.20 235 T T 13 14 26.5
baz=29,slow=76,SNR=84
H11S2 WAKE ISLAND Hy 48.21 235 T T 13 14 28.4
baz=29,slow=76,SNR=59
H11S3 WAKE ISLAND Hy 48.22 235 T T 13 14 21.3
baz=29,slow=76,SNR=58
BNX BinXian 48.39 293 ⇑P **P 12 22 29.0 -1.6**
BNX pmax pmax
comp=Z,10.0nm,1.4s
MSHR Mys Shultsa 48.59 287 *ce*P **P 12 22 31.3 -0.9**
MSHR pmax pmax
comp=Z,29nm,1.1s
H06N1 SOCORRO T-PHAS 48.84 122 T T 13 15 01.4
SNR=11
H06E1 SOCORRO T-PHAS 48.94 122 T T 13 15 09.0
SNR=5.9
MJAR Matsushiro Arr 49.03 277 P **P 12 22 35.3 -0.4**
comp=Z,1.8nm,0.6s,baz=36,slow=6.8,SNR=4.4
MJAR LR LR 12 44 03.8
comp=Z,96nm,21.1s,baz=64,slow=37
comp=Z,1.8nm,0.6s
HILR Hailar Array B 49.59 301 LR LR 12 45 16.7
comp=Z,276nm,19.1s,baz=235,slow=38
TKL Tuckaleechee C 50.09 84 LR LR 12 44 07.4
comp=Z,404nm,19.3s,baz=338,slow=36
BORG Borgarnes 53.83 23 LR LR 12 48 36.2
comp=Z,159nm,18.7s,baz=327,slow=39
BORG Borgarnes 53.83 23 *i* P **P 12 23 15.4 +4.2**
KSRS Korea Array 53.99 285 P **P 12 23 13.5 +0.8**
comp=Z,2.3nm,0.8s,baz=39,slow=6.4,SNR=4.3
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 54.49 1 P **P 12 23 15.9 0.0**
comp=Z,2.8nm,0.6s,baz=6.3,slow=7.2,SNR=22
comp=Z,2.8nm,0.6s
ARCES ARCESS Array B 54.49 1 P **P 12 23 16.0 0.0**
TLY Talaya 55.24 312 *i* P **P 12 23 21.8 +0.1**
TLY pmax pmax
comp=Z,8.0nm,1.1s
LVZ Lovozero 56.01 356 *ce*P **P 12 23 27.2 +0.2**
LVZ pmax pmax
comp=Z,35nm,1.7s
SONM Songino Array 56.96 308 P **P 12 23 35.4 +1.2**
comp=Z,13nm,0.8s,baz=50,slow=6.9,SNR=7.7
SONM LR LR 12 49 16.4
comp=Z,236nm,19.3s,baz=26,slow=37
comp=Z,13nm,0.8s
CMIG Matias Romero 58.47 107 LR LR 12 48 40.6
comp=Z,47nm,18.5s,baz=1.5,slow=36
HHC Hu-ho-hao-te 59.88 299 *e*P **P 12 23 58.9 +4.3**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,95nm,4.1s
ZALV Zalesovo Beam 60.35 325 P **P 12 23 57.9 +0.4**
comp=Z,11nm,0.7s,baz=32,slow=7.1,SNR=38
ZALV LR LR 12 50 43.6
comp=Z,116nm,19.2s,baz=39,slow=37
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 62.38 9 P **P 12 24 11.1 -0.1**
comp=Z,1.9nm,0.6s,baz=350,slow=6.9
NB2 NORSAR Subarra 62.38 9 P **P 12 24 11.5 +0.4**
NOA NORSAR Array B 62.38 9 P **P 12 24 11.6 +0.4**
comp=Z,3.3nm,0.8s,baz=351,slow=6.7,SNR=14
NOA LR LR 12 52 44.5
comp=Z,28nm,19.2s,baz=340,slow=38
comp=Z,3.3nm,0.8s
FINES FINESS Array B 62.62 0 P **P 12 24 12.8 +0.1**
comp=Z,4.1nm,0.9s,baz=252,slow=1.8,SNR=5.6
comp=Z,4.1nm,0.9s
KLMR Klimovskoe 62.79 353 *e*P **P 12 24 12.7 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.5s
HFS Hagfors 63.47 7 P **P 12 24 18.5 +0.1**
comp=Z,3.8nm,0.7s,baz=20,slow=4.7,SNR=5.6
comp=Z,3.8nm,0.7s
KIRV Kirov 64.07 347 *ce*P **P 12 24 22.5 +0.2**
ARTI Arti 64.82 341 LR LR 12 55 53.6
comp=Z,96nm,19.8s,baz=40,slow=39
ARTI Arti 64.82 341 *ce*P **P 12 24 27.0 -0.3**
ARTI pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 65.08 327 *ce*P **P 12 24 29.4 +0.3**
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 65.19 327 P **P 12 24 29.6 -0.2**
comp=Z,3.8nm,0.7s,baz=27,slow=6.0,SNR=14
KURBB LR LR 12 54 52.2
comp=Z,122nm,18.3s,baz=178,slow=38
comp=Z,3.8nm,0.7s
BORK Borovoye 65.34 333 *ce*P **P 12 24 30.4 -0.3**
BORK pmax pmax
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 66.10 18 P **P 12 24 35.8 +0.2**
comp=Z,3.1nm,0.8s,baz=327,slow=4.8,SNR=7.0
comp=Z,3.1nm,0.8s
XAN Xi'an 66.51 296 P P 12 24 45.8 +7.2
XAN pmax pmax
comp=Z,9.0nm,1.6s
XAN LR LR
comp=N,340nm,15.0s
XAN LR LR
comp=E,520nm,16.5s
XAN LR LR
comp=Z,250nm,17.9s
GTA Gaotai 66.53 306 *e*P **P 12 24 38.1 -0.6**
GTA sP pP 12 24 45.4 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=N,260nm,16.7s
GTA LR LR
comp=E,290nm,19.3s
GTA LR LR
comp=Z,470nm,16.4s
MK31 Makanchi Array 67.31 322 *ce*P **P 12 24 43.6 +0.1**
MKAR Makanchi Array 67.31 322 P **P 12 24 43.0 -0.5**
comp=Z,2.1nm,0.8s,baz=52,slow=6.6,SNR=10
MKAR LR LR 12 56 57.5
comp=Z,87nm,18.7s,baz=24,slow=38
comp=Z,2.1nm,0.8s
WMQ Urumqi 67.91 317 *e*P P 12 24 54.1 +6.7
WMQ LR LR
comp=N,290nm,21.5s
WMQ LR LR
comp=E,210nm,19.7s
WMQ LR LR
comp=Z,140nm,24.1s
OBN Obninsk 68.69 354 *de*P **P 12 24 51.4 -0.5**
OBN *e* 12 27 22.0
OBN *e*S S 12 34 16.4 +23
OBN pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 70.35 347 *i* P **P 12 25 01.8 -0.4**
BELG pmax pmax
comp=Z,6.0nm,1.0s
AB31 Akbulak array 71.29 338 *i* P **P 12 25 08.0 0.0**
CLL Collm 72.17 9 *i* P **P 12 25 13.8 +0.5**
CLL *i* *SP **pP 12 25 17.4 -3.0**
CLL *e*S **S 12 34 39.0 +5.0**
CLL pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 72.69 9 *e*P **P 12 25 17.4 +1.1**
BRG Amp 12 25 18.2
comp=Z,9.3nm,1.3s
BRG Berggiesshubel 72.69 9 P P 12 25 25.5 +9.2
BRG Amp 12 25 27.0
comp=Z,16nm,1.3s
KDJ Kajisay 73.15 323 IAmb IAmb 12 25 20.7
BOOM Boomskoye usch 73.24 324 IAmb IAmb 12 25 21.4
comp=Z,5.1nm,0.8s
AKASG Malin Array Be 73.37 358 P **P 12 25 20.1 -0.3**
comp=Z,3.6nm,0.7s,baz=5.4,slow=5.9,SNR=15
comp=Z,3.6nm,0.7s
AKASG Malin Array Be 73.37 358 *i* P **P 12 25 20.0 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 73.37 358 *ce*P **P 12 25 20.4 0.0**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 73.57 325 LR LR 12 58 45.3
comp=Z,115nm,19.9s,baz=20,slow=37
AAK Ala-Archa 73.57 325 *ce*P **P 12 25 22.4 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s
PPT Papeete 73.62 176 LR LR 12 50 29.8
comp=Z,124nm,18.6s,baz=358,slow=30
PPT2 Papeete2 73.64 176 *e*LR LR 12 47 49.4
comp=Z,111nm,22.8s
PPT2 *e*LR LR 12 47 53.6
MORC Moravsky Berou 74.03 6 *e*P **P 12 25 23.7 -0.7**
KK31 Karatay Array 74.36 328 *i* P **P 12 25 26.8 +0.4**
KHC Kasperske Hory 74.38 9 *ce*P **P 12 25 27.8 +1.4**
KHC pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 74.38 9 *e*P **P 12 25 27.0 +0.6**
KHC Kasperske Hory 74.38 9 P **P 12 25 26.4 0.0**
VRAC Vranov 74.44 7 *e*P **P 12 25 26.2 -0.5**
VRAC *e* 12 25 34.8
STHS Stebnicka Huta 74.58 4 *e*P **P 12 25 28.3 +0.8**
STHS Stebnicka Huta 74.58 4 *e*P **P 12 25 28.2 +0.8**
KRUC Moravsky 74.67 7 *e*P **P 12 25 27.6 -0.4**
KRUC *e* 12 25 36.1
GERES GERESS Array B 74.68 9 P **P 12 25 29.1 +0.9**
comp=Z,1.9nm,0.7s,baz=333,slow=5.1,SNR=10
comp=Z,1.9nm,0.7s
SHIU Shidnytsya 74.83 2 P **P 12 25 30.3 +1.3**
MODS Modra-Piesok 75.42 7 *e*P **P 12 25 34.2 +1.8**
MODS Modra-Piesok 75.42 7 *e*P **P 12 25 34.1 +1.7**
CONA Conrad Observa 75.76 8 *i* P **P 12 25 35.7 +1.3**
comp=Z,4.8nm,0.8s
KSH Kashi 75.90 323 P **P 12 25 39.4 +4.0**
KSH pmax pmax
comp=Z,9.0nm,1.7s
MOTA Moosalm 75.91 11 *i* P **P 12 25 36.5 +1.1**
comp=Z,5.4nm,0.9s
WATA Walderalm 75.97 11 *e*P **P 12 25 37.2 +1.5**
comp=Z,3.5nm,0.5s
LESA Schwarzleotal 75.99 10 *i* P **P 12 25 37.4 +1.6**
comp=Z,4.0nm,0.7s
SQTA Sankt Quirin 76.05 11 *i* P **P 12 25 37.2 +1.1**
comp=Z,12nm,1.0s
WTTA Wattenberg 76.05 11 *i* P **P 12 25 37.0 +0.8**
comp=Z,7.0nm,0.9s
HNR Honiara 76.06 228 LR LR 12 52 54.1
comp=Z,116nm,19.4s,baz=32,slow=31
FETA Feichten 76.19 11 *i* P **P 12 25 38.0 +1.0**
comp=Z,6.2nm,0.9s
PZH PanZhiHua 76.22 297 P **P 12 25 41.3 +3.9**
KBA Koelnbreinsper 76.40 9 *i* P **P 12 25 39.2 +1.0**
comp=Z,5.4nm,0.7s
KMI Kunming 76.86 295 P **P 12 25 40.6 -0.6**
KMI pmax pmax
comp=Z,8.0nm,1.0s
SOKA Soboth 76.94 8 *i* P **P 12 25 42.0 +0.9**
comp=Z,5.4nm,0.9s
PERS Pernice 76.99 8 *e*P **P 12 25 42.1 +0.8**
OBKA Obir 77.07 9 *i* P **P 12 25 42.7 +0.8**
comp=Z,15nm,0.7s
GROS Grobnik 77.19 8 *i* P **P 12 25 43.0 +0.4**
GBRS Gornja Briga 78.06 9 *e*P **P 12 25 47.9 +0.5**
SDV Santo Domingo 78.52 91 LR LR 13 02 34.3
comp=Z,94nm,19.0s,baz=298,slow=37
MLR Muntele Rosu 78.60 1 P **P 12 25 51.7 +1.3**
comp=Z,1.7nm,0.6s,baz=184,slow=4.8,SNR=3.7
MLR LR LR 13 01 59.0
comp=Z,39nm,21.4s,baz=20,slow=37
comp=Z,1.7nm,0.6s
KIV Kislovodsk 79.25 348 *e*P **P 12 25 54.4 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.0s
DAV Davao City (W) 79.30 267 LR LR 12 57 24.4
comp=Z,137nm,21.9s,baz=73,slow=33
KBZ Khabaz 79.45 348 P **P 12 25 55.9 +1.0**
comp=Z,5.4nm,0.8s,baz=323,slow=4.7,SNR=14
comp=Z,5.4nm,0.8s
KBZ Khabaz 79.45 348 *ce*P **P 12 25 55.6 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 79.47 348 *i* P **P 12 25 56.3 +0.9**
ESDC Sonseca Array 80.91 24 P **P 12 26 04.1 +1.1**
comp=Z,3.0nm,0.8s,baz=337,slow=5.5,SNR=16
ESDC LR LR 13 02 02.2
comp=Z,64nm,19.8s,baz=334,slow=36
comp=Z,3.0nm,0.8s
AKT Akhty 81.02 344 *e*P **P 12 26 03.6 0.0**
AKT *e* 12 26 09.9
AKT pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 84.19 355 P **P 12 26 21.1 +0.9**
comp=Z,1.8nm,0.8s,baz=35,slow=4.5,SNR=7.7
comp=Z,1.8nm,0.8s
BRTR Keskin Array B 84.19 355 *i* P **P 12 26 21.0 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 84.35 295 P **P 12 26 20.8 -0.4**
comp=Z,2.4nm,0.8s,baz=9.5,slow=5.7,SNR=24
CMAR LR LR 13 07 15.5
comp=Z,27nm,19.9s,baz=40,slow=38
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 84.35 295 *i* P **P 12 26 20.7 -0.4**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
KEST Kesra 87.15 14 LR LR 13 11 08.8
comp=Z,54nm,18.2s,baz=305,slow=40
MDT Midelt 87.31 26 LR LR 13 06 07.9
comp=Z,59nm,21.2s,baz=42,slow=36
RPN Rapa Nui 91.02 142 LR LR 13 01 36.8
comp=Z,40nm,18.1s,baz=200,slow=32
MDP Montagnes des 91.61 78 LR LR 13 06 31.9
comp=Z,104nm,21.9s,baz=20,slow=34
KAPI Kappang 92.51 265 LR LR 13 03 51.0
comp=Z,45nm,21.1s,baz=66,slow=32
BATI Baumata 94.64 259 LR LR 13 05 50.4
comp=Z,83nm,21.2s,baz=146,slow=33
URZ Urewera 97.50 203 LR LR 13 06 03.9
comp=Z,48nm,19.1s,baz=356,slow=32
TORD Torodi Ar. Bea 107.72 26 PKKP **PKKPdf 12 43 34.9 -4.6**
comp=Z,0.6nm,0.8s,baz=124,slow=3.6,SNR=4.0
H03N2 Juan Fernandez 109.17 122 T T 14 30 35.3
baz=323,slow=77,SNR=5.4
H03N1 Juan Fernandez 109.19 122 T T 14 30 40.6
baz=323,slow=77,SNR=5.5
H03N3 Juan Fernandez 109.19 122 T T 14 30 34.9
baz=323,slow=77,SNR=4.8
PLCA Paso Flores 119.01 120 PKKPbc PKKPbc 12 42 48.6 -1.3
comp=Z,5.9nm,1.2s,baz=243,slow=2.3,SNR=2.9
VNDA Vanda 136.41 193 PKKP **PKKPdf 12 42 49.2 +1.5**
comp=Z,0.9nm,1.2s,baz=136,slow=0.5,SNR=3.8
QSPA South Pole Qui 146.06 180 PKPbc **PKPab 12 33 29.2 +1.2**
comp=Z,5.6nm,0.9s,baz=26,slow=0.6,SNR=18
BOSA Boshof 152.33 3 PKPbc **PKPab 12 33 50.0 -4.6**
comp=Z,6.5nm,0.9s,baz=359,slow=5.4,SNR=4.6
SNAA Sanae 160.16 153 PKPab **PKPab 12 34 29.5 +2.5**
comp=Z,4.3nm,0.9s,baz=190,slow=6.1,SNR=10

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*MOS **14** 12:18:35.0±1.1,54°.91N×111°.71E,h5km,mb3.7/1,Error ellipse: s-maj=13.6km s-min=7.9km az=77.8*
*IDC **14** 12:18:36.1±1.6,54°.81N×111°.94E,h0km,mb3.4/3, mbtmp3.7/6,ML3.4/3,Error ellipse: s-maj=22.9km s-min=21.8km az=166.0*
*BYKL **14** 12:18:36.1±0.1,54°.90N×111°.72E,h7km±3km*
ISC 14 12:18:35.5±0.6,**54°.85N**±0°.02×**111°.69E**±0°.02,**h10km**,**n59,**
σ_0**2°64**/116,**4C-5D,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**276**	⇑*i*Pg		**Pg**		**12 18 41.6**	**0.0**
YLYR				*e*Sg		**Sg**		**12 18 46.3**	**+0.6**
YLYR				Pmax					
	2μm,0.6s								
YLYR				Smax					
	7μm,0.6s								
YLYR	**Ulyunkhan**	**0.31**	**276**	⇑*i*PG		**Pg**		**12 18 41.6**	**0.0**
YLYR				*e*				12 18 45.9	
YLYR				pmax		pmax			
	comp=Z,2μm,0.3s								
YLYR				smax		smax			
	comp=N,7μm,0.5s								
KMO	**Kumora**	**1.08**	**345**	⇓*i*Pg		**Pg**		**12 18 54.6**	**-1.7**
KMO				*e*Sg		**Sg**		**12 19 08.6**	**-1.7**
KMO				Pmax					
	comp=N,375nm,0.5s								
KMO				Smax					
	comp=N,1μm,1.2s								
KMO	**Kumora**	**1.08**	**345**	⇓*i*PG		**Pg**		**12 18 54.5**	**-1.7**
KMO				*e*				12 19 08.6	
KMO				pmax		pmax			
	comp=Z,329nm,0.4s								
KMO				smax		smax			
	comp=N,1μm,1.0s								
UKT	**Uakit**	**1.28**	**59**	⇑*i*Pg		**Pn**		**12 18 58.1**	**-1.5**
UKT				*e*				12 19 02.9	
UKT				*e*Sg		**Sb**		**12 19 15.3**	**-1.1**
UKT				*e*Sb		**Sg**		**12 19 16.4**	**-0.5**
UKT				*e*				12 19 20.4	
UKT				max					
	comp=N,336nm,0.7s								
UKT				max					
	comp=N,4μm,0.6s								
UKT	**Uakit**	**1.28**	**59**	⇑*i*PG		**Pn**		**12 18 58.1**	**-1.5**
UKT				*e*				12 19 15.2	
UKT				pmax		pmax			
	comp=Z,30nm,0.1s								
UKT				smax		smax			
	comp=E,4μm,0.4s								
YOAB	**Uoyan, Buryati**	**1.30**	**1**	*e*Pg		**Pn**		**12 18 58.9**	**-0.8**
YOAB				*e*				12 19 01.3	
YOAB				*e*Sg		**Sb**		**12 19 15.3**	**-1.4**
YOAB				*e*Sb		**Sg**		**12 19 17.6**	**+0.4**
YOAB				max					
	comp=E,731nm,0.4s								

YOAB				max			
	comp=E,1μm,0.6s						
YOAB	**Uoyan, Buryati**	**1.30**	**1**	*e*PG		**Pn**	**12 18 58.9 -0.8**
YOAB				*e*			12 19 16.4
YOAB				pmax	pmax		
	comp=Z,735nm,0.3s						
YOAB				smax	smax		
	comp=N,1μm,1.0s						
NIZB	**Nizh Angarsk**	**1.54**	**308**	*e*Pg		**Pb**	**12 19 03.7 -0.3**
NIZB				*e*			12 19 05.7
NIZB				*e*Sg		**Sb**	**12 19 23.8 +0.2**
NIZB				*e*			12 19 26.9
NIZB				max			
	comp=N,178nm,0.5s						
NIZB				max			
	comp=N,793nm,0.6s						
NIZB	**Nizh Angarsk**	**1.54**	**308**	*e*PG		**Pb**	**12 19 03.8 -0.3**
NIZB				*e*			12 19 24.4
NIZB				pmax	pmax		
	comp=Z,170nm,0.3s						
NIZB				smax	smax		
	comp=E,796nm,0.5s						
SYVR	**Suvo**	**1.55**	**220**	*e*Pg		**Pb**	**12 19 04.5 +0.2**
SYVR				*e*			12 19 06.3
SYVR				*e*Sg		**Sg**	**12 19 26.2 +0.9**
SYVR				*e*			12 19 28.3
SYVR				max			
	comp=E,184nm,0.9s						
SYVR				Smax			
	comp=E,887nm,1.1s						
SYVR	**Suvo**	**1.55**	**220**	*e*PG		**Pb**	**12 19 04.4 +0.2**
SYVR				*e*			12 19 26.2
SYVR				pmax	pmax		
	comp=Z,186nm,0.6s						
SYVR				smax	smax		
	comp=E,906nm,0.5s						
SVKR	**Severomuysk**	**1.66**	**39**	*e*Pg		**Pb**	**12 19 06.2 0.0**
SVKR				*e*Sg		**Sb**	**12 19 27.4 +0.2**
SVKR				Pmax			
	comp=E,881nm,0.3s						
SVKR				Smax			
	comp=E,3μm,0.5s						
MXMB	**Maximikha**	**2.35**	**229**	*e*Pg		**Pb**	**12 19 18.5 +0.6**
MXMB				*e*Sg		**Sg**	**12 19 50.9 -0.1**
OGRR	**Ongureny**	**2.69**	**245**	*e*Pn		**Pn**	**12 19 20.6 +1.8**
OGRR				*e*Pg		**Pb**	**12 19 25.0 +1.3**
OGRR				*e*Sn		**Sn**	**12 19 53.5 +2.1**
OGRR				*e*Sg		**Sg**	**12 20 00.2 -1.5**
OGRR				Pmax			
	comp=E,75nm,0.8s						
OGRR				Smax			
	comp=E,336nm,0.8s						
OGRR	**Ongureny**	**2.69**	**245**	*e*PN		**Pn**	**12 19 20.5 +1.8**
OGRR				*e*			12 19 23.9
OGRR				*e*			12 20 00.3
OGRR				pmax	pmax		
	comp=Z,75nm,0.8s						
OGRR				smax	smax		
	comp=N,337nm,1.4s						
GORB	**Goryachinsk**	**2.74**	**229**	*e*Pn		**Pn**	**12 19 20.8 +1.2**
GORB				*e*Pg		**Pb**	**12 19 25.7 +1.1**
GORB				*e*Sg		**Sg**	**12 20 02.4 -1.1**
NLYR	**Nelyaty**	**2.81**	**52**	⇓*i*Pn		**Pn**	**12 19 21.5 +1.0**
NLYR				*e*Pg		**Pb**	**12 19 25.4 -0.3**
NLYR				*e*Sn		**Sn**	**12 19 54.6 +0.2**
NLYR				*e*Sg		**Sb**	**12 20 02.1 +1.9**
NLYR				Pmax			
	comp=N,58nm,0.3s						
NLYR				Smax			
	comp=N,888nm,1.0s						
NLYR	**Nelyaty**	**2.81**	**52**	⇓*i*PN		**Pn**	**12 19 21.5 +1.0**
NLYR				*e*			12 19 25.3
NLYR				*e*S		**Sn**	**12 19 54.9 +0.5**
NLYR				*e*			12 20 01.6
NLYR				pmax	pmax		
	comp=Z,115nm,0.8s						
NLYR				smax	smax		
	comp=N,889nm,1.0s						
KELR	**Kotokel**	**2.99**	**227**	*e*Pg		**Pb**	**12 19 30.3 +1.5**
KELR				*e*Sg		**Sg**	**12 20 10.6 -0.9**
CIT	**Chita**	**3.04**	**158**	*e*Pg		**Pb**	**12 19 31.3 +1.6**
CIT				*e*Sg		**Sg**	**12 20 10.8 -2.3**
CIT				Pmax			
	comp=N,122nm,0.3s						
CIT				Smax			
	comp=N,678nm,0.5s						
CIT	**Chita**	**3.04**	**158**	*e*PN		**Pb**	**12 19 29.8 +0.1**
CIT				*e*S		**Sn**	**12 20 00.2 0.0**
CIT				*e*			12 20 10.1
CIT				pmax	pmax		
	comp=Z,119nm,0.2s						
CIT				smax	smax		
	comp=E,850nm,0.6s						
BOD	**Bodaibo**	**3.25**	**22**	*e*Pn		**Pn**	**12 19 26.8 +0.4**
BOD				*e*Pg		**Pb**	**12 19 33.6 +0.4**
BOD				*e*Sn		**Sn**	**12 20 04.4 -0.7**
BOD				*e*Sg		**Sb**	**12 20 14.7 +2.0**
BOD				Pmax			
	comp=E,97nm,1.2s						
BOD				Smax			
	comp=E,301nm,0.5s						
BOD	**Bodaibo**	**3.25**	**22**	*e*PN		**Pn**	**12 19 26.9 +0.5**
BOD				*e*			12 19 33.6
BOD				*e*S		**Sn**	**12 20 05.9 +0.8**
BOD				*e*			12 20 14.0
BOD				pmax	pmax		
	comp=Z,92nm,1.1s						
BOD				smax	smax		
	comp=N,308nm,0.4s						
ZRHB	**Zarechye**	**3.54**	**231**	*e*Sg		**Sg**	**12 20 26.8 -2.3**
ZRHB				Smax			
	comp=N,1μm,1.1s						
TRG	**Tyrgan**	**3.79**	**239**	*e*Pn		**Pn**	**12 19 36.8 +2.8**
TRG				*e*Pg		**Pb**	**12 19 44.7 +2.2**
TRG				*e*Sn		**Sn**	**12 20 19.5 +0.8**
TRG				*e*Sg		**Sg**	**12 20 33.9 -3.3**
TRG				Pmax			
	comp=N,20nm,0.8s						
TRG				Smax			
	comp=N,133nm,0.9s						
UUDB	**Ulan-Yde**	**3.84**	**221**	*e*Pn		**Pn**	**12 19 36.7 +2.1**
UUDB				*e*Pg		**Pg**	**12 19 46.5 -2.5**
UUDB				*e*Sg		**Sg**	**12 20 37.3 -1.3**
UUDB				Pmax			
	comp=N,26nm,0.6s						
UUDB				Smax			
	comp=N,367nm,1.2s						
FFNB	**Fofonovo**	**4.07**	**228**	*e*Pg		**Pg**	**12 19 50.8 -2.5**
FFNB				*e*Sg		**Sg**	**12 20 44.3 -1.6**
KAB	**Kabansk**	**4.11**	**229**	*e*Sg		**Sg**	**12 20 44.3 -3.1**
KAB				Smax			
	comp=N,653nm,1.5s						
STDB	**Stepnoy Dvoret**	**4.16**	**232**	*e*Pg		**Pg**	**12 19 52.3 -2.8**
STDB				*e*Sg		**Sg**	**12 20 47.2 -1.7**
CRS	**Chara**	**4.24**	**58**	*e*Pn		**Pn**	**12 19 41.3 +1.2**
CRS				*e*Pg		**Pb**	**12 19 51.8 +1.7**
CRS				*e*Sg		**Sb**	**12 20 46.0 +4.7**
CRS				Pmax			
	comp=N,46nm,1.0s						
CRS				Smax			
	comp=N,333nm,1.5s						
HRMR	**Khuramsha**	**4.30**	**223**	*e*Pn		**Pn**	**12 19 43.0 +2.1**
HRMR				*e*Pg		**Pg**	**12 19 55.0 -2.8**
HRMR				*e*Sg		**Sg**	**12 20 51.7 -1.7**
HRMR				Pmax			
	comp=N,25nm,0.5s						
HRMR				Smax			
	comp=N,292nm,0.8s						
VBR	**Suhoy Ruchey**	**4.57**	**230**	*e*Sg		**Sg**	**12 20 59.8 -2.3**
VTMR	**Vitim**	**4.63**	**5**	*e*Pg		**Pb**	**12 19 57.8 +1.1**
VTMR				*e*Sg		**Sg**	**12 20 58.4 -5.6**
BGT	**Bolshoye Golou**	**4.69**	**236**	*e*Pn		**Pn**	**12 19 49.2 +3.0**
BGT				*e*Pg		**Pg**	**12 20 01.6 -3.6**
BGT				*e*Sg		**Sg**	**12 21 03.4 -2.5**
BGT				Pmax			
	comp=N,14nm,0.6s						
BGT				Smax			
	comp=N,95nm,1.0s						
TUP	**Tupik**	**4.82**	**92**	⇓*i*Pn		**Pn**	**12 19 49.1 +1.0**
TUP				*e*Pg		**Pb**	**12 20 01.9 +1.9**
TUP				*e*Sn		**Sn**	**12 20 42.8 -1.2**
TUP				*e*Sg		**Sg**	**12 21 05.1 -5.1**
TUP				Pmax			
	comp=N,42nm,0.9s						
TUP				Smax			
	comp=N,393nm,0.7s						
TUP	**Tupik**	**4.82**	**92**	*e*PN		**Pn**	**12 19 48.8 +0.7**
TUP				*e*			12 20 01.4
TUP				*e*S		**Sn**	**12 20 42.8 -1.2**
TUP				*e*			12 21 04.7
TUP				pmax	pmax		
	comp=Z,42nm,0.3s						
TUP				smax	smax		
	comp=N,394nm,0.6s						
LSTR	**Listvyanka**	**5.08**	**237**	*e*Pn		**Pn**	**12 19 53.6 +2.0**
LSTR				*e*Pg		**Pg**	**12 20 08.8 -3.8**
LSTR				*e*Sg		**Sg**	**12 21 14.6 -3.7**
LSTR				Pmax			
	comp=N,7.0nm,0.9s						
LSTR				Smax			
	comp=N,68nm,1.3s						
IRK	**Irkutsk**	**5.13**	**243**	*e*Pg		**Pb**	**12 20 08.9 +3.6**
IRK				*e*Sg		**Sg**	**12 21 15.8 -4.4**
IRK				Pmax			
	comp=N,134nm,0.2s						
IRK				Smax			
	comp=N,218nm,0.3s						
KPC	**Khapcheranga**	**5.17**	**175**	*e*Pn		**Pn**	**12 19 54.7 +1.8**
KPC				*e*Pg		**Pg**	**12 20 10.9 -3.5**
KPC				*e*Sg		**Sg**	**12 21 18.4 -2.9**
KPC				Pmax			
	comp=N,19nm,0.9s						
KPC				Smax			
	comp=N,207nm,1.3s						
KPC	**Khapcheranga**	**5.17**	**175**	*e*PN		**Pn**	**12 19 54.0 +1.1**
KPC				*e*			12 20 09.5
KPC				*e*S		**Sn**	**12 20 52.4 -0.2**
KPC				*e*			12 21 16.4
KPC				pmax	pmax		
	comp=Z,19nm,0.6s						
KPC				smax	smax		
	comp=E,207nm,1.5s						
IVK	**Ivanovka**	**5.32**	**238**	*e*Pg		**Pb**	**12 20 12.0 +3.5**
IVK				*e*Sg		**Sg**	**12 21 22.5 -3.7**
IVK				Pmax			
	comp=E,18nm,0.8s						
IVK				Smax			
	comp=E,133nm,1.0s						
TLY	**Talaya**	**5.78**	**240**	*e*Pn		**Pn**	**12 20 02.8 +1.6**
TLY				*e*Pg		**Pb**	**12 20 20.0 +3.7**
TLY				*e*Sn		**Sn**	**12 21 08.2 +0.7**
TLY				*e*Sg		**Sg**	**12 21 35.2 -5.5**
TLY				Pmax			
	comp=E,4.0nm,0.5s						
TLY				Smax			
	comp=E,62nm,1.1s						
YKLR	**Yuktali**	**5.90**	**69**	*e*Pn		**Pn**	**12 20 05.0 +2.1**
YKLR				*e*Pg		**Pb**	**12 20 21.1 +2.8**
YKLR				*e*Sg		**Sb**	**12 21 36.4 +7.4**
ARS	**Arshan**	**6.27**	**246**	*e*Pg		**Pb**	**12 20 29.2 +4.5**
ARS				*e*Sg		**Sg**	**12 21 50.6 -6.0**
ARS				Pmax			
	comp=E,26nm,0.6s						
ARS				Smax			
	comp=E,273nm,0.8s						
ZAK	**Zakamensk**	**6.79**	**232**	*e*Pg		Pb	12 20 39.2 +5.5
ZAK				*e*Sg		**Sg**	**12 22 08.3 -5.1**
ZAK				Pmax			
	comp=E,1.0nm,0.2s						
ZAK				Smax			
	comp=E,52nm,1.6s						
MOY	**Mondy**	**7.16**	**248**	*e*Pn		**Pn**	**12 20 23.1 +2.8**
MOY				*e*Sn		**Sn**	**12 21 41.9 +0.2**
MOY				*e*Sg		**Sg**	**12 22 18.9 -6.3**
MOY				max			
	comp=E,14nm,0.8s						
MOY				Smax			
	comp=E,101nm,1.5s						
HILR	**Hailar Array B**	**7.25**	**134**	Pn		**Pn**	**12 20 20.4 -1.0**
	baz=322,slow=11						
HILR				Lg	Lg		12 22 23.3
	baz=325,slow=32						
	comp=E,1.2nm,0.3s						
ORL	**Orlik**	**7.42**	**257**	*e*Pn		**Pn**	**12 20 26.7 +2.8**
ORL				*e*Sn		**Sn**	**12 21 48.0 -0.1**
ORL				*e*Sg		**Sg**	**12 22 27.4 -6.1**
ORL				max			
	comp=E,20nm,1.5s						
ORL				Smax			
	comp=E,102nm,1.4s						
HIA	**Hailar**	**7.47**	**135**	*e*Sg		**Sg**	**12 22 28.7 -6.4**
HIA				Smax			
	comp=E,140nm,1.9s						
ULN	**Ulaanbaatar**	**7.57**	**204**	*e*Pg		Pg	12 20 53.7 -6.6
ULN				*e*Sg		**Sg**	**12 22 32.5 -5.7**
ULN				Pmax			
	comp=E,1.0nm,0.4s						
ULN				Smax			
	comp=E,89nm,1.7s						
CLNS	**Chul'man**	**7.70**	**70**	*e*Sg		Sg	12 22 32.3 -10
SONM	**Songino Array**	**7.76**	**207**	Pn		**Pn**	**12 20 31.6 +3.0**
	comp=E,1.3nm,0.3s,baz=28,slow=12,SNR=16						
SONM				Sn		**Sn**	**12 22 00.9 +4.4**
	comp=E,0.7nm,0.3s,baz=23,slow=27,SNR=3.5						
SONM				Lg	Lg		12 22 43.8
	comp=E,1.9nm,0.3s,baz=24,slow=25,SNR=17						
	comp=E,1.7nm,0.3s						
KNGR	**Kungurtug, Tuv**	**9.59**	**250**	*e*Pg		Pn	12 21 29.8 +36
KNGR				*e*Sg		Sn	12 23 34.2 +53
ZALV	**Zalesovo Beam**	**15.64**	**278**	Pn		**P**	**12 22 18.0 -1.9**
	comp=E,0.1nm,0.3s,baz=72,slow=9.3,SNR=11						
	comp=E,2.3nm,0.7s						
MKAR	**Makanchi Array**	**20.12**	**259**	P		Pn	12 23 12.4 +1.2
	comp=E,0.3nm,0.5s,baz=64,slow=8.5,SNR=4.3						
	comp=E,0.3nm,0.5s						
KURK	**Kurchatov**	**20.31**	**272**	P		Pn	12 23 16.9 +3.6
KURBB	**Kurchatov Arra**	**20.40**	**272**	P		Pn	12 23 16.9 +2.5
	comp=E,2.7nm,0.2s,baz=68,slow=11,SNR=1.9						
	comp=E,2.7nm,0.2s						
ILAR	**Eielson Array**	**46.53**	**35**	P		**P**	**12 27 04.5 +1.9**
	comp=E,0.3nm,0.8s,baz=302,slow=6.1,SNR=2.6						
	comp=E,0.3nm,0.8s						

*JSO **14** 13:19:15.8±0.3,32°.N±2°.×3°.6E±°, h0km±4km, M2.3/14, Md2.7/14, ML2.4/13, MLv2.3/14, MLv2.3/14*
*GII **14** 13:19:16.0±0.0,31°.498N±0°.001×35°.545E±0°.001, h3km, Mws2.2, confirmed*
ISC 14 13:19:14.9±1.0, 31°.53N±0°.02×35°.58E±0°.04, h16km±7km, n72, σ0°.77/73, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZS	**Mizpe Shalem**	**0.16**	**286**	P	**Pb**	**13 19 19.5**	**+0.1**
DSI	**Dead Sea**	**0.17**	**284**	P	**Pb**	**13 19 19.7**	**-0.1**
DSI	**Dead Sea**	**0.17**	**284**	P	**Pb**	**13 19 19.6**	**-0.1**
DSI	**Dead Sea**	**0.17**	**284**	S	**Sg**	**13 19 22.2**	**+0.1**
KEGD	**Kibutz Ein-Ged**	**0.18**	**245**	P	**Pb**	**13 19 19.5**	**-0.3**
GHAJ	**Ghor Haditha**	**0.22**	**182**	P	**Pb**	**13 19 20.3**	**-0.3**
GHAJ	**Ghor Haditha**	**0.22**	**182**	P	**Pb**	**13 19 20.5**	**-0.1**
ALMO	**Almog**	**0.28**	**339**	P	**Pn**	**13 19 22.4**	**-1.9**
ALMO	**Almog**	**0.28**	**339**	S	**Sb**	**13 19 26.7**	**+0.6**
MDBI	**Mazsada**	**0.28**	**221**	P	**Pb**	**13 19 21.0**	**-0.6**
MDBI	**Mazsada**	**0.28**	**221**	P	**Pb**	**13 19 21.0**	**-0.6**
MDBI	**Mazsada**	**0.28**	**221**	S	**Sg**	**13 19 24.7**	**-0.4**
MSBI	**Mazada**	**0.28**	**221**	P	**Pb**	**13 19 21.3**	**-0.3**
MSBI	**Mazada**	**0.28**	**221**	P	**Pb**	**13 19 21.2**	**-0.3**
MSBI	**Mazada**	**0.28**	**221**	S	**Sg**	**13 19 25.3**	**+0.2**
KARV	**Kedem Haarava**	**0.29**	**347**	P	**Pn**	**13 19 22.5**	**-1.9**
KARV	**Kedem Haarava**	**0.29**	**347**	S	**Sb**	**13 19 27.8**	**+1.6**
VJRH	**Vered Jericho**	**0.32**	**338**	P	**Pb**	**13 19 23.0**	**+0.7**
VJRH	**Vered Jericho**	**0.32**	**338**	S	**Sb**	**13 19 27.8**	**+0.6**
NAAM	**Naama**	**0.39**	**346**	P	**Pn**	**13 19 24.0**	**-1.8**
NAAM	**Naama**	**0.39**	**346**	S	**Sb**	**13 19 30.3**	**+1.1**
JER	**Jerusalem**	**0.41**	**307**	P	**Pb**	**13 19 23.6**	**-0.1**
JER	**Jerusalem**	**0.41**	**307**	S	**Sb**	**13 19 29.5**	**-0.3**
ARADI	**Arad**	**0.41**	**228**	P	**Pb**	**13 19 23.4**	**-0.5**
ARADI	**Arad**	**0.41**	**228**	S	**Sg**	**13 19 29.2**	**+0.3**
YTIR	**Yattir**	**0.43**	**248**	P	**Pg**	**13 19 23.3**	**-0.2**
YTIR	**Yattir**	**0.43**	**248**	P	**Pg**	**13 19 23.6**	**0.0**
YTIR	**Yattir**	**0.43**	**248**	S	**Sg**	**13 19 29.5**	**0.0**
UJAP	**Al Uja**	**0.43**	**347**	P	**Pn**	**13 19 24.9**	**-1.6**
UJAP	**Al Uja**	**0.43**	**347**	S	**Sb**	**13 19 31.5**	**+1.1**
YITV	**Yitav**	**0.44**	**343**	P	**Pn**	**13 19 24.9**	**-1.7**
YITV	**Yitav**	**0.44**	**343**	S	**Sb**	**13 19 31.5**	**+0.9**
MEFR	**Maale Efrayim**	**0.56**	**345**	P	**Pb**	**13 19 26.5**	**+0.1**
MEFR	**Maale Efrayim**	**0.56**	**345**	S	**Sb**	**13 19 35.3**	**+1.1**
AMAZ	**Amatzia**	**0.56**	**271**	P	**Pb**	**13 19 26.2**	**-0.2**
AMAZ	**Amatzia**	**0.56**	**271**	S	**Sg**	**13 19 34.2**	**+0.6**
SLMZ	**Shlomzion**	**0.58**	**353**	P	**Pn**	**13 19 27.3**	**-1.1**
SLMZ	**Shlomzion**	**0.58**	**353**	S	**Sn**	**13 19 36.5**	**-1.1**
SALP	**Salfit**	**0.63**	**329**	P	**Pb**	**13 19 27.7**	**+0.1**
SALP	**Salfit**	**0.63**	**329**	P	**Pb**	**13 19 27.8**	**+0.1**
SALP	**Salfit**	**0.63**	**329**	S	**Sb**	**13 19 37.2**	**+0.9**
RGMN	**Argaman**	**0.64**	**356**	P	**Pn**	**13 19 28.6**	**-0.7**
RGMN	**Argaman**	**0.64**	**356**	S	**Sn**	**13 19 38.4**	**-0.7**
HMRA	**Hamra**	**0.68**	**350**	P	**Pn**	**13 19 28.8**	**-1.1**
HMRA	**Hamra**	**0.68**	**350**	S	**Sn**	**13 19 39.1**	**-1.0**
ROII	**Roi**	**0.72**	**354**	P	**Pn**	**13 19 29.8**	**-0.7**
ROII	**Roi**	**0.72**	**354**	S	**Sn**	**13 19 40.7**	**-0.5**
HMDT	**Nahal Hemdat**	**0.72**	**357**	P	**Pn**	**13 19 29.9**	**-0.6**
HMDT	**Nahal Hemdat**	**0.72**	**357**	P	**Pn**	**13 19 29.9**	**-0.6**
HMDT	**Nahal Hemdat**	**0.72**	**357**	S	**Sn**	**13 19 40.9**	**-0.4**
QRNJ	**Al-Qirein**	**0.81**	**360**	P	**Pn**	**13 19 31.8**	**+0.2**
SLTI	**Sal'it**	**0.84**	**327**	P	**Pn**	**13 19 32.4**	**+0.2**
SLTI	**Sal'it**	**0.84**	**327**	S	**Sn**	**13 19 43.4**	**-0.8**
MMLI	**Mount Malkishu**	**0.92**	**352**	P	**Pn**	**13 19 33.9**	**+0.7**
MMLI	**Mount Malkishu**	**0.92**	**352**	P	**Pn**	**13 19 33.4**	**+0.2**
MMLI	**Mount Malkishu**	**0.92**	**352**	S	**Sn**	**13 19 46.8**	**+0.7**
ZFRI	**Zfri**	**1.03**	**200**	P	**Pb**	**13 19 33.7**	**-0.6**
ZFRI	**Zfri**	**1.03**	**200**	S	**Sg**	**13 19 47.7**	**-0.6**
RMNI	**Mount Ramon**	**1.16**	**217**	P	**Pb**	**13 19 36.3**	**-0.3**
RMNI	**Mount Ramon**	**1.16**	**217**	S	**Sb**	**13 19 52.0**	**+0.5**
KZIT	**Kziot**	**1.19**	**239**	P	**Pn**	**13 19 36.9**	**+0.1**
KZIT	**Kziot**	**1.19**	**239**	S	**Sb**	**13 19 52.6**	**+0.5**
SHMJ	**Saham**	**1.21**	**8**	P	**Pg**	**13 19 38.6**	**+0.4**
PRNI	**Paran**	**1.27**	**203**	P	**Pb**	**13 19 38.3**	**-0.2**
PRNI				S	**Sn**	**13 19 55.4**	**+0.6**
PRNI	**Paran**	**1.27**	**203**	P	**Pb**	**13 19 38.2**	**-0.3**
ASF	**Jabal al Asfar**	**1.29**	**60**	P	**Pg**	**13 19 39.8**	**-0.1**
HRFI	**Mount Harif**	**1.56**	**197**	P	**Pb**	**13 19 42.9**	**-0.5**
HRFI	**Mount Harif**	**1.56**	**197**	S	**Sb**	**13 20 03.5**	**+0.6**
KRMI	**Paran Flat**	**1.58**	**208**	P	**Pn**	**13 19 43.0**	**+0.7**
KRMI	**Paran Flat**	**1.58**	**208**	S	**Sn**	**13 20 03.7**	**+1.1**
MBRI	**Mt Berech**	**1.82**	**198**	P	**Pb**	**13 19 48.1**	**+0.2**

*SSNC **14** 13:26:00.9±1.3, 19°.92N×71°.87W, h4km±9km, MD3.4, ML3.4, MW3.1*
*OSPL **14** 13:26:03.9±2.6, 19°.72N×71°.98W, h15km±14km, ML3.0*
*SDD **14** 13:26:05.6±5.5, 19°.80N×71°.89W, h41km±32km, MD3.4, ML3.4, MW3.5*
ISC 14 13:26:01.7±1.2, 19°.77N±0°.03×71°.98W±0°.02, h25km±14km, n36, σ1°.91/67, 1C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.33**	**67**	*e*Pg	**Pn**	**13 26 11.4**	**+0.5**
MCDR				*e*Sg	**Sn**	**13 26 18.5**	**+1.6**
MCDR				IAML		13 26 20.5	
	comp=N,3μm,0.3s						
LOPP1	**Punta Rusia, P**	**0.74**	**83**	*i* P	**Pn**	**13 26 16.8**	**+0.2**
LOPP1				*e*S	**Sn**	**13 26 27.9**	**+0.8**
LOPP1				IAML		13 26 31.3	
	comp=Z,846nm,0.3s						
SDDR	**Presa de Saban**	**1.02**	**140**	*e*Pg	**Pb**	**13 26 20.7**	**0.0**
SDDR				*e*Sg	**Sb**	**13 26 33.3**	**-0.3**
SDDR				IAML		13 26 37.5	
	comp=N,610nm,0.3s						
SDDR	**Presa de Saban**	**1.02**	**140**	*e*P	**Pn**	**13 26 20.3**	**-0.2**
SDDR				*e*S	**Sb**	**13 26 33.0**	**-0.6**
SDDR				IAML		13 26 35.0	
	comp=N,408nm,0.3s						
SDDR				IAML		13 26 35.4	
	comp=N,669nm,0.4s						
SDDR	**Presa de Saban**	**1.02**	**140**	*i* P	**Pb**	**13 26 20.6**	**-0.1**
SDDR				*e*S	**Sb**	**13 26 33.5**	**-0.1**
SDDR				IAML		13 26 38.2	
	comp=Z,736nm,0.5s						
SC01	**Santiago de lo**	**1.23**	**106**	*e*Pg	**Pb**	**13 26 24.2**	**-0.1**
SC01				*e*Sg	**Sn**	**13 26 37.0**	**-2.1**
SC01				IAML		13 26 48.2	
	comp=N,517nm,0.2s						
SC01	**Santiago de lo**	**1.23**	**106**	*i* P	**Pb**	**13 26 24.3**	**+0.1**
SC01				*e*S	**Sb**	**13 26 40.6**	**+0.9**
LONE3	**El Aguacate, B**	**1.25**	**157**	*i* P	**Pn**	**13 26 23.8**	**0.0**
LONE3				IAML		13 26 42.3	
	comp=Z,209nm,0.5s						
JIDR	**Jimani**	**1.27**	**174**	*e*Pg	**Pb**	**13 26 24.9**	**-0.1**
JIDR				*e*Sg	**Sb**	**13 26 42.7**	**+1.8**
JIDR				IAML		13 26 42.8	
	comp=N,2μm,0.5s						
NEDR	**Neiba UASD**	**1.38**	**157**	*e*Pg	**Pb**	**13 26 26.1**	**-0.7**
NEDR				*e*Sg	**Sn**	**13 26 43.1**	**+0.2**
NEDR				IAML		13 26 44.5	
	comp=N,360nm,0.5s						
LODU1	**El Espartillar**	**1.48**	**161**	*i* P	**Pn**	**13 26 27.7**	**+0.8**
LODU1				IAML		13 26 48.3	
	comp=Z,250nm,0.4s						
SFDR	**San Fco. de Ma**	**1.71**	**106**	*e*Pg	**Pn**	**13 26 31.0**	**+1.1**
SFDR				*e*Sg	**Sn**	**13 26 47.6**	**-3.4**
SFDR				IAML		13 27 01.0	
	comp=N,648nm,0.3s						
PODR	**Polo**	**1.72**	**157**	*e*Pg	**Pn**	**13 26 31.2**	**+0.8**
PODR				⇑*e*Sg	**Sb**	**13 27 01.6**	**+7.5**
PODR				IAML		13 27 11.8	
	comp=N,135nm,0.3s						
PODR	**Polo**	**1.72**	**157**	*i* P	**Pn**	**13 26 31.1**	**+0.8**
GRTK	**Grand Turk**	**1.91**	**24**	*e*Pg	**Pb**	**13 26 35.7**	**-0.2**
GRTK				*e*Sg	**Sn**	**13 26 57.1**	**+1.2**
GRTK				IAML		13 26 59.8	
	comp=N,234nm,0.3s						
GRTK	**Grand Turk**	**1.91**	**24**	*i* P	**Pb**	**13 26 37.1**	**+1.2**
GRTK				*e*S	**Sn**	**13 26 55.9**	**-0.1**
GRTK				IAML		13 26 58.7	
	comp=Z,85nm,0.2s						
LOBH	**Bahia de las A**	**1.92**	**170**	*i* P	**Pb**	**13 26 34.6**	**-1.5**
LOBH				IAML		13 27 09.4	
	comp=Z,103nm,0.5s						
DR08	**Loma La Naviza**	**2.01**	**113**	*e*Pg	**Pn**	**13 26 34.3**	**+0.1**
DR08				*e*Sg	**Sn**	**13 26 58.2**	**-0.4**
DR08				IAML		13 27 04.2	
	comp=N,2μm,0.2s						
BANI	**BANI**	**2.05**	**131**	*e*Pg	**Pb**	**13 26 36.8**	**-1.6**
BANI				*e*Sg	**Sn**	**13 26 56.3**	**-3.3**
BANI				IAML		13 27 14.9	
	comp=N,454nm,0.3s						
MASC	**Masc**	**2.16**	**281**	*e*Pg	**Pb**	**13 26 39.6**	**-0.5**
MASC				*e*Sg	**Sb**	**13 27 05.4**	**-0.9**
MASC				IAML		13 27 10.8	
	comp=N,

HIDR	Higuey Centro	3.30	110	*e*Pg	Pn	13 26 52.3	+0.5
HIDR				*e*Sg	Sn	13 27 28.5	-1.8
HIDR				IAML		13 27 59.0	
	comp=N,130nm,0.2s						
RCC	Rio Carpintero	3.50	274	*e*P	Pn	13 26 54.5	-0.1
RCC				*e*S	Sn	13 27 35.0	-0.3
PINC	Pinares de May	3.65	282	*e*P	Pn	13 26 56.5	-0.1
PINC				*e*S	Sn	13 27 39.3	+0.3
MARVS	Santiago de Cu	3.70	274	*e*P	Pn	13 26 58.0	+0.7
MARVS				*e*S	Sn	13 27 42.0	+2.0
HLGC	Holguin	3.99	287	*e*P	Pn	13 27 03.2	+1.8
HLGC				*e*S	Sn	13 27 50.7	+3.3
MTDJ	Mount Denham	5.47	255	*e*Pg	Pn	13 27 23.5	+1.7
MTDJ				*e*Sg	Sn	13 28 23.2	-0.9
MTDJ				IAML		13 28 35.9	
	comp=N,24nm,1.4s						
CCCC	Cccc	5.61	286	*e*P	Pn	13 27 19.5	-4.0
CCCC				*e*S	Sn	13 28 16.9	-10

*LDG **14** 13:26:06.8±0.1,43°.10N×1°.20W, h10km, Md1.9/2, Ml2.7/1, Error ellipse: s-maj=2.3km s-min=1.7km az=26.0*
*MDD **14** 13:26:07.2±0.8,43°.12N×1°.28W, h0km, mb_Lg2.3/6, Error ellipse: s-maj=7.6km s-min=4.4km az=72.0*
*STR **14** 13:26:07.2±0.5,43°N±3°×±°, h5km, MLv2.0/10, LOCSAT earthModelID pyrenees_taup-2.11 preliminary*
ISC 14 13:26:06.3±0.9, 43.11N±0.03×1.20W±0.03, h15km±6km, n19, σ0.72/37, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.02	285	*e*Pg	Pg	13 26 09.1	+0.1
SJPF				*e*Sg	Sg	13 26 10.7	-0.1
	332nm,0.2s						
OSSF	Osses	0.15	343	Pg	Pg	13 26 10.2	-0.1
OSSF				Sg	Sg	13 26 12.7	-0.3
ORDF	Ordiarp	0.22	61	Pg	Pb	13 26 11.7	-0.3
ORDF				Sg	Sg	13 26 14.8	+0.3
ATE	Arette	0.37	93	Pg	Pb	13 26 14.2	-0.3
ATE				Sg	Sb	13 26 19.6	-0.4
EARA	Aranguren	0.44	220	Pg	Pg	13 26 15.4	+0.3
EARA				Sg	Sg	13 26 21.7	+0.8
ETSF	Etsaut	0.51	114	*e*Pg	Pg	13 26 16.4	-0.1
ETSF				*e*Sg	Sg	13 26 22.3	-1.1
	58nm,0.2s						
TERF	Tercis-les-Bai	0.57	6	Pg	Pb	13 26 17.8	-0.3
REYF	Montagne du Re	0.59	93	Pg	Pg	13 26 18.0	+0.1
REYF				Sg	Sb	13 26 26.3	-0.3
CANF	Canfranc	0.61	124	Pg	Pg	13 26 18.2	-0.1
CANF				Sg	Sg	13 26 26.8	+0.4
VIEF	Viey	0.92	104	Pg	Pb	13 26 23.7	-0.4
VIEF				Sg	Sb	13 26 36.1	-0.1
LABF	Labassere	0.93	93	Pg	Pb	13 26 24.2	0.0
LABF				Sg	Sg	13 26 37.2	+0.5
MLZA	Monlezun-d-Arm	1.06	47	Pg	Pg	13 26 26.6	-0.2
MLZA				Sg	Sn	13 26 41.3	+0.2
EPF	Esparros	1.13	93	*e*Pg	Pg	13 26 28.6	+0.5
EPF				*e*Sg	Sg	13 26 43.9	+1.1
	14nm,0.2s						
MELF	Melles	1.46	99	Pg	Pg	13 26 33.8	-0.5
MELF				Sg	Sg	13 26 55.0	+1.7
ESAC	San Caprasio	1.49	158	Pn	Pg	13 26 34.6	-0.2
ESAC				Sn	Sg	13 26 54.9	+0.7
MLS	Moulis	1.69	94	Pg	Pg	13 26 38.5	-0.2
MLS				Sg	Sg	13 27 02.2	+1.5
SALF	Salau	1.79	100	Pg	Pg	13 26 40.0	-0.6
SALF				Sg	Sg	13 27 05.4	+1.6
EPOB	Poblet	2.44	135	Pn	Pn	13 26 46.0	+0.4
EPOB				Pg	Pg	13 26 51.7	-1.2
EPOB				Sn	Sb	13 27 18.5	-1.2
EPOB				*i* IVmb_Lg		13 27 29.3	
MTLF	Montolieu	2.51	84	*e*Pg	Pg	13 26 53.7	-0.6

*IDC **14** 13:38:00.3±1.9,2°.24N×127°.97E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=144.3km s-min=22.6km az=68.0*
*DJA **14** 13:38:01.4±0.5,3°N±4°×12°9E±°, h10km, M3.8/8, MLv3.8/8*
ISC 14 13:38:03.6±1.3, 2.65N±0.10×128.83E±0.10, h35km, n7, σ1.25/8, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.38	218	P	Pn	13 38 40.5	+0.4
TNTI				S	Sn	13 39 07.8	-0.2
SGSI	Sangihe	3.46	287	P	Pn	13 38 53.5	-1.4
SWI	Sorong	4.25	145	P	Pn	13 39 05.2	-0.7
WRA	Warramunga Arr	23.10	167	P	P	13 43 05.2	-1.3
	0.7nm,0.7s,baz=344,slow=10,SNR=8.0						
	0.7nm,0.7s						
ASAR	Alice Springs	26.62	170	P	P	13 43 38.8	-0.2
	0.2nm,0.5s,baz=354,slow=7.6,SNR=9.5						
	0.2nm,0.5s						
MKAR	Makanchi Array	59.64	325	P	P	13 48 05.7	+1.4
	0.3nm,0.5s,baz=111,slow=8.4,SNR=2.7						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	63.78	327	P	P	13 48 33.2	+1.2
	0.3nm,0.3s,baz=127,slow=6.2,SNR=4.3						
	0.3nm,0.3s						

*IDC **14** 13:57:09.1±3.3,30°.98S×139°.34E, h0km, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=69.1km s-min=15.0km az=39.0*
*AUST **14** 13:57:09.3±0.2,31°S±2°×13°9E±°, h10km, ML2.9/17, Error ellipse: s-maj=5.1km s-min=3.5km az=75.1*
ISC 14 13:57:08.4±0.9, 31.34S±0.04×139.02E±0.06, h10km, n25, σ1.33/31, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAPP	Yappala Statio	0.80	229	P	Pg	13 57 22.9	-1.0
YAPP				S	Sg	13 57 33.8	-0.5
LCRK	Leigh Creek	1.12	322	P	Pg	13 57 30.8	+0.8
LCRK				S	Sn	13 57 47.2	+1.5
NAPP	Napperby	1.98	202	P	Pn	13 57 43.2	+1.2
WHYH	Whyalla	2.09	216	P	Pn	13 57 44.8	+1.3
HTT	Hallett	2.09	182	P	Pn	13 57 44.4	+0.8
HTT				S	Sn	13 58 11.8	+2.0
STKA	Stephens Creek	2.26	104	P	Pn	13 57 46.5	+0.6
STKA	Stephens Creek	2.26	104	Pn	Pn	13 57 46.6	+0.6
	4.7nm,0.3s,baz=290,slow=14,SNR=50						
STKA				Lg	Lg	13 58 15.8	
	13nm,0.3s,baz=9.4,slow=21,SNR=24						
	24nm,0.3s						
BBOO	Buckleboo	2.91	239	P	Pn	13 57 55.6	+0.8
SDAN	Sedan	3.17	175	P	Pn	13 57 58.8	+0.3
SDAN				S	Sn	13 58 37.1	+0.8
AUMBR	Murray Bridge	3.79	177	P	Pn	13 58 07.5	+0.6
INKA	Innaminka	3.89	23	P	Pn	13 58 10.3	+2.1
AUCAS	Cummins Area S	4.03	223	P	Pn	13 58 11.7	+1.6
MULG	Mulgathing	4.39	283	P	Pn	13 58 16.7	+1.4
OOD	Oodnadatta	4.57	320	P	Pn	13 58 19.9	+2.3
KELC	Kelly Hill Cav	4.95	200	P	Pn	13 58 23.7	+0.8
CMSA	Cobar Meteorol	5.71	94	P	Pn	13 58 32.9	-0.4
ARPS	Mount Arapiles	5.90	157	P	Pn	13 58 35.8	-0.2
MGBR	Mount Gambier	6.50	169	P	Pn	13 58 44.6	+0.4
TOO	Toolangi	8.20	141	P	Pn	13 59 07.8	+0.3
AS17	Alice Springs	8.85	329	P	Pn	13 59 16.7	+0.2
ASAR	Alice Springs	8.89	328	Pn	Pn	13 59 17.1	+0.2
	0.2nm,0.3s,baz=146,slow=13,SNR=16						
ASAR				Sn	Sn	14 00 54.5	-2.7
	0.3nm,0.3s,baz=149,slow=21,SNR=5.8						
	0.3nm,0.4s						
FORT	Forrest	9.42	271	P	Pn	13 59 24.2	0.0
WRKA	Warakurna	11.35	301	P	Pn	13 59 52.5	+1.8
WRA	Warramunga Arr	12.10	339	Pn	Pn	14 00 00.4	-0.7
	0.5nm,0.3s,baz=153,slow=13,SNR=39						
WRA				Sn	Sn	14 02 13.2	-2.9
	0.1nm,0.3s,baz=161,slow=24,SNR=4.6						
	0.7nm,0.4s						
WRAB	Tennant Creek	12.11	339	P	Pn	14 00 00.3	-0.8

*UCR **14** 13:57:31.4±1.0,7°.59N×82°.94W, h0km±6km, MW3.9*
*UPA **14** 13:57:33.6±1.9,7°.65N×82°.85W, h12km±10km, MW3.6*
ISC 14 13:57:30.9±2.6, 7.6N±0.1×82.93W±0.05, h9km±12km, n47, σ1.19/61, 3C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	Limones	0.52	8	⇓*i*P	Pb	13 57 43.3	+1.0
LMNES				*e*S	Sb	13 57 49.8	-0.2
LMNES	Limones	0.52	8	⇓*i*P	Pb	13 57 43.3	+1.0
PIRO	Carate, Puerto	0.91	334	⇓*e*P	Pg	13 57 48.4	-0.1
PIRO				*e*S	Sb	13 58 00.5	-0.7
LPPC	Paso Canoas	0.95	5	⇑*i*P	Pb	13 57 49.9	+0.3
LPPC				*e*S	Sb	13 58 03.0	+0.7
JIME	Puerto Jimenez	1.03	338	*e*P	Pb	13 57 50.7	-0.2
JIME				*e*S	Sn	13 58 05.9	-0.2
FITO	Golfito	1.06	348	*e*P	Pg	13 57 50.7	-0.6
FITO				*e*S	Sb	13 58 05.1	-0.4
NELY	Ciudad Neily	1.06	359	*e*P	Pb	13 57 51.5	0.0
NELY				*e*S	Sn	13 58 06.0	-1.0
DMCAL	E. de Neily	1.09	7	*e*P	Pb	13 57 52.4	+0.4
DMCAL				*e*S	Sn	13 58 07.2	-0.5
JEFFS	S de V. Baru	1.15	20	*e*P	Pg	13 57 53.4	+0.4
JEFFS				*e*S	Sn	13 58 09.1	-0.2
BANCO	falda S V. Bar	1.20	19	⇑*e*P	Pg	13 57 54.2	+0.3
BRU2	Volcan	1.23	11	⇓*i*P	Pb	13 57 54.4	-0.1
BRU2				*e*S	Sn	13 58 11.0	-0.3
BRU2	Volcan	1.23	11	⇓*i*P	Pb	13 57 54.3	-0.1
BRU2				*e*S	Sn	13 58 11.1	-0.3
TBS2		1.23	13	*e*P	Pn	13 57 55.4	+0.8
SCLRA	Santa Clara, W	1.25	7	*e*P	Pg	13 57 55.1	+0.1
SCLRA				*e*S	Sn	13 58 12.5	+0.6
BQTLY	Boquete Panama	1.26	22	*e*S	Sn	13 58 12.2	+0.2
WILLF	Boquete	1.26	23	*e*P	Pn	13 57 54.5	-0.4
ALCO	Alturas Coton,	1.36	4	⇓*e*P	Pn	13 57 56.2	-0.1
ALCO				*e*S	Sb	13 58 14.2	-0.2
EDP2	Potrero Grande	1.45	350	*e*P	Pn	13 57 57.4	0.0
PBNVO	Pueblo Nuevo,	1.49	29	*e*P	Pn	13 57 58.2	+0.2
RBALA	Bur	1.50	31	*e*S	Sn	13 58 17.8	-0.1
RBALA	Bur	1.50	31	*e*P	Pn	13 57 58.6	+0.5
KKNTU	Kakintº	1.67	42	*e*S	Sn	13 58 20.8	-1.3
KKNTU	Kakintº	1.67	42	*e*P	Pn	13 57 59.7	-0.8
EDPE	Pejibaye, P	1.69	338	*e*P	Pb	13 58 01.9	-0.4
SAJE	San Jernim	1.84	342	*e*P	Pn	13 58 03.7	+0.7
LAES	El Progreso Va	2.17	357	*e*P	Pb	13 58 09.0	-1.5
LAES				*e*S	Sb	13 58 37.6	+0.2
PIEC	Cerro El Cedra	2.27	333	*e*P	Pb	13 58 11.2	-1.0
VERH	Veragua Rainfo	2.34	354	*e*P	Pn	13 58 11.3	+1.6
PICV	PH. Pirrs	2.39	328	*e*P	Pn	13 58 10.5	+0.1
VINA	Juan Vinas	2.44	341	*e*P	Pb	13 58 14.0	-1.0
ABRB	Las Abras (San	2.53	342	*e*P	Pb	13 58 15.0	-1.8
RESJ	San Isidro (Tu	2.53	344	⇑*i*P	Pb	13 58 15.7	-1.0
CVTV	Tajo	2.54	341	*e*P	Pn	13 58 14.1	+1.4
CVTQ	Turrialba Volc	2.55	341	*e*P	Pn	13 58 14.4	+1.6
VICA	Volcano Irazu	2.55	339	*e*P	Pb	13 58 17.0	-0.2
VTR0	Volcan Turrial	2.56	341	*e*P	Pb	13 58 15.8	-1.4
CVTR	Volcan Turrial	2.56	341	*e*P	Pb	13 58 15.9	-1.3
LCOCO	El Coco	2.56	346	*e*P	Pb	13 58 15.4	-1.8
VPS8	V Poas	2.89	333	*e*P	Pb	13 58 20.3	-2.6
VACR	Volcan Arenal	3.35	329	*e*P	Pn	13 58 26.6	+3.0
JTS	Las Juntas de	3.35	324	*e*P	Pn	13 58 25.0	+1.4
JTS				*e*S	Sn	13 59 02.4	-1.2
ARE1	Arenal 1	3.36	328	*e*P	Pn	13 58 25.9	+2.2
VARE2	V. Arenal	3.36	328	*e*P	Pn	13 58 25.9	+2.1
CEDE	Laguna Cedeo	3.38	329	*e*P	Pn	13 58 27.2	+3.2
TENO	El Achiote	3.70	327	*e*P	Pn	13 58 30.2	+1.8
VRLE	La Escondida,	3.99	323	*e*P	Pn	13 58 33.9	+1.4
LAPC	Finca la Perla	4.02	322	*e*P	Pn	13 58 34.8	+2.1

*NEIC **14** 13:58:14.9±1.5,59°.05S±0°.1×23°.2W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=25.8km s-min=11.5km az=27.0*
*IDC **14** 13:58:14.9±1.0,58°.92S×23°.39W, h0km, mb4.0/5, mbtmp4.0/5, MS2.9/3, Error ellipse: s-maj=39.1km s-min=22.4km az=79.0*
ISC 14 13:58:15.4±0.8, 59.0S±0.1×23.2W±0.2, h10km, n31, σ1.75/23, mb4.3/10, MS2.9/3, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.28	158	⇑P	Pn	14 01 22.4	-1.3
	comp=Z,50nm,0.8s						
VNA3	Neumayer Olymp	13.53	161	⇑P	Pn	14 01 24.5	-2.5
	comp=Z,18nm,0.3s						
VNA2	Neumayer--Watz	13.68	158	⇑P	Pn	14 01 26.5	-2.6
	comp=Z,16nm,0.2s,baz=320,slow=15						
SNAA	Sanae	15.19	155	⇑P	Pn	14 01 46.6	-3.2
	comp=Z,407nm,0.3s						
SNAA	Sanae	15.19	155	Pn	Pn	14 01 47.6	-2.2
SNAA				IAmb	IAmb	14 01 49.7	
	comp=Z,21nm,1.0s						
SNAA	Sanae	15.19	155	Pn	Pn	14 01 47.8	-2.0
	comp=Z,4.6nm,0.3s,baz=340,slow=8.2,SNR=196						
SNAA				Sn	Sn	14 04 25.0	-13
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=2.1						
TROLL	Troll, Antarti	16.67	152	⇑P	Pn	14 02 06.4	-2.5
	comp=Z,261nm,0.4s						
EFI	East Falkland	20.93	275	Pn	Pn	14 02 59.9	-0.6
QSPA	South Pole Qui	31.27	180	P	P	14 04 38.3	+3.1
	comp=Z,0.9nm,0.6s,baz=197,slow=1.6,SNR=8.9						
	comp=Z,0.9nm,0.6s						
PLCA	Paso Flores	34.63	281	P	P	14 05 03.9	-0.7
PLCA				IAmb	IAmb	14 05 16.6	
	comp=Z,8.6nm,1.3s						
PLCA	Paso Flores	34.63	281	LR	LR	14 18 22.5	
	comp=Z,22nm,18.8s,baz=80,slow=35						
MAW	Mawson	36.53	140	P	P	14 05 21.3	+0.8
	comp=Z,1.2nm,0.6s,baz=244,slow=12,SNR=7.5						
	comp=Z,1.2nm,0.6s						
BO04	La Punta	39.88	288	P	P	14 05 48.1	-1.1
BO04				IAmb	IAmb	14 06 17.8	
	comp=Z,23nm,1.4s						
CPUP	Villa Florida	40.33	309	LR	LR	14 19 32.6	
	comp=Z,8.1nm,20.6s,baz=23,slow=32						
MT02	Curacav	40.73	288	P	P	14 05 55.4	-0.7
MT02				IAmb	IAmb	14 06 34.4	
	comp=Z,21nm,1.3s						
VNDA	Vanda	43.73	182	P	P	14 06 21.4	+1.3
VNDA	Vanda	43.73	182	P	P	14 06 20.6	+0.5
	comp=Z,0.9nm,0.9s,baz=171,slow=7.5,SNR=6.8						
	comp=Z,0.9nm,0.9s						
H10S2	ASCENSION HYDR	50.32	11	T	T	15 01 42.2	
	baz=35,slow=74,SNR=4.5						
H10S3	ASCENSION HYDR	50.33	11	T	T	15 01 41.8	
	baz=185,slow=74,SNR=4.5						
CASY	Casey	50.41	158	P	P	14 07 13.3	+1.0
CASY				IAmb	IAmb	14 07 16.5	
	comp=Z,3.6nm,0.9s						
H10N1	ASCENSION HYDR	51.44	11	T	T	15 02 56.8	
	baz=186						
H10N3	ASCENSION HYDR	51.44	11	T	T	15 03 07.5	
	baz=186,SNR=3.2						
H10N2	ASCENSION HYDR	51.46	11	T	T	15 03 06.4	
	baz=186						
VILB	Vilhena	53.56	313	P	P	14 07 36.4	0.0
VILB				IAmb	IAmb	14 07 37.3	
	comp=Z,6.8nm,0.6s						
LPAZ	La Paz	53.79	303	P	P	14 07 38.3	-0.4
LPAZ	La Paz	53.79	303	P	P	14 07 38.5	-0.2
	comp=Z,1.8nm,0.6s,baz=91,slow=6.0,SNR=6.3						
LPAZ				LR	LR	14 33 40.8	
	comp=Z,17nm,18.2s,baz=18,slow=40						
	comp=Z,1.8nm,0.6s						
BOAV	Boa Vista	67.90	319	P	P	14 09 14.3	+0.3
TORD	Torodi Ar. Bea	74.67	25	P	P	14 09 53.7	-1.2
TORD				IAmb	IAmb	14 09 57.2	
	comp=Z,2.1nm,0.7s						
TORD	Torodi Ar. Bea	74.67	25	P	P	14 09 56.4	+1.5
	comp=Z,3.1nm,0.6s,baz=197,slow=5.6,SNR=18						
	comp=Z,3.1nm,0.6s						
CMWZ	Cape Campbell	78.61	193	P	P	14 10 16.0	-1.0
SONM	Songino Array	148.72	88	PKPbc	PKiKP	14 18 02.8	-0.6
	comp=Z,1.5nm,0.6s,baz=216,slow=2.2,SNR=7.8						

JMA 14 13:58:25.2±0.2, 24.3N±0.4×123.8E±0.6, h17km±2km, MV0.6/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.08	335	*e*P	Pg	13 58 28.4	-0.1
IRIF				*e*S	Sg	13 58 30.9	+0.2
HATJ	Hateruma jima	0.20	171	P	Pg	13 58 29.9	-0.1
HATJ				*e*S	Sg	13 58 33.1	-0.2
JKRS	Kuro-shima	0.22	96	P	Pg	13 58 30.3	0.0
JKRS				*e*S	Sg	13 58 34.1	+0.4
JIJ	Ishigaki jima	0.36	73	P	Pg	13 58 32.4	-0.2
JIJ				*e*S	Sg	13 58 37.2	-0.4
JISG	Ishigakijimahi	0.59	56	*e*P	Pg	13 58 36.9	0.0

TAP 14 13:59:22.4, 24°.55N×122°.05E, h58km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.19	288	P	Pn	13 59 32.0	+0.4
TWC				S	Sn	13 59 38.4	+0.2
EOS2	EOS2	0.21	128	*e*P	Pn	13 59 32.5	+0.9
EOS2				*e*S	Sn	13 59 40.1	+2.0
EWUT	Wuta	0.27	247	P	Pn	13 59 32.4	+0.4
EWUT				S	Sn	13 59 40.0	+0.9
ENA	Nanau	0.30	247	*e*P	Pn	13 59 32.9	+0.5
ENA				S	Sn	13 59 40.7	+1.1
EOS3	EOS3	0.36	137	*e*P	Pn	13 59 33.1	+0.5
EOS3				*e*S	Sn	13 59 42.1	+2.1
TWE	Neicheng	0.39	296	*e*P	Pn	13 59 33.0	-0.1
TWE				*e*S	Sn	13 59 42.1	+1.3
ENTT	Nioudou	0.45	282	*e*P	Pn	13 59 34.9	+1.2
ENTT				*i* S	Sn	13 59 43.2	+1.3
LATG	Datong	0.48	268	*e*P	Pn	13 59 34.9	+0.8
LATG				*i* S	Sn	13 59 43.6	+1.0
NWLT	Wulai	0.55	295	*e*P	Pn	13 59 35.7	+0.9
NWLT				*i* S	Sn	13 59 45.0	+1.3
NACB	Ninganchiao	0.56	228	P	Pn	13 59 35.1	+0.2
NACB				S	Sn	13 59 44.7	+0.8
ETLH	Xiulin Townshi	0.62	237	P	Pn	13 59 36.0	+0.3
ETLH				S	Sn	13 59 45.7	+0.4
NNSB	Datong	0.62	259	P	Pn	13 59 36.0	+0.3
NNSB				S	Sn	13 59 46.3	+0.9
NNS	Nan Shan	0.62	260	P	Pn	13 59 36.2	+0.4
NNS				S	Sn	13 59 46.3	+0.8
YHNB	Yeheng	0.62	281	P	Pn	13 59 36.4	+0.7
YHNB				S	Sn	13 59 46.5	+1.1
NSK	Sanguang	0.64	282	P	Pn	13 59 37.3	+1.4
NSK				*e*S	Sn	13 59 46.6	+0.8
LXIB	Xiulin Townshi	0.78	228	*e*P	Pn	13 59 37.9	+0.2
LXIB				*e*S	Sn	13 59 49.5	+0.5
WUSB	Renai	1.01	237	*e*P	Pn	13 59 41.4	+0.7
WUSB				*e*S	Sn	13 59 55.2	+1.0

*FIA0 **14** 14:01:50.2, 61°.63N×25°.88E, h0km, Explosion*
HEL 14 14:01:08.2±0.1, 63.52N×22.50E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	Ylistaro	0.49	171	PG	Pg	14 01 16.6	-0.9
VAF				SG	Sg	14 01 23.8	+0.1
VAF				MSG		14 01 24.0	
	comp=Z,2.1nm,0.2s						
UMAU	Umeaa	0.89	295	PG	Pg	14 01 24.2	-1.0
UMAU				SB	Sg	14 01 36.5	-0.2
OBF8	Ulkokalla	0.91	27	PG	Pg	14 01 25.0	-0.7
OBF8				MSG		14 01 36.5	
	comp=Z,0.9nm,0.2s						
BURU	Burvik	1.18	336	PG	Pg	14 01 29.7	-1.0
BURU				SB	Sg	14 01 45.2	-0.7
OBF0	Syolatti, Pyha	1.24	37	MSG		14 01 45.8	
	comp=Z,1.3nm,0.2s						
OBF0				SN	Sn	14 01 50.4	+0.2
OUF	Merijarvi	1.30	48	PB	Pg	14 01 31.8	-1.3
OUF				MSG		14 01 47.6	
	comp=Z,4.1nm,0.2s						
OUF				SN	Sn	14 01 51.6	0.0
KPF	Kankaanpaa	1.71	187	PG	Pn	14 01 39.5	+0.4
	baz=2.0						
KPF				MSG		14 01 59.3	
	comp=Z,0.7nm,0.2s						
OBF4	Vikkela, Lumij	1.73	40	PG	Pn	14 01 38.8	-0.7
OBF4				MSG		14 01 59.8	
	comp=Z,0.9nm,0.2s						
OBF4				SN	Sn	14 02 02.3	+0.1
KEF	Keuruu	1.74	140	PG	Pn	14 01 39.5	-0.1
	baz=322						
KEF				MSG		14 02 00.0	
	comp=Z,3.5nm,0.2s						
KEF				SN	Sn	14 02 02.0	-0.5
SUF	Sumiainen	1.84	114	PG	Pn	14 01 40.8	-0.3
	baz=301						
SUF				MSG		14 02 03.1	
	comp=Z,0.7nm,0.2s						
OUL	Oulu	2.16	42	SG	Sn	14 02 13.6	+0.9
HEMU	Hemsoen	2.20	249	PG	Pn	14 01 47.0	+1.0
HEMU				SG	Sb	14 02 16.9	+0.4
KAF	Kangasniemi	2.25	127	MSG		14 02 14.8	
	comp=Z,1.9nm,0.2s						
KAF				SG	Sn	14 02 16.3	+1.3
KALU	Kalix	2.38	9	SG	Sn	14 02 19.3	+1.1
NIF	Nilsia	2.39	91	MSG		14 02 18.7	
	comp=Z,1.6nm,0.2s						
NIF				SB	Sn	14 02 20.2	+1.7
FIA0	FINESS Array S	2.67	140	PB	Pn	14 01 53.8	+1.5
FIA0				MSG		14 02 26.7	
	comp=Z,0.5nm,0.2s						
FIA0				SG	Sb	14 02 29.8	-0.1
FIA0	FINESS Array S	2.67	140	PG	Pn	14 01 53.8	+1.5
	comp=Z,0.2nm,0.2s						
FIA0				LG	Lg	14 01 56.6	
	comp=Z,0.6nm,0.3s						
TOF	Tornio	2.69	16	MSG		14 02 27.2	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	14 02 28.8	-1.7
RANF	Ranua	3.10	34	SB	Sb	14 02 41.2	-1.4
OLKF	Oulanka, Finla	4.07	43	SG	Sb	14 03 14.3	+4.2

*CATAC **14** 14:03:42.7±0.4,5°N±2°×7°6W±°, h88km±8km, M3.7/10, mb3.5/2, mB4.0/1, MLv3.8/10, Mw(mB)3.1/1, Error ellipse: s-maj=7.4km s-min=4.6km az=108.2, confirmed*
*RSNC **14** 14:03:43.3±0.0,5°N±1°×7°6W±°, h85km±2km, M3.2, mb3.9, ML3.0*
**ISC 14 14:03:42.6±1.2, 4.75N±0.03×76.23W±0.03, h86km±12km, n38, σ0.99/68, Col

UREC			S	Sn	14 05 04.7	+0.2
FLOC	**Florencia**	**3.20 170**	S	Sn	14 05 08.3	+0.3
FLOC	**Florencia**	**3.20 170**	P	Pn	14 04 31.0	+0.2
FLOC			S	Sn	14 05 07.6	-0.4
RUSC	**La Rusia**	**3.33 70**	P	Pn	14 04 33.8	+0.9
RUSC			S	Sn	14 05 12.0	+0.3
RUSC	**La Rusia**	**3.33 70**	P	Pn	14 04 33.8	+0.9
RUSC			S	Sn	14 05 13.2	+1.5
MACC	**Macarena, Meta**	**3.51 137**	P	Pn	14 04 34.3	-0.7
MACC			S	Sn	14 05 13.4	-2.2
BARC	**Barichara**	**3.54 59**	P	Pn	14 04 35.8	+0.3
BARC			S	Sn	14 05 16.6	+0.2
GCUF	**Volcan Galeras**	**3.68 198**	P	Pn	14 04 38.6	+0.9
GCUF			S	Sn	14 05 19.4	-0.8
PAMC	**Pamplona, Colo**	**4.35 54**	P	Pn	14 04 46.2	-0.5
PAMC			S	Sn	14 05 35.5	-1.0
OCAC	**Ocana**	**4.51 40**	P	Pn	14 04 48.0	-0.7
OCAC			S	Sn	14 05 39.0	-1.0
OTAV	**Otavalo**	**5.01 206**	P	Pn	14 04 55.9	+0.1
OTAV	**Otavalo**	**5.01 206**	P	Pn	14 04 55.8	+0.1
	6.8nm,1.0s					
OTAV			S	Sn	14 05 52.3	-0.2
	6.8nm,1.0s					
SJCC	**San Jacinto, C**	**5.21 11**	P	Pn	14 04 59.0	+0.8
SJCC	**San Jacinto, C**	**5.21 11**	P	Pn	14 04 58.2	0.0
	11nm,1.6s					
BCIP	**Isla Barro Col**	**5.66 321**	P	Pn	14 05 03.1	-1.1
	12nm,0.6s					
BCIP			S	Sn	14 06 08.7	+0.8
	12nm,0.6s					
URIC	**Uribia, Colomb**	**8.07 31**	P	Pn	14 05 34.5	-2.6

NIED ***14*** *14:09:26.4,34.°73N×137.°01E,h340km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.26; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-1.25; $M_{r\theta}$-0.34; $M_{\theta\phi}$-0.16; $M_{\phi r}$-1.60; Fault plane solution: $M_0$2.07000×10^{15} NP1: ϕ_s4.00000°,δ19.00000°,λ83.00000°. NP2:ϕ_s191.00000°, δ71.00000°,λ92.00000°.*
IDC ***14*** *14:09:26.4±0.6,34.°58N×136.°97E,h327km±5km,mb3.6/21, mbtmp4.2/28 Error ellipse: s-maj=9.5km s-min=8.7km az=119.0*
JMA ***14*** *14:09:26.4±0.2,35.°N±1.°×137.°0E±0.°9,h340km±1km, MV4.0/40,MIKAWA BAY REGION*
NEIC ***14*** *14:09:26.7±1.4,34.°61N±0.°08×137.°05E±0.°10, h337km±3km,mb4.3/50,Error ellipse: s-maj=12.8km s-min=10.2km az=139.0*
ISC 14 14:09:26.7±0.5,**34.°67N**±0.°05×**137.°00E**±0.°04,**h333**km±5km, **n144**,σ1^{s}**06**/145,**mb4.2**/47,**1C-2D**,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.13**	**107**	P	**Pn**	14 10 09.5	+1.0
JAA				S	**S**	14 10 42.5	+0.6
JIE	**Ise**	**0.36**	**221**	P	**Pn**	14 10 09.7	+0.8
JIE				S	**S**	14 10 42.6	+0.1
INU	**Inuyama**	**0.68**	**1**		**Pn**	14 10 10.0	+0.6
INU	**Inuyama**	**0.68**	**1**	P	**Pn**	14 10 09.9	+0.5
JYTA	**Yamagatataniai**	**0.95**	**347**	P	**Pn**	14 10 11.1	+0.8
JYTA				S	**S**	14 10 45.1	-0.2
TK02	**Tokai 2**	**0.96**	**139**	P	**Pn**	14 10 11.4	+1.2
TK02				S	**S**	14 10 46.9	+1.9
JGF	**Kuroka**	**0.98**	**18**		**Pn**	14 10 10.9	+0.4
JGF				Sn	**S**	14 10 45.9	+0.3
JGF	**Kuroka**	**0.98**	**18**	P	**Pn**	14 10 10.9	+0.4
JGF	**Kuroka**	**0.98**	**18**	S	**S**	14 10 46.0	+0.4
JSG	**Sagara**	**0.98**	**89**	Pn	**Pn**	14 10 10.7	+0.1
JSG	**Sagara**	**0.98**	**89**	P	**Pn**	14 10 11.9	+1.4
TTO1	**TONANKAI O.B.S**	**1.06**	**190**	P	**Pn**	14 10 11.9	+1.3
JWY	**Kouya**	**1.24**	**249**	P	**Pn**	14 10 12.7	+0.8
JWY				S	**S**	14 10 47.9	-0.1
JTNC	**Tanabenakahech**	**1.43**	**234**	P	**Pn**	14 10 13.5	+0.7
JTNC				S	**S**	14 10 50.0	+0.3
JWT	**Wachi**	**1.45**	**296**	P	**Pn**	14 10 13.4	+0.6
JYN	**Shimob**	**1.52**	**56**	P	**Pn**	14 10 13.6	+0.3
JKG	**Kaga**	**1.69**	**342**	P	**Pn**	14 10 14.6	+0.3
JOD2	**Odawara 2**	**1.82**	**70**	P	**Pn**	14 10 15.5	+0.3
JOD2				S	**S**	14 10 54.3	+0.3
JRY	**Ryogami san**	**2.06**	**49**	⇓P	**Pn**	14 10 17.6	+0.7
JRY				⇓*e*S	**S**	14 10 56.1	-0.9
MAT	**Matsushiro**	**2.11**	**27**	P	**Pn**	14 10 17.5	+0.2
MAT				*e*S	**S**	14 10 56.7	-1.1
MJAR	**Matsushiro Arr**	**2.11**	**28**		**Pn**	14 10 17.6	+0.3
MJAR				Sn	**S**	14 10 56.3	-1.5
MJAR	**Matsushiro Arr**	**2.11**	**28**	P	**Pn**	14 10 17.7	+0.5
	32nm,0.4s,baz=97,slow=27,SNR=130						
MJAR				S	**S**	14 10 57.9	+0.1
	34nm,0.8s,baz=112,slow=16,SNR=16						
JAI	**Aioi**	**2.28**	**248**	P	**Pn**	14 10 19.1	+0.4
JAG	**Ashikaga**	**2.66**	**48**	P	**Pn**	14 10 20.7	-1.0
JMN	**Monobe**	**2.75**	**251**		**Pn**	14 10 23.1	+0.5
JMN	**Monobe**	**2.75**	**251**	P	**Pn**	14 10 23.0	+0.4
JHJ	**Hachijo jima 2**	**2.79**	**123**	P	**Pn**	14 10 22.9	-0.1
	86nm,0.3s,baz=92,slow=22,SNR=5.1						
JSZ	**Suzu**	**2.79**	**6**	P	**Pn**	14 10 23.0	+0.2
JHJ2	**Mitsune**	**2.81**	**123**	Pn	**Pn**	14 10 22.8	-0.3
JHJ2	**Mitsune**	**2.81**	**123**	P	**Pn**	14 10 23.3	+0.2
JHJ2	**Mitsune**	**2.81**	**123**	P	**Pn**	14 10 22.9	-0.2
JHS	**Saijyo**	**3.21**	**277**	P	**Pn**	14 10 27.2	+0.4
JHS				S	**S**	14 11 14.9	-0.1
BSO1	**Boso 1**	**3.28**	**89**	P	**Pn**	14 10 25.7	-1.1
BSO1				S	**S**	14 11 13.3	-2.0
JOI	**OKI**	**3.46**	**299**	P	**Pn**	14 10 29.5	+0.3
JSD	**Sado**	**3.51**	**17**	P	**Pn**	14 10 29.8	+0.2
JTO	**Tosashimizu**	**3.93**	**244**	P	**Pn**	14 10 34.2	+0.2
JMM	**Marumori**	**4.43**	**43**		**Pn**	14 10 38.4	-0.8
JMM				Sn	**S**	14 11 31.8	-5.7
JMM	**Marumori**	**4.43**	**43**	P	**Pn**	14 10 38.2	-1.0
JNU	**Nakatsue**	**5.32**	**255**	Pn	**Pn**	14 10 49.3	+0.1
JNU	**Nakatsue**	**5.32**	**255**	P	**Pn**	14 10 49.7	+0.5
	14nm,0.8s,baz=136,slow=1.3,SNR=8.4						
JNU				S	**S**	14 11 52.4	-3.4
	15nm,1.0s,baz=190,slow=13,SNR=3.6						
JNU	**Nakatsue**	**5.32**	**255**	P	**Pn**	14 10 49.9	+0.7
JTU	**Tsushima**	**6.27**	**271**	P	**Pn**	14 11 00.6	+0.5
JTM	**Tenmabayashi**	**6.91**	**27**	Pn	**Pn**	14 11 05.7	-1.8
JTM	**Tenmabayashi**	**6.91**	**27**	P	**Pn**	14 11 07.3	-0.2
KSRS	**Korea Array**	**7.86**	**293**	P	**Pn**	14 11 20.0	+1.2
	12nm,0.6s,baz=107,slow=12,SNR=44						
KSAR	**Wonju Array Be**	**7.88**	**293**	Pn	**Pn**	14 11 19.3	+0.2
TJN	**Taejon**	**8.04**	**285**	Pn	**Pn**	14 11 21.6	+0.6
TJN	**Taejon**	**8.04**	**285**	P	**Pn**	14 11 21.9	+0.9
JCJ	**Chichijima**	**8.77**	**148**	P	Pn	14 11 24.9	-5.0
	31nm,0.3s,baz=4.9,slow=18,SNR=11						
JCJ				S	S	14 12 56.4	-14
	119nm,0.3s,baz=318,slow=22,SNR=13						
ERM	**Erimo**	**8.79**	**32**	Pn	**Pn**	14 11 28.9	-1.0
ERM	**Erimo**	**8.79**	**32**	P	**Pn**	14 11 29.6	-0.3
JEM	**Erimo**	**8.79**	**32**	P	**Pn**	14 11 29.6	-0.3
USRK	**Ussuriysk Ar.**	**10.27**	**339**	P	**Pn**	14 11 48.5	+0.7
	3.6nm,0.5s,baz=144,slow=10,SNR=15						
ASAJ	**Asahikawa**	**10.38**	**23**	P	**Pn**	14 11 48.4	-0.7
	7.4nm,0.9s,baz=239,slow=15,SNR=17						
JKA	**Kamikawa-asahi**	**10.38**	**23**	Pn	**Pn**	14 11 48.8	-0.3
YSS	**Yuzhno-Sakhali**	**13.02**	**18**	P	**P**	14 12 20.2	+0.1
YSS	**Yuzhno-Sakhali**	**13.02**	**18**	P	**Pn**	14 12 21.6	+1.0
BNX	**BinXian**	**13.25**	**329**	⇑P	**P**	14 12 21.4	-1.4
BNX				pmax	pmax		
	comp=Z,28nm,0.7s						
TIA	**Tai'an**	**16.27**	**281**	P	**P**	14 12 55.5	-0.4
TIA				pmax	pmax		
	comp=Z,16nm,0.7s						
NACB	**Ninganchiao**	**16.99**	**236**	P	**P**	14 13 01.4	-2.4
NACB	**Ninganchiao**	**16.99**	**236**	P	**P**	14 13 02.6	-1.2
SSLB	**Suanglung**	**17.68**	**236**	P	**P**	14 13 10.8	-0.5
YULB	**Yu-li**	**17.71**	**235**	P	**P**	14 13 11.2	-0.4
TPUB	**Ta-pu**	**18.23**	**236**	P	**P**	14 13 14.9	-2.2
TPUB	**Ta-pu**	**18.23**	**236**	P	**P**	14 13 15.6	-1.5
TWGBT	**Beinan**	**18.25**	**234**	P	**P**	14 13 19.1	+1.8
HIA	**Hailar**	**19.36**	**324**	P	**P**	14 13 26.9	-2.0
HIA				IAmb	IAmb	14 13 31.6	
	comp=Z,14nm,0.8s						
WHN	**Wuhan**	**19.51**	**264**	P	**P**	14 13 30.1	-0.5
WHN				pmax	pmax		
	comp=Z,60nm,0.7s						
HILR	**Hailar Array B**	**19.55**	**325**	P	**P**	14 13 32.4	+1.5
	comp=Z,5.3nm,0.3s,baz=126,slow=9.9,SNR=7.0						
HHC	**Hu-ho-hao-te**	**21.00**	**295**	*e*P	**P**	14 13 44.0	-1.1
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,48nm,4.1s						
XAN	**Xi'an**	**23.16**	**276**	P	**P**	14 14 04.3	-0.5
XAN				sP	sP	14 15 38.0	-4.4
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
PETK	**Petropavlovsk-**	**23.57**	**32**	P	**P**	14 14 09.3	+1.1
	comp=Z,4.1nm,0.8s,baz=234,slow=8.8,SNR=2.2						
	comp=Z,4.1nm,0.8s						
ENH	**Enshi**	**23.59**	**267**		**P**	14 14 06.9	-1.8
ENH				IAmb	IAmb	14 14 10.7	
	comp=Z,18nm,0.9s						
ENH	**Enshi**	**23.59**	**267**	P	**P**	14 14 08.4	-0.3
ULN	**Ulaanbaatar**	**25.90**	**310**	P	**P**	14 14 28.0	-1.3
ULN				IAmb	IAmb	14 14 31.6	
	comp=Z,9.5nm,0.8s						
SONM	**Songino Array**	**26.31**	**309**	P	**P**	14 14 34.5	+1.5
	comp=Z,5.2nm,0.5s,baz=114,slow=8.5,SNR=30						
	comp=Z,5.2nm,0.5s						
CD2	**Chengdu**	**28.12**	**272**	P	**P**	14 14 48.0	-1.1
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
SEY	**Seymchan**	**29.88**	**14**	P	**P**	14 15 05.1	+1.0
	comp=Z,0.7nm,0.5s,baz=284,slow=12,SNR=1.7						
	comp=Z,0.7nm,0.5s						
GTA	**Gaotai**	**29.91**	**290**	*e*P	**P**	14 15 04.8	-0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	**PanZhiHua**	**31.30**	**265**	P	**P**	14 15 15.9	-1.2
CMAR	**Chiang Mai Arr**	**37.41**	**254**	P	**P**	14 16 08.8	-0.3
	comp=Z,0.6nm,0.5s,baz=46,slow=7.9,SNR=6.5						
	comp=Z,0.6nm,0.5s						
FAKI	**Fak Fak**	**37.65**	**188**	P	**P**	14 16 10.4	-0.6
SANI	**Sanana**	**37.96**	**198**	P	**P**	14 16 11.7	-1.9
ZALV	**Zalesovo Beam**	**40.93**	**315**	P	**P**	14 16 37.0	-0.4
ZALV	**Zalesovo Beam**	**40.93**	**315**	P	**P**	14 16 37.6	+0.2
	comp=Z,1.7nm,0.3s,baz=99,slow=8.8,SNR=8.6						
ZALV				ScP	**ScP**	14 21 47.1	-0.7
	comp=Z,0.5nm,0.4s,baz=123,slow=5.9,SNR=2.3						
	comp=Z,1.7nm,0.3s						
MKAR	**Makanchi Array**	**42.39**	**304**		**P**	14 16 49.2	-0.1
MKAR	**Makanchi Array**	**42.39**	**304**	P	**P**	14 16 50.0	+0.7
	comp=Z,3.8nm,0.5s,baz=86,slow=10,SNR=38						
	comp=Z,3.8nm,0.5s						
MAKZ	**Makanchi**	**42.60**	**304**	P	**P**	14 16 51.6	+0.6
EVN	**Everest**	**43.03**	**275**		**P**	14 16 55.1	-0.4
KURK	**Kurchatov**	**44.62**	**310**		**P**	14 17 06.6	-0.1
KURK				IAmb	IAmb	14 17 11.2	
	comp=Z,10nm,0.7s						
KURBB	**Kurchatov Arra**	**44.68**	**309**	P	**P**	14 17 07.4	+0.1
	comp=Z,4.6nm,0.7s,baz=91,slow=8.4,SNR=23						
	comp=Z,4.6nm,0.7s						
KDJ	**Kajisay**	**46.63**	**298**	P	**P**	14 17 21.1	-1.8
PSI	**Prapat**	**47.50**	**237**	P	**P**	14 17 30.8	+1.1
COEN	**Coen**	**48.71**	**172**	P	**P**	14 17 38.8	+0.2
MNAI	**Manna**	**50.34**	**226**	P	**P**	14 17 50.2	-0.7
KKAR	**Karatay Array**	**51.22**	**301**	P	**P**	14 17 57.4	+0.3
ILAR	**Eielson Array**	**53.39**	**31**	P	**P**	14 18 12.9	+0.4
	comp=Z,1.4nm,0.6s,baz=265,slow=5.4,SNR=28						
	comp=Z,1.4nm,0.6s						
WRAB	**Tennant Creek**	**54.36**	**183**		**P**	14 18 18.0	-2.1
WRAB				IAmb	IAmb	14 18 19.3	
	comp=Z,5.4nm,0.5s						
WRAB	**Tennant Creek**	**54.36**	**183**	P	**P**	14 18 19.0	-1.0
WRA	**Warramunga Arr**	**54.37**	**183**		**P**	14 18 18.7	-1.4
WRA	**Warramunga Arr**	**54.37**	**183**	P	**P**	14 18 19.1	-1.0
	comp=Z,4.5nm,0.3s,baz=0.4,slow=7.6,SNR=232						
WRA				PcP	**PcP**	14 19 19.4	+0.2
	comp=Z,0.9nm,0.5s,baz=358,slow=4.5,SNR=6.8						
	comp=Z,4.5nm,0.3s						
QIS	**Mount Isa**	**54.98**	**177**	P	**P**	14 18 23.8	-0.6
ABKAR	**Akbulak array**	**56.72**	**310**		**P**	14 18 36.3	-0.1
I29M	**Ogilvie Camp,**	**56.91**	**30**	P	**P**	14 18 37.3	-0.2
I30M	**Mount Dempster**	**57.73**	**30**		**P**	14 18 45.0	+1.7
AS01	**Alice Springs**	**58.08**	**183**	P	**P**	14 18 45.3	-0.8
ASAR	**Alice Springs**	**58.09**	**183**	P	**P**	14 18 45.4	-0.7
	comp=Z,2.1nm,0.3s,baz=358,slow=5.9,SNR=191						
	comp=Z,2.1nm,0.3s						
INKA	**Innaminka**	**62.17**	**176**	P	**P**	14 19 12.1	-1.4
ARCES	**ARCESS Array B**	**64.92**	**339**	P	**P**	14 19 31.5	+0.7
	comp=Z,1.5nm,0.8s,baz=61,slow=6.7,SNR=5.5						
	comp=Z,1.5nm,0.8s						
STKA	**Stephens Creek**	**66.33**	**176**	P	**P**	14 19 40.1	-0.1
	comp=Z,2.3nm,0.6s,baz=329,slow=8.4,SNR=5.5						
	comp=Z,2.3nm,0.6s						
CMSA	**Cobar Meteorol**	**66.36**	**172**	P	**P**	14 19 40.9	+0.5
BBOO	**Buckleboo**	**67.13**	**181**	P	**P**	14 19 44.8	-0.4
YKA	**Yellowknife Ar**	**67.62**	**28**	P	**P**	14 19 48.2	+0.3
	comp=Z,0.7nm,0.7s,baz=22,slow=20,SNR=5.4						
	comp=Z,0.7nm,0.7s						
MUN	**Mundaring**	**69.12**	**199**	P	**P**	14 19 58.0	+0.5
FINES	**FINESS Array B**	**69.19**	**331**	P	**P**	14 19 57.6	0.0
	comp=Z,1.8nm,0.5s,baz=92,slow=5.7,SNR=7.0						
	comp=Z,1.8nm,0.5s						
KBZ	**Khabaz**	**69.68**	**310**	P	**P**	14 20 01.7	+0.8
	comp=Z,2.4nm,0.7s,baz=54,slow=2.9,SNR=7.7						
	comp=Z,2.4nm,0.7s						
AKASG	**Malin Array Be**	**73.92**	**321**	P	**P**	14 20 25.6	-0.2
	comp=Z,0.4nm,0.4s,baz=48,slow=6.6,SNR=4.8						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**74.71**	**334**	P	**P**	14 20 30.0	-0.2
	comp=Z,2.6nm,0.9s,baz=52,slow=9.3,SNR=2.1						
	comp=Z,2.6nm,0.9s						
BMO	**Blue Mountains**	**76.15**	**45**	IAmb	IAmb	14 20 40.7	
	comp=Z,3.8nm,0.8s						
J08A	**Circle Bar Ran**	**76.32**	**47**	IAmb	IAmb	14 20 42.1	
	comp=Z,5.9nm,1.1s						
BEKR	**Beckworth**	**77.13**	**50**		**P**	14 20 45.0	+0.6
BEKR				IAmb	IAmb	14 20 46.2	
	comp=Z,3.8nm,0.7s						
WAKR	**Walker**	**78.50**	**51**	IAmb	IAmb	14 20 54.0	
	comp=Z,2.6nm,0.6s						
BOZ	**Bozeman (W)**	**78.91**	**42**	IAmb	IAmb	14 20 56.0	
	comp=Z,3.9nm,0.9s						
NVAR	**Mina Array Bea**	**79.27**	**51**	P	**P**	14 20 57.3	+1.2
	comp=Z,1.7nm,0.6s,baz=296,slow=5.3,SNR=12						
	comp=Z,1.7nm,0.6s						
TPH	**Tonopah**	**80.16**	**50**	IAmb	IAmb	14 21 03.5	
	comp=Z,6.6nm,1.2s						
MMAI	**Mount Meron Ar**	**80.33**	**303**	P	**P**	14 21 02.6	+0.9
	comp=Z,0.8nm,0.5s,baz=293,slow=43,SNR=1.6						
	comp=Z,0.8nm,0.5s						
HWUT	**Hardware Ranch**	**81.45**	**45**	IAmb	IAmb	14 21 09.9	
	comp=Z,5.8nm,0.9s						
TPNV	**Topopah Spring**	**81.46**	**51**	IAmb	IAmb	14 21 09.4	
	comp=Z,4.5nm,0.7s						
QSM	**Queen of Sheba**	**81.65**	**52**	IAmb	IAmb	14 21 10.2	
	comp=Z,5.0nm,0.7s						
TCUT	**Toone Canyon**	**81.85**	**45**	IAmb	IAmb	14 21 11.9	
	comp=Z,6.0nm,0.8s						
BW06	**Boulder Array**	**81.86**	**43**	IAmb	IAmb	14 21 11.6	
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**81.86**	**43**	P	**P**	14 21 08.9	-0.8
PDAR	**Pinedale Array**	**81.86**	**43**	P	**P**	14 21 10.8	+1.1
	comp=Z,2.4nm,0.7s,baz=289,slow=2.3,SNR=25						
	comp=Z,2.4nm,0.7s						
PFO	**Pinyon Flats O**	**83.33**	**54**	P	**P**	14 21 17.3	+0.1
PFO				IAmb	IAmb	14 21 18.7	
	comp=Z,3.2nm,0.8s						
PMD	**Palm Desert**	**83.36**	**54**	P	**P**	14 21 15.5	-1.7
PMD				IAmb	IAmb	14 21 18.5	
	comp=Z,4.9nm,0.7s						
KNB	**Kanab**	**83.58**	**49**	IAmb	IAmb	14 21 21.1	
	comp=Z,5.4nm,0.9s						
SRU	**San Rafael Swe**	**83.65**	**46**	IAmb	IAmb	14 21 20.8	
	comp=Z,5.8nm,0.8s						
HMU	**Henry Mountain**	**84.27**	**47**	IAmb	IAmb	14 21 23.9	
	comp=Z,4.5nm,0.7s						
O20A	**White River Ci**	**84.33**	**44**	IAmb	IAmb	14 21 23.9	
	comp=Z,4.1nm,0.8s						
PV22	**Blue Mesa, Par**	**85.06**	**46**	IAmb	IAmb	14 21 28.7	
	comp=Z,9.1nm,1.2s						
PV05	**Paradox Valley**	**85.17**	**46**	IAmb	IAmb	14 21 28.7	
	comp=Z,6.1nm,0.8s						
TXAR	**Lajitas Array**	**94.39**	**50**	P	**P**	14 22 10.4	+0.9
	comp=Z,0.7nm,0.4s,baz=280,slow=3.0,SNR=12						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**124.42**	**180**	PKP	**PKiKP**	14 27 47.0	+1.2
	comp=Z,0.7nm,0.6s,baz=262,slow=1.1,SNR=10						
LPAZ	**La Paz**	**150.99**	**57**	PKPbc	**PKiKP**	14 28 42.2	0.0
	comp=Z,2.4nm,0.8s,baz=20,slow=7.3,SNR=9.5						

ISN ***14*** *14:18:19.3±0.9,32.°25N×47.°93E,h5km±24km,ML3.0*
TEH ***14*** *14:18:21.4,32.°37N×47.°90E,h23km±26km*
ISC 14 14:18:21.9±0.9,**32.°35N**±0.°05×**47.°94E**±0.°04,**h15**km,**n30**, σ0^{s}**81**/33,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.18**	**149**	Pg	**Pg**	14 18 44.2	-0.4
IDOB	**Doab**	**1.45**	**8**	Pg	**Pb**	14 18 47.5	-1.3
RAFI	**Al-Rafai**	**1.67**	**249**	*e*Pn	**Pb**	14 18 51.0	-1.3
RAFI				*e*Sn	**Sb**	14 19 13.0	-0.2
RAFI				AML	AML	14 19 24.2	
	comp=N,291nm,0.4s						
RAFI				AML	AML	14 19 24.4	
	comp=E,192nm,0.7s						
BDRS	**Dareh Seyedi**	**1.79**	**26**	Pg	**Pn**	14 18 52.7	+0.2
KCHF	**Cheshme Sefid,**	**2.07**	**339**	Pn	**Pn**	14 18 56.1	-0.1
JHBN	**Jahan bin**	**2.31**	**92**	Pn	**Pn**	14 19 00.4	+0.7
GLG1	**Gilan-e-Gharb**	**2.45**	**317**	Pn	**Pn**	14 19 00.4	-1.0
ZNGN	**Zangian**	**2.48**	**94**	Pn	**Pn**	14 19 02.7	+0.7
IPIR	**Pirpir**	**2.52**	**81**	Pn	**Pn**	14 19 03.2	+0.6
SNQR	**Sonqor, Kerman**	**2.52**	**354**	Pn	**Pn**	14 19 02.8	+0.3
HAGD	**Aghdareh**	**2.67**	**22**	Pn	**Pn**	14 19 04.0	-0.5
IDHR	**Dehrash**	**2.68**	**331**	Pn	**Pn**	14 19 04.4	-0.3
IBRJ	**Brojen**	**2.85**	**98**	Pn	**Pn**	14 19 07.6	+0.5
BHD	**Baghdad**	**3.14**	**288**	*e*Pn	**Pn**	14 19 11.0	+0.2
BHD				*e*Sn	**Sn**	14 19 50.0	+2.1
IKLH	**Kolahrood**	**3.21**	**71**	Pn	**Pn**	14 19 12.6	+0.6
QAMS	**Qamsar**	**3.22**	**64**	Pn	**Pn**	14 19 12.3	+0.2
HGHA	**Hamedan- Ghaye**	**3.23**	**13**	Pn	**Pn**	14 19 11.8	-0.4
KLNJ	**Kolanjah**	**3.39**	**112**	Pn	**Pn**	14 19 14.9	+0.3
IGAR	**Gharneh**	**3.47**	**88**	Pn	**Pn**	14 19 16.0	+0.4
IQOM	**Qom**	**3.61**	**46**	Pn	**Pn**	14 19 17.9	+0.4
QABG	**Abgarm-Qazvin**	**3.62**	**22**	Pn	**Pn**	14 19 18.5	+0.8
IZEF	**Zefreh**	**3.74**	**80**	Pn	**Pn**	14 19 19.4	0.0
IRAM	**Ramesheh**	**3.81**	**97**	Pn	**Pn**	14 19 20.4	+0.1
ISFB	**Sefidab**	**4.12**	**60**	Pn	**Pn**	14 19 24.7	+0.3
IVRN	**Varamin**	**4.12**	**49**	Pn	**Pn**	14 19 24.3	0.0
IKRK	**Kirkuk**	**4.27**	**316**	*e*Pn	**Pn**	14 19 28.0	+1.6
IKRK				*e*Sn	**Sn**	14 20 18.0	+2.0
IGZV	**Ghazvin**	**4.45**	**24**	Pn	**Pn**	14 19 29.2	+0.2
IDMV	**Damavand**	**4.69**	**45**	Pn	**Pn**	14 19 32.1	-0.2
MZPU	**Pul - Mazandar**	**5.07**	**35**	Pn	**Pn**	14 19 38.2	+0.7
ILAS	**Lasjerd**	**5.16**	**53**	Pn	**Pn**	14 19 38.6	-0.2

AEIC ***14*** *14:39:22.3±1.8,56.°36N±0.°05×149.°8W±0.°1,h12km±7km, Error ellipse: s-maj=12.1km s-min=5.5km az=116.0*
NEIC 14 14:39:18.8±0.9,**56.°4N**±0.°1×**150.°0W**±0.°1,**h20**km±9km, **ML3.3**/48,**ML3.2**(AEIC),**Error ellipse: s-maj=15.2km s-min=9.0km az=158.0**,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.01**	**315**		**Pn**	14 39 51.4	-0.1
KDAK					Sn	14 40 15.4	-0.5
OHAK	**Old Harbor**	**2.02**	**296**		**Pn**	14 39 51.2	-0.4
OHAK					Sn	14 40 14.6	-1.6
CNPM	**China Poot**	**3.23**	**348**		**Sn**	14 40 45.6	-0.4
CNPM					Sn	14 40 46.1	+0.1
CNPM	**China Poot**	**3.23**	**348**		**Pn**	14 40 08.2	0.0
KAPH	**Katmai Pasha**	**3.25**	**315**		**Pn**	14 40 10.0	+1.4
KAPH					Sn	14 40 47.0	+0.3
KAHG	**Katmai Hook Gl**	**3.26**	**312**		**Pn**	14 40 08.3	-0.5
KAHG					Pn	14 40 11.7	+2.9
KAHG				

PCA	Pinnacle	6.33	50		Pn	14 40 50.9	0.0
LOGN	Logan Glacier	6.46	43		Pn	14 40 52.6	-0.1
PNL	Peninsula	6.50	55		Pn	14 40 53.1	-0.2
HARP	HAARP	6.51	20		Pn	14 40 53.7	+0.4
BCPM	Bancas Point	6.53	52		Pn	14 40 53.6	+0.1
DOL	Dolgoi Island	6.83	265		Pn	14 40 57.3	-0.5
RND	Reindeer	7.07	4		Pn	14 41 01.9	+0.9
DT1	Dutton Round H	7.08	265		Pn	14 41 00.5	-0.5
O29M	Mount Kennedy	7.16	52		Pn	14 41 02.6	+0.2
M29M	Somme Creek	8.43	39		Pn	14 41 20.1	+0.4
K29M	Barlow Dome	9.70	34		Pn	14 41 37.7	+0.5

*IDC **14** 14:47:34.8±1.1, 16.°87N×46.°34W, h0km, mb3.8/5, mbtmp3.9/6, ML3.5/1, MS3.7/58, Error ellipse: s-maj=33.0km s-min=26.3km az=174.0*
*GCMT **14** 14:47:36.5±0.3, 16.°92N±0.°03×46.°36W±0.°02, h14km±1km, MW4.8/93, Moment Tensor Solution. s12,c14; s93,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.11; $M_{\theta\theta}$0.22±.07; $M_{\phi\phi}$1.15±.07; $M_{r\theta}$-1.51±.24; $M_{\phi\phi}$-0.10±.04; $M_{\phi r}$-0.58±.15; Best double couple: $M_0$1.88500×10^{16} NP1:ϕ_s177.00000°, δ26.00000°, λ-136.00000°. NP2: ϕ_s46.00000°, δ72.00000°, λ-70.00000°. Principal axes: T 1.4010, Plg25.0000°, Azm121.0000°; N 0.9660, Plg19.0000°, Azm220.0000°; P -2.3680, Plg58.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 14:47:37.5±2.5, 16.°8N±0.°1×46.°32W±0.°08, h10km±1km, mb4.7/18 Error ellipse: s-maj=21.0km s-min=9.9km az=148.0*

ISC 14 14:47:37.4±0.6, **16.°77N**±0.°10×**46.°4W**±0.°1, **h15**km, **n82**, σ1**9**01/23, **mb4.5**/12, **MS3.8**/56, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.14**	**209**	Pn	**Pn**	**14 50 43.6**	**0.0**
	0.3nm,0.3s,baz=29,slow=16,SNR=3.8						
MDP				LR	LR	14 54 56.4	
	comp=Z,240nm,19.7s,baz=75,slow=33						
	6.9nm,0.9s						
H05S1	**Guadeloupe/Mar**	**14.15**	**263**	T	T	15 05 06.7	
	SNR=7.7						
SJG	**San Juan**	**18.94**	**277**	LR	LR	14 57 53.1	
	comp=Z,317nm,20.6s,baz=136,slow=33						
BOAV	**Boa Vista**	**19.96**	**226**	P	Pn	14 52 10.7	-0.2
MAL2	**Monte Alegre,**	**20.21**	**203**	P	**P**	**14 52 13.5**	**+1.7**
MAL2				IAmb	IAmb	14 52 23.9	
	comp=Z,47nm,1.1s						
SDV	**Santo Domingo**	**24.92**	**255**	LR	LR	15 02 00.6	
	comp=Z,81nm,20.3s,baz=64,slow=35						
ROSC	**El Rosal**	**29.87**	**250**	LR	LR	15 07 49.8	
	comp=Z,181nm,18.2s,baz=63,slow=41						
FLOC	**Florencia**	**32.55**	**245**	P	**P**	**14 54 06.7**	**-1.5**
FLOC				IAmb	IAmb	14 54 14.8	
	comp=Z,17nm,1.4s						
S54A	**Dingess, Beckl**	**37.16**	**311**	P	**P**	**14 54 46.2**	**-1.7**
S54A				IAmb	IAmb	14 55 29.9	
	comp=Z,9.1nm,0.6s						
PAMR	**Moraine State**	**37.75**	**317**	P	**P**	**14 54 54.1**	**+1.3**
TKL	**Tuckaleechee C**	**38.19**	**307**	LR	LR	15 07 27.5	
	comp=Z,176nm,21.6s,baz=114,slow=31						
SADO	**Sadowa**	**39.20**	**322**	LR	LR	15 07 54.9	
	comp=Z,941nm,20.9s,baz=154,slow=31						
LPAZ	**La Paz**	**39.25**	**214**	P	**P**	**14 55 07.4**	**+1.2**
LPAZ	**La Paz**	**39.25**	**214**	P	**P**	**14 55 06.2**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=23,slow=5.9,SNR=5.2						
LPAZ				LR	LR	15 10 57.2	
	comp=Z,96nm,21.1s,baz=49,slow=36						
	comp=Z,1.8nm,0.8s						
ATAH	**Atahualpa**	**39.61**	**236**	LR	LR	15 11 36.5	
	comp=Z,118nm,20.2s,baz=50,slow=36						
H10N3	**ASCENSION HYDR**	**39.88**	**125**	T	T	15 37 51.5	
	baz=308,slow=75,SNR=177						
H10N2	**ASCENSION HYDR**	**39.88**	**125**	T	T	15 37 51.8	
	baz=308,slow=75,SNR=161						
H10N1	**ASCENSION HYDR**	**39.90**	**125**	T	T	15 37 56.5	
	baz=308,slow=75,SNR=161						
H10S3	**ASCENSION HYDR**	**40.44**	**127**	T	T	15 38 35.8	
	baz=307,slow=74,SNR=94						
H10S2	**ASCENSION HYDR**	**40.46**	**127**	T	T	15 38 36.9	
	baz=273,slow=74,SNR=98						
MDT	**Midelt**	**40.83**	**59**	LR	LR	15 10 58.9	
	comp=Z,110nm,18.3s,baz=47,slow=34						
MTE	**Manteigas**	**40.95**	**47**	P	**P**	**14 55 19.3**	**-0.3**
SCHQ	**Schefferville**	**41.14**	**342**	LR	LR	15 10 30.2	
	comp=Z,624nm,18.8s,baz=116,slow=34						
NNA	**Nana**	**41.54**	**228**	LR	LR	15 11 57.4	
	comp=Z,91nm,21.6s,baz=12,slow=35						
DBIC	**Dimbokro**	**41.77**	**99**	P	**P**	**14 55 27.3**	**+0.8**
DBIC				IAmb	IAmb	14 55 31.0	
	comp=Z,28nm,1.4s						
DBIC	**Dimbokro**	**41.77**	**99**	P	**P**	**14 55 27.3**	**+0.8**
	comp=Z,7.5nm,1.1s,baz=283,slow=11,SNR=3.8						
DBIC				LR	LR	15 09 25.9	
	comp=Z,262nm,21.0s,baz=302,slow=31						
	comp=Z,7.5nm,1.1s						
PB11	**IPOC Station P**	**42.92**	**213**	P	**P**	**14 55 35.6**	**-0.4**
PB11				IAmb	IAmb	14 55 46.4	
	comp=Z,9.1nm,0.9s						
ESDC	**Sonseca Array**	**43.24**	**49**	LR	LR	15 09 09.3	
	comp=Z,130nm,20.2s,baz=266,slow=30						
HMBC	**Humberstone**	**43.47**	**213**	P	**P**	**14 55 40.4**	**+0.1**
HMBC				IAmb	IAmb	14 55 48.4	
	comp=Z,17nm,1.1s						
CPUP	**Villa Florida**	**44.15**	**194**	LR	LR	15 15 09.9	
	comp=Z,20nm,18.4s,baz=220,slow=37						
CMIG	**Matias Romero**	**46.33**	**278**	LR	LR	15 16 51.1	
	comp=Z,32nm,18.1s,baz=127,slow=38						
TORD	**Torodi Ar. Bea**	**46.47**	**88**	P	**P**	**14 56 03.3**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=300,slow=8.0,SNR=2.8						
TORD				LR	LR	15 13 39.6	
	comp=Z,256nm,18.9s,baz=321,slow=34						
	comp=Z,0.6nm,0.9s						
TBO	**Thunder Bay**	**47.25**	**322**	P	**P**	**14 56 10.1**	**+0.2**
FRB	**Frobisher Bay**	**49.36**	**347**	LR	LR	15 14 04.0	
	comp=Z,78nm,22.0s,baz=122,slow=32						
BORG	**Borgarnes**	**50.84**	**14**	LR	LR	15 12 36.7	
	comp=Z,44nm,21.9s,baz=233,slow=30						
ULM	**Lac du Bonnet**	**51.75**	**322**	LR	LR	15 15 08.7	
	comp=Z,113nm,21.8s,baz=139,slow=32						
POST	**Post**	**52.02**	**299**	P	**P**	**14 56 46.3**	**-0.3**
POST				IAmb	IAmb	14 56 58.1	
	comp=Z,9.6nm,1.4s						
KEST	**Kesra**	**52.70**	**58**	LR	LR	15 19 06.8	
	comp=Z,114nm,18.1s,baz=307,slow=36						
TXAR	**Lajitas Array**	**53.74**	**294**	P	**P**	**14 57 00.6**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=116,slow=8.5,SNR=3.8						
TXAR				LR	LR	15 20 52.9	
	comp=Z,49nm,18.8s,baz=56,slow=37						
	comp=Z,0.4nm,0.7s						
VHRN	**Van Horn**	**54.89**	**296**	P	**P**	**14 57 08.5**	**+0.6**
VHRN				IAmb	IAmb	14 57 15.6	
	comp=Z,5.3nm,1.2s						
VA01	**Torpederas**	**55.10**	**206**	P	**P**	**14 57 07.9**	**-1.1**
ANMO	**Albuquerque**	**56.24**	**301**	LR	LR	15 18 51.7	
	comp=Z,215nm,21.1s,baz=190,slow=33						
VAE	**Valguarnera**	**56.91**	**56**	LR	LR	15 19 33.6	
	comp=Z,76nm,19.6s,baz=324,slow=34						
JMIC	**Jan Mayen**	**58.74**	**14**	LR	LR	15 17 13.1	
	comp=Z,42nm,21.0s,baz=222,slow=30						
PDAR	**Pinedale Array**	**59.20**	**310**	LR	LR	15 20 24.0	
	comp=Z,72nm,22.0s,baz=104,slow=33						
VRAC	**Vranov**	**59.87**	**42**	LR	LR	15 21 36.2	
	comp=Z,52nm,19.0s,baz=243,slow=34						
LPIG	**La Paz**	**59.95**	**288**	LR	LR	15 26 43.1	
	comp=Z,33nm,18.0s,baz=93,slow=39						
NOA	**NORSAR Array B**	**59.96**	**28**	LR	LR	15 18 53.7	
	comp=Z,27nm,19.0s,baz=240,slow=31						
HFS	**Hagfors**	**60.81**	**30**	LR	LR	15 19 08.0	
	comp=Z,25nm,20.7s,baz=241,slow=31						
PLCA	**Paso Flores**	**61.47**	**201**	LR	LR	15 24 42.9	
	comp=Z,64nm,21.9s,baz=48,slow=36						
CCUT	**Cedar City**	**61.88**	**304**	P	**P**	**14 57 57.6**	**+1.0**
ELK	**Elko**	**63.34**	**308**	LR	LR	15 23 50.0	
	comp=Z,119nm,20.1s,baz=94,slow=34						
RES	**Resolute Bay**	**63.58**	**347**	LR	LR	15 23 32.6	
	comp=Z,37nm,20.9s,baz=80,slow=34						
PFO	**Pinyon Flats O**	**64.53**	**300**	LR	LR	15 24 26.0	
	comp=Z,137nm,21.6s,baz=90,slow=34						
NEW	**Newport**	**64.90**	**316**	LR	LR	15 24 39.0	
	comp=Z,111nm,20.6s,baz=96,slow=34						
YKA	**Yellowknife Ar**	**65.24**	**332**	LR	LR	15 24 21.0	
	comp=Z,71nm,19.3s,baz=79,slow=34						
NVAR	**Mina Array Bea**	**65.76**	**305**	LR	LR	15 27 56.5	
	comp=Z,62nm,18.0s,baz=105,slow=37						
MLR	**Muntele Rosu**	**65.87**	**47**	P	**P**	**14 58 22.7**	**0.0**
MLR				IAmb	IAmb	14 58 24.2	
	comp=Z,7.8nm,1.2s						
MLR	**Muntele Rosu**	**65.87**	**47**	LR	LR	15 23 55.9	
	comp=Z,54nm,21.6s,baz=262,slow=33						
FINES	**FINESS Array B**	**67.02**	**30**	LR	LR	15 22 47.5	
	comp=Z,54nm,21.5s,baz=266,slow=32						
ARCES	**ARCESS Array B**	**68.08**	**21**	LR	LR	15 22 49.2	
	comp=Z,37nm,20.3s,baz=257,slow=31						
BBB	**Bella Bella**	**71.91**	**320**	LR	LR	15 28 59.9	
	comp=Z,58nm,19.7s,baz=74,slow=35						
TSUM	**Tsumeb**	**72.30**	**117**	LR	LR	15 23 35.1	
	comp=Z,73nm,21.3s,baz=343,slow=30						
INK	**Inuvik**	**73.52**	**337**	LR	LR	15 30 38.3	
	comp=Z,56nm,18.8s,baz=96,slow=35						
EIL	**Elat**	**74.49**	**63**	LR	LR	15 32 11.8	
	comp=Z,101nm,19.7s,baz=299,slow=36						
RPN	**Rapa Nui**	**75.06**	**235**	LR	LR	15 29 33.5	
	comp=Z,36nm,19.1s,baz=170,slow=34						
ASF	**Jabal al Asfar**	**75.67**	**60**	LR	LR	15 37 23.8	
	comp=Z,17nm,18.1s,baz=323,slow=40						
K27K	**Chicken**	**77.56**	**333**	P	**P**	**14 59 32.7**	**+0.2**
K27K				IAmb	IAmb	14 59 55.5	
	comp=Z,7.6nm,1.5s						
KVAR	**Kislovodsk Arr**	**77.88**	**48**	LR	LR	15 35 26.4	
	comp=Z,13nm,18.1s,baz=297,slow=37						
IL31		**79.40**	**335**	P	**P**	**14 59 43.0**	**+0.4**
ILAR	**Eielson Array**	**79.40**	**335**	P	**P**	**14 59 41.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=74,slow=4.9,SNR=6.0						
ILAR				LR	LR	15 35 12.6	
	comp=Z,26nm,18.6s,baz=100,slow=36						
	comp=Z,0.5nm,0.7s						
LSZ	**Lusaka**	**80.13**	**109**	LR	LR	15 30 30.9	
	comp=Z,89nm,18.9s,baz=307,slow=32						
GNI	**Garni**	**80.20**	**51**	LR	LR	15 33 50.6	
	comp=Z,19nm,20.5s,baz=276,slow=35						
LBTB	**Lobatse**	**81.44**	**119**	LR	LR	15 28 18.0	
	comp=Z,105nm,20.9s,baz=308,slow=30						
MATP	**Matopo**	**82.22**	**114**	LR	LR	15 31 23.3	
	comp=Z,80nm,18.2s,baz=240,slow=32						
BOSA	**Boshof**	**82.58**	**123**	LR	LR	15 28 35.6	
	comp=Z,59nm,18.4s,baz=256,slow=30						
ARTI	**Arti**	**84.10**	**33**	LR	LR	15 35 55.2	
	comp=Z,53nm,18.3s,baz=186,slow=34						
KDAK	**Kodiak Island**	**84.34**	**329**	LR	LR	15 37 05.2	
	comp=Z,64nm,18.9s,baz=95,slow=35						
ATD	**Arta Tunnel**	**85.98**	**79**	LR	LR	15 38 03.4	
	comp=Z,5.8nm,19.2s,baz=176,slow=35						
AKTO	**Aktyubinsk**	**86.07**	**38**	LR	LR	15 36 58.8	
	comp=Z,50nm,19.0s,baz=152,slow=34						
SNAA	**Sanae**	**92.99**	**167**	LR	LR	15 35 45.8	
	comp=Z,49nm,18.8s,baz=15,slow=31						
ZALV	**Zalesovo Beam**	**98.13**	**27**	LR	LR	15 43 58.8	
	comp=Z,20nm,18.8s,baz=35,slow=34						

*SOME **14** 14:52:35.2, 42.°25N×73.°25E, h5km*
*KRNET **14** 14:52:35.1±0.1, 42.°17N×73.°25E, h21km, mb2.3*
*NNC **14** 14:52:37.2±1.0, 42.°36N×73.°23E, h27km±10km, mb2.9, mpv2.7, Error ellipse: s-maj=14.8km s-min=4.9km az=164.0*
*KNET **14** 14:52:37.1±0.3, 42.°21N×73.°39E, h8km±1km, ml1.4, Error ellipse: s-maj=1.7km s-min=1.1km az=68.0*

ISC 14 14:52:34.8±1.1, **42.°27N**±0.°03×**73.°19E**±0.°03, **h20**km±6km, **n25**, σ1**9**02/46, **25C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.47**	**3**	P	**Pn**	**14 52 46.4**	**-0.2**
	13nm,0.2s						
MRKS				S	**Sn**	**14 52 54.5**	**0.0**
	22nm,0.1s						
MRKS	**Merke**	**0.47**	**3**	*eP*	**Pn**	**14 52 46.4**	**-0.2**
	9.7nm,0.1s						
MRKS				*eS*	**Sn**	**14 52 54.5**	**0.0**
	46nm,0.2s						
EKS2	**Erkin-Say**	**0.58**	**48**	⇑P	**Pn**	**14 52 47.4**	**-0.8**
	1.2nm,0.1s						
EKS2				⇑S	**Sg**	**14 52 55.7**	**+1.2**
	2.8nm,0.1s						
EKS2	**Erkin-Say**	**0.58**	**48**	⇓*eP*	**Pn**	**14 52 47.3**	**-0.9**
EKS2				⇓*eS*	**Sn**	**14 52 55.9**	**-1.3**
ARSB	**Arslanbob**	**0.96**	**189**	⇓*eP*	**Pb**	**14 52 51.9**	**-1.0**
ARSB				⇓*eS*	**Sb**	**14 53 03.2**	**-2.0**
UCH	**Uchtor**	**0.98**	**92**	⇓P	**Pb**	**14 52 53.2**	**-0.3**
	1.8nm,0.1s						
UCH				⇑S	**Sb**	**14 53 06.3**	**+0.2**
	7.3nm,0.2s						
UCH	**Uchtor**	**0.98**	**92**	⇑*eP*	**Pb**	**14 52 52.9**	**-0.6**
UCH				⇑*eS*	**Sb**	**14 53 05.7**	**-0.5**
ARK	**Arkit**	**1.03**	**243**	⇓*eP*	**Pg**	**14 52 54.6**	**-0.3**
ARK				⇓*eS*	**Sn**	**14 53 07.8**	**-0.4**
AAK	**Ala-Archa**	**1.03**	**69**	⇑P	**Pg**	**14 52 55.0**	**0.0**
	1.3nm,0.1s						
AAK				⇑S	**Sn**	**14 53 08.5**	**+0.2**
	3.6nm,0.2s						
AAK	**Ala-Archa**	**1.03**	**69**	⇑P	**Pg**	**14 52 54.8**	**-0.1**
	0.9nm,0.6s						
AAK				⇑S	**Sn**	**14 53 08.4**	**+0.2**
	2.2nm,0.7s						
AAK	**Ala-Archa**	**1.03**	**69**	⇑*eP*	**Pn**	**14 52 54.5**	**+0.2**
AAK				⇑*eS*	**Sn**	**14 53 08.2**	**-0.1**
CHMS	**Chumysh**	**1.36**	**57**	⇑*eP*	**Pg**	**14 53 00.5**	**-0.7**
CHMS				⇑*eS*	**Sg**	**14 53 18.9**	**-0.1**
USP	**Ospenovka**	**1.39**	**44**	⇑*eP*	**Pg**	**14 53 01.4**	**-0.2**
USP				⇑*eS*	**Sg**	**14 53 20.4**	**+0.7**
SALK	**Salom-Alik**	**1.47**	**161**	⇑*eP*	**Pn**	**14 53 00.2**	**-0.1**
SALK				⇑*eS*	**Sn**	**14 53 18.2**	**-0.8**
TKM2	**Tokmak 2**	**1.89**	**69**	⇓P	**Pg**	**14 53 10.3**	**-0.9**
	1.4nm,0.1s						
TKM2				⇑S	**Sg**	**14 53 35.6**	**-0.2**
	5.9nm,0.2s						
TKM2	**Tokmak 2**	**1.89**	**69**	⇑*eP*	**Pb**	**14 53 09.1**	**+0.3**
TKM2				⇑*eS*	**Sb**	**14 53 33.7**	**+1.6**
BOOM	**Boomskoye usch**	**2.05**	**83**	⇑*eP*	**Pb**	**14 53 10.9**	**-0.6**
BOOM				⇑*eS*	**Sb**	**14 53 36.7**	**+0.1**
DGS	**Degeres**	**2.13**	**62**	Pg	**Pg**	**14 53 15.8**	**0.0**
	2.6nm,0.5s						
DGS				Lg	Lg	14 53 44.9	
	6.6nm,0.4s						
KK31	**Karatay Array**	**2.14**	**294**	Pg	**Pg**	**14 53 15.8**	**-0.3**
	0.4nm,0.3s,baz=107,slow=15,SNR=5.5						
KK31				⇑Lg	Lg	14 53 46.2	
	1.0nm,0.2s,baz=119,slow=28,SNR=9.5						
JNKS	**Jany-Kuch**	**2.21**	**122**	⇓*eP*	**Pn**	**14 53 12.2**	**+1.6**
JNKS				⇓*eS*	**Sn**	**14 53 39.1**	**+1.7**
IUG	**Iuzhnay**	**2.35**	**268**	Pg	**Pg**	**14 53 21.9**	**+1.9**
	9.3nm,0.3s						
IUG				Lg	Lg	14 53 55.3	
	17nm,0.6s						
MTBS	**Maitube**	**2.54**	**69**	Pg	**Pg**	**14 53 22.0**	**-1.5**
	2.0nm,0.1s						
MTBS				Lg	Lg	14 53 55.4	
	4.2nm,0.2s						
MTBS	**Maitube**	**2.54**	**69**	*eP*	**Pg**	**14 53 22.0**	**-1.5**
	1.5nm,0.1s						
MTBS				*eS*	**Sg**	**14 53 55.4**	**-1.0**
	4.2nm,0.2s						
KDJ	**Kajisay**	**2.97**	**91**	⇑*eP*	**Pn**	**14 53 23.4**	**+2.4**
KDJ				⇑*eS*	**Sn**	**14 53 58.4**	**+2.3**
KOTS	**Kotyrbulak**	**3.04**	**70**	*eP*	**Pg**	**14 53 31.8**	**-1.4**
	0.3nm,0.1s						
KOTS				*eS*	**Sg**	**14 54 12.2**	**-0.5**
	5.3nm,0.4s						

*IDC **14** 15:11:01.9±1.1, 49.°87N×178.°07W, h0km, mb3.8/12, mbtmp3.9/14, ML3.5/2, Error ellipse: s-maj=28.6km s-min=19.3km az=179.0*
*NEIC **14** 15:11:04.3±0.8, 50.°0N±0.°1×178.°3W±0.°1, h10km±2km, mb4.3/29, Error ellipse: s-maj=19.3km s-min=11.2km az=175.0*

ISC 14 15:11:07.3±0.9, **49.°9N**±0.°1×**178.°16W**±0.°07, **h35**km, **n58**, σ0**9**91/56, **mb4.2**/23, **South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**2.07**	**18**	Pn	**Pn**	**15 11 37.7**	**-1.8**
AMKA	**Amchitka**	**2.20**	**314**	Pn	**Pn**	**15 11 38.4**	**-2.9**
ADK	**Adak**	**2.21**	**25**	Pn	**Pn**	**15 11 39.4**	**-2.0**
UNV	**Unalaska Valle**	**8.23**	**57**	Pn	**Pn**	**15 13 03.6**	**-0.5**
S12K	**Black Hills**	**11.34**	**53**	Pn	**Pn**	**15 13 46.0**	**-0.7**
SDPT	**Sand Point**	**12.05**	**56**	Pn	**Pn**	**15 13 54.5**	**-1.7**
PETK	**Petropavlovsk-**	**15.35**	**291**	Pn	**Pn**	**15 14 42.1**	**+1.0**
	0.5nm,0.3s,baz=78,slow=21,SNR=3.2						
	6.4nm,1.0s						
K15K	**Wolf Creek Mou**	**15.45**	**30**	Pn	**Pn**	**15 14 42.4**	**+0.1**
K15K				IAmb	IAmb	15 15 04.4	
	comp=Z,26nm,1.4s						
ACHA	**Angle Creek He**	**15.72**	**49**	Pn	**Pn**	**15 14 45.7**	**-0.2**
ACHA				IAmb	IAmb	15 14 58.9	
	comp=Z,22nm,1.4s						
KDAK	**Kodiak Island**	**16.96**	**52**	Pn	**Pn**	**15 15 00.7**	**-0.8**
KDAK	**Kodiak Island**	**16.96**	**52**	Pn	**Pn**	**15 14 58.7**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=182,slow=2.4,SNR=8.0						
KDAK				Sn	**Sn**	**15 18 10.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=1.0						
	comp=Z,13nm,1.0s						
H18K	**Honhosa River**	**18.49**	**27**	P	**P**	**15 15 18.3**	**-1.8**
H18K				IAmb	IAmb	15 15 29.4	
	comp=Z,24nm,1.4s						
F17K	**Baldwin Pennin**	**18.73**	**21**	P	**P**	**15 15 22.3**	**-0.2**
F17K				IAmb	IAmb	15 15 28.8	
	comp=Z,30nm,1.0s						
RC01	**Rabbit Creek A**	**19.45**	**44**	P	**P**	**15 15 30.2**	**-0.3**
BILL	**Bilibino**	**19.78**	**343**	P	**P**	**15 15 34.1**	**+0.1**
KTH	**Kantishna Hill**	**20.05**	**37**	P	**P**	**15 15 36.9**	**-0.2**
SEY	**Seymchan**	**20.64**	**320**	P	**P**	**15 15 43.5**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=123,slow=14,SNR=10						
	comp=Z,3.4nm,0.7s						
RND	**Reindeer**	**20.79**	**38**	P	**P**	**15 15 44.9**	**-0.3**
G21K	**Allakaket**	**20.89**	**28**	P	**P**	**15 15 46.1**	**0.0**
ILAR	**Eielson Array**	**22.18**	**36**	P	**P**	**15 15 59.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=238,slow=8.4,SNR=9.7						
	comp=Z,0.2nm,0.4s						
RIDG	**Independent Ri**	**22.56**	**40**	P	**P**	**15 16 04.1**	**-0.1**
RIDG				IAmb	IAmb	15 16 05.0	
	comp=Z,14nm,0.7s						
J25K	**Salcha River,**	**22.70**	**37**	P	**P**	**15 16 04.6**	**-1.0**
BARN	**Barnard Glacie**	**23.18**	**47**	P	**P**	**15 16 11.0**	**+0.3**
BARN				IAmb	IAmb	15 16 20.7	
	comp=Z,16nm,1.3s						
D23K	**Nanushuk River**	**23.31**	**25**	P	**P**	**15 16 12.4**	**+0.7**
D23K				IAmb	IAmb	15 16 36.9	
	comp=Z,18nm,1.4s						
K27K	**Chicken**	**23.81**	**40**	P	**P**	**15 16 17.0**	**+0.5**
C23K	**Itkillik River**	**23.91**	**23**	P	**P**	**15 16 17.4**	**0.0**
C23K				IAmb	IAmb	15 16 20.4	
	comp=Z,25nm,1.4s						
EGAK	**Eagle**	**24.44**	**39**	P	**P**	**15 16 22.4**	**0.0**
EGAK				IAmb	IAmb	15 16 33.5	
	comp=Z,11nm,1.5s						
I28M	**Miner Creek**	**25.15**	**37**	P	**P**	**15 16 28.9**	**0.0**
PDAR	**Pinedale Array**	**46.39**	**71**	P	**P**	**15 19 30.6**	**+0.3**
PDAR	**Pinedale Array**	**46.39**	**71**	P	**P**	**15 19 30.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=6.6						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**47.69**	**298**	P	**P**	**15 19 41.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=56,slow=7.3,SNR=4.5						
	comp=Z,0.5nm,0.5s						
PV02	**Paradox Valley**	**49.55**	**76**	P	**P**	**15 19 55.1**	**+0.3**
PV02				IAmb	IAmb	15 20 01.6	
	comp=Z,4.4nm,1.0s						
SPB2	**Spitsbergen Ar**	**51.90**	**356**	P	**P**	**15 20 12.1**	**+0.4**
TXAR	**Lajitas Array**	**58.49**	**81**	P	**P**	**15 20 59.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=325,slow=8.3,SNR=3.8						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**59.63**	**351**	P	**P**	**15 21 07.5**	**+0.3**
ARCES	**ARCESS Array B**	**59.63**	**351**	P	**P**	**15 21 07.6**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=23,slow=7.8,SNR=30						
	comp=Z,1.8nm,0.4s						
KURK	**Kurchatov**	**60.35**	**315**	P	**P**	**15 21 12.3**	**-0.1**
KURK				IAmb	IAmb	15 21 13.1	
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**60.46**	**315**	P	**P**	**15 21 13.4**	**+0.3**
	comp=Z,5.2nm,0.2s,baz=42,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**61.29**	**309**	P	**P**	**15 21 18.5**	**-0.3**
MKAR	**Makanchi Array**	**61.29**	**309**	P	**P**	**15 21 18.2**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=57,slow=4.5,SNR=5.2						
	comp=Z,1.2nm,0.8s						
ARTI	**Arti**	**64.18**	**329**	P	**P**	**15 21 38.5**	**+0.6**
KDJ	**Kajisay**	**67.17**	**309**	P	**P**	**15 21 57.2**	**-0.5**
KDJ				IAmb	IAmb	15 22 28.2	
	comp=Z,3.1nm,1.0s						
FINES	**FINESS Array B**	**67.33**	**348**	P	**P**	**15 21 58.3**	**+0.2**
	comp=Z,4.1nm,1.1s,baz=50,slow=6.0,SNR=6.0						
	comp=Z,4.1nm,1.1s						
NB201	**NORSAR Array S**	**69.16**	**355**	P	**P**	**15 22 09.4**	**-0.2**
NB2	**NORSAR Sub

YITV	**Yitav**	**0.44 346**	P		**Pg**	**15 55 52.5 +0.3**
YITV	**Yitav**	**0.44 346**	S		**Sb**	**15 55 59.2 +0.5**
AMAZ	**Amatzia**	**0.54 272**	P		**Pg**	**15 55 53.9 -0.2**
AMAZ			S		**Sg**	**15 56 00.9 -0.5**
AMAZ	**Amatzia**	**0.54 272**	P		**Pg**	**15 55 53.9 -0.2**
AMAZ	**Amatzia**	**0.54 272**	S		**Sg**	**15 56 01.3 -0.1**
MEFR	**Maale Efrayim**	**0.57 347**	P		**Pg**	**15 55 54.6 +0.1**
MEFR	**Maale Efrayim**	**0.57 347**	S		**Sb**	**15 56 03.2 +0.9**
RGMN	**Argaman**	**0.65 358**	P		**Pg**	**15 55 56.3 +0.3**
HMRA	**Hamra**	**0.69 352**	P		**Pg**	**15 55 56.8 +0.1**
HMRA	**Hamra**	**0.69 352**	S		**Sb**	**15 56 06.8 +1.0**
IDAN	**Idan**	**0.72 199**	P		**Pg**	**15 55 57.2 -0.2**
ROII	**Roi**	**0.73 356**	P		**Pg**	**15 55 57.4 -0.1**
HMDT	**Nahal Hemdat**	**0.73 358**	P		**Pg**	**15 55 57.6 0.0**
HMDT			S		**Sb**	**15 56 08.4 +1.3**
HMDT	**Nahal Hemdat**	**0.73 358**	P		**Pg**	**15 55 57.5 -0.1**
HSUJ	**Al Zarqa**	**0.80 43**	P		**Pg**	**15 55 58.5 -0.3**
QRNJ	**Al-Qirein**	**0.81 1**	P		**Pg**	**15 55 59.2 +0.1**
SLTI	**Sal'it**	**0.84 329**	P		**Pg**	**15 55 59.3 -0.3**
SLTI			S		**Sg**	**15 56 11.0 +0.2**
EYHV	**Ein Yahav**	**0.90 198**	P		**Pg**	**15 56 00.1 -0.5**
EYHV	**Ein Yahav**	**0.90 198**	S		**Sb**	**15 56 12.6 +0.9**
MMLI	**Mount Malkishu**	**0.92 353**	P		**Pg**	**15 56 01.0 -0.2**
MMLI			S		**Sb**	**15 56 14.2 +1.5**
MMLI	**Mount Malkishu**	**0.92 353**	⇑P		**Pg**	**15 56 00.9 -0.3**
ZFRI	**Zfri**	**1.01 199**	P		**Pb**	**15 56 02.5 +0.4**
ZFRI			S		**Sb**	**15 56 15.7 +0.6**
ZFRI	**Zfri**	**1.01 199**	P		**Pb**	**15 56 01.9 -0.2**
KZIT	**Kziot**	**1.16 239**	P		**Pb**	**15 56 04.3 -0.4**
KZIT	**Kziot**	**1.16 239**	P		**Pb**	**15 56 04.2 -0.4**
KZIT	**Kziot**	**1.16 239**	S		**Sb**	**15 56 20.0 +0.6**
OFRI	**`Ofer**	**1.20 337**	P		**Pn**	**15 56 04.9 -0.2**
OFRI	**`Ofer**	**1.20 337**	P		**Pn**	**15 56 04.9 -0.2**
OFRI	**`Ofer**	**1.20 337**	S		**Sn**	**15 56 22.2 +1.2**
SHMJ	**Saham**	**1.22 8**	P		**Pn**	**15 56 06.1 +0.8**
BLGI	**Bet Lehem HaGe**	**1.25 346**	P		**Pn**	**15 56 06.1 +0.4**
PRNI	**Paran**	**1.25 202**	P		**Pn**	**15 56 05.7 -0.1**
ASF	**Jabal al Asfar**	**1.32 60**	P		**Pn**	**15 56 06.8 0.0**
ASF			S		**Sb**	**15 56 25.0 +1.0**
HRFI	**Mount Harif**	**1.54 197**	P		**Pn**	**15 56 10.5 +0.7**
HRFI	**Mount Harif**	**1.54 197**	P		**Pn**	**15 56 09.9 +0.1**
HRFI	**Mount Harif**	**1.54 197**	S		**Sn**	**15 56 30.7 +1.3**
KRMI	**Paran Flat**	**1.57 207**	P		**Pn**	**15 56 10.6 +0.5**
KRMI	**Paran Flat**	**1.57 207**	P		**Pn**	**15 56 10.4 +0.3**
KRMI	**Paran Flat**	**1.57 207**	S		**Sn**	**15 56 30.6 +0.6**
HNTI	**Hanita**	**1.59 349**	P		**Pn**	**15 56 12.2 +1.7**
GEM	**Giv'at Ha'Em**	**1.69 3**	P		**Pn**	**15 56 13.1 +1.3**
GEM	**Giv'at Ha'Em**	**1.69 3**	P		**Pn**	**15 56 12.7 +0.9**
NATI	**Neve Ativ**	**1.75 5**	P		**Pn**	**15 56 13.5 +0.9**
NATI			S		**Sb**	**15 56 37.2 +0.9**
MBRI	**Mt Berech**	**1.80 198**	P		**Pn**	**15 56 15.0 +1.6**
SHBL	**Chebaa**	**1.83 5**	*eP*		**Pn**	**15 56 14.8 +0.9**
SHBL			*eS*		**Sn**	**15 56 30.0 -6.8**
RCY	**Rachaya**	**1.99 7**	*eP*		**Pn**	**15 56 17.2 +1.1**
QRWL	**Qaraoun**	**2.03 3**	*eP*		**Pn**	**15 56 18.1 +1.6**
DQRL	**Deir Qamar**	**2.18 0**	*eP*		**Pn**	**15 56 20.7 +2.1**
DQRL			*eS*		**Sn**	**15 56 40.1 -5.1**
ZAHL	**Zahle**	**2.35 7**	*eP*		**Pn**	**15 56 22.5 +1.5**
BHL	**Bhannes**	**2.38 2**	*eP*		**Pn**	**15 56 23.1 +1.7**
FKH	**Fakeheh**	**2.81 15**	*eP*		**Pn**	**15 56 28.3 +0.9**

*NEIC **14** 16:13:08.8±1.9, 43°.93N±0°.05×105°.25W±0°.04, h0^{km}±1^{km}, ML3.1/30, Error ellipse: s-maj=10.1km s-min=2.7km az=24.0*
*IDC **14** 16:13:09.9±2.0, 43°.99N×105°.45W, h0^{km}, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=64.0km s-min=12.0km az=150.0*
ISC 14 16:13:09.9±1.2, 43°.96N±0°.06×105°.26W±0°.07, h0^{km}, n30, σ1§39/29, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**79**	Pg	**Pg**	**16 13 27.5**	**+0.4**
K22A	**Casper**	**1.60**	**216**		**Pn**	**16 13 39.1**	**-0.5**
K22A	201nm,0.3s			IAML		16 14 04.6	
K22A	186nm,0.3s			IAML		16 14 05.1	
LAO	**LASA Array**	**2.81**	**346**		**Pn**	**16 13 57.2**	**+1.0**
LAO	84nm,0.7s			IAML		16 14 38.8	
LAO	72nm,0.7s			IAML		16 14 46.4	
RLMT	**Red Lodge**	**3.09**	**293**	Pn	**Pn**	**16 14 01.0**	**+0.9**
BW06	**Boulder Array**	**3.35**	**251**	Pn	**Pn**	**16 14 04.1**	**+0.3**
BW06	26nm,0.5s			IAML		16 14 56.1	
PD31	**Pinedale Array**	**3.35**	**251**	Pn	**Pn**	**16 14 04.5**	**+0.7**
PDAR	**Pinedale Array**	**3.35**	**251**	Pn	**Pn**	**16 14 04.6**	**+0.9**
PDAR	**Pinedale Array**	**3.35**	**251**	Pn	**Pn**	**16 14 04.8**	**+1.1**
PDAR	1.6nm,0.3s,baz=62,slow=14,SNR=35 4.6nm,0.3s,baz=66,slow=31,SNR=3.4 1.2nm,0.3s			Lg	Lg	16 14 51.7	
HAYD	**Hayden**	**3.74**	**204**	Pn	**Pn**	**16 14 08.3**	**-0.8**
HAYD	comp=N,20nm,0.8s			IAML		16 15 19.8	
HAYD	comp=E,24nm,1.6s			IAML		16 15 35.5	
YHH	**Holmes Hill**	**4.09**	**284**	Pn	**Pn**	**16 14 12.0**	**-1.9**
E28A	**Huff**	**4.15**	**49**	Pn	**Pn**	**16 14 13.3**	**-1.2**
ISCO	**Idaho Springs**	**4.16**	**184**	Pn	**Pn**	**16 14 15.4**	**+0.5**
ISCO	comp=E,14nm,0.7s			IAML		16 15 23.8	
K30B	**Basset**	**4.32**	**105**	Pn	**Pn**	**16 14 16.5**	**-0.3**
YHL	**Hebgen Lake**	**4.34**	**284**		**Pn**	**16 14 16.2**	**-1.1**
YHL	comp=E,13nm,0.1s			IAML		16 15 28.8	
O20A	**White River Ci**	**4.42**	**211**		**Pn**	**16 14 16.8**	**-1.6**
O20A	comp=E,25nm,2.1s			IAML		16 15 50.0	
O20A	comp=E,19nm,2.9s			IAML		16 16 03.1	
DGMT	**Dagmar**	**4.57**	**9**	Pn	**Pn**	**16 14 20.6**	**+0.3**
HWUT	**Hardware Ranch**	**5.20**	**245**	Pn	**Pn**	**16 14 26.8**	**-2.3**
HWUT	comp=E,9.7nm,1.0s			IAML		16 16 04.2	
HWUT	comp=E,10nm,1.3s			IAML		16 16 05.5	
P18A	**Preston Nutter**	**5.71**	**222**		**Pn**	**16 14 37.1**	**+0.9**
PV21	**Cone Mtn., Par**	**6.08**	**209**	Pn	**Pn**	**16 14 39.0**	**-2.1**
PV07	**Paradox Valley**	**6.08**	**206**	Pn	**Pn**	**16 14 39.8**	**-1.4**
PV23	**Carpenter Ridg**	**6.18**	**208**	Pn	**Pn**	**16 14 40.5**	**-2.2**
SRU	**San Rafael Swe**	**6.25**	**221**	Pn	**Pn**	**16 14 44.2**	**+0.7**
PV20	**West Nyswonger**	**6.27**	**208**	Pn	**Pn**	**16 14 45.4**	**+1.6**
PV11	**David Mesa, Pa**	**6.28**	**207**	Pn	**Pn**	**16 14 45.7**	**+1.9**
PV19	**Morning Glory**	**6.30**	**208**	Pn	**Pn**	**16 14 45.9**	**+1.6**
PV03	**Paradox Valley**	**6.31**	**207**	Pn	**Pn**	**16 14 46.4**	**+2.1**
PV18	**Skein Mesa, Pa**	**6.34**	**207**		**Pn**	**16 14 46.7**	**+1.9**
HMU	**Henry Mountain**	**7.30**	**216**		**Pn**	**16 14 58.5**	**+0.5**
I10CA	**LAC DU BONNET**	**8.87**	**42**	I	I	17 07 10.0	
ULM	**Lac du Bonnet**	**8.97**	**42**	Pn	**Pn**	**16 15 19.8**	**-0.8**
	baz=225,slow=324,SNR=8.1 comp=E,0.7nm,0.3s,baz=222,slow=11,SNR=1.9 comp=E,2.6nm,0.4s						

*IDC **14** 16:26:17.7±1.8, 3°.39S×67°.92E, h0^{km}, mb3.7/7, mbtmp3.7/7, MS3.7/6, Error ellipse: s-maj=55.4km s-min=24.7km az=49.0*
*GCMT **14** 16:26:21.0±0.2, 3°.30S±0°.02×68°.00E±0°.02, h13^{km}±1^{km}, MW4.8/96, Moment Tensor Solution. s24,c27; s96,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.91±.10; $M_{\theta\theta}$1.01±.07; $M_{\phi\phi}$0.90±.07; $M_{r\theta}$0.80±.20; $M_{\theta\phi}$-0.72±.04; $M_{\phi r}$-0.13±.20; Best double couple: $M_0$1.96500×10^{16} NP1:ϕ_s142.00000°, δ35.00000°, λ-73.00000°. NP2: ϕ_s301.00000°, δ56.00000°, λ-102.00000°. Principal axes: T 1.8110, Plg11.0000°, Azm40.0000°; N 0.3070, Plg10.0000°, Azm308.0000°; P -2.1180, Plg75.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 14 16:26:20.0±2.0, 3°.4S±0°.3×67°.9E±0°.3, h15^{km}, n18, σ0§81/7, mb3.9/7, MS3.7/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**6.21**	**133**	T	T	16 34 25.9	
	baz=312,slow=74,SNR=10.0						
H08S1	**Diego Garcia H**	**6.21**	**133**	T	T	16 34 28.5	
	baz=312,slow=74,SNR=4.7						
H08S2	**Diego Garcia H**	**6.23**	**133**	T	T	16 34 27.6	
	baz=312,slow=74,SNR=9.0						
KMBO	**Kilima Mbogo**	**30.71**	**273**	LR	LR	16 42 18.7	
	comp=Z,151nm,21.6s,baz=90,slow=31						
BRDH	**Bariadhala**	**34.76**	**41**	LR	LR	16 49 01.2	
	comp=Z,219nm,18.4s,baz=238,slow=39						
CMAR	**Chiang Mai Arr**	**37.49**	**54**	P	**P**	**16 33 33.2**	**-0.3**
	0.6nm,0.8s,baz=245,slow=9.7,SNR=5.8						
CMAR	comp=Z,142nm,21.4s,baz=240,slow=33 0.6nm,0.8s			LR	LR	16 47 06.0	
H04N2	**CROZET ISLANDS**	**44.87**	**196**	T	T	17 22 49.7	
	baz=18,slow=74,SNR=3.7						
H04N1	**CROZET ISLANDS**	**44.87**	**196**	T	T	17 22 48.3	
	baz=18,slow=74,SNR=4.8						
H04N3	**CROZET ISLANDS**	**44.88**	**196**	T	T	17 22 46.8	
	baz=18						
GNI	**Garni**	**48.25**	**336**	LR	LR	16 56 11.6	
	comp=Z,34nm,18.7s,baz=133,slow=37						
LZDM	**Lanzhou Array**	**51.49**	**37**	LR	LR	16 57 08.9	
	comp=Z,126nm,21.0s,baz=220,slow=36						
KBZ	**Khabaz**	**52.02**	**337**	P	**P**	**16 35 30.0**	**+1.1**
	1.1nm,0.5s,baz=171,slow=7.8,SNR=3.2 1.1nm,0.5s						
BRTR	**Keskin Array B**	**53.20**	**327**	P	**P**	**16 35 37.4**	**-0.6**
	0.5nm,0.7s,baz=151,slow=3.3,SNR=2.9 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**54.57**	**8**	P	**P**	**16 35 46.8**	**-0.7**
	0.3nm,0.3s,baz=209,slow=7.4,SNR=4.4 0.3nm,0.3s						
ARTI	**Arti**	**60.08**	**354**	LR	LR	17 03 21.9	
	comp=Z,29nm,18.9s,baz=111,slow=37						
SONM	**Songino Array**	**61.11**	**29**	P	**P**	**16 36 34.4**	**+0.6**
	0.4nm,0.4s,baz=208,slow=7.3,SNR=4.6 0.4nm,0.4s						
ASAR	**Alice Springs**	**66.69**	**114**	P	**P**	**16 37 10.9**	**0.0**
	0.8nm,0.9s,baz=272,slow=6.3,SNR=7.1 0.8nm,0.9s						
WRA	**Warramunga Arr**	**66.71**	**110**	P	**P**	**16 37 11.3**	**+0.2**
	1.3nm,0.9s,baz=280,slow=6.0,SNR=8.0 1.3nm,0.9s						

*IDC **14** 16:27:59.4±1.8, 1°.21N×90°.76E, h0^{km}, mb3.7/6, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=58.8km s-min=28.4km az=42.0*
ISC 14 16:28:00.8±1.5, 1°.2N±0°.3×90°.7E±0°.2, h10^{km}, n16, σ0§75/7, mb3.7/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.66**	**302**	Pn	**Pn**	**16 30 46.9**	**-0.5**
	1.5nm,0.3s,baz=119,slow=11,SNR=9.7						
PALK	0.5nm,0.3s,baz=148,slow=9.5,SNR=1.7 3.2nm,0.3s			Sn	Sn	16 32 48.9	-8.9
H08S2	**Diego Garcia H**	**20.17**	**244**	T	T	16 53 34.0	
	baz=63,slow=75,SNR=8.8						
H08S3	**Diego Garcia H**	**20.17**	**244**	T	T	16 53 36.7	
	baz=63,slow=75,SNR=9.5						
H08S1	**Diego Garcia H**	**20.19**	**244**	T	T	16 53 40.4	
	baz=63,slow=75,SNR=6.0						
H01W3	**Cape Leeuwin H**	**42.06**	**151**	T	T	17 20 58.6	
	baz=326,slow=74,SNR=3.0						
H01W2	**Cape Leeuwin H**	**42.07**	**151**	T	T	17 20 58.4	
	baz=326,slow=74,SNR=4.3						
H01W1	**Cape Leeuwin H**	**42.08**	**151**	T	T	17 20 57.3	
	baz=326,slow=74,SNR=3.7						
MKAR	**Makanchi Array**	**46.01**	**352**	P	**P**	**16 36 23.7**	**-0.8**
	0.2nm,0.6s,baz=184,slow=8.7,SNR=1.6 0.2nm,0.6s						
WRA	**Warramunga Arr**	**47.64**	**119**	P	**P**	**16 36 37.3**	**-0.4**
	0.6nm,0.9s,baz=300,slow=7.4,SNR=5.0 0.6nm,0.9s						
SONM	**Songino Array**	**48.41**	**14**	P	**P**	**16 36 43.2**	**-0.1**
	0.6nm,0.6s,baz=209,slow=9.0,SNR=4.8 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**52.81**	**356**	P	**P**	**16 37 16.7**	**+0.5**
	0.4nm,0.4s,baz=180,slow=8.8,SNR=1.8 0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**58.27**	**211**	T	T	17 41 17.4	
	baz=47,slow=75,SNR=6.4						
H04N1	**CROZET ISLANDS**	**58.28**	**211**	T	T	17 41 18.3	
	baz=47,slow=75,SNR=6.3						
H04N3	**CROZET ISLANDS**	**58.29**	**211**	T	T	17 41 17.4	
	baz=47,slow=75,SNR=5.3						
FINES	**FINESS Array B**	**77.06**	**334**	P	**P**	**16 39 54.3**	**+0.3**
	3.4nm,1.0s,baz=131,slow=8.9,SNR=3.4 3.4nm,1.0s						
GERES	**GERESS Array B**	**80.56**	**319**	P	**P**	**16 40 14.6**	**+0.9**
	0.3nm,0.4s,baz=94,slow=9.0,SNR=4.2 0.3nm,0.4s						

IDC 14 16:29:41.8±5.0, 8°.12S×157°.72E, h0^{km}, mb3.7/4, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=114.0km s-min=29.3km az=10.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.55**	**121**	Pn	Pn	16 30 24.4	-0.1
	127nm,0.3s,baz=214,slow=3.9,SNR=90						
HNR	119nm,0.3s,baz=22,slow=23,SNR=12 345nm,0.3s			Sn	Sn	16 30 48.5	-7.7
WRA	**Warramunga Arr**	**25.51**	**240**	P	P	16 35 12.8	+0.6
	0.5nm,0.5s,baz=67,slow=9.1,SNR=10 0.5nm,0.5s						
ASAR	**Alice Springs**	**27.56**	**233**	P	P	16 35 29.6	-1.2
	0.3nm,0.8s,baz=66,slow=9.7,SNR=5.4 0.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.89**	**18**	T	T	17 04 04.7	
	baz=198,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**27.89**	**18**	T	T	17 04 04.8	
	baz=198,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**27.91**	**18**	T	T	17 04 05.9	
	baz=198,slow=76,SNR=23						
STKA	**Stephens Creek**	**28.00**	**210**	P	P	16 35 35.0	+0.5
	1.2nm,0.6s,baz=45,slow=11,SNR=3.2 1.2nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**29.10**	**18**	T	T	17 05 48.6	
	baz=196,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**29.11**	**18**	T	T	17 05 49.1	
	baz=196,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**29.12**	**18**	T	T	17 05 47.4	
	baz=196,slow=76,SNR=19						
FITZ	**Fitzroy Crossi**	**32.73**	**249**	P	P	16 36 16.5	0.0
	2.7nm,1.0s,baz=68,slow=5.4,SNR=2.4 2.7nm,1.0s						

*IDC **14** 16:31:36.2±1.4, 35°.33N×70°.46E, h0^{km}, mb3.5/3, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=47.0km s-min=35.4km az=167.0*
*NNC **14** 16:32:01.0±17.0, 36°.99N×70°.28E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=136.6km s-min=125.7km az=173.0*
ISC 14 16:31:38.0±1.3, 35°.2N±0°.2×70°.5E±0°.2, h10^{km}, n6, σ1§75/6, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.91**	**0**	⇓P	**Pn**	**16 33 33.7**	**+0.7**
	0.7nm,0.2s,baz=180,slow=12,SNR=14						
KK31	13nm,0.7s,baz=189,slow=24,SNR=15			⇑S	Sn	16 34 45.5	-17
AAK	**Ala-Archa**	**8.07**	**22**	⇓P	**Pn**	**16 33 37.4**	**+2.0**
	1.6nm,0.7s						
AAK	2.0nm,0.6s			⇑S	Sn	16 34 52.5	-14
MKAR	**Makanchi Array**	**14.61**	**34**	Pn	**Pn**	**16 35 02.8**	**-1.9**
	0.1nm,0.3s,baz=219,slow=18,SNR=4.4 0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.27**	**269**	P	**P**	**16 42 20.0**	**-0.3**
	0.3nm,0.5s,baz=55,slow=6.3,SNR=4.0 0.3nm,0.5s						
WRA	**Warramunga Arr**	**81.66**	**121**	P	**P**	**16 43 57.5**	**+0.8**
	0.4nm,0.9s,baz=322,slow=4.8,SNR=4.6 0.4nm,0.9s						
ASAR	**Alice Springs**	**83.86**	**124**	P	**P**	**16 44 07.8**	**-0.2**
	0.2nm,0.7s,baz=302,slow=4.1,SNR=1.8 0.2nm,0.7s						

*NEIC **14** 17:20:29.3±2.0, 52°.6N±0°.1×161°.0E±0°.1, h10^{km}±1^{km}, mb4.6/15, Error ellipse: s-maj=24.7km s-min=13.2km az=184.0*
*KRSC **14** 17:20:29.8±2.2, 52°.61N×161°.04E, h16^{km}±26^{km}, Ml4.4*
*MOS **14** 17:20:33.3±0.9, 52°.64N×160°.88E, h45^{km}, mb4.5/13, Error ellipse: s-maj=8.2km s-min=4.4km az=104.1*
*IDC **14** 17:20:39.5±3.4, 52°.85N×160°.28E, h65^{km}±26^{km}, mb3.6/18, mbtmp4.0/20, ML4.1/2, MS3.1/3, Error ellipse: s-maj=28.6km s-min=16.6km az=102.0*
ISC 14 17:20:29.9±1.6, 52°.58N±0°.05×160°.92E±0°.04, h8^{km}±9^{km}, n139, σ1§47/142, mb4.4/36, MS3.3/4, 9C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.75**	**314**	PN	**Pg**	**17 20 45.1**	**+0.7**
SPN				S	**Sg**	**17 20 54.5**	**+0.3**
SPN	**Mys Shipunski**	**0.75**	**314**	*i* P	**Pg**	**17 20 45.2**	**+0.7**
SPN				*e*S	**Sg**	**17 20 54.5**	**+0.3**
NLC	**Nalytchevo**	**1.12**	**302**	PN	**Pn**	**17 20 51.1**	**-0.8**
NLC				S	**Sb**	**17 21 05.5**	**-0.8**
NLC	**Nalytchevo**	**1.12**	**302**	*e*P	**Pn**	**17 20 51.1**	**-0.8**
NLC				*e*S	**Sb**	**17 21 05.6**	**-0.8**
DALK	**Dalny**	**1.39**	**290**	PN	**Pn**	**17 20 55.8**	**+0.2**
DALK	**Dalny**	**1.39**	**290**	*e*P	**Pn**	**17 20 55.8**	**+0.2**
SDLR	**Sedlovina**	**1.42**	**300**	PN	**Pn**	**17 20 56.1**	**0.0**
SDLR	**Sedlovina**	**1.42**	**300**	*e*P	**Pn**	**17 20 56.2**	**0.0**
PET	**Petropavlovsk**	**1.45**	**289**		**Pn**	**17 20 56.6**	**+0.3**
PET	**Petropavlovsk**	**1.45**	**289**	*e*PN	**Pn**	**17 20 56.7**	**+0.3**
PET				*e*S	**Sn**	**17 21 15.7**	**+0.1**
PET	comp=Z,454nm,0.4s			pmax	pmax		
PET	comp=N,1μm,0.5s			smax	smax		
PET	comp=E,1μm,0.6s			smax	smax		
PET	**Petropavlovsk**	**1.45**	**289**	*e*P	**Pn**	**17 20 56.6**	**+0.3**
PET				*e*S	**Sn**	**17 21 15.1**	**-0.4**
SMAR	**Somma**	**1.46**	**299**	PN	**Pn**	**17 20 56.6**	**-0.1**
SMAR	**Somma**	**1.46**	**299**	*e*P	**Pn**	**17 20 56.7**	**-0.1**
RUS	**Russkaya**	**1.48**	**265**	PN	**Pb**	**17 20 58.2**	**+0.6**
RUS	**Russkaya**	**1.48**	**265**	*e*P	**Pb**	**17 20 58.3**	**+0.6**
AVH	**Avacha**	**1.49**	**298**	PN	**Pn**	**17 20 57.4**	**+0.3**
AVH	**Avacha**	**1.49**	**298**	*e*P	**Pn**	**17 20 57.4**	**+0.3**
KRER	**Koryakskii**	**1.50**	**300**	PN	**Pn**	**17 20 57.6**	**+0.3**
KRER	**Koryakskii**	**1.50**	**300**	*e*P	**Pn**	**17 20 57.6**	**+0.3**
KOK	**Koryaka**	**1.56**	**298**	PN	**Pn**	**17 20 58.5**	**+0.5**
KOK	**Koryaka**	**1.56**	**298**	*e*P	**Pn**	**17 20 58.6**	**+0.5**
KRX	**Arik**	**1.58**	**300**	PN	**Pn**	**17 20 58.2**	**-0.1**
KRX	**Arik**	**1.58**	**300**	*e*P	**Pn**	**17 20 58.3**	**-0.1**
MTVR	**Mutnovka**	**1.68**	**268**	PN	**Pb**	**17 21 01.4**	**+0.3**
MTVR				S	**Sb**	**17 21 23.2**	**+0.8**
MTVR	**Mutnovka**	**1.68**	**268**	*e*P	**Pb**	**17 21 01.4**	**+0.3**
MTVR				*e*S	**Sb**	**17 21 23.2**	**+0.8**
KII	**Karymskiy**	**1.71**	**329**	PN	**Pn**	**17 21 00.4**	**+0.4**
KII	**Karymskiy**	**1.71**	**329**	*e*P	**Pn**	**17 21 00.5**	**+0.4**
KRMR	**Karymshinskiy**	**1.72**	**279**	PN	**Pn**	**17 21 01.1**	**+1.0**
KRMR	**Karymshinskiy**	**1.72**	**279**	*e*P	**Pn**	**17 21 01.1**	**+1.0**
GRL	**Gorelyy**	**1.74**	**270**	PN	**Pb**	**17 21 02.5**	**+0.3**
GRL	**Gorelyy**	**1.74**	**270**	*e*P	**Pb**	**17 21 02.6**	**+0.3**
ASAK	**Asacha**	**1.86**	**265**	PN	**Pb**	**17 21 04.6**	**+0.5**
ASAK	**Asacha**	**1.86**	**265**	*e*P	**Pb**	**17 21 04.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.03**	**286**	Pn	**Pn**	**17 21 05.7**	**+1.3**
PEA0B	**Petropavlovsk-**	**2.03**	**286**	*e*PN	**Pn**	**17 21 05.6**	**+1.3**
PETK	**Petropavlovsk-**	**2.03**	**286**		**Pn**	**17 21 04.8**	**+0.4**
PETK	**Petropavlovsk-**	**2.03**	**286**	P	**Pn**	**17 21 05.2**	**+0.8**
PETK	comp=E,207nm,0.5s,baz=104,slow=19,SNR=265			S	**Sb**	**17 21 33.5**	**+1.1**
PETK	comp=E,110nm,0.4s,baz=99,slow=15,SNR=9.8 **Petropavlovsk-**	**2.03**	**286**	PN	**Pn**	**17 21 04.8**	**+0.4**
MKZ	**Mys Kozlova**	**2.04**	**13**	PN	**Pn**	**17 21 03.5**	**-0.9**
MKZ	**Mys Kozlova**	**2.04**	**13**	*e*P	**Pn**	**17 21 03.6**	**-0.9**
GNL	**Ganaly**	**2.11**	**303**	PN	**Pn**	**17 21 07.3**	**+1.6**
GNL	**Ganaly**	**2.11**	**303**	*e*P	**Pn**	**17 21 07.3**	**+1.6**
KZV	**Kizimen**	**2.56**	**352**	PN	**Pn**	**17 21 12.5**	**+0.6**
KZV	**Kizimen**	**2.56**	**352**	*e*P	**Pn**	**17 21 12.5**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.57**	**265**	PN	**Pb**	**17 21 15.1**	**-1.1**
MIPR	**Malaya Ipel'ka**	**2.57**	**265**	*e*P	**Pb**	**17 21 15.1**	**-1.1**
TUMD	**Tumrok D**	**2.65**	**353**	PN	**Pn**	**17 21 13.0**	**+0.1**
TUMD	**Tumrok D**	**2.65**	**353**	*e*P	**Pn**	**17 21 13.1**	**+0.1**
PAU	**Pauzhetka**	**2.77**	**248**	PN	**Pb**	**17 21 16.9**	**-2.8**
PAU	**Pauzhetka**	**2.77**	**248**	*e*P	**Pb**	**17 21 17.0**	**-2.8**
KMNR	**Kamenistaya**	**3.21**	**353**	PN	**Pn**	**17 21 22.9**	**+2.3**
KMNR	**Kamenistaya**	**3.21**	**353**	*e*P	**Pn**	**17 21 23.0**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.37**	**358**	PN	**Pn**	**17 21 25.2**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.37**	**358**	*e*P	**Pn**	**17 21 25.2**	**+2.3**
KIRR	**Kirishev**	**3.40**	**354**	PN	**Pn**	**17 21 26.1**	**+2.8**
KIRR	**Kirishev**	**3.40**	**354**	*e*P	**Pn**	**17 21 26.1**	**+2.8**
BZWR	**Bezymyannyi-We**	**3.40**	**356**	PN	**Pn**	**17 21 25.9**	**+2.6**
BZWR	**Bezymyannyi-We**	**3.40**	**356**	*e*P	**Pn**	**17 21 26.0**	**+2.6**
KPT	**Kopyto**	**3.42**	**353**	PN	**Pn**	**17 21 26.6**	**+3.1

B21K Ikpikpuk River 26.54 33 P P 17 26 06.3 -1.4
B21K IAmb IAmb 17 26 24.6
comp=Z,31nm,1.4s
E22K Anaktuvuk Pass 27.17 37 P P 17 26 12.2 -1.2
E22K IAmb IAmb 17 26 28.5
comp=Z,14nm,1.5s
TOLK Toolik Lake Re 28.07 36 P P 17 26 20.0 -1.6
TOLK IAmb IAmb 17 26 45.1
comp=Z,16nm,1.4s
L27K Beaver Creek, 31.17 48 P P 17 26 46.5 -2.5
L27K IAmb IAmb 17 27 27.3
comp=Z,7.0nm,1.5s
H11N2 WAKE ISLAND Hy 33.12 170 T T 18 02 39.2
baz=353,slow=76,SNR=35
H11N3 WAKE ISLAND Hy 33.13 170 T T 18 02 39.8
baz=353,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 33.13 170 T T 18 02 42.7
baz=353,slow=76,SNR=32
H11S1 WAKE ISLAND Hy 34.30 170 T T 18 05 00.7
baz=352,slow=76,SNR=5.7
H11S3 WAKE ISLAND Hy 34.31 170 T T 18 05 01.5
baz=352,slow=76,SNR=5.9
H11S2 WAKE ISLAND Hy 34.32 170 T T 18 04 57.4
baz=352,slow=76,SNR=4.1
SONM Songino Array 34.51 284 P P 17 27 17.7 -0.8
comp=Z,0.3nm,0.3s,baz=72,slow=9.5,SNR=4.2
SONM LR LR 17 41 47.8
comp=Z,40nm,18.3s,baz=54,slow=37
comp=Z,0.3nm,0.3s
GTA Gaotai 43.17 278 *e*P **P 17 28 31.9 +0.8**
GTA pmax pmax
comp=Z,3.0nm,0.8s
SPITS Spitsbergen Ar 47.72 351 P P 17 29 06.6 +0.1
comp=Z,1.7nm,0.3s,baz=57,slow=9.2,SNR=23
comp=Z,1.7nm,0.3s
KURK Kurchatov 48.43 303 P P 17 29 09.6 -2.7
KURK IAmb IAmb 17 29 11.9
comp=Z,13nm,1.4s
KURK Kurchatov 48.43 303 *ce*P **P 17 29 10.4 -1.9**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK MLR MLR
comp=Z,31nm,17.0s
KURBB Kurchatov Arra 48.53 303 P P 17 29 10.9 -2.1
comp=Z,1.7nm,0.5s,baz=60,slow=7.5,SNR=21
comp=Z,1.7nm,0.5s
MK31 Makanchi Array 48.83 297 *i*P **P 17 29 15.0 -0.5**
MKAR Makanchi Array 48.83 297 P P 17 29 13.8 -1.8
comp=Z,0.5nm,0.4s,baz=56,slow=7.4,SNR=4.8
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 48.83 297 *i*P **P 17 29 13.3 -2.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
BORK Borovoye 51.12 309 *i*P **P 17 29 33.0 +0.2**
BORK pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 53.93 342 P P 17 29 52.5 -0.9
comp=Z,3.3nm,1.1s,baz=32,slow=8.7,SNR=7.6
comp=Z,3.3nm,1.1s
ARTI Arti 54.22 318 *d*P **P 17 29 55.1 -0.5**
ARTI S **S 17 37 34.8 +2.2**
ARTI pmax pmax
comp=Z,15nm,4.0s
YNE Yellowstone No 55.57 59 P P 17 30 04.7 -1.2
KIRV Kirov 56.10 324 *ce*P **P 17 30 09.1 0.0**
KSH Kashi 57.07 293 P P 17 30 19.0 +2.5
KSH pmax pmax
comp=Z,3.0nm,1.6s
KLMR Klimovskoe 57.65 330 *e*P **P 17 30 17.7 -2.4**
KLMR *e* 17 32 25.5
KLMR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 58.57 259 P P 17 30 28.7 +1.5
comp=Z,0.7nm,0.6s,baz=39,slow=7.1,SNR=3.3
comp=Z,0.7nm,0.6s
FINES FINESS Array B 60.79 337 P P 17 30 42.0 +0.2
comp=Z,3.4nm,0.6s,baz=30,slow=8.5,SNR=22
comp=Z,3.4nm,0.6s
FINES FINESS Array B 60.79 337 *ce*P **P 17 30 41.7 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
BELG Belogornoye 61.44 320 *i*P **P 17 30 45.9 -0.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
F33A 5 Mile Ranch, 61.83 51 P P 17 30 48.7 -0.5
OBN Obninsk 63.22 328 ‖ *e*P **P 17 30 57.2 -1.0**
OBN *i* 17 31 34.7
OBN *e* 17 33 19.2
OBN *i*S S 17 39 56.7 +27
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,26nm,17.0s
NB2 NORSAR Subarra 64.17 344 P P 17 31 03.5 -1.0
comp=Z,0.3nm,0.4s,baz=20,slow=6.9
NOA NORSAR Array B 64.17 344 P P 17 31 03.9 -0.6
comp=Z,0.5nm,0.4s,baz=23,slow=6.8,SNR=4.1
comp=Z,0.5nm,0.4s
HFS Hagfors 64.59 343 P P 17 31 06.2 -1.0
comp=Z,1.1nm,0.5s,baz=20,slow=4.7,SNR=8.0
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 69.31 330 P P 17 31 36.8 -0.6
comp=Z,1.6nm,0.4s,baz=31,slow=6.2,SNR=9.9
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 69.31 330 *i*P **P 17 31 37.0 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 69.31 330 *ce*P **P 17 31 36.6 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 69.32 330 P P 17 31 36.5 -0.9
KIEV IAmb IAmb 17 31 37.4
comp=Z,3.2nm,0.8s
KIEV Kiev 69.32 330 P P 17 31 36.5 -0.9
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 70.16 317 *e*P **P 17 31 41.3 -1.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 70.25 317 P P 17 31 43.5 +0.3
comp=Z,3.0nm,0.7s,baz=223,slow=2.6,SNR=7.3
comp=Z,3.0nm,0.7s
KBZ Khabaz 70.25 317 *ce*P **P 17 31 43.1 -0.2**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
TXAR Lajitas Array 70.37 67 P P 17 31 48.9 +4.5
comp=Z,0.2nm,0.5s,baz=323,slow=7.7,SNR=2.7
comp=Z,0.2nm,0.5s
EKA Eskdalemuir Ar 71.65 350 P P 17 31 51.6 +0.1
comp=Z,0.5nm,0.5s,baz=18,slow=5.9,SNR=5.6
comp=Z,0.5nm,0.5s
GERES GERESS Array B 75.18 338 P P 17 32 12.3 -0.3
comp=Z,0.2nm,0.3s,baz=55,slow=8.5,SNR=2.2
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 75.83 206 P P 17 32 17.8 +1.3
comp=Z,0.1nm,0.5s,baz=19,slow=5.9,SNR=1.5
comp=Z,0.1nm,0.5s
BRTR Keskin Array B 77.34 321 P P 17 32 24.9 -0.2
comp=Z,0.4nm,0.5s,baz=31,slow=5.0,SNR=2.4
comp=Z,0.4nm,0.5s
ASAR Alice Springs 79.50 205 P P 17 32 38.6 +1.7
comp=Z,0.3nm,0.6s,baz=17,slow=5.3,SNR=7.7
comp=Z,0.3nm,0.6s

*BKK **14** 17:23:31.1±1.5,26°N±11°×9°9E±1°8,h10km,M4.6/7, mB4.7/7,mb4.7/7,Mjma4.3/7,ML5.2/6,MLv5.0/6, Mw(mB)3.9/7*
*IDC **14** 17:23:56.4±1.3,24°.55N×99°.86E,h0km,mb3.6/4, mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=37.9km s-min=17.8km az=85.0*
ISC 14 17:23:57.2±1.2,24°.41N±0°.09×99°.6E±0°.3,h10km,n8, σ1§86/9,mb3.6/4,Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**4.48**	**186**	P			**Pn**	**17 25 05.6**	**+0.2**
4.2nm0.6nm1.0nm900nm37nm,0.5s									
CHTO	**Chiang Mai**	**5.60**	**186**	P			**Pg**	**17 25 43.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**5.95**	**186**	Pn			**Pn**	**17 25 27.2**	**+1.7**
0.3nm,0.3s,baz=356,slow=13,SNR=17									
CMAR					Pg		**Pg**	**17 25 49.0**	**-2.3**
0.3nm,0.3s,baz=359,slow=16,SNR=4.6									
CMAR					Lg		Lg	17 27 08.8	
3.7nm,0.3s,baz=9.3,slow=32,SNR=20									
0.8nm,0.6s									
CM05	**Chiang Mai Arr**	**6.01**	**186**	P			**Pn**	**17 25 28.6**	**+2.3**
SONM	**Songino Array**	**24.00**	**11**	P			**P**	**17 29 10.4**	**-1.8**
0.6nm,0.6s,baz=182,slow=8.5,SNR=4.5									
0.6nm,0.6s									
MKAR	**Makanchi Array**	**26.26**	**333**	P			**P**	**17 29 33.5**	**+0.9**
1.6nm,0.9s,baz=142,slow=11,SNR=5.1									
1.6nm,0.9s									
WRA	**Warramunga Arr**	**55.60**	**139**	P			**P**	**17 33 35.0**	**+1.6**
1.2nm,1.1s,baz=328,slow=7.3,SNR=4.7									
1.2nm,1.1s									
ASAR	**Alice Springs**	**58.26**	**143**	P			**P**	**17 33 51.5**	**-0.7**
0.4nm,0.8s,baz=342,slow=7.5,SNR=3.0									
0.4nm,0.8s									

GCG 14 17:31:31.7±1.1,15°.68N×91°.67W,h11km±39km,MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.68**	**124**	*e*P			Pg	17 31 44.9	0.0
QUIS					*e*		S	17 31 54.1	+0.3
QUIS					*e*S		S	17 31 54.1	+0.3
CCIG	**Comitan**	**0.75**	**324**	*e*P			Pg	17 31 46.0	-0.2
STG2	**El Palmar, Qui**	**1.27**	**167**	*e*S			Sb	17 32 02.8	-9.2
APG	**El Apazote**	**1.34**	**120**	*e*P			Pn	17 31 56.8	+0.2

*IDC **14** 17:41:20.7±0.9,12°.29N×144°.06E,h0km,mb3.9/8, mbtmp3.9/8,MS3.1/7,Error ellipse: s-maj=30.2km s-min=16.4km az=114.0*
*NEIC **14** 17:41:21.9±2.2,12°.22N±0°.09×144°.0E±0°.1,h10km±2km, mb4.3/11,Error ellipse: s-maj=18.8km s-min=15.9km az=97.0*
ISC 14 17:41:23.6±0.6,12°.25N±0°.08×144°.2E±0°.1,h27km,n33, σ1§07/25,mb4.1/15,MS3.1/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**28**	Pn			**Pb**	**17 41 50.0**	**-0.8**
GUMO	**Guam**	**1.50**	**28**	Pn			**Pb**	**17 41 50.2**	**-0.5**
108nm,0.3s,baz=48,slow=3.1,SNR=119									
GUMO					Sn		**Sb**	**17 42 09.5**	**+0.1**
93nm,0.3s,baz=162,slow=20,SNR=4.0									
JCJ	**Chichijima**	**14.88**	**353**	Pn			**Pn**	**17 44 52.0**	**-0.2**
PATS	**Pohnpei**	**14.96**	**110**	Pn			**Pn**	**17 44 52.8**	**-0.6**
DAV	**Davao City (W)**	**19.02**	**256**	LR			LR	17 53 00.8
comp=Z,41nm,20.8s,baz=80,slow=37									
H11N1	**WAKE ISLAND Hy**	**23.06**	**68**	T			T	18 10 30.2
baz=255,slow=75,SNR=21									
H11N2	**WAKE ISLAND Hy**	**23.07**	**68**	T			T	18 10 30.4
baz=255,slow=75,SNR=22									
H11N3	**WAKE ISLAND Hy**	**23.08**	**68**	T			T	18 10 36.2
baz=255,slow=75,SNR=22									
MJAR	**Matsushiro Arr**	**24.77**	**349**	P			**P**	**17 46 42.2**	**-0.9**
MJAR				IAmb			IAmb	17 46 53.8
comp=Z,8.1nm,1.5s									
MJAR	**Matsushiro Arr**	**24.77**	**349**	LR			LR	17 55 16.8
comp=Z,35nm,18.7s,baz=173,slow=34									
ASAJ	**Asahikawa**	**31.78**	**358**	LR			LR	18 00 32.4
comp=Z,14nm,20.6s,baz=188,slow=36									
SBUM	**Sibu**	**33.09**	**255**	P			**P**	**17 47 56.9**	**-0.7**
SBUM				IAmb			IAmb	17 47 59.7
comp=Z,1.6nm,0.8s									
WB0	**Warramunga Arr**	**33.24**	**197**	P			**P**	**17 47 59.1**	**+0.4**
WB0				IAmb			IAmb	17 48 04.9
comp=Z,2.8nm,1.0s									
WR8	**Warramunga Arr**	**33.39**	**197**	P			**P**	**17 48 00.6**	**+0.6**
WR8				IAmb			IAmb	17 48 21.1
comp=Z,3.5nm,1.1s									
WB2	**Warramunga Arr**	**33.42**	**197**	P			**P**	**17 48 00.6**	**+0.3**
WB2				IAmb			IAmb	17 48 11.6
comp=Z,8.8nm,1.4s									
WRA	**Warramunga Arr**	**33.42**	**197**	P			**P**	**17 47 59.2**	**-1.1**
WRA	**Warramunga Arr**	**33.42**	**197**	P			**P**	**17 48 01.2**	**+0.9**
comp=Z,1.1nm,0.8s,baz=21,slow=9.8,SNR=11									
comp=Z,1.1nm,0.8s									
AS31	**Alice Springs**	**37.08**	**196**	P			**P**	**17 48 31.5**	**-0.3**
ASAR	**Alice Springs**	**37.08**	**196**	P			**P**	**17 48 30.3**	**-1.5**
ASAR	**Alice Springs**	**37.08**	**196**	P			**P**	**17 48 32.9**	**+1.1**
comp=Z,1.3nm,1.0s,baz=18,slow=10,SNR=14									
comp=Z,1.3nm,1.0s									
CMAR	**Chiang Mai Arr**	**43.94**	**284**	P			**P**	**17 49 29.8**	**+1.1**
comp=Z,0.5nm,0.3s,baz=83,slow=5.7,SNR=5.3									
CMAR					LR		LR	18 07 38.6
comp=Z,22nm,19.1s,baz=160,slow=36									
comp=Z,0.5nm,0.3s									
BBOO	**Buckleboo**	**45.47**	**190**	P			**P**	**17 49 39.7**	**-0.9**
MKAR	**Makanchi Array**	**61.97**	**317**	P			**P**	**17 51 41.1**	**-0.2**
MKAR	**Makanchi Array**	**61.97**	**317**	P			**P**	**17 51 42.6**	**+1.3**
comp=Z,0.8nm,0.7s,baz=99,slow=7.5,SNR=4.3									
comp=Z,0.8nm,0.7s									
KURK	**Kurchatov**	**65.16**	**320**	P			**P**	**17 52 01.3**	**-0.9**
KURK				IAmb			IAmb	17 52 03.9
comp=Z,4.0nm,1.2s									
KURBB	**Kurchatov Arra**	**65.19**	**320**	P			**P**	**17 52 03.0**	**+0.6**
comp=Z,1.0nm,0.7s,baz=105,slow=6.9,SNR=8.8									
comp=Z,1.0nm,0.7s									
NIL	**Nilore**	**67.47**	**301**	P			**P**	**17 52 17.1**	**-0.4**
NIL				IAmb			IAmb	17 52 21.7
comp=Z,4.4nm,0.8s									
ILAR	**Eielson Array**	**70.06**	**25**	P			**P**	**17 52 32.9**	**-0.1**
comp=Z,0.5nm,0.7s,baz=254,slow=5.6,SNR=6.0									
comp=Z,0.5nm,0.7s									
INK	**Inuvik**	**75.86**	**22**	LR			LR	18 28 28.9
comp=Z,8.8nm,18.6s,baz=97,slow=37									
BBB	**Bella Bella**	**79.05**	**39**	LR			LR	18 21 07.8
comp=Z,31nm,21.5s,baz=249,slow=30									
NVAR	**Mina Array Bea**	**88.29**	**51**	P			**P**	**17 54 16.7**	**+3.4**
comp=Z,0.9nm,0.7s,baz=273,slow=4.3,SNR=5.0									
comp=Z,0.9nm,0.7s									
ELK	**Elko**	**89.98**	**48**	LR			LR	18 35 54.6
comp=Z,23nm,18.4s,baz=202,slow=36									
FINES	**FINESS Array B**	**92.07**	**335**	P			**P**	**17 54 29.7**	**-0.4**
comp=Z,2.3nm,0.9s,baz=170,slow=5.6,SNR=4.3									
comp=Z,2.3nm,0.9s									

*ISK **14** 17:50:32.6,41°.51N×42°.82E,h16km,ML2.8/9*
*AFAD **14** 17:50:34.2,41°.44N×42°.77E,h2km,ML2.6*
ISC 14 17:50:33.3±0.9,41°.48N±0°.04×42°.81E±0°.03,h12km±6km, n30,σ0§52/37,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.07**	**288**	P			**Pg**	**17 50 36.2**	**+0.2**
EPOS					S		**Sg**	**17 50 37.7**	**-0.2**
EPOS					*i*	IAML		17 50 38.0
comp=E,6μm,0.3s									
AHAN	**Ardahan-Merkez**	**0.35**	**204**	P			**Pb**	**17 50 41.3**	**-0.2**
AHAN					S		**Sb**	**17 50 46.2**	**-0.9**
AHAN					*i*	IAML		17 50 47.0
comp=N,941nm,0.3s									
AHAN					*i*	IAML		17 50 49.0
comp=E,2μm,0.3s									
AKH	**Akhalkalaki**	**0.52**	**98**	Pg			**Pg**	**17 50 43.5**	**0.0**
AKH					Sg		**Sg**	**17 50 50.8**	**+0.4**
GOLE	**Ardahan-G¶le**	**0.67**	**194**	P			**Pb**	**17 50 47.0**	**+0.1**
GOLE					S		**Sb**	**17 50 56.1**	**-0.1**
GOLE					*i*	IAML		17 50 57.0
comp=E,390nm,0.5s									
BATM	**Batumi**	**0.85**	**279**	Pg			**Pg**	**17 50 49.6**	**-0.1**
BATM					Sg		**Sb**	**17 51 01.8**	**+0.6**
DBOC	**Borcka**	**0.87**	**261**	P			**Pg**	**17 50 50.3**	**+0.2**
DBOC					S		**Sg**	**17 51 00.7**	**-0.8**
DBOC					*i*	IAML		17 51 03.0
comp=E,173nm,0.2s									
BOZK	**Kars-Merkez-Bo**	**0.90**	**172**	P			**Pb**	**17 50 51.4**	**+0.4**
DBAD	**Bademkaya**	**0.96**	**241**	P			**Pg**	**17 50 52.1**	**+0.3**
SENK	**Senkaya-Erzuru**	**0.98**	**201**	Pg			**Pb**	**17 50 52.6**	**+0.2**
SENK					Sg		**Sn**	**17 51 07.1**	**+0.1**
DDEM	**Demirkent**	**0.99**	**234**	P			**Pg**	**17 50 52.6**	**+0.1**
EAK	**Akyaka**	**1.00**	**143**	P			**Pg**	**17 50 52.4**	**-0.2**
HOPA	**Hopa-Artvin**	**1.03**	**265**	Pg			**Pg**	**17 50 52.5**	**-0.6**
DIGO	**Kars**	**1.15**	**158**	P			**Pg**	**17 50 55.0**	**-0.4**
TBLG	**Delisi**	**1.47**	**80**	Pn			**Pn**	**17 50 59.0**	**-0.5**
CHOM	**Cayeli-Rize**	**1.59**	**257**	Pn			**Pn**	**17 51 00.7**	**-0.5**
EATA	**Eleskirt**	**1.64**	**189**	P			**Pg**	**17 51 05.1**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**1.66**	**206**	Pn			**Pn**	**17 51 02.5**	**+0.2**
KOTA	**Agri, Merkez-K**	**1.71**	**170**	P			**Pg**	**17 51 06.8**	**+0.8**
KRIK	**Erzurum-spir**	**1.83**	**232**	P			**Pg**	**17 51 08.1**	**-0.3**
IZDR	**Rize**	**1.84**	**248**	P			**Pb**	**17 51 07.0**	**+0.2**
IGDI	**IGDIR**	**1.88**	**149**	P			**Pb**	**17 51 06.9**	**-0.6**
EJDE	**Erzurum, Palan**	**2.01**	**215**	P			**Pg**	**17 51 12.5**	**+0.7**
EMRE	**Erzurum,Aziziy**	**2.01**	**224**	P			**Pg**	**17 51 12.3**	**+0.4**
DORK	**Agr/Tutak/Do**	**2.09**	**181**	P			**Pg**	**17 51 13.6**	**+0.1**
KOPT	**Kop Dagi**	**2.29**	**231**	P			**Pg**	**17 51 17.7**	**+0.6**
BAYB	**BAYBURT**	**2.29**	**239**	P			**Pb**	**17 51 15.5**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**2.30**	**243**	Pn			**Pn**	**17 51 11.2**	**+0.1**
MACK	**Trabzon**	**2.36**	**258**	P			**Pb**	**17 51 14.6**	**-1.1**
KIV	**Kislovodsk**	**2.47**	**358**	Pn			**Pn**	**17 51 14.3**	**+0.9**
KELT	**Kelkit**	**3.01**	**245**	P			**Pb**	**17 51 27.1**	**+0.2**

*IDC **14** 17:51:09.8±2.8,5°.39S×147°.37E,h184km±22km,mb3.5/5, mbtmp4.0/8,Error ellipse: s-maj=35.5km s-min=22.5km az=81.0*
*NEIC **14** 17:51:12.2±1.4,5°.56S±0°.09×147°.28E±0°.09,h189km±15km, mb4.3/14,Error ellipse: s-maj=12.7km s-min=12.6km az=204.0*
ISC 14 17:51:09.7±0.7,5°.53S±0°.06×147°.31E±0°.09,h170km,n30, σ1§36/31,mb4.0/8,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.46**	**1**				**Pn**	**17 52 06.8**	**+3.1**
PMG	**Port Moresby**	**3.85**	**182**				**Pn**	**17 52 10.9**	**+2.3**
PMG	**Port Moresby**	**3.85**	**182**	P			**Pn**	**17 52 11.0**	**+2.4**
18nm,0.2s,baz=0.0,slow=8.1,SNR=45									
PMG					S		**Sn**	**17 52 55.0**	**+0.3**
44nm,0.6s,baz=290,slow=18,SNR=11									
RABL	**Rabaul**	**5.02**	**75**	Pn			**Pn**	**17 52 25.8**	**+2.1**
JAY	**Jayapura**	**7.24**	**294**	P			**Pn**	**17 52 53.8**	**+0.8**
8.7nm,0.8s,baz=189,slow=13,SNR=1.6									
COEN	**Coen**	**9.31**	**206**	Pn			**Pn**	**17 53 20.5**	**+0.1**
HNR	**Honiara**	**13.11**	**108**	P			**P**	**17 54 13.9**	**+0.3**
CTAO	**Charters Tower**	**14.51**	**184**	P			**P**	**17 54 30.0**	**+0.9**
MTN	**Manton Dam**	**17.54**	**244**	P			**P**	**17 55 03.5**	**+0.9**
MTN				IAmb			IAmb	17 55 07.7
comp=Z,22nm,1.5s									
WB0	**Warramunga Arr**	**18.93**	**220**	P			**P**	**17 55 18.2**	**+0.5**
WB0				IAmb			IAmb	17 55 22.7
comp=Z,7.9nm,0.7s									
WR8	**Warramunga Arr**	**19.00**	**220**	P			**P**	**17 55 19.2**	**+0.8**
WRAB	**Tennant Creek**	**19.08**	**220**	P			**P**	**17 55 20.0**	**+0.7**
WRAB				IAmb			IAmb	17 55 20.9
comp=Z,12nm,1.0s									
WRA	**Warramunga Arr**	**19.09**	**220**	P			**P**	**17 55 18.6**	**-0.9**
WRA	**Warramunga Arr**	**19.09**	**220**	P			**P**	**17 55 20.3**	**+0.8**
comp=Z,3.2nm,0.3s,baz=48,slow=12,SNR=124									
EIDS	**Eidsvold**	**20.06**	**170**	P			**P**	**17 55 30.4**	**+0.6**
EIDS				IAmb			IAmb	17 55 55.3
comp=Z,14nm,1.5s									
KNRA	**Kununurra**	**20.81**	**240**	P			**P**	**17 55 38.2**	**+0.2**
KNRA				IAmb			IAmb	17 55 38.6
comp=Z,16nm,1.3s									
AS31	**Alice Springs**	**22.18**	**214**	P			**P**	**17 55 52.4**	**+0.2**
ASAR	**Alice Springs**	**22.18**	**214**	P			**P**	**17 55 51.8**	**-0.4**
ASAR	**Alice Springs**	**22.18**	**214**	P			**P**	**17 55 52.7**	**+0.5**
comp=Z,7.0nm,0.8s,baz=45,slow=9.9,SNR=111									
comp=Z,7.0nm,0.8s									
INKA	**Innaminka**	**22.96**	**195**				**P**	**17 55 59.6**	**+0.4**
INKA				IAmb			IAmb	17 56 00.6
comp=Z,5.2nm,0.7s									
FITZ	**Fitzroy Crossi**	**24.58**	**238**	P			**P**	**17 56 13.6**	**-0.5**
ARMA	**Armidale**	**25.09**	**171**	P			**P**	**17 56 18.8**	**0.0**
ARMA				IAmb			IAmb	17 56 22.5
comp=Z,4.8nm,0.8s									
STKA	**Stephens Creek**	**26.75**	**191**	P			**P**	**17 56 32.9**	**-0.7**
comp=Z,1.4nm,0.6s,baz=7.9,slow=9.7,SNR=2.9									
comp=Z,1.4nm,0.6s									
BBOO	**Buckleboo**	**29.10**	**200**	P			**P**	**17 56 53.2**	**-1.3**
MBWA	**Marble Bar**	**30.92**	**237**	P			**P**	**17 57 09.0**	**-1.7**
FORT	**Forrest**	**30.96**	**213**	P			**P**	**17 57 10.6**	**-0.3**
FORT				IAmb			IAmb	17 57 25.4
comp=Z,8.2nm,1.1s									
VNDA	**Vanda**	**72.36**	**177**	P			**P**	**18 02 15.7**	**-0.8**
comp=Z,0.6nm,0.6s,baz=335,slow=8.5,SNR=11									
comp=Z,0.6nm,0.6s									
QSPA	**South Pole Qui**	**84.44**	**180**	P			**P**	**18 03 23.7**	**+0.7**
comp=Z,0.6nm,0.6s,baz=190,slow=1.4,SNR=8.9									
comp=Z,0.6nm,0.6s									
ILAR	**Eielson Array**	**84.93**	**23**	P			**P**	**18 03 22.8**	**-2.4**
comp=Z,0.4nm,0.7s,baz=238,slow=5.2,SNR=2.4									
comp=Z,0.4nm,0.7s									
TORD	**Torodi Ar. Bea**	**145.27**	**285**	PKPbc			**PKPdf**	**18 10 25.4**	**-2.8**
comp=Z,0.2nm,0.5s,baz=88,slow=5.4,SNR=4.3									

*JSO **14** 17:54:58.7±0.2,32°N±1°×3°6E±°,h8km±2km,M2.4/21, Md3.0/21,ML2.4/20,MLv2.4/21,MLv2.4/21*
*GII **14** 17:54:59.5±0.0,31°.503N±0°.001×35°.541E±0°.001,h9km, Mws2.2,confirmed*
ISC 14 17:54:57.9±1.0,31°.49N±0°.02×35°.56E±0°.03,h17km±8km, n78,σ0§58/82,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEGD	**Kibutz Ein-Ged**	**0.16**	**257**	P			**Pb**	**17 55 03.0**	**+0.6**
MZS	**Mizpe Shalem**	**0.16**	**301**	P			**Pb**	**17 55 02.8**	**+0.4**
MZS	**Mizpe Shalem**	**0.16**	**301**	S			**Sb**	**17 55 05.9**	**+0.5**
DSI	**Dead Sea**	**0.18**	**298**	P			**Pb**	**17 55 03.1**	**+0.4**
DSI					S		**Sg**	**17 55 05.6**	**+0.2**
DSI	**Dead Sea**	**0.18**	**298**	P			**Pb**	**17 55 02.8**	**0.0**
GHAJ	**Ghor Haditha**	**0.18**	**179**	P			**Pb**	**17 55 03.8**	**+1.0**
GHAJ	**Ghor Haditha**	**0.18**	**179**	P			**Pb**	**17 55 03.7**	**+0.9**
GHAJ	**Ghor Haditha**	**0.18**	**179**	S			**Sb**	**17 55 07.6**	**+1.5**
MDBI	**Mazsada**	**0.25**	**225**	P			**Pb**	**17 55 04.4**	**+0.5**
MDBI	**Mazsada**	**0.25**	**225**	P			**Pb**	**17 55 04.3**	**+0.4**
MDBI	**Mazsada**	**0.25**	**225**	S			**Sb**	**17 55 08.0**	**+0.1**
MSBI	**Mazada**	**0.25**	**225**	P			**Pb**	**17 55 04.6**	**+0.7**
MSBI	**Mazada**	**0.25**	**225**	P			**Pb**	**17 55 04.2**	**+0.4**
MSBI	**Mazada**	**0.25**	**225**	S			**Sb**	**17 55 08.3**	**+0.4**
ALMO	**Almog**	**0.31**	**344**	P			**Pb**	**17 55 05.5**	**+0.4**
KARV	**Kedem Haarava**	**0.32**	**351**	P			**Pb**	**17 55 05.7**	**+0.5**
KARV	**Kedem Haarava**	**0.32**	**351**	S			**Sb**	**17 55 10.9**	**+0.8**
VJRH	**Vered Jericho**	**0.36**	**342**	P			**Pb**	**17 55 06.1**	**+0.3**
VJRH	**Vered Jericho**	**0.36**	**342**	S			**Sb**	**17 55 10.9**	**-0.2**
NVZR	**Neve Zohar**	**0.37**	**207**	P			**Pb**	**17 55 06.9**	**+0.8**
ARADI	**Arad**	**0.38**	**231**	P			**Pb**	**17 55 06.6**	**+0.5**
YTIR	**Yattir**	**0.40**	**252**	P			**Pb**	**17 55 06.8**	**+0.

OFRI	˙Ofer	1.23	337	P	Pb	17 55 20.8	0.0
SHMJ	Saham	1.25	8	P	Pg	17 55 21.5	-0.5
ASF	Jabal al Asfar	1.33	59	P	Pg	17 55 22.8	-0.7
HRFI	Mount Harif	1.52	197	P	Pg	17 55 26.3	-0.8
HRFI	Mount Harif	1.52	197	P	Pg	17 55 26.0	-1.1
HRFI	Mount Harif	1.52	197	S	Sg	17 55 46.3	-0.5
KRMI	Paran Flat	1.54	208	P	Pg	17 55 26.5	-1.1
KRMI	Paran Flat	1.54	208	P	Pb	17 55 26.0	-0.1
KRMI	Paran Flat	1.54	208	S	Sg	17 55 46.7	-1.0
GEM	Giv'at Ha'Em	1.72	3	P	Pb	17 55 28.5	-0.6
NATI	Neve Ativ	1.78	5	P	Pb	17 55 29.3	-0.7
MBRI	Mt Berech	1.78	198	P	Pb	17 55 29.4	-0.7

*IDC **14** 17:57:31.1±1.5,2˙.66N×89˙.47E, h0km, mb3.7/7, mbtmp3.7/8, ML3.5/1, MS3.1/3, Error ellipse: s-maj=52.7km s-min=21.7km az=48.0*

ISC 14 17:57:32.3±1.3,2˙.6N±0˙.2×89˙.4E±0˙.2,h10km,n20,σ0°82/9, mb3.7/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	9.84	298	Pn	Pn	17 59 53.8	-0.2
	0.4nm,0.3s,baz=110,slow=11,SNR=2.3						
PALK				LR	LR	18 03 02.0	
	comp=Z,64nm,18.2s,baz=135,slow=34 2.1nm,0.4s						
H08S3	Diego Garcia H	19.75	239	T	T	18 22 28.3	
	baz=58,slow=75,SNR=44						
H08S2	Diego Garcia H	19.75	239	T	T	18 22 33.4	
	baz=58,slow=75,SNR=19						
H08S1	Diego Carcia H	19.77	239	T	T	18 22 34.3	
	baz=58,slow=75,SNR=7.8						
FITZ	Fitzroy Crossi	41.19	121	P	P	18 05 17.2	-0.3
	1.8nm,1.0s,baz=318,slow=12,SNR=2.2 1.8nm,1.0s						
H01W3	Cape Leeuwin H	43.94	150	T	T	18 52 24.7	
	baz=326,slow=75,SNR=12						
H01W2	Cape Leeuwin H	43.95	150	T	T	18 52 25.7	
	baz=326,slow=75,SNR=19						
H01W1	Cape Leeuwin H	43.96	150	T	T	18 52 26.1	
	baz=326,slow=75,SNR=14						
MKAR	Makanchi Array	44.41	353	P	P	18 05 42.9	-0.4
	0.6nm,0.5s,baz=170,slow=9.9,SNR=5.5 0.6nm,0.5s						
SONM	Songino Array	47.34	15	P	P	18 06 06.2	-0.3
	1.1nm,0.5s,baz=194,slow=8.8,SNR=5.5 1.1nm,0.5s						
KURBB	Kurchatov Arra	48.69	351	P	P	18 06 15.9	-0.8
	0.2nm,0.5s,baz=178,slow=7.7,SNR=6.1 0.2nm,0.5s						
WRA	Warramunga Arr	49.45	119	P	P	18 06 23.3	+0.2
	0.4nm,0.8s,baz=296,slow=8.6,SNR=5.3 0.4nm,0.8s						
ZALV	Zalesovo Beam	51.28	357	P	P	18 06 38.0	+1.6
	1.9nm,0.4s,baz=172,slow=7.2,SNR=7.2 1.9nm,0.4s						
H04N2	CROZET ISLANDS	58.88	210	T	T	19 11 32.3	
	baz=46,slow=75,SNR=13						
H04N1	CROZET ISLANDS	58.89	210	T	T	19 11 31.9	
	baz=46,slow=75,SNR=13						
H04N3	CROZET ISLANDS	58.90	210	T	T	19 11 31.5	
	baz=46,slow=75,SNR=9.3						
BRTR	Keskin Array B	62.47	314	P	P	18 07 56.9	+0.6
	0.3nm,0.5s,baz=130,slow=4.5,SNR=2.5 0.3nm,0.5s						
MATP	Matopo	63.95	246	LR	LR	18 33 05.6	
	comp=Z,12nm,19.0s,baz=322,slow=33						
LBTB	Lobatse	67.65	242	LR	LR	18 35 05.0	
	comp=Z,19nm,18.1s,baz=132,slow=33						
TXAR	Lajitas Array	145.81	21	PKPbc	PKPab	18 17 12.7	-0.4
	0.2nm,0.5s,baz=326,slow=2.6,SNR=2.2						

*IDC **14** 18:03:12.8±1.2,2˙.67S×138˙.33E, h0km, mb3.5/3, mbtmp3.5/6, ML3.4/3, MS3.3/2, Error ellipse: s-maj=26.2km s-min=23.9km az=137.0*

*DJA **14** 18:03:15.5±0.3,2˙.S±3˙×13˙.8E±˙, h10km, M3.7/7, MLv3.7/7*

ISC 14 18:03:15.6±0.8,2˙.55S±0˙.07×138˙.38E±0˙.04,h32km,n13, σ2°00/17, mb3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.64	31	P	Pb	18 03 26.6	-1.9
SMPI				S	Sb	18 03 35.3	-2.0
GENI	Genyem	1.79	92	P	Pb	18 03 46.6	-1.1
GENI				S	Sb	18 04 08.6	-1.2
SRPI	Serui, Papua	2.24	287	P	Pn	18 03 51.7	+1.2
SRPI				S	Sb	18 04 21.9	-1.0
JAY	Jayapura	2.32	89	Pn	Pn	18 03 53.3	+1.6
	6.8nm,0.3s,baz=228,slow=11,SNR=19						
JAY				Sn	Sb	18 04 23.9	-1.2
	2.8nm,0.3s,baz=31,slow=6.5,SNR=5.7 22nm,0.4s						
JAY	Jayapura	2.32	89	P	Pn	18 03 53.2	+1.6
BAKI	Biak	2.64	301	P	Pb	18 04 00.1	-2.2
PMG	Port Moresby	11.07	128	LR	LR	18 11 07.5	
	comp=Z,94nm,18.2s,baz=325,slow=43						
BATI	Baumata	16.48	242	Pn	P	18 07 08.6	+1.5
	2.7nm,0.3s,baz=121,slow=5.9,SNR=4.0						
WRA	Warramunga Arr	17.74	193	P	Pn	18 07 19.1	-1.2
	0.2nm,0.3s,baz=14,slow=12,SNR=12						
WRA				LR	LR	18 14 48.2	
	comp=Z,128nm,20.2s,baz=16,slow=40 0.7nm,0.4s						
FITZ	Fitzroy Crossi	19.88	218	P	P	18 07 45.3	+0.9
	baz=24,slow=10.0,SNR=1.0						
FITZ				S	S	18 11 16.1	-10
	3.2nm,1.0s,baz=173,slow=11,SNR=4.4 0.9nm,0.8s						
ASAR	Alice Springs	21.44	191	P	P	18 08 01.0	-0.3
	1.3nm,0.8s,baz=20,slow=10,SNR=14						
ASAR				S	S	18 11 53.9	-3.8
	0.9nm,0.8s,baz=9.7,slow=23,SNR=5.1 1.3nm,0.8s						
MKAR	Makanchi Array	69.46	322	P	P	18 14 24.0	+3.1
	0.9nm,0.9s,baz=111,slow=8.0,SNR=4.4 0.9nm,0.9s						
KURBB	Kurchatov Arra	73.41	325	P	P	18 14 46.5	+1.9
	0.3nm,0.7s,baz=112,slow=7.3,SNR=3.4 0.3nm,0.7s						

*IDC **14** 18:11:03.4±0.8,52˙.59N×172˙.35E, h0km, mb4.1/23, mbtmp4.1/24, ML2.9/1, MS3.1/7, Error ellipse: s-maj=23.0km s-min=11.2km az=179.0*

*MOS **14** 18:11:04.3±1.1,52˙.57N×172˙.31E, h17km, mb4.5/11, Error ellipse: s-maj=13.9km s-min=9.3km az=109.5*

*NEIC **14** 18:11:05.0±1.1,52˙.6N±0˙.2×172˙.33E±0˙.07, h10km±2km, mb4.5/34, Error ellipse: s-maj=32.3km s-min=3.4km az=169.0*

ISC 14 18:11:07.1±0.6,52˙.5N±0˙.1×172˙.32E±0˙.05,h24km,n112, σ1°28/101, mb4.4/58, MS3.2/5, 6C, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	1.10	79	Pn	Pn	18 11 25.5	-1.5
SHEM				Sg	Sb	18 11 39.8	-1.6
SHEM	Shemya Is, Ala	1.10	79	Pn	Pn	18 11 26.0	-1.0
	487nm,0.3s,baz=141,slow=2.5,SNR=83						
SHEM				Sn	Sb	18 11 40.6	-0.8
	932nm,0.3s,baz=245,slow=21,SNR=40						
SHEM				LR	LR	18 11 50.8	
	comp=Z,406nm,19.4s,baz=271,slow=44						
SMY	Shemya	1.10	79		Pn	18 11 25.9	-1.1
SMY				Sn	Sb	18 11 40.3	-1.0
SMY	Shemya	1.10	79	P	Pn	18 11 25.9	-1.1
SMY						18 11 40.3	
PET	Petropavlovsk	8.30	279	*i* P	Pn	18 13 06.2	+0.4
PEA0B	Petropavlovsk-	8.87	279	*i* P	Pn	18 13 14.6	+0.9
PETK	Petropavlovsk-	8.87	279	Pn	Pn	18 13 13.9	+0.2
	0.7nm,0.3s,baz=85,slow=19,SNR=2.4						
PETK				Sn	Sn	18 14 46.0	-6.8
	0.7nm,0.3s,baz=96,slow=16,SNR=1.4						
PETK				LR	LR	18 16 49.1	
	comp=Z,36nm,19.9s,baz=54,slow=39 3.1nm,0.7s						
MA2	Magadan	13.90	309	LR	LR	18 19 34.6	
	comp=Z,63nm,18.0s,baz=122,slow=37						
SEY	Seymchan	14.81	322	LR	LR	18 19 56.0	
	comp=Z,67nm,20.4s,baz=138,slow=36						
BILL	Bilibino	15.82	352	*i* P	P	18 14 51.8	+0.2
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDAK	Kodiak Island	20.56	61	P	P	18 15 42.1	-1.6
	comp=Z,5.8nm,0.3s,baz=279,slow=8.5,SNR=12						
	comp=Z,5.8nm,0.3s						
J20K	Nowinta River	20.81	43		P	18 15 46.9	+0.6
J20K				IAmb	IAmb	18 15 47.9	
	comp=Z,13nm,0.8s						
H21K	Melozitna River	21.83	40	P	P	18 15 58.6	+1.2
B21K	Ikpikpuk River	22.94	29	P	P	18 16 08.7	-0.3
B21K				IAmb	IAmb	18 16 10.9	
	comp=Z,24nm,0.9s						
D22K	Ayikyak River	23.18	32	P	P	18 16 12.2	+0.7
D22K				IAmb	IAmb	18 16 36.5	
	comp=Z,28nm,1.4s						
CCB	Clear Creek Bu	23.59	44		P	18 16 15.7	+0.2
H24K	Noodor Dome	23.83	41	P	P	18 16 17.6	-0.3
E23K	Chandalar	23.87	35	P	P	18 16 18.1	-0.2
E23K				IAmb	IAmb	18 16 20.8	
	comp=Z,15nm,1.4s						
ILAR	Eielson Array	24.00	44	P	P	18 16 18.4	-1.0
	comp=Z,2.5nm,0.7s,baz=251,slow=8.6,SNR=19 comp=Z,2.5nm,0.7s						
C23K	Itkillik River	24.27	31	P	P	18 16 21.1	-0.8
YAK	Yakutsk	24.48	310		P	18 16 22.4	-1.4
YAK	Yakutsk	24.48	310	LR	LR	18 26 22.6	
	comp=Z,44nm,18.0s,baz=70,slow=38						
YAK	Yakutsk	24.48	310	*e*P	P	18 16 24.1	+0.2
YAK				*e**PP	PnPn	18 16 56.0	+1.2
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.4s						
PRP	Porcupine Dome	24.71	42	P	P	18 16 25.4	-0.7
GLB	Gilahina Butte	25.05	52		P	18 16 29.2	+0.1
GLB				IAmb	IAmb	18 16 32.2	
	comp=Z,18nm,1.4s						
F25K	Christian Rive	25.15	37		P	18 16 29.1	-0.9
E25K	Arctic Village	25.33	36	P	P	18 16 31.8	+0.2
E25K				IAmb	IAmb	18 16 34.1	
	comp=Z,13nm,1.1s						
J26L	Joseph Creek	25.37	45	P	P	18 16 31.0	-1.1
BMAR	Burnt Mountain	25.50	38		P	18 16 33.0	-0.2
G26K	Porcupine Rive	25.69	39		P	18 16 35.2	+0.4
G26K				IAmb	IAmb	18 16 40.0	
	comp=Z,21nm,1.4s						
F26K	Sheenjek River	25.73	37	P	P	18 16 35.8	+0.5
F26K				IAmb	IAmb	18 16 38.0	
	comp=Z,7.8nm,0.9s						
EGAK	Eagle	26.43	44	IAmb	IAmb	18 16 41.3	
	comp=Z,5.1nm,0.8s						
G27K	Doyon Strip	26.49	40	IAmb	IAmb	18 16 46.1	
	comp=Z,8.8nm,1.3s						
TIXI	Tiksi	26.94	331	*ce*P	P	18 16 46.4	+0.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
T35M	Bob Quinn	32.59	59	P	P	18 17 38.3	+2.0
T35M				IAmb	IAmb	18 17 53.2	
	comp=Z,14nm,1.4s						
H11N2	WAKE ISLAND Hy	33.02	189	T	T	18 52 35.6	
	baz=6.3,slow=76,SNR=136						
H11N3	WAKE ISLAND Hy	33.03	189	T	T	18 52 35.5	
	baz=6.3,slow=76,SNR=175						
H11N1	WAKE ISLAND Hy	33.03	189	T	T	18 52 36.2	
	baz=6.3,slow=76,SNR=201						
H11S1	WAKE ISLAND Hy	34.24	190	T	T	18 54 12.7	
	baz=6.2,slow=76,SNR=301						
H11S3	WAKE ISLAND Hy	34.26	190	T	T	18 54 13.8	
	baz=6.2,slow=76,SNR=185						
H11S2	WAKE ISLAND Hy	34.26	189	T	T	18 54 14.0	
	baz=6.2,slow=76,SNR=104						
YKA	Yellowknife Ar	38.39	46	P	P	18 18 25.8	-0.2
	comp=Z,1.3nm,0.6s,baz=245,slow=8.1,SNR=18 comp=Z,1.3nm,0.6s						
SONM	Songino Array	41.15	291	P	P	18 18 49.7	+0.5
	comp=Z,1.1nm,0.5s,baz=62,slow=7.9,SNR=6.9 comp=Z,1.1nm,0.5s						
SONM	Songino Array	41.15	291	*e*P	P	18 18 50.0	+0.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HHC	Hu-ho-hao-te	42.07	279	*e*P	P	18 18 56.3	-0.6
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
NJ2	Nanjing	43.37	264	*e*P	P	18 19 06.5	-0.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
GUMO	Guam	44.61	220	LR	LR	18 36 40.3	
	comp=Z,26nm,19.5s,baz=64,slow=34						
EGMT	Eagleton	47.73	63	P	P	18 19 41.3	-0.4
XAN	Xi'an	48.06	274	*e*P	P	18 19 48.6	+4.1
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BOZ	Bozeman (W)	48.15	66	IAmb	IAmb	18 19 45.5	
	comp=Z,3.5nm,0.7s						
SPITS	Spitsbergen Ar	48.72	354	P	P	18 19 48.3	-0.6
	comp=Z,1.5nm,0.3s,baz=52,slow=6.7,SNR=19 comp=Z,1.5nm,0.3s						
SPB2	Spitsbergen Ar	48.72	354	P	P	18 19 48.5	-0.4
NVAR	Mina Array Bea	48.77	78	P	P	18 19 50.0	-0.1
	comp=Z,0.5nm,0.5s,baz=293,slow=6.0,SNR=4.7 comp=Z,0.5nm,0.5s						
LZH	Lanzhou	49.77	279	*e*P	P	18 19 59.8	+2.1
LZH				sP	pwP	18 20 07.8	-1.2
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	Gaotai	49.99	285	*e*P	P	18 19 59.6	+0.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PDAR	Pinedale Array	51.08	68	P	P	18 20 07.0	-0.5
PDAR	Pinedale Array	51.08	68	P	P	18 20 07.3	-0.3
	comp=Z,1.8nm,0.5s,baz=317,slow=2.5,SNR=23 comp=Z,1.8nm,0.5s						
TMUT	Trail Mountain	52.39	72		P	18 20 16.9	-0.5
TMUT				IAmb	IAmb	18 20 18.5	
	comp=Z,4.6nm,0.9s						
ULM	Lac du Bonnet	53.51	53	P	P	18 20 24.5	-0.7
	comp=Z,3.8nm,0.5s,baz=20,slow=5.9,SNR=3.3 comp=Z,3.8nm,0.5s						
HMU	Henry Mountain	53.57	73	IAmb	IAmb	18 20 27.1	
	comp=Z,4.1nm,0.7s						
KURK	Kurchatov	54.12	308		P	18 20 29.2	-0.4
KURK				IAmb	IAmb	18 20 29.8	
	comp=Z,3.9nm,0.9s						
KURK	Kurchatov	54.12	308	*ce*P	P	18 20 29.1	-0.5
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURBB	Kurchatov Arra	54.22	308	P	P	18 20 29.7	-0.6
	comp=Z,2.1nm,0.6s,baz=56,slow=7.6,SNR=19 comp=Z,2.1nm,0.6s						
PV18	Skein Mesa, Pa	54.43	72	IAmb	IAmb	18 20 33.1	
	comp=Z,8.4nm,1.0s						
MKAR	Makanchi Array	54.89	303	P	P	18 20 34.2	-1.1
	comp=Z,0.5nm,0.4s,baz=54,slow=6.7,SNR=7.1						
MKAR				LR	LR	18 45 51.2	
	comp=Z,19nm,18.2s,baz=32,slow=38 comp=Z,0.5nm,0.4s						
MKAR	Makanchi Array	54.89	303	*e*P	P	18 20 34.4	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	55.85	347	P	P	18 20 40.5	-1.3
	comp=Z,1.5nm,0.6s,baz=29,slow=7.6,SNR=9.6 comp=Z,1.5nm,0.6s						
ARCES	ARCESS Array B	55.85	347	*e*P	P	18 20 41.9	0.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BORK	Borovoye	56.32	315	*ce*P	P	18 20 45.4	-0.1
BORK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PZH	PanZhiHua	57.76	272	P	P	18 20 55.9	-0.3
ARTI	Arti	58.65	323	*c i* P	P	18 21 01.8	0.0
ARTI						18 23 08.1	
ARTI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIRV	Kirov	59.95	329	*ce*P	P	18 21 12.2	+1.4
KLMR	Klimovskoe	60.84	336	*e*P	P	18 21 16.1	-0.7
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SCHQ	Schefferville	62.31	34	P	P	18 21 26.4	-0.5
	comp=Z,74nm,0.8s,baz=323,slow=8.0,SNR=8.6						
FINES	FINESS Array B	63.23	343	P	P	18 21 32.5	-0.3
	comp=Z,2.5nm,0.7s,baz=17,slow=6.2,SNR=7.2 comp=Z,2.5nm,0.7s						
FINES	FINESS Array B	63.23	343	*e*P	P	18 21 33.3	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH	Kashi	63.28	301	P	P	18 21 37.8	+4.1
TXAR	Lajitas Array	63.80	75	P	P	18 21 37.4	+0.1
	comp=Z,3.0nm,0.8s,baz=302,slow=4.9,SNR=19 comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	65.48	269	P	P	18 21 48.2	+0.1
	comp=Z,0.5nm,0.8s,baz=31,slow=8.1,SNR=4.5 comp=Z,0.5nm,0.8s						
CMAR	Chiang Mai Arr	65.48	269	*e*P	P	18 21 48.5	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BELG	Belogornoye	65.63	326	*i* P	P	18 21 49.3	+0.7
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	NORSAR Subarra	65.77	350	P	P	18 21 49.5	0.0
	comp=Z,1.3nm,0.5s,baz=12,slow=6.5						
NOA	NORSAR Array B	65.77	350	P	P	18 21 49.0	-0.5
	comp=Z,2.2nm,0.6s,baz=2.2,slow=5.7,SNR=12 comp=Z,2.2nm,0.6s						
HFS	Hagfors	66.37	349	P	P	18 21 52.7	-0.6
	comp=Z,2.4nm,0.5s,baz=31,slow=3.5,SNR=33 comp=Z,2.4nm,0.5s						
GAR	Garm	66.59	304		P	18 21 55.0	-0.2
OBN	Obninsk	66.63	334	*e*P	P	18 21 55.7	+0.7
OBN				*e*		18 24 24.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,33nm,16.0s						
CHGR	Chuyangaron	67.44	304		P	18 22 00.5	-0.1
CHGR	Chuyangaron	67.44	304	P	P	18 22 00.5	-0.1
CHGR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EKA	Eskdalemuir Ar	72.43	357	P	P	18 22 31.5	+0.6
	comp=Z,1.5nm,0.6s,baz=354,slow=5.9,SNR=8.6 comp=Z,1.5nm,0.6s						
AKASG	Malin Array Be	72.51	336	P	P	18 22 31.2	-0.2
	comp=Z,1.9nm,0.6s,baz=26,slow=6.3,SNR=7.3 comp=Z,1.9nm,0.6s						
KBZ	Khabaz	74.68	325	P	P	18 22 45.7	+1.5
	comp=Z,2.3nm,0.8s,baz=325,slow=2.6,SNR=7.6 comp=Z,2.3nm,0.8s						
LANS	Liptovska Anna	76.09	342	*e*P	P	18 22 54.6	+2.2
LANS	Liptovska Anna	76.09	342	*e*P	P	18 22 54.6	+2.2
BURAR	Bucovina Array	76.34	338	P	P	18 22 54.0	+0.1
BURAR				IAmb	IAmb	18 22 55.2	
	comp=Z,2.2nm,0.6s						
BURAR	Bucovina Array	76.34	338	P	P	18 22 53.0	-0.9
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SMOL	Smolenice	77.08	343	*e*P	P	18 22 57.6	-0.3
GNI	Garni	77.11	321	LR	LR	19 01 14.9	
	comp=Z,22nm,19.3s,baz=20,slow=39						
MODS	Modra-Piesok	77.24	343	*e*P	P	18 23 01.0	+2.2
MODS	Modra-Piesok	77.24	343	*e*P	P	18 23 01.0	+2.2
GERES	GERESS Array B	77.37	346	P	P	18 23 00.2	+0.6
	comp=Z,0.8nm,0.5s,baz=20,slow=6.2,SNR=7.0 comp=Z,0.8nm,0.5s						
GERES	GERESS Array B	77.37	346	*e*P	P	18 22 59.9	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CONA	Conrad Observa	77.91	344	*i* pP	P	18 23 03.8	+1.1
	comp=Z,6.2nm,1.4s						
RONA	Rosalia, Austr	78.06	344	*i* pP	P	18 23 04.6	+1.1
	comp=Z,4.8nm,1.2s						
ARSA	Arzberg	78.63	344	*i* pP	P	18 23 08.4	+1.9
	comp=Z,2.8nm,0.9s						
KBA	Koelnbreinsper	79.14	346	*i* pP	P	18 23 11.1	+1.5
	comp=Z,6.7nm,0.8s						
SOKA	Soboth	79.27	344	*i* pP	P	18 23 11.1	+1.0
	comp=Z,1.8nm,0.8s						
OBKA	Obir	79.51	345	*i* pP	P	18 23 12.7	+1.2
	comp=Z,5.0nm,0.9s						
FITZ	Fitzroy Crossi	81.13	224	P	P	18 23 20.1	-0.2
	comp=Z,1.6nm,0.9s,baz=56,slow=3.6,SNR=1.9 comp=Z,1.6nm,0.9s						
BRTR	Keskin Array B	81.36	329	P	P	18 23 21.1	-0.6
BRTR	Keskin Array B	81.36	329	P	P	18 23 21.9	+0.3
	comp=Z,1.5nm,0.7s,baz=45,slow=3.7,SNR=11 comp=Z,1.5nm,0.7s						
BRTR	Keskin Array B	81.36	329	*e*P	P	18 23 22.3	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	82.95	215	P	P	18 23 29.9	+0.2
	comp=Z,0.1nm,0.5s,baz=20,slow=4.8,SNR=2.0 comp=Z,0.1nm,0.5s						

*IGIL **14** 18:20:35.9,38˙.73N×11˙.25W, h30km, ML2.2*

*MDD **14** 18:20:35.2±1.1,38˙.73N×11˙.25W, h30km, mb_Lg3.0/7, Error ellipse: s-maj=8.8km s-min=6.6km az=89.0*

*INMG **14** 18:20:36.1±1.2,38˙.72N×11˙.47W, h49km, ML2.2, Error ellipse: s-maj=6.1km s-min=3.0km az=90.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Abissal do Tejo*

*CNRM **14** 18:20:37.5,38˙.34N×11˙.13W, h92km*

ISC 14 18:20:31.5±2.4,38˙.69N±0˙.04×11˙.2W±0˙.1,h18km±12km, n61, σ2°21/99, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	1.54	79	Pn	Pg	18 21 01.1	-0.1
PMAFR				Sn	Sb	18 21 19.5	+0.8
PMAFR	Mafra	1.54	79	*e*P	Pg	18 21 00.9	-0.3
PMAFR				*e*S	Sb	18 21 20.4	+1.7
PMAFR				*i* IAML		18 21 21.7	
PMAFR				*i* IAML		18 21 21.8	
PMAFR				*i* IAML		18 21 22.4	
PARRA	Arraiolos	1.71	85	*e*P	Pg	18 21 13.6	+9.1
PARRA				*e*S	Sg	18 21 42.2	+15
PARRA				*i* IAML		18 21 44.5	
PARRA				*i* IAML		18 21 45.2	
PARRA				*i* IAML		18 21 45.3	
PSBE	So Bento	2.06	66	*e*P	Pb	18 21 07.9	-0.5
PSBE				*e*S	Sn	18 21 32.7	+2.2
PSBE				*i* IAML		18 21 42.9	
PSBE				*i* IAML		18 21 49.9	
PTEO	Sao Teotonio	2.28	119	*e*P	Pb	18 21 10.7	-1.4
PTEO				*e*S	Sn	18 21 36.4	+0.6
PTEO				*i* IAML		18 21 39.7	
PTEO				*i* IAML		18 21 40.6	
PTEO				*i* IAML		18 21 40.7	
PMTG	Montargil	2.37	80	*e*P	Pn	18 21 11.8	+2.3
PMTG				*e*S	Sn	18 21 38.9	+0.8
PMTG				*i* IAML		18 21 39.7	
PMTG				*i* IAML		18 21 39.9	
PMTG				*i* IAML		18 21 40.0	
PFVI	Vila Bisbo	2.45	129	Pn	Pn	18 21 12.8	+2.2
PFVI				Sn	Sn	18 21 39.7	-0.3
PFVI	Vila Bisbo	2.45	129	*e*P	Pn	18 21 12.8	+2.2
PFVI				*e*S	Sn	18 21 40.1	+0.1
PFVI				*i* IAML		18 21 44.0	
PFVI				*i* IAML		18 21 44.6	
PFVI				*i* IAML		18 21 44.7	
PFVI	Vila Bisbo	2.45	129	P	Pn	18 21 12.4	+1.8
PFVI	Vila Bisbo

PSARD				*e*S		**Sn**	**18 21 43.4 +0.8**
PSARD				*i* IAML			18 21 45.4
PSARD				*i* IAML			18 21 46.2
PSARD				*i* IAML			18 21 47.8
PBEJ	**Beja**	**2.72**	**103**	*e*S		**Sn**	**18 21 47.8 +1.1**
PBEJ				*i* IAML			18 21 49.0
PBEJ				*i* IAML			18 21 49.2
PBEJ				*i* IAML			18 21 49.2
PCVE	**Castro Verde**	**2.72**	**112**	Pn		**Pn**	**18 21 17.1 +2.8**
PCVE				Sn		**Sn**	**18 21 47.0 +0.2**
PCVE	**Castro Verde**	**2.72**	**112**	*e*P		**Pn**	**18 21 17.1 +2.8**
PCVE				*e*S		**Sn**	**18 21 47.9 +1.1**
PCVE				*i* IAML			18 21 48.9
PCVE				*i* IAML			18 21 50.5
PCVE				*i* IAML			18 21 52.0
PESTR	**Estremoz**	**2.84**	**85**	Pn		**Pn**	**18 21 18.9 +2.8**
PESTR				Sn		**Sn**	**18 21 49.9 +0.1**
PESTR	**Estremoz**	**2.84**	**85**	*e*P		**Pn**	**18 21 18.9 +2.8**
PESTR				*e*S		**Sn**	**18 21 50.3 +0.4**
PESTR				*i* IAML			18 21 52.2
PESTR				*i* IAML			18 21 54.0
PESTR				*i* IAML			18 22 07.5
PESTR	**Estremoz**	**2.84**	**85**	P		**Pb**	**18 21 19.5 -2.3**
PESTR	**Estremoz**	**2.84**	**85**	S		**Sb**	**18 21 54.1 -2.1**
PBDV	**Barranco-do-Ve**	**2.98**	**118**	Pn		**Pn**	**18 21 20.8 +2.9**
PBDV				Sn		**Sn**	**18 21 53.9 +0.8**
PBDV	**Barranco-do-Ve**	**2.98**	**118**	*e*P		**Pn**	**18 21 20.7 +2.9**
PBDV				*e*S		**Sn**	**18 21 54.0 +0.9**
PBDV				*i* IAML			18 21 55.6
PBDV				*i* IAML			18 21 55.9
PBDV				*i* IAML			18 21 56.9
PVAQ	**Vaqueiros**	**3.05**	**114**	*e*P		**Pn**	**18 21 8.8 +2.9**
PVAQ				*e*S		**Sn**	**18 21 55.5 +0.6**
PVAQ				*i* IAML			18 21 58.4
PVAQ				*i* IAML			18 21 58.8
PVAQ				*i* IAML			18 21 59.0
PVAQ	**Vaqueiros**	**3.05**	**114**	P		**Pn**	**18 21 21.8 +2.9**
PMRV	**Marv??o**	**3.07**	**75**	*e*P		**Pn**	**18 21 21.3 +2.1**
PMRV				*e*S		**Sn**	**18 21 55.9 +0.4**
PMRV				*i* IAML			18 21 57.0
PMRV				*i* IAML			18 21 58.1
PMRV				*i* IAML			18 21 58.6
PCBR	**Castelo Branco**	**3.13**	**67**	*e*S		**Sn**	**18 21 56.6 -0.2**
PCBR				*i* IAML			18 21 58.2
PCBR				*i* IAML			18 21 59.8
PCBR				*i* IAML			18 21 59.8
EGRO	**El Granado**	**3.17**	**110**	Pn		**Pn**	**18 21 23.4 +2.9**
EGRO				Sn		**Sn**	**18 21 57.8 0.0**
EGRO	**El Granado**	**3.17**	**110**	P		**Pn**	**18 21 23.0 +2.5**
EGRO				S		**Sn**	**18 21 57.4 -0.3**
PVIS	**Viseu**	**3.27**	**51**	*e*S		**Sn**	**18 21 58.9 -1.5**
EBAD	**Badajoz**	**3.29**	**88**	Pn		**Pn**	**18 21 24.5 +2.3**
EBAD				Sn		**Sn**	**18 22 01.2 +0.4**
EBAD	**Badajoz**	**3.29**	**88**	P		**Pn**	**18 21 24.2 +2.1**
EBAD				S		**Sn**	**18 22 00.6 -0.3**
EBAD				*i* IVmb_Lg			18 22 03.9
PBAR	**Barrancos**	**3.33**	**98**	Pn		**Pn**	**18 21 25.4 +2.8**
PBAR				Sn		**Sn**	**18 22 02.2 +0.5**
PBAR	**Barrancos**	**3.33**	**98**	*e*P		**Pn**	**18 21 25.4 +2.8**
PBAR				*e*S		**Sn**	**18 22 01.6 -0.1**
PBAR				*i* IAML			18 22 02.8
PBAR				*i* IAML			18 22 04.6
PBAR				*i* IAML			18 22 05.8
EMIN	**Mina Concepcio**	**3.70**	**103**	Pn		**Pn**	**18 21 30.5 +2.7**
EMIN				Sn		**Sn**	**18 22 10.8 -0.1**
EMIN	**Mina Concepcio**	**3.70**	**103**	P		**Pn**	**18 21 29.0 +1.2**
EMIN				S		**Sn**	**18 22 09.7 -1.2**
EMIN				*i* IVmb_Lg			18 23 38.1
POLO	**Lamas de Olo**	**3.76**	**43**	*e*S		**Sn**	**18 22 10.4 -2.0**
POLO				*i* IAML			18 22 13.0
POLO				*i* IAML			18 22 13.2
PGAV	**Gavieira, Arco**	**3.98**	**34**	*e*S		**Sn**	**18 22 14.3 -3.6**
PGAV				*i* IAML			18 22 14.8
PGAV				*i* IAML			18 22 14.9
ELOB	**Lobios**	**3.99**	**36**	P		**Pn**	**18 21 35.7 +3.8**
ELOB				S		**Sn**	**18 22 14.3 -3.9**
MVO	**Moncorvo**	**4.06**	**51**	*e*P		**Pn**	**18 21 35.5 +2.7**
MVO				*e*S		**Sn**	**18 22 17.7 -2.3**
EPLA	**Plasencia**	**4.22**	**69**	P		**Pn**	**18 21 37.7 +2.8**
EPLA				S		**Sn**	**18 22 21.8 -1.9**
EPLA				*i* IVmb_Lg			18 24 12.7
EMAZ	**Mazaricos**	**4.58**	**21**	S		Sn	18 22 25.5 -7.3
ECAB	**El Cabril**	**4.60**	**96**	Pn		**Pn**	**18 21 42.8 +2.6**
ECAB				Sn		**Sn**	**18 22 32.9 -0.3**
ECAB	**El Cabril**	**4.60**	**96**	P		**Pn**	**18 21 42.4 +2.2**
ECAB				*i* IVmb_Lg			18 21 58.7
ECAB				S		**Sn**	**18 22 30.8 -2.4**
ESPR	**Espera**	**4.62**	**111**	P		**Pn**	**18 21 44.1 +3.6**
ESPR				S		**Sn**	**18 22 34.9 +1.2**
ESPR				*i* IVmb_Lg			18 24 27.9
EAGO	**Agolada(Pontev**	**4.75**	**29**	S		**Sn**	**18 22 30.6 -6.2**
EADA	**Adamuz**	**5.25**	**94**	Pn		**Pn**	**18 21 51.6 +2.5**
EADA				Sn		**Sn**	**18 22 47.2 -1.9**
EADA	**Adamuz**	**5.25**	**94**	P		**Pn**	**18 21 51.2 +2.1**
EADA				S		**Sn**	**18 22 43.9 -5.1**
EADA				*i* IVmb_Lg			18 23 05.5
PAB	**San Pablo**	**5.42**	**79**	P		**Pn**	**18 21 52.9 +1.5**
PAB				S		**Sn**	**18 22 50.3 -3.0**
PAB				*i* IVmb_Lg			18 25 00.1
ZHG	**ZHG**	**6.41**	**143**	P		**Pn**	**18 22 05.8 +0.7**
ZHG	**ZHG**	**6.41**	**143**	S		**Sn**	**18 23 15.3 -2.6**
MD31	**MD31**	**7.83**	**136**	P		**Pn**	**18 22 25.5 +0.9**
MD31	**MD31**	**7.83**	**136**	S		**Sn**	**18 23 49.7 -3.1**
MDT	**Midelt**	**7.95**	**135**	P		**Pn**	**18 22 36.7 +0.4**
MDT	**Midelt**	**7.95**	**135**	S		**Sn**	**18 23 51.9 -3.9**
OUZM	**OUZ**	**8.58**	**153**	P		**Pn**	**18 22 34.7 -0.2**
OUZM	**OUZ**	**8.58**	**153**	S		**Sn**	**18 24 07.2 -4.2**

IDC 14 18:23:57.4±3.5, 5°70S×128°76E, h344km±35km, mb2.7/1, mbtmp3.8/5, Error ellipse: s-maj=54.1km s-min=16.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.75**	**228**	P		Pn	18 25 35.8 -0.9
	20nm,0.4s,baz=72,slow=4.3,SNR=8.4						
BATI				S		S	18 26 49.6 -7.7
	7.1nm,0.4s,baz=96,slow=19,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.69**	**194**	P		Pn	18 26 47.6 +0.2
	2.4nm,0.4s,baz=24,slow=10,SNR=36						
FITZ				S		S	18 29 05.8 -1.5
	1.0nm,0.4s,baz=112,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**15.16**	**160**	P		P	18 27 14.6 +0.5
	0.3nm,0.3s,baz=341,slow=11,SNR=6.7						
WRA				S		S	18 30 10.5 +13
	0.2nm,0.4s,baz=330,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**18.54**	**165**	P		P	18 27 51.2 +0.8
	0.5nm,0.3s,baz=343,slow=11,SNR=10						
ASAR				S		S	18 31 04.0 +0.1
	1.2nm,0.8s,baz=346,slow=22,SNR=11						
MKAR	**Makanchi Array**	**66.47**	**327**	P		P	18 34 10.7 -0.1
	0.1nm,0.4s,baz=126,slow=9.8,SNR=2.1						
	0.1nm,0.4s						

*NEIC **14** 18:30:22.3±1.8, 17°2S±0°1×175°1W±0°1, h146km±3km, mb4.6/16, Error ellipse: s-maj=16.7km s-min=14.7km az=201.0*
*IDC **14** 18:30:32.3±8.1, 17°12S×175°14W, h247km±71km, mb3.7/10, mbtmp4.3/11, Error ellipse: s-maj=32.6km s-min=19.6km az=71.0*

ISC 14 18:30:21.5±0.5, 17°09S±0°08×174°99W±0°07, h150km, n41, σ1°29/46, mb4.3/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.43**	**45**	Pn		**Pn**	**18 31 30.4 +2.9**
AFI				Sn		**Sn**	**18 32 16.9 -1.9**
NIUE	**Niue**	**5.21**	**113**	Pn		**Pn**	**18 31 40.0 +2.3**
NIUE				Sn		**Sn**	**18 32 36.2 -0.9**
DZM	**Mont Dzumac**	**18.18**	**251**	P		**Pn**	**18 34 27.4 +2.8**
	6.6nm,0.8s,baz=78,slow=20,SNR=3.6						
RTZ	**Ruatahuna**	**22.57**	**197**	P		**P**	**18 35 09.1 -0.2**
RTZ				IAmb		IAmb	18 35 21.3
	comp=Z,63nm,1.3s						
EIDS	**Eidsvold**	**32.61**	**250**	P		**P**	**18 36 40.1 +1.0**
EIDS				IAmb		IAmb	18 37 01.6
	comp=Z,25nm,1.5s						
ARMA	**Armidale**	**33.17**	**240**	P		**P**	**18 36 42.3 -1.7**
ARMA				IAmb		IAmb	18 36 58.6
	comp=Z,22nm,1.4s						
TOO	**Toolangi**	**40.22**	**232**	P		**P**	**18 37 42.9 -0.7**
COEN	**Coen**	**40.37**	**268**	P		**P**	**18 37 46.2 +1.1**
COEN				IAmb		IAmb	18 38 17.4
	comp=Z,9.4nm,1.1s						
TAU	**Tasmania Unive**	**41.05**	**223**	P		**P**	**18 37 47.8 -2.3**
STKA	**Stephens Creek**	**41.88**	**241**	P		**P**	**18 37 57.4 +0.2**
STKA	**Stephens Creek**	**41.88**	**241**	P		**P**	**18 37 57.6 +0.5**
	comp=Z,7.7nm,0.8s,baz=94,slow=9.8,SNR=16						
	comp=Z,7.7nm,0.8s						
WR8	**Warramunga Arr**	**47.84**	**258**	P		**P**	**18 38 43.4 -1.1**
WR8				IAmb		IAmb	18 38 45.0
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**47.95**	**259**	P		**P**	**18 38 44.4 -1.0**
WRAB	**Tennant Creek**	**47.98**	**258**	P		**P**	**18 38 44.6 -0.9**
WRAB				IAmb		IAmb	18 38 45.6
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**47.99**	**258**	P		**P**	**18 38 43.4 -2.2**
WRA	**Warramunga Arr**	**47.99**	**258**	P		**P**	**18 38 45.0 -0.7**
	comp=Z,2.3nm,0.7s,baz=95,slow=7.0,SNR=46						
WRA				PcP		**PcP**	**18 40 10.4 -1.1**
	comp=Z,0.5nm,0.5s,baz=94,slow=3.5,SNR=4.6						
	comp=Z,2.3nm,0.7s						
AS31	**Alice Springs**	**48.15**	**253**	P		**P**	**18 38 45.7 -1.2**
AS31				IAmb		IAmb	18 38 47.7
	comp=Z,7.1nm,0.8s						
ASAR	**Alice Springs**	**48.15**	**253**	P		**P**	**18 38 46.1 -0.7**
ASAR	**Alice Springs**	**48.15**	**253**	P		**P**	**18 38 46.7 -0.1**
	comp=Z,22nm,0.7s,baz=88,slow=8.6,SNR=319						
ASAR				PcP		**PcP**	**18 40 10.8 -1.3**
	comp=Z,0.8nm,0.4s,baz=102,slow=4.0,SNR=6.0						
	comp=Z,22nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.38**	**259**	P		**P**	**18 39 47.0 -0.6**
	comp=Z,0.7nm,0.3s,baz=77,slow=6.9,SNR=6.8						
	comp=Z,0.7nm,0.3s						
SOEI	**Soe**	**59.34**	**269**	P		**P**	**18 40 09.7 +1.2**
SOEI				IAmb		IAmb	18 40 20.2
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**61.27**	**254**	P		**P**	**18 40 20.8 -0.5**
MBWA	**Marble Bar**	**61.44**	**255**	P		**P**	**18 40 21.0 -1.4**
VNDA	**Vanda**	**61.55**	**186**	P		**P**	**18 40 22.3 +0.1**
	comp=Z,1.0nm,0.8s,baz=7.5,slow=4.8,SNR=7.5						
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**72.96**	**180**	P		**P**	**18 41 35.4 +1.0**
QSPA	**South Pole Qui**	**72.96**	**180**	P		**P**	**18 41 35.4 +1.0**
	comp=Z,2.3nm,0.8s,baz=36,slow=0.5,SNR=9.8						
	comp=Z,2.3nm,0.8s						
PETK	**Petropavlovsk-**	**73.78**	**343**	P		**P**	**18 41 39.0 -0.1**
	comp=Z,3.7nm,0.9s,baz=93,slow=11,SNR=4.2						
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**84.39**	**12**	P		**P**	**18 42 35.9 -0.7**
	comp=Z,0.2nm,0.5s,baz=205,slow=5.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
MAW	**Mawson**	**85.71**	**199**	P		**P**	**18 42 42.1 -1.1**
	comp=Z,2.3nm,0.6s,baz=139,slow=5.8,SNR=11						
	comp=Z,2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.70**	**289**	P		**P**	**18 43 13.4 +0.9**
	comp=Z,1.4nm,0.8s,baz=96,slow=3.1,SNR=8.9						
	comp=Z,1.4nm,0.8s						
ARCES	**ARCESS Array B**	**126.05**	**351**	PKP		**PKPdf**	**18 49 03.5 -1.8**
	comp=Z,1.5nm,0.9s,baz=50,slow=3.8,SNR=4.9						
CLL	**Collm**	**145.27**	**351**	*i* PKPbc		**PKPdf**	**18 49 40.0 -1.3**
	comp=Z,10.0nm,1.1s						
CLL				*i* PKiKP		**PKiKP**	**18 49 45.9 +0.7**
	comp=Z,11nm,1.5s						
BUR08	**Bucovina Ar. S**	**145.30**	**336**	PKPdf		**PKPdf**	**18 49 40.4 -1.2**
BURAR	**Bucovina Array**	**145.32**	**336**	PKPdf		**PKPdf**	**18 49 40.8 -0.9**
BNN	**Bunyan**	**145.45**	**315**	PKPdf		**PKPdf**	**18 49 41.6 -0.6**
ILGA	**Ilgaz**	**145.64**	**320**	PKPdf		**PKPdf**	**18 49 42.7 +0.1**
BRTR	**Keskin Array B**	**146.44**	**318**	PKPdf		**PKPdf**	**18 49 44.1 +0.3**
BRTR	**Keskin Array B**	**146.44**	**318**	PKPbc		**PKPdf**	**18 49 44.3 +0.4**
	comp=Z,1.9nm,0.8s,baz=132,slow=1.8,SNR=11						
GERES	**GERESS Array B**	**147.54**	**349**	PKPbc		**PKPdf**	**18 49 46.8 +1.5**
	comp=Z,0.6nm,0.7s,baz=316,slow=3.7,SNR=5.5						
MMAI	**Mount Meron Ar**	**148.38**	**306**	PKPbc		**PKPbc**	**18 49 50.4 -0.5**
	comp=Z,2.7nm,0.8s,baz=87,slow=4.3,SNR=4.0						
FUORN	**Ofenpass-Fuorn**	**150.23**	**353**	PKPbc		**PKPbc**	**18 49 54.0 -1.2**

DJA 14 18:39:30.1±1.9, 0°S±3°×12°5E±°, h22km±18km, M3.6/9, mb4.4/3, MLv3.2/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.93**	**317**	P		Pb	18 39 47.3 -0.3
KMSI				S		Sn	18 40 01.3 +0.7
LUWI	**Luwuk**	**2.07**	**243**	P		Pn	18 40 04.3 +0.8
MRSI	**Marisa**	**2.74**	**282**	P		Pn	18 40 11.7 -1.1
KDI	**Kendari**	**4.31**	**208**	P		Pn	18 40 34.2 -0.2
BKSI	**Bulukumba**	**6.85**	**221**	P		Pn	18 41 10.2 +0.8
	0.0nm8.0nm,1.2s						
TWSI	**Taliwang, Sumb**	**11.53**	**222**	P		Pn	18 42 12.9 -0.6
	17nm,0.9s						

*IDC **14** 19:03:27.1±3.0, 43°46N×105°24W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=73.2km s-min=10.9km az=153.0*
*NEIC **14** 19:03:29.1±1.4, 43°61N±0°04×105°24W±0°09, h0km±1km, ML3.3/66, Error ellipse: s-maj=11.6km s-min=4.7km az=111.0*

ISC 14 19:03:29.0±0.9, 43°62N±0°04×105°25W±0°04, h0km, n43, σ2°30/38, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**60**		**Pg**	**19 03 48.8 +0.5**
K22A	**Casper**	**1.34**	**224**		**Pg**	**19 03 54.6 -0.1**
LAO	**LASA Array**	**3.15**	**348**		**Pn**	**19 04 19.4 -0.4**
RLMT	**Red Lodge**	**3.25**	**299**	Pn	**Pn**	**19 04 23.4 +2.0**
RLMT				IAML		19 05 24.4
	45nm,0.8s					
BW06	**Boulder Array**	**3.26**	**256**	Pn	**Pn**	**19 04 24.3 +2.7**
PD31	**Pinedale Array**	**3.26**	**256**	Pn	**Pb**	**19 04 25.1 -2.8**
PDAR	**Pinedale Array**	**3.26**	**256**	Pn	**Pb**	**19 04 25.8 -2.1**
PDAR	**Pinedale Array**	**3.26**	**256**	Pn	**Pn**	**19 04 22.2 +0.6**
	1.1nm,0.3s,baz=64,slow=21,SNR=29						
PDAR				Lg	Lg	19 05 08.4
	2.1nm,0.3s,baz=71,slow=33,SNR=4.0						
	1.5nm,0.4s						
HAYD	**Hayden**	**3.44**	**206**	Pn	**Pn**	**19 04 24.6 +0.5**
HAYD				IAML		19 05 42.7
	comp=N,59nm,1.3s						
HAYD				IAML		19 06 25.9
	comp=E,45nm,1.5s						
OGNE	**Ogallala**	**3.58**	**137**		**Pb**	**19 04 33.9 +0.7**
YNE	**Yellowstone No**	**3.69**	**294**	Pn	**Pn**	**19 04 26.1 -1.4**
YNE				IAML		19 05 34.9
	comp=N,79nm,0.8s						
YMP	**Mirror Lake Pl**	**3.70**	**289**	Pn	**Pn**	**19 04 28.6 +0.9**
YMP				IAML		19 05 36.7
	comp=E,77nm,0.9s						
YMP				IAML		19 05 39.6
	comp=N,80nm,1.0s						
ISCO	**Idaho Springs**	**3.82**	**184**		**Pn**	**19 04 30.9 +1.5**
LOHW	**Long Hollow**	**3.89**	**272**	Pn	**Pn**	**19 04 32.1 +1.9**
LOHW				IAML		19 05 52.9
	comp=N,29nm,1.6s						
H17A	**Grant Village**	**3.92**	**283**		**Pn**	**19 04 30.8 +0.1**
H17A				IAML		19 05 39.9
	comp=N,33nm,0.8s						
H17A				IAML		19 05 48.3
	comp=E,44nm,1.2s						
SNOW	**Snow King Moun**	**4.01**	**270**		**Pn**	**19 04 33.9 +2.1**
SNOW				IAML		19 06 04.7
	comp=E,58nm,1.2s						
YNR	**Norris Junctio**	**4.06**	**288**		**Pn**	**19 04 36.1 +3.6**
YNR				IAML		19 05 51.8
	comp=E,27nm,1.2s						
YPP	**Pitchstone Pla**	**4.06**	**281**		**Pn**	**19 04 36.5 +3.8**
YPP				IAML		19 05 51.6
	comp=N,24nm,1.2s						
YFT	**Old Faithful**	**4.11**	**284**		**Pb**	**19 04 41.7 -0.7**
YFT				IAML		19 05 50.0
	comp=N,27nm,1.0s						
YFT				IAML		19 05 50.6
	comp=E,36nm,1.4s						
O20A	**White River Ci**	**4.13**	**214**		**Pn**	**19 04 37.1 +3.5**
O20A				IAML		19 06 33.8
	comp=E,49nm,1.5s						
O20A				IAML		19 06 41.4
	comp=E,54nm,2.4s						
TPAW	**Teton Pass**	**4.15**	**270**		**Pb**	**19 04 40.4 -2.6**
TPAW				IAML		19 06 00.0
	comp=E,47nm,0.8s						
TPAW				IAML		19 06 03.1
	comp=E,33nm,1.1s						
FXWY	**Fox Creek**	**4.19**	**272**	Pn	**Pn**	**19 04 38.2 +3.8**
YHH	**Holmes Hill**	**4.19**	**288**		**Pb**	**19 04 43.4 -0.3**
K30B	**Basset**	**4.23**	**101**		**Pb**	**19 04 43.0 -1.2**
AHID	**Auburn Hatcher**	**4.36**	**261**	Pg	**Pg**	**19 04 54.1 +1.5**
AHID				IAML		19 05 58.8
	comp=E,36nm,1.6s						
AHID				IAML		19 06 03.5
	comp=E,29nm,0.7s						
E28A	**Huff**	**4.38**	**46**		**Pn**	**19 04 36.5 -0.2**
RDMU	**Red Mountain**	**4.43**	**228**		**Pb**	**19 04 45.5 -2.2**
RDMU				IAML		19 06 06.3
	comp=N,24nm,1.4s						
RDMU				IAML		19 06 06.4
	comp=E,34nm,0.9s						
YHL	**Hebgen Lake**	**4.44**	**288**		**Pb**	**19 04 48.9 +1.0**
YHL				IAML		19 06 05.8
	comp=N,32nm,1.4s						
YHL				IAML		19 06 18.9
	comp=E,32nm,1.0s						
DGMT	**Dagmar**	**4.91**	**8**	Pn	**Pb**	**19 04 51.8 -4.0**
BOZ	**Bozeman (W)**	**4.97**	**296**		**Pb**	**19 04 57.9 +1.0**
BOZ				IAML		19 07 04.8
	comp=E,13nm,1.2s						
BOZ				IAML		19 07 12.7
	comp=E,13nm,2.0s						
HWUT	**Hardware Ranch**	**5.08**	**249**	Pn	Pb	19 04 54.0 -4.7
HWUT				IAML		19 06 30.9
	comp=E,23nm,1.2s						
HWUT				IAML		19 06 32.2
	comp=E,20nm,1.2s						
BSUT	**Blindstream Ca**	**5.13**	**235**	Pn	Pn	19 04 52.9 +5.5
BSUT				IAML		19 06 21.8
	comp=N,12nm,1.1s						
BSUT				IAML		19 06 39.5
	comp=E,15nm,2.1s						
TCUT	**Toone Canyon**	**5.20**	**243**		**Pb**	**19 04 57.2 -3.7**
EGMT	**Eagleton**	**5.42**	**326**		**Pg**	**19 05 13.4 +0.7**
DLMT	**Dillon**	**5.54**	**291**		**Pb**	**19 05 04.0 -2.6**
MCMT	**McKenzie Canyo**	**5.59**	**285**		Pb	19 05 01.3 -6.3
PV22	**Blue Mesa, Par**	**5.74**	**209**		**Pg**	**19 05 16.1 -2.8**
PV21	**Cone Mtn., Par**	**5.78**	**210**		**Pb**	**19 05 12.4 +1.6**
TMUT	**Trail Mountain**	**6.22**	**228**		**Pb**	**19 05 15.7 -2.6**
DUG	**Dugway, Tooele**	**6.60**	**241**	Pn	**Pn**	**19 05 11.8 +4.4**
HLID	**Hailey**	**6.66**	**273**		Pn	19 05 14.9 +6.7
I10CA	**LAC DU BONNET**	**9.12**	**41**	I	I	19 55 35.0
	comp=E,0.1nm,1.5s,baz=222,slow=312,SNR=7.6						
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn	**Pn**	**19 05 41.7 -1.4**
	comp=E,0.6nm,0.3s,baz=222,slow=16,SNR=1.4						
ULM				Lg	Lg	19 08 10.8
	comp=E,0.2nm,0.3s,baz=161,slow=19,SNR=1.0						
	comp=E,3.0nm,0.6s						

*NEIC **14** 19:06:33.4±2.0, 0°93N±0°09×97°00E±0°07, h10km±1km, mb4.4/12, Error ellipse: s-maj=17.2km s-min=8.4km az=141.0*
*IDC **14** 19:06:33.2±2.0, 1°04N×97°31E, h0km, mb3.9/7, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=75.2km s-min=19.5km az=63.0*
*DJA **14** 19:06:36.8±0.7, 1°N±3°×9°7E±°, h25km±5km, M4.1/15, mb4.3/6, MLv4.0/15*

ISC 14 19:06:36.0±0.7, 1°03N±0°05×97°23E±0°07, h25km, n55, σ1°06/42, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.44**	**52**		**Pn**	**19 06 46.9 +0.1**
GSI	**Gunungsitoli**	**0.44**	**52**	P	**Pn**	**19 06 46.7 -0.1**
GSI				S	**Sn**	**19 06 55.3 +1.3**
PBSI	**Pulau Batu**	**1.50**	**136**	P	**Pn**	**19 07 01.2 -0.2**
PBSI				S	**Sn**	**19 07 19.9 -0.3**
SNSI	**Sinabang, Aceh**	**1.64**	**327**	P	**Pn**	**19 07 04.0 +0.7**
MNSI	**Mandailing Nat**	**2.36**	**96**	P	**Pn**	**19 07 13.8 +0.6**
RPSI	**Rantau Prapat**	**2.37**	**46**		**Pn**	**19 07 14.8 +1.5**
KCSI	**Kotacane, Aceh**	**2.54**	**12**	P	**Pn**	**19 07 16.0 +0.3**
TSI	**Tuntungan**	**2.79**	**28**	P	**Pn**	**19 07 20.1 +0.9**
SISI	**Saibi**	**2.99**	**142**	P	**Pn**	**19 07 22.9 +1.0**
MLSI	**Meulaboh, Aceh**	**3.32**	**346**	P	**Pn**	**19 07 28.4 +1.9**
PPI	**Padang Panjang**	**3.49**	**115**	P	**Pn**	**19 07 28.5 -0.3**
PDSI	**Padang**	**3.76**	**121**	P	**Pn**	**19 07 32.3 -0.2**
LHMI	**Lhok Sumawe**	**4.18**	**356**	P	**Pn**	**19 07 39.0 +0.7**
IPM	**Ipoh**	**5.11**	**48**		**Pn**	**19 07 52.6 +1.5**
KRJI	**Kerinci**	**5.24**	**126**	P	**Pn**	**19 07 55.9 +2.9**
KULM	**Kulim**	**5.44**	**39**		**Pn**	**19 07 56.2 +0.6**
MYKOM	**Kota Tinggi**	**6.66**	**83**	Pn	**Pn**	**19 08 12.8 +0.4**
CMBY	**CAMPBELL BAY**	**6.79**	**331**	*e*P	Pb	19 08 39.8 +6.2
CMBY				IAML		19 09 32.4
	comp=E,127nm,0.0s					
CMBY				IAML		19 09 34.7
	comp=N,127nm,2.7s					
CMBY				*e*S	**Sb**	**19 09 52.5 -1.7**
MNAI	**Manna**	**7.83**	**133**	Pn	**Pn**	**19 08 28.5 -0.1**
PBA	**Port Blair**	**11.46**	**337**	*e*P	Pn	19 09 40.3 +22
PBA				*e*S	Sn	19 11 39.9 +14
PBA				IAML		19 12 05.1
	comp=N,157nm,0.5s					
DGPR	**DIGLIPUR**	**12.80**	**341**	*e*P	P	19 09 59.4 +12
DGPR				*e*S	Sn	19 12 09.0 +11
DGPR				IAML		19 12 12.0
	comp=E

AB31	Akbulak array	57.68	332	P	P	19 16 24.4	0.0
ABKAR	Akbulak array	57.68	332	P	P	19 16 24.1	-0.3
H04N2	CROZET ISLANDS	61.65	214	T	T	20 23 39.5	
	baz=54,slow=75,SNR=374						
H04N1	CROZET ISLANDS	61.66	214	T	T	20 23 38.7	
	baz=54,slow=75,SNR=422						
H04N3	CROZET ISLANDS	61.67	214	T	T	20 23 36.1	
	baz=54,slow=75,SNR=359						
H04S1	CROZET ISLANDS	61.99	214	T	T	20 24 02.0	
	baz=54,slow=75,SNR=127						
H04S3	CROZET ISLANDS	62.00	214	T	T	20 24 01.9	
	baz=54,slow=75,SNR=163						
H04S2	CROZET ISLANDS	62.00	214	T	T	20 24 00.5	
	baz=54,slow=75,SNR=106						
SHEM	Shemya Is, Ala	81.24	37	P	P	19 18 47.8	-2.1
SMY	Shemya	81.24	37	P	P	19 18 47.8	-2.1

*IDC **14** 19:09:36.3±1.6, 0.°96N×97.°02E, h0km, mb4.1/7, mbtmp4.1/8, ML4.3/1, MS3.2/1, Error ellipse: s-maj=75.9km s-min=21.7km az=61.0*
*NEIC **14** 19:09:37.5±2.1, 0.°87N±0.°08×97.°03E±0.°07, h10km±1km, mb4.3/15, Error ellipse: s-maj=15.2km s-min=8.8km az=138.0*
*DJA **14** 19:09:37.8±0.9, 1.°N±3.°×9.°7E±.°, h17km±7km, M4.3/17, mB5.3/1, mb4.6/10, MLv4.2/17, Mw(mB)4.7/1*
ISC 14 19:09:40.2±0.7, 0.°99N±0.°06×97.°14E±0.°07, h25km, n64, σ1°62/56, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.54	55		Pb	19 09 51.1	+0.1
GSI	Gunungsitoli	0.54	55	P	Pb	19 09 51.2	+0.2
GSI				S	Sb	19 09 59.4	+1.0
PBSI	Pulau Batu	1.54	132	P	Pn	19 10 05.8	-0.3
SNSI	Sinabang, Aceh	1.62	330	P	Pn	19 10 06.6	-0.6
MNSI	Mandailing Nat	2.45	95	P	Pn	19 10 18.1	-0.4
RPSI	Rantau Prapat	2.46	46		Pn	19 10 18.8	+0.1
KCSI	Kotacane, Aceh	2.59	14	P	Pn	19 10 19.9	-0.7
SISI	Saibi	3.02	140	P	Pn	19 10 25.4	-1.0
MLSI	Meulaboh, Aceh	3.33	347	P	Pn	19 10 28.9	-1.9
PPI	Padang Panjang	3.56	114	P	Pn	19 10 34.2	+0.3
PDSI	Padang	3.82	120	P	Pn	19 10 37.3	-0.2
BKNI	Bangkinang	3.96	107	Pn	Pn	19 10 38.0	-1.4
LHMI	Lhok Sumawe	4.21	357	P	Pn	19 10 40.9	-2.0
IPM	Ipoh	5.20	48		Pn	19 10 56.2	-0.3
KULM	Kulim	5.52	39		Pn	19 11 00.1	-0.8
MASI	Maura Aman, Be	6.55	129	P	Pn	19 11 15.2	+0.2
	0.2nm40nm,0.9s						
MYKOM	Kota Tinggi	6.75	83	Pn	Pn	19 11 17.9	+0.1
CMBY	CAMPBELL BAY	6.78	332	eP	Pn	19 11 21.3	+3.1
CMBY				eS	Sn	19 12 36.3	+1.6
CMBY				IAML		19 13 56.2	
	comp=E,138nm,1.4s						
CMBY				IAML		19 14 16.8	
	comp=N,145nm,1.6s						
KSI	Kapahiang	7.14	130	P	Pn	19 11 23.6	+0.4
	comp=N,2μmcomp=N,24nm,0.6s						
MNAI	Manna	7.88	132	Pn	Pn	19 11 32.5	-0.8
MNAI	Manna	7.88	132	P	Pn	19 11 32.4	-0.8
MDSI	Maura Dua	8.89	128	P	Pn	19 11 46.8	-0.4
	comp=N,8.4nm,0.7s						
KASI	Kota Agung	9.79	131	P	Pn	19 11 57.9	-1.6
	comp=N,33nm,1.3s						
PBA	Port Blair	11.46	338	IAML		19 12 17.9	
	comp=E,61nm,1.6s						
PBA				eP	Pn	19 12 22.0	-0.3
PBA				IAML		19 12 25.0	
	comp=N,83nm,1.2s						
PBA				eS	Sn	19 14 22.7	-6.9
LEM	Lembang	13.03	127	LR	LR	19 17 30.7	
	comp=N,116nm,20.7s,baz=176,slow=36						
CMAR	Chiang Mai Arr	17.45	6	P	Pn	19 13 40.6	-1.3
	comp=N,0.4nm,0.3s,baz=195,slow=12,SNR=8.7						
	comp=N,1.5nm,0.6s						
CHTO	Chiang Mai	17.80	6		P	19 13 46.3	-0.7
SLVN	Son La	21.27	18	P	P	19 14 23.2	-1.7
SLVN				IAmb	IAmb	19 14 28.1	
	comp=Z,7.0nm,0.9s						
TOLI2	Tolitoli	23.64	89	P	P	19 14 47.4	-2.4
TOLI2				IAmb	IAmb	19 14 49.0	
	comp=Z,6.8nm,0.7s						
IMP	Imphal	23.90	353	IAmb	IAmb	19 11 56.4	
	comp=Z,5.8nm,0.9s						
IMP				eP	P	19 14 54.2	+2.0
IMP				eS	S	19 19 11.9	+4.7
KOHI	KOHIMA	24.76	353	eP	P	19 14 59.6	-0.5
SHL	Shillong	24.95	349		P	19 15 02.0	+0.1
SHL				IAmb	IAmb	19 15 03.4	
	comp=Z,13nm,1.2s						
PZH	PanZhiHua	25.75	10	P	P	19 15 08.0	-1.1
H08S2	Diego Garcia H	26.04	250	T	T	19 42 19.8	
	baz=71,slow=75,SNR=304						
H08S3	Diego Garcia H	26.04	250	T	T	19 42 11.0	
	baz=71,slow=75,SNR=2756						
H08S1	Diego Carcia H	26.05	250	T	T	19 42 21.2	
	baz=71,slow=75,SNR=456						
EVN	Everest	28.58	341		P	19 15 35.0	-0.1
EVN				IAmb	IAmb	19 15 43.4	
	comp=Z,4.1nm,1.0s						
XAN	Xi'an	34.68	17	eP	P	19 16 30.3	+2.3
GTA	Gaotai	38.31	3	eP	P	19 16 59.9	+0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
H01W3	Cape Leeuwin H	39.08	158	T	T	19 58 32.1	
	baz=333,slow=76,SNR=45						
H01W2	Cape Leeuwin H	39.09	158	T	T	19 58 34.0	
	baz=333,slow=76,SNR=45						
H01W1	Cape Leeuwin H	39.09	158	T	T	19 58 33.2	
	baz=333,slow=76,SNR=46						
HHC	Hu-ho-hao-te	41.77	16	eP	P	19 17 29.4	+1.7
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,5.1s						
ASAR	Alice Springs	43.32	127	P	P	19 17 40.1	-0.3
	comp=Z,0.3nm,0.4s,baz=299,slow=7.2,SNR=5.0						
	comp=Z,0.3nm,0.4s						
WMQ	Urumqi	43.47	350	eP	P	19 17 40.5	-0.9
WMQ				pmax	pmax		
	comp=Z,38nm,1.1s						
DRK	Karamyk	44.74	332	P	P	19 17 53.6	+1.7
ARSB	Arslanbob	45.70	334		P	19 18 00.9	+1.6
ARSB				IAmb	IAmb	19 18 01.7	
	comp=Z,3.7nm,0.9s						
SONM	Songino Array	47.34	8	P	P	19 18 10.7	-1.5
SONM				IAmb	IAmb	19 18 15.7	
	comp=Z,2.6nm,1.0s						
SONM	Songino Array	47.34	8	P	P	19 18 12.3	+0.2
	comp=Z,1.9nm,0.5s,baz=189,slow=9.6,SNR=12						
SONM				PcP	PcP	19 19 42.1	-0.6
	comp=Z,0.5nm,0.6s,baz=207,slow=6.2,SNR=3.8						
	comp=Z,1.9nm,0.5s						
MKAR	Makanchi Array	47.43	346	P	P	19 18 12.2	-0.4
MKAR	Makanchi Array	47.43	346	P	P	19 18 13.2	+0.6
	comp=Z,1.8nm,0.7s,baz=159,slow=8.5,SNR=12						
	comp=Z,1.8nm,0.7s						
STKA	Stephens Creek	53.26	132	P	P	19 18 58.6	+1.6
	comp=Z,1.1nm,0.6s,baz=323,slow=10,SNR=3.2						
	comp=Z,1.1nm,0.6s						
ZALV	Zalesovo Beam	53.75	351	P	P	19 19 00.8	+0.5
ZALV	Zalesovo Beam	53.75	351	P	P	19 19 00.6	+0.4
	comp=Z,3.1nm,0.5s,baz=166,slow=6.9,SNR=14						
	comp=Z,3.1nm,0.5s						
ABKAR	Akbulak array	57.67	332	P	P	19 19 27.8	-0.6
H04N2	CROZET ISLANDS	61.57	214	T	T	20 26 45.6	
	baz=53,slow=75,SNR=279						
H04N1	CROZET ISLANDS	61.58	214	T	T	20 26 47.4	
	baz=53,slow=75,SNR=234						
H04N3	CROZET ISLANDS	61.59	214	T	T	20 26 43.5	
	baz=53,slow=75,SNR=269						
H04S1	CROZET ISLANDS	61.91	214	T	T	20 27 02.9	
	baz=54,slow=75,SNR=117						
H04S3	CROZET ISLANDS	61.92	214	T	T	20 27 03.5	
	baz=54,slow=75,SNR=193						
H04S2	CROZET ISLANDS	61.92	214	T	T	20 27 06.0	
	baz=54,slow=75,SNR=104						
FINES	FINESS Array B	80.15	333	P	P	19 21 46.8	-1.2
	comp=Z,3.0nm,1.0s,baz=123,slow=2.3,SNR=3.4						
	comp=Z,3.0nm,1.0s						
ARCES	ARCESS Array B	82.71	340	P	P	19 22 01.8	+0.4
	comp=Z,1.9nm,0.9s,baz=87,slow=6.2,SNR=6.4						
	comp=Z,1.9nm,0.9s						
BELA	Belgrano 2	99.07	189		Pdif	19 23 19.1	+0.5

*IDC **14** 19:12:42.8±1.2, 3.°43S×144.°19E, h0km, mb3.7/5, mbtmp3.7/8, ML3.3/2, MS3.0/2, Error ellipse: s-maj=36.9km s-min=22.9km az=84.0*
ISC 14 19:12:47.3±1.0, 3.°5S±0.°1×144.°1E±0.°1, h31km, n15, σ1°26/9, mb3.8/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.56	286	Pn	Pn	19 13 39.4	-1.1
	1.0nm,0.3s,baz=154,slow=8.3,SNR=8.1						
JAY				Sn	Sn	19 14 21.9	+0.4
	1.1nm,0.3s,baz=207,slow=14,SNR=1.7						
	2.8nm,0.3s						
PMG	Port Moresby	6.60	153	Pn	Pn	19 14 21.9	-0.4
	6.6nm,0.4s,baz=13,slow=19,SNR=1.7						
PMG				LR	LR	19 17 31.0	
	comp=Z,110nm,20.2s,baz=357,slow=44						
WRA	Warramunga Arr	18.94	210	Pn	P	19 17 05.3	-0.6
	0.2nm,0.3s,baz=30,slow=12,SNR=7.8						
	1.1nm,0.7s						
ASAR	Alice Springs	22.36	205	P	P	19 17 44.4	+1.3
	0.8nm,0.7s,baz=27,slow=11,SNR=10						
	0.8nm,0.7s						
H11S3	WAKE ISLAND Hy	31.16	45	T	T	19 51 45.3	
	baz=228,SNR=4.4						
H11S2	WAKE ISLAND Hy	31.17	45	T	T	19 51 44.2	
	baz=228,SNR=3.9						
H11S1	WAKE ISLAND Hy	31.18	45	T	T	19 51 43.0	
	baz=228						
H11N1	WAKE ISLAND Hy	32.13	43	T	T	19 52 51.9	
	baz=226,slow=76,SNR=7.7						
H11N2	WAKE ISLAND Hy	32.14	43	T	T	19 52 54.2	
	baz=226,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	32.14	43	T	T	19 52 54.9	
	baz=226,slow=76,SNR=6.4						
SONM	Songino Array	60.85	332	P	P	19 22 59.0	+2.0
	0.8nm,1.0s,baz=104,slow=6.1,SNR=4.0						
	0.8nm,1.0s						
MKAR	Makanchi Array	73.76	321	P	P	19 24 18.0	-0.7
	0.3nm,0.6s,baz=104,slow=6.1,SNR=2.9						
	0.3nm,0.6s						
AAK	Ala-Archa	77.56	315	LR	LR	20 02 20.1	
	comp=Z,11nm,18.2s,baz=247,slow=38						
ILAR	Eielson Array	84.33	24	P	P	19 25 15.1	-1.0
	0.6nm,0.8s,baz=264,slow=4.2,SNR=5.0						
	0.6nm,0.8s						
QSPA	South Pole Qui	86.46	180	P	P	19 25 27.5	+0.6
	1.0nm,0.7s,baz=28,slow=1.6,SNR=3.6						
	1.0nm,0.7s						

*IDC **14** 19:28:16.6±4.2, 10.°58N×62.°73W, h64km±37km, mb3.6/16, mbtmp4.0/17, ML4.7/1, MS2.8/2, Error ellipse: s-maj=23.6km s-min=16.8km az=12.0*
*NEIC **14** 19:28:19.4±1.5, 10.°51N±0.°08×62.°45W±0.°07, h93km±7km, mb4.9/30, Error ellipse: s-maj=12.4km s-min=9.9km az=156.0*
*TRN **14** 19:28:22.2, 10.°71N×62.°57W, h78km, MD4.5, North of the Paria peninsula.*
*FUNV **14** 19:28:22.5, 10.°71N×62.°47W, h100km, MW4.4*
ISC 14 19:28:19.3±0.7, 10.°55N±0.°05×62.°55W±0.°04, h94km±7km, n96, σ1°93/111, mb4.8/31, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	Guralp CMG5TDE	0.99	81	eP	Pn	19 28 42.0	+2.8
DMDM				eS	Sn	19 28 56.0	+1.8
TRN	Trinidad (W)	1.13	85	↑iP	Pn	19 28 43.5	+2.8
TRN				eS	Sn	19 28 57.9	+0.9
GRFF	Grenada Fort F	1.69	28	eP	Pn	19 28 48.2	+0.5
GRFF				eS	Sn	19 29 07.2	-2.0
GRGR	Grenville	1.80	29		Pn	19 28 49.4	+0.3
GRGR				Sn	Sn	19 29 09.4	-2.4
GRGR	Grenville	1.80	29	eP	Pn	19 28 49.6	+0.5
GRGR				eS	Sn	19 29 10.8	-1.1
GRW	Mount Saint Ca	1.82	28	eP	Pn	19 28 51.1	+1.6
GRW				eS	Sn	19 29 11.1	-1.3
GRSS	Sisters	1.97	28	eP	Pn	19 28 52.0	+0.8
GRSS				eS	Sn	19 29 14.2	-1.4
GCMP	Grenada, Carri	2.22	30	eP	Pn	19 28 55.1	+0.6
GCMP				eS	Sn	19 29 19.2	-2.2
SVB	Belmont	2.99	25	eP	Pn	19 29 05.2	+0.4
SLBI	Saint Lucia, B	3.78	24	eP	Pn	19 29 15.8	+0.3
SLBI				eS	Sn	19 29 57.4	-1.5
BBGH	Gun Hill	3.90	48	eP	Pn	19 29 20.0	+2.9
BBGH	Gun Hill	3.90	48	e	Pn	19 29 21.6	+4.5
BIM	Bigot	4.20	20		Pn	19 29 21.5	+0.3
BIM				Sn	Sn	19 30 04.6	-4.6
BIM	Bigot	4.20	20	eP	Pn	19 29 22.0	+0.8
BIM				eS	Sn	19 30 05.5	-3.7
MPOM	Morne Pois Mar	4.21	23	Pn	Pn	19 29 21.8	+0.6
FDF	Fort de France	4.38	18		Pn	19 29 23.8	+0.2
FDF				Sn	Sn	19 30 10.2	-3.3
TACV	Tcata	4.42	265	eP	Pn	19 29 27.7	+3.5
TACV				eS	Sn	19 30 14.6	-0.1
SVN	Savane Anatole	4.47	17		Pn	19 29 24.1	-0.8
SVN	Savane Anatole	4.47	17	eP	Pn	19 29 25.1	+0.1
SVN				eS	Sn	19 30 12.7	-3.2
ILAM	Ilet Lapin Mar	4.51	21	eP	Pn	19 29 26.1	+0.8
ILAM				eS	Sn	19 30 14.1	-2.5
CACV	CAICARA DEL OR	4.93	233	eP	Pn	19 29 29.2	-1.9
CACV				eS	Sn	19 30 20.1	-6.7
DSLB	Salisbury	4.98	13	eP	Pn	19 29 34.0	+2.2
BENV	Beln	5.00	264	eP	Pn	19 29 35.8	+3.7
BENV				eS	Sn	19 30 28.0	-0.7
TDBA	Terre de Bas,	5.34	9	Pn	Pn	19 29 34.4	-2.3
TBG	Guadaloupe-3	5.34	9	eP	Pn	19 29 37.7	+1.0
MAGL	Barre de l'ile	5.51	13	Pn	Pn	19 29 39.8	+0.9
MMLZ	Guadeloupe Bro	5.53	9	eP	Pn	19 29 41.0	+1.8
CBE	Ff, Capester	5.56	9		Pn	19 29 40.3	+0.6
ATGZ	Broadband at L	5.57	8	eP	Pn	19 29 40.8	+1.1
BAUV	El Baul	5.64	254		Pn	19 29 42.3	+1.5
BAUV	El Baul	5.64	254	eP	Pn	19 29 43.5	+2.7
BAUV				eS	Sn	19 30 44.6	+0.3
BAUV	El Baul	5.64	254	eP	Pn	19 29 43.2	+2.5
BAUV				eS	Sn	19 30 44.7	+0.4
DHSZ	Broadband at M	5.74	8	eP	Pn	19 29 43.6	+1.6
GDHS	Morne Mazeau,	5.74	8		Pn	19 29 43.5	+1.4
DSDZ	La Diserade, G	5.91	14	eP	Pn	19 29 44.7	+0.4
ABD	La Joyeuse, An	5.98	10	Pn	Pn	19 29 45.3	0.0
MBWH	Windy Hill	6.17	3	eP	Pn	19 29 50.0	+2.1
SKI	Saint Kitts	6.75	358	eP	Pn	19 29 58.2	+2.4
ANWB	Willy Bob	7.12	6	eP	Pn	19 30 02.8	+2.0
SDV	Santo Domingo	8.14	259	Pn	Pn	19 30 14.4	-0.5
SDV	Santo Domingo	8.14	259	P	Pn	19 30 15.8	+0.9
	5.5nm,0.4s,baz=42,slow=10,SNR=4.5						
SDV				S	Sn	19 31 43.4	-2.0
	16nm,0.3s,baz=42,slow=17,SNR=11						
PDPR	Patillas Dam,	8.15	336	Pn	Pn	19 30 13.4	-1.5
SJG	San Juan	8.29	336	P	Pn	19 30 16.7	0.0
	8.8nm,0.2s,baz=115,slow=9.9,SNR=4.7						
BOAV	Boa Vista	8.35	166		Pn	19 30 17.5	-0.1
CRPR	Cabo Rojo, PR	8.63	330		Pn	19 30 22.4	+1.0
AOPR	Arecibo Observ	8.76	333		Pn	19 30 22.8	-0.4
DR12	Loma Pena Alta	10.52	322		Pn	19 30 48.7	+1.5
MDP	Montagnes des	11.21	118	P	Pn	19 30 55.5	-1.1
	4.7nm,0.3s,baz=307,slow=15,SNR=31						
MDP				S	Sn	19 32 53.2	-6.7
	59nm,0.3s,baz=54,slow=18,SNR=27						
	8.2nm,0.3s						
SDDR	Presa de Saban	11.90	316		Pn	19 31 08.3	+2.5
MAL2	Monte Alegre,	15.01	146		Pn	19 31 41.3	-5.3
LPAZ	La Paz	27.23	192	LR	LR	19 44 40.0	
	comp=Z,20nm,19.1s,baz=54,slow=36						
PLAL	Pickwick Lake	33.65	320		P	19 34 52.1	+1.0
PLAL				IAmb	IAmb	19 34 53.1	
	comp=Z,11nm,0.6s						
WVT	Waverly	34.25	322	P	P	19 34 56.5	+0.2
CGM3	Cape Girardeau	36.12	322	P	P	19 35 12.8	+0.4
CGM3				IAmb	IAmb	19 35 13.7	
	comp=Z,9.1nm,0.8s						
PBMO	Poplar Bluff	36.27	321	IAmb	IAmb	19 35 15.2	
	comp=Z,10nm,0.9s						
Q44A	Meyer Farm, Va	36.81	325		P	19 35 18.8	+0.6
CPUP	Villa Florida	37.01	172	LR	LR	19 52 03.7	
	comp=Z,11nm,19.9s,baz=324,slow=38						
CCM	Cathedral Cave	37.57	322	P	P	19 35 24.7	0.0
HBVL	Hebbronville	37.76	301		P	19 35 27.4	+1.1
HBVL				IAmb	IAmb	19 35 29.0	
	comp=Z,13nm,0.6s						
HHAR	Hobbs	38.24	317	P	P	19 35 29.3	-1.0
P40A	Paris	38.99	323		P	19 35 36.4	-0.2
P40A				IAmb	IAmb	19 35 37.5	
	comp=Z,15nm,0.8s						
BRDY	Brady	39.54	307	P	P	19 35 41.1	-0.2
BRDY				IAmb	IAmb	19 35 42.9	
	comp=Z,17nm,0.9s						
L40A	Anamosa	40.20	326	P	P	19 35 46.3	-0.2
L40A				IAmb	IAmb	19 35 47.3	
	comp=Z,14nm,0.6s						
T35A	Sooner Cattle	40.32	316		P	19 35 46.5	-1.2
T35A				IAmb	IAmb	19 36 13.1	
	comp=Z,22nm,0.7s						
APMT	Aspermont	41.24	309	P	P	19 35 54.6	-0.6
APMT				IAmb	IAmb	19 35 56.9	
	comp=Z,38nm,2.0s						
DKNS	Dickens	41.99	309	P	P	19 36 01.1	-0.3
POST	Post	42.19	308	IAmb	IAmb	19 36 04.9	
	comp=Z,20nm,0.8s						
TXAR	Lajitas Array	42.65	302	P	P	19 36 07.1	+0.2
	comp=Z,0.5nm,0.5s,baz=115,slow=9.1,SNR=8.8						
TXAR				PcP	PcP	19 37 58.0	+0.7
	comp=Z,0.8nm,0.7s,baz=125,slow=5.7,SNR=7.5						
	comp=Z,0.5nm,0.5s						
I37A	Lemond, Waseca	42.69	327	P	P	19 36 07.1	+0.2
I37A				IAmb	IAmb	19 36 07.9	
	comp=Z,23nm,0.7s						
SCHQ	Schefferville	44.30	356	P	P	19 36 20.1	+0.5
	comp=Z,21nm,0.4s,baz=198,slow=8.2,SNR=8.5						
RTBA	Rita Blanca	44.49	312	IAmb	IAmb	19 36 22.5	
	comp=Z,11nm,0.6s						
K22A	Casper	49.84	318	P	P	19 37 02.3	-0.8
K22A				IAmb	IAmb	19 38 40.3	
	comp=Z,22nm,1.1s						
DGMT	Dagmar	51.34	326	P	P	19 37 13.0	-1.0
TMUT	Trail Mountain	51.78	312	IAmb	IAmb	19 37 20.6	
	comp=Z,4.8nm,0.5s						
PDAR	Pinedale Array	51.91	317	P	P	19 37 18.6	-0.1
	comp=Z,1.9nm,0.6s,baz=115,slow=9.5,SNR=20						
	comp=Z,1.9nm,0.6s						
YHL	Hebgen Lake	53.84	319	IAmb	IAmb	19 37 35.4	
	comp=Z,7.3nm,0.7s						
NVAR	Mina Array Bea	56.83	309	P	P	19 37 52.6	-1.8
	comp=Z,0.2nm,0.4s,baz=92,slow=9.1,SNR=2.6						
	comp=Z,0.2nm,0.4s						
ESDC	Sonseca Array	59.26	50	P	P	19 38 13.6	+2.5
	comp=Z,1.1nm,0.9s,baz=267,slow=7.4,SNR=2.9						
ESDC				PcP	PcP	19 38 59.4	+0.8
	comp=Z,0.7nm,0.7s,baz=286,slow=2.9,SNR=4.2						
	comp=Z,1.1nm,0.9s						
ACRG	Accra	61.84	89	P	P	19 38 23.9	-5.1
TORD	Torodi Ar. Bea	62.78	81	P	P	19 38 37.2	+1.9
	comp=Z,0.7nm,0.7s,baz=297,slow=6.6,SNR=6.8						
	comp=Z,0.7nm,0.7s						
YKA	Yellowknife Ar	63.78	336	P	P	19 38 40.1	-1.0
	comp=Z,0.6nm,0.5s,baz=138,slow=10,SNR=5.7						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	72.98	29	P	P	19 39 40.0	+1.4
	comp=Z,0.7nm,0.8s,baz=231,slow=7.0,SNR=3.2						
	comp=Z,0.7nm,0.8s						
GERES	GERESS Array B	73.09	42	P	P	19 39 41.0	+1.5
	comp=Z,0.9nm,0.7s,baz=268,slow=4.0,SNR=8.2						
	comp=Z,0.9nm,0.7s						
HFS	Hagfors	74.07	30	P	P	19 39 45.9	+1.0
	comp=Z,1.3nm,0.5s,baz=236,slow=2.7,SNR=9.1						
	comp=Z,1.3nm,0.5s						
SPITS	Spitsbergen Ar	77.47	12	P	P	19 40 04.5	+0.5
	comp=Z,1.2nm,0.4s,baz=273,slow=2.5,SNR=5.0						
	comp=Z,1.2nm,0.4s						
ILAR	Eielson Array	78.12	334	P	P	19 40 06.7	-1.1
	comp=Z,0.9nm,0.6s,baz=104,slow=4.5,SNR=13						
	comp=Z,0.9nm,0.6s						
ARCES	ARCESS Array B	79.51	21	P	P	19 40 16.0	+0.6
	comp=Z,1.4nm,0.8s,baz=277,slow=5.1,SNR=6.5						
	comp=Z,1.4nm,0.8s						
FINES	FINESS Array B	80.16	29	P	P	19 40 19.7	+0.7
	comp=Z,1.5nm,0.7s,baz=258,slow=3.5,SNR=14						
	comp=Z,1.5nm,0.7s						
MLR	Muntele Rosu	81.52	45	P	P	19 40 26.1	-0.7
AKASG	Malin Array Be	83.05	40	P	P	19 40 35.8	+1.4
	comp=Z,0.6nm,0.5s,baz=277,slow=3.6,SNR=4.0						
	comp=Z,0.6nm,0.5s						
BRTR	Keskin Array B	88.05	50	P	P	19 41 01.6	+1.9
	comp=Z,1.0nm,0.7s,baz=237,slow=4.8,SNR=6.4						
	comp=Z,1.0nm,0.7s						
SNAA	Sanae	90.90	164	P	P	19 41 12.5	+0.4
	comp=Z,0.3nm,0.7s,baz=244,slow=7.2,SNR=1.1						
	comp=Z,0.3nm,0.7s						
PZH	PanZhiHua	140.13	22	PKP	PKPdf	19 47 35.5	-2.4
CMAR	Chiang Mai Arr	145.88	32	PKPbc	PKPbc	19 47 49.0	+0.3
	comp=Z,1.0nm,0.6s,baz=305,slow=4.7,SNR=8.7						
ASAR	Alice Springs	159.60	228	PKPab	PKPab	19 48 46.5	-0.1
	comp=Z,0.3nm,0.8s,baz=126,slow=4.6,SNR=2.2						
WRA	Warramunga Arr	161.23	238	PKPab	PKPab	19 48 54.4	+0.6
	comp=Z,0.5nm,0.7s,baz=113,slow=4.4,SNR=5.6						

*MEX **14** 19:31:27.5±0.7, 15.°06N×92.°46W, h105km±5km, MD4.2*
*CATAC **14** 19:31:27.3±0.5, 15.°N±4.°×9.°3W±.°, h85km±4km, M3.5/10, MLv3.5/10, Error ellipse: s-maj=9.1km s-min=3.8km az=34.5, confirmed*
*GCG **14** 19:31:27.5±1.3, 15.°07N×92.°44W, h92km±8km, MD3.9, ML4.0*
ISC 14 19:31:24.7±1.3, 14.°93N±0.°04×92.°52W±0.°03, h110km±6km, n46, σ1°96/74, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0

comp=E,418nm,0.6s
PETF Flores 3.23 52 P **Pn 19 32 15.4 +1.6**
JAYA Jayaque - finc 3.24 113 S **Sn 19 32 55.5 +3.4**
HUIG Huatulco 3.56 284 *eP* **Pn 19 32 20.2 +2.0**
HUIG *eS* **Sn 19 32 55.4 -4.2**
NEUV Arroyo Zacate 4.19 312 *eP* **Pn 19 32 27.6 +1.0**
NEUV *eS* **Sn 19 33 13.4 -1.3**
SCIG Sabancuy 4.21 17 *eP* **Pn 19 32 28.2 +1.3**
SCIG *eS* **Sn 19 33 12.3 -2.8**
PEIG Puerto Escondi 4.59 284 *eP* **Pn 19 32 33.0 +1.0**
PEIG *eS* **Sn 19 33 20.3 -4.0**
YOIG Yosondua 5.20 292 *eP* **Pn 19 32 42.0 +1.4**
YOIG *eS* **Sn 19 33 38.3 -1.3**
TOIG Toxpalan 5.38 306 *eP* **Pn 19 32 43.1 +0.4**
TOIG *eS* **Sn 19 33 43.2 -0.3**
TXIG Tlaxiaco 5.55 295 *eP* Pn 19 32 49.9 +4.7
TXIG *eS* **Sn 19 33 46.6 -1.3**
PNIG Pinotepa 5.59 286 *eP* **Pn 19 32 47.1 +1.5**
PNIG *eS* **Sn 19 33 47.4 -1.3**
HLIG Huajuapan de L 5.83 300 *eP* **Pn 19 32 50.9 +1.8**
HLIG *eS* **Sn 19 33 55.3 +0.5**
JAUV Jalcomulco 6.02 318 *eP* **Pn 19 32 50.5 -0.9**
JAUV *eS* **Sn 19 33 54.5 -4.5**
FTIG Fresnillo de T 6.15 300 *eP* **Pn 19 32 55.8 +2.6**
FTIG *eS* **Sn 19 34 01.9 -0.4**
MYIG Merida 6.55 23 *eS* **Sn 19 34 09.7 -2.1**

*IDC **14** 19:53:02.6±3.1, 22°.96S×179°.27E, h539km±32km, mb3.2/6, mbtmp4.2/7, Error ellipse: s-maj=33.8km s-min=22.7km az=178.0*
*NEIC **14** 19:53:04.3±1.2, 22°.96S±0°.06×179°.3E±0°.2, h566km±15km, mb4.3/19, Error ellipse: s-maj=24.4km s-min=7.9km az=97.0*
ISC 14 19:53:05.5±0.7, **22°.9S**±0°.1×**179°.2E**±0°.1, **h579**km, **n34**, σ**1**§**67**/34, **mb4.1**/18, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.22**	**348**	P	**P**	**19 54 38.3**	**-0.8**
FUTU	**Fugatoga**	**8.88**	**17**	P	**P**	**19 55 11.4**	**-1.4**
NIUE	**Niue**	**10.81**	**72**	P	**P**	**19 55 29.7**	**-2.4**
URZ	**Urewera**	**15.45**	**186**	P	**P**	**19 56 15.3**	**-3.1**
	15nm,0.8s,baz=25,slow=9.8,SNR=2.3						
QRZ	**Quartz Range**	**18.78**	**196**	P	**P**	**19 56 48.5**	**-0.4**
FOZ	**Fox Glacier**	**22.03**	**198**	P	**P**	**19 57 16.9**	**-1.4**
ARMA	**Armidale**	**25.74**	**247**	P	**P**	**19 57 49.9**	**-1.6**
ARMA				IAmb	IAmb	19 58 30.1	
	comp=Z,11nm,1.3s						
EIDS	**Eidsvold**	**25.79**	**259**	P	**P**	**19 57 50.6**	**-1.2**
EIDS				IAmb	IAmb	19 58 11.1	
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**29.06**	**238**	P	**P**	**19 58 18.6**	**-1.7**
CAN				IAmb	IAmb	19 58 21.6	
	comp=Z,7.2nm,0.8s						
CTAO	**Charters Tower**	**30.77**	**269**	P	**P**	**19 58 35.7**	**+0.5**
TOO	**Toolangi**	**32.43**	**235**	P	**P**	**19 58 48.5**	**-0.5**
TOO				IAmb	IAmb	19 58 57.9	
	comp=Z,7.1nm,1.4s						
STKA	**Stephens Creek**	**34.46**	**247**	P	**P**	**19 59 06.0**	**-0.1**
STKA	**Stephens Creek**	**34.46**	**247**	P	**P**	**19 59 06.6**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=99,slow=8.8,SNR=6.8						
	comp=Z,1.6nm,0.4s						
BBOO	**Buckleboo**	**39.21**	**246**	P	**P**	**19 59 44.2**	**-0.8**
BBOO				IAmb	IAmb	20 00 09.4	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**41.51**	**260**	P	**P**	**20 00 03.5**	**0.0**
ASAR	**Alice Springs**	**41.51**	**260**	P	**P**	**20 00 01.2**	**-2.2**
ASAR	**Alice Springs**	**41.51**	**260**	P	**P**	**20 00 03.2**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=91,slow=8.1,SNR=40						
ASAR				ScP	**ScP**	**20 04 47.5**	**+4.9**
	comp=Z,0.5nm,0.7s,baz=101,slow=4.4,SNR=7.0						
	comp=Z,4.4nm,0.9s						
WR8	**Warramunga Arr**	**41.62**	**265**	P	**P**	**20 00 03.4**	**-1.0**
WB0	**Warramunga Arr**	**41.76**	**266**	P	**P**	**20 00 04.6**	**-0.9**
WB0				IAmb	IAmb	20 00 05.2	
	comp=Z,3.2nm,0.6s						
WRAB	**Tennant Creek**	**41.77**	**265**	P	**P**	**20 00 04.5**	**-0.9**
WRAB				IAmb	IAmb	20 00 07.6	
	comp=Z,9.6nm,1.5s						
WRA	**Warramunga Arr**	**41.77**	**265**	P	**P**	**20 00 04.5**	**-1.0**
WRA	**Warramunga Arr**	**41.77**	**265**	P	**P**	**20 00 04.8**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=102,slow=8.6,SNR=23						
	comp=Z,2.2nm,0.6s						
FORT	**Forrest**	**46.01**	**249**	P	**P**	**20 00 37.1**	**-1.0**
FORT				IAmb	IAmb	20 00 38.0	
	comp=Z,6.9nm,0.8s						
MTN	**Manton Dam**	**46.67**	**274**	P	**P**	**20 00 43.1**	**-0.2**
MTN				IAmb	IAmb	20 01 04.7	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**47.98**	**269**	P	**P**	**20 00 52.7**	**-0.3**
KNRA				IAmb	IAmb	20 01 06.3	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.20**	**265**	P	**P**	**20 01 09.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.20**	**265**	P	**P**	**20 01 09.5**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=103,slow=7.7,SNR=13						
	comp=Z,1.3nm,0.4s						
MBWA	**Marble Bar**	**54.85**	**260**	P	**P**	**20 01 41.9**	**-0.6**
MBWA				IAmb	IAmb	20 01 45.2	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**67.21**	**180**	P	**P**	**20 03 05.8**	**+3.1**
	comp=Z,1.4nm,0.6s,baz=95,slow=4.7,SNR=6.5						
SNAA	**Sanae**	**85.71**	**179**	P	**P**	**20 04 42.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=201,slow=13,SNR=12						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**90.49**	**58**	P	**P**	**20 05 09.2**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=239,slow=4.9,SNR=4.8						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**141.40**	**348**	PKhKP	PKPpre	20 11 27.2	
	comp=Z,4.2nm,1.1s,baz=61,slow=6.8,SNR=5.7						
EKA	**Eskdalemuir Ar**	**147.53**	**3**	PKPbc	**PKPdf**	**20 11 43.9**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=355,slow=2.6,SNR=2.1						
VRAC	**Vranov**	**150.26**	**337**	PKPbc	**PKPbc**	**20 11 52.7**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=225,slow=7.1,SNR=5.8						

*IDC **14** 20:05:51.0±5.2, 14°.93N×145°.38E, h147km±21km, mb3.2/4, mbtmp3.6/4, Error ellipse: s-maj=127.2km s-min=21.4km az=82.0*
ISC 14 20:05:33.5±1.8, **15°.2N**±0°.2×**146°.9E**±0°.2, **h32**km, **n8**, σ**0**§**99**/6, **mb3.7**/4, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.55**	**230**	P	**Pb**	**20 06 19.7**	**+1.1**
	136nm,0.3s,baz=56,slow=2.4,SNR=45						
GUMO				S	**Sn**	**20 06 41.3**	**-1.3**
	237nm,0.3s,baz=204,slow=17,SNR=14						
H11S3	**WAKE ISLAND Hy**	**19.23**	**78**	T	T	20 32 01.0	
	baz=263,slow=74,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**19.24**	**77**	T	T	20 32 01.7	
	baz=263,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**19.24**	**78**	T	T	20 32 01.4	
	baz=263,slow=74,SNR=5.8						
WRA	**Warramunga Arr**	**37.07**	**200**	P	**P**	**20 12 40.8**	**-0.2**
	0.7nm,0.7s,baz=31,slow=9.4,SNR=7.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**40.69**	**198**	P	**P**	**20 13 11.1**	**-0.2**
	0.1nm,0.5s,baz=24,slow=7.0,SNR=1.6						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**61.69**	**315**	P	**P**	**20 15 48.5**	**-0.1**
	0.2nm,0.3s,baz=90,slow=8.5,SNR=7.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.65**	**319**	P	**P**	**20 16 07.9**	**-0.2**
	1.9nm,0.7s,baz=98,slow=6.8,SNR=14						
	1.9nm,0.7s						

*JMA **14** 20:13:47.0±0.3, 22°N±1°×12°1E±°, h66km, MV4.0/12, TAIWAN REGION*
*TAP **14** 20:13:51.1, 22°.20N×121°.37E, h25km, ML3.7, C*
ISC 14 20:13:51.7±0.9, **22°.21N**±0°.02×**121°.38E**±0°.02, **h17**km±7km, **n96**, σ1§**11**/155, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.24**	**137**	P	**Pg**	**20 13 57.8**	**+0.6**
LAY				S	**Sg**	**20 14 01.9**	**+1.1**
LYUB	**Lan-yu**	**0.28**	**137**	*i* P	**Pg**	**20 13 57.3**	**-0.6**
LYUB				*i* S	**Sg**	**20 14 01.8**	**-0.4**
LDUT	**Ludao**	**0.47**	**11**	*i* P	**Pg**	**20 14 01.1**	**-0.1**
LDUT				*i* S	**Sg**	**20 14 08.6**	**+1.1**
TAW	**Tawu**	**0.47**	**288**	*i* P	**Pg**	**20 14 00.3**	**-0.8**
TAW				S	**Sg**	**20 14 06.7**	**-0.8**
TAWH	**Dawu Township**	**0.47**	**286**	*i* P	**Pg**	**20 14 00.4**	**-0.8**
TAWH				*i* S	**Sg**	**20 14 07.0**	**-0.5**
EAST	**Anshuo**	**0.52**	**289**	*i* P	**Pg**	**20 14 01.1**	**-1.0**
EAST				*i* S	**Sg**	**20 14 08.2**	**-0.9**
SLIU	**Shizi**	**0.53**	**270**	*i* P	**Pg**	**20 14 01.4**	**-1.0**
SLIU				*eS*	**Sg**	**20 14 08.7**	**-0.9**
SMST	**Manzhou Townsh**	**0.54**	**249**	*eP*	**Pg**	**20 14 01.8**	**-0.6**
SMST				*eS*	**Sg**	**20 14 09.3**	**-0.3**
TSEB	**Hengchuen, Pin**	**0.54**	**235**	*i* P	**Pg**	**20 14 02.6**	**+0.1**
TSEB				*i* S	**Sg**	**20 14 10.4**	**+0.6**
ECL	**Taimali**	**0.55**	**315**	*eP*	**Pg**	**20 14 01.8**	**-0.8**
ECL				*eS*	**Sg**	**20 14 09.1**	**-0.8**
TTN	**Taitung**	**0.58**	**339**	*eP*	**Pg**	**20 14 04.2**	**+0.9**
TWKBT	**Hengchun**	**0.59**	**243**	*i* P	**Pg**	**20 14 02.6**	**-0.8**
TWKBT				*i* S	**Sg**	**20 14 10.3**	**-1.0**
TWK1	**Hengchun**	**0.59**	**243**	*i* P	**Pg**	**20 14 02.6**	**-0.8**
TWK1				*i* S	**Sg**	**20 14 10.4**	**-1.0**
HEN	**Hengchun**	**0.63**	**251**	*i* P	**Pg**	**20 14 03.4**	**-0.7**
HEN				*i* S	**Sg**	**20 14 11.7**	**-0.7**
TWGBT	**Beinan**	**0.66**	**336**	*eP*	**Pg**	**20 14 03.9**	**-0.9**
TWGBT				*eS*	**Sg**	**20 14 12.7**	**-0.9**
TWG	**Pinlang**	**0.67**	**335**	P	**Pg**	**20 14 03.8**	**-1.1**
TWG				S	**Sg**	**20 14 12.6**	**-1.2**
SCZT	**Fangliau**	**0.72**	**283**	P	**Pg**	**20 14 04.2**	**-1.6**
SCZT				*eS*	**Sg**	**20 14 13.9**	**-1.4**
LONT	**Longtian**	**0.73**	**342**	P	**Pg**	**20 14 05.1**	**-0.9**
LONT				*eS*	**Sg**	**20 14 14.7**	**-0.9**
EDH	**Donghe**	**0.76**	**355**	*eP*	**Pg**	**20 14 05.9**	**-0.7**
EDH				*eS*	**Sg**	**20 14 16.4**	**-0.3**
MASBT	**Mashibuluo**	**0.79**	**300**	*eP*	**Pg**	**20 14 05.6**	**-1.6**
TSMG	**Majia**	**0.83**	**306**	*eP*	**Pg**	**20 14 06.7**	**-1.3**
SSD	**Sandimen**	**0.87**	**308**	*eP*	**Pg**	**20 14 07.0**	**-1.7**
CHKT	**Chengkung**	**0.88**	**359**	*eP*	**Pg**	**20 14 07.4**	**-1.5**
CHKT				*eS*	**Sg**	**20 14 19.7**	**-0.9**
ECS	**Chishang**	**0.89**	**351**	*eP*	**Pg**	**20 14 08.9**	**-0.2**
WLCH	**Liuqiu**	**0.93**	**279**	*eP*	**Pg**	**20 14 10.8**	**+0.9**
SGLT	**Jiouru**	**0.96**	**302**	*eP*	**Pg**	**20 14 11.3**	**+0.9**
CHKH	**Chenggong**	**0.97**	**1**	*eP*	**Pg**	**20 14 09.4**	**-1.2**
CHKH				*eS*	**Sg**	**20 14 22.8**	**-0.7**
FULB	**Fuli**	**0.98**	**356**	*eP*	**Pg**	**20 14 09.9**	**-1.0**
FULB				*eS*	**Sg**	**20 14 23.9**	**+0.2**
ELDTW	**Lidau**	**1.03**	**341**	*eP*	**Pg**	**20 14 09.2**	**-2.5**
SCST	**Cishan**	**1.05**	**310**	*eP*	**Pg**	**20 14 11.6**	**-0.6**
TWM1	**Shoushan**	**1.07**	**305**	*eP*	**Pg**	**20 14 13.1**	**+0.7**
STYH	**Taoyuan**	**1.10**	**330**	*eP*	**Pg**	**20 14 12.0**	**-1.0**
SGST	**Jiashian**	**1.13**	**320**	*eP*	**Pg**	**20 14 12.5**	**-1.2**
SGST				*eS*	**Sg**	**20 14 27.8**	**-0.7**
TWF1	**Yuli**	**1.14**	**356**	*eP*	**Pg**	**20 14 12.2**	**-1.5**
YULB	**Yu-li**	**1.18**	**357**	*eP*	Pb	20 14 11.6	-2.0
CHN1	**Nanshi**	**1.25**	**321**	*eP*	**Pn**	**20 14 15.1**	**+0.8**
CHN1				*eS*	**Sb**	**20 14 32.7**	**+2.1**
WTP	**Ta-pu**	**1.25**	**326**	*eP*	**Pn**	**20 14 15.3**	**+0.9**
WTP				*eS*	**Sb**	**20 14 31.6**	**+1.0**
HGSD	**Ruisui**	**1.27**	**2**	*eP*	**Pn**	**20 14 14.2**	**-0.5**
EHYH	**Wanrong**	**1.27**	**359**	*eP*	**Pn**	**20 14 14.2**	**-0.6**
TPUB	**Ta-pu**	**1.28**	**328**	*eP*	**Pn**	**20 14 15.1**	**+0.2**
TPUB				*eS*	**Sb**	**20 14 33.1**	**+1.4**
EHY	**Hungye**	**1.29**	**358**	*eP*	**Pn**	**20 14 13.7**	**-1.3**
SNST	**Tainan City**	**1.29**	**321**	*eP*	**Pn**	**20 14 15.0**	**+0.1**
SNST				*eS*	**Sb**	**20 14 33.5**	**+1.7**
YUS	**Yu-Shan**	**1.33**	**343**	*eP*	**Pn**	**20 14 15.1**	**-0.8**
TWK	**Hsinying**	**1.33**	**322**	*eP*	**Pn**	**20 14 16.2**	**+0.6**
TWK				*eS*	**Sb**	**20 14 34.4**	**+1.3**
CHN4	**Tsaushan**	**1.34**	**328**	*eP*	**Pn**	**20 14 16.2**	**+0.5**
CHN4				*eS*	**Sb**	**20 14 33.5**	**+0.1**
ALS	**Alishan**	**1.40**	**338**	*eP*	**Pn**	**20 14 16.3**	**-0.3**
ALS				*eS*	**Sb**	**20 14 35.7**	**+0.6**
WCKO	**Fanlu**	**1.41**	**330**	*eP*	**Pn**	**20 14 17.5**	**+0.8**
WCKO				*eS*	**Sb**	**20 14 37.0**	**+1.7**
WARBT	**Fenglin Townsh**	**1.50**	**0**	*eP*	**Pn**	**20 14 17.5**	**-0.4**
TSCK	**Chigu Township**	**1.51**	**308**	*eP*	**Pn**	**20 14 18.0**	**0.0**
TSCK				*eS*	**Sn**	**20 14 38.2**	**+1.0**
CHN5	**Tsauling**	**1.52**	**335**	*eP*	**Pn**	**20 14 18.8**	**+0.6**
CHN5				*eS*	**Sn**	**20 14 39.3**	**+1.7**
VWDT	**VWDT**	**1.55**	**352**	*eP*	**Pn**	**20 14 18.8**	**+0.3**
CHY	**Chiayi**	**1.55**	**326**	*eP*	**Pn**	**20 14 18.2**	**-0.3**
CHY				*eS*	**Sn**	**20 14 39.0**	**+0.8**
WHYT	**Xinyi Township**	**1.55**	**342**	*eP*	**Pn**	**20 14 19.0**	**+0.4**
WHYT				*eS*	**Sn**	**20 14 40.8**	**+2.4**
SHUL	**Shoufeng**	**1.58**	**6**	*eP*	**Pn**	**20 14 18.7**	**-0.2**
SHUL				*eS*	**Sn**	**20 14 39.2**	**+0.3**
SSLB	**Suanglung**	**1.61**	**346**	*eP*	**Pn**	**20 14 20.6**	**+1.2**
SSLB				*eS*	**Sn**	**20 14 40.8**	**+0.9**
WDLH	**Douliu**	**1.66**	**332**	*eP*	**Pn**	**20 14 21.3**	**+1.2**
WDLH				*eS*	**Sn**	**20 14 42.8**	**+1.9**
WSL	**Shuilin Townsh**	**1.68**	**321**	*eP*	**Pn**	**20 14 20.6**	**+0.3**
WSL				*eS*	**Sn**	**20 14 42.0**	**+0.5**
WDL	**Douliou City**	**1.68**	**333**	*eS*	**Sn**	**20 14 43.4**	**+1.9**
SMLT	**Sun Moon Lake**	**1.72**	**345**	*eP*	**Pn**	**20 14 22.2**	**+1.2**
SMLT				*eS*	**Sn**	**20 14 44.8**	**+2.2**
WTK	**Tuku**	**1.73**	**328**	*eP*	**Pn**	**20 14 21.5**	**+0.6**
WTK				*eS*	**Sn**	**20 14 43.4**	**+0.7**
OWD	**Renai**	**1.74**	**354**	*eP*	**Pn**	**20 14 21.4**	**0.0**
ETM	**Tongmen**	**1.75**	**4**	*eP*	**Pn**	**20 14 21.2**	**0.0**
ETM				*eS*	**Sn**	**20 14 42.2**	**-1.0**
TYC	**Yuchr**	**1.75**	**344**	*eP*	**Pn**	**20 14 22.9**	**+1.6**
WSF	**Szhu**	**1.77**	**323**	*eP*	**Pn**	**20 14 21.8**	**+0.2**
WSF				*eS*	**Sn**	**20 14 44.6**	**+0.9**
WNT	**Mingjian**	**1.78**	**339**	*eP*	**Pn**	**20 14 22.9**	**+1.3**
WNT				*eS*	**Sn**	**20 14 46.3**	**+2.5**
WUSB	**Renai**	**1.79**	**352**	*eP*	**Pn**	**20 14 21.9**	**0.0**
LXIB	**Xiulin Townshi**	**1.80**	**1**	*eP*	**Pn**	**20 14 21.9**	**-0.2**
DPDB	**Guoxing**	**1.86**	**347**	*eP*	**Pn**	**20 14 23.5**	**+0.7**
WCS	**Beigang Elemen**	**1.89**	**347**	*eP*	**Pn**	**20 14 24.2**	**+1.0**
WDGT	**Dungji**	**1.90**	**304**	*eP*	**Pn**	**20 14 22.2**	**-1.1**
WDGT				*eS*	**Sn**	**20 14 45.5**	**-1.2**
NACB	**Ninganchiao**	**1.96**	**6**	*eP*	**Pn**	**20 14 23.4**	**-0.8**
NACB				*eS*	**Sn**	**20 14 48.5**	**0.0**
ETLH	**Xiulin Townshi**	**1.99**	**3**	*eP*	**Pn**	**20 14 24.5**	**-0.2**
WCH1	**Changhua City**	**2.00**	**338**	*eS*	**Sn**	**20 14 50.8**	**+1.4**
FUSS	**Fushou**	**2.03**	**357**	*eP*	**Pn**	**20 14 25.2**	**-0.2**
FUSS				*eS*	**Sn**	**20 14 51.1**	**+0.7**
VCHM	**Qimei**	**2.05**	**299**	P	**Pn**	**20 14 24.4**	**-1.1**
VCHM				S	**Sn**	**20 14 48.7**	**-1.9**
EOS4	**EOS4**	**2.09**	**24**	*eS*	**Sn**	**20 14 49.8**	**-1.2**
WHP	**Taichung City**	**2.09**	**349**	*eP*	**Pn**	**20 14 28.3**	**+2.2**
WHP				*eS*	**Sn**	**20 14 55.5**	**+3.7**
PHUB	**P'eng-hu**	**2.11**	**308**	P	**Pn**	**20 14 25.2**	**-1.0**
PHUB				S	**Sn**	**20 14 50.6**	**-1.4**
TWQ1	**Liyutan**	**2.20**	**346**	*eS*	**Sn**	**20 14 57.0**	**+2.8**
NNSB	**Datong**	**2.21**	**0**	*eP*	**Pn**	**20 14 28.8**	**+1.2**
NNSH	**Datong**	**2.21**	**0**	*eP*	**Pn**	**20 14 28.4**	**+0.7**
ENA	**Nanau**	**2.23**	**9**	*eP*	**Pn**	**20 14 27.9**	**0.0**
ENA				*eS*	**Sn**	**20 14 54.4**	**-0.6**
EOS3	**EOS3**	**2.24**	**23**	*eP*	**Pn**	**20 14 28.1**	**+0.3**
EOS3				*eS*	**Sn**	**20 14 54.4**	**-0.6**
LATG	**Datong**	**2.32**	**3**	*eP*	**Pn**	**20 14 29.2**	**+0.1**
NFF	**Wufeng Townshi**	**2.42**	**354**	*eP*	**Pn**	**20 14 32.5**	**+2.0**
NFF				*eS*	**Sn**	**20 15 02.7**	**+2.9**
ENTT	**Nioudou**	**2.42**	**4**	*eP*	**Pn**	**20 14 31.1**	**+0.6**
YHNB	**Yeheng**	**2.45**	**0**	*eP*	**Pn**	**20 14 30.9**	**0.0**
YHNB				*eS*	**Sn**	**20 15 01.0**	**+0.5**
NSK	**Sanguang**	**2.45**	**360**	*eP*	**Pn**	**20 14 32.3**	**+1.3**
HATJ	**Hateruma jima**	**2.89**	**50**	P	**Pn**	**20 14 37.0**	**0.0**
HATJ				*eS*	**Sn**	**20 15 09.8**	**-1.6**
IRIF	**Iriomote-Funau**	**3.02**	**45**	*eP*	**Pn**	**20 14 39.2**	**+0.4**
IRIF				*eS*	**Sn**	**20 15 14.2**	**-0.4**
JKRS	**Kuro-shima**	**3.15**	**50**	*eP*	**Pn**	**20 14 41.0**	**+0.5**
JKRS				*eS*	**Sn**	**20 15 16.5**	**-1.2**
JIJ	**Ishigaki jima**	**3.33**	**49**	P	**Pn**	**20 14 42.9**	**-0.1**
JIJ				S	**Sn**	**20 15 20.6**	**-1.5**
PTMZ	**Houxiangcun**	**3.49**	**324**	*eP*	**Pn**	**20 14 45.4**	**+0.1**
PTMZ				*eS*	**Sn**	**20 15 24.9**	**-1.3**
JISG	**Ishigakijimahi**	**3.59**	**48**	P	**Pn**	**20 14 46.5**	**0.0**
JTJ	**Tarama**	**3.90**	**51**	P	**Pn**	**20 14 50.9**	**+0.1**
JTJ				S	**Sn**	**20 15 36.0**	**-0.2**
JMJ2	**Miyako jima3**	**4.42**	**54**	P	**Pn**	**20 14 56.8**	**-1.1**
JMJ2				*eS*	**Sn**	**20 15 48.3**	**-0.7**

*IDC **14** 20:33:34.1±1.6, 28°.74S×71°.52W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=82.8km s-min=48.6km az=98.0*
*GUC **14** 20:33:37.9±0.8, 28°.72S×71°.47W, h20km±9km, ML3.4*
ISC 14 20:33:34.9±1.6, **28°.72S**±0°.03×**71°.57W**±0°.06, **h7**km±11km, **n29**, σ1§**13**/38, **1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.67**	**40**	*i* P	**Pb**	**20 33 49.7**	**+0.8**
AC04				*eS*	**Sb**	**20 33 57.9**	**-0.5**
LCO	**Las Campanas**	**0.81**	**111**	⇓*iP*	**Pb**	**20 33 51.7**	**+0.1**
CO05	**La Serena**	**1.23**	**167**	*eP*	**Pg**	**20 33 59.4**	**+1.0**
CO05				*eS*	**Sb**	**20 34 14.4**	**-0.1**
CO05				IAML		20 34 16.0	
	comp=N,2μm,0.3s						
GO04	**Tololo Observa**	**1.59**	**155**	⇑*iP*	**Pb**	**20 34 04.9**	**0.0**
GO04				*eS*	**Sb**	**20 34 25.2**	**-0.1**
GO03	**Copiapo**	**1.63**	**47**	*eP*	**Pb**	**20 34 05.2**	**0.0**
GO03				*eS*	**Sb**	**20 34 25.4**	**-0.6**
GO03				IAML		20 34 28.5	
	comp=E,906nm,0.3s						
AC06	**Mina Casimiro**	**1.73**	**39**	*eP*	**Pb**	**20 34 07.3**	**+0.3**
AC06				*eS*	**Sg**	**20 34 30.1**	**-0.4**
AC06				IAML		20 34 31.4	
	comp=E,857nm,0.6s						
CO01	**Juntas del Tor**	**1.80**	**135**	*eP*	**Pb**	**20 34 08.2**	**0.0**
CO01				*eS*	**Sb**	**20 34 30.6**	**-0.5**
CO01				IAML		20 34 32.4	
	comp=E,658nm,0.3s						
CO06	**Fray Jorge**	**1.95**	**182**	*eP*	**Pn**	**20 34 09.0**	**+0.6**
CO03	**El Pedregal**	**2.25**	**160**	*eP*	**Pn**	**20 34 14.2**	**+1.6**
CO02	**Combarbal**	**2.52**	**169**	*eP*	**Pn**	**20 34 17.6**	**+1.2**
CO02				*eS*	**Sn**	**20 34 47.4**	**-0.1**
AC01	**Pan de Azucar**	**2.70**	**19**	*eP*	**Pn**	**20 34 18.4**	**-0.4**
AC02	**Maricunga**	**2.86**	**50**	*eP*	**Pn**	**20 34 23.9**	**+2.4**
VCA	**Vinchina**	**2.95**	**91**	*eP*	**Pb**	**20 34 27.6**	**-0.4**
VCA				*eS*	**Sg**	**20 35 06.8**	**-3.0**
CO04	**Los Peladeros**	**3.35**	**171**	*eP*	**Pn**	**20 34 29.7**	**+1.7**
VA06	**Catapilco**	**3.84**	**177**	*eP*	**Pn**	**20 34 34.8**	**+0.5**
VA03	**San Esteban**	**4.12**	**168**	*eP*	**Pn**	**20 34 40.4**	**+2.0**
CYA	**Choya**	**5.08**	**88**	*eP*	**Pn**	**20 34 53.3**	**+1.8**
TCA	**Tanti**	**6.58**	**115**	*eP*	**Pn**	**20 35 13.2**	**+1.0**
TCA				*i* S	**Sn**	**20 36 26.5**	**-1.1**
H03N1	**Juan Fernandez**	**7.86**	**231**	Pn	**Pn**	**20 35 29.0**	**-0.4**
	baz=114,slow=14						
H03N1				T	T	20 43 32.9	
	baz=59,slow=72,SNR=1301						
H03N2	**Juan Fernandez**	**7.88**	**231**	Pn	**Pn**	**20 35 28.9**	**-0.7**
	baz=114,slow=14						
H03N2				T	T	20 43 33.3	
	baz=59,slow=72,SNR=893						
H03N3	**Juan Fernandez**	**7.88**	**231**	Pn	**Pn**	**20 35 28.9**	**-0.8**
	baz=114,slow=14						
H03N3				T	T	20 43 32.1	
	baz=59,slow=72,SNR=951						
H03S3	**Juan Fernandez**	**8.09**	**229**	Pn	**Pn**	**20 35 31.1**	**-1.4**
H03S1	**Juan Fernandez**	**8.09**	**229**	Pn	**Pn**	**20 35 30.9**	**-1.7**
H03S2	**Juan Fernandez**	**8.10**	**229**	Pn	**Pn**	**20 35 31.2**	**-1.5**
SNAA	**Sanae**	**56.34**	**159**	P	**P**	**20 43 16.3**	**+0.1**
	comp=E,0.6nm,0.9s,baz=264,slow=10,SNR=2.0						
	comp=E,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.05**	**70**	P	**P**	**20 45 56.4**	**+0.1**
	comp=E,0.4nm,0.6s,baz=217,slow=7.0,SNR=4.8						
	comp=E,0.4nm,0.6s						
WRA	**Warramunga Arr**	**125.53**	**210**	PKP	**PKPdf**	**20 52 37.5**	**-0.1**
	comp=E,0.4nm,1.1s,baz=154,slow=1.6,SNR=5.9						
KURBB	**Kurchatov Arra**	**148.60**	**38**	PKPbc	**PKPbc**	**20 53 21.9**	**-0.5**
	comp=E,0.3nm,0.6s,baz=316,slow=2.9,SNR=2.4						

NOV				AML	AML		
	comp=N,2958µm,1.2s						
SICLA	**Scilla**	**1.01**	**135**	⇓P	**Pn**	**20 43 21.1**	**-0.8**
SICLA				S	**S**	**20 43 50.9**	**-1.1**
SICLA				AML	AML		
	comp=E,1745µm,0.4s						
SICLA				AML	AML		
	comp=N,1765µm,0.4s						
SICLA				AML	AML		
	comp=N,1760µm,0.4s						
SICLA				AML	AML		
	comp=E,1747µm,0.4s						
SICLA				AML	AML		
	comp=N,1763µm,0.4s						
SICLA				AML	AML		
	comp=E,1747µm,1.6s						
CET2	**Cetraro**	**1.05**	**58**	⇓P	**Pn**	**20 43 22.7**	**+0.7**
CET2				S	**S**	**20 43 52.4**	**0.0**
CET2				AML	AML		
	comp=E,1225µm,0.8s						
CET2				AML	AML		
	comp=N,1825µm,0.7s						
CET2				AML	AML		
	comp=E,853µm,0.4s						
CET2				AML	AML		
	comp=N,1825µm,0.7s						
CET2				AML	AML		
	comp=E,853µm,1.6s						
MNO	**Monte Soro**	**1.05**	**185**	P	**Pn**	**20 43 22.3**	**-0.1**
MNO				AML	AML		
	comp=E,502µm,0.6s						
MNO				AML	AML		
	comp=N,630µm,0.6s						
MNO				AML	AML		
	comp=E,502µm,0.6s						
MNO				AML	AML		
	comp=N,629µm,0.6s						
MNO				AML	AML		
	comp=N,629µm,1.4s						
MNO				AML	AML		
	comp=E,502µm,1.4s						
AIO	**Antillo**	**1.06**	**161**	⇓P	**Pn**	**20 43 22.0**	**-0.2**
AIO				S	**S**	**20 43 52.4**	**-0.3**
AIO				AML	AML		
	comp=E,607µm,0.6s						
AIO				AML	AML		
	comp=N,979µm,0.4s						
AIO				AML	AML		
	comp=E,607µm,0.6s						
AIO				AML	AML		
	comp=N,979µm,0.4s						
GRIS	**Grisolia**	**1.11**	**46**	⇓P	**Pn**	**20 43 23.4**	**+1.1**
GRIS				S	**S**	**20 43 53.7**	**+0.7**
CEL	**Celeste**	**1.11**	**130**		**Pn**	**20 43 21.7**	**-0.8**
CEL	**Celeste**	**1.11**	**130**	⇓P	**Pn**	**20 43 21.7**	**-0.8**
CEL				S	**S**	**20 43 51.4**	**-1.8**
CEL				AML	AML		
	comp=N,1530µm,0.6s						
CEL				AML	AML		
	comp=E,1485µm,0.4s						
CEL				AML	AML		
	comp=N,1500µm,0.6s						
CEL				AML	AML		
	comp=E,1475µm,0.4s						
CEL				AML	AML		
	comp=N,1525µm,0.6s						
CEL				AML	AML		
	comp=E,1476µm,0.4s						
CEL				AML	AML		
	comp=N,1529µm,0.6s						
CEL				AML	AML		
	comp=E,1485µm,0.4s						
CEL				AML	AML		
	comp=N,1502µm,0.6s						
CEL				AML	AML		
	comp=N,1502µm,1.4s						
CEL				AML	AML		
	comp=N,1529µm,1.4s						
CEL				AML	AML		
	comp=E,1485µm,1.6s						
CEL				AML	AML		
	comp=E,1476µm,1.6s						
PLLN	**Pollina**	**1.11**	**208**	⇓P	**Pn**	**20 43 21.7**	**-0.8**
PLLN				S	**S**	**20 43 52.1**	**-1.2**
PLLN				AML	AML		
	comp=N,1135µm,0.6s						
PLLN				AML	AML		
	comp=E,764µm,1.4s						
PLLN				AML	AML		
	comp=E,760µm,0.6s						
PLLN				AML	AML		
	comp=N,1134µm,0.6s						
ECTS	**Castiglione**	**1.12**	**167**	⇓P	**Pn**	**20 43 22.4**	**-0.2**
ECTS				S	**S**	**20 43 53.9**	**+0.6**
ECTS				AML	AML		
	comp=E,1296µm,1.2s						
ECTS				AML	AML		
	comp=N,1590µm,0.4s						
ECTS				AML	AML		
	comp=E,1330µm,1.2s						
ECTS				AML	AML		
	comp=N,1585µm,0.4s						
ECTS				AML	AML		
	comp=E,1331µm,1.2s						
ECTS				AML	AML		
	comp=N,1589µm,0.4s						
ECTS				AML	AML		
	comp=E,1331µm,0.8s						
CAR1	**CAROLEI**	**1.13**	**75**	⇓P	**Pn**	**20 43 22.6**	**+0.1**
CAR1				S	**S**	**20 43 52.1**	**-1.1**
CAR1				AML	AML		
	comp=N,1280µm,0.5s						
CAR1				AML	AML		
	comp=E,966µm,1.4s						
CAR1				AML	AML		
	comp=E,1004µm,1.4s						
CAR1				AML	AML		
	comp=N,1140µm,0.5s						
CAR1				AML	AML		
	comp=E,963µm,0.5s						
CAR1				AML	AML		
	comp=N,1140µm,0.5s						
CAR1				AML	AML		
	comp=N,1277µm,0.5s						
CAR1				AML	AML		
	comp=E,961µm,0.4s						
GMB	**Gambarie**	**1.14**	**135**	P	**Pn**	**20 43 22.2**	**-0.5**
GMB				S	**S**	**20 43 52.3**	**-1.3**
GMB	**Gambarie**	**1.14**	**135**	AML	AML		
	comp=N,3281µm,0.5s						
GMB				AML	AML		
	comp=E,5985µm,0.2s						
GMB				AML	AML		
	comp=N,3280µm,0.5s						
GMB				AML	AML		
	comp=E,5985µm,0.2s						
EPZF	**Pizzo Felice**	**1.15**	**178**	⇓P	**Pn**	**20 43 22.9**	**+0.1**
EPZF				AML	AML		
	comp=E,1059µm,0.5s						
EPZF				AML	AML		
	comp=N,1725µm,0.4s						
EPZF				AML	AML		
	comp=N,1726µm,0.4s						
EPZF				AML	AML		
	comp=E,1060µm,0.5s						
EMSG	**Monte Spagnolo**	**1.16**	**174**	P	**Pn**	**20 43 23.3**	**+0.4**
EMSG				AML	AML		
	comp=E,1085µm,0.7s						
EMSG				AML	AML		
	comp=N,1245µm,0.7s						
EMSG				AML	AML		
	comp=E,1086µm,0.7s						
EMSG				AML	AML		
	comp=N,1228µm,0.4s						
GIB	**Gibilmanna**	**1.16**	**212**	⇓P	**Pn**	**20 43 22.3**	**-0.6**
GIB				S	**S**	**20 43 51.7**	**-2.1**
GIB	**Gibilmanna**	**1.16**	**212**	⇓P	**Pn**	**20 43 22.2**	**-0.6**
GIB				S	**S**	**20 43 51.7**	**-2.1**
GIB				AML	AML		
	comp=E,1035µm,1.2s						
GIB				AML	AML		
	comp=N,1395µm,0.5s						
GIB				AML	AML		
	comp=E,933µm,0.4s						
GIB				AML	AML		
	comp=N,1395µm,0.5s						
EPIT	**Pozzo Pitarron**	**1.18**	**170**	P	**Pn**	**20 43 23.0**	**-0.1**
BULG	**Bulgheria - Ca**	**1.18**	**22**	⇓P	**Pn**	**20 43 24.5**	**+1.7**
BULG				AML	AML		
	comp=N,158µm,1.6s						
BULG				AML	AML		
	comp=E,104µm,1.3s						
BULG				AML	AML		
	comp=E,80µm,0.4s						
BULG				AML	AML		
	comp=E,77µm,0.5s						
BULG				AML	AML		
	comp=N,137µm,0.4s						
BULG				AML	AML		
	comp=E,77µm,1.5s						
BULG				AML	AML		
	comp=E,80µm,1.6s						
BULG				AML	AML		
	comp=N,139µm,0.3s						
CSLB	**Castelbuono**	**1.19**	**210**	⇓P	**Pn**	**20 43 21.9**	**-1.0**
CSLB				S	**S**	**20 43 52.1**	**-1.9**
CSLB				AML	AML		
	comp=E,170µm,0.7s						
CSLB				AML	AML		
	comp=N,242µm,1.0s						
CSLB				AML	AML		
	comp=E,171µm,0.7s						
CSLB				AML	AML		
	comp=N,227µm,0.5s						
MTTG	**Motta San Giov**	**1.20**	**144**	⇓P	**Pn**	**20 43 22.7**	**-0.2**
MTTG				S	**S**	**20 43 53.6**	**-0.4**
MTTG				AML	AML		
	comp=E,1055µm,1.3s						
MTTG				AML	AML		
	comp=N,1215µm,1.0s						
MTTG				AML	AML		
	comp=E,1025µm,0.6s						
MTTG				AML	AML		
	comp=N,1213µm,1.0s						
EMCN	**Etna Monte Con**	**1.20**	**171**	P	**Pn**	**20 43 23.8**	**+0.6**
SPS2	**Spezzano della**	**1.23**	**75**	P	**Pn**	**20 43 23.3**	**+0.2**
PETRA	**Petralia Sopra**	**1.27**	**206**	⇓P	**Pn**	**20 43 23.1**	**-0.4**
PETRA				S	**S**	**20 43 54.8**	**-0.3**
PETRA				AML	AML		
	comp=E,1008µm,0.3s						
PETRA				AML	AML		
	comp=N,1180µm,0.5s						
PETRA				AML	AML		
	comp=E,1006µm,0.3s						
PETRA				AML	AML		
	comp=N,1182µm,0.5s						
GRI	**Girifalco**	**1.27**	**97**	⇑P	**Pn**	**20 43 23.5**	**+0.2**
GRI				S	**S**	**20 43 53.9**	**-0.7**
GRI	**Girifalco**	**1.27**	**97**	⇑P	**Pn**	**20 43 23.5**	**+0.2**
GRI				S	**S**	**20 43 53.9**	**-0.7**
GRI				AML	AML		
	comp=E,1995µm,0.4s						
GRI				AML	AML		
	comp=N,1795µm,0.6s						
GRI				AML	AML		
	comp=E,1992µm,0.4s						
GRI				AML	AML		
	comp=E,1992µm,1.6s						
GRI				AML	AML		
	comp=N,1794µm,0.6s						
CUC	**Castrocucco**	**1.28**	**37**		**Pn**	**20 43 24.1**	**+0.8**
CUC	**Castrocucco**	**1.28**	**37**	⇓P	**Pn**	**20 43 24.5**	**+1.1**
GALF	**Gagliano Caste**	**1.28**	**189**	P	**Pn**	**20 43 23.4**	**-0.1**
GALF				AML	AML		
	comp=N,1067µm,0.6s						
GALF				AML	AML		
	comp=E,986µm,0.8s						
GALF				AML	AML		
	comp=E,130µm,0.7s						
GALF				AML	AML		
	comp=N,165µm,0.6s						
GALF				AML	AML		
	comp=E,985µm,0.8s						
GALF				AML	AML		
	comp=N,1067µm,0.6s						
GALF				AML	AML		
	comp=N,1067µm,1.4s						
GALF				AML	AML		
	comp=E,985µm,1.2s						
ESLN	**Serra La Nave**	**1.29**	**174**	P	**Pn**	**20 43 23.9**	**+0.2**
ESLN				AML	AML		
	comp=E,726µm,0.9s						
ESLN				AML	AML		
	comp=N,632µm,0.7s						
ESLN				AML	AML		
	comp=E,726µm,0.9s						
ESLN				AML	AML		
	comp=E,726µm,1.1s						
ESLN				AML	AML		
	comp=N,633µm,0.7s						
MMN	**Mormanno**	**1.29**	**45**	⇓P	**Pn**	**20 43 24.4**	**+1.1**
ECHR	**Santa Chiara**	**1.29**	**176**	P	**Pn**	**20 43 23.9**	**+0.3**
MGR	**Morigerati**	**1.29**	**26**	P	**Pn**	**20 43 25.2**	**+1.8**
MGR				AML	AML		
	comp=E,90µm,1.1s						
MGR				AML	AML		
	comp=N,101µm,1.6s						
MGR				AML	AML		
	comp=E,338µm,0.8s						
MGR				AML	AML		
	comp=N,286µm,1.3s						
MGR				AML	AML		
	comp=E,82µm,0.6s						
MGR				AML	AML		
	comp=N,286µm,0.7s						
MGR				AML	AML		
	comp=N,74µm,0.5s						
MGR				AML	AML		
	comp=E,82µm,1.4s						
MGR				AML	AML		
	comp=E,338µm,1.2s						
USI	**Ustica**	**1.30**	**259**	⇑P	**Pn**	**20 43 24.1**	**+0.6**
EVRN	**Santa Venerina**	**1.31**	**169**	P	**Pn**	**20 43 23.9**	**+0.3**
SOI	**Samo**	**1.33**	**132**	⇓P	**Pn**	**20 43 23.2**	**-0.5**
SOI				S	**S**	**20 43 53.5**	**-1.9**
SOI	**Samo**	**1.33**	**132**	⇓P	**Pn**	**20 43 23.2**	**-0.5**
SOI				S	**S**	**20 43 53.5**	**-1.9**
SOI				AML	AML		
	comp=E,819µm,0.6s						
SOI				AML	AML		
	comp=E,818µm,0.6s						
SOI				AML	AML		
	comp=N,624µm,0.9s						
SOI				AML	AML		
	comp=E,819µm,0.6s						
SOI				AML	AML		
	comp=N,608µm,0.5s						
SOLUN	**Solunto**	**1.33**	**229**	⇓P	**Pn**	**20 43 23.3**	**-0.4**
SOLUN				AML	AML		
	comp=E,1120µm,1.5s						
SOLUN				AML	AML		
	comp=N,914µm,1.3s						
SOLUN				AML	AML		
	comp=N,832µm,0.7s						
SOLUN				AML	AML		
	comp=E,965µm,0.8s						
ENIC	**Nicolosi**	**1.36**	**173**	P	**Pn**	**20 43 24.0**	**0.0**
ESML	**S. M. di Licod**	**1.36**	**178**	⇓P	**Pn**	**20 43 23.6**	**-0.3**
ESML				AML	AML		
	comp=E,532µm,0.4s						
ESML				AML	AML		
	comp=N,466µm,0.4s						
ESML				AML	AML		
	comp=E,532µm,0.4s						
ESML				AML	AML		
	comp=N,466µm,0.4s						
ESML				AML	AML		
	comp=N,466µm,1.6s						
TDS	**Terranova Siba**	**1.37**	**60**	⇓P	**Pn**	**20 43 25.0**	**+1.2**
TDS				S	**S**	**20 43 56.6**	**+0.9**
TDS	**Terranova Siba**	**1.37**	**60**	⇓P	**Pn**	**20 43 25.0**	**+1.2**
TDS				S	**S**	**20 43 56.3**	**+0.6**
TDS				AML	AML		
	comp=E,356µm,0.9s						
TDS				AML	AML		
	comp=N,218µm,1.0s						
TDS				AML	AML		
	comp=E,355µm,0.9s						
TDS				AML	AML		
	comp=N,205µm,0.6s						
TDS				AML	AML		
	comp=E,355µm,1.1s						
CAGR	**Agira**	**1.38**	**190**	⇓P	**Pn**	**20 43 24.3**	**+0.2**
CAGR				AML	AML		
	comp=E,484µm,0.4s						
CAGR				AML	AML		
	comp=N,628µm,0.4s						
CAGR				AML	AML		
	comp=E,484µm,0.4s						
CAGR				AML	AML		
	comp=N,629µm,0.4s						
CAGR				AML	AML		
	comp=N,629µm,1.6s						
PLAC	**Placanica**	**1.38**	**112**	⇓P	**Pn**	**20 43 23.8**	**-0.2**
PLAC				S	**S**	**20 43 53.7**	**-2.3**
PLAC				AML	AML		
	comp=E,1465µm,0.5s						
PLAC				AML	AML		
	comp=N,1365µm,0.4s						
PLAC				AML	AML		
	comp=E,1425µm,0.4s						
PLAC				AML	AML		
	comp=N,1545µm,0.5s						
PLAC				AML	AML		
	comp=E,1428µm,0.4s						
PLAC				AML	AML		
	comp=N,1545µm,0.5s						
PLAC				AML	AML		
	comp=E,1463µm,0.5s						
PLAC				AML	AML		
	comp=N,1365µm,0.4s						
PLAC				AML	AML		
	comp=E,1428µm,1.6s						
CELI	**Celico**	**1.39**	**72**	P	**Pn**	**20 43 25.0**	**+0.8**
CELI				S	**S**	**20 43 57.1**	**+0.9**
CELI				AML	AML		
	comp=E,547µm,0.5s						
CELI				AML	AML		
	comp=E,548µm,0.5s						
CELI				AML	AML		
	comp=N,884µm,0.6s						
CELI				AML	AML		
	comp=E,1315µm,0.5s						
CELI				AML	AML		
	comp=N,2185µm,0.6s						
CELI				AML	AML		
	comp=N,883µm,0.6s						
CELI				AML	AML		
	comp=E,1316µm,0.5s						
CELI				AML	AML		
	comp=N,2184µm,0.6s						
CELI				AML	AML		
	comp=N,2184µm,1.4s						
CELI				AML	AML		
	comp=N,883µm,1.4s						
CELI				AML	AML		
	comp=E,547µm,0.5s						
CMPR	**Campora**	**1.39**	**16**	P	**Pn**	**20 43 25.9**	**+1.9**
MPG	**Monte Pellegri**	**1.40**	**235**	AML	AML		
	comp=N,648µm,1.5s						
MPG				AML	AML		
	comp=E,776µm,0.6s						
MPG				AML	AML		
	comp=E,775µm,0.6s						
MPG				AML	AML		
	comp=N,448µm,0.5s						
MPG				AML	AML		
	comp=N,448µm,1.5s						
RESU	**Resuttano**	**1.46**	**204**	⇓P	**Pn**	**20 43 24.9**	**+0.3**
RESU				AML	AML		
	comp=E,552µm,0.5s						
RESU				AML	AML		
	comp=N,531µm,0.8s						
RESU				AML	AML		
	comp=N,531µm,0.8s						
RESU				AML	AML		
	comp=E,552µm,0.6s						
SIRI	**Monte Sirino -**	**1.46**	**34**	P	**Pn**	**20 43 25.7**	**+1.2**
ALJA	**Alia**	**1.48**	**214**	P	**Pn**	**20 43 24.8**	**+0.1**
ALJA				S	**S**	**20 43 57.9**	**+0.6**
SALB	**San Lorenzo Be**	**1.49**	**53**	⇓P	**Pn**	**20 43 26.3**	**+1.5**
SALB				S	**S**	**20 43 58.9**	**+1.5**
SALB				AML	AML		
	comp=E,468µm,0.2s						
SALB				AML	AML		
	comp=N,395µm,0.8s						
SALB				AML	AML		
	comp=N,387µm,0.9s						
SALB				AML	AML		
	comp=N,387µm,1.1s						
SALB				AML	AML		
	comp=E,468µm,0.2s						
VAE	**Valguarnera**	**1.53**	**192**	P	**Pn**	**20 43 25.3**	**+0.2**
	comp=E,34nm,0.4s,baz=346,slow=8.3,SNR=64						
VAE				S	**S**	**20 44 03.5**	**+5.6**
	comp=E,56nm,0.6s,baz=66,slow=21,SNR=3.7						
TIP	**Timpagrande**	**1.53**	**82**		**Pn**	**20 43 25.3**	**+0.3**
TIP	**Timpagrande**	**1.53**	**82**	⇓P	**Pn**	**20 43 25.7**	**+0.7**
TIP				⇓S	**S**	**20 43 57.6**	**-0.2**
TIP	**Timpagrande**	**1.53**	**82**	⇓P	**Pn**	**20 43 25.7**	**+0.7**
TIP				S	**S**	**20 43 56.7**	**-1.1**
TIP				AML	AML		
	comp=E,678µm,1.3s						
TIP				AML	AML		
	comp=N,818µm,0.9s						
TIP				AML	AML		
	comp=N,820µm,0.9s						
TIP				AML	AML		
	comp=E,678µm,1.3s						
TIP				AML	AML		
	comp=N,818µm,0.9s						
TIP				AML	AML		
	comp=E,658µm,1.3s						
TIP				AML	AML		
	comp=E,612µm,0.8s						
TIP				AML	AML		
	comp=N,820µm,0.9s						
TIP				AML	AML		
	comp=E,622µm,0.8s						
TIP				AML	AML		
	comp=N,818µm,0.9s						
TIP				AML	AML		
	comp=N,818µm,1.1s						
TIP				AML	AML		
	comp=N,820µm,1.1s						
TIP				AML	AML		
	comp=E,612µm,1.2s						
TIP				AML	AML		
	comp=E,622µm,1.2s						
SLCN	**Sala Consilina**	**1.55**	**24**	P	**Pn**	**20 43 27.3**	**+2.2**
MCEL	**Monticello**	**1.55**	**29**	P	**Pn**	**20 43 27.1**	**+2.0**
CDRU	**Civita di Ruta**	**1.56**	**14**	⇑P	**Pn**	**20 43 27.0**	**+1.8**
CDRU				AML	AML		
	comp=E,50µm,0.6s						
CDRU				AML	AML		
	comp=N,40µm,0.9s						
CDRU				AML	AML		
	comp=E,50µm,0.6s						
CDRU				AML	AML		
	comp=N,33µm,0.6s						
CORL	**Corleone**	**1.60**	**228**	⇓P	**Pn**	**20 43 25.2**	**-0.4**
CORL				S	**S**	**20 43 58.2**	**-0.6**
CORL				AML	AML		
	comp=E,1195µm,0.4s						
CORL				AML	AML		
	comp=N,1048µm,0.6s						
CORL				AML	AML		
	comp=E,1196µm,0.4s						
CORL				AML	AML		
	comp=N,1048µm,0.6s						
HLNI	**Lentini**	**1.63**	**178**	⇓P	**Pn**	**20 43 24.6**	**-1.2**
HLNI				S	**S**	**20 43 57.3**	**-1.8**
HLNI				AML	AML		
	comp=E,321µm,0.3s						
HLNI				AML	AML		
	comp=N,340µm,0.5s						
HLNI				AML	AML		
	comp=E,321µm,0.3s						
HLNI				AML	AML		
	comp=N,332µm,0.2s						
HLNI				AML	AML		
	comp=N,332µm,1.8s						
HLNI				AML	AML		
	comp=E,321µm,1.7s						
CPTP	**Pietraperzia**	**1.65**	**198**	⇓P	**Pn**	**20 43 26.2**	**+0.3**
CPTP				AML	AML		
	comp=E,371µm,0.7s						
CPTP				AML	AML		
	comp=N,442µm,0.9s						
CPTP				AML	AML		

comp=E,371µm,0.7s
CPTP AML AML
comp=N,441µm,0.9s
CPTP AML AML
comp=N,441µm,1.1s
CPTP AML AML
comp=E,371µm,1.3s
ORI Oriolo Calabro 1.67 49 P Pn 20 43 28.4 +2.5
CMDO Montedoro 1.70 207 P Pn 20 43 26.8 +0.4
HAGA Augusta 1.71 171 ⇓P Pn 20 43 25.3 -1.0
HAGA S S 20 43 57.7 -2.5
HAGA AML AML
comp=N,435µm,1.5s
HAGA AML AML
comp=E,518µm,0.5s
HAGA AML AML
comp=E,518µm,0.4s
HAGA AML AML
comp=N,423µm,0.5s
HAGA AML AML
comp=N,423µm,1.5s
LADO San Nicola del 1.72 79 ⇓P Pn 20 43 26.8 +0.4
LADO S S 20 43 59.1 -1.0
LADO AML AML
comp=E,98µm,0.4s
LADO AML AML
comp=N,95µm,0.7s
LADO AML AML
comp=N,95µm,0.7s
LADO AML AML
comp=E,98µm,0.4s
AGST Augusta-Monte 1.75 169 ⇓P Pn 20 43 25.4 -1.3
AGST AML AML
comp=E,360µm,0.6s
AGST AML AML
comp=E,359µm,0.6s
AGST AML AML
comp=N,559µm,0.5s
AGST AML AML
comp=N,559µm,0.5s
AGST AML AML
comp=N,559µm,1.5s
AGST AML AML
comp=E,359µm,0.6s
MBFT Monte Bonifato 1.78 235 P Pn 20 43 26.5 -0.4
MBFT AML AML
comp=E,340µm,0.7s
MBFT AML AML
comp=N,376µm,0.8s
MBFT AML AML
comp=N,124µm,0.8s
MBFT AML AML
comp=E,340µm,0.7s
MBFT AML AML
comp=N,376µm,0.8s
MBFT AML AML
comp=E,121µm,0.9s
MBFT AML AML
comp=N,376µm,1.2s
MBFT AML AML
comp=N,124µm,1.2s
RAFF Raffo Rosso 1.79 191 Pn 20 43 26.3 -0.6
RAFF Raffo Rosso 1.79 191 ⇓P Pn 20 43 26.4 -0.6
RAFF AML AML
comp=E,258µm,0.9s
RAFF AML AML
comp=N,237µm,1.3s
RAFF AML AML
comp=N,215µm,0.5s
RAFF AML AML
comp=E,258µm,0.9s
HVZN Vizzini 1.80 182 P Pn 20 43 26.1 -1.0
PTRP Pietrapertosa 1.82 32 P Pn 20 43 29.5 +2.4
MCRV Calabrutti - M 1.82 9 P Pn 20 43 29.5 +2.3
MCRV AML AML
comp=E,45µm,0.4s
MCRV AML AML
comp=N,39µm,0.5s
MCRV AML AML
comp=N,39µm,0.5s
MCRV AML AML
comp=E,45µm,0.4s
SSY Sortino 1.83 173 ⇓P Pn 20 43 26.4 -1.0
SSY AML AML
comp=E,882µm,0.4s
SSY AML AML
comp=N,2120µm,0.9s
SSY AML AML
comp=E,882µm,0.4s
CRJA Costa Raja 1.84 231 ⇓P Pn 20 43 27.3 -0.1
CRJA S S 20 44 01.7 -0.3
CRJA AML AML
comp=E,982µm,0.9s
CRJA AML AML
comp=N,1495µm,0.9s
CRJA AML AML
comp=E,982µm,0.9s
CRJA AML AML
comp=E,982µm,1.1s
CRJA AML AML
comp=N,1499µm,0.9s
MRLC Muro Lucano 1.85 16 P Pn 20 43 29.9 +2.5
VBKN Vesuvio Bunker 1.87 351 P Pn 20 43 29.8 +2.2
CLTB Caltabellotta 1.88 222 ⇓P Pn 20 43 27.2 -0.6
CLTB AML AML
comp=E,1840µm,0.5s
CLTB AML AML
comp=N,2950µm,0.5s
CLTB AML AML
comp=E,1841µm,0.5s
CLTB AML AML
comp=N,2951µm,0.5s
MFNL Monte Finestre 1.90 232 P Pn 20 43 28.1 +0.2
CLTA Licata 1.94 200 ⇓P Pn 20 43 27.7 -0.4
CLTA AML AML
comp=E,305µm,0.4s
CLTA AML AML
comp=N,345µm,0.9s
CLTA AML AML
comp=N,313µm,0.5s
CLTA AML AML
comp=E,305µm,0.4s
MTMR Montemarano 1.94 4 P Pn 20 43 30.4 +2.3
MMGO Monte Magaggia 1.95 228 P Pn 20 43 27.5 -0.7
ACATE Acate (RG) 1.97 187 ⇓P Pn 20 43 27.8 -0.6
ACATE AML AML
comp=E,541µm,1.5s
ACATE AML AML
comp=N,512µm,1.0s
ACATE AML AML
comp=E,502µm,1.5s
ACATE AML AML
comp=N,502µm,1.3s
ACATE AML AML
comp=N,513µm,1.0s
ACATE AML AML
comp=E,393µm,0.6s
ACATE AML AML
comp=E,424µm,0.2s
ACATE AML AML
comp=N,443µm,1.0s
ACATE AML AML
comp=N,513µm,1.0s
ACATE AML AML
comp=E,393µm,1.4s
SNAL S. Angelo Dei 1.97 9 P Pn 20 43 30.9 +2.6
ERC Erice 1.98 242 P Pn 20 43 28.0 -0.5
SCIAC Sciacca 1.98 223 AML AML
comp=E,456µm,0.3s
SCIAC AML AML
comp=E,456µm,0.3s
SCIAC AML AML
comp=N,428µm,0.3s
SCIAC AML AML
comp=N,428µm,0.3s
ACER Acerenza 2.01 25 Pn 20 43 30.0 +1.4
ACER Acerenza 2.01 25 P Pn 20 43 30.0 +1.4
ACER AML AML
comp=E,126µm,0.5s
ACER AML AML
comp=N,122µm,1.3s
ACER AML AML
comp=N,201µm,0.5s
ACER AML AML
comp=E,126µm,0.5s
ACER AML AML
comp=N,114µm,0.5s

ACER AML AML
comp=E,165µm,0.4s
MIGL Miglionico 2.06 37 P Pn 20 43 29.9 +0.9
MIGL AML AML
comp=E,630µm,0.3s
MIGL AML AML
comp=N,711µm,0.9s
MIGL AML AML
comp=N,690µm,1.2s
MIGL AML AML
comp=E,630µm,0.3s
MIGL AML AML
comp=N,690µm,0.8s
PAOL Paolisi 2.06 355 Pn 20 43 31.2 +2.1
CAVT Castelvetrano 2.07 232 P Pn 20 43 29.0 -0.2
CAVT AML AML
comp=E,1610µm,0.6s
CAVT AML AML
comp=N,740µm,0.9s
CAVT AML AML
comp=N,740µm,0.9s
CAVT AML AML
comp=E,1607µm,0.6s
CAVT AML AML
comp=N,740µm,1.1s
CAFE Carife 2.07 9 P Pn 20 43 31.8 +2.5
VENT Ventotene 2.10 330 P Pn 20 43 31.2 +1.9
MARS Marsala (TP) I 2.15 236 P Pn 20 43 30.5 +0.7
MARS AML AML
comp=E,486µm,0.7s
MARS AML AML
comp=N,406µm,0.7s
MARS AML AML
comp=N,407µm,0.7s
MARS AML AML
comp=E,485µm,0.7s
PALZ Palazzo San Ge 2.15 24 P Pn 20 43 31.3 +1.4
PALZ AML AML
comp=E,142µm,1.0s
PALZ AML AML
comp=N,98µm,0.6s
PALZ AML AML
comp=N,98µm,0.6s
PALZ AML AML
comp=E,102µm,0.6s
PALZ AML AML
comp=E,102µm,1.4s
LEVAN Levanzo 2.17 244 AML AML
comp=N,146µm,1.8s
LEVAN AML AML
comp=E,198µm,1.1s
LEVAN AML AML
comp=N,142µm,1.6s
LEVAN AML AML
comp=E,198µm,1.1s
LEVAN AML AML
comp=N,146µm,0.2s
ISPIC ISPICA 2.20 178 ⇓P Pn 20 43 29.5 -0.8
VITU Vitulano (BN) 2.21 357 P Pn 20 43 32.5 +2.2
MATE Matera 2.22 41 ⇓P Pn 20 43 30.7 +0.3
MATE Matera 2.22 41 P Pn 20 43 30.7 +0.3
LTRZ Laterza 2.24 43 ⇑P Pn 20 43 30.9 +0.2
LTRZ S S 20 44 08.1 +0.1
LTRZ AML AML
comp=E,346µm,0.4s
LTRZ AML AML
comp=N,1470µm,1.5s
LTRZ AML AML
comp=N,424µm,0.3s
LTRZ AML AML
comp=E,346µm,0.4s
LTRZ AML AML
comp=N,1468µm,1.5s
LTRZ AML AML
comp=E,333µm,0.4s
LTRZ AML AML
comp=N,1468µm,0.5s
LTRZ AML AML
comp=E,346µm,1.6s
LTRZ AML AML
comp=E,333µm,1.6s
PIGN Pignataro Magg 2.27 348 P Pn 20 43 33.2 +2.4
MODR Mondragone 2.28 342 ⇑P Pn 20 43 33.0 +2.1
HPAC Pachino 2.29 174 ⇓P Pn 20 43 30.6 -0.6
HPAC S S 20 44 08.0 -0.9
HPAC AML AML
comp=E,536µm,1.0s
HPAC AML AML
comp=N,788µm,0.9s
HPAC AML AML
comp=N,630µm,0.3s
HPAC AML AML
comp=E,536µm,1.0s
AMUR Altamura 2.37 35 ⇑P Pn 20 43 32.5 +0.7
AMUR S S 20 44 11.0 +1.0
AMUR AML AML
comp=E,120µm,0.3s
AMUR AML AML
comp=N,168µm,1.5s
AMUR AML AML
comp=N,123µm,0.3s
AMUR AML AML
comp=E,121µm,0.3s
SACR S. Croce Del S 2.42 358 P Pn 20 43 35.0 +2.7
TAR1 Taranto 2.46 50 P Pn 20 43 32.9 +0.3
TAR1 AML AML
comp=E,448µm,0.9s
TAR1 AML AML
comp=N,393µm,1.4s
TAR1 AML AML
comp=E,418µm,0.3s
TAR1 AML AML
comp=N,351µm,0.2s
NOCI Noci 2.51 43 P Pn 20 43 33.1 +0.1
NOCI AML AML
comp=E,219µm,0.4s
NOCI AML AML
comp=N,219µm,0.3s
NOCI AML AML
comp=E,219µm,0.4s
NOCI AML AML
comp=N,219µm,0.3s
GIUL Giuliano Di Ro 2.84 336 P Pn 20 43 38.4 +2.1
MESG Mesagne 2.84 55 P Pn 20 43 36.5 +0.2
POFI Posta Fibreno 2.86 343 P Pn 20 43 39.2 +2.6
SGRT San Giovanni R 2.86 14 Pn Pn 20 43 37.3 +0.7
VVLD Villa Vallelon 3.03 343 P Pn 20 43 40.6 +2.3
WDD Wied Dalam 3.14 184 Pn 20 43 38.8 -0.7
WDD Wied Dalam 3.14 184 P Pn 20 43 38.9 -0.7
LINA Linosa Island 3.47 207 P Pn 20 43 41.9 -1.1
AQU L'Aquila 3.54 343 *e*Pn **Pn 20 43 46.8 +3.2**
AQU L'Aquila 3.54 343 P Pn 20 43 46.8 +3.2
CAMP Campotosto 3.71 344 Pn 20 43 48.6 +3.1
KEK Kerkira 3.94 78 P Pn 20 43 52.7 +4.6
CESX Cesi 4.00 336 Pn 20 43 50.9 +2.1
NRCA Norcia 4.06 342 Pn 20 43 52.3 +2.8
GUMA Gualdo di Mace 4.23 345 Pn 20 43 54.3 +3.0
DGI Dorgali Grotta 4.23 290 P Pn 20 43 51.9 +0.5
VSL Villasalto 4.25 279 Pn 20 43 52.5 +0.9
VSL Villasalto 4.25 279 ⇑P Pn 20 43 52.6 +0.9
FDMO Fiordimonte 4.26 343 Pn 20 43 54.1 +2.4
IGT Igoumenitsa 4.33 81 P Pn 20 43 53.4 +0.9
STON Ston 4.46 28 *e*Pn **Pn 20 43 55.5 +1.5**
TREB Trebinje 4.60 35 *e*Pn **Pn 20 43 56.2 +0.6**
MURB Monte Urbino 4.61 339 Pn 20 43 58.1 +2.3
AGLI Aglientu 4.83 298 ⇑P Pn 20 43 59.6 +1.3
PDG Podgorica 4.83 43 Pn 20 43 59.5 +1.2
SU26 Carbonia-Igles 4.92 274 P Pn 20 43 59.8 +0.4
KLINJ Klinje 5.07 33 *e*Pn **Pn 20 44 02.7 +1.5**
OHR Ohrid 5.07 63 *i* P **Pn 20 44 04.3 +3.1**
KIJV Kijevo 5.16 13 *e*Pn **Pn 20 44 03.2 +1.0**
OSSC Osservatorio P 5.27 331 Pn 20 44 05.9 +2.3
KEST Kesra 5.42 235 Pn 20 44 05.6 0.0
KEST Kesra 5.42 235 P Pn 20 44 06.5 +0.9
comp=N,25nm,0.9s,baz=67,slow=6.1,SNR=19
RUDO Rudo 5.77 35 *e*Pn **Pn 20 44 10.5 +1.0**
SKO Skopje 5.87 57 *i* P **Pn 20 44 13.0 +2.1**
ITM Ithomi 5.90 106 Pn 20 44 12.4 +1.2
BRJN Brijuni 5.97 353 *e*Pn **Pn 20 44 12.0 0.0**
BLY Banja Luka 6.03 16 *e*Pn **Pn 20 44 14.0 +1.3**
BLY Banja Luka 6.03 16 ⇑P Pn 20 44 14.0 +1.3
LIT Litokhoron 6.04 77 Pn 20 44 14.1 +1.2
LIT Litokhoron 6.04 77 P Pn 20 44 14.1 +1.2
VAY Valandovo 6.39 66 *i* P **Pn 20 44 18.0 +0.8**
THE Thessaloniki 6.50 73 P Pn 20 44 19.2 +0.8

THE pmax pmax
comp=Z,34nm,0.8s
BOJS Bojanci 6.53 3 *i* Pn **Pn 20 44 20.7 +1.9**
KNT Kendrikon 6.58 68 P Pn 20 44 20.7 +1.2
KNT pmax pmax
comp=Z,32nm,0.7s
MSSA Maissana 6.64 325 Pn 20 44 22.2 +2.0
OZLJ Ozalj 6.65 4 *e*Pn **Pn 20 44 22.0 +1.8**
TRI Trieste 6.77 354 Pn 20 44 21.4 -0.3
TRI Trieste 6.77 354 P Pn 20 44 21.4 -0.3
PEHC Pehcevo 6.78 63 *i* P **Pn 20 44 22.4 +0.4**
MOSL Moslavina 6.79 12 *e*Pn **Pn 20 44 22.3 +0.4**
TEOL Teolo 6.79 341 Pn 20 44 22.1 +0.1
SOH Sokhos 6.82 72 P Pn 20 44 23.8 +1.3
SOH pmax pmax
comp=Z,59nm,0.9s
GCIS Gornji Cirnik 6.91 5 *i* Pn **Pn 20 44 24.8 +1.4**
GCIS *e*S **S 20 45 44.0 0.0**
PTJ Puntijarka 6.98 7 P Pn 20 44 25.6 +1.2
SABO M.te Sabotino 7.05 353 Pn 20 44 26.0 +0.7
LJU Ljubljana 7.06 358 P Pn 20 44 26.7 +1.3
LJU pmax pmax
comp=Z,234nm,0.7s
LJU Ljubljana 7.06 358 *e*Pn **Pn 20 44 26.8 +1.5**
SRS Serrai 7.07 70 P Pn 20 44 26.6 +1.1
SRS pmax pmax
comp=Z,26nm,1.4s
PDKS Podkum 7.08 1 *i* Pn **Pn 20 44 27.1 +1.5**
PCP Piancastagn 7.26 322 P Pn 20 44 30.3 +2.4
CTI Castel Tesino 7.44 343 Pn 20 44 30.7 +0.6
CTI Castel Tesino 7.44 343 P Pn 20 44 30.7 +0.6
STAL STALIGIAL 7.44 349 Pn 20 44 31.0 +0.9
OBKA Obir 7.53 359 *e*Pn **Pn 20 44 32.6 +1.4**
comp=Z,13nm,0.5s,SNR=31
MYKA Terra Mystica 7.70 354 *i* Pn **Pn 20 44 34.4 +1.2**
comp=Z,5.9nm,0.5s
SOKA Soboth 7.70 1 *i* Pn **Pn 20 44 34.4 +1.1**
comp=Z,12nm,0.7s,SNR=22
SOKA *i* S **S 20 46 01.9 0.0**
comp=Z,3.2nm,1.0s
MDVR Moldovita 7.75 39 ⇓P Pn 20 44 35.8 +1.8
MORH Mrgy, Hungar 7.76 20 *e*Pn **Pn 20 44 34.3 +0.3**
MORH Mrgy, Hungar 7.76 20 ⇑P Pn 20 44 34.1 +0.1
ABTA Abfaltersbach 7.95 349 *i* Pn **Pn 20 44 37.9 +1.6**
comp=Z,35nm,1.0s,SNR=16
KBA Koelnbreinsper 8.17 353 *e*Pn **Pn 20 44 40.5 +1.3**
comp=Z,7.2nm,0.5s,SNR=6.9
KBA *i* S **S 20 46 15.9 +3.3**
comp=Z,8.2nm,1.5s
KBA Koelnbreinsper 8.17 353 P Pn 20 44 40.1 +0.9
KBA pmax pmax
comp=Z,20nm,0.6s
PLD Plovdiv 8.20 64 P Pn 20 44 41.0 +1.5
PLD pmax pmax
comp=Z,72nm,0.9s
ARSA Arzberg 8.29 3 Pn 20 44 40.7 +0.2
ARSA Arzberg 8.29 3 *i* Pn **Pn 20 44 41.5 +1.0**
comp=Z,4.4nm,0.5s
BZS Buzias 8.33 35 P Pn 20 44 44.4 +3.3
BZS pmax pmax
comp=Z,3.0nm,1.0s
RSP Reno Superiore 8.33 320 P Pn 20 44 44.4 +3.2
TUE Stuetta 8.50 334 Pn 20 44 43.8 +0.5
RDO Rodhopi 8.51 72 Pn 20 44 44.1 +0.8
BNI Bardonecchia 8.57 318 Pn 20 44 47.2 +3.0
BNI Bardonecchia 8.57 318 P Pn 20 44 47.2 +3.0
FETA Feichten 8.57 341 *i* Pn **P 20 44 47.7 -2.8**
comp=Z,110nm,0.6s,SNR=73
LESA Schwarzleotal 8.58 350 *i* Pn **Pn 20 44 46.2 +1.9**
comp=Z,12nm,0.6s,SNR=11
WTTA Wattenberg 8.60 345 *i* Pn **Pn 20 44 47.3 +2.8**
comp=Z,12nm,0.6s,SNR=9.6
WTTA Wattenberg 8.60 345 P Pn 20 44 47.7 +3.1
WTTA pmax pmax
comp=Z,29nm,0.8s
PLVB Pleven 8.61 56 ⇑P Pn 20 44 46.0 +1.5
SQTA Sankt Quirin 8.65 343 *i* Pn **Pn 20 44 48.1 +3.0**
comp=Z,88nm,0.5s,SNR=51
SURR Surduc 8.67 36 ⇑P Pn 20 44 46.4 +1.2
WATA Walderalm 8.68 345 *i* Pn **Pn 20 44 48.1 +2.6**
comp=Z,56nm,0.6s,SNR=30
MMK Mattmark 8.69 327 P Pn 20 44 45.6 -0.1
GZR Gura Zlata 8.72 40 ⇓P Pn 20 44 47.1 +1.1
BIOA Bad Ischl, Aus 8.75 355 *i* Pn **Pn 20 44 47.6 +1.3**
comp=Z,17nm,0.7s,SNR=15
RONA Rosalia, Austr 8.79 7 *i* Pn **Pn 20 44 48.4 +1.7**
comp=Z,7.6nm,0.7s
MOTA Moosalm 8.79 343 *i* Pn **Pn 20 44 49.3 +2.4**
comp=Z,72nm,1.2s,SNR=20
MOTA *e*S **S 20 46 25.2 -1.5**
comp=Z,5.9nm,1.7s
ALN Alexandroupoli 8.84 74 Pn **Pn 20 44 47.0 -0.5**
ALN Alexandroupoli 8.84 74 P Pn 20 44 47.0 -0.5
IDI Anoyia 8.85 111 Pn **Pn 20 44 49.6 +1.8**
IDI Anoyia 8.85 111 P Pn 20 44 48.1 +0.3
comp=Z,3.8nm,0.5s,baz=331,slow=16,SNR=16
SIRR Siria 8.86 33 ⇑P Pn 20 44 49.3 +1.6
MOA Molln 8.88 358 *i* Pn **Pn 20 44 49.1 +1.3**
comp=Z,13nm,0.6s,SNR=12
ORIF Oris-en-Rattie 8.91 315 P P 20 44 53.6 -0.6
ORIF pmax pmax
comp=Z,54nm,0.7s
CONA Conrad Observa 8.98 5 *i* Pn **Pn 20 44 50.2 +1.0**
comp=Z,6.7nm,1.0s
CONA *i* S **S 20 46 30.8 -0.2**
comp=Z,1.3nm,0.6s
RETA Reutte 9.00 342 *i* Pn **Pn 20 44 51.4 +1.9**
comp=Z,28nm,0.5s,SNR=13
RSL Roselend 9.03 321 P P 20 44 54.4 -1.4
DAVA Damuels 9.05 338 *i* Pn **Pn 20 44 51.7 +1.6**
comp=Z,28nm,0.5s,SNR=13
SENIN Lac Senin/Sane 9.22 326 Pn Pn 20 44 52.8 +0.5
ELND Elena 9.26 61 ⇓P Pn 20 44 53.8 +1.2
FUR Furstenfeldbru 9.53 346 P Pn 20 44 57.4 +1.4
FUR pmax pmax
comp=Z,38nm,1.1s
PSZ Piszkesteto 9.67 21 Pn Pn 20 44 57.8 +0.1
PSZ Piszkesteto 9.67 21 ⇓P Pn 20 44 58.6 +0.8
PSZ Piszkesteto 9.67 21 *e*P **Pn 20 44 57.6 -0.2**
PSZ Piszkesteto 9.67 21 P Pn 20 44 58.5 +0.8
DRGR 9.72 34 ⇓P Pn 20 44 59.4 +0.9
DRGR 9.72 34 P Pn 20 44 59.3 +0.9
CKRC Cesky Krumlov 9.85 358 *e*P **Pn 20 45 01.3 +1.4**
CKRC Cesky Krumlov 9.85 358 *e*P **Pn 20 45 01.3 +1.4**
SSB Saint Sauveur 9.88 313 Pn Pn 20 45 00.9 +0.5
SSB Saint Sauveur 9.88 313 P Pn 20 45 01.4 +1.0
SSB pmax pmax
comp=Z,30nm,0.9s
GERES GERESS Array B 9.90 356 P Pn 20 45 01.4 +0.8
comp=Z,6.9nm,0.6s,baz=172,slow=12,SNR=70
SLE Schleitheim 9.91 334 P Pn 20 45 01.2 +0.5
SLE pmax pmax
comp=Z,75nm,0.5s
JAVC Velka Javorina 10.09 11 *e*P **P 20 45 09.7 +2.4**
KRUC Moravsky 10.14 6 *e*PN **Pn 20 45 05.2 +1.6**
KRUC *e* 20 45 09.3
KRUC Moravsky 10.14 6 P Pn 20 45 05.2 +1.6
KRUC pmax pmax
comp=Z,16nm,0.7s
KHC Kasperske Hory 10.19 355 *i* P **Pn 20 45 05.4 +1.3**
KHC Kasperske Hory 10.19 355 *e*P **Pn 20 45 05.5 +1.3**
WET Wettzell 10.26 353 P Pn 20 45 05.9 +0.9
WET pmax pmax
comp=Z,41nm,1.0s
TREC Trest 10.32 2 *e*P **P 20 45 08.0 -1.9**
TREC Trest 10.32 2 *e*P **P 20 45 08.0 -1.9**
VRAC Vranov 10.41 6 P Pn 20 45 08.3 +1.4
comp=Z,20nm,0.5s,baz=188,slow=12,SNR=17
VRAC Vranov 10.41 6 ⇓P Pn 20 45 07.7 +0.9
VRAC Vranov 10.41 6 *e*PN **Pn 20 45 07.9 +1.1**
VRAC *e* 20 45 12.2
KARP Karpathos 10.42 105 Pn **Pn 20 45 06.5 -0.7**
KARP Karpathos 10.42 105 *e*P **Pn 20 45 07.0 -0.2**
BFO Black Forest 10.46 335 Pn **Pn 20 45 07.6 +0.2**
BFO Black Forest 10.46 335 P Pn 20 45 07.6 +0.2
ZVC Zvikov 10.47 358 *e*P **Pn 20 45 09.0 +1.4**
MLR Muntele Rosu 10.51 48 Pn **P 20 45 10.9 -1.2**
MLR Muntele Rosu 10.51 48 S S 20 47 16.9 +11
comp=Z,5.1nm,0.9s,baz=342,slow=19,SNR=5.6
MLR Muntele Rosu 10.51 48 ⇑P P 20 45 12.0 -0.1
MLR Muntele Rosu 10.51 48 P P 20 45 10.9 -1.2
STU Stuttgart 10.59 339 Pn **Pn 20 45 10.7 +1.6**
STU Stuttgart 10.59 339 P Pn 20 45 10.7 +1.6
LBL Lubilhac 10.62 310 P P 20 45 14.1 +0.8

LBL pmax pmax
comp=Z,48nm,0.9s
ISR Istrita 10.66 51 ⇓P P 20 45 14.4 +0.7
ISR Istrita 10.66 51 P P 20 45 14.4 +0.7
NEHR Nehoiu 10.68 49 ⇓P P 20 45 12.8 -1.1
ECH Echery 10.77 332 Pn **Pn 20 45 10.0 -1.3**
ECH Echery 10.77 332 P Pn 20 45 10.0 -1.3
TURR Turia 10.88 46 ⇑P P 20 45 17.7 +1.6
CEST Esterri de Car 10.89 294 P 20 45 18.7 +2.2
MORC Moravsky Berou 10.97 9 Pn **Pn 20 45 14.3 +0.5**
MORC Moravsky Berou 10.97 9 *eP* **P 20 45 18.4 +1.3**
MORC Moravsky Berou 10.97 9 P Pn 20 45 14.3 +0.5
PRU Pruhonice 11.01 359 *eP* **Pn 20 45 15.8 +1.5**
PRU Pruhonice 11.01 359 *eP* **Pn 20 45 15.8 +1.5**
GRFO Grafenberg 11.01 348 Pn 20 45 14.9 +0.6
GRFO Grafenberg 11.01 348 P Pn 20 45 14.9 +0.6
GRA1 Grafenberg Arr 11.01 348 Pn 20 45 14.6 +0.3
GRF Grafenberg Arr 11.01 348 P Pn 20 45 14.6 +0.3
PRA Prague 11.09 359 *eP* **P 20 45 17.1 -1.3**
PRA Prague 11.09 359 *eP* **P 20 45 17.1 -1.3**
PLOR Plostina 11.12 48 ⇓P P 20 45 20.0 +1.2
PLOR Plostina 11.12 48 P P 20 45 20.0 +1.2
NIE Niedzica 11.15 19 P P 20 45 18.8 -0.3
VRI Vrincioaia 11.17 48 ⇑P P 20 45 18.5 -0.9
VRI Vrincioaia 11.17 48 P P 20 45 18.5 -0.9
KRLC Kraliky 11.18 7 *eP* **P 20 45 21.0 +1.5**
KRLC Kraliky 11.18 7 *eP* **P 20 45 21.0 +1.5**
TLBR Topalu 11.34 56 ⇓P P 20 45 23.7 +2.5
DPC Dobruska-Polom 11.42 5 *eP* **P 20 45 22.2 +0.1**
DPC Dobruska-Polom 11.42 5 *eP* **P 20 45 22.2 +0.1**
TESR Tescani 11.50 45 ⇓P P 20 45 22.6 -0.4
TIRR Tirgusor 11.54 57 ⇓P P 20 45 24.9 +1.5
TIRR Tirgusor 11.54 57 P P 20 45 24.9 +1.5
PVCC Panska Ves 11.55 359 *eP* **P 20 45 22.6 -0.9**
PVCC Panska Ves 11.55 359 *eP* **P 20 45 22.6 -0.9**
UPC Upice 11.56 4 *eP* **P 20 45 23.3 -0.3**
UPC Upice 11.56 4 *eP* **P 20 45 23.3 -0.3**
RICC Richard 11.57 358 *eP* **P 20 45 22.6 -1.2**
OSTC Ostas 11.62 4 *eP* **P 20 45 25.1 +0.8**
OSTC Ostas 11.62 4 *eP* **P 20 45 25.1 +0.8**
CHVC Chvalec 11.64 4 *eP* **P 20 45 24.2 -0.3**
CHVC Chvalec 11.64 4 *eP* **P 20 45 24.2 -0.3**
HSKC Hora Svate Kat 11.67 356 *eP* **P 20 45 24.0 -0.8**
CFR Carcaliu 11.68 54 ⇑P P 20 45 25.8 +0.8
CFR Carcaliu 11.68 54 P P 20 45 25.7 +0.8
TPGR Topolog 11.71 56 ⇑P P 20 45 25.1 -0.3
OJC Ojcow 11.79 16 Pn 20 45 23.5 -0.3
OJC Ojcow 11.79 16 P Pn 20 45 23.5 -0.3
MOX Moxa 11.88 350 P P 20 45 26.6 -0.6
MOX pmax pmax
comp=Z,17nm,0.8s
BRG Berggiesshubel 11.91 357 P Pn 20 45 25.9 +0.6
BRG pmax pmax
comp=Z,14nm,0.9s
BRG Berggiesshubel 11.91 357 *eP* **P 20 45 27.1 -0.4**
BRG Amp 20 45 29.4
comp=Z,7.8nm,0.7s
KWP Kalwaria Pacla 12.05 25 P P 20 45 30.4 +1.3
TNS Taunus Mts 12.12 340 P P 20 45 30.2 +0.4
TNS pmax pmax
comp=Z,26nm,0.9s
BORA Eskisehir 12.14 81 Pn 20 45 28.0 -0.3
ELL Elmali 12.14 96 Pn 20 45 28.4 -0.1
ELL Elmali 12.14 96 P Pn 20 45 28.4 -0.1
WLF Walferdange 12.34 333 Pn 20 45 30.8 +0.2
WLF Walferdange 12.34 333 P Pn 20 45 30.8 +0.2
ISP Isparta 12.39 90 *ceP* **Pn 20 45 31.6 +0.2**
ISP pmax pmax
comp=Z,12nm,0.6s
CLL Collm 12.39 355 *i P* **P 20 45 32.9 +0.1**
CLL pmax pmax
comp=Z,31nm,1.3s
CLL MLR MLR
comp=Z,300nm,20.9s
CLL Collm 12.39 355 *i P* **P 20 45 32.9 +0.1**
comp=Z,31nm,1.3s
CLL *i* x x 20 46 13.8
CLF Chambon-Foret 12.82 319 P Pn 20 45 36.5 0.0
MILM Milestii Mici 12.96 48 ⇓P P 20 45 39.6 +0.5
MILM Milestii Mici 12.96 48 *⇓iP* **P 20 45 39.5 +0.4**
comp=Z,30nm,0.5s
MILM Milestii Mici 12.96 48 P P 20 45 39.6 +0.5
SORM Soroca 13.41 43 ⇓P P 20 45 45.9 +1.8
SORM Soroca 13.41 43 P P 20 45 45.9 +1.8
ESDC Sonseca Array 14.55 279 P P 20 45 56.7 -0.2
comp=Z,1.6nm,0.7s,baz=80,slow=12,SNR=11
BR131 Keskin Array S 14.59 81 *i P* **Pn 20 45 58.9 +0.8**
BRTR Keskin Array B 14.59 81 P Pn 20 45 57.9 -0.2
BRTR Keskin Array B 14.59 81 P Pn 20 45 59.5 +1.5
comp=Z,3.7nm,0.6s,baz=264,slow=12,SNR=26
BRTR Keskin Array B 14.59 81 *ceP* **Pn 20 45 59.7 +1.6**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
ILGA Ilgaz 14.64 76 Pn 20 45 58.7 0.0
CSS Mathiatis 15.34 99 Pn 20 46 06.5 -0.3
CSS IAmb IAmb 20 46 10.5
comp=Z,16nm,0.6s
KIEV Kiev 15.51 36 P 20 46 06.8 -0.4
KIEV IAmb IAmb 20 46 10.6
comp=Z,4.7nm,0.9s
KIEV Kiev 15.51 36 P P 20 46 06.8 -0.4
KIEV pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 15.52 36 P P 20 46 07.1 -0.2
AKASG Malin Array Be 15.52 36 P P 20 46 07.2 -0.2
comp=Z,1.4nm,0.3s,baz=232,slow=9.0,SNR=14
AKASG S **S 20 48 54.1 -2.5**
comp=Z,1.5nm,0.6s,baz=228,slow=19,SNR=4.7
AKASG Malin Array Be 15.52 36 *ceP* **P 20 46 07.4 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 15.52 36 *ceP* **P 20 46 07.5 +0.1**
SUW Suwalki 16.09 18 P P 20 46 13.4 -0.1
SUW Suwalki 16.09 18 *eP* **P 20 46 13.3 -0.1**
SUW Suwalki 16.09 18 P P 20 46 13.4 -0.1
BNN Bunyan 16.38 84 P 20 46 17.3 +0.3
BNN IAmb IAmb 20 46 20.6
comp=Z,16nm,0.8s
TOKA Tokat 16.74 79 P P 20 46 21.6 +0.7
MDT Midelt 16.88 255 P Pn 20 46 25.3 +0.3
comp=Z,3.8nm,0.8s,baz=86,slow=10,SNR=5.0
PABE Paberze 17.64 17 P P 20 46 30.4 0.0
PABE Paberze 17.64 17 *eP* **P 20 46 30.7 +0.3**
MMAI Mount Meron Ar 17.68 103 P Pn 20 46 32.9 -1.4
comp=Z,1.6nm,0.4s,baz=289,slow=11,SNR=16
PBUR Paburge 17.70 13 *eP* **P 20 46 31.3 +0.2**
GAZ Gaziantep 17.73 89 IAmb IAmb 20 46 34.2
comp=Z,13nm,0.9s
NACGM Naroch 17.86 23 *eP* **P 20 46 32.6 -0.1**
comp=E,19nm,1.0s
MNK Minsk 17.88 25 *i P* **P 20 46 27.4 -5.6**
comp=E,18nm,0.9s
MNK *i* P **P 20 46 27.4 -5.6**
comp=N,7.0nm,0.8s
MNK *i* P **P 20 46 27.4 -5.6**
comp=Z,51nm,0.8s,baz=215
MNK *i* S **S 20 49 37.5 -6.0**
MNK Minsk 17.88 25 *i P* **P 20 46 27.4 -5.6**
MNK *i* S **S 20 49 37.4 -6.0**
MNK pmax pmax
comp=Z,51nm,0.8s
MNK pmax pmax
comp=E,18nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=Z,25nm,19.0s
ISAL Salakas 18.25 21 *eP* **P 20 46 38.1 +1.2**
EIL Elat 19.02 113 P P 20 46 46.7 +1.2
comp=Z,12nm,0.6s,baz=315,slow=5.6,SNR=14
ASF Jabal al Asfar 19.18 104 P P 20 46 47.4 +0.1
comp=Z,2.9nm,0.5s,baz=337,slow=13,SNR=2.5
SLIT Slitere, Latvi 19.29 12 *eP* **P 20 46 46.7 -1.4**
KOPT Kop Dagi 19.84 79 P P 20 46 55.0 +0.6
KOPT IAmb IAmb 20 46 59.5
comp=Z,14nm,1.2s
STRU Stroemstad 20.21 355 *eP* **P 20 46 56.7 -1.0**
EKA Eskdalemuir Ar 20.32 329 P P 20 46 56.9 -2.1
comp=Z,2.3nm,0.4s,baz=142,slow=10,SNR=24
comp=Z,2.3nm,0.4s
VSU Vasula 20.96 18 *i P* **P 20 47 04.1 -1.3**
VSU pmax pmax
comp=Z,22nm,1.0s

UPP Uppsala 20.98 4 *eP* **P 20 47 05.2 -0.3**
OSL Oslo 21.14 354 *eP* **P 20 47 04.8 -2.3**
HFS Hagfors 21.19 358 P P 20 47 05.5 -2.0
comp=Z,6.0nm,0.5s,baz=181,slow=12,SNR=45
comp=Z,6.0nm,0.5s
GURO Guroymak-BITLI 21.21 83 P P 20 47 09.1 +0.8
GURO IAmb IAmb 20 47 10.1
comp=Z,5.8nm,0.9s
KIV Kislovodsk 21.42 68 *eP* **P 20 47 09.5 -0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
AAL Aland 21.47 7 *eP* **P 20 47 08.8 -1.4**
KBZ Khabaz 21.56 68 P P 20 47 12.6 +1.4
comp=Z,2.0nm,0.7s,baz=298,slow=8.5,SNR=8.2
comp=Z,2.0nm,0.7s
KBZ Khabaz 21.56 68 *ceP* **P 20 47 13.1 +1.9**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
ARBE Arbavere 21.68 16 *eP* **P 20 47 11.0 -1.1**
OBN Obninsk 21.77 35 *deP* **P 20 47 15.1 +2.1**
OBN *eS* **S 20 50 57.1 +3.7**
OBN pmax pmax
comp=Z,4.0nm,0.9s
NC602 NORSAR Array S 21.88 356 *eP* **P 20 47 11.6 -2.2**
NORES NORESS Array B 21.88 356 P P 20 47 13.2 -0.7
MEF Metsahovi 22.10 13 *eP* **P 20 47 15.4 -0.5**
SKAR Skarslia 22.11 351 *eP* **P 20 47 15.2 -0.8**
NB2 NORSAR Subarra 22.20 355 P P 20 47 15.4 -1.5
comp=Z,4.1nm,0.7s,baz=171,slow=11
NB2 NORSAR Subarra 22.20 355 P P 20 47 15.0 -1.9
NB2 NORSAR Subarra 22.20 355 P P 20 47 15.4 -1.5
baz=171,slow=11
NOA NORSAR Array B 22.20 355 P P 20 47 15.2 -1.7
comp=Z,2.3nm,0.6s,baz=171,slow=11,SNR=18
comp=Z,2.3nm,0.6s
RAF Rauma 22.49 9 *eP* **P 20 47 18.9 -0.5**
GNI Garni 23.06 78 P P 20 47 25.9 +0.7
GNI IAmb IAmb 20 47 28.4
comp=Z,12nm,1.0s
GNI Garni 23.06 78 *ceP* **P 20 47 27.5 +2.4**
GNI pmax pmax
comp=Z,16nm,1.7s
FINES FINESS Array B 23.55 14 P P 20 47 27.6 -1.5
FINES FINESS Array B 23.55 14 P P 20 47 28.3 -0.8
comp=Z,8.5nm,0.3s,baz=186,slow=8.7,SNR=185
comp=Z,8.5nm,0.3s
KEF Keuruu 24.02 12 *eP* **P 20 47 32.1 -1.2**
MOL Molde 24.03 352 *eP* **P 20 47 34.8 +1.4**
VAF Ylistaro 24.56 9 *eP* **P 20 47 37.1 -1.1**
AKT Akhty 25.18 74 *eP* **P 20 47 45.6 +1.4**
AKT pmax pmax
comp=Z,5.0nm,0.8s
NSS Namsos 25.64 357 *eP* **P 20 47 46.5 -1.3**
LEIR Leirfjorden 27.20 358 *eP* **P 20 48 00.8 -0.8**
TORD Torodi Ar. Bea 28.23 208 P P 20 48 10.5 -0.9
comp=Z,0.2nm,0.4s,baz=17,slow=10,SNR=5.2
comp=Z,0.2nm,0.4s
FAUS Fauske 28.46 0 *eP* **P 20 48 11.7 -1.1**
STEI Steigen 29.01 0 *eP* **P 20 48 16.7 -0.9**
LOF Lofoten 29.22 359 *eP* **P 20 48 16.1 -3.3**
LANU Lannavaara 29.39 6 *eP* **P 20 48 19.7 -1.4**
RAYN Ar Rayn 30.25 112 P P 20 48 30.8 +1.6
RAYN Ar Rayn 30.25 112 P P 20 48 30.8 +1.6
RAYN pmax pmax
comp=Z,2.0nm,0.7s
KTK1 Kautokeino 30.44 6 *eP* **P 20 48 28.4 -1.8**
JETT Jettan, Norway 30.79 4 *eP* **P 20 48 31.7 -1.7**
TRO Tromso 30.80 3 *eP* **P 20 48 32.0 -1.3**
ARA0 ARCESS Array S 31.15 7 *eP* **P 20 48 34.7 -1.7**
ARCES ARCESS Array B 31.15 7 P P 20 48 34.7 -1.8
comp=Z,1.8nm,0.3s,baz=194,slow=8.6,SNR=103
comp=Z,1.8nm,0.3s
HAMF Hammerfest 32.07 6 *eP* **P 20 48 42.9 -1.5**
VADS Vadso 32.14 9 *eP* **P 20 48 43.7 -1.3**
ARTI Arti 33.42 44 *diP* **P 20 48 56.4 +0.1**
ARTI 20 50 20.5
ARTI 20 51 29.6
ARTI S **S 20 53 58.1 +1.9**
ARTI SS **SS 20 56 34.2 +1.1**
ARTI pmax pmax
comp=Z,4.0nm,1.2s
ABKAR Akbulak array 33.54 57 P P 20 48 57.8 +0.5
DBIC Dimbokro 36.74 214 P P 20 49 24.3 -0.6
comp=Z,1.6nm,0.5s,baz=49,slow=9.1,SNR=1.3
comp=Z,1.6nm,0.5s
SPITS Spitsbergen Ar 39.31 1 P P 20 49 45.5 -0.1
comp=Z,3.4nm,0.5s,baz=158,slow=9.0,SNR=15
comp=Z,3.4nm,0.5s
BORK Borovoye 40.02 51 *i P* **P 20 49 53.1 +1.4**
CHGR Chuyangaron 41.81 73 P P 20 50 07.2 +0.6
CHGR IAmb IAmb 20 50 07.8
comp=Z,5.2nm,0.8s
CHGR Chuyangaron 41.81 73 P P 20 50 07.2 +0.6
CHGR pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 45.35 53 P P 20 50 34.6 +0.3
comp=Z,0.9nm,0.7s,baz=286,slow=8.8,SNR=6.3
comp=Z,0.9nm,0.7s
KURK Kurchatov 45.39 53 P P 20 50 34.9 +0.2
KURK Kurchatov 45.39 53 *i P* **P 20 50 35.7 +1.1**
ZALV Zalesovo Beam 48.49 48 P P 20 50 58.0 -0.4
comp=Z,0.6nm,0.3s,baz=293,slow=6.9,SNR=3.6
comp=Z,0.6nm,0.3s
ZALV Zalesovo Beam 48.49 48 P P 20 50 58.0 -0.4
MKAR Makanchi Array 48.68 58 P P 20 50 59.7 -0.3
MKAR Makanchi Array 48.68 58 P P 20 50 59.9 -0.1
comp=Z,0.8nm,0.4s,baz=287,slow=6.7,SNR=14
comp=Z,0.8nm,0.4s
MKAR Makanchi Array 48.68 58 *ceP* **P 20 51 00.0 -0.1**
SCHQ Schefferville 54.79 316 P P 20 51 43.4 -1.4
comp=Z,17nm,0.5s,baz=60,slow=14,SNR=6.0
BOSA Boshof 67.95 170 P P 20 53 12.9 +0.1
comp=Z,0.7nm,0.4s,baz=352,slow=7.1,SNR=1.0
comp=Z,0.7nm,0.4s
HHC Hu-ho-hao-te 70.21 53 *eP* **P 20 53 26.0 -0.7**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,61nm,4.6s
PZH PanZhiHua 71.61 71 P P 20 53 35.8 +0.4
CMAR Chiang Mai Arr 74.17 79 P P 20 53 49.7 -0.6
comp=Z,0.4nm,0.4s,baz=313,slow=5.3,SNR=5.0
comp=Z,0.4nm,0.4s
CMAR Chiang Mai Arr 74.17 79 *i P* **P 20 53 52.4 +2.1**

UCR ***14*** *20:54:11.5±0.9, 8.°44N×82.°81W, h26km±2km, MW3.5*
UPA ***14*** *20:54:12.2±1.1, 8.°49N×82.°78W, h20km±2km, ML3.9, MW3.3*
ISC 14 20:54:11.9±0.9,**8.°46N**±0.°02×**82.°81W**±0.°02,**h28**km±5km,
n68, σ0°**83**/105,**7C-12D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.05**	**158**	⇑*iP*	**Pb**	**20 54 16.1**	**-0.6**
LESP3				*eS*	**Sb**	**20 54 19.4**	**-0.5**
LESP3	**La Esperanza,**	**0.05**	**158**	⇑*iP*	**Pb**	**20 54 16.1**	**-0.6**
LESP3				AMP		20 54 16.2	
comp=Z,25μm,0.1s							
LESP3				*eS*	**Sb**	**20 54 19.4**	**-0.5**
LPPC	**Paso Canoas**	**0.08**	**339**	*eP*	**Pb**	**20 54 16.3**	**-0.6**
LPPC				*eS*	**Sb**	**20 54 20.1**	**-0.1**
DMCAL	**E. de Neily**	**0.21**	**4**	*eP*	**Pb**	**20 54 17.9**	**-0.3**
NELY	**Ciudad Neily**	**0.24**	**325**	*eP*	**Pb**	**20 54 17.8**	**-0.6**
NELY				*eS*	**Sb**	**20 54 22.8**	**+0.1**
CLLRA	**Cordillera,**	**0.35**	**34**	⇓*iP*	**Pb**	**20 54 19.7**	**-0.3**
CLLRA				*eS*	**Sn**	**20 54 26.7**	**-0.7**
JEFFS	**S de V. Baru**	**0.35**	**52**	*eP*	**Pb**	**20 54 19.6**	**-0.3**
DVD	**David**	**0.36**	**93**	⇑*eP*	**Pb**	**20 54 19.5**	**-0.5**
DVD				*eS*	**Sb**	**20 54 25.3**	**-0.1**
LMNES	**Limones**	**0.36**	**188**	*i P*	**Pb**	**20 54 19.6**	**-0.4**
LMNES				*eS*	**Sb**	**20 54 24.9**	**-0.6**
LMNES	**Limones**	**0.36**	**188**	*eP*	**Pb**	**20 54 19.6**	**-0.4**
BRU2	**Volcan**	**0.36**	**19**	⇓*iP*	**Pb**	**20 54 19.8**	**-0.3**
BRU2				*eS*	**Sb**	**20 54 26.2**	**+0.5**
BRU2	**Volcan**	**0.36**	**19**	⇓*iP*	**Pb**	**20 54 19.8**	**-0.3**
BRU2				*eS*	**Sb**	**20 54 26.4**	**+0.6**
BRU2	**Volcan**	**0.36**	**19**	⇓*iP*	**Pb**	**20 54 19.8**	**-0.3**
BRU2				AMP		20 54 20.0	
comp=Z,3μm,0.2s							
BRU2				*eS*	**Sb**	**20 54 26.3**	**+0.5**
BRU2	**Volcan**	**0.36**	**19**	*eP*	**Pb**	**20 54 19.7**	**-0.4**
TBS2		**0.37**	**24**	*eP*	**Pb**	**20 54 20.8**	**+0.4**

SCLRA	**Santa Clara, W**	**0.38**	**4**	*eP*	**Pb**	**20 54 20.3**	**-0.1**
SCLRA				*eS*	**Sn**	**20 54 27.9**	**-0.2**
SCLRA	**Santa Clara, W**	**0.38**	**4**	*eP*	**Pb**	**20 54 20.3**	**-0.1**
FITO	**Golfito**	**0.38**	**296**	*eP*	**Pb**	**20 54 19.0**	**-1.4**
BANCO	**falda S V. Bar**	**0.38**	**47**	*eP*	**Pb**	**20 54 20.2**	**-0.3**
LOCO3	**Loma Colorada,**	**0.39**	**97**	⇑*eP*	**Pb**	**20 54 20.0**	**-0.5**
LOCO3				*eS*	**Sb**	**20 54 25.8**	**-0.6**
LOCO3	**Loma Colorada,**	**0.39**	**97**	⇑*eP*	**Pb**	**20 54 20.0**	**-0.5**
LOCO3				*eS*	**Sb**	**20 54 25.8**	**-0.6**
PEDE3	**Pedregal, Chir**	**0.39**	**100**	*eP*	**Pb**	**20 54 19.3**	**-1.2**
PEDE3				*eS*	**Sb**	**20 54 26.2**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.39**	**100**	*eP*	**Pb**	**20 54 19.4**	**-1.1**
PEDE3				*eS*	**Sb**	**20 54 26.2**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.39**	**53**	⇑*iP*	**Pb**	**20 54 20.3**	**-0.2**
PTAR3				*eS*	**Sb**	**20 54 26.1**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.39**	**53**	⇑*iP*	**Pb**	**20 54 20.4**	**-0.2**
PTAR3				AMP		20 54 20.5	
comp=Z,12μm,0.1s							
PTAR3				*eS*	**Sb**	**20 54 27.1**	**+0.6**
VITO	**San Vito**	**0.40**	**336**	*eP*	**Pb**	**20 54 20.5**	**-0.2**
BC3P	**Paso Ancho**	**0.41**	**29**	⇓*iP*	**Pb**	**20 54 20.5**	**-0.5**
BC3P				*eS*	**Sb**	**20 54 27.6**	**+0.5**
BC3P	**Paso Ancho**	**0.41**	**29**	⇓*iP*	**Pb**	**20 54 20.4**	**-0.5**
BC3P				AMP		20 54 20.6	
comp=Z,5μm,0.2s							
BC3P				*eS*	**Sb**	**20 54 27.4**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.41**	**93**	*eP*	**Pb**	**20 54 20.6**	**-0.3**
LOMA3				*eS*	**Sb**	**20 54 26.1**	**-0.9**
LOMA3	**Las Lomas, Chi**	**0.41**	**93**	*eP*	**Pb**	**20 54 20.6**	**-0.3**
LOMA3				*eS*	**Sb**	**20 54 26.6**	**-0.4**
BQTLY	**Boquete Panama**	**0.46**	**49**	⇓*iP*	**Pb**	**20 54 21.1**	**-0.6**
BQTLY				*eS*	**Sb**	**20 54 27.0**	**-1.3**
BQTLY	**Boquete Panama**	**0.46**	**49**	*eP*	**Pb**	**20 54 21.1**	**-0.6**
BQSF3	**Alto Boquete,**	**0.47**	**52**	⇓*iP*	**Pb**	**20 54 21.2**	**-0.6**
BQSF3				*eS*	**Sb**	**20 54 28.5**	**-0.1**
BQSF3	**Alto Boquete,**	**0.47**	**52**	⇓*iP*	**Pb**	**20 54 21.2**	**-0.6**
BQSF3				AMP		20 54 21.3	
comp=Z,8μm,0.1s							
BQSF3				*eS*	**Sb**	**20 54 28.4**	**-0.2**
WILLF	**Boquete**	**0.47**	**52**	*eP*	**Pb**	**20 54 21.2**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.48**	**97**	*eP*	**Pb**	**20 54 21.2**	**-0.7**
CHIR3				*eS*	**Sb**	**20 54 28.6**	**-0.1**
CHIR3	**Chiriqui UPA,**	**0.48**	**97**	*eP*	**Pb**	**20 54 21.2**	**-0.7**
CHIR3				AMP		20 54 22.5	
comp=Z,2μm,0.1s							
CHIR3				*eS*	**Sb**	**20 54 28.3**	**-0.4**
ALCO	**Alturas Coton,**	**0.49**	**357**	*eP*	**Pb**	**20 54 21.4**	**-0.9**
DAP26	**falda E V. Bar**	**0.51**	**49**	*eP*	**Pb**	**20 54 21.5**	**-1.0**
GUAL3	**Gualaca, Chiri**	**0.51**	**81**	*eP*	**Pb**	**20 54 22.7**	**+0.2**
PIRO	**Carate, Puerto**	**0.52**	**264**	*eP*	**Pb**	**20 54 22.2**	**-0.4**
PIRO				*eS*	**Sn**	**20 54 31.4**	**-0.1**
PIRO	**Carate, Puerto**	**0.52**	**264**	*eP*	**Pb**	**20 54 22.2**	**-0.4**
PIRO				*eS*	**Sn**	**20 54 31.4**	**-0.1**
PIRO	**Carate, Puerto**	**0.52**	**264**	*eP*	**Pb**	**20 54 22.2**	**-0.4**
PSOM3	**Paja de Sombre**	**0.53**	**65**	⇓*iP*	**Pb**	**20 54 22.0**	**-0.9**
PSOM3				*eS*	**Sb**	**20 54 29.8**	**-0.5**
PSOM3	**Paja de Sombre**	**0.53**	**65**	⇓*iP*	**Pb**	**20 54 22.0**	**-0.9**
PSOM3				AMP		20 54 22.2	
comp=Z,7μm,0.1s							
PSOM3				*eS*	**Sb**	**20 54 29.8**	**-0.5**
EDP2	**Potrero Grande**	**0.67**	**327**	*eP*	**Pb**	**20 54 24.4**	**-0.6**
PBNVO	**Pueblo Nuevo,**	**0.75**	**55**	*eP*	**Pb**	**20 54 25.1**	**-1.3**
RBALA	**Bur**	**0.77**	**57**	*i P*	**Pb**	**20 54 25.9**	**-1.0**
RBALA				*eS*	**Sb**	**20 54 36.4**	**-0.6**
RBALA	**Bur**	**0.77**	**57**	*eP*	**Pb**	**20 54 25.8**	**-1.0**
CHGR2	**Aguacate**	**0.81**	**54**	⇓*iP*	**Pb**	**20 54 26.2**	**-1.3**
CHGR2				AMP		20 54 26.4	
comp=Z,82μm,0.1s							
CHGR2				*eS*	**Sb**	**20 54 37.1**	**-1.0**
PANP	**Palmar Norte**	**0.81**	**308**	*eP*	**Pb**	**20 54 25.8**	**-1.7**
DRK0	**Durika**	**0.91**	**332**	*eP*	**Pn**	**20 54 27.9**	**-1.2**
DRK0				AMP		20 54 28.7	
comp=Z,68μm,0.1s							
DRK0				*eS*	**Sb**	**20 54 40.0**	**-1.1**
DRK0	**Durika**	**0.91**	**332**	*eP*	**Pn**	**20 54 27.7**	**-1.3**
EDPE	**Pejibaye, P**	**1.03**	**313**	*eP*	**Pn**	**20 54 29.2**	**-1.4**
SAJE	**San Jernim**	**1.12**	**322**	*eP*	**Pn**	**20 54 30.5**	**-1.5**
LAES	**El Progreso Va**	**1.32**	**350**	*eP*	**Pn**	**20 54 35.1**	**+0.6**
PIEC	**Cerro El Cedra**	**1.62**	**316**	*eP*	**Pn**	**20 54 38.6**	**-0.3**
RSUS3	**Rio de Jesus,**	**1.70**	**106**	*eP*	**Pn**	**20 54 40.0**	**+0.3**
RSUS3				*eS*	**Sn**	**20 55 01.1**	**+0.5**
LCR2	**La Lucha 2**	**1.74**	**317**	*eP*	**Pn**	**20 54 40.2**	**-0.3**
LCOCO	**El Coco**	**1.78**	**336**	*eP*	**Pn**	**20 54 41.6**	**+0.8**
ABRB	**Las Abras (San**	**1.78**	**330**	*eP*	**Pn**	**20 54 41.6**	**+0.5**
CVTV	**Tajo**	**1.80**	**329**	*eP*	**Pn**	**20 54 41.9**	**+0.5**
CVTQ	**Turrialba Volc**	**1.81**	**329**	*eP*	**Pn**	**20 54 42.3**	**+0.7**
CVTR	**Volcan Turrial**	**1.82**	**329**	*eP*	**Pn**	**20 54 42.2**	**+0.5**
VICA	**Volcano Irazu**	**1.83**	**326**	*eP*	**Pn**	**20 54 41.9**	**-0.1**
CACAO	**El Cacao, Vera**	**2.22**	**120**	*eP*	**Pn**	**20 54 48.0**	**+1.1**
CACAO				*eS*	**Sn**	**20 55 14.8**	**+1.3**
JTS	**Las Juntas de**	**2.79**	**311**	*eP*	**Pn**	**20 54 57.8**	**+2.9**
JTS				*eS*	**Sn**	**20 55 30.8**	**+3.1**
JTS	**Las Juntas de**	**2.79**	**311**	*eP*	**Pn**	**20 54 56.2**	**+1.4**
JTS				*eS*	**Sn**	**20 55 29.1**	**+1.5**

SOME ***14*** *21:01:54.0, 39.°77N×74.°48E, h5km*
NNC ***14*** *21:01:57.0±1.2, 39.°84N×74.°55E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=9.4km s-min=4.7km az=171.0*
KRNET ***14*** *21:01:58.0±0.1, 39.°94N×74.°43E, h18km, mb3.4*
ISC 14 21:01:58.1±1.0,**39.°92N**±0.°05×**74.°43E**±0.°03,**h10**km,**n56,**
σ1°**74**/86,**28C-16D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**1.07**	**334**	⇓*iP*	**Pg**	**21 02 17.7**	**-1.1**
SALK				⇓*eS*	**Sg**	**21 02 32.0**	**-0.7**
OHH	**Osh**	**1.40**	**296**	⇑*eP*	**Pn**	**21 02 23.6**	**-0.2**
OHH				⇑*eS*	**Sn**	**21 02 42.2**	**-0.2**
JNKS	**Jany-Kuch**	**1.47**	**39**	⇑*eP*	**Pb**	**21 02 24.8**	**-0.9**
JNKS				⇑*eS*	**Sg**	**21 02 44.3**	**-1.2**
ARSB	**Arslanbob**	**1.79**	**322**	⇓*eP*	**Pb**	**21 02 30.3**	**-0.8**
ARSB				⇓*eS*	**Sb**	**21 02 54.0**	**+0.4**
DRK	**Karamyk**	**2.08**	**259**	⇑*iP*	**Pb**	**21 02 35.0**	**-1.1**
DRK				⇑*iS*	**Sb**	**21 03 02.1**	**0.0**
UCH	**Uchtor**	**2.31**	**1**	P	**Pg**	**21 02 41.0**	**-1.4**
SNR=28							
UCH	**Uchtor**	**2.31**	**1**	⇑*iP*	**Pn**	**21 02 38.0**	**+1.4**
UCH				⇑*eS*	**Sb**	**21 03 07.2**	**-1.7**
ARK	**Arkit**	**2.65**	**316**	⇑*eP*	**Pn**	**21 02 42.6**	**+1.5**
ARK				⇑*eS*	**Sn**	**21 03 15.2**	**+1.8**
ULHL	**Ulahol**	**2.70**	**30**	P	**Pg**	**21 02 48.1**	**-1.7**
SNR=22							
ULHL	**Ulahol**	**2.70**	**30**	⇑*eP*	**Pn**	**21 02 43.3**	**+1.5**
ULHL				⇑*eS*	**Sn**	**21 03 16.3**	**+1.7**
AAK	**Ala-Archa**	**2.72**	**1**	P	**Pb**	**21 02 47.7**	**+0.8**
SNR=13							
AAK	**Ala-Archa**	**2.72**	**1**	⇑Pg	**Pb**	**21 02 47.7**	**+0.8**
7.3nm,0.5s							
AAK				⇓Lg

TKM2	Tokmak 2	3.12	16	⇓iP		Pn	21 02 49.2	+1.6
TKM2				⇓eS		Sn	21 03 26.6	+1.5
GAR	Garm	3.32	255	⇑eP		Pn	21 02 52.1	+1.9
GAR				⇑eS		Sn	21 03 31.6	+1.8
KST	Kastek	3.33	20	Pg		Pb	21 02 58.5	+1.2
KST	7.8nm,0.4s			Lg		Lg	21 03 45.3	
KST	73nm,0.7s							
KST	Kastek	3.33	20	eP		Pb	21 02 58.5	+1.2
KST	5.0nm,0.3s			eS		Sg	21 03 45.1	+0.2
KST	73nm,0.7s							
USP	Ospenovka	3.34	1	P		Pg	21 02 59.9	-2.3
USP	SNR=9.5							
USP	Ospenovka	3.34	1	⇑iP		Pn	21 02 52.1	+1.6
USP				⇑eS		Sn	21 03 31.6	+1.3
DGS	Degeres	3.47	16	Pg		Pb	21 03 00.6	+0.9
DGS	16nm,0.4s			Lg		Lg	21 03 49.1	
DGS	33nm,0.8s							
SGDS	Sogindy	3.53	2	Pg		Pb	21 03 01.6	+0.8
SGDS	2.3nm,0.6s			P		Pg	21 03 14.6	+8.8
SGDS	3.0nm,0.2s			S		Sn	21 03 33.0	-2.0
SGDS	22nm,0.1s			Lg		Lg	21 03 50.4	
SGDS	26nm,0.7s							
MTBS	Maitube	3.54	24	Pg		Pb	21 03 02.4	+1.4
MTBS	5.2nm,0.3s			Lg		Lg	21 03 51.7	
MTBS	26nm,0.5s							
MTBS	Maitube	3.54	24	eP		Pb	21 03 02.4	+1.4
MTBS	1.2nm,0.1s			eS		Sg	21 03 51.7	-0.1
MTBS	27nm,0.3s							
TNSS	Tian-Shan	3.64	30	Pg		Pb	21 03 03.9	+1.1
TNSS	2.3nm,0.3s			Lg		Lg	21 03 54.3	
TNSS	7.3nm,0.8s							
TNSS	Tian-Shan	3.64	30	eP		Pb	21 03 03.9	+1.1
TNSS	2.3nm,0.3s			eS		Sg	21 03 54.3	-0.9
TNSS	7.3nm,0.8s							
MDOK	Medeo	3.79	30	Pg		Pb	21 03 06.6	+1.4
MDOK	4.4nm,0.3s			Lg		Lg	21 03 58.9	
MDOK	14nm,0.8s							
KNDC	Almaty	3.80	29	Pg		Pg	21 03 08.4	-2.6
KNDC	25nm,0.7s			Lg		Lg	21 04 00.7	
KNDC	94nm,0.7s							
KOTS	Kotyrbulak	3.87	30	Pg		Pb	21 03 08.1	+1.5
KOTS	4.8nm,0.5s			Lg		Lg	21 04 01.9	
KOTS	25nm,1.0s							
KOTS	Kotyrbulak	3.87	30	eP		Pb	21 03 08.1	+1.5
KOTS	4.8nm,0.5s			eS		Sg	21 04 01.9	-0.6
KOTS	25nm,1.0s							
IUG	Iuzhnay	4.00	305	Pg		Pb	21 03 10.1	+1.2
IUG	7.6nm,0.3s			Lg		Lg	21 04 05.5	
IUG	27nm,0.5s							
KTBS	Karatobe	4.14	23	Pg		Pb	21 03 12.7	+1.5
KTBS	3.9nm,0.6s			Lg		Lg	21 04 09.6	
KTBS	14nm,0.7s							
SATY	Saty	4.33	42	Pg		Pb	21 03 15.3	+0.9
SATY	2.2nm,0.4s			Lg		Lg	21 04 13.8	
SATY	18nm,0.8s							
KK31	Karatay Array	4.33	318	⇑Pn		Pn	21 03 07.6	+3.5
KK31	0.2nm,0.2s,baz=112,slow=13,SNR=12			⇓Pg		Pb	21 03 17.2	+2.8
KK31	0.5nm,0.2s,baz=133,slow=16,SNR=3.7			⇓Sn		Sb	21 04 01.3	-5.5
KK31	1.2nm,0.3s,baz=55,slow=29,SNR=4.5			⇑Lg		Lg	21 04 16.4	
KK31	4.1nm,0.5s,baz=130,slow=29,SNR=6.7							
CHKK	Chushkaly	4.37	25	Pg		Pb	21 03 17.0	+2.0
CHKK	9.8nm,0.5s			Lg		Lg	21 04 17.7	
CHKK	16nm,0.5s							
CHKK	Chushkaly	4.37	25	eP		Pb	21 03 17.0	+2.0
CHKK	9.8nm,0.5s			eS		Sg	21 04 17.2	-1.2
CHKK	16nm,0.5s							
KURS	Kuram	4.53	37	Pg		Pb	21 03 19.4	+1.7
KURS	3.8nm,0.7s			Lg		Lg	21 04 21.1	
KURS	7.5nm,0.9s							
UZB	Uzynbulak	4.72	45	Pg		Pb	21 03 22.3	+1.3
UZB	1.2nm,0.2s			Lg		Lg	21 04 25.8	
UZB	2.7nm,0.6s							
UZB	Uzynbulak	4.72	45	eP		Pb	21 03 22.3	+1.3
UZB	1.2nm,0.2s			eS		Sg	21 04 25.8	-3.8
UZB	2.7nm,0.6s							
KPKS	Kokpek	4.76	41	Pg		Pb	21 03 22.8	+1.1
KPKS	0.5nm,0.3s			Lg		Lg	21 04 27.0	
KPKS	6.3nm,0.5s							
SHLS	Shalkode	4.97	48	Pg		Pg	21 03 31.0	-2.3
SHLS	3.0nm,0.6s			Lg		Lg	21 04 40.7	
SHLS	8.3nm,0.6s							
SHLS	Shalkode	4.97	48	eP		Pg	21 03 31.0	-2.3
SHLS	1.2nm,0.2s			eS		Sg	21 04 40.7	+3.0
SHLS	7.8nm,0.4s							
ARXS	Arharly	4.98	29	Pg		Pb	21 03 27.7	+2.3
ARXS	3.1nm,0.5s			Lg		Lg	21 04 36.0	
ARXS	14nm,0.5s							
ARXS	Arharly	4.98	29	eP		Pb	21 03 27.7	+2.3
ARXS				eS		Sg	21 04 35.3	-2.6
PDGK	Podgornoye	5.09	46	⇓Pg		Pg	21 03 32.3	-3.5
PDGK	8.0nm,0.8s			⇑Lg		Lg	21 04 36.4	
PDGK	6.0nm,0.8s							

BJI ***14*** *21:07:09.9, 6°.13S×147°.26E, h122km, mB5.1/9, mb4.8/36*
IDC ***14*** *21:07:09.7±1.2, 5°.94S×147°.05E, h83km±10km, mb4.2/17, mbtmp4.7/22, MS3.4/6, Error ellipse: s-maj=20.7km s-min=8.5km az=84.0*
DJA ***14*** *21:07:10.9±0.4, 6°.5±3°.×14°.7E±°, h100km±4km, M4.9/48, mb5.1/48, mB5.4/24, MLv5.1/3, Mw(mB)4.8/24*
NEIC ***14*** *21:07:12.4±1.9, 6°.02S±0°.05×146°.90E±0°.05, h99km±5km, mb5.0/103, Error ellipse: s-maj=9.1km s-min=5.2km az=138.0*
GCMT ***14*** *21:07:15.4±0.3, 6°.05S±0°.02×146°.97E±0°.03, h117km±5km, MW4.8/74, Moment Tensor Solution. s8,c10; s74,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.02±.11; Mθθ 1.42±.11; Mϕϕ~1.40±.12; Mrθ 1.26±.07; Mϕθ~0.65±.15; Mϕr~0.65±.07; Best double couple: M=2.01300×10^16 NP1:ϕs 52.00000°, δ54.00000°, λ171.00000°. NP2: ϕs 147.00000°, δ83.00000°, λ36.00000°. Principal axes: T 2.3590, Plg30.0000°, Azm15.0000°; N -0.6940, Plg53.0000°, Azm157.0000°; P -1.6660, Plg19.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 21:07:09.7±0.3, 6°.01S±0°.04×146°.95E±0°.05, h78km, n441, σ1§24/410, mb5.0/103, 1C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.38	176	P	Pn	21 08 02.4	+2.1
PMG	242nm,0.2s,baz=26,slow=9.4,SNR=258			S	Sn	21 08 40.3	+1.0
PMG	930nm,0.6s,baz=49,slow=22,SNR=20						
PMG	Port Moresby	3.38	176	P	Pn	21 08 02.6	+2.3
PMG	Port Moresby	3.38	176	S	Sn	21 08 41.7	+2.4
PMG	Port Moresby	3.38	176	P	Pn	21 08 02.4	+2.1
PMG	Port Moresby	3.38	176	S	Sn	21 08 41.8	+2.4
MANU	Manus Island	3.96	6	Pn	Pn	21 08 12.1	+4.0
RABL	Rabaul	5.50	71	Pn	Pn	21 08 31.9	+2.7
JAY	Jayapura	7.12	299	P	Pn	21 08 53.4	+2.0
JAY	28nm,0.5s,baz=86,slow=8.0,SNR=26 Jayapura	7.12	299	P	Pn	21 08 53.8	+2.4
	0.2nm59nm,1.0s						
GENI	Genyem	7.56	296	P	Pn	21 09 00.1	+2.8
	0.7nm2μm159nm,0.7s						
COEN	Coen	8.73	205	P	Pn	21 09 15.6	+2.3
	comp=Z,86nm,0.7s						
COEN	Coen	8.73	205	S	Sn	21 10 48.8	-1.2
COEN	Coen	8.73	205	Pn	Pn	21 09 14.9	+1.7
COEN	Coen	8.73	205	P	Pn	21 09 15.5	+2.3
SMPI	Sarmi	9.13	296	P	Pn	21 09 19.7	+0.9
	comp=Z,1μmcomp=Z,106nm,0.9s						
SRPI	Serui, Papua	11.44	291	P	Pn	21 09 51.5	+1.2
	comp=Z,159nm,0.5s						
BAKI	Biak	11.82	293	P	Pn	21 09 58.0	+2.5
	comp=Z,118nm,0.9s						
MTSU	Mount Surprise	12.32	192	P	Pn	21 10 04.5	+2.2
	comp=Z,13nm,0.7s						
MTSU	Mount Surprise	12.32	192	P	Pn	21 10 04.3	+2.0
SAVO	Savo Central	13.13	105	P	P	21 10 17.1	-3.3
HNR	Honiara	13.32	106		P	21 10 22.9	+0.4
HNR	Honiara	13.32	106	P	Pn	21 10 14.9	-0.8
	comp=Z,87nm,0.4s,baz=139,slow=11,SNR=2.8						
HNR				LR	LR	21 14 04.8	
	comp=Z,74nm,19.9s,baz=167,slow=31						
RKPI	Ransiki, Papua	13.50	289	P	Pn	21 10 20.2	+2.2
	comp=Z,80nm,0.4s						
CTAO	Charters Tower	14.01	183	Pn	Pn	21 10 26.4	+1.7
FAKI	Fak Fak	14.97	281	Pn	Pn	21 10 37.2	+0.1
FAKI	Fak Fak	14.97	281	P	Pn	21 10 38.7	+1.5
	comp=Z,41nm,1.0s						
SAUI	Saumlaki	15.65	262	Pn	Pn	21 10 46.5	+0.6
KDU	Kakadu	15.74	244	P	Pn	21 10 47.4	+0.4
	comp=Z,37nm,1.1s						
QIS	Mount Isa	16.12	206	P	Pn	21 10 52.7	+1.0
	comp=Z,67nm,0.9s						
QIS	Mount Isa	16.12	206	P	Pn	21 10 52.7	+1.0
SWI	Sorong	16.47	287	P	Pn	21 10 55.7	-0.4
	comp=Z,916nmcomp=Z,92nm,0.9s						
MTN	Manton Dam	17.01	245	P	Pn	21 11 03.5	+0.8
	comp=Z,40nm,0.8s						
MTN	Manton Dam	17.01	245		Pn	21 11 03.2	+0.5
BNDI	Bandanaira	17.03	274	P	P	21 11 04.9	+1.2
DRS	Darwin Rock St	17.07	247	P	Pn	21 11 04.5	+1.0
PATS	Pohnpei	17.07	42	P	P	21 11 05.6	+1.5
	comp=Z,182nm,1.2s						
PATS	Pohnpei	17.07	42		P	21 11 04.7	+0.5
MSAI	Masohi	18.15	278	P	P	21 11 17.2	+1.2
	comp=Z,145nm,0.6s						
WB0	Warramunga Arr	18.33	221	P	P	21 11 18.7	+0.7
WR8	Warramunga Arr	18.40	220	P	P	21 11 19.1	+0.4
WRAB	Tennant Creek	18.48	220	P	P	21 11 20.3	+0.7
WRAB	Tennant Creek	18.48	220	P	P	21 11 20.1	+0.5
WRA	Warramunga Arr	18.49	220	P	P	21 11 19.7	-0.1
WRA	Warramunga Arr	18.49	220	P	P	21 11 20.4	+0.6
	comp=Z,42nm,0.7s,baz=41,slow=12,SNR=141						
WRA				S	S	21 14 40.1	-6.2
	comp=Z,8.0nm,1.0s,baz=45,slow=20,SNR=5.6						
WRA				PcP	PcP	21 15 47.1	0.0
	comp=Z,3.9nm,0.5s,baz=27,slow=1.7,SNR=6.8						
WRA				ScP	ScP	21 19 12.9	-3.0
	comp=Z,3.8nm,0.8s,baz=39,slow=2.3,SNR=8.6						
AAI	Ambon	18.82	276	P	P	21 11 23.7	+0.2
GUMO	Guam	19.58	354	P	Pn	21 11 32.6	-1.0
GUMO	Guam	19.58	354	P	P	21 11 32.3	+0.6
	comp=Z,111nm,0.7s,baz=172,slow=11,SNR=8.2						
GUMO				LR	LR	21 17 42.6	
	comp=Z,41nm,18.7s,baz=179,slow=32						
EIDS	Eidsvold	19.66	169	P	Pn	21 11 33.7	-0.8
	comp=Z,61nm,0.8s						
EIDS	Eidsvold	19.66	169	Pn	Pn	21 11 34.7	+0.1
EIDS	Eidsvold	19.66	169	P	Pn	21 11 34.6	+0.1
NLAI	Namlea	19.97	277	P	Pn	21 11 38.6	+0.3
	comp=Z,2μmcomp=Z,173nm,0.5s						
KNRA	Kununurra	20.26	240	P	P	21 11 39.3	+0.3
	comp=Z,124nm,0.6s						
KNRA	Kununurra	20.26	240	P	P	21 11 39.1	0.0
QLP	Quilpie	20.62	187	P	Pn	21 11 44.2	-1.6
	comp=Z,52nm,0.7s						
QLP	Quilpie	20.62	187	P	P	21 11 44.0	+1.1
TNTI	Ternate	20.68	288	P	P	21 11 44.2	+0.6
SANI	Sanana	21.27	280	P	P	21 11 49.9	0.0
SANI	Sanana	21.27	280	P	P	21 11 52.4	+2.5
	comp=Z,1μmcomp=Z,124nm,0.6s						
AS17	Alice Springs	21.53	214	P	P	21 11 53.6	+0.9
	comp=Z,40nm,0.7s						
AS01	Alice Springs	21.55	214	P	P	21 11 53.7	+0.8
AS31	Alice Springs	21.58	214	P	P	21 11 54.1	+0.9
ASAR	Alice Springs	21.58	214	P	P	21 11 53.7	+0.4
ASAR	Alice Springs	21.58	214	P	P	21 11 54.1	+0.9
	comp=Z,8.4nm,0.5s,baz=53,slow=8.2,SNR=128						
ASAR				S	S	21 15 44.8	-3.5
	comp=Z,5.9nm,0.7s,baz=28,slow=22,SNR=6.3						
ASAR				ScP	ScP	21 19 21.1	-2.0
	comp=Z,1.2nm,0.6s,baz=28,slow=2.2,SNR=4.5						
	comp=Z,8.4nm,0.5s						
AS09	Alice Springs	21.59	214	P	P	21 11 54.1	+0.8
	comp=Z,25nm,0.6s						
SANVU	Saraoutou	21.98	117	P	P	21 11 58.0	+0.5
SANVU	Saraoutou	21.98	117	P	P	21 11 59.8	+2.3
INKA	Innaminka	22.40	195	P	P	21 12 02.3	+0.4
SOEI	Soe	22.77	259	P	P	21 12 06.4	+0.3
SOEI	Soe	22.77	259	P	P	21 12 06.7	+0.6
SOEI	Soe	22.77	259	P	P	21 12 07.4	+1.3
	comp=Z,116nm,0.7s						
BATI	Baumata	23.42	258	P	P	21 12 13.4	+1.1
	comp=Z,1μmcomp=Z,158nm,0.8s						
KMSI	Cibinong	23.84	285	P	P	21 12 16.0	0.0
FITZ	Fitzroy Crossi	24.02	238	P	P	21 12 17.8	+0.3
	comp=Z,124nm,0.8s						
FITZ	Fitzroy Crossi	24.02	238	P	P	21 12 18.2	+0.7
FITZ	Fitzroy Crossi	24.02	238	LR	LR	21 22 46.1	
	comp=Z,118nm,20.5s,baz=32,slow=39						
BBSI	Bau Bau	24.26	270	P	P	21 12 21.8	+2.0
	comp=Z,1μmcomp=Z,55nm,0.9s						
LUWI	Luwuk	24.62	281	P	P	21 12 23.3	+0.2
LUWI	Luwuk	24.62	281	P	P	21 12 24.0	+0.9
LUWI	Luwuk	24.62	281	P	P	21 12 24.2	+1.1
	comp=Z,2μmcomp=Z,230nm,1.0s						
MMRI	Maumere	24.64	262	P	P	21 12 23.5	+0.2
MMRI	Maumere	24.64	262	P	P	21 12 23.8	+0.5
MMRI	Maumere	24.64	262	P	P	21 12 22.4	-0.9
	comp=Z,2μmcomp=Z,133nm,0.9s						
ARMA	Armidale	24.68	170	P	P	21 12 24.5	+1.0
	comp=Z,19nm,1.1s						
ARMA	Armidale	24.68	170	P	P	21 12 23.9	+0.4
ARMA	Armidale	24.68	170	P	P	21 12 24.7	+1.1
EDFI	Ende, Flores	25.19	262	P	P	21 12 26.9	-1.5
	comp=Z,723nmcomp=Z,64nm,0.7s						
CMSA	Cobar Meteorol	25.43	182	P	P	21 12 31.1	+0.9
	comp=Z,22nm,1.2s						
CMSA	Cobar Meteorol	25.43	182	P	P	21 12 31.4	+1.2
APSI	Ampana	25.75	280	P	P	21 12 33.6	+0.3
	comp=Z,67nm,0.7s						
WRKA	Warakurna	26.03	221	P	P	21 12 36.0	+0.2
	comp=Z,21nm,1.0s						
STKA	Stephens Creek	26.22	190	P	P	21 12 37.8	+0.4
	comp=Z,62nm,0.7s						
STKA	Stephens Creek	26.22	190	P	P	21 12 37.8	+0.4
STKA				IAmb	IAmb	21 12 40.4	
	comp=Z,42nm,0.8s						
STKA	Stephens Creek	26.22	190	P	P	21 12 37.6	+0.3
	comp=Z,6.3nm,0.6s,baz=356,slow=9.9,SNR=22						
STKA				LR	LR	21 23 30.9	
	comp=Z,116nm,18.8s,baz=20,slow=37						
	comp=Z,6.3nm,0.6s						
STKA	Stephens Creek	26.22	190	P	P	21 12 38.1	+0.7
BSSI	Bau Bau, Buton	26.31	268	P	P	21 12 38.8	+0.4
	comp=Z,65nm,1.4s						
BASI	Baing, Sumba	26.43	259	P	P	21 12 38.8	-0.7
WSI	Waingapu	26.64	260	P	P	21 12 41.1	-0.3
BKSI	Bulukumba	26.70	270	P	P	21 12 41.9	0.0
	comp=Z,19nm,0.6s						
BNSI	Bone	26.77	272	P	P	21 12 43.2	+0.6
	comp=Z,23nm,1.3s						
TOLI2	Tolitoli	27.06	284	P	P	21 12 44.2	-1.0
KAPI	Kappang	27.09	271	P	P	21 12 44.8	-0.6
SPSI	Sidrap Palu	27.15	273	P	P	21 12 45.7	-0.2
	comp=Z,13nm,1.0s						
WBSI	Waikabubak, Su	27.53	261	P	P	21 12 48.0	-1.4
	comp=Z,51nm,1.1s						
YNG	Young	28.18	177	P	P	21 12 55.7	+0.7
	comp=Z,17nm,0.9s						
HTT	Hallett	28.29	194	P	P	21 12 56.5	+0.6
	comp=Z,4.5nm,1.2s						
HTT	Hallett	28.29	194	P	P	21 12 56.9	+1.0
BBOO	Buckleboo	28.53	199	P	P	21 12 58.0	-0.1
	comp=Z,14nm,0.9s						
BBOO	Buckleboo	28.53	199	P	P	21 12 57.9	-0.2
BBOO				IAmb	IAmb	21 13 13.4	
	comp=Z,83nm,1.9s						
BBOO	Buckleboo	28.53	199	P	P	21 12 58.5	+0.4
PLAI	Plampang	29.05	263	P	P	21 13 03.4	+0.4
PLAI	Plampang	29.05	263	P	P	21 13 00.9	-2.1
	comp=Z,32nm,1.0s						
MBWA	Marble Bar	30.36	238	P	P	21 13 15.1	+0.6
	comp=Z,62nm,0.7s						
MBWA	Marble Bar	30.36	238	P	P	21 13 14.7	+0.3
MBWA				IAmb	IAmb	21 13 15.8	
	comp=Z,36nm,0.7s						
MBWA	Marble Bar	30.36	238	P	P	21 13 15.0	+0.6
MBWA	Marble Bar	30.36	238	P	P	21 13 14.9	+0.5
FORT	Forrest	30.36	213	P	P	21 13 14.9	+0.6
	comp=Z,18nm,0.7s						
FORT	Forrest	30.36	213	P	P	21 13 14.9	+0.6
PSAC2	Pilbara Seismi	30.39	237	P	P	21 13 15.4	+0.7
	comp=Z,106nm,0.8s						
PSA00	Pilbara Seismi	30.44	237	P	P	21 13 15.8	+0.7
	comp=Z,70nm,0.8s						
PSA00	Pilbara Seismi	30.44	237	P	P	21 13 14.9	-0.3
PSA00				IAmb	IAmb	21 13 16.6	
	comp=Z,21nm,0.8s						
PSA00	Pilbara Seismi	30.44	237	P	P	21 13 15.6	+0.4
PSA00				IAmb	IAmb	21 13 16.7	
	comp=Z,49nm,0.8s						
PSA00	Pilbara Seismi	30.44	237	P	P	21 13 15.8	+0.7
MYLDM	Lahad Datu	30.50	291	P	P	21 13 15.8	+0.1
H11S3	WAKE ISLAND Hy	31.18	38	T	T	21 45 40.4	
	baz=220,slow=74,SNR=32						
H11S2	WAKE ISLAND Hy	31.18	38	T	T	21 45 41.7	
	baz=220,slow=74,SNR=10						
H11S1	WAKE ISLAND Hy	31.19	38	T	T	21 45 47.2	
	baz=220,slow=74,SNR=14						
TOO	Toolangi	31.45	182	P	P	21 13 24.7	+0.9
	comp=Z,6.3nm,0.9s						
TOO	Toolangi	31.45	182	P	P	21 13 23.9	+0.1
H11N1	WAKE ISLAND Hy	32.23	37	T	T	21 47 04.0	
	baz=221,slow=74,SNR=3.2						
H11N3	WAKE ISLAND Hy	32.24	37	T	T	21 46 57.4	
	baz=292,slow=74,SNR=4.5						
MSVF	Nonsavu	32.53	114	P	P	21 13 35.9	+2.3
JAGI	Jajag, Banyuwa	32.62	264	P	P	21 13 32.3	-2.1
JAGI	Jajag, Banyuwa	32.62	264	P	P	21 13 34.6	+0.2
MEEK	Meekatharra	33.91	230	P	P	21 13 46.4	+1.0
	comp=Z,110nm,0.8s						
MEEK	Meekatharra	33.91	230	P	P	21 13 46.2	+0.7
KMBL	Kambalda	34.46	220	P	P	21 13 50.9	+0.7
	comp=Z,34nm,0.8s						
GIRL	Giralia	35.62	239	P	P	21 14 01.9	+1.7
UGM	Wanagama	36.20	265	P	P	21 14 04.4	-0.9
UGM	Wanagama	36.20	265	P	P	21 14 05.2	-0.1
MORW	Morawa	37.12	228	P	P	21 14 13.6	+0.5
	comp=Z,42nm,1.3s						
MORW	Morawa	37.12	228	P	P	21 14 13.4	+0.4
MORW				IAmb	IAmb	21 14 14.2	
	comp=Z,20nm,0.7s						
MORW	Morawa	37.12	228	P	P	21 14 13.8	+0.8
BLDU	Ballidu	37.49	226	P	P	21 14 16.3	+0.2
	comp=Z,29nm,1.5s						
BLDU	Ballidu	37.49	226	P	P	21 14 16.6	+0.5
NWAO	Narrogin (SRO)	38.49	222	P	P	21 14 25.1	+0.7
NWAO	Narrogin (SRO)	38.49	222	P	P	21 14 24.7	+0.3
NWAO	Narrogin (SRO)	38.49	222	LR	LR	21 31 27.4	
	comp=Z,203nm,21.5s,baz=322,slow=38						
NWAO	Narrogin (SRO)	38.49	222	P	P	21 14 25.0	+0.6
YULB	Yu-li	38.49	320	P	P	21 14 25.1	+0.5
MUN	Mundaring	38.62	224	P	P	21 14 26.0	+0.4
	comp=Z,44nm,1.0s						
MUN	Mundaring	38.62	224	P	P	21 14 26.4	+0.8
TPUB	Ta-pu	38.85	319	P	P	21 14 25.5	-2.1
TPUB	Ta-pu	38.85	319	P	P	21 14 27.9	+0.3
NACB	Ninganchiao	38.87	321	P	P	21 14 27.0	-0.7
NACB	Ninganchiao	38.87	321	P	P	21 14 28.4	+0.7
SSLB	Suanglung	38.99	320	P	P	21 14 28.0	-0.8
SSLB	Suanglung	38.99	320	P	P	21 14 29.8	+1.0
BBJI	Bungbulang	39.04	266	P	P	21 14 28.8	-0.6
TATO	Taipei	39.52	322	P	P	21 14 33.1	0.0
RTZ	Ruatahuna	42.34	144	P	P	21 14 56.4	+0.1
BKZ	Black Stump Fm	42.44	145	P	P	21 14 57.9	+0.9
BKZ	Black Stump Fm	42.44	145	P	P	21 14 58.4	+1.4
MRZ	Mangataiinoka R	42.98	148	P	P	21 15 01.8	+0.5
MJAR	Matsushiro Arr	43.11	350	P	P	21 14 59.6	-2.8
	comp=Z,3.3nm,0.8s,baz=180,slow=8.4,SNR=6.2						
	comp=Z,3.3nm,0.8s						
LBZ	Lake Benmore	43.30	156	P	P	21 15 04.1	+0.3
NJ2	Nanjing	46.36	326	eP	P	21 15 30.3	+2.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,860nm,21.8s						
NJ2				LR	LR		
	comp=Z,930nm,19.9s						
NJ2				LR	LR		
	comp=Z,300nm,17.1s						
KSRS	Korea Array	46.74	339	P	P	21 15 30.4	-0.7
	comp=Z,4.8nm,0.8s,baz=147,slow=8.7,SNR=8.9						
	comp=Z,4.8nm,0.8s						
IPM	Ipoh	47.02	282	P	P	21 15 34.0	+0.2
KULM	Kulim	47.56	283	P	P	21 15 37.6	-0.3
KULM	Kulim	47.56	283	P	P	21 15 38.4	+0.4
GSI	Gunungsitoli	49.83	277	P	P	21 15 54.3	-1.0
GSI	Gunungsitoli	49.83	277	P	P	21 15 55.0	-0.3
TIA	Tai'an	50.46	329	P	P	21 15 58.4	-1.3
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
USRK	Ussuriysk Ar.	51.77	346	P	P	21 16 09.1	-0.2
	comp=Z,2.9nm,0.6s,baz=177,slow=8.3,SNR=4.6						
	comp=Z,2.9nm,0.6s						
HNS	HongShan	52.62	328	⇓P	P	21 16 15.3	-0.5
HNS				pmax	pmax		
	comp=Z,25nm,0.7s						
CMAR	Chiang Mai Arr	53.21	298	P	P	21 16 21.4	+0.9
	comp=Z,1.5nm,0.5s,baz=123,slow=5.9,SNR=14						
	comp=Z,1.5nm,0.5s						
CN2	Changchun	53.25	341	eP	P	21 16 24.3	+4.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	53.65	321	P	P	21 16 22.8	-0.8
XAN				pP	sP	21 16 49.9	-1.7
XAN				pmax	pmax		
	comp=Z,15nm,0.8s

CASY	Casey	65.23	195	P	P	21 17 42.8	+0.1	
EVN	Everest	67.06	304	P	P	21 17 55.1	-0.8	
CCD	Concordia, Ant	70.36	186	P	P	21 18 15.4	+0.2	
CCD				PcP	PcP	21 18 35.4	-1.0	
CCD				pP	sP	21 18 42.2	-3.3	
HYB	Hyderabad	71.41	291	eP	P	21 18 21.5	-0.8	
HYB				ePP	PP	21 21 06.4	+4.7	
VNDA	Vanda	71.91	177	P	P	21 18 24.5	+0.5	
VNDA	Vanda	71.91	177	P	P	21 18 24.6	+0.5	
	comp=Z,5.9nm,0.8s,baz=332,slow=6.8,SNR=53							
	comp=Z,5.9nm,0.8s							
VNDA	Vanda	71.91	177	P	P	21 18 24.5	+0.5	
SBA	Scott Base	72.55	176	P	P	21 18 29.4	+1.5	
WMQ	Urumqi	72.76	319	eP	P	21 18 31.4	+1.5	
S12K	Black Hills	74.42	27	P	P	21 18 38.9	-0.3	
	baz=233							
BILL	Bilibino	75.13	7	P	P	21 18 42.3	-0.7	
S14K	Fog Glacier	75.90	28	P	P	21 18 48.0	+0.2	
	baz=235							
M13K	Dall Lake	76.77	23	P	P	21 18 52.9	+0.5	
M13K	Dall Lake	76.77	23	P	P	21 18 53.0	+0.5	
	baz=231							
O14K	Tigyukauivet M	76.89	24	P	P	21 18 53.1	-0.1	
	baz=233							
N14K	Kuskokwak Cree	77.12	24	P	P	21 18 54.4	-0.1	
	baz=233							
O15K	Ungalikthiuk R	77.44	25	P	P	21 18 56.2	-0.2	
	baz=235							
MKAR	Makanchi Array	77.47	320	P	P	21 18 55.4	-1.4	
MKAR	Makanchi Array	77.47	320	P	P	21 18 55.8	-1.1	
	comp=Z,1.4nm,0.7s,baz=101,slow=7.8,SNR=11							
	comp=Z,1.4nm,0.7s							
M14K	Bethel	77.52	23	P	P	21 18 56.7	0.0	
M14K				IAmb	IAmb	21 18 57.6		
	comp=Z,33nm,0.8s							
M14K	Bethel	77.52	23	P	P	21 18 56.6	0.0	
	baz=232							
L14K	Kuka Creek	77.60	22	P	P	21 18 57.4	+0.2	
L14K				IAmb	IAmb	21 18 58.1		
	comp=Z,20nm,0.6s							
L14K	Kuka Creek	77.60	22	P	P	21 18 57.3	+0.2	
	baz=232							
N15K	Kwethluk River	77.91	24	P	P	21 18 58.9	0.0	
	baz=234							
L15K	Ungalak Mounta	78.26	22	P	P	21 19 01.1	+0.3	
	baz=233							
O16K	Kokwok River B	78.41	25	P	P	21 19 00.9	-0.8	
O16K				IAmb	IAmb	21 19 51.8		
	comp=Z,59nm,1.7s							
O16K	Kokwok River B	78.41	25	P	P	21 19 01.3	-0.4	
	baz=236							
K15K	Wolf Creek Mou	78.62	22	P	P	21 19 03.0	+0.2	
	baz=232							
M16K	Timber Creek	78.86	24	P	P	21 19 04.2	0.0	
	baz=235							
ACHA	Angle Creek He	78.88	27	P	P	21 19 03.4	-1.0	
ACHA				IAmb	IAmb	21 19 05.7		
	comp=Z,49nm,1.7s							
O17K	Koliganek Bris	78.93	25	P	P	21 19 04.2	-0.3	
	baz=237							
ZALV	Zalesovo Beam	78.99	328	P	P	21 19 02.9	-2.0	
ZALV	Zalesovo Beam	78.99	328	P	P	21 19 03.0	-2.0	
	comp=Z,3.2nm,0.6s,baz=109,slow=5.8,SNR=13							
	comp=Z,3.2nm,0.6s							
L16K	Owhat River	79.05	23	P	P	21 19 04.8	-0.3	
L16K				IAmb	IAmb	21 20 32.1		
	comp=Z,50nm,1.6s							
L16K	Owhat River	79.05	23	P	P	21 19 04.8	-0.3	
	baz=234							
Q18K	Katmai Hardscr	79.25	27	P	P	21 19 05.3	-1.2	
	baz=239							
N17K	Nushagak Hills	79.30	25	P	P	21 19 06.8	+0.3	
N17K				IAmb	IAmb	21 20 30.3		
	comp=Z,41nm,1.6s							
N17K	Nushagak Hills	79.30	25	P	P	21 19 06.4	-0.2	
	baz=237							
J16K	Anvik River	79.56	21	P	P	21 19 08.2	+0.3	
	baz=233							
M17K	Holitna River	79.68	24	P	P	21 19 08.7	+0.1	
	baz=236							
L17K	Donlin	79.75	23	P	P	21 19 09.0	0.0	
	baz=236							
O18K	Koktuh Hills	79.78	26	P	P	21 19 08.7	-0.5	
	baz=239							
H16K	Elim	79.82	20	P	P	21 19 09.1	-0.1	
	baz=232							
I17K	Unalakleet	79.89	21	P	P	21 19 09.8	+0.2	
	baz=233							
N18K	Kilae Creek	79.93	25	P	P	21 19 09.8	-0.2	
	baz=238							
K17K	Iditarod	80.08	22	P	P	21 19 10.9	+0.2	
	baz=236							
J17K	VABM Dome	80.18	22	P	P	21 19 11.0	-0.2	
J17K				IAmb	IAmb	21 20 22.2		
	comp=Z,71nm,1.9s							
J17K	VABM Dome	80.18	22	P	P	21 19 11.8	+0.5	
	baz=235							
G16K	Koyuk River	80.25	19	P	P	21 19 12.0	+0.4	
	baz=231							
L18K	Granite Mounta	80.43	23	P	P	21 19 12.7	+0.1	
	baz=237							
N19K	Bonanza Creek	80.59	25	P	P	21 19 13.4	-0.2	
	baz=239							
H17K	Granite Mounta	80.79	20	P	P	21 19 14.4	-0.1	
	baz=234							
G17K	Kiwalik Mounta	80.88	20	P	P	21 19 14.7	-0.2	
	baz=233							
J18K	Innoko River	81.10	22	P	P	21 19 16.0	-0.2	
	baz=237							
L19K	White Mountain	81.14	24	P	P	21 19 16.5	+0.1	
	baz=239							
M19K	Big River Lodg	81.18	24	P	P	21 19 16.2	-0.4	
M19K				IAmb	IAmb	21 20 44.5		
	comp=Z,28nm,1.5s							
M19K	Big River Lodg	81.18	24	P	P	21 19 16.9	+0.3	
	baz=239							
KURK	Kurchatov	81.18	323	P	P	21 19 14.8	-2.1	
KURBB	Kurchatov Arra	81.20	323	P	P	21 19 14.8	-2.2	
	comp=Z,0.6nm,0.7s,baz=117,slow=4.3,SNR=8.1							
	comp=Z,0.6nm,0.7s							
CNPM	China Poot	81.38	27	P	P	21 19 16.5	-1.3	
E17K	Hotham Inlet	81.47	18	P	P	21 19 18.4	+0.3	
	baz=232							
D17K	Noatak River	81.49	17	P	P	21 19 18.5	+0.4	
	baz=230							
GCSA	Galena City Sc	81.75	21	P	P	21 19 19.5	0.0	
	baz=237							
RDOG	Red Dog Mine	81.77	17	P	P	21 19 19.6	0.0	
	baz=230							
G18K	Tagagawik	81.78	20	P	P	21 19 18.6	-1.2	
G18K	Tagagawik	81.78	20	P	P	21 19 19.2	-0.5	
	baz=235							
J19K	Poorman	81.80	22	P	P	21 19 19.2	-0.7	
	baz=238							
F18K	Selawik	81.86	19	P	P	21 19 19.8	-0.3	
	baz=234							
C17K	DeLong Mountai	81.96	17	P	P	21 19 19.8	-0.8	
	baz=230							
ROCAM	Rodrigues Isla	81.97	251	P	P	21 19 18.9	-2.8	
E18K	Tukpahlearik C	82.06	18	P	P	21 19 20.9	-0.2	
	baz=233							
MAW	Mawson	82.22	203	P	P	21 19 22.2	+0.2	
	comp=Z,4.1nm,0.6s,baz=95,slow=6.9,SNR=22							
	comp=Z,4.1nm,0.6s							
H19K	Roundabout Mou	82.33	21	P	P	21 19 22.4	-0.2	
	baz=237							
SEW	Seward	82.44	27	P	P	21 19 22.2	-1.1	
SEW	Seward	82.44	27	P	P	21 19 22.9	-0.3	
	baz=244							
J20K	Nowinta River	82.44	22	P	P	21 19 23.6	+0.4	
	baz=239							
PPLA	Purkeypile	82.57	24	P	P	21 19 23.7	-0.3	
	baz=241							
F19K	Shaleruckik Mo	82.61	19	P	P	21 19 24.0	0.0	
	baz=236							
C18K	Utukok River	82.64	17	P	P	21 19 22.9	-1.3	
C18K	Utukok River	82.64	17	P	P	21 19 24.0	-0.2	
	baz=232							
RC01	Rabbit Creek A	82.75	26	P	P	21 19 23.6	-1.3	
	baz=244							
H20K	Anotleneega Mo	82.86	21	P	P	21 19 25.0	-0.4	
	baz=238							
CHUM	Lake Minchumin	83.00	23	P	P	21 19 25.5	-0.5	
	baz=241							
CUT	Chulitna	83.12	25	P	P	21 19 24.9	-1.9	
	baz=243							
E19K	Redstone River	83.14	19	IAmb	IAmb	21 19 27.4		
	comp=Z,14nm,0.8s							
E19K	Redstone River	83.14	19	P	P	21 19 26.5	-0.2	
	baz=236							
PMR	Palmer	83.24	26	P	P	21 19 26.0	-1.3	
	baz=244							
PWL	Port Wells	83.27	26	IAmb	IAmb	21 19 27.2		
	comp=Z,18nm,0.8s							
PWL	Port Wells	83.27	26	P	P	21 19 26.6	-1.0	
	baz=245							
C19K	Lookout Ridge	83.38	17	P	P	21 19 27.7	-0.3	
	baz=234							
F20K	Avaraart Lake	83.40	19	P	P	21 19 28.1	0.0	
	baz=237							
KNK	Knik Glacier	83.45	26	P	P	21 19 28.1	-0.4	
	baz=245							
D19K	Kuna River	83.45	18	P	P	21 19 27.6	-0.9	
D19K				IAmb	IAmb	21 19 28.3		
	comp=Z,12nm,0.8s							
D19K	Kuna River	83.45	18	P	P	21 19 27.5	-0.9	
	baz=235							
IMAR	Indian Mountai	83.52	21	P	P	21 19 28.0	-0.7	
BPAW	Bear Paw Mtn.	83.61	23	P	P	21 19 27.8	-1.5	
	baz=242							
SML	Sawmill	83.67	26	IAmb	IAmb	21 19 29.3		
	comp=Z,15nm,0.8s							
SML	Sawmill	83.67	26	P	P	21 19 28.9	-0.8	
	baz=245							
H21K	Melozitna Rive	83.69	21	P	P	21 19 29.1	-0.5	
	baz=240							
I21K	Tanana	83.75	22	P	P	21 19 29.8	-0.1	
	baz=241							
GLI	Glacier Island	83.83	27	P	P	21 19 29.2	-1.2	
	baz=246							
G21K	Allakaket	83.87	20	P	P	21 19 29.8	-0.7	
	baz=240							
E20K	Nigu River	83.91	18	P	P	21 19 30.4	-0.3	
	baz=237							
M23K	Glacier View	83.93	26	P	P	21 19 29.8	-1.1	
	baz=245							
QSPA	South Pole Qui	83.96	180	P	P	21 19 33.0	+1.7	
QSPA				IAmb	IAmb	21 19 33.6		
	comp=Z,10nm,0.7s							
QSPA	South Pole Qui	83.96	180	P	P	21 19 32.8	+1.6	
	comp=Z,9.2nm,0.6s,baz=304,slow=0.8,SNR=108							
	comp=Z,9.2nm,0.6s							
WAT1	Susitna Watana	84.02	25	P	P	21 19 30.3	-1.1	
	baz=244							
D20K	Etivluk River	84.03	18	P	P	21 19 30.7	-0.6	
	baz=236							
SCM	Sheep Creek Mo	84.12	26	P	P	21 19 31.0	-1.0	
	baz=246							
MLY	Manley	84.15	22	IAmb	IAmb	21 19 31.8		
	comp=Z,12nm,0.6s							
MLY	Manley	84.15	22	P	P	21 19 31.3	-0.7	
	baz=242							
RND	Reindeer	84.15	24	IAmb	IAmb	21 19 31.0		
	comp=Z,15nm,0.8s							
F21K	Alatna River	84.24	20	P	P	21 19 31.4	-1.0	
	baz=240							
WAT6	Susitna Watana	84.25	25	P	P	21 19 31.5	-1.2	
	baz=245							
KKAR	Karatay Array	84.26	314	P	P	21 19 31.2	-1.8	
MCK	McKinley	84.26	24	IAmb	IAmb	21 19 31.6		
	comp=Z,17nm,0.9s							
MCK	McKinley	84.26	24	P	P	21 19 31.2	-1.3	
	baz=244							
H22K	Ishtalitna Cre	84.32	21	P	P	21 19 31.9	-0.9	
	baz=242							
KLU	Klutina	84.59	26	IAmb	IAmb	21 19 35.8		
	comp=Z,38nm,1.6s							
KLU	Klutina	84.59	26	P	P	21 19 33.3	-1.1	
	baz=247							
DHY	Denali Highway	84.61	25	IAmb	IAmb	21 19 36.4		
	comp=Z,3nm,0.8s							
DHY	Denali Highway	84.61	25	P	P	21 19 33.7	-0.9	
	baz=246,SNR=6.4							
E21K	Killik River	84.71	19	IAmb	IAmb	21 19 35.1		
	comp=Z,9.2nm,0.8s							
E21K	Killik River	84.71	19	P	P	21 19 33.6	-1.2	
	baz=239							
I23K	Minto, Yukon-K	84.72	22	IAmb	IAmb	21 21 02.8		
	comp=Z,42nm,1.8s							
I23K	Minto, Yukon-K	84.72	22	P	P	21 19 34.0	-0.8	
	baz=244							
M24K	Tolsona, Glenn	84.73	26	P	P	21 19 34.1	-1.0	
	baz=247							
G22K	Bettles	84.77	20	P	P	21 19 34.7	-0.3	
	baz=241							
C21K	Knifeblade Rid	84.83	18	P	P	21 19 34.3	-1.0	
	baz=238							
H23K	Yukon River	84.95	22	P	P	21 19 35.1	-0.9	
	baz=243							
BMRM	Bremner River	84.98	27	P	P	21 19 35.1	-1.2	
	baz=248							
CCB	Clear Creek Bu	85.10	23	IAmb	IAmb	21 19 35.3		
	comp=Z,10nm,0.8s							
B21K	Ikpikpuk River	85.13	17	P	P	21 19 36.0	-0.8	
	baz=238							
COLA	College	85.18	23	P	P	21 19 35.5	-1.6	
	baz=245							
G23K	Bananza Creek	85.19	21	P	P	21 19 36.2	-1.0	
G23K				IAmb	IAmb	21 19 37.5		
	comp=Z,10.0nm,0.8s							
G23K	Bananza Creek	85.19	21	P	P	21 19 36.7	-0.5	
	baz=243,SNR=5.0							
N25K	Chitina, Valde	85.22	26	P	P	21 19 36.5	-1.0	
	baz=248							
E22K	Anaktuvuk Pass	85.25	19	IAmb	IAmb	21 19 38.2		
	comp=Z,41nm,1.9s							
E22K	Anaktuvuk Pass	85.25	19	P	P	21 19 37.0	-0.5	
	baz=241							
HARP	HAARP	85.28	26	P	P	21 19 36.6	-1.2	
	baz=248							
D22K	Ayikyak River	85.34	18	P	P	21 19 37.5	-0.4	
	baz=240							
HDA	Harding Lake	85.34	23	P	P	21 19 36.0	-1.9	
	baz=246							
COLD	Coldfoot	85.36	20	P	P	21 19 37.9	-0.1	
	baz=243							
PAX	Paxson	85.37	25	P	P	21 19 36.9	-1.4	
	baz=247							
POKR	Poker Plat Res	85.44	23	P	P	21 19 37.0	-1.5	
	baz=245							
ILAR	Eielson Array	85.51	23	P	P	21 19 35.9	-2.9	
ILAR	Eielson Array	85.51	23	P	P	21 19 36.2	-2.6	
	comp=Z,12nm,0.7s,baz=254,slow=5.1,SNR=96							
	comp=Z,12nm,0.7s							
GLB	Gilahina Butte	85.52	27	IAmb	IAmb	21 19 38.8		
	comp=Z,10nm,0.8s							
K24K	Donnelly Dome	85.56	24	P	P	21 19 37.5	-1.6	
	baz=247							
CRQE	Cirque	85.60	28	P	P	21 19 38.6	-0.9	
	baz=250							
MCARA	McCarthy VSAT	85.85	27	P	P	21 19 40.2	-0.3	
	baz=250							
B22K	Teshekpuk Lake	85.85	17	P	P	21 19 39.1	-1.3	
B22K	Teshekpuk Lake	85.85	17	P	P	21 19 40.0	-0.3	
	baz=239							
E23K	Chandalar	85.94	20	P	P	21 19 40.9	-0.1	
	baz=243,SNR=5.3							
D23K	Nanushuk River	86.01	19	IAmb	IAmb	21 19 42.4		
	comp=Z,15nm,0.7s							
D23K	Nanushuk River	86.01	19	P	P	21 19 41.5	+0.3	
	baz=242							
J25K	Salcha River,	86.05	24	IAmb	IAmb	21 19 40.8		
	comp=Z,17nm,0.8s							
J25K	Salcha River,	86.05	24	P	P	21 19 40.2	-1.3	
	baz=247,SNR=16							
G24K	Hadweenzic Riv	86.09	21	IAmb	IAmb	21 21 02.3		
	comp=Z,29nm,1.7s							
G24K	Hadweenzic Riv	86.09	21	P	P	21 19 41.0	-0.6	
	baz=245							
M26K	Nabesna, AK	86.22	26	P	P	21 19 41.9	-0.5	
	baz=250							
TOLK	Toolik Lake Re	86.22	19	P	P	21 19 41.9	-0.4	
	baz=243							
L26K	Log Cabin Wild	86.29	25	IAmb	IAmb	21 19 42.6		
	comp=Z,6.0nm,0.6s							
L26K	Log Cabin Wild	86.29	25	P	P	21 19 41.9	-0.9	
	baz=249,SNR=5.4							
F24K	Squaw Lake	86.29	20	IAmb	IAmb	21 19 44.0		
	comp=Z,12nm,0.7s							
F24K	Squaw Lake	86.29	20	P	P	21 19 42.7	0.0	
	baz=245,SNR=13							
E24K	Your Creek	86.33	20	P	P	21 19 42.2	-0.6	
	baz=244							
BARN	Barnard Glacie	86.36	28	IAmb	IAmb	21 19 43.6		
	comp=Z,13nm,0.8s							
C23K	Itkillik River	86.44	18	P	P	21 19 43.5	+0.2	
	baz=242,SNR=7.4							
CTG	Chitna Glacier	86.48	28	P	P	21 19 43.2	-0.6	
	baz=251							
CTGM	Chitina Glacie	86.48	28	IAmb	IAmb	21 19 44.1		
	comp=Z,14nm,0.8s							
H25L	Birch Creek	86.52	22	P	P	21 19 43.5	-0.3	
	baz=247							
G25K	Bearman Lake	86.62	21	P	P	21 19 44.0	-0.1	
	baz=246							
D24K	Happy Valley	86.69	19	P	P	21 19 44.3	-0.2	
	baz=244							
M27K	Edge Creek, AK	86.69	26	IAmb	IAmb	21 19 45.2		
	comp=Z,16nm,0.8s							
M27K	Edge Creek, AK	86.69	26	P	P	21 19 44.7	-0.1	
	baz=250,SNR=9.6							
J26L	Joseph Creek	86.73	24	P	P	21 19 44.3	-0.7	
	baz=249,SNR=5.6							
O28M	Mount Upton	86.95	28	P	P	21 19 45.7	-0.7	
	baz=252							
L27K	Beaver Creek,	86.95	26	IAmb	IAmb	21 19 46.3		
	comp=Z,12nm,1.2s							
L27K	Beaver Creek,	86.95	26	P	P	21 19 45.1	-0.9	
	baz=250							
BCAR	Beaver Creek A	86.97	26	P	P	21 19 45.4	-0.7	
C24K	Franklin Bluff	86.98	18	P	P	21 19 45.8	-0.1	
	baz=244							
F25K	Christian Rive	87.11	21	P	P	21 19 46.3	-0.4	
	baz=247							
K27K	Chicken	87.17	25	IAmb	IAmb	21 19 47.7		
	comp=Z,19nm,1.3s							
K27K	Chicken	87.17	25	P	P	21 19 46.7	-0.3	
	baz=250							
I26K	Coal Creek Min	87.18	23	IAmb	IAmb	21 20 32.2		
	comp=Z,27nm,1.8s							
I26K	Coal Creek Min	87.18	23	P	P	21 19 45.4	-1.6	
	baz=249							
E25K	Arctic Village	87.34	20	P	P	21 19 48.1	+0.3	
	baz=247							
G26K	Porcupine Rive	87.53	22	IAmb	IAmb	21 19 49.4		
	comp=Z,13nm,0.9s							
G26K	Porcupine Rive	87.53	22	P	P	21 19 48.8	+0.2	
	baz=249,SNR=7.3							
D25K	Kavik River	87.56	19	P	P	21 19 48.7	0.0	
	baz=246							
O29M	Mount Kennedy	87.57	29	P	P	21 19 49.2	0.0	
	baz=254							
F26K	Sheenjek River	87.68	21	IAmb	IAmb	21 20 28.7		
	comp=Z,21nm,1.6s							
F26K	Sheenjek River	87.68	21	P	P	21 19 49.3	-0.1	
	baz=248							
P29M	Windy Craggy	87.79	29	P	P	21 19 50.7	+0.6	
	baz=254							
EGAK	Eagle	87.80	24	P	P	21 19 48.9	-1.0	
EGAK				IAmb	IAmb	21 19 49.9		
	comp=Z,10.0nm,0.8s							
EGAK	Eagle	87.80	24	P	P	21 19 49.2	-0.7	
	baz=251							
I27K	Kandik River	87.89	23	P	P	21 19 50.2	-0.2	
	baz=251,SNR=6.3							
H27K	Steamboat Moun	88.13	23	IAmb	IAmb	21 19 52.1		
	comp=Z,9.8nm,0.7s							
H27K	Steamboat Moun	88.13	23	P	P	21 19 51.3	-0.3	
	baz=251							
M29M	Somme Creek	88.23	27	IAmb	IAmb	21 20 41.9		
	comp=Z,29nm,1.8s							
M29M	Somme Creek	88.23	27	P	P	21 19 51.8	-0.4	
	baz=254							
C26K	Camden Bay	88.26	19	P	P	21 19 52.1	0.0	
	baz=247							
G27K	Doyon Strip	88.27	22	P	P	21 19 52.0	-0.2	
	baz=250							
P30M	Million Dollar	88.30	29	P	P	21 19 52.5	0.0	
	baz=255							
DAWY	Dawson	88.30	25	IAmb	IAmb	21 19 52.8		
	comp=Z,11nm,1.0s							
DAWY	Dawson	88.30	25	P	P	21 19 52.1	-0.3	
	baz=253,SNR=5.2							
I28M	Miner Creek	88.50	24	P	P	21 19 52.9	-0.5	
	baz=252							
C27K	Jago River	88.54	19	IAmb	IAmb	21 19 54.1		
	comp=Z,11nm,0.8s							
C27K	Jago River	88.54	19	P	P	21 19 53.4	0.0	
	baz=249							
L29M	L29M	88.57	26	P	P	21 19 53.6	-0.1	
	baz=254							
E27K	Coleen River	88.75	21	IAmb	IAmb	21 19 54.6		
	comp=Z,8.1nm,0.8s							
E27K	Coleen River	88.75	21	P	P	21 19 54.5	+0.1	
	baz=251,SNR=6.2							
O30N	Mendenhall	88.88	29	P	P	21 19 55.9	+0.7	
	baz=256							
SKAG	Skagway	88.94	30	P	P	21 19 55.3	-0.1	
	baz=256							
M30M	Minto, Yukon	89.01	27	P	P	21 19 55.7	-0.1	
	baz=255							
K29M	Barlow Dome	89.03	25	P	P	21 19 55.3	-0.7	
K29M				IAmb	IAmb	21 19 56.3		
	comp=Z,6.9nm,0.7s							
K29M	Barlow Dome	89.03	25	P	P	21 19 55.5	-0.5	
	baz=254							
I29M	Ogilvie Camp,	89.12	24	P	P	21 19 55.7	-0.6	
	baz=254							
F28M	Old Crow	89.19	22	P	P	21 19 56.0	-0.4	
	baz=252							
CRAG	Craig	89.22	34	P	P	21 19 56.1	-0.8	
	baz=258							
D27M	Malcolm River	89.32	20	P	P	21 19 56.7	-0.5	
	baz=251							
H29M	Whitestone	89.34	23	P	P	21 19 56.5	-0.7	
	baz=254							
E28M	Babbage River	89.61	21	P	P	21 19 57.9	-0.5	
	baz=252							
G29M	Pine Creek	89.67	22	P	P	21 19 58.1	-0.6	
	baz=254							
J30M	Hart River	89.72	25	IAmb	IAmb	21 19 59.4		
	comp=Z,6.7nm,0.7s							
J30M	Hart River	89.72	25	P	P	21 19 58.8	-0.4	
	baz=255							
I30M	Mount Dempster	89.87	24	P	P	21 19 59.0	-0.8	
	baz=255							
EPYK	Eagle Plains	90.03	23	IAmb	IAmb	21 20 00.2		
	comp=Z,11nm,0.7s							
EPYK	Eagle Plains	90.03	23	P	P	21 19 59.2	-1.3	
	baz=255							
G30M	tAoh Zraii Nji	90.37	23	P	P	21 20 01.1	-0.9	
	baz=256							
N32M	Quiet Lake	90.40	29	P	P	21 20 01.3	-1.0	
	baz=258							
SYO	Syowa Base	90.57	200‖	eP	P	21 20 02.0	-0.9	
F30M	Barrier River	90.69	22	P	P	21 20 02.6	-0.9	
	baz=256							
H31M	Peel River	90.83	24	P	P	21 20 03.2	-1.0	
	baz=257							
G31M	Satah River	91.11	23	P	P	21 20 04.0	-1.4	
G31M	Satah River	91.11	23	P	P	21 20 04.3	-1.1	
	baz=257							
NVAR	Mina Array Bea	97.42	52	P	Pdif	21 20 35.9	+0.5	
	comp=Z,0.6nm,0.7s,baz=251,slow=4.5,SNR=5.1							
	comp=Z,0.6nm,0.7s							
TROLL	Troll, Antarti	98.77	191	⇑P	P	21 20 39.3	-1.2	
	comp=Z,50nm,0.7s							
BOSA	Boshof	114.19	235	PKP	PKPdf	21 25 39.8	-1.3	
	comp=Z,2.3nm,0.9s,baz=125,slow=2.9,SNR=5.2							
GERES	GERESS Array B	121.88	325	PKP	PKPdf	21 25 53.2	-2.0	
	comp=Z,0.3nm,0.5s,baz=77,slow=1.8,SNR=3.9							
PLCA	Paso Flores	122.14	147	PKP	PKPdf	21 25 55.4	-0.6	
	comp=Z,1.7nm,0.6s,baz=324,slow=2.6,SNR=5.2

*NEIC **14** 21:26:24.0±1.6, 19.35N±0.08×65.05W±0.09, h10km±2km, ML2.2/11, Md3.4/6(RSPR), Error ellipse: s-maj=15.1km s-min=11.7km az=48.0*

RSPR 14 21:26:28.4, 19.42N×65.15W, h45km±16km, MD3.4/6, 7C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.42 219**	‖	*e*P	Pn	21 26 49.2	-2.5
GCPR	**Guaynabo City**	**1.42 219**		*e*S	Sn	21 27 13.0	+3.7
ECPR	**Experimental S**	**1.59 227**	‖	*e*P	Pn	21 26 53.5	-0.6
ECPR	**Experimental S**	**1.59 227**		*e*S	Sn	21 27 19.4	+5.9
ECPR	**Experimental S**	**1.59 227**	‖	*e*P	Pn	21 26 53.1	-1.0
ECPR	**Experimental S**	**1.59 227**		*e*S	Sn	21 27 12.7	-0.9
SJG	**San Juan**	**1.61 216**			Pn	21 26 52.6	-1.9
SJG				IAML		21 27 31.1	
	18nm,1.1s						
PDPR	**Patillas Dam,**	**1.62 211**		Pn	Pn	21 26 52.8	-1.8
PDPR				IAML		21 27 30.3	
	comp=E,15nm,0.5s						
PDPR	**Patillas Dam,**	**1.62 211**	⇑	*e*P	Pn	21 26 53.3	-1.3
PDPR	**Patillas Dam,**	**1.62 211**		*e*S	Sn	21 27 13.1	-1.2
PDPR	**Patillas Dam,**	**1.62 211**	⇑	*e*P	Pn	21 26 53.4	-1.2
PDPR	**Patillas Dam,**	**1.62 211**		*e*S	Sn	21 27 13.6	-0.8
IGPR	**InterUniversit**	**1.71 212**	⇑	*e*P	Pn	21 26 56.2	+0.4
IGPR	**InterUniversit**	**1.71 212**		*e*S	Sn	21 27 18.7	+2.2
AOPR	**Arecibo Observ**	**1.86 235**		Pn	Pn	21 26 55.9	-1.9
AOPR	**Arecibo Observ**	**1.86 235**	‖	*e*P	Pn	21 26 57.1	-0.7
AOPR	**Arecibo Observ**	**1.86 235**		*e*S	Sn	21 27 25.2	+5.1
AOPR	**Arecibo Observ**	**1.86 235**	⇑	*e*P	Pn	21 26 56.7	-1.1
AOPR	**Arecibo Observ**	**1.86 235**		*e*S	Sn	21 27 19.1	-1.1
UUPR	**Utuado, UPR, P**	**1.89 232**		*e*S	Sn	21 27 20.8	-0.1
CELP	**Cerrillos**	**1.91 226**		Pn	Pn	21 26 56.8	-1.7
CELP				Sn	Sn	21 27 19.1	-2.2
CELP				IAML		21 27 30.0	
	comp=E,18nm,3.0s						
CELP				IAML		21 27 41.1	
	comp=N,14nm,1.3s						
CELP	**Cerrillos**	**1.91 226**	⇑	*e*P	Pn	21 26 57.0	-1.4
CELP	**Cerrillos**	**1.91 226**		*e*S	Sn	21 27 19.2	-2.1
CELP	**Cerrillos**	**1.91 226**	‖	*e*P	Pn	21 26 57.5	-0.9
CELP	**Cerrillos**	**1.91 226**		*e*S	Sn	21 27 19.8	-1.5
OBIP	**Obispado Ponce**	**1.95 225**		Pn	Pn	21 26 56.8	-2.3
OBIP				IAML		21 27 35.1	
	comp=E,19nm,2.9s						
OBIP				IAML		21 27 51.2	
	comp=N,24nm,4.0s						
MLPR	**Magueyes Islan**	**2.31 232**	⇑	*e*P	Pn	21 27 03.3	-0.7
MLPR	**Magueyes Islan**	**2.31 232**		*e*S	Sn	21 27 28.7	-2.4
MLPR	**Magueyes Islan**	**2.31 232**	‖	*e*P	Pn	21 27 03.1	-0.8
MLPR	**Magueyes Islan**	**2.31 232**		*e*S	Sn	21 27 31.1	0.0
CRPR	**Cabo Rojo, PR**	**2.33 233**		Pn	Pn	21 27 03.8	-0.5
CRPR				Sn	Sn	21 27 33.3	+1.5
CRPR				IAML		21 27 47.0	
	comp=E,24nm,3.0s						
CRPR	**Cabo Rojo, PR**	**2.33 233**	‖	*e*P	Pn	21 27 03.1	-1.2
CRPR	**Cabo Rojo, PR**	**2.33 233**		*e*S	Sn	21 27 29.5	-2.2
CRPR	**Cabo Rojo, PR**	**2.33 233**	⇑	*e*P	Pn	21 27 03.9	-0.4
CRPR	**Cabo Rojo, PR**	**2.33 233**		*e*S	Sn	21 27 31.1	-0.7

*IDC **14** 21:26:30.6±0.9, 8.95S×128.75E, h0km, mb3.8/8, mbtmp3.9/12, ML4.0/4, MS3.1/7, Error ellipse: s-maj=41.1km s-min=16.4km az=69.0*

*NEIC **14** 21:26:32.1±1.6, 9.01S±0.02×128.58E±0.07, h10km±1km, mb4.3/9, Error ellipse: s-maj=11.9km s-min=3.6km az=80.0*

*DJA **14** 21:26:34.4±0.3, 9°S±4'×12°9E±°, h10km, M4.6/9, mb4.7/9, mB4.8/2, MLv4.5/6, Mw(mB)4.0/2*

ISC 14 21:26:31.9±0.5, 9.13S±0.05×128.70E±0.05, h10km, n53, σ1s79/51, mb4.0/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.82**	**66**	Pn	**Pn**	**21 27 18.2**	**+1.3**
SAUI	**Saumlaki**	**2.82**	**66**	P	**Pn**	**21 27 21.0**	**+4.0**
SAUI				S	**Sb**	**21 27 57.8**	**+0.9**
MTN	**Manton Dam**	**4.40**	**147**	Pn	**Pn**	**21 27 41.1**	**+2.3**
SOEI	**Soe**	**4.41**	**262**	Pn	**Pn**	**21 27 39.2**	**+0.1**
SOEI	**Soe**	**4.41**	**262**	P	**Pn**	**21 27 41.2**	**+2.1**
SOEI				S	**Sn**	**21 28 32.7**	**+2.1**
BATI	**Baumata**	**5.08**	**257**	Pn	**Pn**	**21 27 50.1**	**+2.0**
	3.9nm,0.3s,baz=129,slow=12,SNR=6.3						
BATI				Sn	**Sn**	**21 28 48.5**	**+1.7**
	6.5nm,0.3s,baz=218,slow=23,SNR=4.0						
	16nm,0.6s						
BATI	**Baumata**	**5.08**	**257**	P	**Pn**	**21 27 49.8**	**+1.7**
	0.3nm934nm80nm,0.8s						
BATI				S	**Sn**	**21 28 48.5**	**+1.7**
	0.3nm934nm80nm,0.8s						
MMRI	**Maumere**	**6.40**	**274**	Pn	**Pn**	**21 28 06.0**	**-0.3**
KNRA	**Kununurra**	**6.51**	**179**	Pn	**Pn**	**21 28 09.8**	**+2.0**
EDFI	**Ende, Flores**	**6.93**	**273**	P	**Pn**	**21 28 15.8**	**+2.1**
	21nm,0.8s						
FAKI	**Fak Fak**	**7.11**	**30**	Pn	**Pn**	**21 28 15.2**	**-0.8**
FAKI	**Fak Fak**	**7.11**	**30**	P	**Pn**	**21 28 15.6**	**-0.4**
	39nm,0.8s						
BASI	**Baing, Sumba**	**8.08**	**262**	P	**Pn**	**21 28 30.6**	**+1.3**
RKPI	**Ransiki, Papua**	**9.33**	**36**	P	Pn	21 28 55.4	+8.9
FITZ	**Fitzroy Crossi**	**9.40**	**198**	Pn	**Pn**	**21 28 48.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**9.40**	**198**	Pn	**Pn**	**21 28 47.7**	**+0.3**
	0.9nm,0.3s,baz=30,slow=11,SNR=41						
FITZ				Sn	**Sn**	**21 30 30.9**	**-2.3**
	2.0nm,0.3s,baz=64,slow=16,SNR=3.7						
FITZ				LR	LR	21 33 43.5	
	comp=Z,62nm,18.7s,baz=22,slow=45						
	1.9nm,0.3s						
KAPI	**Kappang**	**9.77**	**294**	LR	LR	21 32 53.8	
	comp=Z,96nm,18.0s,baz=110,slow=39						
WB0	**Warramunga Arr**	**11.93**	**153**	Pn	**Pn**	**21 29 20.7**	**-1.4**
WRAB	**Tennant Creek**	**12.05**	**154**	Pn	**Pn**	**21 29 23.6**	**-0.3**
WRA	**Warramunga Arr**	**12.05**	**154**	Pn	**Pn**	**21 29 23.2**	**-0.6**
WRA	**Warramunga Arr**	**12.05**	**154**	Pn	**Pn**	**21 29 23.5**	**-0.3**
	1.1nm,0.3s,baz=338,slow=12,SNR=24						
WRA				Sn	Sn	21 31 29.9	-8.6
	1.9nm,0.3s,baz=331,slow=24,SNR=5.9						
WRA				Lg	Lg	21 32 53.0	
	0.9nm,0.3s,baz=333,slow=24,SNR=4.8						
WRA				LR	LR	21 34 14.9	
	comp=Z,136nm,21.7s,baz=342,slow=38						
	14nm,0.9s						
WR8	**Warramunga Arr**	**12.14**	**153**	Pn	**Pn**	**21 29 23.9**	**-1.1**
MBWA	**Marble Bar**	**14.75**	**215**	Pn	**Pn**	**21 30 00.2**	**-0.6**
COEN	**Coen**	**14.97**	**110**	Pn	**Pn**	**21 30 03.1**	**-0.6**
COEN				IAmb	IAmb	21 30 20.2	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**15.02**	**214**	Pn	**Pn**	**21 30 03.7**	**-0.6**
AS31	**Alice Springs**	**15.29**	**162**	Pn	**Pn**	**21 30 09.6**	**+1.6**
AS31				IAmb	IAmb	21 30 22.4	
	comp=Z,4.8nm,0.7s						
ASAR	**Alice Springs**	**15.29**	**162**	Pn	**Pn**	**21 30 10.9**	**+2.9**
ASAR	**Alice Springs**	**15.29**	**162**	Pn	**Pn**	**21 30 08.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=330,slow=9.6,SNR=18						
ASAR				Sn	**Sn**	**21 32 51.3**	**-6.2**
	comp=Z,0.6nm,0.3s,baz=330,slow=18,SNR=5.1						
ASAR				Lg	Lg	21 34 29.8	
	baz=332,slow=32						
ASAR				LR	LR	21 37 01.8	
	comp=Z,66nm,21.0s,baz=333,slow=41						
	comp=Z,2.8nm,0.8s						
DAV	**Davao City (W)**	**16.39**	**349**	LR	LR	21 36 37.4	
	comp=Z,52nm,18.7s,baz=170,slow=37						
UGM	**Wanagama**	**18.01**	**272**	P	**Pn**	**21 30 39.8**	**-2.8**
UGM				IAmb	IAmb	21 31 00.7	
	comp=Z,31nm,1.1s						
PMG	**Port Moresby**	**18.23**	**92**	LR	LR	21 38 47.5	
	comp=Z,79nm,20.7s,baz=267,slow=40						
SBUM	**Sibu**	**20.05**	**304**	P	**P**	**21 31 03.1**	**-2.3**
BBOO	**Buckleboo**	**24.53**	**165**	P	**P**	**21 31 51.1**	**-0.6**
BBOO				IAmb	IAmb	21 32 20.2	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**25.61**	**154**	P	**P**	**21 32 02.6**	**+1.1**
STKA	**Stephens Creek**	**25.61**	**154**	P	**P**	**21 32 03.3**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=342,slow=14,SNR=4.3						
	comp=Z,1.3nm,0.6s						
PSI	**Prapat**	**31.95**	**290**	LR	LR	21 46 11.2	
	comp=Z,77nm,18.8s,slow=37						
CMAR	**Chiang Mai Arr**	**40.17**	**313**	P	**P**	**21 34 08.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=138,slow=6.9,SNR=6.2						
	comp=Z,0.5nm,0.5s						
PZH	**PanZhiHua**	**44.04**	**324**	P	**P**	**21 34 40.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**52.18**	**344**	*e*P	**P**	**21 35 41.9**	**-1.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.7s						
GTA	**Gaotai**	**55.24**	**333**	*e*P	**P**	**21 36 04.8**	**-0.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**60.06**	**343**	P	**P**	**21 36 38.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=152,slow=6.5,SNR=3.4						
	comp=Z,0.7nm,0.8s						
WMQ	**Urumqi**	**64.49**	**328**	*e*P	**P**	**21 37 10.0**	**+1.1**
WMQ				pP	sP	21 37 15.4	+2.7
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH	**Kashi**	**68.73**	**319**	P	**P**	**21 37 35.4**	**-0.8**
MKAR	**Makanchi Array**	**69.31**	**328**	P	**P**	**21 37 38.1**	**-1.4**
MKAR	**Makanchi Array**	**69.31**	**328**	P	**P**	**21 37 38.9**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=111,slow=8.3,SNR=6.5						
	comp=Z,0.8nm,0.8s						
VNDA	**Vanda**	**70.51**	**173**	P	**P**	**21 37 47.2**	**+0.9**
VNDA	**Vanda**	**70.51**	**173**	P	**P**	**21 37 48.8**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=321,slow=7.5,SNR=2.6						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**72.93**	**335**	P	P	21 37 58.9	-2.4
ZALV	**Zalesovo Beam**	**72.93**	**335**	P	**P**	**21 38 00.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=146,slow=8.0,SNR=2.1						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.66**	**329**	P	**P**	**21 38 04.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=135,slow=5.3,SNR=5.6						
	comp=Z,0.4nm,0.6s						
KURK	**Kurchatov**	**73.67**	**329**	P	P	21 38 02.9	-2.7
KURK				IAmb	IAmb	21 38 16.4	
	comp=Z,2.1nm,0.8s						
FIRM	**Firavahana**	**79.43**	**253**	P	P	21 38 49.0	+10
QSPA	**South Pole Qui**	**80.86**	**180**	P	**P**	**21 38 48.0**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=318,slow=1.8,SNR=8.4						
	comp=Z,1.1nm,0.7s						

*MOS **14** 21:33:19.7±0.9, 55.82S×27.21W, h10km, mb5.6/22, MS5.6/7, Error ellipse: s-maj=17.5km s-min=10.5km az=111.7*

*IPGP **14** 21:33:20.0, 55.82S×27.11W, h25km, Mw5.4, Fault plane solution: NP1:ϕs119.00000°, δ36.00000°, λ55.00000°. NP2:ϕs339.00000°, δ61.00000°, λ112.00000°.*

*NEIC **14** 21:33:20.9, 55.80S×27.10W, h24km*

*NEIC **14** 21:33:20.9, 55.20S×27.10W, h24km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.71; $M_{\theta\theta}$-1.07; $M_{\phi\phi}$-0.64; $M_{r\theta}$-0.11; $M_{\theta\phi}$1.01; $M_{\phi r}$0.80; Fault plane solution: $M_0$1.97000×10^{17} NP1: ϕs112.54000°, δ38.34000°, λ63.06000°. NP2: ϕs325.48000°, δ56.43000°, λ109.71000°. Principal axes: T 1.9663, Plg71.0000°, Azm283.0000°; N 0.0167, Plg16.0000°, Azm134.0000°; P -1.9830, Plg9.0000°, Azm41.0000°;*

*UCR **14** 21:33:21.7±2.4, 52.89S×24.91W, h19km±999km*

*IDC **14** 21:33:22.4±1.9, 55.64S×26.93W, h19km±10km, mb5.0/15, mbtmp5.1/16, ML4.7/1, MS4.8/29, Error ellipse: s-maj=16.9km s-min=12.6km az=66.0*

*NEIC **14** 21:33:22.2±1.6, 55.80S±0.09×27.1W±0.2, h19km±1km, mb5.6/137, Ms_20 5.6/574, Mww5.5/13, Error ellipse: s-maj=15.2km s-min=14.3km az=175.0*

*GCMT **14** 21:33:26.2±0.1, 55.69S±0.01×26.97W±0.01, h20km, MW5.5/134, Moment Tensor Solution. s132, c244; s134, c241; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.26±.02; $M_{\theta\theta}$-0.30±.02; $M_{\phi\phi}$-0.95±.02; $M_{r\theta}$-0.43±.04; $M_{\theta\phi}$0.91±.01; $M_{\phi r}$1.29±.04; Best double couple: $M_0$1.98300×10^{17} NP1:ϕs128.00000°, δ26.00000°, λ63.00000°. NP2:ϕs338.00000°, δ67.00000°, λ102.00000°. Principal axes: T 1.8520, Plg65.0000°, Azm269.0000°; N 0.2620, Plg11.0000°, Azm153.0000°; P -2.1130, Plg21.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*RSNC **14** 21:33:26.6±1.5, 55.S×24.×2.7W±2.0, h24km±9km, M5.6, mB6.0, mb5.8, mBc6.5, Ms(BB)5.9, Mw(mB)5.6*

ISC 14 21:33:23.2±0.2, 55.68S±0.05×27.06W±0.05, h25km, n918, σ1s31/593, mb5.6/105, MS5.6/315, 27C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.61**	**281**		**Pn**	**21 34 45.3**	**+0.5**
HOPE	**Hope Point**	**5.61**	**281**	P	**Pn**	**21 34 45.3**	**+0.5**
ESPZ	**Base Esperanza**	**16.89**	**231**		**Pn**	**21 37 17.1**	**-0.4**
VNA1	**Neumayer--Stat**	**17.11**	**159**	⇑P	**P**	**21 37 22.0**	**+0.2**
	comp=Z,73nm,0.9s						
VNA1				⇑ScP	**ScP**	**21 45 36.1**	**-0.2**
	comp=Z,23nm,1.0s						
VNA3	**Neumayer Olymp**	**17.32**	**161**	⇑P	**Pn**	**21 37 22.8**	**-0.1**
	comp=Z,47nm,0.6s						
VNA3				⇑ScP	**ScP**	**21 45 36.1**	**-0.8**
	comp=Z,11nm,0.8s						
VNA2	**Neumayer--Watz**	**17.51**	**158**	⇑P	**P**	**21 37 26.4**	**+0.2**
	comp=Z,43nm,0.7s,baz=331,slow=13						
VNA2				⇑S	**Sn**	**21 40 39.9**	**+0.9**
	baz=351,slow=19						
VNA2				⇑ScP	**ScP**	**21 45 35.4**	**-1.8**
	comp=Z,8.5nm,0.6s,baz=343,slow=15						
EFI	**East Falkland**	**18.71**	**269**	P	**Pn**	**21 37 39.8**	**-0.2**
EFI	**East Falkland**	**18.71**	**269**	*ce*P	**Pn**	**21 37 40.2**	**+0.3**
EFI				pmax	pmax		
	comp=Z,113nm,1.1s						
SNAA	**Sanae**	**19.05**	**157**	⇑P	**P**	**21 37 42.6**	**-0.6**
	comp=Z,670nm,0.6s						
SNAA				⇑S	**S**	**21 41 17.9**	**+0.4**
SNAA				⇑ScP	**ScP**	**21 45 39.7**	**-0.9**
	comp=Z,125nm,0.8s						
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**21 37 42.3**	**-0.9**
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**21 37 41.8**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=298,slow=10,SNR=76						
SNAA				S	**S**	**21 41 21.0**	**+3.5**
	comp=Z,1.8nm,0.5s,baz=270,slow=17,SNR=1.1						
SNAA				PcP	**PcP**	**21 42 07.4**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=253,slow=4.9,SNR=5.5						
SNAA				LR	LR	21 43 29.8	
	comp=Z,2μm,21.2s,baz=328,slow=32						
SNAA				ScP	**ScP**	**21 45 39.6**	**-0.9**
	comp=Z,5.7nm,0.8s,baz=276,slow=3.6,SNR=12						
	comp=Z,17nm,0.5s						
SNAA	**Sanae**	**19.05**	**157**	*ce*P	**P**	**21 37 42.7**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,32nm,0.9s						
PMSA	**Palmer Station**	**20.20**	**228**	Pn	**P**	**21 37 56.0**	**+0.4**
PMSA				IAmb	IAmb	21 38 07.5	
	comp=Z,288nm,1.1s						
PMSA	**Palmer Station**	**20.20**	**228**	P	Pn	21 37 57.1	-0.5
	comp=Z,76nm,0.6s,baz=70,slow=6.5,SNR=17						
PMSA				LR	LR	21 44 27.9	
	comp=Z,3μm,20.1s,baz=64,slow=33						
	comp=Z,76nm,0.6s						
PMSA	**Palmer Station**	**20.20**	**228**	*e*P	**P**	**21 37 56.0**	**+0.4**
TROLL	**Troll, Antarti**	**20.55**	**154**	⇑P	**P**	**21 37 58.8**	**-0.7**
	comp=Z,2μm,0.6s						
TROLL				⇑S	**S**	**21 41 47.7**	**-0.2**
SMAI	**San Martin Ant**	**22.10**	**220**	P	**P**	**21 38 15.8**	**-0.2**
SMAI				IAmb	IAmb	21 38 27.7	
	comp=Z,331nm,1.8s						
BELA	**Belgrano 2**	**22.45**	**184**	P	**P**	**21 38 17.5**	**-2.3**
BELA				IAmb	IAmb	21 38 23.8	
	comp=Z,98nm,0.7s						
NVL	**N'lazarevskaya**	**22.53**	**147**	*e*P	P	21 38 05.8	-15
NVL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MG01	**Puerto William**	**22.88**	**255**	P	**P**	**21 38 23.3**	**-1.2**
MG01				IAmb	IAmb	21 38 25.6	
	comp=Z,451nm,1.4s						
USHA	**Ushuaia**	**23.35**	**255**	LR	LR	21 45 31.6	
	comp=Z,5μm,20.1s,baz=104,slow=31						
MG02	**Cerro Sombrero**	**24.54**	**259**	P	**P**	**21 38 40.0**	**-0.4**
MG05	**Puerto Natales**	**26.83**	**259**	P	**P**	**21 38 59.6**	**-1.5**
MG05				IAmb	IAmb	21 39 28.9	
	comp=Z,158nm,1.6s						
GO09	**Cerro Castillo**	**26.93**	**260**	P	**P**	**21 39 00.0**	**-2.0**
AY03	**Cochrane**	**29.12**	**267**	P	**P**	**21 39 20.8**	**-0.8**
TRQA	**Tornquist**	**29.25**	**292**	P	**P**	**21 39 23.3**	**+0.4**
TRQA				IAmb	IAmb	21 39 36.6	
	comp=Z,151nm,1.1s						
TRQA	**Tornquist**	**29.25**	**292**	P	**P**	**21 39 23.3**	**+0.4**
TRQA				pmax	pmax		
	comp=Z,151nm,1.2s						
TRQA				MLR	MLR		
	comp=Z,2μm,20.0s						
COYC	**Coyhaique**	**29.79**	**271**	P	**P**	**21 39 26.9**	**-0.8**
PLTB	**Pedras Altas**	**30.31**	**311**	P	**P**	**21 39 33.1**	**+0.8**
PLTB				IAmb	IAmb	21 39 34.9	
	comp=Z,102nm,0.9s						
PLTB	**Pedras Altas**	**30.31**	**311**	*e*P	**P**	**21 39 34.5**	**+2.2**
CNLB	**Canela**	**31.34**	**317**	*e*P	**P**	**21 39 44.0**	**+2.5**
CPSB	**Cacapava Do Su**	**31.42**	**313**	*e*P	**P**	**21 39 44.0**	**+1.9**
SYO	**Syowa Base**	**31.83**	**141**	‖*e*P	**P**	**21 39 42.1**	**-3.2**
SYO	**Syowa Base**	**31.83**	**141**	‖*ep*P	**P**	**21 39 47.6**	**+2.3**
SYO	**Syowa Base**	**31.83**	**141**	‖ *s*P	**P**	**21 39 49.0**	**+3.7**
PLCA	**Paso Flores**	**32.01**	**279**	P	**P**	**21 39 46.7**	**-0.6**
	comp=Z,10nm,1.0s,baz=144,slow=8.6,SNR=12						
PLCA				PcP	**PcP**	**21 42 37.0**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=117,slow=3.4,SNR=3.5						
PLCA				ScP	**ScP**	**21 46 15.5**	**-2.7**
	comp=Z,2.5nm,0.9s,baz=98,slow=3.2,SNR=3.3						
PLCA				LR	LR	21 53 25.6	
	comp=Z,2μm,18.1s,baz=126,slow=38						
	comp=Z,10nm,1.0s						
ITAB	**Concordia**	**33.70**	**317**	P	**P**	**21 40 03.6**	**+1.5**
ITAB	**Concordia**	**33.70**	**317**	*e*P	**P**	**21 40 04.2**	**+2.1**
QSPA	**South Pole Qui**	**34.57**	**180**	P	**P**	**21 40 10.5**	**+1.0**
QSPA	**South Pole Qui**	**34.57**	**180**	P	**P**	**21 40 11.0**	**+1.5**
	comp=Z,38nm,0.6s,baz=347,slow=0.5,SNR=123						
QSPA				ScP	**ScP**	**21 46 27.1**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=58,slow=1.8,SNR=3.4						
	comp=Z,38nm,0.6s						
PET01	**Itanhaem-SP**	**34.70**	**326**	*e*P	**P**	**21 40 12.6**	**+1.8**
PARB	**Paraibuna**	**35.10**	**329**	*e*P	**P**	**21 40 16.7**	**+2.4**
SPB	**Sao Paulo**	**35.40**	**327**	P	**P**	**21 40 18.6**	**+1.7**
SPB				IAmb	IAmb	21 40 20.3	
	comp=Z,95nm,1.2s						
SPB	**Sao Paulo**	**35.40**	**327**	*e*P	**P**	**21 40 19.3**	**+2.5**
DUB01	**Friburgo-RJ**	**35.44**	**335**	*e*P	**P**	**21 40 19.2**	**+2.0**
VAS01	**Vassouras-RJ**	**35.51**	**333**	*e*P	**P**	**21 40 20.2**	**+2.4**
CAM01	**Campos-RJ**	**35.52**	**336**	*e*P	**P**	**21 40 20.0**	**+2.2**
VAO	**Valinhos**	**35.81**	**328**	P	**P**	**21 40 22.1**	**+1.7**
VAO				IAmb	IAmb	21 40 23.9	
	comp=Z,63nm,1.0s						
VAO	**Valinhos**	**35.81**	**328**	*e*P	**P**	**21 40 23.0**	**+2.5**
PTGB	**Pitanga**	**35.95**	**319**	*e*P	**P**	**21 40 22.7**	**+1.1**
FRTB	**Fartura**	**36.33**	**324**	*e*P	**P**	**21 40 27.0**	**+2.2**
CPUP	**Villa Florida**	**36.62**	**311**	P	**P**	**21 40 27.6**	**+0.4**
	comp=Z,34nm,0.9s,baz=9.9,slow=8.3,SNR=107						
CPUP				LR	LR	21 53 25.0	
	comp=Z,482nm,21.7s,baz=14,slow=33						
	comp=Z,34nm,0.9s						
BO01	**Tunca**	**36.85**	**287**	P	**P**	**21 40 27.8**	**-1.4**
MT08	**Bocatoma Ro**	**37.00**	**289**	P	**P**	**21 40 30.8**	**+0.1**
BSCB	**Bom Sucesso**	**37.09**	**332**	*e*P	**P**	**21 40 32.9**	**+1.6**
MT03	**Universidad Ad**	**37.22**	**288**	IAmb	IAmb	21 40 47.8	
	comp=Z,71nm,1.1s						
MT09	**Talagante**	**37.27**	**287**	IAmb	IAmb	21 40 47.7	
	comp=Z,49nm,0.8s						
MT16	**CCHEN**	**37.28**	**288**	IAmb	IAmb	21 40 57.4	
	comp=Z,81nm,1.1s						
CFA	**Coronel Fontan**	**37.48**	**293**	LR	LR	21 56 09.3	
	comp=Z,753nm,20.8s,baz=140,slow=36						
PEL	**Peldehue**	**37.59**	**288**	IAmb	IAmb	21 40 36.9	
	comp=Z,80nm,0.8s						
PEL	**Peldehue**	**37.59**	**288**	P	**P**	**21 40 36.0**	**+0.5**
PEL				pmax	pmax		
	comp=Z,111nm,0.8s						
RIB01	**Linhares ES**	**37.68**	**339**	*e*P	**P**	**21 40 37.9**	**+1.6**
MT02	**Curacav**	**37.74**	**288**	IAmb	IAmb	21 40 37.8	
	comp=Z,59nm,0.8s						
ZON	**Zonda**	**37.76**	**292**	P	**P**	**21 40 36.3**	**-0.7**
ZON				IAmb	IAmb	21 40 51.8	
	comp=Z,79nm,0.7s						
ZON	**Zonda**	**37.76**	**292**	P	**P**	**21 40 36.3**	**-0.7**
ZON				pmax	pmax		
	comp=Z,79nm,0.7s						
BB19B	**Bebedouro**	**38.11**	**326**	*e*P	**P**	**21 40 42.0**	**+2.0**
VA06	**Catapilco**	**38.36**	**288**	IAmb	IAmb	21 40 43.9	
	comp=Z,119nm,1.0s						
SJMB	**Sao Joao De Ma**	**38.44**	**338**	*e*P	**P**	**21 40 43.7**	**+1.1**
AMBA	**Amambai (Brazi**	**38.69**	**316**	*e*P	**P**	**21 40 45.3**	**+0.5**
CO02	**Combarbal**	**39.26**	**290**	IAmb	IAmb	21 41 21.3	
	comp=Z,85nm,1.1s						
CO03	**El Pedregal**	**39.38**	**291**	IAmb	IAmb	21 41 24.7	
	comp=Z,70nm,0.9s						
DIAM	**Diamantina, MG**	**39.39**	**335**	*e*P	**P**	**21 40 52.1**	**+1.2**
CO01	**Juntas del Tor**	**

comp=Z,30nm,0.6s
VNDA Vanda 46.95 183 P **P 21 41 50.3 -0.7**
VNDA pmax pmax
comp=Z,35nm,0.7s
PTLB Pontes e Lacer 47.08 316 P **P 21 41 53.2 +0.4**
PTLB Pontes e Lacer 47.08 316 *e*P **P 21 41 53.5 +0.7**
SIV San Ignacio 47.38 313 LR LR 22 00 25.9
comp=Z,1µm,21.9s,baz=160,slow=34
SNDB Serra Nova Dou 47.52 327 *e*P **P 21 41 57.9 +1.7**
TA01 Diego Aracena 47.53 300 P **P 21 41 56.9 +0.6**
TA01 IAmb IAmb 21 42 07.6
comp=Z,112nm,1.1s
KOOLE Kule 47.60 66 IAmb IAmb 21 42 16.2
comp=Z,43nm,0.9s
KOOLE Kule 47.60 66 *i* P **P 21 41 56.6 -0.4**
H10S2 ASCENSION HYDR 47.62 17 T T 22 33 21.6
baz=190,slow=74,SNR=245
H10S3 ASCENSION HYDR 47.63 17 T T 22 33 21.9
baz=30,slow=74,SNR=166
H04S2 CROZET ISLANDS 47.63 114 T T 22 33 36.4
baz=229,slow=76,SNR=97
H04S3 CROZET ISLANDS 47.64 114 T T 22 33 41.3
baz=229,slow=76,SNR=84
H04S1 CROZET ISLANDS 47.65 114 T T 22 33 31.4
baz=229,slow=76,SNR=22
MAKGR Makgori 47.77 73 *i* P **P 21 41 58.6 +0.4**
PB11 IPOC Station P 47.96 301 P **P 21 41 59.3 -0.5**
SKOMA Sekoma 48.33 71 *i* P **P 21 42 02.3 -0.3**
H10N1 ASCENSION HYDR 48.74 17 T T 22 34 45.8
baz=189,slow=75,SNR=84
H10N3 ASCENSION HYDR 48.74 17 T T 22 34 45.7
baz=189,slow=75,SNR=121
H10N2 ASCENSION HYDR 48.76 17 T T 22 34 47.1
baz=189,slow=75,SNR=111
KGCAE Kacgae 48.76 68 IAmb IAmb 21 42 25.6
comp=Z,111nm,1.1s
KGCAE Kacgae 48.76 68 *i* P **P 21 42 05.9 0.0**
LBTB Lobatse 48.83 73 IAmb IAmb 21 42 07.2
comp=Z,50nm,1.1s
LBTB Lobatse 48.83 73 LR LR 21 59 49.9
comp=Z,542nm,18.7s,baz=216,slow=33
PB16 IPOC Station P 49.10 302 IAmb IAmb 21 42 20.9
comp=Z,105nm,1.6s
SMTB Santa Maria do 49.44 333 *e*P **P 21 42 12.3 +1.4**
TSUM Tsumeb 49.44 61 P **P 21 42 11.0 -0.1**
TSUM Tsumeb 49.44 61 LR LR 22 00 05.4
comp=Z,951nm,19.4s,baz=205,slow=32
GRTLG Ghanzi 49.47 66 *i* P **P 21 42 10.8 -0.5**
KDWAN Kaudwane 49.64 71 IAmb IAmb 21 42 14.0
comp=Z,54nm,1.1s
KDWAN Kaudwane 49.64 71 *i* P **P 21 42 12.5 -0.1**
PDRB Porto dos Gac 49.68 321 *e*P **P 21 42 13.4 +0.5**
VILB Vilhena 49.77 316 *e*P **P 21 42 14.1 +0.6**
CLDB Colider 50.04 322 *e*P **P 21 42 16.1 +0.5**
LPAZ La Paz 50.22 305 P **P 21 42 18.8 +1.1**
comp=Z,107nm,0.9s,baz=142,slow=5.7,SNR=171
LPAZ LR LR 22 02 57.5
comp=Z,754nm,21.8s,baz=153,slow=35
comp=Z,107nm,0.9s
LPHEP Lephephe 50.30 72 IAmb IAmb 21 42 40.9
comp=Z,63nm,1.2s
LPHEP Lephephe 50.30 72 *i* P **P 21 42 17.6 0.0**
KHWEE KHWEE 51.22 71 IAmb IAmb 21 42 25.9
comp=Z,69nm,0.9s
KHWEE KHWEE 51.22 71 *i* P **P 21 42 24.7 +0.1**
GMARE Gumare 51.60 66 IAmb IAmb 21 42 29.2
comp=Z,84nm,1.2s
MREMI Moremi 51.80 73 IAmb IAmb 21 42 30.3
comp=Z,71nm,0.8s
MREMI Moremi 51.80 73 *i* P **P 21 42 28.8 -0.1**
PHDHD Phuduhudu 52.17 69 IAmb IAmb 21 42 32.9
comp=Z,55nm,0.9s
PHDHD Phuduhudu 52.17 69 *i* P **P 21 42 31.4 -0.3**
PRPB Parauapebas 52.60 331 *e*P **P 21 42 35.6 +0.8**
BROLN Tlhalogang 52.92 72 *i* P **P 21 42 36.6 -0.6**
NPGB Novo Progresso 53.46 324 *e*P **P 21 42 41.3 +0.2**
MATP Matopo 54.10 73 LR LR 22 04 18.1
comp=Z,710nm,18.3s,baz=215,slow=34
CASY Casey 54.23 160 P **P 21 42 45.3 -0.8**
KSANE Kasane 54.48 68 P **P 21 42 48.0 -0.6**
KSANE IAmb IAmb 21 42 50.5
comp=Z,67nm,1.0s
KSANE Kasane 54.48 68 *i* P **P 21 42 49.2 +0.5**
TMAB Tom-Au,PA,Br 55.80 334 *e*P **P 21 42 59.8 +1.8**
ITTB Itaituba 56.09 325 *e*P **P 21 43 01.3 +1.1**
DRV Dumont d'Urvil 57.59 174 P **P 21 43 08.9 -1.2**
MAL2 Monte Alegre, 57.82 327 P **P 21 43 13.2 +0.8**
NNA Nana 58.13 298 P **P 21 43 14.8 +0.1**
NNA Nana 58.13 298 LR LR 22 08 29.9
comp=Z,544nm,21.9s,baz=142,slow=36
NNA Nana 58.13 298 *ce*P **P 21 43 14.9 +0.2**
NNA pmax pmax
comp=Z,80nm,1.0s
LSZ Lusaka 58.17 69 P **P 21 43 14.3 -0.7**
LSZ Lusaka 58.17 69 IAMs_20 IAMs_20 22 08 02.4
comp=Z,2µm,18.0s
LSZ Lusaka 58.17 69 LR LR 22 05 52.9
comp=Z,1µm,19.4s,baz=202,slow=34
LSZ Lusaka 58.17 69 P **P 21 43 14.3 -0.7**
LSZ pmax pmax
comp=Z,32nm,1.0s
LSZ MLR MLR
comp=Z,2µm,18.0s
CZSB Cruzeiro do Su 59.83 305 *e*P **P 21 43 26.2 -0.2**
CZSB Cruzeiro do Su 59.83 305 P **P 21 43 25.3 -1.1**
comp=Z,1µmcomp=Z,88nm,0.9s
TEFE Tefe 60.12 315 *e*P **P 21 43 28.7 +0.3**
FOMA Nahampoana Res 60.83 92 IAMs_20 IAMs_20 22 06 26.2
comp=Z,2µm,18.0s
ATAH Atahualpa 63.07 300 LR LR 22 10 34.7
comp=Z,556nm,21.8s,baz=159,slow=35
VOI Vohitsoka 63.13 90 IAMs_20 IAMs_20 22 04 41.3
comp=Z,2µm,22.0s
BOAV Boa Vista 64.03 322 P **P 21 43 54.4 -0.2**
BOAV Boa Vista 64.03 322 *e*P **P 21 43 54.8 +0.2**
BOAV Boa Vista 64.03 322 P **P 21 43 52.7 -1.9**
comp=Z,1µmcomp=Z,135nm,0.8s
SGC2 Sao Gabriel da 64.11 315 P **P 21 43 53.8 -1.3**
comp=Z,1µmcomp=Z,68nm,1.2s
MDP Montagnes des 64.15 331 LR LR 22 12 11.1
comp=Z,939nm,18.3s,baz=146,slow=36
DBIC Dimbokro 64.80 25 P **P 21 43 59.5 0.0**
DBIC Dimbokro 64.80 25 P **P 21 43 59.9 +0.3**
comp=Z,21nm,1.0s,baz=200,slow=5.7,SNR=10
DBIC LR LR 22 05 39.5
comp=Z,1µm,21.0s,baz=216,slow=30
comp=Z,21nm,1.0s
ABPO Ambohimpanom 65.67 88 P **P 21 44 07.2 +1.8**
ABPO Ambohimpanom 65.67 88 IAMs_20 IAMs_20 22 06 50.4
comp=Z,2µm,20.0s
ABPO Ambohimpanom 65.67 88 P **P 21 44 07.3 +1.8**
ABPO pmax pmax
comp=Z,29nm,1.3s
ABPO MLR MLR
comp=Z,2µm,20.0s
OPO Ambohidratompo 66.00 88 LR LR 22 07 07.2
comp=Z,1µm,21.2s,baz=341,slow=31
MCRA Macar, Loja 66.23 300 P **P 21 44 08.5 -0.4**
comp=Z,1µmcomp=Z,84nm,1.4s
EDA Edea 66.66 41 P **P 21 44 10.9 -0.7**
COHC Cochancay 67.54 301 P **P 21 44 17.7 +0.5**
comp=Z,2µmcomp=Z,92nm,0.8s
PTLC Puerto Leguiza 67.76 307 P **P 21 44 15.8 -2.8**
comp=Z,1µmcomp=Z,107nm,1.2s
PIAT Ana Tenorio 68.34 303 P **P 21 44 24.6 +1.9**
comp=Z,6µmcomp=Z,91nm,1.1s
MACC Macarena, Meta 69.09 309 P **P 21 44 26.6 -0.3**
comp=Z,1µmcomp=Z,89nm,1.5s
FLOC Florencia 69.40 307 P **P 21 44 28.1 -0.8**
FLOC IAmb IAmb 21 44 30.0
comp=Z,66nm,1.0s
OTAV Otavalo 69.51 303 *e*P **P 21 44 30.2 +0.1**
OTAV Otavalo 69.51 303 P **P 21 44 29.6 -0.5**
comp=Z,1µmcomp=Z,54nm,1.5s
TULM Tulcn-Chalpat 69.62 304 P **P 21 44 29.4 -1.4**
comp=Z,3µmcomp=Z,153nm,1.1s
BBAC Balboa, Cauca 70.52 305 P **P 21 44 35.4 -0.5**
comp=Z,1µmcomp=Z,60nm,1.0s
POPC Popayan, Colom 70.71 306 P **P 21 44 37.0 -0.1**
comp=Z,1µmcomp=Z,55nm,1.5s
PRAC Prado 70.95 309 P **P 21 44 37.4 -0.9**
comp=Z,2µmcomp=Z,137nm,1.4s
ORTC Ortega, Tolima 71.28 308 P **P 21 44 38.9 -1.4**
comp=Z,2µmcomp=Z,235nm,1.0s
ROSC El Rosal 71.70 310 P **P 21 44 43.2 -0.1**
ROSC IAmb IAmb 21 44 46.6
comp=Z,50nm,0.9s
ROSC El Rosal 71.70 310 P **P 21 44 43.8 +0.5**
comp=Z,34nm,0.8s,baz=162,slow=2.7,SNR=22
ROSC LR LR 22 17 46.2
comp=Z,703nm,20.0s,baz=180,slow=37
comp=Z,34nm,0.8s
ROSC El Rosal 71.70 310 P **P 21 44 43.2 -0.1**
ROSC pmax pmax
comp=Z,50nm,1.0s
GR1C Gorgona, Isla 71.80 305 P **P 21 44 42.7 -0.8**
YOTC Yotoco, Valle 71.84 307 P **P 21 44 42.7 -1.1**
comp=Z,525nmcomp=Z,59nm,0.9s
MBAR Mbarara 71.92 63 P **P 21 44 46.0 +1.7**
MBAR Mbarara 71.92 63 *i* P **P 21 44 45.7 +1.3**
MBAR pmax pmax
comp=Z,13nm,1.2s
RUSC La Rusia 72.11 311 P **P 21 44 43.9 -2.0**
comp=Z,1µmcomp=Z,111nm,1.3s
GUY2C Guyana, Caldas 72.50 309 P **P 21 44 47.0 -1.2**
comp=Z,623nmcomp=Z,42nm,1.5s
TORD Torodi Ar. Bea 72.70 29 **P 21 44 47.2 -1.4**
TORD IAmb IAmb 21 45 02.2
comp=Z,60nm,1.4s
TORD Torodi Ar. Bea 72.70 29 P **P 21 44 46.9 -1.8**
comp=Z,8.6nm,0.6s,baz=195,slow=5.5,SNR=33
TORD LR LR 22 10 10.2
comp=Z,596nm,21.6s,baz=170,slow=30
comp=Z,8.6nm,0.6s
PTBC PUERTO BERRIO, 73.28 310 P **P 21 44 51.2 -1.0**
comp=Z,743nmcomp=Z,90nm,0.8s
SDV Santo Domingo 73.80 315 IAMs_20 IAMs_20 22 21 50.3
comp=Z,2µm,18.0s
SDV Santo Domingo 73.80 315 LR LR 22 16 40.1
comp=Z,1µm,21.7s,baz=148,slow=35
SDV Santo Domingo 73.80 315 *e*P **P 21 44 56.5 +1.0**
SDV Santo Domingo 73.80 315 P **P 21 44 55.1 -0.4**
comp=Z,1µmcomp=Z,111nm,1.2s
KIBK Kibwezi 74.24 70 IAMs_20 IAMs_20 22 14 51.5
comp=Z,2µm,20.0s
DBBC Dabeiba 74.47 309 P **P 21 44 59.5 +0.2**
KMBO Kilima Mbogo 74.84 69 LR LR 22 14 56.2
comp=Z,1µm,21.3s,baz=196,slow=33
KMBO Kilima Mbogo 74.84 69 *ce*P **P 21 45 03.1 +1.4**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
PTAC Punta Ardita, 75.30 307 P **P 21 45 05.1 +1.1**
comp=Z,244nm,1.0s
APAC Apartado, Choc 75.42 309 P **P 21 45 04.7 0.0**
comp=Z,104nm,1.0s
FDF Fort de France 75.78 326 IAmb IAmb 21 45 10.2
comp=Z,87nm,0.9s
ARGC Ariguani, Magd 76.16 312 P **P 21 45 08.6 -0.3**
comp=Z,2µmcomp=Z,139nm,1.1s
SJCC San Jacinto, C 76.59 311 P **P 21 45 10.5 -0.9**
comp=Z,2µmcomp=Z,141nm,1.1s
SMRC Santa Marta, M 77.33 312 IAmb IAmb 21 45 26.2
comp=Z,63nm,0.8s
LODK Lodwar 77.71 65 P **P 21 45 17.2 -0.5**
ZANG Zanguenga, Cho 77.83 306 *e*P **P 21 45 18.7 +0.4**
CAZU Cerro Azul, Pa 77.87 307 *e*P **P 21 45 16.3 -2.4**
BCIP Isla Barro Col 78.00 307 *e*P **P 21 45 18.9 -0.3**
MLZ Mavora Lakes 78.51 191 P **P 21 45 20.9 -0.9**
MLZ IAmb IAmb 21 45 29.8
comp=Z,77nm,1.4s
MLZ IAMs_20 IAMs_20 22 19 42.2
comp=Z,2µm,18.0s
ODZ Otahua Downs 78.54 193 IAMs_20 IAMs_20 22 22 32.9
comp=Z,1µm,18.0s
WKZ Wanaka 78.95 192 IAMs_20 IAMs_20 22 17 33.7
comp=Z,1µm,19.0s
SABA Saba 79.16 325 P **P 21 45 25.5 0.0**
SMRT St. Maarten 79.51 325 IAmb IAmb 21 45 28.8
comp=Z,95nm,1.0s
RPZ Rata Peaks 79.79 193 P **P 21 45 28.7 -0.2**
comp=Z,5.9nm,0.3s,baz=234,slow=9.6,SNR=3.4
comp=Z,5.9nm,0.3s
SAJE San Jernim 79.86 303 *e*P **P 21 45 27.9 -1.8**
VERH Veragua Rainfo 80.22 304 *e*P **P 21 45 31.6 +0.2**
PIEC Cerro El Cedra 80.32 303 *e*P **P 21 45 31.8 -0.5**
PDPR Patillas Dam, 80.46 323 IAmb IAmb 21 45 33.3
comp=Z,37nm,0.9s
LTZ Lake Taylor 80.55 194 P **P 21 45 32.0 -0.9**
LTZ IAmb IAmb 21 45 44.4
comp=Z,44nm,1.0s
CVTV Tajo 80.55 303 *e*P **P 21 45 33.7 +0.1**
VTR0 Volcan Turrial 80.57 303 *e*P **P 21 45 34.2 +0.5**
CVTR Volcan Turrial 80.57 303 *e*P **P 21 45 34.1 +0.3**
VICA Volcano Irazu 80.58 303 *e*P **P 21 45 34.2 +0.4**
SJG San Juan 80.59 323 P **P 21 45 31.9 -1.3**
SJG IAmb IAmb 21 45 34.0
comp=Z,57nm,1.1s
SJG San Juan 80.59 323 LR LR 22 20 47.2
comp=Z,615nm,21.9s,baz=168,slow=35
SJG San Juan 80.59 323 P **P 21 45 31.9 -1.3**
SJG pmax pmax
comp=Z,57nm,1.2s
SJG MLR MLR
comp=Z,800nm,22.0s
SJG San Juan 80.59 323 P **P 21 45 32.8 -0.4**
comp=Z,19nm,1.6s
CVIMO Finca Eschandi 80.66 303 *e*P **P 21 45 34.8 +0.8**
CELP Cerrillos 80.71 322 IAmb IAmb 21 45 34.6
comp=Z,48nm,1.3s
RKT Rikitea 80.71 243 *e*LR LR 22 10 38.0
comp=Z,4µm,27.2s
HDC Heredia 80.72 303 *e*P **P 21 45 34.6 +0.4**
GCPR Guaynabo City 80.75 323 IAmb IAmb 21 45 35.1
comp=Z,61nm,1.4s
CRPR Cabo Rojo, PR 80.83 322 IAmb IAmb 21 45 35.2
comp=Z,91nm,1.1s
TRT2 Tortugero 81.03 304 *e*P **P 21 45 36.5 +0.8**
VPL1 V. Platanar 81.06 303 *e*P **P 21 45 36.9 +0.7**
MTEVE Monteverde 81.34 303 *e*P **P 21 45 38.5 +0.9**
JTS Las Juntas de 81.37 303 P **P 21 45 37.5 -0.1**
JTS IAmb IAmb 21 45 39.8
comp=Z,45nm,1.1s
JTS Las Juntas de 81.37 303 LR LR 22 24 29.2
comp=Z,236nm,20.2s,baz=140,slow=38
JTS Las Juntas de 81.37 303 *i* P **P 21 45 38.0 +0.4**
JTS pmax pmax
comp=Z,95nm,1.5s
THZ Tophouse 81.45 195 IAmb IAmb 21 46 01.0
comp=Z,179nm,1.9s
QUEB Quebradon, Cot 81.64 303 *e*P **P 21 45 39.5 +0.5**
TAU Tasmania Unive 81.67 176 P **P 21 45 37.8 -1.0**
TAU IAmb IAmb 21 45 45.5
comp=Z,48nm,0.9s
TAU Tasmania Unive 81.67 176 P **P 21 45 37.8 -1.0**
TAU pmax pmax
comp=Z,48nm,0.9s
TENO El Achiote 81.74 303 *e*P **P 21 45 40.4 +0.8**
MSEY Mahe Island 81.95 86 IAMs_20 IAMs_20 22 20 33.9
comp=Z,2µm,18.0s
VORI VORI 82.02 302 *e*P **P 21 45 39.2 -2.0**
PRVC Isla de Provid 82.40 307 IAmb IAmb 21 45 44.8
comp=Z,88nm,1.0s
ACON Acoyapa 82.94 303 IAmb IAmb 21 45 45.8
comp=Z,78nm,0.9s
ACON Acoyapa 82.94 303 P **P 21 45 45.0 -0.7**
TAM Tamanrasset 82.94 30 P **P 21 45 46.8 +1.1**
TAM Tamanrasset 82.94 30 P **P 21 45 46.8 +1.1**
TAM pmax pmax
comp=Z,15nm,0.9s
TAM MLR MLR
comp=Z,500nm,18.0s
SDDR Presa de Saban 83.25 318 IAmb IAmb 21 45 49.9
comp=Z,46nm,1.2s
FURI Furi 84.07 65 IAMs_20 IAMs_20 22 21 31.0
comp=Z,1µm,19.0s
SIUN Universidad Ur 84.27 304 IAmb IAmb 21 45 53.9
comp=Z,43nm,1.0s
NMDO Nuevo Mundo 86.10 316 IAmb IAmb 21 46 04.3
comp=Z,89nm,1.4s
CHIV Chivirico 86.15 314 IAmb IAmb 21 46 04.1
comp=Z,90nm,1.4s
MTO3 Montecristo 87.05 301 IAmb IAmb 21 46 08.0
comp=Z,44nm,1.0s
DGAR Diego Garcia 89.27 102 IAMs_20 IAMs_20 22 30 24.5
comp=Z,3µm,19.0s
MDT Midelt 90.21 19 LR LR 22 23 51.4
comp=Z,686nm,18.4s,baz=217,slow=34
TEIG Tepich 91.56 305 P **P 21 46 27.6 +0.2**
STKA Stephens Creek 92.25 170 P **P 21 46 29.7 -1.0**
STKA Stephens Creek 92.25 170 P **P 21 46 30.8 0.0**
comp=Z,3.9nm,0.6s,baz=165,slow=6.9,SNR=12
comp=Z,3.9nm,0.6s
STKA Stephens Creek 92.25 170 *i* P **P 21 46 29.2 -1.6**
PPT2 Papeete2 92.46 234 *e*P P 21 46 24.2 -7.8
comp=Z,75nm,26.0s
PPT2 Papeete2 92.46 234 *e*S **S 21 57 36.1 +1.8**
comp=Z,448nm,30.8s
PPT2 Papeete2 92.46 234 *e*LR LR 22 16 03.7
comp=Z,718nm,33.0s
PPT2 *e*LR LR 22 16 03.7
comp=Z,1µm,31.0s
SFS San Fernando 93.50 17 IAMs_20 IAMs_20 22 24 42.0
comp=Z,999nm,20.0s
060A Indiantown 94.06 314 IAMs_20 IAMs_20 22 27 32.2
comp=Z,1µm,22.0s
TLIG Tlapa 94.35 295 IAmb IAmb 21 46 42.9
comp=Z,38nm,1.4s
TAOE Nuku Hiva Isla 95.36 246 *e*LR LR 22 17 22.7
comp=Z,651nm,22.3s
DWPF Disney Wildern 95.44 314 IAMs_20 IAMs_20 22 28 59.0
comp=Z,1µm,22.0s
KEST Kesra 96.22 29 LR LR 22 25 59.0
comp=Z,654nm,20.8s,baz=219,slow=33
ESDC Sonseca Array 97.00 18 P **P 21 46 54.4 +2.3**
comp=Z,1.2nm,1.0s,baz=184,slow=6.0,SNR=3.8
553A Crawfordville 98.51 312 IAMs_20 IAMs_20 22 37 21.1
comp=Z,931nm,18.0s
TIGA Tifton 99.25 314 IAMs_20 IAMs_20 22 30 53.8
comp=Z,1µm,22.0s
ASAR Alice Springs 99.32 162 P **Pdif 21 47 01.0 -2.1**
ASAR Alice Springs 99.32 162 P **Pdif 21 47 01.6 -1.5**
comp=Z,2.7nm,0.6s,baz=188,slow=4.5,SNR=27
ASAR PP **PP 21 51 07.7 +2.5**
comp=Z,3.9nm,1.1s,baz=191,slow=7.3,SNR=4.7
ASAR PKKP **PKKPdf 22 03 26.1 -0.4**
comp=Z,1.2nm,0.6s,baz=21,slow=2.4,SNR=14
comp=Z,2.7nm,0.6s
352A Blakely 99.84 313 IAMs_20 IAMs_20 22 38 56.2
comp=Z,908nm,18.0s
152A Waverly Hall 100.79 313 IAMs_20 IAMs_20 22 31 39.5
comp=Z,1µm,22.0s
250A Grady 100.83 312 IAMs_20 IAMs_20 22 39 21.6
comp=Z,747nm,18.0s
545A Edgard 101.00 308 IAMs_20 IAMs_20 22 25 40.9
comp=Z,1µm,20.0s
GHAJ Ghor Haditha 101.72 51 IAMs_20 IAMs_20 22 29 49.8
comp=Z,922nm,21.0s
LRAL Lakeview Retre 102.05 312 IAMs_20 IAMs_20 22 40 19.1
comp=Z,822nm,18.0s
Y49A Blount Mountai 102.52 313 IAMs_20 IAMs_20 22 32 58.3
comp=Z,1µm,22.0s
WRA Warramunga Arr 103.04 162 Pdiff **Pdif 21 47 18.9 -0.7**
comp=Z,1.7nm,0.8s,baz=194,slow=4.0,SNR=10
WRA PP **PP 21 51 29.9 -3.4**
comp=Z,0.3nm,0.3s,baz=187,slow=5.8,SNR=2.6
WRA PKKPbc **PKKPbc 22 03 15.0 +1.5**
comp=Z,1.4nm,0.7s,baz=1.8,slow=2.9,SNR=9.4
X48A Hartselle 103.30 313 IAMs_20 IAMs_20 22 43 54.8
comp=Z,2µm,18.0s
P61A Hammonton 103.30 324 IAMs_20 IAMs_20 22 43 43.5
comp=Z,2µm,18.0s
HKT Hockley 103.38 304 IAMs_20 IAMs_20 22 44 08.9
comp=Z,2µm,20.0s
735A Kenedy 103.41 302 IAMs_20 IAMs_20 22 43 58.1
comp=Z,2µm,18.0s
143A Socs Landing, 103.67 309 IAMs_20 IAMs_20 22 43 57.6
comp=Z,2µm,18.0s
TZTN Tazewell 103.70 316 IAMs_20 IAMs_20 22 43 51.7
comp=Z,2µm,18.0s
Y45A Yeager Farm, C 103.85 311 IAMs_20 IAMs_20 22 43 48.4
comp=Z,1µm,18.0s
R55A Marlinton 103.92 320 IAMs_20 IAMs_20 22 43 56.8
comp=Z,2µm,21.0s
N62A Caumsett State 104.00 326 IAMs_20 IAMs_20 22 43 39.2
comp=Z,1µm,19.0s
WSPT Westport, CT 104.17 326 IAMs_20 IAMs_20 22 43 37.7
comp=Z,1µm,19.0s
PLAL Pickwick Lake 104.18 312 IAMs_20 IAMs_20 22 43 54.3
comp=Z,2µm,18.0s
PAL Palisades 104.21 325 IAMs_20 IAMs_20 22 43 38.7
comp=Z,945nm,20.0s
P57A Homestead Farm 104.23 322 IAMs_20 IAMs_20 22 43 45.0
comp=Z,2µm,18.0s
Q56A Snyder Ridge, 104.25 321 IAMs_20 IAMs_20 22 43 45.6
comp=Z,2µm,18.0s
OXF Oxford 104.34 311 IAMs_20 IAMs_20 22 43 54.5
comp=Z,2µm,18.0s
NATX Nacogdoches 104.35 306 IAMs_20 IAMs_20 22 43 56.4
comp=Z,2µm,18.0s
U49A Red Boiling Sp 104.56 315 IAMs_20 IAMs_20 22 43 43.3
comp=Z,2µm,21.0s
Q54A Coxs Mills 104.80 319 IAMs_20 IAMs_20 22 43 46.1
comp=Z,2µm,18.0s
N58A Sunbury 104.99 323 IAMs_20 IAMs_20 22 43 40.2
comp=Z,1µm,18.0s
MCWV Mont Chateau 105.04 320 IAMs_20 IAMs_20 22 43 53.3
comp=Z,2µm,21.0s
WVT Waverly 105.06 313 IAMs_20 IAMs_20 22 43 42.7
comp=Z,2µm,18.0s
SSPA Standing Stone 105.21 322 IAMs_20 IAMs_20 22 43 41.0
comp=Z,1µm,18.0s
SLBS Sierra La Lagu 105.36 289 IAMs_20 IAMs_20 22 43 45.0
comp=Z,2µm,18.0s
R50A Paris 105.51 317 IAMs_20 IAMs_20 22 43 46.7
comp=Z,2µm,18.0s
O54A Avella 105.69 320 IAMs_20 IAMs_20 22 43 50.6
comp=Z,2µm,20.0s
JCT Junction City 105.72 301 IAMs_20 IAMs_20 22 44 28.3
comp=Z,714nm,19.0s
Q51A Peebles 105.78 318 IAMs_20 IAMs_20 22 43 44.9
comp=Z,2µm,18.0s
R49A Shelbyville 105.85 316 IAMs_20 IAMs_20 22 43 37.7
comp=Z,2µm,21.0s
T45A Paducah 106.16 313 IAMs_20 IAMs_20 22 35 08.7
comp=Z,1µm,22.0s
O52A Adamsville 106.17 319 IAMs_20 IAMs_20 22 43 33.1
comp=Z,1µm,21.0s
WCI Wyandotte Cave 106.24 315 IAMs_20 IAMs_20 22 44 09.0
comp=Z,937nm,22.0s
UOSS Minazif 106.58 70 IAMs_20 IAMs_20 22 41 31.3
comp=Z,2µm,21.0s
TXAR Lajitas Array 106.69 298 Pdiff **Pdif 21 47 34.3 -1.2**
comp=Z,0.1nm,0.5s,baz=106,slow=8.9,SNR=4.0
TXAR PKiKP **PKiKP 21 51 47.2 +1.4**
comp=Z,0.6nm,0.8s,baz=80,slow=3.2,SNR=4.9
ACSO Alum Creek Sta 106.69 319 IAMs_20 IAMs_20 22 43 41.1
comp=Z,1µm,18.0s
VT1 Waterbury 106.86 328 IAMs_20 IAMs_20 22 46 37.5
comp=Z,968nm,18.0s
Z35A Perchaven, San 106.86 305 IAMs_20 IAMs_20 22 43 48.8
comp=Z,2µm,18.0s
P48A Milroy 106.96 316 IAMs_20 IAMs_20 22 43 51.1
comp=Z,2µm,19.0s
S44A Carbondale 106.99 313 IAMs_20 IAMs_20 22 43 45.7
comp=Z,2µm,18.0s
J57A Williamstown 107.05 325 IAMs_20 IAMs_20 22 46 32.8
comp=Z,1µm,18.0s
N51A Ashland 107.06 319 IAMs_20 IAMs_20 22 43 39.0
comp=Z,1µm,19.0s
O49A Covington 107.17 318 IAMs_20 IAMs_20 22 46 48.6
comp=Z,1µm,18.0s
M52A Chesterland 107.24 320 IAMs_20 IAMs_20 22 43 37.6
comp=Z,983nm,19.0s
ERPA Erie 107.26 322 IAMs_20 IAMs_20 22 46 52.1
comp=Z,1µm,20.0s
MNGI Mangalore 107.28 92 *e*P **Pdif 21 47 40.2 +1.8**
ECH Echery 107.42 23 IAMs_20 IAMs_20 22 33 47.5
comp=Z,775nm,20.0s
J55A Hilton 107.52 324 IAMs_20 IAMs_20 22 46 58.3
comp=Z,950nm,21.0s
O48B Farmland 107.54 317 IAMs_20 IAMs_20 22 43 41.5
comp=Z,1µm,19.0s
LONY Lake Ozonia 107.68 326 IAMs_20 IAMs_20 22 47 01.6
comp=Z,857nm,22.0s
M50A Fremont 107.73 319 IAMs_20 IAMs_20 22 43 37.7
comp=Z,944nm,19.0s
N49A Columbus Grove 107.74 318 IAMs_20 IAMs_20 22 43 38.9
comp=Z,1µm,18.0s
P46A Rosedale 107.80 315 IAMs_20 IAMs_20 22 46 50.2
comp=Z,1µm,18.0s
ANTO Ankara 107.90 44 IAMs_20 IAMs_20 22 36 00.5
comp=Z,947nm,21.0s
E62A Clayton Lake 108.00 331 IAMs_20 IAMs_20 22 47 20.2
comp=Z,1µm,22.0s
BRTR Keskin Array B 108.11 45 PP **PP 21 52 05.8 -6.2**
comp=Z,0.8nm,0.8s,baz=193,slow=4.8,SNR=4.8
CCM Cathedral Cave 108.13 312 IAMs_20 IAMs_20 22 43 41.8
comp=Z,1µm,18.0s
U38A Gravette 108.14 308 IAMs_20 IAMs_20 22 43 52.9
comp=Z,2µm,22.0s

N47A	Urbana	108.29	317		IAMs_20	IAMs_20	22 43 38.2			
	comp=Z,1μm,19.0s									
D62A	Allapoint, All	108.30	331		IAMs_20	IAMs_20	22 47 07.0			
	comp=Z,1μm,22.0s									
TUL3	Leonard	108.33	307		IAMs_20	IAMs_20	22 46 56.8			
	comp=Z,1μm,22.0s									
SFIN	Lafayette	108.40	316		IAMs_20	IAMs_20	22 43 39.3			
	comp=Z,1μm,19.0s									
WMOK	Wichita Mounta	108.73	304		IAMs_20	IAMs_20	22 43 44.4			
	comp=Z,2μm,18.0s									
P43A	Skaggs, Pawnee	108.75	314		IAMs_20	IAMs_20	22 43 40.4			
	comp=Z,1μm,18.0s									
R40A	Maddies Statio	108.76	311		IAMs_20	IAMs_20	22 43 49.6			
	comp=Z,2μm,19.0s									
OK052	Battle Ridge R	108.86	306		IAMs_20	IAMs_20	22 43 41.7			
	comp=Z,2μm,18.0s									
OK029	Liberty Lake	108.99	306		IAMs_20	IAMs_20	22 43 42.3			
	comp=Z,2μm,18.0s									
HDIL	Hopedale	109.43	314		IAMs_20	IAMs_20	22 46 54.5			
	comp=Z,1μm,19.0s									
MNTX	Cornudas Mount	109.46	298		IAMs_20	IAMs_20	22 43 40.3			
	comp=Z,1μm,19.0s									
T35A	Sooner Cattle	109.48	307		IAMs_20	IAMs_20	22 46 50.4			
	comp=Z,1μm,18.0s									
L46A	Eue Claire	109.49	317		IAMs_20	IAMs_20	22 46 48.0			
	comp=Z,1μm,19.0s									
ARPR	Arapgir-MALATY	109.52	49		IAMs_20	IAMs_20	22 47 53.2			
	comp=Z,878nm,20.0s									
GERES	GERESS Array B	109.59	27	PP		PP	21 52 17.1	-5.4		
	comp=Z,0.8nm,0.8s,baz=197,slow=4.2,SNR=5.3									
M44A	Midewin, Midew	109.64	316		IAMs_20	IAMs_20	22 46 49.9			
	comp=Z,1μm,21.0s									
P40A	Paris	109.71	312		IAMs_20	IAMs_20	22 46 54.6			
	comp=Z,2μm,19.0s									
I49A	Point Hope	109.86	321		IAMs_20	IAMs_20	22 47 16.9			
	comp=Z,1μm,21.0s									
HQIL	Hanson Quary C	109.91	316		IAMs_20	IAMs_20	22 46 37.2			
	comp=Z,1μm,18.0s									
J47A	Sunmer	109.98	319		IAMs_20	IAMs_20	22 47 47.2			
	comp=Z,716nm,19.0s									
MSTX	Muleshoe	110.01	301		IAMs_20	IAMs_20	22 43 39.0			
	comp=Z,1μm,20.0s									
EPT	El Paso	110.09	297		IAMs_20	IAMs_20	22 43 38.8			
	comp=Z,1μm,20.0s									
N41A	Harden Midland	110.20	313		IAMs_20	IAMs_20	22 46 50.7			
	comp=Z,1μm,20.0s									
TIRR	Tirgusor	110.20	39		IAMs_20	IAMs_20	22 36 23.7			
	comp=Z,975nm,20.0s									
AMTX	Amarillo	110.22	302		IAMs_20	IAMs_20	22 43 38.7			
	comp=Z,1μm,19.0s									
MLR	Muntele Rosu	110.25	37		IAMs_20	IAMs_20	22 36 33.9			
	comp=Z,1μm,19.0s									
L44A	Lake County Fo	110.26	316		IAMs_20	IAMs_20	22 47 06.4			
	comp=Z,887nm,20.0s									
P38A	Dawn	110.42	311		IAMs_20	IAMs_20	22 46 52.3			
	comp=Z,2μm,18.0s									
L42A	Oliver, Polo	110.81	315		IAMs_20	IAMs_20	22 46 43.8			
	comp=Z,1μm,22.0s									
K43A	Burlington	110.87	316		IAMs_20	IAMs_20	22 46 41.5			
	comp=Z,992nm,22.0s									
I45A	Fountain	111.19	318		IAMs_20	IAMs_20	22 47 16.2			
	comp=Z,1μm,21.0s									
N38A	Joes South For	111.26	312		IAMs_20	IAMs_20	22 46 46.7			
	comp=Z,1μm,22.0s									
KSU1	Kansas State U	111.33	308		IAMs_20	IAMs_20	22 46 48.7			
	comp=Z,2μm,18.0s									
L40A	Anamosa	111.48	314		IAMs_20	IAMs_20	22 47 03.7			
	comp=Z,946nm,21.0s									
CLL	Collm	111.68	26		IAMs_20	IAMs_20	22 49 29.1			
	comp=Z,690nm,19.0s									
R32A	Long Quarter,	111.72	307		IAMs_20	IAMs_20	22 46 48.4			
	comp=Z,1μm,18.0s									
JFWS	Jewell Farm	111.80	315		IAMs_20	IAMs_20	22 47 03.2			
	comp=Z,996nm,22.0s									
I42A	Draeger Farm,	112.10	317		IAMs_20	IAMs_20	22 46 35.0			
	comp=Z,828nm,21.0s									
Y22D	IRIS PASSCAL I	112.14	298		IAMs_20	IAMs_20	22 47 07.1			
	comp=Z,1μm,22.0s									
SCIA	State Center	112.18	312		IAMs_20	IAMs_20	22 39 18.0			
	comp=Z,1μm,21.0s									
N35A	Tabor	112.35	310		IAMs_20	IAMs_20	22 47 17.4			
	comp=Z,2μm,20.0s									
E46A	Sault Ste Mari	112.48	321		IAMs_20	IAMs_20	22 47 22.3			
	comp=Z,1μm,20.0s									
CBKS	Cedar Bluff	112.50	306		IAMs_20	IAMs_20	22 47 19.2			
	comp=Z,1μm,20.0s									
ANMO	Albuquerque	112.60	299		IAMs_20	IAMs_20	22 47 18.4			
	comp=Z,2μm,22.0s									
TUC	Tucson	112.70	294		IAMs_20	IAMs_20	22 47 15.8			
	comp=Z,2μm,21.0s									
HYB	Hyderabad	113.00	93	*e*PKiKP		PKiKP	21 51 57.5	-0.4		
HYB				*e*PP		PP	21 52 47.7	+0.6		
HYB				*e*SKSac		SKSac	21 58 43.5	+3.1		
GNI	Garni	113.19	52		IAMs_20	IAMs_20	22 49 28.2			
	comp=Z,1μm,19.0s									
T25A	Trinidad	113.35	302		IAMs_20	IAMs_20	22 47 17.4			
	comp=Z,1μm,19.0s									
L34A	Svendsen Farm,	113.57	310		IAMs_20	IAMs_20	22 46 33.7			
	comp=Z,2μm,18.0s									
G40A	Rib Lake	113.75	317		IAMs_20	IAMs_20	22 46 24.9			
	comp=Z,1μm,22.0s									
BGNE	Belgrade	113.89	309		IAMs_20	IAMs_20	22 46 34.1			
	comp=Z,2μm,19.0s									
I37A	Lemond, Waseca	114.00	314		IAMs_20	IAMs_20	22 46 59.1			
	comp=Z,1μm,18.0s									
KSCO	Kaye Shedlock'	114.00	304		IAMs_20	IAMs_20	22 49 30.7			
	comp=Z,690nm,19.0s									
SDCO	Great Sand Dun	114.36	302		IAMs_20	IAMs_20	22 49 55.0			
	comp=Z,839nm,19.0s									
SCHQ	Schefferville	114.86	336	PKhKP		PKPpre	21 51 57.6			
	comp=Z,20nm,0.6s,baz=180,slow=1.0,SNR=5.1									
HNR	Honiara	114.87	188		IAMs_20	IAMs_20	22 42 21.8			
	comp=Z,2μm,21.0s									
ECSD	EROS Data Cent	115.11	311		IAMs_20	IAMs_20	22 47 20.4			
	comp=Z,2μm,22.0s									
OGNE	Ogallala	115.26	306		IAMs_20	IAMs_20	22 49 22.3			
	comp=Z,1μm,19.0s									
KBZ	Khabaz	115.28	49	*c i*PKIKP		PKiKP	21 52 02.3	+0.9		
KIV	Kislovodsk	115.37	49		IAMs_20	IAMs_20	22 45 15.2			
	comp=Z,1μm,18.0s									
KIV	Kislovodsk	115.37	49	*i* PKIKP		PKPdf	21 52 01.4	-0.3		
KIV				*e*			21 53 03.6			
KIV				*e*PS		PS	22 02 43.7	+0.5		
KIV				pmax		pmax				
	comp=Z,3.0nm,1.0s									
E38A	The Farm, Brul	115.39	316		IAMs_20	IAMs_20	22 47 06.2			
	comp=Z,2μm,21.0s									
MVCO	Mesa Verde	115.40	299		IAMs_20	IAMs_20	22 46 58.2			
	comp=Z,1μm,19.0s									
WUAZ	Wupatki	115.52	296		IAMs_20	IAMs_20	22 47 45.6			
	comp=Z,724nm,20.0s									
K30B	Basset	115.55	309		IAMs_20	IAMs_20	22 46 24.1			
	comp=Z,1μm,18.0s									
AKT	Akhty	115.61	54	*i* PKIKP		PKiKP	21 52 03.4	+1.1		
AKT				*e*			21 53 04.5			
AKT				pmax		pmax				
	comp=Z,6.0nm,1.0s									
KIEV	Kiev	115.84	36		IAMs_20	IAMs_20	22 36 30.4			
	comp=Z,910nm,19.0s									
AKASG	Malin Array Be	115.86	36	PKP		PKPdf	21 52 02.1	-0.1		
	comp=Z,1.7nm,0.9s,baz=239,slow=1.9,SNR=4.9									
AKASG	Malin Array Be	115.86	36	*c i*PKIKP		PKiKP	21 52 03.2	+0.9		
AKASG				pmax		pmax				
	comp=Z,2.0nm,0.9s									
AKBB	Malin Array Si	115.86	36	*c i*PKIKP		PKiKP	21 52 02.9	+0.6		
ISCO	Idaho Springs	116.03	303		IAMs_20	IAMs_20	22 49 18.4			
	comp=Z,940nm,19.0s									
BAR	Barrett	116.08	290		IAMs_20	IAMs_20	22 47 01.9			
	comp=Z,2μm,21.0s									
NRDN	NARMADA NAGAR	116.42	88	*e*P		PKiKP	21 52 09.5	+5.1		
CPE	Camp Elliot	116.47	290		IAMs_20	IAMs_20	22 47 00.3			
	comp=Z,2μm,20.0s									
EYMN	Ely	116.47	317		IAMs_20	IAMs_20	22 47 01.8			
	comp=Z,2μm,21.0s									
NEE2	Needles Airpor	116.61	293		IAMs_20	IAMs_20	22 47 03.3			
	comp=Z,2μm,21.0s									
F33A	5 Mile Ranch,	116.67	313		IAMs_20	IAMs_20	22 47 05.0			
	comp=Z,2μm,21.0s									
SUSD	Miller	116.68	310		IAMs_20	IAMs_20	22 47 06.0			
	comp=Z,2μm,21.0s									
PFO	Pinyon Flats O	116.69	291		IAMs_20	IAMs_20	22 46 60.0			
	comp=Z,2μm,20.0s									
BELC	Belle Mtn. Jos	116.74	292		IAMs_20	IAMs_20	22 47 00.6			
	comp=Z,2μm,21.0s									
SUW	Suwalki	116.84	31		IAMs_20	IAMs_20	22 53 09.3			
	comp=Z,635nm,19.0s									
HAYD	Hayden	117.38	302		IAMs_20	IAMs_20	22 47 05.3			
	comp=Z,1μm,21.0s									
O20A	White River Ci	117.55	301		IAMs_20	IAMs_20	22 47 03.6			
	comp=Z,2μm,22.0s									
MWC	Mount Wilson	118.01	290		IAMs_20	IAMs_20	22 47 30.9			
	comp=Z,963nm,18.0s									
PASC	Pasadena Art C	118.03	290		IAMs_20	IAMs_20	22 46 54.6			
	comp=Z,2μm,20.0s									
KONO	Kongsberg	118.64	20		IAMs_20	IAMs_20	22 41 14.0			
	comp=Z,740nm,18.0s									
OSI	Osito Audit: C	118.66	290		IAMs_20	IAMs_20	22 47 28.2			
	comp=Z,705nm,21.0s									
RSSD	Black Hills	118.67	307		IAMs_20	IAMs_20	22 47 00.6			
	comp=Z,2μm,21.0s									
K22A	Casper	118.68	304		IAMs_20	IAMs_20	22 46 59.7			
	comp=Z,2μm,21.0s									
LRMC	Laurel Mtn Rad	118.77	291		IAMs_20	IAMs_20	22 46 42.1			
	comp=Z,1μm,18.0s									
GWY	Greenwater Val	118.77	293			PKPdf	21 52 08.6	-0.1		
FURC	Furnace Creek,	119.09	293		IAMs_20	IAMs_20	22 45 54.7			
	comp=Z,832nm,21.0s									
MPMC	Manual Prospec	119.10	292		IAMs_20	IAMs_20	22 45 53.1			
	comp=Z,735nm,22.0s									
E28A	Huff	119.11	311		IAMs_20	IAMs_20	22 46 58.4			
	comp=Z,2μm,22.0s									
TPNV	Topopah Spring	119.13	294		IAMs_20	IAMs_20	22 46 55.0			
	comp=Z,2μm,20.0s									
ISA	Isabella, Lake	119.32	291		IAMs_20	IAMs_20	22 47 27.8			
	comp=Z,651nm,20.0s									
SKAR	Skarsfja	119.35	19	*e*P		PKiKP	21 52 09.6	+0.7		
HYA	Hoyanger	119.42	18	*e*P		PKiKP	21 52 09.4	+0.6		
FOO	Floro	119.63	17	*e*P		PKiKP	21 52 09.6	+0.3		
MDND	Maddock	119.65	312		IAMs_20	IAMs_20	22 46 54.6			
	comp=Z,2μm,22.0s									
SPR3	Spring Creek 3	119.70	296			PKPdf	21 52 10.5	-0.1		
VES	Vestal, Richgr	119.78	291		IAMs_20	IAMs_20	22 47 14.9			
	comp=Z,918nm,22.0s									
DUG	Dugway, Tooele	119.85	298		IAMs_20	IAMs_20	22 47 32.2			
	comp=Z,786nm,19.0s									
HFS	Hagfors	119.92	22	PKP		PKPdf	21 52 08.8	-1.0		
	comp=Z,1.9nm,0.6s,baz=152,slow=6.6,SNR=7.1									
NC602	NORSAR Array S	120.02	21	*e*P		PKiKP	21 52 10.2	+0.1		
BW06	Boulder Array	120.21	302		IAMs_20	IAMs_20	22 47 35.9			
	comp=Z,726nm,22.0s									
PDAR	Pinedale Array	120.21	302	PKP		PKPdf	21 52 09.2	-2.1		
	comp=Z,0.3nm,0.4s,baz=132,slow=2.2,SNR=5.5									
PDAR				PP		PP	21 53 37.5	-0.3		
	comp=Z,2.9nm,1.1s,baz=121,slow=7.6,SNR=4.9									
NB2	NORSAR Subarra	120.23	20	PKPdf		PKPdf	21 52 10.1	-0.4		
	comp=Z,18nm,1.7s,baz=202,slow=1.9									
NB2	NORSAR Subarra	120.23	20	PKPdf		PKPdf	21 52 10.1	-0.4		
	baz=202,slow=1.9									
NOA	NORSAR Array B	120.23	20	PKP		PKPdf	21 52 09.3	-1.2		
	comp=Z,3.9nm,0.9s,baz=204,slow=1.9,SNR=12									
NOA				PKKPbc		PKKPbc	22 02 23.4	+5.6		
	comp=Z,0.8nm,0.8s,baz=24,slow=3.3,SNR=3.8									
TIN	Tinemaha, Big	120.25	292		IAMs_20	IAMs_20	22 46 37.4			
	comp=Z,1μm,19.0s									
AKN	Aaknes	120.51	18	*e*P		PKPdf	21 52 10.8	-0.1		
DOMB	Dombas	120.75	19	*e*P		PKiKP	21 52 11.8	+0.3		
AHID	Auburn Hatcher	120.95	301		IAMs_20	IAMs_20	22 45 41.1			
	comp=Z,921nm,19.0s									
MOL	Molde	120.97	18	*e*P		PKiKP	21 52 13.4	+1.5		
LDR	Lodi Road	121.00	84	*e*P		PKiKP	21 52 15.5	+2.5		
ALBI	Allahabad	121.08	90	*e*P		PKiKP	21 52 15.7	+2.4		
KNTI	KHUNTI	121.28	95	*e*P		PKiKP	21 52 16.7	+2.8		
SNOW	Snow King Moun	121.31	302		IAMs_20	IAMs_20	22 46 38.9			
	comp=Z,970nm,19.0s									
NVAR	Mina Array Bea	121.32	293	PKP		PKPdf	21 52 12.8	-0.7		
	comp=Z,2.5nm,0.9s,baz=117,slow=3.7,SNR=7.0									
LOHW	Long Hollow	121.35	302		IAMs_20	IAMs_20	22 46 52.1			
	comp=Z,2μm,22.0s									
TPAW	Teton Pass	121.42	302		IAMs_20	IAMs_20	22 47 01.1			
	comp=Z,2μm,21.0s									
ASOR	Ausora	121.45	84	*e*P		PKiKP	21 52 15.7	+1.8		
ELK	Elko	121.48	297		IAMs_20	IAMs_20	22 45 33.2			
	comp=Z,798nm,19.0s									
FXWY	Fox Creek	121.57	302		IAMs_20	IAMs_20	22 45 47.9			
	comp=Z,1μm,22.0s									
LAO	LASA Array	121.63	307		IAMs_20	IAMs_20	22 46 56.9			
	comp=Z,2μm,20.0s									
RLMT	Red Lodge	121.85	304		IAMs_20	IAMs_20	22 45 46.5			
	comp=Z,1μm,18.0s									
WAKR	Walker	121.97	292			PKiKP	21 52 15.8	+0.9		
OBN	Obninsk	122.00	37		IAMs_20	IAMs_20	22 46 26.0			
	comp=Z,762nm,20.0s									
OBN	Obninsk	122.00	37	*i*PKIKP		PKPdf	21 52 13.8	-0.1		
OBN				*e*			21 53 52.3			
OBN				*i* SS		SS	22 10 42.5	+17		
OBN				pmax		pmax				
	comp=Z,23nm,1.7s									
DGMT	Dagmar	122.09	310		IAMs_20	IAMs_20	22 45 32.1			
	comp=Z,1μm,18.0s									
CMB	Columbia Colle	122.11	291		IAMs_20	IAMs_20	22 46 40.8			
	comp=Z,1μm,20.0s									
WELL	Weller Preserv	122.59	292		IAMs_20	IAMs_20	22 46 49.4			
	comp=Z,1μm,19.0s									
GAYA	Gaya	122.62	93	*e*P		PKiKP	21 52 18.4	+2.1		
NIL	Nilore	122.62	77	PKPdf		PKPdf	21 52 14.6	-1.3		
NIL	Nilore	122.62	77	PKIKP		PKPdf	21 52 14.6	-1.3		
NIL				MLR		MLR				
	comp=Z,16μm,20.0s									
DY2G	Dye2	122.69	351	*i* P		PKPdf	21 52 15.2	-0.1		
BRCI	Bahraich	122.69	88	*e*P		PKiKP	21 52 18.8	+2.4		
MOS	Moscow	122.87	37	*i* PKIKP		PKPdf	21 52 14.3	-1.3		
MOS				*e*			21 54 01.7			
HLID	Hailey	123.16	300		IAMs_20	IAMs_20	22 46 42.9			
	comp=Z,2μm,20.0s									
BOZ	Bozeman (W)	123.31	303		IAMs_20	IAMs_20	22 47 49.2			
	comp=Z,674nm,18.0s									
NSS	Namsos	123.56	19	*e*P		PKiKP	21 52 17.2	+0.3		
DLMT	Dillon	123.60	302		IAMs_20	IAMs_20	22 46 42.7			
	comp=Z,1μm,22.0s									
MFID	Camas Ranch	123.75	299		IAMs_20	IAMs_20	22 46 41.4			
	comp=Z,1μm,19.0s									
ORV	Oroville	123.82	292		IAMs_20	IAMs_20	22 46 34.0			
	comp=Z,1μm,21.0s									
JOSI	Joshimath	123.82	84	*e*P		PKiKP	21 52 20.8	+2.0		
KLP	Kalpa	123.82	82	*e*P		PKiKP	21 52 20.6	+1.7		
FINES	FINESS Array B	124.02	28	PKP		PKPdf	21 52 17.6	0.0		
	comp=Z,8.9nm,0.7s,baz=176,slow=1.9,SNR=28									
EGMT	Eagleton	124.23	306		IAMs_20	IAMs_20	22 58 28.5			
	comp=Z,1μm,21.0s									
WVOR	Wild Horse Val	124.44	296		IAMs_20	IAMs_20	22 46 35.7			
	comp=Z,1μm,20.0s									
PLID	Pearl Lake	125.05	300	PKPdf		PKPdf	21 52 19.9	-0.6		
PLID				IAMs_20		IAMs_20	22 46 34.9			
	comp=Z,1μm,22.0s									
CM31	Chiang Mai Arr	125.13	110	PKPdf		PKPdf	21 52 20.9	-0.3		
CMAR	Chiang Mai Arr	125.13	110	PKPdf		PKPdf	21 52 20.1	-1.1		
CMAR	Chiang Mai Arr	125.13	110	PKP		PKiKP	21 52 21.6	+0.1		
	comp=Z,4.4nm,0.9s,baz=231,slow=1.8,SNR=11									
CMAR	Chiang Mai Arr	125.13	110	*c i*PKIKP		PKPdf	21 52 17.2	-4.0		
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.3s									
MSO	Missoula	125.31	303		IAMs_20	IAMs_20	22 46 34.0			
	comp=Z,1μm,22.0s									
CHTO	Chiang Mai	125.42	110	PKPdf		PKPdf	21 52 21.5	-0.2		
CHTO	Chiang Mai	125.42	110	PKIKP		PKPdf	21 52 21.5	-0.2		
BMO	Blue Mountains	125.52	299		IAMs_20	IAMs_20	22 45 07.4			
	comp=Z,834nm,21.0s									
RAUS	Rausandaksla	125.66	19	*e*P		PKiKP	21 52 21.3	+0.2		
ILULI	Ilulissat	125.81	350	*i* P		PKPdf	21 52 20.0	-0.8		
FFC	Flin Flon	125.86	316		IAMs_20	IAMs_20	22 45 01.1			
	comp=Z,915nm,20.0s									
PINE	Pine Mountain	126.59	296	PKPdf		PKiKP	21 52 23.9	0.0		
FAUS	Fauske	126.73	19	*e*P		PKiKP	21 52 23.2	+0.1		
SHL	Shillong	126.96	98	PKPdf		PKPdf	21 52 24.0	-0.7		
SHL	Shillong	126.96	98	PKIKP		PKPdf	21 52 24.0	-0.7		
LOF	Lofoten	127.08	18	*e*P		PKPdf	21 52 23.2	-0.1		
ABKAR	Akbulak array	127.10	55	PKPdf		PKPdf	21 52 23.8	-0.2		
JNW	Jan Mayen West	127.11	8	*e*P		PKiKP	21 52 24.5	+0.7		
STEI	Steigen	127.21	19	*e*P		PKiKP	21 52 23.8	-0.2		
KLMR	Klimovskoe	127.48	34	*e*PKIKP		PKiKP	21 52 26.6	+1.8		
KLMR				*e*			21 54 27.0			
HAWA	Hanford	127.72	299		IAMs_20	IAMs_20	22 46 23.5			
	comp=Z,1μm,19.0s									
NEW	Newport	127.85	302		IAMs_20	IAMs_20	22 46 34.1			
	comp=Z,771nm,19.0s									
KKAR	Karatay Array	128.01	67	PKPdf		PKPdf	21 52 25.1	-0.9		
KKAR	Karatay Array	128.01	67	PKIKP		PKPdf	21 52 25.1	-0.9		
SUMG	Summit	128.21	356	PKPdf		PKPdf	21 52 25.4	-0.5		
SUMG	Summit	128.21	356	PKIKP		PKPdf	21 52 25.4	-0.5		
SUMG	Summit	128.21	356	*i* P		PKPdf	21 52 26.0	+0.1		
KSH	Kashi	128.40	74	PKP		PKPdf	21 52 27.0	+0.1		
KIRV	Kirov	129.25	41	*c i*PKIKP		PKiKP	21 52 28.1	-0.3		
TRO	Tromso	129.36	19	*e*P		PKPdf	21 52 27.3	-0.3		
JETT	Jettan, Norway	129.57	20	*e*P		PKPdf	21 52 28.2	+0.1		
KTK1	Kautokeino	129.68	21	*e*P		PKPdf	21 52 28.0	-0.3		
LSA	Lhasa	129.73	94	PKP		PKPdf	21 52 25.0	-5.2		
AAK	Ala-Archa	129.79	70	PKPdf		PKPdf	21 52 29.4	-0.1		
AAK	Ala-Archa	129.79	70	*c i*PKIKP		PKiKP	21 52 30.7	+0.4		
AAK				pmax		pmax				
	comp=Z,35nm,2.5s									
DBG	Daneborg	129.79	2	*i* P		PKPdf	21 52 25.4	-2.9		
NLWA	Neilton Lookou	130.56	297		IAMs_20	IAMs_20	23 02 41.8			
	comp=Z,883nm,20.0s									
ARA0	ARCESS Array S	130.57	22	*e*P		PKPdf	21 52 30.1	+0.2		
ARCES	ARCESS Array B	130.57	22	PKPdf		PKPdf	21 52 29.7	-0.3		
ARCES	ARCESS Array B	130.57	22	PKhKP		PKPpre	21 52 20.5			
	comp=Z,0.8nm,0.7s,baz=209,slow=1.7,SNR=5.4									
ARCES				PKP		PKPdf	21 52 29.9	0.0		
	comp=Z,21nm,0.9s,baz=190,slow=1.5,SNR=48									
ARCES	ARCESS Array B	130.57	22	PKIKP		PKPdf	21 52 29.7	-0.3		
KEV	Kevo	131.06	22		IAMs_20	IAMs_20	22 48 00.6			
	comp=Z,1μm,22.0s									
HAMF	Hammerfest	131.11	20	*e*P		PKPdf	21 52 31.1	+0.2		
ARTI	Arti	131.29	48	PKPdf		PKPdf	21 52 31.3	-0.4		
ARTI				IAMs_20		IAMs_20	22 35 20.4			
	comp=Z,1μm,19.0s									
ARTI	Arti	131.29	48	*i* PKIKP		PKiKP	21 52 32.6	0.0		
ARTI							21 54 52.6			
ARTI				SS		SS	22 12 44.0	+22		
LVZ	Lovozero	131.40	26		IAMs_20	IAMs_20	22 47 31.3			
	comp=Z,2μm,22.0s									
LVZ	Lovozero	131.40	26	*c i*PKIKP		PKiKP	21 52 33.1	+0.5		
LVZ				pmax		pmax				
	comp=Z,28nm,1.7s									
DAG	Danmarks Havn	132.29	3	*i* P		PKPdf	21 52 32.0	-1.0		
PZH	PanZhiHua	133.15	107	PKP		PKPdf	21 52 36.6	+0.3		
BORK	Borovoye	134.50	57	*c i*PKIKP		PKiKP	21 52 38.5	-0.7		
BORK				pmax		pmax				
	comp=Z,27nm,2.5s									
GYA	Guiyang	135.74	112	⇓PKP		PKPdf	21 52 41.8	+0.6		
GYA				PP		PP	21 55 23.3	+3.7		
GYA				AMB		AMB				
	comp=Z,91nm,5.8s									
YKA	Yellowknife Ar	135.94	318	PK

	baz=108						
MESA	MESA	146.40 305	P	PKPbc	21 53 00.8	+0.1	
	baz=112						
CTG	Chitna Glacier	146.41 307	P	PKPbc	21 53 00.6	-0.1	
	baz=111						
NJ2	Nanjing	146.47 121	ePKPbc	PKPbc	21 53 01.5	0.0	
GRNC	Granite Creek	146.52 306	IAMs_20	IAMs_20	22 53 18.0		
	comp=Z,1µm,22.0s						
I29M	Ogilvie Camp,	146.54 315	IAMs_20	IAMs_20	22 53 06.8		
	comp=Z,1µm,20.0s						
I29M	Ogilvie Camp,	146.54 315	P	PKPbc	21 53 00.3	-0.5	
	baz=107,SNR=33						
BARN	Barnard Glacie	146.59 307	IAMs_20	IAMs_20	22 52 40.0		
	comp=Z,1µm,20.0s						
DAWY	Dawson	146.60 312	P	PKPbc	21 53 00.7	-0.3	
	baz=108,SNR=36						
H29M	Whitestone	146.80 316	P	PKPbc	21 53 01.5	+0.1	
	baz=106,SNR=22						
G29M	Pine Creek	146.85 318	IAMs_20	IAMs_20	22 53 35.1		
	comp=Z,2µm,21.0s						
G29M	Pine Creek	146.85 318	P	PKPbc	21 53 01.5	-0.1	
	baz=105,SNR=59						
BGLC	Bering Glacier	147.00 304	P	PKPbc	21 53 01.5	-0.6	
	baz=111						
M27K	Edge Creek, AK	147.13 309	IAMs_20	IAMs_20	22 52 32.3		
	comp=Z,1µm,22.0s						
M27K	Edge Creek, AK	147.13 309	P	PKPbc	21 53 02.2	-0.4	
	baz=109						
CRQE	Cirque	147.14 306	P	PKPbc	21 53 02.2	-0.5	
	baz=111						
E29M	Blow River	147.15 320	IAMs_20	IAMs_20	22 52 52.1		
	comp=Z,1µm,21.0s						
E29M	Blow River	147.15 320	P	PKPbc	21 53 02.2	-0.2	
	baz=103,SNR=32						
CRQM	Cirque	147.16 306	IAMs_20	IAMs_20	23 02 28.4		
	comp=Z,1µm,22.0s						
I28M	Miner Creek	147.22 315	P	PKPbc	21 53 02.5	-0.3	
	baz=106,SNR=25						
BCAR	Beaver Creek A	147.31 310		PKPdf	21 52 59.5	-1.1	
MCARA	McCarthy VSAT	147.32 307	IAMs_20	IAMs_20	22 53 31.3		
	comp=Z,1µm,21.0s						
MCARA	McCarthy VSAT	147.32 307	P	PKPbc	21 53 02.9	-0.1	
	baz=110						
L27K	Beaver Creek,	147.33 310	P	PKPbc	21 53 03.3	+0.3	
	baz=108						
VRDI	Verde Repeater	147.47 306	IAMs_20	IAMs_20	22 53 30.1		
	comp=Z,2µm,22.0s						
TIY	Taiyuan	147.52 106	PKPbc	PKPbc	21 53 04.1	-0.3	
EGAK	Eagle	147.54 313	IAMs_20	IAMs_20	22 52 58.2		
	comp=Z,1µm,22.0s						
EGAK	Eagle	147.54 313	P	PKPbc	21 53 03.1	-0.4	
	baz=106						
M26K	Nabesna, AK	147.64 309	IAMs_20	IAMs_20	23 03 42.7		
	comp=Z,1µm,21.0s						
M26K	Nabesna, AK	147.64 309	P	PKPbc	21 53 03.7	-0.3	
	baz=108						
D28M	Stokes Point	147.64 322	P	PKPbc	21 53 04.4	+0.8	
	baz=101						
GLB	Gilahina Butte	147.70 307	IAMs_20	IAMs_20	22 53 26.3		
	comp=Z,2µm,22.0s						
F28M	Old Crow	147.71 319	IAMs_20	IAMs_20	22 52 47.8		
	comp=Z,1µm,20.0s						
F28M	Old Crow	147.71 319	P	PKPbc	21 53 04.1	+0.1	
	baz=102,SNR=43						
K27K	Chicken	147.72 312	IAMs_20	IAMs_20	22 53 32.7		
	comp=Z,1µm,19.0s						
K27K	Chicken	147.72 312	P	PKPbc	21 53 04.5	+0.5	
	baz=106						
E28M	Babbage River	147.79 320	IAMs_20	IAMs_20	22 52 53.9		
	comp=Z,1µm,22.0s						
E28M	Babbage River	147.79 320	P	PKPbc	21 53 03.7	-0.4	
	baz=101,SNR=15						
BMRM	Bremner River	147.91 306	IAMs_20	IAMs_20	23 10 52.8		
	comp=Z,1µm,22.0s						
BMRM	Bremner River	147.91 306	P	PKPbc	21 53 04.9	+0.2	
	baz=109,SNR=8.5						
I27K	Kandik River	147.94 315	P	PKPbc	21 53 04.8	+0.1	
	baz=104,SNR=31						
L26K	Log Cabin Wild	147.98 310	P	PKPbc	21 53 04.8	0.0	
	baz=107,SNR=14						
H27K	Steamboat Moun	148.05 316	P	PKPbc	21 53 05.1	+0.2	
	baz=103,SNR=54						
N25K	Chitina, Valde	148.11 307	IAMs_20	IAMs_20	22 52 46.1		
	comp=Z,1µm,19.0s						
N25K	Chitina, Valde	148.11 307	P	PKPbc	21 53 05.7	+0.4	
	baz=108						
BTO	Baotou	148.22 100	ePKPbc	PKPdf	21 53 03.4	+0.5	
BTO			PKPab	pPKPdf	21 53 11.6	+1.1	
BTO			PP	PP	21 56 39.3	+3.9	
G27K	Doyon Strip	148.22 317	P	PKPbc	21 53 05.3	0.0	
	baz=102,SNR=21						
EYAK	Cordova Ski Ar	148.30 304	P	PKPbc	21 53 05.9	+0.2	
	baz=109						
D27M	Malcolm River	148.41 322	IAMs_20	IAMs_20	22 52 08.8		
	comp=Z,876nm,21.0s						
D27M	Malcolm River	148.41 322	P	PKPbc	21 53 06.5	+0.7	
	baz=99						
DOT	Dot Lake	148.46 311		PKPbc	21 53 06.2	+0.2	
DOT			IAMs_20	IAMs_20	22 53 17.6		
	comp=Z,1µm,22.0s						
E27K	Coleen River	148.46 319	IAMs_20	IAMs_20	23 06 30.8		
	comp=Z,1µm,22.0s						
E27K	Coleen River	148.46 319	P	PKPbc	21 53 06.1	+0.2	
	baz=100,SNR=18						
J26L	Joseph Creek	148.47 312	IAMs_20	IAMs_20	23 07 17.7		
	comp=Z,1µm,21.0s						
J26L	Joseph Creek	148.47 312	P	PKPbc	21 53 06.2	+0.1	
	baz=104,SNR=20						
I26K	Coal Creek Min	148.49 314	IAMs_20	IAMs_20	22 51 51.2		
	comp=Z,1µm,21.0s						
I26K	Coal Creek Min	148.49 314	P	PKPbc	21 53 06.0	0.0	
	baz=104						
DIV	Divide	148.50 305	IAMs_20	IAMs_20	22 52 52.4		
	comp=Z,2µm,22.0s						
HNS	HongShan	148.51 109	⇑PKPbc	PKPbc	21 53 06.9	0.0	
SCRK	Sand Creek	148.51 311	IAMs_20	IAMs_20	23 04 10.9		
	comp=Z,817nm,20.0s						
SCRK	Sand Creek	148.51 311	P	PKPbc	21 53 06.5	+0.2	
	baz=105,SNR=7.0						
HARP	HAARP	148.60 308	P	PKPbc	21 53 06.8	+0.4	
	baz=107						
KLU	Klutina	148.68 306	IAMs_20	IAMs_20	23 02 28.2		
	comp=Z,1µm,20.0s						
KLU	Klutina	148.68 306	P	PKPbc	21 53 07.1	+0.3	
	baz=108,SNR=17						
FID	Port Fidalgo	148.71 305	IAMs_20	IAMs_20	22 53 12.2		
	comp=Z,1µm,20.0s						
RIDG	Independent Ri	148.82 311	IAMs_20	IAMs_20	23 03 05.0		
	comp=Z,1µm,20.0s						
RIDG	Independent Ri	148.82 311	P	PKPbc	21 53 07.5	+0.5	
	baz=105,SNR=11						
TIA	Tai'an	148.89 114	PKPbc	PKPbc	21 53 08.0	0.0	
PAX	Paxson	148.89 309	PKPbc	PKPbc	21 53 07.0	-0.2	
PAX			IAMs_20	IAMs_20	22 53 22.9		
	comp=Z,1µm,21.0s						
PAX	Paxson	148.89 309	PKP2	PKPbc	21 53 07.0	-0.2	
PAX			MLR	MLR			
	comp=Z,1µm,21.0s						
PAX	Paxson	148.89 309	P	PKPbc	21 53 07.3	0.0	
	baz=106,SNR=17						
P23K	Montague Islan	148.90 303	P	PKiKP	21 53 08.2	-0.3	
	baz=105						
M24K	Tolsona, Glenn	148.97 307	P	PKiKP	21 53 08.4	-0.3	
	baz=106,SNR=12						
GLI	Glacier Island	149.03 305	P	PKPbc	21 53 07.7	+0.2	
	baz=108						
G26K	Porcupine Rive	149.08 317	P	PKPbc	21 53 07.7	+0.2	
	baz=100,SNR=13						
K24K	Donnelly Dome	149.24 310	P	PKPbc	21 53 08.1	+0.1	
	baz=104,SNR=5.7						
HHC	Hu-ho-hao-te	149.25 101	ePKPbc	PKPdf	21 53 02.3	-2.2	
J25K	Salcha River,	149.25 312	IAMs_20	IAMs_20	22 51 46.4		
	comp=Z,2µm,21.0s						
J25K	Salcha River,	149.25 312	P	PKiKP	21 53 08.6	-0.6	
	baz=103,SNR=14						
F26K	Sheenjek River	149.34 318	IAMs_20	IAMs_20	22 53 14.8		
	comp=Z,1µm,19.0s						
F26K	Sheenjek River	149.34 318	P	PKPbc	21 53 08.6	+0.5	
	baz=99,SNR=20						
SCM	Sheep Creek Mo	149.42 306	P	PKPbc	21 53 08.8	+0.3	
	baz=106,SNR=6.8						
C27K	Jago River	149.42 322	IAMs_20	IAMs_20	22 51 55.9		
	comp=Z,1µm,21.0s						
C27K	Jago River	149.42 322	P	PKPbc	21 53 08.7	+0.4	
	baz=96						
PRP	Porcupine Dome	149.50 314	IAMs_20	IAMs_20	22 53 12.1		
	comp=Z,991nm,21.0s						
PRP	Porcupine Dome	149.50 314	P	PKPbc	21 53 09.0	+0.3	
	baz=101,SNR=18						
MOY	Mondy	149.57 76	ePKHKP	PKPpre	21 53 04.5		
MOY			pmax	pmax			
	comp=Z,124nm,2.0s						
M23K	Glacier View	149.59 306	P	PKPbc	21 53 09.2	+0.3	
	baz=106,SNR=8.0						
PWL	Port Wells	149.61 304	IAMs_20	IAMs_20	22 53 09.7		
	comp=Z,1µm,20.0s						
PWL	Port Wells	149.61 304	P	PKPbc	21 53 09.0	0.0	
	baz=107,SNR=14						
H25L	Birch Creek	149.76 315	P	PKiKP	21 53 09.9	-0.1	
	baz=100						
DHY	Denali Highway	149.76 309	PKPbc	PKPbc	21 53 09.3	-0.1	
DHY			IAMs_20	IAMs_20	23 06 19.8		
	comp=Z,930nm,19.0s						
DHY	Denali Highway	149.76 309	P	PKiKP	21 53 09.9	-0.5	
	baz=104,SNR=16						
WAT6	Susitna Watana	149.80 308	P	PKPbc	21 53 09.8	+0.2	
	baz=105,SNR=17						
KNK	Knik Glacier	149.82 305	P	PKPbc	21 53 09.8	+0.4	
	baz=106						
C26K	Camden Bay	149.86 323	P	PKiKP	21 53 10.2	0.0	
	baz=94						
SML	Sawmill	149.87 306	IAMs_20	IAMs_20	22 52 56.7		
	comp=Z,1µm,21.0s						
SML	Sawmill	149.87 306	P	PKPbc	21 53 09.5	-0.1	
	baz=106,SNR=11						
HDA	Harding Lake	149.87 311	P	PKPbc	21 53 09.3	-0.2	
	baz=102,SNR=12						
F25K	Christian Rive	149.89 318	IAMs_20	IAMs_20	22 51 32.4		
	comp=Z,1µm,19.0s						
F25K	Christian Rive	149.89 318	P	PKiKP	21 53 10.1	-0.3	
	baz=98,SNR=27						
SEW	Seward	149.91 302	P	PKiKP	21 53 10.1	-0.4	
	baz=108						
ILAR	Eielson Array	149.92 312	PKPbc	PKPbc	21 53 09.0	-0.6	
ILAR	Eielson Array	149.92 312	PKP	PKPdf	21 53 03.0	-1.8	
	comp=Z,0.7nm,0.7s,baz=313,slow=2.7,SNR=4.9						
ILAR			PKPbc	PKiKP	21 53 10.1	-0.4	
	comp=Z,47nm,0.9s,baz=123,slow=1.5,SNR=115						
E25K	Arctic Village	149.93 319	IAMs_20	IAMs_20	23 15 30.3		
	comp=Z,1µm,21.0s						
E25K	Arctic Village	149.93 319	P	PKiKP	21 53 10.1	-0.4	
	baz=97						
G25K	Bearman Lake	149.95 316	P	PKiKP	21 53 10.2	-0.3	
	baz=99,SNR=24						
O22K	Cooper Landing	150.15 303	IAMs_20	IAMs_20	23 06 56.1		
	comp=Z,1µm,21.0s						
PMR	Palmer	150.18 305	P	PKPbc	21 53 10.0	-0.2	
	baz=106						
ZAK	Zakamensk	150.21 79	ePKIKP	PKPdf	21 53 05.0	-0.7	
ZAK			pmax	pmax			
	comp=Z,78nm,1.6s						
POKR	Poker Plat Res	150.22 313	P	PKPbc	21 53 10.2	-0.1	
	baz=101						
WAT1	Susitna Watana	150.22 308	P	PKPbc	21 53 10.6	+0.1	
	baz=104						
RC01	Rabbit Creek A	150.33 304	P	PKiKP	21 53 11.2	-0.3	
	baz=106						
D25K	Kavik River	150.33 321	IAMs_20	IAMs_20	22 51 47.6		
	comp=Z,999nm,22.0s						
D25K	Kavik River	150.33 321	P	PKPbc	21 53 10.8	+0.2	
	baz=94						
COLA	College	150.35 312	PKPbc	PKPbc	21 53 10.1	-0.5	
COLA	College	150.35 312	PKiKP	PKPbc	21 53 10.1	-0.5	
COLA			MLR	MLR			
	comp=Z,2µm,21.0s						
COLA	College	150.35 312	P	PKPbc	21 53 10.3	-0.3	
	baz=101						
BRSE	Bradley Lake S	150.43 301	P	PKPbc	21 53 11.2	+0.2	
	baz=108						
G24K	Hadweenzic Riv	150.48 316	IAMs_20	IAMs_20	23 06 47.0		
	comp=Z,1µm,21.0s						
G24K	Hadweenzic Riv	150.48 316	P	PKiKP	21 53 11.5	-0.1	
	baz=98,SNR=20						
MCK	McKinley	150.59 310	P	PKPbc	21 53 11.4	+0.2	
	baz=102						
SONM	Songino Array	150.63 86		PKPdf	21 53 05.1	-1.4	
SONM				PKPbc	21 53 11.8	-0.2	
SONM	Songino Array	150.63 86	PKP	PKPdf	21 53 06.4	-0.1	
	comp=Z,3.2nm,1.1s,baz=205,slow=3.4,SNR=15						
SONM			PKPbc	PKPbc	21 53 12.0	0.0	
	comp=Z,12nm,0.5s,baz=241,slow=2.8,SNR=41						
SONM	Songino Array	150.63 86	PKiKP	PKPdf	21 53 05.1	-1.4	
SONM					21 53 11.8		
M22K	Willow	150.68 305	IAMs_20	IAMs_20	22 52 49.0		
	comp=Z,2µm,22.0s						
M22K	Willow	150.68 305	P	PKiKP	21 53 11.8	-0.3	
	baz=104,SNR=8.5						
KDAK	Kodiak Island	150.72 297	P	PKPbc	21 53 11.6	0.0	
	baz=110						
F24K	Squaw Lake	150.74 318	IAMs_20	IAMs_20	23 10 02.8		
	comp=Z,1µm,20.0s						
F24K	Squaw Lake	150.74 318	P	PKiKP	21 53 12.2	0.0	
	baz=96,SNR=12						
NEA2	Nenana	150.81 311	P	PKiKP	21 53 12.2	-0.1	
	baz=100						
OHAK	Old Harbor	150.88 296	P	PKPbc	21 53 12.2	+0.1	
	baz=110						
CUT	Chulitna	150.90 307	P	PKiKP	21 53 12.3	-0.3	
	baz=103						
BWN	Browne	150.91 310	IAMs_20	IAMs_20	23 02 39.2		
	comp=Z,2µm,21.0s						
CAPN	Captain Cook N	150.91 303	P	PKiKP	21 53 12.9	+0.3	
	baz=106						
E24K	Your Creek	151.01 319	P	PKiKP	21 53 12.5	-0.3	
	baz=94						
ULN	Ulaanbaatar	151.02 86	PKPdf	PKPdf	21 53 05.0	-2.2	
ULN	Ulaanbaatar	151.02 86	PKiKP	PKPdf	21 53 05.0	-2.2	
ULN			MLR	MLR			
	comp=Z,18µm,19.0s						
I23K	Minto, Yukon-K	151.02 312	IAMs_20	IAMs_20	23 06 59.3		
	comp=Z,1µm,21.0s						
I23K	Minto, Yukon-K	151.02 312	P	PKiKP	21 53 13.0	+0.3	
	baz=99						
TLY	Talaya	151.03 77	PKPdf	PKPdf	21 53 06.7	-0.1	
TLY			PKPbc	PKiKP	21 53 13.0	-0.3	
C24K	Franklin Bluff	151.16 322	P	PKiKP	21 53 12.9	0.0	
	baz=91						
D24K	Happy Valley	151.19 321	IAMs_20	IAMs_20	22 52 03.4		
	comp=Z,1µm,21.0s						
D24K	Happy Valley	151.19 321	P	PKiKP	21 53 12.9	-0.1	
	baz=92						
H23K	Yukon River	151.20 314	IAMs_20	IAMs_20	22 51 24.4		
	comp=Z,1µm,21.0s						
H23K	Yukon River	151.20 314	P	PKiKP	21 53 12.9	-0.3	
	baz=98						
BJT	Baijiatuau	151.20 107	PKPdf	PKPdf	21 53 07.6	+0.1	
BJT	Baijiatuau	151.20 107	PKiKP	PKPdf	21 53 07.6	+0.1	
BJT			MLR	MLR			
	comp=Z,20µm,20.0s						
BJI	Beijing	151.22 107	PKPbc	PKPdf	21 53 07.0	-0.5	
SKT	Skwentna	151.38 306	P	PKiKP	21 53 13.4	-0.2	
	baz=103						
O20K	Slope Mountain	151.43 301	P	PKiKP	21 53 13.9	0.0	
	baz=106						
E23K	Chandalar	151.43 319	IAMs_20	IAMs_20	22 52 27.2		
	comp=Z,1µm,20.0s						
E23K	Chandalar	151.43 319	P	PKiKP	21 53 13.6	-0.1	
	baz=94,SNR=7.3						
TOLK	Toolik Lake Re	151.45 320	IAMs_20	IAMs_20	22 52 48.5		
	comp=Z,1µm,20.0s						
TOLK	Toolik Lake Re	151.45 320	P	PKiKP	21 53 13.5	-0.1	
	baz=92						
G23K	Bananza Creek	151.49 316	IAMs_20	IAMs_20	22 52 30.6		
	comp=Z,1µm,21.0s						
G23K	Bananza Creek	151.49 316	P	PKiKP	21 53 14.0	+0.3	
	baz=96,SNR=23						
N20K	Mount Spurr	151.52 304	P	PKPbc	21 53 13.3	-0.2	
	baz=104						
SPCR	Spurr Chakacha	151.52 304	P	PKPbc	21 53 13.6	0.0	
	baz=104						
BPAW	Bear Paw Mtn.	151.55 310	P	PKPbc	21 53 13.5	0.0	
	baz=100						
MLY	Manley	151.59 312	IAMs_20	IAMs_20	22 51 21.2		
	comp=Z,1µm,22.0s						
MLY	Manley	151.59 312	P	PKPbc	21 53 13.7	+0.1	
	baz=98						
R18K	Karluk	151.59 296	P	PKiKP	21 53 13.9	-0.2	
	baz=109						
COLD	Coldfoot	151.60 317	IAMs_20	IAMs_20	22 51 41.6		
	comp=Z,1µm,22.0s						
COLD	Coldfoot	151.60 317	P	PKiKP	21 53 14.2	+0.3	
	baz=94						
IRK	Irkutsk	151.63 76	ePKIKP	PKPdf	21 53 06.6	-1.1	
IRK			pmax	pmax			
	comp=Z,75nm,2.3s						
C23K	Itkillik River	151.83 322	PKPbc	PKiKP	21 53 14.5	+0.3	
C23K	Itkillik River	151.83 322	P	PKiKP	21 53 14.6	+0.3	
	baz=89						
D23K	Nanushuk River	151.86 320	IAMs_20	IAMs_20	23 04 46.4		
	comp=Z,2µm,21.0s						
D23K	Nanushuk River	151.86 320	P	PKiKP	21 53 14.7	+0.3	
	baz=91						
PPLA	Purkeypile	151.87 307	IAMs_20	IAMs_20	22 57 28.6		
	comp=Z,1µm,22.0s						
PPLA	Purkeypile	151.87 307	P	PKiKP	21 53 15.0	+0.2	
	baz=101						
H22K	Ishtalitna Cre	151.95 314	P	PKiKP	21 53 15.2	+0.5	
	baz=96						
G22K	Bettles	152.09 316	P	PKiKP	21 53 15.1	+0.2	
	baz=94						
CHUM	Lake Minchumin	152.09 309	P	PKPbc	21 53 14.7	0.0	
	baz=99						
I21K	Tanana	152.13 312	P	PKiKP	21 53 14.8	-0.2	
	baz=97						
Q18K	Katmai Hardscr	152.21 298	P	PKPbc	21 53 14.9	-0.4	
	baz=107						
E22K	Anaktuvuk Pass	152.26 319	P	PKiKP	21 53 15.8	+0.5	
	baz=91						
O19K	Port Alsworth	152.28 301	IAMs_20	IAMs_20	22 42 13.3		
	comp=Z,1µm,20.0s						
O19K	Port Alsworth	152.28 301	P	PKiKP	21 53 16.1	+0.6	
	baz=105						
F22K	John River	152.38 317	P	PKiKP	21 53 15.8	+0.3	
	baz=92						
N19K	Bonanza Creek	152.50 303	P	PKiKP	21 53 16.4	+0.3	
	baz=103						
H21K	Melozitna Rive	152.52 313	P	PKiKP	21 53 16.1	+0.3	
	baz=95						
Q17K	Contact Creek	152.54 297	P	PKiKP	21 53 16.2	0.0	
	baz=107						
D22K	Ayikyak River	152.58 320	P	PKiKP	21 53 17.5	+1.6	
	baz=89						
R17L	Mt. Peulik Vol	152.59 295	P	PKiKP	21 53 17.1	+0.8	
	baz=108						
O18K	Koktuh Hills	152.63 300	IAMs_20	IAMs_20	23 07 51.4		
	comp=Z,1µm,21.0s						
M19K	Big River Lodg	152.69 305	IAMs_20	IAMs_20	22 53 00.8		
	comp=Z,1µm,21.0s						
M19K	Big River Lodg	152.69 305	P	PKiKP	21 53 17.7	+1.4	
	baz=101						
B22K	Teshekpuk Lake	152.77 323	PKPbc	PKPbc	21 53 15.6	-0.4	
B22K	Teshekpuk Lake	152.77 323	P	PKiKP	21 53 17.9	+1.7	
	baz=86						
K20K	Telida	152.79 308	IAMs_20	IAMs_20	22 52 24.9		
	comp=Z,2µm,21.0s						
G21K	Allakaket	152.86 315	P	PKiKP	21 53 16.8	+0.2	
	baz=93,SNR=6.1						
F21K	Alatna River	152.88 317	P	PKiKP	21 53 18.0	+1.4	
	baz=92						
IMAR	Indian Mountai	152.93 314	PKPdf	PKPdf	21 53 06.0	-3.2	
IMAR			PKPbc	PKPbc	21 53 16.5	0.0	
J20K	Nowinta River	152.93 310	IAMs_20	IAMs_20	23 08 06.7		
	comp=Z,1µm,21.0s						
J20K	Nowinta River	152.93 310	P	PKiKP	21 53 18.1	+1.3	
	baz=97						
L19K	White Mountain	152.96 305	P	PKiKP	21 53 18.2	+1.3	
	baz=100						
Q16K	King Salmon	153.04 297	P	PKiKP	21 53 18.4	+1.3	
	baz=106						
E21K	Killik River	153.06 319	P	PKiKP	21 53 18.5	+1.6	
	baz=89						
P17K	Kvichak River	153.07 299	P	PKiKP	21 53 18.3	+1.2	
	baz=105						
I20K	Naaghedeneel	153.14 311	IAMs_20	IAMs_20	22 51 30.2		
	comp=Z,2µm,22.0s						
I20K	Naaghedeneel	153.14 311	P	PKiKP	21 53 18.8	+1.7	
	baz=96						
N18K	Kilae Creek	153.15 302	P	PKiKP	21 53 19.0	+1.6	
	baz=103						
R16K	Pilot Point	153.19 295	P	PKiKP	21 53 18.3	+0.9	
	baz=108						
A22K	Sinclair Lake	153.21 325	P	PKiKP	21 53 19.3	+2.2	
	baz=83						
B21K	Ikpikpuk River	153.23 322	P	PKiKP	21 53 19.0	+1.8	
	baz=86						
M18K	Stony River	153.28 304	P	PKiKP	21 53 18.9	+1.3	
	baz=101						
C21K	Knifeblade Rid	153.33 321	P	PKiKP	21 53 19.2	+1.8	
	baz=89						
CHNA	Chernabura Isl	153.34 288	P	PKiKP	21 53 19.0	+1.2	
	baz=112						
H20K	Anotleneega Mo	153.37 313	P	PKiKP	21 53 19.2	+1.5	
	baz=94						
O17K	Koliganek Bris	153.53 300	P	PKiKP	21 53 19.5	+1.4	
	baz=104						
J19K	Poorman	153.56 309	P	PKiKP	21 53 19.6	+1.6	
	baz=96						
A21K	Barrow	153.69 326	P	PKiKP	21 53 19.7	+1.6	
	baz=80						
N17K	Nushagak Hills	153.74 301	P	PKiKP	21 53 20.0	+1.5	
	baz=102						
F20K	Avaraart Lake	153.75 316	P	PKiKP	21 53 19.8	+1.5	
	baz=90						
XLT	XiLinHaoTe	153.77 101	ePKPbc	PKiKP	21 53 19.6	+0.3	
P16K	Nushagak River	153.80 298	P	PKiKP	21 53 19.8	+1.2	
	baz=105						
L18K	Granite Mounta	153.81 305	P	PKiKP	21 53 20.2	+1.6	
	baz=99						
S14K	Fog Glacier	153.82 291	P	PKiKP	21 53 20.1	+1.1	
	baz=109						
E20K	Nigu River	153.89 319	P	PKiKP	21 53 20.1	+1.4	
	baz=87,SNR=7.7						
J18K	Innoko River	153.98 308	P	PKiKP	21 53 20.5	+1.5	
	baz=96						
O16K	Kokwok River B	153.99 299	P	PKiKP	21 53 20.7	+1.7	
	baz=103						
SDPT	Sand Point	154.00 289	P	PKiKP	21 53 20.6	+1.5	
	baz=110						
D20K	Etivluk River	154.02 320	P	PKiKP	21 53 20.3	+1.4	
	baz=86						
H19K	Roundabout Mou	154.02 313	P	PKiKP	21 53 20.4	+1.5	
	baz=92						
M17K	Holitna River	154.03 303	P	PKiKP	21 53 20.5	+1.4	
	baz=100						
B20K	Meade River	154.07 323	IAMs_20	IAMs_20	23 17 27.4		
	comp=Z,1µm,20.0s						
B20K	Meade River	154.07 323	P	PKiKP	21 53 21.0	+2.1	
	baz=82						
GCSA	Galena City Sc	154.16 311	P	PKiKP	21 53 21.0	+1.8	
	baz=94						
E19K	Redstone River	154.33 317	IAMs_20	IAMs_20	22 50 47.7		
	comp=Z,1µm,21.0s						
E19K	Redstone River	154.33 317	P	PKiKP	21 53 21.4	+1.9	
	baz=88,SNR=6.2						
N16K	Nishlik Lake	154.50 301	P	PKiKP	21 53 21.5	+1.3	
	baz=101						
L17K	Donlin	154.54 305	P	PKiKP	21 53 21.9	+1.8	
	baz=98						
F19K	Shaleruckik Mo	154.56 316	P	PKiKP	21 53 22.1

baz=99
O14K Tigyukauivet M 155.50 297 P **PKPab 21 53 40.4 +1.4**
baz=102
E18K Tukpahlearik C 155.63 317 P **PKPab 21 53 40.7 +1.3**
baz=84
C18K Utukok River 155.69 320 IAMs_20 IAMs_20 23 12 10.7
comp=Z,1μm,21.0s
C18K Utukok River 155.69 320 P **PKPab 21 53 41.5 +1.8**
baz=81
J16K Anvik River 155.71 307 P **PKPab 21 53 41.2 +1.3**
baz=94
G17K Kiwalik Mounta 155.77 313 P **PKPab 21 53 41.5 +1.4**
baz=89
B18K Kokolik River 155.78 322 P **PKPab 21 53 41.9 +1.9**
baz=79
I17K Unalakleet 155.78 309 P **PKPab 21 53 41.6 +1.5**
baz=92
N14K Kuskokwak Cree 155.83 299 P **PKPab 21 53 42.4 +2.0**
baz=100
F17K Baldwin Pennin 155.97 315 P **PKPab 21 53 43.0 +2.1**
baz=86
L15K Ungalak Mounta 155.99 303 P **PKPab 21 53 42.4 +1.4**
baz=97
K15K Wolf Creek Mou 156.07 305 P **PKPab 21 53 42.9 +1.5**
baz=95
M14K Bethel 156.10 301 P **PKPab 21 53 43.2 +1.7**
baz=98
E17K Hotham Inlet 156.14 317 P **PKPab 21 53 43.0 +1.4**
baz=84
RDOG Red Dog Mine 156.41 319 **PKPab 21 53 43.2 +0.4**
RDOG Red Dog Mine 156.41 319 P **PKPab 21 53 44.2 +1.4**
baz=81
C17K DeLong Mountai 156.44 320 P **PKPab 21 53 44.1 +1.2**
baz=79
G16K Koyuk River 156.49 312 P **PKPab 21 53 44.9 +1.8**
baz=87
L14K Kuka Creek 156.52 302 P **PKPab 21 53 45.1 +1.8**
baz=96
D17K Noatak River 156.54 318 P **PKPab 21 53 45.4 +2.2**
baz=81
M13K Dall Lake 156.73 300 P **PKPab 21 53 46.2 +1.9**
baz=98
UNV Unalaska Valle 156.76 282 P **PKPab 21 53 45.5 +0.9**
baz=112
J14K Nanvaranak Lak 157.03 306 P **PKPab 21 53 47.2 +1.7**
baz=92
G15K Niukluk 157.22 312 P **PKPab 21 53 47.5 +1.2**
baz=87
C16K Lisburne Hills 157.26 320 P **PKPab 21 53 47.8 +1.5**
baz=78
F15K North Star Dit 157.41 313 P **PKPab 21 53 48.8 +1.7**
baz=84
K13K Kusilvak Mount 157.51 304 P **PKPab 21 53 50.0 +2.4**
baz=94
MJAR Matsushiro Arr 158.39 146 PKPab **PKPab 21 53 54.1 +2.0**
comp=Z,0.7nm,0.4s,baz=175,slow=4.3,SNR=4.2
CN2 Changchun 158.78 113 *e*PKP **PKPdf 21 53 18.9 +1.2**
BNX BinXian 161.12 111 PKP **PKPdf 21 53 18.5 -1.8**
ZEA Zeya 165.05 87 *e*PKIKP **PKPdf 21 53 23.8 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
YAK Yakutsk 166.44 53 *e*PKIKP **PKPdf 21 53 24.0 -0.6**
YAK *e* 21 58 14.8
YAK pmax pmax
comp=Z,8.0nm,1.2s
YAK pmax pmax
comp=N,5.0nm,2.0s
YAK pmax pmax
comp=E,6.0nm,1.9s
YAK pmax pmax
comp=Z,283nm,6.4s
YAK pmax pmax
comp=N,244nm,5.2s
YAK pmax pmax
comp=E,124nm,5.8s
YSS Yuzhno-Sakhali 169.20 140 *i* PKIKP **PKPdf 21 53 20.1 -6.9**
YSS *e* 21 58 29.5
YSS *e* 22 00 21.4
YSS *e*PPS PPS 22 12 30.6
YSS *e*SS SS 22 19 25.0 +2.6

DJA 14 21:55:45.7±0.3, 9°S±8°×11°3E±°, h132km±6km, M3.5/14, mb3.8/4, MLv3.4/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLJI	**Banyuglugur**	**1.23**	**46**	P	Pn	21 56 11.4	+0.4
BLJI				S	Sn	21 56 30.7	+0.4
JAGI	**Jajag, Banyuwa**	**1.43**	**85**	P	Pn	21 56 14.1	+0.9
JAGI				S	Sn	21 56 34.9	+0.8
PCJI	**Pacitan**	**1.57**	**285**	P	Pn	21 56 15.5	+0.8
PCJI				S	Sn	21 56 37.7	+0.8
GRJI	**Gresik**	**1.70**	**352**	P	Pn	21 56 16.0	-0.2
ABJI	**Asem Bagus**	**1.71**	**62**	P	Pn	21 56 17.3	+0.9
ABJI				S	Sn	21 56 40.8	+1.0
UGM	**Wanagama**	**2.27**	**288**	P	Pn	21 56 23.1	-0.1
UGM				S	Sn	21 56 52.1	+0.2
KPJI	**Karang Pucung**	**3.95**	**288**	P	Pn	21 56 44.4	-0.5
KPJI				S	Sn	21 57 31.5	+0.7
TWSI	**Taliwang, Sumb**	**4.13**	**92**	P	Pn	21 56 47.4	+0.2
PLAI	**Plampang**	**5.01**	**93**	P	Pn	21 56 59.6	+0.6
22nm,1.1s							
CGJI	**Cibinong**	**7.23**	**285**	P	Pn	21 57 29.0	+0.1
CGJI				S	Sn	21 58 49.7	+0.1

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*NEIC **14** 22:00:09.0±1.8, 21°.14S±0°.10×173°.8W±0°.1, h10km±1km, mb5.1/109, Error ellipse: s-maj=17.2km s-min=16.4km az=137.0*
*IDC **14** 22:00:08.7±0.5, 21°.31S×174°.49W, h0km, mb4.6/16, mbtmp4.6/17, ML4.6/1, MS3.9/2, Error ellipse: s-maj=18.7km s-min=14.4km az=135.0*
*BJI **14** 22:00:09.3, 21°.01S×173°.75W, h14km, mB5.6/7, mb5.2/38*
*NOU **14** 22:00:14.5, 20°.99S×173°.54W, h99km, mb4.8/15, Tonga Islands*
ISC 14 22:00:09.3±0.5, 21°20S±0°.06×173°82W±0°.05, h13km±2km, h13km:pP-P, n291, σ1§58/304, mb5.1/87, 26C-25D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.23**	**61**	Pn	**Pn**	**22 01 12.3**	**-1.0**
NIUE	**Niue**	**4.23**	**61**	P	**Pn**	**22 01 12.4**	**-1.0**
NIUE	**Niue**	**4.23**	**61**	S	**Sn**	**22 01 58.3**	**-4.3**
AFI	**Afiamalu**	**7.51**	**15**	Pn	**Pn**	**22 01 57.5**	**-1.1**
AFI	**Afiamalu**	**7.51**	**15**	P	**Pn**	**22 01 57.5**	**-1.1**
AFI	**Afiamalu**	**7.51**	**15**	S	**Sn**	**22 03 18.7**	**-5.0**
MSVF	**Nonsavu**	**8.41**	**293**	Pn	**Pn**	**22 02 14.9**	**+4.0**
MSVF	**Nonsavu**	**8.41**	**293**	P	**Pn**	**22 02 14.9**	**+4.0**
RAR	**Rarotonga**	**13.11**	**93**	Pn	**Pn**	**22 03 12.6**	**-2.6**
RAR	**Rarotonga**	**13.11**	**93**	Pn	**Pn**	**22 03 13.0**	**-2.2**
12nm,0.3s,baz=238,slow=5.8,SNR=26							
RAR				LR	LR	22 09 20.9	
comp=Z,696nm,18.0s,baz=272,slow=40							
RAR	**Rarotonga**	**13.11**	**93**	P	**Pn**	**22 03 13.1**	**-2.1**
PINNC	**Pines Island,**	**17.44**	**262**		**Pn**	**22 04 12.8**	**+0.5**
PINNC				IAmb	IAmb	22 04 14.1	
comp=Z,271nm,1.9s							
YATNC	**Mamie plateau,**	**17.95**	**264**	P	**P**	**22 04 19.9**	**+0.7**
YATNC	**Mamie plateau,**	**17.95**	**264**	S	**S**	**22 07 44.7**	**-0.4**
OUENC	**Ouen Island, N**	**18.00**	**263**	P	**P**	**22 04 22.2**	**+2.5**
DZM	**Mont Dzumac**	**18.37**	**264**	P	**Pn**	**22 04 23.1**	**-0.8**
comp=Z,26nm,0.8s,baz=79,slow=18,SNR=10							
URZ	**Urewera**	**18.71**	**203**	P	**P**	**22 04 26.0**	**-1.4**
comp=Z,1.8nm,0.3s,baz=16,slow=1.4,SNR=9.0							
URZ				S	Sn	22 07 41.2	-16
comp=Z,12nm,1.0s,baz=336,slow=20,SNR=1.4							
comp=Z,17nm,0.6s							
URZ	**Urewera**	**18.71**	**203**	P	**Pn**	**22 04 29.3**	**+1.4**
SANVU	**Saraoutou**	**18.89**	**284**	P	**P**	**22 04 28.0**	**-1.6**
BKZ	**Black Stump Fm**	**19.74**	**203**	P	**P**	**22 04 37.2**	**-1.6**
BKZ				IAmb	IAmb	22 04 41.7	
comp=Z,160nm,1.7s							
SNZO	**South Karori**	**22.28**	**203**	P	**P**	**22 05 06.7**	**+0.6**
CTZ	**Chatham Island**	**22.59**	**185**	P	**P**	**22 05 08.8**	**-0.6**
QRZ	**Quartz Range**	**22.74**	**208**	P	**P**	**22 05 09.8**	**-1.2**
QRZ	**Quartz Range**	**22.74**	**208**	P	**P**	**22 05 10.3**	**-0.7**
PPT2	**Papeete2**	**23.14**	**85**	*e*LR	LR	22 10 50.4	
comp=Z,521nm,22.0s							
PPT2				*e*LR	LR	22 10 52.1	
comp=Z,537nm,21.0s							
KHZ	**Kahutara**	**23.67**	**204**	P	**P**	**22 05 19.0**	**-1.4**
RPZ	**Rata Peaks**	**25.74**	**206**	P	**P**	**22 05 36.4**	**-3.0**

FOZ	**Fox Glacier**	**26.11**	**208**	P	**P**	**22 05 39.7**	**-3.1**
JCZ	**Jackson Bay**	**26.99**	**208**	P	**P**	**22 05 49.8**	**-1.1**
HNR	**Honiara**	**27.82**	**291**	LR	LR	22 15 33.2	
comp=Z,160nm,20.7s,baz=142,slow=34							
MLZ	**Mavora Lakes**	**28.31**	**207**	P	**P**	**22 06 02.4**	**-0.2**
MLZ				IAmb	IAmb	22 06 10.7	
comp=Z,31nm,1.2s							
ARMA	**Armidale**	**32.32**	**246**	P	**P**	**22 06 36.4**	**-2.0**
TAOE	**Nuku Hiva Isla**	**34.67**	**74**	*e*LR	LR	22 16 17.3	
comp=Z,651nm,22.3s							
RKT	**Rikitea**	**35.96**	**100**	*e*LR	LR	22 16 46.6	
comp=Z,14μm,41.0s							
CTAO	**Charters Tower**	**37.31**	**264**	P	**P**	**22 07 18.4**	**-3.1**
TAU	**Tasmania Unive**	**38.94**	**227**	P	**P**	**22 07 33.4**	**-1.5**
TAU				IAmb	IAmb	22 08 17.4	
comp=Z,98nm,1.8s							
PMG	**Port Moresby**	**39.31**	**281**	P	**P**	**22 07 35.6**	**-2.6**
PMG				IAmb	IAmb	22 07 37.4	
comp=Z,28nm,0.8s							
STKA	**Stephens Creek**	**41.03**	**245**	P	**P**	**22 07 49.2**	**-3.2**
STKA				IAmb	IAmb	22 07 50.3	
comp=Z,56nm,0.9s							
STKA	**Stephens Creek**	**41.03**	**245**	P	**P**	**22 07 49.3**	**-3.1**
comp=Z,7.9nm,0.8s,baz=94,slow=11,SNR=20							
comp=Z,7.9nm,0.8s							
COEN	**Coen**	**41.52**	**273**	P	**P**	**22 07 54.6**	**-2.1**
BBOO	**Buckleboo**	**45.75**	**244**	P	**P**	**22 08 26.9**	**-3.6**
BBOO				IAmb	IAmb	22 08 53.7	
comp=Z,80nm,1.9s							
JAY	**Jayapura**	**47.98**	**287**	P	**P**	**22 08 46.5**	**-1.7**
comp=Z,43nm,0.8s							
ASAR	**Alice Springs**	**48.16**	**257**	P	**P**	**22 08 46.5**	**-3.0**
comp=Z,18nm,0.8s,baz=91,slow=8.2,SNR=122							
ASAR				PcP	**PcP**	**22 10 16.7**	**-0.3**
comp=Z,2.8nm,0.7s,baz=113,slow=3.6,SNR=5.4							
ASAR				S	S	22 15 39.4	-9.1
comp=Z,1.3nm,1.2s,baz=93,slow=15,SNR=5.0							
comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**48.36**	**262**	P	**P**	**22 08 47.3**	**-3.8**
WRAB				IAmb	IAmb	22 08 48.6	
comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**48.37**	**262**	P	**P**	**22 08 47.2**	**-3.9**
WRA	**Warramunga Arr**	**48.37**	**262**	P	**P**	**22 08 47.3**	**-3.9**
comp=Z,9.8nm,0.8s,baz=99,slow=6.9,SNR=46							
WRA				PcP	**PcP**	**22 10 15.8**	**-2.0**
comp=Z,4.2nm,0.8s,baz=94,slow=3.6,SNR=5.9							
comp=Z,9.8nm,0.8s							
FORT	**Forrest**	**52.61**	**247**	P	**P**	**22 09 21.4**	**-1.6**
FORT				IAmb	IAmb	22 09 23.9	
comp=Z,15nm,0.7s							
KNRA	**Kununurra**	**54.50**	**265**	P	**P**	**22 09 34.9**	**-2.3**
KNRA				IAmb	IAmb	22 09 46.4	
comp=Z,20nm,1.3s							
FITZ	**Fitzroy Crossi**	**56.80**	**262**	P	**P**	**22 09 50.7**	**-3.0**
SWI	**Sorong**	**57.20**	**283**	P	**P**	**22 09 54.9**	**-1.6**
comp=Z,45nm,0.9s							
VNDA	**Vanda**	**57.59**	**186**	P	**P**	**22 09 58.9**	**+0.6**
VNDA	**Vanda**	**57.59**	**186**	P	**P**	**22 10 00.5**	**+2.1**
comp=Z,4.0nm,0.9s,baz=358,slow=7.0,SNR=20							
comp=Z,4.0nm,0.9s							
SOEI	**Soe**	**60.42**	**271**	P	**P**	**22 10 17.9**	**-1.1**
SOEI				IAmb	IAmb	22 10 38.9	
comp=Z,24nm,0.8s							
SOEI	**Soe**	**60.42**	**271**	P	**P**	**22 10 17.7**	**-1.4**
comp=Z,32nm,0.7s							
PSA00	**Pilbara Seismi**	**61.31**	**256**	P	**P**	**22 10 20.8**	**-4.1**
MBWA	**Marble Bar**	**61.51**	**257**	P	**P**	**22 10 23.4**	**-2.8**
MBWA				IAmb	IAmb	22 10 24.3	
comp=Z,14nm,0.8s							
NWAO	**Narrogin (SRO)**	**61.54**	**243**	P	**P**	**22 10 26.9**	**+0.6**
SANI	**Sanana**	**61.55**	**280**	P	**P**	**22 10 24.6**	**-2.0**
comp=Z,17nm,1.1s							
MORW	**Morawa**	**63.17**	**247**	P	**P**	**22 10 34.7**	**-2.6**
KAPI	**Kappang**	**66.23**	**274**	LR	LR	22 38 46.4	
comp=Z,19μm,21.2s,baz=268,slow=35							
QSPA	**South Pole Qui**	**68.87**	**180**		**P**	**22 11 15.8**	**+2.3**
QSPA				IAmb	IAmb	22 11 33.6	
comp=Z,16nm,0.9s							
QSPA	**South Pole Qui**	**68.87**	**180**	P	**P**	**22 11 17.0**	**+3.5**
comp=Z,6.4nm,1.0s,baz=318,slow=1.0,SNR=21							
MJAR	**Matsushiro Arr**	**73.14**	**321**	P	**P**	**22 11 39.9**	**+0.3**
MJAR	**Matsushiro Arr**	**73.14**	**321**	P	**P**	**22 11 39.9**	**+0.3**
comp=Z,10nm,0.9s,baz=156,slow=6.2,SNR=18							
comp=Z,10nm,0.9s							
JMN	**Monobe**	**73.93**	**317**	P	**P**	**22 11 45.7**	**+1.4**
JNU	**Nakatsue**	**75.51**	**315**	P	**P**	**22 11 53.9**	**+0.5**
SMAI	**San Martin Ant**	**76.54**	**158**	P	**P**	**22 11 59.4**	**+0.7**
SMAI				IAmb	IAmb	22 12 05.2	
comp=Z,29nm,1.5s							
KMRM	**Mail Ridge**	**76.89**	**37**	P	**P**	**22 12 00.2**	**-1.0**
LEGD	**La Grand CA**	**77.01**	**41**	P	**P**	**22 12 01.4**	**-0.4**
ISA	**Isabella, Lake**	**77.09**	**43**	P	**P**	**22 12 01.8**	**-0.7**
ISA				IAmb	IAmb	22 12 12.7	
comp=Z,14nm,1.2s							
KSM	**Kuching**	**77.38**	**277**	P	**P**	**22 12 03.2**	**-1.2**
KSM				IAmb	IAmb	22 12 05.5	
comp=Z,18nm,0.9s							
O02D	**Mt. Diablo Mer**	**77.38**	**38**	P	**P**	**22 12 02.8**	**-1.2**
O02D				IAmb	IAmb	22 12 11.9	
comp=Z,14nm,0.9s							
CMB	**Columbia Colle**	**77.39**	**41**	P	**P**	**22 12 03.8**	**-0.3**
WELL	**Weller Preserv**	**77.44**	**40**	P	**P**	**22 12 02.6**	**-1.7**
WSHM	**Spangler Hills**	**77.69**	**44**	P	**P**	**22 12 03.3**	**-2.6**
ORV	**Oroville**	**77.71**	**39**	P	**P**	**22 12 05.5**	**-0.3**
BELC	**Belle Mtn. Jos**	**77.72**	**46**	P	**P**	**22 12 08.5**	**+2.3**
CLC	**China Lake**	**77.75**	**44**	P	**P**	**22 12 09.4**	**+3.3**
CWC	**Cottonwood Cre**	**77.82**	**43**	P	**P**	**22 12 04.7**	**-2.0**
BC3	**Big Chuckawall**	**77.89**	**47**	P	**P**	**22 12 05.5**	**-1.5**
N02D	**Trinity Center**	**77.96**	**37**	P	**P**	**22 12 06.3**	**-0.9**
N02D				IAmb	IAmb	22 12 16.0	
comp=Z,23nm,1.4s							
MPMC	**Manual Prospec**	**77.97**	**44**	P	**P**	**22 12 06.5**	**-1.0**
PETK	**Petropavlovsk-**	**78.02**	**343**	P	**P**	**22 12 09.1**	**+1.9**
comp=Z,6.0nm,0.7s,baz=114,slow=7.2,SNR=5.1							
comp=Z,6.0nm,0.7s							
O03E	**Paynes Creek**	**78.02**	**38**	P	**P**	**22 12 07.3**	**-0.2**
O03E				IAmb	IAmb	22 12 14.7	
comp=Z,40nm,1.4s							
WAKR	**Walker**	**78.26**	**41**	P	**P**	**22 12 07.5**	**-1.6**
WAKR				IAmb	IAmb	22 12 16.1	
comp=Z,14nm,1.0s							
QSM	**Queen of Sheba**	**78.31**	**44**	P	**P**	**22 12 06.6**	**-2.6**
QSM				IAmb	IAmb	22 12 27.8	
comp=Z,23nm,1.7s							
IRM	**Iron Mountain**	**78.39**	**46**	P	**P**	**22 12 09.4**	**-0.3**
BEKR	**Beckworth**	**78.58**	**39**	P	**P**	**22 12 09.6**	**-1.2**
LHV	**Little Huntoon**	**78.68**	**41**	P	**P**	**22 12 10.9**	**-0.1**
LHV				IAmb	IAmb	22 12 33.0	
comp=Z,15nm,1.0s							
GMN	**Gold Mountain**	**78.87**	**43**	P	**P**	**22 12 11.4**	**-1.1**
NVAR	**Mina Array Bea**	**78.91**	**41**	P	**P**	**22 12 13.0**	**+0.3**
NVAR	**Mina Array Bea**	**78.91**	**41**	P	**P**	**22 12 16.6**	**+3.9**
comp=Z,5.4nm,0.8s,baz=223,slow=7.6,SNR=19							
comp=Z,5.4nm,0.8s							
TPH	**Tonopah**	**79.36**	**42**	P	**P**	**22 12 14.0**	**-1.2**
TPH				IAmb	IAmb	22 12 24.4	
comp=Z,19nm,1.4s							
J04A	**Umpqua Nationa**	**79.80**	**36**	P	**P**	**22 12 16.4**	**-1.0**
J04A				IAmb	IAmb	22 12 24.2	
comp=Z,25nm,0.8s							
KSRS	**Korea Array**	**80.04**	**317**	P	**P**	**22 12 20.2**	**+1.7**
comp=Z,6.7nm,0.8s,baz=139,slow=6.0,SNR=12							
comp=Z,6.7nm,0.8s							
KSAR	**Wonju Array Be**	**80.06**	**317**	P	**P**	**22 12 19.0**	**+0.3**
K05A	**Summer Lake**	**80.13**	**37**	P	**P**	**22 12 18.8**	**-0.4**
K05A				IAmb	IAmb	22 12 45.5	
comp=Z,32nm,1.3s							
R11B	**Troy Canyon, C**	**80.56**	**43**	P	**P**	**22 12 20.5**	**-1.1**
PINE	**Pine Mountain**	**80.80**	**36**	P	**P**	**22 12 22.2**	**-0.6**
PINE				IAmb	IAmb	22 12 29.8	
comp=Z,16nm,0.9s							
MDSI	**Maura Dua**	**80.94**	**269**	P	**P**	**22 12 22.2**	**-1.8**
comp=Z,22nm,1.1s							
HOOD	**Mount Hood Mea**	**81.43**	**34**	P	**P**	**22 12 26.3**	**+0.2**
HOOD				IAmb	IAmb	22 12 36.6	
comp=Z,11nm,0.9s							
P18K	**Big Mountain,**	**81.74**	**9**	P	**P**	**22 12 27.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**81.78**	**324**	P	**P**	**22 12 29.9**	**+2.2**
comp=Z,2.8nm,0.8s,baz=116,slow=6.6,SNR=3.5							
comp=Z,2.8nm,0.8s							
J08A	**Circle Bar Ran**	**81.89**	**37**	P	**P**	**22 12 28.8**	**+0.3**
J08A				IAmb	IAmb	22 12 53.6	
comp=Z,15nm,1.3s							
G06A	**Carlson Farm,**	**81.92**	**35**	P	**P**	**22 12 28.6**	**+0.1**
G06A				IAmb	IAmb	22 12 54.3	
comp=Z,20nm,1.3s							

MAW	**Mawson**	**82.20**	**199**	P	**P**	**22 12 30.1**	**+0.5**
comp=Z,3.9nm,0.7s,baz=140,slow=9.2,SNR=18							
comp=Z,3.9nm,0.7s							
GNW	**Green Mountain**	**82.35**	**32**	P	**P**	**22 12 30.0**	**-0.6**
GNW				IAmb	IAmb	22 12 38.8	
comp=Z,12nm,1.0s							
D05A	**Enumclaw**	**82.51**	**33**	P	**P**	**22 12 32.2**	**+0.7**
ILSW	**Iliamna Southw**	**82.64**	**10**	P	**P**	**22 12 31.6**	**-0.4**
KSI	**Kapahiang**	**82.72**	**269**	P	**P**	**22 12 32.5**	**-1.0**
M16K	**Timber Creek**	**82.81**	**7**	P	**P**	**22 12 32.7**	**0.0**
MXC	**Moxie City**	**82.98**	**34**	P	**P**	**22 12 33.7**	**-0.2**
MXC				IAmb	IAmb	22 12 40.5	
comp=Z,10nm,1.0s							
E07A	**Sunnyside**	**83.19**	**34**	P	**P**	**22 12 34.8**	**-0.3**
E07A				IAmb	IAmb	22 12 41.8	
comp=Z,22nm,0.9s							
HAWA	**Hanford**	**83.25**	**34**	P	**P**	**22 12 34.5**	**-0.9**
HAWA				IAmb	IAmb	22 12 42.0	
comp=Z,10nm,0.8s							
NJ2	**Nanjing**	**83.36**	**308**	*e*P	**P**	**22 12 37.3**	**+1.0**
NJ2				pmax	pmax		
comp=Z,11nm,0.6s							
MDJ	**Mudanjiang**	**83.38**	**323**	P	**P**	**22 12 35.8**	**-0.2**
MDJ				IAmb	IAmb	22 12 39.8	
comp=Z,25nm,1.0s							
MDJ	**Mudanjiang**	**83.38**	**323**	P	**P**	**22 12 38.4**	**+2.4**
MDJ				pmax	pmax		
comp=Z,29nm,1.0s							
MYKOM	**Kota Tinggi**	**83.49**	**274**	P	**P**	**22 12 36.4**	**-0.9**
MYKOM				IAmb	IAmb	22 12 38.4	
comp=Z,22nm,0.9s							
K15K	**Wolf Creek Mou**	**83.78**	**6**	P	**P**	**22 12 40.5**	**+2.8**
TMUT	**Trail Mountain**	**83.90**	**44**	P	**P**	**22 12 37.9**	**-1.4**
TMUT				IAmb	IAmb	22 12 57.0	
comp=Z,10nm,0.9s							
D08A	**Wollman Farm,**	**84.00**	**34**	P	**P**	**22 12 38.1**	**-1.1**
D08A				IAmb	IAmb	22 12 45.7	
comp=Z,15nm,0.9s							
E09A	**Wood Farm, Sta**	**84.07**	**35**	P	**P**	**22 12 39.3**	**-0.3**
E09A				IAmb	IAmb	22 12 45.7	
comp=Z,11nm,1.0s							
TXAR	**Lajitas Array**	**84.18**	**56**	P	**P**	**22 12 43.6**	**+2.9**
comp=Z,1.0nm,0.9s,baz=193,slow=5.1,SNR=7.5							
comp=Z,1.0nm,0.9s							
STLK	**Strandline Lak**	**84.29**	**10**	P	**P**	**22 12 39.8**	**-0.6**
STLK				IAmb	IAmb	22 12 43.8	
comp=Z,9.6nm,0.9s							
B08A	**Colville Reser**	**84.63**	**33**	P	**P**	**22 12 41.0**	**-1.5**
B08A				IAmb	IAmb	22 12 48.2	
comp=Z,8.5nm,1.0s							
SKT	**Skwentna**	**84.79**	**10**	IAmb	IAmb	22 12 47.4	
comp=Z,17nm,1.0s							
ANMO	**Albuquerque**	**84.84**	**50**	P	**P**	**22 12 42.6**	**-1.4**
BSUT	**Blindstream Ca**	**84.87**	**43**	P	**P**	**22 12 43.6**	**-0.6**
BSUT				IAmb	IAmb	22 13 08.3	
comp=Z,27nm,1.8s							
DIV	**Divide**	**85.11**	**13**	P	**P**	**22 12 44.8**	**+0.2**
BMRM	**Bremner River**	**85.22**	**14**	P	**P**	**22 12 43.5**	**-1.6**
BMRM				IAmb	IAmb	22 12 51.0	
comp=Z,20nm,0.9s							
CN2	**Changchun**	**85.28**	**321**	*e*P	**P**	**22 12 47.4**	**+1.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
BNX	**BinXian**	**85.29**	**323**	P	**P**	**22 12 47.3**	**+1.6**
BNX				pmax	pmax		
comp=Z,25nm,0.8s							
GRNC	**Granite Creek**	**85.67**	**15**	P	**P**	**22 12 47.8**	**+0.2**
GRNC				IAmb	IAmb	22 12 53.6	
comp=Z,20nm,1.0s							
M24K	**Tolsona, Glenn**	**85.91**	**13**	P	**P**	**22 12 48.4**	**-0.1**
PLCA	**Paso Flores**	**85.93**	**132**	P	**P**	**22 12 52.7**	**+3.3**
comp=Z,3.6nm,1.0s,baz=246,slow=4.7,SNR=3.6							
comp=Z,3.6nm,1.0s							
LOGN	**Logan Glacier**	**85.94**	**15**	P	**P**	**22 12 49.9**	**+1.1**
LOGN				IAmb	IAmb	22 12 59.0	
comp=Z,19nm,1.0s							
WHN	**Wuhan**	**86.03**	**305**	P	**P**	**22 12 50.8**	**+1.1**
J19K	**Poorman**	**86.10**	**8**	P	**P**	**22 12 48.6**	**-0.7**
J19K				IAmb	IAmb	22 13 27.7	
comp=Z,38nm,1.5s							
TIA	**Tai'an**	**86.66**	**311**	P	**P**	**22 12 53.8**	**+1.0**
TIA				pmax	pmax		
comp=Z,13nm,1.0s							
PDAR	**Pinedale Array**	**86.84**	**42**	P	**P**	**22 12 56.4**	**+2.6**
comp=Z,1.7nm,0.9s,baz=198,slow=4.1,SNR=7.8							
comp=Z,1.7nm,0.9s							
SYO	**Syowa Base**	**86.86**	**191**	‖*e*P	**P**	**22 12 52.6**	**-0.6**
TROLL	**Troll, Antarti**	**87.00**	**179**	‖P	**P**	**22 12 55.0**	**+0.9**
comp=Z,165nm,1.0s							
IPM	**Ipoh**	**87.09**	**276**	P	**P**	**22 12 54.4**	**-1.0**
MNSI	**Mandailing Nat**	**87.11**	**272**	P	**P**	**22 12 54.7**	**-0.8**
comp=Z,36nm,0.9s							
VNA3	**Neumayer Olymp**	**87.14**	**175**	‖P	**P**	**22 12 54.5**	**-0.2**
comp=Z,5.4nm,0.8s							
SNAA	**Sanae**	**87.16**	**177**	‖P	**P**	**22 12 55.5**	**+0.7**
comp=Z,69nm,0.9s							
SNAA	**Sanae**	**87.16**	**177**	P	**P**	**22 12 54.3**	**-0.5**
SNAA				IAmb	IAmb	22 13 00.5	
comp=Z,10nm,1.3s							
SNAA	**Sanae**	**87.16**	**177**	P	**P**	**22 12 55.8**	**+1.0**
comp=Z,3.1nm,0.9s,baz=201,slow=5.2,SNR=7.6							
comp=Z,3.1nm,0.9s							
K24K	**Donnelly Dome**	**87.52**	**12**	P	**P**	**22 12 56.8**	**+0.4**
G18K	**Tagagawik**	**87.59**	**6**	P	**P**	**22 12 57.5**	**+0.9**
VNA2	**Neumayer--Watz**	**87.63**	**176**	‖P	**P**	**22 12 57.7**	**+0.7**
comp=Z,4.0nm,0.8s,baz=180,slow=3.4							
WRH	**Wood River Hil**	**87.70**	**11**	P	**P**	**22 12 57.6**	**+0.5**
BCAR	**Beaver Creek A**	**87.70**	**14**	P	**P**	**22 12 58.1**	**+0.9**
KULM	**Kulim**	**87.73**	**277**	P	**P**	**22 12 57.8**	**-0.7**
KULM				IAmb	IAmb	22 13 00.0	
comp=Z,14nm,0.8s							
VNA1	**Neumayer--Stat**	**87.83**	**175**	‖P	**P**	**22 12 58.9**	**+1.1**
comp=Z,6.8nm,1.0s	

BTO S **S** **22 24 37.3 +3.2**
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,150nm,3.8s
CMAR Chiang Mai Arr 94.04 288 P **P** **22 13 28.5 +0.7**
CMAR Chiang Mai Arr 94.04 288 P **P** **22 13 29.9 +2.1**
comp=Z,8.0nm,0.9s,baz=124,slow=2.8,SNR=46
CHTO Chiang Mai 94.16 288 P **P** **22 13 28.7 +0.4**
CHTO IAmb IAmb 22 13 30.5
comp=Z,11nm,0.8s
PZH PanZhiHua 94.50 297 P **P** **22 13 31.3 +1.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
LZH Lanzhou 96.32 306 *e*P **P** **22 13 39.8 +1.8**
LZH sP pwP 22 13 52.5 +4.6
LZH pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 98.87 318 P Pdif 22 13 50.7 +1.5
comp=Z,0.6nm,0.8s,baz=124,slow=2.6,SNR=3.7
comp=Z,0.6nm,0.8s
GTA Gaotai 100.46 308 *e*P **Pdif** **22 14 01.3 +4.8**
GTA pmax pmax
comp=Z,2.0nm,0.5s
WMQ Urumqi 110.35 310 *e*PKP **PKiKP** **22 18 43.3 +2.0**
ZALV Zalesovo Beam 113.49 321 PKiKP **PKiKP** **22 18 45.7 -1.1**
comp=Z,1.3nm,0.6s,baz=144,slow=2.1,SNR=6.8
MKAR Makanchi Array 114.53 313 PKP **PKiKP** **22 18 49.4 +0.3**
comp=Z,0.9nm,0.7s,baz=90,slow=2.4,SNR=5.9
KURBB Kurchatov Arra 117.22 317 PKP **PKPdf** **22 18 53.9 -0.2**
comp=Z,1.1nm,0.8s,baz=94,slow=1.8,SNR=11
BOSA Boshof 127.16 201 PKP **PKiKP** **22 19 14.6 0.0**
comp=Z,3.5nm,0.9s,baz=188,slow=4.3,SNR=4.8
ARCES ARCESS Array B 130.26 351 PKP **PKiKP** **22 19 19.9 +0.5**
comp=Z,1.3nm,0.6s,baz=346,slow=2.5,SNR=7.2
FINES FINESS Array B 137.47 346 PKhKP PKPpre 22 19 25.0
comp=Z,1.5nm,1.0s,baz=116,slow=3.2,SNR=1.1
NOA NORSAR Array B 140.04 356 PKhKP PKPpre 22 19 32.1
comp=Z,0.6nm,0.8s,baz=16,slow=3.0,SNR=3.3
NOA PKP pPKPdf 22 19 38.5 -0.4
comp=Z,1.5nm,0.9s,baz=13,slow=4.1,SNR=3.8
HFS Hagfors 140.74 354 PKhKP PKPpre 22 19 31.2
comp=Z,1.1nm,0.7s,baz=71,slow=6.6,SNR=1.8
GURO Guroymak-BITLI 144.70 307 **PKPdf** **22 19 46.0 -0.2**
SUW Suwalki 144.78 343 *e*PKP **PKPdf** **22 19 46.2 +0.6**
SUW Suwalki 144.78 343 **PKPdf** **22 19 45.7 +0.1**
EKA Eskdalemuir Ar 145.20 9 PKPbc **PKPdf** **22 19 47.5 +1.3**
comp=Z,2.1nm,0.7s,baz=328,slow=3.0,SNR=8.3
AKASG Malin Array Be 145.44 334 **PKPbc** **22 19 46.1 -0.7**
AKASG Malin Array Be 145.44 334 PKPbc **PKPab** **22 19 47.3 +0.3**
comp=Z,8.1nm,0.6s,baz=41,slow=4.0,SNR=32
KIEV Kiev 145.45 334 **PKPbc** **22 19 45.7 -1.2**
KIEV Kiev 145.45 334 ⇓P **PKPab** **22 19 47.8 +0.8**
MBAR Mbarara 147.66 231 PKPdf **PKPdf** **22 19 49.8 -2.2**
SORM Soroca 147.76 332 ⇓P **PKiKP** **22 19 54.6 -1.1**
PURM Purcari 148.22 328 ⇓P **PKiKP** **22 19 56.6 0.0**
KWP Kalwaria Pacla 148.74 339 *e*PKP **PKPab** **22 20 02.2 +2.2**
BNN Bunyan 149.06 311 PKPbc **PKPbc** **22 19 56.0 -1.6**
OJC Ojcow 149.11 343 *e*PKP **PKiKP** **22 19 58.8 +0.4**
OJC Ojcow 149.11 343 PKPbc **PKPdf** **22 19 54.5 +1.5**
KSP Ksiaz 149.37 347 *e*PKP **PKiKP** **22 20 00.4 +1.4**
STHS Stebnicka Huta 149.40 341 *e*PKP **PKPab** **22 20 04.4 +1.8**
CLL Collm 149.48 352 *e*PKPbc **PKiKP** **22 19 59.0 -0.1**
comp=Z,6.0nm,0.7s
CLL *i* PKPab **pPKPab** **22 20 04.3 -0.3**
comp=Z,20nm,1.0s
CLL *ex* x 22 23 27.0
CLL *e*SKPdf **SKPdf** **22 23 29.0 +2.0**
CLL *e*PP **PP** **22 23 33.0 +3.3**
BURAR Bucovina Array 149.49 334 PKPbc **PKPbc** **22 19 57.2 -1.1**
BURAR Bucovina Array 149.49 334 ⇓P **PKiKP** **22 19 59.2 -0.3**
VLDR Vladesti 149.58 329 ⇓P **PKiKP** **22 20 00.7 +1.2**
OSTC Ostas 149.66 347 ⇑*e*PKP **PKiKP** **22 20 00.8 +1.2**
CHVC Chvalec 149.66 347 ⇑*e*PKP **PKiKP** **22 20 00.7 +1.1**
NIE Niedzica 149.68 342 *e*PKP **PKiKP** **22 20 01.3 +1.6**
GHRR 149.74 330 ⇓P **PKiKP** **22 19 60.0 +0.2**
UPC Upice 149.74 347 ⇑*e*PKP **PKiKP** **22 20 00.8 +1.1**
BRG Berggiesshubel 149.76 350 *e*PKP **PKiKP** **22 20 00.4 +0.6**
BRG Amp 22 20 04.8
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 149.76 350 P PKPab 22 20 12.8 +8.8
BRG Amp 22 20 15.1
comp=Z,12nm,1.0s
DPC Dobruska-Polom 149.83 347 ⇑*e*PKP **PKiKP** **22 20 01.6 +1.6**
PVCC Panska Ves 150.00 349 ⇑*e*PKP **PKiKP** **22 20 01.8 +1.6**
CFR Carcaliu 150.03 328 ⇓P **PKiKP** **22 20 00.8 +0.4**
RICC Richard 150.06 350 ⇑*e*PKP **PKPab** **22 20 07.8 +2.6**
MORC Moravsky Berou 150.09 345 *e*PKP **PKiKP** **22 20 01.7 +1.2**
TPGR Topolog 150.12 327 ⇑P **PKiKP** **22 20 01.0 +0.3**
BRTR Keskin Array B 150.16 314 **PKPbc** **22 20 00.4 +0.1**
BRTR Keskin Array B 150.16 314 PKPbc **PKiKP** **22 20 01.1 -0.1**
comp=Z,5.1nm,1.0s,baz=115,slow=1.8,SNR=24
LANS Liptovska Anna 150.16 342 *e*PKP **PKiKP** **22 20 02.9 +2.2**
VRI Vrincioaia 150.20 330 ⇓P **PKiKP** **22 20 01.4 +0.5**
PLOR Plostina 150.24 330 ⇓P **PKiKP** **22 20 01.5 +0.6**
KIRS Kirsehir-Merke 150.27 313 ⇑P **PKiKP** **22 20 01.4 +0.1**
TURR Turia 150.38 331 ⇓P **PKiKP** **22 20 01.4 +0.1**
OZUR 150.45 332 ⇓P **PKiKP** **22 20 02.9 +1.5**
HARR Harsova 150.48 328 ⇓P **PKiKP** **22 20 02.5 +1.1**
PRU Pruhonice 150.52 349 ⇑*e*PKP **PKiKP** **22 20 02.5 +1.2**
MEM Membach 150.65 0 *d*PKP **PKiKP** **22 20 02.4 +0.8**
BTNL Ternell 150.68 0 *d*PKP **PKiKP** **22 20 02.3 +0.7**
DOPR Dopca 150.72 332 ⇑P **PKiKP** **22 20 02.9 +1.0**
NEHR Nehoiu 150.73 330 ⇓P **PKiKP** **22 20 02.7 +0.8**
VRAC Vranov 150.75 346 ⇑P **PKiKP** **22 20 03.0 +1.2**
VRAC Vranov 150.75 346 *e*PKP **PKiKP** **22 20 02.9 +1.0**
MLR Muntele Rosu 150.84 331 ⇑P **PKiKP** **22 20 03.0 +0.7**
BMRD Maredsous 150.94 2 *d*PKP **PKiKP** **22 20 03.5 +1.3**
TREC Trest 151.00 347 ⇑*e*PKP **PKiKP** **22 20 03.7 +1.3**
KRUC Moravsky 151.03 346 *e*PKP **PKiKP** **22 20 03.0 +0.6**
MARR Marisel-Cluj 151.09 335 ⇓P **PKiKP** **22 20 02.9 +0.1**
ZVC Zvikov 151.11 349 ⇑*e*PKP **PKiKP** **22 20 03.9 +1.3**
PSZ Piszkesteto 151.14 341 PKPbc **PKPbc** **22 20 01.4 -0.8**
PSZ Piszkesteto 151.14 341 ⇓P **PKiKP** **22 20 03.7 +0.9**
DRGR 151.15 336 ⇓P **PKiKP** **22 20 02.9 0.0**
MODS Modra-Piesok 151.46 344 *e*PKP **PKiKP** **22 20 05.7 +2.3**
KHC Kasperske Hory 151.51 350 ⇑*e*PKP **PKiKP** **22 20 04.3 +0.8**
KHC x x 22 22 03.5
ARR Arges 151.52 332 ⇓P **PKiKP** **22 20 05.7 +2.1**
MMAI Mount Meron Ar 151.54 301 PKPbc **PKiKP** **22 20 05.0 +0.9**
comp=Z,4.3nm,0.6s,baz=186,slow=2.9,SNR=4.3
CKRC Cesky Krumlov 151.69 349 ⇑*e*PKP **PKiKP** **22 20 05.2 +1.4**
GERES GERESS Array B 151.77 349 PKPbc **PKiKP** **22 20 05.4 +1.3**
comp=Z,2.1nm,0.9s,baz=18,slow=1.7,SNR=14
SIRR Siria 151.98 337 ⇑P **PKiKP** **22 20 05.7 +1.2**
LOZB Loznitsa 152.10 327 ⇑P **PKPbc** **22 20 04.1 -0.4**
CONA Conrad Observa 152.22 346 *e*PKiKP **PKiKP** **22 20 06.7 +1.7**
comp=Z,5.6nm,1.1s
SURR Surduc 152.24 336 ⇑P **PKiKP** **22 20 05.7 +0.7**
GZR Gura Zlata 152.28 334 ⇓P **PKPbc** **22 20 03.9 -1.0**
RONA Rosalia, Austr 152.33 345 *e*PKiKP **PKiKP** **22 20 07.2 +2.0**
comp=Z,4.3nm,0.8s
RONA *i* PKP **pPKPab** **22 20 16.8 +0.2**
comp=Z,10nm,0.8s
BZS Buzias 152.55 336 ⇓P **PKiKP** **22 20 07.1 +1.4**
MOA Molln 152.62 348 *e*PKiKP **PKiKP** **22 20 07.5 +1.7**
comp=Z,3.0nm,1.1s
MOA *i* PKP **sPKPab** **22 20 18.6 +0.2**
comp=Z,7.8nm,1.1s
ELND Elena 152.78 327 ⇓P **PKiKP** **22 20 06.6 +0.4**
HERR Herculane 152.85 334 ⇑P **PKiKP** **22 20 06.8 +0.5**
BFO Black Forest 152.88 357 PKPbc **PKPbc** **22 20 05.2 -0.9**
BIOA Bad Ischl, Aus 152.89 349 *e*PKP **PKiKP** **22 20 07.9 +1.6**
comp=Z,14nm,1.2s
BIOA *i* PKP **sPKPab** **22 20 19.8 +0.2**
comp=Z,11nm,1.0s
ARSA Arzberg 152.93 346 *i* PKP **PKPdf** **22 20 00.6 +1.6**
comp=Z,3.4nm,1.0s
ARSA *i* PKP **sPKPab** **22 20 19.8 0.0**
comp=Z,2.7nm,0.8s
MORH Mrgy, Hungar 153.05 341 ⇓P **PKPdf** **22 20 01.0 +1.9**
LESA Schwarzleotal 153.32 350 *e*PKP **PKPdf** **22 19 59.8 +0.2**
comp=Z,2.0nm,1.0s
LESA *i* PKP **sPKPab** **22 20 21.4 -0.1**
comp=Z,7.5nm,1.2s
RETA Reutte 153.52 353 *e*PKiKP **PKiKP** **22 20 09.6 +1.9**
comp=Z,6.6nm,1.4s
RETA *e*PKP **pPKPab** **22 20 22.1 +0.5**
comp=Z,4.1nm,0.8s
KBA Koelnbreinsper 153.54 349 PKiKP **PKiKP** **22 20 09.6 +1.7**
comp=Z,5.1nm,1.0s
KBA *i* PKP **pPKPab** **22 20 22.1 +0.3**
comp=Z,6.0nm,1.0s
WATA Walderalm 153.56 352 *e*PKP **PKPdf** **22 20 00.3 +0.2**
comp=Z,1.6nm,0.4s
WATA *i* PKiKP **pPKPbc** **22 20 09.8 +0.2**
comp=Z,4.7nm,1.0s
WATA *i* PKP **pPKPab** **22 20 22.4 +0.4**
comp=Z,8.0nm,1.2s
SOKA Soboth 153.58 346 *e*PKP **PKPdf** **22 20 01.1 +1.0**
comp=Z,3.5nm,1.3s
SOKA *i* PKP **pPKPab** **22 20 22.3 +0.3**
comp=Z,10nm,1.1s
MOTA Moosalm 153.62 352 *e*PKiKP **PKiKP** **22 20 09.8 +1.8**
comp=Z,8.4nm,1.3s
WTTA Wattenberg 153.63 352 *e*PKP **PKiKP** **22 20 08.8 +0.7**
comp=Z,4.0nm,0.7s
WTTA *i* PKP **sPKPab** **22 20 22.8 -0.1**
comp=Z,8.1nm,0.8s
SQTA Sankt Quirin 153.72 352 *e*PKP **PKPdf** **22 20 01.9 +1.6**
comp=Z,4.1nm,0.8s
DAVA Damuels 153.81 354 *i* PKP **PKiKP** **22 20 08.7 +0.3**
comp=Z,4.8nm,1.0s
DAVA *e*PKP **pPKPab** **22 20 23.3 +0.3**
comp=Z,12nm,1.4s
OBKA Obir 153.85 347 *e*PKP **PKPdf** **22 20 02.8 +2.4**
comp=Z,1.4nm,0.9s
OBKA *i* PKP **pPKPab** **22 20 23.1 0.0**
comp=Z,4.4nm,0.7s
MYKA Terra Mystica 153.92 348 *i* PKP **PKPdf** **22 20 01.7 +1.1**
comp=Z,1.2nm,0.6s
MYKA *i* pPKP **sPKPbc** **22 20 12.3 +1.3**
comp=Z,2.0nm,0.9s
MYKA *i* PKP **pPKPab** **22 20 22.6 -0.7**
comp=Z,5.2nm,1.0s
FETA Feichten 153.98 353 *e*PKP **PKPdf** **22 20 01.3 +0.6**
comp=Z,5.5nm,2.1s
FETA *e*PKiKP **pPKPbc** **22 20 10.8 +0.3**
comp=Z,6.2nm,1.1s
FETA *e*PKP **pPKPab** **22 20 24.0 +0.3**
comp=Z,4.9nm,0.9s
ABTA Abfaltersbach 154.00 350 *e*PKP **PKiKP** **22 20 10.0 +1.2**
comp=Z,8.2nm,1.2s
MANT Manisa 154.15 317 PKPbc **PKPbc** **22 20 06.7 -2.8**
FDMO Fiordimonte 157.47 347 PKPab **PKPab** **22 20 37.7 +0.8**
ITM Ithomi 159.01 323 **PKPab** **22 20 43.5 -0.3**
TORD Torodi Ar. Bea 170.92 151 PKP **PKPdf** **22 20 18.2 0.0**
comp=Z,1.1nm,1.1s,baz=320,slow=4.5,SNR=4.4
TORD PKPab **pPKPab** **22 21 38.4 0.0**
comp=Z,1.0nm,0.9s,baz=202,slow=3.5,SNR=3.6

BJI ***14*** *22:23:52.0,4°.40S×101°.30E,h10km,mB6.0/68,mb5.7/93, Ms6.2/99,Ms7 6.2/97*
NEIC ***14*** *22:23:52.7,4°.54S×101°.15E,h10km*
IPGP ***14*** *22:23:52.0,4°.53S×101°.15E,h23km,Mw6.1,Fault plane solution: NP1:*ϕ_s*1.00000°,*δ*11.00000°,*λ*142.00000°. NP2:*ϕ_s*128.00000°,*δ*83.00000°,*λ*81.00000°.*
MOS ***14*** *22:23:53.4±1.5,4°.30S×101°.38E,h21km,mb5.8/76, MS5.8/48,Error ellipse: s-maj=7.5km s-min=3.9km az=116.5*
NEIC ***14*** *22:23:54,4°.44S×101°.01E,h24km,Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10*^{17}*Nm; Mrr5.78; Mθθ-2.63; Mφφ-3.15; Mrθ4.39; Mθφ2.87; Mφr-2.24; Fault plane solution: M*$_0$*7.60000×10*^{17} *NP1:* ϕ_s*329.26000°,*δ*26.68000°,*λ*112.12000°. NP2:* ϕ_s*124.80000°,*δ*65.42000°,*λ*79.29000°. Principal axes: T 7.7440, Plg68.0000°, Azm14.0000°; N -0.3059, Plg10.0000°, Azm129.0000°; P -7.4381, Plg20.0000°, Azm223.0000°;*
NEIC ***14*** *22:23:54.2±1.6,4°.48S±0°.06×101°.20E±0°.05,h19km±1km, mb5.8/139,Ms_20 6.1/733,Mwb6.0/68,Mww5.9/18 Error ellipse: s-maj=10.4km s-min=7.9km az=199.0,Moment Tensor Solution. Moment tensor: Scale 10*^{18}*Nm; Mrr0.75; Mθθ-0.45; Mφφ-0.30; Mrθ0.80; Mθφ0.36; Mφr-0.55; Fault plane solution: M*$_0$*1.22000×10*^{18} *NP1:* ϕ_s*312.67000°,*δ*19.03000°,*λ*96.84000°. NP2:* ϕ_s*125.45000°,*δ*71.11000°,*λ*87.65000°. Principal axes: T 1.2287, Plg64.0000°, Azm32.0000°; N -0.0106, Plg2.0000°, Azm126.0000°; P -1.2181, Plg26.0000°, Azm217.0000°;*
NEIC ***14*** *22:23:54,4°.54S×101°.11E,h24km*
DJA ***14*** *22:23:55.5±0.3,4°S±2°×10°1E±°,h33km±3km,M5.7/121, mB6.0/103,mb5.7/121,MLv6.1/31,Mw5.8/157, Mw(mB)5.7/103,MwMwp5.8/100,Mwp5.9/100*
IDC ***14*** *22:23:57.6±1.6,4°.34S×101°.33E,h39km±12km,mb4.9/32, mbtmp5.1/34,ML5.0/2,MS5.9/50,Error ellipse: s-maj=12.2km s-min=7.6km az=54.0*
GCMT ***14*** *22:23:59.2±0.1,4°.57S×101°.04E,h12km,MW6.1/159, Moment Tensor Solution. s159,c357; s145,c428; Duration: 3s3 Moment tensor: Scale 10*^{18}*Nm; Mrr0.45±.00; Mθθ-0.20±.00; Mφφ-0.25±.00; Mrθ1.25±.01; Mθφ0.28±.00; Mφr-0.95±.01; Best double couple: M*$_0$*1.64300×10*^{18} *NP1:*ϕ_s*330.00000°,*δ*9.00000°,* λ*112.00000°. NP2:*ϕ_s*128.00000°,*δ*82.00000°,*λ*87.00000°. Principal axes: T 1.6260, Plg53.0000°, Azm34.0000°; N 0.0340, Plg3.0000°, Azm128.0000°; P -1.6600, Plg37.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 14 22:23:55.2±0.5,4°.46S±0°.03×101°.24E±0°.03,h26km±2km, h27km:pP-P,n1381,σ2900/1166,mb5.6/264,MS6.1/483, 107C-37D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.57**	**59**	P	**Pn**	**22 24 21.9**	**+0.5**
MASI	**Maura Aman, Be**	**1.64**	**37**	P	**Pn**	**22 24 22.9**	**+0.5**
MNAI	**Manna**	**1.71**	**87**		**Pn**	**22 24 23.5**	**+0.1**
MNAI					**Sn**	**22 24 44.9**	**+0.5**
MNAI	**Manna**	**1.71**	**87**	P	**Pn**	**22 24 24.8**	**+1.4**
MNAI	**Manna**	**1.71**	**87**	P	**Pn**	**22 24 23.6**	**+0.3**
MNAI	**Manna**	**1.71**	**87**	⇑P	**Pn**	**22 24 23.7**	**+0.3**
PPSI	**Pulau Pagai**	**2.08**	**324**	P	**Pn**	**22 24 28.4**	**-0.1**
KRJI	**Kerinci**	**2.36**	**5**	P	**Pn**	**22 24 32.8**	**+0.4**
LHSI	**Lahat**	**2.36**	**75**	P	**Pn**	**22 24 33.5**	**+1.2**
LWLI	**Liwa**	**2.86**	**101**	P	**Pn**	**22 24 39.6**	**+0.3**
MDSI	**Maura Dua**	**2.93**	**91**	P	**Pn**	**22 24 40.9**	**+0.8**
KASI	**Kota Agung**	**3.41**	**108**	P	**Pn**	**22 24 46.7**	**0.0**
PDSI	**Padang**	**3.61**	**347**	P	**Pn**	**22 24 49.0**	**-0.5**
KLI	**Kotabumi**	**3.62**	**97**	P	**Pn**	**22 24 50.7**	**+1.0**
SISI	**Saibi**	**3.78**	**325**	P	**Pn**	**22 24 51.3**	**-0.5**
PMBI	**Palembang**	**3.83**	**67**	Pn	**Pn**	**22 24 53.1**	**+0.5**
PMBI	**Palembang**	**3.83**	**67**	P	**Pn**	**22 24 54.2**	**+1.6**
PMBI	**Palembang**	**3.83**	**67**	P	**Pn**	**22 24 53.3**	**+0.7**
PMBI	**Palembang**	**3.83**	**67**	⇑P	**Pn**	**22 24 53.3**	**+0.7**
PPI	**Padang Panjang**	**4.06**	**348**	P	**Pn**	**22 24 56.1**	**+0.4**
BLSI	**Bandar Lampung**	**4.09**	**103**	P	**Pn**	**22 24 56.5**	**+0.4**
BKNI	**Bangkinang**	**4.75**	**358**	Pn	**Pn**	**22 25 05.4**	**+0.1**
BKNI	**Bangkinang**	**4.75**	**358**	P	**Pn**	**22 25 07.7**	**+2.4**
BKNI	**Bangkinang**	**4.75**	**358**	P	**Pn**	**22 25 05.4**	**+0.1**
BKNI	**Bangkinang**	**4.75**	**358**	⇑P	**Pn**	**22 25 05.5**	**+0.3**
CGJI	**Cibinong**	**4.92**	**116**	P	**Pn**	**22 25 06.5**	**-1.0**
SBJI	**Serang**	**5.14**	**109**	P	**Pn**	**22 25 10.6**	**+0.1**
13nm84μm25μm2μm,0.9s							
DSRI	**Dabo**	**5.17**	**40**	P	**Pn**	**22 25 12.4**	**+1.5**
27μm2μm,1.2s							
PBSI	**Pulau Batu**	**5.28**	**326**	P	**Pn**	**22 25 11.6**	**-0.9**
PPBI	**Pangkal Pinang**	**5.39**	**65**	P	**Pn**	**22 25 16.5**	**+2.5**
MNSI	**Mandailing Nat**	**5.47**	**342**	P	**Pn**	**22 25 14.7**	**-0.5**
9.2nm126μm19μm862nm,0.8s							
TNG	**Tangerang**	**5.64**	**108**	P	**Pn**	**22 25 17.3**	**-0.2**
SKJI	**Sukabumi**	**5.86**	**116**	P	**Pn**	**22 25 20.4**	**-0.1**
DBJI	**Dramaga**	**5.86**	**111**	P	**Pn**	**22 25 20.6**	**+0.1**
17nm71μm3μm,1.6s							
TPRI	**Tanjung Pinang**	**6.27**	**32**	P	**Pn**	**22 25 27.3**	**+1.3**
BTDF	**Bukit Timah Da**	**6.31**	**24**	P	**Pn**	**22 25 29.3**	**+2.7**
CNJI	**Cibinong**	**6.50**	**116**	P	**Pn**	**22 25 28.0**	**-1.3**
4.4nm8μm675nm,0.8s							
TPI	**Tanjungpandan**	**6.62**	**75**	P	**Pn**	**22 25 32.1**	**+1.2**
5.7nm10μm197nm,0.8s							
MYKOM	**Kota Tinggi**	**6.73**	**23**	Pn	**Pn**	**22 25 32.8**	**+0.4**
MYKOM	**Kota Tinggi**	**6.73**	**23**	P	**Pn**	**22 25 34.8**	**+2.4**
MYKOM	**Kota Tinggi**	**6.73**	**23**	⇑P	**Pn**	**22 25 33.1**	**+0.7**
LEM	**Lembang**	**6.77**	**111**	Pn	**Pn**	**22 25 34.0**	**+1.0**
52nm,0.3s,baz=222,slow=8.8,SNR=41							
LEM				Sn	Sb	22 27 02.2	-11
baz=336,slow=19							
LEM				LR	LR	22 28 45.5	
comp=Z,85μm,20.9s,baz=240,slow=43							
225nm,0.5s							
LEM	**Lembang**	**6.77**	**111**	P	**Pn**	**22 25 34.2**	**+1.1**
7.1nm51μm21μm988nm,1.3s							
GSI	**Gunungsitoli**	**6.79**	**327**	Pn	**Pn**	**22 25 31.9**	**-1.4**
GSI					**Sn**	**22 26 48.0**	**-1.9**
GSI	**Gunungsitoli**	**6.79**	**327**	P	**Pn**	**22 25 32.5**	**-0.8**
GSI	**Gunungsitoli**	**6.79**	**327**	P	**Pn**	**22 25 32.8**	**-0.5**
7.8nm44μm12μm718nm,0.7s							
GSI	**Gunungsitoli**	**6.79**	**327**	⇑P	**Pn**	**22 25 32.8**	**-0.5**
BBJI	**Bungbulang**	**7.04**	**115**	P	**Pn**	**22 25 35.4**	**-1.3**
XMI	**Christmas Isla**	**7.41**	**144**	P	**Pn**	**22 25 40.0**	**-1.8**
RPSI	**Rantau Prapat**	**7.47**	**342**	Pn	**Pn**	**22 25 42.0**	**-0.6**
PSI	**Prapat**	**7.57**	**342**	P	**Pn**	**22 25 44.0**	**-0.1**
PSI	**Prapat**	**7.57**	**342**	P	**Pn**	**22 25 42.0**	**-2.1**
KPJI	**Karang Pucung**	**8.16**	**111**	P	**Pn**	**22 25 52.4**	**+0.3**
52μm9μm680nm,0.6s							
TSI	**Tuntungan**	**8.35**	**341**	P	**Pn**	**22 25 54.5**	**-0.1**
53μm10μm672nm,1.2s							
SNSI	**Sinabang, Aceh**	**8.40**	**324**	P	**Pn**	**22 25 52.4**	**-3.0**
KCSI	**Kotacane, Aceh**	**8.65**	**336**	P	**Pn**	**22 25 58.0**	**-0.8**
210nm,0.8s							
COCO	**West Island**	**8.84**	**209**	Pn	**Pn**	**22 25 57.5**	**-3.8**
COCO	**West Island**	**8.84**	**209**	P	**Pn**	**22 26 00.4**	**-0.9**
COCO				P	**Pn**	**22 26 00.4**	**-0.9**
COCO				P	**Pn**	**22 26 00.4**	**-0.9**
COCO				S	Sn	22 27 49.6	+10
COCO				S	Sn	22 27 49.6	+10
COCO				S	Sn	22 27 49.6	+10
COCO	**West Island**	**8.84**	**209**	P	**Pn**	**22 25 57.8**	**-3.5**
COCO	**West Island**	**8.84**	**209**	P	**Pn**	**22 25 58.3**	**-3.0**
COCO	**West Island**	**8.84**	**209**	⇓P	**Pn**	**22 25 58.1**	**-3.2**
IPM	**Ipoh**	**8.88**	**359**	Pn	**Pn**	**22 26 02.5**	**+0.5**
IPM	**Ipoh**	**8.88**	**359**	P	**Pn**	**22 26 03.1**	**+1.1**
IPM	**Ipoh**	**8.88**	**359**	⇑P	**Pn**	**22 26 02.8**	**+0.9**
SMRI	**Semarang**	**9.51**	**106**	Pn	**Pn**	**22 26 11.1**	**+0.6**
SMRI	**Semarang**	**9.51**	**106**	P	**Pn**	**22 26 11.2**	**+0.6**
36μm11μm647nm,0.9s							
YOGI	**Yogyakarta**	**9.60**	**111**	P	**Pn**	**22 26 11.4**	**-0.4**
28μm11μm622nm,0.7s							
KULM	**Kulim**	**9.70**	**356**	Pn	**Pn**	**22 26 13.0**	**-0.2**
KULM	**Kulim**	**9.70**	**356**	P	**Pn**	**22 26 12.8**	**-0.4**
KULM	**Kulim**	**9.70**	**356**	⇑P	**Pn**	**22 26 12.8**	**-0.4**
UGM	**Wanagama**	**9.84**	**111**	Pn	**Pn**	**22 26 14.3**	**-1.0**
UGM	**Wanagama**	**9.84**	**111**	P	**Pn**	**22 26 14.2**	**-1.0**
UGM	**Wanagama**	**9.84**	**111**	P	**Pn**	**22 26 15.1**	**-0.1**
7μm561nm,1.1s							
MLSI	**Meulaboh, Aceh**	**9.92**	**331**	P	**Pn**	**22 26 15.6**	**-0.6**
LHMI	**Lhok Sumawe**	**10.53**	**336**	Pn	**Pn**	**22 26 23.9**	**-0.7**
LHMI	**Lhok Sumawe**	**10.53**	**336**	P	**Pn**	**22 26 25.2**	**+0.6**
LHMI	**Lhok Sumawe**	**10.53**	**336**	P	**Pn**	**22 26 24.2**	**-0.4**
28μm8μm796nm,1.1s							
LHMI	**Lhok Sumawe**	**10.53**	**336**	⇑P	**Pn**	**22 26 22.8**	**-1.9**
PCJI	**Pacitan**	**10.55**	**111**	P	**Pn**	**22 26 24.4**	**-0.4**
4μm358nm,0.7s							
NGJI	**Ngawi**	**10.57**	**106**	P	**Pn**	**22 26 26.1**	**+1.0**
54μm6μm440nm,1.0s							
KSM	**Kuching**	**10.80**	**57**	Pn	**Pn**	**22 26 29.9**	**+1.5**
KSM	**Kuching**	**10.80**	**57**	⇑P	**Pn**	**22 26 30.0**	**+1.6**
TBJI	**Tambak Boyo**	**10.81**	**103**	P	**Pn**	**22 26 29.6**	**+1.2**
27μm475nm,1.0s							
GRJI	**Gresik**	**11.44**	**103**	P	**Pn**	**22 26 37.6**	**+0.5**
BLJI	**Banyuglugur**	**12.71**	**105**	P	**Pn**	**22 26 55.1**	**+0.7**
24μm4μm166nm,0.5s							
KMMI	**Kalianget**	**12.92**	**102**	P	**Pn**	**22 26 56.4**	**-0.9**
19μm7μm347nm,1.1s							
SBUM	**Sibu**	**12.94**	**58**	Pn	**Pn**	**22 27 00.4**	**+2.8**
SBUM	**Sibu**	**12.94**	**58**	P	**Pn**	**22 27 00.6**	**+3.1**
SBUM	**Sibu**	**12.94**	**58**	⇑P	**Pn**	**22 27 00.6**	**+3.1**
ABJI	**Asem Bagus**	**13.34**	**105**	P	**Pn**	**22 27 03.9**	**+0.9**
22μm9μm648nm,0.9s							
JAGI	**Jajag, Banyuwa**	**13.43**	**108**	Pn	**Pn**	**22 27 02.9**	**-1.4**
JAGI	**Jajag, Banyuwa**	**13.43**	**108**	P	**Pn**	**22 27 03.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**13.43**	**108**	P	**Pn**	**22 27 03.8**	**-0.5**
16μm5μm409nm,0.7s							
JAGI	**Jajag, Banyuwa**	**13.43**	**108**	⇑P	**Pn**	**22 27 03.5**	**-0.8**
CMBY	**CAMPBELL BAY**	**13.53**	**327**	*e*P	**Pn**	**22 27 05.6**	**0.0**
CMBY				*e*S	**Sn**	**22 29 37.2**	**+1.9**
BBKI	**Banjar Baru**	**13.60**	**86**	P	**Pn**	**22 27 08.3**	**+1.7**
31μm9μm295nm,1.6s							
MTKI	**Muara Teweh, K**	**14.07**	**76**	P	**Pn**	**22 27 14.3**	**+1.2**
35μm379nm,1.8s							
DNP	**Denpasar**	**14.49**	**108**	P	**Pn**	**22 27 18.8**	**0.0**
BKB	**Balikpapan**	**15.95**	**79**	Pn	**Pn**	**22 27 37.8**	**-0.2**
BKB	**Balikpapan**	**15.95**	**79**	P	**P**	**22 27 39.9**	**-1.5**
526nm,1.2s							
TWSI	**Taliwang, Sumb**	**16.10**	**106**	P	**Pn**	**22 27 39.1**	**-0.9**
16μm173nm,0.7s							
PLAI	**Plampang**	**16.98**	**106**	P	**Pn**	**22 27 50.8**	**-0.4**
PLAI	**Plampang**	**16.98**	**106**	P	**Pn**	**22 27 49.8**	**-1.4**
17μm4μm288nm,0.5s							
DLV	**Lat**	**17.81**	**24**	Pn	**Pn**	**22 27 59.9**	**-1.8**
DLV	**Lat**	**17.81**	**24**	⇑P	**Pn**	**22 28 01.8**	**+0.1**
PBA	**Port Blair**	**18.10**	**332**		**Pn**	**22 28 02.9**	**-2.1**
PBA	**

BATI	**Baumata**	**22.95**	**106**	S	**S**	**22 32 59.1**	**-7.6**
	comp=Z,99nm,0.6s,baz=116,slow=18,SNR=7.2						
BATI	**Baumata**	**22.95**	**106**	P	**P**	**22 28 56.5**	**-1.3**
	comp=Z,16μmcomp=Z,5μmcomp=Z,386nm,0.7s						
HALK	**Hakmana**	**23.05**	**297**	⇑P	**P**	**22 29 02.0**	**+3.2**
CHTO	**Chiang Mai**	**23.23**	**354**	P	**P**	**22 28 58.9**	**-1.7**
CHTO				IAmb	IAmb	22 29 04.7	
	comp=Z,317nm,1.2s						
CHTO	**Chiang Mai**	**23.23**	**354**	P	**P**	**22 29 00.1**	**-0.5**
CHTO				S	**S**	**22 33 15.7**	**+4.4**
CHTO	**Chiang Mai**	**23.23**	**354**	P	**P**	**22 29 00.6**	**0.0**
CHTO	**Chiang Mai**	**23.23**	**354**	P	**P**	**22 28 58.9**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,317nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,41μm,19.0s						
CHTO	**Chiang Mai**	**23.23**	**354**	⇑P	**P**	**22 28 58.3**	**-2.3**
KMSI	**Cibinong**	**23.26**	**78**	P	**P**	**22 29 00.3**	**-0.7**
	comp=Z,26μmcomp=Z,11μmcomp=Z,415nm,1.0s						
SOEI	**Soe**	**23.44**	**104**	P	**P**	**22 29 01.0**	**-1.9**
SOEI				IAmb	IAmb	22 29 19.8	
	comp=Z,271nm,1.1s						
SOEI	**Soe**	**23.44**	**104**	P	**P**	**22 29 03.1**	**+0.3**
SOEI	**Soe**	**23.44**	**104**	P	**P**	**22 29 01.8**	**-1.0**
	comp=Z,18μmcomp=Z,5μmcomp=Z,284nm,0.9s						
PALK	**Pallekele**	**23.58**	**300**	IAMs_20	IAMs_20	22 37 48.4	
	comp=Z,28μm,20.0s						
PALK	**Pallekele**	**23.58**	**300**	LR	LR	22 37 58.7	
	comp=Z,30μm,19.5s,baz=114,slow=36						
PALK	**Pallekele**	**23.58**	**300**	P	**P**	**22 29 09.5**	**+5.4**
PALK				P	**P**	**22 29 09.5**	**+5.4**
PALK				S	Sn	22 33 28.2	-10
PALK				S	Sn	22 33 28.2	-10
MALK	**Mahakanadarawa**	**24.27**	**302**	⇑P	**P**	**22 29 14.1**	**+3.5**
MBWA	**Marble Bar**	**24.46**	**134**	P	**P**	**22 29 12.9**	**+0.7**
	comp=Z,93nm,0.9s						
MBWA	**Marble Bar**	**24.46**	**134**	P	**P**	**22 29 12.2**	**0.0**
MBWA	**Marble Bar**	**24.46**	**134**	IAMs_20	IAMs_20	22 39 41.1	
	comp=Z,30μm,21.0s						
MBWA	**Marble Bar**	**24.46**	**134**	P	**P**	**22 29 12.4**	**+0.2**
PSAC1	**Pilbara Seismi**	**24.75**	**135**	P	**P**	**22 29 16.1**	**+1.2**
	comp=Z,104nm,1.4s						
PSA00	**Pilbara Seismi**	**24.80**	**135**	P	**P**	**22 29 17.7**	**+2.4**
	comp=Z,98nm,1.1s						
PSA00	**Pilbara Seismi**	**24.80**	**135**	P	**P**	**22 29 16.4**	**+1.0**
PSA00	**Pilbara Seismi**	**24.80**	**135**	P	**P**	**22 29 17.6**	**+2.2**
SANI	**Sanana**	**24.82**	**85**	P	**P**	**22 29 16.5**	**+0.9**
SANI	**Sanana**	**24.82**	**85**	P	**P**	**22 29 14.6**	**-1.0**
	comp=Z,19μmcomp=Z,5μmcomp=Z,136nm,1.1s						
SANI	**Sanana**	**24.82**	**85**	⇑P	**P**	**22 29 13.4**	**-2.2**
QIZ	**Qiongzhong**	**24.83**	**20**	P	**P**	**22 29 17.0**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,330nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,4μm,7.4s						
QIZ				LR	LR		
	comp=Z,18μm,13.7s						
QIZ				LR	LR		
	comp=Z,25μm,18.1s						
QIZ				LR	LR		
	comp=Z,29μm,22.2s						
QIZ	**Qiongzhong**	**24.83**	**20**	P	**P**	**22 29 17.0**	**+1.5**
SLVN	**Son La**	**25.76**	**6**	P	**P**	**22 29 23.1**	**-0.9**
SLVN				IAmb	IAmb	22 29 30.1	
	comp=Z,441nm,1.2s						
SLVN	**Son La**	**25.76**	**6**	P	**P**	**22 29 25.4**	**+1.3**
NLAI	**Namlea**	**25.83**	**88**	P	**P**	**22 29 24.4**	**-0.3**
	comp=Z,19μmcomp=Z,3μmcomp=Z,119nm,0.8s						
TNTI	**Ternate**	**26.61**	**79**	P	**P**	**22 29 31.6**	**-0.2**
TNTI				IAmb	IAmb	22 29 51.5	
	comp=Z,185nm,1.3s						
TNTI	**Ternate**	**26.61**	**79**	P	**P**	**22 29 31.0**	**-0.8**
	comp=Z,9μmcomp=Z,2μmcomp=Z,92nm,1.2s						
DAV	**Davao City (W)**	**26.85**	**65**	P	**P**	**22 29 33.9**	**-0.1**
DAV	**Davao City (W)**	**26.85**	**65**	P	**P**	**22 29 33.0**	**-1.0**
AAI	**Ambon**	**26.89**	**89**	P	**P**	**22 29 33.8**	**-0.6**
	comp=Z,16μmcomp=Z,2μmcomp=Z,57nm,0.6s						
TRD	**Trivandrum**	**27.43**	**298**	*e*P	**P**	**22 29 38.4**	**-0.8**
TRD				IAmb	IAmb	22 30 12.6	
	comp=Z,242nm,2.5s						
TRD				*e*S	**S**	**22 34 17.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.45**	**122**	P	**P**	**22 29 38.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**27.45**	**122**	P	**P**	**22 29 39.3**	**0.0**
	comp=Z,50nm,0.8s,baz=289,slow=6.4,SNR=30						
FITZ				S	**S**	**22 34 18.8**	**+0.4**
	comp=Z,11nm,1.1s,baz=143,slow=20,SNR=1.6						
	comp=Z,50nm,0.8s						
MEEK	**Meekatharra**	**27.61**	**145**	P	**P**	**22 29 40.0**	**-0.7**
	comp=Z,44nm,1.6s						
MEEK	**Meekatharra**	**27.61**	**145**	P	**P**	**22 29 42.3**	**+1.6**
MSAI	**Masohi**	**27.64**	**89**	P	**P**	**22 29 39.5**	**-1.6**
	comp=Z,13μmcomp=Z,89nm,0.6s						
KOD	**Kodaikanal**	**27.82**	**302**	*e*P	**P**	**22 29 41.8**	**-1.1**
KOD				IAmb	IAmb	22 29 57.7	
	comp=Z,249nm,1.7s						
KOD				*e*S	**S**	**22 34 24.0**	**-0.9**
BRDH	**Bariadhala**	**28.55**	**341**	LR	LR	22 44 09.4	
	comp=Z,38μm,19.4s,baz=146,slow=43						
KAAM	**Kaadhehdhoo**	**28.65**	**279**	IAMs_20	IAMs_20	22 39 04.4	
	comp=Z,33μm,20.0s						
H08S2	**Diego Garcia H**	**28.76**	**262**	T	T	22 59 45.8	
	baz=85,slow=75						
H08S3	**Diego Garcia H**	**28.77**	**262**	T	T	22 59 46.3	
	baz=85,slow=75						
H08S1	**Diego Carcia H**	**28.78**	**262**	T	T	22 59 52.7	
	baz=85,slow=75						
VJD	**Vijayawada**	**29.14**	**316**	*e*P	**P**	**22 29 53.4**	**-0.9**
VJD				IAmb	IAmb	22 30 08.1	
	comp=Z,227nm,1.5s						
VJD				*e*S	**S**	**22 34 42.7**	**-2.3**
KNRA	**Kununurra**	**29.25**	**114**	P	**P**	**22 29 55.8**	**+0.3**
	comp=Z,0.0nmcomp=Z,90nm,0.7s						
KNRA	**Kununurra**	**29.25**	**114**	P	**P**	**22 29 54.0**	**-1.4**
HKPS	**Hong Kong Po S**	**29.41**	**25**	IAMs_20	IAMs_20	22 42 49.5	
	comp=Z,36μm,18.0s						
TNCH	**TengChong**	**29.43**	**355**	⇑*i*P	**P**	**22 29 57.0**	**0.0**
TNCH				pP	pP	22 30 00.1	-4.6
TNCH				PP	**PnPn**	**22 30 52.1**	**+0.6**
TNCH				S	**S**	**22 34 52.3**	**+2.5**
TNCH				pmax	pmax		
	comp=Z,72nm,1.2s						
TNCH				LR	LR		
	comp=Z,20μm,13.8s						
TNCH				LR	LR		
	comp=Z,88μm,16.0s						
KMI	**Kunming**	**29.44**	**3**	⇑P	**P**	**22 29 58.1**	**+0.9**
KMI				PP	**PnPn**	**22 30 52.9**	**+1.2**
KMI				S	**S**	**22 34 51.6**	**+1.5**
KMI				pmax	pmax		
	comp=Z,160nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,12.7s						
KMI				LR	LR		
	comp=Z,46μm,18.9s						
KMI				LR	LR		
	comp=Z,49μm,18.3s						
AGT	**Agartala**	**29.80**	**341**	*e*P	**P**	**22 30 00.3**	**+0.2**
AGT				IAmb	IAmb	22 30 08.4	
	comp=Z,107nm,1.9s						
AGT				*e*S	**S**	**22 34 53.1**	**-2.3**
GZH	**Guangzhou**	**29.82**	**23**	P	**P**	**22 30 05.0**	**+4.7**
GZH				PP	**PP**	**22 31 09.6**	**+1.7**
GZH				S	S	22 35 12.4	+17
GZH				LR	LR		
	comp=Z,33μm,17.1s						
GZH				LR	LR		
	comp=Z,24μm,16.1s						
GZH				LR	LR		
	comp=Z,38μm,19.4s						
IMP	**Imphal**	**29.96**	**347**	*e*P	**P**	**22 30 00.5**	**-1.1**
IMP				IAmb	IAmb	22 30 16.0	
	comp=Z,419nm,1.8s						
IMP				*e*S	**S**	**22 34 56.4**	**-1.7**
HMDM	**Hanimaadhoo**	**30.15**	**292**	IAMs_20	IAMs_20	22 40 17.7	
	comp=Z,24μm,19.0s						
SWI	**Sorong**	**30.19**	**84**	P	**P**	**22 30 00.6**	**-3.2**
	comp=Z,11μmcomp=Z,3μmcomp=Z,108nm,1.0s						
DRS	**Darwin Rock St**	**30.36**	**107**	P	**P**	**22 30 04.2**	**-1.0**
MTN	**Manton Dam**	**30.67**	**108**	P	**P**	**22 30 09.6**	**+1.6**
	comp=Z,0.0nmcomp=Z,61nm,0.9s						
MTN	**Manton Dam**	**30.67**	**108**	P	**P**	**22 30 06.0**	**-2.0**
MUN	**Mundaring**	**30.77**	**155**	P	**P**	**22 30 10.3**	**+1.6**
	comp=Z,0.0nmcomp=Z,68nm,1.5s						
MUN	**Mundaring**	**30.77**	**155**	P	**P**	**22 30 09.9**	**+1.2**
MUN	**Mundaring**	**30.77**	**155**	P	**P**	**22 30 10.2**	**+1.6**

PZH	**PanZhiHua**	**30.78**	**1**	P	**P**	**22 30 10.3**	**+1.4**
PZH				S	**S**	**22 35 16.9**	**+6.0**
PZH				pmax	pmax		
	comp=Z,70nm,1.5s						
PZH				pmax	pmax		
	comp=Z,1μm,8.3s						
PZH				LR	LR		
	comp=Z,23μm,19.1s						
PZH				LR	LR		
	comp=Z,32μm,20.6s						
PZH				LR	LR		
	comp=Z,39μm,15.7s						
GULI	**GuiLin**	**30.87**	**16**	P	**P**	**22 30 10.0**	**+0.4**
GULI				PP	**PnPn**	**22 31 10.1**	**-0.5**
GULI				S	**S**	**22 35 17.3**	**+5.2**
GULI				pmax	pmax		
	comp=Z,54nm,1.4s						
GULI				LR	LR		
	comp=Z,22μm,18.4s						
GULI				LR	LR		
	comp=Z,32μm,19.0s						
GULI				LR	LR		
	comp=Z,44μm,16.8s						
FAKI	**Fak Fak**	**30.98**	**88**	P	**P**	**22 30 08.3**	**-2.5**
FAKI				IAmb	IAmb	22 30 15.7	
	comp=Z,71nm,0.8s						
FAKI	**Fak Fak**	**30.98**	**88**	P	**P**	**22 30 09.5**	**-1.2**
FAKI	**Fak Fak**	**30.98**	**88**	P	**P**	**22 30 08.5**	**-2.3**
	comp=Z,12μmcomp=Z,2μmcomp=Z,97nm,0.8s						
FAKI	**Fak Fak**	**30.98**	**88**	⇑P	**P**	**22 30 08.4**	**-2.3**
GYA	**Guiyang**	**31.18**	**9**	⇓P	**P**	**22 30 14.3**	**+1.9**
GYA				S	**S**	**22 35 21.8**	**+4.7**
GYA				pmax	pmax		
	comp=Z,75nm,0.7s						
GYA				pmax	pmax		
	comp=Z,1μm,6.1s						
GYA				LR	LR		
	comp=Z,26μm,17.9s						
GYA				LR	LR		
	comp=Z,38μm,18.5s						
GYA				LR	LR		
	comp=Z,26μm,21.0s						
SHL	**Shillong**	**31.20**	**344**	P	**P**	**22 30 12.0**	**-0.7**
SHL	**Shillong**	**31.20**	**344**	P	**P**	**22 30 12.5**	**-0.2**
	SNR=94						
SHL	**Shillong**	**31.20**	**344**	P	**P**	**22 30 12.0**	**-0.7**
SHL				pmax	pmax		
	comp=Z,411nm,1.6s						
HYB	**Hyderabad**	**31.21**	**315**	*e*P	**P**	**22 30 11.1**	**-1.6**
HYB				*e*sP	**pP**	**22 30 20.5**	**+0.2**
HYB				*e*S	**S**	**22 35 13.2**	**-4.6**
HYB				IAMs_20	IAMs_20	22 44 20.6	
	comp=Z,14μm,18.7s						
JORH	**JORHAT**	**31.75**	**348**	*e*P	**P**	**22 30 15.5**	**-1.7**
JORH				IAmb	IAmb	22 30 28.7	
	comp=Z,93nm,0.7s						
JORH				*e*S	**S**	**22 35 23.1**	**-2.7**
TEZP	**TEZPUR**	**31.95**	**346**	*e*P	**P**	**22 30 17.2**	**-1.9**
TEZP				IAmb	IAmb	22 30 27.9	
	comp=Z,132nm,1.2s						
TEZP				*e*S	**S**	**22 35 25.1**	**-3.9**
NWAO	**Narrogin (SRO)**	**32.02**	**154**	P	**P**	**22 30 18.9**	**-0.8**
NWAO	**Narrogin (SRO)**	**32.02**	**154**	LR	LR	22 42 54.8	
	comp=Z,20μm,19.6s,baz=330,slow=35						
NWAO	**Narrogin (SRO)**	**32.02**	**154**	P	**P**	**22 30 19.1**	**-0.6**
NWAO	**Narrogin (SRO)**	**32.02**	**154**	P	**P**	**22 30 18.9**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,62nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,23μm,20.0s						
KMPI	**Kaimana, Papua**	**32.39**	**90**	P	**P**	**22 30 21.8**	**-1.3**
	comp=Z,8μmcomp=Z,2μmcomp=Z,175nm,0.9s						
H01W3	**Cape Leeuwin H**	**32.55**	**160**	T	T	23 04 39.9	
	baz=336,slow=76,SNR=2764						
H01W2	**Cape Leeuwin H**	**32.56**	**160**	T	T	23 04 40.9	
	baz=336,slow=76,SNR=4172						
H01W1	**Cape Leeuwin H**	**32.56**	**160**	T	T	23 04 41.0	
	baz=336,slow=76,SNR=3719						
RKPI	**Ransiki, Papua**	**33.02**	**86**	P	**P**	**22 30 27.9**	**-0.8**
	comp=Z,8μmcomp=Z,108nm,0.8s						
KMBL	**Kambalda**	**33.06**	**146**	P	**P**	**22 30 30.6**	**+1.8**
	comp=Z,22nm,1.0s						
WRKA	**Warakurna**	**33.08**	**131**	P	**P**	**22 30 30.6**	**+1.5**
	comp=Z,21nm,1.5s						
TWG	**Pinlang**	**33.32**	**35**	P	**P**	**22 30 31.5**	**+0.4**
TWGBT	**Beinan**	**33.32**	**35**	P	**P**	**22 30 33.1**	**+1.9**
TPUB	**Ta-pu**	**33.45**	**34**	IAMs_20	IAMs_20	22 46 06.0	
	comp=Z,13μm,19.0s						
QZH	**Quanzhou**	**33.74**	**29**	*e*P	**P**	**22 30 35.4**	**+0.6**
QZH				LR	LR		
	comp=Z,28μm,14.4s						
QZH				LR	LR		
	comp=Z,8μm,15.5s						
QZH				LR	LR		
	comp=Z,21μm,15.5s						
YULB	**Yu-li**	**33.90**	**34**	IAMs_20	IAMs_20	22 45 14.8	
	comp=Z,11μm,18.0s						
SSLB	**Suanglung**	**34.02**	**34**	P	**P**	**22 30 37.5**	**+0.2**
SSLB				IAmb	IAmb	22 30 55.3	
	comp=Z,124nm,1.3s						
SSLB	**Suanglung**	**34.02**	**34**	P	**P**	**22 30 38.9**	**+1.6**
CNSH	**ChangSha**	**34.35**	**18**	P	**P**	**22 30 40.8**	**+0.8**
CNSH				S	**S**	**22 36 07.8**	**+1.6**
CNSH				pmax	pmax		
	comp=Z,95nm,1.2s						
CNSH				pmax	pmax		
	comp=Z,3μm,12.1s						
CNSH				LR	LR		
	comp=Z,31μm,19.9s						
CNSH				LR	LR		
	comp=Z,20μm,18.1s						
CNSH				LR	LR		
	comp=Z,39μm,16.5s						
NACB	**Ninganchiao**	**34.68**	**34**	P	**P**	**22 30 43.1**	**+0.1**
NACB				IAmb	IAmb	22 31 03.9	
	comp=Z,156nm,1.2s						
NACB	**Ninganchiao**	**34.68**	**34**	P	**P**	**22 30 45.8**	**+2.9**
YHNB	**Yeheng**	**34.95**	**33**	IAmb	IAmb	22 30 55.5	
	comp=Z,165nm,1.4s						
BAKI	**Biak**	**34.97**	**86**	P	**P**	**22 30 45.3**	**-0.3**
	comp=Z,8μmcomp=Z,175nm,0.9s						
EVN	**Everest**	**35.10**	**337**	P	**P**	**22 30 47.9**	**+0.7**
EVN				IAmb	IAmb	22 31 02.6	
	comp=Z,183nm,1.0s						
EVN	**Everest**	**35.10**	**337**	⇑P	**P**	**22 30 48.4**	**+1.1**
CD2	**Chengdu**	**35.25**	**4**	P	**P**	**22 30 47.0**	**-0.8**
CD2				PP	**PP**	**22 32 11.4**	**+3.2**
CD2				S	**S**	**22 36 21.8**	**+1.7**
CD2				pmax	pmax		
	comp=Z,280nm,1.1s						
CD2				pmax	pmax		
	comp=Z,3μm,5.7s						
CD2				LR	LR		
	comp=Z,61μm,17.1s						
CD2				LR	LR		
	comp=Z,66μm,18.4s						
TATO	**Taipei**	**35.26**	**33**	IAMs_20	IAMs_20	22 47 22.9	
	comp=Z,12μm,19.0s						
LSA	**Lhasa**	**35.31**	**345**	P	**P**	**22 30 46.4**	**-2.5**
LSA				S	**S**	**22 36 17.6**	**-4.4**
LSA				LR	LR		
	comp=Z,14μm,23.0s						
LSA				LR	LR		
	comp=Z,6μm,16.5s						
LSA				LR	LR		
	comp=Z,14μm,24.4s						
LSA	**Lhasa**	**35.31**	**345**	P	**P**	**22 30 50.1**	**+1.3**
LSA				P	**P**	**22 30 50.1**	**+1.3**
LSA				P	**P**	**22 30 50.1**	**+1.3**
LSA	**Lhasa**	**35.31**	**345**	P	**P**	**22 30 48.8**	**-0.1**
POO	**Poona**	**35.36**	**311**	*e*P	**P**	**22 30 48.1**	**-0.8**
POO				IAML		22 31 04.6	
	comp=Z,46nm,1.0s						
POO				*e*S	**S**	**22 36 21.1**	**-1.1**
ENH	**Enshi**	**35.42**	**12**	IAmb	IAmb	22 31 02.5	
	comp=Z,161nm,1.0s						
ENH	**Enshi**	**35.42**	**12**	P	**P**	**22 30 48.8**	**-0.5**
WRA	**Warramunga Arr**	**35.71**	**118**	P	**P**	**22 30 49.2**	**-2.7**
WRA	**Warramunga Arr**	**35.71**	**118**	P	**P**	**22 30 51.3**	**-0.7**
	comp=Z,25nm,0.7s,baz=291,slow=10,SNR=66						
WRA				S	**S**	**22 36 27.6**	**0.0**
	comp=Z,2.9nm,0.9s,baz=295,slow=15,SNR=6.3						
WRA				LR	LR	22 47 08.9	
	comp=Z,14μm,22.0s,baz=291,slow=39						
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**35.72**	**118**	P	**P**	**22 30 51.2**	**-0.8**

WRAB	**Tennant Creek**	**35.72**	**118**	P	**P**	**22 30 51.6**	**-0.4**
WRAB	**Tennant Creek**	**35.72**	**118**	*c*eP	**P**	**22 30 51.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,41nm,0.7s						
WR8	**Warramunga Arr**	**35.86**	**118**	P	**P**	**22 30 51.5**	**-1.7**
AS15	**Alice Springs**	**36.82**	**124**	P	**P**	**22 31 01.7**	**+0.2**
	comp=Z,78nm,0.8s						
AS31	**Alice Springs**	**36.83**	**124**	P	**P**	**22 31 02.3**	**+0.8**
	comp=Z,30nm,0.8s						
AS31	**Alice Springs**	**36.83**	**124**	P	**P**	**22 31 01.3**	**-0.2**
ASAR	**Alice Springs**	**36.83**	**124**	P	**P**	**22 31 00.8**	**-0.7**
ASAR	**Alice Springs**	**36.83**	**124**	P	**P**	**22 31 01.4**	**-0.1**
	comp=Z,14nm,0.8s,baz=294,slow=8.0,SNR=47						
ASAR				PcP	**PcP**	**22 33 27.0**	**+3.7**
	comp=Z,7.8nm,0.8s,baz=283,slow=2.5,SNR=2.8						
ASAR				S	**S**	**22 36 44.1**	**-0.5**
	comp=Z,14nm,1.2s,baz=295,slow=14,SNR=5.8						
ASAR				LR	LR	22 47 56.7	
	comp=Z,13μm,21.4s,baz=298,slow=39						
	comp=Z,14nm,0.8s						
AS01	**Alice Springs**	**36.87**	**124**	P	**P**	**22 31 01.8**	**-0.1**
WHN	**Wuhan**	**36.99**	**19**	P	**P**	**22 31 02.6**	**-0.1**
WHN				pP	**pP**	**22 31 06.8**	**-3.6**
WHN				PP	**PnPn**	**22 32 30.8**	**+3.2**
WHN				S	**S**	**22 36 51.1**	**+4.4**
WHN				pmax	pmax		
	comp=Z,400nm,1.4s						
WHN				pmax	pmax		
	comp=Z,4μm,6.2s						
JMJ	**Miyako jima 2**	**37.33**	**38**	P	**P**	**22 31 07.8**	**+2.2**
SMPI	**Sarmi**	**37.48**	**87**	P	**P**	**22 31 04.7**	**-2.4**
	comp=Z,8μmcomp=Z,2μmcomp=Z,111nm,1.0s						
GENI	**Genyem**	**38.89**	**89**	P	**P**	**22 31 16.2**	**-2.8**
	comp=Z,7μmcomp=Z,2μmcomp=Z,101nm,1.0s						
XAN	**Xi'an**	**38.97**	**10**	⇑P	**P**	**22 31 18.6**	**-0.8**
XAN				PP	**PnPn**	**22 32 54.5**	**+3.0**
XAN				S	**S**	**22 37 17.8**	**+1.1**
XAN				pmax	pmax		
	comp=Z,310nm,1.4s						
XAN				pmax	pmax		
	comp=Z,2μm,5.8s						
XAN				LR	LR		
	comp=Z,32μm,18.8s						
XAN				LR	LR		
	comp=Z,46μm,15.8s						
JAY	**Jayapura**	**39.43**	**89**	P	**P**	**22 31 22.1**	**-1.5**
	comp=Z,1μmcomp=Z,66nm,0.8s						
AIS	**Amsterdam Isla**	**39.61**	**210**	IAMs_20	IAMs_20	22 43 42.6	
	comp=Z,23μm,20.0s						
NJ2	**Nanjing**	**39.99**	**24**	⇓P	**P**	**22 31 29.8**	**+2.0**
NJ2				sP	**pP**	**22 31 36.4**	**+0.7**
NJ2				S	**S**	**22 37 34.8**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,64nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,1μm,6.5s						
NJ2				LR	LR		
	comp=Z,25μm,17.0s						
NJ2				LR	LR		
	comp=Z,17μm,17.1s						
NJ2				LR	LR		
	comp=Z,30μm,17.5s						
SSE	**Sheshan**	**40.15**	**27**	P	**P**	**22 31 29.9**	**+0.7**
SSE				S	**S**	**22 37 38.5**	**+4.1**
SSE				pmax	pmax		
	comp=Z,59nm,1.2s						
SSE				pmax	pmax		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=Z,10μm,15.8s						
SSE				LR	LR		
	comp=Z,2μm,15.5s						
LYN	**LuoYang**	**40.22**	**14**	⇑*i*P	**P**	**22 31 29.9**	**+0.2**
LYN				sP	sP	22 31 41.3	+0.6
LYN				S	**S**	**22 37 29.8**	**-5.5**
LYN				sS	sS	22 37 50.1	+2.0
LYN				pmax	pmax		
	comp=Z,480nm,1.3s						
LYN				pmax	pmax		
	comp=Z,4μm,11.4s						
LYN				LR	LR		
	comp=Z,31μm,15.1s						
LYN				LR	LR		
	comp=Z,56μm,20.6s						
LZDM	**Lanzhou Array**	**40.27**	**3**	P	**P**	**22 31 30.3**	**-0.2**
	comp=Z,7.5nm,0.4s,baz=178,slow=8.9,SNR=26						
LZDM				PcP	**PcP**	**22 33 36.8**	**+2.7**
	comp=Z,10nm,0.6s,baz=215,slow=7.0,SNR=3.8						
LZDM				S	**S**	**22 37 40.8**	**+4.2**
	comp=Z,1.3nm,0.4s,baz=147,slow=24,SNR=1.6						
	comp=Z,7.5nm,0.4s						
LZH	**Lanzhou**	**40.40**	**3**	⇑P	**P**	**22 31 31.6**	**+0.2**
LZH				sP	sP	22 31 42.8	+0.4
LZH				PP	**PnPn**	**22 33 13.1**	**+4.4**
LZH				PcS	**PcS**	**22 37 29.6**	**+4.6**
LZH				S	**S**	**22 37 41.3**	**+2.9**
LZH				sS	sS	22 37 52.0	+0.9
LZH				SS	**SS**	**22 40 28.4**	**-10**
LZH				ScS	**ScS**	**22 41 38.3**	**+2.1**
LZH				pmax	pmax		
	comp=Z,290nm,1.4s						
LZH				pmax	pmax		
	comp=Z,2μm,5.2s						
LZH				LR	LR		
	comp=Z,45μm,18.4s						
LZH				LR	LR		
	comp=Z,69μm,18.6s						
JOSI	**Joshimath**	**40.52**	**331**	*e*P	**P**	**22 31 30.9**	**-1.6**
JOSI				IAmb	IAmb	22 31 50.2	
	comp=Z,119nm,1.3s						
JOSI				*e*S	**S**	**22 37 38.8**	**-1.6**
QIS	**Mount Isa**	**40.58**	**117**	P	**P**	**22 31 32.8**	**-0.2**
	comp=Z,0.0nmcomp=Z,92nm,0.8s						
QIS	**Mount Isa**	**40.58**	**117**	P	**P**	**22 31 32.5**	**-0.5**
GOMU	**GeErMu**	**40.89**	**352**	P	**P**	**22 31 36.0**	**+0.3**
GOMU				pP	pP	22 31 40.4	-3.1
GOMU				sP	sP	22 31 43.6	-3.0
GOMU				S	**S**	**22 37 42.9**	**-3.1**
GOMU				pmax	pmax		
	comp=Z,29nm,1.0s						
GOMU				LR	LR		
	comp=Z,14μm,17.1s						
GOMU				LR	LR		
	comp=Z,12μm,17.9s						
GOMU				LR	LR		
	comp=Z,18μm,17.6s						
KLP	**Kalpa**	**41.97**	**330**	*e*P	**P**	**22 31 44.0**	**-0.5**
KLP				IAmb	IAmb	22 32 00.5	
	comp=Z,74nm,0.2s						
KLP				*e*S	**S**	**22 37 57.4**	**-4.7**
COEN	**Coen**	**42.39**	**106**	P	**P**	**22 31 47.2**	**-0.7**
	comp=Z,0.0nmcomp=Z,57nm,1.0s						
COEN	**Coen**	**42.39**	**106**	P	**P**	**22 31 46.5**	**-1.4**
COEN	**Coen**	**42.39**	**106**

TIY				LR	LR		
	comp=Z,22μm,14.9s						
TIY				LR	LR		
	comp=Z,21μm,16.6s						
HNS	**HongShan**	**43.49**	**16**	⇑P	**P**	**22 31 56.3**	**-0.4**
HNS				PP	**PcP**	**22 33 42.3**	**-1.9**
HNS				S	**S**	**22 38 27.5**	**+3.9**
HNS				pmax	pmax		
	comp=Z,130nm,1.7s						
HNS				LR	LR		
	comp=Z,22μm,20.1s						
HNS				LR	LR		
	comp=Z,9μm,16.7s						
HNS				LR	LR		
	comp=Z,20μm,16.2s						
GTA	**Gaotai**	**43.67**	**358**	⇑P	**P**	**22 31 58.9**	**+0.9**
GTA				PP	**PcP**	**22 33 42.8**	**-2.2**
GTA				ScP	**ScP**	**22 37 38.1**	**+3.1**
GTA				S	**S**	**22 38 26.0**	**-0.5**
GTA				ScS	**ScS**	**22 41 56.4**	**+0.4**
GTA				pmax	pmax		
	comp=Z,18nm,0.8s						
GTA				pmax	pmax		
	comp=Z,2μm,6.2s						
GTA				LR	LR		
	comp=Z,12μm,17.1s						
GTA				LR	LR		
	comp=Z,15μm,17.1s						
INKA	**Innaminka**	**44.14**	**126**	P	**P**	**22 32 02.0**	**+0.1**
MTSU	**Mount Surprise**	**44.24**	**111**	P	**P**	**22 32 03.1**	**+0.3**
	comp=Z,62nm,0.7s						
JMU	**Jammu**	**44.63**	**328**	*e*P	**P**	**22 32 05.9**	**+0.3**
JMU				IAmb	IAmb	22 32 19.0	
	comp=Z,107nm,1.5s						
JMU				*e*S	**S**	**22 38 40.0**	**-0.3**
ALCI	**Alchi Leh**	**44.66**	**331**	*e*P	**P**	**22 32 04.9**	**-1.5**
ALCI				IAmb	IAmb	22 32 35.1	
	comp=Z,94nm,0.7s						
ALCI				*e*S	**S**	**22 38 39.2**	**-2.4**
HTT	**Hallett**	**45.40**	**134**	P	**P**	**22 32 12.6**	**+0.7**
	comp=Z,17nm,1.3s						
HTT	**Hallett**	**45.40**	**134**	P	**P**	**22 32 12.0**	**+0.1**
HTT	**Hallett**	**45.40**	**134**	P	**P**	**22 32 13.4**	**+1.5**
HTT	**Hallett**	**45.40**	**134**	⇓P	**P**	**22 32 12.5**	**+0.6**
BTO	**Baotou**	**45.56**	**9**	*e*P	**P**	**22 32 14.1**	**+1.0**
BTO				S	**S**	**22 38 59.4**	**+5.6**
BTO				SS	**SS**	**22 42 13.6**	**-4.6**
BTO				pmax	pmax		
	comp=Z,17nm,0.9s						
BTO				pmax	pmax		
	comp=Z,4μm,5.0s						
BTO				LR	LR		
	comp=Z,18μm,20.8s						
MSEY	**Mahe Island**	**45.61**	**268**	IAMs_20	IAMs_20	22 47 50.0	
	comp=Z,15μm,19.0s						
MSEY	**Mahe Island**	**45.61**	**268**	P	P	22 32 19.8	+5.9
MSEY				P	P	22 32 19.8	+5.9
PMG	**Port Moresby**	**45.82**	**99**	P	**P**	**22 32 14.6**	**-0.8**
PMG	**Port Moresby**	**45.82**	**99**	IAMs_20	IAMs_20	22 44 38.8	
	comp=Z,2μm,20.0s						
PMG	**Port Moresby**	**45.82**	**99**	*ce*P	**P**	**22 32 16.4**	**+1.0**
PMG				pmax	pmax		
	comp=Z,369nm,2.5s						
HHC	**Hu-ho-hao-te**	**46.07**	**11**	*e*P	**P**	**22 32 17.8**	**+0.7**
HHC				PP	**PP**	**22 34 07.5**	**+2.0**
HHC				S	**S**	**22 39 05.3**	**+4.2**
HHC				sS	pS	22 39 12.8	+2.5
HHC				SS	**SS**	**22 42 23.0**	**-3.6**
HHC				pmax	pmax		
	comp=Z,170nm,1.3s						
HHC				LR	LR		
	comp=Z,20μm,14.5s						
HHC				LR	LR		
	comp=Z,30μm,13.8s						
MANU	**Manus Island**	**46.10**	**89**	P	**P**	**22 32 16.7**	**-1.0**
MANU				IAmb	IAmb	22 32 28.1	
	comp=Z,261nm,1.9s						
NIL	**Nilore**	**46.23**	**327**	P	**P**	**22 32 17.3**	**-1.1**
NIL				IAmb	IAmb	22 32 21.6	
	comp=Z,96nm,0.8s						
NIL	**Nilore**	**46.23**	**327**	IAMs_20	IAMs_20	22 53 52.7	
	comp=Z,15μm,20.0s						
NIL	**Nilore**	**46.23**	**327**	P	**P**	**22 32 19.1**	**+0.8**
NIL				P	**P**	**22 32 19.1**	**+0.8**
NIL	**Nilore**	**46.23**	**327**	P	**P**	**22 32 17.3**	**-1.1**
NIL				pmax	pmax		
	comp=Z,96nm,0.9s						
NIL				MLR	MLR		
	comp=Z,16μm,20.0s						
BJT	**Baijiatuau**	**46.34**	**16**	P	**P**	**22 32 18.6**	**-0.5**
BJT	**Baijiatuau**	**46.34**	**16**	IAMs_20	IAMs_20	22 53 48.4	
	comp=Z,20μm,20.0s						
BJT	**Baijiatuau**	**46.34**	**16**	P	**P**	**22 32 19.3**	**+0.2**
BJT	**Baijiatuau**	**46.34**	**16**	P	**P**	**22 32 18.6**	**-0.5**
BJT				pmax	pmax		
	comp=Z,329nm,1.4s						
BJT				MLR	MLR		
	comp=Z,20μm,20.0s						
BJI	**Beijing**	**46.36**	**16**	P	**P**	**22 32 19.3**	**+0.1**
BJI				PP	**PP**	**22 34 07.9**	**-0.6**
BJI				S	**S**	**22 39 05.8**	**+0.7**
BJI				pmax	pmax		
	comp=Z,72nm,1.3s						
BJI				pmax	pmax		
	comp=Z,1μm,13.1s						
BJI				LR	LR		
	comp=Z,11μm,16.3s						
BJI				LR	LR		
	comp=Z,5μm,15.0s						
BJI				LR	LR		
	comp=Z,13μm,16.6s						
CTAO	**Charters Tower**	**46.46**	**114**	P	**P**	**22 32 19.3**	**-1.1**
CTAO				IAmb	IAmb	22 32 36.0	
	comp=Z,152nm,1.1s						
CTAO	**Charters Tower**	**46.46**	**114**	P	**P**	**22 32 19.3**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,152nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,9μm,20.0s						
CTAO	**Charters Tower**	**46.46**	**114**	⇑P	**P**	**22 32 20.6**	**+0.1**
QLP	**Quilpie**	**46.58**	**123**	P	**P**	**22 32 21.8**	**+0.6**
	comp=Z,187nm,1.7s						
QLP	**Quilpie**	**46.58**	**123**	P	**P**	**22 32 22.7**	**+1.5**
QLP	**Quilpie**	**46.58**	**123**	⇓P	**P**	**22 32 22.4**	**+1.2**
STKA	**Stephens Creek**	**46.61**	**131**	P	**P**	**22 32 22.1**	**+0.7**
	comp=Z,489nm,1.3s						
STKA	**Stephens Creek**	**46.61**	**131**	P	**P**	**22 32 20.7**	**-0.7**
STKA	**Stephens Creek**	**46.61**	**131**	P	**P**	**22 32 22.3**	**+0.9**
	comp=Z,15nm,0.6s,baz=304,slow=8.4,SNR=19						
STKA				LR	LR	22 53 36.9	
	comp=Z,17μm,20.9s,baz=297,slow=38						
	comp=Z,15nm,0.6s						
STKA	**Stephens Creek**	**46.61**	**131**	P	**P**	**22 32 21.5**	**+0.1**
STKA	**Stephens Creek**	**46.61**	**131**	P	**P**	**22 32 20.7**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2μm,2.0s						
JNU	**Nakatsue**	**46.74**	**35**	P	**P**	**22 32 22.3**	**-0.1**
JNU	**Nakatsue**	**46.74**	**35**	LR	LR	22 54 22.4	
	comp=Z,4μm,18.2s,baz=258,slow=39						
JNU	**Nakatsue**	**46.74**	**35**	P	**P**	**22 32 24.0**	**+1.6**
JNU	**Nakatsue**	**46.74**	**35**	⇓P	**P**	**22 32 21.8**	**-0.6**
JTU	**Tsushima**	**46.98**	**32**	P	**P**	**22 32 26.0**	**+1.8**
DL2	**Dalian**	**47.09**	**22**	P	**P**	**22 32 27.8**	**+2.9**
DL2				PP	**PP**	**22 34 18.1**	**+2.1**
DL2				S	**S**	**22 39 19.3**	**+3.8**
DL2				pmax	pmax		
	comp=Z,190nm,1.6s						
DL2				pmax	pmax		
	comp=Z,2μm,10.3s						
DL2				LR	LR		
	comp=Z,16μm,17.5s						
DL2				LR	LR		
	comp=Z,28μm,18.8s						
INCN	**Inchon**	**47.95**	**27**	P	**P**	**22 32 31.6**	**-0.1**
INCN				IAmb	IAmb	22 32 36.1	
	comp=Z,74nm,1.0s						
INCN	**Inchon**	**47.95**	**27**	P	**P**	**22 32 31.6**	**-0.1**
INCN				pmax	pmax		
	comp=Z,74nm,1.0s						
HJU	**Haeju**	**48.01**	**26**	P	**P**	**22 32 30.9**	**-1.2**
HJU				S	**S**	**22 39 29.5**	**+0.9**
HJU				AmB			
	comp=Z,460nm,1.4s						
KSAR	**Wonju Array Be**	**48.50**	**28**	P	**P**	**22 32 35.7**	**-0.3**
KSAR	**Wonju Array Be**	**48.50**	**28**	P	**P**	**22 32 35.7**	**-0.3**
KSRS	**Korea Array**	**48.53**	**28**	P	**P**	**22 32 35.8**	**-0.4**
	comp=Z,87nm,1.0s,baz=219,slow=7.7,SNR=56						
	comp=Z,87nm,1.0s						
JLN	**Jalan Bani Buh**	**48.72**	**305**	P	**P**	**22 32 40.6**	**+2.7**
JLN				P	**P**	**22 32 40.6**	**+2.7**
PYAG	**Pyongyang**	**48.86**	**25**	P	**P**	**22 32 37.5**	**-1.2**
PYAG				S	**S**	**22 39 41.6**	**+0.9**
PYAG				AmB			
	comp=Z,672nm,1.3s						
PYAG				AMS	AMS		
	comp=Z,19μm,16.1s						
JMN	**Monobe**	**48.92**	**37**	P	**P**	**22 32 40.4**	**+1.1**
JMN	**Monobe**	**48.92**	**37**	⇓P	**P**	**22 32 39.4**	**+0.1**
ARPS	**Mount Arapiles**	**49.16**	**136**	P	**P**	**22 32 43.9**	**+2.8**
	comp=Z,16nm,2.2s						
KBL	**Kabul**	**49.24**	**324**	P	**P**	**22 32 41.4**	**-0.6**
KBL				IAmb	IAmb	22 32 55.9	
	comp=Z,120nm,1.5s						
KBL	**Kabul**	**49.24**	**324**	P	**P**	**22 32 43.6**	**+1.7**
	SNR=35						
KBL				P	**P**	**22 32 43.6**	**+1.7**
	SNR=35						
KBL				P	**P**	**22 32 43.6**	**+1.7**
	SNR=35						
KBL	**Kabul**	**49.24**	**324**	P	**P**	**22 32 41.4**	**-0.6**
KBL				pmax	pmax		
	comp=Z,120nm,1.5s						
DQM	**DQM**	**49.31**	**301**	P	P	22 32 47.6	+5.1
	SNR=6.8						
DQM				P	P	22 32 47.6	+5.1
	SNR=6.8						
MHTO	**MHTO**	**49.39**	**302**	P	**P**	**22 32 47.0**	**+3.9**
	SNR=18						
MHTO				P	**P**	**22 32 47.0**	**+3.9**
	SNR=18						
KSH	**Kashi**	**49.57**	**334**	P	**P**	**22 32 43.0**	**-1.3**
KSH				pP	pP	22 32 46.8	-5.5
KSH				PP	**PP**	**22 34 42.1**	**+3.2**
KSH				S	**S**	**22 39 48.3**	**-2.7**
KSH				pmax	pmax		
	comp=Z,67nm,1.4s						
KSH				pmax	pmax		
	comp=Z,2μm,11.7s						
KSH				LR	LR		
	comp=Z,16μm,22.0s						
KSH				LR	LR		
	comp=Z,16μm,20.6s						
KSH				LR	LR		
	comp=Z,22μm,21.3s						
WMQ	**Urumqi**	**49.58**	**347**	*e*P	**P**	**22 32 46.0**	**+1.8**
WMQ				sP	sP	22 32 54.9	-0.4
WMQ				S	**S**	**22 39 54.0**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,240nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,2μm,4.5s						
WMQ				LR	LR		
	comp=Z,14μm,19.5s						
WMQ				LR	LR		
	comp=Z,15μm,18.3s						
WMQ				LR	LR		
	comp=Z,4μm,23.1s						
CMSA	**Cobar Meteorol**	**49.62**	**128**	P	**P**	**22 32 45.8**	**+1.1**
	comp=Z,148nm,0.9s						
CMSA	**Cobar Meteorol**	**49.62**	**128**	P	**P**	**22 32 46.3**	**+1.6**
WSAR	**Wadi Sarin**	**49.86**	**305**	LR	LR	22 53 02.3	
	comp=Z,88nm,18.9s,baz=139,slow=35						
WSAR	**Wadi Sarin**	**49.86**	**305**	P	**P**	**22 32 48.8**	**+2.2**
	SNR=21						
JMDO	**Jabal Madar**	**49.89**	**304**	P	**P**	**22 32 49.6**	**+2.7**
	SNR=9.4						
JMDO				P	**P**	**22 32 49.6**	**+2.7**
	SNR=9.4						
XLT	**XiLinHaoTe**	**49.96**	**14**	*e*P	**P**	**22 32 46.8**	**-0.3**
XLT				pP	pP	22 32 50.3	-4.8
XLT				sP	sP	22 32 57.6	-0.6
XLT				PP	**PP**	**22 34 42.8**	**+0.5**
XLT				ScP	**ScP**	**22 38 05.0**	**+3.8**
XLT				S	**S**	**22 39 59.4**	**+3.3**
XLT				ScS	**ScS**	**22 42 36.3**	**-0.6**
XLT				pmax	pmax		
	comp=Z,29nm,0.8s						
XLT				pmax	pmax		
	comp=Z,2μm,7.2s						
XLT				LR	LR		
	comp=Z,18μm,16.6s						
XLT				LR	LR		
	comp=Z,19μm,20.5s						
SHAO	**Shalim**	**50.22**	**298**	P	P	22 32 55.1	+5.6
SHAO				P	P	22 32 55.1	+5.6
SHAO				P	P	22 32 55.1	+5.6
SMDO	**Samad**	**50.25**	**305**	P	**P**	**22 32 53.5**	**+3.8**
	SNR=36						
SMDO				P	**P**	**22 32 53.5**	**+3.8**
	SNR=36						
HHU	**Hamhung**	**50.35**	**26**	P	**P**	**22 32 49.2**	**-0.8**
HHU				S	**S**	**22 40 02.5**	**+1.0**
HHU				AmB			
	comp=Z,1μm,2.5s						
HHU				AMS	AMS		
	comp=Z,8μm,14.3s						
SNY	**Shenyang**	**50.36**	**22**	⇓P	**P**	**22 32 50.5**	**+0.5**
SNY				S	**S**	**22 40 04.0**	**+2.4**
SNY				pmax	pmax		
	comp=Z,32nm,0.9s						
SNY				pmax	pmax		
	comp=Z,1μm,7.1s						
SNY				LR	LR		
	comp=Z,10μm,17.7s						
SNY				LR	LR		
	comp=Z,8μm,18.0s						
SNY				LR	LR		
	comp=Z,12μm,18.2s						
BIDO	**Bidbid**	**50.40**	**305**	P	P	22 32 56.0	+5.2
	SNR=37						
BIDO				P	P	22 32 56.0	+5.2
	SNR=37						
JCJ	**Chichijima**	**50.47**	**49**	P	**P**	**22 32 52.9**	**+1.7**
TARG	**Taragay, Kyrgy**	**50.69**	**337**	IAmb	IAmb	22 33 09.4	
	comp=Z,149nm,1.2s						
DMTO	**DMTO**	**50.71**	**297**	P	P	22 33 01.6	+8.5
HOQ	**Hoqain**	**51.09**	**305**	P	P	22 33 01.0	+5.1
	SNR=39						
HOQ				P	P	22 33 01.0	+5.1
	SNR=39						
HOQ				P	P	22 33 01.0	+5.1
	SNR=39						
RBK	**Rabkut**	**51.29**	**297**	P	P	22 33 06.1	+8.6
RBK				P	P	22 33 06.1	+8.6
RBK				P	P	22 33 06.1	+8.6
SHLS	**Shalkode**	**51.33**	**340**	*e*P	**P**	**22 32 56.4**	**-1.2**
	comp=Z,38nm,0.7s						
SHLS				*e*S	**S**	**22 40 15.6**	**+0.3**
SHLS	**Shalkode**	**51.33**	**340**	*e*P	**P**	**22 32 56.3**	**-1.2**
SHLS				*e*S	**S**	**22 40 15.5**	**+0.3**
SHLS				pmax	pmax		
	comp=Z,38nm,0.7s						
SBV	**Sambava**	**51.39**	**256**	P	P	22 33 04.1	+5.8
UZB	**Uzynbulak**	**51.47**	**339**	*e*P	**P**	**22 32 58.6**	**0.0**
	comp=Z,50nm,0.8s						
UZB	**Uzynbulak**	**51.47**	**339**	*e*P	**P**	**22 32 58.6**	**0.0**
UZB				pmax	pmax		
	comp=Z,50nm,0.8s						
SATY	**Saty**	**51.61**	**339**	*e*P	**P**	**22 32 59.5**	**-0.1**
	comp=Z,58nm,1.0s						
SATY				*e*S	**S**	**22 40 21.4**	**+2.1**
SATY	**Saty**	**51.61**	**339**	*e*P	**P**	**22 32 59.5**	**-0.1**
SATY				*e*S	**S**	**22 40 21.3**	**+2.1**
SATY				pmax	pmax		
	comp=Z,58nm,1.0s						
ARQ	**Araqi**	**51.63**	**304**	P	P	22 33 08.0	+8.0
	SNR=21						
ARQ				P	P	22 33 08.0	+8.0
	SNR=21						
DOK	**Doka**	**51.76**	**298**	P	P	22 33 09.9	+8.9
DOK				P	P	22 33 09.9	+8.9
DOK				P	P	22 33 09.9	+8.9
GD1S	**Gladstone Soft**	**51.77**	**117**	P	**P**	**22 33 00.8**	**-0.3**
WHFO	**Wadi Hawf**	**51.83**	**297**	P	P	22 33 09.3	+7.7
WHFO				P	P	22 33 09.3	+7.7
PAF	**Port-aux-Franc**	**51.90**	**205**	IAMs_20	IAMs_20	22 50 28.9	
	comp=Z,16μm,19.0s						
INU	**Inuyama**	**51.92**	**37**	P	**P**	**22 33 01.8**	**-0.1**
INU				IAmb	IAmb	22 33 06.2	
	comp=Z,96nm,1.2s						
INU	**Inuyama**	**51.92**	**37**	⇓P	**P**	**22 33 03.8**	**+1.9**
SOHO	**SOHO**	**51.98**	**305**	P	**P**	**22 33 05.7**	**+3.1**
SOHO				P	**P**	**22 33 05.7**	**+3.1**
SOHO	**SOHO**	**51.98**	**305**	*i* P	**P**	**22 33 03.0**	**+0.4**
	SNR=16						
ABTO	**Aybut**	**52.05**	**296**	P	**P**	**22 33 06.6**	**+3.3**
	SNR=5.1						
ABTO				P	**P**	**22 33 06.6**	**+3.3**
	SNR=5.1						
EIDS	**Eidsvold**	**52.08**	**119**	P	**P**	**22 33 05.1**	**+1.8**
	comp=Z,98nm,1.3s						
EIDS	**Eidsvold**	**52.08**	**119**	P	**P**	**22 33 03.2**	**-0.1**
EIDS	**Eidsvold**	**52.08**	**119**	⇓P	**P**	**22 33 05.5**	**+2.2**
TOO	**Toolangi**	**52.10**	**135**	P	**P**	**22 33 04.6**	**+1.3**
	comp=Z,7.7nm,1.5s						
TNSS	**Tian-Shan**	**52.14**	**338**	*e*P	**P**	**22 33 03.5**	**-0.4**
TNSS				*e*S	**S**	**22 40 28.7**	**+1.7**
TNSS	**Tian-Shan**	**52.14**	**338**	*e*P	**P**	**22 33 03.5**	**-0.4**
TNSS				*e*S	**S**	**22 40 28.7**	**+1.7**
CHGR	**Chuyangaron**	**52.17**	**328**	P	**P**	**22 33 02.5**	**-1.3**
CHGR				IAmb	IAmb	22 33 50.9	
	comp=Z,146nm,1.0s						
CHGR	**Chuyangaron**	**52.17**	**328**	P	**P**	**22 33 02.5**	**-1.3**
CHGR				pmax	pmax		
	comp=Z,145nm,1.0s						
MDOK	**Medeo**	**52.21**	**338**	*e*P	**P**	**22 33 04.0**	**-0.2**
MDOK				*e*S	**S**	**22 40 29.5**	**+2.0**
MDOK				LR	LR	22 57 47.6	
MDOK	**Medeo**	**52.21**	**338**	*e*P	**P**	**22 33 03.9**	**-0.2**
MDOK				*e*S	**S**	**22 40 29.4**	**+2.0**
JHJ	**Hachijo jima 2**	**52.23**	**41**	LR	LR	22 55 23.0	
	comp=Z,2μm,22.0s,baz=255,slow=36						
SONM	**Songino Array**	**52.27**	**4**	P	**P**	**22 33 04.5**	**+0.1**
SONM	**Songino Array**	**52.27**	**4**	P	**P**	**22 33 05.2**	**+0.8**
	comp=Z,161nm,0.9s,baz=188,slow=9.4,SNR=206						
SONM				PcP	**PcP**	**22 34 17.2**	**+1.6**
	comp=Z,20nm,0.6s,baz=188,slow=3.7,SNR=8.0						
SONM				S	**S**	**22 40 30.9**	**+2.9**
	comp=Z,1.1nm,1.0s,baz=148,slow=17,SNR=1.6						
SONM				LR	LR	22 57 27.9	
	comp=Z,16μm,19.1s,baz=187,slow=39						
	comp=Z,161nm,0.9s						
JGF	**Kuroka**	**52.29**	**37**	IAmb	IAmb	22 33 08.2	
	comp=Z,242nm,1.5s						
JGF	**Kuroka**	**52.29**	**37**	P	**P**	**22 33 04.3**	**-0.4**
JGF	**Kuroka**	**52.29**	**37**	⇑P	**P**	**22 33 04.0**	**-0.7**
AAA	**Alma-Ata**	**52.30**	**338**	*e*P	**P**	**22 33 04.7**	**0.0**
	comp=Z,110nm,1.0s						
AAA				LR	LR	22 57 51.3	
	comp=Z,6μm,17.0s						
AAA	**Alma-Ata**	**52.30**	**338**	*e*P	**P**	**22 33 04.7**	**0.0**
AAA				pmax	pmax		
	comp=Z,110nm,1.0s						
AAA				MLR	MLR		
	comp=Z,6μm,17.0s						
ULN	**Ulaanbaatar**	**52.35**	**5**	P	**P**	**22 33 04.8**	**-0.3**
ULN				IAmb	IAmb	22 33 09.5	
	comp=Z,172nm,1.1s						
ULN	**Ulaanbaatar**	**52.35**	**5**	IAMs_20	IAMs_20	22 59 16.2	
	comp=Z,18μm,19.0s						
ULN	**Ulaanbaatar**	**52.35**	**5**	*ce*P	**P**	**22 33 05.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,294nm,1.7s						
ULN	**Ulaanbaatar**	**52.35**	**5**	⇑P	**P**	**22 33 05.7**	**+0.6**
UCH	**Uchtor**	**52.43**	**335**	P	**P**	**22 33 06.7**	**+0.5**
	SNR=25						
TKM2	**Tokmak 2**	**52.56**	**336**	P	**P**	**22 33 08.5**	**+1.7**
	SNR=7.9						
ALNE	**Al Ain**	**52.58**	**305**	P	**P**	**22 33 08.8**	**+1.8**
	SNR=35						
ALNE				P	**P**	**22 33 08.8**	**+1.8**
	SNR=35						
ALNE				P	**P**	**22 33 08.8**	**+1.8**
	SNR=35						
ALNE	**Al Ain**	**52.58**	**305**	*i* P	**P**	**22 33 08.1**	**+1.1**
	SNR=19						
KBK	**Karagaybulak**	**52.61**	**336**	P	**P**	**22 33 08.1**	**+1.0**
	SNR=28						
ASHO	**Ashiyiah**	**52.61**	**306**	P	**P**	**22 33 09.7**	**+2.4**
	SNR=14						
ASHO				P	**P**	**22 33 09.7**	**+2.4**
	SNR=14						
ASHO	**Ashiyiah**	**52.61**	**306**	*i* P	**P**	**22 33 07.4**	**+0.1**
	SNR=7.4						
UOSS	**Minazif**	**52.61**	**306**	P	P	22 33 13.7	+6.4
UOSS				P	P	22 33 13.7	+6.4
UOSS	**Minazif**	**52.61**	**306**	P	**P**	**22 33 07.7**	**+0.4**
UOSS	**Minazif**	**52.61**	**306**	⇓P	**P**	**22 33 11.7**	**+4.4**
HATD	**Hatta, Dubai**	**52.62**	**306**	P	**P**	**22 33 11.4**	**+4.1**
	SNR=18						
HATD				P	**P**	**22 33 11.4**	**+4.1**
	SNR=18						
HATD	**Hatta, Dubai**	**52.62**	**306**	*i* P	**P**	**22 33 08.6**	**+1.3**
	SNR=16						
MDH	**Madha**	**52.70**	**306**	P	**P**	**22 33 10.7**	**+2.8**
MDH				P	**P**	**22 33 10.7**	**+2.8**
MDH	**Madha**	**52.70**	**306**	*i* P	**P**	**22 33 07.7**	**-0.2**
	SNR=5.6						
CN2	**Changchun**	**52.76**	**22**	⇑P	**P**	**22 33 06.9**	**-1.1**
CN2				*es*P	pP	22 33 13.0	-3.0
CN2				*e*S	**S**	**22 40 33.3**	**-1.3**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				pmax	pmax		
	comp=Z,500nm,3.0s						
CN2				LR	LR		
	comp=Z,4μm,15.0s						
CN2				LR	LR		
	comp=Z,5μm,15.0s						
CN2				LR	LR		
	comp=Z,6μm,17.0s						
AAK	**Ala-Archa**	**52.78**	**335**	P	**P**	**22 33 08.0**	**-0.4**
AAK				IAmb	IAmb	22 33 25.9	
	comp=Z,294nm,1.9s						
AAK	**Ala-Archa**	**52.78**	**335**	IAMs_20	IAMs_20	22 57 36.6	
	comp=Z,19μm,21.0s						
AAK	**Ala-Archa**	**52.78**	**335**	LR	LR	22 57 58.7	
	comp=Z,20μm,21.0s,baz=151,slow=39						
AAK	**Ala-Archa**	**52.78**	**335**	P	**P**	**22 33 09.7**	**+1.3**
AAK				P	**P**	**22 33 09.7**	**+1.3**
AAK	**Ala-Archa**	**52.78**	**335**	P	**P**	**22 33 11.4**	**+3.0**
	SNR=9.9						
AAK	**Ala-Archa**	**52.78**	**335**	*i* P	**P**	**22 33 07.9**	**-0.5**
	SNR=38						
AAK	**Ala-Archa**	**52.78**	**335**	*ce*P	**P**	**22 33 08.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,117nm,2.5s						
AAK	**Ala-Archa**	**52.78**	**335**	⇑P	**P**	**22 33 08.9**	**+0.5**
YNG	**Young**	**52.80**	**130**	P	**P**	**22 33 11.2**	**+2.6**
	comp=Z,37nm,1.4s						
CHKK	**Chushkaly**	**52.82**	**338**	*e*P	**P**	**22 33 08.6**	**+0.1**
CHKK	**Chushkaly**	**52.82**	**338**	*e*P	**P**	**22 33 08.6**	**+0.1**
ARXS	**Arharly**	**52.82**	**339**	*e*P	**P**	**22 33 08.7**	**+0.1**
MSFE	**Esma-Masafi**	**52.84**	**306**	*i* P	**P**	**22 33 09.6**	**+0.6**
	SNR=6.9						
MASF	**Masafi**	**52.85**	**307**	P	**P**	**22 33 12.9**	**+3.9**
	SNR=15						
MASF				P	**P**	**22 33 12.9**	**+3.9**
	SNR=15						
CHMS	**Chumysh**	**52.97**	**336**	P	**P**	**22 33 12.0**	**+2.3**
	SNR=7.8						
BANOM	**Banah**	**52.99**	**307**	P	**P**	**22 33 14.8**	**+4.8**
BANOM				P	**P**	**22 33 14.8**	**+4.8**
FAQ	**Al Faqa, Dubai**	**53.02**	**306**	P	**P**	**22 33 14.7**	**+4.4**
	SNR=17						
FAQ				P	**P**	**22 33 14.7**	**+4.4**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**53.02**	**306**	*i* P	**P**	**22 33 11.1**	**+0.9**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**53.07**	**306**	P	**P**	**22 33 14.5**	**+3.8**
	SNR=15						
NAZ				P	**P**	**22 33 14.5**	**+3.8**
	SNR=15						
NAZ	**Nazwa, Dubai**	**53.07**	**306**	*i* P	**P**	**22 33 11.1**	**+0.5**
	SNR=12						
**EKS2

SNR=6.7
USP Ospenovka 53.30 336 P **P 22 33 13.1 +1.1**
SNR=6.8
TDK Taldyqorghan 53.31 340 *e*P **P 22 33 12.1 0.0**
comp=Z,52nm,0.7s
TDK *e*S **S 22 40 44.5 +2.3**
TDK LR LR 22 58 30.9
comp=Z,7μm,18.8s
TDK Taldyqorghan 53.31 340 *e*P **P 22 33 12.1 0.0**
TDK *e*S **S 22 40 44.4 +2.3**
TDK pmax pmax
comp=Z,51nm,0.7s
TDK MLR MLR
comp=Z,7μm,19.0s
HRA Herat 53.32 320 P **P 22 33 11.0 -1.6**
SGDS Sogindy 53.40 336 *e*P **P 22 33 12.7 -0.1**
SGDS *e*S **S 22 40 45.4 +1.9**
MJAR Matsushiro Arr 53.43 37 P **P 22 33 11.0 -2.1**
MJAR IAmb IAmb 22 33 15.5
comp=Z,120nm,1.1s
MJAR Matsushiro Arr 53.43 37 P **P 22 33 11.4 -1.7**
comp=Z,77nm,0.9s,baz=215,slow=6.8,SNR=48
MJAR ScP **ScP 22 38 19.2 +2.9**
comp=Z,2.3nm,0.9s,baz=212,slow=4.3,SNR=3.2
comp=Z,77nm,0.9s
CAN Canberra 53.66 131 P **P 22 33 16.2 +1.3**
comp=Z,74nm,1.3s
CAN Canberra 53.66 131 IAMs_20 IAMs_20 22 57 35.8
comp=Z,24μm,21.0s
ZSN Zaisan 53.66 346 *e*P **P 22 33 14.9 +0.3**
comp=Z,42nm,0.9s
ZSN *e*S **S 22 40 49.7 +2.9**
ZSN Zaisan 53.66 346 *e*P **P 22 33 14.9 +0.3**
ZSN *e*S **S 22 40 49.7 +2.9**
ZSN pmax pmax
comp=Z,42nm,0.9s
MK31 Makanchi Array 53.72 344 *ce*P **P 22 33 15.2 +0.2**
MKAR Makanchi Array 53.72 344 P **P 22 33 14.5 -0.5**
MKAR Makanchi Array 53.72 344 P **P 22 33 15.0 0.0**
comp=Z,74nm,0.7s,baz=156,slow=8.1,SNR=136
MKAR S **S 22 40 46.8 -0.8**
comp=Z,3.9nm,1.2s,baz=185,slow=29,SNR=3.7
MKAR LR LR 22 59 57.8
comp=Z,8μm,19.6s,baz=151,slow=40
comp=Z,74nm,0.7s
MAKZ Makanchi 53.81 344 P **P 22 33 15.2 -0.6**
MAKZ IAmb IAmb 22 33 22.6
comp=Z,120nm,1.1s
MAKZ Makanchi 53.81 344 P **P 22 33 15.2 -0.6**
MAKZ pmax pmax
comp=Z,120nm,1.2s
MAKZ MLR MLR
comp=Z,11μm,21.0s
ARMA Armidale 53.98 125 P **P 22 33 19.9 +2.5**
comp=Z,68nm,1.3s
ARMA Armidale 53.98 125 P **P 22 33 16.4 -1.0**
ARMA IAmb IAmb 22 33 39.6
comp=Z,73nm,1.1s
ARMA Armidale 53.98 125 P **P 22 33 18.5 +1.1**
ARMA Armidale 53.98 125 ⇓P **P 22 33 21.1 +3.6**
MZWR Madinat Zayed 54.00 304 P **P 22 33 20.4 +3.0**
MZWR P **P 22 33 20.4 +3.0**
MZR Muzera 54.02 303 P **P 22 33 21.1 +3.4**
SNR=24
MZR P **P 22 33 21.1 +3.4**
SNR=24
MZR Muzera 54.02 303 *i* P **P 22 33 18.2 +0.6**
SNR=21
MSHR Mys Shultsa 54.11 27 *ce*P **P 22 33 19.8 +1.9**
MSHR pmax pmax
comp=Z,47nm,0.8s
DZA Taraz 54.35 333 *e*P **P 22 33 19.6 -0.2**
comp=Z,43nm,1.2s
DZA Taraz 54.35 333 *e*P **P 22 33 19.6 -0.2**
DZA pmax pmax
comp=Z,43nm,1.2s
IUG Iuzhnay 54.37 332 *e*P **P 22 33 19.9 -0.2**
comp=Z,105nm,1.8s
IUG Iuzhnay 54.37 332 *e*P **P 22 33 19.8 -0.2**
IUG pmax pmax
comp=Z,105nm,1.8s
JSD Sado 54.46 36 P **P 22 33 22.3 +1.7**
ABPO Ambohimpanom 54.60 250 P **P 22 33 21.9 -0.3**
ABPO Ambohimpanom 54.60 250 P **P 22 33 21.9 -0.3**
ABPO pmax pmax
comp=Z,42nm,1.2s
ABPO MLR MLR
comp=Z,9μm,22.0s
ABPO Ambohimpanom 54.60 250 ⇑P **P 22 33 25.3 +3.1**
ZAK Zakamensk 54.65 2 *e*P **P 22 33 21.7 -0.1**
ZAK pmax pmax
comp=Z,91nm,1.7s
CHM Chimkent 54.71 332 *e*P **P 22 33 22.5 +0.1**
comp=Z,37nm,1.2s
CHM LR LR 22 59 26.5
comp=Z,6μm,19.6s
CHM Chimkent 54.71 332 *e*P **P 22 33 22.4 +0.1**
CHM pmax pmax
comp=Z,37nm,1.2s
CHM MLR MLR
comp=Z,6μm,20.0s
KKAR Karatay Array 54.89 333 P **P 22 33 22.6 -1.1**
KKAR Karatay Array 54.89 333 P **P 22 33 22.6 -1.1**
GHWR Ruwais 54.92 303 P **P 22 33 28.8 +4.7**
GHWR P **P 22 33 28.8 +4.7**
MDJ Mudanjiang 55.07 24 IAmb IAmb 22 33 31.1
comp=Z,171nm,1.2s
MDJ IAMs_20 IAMs_20 22 58 08.8
comp=Z,13μm,22.0s
MDJ Mudanjiang 55.07 24 P **P 22 33 24.8 0.0**
MDJ S **S 22 41 12.5 +6.7**
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,3μm,11.1s
MDJ LR LR
comp=Z,9μm,17.9s
MDJ LR LR
comp=Z,14μm,16.5s
MDJ LR LR
comp=Z,17μm,22.0s
BNX BinXian 55.14 22 ⇑P **P 22 33 25.1 -0.2**
BNX pP **pP 22 33 28.4 -5.0**
BNX PP **PP 22 35 26.9 -2.1**
BNX S **S 22 41 10.4 +3.7**
BNX sS **pS 22 41 16.6 +0.5**
BNX pmax pmax
comp=Z,460nm,1.2s
BNX pmax pmax
comp=Z,2μm,8.4s
BNX LR LR
comp=Z,14μm,15.7s
BNX LR LR
comp=Z,18μm,15.5s
VOI Vohitsoka 55.46 247 ⇑P **P 22 33 31.3 +3.0**
USRK Ussuriysk Ar. 55.76 26 P **P 22 33 29.5 -0.3**
comp=Z,176nm,1.0s,baz=221,slow=6.3,SNR=86
comp=Z,176nm,1.0s
JMM Marumori 55.86 38 P **P 22 33 31.0 +0.3**
JMM Marumori 55.86 38 ⇑P **P 22 33 29.8 -0.9**
HIA Hailar 55.87 15 IAMs_20 IAMs_20 22 59 58.8
comp=Z,22μm,18.0s
HIA Hailar 55.87 15 IAmb IAmb 22 33 34.5
comp=Z,286nm,1.8s
HIA Hailar 55.87 15 *c i*P **P 22 33 28.5 -2.1**
HIA pmax pmax
comp=Z,22nm,0.7s
FOMA Nahampoana Res 55.88 243 IAMs_20 IAMs_20 22 51 36.8
comp=Z,15μm,21.0s
MOY Mondy 55.91 360 *e*P **P 22 33 30.9 0.0**
MOY pmax pmax
comp=Z,172nm,2.2s
TAU Tasmania Unive 55.91 140 IAMs_20 IAMs_20 23 02 02.8
comp=Z,11μm,19.0s
TLY Talaya 55.96 2 P **P 22 33 31.4 +0.2**
TLY IAmb IAmb 22 33 35.8
comp=Z,84nm,0.9s
TLY Talaya 55.96 2 *ce*P **P 22 33 32.4 +1.2**
TLY pmax pmax
comp=Z,204nm,1.7s
HILR Hailar Array B 56.14 14 P **P 22 33 32.1 -0.4**
comp=Z,18nm,0.5s,baz=186,slow=10,SNR=24
HILR LR LR 23 00 19.4
comp=Z,16μm,18.9s,baz=125,slow=39
comp=Z,18nm,0.5s
IRK Irkutsk 56.54 2 *e*P **P 22 33 34.7 -0.6**
IRK *e*S **S 22 41 30.3 +5.1**
IRK pmax pmax
comp=Z,319nm,2.4s
TRNA Turayna 56.62 303 P **P 22 33 38.7 +2.4**
SNR=5.4
SMRA Abu-Samra 56.94 303 P **P 22 33 42.7 +4.1**
SNR=14
CIT Chita 57.23 9 *e*P **P 22 33 40.8 +0.6**
CIT *e* 22 33 52.0
CIT *e* 22 34 41.8
CIT *e* 22 35 47.4
CIT *e*S **S 22 41 40.4 +6.0**
CIT *e* 22 43 19.8
CIT pmax pmax
comp=Z,455nm,2.6s
SHMA Al-Shehemyia 57.27 305 P **P 22 33 44.6 +3.7**
SNR=6.5
JTM Tenmabayashi 57.91 35 P **P 22 33 46.2 +1.0**
PATS Pohnpei 58.06 79 IAMs_20 IAMs_20 22 59 24.4
comp=Z,6μm,22.0s
KURBB Kurchatov Arra 58.24 343 P **P 22 33 46.9 -0.4**
comp=Z,67nm,0.9s,baz=160,slow=6.7,SNR=59
KURBB S **S 22 41 43.1 -4.5**
comp=Z,4.3nm,1.3s,baz=156,slow=12,SNR=4.7
KURBB LR LR 23 03 18.2
comp=Z,16μm,19.3s,baz=164,slow=41
comp=Z,67nm,0.9s
SAVO Savo Central 58.29 98 P **P 22 33 48.9 +0.5**
KURK Kurchatov 58.30 343 P **P 22 33 47.5 -0.2**
KURK IAmb IAmb 22 33 51.8
comp=Z,122nm,0.9s
KURK Kurchatov 58.30 343 IAMs_20 IAMs_20 23 02 57.9
comp=Z,18μm,19.0s
KURK Kurchatov 58.30 343 P **P 22 33 48.3 +0.6**
KURK P **P 22 33 48.3 +0.6**
KURK P **P 22 33 48.3 +0.6**
KURK Kurchatov 58.30 343 *ce*P **P 22 33 47.5 -0.2**
KURK pmax pmax
comp=Z,274nm,1.7s
KURK MLR MLR
comp=Z,17μm,19.0s
HNR Honiara 58.43 98 P **P 22 33 48.0 -1.3**
HNR Honiara 58.43 98 P **P 22 33 48.0 -1.3**
HNR pmax pmax
comp=Z,599nm,1.1s
HNR MLR MLR
comp=Z,4μm,22.0s
TEY Ternei 58.53 29 *e*P **P 22 33 47.1 -2.3**
TEY *e* 22 41 50.2
HEH HeiHe 58.99 19 *e*P **P 22 33 52.3 -0.2**
HEH S **S 22 41 57.5 +0.2**
HEH pmax pmax
comp=Z,280nm,1.0s
HEH pmax pmax
comp=Z,2μm,8.6s
HEH LR LR
comp=Z,7μm,22.0s
HEH LR LR
comp=Z,12μm,18.6s
HEH LR LR
comp=Z,19μm,18.8s
H04N2 CROZET ISLANDS 59.60 218 T T 23 38 35.0
baz=61,slow=75
H04N1 CROZET ISLANDS 59.61 218 T T 23 38 26.9
baz=61,slow=75
H04N3 CROZET ISLANDS 59.62 218 T T 23 38 36.6
baz=61,slow=75
ZALV Zalesovo Beam 59.80 349 P **P 22 33 57.3 -0.7**
ZALV Zalesovo Beam 59.80 349 P **P 22 33 57.7 -0.3**
comp=Z,137nm,0.9s,baz=188,slow=6.5,SNR=79
ZALV S **S 22 42 04.1 -3.5**
comp=Z,3.6nm,0.9s,baz=71,slow=22,SNR=8.0
ZALV LR LR 23 03 45.3
comp=Z,11μm,18.4s,baz=169,slow=40
comp=Z,137nm,0.9s
ZALV Zalesovo Beam 59.80 349 *i* P **P 22 33 57.7 -0.3**
ZALV pmax pmax
comp=Z,132nm,0.9s
H04S1 CROZET ISLANDS 59.86 217 T T 23 38 49.9
baz=59,slow=74
H04S3 CROZET ISLANDS 59.87 217 T T 23 38 44.5
baz=59,slow=74
H04S2 CROZET ISLANDS 59.88 217 T T 23 38 53.1
baz=59,slow=74
ERM Erimo 59.91 35 P **P 22 34 00.7 +1.7**
JEM Erimo 59.91 35 P **P 22 34 00.1 +1.1**
ATD Arta Tunnel 60.22 286 LR LR 22 57 20.5
comp=Z,294nm,18.0s,baz=96,slow=33
ASAJ Asahikawa 60.95 33 P **P 22 34 05.5 -0.6**
ASAJ pmax pmax
comp=Z,188nm,1.3s
JKA Kamikawa-asahi 60.96 33 P **P 22 34 05.5 -0.6**
RAYN Ar Rayn 61.02 300 P **P 22 34 05.8 -1.2**
RAYN IAmb IAmb 22 34 21.0
comp=Z,116nm,1.6s
RAYN Ar Rayn 61.02 300 IAMs_20 IAMs_20 23 04 35.7
comp=Z,11μm,18.0s
RAYN Ar Rayn 61.02 300 P **P 22 34 08.4 +1.3**
RAYN Ar Rayn 61.02 300 *i* P **P 22 34 07.9 +0.9**
SNR=9.1
RAYN Ar Rayn 61.02 300 P **P 22 34 05.8 -1.2**
RAYN pmax pmax
comp=Z,116nm,1.6s
RAYN MLR MLR
comp=Z,11μm,18.0s
ZEA Zeya 61.95 17 *e*P **P 22 34 12.9 +0.2**
ZEA *e* 22 34 58.4
ZEA *e*S **S 22 42 37.1 +1.9**
ZEA pmax pmax
comp=E,30nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=Z,1μm,14.7s
ZEA smax smax
comp=E,700nm,7.7s
ZEA smax smax
comp=N,1μm,10.6s
ZEA MLR MLR
comp=Z,6μm,16.0s
CASY Casey 62.05 176 P **P 22 34 12.8 -0.3**
CASY IAmb IAmb 22 34 27.3
comp=Z,204nm,1.9s
CASY Casey 62.05 176 IAMs_20 IAMs_20 22 56 47.7
comp=Z,11μm,19.0s
CASY Casey 62.05 176 ⇓P **P 22 34 14.0 +0.8**
YUK Yuzh-Kuril'sk 62.72 35 P P 22 34 11.5 -6.5
YUK S **S 22 42 40.5 -4.6**
GRNR Gornyy 62.75 24 ⇓*i* P **P 22 34 18.4 +0.3**
GRNR pmax pmax
comp=Z,20nm,1.0s
YSS Yuzhno-Sakhali 62.92 31 P **P 22 34 18.7 -0.6**
YSS Yuzhno-Sakhali 62.92 31 *e*P **P 22 34 18.8 -0.5**
YSS *e* 22 34 56.3
YSS *e* 22 36 37.7
YSS *e*S **S 22 42 43.5 -4.1**
YSS *e*PS 22 43 04.4
YSS *e*SS **SS 22 46 46.9 -6.5**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,2μm,7.4s
YSS pmax pmax
comp=N,700nm,6.4s
YSS pmax pmax
comp=E,600nm,7.2s
YSS smax smax
comp=N,500nm,8.4s
YSS smax smax
comp=E,300nm,3.2s
YSS Yuzhno-Sakhali 62.92 31 ⇑P **P 22 34 19.2 0.0**
BORK Borovoye 62.94 340 *ce*P **P 22 34 18.6 -0.7**
BORK pmax pmax
comp=Z,161nm,1.7s
BORK MLR MLR
comp=Z,10μm,21.0s
KIBK Kibwezi 63.11 270 P **P 22 34 20.9 -0.4**
KIBK Kibwezi 63.11 270 P P 22 34 26.3 +4.9
SNR=5.9
FURI Furi 63.77 282 P **P 22 34 23.6 -2.3**
FURI IAmb IAmb 22 34 45.3
comp=Z,135nm,1.6s
FURI Furi 63.77 282 IAMs_20 IAMs_20 22 59 20.2
comp=Z,11μm,20.0s
KMBO Kilima Mbogo 63.98 271 P **P 22 34 28.9 +1.6**
comp=Z,1.6nm,0.3s,baz=66,slow=5.8,SNR=6.8
KMBO LR LR 22 56 24.5
comp=Z,4μm,21.6s,baz=97,slow=30
comp=Z,1.6nm,0.3s
KMBO Kilima Mbogo 63.98 271 *ce*P **P 22 34 25.8 -1.5**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
UGL Uglegorsk 64.03 29 *e*P **P 22 34 28.8 +2.3**
UGL *e* 22 36 54.6
UGL *e*S **S 22 43 05.9 +4.6**
UGL pmax pmax
comp=Z,200nm,1.2s
UGL pmax pmax
comp=Z,2μm,3.8s
UGL smax smax
comp=E,2μm,8.3s
UGL smax smax
comp=N,2μm,7.7s
UGL MLR MLR
comp=N,7μm,15.0s
UGL MLR MLR
comp=Z,5μm,15.0s
AB31 Akbulak array 64.38 331 ⇑*e*P **P 22 34 28.5 -0.4**
AB31 pmax pmax
comp=Z,174nm,1.2s
ABKAR Akbulak array 64.38 331 P **P 22 34 28.0 -0.9**
KUR Kuril'sk 64.58 35 *i* P **P 22 34 30.6 +0.3**
KUR pmax pmax
comp=Z,384nm,1.0s
LKRN Lenkeran, Azer 64.71 317 P **P 22 34 34.8 +3.5**
ONTNC Ouen Toro 65.40 112 IAMs_20 IAMs_20 23 08 19.1
comp=Z,9μm,20.0s
TYV Tymovskoe 65.53 27 *e*P **P 22 34 40.1 +3.8**
TYV pmax pmax
comp=Z,700nm,4.2s
TYV pmax pmax
comp=Z,39nm,1.1s
OUENC Ouen Island, N 65.77 112 P **P 22 34 39.1 +0.6**
YATNC Mamie plateau, 65.78 112 P **P 22 34 41.2 +2.6**
AKTO Aktyubinsk 66.09 331 LR LR 23 08 16.6
comp=Z,7μm,18.6s,baz=130,slow=40
LODK Lodwar 66.29 276 P P 22 34 48.4 +6.3
SNR=5.2
AKT Akhty 66.76 319 *e*P **P 22 34 41.1 -3.5**
AKT *e* 22 35 09.6
AKT *e*PPP PPP 22 38 49.6
AKT *e*S **S 22 43 32.3 -3.1**
AKT pmax pmax
comp=Z,105nm,1.2s
AKT MLR MLR
comp=Z,6μm,21.0s
MNGR Mingechevir, A 66.85 318 P **P 22 34 48.1 +3.1**
SEKA Sheki 66.98 318 P **P 22 34 48.6 +2.6**
NAX Nakhchivan 67.19 316 P **P 22 34 50.3 +2.9**
GANJ Ganja 67.30 318 P **P 22 34 50.9 +3.0**
MAK Makhachkala 67.64 320 *e*P **P 22 34 47.0 -2.9**
MAK *e*PPP PPP 22 38 51.7
MAK *e*S **S 22 43 44.4 -1.2**
MAK *e*SS **SS 22 48 05.9 -1.0**
MAK pmax pmax
comp=Z,88nm,1.0s
GNI Garni 68.15 316 P **P 22 34 53.0 -0.4**
GNI IAmb IAmb 22 35 49.4
comp=Z,57nm,1.1s
GNI Garni 68.15 316 P **P 22 34 56.4 +3.0**
GNI P **P 22 34 56.4 +3.0**
GNI Garni 68.15 316 P **P 22 34 54.3 +0.8**
GNI Garni 68.15 316 *ce*P **P 22 34 54.3 +0.8**
GNI pmax pmax
comp=Z,66nm,2.5s
GNI Garni 68.15 316 P **P 22 34 55.0 +1.5**
comp=Z,1μmcomp=Z,45nm,1.3s
MAW Mawson 68.23 195 P **P 22 34 53.8 +0.5**
comp=Z,0.0nmcomp=Z,4.3nm,1.4s
MAW Mawson 68.23 195 P **P 22 34 54.5 +1.2**
comp=Z,8.2nm,0.9s,baz=34,slow=8.1,SNR=17
MAW LR LR 22 59 01.3
comp=Z,16μm,20.6s,baz=34,slow=31
MAW PKPPKP **P'P'df 23 03 10.6 -1.4**
comp=Z,4.1nm,0.9s,baz=239,slow=6.2,SNR=8.6
comp=Z,8.2nm,0.9s
TRLG Trialeti 69.20 318 P **P 22 35 00.3 +0.3**
GUDG Gudauri 69.36 319 P **P 22 35 03.2 +2.1**
GURO Guroymak-BITLI 69.37 314 IAmb IAmb 22 35 15.0
comp=Z,56nm,1.2s
MARD Mardin 69.80 312 IAmb IAmb 22 35 07.8
comp=Z,62nm,0.7s
YAK Yakutsk 69.80 14 P **P 22 35 01.6 -1.5**
YAK Yakutsk 69.80 14 IAMs_20 IAMs_20 23 06 21.3
comp=Z,10μm,21.0s
YAK Yakutsk 69.80 14 LR LR 23 06 40.0
comp=Z,9μm,20.9s,baz=212,slow=37
YAK Yakutsk 69.80 14 *e*P **P 22 35 01.9 -1.1**
YAK *e**PP **pP 22 35 11.7 +0.4**
YAK *e* 22 35 24.5
YAK *e* 22 37 36.2
YAK *e*PPP PPP 22 39 18.1
YAK *e*S **S 22 44 09.0 -1.5**
YAK *e* 22 44 57.9
YAK *e*SS **SS 22 48 37.8 -1.8**
YAK pmax pmax
comp=Z,324nm,1.2s
YAK pmax pmax
comp=N,120nm,1.4s
YAK pmax pmax
comp=E,126nm,1.4s
YAK pmax pmax
comp=Z,407nm,5.8s
YAK pmax pmax
comp=N,281nm,5.3s
YAK pmax pmax
comp=E,221nm,4.8s
YAK smax smax
comp=E,257nm,4.4s
YAK smax smax
comp=N,247nm,4.2s
YAK MLR MLR
comp=Z,31μm,21.0s
YAK MLR MLR
comp=N,19μm,21.0s
YAK MLR MLR
comp=E,7μm,20.0s
ARTI Arti 69.98 336 P **P 22 35 03.5 -0.8**
ARTI IAMs_20 IAMs_20 23 09 37.8
comp=Z,11μm,20.0s
ARTI Arti 69.98 336 LR LR 23 09 50.3
comp=Z,10μm,19.7s,baz=132,slow=39
ARTI Arti 69.98 336 *ce*P **P 22 35 03.9 -0.4**
ARTI pmax pmax
comp=Z,202nm,1.7s
ARTI MLR MLR
comp=Z,10μm,19.0s
NCK Nalchik 70.41 319 *i* P **P 22 35 07.2 0.0**
NCK pmax pmax
comp=Z,25nm,0.8s
NCK MLR MLR
comp=Z,2μm,18.0s
MBAR Mbarara 70.52 271 P **P 22 35 10.7 +2.0**
MBAR P **P 22 35 10.7 +2.0**
MBAR Mbarara 70.52 271 *i* P **P 22 35 08.6 -0.1**
MBAR pmax pmax
comp=Z,18nm,1.7s
MLZ Mavora Lakes 70.68 137 IAMs_20 IAMs_20 23 06 48.9
comp=Z,9μm,21.0s
JCZ Jackson Bay 70.85 135 P **P 22 35 12.2 +2.1**
KBZ Khabaz 70.97 319 P **P 22 35 10.7 +0.2**
comp=Z,24nm,0.7s,baz=110,slow=7.2,SNR=42
KBZ S **S 22 44 23.8 -1.0**
comp=Z,0.6nm,0.7s,baz=243,slow=22,SNR=9.5
KBZ LR LR 23 10 49.3
comp=Z,3μm,18.9s,baz=102,slow=40
comp=Z,24nm,0.7s
KBZ Khabaz 70.97 319 *ce*P **P 22 35 10.3 -0.2**
KBZ pmax pmax
comp=Z,31nm,0.9s
ASF Jabal al Asfar 71.03 306 LR LR 23 07 14.6
comp=Z,15μm,18.8s,baz=136,slow=37
KIV Kislovodsk 71.20 319 P **P 22 35 11.6 -0.5**
KIV IAmb IAmb 22 35 34.3
comp=Z,56nm,0.9s
KIV Kislovodsk 71.20 319 P **P 22 35 14.7 +2.5**
KIV P **P 22 35 14.7 +2.5**
KIV Kislovodsk 71.20 319 *i* P **P 22 35 12.0 -0.1**
SNR=14
KIV Kislovodsk 71.20 319 *e*P **P 22 35 11.6 -0.5**

KIV *e*S **S** **22 44 28.7 +0.8**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV Kislovodsk 71.20 319 P **P** **22 35 12.1 -0.1**
comp=Z,746nmcomp=Z,58nm,1.0s
GOF Gofitskoye 71.46 321*c*eP **P** **22 35 14.3 +0.7**
GOF *e*S **S** **22 44 30.6 0.0**
FOZ Fox Glacier 71.47 134 IAMs_20 IAMs_20 23 05 28.8
comp=Z,12μm,22.0s
GHAJ Ghor Haditha 71.84 305 P **P** **22 35 15.4 -0.8**
GHAJ IAmb IAmb 22 35 31.0
comp=Z,148nm,1.4s
GHAJ IAMs_20 IAMs_20 23 05 03.7
comp=Z,13μm,21.0s
EIL Elat 71.89 303 LR LR 23 07 44.9
comp=Z,17μm,18.0s,baz=100,slow=36
LBZ Lake Benmore 71.90 135 IAMs_20 IAMs_20 23 08 19.2
comp=Z,15μm,20.0s
SKR Severo-Kuril's 72.22 33 *e*P **P** **22 35 18.4 +0.5**
ARPR Arapgir-MALATY 72.25 313 IAmb IAmb 22 35 32.5
comp=Z,173nm,1.8s
MATP Matopo 72.29 250 LR LR 23 02 00.9
comp=Z,7μm,22.0s,baz=81,slow=32
ODZ Otahua Downs 72.36 136 IAMs_20 IAMs_20 23 08 03.2
comp=Z,14μm,20.0s
RPZ Rata Peaks 72.38 134 IAMs_20 IAMs_20 23 05 59.1
comp=Z,15μm,22.0s
RPZ Rata Peaks 72.38 134 LR LR 23 06 12.3
comp=Z,11μm,21.6s,baz=274,slow=35
GAZ Gaziantep 72.41 311 P **P** **22 35 19.8 +0.3**
GAZ IAmb IAmb 22 35 33.5
comp=Z,68nm,1.1s
BELG Belogornoye 72.46 329*c i*P **P** **22 35 18.9 -0.4**
BELG pmax pmax
comp=Z,9.0nm,0.9s
BELG MLR MLR
comp=Z,2μm,23.0s
MMAI Mount Meron Ar 72.48 306 P **P** **22 35 21.4 +1.4**
comp=Z,7.3nm,0.7s,baz=101,slow=7.7,SNR=9.7
MMAI LR LR 23 08 12.5
comp=Z,14μm,18.6s,baz=105,slow=37
comp=Z,7.3nm,0.7s
LSZ Lusaka 72.50 255 IAMs_20 IAMs_20 23 02 06.4
comp=Z,11μm,21.0s
LSZ Lusaka 72.50 255 LR LR 23 02 18.0
comp=Z,10μm,21.4s,baz=95,slow=32
DSZ Denniston Nort 72.57 132 IAMs_20 IAMs_20 23 07 00.3
comp=Z,16μm,22.0s
LABN Labinsk 72.77 319 *e*P **P** **22 35 19.6 -1.8**
LABN *e*S **S** **22 44 45.5 -0.1**
LABN *e*SS **SS** **22 49 31.4 +5.5**
LABN pmax pmax
comp=Z,484nm,2.9s
LABN pmax pmax
comp=Z,45nm,1.2s
LABN MLR MLR
comp=Z,4μm,20.0s
SOC Sochi 73.00 318 *e*P **P** **22 35 20.4 -2.4**
SOC *e* 22 38 01.9
SOC *e*PPP PPP 22 39 47.0
SOC *e*S **S** **22 44 43.1 -5.2**
SOC *e*SS **SS** **22 49 26.9 -2.6**
SOC pmax pmax
comp=Z,40nm,0.9s
SOC MLR MLR
comp=Z,4μm,22.0s
OXZ Oxford 73.02 134 IAMs_20 IAMs_20 23 06 15.9
comp=Z,10μm,21.0s
OUZ Omahuta 73.03 125 IAMs_20 IAMs_20 23 08 24.2
comp=Z,14μm,22.0s
MREMI Moremi 73.34 248 P **P** **22 35 24.6 -0.8**
MREMI Moremi 73.34 248 *i* P **P** **22 35 27.8 +2.4**
ERBR Yeremizino-Bor 73.37 320 *e*P **P** **22 35 22.1 -2.8**
ERBR *e*S **S** **22 44 50.7 -1.7**
ERBR *e*SS **SS** **22 49 37.5 +2.4**
ERBR pmax pmax
comp=Z,52nm,1.2s
ERBR pmax pmax
comp=Z,882nm,6.0s
ERBR MLR MLR
comp=Z,5μm,21.0s
THZ Tophouse 73.39 132 IAMs_20 IAMs_20 23 07 36.9
comp=Z,13μm,21.0s
BROLN Tlhalogang 73.40 249 *i* P **P** **22 35 27.5 +1.8**
MQZ McQueen's Vall 73.52 134 IAMs_20 IAMs_20 23 06 44.3
comp=Z,10μm,22.0s
NNZ Nelson 73.66 132 IAMs_20 IAMs_20 23 07 23.1
comp=Z,14μm,22.0s
GVZ Greta Valley S 73.67 133 IAMs_20 IAMs_20 23 07 22.4
comp=Z,15μm,22.0s
BNN Bunyan 73.98 312 P **P** **22 35 29.1 +0.2**
TOKA Tokat 74.02 314 P **P** **22 35 29.1 +0.1**
PETK Petropavlovsk- 74.30 31 P **P** **22 35 29.8 -0.4**
comp=Z,20nm,0.9s,baz=221,slow=5.9,SNR=9.4
comp=Z,20nm,0.9s
PETK Petropavlovsk- 74.30 31 P **P** **22 35 29.9 -0.3**
HIZ Hauiti 74.42 129 IAMs_20 IAMs_20 23 10 11.6
comp=Z,9μm,20.0s
CSS Mathiatis 74.70 308 IAmb IAmb 22 35 47.4
comp=Z,90nm,1.1s
CSS IAMs_20 IAMs_20 23 14 54.3
comp=Z,11μm,18.0s
CSS Mathiatis 74.70 308 P **P** **22 35 34.8 +1.8**
comp=Z,978nmcomp=Z,85nm,1.3s
MA2 Magadan 74.75 24 P **P** **22 35 33.0 +0.3**
MA2 IAmb IAmb 22 35 53.1
comp=Z,144nm,1.1s
MA2 IAMs_20 IAMs_20 23 12 47.7
comp=Z,6μm,19.0s
MA2 Magadan 74.75 24 LR LR 23 12 01.8
comp=Z,5μm,18.2s,baz=240,slow=39
MA2 Magadan 74.75 24*c*eP **P** **22 35 33.2 +0.5**
MA2 pmax pmax
comp=Z,114nm,1.3s
MA2 MLR MLR
comp=Z,6μm,20.0s
PET Petropavlovsk 74.76 32 P **P** **22 35 31.8 -1.0**
PET IAmb IAmb 22 35 52.8
comp=Z,62nm,0.9s
PET Petropavlovsk 74.76 32 *e*P **P** **22 35 32.4 -0.4**
PET *e* 22 38 19.7
PET *e*S **S** **22 45 07.4 -0.3**
PET *e*PS **PnS** **22 45 49.8 +5.3**
PET pmax pmax
comp=Z,77nm,0.8s
PET pmax pmax
comp=Z,1μm,17.9s
PET pmax pmax
comp=Z,900nm,17.1s
PET MLR MLR
comp=Z,4μm,22.0s
PET MLR MLR
comp=Z,4μm,16.0s
BHW Baring Head 74.80 132 IAMs_20 IAMs_20 23 08 22.2
comp=Z,9μm,22.0s
LPHEP Lephephe 74.83 247 *i* P **P** **22 35 35.4 +1.3**
TOZ Tahuroa Road 74.84 128 IAMs_20 IAMs_20 23 10 10.8
comp=Z,10μm,20.0s
ANN Anapa 74.98 319 *e*P **P** **22 35 32.0 -2.3**
ANN *e* 22 38 21.3
ANN *e*S **S** **22 45 06.4 -4.1**
ANN *e*SSS SSS 22 53 23.8
ANN MLR MLR
comp=Z,2μm,20.0s
VRH Novokhopyorsk 75.04 326 *e*P **P** **22 35 34.4 -0.1**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,5μm,22.0s
KIRV Kirov 75.11 335 LR LR 23 13 21.8
comp=Z,6μm,18.0s,baz=126,slow=40
KIRV Kirov 75.11 335*c*eP **P** **22 35 34.6 -0.1**
LBTB Lobatse 75.12 245 LR LR 23 02 44.5
comp=Z,12μm,21.2s,baz=88,slow=31
KSANE Kasane 75.41 253 *i* P **P** **22 35 40.1 +2.6**
KIRS Kirsehir-Merke 75.50 312 ⇑P **P** **22 35 38.0 +0.4**
BOSA Boshof 75.58 242 P **P** **22 35 38.6 +0.3**
comp=Z,3.4nm,0.9s,baz=93,slow=3.3,SNR=8.1
BOSA LR LR 23 02 52.9
comp=Z,12μm,20.8s,baz=91,slow=31
comp=Z,3.4nm,0.9s
BKZ Black Stump Fm 75.77 129 P **P** **22 35 40.0 +0.9**
BKZ IAmb IAmb 22 36 02.5
comp=Z,162nm,1.2s
BKZ IAMs_20 IAMs_20 23 12 01.1
comp=Z,12μm,20.0s
BKZ Black Stump Fm 75.77 129 P **P** **22 35 39.4 +0.3**
BR104 Keskin Array S 75.88 313 P **P** **22 35 38.7 -1.1**
comp=Z,192nmcomp=Z,25nm,0.9s
BR131 Keskin Array S 75.89 313 P **P** **22 35 40.3 +0.4**
SNR=21
BR131 P **P** **22 35 40.3 +0.4**
SNR=21
BR131 Keskin Array S 75.89 313 *e*P **P** **22 35 39.1 -0.8**
BRTR Keskin Array B 75.89 313 P **P** **22 35 38.6 -1.3**
BRTR Keskin Array B 75.89 313 P **P** **22 35 38.9 -1.0**
comp=Z,7.5nm,0.7s,baz=137,slow=6.5,SNR=28
comp=Z,7.5nm,0.7s
BRTR Keskin Array B 75.89 313*c*eP **P** **22 35 39.2 -0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
SYO Syowa Base 75.96 199 ⇓*i*P **P** **22 35 40.2 +0.7**
SYO Syowa Base 75.96 199 ⇑*e*pP pP 22 35 47.2 -0.3
SYO Syowa Base 75.96 199 ⇓*i*PcP **PcP** **22 35 52.8 +1.0**
RTZ Ruatahuna 76.09 129 IAMs_20 IAMs_20 23 10 02.8
comp=Z,9μm,21.0s
URZ Urewera 76.16 128 LR LR 23 12 25.0
comp=Z,4μm,18.5s,baz=288,slow=38
ILGA Ilgaz 76.25 314 IAmb IAmb 22 36 04.3
comp=Z,61nm,1.1s
VORD Divnogorie 76.31 325 *e*P **P** **22 35 42.5 +0.7**
VORD pmax pmax
comp=Z,20nm,1.1s
VSR Storozhevoye 76.49 325 *e*P **P** **22 35 42.3 -0.5**
VSR pmax pmax
comp=Z,30nm,0.8s
VSR MLR MLR
comp=Z,6μm,20.0s
ANTO Ankara 76.55 313 P **P** **22 35 42.6 -1.0**
ANTO IAmb IAmb 22 36 09.9
comp=Z,142nm,1.9s
ANTO Ankara 76.55 313 ⇑P **P** **22 35 43.8 +0.2**
ANTO Ankara 76.55 313 P **P** **22 35 43.7 +0.2**
ANTO Ankara 76.55 313 P **P** **22 35 43.7 +0.2**
comp=Z,340nmcomp=Z,19nm,1.3s
SKOMA Sekoma 76.62 246 *i* P **P** **22 35 45.1 +0.7**
VORR Voronezh 76.66 326 *e*P **P** **22 35 44.0 +0.2**
VORR pmax pmax
comp=Z,40nm,0.9s
MXZ Matakaoa Point 77.04 127 IAMs_20 IAMs_20 23 11 27.1
comp=Z,11μm,21.0s
LPSR Galich'ya Gora 77.21 326 *e*P **P** **22 35 46.5 -0.3**
LPSR *e*S **S** **22 45 30.8 -3.9**
LPSR pmax pmax
comp=Z,48nm,0.8s
LPSR MLR MLR
comp=Z,8μm,21.0s
SIM Simferopol' 77.24 318 *e*P **P** **22 35 48.2 +1.0**
SIM *e* 22 38 42.0
SIM *e*S **S** **22 45 32.5 -2.9**
SIM pmax pmax
comp=Z,34nm,0.9s
SIM pmax pmax
comp=Z,240nm,10.7s
SIM smax smax
comp=N,560nm,7.3s
SEY Seymchan 77.44 21 LR LR 23 14 14.9
comp=N,10μm,18.4s,baz=246,slow=39
SEY Seymchan 77.44 21*c*eP **P** **22 35 48.3 +0.4**
SEY pmax pmax
comp=Z,153nm,1.7s
ISP Isparta 77.67 310*c i*P **P** **22 35 48.1 -1.8**
ISP pmax pmax
comp=Z,13nm,0.8s
ELL Elmali 77.86 309 IAmb IAmb 22 36 04.9
comp=Z,127nm,1.7s
ELL Elmali 77.86 309 P **P** **22 35 55.0 +4.0**
TIXI Tiksi 78.08 9 P **P** **22 35 49.3 -2.0**
TIXI IAmb IAmb 22 35 56.4
comp=Z,70nm,0.7s
TIXI Tiksi 78.08 9 S **S** **22 45 41.3 -2.1**
comp=Z,1.0nm,0.3s,baz=34,slow=0.20,SNR=8.7
TIXI LR LR 23 15 19.9
comp=Z,18μm,18.5s,baz=234,slow=40
TIXI Tiksi 78.08 9 P **P** **22 35 50.1 -1.2**
KGCAE Kacgae 78.19 248 *i* P **P** **22 35 55.0 +1.9**
SAHE Sakarya_HENDEK 78.26 313 ⇓P **P** **22 35 54.4 +1.4**
GRTLG Ghanzi 79.11 249 *i* P **P** **22 36 01.0 +2.7**
ARG Arkhangelos 79.12 308 P **P** **22 36 00.4 +2.6**
MOS Moscow 79.23 329 *e*P **P** **22 35 56.6 -1.3**
MOS *e*S **S** **22 45 51.4 -4.9**
MOS *e* 22 46 08.0
MOS *e* 22 46 15.7
MOS *e* 22 46 56.1
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,135nm,1.6s
MOS smax smax
comp=E,1μm,6.0s
MOS smax smax
comp=N,2μm,6.0s
MOS MLR MLR
comp=E,9μm,22.0s
MOS MLR MLR
comp=Z,10μm,22.0s
OBN Obninsk 79.52 328 P **P** **22 35 59.3 -0.2**
OBN IAMs_20 IAMs_20 23 17 02.0
comp=Z,7μm,20.0s
OBN Obninsk 79.52 328 LR LR 23 14 49.6
comp=Z,7μm,21.9s,baz=56,slow=38
OBN Obninsk 79.52 328 ⇑P **P** **22 36 02.0 +2.5**
OBN Obninsk 79.52 328*c*eP **P** **22 35 59.4 -0.2**
OBN *i* 22 38 58.4
OBN *e*PPP PPP 22 40 47.8
OBN *i* S **SKSac** **22 46 12.0 -2.3**
OBN pmax pmax
comp=Z,65nm,1.1s
OBN MLR MLR
comp=Z,7μm,21.0s
OBN Obninsk 79.52 328 P **P** **22 35 59.8 +0.3**
comp=Z,2μmcomp=Z,90nm,1.2s
VNDA Vanda 79.53 169 P **P** **22 35 59.2 -0.1**
VNDA Vanda 79.53 169 P **P** **22 36 00.0 +0.8**
comp=Z,5.0nm,0.9s,baz=291,slow=4.8,SNR=16
VNDA S **S** **22 45 59.3 +0.4**
comp=Z,0.3nm,0.4s,baz=270,slow=19,SNR=6.2
VNDA LR LR 23 10 16.6
comp=Z,4μm,18.2s,baz=314,slow=35
comp=Z,5.0nm,0.9s
VNDA Vanda 79.53 169 P **P** **22 35 59.2 -0.1**
VNDA pmax pmax
comp=Z,29nm,1.0s
SUR Sutherland 79.55 238 IAMs_20 IAMs_20 23 11 26.5
comp=Z,7μm,18.0s
ISK Istanbul-Kandi 79.62 313 P **P** **22 36 00.5 +0.1**
KARP Karpathos 79.73 307 IAMs_20 IAMs_20 23 15 12.5
comp=Z,8μm,20.0s
KARP Karpathos 79.73 307 P **P** **22 36 01.8 +0.6**
comp=Z,1μmcomp=Z,123nm,0.8s
RAO Raoul Island 79.85 119 IAMs_20 IAMs_20 23 16 44.0
comp=Z,7μm,19.0s
RAO Raoul Island 79.85 119 LR LR 23 11 54.8
comp=Z,4μm,20.7s,baz=298,slow=36
KOOLE Kule 80.04 248 *i* P **P** **22 36 03.4 +0.1**
KLMR Klimovskoe 80.57 334*d i*P **P** **22 36 03.4 -1.7**
KLMR S **S** **22 46 09.7 -0.5**
KLMR SS **SS** **22 51 24.4 +1.4**
KLMR pmax pmax
comp=Z,210nm,1.5s
SBA Scott Base 80.62 169 P **P** **22 36 04.7 -0.5**
SBA Scott Base 80.62 169 P **P** **22 36 04.7 -0.5**
SBA pmax pmax
comp=Z,34nm,1.0s
SBA MLR MLR
comp=Z,4μm,18.0s
JURR Jurilovca 80.74 317 ⇑P **P** **22 36 08.6 +2.3**
TIRR Tirgusor 80.97 316 ⇓P **P** **22 36 08.4 +0.8**
TIRR Tirgusor 80.97 316 P **P** **22 36 08.4 +0.8**
TIRR Tirgusor 80.97 316 P **P** **22 36 09.0 +1.4**
comp=Z,667nmcomp=Z,33nm,1.1s
CTZ Chatham Island 81.26 133 IAMs_20 IAMs_20 23 13 50.0
comp=Z,6μm,21.0s
ICOR Ion Corvin 81.31 316 ⇓P **P** **22 36 09.5 0.0**
EZN Ezine 81.34 311 ⇓P **P** **22 36 12.2 +2.4**
EZN Ezine 81.34 311 P **P** **22 36 12.1 +2.4**
PRD Provadia 81.34 315 P **P** **22 36 12.9 +3.3**
CFR Carcaliu 81.35 317 ⇑P **P** **22 36 10.6 +1.0**
CFR Carcaliu 81.35 317 P **P** **22 36 10.6 +1.0**
HARR Harsova 81.37 316 ⇑P **P** **22 36 10.1 +0.4**
HARR Harsova 81.37 316 P **P** **22 36 10.1 +0.4**
MILM Milestii Mici 81.37 319 ⇓P **P** **22 36 10.6 +1.0**
MILM Milestii Mici 81.37 319 ⇑*i*P **P** **22 36 08.0 -1.7**
comp=Z,2μm,16.0s
MILM Milestii Mici 81.37 319 *e*PP PP 22 39 15.0 -0.8
MILM Milestii Mici 81.37 319*c i*P **P** **22 36 08.0 -1.7**
MILM *e* 22 39 15.0
MILM *i* S **S** **22 46 20.0 +0.9**
MILM *e*PS **PnS** **22 47 08.0 -0.6**
MILM pmax pmax
comp=Z,2μm,16.0s
MILM smax smax
comp=N,2μm,11.3s
KIS Kishinev 81.39 319 ⇑*i*P **P** **22 36 08.0 -1.8**
comp=N,320nm,15.9s
KIS Kishinev 81.39 319 *e*PP PP 22 39 16.0 +0.1
KIS *i* SKS **S** **22 46 11.0 -8.3**
KIS *i* S **S** **22 46 20.0 +0.7**
comp=N,870nm,12.7s
KIS Kishinev 81.39 319*c i*P **P** **22 36 08.0 -1.8**
KIS *e* 22 39 16.0
KIS *i* S **S** **22 46 20.0 +0.7**
KIS pmax pmax
comp=Z,320nm,15.9s
NEF NEVSHA 81.46 315 P **P** **22 36 12.8 +2.5**
IDI Anoyia 81.49 307 LR LR 23 12 13.1
comp=Z,2μm,21.9s,baz=92,slow=36
ALN Alexandroupoli 81.79 312 P **P** **22 36 12.7 +0.6**
ALN Alexandroupoli 81.79 312 P **P** **22 36 12.7 +0.6**
JMB Yambol 81.81 314 P **P** **22 36 13.6 +1.5**
LOZB Loznitsa 81.97 315 ⇑P **P** **22 36 13.2 +0.2**
SORM Soroca 82.00 320 ⇑P **P** **22 36 13.3 +0.3**
SORM Soroca 82.00 320 P **P** **22 36 13.3 +0.3**
GHRR 82.08 318 P **P** **22 36 13.5 +0.1**
RAZG Razgrad 82.08 315 ⇓P **P** **22 36 15.2 +1.7**
AK09 Malin Array Si 82.11 322 P **P** **22 36 13.3 -0.2**
AK10 Malin Array Si 82.13 322 P **P** **22 36 12.8 -0.8**
AK08 Malin Array Si 82.14 322 P **P** **22 36 12.7 -0.9**
AK07 Malin Array Si 82.14 322 P **P** **22 36 12.8 -0.9**
AK05 Malin Array Si 82.16 322 P **P** **22 36 13.4 -0.4**
AK02 Malin Array Si 82.17 322 P **P** **22 36 13.4 -0.4**
AKASG Malin Array Be 82.17 322 P **P** **22 36 13.9 +0.1**
AKASG Malin Array Be 82.17 322 P **P** **22 36 13.1 -0.7**
comp=Z,5.6nm,0.8s,baz=88,slow=4.8,SNR=24
AKASG PP **PP** **22 39 20.8 -1.6**
comp=Z,3.0nm,0.9s,baz=93,slow=6.9,SNR=4.2
AKASG LR LR 23 18 04.8
comp=Z,2μm,19.8s,baz=94,slow=40
comp=Z,5.6nm,0.8s
AKASG Malin Array Be 82.17 322*c*eP **P** **22 36 15.3 +1.5**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 82.17 322*c*eP **P** **22 36 13.4 -0.4**
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 82.17 322 P **P** **22 36 14.4 +0.6**
AK01 Malin Array Si 82.18 322 P **P** **22 36 13.8 -0.1**
KIEV Kiev 82.18 322 P **P** **22 36 12.7 -1.2**
KIEV Kiev 82.18 322 ⇓P **P** **22 36 15.2 +1.3**
KIEV Kiev 82.18 322 *i* P **P** **22 36 13.0 -0.8**
SNR=11
KIEV Kiev 82.18 322 P **P** **22 36 12.7 -1.2**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV MLR MLR
comp=Z,4μm,22.0s
KIEV Kiev 82.18 322 P **P** **22 36 13.9 0.0**
comp=Z,77nm,0.8s
AK03 Malin Array Si 82.18 322 P **P** **22 36 13.8 -0.1**
AK12 Malin Array Si 82.20 322 P **P** **22 36 13.9 -0.1**
ELND Elena 82.38 314 ⇑P **P** **22 36 15.8 +0.7**
SZH Strazhitsa 82.39 315 P **P** **22 36 18.0 +2.8**
BISRR Bisoca 82.42 317 ⇑P **P** **22 36 15.6 +0.2**
BISRR Bisoca 82.42 317 P **P** **22 36 17.6 +2.2**
comp=Z,2μmcomp=Z,74nm,1.5s
ISR Istrita 82.43 316 P **P** **22 36 17.2 +1.8**
comp=Z,1μmcomp=Z,43nm,1.9s
KDZ Kurdzhali 82.47 313 P **P** **22 36 19.1 +3.4**
VRI Vrincioaia 82.48 317 ⇑P **P** **22 36 16.4 +0.7**
VRI Vrincioaia 82.48 317 P **P** **22 36 16.3 +0.7**
VRI Vrincioaia 82.48 317 P **P** **22 36 16.0 +0.4**
comp=Z,1000nmcomp=Z,46nm,1.5s
PLOR5 Plostina Array 82.52 317 P **P** **22 36 17.3 +1.4**
comp=Z,1μmcomp=Z,60nm,2.0s
PLOR Plostina 82.53 317 ⇑P **P** **22 36 17.2 +1.3**
PLOR Plostina 82.53 317 P **P** **22 36 17.2 +1.3**
TSUM Tsumeb 82.57 251 P **P** **22 36 16.1 -0.7**
TSUM Tsumeb 82.57 251 IAMs_20 IAMs_20 23 07 48.1
comp=Z,8μm,21.0s
TSUM Tsumeb 82.57 251 LR LR 23 08 00.4
comp=Z,8μm,21.1s,baz=87,slow=32
TESR Tescani 82.70 318 ⇑P **P** **22 36 17.2 +0.5**
TESR Tescani 82.70 318 P **P** **22 36 16.6 -0.1**
comp=Z,1μmcomp=Z,96nm,1.7s
LUBAR Lubar, Ukraine 82.86 321 P **P** **22 36 16.7 -0.8**
MLR Muntele Rosu 82.93 317 IAmb IAmb 22 36 32.7
comp=Z,210nm,1.5s
MLR IAMs_20 IAMs_20 23 20 20.1
comp=Z,7μm,18.0s
MLR Muntele Rosu 82.93 317 LR LR 23 20 21.5
comp=Z,4μm,18.1s,baz=66,slow=41
MLR Muntele Rosu 82.93 317 ⇓P **P** **22 36 18.8 +0.6**
MLR Muntele Rosu 82.93 317 P **P** **22 36 18.7 +0.6**
MLR Muntele Rosu 82.93 317 P **P** **22 36 18.2 +0.1**
comp=Z,1μmcomp=Z,90nm,1.5s
RZN Rozhen 82.93 313 P **P** **22 36 21.4 +3.1**
MI29 MI29, Kamyanyy 82.94 322 P **P** **22 36 18.0 +0.2**
comp=Z,10μmcomp=Z,194nm,0.8s
TURR Turia 83.01 317 ⇓P **P** **22 36 18.9 +0.5**
COPA Copaceanca 83.12 315 ⇑P **P** **22 36 19.1 +0.2**
OZUR 83.18 317 ⇑P **P** **22 36 19.1 -0.2**
MI28 Mi28,Pidlybu 83.19 322 P **P** **22 36 20.9 +1.8**
OUR Ouranopolis 83.21 311 P **P** **22 36 19.1 -0.3**
KMPD K-Podol'skiy 83.33 320 P **P** **22 36 22.3 +2.4**
PLVB Pleven 83.38 314 ⇑P **P** **22 36 21.3 +1.0**
DOPR Dopca 83.42 317 ⇓P **P** **22 36 21.8 +1.3**
PGB Panagyurishte 83.51 314 P **P** **22 36 22.8 +1.7**
MMB Musomishta 83.62 312 P **P** **22 36 23.6 +1.9**
ARR Arges 83.80 316 ⇑P **P** **22 36 23.0 +0.5**
BURAR Bucovina Array 83.91 319 P **P** **22 36 23.1 0.0**
BURAR IAmb IAmb 22 36 40.6
comp=Z,36nm,0.8s
BURAR Bucovina Array 83.91 319 ⇓P **P** **22 36 24.7 +1.6**
BURAR Bucovina Array 83.91 319 P **P** **22 36 24.6 +1.6**
MPEP Malo Peshtene 84.00 314 P **P** **22 36 26.4 +2.9**
MNK Minsk 84.04 326 *i* P **P** **22 36 21.3 -2.1**
MNK *i* 22 39 35.0
MNK *i* PPP PPP 22 41 27.0
MNK *i* S **SKSac** **22 46 43.8 -1.1**
MNK *i* SS **SS** **22 52 15.8 +0.9**
MNK *i* SSS SSS 22 55 45.5
MNK pmax pmax
comp=Z,56nm,0.9s
MNK pmax pmax
comp=N,33nm,1.1s
MNK pmax pmax
comp=E,20nm,1.1s
PLNA Plana 84.05 313 P **P** **22 36 27.0 +3.1**
KKB Krupnik 84.14 313 P **P** **22 36 26.7 +2.5**
KSV Kosov 84.17 319 P **P** **22 36 25.7 +1.4**
VTS Vitosha 84.21 313 P **P** **22 36 26.2 +1.4**
VALD Valchedram 84.28 315 P **P** **22 36 26.6 +1.7**
PEHC Pehcevo 84.29 313 *i* P **P** **22 36 25.5 +0.4**
RNPP5 Staryi Chortor 84.35 322 P **P** **22 36 23.9 -1.2**
RNPP8 Varash 84.39 322 P **P** **22 36 26.8 +1.5**
LOT Lotru 84.41 316 ⇓P **P** **22 36 26.5 +0.9**
VAY Valandovo 84.45 312 *i* P **P** **22 36 26.9 +1.1**
STNU Starunia 84.63 320 P **P** **22 36 26.4 -0.2**
TRAN Tran 84.68 314 P **P** **22 36 27.5 +0.5**
BILL Bilibino 85.02 20 P **P** **22 36 29.2 +1.1**
BILL IAmb IAmb 22 36 46.2
comp=Z,116nm,1.4s
BILL Bilibino 85.02 20*c*eP **P** **22 36 30.0 +1.9**
BILL pmax pmax
comp=Z,159nm,2.5s
BILL MLR MLR
comp=Z,4μm,18.0s
BMR Baia Mare 85.06 318 ⇑P **P** **22 36 30.4 +1.7**
BMR Baia Mare 85.06 318 P **P** **22 36 30.4 +1.7**
GZR Gura Zlata 85.08 316 ⇓P **P** **22 36 29.4 +0.4**
GZR Gura Zlata 85.08 316 P **P** **22 36 29.4 +0.4**
DEV Deva 85.09 317 ⇓P **P** **22 36 30.3 +1.3**
DEV Deva 85.09 317 P **P** **22 36 30.2 +1.3**
MARR Marisel-Cluj 85.11 317 ⇑P **P** **22 36 29.7 +0.6**

MORS Morshin 85.11 320 P **P** **22 36 30.2 +1.2**
MEZ Mezhgor'ye 85.22 319 P **P** **22 36 30.2 +0.6**
HERR Herculane 85.23 316 ⇑P **P** **22 36 30.4 +0.7**
KORU Korolevo 85.40 319 P **P** **22 36 31.1 +0.7**
SKO Skopje 85.40 313 *i* P **P** **22 36 32.8 +2.2**
DRGR 85.40 318 ⇑P **P** **22 36 31.9 +1.3**
DRGR 85.40 318 P **P** **22 36 31.9 +1.3**
SHIU Shidnytsya 85.47 320 P **P** **22 36 33.0 +2.2**
LVZ Lovozero 85.50 340 P **P** **22 36 29.5 -1.0**
LVZ IAmb IAmb 22 36 41.9
comp=Z,67nm,1.1s
LVZ IAMs_20 IAMs_20 23 17 47.9
comp=Z,11µm,21.0s
LVZ Lovozero 85.50 340 *ce*P **P** **22 36 30.8 +0.2**
LVZ pmax pmax
comp=Z,37nm,0.8s
LVZ MLR MLR
comp=Z,11µm,22.0s
LVZ Lovozero 85.50 340 P **P** **22 36 30.3 -0.3**
comp=Z,83nm,1.9s
BOVS Bovan 85.50 314 ⇓P **P** **22 36 32.1 +1.1**
QSPA South Pole Qui 85.52 180 IAMs_20 IAMs_20 23 11 36.7
comp=Z,7µm,20.0s
QSPA South Pole Qui 85.52 180 P **P** **22 36 33.5 +2.7**
comp=Z,1.7nm,0.6s,baz=122,slow=0.9,SNR=10
QSPA LR LR 23 12 06.7
comp=Z,6µm,18.7s,baz=318,slow=34
comp=Z,1.7nm,0.6s
SURR Surduc 85.60 316 ⇓P **P** **22 36 33.0 +1.5**
NVL N'lazarevskaya 85.63 199 *e*P P 22 36 37.2 +6.1
NVL *e* 22 39 55.6
NVL *e*PPP PPP 22 41 49.0
NVL *e*S **S** **22 47 00.9 -0.5**
NVL *e*SS **SS** **22 52 45.6 +8.3**
NVL pmax pmax
comp=Z,10.0nm,0.9s
NVL MLR MLR
comp=Z,146nm,18.0s
MDVR Moldovita 85.71 315 ⇑P **P** **22 36 33.5 +1.3**
OHR Ohrid 85.73 312 *i* P **P** **22 36 33.3 +1.0**
BERU Beregovo 85.73 319 P **P** **22 36 33.1 +1.0**
APA Apatity 85.81 339 ⇓*i*P **P** **22 36 32.6 +0.6**
APA *i* 22 39 50.1
APA *i* S **SKSac** **22 46 54.9 -0.8**
APA *i* SS **SS** **22 52 39.1 -1.3**
BZS Buzias 85.93 316 ⇓P **P** **22 36 33.6 +0.5**
BZS Buzias 85.93 316 P **P** **22 36 33.6 +0.5**
KWP Kalwaria Pacla 85.97 320 P **P** **22 36 36.6 +3.3**
KWP Kalwaria Pacla 85.97 320 P **P** **22 36 34.0 +0.7**
comp=Z,870nmcomp=Z,47nm,1.5s
SIRR Siria 86.02 317 ⇑P **P** **22 36 34.1 +0.6**
SUW Suwalki 86.59 325 IAMs_20 IAMs_20 23 23 07.8
comp=Z,5µm,19.0s
SUW Suwalki 86.59 325 P **P** **22 36 37.0 +0.8**
FINES FINESS Array B 86.85 332 P **P** **22 36 36.5 -0.8**
FINES FINESS Array B 86.85 332 P **P** **22 36 37.6 +0.4**
comp=Z,12nm,0.8s,baz=107,slow=5.9,SNR=37
FINES LR LR 23 21 24.7
comp=Z,5µm,18.7s,baz=105,slow=40
comp=Z,12nm,0.8s
FINES FINESS Array B 86.85 332 *i* P **P** **22 36 37.5 +0.2**
FINES pmax pmax
comp=Z,12nm,0.8s
MSF Maaselka 86.86 337 P **P** **22 36 38.6 +1.3**
STHS Stebnicka Huta 86.87 320 *e*P **P** **22 36 40.5 +2.8**
STHS pmax pmax
comp=Z,15nm,1.0s
STHS Stebnicka Huta 86.87 320 *e*P **P** **22 36 40.5 +2.8**
PDG Podgorica 87.08 313 IAmb IAmb 22 36 52.0
comp=Z,92nm,1.7s
PDG IAMs_20 IAMs_20 23 17 29.8
comp=Z,5µm,21.0s
PDG Podgorica 87.08 313 ⇓P **P** **22 36 41.2 +2.4**
NIE Niedzica 87.48 320 P **P** **22 36 41.4 +0.7**
comp=Z,9.9nm,1.4s
PSZ Piszkesteto 87.49 318 IAmb IAmb 22 36 57.8
comp=Z,52nm,1.3s
OUL Oulu 87.88 336 P **P** **22 36 43.2 +1.0**
OJC Ojcow 87.93 321 P **P** **22 36 42.7 -0.1**
OJC Ojcow 87.93 321 P **P** **22 36 42.7 -0.1**
OJC Ojcow 87.93 321 P **P** **22 36 44.7 +1.9**
comp=Z,666nmcomp=Z,24nm,1.3s
LANS Liptovska Anna 87.97 319 *e*P **P** **22 36 44.7 +1.7**
LANS *e* 22 36 54.2
LANS Liptovska Anna 87.97 319 *e*P **P** **22 36 44.7 +1.7**
LANS *e* 22 36 54.2
MORH Mrgy, Hungar 88.07 316 *e*P **P** **22 36 43.0 -0.5**
MORH Mrgy, Hungar 88.07 316 ⇑P **P** **22 36 43.9 +0.4**
MORH Mrgy, Hungar 88.07 316 P **P** **22 36 43.5 0.0**
comp=Z,534nmcomp=Z,19nm,1.8s
VADS Vadso 88.08 341 *e*P **P** **22 36 44.4 +1.4**
SGF Sodankyl 88.27 338 P **P** **22 36 45.2 +1.2**
STON Ston 88.28 313 *e*P **P** **22 36 41.8 -2.7**
TROLL Troll, Antarti 88.49 198 ⇑P **P** **22 36 47.2 +2.0**
comp=Z,563nm,0.9s
TROLL ⇓SKSac **SKSac** **22 47 09.5 -2.9**
TIP Timpagrande 88.52 309 ⇑P **P** **22 36 47.3 +1.5**
TIP Timpagrande 88.52 309 P **P** **22 36 48.5 +2.6**
comp=Z,533nmcomp=Z,23nm,1.7s
SRO Srobarova 88.53 318 *e*P **P** **22 36 48.2 +2.6**
SRO *e* 22 36 57.9
SRO pmax pmax
comp=Z,79nm,1.9s
SRO Srobarova 88.53 318 *e*P **P** **22 36 48.2 +2.6**
SRO *e* 22 36 57.9
KEV Kevo 88.74 340 P **P** **22 36 46.4 +0.3**
KEV IAmb IAmb 22 36 52.9
comp=Z,82nm,1.2s
KEV Kevo 88.74 340 P **P** **22 36 46.4 +0.3**
KEV pmax pmax
comp=Z,82nm,1.2s
KEV MLR MLR
comp=Z,12µm,22.0s
BLY Banja Luka 88.89 315 *e*P **P** **22 36 47.4 0.0**
BLY Banja Luka 88.89 315 ⇑P **P** **22 36 48.8 +1.4**
OKC Ostrava-Krasne 88.92 320 *e*P P 22 36 52.4 +4.9
OKC *e*S **S** **22 47 33.4 -0.4**
OKC MLR MLR
comp=Z,3µm,18.3s
OKC Ostrava-Krasne 88.92 320 *e*P P 22 36 52.4 +4.9
OKC *e*S **S** **22 47 33.4 -0.4**
OKC AMS AMS 23 24 00.0
comp=Z,3µm,18.3s
CEL Celeste 89.08 308 IAmb IAmb 22 37 03.8
comp=Z,128nm,1.4s
CEL Celeste 89.08 308 P **P** **22 36 50.2 +1.7**
comp=Z,962nmcomp=Z,64nm,1.6s
JAVC Velka Javorina 89.10 319 *e*P **P** **22 36 49.8 +1.4**
JAVC Velka Javorina 89.10 319 *e*S **S** **22 47 37.0 +1.4**
ARA0 ARCESS Array S 89.19 340 *e*P **P** **22 36 48.6 +0.3**
ARCES ARCESS Array B 89.19 340 P **P** **22 36 48.5 +0.2**
ARCES ARCESS Array B 89.19 340 P **P** **22 36 48.7 +0.4**
comp=Z,28nm,0.8s,baz=83,slow=5.9,SNR=51
ARCES PP **PP** **22 40 18.9 +0.2**
comp=Z,6.8nm,0.9s,baz=100,slow=11,SNR=4.5
ARCES LR LR 23 22 08.9
comp=Z,8µm,21.3s,baz=103,slow=39
comp=Z,28nm,0.8s
ARCES ARCESS Array B 89.19 340 P **P** **22 36 48.5 +0.2**
ARCES pmax pmax
comp=Z,230nm,1.7s
MODS Modra-Piesok 89.29 318 *e*P **P** **22 36 50.7 +1.4**
MODS *e* 22 37 00.8
MODS *e*S **S** **22 47 38.1 +0.7**
MODS pmax pmax
comp=Z,92nm,1.5s
MODS Modra-Piesok 89.29 318 *e*P **P** **22 36 50.7 +1.4**
MODS *e* 22 37 00.8
MOSL Moslavina 89.30 316 *e*P **P** **22 36 48.9 -0.5**
MORC Moravsky Berou 89.30 320 P **P** **22 36 48.7 -0.6**
MORC IAmb IAmb 22 37 03.6
comp=Z,59nm,1.5s
MORC Moravsky Berou 89.30 320 ⇑P **P** **22 36 50.7 +1.4**
MORC Moravsky Berou 89.30 320 *e*P **P** **22 36 49.9 +0.6**
MORC Moravsky Berou 89.30 320 *e*S **S** **22 47 37.2 -0.3**
MORC Moravsky Berou 89.30 320 P **P** **22 36 48.7 -0.6**
MORC pmax pmax
comp=Z,59nm,1.5s
KIJV Kijevo 89.35 314 *e*P **P** **22 36 49.4 -0.2**
ZST Bratislava 89.39 318 *e*P **P** **22 36 53.9 +4.2**
ZST *e*S **S** **22 47 38.8 +0.6**
ZST Bratislava 89.39 318 *e*P **P** **22 36 53.9 +4.2**
BEHE Becsehely 89.39 317 P **P** **22 36 49.4 -0.3**
BEHE IAmb IAmb 22 37 04.2
comp=Z,87nm,1.7s
BEHE Becsehely 89.39 317 *e*P **P** **22 36 47.8 -1.9**
SGRT San Giovanni R 89.58 312 IAmb IAmb 22 37 04.5
comp=Z,73nm,1.4s
KRLC Kraliky 89.83 320 *e*P **P** **22 36 54.1 +2.3**
KRLC *e*S **S** **22 47 44.6 +2.2**
KRLC MLR MLR
comp=Z,3µm,18.3s
KRLC Kraliky 89.83 320 *e*P **P** **22 36 54.1 +2.3**
KRLC *e*S **S** **22 47 44.6 +2.2**
KRLC AMS AMS 23 25 10.0
comp=Z,3µm,18.3s
KTK1 Kautokeino 89.85 339 *e*P **P** **22 36 51.6 +0.2**
VRAC Vranov 89.86 319 *e*P **P** **22 36 52.3 +0.4**
VRAC Vranov 89.86 319 *e*S **S** **22 47 42.6 0.0**
RONA Rosalia, Austr 89.86 318 *i* pP **P** **22 36 54.4 +2.4**
comp=Z,11nm,1.2s
KRUC Moravsky 89.96 319 *e*P **P** **22 36 53.0 +0.7**
KRUC Moravsky 89.96 319 *e*S **S** **22 47 41.5 -2.0**
HAMF Hammerfest 90.06 341 *e*P **P** **22 36 54.5 +2.2**
DPC Dobruska-Polom 90.16 320 *e*P **P** **22 36 56.9 +3.6**
DPC *e*S **S** **22 47 47.2 +1.8**
DPC MLR MLR
comp=Z,5µm,21.0s
DPC Dobruska-Polom 90.16 320 *e*P **P** **22 36 56.9 +3.6**
DPC *e*S **S** **22 47 47.2 +1.8**
DPC AMS AMS 23 26 20.0
comp=Z,5µm,21.0s
DPC Dobruska-Polom 90.16 320 P **P** **22 36 55.4 +2.1**
comp=Z,522nmcomp=Z,29nm,1.8s
CONA Conrad Observa 90.18 318 *e*PcP **P** **22 36 55.4 +1.9**
comp=Z,12nm,1.1s
OZLJ Ozalj 90.20 316 *e*P **P** **22 36 52.7 -0.8**
SNAA Sanae 90.20 198 ⇑P **P** **22 36 56.1 +3.0**
comp=Z,826nm,0.9s
SNAA ⇑SKSac **SKSac** **22 47 17.6 -4.7**
SNAA Sanae 90.20 198 IAmb IAmb 22 37 08.5
comp=Z,84nm,1.3s
SNAA Sanae 90.20 198 P **P** **22 36 54.3 +1.1**
comp=Z,4.7nm,0.8s,baz=139,slow=4.5,SNR=18
SNAA S **SKSac** **22 47 17.7 -4.7**
comp=Z,1.6nm,0.8s,baz=69,slow=4.9,SNR=5.9
SNAA PKKP **PKKPdf** **22 54 22.5 +1.3**
comp=Z,1.4nm,0.8s,baz=270,slow=5.0,SNR=7.8
SNAA LR LR 23 13 06.1
comp=Z,4µm,19.4s,baz=94,slow=33
comp=Z,4.7nm,0.8s
OSTC Ostas 90.25 321 *e*P **P** **22 36 57.1 +3.4**
OSTC *e*S **S** **22 47 49.4 +3.2**
OSTC MLR MLR
comp=Z,4µm,25.2s
OSTC Ostas 90.25 321 *e*P **P** **22 36 57.1 +3.4**
OSTC *e*S **S** **22 47 49.4 +3.2**
OSTC AMS AMS 23 21 20.0
comp=Z,4µm,25.2s
GROS Grobnik 90.26 316 *e*P **P** **22 36 54.3 +0.4**
ARSA Arzberg 90.33 317 *e*PcP **P** **22 36 55.7 +1.6**
comp=Z,24nm,1.4s,SNR=5.8
CHVC Chvalec 90.35 321 *e*P **P** **22 36 57.5 +3.3**
CHVC *e*S **S** **22 47 50.9 +3.7**
CHVC MLR MLR
comp=Z,5µm,22.6s
CHVC Chvalec 90.35 321 *e*P **P** **22 36 57.5 +3.3**
CHVC *e*S **S** **22 47 50.9 +3.7**
CHVC AMS AMS 23 21 20.0
comp=Z,5µm,22.6s
UPC Upice 90.37 320 *e*P **P** **22 36 57.8 +3.6**
UPC *e*S **S** **22 47 48.9 +1.6**
UPC MLR MLR
comp=Z,5µm,21.3s
UPC Upice 90.37 320 *e*P **P** **22 36 57.8 +3.6**
UPC *e*S **S** **22 47 48.9 +1.6**
UPC AMS AMS 23 26 30.0
comp=Z,5µm,21.3s
TREC Trest 90.58 319 *e*P **P** **22 36 58.5 +3.3**
TREC *e*S **S** **22 47 51.1 +1.8**
TREC MLR MLR
comp=Z,4µm,21.0s
TREC Trest 90.58 319 *e*P **P** **22 36 58.5 +3.3**
TREC *e*S **S** **22 47 51.1 +1.8**
TREC AMS AMS 23 25 50.0
comp=Z,4µm,21.0s
SOKA Soboth 90.61 317 *e*PcP **PcP** **22 36 56.2 -0.4**
comp=Z,21nm,1.0s,SNR=22
OBKA Obir 90.92 316 *i* PcP **P** **22 36 58.5 +1.5**
comp=Z,12nm,1.3s
JETT Jettan, Norway 90.94 340 *e*P **P** **22 36 57.0 +0.5**
SKDS Skadanscina 91.20 315 *i* P **P** **22 37 00.9 +2.6**
MOA Molln 91.24 318 *ep*P **P** **22 37 00.5 +2.1**
comp=Z,7.2nm,1.3s
MOA *e*PP **PP** **22 40 34.6 -1.0**
comp=Z,9.4nm,1.5s
PRU Pruhonice 91.26 320 *e*P **P** **22 37 00.5 +2.2**
PRU *e*S **S** **22 47 48.2 -7.2**
PRU MLR MLR
comp=Z,4µm,19.1s
PRU Pruhonice 91.26 320 *e*P **P** **22 37 00.5 +2.2**
PRU *e*S **S** **22 47 48.2 -7.2**
PRU AMS AMS 23 27 00.0
comp=Z,4µm,19.1s
PVCC Panska Ves 91.29 320 *e*P **P** **22 37 00.9 +2.4**
PVCC Panska Ves 91.29 320 *e*P **P** **22 37 00.9 +2.4**
PVCC *e*S **S** **22 48 00.9 +5.2**
PVCC AMS AMS 23 26 40.0
comp=Z,5µm,21.1s
CKRC Cesky Krumlov 91.30 319 *e*P **P** **22 36 59.4 +0.8**
CKRC *e*S **S** **22 47 56.2 +0.3**
CKRC MLR MLR
comp=Z,4µm,20.9s
CKRC Cesky Krumlov 91.30 319 *e*P **P** **22 36 59.4 +0.8**
CKRC *e*S **S** **22 47 56.2 +0.3**
CKRC AMS AMS 23 24 10.0
comp=Z,4µm,20.9s
PRA Prague 91.33 320 *e*P **P** **22 37 02.0 +3.3**
PRA *e*S **S** **22 47 56.8 +0.7**
PRA MLR MLR
comp=Z,5µm,18.7s
PRA Prague 91.33 320 *e*P **P** **22 37 02.0 +3.3**
PRA *e*S **S** **22 47 56.8 +0.7**
PRA AMS AMS 23 27 00.0
comp=Z,5µm,18.7s
BRJN Brijuni 91.33 315 *e*P **P** **22 36 58.0 -0.8**
AQU L'Aquila 91.37 312 *e*P **P** **22 37 02.2 +3.0**
AQU L'Aquila 91.37 312 P P 22 37 04.0 +4.8
ZVC Zvikov 91.43 319 *e*P **P** **22 37 03.1 +3.9**
ZVC *e*S **S** **22 47 58.0 +1.0**
ZVC AMS AMS 23 24 40.0
comp=Z,4µm,21.6s
CADS Cadrg 91.46 316 *e*P **P** **22 37 00.8 +1.4**
TRO Tromso 91.47 340 *e*P **P** **22 37 00.4 +1.6**
MYKA Terra Mystica 91.56 316 *i* PcP **P** **22 37 01.1 +1.2**
comp=Z,18nm,1.6s
RICC Richard 91.59 320 *e*P **P** **22 37 00.6 +0.7**
RICC *e*S **S** **22 47 59.7 +1.3**
RICC AMS AMS 23 22 30.0
comp=Z,5µm,20.6s
BIOA Bad Ischl, Aus 91.65 318 *e*PcP **P** **22 37 01.9 +1.6**
comp=Z,13nm,1.6s
GERES GERESS Array B 91.70 319 P **P** **22 37 01.1 +0.6**
comp=Z,3.2nm,0.8s,baz=76,slow=5.6,SNR=22
GERES S **SKSac** **22 47 28.2 -3.6**
comp=Z,0.3nm,0.7s,baz=92,slow=2.9,SNR=3.7
comp=Z,3.2nm,0.8s
BRG Berggiesshubel 91.72 321 *e*P **P** **22 37 03.3 +2.9**
BRG Amp 22 37 05.6
comp=Z,9.2nm,1.1s
BRG Berggiesshubel 91.72 321 P **PKiKP** **22 41 50.4 -1.1**
BRG Amp 22 41 51.6
comp=Z,12nm,1.4s
BRG Berggiesshubel 91.72 321 SKKS S 22 47 48.0 -12
BRG Berggiesshubel 91.72 321 S **S** **22 48 02.0 +2.5**
BRG Berggiesshubel 91.72 321 SKKS 23 01 21.0
KBA Koelnbreinsper 91.80 317 *i* PcP **P** **22 37 01.4 +0.3**
comp=Z,7.6nm,1.3s
KHC Kasperske Hory 91.81 319 *e*P **P** **22 37 03.6 +2.6**
KHC MLR MLR
comp=Z,4µm,18.9s
KHC Kasperske Hory 91.81 319 *e*P **P** **22 37 03.6 +2.6**
KHC *ex* x 22 47 48.2
KHC Kasperske Hory 91.81 319 P **P** **22 37 03.1 +2.1**
comp=Z,325nmcomp=Z,9.8nm,2.0s
VNA2 Neumayer--Watz 91.83 198 ⇑P **P** **22 36 59.6 -1.0**
comp=Z,22nm,0.9s,baz=84,slow=4.8
HSKC Hora Svate Kat 92.02 320 *e*P **P** **22 37 05.1 +3.2**
HSKC *e*S **S** **22 48 03.8 +1.5**
HSKC AMS AMS 23 22 30.0
comp=Z,5µm,20.9s
STAL STALIGIAL 92.17 316 P **P** **22 37 01.4 -1.3**
STAL IAmb IAmb 22 37 17.0
comp=Z,43nm,1.3s
BJO1 Bjornoya 92.19 345 *e*P **P** **22 37 02.2 +0.1**
VNA1 Neumayer--Stat 92.19 198 ⇑P **P** **22 37 04.2 +2.0**
comp=Z,45nm,0.9s
LESA Schwarzleotal 92.28 317 *i* PcP **P** **22 37 03.4 +0.1**
comp=Z,12nm,1.7s
ABTA Abfaltersbach 92.34 317 *e*PcP **P** **22 37 04.7 +1.1**
comp=Z,7.0nm,1.6s
CLL Collm 92.34 321 *e*P **P** **22 37 05.0 +1.7**
CLL *i* 22 37 14.0
CLL *e* 22 47 39.0
CLL *e*S **S** **22 48 05.0 -0.1**
CLL *e* 22 57 53.0
CLL pmax pmax
comp=Z,22nm,1.7s
CLL MLR MLR
comp=Z,4µm,21.9s
RGN Rugen 92.39 324 IAMs_20 IAMs_20 23 24 41.2
comp=Z,6µm,21.0s
VNA3 Neumayer Olymp 92.41 198 ⇑P **P** **22 37 00.8 -2.5**
comp=Z,10.0nm,1.0s
FAUS Fauske 92.52 337 *e*P **P** **22 37 06.5 +2.7**
STEI Steigen 92.59 338 *e*P **P** **22 37 04.6 +0.5**
HFS Hagfors 92.61 330 P **P** **22 37 04.8 +0.5**
comp=Z,7.6nm,0.8s,baz=202,slow=3.2,SNR=13
HFS LR LR 23 23 02.3
comp=Z,7µm,20.9s,baz=86,slow=38
comp=Z,7.6nm,0.8s
CTI Castel Tesino 92.89 316 P **P** **22 37 06.3 +0.2**
CTI IAmb IAmb 22 37 19.2
comp=Z,88nm,1.7s
CTI Castel Tesino 92.89 316 P **P** **22 37 06.3 +0.2**
CTI pmax pmax
comp=Z,88nm,1.7s
RAUS Rausandaksla 92.93 336 *e*P **P** **22 37 08.2 +2.5**
WTTA Wattenberg 92.97 317 *e*PcP **PcP** **22 37 07.0 -0.2**
comp=Z,11nm,1.8s
WATA Walderalm 93.02 317 *i* PcP **P** **22 37 08.0 +1.2**
comp=Z,3.7nm,0.7s
WATA *i* PP **PP** **22 40 49.9 +0.1**
comp=Z,16nm,1.6s
LOF Lofoten 93.24 338 *e*P **P** **22 37 07.7 +0.6**
VAGH Vaagaholmen 93.26 337 *e*P **P** **22 37 09.2 +2.0**
SQTA Sankt Quirin 93.26 317 *i* PcP **PcP** **22 37 08.5 +0.1**
comp=Z,9.5nm,1.3s
SPA0 Spitsbergen Ar 93.28 348 *e*P **P** **22 37 07.5 +0.3**
SPITS Spitsbergen Ar 93.28 348 P **P** **22 37 05.9 -1.2**
comp=Z,20nm,0.8s,baz=108,slow=8.0,SNR=15
SPITS LR LR 23 26 20.1
comp=Z,9µm,19.4s,baz=93,slow=40
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 93.28 348 P **P** **22 37 06.9 -0.3**
SPITS pmax pmax
comp=Z,39nm,1.1s
LEIR Leirfjorden 93.28 336 *e*P **P** **22 37 09.0 +1.7**
STOK Stokkvaagen 93.33 336 *e*P **P** **22 37 09.6 +2.1**
MOTA Moosalm 93.34 317 *e*PcP **PcP** **22 37 08.8 -0.1**
comp=Z,12nm,1.6s
RETA Reutte 93.58 317 *e*PcP **PcP** **22 37 09.9 +0.1**
comp=Z,5.9nm,1.0s
FETA Feichten 93.58 317 *e*PcP **P** **22 37 10.3 +1.0**
comp=Z,6.5nm,1.4s
FETA *e*PP **PP** **22 40 53.6 -0.6**
comp=Z,6.6nm,1.4s
NSS Namsos 93.68 334 *e*P **P** **22 37 11.5 +2.3**
NC602 NORSAR Array S 93.71 331 *e*P **P** **22 37 11.4 +2.0**
NORES NORESS Array B 93.71 331 P **P** **22 37 10.9 +1.5**
NB2 NORSAR Subarra 93.88 331 P **P** **22 37 11.6 +1.3**
comp=Z,70nm,2.0s,baz=98,slow=4.6
NB2 NORSAR Subarra 93.88 331 P **P** **22 37 12.1 +1.8**
NB2 NORSAR Subarra 93.88 331 P **P** **22 37 11.6 +1.3**
baz=98,slow=4.6
NOA NORSAR Array B 93.88 331 P **P** **22 37 10.3 +0.1**
comp=Z,2.7nm,0.9s,baz=94,slow=4.6,SNR=12
NOA PP **PP** **22 40 58.3 +2.3**
comp=Z,3.7nm,1.0s,baz=92,slow=7.5,SNR=5.4
NOA LR LR 23 24 14.9
comp=Z,2µm,20.7s,baz=100,slow=39
comp=Z,2.7nm,0.9s
KEST Kesra 94.11 305 P **P** **22 37 11.0 -1.0**
comp=Z,2.7nm,0.8s,baz=126,slow=14,SNR=3.5
comp=Z,2.7nm,0.8s
DAVA Damuels 94.17 317 *e*PcP **P** **22 37 12.8 +0.7**
comp=Z,7.6nm,0.9s
KBS Kingsbay 94.21 349 IAMs_20 IAMs_20 23 25 16.1
comp=Z,9µm,22.0s
KBS Kingsbay 94.21 349 *e*P **P** **22 37 12.5 +1.2**
KONO Kongsberg 94.65 329 IAMs_20 IAMs_20 23 26 24.8
comp=Z,7µm,19.0s
KONO Kongsberg 94.65 329 *e*P **P** **22 37 15.9 +2.1**
ANM Nome 95.45 26 IAMs_20 IAMs_20 23 27 43.7
comp=Z,5µm,18.0s
F15K North Star Dit 95.73 24 IAMs_20 IAMs_20 23 26 48.9
comp=Z,6µm,20.0s
K13K Kusilvak Mount 95.84 28 IAMs_20 IAMs_20 23 23 46.1
comp=Z,5µm,20.0s
J14K Nanvaranak Lak 96.32 27 IAMs_20 IAMs_20 23 27 50.5
comp=Z,5µm,19.0s
G16K Koyuk River 96.70 25 IAMs_20 IAMs_20 23 27 19.5
comp=Z,6µm,20.0s
RAR Rarotonga 96.75 112 LR LR 23 20 21.3
comp=Z,2µm,21.3s,baz=260,slow=35
L14K Kuka Creek 96.80 29 IAMs_20 IAMs_20 23 23 55.7
comp=Z,5µm,21.0s
F17K Baldwin Pennin 97.07 24 IAMs_20 IAMs_20 23 28 25.2
comp=Z,5µm,20.0s
E18K Tukpahlearik C 97.23 23 IAmb IAmb 22 37 43.9
comp=Z,53nm,1.4s
E18K IAMs_20 IAMs_20 23 29 54.3
comp=Z,8µm,20.0s
N14K Kuskokwak Cree 97.38 30 IAMs_20 IAMs_20 23 25 41.1
comp=Z,5µm,20.0s
I17K Unalakleet 97.53 26 IAMs_20 IAMs_20 23 29 16.7
comp=Z,5µm,20.0s
O14K Tigyukauivet M 97.64 31 IAMs_20 IAMs_20 23 27 32.0
comp=Z,4µm,19.0s
D19K Kuna River 98.03 21 IAMs_20 IAMs_20 23 27 40.4
comp=Z,9µm,20.0s
B20K Meade River 98.13 20 IAMs_20 IAMs_20 23 28 25.6
comp=Z,6µm,18.0s
N15K Kwethluk River 98.16 30 IAMs_20 IAMs_20 23 29 30.6
comp=Z,5µm,19.0s
J17K VABM Dome 98.30 27 IAMs_20 IAMs_20 23 30 43.1
comp=Z,4µm,19.0s
L16K Owhat River 98.31 28 IAMs_20 IAMs_20 23 23 31.3
comp=Z,5µm,21.0s
NOR Nord 98.34 352 *i* P **P** **22 37 28.7 -1.4**
H18K Honhosa River 98.39 25 IAMs_20 IAMs_20 23 28 32.3
comp=Z,5µm,19.0s
F19K Shaleruckik Mo 98.40 23 IAmb IAmb 22 37 51.7
comp=Z,37nm,1.2s
F19K IAMs_20 IAMs_20 23 27 51.3
comp=Z,7µm,21.0s
E19K Redstone River 98.51 22 IAmb IAmb 22 37 49.6
comp=Z,41nm,1.2s
E19K IAMs_20 IAMs_20 23 30 45.3
comp=Z,7µm,20.0s
K17K Iditarod 98.73 27 IAMs_20 IAMs_20 23 30 15.6
comp=Z,5µm,19.0s
H19K Roundabout Mou 99.13 24 IAMs_20 IAMs_20 23 28 54.8
comp=Z,6µm,21.0s
F20K Avaraart Lake 99.16 23 P **Pdif** **22 37 33.9 -0.1**
F20K IAmb IAmb 22 37 55.4
comp=Z,35nm,1.4s
F20K IAMs_20 IAMs_20 23 31 15.1
comp=Z,6µm,20.0s
O16K Kokwok River B 99.22 30 IAMs_20 IAMs_20 23 26 48.8
comp=Z,4µm,21.0s
M17K Holitna River 99.31 29 IAMs_20 IAMs_20 23 25 45.0
comp=Z,5µm,21.0s
B22K Teshekpuk Lake 99.32 19 IAMs_20 IAMs_20 23 27 39.3
comp=Z,6µm,21.0s
J18K Innoko River 99.34 26 IAMs_20 IAMs_20 23 29 25.6
comp=Z,5µm,21.0s
E21K Killik River 99.54 21 IAMs_20 IAMs_20 23 29 49.1
comp=Z,7µm,18.0s
L18K Granite Mounta 99.55 28 IAMs_20 IAMs_20 23 30 53.1
comp=Z,5µm,18.0s
J19K Poorman 99.74 26 IAMs_20 IAMs_20 23 30 19.0
comp=Z,4µm,20.0s
I20K Naaghedeneel 100.08 25 IAMs_20 IAMs_20 23 29 35.0
comp=Z,4µm,20.0s
G21K Allakaket 100.13 23 IAMs_20 IAMs_20 23 28 56.0

comp=Z,6µm,22.0s
N18K Kilae Creek 100.16 29 IAMs_20 IAMs_20 23 27 53.8
comp=Z,4µm,18.0s
TORD Torodi Ar. Bea 100.28 282 P Pdif 22 37 40.5 +0.3
comp=Z,0.3nm,0.9s,baz=68,slow=4.8,SNR=1.4
J20K Nowinta River 100.34 26 IAMs_20 IAMs_20 23 30 48.2
comp=Z,6µm,20.0s
C23K Itkillik River 100.37 20 IAMs_20 IAMs_20 23 26 25.2
comp=Z,6µm,21.0s
E22K Anaktuvuk Pass 100.39 21 IAMs_20 IAMs_20 23 28 54.9
comp=Z,6µm,21.0s
L19K White Mountain 100.40 28 IAMs_20 IAMs_20 23 30 13.9
comp=Z,5µm,20.0s
K20K Telida 100.54 26 IAMs_20 IAMs_20 23 30 11.1
comp=Z,5µm,19.0s
H21K Melozitna Rive 100.59 24 IAMs_20 IAMs_20 23 30 33.7
comp=Z,5µm,20.0s
M19K Big River 1,cdg 100.67 28 IAMs_20 IAMs_20 23 30 24.4
comp=Z,4µm,19.0s
P18K Big Mountain, 100.70 30 IAMs_20 IAMs_20 23 31 21.7
comp=Z,4µm,20.0s
DAG Danmarks Havn 100.93 348 *i* P Pdif 22 37 40.0 -1.7
I21K Tanana 101.04 24 IAMs_20 IAMs_20 23 26 37.2
comp=Z,4µm,20.0s
C24K Franklin Bluff 101.04 19 IAMs_20 IAMs_20 23 25 56.0
comp=Z,7µm,21.0s
TOLK Toolik Lake Re 101.06 21 IAMs_20 IAMs_20 23 27 46.5
comp=Z,8µm,20.0s
D24K Happy Valley 101.17 20 IAMs_20 IAMs_20 23 29 04.4
comp=Z,8µm,20.0s
E23K Chandalar 101.21 21 IAMs_20 IAMs_20 23 28 22.7
comp=Z,5µm,20.0s
COLD Coldfoot 101.22 22 IAMs_20 IAMs_20 23 25 40.8
comp=Z,5µm,21.0s
G23K Bananza Creek 101.43 23 IAMs_20 IAMs_20 23 29 56.4
comp=Z,8µm,22.0s
MLY Manley 101.58 24 IAMs_20 IAMs_20 23 27 41.6
comp=Z,4µm,21.0s
E24K Your Creek 101.61 21 IAMs_20 IAMs_20 23 28 47.7
comp=Z,8µm,20.0s
BPAW Bear Paw Mtn. 101.71 25 IAMs_20 IAMs_20 23 31 40.1
comp=Z,5µm,19.0s
EKA Eskdalemuir Ar 101.83 326 PP PP 22 41 52.9 -4.1
comp=Z,1.7nm,0.8s,baz=74,slow=6.6,SNR=3.6
H23K Yukon River 101.86 23 IAMs_20 IAMs_20 23 32 52.4
comp=Z,6µm,20.0s
ESK Eskdalemuir 101.86 326 IAMs_20 IAMs_20 23 31 32.6
comp=Z,4µm,20.0s
KTH Kantishna Hill 101.87 26 IAMs_20 IAMs_20 23 31 55.4
comp=Z,4µm,18.0s
D25K Kavik River 101.95 20 IAMs_20 IAMs_20 23 26 23.8
comp=Z,7µm,21.0s
F24K Squaw Lake 102.00 22 IAMs_20 IAMs_20 23 31 11.3
comp=Z,7µm,19.0s
I23K Minto, Yukon-K 102.11 24 IAMs_20 IAMs_20 23 30 46.7
comp=Z,4µm,19.0s
BWN Browne 102.34 25 IAMs_20 IAMs_20 23 31 14.5
comp=Z,4µm,18.0s
KDAK Kodiak Island 102.35 32 IAMs_20 IAMs_20 23 25 02.6
comp=Z,4µm,20.0s
CUT Chulitna 102.45 27 IAMs_20 IAMs_20 23 34 01.7
comp=Z,4µm,19.0s
SUA Susitna One 102.46 28 IAMs_20 IAMs_20 23 31 37.7
comp=Z,4µm,19.0s
H24K Noodor Dome 102.51 23 IAMs_20 IAMs_20 23 31 41.7
comp=Z,6µm,20.0s
CNPM China Poot 102.67 30 IAMs_20 IAMs_20 23 32 04.9
comp=Z,4µm,19.0s
MCK McKinley 102.68 25 IAMs_20 IAMs_20 23 32 20.4
comp=Z,6µm,19.0s
F25K Christian Rive 102.79 21 IAMs_20 IAMs_20 23 28 53.2
comp=Z,6µm,20.0s
BRLK Bradley Lake 102.79 30 IAMs_20 IAMs_20 23 32 15.8
comp=Z,4µm,19.0s
RND Reindeer 102.81 26 IAMs_20 IAMs_20 23 32 25.0
comp=Z,5µm,19.0s
WRH Wood River Hil 102.83 25 IAMs_20 IAMs_20 23 32 46.5
comp=Z,5µm,19.0s
POKR Poker Plat Res 102.90 24 IAMs_20 IAMs_20 23 34 07.5
comp=Z,5µm,19.0s
RC01 Rabbit Creek A 103.02 28 IAMs_20 IAMs_20 23 33 06.0
comp=Z,5µm,20.0s
O22K Cooper Landing 103.18 29 IAMs_20 IAMs_20 23 31 59.3
comp=Z,5µm,20.0s
ILAR Eielson Array 103.23 24 Pdiff Pdif 22 37 55.7 +3.5
comp=Z,0.6nm,0.9s,baz=286,slow=3.9,SNR=2.8
ILAR PP PP 22 42 04.7 -2.6
comp=Z,3.4nm,1.0s,baz=294,slow=7.8,SNR=7.4
ILAR PKKP PKKPdf 22 53 57.9 -0.1
comp=Z,1.3nm,1.0s,baz=151,slow=2.1,SNR=6.0
F26K Sheenjek River 103.29 21 IAMs_20 IAMs_20 23 29 25.4
comp=Z,6µm,20.0s
FYU Fort Yukon 103.29 22 IAMs_20 IAMs_20 23 34 22.6
comp=Z,5µm,19.0s
SEW Seward 103.41 29 IAMs_20 IAMs_20 23 30 16.3
comp=Z,4µm,19.0s
KNK Knik Glacier 103.53 28 IAMs_20 IAMs_20 23 34 42.5
comp=Z,5µm,20.0s
PRP Porcupine Dome 103.54 23 IAMs_20 IAMs_20 23 31 00.1
comp=Z,7µm,21.0s
DHY Denali Highway 103.54 26 IAMs_20 IAMs_20 23 34 33.6
comp=Z,4µm,20.0s
G26K Porcupine Rive 103.69 22 IAMs_20 IAMs_20 23 31 08.1
comp=Z,6µm,20.0s
PWL Port Wells 103.74 28 IAMs_20 IAMs_20 23 32 30.1
comp=Z,5µm,18.0s
D27M Malcolm River 103.76 19 IAMs_20 IAMs_20 23 31 33.3
comp=Z,7µm,21.0s
J25K Salcha River, 103.90 24 IAMs_20 IAMs_20 23 31 53.1
comp=Z,6µm,21.0s
E27K Coleen River 103.99 20 IAMs_20 IAMs_20 23 31 50.8
comp=Z,8µm,21.0s
PAX Paxson 104.40 26 IAMs_20 IAMs_20 23 33 13.3
comp=Z,5µm,21.0s
RIDG Independent Ri 104.41 25 IAMs_20 IAMs_20 23 33 35.4
comp=Z,5µm,20.0s
P23K Montague Islan 104.43 29 IAMs_20 IAMs_20 23 32 59.2
comp=Z,5µm,19.0s
ESDC Sonseca Array 104.53 310 PP PP 22 42 19.5 +1.7
comp=Z,2.8nm,1.1s,baz=76,slow=13,SNR=4.9
I26K Coal Creek Min 104.54 23 IAMs_20 IAMs_20 23 31 52.6
comp=Z,7µm,22.0s
J26L Joseph Creek 104.67 24 IAMs_20 IAMs_20 23 31 38.5
comp=Z,5µm,22.0s
SCRK Sand Creek 104.69 24 IAMs_20 IAMs_20 23 32 17.6
comp=Z,5µm,21.0s
HIN Hinchinbrook I 104.74 28 IAMs_20 IAMs_20 23 33 04.5
comp=Z,5µm,18.0s
H27K Steamboat Moun 104.80 22 IAMs_20 IAMs_20 23 31 53.5
comp=Z,6µm,20.0s
F28M Old Crow 104.82 20 IAMs_20 IAMs_20 23 30 24.8
comp=Z,7µm,20.0s
SCO Scoresbysund 104.84 343 IAMs_20 IAMs_20 23 34 28.0
comp=Z,5µm,18.0s
SHEL Horse Pasture 105.02 252 IAMs_20 IAMs_20 23 22 28.9
comp=Z,7µm,19.0s
EYAK Cordova Ski Ar 105.05 28 IAMs_20 IAMs_20 23 35 43.6
comp=Z,5µm,20.0s
E29M Blow River 105.14 19 IAMs_20 IAMs_20 23 35 45.1
comp=Z,5µm,20.0s
N25K Chitina, Valde 105.24 27 IAMs_20 IAMs_20 23 32 51.5
comp=Z,4µm,19.0s
L26K Log Cabin Wild 105.29 25 IAMs_20 IAMs_20 23 33 20.8
comp=Z,6µm,19.0s
BMRM Bremner River 105.45 28 IAMs_20 IAMs_20 23 35 05.1
comp=Z,5µm,19.0s
K27K Chicken 105.45 24 IAMs_20 IAMs_20 23 35 06.8
comp=Z,3µm,18.0s
EGAK Eagle 105.52 23 IAMs_20 IAMs_20 23 32 20.7
comp=Z,6µm,21.0s
RAGM Ragged Mountai 105.61 28 IAMs_20 IAMs_20 23 29 48.3
comp=Z,5µm,19.0s
GLB Gilahina Butte 105.65 27 IAMs_20 IAMs_20 23 33 04.3
comp=Z,4µm,20.0s
I28M Miner Creek 105.72 22 IAMs_20 IAMs_20 23 32 32.8
comp=Z,7µm,19.0s
HMT Hamilton 105.82 28 IAMs_20 IAMs_20 23 34 07.9
comp=Z,5µm,21.0s
VRDI Verde Repeater 105.89 27 IAMs_20 IAMs_20 23 33 11.6
comp=Z,4µm,22.0s
L27K Beaver Creek, 105.92 25 IAMs_20 IAMs_20 23 33 09.4
comp=Z,4µm,20.0s
H29M Whitestone 105.97 21 IAMs_20 IAMs_20 23 30 44.2
comp=Z,5µm,22.0s
MCARA McCarthy VSAT 106.02 27 IAMs_20 IAMs_20 23 28 14.2
comp=Z,4µm,22.0s
SUCK Suckling Hills 106.14 28 IAMs_20 IAMs_20 23 31 17.2
comp=Z,5µm,19.0s
M27K Edge Creek, AK 106.17 26 IAMs_20 IAMs_20 23 34 00.3
comp=Z,6µm,20.0s
F30M Barrier River 106.21 20 IAMs_20 IAMs_20 23 32 47.5
comp=Z,8µm,21.0s
G30M tAoh Zraii Nji 106.37 20 IAMs_20 IAMs_20 23 34 11.8
comp=Z,7µm,19.0s
WAX Waxell Ridge 106.44 28 IAMs_20 IAMs_20 23 34 04.2
comp=Z,4µm,19.0s
EPYK Eagle Plains 106.49 21 IAMs_20 IAMs_20 23 33 09.0
comp=Z,5µm,20.0s
SNH Sunshine Point 106.54 28 IAMs_20 IAMs_20 23 36 37.9
comp=Z,4µm,20.0s
ISLE Juniper Island 106.62 27 IAMs_20 IAMs_20 23 32 51.9
comp=Z,4µm,20.0s
MVO Moncorvo 106.66 312 *e*LR LR 23 18 19.8
MVO *i* IAMs_20 IAMs_20 23 36 19.9
comp=Z,2µm,20.0s
BARN Barnard Glacie 106.76 27 IAMs_20 IAMs_20 23 33 48.6
comp=Z,4µm,20.0s
J29N Klondike Camp 106.81 23 IAMs_20 IAMs_20 23 32 42.7
comp=Z,6µm,22.0s
PPT2 Papeete2 106.81 110 *e*PP PP 22 42 27.9 -7.4
comp=Z,428nm,26.8s
PPT2 *e*S Sdif 22 50 05.1 -4.5
comp=Z,1µm,27.2s
PPT2 *e*SS SS 22 57 35.1 -4.9
comp=Z,3µm,25.8s
PPT2 Papeete2 106.81 110 *e*LQ LQ 23 08 58.3
comp=Z,10µm,33.0s
PPT2 *e*LR LR 23 13 21.0
comp=Z,4µm,23.2s
PPT2 *e*LR LR 23 13 21.0
comp=Z,5µm,22.8s
CTGM Chitina Glacie 106.94 27 IAMs_20 IAMs_20 23 33 43.4
comp=Z,4µm,20.0s
MESA MESA 106.95 28 IAMs_20 IAMs_20 23 34 55.9
comp=Z,4µm,20.0s
YAH Yahtse 106.98 28 IAMs_20 IAMs_20 23 31 11.5
comp=Z,4µm,21.0s
TIAR Tiarei 107.04 110 *e*LR LR 23 13 31.3
comp=Z,7µm,23.3s
TVO Taravao 107.08 110 *e*LR LR 23 13 39.6
comp=Z,1µm,23.2s
LOGN Logan Glacier 107.14 27 IAMs_20 IAMs_20 23 33 58.8
comp=Z,4µm,21.0s
I30M Mount Dempster 107.16 22 IAMs_20 IAMs_20 23 35 20.7
comp=Z,4µm,19.0s
MTE Manteigas 107.16 311 *e*PP PP 22 42 40.0 +2.8
MTE *e*LR LR 23 19 40.5
MTE *i* IAMs_20 IAMs_20 23 28 07.9
comp=Z,2µm,20.0s
PMRV Marv??o 107.19 310 *e*LR LR 23 21 25.3
PMRV *i* IAmb IAmb 23 37 31.7
comp=Z,2µm,18.0s
K29M Barlow Dome 107.36 23 IAMs_20 IAMs_20 23 36 22.2
comp=Z,4µm,19.0s
L29M L29M 107.44 24 IAMs_20 IAMs_20 23 33 59.4
comp=Z,6µm,22.0s
PGAV Gavieira, Arco 107.44 313 *e*LR LR 23 18 53.1
PGAV *i* IAMs_20 IAMs_20 23 28 43.5
comp=Z,2µm,22.0s
O28M Mount Upton 107.53 27 IAMs_20 IAMs_20 23 35 05.1
comp=Z,5µm,20.0s
M29M Somme Creek 107.59 25 IAMs_20 IAMs_20 23 37 08.5
comp=Z,6µm,20.0s
H31M Peel River 107.61 21 IAMs_20 IAMs_20 23 33 41.6
comp=Z,7µm,21.0s
PVAQ Vaqueiros 107.74 308 *e*LR LR 23 19 54.9
PVAQ *i* IAMs_20 IAMs_20 23 28 16.9
comp=Z,3µm,22.0s
TULEG Thule 107.77 358 IAMs_20 IAMs_20 23 35 48.6
comp=Z,8µm,21.0s
MESJ Messejana 108.07 308 *e*PP PP 22 42 41.8 -2.1
MESJ *e*SS SS 22 57 56.5 +0.6
MESJ IAMs_20 IAMs_20 23 34 23.7
comp=Z,2µm,13.3s
M30M Minto, Yukon 108.23 24 IAMs_20 IAMs_20 23 35 55.2
comp=Z,5µm,19.0s
O29M Mount Kennedy 108.45 27 IAMs_20 IAMs_20 23 35 42.4
comp=Z,5µm,21.0s
MORF Marmelete 108.49 308 *e*PP PP 22 42 45.0 -2.1
MORF IAMs_20 IAMs_20 23 28 37.9
comp=Z,3µm,26.4s
N30M Aishikik Lake 108.61 26 IAMs_20 IAMs_20 23 37 54.4
comp=Z,6µm,20.0s
LIS Lisbon 108.66 309 *e*PP PP 22 42 46.2 -1.9
LIS IAMs_20 IAMs_20 23 31 28.1
comp=N,4µm,10.1s
PMOR Pomariorio Ree 108.86 107 *e*LR LR 23 14 18.4
comp=N,7µm,24.8s
N31M Braeburn, Yuko 109.16 25 IAMs_20 IAMs_20 23 34 33.8
comp=Z,5µm,21.0s
O30N Mendenhall 109.35 26 IAMs_20 IAMs_20 23 36 28.1
comp=Z,5µm,21.0s
M31M Drury Creek, Y 109.39 24 IAMs_20 IAMs_20 23 38 43.0
comp=Z,5µm,18.0s
PMSA Palmer Station 110.09 187 IAMs_20 IAMs_20 23 30 09.8
comp=Z,6µm,19.0s
N32M Quiet Lake 110.46 25 IAMs_20 IAMs_20 23 38 33.9
comp=Z,5µm,20.0s
BESE Bessie Mountai 110.92 28 IAMs_20 IAMs_20 23 33 41.7
comp=Z,4µm,20.0s
P32M Atlin 110.96 26 IAMs_20 IAMs_20 23 35 59.6
comp=Z,5µm,22.0s
P33M Teslin, Yukon 111.04 26 IAMs_20 IAMs_20 23 36 28.8
comp=Z,6µm,20.0s
R32K Eaglecrest 111.22 28 IAMs_20 IAMs_20 23 33 54.7
comp=Z,4µm,20.0s
HOPE Hope Point 111.72 205 IAMs_20 IAMs_20 23 20 50.5
comp=Z,7µm,20.0s
Q32M Nakina River 111.92 27 IAMs_20 IAMs_20 23 36 28.9
comp=Z,4µm,22.0s
R33M Jennings River 112.27 26 IAMs_20 IAMs_20 23 37 06.1
comp=Z,5µm,21.0s
S34M Telegraph Cree 112.96 27 IAMs_20 IAMs_20 23 38 17.8
comp=Z,4µm,20.0s
WRAK Wrangell Islan 113.14 29 IAMs_20 IAMs_20 23 40 45.6
comp=Z,4µm,20.0s
T35M Bob Quinn 113.86 28 IAMs_20 IAMs_20 23 39 02.4
comp=Z,4µm,21.0s
U35K Hyder 114.52 29 IAMs_20 IAMs_20 23 39 22.0
comp=Z,4µm,18.0s
ASCN Ascension 114.59 259 IAMs_20 IAMs_20 23 24 52.0
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 114.61 348 IAMs_20 IAMs_20 23 38 08.2
comp=Z,6µm,19.0s
YKA Yellowknife Ar 116.33 18 PKP PKPdf 22 42 36.9 +0.7
comp=Z,3.8nm,1.0s,baz=314,slow=2.9,SNR=5.6
YKA PP PP 22 43 39.4 -2.4
comp=Z,5.8nm,1.2s,baz=314,slow=7.5,SNR=4.3
TAOE Nuku Hiva Isla 117.39 102 *e*PP PP 22 43 49.2 -2.0
comp=Z,572nm,27.7s
TAOE Nuku Hiva Isla 117.39 102 *e*SS SS 22 59 55.8 -5.3
comp=Z,3µm,25.4s
TAOE Nuku Hiva Isla 117.39 102 *e*LQ LQ 23 13 22.2
comp=Z,5µm,32.0s
TAOE *e*LR LR 23 18 11.1
comp=Z,5µm,23.9s
RKT Rikitea 118.70 119 *e*SS SS 23 00 14.0 -3.1
comp=Z,15µm,27.8s
RKT Rikitea 118.70 119 *e*LR LR 23 18 53.2
comp=Z,12µm,22.5s
EFI East Falkland 121.36 195 IAMs_20 IAMs_20 23 27 53.8
comp=Z,3µm,20.0s
MG05 Puerto Natales 123.83 185 IAMs_20 IAMs_20 23 34 17.9
comp=Z,5µm,19.0s
I03D Drain, OR 124.62 38 PKPdf 22 42 51.8 -0.8
SACV Santiago Islan 124.78 285 IAMs_20 IAMs_20 23 37 57.1
comp=Z,3µm,20.0s
KRMB Red Mountain 125.38 41 IAMs_20 IAMs_20 23 48 55.9
comp=Z,3µm,21.0s
NEW Newport 125.43 31 IAMs_20 IAMs_20 23 46 04.9
comp=Z,5µm,22.0s
KMRM Mail Ridge 126.15 42 IAMs_20 IAMs_20 23 38 10.8
comp=Z,3µm,21.0s
FFC Flin Flon 126.47 17 IAMs_20 IAMs_20 23 45 13.8
comp=Z,5µm,20.0s
FFC Flin Flon 126.47 17 PKIKP PKiKP 22 42 58.0 +1.7
BMO Blue Mountains 127.51 34 IAMs_20 IAMs_20 23 50 12.2
comp=Z,4µm,20.0s
PLID Pearl Lake 128.08 33 PKPdf 22 42 58.5 -1.1
PLID IAMs_20 IAMs_20 23 47 00.1
comp=Z,4µm,21.0s
SCHQ Schefferville 128.85 351 PKP PKiKP 22 43 01.9 +0.8
comp=Z,105nm,1.1s,baz=262,slow=6.8,SNR=5.1
EGMT Eagleton 129.12 26 IAMs_20 IAMs_20 23 51 47.2
comp=Z,3µm,19.0s
DLMT Dillon 129.69 31 IAMs_20 IAMs_20 23 45 16.7
comp=Z,3µm,20.0s
COYC Coyhaique 129.84 186 IAMs_20 IAMs_20 23 38 30.0
comp=Z,5µm,20.0s
HLID Hailey 129.93 34 IAMs_20 IAMs_20 23 52 34.6
comp=Z,4µm,21.0s
BOZ Bozeman (W) 130.01 30 IAMs_20 IAMs_20 23 46 43.1
comp=Z,4µm,20.0s
NVAR Mina Array Bea 130.66 41 PKPdf PKPdf 22 43 02.4 -2.3
NVAR Mina Array Bea 130.66 41 PKP PKiKP 22 43 06.0 +0.5
comp=Z,5.8nm,0.8s,baz=278,slow=1.6,SNR=14
NVAR SKPab SKPab 22 46 29.4 +2.4
comp=Z,3.8nm,0.9s,baz=276,slow=3.2,SNR=5.9
DGMT Dagmar 131.06 22 IAMs_20 IAMs_20 23 45 46.0
comp=Z,5µm,22.0s
RLMT Red Lodge 131.50 29 IAMs_20 IAMs_20 23 53 26.5
comp=Z,4µm,19.0s
LAO LASA Array 131.68 25 IAMs_20 IAMs_20 23 50 07.8
comp=Z,4µm,18.0s
TPAW Teton Pass 131.84 31 IAMs_20 IAMs_20 23 53 14.6
comp=Z,3µm,19.0s
LOHW Long Hollow 131.93 31 IAMs_20 IAMs_20 23 49 10.1
comp=Z,3µm,21.0s
SNOW Snow King Moun 131.96 31 IAMs_20 IAMs_20 23 50 41.9
comp=Z,3µm,20.0s
ULM Lac du Bonnet 132.13 15 PKP PKiKP 22 43 07.8 -0.1
comp=Z,8.3nm,0.6s,baz=37,slow=2.3,SNR=5.3
AHID Auburn Hatcher 132.26 32 IAMs_20 IAMs_20 23 51 42.8
comp=Z,3µm,19.0s
OSI Osito Audit: C 132.37 46 IAMs_20 IAMs_20 23 44 32.5
comp=Z,3µm,22.0s
DUG Dugway, Tooele 133.03 36 IAMs_20 IAMs_20 23 52 49.7
comp=Z,3µm,19.0s
BW06 Boulder Array 133.07 31 IAMs_20 IAMs_20 23 49 46.2
comp=Z,3µm,20.0s
PDAR Pinedale Array 133.07 31 PKPdf PKPdf 22 43 06.4 -2.7
PDAR Pinedale Array 133.07 31 PKP PKPdf 22 43 08.8 -0.4
comp=Z,1.7nm,0.7s,baz=75,slow=1.7,SNR=9.1
PDAR SKP 22 46 44.6
comp=Z,1.1nm,0.6s,baz=80,slow=0.8,SNR=3.8
MDND Maddock 133.21 19 IAMs_20 IAMs_20 23 49 57.6
comp=Z,5µm,20.0s
AGMN Agassiz Nation 133.93 16 IAMs_20 IAMs_20 23 50 56.3
comp=Z,6µm,22.0s
LL05 Los Muermos 134.10 186 IAMs_20 IAMs_20 23 38 28.9
comp=Z,5µm,20.0s
PFO Pinyon Flats O 134.49 46 IAMs_20 IAMs_20 23 50 54.9
comp=Z,3µm,21.0s
BELC Belle Mtn. Jos 134.62 45 IAMs_20 IAMs_20 23 49 27.0
comp=Z,2µm,20.0s
RSSD Black Hills 134.66 26 PKPdf PKPdf 22 43 09.7 -2.3
RSSD Black Hills 134.66 26 IAMs_20 IAMs_20 23 48 43.6
comp=Z,4µm,22.0s
RSSD Black Hills 134.66 26 PKIKP PKPdf 22 43 09.7 -2.3
RSSD MLR MLR
comp=Z,4µm,22.0s
K22A Casper 134.66 29 IAMs_20 IAMs_20 23 56 05.2
comp=Z,3µm,20.0s
TRQA Tornquist 134.92 199 IAMs_20 IAMs_20 23 40 58.0
comp=Z,4µm,20.0s
O20A White River Ci 135.64 33 IAMs_20 IAMs_20 23 48 28.4
comp=Z,3µm,22.0s
RCBR Riachuelo 136.00 257 IAMs_20 IAMs_20 23 36 02.3
comp=Z,5µm,20.0s
F33A 5 Mile Ranch, 136.04 18 IAMs_20 IAMs_20 23 48 10.3
comp=Z,4µm,22.0s
SUSD Miller 136.39 21 IAMs_20 IAMs_20 23 50 47.1
comp=Z,5µm,21.0s
ISCO Idaho Springs 137.26 31 IAMs_20 IAMs_20 23 51 51.2
comp=Z,3µm,22.0s
K30B Basset 137.67 23 IAMs_20 IAMs_20 23 54 10.9
comp=Z,5µm,20.0s
F64A Sherman 137.77 349 IAMs_20 IAMs_20 23 53 11.8
comp=Z,5µm,20.0s
F42A Maple Grove Fa 138.05 10 IAMs_20 IAMs_20 23 51 09.0
comp=Z,4µm,21.0s
OGNE Ogallala 138.09 27 IAMs_20 IAMs_20 23 54 43.5
comp=Z,3µm,21.0s
G40A Rib Lake 138.13 12 IAMs_20 IAMs_20 23 51 59.3
comp=Z,5µm,21.0s
G65A Princeton 138.25 348 IAMs_20 IAMs_20 23 54 54.5
comp=Z,5µm,19.0s
BI02 San Fabin de 138.50 189 IAMs_20 IAMs_20 23 38 57.3
comp=Z,5µm,22.0s
PKME Peaks-Kenny Pk 138.52 350 IAMs_20 IAMs_20 23 51 24.6
comp=Z,4µm,20.0s
I37A Lemond, Waseca 138.54 16 IAMs_20 IAMs_20 23 54 23.3
comp=Z,5µm,22.0s
SPB Sao Paulo 138.64 226 IAMs_20 IAMs_20 23 35 34.1
comp=Z,4µm,18.0s
EMMW East Machias 138.70 348 IAMs_20 IAMs_20 23 50 30.4
comp=Z,5µm,21.0s
SDCO Great Sand Dun 138.84 33 IAMs_20 IAMs_20 23 58 08.2
comp=Z,5µm,21.0s
TUC Tucson 139.18 43 PKIKP PKiKP 22 43 22.6 -0.3
WVL Waterville 139.26 350 IAMs_20 IAMs_20 23 52 17.2
comp=Z,5µm,20.0s
I40A Norwalk 139.35 13 IAMs_20 IAMs_20 23 56 53.7
comp=Z,5µm,19.0s
ML02 Panimavida 139.41 189 IAMs_20 IAMs_20 23 43 38.2
comp=Z,3µm,20.0s
GLMI Grayling 139.47 6 IAMs_20 IAMs_20 23 52 59.1
comp=Z,5µm,20.0s
I42A Draeger Farm, 139.72 11 IAMs_20 IAMs_20 23 50 39.1
comp=Z,5µm,22.0s
T25A Trinidad 139.87 32 IAMs_20 IAMs_20 23 58 37.5
comp=Z,3µm,20.0s
LBNH Lisbon 139.92 352 IAMs_20 IAMs_20 23 53 33.8
comp=Z,4µm,20.0s
I62A Tamworth 140.20 352 IAMs_20 IAMs_20 23 55 25.1
comp=Z,4µm,18.0s
BO02 Sierra Bellavi 140.25 190 IAMs_20 IAMs_20 23 39 08.5
comp=Z,4µm,22.0s
ANMO Albuquerque 140.28 37 PKPdf PKPdf 22 43 19.1 -3.6
ANMO Albuquerque 140.28 37 IAMs_20 IAMs_20 23 54 24.9
comp=Z,2µm,20.0s
ANMO Albuquerque 140.28 37 PKIKP PKPdf 22 43 19.1 -3.6
ANMO MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 140.37 13 IAMs_20 IAMs_20 23 55 08.4
comp=Z,3µm,20.0s
HNH Hanover 140.50 353 IAMs_20 IAMs_20 23 55 01.9
comp=Z,5µm,20.0s
Y22D IRIS PASSCAL I 140.59 38 IAMs_20 IAMs_20 23 59 36.3
comp=Z,3µm,20.0s
BO01 Tunca 140.69 190 IAMs_20 IAMs_20 23 39 31.2
comp=Z,5µm,22.0s
J61A Chester 140.88 353 IAMs_20 IAMs_20 23 55 03.2
comp=Z,4µm,19.0s
L40A Anamosa 140.94 15 IAMs_20 IAMs_20 23 54 22.6
comp=Z,4µm,20.0s
K43A Burlington 140.97 11 IAMs_20 IAMs_20 23 51 25.3
comp=Z,4µm,21.0s
BO04 La Punta 141.00 191 IAMs_20 IAMs_20 23 44 23.4
comp=Z,3µm,20.0s
LMEL Las Melosas 141.06 191 IAMs_20 IAMs_20 23 43 04.0
comp=Z,4µm,20.0s
MT01 Popeta 141.23 190 IAMs_20 IAMs_20 23 43 15.6
comp=Z,5µm,20.0s
MT09 Talagante 141.27 190 IAMs_20 IAMs_20 23 42 58.7
comp=Z,3µm,20.0s
L42A Oliver, Polo 141.36 13 IAMs_20 IAMs_20 23 58 22.8
comp=Z,4µm,21.0s
MT03 Universidad Ad 141.46 191 IAMs_20 IAMs_20 23 39 24.6
comp=Z,3µm,22.0s
K62A Royalston 141.51 352 IAMs_20 IAMs_20 23 55 32.8
comp=Z,5µm,20.0s
MT16 CCHEN 141.52 191 IAMs_20 IAMs_20 23 41 46.4
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 141.57 351 IAMs_20 IAMs_20 23 53 46.4
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 141.57 351 PKIKP PKiKP 22 43 26.7 -0.6
MT05 Renca 141.60 191 IAMs_20 IAMs_20 23 43 53.4
comp=Z,4µm,20.0s
R32A Long Quarter, 141.62 26 IAMs_20 IAMs_20 23 53 23.8
comp=Z,5µm,22.0s
TRY Troy 141.62 354 IAMs_20 IAMs_20 23 51 39.6
comp=Z,4µm,21.0s
L61B Northampton 141.78 353 IAMs_20 IAMs_20 23 51 01.0
comp=Z,4µm,22.0s
MT02 Curacav 141.80 190 IAMs_20 IAMs_20 23 43 22.7
comp=Z,4µm,20.0s
PEL Peldehue 141.83 191 IAMs_20 IAMs_20 23 43 41.4
comp=Z,4µm,21.0s
PEL Peldehue 141.83 191 PKIKP PKiKP 22 43 27.5 -0.7
K57A Scipio Center 141.84 357 IAMs_20 IAMs_20 23 53 15.4
comp=Z,4µm,20.0s
HQIL Hanson Quary C 141.94 11 IAMs_20 IAMs_20 23 53 57.9
comp=Z,5µm,21.0s

VA01	Torpederas	142.12	190	IAMs_20	IAMs_20	23 45 50.1	
	comp=Z,4μm,19.0s						
L59A	Walton	142.28	355	IAMs_20	IAMs_20	23 53 15.2	
	comp=Z,5μm,20.0s						
VA06	Catapilco	142.51	190	IAMs_20	IAMs_20	23 45 11.5	
	comp=Z,4μm,20.0s						
P38A	Dawn	142.52	19	IAMs_20	IAMs_20	23 56 06.0	
	comp=Z,3μm,20.0s						
M63A	Gales Ferry	142.72	352	IAMs_20	IAMs_20	23 54 39.9	
	comp=Z,4μm,19.0s						
CFA	Coronel Fontan	142.76	195	PKP	PKPdf	22 43 27.2	+0.2
	comp=Z,2.3nm,0.8s,baz=168,slow=2.4,SNR=5.8						
HDIL	Hopedale	142.83	13	IAMs_20	IAMs_20	23 54 55.6	
	comp=Z,4μm,22.0s						
M52A	Chesterland	143.00	3	IAMs_20	IAMs_20	23 57 38.6	
	comp=Z,4μm,20.0s						
CPUP	Villa Florida	143.02	213	PKP	PKPdf	22 43 28.7	+1.1
	comp=Z,3.4nm,1.1s,baz=325,slow=4.4,SNR=3.4						
AMTX	Amarillo	143.02	32	IAMs_20	IAMs_20	00 01 08.8	
	comp=Z,4μm,21.0s						
P40A	Paris	143.07	17	PKPdf	PKPbc	22 43 24.4	+0.4
P40A				IAMs_20	IAMs_20	23 59 53.3	
	comp=Z,4μm,21.0s						
MSTX	Muleshoe	143.11	34	IAMs_20	IAMs_20	00 01 54.4	
	comp=Z,3μm,21.0s						
MNTX	Cornudas Mount	143.14	40	IAMs_20	IAMs_20	23 54 39.9	
	comp=Z,3μm,20.0s						
N62A	Caumsett State	143.38	353	IAMs_20	IAMs_20	23 52 55.1	
	comp=Z,5μm,22.0s						
SFIN	Lafayette	143.46	11	IAMs_20	IAMs_20	23 55 13.0	
	comp=Z,4μm,20.0s						
BDFB	Brasilia	143.60	236	PKP	PKiKP	22 43 31.1	-1.2
	comp=Z,5.2nm,0.8s,baz=168,slow=3.2,SNR=5.6						
CO02	Combarbal	143.78	191	IAMs_20	IAMs_20	23 44 41.0	
	comp=Z,3μm,21.0s						
O48B	Farmland	143.89	8	IAMs_20	IAMs_20	23 58 33.4	
	comp=Z,4μm,18.0s						
SSPA	Standing Stone	143.97	359	PKPdf	PKPab	22 43 25.6	-0.4
CO03	El Pedregal	144.07	192	IAMs_20	IAMs_20	23 38 46.7	
	comp=Z,5μm,22.0s						
R40A	Maddies Statio	144.14	18	IAMs_20	IAMs_20	23 53 25.8	
	comp=Z,4μm,22.0s						
P46A	Rosedale	144.17	11	IAMs_20	IAMs_20	23 52 33.0	
	comp=Z,4μm,21.0s						
AMBA	Amambai (Brazi	144.23	219	eP	PKPdf	22 43 29.4	-0.4
CO06	Fray Jorge	144.41	191	IAMs_20	IAMs_20	23 47 41.8	
	comp=Z,4μm,19.0s						
Q44A	Meyer Farm, Va	144.47	14	IAMs_20	IAMs_20	23 52 30.0	
	comp=Z,5μm,22.0s						
WMOK	Wichita Mounta	144.61	29	IAMs_20	IAMs_20	23 57 49.5	
	comp=Z,4μm,19.0s						
P48A	Milroy	144.63	9	IAMs_20	IAMs_20	23 58 58.1	
	comp=Z,4μm,18.0s						
CCM	Cathedral Cave	144.67	17	PKPdf	PKPab	22 43 27.3	-1.4
CCM	Cathedral Cave	144.67	17	PKIKP	PKPab	22 43 27.3	-1.4
CCM				MLR	MLR		
	comp=Z,5μm,20.0s						
GO04	Tololo Observa	144.73	192	IAMs_20	IAMs_20	23 47 54.4	
	comp=Z,4μm,19.0s						
Q52A	Bidwell	145.50	5	IAMs_20	IAMs_20	23 54 16.8	
	comp=Z,4μm,20.0s						
TXAR	Lajitas Array	145.81	41	PKPdf	PKPdf	22 43 31.6	-0.8
TXAR	Lajitas Array	145.81	41	PKPbc	PKPab	22 43 33.6	+0.3
	comp=Z,52nm,0.8s,baz=284,slow=0.8,SNR=96						
TXAR	Lajitas Array	145.81	41	PKIKP	PKPdf	22 43 31.6	-0.8
SMTB	Santa Maria do	146.23	247	eP	PKPdf	22 43 32.8	-0.7
AQDB	Aquidauana	146.44	222	eP	PKPdf	22 43 33.0	-0.6
LCAR	Lake Charles	146.53	18		PKPdf	22 43 33.6	+0.3
ARAG	Araguaiana, MT	146.64	233	eP	PKPdf	22 43 33.5	-0.6
AC04	Llanos de Chal	146.69	192	IAMs_20	IAMs_20	23 50 05.4	
	comp=Z,4μm,20.0s						
T47A	Sharon Grove	146.73	12	IAMs_20	IAMs_20	23 54 54.8	
	comp=Z,4μm,21.0s						
S54A	Dingess, Beckl	146.73	4	IAMs_20	IAMs_20	00 00 26.3	
	comp=Z,4μm,20.0s						
JCT	Junction City	147.38	35	IAMs_20	IAMs_20	23 57 39.6	
	comp=Z,4μm,21.0s						
WVT	Waverly	147.39	14	PKPbc	PKPbc	22 43 36.3	-0.9
WVT	Waverly	147.39	14	IAMs_20	IAMs_20	23 54 18.4	
	comp=Z,5μm,22.0s						
WVT	Waverly	147.39	14	PKP2	PKPbc	22 43 36.3	-0.9
WVT				MLR	MLR		
	comp=Z,5μm,22.0s						
AC02	Maricunga	147.53	196	IAMs_20	IAMs_20	23 47 43.6	
	comp=Z,4μm,20.0s						
V48A	Smith Brothers	147.99	12	IAMs_20	IAMs_20	23 56 49.2	
	comp=Z,4μm,20.0s						
HNDO	Hondo	148.39	36	PKPbc	PKPbc	22 43 39.1	-1.0
TMAB	Tom-Au,PA,Br	148.62	258	eP	PKPdf	22 43 37.0	-0.4
W50A	Signal Mountai	148.81	10	IAMs_20	IAMs_20	23 57 20.8	
	comp=Z,5μm,21.0s						
Y45A	Yeager Farm, C	149.06	18	IAMs_20	IAMs_20	23 55 31.1	
	comp=Z,5μm,22.0s						
X48A	Hartselle	149.18	13	IAMs_20	IAMs_20	00 01 52.7	
	comp=Z,4μm,20.0s						
PRPB	Parauapebas	149.23	250	eP	PKPdf	22 43 37.7	-0.7
GO02	Mina Guanaco	149.24	196	IAMs_20	IAMs_20	23 48 09.9	
	comp=Z,3μm,20.0s						
BBSR	BB Station	149.26	336	PKPbc	PKPbc	22 43 41.8	-0.4
BBSR	BB Station	149.26	336	IAMs_20	IAMs_20	23 58 01.4	
	comp=Z,4μm,20.0s						
W57A	Gilead	149.43	2	IAMs_20	IAMs_20	23 57 44.7	
	comp=Z,4μm,21.0s						
143A	Socs Landing,	149.51	21	IAMs_20	IAMs_20	00 00 27.3	
	comp=Z,4μm,20.0s						
Y49A	Blount Mountai	149.89	13	IAMs_20	IAMs_20	23 56 59.5	
	comp=Z,5μm,22.0s						
HKT	Hockley	149.94	31	PKPbc	PKPbc	22 43 42.9	-1.0
HKT	Hockley	149.94	31	PKP2	PKPbc	22 43 42.9	-1.0
Z47A	Carrollton	150.11	16	IAMs_20	IAMs_20	23 58 33.6	
	comp=Z,4μm,21.0s						
VBMS	Vicksburg	150.26	20	IAMs_20	IAMs_20	00 00 37.1	
	comp=Z,3μm,19.0s						
441A	DeRidder	150.52	26	IAMs_20	IAMs_20	23 58 45.5	
	comp=Z,4μm,20.0s						
KVTX	Kingsville	150.67	36	IAMs_20	IAMs_20	00 01 15.0	
	comp=Z,4μm,20.0s						
Y58A	Scranton	150.69	2	IAMs_20	IAMs_20	23 59 50.9	
	comp=Z,4μm,21.0s						
AF01	San Pedro de A	150.87	200	IAMs_20	IAMs_20	23 53 47.2	
	comp=Z,3μm,19.0s						
PB10	IPOC Station P	151.07	196	IAMs_20	IAMs_20	23 48 44.4	
	comp=Z,3μm,20.0s						
346A	Big Creek Wild	151.38	19	IAMs_20	IAMs_20	23 57 18.6	
	comp=Z,4μm,22.0s						
PB06	IPOC Station P	151.55	198	IAMs_20	IAMs_20	23 54 38.2	
	comp=Z,2μm,19.0s						
PB03	IPOC Station P	152.22	198	IAMs_20	IAMs_20	23 49 07.1	
	comp=Z,4μm,19.0s						
PB09	IPOC Station P	152.29	199	IAMs_20	IAMs_20	23 48 41.0	
	comp=Z,3μm,20.0s						
PB02	IPOC Station P	152.95	198	IAMs_20	IAMs_20	23 47 16.4	
	comp=Z,2μm,21.0s						
PB01	IPOC Station P	153.08	199	IAMs_20	IAMs_20	23 48 22.8	
	comp=Z,3μm,20.0s						
SIV	San Ignacio	153.19	220	PKP	PKPdf	22 43 45.7	+1.3
	comp=Z,1.0nm,0.7s,baz=128,slow=5.1,SNR=4.4						
SIV				PKPbc	pPKPdf	22 43 54.5	+1.4
	comp=Z,3.7nm,0.9s,baz=209,slow=3.2,SNR=12						
PATCX	Punta Patache	153.50	198	IAMs_20	IAMs_20	23 53 41.9	
	comp=Z,3μm,21.0s						
TA01	Diego Aracena	153.75	198	IAMs_20	IAMs_20	23 54 01.4	
	comp=Z,2μm,20.0s						
PB08	IPOC Station P	153.80	201	IAMs_20	IAMs_20	23 51 47.0	
	comp=Z,2μm,21.0s						
HMBC	Humberstone	153.92	199	IAMs_20	IAMs_20	23 47 46.1	
	comp=Z,3μm,20.0s						
NPGB	Novo Progresso	154.00	244	eP	PKPdf	22 43 45.1	-0.5
GO01	Chusmiza	154.25	201	IAMs_20	IAMs_20	23 59 26.9	
	comp=Z,3μm,20.0s						
PB11	IPOC Station P	154.32	200	IAMs_20	IAMs_20	23 55 19.9	
	comp=Z,3μm,20.0s						
MAL2	Monte Alegre,	154.61	256	PKPbc	PKPbc	22 43 51.1	-3.9
UNM	Universidad Na	155.19	52	IAMs_20	IAMs_20	00 09 37.6	
	comp=Z,4μm,22.0s						
ITTB	Itaituba	155.39	249	eP	PKPdf	22 43 46.8	-0.8
PB16	IPOC Station P	155.59	202	IAMs_20	IAMs_20	23 44 39.4	
	comp=Z,3μm,22.0s						
PB18	Visviri	156.26	202	IAMs_20	IAMs_20	23 52 20.2	
	comp=Z,3μm,20.0s						
LPAZ	La Paz	156.86	207	PKP	PKPdf	22 43 49.7	-0.4
	comp=Z,0.7nm,0.4s,baz=214,slow=3.6,SNR=4.1						
LPAZ				PKPab	PKPab	22 44 18.8	-0.9
	comp=Z,4.8nm,1.1s,baz=219,slow=6.5,SNR=3.6						
ANWB	Willy Bob	158.82	310	IAMs_20	IAMs_20	00 06 17.6	
	comp=Z,3μm,21.0s						
GDSD	La Dsirade Is	159.01	305	IAMs_20	IAMs_20	00 00 02.0	
	comp=Z,3μm,22.0s						
ABD	La Joyeuse, An	159.26	306	IAMs_20	IAMs_20	00 06 30.7	
	comp=Z,3μm,22.0s						
MAGL	Barre de l'ile	159.38	305	IAMs_20	IAMs_20	23 52 35.8	
	comp=Z,3μm,22.0s						
CBE	Ff, Capester	159.58	306	IAMs_20	IAMs_20	00 09 43.2	
	comp=Z,3μm,20.0s						
GDHS	Morne Mazeau,	159.60	306	IAMs_20	IAMs_20	00 06 08.2	
	comp=Z,3μm,20.0s						
ILAM	Ilet Lapin Mar	159.62	301	IAMs_20	IAMs_20	00 03 43.6	
	comp=Z,2μm,20.0s						
MPOM	Morne Pois Mar	159.77	301	IAMs_20	IAMs_20	23 55 16.4	
	comp=Z,2μm,21.0s						
SEUS	St. Eustatius	159.84	311	IAMs_20	IAMs_20	00 01 26.3	
	comp=Z,4μm,22.0s						
SVN	Savane Anatole	159.84	302	IAMs_20	IAMs_20	23 55 45.2	
	comp=Z,2μm,20.0s						
FDF	Fort de France	159.88	302	IAMs_20	IAMs_20	00 06 28.2	
	comp=Z,2μm,19.0s						
BIM	Bigot	159.91	301	IAMs_20	IAMs_20	00 03 59.2	
	comp=Z,2μm,20.0s						
ROSC	El Rosal	175.56	275	PKP	PKPdf	22 44 07.4	+2.8
	comp=Z,12nm,1.1s,baz=293,slow=15,SNR=4.9						

NEIC ***14*** *22:34:13.1±2.0, 4.°52S±0.°09×101.°13E±0.°09, h10km±1km, mb4.7/28, Error ellipse: s-maj=18.4km s-min=10.8km az=221.0*
DJA ***14*** *22:34:14.8±0.8, 5.°S±4.°×10.°1E±.°, h38km±18km, M4.8/23, mb4.7/17, MLv4.9/23*
IDC ***14*** *22:34:15.2±0.6, 4.°43S×101.°23E, h26km±3km, mb4.2/19, mbtmp4.4/20, ML4.3/1, Error ellipse: s-maj=22.0km s-min=10.6km az=54.0*

ISC 14 22:34:14.9±0.5, 4.°52S±0.°07×101.°15E±0.°07, h29km, n105, σ0.°72/102, **mb4.7/29, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.68	59	P	Pn	22 34 42.8	+0.4
MASI	Maura Aman, Be	1.75	39	P	Pn	22 34 43.1	-0.2
MNAI	Manna	1.81	85		Pn	22 34 43.8	-0.4
MNAI	Manna	1.81	85	P	Pn	22 34 43.7	-0.4
PPSI	Pulau Pagai	2.08	327	P	Pn	22 34 47.8	0.0
KRJI	Kerinci	2.43	7	P	Pn	22 34 54.1	+1.3
LHSI	Lahat	2.47	74	P	Pn	22 34 53.5	+0.3
LWLI	Liwa	2.94	100	P	Pn	22 34 59.6	-0.2
MDSI	Maura Dua	3.02	90	P	Pn	22 35 01.1	+0.3
KASI	Kota Agung	3.48	107	P	Pn	22 35 06.7	-0.5
PDSI	Padang	3.65	349	P	Pn	22 35 08.4	-1.0
KLI	Kotabumi	3.71	95	P	Pn	22 35 11.0	+0.7
SISI	Saibi	3.78	327	P	Pn	22 35 10.8	-0.4
PMBI	Palembang	3.95	67	Pn	Pn	22 35 13.4	-0.1
PPI	Padang Panjang	4.10	349	P	Pn	22 35 15.9	+0.2
BKNI	Bangkinang	4.81	359	P	Pn	22 35 25.9	+0.4
CGJI	Cibinong	4.98	115	P	Pn	22 35 26.9	-0.9
DSRI	Dabo	5.28	41	P	Pn	22 35 31.8	0.0
	0.7nm76nm,0.9s						
PBSI	Pulau Batu	5.28	327	P	Pn	22 35 31.0	-0.8
	372nm,2.2s						
MNSI	Mandailing Nat	5.50	343	P	Pn	22 35 34.8	-0.2
	1.2nm66nm,1.9s						
CNJI	Cibinong	6.57	115	P	Pn	22 35 47.9	-1.6
	0.3nm48nm,0.7s						
TPI	Tanjunpandan	6.73	75	P	Pn	22 35 52.1	+0.4
	0.6nm34nm,1.2s						
GSI	Gunungsitoli	6.79	328	Pn	Pn	22 35 52.8	+0.1
GSI	Gunungsitoli	6.79	328	P	Pn	22 35 53.0	+0.3
	94nm,1.3s						
MYKOM	Kota Tinggi	6.82	23	Pn	Pn	22 35 54.6	+1.5
LEM	Lembang	6.84	110	Pn	Pn	22 35 54.9	+1.5
	5.5nm,0.3s,baz=330,slow=20,SNR=2.8						
	25nm,0.5s						
LEM	Lembang	6.84	110	P	Pn	22 35 53.2	-0.2
	0.8nm89nm,0.8s						
RPSI	Rantau Prapat	7.50	343	Pn	Pn	22 36 01.7	-0.7
SNSI	Sinabang, Aceh	8.40	325	P	Pn	22 36 15.5	+0.8
KCSI	Kotacane, Aceh	8.67	337	P	Pn	22 36 16.5	-2.0
	26nm,0.6s						
KULM	Kulim	9.76	357	Pn	Pn	22 36 32.7	-0.7
UGM	Wanagama	9.91	110	P	Pn	22 36 35.1	-0.4
	69nm,1.8s						
MLSI	Meulaboh, Aceh	9.93	331	P	Pn	22 36 35.9	+0.2
LHMI	Lhok Sumawe	10.55	337	Pn	Pn	22 36 44.4	+0.1
LHMI	Lhok Sumawe	10.55	337	P	Pn	22 36 44.3	+0.1
	104nm,1.4s						
JAGI	Jajag, Banyuwa	13.50	108	Pn	Pn	22 37 24.7	0.0
JAGI	Jajag, Banyuwa	13.50	108	P	Pn	22 37 24.5	-0.2
KKM	Kota Kinabalu	18.34	55		Pn	22 38 27.8	+0.4
MYLDM	Lahad Datu	19.83	61		P	22 38 44.4	+0.9
MYLDM				IAmb	IAmb	22 39 22.4	
	comp=Z,35nm,1.0s						
TOLI2	Tolitoli	20.40	75	P	P	22 38 49.2	-0.5
TOLI2				IAmb	IAmb	22 38 53.5	
	comp=Z,33nm,1.1s						
CM31	Chiang Mai Arr	22.93	355	P	P	22 39 16.9	+0.1
CM31				IAmb	IAmb	22 39 18.8	
	comp=Z,17nm,0.8s						
CMAR	Chiang Mai Arr	22.93	355	P	P	22 39 17.1	+0.2
CMAR	Chiang Mai Arr	22.93	355	P	P	22 39 15.8	-1.1
	comp=Z,11nm,0.9s,baz=183,slow=8.4,SNR=33						
	comp=Z,11nm,0.9s						
SLVN	Son La	25.83	6	P	P	22 39 44.1	+0.1
FITZ	Fitzroy Crossi	27.50	121	P	P	22 39 57.7	-1.3
FITZ	Fitzroy Crossi	27.50	121	P	P	22 39 59.4	+0.4
	comp=Z,4.7nm,0.9s,baz=343,slow=8.5,SNR=2.7						
FITZ				pP	pP	22 40 07.5	+0.3
	comp=Z,15nm,0.8s,baz=299,slow=7.7,SNR=9.3						
	comp=Z,4.7nm,0.9s						
H08S2	Diego Garcia H	28.66	262	T	T	23 10 06.8	
	baz=85,slow=75,SNR=169						
H08S3	Diego Garcia H	28.66	262	T	T	23 10 07.4	
	baz=85,slow=75,SNR=178						
H08S1	Diego Carcia H	28.67	262	T	T	23 10 06.9	
	baz=85,slow=75,SNR=177						
KNRA	Kununurra	29.32	114	P	P	22 40 15.4	+0.1
KNRA				IAmb	IAmb	22 40 53.1	
	comp=Z,26nm,1.4s						
H01W3	Cape Leeuwin H	32.52	160	T	T	23 14 58.9	
	baz=337,slow=76,SNR=51						
H01W2	Cape Leeuwin H	32.54	160	T	T	23 14 59.9	
	baz=337,slow=76,SNR=63						
H01W1	Cape Leeuwin H	32.54	160	T	T	23 15 00.8	
	baz=337,slow=76,SNR=69						
EVN	Everest	35.12	338	P	P	22 41 07.4	+0.7
EVN				IAmb	IAmb	22 41 09.1	
	comp=Z,8.2nm,0.8s						
ENH	Enshi	35.50	12	P	P	22 41 08.1	-1.2
ENH				IAmb	IAmb	22 41 09.2	
	comp=Z,9.3nm,0.7s						
WB0	Warramunga Arr	35.76	118	P	P	22 41 11.2	-0.4
WB0				IAmb	IAmb	22 41 21.3	
	comp=Z,7.1nm,0.7s						
WRA	Warramunga Arr	35.77	118	P	P	22 41 12.3	+0.6
WRA	Warramunga Arr	35.77	118	P	P	22 41 11.9	+0.2
	comp=Z,2.3nm,0.8s,baz=301,slow=8.2,SNR=7.6						
WRA				pP	pP	22 41 19.9	-0.4
	comp=Z,5.9nm,0.8s,baz=302,slow=9.2,SNR=12						
	comp=Z,2.3nm,0.8s						
WR8	Warramunga Arr	35.91	118	P	P	22 41 12.0	-1.0
WR8				IAmb	IAmb	22 41 31.1	
	comp=Z,16nm,1.3s						
ASAR	Alice Springs	36.88	124	P	P	22 41 21.8	+0.6
	comp=Z,1.0nm,0.7s,baz=300,slow=8.4,SNR=3.4						
ASAR				pP	pP	22 41 29.7	+0.2
	comp=Z,5.1nm,0.8s,baz=298,slow=7.9,SNR=14						
ASAR				PcP	PcP	22 43 43.2	+0.5
	comp=Z,0.8nm,0.7s,baz=300,slow=3.3,SNR=3.5						
ASAR				pPcP		22 43 51.9	
	comp=Z,1.2nm,0.7s,baz=296,slow=2.3,SNR=4.7						
	comp=Z,1.0nm,0.7s						
BJT	Baijiatuau	46.42	16	P	P	22 42 39.7	+0.7
BJT				IAmb	IAmb	22 42 40.1	
	comp=Z,6.9nm,0.6s						
STKA	Stephens Creek	46.64	131	P	P	22 42 41.2	+0.3
STKA	Stephens Creek	46.64	131	P	P	22 42 41.1	+0.2
	comp=Z,1.2nm,0.5s,baz=298,slow=14,SNR=2.9						
STKA				pP	pP	22 42 47.7	-1.5
	comp=Z,4.5nm,0.7s,baz=284,slow=9.9,SNR=4.8						
	comp=Z,1.2nm,0.5s						
KSRS	Korea Array	48.63	29	P	P	22 42 56.2	0.0
	comp=Z,5.7nm,0.8s,baz=227,slow=7.7,SNR=12						
	comp=Z,5.7nm,0.8s						
KDJ	Kajisay	51.29	337	P	P	22 43 16.9	+0.3
SONM	Songino Array	52.34	4	P	P	22 43 23.4	-0.8
SONM				IAmb	IAmb	22 43 26.1	
	comp=Z,11nm,0.8s						
SONM	Songino Array	52.34	4	P	P	22 43 25.1	+0.9
	comp=Z,14nm,0.8s,baz=182,slow=9.3,SNR=28						
	comp=Z,14nm,0.8s						
MJAR	Matsushiro Arr	53.54	37	P	P	22 43 32.5	-0.6
MJAR	Matsushiro Arr	53.54	37	P	P	22 43 31.6	-1.6
	comp=Z,5.2nm,0.8s,baz=213,slow=7.1,SNR=12						
	comp=Z,5.2nm,0.8s						
MKAR	Makanchi Array	53.75	344	P	P	22 43 34.1	-0.3
MKAR	Makanchi Array	53.75	344	P	P	22 43 34.8	+0.3
	comp=Z,5.8nm,0.8s,baz=143,slow=9.6,SNR=19						
MKAR				pP	pP	22 43 42.9	-0.4
	comp=Z,2.9nm,0.6s,baz=152,slow=8.2,SNR=8.1						
	comp=Z,5.8nm,0.8s						
MAKZ	Makanchi	53.85	344	P	P	22 43 35.6	+0.4
MAKZ				IAmb	IAmb	22 43 58.5	
	comp=Z,12nm,1.2s						
USRK	Ussuriysk Ar.	55.86	26	P	P	22 43 49.8	0.0
	comp=Z,13nm,0.8s,baz=216,slow=5.9,SNR=24						
USRK				pP	pP	22 43 57.0	-1.5
	comp=Z,6.7nm,0.8s,baz=226,slow=5.0,SNR=6.7						
	comp=Z,13nm,0.8s						
HILR	Hailar Array B	56.23	14	P	P	22 43 52.7	+0.3
	comp=Z,4.2nm,0.7s,baz=186,slow=11,SNR=4.7						
	comp=Z,4.2nm,0.7s						
KURBB	Kurchatov Arra	58.27	343	P	P	22 44 07.1	+0.4
	comp=Z,3.9nm,0.8s,baz=160,slow=6.6,SNR=13						
	comp=Z,3.9nm,0.8s						
H04N2	CROZET ISLANDS	59.49	218	T	T	23 48 50.2	
	baz=61,slow=75,SNR=235						
H04N1	CROZET ISLANDS	59.50	218	T	T	23 48 50.6	
	baz=61,slow=75,SNR=237						
H04N3	CROZET ISLANDS	59.51	218	T	T	23 48 49.3	
	baz=61,slow=75,SNR=225						
H04S1	CROZET ISLANDS	59.75	217	T	T	23 49 07.6	
	baz=59,slow=75,SNR=362						
H04S3	CROZET ISLANDS	59.76	217	T	T	23 49 10.4	
	baz=59,slow=75,SNR=650						
H04S2	CROZET ISLANDS	59.77	217	T	T	23 49 08.6	
	baz=59,slow=75,SNR=462						
ZAA0	Zalesovo Array	59.84	349	P	P	22 44 17.2	-0.3
ZAA0				IAmb	IAmb	22 44 18.5	
	comp=Z,8.6nm,0.8s						
ZALV	Zalesovo Beam	59.84	349	P	P	22 44 17.1	-0.4
ZALV	Zalesovo Beam	59.84	349	P	P	22 44 17.7	+0.1
	comp=Z,6.5nm,0.7s,baz=192,slow=5.5,SNR=13						
	comp=Z,6.5nm,0.7s						
AB31	Akbulak array	64.38	331	P	P	22 44 47.8	-0.3
ABKAR	Akbulak array	64.38	331	P	P	22 44 47.7	-0.4
MAW	Mawson	68.15	195	P	P	22 45 13.6	+1.7
	comp=Z,1.6nm,0.8s,baz=58,slow=5.1,SNR=4.9						
	comp=Z,1.6nm,0.8s						
ARTI	Arti	70.00	336	P	P	22 45 23.4	-0.2
KBZ	Khabaz	70.95	319	P	P	22 45 30.9	+1.3
	comp=Z,1.7nm,0.8s,baz=131,slow=6.5,SNR=4.3						
KBZ				pP	pP	22 45 39.4	+0.7
	comp=Z,1.8nm,0.7s,baz=141,slow=5.9,SNR=3.6						
	comp=Z,1.7nm,0.8s						
BRTR	Keskin Array B	75.86	313	P	P	22 45 58.3	-0.6
BRTR	Keskin Array B	75.86	313	P	P	22 45 59.0	+0.1
	comp=Z,0.8nm,0.9s,baz=120,slow=8.5,SNR=4.1						
BRTR				pP	pP	22 46 06.8	-0.8
	comp=Z,1.1nm,0.6s,baz=147,slow=7.3,SNR=5.8						
	comp=Z,0.8nm,0.9s						
TIXI	Tiksi	78.15	9	P	P	22 46 10.0	-0.9
	comp=Z,4.0nm,0.5s,baz=52,slow=1.6,SNR=8.0						
	comp=Z,4.0nm,0.5s						
VNDA	Vanda	79.49	169	pP	pP	22 46 26.8	0.0
	comp=Z,0.9nm,0.8s,baz=308,slow=7.0,SNR=3.5						
BURAR	Bucovina Array	83.89	319	P	P	22 46 43.8	+1.6
BUR08	Bucovina Ar. S	83.91	319	P	P	22 46 43.2	+0.9
FINES	FINESS Array B	86.86	332	P	P	22 46 57.2	+0.7
	comp=Z,2.5nm,1.0s,baz=156,slow=5.6,SNR=4.2						
	comp=Z,2.5nm,1.0s						
ARCES	ARCESS Array B	89.22	340	P	P	22 47 07.8	+0.1
ARCES	ARCESS Array B	89.22	340	P	P	22 47 08.3	+0.7
	comp=Z,1.5nm,0.8s,baz=117,slow=0.3,SNR=4.4						
ARCES				pP	pP	22 47 17.0	+0.3
	comp=Z,2.0nm,0.7s,baz=90,slow=6.1,SNR=3.2						
	comp=Z,1.5nm,0.8s						
CAMP	Campotosto	91.35	312	P	P	22 47 17.5	-0.9
WMOK	Wichita Mounta

L19K	**White Mountain**	20.42	53	P	**P**	**22 46 22.0**	**+1.2**
L19K				IAmb	IAmb	22 46 55.2	
comp=Z,16nm,1.3s							
N19K	**Bonanza Creek**	20.52	57	P	**P**	**22 46 22.1**	**+0.2**
N19K				IAmb	IAmb	22 47 03.6	
comp=Z,15nm,1.2s							
TRF	**Thorofare Moun**	22.61	50	P	**P**	**22 46 43.1**	**-1.4**
TRF				IAmb	IAmb	22 47 24.3	
comp=Z,9.8nm,1.3s							
D22K	**Ayikyak River**	22.77	36	P	**P**	**22 46 45.1**	**-0.8**
D22K				IAmb	IAmb	22 47 25.1	
comp=Z,7.9nm,1.2s							
TOLK	**Toolik Lake Re**	23.77	37	P	**P**	**22 46 57.3**	**+1.2**
TOLK				IAmb	IAmb	22 47 09.0	
comp=Z,14nm,1.4s							
CCB	**Clear Creek Bu**	23.79	47	P	**P**	**22 46 56.7**	**+0.6**
E24K	**Your Creek**	24.03	39	P	**P**	**22 47 00.1**	**+1.6**
E24K				IAmb	IAmb	22 47 22.0	
comp=Z,14nm,1.5s							
ILAR	**Eielson Array**	24.19	47	P	**P**	**22 46 59.4**	**-0.5**
comp=Z,1.0nm,0.7s,baz=257,slow=7.4,SNR=6.0							
comp=Z,1.0nm,0.7s							
BMAR	**Burnt Mountain**	25.38	41	P	**P**	**22 47 10.9**	**+0.2**
G26K	**Porcupine Rive**	25.64	42	P	**P**	**22 47 14.7**	**+1.7**
G29M	**Pine Creek**	27.90	43	P	**P**	**22 47 34.1**	**+0.6**
MMPY	**Sheldon Lake,**	31.29	51	P	**P**	**22 48 03.3**	**-0.2**
H11N2	**WAKE ISLAND Hy**	34.77	183	T	T	23 25 13.9	
baz=1.6,slow=76,SNR=835							
H11N3	**WAKE ISLAND Hy**	34.79	183	T	T	23 25 16.0	
baz=1.6,slow=76,SNR=1305							
H11N1	**WAKE ISLAND Hy**	34.79	183	T	T	23 25 15.3	
baz=1.6,slow=76,SNR=889							
H11S1	**WAKE ISLAND Hy**	36.00	183	T	T	23 26 48.8	
baz=1.8,slow=76,SNR=702							
H11S3	**WAKE ISLAND Hy**	36.01	183	T	T	23 26 49.0	
baz=1.8,slow=76,SNR=786							
H11S2	**WAKE ISLAND Hy**	36.01	183	T	T	23 26 48.8	
baz=1.8,slow=76,SNR=817							
SONM	**Songino Array**	38.38	286	P	**P**	**22 49 05.8**	**+0.9**
comp=Z,0.9nm,0.8s,baz=54,slow=8.0,SNR=5.4							
comp=Z,0.9nm,0.8s							
KURK	**Kurchatov**	51.11	305	P	**P**	**22 50 46.8**	**+0.8**
KURBB	**Kurchatov Arra**	51.22	305	P	**P**	**22 50 46.8**	**0.0**
comp=Z,0.9nm,0.6s,baz=52,slow=7.7,SNR=5.4							
comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	51.93	299	P	**P**	**22 50 51.7**	**-0.6**
comp=Z,0.6nm,0.8s,baz=46,slow=8.3,SNR=2.5							
comp=Z,0.6nm,0.8s							
NOA	**NORSAR Array B**	63.37	348	P	**P**	**22 52 11.1**	**-1.4**
comp=Z,0.6nm,0.8s,baz=20,slow=8.2,SNR=3.4							
comp=Z,0.6nm,0.8s							
TXAR	**Lajitas Array**	65.43	74	P	**P**	**22 52 27.4**	**+0.9**
comp=Z,0.2nm,0.6s,baz=321,slow=6.3,SNR=2.4							
comp=Z,0.2nm,0.6s							
WRA	**Warramunga Arr**	79.76	213	P	**P**	**22 53 53.6**	**+2.1**
comp=Z,0.3nm,0.3s,baz=21,slow=5.8,SNR=2.1							
comp=Z,0.3nm,0.3s							

*NEIC **14** 22:57:10.0±2.4, 55°.7S±0°.1×27°.0W±0°.2, h10km±1km, mb4.5/23, Error ellipse: s-maj=20.4km s-min=18.5km az=52.0*

*IDC **14** 22:57:09.1±0.7, 55°.62S×26°.74W, h0km, mb4.3/6, mbtmp4.3/7, ML4.0/1, Error ellipse: s-maj=29.2km s-min=18.7km az=81.0*

ISC 14 22:57:12.3±0.6, 55°.68S±0°.09×27°.1W±0°.1, h25km, n60, σ0ˢ97/51, mb4.5/15, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	5.61	281	Pn	**Pn**	22 58 32.2	-1.8
VNA1	**Neumayer--Stat**	17.11	159	⇑P	**P**	23 01 10.2	-0.6
comp=Z,13nm,1.0s							
VNA3	**Neumayer Olymp**	17.31	161	⇑P	**Pn**	23 01 12.1	+0.2
comp=Z,11nm,0.7s							
VNA2	**Neumayer--Watz**	17.51	158	⇑P	**P**	23 01 14.6	-0.6
comp=Z,6.0nm,0.5s,baz=314,slow=12							
SNAA	**Sanae**	19.05	157	⇑P	**P**	23 01 31.3	-0.9
comp=Z,95nm,0.5s							
SNAA	**Sanae**	19.05	157	P	**P**	23 01 30.6	-1.6
SNAA	**Sanae**	19.05	157	P	**P**	23 01 31.5	-0.8
comp=Z,0.5nm,0.3s,baz=314,slow=12,SNR=26							
comp=Z,2.4nm,0.5s							
PMSA	**Palmer Station**	20.20	228		**P**	**23 01 46.5**	**+1.8**
PMSA				IAmb	IAmb	23 02 07.1	
comp=Z,32nm,1.4s							
PMSA	**Palmer Station**	20.20	228	P	Pn	23 01 48.0	+1.3
comp=Z,8.8nm,0.7s,baz=63,slow=5.3,SNR=7.2							
comp=Z,8.8nm,0.7s							
TROLL	**Troll, Antarti**	20.54	154	⇑P	**P**	**23 01 47.1**	**-1.4**
comp=Z,148nm,0.4s							
SMAI	**San Martin Ant**	22.10	220	P	**P**	**23 02 06.0**	**+0.8**
BELA	**Belgrano 2**	22.45	184	P	**P**	**23 02 07.0**	**-1.9**
BELA				IAmb	IAmb	23 02 12.4	
comp=Z,13nm,0.7s							
MG02	**Cerro Sombrero**	24.55	259	P	**P**	**23 02 28.3**	**-1.3**
MG05	**Puerto Natales**	26.84	259	P	**P**	**23 02 50.1**	**-0.3**
MG05				IAmb	IAmb	23 03 29.0	
comp=Z,10nm,1.1s							
GO09	**Cerro Castillo**	26.93	260	P	**P**	**23 02 49.5**	**-1.7**
GO09				IAmb	IAmb	23 03 25.3	
comp=Z,20nm,1.5s							
TRQA	**Tornquist**	29.25	292	P	**P**	**23 03 13.0**	**+0.9**
TRQA				IAmb	IAmb	23 03 13.5	
comp=Z,13nm,1.4s							
QSPA	**South Pole Qui**	34.57	180	P	**P**	**23 03 59.8**	**+1.2**
QSPA				IAmb	IAmb	23 04 03.9	
comp=Z,5.6nm,0.6s							
QSPA	**South Pole Qui**	34.57	180	P	**P**	**23 04 00.7**	**+2.1**
comp=Z,5.7nm,0.6s,baz=166,slow=2.2,SNR=41							
comp=Z,5.7nm,0.6s							
CO03	**El Pedregal**	39.38	291	P	**P**	**23 04 40.4**	**+0.7**
CO01	**Juntas del Tor**	39.75	292	P	**P**	**23 04 44.0**	**+1.0**
MAW	**Mawson**	40.40	144	P	**P**	**23 04 47.8**	**+0.1**
comp=Z,3.5nm,0.6s,baz=227,slow=5.9,SNR=22							
comp=Z,3.5nm,0.6s							
AC01	**Pan de Azucar**	43.10	295	P	**P**	**23 05 10.6**	**+0.4**
AC01				IAmb	IAmb	23 05 12.4	
comp=Z,14nm,1.2s							
PB09	**IPOC Station P**	46.03	300	P	**P**	**23 05 34.2**	**+0.4**
SBA	**Scott Base**	46.45	184	P	**P**	**23 05 37.5**	**+1.3**
SBA				IAmb	IAmb	23 05 39.0	
comp=Z,4.0nm,0.8s							
PB01	**IPOC Station P**	46.79	300	P	**P**	**23 05 40.4**	**+0.7**
PB01				IAmb	IAmb	23 05 41.7	
comp=Z,4.6nm,0.7s							
VNDA	**Vanda**	46.95	183	P	**P**	**23 05 40.3**	**+0.2**
VNDA	**Vanda**	46.95	183	P	**P**	**23 05 40.4**	**+0.3**
comp=Z,4.5nm,0.6s,baz=184,slow=7.2,SNR=55							
comp=Z,4.5nm,0.6s							
PB08	**IPOC Station P**	47.40	301	P	**P**	**23 05 46.0**	**+1.2**
PB08				IAmb	IAmb	23 05 53.6	
comp=Z,3.8nm,1.0s							
H10S2	**ASCENSION HYDR**	47.62	17	T	T	23 57 12.3	
baz=189,slow=74,SNR=158							
H04S2	**CROZET ISLANDS**	47.63	114	T	T	23 57 30.6	
baz=229,slow=75,SNR=18							
H10S3	**ASCENSION HYDR**	47.63	17	T	T	23 57 12.8	
baz=31,slow=74,SNR=147							
H04S3	**CROZET ISLANDS**	47.63	114	T	T	23 57 32.6	
baz=229,slow=75,SNR=9.1							
HMBC	**Humberstone**	47.64	300	P	**P**	**23 05 47.0**	**+0.6**
H04S1	**CROZET ISLANDS**	47.64	114	T	T	23 57 32.5	
baz=229,slow=75,SNR=17							
GO01	**Chusmiza**	47.82	301	P	**P**	**23 05 48.7**	**+0.6**
GO01				IAmb	IAmb	23 05 50.3	
comp=Z,4.3nm,0.7s							
PB11	**IPOC Station P**	47.96	301	P	**P**	**23 05 49.8**	**+0.9**
H10N1	**ASCENSION HYDR**	48.74	17	T	T	23 58 36.4	
baz=189,slow=75,SNR=33							
H10N3	**ASCENSION HYDR**	48.74	17	T	T	23 58 37.5	
baz=189,slow=75,SNR=74							
H10N2	**ASCENSION HYDR**	48.76	17	T	T	23 58 37.4	
baz=189,slow=75,SNR=56							
PB16	**IPOC Station P**	49.11	302	P	**P**	**23 05 57.7**	**-0.6**
PB16				IAmb	IAmb	23 06 28.5	
comp=Z,8.4nm,1.4s							
LPAZ	**La Paz**	50.23	305	P	**P**	**23 06 07.6**	**+0.8**
LPAZ	**La Paz**	50.23	305	P	**P**	**23 06 08.4**	**+1.6**
comp=Z,2.3nm,0.6s,baz=93,slow=4.0,SNR=9.8							
comp=Z,2.3nm,0.6s							
BOAV	**Boa Vista**	64.03	322	P	**P**	**23 07 43.2**	**-0.4**
BOAV				IAmb	IAmb	23 07 43.9	
comp=Z,2.5nm,0.8s							
TORD	**Torodi Ar. Bea**	72.69	29	P	**P**	**23 08 38.8**	**+1.0**
comp=Z,0.6nm,0.5s,baz=196,slow=5.2,SNR=10							
comp=Z,0.6nm,0.5s							
FINES	**FINESS Array B**	124.02	28	PKPdf	**PKiKP**	**23 16 06.6**	**-0.4**
FINES	**FINESS Array B**	124.02	28	PKP	**PKiKP**	**23 16 06.9**	**-0.1**
comp=Z,2.5nm,0.9s,baz=208,slow=3.7,SNR=4.8							
FIA1	**FINESS Array S**	124.02	28	PKPdf	**PKPdf**	**23 16 06.0**	**-0.8**
ABKAR	**Akbulak array**	127.09	55	PKPdf	**PKPdf**	**23 16 12.1**	**-0.9**
ARCES	**ARCESS Array B**	130.57	22	PKPdf	**PKPdf**	**23 16 19.0**	**0.0**
ARCES	**ARCESS Array B**	130.57	22	PKP	**PKPdf**	**23 16 17.7**	**-1.4**
comp=Z,1.8nm,0.8s,baz=270,slow=1.8,SNR=8.0							
MKAR	**Makanchi Array**	136.69	71	PKP	**PKiKP**	**23 16 32.6**	**-0.5**
comp=Z,0.3nm,0.7s,baz=174,slow=2.9,SNR=1.8							
KURBB	**Kurchatov Arra**	137.07	64	PKP	**PKiKP**	**23 16 33.8**	**+0.2**
comp=Z,0.3nm,0.7s,baz=238,slow=2.1,SNR=4.1							
H31M	**Peel River**	145.11	317		**PKPbc**	**23 16 45.2**	**-0.2**
G31M	**Satah River**	145.44	318		**PKPdf**	**23 16 46.2**	**0.0**
K29M	**Barlow Dome**	145.75	312	PKPdf	**PKPdf**	**23 16 47.0**	**-0.1**
G29M	**Pine Creek**	146.86	318	PKPbc	**PKPbc**	**23 16 50.4**	**-0.3**
F28M	**Old Crow**	147.72	319	PKPbc	**PKPbc**	**23 16 53.0**	**-0.1**
D27M	**Malcolm River**	148.41	322	PKPbc	**PKPbc**	**23 16 54.9**	**-0.1**
ILAR	**Eielson Array**	149.93	312	PKPbc	**PKPbc**	**23 16 58.5**	**-0.2**
comp=Z,2.5nm,0.8s,baz=123,slow=1.5,SNR=21							
SONM	**Songino Array**	150.62	86	PKPbc	**PKiKP**	**23 17 01.3**	**-0.5**
comp=Z,2.9nm,0.6s,baz=228,slow=3.0,SNR=15							

*IDC **14** 22:59:26.4±1.3, 4°.79S×139°.91E, h0km, mb3.7/2, mbtmp3.6/6, ML3.9/4, Error ellipse: s-maj=47.5km s-min=22.4km az=104.0*

*DJA **14** 22:59:29.8±1.2, 5°.S±7°.×14°.0E±°, h10km, M4.1/5, MLv4.1/5*

ISC 14 22:59:29.6±1.1, 4°.94S±0°.08×140°.3E±0°.2, h35km, n11, σ1ˢ01/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	2.34	358	P	**Pn**	**23 00 06.6**	**+1.1**
GENI				S	**Sn**	**23 00 34.8**	**+1.8**
JAY	**Jayapura**	2.45	10	Pn	**Pn**	**23 00 07.0**	**-0.1**
12nm,0.3s,baz=182,slow=22,SNR=31							
JAY				Sn	**Sn**	**23 00 35.0**	**-1.0**
30nm,0.3s,baz=111,slow=10,SNR=8.7							
28nm,0.4s							
JAY	**Jayapura**	2.45	10	P	**Pn**	**23 00 07.1**	**-0.1**
JAY				S	**Sn**	**23 00 34.9**	**-1.0**
SMPI	**Sarmi**	3.32	332	P	**Pn**	**23 00 17.9**	**-1.2**
WRA	**Warramunga Arr**	15.99	201	Pn	**Pn**	**23 03 11.9**	**-0.1**
0.7nm,0.3s,baz=22,slow=12,SNR=5.0							
0.6nm,0.4s							
FITZ	**Fitzroy Crossi**	19.38	226	P	**P**	**23 03 52.5**	**-0.1**
0.3nm,0.3s,baz=52,slow=13,SNR=5.5							
1.6nm,0.8s							
ASAR	**Alice Springs**	19.60	198	P	**Pn**	**23 03 57.6**	**+1.1**
0.4nm,0.3s,baz=30,slow=9.9,SNR=24							
1.3nm,0.6s							
MKAR	**Makanchi Array**	72.49	322	P	**P**	**23 10 53.7**	**+0.9**
0.6nm,0.6s,baz=111,slow=8.0,SNR=5.3							
0.6nm,0.6s							
KURBB	**Kurchatov Arra**	76.43	325	P	**P**	**23 11 15.7**	**+0.1**
0.2nm,0.4s,baz=108,slow=5.9,SNR=1.9							
0.2nm,0.4s							
LPAZ	**La Paz**	144.87	127	PKPbc	**PKiKP**	**23 19 07.3**	**-1.3**
0.9nm,0.6s,baz=39,slow=1.1,SNR=5.2							
DBIC	**Dimbokro**	145.26	275	PKP	**PKPbc**	**23 19 04.3**	**-0.2**
2.0nm,0.6s,baz=102,slow=2.5,SNR=3.9							

KRSC 14 23:07:16.1±2.8, 50°.31N×155°.68E, h199km±23km, Ml3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.47	36	*e*P	Pn	23 07 42.6	-0.2
MIPR	**Malaya Ipel'ka**	2.08	18	*e*P	Pn	23 07 55.5	+0.2
MTVR	**Mutnovka**	2.68	35	*e*P	Pn	23 08 05.2	+3.2
RUS	**Russkaya**	2.77	39	*e*P	Pn	23 08 05.0	+2.2
RUS				*e*S	Sn	23 08 41.6	+2.1
SMAR	**Somma**	3.54	32	*e*P	Pn	23 08 14.8	+2.7
KRX	**Arik**	3.57	30	*e*P	Pn	23 08 15.3	+2.8
GNL	**Ganaly**	3.67	21	*e*P	Pn	23 08 14.4	+0.7
SPN	**Mys Shipunski**	3.88	42	*e*P	Pn	23 08 18.3	+2.0
SPN				*e*S	Sn	23 09 02.9	-0.7
MKZ	**Mys Kozlova**	5.64	39	*e*P	Pn	23 08 39.3	+0.9
MKZ				*e*S	Sn	23 09 41.2	-2.4

*IDC **14** 23:08:52.2±2.6, 4°.41S×101°.31E, h0km, mb3.8/9, mbtmp3.9/9, Error ellipse: s-maj=111.0km s-min=15.4km az=56.0*

*DJA **14** 23:08:54.7±0.9, 5°.S±4°.×10°.1E±°, h28km±11km, M4.4/14, mb4.8/1, MLv4.2/14*

ISC 14 23:08:55.5±0.9, 4°.48S±0°.07×101°.17E±0°.05, h29km, n35, σ1ˢ65/30, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	1.64	60	P	**Pb**	**23 09 23.4**	**-1.7**
MASI	**Maura Aman, Be**	1.70	39	P	**Pb**	**23 09 24.0**	**-2.1**
MASI				S	**Sb**	**23 09 47.8**	**+0.6**
MNAI	**Manna**	1.78	86	P	**Pb**	**23 09 25.3**	**-2.2**
PPSI	**Pulau Pagai**	2.06	326	P	**Pb**	**23 09 29.1**	**-3.1**
PPSI				S	**Sb**	**23 09 54.5**	**-2.9**
KRJI	**Kerinci**	2.39	7	P	**Pn**	**23 09 33.6**	**+0.9**
LHSI	**Lahat**	2.43	75	P	**Pn**	**23 09 34.0**	**+0.7**
LHSI				S	**Sb**	**23 10 04.3**	**-3.9**
LWLI	**Liwa**	2.93	101	P	**Pn**	**23 09 40.0**	**-0.2**
MDSI	**Maura Dua**	3.00	90	P	**Pn**	**23 09 40.6**	**-0.5**
MDSI				S	**Sn**	**23 10 17.5**	**+1.4**
KASI	**Kota Agung**	3.47	108	P	**Pn**	**23 09 47.7**	**+0.1**
PDSI	**Padang**	3.61	349	P	**Pn**	**23 09 49.3**	**-0.2**
SISI	**Saibi**	3.75	326	P	**Pn**	**23 09 51.9**	**+0.4**
SISI				S	**Sn**	**23 10 36.5**	**+1.7**
PPI	**Padang Panjang**	4.07	349	P	**Pn**	**23 09 56.5**	**+0.7**
PPI				S	**Sn**	**23 10 45.2**	**+2.8**
CGJI	**Cibinong**	4.98	115	P	**Pn**	**23 10 07.7**	**-0.6**
PBSI	**Pulau Batu**	5.25	327	P	**Pn**	**23 10 12.4**	**+0.3**
PBSI				S	**Sn**	**23 11 10.9**	**-0.9**
CMAR	**Chiang Mai Arr**	22.89	355	P	**P**	**23 13 56.2**	**-0.8**
1.7nm,0.4s,baz=183,slow=8.3,SNR=18							
1.7nm,0.4s							
FITZ	**Fitzroy Crossi**	27.50	121	P	**P**	**23 14 39.7**	**+0.1**
1.2nm,0.8s,baz=271,slow=10,SNR=8.5							
1.2nm,0.8s							
H08S2	**Diego Garcia H**	28.69	262	T	T	23 44 47.6	
baz=85,slow=75,SNR=388							
H08S3	**Diego Garcia H**	28.69	262	T	T	23 44 48.6	
baz=85,slow=75,SNR=339							
H08S1	**Diego Garcia H**	28.70	262	T	T	23 44 48.5	
baz=85,slow=75,SNR=261							
H01W3	**Cape Leeuwin H**	32.56	160	T	T	23 49 38.1	
baz=336,slow=76							
H01W2	**Cape Leeuwin H**	32.57	160	T	T	23 49 39.2	
baz=336,slow=76							
H01W1	**Cape Leeuwin H**	32.57	160	T	T	23 49 38.0	
baz=336,slow=76							
WRA	**Warramunga Arr**	35.77	118	P	**P**	**23 15 52.1**	**-0.3**
0.3nm,0.3s,baz=294,slow=9.7,SNR=7.4							
0.3nm,0.3s							
ASAR	**Alice Springs**	36.88	124	P	**P**	**23 16 00.9**	**-0.9**
0.2nm,0.3s,baz=296,slow=8.6,SNR=14							
0.2nm,0.3s							
STKA	**Stephens Creek**	46.65	131	P	**P**	**23 17 23.9**	**+2.3**
0.5nm,0.4s,baz=328,slow=8.5,SNR=3.6							
0.5nm,0.4s							
SONM	**Songino Array**	52.29	4	P	**P**	**23 18 06.2**	**+1.8**
3.5nm,0.8s,baz=186,slow=9.1,SNR=13							
3.5nm,0.8s							
MKAR	**Makanchi Array**	53.71	344	P	**P**	**23 18 16.0**	**+1.1**
1.7nm,0.8s,baz=145,slow=8.7,SNR=9.5							
1.7nm,0.8s							
KURBB	**Kurchatov Arra**	58.24	343	P	**P**	**23 18 47.2**	**+0.1**
1.0nm,0.8s,baz=159,slow=6.5,SNR=6.6							
1.0nm,0.8s							
H04N2	**CROZET ISLANDS**	59.54	218	T	T	00 23 31.5	
baz=61,slow=75							
H04N1	**CROZET ISLANDS**	59.55	218	T	T	00 23 33.4	
baz=61,slow=75							
H04N3	**CROZET ISLANDS**	59.56	218	T	T	00 23 33.7	
baz=61,slow=75							
H04S1	**CROZET ISLANDS**	59.80	217	T	T	00 23 46.5	
baz=60,slow=76							
ZALV	**Zalesovo Beam**	59.80	349	P	**P**	**23 18 58.6**	**+0.7**
1.2nm,0.4s,baz=181,slow=4.9,SNR=8.4							
1.2nm,0.4s							
H04S3	**CROZET ISLANDS**	59.81	217	T	T	00 23 45.6	
baz=60,slow=76							
H04S2	**CROZET ISLANDS**	59.82	217	T	T	00 23 46.8	
baz=60,slow=76							

*STR **14** 23:12:00.6±0.4, 43°.N±2°.×°.±°, h3km, MLv2.5/11, LOCSAT earthModelID pyrenees_taup-2.11 preliminary*

*LDG **14** 23:12:00.2±0.1, 43°.17N×1°.21W, h6km, Md1.7/2, Ml2.6/18, Error ellipse: s-maj=2.6km s-min=2.4km az=73.0*

*MDD **14** 23:12:00.5±0.2, 43°.12N×1°.22W, h0km, mb_Lg2.8/31, Error ellipse: s-maj=2.0km s-min=1.2km az=178.0*

ISC 14 23:12:00.1±0.8, 43°.16N±0°.02×1°.23W±0°.02, h17km±4km, n62, σ1ˢ94/123, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.04	180	*e*Pg	**Pg**	**23 12 02.5**	**-0.6**
SJPF				*e*Sg	**Sg**	**23 12 03.6**	**-1.6**
803nm,0.2s							
OSSF	**Osses**	0.10	344	Pg	**Pg**	**23 12 03.7**	**+0.1**
OSSF				Sg	**Sg**	**23 12 06.1**	**+0.2**
ORDF	**Ordiarp**	0.22	75	Pg	**Pg**	**23 12 05.1**	**0.0**
ORDF				Sg	**Sg**	**23 12 08.7**	**+0.1**
EORO	**Oroz-Betelu**	0.27	193	Pg	**Pg**	**23 12 05.1**	**-1.0**
EORO				Sg	**Sg**	**23 12 09.1**	**-1.1**
ATE	**Arette**	0.39	101	Pg	**Pg**	**23 12 07.6**	**-0.5**
ATE				Sg	**Sg**	**23 12 13.0**	**-0.6**
EARA	**Aranguren**	0.47	214	Pg	**Pg**	**23 12 08.7**	**-0.8**
EARA				Sg	**Sg**	**23 12 15.2**	**-0.5**
EARA				*i* IVmb_Lg		23 12 16.7	
EARA	**Aranguren**	0.47	214	Pg	**Pg**	**23 12 08.8**	**-0.7**
EARA				Sg	**Sg**	**23 12 14.9**	**-0.8**
TERF	**Tercis-les-Bai**	0.53	9	Pg	**Pg**	**23 12 11.2**	**+0.6**
TERF				Sg	**Sg**	**23 12 19.4**	**+1.7**
ETSF	**Etsaut**	0.55	118	*e*Pg	**Pg**	**23 12 09.9**	**-1.2**
ETSF				*e*Sg	**Sg**	**23 12 16.3**	**-2.2**
135nm,0.2s							
REYF	**Montagne du Re**	0.62	98	Pg	**Pg**	**23 12 11.4**	**-0.9**
REYF				Sg	**Sg**	**23 12 19.5**	**-1.0**
CANF	**Canfranc**	0.65	127	Pg	**Pg**	**23 12 11.6**	**-1.4**
CANF				Sg	**Sg**	**23 12 20.0**	**-1.6**
PYLO	**Lourdes**	0.86	94	Pg	**Pg**	**23 12 17.0**	**+0.1**
PYLO				Sg	**Sg**	**23 12 28.6**	**+0.3**
VIEF	**Viey**	0.96	106	Pg	**Pg**	**23 12 17.1**	**-1.5**
VIEF				Sg	**Sg**	**23 12 30.3**	**-0.9**
LABF	**Labassere**	0.96	96	Pg	**Pg**	**23 12 17.8**	**-0.9**
LABF				Sg	**Sg**	**23 12 30.7**	**-0.6**
MLZA	**Monlezun-d-Arm**	1.04	50	Pg	**Pg**	**23 12 20.2**	**0.0**
MLZA				Sg	**Sb**	**23 12 34.9**	**+1.8**
EPF	**Esparros**	1.15	96	*e*Pg	**Pb**	**23 12 21.3**	**-0.3**
EPF				*e*Sg	**Sb**	**23 12 36.1**	**-0.2**
40nm,0.2s							
MELF	**Melles**	1.48	100	Pn	**Pn**	**23 12 26.6**	**+0.5**
MELF				Sn	**Sb**	**23 12 46.9**	**+1.0**
ESAC	**San Caprasio**	1.54	158	Pg	**Pn**	**23 12 27.6**	**+0.7**
ESAC				Sg	**Sb**	**23 12 47.6**	**+0.1**
ELAN	**Lanestosa**	1.62	273	Pg	**Pn**	**23 12 29.3**	**+1.4**
ELAN				Sg	**Sb**	**23 12 51.1**	**+1.4**
MLS	**Moulis**	1.71	96	Pn	**Pn**	**23 12 29.9**	**+0.7**
LRVF	**chteau la Riv**	1.91	20	Pn	**Pn**	**23 12 34.1**	**+2.3**
LRVF				Sn	**Sb**	**23 12 59.6**	**+1.6**
GENF	**Genat**	2.08	98	Pn	**Pn**	**23 12 35.1**	**+0.8**
GENF				Sn	**Sn**	**23 13 01.1**	**+1.3**
MONQ	**Montcuq**	2.13	55	Pn	**Pn**	**23 12 36.3**	**+1.4**
MONQ				Sn	**Sb**	**23 13 04.7**	**+0.3**
PAND	**Andorre**	2.13	106	Pn	**Pn**	**23 12 36.5**	**+1.3**
PAND				Sn	**Sn**	**23 13 03.2**	**+1.8**
DUNF	**Dun**	2.23	92	Pn	**Pn**	**23 12 37.5**	**+1.2**
DUNF				Sn	**Sn**	**23 13 05.7**	**+2.3**
LFF	**La Frestale**	2.27	38	*e*Pn	**Pn**	**23 12 37.0**	**+0.1**
LFF				*e*Sg	**Sb**	**23 13 11.7**	**+3.1**
7.7nm,0.2s							
ETOR	**Torete**	2.42	195	Pn	**Pn**	**23 12 39.5**	**+0.6**
ETOR				Sn	**Sn**	**23 13 09.6**	**+1.4**
ETOR				*i* IVmb_Lg		23 13 17.4	
FNEB	**Nbias**	2.46	95	Pn	**Pn**	**23 12 40.5**	**+1.1**
FNEB				Sn	**Sn**	**23 13 11.6**	**+2.5**
CARF	**Carcanieres**	2.48	99	Pn	**Pn**	**23 12 40.9**	**+1.0**
CARF				Sn	**Sn**	**23 13 12.3**	**+2.3**
EPOB	**Poblet**	2.49	136	Pn	**Pn**	**23 12 39.2**	**-0.7**
EPOB				Pg	**Pb**	**23 12 45.3**	**+0.9**
EPOB				Sn	**Sn**	**23 13 11.1**	**+1.2**
EPOB				Sg	**Sb**	**23 13 17.1**	**+2.4**
EPOB				*i* IVmb_Lg		23 13 22.2	
ERTA

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LDF				e	Sn	Sn	23 14 18.4	-5.4
	1.0nm,0.3s							
PMRV	**Marv??o**	**5.95**	**233**	e	Pn	**Pn**	**23 13 27.4**	**-0.1**
PMRV				e	Sn	**Sn**	**23 14 31.3**	**-4.1**
PMRV					IAML		23 14 34.7	

NEIC ***14*** *23:14:51.8, 44°.52N×147°.39E, h120km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr0.15; Mθθ0.45; Mφφ-0.61; Mrθ-0.04; Mθφ-0.60; Mφr-0.69; Fault plane solution: M0 1.06000×10^17 NP1:φs72.63000°, δ50.20000°, λ178.79000°. NP2:φs163.40000°, δ89.07000°, λ39.81000°. Principal axes: T 0.8521, Plg28.0000°, Azm36.0000°; N 0.3413, Plg50.0000°, Azm165.0000°; P -1.1934, Plg26.0000°, Azm291.0000°;*

BJI ***14*** *23:14:51.1, 44°.57N×146°.75E, h116km, mB5.6/19, mb5.7/87*

NEIC ***14*** *23:14:51.8, 44°.62N×146°.69E, h120km*

SKHL ***14*** *23:14:52.4±0.2, 44°.40N×147°.00E, h125km±8km, mb6.0/12, ms4.8/4, msh6.3/5, msha6.5/9*

NEIC ***14*** *23:14:52.6±1.5, 44°.63N±0°.06×146°.67E±0°.10, h101km±4km, mb5.7/1038, Mww5.3/26, Error ellipse: s-maj=10.8km s-min=8.7km az=126.0*

JMA ***14*** *23:14:52.8±0.3, 44°.N±1°×14°7E±°, h116km±3km, MD5.4/39, MW5.3/39, NEAR ETOROFU ISLAND*

JMA Felt II J1 at NEAR ETOROFU ISLAND .

MOS ***14*** *23:14:52.8±1.2, 44°.58N×146°.64E, h123km, mb5.2/79, Error ellipse: s-maj=5.1km s-min=4.1km az=101.9*

MOS Felt (III-IV) at Malokuril'skoye; (II) at Golovnino, Kuril'sk, Yuzhno-Kuril'sk.

NIED ***14*** *23:14:52.8, 44°.39N×146°.93E, h116km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr5.42; Mθθ-0.46; Mφφ-4.96; Mrθ-0.74; Mθφ-2.56; Mφr-7.04; Fault plane solution: M0 9.15000×10^16 NP1: φs40.00000°, δ22.00000°, λ118.00000°. NP2: φs190.00000°, δ71.00000°, λ79.00000°.*

IDC ***14*** *23:14:53.8±0.4, 44°.69N×146°.68E, h115km±3km, mb4.9/31, mbtmp5.3/42, MS4.5/4 Error ellipse: s-maj=8.7km s-min=6.3km az=148.0*

GCMT ***14*** *23:14:54.8±0.2, 44°.51N±0°.01×146°.81E±0°.01, h124km±1km, MW5.3/149, Moment Tensor Solution. s50,c70; s149,c274; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.36±.02; Mθθ0.43±.02; Mφφ-0.79±.02; Mrθ0.03±.02; Mθφ-0.25±.02; Mφr-0.90±.02; Best double couple: M0 1.10800×10^17 NP1:φs47.00000°, δ24.00000°, λ143.00000°. NP2:φs172.00000°, δ76.00000°, λ70.00000°. Principal axes: T 0.9060, Plg55.0000°, Azm47.0000°; N 0.4030, Plg19.0000°, Azm177.0000°; P -1.3090, Plg28.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 23:14:53.4±0.3, 44°.57N±0°.03×146°.74E±0°.03, h117km±2km, h116km:pP-P, n1726, σ1s20/1476, mb5.6/654, 44C-44D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.82**	**230**	c iPN		**Pn**	**23 15 13.3**	**-0.1**
YUK				i S		**Sn**	**23 15 29.7**	**+1.2**
YUK					pmax	pmax		
	comp=N,9μm,0.5s							
YUK					pmax	pmax		
	comp=Z,46μm,0.5s							
YUK					pmax	pmax		
	comp=E,9μm,0.4s							
YUK					pmax	pmax		
	comp=Z,131μm,1.1s							
YUK					smax	smax		
	comp=N,16μm,0.4s							
YUK					smax	smax		
	comp=E,61μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**0.82**	**230**	i P		**Pn**	**23 15 13.5**	**+0.1**
YUK					AMB	AMB	23 15 14.2	
	comp=E,46μm,0.5s							
YUK					AMB	AMB	23 15 14.8	
	comp=E,131μm,1.5s							
YUK				i S		**Sn**	**23 15 29.3**	**+0.8**
YUK					A	A	23 15 32.1	
	comp=E,27μm,0.5s							
YUK					A	A	23 15 32.1	
	comp=E,61μm,0.5s							
YUK					A	A	23 15 32.9	
	comp=E,282μm,2.0s							
YUK					A	A	23 15 32.9	
	comp=E,148μm,2.0s							
KUR	**Kuril'sk**	**1.04**	**50**	d iPN		**Pn**	**23 15 15.2**	**-0.2**
KUR				i S		**Sn**	**23 15 32.7**	**+0.5**
KUR					pmax	pmax		
	comp=Z,23μm,0.7s							
KUR					pmax	pmax		
	comp=N,5μm,0.8s							
KUR					pmax	pmax		
	comp=E,4μm,0.8s							
KUR					smax	smax		
	comp=E,20μm,0.6s							
KUR					smax	smax		
	comp=N,15μm,0.7s							
KUR					smax	smax		
	comp=N,312μm,1.8s							
KUR					smax	smax		
	comp=E,160μm,1.8s							
KUR	**Kuril'sk**	**1.04**	**50**	i P		**Pn**	**23 15 15.3**	**-0.2**
KUR					AMB	AMB	23 15 17.5	
	comp=E,18μm,0.5s							
KUR				i S		**Sn**	**23 15 32.6**	**+0.4**
KUR					A	A	23 15 36.2	
	comp=E,12μm,0.6s							
KUR					A	A	23 15 36.2	
	comp=E,18μm,0.6s							
KUR					A	A	23 15 36.4	
	comp=E,312μm,2.0s							
KUR					A	A	23 15 36.4	
	comp=E,166μm,2.0s							
RUSJ	**Misakicho**	**1.17**	**247**	⇑ iPN		**Pn**	**23 15 17.2**	**+0.4**
RUSJ				e S		**Sn**	**23 15 38.5**	**+4.0**
GLVR	**Golovnino**	**1.21**	**227**	⇑ iPN		**Pn**	**23 15 17.5**	**+0.3**
GLVR				i S		**Sn**	**23 15 36.2**	**+0.9**
GLVR					pmax	pmax		
	comp=Z,49μm,0.6s							
GLVR					pmax	pmax		
	comp=N,3μm,0.4s							
GLVR					pmax	pmax		
	comp=E,2μm,0.4s							
GLVR					smax	smax		
	comp=N,37μm,0.3s							
GLVR					smax	smax		
	comp=E,47μm,0.4s							
GLVR	**Golovnino**	**1.21**	**227**	i P		**Pn**	**23 15 17.5**	**+0.3**
GLVR					AMB	AMB	23 15 18.3	
	comp=E,49μm,0.6s							
GLVR				i S		**Sn**	**23 15 36.2**	**+0.9**
GLVR					A	A	23 15 42.9	
	comp=E,37μm,0.6s							
GLVR					A	A	23 15 42.9	
	comp=E,47μm,0.6s							
JRA	**Rausu**	**1.32**	**242**	P		**Pn**	**23 15 18.7**	**+0.2**
JRA				e S		**Sn**	**23 15 38.5**	**+1.0**
JRA	**Rausu**	**1.32**	**242**	A		A	23 15 18.7	
	comp=N,55nm,2.0s,comp=E,130nm,1.7s							
NEM2	**Nemuro 2**	**1.40**	**211**	P		**Pn**	**23 15 18.1**	**-1.3**
NEM2				e S		**Sn**	**23 15 36.4**	**-2.7**
NEM2	**Nemuro 2**	**1.40**	**211**	A		A	23 15 18.1	
	comp=N,47nm,3.7s,comp=E,24nm,1.3s							
NMR	**Nemuro--Hokkai**	**1.40**	**212**	⇑ iPN		**Pn**	**23 15 18.2**	**-1.2**
NMR				e S		**Sn**	**23 15 36.4**	**-2.7**
NMR	**Nemuro--Hokkai**	**1.40**	**212**	i P		**Pn**	**23 15 18.2**	**-1.2**
NMR				e S		**Sn**	**23 15 36.4**	**-2.7**
JNSB	**Nemuroshibetsu**	**1.48**	**238**	P		**Pn**	**23 15 20.9**	**+0.6**
JNSB				e S		**Sn**	**23 15 42.2**	**+1.5**
JNSB	**Nemuroshibetsu**	**1.48**	**238**	A		A	23 15 20.9	
	comp=N,116nm,4.3s,comp=E,250nm,3.4s							
JNK	**Nakash**	**1.76**	**237**	P		**Pn**	**23 15 23.6**	**0.0**
JNK				e S		**Sn**	**23 15 46.3**	**-0.4**
JNK	**Nakash**	**1.76**	**237**	A		A	23 15 23.6	
	comp=N,51nm,5.8s,comp=E,63nm,3.6s							
JKHN	**Kushirohamanak**	**1.87**	**218**	e P		**Pn**	**23 15 24.1**	**-0.9**
JKHN				e S		**Sn**	**23 15 47.8**	**-1.4**
JKHN	**Kushirohamanak**	**1.87**	**218**	A		A	23 15 24.1	
	comp=N,35nm,1.4s,comp=E,53nm,3.4s							
AKK	**Akkeshi**	**2.07**	**222**	e P		**Pn**	**23 15 26.8**	**-0.7**
JTKR	**Abashiri--Toko**	**2.12**	**255**	P		**Pn**	**23 15 28.8**	**+0.7**
JTKR				e S		**Sn**	**23 15 56.4**	**+1.7**
JTKR	**Abashiri--Toko**	**2.12**	**255**	A		A	23 15 28.8	
	comp=N,17nm,5.2s,comp=E,43nm,2.5s							
JAK	**Akkeshi**	**2.16**	**224**	P		**Pn**	**23 15 27.9**	**-0.6**
JAK				e S		**Sn**	**23 15 54.5**	**-1.0**
JAK	**Akkeshi**	**2.16**	**224**	A		A	23 15 27.9	
	comp=N,66nm,1.4s,comp=E,100nm,3.0s							
JMP	**Maruseppu**	**2.49**	**259**	‖ e P		**Pn**	**23 15 34.1**	**+1.2**
JMP				‖ e S		**Sn**	**23 16 04.9**	**+1.6**
JMP	**Maruseppu**	**2.49**	**258**	A		A	23 15 34.1	
	comp=N,27nm,2.1s,comp=E,50nm,2.2s							
JAR	**Ashorobuto**	**2.49**	**240**	‖ e P		**Pn**	**23 15 33.8**	**+0.9**
JAR				‖ e S		**Sn**	**23 16 04.4**	**+1.1**
JAR	**Ashorobuto**	**2.49**	**240**	A		A	23 15 33.8	
	comp=N,85nm,2.0s,comp=E,78nm,2.8s							
JOB	**Onbets**	**2.68**	**233**	e P		**Pn**	**23 15 36.0**	**+0.7**
JOB				e S		**Sn**	**23 16 07.5**	**-0.1**
JOB	**Onbets**	**2.68**	**233**	A		A	23 15 36.0	
	comp=N,42nm,2.0s,comp=E,84nm,3.2s							
JKK2	**Kamakawa 2**	**2.95**	**258**	‖ e P		**Pn**	**23 15 40.4**	**+1.5**
JKK2				‖ e S		**Sn**	**23 16 17.3**	**+3.3**
JKK2	**Kamakawa 2**	**2.95**	**258**	A		A	23 15 40.4	
	comp=N,35nm,3.1s,comp=E,27nm,3.1s							
JSE	**Soyaes**	**2.99**	**279**	e P		**Pn**	**23 15 41.0**	**+1.8**
JSE	**Soyaes**	**2.99**	**279**	A		A	23 15 41.0	
	comp=N,9.0nm,2.8s,comp=E,26nm,2.2s							
JKA	**Kamikawa-asahi**	**3.00**	**263**			**Pn**	**23 15 40.9**	**+1.3**
JKA	**Kamikawa-asahi**	**3.00**	**263**	e P		**Pn**	**23 15 40.9**	**+1.3**
ASAJ	**Asahikawa**	**3.01**	**263**	P		**Pn**	**23 15 40.9**	**+1.4**
	comp=E,2μm,0.7s,baz=87,slow=16,SNR=375							
ASAJ					S	**Sn**	**23 16 16.8**	**+1.6**
	comp=E,2μm,1.0s,baz=94,slow=17,SNR=12							
ASAJ					LR	LR	23 16 35.7	
	comp=E,8μm,18.9s,baz=130,slow=34							
ASAJ	**Asahikawa**	**3.01**	**263**	‖ P		**Pn**	**23 15 41.3**	**+1.7**
ASAJ	**Asahikawa**	**3.01**	**263**	A		A	23 15 41.3	
	comp=N,17nm,5.3s,comp=E,27nm,5.0s							
JCH	**Churui**	**3.13**	**233**	e P		**Pn**	**23 15 41.4**	**+0.1**
JCH				e S		**Sn**	**23 16 17.4**	**-0.9**
JCH	**Churui**	**3.13**	**233**	A		A	23 15 41.4	
	comp=N,27nm,3.9s,comp=E,26nm,3.4s							
JFR	**Furan**	**3.31**	**246**	A		A	23 15 44.6	
	comp=N,34nm,5.5s,comp=E,30nm,2.8s							
JTHR	**Tokachihiroo**	**3.38**	**229**	A		A	23 15 44.7	
	comp=N,20nm,4.0s,comp=E,34nm,4.0s							
JAB	**Ashibetsu**	**3.43**	**254**	A		A	23 15 46.6	
	comp=N,29nm,5.1s,comp=E,59nm,3.3s							
JSS	**Shosan**	**3.50**	**269**	e P		**Pn**	**23 15 48.4**	**+2.3**
JSS	**Shosan**	**3.50**	**269**	A		A	23 15 48.4	
	comp=N,20nm,3.1s,comp=E,30nm,5.0s							
JWK2	**Keihoku**	**3.52**	**284**	‖ P		**Pn**	**23 15 49.6**	**+3.2**
JWK2				‖ e S		**Sn**	**23 16 32.6**	**+5.3**
JWK2	**Keihoku**	**3.52**	**284**	A		A	23 15 49.6	
	comp=N,22nm,2.2s,comp=E,48nm,3.1s							
JBT2	**Biratori 2**	**3.64**	**242**	A		A	23 15 48.9	
	comp=N,16nm,2.4s,comp=E,13nm,3.3s							
ERM	**Erimo**	**3.65**	**227**	Pn		**Pn**	**23 15 48.7**	**+0.6**
ERM	**Erimo**	**3.65**	**227**	P		**Pn**	**23 15 49.2**	**+1.1**
ERM	**Erimo**	**3.65**	**227**	S		**Sn**	**23 16 31.1**	**+0.6**
ERM	**Erimo**	**3.65**	**227**	PN		**Pn**	**23 15 48.7**	**+0.6**
JEM	**Erimo**	**3.65**	**227**	P		**Pn**	**23 15 49.3**	**+1.2**
JEM	**Erimo**	**3.65**	**227**	S		**Sn**	**23 16 31.1**	**+0.6**
JEM	**Erimo**	**3.65**	**227**	A		A	23 15 48.2	
	comp=N,55nm,2.1s,comp=E,26nm,3.6s							
YSS	**Yuzhno-Sakhali**	**3.67**	**312**	Pn		**Pn**	**23 15 47.8**	**-0.6**
YSS	**Yuzhno-Sakhali**	**3.67**	**312**	P		**Pn**	**23 15 49.9**	**+1.6**
YSS	**Yuzhno-Sakhali**	**3.67**	**312**	kcPN		**Pn**	**23 15 50.6**	**+2.3**
YSS				e S		**Sn**	**23 16 35.2**	**+4.3**
YSS					pmax	pmax		
	comp=Z,470nm,0.9s							
YSS					pmax	pmax		
	comp=N,450nm,0.8s							
YSS					smax	smax		
	comp=N,1μm,1.3s							
YSS					smax	smax		
	comp=E,1μm,1.4s							
YSS					MLR	MLR		
	comp=E,3μm,14.0s							
YSS	**Yuzhno-Sakhali**	**3.67**	**312**	e P		**Pn**	**23 15 50.6**	**+2.3**
YSS					AMB	AMB	23 15 54.5	
	comp=E,470nm,0.9s							
YSS				e S		**Sn**	**23 16 35.2**	**+4.3**
YSS					A	A	23 16 36.8	
	comp=E,8μm,3.0s							
YSS					A	A	23 16 36.8	
	comp=E,6μm,3.0s							
YSS					A	A	23 16 38.5	
	comp=E,1μm,0.6s							
YSS					A	A	23 16 38.5	
	comp=E,1μm,0.6s							
YSS					AMS	AMS	23 18 36.5	
	comp=E,4μm,14.0s							
YSS					AMS	AMS	23 18 36.5	
	comp=E,3μm,14.0s							
JNBK	**Urakawa-nobuka**	**3.69**	**233**	e P		**Pn**	**23 15 48.0**	**-0.7**
JNBK	**Urakawa-nobuka**	**3.69**	**233**	A		A	23 15 48.0	
	comp=N,23nm,2.2s,comp=E,38nm,1.4s							
JHR	**Hokuryu**	**3.70**	**259**	‖ e P		**Pn**	**23 15 50.9**	**+2.1**
JHR	**Hokuryu**	**3.70**	**259**	A		A	23 15 50.9	
	comp=N,26nm,4.8s,comp=E,29nm,3.0s							
JSHD	**Hidakashinhida**	**3.78**	**237**	A		A	23 15 50.5	
	comp=N,37nm,1.9s,comp=E,29nm,1.6s							
JRR	**Rishiri**	**3.90**	**280**	A		A	23 15 54.2	
	comp=N,62nm,5.1s,comp=E,42nm,2.7s							
JIAM	**Iburiatsuma**	**4.00**	**243**	A		A	23 15 53.8	
	comp=N,46nm,1.5s,comp=E,41nm,2.5s							
JISS	**Ishikarishitsu**	**4.06**	**253**	A		A	23 15 55.1	
	comp=N,104nm,2.5s,comp=E,41nm,3.3s							
JRBN	**Rebuntou**	**4.12**	**284**	A		A	23 15 57.2	
	comp=N,6.0nm,3.2s,comp=E,6.0nm,3.4s							
JEW	**Eniwo**	**4.21**	**248**	A		A	23 15 56.8	
	comp=N,42nm,4.2s,comp=E,47nm,1.5s							
JNB	**Noboribetsu**	**4.65**	**245**	A		A	23 16 02.7	
	comp=N,5.0nm,5.0s,comp=E,5.0nm,8.5s							
JSK	**Shakotan**	**4.68**	**257**	A		A	23 16 03.8	
	comp=N,12nm,4.1s,comp=E,12nm,2.3s							
JKB	**Kayabe**	**4.96**	**239**	A		A	23 16 06.6	
	comp=N,8.0nm,1.5s,comp=E,9.0nm,2.2s							
JAHD	**Aomorihigashid**	**5.16**	**232**	A		A	23 16 09.0	
	comp=N,33nm,1.4s,comp=E,55nm,1.2s							
JSH	**Shimam**	**5.23**	**251**	A		A	23 16 10.9	
	comp=N,7.0nm,3.8s,comp=E,5.0nm,6.4s							
JOT	**Ohata**	**5.25**	**235**	A		A	23 16 10.4	
	comp=N,16nm,1.3s,comp=E,10.0nm,1.7s							
JYM2	**Yakumo 2**	**5.25**	**244**	A		A	23 16 10.9	
	comp=N,8.0nm,1.9s,comp=E,6.0nm,6.2s							
JARK	**Aomorirokkasho**	**5.32**	**230**	A		A	23 16 11.1	
	comp=N,10.0nm,2.6s,comp=E,10.0nm,2.2s							
JHST	**Hiyamasetana**	**5.43**	**249**	A		A	23 16 13.6	
	comp=N,12nm,4.0s,comp=E,13nm,3.9s							
UGL	**Uglegorsk**	**5.54**	**326**	‖ e PN		**Pn**	**23 16 16.6**	**+3.2**
UGL					pmax	pmax		
	comp=Z,4μm,2.5s							
UGL					pmax	pmax		
	comp=Z,880nm,1.1s							
UGL	**Uglegorsk**	**5.54**	**326**	e P		**Pn**	**23 16 16.6**	**+3.2**
UGL					AMB	AMB	23 16 17.0	
	comp=Z,700nm,0.7s							
UGL				e S		**Sn**	**23 17 20.0**	**+4.3**
UGL					A	A	23 17 26.0	
	comp=Z,12μm,4.0s							
UGL					A	A	23 17 26.0	
	comp=Z,11μm,4.0s							
UGL					A	A	23 17 33.0	
	comp=Z,490nm,0.7s							
UGL					A	A	23 17 33.0	
	comp=Z,350nm,0.7s							
UGL					AMS	AMS	23 19 49.0	
	comp=Z,4μm,16.0s							
UGL					AMS	AMS	23 19 49.0	
	comp=Z,4μm,16.0s							
JTM	**Tenmabayashi**	**5.63**	**230**	Pn		**Pn**	**23 16 12.9**	**-1.8**
JTM	**Tenmabayashi**	**5.63**	**230**	P		**Pn**	**23 16 13.4**	**-1.3**
JTM	**Tenmabayashi**	**5.63**	**230**	A		A	23 16 15.4	
	comp=N,7.0nm,2.8s,comp=E,9.0nm,1.5s							
JANG	**Nango**	**5.70**	**224**	A		A	23 16 16.0	
	comp=N,5.0nm,1.7s,comp=E,7.0nm,1.5s							
JKEN	**Kujiedanarisaw**	**5.73**	**222**	A		A	23 16 16.3	
	comp=N,8.0nm,1.5s,comp=E,10.0nm,1.0s							
JSI2	**Shiura 2**	**5.83**	**235**	A		A	23 16 18.3	
	comp=N,8.0nm,1.0s,comp=E,7.0nm,2.0s							
JHHS	**Hirosakihyakuz**	**6.12**	**232**	A		A	23 16 22.1	
	comp=N,27nm,3.0s,comp=E,17nm,2.2s							
JIW	**Iwasaki**	**6.36**	**234**	A		A	23 16 25.5	
	comp=N,5.0nm,1.4s,comp=E,5.0nm,0.6s							
JSZI	**Iwateshizukuis**	**6.46**	**224**	A		A	23 16 26.3	
	comp=N,10.0nm,2.1s,comp=E,15nm,1.0s							
JOM	**Ohasama**	**6.51**	**220**	A		A	23 16 26.7	
	comp=N,6.0nm,3.4s,comp=E,6.0nm,1.0s							
TYV	**Tymovskoe**	**6.88**	**338**	e PN		**Pn**	**23 16 33.8**	**+2.4**
TYV				e S		**Sn**	**23 17 48.1**	**0.0**
TYV					pmax	pmax		
	comp=Z,200nm,4.6s							
TYV					pmax	pmax		
	comp=Z,40nm,1.0s							
TYV					smax	smax		
	comp=N,48nm,1.3s							
TYV					smax	smax		
	comp=E,54nm,1.3s							
TYV					smax	smax		
	comp=N,700nm,5.5s							
TYV					smax	smax		
	comp=E,1μm,5.5s							
TYV	**Tymovskoe**	**6.88**	**338**	e P		**Pn**	**23 16 34.1**	**+2.7**
TYV					AMB	AMB	23 16 36.3	
	comp=E,400nm,0.7s							
TYV				e S		**Sn**	**23 17 51.4**	**+3.3**
TYV					A	A	23 17 52.7	
	comp=E,550nm,0.7s							
TYV					A	A	23 17 52.7	
	comp=E,480nm,0.7s							
TYV					AMS	AMS	23 18 38.0	
	comp=E,2μm,11.0s							
TYV					AMS	AMS	23 18 38.0	
	comp=E,2μm,11.0s							
JRG	**Rokugo**	**6.88**	**223**	A		A	23 16 32.0	
	comp=N,8.0nm,2.3s,comp=E,11nm,1.0s							
TEY	**Ternei**	**7.23**	**277**	‖ e PN		**Pn**	**23 16 39.1**	**+2.9**
TEY					pmax	pmax		
	comp=E,930nm,1.0s							
TEY					pmax	pmax		
	comp=Z,840nm,1.0s							
TEY					pmax	pmax		
	comp=N,120nm,0.9s							
JYK	**Kaneyama**	**7.39**	**222**	A		A	23 16 38.8	
	comp=N,4.0nm,2.9s,comp=E,4.0nm,2.6s							
JOU	**Okura**	**7.69**	**218**	A		A	23 16 42.7	
	comp=N,6.0nm,3.5s,comp=E,5.0nm,4.6s							
JYA	**Atsumi**	**7.96**	**224**	A		A	23 16 46.6	
	comp=N,7.0nm,1.1s,comp=E,5.0nm,1.3s							
JMM	**Marumori**	**8.05**	**216**	Pn		**Pn**	**23 16 44.2**	**-3.3**
JMM	**Marumori**	**8.05**	**216**	P		**Pn**	**23 16 44.6**	**-2.9**
JYS	**Shiratake**	**8.08**	**221**	A		A	23 16 48.1	
	comp=N,8.0nm,2.7s,comp=E,7.0nm,1.7s							
JYAR	**Yonezawaarcadi**	**8.30**	**219**	A		A	23 16 50.9	
	comp=N,12nm,4.9s,comp=E,15nm,1.1s							
SKR	**Severo-Kuril's**	**8.80**	**43**	c iPN		**Pn**	**23 16 58.2**	**+0.7**
SKR	**Severo-Kuril's**	**8.80**	**43**	i P		**Pn**	**23 16 57.5**	**0.0**
SKR					AMB	AMB	23 16 59.9	
	comp=E,2μm,0.4s							
SKR				e S		**Sn**	**23 18 32.0**	**-2.8**
SKR					A	A	23 18 41.4	
	comp=E,390nm,0.4s							
SKR					A	A	23 18 41.4	
	comp=E,480nm,0.4s							
SKR					AMS	AMS	23 19 26.7	
	comp=E,3μm,12.0s							
SKR					AMS	AMS	23 19 26.7	
	comp=E,4μm,12.0s							
JSD	**Sado**	**9.12**	**227**	P		**Pn**	**23 17 00.1**	**-1.8**
GRNR	**Gornyy**	**9.32**	**315**	‖ i PN		**Pn**	**23 17 07.5**	**+3.0**
GRNR					pmax	pmax		
	comp=N,80nm,1.1s							
GRNR					pmax	pmax		
	comp=E,90nm,1.1s							
GRNR					pmax	pmax		
	comp=Z,130nm,1.1s							
NKL	**Nikolayevsk**	**9.47**	**337**	e P		**Pn**	**23 17 08.5**	**+2.0**
NKL					AMB	AMB	23 17 10.3	
	comp=Z,80nm,0.5s							
MJB9	**Matsu-Tunnel**	**10.31**	**222**	Pn		**Pn**	**23 17 16.6**	**-1.4**
MJAR	**Matsushiro Arr**	**10.31**	**222**	Pn		**Pn**	**23 17 15.7**	**-2.3**
MJAR	**Matsushiro Arr**	**10.31**	**222**	P		**Pn**	**23 17 16.1**	**-1.9**
	comp=Z,103nm,0.7s,baz=31,slow=13,SNR=153							
MJAR					S	**Sn**	**23 19 12.9**	**+1.3**
	comp=Z,18nm,0.8s,baz=22,slow=13,SNR=2.0							
MJAR					LR	LR	23 21 50.7	
	comp=Z,2μm,19.0s,baz=10,slow=40							
MJAR	**Matsushiro Arr**	**10.31**	**222**	PN		**Pn**	**23 17 15.7**	**-2.3**
USRK	**Ussuriysk Ar.**	**10.57**	**273**	P		**Pn**	**23 17 22.4**	**+1.0**
	comp=Z,578nm,0.9s,baz=87,slow=14,SNR=297							
PEA0B	**Petropavlovsk-**	**11.18**	**36**	Pn		**Pn**	**23 17 28.5**	**-1.0**
PEA0B	**Petropavlovsk-**	**11.18**	**36**	cePN		**Pn**	**23 17 29.8**	**+0.2**
PETK	**Petropavlovsk-**	**11.18**	**36**	P		**Pn**	**23 17 28.7**	**-0.9**
	comp=Z,184nm,0.7s,baz=198,slow=9.1,SNR=103							
JGF	**Kuroka**	**11.47**	**222**	Pn		**Pn**	**23 17 30.7**	**-3.0**
JGF	**Kuroka**	**11.47**	**222**	P		**Pn**	**23 17 31.8**	**-1.8**
JGF	**Kuroka**	**11.47**	**222**	S		**Sn**	**23 19 38.9**	**-1.0**
MSHR	**Mys Shultsa**	**11.48**	**265**	i PN		**Pn**	**23 17 33.0**	**-0.6**
MSHR					pmax	pmax		
	comp=Z,294nm,1.0s							
PET	**Petropavlovsk**	**11.53**	**39**	Pn		**Pn**	**23 17 33.1**	**-1.1**
PET	**Petropavlovsk**	**11.53**	**39**	P		**Pn**	**23 17 33.8**	**-0.5**
PET	**Petropavlovsk**	**11.53**	**39**	e PN		**Pn**	**23 17 33.7**	**-0.5**
PET					pmax	pmax		
	comp=Z,197nm,0.8s							
PET	**Petropavlovsk**	**11.53**	**39**	e P		**Pn**	**23 17 33.2**	**-1.1**
INU	**Inuyama**	**11.84**	**222**	Pn		**Pn**	**23 17 35.7**	**-2.8**
INU	**Inuyama**	**11.84**	**222**	P		**Pn**	**23 17 37.2**	**-1.2**
MDJ	**Mudanjiang**	**12.23**	**276**			**Pn**	**23 17 43.7**	**+0.3**
MDJ	**Mudanjiang**	**12.23**	**276**	P		**Pn**	**23 17 43.8**	**+0.3**
MDJ					pmax	pmax		
	comp=Z,250nm,1.0s							
MDJ	**Mudanjiang**	**12.23**	**276**	P		**Pn**	**23 17 44.1**	**+0.6**
JHJ	**Hachijo jima 2**	**12.64**	**208**	P		**Pn**	**23 17 46.2**	**-2.8**
	comp=Z,100nm,0.3s,baz=52,slow=19,SNR=4.8							
JHJ					S	Sn	23 19 57.4	-11
	comp=Z,308nm,0.4s,baz=60,slow=22,SNR=11							
BNX	**BinXian**	**13.70**	**282**	‖ P		**Pn**	**23 18

JNU	**Nakatsue**	**16.80**	**233**	P	**Pn**	**23 18 41.0**	**-0.5**
TJN	**Taejon**	**16.83**	**248**	Pn	**Pn**	**23 18 39.4**	**-2.5**
TJN	**Taejon**	**16.83**	**248**	P	**Pn**	**23 18 41.3**	**-0.6**
TJN	**Taejon**	**16.83**	**248**	P	**Pn**	**23 18 39.4**	**-2.5**
SNY	**Shenyang**	**17.10**	**269**	⇓P	**P**	**23 18 43.8**	**-1.1**
SNY				pmax	pmax		
comp=Z,86nm,1.2s							
JCJ	**Chichijima**	**17.81**	**193**	P	**Pn**	**23 18 55.0**	**+1.2**
comp=Z,29nm,0.3s,baz=290,slow=19,SNR=5.6							
JCJ				S	S	23 21 58.5	-13
comp=Z,53nm,0.3s,baz=287,slow=22,SNR=7.6							
SEY	**Seymchan**	**18.69**	**8**	P	**P**	**23 19 02.2**	**0.0**
comp=Z,213nm,0.9s,baz=183,slow=9.4,SNR=76							
SEY				ScP	**ScP**	**23 26 49.9**	**+0.2**
comp=Z,5.0nm,0.8s,baz=180,slow=6.5,SNR=4.4							
SEY	**Seymchan**	**18.69**	**8**	*e*P	**P**	**23 19 00.1**	**-2.1**
SEY				pmax	pmax		
comp=Z,283nm,1.1s							
HIA	**Hailar**	**18.98**	**294**	P	**P**	**23 19 03.4**	**-2.1**
HIA	**Hailar**	**18.98**	**294**	P	**P**	**23 19 03.7**	**-1.9**
HIA	**Hailar**	**18.98**	**294**	*i* P	**P**	**23 19 03.2**	**-2.4**
HIA				pmax	pmax		
comp=Z,55nm,0.9s							
HILR	**Hailar Array B**	**19.00**	**295**	P	**P**	**23 19 04.1**	**-1.7**
comp=Z,29nm,0.6s,baz=108,slow=13,SNR=31							
HILR				ScP	**ScP**	**23 26 51.0**	**+0.3**
comp=Z,9.2nm,0.7s,baz=132,slow=2.2,SNR=10							
DL2	**Dalian**	**19.54**	**262**	P	**P**	**23 19 12.1**	**+0.5**
DL2				pmax	pmax		
comp=Z,600nm,0.8s							
SHEM	**Shemya Is, Ala**	**19.74**	**56**	P	**P**	**23 19 14.7**	**+1.0**
SHEM	**Shemya Is, Ala**	**19.74**	**56**	P	**P**	**23 19 14.6**	**+0.9**
comp=Z,801nm,0.9s,baz=326,slow=3.1,SNR=16							
SMY	**Shemya**	**19.74**	**56**	P	**P**	**23 19 14.0**	**+0.4**
SMY	**Shemya**	**19.74**	**56**	P	**Pn**	**23 19 15.3**	**-1.0**
SMY	**Shemya**	**19.74**	**56**	P	**P**	**23 19 14.0**	**+0.4**
YAK	**Yakutsk**	**20.13**	**336**	P	**P**	**23 19 15.4**	**-2.4**
YAK	**Yakutsk**	**20.13**	**336**	P	**P**	**23 19 16.5**	**-1.3**
comp=Z,93nm,0.7s,baz=351,slow=1.2,SNR=18							
YAK				pP	**pP**	**23 19 39.1**	**+0.8**
comp=Z,236nm,0.8s,baz=326,slow=4.6,SNR=3.1							
YAK				S	**S**	**23 22 51.7**	**-5.5**
comp=Z,129nm,0.9s,baz=59,slow=23,SNR=11							
YAK				ScP	**ScP**	**23 26 51.3**	**-1.6**
comp=Z,13nm,0.3s,baz=125,slow=2.2,SNR=4.9							
YAK	**Yakutsk**	**20.13**	**336**	*e*P	**P**	**23 19 16.7**	**-1.1**
YAK				*e**PP	**pP**	**23 19 39.4**	**+1.0**
YAK				*e*S	**S**	**23 22 53.3**	**-3.9**
YAK				*e*		23 23 24.1	
YAK				*e**SS	**sS**	**23 23 33.8**	**+1.0**
YAK				*e*		23 30 31.1	
YAK				pmax	pmax		
comp=Z,117nm,1.0s							
YAK				pmax	pmax		
comp=N,68nm,1.5s							
YAK				pmax	pmax		
comp=E,39nm,1.3s							
YAK				smax	smax		
comp=N,1μm,3.2s							
YAK				smax	smax		
comp=E,1μm,2.8s							
YAK	**Yakutsk**	**20.13**	**336**	*e*P	**P**	**23 19 17.3**	**-0.5**
XLT	**XiLinHaoTe**	**21.92**	**279**	*e*P	**P**	**23 19 35.6**	**-1.6**
XLT				PcP	**PcP**	**23 23 32.1**	**+0.6**
XLT				pmax	pmax		
comp=E,220nm,1.0s							
JMZ	**Minamidaito 2**	**22.53**	**219**	P	**P**	**23 19 44.0**	**+0.6**
JMZ	**Minamidaito 2**	**22.53**	**219**	P	**P**	**23 19 42.9**	**-0.5**
AMKA	**Amchitka**	**22.70**	**61**	P	**P**	**23 19 45.0**	**0.0**
BJI	**Beijing**	**22.98**	**269**	P	**P**	**23 19 46.4**	**-1.3**
BJI				pP	**pwP**	**23 20 12.0**	**0.0**
BJI				sP	**sP**	**23 20 27.6**	**+3.4**
BJI				pmax	pmax		
comp=E,67nm,1.0s							
BJT	**Baijiatuau**	**22.99**	**269**	P	**P**	**23 19 46.8**	**-1.1**
BJT	**Baijiatuau**	**22.99**	**269**	P	**P**	**23 19 46.7**	**-1.1**
BJT	**Baijiatuau**	**22.99**	**269**	P	**P**	**23 19 46.8**	**-1.1**
JOW	**Kunigami**	**23.10**	**226**	P	**P**	**23 19 49.0**	**0.0**
JOW	**Kunigami**	**23.10**	**226**	P	**P**	**23 19 49.9**	**+0.8**
comp=E,118nm,0.7s,baz=24,slow=11,SNR=13							
JOW				LR	LR	23 30 01.7	
comp=E,733nm,19.7s,baz=73,slow=39							
comp=E,118nm,0.7s							
JOW	**Kunigami**	**23.10**	**226**	P	**P**	**23 19 49.5**	**+0.5**
CIT	**Chita**	**23.15**	**301**	*e*P	**P**	**23 19 45.6**	**-3.7**
CIT				*e*		23 20 10.4	
CIT				*e*		23 20 20.9	
CIT				*e*		23 23 39.4	
CIT				*e*		23 24 41.1	
CIT				pmax	pmax		
comp=Z,217nm,2.2s							
TIA	**Tai'an**	**23.95**	**260**	P	**P**	**23 19 56.9**	**+0.2**
TIA				pmax	pmax		
comp=Z,250nm,1.2s							
KIWB	**Kanaga Island**	**24.94**	**60**	P	**P**	**23 20 04.5**	**-1.0**
NJ2	**Nanjing**	**25.06**	**250**	⇓*i*P	**P**	**23 20 07.3**	**+0.5**
NJ2				pP	**pP**	**23 20 31.1**	**-0.3**
NJ2				PP	**PnPn**	**23 20 47.0**	**-0.8**
NJ2				S	**S**	**23 24 21.1**	**-1.4**
NJ2				ScP	**ScP**	**23 27 07.3**	**+0.9**
NJ2				pmax	pmax		
comp=Z,120nm,1.1s							
HNS	**HongShan**	**25.11**	**265**	⇓P	**P**	**23 20 07.6**	**+0.5**
HNS				pmax	pmax		
comp=Z,200nm,1.4s							
ADK	**Adak**	**25.23**	**60**	P	**P**	**23 20 07.0**	**-1.1**
ADK	**Adak**	**25.23**	**60**	P	**P**	**23 20 09.4**	**+1.3**
ADK	**Adak**	**25.23**	**60**	P	**P**	**23 20 07.0**	**-1.1**
GSTR	**Great Sitkin T**	**25.63**	**60**	P	**P**	**23 20 11.0**	**-0.8**
BILL	**Bilibino**	**25.66**	**17**	P	**P**	**23 20 09.5**	**-2.3**
BILL	**Bilibino**	**25.66**	**17**	*ce*P	**P**	**23 20 10.2**	**-1.6**
BILL				pmax	pmax		
comp=Z,39nm,1.0s							
HHC	**Hu-ho-hao-te**	**25.99**	**274**	*e*P	**P**	**23 20 15.5**	**+0.3**
HHC				pmax	pmax		
comp=Z,230nm,1.1s							
HHC				pmax	pmax		
comp=Z,910nm,6.2s							
TIY	**Taiyuan**	**26.59**	**267**	P	**P**	**23 20 21.8**	**+1.2**
TIY				pmax	pmax		
comp=Z,140nm,1.0s							
BTO	**Baotou**	**27.17**	**275**	*e*P	**P**	**23 20 26.6**	**+0.8**
BTO				pP	**pP**	**23 20 47.5**	**-2.9**
BTO				PP	**PnPn**	**23 21 16.3**	**+0.2**
BTO				S	**S**	**23 25 00.1**	**+4.2**
BTO				pmax	pmax		
comp=Z,140nm,1.2s							
BTO				pmax	pmax		
comp=Z,2μm,3.8s							
BTO				LR	LR		
comp=Z,2μm,10.3s							
BTO				LR	LR		
comp=Z,3μm,12.8s							
BTO				LR	LR		
comp=Z,2μm,12.2s							
ULN	**Ulaanbaatar**	**27.45**	**291**	P	**P**	**23 20 27.2**	**-1.1**
ULN	**Ulaanbaatar**	**27.45**	**291**	P	**P**	**23 20 28.4**	**+0.1**
ULN	**Ulaanbaatar**	**27.45**	**291**	*ce*P	**P**	**23 20 28.0**	**-0.3**
ULN				pmax	pmax		
comp=Z,47nm,0.8s							
ULN	**Ulaanbaatar**	**27.45**	**291**	*e*P	**P**	**23 20 28.0**	**-0.3**
YOJ	**Yonaguni jima**	**27.84**	**232**	P	**P**	**23 20 30.7**	**-1.0**
SONM	**Songino Array**	**27.89**	**291**	P	**P**	**23 20 31.2**	**-1.0**
SONM	**Songino Array**	**27.89**	**291**	P	**P**	**23 20 32.0**	**-0.2**
comp=Z,26nm,0.6s,baz=80,slow=8.3,SNR=127							
SONM				pP	**pP**	**23 20 58.0**	**+1.2**
comp=Z,17nm,0.7s,baz=85,slow=8.1,SNR=3.4							
SONM				PcP	**PcP**	**23 23 46.1**	**+1.3**
comp=Z,2.8nm,0.6s,baz=30,slow=1.7,SNR=1.9							
SONM				ScP	**ScP**	**23 27 14.1**	**-0.6**
comp=Z,3.6nm,0.8s,baz=128,slow=3.5,SNR=6.0							
comp=Z,26nm,0.6s							
LYN	**LuoYang**	**28.07**	**261**	P	**P**	**23 20 34.3**	**+0.5**
LYN				pP	pP	23 20 56.9	-1.5
LYN				PP	**PnPn**	**23 21 26.5**	**-1.3**
LYN				ScP	**ScP**	**23 27 16.0**	**+0.7**
LYN				pmax	pmax		
comp=Z,240nm,1.2s							
TATO	**Taipei**	**28.31**	**235**	P	**P**	**23 20 36.7**	**+0.8**
TIXI	**Tiksi**	**28.50**	**348**	*ce*P	**P**	**23 20 34.0**	**-3.1**
TIXI				pmax	pmax		
comp=Z,4.0nm,0.7s							
IRK	**Irkutsk**	**28.87**	**301**	*e*P	**P**	**23 20 37.5**	**-3.2**
IRK				pmax	pmax		
comp=Z,65nm,1.6s							
WHN	**Wuhan**	**29.03**	**252**	P	**P**	**23 20 42.3**	**0.0**
WHN				pP	**pwP**	**23 21 10.5**	**+0.7**
WHN				sP	**sP**	**23 21 21.8**	**+1.5**
WHN				PP	**PnPn**	**23 21 41.8**	**+1.5**
WHN				pmax	pmax		
comp=Z,420nm,0.6s							
TLY	**Talaya**	**29.28**	**300**	P	**P**	**23 20 42.8**	**-1.6**
TLY	**Talaya**	**29.28**	**300**	P	**P**	**23 20 43.5**	**-0.9**
TLY	**Talaya**	**29.28**	**300**	*ce*P	**P**	**23 20 43.6**	**-0.8**
TLY				pmax	pmax		
comp=Z,25nm,1.3s							
TLY	**Talaya**	**29.28**	**300**	*e*P	**P**	**23 20 43.6**	**-0.8**
SPIA	**Saint Paul Isl**	**29.41**	**49**	P	**P**	**23 20 45.3**	**0.0**
baz=263							
ZAK	**Zakamensk**	**29.61**	**297**	*e*P	**P**	**23 20 45.1**	**-2.3**
ZAK				pmax	pmax		
comp=Z,32nm,1.3s							
P08K	**Saint George I**	**29.73**	**50**	P	**P**	**23 20 47.9**	**-0.3**
baz=265							
H11N2	**WAKE ISLAND Hy**	**29.91**	**139**	T	T	23 52 04.2	
baz=329,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.92**	**139**	T	T	23 51 48.1	
baz=329,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.93**	**139**	T	T	23 52 07.9	
baz=329,slow=75							
TPUB	**Ta-pu**	**30.10**	**234**	P	**P**	**23 20 51.9**	**+0.1**
TPUB				IAmb	IAmb	23 20 54.0	
comp=Z,125nm,0.9s							
TPUB	**Ta-pu**	**30.10**	**234**	P	**P**	**23 20 52.2**	**+0.4**
GAMB	**Gambell**	**30.21**	**36**	P	**P**	**23 20 52.8**	**+0.5**
baz=251							
TWG	**Pinlang**	**30.22**	**233**	P	**P**	**23 20 52.7**	**-0.2**
XAN	**Xi'an**	**30.85**	**263**	⇓P	**P**	**23 20 58.3**	**-0.1**
XAN				pP	pP	23 21 23.3	+0.1
XAN				ScP	**ScP**	**23 27 25.3**	**+1.0**
XAN				pmax	pmax		
comp=Z,93nm,1.4s							
H11S1	**WAKE ISLAND Hy**	**30.89**	**141**	T	T	23 53 05.5	
baz=332,slow=76							
H11S3	**WAKE ISLAND Hy**	**30.89**	**141**	T	T	23 53 11.2	
baz=332,slow=76							
H11S2	**WAKE ISLAND Hy**	**30.90**	**141**	T	T	23 53 05.2	
baz=332,slow=76							
MOY	**Mondy**	**30.93**	**300**	*e*P	**P**	**23 20 57.9**	**-1.1**
MOY				pmax	pmax		
comp=Z,32nm,1.6s							
UNV	**Unalaska Valle**	**31.40**	**56**	P	**P**	**23 21 01.5**	**-1.5**
UNV				IAmb	IAmb	23 21 31.6	
comp=Z,182nm,1.5s							
UNV	**Unalaska Valle**	**31.40**	**56**	P	**P**	**23 21 04.4**	**+1.5**
UNV	**Unalaska Valle**	**31.40**	**56**	P	**P**	**23 21 03.8**	**+0.9**
baz=272							
CNSH	**ChangSha**	**31.48**	**250**	P	**P**	**23 21 04.0**	**+0.1**
CNSH				pmax	pmax		
comp=Z,140nm,0.9s							
M11K	**Mekoryuk**	**31.91**	**43**	P	**P**	**23 21 08.0**	**+0.7**
baz=262							
TNA	**Tin City**	**32.33**	**34**	P	**P**	**23 21 10.6**	**-0.3**
TNA				IAmb	IAmb	23 21 11.8	
comp=Z,100nm,0.7s							
TNA	**Tin City**	**32.33**	**34**	P	**P**	**23 21 10.9**	**0.0**
baz=252,SNR=5.1							
ENH	**Enshi**	**32.54**	**257**	P	**P**	**23 21 12.3**	**-0.9**
ENH				IAmb	IAmb	23 21 13.8	
comp=Z,113nm,0.8s							
ENH	**Enshi**	**32.54**	**257**	P	**P**	**23 21 12.8**	**-0.5**
ENH	**Enshi**	**32.54**	**257**	P	**P**	**23 21 13.0**	**-0.2**
K13K	**Kusilvak Mount**	**32.89**	**41**	P	**P**	**23 21 16.4**	**+0.5**
K13K				IAmb	IAmb	23 21 17.8	
comp=Z,166nm,0.9s							
K13K	**Kusilvak Mount**	**32.89**	**41**	P	**P**	**23 21 16.5**	**+0.7**
baz=261,SNR=21							
F14K	**Arctic Creek**	**32.94**	**34**	P	**P**	**23 21 16.6**	**+0.3**
baz=254,SNR=7.4							
M13K	**Dall Lake**	**33.32**	**44**	P	**P**	**23 21 21.4**	**+1.7**
M13K	**Dall Lake**	**33.32**	**44**	P	**P**	**23 21 21.3**	**+1.7**
baz=265,SNR=12							
LZH	**Lanzhou**	**33.46**	**270**	⇓P	**P**	**23 21 22.1**	**+0.8**
LZH				pP	pwP	23 21 50.1	+0.9
LZH				ScP	**ScP**	**23 27 35.3**	**+2.0**
LZH				pmax	pmax		
comp=Z,190nm,1.1s							
J14K	**Nanvaranak Lak**	**33.53**	**39**	P	**P**	**23 21 21.9**	**+0.5**
J14K				IAmb	IAmb	23 21 23.2	
comp=Z,109nm,0.7s							
J14K	**Nanvaranak Lak**	**33.53**	**39**	P	**P**	**23 21 22.0**	**+0.7**
baz=261							
LZDM	**Lanzhou Array**	**33.63**	**270**	P	**P**	**23 21 23.9**	**+0.9**
comp=Z,65nm,0.8s,baz=64,slow=4.1,SNR=74							
LZDM				PcP	**PcP**	**23 24 02.0**	**+1.5**
comp=Z,6.2nm,0.4s,baz=162,slow=2.4,SNR=5.5							
LZDM				ScP	**ScP**	**23 27 34.7**	**+0.5**
comp=Z,2.2nm,0.4s,baz=50,slow=2.3,SNR=7.9							
comp=Z,65nm,0.8s							
F15K	**North Star Dit**	**33.68**	**34**	P	**P**	**23 21 22.9**	**+0.3**
F15K	**North Star Dit**	**33.68**	**34**	P	**P**	**23 21 22.9**	**+0.3**
baz=255,SNR=5.8							
L14K	**Kuka Creek**	**33.74**	**42**	P	**P**	**23 21 23.9**	**+0.7**
L14K	**Kuka Creek**	**33.74**	**42**	P	**P**	**23 21 24.4**	**+1.1**
baz=264,SNR=27							
G15K	**Niukluk**	**33.75**	**35**	P	**P**	**23 21 23.9**	**+0.5**
baz=257,SNR=5.3							
S12K	**Black Hills**	**33.90**	**52**	P	**P**	**23 21 23.5**	**-1.2**
S12K	**Black Hills**	**33.90**	**52**	P	**P**	**23 21 24.7**	**0.0**
baz=273							
M14K	**Bethel**	**34.04**	**43**	P	**P**	**23 21 26.8**	**+1.0**
M14K	**Bethel**	**34.04**	**43**	P	**P**	**23 21 27.3**	**+1.5**
baz=265,SNR=26							
N14K	**Kuskokwak Cree**	**34.12**	**45**	P	**P**	**23 21 26.6**	**+0.1**
N14K				IAmb	IAmb	23 21 28.8	
comp=Z,182nm,0.9s							
N14K	**Kuskokwak Cree**	**34.12**	**45**	P	**P**	**23 21 27.9**	**+1.4**
baz=267,SNR=7.0							
C16K	**Lisburne Hills**	**34.17**	**29**	P	**P**	**23 21 26.0**	**-0.9**
C16K	**Lisburne Hills**	**34.17**	**29**	P	**P**	**23 21 26.4**	**-0.4**
baz=251							
O14K	**Tigyukauivet M**	**34.30**	**46**	P	**P**	**23 21 28.8**	**+0.7**
O14K	**Tigyukauivet M**	**34.30**	**46**	P	**P**	**23 21 29.2**	**+1.1**
baz=268,SNR=10							
L15K	**Ungalak Mounta**	**34.35**	**42**	P	**P**	**23 21 29.4**	**+0.9**
baz=264							
K15K	**Wolf Creek Mou**	**34.39**	**41**	P	**P**	**23 21 28.8**	**-0.1**
K15K	**Wolf Creek Mou**	**34.39**	**41**	P	**P**	**23 21 30.1**	**+1.2**
baz=264,SNR=12							
H16K	**Elim**	**34.43**	**36**	P	**P**	**23 21 29.4**	**+0.3**
baz=260,SNR=9.3							
G16K	**Koyuk River**	**34.53**	**35**	P	**P**	**23 21 29.4**	**-0.7**
G16K				IAmb	IAmb	23 21 31.5	
comp=Z,58nm,0.7s							
G16K	**Koyuk River**	**34.53**	**35**	P	**P**	**23 21 30.0**	**-0.1**
baz=258,SNR=12							
M15K	**Kasigluk River**	**34.66**	**43**	P	**P**	**23 21 32.0**	**+0.9**
baz=267,SNR=52							
D17K	**Noatak River**	**34.80**	**31**	P	**P**	**23 21 31.7**	**-0.6**
baz=258,SNR=11							
SDPT	**Sand Point**	**34.82**	**53**	P	**P**	**23 21 32.1**	**-0.5**
baz=275							
GTA	**Gaotai**	**34.88**	**278**	⇓P	**P**	**23 21 34.1**	**+0.6**
GTA				pP	pwP	23 22 04.6	+2.6
GTA				PcP	**PcP**	**23 24 05.3**	**+1.5**
GTA				S	**S**	**23 26 57.8**	**+1.8**
GTA				ScP	**ScP**	**23 27 38.8**	**+0.5**
GTA				ScS	**ScS**	**23 31 42.4**	**+0.3**
GTA				pmax	pmax		
comp=Z,140nm,1.2s							
N15K	**Kwethluk River**	**34.93**	**44**	P	**P**	**23 21 34.1**	**+0.6**
N15K	**Kwethluk River**	**34.93**	**44**	P	**P**	**23 21 34.8**	**+1.2**
baz=268,SNR=41							
J16K	**Anvik River**	**34.94**	**39**	P	**P**	**23 21 34.3**	**+0.7**
J16K				IAmb	IAmb	23 21 35.6	
comp=Z,153nm,1.4s							
J16K	**Anvik River**	**34.94**	**39**	P	**P**	**23 21 34.6**	**+1.0**
baz=263,SNR=10							
RDOG	**Red Dog Mine**	**34.97**	**30**	P	**P**	**23 21 33.0**	**-0.8**
RDOG				IAmb	IAmb	23 21 34.8	
comp=Z,94nm,1.4s							
RDOG	**Red Dog Mine**	**34.97**	**30**	P	**P**	**23 21 33.5**	**-0.3**
baz=254,SNR=5.4							
I17K	**Unalakleet**	**34.98**	**38**	P	**P**	**23 21 34.6**	**+0.8**
I17K	**Unalakleet**	**34.98**	**38**	P	**P**	**23 21 34.7**	**+0.8**
baz=262,SNR=9.5							
C17K	**DeLong Mountai**	**34.99**	**30**	P	**P**	**23 21 33.3**	**-0.7**
baz=253,SNR=19							
O15K	**Ungalikthiuk R**	**35.04**	**46**	P	**P**	**23 21 34.9**	**+0.4**
O15K	**Ungalikthiuk R**	**35.04**	**46**	P	**P**	**23 21 35.4**	**+0.9**
baz=270,SNR=21							
GULI	**GuiLin**	**35.10**	**249**	P	**P**	**23 21 34.1**	**-1.3**
GULI				pmax	pmax		
comp=Z,86nm,0.9s							
E17K	**Hotham Inlet**	**35.12**	**32**	P	**P**	**23 21 34.6**	**-0.4**
baz=256,SNR=18							
F17K	**Baldwin Pennin**	**35.20**	**33**	P	**P**	**23 21 35.2**	**-0.4**
F17K	**Baldwin Pennin**	**35.20**	**33**	P	**P**	**23 21 35.7**	**0.0**
baz=258,SNR=8.1							
G17K	**Kiwalik Mounta**	**35.25**	**35**	P	**P**	**23 21 36.5**	**+0.3**
baz=260,SNR=33							
S14K	**Fog Glacier**	**35.27**	**51**	P	**P**	**23 21 36.3**	**-0.3**
baz=274							
L16K	**Owhat River**	**35.31**	**42**	P	**P**	**23 21 37.5**	**+0.7**
baz=266,SNR=64							
CHNA	**Chernabura Isl**	**35.37**	**54**	P	**P**	**23 21 38.1**	**+0.7**
CHNA	**Chernabura Isl**	**35.37**	**54**	P	**P**	**23 21 36.4**	**-1.0**
baz=276,SNR=6.1							
CNBA	**Chernabura Isl**	**35.38**	**54**	IAmb	IAmb	23 21 37.3	
comp=Z,148nm,1.1s							
H17K	**Granite Mounta**	**35.47**	**36**	P	**P**	**23 21 38.6**	**+0.6**
H17K				IAmb	IAmb	23 21 40.0	
comp=Z,128nm,0.9s							
H17K	**Granite Mounta**	**35.47**	**36**	P	**P**	**23 21 38.9**	**+0.8**
baz=261,SNR=18							
M16K	**Timber Creek**	**35.52**	**43**	P	**P**	**23 21 39.8**	**+1.2**
baz=268,SNR=41							
N16K	**Nishlik Lake**	**35.59**	**44**	P	**P**	**23 21 40.6**	**+1.4**
baz=269,SNR=96							
J17K	**VABM Dome**	**35.63**	**39**	P	**P**	**23 21 40.6**	**+1.1**
baz=264,SNR=54							
E18K	**Tukpahlearik C**	**35.66**	**32**	IAmb	IAmb	23 21 41.4	
comp=Z,44nm,0.7s							
E18K	**Tukpahlearik C**	**35.66**	**32**	P	**P**	**23 21 39.3**	**-0.4**
baz=257,SNR=16							
B18K	**Kokolik River**	**35.73**	**28**	P	**P**	**23 21 39.7**	**-0.6**
baz=253,SNR=5.9							
C18K	**Utukok River**	**35.74**	**30**	IAmb	IAmb	23 21 41.8	
comp=Z,88nm,1.1s							
C18K	**Utukok River**	**35.74**	**30**	P	**P**	**23 21 39.5**	**-1.0**
baz=255,SNR=11							
F18K	**Selawik**	**35.85**	**33**	P	**P**	**23 21 41.0**	**-0.3**
baz=259,SNR=19							
L17K	**Donlin**	**35.89**	**41**	P	**P**	**23 21 43.0**	**+1.3**
baz=267,SNR=48							
K17K	**Iditarod**	**35.93**	**40**	P	**P**	**23 21 42.8**	**+0.8**
K17K	**Iditarod**	**35.93**	**40**	P	**P**	**23 21 43.3**	**+1.3**
baz=266,SNR=44							
O16K	**Kokwok River B**	**35.93**	**45**	P	**P**	**23 21 42.4**	**+0.4**
O16K	**Kokwok River B**	**35.93**	**45**	P	**P**	**23 21 42.9**	**+0.9**
baz=270,SNR=17							
P16K	**Nushagak River**	**35.99**	**46**	P	**P**	**23 21 43.5**	**+1.0**
P16K	**Nushagak River**	**35.99**	**46**	P	**P**	**23 21 44.0**	**+1.4**
baz=271,SNR=12							
G18K	**Tagagawik**	**36.13**	**35**	P	**P**	**23 21 43.6**	**-0.1**
baz=261,SNR=87							
H18K	**Honhosa River**	**36.15**	**36**	P	**P**	**23 21 44.3**	**+0.4**
baz=263,SNR=71							
CD2	**Chengdu**	**36.20**	**263**	⇓P	**P**	**23 21 44.9**	**+0.1**
CD2				pmax	pmax		
comp=Z,420nm,0.6s							
M17K	**Holitna River**	**36.27**	**42**	P	**P**	**23 21 45.9**	**+0.9**
M17K	**Holitna River**	**36.27**	**42**	P	**P**	**23 21 46.3**	**+1.3**
baz=269,SNR=80							
R16K	**Pilot Point**	**36.27**	**49**	P	**P**	**23 21 44.6**	**-0.3**
R16K	**Pilot Point**	**36.27**	**49**	P	**P**	**23 21 45.5**	**+0.5**
baz=274							
N17K	**Nushagak Hills**	**36.38**	**44**	P	**P**	**23 21 47.1**	**+1.2**
baz=270,SNR=40							
C19K	**Lookout Ridge**	**36.42**	**29**	IAmb	IAmb	23 21 47.4	
comp=Z,120nm,1.1s							
C19K	**Lookout Ridge**	**36.42**	**29**	P	**P**	**23 21 45.6**	**-0.6**
baz=256,SNR=12							
O17K	**Koliganek Bris**	**36.43**	**45**	P	**P**	**23 21 47.6**	**+1.3**
baz=271,SNR=44							
F19K	**Shaleruckik Mo**	**36.63**	**33**	P	**P**	**23 21 47.4**	**-0.6**
baz=261							
L18K	**Granite Mounta**	**36.65**	**41**	P	**P**	**23 21 49.1**	**+0.9**
L18K	**Granite Mounta**	**36.65**	**41**	P	**P**	**23 21 49.6**	**+1.4**
baz=268							
Q16K	**King Salmon**	**36.69**	**47**	P	**P**	**23 21 49.5**	**+0.9**
baz=273,SNR=8.3							
J18K	**Innoko River**	**36.70**	**39**	P	**P**	**23 21 49.3**	**+0.7**
baz=266,SNR=86							
GCSA	**Galena City Sc**	**36.73**	**37**	P	**P**	**23 21 48.6**	**-0.1**
baz=265,SNR=10							
P17K	**Kvichak River**	**36.78**	**46**	P	**P**	**23 21 50.3**	**+1.0**
baz=272							
D19K	**Kuna River**	**36.80**	**30**	IAmb	IAmb	23 21 51.9	
comp=Z,105nm,0.8s							
D19K	**Kuna River**	**36.80**	**30**	P	**P**	**23 21 48.7**	**-0.8**
baz=258,SNR=25							
GYA	**Guiyang**	**36.85**	**254**	⇓P	**P**	**23 21 50.0**	**-0.4**
GYA				pmax	pmax		
comp=Z,100nm,1.0s							
R17L	**Mt. Peulik Vol**	**36.92**	**49**	P	**P**	**23 21 50.4**	**-0.1**
baz=275							
PLK4	**Peulik 4**	**36.92**	**49**	IAmb	IAmb	23 21 53.2	
comp=Z,132nm,1.0s							
E19K	**Redstone River**	**36.94**	**32**	P	**P**	**23 21 50.4**	**-0.2**
baz=261,SNR=84							
H19K	**Roundabout Mou**	**36.99**	**35**	P	**P**	**23 21 51.3**	**+0.3**
baz=264,SNR=112							
N18K	**Kilae Creek**	**37.02**	**44**	P	**P**	**23 21 52.9**	**+1.6**
baz=271,SNR=64							
M18K	**Stony River**	**37.04**	**42**	P	**P**	**23 21 53.0**	**+1.5**
baz=270,SNR=39							

E21K	**Killik River**	38.30	31	P	**P**	23 22 01.9	-0.1
	baz=263						
F21K	**Alatna River**	38.35	33	IAmb	IAmb	23 22 03.8	
	comp=Z,75nm,0.7s						
F21K	**Alatna River**	38.35	33	P	**P**	23 22 01.9	-0.6
	baz=265,SNR=53						
A22K	**Sinclair Lake**	38.39	27	P	**P**	23 22 01.7	-0.9
	baz=258						
ILSW	**Iliamna Southw**	38.41	45	IAmb	IAmb	23 22 04.8	
	comp=Z,84nm,1.1s						
H21K	**Melozitna Rive**	38.51	35	IAmb	IAmb	23 22 06.0	
	comp=Z,105nm,0.9s						
H21K	**Melozitna Rive**	38.51	35	P	**P**	23 22 03.9	+0.1
	baz=267,SNR=65						
OHAK	**Old Harbor**	38.61	49	IAmb	IAmb	23 22 05.8	
	comp=Z,143nm,0.9s						
OHAK	**Old Harbor**	38.61	49	P	**P**	23 22 04.9	+0.2
OHAK	**Old Harbor**	38.61	49	P	**P**	23 22 04.5	-0.2
	baz=278,SNR=10						
O20K	**Slope Mountain**	38.66	44	P	**P**	23 22 05.6	+0.3
	baz=274						
CHUM	**Lake Minchumin**	38.67	38	P	**P**	23 22 06.4	+1.2
	baz=270,SNR=28						
PPLA	**Purkeypile**	38.74	40	P	**P**	23 22 06.4	+0.5
PPLA	**Purkeypile**	38.74	40	P	**P**	23 22 07.6	+1.8
	baz=271,SNR=48						
B22K	**Teshekpuk Lake**	38.78	28	IAmb	IAmb	23 22 06.5	
	comp=Z,273nm,1.6s						
B22K	**Teshekpuk Lake**	38.78	28	P	**P**	23 22 04.9	-1.0
	baz=261						
SPCR	**Spurr Chakacha**	38.79	43	P	**P**	23 22 07.8	+1.5
	baz=273,SNR=40						
D22K	**Ayikyak River**	38.83	30	IAmb	IAmb	23 22 07.2	
	comp=Z,77nm,0.7s						
D22K	**Ayikyak River**	38.83	30	P	**P**	23 22 05.9	-0.5
	baz=263,SNR=28						
I21K	**Tanana**	38.83	36	P	**P**	23 22 07.2	+0.8
I21K				IAmb	IAmb	23 22 09.1	
	comp=Z,146nm,1.1s						
I21K	**Tanana**	38.83	36	P	**P**	23 22 07.0	+0.5
	baz=269,SNR=21						
F22K	**John River**	38.88	32	P	**P**	23 22 06.9	0.0
	baz=266						
KDAK	**Kodiak Island**	38.92	48	P	**P**	23 22 07.3	0.0
KDAK	**Kodiak Island**	38.92	48	P	**P**	23 22 07.3	0.0
KDAK				pmax	pmax		
	comp=Z,278nm,1.0s						
KDAK	**Kodiak Island**	38.92	48	P	**P**	23 22 07.2	0.0
	baz=277						
KDAK	**Kodiak Island**	38.92	48	P	**P**	23 22 07.0	-0.2
STLK	**Strandline Lak**	38.96	42	P	**P**	23 22 08.2	+0.6
STLK				IAmb	IAmb	23 22 10.0	
	comp=Z,149nm,0.8s						
E22K	**Anaktuvuk Pass**	39.07	31	P	**P**	23 22 08.0	-0.5
	baz=265,SNR=121						
SKT	**Skwentna**	39.08	41	IAmb	IAmb	23 22 14.1	
	comp=Z,76nm,1.0s						
SKT	**Skwentna**	39.08	41	P	**P**	23 22 08.8	+0.2
	baz=273,SNR=24						
G22K	**Bettles**	39.10	33	P	**P**	23 22 08.2	-0.4
	baz=267						
H22K	**Ishtalitna Cre**	39.11	35	P	**P**	23 22 09.4	+0.6
	baz=268,SNR=73						
BPAW	**Bear Paw Mtn.**	39.26	38	P	**P**	23 22 10.8	+0.7
BPAW				IAmb	IAmb	23 22 12.0	
	comp=Z,113nm,0.8s						
BPAW	**Bear Paw Mtn.**	39.26	38	P	**P**	23 22 10.8	+0.7
	baz=271,SNR=31						
MLY	**Manley**	39.36	36	IAmb	IAmb	23 22 12.9	
	comp=Z,94nm,0.9s						
MLY	**Manley**	39.36	36	P	**P**	23 22 11.6	+0.7
	baz=270,SNR=31						
CNPM	**China Poot**	39.41	45	IAmb	IAmb	23 22 14.4	
	comp=Z,78nm,0.8s						
SUA	**Susitna One**	39.48	42	IAmb	IAmb	23 22 15.4	
	comp=Z,141nm,0.8s						
D23K	**Nanushuk River**	39.56	30	P	**P**	23 22 11.9	-0.6
	baz=265,SNR=17						
BRLK	**Bradley Lake**	39.56	45	IAmb	IAmb	23 22 15.1	
	comp=Z,92nm,0.8s						
TRF	**Thorofare Moun**	39.58	39	IAmb	IAmb	23 22 15.6	
	comp=Z,97nm,0.9s						
TRF	**Thorofare Moun**	39.58	39	P	**P**	23 22 13.5	+0.6
	baz=272						
COLD	**Coldfoot**	39.62	33	IAmb	IAmb	23 22 13.8	
	comp=Z,51nm,0.6s						
COLD	**Coldfoot**	39.62	33	P	**P**	23 22 12.8	-0.3
	baz=268,SNR=42						
BRSE	**Bradley Lake S**	39.64	45	P	**P**	23 22 13.3	0.0
	baz=276,SNR=10						
CUT	**Chulitna**	39.64	41	P	**P**	23 22 13.1	-0.1
	baz=274,SNR=16						
C23K	**Itkillik River**	39.66	29	IAmb	IAmb	23 22 14.5	
	comp=Z,171nm,1.1s						
C23K	**Itkillik River**	39.66	29	P	**P**	23 22 12.6	-0.7
	baz=264,SNR=40						
G23K	**Bananza Creek**	39.68	34	IAmb	IAmb	23 22 14.6	
	comp=Z,98nm,0.7s						
G23K	**Bananza Creek**	39.68	34	P	**P**	23 22 13.4	-0.1
	baz=269,SNR=53						
M22K	**Willow**	39.76	42	IAmb	IAmb	23 22 14.7	
	comp=Z,84nm,0.8s						
M22K	**Willow**	39.76	42	P	**P**	23 22 13.5	-0.7
	baz=274,SNR=6.2						
SLKM	**Skilak Lake**	39.82	44	IAmb	IAmb	23 22 15.7	
	comp=Z,102nm,1.1s						
GOMU	**GeErMu**	39.85	276	P	**P**	23 22 15.9	+0.2
GOMU				pmax	pmax		
	comp=Z,91nm,1.0s						
H23K	**Yukon River**	39.86	35	IAmb	IAmb	23 22 17.7	
	comp=Z,141nm,0.8s						
H23K	**Yukon River**	39.86	35	P	**P**	23 22 15.8	+0.7
	baz=270						
E23K	**Chandalar**	39.89	32	P	**P**	23 22 15.1	-0.2
	baz=267,SNR=120						
BWN	**Browne**	39.92	38	P	**P**	23 22 16.4	+0.9
TOLK	**Toolik Lake Re**	39.93	31	P	**P**	23 22 15.5	-0.2
TOLK				IAmb	IAmb	23 22 16.4	
	comp=Z,56nm,0.8s						
TOLK	**Toolik Lake Re**	39.93	31	P	**P**	23 22 14.9	-0.8
	baz=267,SNR=27						
I23K	**Minto, Yukon-K**	39.94	36	IAmb	IAmb	23 22 17.5	
	comp=Z,103nm,0.7s						
I23K	**Minto, Yukon-K**	39.94	36	P	**P**	23 22 16.4	+0.8
	baz=271,SNR=59						
RC01	**Rabbit Creek A**	40.00	43	P	**P**	23 22 16.5	+0.3
	baz=276,SNR=29						
NEA2	**Nenana**	40.08	37	P	**P**	23 22 17.6	+0.7
	baz=272,SNR=76						
MCK	**McKinley**	40.17	38	P	**P**	23 22 18.0	+0.4
	baz=273						
D24K	**Happy Valley**	40.23	30	P	**P**	23 22 17.3	-0.7
	baz=267						
PZH	**PanZhiHua**	40.24	259	P	**P**	23 22 18.8	0.0
PZH				pmax	pmax		
	comp=Z,150nm,0.6s						
PMR	**Palmer**	40.24	42	IAmb	IAmb	23 22 19.9	
	comp=Z,142nm,1.0s						
PMR	**Palmer**	40.24	42	P	**P**	23 22 18.5	+0.3
PMR	**Palmer**	40.24	42	P	**P**	23 22 18.4	+0.2
	baz=276,SNR=21						
SEW	**Seward**	40.24	44	IAmb	IAmb	23 22 19.3	
	comp=Z,113nm,0.9s						
SEW	**Seward**	40.24	44	P	**P**	23 22 18.0	-0.2
	baz=277,SNR=9.1						
ZAA0	**Zalesovo Array**	40.27	306	P	**P**	23 22 17.2	-1.3
ZALV	**Zalesovo Beam**	40.27	306	P	**P**	23 22 16.1	-2.4
ZALV	**Zalesovo Beam**	40.27	306	P	**P**	23 22 16.8	-1.7
	comp=Z,8.6nm,0.5s,baz=64,slow=6.8,SNR=34						
ZALV				PcP	**PcP**	23 24 20.6	+0.7
	comp=Z,17nm,0.6s,baz=79,slow=3.6,SNR=10						
ZALV				ScP	**ScP**	23 27 57.6	-0.6
	comp=Z,26nm,1.0s,baz=72,slow=4.8,SNR=17						
	comp=Z,8.6nm,0.5s						
ZALV	**Zalesovo Beam**	40.27	306	*i* P	**P**	23 22 16.7	-1.9
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.6s						
E24K	**Your Creek**	40.31	32	P	**P**	23 22 18.7	0.0
	baz=268						
C24K	**Franklin Bluff**	40.31	29	P	**P**	23 22 17.8	-0.9
C24K	**Franklin Bluff**	40.31	29	P	**P**	23 22 17.9	-0.9
	baz=266,SNR=44						
WAT1	**Susitna Watana**	40.41	40	P	**P**	23 22 19.5	-0.1
	baz=274						
KMI	**Kunming**	40.41	256	‖P	**P**	23 22 20.5	+0.2
KMI				pmax	pmax		
	comp=Z,250nm,0.9s						
KMI				pmax	pmax		
	comp=Z,1.0nm,2.6s						
KMI	**Kunming**	40.41	256	P	**P**	23 22 20.9	+0.5
WRH	**Wood River Hil**	40.51	37	IAmb	IAmb	23 22 22.1	
	comp=Z,249nm,1.4s						
F24K	**Squaw Lake**	40.53	33	IAmb	IAmb	23 22 21.5	
	comp=Z,87nm,0.7s						
F24K	**Squaw Lake**	40.53	33	P	**P**	23 22 20.3	-0.3
	baz=270,SNR=77						
H24K	**Noodor Dome**	40.54	35	IAmb	IAmb	23 22 23.4	
	comp=Z,109nm,1.0s						
KNK	**Knik Glacier**	40.58	42	P	**P**	23 22 21.4	+0.3
KNK	**Knik Glacier**	40.58	42	P	**P**	23 22 21.5	+0.4
	baz=276,SNR=70						
COLA	**College**	40.59	37	P	**P**	23 22 22.0	+1.0
COLA	**College**	40.59	37	P	**P**	23 22 21.9	+0.9
COLA	**College**	40.59	37	*i* P	**P**	23 22 21.3	+0.3
COLA				pmax	pmax		
	comp=Z,73nm,0.6s						
COLA	**College**	40.59	37	P	**P**	23 22 21.8	+0.9
	baz=273						
COLA	**College**	40.59	37	P	**P**	23 22 21.8	+0.8
SML	**Sawmill**	40.60	41	P	**P**	23 22 21.8	+0.6
SML	**Sawmill**	40.60	41	P	**P**	23 22 21.8	+0.6
SML				pmax	pmax		
	comp=Z,625nm,0.8s						
SML	**Sawmill**	40.60	41	P	**P**	23 22 21.8	+0.6
	baz=276,SNR=155						
CCB	**Clear Creek Bu**	40.62	37	IAmb	IAmb	23 22 22.8	
	comp=Z,125nm,1.2s						
G24K	**Hadweenzic Riv**	40.69	34	IAmb	IAmb	23 22 24.7	
	comp=Z,88nm,0.8s						
G24K	**Hadweenzic Riv**	40.69	34	P	**P**	23 22 22.3	+0.4
	baz=271,SNR=84						
PWL	**Port Wells**	40.70	43	IAmb	IAmb	23 22 23.2	
	comp=Z,209nm,1.2s						
PWL	**Port Wells**	40.70	43	P	**P**	23 22 22.0	-0.1
	baz=277,SNR=28						
POKR	**Poker Plat Res**	40.76	36	P	**P**	23 22 23.2	+0.8
	baz=273,SNR=128						
WAT6	**Susitna Watana**	40.80	40	P	**P**	23 22 22.9	-0.1
	baz=276,SNR=22						
M23K	**Glacier View**	40.89	41	P	**P**	23 22 23.9	+0.3
	baz=276,SNR=31						
DHY	**Denali Highway**	40.92	39	P	**P**	23 22 24.1	+0.1
	baz=275,SNR=60						
HDA	**Harding Lake**	41.01	37	IAmb	IAmb	23 22 25.9	
	comp=Z,136nm,0.7s						
HDA	**Harding Lake**	41.01	37	P	**P**	23 22 24.2	-0.2
	baz=274,SNR=73						
ILAR	**Eielson Array**	41.01	37	P	**P**	23 22 24.6	+0.1
ILAR	**Eielson Array**	41.01	37	P	**P**	23 22 24.2	-0.3
	comp=Z,142nm,0.8s,baz=260,slow=5.9,SNR=519						
ILAR				PcP	**PcP**	23 24 21.6	-0.5
	comp=Z,5.3nm,0.6s,baz=278,slow=3.6,SNR=2.9						
ILAR				ScP	**ScP**	23 27 59.2	-1.7
	comp=Z,3.9nm,0.8s,baz=268,slow=3.5,SNR=10						
	comp=Z,142nm,0.8s						
SCM	**Sheep Creek Mo**	41.07	41	P	**P**	23 22 25.7	+0.6
SCM	**Sheep Creek Mo**	41.07	41	P	**P**	23 22 25.7	+0.6
SCM				pmax	pmax		
	comp=Z,242nm,1.0s						
SCM	**Sheep Creek Mo**	41.07	41	P	**P**	23 22 25.7	+0.6
	baz=277,SNR=33						
D25K	**Kavik River**	41.11	30	IAmb	IAmb	23 22 25.8	
	comp=Z,97nm,0.7s						
D25K	**Kavik River**	41.11	30	P	**P**	23 22 24.4	-0.9
	baz=269						
G25K	**Bearman Lake**	41.23	34	P	**P**	23 22 26.8	+0.5
	baz=272,SNR=30						
P23K	**Montague Islan**	41.28	44	P	**P**	23 22 27.0	+0.3
	baz=279,SNR=6.6						
GLI	**Glacier Island**	41.30	43	IAmb	IAmb	23 22 28.1	
	comp=Z,139nm,0.8s						
GLI	**Glacier Island**	41.30	43	P	**P**	23 22 26.7	-0.2
	baz=278,SNR=14						
H25L	**Birch Creek**	41.37	34	P	**P**	23 22 28.0	+0.6
	baz=273,SNR=49						
F25K	**Christian Rive**	41.39	32	P	**P**	23 22 27.7	+0.1
	baz=272,SNR=55						
E25K	**Arctic Village**	41.41	32	IAmb	IAmb	23 22 28.8	
	comp=Z,70nm,0.7s						
E25K	**Arctic Village**	41.41	32	P	**P**	23 22 27.8	+0.1
	baz=271,SNR=47						
WMQ	**Urumqi**	41.53	291	*e*P	**P**	23 22 29.5	+0.4
WMQ				S	**S**	23 28 36.3	+0.3
WMQ				pmax	pmax		
	comp=Z,110nm,1.1s						
PRP	**Porcupine Dome**	41.53	36	P	**P**	23 22 29.4	+0.5
	baz=274,SNR=224						
K24K	**Donnelly Dome**	41.57	38	P	**P**	23 22 28.9	-0.2
	baz=276,SNR=120						
M24K	**Tolsona, Glenn**	41.58	41	P	**P**	23 22 30.3	+1.1
	baz=277,SNR=39						
FID	**Port Fidalgo**	41.62	43	P	**P**	23 22 29.8	+0.3
FID				IAmb	IAmb	23 22 30.9	
	comp=Z,269nm,1.4s						
C26K	**Camden Bay**	41.64	29	P	**P**	23 22 29.6	+0.1
	baz=270						
HIN	**Hinchinbrook I**	41.66	43	P	**P**	23 22 30.3	+0.4
HIN				IAmb	IAmb	23 22 31.6	
	comp=Z,139nm,1.0s						
J25K	**Salcha River,**	41.67	37	IAmb	IAmb	23 22 30.8	
	comp=Z,71nm,0.9s						
J25K	**Salcha River,**	41.67	37	P	**P**	23 22 28.8	-1.1
	baz=275,SNR=64						
KLU	**Kluting**	41.78	42	P	**P**	23 22 31.8	+0.9
	baz=278,SNR=84						
PAX	**Paxson**	41.80	39	P	**P**	23 22 30.8	-0.2
	baz=277,SNR=36						
BMAR	**Burnt Mountain**	41.80	33	P	**P**	23 22 31.3	+0.3
F26K	**Sheenjek River**	41.96	32	IAmb	IAmb	23 22 33.7	
	comp=Z,106nm,0.6s						
F26K	**Sheenjek River**	41.96	32	P	**P**	23 22 32.5	+0.3
	baz=273,SNR=108						
RIDG	**Independent Ri**	41.99	38	P	**P**	23 22 32.2	-0.3
	baz=277,SNR=18						
EYAK	**Cordova Ski Ar**	42.01	43	P	**P**	23 22 32.8	+0.2
EYAK				IAmb	IAmb	23 22 34.8	
	comp=Z,180nm,1.3s						
EYAK	**Cordova Ski Ar**	42.01	43	P	**P**	23 22 33.9	+1.3
EYAK	**Cordova Ski Ar**	42.01	43	P	**P**	23 22 33.5	+0.9
	baz=279,SNR=12						
HARP	**HAARP**	42.01	40	P	**P**	23 22 34.1	+1.4
	baz=278,SNR=54						
C27K	**Jago River**	42.05	29	IAmb	IAmb	23 22 33.9	
	comp=Z,142nm,1.0s						
C27K	**Jago River**	42.05	29	P	**P**	23 22 32.5	-0.5
	baz=271						
ZSN	**Zaisan**	42.07	297	*e*P	**P**	23 22 32.8	-0.6
ZSN	**Zaisan**	42.07	297	*e*P	**P**	23 22 32.8	-0.6
SLVN	**Son La**	42.13	251	P	**P**	23 22 34.3	+0.1
SLVN	**Son La**	42.13	251	P	**P**	23 22 34.9	+0.7
G26K	**Porcupine Rive**	42.14	33	P	**P**	23 22 34.4	+0.8
	baz=274,SNR=138						
SCRK	**Sand Creek**	42.34	38	P	**P**	23 22 35.4	-0.1
	baz=277,SNR=45						
DOT	**Dot Lake**	42.34	38	P	**P**	23 22 35.1	-0.3
DOT				IAmb	IAmb	23 22 36.1	
	comp=Z,97nm,0.7s						
N25K	**Chitina, Valde**	42.39	41	P	**P**	23 22 36.3	+0.5
N25K				IAmb	IAmb	23 22 38.1	
	comp=Z,154nm,1.5s						
N25K	**Chitina, Valde**	42.39	41	P	**P**	23 22 36.9	+1.0
	baz=279,SNR=17						
J26L	**Joseph Creek**	42.46	37	IAmb	IAmb	23 22 37.4	
	comp=Z,66nm,0.6s						
J26L	**Joseph Creek**	42.46	37	P	**P**	23 22 35.9	-0.4
	baz=277,SNR=88						
BMRM	**Bremner River**	42.49	42	P	**P**	23 22 37.1	+0.5
BMRM	**Bremner River**	42.49	42	P	**P**	23 22 37.7	+1.1
	baz=280,SNR=36						
I26K	**Coal Creek Min**	42.54	36	P	**P**	23 22 35.6	-1.3
I26K	**Coal Creek Min**	42.54	36	P	**P**	23 22 35.9	-1.0
	baz=276						
RAGM	**Ragged Mountai**	42.56	43	IAmb	IAmb	23 22 40.5	
	comp=Z,155nm,1.0s						
MENT	**Mentasta**	42.59	39	P	**P**	23 22 38.3	+0.9
MENT				IAmb	IAmb	23 22 44.5	
	comp=Z,97nm,0.9s						
L26K	**Log Cabin Wild**	42.75	39	P	**P**	23 22 39.5	+0.8
L26K				IAmb	IAmb	23 22 41.1	
	comp=Z,155nm,0.8s						
L26K	**Log Cabin Wild**	42.75	39	P	**P**	23 22 39.8	+1.1
	baz=279,SNR=90						
KAIM	**Kayak Island**	42.77	44	P	**P**	23 22 39.8	+1.0
KAIM	**Kayak Island**	42.77	44	P	**P**	23 22 40.3	+1.5
	baz=281						
HMT	**Hamilton**	42.77	43	P	**P**	23 22 39.6	+0.7
HMT				IAmb	IAmb	23 22 41.2	
	comp=Z,208nm,1.4s						
GLB	**Gilahina Butte**	42.79	41	P	**P**	23 22 39.7	+0.6
E27K	**Coleen River**	42.89	31	P	**P**	23 22 39.5	-0.2
	baz=275,SNR=18						
G27K	**Doyon Strip**	42.99	33	P	**P**	23 22 40.9	+0.3
G27K	**Doyon Strip**	42.99	33	P	**P**	23 22 41.3	+0.8
	baz=276,SNR=37						
VRDI	**Verde Repeater**	43.00	42	P	**P**	23 22 41.8	+0.9
VRDI				IAmb	IAmb	23 22 43.0	
	comp=Z,160nm,1.1s						
M26K	**Nabesna, AK**	43.01	40	P	**P**	23 22 42.4	+1.6
	baz=280						
BERG	**Berg Lake**	43.03	43	P	**P**	23 22 42.1	+1.1
D27M	**Malcolm River**	43.04	30	P	**P**	23 22 40.5	-0.5
	baz=274						
H27K	**Steamboat Moun**	43.10	34	IAmb	IAmb	23 22 45.5	
	comp=Z,104nm,0.9s						
H27K	**Steamboat Moun**	43.10	34	P	**P**	23 22 42.6	+1.1
	baz=277,SNR=84						
I27K	**Kandik River**	43.14	35	P	**P**	23 22 42.0	+0.1
	baz=277,SNR=34						
K27K	**Chicken**	43.16	38	P	**P**	23 22 42.9	+0.9
	baz=279						
MCARA	**McCarthy VSAT**	43.17	41	P	**P**	23 22 42.8	+0.7
MCARA				IAmb	IAmb	23 22 46.5	
	comp=Z,141nm,0.9s						
MCARA	**McCarthy VSAT**	43.17	41	P	**P**	23 22 43.3	+1.3
	baz=281,SNR=27						
CRQE	**Cirque**	43.26	42	P	**P**	23 22 44.1	+1.2
	baz=281,SNR=42						
TGL	**Tana Glacier**	43.38	42	P	**P**	23 22 45.2	+1.3
TNCH	**TengChong**	43.42	260	‖*i*P	**P**	23 22 45.4	+0.6
TNCH				S	**S**	23 29 01.8	-2.6
TNCH				pmax	pmax		
	comp=Z,250nm,0.9s						
L27K	**Beaver Creek,**	43.43	39	P	**P**	23 22 45.6	+1.5
	baz=280,SNR=205						
WAX	**Waxell Ridge**	43.43	43	P	**P**	23 22 44.8	+0.5
BCAR	**Beaver Creek A**	43.45	39	P	**P**	23 22 45.6	+1.3
EGAK	**Eagle**	43.45	36	P	**P**	23 22 44.2	0.0
	baz=279,SNR=163						
SNH	**Sunshine Point**	43.49	43	P	**P**	23 22 45.8	+1.1
M27K	**Edge Creek, AK**	43.53	40	P	**P**	23 22 46.5	+1.4
	baz=280,SNR=88						
F28M	**Old Crow**	43.59	32	IAmb	IAmb	23 22 47.2	
	comp=Z,69nm,0.8s						
F28M	**Old Crow**	43.59	32	P	**P**	23 22 45.9	+0.5
	baz=277,SNR=64						
E28M	**Babbage River**	43.61	31	P	**P**	23 22 45.1	-0.4
	baz=276						
ISLE	**Juniper Island**	43.65	42	IAmb	IAmb	23 22 50.5	
	comp=Z,118nm,0.8s						
D28M	**Stokes Point**	43.82	30	P	**P**	23 22 46.3	-0.9
	baz=276						
I28M	**Miner Creek**	43.86	35	P	**P**	23 22 48.5	+0.9
	baz=279,SNR=211						
BARN	**Barnard Glacie**	43.88	42	IAmb	IAmb	23 22 50.4	
	comp=Z,188nm,1.2s						
MESA	**MESA**	43.93	43	P	**P**	23 22 48.9	+0.5
MESA	**MESA**	43.93	43	P	**P**	23 22 49.5	+1.1
	baz=283,SNR=12						
MK31	**Makanchi Array**	43.95	297	*ce*P	**P**	23 22 47.6	-0.9
MKAR	**Makanchi Array**	43.95	297	P	**P**	23 22 48.5	0.0
	comp=Z,65nm,0.9s,baz=74,slow=8.3,SNR=176						
MKAR				PcP	**PP**	23 24 32.7	-0.2
	comp=Z,4.9nm,0.6s,baz=68,slow=3.7,SNR=1.6						
MKAR				ScP	**ScP**	23 28 12.9	-0.2
	comp=Z,3.1nm,0.6s,baz=72,slow=4.0,SNR=6.3						
	comp=Z,65nm,0.9s						
MKAR	**Makanchi Array**	43.95	297	*ce*P	**P**	23 22 48.5	0.0
MKAR				pmax	pmax		
	comp=Z,56nm,0.8s						
YAH	**Yahtse**	43.99	43	P	**P**	23 22 49.9	+1.0
CTG	**Chitna Glacier**	44.05	42	P	**P**	23 22 50.5	+1.2
	baz=282,SNR=32						
CTGM	**Chitina Glacie**	44.06	42	P	**P**	23 22 50.1	+0.8
MAKZ	**Makanchi**	44.14	297	P	**P**	23 22 49.9	-0.2
MAKZ				IAmb	IAmb	23 22 51.0	
	comp=Z,84nm,1.0s						
MAKZ	**Makanchi**	44.14	297	P	**P**	23 22 49.9	-0.2
MAKZ				pmax	pmax		
	comp=Z,84nm,1.0s						
MAKZ	**Makanchi**	44.14	297	P	**P**	23 22 50.0	-0.1
E29M	**Blow River**	44.23	31	IAmb	IAmb	23 22 52.1	
	comp=Z,71nm,0.7s						
E29M	**Blow River**	44.23	31	P	**P**	23 22 50.7	+0.2
	baz=278,SNR=44						
TABL	**Table Mountain**	44.26	43	P	**P**	23 22 51.3	+0.2
TABL				IAmb	IAmb	23 22 53.1	
	comp=Z,87nm,0.8s						
DAWY	**Dawson**	44.32	37	P	**P**	23 22 51.2	-0.1
DAWY	**Dawson**	44.32	37	P	**P**	23 22 51.7	+0.4
	baz=281,SNR=55						
H29M	**Whitestone**	44.37	34	IAmb	IAmb	23 22 54.0	
	comp=Z,90nm,0.6s						
H29M	**Whitestone**	44.37	34	P	**P**	23 22 52.5	+0.9
	baz=279,SNR=45						
G29M	**Pine Creek**	44.40	33	IAmb	IAmb	23 22 55.0	
	comp=Z,118nm,0.8s						
G29M	**Pine Creek**	44.40	33	P	**P**	23 22 52.9	+1.0
	baz=279,SNR=51						
I29M	**Ogilvie Camp,**	44.55	35	P	**P**	23 22 53.7	+0.7
	baz=280,SNR=206						
O28M	**Mount Upton**	44.65	42	IAmb	IAmb	23 22 56.2	
	comp=Z,73nm,0.9s						
O28M	**Mount Upton**	44.65	42	P	**P**	23 22 54.8	+0.6
	baz=283,SNR=14						
J29N	**Klondike Camp**	44.75	37	IAmb	IAmb	23 22 57.8	
	comp=Z,156nm,1.5s						
J29N	**Klondike Camp**	44.75	37	P	**P**	23 22 55.3	+0.6
	baz=281,SNR=9.5						
PCA	**Pinnacle**	44.77	43	P	**P**	23 22 55.4	+0.4
PCA				IAmb	IAmb	23 22 56.9	
	comp=Z,300nm,1.6s						
PINM	**Pinnacle

M30M	Minto, Yukon	45.79	39	IAmb	IAmb	23 23 05.8	
	comp=Z,138nm,1.1s						
M30M	Minto, Yukon	45.79	39	P	P	23 23 04.7	+1.8
	baz=284,SNR=40						
INK	Inuvik	45.85	31	IAmb	IAmb	23 23 03.8	
	comp=Z,81nm,0.6s						
INK	Inuvik	45.85	31	P	P	23 23 02.9	-0.3
INK				pmax	pmax		
	comp=Z,110nm,0.6s						
INK	Inuvik	45.85	31	P	P	23 23 02.9	-0.3
	baz=282,SNR=52						
G31M	Satah River	45.85	33	P	P	23 23 03.2	0.0
	baz=282,SNR=62						
LSA	Lhasa	45.88	271	P	P	23 23 05.0	+0.5
LSA				IAmb	IAmb	23 23 07.0	
	comp=Z,214nm,1.4s						
LSA	Lhasa	45.88	271	Pn	P	23 23 02.5	-2.0
LSA				smax	smax		
	comp=N,11nm,1.3s						
LSA				smax	smax		
	comp=E,18nm,1.6s						
LSA	Lhasa	45.88	271	*i* P	P	23 23 05.6	+1.0
	SNR=38						
LSA	Lhasa	45.88	271	P	P	23 23 05.0	+0.5
LSA				pmax	pmax		
	comp=Z,215nm,1.4s						
LSA	Lhasa	45.88	271	*e*P	P	23 23 05.0	+0.5
LSA	Lhasa	45.88	271	P	P	23 23 06.1	+1.5
N30M	Aishikik Lake	45.94	40	P	P	23 23 04.8	+0.7
N30M	Aishikik Lake	45.94	40	P	P	23 23 05.2	+1.1
	baz=285,SNR=6.7						
MAYO	Mayo, Yukon	45.94	37	P	P	23 23 05.7	+1.7
MAYO	Mayo, Yukon	45.94	37	P	P	23 23 05.2	+1.2
	baz=284						
F31M	Tsiigehtchic	45.95	32	IAmb	IAmb	23 23 04.8	
	comp=Z,86nm,0.8s						
F31M	Tsiigehtchic	45.95	32	P	P	23 23 03.6	-0.4
	baz=282,SNR=31						
H31M	Peel River	46.07	34	P	P	23 23 05.2	+0.1
H31M				IAmb	IAmb	23 23 07.5	
	comp=Z,118nm,0.8s						
H31M	Peel River	46.07	34	P	P	23 23 05.6	+0.6
	baz=283,SNR=58						
KOHI	KOHIMA	46.12	264	IAmb	IAmb	23 23 07.5	
	comp=Z,77nm,1.1s						
KOHI				*e*P	P	23 23 09.0	+3.0
DLV	Lat	46.12	237	P	P	23 23 06.8	+0.6
DLV	Lat	46.12	237	P	P	23 23 07.6	+1.4
P29M	Windy Craggy	46.12	43	P	P	23 23 07.3	+1.8
P29M	Windy Craggy	46.12	43	P	P	23 23 07.4	+1.8
	baz=286,SNR=25						
P30M	Million Dollar	46.36	42	P	P	23 23 09.2	+1.7
	baz=286						
MYLDM	Lahad Datu	46.38	221	P	P	23 23 08.8	+0.8
MYLDM	Lahad Datu	46.38	221	P	P	23 23 09.8	+1.8
TEZP	TEZPUR	46.51	266	IAmb	IAmb	23 23 09.8	
	comp=Z,90nm,0.7s						
TEZP				*e*P	P	23 23 12.0	+3.1
N31M	Braeburn, Yuko	46.53	40	P	P	23 23 10.3	+1.6
N31M				IAmb	IAmb	23 23 11.9	
	comp=Z,128nm,0.9s						
N31M	Braeburn, Yuko	46.53	40	P	P	23 23 10.8	+2.0
	baz=286,SNR=28						
O30N	Mendenhall	46.59	41	P	P	23 23 09.9	+0.7
O30N	Mendenhall	46.59	41	P	P	23 23 10.8	+1.6
	baz=286,SNR=13						
KKM	Kota Kinabalu	46.73	224	P	P	23 23 10.7	-0.1
IMP	Imphal	46.78	263	*e*P	P	23 23 11.1	0.0
IMP				IAmb	IAmb	23 23 11.6	
	comp=Z,81nm,0.7s						
PLBC	Pleasant Camp	46.84	43	P	P	23 23 12.8	+1.7
	baz=288,SNR=12						
TNTI	Ternate	46.87	207	P	P	23 23 12.0	+0.2
M31M	Drury Creek, Y	46.97	39	IAmb	IAmb	23 23 14.8	
	comp=Z,177nm,1.2s						
M31M	Drury Creek, Y	46.97	39	P	P	23 23 13.6	+1.5
	baz=286,SNR=46						
TDK	Taldyqorghan	47.15	296	*e*P	P	23 23 13.3	-0.5
	comp=Z,51nm,1.2s						
TDK	Taldyqorghan	47.15	296	*e*P	P	23 23 13.2	-0.5
TDK				pmax	pmax		
	comp=Z,51nm,1.2s						
WHY	Whitehorse	47.19	41	P	P	23 23 14.8	+0.9
WHY	Whitehorse	47.19	41	P	P	23 23 15.5	+1.6
	baz=288,SNR=16						
CHTO	Chiang Mai	47.23	253	P	P	23 23 15.6	+1.0
CHTO	Chiang Mai	47.23	253	P	P	23 23 15.3	+0.7
CHTO	Chiang Mai	47.23	253	P	P	23 23 15.6	+1.0
CHTO				pmax	pmax		
	comp=Z,189nm,0.8s						
CHTO	Chiang Mai	47.23	253	P	P	23 23 15.4	+0.8
SHLS	Shalkode	47.26	293	*e*P	P	23 23 12.1	-2.7
	comp=Z,29nm,0.7s						
SHLS	Shalkode	47.26	293	*e*P	P	23 23 12.0	-2.7
SHLS				pmax	pmax		
	comp=Z,29nm,0.7s						
SKAG	Skagway	47.34	43	P	P	23 23 15.8	+0.8
SKAG	Skagway	47.34	43	P	P	23 23 17.1	+2.1
SKAG	Skagway	47.34	43	P	P	23 23 16.7	+1.7
	baz=288						
S31K	Pelican	47.37	45	P	P	23 23 15.0	-0.2
S31K				IAmb	IAmb	23 23 25.9	
	comp=Z,124nm,1.4s						
S31K	Pelican	47.37	45	P	P	23 23 16.1	+0.9
	baz=289						
CM31	Chiang Mai Arr	47.48	253	P	P	23 23 17.0	+0.4
CM31				IAmb	IAmb	23 23 18.6	
	comp=Z,95nm,0.8s						
CM31	Chiang Mai Arr	47.48	253	P	P	23 23 17.8	+1.2
	SNR=48						
CMAR	Chiang Mai Arr	47.48	253	P	P	23 23 17.4	+0.8
CMAR	Chiang Mai Arr	47.48	253	P	P	23 23 16.9	+0.4
	comp=Z,58nm,0.8s,baz=48,slow=7.7,SNR=4.3						
CMAR				PcP	PcP	23 24 46.4	+1.4
	comp=Z,6.9nm,0.7s,baz=9.1,slow=1.6,SNR=6.8						
CMAR				ScP	ScP	23 28 28.4	+0.3
	comp=Z,2.4nm,0.8s,baz=20,slow=3.8,SNR=4.9						
	comp=Z,58nm,0.8s						
UZB	Uzynbulak	47.55	293	*e*P	P	23 23 16.5	-0.6
	comp=Z,37nm,1.0s						
UZB	Uzynbulak	47.55	293	*e*P	P	23 23 16.4	-0.6
UZB				pmax	pmax		
	comp=Z,37nm,1.0s						
A36M	Sachs Harbour	47.75	25	P	P	23 23 17.9	-0.1
A36M	Sachs Harbour	47.75	25	P	P	23 23 18.1	+0.1
	baz=285						
SHL	Shillong	47.80	266	P	P	23 23 19.1	-0.1
	SNR=66						
SHL	Shillong	47.80	266	*e*P	P	23 23 19.2	+0.1
SHL	Shillong	47.80	266	P	P	23 23 19.0	-0.1
BESE	Bessie Mountai	47.86	44	P	P	23 23 20.2	+1.1
BESE				IAmb	IAmb	23 23 21.9	
	comp=Z,178nm,1.5s						
N32M	Quiet Lake	47.88	40	P	P	23 23 20.1	+0.9
	baz=288						
SATY	Saty	48.00	294	*e*P	P	23 23 19.9	-0.5
	comp=Z,42nm,1.0s						
SATY	Saty	48.00	294	*e*P	P	23 23 19.9	-0.5
SATY				pmax	pmax		
	comp=Z,42nm,1.0s						
P32M	Atlin	48.08	42	P	P	23 23 22.2	+1.5
	baz=289,SNR=7.3						
R32K	Eaglecrest	48.13	44	P	P	23 23 22.5	+1.5
	baz=290						
SIT	Sitka	48.14	46	IAmb	IAmb	23 23 24.4	
	comp=Z,87nm,1.0s						
SIT	Sitka	48.14	46	P	P	23 23 23.5	+2.4
SIT	Sitka	48.14	46	P	P	23 23 23.4	+2.4
	baz=290						
JIS	Juneau Island	48.20	44	P	P	23 23 23.6	+2.1
MMPY	Sheldon Lake,	48.23	38	IAmb	IAmb	23 23 24.8	
	comp=Z,101nm,1.0s						
MMPY	Sheldon Lake,	48.23	38	P	P	23 23 23.3	+1.5
	baz=288,SNR=42						
P33M	Teslin, Yukon	48.30	41	IAmb	IAmb	23 23 25.3	
	comp=Z,133nm,1.1s						
P33M	Teslin, Yukon	48.30	41	P	P	23 23 24.1	+1.6
	baz=289,SNR=33						
CHKK	Chushkaly	48.56	295	*e*P	P	23 23 24.1	-0.5
CHKK	Chushkaly	48.56	295	*e*P	P	23 23 24.1	-0.5
BRZS	Berezniki	48.64	304	*e*P	P	23 23 24.6	-0.6
BRZS	Berezniki	48.64	304	*e*P	P	23 23 24.5	-0.6
BORK	Borovoye	48.79	309	*ce*P	P	23 23 25.8	-0.5
BORK				pmax	pmax		
	comp=Z,26nm,1.3s						
BORK	Borovoye	48.79	309	P	P	23 23 25.7	-0.5
MDOK	Medeo	48.84	294	*e*P	P	23 23 26.3	-0.6
MDOK	Medeo	48.84	294	*e*P	P	23 23 26.3	-0.6
C36M	Paulatuk	48.90	28	IAmb	IAmb	23 23 29.2	
	comp=Z,221nm,1.6s						
C36M	Paulatuk	48.90	28	P	P	23 23 25.7	-1.1
	baz=289						
AAA	Alma-Ata	48.90	294	*e*P	P	23 23 26.8	-0.6
	comp=Z,49nm,1.0s						
AAA	Alma-Ata	48.90	294	*e*P	P	23 23 26.7	-0.6
AAA				pmax	pmax		
	comp=Z,49nm,1.0s						
TNSS	Tian-Shan	48.96	294	*e*P	P	23 23 27.2	-0.9
TNSS	Tian-Shan	48.96	294	*e*P	P	23 23 27.2	-0.9
Q32M	Nakina River	49.00	43	P	P	23 23 28.6	+0.7
Q32M	Nakina River	49.00	43	P	P	23 23 29.6	+1.6
	baz=291,SNR=8.3						
TARG	Taragay, Kyrgy	49.00	292	P	P	23 23 28.3	-0.2
TARG				IAmb	IAmb	23 23 30.5	
	comp=Z,82nm,1.2s						
TARG	Taragay, Kyrgy	49.00	292	P	P	23 23 28.3	-0.2
TARG				pmax	pmax		
	comp=Z,82nm,1.2s						
MRSI	Marisa	49.11	214	P	P	23 23 28.9	-0.1
	comp=Z,120nm,1.0s						
R33M	Jennings River	49.47	42	P	P	23 23 31.9	+0.5
R33M	Jennings River	49.47	42	P	P	23 23 33.4	+2.0
	baz=291,SNR=15						
U33K	Whale Pass	49.62	46	P	P	23 23 34.3	+1.9
U33K	Whale Pass	49.62	46	P	P	23 23 34.1	+1.7
	baz=292,SNR=5.8						
ULHL	Ulahol	49.79	294	P	P	23 23 35.1	+0.9
	SNR=8.2						
CRAG	Craig	49.87	47	P	P	23 23 36.4	+2.2
	baz=293						
BOOM	Boomskoye usch	49.87	294	P	P	23 23 34.9	+0.1
BOOM	Boomskoye usch	49.87	294	P	P	23 23 34.9	+0.1
BOOM				pmax	pmax		
	comp=Z,170nm,1.1s						
TKM2	Tokmak 2	49.89	295	P	P	23 23 35.5	+0.5
	SNR=112						
WRAK	Wrangell Islan	49.90	46	P	P	23 23 36.4	+1.9
	baz=293						
TGTN	Hyland Airport	49.93	39	P	P	23 23 36.4	+1.6
	baz=292,SNR=31						
S34M	Telegraph Cree	49.94	44	P	P	23 23 35.6	+0.8
S34M				IAmb	IAmb	23 23 38.0	
	comp=Z,50nm,1.0s						
S34M	Telegraph Cree	49.94	44	P	P	23 23 36.9	+2.0
	baz=292,SNR=8.8						
SANI	Sanana	49.97	208	P	P	23 23 35.0	-0.6
LUWI	Luwuk	50.18	212	P	P	23 23 36.2	-0.9
LUWI				IAmb	IAmb	23 24 45.3	
	comp=Z,38nm,0.7s						
WTLY	Watson Lake, Y	50.22	40	P	P	23 23 35.9	-1.1
WTLY				IAmb	IAmb	23 23 39.5	
	comp=Z,204nm,1.8s						
WTLY	Watson Lake, Y	50.22	40	P	P	23 23 38.5	+1.5
	baz=292,SNR=7.6						
SGDS	Sogindy	50.27	296	*e*P	P	23 23 37.1	-0.5
	comp=Z,30nm,0.9s						
DLBC	Dease Lake	50.28	43	P	P	23 23 39.7	+2.2
	baz=293,SNR=14						
CHMS	Chumysh	50.40	295	P	P	23 23 39.0	+0.3
	SNR=8.0						
KBK	Karagaybulak	50.44	295	P	P	23 23 39.5	+0.4
	SNR=49						
USP	Ospenovka	50.44	296	P	P	23 23 39.0	+0.1
	SNR=103						
KIP	Kipapa	50.68	98	P	P	23 23 42.0	+1.0
KIP	Kipapa	50.68	98	P	P	23 23 42.7	+1.8
KIP	Kipapa	50.68	98	P	P	23 23 42.9	+2.0
KIP	Kipapa	50.68	98	*ce*P	P	23 23 41.7	+0.8
KIP				pmax	pmax		
	comp=Z,250nm,2.5s						
V35K	Ketchikan	50.71	47	P	P	23 23 42.1	+1.5
	baz=294						
T35M	Bob Quinn	50.74	45	P	P	23 23 43.2	+2.2
T35M				IAmb	IAmb	23 23 44.7	
	comp=Z,112nm,1.0s						
T35M	Bob Quinn	50.74	45	P	P	23 23 43.3	+2.4
	baz=294,SNR=14						
AAK	Ala-Archa	50.74	295	P	P	23 23 41.3	0.0
AAK				IAmb	IAmb	23 23 42.8	
	comp=Z,85nm,1.2s						
AAK	Ala-Archa	50.74	295	P	P	23 23 41.8	+0.4
AAK	Ala-Archa	50.74	295	P	P	23 23 41.7	+0.4
	SNR=20						
AAK	Ala-Archa	50.74	295	*i* P	P	23 23 41.3	0.0
	SNR=20						
AAK	Ala-Archa	50.74	295	*de*P	P	23 23 41.3	0.0
AAK				pmax	pmax		
	comp=Z,56nm,1.1s						
AAK	Ala-Archa	50.74	295	*e*P	P	23 23 41.3	0.0
AAK	Ala-Archa	50.74	295	P	P	23 23 41.8	+0.4
UCH	Uchtor	50.93	294	P	P	23 23 43.5	+0.4
	SNR=11						
DIB	Dawson Inlet,	51.13	50	P	P	23 23 45.1	+1.2
EKS2	Erkin-Say	51.20	295	P	P	23 23 45.0	+0.3
	SNR=56						
U35K	Hyder	51.29	46	P	P	23 23 47.0	+2.0
	baz=295						
KSH	Kashi	51.29	291	P	P	23 23 49.4	+3.9
KSH				pP	pwP	23 24 19.3	+3.9
KSH				S	S	23 31 02.8	+7.3
KSH				pmax	pmax		
	comp=Z,60nm,1.1s						
KSH				pmax	pmax		
	comp=Z,1μm,14.7s						
WRGLY	Wrigley	51.34	35	P	P	23 23 46.5	+1.2
WRGLY	Wrigley	51.34	35	P	P	23 23 46.8	+1.5
	baz=294,SNR=7.4						
MOBC	Moresby Island	51.44	50	P	P	23 23 47.1	+0.9
LIRD	Liard River Hi	51.75	41	P	P	23 23 50.0	+1.6
	baz=295,SNR=20						
SBUM	Sibu	51.82	226	P	P	23 23 49.6	+0.2
SBUM	Sibu	51.82	226	P	P	23 23 50.3	+0.9
RUBB	Prince Rupert	51.85	48	P	P	23 23 50.7	+1.6
HG4B	Hotspring	52.23	50	P	P	23 23 52.8	+0.8
KOTAN	Kotaneelee Air	52.38	39	P	P	23 23 54.6	+1.6
	baz=296						
TOAD	Toad River Com	52.40	41	P	P	23 23 54.9	+1.6
	baz=296,SNR=25						
DZA	Taraz	52.66	297	*e*P	P	23 23 55.0	-0.5
	comp=Z,70nm,1.8s						
DZA	Taraz	52.66	297	*e*P	P	23 23 54.9	-0.5
DZA				pmax	pmax		
	comp=Z,70nm,1.8s						
BKB	Balikpapan	52.80	219	P	P	23 23 56.7	+0.1
KK31	Karatay Array	53.07	297	IAmb	IAmb	23 23 59.5	
	comp=Z,71nm,1.0s						
KKAR	Karatay Array	53.07	297	P	P	23 23 58.4	-0.1
KKAR	Karatay Array	53.07	297	P	P	23 23 58.4	-0.1
ALCI	Alchi Leh	53.25	284	*e*P	P	23 24 01.1	+0.8
ALCI				IAmb	IAmb	23 24 02.0	
	comp=Z,73nm,0.8s						
POHA	Pohakuloa	53.52	98	P	P	23 24 03.7	+1.5
POHA	Pohakuloa	53.52	98	P	P	23 24 04.2	+1.9
JOSI	Joshimath	53.64	279	*e*P	P	23 24 03.5	+0.6
JOSI				IAmb	IAmb	23 24 04.4	
	comp=Z,42nm,0.9s						
KSM	Kuching	53.65	227	P	P	23 24 03.4	+0.5
KSM	Kuching	53.65	227	P	P	23 24 04.3	+1.4
ARTI	Arti	53.66	316	P	P	23 24 01.3	-1.2
ARTI				IAmb	IAmb	23 24 03.5	
	comp=Z,40nm,0.8s						
ARTI	Arti	53.66	316	*c i* P	P	23 24 01.4	-1.1
ARTI				*PP	pwP	23 24 31.4	-1.6
ARTI						23 25 06.6	
ARTI						23 26 01.0	
ARTI				S	S	23 31 25.6	-1.3
ARTI				SS	SKiKP	23 35 01.0	-3.2
ARTI				pmax	pmax		
	comp=Z,37nm,0.9s						
ARTI	Arti	53.66	316	P	P	23 24 01.0	-1.4
HMH	Humu'ula Sheep	53.66	98	P	P	23 24 04.7	+1.3
NOR	Nord	53.77	357	*i* P	P	23 23 60.0	-3.0
NOR				IAmb	IAmb	23 24 12.8	
	comp=Z,11nm,1.0s						
MLH	Mauna Loa	53.80	98	P	P	23 24 05.2	+1.0
AIN	Ainahou	53.83	98	P	P	23 24 05.2	+0.8
IUG	Iuzhnay	53.86	296	*e*P	P	23 24 03.8	-0.6
	comp=Z,25nm,1.0s						
IUG	Iuzhnay	53.86	296	*e*P	P	23 24 03.7	-0.6
IUG				pmax	pmax		
	comp=Z,25nm,1.0s						
RSD	Rainshed	53.90	98	P	P	23 24 05.0	+0.1
SPITS	Spitsbergen Ar	53.93	349	P	P	23 24 02.5	-1.6
	comp=Z,2.6nm,0.5s,baz=54,slow=8.4,SNR=16						
SPITS				pP	pP	23 24 31.2	+0.3
	comp=Z,2.5nm,0.5s,baz=53,slow=10,SNR=2.1						
KBS	Kingsbay	53.93	350	P	P	23 24 03.9	-0.3
KBS				IAmb	IAmb	23 24 12.1	
	comp=Z,114nm,1.8s						
KBS	Kingsbay	53.93	350	P	P	23 24 03.9	-0.3
KBS				pmax	pmax		
	comp=Z,114nm,1.8s						
BYL	Byron's Ledge	53.95	98	P	P	23 24 05.6	+0.4
BYL				IAmb	IAmb	23 24 06.8	
	comp=Z,90nm,0.9s						
BBB	Bella Bella	53.96	49	P	P	23 24 04.8	+0.1
PUH	Pauahi	54.00	98	P	P	23 24 06.4	+0.8
KLP	Kalpa	54.00	281	*e*P	P	23 24 06.3	+0.6
SPSI	Sidrap Palu	54.02	214	P	P	23 24 06.1	+0.6
KNHH	Kane Nui o Ham	54.03	98	P	P	23 24 06.2	+0.4
CHM	Chimkent	54.05	297	*e*P	P	23 24 05.0	-0.5
	comp=Z,34nm,1.0s						
CHM	Chimkent	54.05	297	*e*P	P	23 24 05.0	-0.5
CHM				pmax	pmax		
	comp=Z,34nm,1.0s						
STCH	Steam Cracks	54.06	98	P	P	23 24 06.7	+0.8
TSSA	Tissa	54.73	283	*e*P	P	23 24 11.5	+0.7
TSSA				IAmb	IAmb	23 24 11.9	
	comp=Z,85nm,1.2s						
SAVO	Savo Central	54.76	164	P	P	23 24 11.9	+1.1
KAPI	Kappang	54.98	214	P	P	23 24 12.9	+0.4
KAPI	Kappang	54.98	214	P	P	23 24 12.6	+0.2
	comp=Z,13nm,0.4s,baz=39,slow=6.5,SNR=11						
KAPI				pP	pP	23 24 39.7	-0.5
	comp=Z,26nm,0.7s,baz=112,slow=19,SNR=4.5						
	comp=Z,13nm,0.4s						
SMLA	Simla	54.99	281	*e*P	P	23 24 12.8	+0.4
YKA	Yellowknife Ar	55.29	34	P	P	23 24 14.8	+0.7
YKA	Yellowknife Ar	55.29	34	P	P	23 24 14.6	+0.4
	comp=Z,112nm,0.8s,baz=304,slow=7.9,SNR=214						
YKA				ScP	ScP	23 29 01.2	+0.1
	comp=Z,4.1nm,0.8s,baz=300,slow=5.5,SNR=6.4						
	comp=Z,112nm,0.8s						
YKA	Yellowknife Ar	55.29	34	*ce*P	P	23 24 14.6	+0.4
YKA				pmax	pmax		
	comp=Z,121nm,0.8s						
KULM	Kulim	56.10	240	P	P	23 24 21.6	+1.0
KULM				IAmb	IAmb	23 24 22.7	
	comp=Z,86nm,1.0s						
KULM	Kulim	56.10	240	P	P	23 24 21.5	+1.0
CHGR	Chuyangaron	56.26	293	P	P	23 24 21.5	-0.1
NIL	Nilore	56.28	286	P	P	23 24 21.9	+0.2
NIL	Nilore	56.28	286	P	P	23 24 21.9	+0.2
NIL				pmax	pmax		
	comp=Z,294nm,1.2s						
AB31	Akbulak array	56.33	308	P	P	23 24 20.9	-0.9
AB31				IAmb	IAmb	23 24 22.6	
	comp=Z,63nm,1.1s						
AB31	Akbulak array	56.33	308	*e*P	P	23 24 21.5	-0.2
AB31				pmax	pmax		
	comp=Z,14nm,0.4s						
ABKAR	Akbulak array	56.33	308	P	P	23 24 21.4	-0.3
SIMJ	Simiganj	56.36	293	P	P	23 24 22.3	0.0
PBA	Port Blair	56.49	252	P	P	23 24 23.6	+0.2
PBA	Port Blair	56.49	252	P	P	23 24 24.3	+1.0
IPM	Ipoh	56.51	239	P	P	23 24 22.6	-0.9
IPM				IAmb	IAmb	23 24 24.8	
	comp=Z,113nm,1.7s						
IPM	Ipoh	56.51	239	P	P	23 24 24.3	+0.8
CBB	Campbell River	56.54	51	P	P	23 24 23.9	+0.7
CBB				IAmb	IAmb	23 24 25.2	
	comp=Z,43nm,0.9s						
KIRV	Kirov	56.77	322	*ce*P	P	23 24 24.9	+0.2
MYKOM	Kota Tinggi	56.97	234	P	P	23 24 26.7	0.0
MYKOM				IAmb	IAmb	23 24 29.1	
	comp=Z,67nm,1.3s						
MYKOM	Kota Tinggi	56.97	234	P	P	23 24 28.0	+1.3
VADS	Vadso	57.00	339	*e*P	P	23 24 24.1	-2.1
OZB	Mount Ozzard	57.02	52	IAmb	IAmb	23 24 28.6	
	comp=Z,90nm,0.8s						
TULEG	Thule	57.07	9	P	P	23 24 28.1	+1.6
KUDL	Kundal	57.22	279	*e*P	P	23 24 28.9	+0.5
KUDL				IAmb	IAmb	23 24 29.2	
	comp=Z,93nm,1.1s						
BTDF	Bukit Timah Da	57.36	234	P	P	23 24 30.5	+1.1
MMRI	Maumere	57.40	209	P	P	23 24 29.3	-0.3
MMRI				IAmb	IAmb	23 24 32.6	
	comp=Z,138nm,1.4s						
MMRI	Maumere	57.40	209	P	P	23 24 30.0	+0.4
	comp=Z,5μmcomp=Z,67nm,1.6s						
APA	Apatity	57.51	335	⇓*i* P	P	23 24 24.8	-5.0
APA				*i* *PP	pP	23 24 55.6	-1.3
APA				*i*		23 25 16.3	
EDFI	Ende, Flores	57.69	210	P	P	23 24 30.9	-0.9
	comp=Z,54nm,0.9s						
NEEM	North Greenlan	57.76	5	*i* P	P	23 24 29.6	-2.2
NEEM				IAmb	IAmb	23 24 30.8	
	comp=Z,29nm,1.1s						
SOEI	Soe	57.77	206	P	P	23 24 31.7	-0.7
SOEI				IAmb	IAmb	23 25 12.7	
	comp=Z,54nm,1.0s						
CLRS	Cowichan Lake	57.86	51	IAmb	IAmb	23 24 34.5	
	comp=Z,72nm,0.9s						
HAMF	Hammerfest	58.04	341	*e*P	P	23 24 30.8	-2.7
LLLB	Lillooet	58.13	49	IAmb	IAmb	23 24 36.6	
	comp=Z,103nm,0.9s						
COEN	Coen	58.33	184	P	P	23 24 37.0	+0.9
	comp=Z,64nm,0.9s						
COEN	Coen	58.33	184	P	P	23 24 38.1	+2.0
COEN				IAmb	IAmb	23 24 44.8	
	comp=Z,45nm,0.9s						
COEN	Coen	58.33	184	P	P	23 24 38.6	+2.5
PGC	Sidney	58.33	51	IAmb	IAmb	23 24 37.6	
	comp=Z,54nm,0.7s						
ARA0	ARCESS Array S	58.38	339	*e*P	P	23 24 34.6	-1.3
ARCES	ARCESS Array B	58.38	339	P	P	23 24 34.7	-1.2
	comp=Z,2.0nm,0.4s,baz=42,slow=7.6,SNR=48						
ARCES				PcP	PcP	23 25 26.0	+0.6
	comp=Z,7.1nm,0.8s,baz=54,slow=6.2,SNR=5.7						
	comp=Z,2.0nm,0.4s						
DSRI	Dabo	58.40	232	P	P	23 24 37.9	+1.2
	comp=Z,46nm,1.3s						
LHMI	Lhok Sumawe	58.48	243	P	P	23 24 38.6	+1.3
LHMI				IAmb	IAmb	23 24 45.8	
	comp=Z,59nm,1.0s						
DAG	Danmarks Havn	58.59	356	*i* P	P	23 24 34.0	-3.2
DAG				IAmb	IAmb	23 24 36.4	
	comp=Z,8.4nm,1.2s						
TPI	Tanjungpandan	58.62	228	P	P	23 24 38.9	+0.7
	comp=Z,59nm,0.8s						
B04A

LON	**Longmire**	60.31	52	P		**P**	23 24 50.5 +0.9
LON				pmax		pmax	
comp=Z,47nm,1.3s							
G03D	**McMinnville, O**	60.35	54	P		**P**	23 24 51.6 +1.8
I02E	**Swisshome, OR**	60.64	56	P		**P**	23 24 53.3 +1.5
LTY	**Liberty**	60.66	51	IAmb		IAmb	23 24 53.8
comp=Z,77nm,1.1s							
COR	**Corvallis**	60.68	55	P		**P**	23 24 53.4 +1.4
COR	**Corvallis**	60.68	55	P		**P**	23 24 53.4 +1.4
COR				pmax		pmax	
comp=Z,244nm,1.2s							
B08A	**Colville Reser**	60.76	50	IAmb		IAmb	23 24 54.6
comp=Z,88nm,0.9s							
SMRI	**Semarang**	60.89	222	P		**P**	23 24 53.5 -0.2
SMRI	**Semarang**	60.89	222	P		**P**	23 24 54.6 +0.9
SMRI	**Semarang**	60.89	222	P		**P**	23 24 54.4 +0.7
comp=Z,87nm,1.0s							
ILON	**Igloolik, Nuna**	60.90	18	P		**P**	23 24 52.2 -0.9
H04D	**Lebanon**	61.05	55	P		**P**	23 24 55.4 +0.8
H04D				IAmb		IAmb	23 24 58.3
comp=Z,46nm,0.7s							
KEBM	**Edson Butte**	61.06	57	P		**P**	23 24 56.4 +1.7
DBG	**Daneborg**	61.09	356	*i* P		P	23 25 02.9 +8.5
DBG				IAmb		IAmb	23 25 05.7
comp=Z,19nm,1.3s							
BUCK	**Buck Mountain**	61.09	55	P		**P**	23 24 56.2 +1.3
BUCK				IAmb		IAmb	23 24 57.6
comp=Z,94nm,0.9s							
BELG	**Belogornoye**	61.10	316	*i* P		**P**	23 24 53.6 -1.1
BELG				pmax		pmax	
comp=Z,8.0nm,0.9s							
GSI	**Gunungsitoli**	61.11	240	P		**P**	23 24 55.1 -0.2
GSI				IAmb		IAmb	23 24 58.2
comp=Z,51nm,0.6s							
GSI	**Gunungsitoli**	61.11	240	P		**P**	23 24 56.9 +1.6
GSI	**Gunungsitoli**	61.11	240	P		**P**	23 24 55.7 +0.4
comp=Z,5µmcomp=Z,83nm,1.0s							
PDSI	**Padang**	61.12	236	P		**P**	23 24 54.5 -0.9
comp=Z,2µmcomp=Z,36nm,0.9s							
J01E	**Myrtle Point**	61.13	57	P		**P**	23 24 56.2 +1.1
J01E				IAmb		IAmb	23 24 57.9
comp=Z,54nm,0.9s							
I03D	**Drain, OR**	61.17	56	P		**P**	23 24 57.0 +1.7
G05A	**Wamic**	61.46	53	P		**P**	23 24 58.8 +1.5
KBO	**Bosley Butte**	61.51	58	P		**P**	23 24 58.7 +1.0
K02D	**Willamette Mer**	61.56	57	P		**P**	23 24 59.2 +1.1
K02D				IAmb		IAmb	23 25 00.7
comp=Z,81nm,1.0s							
C09A	**Chrisman Ranch**	61.67	50	IAmb		IAmb	23 25 00.6
comp=Z,95nm,0.8s							
LHSI	**Lahat**	61.74	231	P		**P**	23 25 00.5 +1.0
comp=Z,121nm,1.3s							
D08A	**Wollman Farm,**	61.75	51	IAmb		IAmb	23 25 01.1
comp=Z,66nm,0.8s							
HAWA	**Hanford**	61.80	52	IAmb		IAmb	23 25 01.9
comp=Z,101nm,1.0s							
G06A	**Carlson Farm,**	61.85	53	IAmb		IAmb	23 25 02.6
comp=Z,91nm,1.1s							
WIFE	**Three Sisters-**	61.86	55	IAmb		IAmb	23 25 02.8
comp=Z,84nm,0.8s							
KPJI	**Karang Pucung**	61.87	224	P		**P**	23 25 00.5 +0.2
KLI	**Kotabumi**	61.88	229	P		**P**	23 25 00.5 +0.1
MASI	**Maura Aman, Be**	61.90	233	P		**P**	23 25 00.4 -0.2
comp=Z,189nm,0.9s							
MDSI	**Maura Dua**	61.93	230	P		**P**	23 25 01.1 +0.4
comp=Z,43nm,1.4s							
KSXB	**Camp Six Broad**	61.94	58	P		**P**	23 25 02.1 +1.4
KSXB				IAmb		IAmb	23 25 03.5
comp=Z,100nm,1.2s							
L02F	**Cave Junction**	61.95	57	P		**P**	23 25 02.0 +1.3
L02F				IAmb		IAmb	23 25 03.2
comp=Z,50nm,0.9s							
NEW	**Newport**	62.02	49	IAmb		IAmb	23 25 03.1
comp=Z,122nm,1.0s							
NEW	**Newport**	62.02	49	P		**P**	23 25 01.8 +0.8
BBOR	**Butler Butte**	62.04	56	P		**P**	23 25 02.6 +1.1
BBOR				IAmb		IAmb	23 25 04.1
comp=Z,86nm,1.2s							
STEI	**Steigen**	62.06	341	*e*P		**P**	23 24 59.8 -1.2
LEM	**Lembang**	62.09	225	P		**P**	23 25 01.5 -0.5
comp=Z,67nm,0.9s,baz=62,slow=9.6,SNR=7.3							
comp=Z,67nm,0.9s							
KRMB	**Red Mountain**	62.10	58	IAmb		IAmb	23 25 04.5
comp=Z,118nm,1.5s							
KRPM	**Rodgers**	62.24	59	P		**P**	23 25 03.4 +0.7
KRPM				IAmb		IAmb	23 25 05.5
comp=Z,46nm,0.8s							
LOF	**Lofoten**	62.28	342	*e*P		**P**	23 25 01.2 -1.2
YPT	**Yellepit**	62.32	52	IAmb		IAmb	23 25 05.3
comp=Z,100nm,0.9s							
LWLI	**Liwa**	62.44	230	P		**P**	23 25 03.6 -0.7
JCC	**Jacoby Creek,**	62.44	59	P		**P**	23 25 05.2 +1.3
FAUS	**Fauske**	62.49	341	*e*P		**P**	23 25 02.5 -1.3
HYB	**Hyderabad**	62.51	268	*e*P		**P**	23 25 04.3 -0.4
HYB				IVmB_BB			23 25 04.8
comp=Z,953nm,0.6s							
HYB				*e*pP		**pP**	23 25 30.9 -1.7
HYB				*e*PP		**PP**	23 27 23.2 -0.2
HYB				*e*S		**S**	23 33 24.2 +1.1
SANVU	**Saraoutou**	62.57	158	P		**P**	23 25 05.6 +0.8
KHMM	**Horse Mountain**	62.59	59	P		**P**	23 25 07.1 +2.0
KHMM				IAmb		IAmb	23 25 08.1
comp=Z,115nm,0.9s							
KMPM	**Mount Pierce**	62.62	59	P		**P**	23 25 06.6 +1.4
YBH	**Yreka Blue Hor**	62.70	57	IAmb		IAmb	23 25 08.5
comp=Z,143nm,1.4s							
K04D	**Chiloquin, OR**	62.74	56	P		**P**	23 25 07.5 +1.5
K04D				IAmb		IAmb	23 25 08.5
comp=Z,87nm,0.6s							
G08A	**Pilot Rock**	62.77	52	IAmb		IAmb	23 25 08.5
comp=Z,69nm,1.2s							
LNOR	**Lincton Mounta**	62.80	51	IAmb		IAmb	23 25 08.3
comp=Z,45nm,0.7s							
M02C	**Callahan**	62.82	58	IAmb		IAmb	23 25 09.5
comp=Z,84nm,1.1s							
KMRM	**Mail Ridge**	62.99	59	P		**P**	23 25 09.0 +1.3
KMRM				IAmb		IAmb	23 25 10.6
comp=Z,79nm,0.8s							
SUMG	**Summit**	63.10	2	*i* P		**P**	23 25 07.0 -1.3
SUMG				IAmb		IAmb	23 25 11.4
comp=Z,12nm,0.6s							
N02D	**Trinity Center**	63.16	58	IAmb		IAmb	23 25 11.5
comp=Z,87nm,0.8s							
I07A	**Izee**	63.19	54	P		**P**	23 25 09.9 +0.9
K05A	**Summer Lake**	63.19	56	P		**P**	23 25 10.6 +1.5
HRA	**Herat**	63.27	293	IAmb		IAmb	23 25 11.5
comp=Z,98nm,1.3s							
M03C	**McCloud**	63.33	57	P		**P**	23 25 11.0 +1.1
M03C				IAmb		IAmb	23 25 12.4
comp=Z,130nm,1.0s							
F10A	**Beach Ranch, E**	63.33	51	IAmb		IAmb	23 25 12.1
comp=Z,242nm,1.8s							
KCPM	**Cahto Peak**	63.39	60	P		**P**	23 25 11.6 +1.2
KCPM				IAmb		IAmb	23 25 12.9
comp=Z,118nm,0.8s							
RAUS	**Rausandaksla**	63.55	341	*e*P		**P**	23 25 08.9 -1.9
O02D	**Mt. Diablo Mer**	63.58	59	P		**P**	23 25 12.7 +1.1
O02D				IAmb		IAmb	23 25 14.4
comp=Z,101nm,1.0s							
MOS	**Moscow**	63.62	323	*e*P		**P**	23 25 09.4 -2.0
MOS				*e*S		**S**	23 33 30.4 -5.4
MOS				pmax		pmax	
comp=Z,25nm,0.8s							
MOS				smax		smax	
comp=N,300nm,2.8s							
STOK	**Stokkvaagen**	63.87	341	*e*P		**P**	23 25 12.3 -0.5
FIA1	**FINESS Array S**	64.01	333	IAmb		IAmb	23 25 14.7
comp=Z,66nm,0.7s							
FINES	**FINESS Array B**	64.01	333	P		**P**	23 25 12.3 -1.6
FINES	**FINESS Array B**	64.01	333	P		**P**	23 25 12.5 -1.4
comp=Z,19nm,0.6s,baz=41,slow=6.8,SNR=129							
comp=Z,19nm,0.6s							
LEIR	**Leirfjorden**	64.03	341	*e*P		**P**	23 25 12.4 -1.5
HOPS	**Hopland Field**	64.12	60	IAmb		IAmb	23 25 17.2
comp=Z,75nm,1.1s							
SAATT	**Saattut**	64.17	7	*i* P		**P**	23 25 12.9 -1.8
SAATT				IAmb		IAmb	23 25 14.4
comp=Z,46nm,0.7s							
J08A	**Circle Bar Ran**	64.22	54	IAmb		IAmb	23 25 18.3
comp=Z,110nm,1.0s							
GDXM	**Geysers**	64.41	60	P		**P**	23 25 18.2 +1.2
GDXM				IAmb		IAmb	23 25 19.7
comp=Z,88nm,1.0s							
OBN	**Obninsk**	64.48	323	P		**P**	23 25 16.6 -0.5
OBN	**Obninsk**	64.48	323	*ce*P		**P**	23 25 16.3 -0.8
OBN				*e**PP		**PcP**	23 25 49.9 -0.4
OBN				*e*SSS		SSS	23 40 58.5
OBN				pmax		pmax	
comp=Z,18nm,1.0s							
OBN	**Obninsk**	64.48	323	*e*P		**P**	23 25 16.6 -0.5
OBN	**Obninsk**	64.48	323	P		**P**	23 25 15.8 -1.3
comp=Z,22nm,0.6s							
WVOR	**Wild Horse Val**	64.69	55	IAmb		IAmb	23 25 21.2
comp=Z,104nm,1.1s							
WVOR	**Wild Horse Val**	64.69	55	P		**P**	23 25 19.9 +1.0
VRH	**Novokhopyorsk**	64.72	318	*e*P		**P**	23 25 17.4 -1.3
VRH				pmax		pmax	
comp=Z,45nm,1.5s							
ORV	**Oroville**	64.75	59	IAmb		IAmb	23 25 20.6
comp=Z,62nm,0.8s							
MCCM	**Marconi Confer**	64.76	61	IAmb		IAmb	23 25 20.9
comp=Z,85nm,0.9s							
SUTB	**Sutter Butte**	64.77	59	IAmb		IAmb	23 25 20.8
comp=Z,203nm,1.4s							
XMAS	**Kiritimati**	64.78	114	P		**P**	23 25 19.6 +0.1
XMAS				IAmb		IAmb	23 25 25.7
comp=Z,74nm,1.0s							
CVS	**Carmenet Viney**	64.90	60	P		**P**	23 25 20.5 +0.4
CVS				IAmb		IAmb	23 25 22.6
comp=Z,113nm,1.1s							
FARB	**Farallon Islan**	64.96	61	P		**P**	23 25 20.9 +0.4
LPSR	**Galich'ya Gora**	65.11	320	*e*P		**P**	23 25 20.7 -0.5
LPSR				pmax		pmax	
comp=Z,42nm,1.4s							
QIS	**Mount Isa**	65.13	187	P		**P**	23 25 23.1 +1.5
comp=Z,39nm,0.9s							
QIS	**Mount Isa**	65.13	187	P		**P**	23 25 22.8 +1.2
RUSS	**Russell Ranch**	65.14	60	P		**P**	23 25 23.4 +1.8
WRA	**Warramunga Arr**	65.19	193	P		**P**	23 25 22.0 0.0
comp=Z,5.2nm,0.4s,baz=7.9,slow=6.5,SNR=4.8							
WRA				PKPPKP		**P'P'df**	23 54 03.8 +2.6
comp=Z,2.6nm,0.9s,baz=189,slow=2.6,SNR=15							
comp=Z,5.2nm,0.4s							
FFC	**Flin Flon**	65.22	37	P		**P**	23 25 22.0 +0.1
FFC				IAmb		IAmb	23 25 23.4
comp=Z,90nm,0.9s							
FFC	**Flin Flon**	65.22	37	P		**P**	23 25 22.0 +0.1
FFC				pmax		pmax	
comp=Z,90nm,0.9s							
FFC	**Flin Flon**	65.22	37	P		**P**	23 25 22.3 +0.4
BEKR	**Beckworth**	65.25	58	IAmb		IAmb	23 25 24.5
comp=Z,135nm,0.9s							
LYMT	**Lyon Mountain**	65.39	48	P		**P**	23 25 24.3 +0.9
FCC	**Fort Churchill**	65.46	30	P		**P**	23 25 23.3 0.0
FCC				IAmb		IAmb	23 25 24.6
comp=Z,150nm,1.2s							
FCC	**Fort Churchill**	65.46	30	P		**P**	23 25 23.3 0.0
FCC				pmax		pmax	
comp=Z,151nm,1.2s							
VORR	**Voronezh**	65.60	319	*e*P		**P**	23 25 23.3 -1.1
VORR				pmax		pmax	
comp=Z,34nm,1.4s							
NSS	**Namsos**	65.61	340	*e*P		**P**	23 25 22.4 -1.8
JRSC	**Jasper Ridge**	65.62	61	P		**P**	23 25 25.1 +0.4
JRSC				IAmb		IAmb	23 25 26.5
comp=Z,123nm,0.9s							
MFID	**Camas Ranch**	65.70	52	IAmb		IAmb	23 25 27.4
comp=Z,53nm,0.8s							
HRY	**Holter Researc**	65.80	48	P		**P**	23 25 26.7 +0.8
WELL	**Weller Preserv**	65.91	59	IAmb		IAmb	23 25 28.9
comp=Z,62nm,0.9s							
VSR	**Storozhevoye**	65.92	319	*e*P		**P**	23 25 23.6 -2.8
VSR				pmax		pmax	
comp=Z,20nm,1.0s							
PAHR	**Pah Rah Range**	65.94	57	IAmb		IAmb	23 25 29.1
comp=Z,148nm,1.1s							
MHC	**Mount Hamilton**	66.03	61	IAmb		IAmb	23 25 29.6
comp=Z,139nm,1.6s							
VORD	**Divnogorie**	66.03	319	*e*P		**P**	23 25 25.4 -1.7
VORD				pmax		pmax	
comp=Z,30nm,1.0s							
CMB	**Columbia Colle**	66.37	59	IAmb		IAmb	23 25 31.7
comp=Z,96nm,0.8s							
HLID	**Hailey**	66.40	52	IAmb		IAmb	23 25 32.3
comp=Z,71nm,1.1s							
WAKR	**Walker**	66.66	58	IAmb		IAmb	23 25 34.1
comp=Z,123nm,1.0s							
RYN	**Ryan**	67.14	58	IAmb		IAmb	23 25 36.9
comp=Z,113nm,0.9s							
PMPB	**Monarch Peak**	67.26	61	IAmb		IAmb	23 25 44.9
comp=Z,88nm,1.3s							
YHL	**Hebgen Lake**	67.35	49	IAmb		IAmb	23 25 38.4
comp=Z,106nm,0.9s							
NVAR	**Mina Array Bea**	67.39	58	P		**P**	23 25 37.0 +0.6
NVAR	**Mina Array Bea**	67.39	58	P		**P**	23 25 37.5 +1.1
comp=Z,93nm,0.8s,baz=287,slow=6.5,SNR=449							
NVAR				pP		**pP**	23 26 04.8 -0.4
comp=Z,19nm,0.7s,baz=288,slow=7.6,SNR=4.0							
comp=Z,93nm,0.8s							
MDPB	**Devils Postpil**	67.43	59	IAmb		IAmb	23 25 38.8
comp=Z,69nm,0.9s							
NV11	**Mina Array Sit**	67.48	58	IAmb		IAmb	23 25 39.1
comp=Z,89nm,0.9s							
YMR	**Madison River**	67.58	49	IAmb		IAmb	23 25 39.9
comp=Z,99nm,0.8s							
PKD	**Bear Valley Ra**	67.59	61	IAmb		IAmb	23 25 39.3
comp=Z,65nm,0.8s							
YNM	**Yellowstone No**	67.69	49	IAmb		IAmb	23 25 41.7
comp=Z,120nm,1.3s							
YNR	**Norris Junctio**	67.71	49	IAmb		IAmb	23 25 41.2
comp=Z,76nm,1.0s							
ELK	**Elko**	67.73	54	P		**P**	23 25 39.6 +1.2
comp=Z,20nm,0.6s,baz=308,slow=5.9,SNR=114							
comp=Z,20nm,0.6s							
YFT	**Old Faithful**	67.80	49	P		**P**	23 25 40.4 +1.6
YFT				IAmb		IAmb	23 25 42.8
comp=Z,92nm,0.8s							
Q09A	**Carvers**	67.81	57	P		**P**	23 25 39.9 +1.0
Q09A				IAmb		IAmb	23 25 41.1
comp=Z,110nm,0.8s							
AKT	**Akhty**	67.83	307	*e*P		**P**	23 25 39.2 +0.3
AKT				*e*			23 26 05.5
AKT				*e**SP		**sP**	23 26 19.5 +0.3
AKT				*e*			23 28 13.0
AKT				*e*S		**S**	23 34 26.1 -1.6
AKT				*e*			23 35 01.9
AKT				*e*SS		**SS**	23 38 45.2 -5.4
AKT				pmax		pmax	
comp=Z,49nm,0.8s							
YNE	**Yellowstone No**	67.87	48	IAmb		IAmb	23 25 41.4
comp=Z,71nm,0.7s							
PALK	**Pallekele**	67.92	258	P		**P**	23 25 39.2 -0.5
PALK	**Pallekele**	67.92	258	P		**P**	23 25 40.0 +0.3
PALK	**Pallekele**	67.92	258	P		**P**	23 25 39.2 -0.5
PALK				pmax		pmax	
comp=Z,44nm,1.0s							
PALK	**Pallekele**	67.92	258	P		**P**	23 25 39.6 -0.1
YPP	**Pitchstone Pla**	67.93	49	IAmb		IAmb	23 25 43.0
comp=Z,145nm,1.7s							
YMP	**Mirror Lake Pl**	67.97	48	P		**P**	23 25 41.3 +1.4
YMP				IAmb		IAmb	23 25 42.6
comp=Z,78nm,1.0s							
GOF	**Gofitskoye**	68.08	312	*d i* P		**P**	23 25 40.5 +0.3
GOF				*e*S		**S**	23 34 29.9 -0.4
RLMT	**Red Lodge**	68.19	48	IAmb		IAmb	23 25 43.7
comp=Z,213nm,1.6s							
FXWY	**Fox Creek**	68.23	50	IAmb		IAmb	23 25 44.3
comp=Z,115nm,1.1s							
MSVF	**Nonsavu**	68.26	148	P		**P**	23 25 38.3 -3.4
MSVF	**Nonsavu**	68.26	148	P		**P**	23 25 38.3 -3.4
MSVF				pmax		pmax	
comp=Z,48nm,0.9s							
MSVF	**Nonsavu**	68.26	148	P		**P**	23 25 38.5 -3.1
DSP	**Deep Springs**	68.28	59	IAmb		IAmb	23 25 44.2
comp=Z,156nm,1.0s							
TPH	**Tonopah**	68.28	58	IAmb		IAmb	23 25 44.0
comp=Z,133nm,1.0s							
SEKA	**Sheki**	68.31	307	P		**P**	23 25 42.5 +0.7
MOL	**Molde**	68.33	341	*e*P		**P**	23 25 40.3 -1.2
TPAW	**Teton Pass**	68.36	50	P		**P**	23 25 43.2 +0.8
TPAW				IAmb		IAmb	23 25 45.4
comp=Z,156nm,0.9s							
DOMB	**Dombas**	68.42	340	*e*P		**P**	23 25 41.7 -0.4
LOHW	**Long Hollow**	68.47	50	P		**P**	23 25 44.0 +1.1
LOHW				IAmb		IAmb	23 25 45.8
comp=Z,274nm,1.7s							
MNK	**Minsk**	68.48	327	*i* P		**P**	23 25 39.3 -3.2
MNK				*i* *PP		**pP**	23 26 11.1 +0.3
MNK				*i*			23 28 11.9
MNK				*i* PPP		PPP	23 29 52.6
MNK				*i* S		**S**	23 34 31.2 -3.5
MNK				*i* *SS		**SKiKP**	23 35 26.6 +2.9
MNK				*i* SS		**SS**	23 38 58.5 -1.2
MNK				pmax		pmax	
comp=E,22nm,0.9s							
MNK				pmax		pmax	
comp=Z,27nm,0.8s							
MNK				pmax		pmax	
comp=N,8.0nm,0.8s							
MNK				MLR		MLR	
comp=E,249nm,18.0s							
MNK				MLR		MLR	
comp=N,434nm,19.0s							
MNK				MLR		MLR	
comp=Z,483nm,17.0s							
SNOW	**Snow King Moun**	68.49	50	P		**P**	23 25 44.6 +1.4
SNOW				IAmb		IAmb	23 25 46.0
comp=Z,80nm,0.8s							
VES	**Vestal, Richgr**	68.57	61	P		**P**	23 25 43.7 +0.3
MNGR	**Mingechevir, A**	68.66	307	P		**P**	23 25 45.0 +1.1
NB201	**NORSAR Array S**	68.71	339	IAmb		IAmb	23 25 54.5
comp=Z,47nm,0.7s							
LAO	**LASA Array**	68.71	45	IAmb		IAmb	23 25 46.4
comp=Z,129nm,0.9s							
NB2	**NORSAR Subarra**	68.73	339	P		**P**	23 25 42.8 -1.3
comp=Z,24nm,0.7s,baz=32,slow=6.5							
NB2	**NORSAR Subarra**	68.73	339	P		**P**	23 25 44.4 +0.3
NB2	**NORSAR Subarra**	68.73	339	P		**P**	23 25 42.8 -1.3
baz=32,slow=6.5							
NOA	**NORSAR Array B**	68.73	339	P		**P**	23 25 43.1 -1.0
comp=Z,6.8nm,0.5s,baz=32,slow=6.6,SNR=90							
comp=Z,6.8nm,0.5s							
AKN	**Aaknes**	68.80	341	*e*P		**P**	23 25 42.8 -1.6
CWC	**Cottonwood Cre**	68.81	59	IAmb		IAmb	23 25 47.0
comp=Z,229nm,1.9s							
NCK	**Nalchik**	68.82	311	*i* P		**P**	23 25 45.0 +0.1
NCK				pmax		pmax	
comp=Z,33nm,1.2s							
HFS	**Hagfors**	68.82	337	P		**P**	23 25 43.3 -1.3
comp=Z,15nm,0.5s,baz=46,slow=6.4,SNR=105							
comp=Z,15nm,0.5s							
DY2G	**Dye2**	68.84	6	*i* P		**P**	23 25 42.8 -2.1
DY2G				IAmb		IAmb	23 25 46.7
comp=Z,8.5nm,0.6s							
NC602	**NORSAR Array S**	68.91	338	*e*P		**P**	23 25 44.1 -1.0
NORES	**NORESS Array B**	68.91	338	P		**P**	23 25 43.7 -1.4
ASAR	**Alice Springs**	68.91	193	P		**P**	23 25 48.4 +2.9
ASAR	**Alice Springs**	68.91	193	P		**P**	23 25 47.5 +2.0
comp=Z,5.6nm,0.9s,baz=11,slow=6.2,SNR=8.5							
ASAR				pP		**pP**	23 26 13.7 -0.7
comp=Z,9.9nm,0.7s,baz=360,slow=5.8,SNR=7.1							
ASAR				PKPPKP			23 53 55.0
comp=Z,2.1nm,1.0s,baz=160,slow=2.9,SNR=9.3							
comp=Z,5.6nm,0.9s							
ERBR	**Yeremizino-Bor**	68.97	314	*e*P		**P**	23 25 45.1 -0.7
ERBR				*e*S		**S**	23 34 37.7 -3.2
ERBR				pmax		pmax	
comp=Z,112nm,1.3s							
KIV	**Kislovodsk**	69.00	311	P		**P**	23 25 46.8 +0.7
KIV	**Kislovodsk**	69.00	311	P		**P**	23 25 46.5 +0.3
KIV	**Kislovodsk**	69.00	311	*i* P		**P**	23 25 46.4 +0.3
SNR=57							
KIV	**Kislovodsk**	69.00	311	*e*P		**P**	23 25 46.3 +0.2
KIV				*e*S		**S**	23 34 40.8 -0.7
KIV				pmax		pmax	
comp=Z,75nm,1.1s							
KIV	**Kislovodsk**	69.00	311	*e*P		**P**	23 25 46.4 +0.3
KIV	**Kislovodsk**	69.00	311	P		**P**	23 25 45.9 -0.2
comp=Z,1µmcomp=Z,81nm,0.6s							
KIV	**Kislovodsk**	69.00	311	P		**P**	23 25 46.8 +0.7
LKRN	**Lenkeran, Azer**	69.02	304	P		**P**	23 25 47.1 +1.0
GUDG	**Gudauri**	69.02	309	P		**P**	23 25 47.2 +0.8
KBZ	**Khabaz**	69.04	311	P		**P**	23 25 46.8 +0.7
comp=Z,46nm,0.9s,baz=73,slow=3.7,SNR=67							
comp=Z,46nm,0.9s							
KBZ	**Khabaz**	69.04	311	*ce*P		**P**	23 25 46.7 +0.5
KBZ				pmax		pmax	
comp=Z,38nm,0.9s							
KBZ	**Khabaz**	69.04	311	*e*P		**P**	23 25 46.7 +0.5
R11B	**Troy Canyon, C**	69.08	57	IAmb		IAmb	23 25 48.9
comp=Z,93nm,1.2s							
SHA1	**Shidzhatmaz**	69.16	311	*d i* P		**P**	23 25 47.4 +0.1
GANJ	**Ganja**	69.18	307	P		**P**	23 25 48.1 +0.9
PABE	**Paberze**	69.21	329	P		**P**	23 25 46.8 -0.2
HWUT	**Hardware Ranch**	69.27	52	IAmb		IAmb	23 25 50.3
comp=Z,227nm,1.5s							
MPMC	**Manual Prospec**	69.42	59	IAmb		IAmb	23 25 50.9
comp=Z,97nm,1.0s							
S11A	**Rachel**	69.44	57	IAmb		IAmb	23 25 51.3
comp=Z,232nm,1.2s							
WCT	**Wildcat Mounta**	69.47	58	IAmb		IAmb	23 25 51.1
comp=Z,118nm,1.3s							
DUG	**Dugway, Tooele**	69.50	54	IAmb		IAmb	23 25 51.6
comp=Z,92nm,0.8s							
CLC	**China Lake**	69.51	60	IAmb		IAmb	23 25 51.2
comp=Z,114nm,0.8s							
LABN	**Labinsk**	69.58	313	*e*P		**P**	23 25 48.7 -0.8
LABN				*e**PP		**pP**	23 26 18.5 +0.9
LABN				*e*S		**S**	23 34 43.2 -4.8
LABN				*e*SS		**SS**	23 39 16.9 -0.2
LABN				pmax		pmax	
comp=Z,82nm,1.4s							
OSI	**Osito Audit: C**	69.58	61	IAmb		IAmb	23 25 51.9
comp=Z,127nm,0.8s							
TPNV	**Topopah Spring**	69.59	58	IAmb		IAmb	23 25 52.1
comp=Z,104nm,0.9s							
BW06	**Boulder Array**	69.61	50	IAmb		IAmb	23 25 51.8
comp=Z,85nm,0.8s							
PD31	**

ASK Askoy 70.71 341 *e*P **P 23 25 55.4 -0.7**
AK03 Malin Array Si 70.73 323 P **P 23 25 55.3 -1.1**
AK23 Malin Array Si 70.75 323 P **P 23 25 55.4 -1.1**
AKASG Malin Array Be 70.75 323 P **P 23 25 56.1 -0.3**
AKASG Malin Array Be 70.75 323 P **P 23 25 56.2 -0.3**
comp=Z,19nm,0.7s,baz=41,slow=6.5,SNR=88
AKASG pP **pP 23 26 25.9 +1.2**
comp=Z,10nm,0.8s,baz=40,slow=6.3,SNR=2.1
comp=Z,19nm,0.7s
AKASG Malin Array Be 70.75 323 *ce*P **P 23 25 56.2 -0.3**
AKASG pmax pmax
comp=Z,22nm,0.7s
AKBB Malin Array Si 70.75 323 P **P 23 25 56.5 0.0**
AKBB Malin Array Si 70.75 323 *ce*P **P 23 25 56.1 -0.4**
AKBB pmax pmax
comp=Z,56nm,1.0s
AKBB Malin Array Si 70.75 323 P **P 23 25 55.4 -1.1**
AK04 Malin Array Si 70.76 323 P **P 23 25 55.4 -1.2**
AK01 Malin Array Si 70.76 323 P **P 23 25 55.4 -1.2**
KIEV Kiev 70.76 323 P **P 23 25 56.4 -0.2**
KIEV Kiev 70.76 323 *i* P **P 23 25 56.0 -0.6**
SNR=5.9
KIEV Kiev 70.76 323 P **P 23 25 56.4 -0.2**
KIEV pmax pmax
comp=Z,46nm,1.0s
KIEV Kiev 70.76 323 P **P 23 25 55.4 -1.2**
comp=Z,216nm,1.1s
KIEV Kiev 70.76 323 P **P 23 25 56.4 -0.2**
BER Bergen 70.76 341 *e*P **P 23 25 56.7 +0.3**
AK22 Malin Array Si 70.77 323 P **P 23 25 55.5 -1.1**
AK21 Malin Array Si 70.77 323 P **P 23 25 55.5 -1.1**
AK08 Malin Array Si 70.78 323 P **P 23 25 55.6 -1.1**
AK09 Malin Array Si 70.79 323 P **P 23 25 55.6 -1.1**
AK02 Malin Array Si 70.79 323 P **P 23 25 55.6 -1.1**
AK11 Malin Array Si 70.79 323 P **P 23 25 55.6 -1.1**
AK15 Malin Array Si 70.80 323 P **P 23 25 55.7 -1.1**
AK18 Malin Array Si 70.80 323 P **P 23 25 55.7 -1.1**
AK20 Malin Array Si 70.81 323 P **P 23 25 55.7 -1.2**
AK10 Malin Array Si 70.81 323 P **P 23 25 55.8 -1.1**
AK05 Malin Array Si 70.82 323 P **P 23 25 55.8 -1.1**
AK12 Malin Array Si 70.82 323 P **P 23 25 55.8 -1.1**
AK16 Malin Array Si 70.82 323 P **P 23 25 55.8 -1.1**
AK19 Malin Array Si 70.82 323 P **P 23 25 55.8 -1.2**
SOC Sochi 70.83 313 *e*P **P 23 25 55.3 -1.8**
SOC *e* 23 28 31.0
SOC *e*S **S 23 34 59.6 -3.0**
SOC pmax pmax
comp=Z,26nm,0.6s
ODD1 Odda 70.87 340 *e*P **P 23 25 57.1 0.0**
TMUT Trail Mountain 71.02 53 IAmb IAmb 23 26 00.8
comp=Z,114nm,1.3s
ULM Lac du Bonnet 71.03 37 P **P 23 25 58.0 -0.3**
comp=Z,55nm,0.8s,baz=311,slow=6.7,SNR=34
ULM pP **pP 23 26 26.6 -0.2**
comp=Z,15nm,0.7s,baz=322,slow=4.4,SNR=3.9
comp=Z,55nm,0.8s
SZCU Shurtz Canyon 71.06 56 P **P 23 25 60.0 +1.0**
BATM Batumi 71.13 310 P **P 23 25 59.5 +0.5**
ANN Anapa 71.17 315 *e*P **P 23 25 57.2 -1.9**
ANN *e**PP **pP 23 26 26.3 -1.3**
ANN *e* 23 28 37.3
ANN *e*S **S 23 35 02.0 -4.4**
ANN pmax pmax
comp=Z,28nm,0.7s
TJOU Tjoern 71.17 337 *i* P **P 23 25 57.9 -1.0**
BORU Boraas 71.18 336 *i* P **P 23 25 58.9 -0.1**
MI28 Mi28,Pidlybu 71.23 324 P **P 23 25 58.7 -0.7**
V12A Nelson 71.25 58 IAmb IAmb 23 26 02.3
comp=Z,123nm,1.4s
K22A Casper 71.32 48 IAmb IAmb 23 26 02.1
comp=Z,74nm,0.6s
BLS5 Blasjo 71.34 340 *e*P **P 23 25 59.9 0.0**
P18A Preston Nutter 71.34 53 IAmb IAmb 23 26 03.0
comp=Z,186nm,1.5s
LCMT Little Creek M 71.36 56 IAmb IAmb 23 26 03.1
comp=Z,80nm,1.0s
E28A Huff 71.52 42 IAmb IAmb 23 26 02.8
comp=Z,122nm,0.8s
SRU San Rafael Swe 71.53 53 IAmb IAmb 23 26 03.6
comp=Z,146nm,0.9s
DNR Dunn Ranch,Anz 71.58 61 IAmb IAmb 23 26 03.9
comp=Z,116nm,0.9s
RSSD Black Hills 71.60 46 P **P 23 26 02.6 +0.5**
RSSD IAmb IAmb 23 26 03.5
comp=Z,96nm,0.8s
RSSD Black Hills 71.60 46 P **P 23 26 02.6 +0.5**
RSSD pmax pmax
comp=Z,96nm,0.8s
RSSD Black Hills 71.60 46 P **P 23 26 02.3 +0.2**
RNPP9 Sopachiv 71.60 325 P **P 23 26 00.7 -0.9**
KNB Kanab 71.61 56 IAmb IAmb 23 26 04.8
comp=Z,97nm,1.0s
ONAU Onsala 71.63 336 *i* P **P 23 26 00.2 -1.5**
DANC Danby, Needles 71.65 59 IAmb IAmb 23 26 04.6
comp=Z,130nm,0.9s
PFO Pinyon Flats O 71.66 61 P **P 23 26 02.9 +0.4**
PFO Pinyon Flats O 71.66 61 *i* P **P 23 26 02.6 +0.1**
PFO pmax pmax
comp=Z,86nm,1.0s
PFO Pinyon Flats O 71.66 61 P **P 23 26 03.3 +0.8**
RNPP8 Varash 71.67 325 P **P 23 26 00.9 -1.2**
CPE Camp Elliot 71.73 62 IAmb IAmb 23 26 04.5
comp=Z,97nm,0.9s
RNPP5 Staryi Chortor 71.74 325 P **P 23 26 01.6 -0.9**
DEL Delary 71.83 335 *i* P **P 23 26 02.8 -0.1**
LUBAR Lubar, Ukraine 71.96 324 P **P 23 26 02.9 -0.9**
SNART Snartemo 72.10 339 *i* P **P 23 26 04.5 0.0**
IRM Iron Mountain 72.11 60 IAmb IAmb 23 26 07.1
comp=Z,86nm,0.9s
O20A White River Ci 72.12 51 IAmb IAmb 23 26 06.9
comp=Z,163nm,1.3s
EPLO Experimental L 72.38 36 P **P 23 26 05.8 -0.5**
EPLO IAmb IAmb 23 26 06.9
comp=Z,98nm,0.9s
CBX Cerro Bola 72.39 62 IAmb IAmb 23 26 08.7
comp=Z,80nm,0.9s
BJUU Bjuv 72.42 335 *i* P **P 23 26 05.8 -0.6**
BANOM Banah 72.59 289 P **P 23 26 08.7 +0.6**
BANOM Banah 72.59 289 *i* P **P 23 26 08.2 +0.2**
SNR=64
SHME Shamm 72.62 290 P **P 23 26 08.6 +0.5**
SNR=10
SHME Shamm 72.62 290 *i* P **P 23 26 08.0 -0.1**
SNR=55
BAL3X Bal3x, Balta 72.64 321 P **P 23 26 06.8 -1.1**
LUNU Lund 72.66 334 *i* P **P 23 26 07.5 -0.3**
CCX Cicese 72.69 62 IAmb IAmb 23 26 10.0
comp=Z,82nm,1.0s
SIM Simferopol' 72.71 317 *e*P **P 23 26 09.0 +0.6**
BLYC Blythe 72.77 60 IAmb IAmb 23 26 11.0
comp=Z,111nm,0.8s
WSAR Wadi Sarin 72.78 286 P **P 23 26 10.4 +1.3**
SNR=7.3
PV21 Cone Mtn., Par 72.79 53 IAmb IAmb 23 26 11.3
comp=Z,113nm,0.7s
PV22 Blue Mesa, Par 72.92 53 IAmb IAmb 23 26 11.9
comp=Z,116nm,0.9s
BIDO Bidbid 72.94 286 P **P 23 26 11.5 +1.5**
SNR=20
PV04 Paradox Valley 72.95 53 IAmb IAmb 23 26 12.3
comp=Z,101nm,0.9s
JLN Jalan Bani Buh 72.96 284 P **P 23 26 11.5 +1.3**
SNR=18
PV17 East Wray Mesa 72.99 53 P **P 23 26 11.8 +1.3**
PV16 Nyswonger Mesa 73.00 53 IAmb IAmb 23 26 12.5
comp=Z,247nm,1.3s
MDH Madha 73.01 289 P **P 23 26 10.2 -0.2**
SNR=14
MDH Madha 73.01 289 *i* P **P 23 26 09.7 -0.7**
SNR=5.8
GLA Glamis 73.05 60 IAmb IAmb 23 26 12.7
comp=Z,108nm,0.9s
ESJX Sierra Juarez 73.05 62 IAmb IAmb 23 26 12.8
comp=Z,104nm,1.0s
MASF Masafi 73.06 289 P **P 23 26 11.4 +0.6**
SNR=10.0
MSFE Esma-Masafi 73.06 289 *i* P **P 23 26 10.7 -0.1**
SNR=24
PV07 Paradox Valley 73.06 53 IAmb IAmb 23 26 12.8
comp=Z,104nm,1.2s
PV03 Paradox Valley 73.07 53 IAmb IAmb 23 26 12.9
comp=Z,82nm,0.7s
PV13 Radium Mtn., P 73.16 53 IAmb IAmb 23 26 13.5
comp=Z,119nm,0.7s
PV02 Paradox Valley 73.17 53 IAmb IAmb 23 26 13.7
comp=Z,148nm,1.1s
PV15 Paradox Valley 73.22 53 IAmb IAmb 23 26 13.8
comp=Z,114nm,1.1s
BEL Belsk 73.26 328 *e*P **P 23 26 12.5 +1.1**
SMDO Samad 73.30 286 P **P 23 26 13.2 +0.9**
SNR=20
UOSS Minazif 73.31 289 P **P 23 26 12.1 -0.1**
UOSS IAmb IAmb 23 26 13.1
comp=Z,94nm,0.7s
UOSS Minazif 73.31 289 P **P 23 26 12.5 +0.3**
UOSS Minazif 73.31 289 *i* P **P 23 26 12.0 -0.3**
SNR=12
UOSS Minazif 73.31 289 P **P 23 26 12.6 +0.3**
PV01 Paradox Valley 73.31 53 P **P 23 26 13.4 +1.0**
PV01 IAmb IAmb 23 26 14.6
comp=Z,275nm,1.7s
GKP Gorka Klasztor 73.38 331 *e*P P 23 26 21.6 +10
HATD Hatta, Dubai 73.44 289 P **P 23 26 13.8 +0.8**
SNR=20
HATD Hatta, Dubai 73.44 289 *i* P **P 23 26 13.2 +0.3**
SNR=62
HOQ Hoqain 73.46 287 P **P 23 26 14.0 +0.9**
SNR=20
WUAZ Wupatki 73.48 56 IAmb IAmb 23 26 15.8
comp=Z,80nm,1.0s
KMPD K-Podol'skiy 73.54 323 P **P 23 26 12.4 -0.8**
Y14A Wickenburg 73.57 59 P **P 23 26 14.6 +0.9**
Y14A **P 23 26 14.7 +1.0**
Y14A IAmb IAmb 23 26 15.8
comp=Z,84nm,0.8s
ASHO Ashiyiah 73.58 289 P **P 23 26 14.4 +0.5**
SNR=26
ASHO Ashiyiah 73.58 289 *i* P **P 23 26 14.0 +0.1**
SNR=32
SOHO SOHO 73.62 288 *i* P **P 23 26 14.0 0.0**
SNR=31
NAZ Nazwa, Dubai 73.64 289 P **P 23 26 14.7 +0.5**
SNR=9.1
NAZ Nazwa, Dubai 73.64 289 *i* P **P 23 26 14.2 0.0**
SNR=20
KIS Kishinev 73.70 321 *e*P **P 23 26 13.0 -1.1**
comp=Z,50nm,0.7s
KIS *e*S **SKiKP 23 35 33.0 +1.3**
KIS Kishinev 73.70 321 *e*P **P 23 26 13.0 -1.1**
KIS *e*S **SKiKP 23 35 33.0 +1.3**
KIS pmax pmax
comp=Z,50nm,0.7s
JMDO Jabal Madar 73.72 285 P **P 23 26 15.5 +0.8**
SNR=22
MILM Milestii Mici 73.76 321 ⇓ *i* P **P 23 26 12.7 -1.8**
comp=Z,150nm,1.8s
MILM *e*S **SKiKP 23 35 32.0 +0.2**
MILM Milestii Mici 73.76 321 *d i* P **P 23 26 12.7 -1.8**
MILM *e*S **SKiKP 23 35 32.0 +0.2**
MILM pmax pmax
comp=Z,150nm,1.8s
ISCO Idaho Springs 73.80 50 IAmb IAmb 23 26 17.7
comp=Z,106nm,1.1s
ISCO Idaho Springs 73.80 50 P **P 23 26 16.4 +1.1**
FAQ Al Faqa, Dubai 73.85 289 P **P 23 26 15.7 +0.3**
SNR=10
FAQ Al Faqa, Dubai 73.85 289 *i* P **P 23 26 15.2 -0.2**
SNR=27
IVI Ivigtut 73.89 7 P **P 23 26 14.9 0.0**
MVCO Mesa Verde 74.00 53 IAmb IAmb 23 26 18.4
comp=Z,73nm,0.8s
ASUD Al Ashush, Dub 74.11 289 P **P 23 26 17.6 +0.7**
SNR=21
ASUD Al Ashush, Dub 74.11 289 *i* P **P 23 26 17.1 +0.3**
SNR=18
F33A 5 Mile Ranch, 74.13 40 IAmb IAmb 23 26 17.8
comp=Z,77nm,1.0s
ARQ Araqi 74.16 287 P **P 23 26 18.0 +0.8**
SNR=18
NRS Narsarsuaq 74.17 6 P **P 23 26 17.6 +1.0**
NRS IAmb IAmb 23 27 17.5
comp=Z,220nm,1.9s
NRS Narsarsuaq 74.17 6 P **P 23 26 17.6 +1.0**
NRS pmax pmax
comp=Z,220nm,1.9s
MORS Morshin 74.18 325 P **P 23 26 17.4 +0.5**
X16A Lo Mia Camp, P 74.19 57 IAmb IAmb 23 26 20.0
comp=Z,96nm,0.9s
ALNE Al Ain 74.20 288 P **P 23 26 18.1 +0.7**
SNR=32
ALNE Al Ain 74.20 288 *i* P **P 23 26 17.6 +0.2**
SNR=14
STNU Starunia 74.25 324 P **P 23 26 17.7 +0.3**
KWP Kalwaria Pacla 74.27 326 *e*P **P 23 26 18.5 +1.1**
KWP Kalwaria Pacla 74.27 326 P **P 23 26 17.8 +0.4**
SHIU Shidnytsya 74.32 325 P **P 23 26 18.0 +0.2**
KSV Kosov 74.33 324 P **P 23 26 17.9 +0.1**
AJN Ajban 74.39 289 P **P 23 26 18.5 0.0**
SNR=10
AJN Ajban 74.39 289 *i* P **P 23 26 18.2 -0.3**
SNR=10
MARD Mardin 74.61 307 IAmb IAmb 23 26 22.0
comp=Z,71nm,0.8s
EYMN Ely 74.65 36 IAmb IAmb 23 26 20.5
comp=Z,72nm,0.8s
NIUE Niue 74.66 138 P **P 23 26 19.9 0.0**
comp=Z,150nm,1.1s
MHTO MHTO 74.73 284 P **P 23 26 21.6 +1.0**
SNR=32
ARMA Armidale 74.76 176 P **P 23 26 21.2 +0.8**
comp=Z,16nm,1.2s
ARMA Armidale 74.76 176 P **P 23 26 22.1 +1.7**
BURAR Bucovina Array 74.81 323 P **P 23 26 21.1 +0.5**
TOKA Tokat 74.84 312 P **P 23 26 21.8 +0.8**
PIX Pinacate 74.91 61 IAmb IAmb 23 26 23.2
comp=Z,86nm,0.9s
OJC Ojcow 74.93 328 *e*P **P 23 26 22.2 +1.0**
BZK Bozkurt 74.94 315 P **P 23 26 22.5 +1.1**
STHS Stebnicka Huta 75.02 327 *e*P **P 23 26 22.1 +0.3**
STHS pmax pmax
comp=Z,41nm,1.2s
STHS Stebnicka Huta 75.02 327 *e*P **P 23 26 22.1 +0.3**
NIE Niedzica 75.38 327 *e*P **P 23 26 25.7 +1.8**
VRI Vrincioaia 75.50 321 P **P 23 26 25.8 +1.2**
UMZA Um Al Zommool 75.50 288 P **P 23 26 25.2 +0.2**
ECSD EROS Data Cent 75.56 42 IAmb IAmb 23 26 26.1
comp=Z,116nm,0.9s
JRN Qarnain Island 75.57 291 P **P 23 26 24.9 -0.3**
E38A The Farm, Brul 75.67 37 IAmb IAmb 23 26 26.1
comp=Z,114nm,1.0s
MZWR Madinat Zayed 75.67 289 P **P 23 26 25.7 -0.1**
KSP Ksiaz 75.71 330 *e*P **P 23 26 27.1 +1.4**
DQM DQM 75.74 284 P **P 23 26 26.7 +0.4**
CMSA Cobar Meteorol 75.75 181 P **P 23 26 27.1 +1.2**
ILGA Ilgaz 75.75 314 P **P 23 26 27.4 +1.0**
TIRR Tirgusor 75.80 319 P **P 23 26 27.7 +1.4**
OKC Ostrava-Krasne 75.86 329 *e*P **P 23 26 28.0 +1.5**
OKC Ostrava-Krasne 75.86 329 *e*P **P 23 26 28.0 +1.5**
KPL Plockton 75.87 345 *e*P **P 23 26 26.4 0.0**
KPL IAmb IAmb 23 26 27.8
comp=Z,30nm,1.1s
LANS Liptovska Anna 75.92 327 *e*P **P 23 26 28.8 +1.8**
LANS pmax pmax
comp=Z,22nm,0.8s
LANS Liptovska Anna 75.92 327 *e*P **P 23 26 28.8 +1.8**
OSTC Ostas 75.98 330 *e*P **P 23 26 28.3 +1.1**
OSTC Ostas 75.98 330 *e*P **P 23 26 28.3 +1.1**
KSCO Kaye Shedlock' 75.98 49 IAmb IAmb 23 26 29.2
comp=Z,126nm,1.1s
CHVC Chvalec 76.01 330 *e*P **P 23 26 28.5 +1.1**
CHVC Chvalec 76.01 330 *e*P **P 23 26 28.5 +1.1**
TUC Tucson 76.04 58 P **P 23 26 28.4 +0.5**
TUC Tucson 76.04 58 P **P 23 26 28.1 +0.1**
TUC IAmb IAmb 23 26 30.2
comp=Z,52nm,0.9s
TUC Tucson 76.04 58 P **P 23 26 28.1 +0.1**
TUC pmax pmax
comp=Z,53nm,1.0s
TUC Tucson 76.04 58 P **P 23 26 29.1 +1.1**
KECS Kecovo 76.06 326 *e*P **P 23 26 30.7 +3.0**
KECS pmax pmax
comp=Z,24nm,1.2s
KECS Kecovo 76.06 326 *e*P **P 23 26 30.7 +3.0**
UPC Upice 76.09 330 *e*P **P 23 26 29.1 +1.3**
UPC Upice 76.09 330 *e*P **P 23 26 29.1 +1.3**
DPC Dobruska-Polom 76.11 330 *e*P **P 23 26 29.4 +1.4**
DPC Dobruska-Polom 76.11 330 *e*P **P 23 26 29.4 +1.4**
MORC Moravsky Berou 76.14 329 *e*P **P 23 26 29.2 +1.0**
KRLC Kraliky 76.17 329 *e*P **P 23 26 29.4 +1.0**
KRLC Kraliky 76.17 329 *e*P **P 23 26 29.4 +1.0**
SHMA Al-Shehemyia 76.20 293 P **P 23 26 28.8 0.0**
SNR=5.3
GHWR Ruwais 76.21 290 P **P 23 26 28.8 -0.2**
STKA Stephens Creek 76.22 185 P **P 23 26 30.2 +1.7**
comp=Z,3.2nm,0.7s,baz=9.2,slow=7.1,SNR=3.6
STKA pP **pP 23 26 58.3 +0.4**
comp=Z,4.7nm,0.8s,baz=325,slow=6.6,SNR=3.2
comp=Z,3.2nm,0.7s
T25A Trinidad 76.36 51 IAmb IAmb 23 26 31.7
comp=Z,100nm,0.9s
SAKB Bahrain 76.40 293 P **P 23 26 29.9 -0.1**
INVG Invergeldie, C 76.42 344 *e*P **P 23 26 29.9 +0.4**
MZR Muzera 76.45 289 P **P 23 26 30.6 +0.2**
SNR=14
MZR Muzera 76.45 289 P **P 23 26 30.2 -0.1**
MZR *i* P **P 23 26 30.3 -0.1**
SNR=79
CLL Collm 76.45 332 *i* P **P 23 26 29.5 -0.4**
CLL *i* 23 26 40.4
CLL *e**PP **pP 23 26 58.0 -0.6**
CLL pmax pmax
comp=Z,24nm,0.8s
CLL Collm 76.45 332 *i* P **P 23 26 29.5 -0.4**
comp=Z,24nm,0.8s
CLL *i* PcP **PcP 23 26 40.4 -0.7**
comp=Z,28nm,0.8s
CLL *e*pP **pP 23 26 58.0 -0.6**
CLL *i* PP **PP 23 29 23.0 +0.6**
CLL *e*SKSac **SKSac 23 36 31.0 +0.7**
BRG Berggiesshubel 76.50 331 *e*P **P 23 26 30.9 +0.7**
BRG Amp 23 26 32.3
comp=Z,4.2nm,0.8s
BRG ⇑PP **PcP 23 26 40.8 -0.5**
BRG Amp 23 26 42.8
comp=Z,6.2nm,0.7s
PVCC Panska Ves 76.58 331 *e*P **P 23 26 30.6 0.0**
PVCC Panska Ves 76.58 331 *e*P **P 23 26 30.6 0.0**
GAZ Gaziantep 76.71 309 P **P 23 26 32.4 +0.8**
RICC Richard 76.73 331 *e*P **P 23 26 33.7 +2.3**
PSZ Piszkesteto 76.75 326 P **P 23 26 33.2 +1.5**
ANMO Albuquerque 76.76 54 P **P 23 26 33.0 +0.9**
ANMO Albuquerque 76.76 54 P **P 23 26 33.4 +1.3**
ANMO IAmb IAmb 23 26 34.4
comp=Z,44nm,0.8s
ANMO Albuquerque 76.76 54 P **P 23 26 32.5 +0.3**
ANMO IAmb IAmb 23 26 34.4
comp=Z,40nm,0.8s
ANMO Albuquerque 76.76 54 **P 23 26 33.5 +1.4**
ANMO Albuquerque 76.76 54 *ce*P **P 23 26 33.1 +0.9**
ANMO pmax pmax
comp=Z,66nm,1.3s
ANMO Albuquerque 76.76 54 P **P 23 26 33.2 +1.0**
BR131 Keskin Array S 76.77 313 *i* P **P 23 26 30.9 -1.1**
BRTR Keskin Array B 76.77 313 P **P 23 26 32.3 +0.2**
BRTR Keskin Array B 76.77 313 P **P 23 26 32.8 +0.7**
comp=Z,9.2nm,0.8s,baz=76,slow=3.5,SNR=61
comp=Z,9.2nm,0.8s
TRNA Turayna 76.80 292 P **P 23 26 32.0 -0.2**
JAVC Velka Javorina 76.84 328 *e*P **P 23 26 34.3 +2.1**
VRAC Vranov 76.87 329 *e*P **P 23 26 33.8 +1.5**
FORT Forrest 76.90 196 P **P 23 26 32.9 +0.5**
comp=Z,14nm,1.0s
HSKC Hora Svate Kat 76.90 332 *e*P **P 23 26 33.4 +0.9**
SCHQ Schefferville 76.95 19 P **P 23 26 32.6 0.0**
comp=Z,417nm,0.7s,baz=352,slow=5.7,SNR=48
PRA Prague 77.01 331 *e*P **P 23 26 34.3 +1.3**
PRA Prague 77.01 331 *e*P **P 23 26 34.3 +1.3**
PRU Pruhonice 77.04 331 *e*P **P 23 26 34.1 +0.9**
PRU Pruhonice 77.04 331 *e*P **P 23 26 34.1 +0.9**
SMRA Abu-Samra 77.05 292 P **P 23 26 33.5 -0.2**
SNR=5.4
ANTO Ankara 77.10 314 P **P 23 26 33.3 -0.5**
ANTO Ankara 77.10 314 P **P 23 26 34.4 +0.6**
ANTO Ankara 77.10 314 P **P 23 26 33.3 -0.5**
ANTO pmax pmax
comp=Z,47nm,0.9s
ANTO Ankara 77.10 314 P **P 23 26 34.8 +1.0**
Y22D IRIS PASSCAL I 77.11 55 P **P 23 26 35.4 +1.3**
Y22D IAmb IAmb 23 26 36.9
comp=Z,236nm,1.8s
Y22D IRIS PASSCAL I 77.11 55 P **P 23 26 35.6 +1.5**
baz=316
KRUC Moravsky 77.15 329 *e*P **P 23 26 35.1 +1.3**
SMOL Smolenice 77.22 328 *e*P **P 23 26 36.0 +1.8**
SMOL pmax pmax
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 77.26 343 P **P 23 26 34.2 -0.1**
comp=Z,12nm,0.8s,baz=19,slow=4.8,SNR=28
comp=Z,12nm,0.8s
ESK Eskdalemuir 77.28 343 P **P 23 26 35.7 +1.3**
ESK Eskdalemuir 77.28 343 *e*P **P 23 26 35.2 +0.8**
ESK IAmb IAmb 23 26 35.7
comp=Z,21nm,0.9s
ESK Eskdalemuir 77.28 343 P **P 23 26 35.7 +1.3**
ESK pmax pmax
comp=Z,19nm,0.9s
ESK Eskdalemuir 77.28 343 P **P 23 26 35.4 +1.0**
TREC Trest 77.29 330 *e*P **P 23 26 35.9 +1.3**
TREC Trest 77.29 330 *e*P **P 23 26 35.9 +1.3**
MODS Modra-Piesok 77.39 328 *e*P **P 23 26 37.2 +2.0**
MODS pmax pmax
comp=Z,105nm,1.9s
MODS Modra-Piesok 77.39 328 *e*P **P 23 26 37.2 +2.0**
SRO Srobarova 77.46 327 *e*P **P 23 26 37.8 +2.3**
SRO pmax pmax
comp=Z,44nm,1.4s
SRO Srobarova 77.46 327 *e*P **P 23 26 37.8 +2.3**
319A Douglas 77.61 58 IAmb IAmb 23 26 39.1
comp=Z,151nm,0.8s
ZVC Zvikov 77.63 331 *e*P **P 23 26 37.2 +0.7**
CBKS Cedar Bluff 77.66 47 IAmb IAmb 23 26 37.6
comp=Z,111nm,0.8s
121A Cookes Peak, D 77.69 56 IAmb IAmb 23 26 40.0
comp=Z,97nm,1.1s
RTBA Rita Blanca 77.79 51 IAmb IAmb 23 26 39.2
comp=Z,105nm,1.0s
F42A Maple Grove Fa 77.79 36 IAmb IAmb 23 26 38.3
comp=Z,74nm,0.9s
KHC Kasperske Hory 78.10 331 *e*P **P 23 26 39.9 +0.7**
KHC *e* 23 26 49.0
KHC Kasperske Hory 78.10 331 *e*P **P 23 26 39.9 +0.7**
KHC PCP **PcP 23 26 49.0 +0.6**
CKRC Cesky Krumlov 78.11 330 *e*P **P 23 26 39.6 +0.4**
CKRC Cesky Krumlov 78.11 330 *e*P **P 23 26 39.6 +0.4**
HPK Haverah Park 78.20 342 *e*P **P 23 26 40.7 +1.1**
HPK IAmb IAmb 23 26 44.4
comp=Z,93nm,1.0s
I40A Norwalk 78.21 38 IAmb IAmb 23 26 40.4
comp=Z,84nm,0.5s
CONA Conrad Observa 78.29 329 *i* P **P 23 26 41.4 +1.1**
comp=Z,13nm,0.7s,SNR=10
GERES GERESS Array B 78.30 330 P **P 23 26 40.8 +0.5**
comp=Z,3.9nm,0.6s,baz=28,slow=6.0,SNR=41
comp=Z,3.9nm,0.6s
RONA Rosalia, Austr 78.32 328 *i* P **P 23 26 41.7 +1.3**
comp=Z,16nm,0.8s,SNR=8.7
IDGL Inch Island, C 78.36 345 P **P 23 26 41.2 +0.8**
SHAO Shalim 78.36 284 P **P 23 26 41.6 +0.6**
SHAO Shalim 78.36 284 *i* P **P 23 26 41.3 +0.3**
SNR=15
GRFO Grafenberg 78.43 332 P **P 23 26 41.6 +0.7**
GRFO Grafenberg 78.43 332 P **P 23 26 41.6 +0.7**
GRFO pmax pmax
comp=Z,51nm,1.0s
SRIG Santa Rosalia 78.60 63 P **P 23 26 42.3 +0.1**
SRIG IAmb IAmb 23 26 44.0
comp=Z,91nm,1.0s
MORH Mrgy, Hungar 78.64 326 ⇑ *i* P **P 23 26 41.8 -0.3**
LBWR Ladybower, Pea 78.74 341 *e*P **P 23 26 43.7 +1.2**
LBWR IAmb IAmb 23 26 46.2
comp=Z,87nm,0.8s
E46A Sault Ste Mari 78.85 33 IAmb IAmb 23 26 43.6
comp=Z,199nm,1.9s
MOA Molln 78.94 330 *i* P **P 23 26 44.4 +0.6**
comp=Z,9.0nm,0.7s,SNR=5.9
H43A Windswept, Lux 78.98 36 IAmb IAmb 23 26 45.0
comp=Z,109nm,0.8s
H43A pP 23 27 12.7 -0.8
ARSA Arzberg 78.98 329 *i* P **P 23 26 44.7 +0.7**
comp=Z,9.7nm,1.4s,SNR=5.1
DOK Doka 78.99 285 P **P 23 26 44.8 +0.4**
SNR=5.0
DMTO DMTO 79.03 284 P **P 23 26 44.9 +0.2**
KSU1 Kansas State U 79.06 45 P **P 23 26 43.5 -1.0**
KSU1 IAmb IAmb 23 26 45.0

comp=Z,79nm,0.7s
KSU1 Kansas State U 79.06 45 P 23 26 44.0 -0.5
BEHE Becsehely 79.16 327 P P 23 26 44.8 -0.1
BEBN Eben Emael 79.19 336 *dP* **P 23 26 45.3 +0.3**
comp=Z,60nm,0.8s
BTNL Ternell 79.24 336 *dP* **P 23 26 45.7 +0.3**
comp=Z,20nm,0.9s
CWF Charnwood Fore 79.25 341 *eP* **P 23 26 45.6 +0.3**
CWF IAmb IAmb 23 26 46.6
comp=Z,78nm,1.6s
MEM Membach 79.26 336 *dP* **P 23 26 45.7 +0.3**
comp=Z,29nm,1.0s
BIOA Bad Ischl, Aus 79.30 330 *i* P **P 23 26 46.5 +0.7**
comp=Z,16nm,0.8s,SNR=9.9
L40A Anamosa 79.37 40 IAmb IAmb 23 26 46.7
comp=Z,78nm,1.0s
BSTI Sart Tilman 79.41 336 *dP* **P 23 26 47.1 +0.9**
comp=Z,7.9nm,0.8s
BHOU Houvegnez 79.48 336 *dP* **P 23 26 44.9 -1.7**
comp=Z,14nm,1.0s
AMTX Amarillo 79.51 51 IAmb IAmb 23 26 49.1
comp=Z,105nm,0.8s
FOEL Foel Wylfa 79.55 342 *eP* **P 23 26 48.2 +1.2**
FOEL IAmb IAmb 23 26 49.2
comp=Z,62nm,1.0s
SOKA Soboth 79.65 328 *i* P **P 23 26 48.3 +0.5**
comp=Z,18nm,0.8s,SNR=21
LLW Llanuwychllyn 79.68 342 *eP* **P 23 26 48.8 +1.1**
RBK Rabkut 79.70 284 P **P 23 26 48.2 -0.1**
MNTX Cornudas Mount 79.71 56 P **P 23 26 48.8 +0.6**
NOKA Waynoka 79.71 48 IAmb IAmb 23 26 49.6
comp=Z,159nm,0.8s
WHFO Wadi Hawf 79.71 285 P **P 23 26 48.3 -0.2**
BGES Gesves 79.72 336 *dP* **P 23 26 47.7 -0.2**
comp=Z,14nm,0.7s
KAN08 Anthony NE Sta 79.77 47 IAmb IAmb 23 26 49.4
comp=Z,117nm,0.7s
HLM1 Long Mynd 79.82 342 *eP* **P 23 26 48.4 0.0**
HLM1 IAmb IAmb 23 26 50.5
comp=Z,47nm,1.3s
ZAVS Zavodnje 79.86 328 *eP* **P 23 26 48.9 +0.1**
LESA Schwarzleotal 79.87 330 *i* P **P 23 26 49.7 +0.8**
comp=Z,27nm,1.1s,SNR=16
DSB Dublin 79.87 344 P **P 23 26 49.3 +0.6**
ELIS Ellis County 79.88 49 IAmb IAmb 23 26 51.0
comp=Z,159nm,1.0s
MOSL Moslavina 79.88 327 *eP* **P 23 26 48.8 -0.1**
VLDQ Val d'Or 79.89 28 IAmb IAmb 23 26 48.8
comp=Z,145nm,1.0s
RCHB Rochefort 79.89 336 *dP* **P 23 26 48.5 -0.3**
comp=Z,11nm,1.0s
BMRD Maredsous 79.89 336 *dP* **P 23 26 48.3 -0.5**
comp=Z,29nm,0.9s
STU Stuttgart 79.89 333 P **P 23 26 48.3 -0.6**
STU Stuttgart 79.89 333 P **P 23 26 48.3 -0.6**
STU pmax pmax
comp=Z,23nm,1.0s
DOBS Dobrina 79.93 328 *i* P **P 23 26 49.3 +0.1**
KBA Koelnbreinsper 79.93 330 *i* P **P 23 26 50.3 +0.9**
comp=Z,38nm,0.8s,SNR=25
KAN01 Argonia South 79.94 47 IAmb IAmb 23 26 50.5
comp=Z,230nm,1.3s
OBKA Obir 79.97 329 *i* P **P 23 26 49.8 +0.3**
comp=Z,11nm,0.6s,SNR=10
GOLS Golise 79.98 328 *i* P **P 23 26 49.8 +0.3**
GLMI Grayling 80.00 34 IAmb IAmb 23 26 50.6
comp=Z,157nm,0.8s
WLF Walferdange 80.05 335 P **P 23 26 50.1 +0.4**
WLF Walferdange 80.05 335 *dP* **P 23 26 49.8 +0.1**
WLF Walferdange 80.05 335 P **P 23 26 50.1 +0.4**
WLF pmax pmax
comp=Z,19nm,1.1s
DOU Dourbes 80.12 336 *dP* **P 23 26 50.7 +0.6**
comp=Z,7.3nm,1.1s
K43A Burlington 80.16 38 IAmb IAmb 23 26 50.9
comp=Z,101nm,1.1s
CLNB Carlsbad 80.18 54 P **P 23 26 51.2 +0.4**
P38A Dawn 80.19 43 IAmb IAmb 23 26 51.9
comp=Z,148nm,0.8s
MYKA Terra Mystica 80.20 329 *i* P **P 23 26 50.5 -0.2**
comp=Z,8.1nm,0.6s
IGLA Glengowla, Co 80.27 346 P **P 23 26 51.2 +0.4**
CROK Carrier 80.31 48 IAmb IAmb 23 26 52.8
comp=Z,170nm,0.9s
MCH1 Michaelchurch 80.33 342 *eP* **P 23 26 51.8 +0.7**
WATA Walderalm 80.33 331 *i* P **P 23 26 52.1 +0.6**
comp=Z,18nm,0.5s,SNR=20
STRD Stroud 80.35 341 *eP* **P 23 26 51.8 +0.6**
OZLJ Ozalj 80.38 328⇑ *iP* **P 23 26 51.5 0.0**
WTTA Wattenberg 80.38 331 *i* P **P 23 26 52.5 +0.8**
comp=Z,23nm,0.5s,SNR=12
PEHC Pehcevo 80.42 321 *i* P **P 23 26 52.2 +0.2**
ABTO Aybut 80.43 285 P **P 23 26 52.5 +0.2**
BLY Banja Luka 80.43 326⇑ *iP* **P 23 26 51.5 -0.3**
MONM Monmouth 80.44 341 *eP* **P 23 26 51.4 -0.3**
RETA Reutte 80.48 331 *i* P **P 23 26 52.8 +0.6**
comp=Z,26nm,1.2s,SNR=12
MOTA Moosalm 80.49 331 *i* P **P 23 26 52.9 +0.6**
comp=Z,47nm,1.1s,SNR=16
SWN1 Swindon 80.50 341 *eP* **P 23 26 52.6 +0.6**
ABTA Abfaltersbach 80.51 330 *i* P **P 23 26 52.8 +0.5**
comp=Z,6.7nm,0.6s,SNR=6.4
BLOK Blackwell 80.52 47 IAmb IAmb 23 26 53.9
comp=Z,151nm,1.1s
BOJS Bojanci 80.55 328 *i* P **P 23 26 52.6 +0.1**
BFO Black Forest 80.56 333 P **P 23 26 52.8 +0.3**
BFO Black Forest 80.56 333 P **P 23 26 52.8 +0.3**
BFO pmax pmax
comp=Z,26nm,1.2s
BFO Black Forest 80.56 333 P **P 23 26 53.2 +0.7**
SQTA Sankt Quirin 80.56 331 *i* P **P 23 26 53.2 +0.6**
comp=Z,17nm,0.6s,SNR=15
VHRN Van Horn 80.60 56 P **P 23 26 54.0 +0.8**
N41A Harden Midland 80.61 41 P **P 23 26 52.7 -0.2**
N41A IAmb IAmb 23 26 53.8
comp=Z,155nm,0.9s
VOJS Vojsko 80.62 329 *i* P **P 23 26 52.2 -0.7**
MMAI Mount Meron Ar 80.75 308 P **P 23 26 55.4 +1.5**
comp=Z,18nm,0.5s,baz=34,slow=6.1,SNR=71
comp=Z,18nm,0.5s
L44A Lake County Fo 80.77 38 IAmb IAmb 23 26 54.5
comp=Z,97nm,1.2s
T35A Sooner Cattle 80.77 46 IAmb IAmb 23 26 55.2
comp=Z,170nm,0.9s
IWEX Carrickbyrne, 80.78 344 P **P 23 26 53.8 +0.3**
IWEX Carrickbyrne, 80.78 344 *eP* **P 23 26 53.1 -0.4**
DKNS Dickens 80.83 51 IAmb IAmb 23 26 56.8
comp=Z,61nm,0.8s
PECS Pecos 80.84 55 P **P 23 26 54.3 0.0**
FETA Feichten 80.90 331 *i* P **P 23 26 55.0 +0.5**
comp=Z,19nm,1.1s,SNR=7.6
OK051 E0350 and S346 80.91 47 IAmb IAmb 23 26 56.0
comp=Z,99nm,1.1s
SKO Skopje 80.91 322 *i* P **P 23 26 55.8 +1.4**
OK048 Pawnee Station 80.92 47 IAmb IAmb 23 26 56.1
comp=Z,152nm,1.2s
VAY Valandovo 80.93 321 *i* P **P 23 26 55.5 +0.9**
ELL Elmali 80.94 313 P **P 23 26 55.0 +0.1**
ELL Elmali 80.94 313 P **P 23 26 55.0 +0.1**
ELL pmax pmax
comp=Z,32nm,0.8s
POST Post 80.95 52 IAmb IAmb 23 26 56.6
comp=Z,75nm,0.8s
DAVA Damuels 80.96 332 *i* P **P 23 26 55.2 +0.4**
comp=Z,13nm,0.6s,SNR=8.2
P40A Paris 80.97 42 IAmb IAmb 23 26 56.1
comp=Z,119nm,0.8s
ECH Echery 81.03 334 P **P 23 26 55.0 0.0**
ECH Echery 81.03 334 P **P 23 26 54.9 -0.1**
ODSA Odessa 81.05 53 IAmb IAmb 23 26 57.3
comp=Z,101nm,0.9s
HQIL Hanson Quary C 81.10 38 IAmb IAmb 23 26 56.3
comp=Z,95nm,0.9s
OK029 Liberty Lake 81.12 48 IAmb IAmb 23 26 57.3
comp=Z,105nm,0.8s
WMOK Wichita Mounta 81.21 49 P **P 23 26 56.0 -0.2**
WMOK IAmb IAmb 23 26 57.7
comp=Z,110nm,1.4s
WMOK Wichita Mounta 81.21 49 **P 23 26 56.4 +0.2**
WMOK Wichita Mounta 81.21 49 P **P 23 26 56.0 -0.2**
WMOK pmax pmax
comp=Z,110nm,1.4s
J47A Sunmer 81.22 35 IAmb IAmb 23 26 57.5
comp=Z,153nm,1.0s
QUOK Quay 81.23 47 IAmb IAmb 23 26 57.8
comp=Z,118nm,1.3s

OK052 Battle Ridge R 81.32 47 IAmb IAmb 23 26 58.3
comp=Z,85nm,0.9s
M44A Midewin, Midew 81.35 38 IAmb IAmb 23 26 57.6
comp=Z,113nm,0.8s
KIJV Kijevo 81.36 326⇑ *iP* **P 23 26 56.7 -0.1**
RAYN Ar Rayn 81.39 294 P **P 23 26 57.7 +0.4**
RAYN Ar Rayn 81.39 294 P **P 23 26 58.3 +0.9**
RAYN Ar Rayn 81.39 294 *i* P **P 23 26 57.8 +0.4**
SNR=74
RAYN Ar Rayn 81.39 294 P **P 23 26 57.7 +0.4**
RAYN pmax pmax
comp=Z,39nm,1.0s
RAYN Ar Rayn 81.39 294 P **P 23 26 57.7 +0.4**
I49A Point Hope 81.45 34 P **P 23 26 57.2 0.0**
I49A IAmb IAmb 23 26 58.4
comp=Z,98nm,1.0s
APMT Aspermont 81.53 51 P **P 23 26 58.0 0.0**
APMT IAmb IAmb 23 26 59.4
comp=Z,71nm,0.9s
FNO Franklin 81.56 48 IAmb IAmb 23 26 59.8
comp=Z,147nm,0.8s
DEOK Depew 81.59 47 IAmb IAmb 23 26 59.7
comp=Z,98nm,1.0s
L46A Eue Claire 81.61 37 IAmb IAmb 23 26 59.1
comp=Z,141nm,0.9s
BRJN Brijuni 81.62 328⇑ *iP* **P 23 26 57.1 -1.0**
TREB Trebinje 81.63 324 *eP* **P 23 26 57.5 -0.7**
NWAO Narrogin (SRO) 81.67 205 P **P 23 26 58.9 +0.6**
NWAO Narrogin (SRO) 81.67 205 P **P 23 26 58.9 +0.6**
NWAO pmax pmax
comp=Z,36nm,1.0s
STON Ston 81.77 325⇑ *iP* **P 23 26 57.8 -1.1**
BRAT Ballarat 81.78 182 P **P 23 27 01.3 +2.6**
X34A Smith Ranch, M 81.83 49 IAmb IAmb 23 27 01.5
comp=Z,119nm,1.0s
R40A Maddies Statio 81.84 43 P **P 23 26 59.4 0.0**
R40A IAmb IAmb 23 27 00.4
comp=Z,126nm,0.8s
OHR Ohrid 81.89 322 *i* P **P 23 27 00.2 +0.5**
TUL3 Leonard 81.91 47 IAmb IAmb 23 27 01.2
comp=Z,71nm,0.7s
LDAQ Lac Daran 82.00 25 IAmb IAmb 23 27 00.9
comp=Z,61nm,0.7s
SGCY Sterling City 82.02 53 IAmb IAmb 23 27 02.1
comp=Z,104nm,0.9s
P43A Skaggs, Pawnee 82.08 40 IAmb IAmb 23 27 01.7
comp=Z,108nm,1.0s
RLO Rose Lookout 82.11 46 IAmb IAmb 23 27 02.1
comp=Z,111nm,1.1s
WTFS Witchita Falls 82.12 50 IAmb IAmb 23 27 02.3
comp=Z,94nm,1.0s
U38A Gravette 82.23 45 IAmb IAmb 23 27 02.6
comp=Z,93nm,1.1s
ARG Arkhangelos 82.27 314 P **P 23 27 01.8 +0.1**
ARG Arkhangelos 82.27 314 P **P 23 27 01.8 +0.1**
ARG pmax pmax
comp=Z,50nm,0.7s
TX31 Lajitas Ar. Si 82.44 56 IAmb IAmb 23 27 04.8
comp=Z,54nm,0.8s
TXAR Lajitas Array 82.44 56 P **P 23 27 03.4 +0.6**
TXAR Lajitas Array 82.44 56 P **P 23 27 03.5 +0.7**
comp=Z,40nm,0.6s,baz=298,slow=4.0,SNR=614
TXAR pP **pP 23 27 33.0 +0.4**
comp=Z,30nm,0.9s,baz=308,slow=4.0,SNR=4.9
comp=Z,40nm,0.6s
TXAR Lajitas Array 82.44 56 P **P 23 27 03.4 +0.6**
TRQ Mont Tremblant 82.50 28 IAmb IAmb 23 27 03.5
comp=Z,84nm,1.0s
K50A Casco 82.50 34 IAmb IAmb 23 27 04.0
comp=Z,162nm,1.4s
CCM Cathedral Cave 82.52 42 P **P 23 27 03.1 +0.1**
CCM IAmb IAmb 23 27 04.2
comp=Z,152nm,0.9s
CCM Cathedral Cave 82.52 42 P **P 23 27 03.1 +0.1**
CCM pmax pmax
comp=Z,152nm,0.9s
CCM Cathedral Cave 82.52 42 P **P 23 27 03.0 +0.1**
CCA1 Carnmenellis 82.52 342 *eP* **P 23 27 02.4 -0.3**
CCA1 IAmb IAmb 23 27 03.9
comp=Z,68nm,1.0s
SLM Saint Louis 82.54 41 IAmb IAmb 23 27 04.2
comp=Z,117nm,0.8s
SFIN Lafayette 82.58 38 IAmb IAmb 23 27 04.3
comp=Z,114nm,1.1s
SLBS Sierra La Lagu 82.62 64 P **P 23 27 05.1 +1.3**
SLBS IAmb IAmb 23 27 06.4
comp=Z,143nm,1.1s
LOOK Love County 82.64 49 IAmb IAmb 23 27 05.1
comp=Z,103nm,0.8s
LMQ La Malbaie 82.64 24 IAmb IAmb 23 27 04.2
comp=Z,56nm,0.7s
CLF Chambon-Foret 82.66 337 P **P 23 27 05.1 +1.7**
MGMO Mountain Grove 82.73 44 IAmb IAmb 23 27 05.0
comp=Z,85nm,1.1s
OZNA Ozona 82.75 53 IAmb IAmb 23 27 05.9
comp=Z,76nm,1.1s
N47A Urbana 82.79 37 IAmb IAmb 23 27 05.0
comp=Z,138nm,0.9s
Q44A Meyer Farm, Va 82.90 41 IAmb IAmb 23 27 06.1
comp=Z,113nm,0.9s
FVM French Village 82.97 42 IAmb IAmb 23 27 06.5
comp=Z,156nm,1.4s
HPIG 82.98 59 IAmb IAmb 23 27 07.7
comp=Z,236nm,1.6s
FW06 Azle 83.21 50 P **P 23 27 06.9 +0.3**
FW06 IAmb IAmb 23 27 08.0
comp=Z,53nm,0.7s
KARP Karpathos 83.28 314 P **P 23 27 06.9 -0.1**
KARP IAmb IAmb 23 27 08.1
comp=Z,68nm,0.5s
N49A Columbus Grove 83.40 36 IAmb IAmb 23 27 08.6
comp=Z,101nm,1.0s
D62A Allapoint, All 83.44 24 IAmb IAmb 23 27 08.3
comp=Z,46nm,0.6s
OLIL Olney 83.46 40 IAmb IAmb 23 27 09.2
comp=Z,92nm,0.9s
KEK Kerkira 83.47 322 P **P 23 27 09.3 +1.5**
M50A Fremont 83.48 35 IAmb IAmb 23 27 08.8
comp=Z,67nm,0.8s
MURB Monte Urbino 83.49 328 P **P 23 27 08.7 +0.7**
O48B Farmland 83.54 37 IAmb IAmb 23 27 09.0
comp=Z,80nm,0.9s
NRCA Norcia 83.63 328 IAmb IAmb 23 27 11.3
comp=Z,109nm,1.6s
MSSA Maissana 83.67 331 P **P 23 27 08.9 +0.1**
MSSA IAmb IAmb 23 29 07.5
comp=Z,88nm,1.4s
BRDY Brady 83.69 52 IAmb IAmb 23 27 10.9
comp=Z,88nm,1.3s
E62A Clayton Lake 83.72 24 IAmb IAmb 23 27 09.6
comp=Z,47nm,0.7s
FW13 Cleburne 83.75 50 IAmb IAmb 23 27 11.0
comp=Z,81nm,0.7s
FCAR Ozark Folk Cen 83.80 44 P **P 23 27 09.2 -0.3**
FCAR IAmb IAmb 23 27 10.5
comp=Z,92nm,0.9s
JCT Junction City 83.84 53 IAmb IAmb 23 27 11.4
comp=Z,102nm,0.9s
CGM3 Cape Girardeau 83.89 42 IAmb IAmb 23 27 11.3
comp=Z,92nm,1.3s
AQU L'Aquila 83.93 327 *eP* **P 23 27 08.0 -2.2**
AQU L'Aquila 83.93 327 P **P 23 27 11.5 +1.3**
J55A Hilton 83.94 31 P **P 23 27 10.0 -0.2**
J55A IAmb IAmb 23 27 10.8
comp=Z,57nm,0.9s
WHTX Lake Whitney, 84.01 50 IAmb IAmb 23 27 12.4
comp=Z,143nm,1.2s
M52A Chesterland 84.05 34 IAmb IAmb 23 27 12.2
comp=Z,146nm,1.1s
P48A Milroy 84.07 38 IAmb IAmb 23 27 11.9
comp=Z,80nm,1.0s
BATG Bathurst New B 84.08 22 IAmb IAmb 23 27 12.1
comp=Z,72nm,0.7s
MIAR Mount Ida 84.11 46 IAmb IAmb 23 27 12.8
comp=Z,83nm,0.8s
LCAR Lake Charles 84.14 44 IAmb IAmb 23 27 12.4
comp=Z,178nm,1.8s
DRIO Del Rio 84.16 54 IAmb IAmb 23 27 13.2
comp=Z,156nm,1.1s
N51A Ashland 84.16 35 IAmb IAmb 23 27 12.3
comp=Z,80nm,0.8s
WHAR Wooly Hollow 84.19 45 P **P 23 27 11.3 -0.2**
TREL Terrell 84.19 49 IAmb IAmb 23 27 13.0
comp=Z,60nm,0.7s
USIN University of 84.28 40 IAmb IAmb 23 27 13.5
comp=Z,138nm,1.1s

MMNY Mt. Morris Dam 84.37 31 IAmb IAmb 23 27 12.9
comp=Z,62nm,0.9s
Z38A Mt. Pleasant 84.37 48 IAmb IAmb 23 27 14.1
comp=Z,107nm,0.8s
SSB Saint Sauveur 84.46 334 P **P 23 27 13.4 +0.6**
J57A Williamstown 84.47 30 IAmb IAmb 23 27 13.5
comp=Z,107nm,1.5s
ACSO Alum Creek Sta 84.48 36 IAmb IAmb 23 27 14.1
comp=Z,84nm,0.8s
ITM Ithomi 84.56 319 IAmb IAmb 23 27 16.1
comp=Z,66nm,0.7s
T45A Paducah 84.59 41 IAmb IAmb 23 27 15.1
comp=Z,119nm,0.8s
IDI Anoyia 84.63 316 IAmb IAmb 23 27 16.1
comp=Z,82nm,0.6s
G62A West of Eustis 84.68 25 IAmb IAmb 23 27 15.4
comp=Z,73nm,1.1s
PPT Papeete 84.69 121 LR LR 23 58 44.1
comp=Z,416nm,19.6s,baz=310,slow=31
WCI Wyandotte Cave 84.70 39 P **P 23 27 14.5 +0.4**
WCI IAmb IAmb 23 27 15.5
comp=Z,104nm,0.8s
WCI Wyandotte Cave 84.70 39 P **P 23 27 14.5 +0.4**
WCI pmax pmax
comp=Z,104nm,0.8s
WCI Wyandotte Cave 84.70 39 P **P 23 27 14.5 +0.4**
HICK Hickman 84.70 42 P **P 23 27 14.4 +0.3**
PAOC Oil Creek Stat 84.74 33 IAmb IAmb 23 27 15.4
comp=Z,98nm,1.2s
VT1 Waterbury 84.77 27 IAmb IAmb 23 27 15.5
comp=Z,58nm,0.7s
HBAR Harrisburg 84.79 44 P **P 23 27 15.1 +0.5**
N53A Lisbon 84.88 34 IAmb IAmb 23 27 16.3
comp=Z,110nm,1.0s
GLAT Glass 84.89 42 P **P 23 27 15.5 +0.5**
J59A Piesco 84.95 29 IAmb IAmb 23 27 15.8
comp=Z,57nm,0.7s
L56A Greenwood 85.01 31 IAmb IAmb 23 27 16.4
comp=Z,46nm,0.7s
PKME Peaks-Kenny Pk 85.02 25 P **P 23 27 15.8 +0.3**
WLAR White Oak Lake 85.02 46 IAmb IAmb 23 27 17.6
comp=Z,95nm,0.8s
O52A Adamsville 85.06 35 IAmb IAmb 23 27 17.0
comp=Z,91nm,0.9s
PAMR Moraine State 85.06 34 IAmb IAmb 23 27 17.2
comp=Z,75nm,1.0s
P51A Williamsport 85.08 36 IAmb IAmb 23 27 16.8
comp=Z,78nm,0.8s
O53A New Philadelph 85.20 35 IAmb IAmb 23 27 17.7
comp=Z,101nm,0.8s
R50A Paris 85.53 38 IAmb IAmb 23 27 19.6
comp=Z,64nm,0.9s
CCAR Cane Creek 85.53 45 P **P 23 27 19.2 +0.9**
O54A Avella 85.60 34 IAmb IAmb 23 27 19.9
comp=Z,72nm,0.8s
WVT Waverly 85.69 41 P **P 23 27 19.3 +0.2**
WVT IAmb IAmb 23 27 20.5
comp=Z,53nm,0.8s
WVT Waverly 85.69 41 P **P 23 27 19.3 +0.2**
WVT pmax pmax
comp=Z,53nm,0.8s
WVT Waverly 85.69 41 P **P 23 27 19.4 +0.3**
J61A Chester 85.71 28 P **P 23 27 19.2 +0.2**
J61A IAmb IAmb 23 27 20.4
comp=Z,42nm,0.7s
I63A Otisfield 85.72 26 P **P 23 27 19.4 +0.4**
I63A IAmb IAmb 23 27 20.9
comp=Z,98nm,1.0s
LMN Caledonia Moun 85.73 22 IAmb IAmb 23 27 20.3
comp=Z,87nm,0.8s
P53A Whipple 85.77 35 IAmb IAmb 23 27 20.6
comp=Z,47nm,0.8s
Q52A Bidwell 85.85 36 IAmb IAmb 23 27 20.8
comp=Z,61nm,1.0s
M57A Sunshine Farm, 85.87 32 IAmb IAmb 23 27 21.0
comp=Z,72nm,0.9s
L59A Walton 85.88 30 IAmb IAmb 23 27 20.9
comp=Z,108nm,1.0s
HNVL Huntsville, TX 86.05 50 IAmb IAmb 23 27 23.2
comp=Z,95nm,0.8s
SSPA Standing Stone 86.19 32 P **P 23 27 21.6 +0.2**
SSPA IAmb IAmb 23 27 22.8
comp=Z,52nm,1.1s
SSPA Standing Stone 86.19 32 P **P 23 27 21.8 +0.4**
735A Kenedy 86.20 53 P **P 23 27 23.2 +1.5**
MCWV Mont Chateau 86.26 34 IAmb IAmb 23 27 23.6
comp=Z,79nm,0.9s
T50A Nancy 86.35 39 IAmb IAmb 23 27 23.7
comp=Z,100nm,0.8s
S51A Beattyville 86.38 38 IAmb IAmb 23 27 23.6
comp=Z,59nm,0.8s
CLTN Cedars of Leba 86.43 40 IAmb IAmb 23 27 24.2
comp=Z,48nm,0.9s
N58A Sunbury 86.45 32 IAmb IAmb 23 27 23.9
comp=Z,56nm,0.9s
HKT Hockley 86.47 51 P **P 23 27 23.2 +0.3**
HKT Hockley 86.47 51 **PcP 23 27 24.0 -1.2**
HKT Hockley 86.47 51 P **P 23 27 23.2 +0.3**
V48A Smith Brothers 86.49 41 IAmb IAmb 23 27 24.3
comp=Z,71nm,1.0s
143A Socs Landing, 86.68 46 IAmb IAmb 23 27 26.1
comp=Z,142nm,1.3s
HRV Adam Dziewonsk 86.79 27 P **P 23 27 25.2 +0.9**
HRV IAmb IAmb 23 27 26.0
comp=Z,50nm,1.1s
HRV Adam Dziewonsk 86.79 27 P **P 23 27 25.2 +0.9**
HRV pmax pmax
comp=Z,50nm,1.1s
GBN Guysborough 86.97 20 IAmb IAmb 23 27 27.1
comp=Z,74nm,1.2s
WES Weston 86.98 27 IAmb IAmb 23 27 25.7
comp=Z,64nm,1.0s
Q56A Snyder Ridge, 87.05 34 IAmb IAmb 23 27 27.1
comp=Z,60nm,1.0s
HBVL Hebbronville 87.06 54 P **P 23 27 27.4 +1.5**
HBVL IAmb IAmb 23 27 28.7
comp=Z,48nm,1.0s
P57A Homestead Farm 87.13 33 IAmb IAmb 23 27 27.4
comp=Z,56nm,1.2s
KVTX Kingsville 87.15 53 P **P 23 27 27.8 +1.5**
UCCT U. Connecticut 87.21 28 IAmb IAmb 23 27 27.7
comp=Z,57nm,1.0s
S54A Dingess, Beckl 87.23 36 IAmb IAmb 23 27 28.0
comp=Z,61nm,0.8s
441A DeRidder 87.28 48 P **P 23 27 27.9 +1.0**
441A IAmb IAmb 23 27 29.1
comp=Z,51nm,0.9s
TZTN Tazewell 87.32 38 IAmb IAmb 23 27 28.6
comp=Z,80nm,1.0s
MVL Millersville 87.32 32 IAmb IAmb 23 27 28.2
comp=Z,41nm,0.8s
BRNJ Basking Ridge 87.38 30 IAmb IAmb 23 27 28.7
comp=Z,48nm,0.8s
CPNY Central Park 87.50 30 IAmb IAmb 23 27 29.1
comp=Z,67nm,1.1s
L64A Middleborough 87.54 27 IAmb IAmb 23 27 29.4
comp=Z,86nm,1.1s
M63A Gales Ferry 87.61 28 P **P 23 27 28.1 -0.2**
W50A Signal Mountai 87.63 40 IAmb IAmb 23 27 29.8
comp=Z,57nm,0.9s
PSUB Penn St. - Bra 87.72 31 IAmb IAmb 23 27 29.8
comp=Z,86nm,1.2s
CPCT Cooper Cave 87.79 40 P **P 23 27 29.3 0.0**
CPCT IAmb IAmb 23 27 30.6
comp=Z,73nm,1.0s
Z47A Carrollton 87.95 43 IAmb IAmb 23 27 31.4
comp=Z,55nm,0.8s
TKL Tuckaleechee C 87.95 39 IAmb IAmb 23 27 31.4
comp=Z,81nm,0.8s
U54A Nelsons Funny 88.09 37 IAmb IAmb 23 27 32.1
comp=Z,72nm,1.1s
BLA Blacksburg 88.10 36 IAmb IAmb 23 27 32.3
comp=Z,89nm,1.0s
Y49A Blount Mountai 88.22 42 IAmb IAmb 23 27 32.4
comp=Z,58nm,1.0s
S57A Dark Hollow, R 88.24 35 IAmb IAmb 23 27 33.0
comp=Z,47nm,0.9s
X51A Calhoun 88.36 40 IAmb IAmb 23 27 33.4
comp=Z,52nm,1.1s
CBN Corbin Frederi 88.49 33 IAmb IAmb 23 27 34.0
comp=Z,84nm,1.1s
MRNZ Matariki Terra 88.71 161 P **P 23 27 33.6 +0.5**
MRZ Mangatainoka R 88.71 158 P **P 23 27 33.6 +0.5**
MRZ IAmb IAmb 23 27 35.6
comp=Z,70nm,1.3s
346A Big Creek Wild 88.72 45 P **P 23 27 34.8 +1.1**
346A IAmb IAmb 23 27 35.7

	comp=Z,92nm,1.1s							
T57A	**Hurt**	**88.77**	**35**	IAmb	IAmb	23 27 35.2		
	comp=Z,45nm,1.0s							
U56A	**King**	**88.85**	**36**	IAmb	IAmb	23 27 35.7		
	comp=Z,46nm,0.9s							
V55A	**Taylorsville**	**88.92**	**37**	IAmb	IAmb	23 27 36.0		
	comp=Z,50nm,1.3s							
THZ	**Tophouse**	**89.09**	**161**	P	**P**	**23 27 36.4**	**+1.5**	
Y52A	**Lilburn**	**89.31**	**40**	IAmb	IAmb	23 27 38.0		
	comp=Z,41nm,0.9s							
MSWZ	**Moikau Station**	**89.34**	**159**	P	**P**	**23 27 37.1**	**+1.1**	
KMSC	**Kings Mountain**	**89.47**	**38**	IAmb	IAmb	23 27 38.5		
	comp=Z,44nm,0.9s							
PAULI	**Pauline**	**89.53**	**38**	P	**P**	**23 27 37.7**	**+0.3**	
PAULI				IAmb	IAmb	23 27 38.7		
	comp=Z,45nm,0.9s							
INZ	**Inchbonnie**	**89.67**	**162**	P	**P**	**23 27 38.1**	**+0.6**	
INZ				IAmb	IAmb	23 27 39.6		
	comp=Z,54nm,1.1s							
250A	**Grady**	**89.83**	**43**	P	**P**	**23 27 39.4**	**+0.5**	
250A				IAmb	IAmb	23 27 40.6		
	comp=Z,83nm,1.1s							
HODGE	**Hodges**	**89.83**	**39**	IAmb	IAmb	23 27 40.5		
	comp=Z,49nm,1.1s							
V58A	**Windy Hill, Pi**	**89.86**	**36**	P	**P**	**23 27 39.4**	**+0.4**	
V58A				IAmb	IAmb	23 27 40.4		
	comp=Z,40nm,0.9s							
LTZ	**Lake Taylor**	**89.91**	**162**	P	**P**	**23 27 39.9**	**+1.2**	
LTZ				IAmb	IAmb	23 27 51.5		
	comp=Z,81nm,1.6s							
GOGA	**Godfrey**	**89.96**	**40**	P	**P**	**23 27 39.9**	**+0.4**	
GOGA				IAmb	IAmb	23 27 41.2		
	comp=Z,66nm,1.5s							
GOGA	**Godfrey**	**89.96**	**40**	P	**P**	**23 27 39.9**	**+0.4**	
GOGA				pmax	pmax			
	comp=Z,66nm,1.5s							
152A	**Waverly Hall**	**90.00**	**41**	P	**P**	**23 27 39.8**	**+0.1**	
W57A	**Gilead**	**90.04**	**37**	IAmb	IAmb	23 27 41.2		
	comp=Z,53nm,1.0s							
FOZ	**Fox Glacier**	**90.10**	**163**	P	**P**	**23 27 41.3**	**+1.8**	
FOZ				IAmb	IAmb	23 27 43.0		
	comp=Z,64nm,1.4s							
JSC	**Jenkinsville**	**90.23**	**38**	P	**P**	**23 27 40.8**	**+0.1**	
JSC	**Jenkinsville**	**90.23**	**38**	P	**P**	**23 27 40.8**	**+0.1**	
JSC				pmax	pmax			
	comp=Z,32nm,1.0s							
BIRD	**Birdtown, Kers**	**90.27**	**37**	IAmb	IAmb	23 27 42.3		
	comp=Z,40nm,1.0s							
OXZ	**Oxford**	**90.37**	**162**	P	**P**	**23 27 42.6**	**+1.8**	
OXZ				IAmb	IAmb	23 27 43.6		
	comp=Z,69nm,0.9s							
RPZ	**Rata Peaks**	**90.53**	**163**	P	**P**	**23 27 42.7**	**+1.1**	
JRQG	**Juriquilla Cam**	**90.78**	**60**	P	**P**	**23 27 44.2**	**+0.4**	
154A	**Montrose**	**90.80**	**40**	P	**P**	**23 27 44.0**	**+0.7**	
154A				IAmb	IAmb	23 27 45.1		
	comp=Z,88nm,1.4s							
X58A	**Rowland**	**90.83**	**36**	P	**P**	**23 27 44.0**	**+0.6**	
X58A				IAmb	IAmb	23 27 44.8		
	comp=Z,46nm,1.1s							
Y57A	**Sumter**	**90.83**	**38**	P	**P**	**23 27 43.8**	**+0.3**	
Y57A				IAmb	IAmb	23 29 48.9		
	comp=Z,25nm,0.4s							
MQZ	**McQueen's Vall**	**90.87**	**162**	P	**P**	**23 27 45.1**	**+2.0**	
MQZ				IAmb	IAmb	23 30 46.2		
	comp=Z,83nm,1.4s							
352A	**Blakely**	**90.88**	**42**	IAmb	IAmb	23 27 45.5		
	comp=Z,33nm,0.8s							
V61A	**Roper**	**90.90**	**34**	P	**P**	**23 27 44.7**	**+1.0**	
V61A				IAmb	IAmb	23 27 45.3		
	comp=Z,62nm,1.0s							
LBZ	**Lake Benmore**	**90.99**	**163**	IAmb	IAmb	23 27 46.8		
	comp=Z,40nm,0.9s							
MOIG	**Morelia**	**91.09**	**61**	P	**P**	**23 27 45.8**	**+0.6**	
MOIG				IAmb	IAmb	23 31 15.1		
	comp=Z,31nm,0.5s							
KEST	**Kesra**	**91.23**	**327**	P	**P**	**23 27 45.7**	**+0.2**	
	comp=Z,5.8nm,0.6s,baz=67,slow=3.4,SNR=8.5							
	comp=Z,5.8nm,0.6s							
Y58A	**Scranton**	**91.24**	**37**	P	**P**	**23 27 45.8**	**+0.4**	
Y58A				IAmb	IAmb	23 28 18.4		
	comp=Z,33nm,0.8s							
DCZ	**Deep Cove**	**91.46**	**166**	P	**P**	**23 27 47.2**	**+1.5**	
TIGA	**Tifton**	**91.55**	**41**	IAmb	IAmb	23 27 48.1		
	comp=Z,26nm,0.8s							
ATD	**Arta Tunnel**	**91.68**	**288**	P	**P**	**23 27 48.4**	**+0.6**	
NHSC	**New Hope**	**91.70**	**38**	P	**P**	**23 27 48.1**	**+0.5**	
NHSC				IAmb	IAmb	23 27 49.4		
	comp=Z,78nm,1.4s							
Y60A	**Bolivia**	**91.77**	**36**	P	**P**	**23 27 47.8**	**0.0**	
ESDC	**Sonseca Array**	**92.09**	**338**	P	**P**	**23 27 48.9**	**-0.4**	
ESDC	**Sonseca Array**	**92.09**	**338**	P	**P**	**23 27 49.1**	**-0.2**	
	comp=Z,6.5nm,0.9s,baz=17,slow=4.0,SNR=21							
	comp=Z,6.5nm,0.9s							
ROCAM	**Rodrigues Isla**	**99.05**	**251**	P	**Pdif**	**23 28 21.0**	**0.0**	
TORD	**Torodi Ar. Bea**	**114.37**	**322**	PKP	**PKiKP**	**23 33 19.1**	**-0.5**	
	comp=Z,0.8nm,0.4s,baz=22,slow=3.3,SNR=20							
TORD				PP	**PP**	**23 34 15.0**	**-1.3**	
	comp=Z,1.2nm,0.8s,baz=24,slow=9.1,SNR=5.0							
TORD				PKKPbc	**PKKPbc**	**23 43 55.9**	**-1.6**	
	comp=Z,1.2nm,0.8s,baz=220,slow=1.5,SNR=6.6							
MPOM	**Morne Pois Mar**	**116.13**	**30**	PKPdf	**PKPdf**	**23 33 22.6**	**-0.4**	
LSZ	**Lusaka**	**120.85**	**279**	PKP	**PKiKP**	**23 33 33.0**	**+0.7**	
	comp=Z,2.6nm,0.6s,baz=40,slow=2.2,SNR=6.5							
LSZ	**Lusaka**	**120.85**	**279**	PKiKP	**PKiKP**	**23 33 33.0**	**+0.7**	
VNDA	**Vanda**	**122.17**	**176**	PKP	**PKiKP**	**23 33 33.4**	**+0.5**	
	comp=Z,2.4nm,0.7s,baz=311,slow=4.1,SNR=20							
DBIC	**Dimbokro**	**122.95**	**326**	PKP	**PKPdf**	**23 33 35.7**	**-0.5**	
	comp=Z,4.5nm,0.6s,baz=69,slow=1.7,SNR=9.4							
PHDHD	**Phuduhudu**	**126.71**	**278**	PKPdf	**PKiKP**	**23 33 43.6**	**-0.1**	
KHWEE	**KHWEE**	**127.20**	**275**	PKPdf	**PKiKP**	**23 33 45.4**	**+0.7**	
MAW	**Mawson**	**128.07**	**209**	PKP	**PKiKP**	**23 33 45.2**	**+0.4**	
	comp=Z,2.4nm,1.1s,baz=302,slow=5.2,SNR=4.2							
MAW				pPKP	**pPKPdf**	**23 34 15.7**	**0.0**	
	comp=Z,2.9nm,0.9s,baz=87,slow=1.8,SNR=4.5							
NNA	**Nana**	**130.61**	**63***c*	*i*PKIKP	**PKPdf**	**23 33 49.7**	**-1.1**	
NNA				pmax	pmax			
	comp=Z,36nm,1.3s							
BOSA	**Boshof**	**131.41**	**269**	SKPbc	**SKPab**	**23 37 06.7**	**-0.3**	
	comp=Z,32nm,0.9s,baz=53,slow=3.0,SNR=23							
MAL2	**Monte Alegre,**	**133.77**	**30**		**PKiKP**	**23 33 58.2**	**+0.1**	
QSPA	**South Pole Qui**	**134.30**	**180**	PKP	**PKiKP**	**23 33 58.2**	**+0.6**	
	comp=Z,5.1nm,0.7s,baz=290,slow=0.6,SNR=14							
QSPA				pPKP	**pPKPdf**	**23 34 29.2**	**+1.6**	
	comp=Z,5.7nm,0.9s,baz=305,slow=3.8,SNR=4.0							
QSPA				SKPbc	**SKPbc**	**23 37 16.4**	**+1.5**	
	comp=Z,6.5nm,0.8s,baz=42,slow=0.6,SNR=8.6							
SYO	**Syowa Base**	**136.74**	**210**⇑	*e*Pdiff	**Pdif**	**23 31 09.6**	**+2.1**	
SYO	**Syowa Base**	**136.74**	**210**⇑	*i*pPdiff	pPdif	23 31 37.4	-0.4	
LPAZ	**La Paz**	**139.30**	**57**	PKhKP	PKPpre	23 33 56.4		
	comp=Z,3.5nm,0.7s,baz=21,slow=15,SNR=10							
LPAZ				SKPbc	**SKPbc**	**23 37 30.9**	**-1.2**	
	comp=Z,6.4nm,0.9s,baz=342,slow=4.4,SNR=8.2							
H03N2	**Juan Fernandez**	**143.25**	**88**	T	T	02 12 47.9		
	baz=305,slow=77,SNR=86							
H03N3	**Juan Fernandez**	**143.26**	**88**	T	T	02 12 42.2		
	baz=305,slow=77,SNR=27							
H03N1	**Juan Fernandez**	**143.26**	**88**	T	T	02 12 46.4		
	baz=305,slow=77,SNR=84							
SALV	**Santo Antonio**	**145.71**	**41**	*e*P	**PKPdf**	**23 34 18.1**	**-0.1**	
SDBA	**SAO DESIDERIO**	**146.44**	**21**	*e*P	**PKPbc**	**23 34 21.4**	**+0.3**	
LCO	**Las Campanas**	**146.57**	**75**		**PKPbc**	**23 34 21.4**	**0.0**	
LCO	**Las Campanas**	**146.57**	**75**	PKP2	**PKPbc**	**23 34 21.4**	**0.0**	
PP1B	**Ponte de Pedra**	**147.56**	**41**	*e*P	**PKPdf**	**23 34 22.6**	**+1.3**	
TROLL	**Troll, Antarti**	**147.66**	**200**	⇑P	**PKPbc**	**23 34 23.4**	**+0.5**	
	comp=Z,829nm,0.6s							
TROLL				⇑pPKiKP	**pPKPbc**	**23 34 53.7**	**-0.5**	
	comp=Z,1μm,0.8s							
BDFB	**Brasilia**	**148.58**	**28**		**PKPdf**	**23 34 23.7**	**+0.5**	
BDFB	**Brasilia**	**148.58**	**28**	PKPbc	**PKiKP**	**23 34 27.7**	**-0.7**	
	comp=Z,4.9nm,0.9s,baz=276,slow=2.2,SNR=6.0							
BDFB	**Brasilia**	**148.58**	**28**	PKIKP	**PKPdf**	**23 34 23.7**	**+0.5**	
MT05	**Renca**	**149.06**	**82**		**PKPbc**	**23 34 27.8**	**+0.2**	
SNAA	**Sanae**	**149.14**	**198**	⇑P	**PKPbc**	**23 34 26.5**	**-0.2**	
	comp=Z,245nm,0.9s							
SNAA				⇑pPKiKP	**pPKPbc**	**23 34 56.0**	**-2.0**	
	comp=Z,396nm,1.0s							
SNAA	**Sanae**	**149.14**	**198**		**PKPdf**	**23 34 24.3**	**+2.0**	
SNAA	**Sanae**	**149.14**	**198**	PKPbc	**PKPbc**	**23 34 27.2**	**+0.5**	
	comp=Z,17nm,1.1s,baz=121,slow=1.8,SNR=29							
SNAA				PKKP	**PKKPdf**	**23 43 14.1**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=206,slow=22,SNR=3.8							
ZON	**Zonda**	**149.48**	**77**		**PKPdf**	**23 34 25.3**	**+1.1**	
ZON				PKPbc	**PKiKP**	**23 34 29.7**	**-0.1**	
ZON	**Zonda**	**149.48**	**77**	PKHKP	PKPpre	23 34 25.3		
ZON						23 34 29.7		
BO02	**Sierra Bellavi**	**149.75**	**84**	PKPbc	**PKiKP**	**23 34 30.0**	**-0.2**	
VNA2	**Neumayer--Watz**	**150.68**	**197**	⇑P	**PKiKP**	**23 34 30.6**	**-0.3**	
	comp=Z,25nm,0.8s,baz=110,slow=1.6							
VNA2				⇑pPKiKP	**pPKPbc**	**23 35 00.7**	**-0.9**	
	comp=Z,43nm,0.8s,baz=49,slow=1.1							
VNA3	**Neumayer Olymp**	**150.88**	**195**	⇑P	**PKPbc**	**23 34 30.8**	**0.0**	
	comp=Z,15nm,0.7s							
VNA3				⇑pPKiKP	**pPKPbc**	**23 35 01.3**	**-0.8**	
	comp=Z,31nm,0.8s							
VNA1	**Neumayer--Stat**	**151.08**	**197**	⇑P	**PKiKP**	**23 34 31.7**	**0.0**	
	comp=Z,27nm,1.0s							
VNA1				⇑pPKiKP	**pPKPbc**	**23 35 01.4**	**-1.2**	
	comp=Z,58nm,1.0s							
PLCA	**Paso Flores**	**152.46**	**95**	PKP	**PKPdf**	**23 34 28.6**	**+0.2**	
	comp=Z,4.6nm,0.9s,baz=219,slow=1.7,SNR=5.6							
PLCA				PKPbc	**PKiKP**	**23 34 35.8**	**+0.1**	
	comp=Z,28nm,0.8s,baz=246,slow=3.4,SNR=34							
GO09	**Cerro Castillo**	**153.21**	**119**	PKPdf	**PKPdf**	**23 34 29.1**	**+0.1**	
GO09				PKPbc	**PKiKP**	**23 34 37.4**	**+0.6**	
CPUP	**Villa Florida**	**153.41**	**55**	PKP	**PKPdf**	**23 34 30.1**	**0.0**	
	comp=Z,2.5nm,1.1s,baz=269,slow=1.6,SNR=5.7							
CPUP				PKPbc	**PKPbc**	**23 34 37.5**	**-0.3**	
	comp=Z,3.2nm,1.0s,baz=154,slow=3.6,SNR=9.2							
CPUP				PKPab	**PKPab**	**23 34 51.0**	**+0.6**	
	comp=Z,10nm,1.0s,baz=160,slow=4.2,SNR=18							
ESPZ	**Base Esperanza**	**156.78**	**153**	PKPdf	**PKPdf**	**23 34 36.7**	**+3.2**	
ESPZ					**pPKPdf**	**23 35 05.4**	**+0.3**	

*DJA **14** 23:18:44.9±0.2, 6°S±2°×13°0E±°, h173km±4km, M4.8/22, mb4.6/22, mB5.3/7, MLv4.9/15, Mw(mB)4.7/7*
*NEIC **14** 23:18:45.0±2.1, 6°30S±0°08×130°15E±0°10, h148km±9km, mb4.4/14, Error ellipse: s-maj=14.3km s-min=11.0km az=82.0*
*IDC **14** 23:18:46.1±2.1, 6°44S×130°17E, h164km±21km, mb3.7/9, mbtmp4.4/16, Error ellipse: s-maj=20.2km s-min=12.9km az=65.0*

ISC 14 23:18:44.4±0.4, 6°44S±0°04×130°21E±0°05, h146km, n96, σ1°97/103, mb4.3/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**145**			**Pn**	**23 19 20.3**	**+2.5**
SAUI	**Saumlaki**	**1.88**	**145**	P		**Pn**	**23 19 20.9**	**+3.1**
SAUI	**Saumlaki**	**1.88**	**145**	P		**Pn**	**23 19 19.9**	**+2.1**
SAUI				S		**Sn**	**23 19 47.3**	**+3.8**
BNDI	**Bandanaira**	**1.93**	**351**	P		**Pn**	**23 19 20.2**	**+1.8**
BNDI	**Bandanaira**	**1.93**	**351**	P		**Pn**	**23 19 19.9**	**+1.5**
BNDI				S		**Sn**	**23 19 48.7**	**+4.1**
MSAI	**Masohi**	**3.33**	**337**	P		**Pn**	**23 19 36.9**	**+1.1**
AAI	**Ambon**	**3.39**	**324**	P		**Pn**	**23 19 38.4**	**+1.8**
FAKI	**Fak Fak**	**4.04**	**30**	Pn		**Pn**	**23 19 43.8**	**-1.3**
FAKI	**Fak Fak**	**4.04**	**30**	P		**Pn**	**23 19 44.2**	**-0.9**
FAKI	**Fak Fak**	**4.04**	**30**	P		**Pn**	**23 19 43.6**	**-1.5**
NLAI	**Namlea**	**4.44**	**316**	P		**Pn**	**23 19 53.1**	**+2.8**
KMPI	**Kaimana, Papua**	**4.44**	**52**	P		**Pn**	**23 19 50.0**	**-0.3**
SWI	**Sorong**	**5.64**	**11**	P		**Pn**	**23 20 04.7**	**-1.5**
DRS	**Darwin Rock St**	**5.99**	**174**	P		**Pn**	**23 20 12.7**	**+1.7**
SANI	**Sanana**	**6.06**	**316**	P		**Pn**	**23 20 14.3**	**+2.4**
SANI	**Sanana**	**6.06**	**316**	S		**Sn**	**23 21 20.8**	**+0.5**
SANI	**Sanana**	**6.06**	**316**	P		**Pn**	**23 20 13.5**	**+1.6**
	0.2nm34nm,0.9s							
RKPI	**Ransiki, Papua**	**6.29**	**39**	P		**Pn**	**23 20 14.9**	**-0.1**
LBMI	**Labuha**	**6.36**	**335**	P		**Pn**	**23 20 16.7**	**+0.8**
MTN	**Manton Dam**	**6.43**	**172**	Pn		**Pn**	**23 20 18.1**	**+1.3**
SOEI	**Soe**	**6.74**	**240**	Pn		**Pn**	**23 20 22.0**	**+0.9**
SOEI	**Soe**	**6.74**	**240**	P		**Pn**	**23 20 23.6**	**+2.5**
SOEI	**Soe**	**6.74**	**240**	S		**Sn**	**23 21 39.0**	**+2.1**
SOEI	**Soe**	**6.74**	**240**	P		**Pn**	**23 20 23.2**	**+2.1**
	1.4nm69nm,0.7s							
BATI	**Baumata**	**7.48**	**240**	P		**Pn**	**23 20 32.7**	**+1.8**
	75nm,0.3s,baz=17,slow=1.5,SNR=13							
BATI				S		**Sn**	**23 21 51.6**	**-2.9**
	138nm,0.4s,baz=75,slow=19,SNR=21							
BATI	**Baumata**	**7.48**	**240**	P		**Pn**	**23 20 32.6**	**+1.7**
	1.0nm2μm100nm,0.4s							
BATI				S		**Sn**	**23 21 57.1**	**+2.6**
	1.0nm2μm100nm,0.4s							
BAKI	**Biak**	**7.86**	**49**	P		**Pn**	**23 20 37.3**	**+1.3**
BAKI				S		**Sn**	**23 22 00.6**	**-3.0**
MMRI	**Maumere**	**8.20**	**254**	Pn		**Pn**	**23 20 44.5**	**+4.0**
MMRI	**Maumere**	**8.20**	**254**	P		**Pn**	**23 20 43.2**	**+2.7**
	36nm,0.6s							
EDFI	**Ende, Flores**	**8.75**	**254**	P		**Pn**	**23 20 50.2**	**+2.2**
	40nm,0.7s							
LUWI	**Luwuk**	**9.15**	**306**	P		**Pn**	**23 20 55.0**	**+1.8**
	2μm29nm,0.8s							
KNRA	**Kununurra**	**9.29**	**189**	Pn		**Pn**	**23 20 54.3**	**-0.7**
SMPI	**Sarmi**	**9.56**	**63**	P		**Pn**	**23 20 58.5**	**-0.1**
	17nm,0.9s							
BASI	**Baing, Sumba**	**10.24**	**248**	P		**Pn**	**23 21 08.7**	**+1.0**
	128nm,0.9s							
KAPI	**Kappang**	**10.50**	**277**	P		**Pn**	**23 21 13.2**	**+2.0**
	6.9nm,0.2s,baz=72,slow=20,SNR=5.8							
KAPI	**Kappang**	**10.50**	**277**	P		**Pn**	**23 21 12.1**	**+0.9**
JAY	**Jayapura**	**11.16**	**70**	P		**Pn**	**23 21 21.6**	**+1.6**
	5.6nm,0.3s,baz=210,slow=13,SNR=6.1							
JAY				S		**Sn**	**23 23 22.3**	**-1.1**
	17nm,1.1s,baz=11,slow=8.6,SNR=3.7							
WBSI	**Waikabubak, Su**	**11.17**	**253**	P		**Pn**	**23 21 18.8**	**-1.3**
	60nm,1.0s							
TOLI2	**Tolitoli**	**12.03**	**308**	Pn		**Pn**	**23 21 33.9**	**+2.7**
FITZ	**Fitzroy Crossi**	**12.42**	**201**	Pn		**Pn**	**23 21 33.8**	**-2.4**
FITZ	**Fitzroy Crossi**	**12.42**	**201**	P		**Pn**	**23 21 35.5**	**-0.7**
	3.4nm,0.3s,baz=19,slow=8.9,SNR=28							
FITZ				S		**Sn**	**23 23 45.1**	**-8.3**
	18nm,0.3s,baz=133,slow=12,SNR=7.2							
PLAI	**Plampang**	**12.55**	**258**	P		**Pn**	**23 21 37.2**	**-0.8**
PLAI	**Plampang**	**12.55**	**258**	P		**Pn**	**23 21 36.7**	**-1.3**
	51nm,0.6s							
TWSI	**Taiwang, Sumb**	**13.41**	**259**	P		**Pn**	**23 21 49.1**	**+0.1**
	21nm,0.6s							
WB0	**Warramunga Arr**	**13.86**	**163**	Pn		**Pn**	**23 21 53.0**	**-1.7**
WRAB	**Tennant Creek**	**14.01**	**164**	P		**Pn**	**23 21 56.6**	**0.0**
WRA	**Warramunga Arr**	**14.01**	**164**	Pn		**Pn**	**23 21 56.6**	**-0.1**
WRA	**Warramunga Arr**	**14.01**	**164**	P		**Pn**	**23 21 56.0**	**-0.6**
	8.4nm,0.5s,baz=350,slow=12,SNR=26							
WRA				S		**Sn**	**23 24 23.6**	**-8.3**
	12nm,0.6s,baz=339,slow=21,SNR=8.0							
WR8	**Warramunga Arr**	**14.07**	**163**	Pn		**Pn**	**23 21 56.0**	**-1.4**
COEN	**Coen**	**14.78**	**121**	Pn		**Pn**	**23 22 06.3**	**-0.1**
COEN	**Coen**	**14.78**	**121**	P		**P**	**23 22 07.5**	**-1.0**
BBKI	**Banjar Baru**	**15.59**	**280**	P		**P**	**23 22 18.1**	**+0.6**
	196nm,1.0s							
JAGI	**Jajag, Banyuwa**	**16.05**	**262**			**Pn**	**23 22 20.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**16.05**	**262**	P		**Pn**	**23 22 21.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**16.05**	**262**	P		**Pn**	**23 22 20.6**	**-1.4**
QIS	**Mount Isa**	**16.73**	**148**	P		**Pn**	**23 22 31.1**	**+0.8**
PMG	**Port Moresby**	**17.04**	**101**	P		**Pn**	**23 22 34.6**	**+0.5**
	19nm,0.6s,baz=290,slow=7.8,SNR=5.3							
AS31	**Alice Springs**	**17.49**	**169**	P		**Pn**	**23 22 40.0**	**+0.5**
ASAR	**Alice Springs**	**17.49**	**169**	P		**Pn**	**23 22 40.1**	**+0.6**
ASAR	**Alice Springs**	**17.49**	**169**	P		**Pn**	**23 22 40.3**	**+0.8**
	11nm,0.6s,baz=344,slow=10,SNR=109							
AS01	**Alice Springs**	**17.50**	**169**	P		**Pn**	**23 22 40.3**	**+0.7**
MBWA	**Marble Bar**	**17.81**	**214**	P		**Pn**	**23 22 43.6**	**+0.4**
MBWA				IAmb		IAmb	23 22 44.3	
	comp=Z,14nm,0.7s							
MBWA	**Marble Bar**	**17.81**	**214**	P		**Pn**	**23 22 43.2**	**0.0**
PSA00	**Pilbara Seismi**	**18.08**	**213**	P		**Pn**	**23 22 44.7**	**-0.2**
PSA00	**Pilbara Seismi**	**18.08**	**213**	P		**Pn**	**23 22 46.3**	**-0.1**
SBUM	**Sibu**	**20.01**	**296**	P		**P**	**23 23 05.8**	**-0.1**
TV1H	**Townsville Har**	**20.56**	**130**	P		**P**	**23 23 13.5**	**+1.8**
CTAO	**Charters Tower**	**20.66**	**133**	P		**P**	**23 23 14.4**	**+1.6**
CTAO				IAmb		IAmb	23 23 17.4	
	comp=Z,13nm,0.8s							
CTAO	**Charters Tower**	**20.66**	**133**	P		Pn	23 23 14.7	-2.1
GIRL	**Giralia**	**22.29**	**222**	P		**P**	**23 23 30.8**	**+0.9**
GIRL				IAmb		IAmb	23 23 43.7	
	comp=Z,29nm,1.1s							
BBJI	**Bungbulang**	**22.42**	**266**	P		**P**	**23 23 30.6**	**-0.7**
MEEK	**Meekatharra**	**22.93**	**208**	P		**P**	**23 23 37.0**	**+1.1**
INKA	**Innaminka**	**23.43**	**156**	P		**P**	**23 23 41.7**	**+1.3**
INKA				IAmb		IAmb	23 23 43.7	
	comp=Z,8.1nm,0.8s							
MORW	**Morawa**	**26.19**	**209**	P		**P**	**23 24 05.4**	**-0.1**
MORW				IAmb		IAmb	23 24 18.6	
	comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**26.80**	**169**	P		**P**	**23 24 10.7**	**-0.2**
BBOO				IAmb		IAmb	23 24 18.1	
	comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**26.80**	**169**	P		**P**	**23 24 11.3**	**+0.4**
STKA	**Stephens Creek**	**27.45**	**159**	P		**P**	**23 24 16.7**	**-0.1**
STKA				IAmb		IAmb	23 24 22.9	
	comp=Z,13nm,0.9s							
STKA	**Stephens Creek**	**27.45**	**159**	P		**P**	**23 24 17.5**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=322,slow=9.0,SNR=7.2							
	comp=Z,2.6nm,0.6s							
CMSA	**Cobar Meteorol**	**28.87**	**152**	P		**P**	**23 24 30.7**	**+1.4**
CAN	**Canberra**	**33.54**	**152**	P		**P**	**23 25 12.1**	**+1.8**
CAN				IAmb		IAmb	23 25 13.0	
	comp=Z,7.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.53**	**309**	P		**P**	**23 26 01.1**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=134,slow=6.7,SNR=4.6							
	comp=Z,1.9nm,0.7s							
NJ2	**Nanjing**	**39.78**	**345**	*e*P		**P**	**23 26 02.5**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
PZH	**PanZhiHua**	**42.83**	**321**	P		**P**	**23 26 29.4**	**+1.2**
HHC	**Hu-ho-hao-te**	**50.08**	**342**	*e*P		**P**	**23 27 26.4**	**+1.9**
EVN	**Everest**	**54.07**	**311**	P		**P**	**23 27 54.1**	**-0.8**
SONM	**Songino Array**	**57.98**	**341**	P		**P**	**23 28 21.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=162,slow=5.5,SNR=5.5							
	comp=Z,1.1nm,0.5s							
MKAR	**Makanchi Array**	**67.87**	**327**	P		**P**	**23 29 26.8**	**-0.2**
	comp=Z,3.8nm,0.4s,baz=119,slow=7.1,SNR=43							
	comp=Z,3.8nm,0.4s							
MAKZ	**Makanchi**	**68.05**	**326**	P		**P**	**23 29 27.9**	**-0.2**
YAK	**Yakutsk**	**68.27**	**360**	P		**P**	**23 29 30.0**	**+1.0**
	comp=Z,21nm,0.5s,baz=42,slow=1.5,SNR=2.3							
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**23 29 45.6**	**-1.4**
ZALV	**Zalesovo Beam**	**71.17**	**334**	P		**P**	**23 29 45.2**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=142,slow=5.1,SNR=3.0							
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**72.14**	**328**	P		**P**	**23 29 52.2**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=128,slow=4.9,SNR=6.9							
	comp=Z,1.5nm,0.6s							
VNDA	**Vanda**	**72.98**	**173**	P		**P**	**23 29 56.6**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=317,slow=8.0,SNR=3.6							
	comp=Z,0.5nm,0.8s							
MAW	**Mawson**	**75.55**	**201**	P		**P**	**23 30 13.0**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=87,slow=7.4,SNR=2.7							
	comp=Z,1.2nm,0.8s							
ABKAR	**Akbulak array**	**82.20**	**322**	P		**P**	**23 30 46.1**	**-2.9**
QSPA	**South Pole Qui**	**83.53**	**180**	P		**P**	**23 30 55.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=303,slow=

PB03 IAML 23 38 02.8
comp=E,1μm,0.2s
PB03 IPOC Station P 1.14 223 *i* P **Pn 23 37 43.0 -0.1**
PB03 *e*S **Sn 23 38 02.4 +0.5**
PB03 IAML 23 38 05.9
comp=Z,731nm,0.2s
HMBC Humberstone 1.30 315⇓ *i*P **Pn 23 37 44.8 +0.1**
HMBC *i* S **Sn 23 38 04.6 -0.1**
HMBC IAML 23 38 07.2
comp=N,931nm,0.1s
TA01 Diego Aracena 1.35 298 *e*P **Pn 23 37 45.7 +0.7**
TA01 *i* S **Sn 23 38 05.8 +0.4**
TA01 IAML 23 38 08.5
comp=E,641nm,0.2s
TA01 Diego Aracena 1.35 298 *i* P **Pn 23 37 45.0 0.0**
TA01 IAML 23 38 08.1
comp=Z,258nm,0.4s
TA02 Huaiquique 1.48 309 *e*P **Pn 23 37 46.9 +0.5**
TA02 Huaiquique 1.48 309 *i* P **Pn 23 37 46.3 -0.1**
TA02 IAML 23 38 15.2
comp=Z,380nm,0.1s
GO01 Chusmiza 1.56 350 *e*P **Pn 23 37 47.6 -0.3**
GO01 *i* S **Sn 23 38 10.2 -0.1**
PB06 IPOC Station P 1.61 202⇑ *i*P **Pn 23 37 48.7 +0.7**
PB06 *i* S **Sn 23 38 11.0 +0.3**
PB06 IAML 23 38 11.9
comp=E,676nm,0.5s
PB06 IPOC Station P 1.61 202 *i* P **Pn 23 37 48.0 0.0**
PB06 *e*S **Sn 23 38 11.5 +0.8**
PB06 IAML 23 38 14.3
comp=Z,285nm,0.2s
PB11 IPOC Station P 1.61 334⇓ *i*P **Pn 23 37 47.8 -0.2**
PB11 *i* S **Sn 23 38 10.4 -0.2**
PB11 IAML 23 38 12.2
comp=N,681nm,0.2s
PB11 IPOC Station P 1.61 334 *i* P **Pn 23 37 47.2 -0.8**
PB11 IAML 23 38 12.2
comp=Z,362nm,0.1s
PB10 IPOC Station P 2.75 213 *e*P **Pn 23 38 02.0 +0.3**
PB10 *i* S **Sn 23 38 32.0 -3.3**
PB10 IAML 23 38 37.4
comp=E,62nm,0.4s
PB10 IPOC Station P 2.75 213 *i* P **Pn 23 38 01.7 -0.1**
PB10 IAML 23 38 50.5
comp=Z,40nm,0.3s
PB16 IPOC Station P 2.92 349 *e*P **Pn 23 38 05.4 +0.8**
PB16 IPOC Station P 2.92 349 *i* P **Pn 23 38 04.9 +0.3**
PB16 IAML 23 38 44.8
comp=Z,37nm,0.5s
HJA Humahuaca 3.80 122 *i* P **Pn 23 38 16.6 +0.7**
HJA IAML 23 39 15.2
comp=Z,4.7nm,1.5s
GO02 Mina Guanaco 3.98 189 *i* P **Pn 23 38 17.8 -0.4**
GO02 IAML 23 39 06.3
comp=Z,72nm,0.3s

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*SJA **14** 23:48:18.4±1.6, 21°.37S×68°.86W, h123km±9km, ML3.6, MW3.7*
*GUC **14** 23:48:20.0±0.7, 21°.36S×68°.79W, h118km±4km, ML4.1*
*IDC **14** 23:48:22.5±3.5, 21°.20S×68°.40W, h131km±37km, mb3.4/5, mbtmp3.8/6, Error ellipse: s-maj=45.4km s-min=26.0km az=112.0*
ISC 14 23:48:19.9±0.8, **21°.36S**±0°.03×**68°.81W**±0°.06, **h117**km±6km, **n37**, σ0$99/57, **mb3.7**/3, **4C-7D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.59**	**222**	⇓*i*P		**Pn**	**23 48 38.5**	**+0.1**
PB09				*i* S		**Sn**	**23 48 52.6**	**+0.3**
PB09	**IPOC Station P**	**0.59**	**222**	*i* P		**Pn**	**23 48 37.9**	**-0.5**
PB09				*e*S		**Sn**	**23 48 51.9**	**-0.3**
PB09				IAML			23 48 53.3	
comp=Z,1μm,0.5s								
PB01	**IPOC Station P**	**0.70**	**296**	⇓*i*P		**Pn**	**23 48 38.9**	**-0.2**
PB01				*i* S		**Sn**	**23 48 53.2**	**-0.3**
PB01				IAML			23 48 54.7	
comp=E,10μm,0.4s								
PB01	**IPOC Station P**	**0.70**	**296**	*i* P		**Pn**	**23 48 38.1**	**-0.9**
PB01				*e*S		**Sn**	**23 48 52.7**	**-0.9**
PB01				IAML			23 48 54.4	
comp=Z,5μm,0.2s								
PB02	**IPOC Station P**	**1.01**	**272**	⇓*i*P		**Pn**	**23 48 41.9**	**0.0**
PB02				*e*S		**Sn**	**23 48 58.5**	**0.0**
PB02				IAML			23 48 59.6	
comp=E,11μm,0.3s								
PB02	**IPOC Station P**	**1.01**	**272**	*i* P		**Pn**	**23 48 41.3**	**-0.6**
PB02				*e*S		**Sn**	**23 48 58.3**	**-0.2**
PB02				IAML			23 48 59.5	
comp=Z,11μm,0.4s								
PB03	**IPOC Station P**	**1.11**	**232**⇑	*i*P		**Pn**	**23 48 43.0**	**0.0**
PB03				*e*S		**Sn**	**23 49 00.1**	**-0.4**
PB03				IAML			23 49 01.0	
comp=E,4μm,0.2s								
PB03	**IPOC Station P**	**1.11**	**232**	*i* P		**Pn**	**23 48 42.3**	**-0.7**
PB03				*e*S		**Sn**	**23 48 59.8**	**-0.7**
PB03				IAML			23 49 02.2	
comp=Z,2μm,0.3s								
PB08	**IPOC Station P**	**1.25**	**345**⇓	*i*P		**Pn**	**23 48 45.1**	**+0.3**
PB08				*i* S		**Sn**	**23 49 04.1**	**+0.6**
PB08				IAML			23 49 05.9	
comp=E,2μm,0.3s								
PB08	**IPOC Station P**	**1.25**	**345**	*i* P		**Pn**	**23 48 44.4**	**-0.4**
PB08				IAML			23 49 06.8	
comp=Z,699nm,0.3s								
HMBC	**Humberstone**	**1.47**	**317**⇑	*i*P		**Pn**	**23 48 46.4**	**-0.6**
HMBC				*e*S		**Sn**	**23 49 07.2**	**-0.2**
HMBC				IAML			23 49 08.7	
comp=E,3μm,0.2s								
TA01	**Diego Aracena**	**1.50**	**301**⇑	*i*P		**Pn**	**23 48 46.7**	**-0.4**
TA01				*e*S		**Sn**	**23 49 07.4**	**-0.5**
TA01				IAML			23 49 08.8	
comp=E,6μm,0.2s								
TA01	**Diego Aracena**	**1.50**	**301**	*i* P		**Pn**	**23 48 46.0**	**-1.1**
TA01				*e*S		**Sn**	**23 49 08.3**	**+0.5**
TA01				IAML			23 49 08.7	
comp=Z,886nm,0.3s								
PB06	**IPOC Station P**	**1.52**	**208**⇑	*i*P		**Pn**	**23 48 47.5**	**+0.1**
PB06				*i* S		**Sn**	**23 49 08.5**	**0.0**
PB06				IAML			23 49 10.2	
comp=E,1μm,0.1s								
PB06	**IPOC Station P**	**1.52**	**208**	*i* P		**Pn**	**23 48 46.9**	**-0.6**
PB06				*e*S		**Sn**	**23 49 08.7**	**+0.2**
PB06				IAML			23 49 09.5	
comp=Z,523nm,0.3s								
TA02	**Huaiquique**	**1.64**	**311**	*e*P		**Pn**	**23 48 48.1**	**-0.7**
TA02				*e*S		**Sn**	**23 49 10.8**	**+0.1**
TA02				IAML			23 49 12.8	
comp=N,4μm,0.1s								
TA02	**Huaiquique**	**1.64**	**311**	*i* P		**Pn**	**23 48 49.2**	**+0.4**
TA02				*e*S		**Sn**	**23 49 10.9**	**+0.2**
TA02				IAML			23 49 12.8	
comp=Z,1μm,0.1s								
GO01	**Chusmiza**	**1.72**	**348**⇓	*i*P		**Pn**	**23 48 50.2**	**0.0**
GO01				*e*S		**Sn**	**23 49 13.6**	**+0.3**
GO01				IAML			23 49 15.2	
comp=N,2μm,0.3s								
GO01	**Chusmiza**	**1.72**	**348**	*i* P		**Pn**	**23 48 49.5**	**-0.7**
GO01				IAML			23 49 16.2	
comp=Z,408nm,0.4s								
PB11	**IPOC Station P**	**1.77**	**333**⇓	*i*P		**Pn**	**23 48 50.2**	**-0.3**
PB11				*e*S		**Sn**	**23 49 13.4**	**-0.6**
PB11				IAML			23 49 14.8	
comp=N,3μm,0.5s								
PB11	**IPOC Station P**	**1.77**	**333**	*i* P		**Pn**	**23 48 49.5**	**-1.0**
PB11				*e*S		**Sn**	**23 49 13.6**	**-0.4**
PB11				IAML			23 49 14.9	
comp=Z,884nm,0.6s								
PB10	**IPOC Station P**	**2.68**	**217**	*e*P		**Pn**	**23 49 01.0**	**-1.0**
PB10	**IPOC Station P**	**2.68**	**217**	*i* P		**Pn**	**23 49 00.6**	**-1.3**
PB10				IAML			23 49 55.8	
comp=Z,63nm,0.2s								
PX02	**IPOC Station P**	**2.71**	**331**	*e*P		**Pn**	**23 48 59.0**	**-3.4**
PB16	**IPOC Station P**	**3.08**	**348**⇓	*e*P		**Pn**	**23 49 07.9**	**+0.2**
PB16	**IPOC Station P**	**3.08**	**348**	*i* P		**Pn**	**23 49 07.6**	**0.0**
PB16				IAML			23 49 50.3	
comp=Z,48nm,0.6s								
YJA	**Yavi**	**3.17**	**105**	*e*P		**Pn**	**23 49 07.9**	**-0.9**
PB14	**IPOC Station P**	**3.57**	**204**	*i* P		**Pn**	**23 49 13.3**	**-0.6**
PB14				IAML			23 50 05.2	
comp=Z,52nm,0.5s								
HJA	**Humahuaca**	**3.65**	**121**	*i* P		Pn	23 49 17.4	+2.3
HJA				IAML			23 50 12.6	
comp=Z,5.3nm,1.5s								
GO02	**Mina Guanaco**	**3.85**	**191**	*i* P		**Pn**	**23 49 16.3**	**-1.4**
GO02				IAML			23 50 08.4	
comp=Z,97nm,0.4s								
LPAZ	**La Paz**	**5.08**	**7**	P		**Pn**	**23 49 36.2**	**+1.7**
comp=Z,1.6nm,0.4s,baz=170,slow=3.3,SNR=18								
LPAZ				S		**Sn**	**23 50 30.2**	**-2.3**
comp=Z,2.9nm,0.8s,baz=151,slow=1.8,SNR=3.8								
BDFB	**Brasilia**	**20.52**	**77**	P		**P**	**23 52 47.4**	**-1.7**
comp=Z,1.6nm,0.4s,baz=264,slow=10,SNR=4.4								
comp=Z,1.6nm,0.4s								
SNAA	**Sanae**	**62.38**	**161**	P		**P**	**23 58 30.1**	**+0.3**
comp=Z,1.1nm,0.7s,baz=263,slow=9.0,SNR=6.1								
comp=Z,1.1nm,0.7s								
QSPA	**South Pole Qui**	**68.83**	**180**	P		**P**	**23 59 14.6**	**+3.2**
comp=Z,0.5nm,0.5s,baz=117,slow=6.8,SNR=7.1								
comp=Z,0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P		**P**	**00 00 00.1**	**-1.5**
comp=Z,0.3nm,0.4s,baz=260,slow=4.7,SNR=8.7								
comp=Z,0.3nm,0.4s								
MAW	**Mawson**	**84.44**	**163**	P		**P**	**00 00 39.2**	**+0.3**
comp=Z,0.6nm,0.6s,baz=198,slow=3.2,SNR=2.5								
comp=Z,0.6nm,0.6s								
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc		**PKPab**	**00 07 44.8**	**+0.1**
comp=Z,0.4nm,0.6s,baz=309,slow=2.6,SNR=1.3								
MKAR				pPKPbc		**pPKPdf**	**00 08 17.9**	**+0.7**
comp=Z,1.2nm,0.8s,baz=357,slow=4.9,SNR=3.8								

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*BJI **14** 23:55:50.6, 6°.56N×125°.18E, h10km, mB5.2/6, mb4.7/46, Ms4.6/2, Ms7 4.3/1*
*IDC **14** 23:55:53.0±0.6, 6°.73N×124°.82E, h0km, mb4.2/21, mbtmp4.2/22, ML5.0/1, Error ellipse: s-maj=12.6km s-min=9.3km az=161.0*
*DJA **14** 23:55:54.8±0.7, 7°.N±.7°×.12°.5E±.°, h27km±11km, M5.0/19, mb5.1/19, mB5.4/8, MLv5.1/11, Mw(mB)4.8/8*
*NEIC **14** 23:55:55.2±1.5, 6°.80N±0°.04×124°.91E±0°.04, h10km±1km, mb4.8/56, Error ellipse: s-maj=8.5km s-min=5.3km az=54.0*
ISC 14 23:55:55.1±0.3, **6°.80N**±0°.05×**124°.89E**±0°.06, **h13**km, **n123**, σ1$**23**/124, **mb4.7**/57, **2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.74**	**68**			**Pg**	**23 56 09.1**	**-0.4**
DAV	**Davao City (W)**	**0.74**	**68**	Pg		**Pg**	**23 56 09.4**	**0.0**
2μm,0.3s,baz=256,slow=2.3,SNR=278								
DAV				Lg		Lg	23 56 20.5	
1μm,0.3s,baz=339,slow=23,SNR=11								
DAV	**Davao City (W)**	**0.74**	**68**	P		**Pg**	**23 56 08.0**	**-1.4**
SGSI	**Sangihe**	**3.16**	**168**	P		**Pn**	**23 56 47.2**	**+2.7**
SGSI				S		**Sb**	**23 57 27.8**	**-1.7**
KMSI	**Cibinong**	**6.25**	**188**	P		**Pn**	**23 57 30.4**	**+3.3**
TNTI	**Ternate**	**6.48**	**157**			**Pn**	**23 57 30.5**	**+0.3**
TNTI	**Ternate**	**6.48**	**157**	P		**Pn**	**23 57 33.3**	**+3.1**
0.4nm2μm118nm,0.8s								
MYLDM	**Lahad Datu**	**6.55**	**256**	Pn		**Pn**	**23 57 31.6**	**+0.3**
MRSI	**Marisa**	**6.93**	**205**	P		**Pn**	**23 57 39.7**	**+3.2**
0.7nm2μm138nm,0.7s								
TOLI2	**Tolitoli**	**6.98**	**216**	Pn		**Pn**	**23 57 36.5**	**-0.6**
LUWI	**Luwuk**	**8.07**	**195**	Pn		**Pn**	**23 57 53.2**	**+1.1**
LUWI	**Luwuk**	**8.07**	**195**	P		**Pn**	**23 57 55.5**	**+3.4**
4μm211nm,0.8s								
SANI	**Sanana**	**8.86**	**173**	P		**Pn**	**23 58 03.4**	**+0.5**
935nm83nm,0.8s								
I39PW	**PALAU INFRASON**	**9.61**	**85**	I		I	00 58 27.6	
baz=267,slow=310,SNR=1.4								
SWI	**Sorong**	**9.92**	**140**	P		**Pn**	**23 58 18.8**	**+1.4**
25nm,0.9s								
NLAI	**Namlea**	**10.21**	**167**	P		**Pn**	**23 58 22.7**	**+1.2**
1μm77nm,0.6s								
FAKI	**Fak Fak**	**12.13**	**142**	Pn		**Pn**	**23 58 48.3**	**+0.5**
FAKI	**Fak Fak**	**12.13**	**142**	P		**Pn**	**23 58 50.1**	**+2.3**
30nm,1.0s								
RKPI	**Ransiki, Papua**	**12.41**	**131**	P		**Pn**	**23 58 53.0**	**+1.4**
57nm,0.5s								
KAPI	**Kappang**	**12.80**	**204**	Pn		**Pn**	**23 58 57.3**	**+0.3**
SBUM	**Sibu**	**13.34**	**252**	Pn		**Pn**	**23 59 01.7**	**-2.6**
KSM	**Kuching**	**15.47**	**251**	Pn		**Pn**	**23 59 33.5**	**+0.3**
SOEI	**Soe**	**16.46**	**182**	Pn		**Pn**	**23 59 46.2**	**+0.2**
SOEI				IAmb		IAmb	00 00 17.3	
comp=Z,44nm,0.8s								
SOEI	**Soe**	**16.46**	**182**	P		**P**	**23 59 48.5**	**-0.2**
comp=Z,53nm,0.9s								
BATI	**Baumata**	**16.94**	**184**	Pn		**Pn**	**23 59 52.1**	**+0.1**
comp=Z,5.0nm,0.3s,baz=229,slow=3.4,SNR=7.2								
comp=Z,16nm,0.3s								
BATI	**Baumata**	**16.94**	**184**	P		**P**	**23 59 54.5**	**+0.6**
comp=Z,61nm,0.9s								
GENI	**Genyem**	**17.88**	**121**	P		**P**	**00 00 04.6**	**+0.2**
MTN	**Manton Dam**	**20.48**	**162**			**P**	**00 00 32.6**	**-0.2**
MYKOM	**Kota Tinggi**	**21.55**	**258**	P		**P**	**00 00 45.7**	**+1.2**
KNRA	**Kununurra**	**22.66**	**170**	P		**P**	**00 00 56.7**	**+0.4**
KNRA				IAmb		IAmb	00 01 09.8	
comp=Z,41nm,0.8s								
KULM	**Kulim**	**24.15**	**268**	P		**P**	**00 01 11.5**	**+0.3**
KULM				IAmb		IAmb	00 01 13.9	
comp=Z,36nm,1.4s								
FITZ	**Fitzroy Crossi**	**24.75**	**178**	P		**P**	**00 01 16.6**	**+0.1**
RPSI	**Rantau Prapat**	**26.19**	**262**	P		**P**	**00 01 30.0**	**+0.2**
COEN	**Coen**	**27.47**	**139**	P		**P**	**00 01 43.9**	**+2.6**
COEN				IAmb		IAmb	00 01 52.5	
comp=Z,14nm,0.9s								
CMAR	**Chiang Mai Arr**	**27.80**	**297**	P		**P**	**00 01 45.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**27.80**	**297**	P		**P**	**00 01 44.2**	**+0.1**
comp=Z,1.0nm,0.3s,baz=115,slow=6.6,SNR=8.0								
comp=Z,1.0nm,0.3s								
KMI	**Kunming**	**27.94**	**313**	P		**P**	**00 01 48.5**	**+2.8**
KMI				pmax		pmax		
comp=Z,7.0nm,0.7s								
WB0	**Warramunga Arr**	**28.01**	**161**	P		**P**	**00 01 45.5**	**-0.5**
WB0				IAmb		IAmb	00 02 05.8	
comp=Z,10nm,0.8s								
WRA	**Warramunga Arr**	**28.15**	**161**	P		**P**	**00 01 46.4**	**-0.9**
WRA	**Warramunga Arr**	**28.15**	**161**	P		**P**	**00 01 46.2**	**-1.1**
comp=Z,4.1nm,0.8s,baz=329,slow=11,SNR=12								
comp=Z,4.1nm,0.8s								
WR8	**Warramunga Arr**	**28.22**	**161**	P		**P**	**00 01 47.0**	**-0.9**
PZH	**PanZhiHua**	**29.49**	**314**	P		**P**	**00 02 01.8**	**+2.5**
KSRS	**Korea Array**	**30.64**	**5**	P		**P**	**00 02 09.1**	**-0.1**
comp=Z,2.4nm,0.8s,baz=179,slow=9.0,SNR=4.6								
comp=Z,2.4nm,0.8s								
XAN	**Xi'an**	**30.87**	**334**	P		**P**	**00 02 11.6**	**+0.3**
XAN				pP		sP	00 02 16.6	-0.4
XAN				pmax		pmax		
comp=Z,8.0nm,0.8s								
CD2	**Chengdu**	**31.10**	**323**	P		**P**	**00 02 14.4**	**+1.0**
CD2				pmax		pmax		
comp=Z,20nm,0.8s								
AS31	**Alice Springs**	**31.53**	**164**	P		**P**	**00 02 16.5**	**-0.8**
ASAR	**Alice Springs**	**31.53**	**164**	P		**P**	**00 02 16.4**	**-0.8**
comp=Z,1.8nm,0.5s,baz=342,slow=6.9,SNR=35								
comp=Z,1.8nm,0.5s								
HNS	**HongShan**	**31.84**	**345**	⇑P		**P**	**00 02 20.3**	**+0.6**
HNS				pmax		pmax		
comp=Z,14nm,0.8s								
MJAR	**Matsushiro Arr**	**32.01**	**20**	P		**P**	**00 02 20.0**	**-1.4**
comp=Z,1.0nm,0.3s,baz=224,slow=42,SNR=6.0								
comp=Z,1.0nm,0.3s								
BJI	**Beijing**	**34.01**	**348**	P		**P**	**00 02 38.8**	**+0.1**
BJI				sP		**sP**	**00 02 45.8**	**+1.5**
BJI				pmax		pmax		
comp=Z,7.0nm,1.2s								
LZDM	**Lanzhou Array**	**34.92**	**329**	P		**P**	**00 02 47.6**	**+0.6**
comp=Z,0.7nm,0.3s,baz=169,slow=8.3,SNR=6.2								
comp=Z,0.7nm,0.3s								
LZH	**Lanzhou**	**34.95**	**329**	*e*P		**P**	**00 02 49.1**	**+2.0**
LZH				sP		sP	00 02 59.1	+6.4
LZH				pmax		pmax		
comp=Z,26nm,1.0s								
HHC	**Hu-ho-hao-te**	**35.94**	**343**	*e*P		**P**	**00 02 56.8**	**+1.3**
HHC				pmax		pmax		
comp=Z,12nm,0.5s								
SHL	**Shillong**	**36.61**	**304**	P		**P**	**00 03 01.9**	**+0.3**
SHL				IAmb		IAmb	00 03 03.1	
comp=Z,9.7nm,0.7s								
FORT	**Forrest**	**37.49**	**176**	P		**P**	**00 03 08.8**	**+0.2**
FORT				IAmb		IAmb	00 03 19.8	
comp=Z,15nm,0.8s								
USRK	**Ussuriysk Ar.**	**37.77**	**8**	P		**P**	**00 03 10.7**	**-0.2**
comp=Z,5.3nm,0.7s,baz=176,slow=5.8,SNR=5.3								
comp=Z,5.3nm,0.7s								
BNX	**BinXian**	**38.85**	**3**	⇑P		**P**	**00 03 20.8**	**+0.8**
BNX				pmax		pmax		
comp=Z,11nm,1.0s								
GTA	**Gaotai**	**39.54**	**329**	*e*P		**P**	**00 03 27.8**	**+1.8**
GTA				pmax		pmax		
comp=Z,21nm,1.1s								
BBOO	**Buckleboo**	**40.80**	**166**	P		**P**	**00 03 35.8**	**-0.5**
BBOO				IAmb		IAmb	00 03 50.8	
comp=Z,14nm,0.8s								
STKA	**Stephens Creek**	**41.63**	**158**	P		**P**	**00 03 42.9**	**-0.3**
STKA	**Stephens Creek**	**41.63**	**158**	P		**P**	**00 03 43.2**	**0.0**
comp=Z,2.7nm,0.5s,baz=339,slow=9.6,SNR=7.6								
comp=Z,2.7nm,0.5s								
EVN	**Everest**	**41.72**	**305**	P		**P**	**00 03 42.4**	**-2.5**
EVN				IAmb		IAmb	00 03 47.0	
comp=Z,18nm,1.2s								
HILR	**Hailar Array B**	**42.83**	**355**	P		**P**	**00 03 53.1**	**+0.3**
comp=Z,2.4nm,0.5s,baz=165,slow=12,SNR=6.6								
comp=Z,2.4nm,0.5s								
HEH	**HeiHe**	**43.36**	**2**	*e*P		**P**	**00 03 57.1**	**+0.1**
HEH				pmax		pmax		
comp=Z,12nm,1.1s								
SONM	**Songino Array**	**43.83**	**342**	P		**P**	**00 04 02.2**	**+1.2**
comp=Z,1.5nm,0.6s,baz=162,slow=8.4,SNR=8.4								
comp=Z,1.5nm,0.6s								
PETK	**Petropavlovsk-**	**53.34**	**24**	P		**P**	**00 05 14.5**	**+0.4**
PETK	**Petropavlovsk-**	**53.34**	**24**	P		**P**	**00 05 15.1**	**+1.0**
comp=Z,3.0nm,0.7s,baz=207,slow=9.0,SNR=4.5								
comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**54.01**	**325**	P		**P**	**00 05 19.4**	**+0.4**
MKAR	**Makanchi Array**	**54.01**	**325**	P		**P**	**00 05 19.9**	**+0.8**
comp=Z,2.4nm,0.5s,baz=120,slow=7.7,SNR=31								
comp=Z,2.4nm,0.5s								
MAKZ	**Makanchi**	**54.19**	**325**	P		**P**	**00 05 20.6**	**+0.2**
KSH	**Kashi**	**54.59**	**314**	P		**P**	**00 05 26.3**	**+2.7**
KSH				pmax		pmax		
comp=Z,6.0nm,1.3s								
NIL	**Nilore**	**54.62**	**307**			**P**	**00 05 23.4**	**-0.3**
NIL				IAmb		IAmb	00 05 35.5	
comp=Z,10nm,0.8s								
AAK	**Ala-Archa**	**56.87**	**317**	P		**P**	**00 05 38.9**	**-1.0**
ZAA0	**Zalesovo Array**	**57.04**	**333**	P		**P**	**00 05 40.0**	**-0.7**
ZALV	**Zalesovo Beam**	**57.04**	**333**	P		**P**	**00 05 39.5**	**-1.2**
ZALV	**Zalesovo Beam**	**57.04**	**333**	P		**P**	**00 05 40.1**	**-0.6**
comp=Z,2.0nm,0.9s,baz=138,slow=7.1,SNR=6.5								
comp=Z,2.0nm,0.9s								
KURBB	**Kurchatov Arra**	**58.18**	**327**	P		**P**	**00 05 49.3**	**+0.5**
comp=Z,3.5nm,0.7s,baz=128,slow=5.8,SNR=19								
comp=Z,3.5nm,0.7s								
KURK	**Kurchatov**	**58.18**	**327**	P		**P**	**00 05 48.4**	**-0.4**
KURK				IAmb		IAmb	00 05 52.4	
comp=Z,5.8nm,0.8s								
GAR	**Garm**	**58.52**	**312**	P		**P**	**00 05 51.1**	**-0.4**
CHGR	**Chuyangaron**	**59.27**	**311**	P		**P**	**00 05 55.6**	**-1.2**
CHGR				IAmb		IAmb	00 06 04.3	
comp=Z,15nm,1.3s								
KK31	**Karatay Array**	**59.76**	**316**	P		**P**	**00 05 59.8**	**-0.1**
KK31				IAmb		IAmb	00 06 01.5	
comp=Z,9.1nm,0.9s								
KKAR	**Karatay Array**	**59.76**	**316**	P		**P**	**00 05 59.9**	**0.0**
LBZ	**Lake Benmore**	**65.23**	**146**	P		**P**	**00 06 35.9**	**-0.5**
BKZ	**Black Stump Fm**	**66.08**	**138**	P		**P**	**00 06 40.9**	**-1.1**
AB31	**Akbulak array**	**68.63**	**320**	P		**P**	**00 06 57.1**	**-0.9**
AB31				IAmb		IAmb	00 06 58.8	
comp=Z,6.8nm,1.0s								
ABKAR	**Akbulak array**	**68.63**	**320**	P		**P**	**00 06 57.0**	**-1.1**
CASY	**Casey**	**73.64**	**186**	P		**P**	**00 07 28.1**	**+0.2**
CASY				IAmb		IAmb	00 07 38.4	
comp=Z,5.8nm,0.8s								
KBZ	**Khabaz**	**79.55**	**313**	P		**P**	**00 08 02.0**	**+0.1**
comp=Z,1.3nm,0.8s,baz=21,slow=7.0,SNR=3.8								
comp=Z,1.3nm,0.8s								
IMAR	**Indian Mountai**	**80.31**	**24**	P		**P**	**00 08 05.9**	**+0.3**
G21K	**Allakaket**	**80.45**	**24**	P		**P**	**00 08 07.2**	**+0.8**
G21K				IAmb		IAmb	00 08 23.6	
comp=Z,16nm,1.3s								
F24K	**Squaw Lake**	**82.70**	**23**	P		**P**	**00 08 19.8**	**+1.5**
F24K				IAmb		IAmb	00 08 21.2	
comp=Z,9.5nm,1.2s								
H24K	**Noodor Dome**	**82.71**	**24**	P		**P**	**00 08 18.6**	**+0.2**
H24K				IAmb		IAmb	00 08 23.3	
comp=Z,6.3nm,1.1s								
ILAR	**Eielson Array**	**83.14**	**26**	P		**P**	**00 08 21.3**	**+0.7**
comp=Z,1.3nm,0.9s,baz=228,slow=4.9,SNR=7.5								
comp=Z,1.3nm,0.9s								
I26K	**Coal Creek Min**	**84.69**	**25**	P		**P**	**00 08 29.6**	**+1.1**
GLB	**Gilahina Butte**	**84.70**	**29**	P		**P**	**00 08 30.8**	**+2.0**
GLB				IAmb		IAmb	00 08 53.7	
comp=Z,9.3nm,1.0s								
K27K	**Chicken**	**85.27**	**26**	P		**P**	**00 08 32.0**	**+0.6**
H27K	**Steamboat Moun**	**85.28**	**24**	P		**P**	**00 08 32.2**	**+0.7**
H27K				IAmb		IAmb	00 08 43.7	
comp=Z,9.2nm,1.4s								
ISLE	**Juniper Island**	**85.49**	**30**	P		**P**	**00 08 33.4**	**+0.6**
BCAR	**Beaver Creek A**	**85.50**	**27**	P		**P**	**00 08 34.4**	**+1.7**
E28M	**Babbage River**	**85.76**	**21**	P		**P**	**00 08 34.6**	**+0.8**
E28M				IAmb		IAmb	00 08 45.4	
comp=Z,9.3nm,1.2s								
F28M	**Old Crow**	**85.76**	**22**	P		**P**	**00 08 34.0**	**+0.2**
F28M				IAmb		IAmb	00 08 51.7	
comp=Z,10.0nm,1.1s								
GRNC	**Granite Creek**	**85.77**	**29**	P		**P**	**00 08 33.1**	**-1.2**
YAH	**Yahtse**	**85.81**	**30**	P		**P**	**00 08 33.0**	**-1.5**

ISC 15 00:42:46.8±0.6, 55°.6S±0°.1×123°.5W±0°.1, h10km, n65, σ1§02/44, mb4.5/14, MS4.2/8, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.80**	**132**	LR	LR	00 57 51.3	
	comp=Z,278nm,21.7s,baz=321,slow=30						
GO09	**Cerro Castillo**	**30.20**	**103**	P	**P**	**00 48 57.2**	**+0.2**
VNDA	**Vanda**	**33.21**	**203**	P	**P**	**00 49 25.8**	**+2.6**
VNDA	**Vanda**	**33.21**	**203**	P	**P**	**00 49 22.9**	**-0.3**
	0.9nm,0.9s,baz=110,slow=7.9,SNR=5.1						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**00 49 37.5**	**+2.4**
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**00 49 34.7**	**-0.4**
	3.9nm,0.8s,baz=102,slow=3.4,SNR=12						
	3.9nm,0.8s						
LL02	**Futaleuf**	**35.01**	**91**	P	**P**	**00 49 40.2**	**+1.0**
CTZ	**Chatham Island**	**35.50**	**267**	P	**P**	**00 49 41.6**	**-1.7**
H03S2	**Juan Fernandez**	**37.55**	**73**	T	T	01 29 49.9	
	baz=218,slow=74,SNR=69						
H03S1	**Juan Fernandez**	**37.56**	**73**	T	T	01 29 51.0	
	baz=218,slow=74,SNR=92						
H03S3	**Juan Fernandez**	**37.57**	**73**	T	T	01 29 49.8	
	baz=218,slow=74,SNR=89						
H03N3	**Juan Fernandez**	**37.84**	**73**	T	T	01 30 06.2	
	baz=221,slow=72,SNR=419						
H03N2	**Juan Fernandez**	**37.85**	**73**	T	T	01 30 07.3	
	baz=221,slow=72,SNR=811						
H03N1	**Juan Fernandez**	**37.86**	**73**	T	T	01 30 05.8	
	baz=221,slow=72,SNR=475						
BI02	**San Fabin de**	**39.73**	**84**	P	**P**	**00 50 18.9**	**-0.5**
BI02				IAmb	IAmb	00 50 29.7	
	comp=Z,17nm,1.2s						
PPT	**Papeete**	**42.87**	**322**	LR	LR	01 03 49.4	
	comp=Z,138nm,18.4s,baz=144,slow=29						
VNA1	**Neumayer--Stat**	**45.88**	**155**	⇑P	**P**	**00 51 07.2**	**-1.5**
	comp=Z,7.0nm,0.8s						
VNA2	**Neumayer--Watz**	**45.90**	**156**	⇑P	**P**	**00 51 07.4**	**-1.4**
	comp=Z,5.8nm,0.8s,baz=212,slow=11						
SNAA	**Sanae**	**46.37**	**158**	⇑P	**P**	**00 51 10.8**	**-1.9**
	comp=Z,35nm,0.7s						
SNAA	**Sanae**	**46.37**	**158**	IAmb	IAmb	00 51 11.5	
	comp=Z,8.5nm,1.3s						
SNAA		**46.37**	**158**	P	**P**	**00 51 13.6**	**+0.9**
SNAA	**Sanae**	**46.37**	**158**	P	**P**	**00 51 10.7**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=253,slow=6.6,SNR=5.5						
	comp=Z,2.3nm,0.9s						
TROLL	**Troll, Antarti**	**47.21**	**160**	⇑P	**P**	**00 51 18.0**	**-1.2**
	comp=Z,330nm,1.3s						
LPAZ	**La Paz**	**57.38**	**70**	P	**P**	**00 52 35.9**	**-0.1**
LPAZ				IAmb	IAmb	00 52 40.0	
	comp=Z,5.8nm,1.1s						
LPAZ	**La Paz**	**57.38**	**70**	P	**P**	**00 52 35.9**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=125,slow=6.0,SNR=7.2						
LPAZ				LR	LR	01 11 01.3	
	comp=Z,142nm,19.0s,baz=104,slow=30						
	comp=Z,3.8nm,1.0s						
ATAH	**Atahualpa**	**60.08**	**54**	LR	LR	01 12 30.0	
	comp=Z,186nm,18.2s,baz=319,slow=30						
ARMA	**Armidale**	**62.70**	**256**	P	**P**	**00 53 12.8**	**+1.0**
ARMA				IAmb	IAmb	00 53 50.5	
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**66.94**	**247**	P	**P**	**00 53 39.8**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=139,slow=9.3,SNR=3.1						
	comp=Z,1.4nm,0.6s						
BDFB	**Brasilia**	**69.04**	**87**	LR	LR	01 20 16.3	
	comp=Z,111nm,20.5s,baz=228,slow=33						
BBOO	**Buckleboo**	**69.04**	**242**	P	**P**	**00 53 53.0**	**+0.5**
H01W1	**Cape Leeuwin H**	**77.31**	**225**	T	T	02 20 13.4	
	baz=150,slow=76,SNR=98						
H01W2	**Cape Leeuwin H**	**77.31**	**225**	T	T	02 20 18.1	
	baz=150,slow=76,SNR=95						
H01W3	**Cape Leeuwin H**	**77.32**	**225**	T	T	02 20 14.6	
	baz=150,slow=76,SNR=102						
ASAR	**Alice Springs**	**77.56**	**246**	P	**P**	**00 54 42.8**	**-0.2**
ASAR	**Alice Springs**	**77.56**	**246**	P	**P**	**00 54 42.6**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=148,slow=5.3,SNR=20						
	comp=Z,2.8nm,0.9s						
WR8	**Warramunga Arr**	**80.30**	**249**	P	**P**	**00 54 58.0**	**+0.1**
WR8				IAmb	IAmb	00 54 58.7	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**80.39**	**249**	P	**P**	**00 54 58.6**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=145,slow=4.9,SNR=36						
	comp=Z,4.5nm,0.8s						
WB0	**Warramunga Arr**	**80.51**	**249**	P	**P**	**00 54 58.8**	**-0.3**
WB0				IAmb	IAmb	00 54 59.8	
	comp=Z,4.4nm,0.8s						
PSA00	**Pilbara Seismi**	**86.31**	**236**	P	**P**	**00 55 28.4**	**-0.6**
TXAR	**Lajitas Array**	**86.32**	**17**	P	**P**	**00 55 30.0**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=240,slow=4.4,SNR=3.8						
	comp=Z,0.4nm,0.9s						
BOSA	**Boshof**	**91.93**	**153**	LR	LR	01 32 41.0	
	comp=Z,135nm,19.0s,baz=202,slow=33						
NVAR	**Mina Array Bea**	**93.81**	**4**	LR	LR	01 30 01.7	
	comp=Z,86nm,18.3s,baz=177,slow=30						
H11S2	**WAKE ISLAND Hy**	**94.24**	**297**	T	T	02 40 54.9	
	baz=148,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**94.25**	**297**	T	T	02 40 52.0	
	baz=148,slow=76,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**94.26**	**297**	T	T	02 40 55.5	
	baz=148,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**95.17**	**298**	T	T	02 42 07.0	
	baz=148,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**95.17**	**298**	T	T	02 42 08.4	
	baz=148,slow=76,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**95.19**	**298**	T	T	02 42 01.6	
	baz=148,slow=76,SNR=8.8						
ELK	**Elko**	**96.28**	**6**	LR	LR	01 31 52.6	
	comp=Z,102nm,18.4s,baz=238,slow=31						
ILAR	**Eielson Array**	**121.42**	**348**	PKP	**PKiKP**	**01 01 39.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=224,slow=3.0,SNR=5.2						
EKA	**Eskdalemuir Ar**	**147.10**	**65**	PKPbc	**PKPbc**	**01 02 28.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=234,slow=5.1,SNR=6.3						
SONM	**Songino Array**	**148.74**	**277**	PKPbc	**PKPbc**	**01 02 33.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=83,slow=3.2,SNR=2.5						
FETA	**Feichten**	**150.61**	**88**	*i* PKP	**PKPbc**	**01 02 37.5**	**-0.7**
	comp=Z,1.6nm,0.5s						
RETA	**Reutte**	**150.89**	**87**	*e*PKP	**PKPbc**	**01 02 38.2**	**-0.5**
	comp=Z,1.4nm,0.7s						
SQTA	**Sankt Quirin**	**150.99**	**88**	*e*PKP	**PKPbc**	**01 02 38.6**	**-0.4**
	comp=Z,2.9nm,0.8s						
MOTA	**Moosalm**	**151.00**	**87**	*i* PKP	**PKPbc**	**01 02 38.9**	**-0.2**
	comp=Z,0.5nm,0.4s						
WATA	**Walderalm**	**151.27**	**88**	*e*PKP	**PKPbc**	**01 02 39.4**	**-0.3**
	comp=Z,1.7nm,0.4s						
ABTA	**Abfaltersbach**	**151.47**	**90**	*i* PKP	**PKPbc**	**01 02 39.3**	**-0.7**
	comp=Z,0.6nm,0.5s						
LESA	**Schwarzleotal**	**151.94**	**88**	*i* PKP	**PKPbc**	**01 02 40.3**	**-0.8**
	comp=Z,0.5nm,0.3s						
KBA	**Koelnbreinsper**	**152.12**	**90**	*e*PKP	**PKiKP**	**01 02 43.2**	**+1.2**
	comp=Z,0.6nm,0.4s						
OBKA	**Obir**	**152.49**	**92**	*i* PKP	**PKiKP**	**01 02 42.2**	**-0.4**
	comp=Z,1.3nm,0.6s						
SOKA	**Soboth**	**152.86**	**92**	*e*PKP	**PKPbc**	**01 02 42.9**	**-0.3**
	comp=Z,0.6nm,0.4s						
GERES	**GERESS Array B**	**153.28**	**87**	PKPbc	**PKPbc**	**01 02 43.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=222,slow=1.8,SNR=5.4						
BRTR	**Keskin Array B**	**158.01**	**127**	PKP	**PKPdf**	**01 02 44.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=259,slow=1.3,SNR=3.7						
BRTR				PKPab	**PKPab**	**01 03 15.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=174,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**161.68**	**252**	PKPab	**PKPab**	**01 03 32.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=139,slow=5.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**165.88**	**258**	PKPab	**PKPab**	**01 03 50.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=96,slow=1.0,SNR=4.1						

IDC 15 00:54:32.2±4.0, 5°.59S×128°.61E, h352km±43km, mb2.8/1, mbtmp3.6/4, Error ellipse: s-maj=82.9km s-min=17.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.77**	**193**	P	Pn	00 57 23.1	0.0
	1.3nm,0.7s,baz=12,slow=13,SNR=6.6						
FITZ				S	S	00 59 46.6	+3.4
	1.4nm,1.0s,baz=250,slow=21,SNR=1.2						
WRA	**Warramunga Arr**	**15.32**	**159**	P	P	00 57 49.5	-0.8
	1.5nm,0.7s,baz=336,slow=12,SNR=7.1						
WRA				S	S	01 00 35.3	+0.7
	0.2nm,0.3s,baz=338,slow=19,SNR=1.3						
ASAR	**Alice Springs**	**18.68**	**165**	P	P	00 58 26.5	+0.1
	1.1nm,0.6s,baz=342,slow=11,SNR=13						
ASAR				S	S	01 01 41.2	+0.5
	0.6nm,0.7s,baz=346,slow=21,SNR=5.8						
MKAR	**Makanchi Array**	**66.30**	**327**	P	P	01 04 43.8	-0.1
	0.2nm,0.4s,baz=128,slow=6.7,SNR=1.9						
	0.2nm,0.4s						

*GII **15** 01:03:02.7±0.0, 34°.500N±0°.004×37°.198E±0°.001, h5km, Mws2.0, confirmed*

GRAL 15 01:03:09.0±0.3, 34°.27N×36°.97E, h27km±3km, MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.46**	**267**	*e*P	Pb	01 03 18.1	-0.7
FKH				*e*S	Sb	01 03 24.6	-0.7
BEIL	**Beino**	**0.70**	**293**	*e*P	Pb	01 03 21.6	-1.1
BEIL				*e*S	Sb	01 03 31.0	-1.0
HWQ	**Hawqa**	**0.84**	**271**	*e*P	Pb	01 03 24.1	-1.1
ZAHL	**Zahle**	**0.99**	**246**	*e*P	Pn	01 03 26.2	-1.0
RCY	**Rachaya**	**1.22**	**231**	*e*P	Pn	01 03 29.6	-0.8
SHBL	**Chebaa**	**1.37**	**228**	*e*P	Pn	01 03 31.6	-1.0
NATI	**Neve Ativ**	**1.44**	**226**	P	Pn	01 03 33.3	0.0
NATI	**Neve Ativ**	**1.44**	**226**	S	Sb	01 03 55.7	+2.7
GEM	**Giv'at Ha'Em**	**1.52**	**226**	P	Pn	01 03 34.5	+0.1
GEM	**Giv'at Ha'Em**	**1.52**	**226**	S	Sb	01 03 57.8	+2.5
MSAM	**Misgav Am**	**1.56**	**230**	P	Pn	01 03 35.0	0.0
MSAM	**Misgav Am**	**1.56**	**230**	S	Sb	01 03 59.5	+2.9
KSHT	**Keshet**	**1.61**	**217**	P	Pn	01 03 36.6	+0.9
KSHT	**Keshet**	**1.61**	**217**	S	Sb	01 03 59.6	+1.7
HDNS	**Had-Ness**	**1.74**	**220**	P	Pn	01 03 37.1	-0.3
HDNS	**Had-Ness**	**1.74**	**220**	S	Sb	01 04 03.9	+2.3
RSPN	**Rosh Pina**	**1.76**	**223**	P	Pn	01 03 37.7	-0.1
RSPN	**Rosh Pina**	**1.76**	**223**	S	Sb	01 04 04.1	+1.8
MMA0B	**Mount Meron ar**	**1.81**	**227**	P	Pn	01 03 39.4	+0.9
MMA0B	**Mount Meron ar**	**1.81**	**227**	S	Sb	01 04 05.5	+1.8
HNTI	**Hanita**	**1.91**	**232**	P	Pn	01 03 39.1	-0.6
HNTI	**Hanita**	**1.91**	**232**	S	Sb	01 04 07.9	+1.4
MMLI	**Mount Malkishu**	**2.24**	**216**	P	Pn	01 03 45.2	+0.8
MMLI	**Mount Malkishu**	**2.24**	**216**	S	Sb	01 04 15.8	-0.3
HMDT	**Nahal Hemdat**	**2.35**	**211**	P	Pn	01 03 45.4	-0.4
HMDT	**Nahal Hemdat**	**2.35**	**211**	S	Sb	01 04 18.5	-0.6

*IDC **15** 01:05:03.3±1.1, 16°.90S×177°.13E, h0km, mb3.7/6, mbtmp3.7/6, MS4.1/1, Error ellipse: s-maj=42.9km s-min=27.5km az=148.0*

ISC 15 01:05:08.7±1.0, 16°.9S±0°.3×177°.1E±0°.2, h35km, n6, σ1§91/6, mb3.7/6, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.57**	**259**	P	**P**	**01 12 44.7**	**-0.5**
	0.5nm,1.0s,baz=91,slow=8.4,SNR=2.3						
WRA				LR	LR	01 29 49.6	
	comp=Z,225nm,18.3s,baz=120,slow=37						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**40.92**	**253**	P	**P**	**01 12 48.9**	**+0.8**
	1.4nm,1.1s,baz=89,slow=7.9,SNR=6.7						
	1.4nm,1.1s						
VNDA	**Vanda**	**61.13**	**184**	P	**P**	**01 15 17.2**	**-1.8**
	0.4nm,0.7s,baz=82,slow=16,SNR=3.9						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**73.15**	**180**	P	**P**	**01 16 37.1**	**+1.5**
	2.8nm,1.1s,baz=9.6,slow=2.7,SNR=4.7						
	2.8nm,1.1s						
NVAR	**Mina Array Bea**	**81.76**	**46**	P	**P**	**01 17 22.8**	**-1.5**
	0.6nm,0.8s,baz=223,slow=9.8,SNR=4.6						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**89.15**	**59**	P	**P**	**01 18 02.7**	**+1.6**
	0.5nm,0.9s,baz=211,slow=3.9,SNR=4.8						
	0.5nm,0.9s						

*DJA **15** 01:37:31.6±1.0, 6°N±3°×12°7E±°, h15km±8km, M5.1/12, mb4.9/12, mB5.6/6, MLv5.2/11, Mw(mB)5.1/6, MwMwp4.6/1, Mwp5.0/1*

*NEIC **15** 01:37:37.3±0.8, 5°.57N±0°.07×126°.5E±0°.1, h95km±4km, mb4.6/40, Error ellipse: s-maj=17.3km s-min=8.8km az=69.0*

*IDC **15** 01:37:38.4±1.3, 5°.54N×126°.40E, h101km±9km, mb4.0/18, mbtmp4.3/20, MS3.6/2, Error ellipse: s-maj=33.6km s-min=9.6km az=71.0*

ISC 15 01:37:37.9±1.0, 5°.50N±0°.05×126°.46E±0°.09, h100km±9km, n126, σ1§17/128, mb4.5/40, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.79**	**331**	P	**Pn**	**01 38 06.9**	**-0.9**
	635nm,0.3s,baz=330,slow=3.3,SNR=4.5						
DAV				S	**Sn**	**01 38 30.2**	**-0.3**
	980nm,0.4s,baz=265,slow=21,SNR=9.5						
DAV				LR	LR	01 38 59.1	
	comp=Z,701nm,21.6s,baz=301,slow=47						
DAV	**Davao City (W)**	**1.79**	**331**	P	**Pn**	**01 38 10.0**	**+2.2**
SGSI	**Sangihe**	**2.03**	**207**	P	**Pn**	**01 38 11.0**	**+0.1**
TNTI	**Ternate**	**4.79**	**169**		**Pn**	**01 38 47.8**	**0.0**
TNTI	**Ternate**	**4.79**	**169**	P	**Pn**	**01 38 47.5**	**-0.3**
	1.6nm5μm374nm,1.2s						
KMSI	**Cibinong**	**5.49**	**207**	P	**Pn**	**01 38 58.2**	**+0.9**
MRSI	**Marisa**	**6.73**	**222**	P	**Pn**	**01 39 15.3**	**+1.1**
MRSI				S	**Sn**	**01 40 29.5**	**+0.1**
TOLI2	**Tolitoli**	**7.16**	**233**		**Pn**	**01 39 19.5**	**-0.5**
LUWI	**Luwuk**	**7.47**	**210**		**Pn**	**01 39 25.3**	**+0.9**
LUWI	**Luwuk**	**7.47**	**210**	P	**Pn**	**01 39 27.9**	**+3.6**
SANI	**Sanana**	**7.52**	**184**	P	**Pn**	**01 39 21.9**	**-3.0**
	0.8nm4μm98nm,0.6s						
SWI	**Sorong**	**7.93**	**143**	P	**Pn**	**01 39 29.1**	**-1.5**
	51nm,0.9s						
MYLDM	**Lahad Datu**	**7.94**	**268**		**Pn**	**01 39 29.9**	**-0.7**
APSI	**Ampana**	**7.98**	**217**	P	**Pn**	**01 39 32.8**	**+1.6**
	3μm166nm,1.2s						
NLAI	**Namlea**	**8.71**	**176**	P	**Pn**	**01 39 38.6**	**-2.5**
MSAI	**Masohi**	**9.13**	**164**	P	**Pn**	**01 39 45.9**	**-1.0**
	47nm,1.0s						
TGY	**Tagaytay City**	**10.13**	**328**	LR	LR	01 44 57.5	
	comp=Z,194nm,20.8s,baz=196,slow=44						
BNSI	**Bone**	**11.71**	**213**	P	**Pn**	**01 40 23.8**	**+2.0**
	24nm,0.7s						
KAPI	**Kappang**	**12.41**	**213**	P	**Pn**	**01 40 32.0**	**+0.9**
	18nm,0.8s,baz=353,slow=9.9,SNR=7.7						
SMPI	**Sarmi**	**14.32**	**121**	P	Pn	01 40 50.6	-5.5
SBUM	**Sibu**	**14.53**	**259**	Pn	**Pn**	**01 40 57.6**	**-1.2**
SOEI	**Soe**	**15.31**	**188**	Pn	**Pn**	**01 41 08.2**	**-0.7**
SOEI				IAmb	IAmb	01 41 23.5	
	comp=Z,38nm,0.8s						
BATI	**Baumata**	**15.85**	**190**	P	**Pn**	**01 41 16.8**	**+1.3**
	comp=Z,25nm,0.3s,baz=273,slow=6.1,SNR=5.4						
BATI				S	**S**	**01 44 16.0**	**-2.9**
	comp=Z,12nm,0.3s,baz=48,slow=12,SNR=1.3						
PLAI	**Plampang**	**16.66**	**211**	P	**P**	**01 41 28.8**	**+2.6**
JAGI	**Jajag, Banyuwa**	**18.53**	**222**	P	**Pn**	**01 41 49.9**	**+1.7**
TPUB	**Ta-pu**	**18.57**	**343**	P	**P**	**01 41 45.6**	**-1.6**
KNRA	**Kununurra**	**21.17**	**174**		**P**	**01 42 15.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.47**	**182**	P	**P**	**01 42 39.2**	**+0.5**
COEN	**Coen**	**25.47**	**140**	P	**P**	**01 42 56.7**	**-0.3**
COEN	**Coen**	**25.47**	**140**	P	**P**	**01 42 57.4**	**+0.4**
WB0	**Warramunga Arr**	**26.30**	**163**	P	**P**	**01 43 04.5**	**+0.2**
WRAB	**Tennant Creek**	**26.44**	**163**	P	**P**	**01 43 05.3**	**-0.4**
WRAB				IAmb	IAmb	01 43 12.2	
	comp=Z,8.8nm,0.5s						
WRAB	**Tennant Creek**	**26.44**	**163**	P	**P**	**01 43 05.6**	**-0.1**
WRA	**Warramunga Arr**	**26.45**	**163**		**P**	**01 43 05.3**	**-0.5**
WRA	**Warramunga Arr**	**26.45**	**163**	P	**P**	**01 43 05.9**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=342,slow=10,SNR=39						
WRA				PcP	**PcP**	**01 46 29.4**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=330,slow=2.3,SNR=1.4						
	comp=Z,1.6nm,0.3s						
WB2	**Warramunga Arr**	**26.45**	**163**	P	**P**	**01 43 05.6**	**-0.1**
WB2				IAmb	IAmb	01 43 44.4	
	comp=Z,11nm,0.8s						
WR8	**Warramunga Arr**	**26.51**	**163**		**P**	**01 43 05.6**	**-0.7**
WR8				IAmb	IAmb	01 43 13.1	
	comp=Z,13nm,1.2s						
NJ2	**Nanjing**	**27.36**	**346**	*e*P	**P**	**01 43 15.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
WHN	**Wuhan**	**27.39**	**337**	P	**P**	**01 43 18.3**	**+4.2**
PSI	**Prapat**	**27.59**	**266**	LR	LR	01 56 58.6	
	comp=Z,212nm,19.4s,baz=160,slow=42						
PSA00	**Pilbara Seismi**	**27.68**	**193**	P	**P**	**01 43 16.2**	**-0.6**
PSA00				IAmb	IAmb	01 43 27.6	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**27.68**	**193**	P	**P**	**01 43 16.0**	**-0.7**
PSA00				IAmb	IAmb	01 43 27.6	
	comp=Z,9.8nm,1.3s						
PSA00	**Pilbara Seismi**	**27.68**	**193**	P	**P**	**01 43 18.0**	**+1.3**
QIS	**Mount Isa**	**28.94**	**154**	P	**P**	**01 43 28.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**29.78**	**298**	P	**P**	**01 43 33.8**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=118,slow=7.5,SNR=5.0						
	comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**29.89**	**166**		**P**	**01 43 36.3**	**0.0**
ASAR	**Alice Springs**	**29.89**	**166**	P	**P**	**01 43 36.2**	**-0.2**
ASAR				PcP	**PcP**	**01 46 37.5**	**+0.4**
ASAR	**Alice Springs**	**29.89**	**166**	P	**P**	**01 43 36.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=343,slow=6.9,SNR=14						
ASAR				PcP	**PcP**	**01 46 38.2**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=351,slow=2.2,SNR=17						
ASAR				ScP	**ScP**	**01 50 11.9**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=355,slow=2.6,SNR=6.3						
	comp=Z,0.8nm,0.3s						
AS01	**Alice Springs**	**29.90**	**166**	P	**P**	**01 43 36.4**	**0.0**
PZH	**PanZhiHua**	**31.51**	**314**	P	**P**	**01 43 52.9**	**+2.1**
MEEK	**Meekatharra**	**32.84**	**193**	P	**P**	**01 44 02.4**	**+0.1**
COCO	**West Island**	**34.30**	**239**	P	**P**	01 44 24.1	+9.0
FORT	**Forrest**	**36.11**	**178**	P	**P**	**01 44 30.1**	**-0.3**
FORT				IAmb	IAmb	01 44 45.9	
	comp=Z,6.6nm,0.8s						
LZH	**Lanzhou**	**36.85**	**329**	*e*P	P	01 44 45.6	+8.7
LZH				pP	pP	01 44 52.3	-6.7
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
BLDU	**Ballidu**	**37.11**	**194**	P	**P**	**01 44 39.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**37.64**	**341**	*e*P	**P**	**01 44 42.8**	**-0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.5s						
MUN	**Mundaring**	**38.53**	**194**	P	**P**	**01 44 52.0**	**+1.2**
BBOO	**Buckleboo**	**39.18**	**167**	P	**P**	**01 44 56.0**	**-0.3**
BBOO				IAmb	IAmb	01 45 03.0	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**39.18**	**167**	P	**P**	**01 44 57.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**39.21**	**192**	P	**P**	**01 44 56.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**39.21**	**192**	P	**P**	**01 44 57.7**	**+1.2**
STKA	**Stephens Creek**	**39.87**	**160**	P	**P**	**01 45 01.6**	**-0.4**
STKA				PcP	**PcP**	**01 47 06.4**	**+0.4**
STKA	**Stephens Creek**	**39.87**	**160**	P	**P**	**01 45 02.9**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=336,slow=7.5,SNR=16						
	comp=Z,2.7nm,0.4s						
STKA	**Stephens Creek**	**39.87**	**160**	P	**P**	**01 45 02.9**	**+0.9**
HTT	**Hallett**	**40.48**	**164**	P	**P**	**01 45 08.5**	**+1.4**
H11S3	**WAKE ISLAND Hy**	**41.30**	**68**	T	T	02 29 15.5	
	baz=258,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.31**	**68**	T	T	02 29 16.5	
	baz=258,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**41.31**	**68**	T	T	02 29 20.5	
	baz=258,slow=75,SNR=6.6						
GTA	**Gaotai**	**41.45**	**328**	*e*P	**P**	**01 45 15.6**	**+0.5**
GTA				PcP	**PcP**	**01 47 13.3**	**+2.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**41.77**	**67**	T	T	02 29 54.9	
	baz=255,slow=74,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**41.78**	**66**	T	T	02 29 59.8	
	baz=255,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**41.79**	**67**	T	T	02 29 59.9	
	baz=255,slow=74,SNR=5.9						
EVN	**Everest**	**43.74**	**305**	P	**P**	**01 45 32.7**	**-1.7**
SONM	**Songino Array**	**45.54**	**341**	P	**P**	**01 45 47.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=156,slow=9.3,SNR=4.9						
SONM				PcP	**PcP**	**01 47 24.8**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=152,slow=3.7,SNR=7.4						
	comp=Z,0.9nm,0.5s						
WMQ	**Urumqi**	**51.13**	**324**	*e*P	**P**	**01 46 32.9**	**+2.2**
WMQ				LR	LR		
	comp=Z,110nm,16.1s						
MK31	**Makanchi Array**	**55.96**	**325**	P	**P**	**01 47 05.2**	**-0.7**
MKAR	**Makanchi Array**	**55.96**	**325**	P	**P**	**01 47 04.8**	**-1.1**
MKAR				PcP	**PcP**	**01 48 02.8**	**-0.5**
MKAR	**Makanchi Array**	**55.96**	**325**	P	**P**	**01 47 05.7**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=121,sl

comp=Z,1.8nm,0.6s
NB2 NORSAR Subarra 97.09 334 P **P** **01 50 57.4 -1.3**
comp=Z,1.1nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.09 334 P **P** **01 50 57.4 -1.3**
baz=65,slow=4.6
NOA NORSAR Array B 97.09 334 P **P** **01 50 57.8 -0.9**
comp=Z,1.5nm,0.7s,baz=65,slow=4.6,SNR=9.5
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 120.72 51 PKP **PKiKP** **01 56 19.9 +0.7**
comp=Z,0.3nm,0.7s,baz=203,slow=0.2,SNR=3.8
TORD Torodi Ar. Bea 122.10 289 PKP **PKiKP** **01 56 22.2 +0.1**
comp=Z,0.5nm,0.3s,baz=58,slow=2.5,SNR=17
PLCA Paso Flores 141.75 159 PKP **PKPdf** **01 56 57.5 -0.8**
comp=Z,1.6nm,0.6s,baz=285,slow=1.4,SNR=7.2

RSNC 15 02:13:09.7±0.0, 5°N±1°×7°3W±°, h0km±1km, M3.0, mb4.0, ML2.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.72**	**352**	P	Pg	02 13 22.2	-1.4
RUSC				S	Sg	02 13 32.2	-0.9
SPBC	**San Pablo de B**	**1.19**	**294**	P	Pg	02 13 30.0	-2.5
SPBC				S	Sg	02 13 46.8	-1.1
CVER	**Cruz Verde, Cu**	**1.27**	**239**	P	Pg	02 13 32.6	-1.4
CVER				S	Sg	02 13 49.9	-0.6
ROSC	**El Rosal**	**1.38**	**256**	P	Pg	02 13 34.5	-1.6
ROSC				S	Sg	02 13 54.0	+0.1
BARC	**Barichara**	**1.43**	**352**	P	Pg	02 13 34.5	-2.6
BARC				S	Sg	02 13 54.3	-1.3
BRJC	**Barrancabermej**	**1.95**	**337**	P	Pn	02 13 43.4	-0.6
BRJC				S	Sn	02 14 10.0	+0.8
PTBC	**PUERTO BERRIO,**	**2.00**	**313**	P	Pn	02 13 42.3	-2.5
PTBC				S	Sn	02 14 10.7	+0.1
PAMC	**Pamplona, Colo**	**2.17**	**7**	P	Pn	02 13 47.5	-0.1
PAMC				S	Sb	02 14 17.0	-0.9
URMC	**La Uribe, Meta**	**2.37**	**216**	P	Pn	02 13 47.7	-2.2
URMC				S	Sn	02 14 19.5	-0.2
GUY2C	**Guyana, Caldas**	**2.38**	**271**	P	Pn	02 13 49.3	-1.1
GUY2C				S	Sn	02 14 21.0	+0.5
PRAC	**Prado**	**2.39**	**233**	P	Pn	02 13 48.0	-2.2
PRAC				S	Sn	02 14 21.9	+1.7
ORTC	**Ortega, Tolima**	**2.58**	**241**	P	Pn	02 13 50.3	-2.5
ORTC				S	Sn	02 14 26.1	+1.1
HELC	**Santa Helena**	**2.73**	**292**	P	Pn	02 13 53.1	-2.1
HELC				S	Sn	02 14 29.2	+0.1
ZARC	**Zaragoza, Cauc**	**2.97**	**321**	P	Pn	02 13 59.0	+0.9
ZARC				S	Sn	02 14 35.4	+0.9
OCAC	**Ocana**	**3.07**	**354**	P	Pn	02 13 57.5	-2.1
OCAC				S	Sn	02 14 38.2	+1.1
CBOC	**Ciudad Bolivar**	**3.10**	**283**	P	Pn	02 13 59.7	-0.3
CBOC				S	Sn	02 14 37.9	0.0
MACC	**Macarena, Meta**	**3.13**	**196**	P	Pn	02 13 56.5	-3.8
MACC				S	Sn	02 14 34.2	-4.2
BETC	**Betania**	**3.48**	**225**	P	Pn	02 14 03.7	-1.6
BETC				S	Sn	02 14 47.8	+0.5
YOTC	**Yotoco, Valle**	**3.56**	**251**	P	Pn	02 14 04.6	-1.7
YOTC				S	Sn	02 14 50.5	+1.4
UREC	**San Jos de Ur**	**3.61**	**315**	P	Pn	02 14 05.5	-1.4
UREC				S	Sn	02 14 51.3	+1.0
DBBC	**Dabeiba**	**3.70**	**300**	P	Pn	02 14 09.1	+0.9
DBBC				S	Sn	02 14 55.3	+2.7
SDV	**Santo Domingo**	**4.37**	**32**	P	Pn	02 14 15.8	-1.7
SDV				S	Sn	02 15 06.7	-2.5
FLOC	**Florencia**	**4.45**	**217**	P	Pn	02 14 18.1	-0.5
FLOC				S	Sn	02 15 12.5	+1.4
APAC	**Apartado, Choc**	**4.49**	**307**	P	Pn	02 14 17.6	-1.4
APAC				S	Sn	02 15 13.2	+1.2
POPC	**Popayan, Colom**	**4.52**	**235**	P	Pn	02 14 18.7	-1.0
POPC				S	Sn	02 15 13.6	+0.5
ARGC	**Ariguani, Magd**	**4.82**	**345**	P	Pn	02 14 23.6	-0.1
ARGC				S	Sn	02 15 21.7	+1.4
SJCC	**San Jacinto, C**	**5.18**	**335**	P	Pn	02 14 26.5	-2.1
9.7nm,1.5s							
SJCC				S	Sn	02 15 29.3	+0.2
9.7nm,1.5s							
PTLC	**Puerto Leguiza**	**5.29**	**200**	P	Pn	02 14 29.3	-0.7
17nm,0.8s							
CRJC	**Cerrejon, Guaj**	**5.81**	**1**	P	Pn	02 14 34.4	-2.9
CRJC				S	Sn	02 15 43.7	-1.1
URIC	**Uribia, Colomb**	**6.56**	**8**	P	Pn	02 14 42.9	-4.7
URIC				S	Sn	02 15 57.4	-5.8

IDC 15 02:13:11.1±3.2, 18°.09S×178°.06E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=290.4km s-min=26.8km az=157.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.29**	**260**	P	P	02 20 58.7	+0.1
0.5nm,0.9s,baz=102,slow=6.5,SNR=2.2							
0.5nm,0.9s							
ASAR	**Alice Springs**	**41.50**	**255**	P	P	02 20 60.0	-0.4
0.6nm,0.8s,baz=81,slow=9.4,SNR=5.4							
0.6nm,0.8s							
NVAR	**Mina Array Bea**	**81.91**	**45**	P	P	02 25 31.4	-1.6
0.8nm,1.0s,baz=241,slow=7.2,SNR=4.6							
0.8nm,1.0s							
TXAR	**Lajitas Array**	**88.95**	**59**	P	P	02 26 08.7	+0.5
0.4nm,0.9s,baz=209,slow=7.2,SNR=3.8							
0.4nm,0.9s							
PDAR	**Pinedale Array**	**89.82**	**45**	P	P	02 26 13.5	+1.4
0.3nm,0.8s,baz=246,slow=5.6,SNR=3.9							
0.3nm,0.8s							

*IDC **15** 02:22:21.5±1.1, 20°.97S×175°.36E, h0km, mb4.1/6, mbtmp4.1/6, MS4.0/7, Error ellipse: s-maj=41.8km s-min=27.0km az=161.0*

ISC 15 02:22:27.5±0.7, 21°.2S±0°.2×175°.4E±0°.2, h35km, n25, σ1°31/19, mb4.0/6, MS4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**18.93**	**306**	LR	LR	02 32 31.5	
comp=Z,273nm,19.7s,baz=172,slow=32							
RAR	**Rarotonga**	**23.11**	**95**	P	**P**	**02 27 29.4**	**-1.2**
6.7nm,0.4s,baz=336,slow=15,SNR=1.9							
6.7nm,0.4s							
PMG	**Port Moresby**	**29.61**	**289**	LR	LR	02 37 57.0	
comp=Z,99nm,19.9s,baz=111,slow=32							
ASAR	**Alice Springs**	**38.38**	**258**	P	**P**	**02 29 44.4**	**-1.4**
1.5nm,0.8s,baz=86,slow=8.8,SNR=12							
ASAR				LR	LR	02 45 34.1	
comp=Z,192nm,20.5s,baz=104,slow=36							
1.5nm,0.8s							
FITZ	**Fitzroy Crossi**	**46.85**	**265**	LR	LR	02 49 45.8	
comp=Z,260nm,20.8s,baz=62,slow=35							
RPN	**Rapa Nui**	**67.99**	**112**	LR	LR	02 55 01.6	
comp=Z,103nm,19.9s,baz=197,slow=29							
QSPA	**South Pole Qui**	**68.91**	**180**	P	**P**	**02 33 29.3**	**+0.6**
4.3nm,1.0s,baz=27,slow=5.4,SNR=6.0							
4.3nm,1.0s							
PSI	**Prapat**	**78.46**	**278**	LR	LR	03 07 32.9	
comp=Z,642nm,21.6s,baz=151,slow=35							
MAW	**Mawson**	**78.81**	**201**	P	**P**	**02 34 26.5**	**+0.1**
1.3nm,0.9s,baz=80,slow=6.1,SNR=3.8							
1.3nm,0.9s							
ILAR	**Eielson Array**	**90.43**	**15**	P	**P**	**02 35 22.8**	**-2.1**
0.9nm,1.0s,baz=226,slow=5.9,SNR=2.9							
0.9nm,1.0s							
TXAR	**Lajitas Array**	**92.63**	**60**	P	**P**	**02 35 37.0**	**+0.9**
0.3nm,0.8s,baz=219,slow=7.7,SNR=3.9							
0.3nm,0.8s							
PLCA	**Paso Flores**	**93.18**	**136**	LR	LR	03 11 23.4	
comp=Z,19nm,19.0s,baz=232,slow=32							
RONA	**Rosalia, Austr**	**148.62**	**332**	*e*PKP	**PKiKP**	**02 42 12.8**	**+0.5**
2.6nm,0.7s							
CONA	**Conrad Observa**	**148.63**	**333**	*i* PKP	**PKPbc**	**02 42 11.2**	**+0.3**
5.7nm,1.5s							
MOA	**Molln**	**149.34**	**335**	*i* PKP	**PKPab**	**02 42 17.2**	**-0.2**
6.8nm,1.3s							
BIOA	**Bad Ischl, Aus**	**149.72**	**335**	*i* PKP	**PKPab**	**02 42 21.4**	**+2.5**
1.1nm,0.6s							
SOKA	**Soboth**	**149.96**	**333**	*i* PKP	**PKPbc**	**02 42 14.0**	**-0.3**
4.2nm,1.5s							
LESA	**Schwarzleotal**	**150.31**	**336**	*i* PKP	**PKPab**	**02 42 22.2**	**+0.8**
4.5nm,1.2s							
KBA	**Koelnbreinsper**	**150.34**	**335**	*e*PKP	**PKPab**	**02 42 23.6**	**+2.0**
3.8nm,1.3s							
MYKA	**Terra Mystica**	**150.58**	**334**	*e*PKP	**PKiKP**	**02 42 17.1**	**+0.6**
3.6nm,1.0s							
WTTA	**Wattenberg**	**150.83**	**337**	*i* PKP	**PKiKP**	**02 42 17.7**	**+0.6**
6.1nm,1.3s							
ABTA	**Abfaltersbach**	**150.93**	**335**	*i* PKP	**PKPab**	**02 42 25.0**	**+1.0**
4.5nm,1.1s							
MOTA	**Moosalm**	**150.95**	**338**	*i* PKP	**PKiKP**	**02 42 18.4**	**+1.0**
6.9nm,1.2s							
FETA	**Feichten**	**151.36**	**338**	*i* PKP	**PKPab**	**02 42 27.9**	**+2.0**
6.0nm,1.2s							
DAVA	**Damuels**	**151.42**	**339**	*i* PKP	**PKPab**	**02 42 26.9**	**+0.7**
3.9nm,1.0s							

RSNC 15 02:32:12.4±0.0, 7°N±1°×7°6W±°, h7km±2km, M3.0, mb4.0, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.12**	**14**	P	Pg	02 32 14.2	-0.9
DBBC				S	Sg	02 32 17.4	+0.5
HELC	**Santa Helena**	**1.00**	**135**	P	Pg	02 32 28.8	-2.8
HELC				S	Sg	02 32 43.7	-0.9
APAC	**Apartado, Choc**	**1.05**	**341**	P	Pg	02 32 30.8	-1.8
APAC				S	Sg	02 32 45.9	-0.3
CBOC	**Ciudad Bolivar**	**1.05**	**168**	P	Pg	02 32 30.4	-2.3
CBOC				S	Sg	02 32 45.8	-0.6
UREC	**San Jos de Ur**	**1.10**	**40**	P	Pg	02 32 30.8	-2.7
UREC				S	Sg	02 32 46.5	-1.3
SOLC	**Bahia Solano**	**1.34**	**240**	P	Pn	02 32 36.1	-1.4
SOLC				S	Sb	02 32 54.6	-0.6
ZARC	**Zaragoza, Cauc**	**1.49**	**67**	P	Pn	02 32 37.5	-2.2
ZARC				S	Sn	02 32 57.3	-2.1
PTAC	**Punta Ardita,**	**1.58**	**279**	P	Pn	02 32 37.0	-3.8
PTAC				S	Sn	02 32 59.1	-2.4
PTBC	**PUERTO BERRIO,**	**1.81**	**101**	P	Pn	02 32 42.2	-1.8
PTBC				S	Sn	02 33 07.2	0.0
GUY2C	**Guyana, Caldas**	**1.88**	**152**	P	Pn	02 32 44.7	-0.7
GUY2C				S	Sn	02 33 10.0	+0.4
BRJC	**Barrancabermej**	**2.48**	**88**	P	Pn	02 32 53.7	+0.5
BRJC				S	Sn	02 33 25.0	+1.2
SPBC	**San Pablo de B**	**2.49**	**120**	P	Pn	02 32 53.7	+0.3
SPBC				S	Sn	02 33 25.1	+1.0
ROSC	**El Rosal**	**2.80**	**137**	P	Pn	02 32 59.9	+1.9
YOTC	**Yotoco, Valle**	**2.90**	**182**	P	Pn	02 32 57.0	-2.1
YOTC				S	Sn	02 33 32.9	-1.4
BARC	**Barichara**	**3.05**	**96**	P	Pn	02 33 01.6	+0.3
BARC				S	Sn	02 33 37.9	-0.4
ORTC	**Ortega, Tolima**	**3.13**	**162**	P	Pn	02 33 03.9	+1.6
SJCC	**San Jacinto, C**	**3.16**	**19**	P	Pn	02 32 58.7	-3.9
SJCC				S	Sn	02 33 34.5	-6.1
OCAC	**Ocana**	**3.19**	**65**	P	Pn	02 33 03.4	+0.3
OCAC				S	Sn	02 33 42.4	+0.9
RUSC	**La Rusia**	**3.29**	**108**	P	Pn	02 33 05.3	+0.4
RUSC				S	Sn	02 33 45.7	+1.1
PRAC	**Prado**	**3.44**	**157**	P	Pn	02 33 06.6	+0.1
PAMC	**Pamplona, Colo**	**3.54**	**83**	P	Pn	02 33 08.9	+0.6
PAMC				S	Sn	02 33 51.7	+1.0
BCIP	**Isla Barro Col**	**4.21**	**303**	P	Pn	02 33 13.5	-3.6
POPC	**Popayan, Colom**	**4.35**	**186**	P	Pn	02 33 20.4	+1.2
CRJC	**Cerrejon, Guaj**	**5.27**	**39**	P	Pn	02 33 29.8	-1.9
17nm,1.0s							
CRJC				S	Sn	02 34 26.7	-6.1
17nm,1.0s							
URIC	**Uribia, Colomb**	**6.35**	**41**	P	Pn	02 33 44.3	-2.2

NEIC 15 02:40:12.2±0.8, 37°.31N±0°.01×104°.51W±0°.02, h5km±1km, ML1.3/10, Error ellipse: s-maj=3.1km s-min=2.4km az=85.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.19**	**156**		Pg	02 40 16.8	+0.8
T25A				Sg	Sg	02 40 19.6	+1.0
T25A				IAML		02 40 19.8	
comp=E,58nm,0.4s							
T25A				IAML		02 40 21.1	
comp=N,45nm,0.5s							
SDCO	**Great Sand Dun**	**0.90**	**299**	Pg	Pg	02 40 29.6	+0.1
SDCO				Sg	Sg	02 40 41.2	+0.2
RTBA	**Rita Blanca**	**1.67**	**121**		Pn	02 40 41.8	-0.4
Q24A	**Divide**	**1.72**	**343**		Pn	02 40 42.8	-0.4
KSCO	**Kaye Shedlock'**	**2.25**	**41**	Pn	Pn	02 40 50.0	-0.3

*KOLA **15** 02:43:05.4, 79°.85N×19°.95E, h0km, ML2.8, Error ellipse: s-maj=20.0km s-min=16.4km az=80.0, Spitsbergen*
*NAO **15** 02:43:06.6±0.6, 79°.97N×19°.70E, h15km, ML3.5*
*BER **15** 02:43:08.2±2.9, 79°.95N×20°.28E, h20km±11km, ML2.8, ML3.5(NAO), Confirmed Earthquake*
*FCIAR **15** 02:43:08.0, 80°.14N×19°.69E, h10km, station OMEGA has station magnitude of 3.60 station ZFI2 has station magnitude of 3.50*

ISC 15 02:43:05.6±1.1, 79°.94N±0°.06×20°.05E±0°.05, h10km, n31, σ1°73/57, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.81**	**240**	Pn	**Pn**	**02 43 37.0**	**+0.3**
KBS				Sg	**Sb**	**02 44 01.6**	**+0.2**
KBS	**Kingsbay**	**1.81**	**240**	P	**Pn**	**02 43 36.8**	**0.0**
KBS				S	**Sb**	**02 44 01.4**	**0.0**
KBS	**Kingsbay**	**1.81**	**240**	*e*P	**Pn**	**02 43 36.8**	**0.0**
KBS				*e*Sg	**Sb**	**02 44 01.4**	**0.0**
KBS				IAML		02 44 05.8	
comp=Z,203nm,0.3s							
SPA0	**Spitsbergen Ar**	**1.91**	**203**	Pn	**Pn**	**02 43 38.2**	**+0.1**
baz=28,slow=18							
SPA0				Pg	**Pb**	**02 43 41.3**	**+0.9**
baz=29,slow=18							
SPA0				Sn	**Sn**	**02 44 01.1**	**-1.0**
baz=26,slow=10							
SPA0				Lg	Lg	02 44 05.8	
baz=35,slow=28							
SPA0	**Spitsbergen Ar**	**1.91**	**203**	*e*P	**Pb**	**02 43 40.5**	**+0.1**
SPA0				*e*S	**Sg**	**02 44 06.2**	**-0.7**
SPA0	**Spitsbergen Ar**	**1.91**	**203**	Pn	**Pn**	**02 43 38.2**	**+0.1**
baz=28,slow=18							
SPA0				Pg	**Pb**	**02 43 41.3**	**+0.9**
baz=29,slow=18							
SPA0				Sn	**Sn**	**02 44 01.1**	**-1.0**
baz=26,slow=10							
SPA0				Sg	**Sb**	**02 44 05.8**	**+1.5**
baz=35,slow=28							
SPITS	**Spitsbergen Ar**	**1.91**	**203**	P	**Pn**	**02 43 38.2**	**+0.1**
SPITS				S	**Sn**	**02 44 02.6**	**+0.4**
BRBB	**Barentsburg B**	**2.17**	**214**	**Pn**	**Pn**	**02 43 42.2**	**+0.5**
BRBB				Sn	**Sn**	**02 44 06.9**	**-1.7**
BRBB	**Barentsburg B**	**2.17**	**214**	P	**Pn**	**02 43 41.9**	**+0.2**
BRBB				S	**Sn**	**02 44 06.5**	**-2.0**
BRBB	**Barentsburg B**	**2.17**	**214**	Pn	**Pn**	**02 43 42.2**	**+0.5**
BRBB				Sn	**Sn**	**02 44 06.9**	**-1.7**
BRBA	**Barentsburg A**	**2.20**	**213**	Pn	**Pn**	**02 43 42.9**	**+0.8**
BRBA				Sn	**Sn**	**02 44 07.4**	**-1.9**
BRBA				Sg	**Sb**	**02 44 14.6**	**+2.0**
BRBA	**Barentsburg A**	**2.20**	**213**	Pn	**Pn**	**02 43 42.9**	**+0.8**
BRBA				Sn	**Sn**	**02 44 07.4**	**-1.9**
BRBA				Sg	**Sb**	**02 44 14.6**	**+2.0**
BRBA				IAML		02 44 16.6	
comp=Z,97nm,0.3s							
HSPB	**Hornsund (broa**	**3.09**	**199**	Pn	**Pn**	**02 43 55.4**	**+1.1**
HSPB				Pg	**Pb**	**02 44 01.9**	**+1.3**
HSPB				Sg	**Sb**	**02 44 42.2**	**+3.9**
HSPB	**Hornsund (broa**	**3.09**	**199**	P	**Pn**	**02 43 56.4**	**+2.0**
HSPB				S	**Sn**	**02 44 30.4**	**-0.9**
HSPB	**Hornsund (broa**	**3.09**	**199**	*e*P	**Pb**	**02 44 02.4**	**+1.8**
HSPB				*e*S	**Sb**	**02 44 39.4**	**+1.2**
HSPB	**Hornsund (broa**	**3.09**	**199**	Pn	**Pn**	**02 43 55.4**	**+1.1**
HSPB				Pg	**Pb**	**02 44 01.9**	**+1.3**
HSPB				Sg	**Sb**	**02 44 42.2**	**+3.9**
HSPB				IAML		02 44 49.8	
comp=Z,62nm,0.4s							
HOPEN	**Hopen**	**3.60**	**161**	Pn	**Pn**	**02 44 01.8**	**+0.5**
HOPEN				Sn	**Sn**	**02 44 42.4**	**-1.3**
HOPEN				Sg	**Sg**	**02 44 59.2**	**-1.7**
HOPEN	**Hopen**	**3.60**	**161**	*e*P	**Pn**	**02 44 02.4**	**+1.1**
HOPEN				*e*S	**Sn**	**02 44 42.8**	**-0.9**
HOPEN	**Hopen**	**3.60**	**161**	*e*P	**Pn**	**02 44 01.6**	**+0.4**
HOPEN				*e*S	**Sn**	**02 44 41.2**	**-2.6**
HOPEN				IAML		02 45 14.3	
comp=Z,48nm,0.4s							
ZFI2	**Zemlya Franca-**	**4.68**	**66**	*e*P	**Pn**	**02 44 17.6**	**+1.5**
ZFI2				*e*S	**Sn**	**02 45 08.4**	**-1.9**
comp=Z,41nm,1.5s							
OMEGA	**Omega**	**4.69**	**66**	*e*P	**Pn**	**02 44 17.6**	**+1.3**
OMEGA				*e*S	**Sn**	**02 45 08.4**	**-2.2**
comp=Z,42nm,1.4s							
BJO1	**Bjornoya**	**5.48**	**183**	*e*P	Pn	02 44 21.4	-5.7
BJO1				*e*S	**Sn**	**02 45 22.7**	**-7.3**
VADS	**Vadso**	**10.14**	**162**	P	**Pn**	**02 45 31.4**	**+0.5**
VADS				S	Sn	02 47 16.1	-8.4
ARA0	**ARCESS Array S**	**10.56**	**169**	Pn	**Pn**	**02 45 35.8**	**-0.8**
baz=356,slow=11							
ARA0				Sn	Sn	02 47 24.7	-10
baz=3.7,slow=22							
ARA0	**ARCESS Array S**	**10.56**	**169**	Pn	**Pn**	**02 45 35.8**	**-0.8**
baz=356,slow=11							
ARA0				Sn	Sn	02 47 24.7	-10
baz=3.7,slow=22							
ARCES	**ARCESS Array B**	**10.56**	**169**	P	**Pn**	**02 45 37.1**	**+0.5**
ARCES				S	Sn	02 47 26.2	-8.5
TERR	**Teriberka**	**11.44**	**152**	S	Sn	02 47 46.8	-10
APA0	**Apatity Array**	**12.86**	**157**	Pn	**Pn**	**02 46 07.4**	**-0.6**
baz=345,slow=16							
APA0				Sn	Sn	02 48 19.5	-11
baz=353,slow=28							
APA0	**Apatity Array**	**12.86**	**157**	S	Sn	02 48 19.8	-11
APA0	**Apatity Array**	**12.86**	**157**	Pn	**Pn**	**02 46 07.4**	**-0.6**
baz=345,slow=16							
APA0				Sn	Sn	02 48 19.5	-11
baz=353,slow=28							
KVDA	**Kovda**	**13.75**	**158**	S	Sn	02 48 43.9	-8.9

*NEIC **15** 02:44:46.1±0.7, 19°.501N±0°.004×155°.299W±0°.007, h10km±1km, Error ellipse: s-maj=2.5km s-min=1.1km az=177.0*

HVO 15 02:44:45.8±0.8, 19°.505N±0°.008×155°.287W±0°.007, h9km±2km, ML3.3/44, ML3.2/44(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.04**	**169**		Pg	02 44 48.4	+0.6
RSD				Sg	Sg	02 44 50.0	+0.8
RSD				IAML		02 44 51.3	
comp=N,15μm,0.3s							
SBLHI	**Steaming Bluff**	**0.08**	**167**		Pg	02 44 48.4	+0.3
SBLHI					Sg	02 44 50.4	+0.6
UWB	**Uwekahuna Bluf**	**0.08**	**174**		Pg	02 44 48.4	+0.3
UWB					Sg	02 44 50.3	+0.5
UWE	**Uwekahuna**	**0.08**	**184**		Pg	02 44 48.6	+0.4
UWE				Sg	Sg	02 44 50.5	+0.5
UWE				IAML		02 44 50.9	
comp=E,18μm,0.3s							
HATHI	**Halema'uma'u T**	**0.09**	**163**		Pg	02 44 48.6	+0.3
HATHI				Sg	Sg	02 44 49.9	-0.1
OBL	**Observatory Le**	**0.09**	**178**		Pg	02 44 48.5	+0.3
OBL					Sg	02 44 50.6	+0.6
MLH	**Mauna Loa**	**0.09**	**264**		Pg	02 44 48.9	+0.4
MLH				Sg	Sg	02 44 50.9	+0.5
MLH				IAML		02 44 51.4	
comp=E,13μm,0.3s							
BYL	**Byron's Ledge**	**0.10**	**165**		Pg	02 44 48.7	+0.3
BYL				IAML		02 44 51.1	
comp=N,8μm,0.8s							
WRMHI	**West Rim**	**0.10**	**187**		Pg	02 44 48.7	+0.3
WRMHI					Sg	02 44 50.8	+0.5
KKO	**Keanakako'i**	**0.11**	**170**		Pg	02 44 48.9	+0.3
KKO					Sg	02 44 51.1	+0.6
RIM	**Rim**	**0.11**	**174**		Pg	02 44 48.9	+0.3
RIM					Sg	02 44 51.1	+0.6
SDHHI	**Sand Hill**	**0.12**	**184**		Pg	02 44 48.9	+0.2
SDHHI					Sg	02 44 51.3	+0.6
PUH	**Pauahi**	**0.15**	**153**		Pg	02 44 49.4	+0.3
PUH				IAML		02 44 53.1	
comp=N,6μm,0.4s							
KNHH	**Kane Nui o Ham**	**0.17**	**138**		Pg	02 44 49.9	+0.4
STCH	**Steam Cracks**	**0.19**	**128**		Pg	02 44 50.1	+0.2
STCH					Sg	02 44 53.3	+0.7
STCH	**Steam Cracks**	**0.19**	**128**	IAML		02 44 55.3	
comp=E,100nm,0.1s							
STCH				IAML		02 44 55.8	
comp=N,4μm,0.3s							
NPOC	**North of Pu'u**	**0.20**	**124**		Pg	02 44 50.3	+0.2
NPOC					Sg	02 44 53.6	+0.7
HLP	**Hilina Pali**	**0.21**	**186**		Pg	02 44 50.4	+0.2
HLP					Sg	02 44 53.8	+0.7
HLP	**Hilina Pali**	**0.21**	**186**	IAML		02 44 54.1	
comp=N,5μm,0.2s							
HLP				IAML		02 44 54.1	
comp=E,4μm,0.3s							
AIN	**Ainahou**	**0.21**	**231**		Pg	02 44 50.8	+0.6
AIN				IAML		02 44 55.4	
comp=E,4μm,0.3s							
HMH	**Humu'ula Sheep**	**0.21**	**298**		Pg	02 44 50.7	+0.4
HMH				IAML		02 44 54.5	
comp=E,6μm,0.5s							
JCUZ	**Jacuzzi**	**0.21**	**124**		Pg	02 44 50.4	+0.2
JCUZ					Sg	02 44 53.8	+0.6
JOKA	**Jonika Flow**	**0.28**	**105**		Pg	02 44 51.5	+0.2
JOKA				IAML		02 44 56.5	
comp=E,3μm,0.3s							
JOKA				IAML		02 44 58.8	
comp=N,5μm,0.2s							
HTC	**Hot Caves**	**0.29**	**202**		Pg	02 44 51.7	+0.2
MWH	**Mokuaweoweo**	**0.29**	**266**		Pg	02 44 51.8	-0.1
MWH				IAML		02 44 58.4	
comp=N,6μm,0.3s							
MWH				IAML		02 44 58.8	
comp=E,4μm,0.6s							
ALEP	**Alea Permanent**	**0.34**	**276**		Pg	02 44 52.5	-0.2
ALEP					Sg	02 44 57.9	+0.6
POHA	**Pohakuloa**	**0.34**	**317**		Pg	02 44 52.5	-0.2
POHA				IAML		02 44 58.7	
comp=E,3μm,0.2s							
POHA				IAML		02 45 04.4	
comp=E,2μm,0.4s							
POHA	**Pohakuloa**	**0.34**	**317**		Sg	02 44 57.1	-0.2
KHU	**Kahuku**	**0.40**	**230**		Pg	02 44 53.5	-0.3
KHU					Sg	02 44 59.5	+0.3

ARXS *e*S **Sg** **02 49 41.4 -0.6**
MK31 Makanchi Array 4.57 357 ⇓Pn **Pb** **02 48 51.0 -1.6**
0.5nm,0.6s,baz=175,slow=12,SNR=5.5
MK31 ⇑Pg **Pg** **02 49 01.3 +1.4**
3.7nm,0.9s,baz=176,slow=15,SNR=3.6
MK31 ⇑Lg Lg 02 50 01.6
12nm,0.7s,baz=175,slow=30,SNR=4.4
MAKZ Makanchi 4.60 354 ⇓Lg Lg 02 50 01.7
13nm,0.9s
KTBS Karatobe 4.62 291 Pg **Pg** **02 49 00.0 -0.7**
1.0nm,0.5s
KTBS Lg Lg 02 49 59.2
7.3nm,0.8s
KST Kastek 4.99 282 Pg **Pg** **02 49 09.4 +1.4**
4.5nm,0.4s
KST Lg Lg 02 50 14.4
9.5nm,0.7s
KST Kastek 4.99 282 *e*P **Pg** **02 49 08.0 0.0**
0.7nm,0.2s
KST *e*S **Sg** **02 50 11.8 -0.8**
5.4nm,0.4s

BJI ***15*** *03:00:05.6,5.°23S×101.°21E,h10km,mB5.2/26,mb5.2/74, Ms4.8/58,Ms7 4.5/58*
IDC ***15*** *03:00:12.6±0.4,4.°35S×101.°27E,h0km,mb4.8/27, mbtmp4.8/29,ML4.7/2,MS4.2/36,Error ellipse: s-maj=15.6km s-min=9.3km az=56.0*
MOS ***15*** *03:00:13.5±0.9,4.°32S×101.°16E,h18km,mb5.2/56, MS4.4/4,Error ellipse: s-maj=9.8km s-min=4.8km az=113.9*
NEIC ***15*** *03:00:14.7±1.8,4.°43S±0.°06×101.°13E±0.°06,h10km±1km, mb5.1/78,Error ellipse: s-maj=11.5km s-min=10.0km az=218.0*
DJA ***15*** *03:00:16.7±0.3,4.°S±2.°×10.°1E±.°,h36km±3km,M4.9/72, mb5.1/72,mB5.4/31,MLv5.2/29,Mw(mB)4.9/31, MwMwp5.5/3,Mwp5.6/3*
GCMT ***15*** *03:00:18.7±0.4,4.°67S±0.°03×100.°85E±0.°02,h24km, MW4.9/60,Moment Tensor Solution. s38,c43; s60,c70; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.38±.13; $M_{\theta\theta}$-1.04±.08; $M_{\phi\phi}$-1.35±.09; $M_{r\theta}$1.61±.14; $M_{\theta\phi}$0.80±.06; $M_{\phi r}$-1.03±.14; Best double couple: $M_0$2.90300×10^16 NP1:ϕ_s327.00000°,δ25.00000°,λ106.00000°. NP2: ϕ_s130.00000°,δ66.00000°,λ83.00000°. Principal axes: T 3.1230, Plg69.0000°, Azm25.0000°; N -0.4490, Plg7.0000°, Azm133.0000°; P -2.6840, Plg20.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 03:00:14.5±0.7,**4.°45S**±0.°04×**101.°10E**±0.°04,**h14**km±3km, **n495**,σ1°**26**/486,**mb5.1**/154,**MS4.3**/60,**33C-5D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.69**	**62**	P	**Pn**	**03 00 43.3**	**-0.4**
MASI	**Maura Aman, Be**	**1.73**	**41**	P	**Pn**	**03 00 44.7**	**+0.5**
MNAI	**Manna**	**1.86**	**87**		**Pn**	**03 00 46.0**	**+0.1**
MNAI	**Manna**	**1.86**	**87**	P	**Pb**	**03 00 47.1**	**-1.1**
MNAI	**Manna**	**1.86**	**87**	P	**Pn**	**03 00 46.2**	**+0.3**
PPSI	**Pulau Pagai**	**2.00**	**327**	P	**Pn**	**03 00 48.7**	**+0.9**
KRJI	**Kerinci**	**2.37**	**9**	P	**Pn**	**03 00 53.6**	**+0.5**
LHSI	**Lahat**	**2.50**	**76**	P	**Pn**	**03 00 56.0**	**+1.2**
LWLI	**Liwa**	**3.01**	**101**	P	**Pn**	**03 01 02.1**	**+0.2**
MDSI	**Maura Dua**	**3.07**	**91**	P	**Pn**	**03 01 03.8**	**+1.1**
KASI	**Kota Agung**	**3.55**	**108**	P	**Pn**	**03 01 09.7**	**+0.5**
PDSI	**Padang**	**3.57**	**350**	P	**Pn**	**03 01 09.4**	**-0.2**
SISI	**Saibi**	**3.69**	**327**	P	**Pn**	**03 01 11.8**	**+0.6**
PMBI	**Palembang**	**3.97**	**68**	Pn	**Pn**	**03 01 14.1**	**-0.9**
PMBI	**Palembang**	**3.97**	**68**	P	**Pn**	**03 01 15.4**	**+0.4**
PMBI	**Palembang**	**3.97**	**68**	P	**Pn**	**03 01 15.0**	**0.0**
PPI	**Padang Panjang**	**4.03**	**350**	P	**Pn**	**03 01 16.3**	**+0.5**
BLSI	**Bandar Lampung**	**4.23**	**103**	P	**Pn**	**03 01 18.5**	**-0.1**
BKNI	**Bangkinang**	**4.75**	**359**		**Pn**	**03 01 24.0**	**-1.7**
BKNI	**Bangkinang**	**4.75**	**359**	P	**Pn**	**03 01 26.9**	**+1.2**
BKNI	**Bangkinang**	**4.75**	**359**	P	**Pn**	**03 01 25.3**	**-0.4**
CGJI	**Cibinong**	**5.06**	**115**	P	**Pn**	**03 01 29.4**	**-0.5**
1.2nm378nm,0.9s							
PBSI	**Pulau Batu**	**5.19**	**327**	P	**Pn**	**03 01 32.4**	**+0.6**
2.0nm306nm,0.9s							
DSRI	**Dabo**	**5.26**	**42**	P	**Pn**	**03 01 33.9**	**+1.1**
1.2nm5μm4μm311nm,0.8s							
SBJI	**Serang**	**5.28**	**109**	P	**Pn**	**03 01 33.3**	**+0.3**
1.7nm12μm415nm,1.0s							
MNSI	**Mandailing Nat**	**5.43**	**344**	P	**Pn**	**03 01 35.2**	**+0.2**
1.1nm9μm98nm,0.8s							
PPBI	**Pangkal Pinang**	**5.52**	**66**	P	**Pn**	**03 01 37.5**	**+1.1**
TNG	**Tangerang**	**5.79**	**107**	P	**Pn**	**03 01 41.1**	**+1.1**
DBJI	**Dramaga**	**6.00**	**111**	P	**Pn**	**03 01 43.6**	**+0.6**
1.8nm12μm398nm,1.0s							
TPRI	**Tanjung Pinang**	**6.34**	**33**	P	**Pn**	**03 01 48.7**	**+1.1**
1.0nm243nm,1.0s							
BTDF	**Bukit Timah Da**	**6.36**	**25**	P	**Pn**	**03 01 49.2**	**+1.3**
CNJI	**Cibinong**	**6.64**	**116**	P	**Pn**	**03 01 51.6**	**-0.1**
0.5nm2μm159nm,0.8s							
GSI	**Gunungsitoli**	**6.71**	**328**		**Pn**	**03 01 53.7**	**+0.9**
GSI	**Gunungsitoli**	**6.71**	**328**	P	**Pn**	**03 01 54.1**	**+1.4**
GSI	**Gunungsitoli**	**6.71**	**328**	P	**Pn**	**03 01 53.6**	**+0.9**
0.8nm3μm107nm,0.8s							
TPI	**Tanjungpandan**	**6.76**	**76**	P	**Pn**	**03 01 54.3**	**+0.9**
MYKOM	**Kota Tinggi**	**6.78**	**24**		**Pn**	**03 01 54.5**	**+0.8**
MYKOM	**Kota Tinggi**	**6.78**	**24**	P	**Pn**	**03 01 54.9**	**+1.2**
LEM	**Lembang**	**6.91**	**110**	Pn	**Pn**	**03 01 54.8**	**-0.7**
23nm,0.3s,baz=311,slow=19,SNR=19							
97nm,0.5s							
BBJI	**Bungbulang**	**7.17**	**115**	P	**Pn**	**03 01 58.8**	**-0.3**
RPSI	**Rantau Prapat**	**7.42**	**343**		**Pn**	**03 02 02.8**	**+0.3**
PSI	**Prapat**	**7.52**	**343**	P	**Pn**	**03 02 03.1**	**-0.9**
PSI	**Prapat**	**7.52**	**343**	P	**Pn**	**03 02 02.8**	**-1.2**
KPJI	**Karang Pucung**	**8.30**	**111**	P	**Pn**	**03 02 14.7**	**+0.1**
155nm,1.3s							
SNSI	**Sinabang, Aceh**	**8.31**	**325**	P	**Pn**	**03 02 15.5**	**+0.8**
KCSI	**Kotacane, Aceh**	**8.59**	**337**	P	**Pn**	**03 02 18.7**	**+0.2**
1μm41nm,0.7s							
COCO	**West Island**	**8.77**	**208**		**Pn**	**03 02 19.8**	**-1.2**
COCO	**West Island**	**8.77**	**208**	P	**Pn**	**03 02 19.7**	**-1.2**
COCO	**West Island**	**8.77**	**208**	P	**Pn**	**03 02 19.8**	**-1.2**
IPM	**Ipoh**	**8.87**	**360**		**Pn**	**03 02 23.4**	**+1.0**
IPM	**Ipoh**	**8.87**	**360**	P	**Pn**	**03 02 24.1**	**+1.7**
SMRI	**Semarang**	**9.65**	**106**		**Pn**	**03 02 33.2**	**+0.2**
SMRI	**Semarang**	**9.65**	**106**	P	**Pn**	**03 02 33.5**	**+0.4**
SMRI	**Semarang**	**9.65**	**106**	P	**Pn**	**03 02 33.0**	**-0.1**
151nm,0.8s							
KULM	**Kulim**	**9.69**	**357**		**Pn**	**03 02 33.8**	**+0.2**
KULM	**Kulim**	**9.69**	**357**	P	**Pn**	**03 02 33.9**	**+0.3**
MLSI	**Meulaboh, Aceh**	**9.85**	**332**	P	**Pn**	**03 02 36.3**	**+0.5**
UGM	**Wanagama**	**9.98**	**111**	P	**Pn**	**03 02 38.0**	**+0.3**
121nm,1.5s							
LHMI	**Lhok Sumawe**	**10.47**	**337**	P	**Pn**	**03 02 44.9**	**+0.6**
LHMI	**Lhok Sumawe**	**10.47**	**337**	P	**Pn**	**03 02 44.6**	**+0.3**
PCJI	**Pacitan**	**10.69**	**111**	P	**Pn**	**03 02 47.4**	**+0.1**
84nm,1.1s							
NGJI	**Ngawi**	**10.71**	**106**	P	**Pn**	**03 02 48.6**	**+1.0**
69nm,1.3s							
KSM	**Kuching**	**10.93**	**58**	P	**Pn**	**03 02 53.7**	**+3.1**
STKI	**Sintang**	**11.30**	**67**	P	**Pn**	**03 02 58.0**	**+2.3**
GRJI	**Gresik**	**11.59**	**103**	P	**Pn**	**03 02 59.9**	**+0.3**
182nm,1.3s							
SBUM	**Sibu**	**13.06**	**59**		**Pn**	**03 03 23.1**	**+3.3**
SBUM	**Sibu**	**13.06**	**59**	P	**Pn**	**03 03 22.4**	**+2.6**
KMMI	**Kalianget**	**13.06**	**102**	P	**Pn**	**03 03 20.2**	**+0.4**
72nm,1.3s							
ABJI	**Asem Bagus**	**13.48**	**105**	P	**Pn**	**03 03 29.1**	**+3.6**
99nm,0.7s							
JAGI	**Jajag, Banyuwa**	**13.57**	**108**	P	**Pn**	**03 03 30.2**	**+3.4**
JAGI	**Jajag, Banyuwa**	**13.57**	**108**	P	**Pn**	**03 03 27.5**	**+0.7**
102nm,0.8s							
BBKI	**Banjar Baru**	**13.75**	**86**	P	**Pn**	**03 03 31.5**	**+2.3**
MTKI	**Muara Teweh, K**	**14.22**	**76**	P	**Pn**	**03 03 36.8**	**+1.2**
115nm,0.9s							
BKB	**Balikpapan**	**16.09**	**79**	P	**P**	**03 04 04.9**	**+1.1**
BKB	**Balikpapan**	**16.09**	**79**	P	**P**	**03 04 02.3**	**-1.6**
TWSI	**Taliwang, Sumb**	**16.25**	**106**	P	**P**	**03 04 03.9**	**-1.6**
PLAI	**Plampang**	**17.13**	**106**	P	**P**	**03 04 16.7**	**+1.4**
PLAI	**Plampang**	**17.13**	**106**	P	**Pn**	**03 04 11.9**	**-1.8**
69nm,0.8s							
KKM	**Kota Kinabalu**	**18.35**	**55**	P	**Pn**	**03 04 28.3**	**-0.5**
KKM	**Kota Kinabalu**	**18.35**	**55**	P	**P**	**03 04 30.1**	**+1.2**
KAPI	**Kappang**	**18.60**	**92**		**P**	**03 04 30.0**	**-1.6**
KAPI	**Kappang**	**18.60**	**92**	P	**P**	**03 04 30.7**	**-0.9**
1.5nm,0.3s,baz=270,slow=16,SNR=9.7							
KAPI				LR	LR	03 12 23.8	
comp=Z,585nm,20.9s,baz=268,slow=40							
28nm,0.9s							
KAPI	**Kappang**	**18.60**	**92**	P	**Pn**	**03 04 34.0**	**+2.1**
SPSI	**Sidrap Palu**	**18.63**	**89**	P	**P**	**03 04 31.3**	**-0.6**
2μm57nm,1.0s							
WBSI	**Waikabubak, Su**	**18.87**	**107**	P	**P**	**03 04 32.9**	**-1.7**
87nm,0.7s							
BNSI	**Bone**	**18.95**	**91**	P	**Pn**	**03 04 36.4**	**+0.2**
1μm99nm,1.1s							
BKSI	**Bulukumba**	**18.98**	**93**	P	**P**	**03 04 34.8**	**-0.9**
52nm,0.9s							
MYLDM	**Lahad Datu**	**19.84**	**61**	P	**P**	**03 04 45.4**	**+0.2**
MYLDM				IAmb	IAmb	03 04 50.8	
comp=Z,87nm,1.0s							
MYLDM	**Lahad Datu**	**19.84**	**61**	P	**Pn**	**03 04 47.1**	**+0.3**
BASI	**Baing, Sumba**	**20.15**	**108**	P	**P**	**03 04 48.0**	**-0.5**
comp=Z,3μmcomp=Z,211nm,1.2s							
TOLI2	**Tolitoli**	**20.43**	**75**	P	**P**	**03 04 50.7**	**-0.9**
TOLI2				IAmb	IAmb	03 04 55.7	
comp=Z,152nm,1.1s							
TOLI2	**Tolitoli**	**20.43**	**75**	P	Pn	03 04 52.5	-1.3
APSI	**Ampana**	**20.83**	**81**	P	**P**	**03 04 55.9**	**0.0**
comp=Z,2μmcomp=Z,240nm,1.2s							
EDFI	**Ende, Flores**	**20.89**	**103**	P	**P**	**03 04 55.5**	**-1.3**
comp=Z,17nm,0.5s							
MRSI	**Marisa**	**21.39**	**77**	P	**P**	**03 05 01.3**	**-0.7**
comp=Z,1μmcomp=Z,195nm,1.0s							
LUWI	**Luwuk**	**21.91**	**82**	P	**P**	**03 05 07.5**	**-0.2**
LUWI	**Luwuk**	**21.91**	**82**	P	**P**	**03 05 08.7**	**+1.1**
LUWI	**Luwuk**	**21.91**	**82**	P	**P**	**03 05 07.6**	**0.0**
CM31	**Chiang Mai Arr**	**22.86**	**355**	P	**P**	**03 05 18.3**	**+0.6**
CM31				IAmb	IAmb	03 05 19.8	
comp=Z,75nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.86**	**355**	P	**P**	**03 05 15.9**	**-1.8**
CMAR					**PcP**	**03 09 09.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**22.86**	**355**	P	**P**	**03 05 15.6**	**-2.1**
comp=Z,38nm,0.9s,baz=171,slow=9.1,SNR=93							
CMAR				PcP	**PcP**	**03 09 10.4**	**+1.7**
comp=Z,1.5nm,0.3s,baz=174,slow=2.7,SNR=5.2							
CMAR				LR	LR	03 15 57.9	
comp=Z,602nm,19.0s,baz=185,slow=42							
comp=Z,38nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.86**	**355**	*ce*P	**P**	**03 05 18.6**	**+0.9**
CMAR				pmax	pmax		
comp=Z,41nm,0.9s							
BATI	**Baumata**	**23.09**	**106**	P	**P**	**03 05 18.9**	**-1.3**
comp=Z,76nm,0.8s							
CHTO	**Chiang Mai**	**23.21**	**355**	P	**P**	**03 05 20.2**	**-1.1**
CHTO				IAmb	IAmb	03 05 22.3	
comp=Z,47nm,0.9s							
CHTO	**Chiang Mai**	**23.21**	**355**	P	**P**	**03 05 21.5**	**+0.2**
CHTO	**Chiang Mai**	**23.21**	**355**	P	**P**	**03 05 20.2**	**-1.1**
CHTO				pmax	pmax		
comp=Z,47nm,1.0s							
PALK	**Pallekele**	**23.45**	**300**	LR	LR	03 14 15.1	
comp=Z,484nm,19.2s,baz=114,slow=36							
SOEI	**Soe**	**23.58**	**104**	P	**P**	**03 05 22.8**	**-2.4**
SOEI				IAmb	IAmb	03 05 31.4	
comp=Z,57nm,1.1s							
SOEI	**Soe**	**23.58**	**104**	P	**P**	**03 05 27.8**	**+2.6**
SOEI	**Soe**	**23.58**	**104**	P	**P**	**03 05 23.1**	**-2.1**
comp=Z,48nm,0.8s							
QIZ	**Qiongzhong**	**24.87**	**20**	P	**P**	**03 05 37.5**	**+0.6**
QIZ				S	**S**	**03 10 08.5**	**+8.7**
QIZ				pmax	pmax		
comp=Z,59nm,1.3s							
QIZ				LR	LR		
comp=Z,390nm,12.6s							
QIZ				LR	LR		
comp=Z,750nm,13.2s							
QIZ				LR	LR		
comp=Z,620nm,19.8s							
QIZ	**Qiongzhong**	**24.87**	**20**	P	**P**	**03 05 38.0**	**+1.1**
PSA00	**Pilbara Seismi**	**24.91**	**135**	P	**P**	**03 05 39.6**	**+2.3**
SANI	**Sanana**	**24.96**	**85**	P	**P**	**03 05 37.3**	**-0.6**
SANI	**Sanana**	**24.96**	**85**	P	**P**	**03 05 36.0**	**-1.9**
comp=Z,47nm,1.1s							
SLVN	**Son La**	**25.77**	**6**	P	**P**	**03 05 44.8**	**-0.3**
SLVN				IAmb	IAmb	03 05 48.4	
comp=Z,54nm,1.2s							
SLVN	**Son La**	**25.77**	**6**	P	**P**	**03 05 45.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.57**	**121**	P	**P**	**03 06 00.8**	**-0.6**
comp=Z,6.2nm,1.1s							
FITZ	**Fitzroy Crossi**	**27.57**	**121**	P	**P**	**03 06 01.5**	**0.0**
FITZ	**Fitzroy Crossi**	**27.57**	**121**	P	**P**	**03 06 01.8**	**+0.4**
BRDH	**Bariadhala**	**28.50**	**341**	LR	LR	03 20 25.7	
comp=Z,677nm,19.3s,baz=144,slow=43							
H08S2	**Diego Garcia H**	**28.61**	**262**	T	T	03 36 06.8	
baz=85,slow=75,SNR=2412							
H08S3	**Diego Garcia H**	**28.62**	**262**	T	T	03 36 08.5	
baz=85,slow=75,SNR=2397							
H08S1	**Diego Carcia H**	**28.63**	**262**	T	T	03 36 08.2	
baz=85,slow=75,SNR=1067							
KNRA	**Kununurra**	**29.39**	**114**	P	**P**	**03 06 16.4**	**-1.2**
comp=Z,21nm,1.1s							
KNRA	**Kununurra**	**29.39**	**114**	P	**P**	**03 06 16.5**	**-1.1**
TNCH	**TengChong**	**29.41**	**355**	*e*P	**P**	**03 06 21.5**	**+3.6**
TNCH				S	**S**	**03 11 16.3**	**+4.6**
TNCH				LR	LR		
comp=Z,1μm,12.7s							
TNCH				LR	LR		
comp=Z,560nm,12.6s							
TNCH				LR	LR		
comp=Z,2μm,13.1s							
KMI	**Kunming**	**29.44**	**3**	⇑P	**P**	**03 06 19.3**	**+1.1**
KMI				sP	sP	03 06 26.9	+2.8
KMI				pmax	pmax		
comp=Z,39nm,1.0s							
KMI				pmax	pmax		
comp=Z,120nm,3.0s							
KMI				LR	LR		
comp=Z,910nm,14.4s							
KMI				LR	LR		
comp=Z,960nm,15.6s							
KMI				LR	LR		
comp=Z,790nm,19.5s							
PZH	**PanZhiHua**	**30.78**	**1**	P	**P**	**03 06 30.3**	**+0.4**
MTN	**Manton Dam**	**30.82**	**108**	P	**P**	**03 06 28.6**	**-1.7**
comp=Z,15nm,0.9s							
MTN	**Manton Dam**	**30.82**	**108**		**P**	**03 06 28.7**	**-1.7**
HYB	**Hyderabad**	**31.11**	**315**	*e*P	**P**	**03 06 33.2**	**+0.4**
HYB				IVmB_BB		03 06 33.2	
comp=Z,95nm,1.0s							
HYB				*e*PP	**PP**	**03 07 42.5**	**-0.7**
HYB				*e*S	**S**	**03 11 39.6**	**+1.4**
FAKI	**Fak Fak**	**31.12**	**88**		**P**	**03 06 30.7**	**-2.3**
FAKI				IAmb	IAmb	03 06 38.5	
comp=Z,21nm,0.8s							
FAKI	**Fak Fak**	**31.12**	**88**	P	**P**	**03 06 30.7**	**-2.3**
comp=Z,32nm,0.9s							
SHL	**Shillong**	**31.15**	**344**		**P**	**03 06 33.0**	**-0.3**
SHL				IAmb	IAmb	03 06 35.0	
comp=Z,22nm,0.6s							
SHL				PcP	**PcP**	**03 09 28.7**	**+0.2**
SHL	**Shillong**	**31.15**	**344**	P	**P**	**03 06 33.0**	**-0.3**
SHL						03 09 28.7	
SHL				pmax	pmax		
comp=Z,22nm,0.6s							
GYA	**Guiyang**	**31.20**	**10**	⇓P	**P**	**03 06 33.8**	**+0.2**
GYA				S	**S**	**03 11 38.3**	**-1.3**
GYA				pmax	pmax		
comp=Z,34nm,1.1s							
GYA				pmax	pmax		
comp=Z,220nm,4.3s							
GYA				LR	LR		
comp=Z,540nm,20.2s							
GYA				LR	LR		
comp=Z,940nm,19.0s							
GYA				LR	LR		
comp=Z,550nm,22.5s							
KDU	**Kakadu**	**32.06**	**107**	P	**P**	**03 06 39.3**	**-1.9**
comp=Z,12nm,0.9s							
NWAO	**Narrogin (SRO)**	**32.09**	**154**	LR	LR	03 19 24.0	
comp=Z,394nm,19.6s,baz=298,slow=36							
NWAO	**Narrogin (SRO)**	**32.09**	**154**	P	**P**	**03 06 41.5**	**+0.2**
H01W3	**Cape Leeuwin H**	**32.60**	**160**	T	T	03 41 03.9	
baz=337,slow=76,SNR=686							
H01W2	**Cape Leeuwin H**	**32.62**	**160**	T	T	03 41 05.0	
baz=337,slow=76,SNR=820							
H01W1	**Cape Leeuwin H**	**32.62**	**160**	T	T	03 41 07.7	
baz=337,slow=76,SNR=567							
EVN	**Everest**	**35.04**	**338**		**P**	**03 07 07.7**	**0.0**
EVN				IAmb	IAmb	03 07 10.3	
comp=Z,41nm,0.9s							
CD2	**Chengdu**	**35.25**	**4**	P	**P**	**03 07 08.6**	**-0.3**
CD2				pmax	pmax		
comp=Z,70nm,0.9s							
CD2				LR	LR		
comp=Z,1μm,14.0s							
CD2				LR	LR		
comp=Z,1μm,13.3s							
CD2				LR	LR		
comp=Z,1μm,16.5s							
LSA	**Lhasa**	**35.27**	**345**	P	**P**	**03 07 07.5**	**-2.0**
LSA				pmax	pmax		
comp=Z,17nm,1.1s							
LSA	**Lhasa**	**35.27**	**345**	P	**P**	**03 07 09.7**	**+0.2**
LSA				IAmb	IAmb	03 07 12.6	
comp=Z,22nm,1.1s							
LSA	**Lhasa**	**35.27**	**345**	P	**P**	**03 07 09.7**	**+0.2**
LSA				pmax	pmax		
comp=Z,22nm,1.1s							
ENH	**Enshi**	**35.45**	**13**	P	**P**	**03 07 09.6**	**-0.9**
ENH				IAmb	IAmb	03 07 10.5	
comp=Z,30nm,0.9s							
ENH	**Enshi**	**35.45**	**13**	P	**P**	**03 07 09.8**	**-0.7**
WB0	**Warramunga Arr**	**35.83**	**118**	P	**P**	**03 07 13.9**	**-0.1**
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**03 07 13.8**	**-0.3**
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**03 07 13.7**	**-0.5**
comp=Z,12nm,0.9s,baz=292,slow=9.8,SNR=46							
WRA				PcP	**PcP**	**03 09 42.3**	**+0.7**
comp=Z,1.2nm,0.6s,baz=294,slow=2.0,SNR=3.0							
WRA				S	**S**	**03 12 51.6**	**-0.2**
comp=Z,1.6nm,1.0s,baz=292,slow=15,SNR=6.1							
comp=Z,12nm,0.9s							
WRA	**Warramunga Arr**	**35.84**	**118**	P	**P**	**03 07 13.8**	**-0.3**
WRAB	**Tennant Creek**	**35.85**	**118**	P	**P**	**03 07 13.9**	**-0.3**
WRAB				IAmb	IAmb	03 07 24.2	
comp=Z,82nm,1.9s							
WRAB	**Tennant Creek**	**35.85**	**118**	P	**P**	**03 07 14.2**	**0.0**
WRAB	**Tennant Creek**	**35.85**	**118**	*ce*P	**P**	**03 07 14.5**	**+0.3**
WRAB				pmax	pmax		
comp=Z,12nm,0.7s							
WC2	**Warramunga Arr**	**35.86**	**118**	P	**P**	**03 07 13.5**	**-0.8**
WR8	**Warramunga Arr**	**35.99**	**118**		**P**	**03 07 14.6**	**-0.8**
AUALC	**St Philip's Co**	**36.95**	**124**	P	**P**	**03 07 24.3**	**+0.8**
AS31	**Alice Springs**	**36.96**	**124**	P	**P**	**03 07 23.9**	**+0.3**
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**03 07 23.8**	**+0.2**
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**03 07 23.5**	**-0.1**
comp=Z,5.4nm,0.8s,baz=298,slow=8.4,SNR=42							
ASAR				PcP	**PcP**	**03 09 46.0**	**+1.1**
comp=Z,3.2nm,0.7s,baz=298,slow=3.6,SNR=6.8							
ASAR				S	**S**	**03 13 06.6**	**-2.1**
comp=Z,0.7nm,0.9s,baz=300,slow=15,SNR=3.4							
comp=Z,5.4nm,0.8s							
ASAR	**Alice Springs**	**36.96**	**124**	P	**P**	**03 07 23.8**	**+0.2**
AS01	**Alice Springs**	**36.99**	**124**	P	**P**	**03 07 24.5**	**+0.6**
AS17	**Alice Springs**	**37.03**	**124**	P	**P**	**03 07 24.1**	**-0.1**
comp=Z,16nm,0.8s							
WHN	**Wuhan**	**37.03**	**19**	P	**P**	**03 07 24.3**	**+0.3**
WHN				pP	**pP**	**03 07 27.3**	**-0.9**
WHN				pmax	pmax		
comp=Z,48nm,0.8s							
WHN				LR	LR		
comp=Z,2μm,13.7s							
XAN	**Xi'an**	**38.99**	**10**	⇑P	**P**	**03 07 39.8**	**-0.8**
XAN				S	**S**	**03 13 40.5**	**+1.3**
XAN				pmax	pmax		
comp=Z,62nm,0.9s							
XAN				LR	LR		
comp=Z,680nm,19.2s							
XAN				LR	LR		
comp=Z,860nm,16.5s							
XAN				LR	LR		
comp=Z,1μm,15.1s							
NJ2	**Nanjing**	**40.04**	**24**	*e*P	**P**	**03 07 51.4**	**+2.1**
NJ2				pmax	pmax		
comp=Z,17nm,0.6s							
LYN	**LuoYang**	**40.25**	**15**	⇑P	**P**	**03 07 50.9**	**-0.1**
LYN				sP	sP	03 07 58.9	+2.0
LYN				pmax	pmax		
comp=Z,120nm,1.0s							
LYN				LR	LR		
comp=Z,1μm,15.1s							
LYN				LR	LR		
comp=Z,690nm,15.4s							
LYN				LR	LR		
comp=Z,870nm,17.2s							
LZDM	**Lanzhou Array**	**40.27**	**3**	P	**P**	**03 07 51.2**	**-0.3**
comp=Z,8.7nm,0.6s,baz=186,slow=12,SNR=16							
LZDM				PcP	**PcP**	**03 09 56.7**	**+1.4**
comp=Z,11nm,0.8s,baz=187,slow=5.8,SNR=5.6							
LZDM				LR	LR	03 27 21.6	
comp=Z,637nm,18.1s,baz=160,slow=41							
comp=Z,8.7nm,0.6s							
LZH	**Lanzhou**	**40.41**	**3**	*e*P	**P**	**03 07 53.0**	**+0.5**
LZH				sP	sP	03 08 01.4	+3.0
LZH				PcP	**PcP**	**03 09 57.1**	**+1.6**
LZH				S	**S**	**03 14 07.0**	**+6.4**
LZH				pmax	pmax		
comp=Z,47nm,1.2s							
LZH				pmax	pmax		
comp=Z,160nm,4.2s							
LZH				LR	LR		
comp=Z,790nm,13.7s							
LZH				LR	LR		
comp=Z,980nm,14.1s							
LZH				LR	LR		
comp=Z,1μm,13.4s							
QIS	**Mount Isa**	**40.71**	**117**	P	**P**	**03 07 54.8**	**-0.3**
comp=Z,23nm,1.6s							
QIS	**Mount Isa**	**40.71**	**117**	P	**P**	**03 07 55.2**	**+0.1**
COEN	**Coen**	**42.53**	**106**	P	**P**	**03 08 08.6**	**-1.5**
comp=Z,19nm,1.2s							
COEN	**Coen**	**42.53**	**106**	P	**P**	**03 08 08.8**	**-1.3**
COEN	**Coen**	**42.53**	**106**	P	**P**	**03 08 10.9**	**+0.8**
**

comp=Z,690nm,12.9s
HHC LR LR
comp=Z,380nm,15.2s
HHC LR LR
comp=Z,740nm,13.7s
NIL Nilore 46.14 327 P 03 08 38.1 -0.7
NIL Nilore 46.14 327 P **P 03 08 38.1 -0.7**
NIL pmax pmax
comp=Z,43nm,1.1s
BJT Baijiatuau 46.37 16 P **P 03 08 40.7 +0.3**
BJT IAmb IAmb 03 08 41.6
comp=Z,31nm,1.0s
BJT Baijiatuau 46.37 16 P **P 03 08 40.6 +0.2**
BJT Baijiatuau 46.37 16 P **P 03 08 40.7 +0.3**
BJT pmax pmax
comp=Z,31nm,1.0s
BJI Beijing 46.40 16 P **P 03 08 40.5 -0.1**
BJI sP **sP 03 08 48.0 +1.8**
BJI S **S 03 15 27.8 0.0**
BJI pmax pmax
comp=Z,17nm,1.1s
BJI pmax pmax
comp=Z,76nm,4.9s
BJI LR LR
comp=Z,190nm,13.9s
BJI LR LR
comp=Z,86nm,15.9s
BJI LR LR
comp=Z,270nm,14.8s
CTAO Charters Tower 46.60 113 P **P 03 08 42.7 +0.1**
CTAO IAmb IAmb 03 08 44.7
comp=Z,27nm,1.1s
CTAO Charters Tower 46.60 113 P **P 03 08 43.3 +0.7**
CTAO Charters Tower 46.60 113 P **P 03 08 42.7 +0.1**
CTAO pmax pmax
comp=Z,27nm,1.1s
QLP Quilpie 46.70 123 P **P 03 08 44.2 +1.0**
comp=Z,50nm,1.2s
QLP Quilpie 46.70 123 P **P 03 08 43.8 +0.5**
STKA Stephens Creek 46.72 131 P **P 03 08 43.8 +0.4**
comp=Z,61nm,0.7s
STKA Stephens Creek 46.72 131 P **P 03 08 42.7 -0.7**
STKA Stephens Creek 46.72 131 P **P 03 08 43.8 +0.4**
comp=Z,4.9nm,0.8s,baz=300,slow=8.1,SNR=13
STKA PcP **PcP 03 10 16.7 -0.2**
comp=Z,5.4nm,0.9s,baz=270,slow=1.0,SNR=1.7
comp=Z,4.9nm,0.8s
STKA Stephens Creek 46.72 131 P **P 03 08 44.5 +1.1**
STKA Stephens Creek 46.72 131 *i* P **P 03 08 42.9 -0.5**
KSAR Wonju Array Be 48.57 29 P **P 03 08 57.3 -0.2**
KSAR Wonju Array Be 48.57 29 P **P 03 08 57.3 -0.2**
KSRS Korea Array 48.60 29 P **P 03 08 56.8 -0.9**
comp=Z,34nm,0.9s,baz=217,slow=8.0,SNR=45
KSRS PcP **PcP 03 10 23.9 +0.6**
comp=Z,4.4nm,0.9s,baz=233,slow=3.4,SNR=3.9
comp=Z,34nm,0.9s
KBL Kabul 49.15 325 P **P 03 09 02.1 -0.2**
KBL Kabul 49.15 325 P **P 03 09 02.1 -0.2**
KBL pmax pmax
comp=Z,11nm,1.1s
KSH Kashi 49.50 334 P **P 03 09 04.0 -0.8**
KSH sP sP 03 09 12.5 +2.4
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,310nm,21.0s
KSH LR LR
comp=Z,230nm,19.9s
KSH LR LR
comp=Z,290nm,21.0s
WMQ Urumqi 49.55 347 *e*P **P 03 09 06.5 +1.5**
WMQ ScS ScS 03 18 54.6 -2.1
WMQ pmax pmax
comp=Z,51nm,0.9s
WMQ pmax pmax
comp=Z,180nm,4.5s
WMQ LR LR
comp=Z,450nm,20.7s
WMQ LR LR
comp=Z,210nm,17.7s
CMSA Cobar Meteorol 49.73 128 P **P 03 09 07.1 +0.5**
comp=Z,28nm,0.8s
CMSA Cobar Meteorol 49.73 128 P **P 03 09 07.0 +0.4**
XLT XiLinHaoTe 49.99 14 *e*P **P 03 09 08.6 +0.2**
XLT pP pP 03 09 12.8 +0.1
XLT sP sP 03 09 15.5 +1.4
XLT PcP **PcP 03 10 26.8 -1.6**
XLT PP **PP 03 11 01.0 -2.5**
XLT pmax pmax
comp=Z,38nm,1.1s
XLT pmax pmax
comp=Z,130nm,3.5s
XLT LR LR
comp=Z,35nm,16.2s
XLT LR LR
comp=Z,260nm,16.2s
XLT LR LR
comp=Z,440nm,14.9s
AUMTC Mt Clear Colle 51.10 136 P **P 03 09 17.8 +1.0**
BRAT Ballarat 51.11 136 P **P 03 09 17.2 +0.3**
SHLS Shalkode 51.27 340 *e*P **P 03 09 16.8 -1.3**
comp=Z,25nm,0.8s
SHLS Shalkode 51.27 340 *e*P **P 03 09 16.8 -1.3**
SHLS pmax pmax
comp=Z,25nm,0.8s
UZB Uzynbulak 51.41 339 *e*P **P 03 09 19.0 -0.3**
comp=Z,14nm,0.7s
UZB Uzynbulak 51.41 339 *e*P **P 03 09 18.9 -0.3**
UZB pmax pmax
comp=Z,14nm,0.7s
SATY Saty 51.56 339 *e*P **P 03 09 20.0 -0.3**
comp=Z,13nm,0.8s
SATY Saty 51.56 339 *e*P **P 03 09 20.0 -0.3**
SATY pmax pmax
comp=Z,13nm,0.8s
GAR Garm 51.75 329 P **P 03 09 20.4 -1.5**
GAR IAmb IAmb 03 09 31.8
comp=Z,31nm,1.1s
BOOM Boomskoye usch 52.00 336 P **P 03 09 23.9 +0.2**
BOOM IAmb IAmb 03 09 25.3
comp=Z,20nm,0.8s
BOOM Boomskoye usch 52.00 336 P **P 03 09 23.9 +0.2**
BOOM pmax pmax
comp=Z,20nm,0.8s
TNSS Tian-Shan 52.08 338 *e*P **P 03 09 23.8 -0.7**
TNSS Tian-Shan 52.08 338 *e*P **P 03 09 23.8 -0.7**
CHGR Chuyangaron 52.09 328 **P 03 09 23.0 -1.3**
CHGR IAmb IAmb 03 10 47.1
comp=Z,25nm,0.9s
CHGR Chuyangaron 52.09 328 P **P 03 09 23.0 -1.3**
CHGR pmax pmax
comp=Z,25nm,0.9s
MDOK Medeo 52.15 338 *e*P **P 03 09 24.4 -0.3**
MDOK Medeo 52.15 338 *e*P **P 03 09 24.4 -0.3**
EIDS Eidsvold 52.21 119 P **P 03 09 24.9 -0.5**
EIDS IAmb IAmb 03 09 27.2
comp=Z,24nm,1.1s
EIDS Eidsvold 52.21 119 P **P 03 09 26.0 +0.6**
AAA Alma-Ata 52.23 338 *e*P **P 03 09 24.9 -0.4**
comp=Z,10nm,0.6s
AAA Alma-Ata 52.23 338 *e*P **P 03 09 24.9 -0.4**
AAA pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 52.27 5 P **P 03 09 26.4 +0.8**
SONM PcP **PcP 03 10 37.2 +0.4**
SONM Songino Array 52.27 5 P **P 03 09 26.1 +0.6**
comp=Z,39nm,0.9s,baz=188,slow=7.3,SNR=150
SONM PcP **PcP 03 10 37.3 +0.4**
comp=Z,7.2nm,0.7s,baz=192,slow=3.6,SNR=8.2
comp=Z,39nm,0.9s
ARSB Arslanbob 52.29 333 P **P 03 09 26.0 +0.1**
ARSB IAmb IAmb 03 09 27.6
comp=Z,40nm,1.1s
ARSB Arslanbob 52.29 333 P **P 03 09 26.0 +0.1**
ARSB pmax pmax
comp=Z,40nm,1.1s
ULN Ulaanbaatar 52.36 5 P **P 03 09 26.7 +0.5**
ULN IAmb IAmb 03 09 27.9
comp=Z,35nm,0.9s
ULN Ulaanbaatar 52.36 5 *ce*P **P 03 09 27.0 +0.8**
ULN pmax pmax
comp=Z,53nm,1.3s
AAK Ala-Archa 52.71 335 LR LR 03 34 15.5
comp=Z,335nm,21.2s,baz=150,slow=39
AAK Ala-Archa 52.71 335 *ce*P **P 03 09 28.9 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
ARXS Arharly 52.77 339 *i* P **P 03 09 28.9 -0.3**
CN2 Changchun 52.81 22 ⇑P **P 03 09 28.3 -1.1**
CN2 *es*P sP 03 09 35.0 -0.1
CN2 *e*S **S 03 16 56.0 -1.5**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,14.0s
TDK Taldyqorghan 53.25 340 *e*P **P 03 09 32.8 0.0**
TDK Taldyqorghan 53.25 340 *e*P **P 03 09 32.7 0.0**
SGDS Sogindy 53.33 336 *e*P **P 03 09 33.2 -0.2**
MJAR Matsushiro Arr 53.52 37 P **P 03 09 32.9 -2.0**
comp=Z,31nm,0.9s,baz=217,slow=7.5,SNR=44
MJAR PcP **PcP 03 10 41.5 -0.2**
comp=Z,6.0nm,1.0s,baz=194,slow=5.1,SNR=2.6
comp=Z,31nm,0.9s
MJB9 Matsu-Tunnel 53.52 37 P **P 03 09 34.2 -0.6**
MJB9 IAmb IAmb 03 09 34.9
comp=Z,34nm,1.1s
ZSN Zaisan 53.62 346 *e*P **P 03 09 35.5 0.0**
comp=Z,16nm,0.9s
ZSN Zaisan 53.62 346 *e*P **P 03 09 35.4 0.0**
ZSN pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 53.67 344 *ce*P **P 03 09 35.6 -0.2**
MKAR Makanchi Array 53.67 344 P **P 03 09 35.8 0.0**
comp=Z,30nm,0.8s,baz=153,slow=8.8,SNR=145
MKAR LR LR 03 36 14.5
comp=Z,153nm,19.6s,baz=153,slow=40
comp=Z,30nm,0.8s
MKAR Makanchi Array 53.67 344 *ce*P **P 03 09 35.9 +0.1**
MKAR pmax pmax
comp=Z,30nm,0.8s
MAKZ Makanchi 53.77 344 P **P 03 09 36.5 0.0**
MAKZ IAmb IAmb 03 09 37.6
comp=Z,21nm,1.1s
MAKZ Makanchi 53.77 344 P **P 03 09 36.5 0.0**
MAKZ pmax pmax
comp=Z,21nm,1.1s
ARMA Armidale 54.11 125 P **P 03 09 38.5 -0.9**
comp=Z,17nm,1.6s
ARMA Armidale 54.11 125 P **P 03 09 39.8 +0.4**
DZA Taraz 54.28 333 *e*P **P 03 09 40.0 -0.4**
DZA Taraz 54.28 333 *e*P **P 03 09 39.9 -0.4**
IUG Iuzhnay 54.30 332 *e*P **P 03 09 40.2 -0.4**
comp=Z,8.5nm,0.8s
IUG Iuzhnay 54.30 332 *e*P **P 03 09 40.1 -0.4**
IUG pmax pmax
comp=Z,8.0nm,0.8s
CHM Chimkent 54.63 332 *e*P **P 03 09 42.7 -0.2**
CHM Chimkent 54.63 332 *e*P **P 03 09 42.6 -0.2**
ZAK Zakamensk 54.65 2 *e*P **P 03 09 42.6 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 55.12 25 P **P 03 09 45.0 -1.3**
MDJ pmax pmax
comp=Z,16nm,0.8s
MDJ Mudanjiang 55.12 25 P **P 03 09 45.9 -0.5**
MDJ IAmb IAmb 03 09 47.5
comp=Z,26nm,1.0s
MDJ Mudanjiang 55.12 25 P **P 03 09 46.3 0.0**
BNX BinXian 55.19 22 ⇑P **P 03 09 46.4 -0.4**
BNX pmax pmax
comp=Z,120nm,1.0s
USRK Ussuriysk Ar. 55.82 27 P **P 03 09 50.8 -0.6**
comp=Z,68nm,0.9s,baz=220,slow=5.8,SNR=102
comp=Z,68nm,0.9s
HIA Hailar 55.91 15 P **P 03 09 51.7 -0.2**
comp=Z,23nm,0.9s
JMM Marumori 55.94 38 P **P 03 09 51.9 -0.5**
TLY Talaya 55.96 2 P **P 03 09 52.8 +0.5**
TLY IAmb IAmb 03 09 54.2
comp=Z,20nm,0.9s
TLY Talaya 55.96 2 *ce*P **P 03 09 53.4 +1.2**
TLY pmax pmax
comp=Z,28nm,1.0s
HILR Hailar Array B 56.17 15 P **P 03 09 53.4 -0.4**
comp=Z,8.8nm,0.7s,baz=188,slow=8.7,SNR=11
comp=Z,8.8nm,0.7s
IRK Irkutsk 56.54 2 *e*P **P 03 09 56.6 +0.2**
IRK pmax pmax
comp=Z,41nm,1.1s
CIT Chita 57.25 9 *e*P **P 03 10 01.8 +0.3**
CIT *e* 03 10 08.2
CIT pmax pmax
comp=Z,53nm,1.2s
KURBB Kurchatov Arra 58.20 343 P **P 03 10 07.9 -0.1**
comp=Z,20nm,0.9s,baz=159,slow=6.7,SNR=97
KURBB LR LR 03 39 25.2
comp=Z,262nm,19.2s,baz=167,slow=40
comp=Z,20nm,0.9s
KURK Kurchatov 58.25 343 P **P 03 10 08.4 0.0**
KURK Kurchatov 58.25 343 *ce*P **P 03 10 07.4 -1.1**
KURK pmax pmax
comp=Z,40nm,0.8s
SAVO Savo Central 58.44 98 P **P 03 10 10.6 +0.1**
HEH HeiHe 59.03 19 *e*P **P 03 10 13.3 -0.6**
HEH pmax pmax
comp=Z,70nm,1.0s
H04N2 CROZET ISLANDS 59.51 218 T T 04 14 48.7
baz=61,slow=75
BRZS Berezniki 59.52 339 *e*P **P 03 10 17.3 -0.1**
BRZS Berezniki 59.52 339 *e*P **P 03 10 17.2 -0.1**
H04N1 CROZET ISLANDS 59.52 218 T T 04 14 49.1
baz=61,slow=75
H04N3 CROZET ISLANDS 59.53 218 T T 04 14 59.3
baz=61,slow=75
ZAA0 Zalesovo Array 59.77 349 **P 03 10 18.9 0.0**
ZALV Zalesovo Beam 59.77 349 P **P 03 10 18.5 -0.4**
comp=Z,40nm,1.0s,baz=163,slow=5.6,SNR=69
ZALV LR LR 03 39 33.2
comp=Z,214nm,18.4s,baz=178,slow=40
comp=Z,40nm,1.0s
H04S1 CROZET ISLANDS 59.77 217 T T 04 15 07.4
baz=60,slow=75,SNR=3331
H04S3 CROZET ISLANDS 59.78 217 T T 04 15 07.9
baz=60,slow=75,SNR=7029
H04S2 CROZET ISLANDS 59.79 217 T T 04 15 08.4
baz=60,slow=75,SNR=4746
ATD Arta Tunnel 60.07 286 LR LR 03 33 28.4
comp=Z,4.9nm,18.2s,baz=120,slow=33
ZEA Zeya 61.99 17 *e*P **P 03 10 34.3 +0.3**
ZEA *es*S **S 03 19 02.2 +4.2**
ZEA pmax pmax
comp=N,30nm,0.3s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA smax smax
comp=E,200nm,15.1s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
CASY Casey 62.07 176 P **P 03 10 35.7 +1.3**
CASY IAmb IAmb 03 10 44.7
comp=Z,23nm,1.5s
BORK Borovoye 62.89 340 *ce*P **P 03 10 39.7 -0.4**
BORK pmax pmax
comp=Z,20nm,0.8s
YSS Yuzhno-Sakhali 62.99 31 P **P 03 10 40.4 -0.5**
YSS Yuzhno-Sakhali 62.99 31 P **P 03 10 40.9 0.0**
YSS Yuzhno-Sakhali 62.99 31 *ce*P **P 03 10 40.8 -0.1**
YSS pmax pmax
comp=Z,81nm,1.3s
KMBO Kilima Mbogo 63.84 271 LR LR 03 33 56.6
comp=Z,64nm,21.9s,baz=99,slow=32
AB31 Akbulak array 64.30 331 P **P 03 10 49.1 -0.4**
ABKAR Akbulak array 64.30 331 P **P 03 10 49.2 -0.3**
AKTO Aktyubinsk 66.02 331 LR LR 03 44 23.8
comp=Z,150nm,18.8s,baz=105,slow=40
AKT Akhty 66.66 319 *e*P **P 03 11 04.0 -1.1**
AKT *e* 03 11 31.4
AKT *e* 03 13 29.3
AKT *e*S S 03 20 10.0 +13
AKT pmax pmax
comp=Z,15nm,1.0s
GNI Garni 68.04 317 *ce*P **P 03 11 11.4 -2.5**
GNI pmax pmax
comp=Z,6.0nm,1.0s
MAW Mawson 68.20 195 P **P 03 11 14.4 +0.2**
comp=Z,2.0nm,1.4s
MAW Mawson 68.20 195 P **P 03 11 15.2 +1.0**
comp=Z,6.0nm,1.0s,baz=47,slow=6.7,SNR=12
MAW LR LR 03 35 09.6
comp=Z,276nm,20.6s,baz=49,slow=31
comp=Z,6.0nm,1.0s
TRLG Trialeti 69.10 318 P **P 03 11 20.4 -0.1**
GURO Guroymak-BITLI 69.27 314 **P 03 11 21.7 +0.1**
GURO IAmb IAmb 03 11 31.6
comp=Z,14nm,1.0s
MARD Mardin 69.69 312 P **P 03 11 24.9 +0.7**
YAK Yakutsk 69.83 14 P **P 03 11 23.0 -1.3**
YAK Yakutsk 69.83 14 *e*P **P 03 11 22.6 -1.8**
YAK *e**PP **pP 03 11 27.6 -1.2**
YAK *e* 03 11 44.3
YAK *e* 03 13 56.8
YAK *e*PPP PPP 03 15 38.3
YAK *e*S **S 03 20 32.4 -0.9**
YAK *e* 03 21 24.0
YAK *e*SS **SS 03 25 00.9 -1.4**
YAK pmax pmax
comp=Z,121nm,1.5s
YAK pmax pmax
comp=N,34nm,1.5s
YAK pmax pmax
comp=E,20nm,1.5s
YAK pmax pmax
comp=Z,188nm,3.7s
YAK pmax pmax
comp=N,183nm,7.8s
YAK pmax pmax
comp=E,152nm,4.3s
YAK smax smax
comp=N,136nm,5.0s
YAK smax smax
comp=E,118nm,4.1s
YAK MLR MLR
comp=Z,618nm,25.0s
YAK MLR MLR
comp=N,241nm,13.0s
YAK MLR MLR
comp=E,246nm,17.0s
ARTI Arti 69.92 336 P **P 03 11 24.6 -0.4**
ARTI Arti 69.92 336 LR LR 03 46 17.0
comp=E,173nm,19.0s,baz=124,slow=40
ARTI Arti 69.92 336 *c i*P **P 03 11 24.7 -0.4**
ARTI 03 11 43.1
ARTI S **S 03 20 33.7 -0.8**
ARTI pmax pmax
comp=Z,27nm,0.8s
KBZ Khabaz 70.86 319 P **P 03 11 31.5 +0.4**
comp=Z,9.4nm,0.8s,baz=116,slow=6.1,SNR=40
comp=Z,9.4nm,0.8s
KBZ Khabaz 70.86 319 *ce*P **P 03 11 31.2 +0.1**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
ASF Jabal al Asfar 70.90 306 LR LR 03 43 31.3
comp=Z,248nm,18.8s,baz=144,slow=37
KOPT Kop Dagi 70.94 315 **P 03 11 32.0 -0.1**
SHA1 Shidzhatmaz 71.03 319 *c i*P **P 03 11 33.4 +1.0**
KIV Kislovodsk 71.10 319 P **P 03 11 33.0 +0.3**
KIV IAmb IAmb 03 11 42.1
comp=Z,12nm,0.6s
KIV Kislovodsk 71.10 319 *e*P **P 03 11 32.9 +0.3**
KIV *es*S **S 03 20 50.1 +1.0**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 71.10 319 P **P 03 11 33.1 +0.4**
comp=Z,12nm,1.2s
GOF Gofitskoye 71.36 321 *ce*P P 03 11 43.1 +9.0
GHAJ Ghor Haditha 71.72 305 **P 03 11 38.1 +1.6**
GHAJ IAmb IAmb 03 11 47.5
comp=Z,26nm,1.1s
EIL Elat 71.76 303 LR LR 03 43 34.6
comp=Z,226nm,18.0s,baz=150,slow=36
ARPR Arapgir-MALATY 72.14 313 P **P 03 11 39.3 +0.2**
ARPR IAmb IAmb 03 11 49.2
comp=Z,16nm,1.1s
MATP Matopo 72.16 250 LR LR 03 38 18.2
comp=Z,129nm,21.8s,baz=58,slow=32
GAZ Gaziantep 72.29 311 **P 03 11 40.7 +0.8**
GAZ IAmb IAmb 03 11 50.1
comp=Z,16nm,1.0s
LSZ Lusaka 72.36 255 LR LR 03 38 24.7
comp=Z,154nm,21.5s,baz=149,slow=32
MMAI Mount Meron Ar 72.36 307 LR LR 03 44 28.9
comp=Z,231nm,18.5s,baz=112,slow=37
SOC Sochi 72.90 318 *e*P **P 03 11 41.9 -1.4**
SOC *e* 03 14 24.6
SOC *e*PPP PPP 03 16 07.7
SOC *e*S **S 03 21 09.8 +0.3**
SOC *e*SS **SS 03 25 46.1 -4.0**
SOC pmax pmax
comp=Z,11nm,0.7s
SOC MLR MLR
comp=Z,74nm,16.0s
ERBR Yeremizino-Bor 73.27 320 *e*P **P 03 11 43.6 -1.9**
ERBR pmax pmax
comp=Z,17nm,0.3s
PETK Petropavlovsk- 74.38 32 P **P 03 11 51.0 -0.8**
comp=Z,8.0nm,0.9s,baz=217,slow=6.6,SNR=5.8
comp=Z,8.0nm,0.9s
MA2 Magadan 74.81 24 LR LR 03 49 17.1
comp=Z,126nm,18.6s,baz=214,slow=39
MA2 Magadan 74.81 24 *ce*P **P 03 11 54.4 +0.2**
MA2 pmax pmax
comp=Z,41nm,1.3s
VRH Novokhopyorsk 74.95 326 *e*P **P 03 11 54.6 -0.6**
VRH pmax pmax
comp=Z,33nm,0.7s
LBTB Lobatse 74.99 245 LR LR 03 39 21.7
comp=Z,212nm,19.2s,baz=88,slow=31
KIRV Kirov 75.04 335 LR LR 03 49 21.0
comp=Z,90nm,18.7s,baz=122,slow=39
KIRV Kirov 75.04 335 *ce*P **P 03 11 55.8 +0.3**
BOSA Boshof 75.45 242 P **P 03 11 59.9 +1.1**
comp=Z,6.6nm,1.0s,baz=61,slow=0.4,SNR=4.1
BOSA LR LR 03 38 17.5
comp=Z,229nm,19.1s,baz=92,slow=30
comp=Z,6.6nm,1.0s
BR104 Keskin Array S 75.77 313 P **P 03 11 59.2 -1.1**
comp=Z,59nmcomp=Z,7.7nm,1.1s
BR131 Keskin Array S 75.78 313 *i* P **P 03 12 00.0 -0.4**
BRTR Keskin Array B 75.78 313 P **P 03 11 59.8 -0.6**
comp=Z,4.2nm,0.9s,baz=128,slow=6.6,SNR=26
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 75.78 313 *ce*P **P 03 12 00.2 -0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BR105 Keskin Array S 75.79 313 P **P 03 11 59.4 -1.1**
comp=Z,64nmcomp=Z,8.5nm,1.0s
BR106 Keskin Array S 75.79 313 P **P 03 11 59.4 -1.1**
comp=Z,64nmcomp=Z,8.7nm,1.1s
SYO Syowa Base 75.92 199 ‖ *e*P **P 03 12 01.6 +1.2**
SYO Syowa Base 75.92 199 ‖ *e*pP pP 03 12 04.2 -0.6
VORD Divnogorie 76.22 325 *e*P **P 03 12 00.6 -1.8**
VORD pmax pmax
comp=Z,6.0nm,0.9s
URZ Urewera 76.28 128 LR LR 03 45 03.0
comp=Z,74nm,21.9s,baz=288,slow=35
VSR Storozhevoye 76.40 325 *e*P **P 03 12 01.3 -2.2**
VSR pmax pmax
comp=Z,9.0nm,0.9s
ANTO Ankara 76.44 313 P **P 03 12 04.3 +0.2**
ANTO IAmb IAmb 03 12 13.7
comp=Z,19nm,1.2s
ANTO Ankara 76.44 313 P **P 03 12 04.3 +0.2**
ANTO pmax pmax
comp=Z,19nm,1.2s
ANTO Ankara 76.44 313 P **P 03 12 03.8 -0.3**
comp=Z,5.9nm,1.1s
VORR Voronezh 76.57 326 *e*P **P 03 12 02.1 -2.3**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 77.12 326 *e*P **P 03 12 06.7 -0.8**
LPSR pmax pmax
comp=Z,14nm,0.8s
SIM Simferopol' 77.14 318 *e*P **P 03 12 06.2 -1.6**
SIM *es*S **S 03 21 54.6 -2.1**
SIM pmax pmax
comp=Z,16nm,0.7s
SEY Seymchan 77.48 21 LR LR 03 50 32.6
comp=Z,156nm,18.1s,baz=230,slow=39
SEY Seymchan 77.48 21 *e*P **P 03 12 07.9 -1.4**
SEY pmax pmax

comp=Z,27nm,1.1s
MDUB Mudurnu 77.78 313 IAmb IAmb 03 12 27.0
comp=Z,25nm,1.1s
TIXI Tiksi 78.09 9 P **P 03 12 11.1 -1.4**
TIXI Tiksi 78.09 9 LR LR 03 51 07.6
comp=Z,299nm,18.9s,baz=196,slow=39
TIXI Tiksi 78.09 9 *ceP* **P 03 12 11.4 -1.1**
TIXI pmax pmax
comp=Z,11nm,0.6s
MOS Moscow 79.15 329 *eP* **P 03 12 17.7 -1.0**
MOS *e* 03 15 15.8
MOS pmax pmax
comp=Z,26nm,0.7s
OBN Obninsk 79.44 328 LR LR 03 51 06.6
comp=Z,113nm,22.0s,baz=16,slow=38
OBN Obninsk 79.44 328 *eP* **P 03 12 20.4 +0.1**
OBN *i* 03 12 28.1
OBN *i* SS SS 03 27 26.4 -2.2
OBN pmax pmax
comp=Z,8.0nm,0.6s
VNDA Vanda 79.56 169 P **P 03 12 22.0 +1.4**
comp=Z,2.3nm,0.9s,baz=292,slow=6.6,SNR=13
comp=Z,2.3nm,0.9s
VNDA Vanda 79.56 169 P **P 03 12 22.0 +1.4**
KLMR Klimovskoe 80.50 334 *eP* **P 03 12 25.5 -0.4**
KLMR *e* 03 12 31.9
KLMR pmax pmax
comp=Z,33nm,1.3s
SBA Scott Base 80.66 169 P **P 03 12 28.5 +2.0**
SBA Scott Base 80.66 169 P **P 03 12 28.5 +2.0**
SBA pmax pmax
comp=Z,10.0nm,1.1s
AK09 Malin Array Si 82.02 322 P **P 03 12 33.4 -0.8**
AK10 Malin Array Si 82.03 322 P **P 03 12 33.5 -0.8**
AK08 Malin Array Si 82.04 322 P **P 03 12 33.5 -0.8**
AK07 Malin Array Si 82.05 322 P **P 03 12 33.6 -0.8**
AK06 Malin Array Si 82.06 322 P **P 03 12 33.6 -0.8**
AK05 Malin Array Si 82.07 322 P **P 03 12 33.4 -1.1**
AK02 Malin Array Si 82.08 322 P **P 03 12 33.7 -0.8**
AKASG Malin Array Be 82.08 322 P **P 03 12 34.3 -0.2**
comp=Z,1.8nm,0.7s,baz=106,slow=5.9,SNR=7.7
comp=Z,1.8nm,0.7s
AKASG Malin Array Be 82.08 322 *ceP* **P 03 12 34.2 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 82.08 322 *ceP* **P 03 12 34.3 -0.2**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 82.08 322 P **P 03 12 33.7 -0.8**
AK01 Malin Array Si 82.08 322 P **P 03 12 33.8 -0.7**
KIEV Kiev 82.09 322 P **P 03 12 34.1 -0.5**
KIEV Kiev 82.09 322 P **P 03 12 34.1 -0.5**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 82.09 322 P **P 03 12 33.7 -0.9**
comp=Z,26nm,1.1s
AK03 Malin Array Si 82.09 322 P **P 03 12 33.8 -0.8**
AK12 Malin Array Si 82.11 322 P **P 03 12 33.9 -0.8**
AK11 Malin Array Si 82.11 322 P **P 03 12 33.7 -1.0**
AK04 Malin Array Si 82.12 322 P **P 03 12 33.7 -1.0**
AK16 Malin Array Si 82.14 322 P **P 03 12 33.9 -1.0**
AK17 Malin Array Si 82.18 322 P **P 03 12 34.0 -1.0**
AK18 Malin Array Si 82.18 322 P **P 03 12 34.1 -1.0**
AK22 Malin Array Si 82.19 322 P **P 03 12 34.1 -1.0**
AK21 Malin Array Si 82.21 322 P **P 03 12 34.2 -1.0**
AK19 Malin Array Si 82.22 322 P **P 03 12 34.2 -1.0**
AK20 Malin Array Si 82.22 322 P **P 03 12 34.3 -1.0**
BISRR Bisoca 82.31 317 P **P 03 12 34.9 -1.1**
comp=Z,26nm,1.4s
TSUM Tsumeb 82.43 251 LR LR 03 44 17.5
comp=Z,135nm,20.9s,baz=360,slow=32
LUBAR Lubar, Ukraine 82.76 321 P **P 03 12 37.6 -0.5**
MLR Muntele Rosu 82.82 317 LR LR 03 55 24.5
comp=Z,65nm,18.8s,baz=62,slow=40
MLR Muntele Rosu 82.82 317 P **P 03 12 39.0 +0.3**
comp=Z,19nm,1.3s
KMPD K-Podol'skiy 83.23 320 P **P 03 12 39.4 -1.2**
KMPD P **P 03 12 39.4 -1.2**
BURAR Bucovina Array 83.81 319 P **P 03 12 44.7 +1.0**
BURAR IAmb IAmb 03 12 54.4
comp=Z,9.9nm,0.8s
BURAR Bucovina Array 83.81 319 P **P 03 12 44.7 +1.0**
BURAR pmax pmax
comp=Z,10.0nm,0.8s
BUR08 Bucovina Ar. S 83.83 319 IAmb IAmb 03 12 54.2
comp=Z,12nm,0.9s
MNK Minsk 83.95 326 *i* P **P 03 12 41.4 -2.7**
MNK *i* 03 12 45.1
MNK *i* 03 15 54.9
MNK *i* PPP PPP 03 17 46.9
MNK *i* S **SKSac 03 23 03.1 -3.8**
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=E,93nm,19.0s
MNK MLR MLR
comp=N,64nm,19.0s
LIT Litokhoron 84.17 311 IAmb IAmb 03 12 54.8
comp=Z,19nm,1.1s
RNPP9 Sopachiv 84.30 323 P **P 03 12 44.8 -1.2**
RNPP8 Varash 84.30 322 P **P 03 12 45.0 -1.0**
STNU Starunia 84.53 320 P **P 03 12 47.4 +0.2**
BILL Bilibino 85.07 20 *ceP* **P 03 12 49.7 +0.2**
BILL pmax pmax
comp=Z,12nm,0.8s
MEZ Mezhgor'ye 85.12 319 P **P 03 12 50.7 +0.5**
SHIU Shidnytsya 85.37 320 P **P 03 12 52.0 +0.5**
BRIU Brid 85.41 319 P **P 03 12 52.1 +0.5**
LVZ Lovozero 85.44 340 P **P 03 12 51.9 +0.4**
QSPA South Pole Qui 85.53 180 P **P 03 12 54.2 +2.2**
comp=Z,1.3nm,0.9s,baz=312,slow=3.2,SNR=4.2
QSPA LR LR 03 47 57.0
comp=Z,112nm,18.3s,baz=329,slow=34
comp=Z,1.3nm,0.9s
APA Apatity 85.75 339 ‖ *eP* **P 03 12 51.3 -1.6**
APA MLR MLR
comp=Z,421nm,21.4s
STHS Stebnicka Huta 86.77 320 *eP* **P 03 12 58.2 -0.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 86.77 320 *eP* **P 03 12 58.2 -0.2**
FINES FINESS Array B 86.78 332 P **P 03 12 58.5 +0.4**
comp=Z,6.5nm,0.9s,baz=104,slow=5.9,SNR=13
FINES LR LR 03 57 41.1
comp=Z,82nm,18.8s,baz=106,slow=40
comp=Z,6.5nm,0.9s
FINES FINESS Array B 86.78 332 *ceP* **P 03 12 58.7 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.9s
CEL Celeste 88.96 308 IAmb IAmb 03 13 21.1
comp=Z,21nm,1.2s
JAVC Velka Javorina 89.00 319 *eP* **P 03 13 10.6 +1.5**
JAVC *e* 03 13 19.2
ARCES ARCESS Array B 89.14 340 P **P 03 13 09.4 +0.1**
comp=Z,10nm,0.9s,baz=99,slow=5.3,SNR=19
ARCES LR LR 03 58 36.1
comp=Z,143nm,19.0s,baz=102,slow=39
comp=Z,10nm,0.9s
MODS Modra-Piesok 89.19 318 *eP* P 03 13 17.2 +7.2
MODS pmax pmax
comp=Z,33nm,1.4s
MODS Modra-Piesok 89.19 318 *eP* P 03 13 17.2 +7.2
MORC Moravsky Berou 89.20 320 IAmb IAmb 03 13 20.2
comp=Z,10nm,1.2s
MORC Moravsky Berou 89.20 320 *eP* **P 03 13 11.1 +1.1**
MORC *e* 03 13 19.0
KOGS Kog 89.64 316 *i* P **P 03 13 12.9 +0.9**
KRUC Moravsky 89.86 319 *eP* **P 03 13 13.2 +0.2**
KRUC *e* 03 13 21.3
GOLS Golise 90.02 316 *eP* **P 03 13 15.1 +1.1**
GOLS *i* 03 13 23.1
SNAA Sanae 90.16 198 ⇑P **P 03 13 16.5 +2.3**
comp=Z,118nm,1.4s
SNAA Sanae 90.16 198 P **P 03 13 16.5 +2.3**
SNAA IAmb IAmb 03 13 26.0
comp=Z,14nm,1.3s
SNAA Sanae 90.16 198 P **P 03 13 15.8 +1.7**
comp=Z,4.1nm,1.0s,baz=100,slow=6.2,SNR=8.7
SNAA LR LR 03 49 54.3
comp=Z,66nm,19.6s,baz=16,slow=33
comp=Z,4.1nm,1.0s
SNAA Sanae 90.16 198 *ceP* **P 03 13 14.8 +0.7**
SNAA pmax pmax
comp=Z,5.0nm,1.1s
ARSA Arzberg 90.23 317 IAmb IAmb 03 13 25.5
comp=Z,8.6nm,1.1s
ARSA Arzberg 90.23 317 *i* PcP **PcP 03 13 16.2 +0.2**
comp=Z,9.4nm,1.1s
PERS Pernice 90.44 317 *i* P **P 03 13 16.8 +0.9**
PERS *i* 03 13 24.6
SOKA Soboth 90.50 317 *i* PcP **PcP 03 13 17.4 0.0**
comp=Z,13nm,1.2s
OBKA Obir 90.82 316 *i* P **P 03 13 16.7 -1.0**
comp=Z,8.4nm,1.4s
MOA Molln 91.14 318 *i* P **P 03 13 19.1 0.0**
comp=Z,5.4nm,1.8s
MYKA Terra Mystica 91.45 316 *i* P **P 03 13 21.1 +0.5**
comp=Z,3.6nm,1.0s
BIOA Bad Ischl, Aus 91.54 318 *e*PcP **PcP 03 13 22.0 +0.1**
comp=Z,4.2nm,1.1s
GERES GERESS Array B 91.60 319 P **P 03 13 21.9 +0.7**
comp=Z,1.3nm,0.7s,baz=77,slow=5.0,SNR=12
comp=Z,1.3nm,0.7s
BRG Berggiesshubel 91.62 321 *eP* **P 03 13 22.1 +0.9**
BRG Amp 03 13 23.4
comp=Z,4.4nm,1.1s
KBA Koelnbreinsper 91.69 317 *i* PcP **PcP 03 13 22.6 -0.1**
comp=Z,4.6nm,1.1s
VNA1 Neumayer--Stat 92.15 198 ⇑P **P 03 13 26.4 +3.1**
comp=Z,4.2nm,0.9s
LESA Schwarzleotal 92.17 317 *i* PcP **PcP 03 13 25.1 +0.3**
comp=Z,5.0nm,1.3s
ABTA Abfaltersbach 92.24 317 *i* pP pP 03 13 29.0 +0.7
comp=Z,4.4nm,1.6s
CLL Collm 92.25 321 *eP* **P 03 13 24.0 -0.1**
CLL *e*S **S 03 24 19.0 -7.7**
CLL Collm 92.25 321 *eP* **P 03 13 24.0 -0.1**
CLL *ex* x 03 13 31.0
CLL *e*Sx Sx 03 24 18.0
CLL *e*PS PS 03 25 42.0 +3.1
CLL *e*PPS PPS 03 26 24.0
CLL Lm MLR 04 00 00.0
comp=Z,100nm,21.3s
HFS Hagfors 92.53 330 P **P 03 13 24.5 -0.7**
comp=Z,2.5nm,0.9s,baz=90,slow=7.2,SNR=2.5
HFS LR LR 03 59 19.3
comp=Z,115nm,20.4s,baz=82,slow=38
comp=Z,2.5nm,0.9s
WTTA Wattenberg 92.87 317 *i* P **P 03 13 26.4 -0.9**
comp=Z,10nm,2.0s
WATA Walderalm 92.91 317 *eP* **P 03 13 27.5 +0.1**
comp=Z,3.3nm,0.7s
MOTA Moosalm 93.23 317 *i* P **P 03 13 29.4 +0.4**
comp=Z,6.4nm,1.0s
SPITS Spitsbergen Ar 93.24 348 LR LR 04 02 56.0
comp=Z,151nm,18.8s,baz=93,slow=40
FETA Feichten 93.47 317 *e*PcP **PcP 03 13 31.1 +0.5**
comp=Z,4.1nm,1.6s
RETA Reutte 93.47 317 *i* PcP **PcP 03 13 30.9 +0.4**
comp=Z,6.7nm,1.5s
NOA NORSAR Array B 93.80 331 P **P 03 13 31.4 +0.3**
comp=Z,1.8nm,1.1s,baz=92,slow=4.8,SNR=4.6
NOA LR LR 04 01 02.8
comp=Z,31nm,18.1s,baz=75,slow=39
comp=Z,1.8nm,1.1s
DAVA Damuels 94.06 317 *eP* **P 03 13 32.0 -0.8**
comp=Z,5.3nm,1.1s
ILAR Eielson Array 103.29 24 PP **PKiKP 03 18 28.7 -4.1**
comp=Z,1.4nm,1.0s,baz=285,slow=7.6,SNR=5.6
PPT2 Papeete2 106.95 110 *e*LR LR 03 49 44.2
comp=Z,135nm,23.5s
PPT2 *e*LR LR 03 49 44.5
comp=Z,159nm,24.2s
YKA Yellowknife Ar 116.37 18 PKP **PKPdf 03 18 57.8 +0.3**
comp=Z,1.3nm,0.8s,baz=319,slow=5.5,SNR=2.3
LNOR Lincton Mounta 126.41 33 **PKiKP 03 19 18.0 +0.1**
O03E Paynes Creek 127.47 41 **PKiKP 03 19 20.5 +0.4**
ORV Oroville 128.05 42 **PKiKP 03 19 21.9 +0.7**
ORV Oroville 128.05 42 PKIKP **PKiKP 03 19 21.9 +0.7**
BEKR Beckworth 128.63 41 **PKiKP 03 19 22.9 +0.2**
NVAR Mina Array Bea 130.75 41 PKP **PKPdf 03 19 26.0 -0.1**
comp=Z,1.4nm,0.7s,baz=301,slow=3.2,SNR=12
NVAR SKPbc **SKPbc 03 22 49.4 -0.5**
comp=Z,4.0nm,1.2s,baz=300,slow=4.4,SNR=7.7
PDAR Pinedale Array 133.14 31 PKP **PKPdf 03 19 30.1 -0.4**
comp=Z,0.5nm,0.6s,baz=295,slow=1.6,SNR=7.1
PDAR PP **PP 03 21 55.6 -0.5**
comp=Z,0.4nm,0.9s,baz=320,slow=7.1,SNR=3.0
RSSD Black Hills 134.71 25 **PKPdf 03 19 33.8 +0.4**
RSSD Black Hills 134.71 25 PKIKP **PKPdf 03 19 33.8 +0.4**
BI02 San Fabin de 138.48 189 PKPpre 03 19 30.0
OK038 West end E0370 143.28 27 PKPbc 03 19 46.5 +0.6
CROK Carrier 143.60 26 PKPbc 03 19 47.9 +1.0
VHRN Van Horn 144.09 40 **PKPdf 03 19 49.7 -1.1**
MVL Millersville 144.54 357 PKPbc 03 19 50.1 +0.5
CCM Cathedral Cave 144.71 17 **PKPab 03 19 49.4 -0.7**
CCM Cathedral Cave 144.71 17 PKIKP **PKPab 03 19 49.4 -0.7**
SDMD Soldier's Deli 145.15 357 **PKPbc 03 19 51.5 -0.1**
WCI Wyandotte Cave 145.71 10 **PKPbc 03 19 53.5 +0.1**
WCI Wyandotte Cave 145.71 10 PKIKP **PKPbc 03 19 53.5 +0.1**
TXAR Lajitas Array 145.91 41 **PKPbc 03 19 54.3 -0.2**
TXAR Lajitas Array 145.91 41 PKPbc **PKPdf 03 19 54.0 +0.1**
comp=Z,35nm,1.0s,baz=317,slow=3.3,SNR=185
TXAR Lajitas Array 145.91 41 PKP2 **PKPbc 03 19 54.3 -0.2**
WVT Waverly 147.42 13 **PKPbc 03 19 57.9 -0.6**
WVT Waverly 147.42 13 PKP2 **PKPbc 03 19 57.9 -0.6**
Y58A Scranton 150.69 1 **PKPdf 03 20 03.6 +2.2**
250A Grady 151.76 13 **PKPbc 03 20 06.4 -3.0**
PTLB Pontes e Lacer 152.18 224 **PKPab 03 20 19.6 -0.7**

IDC ***15*** *03:10:51.0±0.9, 16°.34S×177°.12E, h0km, mb4.0/9, mbtmp4.0/9, MS4.1/33, Error ellipse: s-maj=32.7km s-min=23.9km az=139.0*
GCMT ***15*** *03:10:57.0±0.2, 16°.42S±0°.02×177°.35E±0°.01, h12km, MW4.9/116, Moment Tensor Solution. s48, c63; s116, c168; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.62±.06; Mθθ=0.11±.06; Mφφ=2.73±.04; Mrθ=0.33±.23; Mrφ=-0.14±.05; Mθφ=0.58±.16; Best double couple: M0=2.76100×10^16^ NP1:φs=349.00000°, δ=40.00000°, λ=-102.00000°. NP2:φs=185.00000°, δ=51.00000°, λ=-80.00000°. Principal axes: T 2.7960, Plg6.0000°, Azm268.0000°; N -0.0700, Plg8.0000°, Azm359.0000°; P -2.7270, Plg80.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 15 03:10:53.3±0.6, 16°.4S±0°.2×177°.2E±0°.1, h14km, n58, σ0=79/28, mb3.9/9, MS4.1/32, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.54**	**161**	LR	LR	03 18 26.1	
	comp=Z,281nm,21.5s,baz=18,slow=33						
HNR	**Honiara**	**18.18**	**290**	LR	LR	03 21 28.2	
	comp=Z,828nm,18.4s,baz=168,slow=35						
URZ	**Urewera**	**21.76**	**180**	LR	LR	03 22 27.5	
	comp=Z,242nm,18.5s,baz=13,slow=32						
RAR	**Rarotonga**	**22.31**	**106**	LR	LR	03 22 26.5	
	comp=Z,593nm,21.5s,baz=261,slow=31						
PPT2	**Papeete2**	**31.78**	**97**	*e*S	**S**	**03 22 26.2**	**-1.4**
	121nm,26.0s						
PPT2				*e*LR	LR	03 25 34.4	
	826nm,30.5s						
PPT2				*e*LR	LR	03 25 41.8	
	840nm,25.5s						
PPT	**Papeete**	**31.78**	**97**	LR	LR	03 26 46.8	
	comp=Z,224nm,19.3s,baz=288,slow=30						
STKA	**Stephens Creek**	**35.75**	**238**	LR	LR	03 31 52.0	
	comp=Z,398nm,19.1s,baz=335,slow=35						
JAY	**Jayapura**	**38.45**	**287**	LR	LR	03 33 53.2	
	comp=Z,351nm,18.3s,baz=342,slow=36						
WRA	**Warramunga Arr**	**40.78**	**258**	P	**P**	**03 18 34.7**	**+0.1**
	1.3nm,0.9s,baz=92,slow=8.3,SNR=6.4						
WRA				LR	LR	03 33 57.6	
	comp=Z,289nm,18.0s,baz=91,slow=34						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**41.18**	**253**	P	**P**	**03 18 37.7**	**0.0**
	1.9nm,0.9s,baz=86,slow=8.1,SNR=14						
ASAR				LR	LR	03 34 30.5	
	comp=Z,817nm,19.5s,baz=104,slow=34						
	1.9nm,0.9s						
TAOE	**Nuku Hiva Isla**	**42.23**	**85**	*e*LR	LR	03 30 26.0	
	950nm,26.4s						
FITZ	**Fitzroy Crossi**	**49.13**	**260**	LR	LR	03 38 44.6	
	comp=Z,736nm,20.8s,baz=99,slow=34						
BATI	**Baumata**	**52.34**	**270**	LR	LR	03 40 47.8	
	comp=Z,205nm,20.7s,baz=60,slow=34						
JCJ	**Chichijima**	**55.00**	**321**	LR	LR	03 39 05.4	
	comp=Z,112nm,22.0s,baz=147,slow=31						
DAV	**Davao City (W)**	**56.14**	**290**	LR	LR	03 40 42.5	
	comp=Z,180nm,21.9s,baz=140,slow=32						
NWAO	**Narrogin (SRO)**	**56.22**	**241**	LR	LR	03 43 35.3	
	comp=Z,331nm,20.4s,baz=106,slow=35						
KAPI	**Kappang**	**57.39**	**275**	LR	LR	03 44 07.6	
	comp=Z,112nm,19.8s,baz=98,slow=35						
VNDA	**Vanda**	**61.61**	**184**	P	**P**	**03 21 10.3**	**+0.4**
	1.1nm,1.1s,baz=14,slow=7.0,SNR=3.6						
	1.1nm,1.1s						
MJAR	**Matsushiro Arr**	**64.26**	**326**	LR	LR	03 44 46.2	
	comp=Z,76nm,20.5s,baz=193,slow=32						
JNU	**Nakatsue**	**66.20**	**318**	LR	LR	03 46 25.9	
	comp=Z,56nm,21.8s,baz=214,slow=32						
ASAJ	**Asahikawa**	**68.03**	**334**	LR	LR	03 46 13.4	
	comp=Z,128nm,21.4s,baz=164,slow=31						
RPN	**Rapa Nui**	**68.24**	**113**	LR	LR	03 44 44.1	
	comp=Z,192nm,18.6s,baz=281,slow=30						
PETK	**Petropavlovsk-**	**71.26**	**348**	LR	LR	03 47 31.2	
	comp=Z,46nm,21.5s,baz=226,slow=31						
QSPA	**South Pole Qui**	**73.62**	**180**	P	**P**	**03 22 27.2**	**+1.0**
	8.2nm,1.2s,baz=23,slow=4.6,SNR=9.4						
	8.2nm,1.2s						
KDAK	**Kodiak Island**	**78.05**	**16**	LR	LR	03 50 46.1	
	comp=Z,85nm,21.5s,baz=227,slow=31						
PSI	**Prapat**	**79.56**	**276**	LR	LR	03 59 52.3	
	comp=Z,94nm,18.7s,baz=117,slow=37						
YBH	**Yreka Blue Hor**	**80.11**	**41**	LR	LR	03 50 42.2	
	comp=Z,7.2nm,19.7s,baz=268,slow=30						
PFO	**Pinyon Flats O**	**80.42**	**51**	LR	LR	03 50 21.1	
	comp=Z,158nm,20.9s,baz=261,slow=30						
NVAR	**Mina Array Bea**	**81.34**	**46**	P	**P**	**03 23 10.2**	**+0.3**
	0.7nm,0.8s,baz=258,slow=4.6,SNR=3.8						
NVAR				LR	LR	03 51 24.7	
	comp=Z,197nm,20.6s,baz=258,slow=30						
	0.7nm,0.8s						
LPIG	**La Paz**	**81.39**	**62**	LR	LR	03 51 17.6	
	comp=Z,203nm,20.0s,baz=222,slow=30						
BBB	**Bella Bella**	**83.10**	**30**	LR	LR	03 52 16.0	
	comp=Z,98nm,21.4s,baz=224,slow=30						
MAW	**Mawson**	**83.80**	**201**	P	**P**	**03 23 20.4**	**-1.5**
	1.6nm,1.0s,baz=76,slow=5.3,SNR=3.3						
	1.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**84.43**	**291**	P	**P**	**03 23 24.6**	**-1.5**
	0.6nm,0.3s,baz=109,slow=3.9,SNR=4.4						
CMAR				LR	LR	03 59 26.4	
	comp=Z,43nm,19.9s,baz=125,slow=35						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**85.45**	**15**	P	**P**	**03 23 29.4**	**-0.7**
	0.8nm,1.0s,baz=226,slow=4.8,SNR=4.9						
ILAR				LR	LR	03 59 11.1	
	comp=Z,44nm,18.7s,baz=269,slow=34						
	0.8nm,1.0s						
ANMO	**Albuquerque**	**88.52**	**53**	LR	LR	03 55 07.0	
	comp=Z,105nm,20.7s,baz=12,slow=30						
TXAR	**Lajitas Array**	**88.80**	**59**	P	**P**	**03 23 48.3**	**+0.9**
	1.0nm,0.9s,baz=251,slow=4.3,SNR=5.0						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**89.22**	**45**	LR	LR	03 56 35.5	
	comp=Z,61nm,19.5s,baz=271,slow=31						
SONM	**Songino Array**	**89.71**	**320**	LR	LR	04 00 01.1	
	comp=Z,48nm,20.5s,baz=104,slow=33						
CMIG	**Matias Romero**	**92.80**	**73**	LR	LR	03 57 48.9	
	comp=Z,102nm,18.3s,baz=250,slow=30						
PALK	**Pallekele**	**98.22**	**275**	LR	LR	04 11 10.9	
	comp=Z,46nm,18.2s,baz=118,slow=37						
CONA	**Conrad Observa**	**145.02**	**338**	*e*PKP	**PKPdf**	**03 30 31.5**	**+1.1**
	6.1nm,1.9s						
RONA	**Rosalia, Austr**	**145.06**	**337**	*e*PKP	**PKPdf**	**03 30 31.2**	**+0.8**
	1.6nm,0.5s						
MOA	**Molln**	**145.65**	**339**	*i* PKP	**PKPab**	**03 30 32.5**	**+0.6**
	6.8nm,1.4s						
ARSA	**Arzberg**	**145.72**	**338**	*i* PKP	**PKPbc**	**03 30 32.1**	**+0.2**
	10nm,1.5s						
BIOA	**Bad Ischl, Aus**	**145.99**	**340**	*e*PKP	**PKPdf**	**03 30 32.5**	**+0.5**
	3.8nm,1.2s						
SOKA	**Soboth**	**146.38**	**338**	*i* PKP	**PKPab**	**03 30 34.7**	**-0.1**
	4.5nm,1.0s						
LESA	**Schwarzleotal**	**146.54**	**341**	*i* PKP	**PKPbc**	**03 30 34.9**	**+0.5**
	3.6nm,1.2s						
KBA	**Koelnbreinsper**	**146.63**	**340**	*i* PKP	**PKPbc**	**03 30 35.6**	**+0.8**
	3.4nm,1.2s						
OBKA	**Obir**	**146.70**	**338**	*e*PKP	**PKPab**	**03 30 35.9**	**-0.2**
	3.0nm,0.9s						
MYKA	**Terra Mystica**	**146.92**	**339**	*e*PKP	**PKPab**	**03 30 36.8**	**-0.1**
	1.4nm,0.5s						
WATA	**Walderalm**	**146.96**	**342**	*i* PKP	**PKPbc**	**03 30 35.5**	**-0.2**
	7.6nm,1.4s						
WTTA	**Wattenberg**	**147.00**	**342**	*i* PKP	**PKPbc**	**03 30 36.6**	**+0.7**
	4.0nm,0.8s						
RETA	**Reutte**	**147.05**	**343**	*i* PKP	**PKPab**	**03 30 37.4**	**0.0**
	7.5nm,1.5s						
MOTA	**Moosalm**	**147.09**	**342**	*i* PKP	**PKPbc**	**03 30 36.6**	**+0.5**
	13nm,1.7s						
SQTA	**Sankt Quirin**	**147.17**	**342**	*i* PKP	**PKPbc**	**03 30 36.7**	**+0.5**
	9.2nm,1.2s						
ABTA	**Abfaltersbach**	**147.19**	**340**	*i* PKP	**PKPdf**	**03 30 35.4**	**+1.3**
	5.5nm,1.5s						
DAVA	**Damuels**	**147.48**	**344**	*i* PKP	**PKPab**	**03 30 38.6**	**-0.6**
	14nm,1.8s						
FETA	**Feichten**	**147.49**	**343**	*i* PKP	**PKPbc**	**03 30 37.8**	**+0.6**
	6.5nm,1.4s						

GEN ***15*** *03:26:25.8, 45°.25N×6°.32E, h6km±3km, MI1.0*
LDG ***15*** *03:26:26.6±0.1, 45°.25N×6°.29E, h2km, Md1.7/3, Ml2.1/9, Error ellipse: s-maj=1.4km s-min=1.2km az=85.0*

STR 15 03:26:26.6±0.2, 45°N±1°×°±°, h5km, MLv2.0/28, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGMO	**Fort Saint-Gob**	**0.29**	**95**	P	Pg	03 26 32.1	-0.1
OGMO				S	Sg	03 26 35.3	-0.7
OGMO	**Fort Saint-Gob**	**0.29**	**95**	Pg	Pg	03 26 32.1	0.0
OGMO				Sg	Sg	03 26 36.5	+0.5
BNI	**Bardonecchia**	**0.34**	**123**	P	Pg	03 26 32.8	-0.3
BNI				S	Sg	03 26 37.7	+0.1
GRN	**Grenoble**	**0.38**	**271**	Pg	Pg	03 26 34.2	+0.4
GRN				Sg	Sg	03 26 39.9	+1.0
LPG	**La Plagne**	**0.42**	**52**	*e*Sg	Sg	03 26 39.9	-0.5
	12nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.42**	**222**	*e*Pg	Pg	03 26 34.5	-0.3
ORIF				*e*Sg	Sg	03 26 39.4	-0.9
	21nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.42**	**222**	Pg	Pg	03 26 34.5	-0.3
ORIF				Sg	Sg	03 26 40.2	-0.1
LPL	**La Plagne**	**0.43**	**48**	*e*Pg	Pg	03 26 34.5	-0.3
LPL				*e*Sg	Sg	03 26 40.0	-0.5
	14nm,0.2s						
RRL	**Rocca Remolon**	**0.48**	**131**	P	Pg	03 26 35.8	0.0
RRL				S	Sg	03 26 42.9	+0.8
RRL	**Rocca Remolon**	**0.48**	**131**	Pg	Pg	03 26 35.9	+0.1
RRL				Sg	Sg	03 26 42.8	+0.7
RSL	**Roselend**	**0.52**	**28**	P	Pg	03 26 35.8	-0.7
RSL				S	Sg	03 26 42.0	-1.2
RSL	**Roselend**	**0.52**	**28**	Pg	Pg	03 26 35.8	-0.7
RSL				Sg	Sg	03 26 42.0	-1.2
OGSM	**Saint Maurice**	**0.56**	**313**	Pg	Pg	03 26 37.4	+0.1
OGSM				Sg	Sg	03 26 45.0	+0.6
MBDF	**Montbardon**	**0.62**	**145**	*e*Pg	Pg	03 26 38.3	-0.1
MBDF				*e*Sg	Sg	03 26 46.0	-0.4
	2.0nm,0.2s						
OGMY	**Moye**	**0.70**	**337**	Pg	Pg	03 26 40.0	-0.1
OGMY				Sg	Sg	03 26 49.7	+0.5
RSP	**Reno Superiore**	**0.70**	**97**	P	Pg	03 26 39.9	-0.1
RSP				S	Sg	03 26 49.9	+0.7
RSP	**Reno Superiore**	**0.70**	**97**	Pg	Pg	03 26 39.7	-0.4
RSP				Sg	Sg	03 26 49.3	+0.1
MRGE	**Morge**	**0.77**	**46**	P	Pg	03 26 40.7	-0.6
MRGE				S	Sg	03 26 50.4	-0.9
BHB	**Bricherasio**	**0.80**	**119**	Pg	Pg	03 26 41.7	-0.2
BHB				Sg	Sg	03 26 52.9	+0.6
OGAG	**Argentiere**	**0.80**	**166**	P	Pg	03 26 35.7	-6.2
OGAG				S	Sg	03 26 42.2	-10
OGAG	**Argentiere**	**0.80**	**166**	Pg	Pg	03 26 35.6	-6.4
OGAG				Sg	Sg	03 26 42.1	-10
SURF	**Saint Ours**	**0.84**	**153**	P	Pg	03 26 42.7	-0.1
SURF				S	Sg	03 26 53.9	+0.2
SURF	**Saint Ours**	**0.84**	**153**	Pg	Pg	03 26 42.4	-0.3
SURF				Sg	Sg	03 26 54.3	+0.6
REMY	**Saint-Rhmy-en**	**0.86**	**45**	Pg	Pg	03 26 42.6	-0.5

REMY				Sg	Sg	03 26 54.8	+0.5
JAUF	**Jausiers**	**0.87**	**157**	Pg	Pg	03 26 42.9	-0.4
JAUF				P	Pb	03 26 43.0	-1.3
JAUF				Sg	Sg	03 26 55.0	+0.4
OGSI	**Sixt**	**0.90**	**22**	Pg	Pg	03 26 43.1	-0.6
OGSI				Pn	Pn	03 26 46.4	+0.5
OGSI				Sn	Sn	03 27 00.2	+0.9
PZZ	**Stroppo**	**0.94**	**140**	P	Pg	03 26 44.3	-0.2
PZZ				S	Sg	03 26 57.2	+0.4
PZZ	**Stroppo**	**0.94**	**140**	Pg	Pg	03 26 44.6	0.0
PZZ				Sg	Sg	03 26 57.1	+0.4
OG35	**Corcelles**	**0.95**	**329**	Pg	Pg	03 26 44.4	-0.4
OG35				Sg	Sg	03 26 57.2	+0.1
OG35				Sn	Sn	03 27 00.7	+0.1
CIRO	**Champorcher**	**0.98**	**68**	Pg	Pg	03 26 45.0	-0.3
CIRO				Sg	Sg	03 26 57.7	-0.4
TRAV	**Traversella**	**1.07**	**74**	Pg	Pg	03 26 46.6	-0.5
TRAV				Sg	Sg	03 27 01.2	+0.2
OGDI	**Digne**	**1.12**	**179**	Pn	Pn	03 26 49.0	0.0
DIX	**Grande Dixence**	**1.16**	**43**	Pg	Pg	03 26 48.2	-0.6
DIX				Sg	Sg	03 27 03.9	0.0
ENAUX	**Enaux**	**1.18**	**162**	Pg	Pg	03 26 48.8	-0.3
ENAUX				Sg	Sb	03 27 05.1	0.0
ISO	**Isola**	**1.19**	**152**	Pg	Pg	03 26 48.8	-0.5
VIVF	**Saint-Julien-l**	**1.20**	**252**	*e*Pg	Pn	03 26 50.3	+0.3
VIVF				*e*Sg	Sg	03 27 04.6	-0.5
	6.1nm,0.3s						
SSB	**Saint Sauveur**	**1.23**	**273**	Pg	Pn	03 26 50.6	+0.1
SSB				Sg	Sb	03 27 06.4	0.0
MLYF	**Mely**	**1.30**	**197**	Pn	Pb	03 26 52.4	+0.9
MLYF				Sg	Sn	03 27 12.1	+2.9
GIMEL	**St. Georges /**	**1.30**	**360**	Pn	Pn	03 26 51.4	-0.1
SMRF	**Simiane la Rot**	**1.35**	**202**	*e*Pg	Pg	03 26 53.5	+1.0
SMRF				*e*Sg	Sn	03 27 11.9	+1.3
	1.9nm,0.4s						
SPIF	**crte de Spivo**	**1.36**	**150**	Pg	Pn	03 26 52.4	0.0
CABF	**La Chapelle**	**1.38**	**355**	*e*Pg	Pn	03 26 51.9	-0.7
CABF	**La Chapelle**	**1.38**	**355**	*e*P	Pg	03 26 53.4	+0.3
CABF				*e*Sg	Sb	03 27 09.5	-1.5
	3.8nm,0.2s						
RUSF	**Rustrel**	**1.41**	**204**	Pg	Pg	03 26 55.2	+1.5
RUSF				Sg	Sn	03 27 15.5	+3.6
BSTF	**la Bastide-des**	**1.43**	**199**	Pn	Pg	03 26 54.7	+0.7
TURF	**col de Turini**	**1.49**	**147**	Pn	Pg	03 26 55.0	-0.1
RIVEL	**MONT RIVEL**	**1.54**	**351**	Pn	Pb	03 26 55.6	-0.1
SAOF	**Saorge**	**1.55**	**143**	Pg	Pb	03 26 55.7	0.0
SBF	**Sospel**	**1.60**	**149**	*e*Pg	Pn	03 26 55.6	0.0
SBF				*e*Sg	Sb	03 27 17.0	-0.2
	13nm,0.5s						
ARTF	**Artigues**	**1.68**	**192**	Pn	Pb	03 26 57.3	-0.7
BRANT	**Les Verrieres**	**1.71**	**4**	Pg	Pb	03 26 58.6	0.0
BRANT				Sg	Sg	03 27 21.3	-0.1
LMR	**La Mourre**	**1.91**	**175**	*e*Pg	Pb	03 27 01.8	0.0
LMR				*e*Sg	Sb	03 27 26.3	+0.4
	1.0nm,0.2s						
CHMF	**Charmoille**	**2.03**	**7**	Pg	Pg	03 27 04.8	-0.7
SMF	**Signal de Mont**	**2.21**	**311**	*e*Pg	Pb	03 27 07.8	+0.8
SMF				*e*Sg	Sb	03 27 35.8	+1.1
	1.7nm,0.3s						
HINF	**Hinteralfeld**	**2.61**	**9**	*e*Sg	Sb	03 27 47.5	+1.2
	2.4nm,0.3s						
LOR	**Lormes**	**2.64**	**321**	*e*Sg	Sb	03 27 47.8	+0.8
	0.8nm,0.3s						
SSF	**Saint Saulge**	**2.66**	**314**	*e*Sg	Sb	03 27 48.4	+0.9
	3.3nm,0.6s						

*NEIC **15** 03:43:22.3±2.4, 46.°237N±0.°010×119.°54W±0.°02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=11.0*
*SEA **15** 03:43:22.6±1.6, 46.°247N±0.°010×119.°55W±0.°01, h15km±4km, ML2.2/22, ML2.4/38(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=222.0*

PNSN 15 03:43:22.6, 46.°25N×119.°55W, h15km, MD2.2, Fault plane solution: NP1:φ=115.00000°, δ55.00000°, λ-180.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRW	**Prosser**	**0.10**	**251**		Pb	03 43 26.3	-0.1
HAWA	**Hanford**	**0.15**	**3**		Pg	03 43 26.7	+0.1
HAWA				IAML		03 43 29.9	
	707nm,0.4s						
HAWA				IAML		03 43 29.9	
	658nm,0.5s						
HAWA	**Hanford**	**0.15**	**3**		Pg	03 43 26.7	+0.1
HAWA					Sb	03 43 29.7	-0.4
RSW	**Rattlesnake Hi**	**0.15**	**348**		Pb	03 43 27.0	-0.3
H2OWA	**Water**	**0.17**	**30**		Pg	03 43 27.0	+0.2
H2OWA					Sb	03 43 30.5	-0.3
SNIWA	**Snively Ranch**	**0.23**	**340**		Pg	03 43 28.1	+0.3
WIW	**Wooded Island**	**0.26**	**44**		Pg	03 43 28.4	+0.2
WIW					Sb	03 43 32.8	-0.4
WIW	**Wooded Island**	**0.26**	**44**		Pg	03 43 28.4	+0.2
WIW					Sb	03 43 32.7	-0.5
BENWA	**Benson Ranch**	**0.30**	**336**		Pg	03 43 29.2	+0.3
MJ2	**May Junction 2**	**0.34**	**22**		Pg	03 43 29.7	+0.1
MJ2					Sb	03 43 35.1	-0.4
GBL	**Gable Mountain**	**0.36**	**9**		Pg	03 43 30.1	+0.2
GBL	**Gable Mountain**	**0.36**	**9**		Pg	03 43 30.1	+0.2
GBL					Sb	03 43 36.1	-0.1
GBB	**Gable Butte**	**0.37**	**351**		Pg	03 43 30.3	+0.2
GBB					Sb	03 43 36.0	-0.4
E07A	**Sunnyside**	**0.38**	**326**		Pg	03 43 30.5	+0.1
E07A				IAML		03 43 37.1	
	comp=N,284nm,0.5s						
E07A				IAML		03 43 37.7	
	comp=E,241nm,0.5s						
BRVW	**Black Rock Val**	**0.39**	**308**		Pg	03 43 30.7	+0.2
PAT2	**Paterson 2**	**0.39**	**202**		Pg	03 43 30.7	+0.2
MDW	**Midway**	**0.40**	**338**		Pg	03 43 30.8	+0.2
MDW					Sb	03 43 37.0	-0.2
E08A	**Dider Farm, El**	**0.41**	**54**		Pg	03 43 30.8	-0.2
E08A				IAML		03 43 38.2	
	comp=E,255nm,0.2s						
F07A	**Phinny Hill Vi**	**0.44**	**217**		Pg	03 43 31.5	0.0
F07A				IAML		03 43 38.6	
	comp=N,647nm,0.4s						
F07A	**Phinny Hill Vi**	**0.44**	**217**		Sb	03 43 38.5	0.0
YPT	**Yellepit**	**0.45**	**116**		Pg	03 43 31.4	-0.2
YPT				IAML		03 43 38.3	
	comp=N,534nm,0.3s						
YPT				IAML		03 43 38.3	
	comp=E,454nm,0.5s						
OT3	**Othello 3**	**0.47**	**27**		Pg	03 43 32.0	-0.1
OT3					Sb	03 43 39.1	-0.4
LOCW	**Locke Island**	**0.48**	**9**		Pg	03 43 32.2	+0.1
WAH2	**Wahluke Slope**	**0.51**	**358**		Pg	03 43 32.6	-0.1
WAH2				IAML		03 43 40.5	
	comp=E,341nm,0.7s						
WAH2				IAML		03 43 40.9	
	comp=N,174nm,0.3s						
WAH2	**Wahluke Slope**	**0.51**	**358**		Sb	03 43 40.4	-0.1
BLTW	**Bickleton**	**0.55**	**233**		Pg	03 43 33.3	-0.2
CRF	**Corfu**	**0.59**	**11**		Pg	03 43 34.0	-0.3
BVW	**Beverly**	**0.61**	**338**		Pg	03 43 34.3	-0.4
MXC	**Moxie City**	**0.61**	**303**		Pg	03 43 34.5	-0.2
MXC	**Moxie City**	**0.61**	**303**		Sb	03 43 43.5	-0.1
TRW	**Toppenish Ridg**	**0.69**	**274**		Pg	03 43 36.1	-0.1
FHE	**Frenchman Hill**	**0.71**	**3**		Pg	03 43 35.9	-0.5
YA2	**Yakima**	**0.74**	**293**		Pg	03 43 37.0	0.0
D08A	**Wollman Farm,**	**0.92**	**28**		Pb	03 43 39.3	-0.9
LNOR	**Lincton Mounta**	**0.95**	**113**		Pb	03 43 39.8	-1.1
LNOR				IAML		03 43 54.2	
	comp=N,189nm,0.5s						
LNOR				IAML		03 43 54.4	
	comp=E,120nm,0.4s						
EBG	**Ellensburg**	**0.97**	**314**		Pb	03 43 40.7	-0.5
E09A	**Wood Farm, Sta**	**1.00**	**74**		Pb	03 43 40.8	-1.0
NAC	**Naches**	**1.01**	**299**		Pb	03 43 41.2	-0.7
G08A	**Pilot Rock**	**1.04**	**157**		Pb	03 43 40.8	-1.6
G08A				IAML		03 43 57.5	
	comp=N,78nm,0.2s						
TBM	**Table Mountain**	**1.17**	**322**		Pn	03 43 43.9	-0.7
G06A	**Carlson Farm,**	**1.27**	**217**		Pn	03 43 44.9	-0.9
G06A				IAML		03 44 02.4	
	comp=N,80nm,0.2s						
G06A				IAML		03 44 02.5	
	comp=E,82nm,0.2s						
LTY	**Liberty**	**1.27**	**323**		Pn	03 43 44.8	-1.2
LTY				IAML		03 44 03.4	
	comp=N,83nm,0.2s						
LTY				IAML		03 44 04.8	
	comp=E,58nm,0.2s						
OD2	**Odessa Site #2**	**1.28**	**26**		Pn	03 43 44.1	-1.9
F05D	**White Salmon**	**1.38**	**255**		Pn	03 43 47.0	-0.4
ASR	**Mount Adams--S**	**1.43**	**267**		Pn	03 43 47.8	-0.3
SAW	**Saint Andrews**	**1.46**	**4**		Pn	03 43 46.7	-1.8
ETW	**Entiat**	**1.46**	**339**		Pn	03 43 47.8	-0.8
WTV	**Waterville**	**1.48**	**349**		Pn	03 43 48.9	+0.1
PANH	**Panhandle Gap,**	**1.57**	**294**		Pn	03 43 50.0	-0.2
SHRK	**Shell Rock**	**1.59**	**241**		Pn	03 43 50.5	+0.2
G05A	**Wamic**	**1.60**	**232**		Pn	03 43 49.9	-0.4
FMW	**Mount Fremont**	**1.62**	**296**		Pn	03 43 50.6	-0.2
RCM	**Mount Rainier-**	**1.62**	**292**		Pn	03 43 51.1	+0.1
RCS	**Mount Rainier-**	**1.63**	**293**		Pn	03 43 51.1	-0.1
F10A	**Beach Ranch, E**	**1.64**	**99**		Pn	03 43 50.0	-0.9
LON	**Longmire**	**1.64**	**289**		Pn	03 43 50.4	-0.7
SLFW	**Sugar Loaf**	**1.66**	**336**		Pn	03 43 51.3	0.0
REMR	**Mount Rainier-**	**1.69**	**291**		Pn	03 43 52.0	+0.3
VLL	**Laurance Lake**	**1.69**	**243**		Pn	03 43 52.0	+0.3
OBSR	**Observation Ro**	**1.70**	**293**		Pn	03 43 52.1	+0.2
HOOD	**Mount Hood Mea**	**1.74**	**239**		Pn	03 43 52.0	-0.4
CDFW	**Cedar Flats**	**1.74**	**267**		Pn	03 43 52.1	-0.3
DHW2	**Dyer Hill 2**	**1.75**	**355**		Pb	03 43 53.6	-0.8
C09A	**Chrisman Ranch**	**1.78**	**29**		Pn	03 43 51.1	-1.8
B202	**Windy Ridge, M**	**1.80**	**271**		Pn	03 43 52.7	-0.5
RVC	**Mount Rainier-**	**1.81**	**293**		Pn	03 43 54.0	+0.6
WRW	**Wenatchee Ridg**	**1.85**	**331**		Pb	03 43 55.1	-1.1
TDL	**Tradedollar La**	**1.85**	**274**		Pn	03 43 53.4	-0.6
B201	**Coldwater, Mou**	**1.89**	**273**		Pn	03 43 53.8	-0.6
D05A	**Enumclaw**	**1.93**	**300**	Pn	Pn	03 43 54.6	-0.3
B203	**Quarry, Mount**	**1.94**	**269**		Pn	03 43 54.5	-0.5
ERK	**Elk Rock**	**1.94**	**273**		Pn	03 43 54.7	-0.5
BMO	**Blue Mountains**	**2.10**	**131**		Pn	03 43 56.5	-0.9
B08A	**Colville Reser**	**2.12**	**4**		Pn	03 43 55.4	-2.1
B08A				IAML		03 44 32.4	
	comp=E,34nm,0.5s						
I07A	**Izee**	**2.17**	**179**	Pn	Pn	03 43 58.9	+0.6
HTW	**Haystack Looko**	**2.18**	**316**		Pn	03 43 58.5	+0.1
I05D	**Terrebonne, OR**	**2.29**	**214**		Pn	03 43 59.8	-0.2
NEW	**Newport**	**2.61**	**38**		Pn	03 44 02.6	-1.7
NEW				IAML		03 44 45.5	
	comp=E,31nm,0.4s						
WIFE	**Three Sisters-**	**2.71**	**217**		Pn	03 44 05.3	-0.6
PLID	**Pearl Lake**	**2.74**	**114**	Pn	Pn	03 44 05.3	-1.0

*IDC **15** 03:53:24.1±0.5, 55.°68S×26.°92W, h0km, mb4.5/13, mbtmp4.4/14, ML4.1/1, MS3.5/10, Error ellipse: s-maj=20.5km s-min=14.2km az=54.0*
*NEIC **15** 03:53:26.9±1.8, 55.°75±0.°1×27.°2W±0.°1, h10km±1km, mb4.9/40, Error ellipse: s-maj=18.3km s-min=9.5km az=166.0*

ISC 15 03:53:27.8±0.4, 55.°71S±0.°08×27.°00W±0.°09, h25km, n84, σ0.97/75, mb4.8/26, MS3.5/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.65**	**281**		**Pn**	**03 54 49.8**	**-0.3**
VNA1	**Neumayer--Stat**	**17.07**	**159**	⇑P	**P**	**03 57 26.5**	**+0.6**
	comp=Z,4.0nm,0.3s						
VNA3	**Neumayer Olymp**	**17.28**	**161**	⇑P	**P**	**03 57 28.6**	**+0.3**
	comp=Z,9.2nm,0.6s						
VNA2	**Neumayer--Watz**	**17.47**	**158**	⇑P	**P**	**03 57 32.5**	**+2.1**
	comp=Z,7.3nm,0.8s,baz=318,slow=12						
EFI	**East Falkland**	**18.74**	**269**	P	**P**	**03 57 43.7**	**-0.7**
EFI				IAmb	IAmb	03 57 59.4	
	comp=Z,112nm,1.7s						
SNAA	**Sanae**	**19.01**	**157**	⇑P	**Pn**	**03 57 47.0**	**-1.2**
	comp=Z,101nm,0.6s						
SNAA	**Sanae**	**19.01**	**157**	P	**Pn**	**03 57 47.0**	**-1.2**
SNAA	**Sanae**	**19.01**	**157**	P	**Pn**	**03 57 46.5**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=315,slow=14,SNR=20						
SNAA				PcP	**PcP**	**04 02 11.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=272,slow=1.3,SNR=5.8						
SNAA				LR	LR	04 03 21.9	
	comp=Z,108nm,22.0s,baz=293,slow=31						
	comp=Z,1.7nm,0.4s						
PMSA	**Palmer Station**	**20.20**	**228**	P	**P**	**03 58 00.3**	**0.0**
PMSA	**Palmer Station**	**20.20**	**228**	P	Pn	03 58 01.0	-1.3
	comp=Z,15nm,0.6s,baz=82,slow=6.7,SNR=16						
PMSA				LR	LR	04 04 59.4	
	comp=Z,115nm,18.8s,baz=108,slow=34						
	comp=Z,15nm,0.6s						
TROLL	**Troll, Antarti**	**20.50**	**154**	⇑P	**P**	**03 58 03.1**	**-0.6**
	comp=Z,323nm,0.7s						
SMAI	**San Martin Ant**	**22.09**	**220**	P	**P**	**03 58 19.2**	**-1.4**
BELA	**Belgrano 2**	**22.42**	**184**		**P**	**03 58 22.8**	**-1.4**
MG05	**Puerto Natales**	**26.86**	**259**	P	**P**	**03 59 04.8**	**-1.2**
GO09	**Cerro Castillo**	**26.96**	**260**	P	**P**	**03 59 05.0**	**-2.0**
GO09				IAmb	IAmb	03 59 19.5	
	comp=Z,72nm,1.9s						
TRQA	**Tornquist**	**29.29**	**292**	P	**P**	**03 59 28.9**	**+0.9**
TRQA				IAmb	IAmb	03 59 29.2	
	comp=Z,7.4nm,0.6s						
PLTB	**Pedras Altas**	**30.35**	**311**	P	**P**	**03 59 37.5**	**+0.1**
PLTB				IAmb	IAmb	03 59 41.2	
	comp=Z,28nm,1.2s						
PLCA	**Paso Flores**	**32.05**	**279**	LR	LR	04 13 24.0	
	comp=Z,66nm,20.0s,baz=159,slow=37						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**04 00 15.8**	**+2.0**
QSPA				IAmb	IAmb	04 00 23.5	
	comp=Z,32nm,1.6s						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**04 00 16.0**	**+2.1**
	comp=Z,5.7nm,0.6s,baz=186,slow=5.6,SNR=46						
QSPA				LR	LR	04 14 51.3	
	comp=Z,73nm,18.1s,baz=190,slow=37						
	comp=Z,5.7nm,0.6s						
CPUP	**Villa Florida**	**36.67**	**311**	P	**P**	**04 00 32.4**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=234,slow=19,SNR=17						
CPUP				LR	LR	04 14 09.7	
	comp=Z,27nm,19.8s,baz=36,slow=34						
	comp=Z,2.4nm,0.7s						
CFA	**Coronel Fontan**	**37.53**	**293**	P	**P**	**04 00 38.8**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=141,slow=9.6,SNR=30						
	comp=Z,5.8nm,0.7s						
ZON	**Zonda**	**37.80**	**292**		**P**	**04 00 41.4**	**-0.6**
ZON				IAmb	IAmb	04 00 42.7	
	comp=Z,11nm,0.7s						
CO01	**Juntas del Tor**	**39.79**	**292**		**P**	**04 00 59.9**	**+1.1**
MAW	**Mawson**	**40.36**	**144**	P	**P**	**04 01 02.6**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=220,slow=14,SNR=6.0						
	comp=Z,2.5nm,0.6s						
AQDB	**Aquidauana**	**41.23**	**317**		**P**	**04 01 10.4**	**0.0**
AQDB				IAmb	IAmb	04 01 11.3	
	comp=Z,12nm,1.1s						
AC04	**Llanos de Chal**	**41.72**	**293**		**P**	**04 01 14.7**	**+0.2**
AC04				IAmb	IAmb	04 01 16.0	
	comp=Z,33nm,0.9s						
AC02	**Maricunga**	**41.82**	**296**	P	**P**	**04 01 16.8**	**+0.9**
AC02				IAmb	IAmb	04 01 18.1	
	comp=Z,33nm,1.1s						
AC06	**Mina Casimiro**	**42.03**	**294**	P	**P**	**04 01 16.7**	**-0.3**
AC06				IAmb	IAmb	04 01 17.7	
	comp=Z,12nm,0.7s						
GO02	**Mina Guanaco**	**43.43**	**297**		**P**	**04 01 29.6**	**+0.8**
BOSA	**Boshof**	**45.78**	**76**	P	**P**	**04 01 46.2**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=221,slow=8.2,SNR=5.2						
BOSA				LR	LR	04 16 57.9	
	comp=Z,110nm,18.2s,baz=192,slow=31						
	comp=Z,2.1nm,0.7s						
PB09	**IPOC Station P**	**46.08**	**300**	P	**P**	**04 01 49.7**	**0.0**
PB03	**IPOC Station P**	**46.11**	**299**	P	**P**	**04 01 50.1**	**+0.1**
PB03				IAmb	IAmb	04 01 51.4	
	comp=Z,6.8nm,0.6s						
PB02	**IPOC Station P**	**46.80**	**299**	P	**P**	**04 01 56.2**	**+0.9**
PB01	**IPOC Station P**	**46.83**	**300**	P	**P**	**04 01 56.6**	**+1.0**
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**04 01 55.9**	**+0.5**
VNDA				IAmb	IAmb	04 01 57.8	
	comp=Z,8.6nm,0.7s						
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**04 01 55.7**	**+0.3**
	comp=Z,8.1nm,0.6s,baz=190,slow=7.1,SNR=59						
VNDA				LR	LR	04 20 09.9	
	comp=Z,16nm,20.3s,baz=90,slow=34						
	comp=Z,8.1nm,0.6s						
PTLB	**Pontes e Lacer**	**47.13**	**316**		**P**	**04 01 57.7**	**0.0**
SIV	**San Ignacio**	**47.42**	**313**	P	**P**	**04 02 00.2**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=152,slow=9.3,SNR=20						
	comp=Z,3.3nm,0.6s						
PB08	**IPOC Station P**	**47.44**	**301**	P	**P**	**04 02 01.3**	**+0.7**
PB08				IAmb	IAmb	04 02 02.5	
	comp=Z,8.8nm,0.6s						
H04S2	**CROZET ISLANDS**	**47.59**	**114**	T	T	04 53 32.7	
	baz=230,slow=76,SNR=20						
H04S3	**CROZET ISLANDS**	**47.60**	**114**	T	T	04 53 30.6	
	baz=230,slow=76,SNR=12						
H04S1	**CROZET ISLANDS**	**47.61**	**114**	T	T	04 53 31.3	
	baz=230,slow=76,SNR=22						
H10S2	**ASCENSION HYDR**	**47.64**	**17**	T	T	04 53 27.7	
	baz=31,slow=74,SNR=109						
H10S3	**ASCENSION HYDR**	**47.65**	**17**	T	T	04 53 22.0	
	baz=189,slow=74,SNR=96						
GO01	**Chusmiza**	**47.86**	**301**	P	**P**	**04 02 05.1**	**+1.0**
PB11	**IPOC Station P**	**48.00**	**301**		**P**	**04 02 05.8**	**+1.0**
PB11				IAmb	IAmb	04 02 07.0	
	comp=Z,13nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.76**	**17**	T	T	04 54 51.6	
	baz=188,slow=76,SNR=24						
H10N3	**ASCENSION HYDR**	**48.76**	**17**	T	T	04 54 49.1	
	baz=188,slow=76,SNR=80						
H10N2	**ASCENSION HYDR**	**48.78**	**17**	T	T	04 54 49.1	
	baz=188,slow=76,SNR=50						
PB16	**IPOC Station P**	**49.15**	**302**	P	**P**	**04 02 14.5**	**+0.4**
PB16				IAmb	IAmb	04 02 15.8	
	comp=Z,7.5nm,1.1s						
PB16				PcP	**PcP**	**04 03 38.4**	**+1.2**
VILB	**Vilhena**	**49.81**	**316**		**P**	**04 02 18.0**	**-0.5**
VILB				IAmb	IAmb	04 02 19.4	
	comp=Z,29nm,1.3s						
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	**04 02 22.5**	**-0.2**
LPAZ				IAmb	IAmb	04 02 24.6	
	comp=Z,9.8nm,0.8s						
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	**04 02 23.1**	**+0.4**
	comp=Z,9.2nm,0.7s,baz=159,slow=4.4,SNR=40						
LPAZ				LR	LR	04 24 23.4	
	comp=Z,59nm,19.3s,baz=146,slow=37						
	comp=Z,9.2nm,0.7s						
CASY	**Casey**	**54.19**	**160**	P	**P**	**04 02 52.6**	**+2.1**
NNA	**Nana**	**58.18**	**298**	P	**P**	**04 03 20.5**	**+0.9**
	comp=Z,4.5nm,0.4s,baz=198,slow=9.3,SNR=2.3						
	comp=Z,4.5nm,0.4s						
MACA	**Manacapuru-AM**	**58.98**	**320**		**P**	**04 03 24.4**	**-0.7**
BOAV	**Boa Vista**	**64.08**	**322**		**P**	**04 03 59.5**	**0.0**
BOAV				IAmb	IAmb	04 04 00.0	
	comp=Z,9.6nm,0.7s						
BOAV				PcP	**PcP**	**04 04 35.6**	**+1.0**
COHC	**Cochancay**	**67.58**	**301**	P	**P**	**04 04 22.6**	**+0.5**
RUSC	**La Rusia**	**72.16**	**311**	P	**P**	**04 04 49.8**	**-1.0**
RUSC				IAmb	IAmb	04 04 51.0	
	comp=Z,6.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**72.71**	**29**	P	**P**	**04 04 54.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**72.71**	**29**	P	**P**	**04 04 54.8**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=195,slow=4.8,SNR=18						
	comp=Z,1.4nm,0.6s						
BAUV	**El Baul**	**72.88**	**317**		**P**	**04 04 54.1**	**-0.4**
SMRC	**Santa Marta, M**	**77.38**	**312**	P	**P**	**04 05 19.9**	**-0.5**
SMRC				IAmb	IAmb	04 05 30.0	
	comp=Z,17nm,1.1s						
GDHS	**Morne Mazeau,**	**77.47**	**326**	P	**P**	**04 05 21.8**	**+0.9**
JTS	**Las Juntas de**	**81.42**	**302**	LR	LR	04 45 01.1	
	comp=Z,54nm,19.5s,baz=353,slow=38						
STKA	**Stephens Creek**	**92.22**	**170**	P	**P**	**04 06 35.4**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=180,slow=5.1,SNR=3.2						
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**99.28**	**162**	P	**Pdif**	**04 07 06.3**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=186,slow=3.8,SNR=7.2						
	comp=Z,0.7nm,0.7s						
EIL	**Elat**	**100.04**	**51**	LR	LR	04 50 01.9	
	comp=Z,33nm,18.7s,baz=159,slow=34						
NOA	**NORSAR Array B**	**120.25**	**20**	PKP	**PKiKP**	**04 12 15.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=205,slow=1.9,SNR=2.2						
NVAR	**Mina Array Bea**	**121.36**	**293**	PKP	**PKiKP**	**04 12 18.8**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=124,slow=2.2,SNR=2.2						
FINES	**FINESS Array B**	**124.03**	**28**	PKP	**PKPdf**	**04 12 21.2**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=207,slow=1.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**125.08**	**110**	PKP	**PKiKP**	**04 12 26.5**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=200,slow=4.5,SNR=1.1						
ARCES	**ARCESS Array B**	**130.59**	**22**	PKP	**PKiKP**	**04 12 34.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=208,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**136.68**	**71**	PKP	**PKiKP**	**04 12 47.0**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=236,slow=4.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**137.06**	**64**	PKP	**PKiKP**	**04 12 47.7**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=228,slow=2.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**142.12**	**63**	PKP	**PKPdf**	**04 12 56.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=192,slow=

1.3nm,0.5s,baz=0.0,slow=17,SNR=18
1.3nm,0.5s

KRNET ***15*** *04:52:08.9±0.1, 40.°40N×72.°86E, h11km, mb2.5*
SOME ***15*** *04:52:09.1, 40.°57N×72.°85E, h0km*
ISU ***15*** *04:52:09, 40.°57N×72.°83E, h5km*
ISC 15 04:52:08.1±1.5, 40.°39N±0.°05×72.°90E±0.°04, h8km±11km, n15, σ1°§34/27, 16C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.37**	**301**	P	**Pg**	**04 52 15.0**	**-0.5**
TSTA				S	**Sg**	**04 52 19.3**	**-1.1**
FRG	**Fergana**	**0.85**	**270**	S	**Sn**	**04 52 37.7**	**-1.4**
SALK	**Salom-Alik**	**0.86**	**54**	⇑*eP*	**Pg**	**04 52 25.7**	**+1.0**
SALK				⇑*eS*	**Sb**	**04 52 37.9**	**+0.7**
ARSB	**Arslanbob**	**0.94**	**4**	⇓*eP*	**Pg**	**04 52 26.5**	**+0.3**
ARSB				⇓*eS*	**Sb**	**04 52 39.5**	**+0.1**
DRK	**Karamyk**	**1.24**	**223**	⇑*eP*	**Pb**	**04 52 32.4**	**+0.5**
DRK				⇑*eS*	**Sn**	**04 52 48.9**	**-0.1**
ARK	**Arkit**	**1.58**	**334**	⇑*eP*	**Pb**	**04 52 37.9**	**+0.3**
ARK				⇑*eS*	**Sg**	**04 52 59.5**	**+0.6**
UCH	**Uchtor**	**2.21**	**33**	⇑*iP*	**Pb**	**04 52 49.7**	**+1.2**
UCH				⇑*iS*	**Sb**	**04 53 18.3**	**+2.1**
EKS2	**Erkin-Say**	**2.37**	**16**	⇑*iP*	**Pb**	**04 52 51.9**	**+0.8**
EKS2				⇑*iS*	**Sb**	**04 53 22.2**	**+1.7**
MRKS	**Merke**	**2.37**	**6**	*eP*	**Pb**	**04 52 50.9**	**-0.2**
	4.9nm,0.4s						
MRKS				*eS*	**Sb**	**04 53 21.6**	**+1.0**
	26nm,0.3s						
AAK	**Ala-Archa**	**2.55**	**28**	⇑Pg	**Pb**	**04 52 54.8**	**+0.6**
	0.3nm,0.3s						
AAK				⇓Lg	Lg	04 53 27.7	
	0.9nm,0.4s						
AAK	**Ala-Archa**	**2.55**	**28**	⇑*iP*	**Pb**	**04 52 54.4**	**+0.2**
AAK				⇑*iS*	**Sb**	**04 53 26.3**	**+0.6**
USP	**Ospenovka**	**3.12**	**22**	⇓*iP*	**Pb**	**04 53 02.1**	**-1.7**
USP				⇓*iS*	**Sb**	**04 53 39.9**	**-2.1**
TKM2	**Tokmak 2**	**3.24**	**38**	⇑*iP*	**Pb**	**04 53 03.8**	**-2.2**
TKM2				⇑*iS*	**Sb**	**04 53 42.8**	**-2.9**
KK31	**Karatay Array**	**3.25**	**327**	⇓Pg	**Pb**	**04 53 06.4**	**+0.4**
	0.4nm,0.3s						
KK31				⇑Lg	Lg	04 53 47.1	
	1.0nm,0.3s,baz=140,slow=30,SNR=4.7						
BRLS	**Borolday**	**3.50**	**320**	*eP*	**Pb**	**04 53 10.4**	**+0.1**
	0.3nm,0.2s						
BRLS				*eS*	**Sb**	**04 53 54.7**	**+1.8**
	2.1nm,0.1s						

IDC ***15*** *05:01:17.7±0.8, 43.°17S×171.°02E, h0km, mb4.2/6, mbtmp4.2/7, ML3.7/1, MS3.5/4, Error ellipse: s-maj=27.2km s-min=7.8km az=82.0*
WEL ***15*** *05:01:18.8, 43.°25S×170.°87E, h2km, ML4.4, Mw4.1, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}0.58; $M_{\theta\theta}$0.81; $M_{\phi\phi}$-1.39; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.82; $M_{r\phi}$0.18; Fault plane solution: $M_0$1.53000×10^{15} NP1: ϕ_s338.00000°, δ69.00000°, λ24.00000°. NP2: ϕ_s239.00000°, δ68.00000°, λ157.00000°. Principal axes: T -1.6679, Plg31.0000°, Azm199.0000°; N 1.4002, Plg59.0000°, Azm17.0000°; P 0.2676, Plg1.0000°, Azm108.0000°; Stations used: RPZ LTZ LBZ JCZ ODZ KHZ OBLIQUE-REVERSE FAULTING*
WEL ***15*** *05:01:18.8±0.3, 43.°3S±2.°×17.°1E±.°, h5km, M4.4/30, ML4.5/16, MLv4.4/30 Error ellipse: s-maj=2.7km s-min=2.6km az=72.8, confirmed*
NEIC ***15*** *05:01:19.7±1.6, 43.°32S±0.°05×170.°97E±0.°07, h10km±1km, mb4.3/5, Error ellipse: s-maj=10.9km s-min=5.2km az=136.0*
ISC 15 05:01:18.9±1.1, 43.°25S±0.°02×170.°93E±0.°02, h6km±7km, n132, σ0°§89/142, mb4.4/4, MS3.4/4, 3C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.23**	**321**	P	**Pg**	**05 01 23.2**	**-0.1**
WVZ				S	**Sg**	**05 01 26.5**	**+0.2**
WVAS	**Waitaha Valley**	**0.23**	**321**	P	**Pg**	**05 01 23.3**	**0.0**
HAFS	**Harihari Fire**	**0.29**	**290**	P	**Pg**	**05 01 24.5**	**0.0**
KOKS	**Kokatahi**	**0.39**	**23**	P	**Pg**	**05 01 26.4**	**+0.1**
RPZ	**Rata Peaks**	**0.47**	**169**	Pg	**Pg**	**05 01 28.4**	**+0.4**
RPZ	**Rata Peaks**	**0.47**	**169**	Pg	**Pg**	**05 01 28.2**	**+0.2**
	136nm,0.3s,baz=310,slow=6.0,SNR=18						
RPZ				Lg	Lg	05 01 34.8	
	818nm,0.3s,baz=270,slow=20,SNR=26						
RPZ				LR	LR	05 02 00.1	
	comp=Z,490nm,21.4s,baz=154,slow=78						
RPZ	**Rata Peaks**	**0.47**	**169**	P	**Pg**	**05 01 28.3**	**+0.4**
RPZ				S	**Sg**	**05 01 34.7**	**+0.5**
HMCS	**Hokitika Medic**	**0.53**	**2**	P	**Pb**	**05 01 29.9**	**-0.7**
MHCZ	**Mount Hutt**	**0.54**	**121**	P	**Pb**	**05 01 29.7**	**-1.1**
APPS	**Arthurs Pass P**	**0.55**	**57**	P	**Pb**	**05 01 29.9**	**-1.1**
FJDS	**Franz Josef DO**	**0.56**	**256**	P	**Pg**	**05 01 29.4**	**-0.3**
MSMC	**Mount Somers S**	**0.57**	**143**	P	**Pb**	**05 01 30.4**	**-0.8**
CSHS	**Castle Hill**	**0.58**	**88**	P	**Pb**	**05 01 30.6**	**-0.8**
MTHS	**Methven North**	**0.62**	**121**	P	**Pb**	**05 01 31.6**	**-0.5**
INZ	**Inchbonnie**	**0.65**	**36**	Pg	**Pg**	**05 01 30.9**	**-0.4**
INZ	**Inchbonnie**	**0.65**	**36**	P	**Pg**	**05 01 30.7**	**-0.5**
IFPS	**Inchbonnie Fit**	**0.66**	**37**	P	**Pg**	**05 01 31.2**	**-0.3**
MAYC	**Mayfield Schoo**	**0.67**	**148**	P	**Pb**	**05 01 32.5**	**-0.6**
KOWC	**Kowai**	**0.68**	**96**	P	**Pb**	**05 01 32.6**	**-0.5**
WCSS	**Whitecliffs**	**0.71**	**107**	P	**Pb**	**05 01 33.3**	**-0.4**
ARCZ	**Arundel**	**0.72**	**166**	P	**Pg**	**05 01 32.8**	**+0.1**
SPRS	**Springfield Vo**	**0.73**	**97**	P	**Pb**	**05 01 33.7**	**-0.3**
WSFC	**Westerfield**	**0.77**	**140**	P	**Pb**	**05 01 34.2**	**-0.4**
MCNS	**Mount Cook Ann**	**0.78**	**231**	P	**Pg**	**05 01 32.8**	**-1.0**
SHFC	**Sheffield Scho**	**0.81**	**100**	P	**Pb**	**05 01 35.1**	**-0.2**
OXZ	**Oxford**	**0.81**	**96**	Pg	**Pb**	**05 01 35.1**	**-0.3**
OXZ	**Oxford**	**0.81**	**96**	P	**Pb**	**05 01 35.0**	**-0.3**
GMFS	**Greymouth Fire**	**0.82**	**14**	P	**Pb**	**05 01 35.1**	**-0.3**
FDCS	**Fairlie Distri**	**0.85**	**185**	P	**Pg**	**05 01 35.1**	**-0.1**
FOZ	**Fox Glacier**	**0.86**	**251**	P	**Pg**	**05 01 34.7**	**-0.7**
DFHS	**Darfield**	**0.89**	**106**	P	**Pb**	**05 01 36.8**	**+0.2**
GDAL	**Greendale**	**0.91**	**112**	P	**Pb**	**05 01 37.1**	**+0.1**
WACZ	**Wakanui South**	**0.95**	**137**	P	**Pb**	**05 01 37.8**	**0.0**
RACZ	**Rakaia**	**1.00**	**119**	P	**Pn**	**05 01 38.7**	**-0.7**
DSLC	**Dunsandel Scho**	**1.01**	**115**	P	**Pn**	**05 01 39.0**	**-0.5**
SMHS	**Summerhill**	**1.02**	**91**	P	**Pn**	**05 01 39.5**	**-0.3**
CSTC	**Cust School**	**1.06**	**94**	P	**Pn**	**05 01 40.2**	**-0.1**
DORC	**Dorie**	**1.06**	**128**	P	**Pn**	**05 01 39.8**	**-0.5**
LTZ	**Lake Taylor**	**1.09**	**65**		**Pn**	**05 01 40.2**	**-0.5**
LTZ	**Lake Taylor**	**1.09**	**65**	P	**Pn**	**05 01 40.4**	**-0.3**
LTZ				S	**Sn**	**05 01 56.3**	**+0.2**
ROLC	**Rolleston Scho**	**1.11**	**108**	P	**Pn**	**05 01 40.9**	**0.0**
SBRC	**Southbridge Sc**	**1.11**	**121**	P	**Pn**	**05 01 40.8**	**-0.2**
TMZ	**Timaru**	**1.13**	**177**	P	**Pg**	**05 01 39.9**	**-0.7**
TMZ				S	**Sb**	**05 01 55.7**	**-0.2**
TWAS	**Twizel Area Sc**	**1.17**	**211**	P	**Pg**	**05 01 40.4**	**-0.9**
LINC	**Lincoln Crop a**	**1.18**	**109**	P	**Pn**	**05 01 42.0**	**+0.1**
CACS	**Harewood**	**1.19**	**102**	P	**Pn**	**05 01 42.3**	**+0.3**
LSRC	**Lake Sumner Ro**	**1.24**	**73**	P	**Pn**	**05 01 43.4**	**+0.7**
LBZ	**Lake Benmore**	**1.26**	**205**	P	**Pg**	**05 01 42.1**	**-0.9**
AMCZ	**Amberley**	**1.26**	**87**		**Pn**	**05 01 43.4**	**+0.4**
AMCZ	**Amberley**	**1.26**	**87**	P	**Pn**	**05 01 43.5**	**+0.4**
AMCZ				S	**Sn**	**05 02 01.0**	**+0.8**
CBGS	**Christchurch**	**1.26**	**103**	P	**Pn**	**05 01 42.9**	**-0.2**
SJFS	**Springs Junctio**	**1.30**	**46**	P	**Pn**	**05 01 43.4**	**-0.2**
STKS	**Sign of the Ki**	**1.30**	**107**	P	**Pb**	**05 01 43.5**	**-0.1**
HUNS	**Huntsbury**	**1.30**	**105**	P	**Pb**	**05 01 43.5**	**-0.2**
WAKC	**Waikari**	**1.33**	**78**	P	**Pg**	**05 01 44.2**	**-0.1**
MENS	**Menlo Terrace**	**1.33**	**104**	P	**Pg**	**05 01 44.1**	**-0.3**
MQZ	**McQueen's Vall**	**1.33**	**111**		**Pn**	**05 01 43.5**	**-0.5**
MQZ	**McQueen's Vall**	**1.33**	**111**	P	**Pn**	**05 01 43.7**	**-0.3**
HVSC	**Heathcote Vall**	**1.34**	**105**	P	**Pg**	**05 01 44.0**	**-0.4**
LPDS	**Lyttelton Port**	**1.34**	**106**	P	**Pb**	**05 01 44.0**	**-0.4**
RCBS	**Redcliffs Bore**	**1.35**	**104**	P	**Pg**	**05 01 44.2**	**-0.5**
MTPS	**Mount Pleasant**	**1.35**	**105**	P	**Pb**	**05 01 44.1**	**-0.4**
DHSS	**Diamond Harbou**	**1.36**	**107**	P	**Pg**	**05 01 44.5**	**-0.4**
PARS	**Panorama Road**	**1.36**	**104**	P	**Pg**	**05 01 44.4**	**-0.5**
MNZS	**Menzies Bay Ba**	**1.54**	**105**	P	**Pn**	**05 01 46.9**	**+0.1**
GVZ	**Greta Valley S**	**1.56**	**80**		**Pn**	**05 01 47.4**	**+0.2**
GVZ	**Greta Valley S**	**1.56**	**80**	P	**Pn**	**05 01 47.4**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.57**	**114**	P	**Pn**	**05 01 46.9**	**-0.4**
OKCZ	**Okains Bay**	**1.62**	**108**	P	**Pb**	**05 01 48.4**	**-0.7**
OKCZ				S	**Sb**	**05 02 09.2**	**-0.7**
DSZ	**Denniston Nort**	**1.64**	**23**		**Pn**	**05 01 48.6**	**+0.4**
DSZ	**Denniston Nort**	**1.64**	**23**	P	**Pn**	**05 01 48.7**	**+0.4**
DSZ				S	**Sn**	**05 02 08.8**	**-0.8**
JCZ	**Jackson Bay**	**1.76**	**241**	P	**Pn**	**05 01 50.2**	**+0.2**
ODZ	**Otahua Downs**	**1.81**	**186**		**Pn**	**05 01 50.2**	**-0.3**
ODZ	**Otahua Downs**	**1.81**	**186**	P	**Pn**	**05 01 50.7**	**+0.2**
THZ	**Tophouse**	**2.08**	**45**		**Pb**	**05 01 55.6**	**-1.4**
THZ	**Tophouse**	**2.08**	**45**	P	**Pb**	**05 01 55.7**	**-1.4**
KHZ	**Kahutara**	**2.09**	**67**		**Pn**	**05 01 54.8**	**+0.3**
KHZ	**Kahutara**	**2.09**	**67**	P	**Pn**	**05 01 54.7**	**+0.3**
WKZ	**Wanaka**	**2.10**	**221**		**Pn**	**05 01 54.1**	**-0.5**
WKZ	**Wanaka**	**2.10**	**221**	P	**Pn**	**05 01 54.3**	**-0.3**
MRNZ	**Matariki Terra**	**2.29**	**37**		**Pn**	**05 01 58.6**	**+1.4**
EAZ	**Earnscleugh**	**2.30**	**210**	P	**Pn**	**05 01 56.4**	**-0.9**
MSZ	**Milford Sound**	**2.59**	**236**	P	**Pn**	**05 02 01.5**	**+0.2**
HHSZ	**Highcliff Hill**	**2.64**	**185**	P	**Pn**	**05 02 02.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.66**	**56**		**Pn**	**05 02 03.4**	**+1.1**
TKNZ	**Takaka Hill**	**2.68**	**35**		**Pn**	**05 02 03.1**	**+0.6**
QRZ	**Quartz Range**	**2.70**	**27**		**Pn**	**05 02 03.7**	**+0.9**
QRZ	**Quartz Range**	**2.70**	**27**	P	**Pn**	**05 02 03.4**	**+0.6**
NNZ	**Nelson**	**2.73**	**43**		**Pn**	**05 02 04.8**	**+1.7**
NNZ	**Nelson**	**2.73**	**43**	P	**Pn**	**05 02 04.7**	**+1.5**
TUZ	**Tuapeka**	**2.86**	**199**	P	**Pn**	**05 02 04.7**	**-0.2**
MLZ	**Mavora Lakes**	**2.92**	**223**		**Pn**	**05 02 05.2**	**-0.7**
MLZ	**Mavora Lakes**	**2.92**	**223**	P	**Pn**	**05 02 05.5**	**-0.5**
WHZ	**Wether Hill Ro**	**3.40**	**218**		**Pn**	**05 02 11.3**	**-1.1**
WHZ	**Wether Hill Ro**	**3.40**	**218**	P	**Pn**	**05 02 11.2**	**-1.1**
SNZO	**South Karori**	**3.41**	**57**		**Pn**	**05 02 12.3**	**-0.2**
DCZ	**Deep Cove**	**3.50**	**229**		**Pn**	**05 02 12.9**	**-0.8**
DCZ	**Deep Cove**	**3.50**	**229**	P	**Pn**	**05 02 13.1**	**-0.7**
SYZ	**Scrubby Hill**	**3.52**	**201**	P	**Pn**	**05 02 13.0**	**-1.2**
APZ	**The Paps**	**4.14**	**209**	P	**Pn**	**05 02 20.8**	**-1.9**
PYZ	**Puysegur Point**	**4.21**	**225**		**Pn**	**05 02 22.6**	**-0.9**
PYZ	**Puysegur Point**	**4.21**	**225**	P	**Pn**	**05 02 22.5**	**-1.0**
MRZ	**Mangatainoka R**	**4.32**	**55**	P	**Pn**	**05 02 23.9**	**-1.2**
NEZ	**North Egmont**	**4.64**	**32**	P	**Pn**	**05 02 31.8**	**+2.3**
VRZ	**Vera Road**	**5.03**	**36**	P	**Pn**	**05 02 36.5**	**+1.6**
HIZ	**Hauiti**	**5.59**	**33**	P	**Pn**	**05 02 43.4**	**+0.9**
BKZ	**Black Stump Fm**	**5.85**	**48**	P	**Pn**	**05 02 46.6**	**+0.4**
TOZ	**Tahuroa Road**	**6.52**	**34**	P	**Pn**	**05 02 56.2**	**+0.9**
URZ	**Urewera**	**6.84**	**45**	Pn	**Pn**	**05 02 58.0**	**-1.7**
	1.5nm,0.3s,baz=234,slow=17,SNR=5.6						
URZ				Sn	**Sn**	**05 04 13.6**	**-4.3**
	4.6nm,0.3s,baz=287,slow=19,SNR=12						
	6.3nm,0.4s						
WCZ	**Waipu Caves**	**7.76**	**21**	P	**Pn**	**05 03 13.0**	**+0.7**
OUZ	**Omahuta**	**8.28**	**15**	P	**Pn**	**05 03 20.4**	**+1.0**
NIUE	**Niue**	**29.00**	**40**	P	**P**	**05 07 19.6**	**+0.2**
VNDA	**Vanda**	**34.58**	**183**	LR	LR	05 20 02.3	
	comp=Z,53nm,20.0s,baz=22,slow=32						
ASAR	**Alice Springs**	**36.16**	**291**	P	**P**	**05 08 21.9**	**-0.2**
	1.6nm,0.8s,baz=129,slow=8.4,SNR=14						
ASAR				PcP	**PcP**	**05 10 46.9**	**-0.9**
	0.5nm,0.9s,baz=121,slow=3.5,SNR=4.2						
ASAR				LR	LR	05 22 13.2	
	comp=Z,93nm,18.6s,baz=116,slow=35						
	1.6nm,0.8s						
WR8	**Warramunga Arr**	**38.31**	**296**	P	**P**	**05 08 40.4**	**0.0**
WR8				IAmb	IAmb	05 09 02.0	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**38.43**	**296**	P	**P**	**05 08 40.8**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=135,slow=7.6,SNR=30						
WRA				PcP	**PcP**	**05 10 52.1**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=144,slow=2.4,SNR=1.5						
WRA				LR	LR	05 24 11.1	
	comp=Z,81nm,18.8s,baz=8.5,slow=36						
	comp=Z,2.5nm,0.6s						
WB0	**Warramunga Arr**	**38.52**	**296**	P	**P**	**05 08 42.4**	**+0.2**
WB0				IAmb	IAmb	05 09 12.2	
	comp=Z,4.7nm,1.1s						
PMG	**Port Moresby**	**39.59**	**321**	LR	LR	05 24 19.5	
	comp=Z,34nm,18.1s,baz=151,slow=35						
FITZ	**Fitzroy Crossi**	**45.60**	**289**	P	**P**	**05 09 40.0**	**+0.1**
QSPA	**South Pole Qui**	**46.88**	**180**	P	**P**	**05 09 51.1**	**+1.5**
QSPA				IAmb	IAmb	05 10 06.1	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**46.88**	**180**	P	**P**	**05 09 51.1**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=26,slow=1.5,SNR=18						
QSPA				PcP	**PcP**	**05 11 23.9**	**+1.6**
	comp=Z,2.8nm,1.1s,baz=20,slow=1.5,SNR=3.7						
	comp=Z,1.6nm,0.7s						
MAW	**Mawson**	**57.06**	**206**	P	**P**	**05 11 06.9**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=110,slow=12,SNR=3.1						
	comp=Z,1.2nm,0.8s						
TROLL	**Troll, Antarti**	**64.75**	**184**	⇑P	**P**	**05 11 58.6**	**+1.0**
	comp=Z,98nm,0.7s						
SNAA	**Sanae**	**65.30**	**182**	⇑P	**P**	**05 12 02.3**	**+1.1**
	comp=Z,51nm,1.1s						
SNAA	**Sanae**	**65.30**	**182**	P	**P**	**05 12 02.1**	**+0.9**
	comp=Z,3.4nm,1.1s,baz=185,slow=7.2,SNR=6.4						
	comp=Z,3.4nm,1.1s						
VNA1	**Neumayer--Stat**	**66.41**	**180**	⇑P	**P**	**05 12 09.4**	**+1.2**
	comp=Z,4.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.02**	**295**	P	**P**	**05 14 20.8**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=126,slow=3.4,SNR=5.0						
	comp=Z,1.5nm,0.3s						
BRTR	**Keskin Array B**	**148.07**	**278**	PKPbc	**PKPbc**	**05 21 04.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=129,slow=3.7,SNR=12						
ARCES	**ARCESS Array B**	**148.29**	**338**	PKPbc	**PKPbc**	**05 21 03.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=39,slow=2.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**148.60**	**200**	PKPbc	**PKPbc**	**05 21 05.6**	**-1.5**
	comp=Z,6.3nm,0.8s,baz=162,slow=3.3,SNR=35						
FINES	**FINESS Array B**	**152.36**	**323**	PKPbc	**PKPbc**	**05 21 13.0**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=31,slow=3.2,SNR=5.4						
AKASG	**Malin Array Be**	**153.07**	**300**	PKPbc	**PKPbc**	**05 21 16.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=64,slow=2.2,SNR=1.5						
AKASG				PKPab	**PKPab**	**05 21 27.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=76,slow=3.0,SNR=4.5						

IDC ***15*** *05:13:14.4±5.0, 13.°03S×166.°78E, h168km±48km, mb3.3/5, mbtmp3.7/6, Error ellipse: s-maj=31.8km s-min=30.1km az=141.0*
ISC 15 05:13:15.7±1.1, 13.°10S±0.°10×166.°8E±0.°3, h180km, n7, σ1°§65/8, mb3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.93**	**182**	P	**Pn**	**05 15 22.9**	**+1.7**
	2.7nm,0.7s,baz=0.0,slow=20,SNR=1.4						
DZM				S	**Sn**	**05 16 58.3**	**-2.7**
	6.0nm,0.9s,baz=0.0,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**31.80**	**253**	P	**P**	**05 19 24.6**	**+1.1**
	0.1nm,0.3s,baz=84,slow=8.9,SNR=2.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**32.84**	**247**	P	**P**	**05 19 32.2**	**-0.4**
	0.6nm,0.4s,baz=82,slow=8.6,SNR=12						
	0.6nm,0.4s						
KSRS	**Korea Array**	**62.14**	**326**	P	**P**	**05 23 16.5**	**-1.2**
	0.8nm,0.4s,baz=137,slow=6.4,SNR=4.0						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**76.92**	**180**	P	**P**	**05 24 48.7**	**+0.7**
	1.1nm,1.0s,baz=10,slow=14,SNR=2.0						
	1.1nm,1.0s						
ILAR	**Eielson Array**	**85.14**	**18**	P	**P**	**05 25 30.9**	**-0.2**
	0.3nm,0.6s,baz=231,slow=6.0,SNR=7.3						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**118.57**	**345**	PKP	**PKiKP**	**05 31 41.3**	**-0.2**
	0.4nm,0.5s,baz=51,slow=1.8,SNR=8.5						

OTT ***15*** *05:25:09.5±0.2, 41.°75N×81.°05W, h5km, MN3.2/22, South shore Lake Erie. 102km southeast from Blenheim, On Eastern Background Seismic Zone.*
NEIC 15 05:25:09.5±1.7, 41.°73N±0.°02×81.°05W±0.°02, h5km±2km, mb_Lg2.6/51, ML2.6/12, Error ellipse: s-maj=3.5km s-min=2.8km az=323.0, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M52A	**Chesterland**	**0.30**	**231**		Pg	05 25 14.6	-0.7
ERPA	**Erie**	**0.88**	**64**	Pg	Pg	05 25 25.2	-1.3
ERPA				Sg	Sg	05 25 37.2	-0.8
ERPA				IAML		05 25 43.5	
	181nm,0.1s						
ERPA				IAML		05 25 43.6	
	140nm,0.1s						
N53A	**Lisbon**	**0.94**	**170**		Pg	05 25 26.1	-1.4
N53A				Sg	Sg	05 25 38.6	-1.0
N53A				IAML		05 25 39.5	
	235nm,0.3s						
PAOC	**Oil Creek Stat**	**1.05**	**101**		Pg	05 25 28.2	-1.4
PAMR	**Moraine State**	**1.07**	**137**		Pg	05 25 28.5	-1.4
PAMR				Sg	Sg	05 25 42.5	-1.3
PAMR				IAML		05 25 51.1	
	comp=E,115nm,0.2s						
N51A	**Ashland**	**1.28**	**231**		Pn	05 25 31.9	-2.3
N51A				IAML		05 25 56.9	
	comp=E,198nm,0.3s						
N51A				IAML		05 25 58.5	
	comp=E,165nm,0.2s						
ELFO	**Elginfield**	**1.48**	**352**	PG	Pn	05 25 35.1	-1.7
ELFO				SG	Sn	05 25 54.6	-1.9
ELFO				Trac		05 25 59.0	
	comp=E,114nm,0.1s						
O53A	**New Philadelph**	**1.48**	**185**		Pn	05 25 35.4	-1.5
O53A				IAmb_Lg		05 25 58.7	
	comp=Z,38nm,0.7s						
M50A	**Fremont**	**1.53**	**258**		Pn	05 25 36.3	-1.2
K50A	**Casco**	**1.57**	**312**		Pn	05 25 36.9	-1.1
TYNO	**Tyneside**	**1.62**	**32**	PG	Pn	05 25 37.8	-1.0
TYNO				SG	Sn	05 25 59.1	-0.9
TYNO				Trac		05 26 03.2	
	comp=Z,53nm,0.1s						
O54A	**Avella**	**1.63**	**161**		Pn	05 25 38.6	-0.2
O54A					Sn	05 26 00.2	0.0
O52A	**Adamsville**	**1.72**	**201**		Pn	05 25 39.4	-0.7
O52A				IAmb_Lg		05 26 05.8	
	comp=Z,33nm,0.8s						
EFO	**Effingham**	**1.88**	**43**	PN	Pn	05 25 42.0	-0.2
EFO				SN	Sn	05 26 05.9	-0.4
EFO				Trac		05 26 09.9	
	comp=Z,27nm,0.1s						
ACTO	**Acton**	**2.02**	**21**	PN	Pn	05 25 43.9	-0.4
ACTO				SN	Sn	05 26 09.2	-0.6
ACTO				Trac		05 26 14.1	
	comp=Z,72nm,0.1s						
STCO	**Saint Catharin**	**2.03**	**43**	PN	Pn	05 25 43.7	-0.7
STCO				SN	Sn	05 26 09.3	-0.8
STCO				Trac		05 26 15.1	
	comp=Z,81nm,0.2s						
ACSO	**Alum Creek Sta**	**2.09**	**225**		Pn	05 25 45.6	+0.4
P52A	**Corning**	**2.25**	**202**		Pn	05 25 46.9	-0.5
P52A					Sn	05 26 15.5	0.0
P53A	**Whipple**	**2.25**	**187**		Pn	05 25 47.9	+0.4
P53A				IAmb_Lg		05 26 21.1	
	comp=Z,36nm,0.8s						
MCWV	**Mont Chateau**	**2.26**	**156**		Pn	05 25 48.0	+0.4
TORO	**Toronto--Lesli**	**2.27**	**33**	SN	Sn	05 26 15.1	-0.8
TORO				SN	Sb	05 26 15.7	-3.6
TORO				LG	Lg	05 26 19.5	
TORO				Trac		05 26 20.3	
	comp=Z,286nm,0.1s						
BASO	**Ashfield**	**2.33**	**349**	PN	Pn	05 25 48.2	-0.3
BASO				SN	Sn	05 26 16.9	-0.5
BASO				Trac		05 26 21.2	
	comp=Z,71nm,0.3s						
BWLO	**Walkerton**	**2.39**	**359**	PN	Pn	05 25 48.8	-0.5
BWLO				SN	Sn	05 26 17.5	-1.5
BWLO				LG	Lg	05 26 22.4	
BWLO				Trac		05 26 23.0	
	comp=Z,45nm,0.2s						
MEDO	**Medina**	**2.40**	**52**		Pn	05 25 50.2	+0.7
MEDO				IAmb_Lg		05 26 24.8	
	comp=Z,29nm,0.9s						
MEDO	**Medina**	**2.40**	**52**	PN	Pn	05 25 48.9	-0.5
MEDO				SN	Sn	05 26 18.6	-0.6
MEDO				Trac		05 26 27.1	
	comp=Z,21nm,0.1s						
N49A	**Columbus Grove**	**2.49**	**252**		Pn	05 25 50.6	-0.1
MMNY	**Mt. Morris Dam**	**2.54**	**66**		Pn	05 25 52.6	+1.2
MMNY				IAmb_Lg		05 26 36.7	
	comp=Z,14nm,0.8s						
I49A	**Point Hope**	**2.57**	**

KIPQ LG Lg 05 27 53.0
KIPQ Trac 05 27 56.2
comp=Z,19nm,0.4s
WCI Wyandotte Cave 5.33 231 IAmb_Lg 05 27 57.9
comp=Z,13nm,0.7s
U56A King 5.40 174 IAmb_Lg 05 28 10.6
comp=Z,6.1nm,0.7s
NCB Newcomb 5.50 64 IAmb_Lg 05 28 01.0
comp=Z,11nm,1.1s
V53A Saluda 6.20 193 IAmb_Lg 05 28 27.8
comp=Z,7.7nm,0.9s
TKL Tuckaleechee C 6.42 200 IAmb_Lg 05 28 31.3
comp=Z,5.1nm,0.8s
L42A Oliver, Polo 6.44 275 IAmb_Lg 05 28 32.4
comp=Z,10nm,0.8s
FLET Fletcher 6.63 60 PN Pn 05 26 46.9 -0.7
FLET SN Sn 05 27 58.6 -4.9
CPCT Cooper Cave 6.83 205 IAmb_Lg 05 28 46.3
comp=Z,5.4nm,0.8s
VLDQ Val d'Or 6.87 21 IAmb_Lg 05 28 43.4
comp=Z,9.6nm,0.8s
W52A Murphy 7.00 200 IAmb_Lg 05 28 51.4
comp=Z,8.9nm,0.9s

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*IDC **15** 05:29:12.2±1.8, 48°.89N×95°.83E, h0km, mbtmp3.5/2, ML3.0/2, Error ellipse: s-maj=41.4km s-min=13.3km az=6.0*
*ASRS **15** 05:29:16.8±0.4, 49°.N±2°.×9°.5E±°, h8km, MLh4.3/19, Error ellipse: s-maj=4.5km s-min=2.6km az=164.0, confirmed*
ISC 15 05:29:14.4±0.9, 48°.80N±0°.05×95°.62E±0°.03, h10km, n26, σ2§46/56, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**2.19**	**34**	Pg	**Pg**	05 29 57.1	+0.9
KNGR				Sg	**Sg**	05 30 28.7	+4.0
KZLR	**Kyzyl**	**3.00**	**346**	Pg	**Pg**	05 30 13.5	+1.6
KZLR				Sg	**Sg**	05 30 55.1	+4.4
TDJR	**Todzha**	**3.62**	**5**	Pn	**Pb**	05 30 17.7	-0.7
TDJR				Pg	**Pg**	05 30 25.7	+2.1
TDJR				Sg	**Sg**	05 31 16.5	+6.0
ARDR	**Aradan**	**4.03**	**341**	Pn	**Pb**	05 30 23.2	-2.3
ARDR				Pg	**Pg**	05 30 31.5	-0.1
ARDR				Sg	**Sg**	05 31 26.2	+2.5
TEL	**Teeli**	**4.14**	**304**	Pn	**Pb**	05 30 24.4	-3.0
TEL				Pg	**Pg**	05 30 32.1	-1.6
TEL				Sg	**Sg**	05 31 30.8	+3.4
MOY	**Mondy**	**4.49**	**48**	Pg	**Pg**	05 30 37.0	-3.3
MOY				Sg	**Sg**	05 31 38.2	-0.2
CERR	**Cheremushki**	**4.85**	**328**	Pg	**Pg**	05 30 45.8	-1.4
CERR				Sg	**Sg**	05 31 51.8	+1.7
DJO	**Djoy, Khakassi**	**4.87**	**327**	Pg	**Pg**	05 30 46.5	-0.9
DJO				Sg	**Sg**	05 31 50.9	+0.4
CUR	**Chagan-Uzun**	**4.92**	**288**	Pg	**Pg**	05 30 46.6	-1.8
CUR				Sg	**Sg**	05 31 55.4	+3.3
ULGR	**Ulagan, Altay**	**5.29**	**293**	Pg	**Pg**	05 30 55.1	-0.5
ULGR				Sg	**Sg**	05 32 04.3	+0.2
AKAR	**Aktash**	**5.42**	**289**	Pg	**Pg**	05 30 60.0	+1.9
AKAR				Sg	**Sg**	05 32 11.8	+3.5
DGZ	**Jazzator, Alta**	**5.43**	**283**	Pn	**Pn**	05 30 38.9	+3.3
DGZ				Pg	**Pg**	05 30 59.8	+1.3
DGZ				Sg	**Sg**	05 32 12.1	+3.3
CHBI	**Chibit, Altay**	**5.49**	**289**	Pn	**Pn**	05 30 37.0	+0.8
CHBI				Pg	**Pg**	05 31 00.6	+1.1
CHBI				Sg	**Sg**	05 32 13.4	+2.8
VEH	**Verkhnyaya Baz**	**5.57**	**325**	Pn	**Pn**	05 30 37.9	+0.6
VEH				Pg	**Pg**	05 31 02.2	+1.2
VEH				Sg	**Sg**	05 32 15.1	+2.1
YALR	**Yailyu, Altay**	**5.93**	**303**	Pg	**Pg**	05 31 04.5	-3.4
YALR				Sg	**Sg**	05 32 26.2	+1.6
ARTR	**Artybash**	**6.12**	**302**	Pn	**Pn**	05 30 48.1	+3.2
ARTR				Pg	**Pg**	05 31 09.6	-2.0
ARTR				Sg	**Sg**	05 32 34.1	+3.2
MINR	**Mina**	**6.17**	**352**	Pg	**Pg**	05 31 10.0	-2.5
MINR				Sg	**Sg**	05 32 35.4	+3.0
TASR	**Tashtagol**	**6.31**	**312**	Pg	**Pg**	05 31 14.9	-0.1
TASR				Sg	**Sg**	05 32 37.1	+0.4
LUZB	**Luzhba, Kemero**	**6.44**	**322**	Pn	**Pn**	05 30 44.7	-4.5
LUZB				Pg	Pg	05 31 12.8	-4.8
LUZB				Sg	**Sg**	05 32 42.0	+1.1
ELDR	**Elanda**	**6.60**	**295**	Pn	**Pn**	05 30 50.4	-1.0
ELDR				Pg	**Pg**	05 31 20.2	-0.4
ELDR				Sg	**Sg**	05 32 48.8	+2.7
SONM	**Songino Array**	**7.25**	**94**	Pn	**Pn**	05 30 59.4	-1.1
	0.6nm,0.3s,baz=279,slow=14,SNR=5.8						
SONM				Pg	**Pb**	05 31 21.9	+1.5
	0.8nm,0.3s,baz=280,slow=15,SNR=4.7						
SONM				Sn	**Sn**	05 32 19.9	-3.0
	0.5nm,0.3s,baz=279,slow=17,SNR=4.1						
SONM				Lg	Lg	05 32 55.5	
	2.6nm,0.3s,baz=280,slow=28,SNR=14						
	1.1nm,0.3s						
ELT	**Eltsovka**	**7.41**	**311**	Pn	**Pn**	05 30 58.3	-4.1
ELT				Sg	**Sg**	05 33 11.8	-0.1
BRCR	**Berchikul'**	**8.18**	**330**	Sg	**Sg**	05 33 37.9	+1.3
ZALV	**Zalesovo Beam**	**8.49**	**311**	Pg	Pg	05 31 47.7	-9.1
	baz=126,slow=14						
ZALV				Lg	Lg	05 33 41.7	
	0.3nm,0.3s,baz=120,slow=25,SNR=6.1						
MKAR	**Makanchi Array**	**9.19**	**262**	Pg	Pn	05 31 56.6	+30
	0.1nm,0.3s,baz=75,slow=22,SNR=1.6						
MKAR				Sn	**Sn**	05 33 12.5	+2.0
	0.1nm,0.3s,baz=77,slow=19,SNR=2.5						
MKAR				Lg	Lg	05 34 07.8	
	0.3nm,0.3s,baz=73,slow=35,SNR=3.2						
KURBB	**Kurchatov Arra**	**11.21**	**286**	Pn	**Pn**	05 31 54.6	0.0
	baz=90,slow=6.5,SNR=1.3						
KURBB				Pg		05 32 34.0	
	0.1nm,0.3s,baz=99,slow=14,SNR=2.1						
KURBB				Lg	Lg	05 35 10.9	
	0.1nm,0.3s,baz=92,slow=32,SNR=2.0						
	0.4nm,0.2s						

IDC 15 05:29:15.6±7.1, 10°.79S×162°.56E, h0km, mb3.7/3, mbtmp3.7/3, MS2.9/2, Error ellipse: s-maj=203.9km s-min=54.4km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**297**	Sn	Sn	05 30 25.5	-13
	389nm,0.3s,baz=162,slow=20,SNR=8.3						
HNR				LR	LR	05 30 59.4	
	comp=Z,170nm,20.6s,baz=168,slow=36						
PMG	**Port Moresby**	**15.22**	**274**	LR	LR	05 37 57.0	
	comp=Z,48nm,19.0s,baz=135,slow=34						
WRA	**Warramunga Arr**	**28.65**	**248**	P	P	05 35 14.7	+0.3
	0.6nm,0.5s,baz=78,slow=9.3,SNR=10						
	0.6nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.38**	**8**	T	T	06 04 21.6	
	baz=194						
H11S3	**WAKE ISLAND Hy**	**29.38**	**8**	T	T	06 04 32.2	
	baz=194						
H11S1	**WAKE ISLAND Hy**	**29.39**	**8**	T	T	06 04 26.9	
	baz=194						
ASAR	**Alice Springs**	**30.14**	**241**	P	P	05 35 27.2	-0.4
	0.4nm,0.5s,baz=69,slow=9.1,SNR=4.9						
	0.4nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.61**	**8**	T	T	06 06 17.6	
	baz=187,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.61**	**8**	T	T	06 06 19.1	
	baz=187,slow=76						
H11N2	**WAKE ISLAND Hy**	**30.63**	**8**	T	T	06 06 18.7	
	baz=187,slow=76						
MKAR	**Makanchi Array**	**91.20**	**317**	P	P	05 42 22.8	0.0
	0.2nm,0.5s,baz=114,slow=3.6,SNR=2.1						
	0.2nm,0.5s						

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*NEIC **15** 05:30:45.6±1.6, 19°.15S±0°.05×179°.1W±0°.1, h621km±10km, mb4.4/16, Error ellipse: s-maj=18.0km s-min=6.3km az=100.0*
*IDC **15** 05:30:48.9±2.4, 19°.01S×179°.36W, h666km±30km, mb3.4/12, mbtmp4.4/12, Error ellipse: s-maj=19.8km s-min=13.6km az=159.0*
ISC 15 05:30:46.9±0.5, 19°.2S±0°.1×179°.20W±0°.07, h650km, n62, σ1§37/64, mb4.0/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.77**	**91**	P	**P**	05 32 50.6	-4.5
MARNC	**Mare, Loyalty**	**12.20**	**257**	P	**P**	05 33 26.7	-0.7
PINNC	**Pines Island,**	**12.94**	**252**	P	**P**	05 33 34.6	+0.4
SANVU	**Saraoutou**	**13.50**	**284**	P	**P**	05 33 40.7	+1.3
ONTNC	**Ouen Toro**	**13.78**	**254**	P	**P**	05 33 42.1	+0.2
RAR	**Rarotonga**	**18.35**	**100**	P	**P**	05 34 23.1	-0.6
URZ	**Urewera**	**19.30**	**189**	P	P	05 34 40.3	+8.3
	6.7nm,0.5s,baz=350,slow=6.1,SNR=9.3						
QRZ	**Quartz Range**	**22.72**	**196**	P	**P**	05 35 02.0	-0.5
DSZ	**Denniston Nort**	**23.78**	**197**	P	**P**	05 35 12.1	+0.3
PPT	**Papeete**	**28.14**	**92**	P	**P**	05 35 52.4	+2.1
	13nm,0.6s,baz=220,slow=16,SNR=4.4						
	13nm,0.6s						
ARMA	**Armidale**	**28.67**	**241**	P	**P**	05 35 55.7	+0.8
ARMA				IAmb	IAmb	05 36 23.8	
	comp=Z,17nm,1.5s						
CTAO	**Charters Tower**	**32.52**	**263**	P	**P**	05 36 28.2	+0.7
CTAO				IAmb	IAmb	05 36 29.2	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**36.38**	**272**	P	**P**	05 37 00.7	+1.1
COEN				IAmb	IAmb	05 37 01.5	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**37.38**	**242**	P	**P**	05 37 08.2	+0.9
STKA				IAmb	IAmb	05 37 26.2	
	comp=Z,49nm,1.5s						
STKA	**Stephens Creek**	**37.38**	**242**	P	**P**	05 37 08.3	+0.9
	comp=Z,1.0nm,0.3s,baz=82,slow=13,SNR=4.8						
	comp=Z,1.0nm,0.3s						
BBOO	**Buckleboo**	**42.15**	**242**	P	**P**	05 37 45.2	-0.1
BBOO				IAmb	IAmb	05 38 14.5	
	comp=Z,13nm,1.2s						
WR8	**Warramunga Arr**	**43.53**	**261**	P	**P**	05 37 56.0	-0.1
WR8				IAmb	IAmb	05 37 59.1	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**43.65**	**261**	P	**P**	05 37 57.0	-0.1
WB0				IAmb	IAmb	05 37 57.4	
	comp=Z,4.7nm,0.7s						
WRAB	**Tennant Creek**	**43.67**	**261**	P	**P**	05 37 57.3	+0.1
WRAB				IAmb	IAmb	05 37 57.5	
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**43.68**	**261**	P	**P**	05 37 57.3	0.0
WRA	**Warramunga Arr**	**43.68**	**261**	P	**P**	05 37 57.0	-0.3
	comp=Z,3.2nm,0.7s,baz=97,slow=8.2,SNR=33						
WRA				PcP	**PcP**	05 39 28.8	-0.4
	comp=Z,0.5nm,0.5s,baz=93,slow=3.1,SNR=3.5						
WRA				S	**S**	05 43 37.6	-4.9
	comp=Z,2.0nm,0.9s,baz=97,slow=13,SNR=6.8						
	comp=Z,3.2nm,0.7s						
AS31	**Alice Springs**	**43.74**	**256**	P	**P**	05 37 58.9	+1.2
ASAR	**Alice Springs**	**43.74**	**256**	P	**P**	05 37 58.5	+0.7
ASAR	**Alice Springs**	**43.74**	**256**	P	**P**	05 37 57.9	+0.2
	comp=Z,3.7nm,0.5s,baz=87,slow=8.7,SNR=52						
ASAR				PcP	**PcP**	05 39 28.8	-0.6
	comp=Z,1.4nm,0.8s,baz=92,slow=3.6,SNR=7.8						
ASAR				S	**S**	05 43 39.6	-3.8
	comp=Z,3.1nm,0.7s,baz=93,slow=14,SNR=24						
	comp=Z,3.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.09**	**262**	P	**P**	05 39 00.0	+0.6
LUWI	**Luwuk**	**59.58**	**280**	P	**P**	05 39 52.6	+1.7
MJAR	**Matsushiro Arr**	**68.47**	**324**	P	**P**	05 40 46.7	+0.3
	comp=Z,2.0nm,0.4s,baz=156,slow=5.8,SNR=5.5						
	comp=Z,2.0nm,0.4s						
QSPA	**South Pole Qui**	**70.90**	**180**	P	**P**	05 41 02.8	+2.3
QSPA	**South Pole Qui**	**70.90**	**180**	P	**P**	05 41 02.6	+2.2
	comp=Z,1.7nm,0.6s,baz=38,slow=2.1,SNR=15						
	comp=Z,1.7nm,0.6s						
PETK	**Petropavlovsk-**	**74.70**	**346**	P	**P**	05 41 21.2	-0.8
	comp=Z,3.2nm,0.6s,baz=160,slow=5.5,SNR=5.5						
	comp=Z,3.2nm,0.6s						
NVAR	**Mina Array Bea**	**80.84**	**44**	P	**P**	05 41 57.1	+1.7
	comp=Z,1.8nm,0.7s,baz=253,slow=5.9,SNR=7.8						
	comp=Z,1.8nm,0.7s						
ILAR	**Eielson Array**	**87.27**	**13**	P	**P**	05 42 25.5	-0.4
	comp=Z,2.7nm,0.8s,baz=211,slow=5.4,SNR=19						
	comp=Z,2.7nm,0.8s						
TXAR	**Lajitas Array**	**87.30**	**58**	P	**P**	05 42 29.0	+2.0
	comp=Z,1.3nm,0.7s,baz=247,slow=4.2,SNR=8.5						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**88.60**	**290**	P	**P**	05 42 34.7	+1.5
	comp=Z,1.3nm,0.2s,baz=106,slow=4.6,SNR=7.0						
	comp=Z,1.3nm,0.2s						
PDAR	**Pinedale Array**	**88.77**	**44**	P	**P**	05 42 34.6	+0.9
	comp=Z,1.2nm,0.7s,baz=244,slow=4.2,SNR=8.3						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**109.46**	**314**	PKiKP	**PKiKP**	05 48 03.8	-1.4
	comp=Z,0.5nm,0.6s,baz=90,slow=1.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**112.30**	**318**	PKiKP	**PKiKP**	05 48 08.8	-1.6
	comp=Z,0.8nm,0.8s,baz=90,slow=1.7,SNR=5.7						
SPITS	**Spitsbergen Ar**	**120.47**	**356**	PKP	**PKPdf**	05 48 24.7	-0.7
	comp=Z,8.1nm,1.0s,baz=39,slow=5.5,SNR=1.8						
ARCES	**ARCESS Array B**	**127.41**	**349**	PKP	**PKPdf**	05 48 38.2	-0.7
	comp=Z,1.1nm,0.5s,baz=38,slow=1.9,SNR=25						
FINES	**FINESS Array B**	**134.18**	**343**	PKP	**PKPdf**	05 48 51.0	-0.8
	comp=Z,1.6nm,0.6s,baz=29,slow=3.2,SNR=4.2						
HFS	**Hagfors**	**138.05**	**350**	PKhKP	PKPpre	05 48 48.3	
	comp=Z,1.0nm,0.4s,baz=8.5,slow=2.9,SNR=6.0						
HFS				PKP	**PKPdf**	05 48 59.7	+0.6
	comp=Z,1.4nm,0.7s,baz=38,slow=2.6,SNR=1.8						
AKASG	**Malin Array Be**	**141.31**	**331**	PKhKP	PKPpre	05 48 59.6	
	comp=Z,1.8nm,0.4s,baz=44,slow=4.0,SNR=16						
AKASG				PKP	**PKiKP**	05 49 07.0	-1.3
	comp=Z,0.3nm,0.3s,baz=282,slow=40,SNR=2.6						
EKA	**Eskdalemuir Ar**	**143.77**	**4**	PKP	PKPbc	05 49 08.2	-0.6
	comp=Z,1.4nm,0.5s,baz=350,slow=2.3,SNR=8.0						
BRTR	**Keskin Array B**	**145.11**	**313**	PKP	**PKPbc**	05 49 12.7	-0.9
	comp=Z,2.4nm,0.7s,baz=108,slow=0.3,SNR=11						
MMAI	**Mount Meron Ar**	**146.17**	**301**	PKPbc	**PKPbc**	05 49 16.7	0.0
	comp=Z,3.4nm,0.5s,baz=62,slow=3.4,SNR=5.4						
GERES	**GERESS Array B**	**148.61**	**344**	PKPbc	**PKPbc**	05 49 21.7	-0.8
	comp=Z,1.7nm,0.6s,baz=23,slow=4.8,SNR=12						
CONA	**Conrad Observa**	**148.80**	**340**	*i* PKP	**PKiKP**	05 49 23.2	-0.7
	comp=Z,3.8nm,0.7s						
RONA	**Rosalia, Austr**	**148.86**	**340**	*i* PKP	**PKiKP**	05 49 23.3	-0.6
	comp=Z,6.2nm,0.6s						
MOA	**Molln**	**149.36**	**342**	*i* PKP	**PKPbc**	05 49 23.6	-0.7
	comp=Z,1.8nm,0.7s						
ARSA	**Arzberg**	**149.51**	**340**	*i* PKP	**PKiKP**	05 49 25.1	-0.2
	comp=Z,2.4nm,0.6s						
SOKA	**Soboth**	**150.17**	**340**	*i* PKP	**PKPbc**	05 49 25.5	-0.7
	comp=Z,2.8nm,0.6s						
LESA	**Schwarzleotal**	**150.19**	**344**	*i* PKP	**PKPbc**	05 49 25.7	-0.6
	comp=Z,2.3nm,0.4s						
KBA	**Koelnbreinsper**	**150.32**	**343**	*i* PKP	**PKPbc**	05 49 26.2	-0.6
	comp=Z,2.8nm,0.6s						
OBKA	**Obir**	**150.47**	**341**	*i* PKiKP	**PKiKP**	05 49 27.7	+0.3
	comp=Z,2.0nm,0.6s						
WATA	**Walderalm**	**150.55**	**345**	*i* PKP	**PKPbc**	05 49 25.5	-1.7
	comp=Z,2.7nm,0.5s						
WTTA	**Wattenberg**	**150.60**	**345**	*i* PKP	**PKPbc**	05 49 26.9	-0.5
	comp=Z,3.6nm,0.5s						
MYKA	**Terra Mystica**	**150.64**	**342**	*e*PKP	**PKPbc**	05 49 26.0	-1.4
	comp=Z,2.3nm,0.6s						
MOTA	**Moosalm**	**150.66**	**346**	*i* PKP	**PKPbc**	05 49 26.5	-1.0
	comp=Z,3.5nm,0.7s						
ABTA	**Abfaltersbach**	**150.86**	**343**	*i* PKP	**PKPbc**	05 49 27.0	-0.8
	comp=Z,5.5nm,0.6s						
DAVA	**Damuels**	**150.98**	**347**	*i* PKP	**PKiKP**	05 49 28.0	-0.5
	comp=Z,6.2nm,1.1s						
FETA	**Feichten**	**151.05**	**346**	*i* PKP	**PKPbc**	05 49 27.9	-0.5
	comp=Z,3.3nm,0.8s						
ESDC	**Sonseca Array**	**159.15**	**10**	PKPab	**PKPab**	05 50 14.3	+0.2
	comp=Z,0.2nm,0.5s,baz=339,slow=4.6,SNR=4.1						

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*IDC **15** 05:31:58.6±1.4, 55°.18S×123°.22W, h0km, mb3.9/7, mbtmp3.9/7, MS3.7/18, Error ellipse: s-maj=42.8km s-min=26.3km az=65.0*
ISC 15 05:31:57.4±2.6, 54°.8S±0°.4×122°.6W±0°.4, h10km, n43, σ0§78/13, mb4.1/8, MS3.7/18, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.98**	**133**	LR	LR	05 46 54.4	
	comp=Z,108nm,21.5s,baz=269,slow=30						
VNDA	**Vanda**	**34.17**	**202**	P	**P**	05 38 41.9	-0.3
	0.6nm,0.8s,baz=98,slow=5.9,SNR=3.6						
VNDA				LR	LR	05 48 01.8	
	comp=Z,60nm,21.6s,baz=90,slow=29						
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**35.37**	**180**	P	**P**	05 38 53.4	+0.5
	2.3nm,0.8s,baz=90,slow=1.0,SNR=15						
QSPA				LR	LR	05 50 38.8	
	comp=Z,52nm,20.4s,baz=86,slow=32						
	2.3nm,0.8s						
PLCA	**Paso Flores**	**36.81**	**90**	LR	LR	05 51 51.4	
	comp=Z,56nm,18.1s,baz=226,slow=32						
H03S2	**Juan Fernandez**	**36.83**	**74**	T	T	06 19 04.9	
	baz=218,slow=74,SNR=31						
H03S1	**Juan Fernandez**	**36.83**	**74**	T	T	06 19 06.0	
	baz=218,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**36.84**	**74**	T	T	06 19 07.1	
	baz=218,slow=74,SNR=34						
H03N3	**Juan Fernandez**	**37.11**	**73**	T	T	06 19 27.0	
	baz=221,slow=72,SNR=106						
H03N2	**Juan Fernandez**	**37.12**	**73**	T	T	06 19 27.7	
	baz=221,slow=72,SNR=177						
H03N1	**Juan Fernandez**	**37.13**	**73**	T	T	06 19 22.6	
	baz=221,slow=72,SNR=84						
PPT2	**Papeete2**	**42.53**	**320**	*e*LR	LR	05 52 03.8	
	274nm,25.8s						
PPT2				*e*LR	LR	05 52 12.6	
	149nm,21.8s						
URZ	**Urewera**	**43.23**	**267**	LR	LR	05 54 06.8	
	comp=Z,85nm,18.8s,baz=117,slow=31						
RAR	**Rarotonga**	**43.65**	**305**	LR	LR	05 52 46.8	
	comp=Z,92nm,21.5s,baz=84,slow=29						
VNA3	**Neumayer Olymp**	**45.68**	**155**	P	**P**	05 40 17.4	-0.4
VNA1	**Neumayer--Stat**	**46.42**	**155**	P	**P**	05 40 23.6	+0.1
VNA2	**Neumayer--Watz**	**46.44**	**156**	P	**P**	05 40 24.2	+0.4
	baz=254,slow=31						
SNAA	**Sanae**	**46.94**	**158**	P	**P**	05 40 27.2	-0.6
SNAA	**Sanae**	**46.94**	**158**	P	**P**	05 40 26.8	-0.9
	0.7nm,0.6s,baz=272,slow=12,SNR=5.7						
SNAA				LR	LR	06 00 35.1	
	comp=Z,81nm,18.1s,baz=196,slow=37						
	0.7nm,0.6s						
TROLL	**Troll, Antarti**	**47.81**	**160**	⇑P	**P**	05 40 34.8	+0.3
	comp=Z,238nm,1.4s						
LPAZ	**La Paz**	**56.61**	**69**	LR	LR	06 00 26.7	
	comp=Z,26nm,19.9s,baz=264,slow=30						
MAW	**Mawson**	**57.83**	**182**	P	**P**	05 41 48.2	-0.2
	comp=Z,4.5nm,1.1s,baz=165,slow=10.0,SNR=6.2						
MAW				LR	LR	06 04 13.2	
	comp=Z,89nm,20.5s,baz=162,slow=34						
	comp=Z,4.5nm,1.1s						
STKA	**Stephens Creek**	**67.75**	**246**	LR	LR	06 07 28.3	
	comp=Z,47nm,18.1s,baz=21,slow=32						
BDFB	**Brasilia**	**68.48**	**87**	LR	LR	06 10 16.1	
	comp=Z,58nm,19.6s,baz=302,slow=33						
HNR	**Honiara**	**75.12**	**275**	P	**P**	05 43 39.2	-0.5
	comp=Z,170nm,0.5s,baz=182,slow=2.8,SNR=5.0						
H01W1	**Cape Leeuwin H**	**78.26**	**225**	T	T	07 09 33.9	
	baz=150,slow=76,SNR=34						
H01W2	**Cape Leeuwin H**	**78.26**	**225**	T	T	07 09 29.8	
	baz=150,slow=76,SNR=26						
H01W3	**Cape Leeuwin H**	**78.27**	**225**	T	T	07 09 30.1	
	baz=150,slow=76,SNR=32						
ASAR	**Alice Springs**	**78.37**	**246**	P	**P**	05 43 57.4	-0.7
	comp=Z,1.9nm,0.9s,baz=150,slow=6.0,SNR=7.8						
ASAR				LR	LR	06 14 50.9	
	comp=Z,42nm,18.1s,baz=109,slow=33						
	comp=Z,1.9nm,0.9s						
WRA	**Warramunga Arr**	**81.18**	**248**	P	**P**	05 44 15.2	+1.9
	comp=Z,3.5nm,0.9s,baz=142,slow=5.4,SNR=9.4						
	comp=Z,3.5nm,0.9s						
TXAR	**Lajitas Array**	**85.38**	**17**	P	P	05 44 40.9	+6.3
	comp=Z,0.1nm,0.7s,baz=199,slow=4.1,SNR=1.4						
	comp=Z,0.1nm,0.7s						
PFO	**Pinyon Flats O**	**88.23**	**5**	LR	LR	06 16 44.0	
	comp=Z,64nm,18.1s,baz=254,slow=30						
JAY	**Jayapura**	**91.83**	**263**	LR	LR	06 22 40.7	
	comp=Z,41nm,18.1s,baz=332,slow=33						
BOSA	**Boshof**	**92.43**	**152**	LR	LR	06 24 19.7	
	comp=Z,40nm,18.1s,baz=204,slow=34						
NVAR	**Mina Array Bea**	**92.95**	**3**	LR	LR	06 19 27.3	
	comp=Z,35nm,18.0s,baz=236,slow=30						
H11S2	**WAKE ISLAND Hy**	**94.33**	**296**	T	T	07 30 10.9	
	baz=148,slow=76,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**94.34**	**296**	T	T	07 30 11.5	
	baz=148,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**94.35**	**296**	T	T	07 30 11.3	
	baz=148,slow=76,SNR=4.4						
BATI	**Baumata**	**94.92**	**245**	LR	LR	06 23 29.3	
	comp=Z,67nm,18.4s,baz=310,slow=33						
H11N3	**WAKE ISLAND Hy**	**95.25**	**297**	T	T	07 31 19.3	
	baz=148,slow=74,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**95.25**	**297**	T	T	07 31 18.0	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**95.27**	**297**	T	T	07 31 21.5	
	baz=148,slow=74,SNR=3.3						
LBTB	**Lobatse**	**95.93**	**151**	LR	LR	06 23 26.4	
	comp=Z,21nm,18.2s,baz=224,slow=32						
MKAR	**Makanchi Array**	**162.41**	**253**	PKPab	**PKPab**	05 52 46.1	-0.1
	comp=Z,0.8nm,0.8s,baz=141,slow=0.9,SNR=4.0						

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*IDC **15** 05:33:42.4±0.6, 37°.92N×121°.90W, h0km, mb4.1/15, mbtmp4.1/19, ML3.7/6, MS3.9/51, Error ellipse: s-maj=10.0km s-min=7.8km az=38.0*
*NEIC **15** 05:33:43.0±1.4, 37°.97N±0°.01×122°.06W±0°.02, h10km±1km, Error ellipse: s-maj=2.7km s-min=2.4km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}

CLCB Lake Chabot 0.21 178 Pg 05 33 48.2 -0.2
CLCB Sg 05 33 52.2 +0.6
CSLM San Leandro Hi 0.23 189 Pg 05 33 48.4 -0.3
CMOB Morgan Territo 0.26 123 Pb 05 33 49.0 -1.2
CPMM Point Molate 0.26 270 Pg 05 33 49.1 -0.2
CYBM Yerba Buena Is 0.27 239 Pg 05 33 49.0 -0.3
SFR San Francisco- 0.30 237 Pg 05 33 49.9 0.0
HMR Hamilton Ranch 0.30 47 Pb 05 33 50.6 -0.2
TWIT Twitchell Isla 0.34 65 Pb 05 33 51.6 +0.1
NGVM 0.35 341 Pb 05 33 51.2 -0.5
CNIC Niles Canyon 0.35 166 Pg 05 33 50.6 -0.3
JPRM Presidio of Sa 0.35 244 Pg 05 33 50.7 -0.1
JEPS Jepson Natural 0.36 32 Pb 05 33 52.1 +0.1
CBSNC Byron Hot Spri 0.37 111 Pb 05 33 51.1 -0.8
JSBM San Bruno Moun 0.37 223 Pg 05 33 50.7 -0.5
CVLM Vallecito 0.37 150 Pb 05 33 51.4 -0.7
SNT Sears Point 0.38 308 Pb 05 33 51.6 -0.6
CBZL Buffer Zone 0.38 132 Pb 05 33 51.7 -0.5
CYD1 Coyote D'meter 0.39 183 Pg 05 33 50.9 -0.6
CSAM Sandia 0.40 133 Pb 05 33 52.1 -0.5
JCPM Coyote Point 0.41 209 Pg 05 33 51.5 -0.4
WENL Wente Vineyard 0.41 142 Pb 05 33 52.0 -0.8
JMGM Milagra Ridge 0.45 226 Pg 05 33 52.1 -0.4
SAC San Andreas 0.46 217 Pg 05 33 52.3 -0.5
JCHM Cahill Ridge 0.49 209 Pg 05 33 53.0 -0.5
CVS Carmenet Viney 0.50 323 Pb 05 33 53.1 -1.1
NAPC Atlas Peak 0.51 344 Pb 05 33 53.6 -0.8
NADM Allendale 0.52 9 Pb 05 33 54.5 0.0
QRDG Quail Ridge Na 0.53 354 Pb 05 33 54.4 -0.4
CALM Calaveras Res. 0.54 156 Pg 05 33 53.8 -0.5
OAKV Oakville Exper 0.55 331 Pb 05 33 54.2 -0.9
JSFB Stanford Teles 0.55 188 Pg 05 33 54.1 -0.4
CSTL Corral Hollow 0.55 124 Pb 05 33 54.4 -0.8
CSTL Corral Hollow 0.55 124 Pg 05 33 54.1 -0.4
JRSC Jasper Ridge 0.56 194 Pg 05 33 54.0 -0.7
JRSC IAML 05 34 04.3
comp=E,23µm,0.3s
JRSC IAML 05 34 06.4
comp=N,15µm,0.6s
NOLM Olema 0.57 279 Pg 05 33 54.6 -0.4
CMLM Mount Lewis 0.58 144 Pb 05 33 55.0 -0.7
JFP Foothills Park 0.60 189 Pg 05 33 54.8 -0.5
JSJM St Joseph 0.61 181 Pg 05 33 55.4 -0.3
RUSS Russell Ranch 0.62 15 Pb 05 33 56.1 -0.2
JBMM Black Mountain 0.63 186 Pg 05 33 55.5 -0.6
NTYM Taylor 0.64 314 Pb 05 33 55.8 -0.8
BGH Bear Gulch 0.64 199 Pg 05 33 56.0 -0.2
MCCM Marconi Confer 0.67 287 Pg 05 33 56.2 -0.5
CMMM Mount Mocho 0.68 137 Pg 05 33 56.1 -0.7
SCCB Santa Clara Co 0.68 166 Pg 05 33 56.6 -0.4
MHC Mount Hamilton 0.70 150 Pg 05 33 56.7 -0.6
MHC IAML 05 34 12.5
comp=E,15µm,0.8s
MHC IAML 05 34 13.0
comp=N,16µm,0.8s
ARN Arnold Ranch 0.74 144 Pg 05 33 56.9 -1.1
MTOS Mt Oso, Westle 0.74 127 Pg 05 33 56.7 -1.3
JJOM Saint Joseph's 0.75 174 Pg 05 33 57.6 -0.6
NPRM Point Reyes 0.75 274 Pg 05 33 57.3 -0.9
CCOB Coe Ranch Numb 0.76 155 Pg 05 33 57.7 -0.7
FARB Farallon Islan 0.78 251 Pg 05 33 58.2 -0.6
JPSM 0.78 196 Pg 05 33 57.8 -1.0
JBNB Ben Lomond Mou 0.83 185 Pg 05 33 58.6 -1.2
JLAB Laurel Hill 0.84 161 Pg 05 33 59.2 -0.7
CADM Anderson Res. 0.86 155 Pg 05 33 59.7 -0.6
NMTM Middletown 0.90 341 Pg 05 33 59.6 -1.5
GAXM Alexander Vall 0.93 325 Pg 05 34 00.1 -1.6
MNRC McLaughlin Min 0.97 343 Pg 05 34 01.1 -1.4
MNRC IAML 05 34 31.2
comp=N,15µm,1.4s
HLPM Lions Peak 0.97 159 Pg 05 34 01.0 -1.4
GBGM Boggs Mountain 0.98 331 Pg 05 34 01.3 -1.4
GHS Gilroy Hot Spr 0.99 149 Pg 05 34 00.9 -1.9
GDXM Geysers 1.03 327 Pb 05 34 01.7 -1.6
GDXM IAML 05 34 18.4
comp=N,10µm,0.5s
GDXM IAML 05 34 23.9
comp=E,11µm,1.0s
FTR Fort Ross 1.03 304 Pb 05 34 01.5 -1.8
CDC Canada Road 1.03 153 Pb 05 34 02.0 -1.4
HCAM Canada Road 1.03 153 Pb 05 34 02.3 -1.1
JELB Ellicott, Sant 1.04 169 Pb 05 34 01.8 -1.6
HCBM Chamberlain 1.07 162 Pb 05 34 02.4 -1.6
GRTM Round Top Moun 1.09 335 Pb 05 34 02.5 -1.9
HPCM Pacheco Lake 1.09 144 Pb 05 34 02.5 -1.8
GCVM Cloverdale 1.10 318 Pb 05 34 03.7 -0.8
HFEM San Felipe 1.10 151 Pb 05 34 02.6 -2.0
SCKWR San Luis Creek 1.11 134 Pb 05 34 03.6 -1.0
SLD San Luis Dam 1.11 142 Pb 05 34 03.3 -1.3
GPMM Pine Mountain 1.13 323 Pb 05 34 03.3 -1.7
WELL Weller Preserv 1.17 65 Pb 05 34 03.7 -2.0
WELL IAML 05 34 22.2
comp=N,7µm,0.7s
WELL IAML 05 34 22.9
comp=E,6µm,0.5s
HTUM Tustin Road 1.17 163 Pn 05 34 03.3 -2.3
HERM Elkhorn Road 1.19 166 Pn 05 34 03.9 -1.9
FORD Fort Ord Natur 1.28 169 Pn 05 34 05.8 -1.3
FRP Fremont Peak 1.28 159 Pn 05 34 04.8 -2.4
SAO San Andreas Ge 1.28 157 Pn 05 34 05.4 -1.8
SUTB Sutter Butte 1.30 10 Pn 05 34 03.9 -3.5
SUTB IAML 05 34 45.8
comp=N,11µm,0.7s
GALB Galbreath Wild 1.30 315 Pn 05 34 05.5 -2.0
HOPS Hopland Field 1.30 323 Pn 05 34 05.7 -1.8
HOPS IAML 05 34 36.6
comp=E,5µm,1.4s
HOPS IAML 05 34 37.6
comp=N,5µm,1.0s
GHGM Hogback Ridge 1.32 334 Pn 05 34 05.7 -2.0
AFDM Forest Hills D 1.32 41 Pn 05 34 06.0 -1.7
GSNM Snow Mountain 1.32 319 Pn 05 34 06.0 -1.8
OSUM Sutter Buttes 1.33 7 Pn 05 34 04.5 -3.3
CMB Columbia Colle 1.34 86 Pn 05 34 06.3 -1.7
CMB IAML 05 34 26.1
comp=N,7µm,0.9s
HMOM Monterey 1.35 175 Pn 05 34 06.0 -2.1
BSRM Salinas Radio 1.35 161 Pn 05 34 05.7 -2.5
GFC Funks Creek 1.39 353 Pn 05 34 06.9 -1.7
SFRE Sierra Foothil 1.43 24 Pn 05 34 06.4 -2.8
BONV Boonville, CA 1.44 316 Pn 05 34 07.5 -1.9
BJOM Mount Johnson 1.45 155 Pn 05 34 07.5 -2.0
SCZ Santa Cruz 1.45 158 Pn 05 34 07.1 -2.4
OHCM Honcut 1.46 18 Pn 05 34 06.6 -3.0
OSTM Stimpson Lane 1.47 15 Pn 05 34 06.6 -3.0
BJCM Johnson Can. 1.50 159 Pn 05 34 07.9 -2.3
BUCR Buckhorn Ranch 1.55 100 Pn 05 34 08.9 -2.0
PAM Palermo 1.56 16 Pn 05 34 08.1 -2.9
BPRM Ponciano Ridge 1.56 170 Pn 05 34 09.2 -1.9
OWYM Wyandotte 1.57 17 Pn 05 34 08.8 -2.4
GWRM Wonder Ranch 1.58 323 Pn 05 34 09.7 -1.7
GHOM Hamilton Openi 1.59 314 Pn 05 34 09.5 -2.0
BBGB Big Mountain B 1.60 149 Pn 05 34 09.8 -1.8
GCK Clark Valley 1.62 350 Pn 05 34 10.3 -1.4
BMSM Mercy Hot Spri 1.65 141 Pn 05 34 10.7 -1.5
BSMM Soledad Missio 1.65 162 Pn 05 34 10.4 -1.9
ORV Oroville 1.66 15 Pn 05 34 09.6 -2.8
BSGM Shirttail Gulc 1.67 157 Pn 05 34 10.6 -1.8
BCWM Chews Ridge 1.69 166 Pn 05 34 11.2 -1.7
LEGD La Grand CA 1.70 115 Pn 05 34 10.9 -2.0
LEGD IAML 05 34 21.0
comp=E,4µm,1.0s
LEGD IAML 05 34 58.8
comp=N,4µm,1.1s
OGOM Van Goodin Ran 1.74 12 Pn 05 34 11.0 -2.4
LRV Little Rabbit 1.74 151 Pn 05 34 12.1 -1.4
DCMP DeCamp, Califo 1.81 327 Pn 05 34 13.3 -1.2
KRKM Rackout Spring 1.83 332 Pn 05 34 13.7 -1.1
YUBA Cisco Grove, Y 1.83 41 Pn 05 34 14.6 -0.4
GTC Three Chop Rid 1.85 322 Pn 05 34 13.5 -1.5
MHDM Hidden Dam 1.92 115 Pn 05 34 14.4 -1.6
MMIM Miami Mountain 1.92 105 Pn 05 34 14.9 -1.2
DONR Donner Summit 1.96 44 Pn 05 34 16.3 -0.4
PCCM Crazy Canyon 2.00 158 Pn 05 34 15.5 -1.5
PMPB Monarch Peak 2.01 149 Pn 05 34 16.3 -0.9
PMPB Monarch Peak 2.01 149 IAML 05 34 57.6
comp=E,5µm,1.2s
HULI Fort Hunter Li 2.04 161 Pn 05 34 16.1 -1.5
HULI IAML 05 34 56.5
comp=N,4µm,1.7s
HULI IAML 05 35 00.8
comp=E,4µm,1.8s
KCPM Cahto Peak 2.10 326 IAML 05 34 39.1
comp=N,2µm,0.7s
KCPM IAML 05 35 10.1
comp=E,2µm,1.4s
KBNM Bluenose Ridge 2.13 336 Pn 05 34 19.4 +0.4
PPTM Peach Tree Val 2.13 149 Pn 05 34 17.7 -1.2
PSAM San Ardo 2.14 153 Pn 05 34 17.7 -1.3
WAKR Walker 2.15 74 Pn 05 34 20.0 +0.7
WAKR IAML 05 34 53.8
comp=E,4µm,0.9s
WAKR IAML 05 35 00.2
comp=N,3µm,0.9s
PSMM Smith Mountain 2.22 147 Pn 05 34 19.0 -1.1
LCMM Colby Mountain 2.23 11 Pn 05 34 18.6 -1.9
WSRE Westside REC, 2.24 135 Pn 05 34 19.1 -1.3
KCC Kaiser Creek 2.27 105 Pn 05 34 20.8 -0.1
PHPM Hope Ranch 2.29 149 Pn 05 34 20.1 -0.9
O02D Mt. Diablo Mer 2.29 346 Pn 05 34 19.6 -1.6
BEKR Beckworth 2.33 34 Pn 05 34 21.6 -0.3
BEKR IAML 05 35 14.9
comp=N,3µm,0.7s
PKD Bear Valley Ra 2.35 148 Pn 05 34 20.4 -1.5
PKD IAML 05 35 15.9
comp=E,2µm,1.3s
PKD IAML 05 35 29.3
comp=N,2µm,1.4s
O03E Paynes Creek 2.35 5 Pn 05 34 20.0 -1.9
O03E IAML 05 35 25.1
comp=E,3µm,0.7s
O03E IAML 05 35 35.5
comp=N,1µm,0.8s
MDPB Devils Postpil 2.39 97 Pn 05 34 22.9 +0.2
MDPB IAML 05 34 56.1
comp=E,3µm,1.0s
MDPB IAML 05 35 10.4
comp=N,3µm,0.8s
MLCM Laurel Creek C 2.52 97 Pn 05 34 25.8 +1.3
PCBM Cambria 2.56 161 Pn 05 34 22.9 -1.9
BRIC Briceland Vine 2.58 327 IAML 05 35 32.7
comp=N,1µm,1.2s
BRIC IAML 05 35 38.8
comp=E,1µm,1.8s
KMRM Mail Ridge 2.60 331 Pn 05 34 25.6 +0.2
KMRM IAML 05 35 07.9
comp=E,1µm,1.3s
PAHR Pah Rah Range 2.74 49 Pn 05 34 26.7 -0.6
PAHR IAML 05 35 20.2
comp=E,2µm,0.8s
PAHR IAML 05 35 21.6
comp=N,1µm,0.7s
LHV Little Huntoon 2.83 83 Pn 05 34 29.2 +0.8
KHBM Hayfork Bally 2.85 342 Pn 05 34 29.4 +0.5
RYN Ryan 2.88 75 Pn 05 34 29.6 +0.3
RYN IAML 05 35 32.5
comp=N,2µm,0.9s
RYN IAML 05 35 40.0
comp=E,2µm,1.0s
HATC Hat Creek Radi 2.90 9 IAML 05 35 59.6
comp=N,2µm,2.3s
NVAR Mina Array Bea 3.01 80 Pn 05 34 31.2 +0.1
NVAR Mina Array Bea 3.01 80 Pn **Pn 05 34 29.7 -1.4**
comp=N,13nm,0.3s,baz=267,slow=16,SNR=300
NVAR Lg Lg 05 35 12.8
comp=N,80nm,0.3s,baz=268,slow=19,SNR=4.5
comp=N,30nm,0.5s
N02D Trinity Center 3.06 351 IAML 05 35 19.4
comp=E,774nm,0.7s
N02D IAML 05 35 49.4
comp=N,709nm,0.8s
NV11 Mina Array Sit 3.12 80 IAML 05 35 31.1
comp=E,1µm,0.9s
NV11 IAML 05 35 39.3
comp=N,766nm,1.4s
TIN Tinemaha, Big 3.19 105 Pn 05 34 35.2 +1.7
VES Vestal, Richgr 3.19 130 Pn 05 34 32.4 -1.0
VES IAML 05 35 52.5
comp=E,1µm,2.0s
VES IAML 05 35 56.9
comp=N,883nm,2.3s
DSP Deep Springs 3.31 99 IAML 05 35 37.4
comp=E,560nm,1.1s
M03C McCloud 3.32 359 IAML 05 36 13.5
comp=N,1µm,1.2s
CWC Cottonwood Cre 3.53 114 IAML 05 35 38.5
comp=E,543nm,1.0s
CWC IAML 05 35 51.2
comp=N,724nm,1.4s
KRPM Rodgers 3.54 335 IAML 05 36 35.7
comp=N,482nm,2.3s
ISA Isabella, Lake 3.68 127 Pn 05 34 39.7 -0.5
ISA IAML 05 35 40.4
comp=E,465nm,0.9s
ISA IAML 05 36 00.9
comp=N,432nm,1.1s
YBH Yreka Blue Hor 3.81 353 Pn **Pn 05 34 43.1 +1.1**
comp=N,0.6nm,0.3s,baz=178,slow=16,SNR=70
YBH Sn **Sb 05 35 31.2 -5.6**
comp=N,0.4nm,0.3s,baz=169,slow=18,SNR=5.4
YBH LR LR 05 36 28.8
comp=N,103nm,18.1s,baz=161,slow=43
TPH Tonopah 3.83 87 IAML 05 36 02.2
comp=E,534nm,1.1s
TPH IAML 05 36 06.3
comp=N,386nm,1.0s
GRAC Grapevine Rang 3.86 103 IAML 05 36 03.1
comp=N,854nm,1.5s
GMN Gold Mountain 3.88 98 IAML 05 35 49.4
comp=N,449nm,0.9s
MPMC Manual Prospec 4.13 116 IAML 05 35 59.5
comp=E,354nm,1.2s
MPMC IAML 05 36 08.7
comp=N,415nm,1.2s
L04D Klamath Falls 4.27 358 IAML 05 36 48.7
comp=E,288nm,2.0s
OSI Osito Audit: C 4.29 140 IAML 05 36 16.9
comp=E,368nm,1.7s
OSI IAML 05 36 22.5
comp=N,286nm,1.1s
LRMC Laurel Mtn Rad 4.30 124 IAML 05 36 11.5
comp=N,328nm,2.2s
LRMC IAML 05 36 20.9
comp=E,323nm,1.7s
TPO Tropico Hills 4.36 133 IAML 05 36 13.5
comp=N,506nm,1.1s
TPO IAML 05 36 17.9
comp=E,504nm,1.2s
WSHM Spangler Hills 4.36 121 IAML 05 36 28.1
comp=E,301nm,1.5s
WCT Wildcat Mounta 4.49 103 IAML 05 36 25.8
comp=E,309nm,1.5s
WCT IAML 05 36 25.9
comp=N,291nm,1.2s
QSM Queen of Sheba 4.62 114 IAML 05 36 35.3
comp=N,402nm,1.2s
QSM IAML 05 36 35.5
comp=E,273nm,1.4s
GWY Greenwater Val 4.67 111 IAML 05 36 16.4
comp=N,351nm,1.4s
GWY IAML 05 36 41.4
comp=E,410nm,1.4s
TPNV Topopah Spring 4.74 100 IAML 05 36 24.2
comp=E,380nm,1.7s
TPNV IAML 05 36 25.4
comp=E,453nm,1.3s
K05A Summer Lake 4.86 10 IAML 05 36 41.8
comp=N,270nm,2.1s
K05A IAML 05 37 04.7
comp=E,234nm,1.6s
MWC Mount Wilson 4.94 138 IAML 05 36 36.6
comp=N,158nm,1.2s
MWC IAML 05 36 44.0
comp=E,203nm,1.8s
GSC Goldstone, Bar 4.99 120 Pn 05 34 58.1 -0.2
GSC IAML 05 36 31.8
comp=N,389nm,1.9s
GSC IAML 05 36 46.9
comp=E,272nm,1.4s
WVOR Wild Horse Val 5.19 29 IAML 05 36 48.1
comp=E,180nm,2.2s
WVOR IAML 05 36 54.3
comp=E,215nm,1.2s
J05D Fort Rock, OR 5.37 7 IAML 05 36 58.3
comp=E,188nm,1.5s
J05D IAML 05 37 40.1
comp=N,162nm,2.1s
ELK Elko 5.99 60 Pn **Pn 05 35 11.2 -0.9**
comp=N,2.0nm,0.3s,baz=247,slow=14,SNR=42
ELK Lg Lg 05 36 48.6
comp=N,5.8nm,0.3s,baz=204,slow=18,SNR=6.1
ELK LR LR 05 37 39.4
comp=N,751nm,18.3s,baz=243,slow=40
comp=N,6.9nm,0.4s
PFO Pinyon Flats O 6.29 132 Pn **Pn 05 35 15.2 -0.9**
comp=N,4.2nm,0.3s,baz=317,slow=14,SNR=48
PFO Sn **Sn 05 36 26.0 -1.8**
baz=319,slow=20
PFO Lg Lg 05 36 56.2
comp=N,1.2nm,0.3s,baz=277,slow=16,SNR=1.3
PFO LR LR 05 38 05.6
comp=N,2µm,18.9s,baz=314,slow=43
comp=N,8.7nm,0.3s
PDAR Pinedale Array 10.69 59 Pn **Pn 05 36 20.0 +3.4**
comp=N,0.1nm,0.3s,baz=256,slow=13,SNR=17
PDAR Sn **Sn 05 38 17.6 +1.5**
baz=244,slow=18,SNR=1.2
PDAR Lg Lg 05 39 18.0
baz=236,slow=30,SNR=2.3
PDAR LR LR 05 40 11.1
comp=N,184nm,19.1s,baz=238,slow=37
comp=N,3.9nm,1.1s
ANMO Albuquerque 12.93 99 Pn **Pn 05 36 45.6 -1.6**
comp=N,0.1nm,0.3s,baz=350,slow=17,SNR=5.2
ANMO Lg Lg 05 40 25.2
baz=261,slow=13
ANMO LR LR 05 42 07.6
comp=N,575nm,21.1s,baz=18,slow=40
BBB Bella Bella 14.85 345 LR LR 05 42 52.3
comp=N,359nm,18.8s,baz=227,slow=37
MNTX Cornudas Mount 15.05 109 IAmb IAmb 05 37 26.1
comp=Z,27nm,1.1s
KSCO Kaye Shedlock' 15.27 80 Pn **Pn 05 37 17.5 -1.4**
KSCO IAmb IAmb 05 37 29.4
comp=Z,35nm,0.9s
MSTX Muleshoe 16.12 98 P **P 05 37 32.5 -0.7**
PECS Pecos 16.34 108 IAmb IAmb 05 37 41.5
comp=Z,51nm,1.3s
AMTX Amarillo 16.70 94 IAmb IAmb 05 37 44.3
comp=Z,45nm,1.2s
DGMT Dagmar 16.70 45 P **Pn 05 37 37.1 -0.2**
DGMT IAmb IAmb 05 37 42.0
comp=Z,44nm,1.2s
LPIG La Paz 17.07 141 LR LR 05 44 15.3
comp=Z,354nm,18.4s,baz=329,slow=37
CBKS Cedar Bluff 17.53 80 IAmb IAmb 05 37 54.5
comp=Z,38nm,1.1s
TX31 Lajitas Ar. Si 17.55 114 IAmb IAmb 05 37 53.8
comp=Z,76nm,1.1s
TXAR Lajitas Array 17.55 114 P **P 05 37 50.6 +1.5**
TXAR Lajitas Array 17.55 114 P **P 05 37 49.2 +0.2**
comp=Z,55nm,1.1s,baz=303,slow=9.1,SNR=113
TXAR LR LR 05 44 42.9
comp=Z,50nm,19.1s,baz=285,slow=38
E28A Huff 17.98 55 IAmb IAmb 05 37 56.6
comp=Z,76nm,1.0s
ABTX Abilene, Hawle 19.05 99 IAmb IAmb 05 38 10.4
comp=Z,38nm,1.1s
DRIO Del Rio 19.74 109 IAmb IAmb 05 38 18.6
comp=Z,35nm,1.1s
BRDY Brady 20.09 102 P Pn 05 38 18.2 -0.6
BRDY IAmb IAmb 05 38 23.7
comp=Z,22nm,0.8s
LOOK Love County 20.51 94 IAmb IAmb 05 38 30.0
comp=Z,29nm,1.1s
FW06 Azle 20.56 97 IAmb IAmb 05 38 25.0
comp=Z,66nm,1.2s
F33A 5 Mile Ranch, 20.68 59 IAmb IAmb 05 38 39.0
comp=Z,20nm,1.0s
HNDO Hondo 20.70 107 IAmb IAmb 05 38 29.9
comp=Z,56nm,1.2s
DLBC Dease Lake 21.15 348 P **P 05 38 29.7 +1.6**
comp=Z,45nm,1.1s,baz=162,slow=9.6,SNR=4.0
DLBC LR LR 05 47 56.1
comp=Z,4µm,18.9s,baz=143,slow=40
comp=Z,45nm,1.1s
435B Jarrell 21.41 102 P **P 05 38 32.5 +1.5**
FFC Flin Flon 21.64 33 P **P 05 38 32.1 -1.3**
FFC IAmb IAmb 05 38 37.6
comp=Z,19nm,0.9s
ULM Lac du Bonnet 22.34 48 P **P 05 38 40.3 -0.7**
comp=Z,2.9nm,0.6s,baz=281,slow=5.2,SNR=1.8
ULM LR LR 05 47 47.2
comp=Z,508nm,18.9s,baz=243,slow=38
comp=Z,2.9nm,0.6s
MIAR Mount Ida 23.19 90 IAmb IAmb 05 38 53.7
comp=Z,30nm,1.4s
P40A Paris 23.43 77 P **P 05 38 51.8 -0.5**
P40A IAmb IAmb 05 39 02.9
comp=Z,12nm,0.9s
L40A Anamosa 23.92 70 P **P 05 38 56.4 -0.7**
L40A IAmb IAmb 05 39 02.2
comp=Z,25nm,0.9s
WHAR Wooly Hollow 24.01 87 IAmb IAmb 05 39 20.9
comp=Z,26nm,1.3s
YKA Yellowknife Ar 25.00 8 P **P 05 39 09.0 +2.3**
comp=Z,1.9nm,0.6s,baz=190,slow=14,SNR=3.5
YKA LR LR 05 49 28.9
comp=Z,238nm,18.0s,baz=182,slow=38
comp=Z,1.9nm,0.6s
L42A Oliver, Polo 25.08 70 P **P 05 39 07.3 -0.3**
P43A Skaggs, Pawnee 25.36 76 IAmb IAmb 05 39 35.9
comp=Z,17nm,0.9s
KDAK Kodiak Island 28.12 325 LR LR 05 47 48.4
comp=Z,336nm,21.0s,baz=98,slow=30
ILAR Eielson Array 30.59 339 P **P 05 39 58.7 +2.0**
comp=Z,1.0nm,0.5s,baz=137,slow=9.6,SNR=28
ILAR LR LR 05 50 43.7
comp=Z,248nm,20.6s,baz=128,slow=33
comp=Z,1.0nm,0.5s
TKL Tuckaleechee C 30.61 82 LR LR 05 53 13.8
comp=Z,356nm,18.0s,baz=284,slow=38
INK Inuvik 31.07 352 LR LR 05 54 29.7
comp=Z,494nm,18.9s,baz=185,slow=40
CMIG Matias Romero 31.64 124 LR LR 05 53 57.8
comp=Z,521nm,18.6s,baz=289,slow=39
SADO Sadowa 32.64 64 LR LR 05 52 56.4
comp=Z,1µm,18.1s,baz=299,slow=36
RES Resolute Bay 38.99 11 LR LR 05 57 42.1
comp=Z,211nm,21.3s,baz=230,slow=37
SCHQ Schefferville 40.51 47 P **P 05 41 23.0 +1.0**
comp=Z,38nm,0.9s,baz=275,slow=15,SNR=5.2
SCHQ LR LR 05 58 25.4
comp=Z,4µm,18.1s,baz=267,slow=37
FRB Frobisher Bay 40.76 33 LR LR 05 57 20.9
comp=Z,136nm,19.6s,baz=274,slow=35
JTS Las Juntas de 43.20 120 LR LR 05 59 46.0
comp=Z,152nm,19.6s,baz=306,slow=36
SFJD Kangerlussuaq 48.55 30 LR LR 06 03 46.9
comp=Z,284nm,19.6s,baz=262,slow=37
SJG San Juan 52.38 96 LR LR 06 08 32.8
comp=Z,74nm,18.4s,baz=296,slow=40
SUMG Summit 52.38 22 *i* P **P 05 42 56.0 +0.7**
ROSC El Rosal 54.48 115 P **P 05 43 13.1 +1.6**
comp=Z,1.5nm,0.4s,baz=323,slow=20,SNR=1.4
ROSC LR LR 06 10 12.0
comp=Z,105nm,18.7s,baz=51,slow=40
comp=Z,1.5nm,0.4s
SDV Santo Domingo 54.49 108 LR LR 06 09 04.2
comp=Z,65nm,19.8s,baz=286,slow=39
SEY Seymchan 55.06 326 LR LR 06 04 41.9
comp=Z,136nm,19.2s,baz=102,slow=34
DAG Danmarks Havn 56.38 16 *i* P **P 05 43 22.0 -1.9**
MA2 Magadan 56.83 323 LR LR 06 06 15.8
comp=Z,82nm,18.4s,baz=96,slow=34
BORG Borgarnes 60.66 29 LR LR 06 09 51.9
comp=Z,233nm,20.9s,baz=306,slow=36
SPITS Spitsbergen Ar 61.49 9 LR LR 06 10 49.4
comp=Z,230nm,19.1s,baz=320,slow=36
RPN Rapa Nui 65.83 168 LR LR 06 07 01.2
comp=Z,23nm,18.3s,baz=168,slow=30
ARCES ARCESS Array B 70.21 12 P **P 05 44 55.5 -0.1**
comp=Z,1.7nm,0.8s,baz=345,slow=6.8,SNR=3.9
ARCES LR LR 06 16 39.8
comp=Z,104nm,19.6s,baz=330,slow=37
comp=Z,1.7nm,0.8s
MDP Montagnes des 70.69 99 LR LR 06 20 50.8
comp=Z,39nm,18.4s,baz=254,slow=40
LPAZ La Paz 73.97 126 P **P 05 45 20.2 +0.6**
comp=Z,2.4nm,0.8s,baz=307,slow=4.2,SNR=7.4
LPAZ LR LR 06 16 29.1
comp=Z,52nm,19.4s,baz=322,slow=35
comp=Z,2.4nm,0.8s
NOA NORSAR Array B 74.27 22 P **P 05 45 21.2 +1.2**
comp=Z,0.8nm,0.7s,baz=319,slow=6.1,SNR=3.0
NOA LR LR 06 18 06.5

comp=Z,90nm,21.4s,baz=345,slow=36
comp=Z,0.8nm,0.7s
MJAR Matsushiro Arr 75.19 305 LR LR 06 12 28.9
comp=Z,44nm,20.4s,baz=70,slow=31
HFS Hagfors 75.72 21 LR LR 06 21 22.8
comp=Z,117nm,18.1s,baz=325,slow=38
FINES FINESS Array B 77.62 15 P **P 05 45 39.6 +0.5**
comp=Z,1.6nm,0.6s,baz=335,slow=5.3,SNR=6.0
FINES LR LR 06 21 28.5
comp=Z,102nm,18.1s,baz=352,slow=37
comp=Z,1.6nm,0.6s
JCJ Chichijima 78.06 295 LR LR 06 14 44.2
comp=Z,30nm,20.3s,baz=94,slow=32
SIV San Ignacio 78.41 121 LR LR 06 20 46.0
comp=Z,77nm,21.6s,baz=306,slow=36
JNU Nakatsue 82.03 306 LR LR 06 22 17.9
comp=Z,38nm,18.0s,baz=49,slow=36
GUMO Guam 84.15 283 LR LR 06 18 47.5
comp=Z,18nm,18.8s,baz=80,slow=32
ESDC Sonseca Array 84.15 43 P **P 05 46 16.1 +1.6**
comp=Z,1.3nm,1.0s,baz=316,slow=7.3,SNR=4.1
ESDC LR LR 06 21 47.6
comp=Z,83nm,18.0s,baz=307,slow=34
comp=Z,1.3nm,1.0s
GERES GERESS Array B 85.09 28 P **P 05 46 19.4 +0.3**
comp=Z,0.5nm,0.6s,baz=322,slow=12,SNR=3.5
GERES LR LR 06 26 27.5
comp=Z,71nm,21.6s,baz=311,slow=37
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 85.57 344 P **P 05 46 23.7 +2.4**
comp=Z,0.9nm,0.3s,baz=19,slow=6.1,SNR=3.9
ZALV LR LR 06 27 55.4
comp=Z,37nm,18.8s,baz=22,slow=38
comp=Z,0.9nm,0.3s
VRAC Vranov 85.73 26 LR LR 06 26 42.9
comp=Z,97nm,18.8s,baz=330,slow=37
ARTI Arti 86.03 360 LR LR 06 28 56.4
comp=Z,82nm,20.3s,baz=2.5,slow=38
HHC Hu-ho-hao-te 87.51 322 *eP* **P 05 46 29.9 -1.3**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.1s
CPUP Villa Florida 88.14 126 LR LR 06 25 39.7
comp=Z,8.5nm,19.8s,baz=208,slow=35
AKASG Malin Array Be 88.19 18 P **P 05 46 33.8 -0.2**
comp=Z,0.2nm,0.2s,baz=330,slow=3.8,SNR=1.9
comp=Z,0.2nm,0.2s
MDT Midelt 88.67 48 LR LR 06 25 26.1
comp=Z,37nm,18.7s,baz=318,slow=35
KURBB Kurchatov Arra 89.96 347 P **P 05 46 43.2 +0.9**
comp=Z,2.3nm,0.8s,baz=17,slow=4.8,SNR=13
KURBB LR LR 06 34 39.2
comp=Z,35nm,18.2s,baz=166,slow=41
comp=Z,2.3nm,0.8s
NJ2 Nanjing 90.16 312 *eP* **P 05 46 42.3 -1.3**
NJ2 pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 91.39 143 LR LR 06 20 45.8
comp=Z,46nm,20.3s,baz=224,slow=31
AKTO Aktyubinsk 91.99 360 LR LR 06 32 39.8
comp=Z,105nm,19.0s,baz=46,slow=38
MKAR Makanchi Array 92.86 344 P **P 05 46 58.1 +2.2**
comp=Z,0.5nm,0.6s,baz=16,slow=8.1,SNR=2.5
comp=Z,0.5nm,0.6s
URZ Urewera 94.25 224 LR LR 06 22 46.6
comp=Z,43nm,20.0s,baz=18,slow=31
WMQ Urumqi 94.25 339 *eP* **P 05 47 01.5 -1.0**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=Z,72nm,19.3s
KBZ Khabaz 97.57 11 LR LR 06 35 16.8
comp=Z,71nm,18.1s,baz=355,slow=38
AAK Ala-Archa 98.39 348 LR LR 06 37 46.7
comp=Z,37nm,19.1s,baz=13,slow=39
QSPA South Pole Qui 127.77 180 PKP **PKiKP 05 52 50.3 +2.0**
comp=Z,0.7nm,0.7s,baz=90,slow=1.0,SNR=8.8
MAW Mawson 150.16 184 PKPbc **PKiKP 05 53 34.1 +0.4**
comp=Z,2.7nm,0.9s,baz=152,slow=1.6,SNR=7.7

*IDC **15** 05:35:49.4±1.0,4.°42S×101.°20E,h0km,mb4.1/15,*
mbtmp4.1/16,ML4.0/1,MS3.1/2,Error ellipse:
s-maj=36.6km s-min=14.7km az=59.0
*NEIC **15** 05:35:51.8±0.6,4.°5S±0.°1×101.°14E±0.°10,h10km±1km,*
mb4.3/13,Error ellipse: s-maj=25.1km s-min=10.1km
az=214.0
*DJA **15** 05:35:52.4±1.5,5.°S±4.°×10.°1E±.°,h17km±15km,M4.4/16,*
mB5.9/1,mb4.4/4,MLv4.4/16,Mw(mB)5.5/1
ISC 15 05:35:53.9±0.7,**4.°44S**±0.°08×**101.°19E**±0.°06,**h29**km,**n63,**
σ0**86**/52,**mb4.3**/21,**1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.60**	**61**	P	**Pn**	**05 36 20.9**	**+0.5**
KSI				S	**Sn**	**05 36 42.2**	**+2.1**
MASI	**Maura Aman, Be**	**1.66**	**39**	P	**Pn**	**05 36 21.5**	**+0.3**
MNAI	**Manna**	**1.76**	**87**		**Pn**	**05 36 23.2**	**+0.8**
MNAI	**Manna**	**1.76**	**87**	P	**Pn**	**05 36 23.4**	**+0.9**
MNAI				S	**Sn**	**05 36 45.6**	**+1.6**
PPSI	**Pulau Pagai**	**2.04**	**325**	P	**Pn**	**05 36 27.7**	**+1.3**
KRJI	**Kerinci**	**2.35**	**7**	P	**Pn**	**05 36 31.2**	**+0.5**
LHSI	**Lahat**	**2.41**	**75**	P	**Pn**	**05 36 32.0**	**+0.7**
LWLI	**Liwa**	**2.91**	**101**	P	**Pn**	**05 36 38.2**	**-0.2**
MDSI	**Maura Dua**	**2.98**	**91**	P	**Pn**	**05 36 39.5**	**+0.3**
KASI	**Kota Agung**	**3.46**	**108**	P	**Pn**	**05 36 45.6**	**-0.3**
PDSI	**Padang**	**3.58**	**348**	P	**Pn**	**05 36 47.7**	**+0.1**
PPI	**Padang Panjang**	**4.04**	**349**	P	**Pn**	**05 36 54.3**	**+0.5**
CGJI	**Cibinong**	**4.97**	**116**	P	**Pn**	**05 37 05.1**	**-1.6**
PBSI	**Pulau Batu**	**5.24**	**326**	P	**Pn**	**05 37 11.7**	**+1.3**
	0.6nm157nm,1.4s						
GSI	**Gunungsitoli**	**6.76**	**328**		**Pn**	**05 37 29.9**	**-1.3**
GSI	**Gunungsitoli**	**6.76**	**328**	P	**Pn**	**05 37 31.4**	**+0.2**
	8μm28nm,0.6s						
LEM	**Lembang**	**6.82**	**111**	LR	LR	05 40 29.6	
	comp=Z,195nm,20.0s,baz=167,slow=41						
RPSI	**Rantau Prapat**	**7.45**	**342**		**Pn**	**05 37 40.8**	**+0.1**
PSI	**Prapat**	**7.54**	**342**	Pn	**Pn**	**05 37 40.8**	**-1.4**
	2.2nm,0.3s,baz=159,slow=15,SNR=4.3						
	6.8nm,0.4s						
TOLI2	**Tolitoli**	**20.34**	**75**	P	**P**	**05 40 26.3**	**-1.8**
TOLI2				IAmb	IAmb	05 40 32.3	
	comp=Z,9.9nm,0.7s						
CM31	**Chiang Mai Arr**	**22.86**	**354**	P	**P**	**05 40 55.4**	**+0.2**
CM31				IAmb	IAmb	05 40 57.3	
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.86**	**354**	P	**P**	**05 40 54.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**22.86**	**354**	P	**P**	**05 40 55.0**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=170,slow=9.3,SNR=29						
CMAR				LR	LR	05 51 12.1	
	comp=Z,40nm,19.7s,baz=195,slow=40						
	comp=Z,4.2nm,0.7s						
CHTO	**Chiang Mai**	**23.22**	**355**	P	**P**	**05 40 57.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**27.50**	**121**	P	**P**	**05 41 37.8**	**-0.2**
H08S2	**Diego Garcia H**	**28.71**	**262**	T	T	06 11 47.6	
	baz=85,slow=75,SNR=1169						
H08S3	**Diego Garcia H**	**28.72**	**262**	T	T	06 11 48.6	
	baz=85,slow=75,SNR=1604						
H08S1	**Diego Carcia H**	**28.73**	**262**	T	T	06 11 49.1	
	baz=85,slow=75,SNR=643						
H01W3	**Cape Leeuwin H**	**32.58**	**160**	T	T	06 16 40.3	
	baz=337,slow=76,SNR=431						
H01W2	**Cape Leeuwin H**	**32.59**	**160**	T	T	06 16 41.3	
	baz=337,slow=76,SNR=522						
H01W1	**Cape Leeuwin H**	**32.59**	**160**	T	T	06 16 41.4	
	baz=337,slow=76,SNR=348						
EVN	**Everest**	**35.07**	**338**	P	**P**	**05 42 45.7**	**+0.5**
EVN				IAmb	IAmb	05 42 49.4	
	comp=Z,4.7nm,1.0s						
WB0	**Warramunga Arr**	**35.75**	**118**	P	**P**	**05 42 50.5**	**-0.1**
WB0				IAmb	IAmb	05 42 51.3	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**35.76**	**118**	P	**P**	**05 42 50.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=292,slow=8.6,SNR=9.6						
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**35.77**	**118**	P	**P**	**05 42 50.5**	**-0.2**
WRAB				IAmb	IAmb	05 43 17.7	
	comp=Z,4.6nm,0.7s						
WR8	**Warramunga Arr**	**35.91**	**118**	P	**P**	**05 42 51.8**	**-0.2**
ASAR	**Alice Springs**	**36.88**	**124**	P	**P**	**05 42 60.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=299,slow=8.6,SNR=12						
	comp=Z,0.4nm,0.4s						
STKA	**Stephens Creek**	**46.66**	**131**	P	**P**	**05 44 20.8**	**+0.7**
STKA	**Stephens Creek**	**46.66**	**131**	P	**P**	**05 44 19.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=306,slow=9.8,SNR=1.6						
	comp=Z,0.5nm,0.4s						
KSRS	**Korea Array**	**48.54**	**29**	P	**P**	**05 44 33.8**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=226,slow=7.3,SNR=2.9						
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**52.26**	**4**	P	**P**	**05 45 03.6**	**+0.9**
SONM				IAmb	IAmb	05 45 04.5	
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**52.26**	**4**	P	**P**	**05 45 02.9**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=186,slow=9.1,SNR=22						
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**52.75**	**335**	P	**P**	**05 45 04.4**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=119,slow=10,SNR=1.9						
	comp=Z,0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**53.45**	**37**	P	**P**	**05 45 09.9**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=210,slow=7.3,SNR=4.6						
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**53.69**	**344**	P	**P**	**05 45 13.3**	**+0.2**
MKAR	**Makanchi Array**	**53.69**	**344**	P	**P**	**05 45 13.1**	**0.0**
	comp=Z,2.8nm,0.7s,baz=156,slow=8.4,SNR=20						
	comp=Z,2.8nm,0.7s						
BNX	**BinXian**	**55.15**	**22**	⇓P	**P**	**05 45 23.9**	**+0.2**
BNX				pmax	pmax		
	comp=Z,13nm,1.1s						
USRK	**Ussuriysk Ar.**	**55.77**	**26**	P	**P**	**05 45 28.4**	**+0.2**
	comp=Z,5.8nm,0.7s,baz=214,slow=5.3,SNR=6.1						
	comp=Z,5.8nm,0.7s						
KURBB	**Kurchatov Arra**	**58.22**	**343**	P	**P**	**05 45 45.4**	**0.0**
	comp=Z,1.7nm,0.8s,baz=159,slow=6.7,SNR=12						
	comp=Z,1.7nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.58**	**218**	T	T	06 50 28.3	
	baz=61,slow=75,SNR=6197						
H04N1	**CROZET ISLANDS**	**59.59**	**218**	T	T	06 50 28.7	
	baz=61,slow=75,SNR=6532						
H04N3	**CROZET ISLANDS**	**59.59**	**218**	T	T	06 50 27.3	
	baz=61,slow=75,SNR=4621						
ZALV	**Zalesovo Beam**	**59.78**	**349**	P	**P**	**05 45 54.9**	**-1.2**
	comp=Z,2.7nm,0.4s,baz=161,slow=4.7,SNR=9.6						
	comp=Z,2.7nm,0.4s						
H04S1	**CROZET ISLANDS**	**59.84**	**217**	T	T	06 50 46.3	
	baz=60,slow=76,SNR=965						
H04S3	**CROZET ISLANDS**	**59.85**	**217**	T	T	06 50 44.2	
	baz=60,slow=76,SNR=1933						
H04S2	**CROZET ISLANDS**	**59.85**	**217**	T	T	06 50 49.1	
	baz=60,slow=76,SNR=953						
AB31	**Akbulak array**	**64.34**	**331**	P	**P**	**05 46 27.0**	**+0.1**
AB31				IAmb	IAmb	05 46 27.6	
	comp=Z,2.9nm,0.9s						
ABKAR	**Akbulak array**	**64.34**	**331**	P	**P**	**05 46 27.1**	**+0.2**
KBZ	**Khabaz**	**70.92**	**319**	P	**P**	**05 47 08.7**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=117,slow=2.3,SNR=4.0						
	comp=Z,1.4nm,0.7s						
VNDA	**Vanda**	**79.55**	**169**	P	**P**	**05 47 58.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=243,slow=6.8,SNR=2.6						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**89.16**	**340**	P	**P**	**05 48 46.0**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=90,slow=2.7,SNR=1.9						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**130.69**	**41**	PKP	**PKPdf**	**05 55 03.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=297,slow=5.7,SNR=1.8						
TXAR	**Lajitas Array**	**145.84**	**41**	PKPbc	**PKPdf**	**05 55 31.8**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=312,slow=3.1,SNR=32						

*MDD **15** 05:50:36.5±0.7,38.°16N×13.°95W,h1km,Mb4.7/24,*
M_mb4.2/24,Error ellipse: s-maj=5.2km s-min=4.3km
az=70.0
*IGIL **15** 05:50:37.5,37.°98N×14.°26W,h31km,ML3.3*
*INMG **15** 05:50:39.6±1.5,38.°00N×14.°26W,h33km±19km,ML3.2,*
Error ellipse: s-maj=6.7km s-min=5.6km az=63.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: Josephine
*CNRM **15** 05:50:46.3,37.°53N×13.°34W,h71km,ML3.7*
ISC 15 05:50:35.1±2.2,**37.°96N**±0.°05×**13.°8W**±0.°1,**h10**km,**n105,**
σ2**99**/174,**16C,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.69**	**73**	S	**Sn**	**05 52 16.6**	**+0.8**
PMAFR				P	**Pn**	**05 51 35.5**	**+3.2**
PMAFR	**Mafra**	**3.69**	**73**	*eP*	**Pn**	**05 51 35.6**	**+3.4**
PMAFR				*eS*	**Sn**	**05 52 17.7**	**+1.8**
PMAFR				*i* IAML		05 52 19.5	
PMAFR				*i* IAML		05 52 20.7	
PMAFR				*i* IAML		05 52 21.5	
LIS	**Lisbon**	**3.75**	**77**	*eP*	**Pn**	**05 51 35.8**	**+2.9**
LIS				*eS*	**Sn**	**05 52 18.2**	**+1.1**
LIS				IAML		05 52 26.9	
	comp=N,145nm,0.3s						
LIS	**Lisbon**	**3.75**	**77**	*eP*	**Pn**	**05 51 36.3**	**+3.4**
LIS				*eS*	**Sn**	**05 52 19.1**	**+2.1**
PARRA	**Arraiolos**	**3.85**	**76**	*eP*	**Pg**	**05 51 47.9**	**-0.9**
PARRA				*eS*	**Sg**	**05 52 39.1**	**+0.5**
PARRA				*i* IAML		05 52 41.3	
PARRA				*i* IAML		05 52 43.4	
PARRA				*i* IAML		05 52 43.4	
PFVI	**Vila Bisbo**	**4.05**	**100**	S	**Sn**	**05 52 24.7**	**+0.1**
PFVI				P	**Pn**	**05 51 40.1**	**+3.0**
PFVI	**Vila Bisbo**	**4.05**	**100**	*eP*	**Pn**	**05 51 40.1**	**+3.0**
PFVI				*eS*	**Sn**	**05 52 25.0**	**+0.5**
PFVI				*i* IAML		05 52 26.9	
PFVI				*i* IAML		05 52 28.3	
PFVI				*i* IAML		05 52 28.7	
PFVI	**Vila Bisbo**	**4.05**	**100**	S	**Sn**	**05 52 22.3**	**-2.2**
PTEO	**Sao Teotonio**	**4.06**	**94**	*eP*	**Pn**	**05 51 40.5**	**+3.3**
PTEO				*eS*	**Sn**	**05 52 25.6**	**+0.9**
PTEO				*i* IAML		05 52 26.9	
PTEO				*i* IAML		05 52 29.3	
PTEO				*i* IAML		05 52 29.6	
MORF	**Marmelete**	**4.15**	**97**	*eP*	**Pn**	**05 51 41.4**	**+2.9**
MORF				*eS*	**Sn**	**05 52 27.7**	**+0.6**
MORF				IAML		05 52 32.5	
	comp=N,46nm,0.2s						
MORF	**Marmelete**	**4.15**	**97**	*eP*	**Pn**	**05 51 41.4**	**+2.9**
MORF				*eS*	**Sn**	**05 52 27.8**	**+0.7**
MORF				*i* IAML		05 52 32.7	
MORF				*i* IAML		05 52 33.0	
MORF				*i* IAML		05 52 34.6	
PSBE	**So Bento**	**4.22**	**67**	*eP*	**Pn**	**05 51 42.7**	**+3.2**
PSBE				*eS*	**Sn**	**05 52 29.7**	**+0.9**
PSBE				*i* IAML		05 52 31.8	
PSBE				*i* IAML		05 52 35.5	
PSBE				*i* IAML		05 52 40.2	
MESJ	**Messejana**	**4.43**	**90**	*eP*	**Pn**	**05 51 45.2**	**+2.9**
MESJ				*eS*	**Sn**	**05 52 34.3**	**+0.4**
MESJ				IAML		05 52 38.5	
	comp=N,22nm,0.1s						
MESJ	**Messejana**	**4.43**	**90**	*eP*	**Pn**	**05 51 45.5**	**+3.2**
MESJ				*eS*	**Sn**	**05 52 35.1**	**+1.3**
MESJ				*i* IAML		05 52 36.1	
MESJ				*i* IAML		05 52 37.1	
MESJ				*i* IAML		05 52 39.7	
PMTG	**Montargil**	**4.52**	**74⇑**	*eP*	**Pn**	**05 51 46.4**	**+2.8**
PMTG				*eS*	**Sn**	**05 52 36.6**	**+0.4**
PMTG				*i* IAML		05 52 39.2	
PMTG				*i* IAML		05 52 41.1	
PMTG				*i* IAML		05 52 41.7	
PCVE	**Castro Verde**	**4.59**	**92**	P	**Pn**	**05 51 47.2**	**+2.8**
PCVE				S	**Sn**	**05 52 38.4**	**+0.5**
PCVE	**Castro Verde**	**4.59**	**92**	*eP*	**Pn**	**05 51 47.2**	**+2.8**
PCVE				*eS*	**Sn**	**05 52 38.9**	**+1.1**
PCVE				*i* IAML		05 52 39.6	
PCVE				*i* IAML		05 52 42.9	
PCVE				*i* IAML		05 52 42.9	
EVO	**Evora**	**4.60**	**81**	P	**Pn**	**05 51 47.5**	**+2.8**
EVO				S	**Sn**	**05 52 37.9**	**-0.4**
EVO	**Evora**	**4.60**	**81**	*eP*	**Pn**	**05 51 47.7**	**+3.0**
EVO				*eS*	**Sn**	**05 52 38.0**	**-0.2**
EVO				*i* IAML		05 52 42.4	
EVO				*i* IAML		05 52 43.0	
EVO				*i* IAML		05 52 43.5	
PCAS	**Casmilo, Conde**	**4.64**	**62**	*eP*	**Pn**	**05 51 48.1**	**+2.9**
PCAS				*eS*	**Sn**	**05 52 38.2**	**-0.9**
PCAS				*i* IAML		05 52 40.7	
PCAS				*i* IAML		05 52 41.1	
PCAS				*i* IAML		05 52 41.6	
PBEJ	**Beja**	**4.70**	**87**	*eP*	**Pn**	**05 51 50.2**	**+4.2**
PBEJ				*eS*	**Sn**	**05 52 41.4**	**+0.8**
PBEJ				*i* IAML		05 52 42.2	
PBEJ				*i* IAML		05 52 43.5	
PBEJ				*i* IAML		05 52 44.7	
PSARD	**Sardoal**	**4.71**	**68**	*eP*	**Pn**	**05 51 49.4**	**+3.2**
PSARD				*eS*	**Sn**	**05 52 41.5**	**+0.6**
PSARD				*i* IAML		05 52 43.0	
PSARD				*i* IAML		05 52 43.7	
PSARD				*i* IAML		05 52 44.5	
PBDV	**Barranco-do-Ve**	**4.73**	**97**	P	**Pn**	**05 51 49.5**	**+3.1**
PBDV				S	**Sn**	**05 52 43.1**	**+1.7**
PBDV	**Barranco-do-Ve**	**4.73**	**97**	*eP*	**Pn**	**05 51 49.9**	**+3.5**
PBDV				*eS*	**Sn**	**05 52 42.2**	**+0.9**
PBDV				*i* IAML		05 52 45.1	
PBDV				*i* IAML		05 52 49.0	
PBDV				*i* IAML		05 52 49.1	
PVAQ	**Vaqueiros**	**4.87**	**95**	*eP*	**Pn**	**05 51 52.2**	**+3.8**
PVAQ				*eS*	**Sn**	**05 52 45.2**	**+0.5**
PVAQ				*i* IAML		05 52 49.1	
PVAQ				*i* IAML		05 52 49.7	
PVAQ				*i* IAML		05 52 50.9	
PVAQ	**Vaqueiros**	**4.87**	**95**	P	**Pn**	**05 51 52.2**	**+3.8**
PVAQ	**Vaqueiros**	**4.87**	**95**	S	**Sn**	**05 52 42.5**	**-2.3**
PESTR	**Estremoz**	**4.97**	**78**	P	**Pn**	**05 51 52.3**	**+2.5**
PESTR				S	**Sn**	**05 52 46.7**	**-0.6**
PESTR	**Estremoz**	**4.97**	**78**	*eP*	**Pn**	**05 51 53.2**	**+3.4**
PESTR				*eS*	**Sn**	**05 52 47.7**	**+0.3**
PESTR				*i* IAML		05 52 51.1	
PESTR				*i* IAML		05 52 52.4	
PESTR				*i* IAML		05 52 55.0	
PESTR	**Estremoz**	**4.97**	**78**	P	**Pn**	**05 51 53.4**	**+3.7**
PESTR	**Estremoz**	**4.97**	**78**	S	**Sn**	**05 52 48.9**	**+1.5**
EGRO	**El Granado**	**5.04**	**93**	P	**Pn**	**05 51 53.1**	**+2.5**
EGRO				S	**Sn**	**05 52 48.6**	**-0.3**
EGRO	**El Granado**	**5.04**	**93**	P	**Pn**	**05 51 53.3**	**+2.6**
EGRO				S	**Sn**	**05 52 49.1**	**+0.3**
PMRV	**Marv??o**	**5.24**	**72**	*eP*	**Pn**	**05 51 56.0**	**+2.6**
PMRV				*eS*	**Sn**	**05 52 53.3**	**-0.5**
PMRV				*i* IAML		05 52 55.1	
PMRV				*i* IAML		05 52 55.1	
PMRV				*i* IAML		05 52 57.7	
PCBR	**Castelo Branco**	**5.29**	**67**	*eP*	**Pn**	**05 51 57.4**	**+3.2**
PCBR				*eS*	**Sn**	**05 52 54.8**	**-0.3**
PCBR				*i* IAML		05 52 56.1	
PCBR				*i* IAML		05 52 57.7	
PCBR				*i* IAML		05 53 00.8	
PBAR	**Barrancos**	**5.35**	**86**	P	**Pn**	**05 51 57.4**	**+2.5**
PBAR				S	**Sn**	**05 52 55.6**	**-1.0**
PBAR	**Barrancos**	**5.35**	**86**	*eP*	**Pn**	**05 51 58.2**	**+3.3**
PBAR				*eS*	**Sn**	**05 52 57.1**	**+0.4**
PBAR				*i* IAML		05 52 58.1	
PBAR				*i* IAML		05 52 58.2	
PBAR				*i* IAML		05 52 58.9	
PVIS	**Viseu**	**5.35**	**57**	*eP*	**Pn**	**05 51 57.6**	**+2.6**
PVIS				*eS*	**Sn**	**05 52 54.1**	**-2.6**
EBAD	**Badajoz**	**5.41**	**79**	P	**Pn**	**05 51 57.9**	**+2.2**
EBAD				S	**Sn**	**05 52 57.3**	**-0.7**
EBAD	**Badajoz**	**5.41**	**79**	P	**Pn**	**05 51 57.9**	**+2.2**
EBAD				⇑*i*IVmb_VC		05 52 00.8	
	comp=N,455nm,SNR=3.5						
EBAD				S	**Sn**	**05 52 58.1**	**+0.1**
MTE	**Manteigas**	**5.45**	**61**	*eP*	**Pn**	**05 51 59.1**	**+2.7**
MTE				*eS*	**Sn**	**05 52 57.6**	**-1.5**
MTE				*i* IAML		05 52 60.0	
MTE				*i* IAML		05 53 01.8	
MTE				*i* IAML		05 53 03.9	
EMIN	**Mina Concepcio**	**5.66**	**90**	P	**Pn**	**05 52 01.7**	**+2.6**
EMIN				S	**Sn**	**05 53 02.2**	**-1.9**
EMIN	**Mina Concepcio**	**5.66**	**90**	P	**Pn**	**05 52 01.7**	**+2.6**
EMIN				⇑*i*IVmb_VC		05 52 03.5	
	comp=N,414nm,SNR=4.0						
EMIN				S	**Sn**	**05 53 04.0**	**-0.2**
EZAM	**Zamans**	**5.74**	**42**	P	**Pn**	**05 52 00.4**	**+0.1**
EZAM				⇑*i*IVmb_VC		05 52 01.9	
	comp=N,594nm,SNR=1.8						
EZAM				S	**Sn**	**05 53 01.7**	**-4.5**
PVRL	**Vila Real**	**5.76**	**53**	*eP*	**Pn**	**05 52 02.8**	**+2.2**
PVRL				*eS*	**Sn**	**05 53 03.2**	**-3.5**
PVRL				*i* IAML		05 53 06.0	
PVRL				*i* IAML		05 53 06.1	
PVRL				*i* IAML		05 53 08.5	
POLO	**Lamas de Olo**	**5.76**	**52**	*eP*	**Pn**	**05 52 02.9**	**+2.2**
POLO				*eS*	**Sn**	**05 53 03.7**	**-3.2**
POLO				*i* IAML		05 53 07.0	
POLO				*i* IAML		05 53 07.2	
PCAB	**Cabril**	**5.82**	**48**	*eP*	**Pn**	**05 52 02.8**	**+1.4**
PCAB				*eS*	**Sn**	**05 53 05.0**	**-3.2**
PCAB				*i* IAML		05 53 06.5	
PCAB				*i* IAML		05 53 08.4	
PCAB				*i* IAML		05 53 10.4	
PMOZ	**Porto Moniz, M**	**5.82**	**209**	P	**Pn**	**05 52 02.2**	**+0.6**
PGAV	**Gavieira, Arco**	**5.84**	**45**	*eP*	**Pn**	**05 52 03.0**	**+1.2**
PGAV				*eS*	**Sn**	**05 53 03.9**	**-5.1**
PGAV				*i* IAML		05 53 08.6	
PGAV				*i* IAML		05 53 09.4	
PGAV				*i* IAML		05 53 12.1	
ELOB	**Lobios**	**5.90**	**47**	P	**Pn**	**05 52 03.7**	**+1.1**
ELOB				⇑*i*IVmb_VC		05 52 05.1	
	comp=N,426nm,SNR=1.7						
ELOB				S	**Sn**	**05 53 06.0**	**-4.2**
MVO	**Moncorvo**	**6.14**	**56**	*eP*	**Pn**	**05 52 08.0**	**+2.1**
MVO				*eS*	**Sn**	**05 53 12.5**	**-3.8**
MVO				*i* IAML		05 53 14.8	
MVO				*i* IAML		05 53 15.3	
MVO				*i* IAML		05 53 18.2	
EMAZ	**Mazaricos**	**6.20**	**35**	P	**Pn**	**05 52 06.1**	**-0.6**
EMAZ				⇑*i*IVmb_VC		05 52 10.2	
	comp=N,539nm,SNR=1.3						
EMAZ				S	**Sn**	**05 53 09.9**	**-7.6**
EPLA	**Plasencia**	**6.38**	**68**	P	**Pn**	**05 52 12.4**	**+3.3**
EPLA				⇑*i*IVmb_VC		05 52 12.8	
	comp=N,220nm,SNR=1.7						
EPLA				S	**Sn**	**05 53 19.3**	**-2.7**
CNIL	**Conil**	**6.40**	**102**	P	**Pn**	**05 52 13.6**	**+4.3**
ESPR	**Espera**	**6.43**	**97**	P	**Pn**	**05 52 14.0**	**+4.2**
ESPR				S	**Sn**	**05 53 23.1**	**-0.1**
ESPR	**Espera**	**6.43**	**97**	P	**Pn**	**05 52 14.1**	**+4.4**
ESPR				S	**Sn**	**05 53 25.6**	**+2.4**
EAGO	**Agolada

```
ELGU                                  ⇑iVmb_VC                  05 52 46.4
     comp=N,213nm,SNR=1.7
ELGU                                  S      Sn                 05 54 03.5  -2.9
EQTA  Presa de Quent          8.27  92  P      Pn                 05 52 39.4 +4.2
OUK   Oukaimeden              8.33 142  P      Pn                 05 52 37.5 +1.3
OUK   Oukaimeden              8.33 142  S      Sn                 05 54 04.5  -6.0
PALE  Palemas                 8.40 106  P      Pn                 05 52 39.2 +2.3
PALE  Palemas                 8.40 106  S      Sn                 05 54 06.5  -5.3
EARI  Arriondas               8.44  48  P      Pn                 05 52 38.5 +1.1
EARI                                  ⇑iVmb_VC                  05 52 46.9
     comp=N,248nm,SNR=0.7
EARI                                  S      Sn                 05 54 08.3  -4.4
EQES  Quesada                 8.50  88  P      Pn                 05 52 40.6 +2.3
EQES                                  ⇑iVmb_VC                  05 52 44.6
     comp=N,149nm,SNR=0.9
EQES                                  S      Sn                 05 54 12.5  -1.8
TTIG  Tnine Tigouga,          8.63 147  P      Pn                 05 52 38.8  -1.3
TTIG  Tnine Tigouga,          8.63 147  S      Sn                 05 54 10.9  -6.6
TISM  Timmit                  8.69 134  P      Pn                 05 52 40.7   0.0
TISM  Timmit                  8.69 134  S      Sn                 05 54 11.3  -7.4
AKLM  AKL                     8.75 110  P      Pn                 05 52 41.6  -0.1
AKLM  AKL                     8.75 110  S      Sn                 05 54 12.1  -8.2
TIO   Tiouine                 8.86 140  P      Pn                 05 52 45.9 +2.7
TIO                                     S      Sn                 05 54 19.4  -3.8
TIO   Tiouine                 8.86 140  P      Pn                 05 52 44.6 +1.3
TIO   Tiouine                 8.86 140  S      Sn                 05 54 18.2  -5.0
MD31  MD31                    8.97 122  P      Pn                 05 52 45.9 +1.2
MD31  MD31                    8.97 122  S      Sn                 05 54 21.3  -4.5
MDT   Midelt                  9.10 122  P      Pn                 05 52 50.6 +4.1
MDT   Midelt                  9.10 122  S      Sn                 05 54 24.1  -5.0
OUZM  OUZ                     9.13 138  P      Pn                 05 52 48.4 +1.4
OUZM  OUZ                     9.13 138  S      Sn                 05 54 23.7  -6.2
ELAN  Lanestosa               9.49  53  P      Pn                 05 52 52.3 +0.6
ELAN                                  ⇑iVmb_VC                  05 52 53.5
     comp=N,239nm,SNR=0.9
ELAN                                  S      Sn                 05 54 33.8  -4.6
ETOR  Torete                  9.54  69  P      Pn                 05 52 55.1 +2.6
ETOR                                  ⇑iVmb_VC                  05 53 05.0
     comp=N,271nm,SNR=1.3
ETOR                                  S      Sn                 05 54 36.4  -3.5
ZGR   Zagora                 10.36 137  P      Pn                 05 53 04.6 +0.8
ZGR   Zagora                 10.36 137  S      Sn                 05 54 53.1  -6.9
```

RSNC 15 06:15:08.3±0.0,12°N±5°×7°2W±°,h26km±5km,M2.3,mB4.9, mb3.5,ML2.3,Mw(mB)4.2,Near north coast of Colombia

```
Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
URIC  Uribia, Colomb        0.49 186   P     Pb   06 15 18.3  -0.1
URIC                                   S     Sb   06 15 24.7  -0.5
CRJC  Cerrejon, Guaj        1.48 219   P     Pn   06 15 32.0  -1.4
CRJC                                   S     Sn   06 15 51.2  -0.8
SMRC  Santa Marta, M        2.46 246   P     Pn   06 15 45.9  -0.9
SMRC                                   S     Sn   06 16 15.0  -1.0
ARGC  Ariguani, Magd        3.24 225   P     Pn   06 15 55.9  -1.6
ARGC                                   S     Sn   06 16 34.0  -1.3
SJCC  San Jacinto, C        3.91 235   P     Pn   06 16 06.2  -0.6
SJCC                                   S     Sn   06 16 53.7  +1.7
OCAC  Ocana                 4.15 199   P     Pn   06 16 10.1  -0.1
OCAC                                   S     Sn   06 16 59.1  +1.0
ZARC  Zaragoza, Cauc        5.48 212   P     Pn   06 16 28.7  +0.3
      3.6nm,0.7s
PTBC  PUERTO BERRIO,        6.14 204   P     Pn   06 16 37.7  +0.3
HELC  Santa Helena          6.93 211   P     Pn   06 16 50.2  +1.6
```

RSNC 15 06:17:04.5±0.0,7°N±1°×7°3W±°,h112km±3km,M1.9,ML1.7, Northern Colombia

```
Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
BARC  Barichara             0.30  76   P     Pn   06 17 20.6  -0.2
BARC                                   S     Sn   06 17 33.2  +0.2
BRJC  Barrancabermej        0.52 330   P     Pn   06 17 20.7  -1.0
BRJC                                   S     Sn   06 17 33.6  -1.1
RUSC  La Rusia              0.74 148   P     Pn   06 17 23.6  -0.4
RUSC                                   S     Sn   06 17 38.5   0.0
PTBC  PUERTO BERRIO,        0.97 271   P     Pn   06 17 23.3  -2.3
PTBC                                   S     Sn   06 17 38.3  -3.2
SPBC  San Pablo de B        1.04 214   P     Pn   06 17 25.4  -1.0
SPBC                                   S     Sn   06 17 42.2  -0.8
ZARC  Zaragoza, Cauc        1.68 305   P     Pn   06 17 33.2  -0.4
ZARC                                   S     Sn   06 17 55.9  +0.2
ZARC  Zaragoza, Cauc        1.68 305   S     Pn   06 17 32.8  -0.8
      3.6nm,0.7s
OCAC  Ocana                 1.71   5   P     Pn   06 17 33.1  -1.1
OCAC                                   S     Sn   06 17 58.0  +1.2
HELC  Santa Helena          2.06 261   P     Pn   06 17 38.0  -0.7
HELC                                   S     Sn   06 18 03.5  -1.3
GUY2C Guyana, Caldas        2.27 236   P     Pn   06 17 41.9  +0.3
GUY2C                                  S     Sn   06 18 10.7  +0.8
CBOC  Ciudad Bolivar        2.60 256   P     Pn   06 17 45.2  -0.3
CBOC                                   S     Sn   06 18 15.9  -1.1
PRAC  Prado                 3.12 207   P     Pn   06 17 51.0  -1.2
PRAC                                   S     Sn   06 18 28.4  -0.6
ORTC  Ortega, Tolima        3.13 214   P     Pn   06 17 51.8  -0.6
ORTC                                   S     Sn   06 18 29.4   0.0
SJCC  San Jacinto, C        3.75 333   P     Pn   06 17 58.6  -2.1
SJCC                                   S     Sn   06 18 40.4  -3.7
```

*FCIAR **15** 06:28:07.0,84°.61N×4°.46E,h10km, station ZFI2 has station magnitude of 3.90 station OMEGA has station magnitude of 4.00*
*BER **15** 06:28:08.1±3.6,84°.48N×3°.20E,h10km,Mw3.7, ML2.9(NAO),Confirmed Earthquake*

ISC 15 06:28:07.0±2.0,84°3N±0°.1×5°25E±0°.08,h10km,n21, σ2°02/34,North of Svalbard

```
Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
NOR   Nord                  3.79 236   Pn    Pn   06 29 05.1  -0.3
NOR   Nord                  3.79 236   eP    Pn   06 29 04.3  -1.0
NOR                                    eS    Sn   06 29 45.5  -4.4
NOR   Nord                  3.79 236   e     Pn   06 29 04.6  -0.7
KBS   Kingsbay              5.48 166   Pn    Pn   06 29 30.3  +1.7
KBS                                    Sn    Sn   06 30 31.9  +0.3
KBS   Kingsbay              5.48 166   eP    Pn   06 29 29.4  +0.8
KBS                                    IAML       06 30 31.6
     comp=Z,3.1nm,0.7s
KBS                                    eS    Sn   06 30 31.9  +0.3
KBS   Kingsbay              5.48 166   i P   Pn   06 29 30.1  +1.5
KBS                                    i S   Sn   06 30 28.3  -3.3
ZFI2  Zemlya Franca-        6.32 100   eP    Pn   06 29 40.9  +0.8
ZFI2                                   eS    Sn   06 30 49.3  -2.9
     comp=Z,43nm,1.4s
OMEGA Omega                 6.35 100   eP    Pn   06 29 40.9  +0.4
OMEGA                                  eS    Sn   06 30 49.3  -3.6
     comp=Z,51nm,1.4s
SPA0  Spitsbergen Ar        6.36 159   Pn    Pn   06 29 43.4  +2.8
      baz=352,slow=14
SPA0                                   Sn    Sn   06 30 53.3  +0.1
      baz=13,slow=22
SPA0  Spitsbergen Ar        6.36 159   eP    Pn   06 29 41.8  +1.2
SPA0                                   eS    Sn   06 30 51.7  -1.5
SPA0  Spitsbergen Ar        6.36 159   Pn    Pn   06 29 43.4  +2.8
      baz=352,slow=14
SPA0                                   Sn    Sn   06 30 53.3  +0.1
      baz=13,slow=22
SPA0                                   IAML       06 31 08.8
     comp=Z,2.0nm,0.9s
BRBB  Barentsburg B         6.37 163   Pn    Pn   06 29 42.3  +1.5
BRBB                                   Sn    Sn   06 30 54.8  +1.3
BRBB  Barentsburg B         6.37 163   Pn    Pn   06 29 42.3  +1.5
BRBB                                   Sn    Sn   06 30 54.8  +1.3
HSPB  Hornsund (broa        7.50 162   eP    Pn   06 29 58.4  +2.2
DAG   Danmarks Havn         8.39 220   eP    Pn   06 30 05.5  -2.9
DAG   Danmarks Havn         8.39 220   i P   Pn   06 30 07.1  -1.3
HOPEN Hopen                 8.40 147   Pn    Pn   06 30 10.0  +1.5
HOPEN Hopen                 8.40 147   eP    Pn   06 30 09.4  +0.9
HOPEN                                  eS    Sn   06 31 41.1  -2.0
HOPEN Hopen                 8.40 147   eP    Pn   06 30 10.8  +2.3
HOPEN                                  eS    Sn   06 31 40.1  -3.1
HOPEN                                  IAML       06 31 45.8
     comp=Z,9.3nm,0.7s
ARA0  ARCESS Array S        15.33 153  Pn    Pn   06 31 44.4  +1.3
      baz=352,slow=11
ARA0  ARCESS Array S        15.33 153  Pn    Pn   06 31 44.4  +1.3
      baz=352,slow=11
```

*SOME **15** 06:33:10.3,44°.12N×82°.40E,h15km*
*NNC **15** 06:33:13.8±2.1,44°.17N×82°.35E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=23.7km s-min=6.0km az=124.0*

ISC 15 06:33:12.2±1.7,44°03N±0°.08×82°28E±0°.08,h10km,n13, σ1°68/26,4C-9D,Northern Xinjiang

```
Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
PDGK  Podgornoye            2.14 252   ⇑Pn   Pb   06 33 51.7  +0.5
      33nm,0.8s
PDGK                                   ⇓Sn   Sg   06 34 22.1  +1.2
      106nm,0.6s
SHLS  Shalkode              2.22 248   eP    Pn   06 33 48.5  -0.7
      75nm,0.2s
SHLS                                   eS    Sn   06 34 16.1  -0.7
      375nm,0.3s
UZB   Uzynbulak             2.52 251   eP    Pb   06 33 57.8  +0.1
      4.6nm,0.1s
UZB                                    eS    Sg   06 34 32.8  -0.5
      23nm,0.2s
MK31  Makanchi Array        2.77   0   ⇓Pn   Pn   06 33 57.4  +0.8
      0.7nm,0.2s,baz=201,slow=15,SNR=254
MK31                                   ⇑Pg   Pb   06 34 02.5  +0.8
      22nm,0.6s,baz=168,slow=17,SNR=18
MK31                                   Lg    Lg   06 34 37.5
      8.7nm,0.2s,baz=165,slow=36,SNR=8.8
MAKZ  Makanchi              2.79 356   ⇓Pn   Pn   06 33 57.7  +0.8
      1.8nm,0.6s
MAKZ                                   ⇓Pg   Pb   06 34 04.1  +2.0
      4.7nm,0.4s
MAKZ                                   ⇓Lg   Lg   06 34 39.1
      36nm,0.5s
ARXS  Arharly               3.21 275   eP    Pb   06 34 10.1  +0.8
ARXS                                   eS    Sg   06 34 53.2  -2.1
CHKK  Chushkaly             3.83 269   eP    Pb   06 34 21.2  +1.4
      14nm,0.3s
CHKK                                   eS    Sg   06 35 12.3  -2.7
      28nm,0.3s
ZSN   Zaisan                3.87  27   eP    Pb   06 34 18.8  -1.8
      3.9nm,0.2s
ZSN                                    eS    Sb   06 35 08.5  +1.0
      40nm,0.4s
TNSS  Tian-Shan             4.00 258   eP    Pb   06 34 25.3  +2.3
      1.5nm,0.2s
TNSS                                   eS    Sg   06 35 19.2  -1.5
      2.8nm,0.4s
KUU   Kurty                 4.29 270   eP    Pb   06 34 29.1  +1.4
      4.2nm,0.0s
KUU                                    eS    Sg   06 35 26.1  -3.8
      10.0nm,0.1s
MTBS  Maitube               4.34 260   eP    Pb   06 34 31.7  +3.1
      2.3nm,0.3s
MTBS                                   eS    Sg   06 35 30.5  -1.1
      17nm,0.3s
KURBB Kurchatov Arra        7.07 340   ⇓Pn   Pn   06 34 55.3  -0.3
      2.4nm,0.5s
KURBB                                  ⇓Sn   Sn   06 36 17.3  +1.2
      11nm,0.6s
KURBB                                  ⇓Lg   Lg   06 36 54.5
      18nm,0.5s
KURK  Kurchatov             7.14 341   ⇑Pn   Pn   06 34 56.6  +0.1
      0.6nm,0.6s
KURK                                   ⇓Sn   Sn   06 36 16.5  -1.1
      2.6nm,0.7s
KURK                                   ⇑Lg   Lg   06 36 53.9
      3.6nm,0.6s
```

*IDC **15** 06:40:42.3±0.9,10°.92S×163°.14E,h0km,mb4.0/7, mbtmp4.0/7,MS3.4/8,Error ellipse: s-maj=48.9km s-min=23.2km az=136.0*
*NEIC **15** 06:40:43.5±1.4,11°.15±0°.1×163°.44E±0°.10,h10km±2km, mb4.2/12,Error ellipse: s-maj=18.6km s-min=13.9km az=37.0*

ISC 15 06:40:46.1±0.7,11°03S±0°.09×163°31E±0°.08,h31km,n35, σ1°52/29,mb4.1/12,MS3.5/5,Bougainville-Solomon Islands region

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Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
HNR   Honiara               3.67 295   Pn    Pn   06 41 41.1  +0.3
HNR   Honiara               3.67 295   Pn    Pb   06 41 49.0  -1.3
      28nm,0.3s,baz=164,slow=7.4,SNR=2.2
HNR                                    Sn    Sb   06 42 32.5  -1.9
      14nm,0.3s,baz=282,slow=20,SNR=1.1
HNR                                    LR    LR   06 43 19.3
     comp=Z,313nm,19.4s,baz=120,slow=45
SANVU Saraoutou             5.80 140           Pn   06 42 06.8  -3.3
MARNC Mare, Loyalty        11.34 157   Pn    Pn   06 43 22.8  -3.3
DZM   Mont Dzumac          11.38 165   Pn    Pn   06 43 24.1  -2.7
      2.0nm,0.3s,baz=11,slow=11,SNR=84
DZM                                    Sn    Sn   06 45 22.0  -11
      0.9nm,0.3s,baz=6.3,slow=18,SNR=1.8
DZM                                    LR    LR   06 47 03.4
     comp=Z,138nm,18.4s,baz=16,slow=33
ONTNC Ouen Toro            11.61 165   Pn    Pn   06 43 28.3  -1.5
PINNC Pines Island,        12.18 162   Pn    Pn   06 43 36.2  -1.4
TARA  Tarawa               15.58  38   Pn    Pn   06 44 22.1  -1.6
PMG   Port Moresby         15.98 274   LR    LR   06 50 42.0
     comp=Z,206nm,19.2s,baz=124,slow=38
EIDS  Eidsvold             18.38 217           P    06 44 57.9  -0.6
CTAO  Charters Tower       18.72 239   P     P    06 45 02.4   0.0
COEN  Coen                 19.87 259   P     P    06 45 14.9  -0.1
ARMA  Armidale             22.14 208   P     P    06 45 40.0  +0.5
ARMA                                   IAmb  IAmb 06 46 09.3
     comp=Z,16nm,1.2s
STKA  Stephens Creek       28.85 221   P     P    06 46 42.0   0.0
     comp=Z,0.8nm,0.5s,baz=62,slow=10,SNR=7.1
STKA                                   LR    LR   06 57 24.8
     comp=Z,77nm,18.1s,baz=26,slow=35
     comp=Z,0.8nm,0.5s
WR8   Warramunga Arr       29.11 249   P     P    06 46 44.4   0.0
WR8                                    IAmb  IAmb 06 47 26.0
     comp=Z,3.2nm,0.8s
WB0   Warramunga Arr       29.16 249   P     P    06 46 45.3  +0.4
WB0                                    IAmb  IAmb 06 46 51.7
     comp=Z,3.1nm,0.7s
WRAB  Tennant Creek        29.24 249   P     P    06 46 46.3  +0.7
WRAB                                   IAmb  IAmb 06 47 11.7
     comp=Z,5.7nm,1.2s
WRA   Warramunga Arr       29.25 249   P     P    06 46 45.8  +0.1
     comp=Z,0.7nm,0.5s,baz=79,slow=9.1,SNR=12
WRA                                    PcP   PcP  06 49 53.4  +1.0
     comp=Z,0.6nm,0.9s,baz=72,slow=3.5,SNR=3.8
WRA                                    LR    LR   06 57 35.6
     comp=Z,72nm,20.0s,baz=52,slow=35
     comp=Z,0.7nm,0.5s
H11S2 WAKE ISLAND Hy 29.52   7   T     T    07 18 26.3
      baz=188,slow=76
H11S3 WAKE ISLAND Hy 29.52   7   T     T    07 18 32.6
      baz=188,slow=76
H11S1 WAKE ISLAND Hy 29.54   7   T     T    07 18 26.8
      baz=188,slow=76
ASAR  Alice Springs        30.68 242   P     P    06 46 58.0  -0.4
     comp=Z,0.9nm,0.7s,baz=62,slow=9.5,SNR=11
ASAR                                   PcP   PcP  06 49 57.3  +1.2
     comp=Z,0.1nm,0.3s,baz=70,slow=4.3,SNR=4.1
ASAR                                   LR    LR   06 58 52.2
     comp=Z,88nm,18.0s,baz=92,slow=36
     comp=Z,0.9nm,0.7s
H11N1 WAKE ISLAND Hy 30.75   7   T     T    07 20 01.8
      baz=188,slow=76
H11N3 WAKE ISLAND Hy 30.76   7   T     T    07 19 58.7
      baz=188,slow=76
H11N2 WAKE ISLAND Hy 30.77   7   T     T    07 20 10.4
      baz=188,slow=76
BBOO  Buckleboo            33.12 225   P     P    06 47 19.8  +0.2
KNRA  Kununurra            33.90 258   P     P    06 47 26.4  -0.2
FITZ  Fitzroy Crossi       37.08 255   LR    LR   07 02 52.7
     comp=Z,98nm,19.1s,baz=42,slow=36
PSA00 Pilbara Seismi       42.88 250   P     P    06 48 42.6  +0.5
PSA00                                  IAmb  IAmb 06 48 48.6
     comp=Z,3.5nm,0.8s
QSPA  South Pole Qui       78.98 180   P     P    06 52 49.3  +2.5
QSPA                                   IAmb  IAmb 06 52 49.9
     comp=Z,3.6nm,1.0s
QSPA  South Pole Qui       78.98 180   P     P    06 52 49.1  +2.2
     comp=Z,2.4nm,1.0s,baz=281,slow=0.4,SNR=7.2
     comp=Z,2.4nm,1.0s
MAW   Mawson               83.84 202   P     P    06 53 12.9  +0.6
     comp=Z,1.7nm,0.8s,baz=89,slow=8.0,SNR=5.1
     comp=Z,1.7nm,0.8s
ILAR  Eielson Array        84.27  19   P     P    06 53 15.0  +0.5
     comp=Z,0.4nm,0.7s,baz=238,slow=5.7,SNR=7.4
     comp=Z,0.4nm,0.7s
NVAR  Mina Array Bea       87.85  50   P     P    06 53 34.6  +1.5
     comp=Z,0.7nm,0.7s,baz=226,slow=7.6,SNR=6.8
     comp=Z,0.7nm,0.7s
LPIG  La Paz               91.18  66   LR    LR   07 28 23.6
     comp=Z,17nm,19.6s,baz=218,slow=31
```

DJA 15 06:43:47.0±0.5,9°S±5°×12°3E±°,h79km±6km,M3.7/9, mb4.2/1,MLv3.5/9,Flores region

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Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
MMRI  Maumere               0.52 302   P     Pn   06 44 01.9  +1.1
MMRI                                   S     Sn   06 44 13.7  +2.7
EDFI  Ende, Flores          0.99 279   P     Pn   06 44 06.4  +0.4
EDFI                                   S     Sn   06 44 21.0  +0.8
BATI  Baumata               1.61 143   P     Pn   06 44 14.3  +0.5
BASI  Baing, Sumba          2.45 238   P     Pn   06 44 24.4  -0.5
WBSI  Waikabubak, Su        3.33 257   P     Pn   06 44 36.8   0.0
BKSI  Bulukumba             4.38 324   P     Pn   06 44 51.3  +0.2
PLAI  Plampang              4.85 271   P     Pn   06 44 57.7  +0.2
TWSI  Taliwang, Sumb        5.73 271   P     Pn   06 45 09.5  -0.1
```

ASRS 15 06:50:10.0±0.2,52°N±2°×98°4E±1°.0,h8km,MLh4.3/12,1D, Error ellipse: s-maj=4.2km s-min=2.0km az=11.3, confirmed,Tuva-Buryatia-Mongolia border region

```
Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
KNGR  Kungurtug, Tuv        1.14 208   ⇓P    Pn   06 50 32.3  -0.1
KNGR                                   S     Sg   06 50 46.3  -0.3
TDJR  Todzha                1.60 300   P     Pg   06 50 47.4  +6.8
TDJR                                   S     Sg   06 51 11.3  +10
MOY   Mondy                 1.65  87   P     Pg   06 50 45.3  +3.7
MOY                                    S     Sg   06 51 07.1  +4.1
KZLR  Kyzyl                 2.43 274   Pg    Pg   06 50 59.4  +2.9
KZLR                                   Sg    Sg   06 51 32.0  +4.1
ARDR  Aradan                3.19 290   P     Pg   06 51 13.5  +2.5
ARDR                                   S     Sg   06 51 56.8  +4.6
TLY   Talaya                3.30  87   P     Pg   06 51 14.6  +1.4
TLY                                    S     Sg   06 51 56.6  +0.8
ZAK   Zakamensk             3.35 110   P     Pg   06 51 12.9  -1.3
ZAK                                    S     Sg   06 51 57.6  +0.1
IRK   Irkutsk               3.72  78   Sg    Sg   06 52 10.7  +1.4
MINR  Mina                  4.13 324   Pg    Pg   06 51 33.1  +4.1
MINR                                   Sg    Sg   06 52 32.2  +10
CERR  Cheremushki           4.44 289   Pg    Pg   06 51 37.6  +2.6
CERR                                   Sg    Sg   06 52 35.5  +3.0
DJO   Djoy, Khakassi        4.54 288   Pg    Pg   06 51 37.6  +0.7
DJO                                    Sg    Sg   06 52 39.4  +3.7
TEL   Teeli                 5.15 267   Pn    Pb   06 51 34.8  -5.5
TEL                                    Pg    Pg   06 51 49.7  +1.2
TEL                                    Sg    Sg   06 52 55.4  +0.3
VEH   Verkhnyaya Baz        5.18 292   Pn    Pb   06 51 36.3  -4.5
VEH                                    Sg    Sg   06 53 00.1  +3.9
SHTK  Zheleznogorsk-        5.49 331   Pg    Pg   06 51 51.0  -4.1
SHTK                                   Sg    Sg   06 53 06.6  +0.4
LUZB  Luzhba, Kemero        6.11 293   Pn    Pb   06 51 49.4  -7.2
LUZB                                   Sg    Sg   06 53 26.3  +0.4
CUR   Chagan-Uzun           6.51 260   Sg    Sg   06 53 34.8  -4.1
TASR  Tashtagol             6.54 284   Pg    Pg   06 52 15.0  -0.2
TASR                                   Sg    Sg   06 53 44.0  +4.2
ULGR  Ulagan, Altay         6.62 265   Pg    Pg   06 52 15.0  -1.7
ULGR                                   Sg    Sg   06 53 39.9  -2.4
```

*LDO **15** 06:58:57.6±1.2,40°.099N±0°.009×80°.32W±0°.01,h1km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=214.0*

NEIC 15 06:58:57.6±0.9,40°104N±0°.010×80°32W±0°.01,h5km±1km, mb_Lg2.6/57,ML2.4/20,ML2.2/14(LDO),Error ellipse: s-maj=2.7km s-min=1.8km az=327.0,Pennsylvania

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Code  Station Name          Δ°   AZ°   Phase ID   Time      Res
                                       Op    ISC  h m s     ISC
O54A  Avella                0.09 328           Pg   06 58 59.1  -0.5
O54A                                           Sg   06 59 00.1  -0.8
UPAO  U. Pittsburgh         0.44  31           Pg   06 59 06.3  +0.2
UPAO                                           Sg   06 59 12.0  +0.1
BSPO  Barkcamp State        0.54 264           Pg   06 59 08.0  +0.1
BSPO                                           Sg   06 59 15.1  +0.2
MCWV  Mont Chateau          0.57 141   Pg    Pg   06 59 08.9  +0.3
MCWV                                   Sg    Sg   06 59 15.9  -0.2
MCWV                                   IAML       06 59 24.2
      242nm,1.1s
MCWV                                   IAML       06 59 25.2
      258nm,0.9s
O53A  New Philadelph        0.70 282   Pg    Pg   06 59 10.6  -0.5
O53A                                   Sg    Sg   06 59 20.3  +0.1
N53A  Lisbon                0.81 331   Pg    Pg   06 59 12.4  -0.7
N53A                                   Sg    Sg   06 59 23.5  -0.1
N53A                                   IAML       06 59 36.6
      218nm,1.0s
PAMR  Moraine State         0.85  11   Pg    Pg   06 59 13.2  -0.7
PAMR                                   Sg    Sg   06 59 24.9  -0.1
PAMR                                   IAML       06 59 36.6
     comp=E,126nm,1.4s
P53A  Whipple               1.03 234   Pg    Pg   06 59 16.3  -1.1
P53A                                   IAML       06 59 45.8
     comp=E,97nm,1.7s
P53A                                   IAML       06 59 53.1
     comp=E,93nm,1.1s
O52A  Adamsville            1.17 271   Pg    Pg   06 59 18.6  -1.3
O52A                                   Sg    Sg   06 59 34.4  -0.7
Q54A  Coxs Mills            1.19 200   Pg    Pg   06 59 18.9  -1.5
Q54A                                   IAML       06 59 45.6
     comp=E,56nm,0.7s
Q56A  Snyder Ridge,         1.37 140         Pn   06 59 22.1  -1.3
P52A  Corning               1.48 252         Pn   06 59 24.1  -0.8
PAOC  Oil Creek Stat        1.49  19         Pn   06 59 23.9  -1.1
M52A  Chesterland           1.64 331   IAmb_Lg    06 59 51.4
     comp=Z,32nm,1.0s
N51A  Ashland               1.77 298   Pn   Pn    06 59 28.0  -0.9
R55A  Marlinton             1.83 175   Pn   Pn    06 59 29.2  -0.6
R55A                                   IAmb_Lg    06 59 58.6
     comp=Z,42nm,1.0s
P57A  Homestead Farm        1.88 109   IAmb_Lg    06 59 59.2
     comp=Z,32nm,1.1s
Q52A  Bidwell               1.89 234   Pn   Pn    06 59 29.9  -0.7
SSPA  Standing Stone        1.93  73   Pn   Pn    06 59 30.6  -0.5
SSPA                                   IAmb_Lg    07 00 02.7
     comp=Z,30nm,1.0s
ACSO  Alum Creek Sta        2.05 274   Pn   Pn    06 59 32.1  -0.6
P51A  Williamsport          2.20 254   Pn   Pn    06 59 34.0  -0.8
Q51A  Peebles               2.58 246   Pn   Pn    06 59 39.3  -0.7
Q51A                                   IAmb_Lg    07 00 19.2
     comp=Z,39nm,0.9s
M57A  Sunshine Farm,        2.72  62   Pn   Pn    06 59 41.5  -0.4
N58A  Sunbury               2.84  74   IAmb_Lg    07 00 30.7
     comp=Z,16nm,0.8s
R58B  Mineral               2.86 138   Pn   Pn    06 59 43.8   0.0
R58B                                   IAmb_Lg    07 00 26.4
     comp=Z,32nm,0.8s
BLA   Blacksburg            2.89 182   Pn   Pn    06 59 43.8  -0.5
MVL   Millersville          3.04  91   IAmb_Lg    07 00 36.8
     comp=Z,15nm,0.9s
N49A  Columbus Grove        3.06 287   IAmb_Lg    07 00 35.0
     comp=Z,20nm,1.0s
O49A  Covington             3.08 273   IAmb_Lg    07 00 41.2
     comp=Z,16nm,0.9s
T57A  Hurt                  3.21 165   IAmb_Lg    07 00 47.2
     comp=Z,11nm,0.9s
S51A  Beattyville           3.55 227   Pn   Pn    06 59 53.5  +0.1
O48B  Farmland              3.71 274   IAmb_Lg    07 01 00.1
     comp=Z,25nm,1.0s
U56A  King                  3.75 181   IAmb_Lg    07 01 03.7
     comp=Z,13nm,1.0s
P48A  Milroy                3.99 262   IAmb_Lg    07 01 10.8
     comp=Z,14nm,0.7s
N47A  Urbana                4.17 282   IAmb_Lg    07 01 09.5
     comp=Z,23nm,1.1s
TZTN  Tazewell              4.37 217   Pn   Pn    07 00 05.2  +0.6
TZTN                                   IAmb_Lg    07 01 27.8
     comp=Z,8.8nm,0.9s
V58A  Windy Hill, Pi        4.41 167   IAmb_Lg    07 01 24.8
     comp=Z,8.9nm,0.9s
L59A  Walton                4.49  61   Pn   Pn    07 00 05.4  -1.0
T50A  Nancy                 4.70 230   Pn   Pn    07 00 08.6  -0.5
V53A  Saluda                4.85 205   IAmb_Lg    07 01 43.7
     comp=Z,7.6nm,1.3s
BLO   Bloomington           4.88 261   IAmb_Lg    07 01 31.6
     comp=Z,17nm,1.0s
W57A  Gilead                4.95 177   Pn   Pn    07 00 12.1  -0.5
W57A                                   IAmb_Lg    07 01 37.9
```

comp=Z,13nm,1.1s
WCI Wyandotte Cave 5.01 250 IAmb_Lg 07 01 37.8
comp=Z,14nm,0.7s
BIRD Birdtown, Kers 5.45 181 IAmb_Lg 07 01 58.8
comp=Z,8.5nm,0.8s
OLIL Olney 6.18 260 IAmb_Lg 07 02 23.3
comp=Z,15nm,1.1s
P43A Skaggs, Pawnee 7.10 269 IAmb_Lg 07 02 45.2
comp=Z,11nm,0.9s
L42A Oliver, Polo 7.32 288 IAmb_Lg 07 03 08.0
comp=Z,12nm,0.9s

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*NEIC **15** 07:14:01.0±1.1,23°.4S±0°.1×179°.5W±0°.2, h575km±6km, mb4.4/21, Error ellipse: s-maj=23.8km s-min=17.3km az=137.0*
*NOU **15** 07:14:03.5,23°.86S×180°.00E, h534km, mb4.2/14, South of Fiji Islands*
*IDC **15** 07:14:04.3±3.4,23°.30S×179°.84W, h598km±41km, mb3.4/5, mbtmp4.4/6, Error ellipse: s-maj=53.8km s-min=23.7km az=41.0*
ISC 15 07:13:59.8±0.7,23°.54S±0°.08×179°.59W±0°.09, h550km, n78, σ1§47/78, mb4.4/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.90**	**166**	P	**P**	**07 15 38.7**	**+1.4**
GLKZ				S	**S**	**07 16 58.8**	**+1.6**
MSVF	**Nonsavu**	**6.18**	**339**	P	P	07 15 41.4	+1.1
FUTU	**Fugatoga**	**9.28**	**9**	P	**P**	**07 16 10.2**	**-0.4**
NIUE	**Niue**	**10.04**	**66**	P	**P**	**07 16 17.8**	**-0.5**
NIUE	**Niue**	**10.04**	**66**	P	P	07 16 26.9	+8.6
NIUE	**Niue**	**10.04**	**66**	P	P	07 16 26.1	+7.9
NIUE				S	S	07 18 19.0	+7.0
MARNC	**Mare, Loyalty**	**11.62**	**278**	P	**P**	**07 16 35.4**	**+0.9**
MARNC	**Mare, Loyalty**	**11.62**	**278**	P	**P**	**07 16 35.3**	**+0.8**
DZM	**Mont Dzumac**	**12.96**	**274**	P	**P**	**07 16 50.9**	**+2.5**
WCZ	**Waipu Caves**	**13.43**	**202**	P	**P**	**07 16 55.1**	**+2.2**
MKAZ	**Moumakai**	**14.26**	**197**	P	**P**	**07 17 02.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**14.37**	**199**	P	**P**	**07 17 03.1**	**+0.5**
TWGZ	**Tauwhareparae**	**14.74**	**188**	P	**P**	**07 17 07.5**	**+1.1**
TOZ	**Tahuroa Road**	**14.76**	**195**	P	**P**	**07 17 08.8**	**+1.1**
URZ	**Urewera**	**14.95**	**190**	P	**P**	**07 17 05.7**	**-2.8**
URZ	6.0nm,0.3s,baz=233,slow=3.6,SNR=12			S	**S**	**07 19 37.5**	**-6.4**
URZ	**Urewera**	**14.95**	**190**	P	**P**	**07 17 08.0**	**-0.5**
URZ	**Urewera**	**14.95**	**190**	P	**P**	**07 17 07.7**	**-0.8**
RIGZ	**Rimuhau**	**15.29**	**188**	P	**P**	**07 17 12.1**	**0.0**
BKZ	**Black Stump Fm**	**15.93**	**191**	P	**P**	**07 17 17.6**	**-1.0**
BKZ	**Black Stump Fm**	**15.93**	**191**	S	**S**	**07 19 59.3**	**-1.7**
BKZ	**Black Stump Fm**	**15.93**	**191**	P	**P**	**07 17 16.0**	**-2.6**
MRZ	**Mangatainoka R**	**17.55**	**192**	P	**P**	**07 17 31.5**	**-1.9**
CAW	**Cannon Point**	**18.09**	**193**	P	**P**	**07 17 38.1**	**-0.1**
TRWZ	**Traveller**	**18.25**	**191**	P	**P**	**07 17 39.1**	**-0.7**
TCW	**Tory Channel**	**18.36**	**195**	P	**P**	**07 17 40.6**	**-0.2**
QRZ	**Quartz Range**	**18.47**	**199**	P	**P**	**07 17 43.6**	**+1.9**
QRZ	**Quartz Range**	**18.47**	**199**	P	**P**	**07 17 43.5**	**+1.7**
QRZ	**Quartz Range**	**18.47**	**199**	P	**P**	**07 17 43.2**	**+1.4**
TKNZ	**Takaka Hill**	**18.53**	**198**	P	**P**	**07 17 42.9**	**+0.5**
NNZ	**Nelson**	**18.59**	**197**	P	**P**	**07 17 43.1**	**+0.3**
TUWZ	**Tuamarina**	**18.65**	**195**	P	**P**	**07 17 44.0**	**+0.6**
TUWZ	**Tuamarina**	**18.65**	**195**	P	**P**	**07 17 43.9**	**+0.5**
MRNZ	**Matariki Terra**	**18.93**	**198**	P	**P**	**07 17 46.9**	**+0.9**
THZ	**Tophouse**	**19.23**	**197**	P	**P**	**07 17 49.0**	**+0.2**
DSZ	**Denniston Nort**	**19.53**	**200**	P	**P**	**07 17 52.8**	**+1.3**
KHZ	**Kahutara**	**19.68**	**195**	P	**P**	**07 17 53.2**	**+0.5**
KHZ	**Kahutara**	**19.68**	**195**	P	**P**	**07 17 53.2**	**+0.5**
LTZ	**Lake Taylor**	**20.35**	**197**	P	**P**	**07 17 58.8**	**-0.1**
INZ	**Inchbonnie**	**20.53**	**199**	P	**P**	**07 18 00.5**	**0.0**
OXZ	**Oxford**	**20.91**	**197**	P	**P**	**07 18 05.6**	**+1.6**
OXZ	**Oxford**	**20.91**	**197**	P	**P**	**07 18 02.5**	**-1.5**
WVZ	**Waitaha Valley**	**21.07**	**200**	P	**P**	**07 18 05.5**	**+0.2**
MQZ	**McQueen's Vall**	**21.11**	**196**	P	**P**	**07 18 05.4**	**-0.2**
RPZ	**Rata Peaks**	**21.55**	**199**	P	**P**	**07 18 12.8**	**+3.1**
	18nm,0.6s,baz=332,slow=3.7,SNR=8.1						
RPZ	**Rata Peaks**	**21.55**	**199**	P	**P**	**07 18 10.7**	**+1.0**
FOZ	**Fox Glacier**	**21.77**	**201**	P	**P**	**07 18 12.0**	**+0.4**
JCZ	**Jackson Bay**	**22.60**	**202**	P	**P**	**07 18 19.6**	**+0.4**
JCZ	**Jackson Bay**	**22.60**	**202**	P	**P**	**07 18 19.6**	**+0.4**
MLZ	**Mavora Lakes**	**23.96**	**202**	P	**P**	**07 18 33.4**	**+2.2**
MLZ	comp=Z,20nm,1.3s			IAmb	IAmb	07 19 10.5	
ARMA	**Armidale**	**26.50**	**249**	P	**P**	**07 18 55.2**	**+1.3**
ARMA	comp=Z,6.6nm,1.1s			IAmb	IAmb	07 19 13.9	
EIDS	**Eidsvold**	**26.73**	**260**	P	**P**	**07 18 56.7**	**+0.8**
EIDS	comp=Z,20nm,1.4s			IAmb	IAmb	07 19 15.9	
EIDS	**Eidsvold**	**26.73**	**260**	P	**P**	**07 18 56.7**	**+0.8**
CAN	**Canberra**	**29.65**	**239**	P	**P**	**07 19 22.3**	**+1.0**
CMSA	**Cobar Meteorol**	**31.70**	**248**	P	**P**	**07 19 39.4**	**+0.6**
CTAO	**Charters Tower**	**31.85**	**270**	P	**P**	**07 19 40.9**	**+0.7**
CTAO	**Charters Tower**	**31.85**	**270**	P	**P**	**07 19 41.0**	**+0.7**
QLP	**Quilpie**	**32.84**	**257**	P	**P**	**07 19 49.3**	**+0.7**
TOO	**Toolangi**	**32.96**	**237**	P	**P**	**07 19 50.7**	**+1.2**
STKA	**Stephens Creek**	**35.20**	**248**	P	**P**	**07 20 08.9**	**+0.6**
STKA	**Stephens Creek**	**35.20**	**248**	P	**P**	**07 20 09.0**	**+0.6**
	comp=Z,2.9nm,0.4s,baz=98,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**35.20**	**248**	P	**P**	**07 20 09.2**	**+0.8**
COEN	**Coen**	**36.43**	**278**	P	**P**	**07 20 18.9**	**+0.2**
COEN	comp=Z,11nm,1.5s			IAmb	IAmb	07 20 28.6	
BBOO	**Buckleboo**	**39.93**	**247**	P	**P**	**07 20 46.5**	**-0.3**
BBOO	comp=Z,34nm,1.4s			IAmb	IAmb	07 20 57.1	
AS31	**Alice Springs**	**42.46**	**260**	P	**P**	**07 21 07.3**	**+0.1**
ASAR	**Alice Springs**	**42.46**	**260**	P	**P**	**07 21 06.9**	**-0.2**
ASAR	**Alice Springs**	**42.46**	**260**	P	**P**	**07 21 07.2**	**0.0**
ASAR	comp=Z,4.0nm,0.4s,baz=94,slow=7.4,SNR=88			S	**S**	**07 26 46.2**	**-3.5**
WR8	**Warramunga Arr**	**42.65**	**266**	P	**P**	**07 21 08.2**	**-0.4**
WB0	**Warramunga Arr**	**42.80**	**266**	P	**P**	**07 21 09.3**	**-0.5**
WB0	comp=Z,10.0nm,0.7s			IAmb	IAmb	07 21 09.8	
WRAB	**Tennant Creek**	**42.80**	**266**	P	**P**	**07 21 09.3**	**-0.4**
WRAB	comp=Z,6.4nm,0.9s			IAmb	IAmb	07 21 09.8	
WRA	**Warramunga Arr**	**42.80**	**266**	P	**P**	**07 21 09.4**	**-0.5**
WRA	**Warramunga Arr**	**42.80**	**266**	P	**P**	**07 21 09.2**	**-0.6**
	comp=Z,6.0nm,0.4s,baz=103,slow=8.5,SNR=68						
FORT	**Forrest**	**46.79**	**249**	P	**P**	**07 21 40.0**	**-0.2**
FORT	comp=Z,6.0nm,0.4s			IAmb	IAmb	07 21 40.5	
MTN	**Manton Dam**	**47.80**	**274**	P	**P**	**07 21 47.4**	**-0.7**
MTN	comp=Z,8.3nm,0.6s			IAmb	IAmb	07 21 48.0	
FITZ	**Fitzroy Crossi**	**51.23**	**265**	P	**P**	**07 22 13.7**	**+0.5**
VNDA	**Vanda**	**54.77**	**185**	P	**P**	**07 22 40.3**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=19,slow=6.7,SNR=2.6						
NWAO	**Narrogin (SRO)**	**55.73**	**245**	P	**P**	**07 22 43.2**	**-1.6**
NWAO	comp=Z,22nm,1.1s			IAmb	IAmb	07 23 22.1	
MBWA	**Marble Bar**	**55.80**	**260**	P	**P**	**07 22 44.6**	**-0.9**
MBWA	comp=Z,21nm,1.3s			IAmb	IAmb	07 22 58.9	
HFS	**Hagfors**	**142.26**	**349**	PKP	**PKPdf**	**07 32 26.3**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=68,slow=3.9,SNR=12						

IDC 15 07:23:43.1±11.0,5°.83S×131°.00E, h618km±198km, mb3.1/1, mbtmp3.7/3, Error ellipse: s-maj=120.8km s-min=103.6km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**167**	P	P	07 26 45.0	-0.2
	0.8nm,0.4s,baz=348,slow=9.7,SNR=10						
ASAR	**Alice Springs**	**17.95**	**171**	P	P	07 27 17.4	-0.2
	0.2nm,0.4s,baz=352,slow=8.1,SNR=4.3						
STKA	**Stephens Creek**	**27.75**	**160**	P	P	07 28 44.6	+0.2
	1.6nm,0.4s,baz=345,slow=8.6,SNR=10						
	1.6nm,0.4s						

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*IDC **15** 07:48:16.0±0.7,46°.93S×10°.34W, h0km, mb4.1/9, mbtmp4.1/9, MS3.9/32, Error ellipse: s-maj=24.5km s-min=18.0km az=83.0*
*NEIC **15** 07:48:18.1±1.1,47°.0S±0°.1×10°.4W±0°.2, h10km±1km, mb4.7/22, Error ellipse: s-maj=24.8km s-min=19.8km az=144.0*
*GCMT **15** 07:48:21.1±0.3,47°.08S±0°.03×10°.04W±0°.05, h12km, MW4.8/80, Moment Tensor Solution. s15,c15; s80,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.66±.07; $M_{\theta\theta}$1.25±.06; $M_{\phi\phi}$0.41±.07; $M_{r\theta}$0.04±.26; $M_{\theta\phi}$-0.73±.06; $M_{\phi r}$~1.15±.36; Best double couple: $M_0$1.99800×10^{16} NP1:ϕ_s325.00000°, δ60.00000°, λ-64.00000°. Principal axes: T 1.8030, Plg12.0000°, Azm37.0000°; N 0.3920, Plg22.0000°, Azm131.0000°; P -2.1930, Plg65.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 07:48:17.6±0.5,46°.93S±0°.10×10°.4W±0°.1, h10km, n72, σ0§83/40, mb4.6/20, MS3.9/34, 4C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.81**	**178**	⇑P	P	07 53 37.7	+7.5
	comp=Z,8.4nm,1.2s						
VNA3	**Neumayer Olymp**	**24.39**	**179**	⇑P	**P**	**07 53 34.7**	**-0.9**
	comp=Z,4.5nm,0.8s						
SNAA	**Sanae**	**25.07**	**174**	⇑P	**P**	**07 53 42.3**	**+0.5**
	comp=Z,142nm,0.8s						
SNAA	**Sanae**	**25.07**	**174**	P	**P**	**07 53 41.1**	**-0.7**
SNAA	**Sanae**	**25.07**	**174**	P	**P**	**07 53 40.9**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=354,slow=9.3,SNR=15						
SNAA				LR	LR	08 01 20.8	
	comp=Z,289nm,19.6s,baz=15,slow=31						
	comp=Z,5.8nm,0.8s						
TROLL	**Troll, Antarti**	**25.87**	**171**	⇑P	**P**	**07 53 48.3**	**-0.9**
	comp=Z,190nm,0.6s						
BELA	**Belgrano 2**	**32.45**	**189**	P	**P**	**07 54 47.2**	**-0.2**
BELA				IAmb	IAmb	07 54 53.6	
	comp=Z,10nm,1.4s						
BOSA	**Boshof**	**33.20**	**69**	P	**P**	**07 54 55.0**	**+0.4**
BOSA				IAmb	IAmb	07 55 26.4	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**33.20**	**69**	P	**P**	**07 54 53.2**	**-1.3**
	comp=Z,7.2nm,1.0s,baz=240,slow=8.1,SNR=4.9						
BOSA				LR	LR	08 05 24.0	
	comp=Z,248nm,21.3s,baz=225,slow=31						
	comp=Z,7.2nm,1.0s						
PMSA	**Palmer Station**	**33.71**	**218**	LR	LR	08 05 47.2	
	comp=Z,383nm,22.0s,baz=78,slow=31						
TSUM	**Tsumeb**	**35.88**	**49**	LR	LR	08 06 60.0	
	comp=Z,240nm,19.9s,baz=169,slow=31						
LBTB	**Lobatse**	**35.95**	**65**	P	**P**	**07 55 18.3**	**-0.1**
LBTB	**Lobatse**	**35.95**	**65**	LR	LR	08 07 45.3	
	comp=Z,176nm,18.5s,baz=220,slow=32						
GRTLG	**Ghanzi**	**36.10**	**56**	P	**P**	**07 55 19.4**	**-0.4**
GRTLG				IAmb	IAmb	07 55 23.4	
	comp=Z,25nm,1.4s						
KHWEE	**KHWEE**	**38.13**	**62**	P	**P**	**07 55 36.8**	**-0.1**
KHWEE				IAmb	IAmb	07 55 38.8	
	comp=Z,20nm,1.0s						
TRQA	**Tornquist**	**38.47**	**264**	P	**P**	**07 55 39.3**	**-0.3**
TRQA				IAmb	IAmb	07 56 00.2	
	comp=Z,19nm,1.5s						
MATP	**Matopo**	**41.13**	**63**	LR	LR	08 10 11.9	
	comp=Z,175nm,21.9s,baz=225,slow=32						
H04S2	**CROZET ISLANDS**	**41.52**	**114**	T	T	08 40 48.7	
	baz=247,slow=76,SNR=60						
H04S3	**CROZET ISLANDS**	**41.53**	**114**	T	T	08 40 50.1	
	baz=247,slow=76,SNR=56						
H04S1	**CROZET ISLANDS**	**41.54**	**114**	T	T	08 40 55.2	
	baz=247,slow=76,SNR=53						
MAW	**Mawson**	**41.54**	**146**	P	**P**	**07 56 04.3**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=276,slow=8.5,SNR=14						
MAW				LR	LR	08 09 47.9	
	comp=Z,75nm,20.8s,baz=266,slow=31						
	comp=Z,4.1nm,0.8s						
CPUP	**Villa Florida**	**42.19**	**282**	LR	LR	08 12 06.9	
	comp=Z,13nm,18.7s,baz=4.0,slow=34						
LL02	**Futaleuf**	**42.62**	**252**	P	**P**	**07 56 12.9**	**-1.0**
LL02				IAmb	IAmb	07 56 14.4	
	comp=Z,18nm,1.1s						
PLCA	**Paso Flores**	**42.92**	**256**	P	**P**	**07 56 16.2**	**-0.2**
PLCA				IAmb	IAmb	07 56 27.3	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**42.92**	**256**	P	**P**	**07 56 15.8**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=102,slow=7.9,SNR=6.2						
PLCA				LR	LR	08 11 17.1	
	comp=Z,53nm,20.9s,baz=116,slow=32						
	comp=Z,2.9nm,0.9s						
QSPA	**South Pole Qui**	**43.33**	**180**		**P**	**07 56 21.9**	**+2.5**
QSPA	**South Pole Qui**	**43.33**	**180**	P	**P**	**07 56 20.9**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=237,slow=1.7,SNR=17						
QSPA				LR	LR	08 12 29.1	
	comp=Z,285nm,21.5s,baz=206,slow=34						
	comp=Z,2.3nm,0.8s						
BDFB	**Brasilia**	**44.12**	**302**	P	**P**	**07 56 26.9**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=149,slow=20,SNR=3.8						
BDFB				LR	LR	08 12 07.8	
	comp=Z,69nm,20.8s,baz=129,slow=32						
	comp=Z,3.8nm,0.9s						
LSZ	**Lusaka**	**44.93**	**58**	LR	LR	08 13 17.6	
	comp=Z,229nm,18.5s,baz=184,slow=33						
BO02	**Sierra Bellavi**	**46.21**	**263**	P	**P**	**07 56 42.6**	**-0.2**
BO02				IAmb	IAmb	07 56 51.4	
	comp=Z,15nm,1.1s						
BO01	**Tunca**	**46.64**	**263**	P	**P**	**07 56 46.2**	**+0.1**
BO01				IAmb	IAmb	07 56 48.5	
	comp=Z,7.0nm,0.9s						
MT09	**Talagante**	**46.93**	**264**	P	**P**	**07 56 48.3**	**-0.1**
MT09				IAmb	IAmb	07 56 53.7	
	comp=Z,7.9nm,0.8s						
MT01	**Popeta**	**47.05**	**263**	P	**P**	**07 56 49.3**	**0.0**
MT01				IAmb	IAmb	07 56 58.7	
	comp=Z,16nm,1.2s						
VA06	**Catapilco**	**47.84**	**265**	P	**P**	**07 56 55.1**	**-0.3**
CO02	**Combarbal**	**48.45**	**266**	P	**P**	**07 57 00.6**	**+0.3**
CO03	**El Pedregal**	**48.45**	**267**	P	**P**	**07 57 00.4**	**+0.1**
CO03				IAmb	IAmb	07 57 05.9	
	comp=Z,6.2nm,0.8s						
SIV	**San Ignacio**	**51.92**	**289**	LR	LR	08 16 35.1	
	comp=Z,59nm,21.3s,baz=113,slow=33						
PB09	**IPOC Station P**	**53.28**	**277**	P	**P**	**07 57 37.4**	**+0.6**
DBIC	**Dimbokro**	**53.59**	**7**	LR	LR	08 14 44.8	
	comp=Z,163nm,20.4s,baz=185,slow=30						
PB11	**IPOC Station P**	**54.95**	**278**	P	**P**	**07 57 47.9**	**-1.1**
VNDA	**Vanda**	**55.73**	**178**	P	**P**	**07 57 53.5**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=240,slow=9.7,SNR=3.8						
VNDA				LR	LR	08 20 22.1	
	comp=Z,227nm,19.0s,baz=180,slow=35						
	comp=Z,0.7nm,0.9s						
PB16	**IPOC Station P**	**55.84**	**280**	P	**P**	**07 57 57.3**	**+1.4**
LPAZ	**La Paz**	**56.36**	**283**	LR	LR	08 22 01.2	
	comp=Z,20nm,18.9s,baz=106,slow=36						
TORD	**Torodi Ar. Bea**	**60.77**	**13**	P	**P**	**07 58 30.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**60.77**	**13**	P	**P**	**07 58 30.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=188,slow=6.2,SNR=6.3						
TORD				LR	LR	08 19 09.7	
	comp=Z,255nm,21.9s,baz=154,slow=30						
	comp=Z,0.5nm,0.5s						
MDP	**Montagnes des**	**63.85**	**312**	LR	LR	08 24 59.3	
	comp=Z,49nm,18.1s,baz=181,slow=34						
ATD	**Arta Tunnel**	**75.07**	**54**	LR	LR	08 31 14.2	
	comp=Z,7.5nm,21.4s,baz=136,slow=34						
ROSC	**El Rosal**	**76.19**	**293**	LR	LR	08 32 45.8	
	comp=Z,54nm,18.1s,baz=244,slow=35						
RPN	**Rapa Nui**	**76.41**	**245**	LR	LR	08 30 27.1	
	comp=Z,35nm,18.9s,baz=140,slow=33						
TDBA	**Terre de Bas,**	**77.59**	**310**	P	**P**	**08 00 12.5**	**-1.3**
MDT	**Midelt**	**79.55**	**5**	LR	LR	08 32 24.3	
	comp=Z,189nm,18.0s,baz=176,slow=33						
MD01	**Midelt array s**	**79.59**	**5**	P	**P**	**08 00 25.4**	**+0.7**
KEST	**Kesra**	**84.17**	**16**	LR	LR	08 35 58.8	
	comp=Z,119nm,18.0s,baz=313,slow=34						
H01W2	**Cape Leeuwin H**	**84.50**	**137**	T	T	09 35 19.6	
	baz=215,slow=75,SNR=6.3						
H01W3	**Cape Leeuwin H**	**84.52**	**137**	T	T	09 35 13.0	
	baz=215,slow=75,SNR=4.5						
H01W1	**Cape Leeuwin H**	**84.52**	**137**	T	T	09 35 17.2	
	baz=215,slow=75,SNR=6.2						
ESDC	**Sonseca Array**	**86.42**	**5**	P	**P**	**08 01 00.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=195,slow=3.4,SNR=5.3						
ESDC				LR	LR	08 35 18.6	
	comp=Z,57nm,21.4s,baz=165,slow=33						
	comp=Z,1.2nm,0.8s						
EIL	**Elat**	**86.52**	**38**	LR	LR	08 38 23.6	
	comp=Z,174nm,18.1s,baz=159,slow=35						
VAE	**Valguarnera**	**86.92**	**19**	LR	LR	08 36 59.1	
	comp=Z,133nm,18.3s,baz=147,slow=34						
ASF	**Jabal al Asfar**	**89.51**	**39**	LR	LR	08 40 07.9	
	comp=Z,81nm,18.1s,baz=154,slow=35						
MMAI	**Mount Meron Ar**	**89.61**	**37**	LR	LR	08 38 53.2	
	comp=Z,127nm,20.1s,baz=215,slow=34						
PALK	**Pallekele**	**95.98**	**86**	LR	LR	08 35 43.1	
	comp=Z,42nm,21.1s,baz=248,slow=30						
MLR	**Muntele Rosu**	**97.42**	**25**	LR	LR	08 46 47.8	
	comp=Z,40nm,18.3s,baz=208,slow=36						
STKA	**Stephens Creek**	**97.58**	**156**	LR	LR	08 42 18.4	
	comp=Z,42nm,20.0s,baz=204,slow=33						
GERES	**GERESS Array B**	**97.66**	**16**	LR	LR	08 43 22.0	
	comp=Z,91nm,18.7s,baz=227,slow=34						
VRAC	**Vranov**	**98.67**	**17**	LR	LR	08 44 07.1	
	comp=Z,65nm,19.8s,baz=233,slow=34						
GNI	**Garni**	**99.62**	**40**	LR	LR	08 46 42.7	
	comp=Z,62nm,18.4s,baz=212,slow=35						
PDAR	**Pinedale Array**	**124.99**	**297**	PKP	**PKPdf**	**08 07 16.1**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=158,slow=1.6,SNR=4.8						
NVAR	**Mina Array Bea**	**128.07**	**288**	PKP	**PKPdf**	**08 07 23.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=99,slow=0.9,SNR=2.4						
HILR	**Hailar Array B**	**147.16**	**67**	PKPbc	**PKPbc**	**08 08 00.5**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=220,slow=3.8,SNR=8.6						
KSRS	**Korea Array**	**148.00**	**92**	PKPbc	**PKPbc**	**08 08 02.6**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=270,slow=2.5,SNR=5.1						
ILAR	**Eielson Array**	**150.59**	**323**	PKPbc	**PKPbc**	**08 08 07.7**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=339,slow=1.2,SNR=17						

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*SOME **15** 08:01:44.4,42°.18N×75°.22E, h10km*
*KRNET **15** 08:01:44.2±0.1,42°.20N×75°.24E, h24km, mb2.4*
*KNET **15** 08:01:44.5±0.6,42°.23N×75°.24E, h15km±5km, ml1.1, Error ellipse: s-maj=3.9km s-min=2.7km az=2.0*
*NNC **15** 08:01:45.8±0.7,42°.30N×75°.17E, h0km, mb3.7, mpv2.6, Error ellipse: s-maj=6.0km s-min=1.5km az=179.0*
ISC 15 08:01:44.3±1.0,42°.21N±0°.03×75°.24E±0°.02, h17km±9km, n28, σ0§42/55, 17C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.49**	**334**	⇓P	**Pb**	**08 01 55.0**	**+0.4**
	39nm,0.1s						
KBK				⇓S	**Sb**	**08 02 02.2**	**+0.5**
	59nm,0.2s						
KBK	**Karagaybulak**	**0.49**	**334**	⇑*i*P	**Pb**	**08 01 54.6**	**-0.1**
KBK				⇑*i*S	**Sb**	**08 02 02.1**	**+0.5**
UCH	**Uchtor**	**0.54**	**272**	⇓P	**Pg**	**08 01 55.4**	**+0.2**
	1.9nm,0.2s						
UCH				⇓S	**Sg**	**08 02 03.0**	**+0.5**
	4.3nm,0.2s						
UCH	**Uchtor**	**0.54**	**272**	⇓*i*P	**Pg**	**08 01 55.1**	**-0.1**
UCH				⇓*i*S	**Sg**	**08 02 03.0**	**+0.5**
BOOM	**Boomskoye usch**	**0.59**	**62**	⇑*i*P	**Pg**	**08 01 56.1**	**+0.1**
BOOM				⇑*i*S	**Sb**	**08 02 04.5**	**+0.1**
AAK	**Ala-Archa**	**0.69**	**308**	⇓P	**Pb**	**08 01 58.3**	**+0.2**
	4.3nm,0.2s						
AAK				⇑S	**Sb**	**08 02 07.3**	**-0.2**
	8.0nm,0.3s						
AAK	**Ala-Archa**	**0.69**	**308**	⇑P	**Pg**	**08 01 57.6**	**-0.4**
	0.7nm,0.4s						
AAK				⇓S	**Sg**	**08 02 06.2**	**-1.1**
	0.9nm,0.4s						
AAK	**Ala-Archa**	**0.69**	**308**	⇑*i*P	**Pg**	**08 01 57.8**	**-0.2**
AAK				⇑*i*S	**Sb**	**08 02 07.7**	**+0.2**
ULHL	**Ulahol**	**0.75**	**87**	⇓P	**Pg**	**08 01 59.0**	**+0.1**
	2.5nm,0.1s						
ULHL				⇓S	**Sb**	**08 02 09.4**	**+0.4**
	6.8nm,0.2s						
ULHL	**Ulahol**	**0.75**	**87**	⇓*i*P	**Pg**	**08 01 58.5**	**-0.4**
ULHL				⇓*i*S	**Sg**	**08 02 08.7**	**-0.2**
TKM2	**Tokmak 2**	**0.75**	**20**	⇑P	**Pb**	**08 01 59.3**	**+0.1**
	2.7nm,0.2s						
TKM2				⇓S	**Sb**	**08 02 09.8**	**+0.5**
	18nm,0.2s						
TKM2	**Tokmak 2**	**0.75**	**20**	⇓*i*P	**Pb**	**08 01 59.0**	**-0.2**
TKM2				⇓*i*S	**Sb**	**08 02 09.7**	**+0.5**
CHMS	**Chumysh**	**0.86**	**336**	⇑P	**Pb**	**08 02 01.4**	**+0.5**
	1.5nm,0.1s						
CHMS				⇑S	**Sn**	**08 02 13.3**	**-0.7**
	14nm,0.2s						
CHMS	**Chumysh**	**0.86**	**336**	⇓*i*P	**Pg**	**08 02 00.7**	**-0.4**
CHMS				⇓*i*S	**Sb**	**08 02 12.8**	**+0.6**
KST	**Kastek**	**0.99**	**33**	P	**Pn**	**08 02 03.7**	**+0.1**
	1.9nm,0.2s						
KST				S	**Sn**	**08 02 16.8**	**-0.4**
	7.2nm,0.3s						
KST	**Kastek**	**0.99**	**33**	*e*P	**Pn**	**08 02 03.6**	**+0.1**
	1.9nm,0.2s						
KST				*e*S	**Sn**	**08 02 17.3**	**+0.1**
	7.2nm,0.3s						
DGS	**Degeres**	**1.10**	**21**	P	**Pg**	**08 02 05.7**	**+0.1**
	0.9nm,0.2s						
DGS				S	**Sn**	**08 02 20.3**	**+0.3**
	5.7nm,0.2s						
USP	**Ospenovka**	**1.19**	**333**	⇑P	**

15nm,0.9s,baz=35,slow=29,SNR=5.3

*JMA **15** 08:10:22.9±0.9,45°N±7°×15°1E±°,h30km,MV4.1/11,*
KURILE ISLANDS REGION
SKHL 15 08:10:24.9±0.5,44°80N×151°50E,h38km±6km,mb4.7/3,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.61**	**281**	*eP*	Pn	08 11 04.5	0.0
KUR				AMB	AMB	08 11 05.1	
	60nm,0.2s						
KUR				*eS*	Sn	08 11 33.7	-1.2
KUR				A	A	08 11 34.8	
	240nm,0.3s						
KUR				A	A	08 11 34.8	
	310nm,0.3s						
SHO	**Shikotan**	**3.48**	**256**	*eP*	Pn	08 11 22.2	+5.8
SHO				AMB	AMB	08 11 24.7	
	40nm,0.2s						
SHO				*eS*	Sn	08 12 00.3	+4.0
SHO				A	A	08 12 03.3	
	70nm,0.2s						
SHO				A	A	08 12 03.3	
	60nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.11**	**261**	*eP*	Pn	08 11 25.8	+0.7
YUK				AMB	AMB	08 11 27.3	
	60nm,0.3s						
YUK				*eS*	Sn	08 12 11.5	-0.4
YUK				A	A	08 12 16.1	
	90nm,0.3s						
YUK				A	A	08 12 16.1	
	100nm,0.3s						
NEM2	**Nemuro 2**	**4.39**	**253**	*eP*	Pn	08 11 29.2	+0.3
NEM2				*eS*	Sn	08 12 18.5	-0.2
NMR	**Nemuro--Hokkai**	**4.40**	**253**	*eP*	Pn	08 11 29.2	+0.2
NMR				*eS*	Sn	08 12 17.8	-1.1
JRA	**Rausu**	**4.65**	**262**	*eP*	Pn	08 11 34.4	+1.9
JNK	**Nakash**	**5.03**	**258**	*eP*	Pn	08 11 38.9	+1.2
JNK				*eS*	Sn	08 12 33.9	-0.5
AKK	**Akkeshi**	**5.13**	**252**	*eP*	Pn	08 11 40.2	+1.1
JAK	**Akkeshi**	**5.24**	**252**	*eP*	Pn	08 11 40.8	+0.2
JAR	**Ashorobuto**	**5.77**	**258**	*eP*	Pn	08 11 49.7	+1.8
JOB	**Onbets**	**5.86**	**254**	*eP*	Pn	08 11 49.7	+0.6
JOB				*eS*	Sn	08 12 53.2	-1.7
JCH	**Churui**	**6.29**	**253**	*eP*	Pn	08 11 56.0	+1.0
JCH				*eS*	Sn	08 13 03.9	-1.6
JANG	**Nango**	**8.59**	**242**	*eS*	Sn	08 13 58.3	-3.8
JTH	**Tanohata**	**8.63**	**239**	*eS*	Sn	08 13 55.7	-7.3

RSNC 15 08:41:17.4±0.0,7°N±1°×73°W±°,h146km±2km,M2.0,mb3.7,
ML2.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**188**	P	Pn	08 41 37.1	-0.5
BARC				S	Sn	08 41 52.5	-0.4
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	08 41 38.5	-0.4
BRJC				S	Sn	08 41 55.3	+0.1
PAMC	**Pamplona, Colo**	**0.69**	**40**	P	Pn	08 41 39.4	-0.6
PAMC				S	Sn	08 41 57.1	-0.1
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	08 41 41.1	-0.6
RUSC				S	Sn	08 41 59.3	-0.8
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	08 41 43.5	-1.4
PTBC				S	Sn	08 42 04.9	-0.9
OCAC	**Ocana**	**1.43**	**353**	P	Pn	08 41 45.6	-0.5
OCAC				S	Sn	08 42 07.5	-0.6
SPBC	**San Pablo de B**	**1.47**	**219**	P	Pn	08 41 46.1	-0.4
SPBC				S	Sn	08 42 07.8	-0.9
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	08 41 57.2	+1.2
ROSC				S	Sn	08 42 27.4	+1.7
HELC	**Santa Helena**	**2.44**	**256**	P	Pn	08 41 58.2	+0.2
HELC				S	Sn	08 42 28.0	-1.2
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	08 42 02.1	+0.7
GUY2C				S	Sn	08 42 36.3	+1.0
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	08 42 04.2	-0.5
CBOC				S	Sn	08 42 40.6	-0.7
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	08 42 09.1	+1.7
ARGC				S	Sn	08 42 46.8	+0.6
PRAC	**Prado**	**3.53**	**209**	P	Pn	08 42 10.6	-0.9
PRAC				S	Sn	08 42 52.8	-0.6
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	08 42 10.8	-1.1
ORTC				S	Sn	08 42 53.8	-0.3
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	08 42 10.9	-2.4
SJCC				S	Sn	08 42 53.0	-3.6
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	08 42 27.5	-3.2
URIC				S	Sn	08 43 26.4	-1.4

*NIC **15** 09:06:34.6,35°86N×32°47E,h12km±2km,Ml2.4/8*
*GII **15** 09:06:35.8±0.0,35°72N×32°34E,h30km,Mws2.5,*
confirmed
*ISK **15** 09:06:36.4,35°75N×32°32E,h29km,ML2.9/27*
*AFAD **15** 09:06:37.4,35°75N×32°56E,h23km±3km,ML2.4*
ISC 15 09:06:34.9±1.2,35°70N±0°02×32°45E±0°03,h11km±10km,
n58,σ1§49/83,1C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.54**	**348**	Pg	**Pb**	**09 06 47.9**	**+1.5**
GAZI				Sg	**Sb**	**09 06 55.4**	**+1.2**
GAZI	**Gazipasa**	**0.54**	**348**	P	**Pb**	**09 06 47.8**	**+1.3**
GAZI				S	**Sn**	**09 06 56.9**	**-0.8**
GAZI				*i* IAML		09 06 57.0	
	comp=N,152nm,0.2s						
GAZI				*i* IAML		09 06 57.0	
	comp=E,464nm,0.4s						
ALFC	**Alefka**	**0.56**	**168**	⇑*i*P	**Pn**	**09 06 48.7**	**-0.1**
ALFC				S	**Sn**	**09 06 58.5**	**+0.4**
ALFC				AML	AML	09 07 00.2	
	1.0nm,0.2s						
ALFC				AML	AML	09 07 03.1	
	0.7nm,0.1s						
BOZY	**Bozyazi-Mersin**	**0.58**	**46**	Pg	**Pn**	**09 06 49.8**	**+0.7**
BOZY				Sg	**Sn**	**09 06 59.3**	**+0.6**
AKMS	**Akamas**	**0.69**	**188**	P	**Pb**	**09 06 50.7**	**+1.7**
AKMS				S	**Sn**	**09 07 02.0**	**+0.7**
AKMS				AML	AML	09 07 07.5	
	0.6nm,0.3s						
AKMS				AML	AML	09 07 08.3	
	0.4nm,0.2s						
TEKE	**Tekeli-Mersin**	**0.69**	**51**	Pg	**Pn**	**09 06 51.5**	**+0.9**
TEKE				Sg	**Sn**	**09 07 02.1**	**+0.7**
TROD	**Troodos**	**0.83**	**156**	P	**Pn**	**09 06 53.0**	**+0.3**
XYLS	**Xyliatos**	**0.84**	**145**	P	**Pb**	**09 06 52.6**	**+1.0**
XYLS				S	**Sn**	**09 07 05.3**	**+0.1**
XYLS				AML	AML	09 07 11.4	
	0.4nm,0.2s						
XYLS				AML	AML	09 07 12.4	
	0.5nm,0.2s						
YORU	**Yoruktepe-Mers**	**0.89**	**60**	Pg	**Pn**	**09 06 54.3**	**+0.9**
YORU				Sg	**Sn**	**09 07 07.5**	**+1.1**
BERE	**Bereket-Mersin**	**0.90**	**44**	Pg	**Pn**	**09 06 54.1**	**+0.5**
BERE				Sg	**Sn**	**09 07 06.8**	**+0.2**
ALAN	**Alanya-ANTALYA**	**0.92**	**338**	Pg	**Pg**	**09 06 52.0**	**-0.6**
ALAN				Sg	**Sg**	**09 07 04.1**	**-0.4**
NATA	**Nata**	**0.93**	**174**	P	**Pn**	**09 06 55.5**	**+1.7**
NATA				S	**Sn**	**09 07 11.2**	**+4.0**
NATA				AML	AML	09 07 16.1	
	0.7nm,0.4s						
NATA				AML	AML	09 07 19.3	
	1.0nm,0.6s						
ATHAL	**Athalassa**	**0.95**	**126**	P	**Pn**	**09 06 54.8**	**+0.6**
ATHAL				S	**Sn**	**09 07 09.5**	**+1.8**
ATHAL				AML	AML	09 07 22.8	
	0.6nm,0.4s						
ATHAL				AML	AML	09 07 29.7	
	0.8nm,0.5s						
OREN	**Orenkoy-Mersin**	**0.96**	**58**	Pg	**Pn**	**09 06 55.1**	**+0.8**
AKK1	**Akkuyu-Mersin**	**0.99**	**63**	Pg	**Pn**	**09 06 55.9**	**+1.3**
AKK2	**Akkuyu-Mersin**	**0.99**	**64**	Pg	**Pn**	**09 06 55.7**	**+1.0**
ERMK	**Ermenek**	**1.01**	**22**	P	**Pn**	**09 06 55.5**	**+0.4**
ERMK				S	**Sn**	**09 07 11.2**	**+1.8**
ERMK				*i* IAML		09 07 12.0	
	comp=N,299nm,0.6s						
ERMK				*i* IAML		09 07 12.0	
	comp=E,174nm,0.3s						
GULN	**MERSIN_Gulnar**	**1.01**	**61**	P	**Pn**	**09 06 55.3**	**+0.4**
GULN				S	**Sn**	**09 07 10.9**	**+1.8**
GULN				*i* IAML		09 07 12.0	
	comp=N,131nm,0.3s						
GULN				*i* IAML		09 07 12.0	
	comp=E,125nm,0.4s						
TEPK	**Tepekoy-MERSIN**	**1.03**	**59**	Pn	**Pn**	**09 06 56.4**	**+1.1**
CSS	**Mathiatis**	**1.03**	**136**	Pn	**Pn**	**09 06 57.0**	**+1.7**
CSS	**Mathiatis**	**1.03**	**136**	P	**Pb**	**09 06 55.0**	**+0.2**
CSS				S	**Sn**	**09 07 15.5**	**+5.8**
CSS				AML	AML	09 07 18.5	
	0.3nm,0.3s						
CSS				AML	AML	09 07 20.8	
	0.3nm,0.5s						
CSS	**Mathiatis**	**1.03**	**136**	P	**Pb**	**09 06 53.4**	**-1.3**
YESI	**Yesilovacik-Me**	**1.08**	**63**	Pn	**Pn**	**09 06 56.6**	**+0.6**
YESI				Sn	**Sn**	**09 07 12.2**	**+1.2**
TEVE	**Tevekalti-Mers**	**1.08**	**47**	Pn	**Pn**	**09 06 56.9**	**+0.8**
TEVE				Sn	**Sn**	**09 07 11.6**	**+0.4**
TISA	**Tisan-Mersin**	**1.09**	**65**	Pn	**Pn**	**09 06 56.9**	**+0.7**
ASGA	**Asgata**	**1.12**	**144**	P	**Pg**	**09 06 57.7**	**+1.1**
ASGA				S	**Sn**	**09 07 15.6**	**+3.6**
ASGA				AML	AML	09 07 24.7	
	0.3nm,0.3s						
ASGA				AML	AML	09 07 25.0	
	0.2nm,0.4s						
KARG	**Kargicak-Mersi**	**1.14**	**64**	Pn	**Pn**	**09 06 58.6**	**+1.9**
MVOU	**Mavrovouni**	**1.18**	**125**	P	**Pb**	**09 06 57.0**	**-0.4**
MVOU				S	**Sb**	**09 07 12.3**	**-0.3**
MVOU				AML	AML	09 07 21.4	
	0.2nm,0.4s						
MVOU				AML	AML	09 07 22.4	
	0.1nm,0.3s						
HDMB	**Hadim**	**1.26**	**1**	Pn	**Pn**	**09 06 58.6**	**0.0**
KEBE	**Keben-Mersin**	**1.26**	**54**	Pn	**Pg**	**09 06 59.7**	**+0.5**
SILI	**Silifke-Mersin**	**1.36**	**61**	Pn	**Pg**	**09 07 01.2**	**+0.1**
KKBE	**Karaman, Kazim**	**1.56**	**14**	P	**Pn**	**09 07 02.6**	**-0.1**
KKBE				S	**Sb**	**09 07 23.5**	**-0.2**
KKBE				*i* IAML		09 07 25.0	
	comp=N,47nm,0.3s						
KKBE				*i* IAML		09 07 26.0	
	comp=E,32nm,0.7s						
KIZK	**Mersin**	**1.57**	**60**	Pn	**Pb**	**09 07 03.9**	**-0.1**
KIZK	**Mersin**	**1.57**	**60**	P	**Pb**	**09 07 03.8**	**-0.1**
KIZK				S	**Sg**	**09 07 25.0**	**-0.5**
KIZK				*i* IAML		09 07 27.0	
	comp=E,33nm,0.3s						
KRMN	**Karaman**	**1.61**	**24**	Pn	**Pn**	**09 07 03.6**	**+0.3**
SEYD	**Seydisehir-KON**	**1.77**	**344**	Pn	**Pn**	**09 07 04.9**	**-0.6**
SEDI	**Konya, Seydise**	**1.83**	**342**	P	**Pn**	**09 07 05.7**	**-0.8**
SEDI				S	**Sn**	**09 07 29.0**	**-0.7**
SEDI				*i* IAML		09 07 30.0	
	comp=E,45nm,0.5s						
SEDI				*i* IAML		09 07 35.0	
	comp=N,42nm,0.6s						
MERS	**Mersin**	**2.04**	**55**	Pn	**Pb**	**09 07 10.4**	**-1.5**
KORT	**Korkueli**	**2.13**	**308**	Pn	**Pn**	**09 07 09.7**	**-0.9**
KERG	**Konya-Eregli**	**2.17**	**38**	P	**Pn**	**09 07 12.2**	**+1.1**
KERG				S	**Sn**	**09 07 38.7**	**+0.6**
KERG				*i* IAML		09 07 39.0	
	comp=N,46nm,0.3s						
KERG				*i* IAML		09 07 41.0	
	comp=E,30nm,0.4s						
DED	**Mersin**	**2.27**	**56**	P	**Pn**	**09 07 12.6**	**+0.2**
DED				S	**Sb**	**09 07 41.9**	**-2.2**
GULE	**Gulek**	**2.45**	**49**	P	**Pn**	**09 07 15.9**	**+0.9**
GULE				S	**Sb**	**09 07 49.7**	**+0.4**
GULE				*i* IAML		09 07 51.0	
	comp=E,28nm,0.8s						
GULE				*i* IAML		09 07 55.0	
	comp=N,37nm,0.5s						
LADK	**Ladik-KONYA**	**2.49**	**358**	Pn	**Pn**	**09 07 14.9**	**-0.6**
KARA	**Karaisali**	**2.61**	**53**	Pn	**Pn**	**09 07 18.3**	**+1.3**
CMRD	**Camardi-Nigde**	**2.83**	**45**	Pn	**Pn**	**09 07 21.5**	**+1.4**
TAHT	**Tahtakopru-Hat**	**3.10**	**76**	Pn	**Pn**	**09 07 24.3**	**+0.6**
HNTI	**Hanita**	**3.45**	**139**	P	**Pn**	**09 07 26.4**	**-2.2**
HNTI	**Hanita**	**3.45**	**139**	S	**Sn**	**09 08 06.8**	**-2.6**
MMA0B	**Mount Meron ar**	**3.63**	**137**	P	**Pn**	**09 07 29.1**	**-1.9**
MMA0B	**Mount Meron ar**	**3.63**	**137**	S	**Sn**	**09 08 12.0**	**-1.9**
GEM	**Giv'at Ha'Em**	**3.64**	**132**	P	**Pn**	**09 07 29.4**	**-1.8**
GEM	**Giv'at Ha'Em**	**3.64**	**132**	S	**Sn**	**09 08 11.6**	**-2.4**
NATI	**Neve Ativ**	**3.65**	**131**	P	**Pn**	**09 07 29.9**	**-1.3**
NATI	**Neve Ativ**	**3.65**	**131**	S	**Sn**	**09 08 12.2**	**-2.0**
MMLI	**Mount Malkishu**	**4.08**	**142**	P	**Pn**	**09 07 35.7**	**-1.7**
MMLI	**Mount Malkishu**	**4.08**	**142**	S	**Sn**	**09 08 23.3**	**-1.9**
DSI	**Dead Sea**	**4.79**	**149**	P	**Pn**	**09 07 45.5**	**-1.5**
DSI	**Dead Sea**	**4.79**	**149**	S	**Sn**	**09 08 39.9**	**-2.6**

*CATAC **15** 09:15:22.5±0.7,7°N±6°×8°2W±°,h1km,M3.6/10,*
MLv3.6/10,Error ellipse: s-maj=13.6km s-min=6.7km
az=32.9,confirmed
*UPA **15** 09:15:23.7±1.7,6°83N×82°38W,h23km±22km,MW3.9*
*UCR **15** 09:15:23.7±1.2,7°01N×82°34W,h4km±10km,MW3.6*
ISC 15 09:15:20.1±2.0,6°89N±0°08×82°37W±0°04,h1km±11km,
n119,σ1§78/152,13C-12D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	**Limones**	**1.30**	**338**	*e*P	**Pb**	**09 15 45.7**	**+0.4**
LMNES	**Limones**	**1.30**	**338**	⇑*i*P	**Pb**	**09 15 45.6**	**+0.3**
GMAL	**Guarumal, Vera**	**1.43**	**52**	⇓*i*P	**Pg**	**09 15 48.0**	**+0.5**
GMAL				*e*S	**Sn**	**09 16 06.2**	**-0.4**
GMAL	**Guarumal, Vera**	**1.43**	**52**	⇓*e*P	**Pg**	**09 15 48.0**	**+0.5**
GMAL				*e*S	**Sn**	**09 16 06.2**	**-0.4**
REME3	**Remedios, Chir**	**1.43**	**22**	*e*P	**Pg**	**09 15 48.5**	**+1.0**
PEDE3	**Pedregal, Chir**	**1.49**	**358**	*e*P	**Pg**	**09 15 49.1**	**+0.5**
PEDE3				*e*S	**Sn**	**09 16 07.4**	**-0.6**
CHIR3	**Chiriqui UPA,**	**1.50**	**2**	*e*P	**Pg**	**09 15 49.8**	**+1.0**
CHIR3				*e*S	**Sn**	**09 16 07.8**	**-0.6**
DVD	**David**	**1.54**	**357**	*e*P	**Pg**	**09 15 49.8**	**+0.2**
DVD				*e*S	**Sg**	**09 16 09.3**	**-0.3**
LESP3	**La Esperanza,**	**1.56**	**345**	⇑P	**Pn**	**09 15 49.5**	**+0.5**
MARI3	**Mariato, Verag**	**1.57**	**61**	⇑*e*P	**Pg**	**09 15 50.4**	**+0.2**
MARI3				*e*S	**Sg**	**09 16 10.7**	**+0.3**
CACAO	**El Cacao, Vera**	**1.57**	**73**	⇓*e*P	**Pn**	**09 15 49.3**	**+0.2**
CACAO				*e*S	**Sn**	**09 16 08.2**	**-1.8**
RSUS3	**Rio de Jesus,**	**1.62**	**48**	*e*P	**Pb**	**09 15 51.0**	**+0.2**
RSUS3				*e*S	**Sg**	**09 16 11.5**	**-0.8**
LPPC	**Paso Canoas**	**1.70**	**344**	*e*P	**Pn**	**09 15 51.6**	**+0.7**
MESA3	**La Mesa, Verag**	**1.72**	**43**	*e*P	**Pb**	**09 15 52.5**	**0.0**
MESA3				*e*S	**Sg**	**09 16 14.5**	**-0.9**
CDITO	**Canoas**	**1.75**	**344**	P	**Pn**	**09 15 52.3**	**+0.7**
CDITO	**Canoas**	**1.75**	**344**	S	**Sg**	**09 16 16.0**	**-0.2**
JEFFS	**S de V. Baru**	**1.77**	**355**	*e*P	**Pb**	**09 15 53.1**	**-0.4**
PIRO	**Carate, Puerto**	**1.78**	**328**	P	**Pn**	**09 15 52.2**	**+0.2**
PIRO	**Carate, Puerto**	**1.78**	**328**	*e*P	**Pn**	**09 15 52.0**	**-0.1**
PSOM3	**Paja de Sombre**	**1.79**	**2**	*e*P	**Pb**	**09 15 53.8**	**+0.1**
PSOM3				*e*S	**Sg**	**09 16 16.3**	**-1.2**
PTAR3	**Potrerillos Ar**	**1.80**	**356**	*e*P	**Pg**	**09 15 54.7**	**+0.2**
PTAR3				*e*S	**Sb**	**09 16 15.9**	**-1.1**
DMCAL	**E. de Neily**	**1.82**	**347**	*e*P	**Pn**	**09 15 53.6**	**+1.0**
DMCAL				*e*S	**Sb**	**09 16 16.8**	**-0.7**
BANCO	**falda S V. Bar**	**1.82**	**355**	*e*P	**Pn**	**09 15 53.7**	**+0.9**
NELY	**Ciudad Neily**	**1.84**	**342**	⇑*i*P	**Pn**	**09 15 53.5**	**+0.7**
NELY				*e*S	**Sn**	**09 16 16.8**	**0.0**
WILLF	**Boquete**	**1.85**	**358**	⇑*e*P	**Pn**	**09 15 53.9**	**+0.8**
CLLRA	**Cordillera,**	**1.86**	**353**	⇑*e*P	**Pn**	**09 15 54.1**	**+0.9**
BQTLY	**Boquete Panama**	**1.86**	**357**	⇓*i*P	**Pb**	**09 15 54.3**	**-0.7**
BQTLY	**Boquete Panama**	**1.86**	**357**	*e*P	**Pn**	**09 15 54.1**	**+0.9**
DAP26	**falda E V. Bar**	**1.89**	**359**	*e*P	**Pn**	**09 15 54.4**	**+0.7**
FITO	**Golfito**	**1.89**	**336**	⇓*i*P	**Pn**	**09 15 53.6**	**0.0**
FITO				*e*S	**Sn**	**09 16 16.7**	**-1.3**
JIME	**Puerto Jimenez**	**1.89**	**330**	*e*P	**Pn**	**09 15 54.1**	**+0.6**
BRU2	**Volcan**	**1.92**	**351**	⇓*i*P	**Pn**	**09 15 55.1**	**+1.0**
BRU2				*e*S	**Sg**	**09 16 20.9**	**-0.9**
BRU2	**Volcan**	**1.92**	**351**	P	**Pn**	**09 15 55.1**	**+1.0**
BRU2	**Volcan**	**1.92**	**351**	*e*P	**Pn**	**09 15 55.1**	**+1.0**
BRU2				*e*S	**Sb**	**09 16 19.5**	**-1.1**
BC3P	**Paso Ancho**	**1.93**	**353**	*e*P	**Pb**	**09 15 56.5**	**+0.3**
MLIR3	**Monte Lirio, C**	**1.94**	**347**	*e*P	**Pb**	**09 15 56.4**	**0.0**
SCLRA	**Santa Clara, W**	**1.97**	**348**	*e*P	**Pb**	**09 15 56.4**	**-0.6**
RSRNO	**Rio Sereno**	**1.98**	**346**	⇓*e*P	**Pb**	**09 15 56.6**	**-0.4**
RSRNO	**Rio Sereno**	**1.98**	**346**	*e*P	**Pb**	**09 15 56.2**	**-0.7**
TOSI3	**Tonosi**	**1.99**	**75**	*e*S	**Sn**	**09 16 19.2**	**-1.2**
RBALA	**Bur**	**1.99**	**6**	*e*P	**Pb**	**09 15 56.9**	**-0.3**
RBALA	**Bur**	**1.99**	**6**	*e*P	**Pb**	**09 15 56.8**	**-0.3**
PBNVO	**Pueblo Nuevo,**	**2.00**	**5**	⇓*e*P	**Pn**	**09 15 56.2**	**+1.2**
PBNVO				*e*S	**Sb**	**09 16 20.9**	**-1.7**
CHGR2	**Aguacate**	**2.05**	**6**	*e*P	**Pb**	**09 15 57.5**	**-0.6**
CHGR2				*e*S	**Sb**	**09 16 22.8**	**-1.3**
ALCO	**Alturas Coton,**	**2.10**	**347**	⇑*e*P	**Pn**	**09 15 57.4**	**+0.8**
CHIT3	**Chitre**	**2.21**	**61**	*e*P	**Pn**	**09 15 59.4**	**+1.4**
CHIT3				*e*S	**Sn**	**09 16 26.1**	**+0.2**
ACHO3	**Achotines, Los**	**2.25**	**76**	*e*P	**Pn**	**09 15 58.9**	**+0.5**
ACHO3				*e*S	**Sn**	**09 16 25.5**	**-1.3**
EDP2	**Potrero Grande**	**2.26**	**339**	⇑*e*P	**Pn**	**09 16 00.3**	**+1.7**
EDP2				*e*S	**Sb**	**09 16 28.7**	**-1.5**
PANP	**Palmar Norte**	**2.32**	**332**	⇓*e*P	**Pn**	**09 16 00.6**	**+1.1**
PCRI3	**Pocri, Los San**	**2.37**	**71**	*e*P	**Pn**	**09 16 01.5**	**+1.4**
PCRI3				*e*S	**Sn**	**09 16 29.2**	**-0.6**
BURE	**Buenos Aires**	**2.46**	**337**	*e*P	**Pn**	**09 16 03.2**	**+1.7**
BURE				*e*S	**Sb**	**09 16 34.0**	**-2.1**
OCHAL	**Ojochal**	**2.53**	**330**	P	**Pn**	**09 16 03.5**	**+1.2**
EDPE	**Pejibaye, P**	**2.55**	**332**	⇑*i*P	**Pn**	**09 16 04.2**	**+1.5**
EDPE				*e*S	**Sn**	**09 16 35.2**	**+0.8**
BRIBI	**Bribri**	**2.75**	**351**	*e*P	**Pb**	**09 16 09.2**	**-0.8**
BRIBI				*e*S	**Sb**	**09 16 44.7**	**+0.4**
ZEDO	**Perez Zeledon**	**2.77**	**332**	*e*P	**Pn**	**09 16 07.4**	**+1.6**
LAES	**El Progreso Va**	**2.93**	**347**	⇓*e*P	**Pb**	**09 16 11.1**	**-2.1**
LAES				*e*S	**Sb**	**09 16 47.5**	**-2.0**
LLNJ	**Naranjito**	**3.08**	**326**	⇑*i*P	**Pn**	**09 16 11.2**	**+1.2**
VERH	**Veragua Rainfo**	**3.12**	**345**	*e*P	**Pn**	**09 16 13.1**	**+2.5**
VERH				*e*S	**Sb**	**09 16 51.8**	**-3.4**
PIEC	**Cerro El Cedra**	**3.14**	**330**	*e*P	**Pn**	**09 16 12.9**	**+1.9**
RAZU	**San Marcos de**	**3.20**	**329**	*e*P	**Pn**	**09 16 13.8**	**+2.1**
PITB	**Pirrs, San**	**3.20**	**329**	*e*P	**Pn**	**09 16 13.8**	**+2.1**
ZANG	**Zanguenga, Cho**	**3.22**	**50**	⇑*e*P	**Pn**	**09 16 14.7**	**+2.8**
ZANG	**Zanguenga, Cho**	**3.22**	**50**	*e*P	**Pn**	**09 16 14.5**	**+2.6**
LCR2	**La Lucha 2**	**3.26**	**330**	P	**Pn**	**09 16 14.4**	**+1.8**
LCR2	**La Lucha 2**	**3.26**	**330**	S	**Sn**	**09 16 53.1**	**+0.9**
PICV	**PH. Pirrs**	**3.26**	**327**	⇓*e*P	**Pn**	**09 16 14.0**	**+1.5**
PICV				*e*S	**Sb**	**09 16 55.9**	**-3.3**
PAR1A	**Puntarenas Pro**	**3.27**	**325**	*e*P	**Pn**	**09 16 14.2**	**+1.7**
REPA	**Paraso**	**3.27**	**333**	*e*P	**Pn**	**09 16 14.7**	**+1.9**
REPA				*e*S	**Sn**	**09 16 53.8**	**+1.3**
VINA	**Juan Vinas**	**3.28**	**336**	*e*P	**Pn**	**09 16 15.0**	**+2.2**
VINA				*e*S	**Sn**	**09 16 55.5**	**+2.9**
VERB	**Verbena**	**3.31**	**337**	*e*P	**Pn**	**09 16 15.4**	**+2.2**
PCAYA	**Pacayas**	**3.33**	**335**	*e*P	**Pn**	**09 16 15.7**	**+2.1**
RESJ	**San Isidro (Tu**	**3.36**	**338**	⇓*i*P	**Pn**	**09 16 16.8**	**+2.9**
RESJ				*e*S	**Sb**	**09 16 58.6**	**-3.6**
ABRB	**Las Abras (San**	**3.37**	**337**	*e*P	**Pn**	**09 16 16.6**	**+2.4**
IRES	**Siquirres**	**3.38**	**341**	*e*P	**Pn**	**09 16 17.4**	**+3.4**
BCIP	**Isla Barro Col**	**3.38**	**48**	*e*P	**Pn**	**09 16 16.4**	**+2.3**
BCIP				*e*S	**Sn**	**09 16 57.7**	**+2.8**
BCIP	**Isla Barro Col**	**3.38**	**48**	P	**Pn**	**09 16 16.5**	**+2.5**
BCIP	**Isla Barro Col**	**3.38**	**48**	*e*P	**Pn**	**09 16 16.2**	**+2.2**
CVTV	**Tajo**	**3.38**	**336**	*e*P	**Pn**	**09 16 16.7**	**+2.3**
LCOCO	**El Coco**	**3.38**	**340**	*e*P	**Pn**	**09 16 17.3**	**+3.2**
LCOCO				*e*S	**Sb**	**09 16 59.5**	**-3.1**
ACOS	**Acosta**	**3.39**	**329**	*e*P	**Pn**	**09 16 15.6**	**+1.3**
CVTQ	**Turrialba Volc**	**3.39**	**336**	*e*P	**Pn**	**09 16 17.1**	**+2.6**
VTR0	**Volcan Turrial**	**3.40**	**336**	*e*P	**Pn**	**09 16 16.9**	**+2.2**
CVTR	**Volcan Turrial**	**3.40**	**336**	*e*P	**Pn**	**09 16 17.0**	**+2.3**
VICA	**Volcano Irazu**	**3.40**	**335**	⇑*e*P	**Pn**	**09 16 16.7**	**+2.0**
RVLA	**Villa Bonita**	**3.42**	**339**	*e*P	**Pn**	**09 16 18.1**	**+3.5**
AMPA	**Desamparados**	**3.42**	**331**	*e*P	**Pn**	**09 16 16.5**	**+1.7**
GAMB1	**Gamboa**	**3.44**	**50**	*e*P	**Pn**	**09 16 17.3**	**+2.3**
LUJA	**Lujan**	**3.45**	**331**	*e*P	**Pn**	**09 16 16.3**	**+1.1**
SJS3	**Mercedes San J**	**3.45**	**331**	*e*P	**Pn**	**09 16 17.5**	**+2.3**
ECI	**Escuela Centro**	**3.46**	**331**	*e*P	**Pn**	**09 16 17.2**	**+2.0**
SJS	**Escuela Geolog**	**3.46**	**331**	*e*P	**Pn**	**09 16 17.5**	**+2.3**
CORON	**Coronado**	**3.46**	**332**	*e*P	**Pn**	**09 16 17.7**	**+2.4**
LUPE	**Guadalupe**	**3.46**	**331**	*e*P	**Pn**	**09 16 17.1**	**+1.8**
DOMI	**Santo Domingo**	**3.51**	**331**

SHL IAmb IAmb 09 59 36.7
comp=Z,7.0nm,0.5s
WB0 Warramunga Arr 39.56 123 P **P** **10 01 35.6 +1.0**
WB0 IAmb IAmb 10 01 38.6
comp=Z,4.1nm,1.2s
WRA Warramunga Arr 39.60 123 P **P** **10 01 33.1 -1.8**
comp=Z,0.5nm,0.5s,baz=300,slow=8.0,SNR=13
comp=Z,0.5nm,0.5s
WR8 Warramunga Arr 39.74 123 P **P** **10 01 38.0 +2.0**
WR8 IAmb IAmb 10 01 49.0
comp=Z,7.1nm,1.2s
ASAR Alice Springs 41.04 128 P **P** **10 01 44.6 -2.2**
comp=Z,0.4nm,0.6s,baz=304,slow=7.1,SNR=5.2
comp=Z,0.4nm,0.6s
SONM Songino Array 47.41 6 P **P** **10 02 37.2 +0.1**
comp=Z,0.9nm,0.6s,baz=188,slow=8.9,SNR=3.5
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 48.47 344 P **P** **10 02 45.4 +0.2**
comp=Z,2.3nm,0.9s,baz=161,slow=7.7,SNR=9.4
comp=Z,2.3nm,0.9s
KK31 Karatay Array 49.73 332 P **P** **10 02 56.1 +1.3**
KKAR Karatay Array 49.73 332 P **P** **10 02 56.6 +1.7**
KURBB Kurchatov Arra 53.00 343 P **P** **10 03 18.9 0.0**
comp=Z,1.2nm,0.2s,baz=163,slow=7.3,SNR=5.0
comp=Z,1.2nm,0.2s
ZAA0 Zalesovo Array 54.58 349 P **P** **10 03 30.5 +0.1**
ZAA0 IAmb IAmb 10 03 31.2
comp=Z,6.2nm,1.0s
ZALV Zalesovo Beam 54.58 349 P **P** **10 03 30.4 0.0**
comp=Z,2.0nm,0.3s,baz=165,slow=6.2,SNR=11
comp=Z,2.0nm,0.3s
AB31 Akbulak array 59.24 331 P **P** **10 04 03.0 -0.3**
ABKAR Akbulak array 59.24 331 P **P** **10 04 03.1 -0.2**
ARCES ARCESS Array B 83.95 340 P **P** **10 06 31.3 +0.6**
ARCES ARCESS Array B 83.95 340 P **P** **10 06 31.1 +0.3**
comp=Z,0.6nm,0.4s,baz=105,slow=4.5,SNR=18
comp=Z,0.6nm,0.4s
BELA Belgrano 2 99.08 189 P **Pdif** **10 07 41.4 +0.2**

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*MOS **15** 10:01:40.0±1.2,24°.80N×125°.02E,h33km,mb4.6/10,Error ellipse: s-maj=14.4km s-min=9.8km az=100.8*
*NIED **15** 10:01:42.0,24°.98N×125°.64E,h52km,MW4.3,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.39; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$-0.14; $M_{r\theta}$1.80; $M_{\theta\phi}$-1.62; $M_{r\phi}$1.43; Fault plane solution: $M_0$2.99000×10^{15} NP1: ϕ_s242.00000°,δ20.00000°,λ101.00000°. NP2: ϕ_s51.00000°,δ70.00000°,λ86.00000°.*
*JMA **15** 10:01:42.0±0.1,25°.0N±0°.7×125°.6E±0°.6,h52km±1km, MD4.5/14,MV4.0/14,NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
*IDC **15** 10:01:41.6±3.5,25°.01N×125°.58E,h41km±33km,mb3.8/18, mbtmp4.0/19,ML3.2/1,MS3.4/17,Error ellipse: s-maj=24.3km s-min=16.5km az=68.0*
*NEIC **15** 10:01:43.4±0.9,24°.92N±0°.10×125°.47E±0°.08,h55km±4km, mb4.8/25,Error ellipse: s-maj=15.0km s-min=9.3km az=153.0*

ISC 15 10:01:43.0±0.7,24°.96N±0°.06×125°.59E±0°.05,h53km±5km, n122,σ$46/114,mb4.3/34,MS3.4/14,2C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.25**	**220**	P		**Pn**	**10 01 51.2**	**-0.8**
JOGS				S		**Sn**	**10 01 58.1**	**-0.4**
JOGS	**Gusukube**	**0.25**	**220**	A		A	10 01 51.2	
comp=N,131nm,0.8s,comp=E,198nm,1.0s								
JMJ	**Miyako jima 2**	**0.30**	**242**	P		**Pn**	**10 01 52.0**	**-0.4**
JIKM	**Ikemajima**	**0.31**	**264**	P		**Pn**	**10 01 51.9**	**-0.6**
JIKM				S		**Sn**	**10 01 59.1**	**-0.2**
JIKM	**Ikemajima**	**0.31**	**264**	A		A	10 01 51.9	
comp=N,80nm,1.8s,comp=E,110nm,0.5s								
JMJ2	**Miyako jima3**	**0.32**	**228**	P		**Pn**	**10 01 51.9**	**-0.7**
JMJ2				S		**Sn**	**10 01 59.2**	**-0.2**
JMJ2	**Miyako jima3**	**0.32**	**228**	A		A	10 01 51.9	
comp=N,76nm,0.9s,comp=E,88nm,1.4s								
JIRB	**Irabujima**	**0.40**	**251**	P		**Pn**	**10 01 52.6**	**-0.7**
JIRB				S		**Sn**	**10 02 00.2**	**-0.5**
JIRB	**Irabujima**	**0.40**	**251**	A		A	10 01 52.6	
comp=N,46nm,1.8s,comp=E,31nm,2.1s								
JTJ	**Tarama**	**0.86**	**249**	*e*P		**Pn**	**10 01 58.9**	**-0.1**
JTJ				*e*S		**Sn**	**10 02 11.1**	**+0.4**
JTJ	**Tarama**	**0.86**	**249**	A		A	10 01 58.9	
comp=N,17nm,0.5s,comp=E,23nm,0.6s								
JISG	**Ishigakijimahi**	**1.22**	**253**	P		**Pn**	**10 02 03.9**	**+0.2**
JISG				S		**Sn**	**10 02 19.5**	**+0.4**
JIJ	**Ishigaki jima**	**1.44**	**246**	P		**Pn**	**10 02 07.0**	**+0.3**
JIJ				*e*S		**Sn**	**10 02 24.7**	**+0.2**
JKRS	**Kuro-shima**	**1.60**	**244**	*e*P		**Pn**	**10 02 09.7**	**+0.7**
JKRS				*e*S		**Sn**	**10 02 30.4**	**+1.8**
JKRS	**Kuro-shima**	**1.60**	**244**	A		A	10 02 09.7	
comp=N,15nm,2.1s,comp=E,12nm,2.1s								
JKE	**Kume jima 2**	**1.74**	**38**	*e*P		**Pn**	**10 02 09.6**	**-1.3**
JKE				*e*S		**Sn**	**10 02 31.2**	**-0.8**
IRIF	**Iriomote-Funau**	**1.80**	**250**	*e*P		**Pn**	**10 02 11.8**	**+0.2**
IRIF				*e*S		**Sn**	**10 02 34.2**	**+0.9**
HATJ	**Hateruma jima**	**1.85**	**241**	*e*P		**Pn**	**10 02 13.1**	**+0.7**
JAGN	**Aguni-jima**	**2.21**	**42**	*e*P		**Pn**	**10 02 15.8**	**-1.5**
JAGN				*e*S		**Sn**	**10 02 41.5**	**-1.9**
JJT3	**Tamagusuku3**	**2.31**	**59**	*e*S		**Sn**	**10 02 43.6**	**-2.3**
YOJ	**Yonaguni jima**	**2.39**	**259**	Pn		**Pn**	**10 02 18.7**	**-1.1**
YOJ				Sn		**Sn**	**10 02 44.8**	**-3.1**
YOJ	**Yonaguni jima**	**2.39**	**259**	P		**Pn**	**10 02 20.4**	**+0.6**
JOW	**Kunigami**	**3.06**	**52**			**Pn**	**10 02 31.4**	**+2.5**
JOW	**Kunigami**	**3.06**	**52**	P		**Pn**	**10 02 27.8**	**-1.1**
comp=E,6.0nm,0.3s,baz=92,slow=16,SNR=4.2								
JOW				S		**Sn**	**10 03 05.3**	**+1.0**
comp=E,53nm,0.3s,baz=284,slow=22,SNR=3.9								
comp=E,30nm,0.5s								
NACB	**Ninganchiao**	**3.72**	**259**	Pn		**Pn**	**10 02 37.1**	**-0.8**
NACB	**Ninganchiao**	**3.72**	**259**	P		**Pn**	**10 02 38.2**	**+0.3**
TATO	**Taipei**	**3.72**	**271**			**Pn**	**10 02 39.2**	**+1.3**
TATO	**Taipei**	**3.72**	**271**	P		**Pn**	**10 02 40.9**	**+3.0**
YHNB	**Yeheng**	**3.84**	**267**	Pn		**Pn**	**10 02 39.4**	**-0.2**
YHNB	**Yeheng**	**3.84**	**267**	P		**Pn**	**10 02 42.2**	**+2.6**
YULB	**Yu-li**	**4.21**	**249**	Pn		**Pn**	**10 02 43.3**	**-1.5**
YULB	**Yu-li**	**4.21**	**249**	P		**Pn**	**10 02 43.0**	**-1.8**
SSLB	**Suanglung**	**4.38**	**256**			**Pn**	**10 02 47.3**	**+0.2**
SSLB	**Suanglung**	**4.38**	**256**	P		**Pn**	**10 02 47.6**	**+0.5**
TWGBT	**Beinan**	**4.64**	**244**	P		**Pn**	**10 02 48.3**	**-2.3**
TWG	**Pinlang**	**4.64**	**244**	Pn		**Pn**	**10 02 48.5**	**-2.2**
TPUB	**Ta-pu**	**4.82**	**251**	Pn		**Pn**	**10 02 51.6**	**-1.5**
TPUB	**Ta-pu**	**4.82**	**251**	P		**Pn**	**10 02 53.2**	**+0.1**
JNU	**Nakatsue**	**9.36**	**28**	LR		LR	10 07 47.3	
comp=E,67nm,21.9s,baz=202,slow=39								
KSRS	**Korea Array**	**12.62**	**9**	P		**Pn**	**10 04 40.1**	**+0.4**
comp=E,1.5nm,0.8s,baz=195,slow=14,SNR=4.3								
MJAR	**Matsushiro Arr**	**15.83**	**40**	P		**Pn**	**10 05 24.9**	**+2.4**
comp=E,2.9nm,0.5s,baz=217,slow=6.9,SNR=11								
MJAR				LR		LR	10 11 41.0	
comp=E,41nm,21.5s,baz=192,slow=38								
MJAR	**Matsushiro Arr**	**15.83**	**40**	*e*P		**P**	**10 05 28.4**	**+3.0**
MJAR				pmax		pmax		
comp=Z,3.0nm,0.5s								
MJA0	**Matsu Arr-Jizo**	**15.85**	**40**	*e*P		**P**	**10 05 28.4**	**+2.7**
MJA0				pmax		pmax		
comp=Z,3.0nm,0.5s								
DAV	**Davao City (W)**	**17.79**	**180**	LR		LR	10 14 15.4	
comp=Z,58nm,18.4s,baz=354,slow=42								
GUMO	**Guam**	**21.40**	**118**	LR		LR	10 12 58.6	
comp=Z,50nm,21.4s,baz=322,slow=32								
LZDM	**Lanzhou Array**	**21.77**	**305**	P		**P**	**10 06 30.8**	**0.0**
comp=Z,1.0nm,0.3s,baz=100,slow=7.6,SNR=1.8								
comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**23.62**	**32**	LR		LR	10 16 29.0	
comp=Z,72nm,18.6s,baz=192,slow=38								
JKA	**Kamikawa-asahi**	**23.62**	**32**	P		**P**	**10 06 46.8**	**-2.4**
JKA				IAmb		IAmb	10 06 58.4	
comp=Z,84nm,1.7s								
YUK	**Yuzh-Kuril'sk**	**25.21**	**36**	*de*P		**P**	**10 07 07.9**	**+4.2**
YUK				pmax		pmax		
comp=Z,5.0nm,1.4s								
CMAR	**Chiang Mai Arr**	**25.56**	**261**	P		**P**	**10 07 06.9**	**-0.2**
comp=Z,2.6nm,1.1s,baz=73,slow=11,SNR=7.3								
comp=Z,2.6nm,1.1s								
SONM	**Songino Array**	**27.42**	**331**	P		**P**	**10 07 22.8**	**-1.0**
SONM	**Songino Array**	**27.42**	**331**	P		**P**	**10 07 22.5**	**-1.3**
comp=Z,0.9nm,0.6s,baz=139,slow=9.5,SNR=2.6								
SONM				LR		LR	10 19 59.1	
comp=Z,123nm,19.3s,baz=102,slow=40								
comp=Z,0.9nm,0.6s								
BATI	**Baumata**	**35.00**	**183**	LR		LR	10 24 45.3	
comp=Z,45nm,19.6s,baz=328,slow=40								
PETK	**Petropavlovsk-**	**37.03**	**32**	P		**P**	**10 08 47.8**	**+0.2**
YAK	**Yakutsk**	**37.17**	**3**	LR		LR	10 25 08.3	
comp=Z,58nm,19.5s,baz=89,slow=38								
YAK	**Yakutsk**	**37.17**	**3**	*e*P		**P**	**10 08 50.3**	**+1.7**
YAK				pmax		pmax		
comp=Z,6.0nm,0.7s								
YAK				pmax		pmax		
comp=N,5.0nm,1.7s								
YAK				pmax		pmax		
comp=E,4.0nm,1.8s								
PET	**Petropavlovsk**	**37.45**	**33**	*de*P		**P**	**10 08 54.4**	**+3.3**
PET				pmax		pmax		
comp=Z,42nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**38.45**	**89**	T		T	10 49 40.1	
baz=283,slow=75								
H11N2	**WAKE ISLAND Hy**	**38.46**	**89**	T		T	10 49 42.2	
baz=283,slow=75								
H11N3	**WAKE ISLAND Hy**	**38.47**	**89**	T		T	10 49 40.5	
baz=283,slow=75								
PMG	**Port Moresby**	**40.11**	**146**	LR		LR	10 26 28.0	
comp=Z,36nm,18.9s,baz=178,slow=37								
MK31	**Makanchi Array**	**40.64**	**314**	*e*P		**P**	**10 09 15.0**	**-2.9**
MKAR	**Makanchi Array**	**40.64**	**314**	P		**P**	**10 09 16.4**	**-1.5**
comp=Z,0.8nm,0.4s,baz=102,slow=10,SNR=12								
MKAR				LR		LR	10 27 44.8	
comp=Z,46nm,19.6s,baz=329,slow=38								
comp=Z,0.8nm,0.4s								
MKAR	**Makanchi Array**	**40.64**	**314**	*e*P		**P**	**10 09 19.8**	**+1.9**
MKAR				pmax		pmax		
comp=Z,1.0nm,0.4s								
ZAA0	**Zalesovo Array**	**41.86**	**325**	P		**P**	**10 09 26.2**	**-1.6**
ZALV	**Zalesovo Beam**	**41.86**	**325**	P		**P**	**10 09 26.1**	**-1.6**
ZALV	**Zalesovo Beam**	**41.86**	**325**	P		**P**	**10 09 26.6**	**-1.2**
comp=Z,3.0nm,0.6s,baz=110,slow=8.2,SNR=11								
ZALV				LR		LR	10 27 22.7	
comp=Z,67nm,18.0s,baz=100,slow=37								
comp=Z,3.0nm,0.6s								
KURK	**Kurchatov**	**44.14**	**318**	P		**P**	**10 09 44.8**	**-1.4**
KURBB	**Kurchatov Arra**	**44.16**	**318**	P		**P**	**10 09 44.8**	**-1.6**
comp=Z,1.0nm,0.5s,baz=108,slow=8.1,SNR=6.2								
comp=Z,1.0nm,0.5s								
AAK	**Ala-Archa**	**45.26**	**306**	LR		LR	10 31 50.6	
comp=Z,56nm,18.9s,baz=50,slow=40								
WB0	**Warramunga Arr**	**45.27**	**168**	P		**P**	**10 09 55.8**	**+0.3**
WRA	**Warramunga Arr**	**45.43**	**168**	P		**P**	**10 09 56.1**	**-0.7**
WRA	**Warramunga Arr**	**45.43**	**168**	P		**P**	**10 09 56.6**	**-0.2**
comp=Z,0.5nm,0.5s,baz=349,slow=8.9,SNR=12								
comp=Z,0.5nm,0.5s								
WRA	**Warramunga Arr**	**45.43**	**168**	*e*P		**P**	**10 09 57.3**	**+0.5**
WRA				pmax		pmax		
comp=Z,1.0nm,0.5s								
WR8	**Warramunga Arr**	**45.48**	**168**	P		**P**	**10 09 56.4**	**-0.7**
PALK	**Pallekele**	**46.30**	**256**	LR		LR	10 29 31.6	
comp=Z,29nm,20.1s,baz=84,slow=36								
TIXI	**Tiksi**	**46.76**	**1**	LR		LR	10 29 30.4	
comp=Z,113nm,18.4s,baz=182,slow=36								
ASAR	**Alice Springs**	**49.00**	**170**	P		**P**	**10 10 24.4**	**-0.2**
comp=Z,0.5nm,0.4s,baz=348,slow=8.5,SNR=5.7								
comp=Z,0.5nm,0.4s								
AB31	**Akbulak array**	**55.79**	**314**	P		**P**	**10 11 13.9**	**-0.7**
ABKAR	**Akbulak array**	**55.79**	**314**	P		**P**	**10 11 14.0**	**-0.6**
ARTI	**Arti**	**57.02**	**322**	P		**P**	**10 11 22.7**	**-0.6**
ARTI				IAmb		IAmb	10 11 23.1	
comp=Z,8.6nm,0.5s								
ARTI	**Arti**	**57.02**	**322**	LR		LR	10 37 58.0	
comp=Z,63nm,19.6s,baz=49,slow=38								
ARTI	**Arti**	**57.02**	**322**	*c i*P		**P**	**10 11 22.4**	**-0.9**
ARTI				S		**S**	**10 19 14.8**	**+1.0**
ARTI				SS		**SS**	**10 22 56.2**	**-6.4**
ARTI				pmax		pmax		
comp=Z,4.0nm,0.6s								
LVA	**Lava Point**	**57.59**	**40**	P		**P**	**10 11 25.4**	**-1.9**
STKA	**Stephens Creek**	**58.55**	**164**	P		**P**	**10 11 33.5**	**-0.6**
H23K	**Yukon River**	**65.43**	**27**	IAmb		IAmb	10 12 31.3	
comp=Z,7.2nm,0.8s								
ILAR	**Eielson Array**	**66.68**	**28**	P		**P**	**10 12 27.5**	**-0.5**
comp=Z,0.4nm,0.5s,baz=289,slow=10,SNR=5.1								
comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	**66.68**	**28**	*e*P		P	10 12 34.1	+6.1
ILAR				pmax		pmax		
comp=Z,1.0nm,0.6s								
F25K	**Christian Rive**	**66.73**	**25**	P		**P**	**10 12 30.4**	**+2.0**
F25K				IAmb		IAmb	10 12 36.6	
comp=Z,4.7nm,0.8s								
SCM	**Sheep Creek Mo**	**66.97**	**31**	P		**P**	**10 12 30.8**	**+0.8**
C27K	**Jago River**	**67.10**	**22**	P		**P**	**10 12 31.0**	**+0.4**
BMAR	**Burnt Mountain**	**67.17**	**25**	P		**P**	**10 12 31.4**	**+0.2**
F26K	**Sheenjek River**	**67.28**	**24**	P		**P**	**10 12 33.8**	**+2.0**
F26K				IAmb		IAmb	10 12 39.8	
comp=Z,7.1nm,1.1s								
M24K	**Tolsona, Glenn**	**67.46**	**31**	P		**P**	**10 12 33.4**	**+0.3**
G26K	**Porcupine Rive**	**67.56**	**25**	P		**P**	**10 12 34.0**	**+0.5**
G26K				IAmb		IAmb	10 12 44.3	
comp=Z,24nm,1.8s								
KBZ	**Khabaz**	**68.11**	**309**	P		**P**	**10 12 38.0**	**+0.5**
comp=Z,3.7nm,0.8s,baz=121,slow=2.8,SNR=10								
comp=Z,3.7nm,0.8s								
KBZ	**Khabaz**	**68.11**	**309**	*e*P		**P**	**10 12 38.6**	**+1.2**
KBZ				pmax		pmax		
comp=Z,4.0nm,0.8s								
D27M	**Malcolm River**	**68.13**	**23**	P		**P**	**10 12 38.6**	**+1.4**
D27M				IAmb		IAmb	10 12 44.9	
comp=Z,25nm,1.6s								
E27K	**Coleen River**	**68.13**	**24**	P		**P**	**10 12 37.4**	**+0.2**
E27K				IAmb		IAmb	10 12 58.0	
comp=Z,28nm,1.7s								
KIV	**Kislovodsk**	**68.21**	**309**	*e*P		**P**	**10 12 37.8**	**-0.4**
KIV				pmax		pmax		
comp=Z,9.0nm,1.0s								
H27K	**Steamboat Moun**	**68.59**	**26**	P		**P**	**10 12 40.9**	**+0.8**
H27K				IAmb		IAmb	10 12 42.5	
comp=Z,23nm,1.8s								
K27K	**Chicken**	**68.87**	**28**	P		**P**	**10 12 42.8**	**+1.0**
K27K				IAmb		IAmb	10 12 48.1	
comp=Z,9.7nm,1.2s								
BCAR	**Beaver Creek A**	**69.23**	**29**	P		**P**	**10 12 44.0**	**-0.2**
I28M	**Miner Creek**	**69.42**	**26**	P		**P**	**10 12 45.5**	**+0.1**
I28M				IAmb		IAmb	10 13 08.5	
comp=Z,30nm,2.0s								
SPITS	**Spitsbergen Ar**	**69.58**	**348**	P		**P**	**10 12 45.3**	**-0.7**
comp=Z,2.6nm,0.7s,baz=46,slow=4.2,SNR=1.5								
comp=Z,2.6nm,0.7s								
ARCES	**ARCESS Array B**	**70.31**	**338**	P		**P**	**10 12 50.5**	**-0.2**
ARCES				IAmb		IAmb	10 13 02.4	
comp=Z,25nm,1.9s								
ARCES	**ARCESS Array B**	**70.31**	**338**	P		**P**	**10 12 50.0**	**-0.6**
comp=Z,0.9nm,0.7s,baz=68,slow=7.5,SNR=10								
comp=Z,0.9nm,0.7s								
ARCES	**ARCESS Array B**	**70.31**	**338**	*e*P		**P**	**10 12 50.4**	**-0.2**
ARCES				pmax		pmax		
comp=Z,1.0nm,0.7s								
MARD	**Mardin**	**71.41**	**303**			**P**	**10 12 57.8**	**-0.2**
MARD				IAmb		IAmb	10 12 59.8	
comp=Z,14nm,0.6s								
FINES	**FINESS Array B**	**72.79**	**330**	P		**P**	**10 13 05.4**	**-0.2**
comp=Z,1.6nm,0.6s,baz=72,slow=5.8,SNR=8.2								
comp=Z,1.6nm,0.6s								
FINES	**FINESS Array B**	**72.79**	**330**	*e*P		**P**	**10 13 06.2**	**+0.6**
FINES				pmax		pmax		
comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**74.94**	**319**	P		**P**	**10 13 17.8**	**-0.7**
comp=Z,1.3nm,0.5s,baz=60,slow=6.1,SNR=7.5								
comp=Z,1.3nm,0.5s								
AKASG	**Malin Array Be**	**74.94**	**319**	*e*P		**P**	**10 13 18.1**	**-0.3**
AKASG				pmax		pmax		
comp=Z,1.0nm,0.5s								
BR131	**Keskin Array S**	**75.92**	**307**	*de*P		**P**	**10 13 24.4**	**-0.1**
BRTR	**Keskin Array B**	**75.92**	**307**	P		**P**	**10 13 24.8**	**+0.3**
comp=Z,3.6nm,0.8s,baz=102,slow=5.3,SNR=20								
comp=Z,3.6nm,0.8s								
HFS	**Hagfors**	**78.82**	**332**	P		**P**	**10 13 40.2**	**+0.1**
comp=Z,2.1nm,0.8s,baz=114,slow=6.5,SNR=2.2								
comp=Z,2.1nm,0.8s								
NB2	**NORSAR Subarra**	**79.38**	**333**	P		**P**	**10 13 42.7**	**-0.5**
comp=Z,0.8nm,0.6s,baz=54,slow=5.3								
NOA	**NORSAR Array B**	**79.38**	**333**	P		**P**	**10 13 42.7**	**-0.5**
comp=Z,1.2nm,0.7s,baz=54,slow=5.6,SNR=5.5								
NOA				LR		LR	10 53 10.3	
comp=Z,37nm,18.3s,baz=315,slow=39								
comp=Z,1.2nm,0.7s								
NOA	**NORSAR Array B**	**79.38**	**333**	*e*P		**P**	**10 13 43.1**	**-0.1**
NOA				pmax		pmax		
comp=Z,1.0nm,0.7s								
VRAC	**Vranov**	**82.88**	**321**	LR		LR	10 53 14.6	
comp=Z,30nm,19.9s,baz=35,slow=37								
GERES	**GERESS Array B**	**84.75**	**322**	P		**P**	**10 14 12.2**	**+0.6**
comp=Z,1.3nm,0.7s,baz=43,slow=6.0,SNR=8.1								
comp=Z,1.3nm,0.7s								
GERES	**GERESS Array B**	**84.75**	**322**	*e*P		**P**	**10 14 12.5**	**+0.8**
GERES				pmax		pmax		
comp=Z,1.0nm,0.7s								

IDC 15 10:18:54.9±5.5,7°.10S×129°.79E,h180km±54km,mb3.5/1, mbtmp3.8/5,MS3.3/1,Error ellipse: s-maj=52.6km s-min=21.9km az=54.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.80**	**243**	P		Pn	10 20 32.7	+0.2
29nm,0.4s,baz=0.0,slow=0.0,SNR=2.9								
BATI				S		Sn	10 21 49.9	+0.4
33nm,0.5s,baz=53,slow=10,SNR=2.4								
FITZ	**Fitzroy Crossi**	**11.66**	**200**	P		Pn	10 21 35.7	-0.3
0.7nm,0.4s,baz=20,slow=11,SNR=8.9								
FITZ				S		Sn	10 23 39.5	-6.0
2.7nm,0.4s,baz=54,slow=17,SNR=8.2								
WRA	**Warramunga Arr**	**13.51**	**161**	P		Pn	10 21 58.5	-1.1
1.0nm,0.6s,baz=333,slow=13,SNR=17								
WRA				S		Sn	10 24 22.4	-7.6
1.1nm,0.5s,baz=331,slow=23,SNR=8.1								
ASAR	**Alice Springs**	**16.94**	**167**	P		Pn	10 22 42.5	+0.9
0.5nm,0.5s,baz=347,slow=12,SNR=14								
ASAR				S		S	10 25 47.8	-0.3
0.7nm,0.9s,baz=350,slow=26,SNR=5.5								
HILR	**Hailar Array B**	**57.10**	**352**	LR		LR	10 59 25.8	
comp=Z,24nm,18.2s,baz=0.0,slow=43								
MKAR	**Makanchi Array**	**68.19**	**327**	P		P	10 29 35.8	-0.1
0.6nm,0.4s,baz=123,slow=7.7,SNR=5.6								
0.6nm,0.4s								

DJA 15 10:23:38.5±0.5,3°.S±3°×12°.8E±°,h12km±6km,M4.1/10, mB5.0/1,mb4.5/3,MLv3.9/10,Mw(mB)4.3/1,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.90**	**162**	P		Pg	10 23 55.2	-0.7
AAI				S		Sg	10 24 08.4	+0.4
NLAI	**Namlea**	**0.91**	**243**	P		Pn	10 23 56.9	-0.2
MSAI	**Masohi**	**1.14**	**117**	P		Pb	10 24 00.1	-0.1
SANI	**Sanana**	**2.07**	**292**	P		Pn	10 24 11.9	-1.2
SANI				S		Sn	10 24 37.3	-1.6
SWI	**Sorong**	**3.88**	**60**	P		Pn	10 24 37.7	-0.3
FAKI	**Fak Fak**	**4.33**	**91**	P		Pn	10 24 44.0	-0.3
LUWI	**Luwuk**	**5.43**	**289**	P		Pn	10 25 00.4	+1.0
0.3nm30nm,0.8s								
APSI	**Ampana**	**6.54**	**287**	P		Pn	10 25 14.8	+0.2
1μm53nm,0.5s								

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*GCG **15** 10:33:36.0±2.1,15°.99N×93°.52W,h113km±20km,MD4.2, ML3.9*
*MEX **15** 10:33:37.9±0.8,15°.95N×93°.58W,h114km±8km,MD4.1*
*CATAC **15** 10:33:38.4±0.4,16°N±3°×9°3W±°,h97km±5km,M3.7/8, mb3.6/1,MLv3.8/8,Error ellipse: s-maj=6.6km s-min=4.4km az=33.9,confirmed*

ISC 15 10:33:35.4±1.2,16°.01N±0°.04×93°.53W±0°.03,h126km±8km, n55,σ2$38/96,Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PCIG		**0.42**	**135**	*e*P		**Pn**	**10 33 53.5**	**-0.1**
PCIG				*e*S		**Sn**	**10 34 05.5**	**-1.9**
TGIG		**0.86**	**27**	*e*P		**Pn**	**10 33 57.7**	**+0.9**
TGIG				*e*S		**Sn**	**10 34 11.9**	**-1.1**
TGIG		**0.86**	**27**	*i* P		**Pn**	**10 33 57.4**	**+0.6**
TGIG				*i* S		**Sn**	**10 34 12.1**	**-0.9**
TGBT	**Tuxtla Gutierr**	**0.88**	**29**	*e*P		**Pn**	**10 33 57.5**	**+0.7**
TGBT				*i* S		**Sn**	**10 34 12.3**	**-0.7**
NILT	**Santiago Nilte**	**1.18**	**298**	*e*P		**Pn**	**10 34 00.8**	**+1.0**
NILT				*i* S		**Sn**	**10 34 18.6**	**+0.3**
CCIG	**Comitan**	**1.37**	**78**	*e*P		**Pn**	**10 34 02.9**	**+1.0**
CCIG				*i* S		**Sn**	**10 34 20.9**	**-1.2**
CCIG	**Comitan**	**1.37**	**78**	*e*P		**Pn**	**10 34 02.9**	**+1.0**
CCIG				*e*S		**Sn**	**10 34 22.0**	**-0.1**
CCIG				IAML			10 34 23.8	
comp=N,661nm,0.6s								
CCIG	**Comitan**	**1.37**	**78**	P		**Pn**	**10 34 03.2**	**+1.3**
PATR	**El Naranjo**	**1.53**	**125**	*e*P		**Pn**	**10 34 04.5**	**+0.6**
PATR				*e*S		**Sn**	**10 34 24.9**	**-0.6**
**PA

MEIG			*i* S		**Sn**	**10 36 08.5**	**-4.2**
PLIG	**Platanillo**	**6.18 293**	*e*P		**Pn**	**10 35 06.3**	**+1.9**
PLIG			*i* S		Sn	10 35 58.2	-16
CAIG	**El Cayaco**	**6.54 280**	*e*P		**Pn**	**10 35 11.2**	**+1.9**
CAIG			*e*S		**Sn**	**10 36 20.2**	**-2.4**
YUSH	**Yuscaran**	**6.78 107**	P		**Pn**	**10 35 14.0**	**+1.5**
ARIG	**Puente Sto Nin**	**6.90 290**	*e*P		**Pn**	**10 35 18.3**	**+4.2**
ARIG			*i* S		**Sn**	**10 36 26.4**	**-4.9**

BJI ***15*** *10:45:10.8, 14°.09S×167°.19E, h10km, mB5.3/11, mb4.7/34, Ms4.7/4, Ms7 4.4/4*
IDC ***15*** *10:45:11.9±0.6, 14°.30S×166°.43E, h0km, mb4.4/18, mbtmp4.4/21, ML2.5/1, MS4.0/35, Error ellipse: s-maj=18.8km s-min=14.1km az=80.0*
NEIC ***15*** *10:45:13.8±1.3, 14°.36S±0°.07×166°.62E±0°.08, h10km±1km, mb5.1/49, Error ellipse: s-maj=15.0km s-min=10.5km az=53.0*
GCMT ***15*** *10:45:17.8±0.2, 14°.28S±0°.02×166°.35E±0°.01, h15km, MW4.9/112, Moment Tensor Solution. s57,c69; s112,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.08±.12; $M_{\theta\theta}$-0.39±.08; $M_{\phi\phi}$-2.69±.08; $M_{r\theta}$1.00±.16; $M_{\theta\phi}$1.05±.05; $M_{r\phi}$0.27±.14; Best double couple: M_o3.24700×10^{16} NP1:ϕ_s355.00000°, δ46.00000°, λ114.00000°. NP2:ϕ_s142.00000°, δ48.00000°, λ67.00000°. Principal axes: T 3.3950, Plg73.0000°, Azm342.0000°; N -0.2940, Plg17.0000°, Azm158.0000°; P -3.0990, Plg1.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 10:45:16.2±0.4, 14°.36S±0°.06×166°.57E±0°.05, h28km, n124, σ19, 61/103, mb4.8/50, MS4.0/33, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.24 150**			**Pn**	**10 45 36.3**	**-1.4**
MARNC	**Mare, Loyalty**	**7.22 169**		Pn	**Pn**	**10 46 59.3**	**-0.6**
DZM	**Mont Dzumac**	**7.67 181**		Pn	**Pn**	**10 47 06.2**	**0.0**
	9.2nm,0.3s,baz=193,slow=17,SNR=31						
DZM				Sn	**Sn**	**10 48 34.5**	**+2.2**
	2.0nm,0.3s,baz=48,slow=20,SNR=3.7						
DZM				LR	LR	10 49 19.2	
	comp=Z,681nm,20.0s,baz=1.5,slow=32						
ONTNC	**Ouen Toro**	**7.90 181**		Pn	**Pn**	**10 47 09.7**	**+0.4**
HNR	**Honiara**	**8.12 306**			**Pn**	**10 47 12.1**	**-0.3**
HNR	**Honiara**	**8.12 306**		Pn	**Pn**	**10 47 09.4**	**-2.9**
	66nm,0.5s,baz=180,slow=9.1,SNR=1.8						
HNR				Sn	**Sn**	**10 48 42.5**	**-0.8**
	13nm,0.3s,baz=193,slow=11,SNR=3.5						
HNR				LR	LR	10 49 52.0	
	comp=Z,927nm,21.9s,baz=149,slow=35						
PINNC	**Pines Island,**	**8.25 174**		Pn	**Pn**	**10 47 13.2**	**-0.9**
MSVF	**Nonsavu**	**11.53 108**		Pn	**Pn**	**10 47 56.3**	**-2.9**
FUNA	**Funafuti**	**13.66 66**		Pn	**Pn**	**10 48 26.2**	**-2.0**
EIDS	**Eidsvold**	**18.20 231**			**P**	**10 49 26.3**	**-0.7**
PMG	**Port Moresby**	**19.62 282**		P	**P**	**10 49 41.8**	**-0.8**
	0.4nm,0.3s,baz=72,slow=9.6,SNR=2.3						
PMG				LR	LR	10 56 20.9	
	comp=Z,2μm,18.2s,baz=19,slow=34						
	9.6nm,0.8s						
CTAO	**Charters Tower**	**20.21 251**			**P**	**10 49 49.0**	**-0.1**
RAO	**Raoul Island**	**20.63 138**		LR	LR	10 55 19.2	
	comp=Z,164nm,21.3s,baz=258,slow=29						
ARMA	**Armidale**	**21.08 218**		P	**P**	**10 49 57.9**	**-0.6**
COEN	**Coen**	**22.69 268**			**P**	**10 50 15.7**	**-0.1**
URZ	**Urewera**	**25.57 161**		LR	LR	10 59 49.4	
	comp=Z,407nm,18.6s,baz=38,slow=34						
INKA	**Innaminka**	**27.46 237**			**P**	**10 50 59.9**	**-0.2**
JAY	**Jayapura**	**28.12 292**		LR	LR	11 01 39.8	
	comp=Z,497nm,21.0s,baz=136,slow=35						
STKA	**Stephens Creek**	**28.72 228**		P	**P**	**10 51 11.3**	**0.0**
STKA	**Stephens Creek**	**28.72 228**		P	**P**	**10 51 10.8**	**-0.5**
	1.9nm,0.5s,baz=51,slow=9.8,SNR=7.3						
STKA				LR	LR	11 02 41.5	
	comp=Z,539nm,18.1s,baz=57,slow=37						
	1.9nm,0.5s						
WR8	**Warramunga Arr**	**31.11 255**		P	**P**	**10 51 31.3**	**-1.3**
WB0	**Warramunga Arr**	**31.19 256**		P	**P**	**10 51 32.0**	**-1.3**
WRAB	**Tennant Creek**	**31.25 255**		P	**P**	**10 51 32.3**	**-1.4**
WRAB				IAmb	IAmb	10 52 35.4	
	comp=Z,26nm,2.0s						
WRA	**Warramunga Arr**	**31.26 255**		P	**P**	**10 51 31.9**	**-2.0**
WRA	**Warramunga Arr**	**31.26 255**		P	**P**	**10 51 31.1**	**-2.8**
	comp=Z,3.1nm,0.8s,baz=84,slow=8.6,SNR=23						
WRA				PcP	**PcP**	**10 54 27.5**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=80,slow=3.1,SNR=2.4						
WRA				LR	LR	11 03 51.2	
	comp=Z,345nm,18.9s,baz=68,slow=36						
	comp=Z,3.1nm,0.8s						
AS31	**Alice Springs**	**32.17 248**			**P**	**10 51 40.9**	**-1.0**
ASAR	**Alice Springs**	**32.17 248**		P	**P**	**10 51 41.1**	**-0.8**
ASAR	**Alice Springs**	**32.17 248**		P	**P**	**10 51 39.5**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=75,slow=9.4,SNR=22						
ASAR				PcP	**PcP**	**10 54 30.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=78,slow=3.0,SNR=2.4						
ASAR				LR	LR	11 05 00.1	
	comp=Z,209nm,18.2s,baz=59,slow=37						
	comp=Z,1.5nm,0.7s						
RAR	**Rarotonga**	**32.72 107**		LR	LR	11 04 24.7	
	comp=Z,116nm,19.0s,baz=268,slow=35						
BBOO	**Buckleboo**	**33.27 231**		P	**P**	**10 51 50.9**	**-0.5**
BBOO				IAmb	IAmb	10 52 07.8	
	comp=Z,15nm,0.9s						
MTN	**Manton Dam**	**34.46 268**		P	**P**	**10 52 01.4**	**-0.5**
GUMO	**Guam**	**35.11 321**		LR	LR	11 05 00.1	
	comp=Z,234nm,18.8s,baz=132,slow=34						
SAUI	**Saumlaki**	**35.15 277**		P	**P**	**10 52 06.8**	**-1.0**
KNRA	**Kununurra**	**36.51 263**		P	**P**	**10 52 18.7**	**-0.8**
KNRA				IAmb	IAmb	10 52 22.9	
	comp=Z,22nm,1.2s						
FORT	**Forrest**	**38.91 239**		P	**P**	**10 52 39.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.42 259**			**P**	**10 52 43.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.42 259**		LR	LR	11 08 33.5	
	comp=Z,157nm,18.7s,baz=64,slow=36						
BATI	**Baumata**	**42.08 271**		LR	LR	11 11 03.7	
	comp=Z,333nm,18.1s,baz=144,slow=37						
PPT2	**Papeete2**	**42.22 100**		*e*S	**S**	**10 59 24.7**	**-1.4**
PPT2					**SS**	**11 02 38.6**	**+3.8**
	comp=Z,164nm,24.2s						
PPT2				*e*SS	**SS**	**11 02 38.6**	**+3.8**
	comp=Z,139nm,26.8s						
PPT2				*e*LR	LR	11 04 41.3	
	comp=Z,208nm,33.5s						
PPT2				*e*LR	LR	11 04 45.9	
	comp=Z,308nm,29.2s						
PPT	**Papeete**	**42.22 100**		P	**P**	**10 53 07.9**	**+0.7**
	comp=Z,15nm,0.7s,baz=255,slow=19,SNR=1.9						
PPT				LR	LR	11 08 26.3	
	comp=Z,162nm,18.2s,baz=296,slow=33						
	comp=Z,15nm,0.7s						
DAV	**Davao City (W)**	**45.90 295**		LR	LR	11 10 06.2	
	comp=Z,149nm,21.3s,baz=164,slow=33						
KAPI	**Kappang**	**46.99 277**		LR	LR	11 13 15.9	
	comp=Z,72nm,21.7s,baz=93,slow=36						
TOLI2	**Tolitoli**	**47.86 285**		P	**P**	**10 53 50.7**	**-1.4**
TOLI2				IAmb	IAmb	10 53 55.5	
	comp=Z,9.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.36 239**		P	**P**	**10 53 55.3**	**-0.4**
NWAO				IAmb	IAmb	10 54 37.1	
	comp=Z,41nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.36 239**		LR	LR	11 14 22.3	
	comp=Z,164nm,19.2s,baz=100,slow=36						
MORW	**Morawa**	**48.82 244**		P	**P**	**10 53 58.5**	**-0.8**
MORW				IAmb	IAmb	10 55 44.9	
	comp=Z,38nm,1.5s						
TAOE	**Nuku Hiva Isla**	**52.39 90**		*e*LR	LR	11 09 29.9	
	comp=Z,454nm,28.3s						
UGM	**Wanagama**	**55.26 270**			**P**	**10 54 45.9**	**-1.5**
MJAR	**Matsushiro Arr**	**57.27 333**		P	**P**	**10 55 00.7**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=162,slow=8.4,SNR=5.7						
MJAR				LR	LR	11 20 21.6	
	comp=Z,60nm,19.0s,baz=144,slow=37						
	comp=Z,3.0nm,0.8s						
KSM	**Kuching**	**57.87 281**			**P**	**10 55 05.9**	**-0.2**
KSM				IAmb	IAmb	10 55 07.6	
	comp=Z,8.8nm,0.8s						
JNU	**Nakatsue**	**58.23 325**		LR	LR	11 19 57.2	
	comp=Z,67nm,18.5s,baz=114,slow=36						
LEM	**Lembang**	**58.30 271**		LR	LR	11 21 48.7	
	comp=Z,125nm,18.2s,baz=29,slow=38						
KSRS	**Korea Array**	**63.06 326**		P	**P**	**10 55 40.4**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=134,slow=5.6,SNR=5.4						
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**63.21 181**		P	**P**	**10 55 42.5**	**+1.0**
VNDA				IAmb	IAmb	10 55 52.0	
	comp=Z,18nm,1.7s						
VNDA	**Vanda**	**63.21 181**		P	**P**	**10 55 41.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=4.6,slow=6.5,SNR=17						
VNDA				LR	LR	11 20 09.4	
	comp=Z,91nm,18.6s,baz=21,slow=33						
	comp=Z,2.4nm,0.8s						
SBA	**Scott Base**	**63.50 180**			**P**	**10 55 44.3**	**+0.9**
SBA				IAmb	IAmb	10 55 46.7	
	comp=Z,12nm,0.9s						
CASY	**Casey**	**63.61 202**		P	**P**	**10 55 44.5**	**+0.2**
CASY				IAmb	IAmb	10 55 54.4	
	comp=Z,14nm,1.1s						
NJ2	**Nanjing**	**64.94 316**		*e*P	**P**	**10 55 55.5**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**66.25 334**		P	**P**	**10 56 01.0**	**-0.7**
	comp=Z,7.4nm,0.9s,baz=101,slow=4.7,SNR=7.0						
	comp=Z,7.4nm,0.9s						
PEA0B	**Petropavlovsk-**	**67.63 354**		P	**P**	**10 56 10.6**	**+0.4**
PETK	**Petropavlovsk-**	**67.63 354**		P	**P**	**10 56 10.8**	**+0.5**
PETK	**Petropavlovsk-**	**67.63 354**		P	**P**	**10 56 10.1**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=172,slow=3.3,SNR=4.9						
PETK				LR	LR	11 22 31.3	
	comp=Z,122nm,19.0s,baz=126,slow=33						
	comp=Z,8.0nm,0.9s						
CN2	**Changchun**	**68.98 329**		*e*P	**P**	**10 56 21.9**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PSI	**Prapat**	**69.13 279**		LR	LR	11 26 43.2	
	comp=Z,36nm,19.7s,baz=157,slow=36						
BNX	**BinXian**	**69.50 332**		⇓P	**P**	**10 56 22.3**	**+0.2**
BNX				pmax	pmax		
	comp=Z,12nm,0.5s						
GYA	**Guiyang**	**70.95 305**		⇓P	**P**	**10 56 33.9**	**+2.3**
GYA				pmax	pmax		
	comp=Z,12nm,1.1s						
BJI	**Beijing**	**71.56 321**		P	**P**	**10 56 35.3**	**+0.5**
BJI				pP	**pP**	**10 56 39.5**	**-3.1**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN	**Xi'an**	**72.94 313**		*e*P	**P**	**10 56 43.4**	**+0.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.18 294**		P	**P**	**10 56 50.8**	**0.0**
CMAR	**Chiang Mai Arr**	**74.18 294**		P	**P**	**10 56 51.4**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=127,slow=4.3,SNR=12						
	comp=Z,2.5nm,0.9s						
MA2	**Magadan**	**74.79 352**		LR	LR	11 25 33.7	
	comp=Z,186nm,19.9s,baz=144,slow=32						
HHC	**Hu-ho-hao-te**	**74.87 320**		*e*P	**P**	**10 56 54.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
PZH	**PanZhiHua**	**74.93 303**		P	**P**	**10 56 57.6**	**+2.4**
QSPA	**South Pole Qui**	**75.66 180**		P	**P**	**10 56 59.7**	**+0.9**
QSPA				IAmb	IAmb	10 57 11.7	
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**75.66 180**		P	**P**	**10 57 01.0**	**+2.2**
	comp=Z,4.8nm,0.9s,baz=357,slow=1.2,SNR=17						
	comp=Z,4.8nm,0.9s						
BTO	**Baotou**	**75.70 319**		*e*P	**P**	**10 57 02.3**	**+3.0**
BTO				S	**S**	**11 06 46.8**	**+7.5**
BTO				pmax	pmax		
	comp=Z,18nm,0.7s						
BTO				pmax	pmax		
	comp=Z,380nm,6.5s						
BTO				LR	LR		
	comp=Z,320nm,6.8s						
BTO				LR	LR		
	comp=Z,220nm,6.8s						
BTO				LR	LR		
	comp=Z,290nm,12.6s						
LZH	**Lanzhou**	**77.57 313**		*e*P	**P**	**10 57 11.0**	**+0.9**
LZH				sP	sP	10 57 20.5	-0.2
LZH				sS	sS	11 07 12.3	-0.3
LZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LZDM	**Lanzhou Array**	**77.62 312**		P	**P**	**10 57 11.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=119,slow=5.1,SNR=1.6						
	comp=Z,0.7nm,0.3s						
SEY	**Seymchan**	**77.84 353**		LR	LR	11 27 36.2	
	comp=Z,208nm,19.7s,baz=148,slow=33						
ULN	**Ulaanbaatar**	**81.44 324**		P	**P**	**10 57 30.0**	**-0.9**
ULN				IAmb	IAmb	11 00 17.3	
	comp=Z,16nm,0.5s						
J16K	**Anvik River**	**81.48 14**		P	**P**	**10 57 31.5**	**+1.0**
SONM	**Songino Array**	**81.80 324**			**P**	**10 57 32.9**	**+0.2**
SONM				IAmb	IAmb	11 00 35.7	
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**81.80 324**		P	**P**	**10 57 32.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=146,slow=6.1,SNR=6.0						
SONM				LR	LR	11 35 11.0	
	comp=Z,56nm,18.2s,baz=102,slow=37						
	comp=Z,1.7nm,0.8s						
GTA	**Gaotai**	**81.92 314**		*e*P	**P**	**10 57 34.8**	**+1.2**
GTA				sP	sP	10 57 44.4	+0.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAW	**Mawson**	**81.97 202**		LR	LR	11 28 02.2	
	comp=Z,83nm,21.1s,baz=104,slow=31						
RND	**Reindeer**	**84.80 18**			**P**	**10 57 47.6**	**-0.2**
RND				IAmb	IAmb	10 57 48.7	
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**85.02 18**		IAmb	IAmb	10 57 49.8	
	comp=Z,18nm,1.1s						
H21K	**Melozitna Rive**	**85.38 16**		IAmb	IAmb	10 58 02.8	
	comp=Z,28nm,1.5s						
COLA	**College**	**86.17 18**		P	**P**	**10 57 53.9**	**-0.6**
COLA				IAmb	IAmb	10 58 12.8	
	comp=Z,31nm,1.3s						
IL31		**86.39 18**		IAmb	IAmb	10 58 04.8	
	comp=Z,6.6nm,0.9s						
ILAR	**Eielson Array**	**86.39 18**		P	**P**	**10 57 54.0**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=240,slow=4.8,SNR=32						
	comp=Z,3.9nm,0.8s						
J25K	**Salcha River,**	**86.74 19**		IAmb	IAmb	10 57 58.7	
	comp=Z,11nm,1.1s						
BBB	**Bella Bella**	**86.85 34**		LR	LR	11 29 35.3	
	comp=Z,56nm,21.0s,baz=246,slow=31						
LRMC	**Laurel Mtn Rad**	**87.00 52**		P	**P**	**10 58 00.2**	**+0.9**
COLD	**Coldfoot**	**87.26 15**			**P**	**10 58 00.6**	**+0.9**
COLD				IAmb	IAmb	10 58 02.2	
	comp=Z,9.2nm,1.0s						
PFO	**Pinyon Flats O**	**87.33 54**		LR	LR	11 32 03.2	
	comp=Z,189nm,18.1s,baz=266,slow=32						
E22K	**Anaktuvuk Pass**	**87.54 14**		P	**P**	**10 58 01.8**	**+0.7**
NVAR	**Mina Array Bea**	**87.55 49**		P	**P**	**10 58 02.7**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=247,slow=6.6,SNR=3.0						
NVAR				LR	LR	11 31 29.7	
	comp=Z,186nm,18.7s,baz=264,slow=32						
	comp=Z,0.7nm,0.9s						
G24K	**Hadweenzic Riv**	**87.60 17**		P	**P**	**10 58 01.9**	**+0.5**
G24K				IAmb	IAmb	10 58 03.5	
	comp=Z,19nm,1.4s						
EVN	**Everest**	**87.85 299**		P	**P**	**10 58 03.6**	**-0.7**
EVN				IAmb	IAmb	10 58 19.3	
	comp=Z,4.6nm,0.9s						
D22K	**Ayikyak River**	**87.92 14**		P	**P**	**10 58 03.6**	**+0.8**
D22K				IAmb	IAmb	10 58 05.1	
	comp=Z,23nm,1.2s						
F24K	**Squaw Lake**	**88.08 16**		P	**P**	**10 58 04.4**	**+0.7**
F24K				IAmb	IAmb	10 59 04.5	
	comp=Z,23nm,1.7s						
E24K	**Your Creek**	**88.33 15**		P	**P**	**10 58 05.8**	**+0.9**
E24K				IAmb	IAmb	10 59 18.8	
	comp=Z,28nm,1.9s						
D23K	**Nanushuk River**	**88.45 14**			**P**	**10 58 06.0**	**+0.6**
SYO	**Syowa Base**	**88.86 197**		*e*PcP	**PcP**	**10 58 09.8**	**+0.8**
BMAR	**Burnt Mountain**	**88.92 17**		P	**P**	**10 58 08.5**	**+0.8**
LPIG	**La Paz**	**89.66 65**		LR	LR	11 34 05.4	
	comp=Z,51nm,18.4s,baz=248,slow=33						
WMQ	**Urumqi**	**91.99 315**		*e*P	**P**	**10 58 24.3**	**+1.7**
TROLL	**Troll, Antarti**	**93.17 185**		⇑P	**P**	**10 58 27.5**	**-0.1**
	comp=Z,268nm,0.7s						
SNAA	**Sanae**	**93.88 183**		P	**P**	**10 58 30.2**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=223,slow=5.2,SNR=4.5						
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**95.20 47**		LR	LR	11 36 01.6	
	comp=Z,50nm,18.3s,baz=258,slow=32						
ANMO	**Albuquerque**	**95.65 56**		LR	LR	11 34 14.6	
	comp=Z,140nm,20.1s,baz=321,slow=31						
MKAR	**Makanchi Array**	**96.47 317**		P	**P**	**10 58 41.4**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=93,slow=7.3,SNR=8.2						
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**96.70 324**		P	**P**	**10 58 41.9**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=87,slow=3.1,SNR=4.2						
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**96.70 62**		LR	LR	11 34 36.2	
	comp=Z,35nm,20.0s,baz=268,slow=31						
KURBB	**Kurchatov Arra**	**99.72 320**		LR	LR	11 47 11.3	
	comp=Z,66nm,18.0s,baz=169,slow=37						
ARCES	**ARCESS Array B**	**119.73 345**		PKP	**PKPdf**	**11 04 01.7**	**-1.4**
	comp=Z,4.9nm,1.1s,baz=39,slow=2.2,SNR=8.0						
FINES	**FINESS Array B**	**125.13 338**		PKP	**PKiKP**	**11 04 14.7**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=103,slow=6.3,SNR=4.3						
AK02	**Malin Array Si**	**130.08 326**		PKP	**Pdif**	**11 04 23.0**	**+8.6**
NB2	**NORSAR Subarra**	**130.09 345**		PKP	**PKiKP**	**11 04 29.9**	**+5.9**
	comp=Z,0.7nm,0.6s,baz=43,slow=2.7						
LUBAR	**Lubar, Ukraine**	**131.26 326**		PKP	**Pdif**	**11 04 25.3**	**+5.8**
KEST	**Kesra**	**150.50 320**		PKPab	**PKPab**	**11 05 12.5**	**+0.1**
	comp=Z,7.8nm,0.7s,baz=324,slow=1.0,SNR=6.4						
ESDC	**Sonseca Array**	**153.45 344**		PKPbc	**PKiKP**	**11 05 12.9**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=34,slow=2.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**165.26 267**		PKPab	**PKPab**	**11 06 15.7**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=47,slow=2.8,SNR=3.6						

IDC ***15*** *10:47:29.1±1.0, 14°.99S×173°.53W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=44.8km s-min=25.2km az=150.0*

ISC 15 10:47:33.8±0.9, 15°.0S±0°.3×173°.6W±0°.2, h30km, n13, σ0°30/9, mb3.9/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.52 329**		T	T	11 36 27.6	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.54 329**		T	T	11 36 19.9	
	baz=148,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.54 329**		T	T	11 36 29.1	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**39.47 330**		T	T	11 37 39.3	
	baz=150,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.48 330**		T	T	11 37 35.0	
	baz=150,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.49 330**		T	T	11 37 46.4	
	baz=150,slow=76						
WRA	**Warramunga Arr**	**49.78 256**		P	**P**	**10 56 24.0**	**-0.1**
	0.5nm,0.5s,baz=93,slow=6.7,SNR=16						
WRA				PcP	**PcP**	**10 57 45.2**	**+0.4**
	0.5nm,0.7s,baz=103,slow=2.9,SNR=3.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**50.09 252**		P	**P**	**10 56 26.2**	**-0.2**
	1.8nm,0.5s,baz=86,slow=7.9,SNR=36						
ASAR				PcP	**PcP**	**10 57 46.1**	**+0.2**
	0.3nm,0.7s,baz=87,slow=7.5,SNR=0.9						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**75.06 180**		P	**P**	**10 59 12.5**	**-0.1**
	1.6nm,1.0s,baz=18,slow=3.2,SNR=1.6						
	1.6nm,1.0s						
USRK	**Ussuriysk Ar.**	**76.95 323**		P	**P**	**10 59 23.3**	**-0.2**
	2.5nm,0.6s,baz=63,slow=8.8,SNR=4.1						
	2.5nm,0.6s						
TXAR	**Lajitas Array**	**80.52 56**		P	**P**	**10 59 43.4**	**-0.1**
	0.8nm,1.0s,baz=259,slow=4.9,SNR=5.9						
	0.8nm,1.0s						
PDAR	**Pinedale Array**	**82.06 42**		P	**P**	**10 59 51.6**	**0.0**
	0.3nm,0.6s,baz=224,slow=4.9,SNR=3.7						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**145.73 321**		PKPbc	**PKPdf**	**11 07 10.3**	**+0.5**
	0.7nm,0.8s,baz=48,slow=2.1,SNR=4.3						

UPP ***15*** *11:17:32.7±1.1, 64°.78N×24°.99E, h0km, ML1.7, Presumed earthquake*

HEL 15 11:17:32.0±0.1, 64°.78N×25°.18E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF4	**Vikkela, Lumij**	**0.05 316**		PG	Pg	11 17 32.6	-0.3
OUL	**Oulu**	**0.43 44**		PG	Pg	11 17 39.9	-0.4
OUL				SG	Sg	11 17 41.9	-4.0
OUF	**Merijarvi**	**0.46 206**		PG	Pg	11 17 39.7	-1.0
OUF				SG	Sg	11 17 46.1	-0.5
OUF				MSG		11 17 47.1	
	comp=Z,3.6nm,0.2s						
OBF0	**Syolatti, Pyha**	**0.50 236**		PG	Pg	11 17 40.7	-0.8
	baz=53						
OBF0				SG	Sg	11 17 47.8	-0.1
OBF0				MSG		11 17 48.1	
	comp=Z,3.9nm,0.2s						
KALU	**Kalix**	**1.33 326**		P	Pg	11 17 56.9	-0.6
KALU				S	Sb	11 18 15.3	0.0
KALU	**Kalix**	**1.33 326**		PN	Pg	11 17 56.9	-0.6
	baz=143						
KALU				SN	Sb	11 18 15.3	0.0
TOF	**Tornio**	**1.36 345**		MSG		11 18 12.7	
	comp=Z,1.8nm,0.2s						
TOF				SN	Sn	11 18 16.4	-0.4
RANF	**Ranua**	**1.41 28**		PG	Pn	11 17 58.0	-0.9
RANF				SB	Sg	11 18 17.0	-0.3
BURU	**Burvik**	**1.65 265**		P	Pn	11 18 01.7	-0.4
BURU	**Burvik**	**1.65 265**		PG	Pn	11 18 02.1	-0.1
	baz=86						
BURU				SN	Sb	11 18 24.3

comp=Z,5.9nm,0.2s
FIA0 SG Sg 11 19 05.9 -1.5
PVF Pernaja 1.62 256 PG Pn 11 18 47.9 -0.7
PVF MSG 11 19 07.3
comp=Z,9.2nm,0.2s
PVF SN Sb 11 19 10.6 +0.1
KAF Kangasniemi 1.74 312 MSG 11 18 52.3
comp=Z,2.2nm,0.2s
KAF SN Pn 11 18 50.6 +0.3
KAF Kangasniemi 1.74 312 PG Pn 11 18 50.6 +0.3
KAF MSG 11 19 10.9
comp=Z,6.0nm,0.2s
KAF SN Sb 11 19 13.7 -0.4
NUR Nurmijarvi 2.21 260 SN Sb 11 19 26.6 -0.9
NUR Nurmijarvi 2.21 260 MSG 11 19 24.4
comp=Z,2.7nm,0.2s
NUR SG Sb 11 19 26.6 -0.9
JOF Joensuu 2.23 28 *e*P Pb 11 18 59.0 -0.9
JOF Joensuu 2.23 28 SN Pb 11 18 59.6 -0.3
JOF Joensuu 2.23 28 PG Pb 11 18 58.7 -1.2
JOF SG Sb 11 19 27.0 -1.0
SUF Sumiainen 2.23 323 PG Pb 11 19 00.1 +0.2
SUF MSG 11 19 24.9
comp=Z,2.2nm,0.2s
SUF SG Sb 11 19 28.5 +0.5
HEL5 Espoo, Suvisaa 2.29 250 PG Pb 11 18 59.7 -1.3
HEL5 MSG 11 19 26.7
comp=Z,2.8nm,0.2s
KEF Keuruu 2.33 303 PG Pb 11 19 00.6 -1.0
baz=121
KEF MSG 11 19 27.7
comp=Z,1.8nm,0.2s
KEF SG Sb 11 19 30.8 -0.2
MEF Metsahovi 2.42 254 *e*P Pn 11 19 00.4 +0.9
MEF Metsahovi 2.42 254 SN Sb 11 19 31.6 -1.7
MEF Metsahovi 2.42 254 PB Pn 11 19 00.5 +1.0
MEF MSG 11 19 30.3
comp=Z,2.0nm,0.2s
MEF SG Sb 11 19 31.6 -1.7
NIF Nilsia 2.50 347 MSG 11 19 32.6
comp=Z,1.8nm,0.2s
NIF SG Sb 11 19 35.2 -0.5
RAF Rauma 3.55 274 *e*P Pn 11 19 17.8 +2.7
HEMU Hemsoen 5.49 293 SN 11 19 17.2
VRF Varrio 6.81 2 SN 11 19 08.9

*IDC **15** 11:20:02.6±5.2, 21°.24S×169°.65E, h65km±34km, mb3.2/4, mbtmp3.5/5, ML3.2/1, MS3.4/1, Error ellipse: s-maj=61.8km s-min=23.6km az=14.0*
ISC 15 11:19:59.0±2.7, 21°.4S±0°.5×169°.9E±0°.1, h36km, n7, σ0§67/7, mb3.4/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.27**	**257**	P	**Pn**	**11 20 48.3**	**+0.4**
	2.9nm,0.3s,baz=131,slow=14,SNR=76						
DZM				S	**Sn**	**11 21 25.6**	**-0.1**
	33nm,0.7s,baz=52,slow=16,SNR=6.2						
	8.5nm,0.3s						
RAO	**Raoul Island**	**13.53**	**128**	P	**P**	**11 23 16.9**	**-0.1**
	205nm,0.3s,baz=59,slow=23,SNR=1.9						
RPZ	**Rata Peaks**	**22.30**	**178**	LR	LR	11 31 57.3	
	comp=Z,103nm,21.3s,baz=33,slow=32						
STKA	**Stephens Creek**	**27.30**	**242**	P	**P**	**11 25 39.1**	**-1.2**
	1.6nm,0.6s,baz=102,slow=11,SNR=4.0						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**33.25**	**266**	P	**P**	**11 26 33.2**	**+0.1**
	0.3nm,0.7s,baz=97,slow=8.0,SNR=4.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.26**	**259**	P	**P**	**11 26 33.5**	**+0.3**
	0.4nm,0.7s,baz=80,slow=9.0,SNR=4.5						
	0.4nm,0.7s						
VNDA	**Vanda**	**56.33**	**182**	P	**P**	**11 29 36.3**	**+0.5**
	0.2nm,0.5s,baz=257,slow=23,SNR=7.1						
	0.2nm,0.5s						

*NOU **15** 11:21:47.9, 22°.02S×170°.62E, h0km, MLv4.5/8, Southeast of Loyalty Islands*
IDC 15 11:21:58.6±7.8, 22°.07S×169°.89E, h148km±40km, mb3.5/3, mbtmp3.9/4, Error ellipse: s-maj=108.3km s-min=70.2km az=4.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.82**	**288**	P	Pn	11 22 29.3	-2.2
MARNC	**Mare, Loyalty**	**1.82**	**288**	S	Sn	11 23 01.3	+4.6
PINNC	**Pines Island,**	**2.32**	**256**	P	Pn	11 22 37.1	-0.3
PINNC	**Pines Island,**	**2.32**	**256**	S	Sn	11 23 14.3	+7.0
YATNC	**Mamie plateau,**	**2.78**	**270**	P	Pn	11 22 42.0	-1.1
YATNC	**Mamie plateau,**	**2.78**	**270**	S	Sn	11 23 24.0	+6.6
OUENC	**Ouen Island, N**	**2.84**	**262**	P	Pn	11 22 43.7	-0.1
ONTNC	**Ouen Toro**	**3.19**	**265**	P	Pn	11 22 48.8	+0.5
DZM	**Mont Dzumac**	**3.19**	**269**	P	Pn	11 22 48.5	+0.1
	46nm,0.4s,baz=132,slow=21,SNR=28						
DZM				S	Sn	11 23 27.3	+0.3
	219nm,0.5s,baz=248,slow=17,SNR=6.5						
STKA	**Stephens Creek**	**26.97**	**243**	P	P	11 27 26.3	-0.2
	1.0nm,0.8s,baz=132,slow=21,SNR=1.7						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**33.14**	**260**	P	P	11 28 21.6	+0.6
	3.4nm,0.8s,baz=96,slow=9.5,SNR=32						
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**33.21**	**267**	P	P	11 28 21.0	-0.6
	0.3nm,0.3s,baz=97,slow=8.4,SNR=17						
	0.3nm,0.3s						

*HEL **15** 11:27:48.6±0.2, 65°.84N×21°.71E, h0km, ML1.3, Explosion*
UPP 15 11:27:48.4±0.1, 65°.85N×21°.78E, h0km, ML1.5, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.35**	**192**	P	Pg	11 27 55.1	0.0
SJUU				S	Sg	11 28 00.2	+0.6
SJUU	**Sjulsmark**	**0.35**	**192**	*e*P	Pg	11 27 55.0	-0.1
HARU	**Harads**	**0.46**	**314**	P	Pg	11 27 57.1	0.0
HARU				S	Sg	11 28 03.6	+0.6
KALU	**Kalix**	**0.65**	**88**	P	Pg	11 28 00.7	-0.1
KALU				S	Sg	11 28 09.4	+0.2
KALU	**Kalix**	**0.65**	**88**	PG	Pg	11 28 00.8	0.0
KALU				SG	Sg	11 28 08.9	-0.3
ERTU	**Ertsjaerv**	**0.73**	**13**	P	Pg	11 28 01.9	-0.4
ERTU	**Ertsjaerv**	**0.73**	**13**	PG	Pg	11 28 02.0	-0.3
ERTU				SG	Sg	11 28 11.5	-0.2
TOF	**Tornio**	**1.07**	**76**	PG	Pg	11 28 08.9	0.0
TOF				MSG		11 28 22.1	
	comp=Z,2.0nm,0.2s						
BURU	**Burvik**	**1.28**	**188**	P	Pg	11 28 12.3	-0.6
BURU	**Burvik**	**1.28**	**188**	PN	Pg	11 28 12.4	-0.5
BURU				SN	Sg	11 28 29.8	+0.3
PAJU	**Pajala**	**1.29**	**24**	P	Pg	11 28 12.2	-1.0
PAJU	**Pajala**	**1.29**	**24**	PG	Pg	11 28 12.2	-0.9
PAJU				SB	Sg	11 28 29.5	-0.4
DUNU	**Dundret**	**1.37**	**340**	P	Pg	11 28 13.6	-0.9
ODEU	**Stanfors**	**1.52**	**198**	P	Pn	11 28 16.2	-0.5
SVAU	**Svanoeiden**	**1.65**	**215**	P	Pn	11 28 18.7	+0.1
OBF8	**Ulkokalla**	**1.68**	**154**	SG	Sn	11 28 37.4	-3.7
OBF8				MSG		11 28 38.9	
	comp=Z,2.9nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.74**	**125**	PG	Pb	11 28 20.7	-0.4
	baz=311						
OBF4				MSG		11 28 41.0	
	comp=Z,1.7nm,0.2s						
RNF	**Rovaniemi**	**1.88**	**64**	PG	Pn	11 28 22.5	+0.8
	baz=247						
RNF				SG	Sb	11 28 47.4	-0.1
OUF	**Merijarvi**	**1.94**	**139**	PG	Pb	11 28 23.8	-0.8
OUF				MSG		11 28 46.6	
	comp=Z,2.0nm,0.2s						
UMAU	**Umeaa**	**2.03**	**194**	PG	Pb	11 28 25.0	-1.1
RANF	**Ranua**	**2.06**	**83**	PG	Pb	11 28 25.6	-1.0
	baz=265						
RANF				SG	Sb	11 28 52.0	-0.7
LANU	**Lannavaara**	**2.21**	**2**	*e*P	Pn	11 28 23.9	-2.4
LANU	**Lannavaara**	**2.21**	**2**	PB	Pn	11 28 27.2	+1.0
LANU				SB	Sb	11 28 56.0	-1.0
KU2	**Taivalkoski**	**2.66**	**90**	PG	Pb	11 28 35.4	-1.5
	baz=272						
KU2				SB	Sn	11 29 06.6	+1.2
HEF	**Hetta**	**2.67**	**15**	MSG		11 29 07.9	
	comp=Z,0.7nm,0.2s						
HEF				SG	Sb	11 29 11.0	+0.7
MSF	**Maaselka**	**2.98**	**86**	SB	Sn	11 29 14.6	+1.3
OLKF	**Oulanka, Finla**	**3.14**	**78**	SN	Sn	11 29 18.4	+1.2
KTK1	**Kautokeino**	**3.23**	**9**	SN	Sn	11 29 15.5	-3.8
KU6	**Riekki**	**3.33**	**83**	SN	Sn	11 29 22.8	+1.1
VRF	**Varrio**	**3.64**	**55**	SG	Sg	11 29 42.9	-2.2

*BGSI **15** 11:38:52.3±1.9, 18°.58S×26°.19E, h0km±32km, ML2.9*
*BUL **15** 11:38:54.7±1.6, 18°.57S×26°.31E, h10km, MD3.1*
ISC 15 11:38:51.1±1.2, 18°.61S±0°.05×26°.18E±0°.05, h10km, n16, σ1§66/26, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**1.25**	**310**	*i* P	**Pn**	**11 39 15.2**	**+0.4**
KSANE				*i* S	**Sb**	**11 39 31.2**	**+0.1**
KSANE				IAML		11 39 38.6	
	comp=N,171nm,0.3s						
PHDHD	**Phuduhudu**	**2.21**	**224**	*i* P	**Pn**	**11 39 28.0**	**-0.1**
PHDHD				*i* S	**Sn**	**11 39 55.7**	**+0.2**
PHDHD				IAML		11 40 13.8	
	comp=N,86nm,0.8s						
BROLN	**Tlhalogang**	**2.71**	**156**	*i* P	**Pn**	**11 39 36.0**	**+1.2**
BROLN				*i* S	**Sn**	**11 40 06.9**	**-0.9**
BROLN				IAML		11 40 14.3	
	comp=E,45nm,0.5s						
BLWY	**Bulawayo**	**2.76**	**124**	*i* P	**Pn**	**11 39 35.0**	**-0.5**
BLWY				*i* S	**Sn**	**11 40 08.1**	**-0.9**
MATP	**Matopo**	**2.84**	**130**	*i* P	**Pn**	**11 39 38.5**	**+1.8**
MATP				*i* S	**Sn**	**11 40 10.6**	**-0.5**
KHWEE	**KHWEE**	**3.39**	**192**	*i* P	**Pn**	**11 39 43.8**	**-0.5**
KHWEE				IAML		11 40 45.3	
	comp=N,119nm,0.5s						
LSZ	**Lusaka**	**3.83**	**30**	*i* P	**Pn**	**11 39 52.2**	**+1.9**
LSZ				*i* S	**Sn**	**11 40 34.6**	**-0.9**
MREMI	**Moremi**	**4.12**	**163**	*i* P	**Pn**	**11 39 55.6**	**+1.3**
MREMI				*i* S	**Sn**	**11 40 42.1**	**-0.5**
MREMI				IAML		11 40 59.0	
	comp=N,91nm,0.5s						
LPHEP	**Lephephe**	**4.74**	**184**	*i* P	**Pn**	**11 40 02.4**	**-0.4**
LPHEP				IAML		11 41 17.9	
	comp=N,30nm,4.5s						
KDWAN	**Kaudwane**	**4.96**	**196**	*i* P	**Pn**	**11 40 06.1**	**+0.4**
KDWAN				*i* S	**Sn**	**11 41 02.0**	**-1.2**
KDWAN				IAML		11 41 41.3	
	comp=N,31nm,2.5s						
MUSN	**Musina, Limpop**	**5.04**	**137**	*i* P	**Pn**	**11 40 08.5**	**+1.7**
MUSN				*i* S	**Sn**	**11 41 02.9**	**-2.2**
GRTLG	**Ghanzi**	**5.41**	**239**	IAML		11 42 14.4	
	comp=E,102nm,0.1s						
KGCAE	**Kacgae**	**5.63**	**221**	*i* P	**Pn**	**11 40 15.9**	**+0.9**
KGCAE				IAML		11 42 33.9	
	comp=N,38nm,2.7s						
LBTB	**Lobatse**	**6.40**	**185**	*i* P	**Pn**	**11 40 29.2**	**+3.6**
LBTB				*i* S	**Sn**	**11 41 38.8**	**-0.1**
MOPA	**Mopani**	**6.90**	**136**	*i* P	**Pn**	**11 40 33.7**	**+1.2**
MOPA				*i* S	**Sn**	**11 41 46.4**	**-4.7**
BOSA	**Boshof**	**10.00**	**185**	*i* P	**Pn**	**11 41 16.8**	**+1.8**

*IDC **15** 11:52:34.9±0.5, 20°.98S×68°.73E, h0km, mb4.1/20, mbtmp4.1/20, MS3.7/28, Error ellipse: s-maj=18.5km s-min=15.0km az=74.0*
*NEIC **15** 11:52:37.2±2.1, 20°.97S±0°.06×68°.5E±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=18.2km s-min=9.4km az=107.0*
ISC 15 11:52:37.1±0.5, 21°.0S±0°.1×68°.58E±0°.09, h13km, n69, σ0§89/41, mb4.3/22, MS3.7/28, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**5.04**	**283**		**Pn**	**11 53 51.0**	**-1.4**
H08S1	**Diego Carcia H**	**13.78**	**16**	T	T	12 10 07.4	
	baz=196,slow=76,SNR=245						
H08S2	**Diego Garcia H**	**13.78**	**16**	T	T	12 10 02.8	
	baz=196,slow=76,SNR=502						
H08S3	**Diego Garcia H**	**13.80**	**16**	T	T	12 09 53.8	
	baz=196,slow=76,SNR=452						
OPO	**Ambohidratompo**	**20.27**	**273**	P	**P**	**11 57 13.3**	**+0.5**
	4.0nm,0.9s,baz=94,slow=8.9,SNR=3.8						
	4.0nm,0.9s						
H04N2	**CROZET ISLANDS**	**28.63**	**205**	T	T	12 28 34.1	
	baz=34,slow=75,SNR=1511						
H04N1	**CROZET ISLANDS**	**28.64**	**205**	T	T	12 28 38.1	
	baz=34,slow=75,SNR=1699						
H04N3	**CROZET ISLANDS**	**28.65**	**205**	T	T	12 28 30.3	
	baz=34,slow=75,SNR=1977						
PALK	**Pallekele**	**30.49**	**24**	LR	LR	12 08 16.3	
	comp=Z,119nm,18.7s,baz=200,slow=31						
KMBO	**Kilima Mbogo**	**36.38**	**299**	LR	LR	12 12 15.6	
	comp=Z,104nm,19.0s,baz=103,slow=32						
MATP	**Matopo**	**37.43**	**263**	LR	LR	12 12 00.0	
	comp=Z,107nm,21.9s,baz=94,slow=31						
PSI	**Prapat**	**37.97**	**55**	LR	LR	12 11 30.6	
	comp=Z,112nm,21.6s,baz=158,slow=30						
LSZ	**Lusaka**	**38.73**	**272**	LR	LR	12 13 50.0	
	comp=Z,101nm,19.9s,baz=131,slow=33						
LBTB	**Lobatse**	**39.65**	**256**	LR	LR	12 13 24.4	
	comp=Z,159nm,18.7s,baz=104,slow=31						
BOSA	**Boshof**	**39.89**	**250**	LR	LR	12 13 41.4	
	comp=Z,161nm,18.7s,baz=30,slow=32						
LEM	**Lembang**	**40.28**	**75**	LR	LR	12 12 40.1	
	comp=Z,124nm,19.6s,baz=208,slow=30						
H01W2	**Cape Leeuwin H**	**42.22**	**119**	T	T	12 45 20.3	
	baz=279,slow=75,SNR=7.3						
H01W3	**Cape Leeuwin H**	**42.22**	**119**	T	T	12 45 38.3	
	baz=279,slow=75,SNR=7.7						
H01W1	**Cape Leeuwin H**	**42.23**	**119**	T	T	12 45 22.8	
	baz=279,slow=75,SNR=8.6						
MAW	**Mawson**	**46.76**	**183**	P	**P**	**12 01 06.0**	**+0.2**
	2.3nm,0.7s,baz=13,slow=9.2,SNR=11						
MAW				LR	LR	12 15 49.1	
	comp=Z,55nm,21.6s,baz=354,slow=30						
	2.3nm,0.7s						
TSUM	**Tsumeb**	**47.77**	**263**	LR	LR	12 19 18.6	
	comp=Z,187nm,18.4s,baz=149,slow=34						
SBUM	**Sibu**	**48.65**	**67**		**P**	**12 01 22.3**	**+1.0**
SBUM				IAmb	IAmb	12 01 23.0	
	comp=Z,3.4nm,1.0s						
BRDH	**Bariadhala**	**48.87**	**29**	LR	LR	12 19 21.3	
	comp=Z,137nm,21.2s,baz=163,slow=33						
CM31	**Chiang Mai Arr**	**49.20**	**39**	P	**P**	**12 01 26.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**49.20**	**39**	P	**P**	**12 01 26.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**49.20**	**39**	P	**P**	**12 01 25.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=239,slow=8.8,SNR=13						
CMAR				LR	LR	12 21 02.4	
	comp=Z,59nm,18.9s,baz=225,slow=35						
	comp=Z,1.1nm,0.6s						
KAPI	**Kappang**	**52.07**	**80**	LR	LR	12 20 32.9	
	comp=Z,37nm,22.0s,baz=278,slow=32						
FITZ	**Fitzroy Crossi**	**53.61**	**97**	P	**P**	**12 01 58.3**	**-0.2**
FITZ				IAmb	IAmb	12 01 59.0	
	comp=Z,1.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.61**	**97**	LR	LR	12 21 32.7	
	comp=Z,29nm,19.9s,baz=216,slow=32						
BATI	**Baumata**	**53.90**	**87**	LR	LR	12 21 30.8	
	comp=Z,27nm,21.1s,baz=242,slow=32						
TOLI2	**Tolitoli**	**55.54**	**73**	P	**P**	**12 02 12.7**	**+0.1**
ASAR	**Alice Springs**	**60.01**	**106**	P	**P**	**12 02 43.3**	**-0.7**
ASAR	**Alice Springs**	**60.01**	**106**	P	**P**	**12 02 42.5**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=258,slow=6.6,SNR=18						
ASAR				LR	LR	12 25 19.9	
	comp=Z,90nm,19.1s,baz=300,slow=33						
	comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**60.01**	**106**	P	**P**	**12 02 43.2**	**-0.8**
ASF	**Jabal al Asfar**	**60.93**	**329**	P	**P**	**12 02 50.3**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=243,slow=2.3,SNR=1.8						
ASF				LR	LR	12 27 52.8	
	comp=Z,32nm,18.7s,baz=104,slow=35						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**61.21**	**102**	P	**P**	**12 02 50.8**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=258,slow=6.3,SNR=14						
WRA				LR	LR	12 25 30.5	
	comp=Z,48nm,20.8s,baz=209,slow=32						
	comp=Z,2.3nm,0.8s						
TGY	**Tagaytay City**	**62.12**	**60**	LR	LR	12 26 54.7	
	comp=Z,70nm,20.4s,baz=314,slow=33						
DAV	**Davao City (W)**	**62.50**	**70**	LR	LR	12 27 27.6	
	comp=Z,50nm,20.1s,baz=236,slow=34						
SNAA	**Sanae**	**64.42**	**199**	P	**P**	**12 03 12.9**	**+0.1**
SNAA				IAmb	IAmb	12 03 31.7	
	comp=Z,3.2nm,1.0s						
SNAA	**Sanae**	**64.42**	**199**	P	**P**	**12 03 12.8**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=73,slow=7.0,SNR=5.7						
SNAA				LR	LR	12 28 46.5	
	comp=Z,21nm,18.1s,baz=30,slow=34						
	comp=Z,2.1nm,0.9s						
STKA	**Stephens Creek**	**65.21**	**116**	LR	LR	12 27 29.8	
	comp=Z,61nm,20.5s,baz=207,slow=32						
MKAR	**Makanchi Array**	**68.58**	**10**	LR	LR	12 31 35.7	
	comp=Z,65nm,19.1s,baz=326,slow=34						
BRTR	**Keskin Array B**	**68.64**	**332**	P	**P**	**12 03 40.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=154,slow=6.5,SNR=7.4						
	comp=Z,1.8nm,0.8s						
BR131	**Keskin Array S**	**68.64**	**332**	P	**P**	**12 03 40.9**	**+0.6**
BR131				IAmb	IAmb	12 03 41.8	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**69.14**	**180**	P	**P**	**12 03 44.7**	**+1.7**
QSPA	**South Pole Qui**	**69.14**	**180**	P	**P**	**12 03 44.2**	**+1.2**
	comp=Z,2.6nm,1.1s,baz=320,slow=1.9,SNR=6.4						
QSPA				LR	LR	12 29 37.3	
	comp=Z,34nm,21.2s,baz=256,slow=32						
	comp=Z,2.6nm,1.1s						
AB31	**Akbulak array**	**70.34**	**354**	P	**P**	**12 03 50.5**	**+0.2**
AB31				IAmb	IAmb	12 03 57.4	
	comp=Z,4.4nm,1.1s						
ABKAR	**Akbulak array**	**70.34**	**354**	P	**P**	**12 03 50.5**	**+0.3**
VNDA	**Vanda**	**70.38**	**167**	P	**P**	**12 03 50.3**	**0.0**
VNDA	**Vanda**	**70.38**	**167**	P	**P**	**12 03 49.8**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=261,slow=7.0,SNR=7.2						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**71.82**	**7**	P	**P**	**12 03 59.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=202,slow=6.6,SNR=7.3						
	comp=Z,1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.92**	**291**	P	**P**	**12 04 13.0**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=100,slow=7.7,SNR=5.0						
	comp=Z,1.0nm,0.9s						
ZAA0	**Zalesovo Array**	**75.92**	**10**	P	**P**	**12 04 22.7**	**-0.5**
ZAA0				IAmb	IAmb	12 04 23.5	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**75.92**	**10**	P	**P**	**12 04 22.7**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=183,slow=3.0,SNR=5.1						
	comp=Z,1.4nm,0.5s						
PMG	**Port Moresby**	**76.09**	**95**	LR	LR	12 34 49.7	
	comp=Z,46nm,21.3s,baz=322,slow=33						
SONM	**Songino Array**	**76.44**	**25**	P	**P**	**12 04 26.9**	**+0.4**
SONM				IAmb	IAmb	12 04 34.0	
	comp=Z,2.3nm,1.2s						
SONM	**Songino Array**	**76.44**	**25**	P	**P**	**12 04 26.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=205,slow=6.4,SNR=4.0						
SONM				LR	LR	12 37 43.8	
	comp=Z,53nm,19.9s,baz=175,slow=36						
	comp=Z,0.7nm,0.7s						
MLR	**Muntele Rosu**	**76.67**	**331**	P	**P**	**12 04 27.9**	**+0.1**
MLR				IAmb	IAmb	12 04 36.6	
	comp=Z,4.2nm,1.0s						
MLR	**Muntele Rosu**	**76.67**	**331**	P	**P**	**12 04 28.7**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=331,slow=9.2,SNR=3.6						
	comp=Z,0.9nm,0.4s						
DBIC	**Dimbokro**	**77.08**	**282**	P	**P**	**12 04 31.4**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=135,slow=11,SNR=3.5						
	comp=Z,4.7nm,0.9s						
BURAR	**Bucovina Array**	**78.60**	**332**	P	**P**	**12 04 38.8**	**+0.2**
AKASG	**Malin Array Be**	**79.35**	**336**	P	**P**	**12 04 42.5**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=138,slow=4.5,SNR=5.8						
	comp=Z,0.6nm,0.4s						
JNU	**Nakatsue**	**80.15**	**49**	LR	LR	12 38 00.1	
	comp=Z,66nm,20.5s,baz=312,slow=34						
KSRS	**Korea Array**	**80.58**	**44**	P	**P**	**12 04 48.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=243,slow=7.3,SNR=3.0						
	comp=Z,1.3nm,0.7s						
MJAR	**Matsushiro Arr**	**87.08**	**49**	P	**P**	**12 05 22.0**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=197,slow=6.4,SNR=4.8						
	comp=Z,1.6nm,0.6s						
PMSA	**Palmer Station**	**87.12**	**198**	LR	LR	12 40 15.1	
	comp=Z,42nm,18.1s,baz=317,slow=33						
ARCES	**ARCESS Array B**	**95.34**	**346**	P	**P**	**12 06 00.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=140,slow=4.3,SNR=5.1						
	comp=Z,1.5nm,0.8s						
ULM	**Lac du Bonnet**	**148.31**	**341**	PKPbc	**PKPbc**	**12 12 21.8**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=27,slow=2.3,SNR=1.7						
TXAR	**Lajitas Array**	**169.12**	**321**	PKP	**PKPdf**	**12 12 42.0**	**-2.8**
	comp=Z,0.3nm,0.8s,baz=276,slow=3.1,SNR=3.4						
TXAR				PKPab	**PKPab**	**12 13 57.4**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=38,slow=3.9,SNR=4.6						

*MEX **15** 11:52:58.1±0.4, 27°.94N×112°.00W, h5km±5km, MD4.2*
*IDC **15** 11:52:58.9±1.9, 27°.95N×111°.77W, h0km, mbtmp3.5/7, ML3.5/7, Error ellipse: s-maj=23.5km s-min=13.3km az=27.0*
ISC 15 11:52:56.9±1.3, 27°.96N±0°.04×112°.02W±0°.03, h11km±10km, n29, σ2§23/45, 3C-7D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.67**	**197**	⇓*e*P	**Pb**	**11 53 09.9**	**-0.6**
SRIG				*e*S	**Sb**	**11 53 18.6**	**-1.4**
SRIG				⇓*e*		11 53 20.2	
SRIG				IAML		11 53 20.2	
	comp=E,7μm,0.6s						
SRIG	**Santa Rosalia**	**0.67**	**197**	*i* P	**Pb**	**11 53 10.0**	**-0.6**
SRIG				*i* S	**Sb**	**11 53 19.0**	**-0.9**
SFQB	**San Francisqui**	**0.86**	**301**	⇑*e*P	**Pg**	**11 53 13.4**	**-0.1**
SFQB				*e*S	**Sg**	**11 53 25.2**	**+0.4**
SFQB				IAML		11 53 27.7	
	comp=N,2μm,0.3s						
SFQB				⇓*e*		11 53 28.2	
SFQB				IAML		11 53 28.2	
	comp=E,2μm,0.5s						
BKIRB	**Bahia Kino**	**0.89**	**1**	⇓*e*P	**Pn**	**11 53 14.3**	**-1.1**
BKIRB				*e*S	**Sg**	**11 53 25.8**	**+0.1**
GUYB	**Guaymas**	**1.01**	**93**	*e*P	**Pb**	**11 53 14.6**	**-1.8**
GUYB				*e*S	**Sb**	**11 53 27.8**	**-2.0**
GUYB				IAML		11 53 35.3	
	comp=N,2μm,0.3s						
GUYB				⇓*e*		11 53 35.3	
GUYB	**Guaymas**	**1.01**	**93**	*e*P	**Pb**	**11 53 14.7**	**-1.8**
GUYB				*i* S	**Sb**	**11 53 27.8**	**-2.0**
HSIG		**1.41**	**42**	*e*P	**Pn**	**11 53 21.6

comp=N,0.1nm,0.3s,baz=300,slow=10,SNR=4.9
ANMO Lg Lg 11 57 22.7
comp=N,0.9nm,0.3s,baz=108,slow=11,SNR=7.2
comp=N,1.1nm,0.6s
NVAR Mina Array Bea 11.69 335 Pn Pn 11 55 50.9 +7.1
baz=151,slow=11,SNR=4.3
comp=N,0.3nm,0.7s
ELK Elko 13.02 349 Pn P 11 56 06.6 -6.0
comp=N,0.1nm,0.3s,baz=172,slow=15,SNR=4.5
comp=N,1.0nm,0.8s
PDAR Pinedale Array 14.90 7 Pn **P 11 56 37.1 +3.6**
comp=N,0.1nm,0.3s,baz=171,slow=10,SNR=11
comp=N,1.2nm,0.8s
CMIG Matias Romero 19.15 121 Pn **Pn 11 57 24.2 +3.0**
comp=N,0.2nm,0.3s,baz=7.8,slow=22,SNR=2.6
comp=N,3.0nm,0.9s

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*IDC **15** 11:54:50.8±0.8, 39°.20N×16°.94E, h0km, mb3.9/10, mbtmp3.8/19, ML3.5/7, MS3.4/11, Error ellipse: s-maj=14.9km s-min=12.8km az=112.0*
*MOS **15** 11:54:52.1±1.4, 39°.33N×17°.09E, h12km, mb4.5/12, Error ellipse: s-maj=6.4km s-min=4.4km az=60.8*
*ROM **15** 11:54:52.5±0.2, 39°.213N±0°.006×17°.147E±0°.009, h10km, ML3.7/94, Mw3.9, Error ellipse: s-maj=0.7km s-min=0.6km az=304.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.95; $M_{\theta\theta}$9.57; $M_{\phi\phi}$-4.62; $M_{r\theta}$0.26; $M_{r\phi}$0.73; $M_{\theta\phi}$4.12; Fault plane solution: $M_0$9.26655×10^{14} NP1:ϕ_s232.00000°, δ61.00000°, λ-142.00000°. NP2:ϕ_s122.00000°, δ58.00000°, λ-35.00000°.*
*NEIC **15** 11:54:53.6±1.6, 39°.27N±0°.04×17°.09E±0°.02, h10km±1km, mb4.5/13 Error ellipse: s-maj=6.9km s-min=3.0km az=16.0*
*BEO **15** 11:54:57.5±0.6, 39°.43N×17°.17E, h24km±8km, ML3.6/8*
ISC 15 11:54:52.6±1.1,**39°.23N**±0°.02×**17°.13E**±0°.03,**h5**km±7km, **n315**,σ1§**54**/330,**mb4.3**/22,**MS3.4**/10,**25C-18D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LADO	**San Nicola del**	**0.13**	**296**	⇓P		**Pg**	**11 54 56.4**	**+1.1**
LADO				S		**Sg**	**11 54 59.5**	**+2.5**
LADO				AML		AML		
	comp=E,19900μm,0.3s							
LADO				AML		AML		
	comp=N,12350μm,0.3s							
LADO				AML		AML		
	comp=N,12360μm,0.3s							
LADO				AML		AML		
	comp=E,19908μm,0.3s							
TIP	**Timpagrande**	**0.29**	**260**			**Pb**	**11 54 59.1**	**-1.3**
TIP				Sg		**Sb**	**11 55 04.0**	**-1.5**
TIP	**Timpagrande**	**0.29**	**260**	⇑P		**Pb**	**11 54 59.8**	**-0.5**
TIP	**Timpagrande**	**0.29**	**260**	⇓P		**Pb**	**11 54 59.1**	**-1.3**
TIP				S		**Sb**	**11 55 04.2**	**-1.3**
TIP				AML		AML		
	comp=E,23400μm,0.5s							
TIP				AML		AML		
	comp=N,26850μm,0.7s							
TIP				AML		AML		
	comp=E,23250μm,0.5s							
TIP				AML		AML		
	comp=N,27000μm,0.7s							
TIP				AML		AML		
	comp=N,27007μm,0.7s							
TIP				AML		AML		
	comp=E,23378μm,0.5s							
TIP				AML		AML		
	comp=N,26853μm,0.7s							
TIP				AML		AML		
	comp=E,23254μm,0.5s							
CELI	**Celico**	**0.51**	**290**	⇑P		**Pb**	**11 55 03.0**	**-1.1**
CELI				S		**Sb**	**11 55 11.3**	**-0.6**
CELI				AML		AML		
	comp=E,10500μm,0.5s							
CELI				AML		AML		
	comp=N,13350μm,0.5s							
CELI				AML		AML		
	comp=E,26200μm,0.5s							
CELI				AML		AML		
	comp=E,10450μm,0.5s							
CELI				AML		AML		
	comp=N,13400μm,0.5s							
CELI				AML		AML		
	comp=N,33600μm,0.5s							
CELI				AML		AML		
	comp=N,13394μm,0.5s							
CELI				AML		AML		
	comp=N,33610μm,0.5s							
CELI				AML		AML		
	comp=N,13394μm,1.5s							
CELI				AML		AML		
	comp=N,33610μm,1.5s							
CELI				AML		AML		
	comp=E,26173μm,0.5s							
CELI				AML		AML		
	comp=E,10461μm,0.5s							
SPS2	**Spezzano della**	**0.62**	**276**	⇑P		**Pb**	**11 55 04.5**	**-1.4**
SPS2				S		**Sb**	**11 55 15.0**	**+0.2**
SPS2				AML		AML		
	comp=E,6610μm,0.4s							
SPS2				AML		AML		
	comp=N,5860μm,0.4s							
SPS2				AML		AML		
	comp=E,6610μm,0.4s							
SPS2				AML		AML		
	comp=N,5863μm,0.4s							
GRI	**Girifalco**	**0.68**	**234**	⇓P		**Pb**	**11 55 05.8**	**-1.2**
GRI				S		**Sb**	**11 55 15.2**	**-1.6**
GRI	**Girifalco**	**0.68**	**234**	P		**Pb**	**11 55 05.7**	**-1.4**
GRI				S		**Sb**	**11 55 15.4**	**-1.3**
GRI				AML		AML		
	comp=N,12150μm,0.9s							
GRI				AML		AML		
	comp=E,12400μm,0.6s							
GRI				AML		AML		
	comp=N,11766μm,0.4s							
GRI				AML		AML		
	comp=E,12374μm,0.6s							
CAR1	**CAROLEI**	**0.71**	**272**	⇑P		**Pb**	**11 55 06.3**	**-1.2**
CAR1				S		**Sb**	**11 55 17.1**	**-0.5**
CAR1				AML		AML		
	comp=E,14075μm,0.6s							
CAR1				AML		AML		
	comp=N,15600μm,0.7s							
CAR1				AML		AML		
	comp=E,14070μm,0.6s							
CAR1				AML		AML		
	comp=N,19550μm,0.8s							
CAR1				AML		AML		
	comp=N,15600μm,0.7s							
CAR1				AML		AML		
	comp=N,15600μm,1.3s							
CAR1				AML		AML		
	comp=E,13800μm,0.6s							
CAR1				AML		AML		
	comp=E,14071μm,0.6s							
CAR1				AML		AML		
	comp=N,15606μm,0.7s							
CAR1				AML		AML		
	comp=E,13796μm,0.6s							
CAR1				AML		AML		
	comp=N,19558μm,0.8s							
CAR1				AML		AML		
	comp=N,15606μm,1.3s							
TDS	**Terranova Siba**	**0.75**	**305**	P		**Pb**	**11 55 06.8**	**-1.3**
TDS	**Terranova Siba**	**0.75**	**305**	⇑P		**Pb**	**11 55 06.5**	**-1.7**
TDS				S		**Sb**	**11 55 18.2**	**-0.4**
TDS				AML		AML		
	comp=E,4425μm,0.6s							
TDS				AML		AML		
	comp=N,4415μm,1.1s							
TDS				AML		AML		
	comp=E,4427μm,0.6s							
TDS				AML		AML		
	comp=N,4414μm,1.1s							
SALB	**San Lorenzo Be**	**0.89**	**317**	⇑P		**Pg**	**11 55 08.6**	**-1.0**
SALB				AML		AML		
	comp=E,4535μm,0.4s							
SALB				AML		AML		
	comp=N,3110μm,0.7s							
SALB				AML		AML		
	comp=E,4533μm,0.4s							
SALB				AML		AML		
	comp=N,2544μm,0.5s							
SALB				AML		AML		
	comp=N,3109μm,0.7s							
PLAC	**Placanica**	**0.94**	**215**	⇓P		**Pb**	**11 55 10.1**	**-1.4**
PLAC				AML		AML		
	comp=E,6000μm,0.8s							
PLAC				AML		AML		
	comp=N,3660μm,0.7s							
PLAC				AML		AML		
	comp=N,6210μm,0.8s							
PLAC				AML		AML		
	comp=E,3685μm,0.7s							
PLAC				AML		AML		
	comp=E,6001μm,0.8s							
PLAC				AML		AML		
	comp=N,3660μm,0.7s							
PLAC				AML		AML		
	comp=E,3683μm,0.7s							
PLAC				AML		AML		
	comp=N,6206μm,0.8s							
PLAC				AML		AML		
	comp=E,6001μm,1.2s							
PLAC				AML		AML		
	comp=N,6206μm,1.2s							
CET2	**Cetraro**	**0.96**	**289**	⇑P		**Pg**	**11 55 09.8**	**-1.2**
CET2				AML		AML		
	comp=E,7115μm,0.7s							
CET2				AML		AML		
	comp=N,12609μm,0.6s							
CET2				AML		AML		
	comp=N,12650μm,0.6s							
ORI	**Oriolo Calabro**	**0.98**	**328**	P		**Pg**	**11 55 10.9**	**-0.7**
MMN	**Mormanno**	**1.10**	**307**	P		**Pb**	**11 55 13.1**	**-1.0**
GRIS	**Grisolia**	**1.11**	**298**	P		**Pb**	**11 55 13.4**	**-1.0**
CUC	**Castrocucco**	**1.27**	**307**			**Pn**	**11 55 16.3**	**-0.8**
CUC	**Castrocucco**	**1.27**	**307**	P		**Pn**	**11 55 16.4**	**-0.7**
CUC				AML		AML		
	comp=N,2875μm,0.7s							
CUC				AML		AML		
	comp=N,2935μm,0.8s							
CUC				AML		AML		
	comp=E,3345μm,0.9s							
CUC				AML		AML		
	comp=E,3255μm,0.9s							
CUC				AML		AML		
	comp=N,2876μm,0.7s							
CUC				AML		AML		
	comp=N,2933μm,0.8s							
CUC				AML		AML		
	comp=E,3345μm,0.9s							
CUC				AML		AML		
	comp=E,3256μm,0.9s							
TAR1	**Taranto**	**1.30**	**5**	P		**Pg**	**11 55 16.5**	**-1.1**
SIRI	**Monte Sirino -**	**1.36**	**315**	P		**Pb**	**11 55 18.2**	**-0.5**
SIRI				AML		AML		
	comp=E,2285μm,0.9s							
SIRI				AML		AML		
	comp=E,2235μm,0.9s							
SIRI				AML		AML		
	comp=N,2115μm,1.0s							
SIRI				AML		AML		
	comp=E,2280μm,0.9s							
SIRI				AML		AML		
	comp=N,2070μm,0.9s							
SIRI				AML		AML		
	comp=E,2236μm,0.9s							
SIRI				AML		AML		
	comp=E,2280μm,0.9s							
SIRI				AML		AML		
	comp=N,2115μm,1.0s							
SIRI				AML		AML		
	comp=N,2071μm,0.9s							
CEL	**Celeste**	**1.36**	**225**			**Pb**	**11 55 19.1**	**+0.4**
CEL				Sn		**Sn**	**11 55 35.7**	**-1.2**
CEL	**Celeste**	**1.36**	**225**	P		**Pb**	**11 55 17.9**	**-0.8**
CEL				AML		AML		
	comp=E,2070μm,1.2s							
CEL				AML		AML		
	comp=E,2100μm,1.2s							
CEL				AML		AML		
	comp=N,2415μm,1.1s							
CEL				AML		AML		
	comp=N,2430μm,1.1s							
CEL				AML		AML		
	comp=E,2100μm,1.2s							
CEL				AML		AML		
	comp=N,2413μm,1.1s							
CEL				AML		AML		
	comp=E,2071μm,1.2s							
CEL				AML		AML		
	comp=N,2430μm,1.1s							
CEL				AML		AML		
	comp=E,2100μm,0.8s							
CEL				AML		AML		
	comp=E,2071μm,0.8s							
LTRZ	**Laterza**	**1.39**	**350**	⇑P		**Pn**	**11 55 18.5**	**-0.3**
LTRZ				AML		AML		
	comp=E,7250μm,1.6s							
LTRZ				AML		AML		
	comp=N,27000μm,1.6s							
LTRZ				AML		AML		
LTRZ				AML		AML		
	comp=N,30314μm,7.4s							
LTRZ				AML		AML		
	comp=E,2168μm,0.6s							
LTRZ				AML		AML		
	comp=N,227μm,2.5s							
SOI	**Samo**	**1.43**	**216**	⇑P		**Pb**	**11 55 20.8**	**+1.1**
SOI	**Samo**	**1.43**	**216**	P		**Pn**	**11 55 18.5**	**-0.7**
SOI				AML		AML		
	comp=E,1420μm,0.7s							
SOI				AML		AML		
	comp=N,1505μm,0.6s							
SOI				AML		AML		
	comp=N,1506μm,0.6s							
SOI				AML		AML		
	comp=E,1421μm,0.7s							
MATE	**Matera**	**1.46**	**347**	⇑P		**Pb**	**11 55 19.5**	**-0.7**
MATE	**Matera**	**1.46**	**347**	⇑P		**Pn**	**11 55 19.2**	**-0.3**
MESG	**Mesagne**	**1.47**	**22**	P		**Pn**	**11 55 19.8**	**0.0**
SICLA	**Scilla**	**1.47**	**229**	P		**Pg**	**11 55 19.5**	**-1.3**
MIGL	**Miglionico**	**1.47**	**339**	P		**Pg**	**11 55 20.1**	**-0.8**
MIGL				AML		AML		
	comp=N,6550μm,1.1s							
MIGL				AML		AML		
	comp=E,6935μm,0.8s							
MIGL				AML		AML		
	comp=E,6935μm,0.8s							
MIGL				AML		AML		
	comp=N,6553μm,1.1s							
MIGL				AML		AML		
	comp=E,6935μm,1.2s							
MCEL	**Monticello**	**1.50**	**317**	P		**Pg**	**11 55 20.2**	**-1.1**
MCEL				AML		AML		
	comp=E,1395μm,0.9s							
MCEL				AML		AML		
	comp=N,2070μm,1.5s							
MCEL				AML		AML		
	comp=E,1415μm,1.0s							
MCEL				AML		AML		
	comp=N,2115μm,1.5s							
MCEL				AML		AML		
	comp=E,1417μm,1.0s							
MCEL				AML		AML		
	comp=N,1843μm,0.6s							
MCEL				AML		AML		
	comp=E,1394μm,0.9s							
MCEL				AML		AML		
	comp=N,1799μm,0.8s							
MCEL				AML		AML		
	comp=N,1843μm,1.4s							
MGR	**Morigerati**	**1.52**	**307**	P		**Pg**	**11 55 20.7**	**-1.0**
MGR				AML		AML		
	comp=E,1092μm,0.8s							
MGR				AML		AML		
	comp=N,1028μm,0.8s							
MGR				AML		AML		
	comp=E,1092μm,0.8s							
MGR				AML		AML		
	comp=N,1030μm,0.8s							
MGR				AML		AML		
	comp=N,1113μm,0.7s							
MGR				AML		AML		
	comp=N,1113μm,1.3s							
MGR				AML		AML		
	comp=N,1030μm,1.2s							
MGR				AML		AML		
	comp=E,1077μm,0.7s							
PTRP	**Pietrapertosa**	**1.53**	**328**	P		**Pg**	**11 55 21.5**	**-0.5**
PTRP				AML		AML		
	comp=E,2130μm,0.7s							
PTRP				AML		AML		
	comp=N,2595μm,0.8s							
PTRP				AML		AML		
	comp=E,2129μm,0.7s							
PTRP				AML		AML		
	comp=N,2595μm,0.8s							
PTRP				AML		AML		
	comp=N,2595μm,1.2s							
IST3	**Stromboli F**	**1.54**	**254**	P		**Pb**	**11 55 20.5**	**-1.1**
NOCI	**Noci**	**1.56**	**358**	P		**Pn**	**11 55 20.5**	**-0.5**
MSRU	**Castanea**	**1.59**	**233**	P		**Pb**	**11 55 21.2**	**-1.3**
MSRU				AML		AML		
	comp=E,3090μm,0.8s							
MSRU				AML		AML		
	comp=N,2710μm,1.1s							
MSRU				AML		AML		
	comp=N,2330μm,1.3s							
MSRU				AML		AML		
	comp=E,3090μm,0.8s							
MSRU				AML		AML		
	comp=N,2330μm,0.7s							
BULG	**Bulgheria - Ca**	**1.59**	**303**	P		**Pb**	**11 55 21.7**	**-0.9**
BULG				AML		AML		
	comp=E,1420μm,0.6s							
BULG				AML		AML		
	comp=E,1480μm,0.6s							
BULG				AML		AML		
	comp=N,2725μm,0.9s							
BULG				AML		AML		
	comp=E,1415μm,0.6s							
BULG				AML		AML		
	comp=N,2680μm,0.9s							
BULG				AML		AML		
	comp=N,2726μm,0.9s							
BULG				AML		AML		
	comp=N,2678μm,0.9s							
BULG				AML		AML		
	comp=E,1480μm,0.6s							
BULG				AML		AML		
	comp=N,2726μm,1.1s							
BULG				AML		AML		
	comp=E,1416μm,0.6s							
BULG				AML		AML		
	comp=N,2678μm,1.1s							
SLCN	**Sala Consilina**	**1.63**	**316**	P		**Pg**	**11 55 23.4**	**-0.6**
MTTG	**Motta San Giov**	**1.66**	**223**	P		**Pg**	**11 55 23.2**	**-1.3**
MTTG				AML		AML		
	comp=E,2885μm,1.2s							
MTTG				AML		AML		
	comp=N,3735μm,1.1s							
MTTG				AML		AML		
	comp=E,2886μm,1.2s							
MTTG				AML		AML		
	comp=N,3737μm,1.1s							
MTTG				AML		AML		
	comp=E,2886μm,0.8s							
MTTG				AML		AML		
	comp=N,3737μm,0.8s							
AMUR	**Altamura**	**1.73**	**347**	⇑P		**Pn**	**11 55 23.1**	**-0.2**
MPNC	**Port Mandanici**	**1.76**	**233**	P		**Pn**	**11 55 23.2**	**-0.5**
CMPR	**Campora**	**1.78**	**308**	P		**Pb**	**11 55 24.4**	**-1.3**
CMPR				AML		AML		
	comp=N,836μm,0.7s							
CMPR				AML		AML		
	comp=E,908μm,0.6s							
CMPR				AML		AML		
	comp=N,835μm,0.7s							
CMPR				AML		AML		
	comp=E,907μm,0.6s							
CMPR				AML		AML		
	comp=N,835μm,1.3s							
ACER	**Acerenza**	**1.80**	**330**			**Pb**	**11 55 24.8**	**-1.4**
ACER	**Acerenza**	**1.80**	**330**	P		**Pb**	**11 55 24.9**	**-1.2**
ACER				AML		AML		
	comp=E,3000μm,0.7s							
ACER				AML		AML		
	comp=E,2650μm,0.7s							
ACER				AML		AML		
	comp=N,2595μm,1.1s							
ACER				AML		AML		
	comp=N,2655μm,1.1s							
ACER				AML		AML		
	comp=E,2652μm,0.7s							
ACER				AML		AML		
	comp=E,3001μm,0.7s							
ACER				AML		AML		
	comp=N,2654μm,1.1s							
ACER				AML		AML		
	comp=N,2596μm,1.1s							
LLI	**Lipari**	**1.87**	**246**	P		**Pb**	**11 55 25.5**	**-1.8**
LLI				AML		AML		
	comp=E,22650μm,0.7s							
LLI				AML		AML		
	comp=N,28800μm,0.6s							
LLI				AML		AML		
	comp=E,22658μm,0.7s							
LLI				AML		AML		
	comp=N,28272μm,0.6s							
LLI				AML		AML		
	comp=N,28783μm,0.6s							
LLI				AML		AML		
	comp=E,22658μm,1.3s							
VPL	**Vulcano Piano**	**1.88**	**244**	P		**Pn**	**11 55 25.1**	**-0.2**
VPL				AML		AML		
	comp=N,4430μm,0.6s							
VPL				AML		AML		
	comp=E,3160μm,0.8s							
VPL				AML		AML		
	comp=N,4426μm,0.6s							
VPL				AML		AML		
	comp=N,4426μm,1.4s							
VPL				AML		AML		
	comp=E,3161μm,0.8s							
IVGP	**Vulcano Grotta**	**1.88**	**245**	P		**Pn**	**11 55 25.0**	**-0.5**
CDRU	**Civita di Ruta**	**1.89**	**313**	P		**Pb**	**11 55 26.1**	**-1.5**
PALZ	**Palazzo San Ge**	**1.93**	**333**	P		**Pn**	**11 55 26.4**	**+0.2**
AIO	**Antillo**	**1.94**	**230**	P		**Pb**	**11 55 27.0**	**-1.6**
AIO				AML		AML		
	comp=E,772μm,1.3s							
AIO				AML		AML		
	comp=N,790μm,0.8s							
AIO				AML		AML		
	comp=E,711μm,0.7s							
AIO				AML		AML		
	comp=N,790μm,0.8s							
AIO				AML		AML		
	comp=E,772μm,1.3s							
NOV	**Novara**	**1.96**	**233**	P		**Pb**	**11 55 26.9**	**-2.0**
MRLC	**Muro Lucano**	**1.98**	**321**	P		**Pn**	**11 55 26.9**	**+0.1**
MRLC				AML		AML		
	comp=E,416μm,1.2s							
MRLC				AML		AML		
	comp=N,521μm,0.7s							
MRLC				AML		AML		
	comp=E,417μm,1.2s							
MRLC				AML		AML		
	comp=N,521μm,0.7s							
MRLC				AML		AML		
	comp=N,858μm,0.7s							
MRLC				AML		AML		
	comp=E,417μm,0.8s							
MRLC				AML		AML		
	comp=N,858μm,1.3s							
MRLC				AML		AML		
	comp=N,521μm,1.3s							
ECTS	**Castiglione**	**2.07**	**230**	P		**Pb**	**11 55 28.9**	**-1.8**
VULT	**Monte Vulture**	**2.08**	**327**	P		**Pb**	**11 55 30.7**	**-0.2**
IFIL	**Filicudi I Eol**	**2.10**	**252**	P		**Pn**	**11 55 28.7**	**+0.2**
MUCR	**Ucria**	**2.12**	**237**	P		**Pn**	**11 55 29.0**	**+0.1**
MUCR				AML		AML		
	comp=E,691μm,0.9s							
MUCR				AML		AML		
	comp=N,986μm,1.0s							
MUCR				AML		AML		
	comp=E,691μm,0.9s							
MUCR				AML		AML		
	comp=N,987μm,1.0s							
KEK	**Kerkira**	**2.12**	**76**			**Pn**	**11 55 28.8**	**0.0**
KEK	**Kerkira**	**2.12**	**76**	P		**Pb**	**11 55 30.9**	**-0.7**
KEK				AML		AML		
	comp=E,825μm,1.1s							
KEK				AML		AML		
	comp=N,994μm,0.8s							

KEK AML AML
comp=N,995µm,0.8s
KEK AML AML
comp=E,825µm,1.1s
MCRV Calabrutti - M 2.16 317 P Pb 11 55 30.9 -1.5
VLO Vlora 2.21 55 P Pn 11 55 30.2 +0.4
SNAL S. Angelo Dei 2.25 320 P Pg 11 55 33.8 -1.8
EPZF Pizzo Felice 2.27 232 P Pn 11 55 31.3 +0.5
EPZF AML AML
comp=E,1790µm,1.3s
EPZF AML AML
comp=N,1560µm,1.5s
EPZF AML AML
comp=E,1786µm,1.3s
EPZF AML AML
comp=N,1482µm,0.6s
EPZF AML AML
comp=E,1786µm,0.7s
MNO Monte Soro 2.30 237 P Pb 11 55 33.8 -1.0
CAFE Carife 2.31 322 P Pb 11 55 33.0 -1.9
MSFR San Fratello 2.32 240 P Pn 11 55 31.6 +0.2
SGTA Sant Agata di 2.33 325 P Pb 11 55 33.5 -1.8
MTMR Montemarano 2.35 317 P Pb 11 55 34.3 -1.1
MTMR AML AML
comp=E,512µm,1.3s
MTMR AML AML
comp=N,614µm,0.9s
MTMR AML AML
comp=E,498µm,1.2s
MTMR AML AML
comp=N,747µm,1.5s
MTMR AML AML
comp=E,505µm,1.1s
MTMR AML AML
comp=N,615µm,0.9s
MTMR AML AML
comp=N,745µm,1.5s
MTMR AML AML
comp=N,615µm,1.1s
MTMR AML AML
comp=E,498µm,1.2s
MTMR AML AML
comp=N,745µm,0.5s
AGST Augusta-Monte 2.47 218 P Pn 11 55 33.1 -0.4
HAGA Augusta 2.48 219 P Pn 11 55 33.6 -0.1
IGT Igoumenitsa 2.50 82 P Pn 11 55 35.1 +1.0
IGT Igoumenitsa 2.50 82 *e*Pn **Pn 11 55 35.0 +1.0**
IGT *e*Sn **Sn 11 56 06.6 +1.7**
IGT Igoumenitsa 2.50 82 P Pn 11 55 34.9 +0.9
GALF Gagliano Caste 2.52 234 P Pn 11 55 34.2 0.0
GALF AML AML
comp=E,250µm,0.7s
GALF AML AML
comp=N,265µm,0.8s
GALF AML AML
comp=E,1555µm,0.6s
GALF AML AML
comp=N,1920µm,0.8s
GALF AML AML
comp=E,250µm,0.7s
GALF AML AML
comp=E,1552µm,0.6s
GALF AML AML
comp=N,1920µm,0.8s
GALF AML AML
comp=N,265µm,0.8s
GALF AML AML
comp=E,250µm,1.3s
HLNI Lentini 2.58 224 P Pn 11 55 34.1 -1.0
HLNI AML AML
comp=E,318µm,0.8s
HLNI AML AML
comp=N,340µm,1.1s
HLNI AML AML
comp=N,298µm,1.0s
HLNI AML AML
comp=E,317µm,0.8s
HLNI AML AML
comp=E,317µm,1.2s
HLNI AML AML
comp=N,340µm,1.1s
SSY Sortino 2.63 219 P Pn 11 55 35.1 -0.6
OVO Vesuviano 2.63 308 P Pn 11 55 36.7 +0.8
MSAG Monte S. Angel 2.65 340 P Pn 11 55 35.6 -0.4
PAOL Paolisi 2.66 313 Pn 11 55 35.6 -0.6
SGRT San Giovanni R 2.73 338 Pn 11 55 36.5 -0.7
SGRT San Giovanni R 2.73 338 P Pn 11 55 37.1 -0.2
VAE Valguarnera 2.76 232 Pn **Pn 11 55 33.8 -3.7**
comp=N,11nm,0.3s,baz=96,slow=1.7,SNR=8.4
VAE Sn **Sn 11 56 10.1 -1.2**
comp=N,5.6nm,0.3s,baz=250,slow=22,SNR=7.1
TSLK Tsoukalades, L 2.78 97 P Pn 11 55 39.9 +2.1
LKD2 Lefkada island 2.79 98 P Pn 11 55 38.6 +0.7
FSK Fiskardo 2.79 105 P Pn 11 55 38.6 +0.6
EVGI Lefkada island 2.82 101 P Pn 11 55 39.6 +1.2
NYDR Nydri-Lefkada 2.83 99 P Pn 11 55 39.9 +1.4
VLS Valsamata 2.91 110 P Pn 11 55 39.2 -0.3
JAN Janina 2.92 80 P Pn 11 55 41.3 +1.6
PSDA Pessada-Kefalo 2.93 111 P Pn 11 55 39.6 -0.2
RAFF Raffo Rosso 2.96 228 Pn 11 55 40.5 +0.2
RAFF Raffo Rosso 2.96 228 P Pn 11 55 40.0 -0.3
RAFF AML AML
comp=E,420µm,0.7s
RAFF AML AML
comp=N,472µm,1.1s
RAFF AML AML
comp=N,320µm,0.9s
RAFF AML AML
comp=N,472µm,1.1s
RAFF AML AML
comp=E,420µm,0.7s
TIR Tirane 2.98 44 P Pn 11 55 41.1 +0.6
HPAC Pachino 2.99 213 P Pn 11 55 40.0 -0.6
RTZL Ratzakli, Kefa 3.08 111 P Pn 11 55 41.8 -0.1
PRMD Pramanda 3.09 83 P Pn 11 55 43.3 +1.1
ORTH Orthonies,Zaky 3.12 115 P Pn 11 55 42.7 +0.2
AMPL Ampelaki 3.20 94 P Pn 11 55 44.5 +1.0
TETR Tetrakomo, Epi 3.22 87 P Pn 11 55 44.7 +0.8
PENT Pentalofos 3.24 71 P Pn 11 55 45.8 +1.5
NEST Nestorio 3.25 67 P Pn 11 55 47.0 +2.7
OHR Ohrid 3.38 55 *i* Pn **Pn 11 55 48.1 +1.9**
PDG Podgorica 3.58 26 Pn **Pn 11 55 49.5 +0.7**
PDG Podgorica 3.58 26 ⇑P **Pn 11 55 49.4 +0.7**
PDG Podgorica 3.58 26 *e*Pn **Pn 11 55 48.9 +0.1**
RLS Riolos of Patr 3.59 108 P **Pn 11 55 51.0 +2.0**
TREB Trebinje 3.61 14 *e*Pn **Pn 11 55 47.7 -1.4**
TREB Trebinje 3.61 14 *e*Pn **Pn 11 55 47.8 -1.4**
TREB *e*Sn **Sn 11 56 27.5 -4.6**
EVR Evrytania 3.66 93 P **Pn 11 55 52.0 +2.1**
STON Ston 3.67 7 *e*Pn **Pn 11 55 49.3 -0.6**
STON Ston 3.67 7 *e*Pn **Pn 11 55 49.4 -0.5**
STON *e*Sn **Sn 11 56 30.9 -2.6**
ANX Ano Chora 3.79 98 P **Pn 11 55 53.3 +1.5**
THL Klokotos Trika 3.80 83 P **Pn 11 55 53.7 +1.9**
DRO Drossia 3.81 108 P **Pn 11 55 53.8 +1.8**
EFP Efpalio 3.82 101 P **Pn 11 55 53.4 +1.3**
MAKR Makrakomi, Fth 3.90 92 P **Pn 11 55 55.7 +2.5**
SERG Sergoula 3.94 100 P **Pn 11 55 55.4 +1.7**
AGG Agios Georgios 4.05 91 P **Pn 11 55 56.5 +1.1**
AGG Agios Georgios 4.05 91 P **Pn 11 55 56.7 +1.4**
KLINJ Klinje 4.09 15 *e*Pn **Pn 11 55 56.0 +0.1**
KLV Kalavryta, Ach 4.11 105 P **Pn 11 55 57.9 +1.8**
KLV Kalavryta, Ach 4.11 105 P **Pn 11 55 57.2 +1.1**
LIT Litokhoron 4.23 76 Pn 11 55 59.2 +1.5
LIT Litokhoron 4.23 76 P **Pn 11 55 59.2 +1.5**
GUR Goura 4.29 106 P **Pn 11 56 01.6 +3.0**
ITM Ithomi 4.30 117 Pn 11 55 59.4 +0.7
ITM Ithomi 4.30 117 P **Pn 11 55 59.1 +0.5**
AXAR Agios Charalam 4.33 94 P **Pn 11 56 00.6 +1.4**
CAMP Campotosto 4.34 321 Pn **Pn 11 55 58.7 -0.7**
SJES Sjenica 4.57 27 *e*Pn **Pn 11 56 03.8 +1.4**
RUDO Rudo 4.70 20 *e*Pn **Pn 11 56 03.8 -0.4**
RUDO Rudo 4.70 20 *e*Pn **Pn 11 56 04.7 +0.5**
NRCA Norcia 4.71 321 Pn 11 56 04.6 +0.2
LTK Loutraki 4.73 103 P **Pn 11 56 06.2 +1.6**
GUMA Gualdo di Mace 4.78 324 Pn **Pn 11 56 05.9 +0.6**
KIJV Kijevo 4.80 354 *e*Pn **Pn 11 56 05.2 -0.4**
CESX Cesi 4.82 316 Pn **Pn 11 56 04.8 -1.1**
KNT Kendrikon 4.82 65 P **Pn 11 56 06.7 +0.8**
KNT Kendrikon 4.82 65 P **Pn 11 56 05.6 -0.3**
FDMO Fiordimonte 4.88 323 Pn **Pn 11 56 07.1 +0.5**
IVAS Ivanjica 4.90 27 *e*Pn **Pn 11 56 06.1 -0.9**
IVAS *e*Sn **Sn 11 56 59.9 -4.3**

BBLS Lazi&#263i 4.94 20 *e*Pn **Pn 11 56 07.7 +0.2**
SELS Selova 5.00 36 *e*Pn **Pn 11 56 07.8 -0.5**
SELS *e*Sn **Sn 11 57 02.2 -4.2**
BARS Barje 5.04 43 *e*Pn **Pn 11 56 09.1 +0.2**
GOCS Kraljevo Serbi 5.17 32 *e*Pn **Pn 11 56 10.8 +0.1**
GOCS *e*Sn **Sn 11 57 05.8 -4.9**
VLI Veliai 5.23 117 P **Pn 11 56 12.3 +0.8**
AOS Alonnisos 5.25 88 P **Pn 11 56 11.7 0.0**
SRS Serrai 5.30 67 P **Pn 11 56 14.9 +2.5**
SRS pmax pmax
comp=Z,13nm,0.8s
DIVS Divibare 5.32 23 *e*Pn **Pn 11 56 12.4 -0.3**
DIVS *e*Sn **Sn 11 57 08.8 -5.6**
MURB Monte Urbino 5.32 321 Pn **Pn 11 56 12.2 -0.5**
GRUS Gruza 5.38 29 *e*Pn **Pn 11 56 14.5 +1.0**
DION Dionisos Attik 5.45 100 P **Pn 11 56 15.4 +0.8**
BLY Banja Luka 5.52 0 *e*Pn **Pn 11 56 15.1 -0.3**
BLY Banja Luka 5.52 0 ⇑P **Pn 11 56 16.5 +1.2**
KTHA Kythira Island 5.56 120 P **Pn 11 56 16.7 +0.7**
TRUS Trudelj 5.56 25 *e*Pn **Pn 11 56 16.2 +0.2**
BOVS Bovan 5.59 37 ⇓P **Pn 11 56 17.9 +1.5**
BOVS Bovan 5.59 37 *e*Pn **Pn 11 56 16.8 +0.4**
TEKS Tekeris 5.61 18 *e*Pn **Pn 11 56 16.4 -0.3**
ZAPS Zavoj 5.79 44 *e*Pn **Pn 11 56 20.0 +0.8**
ZAPS *e*Sn **Sn 11 57 20.2 -5.8**
ZAGS Zajecar 5.97 38 *e*Pn **Pn 11 56 21.9 +0.3**
VSL Villasalto 6.01 275 Pn **Pn 11 56 21.7 -0.5**
BORS2 Bor- Borsko je 6.08 35 *e*Pn **Pn 11 56 21.7 -1.5**
FRGS Fruska Gora 6.25 18 *e*Pn **Pn 11 56 24.4 -1.1**
MOSL Moslavina 6.39 358 *e*Pn **Pn 11 56 26.9 -0.5**
OZLJ Ozalj 6.50 350 *e*Pn Pn 11 56 35.1 +6.2
VRSS Vrsac 6.66 27 *e*Pn **Pn 11 56 31.6 +0.5**
ZCCA Zocca 6.88 320 Pn **Pn 11 56 32.2 -1.9**
TRI Trieste 6.94 340 Pn **Pn 11 56 33.3 -1.5**
TRI Trieste 6.94 340 P **Pn 11 56 33.3 -1.5**
ALN Alexandroupoli 7.04 73 Pn **Pn 11 56 35.8 -0.5**
ALN Alexandroupoli 7.04 73 P **Pn 11 56 35.8 -0.5**
MORH Mrgy, Hungar 7.07 9 *e*Pn **Pn 11 56 35.9 -0.8**
MORH Mrgy, Hungar 7.07 9 ⇓P **Pn 11 56 37.5 +0.8**
LJU Ljubljana 7.08 345 P **Pn 11 56 38.0 +1.2**
LJU pmax pmax
comp=Z,83nm,0.6s
KEST Kesra 7.10 243 Pn **Pn 11 56 37.5 +0.3**
comp=Z,0.4nm,0.3s,baz=63,slow=9.0,SNR=1.6
BZS Buzias 7.20 26 ⇓P **Pn 11 56 38.7 +0.2**
BZS Buzias 7.20 26 ⇓P **Pn 11 56 38.7 +0.2**
SABO M.te Sabotino 7.23 340 Pn **Pn 11 56 37.3 -1.7**
BEHE Becsehely 7.24 358 Pn **Pn 11 56 38.5 -0.6**
IDI Anoyia 7.33 120 Pn **Pn 11 56 41.0 +0.5**
IDI Anoyia 7.33 120 Pn **Pn 11 56 40.5 +0.1**
comp=Z,7.0nm,0.4s,baz=298,slow=17,SNR=8.6
IDI Sn **Sn 11 58 00.5 -3.5**
comp=Z,0.8nm,0.3s,baz=5.2,slow=22,SNR=1.3
GZR Gura Zlata 7.45 32 ⇑P **Pn 11 56 43.3 +1.3**
GZR Gura Zlata 7.45 32 ⇑P **Pn 11 56 43.3 +1.3**
OBKA Obir 7.52 346 *i* Pn **Pn 11 56 43.3 +0.3**
comp=Z,9.9nm,0.7s
OBKA *e*Sn **Sn 11 58 12.9 +4.3**
comp=Z,26nm,0.7s
STAL STALIGIAL 7.74 337 Pn **Pn 11 56 45.0 -0.9**
MYKA Terra Mystica 7.83 342 *i* Pn **Pn 11 56 47.9 +0.7**
comp=Z,1.5nm,0.3s
CTI Castel Tesino 7.92 331 Pn **Pn 11 56 47.6 -0.9**
CTI Castel Tesino 7.92 331 P **Pn 11 56 47.6 -0.9**
ARSA Arzberg 8.10 352 Pn 11 56 50.5 -0.5
ARSA Arzberg 8.10 352 *i* Pn **Pn 11 56 51.5 +0.6**
comp=Z,4.2nm,0.4s
KBA Koelnbreinsper 8.32 342 *i* Pn **Pn 11 56 54.3 +0.3**
comp=Z,0.4nm,0.3s
KBA Koelnbreinsper 8.32 342 P Pn 11 56 54.3 +0.3
KBA pmax pmax
comp=Z,11nm,0.6s
RONA Rosalia, Austr 8.49 356 *i* Pn **Pn 11 56 56.1 -0.2**
comp=Z,0.4nm,0.2s
DRGR 8.59 27 ⇑P **Pn 11 56 54.3 -3.4**
DRGR 8.59 27 ⇑P **Pn 11 56 54.3 -3.4**
CONA Conrad Observa 8.75 354 *i* Pn **Pn 11 57 00.8 +1.1**
comp=Z,0.6nm,0.3s
KARP Karpathos 8.79 112 Pn **Pn 11 57 00.4 0.0**
LESA Schwarzleotal 8.81 340 *i* Pn **Pn 11 57 03.9 +3.2**
comp=Z,4.9nm,0.4s
MOA Molln 8.86 347 *i* Pn **Pn 11 57 02.1 +0.8**
comp=Z,0.9nm,0.2s
PSZ Piszkesteto 8.92 12 Pn **Pn 11 57 00.2 -1.8**
PSZ Piszkesteto 8.92 12 P **Pn 11 57 00.3 -1.8**
FUORN Ofenpass-Fuorn 8.94 328 Pn **Pn 11 57 01.2 -1.4**
MANT Manisa 8.95 91 Pn **Pn 11 57 04.1 +1.3**
MLR Muntele Rosu 9.04 43 Pn 11 57 03.9 0.0
MLR Muntele Rosu 9.04 43 Pn **Pn 11 57 06.3 +2.5**
comp=Z,0.5nm,0.3s,baz=145,slow=16,SNR=5.3
MLR LR LR 12 01 47.5
comp=Z,178nm,18.6s,baz=42,slow=46
comp=Z,3.6nm,0.7s
MLR Muntele Rosu 9.04 43 ⇓P **Pn 11 57 06.7 +2.9**
MLR Muntele Rosu 9.04 43 ⇓P **Pn 11 57 06.7 +2.9**
WATA Walderalm 9.06 335 *e*Pn **Pn 11 57 06.2 +2.1**
comp=Z,3.8nm,0.3s
ARG Arkhangelos 9.22 106 P **Pn 11 57 07.2 +1.0**
ARG pmax pmax
comp=Z,27nm,1.0s
MOTA Moosalm 9.22 334 *e*Pn **Pn 11 57 09.0 +2.7**
comp=Z,2.2nm,0.4s
PLOR Plostina 9.65 44 ⇓P **Pn 11 57 14.3 +2.2**
PLOR Plostina 9.65 44 ⇓P **Pn 11 57 14.3 +2.2**
BNI Bardonecchia 9.70 310 P **Pn 11 57 10.9 -1.9**
VRI Vrincioaia 9.70 44 P **Pn 11 57 14.6 +1.8**
VRI pmax pmax
comp=Z,7.0nm,0.8s
TIRR Tirgusor 9.91 55 Pn **Pn 11 57 15.3 -0.3**
TIRR Tirgusor 9.91 55 P **Pn 11 57 15.3 -0.3**
GEC2 GERESS Array S 9.92 347 Pn **Pn 11 57 15.1 -0.8**
GERES GERESS Array B 9.92 347 Pn **Pn 11 57 15.2 -0.7**
baz=160,slow=13,SNR=7.9
GERES Sn **Sn 11 59 06.6 -1.1**
baz=160,slow=19,SNR=2.6
comp=Z,1.0nm,0.4s
KHC Kasperske Hory 10.22 347 *e*P **Pn 11 57 21.0 +1.1**
KHC Kasperske Hory 10.22 347 *e*PN **Pn 11 57 21.0 +1.1**
BURAR Bucovina Array 10.24 32 Pn **Pn 11 57 20.6 +0.4**
BURAR Bucovina Array 10.24 32 P **Pn 11 57 20.0 -0.2**
BUR08 Bucovina Ar. S 10.25 32 Pn 11 57 21.1 +0.7
ISP Isparta 10.59 93⇓*e*P **Pn 11 57 26.8 +1.7**
BR131 Keskin Array S 12.77 83⇓*e*P **Pn 11 57 55.0 0.0**
BRTR Keskin Array B 12.77 83 Pn **Pn 11 57 55.4 +0.5**
BRTR Keskin Array B 12.77 83 Pn **Pn 11 57 56.4 +1.4**
comp=Z,0.1nm,0.3s,baz=255,slow=14,SNR=8.2
comp=Z,1.5nm,0.9s
BRTR Keskin Array B 12.77 83 *i* P **Pn 11 57 56.9 +1.9**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
KIEV Kiev 14.28 33 Pn **Pn 11 58 15.4 0.0**
KIEV Kiev 14.28 33 P **Pn 11 58 15.4 0.0**
AKASG Malin Array Be 14.29 33 Pn **Pn 11 58 15.3 -0.2**
comp=Z,0.4nm,0.3s,baz=226,slow=13,SNR=5.4
AKASG LR LR 12 05 04.7
comp=Z,111nm,18.8s,baz=223,slow=43
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 14.29 33 *i* P **Pn 11 58 16.6 +1.1**
AKBB Malin Array Si 14.29 33 Pn **Pn 11 58 15.7 +0.2**
AKBB Malin Array Si 14.29 33 P **Pn 11 58 15.7 +0.2**
BNN Bunyan 14.56 86 Pn **Pn 11 58 18.5 -0.9**
UCC Uccle 14.65 326 Pn **Pn 11 58 19.6 -0.8**
UCC Uccle 14.65 326 P **Pn 11 58 19.6 -0.8**
ANN Anapa 16.07 63 *e*P **Pn 11 58 36.9 -2.3**
ANN pmax pmax
comp=Z,20nm,0.8s
ESDC Sonseca Array 16.30 278 Pn **Pn 11 58 39.9 -2.3**
comp=Z,0.1nm,0.3s,baz=88,slow=16,SNR=2.7
comp=Z,0.4nm,0.6s
NACGM Naroch 16.98 19 *e*P **P 11 58 54.5 +1.8**
comp=Z,13nm,1.0s,baz=208
EIL Elat 17.50 118 P **Pn 11 58 55.4 -2.0**
comp=Z,6.4nm,0.8s,baz=357,slow=6.6,SNR=4.3
ASF Jabal al Asfar 17.52 108 P **Pn 11 58 57.4 -0.3**
comp=Z,0.3nm,0.3s,baz=336,slow=14,SNR=3.9
comp=Z,2.4nm,0.6s
KOPT Kop Dagi 18.02 80 P 11 59 06.6 +2.0
PBRG Braganca 18.32 286 *e*P **P 11 59 13.1 +5.5**
MVO Moncorvo 18.54 284 *e*P **Pn 11 59 14.4 +4.1**
MD01 Midelt array s 18.78 257 P **Pn 11 59 12.9 -0.4**
MD31 MD31 18.78 257 P **Pn 11 59 13.0 -0.2**
PBAR Barrancos 18.88 274 *e*P **Pn 11 59 18.2 +3.9**
PBAR *i* IAmb IAmb 11 59 43.0
comp=Z,28nm,1.7s
PMRV Marv??o 18.96 278 *e*P **Pn 11 59 19.0 +3.8**
PMRV *i* IAmb IAmb 11 59 28.1
comp=Z,35nm,1.6s
PSARD Sardoal 19.53 279 *e*P **Pn 11 59 25.3 +3.2**
PBEJ Beja 19.55 274 *e*P **Pn 11 59 22.6 +0.3**
PBEJ *i* IAmb IAmb 11 59 38.9
comp=Z,26nm,1.8s
PVAQ Vaqueiros 19.57 273 *e*P **Pn 11 59 24.9 +2.4**
SHA1 Shidzhatmaz 19.62 68⇑*e*P **Pn 11 59 24.1 +0.7**
PMTG Montargil 19.65 278 *e*P **P 11 59 22.0 -0.2**
PMTG *i* IAmb IAmb 12 00 04.8
comp=Z,36nm,1.6s
KIV Kislovodsk 19.66 68 *e*P **P 11 59 21.5 -0.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,30nm,14.0s
PBDV Barranco-do-Ve 19.77 272 *e*P **P 11 59 23.1 -0.4**
PBDV *i* IAmb IAmb 11 59 27.5
comp=Z,71nm,1.7s
KBZ Khabaz 19.79 69 P **Pn 11 59 25.0 -0.2**
comp=Z,0.1nm,0.3s,baz=266,slow=6.8,SNR=4.6
comp=Z,1.5nm,0.6s
KBZ Khabaz 19.79 69 P **Pn 11 59 25.0 -0.2**
MESJ Messejana 19.86 274 *e*P **P 11 59 24.1 -0.3**
NCK Nalchik 20.29 69⇑*e*P **P 11 59 29.2 +0.1**
NCK pmax pmax
comp=Z,9.0nm,0.6s
PARRA Arraiolos 20.32 277 *e*P **P 11 59 25.4 -4.0**
PARRA *i* IAmb IAmb 11 59 34.2
comp=Z,23nm,1.6s
OBN Obninsk 20.56 33 *i* P Pn 11 59 33.9 -0.1
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,62nm,14.0s
EKA Eskdalemuir Ar 21.06 327 P **P 11 59 38.4 +1.0**
comp=Z,2.7nm,0.8s,baz=127,slow=13,SNR=4.0
GNI Garni 21.24 79 P **P 11 59 40.1 +0.5**
comp=Z,4.3nm,0.4s,baz=2.3,slow=7.6,SNR=4.2
comp=Z,4.3nm,0.4s
GNI Garni 21.24 79*de*P **P 11 59 40.2 +0.5**
GNI pmax pmax
comp=Z,9.0nm,1.0s
NOA NORSAR Array B 22.14 352 LR LR 12 09 59.2
comp=Z,45nm,19.2s,baz=170,slow=41
FINES FINESS Array B 22.92 11 P **P 11 59 55.8 -1.4**
FINES FINESS Array B 22.92 11 P **P 11 59 55.2 -2.0**
comp=Z,0.7nm,0.6s,baz=180,slow=15,SNR=4.3
comp=Z,0.7nm,0.6s
FINES FINESS Array B 22.92 11 P **P 11 59 55.8 -1.4**
FIA1 FINESS Array S 22.92 11 P **P 11 59 57.3 +0.1**
KIRV Kirov 28.30 36 LR LR 12 13 14.5
comp=Z,50nm,19.0s,baz=264,slow=39
KIRV Kirov 28.30 36*de*P **P 12 00 46.5 -0.3**
TORD Torodi Ar. Bea 29.34 212 P **P 12 00 56.2 -0.2**
TORD Torodi Ar. Bea 29.34 212 P **P 12 00 56.2 -0.2**
comp=Z,1.8nm,0.9s,baz=21,slow=11,SNR=10
comp=Z,1.8nm,0.9s
MACI Morro de la Ar 29.88 259 P **P 12 01 00.1 -1.3**
ARCES ARCESS Array B 30.70 6 P **P 12 01 07.0 -0.9**
ARCES IAmb IAmb 12 01 37.1
comp=Z,12nm,1.5s
ARCES ARCESS Array B 30.70 6 P **P 12 01 06.9 -1.1**
comp=Z,1.1nm,0.9s,baz=183,slow=8.4,SNR=6.1
ARCES LR LR 12 15 33.8
comp=Z,120nm,18.9s,baz=0.5,slow=40
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 30.70 6 P **P 12 01 07.1 -0.9**
ARCES pmax pmax
comp=Z,12nm,1.5s
ARTI Arti 31.98 44 P **P 12 01 18.7 -0.7**
comp=Z,1.6nm,0.5s,baz=244,slow=16,SNR=3.3
ARTI LR LR 12 14 26.9
comp=Z,60nm,19.1s,baz=288,slow=37
comp=Z,1.6nm,0.5s
ARTI Arti 31.98 44*d i*P **P 12 01 22.2 +2.8**
ARTI 12 02 27.5
ARTI 12 04 07.8
ARTI S **S 12 06 35.2 +4.0**
ARTI SS **SnSn 12 08 21.5 +2.0**
ARTI pmax pmax
comp=Z,8.0nm,1.3s
BORG Borgarnes 33.91 331 LR LR 12 17 20.6
comp=Z,100nm,19.1s,baz=69,slow=40
BORK Borovoye 38.46 51*de*P **P 12 02 16.5 +1.3**
BORK pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 43.75 54 P **P 12 02 58.4 -0.4**
comp=Z,1.1nm,0.9s,baz=285,slow=9.6,SNR=4.7
comp=Z,1.1nm,0.9s
KURK Kurchatov 43.79 54*ce*P **P 12 03 00.4 +1.3**
KURK pmax pmax
comp=Z,7.0nm,1.7s
ZALV Zalesovo Beam 46.98 48 P **P 12 03 24.2 -0.1**
comp=Z,0.9nm,0.6s,baz=294,slow=11,SNR=3.8
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 47.02 58*de*P **P 12 03 27.0 +2.2**
MKAR Makanchi Array 47.02 58 P **P 12 03 24.8 +0.1**
MKAR Makanchi Array 47.02 58 P **P 12 03 25.0 +0.3**
comp=Z,1.2nm,0.7s,baz=301,slow=5.6,SNR=5.9
comp=Z,1.2nm,0.7s
WMQ Urumqi 51.57 61 *e*P **P 12 04 02.9 +3.3**
WMQ pmax pmax
comp=Z,32nm,0.7s
SCHQ Schefferville 55.87 316 P **P 12 04 30.1 -0.8**
EVN Everest 57.84 78 P **P 12 04 45.9 -0.2**
EVN IAmb IAmb 12 04 45.9
comp=Z,4.4nm,1.2s
SONM Songino Array 61.83 50 P **P 12 05 10.9 -1.7**
SONM IAmb IAmb 12 05 14.3
comp=Z,3.0nm,1.2s
SONM Songino Array 61.83 50 P **P 12 05 12.9 +0.3**
comp=Z,2.1nm,1.0s,baz=292,slow=7.6,SNR=6.8
comp=Z,2.1nm,1.0s
ULN Ulaanbaatar 62.20 50⇑*e*P **P 12 05 16.6 +1.4**
ULN pmax pmax
comp=Z,1.0nm,0.8s
LBTB Lobatse 64.40 171 LR LR 12 33 46.0
comp=Z,28nm,19.7s,baz=348,slow=36
BOSA Boshof 67.92 172 P **P 12 05 52.4 +0.1**
BOSA IAmb IAmb 12 06 14.6
comp=Z,7.2nm,1.4s
BOSA Boshof 67.92 172 P **P 12 05 52.4 +0.1**
BOSA pmax pmax
comp=Z,7.0nm,1.4s
HHC Hu-ho-hao-te 68.61 54 *e*P **P 12 05 56.6 -0.1**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.9s
PZH PanZhiHua 69.83 72 P **P 12 06 04.8 +0.3**
BILL Bilibino 70.56 12⇑*e*P **P 12 06 10.8 +2.7**
BILL pmax pmax
comp=Z,6.0nm,1.4s
XAN Xi'an 70.69 62 *e*P **P 12 06 10.5 +0.9**
F28M Old Crow 72.06 351 P **P 12 06 17.6 +0.3**
F28M IAmb IAmb 12 06 21.7
comp=Z,8.2nm,1.2s
CMAR Chiang Mai Arr 72.35 80 LR LR 12 44 52.3
comp=Z,22nm,18.8s,baz=210,slow=41
CMAR Chiang Mai Arr 72.35 80*ce*P **P 12 06 18.7 -1.1**
E22K Anaktuvuk Pass 72.64 356 P **P 12 06 21.4 +0.6**
E22K IAmb IAmb 12 06 24.4
comp=Z,5.1nm,1.2s
H29M Whitestone 73.19 350 P **P 12 06 24.0 0.0**
H29M IAmb IAmb 12 07 03.4
comp=Z,5.1nm,1.1s
ULM Lac du Bonnet 73.26 322 P **P 12 06 23.8 -0.9**
comp=Z,2.9nm,0.5s,baz=44,slow=4.1,SNR=2.1
comp=Z,2.9nm,0.5s
NJ2 Nanjing 78.55 58 *e*P **P 12 06 54.0 -1.1**
NJ2 pmax pmax
comp=Z,12nm,0.9s
SHEM Shemya Is, Ala 86.26 14 LR LR 12 50 17.7
comp=Z,138nm,21.9s,baz=145,slow=38
CPUP Villa Florida 95.22 240 LR LR 12 52 13.4
comp=Z,12nm,18.1s,baz=7.5,slow=36
WRA Warramunga Arr 123.21 89 PKP **PKPdf 12 13 48.1 -2.7**
comp=Z,0.5nm,0.9s,baz=281,slow=2.4,SNR=3.2
ASAR Alice Springs 124.91 93 PKPdf **PKPdf 12 13 53.6 -0.4**
ASAR Alice Springs 124.91 93 PKP **PKPdf 12 13 52.8 -1.2**
comp=Z,0.5nm,0.8s,baz=328,slow=2.4,SNR=5.0
ASAR Alice Springs 124.91 93 PKIKP **PKPdf 12 13 53.6 -0.4**

*DJA **15** 12:00:53.2±1.8, 0°S±5°×13°3E±°, h19km±17km, M4.2/9, mB5.1/1, mb4.6/5, MLv4.1/9, Mw(mB)4.5/1*
*IDC **15** 12:00:56.4±3.6, 1°36S×133°41E, h0km, mb3.7/2, mbtmp3.6/3, ML3.5/1, MS3.5/1, Error ellipse: s-maj=127.0km s-min=31.2km az=90.0*
ISC 15 12:00:50.6±1.4, 0°3S±0°1×133°06E±0°08, h32km, n9, σ0°83/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.88**	**254**	P	**Pn**	**12 01 20.0**	**-0.5**
SWI				S	**Sn**	**12 01 42.5**	**-0.6**
FAKI	**Fak Fak**	**2.70**	**197**	P	**Pn**	**12 01 32.3**	**+0.5**
BAKI	**Biak**	**3.16**	**106**	P	**Pb**	**12 01 46.1**	**-0.1**
TNTI	**Ternate**	**5.80**	**281**	P	**Pn**	**12 02 15.4**	**+0.9**
AAI	**Ambon**	**5.90**	**235**	P	**Pn**	**12 02 16.6**	**+0.8**
WRA	**Warramunga Arr**	**19.53**	**176**	P	**P**	**12 05 15.2**	**-0.4**
	0.2nm,0.3s,baz=356,slow=12,SNR=7.7						
WRA				S	S	12 08 42.8	-12
	0.7nm,0.6s,baz=354,slow=26,SNR=4.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**23.21**	**178**	P	**P**	**12 05 55.5**	**+0.5**
	0.7nm,0.5s,baz=0.6,slow=12,SNR=25						
ASAR				S	**S**	**12 10 06.2**	**+1.2**
	0.1nm,0.3s,baz=338,slow=39,SNR=1.3						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**32.40**	**166**	P	**P**	**12 07 16.8**	**-0.8**
	1.9nm,0.8s,baz=329,slow=12,SNR=3.3						
	1.9nm,0.8s						
LZDM	**Lanzhou Array**	**45.27**	**326**	LR	LR	12 30 19.7	
	comp=Z,58nm,20.6s,baz=175,slow=38						

IDC 15 12:13:23.4±4.1, 9°47S×113°51E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=252.0km s-min=27.6km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**120**	P	P	12 18 26.5	+0.1
	0.4nm,0.8s,baz=293,slow=12,SNR=2.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**24.06**	**128**	P	P	12 18 40.9	+0.2
	0.1nm,0.5s,baz=304,slow=9.5,SNR=4.7						
	0.1nm,0.5s						
H08S2	**Diego Garcia H**	**40.58**	**269**	T	T	13 03 55.3	
	baz=95						
H08S3	**Diego Garcia H**	**40.59**	**269**	T	T	13 03 49.4	
	baz=95						
H08S1	**Diego Carcia H**	**40.60**	**269**	T	T	13 03 55.9	
	baz=95						
MKAR	**Makanchi Array**	**62.56**	**336**	P	P	12 23 49.0	-0.2
	0.4nm,0.4s,baz=144,slow=7.1,SNR=5.6						
	0.4nm,0.4s						

*SJA **15** 12:26:46.4±1.5, 21°21S×67°63W, h195km, ML3.5, MW3.5*
*SCB **15** 12:26:47.6±1.4, 21°24S×67°57W, h174km±12km, MB5.0, ML3.4/3, Error ellipse: s-maj=5.3km s-min=3.2km az=0.0*
*IDC **15** 12:26:52.9±21.0, 20°67S×67°22W, h217km±123km, mb2.9/3, mbtmp3.6/4, MS2.4/1, Error ellipse: s-maj=324.0km s-min=34.0km az=19.0*
ISC 15 12:26:47.4±0.9, 21°20S±0°05×67°59W±0°04, h182km±8km, n36, σ0°85/42, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.77**	**275**	Pg	**Pn**	**12 27 23.0**	**+0.7**
PB01				Sg	**Sn**	**12 27 49.5**	**+0.2**
PB01				IAML		12 27 51.8	
	120nm,0.3s						
PB01	**IPOC Station P**	**1.77**	**275**	*i* P	**Pn**	**12 27 22.5**	**+0.2**
PB01				*e*S	**Sn**	**12 27 49.1**	**-0.2**
PB01				IAML		12 27 52.5	
	comp=Z,117nm,0.2s						
PB08	**IPOC Station P**	**1.80**	**305**	Pg	**Pn**	**12 27 23.8**	**+0.9**
PB08	**IPOC Station P**	**1.80**	**305**	*i* P	**Pn**	**12 27 23.2**	**+0.2**
PB08				*e*S	**Sn**	**12 27 51.0**	**+0.7**
PB08				IAML		12 27 51.5	
	comp=Z,135nm,0.7s						
MOCB	**Mochara**	**1.83**	**92**	Pg	**Pn**	**12 27 23.6**	**+0.4**
MOCB				Sg	**Sn**	**12 27 49.8**	**-1.1**
MOCB				IAML		12 27 51.8	
	comp=Z,392nm,0.7s						
GO01	**Chusmiza**	**2.14**	**315**	Pg	**Pn**	**12 27 26.9**	**+0.3**
GO01	**Chusmiza**	**2.14**	**315**	*i* P	**Pn**	**12 27 26.9**	**+0.3**
GO01				IAML		12 28 01.5	
	comp=Z,93nm,0.5s						
PB02	**IPOC Station P**	**2.15**	**266**	Pg	**Pn**	**12 27 27.4**	**+1.1**
PB02				Sg	**Sn**	**12 27 55.6**	**-0.9**
PB02				IAML		12 27 57.5	
	comp=Z,134nm,0.7s						
YJA	**Yavi**	**2.17**	**117**	Pg	**Pn**	**12 27 27.4**	**+0.5**
YJA	**Yavi**	**2.17**	**117**	*i* P	**Pn**	**12 27 27.7**	**+0.9**
YJA				IAML		12 28 01.4	
	comp=Z,75nm,0.5s						
PB06	**IPOC Station P**	**2.37**	**230**	Pg	**Pn**	**12 27 29.4**	**+0.5**
PB11	**IPOC Station P**	**2.40**	**306**	Pg	**Pn**	**12 27 29.2**	**-0.1**
PB11	**IPOC Station P**	**2.40**	**306**	*i* P	**Pn**	**12 27 28.6**	**-0.7**
PB11				*e*S	**Sn**	**12 28 02.1**	**+0.3**
PB11				IAML		12 28 04.0	
	comp=Z,201nm,0.6s						
PATCX	**Punta Patache**	**2.42**	**278**	*i* P	**Pn**	**12 27 29.2**	**-0.2**
PATCX				IAML		12 28 04.3	
	comp=Z,98nm,0.3s						
TA01	**Diego Aracena**	**2.50**	**284**	*i* P	**Pn**	**12 27 29.2**	**-1.0**
TA01				*e*S	**Sn**	**12 28 02.5**	**-1.0**
TA01				IAML		12 28 03.7	
	comp=Z,76nm,0.3s						
SOEO	**Opoqueri**	**2.64**	**354**	Pg	**Pn**	**12 27 33.4**	**+1.1**
AOVT	**TarijaAcel**	**2.71**	**98**	Pg	**Pn**	**12 27 32.5**	**-0.4**
HJA	**Humahuaca**	**2.85**	**135**	*i* P	**Pn**	**12 27 35.9**	**+1.2**
HJA				IAML		12 28 16.2	
	comp=Z,104nm,0.3s						
SALTA		**3.23**	**159**	*i* P	**Pn**	**12 27 41.3**	**+1.9**
SALTA				IAML		12 29 07.1	
	comp=Z,15nm,2.6s						
PB16	**IPOC Station P**	**3.37**	**327**	Pg	**Pn**	**12 27 42.1**	**+0.8**
PB16	**IPOC Station P**	**3.37**	**327**	*i* P	**Pn**	**12 27 41.5**	**+0.3**
PB16				IAML		12 28 26.1	
	comp=Z,74nm,0.6s						
SOET	**ToroToro**	**3.50**	**29**	Pg	**Pn**	**12 27 42.4**	**-0.2**
AZAP	**Zapla**	**3.81**	**143**	*i* P	**Pn**	**12 27 46.2**	**-0.2**
AZAP				IAML		12 28 33.1	
	comp=Z,135nm,0.5s						
SLA	**San Lorenzo**	**4.00**	**152**	*i* P	**Pn**	**12 27 50.0**	**+1.2**
SLA				IAML		12 29 16.3	
	comp=Z,476nm,2.8s						
BBOJ	**La Paz, Jacaqu**	**4.24**	**352**	Pg	**Pn**	**12 27 53.7**	**+1.5**
GO02	**Mina Guanaco**	**4.35**	**205**	Pg	**Pn**	**12 27 53.2**	**-0.1**
GO02	**Mina Guanaco**	**4.35**	**205**	*i* P	**Pn**	**12 27 52.7**	**-0.6**
GO02				IAML		12 28 46.0	
	comp=Z,111nm,0.5s						
BBOE	**La Paz, Chanca**	**4.38**	**355**	Pg	**Pn**	**12 27 55.6**	**+1.6**
BBOD	**La Paz, Gloria**	**4.63**	**348**	Pg	**Pn**	**12 27 58.5**	**+1.2**
LPAZ	**La Paz**	**4.91**	**354**	P	**Pn**	**12 28 01.4**	**+0.6**
	comp=Z,23nm,0.4s,baz=148,slow=6.4,SNR=169						
BBOB	**La Paz, Bander**	**5.06**	**354**	Pg	**Pn**	**12 28 02.9**	**+0.2**
SIV	**San Ignacio**	**8.06**	**51**	LR	LR	12 31 56.4	
	comp=Z,30nm,20.1s,baz=120,slow=41						
TXAR	**Lajitas Array**	**61.09**	**324**	P	**P**	**12 36 42.6**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=128,slow=6.3,SNR=2.1						
	comp=Z,0.3nm,0.9s						
PDAR	**Pinedale Array**	**74.47**	**329**	P	**P**	**12 38 06.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=137,slow=5.1,SNR=2.1						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.10**	**70**	P	**P**	**12 38 14.3**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=261,slow=4.4,SNR=7.3						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**144.67**	**37**	PKP	**PKPab**	**12 46 01.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=303,slow=4.2,SNR=2.8						

*IDC **15** 12:37:08.7±0.7, 56°27N×148°77W, h0km, mb4.1/19, mbtmp4.1/23, ML3.7/4, MS3.8/54, Error ellipse: s-maj=20.9km s-min=11.7km az=35.0*
*NEIC **15** 12:37:10.6±0.9, 56°35N±0°03×148°6W±0°1, h10km±1km, mb4.4/127, ML4.2/76, ML4.0(AEIC), Error ellipse: s-maj=11.4km s-min=4.2km az=251.0*
*GCMT **15** 12:37:11.6±0.3, 56°21N±0°02×148°56W±0°03, h13km±2km, MW4.8/89, Moment Tensor Solution. s13,c13; s89,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.38±.07; $M_{\theta\theta}$-0.44±.08; $M_{\phi\phi}$0.06±.06; $M_{r\theta}$-0.31±.17; $M_{\phi\phi}$1.62±.07; $M_{\theta r}$1.26±.32; Best double couple: $M_0$2.09300×10^{16} NP1:ϕ_s86.00000°, δ50.00000°, λ7.00000°. NP2: ϕ_s352.00000°, δ85.00000°, λ140.00000°. Principal axes: T 1.9130, Plg31.0000°, Azm301.0000°; N 0.3600, Plg50.0000°, Azm165.0000°; P -2.2730, Plg23.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **15** 12:37:12.6±2.1, 56°22N±0°09×148°6W±0°1, h4km±5km Error ellipse: s-maj=13.5km s-min=9.2km az=189.0*
ISC 15 12:37:10.8±0.5, 56°36N±0°06×148°63W±0°04, h10km, n343, σ0°90/266, mb4.4/74, MS3.8/53, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.59**	**305**		**Pn**	**12 37 51.5**	**-1.1**
KDAK					**Sn**	**12 38 22.4**	**-1.7**
KDAK	**Kodiak Island**	**2.59**	**305**	Pn	**Pn**	**12 37 51.7**	**-1.0**
	24nm,0.3s,baz=130,slow=2.6,SNR=146						
KDAK				Sn	**Sn**	**12 38 22.1**	**-2.0**
	12nm,0.3s,baz=44,slow=3.0,SNR=6.2						
	45nm,0.3s						
OHAK	**Old Harbor**	**2.71**	**290**		Pn	12 37 52.2	-2.1
OHAK	**Old Harbor**	**2.71**	**290**		**Sn**	**12 38 23.8**	**-3.2**
OHAK	**Old Harbor**	**2.71**	**290**	P	Pn	12 37 52.2	-2.1
MID	**Middleton Isla**	**3.31**	**21**		**Sn**	**12 38 40.6**	**-1.2**
MID	**Middleton Isla**	**3.31**	**21**	Pn	**Pn**	**12 38 02.7**	**+0.2**
MID				IAML		12 38 48.9	
	comp=E,526nm,0.9s						
MID				IAML		12 38 58.2	
	comp=N,372nm,1.2s						
R18K	**Karluk**	**3.41**	**293**		**Sn**	**12 38 41.5**	**-2.9**
R18K	**Karluk**	**3.41**	**293**		**Pn**	**12 38 03.0**	**-0.9**
R18K				IAML		12 38 44.7	
	comp=E,463nm,0.4s						
R18K				IAML		12 38 52.4	
	comp=N,527nm,0.5s						
CNPM	**China Poot**	**3.46**	**337**		**Pn**	**12 38 04.3**	**-0.4**
CNPM	**China Poot**	**3.46**	**337**		**Sn**	**12 38 44.7**	**-1.0**
BRSE	**Bradley Lake S**	**3.57**	**343**		**Pn**	**12 38 05.8**	**-0.4**
BRSE					**Sn**	**12 38 48.3**	**-0.1**
BRLK	**Bradley Lake**	**3.62**	**342**		**Pn**	**12 38 06.8**	**0.0**
BRLK				IAML		12 38 55.6	
	comp=E,276nm,0.5s						
P23K	**Montague Islan**	**3.70**	**10**		**Sn**	**12 38 49.8**	**-1.8**
P23K	**Montague Islan**	**3.70**	**10**		**Pn**	**12 38 07.5**	**-0.4**
P23K				IAML		12 38 54.6	
	comp=E,330nm,0.5s						
P23K				IAML		12 38 59.2	
	comp=N,321nm,0.8s						
SEW	**Seward**	**3.78**	**354**		**Pn**	**12 38 08.4**	**-0.6**
SEW	**Seward**	**3.78**	**354**		**Sn**	**12 38 52.0**	**-1.5**
KAPH	**Katmai Pasha**	**3.81**	**308**		**Pn**	**12 38 09.6**	**+0.1**
KAHG	**Katmai Hook Gl**	**3.85**	**306**		**Pn**	**12 38 10.3**	**+0.2**
KAWH	**Katmai**	**3.91**	**304**		**Pn**	**12 38 10.9**	**+0.1**
KARR	**Katmai Rainbow**	**3.92**	**306**		**Pn**	**12 38 11.5**	**+0.5**
AGU	**Augustine-Summ**	**3.95**	**321**		**Pn**	**12 38 11.1**	**-0.4**
AGU					Pb	12 38 12.2	-8.3
AUL	**Augustine Lava**	**3.97**	**322**		**Pn**	**12 38 12.5**	**+0.9**
KAKN	**Katmai Knife C**	**3.99**	**302**		**Pn**	**12 38 11.9**	**-0.2**
ACHA	**Angle Creek He**	**4.08**	**300**		**Pn**	**12 38 13.2**	**0.0**
O22K	**Cooper Landing**	**4.17**	**352**		**Pn**	**12 38 14.3**	**-0.1**
HIN	**Hinchinbrook I**	**4.20**	**15**		**Pn**	**12 38 14.5**	**-0.3**
KAIM	**Kayak Island**	**4.21**	**30**		**Pn**	**12 38 14.4**	**-0.6**
KAIM				IAML		12 39 14.5	
	comp=N,347nm,0.9s						
KAIM				IAML		12 39 17.4	
	comp=E,327nm,0.9s						
SLKM	**Skilak Lake**	**4.24**	**349**		**Pn**	**12 38 15.1**	**-0.3**
SLKM				IAML		12 40 14.8	
	comp=E,266nm,0.7s						
SLKM				IAML		12 40 16.7	
	comp=N,250nm,1.1s						
O20K	**Slope Mountain**	**4.29**	**332**		**Pn**	**12 38 15.3**	**-0.7**
ILS	**Iliamna Low So**	**4.30**	**329**		**Pn**	**12 38 15.8**	**-0.5**
ILSW	**Iliamna Southw**	**4.35**	**328**		**Pn**	**12 38 16.8**	**-0.2**
CNTC	**Contact Creek**	**4.37**	**299**		**Pn**	**12 38 16.8**	**-0.5**
PLK3	**Peulik 3**	**4.38**	**291**		**Pn**	**12 38 16.3**	**-1.1**
PLK4	**Peulik 4**	**4.42**	**290**		**Pn**	**12 38 16.6**	**-1.3**
PLK4	**Peulik 4**	**4.42**	**290**	IAML		12 39 11.8	
	comp=E,261nm,1.2s						
PLK4				IAML		12 39 25.6	
	comp=N,267nm,1.2s						
PLK2	**Peulik 2**	**4.43**	**292**		**Pn**	**12 38 16.9**	**-1.1**
EYAK	**Cordova Ski Ar**	**4.46**	**19**		**Pn**	**12 38 18.2**	**-0.2**
EYAK				IAML		12 39 08.7	
	comp=E,246nm,1.1s						
EYAK	**Cordova Ski Ar**	**4.46**	**19**	P	**Pn**	**12 38 18.2**	**-0.2**
PWL	**Port Wells**	**4.51**	**2**		**Pn**	**12 38 19.0**	**-0.1**
PWL				IAML		12 39 16.3	
	comp=N,150nm,0.5s						
PWL				IAML		12 39 23.5	
	comp=E,183nm,0.6s						
SUCK	**Suckling Hills**	**4.52**	**33**		**Pn**	**12 38 18.8**	**-0.4**
SUCK				IAML		12 39 30.1	
	comp=E,267nm,1.2s						
RAGM	**Ragged Mountai**	**4.54**	**26**		**Pn**	**12 38 19.3**	**-0.2**
FID	**Port Fidalgo**	**4.54**	**13**	Pn	**Pn**	**12 38 19.0**	**-0.5**
FID				IAML		12 39 09.6	
	comp=E,154nm,0.6s						
FID				IAML		12 39 20.4	
	comp=N,139nm,0.9s						
PLK1	**Peulik 1**	**4.59**	**292**		**Pn**	**12 38 18.7**	**-1.4**
GLI	**Glacier Island**	**4.60**	**9**	Pn	**Pn**	**12 38 20.5**	**+0.2**
GLI				IAML		12 39 23.5	
	comp=E,167nm,1.2s						
GLI				IAML		12 39 43.3	
	comp=N,141nm,0.9s						
HMT	**Hamilton**	**4.60**	**28**		**Pn**	**12 38 20.1**	**-0.2**
P18K	**Big Mountain,**	**4.65**	**313**		**Pn**	**12 38 20.4**	**-0.6**
PLBL	**Peulik Blue Cr**	**4.67**	**290**		**Pn**	**12 38 20.0**	**-1.3**
RDWB	**Redoubt West**	**4.69**	**334**		**Pn**	**12 38 20.7**	**-1.0**
DFR	**Drift River**	**4.75**	**335**		**Pn**	**12 38 21.4**	**-0.9**
RC01	**Rabbit Creek A**	**4.78**	**354**		**Pn**	**12 38 22.6**	**-0.1**
RC01				IAML		12 39 19.9	
	comp=N,146nm,0.5s						
RC01				IAML		12 39 22.2	
	comp=E,148nm,0.5s						
BERG	**Berg Lake**	**4.80**	**31**		**Pn**	**12 38 22.2**	**-0.9**
GRIN	**Grindle Hills**	**4.82**	**33**		**Pn**	**12 38 22.7**	**-0.7**
O19K	**Port Alsworth**	**4.88**	**324**		**Pn**	**12 38 23.4**	**-0.7**
SNH	**Sunshine Point**	**4.90**	**36**	Pn	**Pn**	**12 38 23.9**	**-0.5**
SNH				IAML		12 39 34.5	
	comp=N,133nm,1.2s						
SNH				IAML		12 39 45.0	
	comp=E,140nm,1.1s						
Q16K	**King Salmon**	**4.91**	**302**		**Pn**	**12 38 24.1**	**-0.4**
KHIT	**Khitrov Hills**	**4.97**	**32**		**Pn**	**12 38 24.5**	**-1.0**
DIV	**Divide**	**5.00**	**16**		**Pn**	**12 38 25.9**	**-0.1**
DIV				IAML		12 39 48.8	
	comp=N,114nm,1.2s						
R16K	**Pilot Point**	**5.04**	**288**	Pn	**Pn**	**12 38 25.4**	**-1.0**
R16K				IAML		12 40 00.4	
	comp=E,125nm,1.0s						
R16K				IAML		12 40 10.0	
	comp=N,151nm,1.2s						
P17K	**Kvichak River**	**5.05**	**307**		**Pn**	**12 38 26.1**	**-0.4**
KNK	**Knik Glacier**	**5.07**	**1**	Pn	**Pn**	**12 38 26.7**	**0.0**
KNK				IAML		12 39 36.6	
	comp=E,106nm,1.0s						
BMRM	**Bremner River**	**5.07**	**23**		**Pn**	**12 38 26.6**	**-0.3**
BMRM				IAML		12 39 27.6	
	comp=N,156nm,0.8s						
BMRM				IAML		12 39 30.4	
	comp=E,164nm,0.5s						
WAX	**Waxell Ridge**	**5.10**	**34**		**Pn**	**12 38 26.6**	**-0.6**
SPU	**Mount Spurr**	**5.15**	**341**		**Pn**	**12 38 27.5**	**-0.4**
MESA	**MESA**	**5.20**	**40**		**Pn**	**12 38 27.9**	**-0.8**
MESA				IAML		12 40 48.7	
	comp=N,142nm,1.2s						
MESA				IAML		12 40 52.6	
	comp=E,94nm,1.2s						
ANNE	**Aniakchak Nort**	**5.24**	**280**		Pn	12 38 27.2	-1.9
SPCG	**Spurr Capps Gl**	**5.25**	**342**		**Pn**	**12 38 28.7**	**-0.6**
PMR	**Palmer**	**5.25**	**357**		**Pn**	**12 38 28.9**	**-0.3**
PMR	**Palmer**	**5.25**	**357**	P	**Pn**	**12 38 29.9**	**+0.7**
CRQM	**Cirque**	**5.26**	**31**		**Pn**	**12 38 29.0**	**-0.5**
CRQM				IAML		12 39 37.0	
	comp=E,134nm,0.7s						
ANPK	**Aniakchak Peak**	**5.27**	**279**		Pn	12 38 27.5	-2.1
SPBG	**Spurr Blockage**	**5.28**	**340**		**Pn**	**12 38 29.1**	**-0.7**
KLU	**Klutina**	**5.33**	**14**		**Pn**	**12 38 30.6**	**+0.2**
KLU				IAML		12 39 35.2	
	comp=E,151nm,0.9s						
SPWE	**Spurr West**	**5.33**	**339**		**Pn**	**12 38 30.1**	**-0.4**
TGL	**Tana Glacier**	**5.35**	**32**		**Pn**	**12 38 30.1**	**-0.5**
TGL				IAML		12 39 37.3	
	comp=E,133nm,0.9s						
TGL				IAML		12 39 39.3	
	comp=N,98nm,0.6s						
ANPB	**Aniakchak Plen**	**5.36**	**279**		Pn	12 38 28.9	-1.9
ISLE	**Juniper Island**	**5.38**	**35**		**Pn**	**12 38 30.4**	**-0.7**
ISLE				IAML		12 40 14.1	
	comp=E,113nm,1.1s						
YAH	**Yahtse**	**5.40**	**39**		**Pn**	**12 38 30.7**	**-0.9**
N19K	**Bonanza Creek**	**5.41**	**328**		**Pn**	**12 38 30.8**	**-0.8**
STLK	**Strandline Lak**	**5.41**	**343**		**Pn**	**12 38 31.3**	**-0.2**
GHO	**Glory Hole Cre**	**5.43**	**358**		**Pn**	**12 38 32.3**	**+0.5**
M22K	**Willow**	**5.46**	**353**	Pn	**Pn**	**12 38 33.2**	**+1.1**
SML	**Sawmill**	**5.46**	**1**		**Pn**	**12 38 32.7**	**+0.5**
M23K	**Glacier View**	**5.47**	**4**		**Pn**	**12 38 32.5**	**+0.3**
RKAV	**Rock Avalanche**	**5.50**	**41**		**Pn**	**12 38 32.0**	**-0.8**
SCM	**Sheep Creek Mo**	**5.53**	**6**	Pn	**Pn**	**12 38 33.8**	**+0.7**
VRDI	**Verde Repeater**	**5.57**	**27**		**Pn**	**12 38 33.2**	**-0.6**
SAMH	**Samovar Hills**	**5.60**	**44**		**Pn**	**12 38 33.4**	**-0.8**
O17K	**Koliganek Bris**	**5.65**	**311**		**Pn**	**12 38 33.8**	**-0.8**
N25K	**Chitina, Valde**	**5.65**	**20**		**Pn**	**12 38 34.9**	**+0.1**
GRNC	**Granite Creek**	**5.67**	**37**		**Pn**	**12 38 34.5**	**-0.7**
GLB	**Gilahina Butte**	**5.67**	**24**		**Pn**	**12 38 34.7**	**-0.3**
TABL	**Table Mountain**	**5.67**	**41**		**Pn**	**12 38 34.7**	**-0.5**
P16K	**Nushagak River**	**5.69**	**302**		**Pn**	**12 38 35.4**	**+0.2**
N18K	**Kilae Creek**	**5.76**	**322**		**Pn**	**12 38 35.6**	**-0.7**
PCA	**Pinnacle**	**5.79**	**46**		**Pn**	**12 38 35.8**	**-0.9**
MCARA	**McCarthy VSAT**	**5.81**	**28**		**Pn**	**12 38 36.6**	**-0.3**
SKT	**Skwentna**	**5.83**	**346**	Pn	**Pn**	**12 38 37.2**	**0.0**
VNHG	**Veniaminof 1**	**5.87**	**273**		Pn	12 38 35.8	-2.0
M24K	**Tolsona, Glenn**	**5.90**	**11**		**Pn**	**12 38 39.5**	**+1.3**
PNL	**Peninsula**	**5.92**	**52**		**Pn**	**12 38 37.1**	**-1.3**
PNL	**Peninsula**	**5.92**	**52**	P	**Pn**	**12 38 37.7**	**-0.7**
BARN	**Barnard Glacie**	**5.94**	**35**		**Pn**	**12 38 38.5**	**-0.4**
BCPM	**Bancas Point**	**5.96**	**49**	Pn	**Pn**	**12 38 38.7**	**-0.3**
CTGM	**Chitina Glacie**	**5.98**	**36**		**Pn**	**12 38 38.7**	**-0.6**
O16K	**Kokwok River B**	**5.99**	**307**		**Pn**	**12 38 38.8**	**-0.5**
LOGN	**Logan Glacier**	**5.99**	**39**		**Pn**	**12 38 38.9**	**-0.7**
WACK	**Wrangell Chich**	**6.06**	**20**		**Pn**	**12 38 40.2**	**-0.3**
VNFG	**Fog Glacier, M**	**6.08**	**274**		**Pn**	**12 38 40.7**	**0.0**
N17K	**Nushagak Hills**	**6.13**	**316**		**Pn**	**12 38 40.6**	**-0.7**
O28M	**Mount Upton**	**6.24**	**41**		**Pn**	**12 38 42.6**	**-0.5**
M19K	**Big River Lodg**	**6.30**	**334**		**Pn**	**12 38 42.8**	**-0.9**
CHNA	**Chernabura Isl**	**6.40**	**261**	P	Pn	12 38 42.6	-2.4
CNBA	**Chernabura Isl**	**6.41**	**261**		Pn	12 38 42.3	-2.8
O29M	**Mount Kennedy**	**6.60**	**49**		**Pn**	**12 38 47.1**	**-0.8**
O15K	**Ungalikthiuk R**	**6.62**	**300**		**Pn**	**12 38 48.1**	**0.0**
P29M	**Windy Craggy**	**6.65**	**56**		**Pn**	**12 38 47.4**	**-1.0**
L20K	**Farewell, AK**	**6.69**	**339**		**Pn**	**12 38 48.3**	**-0.7**
N16K	**Nishlik Lake**	**6.73**	**312**		**Pn**	**12 38 48.6**	**-1.0**
SDPT	**Sand Point**	**6.75**	**266**		Pn	12 38 47.9	-1.9
SDPT	**Sand Point**	**6.75**	**266**	P	Pn	12 38 47.9	-1.9
DHY	**Denali Highway**	**6.76**	**5**		**Pn**	**12 38 51.2**	**+1.1**
M17K	**Holitna River**	**6.81**	**322**		**Pn**	**12 38 50.2**	**-0.4**
M27K	**Edge Creek, AK**	**6.93**	**27**		**Pn**	**12 38 51.8**	**-0.6**
S31K	**Pelican**	**6.93**	**72**		Pn	12 38 48.6	-3.7
RND	**Reindeer**	**7.07**	**359**		**Pn**	**12 38 54.4**	**+0.2**
M16K	**Timber Creek**	**7.12**	**315**		**Pn**	**12 38 53.9**	**-1.0**
TRF	**Thorofare Moun**	**7.16**	**354**		**Pn**	**12 38 55.6**	**+0.1**
L18K	**Granite Mounta**	**7.17**	**328**		**Pn**	**12 38 54.7**	**-0.9**
PLBC	**Pleasant Camp**	**7.23**	**60**		**Pn**	**12 38 55.1**	**-1.2**
R31K	**City Hall, Gus**	**7.26**	**68**		Pn	12 38 54.5	-2.2
KTH	**Kantishna Hill**	**7.30**	**352**		**Pn**	**12 38 58.0**	**+0.5**
HYT	**Haines Junctio**	**7.33**	**48**		**Pn**	**12 38 57.0**	**-0.9**
O14K	**Tigyukauivet M**	**7.34**	**298**		**Pn**	**12 38 57.0**	**-1.0**
SIT	**Sitka**	**7.36**	**79**	P	Pn	12 38 53.6	-4.5
MCK	**McKinley**	**7.39**	**359**		**Pn**	**12 38 59.3**	**+0.6**
BC01	**Beaver Creek A**	**7.54**	**24**		**Pn**	**12 39 00.2**	**-0.5**
L27K	**Beaver Creek,**	**7.54**	**24**		**Pn**	**12 39 00.7**	**0.0**
L17K	**Donlin**	**7.61**	**323**		**Pn**	**12 39 00.9**	**-0.7**
M15K	**Kasigluk River**	**7.66**	**310**		**Pn**	**12 39 01.7**	**-0.5**
SKAG	**Skagway**	**7.73**	**61**	P	Pn	12 39 01.7	-1.5
L16K	**Owhat River**	**7.74**	**318**		**Pn**	**12 39 02.9**	**-0.5**
BESE	**Bessie Mountai**	**7.75**	**68**		Pn	12 39 01.2	-2.4
N14K	**Kuskokwak Cree**	**7.77**	**303**		**Pn**	**12 39 03.9**	**+0.1**

K02D IAmb IAmb 12 41 56.6
comp=Z,27nm,1.2s
KBO Bosley Butte 21.14 122 P **P 12 41 55.8 0.0**
E09A Wood Farm, Sta 21.23 105 P **P 12 41 56.5 -0.2**
E09A IAmb IAmb 12 42 00.2
comp=Z,11nm,1.0s
BBOR Butler Butte 21.38 118 P **P 12 41 58.1 -0.3**
BBOR IAmb IAmb 12 41 59.9
comp=Z,14nm,1.0s
L02F Cave Junction 21.53 121 P **P 12 41 59.4 -0.4**
L02F IAmb IAmb 12 42 04.4
comp=Z,20nm,1.1s
LNOR Lincton Mounta 21.57 106 P **P 12 42 00.2 -0.1**
PINE Pine Mountain 21.59 114 **P 12 41 59.8 -0.9**
PINE IAmb IAmb 12 42 02.0
comp=Z,14nm,1.1s
KSXB Camp Six Broad 21.61 122 P **P 12 42 00.3 -0.5**
KSXB IAmb IAmb 12 42 02.0
comp=Z,27nm,1.3s
J05D Fort Rock, OR 21.81 115 **P 12 42 02.4 -0.6**
J05D IAmb IAmb 12 42 04.3
comp=Z,16nm,0.9s
KRMB Red Mountain 21.83 122 P **P 12 42 03.5 +0.3**
K04D Chiloquin, OR 22.03 117 P **P 12 42 05.4 0.0**
K04D IAmb IAmb 12 42 36.7
comp=Z,18nm,0.9s
KRPM Rodgers 22.06 123 P **P 12 42 05.3 -0.3**
L04D Klamath Falls 22.07 119 **P 12 42 05.7 -0.1**
F10A Beach Ranch, E 22.07 105 P **P 12 42 05.3 -0.4**
F10A IAmb IAmb 12 42 22.9
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 22.24 120 **P 12 42 07.5 -0.1**
YBH IAmb IAmb 12 42 13.3
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 22.24 120 P **P 12 42 07.0 -0.5**
comp=Z,0.4nm,1.0s,baz=328,slow=5.3,SNR=13
YBH LR LR 12 48 31.7
comp=Z,28nm,20.7s,baz=299,slow=31
K05A Summer Lake 22.39 116 **P 12 42 09.0 -0.2**
K05A IAmb IAmb 12 42 26.0
comp=Z,21nm,1.1s
KHMM Horse Mountain 22.42 123 P **P 12 42 09.8 +0.2**
KHMM IAmb IAmb 12 42 16.8
comp=Z,22nm,1.1s
M02C Callahan 22.43 121 **P 12 42 09.7 +0.1**
M02C IAmb IAmb 12 42 15.2
comp=Z,13nm,1.0s
JTMT Jette 22.60 98 P **P 12 42 11.0 -0.4**
BMO Blue Mountains 22.76 107 **P 12 42 12.4 -0.7**
N02D Trinity Center 22.82 121 **P 12 42 13.7 0.0**
KHBM Hayfork Bally 22.83 123 **P 12 42 13.1 -0.9**
KMRM Mail Ridge 22.95 124 P **P 12 42 15.3 +0.2**
J08A Circle Bar Ran 23.16 111 **P 12 42 16.7 -0.6**
J08A IAmb IAmb 12 42 19.1
comp=Z,18nm,1.2s
O02D Mt. Diablo Mer 23.41 123 **P 12 42 19.1 -0.7**
O02D IAmb IAmb 12 42 21.5
comp=Z,11nm,0.9s
BILL Bilibino 23.43 318 P **P 12 42 18.6 -1.0**
HATC Hat Creek Radi 23.54 120 P **P 12 42 20.2 -0.9**
WVOR Wild Horse Val 23.74 113 IAmb IAmb 12 42 39.0
comp=Z,11nm,1.1s
O03E Paynes Creek 23.78 121 IAmb IAmb 12 42 24.0
comp=Z,17nm,1.1s
SUTB Sutter Butte 24.63 123 P **P 12 42 30.1 -1.2**
SUTB IAmb IAmb 12 42 31.4
comp=Z,14nm,1.0s
BEKR Beckworth 24.81 120 **P 12 42 32.2 -0.9**
BEKR IAmb IAmb 12 42 34.2
comp=Z,8.9nm,1.1s
PAHR Pah Rah Range 25.41 119 IAmb IAmb 12 42 39.3
comp=Z,12nm,1.2s
WAKR Walker 26.32 120 P **P 12 42 45.9 -0.9**
WAKR IAmb IAmb 12 42 50.1
comp=Z,6.7nm,1.0s
YNE Yellowstone No 26.61 99 P **P 12 42 48.5 -0.9**
RYN Ryan 26.67 119 P **P 12 42 48.1 -1.7**
RYN IAmb IAmb 12 43 25.6
comp=Z,8.5nm,1.3s
ELK Elko 26.72 112 P **P 12 42 50.3 0.0**
comp=Z,3.9nm,1.1s,baz=334,slow=8.0,SNR=7.9
ELK LR LR 12 51 35.7
comp=Z,167nm,18.3s,baz=310,slow=32
comp=Z,3.9nm,1.1s
NVAR Mina Array Bea 26.93 119 P **P 12 42 51.9 -0.4**
NVAR Mina Array Bea 26.93 119 P **P 12 42 51.6 -0.6**
comp=Z,3.4nm,0.9s,baz=304,slow=8.6,SNR=21
NVAR LR LR 12 51 29.8
comp=Z,216nm,20.4s,baz=315,slow=32
comp=Z,3.4nm,0.9s
LHV Little Huntoon 26.97 119 P **P 12 42 51.9 -0.5**
LHV IAmb IAmb 12 43 29.4
comp=Z,14nm,1.4s
NV11 Mina Array Sit 27.00 119 P **P 12 42 52.3 -0.5**
MDPB Devils Postpil 27.18 121 P **P 12 42 54.2 -0.4**
MDPB IAmb IAmb 12 42 55.8
comp=Z,7.1nm,1.0s
RES Resolute Bay 27.32 28 LR LR 12 54 21.0
comp=Z,299nm,19.6s,baz=226,slow=38
DSP Deep Springs 27.93 120 P **P 12 43 00.7 -0.2**
PDAR Pinedale Array 28.32 102 P **P 12 43 04.1 -0.6**
comp=Z,0.6nm,0.7s,baz=310,slow=8.3,SNR=5.1
PDAR LR LR 12 53 41.9
comp=Z,45nm,20.4s,baz=303,slow=35
comp=Z,0.6nm,0.7s
R11B Troy Canyon, C 28.34 115 **P 12 43 04.4 -0.4**
SPR3 Spring Creek 3 28.48 113 P **P 12 43 06.5 +0.2**
SPR3 IAmb IAmb 12 43 08.2
comp=Z,6.0nm,1.2s
CWC Cottonwood Cre 28.62 121 P **P 12 43 06.8 -0.5**
S11A Rachel 28.80 117 IAmb IAmb 12 43 12.2
comp=Z,8.2nm,0.9s
WCT Wildcat Mounta 29.04 119 IAmb IAmb 12 43 12.2
comp=Z,7.6nm,1.1s
ISA Isabella, Lake 29.06 123 IAmb IAmb 12 43 11.6
comp=Z,4.7nm,0.9s
TPNV Topopah Spring 29.10 118 IAmb IAmb 12 43 12.7
comp=Z,5.2nm,1.1s
FURC Furnace Creek, 29.18 120 IAmb IAmb 12 43 13.4
comp=Z,7.3nm,0.9s
MPMC Manual Prospec 29.21 121 IAmb IAmb 12 43 13.7
comp=Z,4.4nm,1.0s
GWY Greenwater Val 29.50 120 P **P 12 43 14.2 -0.9**
GWY IAmb IAmb 12 43 16.1
comp=Z,5.3nm,0.9s
SEY Seymchan 29.55 307 P P 12 43 13.2 -1.9
comp=Z,1.1nm,0.2s,baz=188,slow=23,SNR=2.3
SEY LR LR 12 55 59.4
comp=Z,397nm,19.9s,baz=110,slow=38
comp=Z,1.1nm,0.2s
WSHM Spangler Hills 29.58 121 IAmb IAmb 12 43 16.6
comp=Z,6.4nm,1.0s
QSM Queen of Sheba 29.58 120 IAmb IAmb 12 43 16.9
comp=Z,9.8nm,1.0s
LRMC Laurel Mtn Rad 29.58 122 IAmb IAmb 12 43 16.5
comp=Z,6.7nm,0.8s
CCCA Chr Cany lake 29.70 121 P **P 12 43 16.1 -0.7**
SHOC Shoshone, Teco 29.92 119 P **P 12 43 18.0 -0.7**
CCUT Cedar City 30.07 114 P **P 12 43 19.3 -1.0**
GSC Goldstone, Bar 30.14 121 IAmb IAmb 12 43 21.7
comp=Z,5.6nm,1.1s
SRU San Rafael Swe 30.38 108 P **P 12 43 22.4 -0.5**
SRU IAmb IAmb 12 43 24.3
comp=Z,7.4nm,1.2s
PETK Petropavlovsk- 30.50 287 P **P 12 43 23.4 -0.3**
comp=Z,1.8nm,0.7s,baz=66,slow=14,SNR=1.7
PETK LR LR 12 56 20.2
comp=Z,86nm,18.2s,baz=74,slow=38
comp=Z,1.8nm,0.7s
LCMT Little Creek M 30.55 114 P **P 12 43 24.0 -0.3**
LCMT IAmb IAmb 12 43 25.7
comp=Z,5.4nm,1.1s
BFSC Mount Baldy Ra 30.61 123 P **P 12 43 24.7 -0.2**
BFSC IAmb IAmb 12 43 26.1
comp=Z,9.1nm,1.1s
KNB Kanab 30.76 114 IAmb IAmb 12 43 27.7
comp=Z,4.3nm,1.1s
MA2 Magadan 31.33 301 LR LR 12 56 41.4
comp=Z,211nm,19.8s,baz=90,slow=38
ULM Lac du Bonnet 31.43 79 LR LR 12 55 28.1
comp=Z,66nm,18.9s,baz=305,slow=35
BELC Belle Mtn. Jos 31.59 121 P **P 12 43 32.7 -0.8**
BELC IAmb IAmb 12 43 34.1
comp=Z,4.6nm,0.9s
PV23 Carpenter Ridg 31.66 108 P **P 12 43 33.8 -0.5**
PFO Pinyon Flats O 31.69 122 LR LR 12 54 55.8
comp=Z,313nm,18.7s,baz=339,slow=34
W13A Hualapai Mount 31.73 117 P **P 12 43 34.4 -0.5**
W13A IAmb IAmb 12 43 36.1
comp=Z,5.2nm,1.0s
IRM Iron Mountain 31.87 120 P **P 12 43 35.3 -0.6**
PV13 Radium Mtn., P 31.98 108 P **P 12 43 35.8 -1.3**
PV13 IAmb IAmb 12 43 38.0
comp=Z,7.9nm,1.3s
PV02 Paradox Valley 31.99 108 P **P 12 43 36.5 -0.7**
BC3 Big Chuckawall 32.13 121 P **P 12 43 37.5 -0.7**
BC3 IAmb IAmb 12 43 38.2
comp=Z,3.2nm,0.8s
WUAZ Wupatki 32.66 114 P **P 12 43 42.9 -0.1**
X16A Lo Mia Camp, P 33.49 115 IAmb IAmb 12 43 52.0
comp=Z,5.9nm,0.9s
X18A Snowflake 34.16 113 IAmb IAmb 12 43 57.5
comp=Z,7.3nm,1.0s
214A Organ Pipe Nat 34.79 119 IAmb IAmb 12 44 02.7
comp=Z,7.3nm,1.0s
ANMO Albuquerque 35.65 109 LR LR 12 57 25.5
comp=Z,146nm,19.4s,baz=52,slow=34
TIXI Tiksi 35.80 328 LR LR 13 01 46.4
comp=Z,84nm,19.2s,baz=33,slow=41
FRB Frobisher Bay 38.11 45 LR LR 13 00 21.2
comp=Z,610nm,18.4s,baz=296,slow=36
YAK Yakutsk 39.59 313 LR LR 13 02 10.8
comp=Z,159nm,18.6s,baz=72,slow=38
TX31 Lajitas Ar. Si 41.51 111 P **P 12 44 57.4 -0.7**
TXAR Lajitas Array 41.51 111 P **P 12 44 57.3 -0.8**
TXAR Lajitas Array 41.51 111 P **P 12 44 57.9 -0.2**
comp=Z,2.0nm,1.1s,baz=324,slow=6.2,SNR=12
TXAR LR LR 13 01 08.1
comp=Z,100nm,19.6s,baz=302,slow=35
comp=Z,2.0nm,1.1s
P43A Skaggs, Pawnee 41.53 88 P **P 12 44 57.4 -0.6**
LPIG La Paz 42.58 123 LR LR 13 00 25.3
comp=Z,131nm,19.8s,baz=329,slow=33
SUMG Summit 42.74 25 *i P* **P 12 45 10.0 +2.0**
SUMG IAmb IAmb 12 45 11.6
comp=Z,15nm,0.5s
DAG Danmarks Havn 43.43 15 *i P* **P 12 45 12.0 -1.0**
DAG IAmb IAmb 12 45 14.9
comp=Z,7.9nm,1.0s
SCHQ Schefferville 43.64 56 P **P 12 45 16.4 +1.3**
comp=Z,36nm,0.8s,baz=301,slow=12,SNR=3.8
SCHQ LR LR 13 03 31.8
comp=Z,3μm,18.2s,baz=294,slow=36
SADO Sadowa 43.77 75 LR LR 13 02 15.7
comp=Z,2μm,18.3s,baz=344,slow=34
ASAJ Asahikawa 43.83 284 LR LR 13 05 09.0
comp=Z,76nm,19.2s,baz=78,slow=38
DBG Daneborg 45.14 18 *i P* **P 12 45 25.8 -1.0**
DBG IAmb IAmb 12 45 28.7
comp=Z,6.2nm,1.0s
TKL Tuckaleechee C 47.56 87 LR LR 13 05 36.8
comp=Z,88nm,18.1s,baz=61,slow=36
H11N2 WAKE ISLAND Hy 49.24 241 T T 13 38 53.7
baz=30
H11N3 WAKE ISLAND Hy 49.25 241 T T 13 38 54.1
baz=30,slow=74
H11N1 WAKE ISLAND Hy 49.26 241 T T 13 38 58.8
baz=30,slow=74
JMIC Jan Mayen 49.84 16 LR LR 13 08 31.2
comp=Z,73nm,19.4s,baz=356,slow=38
H11S1 WAKE ISLAND Hy 50.38 240 T T 13 40 23.2
baz=33
H11S2 WAKE ISLAND Hy 50.39 240 T T 13 40 24.2
baz=33,slow=74
H11S3 WAKE ISLAND Hy 50.40 240 T T 13 40 25.5
baz=33,slow=74
HILR Hailar Array B 51.66 304 LR LR 13 07 22.9
comp=Z,152nm,21.0s,baz=230,slow=35
BORG Borgarnes 52.71 25 LR LR 13 09 11.3
comp=Z,69nm,19.3s,baz=323,slow=36
ARCES ARCESS Array B 54.33 3 P **P 12 46 36.1 -0.6**
comp=Z,1.6nm,1.0s,baz=356,slow=7.5,SNR=4.6
comp=Z,1.6nm,1.0s
JCJ Chichijima 56.45 269 LR LR 13 08 30.6
comp=Z,40nm,21.6s,baz=90,slow=33
JNU Nakatsue 58.06 283 LR LR 13 13 33.3
comp=Z,56nm,18.6s,baz=38,slow=38
SONM Songino Array 58.87 311 P **P 12 47 08.5 -0.9**
SONM IAmb IAmb 12 47 13.0
comp=Z,4.7nm,1.0s
SONM Songino Array 58.87 311 P **P 12 47 09.4 0.0**
comp=Z,4.3nm,0.9s,baz=36,slow=4.7,SNR=15
SONM LR LR 13 16 16.6
comp=Z,142nm,18.3s,baz=44,slow=40
comp=Z,4.3nm,0.9s
ZALV Zalesovo Beam 61.69 327 P **P 12 47 28.8 +0.3**
comp=Z,0.8nm,0.6s,baz=35,slow=5.3,SNR=2.4
ZALV LR LR 13 17 56.5
comp=Z,56nm,18.5s,baz=12,slow=40
comp=Z,0.8nm,0.6s
NOA NORSAR Array B 61.87 11 P **P 12 47 30.9 +1.2**
comp=Z,1.9nm,0.8s,baz=350,slow=6.8,SNR=4.8
NOA LR LR 13 16 20.9
comp=Z,23nm,18.4s,baz=350,slow=38
comp=Z,1.9nm,0.8s
HHC Hu-ho-hao-te 62.00 302 *eP* **P 12 47 32.8 +1.8**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.3s
FIA1 FINESS Array S 62.46 3 P **P 12 47 33.0 -0.5**
FINES FINESS Array B 62.46 3 P **P 12 47 33.7 +0.2**
FINES FINESS Array B 62.46 3 P **P 12 47 33.4 -0.2**
comp=Z,2.9nm,0.8s,baz=7.1,slow=7.7,SNR=7.0
comp=Z,2.9nm,0.8s
HFS Hagfors 63.00 10 LR LR 13 16 36.9
comp=Z,55nm,19.6s,baz=340,slow=38
EKA Eskdalemuir Ar 65.17 21 P **P 12 47 52.5 +1.1**
comp=Z,3.3nm,1.0s,baz=340,slow=7.3,SNR=3.4
comp=Z,3.3nm,1.0s
ARTI Arti 65.50 344 LR LR 13 19 57.2
comp=Z,88nm,19.2s,baz=23,slow=39
GUMO Guam 65.81 258 LR LR 13 11 34.7
comp=Z,27nm,21.6s,baz=70,slow=31
KURBB Kurchatov Arra 66.46 329 P **P 12 47 58.4 -1.5**
comp=Z,0.4nm,0.4s,baz=28,slow=6.0,SNR=6.2
KURBB LR LR 13 20 33.7
comp=Z,134nm,18.1s,baz=175,slow=39
comp=Z,0.4nm,0.4s
JTS Las Juntas de 67.02 107 LR LR 13 21 00.8
comp=Z,46nm,18.1s,baz=322,slow=39
MKAR Makanchi Array 68.74 325 P P 12 48 12.3 -2.1
comp=Z,0.3nm,0.4s,baz=45,slow=11,SNR=2.2
MKAR LR LR 13 22 22.9
comp=Z,145nm,18.0s,baz=360,slow=40
comp=Z,0.3nm,0.4s
WMQ Urumqi 69.52 320 *eP* **P 12 48 20.8 +1.5**
WMQ LR LR
comp=Z,150nm,20.1s
AB31 Akbulak array 72.09 341 IAmb IAmb 12 48 37.6
comp=Z,2.2nm,0.8s
ABKAR Akbulak array 72.09 341 P **P 12 48 35.0 +0.2**
AKASG Malin Array Be 73.29 1 P **P 12 48 40.3 -1.5**
comp=Z,4.2nm,0.7s,baz=1.5,slow=6.0,SNR=16
comp=Z,4.2nm,0.7s
KIEV Kiev 73.29 1 **P 12 48 42.1 +0.3**
VRAC Kranov 73.98 10 LR LR 13 23 44.6
comp=Z,26nm,18.3s,baz=14,slow=38
GERES GERESS Array B 74.13 12 P **P 12 48 47.1 +0.2**
comp=Z,1.2nm,0.8s,baz=328,slow=7.1,SNR=6.2
GERES LR LR 13 24 32.4
comp=Z,20nm,18.0s,baz=324,slow=38
comp=Z,1.2nm,0.8s
AAK Ala-Archa 74.87 328 LR LR 13 26 39.9
comp=Z,156nm,18.1s,baz=26,slow=40
KK31 Karatay Array 75.55 331 P **P 12 48 55.4 +0.2**
KK31 IAmb IAmb 12 48 57.4
comp=Z,3.5nm,1.4s
KKAR Karatay Array 75.55 331 P **P 12 48 55.3 +0.1**
RAR Rarotonga 77.84 191 LR LR 13 14 13.6
comp=Z,58nm,20.5s,baz=310,slow=29
HNR Honiara 78.05 232 LR LR 13 15 46.2
comp=Z,94nm,20.8s,baz=347,slow=30
PZH PanZhiHua 78.39 300 P **P 12 49 12.0 +0.4**
ESDC Sonseca Array 79.75 27 P **P 12 49 18.4 -0.4**
comp=Z,2.2nm,0.8s,baz=344,slow=5.7,SNR=10
ESDC LR LR 13 24 56.2
comp=Z,86nm,18.2s,baz=326,slow=36
comp=Z,2.2nm,0.8s
JAY Jayapura 81.50 252 LR LR 13 25 16.8
comp=Z,33nm,18.4s,baz=34,slow=36
DAV Davao City (W) 81.83 270 LR LR 13 19 46.7
comp=Z,51nm,21.1s,baz=34,slow=31
GNI Garni 83.19 350 LR LR 13 32 23.0
comp=Z,29nm,18.3s,baz=18,slow=40
PMG Port Moresby 84.03 243 LR LR 13 21 51.7
comp=Z,45nm,19.8s,baz=100,slow=32
BRTR Keskin Array B 84.26 358 P **P 12 49 44.2 +1.7**
comp=Z,1.4nm,0.8s,baz=8.5,slow=2.9,SNR=5.7
comp=Z,1.4nm,0.8s
VAE Valguarnera 85.42 13 LR LR 13 31 48.6
comp=Z,39nm,18.1s,baz=329,slow=38
MDT Midelt 86.05 30 LR LR 13 28 28.0
comp=Z,60nm,18.0s,baz=39,slow=36
BRDH Bariadhala 86.35 307 LR LR 13 33 08.5
comp=Z,120nm,19.1s,baz=330,slow=39
KEST Kesra 86.37 18 LR LR 13 29 49.8
comp=Z,27nm,21.6s,baz=337,slow=37
CMAR Chiang Mai Arr 86.57 298 **P 12 49 52.9 -1.2**
CMAR Chiang Mai Arr 86.57 298 P **P 12 49 53.9 -0.3**
comp=Z,0.7nm,0.4s,baz=16,slow=4.7,SNR=11
CMAR LR LR 13 34 19.3
comp=Z,22nm,18.3s,baz=40,slow=40
comp=Z,0.7nm,0.4s
RPN Rapa Nui 89.60 146 LR LR 13 23 29.3
comp=Z,44nm,18.5s,baz=230,slow=31
URZ Urewera 98.64 207 LR LR 13 27 18.5
comp=Z,57nm,21.1s,baz=17,slow=30
WRA Warramunga Arr 99.45 248 LR LR 13 31 23.9
comp=Z,44nm,19.1s,baz=15,slow=33
QSPA South Pole Qui 146.16 180 PKPbc **PKPdf 12 56 50.3 +1.7**
comp=Z,3.9nm,0.8s,baz=79,slow=2.6,SNR=22
BOSA Boshof 151.93 11 PKPbc **PKPdf 12 57 04.3 +5.0**
comp=Z,1.8nm,0.3s,baz=31,slow=5.9,SNR=7.0

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*AEIC **15** 12:38:22.0±1.3, 56.2°N±0.1°×148.6°W±0.1°, h10km±8km, Error ellipse: s-maj=17.7km s-min=10.1km az=172.0*
NEIC 15 12:38:18.1±1.3, 56.2°N±0.1°×148.63°W±0.03°, h10km±2km, ML3.9/20, ML3.6(AEIC), Error ellipse: s-maj=19.9km s-min=3.0km az=173.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.66**	**307**		Pn	12 39 00.5	-0.4
KDAK	**Kodiak Island**	**2.66**	**307**		Sn	12 39 31.6	-1.6
OHAK	**Old Harbor**	**2.75**	**293**	Pn	Pn	12 39 01.6	-0.6
MID	**Middleton Isla**	**3.42**	**20**		Pn	12 39 10.5	-0.9
MID				IAML		12 41 14.8	
comp=E,459nm,2.6s							
R18K	**Karluk**	**3.46**	**295**		Pn	12 39 11.6	-0.3
R18K				IAML		12 40 00.1	
comp=N,353nm,0.6s							
R18K				IAML		12 40 03.7	
comp=E,291nm,0.6s							
CNPM	**China Poot**	**3.58**	**338**		Pn	12 39 13.7	+0.1
CNPM				IAML		12 40 08.0	
comp=N,135nm,0.7s							
CNPM	**China Poot**	**3.58**	**338**		Sn	12 39 54.1	-1.8
BRSE	**Bradley Lake S**	**3.69**	**343**		Pn	12 39 15.2	+0.1
BRSE					Sn	12 39 56.1	-2.5
P23K	**Montague Islan**	**3.83**	**9**		Pn	12 39 16.5	-0.5
P23K				IAML		12 40 08.1	
comp=E,258nm,0.8s							
P23K				IAML		12 40 21.1	
comp=N,239nm,1.4s							
SEW	**Seward**	**3.90**	**354**		Pn	12 39 17.6	-0.4
SEW					Sn	12 40 00.7	-3.0
SEW	**Seward**	**3.90**	**354**	IAML		12 40 05.9	
comp=E,116nm,0.9s							
SEW				IAML		12 40 06.4	
comp=N,114nm,0.9s							
AUL	**Augustine Lava**	**4.07**	**323**		Pn	12 39 20.7	+0.4
HIN	**Hinchinbrook I**	**4.32**	**14**		Pn	12 39 23.7	-0.1
PLK3	**Peulik 3**	**4.42**	**292**		Pn	12 39 24.8	-0.4
EYAK	**Cordova Ski Ar**	**4.58**	**18**		Pn	12 39 26.5	-0.8
P18K	**Big Mountain,**	**4.74**	**315**	Pn	Pn	12 39 29.0	-0.5
P18K				IAML		12 40 46.3	
comp=E,59nm,3.8s							
P18K				IAML		12 41 32.9	
comp=N,67nm,4.9s							
TABL	**Table Mountain**	**5.77**	**40**	Pn	Pn	12 39 43.6	-0.2
N18K	**Kilae Creek**	**5.86**	**322**	Pn	Pn	12 39 44.7	-0.2
PCA	**Pinnacle**	**5.88**	**45**	Pn	Pn	12 39 44.2	-1.0
BCPM	**Bancas Point**	**6.05**	**48**	Pn	Pn	12 39 47.5	0.0
O15K	**Ungalikthiuk R**	**6.68**	**301**	Pn	Pn	12 39 56.9	+0.7
P29M	**Windy Craggy**	**6.72**	**55**	Pn	Pn	12 39 56.6	-0.1
M17K	**Holitna River**	**6.90**	**322**	Pn	Pn	12 39 58.9	-0.3
M16K	**Timber Creek**	**7.21**	**316**	Pn	Pn	12 40 04.5	+1.0
N15K	**Kwethluk River**	**7.22**	**308**	Pn	Pn	12 40 04.3	+0.7
L16K	**Owhat River**	**7.83**	**319**	Pn	Pn	12 40 12.3	+0.4
M29M	**Somme Creek**	**8.10**	**36**	Pn	Pn	12 40 16.5	+0.8
WHY	**Whitehorse**	**8.46**	**53**	Pn	Pn	12 40 20.8	+0.2
N31M	**Braeburn, Yuko**	**8.48**	**46**	Pn	Pn	12 40 21.3	+0.5
L29M	**L29M**	**8.69**	**33**	Pn	Pn	12 40 24.0	+0.2
E21K	**Killik River**	**12.49**	**351**	Pn	Pn	12 41 16.2	+0.6
B22K	**Teshekpuk Lake**	**14.31**	**353**	Pn	Pn	12 41 40.7	+0.3
B20K	**Meade River**	**14.32**	**348**	Pn	Pn	12 41 40.8	+0.2

AFAD 15 12:58:00.7, 39.17N×27.69E, h7km±3km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.21**	**7**	P	Pg	12 58 04.7	-0.1
STEP				S	Sg	12 58 08.8	+1.2
BALY	**Balya**	**0.57**	**355**	P	Pg	12 58 12.1	+0.4
BALY				S	Sg	12 58 20.0	+0.8
BALY				*i* IAML		12 58 22.0	
comp=E,15nm,0.4s							
BALY				*i* IAML		12 58 24.0	
comp=N,27nm,0.7s							
BKES	**Balkesir-Mer**	**0.59**	**19**	P	Pg	12 58 11.8	-0.3
BKES				S	Sg	12 58 20.2	+0.4
BKES				*i* IAML		12 58 22.0	
comp=E,17nm,0.4s							
BKES				*i* IAML		12 58 25.0	
comp=N,16nm,0.6s							
BLKS	**Balkesir-Sus**	**0.73**	**17**	P	Pn	12 58 17.3	-0.2
BLKS				S	Sb	12 58 25.8	-0.3
BLKS				*i* IAML		12 58 32.0	
comp=N,6.4nm,0.6s							
BLKS				*i* IAML		12 58 33.0	
comp=E,6.1nm,0.9s							
DURS	**Dursunbey**	**0.75**	**55**	P	Pb	12 58 15.7	-0.4
DURS				S	Sb	12 58 25.7	-0.8
DURS				*i* IAML		12 58 27.0	
comp=E,15nm,0.4s							
DURS				*i* IAML		12 58 28.0	
comp=N,9.8nm,0.4s							

ISK 15 12:58:33.6, 37.66N×29.31E, h0km±1km, ML1.0/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.19**	**183**	Pg	Pg	12 58 37.9	+0.7
APMY				Sg	Sg	12 58 41.3	+1.6
CAME	**Cameli-Denizli**	**0.72**	**181**	Pg	Pg	12 58 47.9	+0.6
CAME				Sg	Sb	12 58 58.3	-1.2
ISP	**Isparta**	**0.97**	**80**	Pg	Pg	12 58 52.7	+0.5
ISP				Sg	Sb	12 59 06.7	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.16**	**285**	Pn	Pb	12 58 56.3	-0.3

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*IDC **15** 13:09:39.1±0.8, 51.67N×178.54W, h0km, mb3.7/9, mbtmp3.8/11, ML3.2/2, Error ellipse: s-maj=27.4km s-min=18.5km az=163.0*
*AEIC **15** 13:09:40.7±1.6, 51.56N±0.06×178.40W±0.03, h7km±5km, Error ellipse: s-maj=9.2km s-min=2.4km az=182.0*
*NEIC **15** 13:09:42.0±1.9, 51.56N±0.06×178.36W±0.02, h10km±1km, mb4.4/39, ML4.1/6, ML3.7(AEIC), Error ellipse: s-maj=10.1km s-min=3.0km az=2.0*
ISC 15 13:09:40.2±1.4, 51.52N±0.07×178.40W±0.02, h7km±9km, n81, σ1.9 11/74, mb4.4/25, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.26**	**277**		**Pb**	**13 09 47.0**	**-0.2**
GAKI					**Sb**	**13 09 50.9**	**-1.0**
GALAA	**Gareloi Lava P**	**0.34**	**316**		**Pn**	**13 09 52.9**	**+1.4**
GAEA	**Gareloi East**	**0.34**	**320**		**Pb**	**13 09 48.1**	**-0.5**
GAEA					**Sb**	**13 09 53.0**	**-1.3**
GANE	**Gareloi Northe**	**0.38**	**322**		**Pb**	**13 09 48.8**	**-0.5**
GANE					**Sb**	**13 09 54.1**	**-1.3**
TASE	**Tanaga Southea**	**0.39**	**35**		**Pb**	**13 09 48.8**	**-0.6**
TAFL	**Tanaga Flats**	**0.39**	**53**		**Pb**	**13 09 49.1**	**-0.3**

TAFL						Sb	13 09 54.9	-0.8
GANO	Gareloi North	0.39	320			Pg	13 09 48.7	+0.8
TANO	Tanaga North	0.43	23			Pb	13 09 49.6	-0.5
TAPA	Tanaga Point A	0.47	51			Pb	13 09 50.5	-0.3
KIMD	Kanaga Island	0.76	71			Pg	13 09 55.4	+0.6
KIKV	Kanaga Island	0.84	64			Pg	13 09 56.8	+0.4
KIWB	Kanaga Island	0.84	66			Pg	13 09 56.5	+0.1
KIWB				IAML			13 10 13.3	
	comp=E,4μm,0.7s							
KIWB	Kanaga Island	0.84	66			Sg	13 10 07.8	+0.4
KICM	Kanaga Island	0.85	61			Pb	13 09 57.1	-0.1
KIRH	Kanaga Island	0.90	64			Pg	13 09 57.7	+0.3
ADK	Adak	1.13	71			Sg	13 10 15.9	-0.5
ADK	Adak	1.13	71	Pn		Pg	13 10 01.1	-0.7
ADK				IAML			13 10 19.5	
	comp=E,4μm,0.3s							
ADK				IAML			13 10 21.7	
	comp=E,4μm,0.4s							
AMKA	Amchitka	1.45	265	Pn		Pn	13 10 06.9	+0.2
GSCK	Great Sitkin C	1.47	70			Pn	13 10 06.9	-0.2
GSSP	Great Sitkin S	1.49	67			Pn	13 10 06.8	-0.6
GSTD	Great Sitkin T	1.50	68			Pn	13 10 07.1	-0.4
GSTR	Great Sitkin T	1.56	68	Pn		Pn	13 10 08.2	-0.1
GSTR				IAML			13 10 35.5	
	comp=E,8μm,0.3s							
LSSE	Little Sitkin	1.93	284			Pn	13 10 13.9	+0.5
LSSE						Pb	13 10 14.3	-1.4
LSPA	Little Sitkin	1.93	284			Pn	13 10 13.5	0.0
LSPA						Sb	13 10 40.2	+0.2
LSNW	Little Sitkin	1.97	284			Pn	13 10 14.3	+0.4
PETK	Petropavlovsk-	14.69	286	Pn		Pn	13 13 06.1	-2.1
	comp=E,0.1nm,0.3s,baz=92,slow=16,SNR=1.2							
	comp=E,3.9nm,1.1s							
N18K	Kilae Creek	15.47	45	P		P	13 13 24.7	+1.6
N18K				IAmb		IAmb	13 13 50.9	
	comp=Z,18nm,1.4s							
KDAK	Kodiak Island	16.13	57	Pn		Pn	13 13 25.9	-1.3
	comp=Z,0.6nm,0.3s,baz=251,slow=7.7,SNR=1.5							
	comp=Z,5.0nm,0.5s							
J19K	Poorman	17.29	35	P		P	13 13 44.8	+1.5
SLKM	Skilak Lake	18.00	49	P		P	13 13 52.4	+1.2
SLKM				IAmb		IAmb	13 14 24.4	
	comp=Z,41nm,1.4s							
SEW	Seward	18.26	51			P	13 13 54.6	+0.7
SEW				IAmb		IAmb	13 14 32.5	
	comp=Z,39nm,1.4s							
KTH	Kantishna Hill	18.85	40	P		Pn	13 14 02.4	+1.4
SEY	Seymchan	19.31	318	P		P	13 14 06.2	+0.8
	comp=Z,1.4nm,0.5s,baz=96,slow=16,SNR=5.8							
G21K	Allakaket	19.53	30	P		Pn	13 14 09.8	+0.7
DHY	Denali Highway	20.12	43	P		P	13 14 14.8	+0.3
DHY				IAmb		IAmb	13 14 19.8	
	comp=Z,8.8nm,0.6s							
ILAR	Eielson Array	20.97	39	P		P	13 14 23.6	+0.1
	comp=Z,0.6nm,0.7s,baz=271,slow=10,SNR=6.3							
	comp=Z,0.6nm,0.7s							
H24K	Noodor Dome	21.07	36	P		P	13 14 25.5	+0.9
D22K	Ayikyak River	21.29	26	P		P	13 14 27.9	+1.0
B21K	Ikpikpuk River	21.32	23	P		P	13 14 27.4	+0.3
B21K				IAmb		IAmb	13 14 32.7	
	comp=Z,25nm,1.2s							
I28M	Miner Creek	23.97	40			P	13 14 55.6	+0.7
I30M	Mount Dempster	25.35	41			P	13 15 06.3	-1.2
I30M				IAmb		IAmb	13 15 14.0	
	comp=Z,5.7nm,0.8s							
H11N2	WAKE ISLAND Hy	33.77	205	T		T	13 52 04.4	
	baz=16,slow=76,SNR=120							
H11N3	WAKE ISLAND Hy	33.78	205	T		T	13 52 05.8	
	baz=16,slow=76,SNR=120							
H11N1	WAKE ISLAND Hy	33.78	205	T		T	13 52 05.4	
	baz=16,slow=76,SNR=114							
H11S1	WAKE ISLAND Hy	34.99	205	T		T	13 53 35.6	
	baz=16,slow=76,SNR=176							
H11S2	WAKE ISLAND Hy	35.00	205	T		T	13 53 36.9	
	baz=16,slow=76,SNR=111							
H11S3	WAKE ISLAND Hy	35.00	205	T		T	13 53 38.4	
	baz=16,slow=76,SNR=85							
H04A	Detroit Lake	37.34	78	P		P	13 16 55.1	+2.1
H04A				IAmb		IAmb	13 16 55.6	
	comp=Z,8.7nm,0.8s							
WIFE	Three Sisters-	37.89	78	P		P	13 17 00.1	+2.3
WIFE				IAmb		IAmb	13 17 00.8	
	comp=Z,6.0nm,0.7s							
K05A	Summer Lake	39.18	80	P		P	13 17 11.3	+2.6
K05A				IAmb		IAmb	13 17 12.0	
	comp=Z,6.0nm,1.0s							
WVOR	Wild Horse Val	40.73	79	P		P	13 17 23.1	+1.6
WVOR				IAmb		IAmb	13 17 23.9	
	comp=Z,4.0nm,0.8s							
NVAR	Mina Array Bea	43.28	83	P		P	13 17 43.7	+1.2
	comp=Z,0.9nm,0.7s,baz=294,slow=8.3,SNR=8.9							
NVAR				PcP		PcP	13 19 30.2	-1.2
	comp=Z,0.2nm,0.5s,baz=306,slow=4.3,SNR=2.9							
	comp=Z,0.9nm,0.7s							
ELK	Elko	43.78	78			P	13 17 47.9	+1.4
GMN	Gold Mountain	44.63	84	P		P	13 17 54.9	+1.5
SPR3	Spring Creek 3	45.39	80	P		P	13 18 01.2	+1.8
SPR3				IAmb		IAmb	13 18 02.1	
	comp=Z,2.0nm,0.7s							
TPNV	Topopah Spring	45.48	83	P		P	13 18 01.4	+1.4
TPNV				IAmb		IAmb	13 18 02.3	
	comp=Z,4.5nm,0.7s							
DUG	Dugway, Tooele	45.59	78			P	13 18 02.3	+1.4
DUG				IAmb		IAmb	13 18 07.0	
	comp=Z,4.7nm,1.0s							
PD31	Pinedale Array	46.02	73	P		P	13 18 05.2	+0.9
PDAR	Pinedale Array	46.02	73	P		P	13 18 04.5	+0.1
	comp=Z,0.9nm,0.5s,baz=313,slow=3.5,SNR=13							
PDAR				PcP		PcP	13 19 39.9	-0.8
	comp=Z,0.3nm,0.6s,baz=283,slow=4.2,SNR=2.2							
	comp=Z,0.9nm,0.5s							
TMUT	Trail Mountain	47.12	77			P	13 18 14.2	+1.1
TMUT				IAmb		IAmb	13 18 18.7	
	comp=Z,4.2nm,1.0s							
SRU	San Rafael Swe	47.65	77	IAmb		IAmb	13 18 20.5	
	comp=Z,2.5nm,0.6s							
PV04	Paradox Valley	49.09	77	IAmb		IAmb	13 18 33.5	
	comp=Z,4.4nm,0.7s							
PV16	Nyswonger Mesa	49.13	77	IAmb		IAmb	13 18 29.7	
	comp=Z,4.5nm,0.6s							
PV18	Skein Mesa, Pa	49.18	77			P	13 18 29.4	+0.5
PV12	Saucer Basin,	49.20	77	IAmb		IAmb	13 18 37.3	
	comp=Z,8.4nm,1.0s							
PV03	Paradox Valley	49.21	77	IAmb		IAmb	13 18 30.3	
	comp=Z,4.5nm,0.6s							
WUAZ	Wupatki	49.42	81	IAmb		IAmb	13 18 32.8	
	comp=Z,4.6nm,0.8s							
SPITS	Spitsbergen Ar	50.25	356	P		P	13 18 35.7	-0.6
	comp=Z,3.0nm,0.7s,baz=47,slow=12,SNR=4.3							
	comp=Z,3.0nm,0.7s							
ARCES	ARCESS Array B	57.99	350	P		P	13 19 31.3	-1.5
	comp=Z,1.1nm,0.8s,baz=15,slow=7.6,SNR=4.1							
	comp=Z,1.1nm,0.8s							
TX31	Lajitas Ar. Si	58.38	82	P		P	13 19 36.7	+0.5
TX31				IAmb		IAmb	13 19 37.1	
	comp=Z,1.5nm,0.7s							
TXAR	Lajitas Array	58.38	82	P		P	13 19 36.4	+0.2
	comp=Z,1.1nm,0.6s,baz=304,slow=5.3,SNR=11							
	comp=Z,1.1nm,0.6s							
MKAR	Makanchi Array	60.14	309	P		P	13 19 46.7	-1.4
	comp=Z,0.2nm,0.4s,baz=76,slow=6.1,SNR=2.2							
	comp=Z,0.2nm,0.4s							
PZH	PanZhiHua	63.57	280	P		P	13 20 14.6	+3.1
WRA	Warramunga Arr	82.29	224	P		P	13 22 02.3	+0.1
	comp=Z,0.3nm,0.7s,baz=24,slow=5.2,SNR=1.8							
	comp=Z,0.3nm,0.7s							
ASAR	Alice Springs	85.76	223	P		P	13 22 20.9	+1.0
	comp=Z,0.5nm,0.7s,baz=22,slow=5.3,SNR=11							
	comp=Z,0.5nm,0.7s							
H03N2	Juan Fernandez	120.94	106	T		T	15 41 07.2	
	baz=317,slow=78,SNR=82							
H03N1	Juan Fernandez	120.95	106	T		T	15 41 08.5	
	baz=317,slow=78,SNR=86							
H03N3	Juan Fernandez	120.96	106	T		T	15 41 09.7	
	baz=317,slow=78,SNR=78							
QSPA	South Pole Qui	141.28	180	PKP		PKPdf	13 29 08.7	-1.4
	comp=Z,1.5nm,0.9s,baz=329,slow=1.7,SNR=5.7							
MAW	Mawson	146.75	218	PKPbc		PKPbc	13 29 21.6	+0.2
	comp=Z,1.5nm,0.6s,baz=41,slow=2.9,SNR=6.5							
BOSA	Boshof	151.06	313	PKPbc		PKPbc	13 29 32.7	-1.0
	comp=Z,1.5nm,0.6s,baz=46,slow=1.8,SNR=1.2							

CATAC ***15*** *13:26:46.9±0.7, 13°N±4°×8°9W±°, h28km±4km, M4.1/20, MLv4.1/20, Error ellipse: s-maj=8.7km s-min=5.1km az=18.5, confirmed*

SNET ***15*** *13:26:47.8±0.9, 13°.10N×89°.47W, h34km, ML3.8*

GCG ***15*** *13:26:48.9±0.9, 13°.17N×89°.54W, h42km±12km, MD4.0, ML3.9, MW3.3*

ISC 15 13:26:48.8±1.7, 13°.10N±0°.07×89°.44W±0°.03, h33km±4km, n81, σ0°98/91, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.40	17	*i* P	Pn	13 26 57.9	-0.4
LALI	Alcalda de L	0.40	17	*i* P	Pn	13 26 58.0	-0.4
LALI	Alcalda de L	0.40	17	S	Sn	13 27 06.0	+1.4
LALI	Alcalda de L	0.40	17	P	Pn	13 26 58.0	-0.4
JAYA	Jayaque - finc	0.55	359	*eP*	Pb	13 26 59.5	-0.8
JAYA	Jayaque - finc	0.55	359	*i* P	Pb	13 26 59.5	-0.8
JAYA				*eS*	Sn	13 27 08.0	-0.5
JAYA	Jayaque - finc	0.55	359	P	Pb	13 26 59.6	-0.8
PANCS	Alcalda de	0.57	27	*eP*	Pn	13 26 59.8	-0.8
PANCS	Alcalda de	0.57	27	P	Pb	13 26 60.0	-0.6
PANCS	Alcalda de	0.57	27	S	Sn	13 27 09.4	+0.5
ITCA	Escuela Especi	0.59	16	*eP*	Pn	13 27 00.2	-0.8
ITCA	Escuela Especi	0.59	16	S	Sn	13 27 09.9	+0.4
ITCA	Escuela Especi	0.59	16	P	Pb	13 27 00.4	-0.5
LOMA	Loma Larga	0.60	26	*eP*	Pb	13 27 00.5	-0.6
LOMA				*eS*	Sn	13 27 10.7	+0.9
LOMA	Loma Larga	0.60	26	P	Pb	13 27 00.6	-0.6
PMON	Piamonte	0.62	12	*eP*	Pb	13 27 00.6	-0.8
PMON	Piamonte	0.62	12	S	Sb	13 27 11.2	+1.2
PMON	Piamonte	0.62	12	P	Pb	13 27 00.7	-0.8
SEMO	Seminario San	0.64	20	P	Pn	13 27 00.8	-0.7
SEMO	Seminario San	0.64	20	S	Sb	13 27 11.5	+1.1
UTEC	Universidad Te	0.64	22	P	Pb	13 27 01.1	-0.7
UTEC	Universidad Te	0.64	22	S	Sb	13 27 11.8	+1.2
UEES	Universidad Ev	0.64	18	*eP*	Pn	13 27 01.0	-0.7
UEES	Universidad Ev	0.64	18	S	Sb	13 27 11.3	+0.7
UEES	Universidad Ev	0.64	18	P	Pn	13 27 01.0	-0.7
BOQS	Boqueron	0.65	14	*i* P	Pb	13 27 01.2	-0.8
UESS	Universidad de	0.66	21	*eP*	Pb	13 27 01.4	-0.7
IGN	Direccin Gen	0.66	24	S	Sb	13 27 12.4	+1.2
IGN	Direccin Gen	0.66	24	P	Pn	13 27 01.4	-0.6
PIC2	El Picacho	0.66	16	*eP*	Pb	13 27 01.6	-0.7
UDBS	Universidad Do	0.67	25	P	Pb	13 27 01.5	-0.7
UDBS	Universidad Do	0.67	25	S	Sb	13 27 12.5	+1.1
CEDA	San Andres	0.70	4	*eP*	Pn	13 27 01.6	-0.8
CEDA				*eS*	Sb	13 27 12.8	+0.7
CEDA	San Andres	0.70	4	P	Pb	13 27 01.7	-1.0
LFU	La Fuente	0.72	26	*eP*	Pb	13 27 02.4	-0.6
CEVE	Cerro Verde	0.74	346	*i* P	Pn	13 27 02.2	-1.0
CEVE	Cerro Verde	0.74	346	P	Pn	13 27 02.3	-1.0
CEVE	Cerro Verde	0.74	346	S	Sb	13 27 14.0	+0.5
LBRS	Las Brisas	0.74	32	*i* P	Pb	13 27 02.8	-0.7
SBLS	San Blas	0.75	347	*eP*	Pn	13 27 02.4	-1.0
SBLS				*eS*	Sb	13 27 13.9	+0.1
TECO	Alcaldia de Te	0.78	56	*eP*	Pn	13 27 02.3	-1.1
TECO				*eS*	Sn	13 27 14.0	0.0
TECO	Alcaldia de Te	0.78	56	P	Pn	13 27 02.3	-1.1
SNJE	San Jose	0.78	348	*eP*	Pn	13 27 02.6	-1.1
PAVA	Las Pavas	0.78	39	*i* P	Pn	13 27 03.2	-0.3
PAVA				*eS*	Sb	13 27 15.5	+1.0
PAVA	Las Pavas	0.78	39	P	Pn	13 27 03.3	-0.3
RTR	El Retiro	0.81	346	*eP*	Pn	13 27 03.2	-0.9
UESV	Universidad de	0.83	50	*eP*	Pn	13 27 03.5	-0.7
UESV	Universidad de	0.83	50	S	Sb	13 27 15.8	0.0
UESV	Universidad de	0.83	50	P	Pn	13 27 03.5	-0.7
NUBE	Las Nubes	0.86	338	*i* P	Pn	13 27 03.2	-1.5
NUBE				*eS*	Sb	13 27 15.5	-1.2
NUBE	Las Nubes	0.86	338	*i* P	Pn	13 27 03.3	-1.5
NUBE				*eS*	Sn	13 27 15.1	-1.2
NUBE	Las Nubes	0.86	338	P	Pn	13 27 03.4	-1.3
UNIC	Universidad Ca	0.88	353	P	Pn	13 27 04.2	-0.7
SCLA	Alcaldia de Sa	0.92	49	*eP*	Pn	13 27 04.9	-0.5
SCLA	Alcaldia de Sa	0.92	49	P	Pn	13 27 05.1	-0.3
FAME	Alcaldia de Sa	0.92	323	P	Pn	13 27 03.8	-1.7
LOAL	Lomas de Alarc	0.95	340	P	Pn	13 27 05.1	-0.8
TECA	Tecapa	1.00	67	*eP*	Pn	13 27 05.6	-1.0
RBDL	Robledal	1.03	347	*eP*	Pn	13 27 06.3	-0.8
PACA	Pacayal	1.15	71	*eP*	Pn	13 27 08.8	+0.1
PACA	Pacayal	1.15	71	P	Pn	13 27 08.6	-0.1
LLGN	La Laguna	1.16	25	*eP*	Pn	13 27 08.2	-0.7
LLGN	La Laguna	1.16	25	P	Pn	13 27 08.3	-0.6
LCY	Lacayo	1.16	74	*eP*	Pn	13 27 08.6	-0.3
RANC	El Ranchito	1.17	73	*i* P	Pn	13 27 08.7	-0.4
RANC				*eS*	Sn	13 27 24.8	+0.8
VSM	San Miguel	1.18	74	*i* P	Pn	13 27 08.9	-0.4
JUAM	Asuncion Mita	1.25	348	*eP*	Pn	13 27 09.2	-0.9
JUAM				IAML		13 27 27.7	
	comp=N,1μm,0.4s						
MTO3	Montecristo	1.29	4	*i* P	Pn	13 27 10.0	-0.7
MTO3	Montecristo	1.29	4	*i* P	Pn	13 27 10.0	-0.7
MTO3	Montecristo	1.29	4	P	Pn	13 27 10.1	-0.6
PCG5	San Vicente Pa	1.43	321	*eP*	Pb	13 27 15.2	+0.2
ESQI	Esquipulas	1.45	4	*i* P	Pn	13 27 12.4	-0.5
LCND	La Caada	1.53	82	*eP*	Pn	13 27 13.2	-0.5
LCND	La Caada	1.53	82	P	Pn	13 27 13.5	-0.3
FG16	Alotenango, Sa	1.56	318	*i* P	Pb	13 27 18.2	+1.0
FG16				*i* S	Sb	13 27 41.5	+4.8
FG16				IAML		13 27 44.7	
	comp=N,4μm,0.2s						
CNCH	Conchagua	1.58	84	*eP*	Pn	13 27 13.8	-0.7
CNCH	Conchagua	1.58	84	P	Pn	13 27 13.1	-1.4
FG8	Yepocapa, Chim	1.58	317	*eP*	Pb	13 27 18.4	+0.9
SARH	Santa Rosa de	1.79	22	*i* P	Pn	13 27 17.5	0.0
ESSG	Sabana Grande	1.85	314	*eP*	Pn	13 27 16.8	-1.6
APG	El Apazote	2.13	332	*eP*	Pn	13 27 21.7	-0.6

CATAC ***15*** *14:19:30.8±0.4, 16°N±2°×8°8W±°, h1km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=5.0km s-min=3.9km az=20.7, confirmed*

GCG ***15*** *14:19:30.7±2.2, 15°.60N×88°.37W, h13km±42km, MD4.0, ML3.7*

ISC 15 14:19:31.6±1.3, 15°.61N±0°.05×88°.37W±0°.06, h10km, n22, σ1°51/25, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	Izabal, Puerto	0.23	300	P	Pg	14 19 36.1	-0.2
IZABA				S	Sg	14 19 41.6	+2.0
SARH	Santa Rosa de	0.91	204	*i* P	Pg	14 19 47.3	-1.8
SARH				*eS*	Sg	14 19 58.8	-2.3
SARH	Santa Rosa de	0.91	204	P	Pg	14 19 47.4	-1.8
SARH	Santa Rosa de	0.91	204	S	Sg	14 20 00.3	-0.8
ESQI	Esquipulas	1.41	222	S	Sn	14 20 15.8	-0.1
ESQI	Esquipulas	1.41	222	P	Pn	14 19 56.3	-1.1
MTO3	Montecristo	1.54	218	*eP*	Pn	14 19 57.9	-1.4
MTO3	Montecristo	1.54	218	P	Pn	14 19 58.0	-1.3
MTO3	Montecristo	1.54	218	S	Sn	14 20 19.1	-0.3
TGUH	Tegucigalpa,Un	1.88	145	P	Pn	14 20 02.7	-1.2
TGUH				S	Sn	14 20 27.7	0.0
PETF	Flores	1.93	312	*eP*	Pn	14 20 02.4	-2.1
PETF				IAML		14 20 32.6	
	comp=N,774nm,0.5s						
SCLA	Alcaldia de Sa	1.93	190	P	Pn	14 20 05.9	+1.4
SCLA	Alcaldia de Sa	1.93	190	S	Sn	14 20 30.1	+1.2
PAVA	Las Pavas	1.97	196	S	Sn	14 20 31.9	+2.0
PAVA	Las Pavas	1.97	196	P	Pn	14 20 07.2	+2.1
PMON	Piamonte	2.10	206	P	Pb	14 20 12.0	+2.2
APG	El Apazote	2.11	254	*eP*	Pn	14 20 05.1	-2.0
NUBE	Las Nubes	2.18	219	*eP*	Pn	14 20 08.7	+0.7
NUBE	Las Nubes	2.18	219	P	Pn	14 20 09.1	+1.1
JAYA	Jayaque - finc	2.21	208	*eP*	Pn	14 20 08.7	+0.2
JAYA	Jayaque - finc	2.21	208	P	Pn	14 20 09.0	+0.5
YUSH	Yuscaran	2.22	138	P	Pn	14 20 08.0	-0.6

WEL ***15*** *14:23:22.2±0.3, 42°S±2°×17°4E±°, h15km±2km, M3.2/31, ML3.4/11, MLv3.2/31, Error ellipse: s-maj=2.9km s-min=2.2km az=149.6, confirmed*

NOU ***15*** *14:23:25.6, 41°.99S×174°.05E, h60km, MLv3.8/10, Cook Strait, New Zealand*

ISC 15 14:23:22.0±1.0, 41°.80S±0°.03×174°.24E±0°.02, h19km±2km, n112, σ0°76/125, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.05	336	P	Pg	14 23 25.4	-0.1
CMWZ				S	Sg	14 23 28.1	+0.3
WDFS	Ward Fire Stat	0.08	249	P	Pg	14 23 25.8	+0.2
SDNS	Seddon	0.15	329	P	Pg	14 23 26.4	+0.1
SDNS				S	Sg	14 23 29.8	+0.5
SEDS	Seddon Fire St	0.18	315	S	Sg	14 23 30.0	+0.1
KEKS	Kekerengu Vall	0.25	231	P	Pg	14 23 28.3	+0.5
BSWZ	Blackbirch Sta	0.29	287	P	Pb	14 23 28.2	-0.3
GLOS	29 km south-we	0.32	259	P	Pb	14 23 29.3	+0.2
GLOS				S	Sb	14 23 34.6	+0.7
MGCS	Blenheim Marlb	0.37	322	P	Pg	14 23 29.6	-0.1
MGCS				S	Sb	14 23 35.3	0.0
TUWZ	Tuamarina	0.43	328	P	Pg	14 23 30.8	0.0
TUWZ				S	Sg	14 23 36.9	+0.1
BWRS	Waikakaho Road	0.44	325	P	Pg	14 23 30.8	-0.2
BWRS				S	Sg	14 23 37.0	-0.1
QCCS	Picton Queen C	0.54	342	P	Pb	14 23 32.3	-0.5
TCW	Tory Channel	0.59	2	P	Pb	14 23 33.1	-0.4
TCW				S	Sb	14 23 41.0	-0.4
LOKS	Mount Lookout	0.61	249	P	Pg	14 23 34.8	+0.6
BHW	Baring Head	0.61	51	P	Pg	14 23 34.5	+0.4
BHW				S	Sn	14 23 44.5	-0.5
HAVS	Havelock	0.63	327	P	Pb	14 23 33.8	-0.4
WNAS	Wellington Int	0.63	42	P	Pg	14 23 34.7	+0.1
MKVS	Makara Village	0.64	33	P	Pb	14 23 34.5	+0.1
WNHS	Wellington Hig	0.64	39	P	Pg	14 23 34.7	+0.1
TRTW	Torrens Terrac	0.64	39	P	Pb	14 23 34.7	+0.2
WTYS	Wellington Ten	0.64	39	P	Pb	14 23 34.8	+0.3
WEL	Wellington	0.65	38	P	Pb	14 23 34.8	+0.2
WEL				S	Sg	14 23 44.4	+1.0
TEPS	Wellington Te	0.65	39	P	Pb	14 23 34.9	+0.3
BOWS	Bowen St Turnb	0.66	38	P	Pg	14 23 35.0	+0.1
VUWS	Victoria Unive	0.66	38	P	Pg	14 23 35.0	+0.1
POTA	Wellington Pot	0.66	37	P	Pb	14 23 34.9	+0.1
MKBS	Makara Bunker	0.67	31	P	Pb	14 23 35.0	0.0
WVFS	Wairau Valley	0.69	285	P	Pg	14 23 36.1	+0.4
WVFS				S	Sn	14 23 46.0	-1.0
NEWS	Newlands	0.71	38	P	Pb	14 23 35.9	+0.1
SOMS	Somes Island	0.71	41	P	Pb	14 23 35.9	+0.1
PHHS	Point Howard	0.74	43	P	Pb	14 23 36.3	+0.1
KIKS	Kaikoura	0.75	213	P	Pn	14 23 37.8	+0.1
WDAS	Wainuiomata Bu	0.76	45	P	Pb	14 23 36.7	+0.2
INSS	Lower Hutt GNS	0.76	42	P	Pb	14 23 36.7	+0.1
ARKS	Wainuiomata Ar	0.77	44	P	Pb	14 23 36.8	+0.1
FAIS	Fairfield	0.79	42	P	Pb	14 23 37.2	+0.1
MOLW	Molesworth Sta	0.79	248	P	Pn	14 23 38.0	-0.2
PLWZ	Palliser	0.79	74	P	Pg	14 23 37.7	+0.2
PLWZ				S	Sn	14 23 50.4	+0.9
BMTS	Belmont	0.79	41	P	Pb	14 23 37.3	+0.1
DAVS	Collett Street	0.80	42	P	Pb	14 23 37.3	+0.1
NBSS	St Bernadette"	0.80	42	P	Pb	14 23 37.4	+0.1
PWES	Porirua West	0.80	33	P	Pb	14 23 37.1	-0.2
KHZ	Kahutara	0.81	220	P	Pg	14 23 37.9	0.0
KHZ	Kahutara	0.81	220	P	Sn	14 23 51.5	+1.6
KHZ	Kahutara	0.81	220	P	Pn	14 23 38.5	+0.1
KHZ				S	Sn	14 23 51.1	+1.2
TAIT	Taita Central	0.82	41	P	Pb	14 23 37.7	+0.1
MSWZ	Moikau Station	0.85	64	P	Pg	14 23 38.6	0.0
NNZ	Nelson	0.87	312	P	Pb	14 23 38.3	-0.2
CAW	Cannon Point	0.93	42	P	Pb	14 23 39.6	+0.1
CAW				S	Sn	14 23 53.5	+0.7
PAWZ	Paruwai Farm	0.98	65	P	Pb	14 23 40.3	-0.1
THZ	Tophouse	1.00	272	P	Pn	14 23 41.0	-0.1
DUWZ	D'Urville Isla	1.02	346	P	Pb	14 23 40.9	-0.2
KIW	Kapiti Island	1.06	28	P	Pb	14 23 41.7	-0.1
MTW	Mount Morrison	1.14	56	P	Pn	14 23 42.5	-0.5
TRWZ	Traveller	1.16	70	P	Pn	14 23 42.4	-0.8
MRNZ	Matariki Terra	1.18	289	P	Pb	14 23 44.2	+0.3
OGWZ	Otaki Gorge	1.20	36	P	Pn	14 23 43.8	0.0
TKNZ	Takaka Hill	1.23	308	P	Pb	14 23 44.5	-0.2
HOWZ	Holdsworth Sta	1.31	47	P	Pn	14 23 45.0	-0.3
TMWZ	Te Maipa	1.42	61	P	Pn	14 23 46.1	-0.7
GVZ	Greta Valley S	1.47	217	P	Pn	14 23 47.5	-0.1
MRZ	Mangatainoka R	1.52	42	P	Pn	14 23 47.8	-0.3
QRZ	Quartz Range	1.61	306	P	Pb	14 23 51.2	0.0
QRZ	Qu

SNAA Sanae 17.37 156 P **Pn** **14 46 04.7 -0.5**
comp=Z,0.8nm,0.3s,baz=313,slow=11,SNR=16
SNAA LR LR 14 52 01.6
comp=Z,220nm,18.5s,baz=8.5,slow=34
comp=Z,4.9nm,0.6s
TROLL Troll, Antarti 18.84 154 ⇑P **P** **14 46 22.5 -0.2**
comp=Z,315nm,1.0s
EFI East Falkland 19.86 272 P **Pn** **14 46 34.7 -0.8**
EFI IAmb IAmb 14 46 41.6
comp=Z,162nm,1.5s
PMSA Palmer Station 20.21 231 Pn 14 46 39.6 +0.2
PMSA IAmb IAmb 14 46 43.9
comp=Z,29nm,0.7s
PMSA Palmer Station 20.21 231 P Pn 14 46 38.2 -1.2
comp=Z,11nm,0.5s,baz=78,slow=6.9,SNR=18
PMSA LR LR 14 53 10.0
comp=Z,263nm,19.7s,baz=70,slow=33
comp=Z,11nm,0.5s
SMAI San Martin Ant 21.84 222 **P** **14 46 55.2 +0.2**
MG02 Cerro Sombrero 25.42 261 **P** **14 47 30.3 +0.1**
MG05 Puerto Natales 27.72 261 P **P** **14 47 50.7 -0.2**
MG05 IAmb IAmb 14 47 51.4
comp=Z,22nm,0.7s
GO09 Cerro Castillo 27.84 261 P **P** **14 47 51.4 -0.6**
GO09 IAmb IAmb 14 47 52.7
comp=Z,15nm,0.5s
SYO Syowa Base 30.07 139⇑*eP* **P** **14 48 08.0 -3.6**
TRQA Tornquist 30.80 292 P **P** **14 48 17.8 -0.7**
TRQA IAmb IAmb 14 48 49.5
comp=Z,44nm,1.8s
PLTB Pedras Altas 32.04 310 P **P** **14 48 30.2 +0.8**
PLTB IAmb IAmb 14 48 30.9
comp=Z,18nm,0.7s
QSPA South Pole Qui 33.23 180 **P** **14 48 42.6 +2.9**
QSPA IAmb IAmb 14 49 03.3
comp=Z,9.1nm,0.9s
QSPA South Pole Qui 33.23 180 P **P** **14 48 41.8 +2.1**
comp=Z,6.1nm,0.5s,baz=223,slow=0.9,SNR=75
QSPA ScP **ScP** **14 55 06.4 +2.3**
comp=Z,0.5nm,0.9s,baz=135,slow=2.9,SNR=1.1
QSPA LR LR 15 01 51.7
comp=Z,131nm,19.1s,baz=182,slow=36
comp=Z,6.1nm,0.5s
PLCA Paso Flores 33.35 279 P **P** **14 48 38.9 -1.9**
comp=Z,3.3nm,0.9s,baz=115,slow=11,SNR=4.6
PLCA LR LR 15 02 13.2
comp=Z,58nm,19.4s,baz=144,slow=36
comp=Z,3.3nm,0.9s
ITAB Concordia 35.45 316 P **P** **14 49 00.0 +1.0**
CPUP Villa Florida 38.35 309 P **P** **14 49 23.9 +0.2**
CPUP Villa Florida 38.35 309 P **P** **14 49 23.4 -0.2**
comp=Z,3.0nm,0.9s,baz=17,slow=8.2,SNR=13
comp=Z,3.0nm,0.9s
MAW Mawson 38.65 142 P **P** **14 49 25.4 -0.4**
comp=Z,1.7nm,0.5s,baz=224,slow=6.9,SNR=12
MAW LR LR 15 04 24.0
comp=Z,136nm,18.1s,baz=251,slow=35
comp=Z,1.7nm,0.5s
MT02 Curacav 39.23 287 P **P** **14 49 29.8 -1.2**
MT02 IAmb IAmb 14 49 30.7
comp=Z,23nm,1.3s
ZON Zonda 39.31 292 **P** **14 49 30.4 -1.4**
CO02 Combarbal 40.78 289 P **P** **14 49 43.5 -0.5**
CO02 IAmb IAmb 14 50 27.9
comp=Z,29nm,1.5s
AQDB Aquidauana 42.93 315 P **P** **14 50 01.8 +0.3**
AQDB IAmb IAmb 14 50 14.2
comp=Z,66nm,1.9s
AC01 Pan de Azucar 44.68 294 P **P** **14 50 14.6 -1.0**
AC01 IAmb IAmb 14 51 34.0
comp=Z,18nm,1.1s
BDFB Brasilia 44.81 328 P **P** **14 50 17.5 +0.7**
comp=Z,2.3nm,0.6s,baz=162,slow=9.6,SNR=3.3
comp=Z,2.3nm,0.6s
GO02 Mina Guanaco 45.00 296 P **P** **14 50 17.9 -0.6**
BOSA Boshof 45.07 73 LR LR 15 06 53.9
comp=Z,240nm,18.4s,baz=206,slow=33
SBA Scott Base 45.20 183 P **P** **14 50 20.6 +1.5**
VNDA Vanda 45.66 182 **P** **14 50 24.0 +1.2**
VNDA Vanda 45.66 182 P **P** **14 50 23.9 +1.1**
comp=Z,4.5nm,0.7s,baz=262,slow=16,SNR=5.6
VNDA LR LR 15 09 05.7
comp=Z,46nm,18.2s,baz=160,slow=36
comp=Z,4.5nm,0.7s
PB06 IPOC Station P 47.06 298 P **P** **14 50 34.4 -0.2**
PB06 IAmb IAmb 14 51 14.8
comp=Z,11nm,0.9s
PB09 IPOC Station P 47.67 299 P **P** **14 50 40.0 +0.6**
LBTB Lobatse 48.17 70 LR LR 15 08 00.4
comp=Z,119nm,18.4s,baz=182,slow=32
PB01 IPOC Station P 48.44 299 P **P** **14 50 45.3 +0.2**
H10S2 ASCENSION HYDR48.62 14 T T 15 43 04.0
baz=187,slow=74,SNR=177
H10S3 ASCENSION HYDR48.62 14 T T 15 43 04.3
baz=33,slow=74,SNR=128
PTLB Pontes e Lacer 48.83 314 **P** **14 50 48.5 +0.4**
PTLB IAmb IAmb 14 50 49.5
comp=Z,8.8nm,0.9s
TSUM Tsumeb 49.14 58 LR LR 15 08 40.6
comp=Z,71nm,18.1s,baz=147,slow=33
GO01 Chusmiza 49.48 300 P **P** **14 50 54.1 +0.5**
GO01 IAmb IAmb 14 50 59.5
comp=Z,15nm,0.8s
PB11 IPOC Station P 49.62 300 **P** **14 50 54.2 -0.1**
PB11 IAmb IAmb 14 51 01.0
comp=Z,16nm,0.9s
H10N1 ASCENSION HYDR49.73 14 T T 15 44 29.0
baz=190,slow=72,SNR=39
H10N3 ASCENSION HYDR49.73 14 T T 15 44 28.7
baz=190,slow=72,SNR=159
H10N2 ASCENSION HYDR49.75 14 T T 15 44 29.5
baz=190,slow=72,SNR=70
LPAZ La Paz 51.92 303 P **P** **14 51 12.3 +0.2**
comp=Z,15nm,0.6s,baz=153,slow=5.6,SNR=56
comp=Z,15nm,0.6s
MATP Matopo 53.45 70 LR LR 15 11 26.5
comp=Z,133nm,18.1s,baz=222,slow=33
LSZ Lusaka 57.63 66 LR LR 15 13 49.6
comp=Z,83nm,18.5s,baz=195,slow=33
RPN Rapa Nui 64.66 259 LR LR 15 14 18.1
comp=Z,31nm,20.7s,baz=174,slow=30
DBIC Dimbokro 65.58 22 LR LR 15 15 43.1
comp=Z,60nm,18.4s,baz=170,slow=31
BOAV Boa Vista 65.78 320 P **P** **14 52 47.5 -0.2**
BOAV IAmb IAmb 14 52 48.7
comp=Z,11nm,1.0s
COHC Cochancay 69.20 300 P **P** **14 53 10.8 +1.5**
TORD Torodi Ar. Bea 73.33 27 P **P** **14 53 35.0 +0.7**
TORD IAmb IAmb 14 53 37.3
comp=Z,12nm,1.8s
TORD Torodi Ar. Bea 73.33 27 P **P** **14 53 35.0 +0.7**
comp=Z,2.3nm,0.7s,baz=195,slow=4.3,SNR=14
comp=Z,2.3nm,0.7s
BAUV El Baul 74.58 316 P **P** **14 53 41.9 +0.3**
TAU Tasmania Unive 80.24 174 P **P** **14 54 13.3 +0.3**
DSZ Denniston Nort 80.59 193 P **P** **14 54 15.1 0.0**
STKA Stephens Creek 90.73 169 P **P** **14 55 07.8 +2.2**
comp=Z,2.2nm,1.1s,baz=146,slow=7.3,SNR=1.9
comp=Z,2.2nm,1.1s
PPT2 Papeete2 92.55 232 *e*LR LR 15 24 50.5
comp=Z,143nm,25.2s
PPT Papeete 92.57 232 LR LR 15 28 55.6
comp=Z,56nm,19.0s,baz=81,slow=30
TAOE Nuku Hiva Isla 95.83 244 *e*LR LR 15 26 30.0
comp=Z,138nm,30.2s
ASAR Alice Springs 97.69 161 P **P** **14 55 36.4 -1.3**
comp=Z,0.2nm,0.5s,baz=181,slow=4.2,SNR=6.9
ASAR PP **PP** **14 59 33.6 -0.9**
comp=Z,0.3nm,0.9s,baz=190,slow=8.1,SNR=5.1
comp=Z,0.2nm,0.5s
EIL Elat 100.02 50 LR LR 15 38 09.9
comp=Z,39nm,18.2s,baz=184,slow=34
PDAR Pinedale Array 121.87 300 PKP **PKPdf** **15 00 55.0 -1.3**
comp=Z,0.2nm,0.5s,baz=167,slow=1.7,SNR=3.1
NVAR Mina Array Bea 122.88 291 PKP **PKiKP** **15 00 58.1 -0.4**
comp=Z,0.5nm,0.5s,baz=251,slow=3.8,SNR=3.3
CMAR Chiang Mai Arr 123.61 109 PKP **PKPdf** **15 00 59.2 -0.8**
comp=Z,1.2nm,0.8s,baz=233,slow=3.9,SNR=9.1
FINES FINESS Array B 124.69 27 PKP **PKiKP** **15 01 01.1 +0.1**
comp=Z,1.4nm,0.6s,baz=190,slow=4.2,SNR=7.2
ARCES ARCESS Array B 131.40 21 PKP **PKiKP** **15 01 13.3 -1.0**
comp=Z,1.9nm,1.0s,baz=304,slow=9.7,SNR=3.6
MKAR Makanchi Array 136.06 71 PKP **PKiKP** **15 01 24.5 0.0**
comp=Z,0.7nm,0.9s,baz=228,slow=4.0,SNR=3.7
KURBB Kurchatov Arra 136.63 64 PKP **PKiKP** **15 01 25.7 +0.2**
comp=Z,0.5nm,0.9s,baz=231,slow=3.9,SNR=4.3
SONM Songino Array 149.58 86 PKPbc **PKPbc** **15 01 50.9 -0.4**
comp=Z,1.5nm,0.6s,baz=216,slow=1.4,SNR=7.5
ILAR Eielson Array 151.66 310 PKPbc **PKiKP** **15 01 55.5 -0.5**
comp=Z,5.4nm,0.9s,baz=133,slow=1.9,SNR=43

ISK ***15*** *14:57:24.3, 42.°06N×43.°09E, h5km, ML4.1/18*
TIF ***15*** *14:57:25.4, 41.°99N×43.°12E, h17km*
NSSP ***15*** *14:57:25.4, 41.°93N×43.°08E, h10km, Ms4.2*
MOS ***15*** *14:57:25.9, 41.°98N×42.°98E, h3km, MPVA5.0*
IDC ***15*** *14:57:25.4±0.6, 42.°00N×42.°90E, h0km, mb3.8/12, mbtmp3.9/17, ML4.0/4, MS3.0/7, Error ellipse: s-maj=10.7km s-min=7.7km az=71.0*
NORS ***15*** *14:57:26.1, 42.°07N×43.°04E, h8km, MPVA4.9*
NEIC ***15*** *14:57:27.8±1.9, 41.°99N±0.°05×42.°93E±0.°08, h10km±1km, mb4.4/17, Error ellipse: s-maj=10.2km s-min=8.2km az=74.0*
AFAD ***15*** *14:57:27.2, 41.°94N×42.°94E, h22km, MW4.1*
NNC ***15*** *14:57:34.2±2.6, 42.°54N×43.°76E, h0km, mb3.9, Error ellipse: s-maj=60.2km s-min=29.6km az=128.0*
ISC 15 14:57:25.8±0.7,**41.°95N**±0.°01×**43.°06E**±0.°01,**h5**km±5km,
n301,σ1**§75/**411,**mb4.0**/23,**60C-24D,**
Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.41**	**353**	P		**Pg**		**14 57 33.8**	**+0.1**
TKB				S		**Sg**		**14 57 39.4**	**+0.3**
TKB	**Tkibuli**	**0.41**	**353**	PG		**Pg**		**14 57 33.7**	**+0.1**
TKB				S		**Sg**		**14 57 39.3**	**+0.3**
ALIG	**Mtskhetisjvari**	**0.47**	**70**	P		**Pg**		**14 57 34.2**	**-0.7**
ALIG				S		**Sg**		**14 57 40.1**	**-0.8**
ALIG	**Mtskhetisjvari**	**0.47**	**70**	PG		**Pg**		**14 57 34.1**	**-0.7**
EPOS	**Posof**	**0.51**	**209**	P		**Pb**		**14 57 37.0**	**-0.4**
EPOS				S		**Sb**		**14 57 44.3**	**-0.9**
EPOS				*i*	IAML			14 57 45.0	
	comp=E,6μm,0.3s								
EPOS				*i*	IAML			14 57 45.0	
	comp=N,1μm,0.4s								
AKH	**Akhalkalaki**	**0.63**	**149**	P		**Pb**		**14 57 38.6**	**-0.8**
AKH				S		**Sb**		**14 57 48.1**	**-0.6**
AKH	**Akhalkalaki**	**0.63**	**149**	Pg		**Pb**		**14 57 38.7**	**-0.8**
AKH				Sg		**Sb**		**14 57 47.9**	**-0.7**
AKH	**Akhalkalaki**	**0.63**	**149**	*i* Pg		**Pb**		**14 57 38.6**	**-0.8**
AKH				*e*Sg		**Sb**		**14 57 48.1**	**-0.6**
AKH	**Akhalkalaki**	**0.63**	**149**	PG		**Pb**		**14 57 38.6**	**-0.8**
AKH				S		**Sb**		**14 57 48.0**	**-0.6**
GARIG	**Gari**	**0.72**	**25**	P		**Pg**		**14 57 39.1**	**-0.6**
GARIG				S		**Sg**		**14 57 48.7**	**-0.4**
BGD	**Bogdanovka**	**0.79**	**149**	P		**Pb**		**14 57 41.5**	**-0.8**
BGD				S		**Sb**		**14 57 52.6**	**-0.8**
BGD	**Bogdanovka**	**0.79**	**149**	*i* Pg		**Pb**		**14 57 41.5**	**-0.8**
BGD				*e*Sg		**Sb**		**14 57 52.6**	**-0.8**
BGD	**Bogdanovka**	**0.79**	**149**	PG		**Pb**		**14 57 41.4**	**-0.8**
BGD				S		**Sb**		**14 57 52.6**	**-0.8**
AHAN	**Ardahan-Merkez**	**0.85**	**203**	P		**Pb**		**14 57 43.3**	**+0.1**
TRLG	**Trialeti**	**0.88**	**117**	P		**Pg**		**14 57 42.6**	**-0.1**
TRLG				S		**Sb**		**14 57 54.8**	**-1.1**
TRLG	**Trialeti**	**0.88**	**117**	PG		**Pg**		**14 57 42.6**	**-0.1**
TRLG				S		**Sb**		**14 57 54.8**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.02**	**22**	*e*Pg		**Pg**		**14 57 44.6**	**-0.9**
DIGR				*e*Sg		**Sb**		**14 57 58.7**	**-1.4**
DIGR	**Digorskoe uzhe**	**1.02**	**22**	*e*PG		**Pg**		**14 57 44.4**	**-1.1**
DIGR				*e*S		**Sg**		**14 57 58.5**	**-0.3**
BATM	**Batumi**	**1.08**	**252**	P		**Pg**		**14 57 46.3**	**-0.2**
BATM				S		**Sb**		**14 58 01.0**	**-0.4**
BATM	**Batumi**	**1.08**	**252**	Pn		**Pg**		**14 57 46.3**	**-0.2**
BATM				Sn		**Sn**		**14 58 02.8**	**-0.2**
BATM	**Batumi**	**1.08**	**252**	⇓P		**Pg**		**14 57 46.3**	**-0.2**
BATM				⇑S		**Sg**		**14 58 00.5**	**-0.1**
BATM	**Batumi**	**1.08**	**252**	PG		**Pg**		**14 57 46.3**	**-0.2**
BATM				S		**Sb**		**14 58 01.0**	**-0.4**
KZRT	**Kazreti**	**1.15**	**119**	P		**Pg**		**14 57 44.2**	**-3.6**
KZRT				S		**Sg**		**14 57 59.0**	**-3.7**
KZRT	**Kazreti**	**1.15**	**119**	PG		**Pg**		**14 57 44.2**	**-3.6**
GOLE	**Ardahan-G¶le**	**1.17**	**198**	P		**Pn**		**14 57 48.8**	**-0.2**
DBOC	**Borcka**	**1.21**	**240**	P		**Pg**		**14 57 48.7**	**-0.3**
DBOC				S		**Sg**		**14 58 03.8**	**-0.8**
DBOC				*i*	IAML			14 58 08.0	
	comp=E,7μm,0.3s								
LACR	**Lac**	**1.27**	**46**	*e*Pg		**Pg**		**14 57 49.0**	**-1.1**
LACR				*e*Sg		**Sb**		**14 58 06.0**	**-1.0**
LACR	**Lac**	**1.27**	**46**	⇑*i*PG		**Pg**		**14 57 49.1**	**-1.1**
TBLG	**Delisi**	**1.27**	**99**	P		**Pg**		**14 57 48.5**	**-1.7**
TBLG				S		**Sg**		**14 58 05.6**	**-1.1**
TBLG	**Delisi**	**1.27**	**99**	Pn		**Pg**		**14 57 48.6**	**-1.7**
TBLG	**Delisi**	**1.27**	**99**	PG		**Pg**		**14 57 48.5**	**-1.7**
SRTK	**Saratovka**	**1.29**	**133**	⇑*i*P		**Pg**		**14 57 49.7**	**-1.0**
SRTK				⇑*i*S		**Sg**		**14 58 06.9**	**-0.6**
KMOZ	**Kamo**	**1.31**	**149**	⇑*i*P		**Pg**		**14 57 50.6**	**-0.4**
KMOZ				⇑*i*S		**Sn**		**14 58 09.2**	**+0.2**
SEAG	**Tbilisi Sea**	**1.31**	**97**	P		**Pg**		**14 57 49.7**	**-1.4**
SEAG				S		**Sb**		**14 58 07.7**	**-0.6**
SEAG	**Tbilisi Sea**	**1.31**	**97**	PG		**Pg**		**14 57 49.6**	**-1.4**
BTNK	**Botanikuri**	**1.33**	**101**	PG		**Pg**		**14 57 49.4**	**-1.9**
EAK	**Akyaka**	**1.33**	**162**	P		**Pg**		**14 57 50.6**	**-0.7**
EAK				S		**Sg**		**14 58 06.1**	**-2.4**
EAK				*i*	IAML			14 58 09.0	
	comp=N,1μm,0.6s								
HOPA	**Hopa-Artvin**	**1.33**	**246**	Pn		**Pn**		**14 57 50.9**	**-0.2**
HOPA				Sn		**Sn**		**14 58 10.0**	**+0.7**
NEUR	**Neytrino**	**1.34**	**349**	*e*Pg		**Pb**		**14 57 51.2**	**-0.4**
NEUR				*e*Sg		**Sg**		**14 58 08.2**	**-0.7**
NEUR	**Neytrino**	**1.34**	**349**	*i* PG		**Pg**		**14 57 50.8**	**-0.7**
NEUR				*e*S		**Sg**		**14 58 08.1**	**-0.8**
BOZK	**Kars-Merkez-Bo**	**1.36**	**183**	P		**Pb**		**14 57 52.8**	**+0.9**
BOZK				S		**Sn**		**14 58 11.3**	**+1.1**
BOZK				*i*	IAML			14 58 18.0	
	comp=E,4μm,0.6s								
KORR	**Kora**	**1.36**	**33**	*i* Pg		**Pb**		**14 57 51.5**	**-0.3**
KORR				*e*Sg		**Sn**		**14 58 10.5**	**+0.5**
KORR	**Kora**	**1.36**	**33**	*e*PG		**Pb**		**14 57 51.5**	**-0.3**
KORR				*e*S		**Sn**		**14 58 10.5**	**+0.5**
DBAD	**Bademkaya**	**1.39**	**228**	P		**Pn**		**14 57 51.4**	**-0.5**
DBAD				S		**Sn**		**14 58 10.9**	**+0.2**
DBAD				*i*	IAML			14 58 12.0	
	comp=N,1μm,0.6s								
DBAD				*i*	IAML			14 58 13.0	
	comp=E,7μm,0.5s								
LSNR	**Lesken**	**1.44**	**23**	*i* Pg		**Pg**		**14 57 53.0**	**-0.5**
LSNR				*e*Sg		**Sn**		**14 58 12.9**	**+0.8**
LSNR	**Lesken**	**1.44**	**23**	⇑*i*PG		**Pg**		**14 57 53.0**	**-0.5**
LSNR				*e*S		**Sn**		**14 58 12.9**	**+0.8**
DDEM	**Demirkent**	**1.44**	**223**	P		**Pb**		**14 57 53.1**	**-0.2**
DDEM				S		**Sn**		**14 58 13.2**	**+1.0**
DDEM				*i*	IAML			14 58 14.0	
	comp=N,1μm,0.3s								
DDEM				*i*	IAML			14 58 18.0	
	comp=E,5μm,0.3s								
ARNR	**Ardon**	**1.53**	**36**	*i* Pg		**Pg**		**14 57 55.4**	**+0.3**
ARNR				*e*Sg		**Sg**		**14 58 17.2**	**+2.3**
ARNR	**Ardon**	**1.53**	**36**	⇓*i*PN		**Pg**		**14 57 55.4**	**+0.3**
ARNR				*e*S		**Sg**		**14 58 17.2**	**+2.3**
DIGO	**Kars**	**1.55**	**171**	P		**Pn**		**14 57 54.2**	**-0.2**
DIGO				S		**Sn**		**14 58 14.1**	**-1.0**
DIGO				*i*	IAML			14 58 17.0	
	comp=N,3μm,0.5s								
DIGO				*i*	IAML			14 58 19.0	
	comp=E,5μm,0.4s								
NCK	**Nalchik**	**1.59**	**14**	*i* Pg		**Pg**		**14 57 55.8**	**-0.6**
NCK				*e*Sg		**Sb**		**14 58 15.5**	**-0.8**
NCK	**Nalchik**	**1.59**	**14**	*d i*PN		**Pg**		**14 57 55.8**	**-0.6**
STDR	**Stavd-Durt**	**1.60**	**27**	*e*Pg		**Pg**		**14 57 56.2**	**-0.3**
STDR				*e*Sg		**Sg**		**14 58 19.9**	**+2.6**
STDR	**Stavd-Durt**	**1.60**	**27**	*e*PN		**Pg**		**14 57 56.2**	**-0.3**
STDR				*e*S		**Sg**		**14 58 19.3**	**+2.0**
VLKR	**Vladikavkaz**	**1.62**	**47**	*e*Pg		**Pg**		**14 57 57.1**	**+0.1**
VLKR				*e*Sg		**Sg**		**14 58 20.0**	**+2.0**
VLKR	**Vladikavkaz**	**1.62**	**47**	*e*PN		**Pg**		**14 57 57.1**	**+0.1**
VLKR				*e*S		**Sg**		**14 58 20.0**	**+2.0**
SHTL	**Shatili**	**1.71**	**65**	P		**Pn**		**14 57 55.9**	**-0.5**
SHTL				S		**Sn**		**14 58 18.2**	**-0.5**
SHTL	**Shatili**	**1.71**	**65**	PN		**Pn**		**14 57 55.9**	**-0.5**
DOMR	**Dombai**	**1.71**	**322**	*i* Pg		**Pn**		**14 57 56.6**	**+0.1**
DOMR				*e*Sg		**Sn**		**14 58 18.6**	**-0.2**
DOMR	**Dombai**	**1.71**	**322**	*c i*PN		**Pn**		**14 57 56.6**	**+0.1**
KMGR	**Komgaron**	**1.73**	**50**	*e*Pg		**Pg**		**14 57 59.0**	**-0.1**
KMGR				*e*Sg		**Sg**		**14 58 23.0**	**+1.4**
KMGR	**Komgaron**	**1.73**	**50**	*e*PN		**Pg**		**14 57 59.0**	**-0.1**
KBZ	**Khabaz**	**1.78**	**356**	Pg		**Pb**		**14 57 58.1**	**-0.9**
	52nm,0.3s,baz=205,slow=3.0,SNR=500								
KBZ				LR		LR		14 58 17.2	
	comp=Z,70nm,18.1s,baz=200,slow=30								
KBZ				Lg		Lg		14 58 22.2	
	184nm,0.3s,baz=60,slow=17,SNR=14								
KBZ	**Khabaz**	**1.78**	**356**	*i* Pg		**Pb**		**14 57 58.1**	**-0.9**
KBZ				*e*Sg		**Sg**		**14 58 21.8**	**-1.3**
KBZ	**Khabaz**	**1.78**	**356**	*c i*PN		**Pb**		**14 57 58.0**	**-1.0**
BTKR	**Batakoyurt**	**1.79**	**37**	*e*Pg		**Pg**		**14 57 59.5**	**-0.7**
BTKR				*e*Sg		**Sg**		**14 58 24.1**	**+0.6**
BTKR	**Batakoyurt**	**1.79**	**37**	*e*PN		**Pg**		**14 57 59.5**	**-0.7**
DGRG	**David-gareji**	**1.80**	**105**	P		**Pb**		**14 57 58.5**	**-0.9**
DGRG				S		**Sg**		**14 58 23.6**	**-0.1**
DGRG	**David-gareji**	**1.80**	**105**	*i* Pg		**Pb**		**14 57 58.5**	**-0.9**
DGRG				*e*Sg		**Sg**		**14 58 23.6**	**-0.1**
DGRG	**David-gareji**	**1.80**	**105**	PN		**Pb**		**14 57 58.5**	**-0.9**
AMBZ	**Amberd**	**1.80**	**149**	⇑*i*P		**Pb**		**14 57 59.5**	**0.0**
AMBZ				⇑*i*S		**Sg**		**14 58 24.3**	**+0.6**
SHA1	**Shidzhatmaz**	**1.81**	**351**	*e*Pg		**Pb**		**14 57 58.8**	**-0.9**
SHA1				*e*Sg		**Sg**		**14 58 24.2**	**+0.1**
SHA1	**Shidzhatmaz**	**1.81**	**351**	*c i*PN		**Pb**		**14 57 58.5**	**-1.2**
ARUZ	**Aruch**	**1.84**	**155**	⇑*i*P		**Pb**		**14 57 59.6**	**-0.4**
ARUZ				⇑*i*S		**Sg**		**14 58 24.5**	**-0.3**
KBTC	**Kuba-Taba**	**1.88**	**8**	*e*Pg		**Pb**		**14 57 59.5**	**-1.3**
KBTC				*e*Sg		**Sb**		**14 58 24.5**	**-0.1**
LSVT	**Lusahovit**	**1.90**	**122**	⇑*i*P		**Pn**		**14 57 59.4**	**+0.4**
LSVT				⇑*i*S		**Sn**		**14 58 24.1**	**+0.6**
CHOM	**Cayeli-Rize**	**1.93**	**245**	Pn		**Pn**		**14 57 59.7**	**+0.4**
VNNZ	**Vanand**	**1.93**	**162**	*e*P		**Pb**		**14 58 01.5**	**-0.1**
VNNZ				*e*S		**Sg**		**14 58 27.4**	**-0.5**
METS	**Metsamor**	**1.96**	**156**	*e*P		**Pb**		**14 58 02.2**	**+0.2**
METS				*e*S		**Sg**		**14 58 29.1**	**+0.5**
PRTR	**Priterechnaya**	**2.01**	**26**	*e*Pg		**Pb**		**14 58 02.1**	**-0.8**
PRTR				*e*Sg		**Sb**		**14 58 28.4**	**+0.1**
PRTR	**Priterechnaya**	**2.01**	**26**	*e*PN		**Pb**		**14 58 02.1**	**-0.8**
PRTR				*e*S		**Sb**		**14 58 28.4**	**+0.1**
KIV	**Kislovodsk**	**2.02**	**352**	Pn		**Pn**		**14 57 58.3**	**-2.5**
KIV	**Kislovodsk**	**2.02**	**352**			**Pn**		**14 58 01.2**	**+0.4**
KIV	**Kislovodsk**	**2.02**	**352**	⇓P		**Pn**		**14 57 59.8**	**-0.9**
KIV	**Kislovodsk**	**2.02**	**352**	*e*Pg		**Pn**		**14 58 01.4**	**+0.6**
KIV				*e*Sg		**Sb**		**14 58 27.7**	**-1.1**
KIV	**Kislovodsk**	**2.02**	**352**	*i* PN		**Pn**		**14 58 01.4**	**+0.6**
KIV				pmax		pmax			
	comp=Z,111nm,0.4s								
KVAR	**Kislovodsk Arr**	**2.02**	**353**	LR		LR		14 58 46.4	
	comp=Z,454nm,19.2s,baz=355,slow=41								
KAPZ	**Kaputan**	**2.04**	**142**	⇑*i*P		**Pb**		**14 58 03.7**	**+0.2**
KAPZ				⇓*i*S		**Sg**		**14 58 31.6**	**+0.1**
ARXR	**Arkhyz**	**2.08**	**321**	*e*Pg		**Pb**		**14 58 03.0**	**-1.2**
ARXR				*e*Sg		**Sn**		**14 58 28.6**	**+0.6**
ARXR	**Arkhyz**	**2.08**	**321**	*d i*PN		**Pb**		**14 58 02.6**	**-1.6**
HOMI	**Horasan**	**2.09**	**205**	P		**Pb**		**14 58 03.3**	**-1.2**
PYA1	**Pyatigorsk**	**2.11**	**1**	*e*Pg		**Pn**		**14 58 02.4**	**+0.5**
PYA1				*e*Sg		**Sn**		**14 58 28.9**	**+0.3**
KOTA	**Agri, Merkez-K**	**2.15**	**177**	P		**Pb**		**14 58 04.4**	**-1.0**
TASB	**TASBURUN-IGDIR**	**2.16**	**155**	Pn		**Pn**		**14 58 03.4**	**+0.9**
TRKR	**Terskaya**	**2.16**	**34**	*e*Pg		**Pb**		**14 58 05.3**	**-0.1**
TRKR				*e*Sg		**Sb**		**14 58 33.0**	**+0.5**
TRKR	**Terskaya**	**2.16**	**34**	*e*PN		**Pg**		**14 58 06.1**	**-1.1**
TRKR				*e*S		**Sb**		**14 58 33.0**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.16**	**205**	Pn		**Pb**		**14 58 04.0**	**-1.5**
GNI	**Garni**	**2.20**	**144**	Pn		**Pn**		**14 58 03.9**	**+0.6**
GNI	**Garni**	**2.20**	**144**			**Pb**		**14 58 06.4**	**+0.2**
GNI	**Garni**	**2.20**	**144**	Pn		**Pb**		**14 58 06.5**	**+0.3**
	comp=Z,86nm,0.3s,baz=321,slow=4.2,SNR=209								
GNI				Sn		**Sg**		**14 58 36.6**	**+0.1**
	comp=Z,97nm,0.3s,baz=14,slow=19,SNR=6.5								
	comp=Z,714nm,0.6s								
GNI	**Garni**	**2.20**	**144**	⇓*i*P		**Pb**		**14 58 06.7**	**+0.4**
GNI				⇑*i*S		**Sg**		**14 58 37.0**	**+0.5**
GNI	**Garni**	**2.20**	**144**	*c i*PN		**Pb**		**14 58 06.3**	**0.0**
IZDR	**Rize**	**2.21**	**239**	P		**Pb**		**14 58 05.2**	**-1.1**
IZDR				*i*	IAML			14 58 32.0	
	comp=Z,189nm,0.6s								
IZDR				S		**Sn**		**14 58 32.0**	**+1.0**
IZDR				*i*	IAML			14 58 37.0	
	comp=Z,1μm,0.5s								
IGDI	**IGDIR**	**2.22**	**159**	P		**Pb**		**14 58 05.8**	**-0.7**
IGDI				S		**Sb**		**14 58 33.3**	**-1.0**
IGDI				*i*	IAML			14 58 36.0	
	comp=Z,1μm,0.6s								
IGDI				*i*	IAML			14 58 36.0	
	comp=Z,2μm,0.5s								
KRIK	**Erzurum-spir**	**2.28**	**226**	P		**Pb**		**14 58 07.2**	**-0.4**
KRIK				S		**Sb**		**14 58 35.6**	**-0.5**
KRIK				*i*	IAML			14 58 44.0	
	comp=Z,1μm,0.6s								
AGRB	**Hanur-Agry**	**2.37**	**181**	Pn		**Pn**		**14 58 06.7**	**+1.1**
GROC	**Groznyy**	**2.38**	**57**	*e*PN		**Pb**		**14 58 08.8**	**-0.3**
GROC				*e*S		**Sg**		**14 58 41.7**	**-0.5**
GROC			

KRNR Karanay 2.98 72 *i* PN **Pb** **14 58 18.2 -1.3**
KRNR *e*S **Sb** **14 58 54.8 -1.5**
ARKR Arakani 2.99 76 *e*Pn **Pb** **14 58 16.5 -3.1**
ARKR *e*Sn **Sb** **14 58 55.0 -1.6**
ARKR Arakani 2.99 76 *e*PN **Pb** **14 58 16.5 -3.1**
ARKR *e*S **Sb** **14 58 54.9 -1.6**
ARKR pmax pmax
comp=Z,164nm,0.4s
KMKR Kumukh 3.01 85 *i* PN **Pb** **14 58 17.3 -2.8**
KMKR *e*S **Sb** **14 58 58.1 +0.8**
VRTB Varto-Mus 3.04 204 Pn **Pn** **14 58 16.3 +1.5**
KARO Karliova-Bingo 3.05 211 Pn **Pn** **14 58 16.2 +1.3**
GUMT Gumushane 3.08 242 Pn **Pn** **14 58 16.0 +0.6**
GOF Gofitskoye 3.11 360 *c*ePN **Pg** **14 58 24.7 -0.7**
GOF *e*S **Sg** **14 59 06.1 +0.5**
BUJR Buynaksk 3.12 72 *e*PN **Pb** **14 58 19.1 -2.8**
BUJR *e*S **Sb** **14 58 59.5 -0.8**
BUJR pmax pmax
comp=Z,141nm,0.4s
YEDI Yedisu-Bingol 3.15 218 Pn **Pn** **14 58 17.9 +1.5**
LABN Labinsk 3.19 328 *e*PN **Pn** **14 58 18.3 +1.7**
LABN *e* 14 59 00.6
LABN *e* 14 59 02.7
LABN smax smax
comp=N,338nm,0.8s
KELT Kelkit 3.39 239 P **Pb** **14 58 26.6 0.0**
KELT S **Sn** **14 59 04.0 +3.6**
URKR Urkarakh 3.41 85 *e*PN **Pn** **14 58 21.8 +1.9**
URKR *e*S **Sb** **14 59 04.8 -3.9**
URKR pmax pmax
comp=Z,93nm,0.6s
TVAN Van 3.43 175 P **Pb** **14 58 28.4 +1.3**
MAK Makhachkala 3.44 71 *e*PN **Pb** **14 58 23.4 -3.9**
MAK *e*S **Sb** **14 59 09.8 +0.4**
MAK pmax pmax
comp=Z,233nm,0.5s
MAK smax smax
comp=E,1μm,0.6s
MAK smax smax
comp=E,2μm,0.6s
MAK MLR MLR
comp=Z,207nm,8.0s
SGKR Sergokala 3.45 80 *e*PN **Pn** **14 58 22.6 +2.3**
SGKR *e*S **Sb** **14 59 06.7 -3.1**
SGKR pmax pmax
comp=Z,125nm,0.4s
ERZN Erzincan 3.46 228 Pn **Pn** **14 58 21.9 +1.3**
GURO Guroymak-BITLI 3.48 193 **Pn** **14 58 23.0 +2.1**
GRS Goris 3.49 133⇑ *i*P **Pn** **14 58 24.0 +3.1**
GRS ⇓*i*S **Sb** **14 59 09.0 -1.9**
KANR Karaman 3.50 68 *e*PN **Pn** **14 58 23.9 +3.0**
KANR *e*S **Sb** **14 59 08.1 -3.0**
KANR pmax pmax
comp=Z,480nm,0.4s
AKT Akhty 3.53 96⇑ *i*PN **Pn** **14 58 22.7 +1.3**
AKT *e* 14 58 31.6
AKT *e*S **Sn** **14 59 06.6 +3.0**
AKT *e* 14 59 18.0
AKT *e* 14 59 26.7
AKT pmax pmax
comp=Z,79nm,0.3s
AKT smax smax
comp=N,321nm,0.4s
AKT smax smax
comp=N,390nm,0.4s
AKT smax smax
comp=E,323nm,0.4s
GOYR Goytkh 3.54 312 *d i*PN **Pn** **14 58 21.8 +0.3**
EZC Erzincan 3.57 233 PN **Pn** **14 58 22.1 +0.1**
EGVZ Egvard 3.80 135 *e*P **Pb** **14 58 33.0 -0.5**
EGVZ *e*S **Pn** **14 58 21.4 -3.8**
KSMR Kasumkent 3.81 94 *e*PN **Pn** **14 58 26.9 +1.7**
KSMR *e*S **Sn** **14 59 13.3 +2.9**
KSMR pmax pmax
comp=Z,226nm,0.4s
TNCL Tuncelli-Merkez 3.90 225 P **Pn** **14 58 27.4 +0.8**
DRN Derbent 3.93 87 *de*PN **Pn** **14 58 30.5 +3.7**
SUSE Susehri 4.06 246 P **Pn** **14 58 29.0 +0.2**
SUSE S **Sn** **14 59 17.2 +0.3**
SUSE *i* IAML 14 59 24.0
comp=Z,180nm,0.5s
SUSE *i* IAML 14 59 47.0
comp=Z,91nm,0.5s
ERBR Yeremizino-Bor 4.20 335 *e*PN **Pg** **14 58 47.3 +1.0**
ERBR *e* 14 59 46.4
ERBR smax smax
comp=N,200nm,0.5s
ILIC ilic-Erzincan 4.23 235 Pn **Pn** **14 58 32.9 +1.8**
SPGR Shapsug 4.58 309 *e*PN **Pn** **14 58 36.0 +0.2**
SPGR *e* 14 59 26.2
MARD Mardin 4.95 202 **Pn** **14 58 43.4 +2.4**
ANN Anapa 4.99 307 *e*PN **Pn** **14 58 41.7 +0.3**
ANN *e*S **Sn** **14 59 39.6 +0.1**
ANN pmax pmax
comp=Z,161nm,0.9s
ANN MLR MLR
comp=Z,129nm,9.0s
ANN MLR MLR
comp=E,100nm,9.0s
FEO Feodosiya 6.37 301 *e*P **Pn** **14 58 58.9 -1.4**
FEO pmax pmax
comp=Z,37nm,0.2s
SUDU Sudak 6.56 299⇓ *i*P **Pn** **14 59 01.0 -2.0**
SUDU *e*S **Sn** **15 00 14.1 -4.1**
SUDU pmax pmax
comp=Z,80nm,0.3s
SUDU smax smax
comp=N,112nm,0.5s
SUDU smax smax
comp=E,27nm,0.4s
BZK Bozkurt 6.75 273 **Pn** **14 59 05.7 +0.1**
BZK Bozkurt 6.75 273 ⇓P **Pn** **14 59 03.6 -2.0**
ALU Alushta 6.88 296⇓ *i*P **Pn** **14 59 06.6 -0.7**
ALU *e*S **Sn** **15 00 22.2 -3.8**
ALU pmax pmax
comp=Z,151nm,0.2s
ALU smax smax
comp=N,71nm,1.0s
ALU smax smax
comp=E,2.0nm,0.1s
YAL Yalta 6.98 294⇑ *i*P **Pn** **14 59 08.0 -0.7**
YAL *e*S **Sn** **15 00 25.1 -3.4**
YAL pmax pmax
comp=Z,140nm,0.4s
YAL smax smax
comp=N,56nm,0.4s
YAL smax smax
comp=E,11nm,0.3s
ILGA Ilgaz 7.07 266 **Pn** **14 59 10.3 0.0**
SIM Simferopol' 7.17 298⇓ *i*P **Pn** **14 59 11.1 -0.2**
SIM *e*S **Sn** **15 00 29.9 -3.2**
SIM pmax pmax
comp=Z,70nm,0.6s
SIM smax smax
comp=N,36nm,0.4s
SIM smax smax
comp=E,5.0nm,0.2s
BR131 Keskin Array S 7.48 256 Pn **Pn** **14 59 17.5 +1.7**
BR131 Keskin Array S 7.48 256⇑ *e*P **Pn** **14 59 17.4 +1.7**
BRTR Keskin Array B 7.48 256 Pn **Pn** **14 59 17.5 +1.7**
comp=E,0.3nm,0.3s,baz=45,slow=11,SNR=7.5
comp=E,0.7nm,0.5s
KIRS Kirsehir-Merke 7.51 251 ⇑P **Pn** **14 59 15.4 -0.7**
CIDE Kastamonu/Cide 7.54 273 ⇓P **Pn** **14 59 14.7 -1.8**
CIDE ⇑S **Sn** **15 00 38.0 -4.4**
JURR Jurilovca 10.71 290 ⇑P **Pn** **14 59 56.6 -3.2**
MANR Mangalia 10.79 285 ⇓P **Pn** **14 59 58.0 -2.9**
MMAI Mount Meron Ar 10.79 217 LR LR 15 04 18.0
comp=E,87nm,18.6s,baz=22,slow=38
TLCR 10.83 292 ⇑P **Pn** **14 59 58.9 -2.7**
TLCR 10.83 292 P **Pn** **14 59 58.8 -2.7**
BELG Belogornoye 10.90 15 Pn **Pn** **15 00 00.7 -1.6**
comp=E,3.9nm,0.4s,baz=278,slow=20,SNR=1.0
BELG Belogornoye 10.90 15 *i* P **Pn** **15 00 01.9 -0.5**
BELG pmax pmax
comp=Z,1.0nm,0.9s
MFTR Murfatlar 10.94 287 ⇑P **Pn** **14 59 59.5 -3.5**
TIRR Tirgusor 10.98 288 **Pn** **15 00 00.1 -3.4**
TIRR Tirgusor 10.98 288 ⇓P **Pn** **15 00 00.2 -3.4**
TIRR Tirgusor 10.98 288 P **Pn** **15 00 00.2 -3.4**
LPSR Galich'ya Gora 11.02 347 *e*P **Pn** **15 00 02.5 -1.5**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
TPGR Topolog 11.04 290 ⇑P **Pn** **15 00 00.9 -3.5**

TLBR Topalu 11.26 288 ⇓P **Pn** **15 00 03.7 -3.6**
CFR Carcaliu 11.30 292 ⇑P **Pn** **15 00 04.6 -3.3**
CFR Carcaliu 11.30 292 P **Pn** **15 00 04.6 -3.3**
HARR Harsova 11.36 289 ⇑P **Pn** **15 00 05.8 -2.9**
HARR Harsova 11.36 289 P **Pn** **15 00 05.8 -2.9**
ICOR Ion Corvin 11.38 286 ⇑P **Pn** **15 00 06.1 -3.0**
ISR Istrita 12.40 290 ⇑P **Pn** **15 00 21.4 -1.7**
ISR Istrita 12.40 290 P **Pn** **15 00 21.3 -1.7**
VRI Vrincioaia 12.41 294 ⇑P **Pn** **15 00 20.4 -2.7**
VRI Vrincioaia 12.41 294 P **Pn** **15 00 20.4 -2.7**
PLOR Plostina 12.46 294 ⇑P **Pn** **15 00 21.1 -2.8**
PLOR Plostina 12.46 294 P **Pn** **15 00 21.0 -2.8**
TESR Tescani 12.62 297 ⇑P **Pn** **15 00 23.2 -2.8**
ELND Elena 12.74 280 ⇓P **Pn** **15 00 24.0 -3.5**
MLR Muntele Rosu 12.88 292 **Pn** **15 00 27.4 -2.2**
MLR Muntele Rosu 12.88 292 Pn **Pn** **15 00 26.7 -2.9**
comp=Z,2.7nm,0.3s,baz=237,slow=2.8,SNR=13
MLR LR LR 15 07 13.7
comp=Z,106nm,18.1s,baz=88,slow=46
MLR Muntele Rosu 12.88 292 ⇑P **Pn** **15 00 27.1 -2.5**
MLR Muntele Rosu 12.88 292 P **Pn** **15 00 27.4 -2.2**
AKASG Malin Array Be 12.95 317 Pn **Pn** **15 00 26.9 -3.5**
comp=Z,2.9nm,0.3s,baz=121,slow=13,SNR=7.0
AKASG LR LR 15 05 16.2
comp=Z,37nm,19.6s,baz=120,slow=37
comp=Z,1.9nm,0.4s
AKASG Malin Array Be 12.95 317 *i* P **Pn** **15 00 29.2 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 12.95 317 *de*P **Pn** **15 00 28.6 -1.8**
DOPR Dopca 13.35 293 ⇓P **Pn** **15 00 32.7 -3.2**
AKTO Aktyubinsk 13.37 46 Pn **Pn** **15 00 33.8 -2.4**
comp=Z,0.8nm,0.3s,baz=243,slow=7.9,SNR=11
comp=Z,4.1nm,0.5s
AKTO Aktyubinsk 13.37 46 ⇓P **Pn** **15 00 32.8 -3.4**
comp=Z,2.7nm,0.7s
AKTO ⇑S **Sn** **15 02 59.3 -5.9**
comp=Z,3.4nm,0.8s
AKTO Aktyubinsk 13.37 46 P **Pn** **15 00 32.8 -3.4**
ARR Arges 13.77 291 ⇑P **Pn** **15 00 39.2 -2.5**
BURAR Bucovina Array 13.87 300 **Pn** **15 00 39.1 -4.0**
BURAR Bucovina Array 13.87 300 ⇑P **Pn** **15 00 40.3 -2.8**
BURAR Bucovina Array 13.87 300 P **Pn** **15 00 40.3 -2.8**
AB31 Akbulak array 13.88 53 **Pn** **15 00 40.9 -2.2**
AB31 Akbulak array 13.88 53 P **Pn** **15 00 40.4 -2.7**
comp=Z,0.9nm,0.3s,baz=243,slow=12,SNR=43
AB31 ⇑S Sn 15 03 07.4 -10
comp=Z,2.9nm,0.7s,baz=245,slow=23
AB31 Akbulak array 13.88 53 P **Pn** **15 00 40.4 -2.7**
ABKAR Akbulak array 13.88 53 Pn **Pn** **15 00 40.5 -2.6**
BUR08 Bucovina Ar. S 13.89 300 **Pn** **15 00 39.7 -3.8**
EIL Elat 13.90 211 LR LR 15 06 23.4
comp=Z,70nm,18.1s,baz=358,slow=39
MARR Marisel-Cluj 15.03 295 ⇑P **Pn** **15 00 56.3 -2.6**
GZR Gura Zlata 15.07 290 ⇑P **Pn** **15 00 56.1 -3.4**
GZR Gura Zlata 15.07 290 P **Pn** **15 00 56.1 -3.4**
DRGR 15.32 295 ⇓P **Pn** **15 01 00.4 -2.4**
DRGR 15.32 295 P **Pn** **15 01 00.4 -2.4**
NACGM Naroch 16.82 326 *e*P **Pn** **15 01 17.5 -4.4**
KIRV Kirov 17.13 11 *i* P **Pn** **15 01 24.2 -1.6**
ARTI Arti 17.52 29 LR LR 15 10 13.7
comp=Z,37nm,20.6s,baz=262,slow=44
ARTI Arti 17.52 29 P **P** **15 01 34.9 +3.0**
ARTI S **S** **15 04 54.0 -0.2**
KEK Kerkira 17.74 271 Pn **Pn** **15 01 32.4 -1.1**
KEK IAmb IAmb 15 02 03.8
comp=Z,18nm,1.0s
RAYN Ar Rayn 18.49 173 P **Pn** **15 01 43.5 +0.6**
RAYN Ar Rayn 18.49 173 P **Pn** **15 01 43.5 +0.6**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
SVE Sverdlovsk 18.69 31 *e*P **Pn** **15 01 45.7 +0.6**
SVE pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 19.05 355 *e*P **Pn** **15 01 49.1 -0.3**
KLMR pmax pmax
comp=Z,18nm,1.7s
VSU Vasula 19.46 334⇑ *e*P **Pn** **15 01 54.6 +0.2**
VSU pmax pmax
comp=Z,19nm,1.1s
CHGR Chuyangaron 20.15 91 Pn 15 02 02.5 -0.3
CHGR IAmb IAmb 15 02 11.2
comp=Z,16nm,0.7s
CHGR Chuyangaron 20.15 91 P Pn 15 02 02.5 -0.3
CHGR pmax pmax
comp=Z,16nm,0.7s
TIP Timpagrande 20.15 271 P **P** **15 02 01.5 +0.6**
UOSS Minazif 20.15 143 Pn 15 02 03.5 +0.7
KK31 Karatay Array 20.23 77 ⇑P Pn 15 02 04.4 +0.7
comp=Z,3.9nm,0.7s,baz=284,slow=9.5,SNR=16
KKAR Karatay Array 20.23 77 P Pn 15 02 03.0 -0.7
KKAR Karatay Array 20.23 77 *e*P Pn 15 02 03.0 -0.7
GAR Garm 20.91 89 Pn 15 02 11.6 -0.1
GAR IAmb IAmb 15 02 19.8
comp=Z,20nm,0.9s
BORK Borovoye 21.37 49 *ce*P **P** **15 02 16.7 +2.8**
BORK pmax pmax
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 21.65 299 **P** **15 02 17.4 +0.3**
GEC2 IAmb IAmb 15 02 19.2
comp=Z,9.3nm,1.0s
GERES GERESS Array B 21.65 299 P **P** **15 02 15.6 -1.5**
comp=Z,4.7nm,0.9s,baz=104,slow=9.9,SNR=22
comp=Z,4.7nm,0.9s
KHC Kasperske Hory 21.77 299⇑ *e*P **P** **15 02 19.5 +1.2**
KHC pmax pmax
comp=Z,9.0nm,1.4s
FIA1 FINESS Array S 22.05 338 P **P** **15 02 19.8 -1.3**
FIA1 IAmb IAmb 15 02 56.8
comp=Z,30nm,1.2s
FINES FINESS Array B 22.05 338 P **P** **15 02 19.8 -1.3**
FINES FINESS Array B 22.05 338 P **P** **15 02 19.5 -1.6**
comp=Z,1.2nm,0.3s,baz=145,slow=8.2,SNR=11
FINES LR LR 15 10 42.1
comp=Z,54nm,19.8s,baz=144,slow=36
comp=Z,1.2nm,0.3s
FINES FINESS Array B 22.05 338 *ce*P **P** **15 02 22.6 +1.5**
FINES pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 22.52 305 *i* P **P** **15 02 27.1 +0.7**
CLL *i* 15 02 30.7
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 22.52 305 *i* P **P** **15 02 27.1 +0.7**
comp=Z,7.0nm,1.0s
CLL *i* sP **sP** **15 02 30.7 +1.9**
comp=Z,8.0nm,1.1s
CLL *ex* x 15 02 40.0
AAK Ala-Archa 23.20 78⇑ *e*P **P** **15 02 37.8 +4.1**
AAK pmax pmax
comp=Z,8.0nm,1.6s
FUORN Ofenpass-Fuorn 23.83 292 P **P** **15 02 40.2 +0.2**
FUORN IAmb IAmb 15 03 16.4
comp=Z,11nm,1.3s
HFS Hagfors 25.59 325 P **P** **15 02 54.9 -0.8**
comp=Z,4.5nm,0.8s,baz=161,slow=11,SNR=8.3
comp=Z,4.5nm,0.8s
KURBB Kurchatov Arra 25.79 58 P **P** **15 03 00.3 +2.8**
comp=Z,1.6nm,0.7s,baz=268,slow=9.0,SNR=14
comp=Z,1.6nm,0.7s
KURBB Kurchatov Arra 25.79 58 ⇓P **P** **15 02 59.8 +2.1**
comp=Z,4.4nm,1.2s
KURBB Kurchatov Arra 25.79 58 P **P** **15 02 59.7 +2.1**
KURK Kurchatov 25.86 58 P **P** **15 03 00.4 +2.3**
KURK Kurchatov 25.86 58 ⇑P **P** **15 03 00.5 +2.3**
comp=Z,0.8nm,0.8s
KURK Kurchatov 25.86 58⇑ *e*P **P** **15 03 00.9 +2.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KEST Kesra 26.87 268 P **P** **15 03 07.6 +0.1**
KEST IAmb IAmb 15 03 31.7
comp=Z,8.2nm,1.1s
NOA NORSAR Array B 27.10 326 P **P** **15 03 08.0 -1.4**
comp=Z,0.7nm,0.8s,baz=117,slow=8.5,SNR=1.9
NOA LR LR 15 15 00.3
comp=Z,35nm,18.1s,baz=115,slow=39
comp=Z,0.7nm,0.8s
MK31 Makanchi Array 28.25 67⇑ *e*P **P** **15 03 23.7 +3.9**
MKAR Makanchi Array 28.25 67 P **P** **15 03 20.2 +0.4**
comp=Z,0.4nm,0.5s,baz=266,slow=9.6,SNR=4.9
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 28.25 67 *ce*P **P** **15 03 23.3 +3.5**
ARCES ARCESS Array B 29.12 347 P **P** **15 03 26.5 -0.8**
ARCES IAmb IAmb 15 03 43.0
comp=Z,3.9nm,1.1s

ARCES ARCESS Array B 29.12 347 P **P** **15 03 26.2 -1.1**
comp=Z,1.6nm,0.9s,baz=142,slow=8.4,SNR=7.6
comp=Z,1.6nm,0.9s
ARCES ARCESS Array B 29.12 347 P **P** **15 03 26.5 -0.8**
ARCES pmax pmax
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 29.99 52 P **P** **15 03 37.2 +2.0**
comp=Z,0.3nm,0.3s,baz=258,slow=5.7,SNR=1.5
comp=Z,0.3nm,0.3s
WMQ Urumqi 32.46 71 *e*P **P** **15 04 01.0 +3.9**
EKA Eskdalemuir Ar 32.70 310 P **P** **15 03 58.2 -0.8**
comp=Z,1.9nm,0.6s,baz=85,slow=9.1,SNR=5.9
comp=Z,1.9nm,0.6s
ESDC Sonseca Array 35.32 282 P **P** **15 04 20.7 -1.3**
comp=Z,0.9nm,0.8s,baz=75,slow=8.4,SNR=4.8
comp=Z,0.9nm,0.8s
SPB2 Spitsbergen Ar 37.89 351 P **P** **15 04 43.7 +0.3**
SPB2 IAmb IAmb 15 04 50.4
comp=Z,22nm,1.1s
SPITS Spitsbergen Ar 37.90 351 P **P** **15 04 43.6 +0.2**
comp=Z,3.5nm,0.6s,baz=141,slow=9.3,SNR=2.3
comp=Z,3.5nm,0.6s
SPITS Spitsbergen Ar 37.90 351 P **P** **15 04 43.6 +0.2**
SPITS 15 04 43.9
SPITS pmax pmax
comp=Z,27nm,1.2s
ULN Ulaanbaatar 44.55 60 *ce*P **P** **15 05 40.9 +2.2**
ULN pmax pmax
comp=Z,5.0nm,1.2s
TORD Torodi Ar. Bea 45.90 244 P **P** **15 05 48.5 -1.0**
comp=Z,0.3nm,0.6s,baz=50,slow=7.2,SNR=6.1
comp=Z,0.3nm,0.6s
PZH PanZhiHua 49.98 88 P **P** **15 06 25.1 +3.9**
HHC Hu-ho-hao-te 50.11 67 *e*P **P** **15 06 23.0 +1.0**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,170nm,4.9s
XAN Xi'an 51.36 76 *e*P **P** **15 06 34.8 +3.3**
CMAR Chiang Mai Arr 52.65 99 P **P** **15 06 44.7 +3.5**
comp=Z,0.6nm,0.6s,baz=311,slow=7.9,SNR=6.0
CMAR Chiang Mai Arr 52.65 99 *ce*P **P** **15 06 45.5 +4.3**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
ROCAM Rodrigues Isla 64.20 159 P **P** **15 08 01.2 -0.4**
N31M Braeburn, Yuko 76.91 359 P **P** **15 09 18.9 +0.1**
Q32M Nakina River 79.38 358 P **P** **15 09 33.6 +0.8**

GRAL ***15*** *14:57:31.8±0.3, 34.°10N×36.°44E, h14km±2km, MD2.5*
GII ***15*** *14:57:31.5±0.0, 34.°25N±0.°01×36.°494E±0.°005, h0km, Md1.2/1, confirmed*
ISC 15 14:57:33.5±1.2, 34.°12N±0.°04×36.°41E±0.°08, h0km, n16, σ1§84/18, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.12**	**2**	*e*P	**Pg**	**14 57 35.3**	**-0.6**
FKH				*e*S	**Sg**	**14 57 38.0**	**+0.4**
HWQ	**Hawqa**	**0.41**	**293**	*e*P	**Pg**	**14 57 40.2**	**-1.3**
HWQ				*e*S	**Sg**	**14 57 46.3**	**-0.5**
BEIL	**Beino**	**0.46**	**337**	*e*P	**Pg**	**14 57 40.8**	**-1.6**
RCY	**Rachaya**	**0.78**	**218**	*e*P	**Pg**	**14 57 45.8**	**-2.8**
NATI	**Neve Ativ**	**1.02**	**213**	P	**Pb**	**14 57 53.7**	**-0.4**
NATI	**Neve Ativ**	**1.02**	**213**	S	**Sn**	**14 58 12.0**	**+1.8**
GEM	**Giv'at Ha'Em**	**1.10**	**215**	P	**Pb**	**14 57 55.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**1.10**	**215**	S	**Sn**	**14 58 14.1**	**+2.0**
KSHT	**Keshet**	**1.24**	**204**	P	**Pn**	**14 57 58.0**	**-0.2**
KSHT	**Keshet**	**1.24**	**204**	S	**Sn**	**14 58 18.5**	**+2.9**
MMC7	**Mount Meron ar**	**1.38**	**218**	P	**Pg**	**14 57 59.7**	**-0.3**
MMC7	**Mount Meron ar**	**1.38**	**218**	S	**Sn**	**14 58 22.6**	**+3.3**
HNTI	**Hanita**	**1.46**	**225**	P	**Pb**	**14 58 01.8**	**+0.2**
HNTI	**Hanita**	**1.46**	**225**	S	**Sn**	**14 58 23.8**	**+2.9**
MMLI	**Mount Malkishu**	**1.87**	**206**	P	**Pb**	**14 58 07.5**	**-1.1**
HMDT	**Nahal Hemdat**	**2.00**	**202**	P	**Pb**	**14 58 09.7**	**-1.1**

BJI ***15*** *15:37:55.9, 6.°26S×151.°49E, h44km, mB5.1/4, mb4.6/22, Ms7 4.5/1*
NEIC ***15*** *15:37:58.5±1.6, 5.°61S±0.°06×151.°96E±0.°06, h35km±2km, mb4.7/23, Error ellipse: s-maj=12.5km s-min=6.5km az=140.0*
IDC ***15*** *15:38:00.1±1.7, 5.°46S×151.°63E, h52km±14km, mb4.1/14, mbtmp4.4/16, ML3.6/2, MS3.6/25, Error ellipse: s-maj=17.8km s-min=9.7km az=125.0*
DJA ***15*** *15:38:02.2±0.6, 6.°S±4.°×15.°2E±.°, h66km±7km, M4.9/13, mb4.4/13, mB5.3/4, MLv5.3/1, Mw(mB)4.7/4*
ISC 15 15:37:59.4±0.5, 5.°53S±0.°06×151.°81E±0.°07, h45km, n86, σ1§41/76, mb4.6/29, MS3.6/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.38**	**15**		**Pn**	**15 38 22.7**	**+0.5**
PMG	**Port Moresby**	**6.01**	**230**		**Pn**	**15 39 26.7**	**+0.9**
PMG	**Port Moresby**	**6.01**	**230**	P	**Pn**	**15 39 25.5**	**-0.2**
21nm,0.3s,baz=42,slow=9.7,SNR=85							
PMG				S	**Sn**	**15 40 34.2**	**+0.9**
42nm,0.4s,baz=309,slow=19,SNR=8.6							
PMG				LR	LR	15 41 18.2	
comp=Z,179nm,21.1s,baz=34,slow=33							
132nm,0.4s							
PMG	**Port Moresby**	**6.01**	**230**	P	**Pn**	**15 39 27.9**	**+2.1**
PMG	**Port Moresby**	**6.01**	**230**	P	**Pn**	**15 39 27.7**	**+1.9**
HNR	**Honiara**	**8.95**	**116**	Pn	**Pn**	**15 40 02.8**	**-3.3**
HNR	**Honiara**	**8.95**	**116**	P	**Pn**	**15 40 08.0**	**+1.9**
4.6nm,0.3s,baz=294,slow=12,SNR=1.9							
HNR				LR	LR	15 43 20.4	
comp=Z,272nm,21.2s,baz=290,slow=35							
20nm,0.3s							
JAY	**Jayapura**	**11.48**	**285**	LR	LR	15 44 40.6	
comp=Z,209nm,18.4s,baz=99,slow=36							
COEN	**Coen**	**11.94**	**225**	Pn	**Pn**	**15 40 47.3**	**+0.3**
MTSU	**Mount Surprise**	**14.51**	**210**	P	**Pn**	**15 41 23.0**	**+0.9**
CTAO	**Charters Tower**	**15.45**	**200**	Pn	**Pn**	**15 41 34.1**	**-0.3**
CTAO	**Charters Tower**	**15.45**	**200**	P	**P**	**15 41 37.6**	**-0.6**
QIS	**Mount Isa**	**19.07**	**217**	P	**Pn**	**15 42 19.9**	**+0.5**
EIDS	**Eidsvold**	**19.74**	**182**	Pn	**P**	**15 42 25.7**	**+0.3**
EIDS				IAmb	IAmb	15 42 31.1	
comp=Z,34nm,1.2s							
EIDS	**Eidsvold**	**19.74**	**182**	P	**Pn**	**15 42 27.9**	**+0.7**
MTN	**Manton Dam**	**21.66**	**249**		**P**	**15 42 46.2**	**-0.1**
DZM	**Mont Dzumac**	**21.70**	**141**	P	**P**	**15 42 48.3**	**+1.6**
comp=Z,2.8nm,0.6s,baz=304,slow=7.4,SNR=5.8							
DZM				LR	LR	15 50 13.6	
comp=Z,282nm,22.0s,baz=313,slow=34							
comp=Z,2.8nm,0.6s							
WB0	**Warramunga Arr**	**22.08**	**229**	P	**P**	**15 42 50.4**	**-0.4**
WB0				IAmb	IAmb	15 42 54.2	
comp=Z,43nm,1.1s							
WR8	**Warramunga Arr**	**22.11**	**228**		**P**	**15 42 50.8**	**-0.4**
WR8				IAmb	IAmb	15 42 54.0	
comp=Z,25nm,0.9s							
QLP	**Quilpie**	**22.15**	**198**	P	**P**	**15 42 52.5**	**+1.0**
WRAB	**Tennant Creek**	**22.21**	**228**		**P**	**15 42 51.8**	**-0.4**
WRAB				IAmb	IAmb	15 42 54.9	
comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**22.21**	**228**	P	**P**	**15 42 51.8**	**-0.4**
WRA	**Warramunga Arr**	**22.23**	**228**		**P**	**15 42 50.0**	**-2.4**
WRA	**Warramunga Arr**	**22.23**	**228**	P	**P**	**15 42 51.5**	**-0.9**
comp=Z,17nm,0.8s,baz=52,slow=10,SNR=18							
WRA				S	**S**	**15 46 51.4**	**-3.2**
comp=Z,3.1nm,1.0s,baz=47,slow=17,SNR=8.6							
WRA				ScP	**ScP**	**15 50 21.8**	**+0.1**
comp=Z,2.4nm,1.0s,baz=41,slow=2.4,SNR=7.1							
WRA				LR	LR	15 53 00.3	
comp=Z,128nm,18.1s,baz=60,slow=41							
comp=Z,17nm,0.8s							
AULRC	**Lightning Ridg**	**24.05**	**188**	P	**P**	**15 43 12.7**	**+2.3**
INKA	**Innaminka**	**24.47**	**204**		**P**	**15 43 14.0**	**-0.2**
INKA				IAmb	IAmb	15 43 17.1	
comp=Z,19nm,0.8s							
KNRA	**Kununurra**	**24.77**	**244**		**P**	**15 43 16.8**	**-0.3**
AS01	**Alice Springs**	**24.92**	**222**	P	**P**	**15 43 18.6**	**+0.1**
AS31	**Alice Springs**	**24.95**	**222**		**P**	**15 43 18.6**	**-0.2**
AS31				IAmb	IAmb	15 43 21.7	
comp=Z,15nm,0.9s							
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**15 43 18.7**	**-0.1**
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**15 43 19.6**	**+0.8**
comp=Z,37nm,0.8s,baz=56,slow=8.7,SNR=170							
ASAR				S	**S**	**15 47 38.2**	**-1.3**
comp=Z,4.2nm,1.1s,baz=42,slow=16,SNR=8.2							
ASAR				ScP	**ScP**	**15 50 29.6**	**+0.6**
comp=Z,0.3nm,0.7s,baz=32,slow=2.1,SNR=4.1							
ASAR				LR	LR	15 53 07.9	

comp=Z,139nm,19.5s,baz=78,slow=36
comp=Z,37nm,0.8s
AUALC Si Philip's Co 24.98 222 P P 15 43 19.1 +0.1
AUPHS Peel High Scho 25.45 182 P P 15 43 26.1 +2.9
CMSA Cobar Meteorol 26.50 192 P P 15 43 33.4 +0.7
STKA Stephens Creek 27.90 199 P P 15 43 44.7 -0.5
STKA IAmb IAmb 15 44 06.6
comp=Z,22nm,0.9s
STKA Stephens Creek 27.90 199 P P 15 43 44.5 -0.7
comp=Z,1.9nm,0.6s,baz=14,slow=12,SNR=5.5
STKA LR LR 15 54 55.8
comp=Z,134nm,19.1s,baz=22,slow=36
comp=Z,1.9nm,0.6s
FITZ Fitzroy Crossi 28.45 242 P P 15 43 49.5 -0.8
FITZ Fitzroy Crossi 28.45 242 P P 15 43 49.3 -1.0
comp=Z,38nm,1.1s,baz=71,slow=8.3,SNR=19
comp=Z,38nm,1.1s
FITZ Fitzroy Crossi 28.45 242 P P 15 43 49.3 -1.0
DAV Davao City (W) 29.02 295 LR LR 15 55 13.6
comp=Z,82nm,18.4s,baz=130,slow=36
BBOO Buckleboo 30.86 206 P P 15 44 10.7 -0.8
FORT Forrest 33.60 219 P P 15 44 34.9 -0.7
FORT IAmb IAmb 15 44 43.6
comp=Z,19nm,1.4s
JAGI Jajag, Banyuwa 37.48 263 P P 15 45 08.4 -0.7
JOW Kunigami 39.43 326 LR LR 15 59 08.6
comp=Z,70nm,20.9s,baz=112,slow=32
URZ Urewera 39.87 148 LR LR 15 57 45.2
comp=Z,69nm,21.9s,baz=316,slow=30
MRZ Mangatainoka R 40.96 152 P P 15 45 36.1 -1.6
MORW Morawa 41.12 231 P P 15 45 39.0 -0.3
MORW IAmb IAmb 15 45 52.9
comp=Z,30nm,1.2s
JNU Nakatsue 43.27 334 LR LR 16 01 27.8
comp=Z,59nm,20.2s,baz=163,slow=33
MJAR Matsushiro Arr 43.75 344 LR LR 16 02 49.5
comp=Z,79nm,18.3s,baz=165,slow=34
NJ2 Nanjing 48.80 322 *e*P **P 15 46 42.8 +2.6**
NJ2 pmax pmax
comp=Z,11nm,0.8s
ASAJ Asahikawa 50.11 351 LR LR 16 09 50.0
comp=Z,23nm,18.1s,baz=164,slow=38
XAN Xi'an 56.48 317 P P 15 47 36.8 -0.3
XAN pP pP 15 47 46.0 -4.0
XAN pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 57.30 296 P P 15 47 42.0 -1.2
CMAR Chiang Mai Arr 57.30 296 P P 15 47 43.1 -0.1
comp=Z,1.6nm,0.9s,baz=119,slow=5.5,SNR=18
CMAR LR LR 16 12 09.8
comp=Z,18nm,19.9s,baz=120,slow=36
comp=Z,1.6nm,0.9s
CHTO Chiang Mai 57.42 296 P P 15 47 43.6 -0.3
CHTO IAmb IAmb 15 47 45.2
comp=Z,12nm,1.4s
PZH PanZhiHua 57.99 306 P P 15 47 51.3 +3.3
PPT2 Papeete2 58.45 107 *e*LR LR 16 04 52.9
comp=Z,87nm,21.5s
PPT2 *e*LR LR 16 04 54.0
comp=Z,112nm,23.0s
PETK Petropavlovsk- 58.63 4 P P 15 47 51.5 -0.3
comp=Z,0.9nm,0.5s,baz=169,slow=8.6,SNR=5.0
PETK LR LR 16 08 23.0
comp=Z,69nm,20.2s,baz=154,slow=31
comp=Z,0.9nm,0.5s
HHC Hu-ho-hao-te 59.07 325 *e*P **P 15 47 59.4 +4.2**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.8s
LZH Lanzhou 61.07 317 *e*P **P 15 48 10.5 +1.4**
LZH pP pP 15 48 18.1 -4.1
LZH pmax pmax
comp=Z,13nm,1.2s
MA2 Magadan 64.91 359 LR LR 16 12 05.8
comp=Z,52nm,21.9s,baz=160,slow=32
BRDH Bariadhala 65.13 298 LR LR 16 16 54.7
comp=Z,40nm,19.1s,baz=134,slow=36
GTA Gaotai 65.53 318 *e*P **P 15 48 39.0 +0.5**
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 66.42 328 P P 15 48 43.1 -1.0
SONM IAmb IAmb 15 48 45.2
comp=Z,9.6nm,1.4s
SONM Songino Array 66.42 328 P P 15 48 43.1 -1.0
comp=Z,2.5nm,0.5s,baz=143,slow=5.5,SNR=14
SONM LR LR 16 17 57.5
comp=Z,55nm,20.1s,baz=90,slow=36
comp=Z,2.5nm,0.5s
YAK Yakutsk 69.50 349 LR LR 16 17 07.8
comp=Z,38nm,22.0s,baz=128,slow=34
EVN Everest 70.88 302 P P 15 49 11.7 -1.3
EVN IAmb IAmb 15 49 13.0
comp=Z,8.0nm,1.3s
VNDA Vanda 72.14 178 P P 15 49 19.0 +0.2
O15K Ungalikthiuk R 75.02 23 P P 15 49 35.0 -1.0
WMQ Urumqi 75.61 318 *e*P **P 15 49 42.3 +2.5**
WMQ LR LR
comp=Z,260nm,21.7s
TIXI Tiksi 78.49 353 LR LR 16 24 36.6
comp=Z,45nm,19.7s,baz=176,slow=36
MKAR Makanchi Array 80.23 319 P P 15 50 04.3 -1.0
comp=Z,1.6nm,0.7s,baz=97,slow=7.1,SNR=11
MKAR LR LR 16 25 37.8
comp=Z,32nm,19.6s,baz=56,slow=36
comp=Z,1.6nm,0.7s
MAKZ Makanchi 80.44 319 P P 15 50 05.4 -1.0
MAKZ IAmb IAmb 15 50 06.7
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 81.22 327 P P 15 50 08.4 -2.0
comp=Z,1.2nm,0.4s,baz=108,slow=4.8,SNR=7.3
ZALV LR LR 16 25 55.3
comp=Z,47nm,20.5s,baz=83,slow=36
comp=Z,1.2nm,0.4s
KSH Kashi 82.66 311 P P 15 50 19.6 +1.1
ILAR Eielson Array 83.20 22 P P 15 50 18.6 -2.0
comp=Z,0.6nm,0.6s,baz=250,slow=4.9,SNR=12
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 83.77 322 P P 15 50 22.1 -1.6
comp=Z,2.2nm,0.9s,baz=110,slow=4.5,SNR=11
comp=Z,2.2nm,0.9s
QSPA South Pole Qui 84.43 180 P P 15 50 29.0 +1.9
comp=Z,2.9nm,1.1s,baz=309,slow=0.3,SNR=13
comp=Z,2.9nm,1.1s
AAK Ala-Archa 84.45 314 LR LR 16 27 52.0
comp=Z,38nm,20.0s,baz=74,slow=36
NVAR Mina Array Bea 93.31 52 P P 15 51 11.8 +1.7
comp=Z,1.9nm,0.8s,baz=271,slow=6.4,SNR=11
comp=Z,1.9nm,0.8s
ARTI Arti 96.47 326 LR LR 16 37 29.1
comp=Z,34nm,18.2s,baz=66,slow=37
AKTO Aktyubinsk 96.65 320 LR LR 16 34 44.3
comp=Z,38nm,21.2s,baz=252,slow=35
PDAR Pinedale Array 100.06 48 P Pdif 15 51 40.4 -0.2
comp=Z,0.4nm,0.5s,baz=358,slow=1.5,SNR=5.4
GERES GERESS Array B 124.15 328 PKP **PKPdf 15 56 52.2 -1.1**
comp=Z,1.0nm,0.5s,baz=92,slow=1.1,SNR=7.9
EKA Eskdalemuir Ar 126.44 343 PKP **PKPdf 15 56 56.5 -0.9**
comp=Z,0.5nm,0.4s,baz=10,slow=3.7,SNR=5.9
TORD Torodi Ar. Bea 149.58 287 PKPbc **PKPbc 15 57 43.5 -1.6**
comp=Z,5.3nm,0.7s,baz=41,slow=4.8,SNR=25

*IDC **15** 15:50:36.7±0.6, 30°.44N×142°.21E, h0km, mb3.9/16, mbtmp3.9/19, ML3.3/3, MS3.7/1, Error ellipse: s-maj=21.4km s-min=14.4km az=81.0*
*NEIC **15** 15:50:38.0±0.9, 30°.55N±0°.06×142°.5E±0°.1, h10km±1km, mb4.6/25, Error ellipse: s-maj=19.8km s-min=10.6km az=80.0*
*JMA **15** 15:50:38.5±0.2, 30°.5N±0°.9×14°.2E±°, h49km, MV4.4/30, NEAR TORISHIMA IS*
ISC 15 15:50:39.8±0.5,**30°.53N**±0°.05×**142°.39E**±0°.09,**h24**km,**n69,**
σ1§**66**/79,**mb4.2**/27,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.38**	**320**	Pn	**Pn**	**15 51 31.9**	**+0.9**
JHJ2	**Mitsune**	**3.38**	**320**	P	**Pn**	**15 51 30.5**	**-0.5**
JHJ2				*e*S	**Sn**	**15 52 07.9**	**-2.4**
JHJ	**Hachijo jima 2**	**3.40**	**320**	Pn	**Pn**	**15 51 31.1**	**-0.3**
	7.0nm,0.3s,baz=20,slow=21,SNR=1.2						
JHJ				Sn	**Sn**	**15 52 09.1**	**-1.8**
	28nm,0.3s,baz=74,slow=14,SNR=1.4						
	82nm,0.5s						
CBIJ	**Chichi jima**	**3.43**	**183**	*e*P	**Pn**	**15 51 30.3**	**-1.4**
CBIJ				*e*S	**Sn**	**15 52 07.4**	**-4.2**
JCJ	**Chichijima**	**3.43**	**183**	Pn	**Pn**	**15 51 32.8**	**+1.1**
JCJ	**Chichijima**	**3.43**	**183**	Pn	**Pn**	**15 51 31.1**	**-0.5**
	7.8nm,0.3s,baz=358,slow=22,SNR=16						
JCJ				Sn	**Sn**	**15 52 06.7**	**-4.8**
	46nm,0.3s,baz=277,slow=22,SNR=13						
	28nm,0.3s						
JMKN	**Mikurajimanish**	**4.11**	**325**	*e*S	**Sn**	**15 52 25.8**	**-2.5**
BSO1	**Boso 1**	**4.28**	**344**	*e*P	**Pn**	**15 51 43.1**	**+0.2**
BSO1				*e*S	**Sn**	**15 52 31.1**	**-0.7**
BSO3	**Boso 3**	**4.54**	**340**	*e*P	**Pn**	**15 51 46.8**	**0.0**
BSO3				*e*S	**Sn**	**15 52 39.0**	**+0.3**
BSO4	**Boso 4**	**4.77**	**339**	*e*P	**Pn**	**15 51 51.0**	**+0.9**
JOD2	**Odawara 2**	**5.48**	**330**	*e*P	**Pn**	**15 52 01.0**	**+1.1**
JYT	**Yasato**	**5.97**	**343**	Pn	**Pn**	**15 52 07.3**	**+0.7**
JYT	**Yasato**	**5.97**	**343**	*e*P	**Pn**	**15 52 07.1**	**+0.4**
JYT				*e*S	**Sn**	**15 53 14.4**	**+0.2**
JRY	**Ryogami san**	**6.20**	**333**	*e*P	**Pn**	**15 52 11.0**	**+1.2**
JHO	**Hitachi**	**6.25**	**346**	*e*P	**Pn**	**15 52 09.3**	**-1.2**
JHO				*e*S	**Sn**	**15 53 16.4**	**-4.8**
JAG	**Ashikaga**	**6.37**	**338**	*e*P	**Pn**	**15 52 12.0**	**-0.1**
JAG				*e*S	**Sn**	**15 53 20.4**	**-3.7**
JGF	**Kuroka**	**6.59**	**321**	Pn	**Pn**	**15 52 16.4**	**+1.3**
JFK	**Kawauchi**	**6.94**	**350**	*e*S	**Sn**	**15 53 30.7**	**-7.3**
MJAR	**Matsushiro Arr**	**6.94**	**331**	Pn	**Pn**	**15 52 20.3**	**+0.4**
	0.3nm,0.3s,baz=156,slow=11,SNR=15						
MJAR				Sn	**Sn**	**15 53 38.4**	**+0.3**
	0.3nm,0.3s,baz=159,slow=32,SNR=6.0						
	2.8nm,0.6s						
MJB9	**Matsu-Tunnel**	**6.94**	**331**		**Pn**	**15 52 20.9**	**+0.9**
JMM	**Marumori**	**7.44**	**350**		**Pn**	**15 52 26.1**	**-0.6**
JMK	**Ichinoseki**	**8.46**	**354**	*e*P	**Pn**	**15 52 39.8**	**-0.9**
JMK				*e*S	Sn	15 54 07.2	-8.2
ASAJ	**Asahikawa**	**13.56**	**1**	Pn	**Pn**	**15 53 48.5**	**-2.1**
	0.4nm,0.3s,baz=175,slow=17,SNR=6.1						
JKA	**Kamikawa-asahi**	**13.56**	**1**	Pn	**Pn**	**15 53 49.9**	**-0.7**
SONM	**Songino Array**	**32.45**	**312**	P	**P**	**15 57 09.1**	**+1.0**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=1.9						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.09**	**263**	P	**P**	**15 58 20.2**	**-1.6**
	0.3nm,0.3s,baz=49,slow=7.5,SNR=6.2						
	0.3nm,0.3s						
SOEI	**Soe**	**43.67**	**206**	P	**P**	**15 58 42.3**	**-0.7**
SOEI				IAmb	IAmb	15 59 20.7	
	comp=Z,26nm,1.5s						
MTN	**Manton Dam**	**44.46**	**196**	P	**P**	**15 58 48.8**	**-0.3**
KULM	**Kulim**	**46.57**	**246**	P	**P**	**15 59 05.7**	**-0.2**
KULM				IAmb	IAmb	15 59 38.1	
	comp=Z,15nm,1.3s						
ZALV	**Zalesovo Beam**	**47.06**	**317**	PcP	**PcP**	**16 00 42.0**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=127,slow=3.8,SNR=4.7						
KNRA	**Kununurra**	**47.77**	**198**	P	**P**	**15 59 15.4**	**+0.2**
MKAR	**Makanchi Array**	**48.49**	**307**	P	**P**	**15 59 20.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=90,slow=9.7,SNR=4.5						
	comp=Z,0.6nm,0.7s						
WB0	**Warramunga Arr**	**50.59**	**190**	P	**P**	**15 59 36.5**	**-0.3**
WB0				IAmb	IAmb	15 59 37.2	
	comp=Z,4.6nm,0.6s						
WR8	**Warramunga Arr**	**50.76**	**190**	P	**P**	**15 59 37.9**	**-0.1**
WR8				IAmb	IAmb	15 59 38.6	
	comp=Z,3.8nm,0.7s						
WRAB	**Tennant Creek**	**50.76**	**190**	P	**P**	**15 59 37.9**	**-0.1**
WRA	**Warramunga Arr**	**50.77**	**190**	P	**P**	**15 59 38.0**	**0.0**
WRA	**Warramunga Arr**	**50.77**	**190**	P	**P**	**15 59 38.0**	**0.0**
	comp=Z,2.8nm,0.6s,baz=7.2,slow=7.8,SNR=65						
	comp=Z,2.8nm,0.6s						
KURBB	**Kurchatov Arra**	**50.82**	**312**	P	**P**	**15 59 38.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=87,slow=6.6,SNR=5.7						
	comp=Z,0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.96**	**201**	P	**P**	**15 59 38.0**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=30,slow=8.1,SNR=3.8						
	comp=Z,2.5nm,0.8s						
SPU	**Mount Spurr**	**52.04**	**34**	P	**P**	**15 59 46.7**	**-0.5**
SPU				IAmb	IAmb	16 00 11.9	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**54.50**	**190**	P	**P**	**16 00 05.8**	**+0.1**
ASAR	**Alice Springs**	**54.50**	**190**	P	**P**	**16 00 05.3**	**-0.3**
ASAR	**Alice Springs**	**54.50**	**190**	P	**P**	**16 00 05.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=359,slow=5.3,SNR=36						
	comp=Z,0.9nm,0.6s						
ILAR	**Eielson Array**	**54.64**	**30**	P	**P**	**16 00 07.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=251,slow=6.6,SNR=5.7						
ILAR				LR	LR	16 24 20.1	
	comp=Z,65nm,19.2s,baz=234,slow=37						
	comp=Z,0.4nm,0.6s						
J26L	**Joseph Creek**	**56.06**	**30**	P	**P**	**16 00 16.6**	**+0.1**
J26L				IAmb	IAmb	16 00 53.1	
	comp=Z,3.4nm,1.1s						
KKAR	**Karatay Array**	**57.27**	**304**	P	**P**	**16 00 26.0**	**+0.6**
INKA	**Innaminka**	**57.97**	**182**	P	**P**	**16 00 30.7**	**+0.5**
G30M	**tAoh Zraii Nji**	**58.97**	**27**	P	**P**	**16 00 36.4**	**-0.5**
G30M				IAmb	IAmb	16 01 04.1	
	comp=Z,4.8nm,1.1s						
G31M	**Satah River**	**59.74**	**27**	P	**P**	**16 00 43.8**	**+1.7**
G31M				IAmb	IAmb	16 00 44.6	
	comp=Z,5.1nm,1.1s						
FORT	**Forrest**	**62.47**	**194**	P	**P**	**16 01 01.4**	**+0.4**
FORT				IAmb	IAmb	16 01 02.0	
	comp=Z,5.6nm,0.7s						
AB31	**Akbulak array**	**62.86**	**313**	P	**P**	**16 01 04.5**	**+0.9**
AB31				IAmb	IAmb	16 01 08.1	
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**70.37**	**341**	P	**P**	**16 01 52.2**	**+1.0**
ARCES				IAmb	IAmb	16 02 07.3	
	comp=Z,13nm,1.5s						
ARCES	**ARCESS Array B**	**70.37**	**341**	P	**P**	**16 01 52.2**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=44,slow=5.4,SNR=3.8						
	comp=Z,1.3nm,0.8s						
FIA1	**FINESS Array S**	**74.96**	**334**	P	**P**	**16 02 19.2**	**+0.6**
FINES	**FINESS Array B**	**74.96**	**334**	P	**P**	**16 02 19.4**	**+0.8**
FINES	**FINESS Array B**	**74.96**	**334**	P	**P**	**16 02 19.7**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=60,slow=6.1,SNR=9.3						
	comp=Z,1.7nm,0.9s						
RAR	**Rarotonga**	**75.72**	**125**	P	**P**	**16 02 22.5**	**-1.0**
KBZ	**Khabaz**	**75.82**	**312**	P	**P**	**16 02 24.8**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=3.7,slow=1.9,SNR=4.0						
	comp=Z,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**78.27**	**52**	P	**P**	**16 02 40.4**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=294,slow=4.7,SNR=5.7						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	**79.97**	**324**	P	**P**	**16 02 47.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.6,SNR=2.4						
	comp=Z,0.2nm,0.3s						
BW06	**Boulder Array**	**81.66**	**45**	P	**P**	**16 02 53.8**	**-2.5**
PD31	**Pinedale Array**	**81.66**	**45**	P	**P**	**16 02 54.2**	**-2.2**
PD31				IAmb	IAmb	16 03 17.3	
	comp=Z,3.9nm,1.4s						
PDAR	**Pinedale Array**	**81.66**	**45**	P	**P**	**16 02 57.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=289,slow=7.2,SNR=2.9						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**83.81**	**313**	P	**P**	**16 03 07.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=46,slow=3.6,SNR=5.4						
	comp=Z,1.1nm,0.8s						
RAYN	**Ar Rayn**	**83.94**	**294**	P	**P**	**16 03 08.5**	**+0.2**
RAYN				IAmb	IAmb	16 03 10.6	
	comp=Z,2.9nm,0.7s						
BURAR	**Bucovina Array**	**83.94**	**323**	P	**P**	**16 03 07.9**	**0.0**
IVI	**Ivigtut**	**88.19**	**5**	P	**P**	**16 03 28.1**	**-0.4**
TXAR	**Lajitas Array**	**93.41**	**53**	P	**P**	**16 03 55.7**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=251,slow=2.8,SNR=6.5						
	comp=Z,0.6nm,0.7s						
LPAZ	**La Paz**	**148.73**	**70**	PKPbc	**PKiKP**	**16 10 27.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=21,slow=7.6,SNR=4.7						

*IDC **15** 15:56:15.8±0.9, 0°.53N×126°.05E, h0km, mb4.0/8, mbtmp3.9/9, ML3.7/1, MS3.0/1, Error ellipse: s-maj=62.3km s-min=16.2km az=71.0*
*DJA **15** 15:56:20.2±0.2, 1°N±3°×12°6E±°, h10km, M3.8/14, mb3.9/3, MLv3.8/14*
*NEIC **15** 15:56:21.8±1.3, 0°.39N±0°.08×126°.42E±0°.06, h19km±5km, mb4.6/20, Error ellipse: s-maj=12.3km s-min=8.3km az=161.0*
ISC 15 15:56:20.4±0.6,**0°.41N**±0°.08×**126°.32E**±0°.07,**h10**km,**n48,**
σ1§**49**/33,**mb4.2**/16,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**71**		**Pg**	**15 56 40.9**	**-0.9**
TNTI	**Ternate**	**1.11**	**71**	P	**Pg**	**15 56 41.0**	**-0.8**
KMSI	**Cibinong**	**2.34**	**274**	P	Pn	15 56 55.1	-3.9
SANI	**Sanana**	**2.47**	**188**	P	**Pn**	**15 57 00.8**	**+0.1**
NLAI	**Namlea**	**3.71**	**168**	P	**Pn**	**15 57 19.7**	**+1.9**
LUWI	**Luwuk**	**3.83**	**248**	Pn	**Pn**	**15 57 20.5**	**+1.0**
LUWI	**Luwuk**	**3.83**	**248**	P	**Pn**	**15 57 20.5**	**+1.0**
MRSI	**Marisa**	**4.38**	**271**	P	Pn	15 57 24.6	-2.4
AAI	**Ambon**	**4.48**	**155**	P	**Pn**	**15 57 31.3**	**+2.8**
MSAI	**Masohi**	**4.55**	**145**	P	**Pn**	**15 57 34.2**	**+4.7**
TOLI2	**Tolitoli**	**5.58**	**277**		Pn	15 57 40.6	-3.0
BKSI	**Bulukumba**	**8.41**	**227**	P	**Pn**	**15 58 23.0**	**+0.5**
MYLDM	**Lahad Datu**	**9.13**	**301**	Pn	**Pn**	**15 58 33.1**	**+0.8**
SBUM	**Sibu**	**14.24**	**278**	Pn	**Pn**	**15 59 44.7**	**+2.4**
KNRA	**Kununurra**	**16.17**	**172**	Pn	**Pn**	**16 00 07.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.41**	**182**	P	**P**	**16 00 34.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.41**	**182**	P	**P**	**16 00 34.5**	**-1.4**
	0.2nm,0.3s,baz=0.4,slow=12,SNR=1.7						
	1.3nm,0.7s						
LEM	**Lembang**	**20.00**	**249**	LR	LR	16 09 41.6	
	comp=Z,40nm,18.8s,baz=350,slow=41						
WB0	**Warramunga Arr**	**21.56**	**159**	P	**P**	**16 01 08.9**	**-1.4**
WB0				IAmb	IAmb	16 01 13.7	
	comp=Z,7.6nm,0.7s						
WRAB	**Tennant Creek**	**21.70**	**159**	P	**P**	**16 01 10.3**	**-1.5**
WRAB				IAmb	IAmb	16 01 14.9	
	comp=Z,5.9nm,0.6s						
WRA	**Warramunga Arr**	**21.70**	**159**	P	**P**	**16 01 10.7**	**-1.2**
WRA	**Warramunga Arr**	**21.70**	**159**	P	**P**	**16 01 10.4**	**-1.4**
	comp=Z,4.1nm,0.6s,baz=336,slow=12,SNR=18						
	comp=Z,4.1nm,0.6s						
WR8	**Warramunga Arr**	**21.77**	**159**	P	**P**	**16 01 11.2**	**-1.3**
AS31	**Alice Springs**	**25.04**	**163**	P	**P**	**16 01 44.7**	**-0.4**
ASAR	**Alice Springs**	**25.04**	**163**	P	**P**	**16 01 44.9**	**-0.2**
ASAR	**Alice Springs**	**25.04**	**163**	P	**P**	**16 01 43.7**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=345,slow=12,SNR=28						
	comp=Z,1.4nm,0.4s						
JMZ	**Minamidaito 2**	**25.70**	**10**	P	**P**	**16 01 50.3**	**-0.6**
JOW	**Kunigami**	**26.34**	**4**	P	**P**	**16 01 56.3**	**-0.4**
JOW				IAmb	IAmb	16 02 16.4	
	comp=Z,42nm,1.0s						
MORW	**Morawa**	**30.92**	**198**	P	**P**	**16 02 37.1**	**-0.5**
FORT	**Forrest**	**31.06**	**177**	P	P	16 02 37.3	-1.5
FORT				IAmb	IAmb	16 02 58.8	
	comp=Z,8.8nm,1.0s						
CM31	**Chiang Mai Arr**	**32.31**	**305**	P	**P**	**16 02 51.3**	**+1.3**
CM31				IAmb	IAmb	16 02 53.9	
	comp=Z,4.2nm,1.1s						
BBOO	**Buckleboo**	**34.30**	**165**	P	P	16 03 05.2	-1.9
BBOO				IAmb	IAmb	16 03 37.6	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**35.22**	**157**	P	P	16 03 13.2	-1.9
STKA				IAmb	IAmb	16 03 30.9	
	comp=Z,25nm,1.2s						
STKA	**Stephens Creek**	**35.22**	**157**	P	P	16 03 12.8	-2.3
	comp=Z,1.1nm,0.6s,baz=356,slow=9.8,SNR=3.1						
	comp=Z,1.1nm,0.6s						
CAN	**Canberra**	**41.38**	**152**	P	**P**	**16 04 05.5**	**-1.4**
CAN				IAmb	IAmb	16 04 17.5	
	comp=Z,36nm,1.5s						
PEA0B	**Petropavlovsk-**	**58.64**	**22**	P	P	16 06 15.9	-1.9
PETK	**Petropavlovsk-**	**58.64**	**22**	P	P	16 06 15.6	-2.2
PETK	**Petropavlovsk-**	**58.64**	**22**	P	P	16 06 15.3	-2.5
	comp=Z,2.6nm,0.8s,baz=234,slow=8.7,SNR=1.5						
	comp=Z,2.6nm,0.8s						
TUWZ	**Tuamarina**	**59.86**	**140**	P	P	16 06 24.2	-2.3
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	16 06 23.2	-4.5
	comp=Z,0.6nm,0.4s,baz=119,slow=7.7,SNR=13						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**63.35**	**334**	P	P	16 06 44.0	-5.8
	comp=Z,0.4nm,0.3s,baz=146,slow=6.4,SNR=1.7						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	P	16 06 51.6	-4.6
	comp=Z,0.5nm,0.5s,baz=128,slow=6.0,SNR=8.2						
	comp=Z,0.5nm,0.5s						
D20K	**Etivluk River**	**84.93**	**21**	P	**P**	**16 08 54.5**	**-1.0**
D20K				IAmb	IAmb	16 09 29.2	
	comp=Z,8.4nm,1.3s						
CNPM	**China Poot**	**85.81**	**30**	P	**P**	**16 09 00.5**	**+0.4**
I23K	**Minto, Yukon-K**	**87.23**	**25**	P	**P**	**16 09 06.8**	**0.0**
BMAR	**Burnt Mountain**	**89.28**	**23**	P	**P**	**16 09 16.9**	**+0.2**
QSPA	**South Pole Qui**	**90.34**	**180**	P	**P**	**16 09 21.7**	**-0.1**
QSPA				IAmb	IAmb	16 09 47.9	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**90.34**	**180**	P	**P**	**16 09 20.3**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=38,slow=0.7,SNR=3.1						
	comp=Z,0.6nm,0.7s						

*IDC **15** 15:56:50.5±13.0, 15°.01S×178°.97W, h445km±154km, mb3.0/7, mbtmp3.8/7, Error ellipse: s-maj=46.4km s-min=26.3km az=105.0*
ISC 15 15:56:46.4±0.9,**15°.0S**±0°.3×**179°.0W**±0°.2,**h401**km,**n8,**
σ0§**75**/8,**mb3.3**/7,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.72**	**257**	P	**P**	**16 04 21.9**	**-0.2**
	0.2nm,0.6s,baz=94,slow=8.4,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**45.15**	**251**	P	**P**	**16 04 26.2**	**+0.7**
	1.7nm,0.5s,baz=84,slow=8.6,SNR=41						
	1.7nm,0.5s						
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**16 07 45.2**	**-0.1**
	2.6nm,0.8s,baz=11,slow=5.4,SNR=13						
	2.6nm,0.8s						
NVAR	**Mina Array Bea**	**77.70**	**44**	P	**P**	**16 08 00.1**	**-0.4**
	0.6nm,0.5s,baz=237,slow=4.9,SNR=1.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**83.17**	**13**	P	**P**	**16 08 28.6**	**+0.3**
	0.3nm,0.5s,baz=227,slow=5.8,SNR=6.3						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**84.89**	**58**	P	**P**	**16 08 38.5**	**+0.6**
	0.3nm,0.8s,baz=254,slow=4.7,SNR=3.1						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**85.60**	**44**	P	**P**	**16 08 41.3**	**0.0**
	0.2nm,0.4s,baz=220,slow=4.5,SNR=3.5						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**142.32**	**317**	PKP	**PKPdf**	**16 15 31.2**	**-1.3**
	0.4nm,0.6s,baz=62,slow=3.4,SNR=3.7						

*IDC **15** 16:00:33.0±3.5, 5°.71N×126°.62E, h82km±27km, mb3.1/5, mbtmp3.4/5, Error ellipse: s-maj=106.5km s-min=16.7km az=67.0*
ISC 15 16:00:34.6

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res	ISC
HILR	**Hailar Array B**	15.47	39	Pn		Pn		16 22 16.6	-1.1	
	baz=233,slow=13									
	0.5nm,0.3s									
CMAR	**Chiang Mai Arr**	20.56	196	P		P		16 23 17.9	0.0	
	0.3nm,0.3s,baz=20,slow=8.4,SNR=1.0									
	0.3nm,0.3s									
ZALV	**Zalesovo Beam**	20.58	325	P		P		16 23 17.6	-0.2	
	1.1nm,0.5s,baz=139,slow=11,SNR=6.7									
	1.1nm,0.5s									
KURBB	**Kurchatov Arra**	22.10	312	P		P		16 23 32.4	-1.8	
	0.7nm,0.6s,baz=113,slow=12,SNR=7.7									
	0.7nm,0.6s									
JOW	**Kunigami**	22.95	113	LR		LR		16 32 18.9		
	comp=Z,58nm,20.9s,baz=238,slow=36									
ARCES	**ARCESS Array B**	50.80	334	P		P		16 27 39.8	+1.2	
	0.8nm,0.7s,baz=90,slow=8.4,SNR=7.4									
	0.8nm,0.7s									
FINES	**FINESS Array B**	51.83	323	P		P		16 27 47.2	+0.9	
	0.7nm,0.5s,baz=86,slow=6.5,SNR=9.2									
	0.7nm,0.5s									
HFS	**Hagfors**	58.01	324	P		P		16 28 32.2	+1.1	
	1.7nm,0.5s,baz=84,slow=6.1,SNR=7.2									
	1.7nm,0.5s									
NOA	**NORSAR Array B**	58.78	325	P		P		16 28 36.8	+0.4	
	0.4nm,0.4s,baz=66,slow=6.7,SNR=3.3									
	0.4nm,0.4s									
WRA	**Warramunga Arr**	64.44	149	P		P		16 29 15.3	+0.3	
	0.4nm,0.4s,baz=347,slow=7.6,SNR=4.8									
	0.4nm,0.4s									
ASAR	**Alice Springs**	67.63	151	P		P		16 29 36.6	+1.1	
	0.5nm,0.5s,baz=343,slow=6.7,SNR=23									
	0.5nm,0.5s									

*IDC **15** 16:36:42.1±2.3, 62.°48S×155.°61E, h0km, mb3.6/5, mbtmp3.7/6, ML4.3/1, MS3.7/17, Error ellipse: s-maj=94.9km s-min=20.7km az=80.0*

ISC 15 16:36:42.3±2.2, 62.°3S±0.°2×155.°8E±0.°5, h10km, n28, σ0°35/5, mb3.5/5, MS3.7/16, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res	ISC
VNDA	**Vanda**	15.39	175	Pn		Pn		16 40 19.5	+0.4	
	1.2nm,0.3s,baz=342,slow=13,SNR=40									
VNDA						LR	LR	16 45 43.0		
	comp=Z,476nm,19.3s,baz=360,slow=36									
	4.4nm,0.3s									
URZ	**Urewera**	27.42	38	LR		LR		16 52 56.2		
	comp=Z,121nm,18.4s,baz=206,slow=35									
QSPA	**South Pole Qui**	27.76	180	P		P		16 42 30.6	-0.3	
	1.0nm,1.0s,baz=4.5,slow=4.1,SNR=6.8									
QSPA						LR	LR	16 53 13.6		
	comp=Z,146nm,21.5s,baz=18,slow=36									
	1.0nm,1.0s									
STKA	**Stephens Creek**	31.80	337	LR		LR		16 52 54.2		
	comp=Z,96nm,21.3s,baz=155,slow=30									
MAW	**Mawson**	36.12	220	P		P		16 43 43.9	0.0	
	0.3nm,0.5s,baz=122,slow=13,SNR=3.5									
MAW						LR	LR	16 58 41.7		
	comp=Z,245nm,18.8s,baz=122,slow=37									
	0.3nm,0.5s									
H01W1	**Cape Leeuwin H**	37.77	297	T		T		17 24 10.8		
	baz=149,slow=76,SNR=124									
H01W2	**Cape Leeuwin H**	37.77	297	T		T		17 24 09.6		
	baz=149,slow=76,SNR=120									
H01W3	**Cape Leeuwin H**	37.78	297	T		T		17 24 15.1		
	baz=149,slow=76,SNR=120									
DZM	**Mont Dzumac**	40.89	15	LR		LR		16 57 57.1		
	comp=Z,122nm,19.7s,baz=208,slow=31									
ASAR	**Alice Springs**	41.39	329	P		P		16 44 32.4	+3.9	
	1.0nm,0.9s,baz=165,slow=9.2,SNR=6.9									
	1.0nm,0.9s									
WRA	**Warramunga Arr**	44.87	331	P		P		16 44 56.8	+0.1	
	0.8nm,0.8s,baz=181,slow=7.1,SNR=6.7									
	0.8nm,0.8s									
SNAA	**Sanae**	45.46	189	P		P		16 45 00.7	-0.2	
	0.8nm,1.0s,baz=180,slow=9.1,SNR=3.7									
SNAA						LR	LR	17 04 35.4		
	comp=Z,258nm,20.7s,baz=194,slow=37									
	0.8nm,1.0s									
HNR	**Honiara**	52.89	5	LR		LR		17 03 57.0		
	comp=Z,94nm,18.8s,baz=192,slow=31									
PMG	**Port Moresby**	53.20	349	LR		LR		17 06 00.5		
	comp=Z,73nm,18.4s,baz=172,slow=33									
BATI	**Baumata**	56.98	321	LR		LR		17 09 08.2		
	comp=Z,67nm,19.4s,baz=249,slow=34									
JAY	**Jayapura**	60.73	343	LR		LR		17 12 12.8		
	comp=Z,74nm,18.0s,baz=116,slow=35									
KAPI	**Kappang**	63.07	319	LR		LR		17 12 04.7		
	comp=Z,33nm,20.2s,baz=156,slow=34									
PLCA	**Paso Flores**	70.74	144	LR		LR		17 13 04.5		
	comp=Z,37nm,20.8s,baz=190,slow=31									
H03S2	**Juan Fernandez**	74.60	135	T		T		18 11 01.1		
	baz=201,slow=74,SNR=11									
H03S1	**Juan Fernandez**	74.60	135	T		T		18 11 02.5		
	baz=201,slow=74,SNR=11									
H03S3	**Juan Fernandez**	74.61	135	T		T		18 11 02.0		
	baz=201,slow=74,SNR=13									
H08S2	**Diego Garcia H**	80.15	272	T		T		18 17 17.7		
	baz=151,slow=76,SNR=6.1									
H08S1	**Diego Carcia H**	80.16	272	T		T		18 17 13.8		
	baz=151,slow=76,SNR=3.9									
H08S3	**Diego Garcia H**	80.17	272	T		T		18 17 14.6		
	baz=151,slow=76,SNR=8.4									
BOSA	**Boshof**	81.10	223	LR		LR		17 21 18.2		
	comp=Z,30nm,20.5s,baz=192,slow=33									
LBTB	**Lobatse**	84.34	224	LR		LR		17 24 01.1		
	comp=Z,32nm,19.1s,baz=181,slow=34									
PALK	**Pallekele**	89.53	287	LR		LR		17 23 43.0		
	comp=Z,39nm,18.6s,baz=113,slow=32									
CMAR	**Chiang Mai Arr**	92.05	307	LR		LR		17 30 58.6		
	comp=Z,12nm,18.6s,baz=155,slow=35									

*IDC **15** 16:40:55.5±0.8, 56.°39N×148.°70W, h0km, mb3.9/21, mbtmp4.0/24, ML3.7/3, MS3.5/26, Error ellipse: s-maj=24.1km s-min=13.8km az=27.0*

*NEIC **15** 16:40:56.8±1.5, 56.°41N±0.°05×148.°65W±0.°09, h10km±1km, mb4.2/33, ML4.1/78, ML4.0(AEIC), Error ellipse: s-maj=10.5km s-min=6.6km az=225.0*

*AEIC **15** 16:41:00.1±3.9, 56.°3N±0.°1×148.°7W±0.°1, h12km±5km, Error ellipse: s-maj=15.0km s-min=9.0km az=167.0*

ISC 15 16:40:56.4±0.5, 56.°33N±0.°06×148.°66W±0.°04, h10km, n166, σ1°48/124, mb4.2/36, MS3.5/22, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res	ISC
KDAK	**Kodiak Island**	2.59	306			Pn		16 41 37.5	-0.8	
KDAK	**Kodiak Island**	2.59	306			Sn		16 42 03.9	-5.9	
KDAK						Sn		16 42 07.0	-2.8	
KDAK	**Kodiak Island**	2.59	306	Pn		Pn		16 41 37.5	-0.8	
	14nm,0.3s,baz=89,slow=2.0,SNR=149									
KDAK				Sn		Sn		16 42 07.7	-2.1	
	13nm,0.3s,baz=294,slow=22,SNR=6.4									
KDAK				LR		LR		16 42 20.9		
	comp=Z,351nm,18.7s,baz=113,slow=34									
	36nm,0.3s									
OHAK	**Old Harbor**	2.70	291			Pn		16 41 38.1	-1.7	
OHAK	**Old Harbor**	2.70	291			Sn		16 42 08.9	-3.6	
OHAK						Lg		16 42 09.2		
OHAK	**Old Harbor**	2.70	291	P		Pn		16 41 38.4	-1.4	
MID	**Middleton Isla**	3.34	21			Pn		16 41 47.5	-1.2	
MID						Sn		16 42 24.9	-3.4	
MID	**Middleton Isla**	3.34	21	IAML				16 43 00.7		
	comp=N,314nm,1.1s									
R18K	**Karluk**	3.40	294			Pn		16 41 48.6	-0.9	
R18K	**Karluk**	3.40	294	IAML				16 42 36.7		
	comp=N,392nm,0.6s									
R18K				IAML				16 42 36.9		
	comp=E,437nm,0.4s									
CNPM	**China Poot**	3.48	338			Pn		16 41 50.3	-0.4	
CNPM	**China Poot**	3.48	338			Sn		16 42 30.4	-1.5	
CNPM						Sn		16 42 30.7	-1.2	
BRSE	**Bradley Lake S**	3.59	343			Pn		16 41 51.5	-0.6	
BRSE						Sn		16 42 32.7	-1.9	
BRSE						Lg		16 42 33.2		
BRLK	**Bradley Lake**	3.64	342			Pn		16 41 52.4	-0.4	
BRLK				IAML				16 44 13.1		
	comp=E,331nm,0.1s									
P23K	**Montague Islan**	3.74	10			Pn		16 41 53.5	-0.6	
P23K				IAML				16 42 37.6		
	comp=E,256nm,0.4s									
P23K				IAML				16 42 38.8		
	comp=N,290nm,0.4s									
P23K	**Montague Islan**	3.74	10			Sn		16 42 35.3	-2.8	
SEW	**Seward**	3.81	354			Pn		16 41 54.3	-0.7	
SEW	**Seward**	3.81	354			Sn		16 42 36.1	-3.7	
KAPH	**Katmai Pasha**	3.82	309			Pn		16 41 55.6	+0.4	
KAHG	**Katmai Hook Gl**	3.85	307			Pn		16 41 56.3	+0.6	
KAWH	**Katmai**	3.91	304			Pn		16 41 56.4	-0.1	
KARR	**Katmai Rainbow**	3.92	306			Pn		16 41 57.5	+0.8	
AUJK	**Augustine Jueg**	3.95	322			Pn		16 41 57.5	+0.4	
AGU	**Augustine-Summ**	3.96	322			Pn		16 41 57.8	+0.4	
MGLS	**Mageik Landsli**	3.97	300			Pn		16 41 57.2	-0.1	
AUL	**Augustine Lava**	3.98	322			Pn		16 41 58.8	+1.3	
ACHA	**Angle Creek He**	4.08	300			Pn		16 41 58.3	-0.5	
KABU	**Katmai Buttres**	4.08	301			Pn		16 41 58.8	-0.2	
ANCK	**Angle Creek**	4.16	300			Pn		16 42 00.3	+0.4	
O22K	**Cooper Landing**	4.20	353			Pn		16 41 59.8	-0.6	
HIN	**Hinchinbrook I**	4.23	15			Pn		16 42 00.5	-0.5	
HIN	**Hinchinbrook I**	4.23	15			Sn		16 42 47.6	-2.8	
KAIM	**Kayak Island**	4.25	30			Pn		16 42 00.1	-1.1	
KAIM	**Kayak Island**	4.25	30	IAML				16 42 58.5		
	comp=E,317nm,1.2s									
KAIM				IAML				16 42 59.0		
	comp=N,329nm,0.6s									
SLKM	**Skilak Lake**	4.27	350			Pn		16 42 00.7	-0.7	
SLKM				IAML				16 42 53.8		
	comp=E,225nm,0.5s									
SLKM				IAML				16 42 54.3		
	comp=N,208nm,1.0s									
SLKM	**Skilak Lake**	4.27	350			Sn		16 42 49.9	-1.4	
ILSW	**Iliamna Southw**	4.36	329			Pn		16 42 02.2	-0.6	
ILSW				IAML				16 42 57.3		
	comp=N,240nm,0.8s									
ILSW				IAML				16 43 00.9		
	comp=E,148nm,0.8s									
CNTC	**Contact Creek**	4.37	299			Pn		16 42 03.1	+0.2	
PLK3	**Peulik 3**	4.38	291			Pn		16 42 02.5	-0.4	
PLK4	**Peulik 4**	4.41	290			Pn		16 42 02.4	-1.0	
PLK4				IAML				16 43 03.0		
	comp=N,242nm,0.8s									
PLK4				IAML				16 43 03.5		
	comp=E,293nm,0.8s									
EYAK	**Cordova Ski Ar**	4.50	19			Pn		16 42 04.0	-0.5	
EYAK	**Cordova Ski Ar**	4.50	19	P		Pn		16 42 04.0	-0.5	
PWL	**Port Wells**	4.54	2			Pn		16 42 04.5	-0.7	
PWL				IAML				16 42 57.2		
	comp=E,154nm,0.7s									
PWL				IAML				16 43 00.3		
	comp=N,154nm,0.7s									
SUCK	**Suckling Hills**	4.55	33			Pn		16 42 04.4	-0.9	
RAGM	**Ragged Mountai**	4.58	26			Pn		16 42 05.1	-0.6	
FID	**Port Fidalgo**	4.58	14			Pn		16 42 05.2	-0.4	
FID				IAML				16 43 05.5		
	comp=E,166nm,0.7s									
FID				IAML				16 43 05.9		
	comp=N,146nm,1.2s									
PLK1	**Peulik 1**	4.58	292			Pn		16 42 05.0	-0.6	
NICHA	**Nichawak Mount**	4.63	30			Pn		16 42 06.1	-0.4	
GLI	**Glacier Island**	4.63	10			Pn		16 42 06.0	-0.4	
GLI	**Glacier Island**	4.63	10	IAML				16 43 07.1		
	comp=E,146nm,0.8s									
GLI				IAML				16 43 07.4		
	comp=N,129nm,0.8s									
PLBL	**Peulik Blue Cr**	4.66	290			Pn		16 42 05.6	-1.3	
RC01	**Rabbit Creek A**	4.80	354	IAML				16 43 05.0		
RC01	comp=N,111nm,0.9s									
				IAML				16 43 06.3		
	comp=E,154nm,0.9s									
DIV	**Divide**	5.04	16	IAML				16 43 34.3		
	comp=N,76nm,1.2s									
KNK	**Knik Glacier**	5.10	1	IAML				16 43 26.4		
	comp=E,110nm,0.8s									
BMRM	**Bremner River**	5.11	23	IAML				16 43 20.5		
	comp=E,144nm,0.7s									
BMRM				IAML				16 43 24.6		
	comp=N,140nm,0.8s									
MESA	**MESA**	5.24	40	IAML				16 43 25.9		
	comp=N,140nm,1.1s									
MESA				IAML				16 43 31.8		
	comp=E,78nm,0.9s									
SPCN	**Chakachatna No**	5.24	341			Pn		16 42 14.5	-0.2	
ANPK	**Aniakchak Peak**	5.26	280			Pn		16 42 14.1	-1.0	
PMR	**Palmer**	5.28	358	IAML				16 43 17.6		
	comp=E,84nm,0.8s									
CRQM	**Cirque**	5.30	31	IAML				16 43 26.4		
	comp=E,140nm,0.9s									
KLU	**Klutina**	5.37	14	IAML				16 43 18.5		
	comp=E,113nm,0.9s									
KLU				IAML				16 43 19.6		
	comp=N,128nm,0.8s									
TGL	**Tana Glacier**	5.38	32	IAML				16 43 21.4		
	comp=N,96nm,0.9s									
TGL				IAML				16 43 22.6		
	comp=E,101nm,0.9s									
ISLE	**Juniper Island**	5.42	35	IAML				16 43 25.7		
	comp=E,125nm,0.8s									
ISLE				IAML				16 43 34.4		
	comp=N,162nm,1.1s									
STLK	**Strandline Lak**	5.44	344	IAML				16 43 22.7		
	comp=E,67nm,0.9s									
STLK				IAML				16 43 27.3		
	comp=N,92nm,0.8s									
GHO	**Glory Hole Cre**	5.46	359	IAML				16 43 21.4		
	comp=E,126nm,0.9s									
GHO				IAML				16 43 24.1		
	comp=N,133nm,1.1s									
SML	**Sawmill**	5.50	2			Pn		16 42 18.6	+0.3	
SCM	**Sheep Creek Mo**	5.56	7			Pn		16 42 19.9	+0.7	
P16K	**Nushagak River**	5.69	302			Pn		16 42 20.4	-0.5	
M24K	**Tolsona, Glenn**	5.93	11			Pn		16 42 25.2	+0.9	
PNL	**Peninsula**	5.95	52	P		Pn		16 42 23.3	-1.3	
WAT6	**Susitna Watana**	6.29	4			Pn		16 42 28.8	-0.5	
HARP	**HAARP**	6.34	15			Pn		16 42 30.2	+0.3	
WAT1	**Susitna Watana**	6.52	0			Pn		16 42 32.5	+0.1	
SDPT	**Sand Point**	6.73	267			Pn		16 42 33.0	-2.1	
SDPT	**Sand Point**	6.73	267	P		Pn		16 42 33.6	-1.5	
PAX	**Paxson**	6.85	12			Pn		16 42 37.2	+0.3	
S31K	**Pelican**	6.96	71			Pn		16 42 34.8	-3.5	
RND	**Reindeer**	7.10	359			Pn		16 42 40.0	-0.3	
N15K	**Kwethluk River**	7.15	307			Pn		16 42 41.5	+0.5	
TRF	**Thorofare Moun**	7.19	354			Pn		16 42 41.4	-0.2	
KTH	**Kantishna Hill**	7.33	352			Pn		16 42 44.3	+0.8	
O14K	**Tigyukauivet M**	7.34	299			Pn		16 42 43.4	-0.2	
SIT	**Sitka**	7.38	79	P		Pn		16 42 39.2	-4.9	
MCK	**McKinley**	7.43	359			Pn		16 42 44.9	+0.2	
BC01	**Beaver Creek A**	7.58	24			Pn		16 42 45.6	-1.3	
M15K	**Kasigluk River**	7.66	310			Pn		16 42 48.0	0.0	
BESE	**Bessie Mountai**	7.78	67			Pn		16 42 47.3	-2.4	
JIS	**Juneau Island**	7.97	70	P		Pn		16 42 50.1	-2.1	
L15K	**Ungalak Mounta**	8.51	314			Pn		16 42 59.2	-0.4	
IL01		8.51	5			Pn		16 42 59.4	-0.2	
IL31		8.51	5			Pn		16 42 58.9	-0.6	
ILAR	**Eielson Array**	8.51	5	Pn		Pn		16 42 59.8	+0.2	
	comp=N,0.8nm,0.3s,baz=189,slow=13,SNR=21									
ILAR				Sn		Sn		16 44 32.1	-3.5	
	comp=N,0.7nm,0.3s,baz=190,slow=21,SNR=10									
ILAR				LR		LR		16 46 10.8		
	comp=N,94nm,21.9s,baz=207,slow=37									
COLA	**College**	8.58	2	P		Pn		16 43 01.5	+1.0	
CRAG	**Craig**	8.78	89	P		Pn		16 42 57.6	-5.6	
M31M	**Drury Creek, Y**	9.37	45			Pn		16 43 10.5	-0.8	
DLBC	**Dease Lake**	10.28	70	Pn		Pn		16 43 21.6	-2.3	
	comp=N,5.1nm,0.3s,baz=239,slow=12,SNR=7.1									
DLBC				Sn		Sn		16 45 12.2	-6.8	
	baz=156,slow=19									
BBB	**Bella Bella**	12.70	100	LR		LR		16 47 38.4		
	comp=N,203nm,19.6s,baz=254,slow=32									
INK	**Inuvik**	13.86	24	Pn		Pn		16 44 13.2	+0.6	
	comp=N,0.2nm,0.3s,baz=212,slow=15,SNR=5.5									
INK				LR		LR		16 49 53.5		
	comp=N,132nm,18.1s,baz=131,slow=39									
	comp=N,16nm,1.2s									
NLWA	**Neilton Lookou**	17.65	110	P		Pn		16 45 01.2	-1.0	
NLWA				IAmb		IAmb		16 45 02.7		
	comp=Z,22nm,1.2s									
YKA	**Yellowknife Ar**	18.23	56	P		P		16 45 10.4	+1.0	
	comp=Z,0.3nm,0.3s,baz=265,slow=12,SNR=3.2									
YKA				LR		LR		16 51 47.9		
	comp=Z,147nm,19.4s,baz=270,slow=36									
	comp=Z,3.0nm,0.7s									
WIFE	**Three Sisters-**	20.96	114	IAmb		IAmb		16 46 01.2		
	comp=Z,12nm,1.1s									
BBOR	**Butler Butte**	21.38	118	IAmb		IAmb		16 45 59.9		
	comp=Z,19nm,1.3s									
J05D	**Fort Rock, OR**	21.81	115	P		P		16 45 49.4	+0.7	
F10A	**Beach Ranch, E**	22.08	105	IAmb		IAmb		16 46 09.1		
	comp=Z,16nm,1.4s									
YBH	**Yreka Blue Hor**	22.24	120	P		P		16 45 52.9	-0.3	
YBH				IAmb		IAmb		16 46 06.8		
	comp=Z,9.1nm,0.9s									
YBH	**Yreka Blue Hor**	22.24	120	LR		LR		16 52 05.5		
	comp=Z,14nm,21.7s,baz=301,slow=30									
K05A	**Summer Lake**	22.39	116	P		P		16 45 54.6	-0.3	
K05A				IAmb		IAmb		16 46 03.6		
	comp=Z,9.9nm,1.0s									
M02C	**Callahan**	22.43	121	P		P		16 45 55.0	-0.2	
M02C				IAmb		IAmb		16 45 56.8		
	comp=Z,10nm,1.2s									
N02D	**Trinity Center**	22.83	121	P		P		16 45 59.5	+0.1	
N02D				IAmb		IAmb		16 46 15.9		
	comp=Z,9.5nm,1.1s									
O02D	**Mt. Diablo Mer**	23.41	123	P		P		16 46 06.3	+0.9	
BILL	**Bilibino**	23.43	318	P		P		16 46 05.2	-0.2	
WVOR	**Wild Horse Val**	23.75	113	IAmb		IAmb		16 46 32.3		
	comp=Z,6.5nm,1.1s									
BEKR	**Beckworth**	24.81	120	P		P		16 46 18.9	+0.2	
WAKR	**Walker**	26.32	120	IAmb		IAmb		16 46 59.5		
	comp=Z,7.5nm,1.4s									
NVAR	**Mina Array Bea**	26.93	119	P		P		16 46 37.6	-0.4	
	comp=Z,1.6nm,0.9s,baz=307,slow=8.2,SNR=5.4									
NVAR				LR		LR		16 55 24.1		
	comp=Z,120nm,18.7s,baz=270,slow=32									
	comp=Z,1.6nm,0.9s									
RES	**Resolute Bay**	27.36	28	LR		LR		16 57 36.3		
	comp=Z,105nm,19.5s,baz=182,slow=37									
PDAR	**Pinedale Array**	28.34	102	P		P		16 46 50.8	+0.3	
	comp=Z,0.2nm,0.5s,baz=323,slow=3.7,SNR=5.4									
	comp=Z,0.2nm,0.5s									
WCT	**Wildcat Mounta**	29.04	119	IAmb		IAmb		16 46 58.5		
	comp=Z,7.1nm,1.4s									
GWY	**Greenwater Val**	29.50	119	IAmb		IAmb		16 47 02.4		
	comp=Z,4.1nm,0.9s									
SEY	**Seymchan**	29.55	307	P		P		16 46 59.6	-1.1	
	comp=Z,2.0nm,0.8s,baz=199,slow=23,SNR=2.6									
SEY				LR		LR		16 59 35.3		
	comp=Z,137nm,18.5s,baz=122,slow=38									
	comp=Z,2.0nm,0.8s									
QSM	**Queen of Sheba**	29.58	120	IAmb		IAmb		16 47 12.8		
	comp=Z,6.7nm,1.3s									
LRMC	**Laurel Mtn Rad**	29.58	122	IAmb		IAmb		16 47 02.4		
	comp=Z,3.9nm,1.0s									
PETK	**Petropavlovsk-**	30.49	287	P		P		16 47 08.9	-0.3	
	comp=Z,3.6nm,0.8s,baz=71,slow=12,SNR=4.2									
	comp=Z,3.6nm,0.8s									
MA2	**Magadan**	31.33	302	LR		LR		17 01 03.6		
	comp=Z,75nm,18.4s,baz=70,slow=39									
ULM	**Lac du Bonnet**	31.46	78	LR		LR		16 58 43.6		
	comp=Z,42nm,18.2s,baz=318,slow=34									
PFO	**Pinyon Flats O**	31.69	122	LR		LR		16 57 43.4		
	comp=Z,81nm,18.4s,baz=6.0,slow=32									
IRM	**Iron Mountain**	31.87	120	IAmb		IAmb		16 47 23.6		
	comp=Z,4.9nm,1.0s									
X16A	**Lo Mia Camp, P**	33.49	115	IAmb		IAmb		16 47 37.9		
	comp=Z,3.1nm,0.8s									
TIXI	**Tiksi**	35.82	328	P		P		16 47 56.6	+1.2	
	comp=Z,1.1nm,0.5s,baz=95,slow=9.3,SNR=2.7									
TIXI				LR		LR		17 03 47.4		
	comp=Z,55nm,18.4s,baz=36,slow=38									
	comp=Z,1.1nm,0.5s									
FRB	**Frobisher Bay**	38.15	45	LR		LR		17 04 06.8		
	comp=Z,134nm,18.9s,baz=296,slow=36									
YAK	**Yakutsk**	39.60	313	P		P		16 48 27.4	0.0	
YAK				IAmb		IAmb		16 48 28.7		
	comp=Z,12nm,0.9s									
YAK	**Yakutsk**	39.60	313	P		P		16 48 26.6	-0.8	
	comp=Z,8.4nm,0.8s,baz=353,slow=1.4,SNR=6.0									
YAK				LR		LR		17 05 00.9		
	comp=Z,86nm,18.5s,baz=72,slow=37									
	comp=Z,8.4nm,0.8s									
TXAR	**Lajitas Array**	41.52	111	P		P		16 48 44.5	+0.6	
	comp=Z,0.1nm,0.3s,baz=308,slow=6.2,SNR=4.6									
TXAR				LR		LR		17 04 54.0		
	comp=Z,52nm,18.2s,baz=300,slow=35									
	comp=Z,0.1nm,0.3s									
LPIG	**La Paz**	42.58	123	LR		LR		17 03 24.2		
	comp=Z,40nm,18.8s,baz=270,slow=32									
SU

ISC 15 16:47:14.2±2.1, 12°.9N±0°.1×88°.98W±0°.05, h30km±13km, n32, σ0°34/39, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.68**	**16**	*eP*	**Pn**	**16 47 27.7**	**-0.1**
TECO	**Alcaldia de Te**	**0.68**	**16**	P	**Pn**	**16 47 27.7**	**-0.1**
LALI	**Alcalda de L**	**0.69**	**331**	P	**Sn**	**16 47 37.8**	**+0.2**
LFRS	**El Faro**	**0.74**	**354**	*eP*	**Pb**	**16 47 28.8**	**0.0**
TECA	**Tecapa**	**0.77**	**37**	*i P*	**Pb**	**16 47 29.1**	**-0.1**
UESV	**Universidad de**	**0.77**	**14**	*eP*	**Pn**	**16 47 28.9**	**-0.2**
UESV	**Universidad de**	**0.77**	**14**	P	**Pb**	**16 47 29.2**	**0.0**
UESV	**Universidad de**	**0.77**	**14**	S	**Sn**	**16 47 39.9**	**+0.2**
LOMA	**Loma Larga**	**0.78**	**346**	S	**Sn**	**16 47 39.9**	**-0.2**
LOMA	**Loma Larga**	**0.78**	**346**	P	**Pn**	**16 47 29.2**	**0.0**
PAVA	**Las Pavas**	**0.83**	**3**	*eP*	**Pb**	**16 47 29.9**	**-0.2**
PAVA				*eS*	**Sb**	**16 47 41.2**	**+0.2**
PAVA	**Las Pavas**	**0.83**	**3**	P	**Pb**	**16 47 30.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.85**	**17**	*eP*	**Pn**	**16 47 30.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.85**	**17**	P	**Pb**	**16 47 30.5**	**0.0**
SCLA	**Alcaldia de Sa**	**0.85**	**17**	S	**Sb**	**16 47 42.2**	**+0.5**
LCY	**Lacayo**	**0.86**	**51**	*eP*	**Pn**	**16 47 30.4**	**+0.1**
PACA	**Pacayal**	**0.86**	**48**	*eP*	**Pb**	**16 47 30.6**	**-0.2**
PACA				*eP*	**Pn**	**16 47 30.8**	**+0.4**
PACA				*eS*	**Sb**	**16 47 42.2**	**+0.1**
PACA	**Pacayal**	**0.86**	**48**	P	**Pb**	**16 47 30.9**	**+0.1**
RANC	**El Ranchito**	**0.87**	**51**	*eP*	**Pb**	**16 47 30.7**	**-0.2**
RANC				*eS*	**Sb**	**16 47 42.8**	**+0.6**
JAYA	**Jayaque - finc**	**0.89**	**329**	*eP*	**Pn**	**16 47 31.0**	**+0.2**
JAYA				*eS*	**Sn**	**16 47 42.1**	**-0.8**
JAYA	**Jayaque - finc**	**0.89**	**329**	P	**Pn**	**16 47 31.2**	**+0.3**
SBLS	**San Blas**	**1.14**	**327**	*eP*	**Pb**	**16 47 35.2**	**-0.3**
SBLS				*eS*	**Sb**	**16 47 49.7**	**-0.4**
LCND	**La Caada**	**1.14**	**68**	*eP*	**Pn**	**16 47 34.6**	**+0.4**
LCND				*eP*	**Pn**	**16 47 34.6**	**+0.4**
LCND	**La Caada**	**1.14**	**68**	P	**Pn**	**16 47 34.0**	**-0.1**
CNCH	**Conchagua**	**1.18**	**71**	*eP*	**Pn**	**16 47 34.8**	**0.0**
CNCH	**Conchagua**	**1.18**	**71**	S	**Sb**	**16 47 50.3**	**-0.9**
CNCH	**Conchagua**	**1.18**	**71**	P	**Pn**	**16 47 35.1**	**+0.3**
NUBE	**Las Nubes**	**1.28**	**323**	*eP*	**Pn**	**16 47 36.6**	**+0.5**
NUBE	**Las Nubes**	**1.28**	**323**	S	**Sn**	**16 47 52.3**	**-0.1**
NUBE	**Las Nubes**	**1.28**	**323**	P	**Pn**	**16 47 36.7**	**+0.5**
RBDL	**Robledal**	**1.40**	**331**	*eP*	**Pn**	**16 47 38.3**	**+0.4**
MTO3	**Montecristo**	**1.55**	**346**	*eP*	**Pn**	**16 47 40.0**	**0.0**

*IDC **15** 16:50:52.5±1.1, 15°.41S×177°.17W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=51.3km s-min=24.7km az=144.0*
*NEIC **15** 16:51:39.5±1.6, 15°.5S±0°.2×177°.5W±0°.2, h440km±9km, mb4.1/19, Error ellipse: s-maj=27.1km s-min=19.8km az=134.0*

ISC 15 16:51:40.4±0.7, 15°.5S±0°.2×177°.7W±0°.1, h450km, n27, σ0°84/27, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**241**	P	**P**	**16 53 00.9**	**-0.6**
MSVF	**Nonsavu**	**4.64**	**241**		**P**	**16 53 01.0**	**-0.5**
BBOO	**Buckleboo**	**45.19**	**239**	P	**P**	**16 59 14.9**	**-1.0**
WR8	**Warramunga Arr**	**45.62**	**257**	P	**P**	**16 59 19.0**	**-0.4**
WR8				IAmb	IAmb	16 59 40.5	
	comp=Z,6.2nm,1.4s						
WB0	**Warramunga Arr**	**45.73**	**257**	P	**P**	**16 59 19.8**	**-0.5**
WRA	**Warramunga Arr**	**45.78**	**257**	P	**P**	**16 59 20.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=88,slow=8.7,SNR=4.9						
	comp=Z,0.3nm,0.3s						
AS31	**Alice Springs**	**46.13**	**252**	P	**P**	**16 59 23.3**	**0.0**
ASAR	**Alice Springs**	**46.13**	**252**	P	**P**	**16 59 22.9**	**-0.5**
ASAR	**Alice Springs**	**46.13**	**252**	P	**P**	**16 59 23.4**	**0.0**
	comp=Z,3.7nm,0.6s,baz=84,slow=7.7,SNR=100						
	comp=Z,3.7nm,0.6s						
MTN	**Manton Dam**	**49.58**	**266**	P	**P**	**16 59 50.0**	**+0.6**
MTN				IAmb	IAmb	16 59 58.1	
	comp=Z,16nm,1.2s						
SOEI	**Soe**	**56.77**	**268**	P	**P**	**17 00 41.9**	**+0.9**
SOEI				IAmb	IAmb	17 00 50.2	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**62.90**	**185**	P	**P**	**17 01 20.9**	**+0.1**
VNDA	**Vanda**	**62.90**	**185**	P	**P**	**17 01 20.5**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=5.2,slow=6.5,SNR=2.4						
	comp=Z,0.4nm,0.9s						
JNU	**Nakatsue**	**68.88**	**315**	P	**P**	**17 01 59.6**	**+0.5**
QSPA	**South Pole Qui**	**74.55**	**180**	P	**P**	**17 02 33.3**	**+1.4**
QSPA				IAmb	IAmb	17 02 48.6	
	comp=Z,2.7nm,1.2s						
MNRC	**McLaughlin Min**	**74.76**	**42**	P	**P**	**17 02 31.1**	**-2.4**
NVAR	**Mina Array Bea**	**77.22**	**44**	P	**P**	**17 02 48.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=253,slow=5.5,SNR=3.6						
	comp=Z,0.7nm,0.7s						
N17K	**Nushagak Hills**	**77.53**	**10**	P	**P**	**17 02 48.1**	**-0.2**
N19K	**Bonanza Creek**	**78.29**	**11**	P	**P**	**17 02 52.1**	**-0.4**
L18K	**Granite Mounta**	**79.21**	**10**	P	**P**	**17 02 58.1**	**+0.8**
J18K	**Innoko River**	**80.38**	**9**	P	**P**	**17 03 04.7**	**+1.2**
J18K				IAmb	IAmb	17 03 17.4	
	comp=Z,9.0nm,1.4s						
J20K	**Nowinta River**	**81.46**	**10**	P	**P**	**17 03 09.6**	**+0.6**
J20K				IAmb	IAmb	17 03 24.4	
	comp=Z,6.7nm,1.3s						
CCB	**Clear Creek Bu**	**83.09**	**12**	P	**P**	**17 03 18.0**	**+0.7**
ILAR	**Eielson Array**	**83.39**	**13**	P	**P**	**17 03 19.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=217,slow=5.7,SNR=4.9						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**83.59**	**13**	P	**P**	**17 03 20.8**	**+0.9**
J25K				IAmb	IAmb	17 04 04.5	
	comp=Z,7.8nm,1.4s						
PV13	**Radium Mtn., P**	**83.66**	**48**	P	**P**	**17 03 20.0**	**-1.1**
PV13				IAmb	IAmb	17 03 53.5	
	comp=Z,7.8nm,1.5s						
TXAR	**Lajitas Array**	**84.14**	**58**	P	**P**	**17 03 23.2**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=259,slow=3.2,SNR=4.1						
	comp=Z,0.6nm,0.8s						

IDC 15 16:59:32.1±53.0, 15°.39S×172°.69W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1021.0km s-min=197.4km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.63**	**240**	P	P	17 07 47.1	+0.5
	0.7nm,0.3s,baz=66,slow=5.5,SNR=6.2						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**50.51**	**257**	P	P	17 08 31.9	-0.7
	0.2nm,0.3s,baz=96,slow=8.2,SNR=2.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**50.76**	**252**	P	P	17 08 34.1	-0.3
	1.2nm,0.4s,baz=88,slow=8.1,SNR=30						
	1.2nm,0.4s						

*AFAD **15** 17:04:00.1, 40°.30N×44°.71E, h7km±3km, ML2.5*
*TEH **15** 17:04:02.9, 40°.09N×44°.74E, h14km*

ISC 15 17:03:57.6±1.8, 40°.41N±0°.08×44°.90E±0°.07, h10km, n11, σ0°73/13, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.28**	**206**	Sg	**Sg**	**17 04 08.2**	**+1.0**
IGDI	**IGDIR**	**0.83**	**230**	P	**Pg**	**17 04 12.6**	**-1.0**
EAK	**Akyaka**	**1.03**	**286**	P	**Pb**	**17 04 18.0**	**+0.5**
EAK				*i* IAML		17 04 32.0	
	comp=N,167nm,0.3s						
EAK				S	**Sn**	**17 04 32.2**	**-0.6**
EAK				*i* IAML		17 04 39.0	
	comp=E,120nm,0.3s						
DIGO	**Kars**	**1.17**	**271**	P	**Pg**	**17 04 19.3**	**-0.7**
DIGO				S	**Sb**	**17 04 34.4**	**-0.8**
DIGO				*i* IAML		17 04 35.0	
	comp=N,97nm,0.3s						
DIGO				*i* IAML		17 04 39.0	
	comp=E,158nm,0.3s						
KOTA	**Agri, Merkez-K**	**1.43**	**246**	P	**Pg**	**17 04 24.8**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**1.48**	**278**	P	**Pg**	**17 04 26.3**	**+0.3**
IMRD	**Marand**	**1.80**	**160**	Pg	**Pb**	**17 04 31.5**	**+0.8**
DORK	**Agr/Tutak/Do**	**1.92**	**239**	P	**Pb**	**17 04 33.2**	**+0.4**
EATA	**Eleskirt**	**1.93**	**254**	P	**Pg**	**17 04 35.3**	**+0.8**
ISHB	**Shabestar**	**2.19**	**165**	Pn	**Pb**	**17 04 37.5**	**0.0**
IHRS	**Heris**	**2.66**	**141**	Pn	**Pb**	**17 04 45.5**	**0.0**

*NEIC **15** 17:17:06.9±2.5, 7°.24S±0°.08×129°.16E±0°.06, h129km±8km, mb4.4/41, Error ellipse: s-maj=11.5km s-min=8.9km az=194.0*
*DJA **15** 17:17:07.9±0.2, 7°.S±2°.×12°.9E±°, h148km±4km, M4.5/34, mb4.6/34, mB5.0/13, MLv5.0/12, Mw(mB)4.3/13*
*IDC **15** 17:17:07.9±2.4, 7°.19S×129°.10E, h133km±22km, mb3.7/9, mbtmp4.4/13, Error ellipse: s-maj=18.6km s-min=13.0km az=61.0*

ISC 15 17:17:06.8±0.4, 7°.34S±0°.05×129°.17E±0°.04, h131km, n128, σ2°03/135, mb4.2/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.20**	**107**		**Pn**	**17 17 45.0**	**+1.7**
SAUI				Sn	**Sn**	**17 18 10.4**	**-0.9**
SAUI	**Saumlaki**	**2.20**	**107**	P	**Pn**	**17 17 46.2**	**+2.9**
SAUI	**Saumlaki**	**2.20**	**107**	P	**Pn**	**17 17 45.8**	**+2.5**
SAUI				S	**Sn**	**17 18 13.2**	**+1.9**
AAI	**Ambon**	**3.76**	**345**	P	**Pn**	**17 18 04.5**	**+1.1**
MSAI	**Masohi**	**3.97**	**356**	P	**Pn**	**17 18 07.7**	**+1.4**
NLAI	**Namlea**	**4.57**	**333**	P	**Pn**	**17 18 16.1**	**+2.0**
DRS	**Darwin Rock St**	**5.34**	**162**	P	**Pn**	**17 18 27.0**	**+2.5**
SOEI	**Soe**	**5.42**	**243**		**Pn**	**17 18 27.4**	**+1.8**
SOEI				Sn	**Sn**	**17 19 26.4**	**-0.6**
SOEI	**Soe**	**5.42**	**243**	P	**Pn**	**17 18 28.6**	**+3.0**
SOEI	**Soe**	**5.42**	**243**	P	**Pn**	**17 18 28.0**	**+2.4**
	2.3nm4µm235nm,0.7s						
MTN	**Manton Dam**	**5.80**	**161**		**Pn**	**17 18 31.9**	**+1.2**
MTN				Sn	**Sn**	**17 19 35.1**	**-1.0**
KMPI	**Kaimana, Papua**	**5.80**	**51**	P	**Pn**	**17 18 31.4**	**+0.7**
	2.1nm221nm,0.7s						
SANI	**Sanana**	**6.14**	**329**	P	**Pn**	**17 18 37.7**	**+2.5**
SANI	**Sanana**	**6.14**	**329**	P	**Pn**	**17 18 37.2**	**+2.0**
	24nm,0.8s						
BATI	**Baumata**	**6.15**	**242**	P	**Pn**	**17 18 37.5**	**+2.1**
	187nm,0.3s,baz=95,slow=1.8,SNR=170						
BATI				S	**Sn**	**17 19 45.8**	**+1.2**
	360nm,0.4s,baz=75,slow=20,SNR=18						
BATI	**Baumata**	**6.15**	**242**	P	**Pn**	**17 18 37.3**	**+1.9**
BBSI	**Bau Bau**	**6.81**	**285**	P	**Pn**	**17 18 47.6**	**+3.3**
	0.5nm2µm175nm,1.2s						
MMRI	**Maumere**	**6.99**	**259**		**Pn**	**17 18 47.4**	**+0.7**
MMRI	**Maumere**	**6.99**	**259**	P	**Pn**	**17 18 49.0**	**+2.3**
MMRI	**Maumere**	**6.99**	**259**	P	**Pn**	**17 18 48.8**	**+2.1**
	0.3nm1µm91nm,0.7s						
EDFI	**Ende, Flores**	**7.54**	**259**	P	**Pn**	**17 18 56.6**	**+2.4**
	0.2nm656nm33nm,0.7s						
RKPI	**Ransiki, Papua**	**7.64**	**41**	P	**Pn**	**17 18 54.7**	**-0.8**
	82nm,0.4s						
KNRA	**Kununurra**	**8.30**	**183**		**Pn**	**17 19 04.7**	**+0.4**
SRPI	**Serui, Papua**	**8.89**	**53**	P	**Pn**	**17 19 12.9**	**+0.6**
	23nm,0.7s						
BASI	**Baing, Sumba**	**8.96**	**251**	P	**Pn**	**17 19 15.3**	**+2.0**
	111nm,0.7s						
WSI	**Waingapu**	**9.08**	**255**	P	**Pn**	**17 19 14.9**	**+0.1**
BKSI	**Bulukumba**	**9.22**	**282**	P	**Pn**	**17 19 18.2**	**+1.5**
	515nm56nm,0.9s						
BAKI	**Biak**	**9.22**	**49**	P	**Pn**	**17 19 18.1**	**+1.4**
WBSI	**Waikabubak, Su**	**9.94**	**256**	P	**Pn**	**17 19 26.3**	**-0.2**
	1µm102nm,0.7s						
WAMI	**Wamena**	**10.09**	**71**	P	**Pn**	**17 19 31.6**	**+3.2**
	1µm144nm,0.7s						
MMPI	**Merauke**	**11.16**	**97**	P	**Pn**	**17 19 42.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.24**	**198**		**Pn**	**17 19 42.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.24**	**198**	P	**Pn**	**17 19 41.9**	**-1.8**
	54nm,0.5s,baz=29,slow=11,SNR=323						
FITZ				S	**Sn**	**17 21 39.5**	**-8.1**
	72nm,0.4s,baz=57,slow=18,SNR=8.6						
FITZ	**Fitzroy Crossi**	**11.24**	**198**	P	**Pn**	**17 19 42.4**	**-1.3**
PLAI	**Plampang**	**11.38**	**262**	P	**Pn**	**17 19 45.0**	**-0.6**
PLAI	**Plampang**	**11.38**	**262**	P	**Pn**	**17 19 44.8**	**-0.8**
	43nm,0.8s						
TOLI2	**Toliboli**	**11.86**	**315**	Pn	**Pn**	**17 19 54.7**	**+2.9**
TWSI	**Taliwang, Sumb**	**12.25**	**263**	P	**Pn**	**17 19 56.7**	**-0.3**
	26nm,0.7s						
JAY	**Jayapura**	**12.44**	**68**	P	**Pn**	**17 20 01.1**	**+1.5**
	11nm,0.6s,baz=222,slow=10,SNR=6.8						
JAY	**Jayapura**	**12.44**	**68**	P	**Pn**	**17 19 59.5**	**-0.1**
	14nm,0.7s						
WB0	**Warramunga Arr**	**13.35**	**158**		**Pn**	**17 20 09.6**	**-1.7**
WRAB	**Tennant Creek**	**13.49**	**159**		**Pn**	**17 20 10.8**	**-2.2**
WRA	**Warramunga Arr**	**13.49**	**159**	P	**Pn**	**17 20 11.4**	**-1.7**
	38nm,0.7s,baz=337,slow=13,SNR=94						
WRA				S	**Sn**	**17 22 36.7**	**-5.5**
	71nm,0.7s,baz=340,slow=22,SNR=9.0						
WR8	**Warramunga Arr**	**13.56**	**158**		**Pn**	**17 20 11.9**	**-2.1**
JAGI	**Jajag, Banyuwa**	**14.92**	**265**		**Pn**	**17 20 29.9**	**-1.3**
JAGI	**Jajag, Banyuwa**	**14.92**	**265**	P	**Pn**	**17 20 31.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.92**	**265**	P	**Pn**	**17 20 31.3**	**0.0**
	24nm,1.0s						
COEN	**Coen**	**15.24**	**117**		**Pn**	**17 20 34.0**	**-1.3**
COEN				IAmb	IAmb	17 20 49.4	
	comp=Z,12nm,0.8s						
COEN	**Coen**	**15.24**	**117**	P	**P**	**17 20 36.0**	**-1.2**
MYLDM	**Lahad Datu**	**16.37**	**319**		**P**	**17 20 51.1**	**+1.5**
MYLDM				IAmb	IAmb	17 21 02.2	
	comp=Z,25nm,1.0s						
MBWA	**Marble Bar**	**16.50**	**213**	Pn	**Pn**	**17 20 47.8**	**-2.9**
MBWA	**Marble Bar**	**16.50**	**213**	P	**P**	**17 20 52.0**	**+1.0**
QIS	**Mount Isa**	**16.57**	**144**	P	**P**	**17 20 52.5**	**+0.6**
PSA00	**Pilbara Seismi**	**16.78**	**212**		**Pn**	**17 20 53.7**	**-0.3**
PSA00				IAmb	IAmb	17 20 57.4	
	comp=Z,18nm,0.6s						
PSA00	**Pilbara Seismi**	**16.78**	**212**		**P**	**17 20 53.4**	**-0.7**
PSA00				IAmb	IAmb	17 20 58.3	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**16.78**	**212**	P	**Pn**	**17 20 54.9**	**+0.8**
AS31	**Alice Springs**	**16.86**	**165**		**Pn**	**17 20 55.4**	**+0.3**
AS31				IAmb	IAmb	17 20 59.3	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**16.86**	**165**		**P**	**17 20 54.3**	**-0.7**
ASAR	**Alice Springs**	**16.86**	**165**	P	**Pn**	**17 20 56.5**	**+1.4**
	comp=Z,29nm,0.5s,baz=332,slow=9.3,SNR=316						
ASAR				S	**Sn**	**17 23 57.5**	**-5.7**
	comp=Z,3.4nm,0.5s,baz=325,slow=12,SNR=4.9						
AS01	**Alice Springs**	**16.87**	**165**	P	**Pn**	**17 20 55.6**	**+0.4**
PCJI	**Pacitan**	**17.85**	**266**	P	**P**	**17 21 04.8**	**-1.2**
	comp=Z,42nm,1.8s						
PMG	**Port Moresby**	**17.91**	**98**	P	**P**	**17 21 06.0**	**-0.6**
PMG				IAmb	IAmb	17 21 48.4	
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**17.91**	**98**	P	**Pn**	**17 21 08.9**	**+1.1**
	comp=Z,11nm,0.7s,baz=279,slow=9.5,SNR=5.7						
PMG				S	**S**	**17 24 19.7**	**-6.1**
	comp=Z,3.2nm,0.4s,baz=349,slow=23,SNR=6.7						
MTSU	**Mount Surprise**	**18.24**	**127**	P	**Pn**	**17 21 12.5**	**+0.8**
UGM	**Wanagama**	**18.50**	**267**	P	**P**	**17 21 11.2**	**-1.8**
KKM	**Kota Kinabalu**	**18.54**	**315**	P	**P**	**17 21 09.7**	**-3.9**
KKM	**Kota Kinabalu**	**18.54**	**315**	P	**Pn**	**17 21 17.9**	**+2.5**
SBUM	**Sibu**	**19.51**	**299**		**P**	**17 21 22.2**	**-1.9**
SBUM				IAmb	IAmb	17 21 30.7	
	comp=Z,11nm,0.9s						
SBUM	**Sibu**	**19.51**	**299**	P	**Pn**	**17 21 26.7**	**+0.1**
KSM	**Kuching**	**20.76**	**294**	P	**P**	**17 21 36.0**	**-1.5**
KSM				IAmb	IAmb	17 21 41.0	
	comp=Z,13nm,0.6s						
TV1H	**Townsville Har**	**20.82**	**126**	P	Pn	17 21 40.6	-1.3
CTAO	**Charters Tower**	**20.85**	**129**		**P**	**17 21 38.4**	**0.0**
CTAO				IAmb	IAmb	17 21 44.0	
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**20.85**	**129**	P	Pn	17 21 40.6	-1.7
GIRL	**Giralia**	**20.94**	**222**	P	**P**	**17 21 39.9**	**+0.5**
BBJI	**Bungbulang**	**21.35**	**268**	P	**P**	**17 21 43.0**	**-0.9**
MEEK	**Meekatharra**	**21.66**	**206**	P	**P**	**17 21 48.5**	**+1.4**
INKA	**Innaminka**	**23.07**	**153**		**P**	**17 22 03.0**	**+2.1**
CGJI	**Cibinong**	**23.32**	**270**	P	**P**	**17 22 00.1**	**-3.3**
	comp=Z,27nm,1.6s						
FORT	**Forrest**	**23.34**	**182**		**P**	**17 22 04.0**	**+0.5**
QLP	**Quilpie**	**23.91**	**145**	P	**P**	**17 22 10.9**	**+2.3**
MORW	**Morawa**	**24.91**	**208**	P	**P**	**17 22 19.6**	**+1.9**
MORW				IAmb	IAmb	17 22 36.4	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**24.91**	**208**	P	**P**	**17 22 20.9**	**+3.2**
BLDU	**Ballidu**	**25.94**	**205**	P	**P**	**17 22 28.9**	**+1.9**
BBOO	**Buckleboo**	**26.14**	**167**		**P**	**17 22 29.8**	**+1.0**
BBOO	**Buckleboo**	**26.14**	**167**	P	**P**	**17 22 30.4**	**+1.6**
STKA	**Stephens Creek**	**27.02**	**156**		**P**	**17 22 37.9**	**+1.2**
STKA	**Stephens Creek**	**27.02**	**156**	P	**P**	**17 22 38.5**	**+1.8**
	comp=Z,6.1nm,0.6s,baz=319,slow=9.3,SNR=15						
	comp=Z,6.1nm,0.6s						
STKA	**Stephens Creek**	**27.02**	**156**	P	**P**	**17 22 38.6**	**+1.8**
HTT	**Hallett**	**27.49**	**162**	P	**P**	**17 22 43.1**	**+2.2**
CMSA	**Cobar Meteorol**	**28.59**	**150**	P	**P**	**17 22 52.7**	**+2.0**
ARMA	**Armidale**	**31.15**	**140**	P	**P**	**17 23 15.3**	**+1.8**
ARMA	**Armidale**	**31.15**	**140**	P	**P**	**17 23 16.4**	**+2.9**
MGBR	**Mount Gambier**	**31.97**	**163**	P	**P**	**17 23 22.8**	**+2.4**
GSI	**Gunungsitoli**	**32.67**	**284**	P	**P**	**17 23 27.3**	**+0.4**
GSI				IAmb	IAmb	17 24 06.4	
	comp=Z,9.3nm,0.9s						
CAN	**Canberra**	**33.27**	**150**	P	**P**	**17 23 33.6**	**+1.8**
CAN	**Canberra**	**33.27**	**150**	P	**P**	**17 23 33.8**	**+2.0**
TOO	**Toolangi**	**33.55**	**156**	P	**P**	**17 23 37.2**	**+3.0**
TOO				IAmb	IAmb	17 23 38.1	
	comp=Z,2.7nm,0.6s						
YATNC	**Mamie plateau,**	**39.17**	**116**	P	**P**	**17 24 24.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**39.33**	**311**	P	**P**	**17 24 23.5**	**0.0**
	comp=Z,1.9nm,0.9s,baz=148,slow=7.5,SNR=14						
	comp=Z,1.9nm,0.9s						
CHTO	**Chiang Mai**	**39.55**	**311**		**P**	**17 24 24.1**	**-1.1**
CHTO				IAmb	IAmb	17 24 25.9	
	comp=Z,4.3nm,0.9s						
SHL	**Shillong**	**48.83**	**313**	P	**P**	**17 25 37.9**	**-1.5**
LSA	**Lhasa**	**51.88**	**317**	P	**P**	**17 25 59.6**	**-3.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSA	**Lhasa**	**51.88**	**317**	P	**P**	**17 26 01.6**	**-0.9**
LSA				IAmb	IAmb	17 26 03.5	
	comp=Z,4.8nm,0.7s						
GTA	**Gaotai**	**53.88**	**332**	*eP*	**P**	**17 26 16.9**	**+0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EVN	**Everest**	**53.90**	**312**		**P**	**17 26 16.5**	**-1.2**
SONM	**Songino Array**	**58.51**	**342**	P	**P**	**17 26 50.0**	**+0.6**
SONM	**Songino Array**	**58.51**	**342**	P	**P**	**17 26 49.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=157,slow=8.0,SNR=4.3						
	comp=Z,0.8nm,0.8s						
CASY	**Casey**	**60.25**	**189**	P	**P**	**17 27 02.5**	**+1.6**
CASY				IAmb	IAmb	17 27 45.2	
	comp=Z,5.1nm,1.4s						
KSH	**Kashi**	**67.72**	**318**	P	**P**	**17 27 51.5**	**+1.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**17 27 51.8**	**-0.5**
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**17 27 51.9**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=119,slow=8.2,SNR=11						
	comp=Z,1.3nm,0.4s						
MAKZ	**Makanchi**	**68.24**	**327**	P	**P**	**17 27 52.7**	**-0.6**
MAKZ				IAmb	IAmb	17 28 18.2	
	comp=Z,5.6nm,1.4s						
ARSB	**Arslanbob**	**70.60**	**318**		**P**	**17 28 07.8**	**-0.3**
ARSB				IAmb	IAmb	17 28 09.4	
	comp=Z,4.4nm,0.6s						
ZAA0	**Zalesovo Array**	**71.53**	**334**	P	**P**	**17 28 12.5**	**-0.8**
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**17 28 12.2**	**-1.0**
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**17 28 13.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=127,slow=5.3,SNR=7.1						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**72.21**	**173**	P	**P**	**17 28 17.3**	**+0.3**
VNDA	**Vanda**	**72.21**	**173**	P	**P**	**17 28 18.3**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=315,slow=7.4,SNR=6.8						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**72.37**	**329**	P	**P**	**17 28 17.5**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=133,slow=5.1,SNR=20						
	comp=Z,2.4nm,0.9s						
KURK	**Kurchatov**	**72.38**	**329**		**P**	**17 28 17.6**	**-0.9**
KURK				IAmb	IAmb	17 28 21.0	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**73.06**	**319**	P	**P**	**17 28 21.0**	**-1.7**
MAW	**Mawson**	**74.34**	**201**	P	**P**	**17 28 31.2**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=41,slow=6.1,SNR=2.8						
	comp=Z,0.7nm,0.4s						
PUH	**Pauahi**	**79.00**	**69**	P	**P**	**17 28 53.6**	**-3.3**
AB31	**Akbulak array**	**82.26**	**322**		**P**	**17 29 12.1**	**-1.5**
ABKAR	**Akbulak array**	**82.26**	**322**	P	**P**	**17 29 12.2**	**-1.3**
QSPA	**

SERG Sergoula 1.89 10 P **Pg 17 25 24.8 -0.8**
FSK Fiskardo 2.09 336 P **Pb 17 25 26.8 +0.3**
VIL2 Platees 2.10 38 P **Pb 17 25 26.6 -0.3**
MAGU Magoula 2.13 44 P **Pb 17 25 26.8 -0.6**
VLY Voula,Athens 2.16 52 P **Pb 17 25 27.0 -0.8**
ATH Athens Observa 2.18 49 P **Pb 17 25 27.1 -1.0**
EVGI Lefkada island 2.21 340 P **Pb 17 25 28.4 -0.2**
CHAN Chania 2.21 117 P **Pb 17 25 28.2 -0.4**
ATHU Athens Univers 2.22 50 P **Pb 17 25 27.6 -1.2**
STFN Stefani 2.22 43 P **Pb 17 25 27.9 -1.0**
MHLO Agia Marina, M 2.23 86 P **Pb 17 25 28.6 -0.4**
NYDR Nydri-Lefkada 2.28 341 P **Pb 17 25 29.8 -0.1**
PTL Penteli 2.32 49 P **Pb 17 25 29.1 -1.5**
PTL Penteli 2.32 49 P **Pb 17 25 29.1 -1.5**
AXAR Agios Charalam 2.35 20 P **Pb 17 25 30.2 -0.9**
LKR Lokris 2.36 27 P **Pb 17 25 29.9 -1.2**
LKR Lokris 2.36 27 P **Pb 17 25 30.1 -1.1**
LKD2 Lefkada island 2.36 341 P **Pb 17 25 31.1 -0.2**
DION Dionisos Attik 2.38 50 P **Pb 17 25 30.0 -1.6**
DION Dionisos Attik 2.38 50 P **Pb 17 25 29.9 -1.6**
TSLK Tsoukalades, L 2.40 341 P **Pb 17 25 31.6 -0.2**
ATAL Atalanti 2.40 27 P **Pb 17 25 30.7 -1.2**
GVD Gavdhos 2.63 130 P **Pb 17 25 34.6 -1.2**
KARY Karystos 2.68 56 P **Pn 17 25 33.5 +2.1**
TETR Tetrakomo, Epi 2.80 354 P **Pb 17 25 37.3 -1.5**
KYMI Kymi, Euboea I 2.85 43 P **Pn 17 25 36.0 +2.1**
KYMI Kymi, Euboea I 2.85 43 P **Pn 17 25 35.9 +2.1**
IDI Anoyia 2.93 115 **Pn 17 25 34.7 -0.2**
IDI Anoyia 2.93 115 Pn **Pn 17 25 36.9 +2.0**
5.1nm,0.4s,baz=293,slow=17,SNR=14
IDI Sn **Sn 17 26 11.6 +1.9**
9.2nm,0.3s,baz=260,slow=23,SNR=3.8
IDI Anoyia 2.93 115 P **Pn 17 25 37.0 +2.1**
SAP3 Santorini-Thir 2.99 91 P **Pn 17 25 38.4 +2.6**
NEO Neokhori 3.02 24 P **Pn 17 25 39.2 +3.0**
THL Klokotos Trika 3.02 6 P **Pb 17 25 39.5 -2.9**
THERA Ancient Thera, 3.10 92 P **Pn 17 25 40.2 +3.0**
IGT Igoumenitsa 3.15 341 P **Pn 17 25 40.6 +2.7**
JAN Janina 3.16 349 P **Pb 17 25 42.0 -2.9**
KEK Kerkira 3.47 336 **Pb 17 25 47.6 -2.6**
KEK Sn **Sn 17 26 25.5 +2.5**
NPS Neapolis 3.48 111 P **Pn 17 25 45.4 +3.0**
LIT Litokhoron 3.60 10 **Pn 17 25 46.4 +2.2**
LIT Sn **Sn 17 26 27.1 +0.8**
PENT Pentalofos 3.66 354 P **Pn 17 25 49.0 +4.0**
KARP Karpathos 4.59 101 Pn **Pn 17 25 56.1 -1.7**
OHR Ohrid 4.60 352 *i* Pn **Pn 17 26 01.6 +3.8**
TIP Timpagrande 4.67 306 **Pn 17 26 00.3 +1.4**
TIP Timpagrande 4.67 306 ⇓P **Pn 17 26 00.9 +2.1**
VAY Valandovo 4.82 8 *i* Pn **Pn 17 26 04.5 +3.7**
CEL Celeste 4.88 292 **Pn 17 26 01.2 -0.5**
ARG Arkhangelos 5.25 92 Pn **Pn 17 26 03.9 -2.9**
PEHC Pehcevo 5.31 10 *i* Pn **Pn 17 26 11.6 +3.9**
RDO Rodhopi 5.50 32 **Pn 17 26 11.4 +1.1**
ALN Alexandroupoli 5.54 37 Pn **Pn 17 26 12.1 +1.3**
MATE Matera 5.62 318 ⇑P **Pn 17 26 13.1 +1.1**
CUC Castrocucco 5.72 309 **Pn 17 26 15.2 +1.9**
VAE Valguarnera 5.85 281 Pn **Pn 17 26 16.0 +0.9**
2.7nm,0.3s,baz=185,slow=18,SNR=3.8
VAE Sn **Sn 17 27 21.2 -0.6**
2.1nm,0.3s,baz=43,slow=17,SNR=1.3
6.9nm,0.5s
RAFF Raffo Rosso 5.87 279 **Pn 17 26 15.8 +0.5**
ACER Acerenza 6.14 315 **Pn 17 26 20.6 +1.5**
PDG Podgorica 6.15 343 **Pn 17 26 19.5 +0.4**
PDG Podgorica 6.15 343 ⇑P **Pn 17 26 20.1 +1.0**
AKAS Kas 6.44 90 Pn **Pn 17 26 21.6 -1.6**
ELL Elmali 6.65 86 Pn **Pn 17 26 23.9 -2.3**
TREB Trebinje 6.66 339 *e*Pn **Pn 17 26 26.5 +0.4**
SGRT San Giovanni R 6.92 320 **Pn 17 26 31.0 +1.2**
STON Ston 7.00 336 *e*Pn **Pn 17 26 31.0 +0.2**
KLINJ Klinje 7.01 341 *e*Pn **Pn 17 26 32.1 +1.0**
BOVS Bovan 7.07 0 ⇑P **Pn 17 26 33.1 +1.3**
PAOL Paolisi 7.10 311 **Pn 17 26 34.4 +2.1**
ELND Elena 7.16 26 ⇑P **Pn 17 26 36.7 +3.8**
RUDO Rudo 7.27 347 *e*Pn **Pn 17 26 35.3 +0.8**
HERR Herculane 8.34 4 ⇑P **Pn 17 26 50.2 +1.0**
KIJV Kijevo 8.45 333 *e*Pn **Pn 17 26 50.9 +0.2**
BLY Banja Luka 8.86 339 *e*Pn **Pn 17 26 55.8 -0.5**
BLY Banja Luka 8.86 339 ⇑P **Pn 17 26 56.9 +0.6**
LOT Lotru 9.03 10 ⇑P **Pn 17 27 01.0 +2.2**
BZS Buzias 9.05 360 ⇑P **Pn 17 26 59.9 +0.9**
NRCA Norcia 9.08 316 **Pn 17 27 02.1 +2.7**
ARR Arges 9.09 13 ⇑P **Pn 17 27 02.2 +2.6**
FDMO Fiordimonte 9.23 317 **Pn 17 27 04.1 +2.7**
TIRR Tirgusor 9.43 31 Pn **Pn 17 27 05.5 +1.4**
MLR Muntele Rosu 9.50 19 **Pn 17 27 05.5 +0.2**
MLR Muntele Rosu 9.50 19 Pn **Pn 17 27 08.1 +2.9**
0.8nm,0.4s,baz=154,slow=13,SNR=3.6
MLR Muntele Rosu 9.50 19 ⇓P **Pn 17 27 08.3 +3.1**
CSS Mathiatis 9.64 96 Pn **Pn 17 27 04.1 -2.9**
MOSL Moslavina 9.77 339 *e*Pn **Pn 17 27 07.8 -1.0**
MORH Mrgy, Hungar 9.91 348 *e*Pn **Pn 17 27 09.8 -0.9**
BRTR Keskin Array B 9.97 68 Pn **Pn 17 27 15.5 +3.8**
0.1nm,0.3s,baz=255,slow=14,SNR=1.9
PLOR Plostina 10.03 21 ⇑P **Pn 17 27 15.6 +3.3**
TURR Turia 10.05 18 ⇑P **Pn 17 27 15.2 +2.5**
VRI Vrincioaia 10.06 21 ⇑P **Pn 17 27 16.0 +3.2**
OZLJ Ozalj 10.18 335 *e*Pn **Pn 17 27 15.4 +1.1**
TRI Trieste 10.90 329 Pn **Pn 17 27 24.7 +0.5**
SABO M.te Sabotino 11.19 330 Pn **Pn 17 27 28.4 +0.2**
SOKA Soboth 11.25 336 *e*Pn **Pn 17 27 29.1 -0.1**
2.2nm,0.4s
OBKA Obir 11.27 334 *e*Pn **Pn 17 27 30.1 +0.7**
1.2nm,0.3s
PSZ Piszkesteto 11.43 354 Pn **Pn 17 27 31.6 0.0**
PSZ Piszkesteto 11.43 354 ⇑P **Pn 17 27 32.7 +1.1**
PRED Cave del Predi 11.58 331 Pn **Pn 17 27 33.4 -0.2**
STAL STALIGIAL 11.78 328 Pn **Pn 17 27 36.1 -0.2**
CTI Castel Tesino 12.09 325 Pn **Pn 17 27 41.6 +1.0**
KBA Koelnbreinsper 12.19 332 *e*Pn **Pn 17 27 43.5 +1.4**
0.4nm,0.3s
LESA Schwarzleotal 12.73 331 *e*Pn **Pn 17 27 51.1 +1.8**
1.2nm,0.4s
EIL Elat 13.10 118 Pn **Pn 17 27 51.9 -2.4**
0.3nm,0.3s,baz=13,slow=15,SNR=1.9
EIL Sn Sn 17 30 03.5 -16
0.1nm,0.3s,baz=248,slow=19,SNR=1.4
FUORN Ofenpass-Fuorn 13.16 323 Pn **Pn 17 27 55.7 +0.3**
VRAC Vranov 13.27 345 LR LR 17 34 52.9
comp=Z,89nm,18.9s,baz=185,slow=46
TUE Stuetta 13.51 321 Pn **Pn 17 27 60.0 -0.1**
GERES GERESS Array B 13.59 337 Pn **Pn 17 28 01.5 +0.4**
baz=156,slow=13,SNR=4.3
GERES Sn **Sn 17 30 30.7 -0.8**
baz=152,slow=24,SNR=2.3
0.4nm,0.5s
KHC Kasperske Hory 13.88 337 Pn **Pn 17 28 04.7 -0.3**
KHC Kasperske Hory 13.88 337 *e*P **P 17 28 12.3 -0.9**
KRLC Kraliky 13.97 347 *e*P **P 17 28 17.4 +3.3**
BNI Bardonecchia 14.14 312 Pn **Pn 17 28 06.8 -1.9**
DPC Dobruska-Polom 14.31 346 *e*P **P 17 28 20.8 +2.8**
KIEV Kiev 15.15 19 **Pn 17 28 19.1 -3.0**
AKASG Malin Array Be 15.16 19 Pn **Pn 17 28 18.2 -4.1**
AKASG Malin Array Be 15.16 19 Pn **Pn 17 28 21.8 -0.5**
0.2nm,0.3s,baz=216,slow=11,SNR=6.0
AKBB Malin Array Si 15.16 19 Pn **Pn 17 28 19.1 -3.2**
CLL Collm 15.99 340 *e*PP **P 17 28 40.0 +3.5**
SUW Suwalki 17.49 3 P **Pn 17 28 52.0 0.0**
NACGM Naroch 18.69 9 *e*P **Pn 17 29 06.6 -0.1**
comp=Z,9.0nm,0.8s,baz=193
PABE Paberze 19.02 4 P **Pn 17 29 10.6 -0.1**
PABE IAmb IAmb 17 29 26.1
comp=Z,39nm,1.4s
ESDC Sonseca Array 20.36 287 P Pn 17 29 26.2 -0.7
comp=Z,0.7nm,0.8s,baz=90,slow=11,SNR=2.6
comp=Z,0.7nm,0.8s
HFS Hagfors 24.14 350 P **P 17 30 04.3 +0.4**
comp=Z,3.5nm,0.4s,baz=148,slow=12,SNR=42
HFS LR LR 17 41 50.1
comp=Z,38nm,19.8s,baz=88,slow=42
comp=Z,3.5nm,0.4s
NC602 NORSAR Array S 25.04 348 P **P 17 30 11.7 -0.5**
NC602 IAmb IAmb 17 30 15.2
comp=Z,18nm,1.4s
FINES FINESS Array B 25.07 5 P **P 17 30 11.1 -1.2**
FINES FINESS Array B 25.07 5 P **P 17 30 13.3 +1.0**
comp=Z,2.3nm,0.4s,baz=163,slow=11,SNR=24
comp=Z,2.3nm,0.4s
FIA1 FINESS Array S 25.07 5 P **P 17 30 10.9 -1.4**
NAO01 NORSAR Array S 25.26 348 P **P 17 30 13.1 -0.9**
EKA Eskdalemuir Ar 25.27 326 P **P 17 30 16.1 +1.9**
comp=Z,1.7nm,0.5s,baz=129,slow=9.1,SNR=13
comp=Z,1.7nm,0.5s
ESK Eskdalemuir 25.28 326 P **P 17 30 13.6 -0.7**
ESK IAmb IAmb 17 30 55.9
comp=Z,11nm,1.1s
NC405 NORSAR Array S 25.37 349 P **P 17 30 14.3 -0.8**
NC405 IAmb IAmb 17 30 28.4
comp=Z,18nm,1.5s
NB201 NORSAR Array S 25.38 348 P **P 17 30 14.3 -0.9**
NB201 IAmb IAmb 17 30 38.3
comp=Z,18nm,1.2s
NB2 NORSAR Subarra 25.39 348 P **P 17 30 16.3 +1.1**
comp=Z,2.3nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 25.39 348 P **P 17 30 16.4 +1.1**
comp=Z,2.2nm,0.6s,baz=157,slow=9.0,SNR=18
NOA LR LR 17 43 16.0
comp=Z,20nm,18.0s,baz=165,slow=44
comp=Z,2.2nm,0.6s
NBO00 NORSAR Array S 25.45 348 P **P 17 30 15.7 -0.1**
NBO00 IAmb IAmb 17 30 52.6
comp=Z,27nm,1.4s
NC303 NORSAR Array S 25.54 348 P **P 17 30 16.7 +0.1**
NC303 IAmb IAmb 17 30 24.6
comp=Z,16nm,1.3s
NC204 NORSAR Array S 25.68 348 P **P 17 30 18.5 +0.5**
NC204 IAmb IAmb 17 30 21.6
comp=Z,9.2nm,0.9s
TORD Torodi Ar. Bea 29.38 223 P **P 17 30 52.3 +0.9**
comp=Z,0.2nm,0.4s,baz=29,slow=9.2,SNR=2.2
comp=Z,0.2nm,0.4s
ARTI Arti 31.61 39 P **P 17 31 09.2 -1.6**
ARCES ARCESS Array B 33.11 2 P **P 17 31 22.6 -1.1**
ARCES IAmb IAmb 17 31 25.3
comp=Z,8.9nm,1.4s
ARCES ARCESS Array B 33.11 2 P **P 17 31 24.8 +1.0**
comp=Z,1.4nm,0.5s,baz=190,slow=10,SNR=17
comp=Z,1.4nm,0.5s
KEV Kevo 33.39 3 P **P 17 31 25.6 -0.6**
KKAR Karatay Array 37.66 65 P **P 17 32 01.0 -2.3**
ARSB Arslanbob 39.75 67 P **P 17 32 18.4 -2.6**
ARSB IAmb IAmb 17 32 22.0
comp=Z,7.6nm,0.5s
SPB2 Spitsbergen Ar 41.79 358 P **P 17 32 37.7 +0.6**
KURBB Kurchatov Arra 42.50 52 P **P 17 32 46.8 +3.5**
comp=Z,3.8nm,0.2s,baz=276,slow=8.6,SNR=2.4
comp=Z,3.8nm,0.2s
MKAR Makanchi Array 45.41 57 P **P 17 33 08.4 +1.6**
comp=Z,0.4nm,0.4s,baz=276,slow=7.3,SNR=3.4
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 46.13 47 P **P 17 33 11.1 -1.2**
ZALV Zalesovo Beam 46.13 47 P **P 17 33 12.6 +0.3**
comp=Z,0.9nm,0.3s,baz=272,slow=9.1,SNR=5.4
comp=Z,0.9nm,0.3s
BOSA Boshof 64.91 176 LR LR 18 08 06.5
comp=Z,33nm,20.8s,baz=338,slow=40

BJI ***15*** *17:36:00.3,20°.15S×173°.65W,h10km,mB5.4/7,mb4.9/15, Ms5.0/5,Ms7 4.6/5*
NEIC ***15*** *17:36:01.1±2.2,20°.18S±0°.09×173°.34W±0°.09,h10km±1km, mb5.0/135,Error ellipse: s-maj=16.2km s-min=13.5km az=156.0*
IDC ***15*** *17:36:01.4±0.6,19°.88S×173°.94W,h0km,mb4.3/15, mbtmp4.3/16,ML4.7/1,MS4.1/37,Error ellipse: s-maj=22.4km s-min=16.2km az=113.0*
GCMT ***15*** *17:36:06.1±0.4,20°.07S±0°.02×173°.32W±0°.02,h13km±2km, MW4.9/87,Moment Tensor Solution. s30,c34; s87,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.54±.09; Mθθ-0.97±.08; Mφφ0.42±.06; Mrθ2.67±.62; Mθφ-1.29±.06; Mφr-0.55±.21; Best double couple: M0=3.13000×10^16 NP1:φs199.00000°,δ28.00000°,λ12.00000°. NP2: φs99.00000°,δ84.00000°,λ118.00000°. Principal axes: T 3.1250, Plg44.0000°, Azm36.0000°; N 0.0110, Plg27.0000°, Azm276.0000°; P -3.1360, Plg34.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 17:36:00.5±0.3,20°.10S±0°.06×173°.32W±0°.05,h10km, n253,σ1§88/213,mb4.9/75,MS4.2/38,28C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.35**	**73**	Pn	**Pn**	**17 36 52.2**	**-0.8**
NIUE				Sn	**Sn**	**17 37 28.6**	**-4.3**
AFI	**Afiamalu**	**6.33**	**14**	**Pn**	**Pn**	**17 37 32.1**	**-1.9**
AFI				Sn	**Sn**	**17 38 40.5**	**-5.9**
RAR	**Rarotonga**	**12.73**	**97**	Pn	**Pn**	**17 38 60.0**	**-1.7**
RAR	**Rarotonga**	**12.73**	**97**	Pn	**Pn**	**17 39 02.8**	**+1.2**
4.4nm,0.3s,baz=249,slow=6.9,SNR=9.9							
RAR				Sn	Sn	17 41 11.8	-12
0.9nm,0.3s,baz=39,slow=16,SNR=1.1							
MARNC	**Mare, Loyalty**	**17.50**	**262**	P	**Pn**	**17 40 06.2**	**+1.5**
PINNC	**Pines Island,**	**18.09**	**259**		**Pn**	**17 40 11.8**	**-0.2**
PINNC	**Pines Island,**	**18.09**	**259**	P	**Pn**	**17 40 13.7**	**+1.6**
YATNC	**Mamie plateau,**	**18.57**	**260**	P	**P**	**17 40 19.0**	**+1.2**
OUENC	**Ouen Island, N**	**18.64**	**259**	P	**P**	**17 40 19.2**	**+0.8**
DZM	**Mont Dzumac**	**18.99**	**260**	P	**P**	**17 40 22.6**	**+0.2**
13nm,0.9s,baz=76,slow=18,SNR=8.8							
DZM				LR	LR	17 46 28.5	
comp=Z,902nm,18.0s,baz=104,slow=34							
URZ	**Urewera**	**19.91**	**203**	P	**P**	**17 40 34.6**	**+2.3**
2.1nm,0.3s,baz=294,slow=2.9,SNR=8.2							
24nm,0.7s							
TOZ	**Tahuroa Road**	**20.08**	**207**		**P**	**17 40 29.6**	**-4.5**
TOZ				IAmb	IAmb	17 40 40.9	
comp=Z,77nm,1.6s							
BKZ	**Black Stump Fm**	**20.93**	**203**	P	**P**	**17 40 39.6**	**-3.9**
BKZ				IAmb	IAmb	17 40 49.1	
comp=Z,96nm,1.5s							
HIZ	**Hauiti**	**21.01**	**207**	P	**P**	**17 40 40.8**	**-3.4**
HIZ				IAmb	IAmb	17 40 50.4	
comp=Z,55nm,1.0s							
BFZ	**Birch Farm**	**22.37**	**201**	P	**P**	**17 40 56.4**	**-2.5**
MRZ	**Mangatainoka R**	**22.58**	**202**	P	**P**	**17 40 59.7**	**-1.4**
MRZ				IAmb	IAmb	17 41 18.2	
comp=Z,77nm,1.4s							
PPT2	**Papeete2**	**22.60**	**88**	*e*S	**S**	**17 45 01.2**	**-8.3**
comp=Z,2μm,25.8s							
PPT2				*e*LR	LR	17 46 28.6	
comp=Z,207nm,23.5s							
PPT2				*e*LR	LR	17 46 33.4	
comp=Z,206nm,23.5s							
PPT	**Papeete**	**22.61**	**88**	LR	LR	17 48 45.1	
comp=Z,153nm,18.1s,baz=252,slow=33							
TCW	**Tory Channel**	**23.55**	**204**	P	**P**	**17 41 10.6**	**-0.4**
TUWZ	**Tuamarina**	**23.86**	**204**	P	**P**	**17 41 14.0**	**0.0**
BSWZ	**Blackbirch Sta**	**24.13**	**204**	P	**P**	**17 41 15.2**	**-1.4**
DSZ	**Denniston Nort**	**25.00**	**207**	P	**P**	**17 41 24.7**	**+0.2**
GVZ	**Greta Valley S**	**25.53**	**204**	P	**P**	**17 41 28.2**	**-1.0**
LTZ	**Lake Taylor**	**25.66**	**205**	P	**P**	**17 41 30.5**	**-0.1**
LTZ				IAmb	IAmb	17 41 41.9	
comp=Z,36nm,1.0s							
INZ	**Inchbonnie**	**25.95**	**206**	P	**P**	**17 41 33.6**	**+0.5**
OXZ	**Oxford**	**26.21**	**205**	P	**P**	**17 41 36.0**	**+0.5**
RPZ	**Rata Peaks**	**26.93**	**206**	P	**P**	**17 41 45.3**	**+3.3**
FOZ	**Fox Glacier**	**27.30**	**207**	P	**P**	**17 41 45.2**	**0.0**
HNR	**Honiara**	**27.90**	**288**	P	**P**	**17 41 50.5**	**-0.4**
HNR	**Honiara**	**27.90**	**288**	LR	LR	17 51 35.7	
comp=Z,221nm,18.1s,baz=159,slow=34							
MLZ	**Mavora Lakes**	**29.50**	**207**	P	**P**	**17 42 05.8**	**+0.9**
MLZ				IAmb	IAmb	17 42 25.3	
comp=Z,21nm,0.9s							
ARMA	**Armidale**	**33.21**	**245**	P	**P**	**17 42 36.3**	**-1.5**
ARMA				IAmb	IAmb	17 43 22.1	
comp=Z,27nm,1.4s							
TAOE	**Nuku Hiva Isla**	**33.93**	**76**	*e*LR	LR	17 51 39.8	
comp=Z,315nm,26.4s							
CAN	**Canberra**	**36.40**	**237**	P	**P**	**17 43 04.3**	**-1.0**
JOHN	**Johnston Islan**	**36.79**	**6**	P	**P**	**17 43 09.3**	**+0.7**
CTAO	**Charters Tower**	**37.90**	**263**	P	**P**	**17 43 15.8**	**-2.4**
TOO	**Toolangi**	**39.70**	**235**		**P**	**17 43 32.4**	**-0.7**
TAU	**Tasmania Unive**	**40.04**	**226**	P	**P**	**17 43 35.7**	**-0.1**
TAU				IAmb	IAmb	17 44 00.8	
comp=Z,73nm,1.6s							
STKA	**Stephens Creek**	**41.92**	**244**		**P**	**17 43 49.7**	**-1.8**
STKA				IAmb	IAmb	17 43 50.8	
comp=Z,50nm,1.1s							
STKA	**Stephens Creek**	**41.92**	**244**	P	**P**	**17 43 49.7**	**-1.8**
comp=Z,6.0nm,1.0s,baz=94,slow=8.5,SNR=8.3							
STKA				LR	LR	17 59 37.2	
comp=Z,452nm,19.3s,baz=56,slow=34							
comp=Z,6.0nm,1.0s							

COEN Coen 41.96 271 P **P 17 43 49.6 -2.3**
INKA Innaminka 42.48 251 P 17 43 52.3 -3.7
BBOO Buckleboo 46.66 244 P **P 17 44 27.6 -1.8**
JAY Jayapura 48.13 285 LR LR 18 02 10.4
comp=Z,139nm,21.6s,baz=124,slow=33
MIDW Midway 48.19 355 P **P 17 44 42.0 +0.8**
AS31 Alice Springs 48.88 256 P **P 17 44 44.7 -2.2**
ASAR Alice Springs 48.88 256 **P 17 44 44.2 -2.6**
ASAR Alice Springs 48.88 256 P **P 17 44 44.7 -2.2**
comp=Z,3.0nm,0.6s,baz=96,slow=7.6,SNR=68
ASAR LR LR 18 04 13.0
comp=Z,308nm,18.7s,baz=92,slow=35
comp=Z,3.0nm,0.6s
WB0 Warramunga Arr 48.98 261 P **P 17 44 45.3 -2.3**
WRA Warramunga Arr 49.01 261 P **P 17 44 45.0 -2.9**
comp=Z,2.3nm,0.5s,baz=98,slow=8.7,SNR=24
WRA LR LR 18 03 57.8
comp=Z,272nm,19.0s,baz=96,slow=35
comp=Z,2.3nm,0.5s
GUMO Guam 53.03 306 LR LR 18 06 00.4
comp=Z,88nm,19.0s,baz=150,slow=34
FORT Forrest 53.48 246 P **P 17 45 19.4 -1.9**
FORT IAmb IAmb 17 45 26.2
comp=Z,11nm,0.9s
MTN Manton Dam 53.56 269 P **P 17 45 20.3 -1.8**
MTN IAmb IAmb 17 45 36.0
comp=Z,11nm,1.1s
KNRA Kununurra 55.07 265 P **P 17 45 30.2 -2.8**
KNRA IAmb IAmb 17 46 16.6
comp=Z,25nm,1.4s
SWI Sorong 57.42 282 P **P 17 45 49.7 -0.2**
comp=Z,35nm,0.8s
FITZ Fitzroy Crossi 57.43 261 P **P 17 45 47.3 -2.6**
FITZ Fitzroy Crossi 57.43 261 LR LR 18 08 27.2
comp=Z,201nm,19.7s,baz=106,slow=34
SBA Scott Base 58.60 185 **P 17 45 56.5 -0.6**
VNDA Vanda 58.73 186 P **P 17 45 56.7 -1.4**
VNDA Vanda 58.73 186 P **P 17 46 02.2 +4.1**
comp=Z,3.2nm,0.9s,baz=9.2,slow=7.3,SNR=20
VNDA LR LR 18 11 25.7
comp=Z,74nm,18.0s,baz=23,slow=36
comp=Z,3.2nm,0.9s
SOEI Soe 60.89 270 **P 17 46 12.5 -1.5**
SOEI Soe 60.89 270 P **P 17 46 15.5 +1.4**
BATI Baumata 61.32 269 LR LR 18 14 34.2
comp=Z,229nm,18.2s,baz=127,slow=38
TNTI Ternate 61.64 282 P **P 17 46 18.1 -0.8**
PSA00 Pilbara Seismi 62.03 256 P **P 17 46 20.1 -1.5**
PSA00 Pilbara Seismi 62.03 256 P **P 17 46 19.9 -1.6**
PSA00 IAmb IAmb 17 47 12.7
comp=Z,28nm,1.9s
MBWA Marble Bar 62.22 256 P **P 17 46 21.6 -1.2**
NWAO Narrogin (SRO) 62.47 243 P **P 17 46 23.8 -0.5**
NWAO Narrogin (SRO) 62.47 243 LR LR 18 11 46.0
comp=Z,259nm,19.8s,baz=97,slow=35
EDFI Ende, Flores 63.62 270 P **P 17 46 30.9 -1.4**
comp=Z,10nm,0.9s
JCJ Chichijima 63.72 316 LR LR 18 11 21.3
comp=Z,137nm,18.8s,baz=126,slow=34
MORW Morawa 64.03 247 P **P 17 46 33.5 -1.3**
LUWI Luwuk 65.20 278 P **P 17 46 43.1 +0.5**
DAV Davao City (W) 65.86 288 LR LR 18 16 25.7
comp=Z,52nm,18.1s,baz=98,slow=37
CASY Casey 66.20 205 **P 17 46 49.1 +0.9**
QSPA South Pole Qui 69.97 180 P 17 47 17.2 +5.1
QSPA IAmb IAmb 17 47 20.8
comp=Z,19nm,1.4s
QSPA South Pole Qui 69.97 180 P P 17 47 17.6 +5.6
comp=Z,6.0nm,1.0s,baz=49,slow=4.2,SNR=10
QSPA LR LR 18 17 08.1
comp=Z,136nm,18.0s,baz=42,slow=35
comp=Z,6.0nm,1.0s
MTKI Muara Teweh, K 72.59 275 P **P 17 47 30.0 +1.4**
MJAR Matsushiro Arr 72.59 321 **P 17 47 28.4 +0.4**
MJAR Matsushiro Arr 72.59 321 P **P 17 47 28.3 +0.2**
comp=Z,3.2nm,0.7s,baz=162,slow=5.7,SNR=11
MJAR LR LR 18 21 26.1
comp=Z,57nm,18.1s,baz=156,slow=38
comp=Z,3.2nm,0.7s
MAJO Matsushiro 72.59 321 P **P 17 47 28.7 +0.6**
MAJO IAmb IAmb 17 47 50.0
comp=Z,8.8nm,0.9s
JOW Kunigami 73.35 307 LR LR 18 13 43.1
comp=Z,70nm,20.7s,baz=20,slow=31
KKM Kota Kinabalu 73.93 283 P **P 17 47 36.6 0.0**
KKM IAmb IAmb 17 49 35.7
comp=Z,13nm,1.0s
UGM Wanagama 74.37 267 P **P 17 47 38.8 -0.4**
JNU Nakatsue 75.08 314 P **P 17 47 44.6 +1.8**
JNU Nakatsue 75.08 314 LR LR 18 18 29.6
comp=Z,52nm,18.3s,baz=96,slow=34
LPIG La Paz 75.46 57 LR LR 18 13 04.8
comp=Z,178nm,20.1s,baz=236,slow=29
MNRC McLaughlin Min 75.56 39 P **P 17 47 48.9 +3.4**
MNRC IAmb IAmb 17 48 11.6
comp=Z,19nm,1.2s
JKA Kamikawa-asahi 75.57 329 P **P 17 47 47.4 +2.1**
PFO Pinyon Flats O 76.08 46 LR LR 18 13 00.9
comp=Z,120nm,20.4s,baz=220,slow=29
CCCA Chr Cany lake 76.61 44 P **P 17 47 51.8 +0.3**
CCCA IAmb IAmb 17 48 32.7
comp=Z,17nm,1.5s
BELC Belle Mtn. Jos 76.62 46 P **P 17 47 51.7 0.0**
BELC IAmb IAmb 17 47 56.7
comp=Z,15nm,1.6s
CLC China Lake 76.63 44 P **P 17 47 53.5 +1.8**
CLC IAmb IAmb 17 48 17.0
comp=Z,21nm,1.8s
BC3 Big Chuckawall 76.79 47 P **P 17 47 54.8 +2.2**
BC3 IAmb IAmb 17 47 58.0
comp=Z,20nm,1.7s
MDPB Devils Postpil 76.80 41 P **P 17 47 54.8 +2.0**
MPMC Manual Prospec 76.85 44 P **P 17 47 55.2 +2.1**
MPMC IAmb IAmb 17 47 58.1
comp=Z,15nm,1.8s
O03E Paynes Creek 76.86 38 P **P 17 47 54.5 +1.6**
O03E IAmb IAmb 17 48 19.0
comp=Z,27nm,1.6s
GLA Glamis 76.87 47 P **P 17 47 54.8 +1.7**
GLA IAmb IAmb 17 48 12.1
comp=Z,13nm,1.4s
M02C Callahan 76.99 37 P **P 17 47 55.3 +1.7**
M02C IAmb IAmb 17 48 19.8
comp=Z,11nm,1.4s
L02F Cave Junction 77.08 36 P **P 17 47 55.9 +1.9**
L02F IAmb IAmb 17 49 22.5
comp=Z,36nm,1.9s
PETK Petropavlovsk- 77.11 343 P **P 17 47 55.7 +1.8**
comp=Z,4.1nm,0.8s,baz=161,slow=5.1,SNR=1.9
comp=Z,4.1nm,0.8s
IRM Iron Mountain 77.29 46 **P 17 47 54.4 -1.0**
IRM IAmb IAmb 17 48 00.6
comp=Z,20nm,1.7s
YBH Yreka Blue Hor 77.30 36 LR LR 18 12 54.9
comp=Z,9.6nm,20.0s,baz=247,slow=29
DSP Deep Springs 77.33 42 **P 17 47 56.1 +0.6**
DSP IAmb IAmb 17 48 14.2
comp=Z,14nm,1.6s
BEKR Beckworth 77.43 39 **P 17 47 56.2 0.0**
113A Mohawk Valley, 77.45 48 P **P 17 47 57.5 +1.2**
113A IAmb IAmb 17 48 04.5
comp=Z,24nm,2.0s
GWY Greenwater Val 77.46 44 P **P 17 47 57.2 +0.8**
BLYC Blythe 77.48 47 P **P 17 47 58.2 +1.8**
BLYC IAmb IAmb 17 49 17.5
comp=Z,10nm,1.3s
LHV Little Huntoon 77.54 41 P **P 17 47 57.9 +1.3**
LHV IAmb IAmb 17 48 27.0
comp=Z,14nm,1.2s
214A Organ Pipe Nat 77.68 49 P **P 17 47 58.5 +0.9**
KSM Kuching 77.72 276 P **P 17 47 56.5 -1.7**
KSM IAmb IAmb 17 48 13.4
comp=Z,16nm,1.0s
GMN Gold Mountain 77.74 43 **P 17 47 59.1 +1.1**
RYN Ryan 77.76 41 P **P 17 47 58.4 +0.3**
RYN IAmb IAmb 17 48 23.8
comp=Z,21nm,1.8s
NVAR Mina Array Bea 77.77 41 P **P 17 47 57.9 -0.3**
NVAR Mina Array Bea 77.77 41 P **P 17 48 01.8 +3.6**
comp=Z,1.2nm,0.8s,baz=224,slow=9.1,SNR=8.4
NVAR LR LR 18 20 14.4
comp=Z,169nm,18.2s,baz=269,slow=34
comp=Z,1.2nm,0.8s
WCT Wildcat Mounta 77.84 43 P **P 17 47 59.0 +0.5**
WCT IAmb IAmb 17 48 52.8
comp=Z,13nm,1.7s

NV11	**Mina Array Sit**	77.87	41	P	P	17 47 59.5	+0.8
NV11				IAmb	IAmb	17 48 24.4	
comp=Z,13nm,1.4s							
PAHR	**Pah Rah Range**	77.91	40	P	P	17 47 60.0	+1.1
TPNV	**Topopah Spring**	78.18	43	P	P	17 48 00.9	+0.4
TPH	**Tonopah**	78.23	42	P	P	17 48 00.9	+0.2
TPH				IAmb	IAmb	17 48 27.3	
comp=Z,17nm,1.5s							
SHPR	**Sheep Range**	78.63	44		P	17 48 02.0	-0.9
W13A	**Hualapai Mount**	78.67	46		P	17 48 02.7	-0.6
K05A	**Summer Lake**	78.97	37	P	P	17 48 05.1	+0.5
PRN	**Pahroc Range**	79.22	44		P	17 48 05.9	-0.3
PRN				IAmb	IAmb	17 48 11.6	
comp=Z,12nm,1.4s							
TUC	**Tucson**	79.32	50	P	P	17 48 05.2	-1.5
TUC				IAmb	IAmb	17 48 28.8	
comp=Z,16nm,1.6s							
BELA	**Belgrano 2**	79.36	172	P	P	17 48 05.3	-0.9
BELA				IAmb	IAmb	17 50 35.1	
comp=Z,5.6nm,0.6s							
R11B	**Troy Canyon, C**	79.43	43		P	17 48 08.0	+0.6
KDAK	**Kodiak Island**	79.49	11	LR	LR	18 15 30.0	
comp=Z,428nm,19.7s,baz=209,slow=30							
KSRS	**Korea Array**	79.57	316	P	P	17 48 06.6	-1.2
comp=Z,1.8nm,0.9s,baz=127,slow=6.1,SNR=7.1							
comp=Z,1.8nm,0.9s							
KSAR	**Wonju Array Be**	79.59	316	P	P	17 48 07.3	-0.6
KS19	**Wonju Array Si**	79.64	316	P	P	17 48 08.3	+0.1
PMSA	**Palmer Station**	79.88	156	LR	LR	18 19 37.6	
comp=Z,94nm,18.1s,baz=319,slow=33							
319A	**Douglas**	79.92	51	P	P	17 48 11.3	+1.2
X16A	**Lo Mia Camp, P**	79.98	48		P	17 48 10.9	+0.6
LCMT	**Little Creek M**	80.18	45	P	P	17 48 12.5	+1.1
CCUT	**Cedar City**	80.41	44		P	17 48 13.8	+1.1
KNB	**Kanab**	80.46	45	P	P	17 48 14.0	+1.1
KNB				IAmb	IAmb	17 48 54.7	
comp=Z,17nm,1.5s							
SPR3	**Spring Creek 3**	80.61	43	P	P	17 48 15.0	+1.2
DUN6	**Lazy B Ranch**	80.67	50	P	P	17 48 14.8	+0.7
HG4B	**Hotspring**	80.88	25	P	P	17 48 15.3	+0.8
ELK	**Elko**	81.06	41	LR	LR	18 22 52.1	
comp=Z,186nm,18.0s,baz=262,slow=35							
X18A	**Snowflake**	81.08	48	P	P	17 48 17.6	+1.3
W18A	**Petrified Fore**	81.54	48	P	P	17 48 20.0	+1.3
W18A				IAmb	IAmb	17 48 43.7	
comp=Z,18nm,1.7s							
G08A	**Pilot Rock**	81.69	35	P	P	17 48 20.7	+1.5
G08A				IAmb	IAmb	17 48 47.5	
comp=Z,15nm,1.7s							
HMU	**Henry Mountain**	82.35	45	P	P	17 48 23.6	+0.6
HMU				IAmb	IAmb	17 48 28.2	
comp=Z,16nm,1.6s							
H03S2	**Juan Fernandez**	82.56	123	T	T	19 21 13.8	
baz=250,slow=75,SNR=9.7							
H03S1	**Juan Fernandez**	82.58	123	T	T	19 21 17.2	
baz=250,slow=75,SNR=11							
H03S3	**Juan Fernandez**	82.58	123	T	T	19 21 12.9	
baz=250,slow=75,SNR=9.8							
Q16A	**Castle Valley**	82.60	44	P	P	17 48 25.3	+1.1
Q16A				IAmb	IAmb	17 50 29.7	
comp=Z,27nm,1.8s							
TMUT	**Trail Mountain**	82.78	44		P	17 48 26.7	+1.4
TMUT				IAmb	IAmb	17 48 31.0	
comp=Z,20nm,1.6s							
MDJ	**Mudanjiang**	82.79	323	P	P	17 48 25.5	+0.7
D08A	**Wollman Farm,**	82.83	34	P	P	17 48 25.7	+0.7
D08A				IAmb	IAmb	17 48 56.9	
comp=Z,31nm,1.9s							
E09A	**Wood Farm, Sta**	82.90	35	P	P	17 48 26.7	+1.3
E09A				IAmb	IAmb	17 48 29.1	
comp=Z,30nm,1.9s							
MNTX	**Cornudas Mount**	82.97	53		P	17 48 27.0	+0.9
MNTX				IAmb	IAmb	17 48 31.6	
comp=Z,30nm,1.9s							
F10A	**Beach Ranch, E**	83.06	36	P	P	17 48 27.9	+1.5
F10A				IAmb	IAmb	17 49 00.7	
comp=Z,30nm,2.0s							
NJ2	**Nanjing**	83.06	308	*e*P	P	17 48 25.5	-1.0
NJ2				pmax	pmax		
comp=Z,15nm,0.9s							
SRU	**San Rafael Swe**	83.13	44	P	P	17 48 27.5	+0.6
SRU				IAmb	IAmb	17 48 32.1	
comp=Z,24nm,1.5s							
TX31	**Lajitas Ar. Si**	83.17	56	P	P	17 48 27.8	+0.5
TX31				IAmb	IAmb	17 48 32.2	
comp=Z,8.8nm,1.4s							
TXAR	**Lajitas Array**	83.17	56	P	P	17 48 30.4	+3.2
comp=Z,2.6nm,1.2s,baz=215,slow=5.8,SNR=10							
comp=Z,2.6nm,1.2s							
DLV	**Lat**	83.23	285	P	P	17 48 27.1	-0.9
MAW	**Mawson**	83.39	199	P	P	17 48 29.1	+1.5
comp=Z,5.1nm,1.0s,baz=105,slow=4.4,SNR=7.8							
MAW				LR	LR	18 25 14.4	
comp=Z,227nm,19.1s,baz=124,slow=35							
comp=Z,5.1nm,1.0s							
PV05	**Paradox Valley**	83.52	46	P	P	17 48 29.0	-0.1
P18A	**Preston Nutter**	83.59	44	IAmb	IAmb	17 48 58.1	
comp=Z,14nm,1.5s							
PV18	**Skein Mesa, Pa**	83.74	46		P	17 48 29.7	-0.5
PV13	**Radium Mtn., P**	83.75	46	IAmb	IAmb	17 48 34.5	
comp=Z,16nm,1.4s							
ANMO	**Albuquerque**	83.77	49		P	17 48 30.8	+0.5
ANMO				IAmb	IAmb	17 48 35.8	
comp=Z,8.5nm,1.1s							
PV23	**Carpenter Ridg**	83.78	45	IAmb	IAmb	17 48 38.7	
comp=Z,12nm,0.8s							
PV04	**Paradox Valley**	83.82	45	IAmb	IAmb	17 48 56.0	
comp=Z,8.0nm,1.1s							
PV02	**Paradox Valley**	83.83	46	P	P	17 48 30.2	-0.5
PV01	**Paradox Valley**	83.91	46	IAmb	IAmb	17 48 35.9	
comp=Z,16nm,1.5s							
MA2	**Magadan**	84.65	343	LR	LR	18 19 13.8	
comp=Z,105nm,20.9s,baz=146,slow=31							
CN2	**Changchun**	84.73	320	*e*P	P	17 48 33.5	-1.3
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
S22A	**4UR Ranch, Cre**	84.89	47	IAmb	IAmb	17 48 41.7	
comp=Z,24nm,1.6s							
PDAR	**Pinedale Array**	85.71	41	P	P	17 48 43.2	+3.2
comp=Z,1.1nm,1.0s,baz=158,slow=1.6,SNR=4.1							
PDAR				LR	LR	18 25 17.8	
comp=Z,77nm,18.5s,baz=256,slow=34							
comp=Z,1.1nm,1.0s							
DLBC	**Dease Lake**	86.03	21	LR	LR	18 19 54.0	
comp=Z,1μm,18.9s,baz=199,slow=31							
CCB	**Clear Creek Bu**	86.74	11		P	17 48 44.9	+0.7
ILAR	**Eielson Array**	87.02	11	P	P	17 48 47.0	+1.4
comp=Z,0.5nm,0.6s,baz=234,slow=4.8,SNR=4.6							
ILAR				LR	LR	18 24 16.1	
comp=Z,142nm,19.5s,baz=179,slow=33							
comp=Z,0.5nm,0.6s							
SEY	**Seymchan**	87.06	345	LR	LR	18 23 11.7	
comp=Z,155nm,19.9s,baz=113,slow=33							
SYO	**Syowa Base**	88.03	191	⇑*e*PcP	P	17 48 51.3	+0.7
SYO	**Syowa Base**	88.03	191	⇓*e*sP	sP	17 48 55.2	+3.7
TROLL	**Troll, Antarti**	88.08	179	⇑P	P	17 48 52.8	+1.7
comp=Z,112nm,0.7s							
VNA3	**Neumayer Olymp**	88.19	175	⇑P	P	17 48 57.1	+5.6
comp=Z,1.4nm,0.3s							
SNAA	**Sanae**	88.23	177	⇑P	P	17 48 54.1	+2.4
comp=Z,74nm,1.0s							
SNAA	**Sanae**	88.23	177		P	17 48 51.3	-0.4
SNAA				IAmb	IAmb	17 48 55.4	
comp=Z,8.8nm,1.2s							
SNAA	**Sanae**	88.23	177	P	P	17 48 54.0	+2.4
comp=Z,4.1nm,1.1s,baz=237,slow=2.9,SNR=7.9							
comp=Z,4.1nm,1.1s							
ATAH	**Atahualpa**	92.17	98	LR	LR	18 23 40.3	
comp=Z,36nm,18.1s,baz=256,slow=31							
HHC	**Hu-ho-hao-te**	92.26	313	*e*P	P	17 49 10.8	-0.2
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,150nm,5.6s							
INK	**Inuvik**	92.79	14	LR	LR	18 25 24.9	
comp=Z,177nm,19.4s,baz=134,slow=32							
YAK	**Yakutsk**	93.44	337	LR	LR	18 28 46.4	
comp=Z,67nm,19.6s,baz=112,slow=34							
CMAR	**Chiang Mai Arr**	94.15	288		P	17 49 19.0	-1.1
CMAR	**Chiang Mai Arr**	94.15	288	P	P	17 49 19.8	-0.3
comp=Z,0.5nm,0.8s,baz=107,slow=2.5,SNR=10							
CMAR				LR	LR	18 29 03.1	
comp=Z,23nm,21.0s,baz=115,slow=34							
comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	94.36	23	LR	LR	18 25 19.7	
comp=Z,117nm,20.3s,baz=266,slow=31							

PZH	**PanZhiHua**	94.44	296	P	P	17 49 22.0	+0.6
ULM	**Lac du Bonnet**	97.51	39	LR	LR	18 28 49.5	
comp=Z,213nm,19.1s,baz=224,slow=32							
SONM	**Songino Array**	98.37	318	LR	LR	18 32 35.5	
comp=Z,39nm,18.7s,baz=17,slow=35							
TIXI	**Tiksi**	99.53	344	LR	LR	18 31 30.1	
comp=Z,89nm,20.1s,baz=143,slow=34							
ARCES	**ARCESS Array B**	129.25	352	PKP	PKPdf	17 55 10.5	+2.0
comp=Z,0.6nm,0.7s,baz=29,slow=2.8,SNR=5.2							
EKA	**Eskdalemuir Ar**	144.04	10	PKP	PKPdf	17 55 37.8	+1.7
comp=Z,1.5nm,0.9s,baz=6.1,slow=3.6,SNR=2.0							
GURO	**Guroymak-BITLI**	144.40	309		PKPab	17 55 35.1	-0.5
AKASG	**Malin Array Be**	144.65	335	PKP	PKPab	17 55 37.4	+1.4
comp=Z,1.9nm,0.6s,baz=40,slow=3.6,SNR=14							
AKBB	**Malin Array Si**	144.65	335		PKPab	17 55 36.0	+0.1
KIEV	**Kiev**	144.66	335		PKPab	17 55 34.7	-1.2
KIEV	**Kiev**	144.66	335	⇑P	PKPbc	17 55 38.5	+2.4
SORM	**Soroca**	147.01	333	⇑P	PKPab	17 55 47.2	+2.3
KWP	**Kalwaria Pacla**	147.88	340	*e*PKP	PKPbc	17 55 46.3	+0.5
OJC	**Ojcow**	148.19	344	*e*PKP	PKiKP	17 55 50.1	+1.7
KSP	**Ksiaz**	148.40	348	*e*PKP	PKiKP	17 55 50.9	+2.1
CLL	**Collm**	148.46	352	*e*PKPbc	PKiKP	17 55 50.0	+1.2
comp=Z,10.0nm,1.4s							
CLL				*i* x	x	17 55 56.9	
comp=Z,15nm,1.2s							
CLL				*i* x	x	17 56 01.3	
CLL				*e*PP	PP	17 59 15.0	-0.6
CLL				*e*PPS	PPS	18 12 04.0	
OSTC	**Ostas**	148.68	348	*e*PKP	PKPab	17 55 55.9	+4.4
BURAR	**Bucovina Array**	148.70	336	⇑P	PKiKP	17 55 51.4	+1.8
BRG	**Berggiesshubel**	148.76	351	*e*PKP	PKiKP	17 55 51.2	+1.7
BRG				Amp		17 55 55.8	
comp=Z,8.3nm,1.0s							
NIE	**Niedzica**	148.78	343	*e*PKP	PKPbc	17 55 49.9	+1.7
STEB	**Steborice**	148.95	346	*e*PKP	PKiKP	17 55 52.5	+2.6
TESR	**Tescani**	149.00	333	⇑P	PKiKP	17 55 51.7	+1.6
MORC	**Moravsky Berou**	149.15	346	⇑P	PKPab	17 55 54.1	+0.7
MORC	**Moravsky Berou**	149.15	346	*e*PKP	PKiKP	17 55 52.0	+1.6
ONER	**Baraj Valea Uz**	149.25	333	⇑P	PKPbc	17 55 51.3	+1.9
CFR	**Carcaliu**	149.34	330	⇑P	PKiKP	17 55 52.4	+1.6
TPGR	**Topolog**	149.44	329	⇑P	PKPbc	17 55 52.0	+2.0
VRI	**Vrincioaia**	149.47	332	⇑P	PKiKP	17 55 52.7	+1.5
PLOR	**Plostina**	149.51	332	⇓P	PKPbc	17 55 52.4	+2.2
TURR	**Turia**	149.63	333	⇑P	PKiKP	17 55 53.9	+2.4
OZUR		149.69	333	⇑P	PKiKP	17 55 54.1	+2.5
BRTR	**Keskin Array B**	149.72	316	PKPbc	PKPbc	17 55 52.4	+1.3
comp=Z,1.5nm,1.0s,baz=196,slow=2.2,SNR=7.4							
VRAC	**Vranov**	149.80	347	*e*PKP	PKPbc	17 55 52.6	+1.9
DOPR	**Dopca**	149.96	333	⇑P	PKPbc	17 55 53.6	+2.3
JAVC	**Velka Javorina**	149.98	345	*e*PKP	PKiKP	17 55 54.2	+2.1
NEHR	**Nehoiu**	150.00	332	⇑P	PKPbc	17 55 53.1	+1.7
KRUC	**Moravsky**	150.07	347	*e*PKP	PKPbc	17 55 53.5	+2.1
MLR	**Muntele Rosu**	150.10	332	⇑P	PKPbc	17 55 53.5	+1.8
PSZ	**Piszkesteto**	150.26	342	⇑P	PKiKP	17 55 57.0	+4.2
MARR	**Marisel-Cluj**	150.28	337	⇑P	PKiKP	17 55 55.1	+2.2
DRGR		150.33	337	⇑P	PKiKP	17 55 55.0	+2.0
KHC	**Kasperske Hory**	150.51	351	*e*PKP	PKiKP	17 55 57.1	+3.9
MODS	**Modra-Piesok**	150.53	346	*e*PKP	PKPab	17 55 58.3	-0.8
ARR	**Arges**	150.76	334	⇑P	PKiKP	17 55 56.0	+2.1
GERES	**GERESS Array B**	150.77	350	PKPbc	PKiKP	17 55 55.9	+2.1
comp=Z,1.0nm,0.9s,baz=346,slow=2.8,SNR=6.4							
CONA	**Conrad Observa**	151.26	347	*e*pPKP	PKiKP	17 55 56.5	+1.7
comp=Z,7.1nm,1.3s							
MMAI	**Mount Meron Ar**	151.37	303	PKPbc	PKiKP	17 55 57.9	+2.4
comp=Z,4.4nm,0.9s,baz=0.0,slow=2.0,SNR=1.7							
RONA	**Rosalia, Austr**	151.38	346	*e*pPKiKP	PKiKP	17 55 59.0	+3.9
comp=Z,7.7nm,1.0s							
SURR	**Surduc**	151.43	337	⇓P	PKiKP	17 55 58.0	+2.9
GZR	**Gura Zlata**	151.49	336	⇑P	PKPbc	17 55 56.4	+1.5
BZS	**Buzias**	151.73	338	⇑P	PKiKP	17 55 59.5	+3.7
HERR	**Herculane**	152.05	336	⇑P	PKiKP	17 55 59.4	+3.0
ELND	**Elena**	152.10	329	⇑P	PKPbc	17 55 57.5	+1.2
MORH	**Mrgy, Hungar**	152.16	342	⇑P	PKiKP	17 55 59.1	+2.5
RETA	**Reutte**	152.48	354	*e*PKP	PKPab	17 56 05.7	-1.6
comp=Z,1.9nm,0.5s							
WATA	**Walderalm**	152.54	353	*e*PKP	PKPab	17 56 05.3	-2.4
comp=Z,12nm,1.4s							
MOTA	**Moosalm**	152.59	353	*e*PKP	PKPdf	17 55 49.1	-1.4
comp=Z,1.5nm,0.5s							
WTTA	**Wattenberg**	152.60	353	*e*PKP	PKPab	17 56 05.5	-2.5
comp=Z,5.2nm,0.7s							
FETA	**Feichten**	152.94	354	*e*PKP	PKPbc	17 55 56.7	-1.6
comp=Z,0.1nm,0.2s							
ABTA	**Abfaltersbach**	153.00	351	*e*PKiKP	PKPbc	17 55 58.7	+0.4
comp=Z,1.7nm,0.6s							
BOVS	**Bovan**	153.38	335	⇑P	PKPbc	17 56 00.6	+1.5

*SOME **15** 17:49:27.3, 41.°35N×83.°35E, h25km*
*NNC **15** 17:49:33.9±2.5, 42.°10N×83.°45E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=20.0km s-min=10.6km az=152.0
*IDC **15** 17:49:35.0±3.8, 42.°27N×83.°39E, h0km, mb3.5/1,*
mbtmp3.5/3, ML2.9/2, Error ellipse: s-maj=82.6km
s-min=30.2km az=94.0

ISC 15 17:49:36.0±2.1, 42.°04N±0.°10×83.°46E±0.°08, h15km, n24, σ2.9 38/35, 7C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	3.16	292	Pg	Pn	17 50 25.3	0.0
30nm,0.2s							
SHLS				Lg	Lg	17 51 07.4	
181nm,0.4s							
SHLS	**Shalkode**	3.16	292	*e*P	Pn	17 50 24.6	-0.7
11nm,0.3s							
SHLS				*e*S	Sn	17 51 06.0	+3.3
248nm,0.4s							
PDGK	**Podgornoye**	3.20	295	⇓Pg	Pb	17 50 31.1	-1.5
24nm,0.8s							
PDGK				⇓Lg	Lg	17 51 16.1	
102nm,0.6s							
UZB	**Uzynbulak**	3.46	290	Pg	Pn	17 50 33.8	+4.3
8.8nm,0.1s							
UZB				Lg	Lg	17 51 22.7	
57nm,0.4s							
UZB	**Uzynbulak**	3.46	290	*e*P	Pn	17 50 33.0	+3.6
4.6nm,0.2s							
UZB				*e*S	Sb	17 51 20.6	+1.6
41nm,0.2s							
ARXS	**Arharly**	4.66	300	*e*P	Pb	17 50 57.3	-0.2
ARXS				*e*S	Sg	17 52 02.4	-3.2
TDK	**Taldyqorghan**	4.72	311	Pg	Pb	17 51 00.9	+2.4
37nm,0.3s							
TDK				Lg	Lg	17 52 08.3	
89nm,0.6s							
TDK	**Taldyqorghan**	4.72	311	*e*P	Pb	17 51 00.9	+2.4
37nm,0.3s							
TDK				*e*S	Sg	17 52 08.3	+0.8
89nm,0.6s							
MK31	**Makanchi Array**	4.83	350	⇑Pn	Pn	17 50 48.2	0.0
0.6nm,0.3s,baz=160,slow=13,SNR=58							
MK31				⇑Pg	Pb	17 51 02.3	+2.0
8.5nm,0.6s,baz=175,slow=16,SNR=24							
MK31				⇑Lg	Lg	17 52 00.9	
31nm,0.6s,baz=172,slow=31,SNR=10							
MKAR	**Makanchi Array**	4.83	350	Pn	Pn	17 50 48.4	+0.2
0.9nm,0.3s,baz=170,slow=12,SNR=66							
MKAR				Sn	Sn	17 51 43.0	-0.9
3.2nm,0.3s,baz=176,slow=16,SNR=5.5							
MKAR				Lg	Lg	17 52 01.6	
2.5nm,0.3s,baz=174,slow=26,SNR=5.4							
1.0nm,0.3s							
KOTS	**Kotyrbulak**	4.83	286	*e*P	Pb	17 50 57.1	-3.4
5.6nm,0.3s							
KOTS				*e*S	Sb	17 52 01.5	+3.0
42nm,0.4s							
MAKZ	**Makanchi**	4.89	348	⇑Pn	Pn	17 50 49.1	+0.1
0.4nm,0.2s							
MAKZ				⇓Pg	Pb	17 51 02.1	+0.8
4.6nm,0.5s							
MAKZ				⇓Lg	Lg	17 52 04.0	
28nm,0.8s							
TNSS	**Tian-Shan**	4.92	284	*e*P	Pb	17 50 58.3	-3.7
2.2nm,0.4s							
TNSS				*e*S	Sb	17 52 04.1	+3.0
3.7nm,0.7s							
KTBS	**Karatobe**	5.25	291	Pg	Pb	17 51 08.2	+0.6
3.7nm,0.4s							
KTBS				Lg	Lg	17 52 21.5	
36nm,0.7s							
MTBS	**Maitube**	5.30	284	Pg	Pb	17 51 09.9	+1.4
2.9nm,0.2s							
MTBS				Lg	Lg	17 52 24.4	
17nm,0.2s							
MTBS	**Maitube**	5.30	284	*e*P	Pb	17 51 08.4	-0.1
1.4nm,0.2s							
MTBS				*e*S	Sg	17 52 21.1	-5.2
14nm,0.5s							
KST	**Kastek**	5.63	283	Pg	Pb	17 51 14.9	+0.9
6.4nm,0.6s							
KST				Lg	Lg	17 52 32.9	
8.3nm,0.7s							
KST	**Kastek**	5.63	283	*e*P	Pb	17 51 14.9	+0.9
6.4nm,0.6s							
KST				*e*S	Sg	17 52 32.9	-3.8
8.3nm,0.7s							
KRBS	**Karabastau**	5.96	289	Pg	Pb	17 51 20.6	+1.0
2.4nm,0.4s							
KRBS				Lg	Lg	17 52 42.7	
7.2nm,0.6s							
KURBB	**Kurchatov Arra**	9.24	340	Lg	Lg	17 54 24.6	
0.2nm,0.3s,baz=162,slow=31,SNR=4.6							
KURBB	**Kurchatov Arra**	9.24	340	⇓Pn	Pn	17 51 47.8	-0.8
1.7nm,0.7s							
KURBB				⇑Sn	Sn	17 53 31.6	-0.6
5.5nm,0.6s							
KURBB				⇓Lg	Lg	17 54 22.3	
19nm,0.6s							
KURK	**Kurchatov**	9.30	341	⇑Sn	Sn	17 53 30.8	-3.0
2.1nm,0.7s							
KURK				⇑Lg	Lg	17 54 21.8	
4.6nm,0.7s							
ZALV	**Zalesovo Beam**	11.96	4	Pn	Pn	17 52 21.4	-4.4
0.2nm,0.3s,baz=186,slow=13,SNR=4.8							
ZALV				Sn	Sn	17 54 36.1	-2.6
0.2nm,0.3s,baz=183,slow=22,SNR=2.3							
ZALV				Lg	Lg	17 55 46.3	
0.1nm,0.3s,baz=189,slow=25,SNR=2.3							
1.3nm,0.6s							
ARCES	**ARCESS Array B**	40.23	333	P	P	17 57 11.2	-0.4
0.3nm,0.3s,baz=94,slow=7.8,SNR=7.6							
0.3nm,0.3s							

*IDC **15** 18:02:39.5±1.7, 36.°44N×140.°69E, h52km±17km, mb3.5/11,*
mbtmp3.9/14, ML4.3/3, Error ellipse: s-maj=21.7km
s-min=10.7km az=90.0
*NIED **15** 18:02:41.4, 36.°47N×140.°58E, h64km, MW3.8, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14Nm;
Mrr0.39; Mθθ-2.62; Mφφ2.23; Mrθ3.53; Mθφ-3.48; Mφr-1.50;
Fault plane solution: M0 5.72000×10^14 NP1:
φs200.00000°, δ48.00000°, λ5.00000°. NP2:φs106.00000°,
δ86.00000°, λ138.00000°.
*JMA **15** 18:02:41.4±0.1, 36.°5N±0.°2×140.°6E±0.°4, h64km, MD3.8/40,*
MV4.0/40, NORTHERN IBARAKI PREF
JMA Felt III J1 at NORTHERN IBARAKI PREF .

ISC 15 18:02:40.8±0.7, 36.°45N±0.°04×140.°62E±0.°05, h66km±6km,
n48, σ1.9 63/46, mb3.8/11, 8D, Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	0.11	192	*i* P	Pn	18 02 51.1	+0.5
JHYU				S	Sn	18 02 58.0	+0.3
JHYU	**Hitachinakayam**	0.11	192	A	A	18 02 51.1	
comp=N,29nm,0.6s,comp=E,31nm,0.4s							
JHO	**Hitachi**	0.16	346	⇓*i* P	Pn	18 02 51.0	+0.2
JHO				⇓S	Sn	18 02 57.9	-0.3
JHO	**Hitachi**	0.16	346	A	A	18 02 51.0	
comp=N,17nm,0.2s,comp=E,12nm,0.7s							
JYT	**Yasato**	0.41	237	*i* P	Pn	18 02 52.8	+0.4
JYT				S	Sn	18 03 01.0	+0.2
JYT	**Yasato**	0.41	237	A	A	18 02 52.8	
comp=N,22nm,0.4s,comp=E,33nm,4.9s							
ONAJ	**Iwakimizuishiy**	0.67	13	A	A	18 02 55.5	
comp=N,7.0nm,0.3s,comp=E,18nm,0.3s							
JSB	**Shiboa**	0.76	313	A	A	18 02 56.3	
comp=N,11nm,0.4s,comp=E,10.0nm,0.4s							
JFK	**Kawauchi**	0.94	13	⇓*i* P	Pn	18 02 58.1	-0.2
JFK				⇓S	Sn	18 03 10.5	-0.8
JFK	**Kawauchi**	0.94	13	A	A	18 02 58.1	
comp=N,3.0nm,0.8s,comp=E,3.0nm,1.7s							
JAG	**Ashikaga**	0.94	269	*i* P	Pn	18 02 58.7	+0.3
JAG				S	Sn	18 03 11.1	-0.2
JAG	**Ashikaga**	0.94	269	A	A	18 02 58.7	
comp=N,5.0nm,1.1s,comp=E,8.0nm,0.3s							
JOTO	**OTAMA OYAMA**	1.13	349	*i* P	Pn	18 03 01.1	+0.3
JOTO				S	Sn	18 03 15.7	0.0
JKT	**Katashina**	1.15	286	P	Pn	18 03 01.4	+0.4
JKT				S	Sn	18 03 16.7	+0.6
JKT	**Katashina**	1.15	286	A	A	18 03 01.4	
comp=N,10.0nm,0.3s,comp=E,20nm,0.3s							
JFY	**Yanaizu**	1.20	323	⇓*i* P	Pn	18 03 02.1	+0.4
JFY				⇓S	Sn	18 03 18.1	+0.7
JMM	**Marumori**	1.42	6	P	Pn	18 03 05.0	+0.4
JMM	**Marumori**	1.42	6	⇓*i* P	Pn	18 03 04.9	+0.4
JMM

*IDC **15** 18:35:38.6±0.9,59.°60S×25.°64W,h0km,mb4.0/5, mbtmp4.1/6,ML4.6/1,Error ellipse: s-maj=45.1km s-min=23.6km az=80.0*
*NEIC **15** 18:35:40.0±2.0,59.°5S±0.°1×26.°38W±0.°08,h10km±1km, mb4.4/16,Error ellipse: s-maj=18.7km s-min=5.7km az=166.0*
ISC 15 18:35:39.3±0.7,59.°64S±0.°10×26.°3W±0.°1,h10km,n38, σ1§04/32,mb4.3/8,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.73**	**309**	Pn	**Pn**	**18 37 30.6**	**-1.2**
VNA1	**Neumayer--Stat**	**13.32**	**153**	⇑P	**Pn**	**18 38 47.5**	**-0.6**
	comp=Z,38nm,0.4s						
VNA3	**Neumayer Olymp**	**13.47**	**157**	⇑P	**Pn**	**18 38 49.2**	**-1.0**
	comp=Z,32nm,0.6s						
VNA2	**Neumayer--Watz**	**13.72**	**153**	⇑P	**Pn**	**18 38 52.8**	**-0.8**
	comp=Z,6.6nm,0.3s,baz=320,slow=14						
ESPZ	**Base Esperanza**	**15.04**	**242**	Pn	**Pn**	**18 39 12.3**	**+0.8**
SNAA	**Sanae**	**15.30**	**152**	⇑P	**Pn**	**18 39 14.0**	**-1.1**
	comp=Z,430nm,0.6s						
SNAA	**Sanae**	**15.30**	**152**		**Pn**	**18 39 13.3**	**-1.8**
SNAA				IAmb	IAmb	18 39 18.3	
	comp=Z,10nm,0.6s						
SNAA	**Sanae**	**15.30**	**152**	Pn	**Pn**	**18 39 14.5**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=8.0,slow=12,SNR=90						
	comp=Z,10nm,0.4s						
TROLL	**Troll, Antarti**	**16.86**	**149**	⇑P	**Pn**	**18 39 34.7**	**-0.5**
	comp=Z,286nm,0.4s						
PMSA	**Palmer Station**	**18.13**	**237**		**Pn**	**18 39 49.8**	**-1.1**
PMSA				IAmb	IAmb	18 40 06.8	
	comp=Z,25nm,0.9s						
BELA	**Belgrano 2**	**18.54**	**186**	P	**P**	**18 39 55.6**	**0.0**
EFI	**East Falkland**	**19.45**	**280**	P	**P**	**18 40 04.7**	**-1.1**
SMAI	**San Martin Ant**	**19.50**	**227**	P	**P**	**18 40 05.3**	**-0.8**
SMAI				IAmb	IAmb	18 40 26.1	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**30.61**	**180**	P	**P**	**18 41 53.3**	**+0.1**
QSPA				IAmb	IAmb	18 41 58.4	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**30.61**	**180**	P	**P**	**18 41 55.1**	**+1.9**
	comp=Z,2.7nm,0.9s,baz=108,slow=0.9,SNR=7.7						
	comp=Z,2.7nm,0.9s						
TRQA	**Tornquist**	**31.30**	**298**	P	**P**	**18 41 59.5**	**+0.1**
TRQA				IAmb	IAmb	18 42 07.2	
	comp=Z,11nm,1.4s						
PLCA	**Paso Flores**	**33.24**	**285**	P	**P**	**18 42 17.2**	**+0.8**
PLCA				IAmb	IAmb	18 42 19.5	
	comp=Z,6.3nm,1.4s						
MT09	**Talagante**	**38.97**	**291**	P	**P**	**18 43 05.2**	**-0.4**
MT01	**Popeta**	**39.03**	**291**	P	**P**	**18 43 07.0**	**+1.1**
MT01				IAmb	IAmb	18 43 09.9	
	comp=Z,21nm,1.5s						
MT02	**Curacav**	**39.47**	**292**	P	**P**	**18 43 09.7**	**+0.1**
MT02				IAmb	IAmb	18 43 13.8	
	comp=Z,9.9nm,1.1s						
VNDA	**Vanda**	**43.00**	**183**	P	**P**	**18 43 39.2**	**+1.1**
VNDA	**Vanda**	**43.00**	**183**	P	**P**	**18 43 38.6**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=164,slow=6.0,SNR=3.7						
	comp=Z,1.1nm,1.1s						
H04S2	**CROZET ISLANDS**	**45.74**	**110**	T	T	19 33 22.1	
	baz=225,slow=75,SNR=78						
H04S3	**CROZET ISLANDS**	**45.75**	**110**	T	T	19 33 22.1	
	baz=225,slow=75,SNR=74						
H04S1	**CROZET ISLANDS**	**45.76**	**110**	T	T	19 33 22.1	
	baz=225,slow=75,SNR=59						
PB09	**IPOC Station P**	**48.43**	**302**	P	**P**	**18 44 22.3**	**+0.5**
H10N1	**ASCENSION HYDR**	**52.45**	**15**	T	T	19 40 45.0	
	baz=187						
H10N3	**ASCENSION HYDR**	**52.45**	**15**	T	T	19 40 43.1	
	baz=187,slow=74						
H10N2	**ASCENSION HYDR**	**52.46**	**15**	T	T	19 40 46.1	
	baz=187,slow=74						
LPAZ	**La Paz**	**52.87**	**307**	P	**P**	**18 44 55.7**	**-0.2**
LPAZ	**La Paz**	**52.87**	**307**	P	**P**	**18 44 59.2**	**+3.3**
	comp=Z,1.5nm,0.7s,baz=99,slow=5.1,SNR=5.8						
	comp=Z,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.97**	**28**	P	**P**	**18 47 25.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**75.97**	**28**	P	**P**	**18 47 26.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=185,slow=3.7,SNR=6.5						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**95.42**	**162**	P	**P**	**18 49 04.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=186,slow=4.6,SNR=4.6						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**134.09**	**23**	PKP	**PKPdf**	**18 54 54.8**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=205,slow=1.9,SNR=3.8						
SONM	**Songino Array**	**150.29**	**92**	PKPbc	**PKiKP**	**18 55 29.9**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=228,slow=2.9,SNR=4.4						
I26K	**Coal Creek Min**	**151.41**	**308**	PKPdf	**PKPdf**	**18 55 26.3**	**+0.7**
ILAR	**Eielson Array**	**152.75**	**306**	PKPbc	**PKiKP**	**18 55 34.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=120,slow=7.4,SNR=6.0						

*IDC **15** 18:36:30.8±0.7,59.°70S×26.°12W,h0km,mb4.2/9, mbtmp4.3/10,ML5.1/1,MS3.6/2,Error ellipse: s-maj=26.6km s-min=20.3km az=80.0*
*NEIC **15** 18:36:32.7±1.9,59.°9S±0.°1×26.°9W±0.°3,h10km±1km, mb4.7/25,Error ellipse: s-maj=29.9km s-min=17.7km az=50.0*
ISC 15 18:36:33.9±0.5,59.°79S±0.°08×26.°71W±0.°09,h26km,n50, σ1§34/49,mb4.5/17,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67**	**312**	Pn	**Pn**	**18 38 24.2**	**+0.4**
VNA1	**Neumayer--Stat**	**13.28**	**153**	⇑P	**Pn**	**18 39 40.7**	**+0.3**
	comp=Z,74nm,0.5s						
VNA3	**Neumayer Olymp**	**13.41**	**156**	⇑P	**Pn**	**18 39 42.0**	**-0.2**
	comp=Z,69nm,0.6s						
VNA2	**Neumayer--Watz**	**13.68**	**153**	⇑P	**Pn**	**18 39 45.6**	**-0.3**
	comp=Z,18nm,0.5s,baz=318,slow=14						
ESPZ	**Base Esperanza**	**14.78**	**243**		**Pn**	**18 39 58.8**	**-2.0**
SNAA	**Sanae**	**15.27**	**151**	⇑P	**Pn**	**18 40 06.7**	**-0.8**
	comp=Z,932nm,0.5s						
SNAA	**Sanae**	**15.27**	**151**	Pn	**Pn**	**18 40 06.8**	**-0.7**
SNAA	**Sanae**	**15.27**	**151**	Pn	**Pn**	**18 40 06.9**	**-0.5**
	comp=Z,7.3nm,0.3s,baz=310,slow=13,SNR=29						
SNAA				LR	LR	18 44 56.4	
	comp=Z,336nm,19.3s,baz=14,slow=33						
	comp=Z,33nm,0.5s						
TROLL	**Troll, Antarti**	**16.84**	**148**	⇑P	**P**	**18 40 28.5**	**-1.0**
	comp=Z,538nm,0.4s						
PMSA	**Palmer Station**	**17.86**	**238**	LR	LR	18 45 44.2	
	comp=Z,152nm,19.5s,baz=76,slow=30						
SMAI	**San Martin Ant**	**19.24**	**227**	P	**P**	**18 40 53.8**	**-1.9**
SMAI				IAmb	IAmb	18 41 06.6	
	comp=Z,33nm,1.1s						
EFI	**East Falkland**	**19.27**	**281**	P	**P**	**18 40 55.1**	**-1.2**
MG02	**Cerro Sombrero**	**24.25**	**268**	P	**P**	**18 41 48.6**	**+0.2**
QSPA	**South Pole Qui**	**30.45**	**180**	P	**P**	**18 42 43.3**	**-0.8**
QSPA	**South Pole Qui**	**30.45**	**180**	P	**P**	**18 42 44.4**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=197,slow=5.5,SNR=6.1						
	comp=Z,3.0nm,0.8s						
TRQA	**Tornquist**	**31.18**	**298**	P	**P**	**18 42 50.2**	**-0.4**
TRQA				IAmb	IAmb	18 42 59.1	
	comp=Z,6.5nm,0.8s						
PLCA	**Paso Flores**	**33.08**	**285**	P	**P**	**18 43 06.1**	**-1.1**
PLCA				IAmb	IAmb	18 43 31.4	
	comp=Z,11nm,1.4s						
PLCA	**Paso Flores**	**33.08**	**285**	P	**P**	**18 43 09.1**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=168,slow=7.9,SNR=4.3						
	comp=Z,2.4nm,0.8s						
PLTB	**Pedras Altas**	**33.27**	**315**	P	**P**	**18 43 10.3**	**+1.4**
MT09	**Talagante**	**38.83**	**292**	P	**P**	**18 43 56.8**	**+0.1**
MT09				IAmb	IAmb	18 44 01.6	
	comp=Z,33nm,1.4s						
MT01	**Popeta**	**38.88**	**292**	P	**P**	**18 43 56.4**	**-0.6**
MT01				IAmb	IAmb	18 44 02.7	
	comp=Z,18nm,1.4s						
MT02	**Curacav**	**39.33**	**292**	P	**P**	**18 44 00.3**	**-0.4**
MT02				IAmb	IAmb	18 44 20.4	
	comp=Z,22nm,1.2s						
CO02	**Combarbal**	**40.98**	**294**	P	**P**	**18 44 13.8**	**-0.7**
CO02				IAmb	IAmb	18 44 24.0	
	comp=Z,17nm,1.1s						
SBA	**Scott Base**	**42.36**	**184**	P	**P**	**18 44 27.8**	**+2.7**
VNDA	**Vanda**	**42.84**	**183**	P	**P**	**18 44 30.7**	**+1.7**
VNDA	**Vanda**	**42.84**	**183**	P	**P**	**18 44 32.0**	**+3.0**
	comp=Z,1.5nm,0.8s,baz=192,slow=5.5,SNR=8.1						
	comp=Z,1.5nm,0.8s						
AC06	**Mina Casimiro**	**43.96**	**298**	P	**P**	**18 44 38.2**	**-0.4**
AC06				IAmb	IAmb	18 44 45.4	
	comp=Z,16nm,1.1s						
GO02	**Mina Guanaco**	**45.52**	**300**	P	**P**	**18 44 51.9**	**+0.5**
BOSA	**Boshof**	**46.77**	**72**	P	**P**	**18 44 58.5**	**-2.5**
	comp=Z,3.3nm,0.8s,baz=227,slow=7.2,SNR=3.5						
	comp=Z,3.3nm,0.8s						
PB03	**IPOC Station P**	**48.33**	**302**	P	**P**	**18 45 13.8**	**+0.6**
PB09	**IPOC Station P**	**48.33**	**303**	P	**P**	**18 45 13.8**	**+0.5**
PB09				IAmb	IAmb	18 45 23.9	
	comp=Z,7.5nm,0.7s						
PB02	**IPOC Station P**	**49.03**	**302**	P	**P**	**18 45 19.0**	**+0.5**
PB02				IAmb	IAmb	18 45 24.9	
	comp=Z,9.8nm,0.8s						
PB01	**IPOC Station P**	**49.10**	**303**	P	**P**	**18 45 20.4**	**+1.3**
PB16	**IPOC Station P**	**51.52**	**304**	P	**P**	**18 45 39.5**	**+1.5**
LPAZ	**La Paz**	**52.80**	**307**	P	**P**	**18 45 48.1**	**+0.6**
LPAZ	**La Paz**	**52.80**	**307**	P	**P**	**18 45 50.5**	**+3.0**
	comp=Z,3.8nm,0.8s,baz=144,slow=7.1,SNR=8.9						
	comp=Z,3.8nm,0.8s						
BOAV	**Boa Vista**	**67.42**	**323**	P	**P**	**18 47 25.4**	**-1.5**
BOAV				IAmb	IAmb	18 48 02.6	
	comp=Z,7.0nm,1.5s						
DBIC	**Dimbokro**	**68.49**	**23**	P	**P**	**18 47 34.1**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=220,slow=4.3,SNR=2.5						
	comp=Z,3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.21**	**28**	P	**P**	**18 48 19.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.21**	**28**	P	**P**	**18 48 19.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=195,slow=5.2,SNR=5.6						
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**88.16**	**170**	P	**P**	**18 49 23.6**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=117,slow=2.3,SNR=3.1						
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**95.34**	**162**	P	**P**	**18 49 56.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=187,slow=4.0,SNR=8.7						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**134.32**	**23**	PKP	**PKPdf**	**18 55 47.4**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=222,slow=1.2,SNR=4.5						
MMPY	**Sheldon Lake,**	**145.46**	**308**		**PKPab**	**18 56 09.5**	**+1.1**
H29M	**Whitestone**	**149.80**	**311**	PKPdf	**PKPbc**	**18 56 17.7**	**-2.1**
SONM	**Songino Array**	**150.50**	**93**	PKPbc	**PKPbc**	**18 56 21.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=207,slow=3.1,SNR=5.6						
F28M	**Old Crow**	**150.82**	**314**	PKPdf	**PKPbc**	**18 56 19.6**	**-2.6**
H27K	**Steamboat Moun**	**151.01**	**311**	PKPdf	**PKPdf**	**18 56 18.3**	**+1.4**
I26K	**Coal Creek Min**	**151.34**	**308**		**PKPdf**	**18 56 18.4**	**+1.0**
ILAR	**Eielson Array**	**152.67**	**306**	PKPbc	**PKiKP**	**18 56 27.2**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=325,slow=1.6,SNR=4.7						

IDC 15 18:36:34.2±1.3,27.°50N×100.°35E,h0km,mb3.3/4, mbtmp3.5/5,ML4.0/1,Error ellipse: s-maj=57.7km s-min=22.1km az=73.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.09**	**188**	Pn	Pn	18 38 47.0	+0.2
	0.4nm,0.3s,baz=8.8,slow=15,SNR=24						
CMAR				Sn	Sn	18 40 23.5	-6.4
	0.9nm,0.3s,baz=8.7,slow=30,SNR=4.7						
	4.1nm,0.7s						
SONM	**Songino Array**	**20.84**	**11**	P	P	18 41 18.3	+0.7
	0.2nm,0.3s,baz=187,slow=10,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**23.94**	**328**	P	P	18 41 49.7	-0.3
	0.9nm,0.8s,baz=130,slow=11,SNR=7.8						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**28.79**	**341**	P	P	18 42 33.5	-0.2
	0.4nm,0.6s,baz=146,slow=10,SNR=1.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.51**	**141**	P	P	18 46 25.4	-0.1
	0.2nm,0.3s,baz=324,slow=7.2,SNR=7.3						
	0.2nm,0.3s						

*IDC **15** 18:53:10.5±0.9,24.°80N×127.°76E,h0km,mb3.7/6, mbtmp3.8/8,ML3.3/2,MS3.7/2,Error ellipse: s-maj=41.7km s-min=16.8km az=82.0*
*JMA **15** 18:53:12.2±0.2,25.°N±1.°×12.°8E±.°,h49km,MV3.4/24, NEAR OKINAWAJIMA ISLAND*
ISC 15 18:53:14.6±0.8,24.°71N±0.°06×127.°79E±0.°05,h35km,n43, σ1§45/46,mb3.6/6,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.43**	**360**	P	**Pn**	**18 53 37.1**	**-1.1**
JJT3				eS	**Sn**	**18 53 54.7**	**-1.0**
JNTH	**Nagotoyohara**	**1.82**	**7**	P	**Pn**	**18 53 41.9**	**-1.5**
JKE	**Kume jima 2**	**1.85**	**331**	P	**Pn**	**18 53 42.6**	**-1.3**
JAGN	**Aguni-jima**	**1.94**	**345**	P	**Pn**	**18 53 44.2**	**-0.8**
JOW	**Kunigami**	**2.16**	**12**	Pn	**Pn**	**18 53 47.3**	**-1.0**
	11nm,0.3s,baz=152,slow=20,SNR=3.7						
JOW				Sn	**Sn**	**18 54 12.5**	**-1.3**
	11nm,0.3s,baz=128,slow=28,SNR=2.5						
	27nm,0.2s						
JOW	**Kunigami**	**2.16**	**12**	P	**Pn**	**18 53 47.2**	**-1.0**
JOW	**Kunigami**	**2.16**	**12**	eP	**Pn**	**18 53 47.2**	**-1.0**
JOW				eS	**Sn**	**18 54 13.2**	**-0.6**
JMJ2	**Miyako jima3**	**2.24**	**271**	eP	**Pn**	**18 53 48.5**	**-0.6**
JMJ	**Miyako jima 2**	**2.27**	**273**	P	**Pn**	**18 53 48.4**	**-1.2**
JIKM	**Ikemajima**	**2.32**	**276**	eP	**Pn**	**18 53 49.2**	**-1.1**
JIKM				eS	**Sn**	**18 54 16.3**	**-1.3**
JIH	**Iheya**	**2.33**	**4**	eP	**Pn**	**18 53 50.0**	**-0.3**
JIRB	**Irabujima**	**2.38**	**274**	eP	**Pn**	**18 53 49.9**	**-1.2**
JYRO	**Yoronjima**	**2.39**	**14**	eP	**Pn**	**18 53 51.0**	**-0.3**
JOKE	**Okinoerabujima**	**2.74**	**15**	eP	**Pn**	**18 53 55.5**	**-0.6**
JTJ	**Tarama**	**2.81**	**269**	P	**Pn**	**18 53 55.7**	**-1.3**
JISG	**Ishigakijimahi**	**3.16**	**269**	eP	**Pn**	**18 54 00.5**	**-1.5**
JMZ	**Minamidaito 2**	**3.31**	**70**	P	**Pn**	**18 54 03.5**	**-0.3**
JMZ	**Minamidaito 2**	**3.31**	**70**	S	**Sn**	**18 54 39.5**	**-2.4**
JMZ	**Minamidaito 2**	**3.31**	**70**	eP	**Pn**	**18 54 02.1**	**-1.8**
JIJ	**Ishigaki jima**	**3.33**	**265**	P	**Pn**	**18 54 02.7**	**-1.6**
JKDJ	**Kitadaitoujima**	**3.41**	**68**	eP	**Pn**	**18 54 04.0**	**-1.3**
JKDJ				eS	**Sn**	**18 54 42.7**	**-1.8**
JKRS	**Kuro-shima**	**3.47**	**263**	eP	**Pn**	**18 54 05.0**	**-1.2**
IRIF	**Iriomote-Funau**	**3.71**	**265**	eP	**Pn**	**18 54 09.1**	**-0.4**
JAMN	**Amamninishikomi**	**3.74**	**19**	eP	**Pn**	**18 54 09.6**	**-0.2**
JAM	**Amami Oshima**	**4.04**	**23**	P	**Pn**	**18 54 13.7**	**-0.2**
JZK	**Kikaishima**	**4.09**	**28**	eP	**Pn**	**18 54 15.0**	**+0.3**
NACB	**Ninganchiao**	**5.67**	**266**	P	**Pn**	**18 54 34.1**	**-2.3**
YHNB	**Yeheng**	**5.83**	**271**	P	**Pn**	**18 54 37.4**	**-1.3**
YULB	**Yu-li**	**6.07**	**259**	P	**Pn**	**18 54 38.8**	**-3.2**
SSLB	**Suanglung**	**6.30**	**263**	P	**Pn**	**18 54 42.6**	**-2.5**
TWGBT	**Beinan**	**6.42**	**254**	P	**Pn**	**18 54 43.5**	**-3.3**
TPUB	**Ta-pu**	**6.69**	**259**	P	**Pn**	**18 54 49.3**	**-1.2**
JNU	**Nakatsue**	**8.81**	**17**	Pn	**Pn**	**18 55 18.9**	**-0.6**
	0.5nm,0.3s,baz=205,slow=17,SNR=2.1						
	8.3nm,0.8s						
BRDH	**Bariadhala**	**33.10**	**274**	LR	LR	19 13 14.7	
	comp=Z,148nm,19.0s,baz=149,slow=36						
MKAR	**Makanchi Array**	**42.27**	**313**	P	**P**	**19 01 05.0**	**+0.3**
	0.3nm,0.5s,baz=96,slow=11,SNR=5.0						
	0.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**42.59**	**183**	LR	LR	19 19 34.8	
	comp=Z,80nm,20.6s,baz=352,slow=37						
ZALV	**Zalesovo Beam**	**43.23**	**324**	P	**P**	**19 01 13.0**	**+0.8**
	0.4nm,0.3s,baz=111,slow=8.7,SNR=2.8						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**44.84**	**171**	P	**P**	**19 01 27.6**	**+2.1**
	1.9nm,0.7s,baz=352,slow=8.7,SNR=24						
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.69**	**318**	P	**P**	**19 01 32.2**	**+0.2**
	0.2nm,0.5s,baz=105,slow=8.8,SNR=2.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**48.45**	**172**	P	**P**	**19 01 56.1**	**+2.4**
	0.4nm,0.6s,baz=359,slow=8.0,SNR=10.0						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**73.99**	**331**	P	**P**	**19 04 48.0**	**+1.7**
	2.6nm,0.9s,baz=85,slow=2.3,SNR=3.9						
	2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**115.34**	**299**	PKP	**PKPdf**	**19 11 52.7**	**-0.7**
	0.3nm,0.9s,baz=84,slow=2.1,SNR=1.6						
SNAA	**Sanae**	**125.57**	**197**	PKP	**PKiKP**	**19 12 11.0**	**-0.8**
	0.3nm,0.5s,baz=296,slow=17,SNR=1.4						

*IDC **15** 18:56:46.5±0.8,1.°11N×96.°92E,h0km,mb4.2/16, mbtmp4.2/18,ML3.9/2,MS3.5/9,Error ellipse: s-maj=25.5km s-min=14.8km az=57.0*
*NEIC **15** 18:56:48.5±2.1,1.°21N±0.°06×96.°89E±0.°04,h10km±1km, mb4.6/49,Error ellipse: s-maj=10.7km s-min=6.3km az=171.0*
*DJA **15** 18:56:50.8±0.8,1.°N±3.°×9.°7E±.°,h28km±5km,M4.5/20, mB4.9/3,mb4.4/7,MLv4.6/20,Mw(mB)4.1/3*
ISC 15 18:56:50.1±0.5,1.°20N±0.°04×96.°94E±0.°05,h25km,n130, σ1§34/123,mb4.6/41,MS3.8/9,1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.65**	**80**		**Pb**	**18 57 01.7**	**-1.1**
GSI					**Sb**	**18 57 11.1**	**-0.3**
GSI	**Gunungsitoli**	**0.65**	**80**		**Pb**	**18 57 02.7**	**-0.1**
GSI	**Gunungsitoli**	**0.65**	**80**	S	**Sb**	**18 57 11.9**	**+0.4**
GSI	**Gunungsitoli**	**0.65**	**80**	P	**Pb**	**18 57 02.5**	**-0.3**
GSI				S	**Sb**	**18 57 11.6**	**+0.1**
SNSI	**Sinabang, Aceh**	**1.35**	**333**	P	**Pn**	**18 57 14.5**	**+1.1**
SNSI				S	**Sn**	**18 57 31.5**	**+1.0**
PBSI	**Pulau Batu**	**1.83**	**133**	P	**Pn**	**18 57 20.2**	**+0.2**
PBSI				S	**Sn**	**18 57 40.8**	**-1.5**
KCSI	**Kotacane, Aceh**	**2.46**	**20**	P	**Pn**	**18 57 28.3**	**-0.3**
RPSI	**Rantau Prapat**	**2.48**	**53**		**Pn**	**18 57 29.2**	**+0.2**
PSI	**Prapat**	**2.55**	**51**	Pn	**Pn**	**18 57 29.2**	**-0.8**
	12nm,0.3s,baz=270,slow=13,SNR=19						
PSI				LR	LR	18 58 17.6	
	comp=Z,502nm,21.4s,slow=36						
	41nm,0.4s						
MNSI	**Mandailing Nat**	**2.67**	**99**	P	**Pn**	**18 57 31.1**	**-0.5**
TSI	**Tuntungan**	**2.81**	**35**	P	**Pn**	**18 57 33.2**	**-0.2**
MLSI	**Meulaboh, Aceh**	**3.10**	**350**	P	**Pn**	**18 57 37.7**	**+0.3**
SISI	**Saibi**	**3.30**	**139**	P	**Pn**	**18 57 40.4**	**+0.1**
PPI	**Padang Panjang**	**3.83**	**115**	P	**Pn**	**18 57 48.1**	**+0.6**
LHMI	**Lhok Sumawe**	**4.01**	**0**	Pn	**Pn**	**18 57 50.7**	**+0.8**
LHMI				Sn	**Sn**	**18 58 34.8**	**-1.3**
LHMI	**Lhok Sumawe**	**4.01**	**0**	P	**Pn**	**18 57 50.5**	**+0.6**
PDSI	**Padang**	**4.10**	**121**	P	**Pn**	**18 57 50.5**	**-0.7**
BKNI	**Bangkinang**	**4.19**	**102**	Pn	**Pn**	**18 57 53.2**	**+0.7**
BKNI	**Bangkinang**	**4.19**	**102**	P	**Pn**	**18 57 53.9**	**+1.4**
BKNI	**Bangkinang**	**4.19**	**102**	P	**Pn**	**18 57 53.3**	**+0.8**
PPSI	**Pulau Pagai**	**4.99**	**142**	P	**Pn**	**18 58 02.7**	**-0.8**
IPM	**Ipoh**	**5.23**	**51**		**Pn**	**18 58 06.4**	**-0.3**
IPM	**Ipoh**	**5.23**	**51**	P	**Pn**	**18 58 07.6**	**+0.9**
KULM	**Kulim**	**5.50**	**42**		**Pn**	**18 58 09.9**	**-0.6**
KULM	**Kulim**	**5.50**	**42**	P	**Pn**	**18 58 10.1**	**-0.4**
CMBY	**CAMPBELL BAY**	**6.51**	**333**	eP	**Pn**	**18 58 20.6**	**-3.7**
CMBY				eS	**Sn**	**18 59 31.8**	**-6.1**
CMBY				IAML		18 59 50.5	
	comp=N,516nm,0.6s						
CMBY				IAML		18 59 53.2	
	comp=E,318nm,0.6s						
MASI	**Maura Aman, Be**	**6.83**	**129**	P	**Pn**	**18 58 29.6**	**+0.8**
	comp=E,82nm,1.7s						
MYKOM	**Kota Tinggi**	**6.94**	**85**		**Pn**	**18 58 29.4**	**-0.8**
MYKOM	**Kota Tinggi**	**6.94**	**85**	P	**Pn**	**18 58 30.8**	**+0.6**
KSI	**Kapahiang**	**7.43**	**130**	P	**Pn**	**18 58 36.2**	**-0.8**
TPRI	**Tanjung Pinang**	**7.59**	**92**	P	**Pn**	**18 58 37.3**	**-2.0**
	comp=E,0.1nmcomp=E,13nm,0.6s						
MNAI	**Manna**	**8.16**	**133**	Pn	**Pn**	**18 58 47.1**	**0.0**
MDSI	**Maura Dua**	**9.18**	**128**	P	**Pn**	**18 59 00.1**	**-0.9**
PBA	**Port Blair**	**11.20**	**338**	eP	Pn	18 59 22.8	-5.8
PBA				IAML		19 01 15.7	
	comp=N,101nm,0.5s						
PBA				eS	Sn	19 01 18.4	-15
PBA				IAML		19 01 23.6	
	comp=E,103nm,1.6s						
SBUM	**Sibu**	**15.33**	**85**		**Pn**	**19 00 24.9**	**-0.1**
SBUM	**Sibu**	**15.33**	**85**	P	**Pn**	**19 00 26.8**	**+1.9**
CM31	**Chiang Mai Arr**	**17.27**	**6**	P	**Pn**	**19 00 48.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**Pn**	**19 00 49.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=196,slow=10,SNR=27						
CMAR				LR	LR	19 07 49.4	
	comp=E,112nm,20.4s,baz=165,slow=38						
	comp=E,3.8nm,0.8s						
PALK	**Pallekele**	**17.27**	**291**	LR	LR	19 07 04.1	
	comp=E,171nm,18.5s,baz=108,slow=36						
CHTO	**Chiang Mai**	**17.62**	**6**		**Pn**	**19 00 52.0**	**-2.1**
CHTO	**Chiang Mai**	**17.62**	**6**	P	**Pn**	**19 00 54.4**	**+0.4**
SLVN	**Son La**	**21.14**	**18

comp=Z,2.1nm,0.8s,baz=297,slow=8.0,SNR=22
ASAR PcP **PcP** **19 06 39.8 -0.3**
comp=Z,0.4nm,0.9s,baz=302,slow=3.8,SNR=4.6
comp=Z,2.1nm,0.8s
AS31 Alice Springs 43.60 127 P **P** **19 04 52.5 -0.2**
TARG Taragay, Kyrgy 43.88 339 P **P** **19 04 56.1 +1.0**
TARG IAmb IAmb 19 04 59.8
comp=Z,4.4nm,0.7s
KDJ Kajisay 44.46 339 **P** **19 04 59.9 +0.5**
KDJ IAmb IAmb 19 05 04.6
comp=Z,9.7nm,0.8s
DRK Karamyk 44.47 332 P **P** **19 05 01.2 +1.5**
GAR Garm 44.81 330 **P** **19 05 03.5 +1.3**
GAR IAmb IAmb 19 05 11.2
comp=Z,13nm,1.2s
JNU Nakatsue 44.98 42 LR LR 19 27 46.7
comp=Z,58nm,19.7s,baz=243,slow=41
BOOM Boomskoye usch 45.22 338 P **P** **19 05 06.4 +0.8**
BOOM IAmb IAmb 19 05 32.7
comp=Z,9.5nm,1.3s
ARSB Arslanbob 45.43 335 **P** **19 05 08.1 +1.0**
ARSB IAmb IAmb 19 05 10.6
comp=Z,9.8nm,0.8s
KSAR Wonju Array Be 45.97 35 **P** **19 05 11.2 -0.1**
KSRS Korea Array 46.00 35 P **P** **19 05 11.7 +0.1**
comp=Z,7.0nm,0.9s,baz=220,slow=8.8,SNR=21
comp=Z,7.0nm,0.9s
KS19 Wonju Array Si 46.00 35 P **P** **19 05 11.8 +0.2**
SONM Songino Array 47.17 9 P **P** **19 05 21.1 +0.4**
SONM IAmb IAmb 19 05 22.8
comp=Z,5.8nm,0.9s
SONM Songino Array 47.17 9 P **P** **19 05 21.7 +1.0**
comp=Z,4.9nm,0.8s,baz=189,slow=8.8,SNR=28
SONM PcP **PcP** **19 06 53.2 +1.1**
comp=Z,0.9nm,0.6s,baz=186,slow=2.6,SNR=3.2
comp=Z,4.9nm,0.8s
MK31 Makanchi Array 47.18 346 P **P** **19 05 21.4 +0.7**
MK31 IAmb IAmb 19 05 36.2
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 47.18 346 P **P** **19 05 21.4 +0.8**
MKAR Makanchi Array 47.18 346 P **P** **19 05 22.3 +1.6**
comp=Z,4.3nm,0.7s,baz=159,slow=7.9,SNR=43
MKAR LR LR 19 29 18.3
comp=Z,29nm,18.7s,baz=77,slow=41
comp=Z,4.3nm,0.7s
MAKZ Makanchi 47.27 346 **P** **19 05 22.1 +0.8**
MAKZ IAmb IAmb 19 05 37.2
comp=Z,3.8nm,0.8s
ULN Ulaanbaatar 47.31 9 **P** **19 05 22.3 +0.5**
ULN IAmb IAmb 19 05 23.7
comp=Z,4.2nm,1.0s
KK31 Karatay Array 47.94 334 **P** **19 05 27.5 +0.8**
KKAR Karatay Array 47.94 334 **P** **19 05 27.1 +0.5**
KURBB Kurchatov Arra 51.67 345 P **P** **19 05 56.3 +1.5**
comp=Z,3.2nm,0.7s,baz=166,slow=7.1,SNR=38
KURBB LR LR 19 31 56.8
comp=Z,69nm,18.2s,baz=173,slow=41
comp=Z,3.2nm,0.7s
KURK Kurchatov 51.73 345 **P** **19 05 55.7 +0.5**
BNX BinXian 51.81 27 ⇓P **P** **19 05 56.4 +0.4**
BNX pmax pmax
comp=Z,13nm,0.5s
HILR Hailar Array B 51.98 19 P **P** **19 05 58.2 +0.9**
comp=Z,5.1nm,0.7s,baz=188,slow=9.9,SNR=4.5
comp=Z,5.1nm,0.7s
MDJ Mudanjiang 52.00 29 P **P** **19 05 57.5 +0.1**
MDJ IAmb IAmb 19 05 59.2
comp=Z,8.5nm,1.1s
USRK Ussuriysk Ar. 52.91 31 P **P** **19 06 04.8 +0.7**
comp=Z,11nm,0.9s,baz=232,slow=5.8,SNR=10
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 53.52 351 **P** **19 06 09.1 +0.6**
ZAA0 IAmb IAmb 19 06 10.6
comp=Z,9.3nm,0.8s
ZALV Zalesovo Beam 53.52 351 **P** **19 06 08.9 +0.4**
ZALV Zalesovo Beam 53.52 351 P **P** **19 06 09.7 +1.3**
comp=Z,8.7nm,0.7s,baz=178,slow=6.6,SNR=46
comp=Z,8.7nm,0.7s
STKA Stephens Creek 53.55 132 P **P** **19 06 09.9 +0.8**
comp=Z,0.9nm,0.4s,baz=329,slow=10,SNR=3.3
comp=Z,0.9nm,0.4s
AB31 Akbulak array 57.39 332 **P** **19 06 37.0 +0.6**
AB31 IAmb IAmb 19 06 38.5
comp=Z,7.2nm,0.8s
ABKAR Akbulak array 57.39 332 **P** **19 06 37.3 +0.8**
EIDS Eidsvold 58.60 121 P **P** **19 06 45.9 +0.5**
EIDS IAmb IAmb 19 06 47.4
comp=Z,6.0nm,0.8s
H04N2 CROZET ISLANDS 61.62 214 T T 20 13 58.2
baz=54,slow=75,SNR=2489
H04N1 CROZET ISLANDS 61.63 214 T T 20 13 58.7
baz=54,slow=75,SNR=2811
H04N3 CROZET ISLANDS 61.64 214 T T 20 13 57.4
baz=54,slow=75,SNR=2710
H04S1 CROZET ISLANDS 61.96 213 T T 20 14 21.0
baz=54,slow=76,SNR=227
H04S3 CROZET ISLANDS 61.98 213 T T 20 14 20.8
baz=54,slow=76,SNR=211
H04S2 CROZET ISLANDS 61.98 213 T T 20 14 26.9
baz=54,slow=76,SNR=177
ARTI Arti 63.12 337 **P** **19 07 15.5 -0.1**
KBZ Khabaz 63.90 319 P **P** **19 07 21.4 +0.5**
comp=Z,1.7nm,0.8s,baz=138,slow=9.5,SNR=5.2
comp=Z,1.7nm,0.8s
YAK Yakutsk 65.50 16 P **P** **19 07 30.6 -0.4**
YAK Yakutsk 65.50 16 LR LR 19 39 30.9
comp=Z,97nm,18.9s,baz=200,slow=39
BRTR Keskin Array B 68.92 312 P **P** **19 07 52.6 -0.7**
BRTR Keskin Array B 68.92 312 P **P** **19 07 53.4 +0.1**
comp=Z,0.2nm,0.4s,baz=133,slow=8.3,SNR=1.9
comp=Z,0.2nm,0.4s
MA2 Magadan 71.45 26 LR LR 19 44 46.7
comp=Z,52nm,18.6s,baz=100,slow=40
FINES FINESS Array B 79.88 333 P **P** **19 08 57.1 +0.6**
comp=Z,1.5nm,0.7s,baz=64,slow=3.2,SNR=3.8
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 82.45 340 P **P** **19 09 11.2 +1.2**
comp=Z,1.0nm,0.8s,baz=97,slow=2.8,SNR=6.0
comp=Z,1.0nm,0.8s
GERES GERESS Array B 84.64 319 P **P** **19 09 22.6 +0.8**
comp=Z,0.5nm,0.8s,baz=91,slow=6.0,SNR=2.6
comp=Z,0.5nm,0.8s
TXAR Lajitas Array 143.81 31 PKP PKPbc 19 16 22.6 +1.0
comp=Z,0.2nm,0.4s,baz=294,slow=3.4,SNR=2.5
CPUP Villa Florida 144.82 223 PKP **PKPab** **19 16 23.8 -0.9**
comp=Z,0.3nm,0.5s,baz=90,slow=2.0,SNR=1.8

*GII **15** 19:08:10.1±0.0,33°.714N×0°.002×35°.868E±0°.001, h2km, Mws1.6, confirmed*
GRAL 15 19:08:11.3±0.3, 33°.70N×35°.82E, h9km±3km, MD2.3, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.17**	**18**	*e*P	Pg	19 08 14.8	-0.2
ZAHL				*e*S	Sg	19 08 17.5	-0.1
QRWL	**Qaraoun**	**0.19**	**218**	*e*P	Pg	19 08 15.1	-0.2
RCY	**Rachaya**	**0.20**	**177**	*e*P	Pg	19 08 15.2	-0.3
RCY				*e*S	Sg	19 08 18.2	-0.2
BHL	**Bhannes**	**0.25**	**326**	*e*P	Pg	19 08 16.1	-0.3
SHBL	**Chebaa**	**0.35**	**191**	*e*P	Pg	19 08 18.0	-0.3
NATI	**Neve Ativ**	**0.44**	**189**	P	Pg	19 08 19.5	-0.3
NATI	**Neve Ativ**	**0.44**	**189**	S	Sb	19 08 27.1	-0.7
MTLA	**Metula**	**0.46**	**206**	P	Pg	19 08 20.2	-0.2
MTLA	**Metula**	**0.46**	**206**	S	Sb	19 08 28.8	+0.2
GEM	**Giv'at Ha'Em**	**0.50**	**195**	P	Pg	19 08 21.0	0.0
GEM	**Giv'at Ha'Em**	**0.50**	**195**	S	Sb	19 08 29.1	-0.6
MSAM	**Misgav Am**	**0.50**	**207**	P	Pg	19 08 21.1	0.0
MSAM	**Misgav Am**	**0.50**	**207**	S	Sb	19 08 30.1	+0.3
LVBS	**Lehavot Habash**	**0.57**	**195**	P	Pg	19 08 22.1	-0.3
LVBS	**Lehavot Habash**	**0.57**	**195**	S	Sb	19 08 31.5	-0.2
HWQ	**Hawqa**	**0.59**	**10**	*e*P	Pg	19 08 22.1	-0.7
KSHT	**Keshet**	**0.71**	**181**	P	Pg	19 08 25.3	+0.2
KSHT	**Keshet**	**0.71**	**181**	S	Sb	19 08 35.8	0.0
MMA0B	**Mount Meron ar**	**0.76**	**207**	P	Pg	19 08 25.5	-0.6
MMA0B	**Mount Meron ar**	**0.76**	**207**	S	Sb	19 08 37.7	+0.4
MMLI	**Mount Malkishu**	**1.30**	**195**	P	Pn	19 08 35.0	-0.6
MMLI	**Mount Malkishu**	**1.30**	**195**	S	Sn	19 08 53.8	+0.7
HMDT	**Nahal Hemdat**	**1.46**	**190**	P	Pn	19 08 37.6	-0.2
HMDT	**Nahal Hemdat**	**1.46**	**190**	S	Sg	19 08 58.2	-0.1

*AFAD **15** 19:09:26.0, 39°.44N×24°.04E, h55km, ML2.2*
*ISK **15** 19:09:28.9, 39°.66N×24°.14E, h25km, ML2.1/11*

*ATH **15** 19:09:28.7, 39°.32N×24°.18E, h28km±6km, ML2.7/6, Manual Solution by A.Andreou First location: 2019/10/15 19:10:46, This location: 2019/10/15 19:16:45 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km
ISC 15 19:09:25.7±1.2, 39°.47N±0°.04×24°.06E±0°.03, h16km±10km, n25, σ0°.95/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.70**	**147**	P	**Pb**	**19 09 39.4**	**-0.2**
SKY				S	**Sg**	**19 09 46.6**	**-2.2**
KYMI	**Kymi, Euboea I**	**0.83**	**178**	P	**Pb**	**19 09 42.3**	**+0.5**
OUR	**Ouranopolis**	**0.87**	**356**	Pg	**Pg**	**19 09 42.9**	**+0.4**
STFN	**Stefani**	**1.35**	**197**	P	**Pn**	**19 09 50.6**	**+0.6**
STFN				S	**Sn**	**19 10 06.6**	**-1.0**
LIT	**Litokhoron**	**1.36**	**298**	P	**Pb**	**19 09 50.6**	**-0.3**
AGG	**Agios Georgios**	**1.41**	**252**	P	**Pn**	**19 09 51.0**	**+0.2**
AGG				S	**Sb**	**19 10 09.5**	**0.0**
AGG				*i* IAML		19 10 28.0	
comp=N,14nm,0.5s							
SIGR	**SIGRI**	**1.42**	**100**	Pn	**Pg**	**19 09 53.7**	**+0.7**
SIGR				Sn	**Sg**	**19 10 11.7**	**+0.2**
ATH	**Athens Observa**	**1.52**	**190**	P	**Pn**	**19 09 52.2**	**0.0**
BOZC	**Bozcaada**	**1.59**	**76**	Pn	**Pb**	**19 09 54.9**	**+0.2**
BOZC				Sn	**Sn**	**19 10 13.5**	**+0.1**
BOZC	**Bozcaada**	**1.59**	**76**	P	**Pn**	**19 09 53.7**	**+0.5**
BOZC				S	**Sb**	**19 10 14.9**	**+0.4**
BOZC				*i* IAML		19 10 17.0	
comp=N,55nm,0.7s							
GADA	**Gvkgeada**	**1.59**	**62**	Pn	**Pn**	**19 09 54.4**	**+1.2**
KOCA	**Canakkale, Ayv**	**1.61**	**88**	P	**Pn**	**19 09 54.8**	**+1.3**
LOUT	**Loutraki**	**1.70**	**210**	P	**Pn**	**19 09 55.4**	**+0.6**
PRK	**Paraskevi**	**1.73**	**97**	P	**Pn**	**19 09 55.5**	**+0.3**
EZN	**Ezine**	**1.79**	**78**	Pn	**Pb**	**19 09 58.1**	**0.0**
CNKL	**anakkale-Mer**	**1.89**	**71**	P	**Pn**	**19 09 57.0**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.94**	**81**	P	**Pn**	**19 09 57.9**	**-0.2**
COMU	**Canakkale**	**1.97**	**71**	Pn	**Pn**	**19 10 00.0**	**+1.6**
COMU				Sn	**Sn**	**19 10 22.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.08**	**63**	Pn	**Pn**	**19 10 01.3**	**+1.4**
ALN	**Alexandroupoli**	**2.09**	**46**	Pn	**Pn**	**19 10 00.7**	**+0.6**
ALN				Sn	**Sn**	**19 10 24.1**	**-1.6**
ALN	**Alexandroupoli**	**2.09**	**46**	P	**Pn**	**19 09 59.0**	**-1.0**
ERIK	**Erikli-Kesan**	**2.24**	**57**	Pn	**Pn**	**19 10 03.4**	**+1.3**
ERIK				Sn	**Sn**	**19 10 28.3**	**-1.1**
URLA	**Izmir**	**2.27**	**118**	Pn	**Pb**	**19 10 06.6**	**+0.3**
YAYO	**Edremit-Balk**	**2.34**	**86**	Pn	**Pb**	**19 10 06.1**	**-1.4**
DRO	**Drossia**	**2.38**	**231**	P	**Pn**	**19 10 05.6**	**+1.5**

GII 15 19:15:58.4±0.0, 32°.994N±0°.001×35°.603E±0°.001, h13km, Mws1.7, 6C, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDNS	**Had-Ness**	**0.07**	**154**	⇑P	Pg	19 16 01.8	+0.7
HDNS	**Had-Ness**	**0.07**	**154**	S	Sg	19 16 04.4	+1.5
AMID	**Amiad**	**0.09**	**219**	⇑P	Pg	19 16 01.8	+0.6
AMID	**Amiad**	**0.09**	**219**	S	Sg	19 16 03.7	+0.5
KNHM	**Kefar Nahum**	**0.11**	**190**	⇑P	Pg	19 16 02.0	+0.4
SPIR	**Sapir Facility**	**0.14**	**203**	P	Pg	19 16 02.4	+0.5
SPIR	**Sapir Facility**	**0.14**	**203**	S	Sb	19 16 05.3	-0.5
RMOT	**Ramot**	**0.15**	**160**	P	Pg	19 16 02.6	+0.5
RMOT	**Ramot**	**0.15**	**160**	S	Sb	19 16 05.7	-0.5
MMA0B	**Mount Meron ar**	**0.17**	**277**	P	Pb	19 16 03.0	-0.4
MMA0B	**Mount Meron ar**	**0.17**	**277**	S	Sb	19 16 06.3	-0.5
MGDL	**Migdal**	**0.17**	**208**	⇑P	Pg	19 16 02.8	+0.4
KSHT	**Keshet**	**0.17**	**94**	P	Pg	19 16 03.0	+0.4
KSHT	**Keshet**	**0.17**	**94**	S	Sg	19 16 05.6	+0.2
GEM	**Giv'at Ha'Em**	**0.22**	**13**	⇑P	Pg	19 16 03.6	+0.4
GEM	**Giv'at Ha'Em**	**0.22**	**13**	S	Sg	19 16 07.3	+0.8
GOLA	**Golan Heights**	**0.28**	**172**	P	Pg	19 16 04.0	-0.3
GOLA	**Golan Heights**	**0.28**	**172**	S	Sb	19 16 09.3	-0.7
NATI	**Neve Ativ**	**0.29**	**23**	⇑P	Pg	19 16 04.6	+0.2
NATI	**Neve Ativ**	**0.29**	**23**	S	Sg	19 16 09.3	+0.8
HNTI	**Hanita**	**0.37**	**284**	P	Pg	19 16 06.3	+0.4
HNTI	**Hanita**	**0.37**	**284**	S	Sb	19 16 12.1	-0.5
BLGI	**Bet Lehem HaGe**	**0.43**	**233**	P	Pg	19 16 07.1	+0.1
BLGI	**Bet Lehem HaGe**	**0.43**	**233**	S	Sg	19 16 13.3	+0.4
MMLI	**Mount Malkishu**	**0.57**	**195**	P	Pg	19 16 09.5	-0.2
MMLI	**Mount Malkishu**	**0.57**	**195**	S	Sb	19 16 18.0	-0.5
OFRI	**`Ofer**	**0.64**	**235**	P	Pg	19 16 10.9	0.0
OFRI	**`Ofer**	**0.64**	**235**	S	Sg	19 16 19.8	+0.4
HMDT	**Nahal Hemdat**	**0.74**	**185**	P	Pg	19 16 12.1	-0.7
HMDT	**Nahal Hemdat**	**0.74**	**185**	S	Sg	19 16 22.8	+0.2
SLTI	**Sal'it**	**0.89**	**212**	P	Pg	19 16 15.1	-0.5
SLTI	**Sal'it**	**0.89**	**212**	S	Sg	19 16 27.3	+0.1
DSI	**Dead Sea**	**1.43**	**188**	P	Pn	19 16 23.3	-0.8
DSI	**Dead Sea**	**1.43**	**188**	S	Sn	19 16 41.7	-1.1
AMAZ	**Amatzia**	**1.57**	**202**	P	Pn	19 16 26.0	0.0
AMAZ	**Amatzia**	**1.57**	**202**	S	Sn	19 16 45.9	-0.3
YTIR	**Yattir**	**1.68**	**194**	P	Pn	19 16 27.5	-0.1
YTIR	**Yattir**	**1.68**	**194**	S	Sb	19 16 49.7	-0.6

IDC 15 19:23:13.8±7.5, 18°.10S×174°.04W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=319.8km s-min=41.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.69**	**259**	P	P	19 32 00.4	+0.2
0.3nm,0.3s,baz=96,slow=7.6,SNR=13							
0.3nm,0.3s							
ASAR	**Alice Springs**	**48.74**	**254**	P	P	19 32 00.3	-0.4
0.2nm,0.5s,baz=90,slow=8.0,SNR=7.6							
0.2nm,0.5s							
ILAR	**Eielson Array**	**85.19**	**11**	P	P	19 35 51.6	-0.1
0.4nm,0.8s,baz=190,slow=4.6,SNR=2.0							
0.4nm,0.8s							

*FUNV **15** 19:27:52.9, 10°.35N×62°.51W, h39km, MW3.9*
*TRN **15** 19:27:52.2, 10°.45N×62°.67W, h50km, MD3.9, Gulf of Paria.*
ISC 15 19:27:52.3±1.2, 10°.47N±0°.05×62°.70W±0°.04, h35km, n24, σ1°.22/39, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.15**	**79**	*e*P	**Pn**	**19 28 11.2**	**-0.7**
DMDM				*e*S	**Sn**	**19 28 25.1**	**-1.3**
PSKH	**Kent House, Po**	**1.17**	**80**	*e*S	**Sn**	**19 28 25.6**	**-1.4**
TPP	**Pointe-a-Pierr**	**1.24**	**97**	*e*P	**Pn**	**19 28 14.6**	**+1.6**
TPP				*e*S	**Sn**	**19 28 28.7**	**+0.2**
TRN	**Trinidad (W)**	**1.28**	**82**	*e*P	**Pn**	**19 28 13.8**	**+0.1**
TRN				*e*S	**Sn**	**19 28 29.4**	**-0.3**
GRFF	**Grenada Fort F**	**1.83**	**31**	*e*P	**Pn**	**19 28 21.6**	**+0.4**
GRFF				*e*S	**Sn**	**19 28 42.8**	**-0.3**
GRGR	**Grenville**	**1.94**	**32**	*e*P	**Pn**	**19 28 22.4**	**-0.4**
GRGR				*e*S	**Sn**	**19 28 45.9**	**0.0**
GRW	**Mount Saint Ca**	**1.96**	**31**	*e*P	**Pn**	**19 28 24.9**	**+1.8**
GRW				*e*S	**Sn**	**19 28 47.3**	**+0.7**
GRSS	**Sisters**	**2.10**	**30**	*e*P	**Pn**	**19 28 25.9**	**+0.9**
GRSS				*e*S	**Sn**	**19 28 50.8**	**+0.8**
GCMP	**Grenada, Carri**	**2.36**	**32**	*e*P	**Pn**	**19 28 28.7**	**+0.2**
GCMP				*e*S	**Sn**	**19 28 55.8**	**-0.5**
SVB	**Belmont**	**3.12**	**27**	*e*P	**Pn**	**19 28 40.0**	**+1.0**
SVB				*e*S	**Sn**	**19 29 13.5**	**-1.6**
SLBI	**Saint Lucia, B**	**3.91**	**25**	*e*P	**Pn**	**19 28 50.5**	**+0.6**
SLBI				*e*S	**Sn**	**19 29 34.9**	**+0.3**
TACV	**Tcata**	**4.27**	**266**	*e*P	**Pn**	**19 28 57.1**	**+2.2**
TACV				*e*S	**Sn**	**19 29 43.5**	**-0.1**
BIM	**Bigot**	**4.32**	**21**	*e*P	**Pn**	**19 28 56.2**	**+0.6**
BIM				*e*S	**Sn**	**19 29 42.6**	**-2.2**
CACV	**CAICARA DEL OR**	**4.77**	**233**	*e*P	Pn	19 28 56.3	-5.4
CACV				*e*S	Sn	19 29 43.9	-12
BENV	**Beln**	**4.85**	**264**	*e*P	**Pn**	**19 29 04.6**	**+1.7**
BENV				*e*S	**Sn**	**19 29 57.4**	**-0.5**
DSLB	**Salisbury**	**5.09**	**14**	*e*P	**Pn**	**19 29 07.8**	**+1.7**
BAUV	**El Baul**	**5.48**	**254**	*e*P	**Pn**	**19 29 11.6**	**+0.1**
BAUV				*e*S	**Sn**	**19 30 10.9**	**-2.5**
BAUV	**El Baul**	**5.48**	**254**	*e*P	**Pn**	**19 29 12.3**	**+0.8**
BAUV				*e*S	**Sn**	**19 30 11.3**	**-2.1**
MMLZ	**Guadeloupe Bro**	**5.63**	**10**	*e*P	**Pn**	**19 29 14.9**	**+1.4**
MMLZ				*e*S	**Sn**	**19 30 14.7**	**-2.2**
ATGZ	**Broadband at L**	**5.67**	**9**	*e*P	**Pn**	**19 29 14.9**	**+0.9**
DHSZ	**Broadband at M**	**5.84**	**9**	*e*P	**Pn**	**19 29 16.9**	**+0.6**
MBWH	**Windy Hill**	**6.25**	**4**	*e*P	**Pn**	**19 29 23.0**	**+0.9**
MBFL	**Flemmings, Mon**	**6.26**	**4**	*e*P	**Pn**	**19 29 21.6**	**-0.5**
ANWB	**Willy Bob**	**7.21**	**7**	*e*P	**Pn**	**19 29 35.9**	**+0.7**

*NAO **15** 19:33:14.6, 35°.05N×24°.38E, h10km, mb4.2*
*IDC **15** 19:33:31.4±1.1, 36°.64N×21°.69E, h0km, mb3.7/10, mbtmp3.5/16, ML2.2/4, MS3.9/2, Error ellipse: s-maj=20.2km s-min=15.8km az=11.0*
*ATH **15** 19:33:34.1, 36°.58N×21°.64E, h10km±1km, ML3.8/21, Manual Solution by A.Papageorgiou First location: 2019/10/15 19:34:38, This location: 2020/07/20 11:15:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **15** 19:33:36.5, 37°.N±2°.×2°.2E±°, h15km±1km, M3.5/15, MLh3.5/15*
ISC 15 19:33:33.8±1.0, 36°.59N±0°.04×21°.66E±0°.03, h17km±6km, n80, σ1°.41/107, mb3.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTHA	**Methoni**	**0.23**	**9**	P	**Pg**	**19 33 40.0**	**+0.8**
MTHA				S	**Sg**	**19 33 43.5**	**+0.7**
PYL	**PYLOS**	**0.31**	**12**	P	**Pg**	**19 33 40.4**	**0.0**
PYL				S	**Sg**	**19 33 44.2**	**-0.8**
PYL	**PYLOS**	**0.31**	**12**	P	**Pg**	**19 33 40.5**	**+0.1**
PYL				S	**Sg**	**19 33 44.9**	**-0.1**
PYL2	**Kinigos**	**0.32**	**9**	P	**Pg**	**19 33 40.8**	**+0.2**
PYL2				S	**Sg**	**19 33 45.1**	**0.0**
PYL1	**Pylos**	**0.32**	**5**	P	**Pg**	**19 33 41.0**	**+0.4**
PYL1				S	**Sg**	**19 33 45.6**	**+0.3**
ITM	**Ithomi**	**0.62**	**20**	P	**Pg**	**19 33 45.8**	**-0.3**
ITM				S	**Sg**	**19 33 52.9**	**-1.6**
ITM	**Ithomi**	**0.62**	**20**	P	**Pg**	**19 33 46.2**	**+0.1**
ITM				S	**Sg**	**19 33 55.0**	**+0.5**
ZARO	**Zacharo**	**0.89**	**359**	P	**Pg**	**19 33 51.1**	**-0.1**
ZARO				S	**Sb**	**19 34 04.2**	**+1.7**
AMT	**Artemida-Makis**	**0.94**	**2**	P	**Pg**	**19 33 52.2**	**+0.1**
AMT				S	**Sb**	**19 34 05.2**	**+1.4**
VLX	**Vlachokerasia**	**0.97**	**36**	P	**Pg**	**19 33 52.0**	**-0.6**
VLX				S	**Sg**	**19 34 03.4**	**-2.0**
VLI	**Veliai**	**1.03**	**83**	P	**Pg**	**19 33 54.0**	**+0.1**
VLI				S	**Sg**	**19 34 07.6**	**+0.2**
VLI	**Veliai**	**1.03**	**83**	P	**Pb**	**19 33 54.5**	**+1.3**
VLI				S	**Sb**	**19 34 08.5**	**+1.9**
MNVA	**Monemvasia**	**1.11**	**85**	P	**Pn**	**19 33 56.0**	**+1.4**
MNVA				S	**Sn**	**19 34 11.0**	**+1.5**
KTHA	**Kythira Island**	**1.18**	**106**	P	**Pb**	**19 33 56.2**	**+0.5**
LTHK	**Lithakia**	**1.29**	**330**	P	**Pn**	**19 33 57.4**	**+0.3**
LTHK				S	**Sb**	**19 34 14.8**	**+0.7**
LTHK	**Lithakia**	**1.29**	**330**	P	**Pn**	**19 33 58.1**	**+1.0**
LTHK				S	**Sg**	**19 34 16.0**	**+0.3**
ARS1	**Argos**	**1.35**	**39**	P	**Pn**	**19 33 58.7**	**+0.9**
ARS1				S	**Sb**	**19 34 17.0**	**+1.4**
DRO	**Drossia**	**1.36**	**2**	P	**Pn**	**19 33 58.4**	**+0.3**
DRO				S	**Sb**	**19 34 17.4**	**+1.5**
DRO	**Drossia**	**1.36**	**2**	P	**Pn**	**19 33 59.0**	**+1.0**
DRO				S	**Sb**	**19 34 17.3**	**+1.4**
CLEM	**Kyllini,Ilia,G**	**1.36**	**342**	P	**Pn**	**19 33 59.0**	**+1.0**
CLEM				S	**Sg**	**19 34 18.0**	**+0.1**
KYPS	**Kipseli, Zakin**	**1.40**	**332**	P	**Pn**	**19 33 59.6**	**+1.1**
KYPS				S	**Sb**	**19 34 18.6**	**+1.6**
GUR	**Goura**	**1.45**	**22**	P	**Pn**	**19 33 59.6**	**+0.3**
GUR				S	**Sn**	**19 34 18.9**	**+0.8**
GUR	**Goura**	**1.45**	**22**	P	**Pn**	**19 34 00.5**	**+1.1**
RLS	**Riolos of Patr**	**1.47**	**354**	P	**Pn**	**19 34 00.6**	**+1.1**
RLS				S	**Sn**	**19 34 18.1**	**-0.3**
RLS	**Riolos of Patr**	**1.47**	**354**	P	**Pn**	**19 34 01.1**	**+1.6**
ORTH	**Orthonies,Zaky**	**1.47**	**329**	P	**Pn**	**19 34 01.1**	**+1.5**
ORTH	**Orthonies,Zaky**	**1.47**	**329**	P	**Pb**	**19 34 01.3**	**+0.5**
KLV1	**Kalavrita**	**1.48**	**14**	P	**Pn**	**19 34 01.4**	**+1.6**
KLV1				S	**Sb**	**19 34 21.1**	**+1.6**
KLV	**Kalavryta, Ach**	**1.50**	**15**	P	**Pn**	**19 34 00.5**	**+0.5**
KLV				S	**Sn**	**19 34 18.7**	**-0.6**
KLV	**Kalavryta, Ach**	**1.50**	**15**	P	**Pn**	**19 34 01.4**	**+1.4**
ANKY	**Antikythira Is**	**1.51**	**118**	P	**Pb**	**19 34 02.4**	**+0.9**
ANKY	**Antikythira Is**	**1.51**	**118**	P	**Pb**	**19 34 02.3**	**+0.9**
RTZL	**Ratzakli, Kefa**	**1.64**	**335**	P	**Pn**	**19 34 03.3**	**+1.4**
PATC	**Patra C**	**1.68**	**3**	P	**Pb**	**19 34 04.8**	**+0.6**
PATC				S	**Sn**	**19 34 25.7**	**+2.3**
PSDA	**Pessada-Kefalo**	**1.75**	**331**	P	**Pn**	**19 34 04.3**	**+1.0**
PSDA				S	**Sb**	**19 34 28.2**	**+1.2**
PSDA	**Pessada-Kefalo**	**1.75**	**331**	P	**Pn**	**19 34 04.5**	**+1.2**
PSDA				S	**Sb**	**19 34 27.9**	**+0.9**
LTK	**Loutraki**	**1.77**	**36**	P	**Pn**	**19 34 05.2**	**+1.5**
LTK				S	**Sn**	**19 34 26.8**	**+1.0**
LTK	**Loutraki**	**1.77**	**36**	P	**Pn**	**19 34 05.5**	**+1.8**
VLS	**Valsamata**	**1.80**	**332**	P	**Pn**	**19 34 05.5**	**+1.4**
VLS				S	**Sn**	**19 34 27.7**	**+1.2**
VLS	**Valsamata**	**1.80**	**332**	P	**Pn**	**19 34 05.2**	**+1.2**
VLS				S	**Sb**	**19 34 29.7**	**+1.2**
KALE	**Kalithea**	**1.84**	**12**	P	**Pn**	**19 34 06.8**	**+2.2**
EFP	**Efpalio**	**1.84**	**6**	P	**Pn**	**19 34 06.7**	**+2.1**
SERG	**Sergoula**	**1.85**	**10**	P	**Pb**	**19 34 07.4**	**+0.3**
ANX	**Ano Chora**	**2.01**	**6**	P	**Pb**	**19 34 09.8**	**-0.2**
FSK	**Fiskardo**	**2.06**	**335**	P	**Pn**	**19 34 09.2**	**+1.6**
VIL2	**Platees**	**2.06**	**38**	P	**Pn**	**19 34 09.4**	**+1.7**
EVGI	**Lefkada island**	**2.18**	**339**	P	**Pn**	**19 34 11.9**	**+2.

comp=Z,0.5nm,0.4s,baz=282,slow=9.1,SNR=4.0
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 45.38 57 P P 19 41 50.5 -0.8
comp=Z,0.3nm,0.4s,baz=270,slow=7.9,SNR=6.7
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 46.09 47 P P 19 41 55.3 -1.4
comp=Z,0.3nm,0.3s,baz=273,slow=9.2,SNR=2.0
comp=Z,0.3nm,0.3s
MA2 Magadan 75.37 24 LR LR 20 22 56.5
comp=Z,77nm,18.7s,baz=81,slow=39
DAV Davao City (W) 96.87 76 LR LR 20 35 19.1
comp=Z,60nm,20.3s,baz=21,slow=38

NEIC ***15*** *19:42:29.9±1.9, 36°.65N±0°.04×121°.30W±0°.06, h10km±5km, Error ellipse: s-maj=7.1km s-min=5.4km az=78.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.06; Mθθ-1.66; Mφφ1.60; Mrθ-0.15; Mθφ0.01; Mφr-0.26; Fault plane solution: M0 1.66000×10^16 NP1: φs134.93000°, δ79.78000°, λ176.61000°. NP2: φs225.53000°, δ86.66000°, λ10.24000°. Principal axes: T 1.6401, Plg10.0000°, Azm91.0000°; N 0.0312, Plg79.0000°, Azm243.0000°; P -1.6713, Plg5.0000°, Azm360.0000°;*

IDC ***15*** *19:42:30.0±0.6, 36°.59N×121°.11W, h0km, mb4.2/16, mbtmp4.2/21, ML4.0/5, MS4.2/35 Error ellipse: s-maj=10.2km s-min=8.9km az=52.0*

NEIC ***15*** *19:42:30.5, 36°.65N×121°.27W, h10km*

NEIC ***15*** *19:42:30.5, 36°.65N×121°.27W, h12km*

NEIC ***15*** *19:42:30.5, 36°.45N×121°.40W, h12km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr-0.11; Mθθ-1.99; Mφφ2.11; Mrθ0.22; Mθφ-0.17; Mφr-0.20; Fault plane solution: M0 2.08000×10^16 NP1: φs222.65000°, δ81.79000°, λ-0.75000°. NP2: φs312.76000°, δ89.25000°, λ-171.79000°. Principal axes: T 2.1308, Plg5.0000°, Azm87.0000°; N -0.1073, Plg82.0000°, Azm318.0000°; P -2.0235, Plg6.0000°, Azm178.0000°;*

NCEDC ***15*** *19:42:30.5±1.8, 36°.65N±0°.04×121°.27W±0°.06, h10km±4km, Mwr4.7/4, mb4.9/151(NEIC), ML4.7/203(NEIC), Mwr4.7/113(NEIC), Mww4.8/52(NEIC) Error ellipse: s-maj=6.8km s-min=5.4km az=82.0*

GCMT ***15*** *19:42:32.5±0.3, 36°.65N±0°.02×121°.33W±0°.02, h12km, MW4.8/114, Moment Tensor Solution. s25, c31; s114, c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.15±.07; Mθθ-2.28±.06; Mφφ2.44±.06; Mrθ0.23±.19; Mθφ-0.01±.06; Mφr-0.09±.18; Best double couple: M0 2.37400×10^16 NP1: φs225.00000°, δ84.00000°, λ-3.00000°. NP2: φs315.00000°, δ87.00000°, λ-174.00000°. Principal axes: T 2.4430, Plg2.0000°, Azm90.0000°; N -0.1320, Plg84.0000°, Azm341.0000°; P -2.3050, Plg6.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 19:42:30.6±0.7, 36°.62N±0°.02×121°.31W±0°.02, h9km±4km, n395, σ1§30/300, mb4.8/72, MS4.3/30, 1D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.01**	**348**		**Pg**	**19 42 32.5**	**+0.2**
BJOM					**Sg**	**19 42 34.0**	**+0.5**
SCZ	**Santa Cruz**	**0.08**	**253**		**Pg**	**19 42 33.2**	**+0.3**
SCZ					**Sg**	**19 42 35.2**	**+0.7**
BJCM	**Johnson Can.**	**0.10**	**221**		**Pg**	**19 42 33.5**	**+0.4**
BSRM	**Salinas Radio**	**0.17**	**285**		**Pg**	**19 42 34.6**	**+0.3**
SAO	**San Andreas Ge**	**0.18**	**323**		**Pg**	**19 42 34.1**	**-0.4**
FRP	**Fremont Peak**	**0.20**	**313**		**Pg**	**19 42 34.7**	**-0.1**
BSGM	**Shirttail Gulc**	**0.21**	**167**		**Pg**	**19 42 35.1**	**+0.1**
BSGM					**Sg**	**19 42 38.3**	**+0.4**
BBGB	**Big Mountain B**	**0.22**	**101**		**Pg**	**19 42 35.6**	**+0.3**
BSMM	**Soledad Missio**	**0.26**	**202**		**Pg**	**19 42 36.5**	**+0.6**
LRV	**Little Rabbit**	**0.31**	**130**		**Pg**	**19 42 37.0**	**+0.2**
HTUM	**Tustin Road**	**0.34**	**308**		**Pg**	**19 42 37.3**	**0.0**
HERM	**Elkhorn Road**	**0.37**	**299**		**Pg**	**19 42 38.2**	**+0.3**
HFEM	**San Felipe**	**0.37**	**349**		**Pg**	**19 42 38.2**	**+0.3**
BCWM	**Chews Ridge**	**0.38**	**213**		**Pg**	**19 42 38.7**	**+0.6**
FORD	**Fort Ord Natur**	**0.38**	**280**	Pg	**Pg**	**19 42 38.6**	**+0.4**
FORD				IAML		19 42 45.9	
	comp=N,108μm,0.6s						
FORD				IAML		19 42 51.1	
	comp=E,86μm,0.7s						
BPRM	**Ponciano Ridge**	**0.40**	**238**		**Pg**	**19 42 39.1**	**+0.6**
BPRM					**Sg**	**19 42 45.5**	**+1.7**
BMSM	**Mercy Hot Spri**	**0.42**	**85**		**Pg**	**19 42 39.0**	**+0.2**
HCBM	**Chamberlain**	**0.42**	**318**		**Pg**	**19 42 38.7**	**-0.2**
CDC	**Canada Road**	**0.43**	**341**		**Pg**	**19 42 39.5**	**+0.5**
HCAM	**Canada Road**	**0.43**	**341**		**Pg**	**19 42 39.5**	**+0.5**
LRC	**Lone Oak Road**	**0.43**	**150**		**Pg**	**19 42 39.1**	**0.0**
HPCM	**Pacheco Lake**	**0.44**	**4**		**Pg**	**19 42 39.3**	**+0.1**
SLD	**San Luis Dam**	**0.46**	**9**		**Pg**	**19 42 39.7**	**0.0**
GHS	**Gilroy Hot Spr**	**0.49**	**347**		**Pg**	**19 42 40.3**	**+0.2**
HMOM	**Monterey**	**0.49**	**268**		**Pg**	**19 42 40.5**	**+0.4**
HMOM					**Sb**	**19 42 48.1**	**-0.5**
HLPM	**Lions Peak**	**0.49**	**329**		**Pg**	**19 42 40.3**	**+0.1**
JELB	**Ellicott, Sant**	**0.52**	**307**		**Pg**	**19 42 40.7**	**+0.1**
JELB					**Sn**	**19 42 52.6**	**-0.4**
BAPM	**Anderson Peak**	**0.52**	**211**		**Pg**	**19 42 41.2**	**+0.5**
BPOM	**Post Ranch**	**0.54**	**223**		**Pg**	**19 42 41.4**	**+0.3**
PCCM	**Crazy Canyon**	**0.54**	**167**		**Pg**	**19 42 41.6**	**+0.4**
PMPB	**Monarch Peak**	**0.58**	**134**		**Pg**	**19 42 41.5**	**-0.3**
SCKWR	**San Luis Creek**	**0.59**	**19**		**Pb**	**19 42 42.6**	**-0.5**
SCKWR					**Sn**	**19 42 52.9**	**-2.1**
CADM	**Anderson Res.**	**0.60**	**335**		**Pg**	**19 42 42.1**	**-0.1**
HULI	**Fort Hunter Li**	**0.60**	**174**		**Pg**	**19 42 42.0**	**-0.3**
HULI				IAML		19 43 00.6	
	comp=E,48μm,0.7s						
HULI				IAML		19 43 01.1	
	comp=N,57μm,0.8s						
JLAB	**Laurel Hill**	**0.63**	**328**		**Pg**	**19 42 42.9**	**0.0**
PSAM	**San Ardo**	**0.69**	**150**		**Pg**	**19 42 43.8**	**-0.1**
PPTM	**Peach Tree Val**	**0.70**	**137**		**Pg**	**19 42 43.8**	**-0.4**
CCOB	**Coe Ranch Numb**	**0.70**	**336**		**Pb**	**19 42 44.7**	**-0.3**
PAPM	**Alder Peak**	**0.71**	**183**		**Pg**	**19 42 44.6**	**+0.3**
ARN	**Arnold Ranch**	**0.75**	**346**		**Pg**	**19 42 45.1**	**0.0**
MHC	**Mount Hamilton**	**0.77**	**340**		**Pg**	**19 42 45.3**	**-0.2**
MHC				IAML		19 42 59.3	
	comp=E,52μm,0.7s						
JJOM	**Saint Joseph's**	**0.79**	**318**		**Pg**	**19 42 45.1**	**-0.8**
PSMM	**Smith Mountain**	**0.80**	**133**		**Pg**	**19 42 45.8**	**-0.2**
SCCB	**Santa Clara Co**	**0.80**	**326**		**Pg**	**19 42 46.0**	**-0.1**
JBNB	**Ben Lomond Mou**	**0.84**	**307**		**Pg**	**19 42 45.8**	**-1.1**
CMMM	**Mount Mocho**	**0.85**	**350**		**Pg**	**19 42 46.8**	**-0.2**
PHPM	**Hope Ranch**	**0.86**	**138**		**Pg**	**19 42 46.4**	**-0.7**
MTOS	**Mt Oso, Westle**	**0.88**	**359**		**Pb**	**19 42 47.7**	**-0.5**
CMLM	**Mount Lewis**	**0.90**	**342**		**Pg**	**19 42 47.6**	**-0.4**
PANM	**San Antonio Re**	**0.90**	**159**		**Pg**	**19 42 47.5**	**-0.5**
CALM	**Calaveras Res.**	**0.92**	**335**		**Pg**	**19 42 47.6**	**-0.6**
PKD	**Bear Valley Ra**	**0.92**	**137**	Pg	**Pg**	**19 42 47.5**	**-0.8**
PVCM	**Vineyard Canyo**	**0.94**	**138**		**Pg**	**19 42 48.0**	**-0.7**
PPO	**Portuguese Can**	**0.94**	**143**		**Pg**	**19 42 48.4**	**-0.4**
JSJM	**St Joseph**	**0.95**	**319**		**Pg**	**19 42 48.3**	**-0.6**
JBMM	**Black Mountain**	**0.97**	**316**		**Pg**	**19 42 48.0**	**-1.3**
WSRE	**Westside REC,**	**1.00**	**106**		**Pg**	**19 42 49.3**	**-0.5**
JPSM		**1.01**	**305**		**Pg**	**19 42 48.9**	**-1.2**
JFP	**Foothills Park**	**1.02**	**317**		**Pg**	**19 42 49.1**	**-1.2**
AVNL	**Avenal, CA USA**	**1.02**	**126**		**Pg**	**19 42 49.8**	**-0.5**
CSTL	**Corral Hollow**	**1.03**	**352**		**Pg**	**19 42 49.9**	**-0.5**
CSTL	**Corral Hollow**	**1.03**	**352**		**Pg**	**19 42 50.2**	**-0.1**
PWKM	**Work Ranch**	**1.03**	**141**		**Pb**	**19 42 49.6**	**-1.1**
PHFM	**Heflinger Ranc**	**1.04**	**135**		**Pb**	**19 42 49.6**	**-1.2**
JSFB	**Stanford Teles**	**1.04**	**319**		**Pb**	**19 42 49.3**	**-1.5**
CTM	**Castle Mountai**	**1.05**	**131**		**Pg**	**19 42 50.4**	**-0.4**
RAMR	**Ramage Ranch**	**1.05**	**160**		**Pb**	**19 42 49.7**	**-1.2**
WENL	**Wente Vineyard**	**1.06**	**341**		**Pb**	**19 42 50.0**	**-1.2**
LCUV	**Le Cuvier**	**1.07**	**154**		**Pb**	**19 42 49.9**	**-1.5**
JRSC	**Jasper Ridge**	**1.08**	**317**	Pg	**Pb**	**19 42 50.1**	**-1.3**
JRSC				IAML		19 43 06.0	
	comp=N,31μm,0.8s						
JRSC				IAML		19 43 09.0	
	comp=E,28μm,0.8s						
CVLM	**Vallecito**	**1.09**	**337**		**Pb**	**19 42 50.5**	**-1.1**
BGH	**Bear Gulch**	**1.09**	**311**		**Pb**	**19 42 50.2**	**-1.5**
CSAM	**Sandia**	**1.10**	**343**		**Pb**	**19 42 50.7**	**-1.0**
LEGD	**La Grand CA**	**1.10**	**57**		**Pb**	**19 42 50.2**	**-1.7**
LEGD				IAML		19 43 07.5	
	comp=E,26μm,0.9s						
CNIC	**Niles Canyon**	**1.11**	**332**		**Pb**	**19 42 50.5**	**-1.6**
CBZL	**Buffer Zone**	**1.12**	**343**		**Pb**	**19 42 51.2**	**-0.9**
CBZL	**Buffer Zone**	**1.12**	**343**		**Pb**	**19 42 51.4**	**-0.7**
PCBM	**Cambria**	**1.12**	**169**		**Pb**	**19 42 50.7**	**-1.4**
CYD1	**Coyote D'meter**	**1.13**	**326**		**Pb**	**19 42 50.2**	**-2.1**
PKLM	**Kerr Lake**	**1.16**	**137**		**Pb**	**19 42 51.4**	**-1.4**
TCAS	**Cass Winery, P**	**1.18**	**149**		**Pb**	**19 42 52.0**	**-1.2**
TCHL	**Shandon**	**1.19**	**141**		**Pn**	**19 42 51.9**	**-1.5**
PMRM	**Maxey Ranch**	**1.21**	**134**		**Pn**	**19 42 51.9**	**-1.8**
CBSNC	**Byron Hot Spri**	**1.22**	**348**		**Pn**	**19 42 52.5**	**-1.4**
JCHM	**Cahill Ridge**	**1.23**	**317**		**Pn**	**19 42 52.2**	**-1.9**
PAGB	**Antelope Grade**	**1.24**	**136**		**Pn**	**19 42 52.5**	**-1.6**
MHDM	**Hidden Dam**	**1.24**	**66**		**Pn**	**19 42 51.9**	**-2.2**
CMOB	**Morgan Territo**	**1.25**	**342**		**Pn**	**19 42 52.5**	**-1.8**
THIS	**South End of C**	**1.25**	**135**		**Pn**	**19 42 52.8**	**-1.5**
JCPM	**Coyote Point**	**1.26**	**320**		**Pn**	**19 42 52.2**	**-2.2**
CLCB	**Lake Chabot**	**1.27**	**332**		**Pn**	**19 42 52.7**	**-1.8**
CSLM	**San Leandro Hi**	**1.28**	**330**		**Pn**	**19 42 52.5**	**-2.1**
SAC	**San Andreas**	**1.30**	**318**		**Pn**	**19 42 53.1**	**-2.0**
PTAM	**Tassajara Cree**	**1.32**	**158**		**Pn**	**19 42 53.6**	**-1.7**
TSCN	**Private Proper**	**1.33**	**144**		**Pn**	**19 42 53.9**	**-1.4**
BGC	**Bolinger Road**	**1.33**	**334**		**Pn**	**19 42 53.6**	**-1.9**
FRI	**Friant**	**1.34**	**73**		**Pn**	**19 42 53.7**	**-1.7**
CMCM	**Mills College**	**1.35**	**329**		**Pn**	**19 42 53.9**	**-1.7**
CRHM	**Round Hill Res**	**1.35**	**336**		**Pn**	**19 42 54.2**	**-1.4**
MBUM	**Mount Bullion**	**1.36**	**46**		**Pn**	**19 42 54.5**	**-1.4**
JSBM	**San Bruno Moun**	**1.37**	**321**		**Pn**	**19 42 53.3**	**-2.6**
SMCB	**Saint Mary's C**	**1.37**	**333**		**Pn**	**19 42 54.0**	**-1.9**
CRPB	**Russellman Par**	**1.37**	**340**		**Pn**	**19 42 54.4**	**-1.6**
JMGM	**Milagra Ridge**	**1.38**	**318**		**Pn**	**19 42 53.8**	**-2.2**
LSDC	**Los Osos Digit**	**1.38**	**164**		**Pn**	**19 42 54.4**	**-1.6**
BUCR	**Buckhorn Ranch**	**1.40**	**41**		**Pn**	**19 42 54.6**	**-1.9**
BDM	**Black Diamond**	**1.40**	**342**		**Pn**	**19 42 54.9**	**-1.5**
TRAY	**Twisselman Ran**	**1.44**	**138**		**Pn**	**19 42 55.3**	**-1.6**
PBPM	**Bitterwater Pu**	**1.44**	**136**		**Pn**	**19 42 55.5**	**-1.5**
DPD	**Davis Peak**	**1.45**	**163**		**Pn**	**19 42 55.8**	**-1.2**
BKS	**Berkeley--Byer**	**1.45**	**330**		**Pn**	**19 42 54.9**	**-2.2**
CYBM	**Yerba Buena Is**	**1.45**	**325**		**Pn**	**19 42 54.6**	**-2.5**
KARE	**Kearney REC, C**	**1.45**	**90**		**Pn**	**19 42 55.0**	**-2.0**
DCD	**Diablo Creek**	**1.46**	**165**		**Pn**	**19 42 55.2**	**-1.9**
BRIB	**Briones**	**1.46**	**333**		**Pn**	**19 42 55.3**	**-1.8**
BL67	**Building 67, L**	**1.46**	**329**		**Pn**	**19 42 55.2**	**-2.0**
VAK	**Adit at Lawren**	**1.46**	**329**		**Pn**	**19 42 55.1**	**-2.1**
BL88	**Building 88, L**	**1.46**	**329**		**Pn**	**19 42 55.4**	**-1.8**
BRK	**Berkeley--Havi**	**1.46**	**329**		**Pn**	**19 42 55.3**	**-1.8**
MMIM	**Miami Mountain**	**1.49**	**57**		**Pn**	**19 42 55.9**	**-1.7**
JPRM	**Presidio of Sa**	**1.50**	**322**		**Pn**	**19 42 54.9**	**-2.7**
TWIT	**Twitchell Isla**	**1.50**	**349**		**Pn**	**19 42 56.7**	**-1.0**
CTAM	**Taylor**	**1.51**	**338**		**Pn**	**19 42 56.2**	**-1.7**
CPIM	**Pinole Ridge**	**1.54**	**332**		**Pn**	**19 42 56.7**	**-1.6**
CSPM	**San Pablo Ridg**	**1.55**	**329**		**Pn**	**19 42 56.9**	**-1.6**
HMR	**Hamilton Ranch**	**1.58**	**346**		**Pn**	**19 42 58.6**	**-0.2**
HERB	**Hercules**	**1.58**	**332**		**Pn**	**19 42 57.1**	**-1.7**
VOG	**Valley Oaks Go**	**1.58**	**100**		**Pn**	**19 42 57.2**	**-1.6**
CPMM	**Point Molate**	**1.59**	**327**		**Pn**	**19 42 56.6**	**-2.3**
CMB	**Columbia Colle**	**1.59**	**27**		**Pn**	**19 42 57.5**	**-1.5**
CMB				IAML		19 43 21.7	
	comp=E,12μm,0.9s						
CMB				IAML		19 43 22.3	
	comp=N,8μm,0.7s						
NLHM	**Lake Herman**	**1.64**	**336**		**Pn**	**19 42 57.9**	**-1.7**
JEPS	**Jepson Natural**	**1.68**	**346**		**Pn**	**19 42 59.3**	**-0.9**
SMMC	**Simmler**	**1.69**	**140**		**Pn**	**19 42 58.7**	**-1.6**
FARB	**Farallon Islan**	**1.73**	**309**		**Pn**	**19 42 58.7**	**-2.1**
FARB				IAML		19 43 31.2	
	comp=E,6μm,0.8s						
KCC	**Kaiser Creek**	**1.74**	**66**		**Pn**	**19 43 00.0**	**-1.1**
CARC	**Carrizo Plain**	**1.77**	**137**		**Pn**	**19 42 59.9**	**-1.5**
SNT	**Sears Point**	**1.81**	**330**		**Pn**	**19 43 00.2**	**-1.6**
NGVM		**1.81**	**337**		**Pn**	**19 43 01.0**	**-0.9**
NOLM	**Olema**	**1.84**	**321**		**Pn**	**19 42 59.8**	**-2.6**
WELL	**Weller Preserv**	**1.87**	**14**		**Pn**	**19 43 01.7**	**-1.2**
WELL				IAML		19 43 31.2	
	comp=E,4μm,0.9s						
CRGC	**Crocker Grade**	**1.88**	**136**		**Pn**	**19 43 01.9**	**-1.2**
NADM	**Allendale**	**1.91**	**344**		**Pn**	**19 43 02.5**	**-0.8**
NPRM	**Point Reyes**	**1.93**	**316**		**Pn**	**19 43 01.1**	**-2.5**
CVS	**Carmenet Viney**	**1.95**	**332**		**Pn**	**19 43 02.0**	**-1.8**
CVS				IAML		19 43 41.2	
	comp=N,4μm,1.2s						
CVS				IAML		19 43 46.1	
	comp=E,4μm,1.5s						
VES	**Vestal, Richgr**	**1.96**	**113**		**Pn**	**19 43 02.5**	**-1.5**
VES				IAML		19 43 33.7	
	comp=N,10μm,0.6s						
VES				IAML		19 43 43.1	
	comp=E,8μm,0.6s						
NAPC	**Atlas Peak**	**1.96**	**338**		**Pn**	**19 43 02.2**	**-1.9**
MCCM	**Marconi Confer**	**1.97**	**321**		**Pn**	**19 43 02.1**	**-2.0**
MCCM				IAML		19 43 40.0	
	comp=E,6μm,0.9s						
MCCM				IAML		19 43 52.1	
	comp=N,5μm,1.0s						
RUSS	**Russell Ranch**	**1.97**	**347**		**Pn**	**19 43 02.9**	**-1.2**
RUSS				IAML		19 44 01.2	
	comp=N,8μm,1.6s						
RUSS				IAML		19 44 05.1	
	comp=E,9μm,1.9s						
QRDG	**Quail Ridge Na**	**1.97**	**341**		**Pn**	**19 43 02.9**	**-1.3**
OAKV	**Oakville Exper**	**2.01**	**335**		**Pn**	**19 43 03.0**	**-1.7**
MRDM	**Red Cones**	**2.05**	**61**		**Pn**	**19 43 05.0**	**-0.5**
MDPB	**Devils Postpil**	**2.05**	**60**		**Pn**	**19 43 05.2**	**-0.3**
MDPB				IAML		19 43 40.0	
	comp=N,7μm,1.0s						
MDPB				IAML		19 43 43.4	
	comp=E,8μm,0.8s						
MINS	**Minaret Summit**	**2.07**	**60**		**Pn**	**19 43 05.9**	**+0.1**
MMPM	**Mammoth Pass**	**2.08**	**61**		**Pn**	**19 43 05.7**	**-0.3**
MLIM	**Lincoln Peak**	**2.09**	**60**		**Pn**	**19 43 06.6**	**+0.4**
SPG2	**Springville 2**	**2.10**	**101**		**Pn**	**19 43 04.1**	**-1.8**
MDYM	**Dry Creek**	**2.11**	**60**		**Pn**	**19 43 06.9**	**+0.5**
MDCM	**Deadman Creek**	**2.11**	**58**		**Pn**	**19 43 06.1**	**-0.3**
PKM	**Mcpherson Peak**	**2.12**	**144**		**Pn**	**19 43 04.8**	**-1.6**
MMLB	**Mammoth Lakes**	**2.13**	**60**		**Pn**	**19 43 07.1**	**+0.5**
MLCM	**Laurel Creek C**	**2.15**	**62**		**Pn**	**19 43 06.9**	**0.0**
MEMM	**East Mammoth H**	**2.16**	**60**		**Pn**	**19 43 07.2**	**+0.1**
GATR	**Gnd/Air Tx Cnt**	**2.17**	**162**		**Pn**	**19 43 05.3**	**-1.6**
MGPM	**Gravel Pit**	**2.17**	**62**		**Pn**	**19 43 07.4**	**+0.2**
FIGC	**Figueroa Mtn.**	**2.17**	**150**		**Pn**	**19 43 05.7**	**-1.4**
MCSM	**Casa Diablo Ho**	**2.18**	**61**		**Pn**	**19 43 07.6**	**+0.3**
MCBM	**Casa Benchmark**	**2.18**	**61**		**Pn**	**19 43 08.0**	**+0.7**
BAKC	**Calstate**	**2.20**	**125**		**Pn**	**19 43 07.3**	**0.0**
MCVM	**Convict Lake**	**2.21**	**63**		**Pn**	**19 43 07.8**	**+0.1**
MLAC	**Mammoth, Mammo**	**2.22**	**62**		**Pn**	**19 43 08.6**	**+0.8**
MDRNC	**Doe Ridge**	**2.22**	**62**		**Pn**	**19 43 08.2**	**+0.3**
MLHM	**Little Hot Cre**	**2.26**	**61**		**Pn**	**19 43 09.0**	**+0.7**
NJQ	**Nojoqui County**	**2.28**	**156**		**Pn**	**19 43 07.1**	**-1.3**
BCW	**Bitter Crk WRg**	**2.28**	**137**		**Pn**	**19 43 07.6**	**-0.9**
MAGC	**SCE Magundon P**	**2.31**	**122**		**Pn**	**19 43 08.4**	**-0.4**
MTUM	**Tungsten Hills**	**2.32**	**71**		**Pn**	**19 43 09.4**	**+0.3**
AFDM	**Forest Hills D**	**2.34**	**6**		**Pn**	**19 43 08.5**	**-0.8**
SYP	**Santa Ynez Pea**	**2.36**	**152**		**Pn**	**19 43 08.8**	**-1.5**
NMTM	**Middletown**	**2.36**	**338**		**Pn**	**19 43 07.5**	**-2.0**
GAXM	**Alexander Vall**	**2.38**	**332**		**Pn**	**19 43 07.5**	**-2.3**
WASM	**Alta Sierra Ca**	**2.40**	**111**		**Pn**	**19 43 09.2**	**-1.1**
WAKR	**Walker**	**2.40**	**38**		**Pn**	**19 43 10.3**	**0.0**
FTR	**Fort Ross**	**2.40**	**323**		**Pn**	**19 43 07.8**	**-2.3**
MNRC	**McLaughlin Min**	**2.43**	**339**		**Pn**	**19 43 08.4**	**-2.0**
MNRC				IAML		19 44 21.4	
	comp=N,2μm,1.4s						
MNRC				IAML		19 44 22.6	
	comp=E,3μm,1.7s						
GBGM	**Boggs Mountain**	**2.44**	**334**		**Pn**	**19 43 09.4**	**-1.3**
MCDM	**Chidago Canyon**	**2.47**	**67**		**Pn**	**19 43 12.8**	**+1.6**
MRCM	**Red Rock Canyo**	**2.47**	**64**		**Pn**	**19 43 12.4**	**+1.1**
GDXM	**Geysers**	**2.48**	**332**		**Pn**	**19 43 08.8**	**-2.5**
ISA	**Isabella, Lake**	**2.49**	**112**		**Pn**	**19 43 10.4**	**-0.9**
ISA				IAML		19 43 44.6	
	comp=E,4μm,1.3s						
ISA				IAML		19 43 45.0	
	comp=N,7μm,0.7s						
GSGM	**Seigler Mounta**	**2.50**	**334**		**Pn**	**19 43 10.3**	**-1.2**
TIN	**Tinemaha, Big**	**2.51**	**79**		**Pn**	**19 43 11.6**	**-0.1**
SUTB	**Sutter Butte**	**2.63**	**352**		**Pn**	**19 43 11.1**	**-2.1**
SUTB				IAML		19 44 03.7	
	comp=N,3μm,0.7s						
SUTB				IAML		19 44 04.0	
	comp=E,3μm,0.6s						
HOPS	**Hopland Field**	**2.75**	**330**		**Pn**	**19 43 12.8**	**-2.0**
LHV	**Little Huntoon**	**2.76**	**53**		**Pn**	**19 43 14.7**	**-0.4**
DSP	**Deep Springs**	**2.78**	**73**	IAML		19 44 10.8	
	comp=E,3μm,1.3s						
DSP				IAML		19 44 13.9	
	comp=N,2μm,1.5s						
OSI	**Osito Audit: C**	**2.91**	**133**		**Pn**	**19 43 15.9**	**-1.2**
OSI				IAML		19 44 19.5	
	comp=E,4μm,1.1s						
OSI				IAML		19 44 20.2	
	comp=N,3μm,1.0s						
ORV	**Oroville**	**2.93**	**357**		**Pn**	**19 43 16.4**	**-1.0**
RYN	**Ryan**	**2.99**	**47**	IAML		19 44 05.3	
	comp=E,4μm,0.8s						
RYN				IAML		19 44 09.1	
	comp=N,3μm,1.2s						
NVAR	**Mina Array Bea**	**3.00**	**52**		**Pn**	**19 43 18.2**	**-0.3**
NVAR	**Mina Array Bea**	**3.00**	**52**	Pn	**Pn**	**19 43 18.9**	**+0.4**
	comp=N,56nm,0.3s,baz=230,slow=19,SNR=67						
NVAR				Lg	Lg	19 44 01.3	
	comp=N,97nm,0.3s,baz=213,slow=21,SNR=6.1						
NVAR				LR	LR	19 44 54.5	
	comp=N,3μm,18.4s,baz=235,slow=48						
	comp=N,18nm,0.6s						
TPO	**Tropico Hills**	**3.05**	**124**		**Pn**	**19 43 18.4**	**-0.6**
TPO				IAML		19 44 07.3	
	comp=N,3μm,1.3s						
TPO				IAML		19 44 23.1	
	comp=E,4μm,1.2s						
NV11	**Mina Array Sit**	**3.09**	**53**	IAML		19 44 12.6	
	comp=N,3μm,1.2s						
NV11				IAML		19 44 32.2	
	comp=E,1μm,1.8s						
CLC	**China Lake**	**3.11**	**104**		**Pn**	**19 43 19.0**	**-0.9**
CLC				IAML		19 44 18.5	
	comp=N,2μm,2.1s						
MPMC	**Manual Prospec**	**3.14**	**99**	IAML		19 44 18.0	
	comp=N,2μm,1.0s						
MPMC				IAML		19 44 25.4	
	comp=E,2μm,1.3s						
LRMC	**Laurel Mtn Rad**	**3.15**	**110**	IAML		19 44 12.6	
	comp=E,2μm,1.4s						
LRMC				IAML		19 44 32.3	
	comp=N,2μm,1.3s						
WSHM	**Spangler Hills**	**3.26**	**107**	IAML		19 44 14.0	
	comp=N,3μm,1.6s						
WSHM				IAML		19 44 19.0	
	comp=N,2μm,1.4s						
DCMP	**DeCamp, Califo**	**3.26**	**331**		**Pn**	**19 43 19.9**	**-2.0**
GMN	**Gold Mountain**	**3.31**	**77**	IAML		19 44 23.2	
	comp=N,2μm,0.8s						
GMN				IAML		19 44 26.9	
	comp=E,1μm,0.9s						
BEKR	**Beckworth**	**3.33**	**13**		**Pn**	**19 43 22.6**	**-0.4**
BEKR				IAML		19 44 13.0	
	comp=N,1μm,0.8s						
BEKR				IAML		19 44 19.5	
	comp=E,3μm,0.9s						
PAHR	**Pah Rah Range**	**3.43**	**26**		**Pn**	**19 43 24.1**	**-0.4**
PAHR				IAML		19 44 24.4	
	comp=E,3μm,1.9s						
PAHR				IAML		19 44 35.0	
	comp=N,2μm,1.4s						
PASC	**Pasadena Art C**	**3.54**	**133**	IAML		19 44 41.2	
	comp=E,1μm,1.4s						
PASC				IAML		19 44 42.3	
	comp=N,881nm,1.7s						
KCPM	**Cahto Peak**	**3.54**	**330**		**Pn**	**19 43 24.7**	**-1.2**
TPH	**Tonopah**	**3.57**	**65**	IAML		19 44 26.5	
	comp=N,2μm,1.3s						
TPH				IAML		19 44 31.9	
	comp=E,2μm,1.4s						
MWC	**Mount Wilson**	**3.58**	**131**	IAML		19 44 13.9	
	comp=E,2μm,1.2s						
MWC			

PDAR Lg Lg 19 48 10.2
comp=N,0.1nm,0.3s,baz=238,slow=29,SNR=2.3
PDAR LR LR 19 49 22.6
comp=N,1μm,18.9s,baz=233,slow=38
comp=N,1.6nm,0.9s
SRIG Santa Rosalia 12.05 138 Pn **Pn 19 45 20.8 -1.6**
ANMO Albuquerque 12.18 93 Pn **Pn 19 45 27.3 +2.9**
comp=N,0.1nm,0.3s,baz=8.5,slow=12,SNR=8.5
ANMO Lg Lg 19 48 49.7
comp=N,0.2nm,0.3s,baz=287,slow=19,SNR=1.1
ANMO LR LR 19 50 28.6
comp=N,1μm,18.9s,baz=8.5,slow=40
KSCO Kaye Shedlock' 14.96 75 Pn **Pn 19 46 00.8 -1.6**
RSSD Black Hills 15.13 55 P **P 19 46 08.3 -1.7**
RSSD IAmb IAmb 19 46 11.8
comp=Z,40nm,1.2s
MSTX Muleshoe 15.37 94 IAmb IAmb 19 46 21.4
comp=Z,51nm,1.0s
PECS Pecos 15.38 105 IAmb IAmb 19 46 15.2
comp=Z,50nm,1.1s
LPIG La Paz 15.66 140 LR LR 19 52 16.5
comp=Z,1μm,18.1s,baz=334,slow=38
AMTX Amarillo 16.03 90 IAmb IAmb 19 46 25.1
comp=Z,93nm,1.0s
BBB Bella Bella 16.29 345 LR LR 19 53 14.4
comp=Z,724nm,19.4s,baz=196,slow=39
TXAR Lajitas Array 16.48 111 **Pn 19 46 21.3 -0.8**
TXAR Lajitas Array 16.48 111 Pn **P 19 46 24.1 -0.7**
comp=Z,0.1nm,0.3s,baz=283,slow=11,SNR=43
TXAR LR LR 19 53 18.0
comp=Z,504nm,19.7s,baz=293,slow=40
comp=Z,10nm,0.9s
APMT Aspermont 17.67 94 **Pn 19 46 36.5 -0.5**
WTFS Witchita Falls 18.88 92 P **P 19 46 49.2 -2.1**
WTFS IAmb IAmb 19 46 54.5
comp=Z,67nm,1.1s
X34A Smith Ranch, M 19.19 89 IAmb IAmb 19 47 06.2
comp=Z,92nm,1.3s
BRDY Brady 19.24 100 P **P 19 46 54.1 -1.2**
PLPT Palo Pinto 19.27 95 IAmb IAmb 19 46 59.1
comp=Z,85nm,1.2s
OK052 Battle Ridge R 19.75 84 IAmb IAmb 19 47 03.5
comp=Z,61nm,1.1s
FW06 Azle 19.83 94 IAmb IAmb 19 47 02.6
comp=Z,57nm,0.8s
LOOK Love County 19.86 90 IAmb IAmb 19 47 09.8
comp=Z,39nm,1.0s
T35A Sooner Cattle 19.86 82 P **P 19 47 01.1 -0.8**
DEOK Depew 20.02 85 P **P 19 47 02.8 -0.9**
DEOK IAmb IAmb 19 47 04.7
comp=Z,65nm,1.3s
ECSD EROS Data Cent 20.12 62 P **P 19 47 03.5 -1.2**
ECSD IAmb IAmb 19 47 09.6
comp=Z,40nm,0.9s
FW13 Cleburne 20.12 95 IAmb IAmb 19 47 08.5
comp=Z,49nm,1.2s
WHTX Lake Whitney, 20.22 96 IAmb IAmb 19 47 07.5
comp=Z,45nm,1.0s
TUL3 Leonard 20.58 84 P **P 19 47 09.0 -0.7**
TUL3 IAmb IAmb 19 47 10.6
comp=Z,40nm,0.9s
F33A 5 Mile Ranch, 20.88 56 P **P 19 47 12.0 -0.9**
F33A IAmb IAmb 19 47 13.7
comp=Z,46nm,1.1s
RLO Rose Lookout 21.15 83 P **P 19 47 15.2 -0.7**
RLO IAmb IAmb 19 47 16.8
comp=Z,58nm,1.3s
AGMN Agassiz Nation 22.00 50 P **P 19 47 23.1 -1.9**
AGMN IAmb IAmb 19 47 25.3
comp=Z,27nm,0.8s
P38A Dawn 22.02 74 IAmb IAmb 19 47 30.5
comp=Z,36nm,0.8s
FFC Flin Flon 22.46 30 **P 19 47 29.1 -0.7**
DLBC Dease Lake 22.57 348 LR LR 19 57 44.2
comp=Z,9μm,18.3s,baz=142,slow=40
ULM Lac du Bonnet 22.81 45 P **P 19 47 34.4 +0.8**
comp=Z,15nm,0.9s,baz=252,slow=10,SNR=7.3
ULM LR LR 19 56 26.8
comp=Z,491nm,21.1s,baz=242,slow=37
comp=Z,15nm,0.9s
R40A Maddies Statio 23.08 77 IAmb IAmb 19 47 37.0
comp=Z,17nm,0.8s
SPMN Marine on St. 23.10 59 P **P 19 47 35.9 -0.7**
SPMN IAmb IAmb 19 47 40.1
comp=Z,62nm,1.4s
P40A Paris 23.17 74 P **P 19 47 36.7 -0.7**
P40A IAmb IAmb 19 47 39.0
comp=Z,33nm,0.9s
MGMO Mountain Grove 23.20 80 IAmb IAmb 19 47 39.4
comp=Z,20nm,0.9s
WHAR Wooly Hollow 23.50 85 IAmb IAmb 19 47 42.9
comp=Z,66nm,1.2s
Z41A Richland Creek 23.57 90 IAmb IAmb 19 47 42.8
comp=Z,32nm,1.0s
EPLO Experimental L 23.83 48 P **P 19 47 42.2 -1.7**
CCM Cathedral Cave 23.90 77 P **P 19 47 43.6 -1.0**
E38A The Farm, Brul 24.25 56 IAmb IAmb 19 47 53.2
comp=Z,36nm,1.0s
LCAR Lake Charles 24.25 82 IAmb IAmb 19 47 48.9
comp=Z,26nm,1.1s
FVM French Village 24.55 77 IAmb IAmb 19 48 21.3
comp=Z,23nm,1.4s
EYMN Ely 24.64 53 IAmb IAmb 19 47 52.0
comp=Z,34nm,1.2s
PBMO Poplar Bluff 24.71 80 IAmb IAmb 19 47 53.9
comp=Z,21nm,0.8s
G40A Rib Lake 24.91 60 IAmb IAmb 19 47 55.7
comp=Z,34nm,1.1s
S44A Carbondale 25.51 78 IAmb IAmb 19 47 59.9
comp=Z,20nm,0.9s
SIUC Southern Illin 25.54 78 IAmb IAmb 19 48 00.0
comp=Z,23nm,0.8s
YKA Yellowknife Ar 26.23 7 LR LR 20 00 15.2
comp=Z,986nm,18.5s,baz=192,slow=41
SFIN Lafayette 26.94 71 IAmb IAmb 19 48 13.3
comp=Z,38nm,1.1s
T47A Sharon Grove 27.31 79 IAmb IAmb 19 48 16.6
comp=Z,37nm,1.0s
Z47A Carrollton 27.40 87 IAmb IAmb 19 48 16.9
comp=Z,18nm,0.9s
X48A Hartselle 27.88 84 IAmb IAmb 19 48 21.3
comp=Z,18nm,1.0s
N47A Urbana 27.98 70 IAmb IAmb 19 48 26.2
comp=Z,20nm,0.9s
O48B Farmland 28.43 72 IAmb IAmb 19 48 25.6
comp=Z,28nm,1.0s
Y49A Blount Mountai 28.55 85 IAmb IAmb 19 48 27.5
comp=Z,15nm,1.2s
SWET Sewanee 28.59 82 IAmb IAmb 19 48 27.7
comp=Z,23nm,1.4s
O49A Covington 29.06 72 IAmb IAmb 19 48 31.1
comp=Z,24nm,1.0s
T50A Nancy 29.09 78 IAmb IAmb 19 48 33.3
comp=Z,18nm,1.4s
W50A Signal Mountai 29.09 82 IAmb IAmb 19 48 32.2
comp=Z,19nm,1.0s
R50A Paris 29.29 75 IAmb IAmb 19 48 34.0
comp=Z,23nm,1.0s
KDAK Kodiak Island 29.55 326 LR LR 19 58 19.4
comp=Z,305nm,18.7s,baz=113,slow=32
X51A Calhoun 29.61 83 IAmb IAmb 19 48 37.0
comp=Z,29nm,1.3s
CPCT Cooper Cave 29.66 81 IAmb IAmb 19 48 39.7
comp=Z,24nm,1.1s
SCM Sheep Creek Mo 30.02 335 P **P 19 48 38.9 -0.6**
SCM IAmb IAmb 19 49 01.9
comp=Z,34nm,1.4s
TZTN Tazewell 30.20 79 P **P 19 48 40.5 -0.8**
TZTN IAmb IAmb 19 48 42.4
comp=Z,22nm,1.1s
TKL Tuckaleechee C 30.21 80 IAmb IAmb 19 48 43.9
comp=Z,31nm,1.2s
TKL Tuckaleechee C 30.21 80 LR LR 20 01 36.3
comp=Z,563nm,21.4s,baz=324,slow=38
152A Waverly Hall 30.24 87 IAmb IAmb 19 48 42.7
comp=Z,17nm,1.4s
Q52A Bidwell 30.79 74 IAmb IAmb 19 48 46.9
comp=Z,25nm,1.0s
O52A Adamsville 30.97 71 IAmb IAmb 19 48 48.3
comp=Z,22nm,1.0s
GOGA Godfrey 31.03 85 IAmb IAmb 19 48 49.5
comp=Z,11nm,1.1s
ILAR Eielson Array 32.04 340 P **P 19 48 59.2 +2.0**
comp=Z,2.7nm,1.0s,baz=158,slow=7.8,SNR=12
ILAR LR LR 20 00 20.3
comp=Z,260nm,20.8s,baz=130,slow=33
comp=Z,2.7nm,1.0s

PPLA Purkeypile 32.41 334 **P 19 48 59.8 -0.9**
INK Inuvik 32.47 352 LR LR 20 04 17.1
comp=Z,708nm,19.7s,baz=179,slow=40
N18K Kilae Creek 32.54 329 P **P 19 49 00.9 -0.7**
N18K IAmb IAmb 19 49 26.4
comp=Z,30nm,1.4s
JSC Jenkinsville 32.55 82 IAmb IAmb 19 49 02.0
comp=Z,9.0nm,0.9s
SADO Sadowa 32.69 62 LR LR 20 02 28.0
comp=Z,6μm,19.9s,baz=296,slow=37
N17K Nushagak Hills 33.01 328 P **P 19 49 04.6 -1.2**
BIRD Birdtown, Kers 33.09 81 IAmb IAmb 19 49 08.6
comp=Z,27nm,1.2s
M17K Holitna River 33.56 329 P **P 19 49 10.7 +0.2**
M17K IAmb IAmb 19 49 18.0
comp=Z,23nm,1.0s
L18K Granite Mounta 33.69 331 P **P 19 49 11.0 -0.7**
V58A Windy Hill, Pi 33.86 79 IAmb IAmb 19 49 14.8
comp=Z,29nm,1.3s
VLDQ Val d'Or 33.94 56 IAmb IAmb 19 49 13.7
comp=Z,24nm,1.4s
L16K Owhat River 34.56 329 P **P 19 49 17.8 -1.3**
WUPA West Chester U 35.73 70 IAmb IAmb 19 49 35.5
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 35.87 341 P **P 19 49 31.7 +1.2**
E22K IAmb IAmb 19 49 52.2
comp=Z,26nm,1.4s
TRQ Mont Tremblant 35.89 60 IAmb IAmb 19 49 31.3
comp=Z,15nm,0.8s
D23K Nanushuk River 36.20 343 P **P 19 49 33.3 +0.1**
D23K IAmb IAmb 19 49 43.4
comp=Z,34nm,1.5s
D22K Ayikyak River 36.63 342 P **P 19 49 35.2 -1.7**
D22K IAmb IAmb 19 50 17.1
comp=Z,16nm,1.4s
D19K Kuna River 37.85 339 P **P 19 49 46.6 -0.7**
RES Resolute Bay 40.18 11 LR LR 20 08 56.3
comp=Z,619nm,18.7s,baz=216,slow=40
SCHQ Schefferville 40.98 46 LR LR 20 07 57.1
comp=Z,4μm,19.8s,baz=268,slow=37
FRB Frobisher Bay 41.54 32 LR LR 20 07 35.3
comp=Z,362nm,20.5s,baz=268,slow=36
SFJD Kangerlussuaq 49.41 29 LR LR 20 14 39.2
comp=Z,342nm,18.6s,baz=260,slow=39
RUSC La Rusia 53.58 113 P **P 19 51 51.6 -1.1**
BAUV El Baul 55.45 106 P **P 19 52 04.7 -1.1**
BAUV IAmb IAmb 19 52 06.2
comp=Z,16nm,0.9s
TIXI Tiksi 61.51 340 LR LR 20 22 21.9
comp=Z,156nm,18.2s,baz=46,slow=39
BORG Borgarnes 61.53 29 LR LR 20 19 13.6
comp=Z,388nm,18.6s,baz=286,slow=36
JMIC Jan Mayen 62.68 20 LR LR 20 20 19.0
comp=Z,201nm,18.2s,baz=294,slow=36
SPITS Spitsbergen Ar 62.71 9 LR LR 20 18 32.8
comp=Z,379nm,21.3s,baz=310,slow=34
H11N3 WAKE ISLAND Hy 64.14 276 T T 21 02 21.1
baz=58,slow=75,SNR=9684
H11N2 WAKE ISLAND Hy 64.14 276 T T 21 02 24.7
baz=58,slow=75,SNR=2774
H11N1 WAKE ISLAND Hy 64.16 276 T T 21 02 24.9
baz=58,slow=75,SNR=6373
H11S1 WAKE ISLAND Hy 64.95 275 T T 21 03 24.5
baz=57,slow=75,SNR=1717
H11S2 WAKE ISLAND Hy 64.95 275 T T 21 03 25.0
baz=57,slow=75,SNR=1287
H11S3 WAKE ISLAND Hy 64.96 275 T T 21 03 24.6
baz=57,slow=75,SNR=421
BOAV Boa Vista 65.36 106 P **P 19 53 12.9 -0.6**
BOAV IAmb IAmb 19 53 14.7
comp=Z,12nm,1.1s
ARCES ARCESS Array B 71.39 12 P **P 19 53 52.7 +2.2**
comp=Z,1.6nm,0.8s,baz=337,slow=5.9,SNR=8.0
ARCES LR LR 20 28 13.9
comp=Z,279nm,18.5s,baz=324,slow=38
comp=Z,1.6nm,0.8s
LPAZ La Paz 72.69 126 P **P 19 54 00.9 +1.1**
comp=Z,3.1nm,0.9s,baz=6.5,slow=6.6,SNR=7.1
comp=Z,3.1nm,0.9s
NB2 NORSAR Subarra 75.27 22 P **P 19 54 17.7 +4.1**
comp=Z,6.0nm,1.2s,baz=320,slow=5.9
NOA NORSAR Array B 75.27 22 P **P 19 54 15.0 +1.4**
comp=Z,0.7nm,0.8s,baz=322,slow=5.7,SNR=4.4
comp=Z,0.7nm,0.8s
USRK Ussuriysk Ar. 75.74 315 P **P 19 54 19.4 +2.9**
comp=Z,6.1nm,0.9s,baz=50,slow=7.2,SNR=5.0
comp=Z,6.1nm,0.9s
MJAR Matsushiro Arr 76.45 305 P **P 19 54 22.1 +1.4**
comp=Z,1.4nm,0.9s,baz=43,slow=5.0,SNR=2.7
MJAR LR LR 20 19 44.1
comp=Z,29nm,21.7s,baz=40,slow=29
comp=Z,1.4nm,0.9s
HFS Hagfors 76.73 21 P **P 19 54 21.5 -0.4**
comp=Z,3.7nm,1.0s,baz=308,slow=3.5,SNR=2.9
comp=Z,3.7nm,1.0s
BNX BinXian 77.32 318 ||P P 19 54 30.8 +5.3
BNX pmax pmax
comp=Z,12nm,0.9s
PTLB Pontes e Lacer 78.18 119 P **P 19 54 30.2 -0.3**
FINES FINESS Array B 78.74 15 P **P 19 54 33.0 -0.1**
comp=Z,2.7nm,0.9s,baz=343,slow=6.0,SNR=6.5
comp=Z,2.7nm,0.9s
CLL Collm 83.71 27 *eP* **P 19 55 01.0 +1.4**
BRG Berggiesshubel 84.41 27 *eP* P 19 55 08.2 +5.0
BRG Amp 19 55 11.6
comp=Z,5.7nm,1.1s
ESDC Sonseca Array 84.70 44 P **P 19 55 07.3 +2.3**
comp=Z,1.6nm,1.0s,baz=326,slow=6.1,SNR=5.2
comp=Z,1.6nm,1.0s
KIRV Kirov 84.83 5 LR LR 20 36 27.2
comp=Z,129nm,19.7s,baz=334,slow=38
SONM Songino Array 85.75 330 **P 19 55 09.3 -0.9**
SONM IAmb IAmb 19 55 17.0
comp=Z,8.9nm,1.3s
SONM Songino Array 85.75 330 P **P 19 55 10.7 +0.5**
comp=Z,1.9nm,1.0s,baz=26,slow=3.6,SNR=8.8
comp=Z,1.9nm,1.0s
HNR Honiara 86.66 256 LR LR 20 29 25.6
comp=Z,70nm,18.1s,baz=164,slow=32
CPUP Villa Florida 86.86 126 P **P 19 55 17.0 +1.3**
comp=Z,0.9nm,0.9s,baz=320,slow=5.9,SNR=4.0
comp=Z,0.9nm,0.9s
ZAA0 Zalesovo Array 87.01 345 **P 19 55 16.3 +0.2**
ZAA0 IAmb IAmb 19 55 23.0
comp=Z,15nm,1.4s
ZALV Zalesovo Beam 87.01 345 P **P 19 55 17.7 +1.6**
comp=Z,1.6nm,0.8s,baz=20,slow=4.7,SNR=8.2
ZALV LR LR 20 41 22.2
comp=Z,60nm,18.2s,baz=329,slow=41
comp=Z,1.6nm,0.8s
ARTI Arti 87.35 0 LR LR 20 37 00.8
comp=Z,152nm,20.7s,baz=349,slow=37
HHC Hu-ho-hao-te 88.93 323 *eP* **P 19 55 26.6 +0.9**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,91nm,4.9s
JOW Kunigami 89.09 303 LR LR 20 28 06.5
comp=Z,48nm,21.2s,baz=106,slow=31
AKASG Malin Array Be 89.26 18 P **P 19 55 26.9 +0.1**
comp=Z,0.4nm,0.5s,baz=304,slow=2.2,SNR=4.3
AKASG LR LR 20 39 08.2
comp=Z,90nm,18.3s,baz=337,slow=38
comp=Z,0.4nm,0.5s
KURBB Kurchatov Arra 91.39 348 P **P 19 55 37.9 +1.2**
comp=Z,1.9nm,0.8s,baz=15,slow=4.6,SNR=12
comp=Z,1.9nm,0.8s
NJ2 Nanjing 91.50 313 *eP* **P 19 55 37.6 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
MLR Muntele Rosu 93.08 22 LR LR 20 38 56.0
comp=Z,218nm,19.0s,baz=322,slow=36
MKAR Makanchi Array 94.30 344 **P 19 55 51.7 +1.4**
comp=Z,0.5nm,0.7s,baz=13,slow=5.4,SNR=4.1
comp=Z,0.5nm,0.7s
WMQ Urumqi 95.71 339 *eP* **P 19 55 57.3 +0.4**
WMQ LR LR
comp=Z,160nm,18.9s
LZH Lanzhou 96.39 325 *eP* P 19 55 54.1 -6.2
LZH pP PcP 19 55 59.6 -0.8
LZH pmax pmax
comp=Z,13nm,1.3s
PMG Port Moresby 96.75 263 LR LR 20 31 51.8
comp=Z,58nm,20.9s,baz=62,slow=31
JAY Jayapura 97.91 273 LR LR 20 34 45.4
comp=Z,67nm,19.2s,baz=90,slow=32
KVAR Kislovodsk Arr 98.49 12 LR LR 20 43 17.6
comp=Z,99nm,19.9s,baz=270,slow=37

KBZ Khabaz 98.75 12 LR LR 20 43 22.2
comp=Z,125nm,19.1s,baz=324,slow=37
MAW Mawson 148.88 183 PKPbc **PKPbc 20 02 18.0 +0.4**
comp=Z,1.8nm,0.8s,baz=242,slow=2.9,SNR=5.0

UCR ***15*** *19:56:43.3±1.8, 4°.65N×82°.65W, h10km, MB5.1(NEIC)*
IDC ***15*** *19:56:45.6±0.5, 4°.85N×82°.34W, h0km, mb4.3/16, mbtmp4.3/19, ML4.0/4, MS4.1/40, Error ellipse: s-maj=27.7km s-min=11.4km az=60.0*
NEIC ***15*** *19:56:47.4±1.8, 4°.79N±0°.06×82°.58W±0°.07, h10km±1km, mb4.8/135, Mww5.1/31, Error ellipse: s-maj=12.2km s-min=10.1km az=248.0*
NEIC ***15*** *19:56:47.7, 4°.73N×82°.59W, h14km*
NEIC ***15*** *19:56:47.7, 4°.83N×82°.59W, h14km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 1016Nm; Mrr=0.27; Mθθ0.27; Mφφ-0.00; Mrθ1.03; Mθφ4.24; Mφr2.58; Fault plane solution: M0=5.08000×10^16 NP1:φs93.43000°, δ59.49000°, λ4.68000°. NP2:φs1.05000°, δ85.97000°, λ149.40000°. Principal axes: T 5.5138, Plg24.0000°, Azm313.0000°; N -1.0335, Plg59.0000°, Azm174.0000°; P -4.4803, Plg18.0000°, Azm51.0000°;*
CATAC ***15*** *19:56:47.4±0.4, 5°N±3°×8°3W±°, h15km, M4.8/17, mb5.0/13, mB5.2/14, MLv4.9/17, Mw(mB)4.6/14, MwMwp4.8/6, Mwp5.1/6 Error ellipse: s-maj=9.1km s-min=4.3km az=47.8, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-1.59; Mθθ0.58; Mφφ1.00; Mrθ-1.18; Mθφ0.16; Mφr1.57; Fault plane solution: M0=2.40922×10^17 NP1:φs150.61074°, δ74.22253°, λ-98.02299°. NP2:φs358.01232°, δ17.65388°, λ-63.71188°. Principal axes: T 1.8729, Plg28.7862°, Azm247.0764°; N 0.8449, Plg7.7188°, Azm152.8055°; P -2.7179, Plg60.0051°, Azm49.2250°; confirmed*
RSNC ***15*** *19:56:49.9±0.6, 4°N±3°×8°2W±°, h7km±4km, M4.8, mb5.2, mB5.4, ML4.1, Mw(mB)4.9, MwMwp4.9, Mwp5.2*
GCMT ***15*** *19:56:50.4±0.2, 4°.71N±0°.01×82°.57W±0°.01, h20km, MW5.1/141, Moment Tensor Solution. s80, c117; s141, c225; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.68±.12; Mθθ0.13±.11; Mφφ0.54±.14; Mrθ-0.04±.19; Mθφ6.10±.10; Mφr-0.12±.21; Best double couple: M0=6.10500×10^16 NP1:φs269.00000°, δ89.00000°, λ0.00000°. NP2:φs179.00000°, δ90.00000°, λ179.00000°. Principal axes: T 6.4430, Plg1.0000°, Azm134.0000°; N -0.6760, Plg89.0000°, Azm349.0000°; P -5.7670, Plg1.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 19:56:46.5±0.3, 4°.79N±0°.03×82°.51W±0°.04, h10km, n378, σ1°79/318, mb4.8/69, MS4.2/39, 9C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.19**	**131**	P	Pn	19 57 05.9	-3.3
MAPC				S	**Sb**	**19 57 19.8**	**-4.8**
PIRO	**Carate, Puerto**	**3.69**	**347**	Pn	**Pn**	**19 57 40.8**	**-2.8**
AZU	**Azuero**	**3.72**	**37**	*eP*	**Pn**	**19 57 44.7**	**+0.7**
CDITO	**Canoas**	**3.78**	**355**	P	**Pn**	**19 57 43.0**	**-1.8**
CDITO	**Canoas**	**3.78**	**355**	S	**Sn**	**19 58 26.9**	**-2.5**
JIME	**Puerto Jimenez**	**3.81**	**348**	*eP*	**Pn**	**19 57 42.3**	**-3.0**
JEFFS	**S de V. Baru**	**3.86**	**360**	*eP*	**Pn**	**19 57 45.1**	**-0.9**
NELY	**Ciudad Neily**	**3.86**	**354**	*eP*	**Pn**	**19 57 43.5**	**-2.5**
DMCAL	**E. de Neily**	**3.87**	**356**	*eP*	**Pn**	**19 57 43.7**	**-2.4**
BANCO	**falda S V. Bar**	**3.91**	**360**	*eP*	**Pn**	**19 57 44.9**	**-1.8**
WILLF	**Boquete**	**3.94**	**1**	*eP*	**Pn**	**19 57 45.1**	**-2.1**
BQTLY	**Boquete Panama**	**3.95**	**1**	*eP*	**Pn**	**19 57 46.0**	**-1.3**
DAP26	**falda E V. Bar**	**3.98**	**1**	*eP*	**Pn**	**19 57 46.0**	**-1.7**
BRU2	**Volcan**	**3.98**	**357**		**Pn**	**19 57 46.1**	**-1.7**
BRU2	**Volcan**	**3.98**	**357**	P	**Pn**	**19 57 45.8**	**-2.0**
BRU2	**Volcan**	**3.98**	**357**	‖*eP*	**Pn**	**19 57 46.3**	**-1.5**
BRU2				*eS*	**Sn**	**19 58 32.9**	**-1.8**
RBALA	**Bur**	**4.08**	**5**	*eP*	**Pn**	**19 57 48.6**	**-0.4**
KKNTU	**Kakint²**	**4.09**	**10**	‖*eP*	**Pn**	**19 57 48.7**	**-0.3**
KKNTU				*eS*	**Sn**	**19 58 36.5**	**-0.5**
PBNVO	**Pueblo Nuevo,**	**4.09**	**4**	*eP*	**Pn**	**19 57 47.2**	**-1.9**
ALCO	**Alturas Coton,**	**4.15**	**356**	*eP*	**Pn**	**19 57 49.1**	**-1.0**
PANP	**Palmar Norte**	**4.25**	**347**	*eP*	**Pn**	**19 57 49.0**	**-2.4**
EDP2	**Potrero Grande**	**4.25**	**351**	*eP*	**Pn**	**19 57 50.1**	**-1.3**
OCHAL	**Ojochal**	**4.43**	**345**	S	**Sn**	**19 58 42.7**	**-2.8**
OCHAL	**Ojochal**	**4.43**	**345**	P	**Pn**	**19 57 51.3**	**-2.5**
BURE	**Buenos Aires**	**4.43**	**349**	*eP*	**Pn**	**19 57 52.8**	**-1.0**
EDPE	**Pejibaye, P**	**4.47**	**346**	*eP*	**Pn**	**19 57 52.2**	**-2.1**
DRK0	**Durika**	**4.51**	**351**	P	**Pn**	**19 57 53.6**	**-1.4**
DRK0	**Durika**	**4.51**	**351**	‖*eP*	**Pn**	**19 57 53.4**	**-1.6**
SAJE	**San Jernim**	**4.64**	**348**	*eP*	**Pn**	**19 57 55.0**	**-1.8**
GR1C	**Gorgona, Isla**	**4.68**	**112**	P	**Pn**	**19 57 56.6**	**-0.6**
GR1C				S	**Sn**	**19 58 47.5**	**-4.2**
BRIBI	**Bribri**	**4.81**	**356**	‖*iP*	**Pn**	**19 57 58.8**	**-0.2**
BRIBI				*eS*	**Sn**	**19 58 58.4**	**+3.6**
ZANG	**Zanguenga, Cho**	**4.90**	**32**	*eP*	**Pn**	**19 58 01.6**	**+1.4**
LLNJ	**Naranjito**	**4.92**	**341**	‖*eP*	**Pn**	**19 57 58.2**	**-2.3**
LAES	**El Progreso Va**	**4.97**	**354**	*eP*	**Pn**	**19 58 00.4**	**-0.8**
PIEC	**Cerro El Cedra**	**5.01**	**343**	*eP*	**Pn**	**19 57 59.8**	**-2.3**
PITB	**Pirrs, San**	**5.07**	**343**	*eP*	**Pn**	**19 58 00.8**	**-2.0**
PAR1A	**Puntarenas Pro**	**5.08**	**340**	*eP*	**Pn**	**19 58 00.6**	**-2.1**
PICV	**PH. Pirrs**	**5.09**	**341**	*eP*	**Pn**	**19 58 00.4**	**-2.5**
BCIP	**Isla Barro Col**	**5.10**	**31**		**Pn**	**19 58 05.0**	**+2.1**
BCIP	**Isla Barro Col**	**5.10**	**31**	*eP*	**Pn**	**19 58 04.5**	**+1.6**
BCIP	**Isla Barro Col**	**5.10**	**31**	P	**Pn**	**19 58 04.5**	**+1.6**
BCIP				S	**Sn**	**19 59 01.3**	**-0.6**
VERH	**Veragua Rainfo**	**5.15**	**353**	*eP*	**Pn**	**19 58 02.7**	**-1.0**
REPA	**Paraso**	**5.19**	**345**	*eP*	**Pn**	**19 58 02.4**	**-2.0**
VINA	**Juan Vinas**	**5.22**	**346**	*eP*	**Pn**	**19 58 03.6**	**-1.2**
PTAC	**Punta Ardita,**	**5.23**	**63**	P	**Pn**	**19 58 06.5**	**+1.7**
PTAC				S	**Sn**	**19 59 03.9**	**-1.3**
ACOS	**Acosta**	**5.24**	**342**	*eP*	**Pn**	**19 58 02.9**	**-2.2**
ACOS				*eS*	**Sn**	**19 59 03.0**	**-2.6**
VERB	**Verbena**	**5.26**	**347**	*eP*	**Pn**	**19 58 04.3**	**-1.0**
PCAYA	**Pacayas**	**5.26**	**346**	‖*iP*	**Pn**	**19 58 04.8**	**-0.6**
AMPA	**Desamparados**	**5.30**	**343**	*eP*	**Pn**	**19 58 04.1**	**-1.8**
ABRB	**Las Abras (San**	**5.32**	**347**	*eP*	**Pn**	**19 58 05.1**	**-1.2**
ABRB				*eS*	**Sn**	**19 59 07.6**	**-0.2**
CVTV	**Tajo**	**5.33**	**347**	*eP*	**Pn**	**19 58 04.8**	**-1.6**
RESJ	**San Isidro (Tu**	**5.33**	**348**	*eP*	**Pn**	**19 58 05.9**	**-0.3**
VICA	**Volcano Irazu**	**5.33**	**346**	*eP*	**Pn**	**19 58 04.8**	**-1.7**
CVTQ	**Turrialba Volc**	**5.33**	**347**	*eP*	**Pn**	**19 58 05.0**	**-1.5**
LUJA	**Lujan**	**5.34**	**343**	*eP*	**Pn**	**19 58 04.9**	**-1.5**
ECI	**Escuela Centro**	**5.34**	**343**	*eP*	**Pn**	**19 58 03.9**	**-2.5**
VTR0	**Volcan Turrial**	**5.34**	**347**	*eP*	**Pn**	**19 58 05.3**	**-1.4**
SJS	**Escuela Geolog**	**5.34**	**343**	*eP*	**Pn**	**19 58 04.6**	**-1.8**
CVTR	**Volcan Turrial**	**5.34**	**347**	*eP*	**Pn**	**19 58 05.2**	**-1.6**
LUPE	**Guadalupe**	**5.35**	**343**	*eP*	**Pn**	**19 58 05.3**	**-1.3**
CORON	**Coronado**	**5.36**	**344**	*eP*	**Pn**	**19 58 05.7**	**-1.0**
PAVB	**Pavas, San Jos**	**5.36**	**343**	*eP*	**Pn**	**19 58 04.3**	**-2.4**
LCOCO	**El Coco**	**5.36**	**349**	‖*iP*	**Pn**	**19 58 06.7**	**+0.1**
IRES	**Siquirres**	**5.37**	**349**	*eP*	**Pn**	**19 58 06.5**	**-0.1**
SANTA	**Santa Ana**	**5.38**	**342**	*eP*	**Pn**	**19 58 04.4**	**-2.5**
CAZU	**Cerro Azul, Pa**	**5.39**	**35**	*eP*	**Pn**	**19 58 07.9**	**+0.8**
CVIMO	**Finca Echandi**	**5.39**	**345**	*eP*	**Pn**	**19 58 05.9**	**-1.4**
RVLA	**Villa Bonita**	**5.39**	**349**	*eP*	**Pn**	**19 58 07.1**	**0.0**
CBL1	**Cabuya**	**5.42**	**332**	*eP*	**Pn**	**19 58 04.2**	**-3.1**
BELE	**Belen**	**5.42**	**342**	*eP*	**Pn**	**19 58 03.2**	**-4.2**
HDC	**Heredia**	**5.42**	**343**		**Pn**	**19 58 05.7**	**-1.8**
HDC	**Heredia**	**5.42**	**343**	*eP*	**Pn**	**19 58 05.5**	**-2.0**
HDC				*eS*	**Sn**	**19 59 08.2**	**-1.9**
HDC	**Heredia**	**5.42**	**343**	*eP*	**Pn**	**19 58 05.7**	**-1.8**
HDC				*eS*	**Sn**	**19 59 08.8**	**-1.3**
HEME	**Heredia, Merce**	**5.42**	**343**	*eP*	**Pn**	**19 58 06.7**	**-0.9**
OROT	**Orotina**	**5.47**	**339**	*eP*	**Pn**	**19 58 05.8**	**-2.3**
ATEO	**Atenas**	**5.48**	**340**	*eP*	**Pn**	**19 58 06.1**	**-2.3**
PILE	**Guapiles**	**5.54**	**347**	*eP*	**Pn**	**19 58 08.7**	**-0.4**
PALD	**Palmares**	**5.57**	**340**	*eP*	**Pn**	**19 58 06.9**	**-2.6**
RAMO	**San Ramon**	**5.61**	**340**	*eP*	**Pn**	**19 58 08.0**	**-2.2**
VPS8	**V Poas**	**5.63**	**342**	*eP*	**Pn**	**19 58 08.9**	**-1.7**
JCR1	**Jicaral**	**5.65**	**333**	*eP*	**Pn**	**19 58 07.4**	**-3.3**
VPL1	**V. Platanar**	**5.74**	**341**	*eP*	**Pn**	**19 58 09.8**	**-2.2**
ARTO	**Ro Cuarto**	**5.77**	**343**	*eP*	**Pn**	**19 58 11.9**	**-0.4**
VPL2	**V. Platanar**	**5.79**	**341**	*eP*	**Pn**	**19 58 10.4**	**-2.2**
PAC1	**Pacto, Paraso** 11um577nm,0.4s	**5.83**	**140**	P	**Pn**	**19 58 11.9**	**-1.2**
NYURE	**Nandayure**	**5.85**	**332**	*eP*	**Pn**	**19 58 10.4**	**-2.8**
TRT2	**Tortugero**	**5.86**	**348**	S	**Sn**	**19 59 20.6**	**-0.1**
TRT2	**Tortugero**	**5.86**	**348**	P	**Pn**	**19 58 13.1**	**-0.3**
TRT2	**Tortugero**	**5.86**	**348**	*eP*	**Pn**	**19 58 11.9**	**-1.6**
BBAC	**Balboa, Cauca** 7μm4μm223nm,0.7s	**5.93**	**117**	P	**Pn**	**19 58 14.5**	**-0.1**

7µm4µm223nm,0.7s
SOCE Pocosol 5.94 340 Pn **Pn 19 58 12.8 -1.7**
SOCE Pocosol 5.94 340 S **Sn 19 59 21.7 -1.1**
SOCE Pocosol 5.94 340 P **Pn 19 58 13.0 -1.6**
SOCE Pocosol 5.94 340 *e*P **Pn 19 58 12.4 -2.2**
JUNT Juntas 5.97 336 *e*P **Pn 19 58 13.2 -1.8**
JTS Las Juntas de 5.98 336 Pn **Pn 19 58 12.5 -2.6**
57nm,0.3s,baz=104,slow=9.8,SNR=59
JTS Sn **Sn 19 59 22.3 -1.5**
21nm,0.3s,baz=255,slow=23,SNR=7.6
JTS Las Juntas de 5.98 336 P **Pn 19 58 13.1 -2.0**
JTS Las Juntas de 5.98 336 *e*P **Pn 19 58 12.8 -2.3**
JTS Las Juntas de 5.98 336 P **Pn 19 58 12.5 -2.6**
CMBC Cumbal 6.04 129 P **Pn 19 58 17.1 +0.8**
VACR Volcan Arenal 6.04 339 *e*P **Pn 19 58 15.2 -0.8**
ARE1 Arenal 1 6.05 339 *e*P **Pn 19 58 14.2 -1.9**
CUSE Cuicocha Este 6.06 137 P **Pn 19 58 16.3 -0.2**
6µm311nm,0.6s
NICO Nicoya 6.06 331 *e*P **Pn 19 58 13.8 -2.4**
CEDE Laguna Cedeo 6.07 339 *e*P **Pn 19 58 14.7 -1.7**
OTAV Otavalo 6.07 138 P **Pn 19 58 15.8 -1.0**
OTAV Otavalo 6.07 138 *e*P **Pn 19 58 15.4 -1.3**
OTAV Otavalo 6.07 138 P **Pn 19 58 15.0 -1.8**
7µm1µm187nm,0.8s
TABAC Tabacon 6.10 339 *e*P **Pn 19 58 14.7 -2.1**
JUD3 Juan Diaz 3 6.13 331 *e*P **Pn 19 58 14.6 -2.6**
TILA Tilaran 6.15 337 *e*P **Pn 19 58 16.8 -0.7**
COVE Coope Vega, Sa 6.18 342 P **Pn 19 58 17.1 -0.9**
INVE Universidad In 6.19 336 *e*P **Pn 19 58 16.1 -1.9**
YOTC Yotoco, Valle 6.20 97 P **Pn 19 58 19.7 +1.5**
2µm120nm,0.7s
YOTC S **Sn 19 59 28.6 -0.7**
2µm120nm,0.7s
PLVR Palo Verde 6.20 333 *e*P **Pn 19 58 15.7 -2.6**
TULM Tulcn-Chalpat 6.21 130 P **Pn 19 58 20.4 +1.7**
POPC Popayan, Colom 6.24 111 P **Pn 19 58 19.1 +0.3**
5µm1µm73nm,0.7s
POPC S **Sn 19 59 26.8 -3.5**
5µm1µm73nm,0.7s
GCUF Volcan Galeras 6.25 124 P **Pn 19 58 20.1 +0.8**
8µm7µm539nm,0.6s
GCUF S **Sn 19 59 28.2 -2.9**
8µm7µm539nm,0.6s
QUEB Quebradon, Cot 6.26 338 *e*P **Pn 19 58 18.2 -0.8**
TIMP Tierras Morena 6.27 337 *e*P **Pn 19 58 17.9 -1.3**
TENO El Achiote 6.37 338 *e*P **Pn 19 58 19.3 -1.2**
MOTZ Rio Naranjo 6.39 337 *e*P **Pn 19 58 18.9 -1.8**
CUI Cuipilapa 6.40 336 *e*P **Pn 19 58 19.2 -1.7**
CRUC La Cruz 6.41 120 P **Pn 19 58 24.4 +3.1**
COLC Colonia 6.42 336 *e*P **Pn 19 58 21.2 0.0**
HORNC Hornillas 6.45 336 *e*P **Pn 19 58 21.1 -0.5**
MESS Mesas 6.49 336 *e*P **Pn 19 58 21.4 -0.7**
ALIBA Liberia Airpor 6.51 333 *e*P **Pn 19 58 21.0 -1.3**
VMAR Armenia, Volca 6.52 337 *e*P **Pn 19 58 19.6 -2.9**
PPLP Puerto Lpez 6.52 165 P **Pn 19 58 19.4 -3.2**
PPLP S **Sn 19 59 31.6 -5.6**
ELI1 Hacienda Flor 6.55 333 P **Pn 19 58 21.8 -1.2**
ELI1 Hacienda Flor 6.55 333 *e*P **Pn 19 58 20.8 -2.2**
CBOC Ciudad Bolivar 6.56 80 P **Pn 19 58 27.0 +3.8**
783nm32nm,1.0s
GPS2 Hotel Rincn d 6.56 335 *e*P **Pn 19 58 21.6 -1.6**
BONI La Bonita 6.58 131 P **Pn 19 58 25.6 +2.0**
VRLE La Escondida, 6.60 335 *e*P **Pn 19 58 22.4 -1.3**
LAPC Finca la Perla 6.61 334 *e*P **Pn 19 58 22.1 -1.7**
VORI VORI 6.62 335 *e*P **Pn 19 58 22.2 -1.8**
APAC Apartado, Choc 6.66 62 P **Pn 19 58 28.3 +3.9**
6µm4µm242nm,0.9s
BUAI Buenos Aires 6.67 335 *e*P **Pn 19 58 22.2 -2.3**
PEJA Penjamo Buenos 6.67 336 *e*P **Pn 19 58 24.2 -0.5**
SLOR San Lorenzo - 6.79 144 **Pn 19 58 27.6 +1.0**
GUY2C Guyana, Caldas 7.13 86 P **Pn 19 58 34.6 +3.3**
1µm95nm,0.7s
PIAT Ana Tenorio 7.14 143 P **Pn 19 58 32.5 +1.1**
ORTC Ortega, Tolima 7.29 97 P **Pn 19 58 35.8 +2.6**
2µm161nm,0.7s
BETC Betania 7.36 106 P **Pn 19 58 37.9 +3.8**
OMEN Al SSO del Vol 7.36 335 P **Pn 19 58 33.6 -0.4**
FLOC Florencia 7.55 115 **Pn 19 58 38.5 +1.8**
FLOC Florencia 7.55 115 P **Pn 19 58 39.0 +2.3**
FLOC Florencia 7.55 115 P **Pn 19 58 38.8 +2.1**
2µm1µm104nm,1.0s
FLOC S **Sn 20 00 02.0 -0.5**
2µm1µm104nm,1.0s
ACON Acoyapa 7.61 340 **Pn 19 58 35.0 -2.4**
ACON Acoyapa 7.61 340 P **Pn 19 58 35.0 -2.4**
ACON Acoyapa 7.61 340 *e*P **Pn 19 58 35.0 -2.4**
NORC Norcasia 7.65 84 P **Pn 19 58 41.5 +3.4**
972nm107nm,0.8s
PRAC Prado 7.68 98 P **Pn 19 58 41.8 +3.3**
PRAC Prado 7.68 98 P **Pn 19 58 42.1 +3.6**
2µm104nm,0.8s
COHC Cochancay 7.91 156 **Pn 19 58 39.1 -2.4**
COHC Cochancay 7.91 156 P **Pn 19 58 39.3 -2.2**
3µm155nm,0.8s
ROSC El Rosal 8.16 89 **Pn 19 58 48.3 +2.9**
ROSC El Rosal 8.16 89 Pn Pn 19 58 51.1 +5.6
10nm,0.3s,baz=136,slow=4.3,SNR=11
ROSC LR LR 20 01 53.3
comp=Z,1µm,18.7s,baz=322,slow=38
PTBC PUERTO BERRIO, 8.20 77 P Pn 19 58 52.4 +6.8
CNGN Cerro Negro 8.71 332 **Pn 19 58 53.2 +0.6**
CNGN Cerro Negro 8.71 332 *e*P **Pn 19 58 53.2 +0.6**
SJCC San Jacinto, C 8.87 55 P Pn 19 58 57.1 +2.3
SJCC San Jacinto, C 8.87 55 P Pn 19 59 01.0 +6.2
2µm69nm,2.1s
PTLC Puerto Leguiza 8.96 121 P Pn 19 59 02.2 +6.1
MACC Macarena, Meta 9.04 107 P **Pn 19 59 00.1 +3.0**
5µm210nm,0.7s
SIUN Universidad Ur 9.15 346 **Pn 19 58 56.1 -2.6**
MCRA Macar, Loja 9.45 164 P **Pn 19 59 00.6 -2.2**
3µm59nm,0.5s
RUSC La Rusia 9.45 83 **Pn 19 59 06.8 +3.6**
PAYG Puerto Ayora 9.47 235 **Pn 19 59 04.1 +1.0**
PAYG Puerto Ayora 9.47 235 P **Pn 19 59 04.7 +1.6**
2µm178nm,1.3s
CSGN Cosiguina Volc 9.54 329 *e*P **Pn 19 59 05.5 +1.4**
ARGC Ariguani, Magd 9.62 58 P Pn 19 59 12.9 +7.8
SMRC Santa Marta, M 10.36 52 Pn **Pn 19 59 18.9 +3.6**
CRJC Cerrejon, Guaj 11.37 56 P **Pn 19 59 33.6 +4.5**
1µm114nm,0.9s
MTO3 Montecristo 11.70 325 **Pn 19 59 35.0 +1.3**
URIC Uribia, Colomb 12.47 56 P Pn 19 59 48.7 +4.6
URI Uribia 12.47 56 P **Pn 19 59 46.2 +2.1**
URI S **Sn 20 02 01.0 -2.2**
SDV Santo Domingo 12.47 70 Pn **Pn 19 59 47.7 +3.3**
SDV Santo Domingo 12.47 70 Pn **Pn 19 59 45.6 +1.2**
1.0nm,0.3s,baz=247,slow=13,SNR=10
SDV LR LR 20 04 16.4
comp=Z,1µm,22.0s,baz=246,slow=37
ATAH Atahualpa 12.54 161 Pn **Pn 19 59 46.5 +1.1**
4.2nm,0.3s,baz=1.3,slow=8.2,SNR=19
ATAH LR LR 20 04 06.0
comp=Z,4µm,21.5s,baz=336,slow=35
28nm,0.6s
APG El Apazote 12.82 323 Pn **Pn 19 59 50.5 +1.4**
0.1nm,0.3s,baz=173,slow=15,SNR=3.8
PETF Flores 14.05 330 **Pn 20 00 06.9 +1.3**
BAUV El Baul 14.94 73 **Pn 20 00 17.1 -0.9**
BAUV IAmb IAmb 20 00 28.3
comp=Z,42nm,1.1s
CZSB Cruzeiro do Su 15.82 142 **Pn 20 00 27.2 -2.3**
CZSB IAmb IAmb 20 00 37.8
comp=Z,117nm,0.9s
CZSB Cruzeiro do Su 15.82 142 *e*P **Pn 20 00 29.1 -0.4**
CHIV Chivirico 16.22 21 Pn **Pn 20 00 33.5 -1.1**
CHIV IAmb IAmb 20 00 39.8
comp=Z,43nm,1.5s
CMIG Matias Romero 17.22 316 P **Pn 20 00 48.1 +0.8**
comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=3.6
CMIG LR LR 20 06 10.8
comp=Z,1µm,21.7s,baz=160,slow=33
comp=Z,6.8nm,1.0s
NNA Nana 17.59 161 **Pn 20 00 50.7 -1.3**
NNA IAmb IAmb 20 00 55.3
comp=Z,118nm,1.4s
NNA Nana 17.59 161 P **Pn 20 00 52.5 +0.5**
comp=Z,3.5nm,0.3s,baz=329,slow=11,SNR=13
comp=Z,22nm,0.4s
SDDR Presa de Saban 17.86 37 **Pn 20 00 57.0 +1.7**
SDDR IAmb IAmb 20 01 04.5
comp=Z,200nm,2.0s
BANI BANI 18.00 40 P **Pn 20 00 57.9 +0.9**
DR12 Loma Pena Alta 18.92 42 P **P 20 01 08.9 +1.2**
CRPR Cabo Rojo, PR 19.99 48 P **P 20 01 19.6 +0.4**

CRPR IAmb IAmb 20 01 28.6
comp=Z,109nm,1.6s
TLIG Tlapa 20.21 310 P **P 20 01 20.4 -1.4**
OBIP Obispado Ponce 20.38 48 P **P 20 01 24.4 +0.8**
OBIP IAmb IAmb 20 01 30.3
comp=Z,71nm,1.3s
CELP Cerrillos 20.42 48 P **P 20 01 24.7 +0.7**
CELP IAmb IAmb 20 01 30.7
comp=Z,74nm,1.2s
AOPR Arecibo Observ 20.46 48 P **P 20 01 25.2 +0.8**
AOPR IAmb IAmb 20 01 32.5
comp=Z,65nm,0.8s
SJG San Juan 20.77 49 P **P 20 01 30.1 +2.4**
SJG IAmb IAmb 20 01 32.8
comp=Z,67nm,1.2s
SJG San Juan 20.77 49 LR LR 20 08 51.8
comp=Z,364nm,21.3s,baz=240,slow=35
PDPR Patillas Dam, 20.81 49 **P 20 01 29.7 +1.6**
PDPR IAmb IAmb 20 01 34.8
comp=Z,62nm,1.4s
GCPR Guaynabo City 20.94 49 P **P 20 01 30.5 +0.9**
GCPR IAmb IAmb 20 01 35.9
comp=Z,42nm,1.3s
BOAV Boa Vista 22.07 95 **P 20 01 42.9 +1.0**
BOAV Boa Vista 22.07 95 *e*P **P 20 01 43.2 +1.4**
MACA Manacapuru-AM 23.19 109 P **P 20 01 54.0 +0.3**
MACA IAmb IAmb 20 01 55.4
comp=Z,34nm,0.7s
MACA Manacapuru-AM 23.19 109 *e*P **P 20 01 54.2 +0.5**
BIM Bigot 23.22 64 P **P 20 01 51.8 -2.2**
CBE Ff, Capester 23.39 60 P **P 20 01 54.2 -1.4**
LPAZ La Paz 25.31 146 **P 20 02 14.8 +0.6**
LPAZ La Paz 25.31 146 P **P 20 02 14.0 -0.2**
comp=Z,21nm,0.8s,baz=339,slow=8.8,SNR=53
LPAZ LR LR 20 13 36.2
comp=Z,1µm,20.7s,baz=298,slow=40
comp=Z,21nm,0.8s
PB18 Visviri 25.69 150 **P 20 02 18.5 +1.0**
PB12 IPOC Station P 26.17 153 P **P 20 02 21.3 -0.1**
PB16 IPOC Station P 26.31 151 P **P 20 02 23.8 +0.5**
PB11 IPOC Station P 27.48 153 **P 20 02 33.3 0.0**
GO01 Chusmiza 27.61 152 P **P 20 02 35.4 +0.6**
HMBC Humberstone 27.82 154 P **P 20 02 36.4 0.0**
HMBC IAmb IAmb 20 02 48.6
comp=Z,18nm,0.6s
PB08 IPOC Station P 28.04 152 P **P 20 02 38.1 -0.4**
PB08 IAmb IAmb 20 02 49.2
comp=Z,25nm,1.1s
PATCX Punta Patache 28.19 155 P **P 20 02 39.4 -0.2**
PATCX IAmb IAmb 20 02 42.0
comp=Z,26nm,0.9s
ITTB Itaituba 28.25 108 *e*P **P 20 02 40.6 +0.5**
VILB Vilhena 28.32 129 **P 20 02 40.5 -0.2**
VILB Vilhena 28.32 129 *e*P **P 20 02 41.0 +0.3**
146A Union 28.38 348 P **P 20 02 41.0 0.0**
146A IAmb IAmb 20 02 43.4
comp=Z,13nm,0.7s
LRAL Lakeview Retre 28.41 352 P **P 20 02 40.5 -0.8**
LRAL IAmb IAmb 20 02 45.1
comp=Z,27nm,1.8s
PB01 IPOC Station P 28.67 154 P **P 20 02 43.4 -0.4**
Z47A Carrollton 28.74 350 P **P 20 02 43.9 -0.3**
Z47A IAmb IAmb 20 02 46.6
comp=Z,12nm,0.9s
MAL2 Monte Alegre, 29.10 103 P **P 20 02 48.5 +0.8**
MAL2 IAmb IAmb 20 02 51.1
comp=Z,21nm,1.2s
PB09 IPOC Station P 29.44 154 P **P 20 02 51.1 +0.3**
PB09 IAmb IAmb 20 03 38.1
comp=Z,24nm,1.0s
PB03 IPOC Station P 29.45 155 P **P 20 02 50.7 -0.2**
SIV San Ignacio 29.60 135 LR LR 20 14 57.2
comp=Z,2µm,19.3s,baz=318,slow=37
PTLB Pontes e Lacer 30.66 131 **P 20 03 01.7 +0.3**
TKL Tuckaleechee C 30.74 358 LR LR 20 15 16.8
comp=Z,206nm,18.4s,baz=183,slow=36
H06E1 SOCORRO T-PHAS 31.03 299 T T 20 35 44.5
SNR=93
H06N1 SOCORRO T-PHAS 31.11 299 T T 20 35 38.5
SNR=6.4
SAND Sanderson 31.14 326 IAmb IAmb 20 03 15.8
comp=Z,11nm,0.9s
TXAR Lajitas Array 31.58 323 LR LR 20 15 40.1
comp=Z,134nm,20.5s,baz=136,slow=36
LPIG La Paz 32.94 308 LR LR 20 14 06.0
comp=Z,318nm,21.9s,baz=128,slow=32
VHRN Van Horn 33.41 323 P **P 20 03 25.7 0.0**
VHRN IAmb IAmb 20 03 28.3
comp=Z,17nm,1.3s
MGMO Mountain Grove 33.43 346 IAmb IAmb 20 03 30.6
comp=Z,36nm,1.8s
AC02 Maricunga 34.00 158 **P 20 03 31.6 +0.5**
MNTX Cornudas Mount 34.31 324 P **P 20 03 33.8 +0.5**
121A Cookes Peak, D 36.33 323 IAmb IAmb 20 03 55.0
comp=Z,22nm,1.1s
AQDB Aquidauana 36.38 135 **P 20 03 51.1 -0.1**
CO06 Fray Jorge 36.76 164 P **P 20 03 53.4 -0.9**
DUN6 Lazy B Ranch 37.15 321 IAmb IAmb 20 04 01.3
comp=Z,45nm,1.3s
CO03 El Pedregal 37.18 163 P **P 20 03 57.8 -0.2**
ANMO Albuquerque 37.30 327 P **P 20 03 59.1 0.0**
ANMO IAmb IAmb 20 04 02.6
comp=Z,17nm,1.3s
ANMO Albuquerque 37.30 327 P **P 20 04 00.1 +1.0**
comp=Z,6.5nm,1.0s,baz=228,slow=9.0,SNR=12
ANMO LR LR 20 20 15.6
comp=Z,354nm,21.5s,baz=226,slow=38
comp=Z,6.5nm,1.0s
CO02 Combarbal 37.44 164 P **P 20 04 00.3 +0.1**
TUC Tucson 38.07 319 P **P 20 04 05.7 +0.1**
H03N2 Juan Fernandez 38.17 175 T T 20 44 24.1
baz=354,slow=76,SNR=26
H03N1 Juan Fernandez 38.17 175 T T 20 44 25.1
baz=354,slow=76,SNR=28
H03N3 Juan Fernandez 38.19 175 T T 20 44 23.8
baz=354,slow=76,SNR=28
ZON Zonda 38.46 161 **P 20 04 09.1 +0.4**
ZON IAmb IAmb 20 04 11.9
comp=Z,27nm,1.2s
VA03 San Esteban 39.03 164 IAmb IAmb 20 04 16.6
comp=Z,22nm,0.9s
W18A Petrified Fore 39.29 324 IAmb IAmb 20 04 20.2
comp=Z,23nm,1.1s
CPUP Villa Florida 39.40 143 P **P 20 04 16.3 -0.3**
comp=Z,3.2nm,0.9s,baz=284,slow=4.2,SNR=14
CPUP LR LR 20 21 46.8
comp=Z,145nm,18.8s,baz=179,slow=38
comp=Z,3.2nm,0.9s
BDFB Brasilia 39.73 121 P **P 20 04 19.5 -0.2**
comp=Z,2.2nm,0.4s,baz=300,slow=6.9,SNR=4.5
comp=Z,2.2nm,0.4s
MT08 Bocatoma Ro 39.82 164 **P 20 04 20.9 +0.5**
MT08 IAmb IAmb 20 04 23.2
comp=Z,22nm,0.8s
MT09 Talagante 39.87 165 P **P 20 04 20.3 -0.3**
MT09 IAmb IAmb 20 04 23.1
comp=Z,22nm,0.8s
MT01 Popeta 39.89 165 P **P 20 04 20.0 -0.7**
SADO Sadowa 39.93 4 LR LR 20 19 44.5
comp=Z,4µm,21.9s,baz=204,slow=35
BO04 La Punta 40.17 165 P **P 20 04 23.2 +0.1**
BO04 IAmb IAmb 20 04 24.6
comp=Z,54nm,1.7s
BO01 Tunca 40.43 165 P **P 20 04 25.5 +0.4**
WUAZ Wupatki 40.54 323 IAmb IAmb 20 04 29.8
comp=Z,20nm,1.1s
BO02 Sierra Bellavi 40.89 165 P **P 20 04 28.9 -0.1**
BO02 IAmb IAmb 20 04 37.1
comp=Z,55nm,1.9s
RPN Rapa Nui 40.98 218 LR LR 20 17 01.2
comp=Z,181nm,19.7s,baz=9.0,slow=30
PV18 Skein Mesa, Pa 41.07 328 IAmb IAmb 20 04 50.4
comp=Z,43nm,1.5s
BC3 Big Chuckawall 41.99 317 P **P 20 04 37.0 -1.1**
IRM Iron Mountain 42.08 318 P **P 20 04 39.6 +0.8**
IRM IAmb IAmb 20 04 44.5
comp=Z,31nm,2.0s
BELC Belle Mtn. Jos 42.56 317 P **P 20 04 43.1 +0.3**
PFO Pinyon Flats O 42.65 317 P **P 20 04 44.0 +0.5**
comp=Z,3.8nm,0.9s,baz=136,slow=12,SNR=1.5
PFO LR LR 20 21 46.1
comp=Z,323nm,18.1s,baz=120,slow=35
comp=Z,3.8nm,0.9s
V12A Nelson 42.84 320 P **P 20 04 45.6 +0.6**
SHPR Sheep Range 43.52 321 P **P 20 04 51.6 +1.0**
BSUT Blindstream Ca 43.72 329 IAmb IAmb 20 05 17.3

comp=Z,25nm,1.8s
TPNV Topopah Spring 44.48 321 IAmb IAmb 20 05 07.7
comp=Z,16nm,1.4s
LRMC Laurel Mtn Rad 44.54 318 IAmb IAmb 20 05 04.3
comp=Z,28nm,1.7s
SPR3 Spring Creek 3 44.62 324 IAmb IAmb 20 05 08.8
comp=Z,27nm,1.6s
WCT Wildcat Mounta 44.62 320 IAmb IAmb 20 05 04.3
comp=Z,17nm,1.5s
PDAR Pinedale Array 44.79 332 P **P 20 04 59.5 -1.2**
PDAR Pinedale Array 44.79 332 P **P 20 05 00.5 -0.3**
comp=Z,1.1nm,0.9s,baz=116,slow=8.9,SNR=4.1
PDAR PcP **PcP 20 06 44.4 +1.6**
comp=Z,0.3nm,0.8s,baz=124,slow=3.7,SNR=1.3
comp=Z,1.1nm,0.9s
GMN Gold Mountain 45.34 320 IAmb IAmb 20 05 14.8
comp=Z,15nm,1.8s
CWC Cottonwood Cre 45.36 319 IAmb IAmb 20 05 10.7
comp=Z,23nm,1.9s
TPH Tonopah 45.78 321 IAmb IAmb 20 05 13.9
comp=Z,26nm,1.7s
DSP Deep Springs 45.83 320 IAmb IAmb 20 05 14.5
comp=Z,13nm,1.6s
ELK Elko 46.30 325 IAmb IAmb 20 05 19.2
comp=Z,28nm,1.9s
ELK Elko 46.30 325 P **P 20 05 13.2 +0.5**
comp=Z,2.5nm,0.8s,baz=136,slow=5.7,SNR=9.9
comp=Z,2.5nm,0.8s
NV11 Mina Array Sit 46.58 321 IAmb IAmb 20 05 20.4
comp=Z,37nm,2.0s
PLCA Paso Flores 46.61 167 P **P 20 05 15.2 +0.3**
comp=Z,7.7nm,1.0s,baz=333,slow=8.6,SNR=10
comp=Z,7.7nm,1.0s
NVAR Mina Array Bea 46.67 321 P **P 20 05 16.1 +0.4**
NVAR Mina Array Bea 46.67 321 P **P 20 05 16.6 +0.9**
comp=Z,5.3nm,0.9s,baz=138,slow=7.3,SNR=24
NVAR PcP **PcP 20 06 50.9 +1.5**
comp=Z,0.2nm,0.3s,baz=93,slow=5.4,SNR=1.2
NVAR LR LR 20 24 48.4
comp=Z,388nm,19.3s,baz=100,slow=36
comp=Z,5.3nm,0.9s
ULM Lac du Bonnet 46.69 348 P **P 20 05 15.7 +0.4**
comp=Z,4.8nm,0.6s,baz=157,slow=7.7,SNR=3.1
comp=Z,4.8nm,0.6s
TRQA Tornquist 46.70 158 P **P 20 05 15.6 0.0**
TRQA IAmb IAmb 20 05 26.8
comp=Z,18nm,1.2s
RYN Ryan 46.93 321 IAmb IAmb 20 05 22.0
comp=Z,10nm,1.3s
YHL Hebgen Lake 47.14 332 IAmb IAmb 20 05 36.2
comp=Z,6.7nm,1.0s
WAKR Walker 47.43 320 P **P 20 05 22.3 +0.6**
WAKR IAmb IAmb 20 05 24.5
comp=Z,8.4nm,1.1s
BOZ Bozeman (W) 47.91 333 IAmb IAmb 20 05 44.0
comp=Z,6.5nm,1.1s
LL02 Futaleuf 48.72 170 **P 20 05 30.9 -0.4**
LL02 IAmb IAmb 20 05 32.1
comp=Z,19nm,1.1s
ORV Oroville 49.35 320 IAmb IAmb 20 05 45.7
comp=Z,25nm,1.6s
J08A Circle Bar Ran 49.83 326 IAmb IAmb 20 05 44.6
comp=Z,24nm,1.6s
COYC Coyhaique 50.99 171 P **P 20 05 47.9 -0.5**
COYC IAmb IAmb 20 05 49.5
comp=Z,21nm,1.0s
M02C Callahan 51.24 321 IAmb IAmb 20 06 04.8
comp=Z,13nm,1.4s
G08A Pilot Rock 51.35 328 IAmb IAmb 20 05 56.1
comp=Z,35nm,1.8s
LNOR Lincton Mounta 51.38 328 IAmb IAmb 20 06 31.0
comp=Z,13nm,1.4s
SCHQ Schefferville 51.48 12 P **P 20 05 52.0 -0.1**
comp=Z,59nm,1.0s,baz=186,slow=6.6,SNR=2.9
SCHQ LR LR 20 27 00.6
comp=Z,1µm,21.8s,baz=220,slow=35
WIFE Three Sisters- 52.17 325 IAmb IAmb 20 06 21.1
comp=Z,14nm,1.2s
H04A Detroit Lake 52.75 325 IAmb IAmb 20 06 05.0
comp=Z,13nm,1.1s
RKT Rikitea 58.22 239 *e*LR LR 20 23 39.7
comp=Z,4µm,29.5s
FRB Frobisher Bay 59.71 7 LR LR 20 33 11.9
comp=Z,205nm,18.4s,baz=200,slow=37
BBB Bella Bella 60.36 330 LR LR 20 36 04.0
comp=Z,57nm,18.3s,baz=180,slow=39
YKA Yellowknife Ar 62.26 344 LR LR 20 34 49.4
comp=Z,172nm,20.3s,baz=130,slow=37
DLBC Dease Lake 64.88 335 LR LR 20 38 09.4
comp=Z,2µm,20.2s,baz=84,slow=38
SFJD Kangerlussuaq 65.87 13 LR LR 20 38 06.4
comp=Z,124nm,19.1s,baz=214,slow=38
PPT Papeete 69.78 249 LR LR 20 32 43.8
comp=Z,158nm,18.5s,baz=103,slow=31
PPT2 Papeete2 69.79 249 *e*LR LR 20 29 03.0
comp=Z,259nm,32.0s
PPT2 *e*LR LR 20 29 08.3
comp=Z,368nm,31.2s
RES Resolute Bay 70.21 357 LR LR 20 40 37.0
comp=Z,180nm,18.6s,baz=52,slow=38
I30M Mount Dempster 71.17 339 P **P 20 08 06.1 +0.7**
I29M Ogilvie Camp, 71.94 339 P **P 20 08 10.3 +0.5**
I29M IAmb IAmb 20 08 14.9
comp=Z,15nm,1.4s
INK Inuvik 71.94 342 LR LR 20 43 25.9
comp=Z,259nm,18.3s,baz=158,slow=39
I28M Miner Creek 72.57 338 P **P 20 08 15.5 +1.7**
SUMG Summit 72.85 13 P **P 20 08 18.3 +2.7**
SUMG IAmb IAmb 20 08 23.6
comp=Z,17nm,1.1s
SUMG Summit 72.85 13 *i*P P 20 08 21.0 +5.3
SMAI San Martin Ant 73.56 174 P **P 20 08 19.6 +0.3**
BORG Borgarnes 73.68 23 LR LR 20 40 13.7
comp=Z,72nm,18.4s,baz=263,slow=36
ILAR Eielson Array 74.95 336 P **P 20 08 28.3 +0.7**
comp=Z,0.6nm,0.9s,baz=121,slow=4.0,SNR=8.3
ILAR LR LR 20 44 22.2
comp=Z,172nm,19.6s,baz=113,slow=38
comp=Z,0.6nm,0.9s
KDAK Kodiak Island 75.41 329 LR LR 20 42 43.7
comp=Z,119nm,18.2s,baz=91,slow=37
DBIC Dimbokro 77.22 84 LR LR 20 41 02.9
comp=Z,163nm,21.7s,baz=330,slow=34
MDT Midelt 77.26 58 LR LR 20 37 15.2
comp=Z,65nm,19.8s,baz=326,slow=32
ESDC Sonseca Array 78.14 51 P **P 20 08 46.7 +0.4**
comp=Z,0.8nm,0.9s,baz=257,slow=6.1,SNR=5.7
ESDC LR LR 20 40 58.2
comp=Z,63nm,18.5s,baz=284,slow=34
comp=Z,0.8nm,0.9s
RAR Rarotonga 79.91 248 LR LR 20 36 23.2
comp=Z,104nm,18.3s,baz=108,slow=30
EKA Eskdalemuir Ar 80.02 35 P **P 20 08 54.9 -1.2**
comp=Z,1.0nm,0.6s,baz=257,slow=6.3,SNR=7.4
comp=Z,1.0nm,0.6s
JMIC Jan Mayen 80.31 19 LR LR 20 41 56.9
comp=Z,35nm,21.9s,baz=263,slow=34
TORD Torodi Ar. Bea 83.29 77 P **P 20 09 14.6 +0.3**
TORD Torodi Ar. Bea 83.29 77 P **P 20 09 13.9 -0.3**
comp=Z,0.7nm,1.1s,baz=300,slow=6.5,SNR=3.9
TORD LR LR 20 44 42.7
comp=Z,175nm,20.0s,baz=314,slow=35
comp=Z,0.7nm,1.1s
SPITS Spitsbergen Ar 87.17 12 LR LR 20 48 09.0
comp=Z,76nm,21.8s,baz=280,slow=35
NOA NORSAR Array B 87.66 29 LR LR 20 44 24.9
comp=Z,60nm,21.8s,baz=275,slow=33
HFS Hagfors 88.98 30 LR LR 20 43 30.2
comp=Z,94nm,20.3s,baz=274,slow=32
VNA3 Neumayer Olymp 89.05 162 ⇑P **P 20 09 40.7 -0.7**
comp=Z,3.6nm,0.8s
VNA1 Neumayer--Stat 89.31 161 ⇑P **P 20 09 43.1 +0.5**
comp=Z,2.6nm,0.9s
VNA2 Neumayer--Watz 89.66 161 ⇑P **P 20 09 43.9 -0.4**
comp=Z,1.1nm,0.5s,baz=301,slow=4.3
CLL Collm 89.75 39 *e*P **P 20 09 46.0 +0.9**
GERES GERESS Array B 90.52 41 LR LR 20 46 48.0
comp=Z,65nm,18.9s,baz=287,slow=33
SNAA Sanae 91.27 162 ⇑P **P 20 09 52.1 +0.2**
comp=Z,18nm,0.7s
SNAA Sanae 91.27 162 P **P 20 09 51.7 -0.1**
comp=Z,1.1nm,0.9s,baz=291,slow=9.3,SNR=6.8
SNAA LR LR 20 51 32.6
comp=Z,33nm,18.1s,baz=322,slow=36
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 91.77 20 LR LR 20 46 20.8
comp=Z,46nm,20.6s,baz=271,slow=32
VRAC Vranov 92.32 40 LR LR 20 45 11.1

comp=Z,108nm,21.3s,baz=290,slow=32
TROLL Troll, Antarti 92.98 162 ⇑P **P 20 09 59.8 0.0**
comp=Z,131nm,0.8s
FINES FINESS Array B 94.58 27 LR LR 20 50 33.4
comp=Z,47nm,20.4s,baz=294,slow=34
QSPA South Pole Qui 94.80 180 P **P 20 10 11.4 +3.0**
QSPA IAmb IAmb 20 10 14.3
comp=Z,5.5nm,0.9s
QSPA South Pole Qui 94.80 180 P **P 20 10 10.7 +2.4**
comp=Z,5.6nm,1.0s,baz=159,slow=2.1,SNR=18
comp=Z,5.6nm,1.0s
SYO Syowa Base 105.55 162 ⇓*e*Pdiff **Pdif 20 10 55.6 -0.6**
SYO Syowa Base 105.55 162 ⇑*e*PP **PKiKP 20 15 16.2 +6.7**
H11N3 WAKE ISLAND Hyl07.59 292 T T 22 11 19.2
baz=79,slow=75,SNR=105
H11N2 WAKE ISLAND Hyl07.60 292 T T 22 11 19.9
baz=79,slow=75,SNR=89
H11N1 WAKE ISLAND Hyl07.61 292 T T 22 11 20.5
baz=79,slow=75,SNR=126
H11S2 WAKE ISLAND Hyl08.03 291 T T 22 11 57.9
baz=77
H11S1 WAKE ISLAND Hyl08.03 291 T T 22 11 59.8
baz=77,slow=74
H11S3 WAKE ISLAND Hyl08.04 291 T T 22 11 56.1
baz=77,slow=74
ZALV Zalesovo Beam 120.52 9 PKP **PKPdf 20 15 39.3 +0.9**
comp=Z,0.3nm,0.4s,baz=318,slow=1.9,SNR=1.9
KURBB Kurchatov Arra 122.44 14 PKP **PKiKP 20 15 43.6 +1.3**
comp=Z,1.1nm,0.9s,baz=325,slow=2.3,SNR=8.9
CN2 Changchun 125.46 335 *e*PKP **PKPdf 20 15 46.3 -1.9**
MKAR Makanchi Array 126.91 13 PKP **PKPdf 20 15 51.7 +0.8**
comp=Z,1.1nm,0.8s,baz=338,slow=2.6,SNR=4.1
SONM Songino Array 127.02 352 PKP **PKiKP 20 15 53.1 +1.4**
comp=Z,1.0nm,0.8s,baz=21,slow=1.1,SNR=6.4
KSRS Korea Array 129.32 329 PKP **PKiKP 20 15 57.8 +1.4**
comp=Z,0.5nm,0.5s,baz=85,slow=1.3,SNR=2.2
WMQ Urumqi 130.81 9 *e*PKP **PKPdf 20 15 59.5 +1.0**
WMQ LR LR
comp=Z,180nm,24.0s
HHC Hu-ho-hao-te 132.79 345 *e*PKP **PKPdf 20 15 58.3 -4.1**
BTO Baotou 133.39 347 *e*PKP **PKPdf 20 16 01.3 -2.2**
BTO PP PP 20 18 37.6 +8.0
BTO LR LR
comp=Z,230nm,8.3s
BTO LR LR
comp=Z,180nm,5.3s
NJ2 Nanjing 138.10 332 *e*PKP **PKPdf 20 16 11.4 -1.0**
ASAR Alice Springs 140.21 238 PKhKP PKPpre 20 16 10.8
comp=Z,0.6nm,0.9s,baz=111,slow=3.3,SNR=1.9
ASAR PKP **PKPdf 20 16 16.9 +0.4**
comp=Z,0.5nm,0.6s,baz=112,slow=4.4,SNR=4.6
WRA Warramunga Arr 141.11 244 PKhKP PKPpre 20 16 11.3
comp=Z,1.4nm,0.7s,baz=110,slow=2.6,SNR=12
WRA PKP **PKPdf 20 16 17.5 -0.7**
comp=Z,1.2nm,1.0s,baz=107,slow=2.7,SNR=5.7
EVN Everest 145.86 17 **PKPdf 20 16 25.8 -1.4**
H01W1 Cape Leeuwin H 146.30 205 T T 23 00 22.8
baz=151,slow=76,SNR=15
H01W2 Cape Leeuwin H 146.31 205 T T 23 00 24.2
baz=151,slow=76,SNR=18
H01W3 Cape Leeuwin H 146.32 205 T T 23 00 27.7
baz=151,slow=76,SNR=21
PZH PanZhiHua 148.62 353 PKPbc **PKPdf 20 16 30.3 -0.9**
PZH PKPab **pPKPab 20 16 41.0 +0.4**
SHL Shillong 149.34 10 **PKPdf 20 16 33.5 +1.1**
FITZ Fitzroy Crossi 149.47 242 PKPbc **PKPbc 20 16 37.1 +0.2**
comp=Z,6.4nm,1.0s,baz=95,slow=0.3,SNR=6.6
CMAR Chiang Mai Arr 156.86 356 PKP **PKPdf 20 16 44.4 +1.1**
comp=Z,0.8nm,0.8s,baz=294,slow=1.9,SNR=5.5

*NOU **15** 19:57:49.8,38°.58S×175°.89E,h158km,MLv3.5/15,North Island, New Zealand*
*WEL **15** 19:57:52.3±0.8,38°S±5°×17°6E±°,h141km±6km,M2.8/24, ML2.6/9,MLv2.8/24,Error ellipse: s-maj=6.5km s-min=5.1km az=165.4,confirmed*
ISC 15 19:57:47.3±1.7,38°.48S±0°.05×175°.90E±0°.04,h182km±9km, n90,σ1§54/106,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.06**	**264**	P	**Pn**	**19 58 11.7**	**+0.4**
WATZ	**Wairara**	**0.26**	**210**	P	**Pn**	**19 58 12.9**	**+1.2**
RATZ	**Rangitukua**	**0.40**	**195**	P	**Pn**	**19 58 13.0**	**+1.0**
RITZ	**Rihia Road**	**0.49**	**184**	P	**Pn**	**19 58 13.9**	**+1.5**
KATZ	**Kakaramea**	**0.52**	**198**	P	**Pn**	**19 58 13.9**	**+1.3**
MRHZ	**Matea Rd**	**0.54**	**131**	P	**Pn**	**19 58 13.5**	**+0.9**
MRHZ				S	**Sn**	**19 58 29.5**	**-2.6**
TMVZ	**Te Maari**	**0.65**	**194**	P	**Pn**	**19 58 14.2**	**+1.0**
WTVZ	**West Tongariro**	**0.68**	**201**	P	**Pn**	**19 58 14.7**	**+1.4**
MUGZ	**Murupara**	**0.68**	**90**	P	**Pn**	**19 58 13.9**	**+0.7**
MUGZ				S	**Sn**	**19 58 30.2**	**-3.0**
TWVZ	**Taurewa**	**0.69**	**212**	P	**Pn**	**19 58 14.7**	**+1.3**
SNVZ	**South Ngauruho**	**0.73**	**196**	P	**Pn**	**19 58 15.3**	**+1.7**
TUVZ	**Tukino**	**0.81**	**194**	P	**Pn**	**19 58 15.6**	**+1.5**
TOZ	**Tahuroa Road**	**0.81**	**337**	P	**Pn**	**19 58 15.2**	**+1.2**
TOZ				S	**Sn**	**19 58 33.9**	**-0.6**
FWVZ	**Far West T-bar**	**0.82**	**199**	P	**Pn**	**19 58 15.7**	**+1.4**
HIZ	**Hauiti**	**0.82**	**268**	P	**Pn**	**19 58 15.5**	**+1.5**
HIZ	**Hauiti**	**0.82**	**268**	P	**Sn**	**19 58 34.5**	**-0.1**
HIZ	**Hauiti**	**0.82**	**268**	P	**Pn**	**19 58 15.3**	**+1.3**
HIZ				S	**Sn**	**19 58 34.3**	**-0.3**
MTHZ	**Maungataniwha**	**0.82**	**117**	P	**Pn**	**19 58 15.5**	**+1.5**
MTHZ				S	**Sn**	**19 58 33.0**	**-1.8**
BKZ	**Black Stump Fm**	**0.82**	**146**	P	**Pn**	**19 58 15.4**	**+1.3**
BKZ	**Black Stump Fm**	**0.82**	**146**	P	**Sn**	**19 58 32.8**	**-2.1**
BKZ	**Black Stump Fm**	**0.82**	**146**	P	**Pn**	**19 58 15.4**	**+1.3**
BKZ				S	**Sn**	**19 58 32.8**	**-2.1**
MAVZ	**Matarangi**	**0.83**	**199**	P	**Pn**	**19 58 15.9**	**+1.5**
WHVZ	**Whangaehu Hut**	**0.83**	**197**	P	**Pn**	**19 58 15.8**	**+1.4**
RTZ	**Ruatahuna**	**0.86**	**99**	P	**Pn**	**19 58 15.5**	**+1.2**
RTZ				S	**Sn**	**19 58 33.8**	**-1.4**
TRVZ	**Turoa**	**0.86**	**199**	P	**Pn**	**19 58 16.1**	**+1.5**
WNVZ	**Wahianoa**	**0.88**	**196**	P	**Pn**	**19 58 16.0**	**+1.5**
PKVZ	**Pokaka**	**0.91**	**208**	P	**Pn**	**19 58 16.2**	**+1.5**
MOVZ	**Moawhango**	**0.93**	**187**	P	**Pn**	**19 58 16.1**	**+1.3**
MOVZ				S	**Sn**	**19 58 33.8**	**-2.4**
NMHZ	**Naumai**	**0.94**	**131**	P	**Pn**	**19 58 17.2**	**+2.3**
NMHZ				S	**Sn**	**19 58 36.4**	**+0.2**
MTVZ	**Mangateitei**	**0.96**	**200**	P	**Pn**	**19 58 16.6**	**+1.6**
MTVZ				S	**Sn**	**19 58 36.3**	**-0.3**
URZ	**Urewera**	**0.98**	**77**	P	**Pn**	**19 58 15.1**	**+0.1**
URZ	**Urewera**	**0.98**	**77**	P	**Sn**	**19 58 34.2**	**-2.2**
URZ	**Urewera**	**0.98**	**77**	P	**Pn**	**19 58 15.9**	**+0.9**
URZ				S	**Sn**	**19 58 33.9**	**-2.5**
RAHZ	**Arahi**	**1.02**	**115**	P	**Pn**	**19 58 17.6**	**+2.2**
RAHZ				S	**Sn**	**19 58 36.6**	**-0.5**
KWHZ	**Kaweka Forest**	**1.02**	**157**	P	**Pn**	**19 58 17.3**	**+1.9**
KWHZ				S	**Sn**	**19 58 37.0**	**-0.4**
VRZ	**Vera Road**	**1.10**	**234**	P	**Pn**	**19 58 17.7**	**+1.8**
MCHZ	**McNeill Hill**	**1.14**	**147**	P	**Pn**	**19 58 18.9**	**+2.6**
MCHZ				S	**Sn**	**19 58 38.5**	**-0.4**
ARHZ	**Aropaoanui**	**1.16**	**133**	P	**Pn**	**19 58 18.7**	**+2.3**
SNGZ	**Shannon Statio**	**1.17**	**105**	P	**Pn**	**19 58 18.5**	**+2.0**
SNGZ				S	**Sn**	**19 58 38.2**	**-0.9**
KRHZ	**Kereru**	**1.22**	**163**	P	**Pn**	**19 58 18.8**	**+1.9**
MWZ	**Matawai**	**1.29**	**84**	P	**Pn**	**19 58 19.4**	**+1.9**
MWZ				S	**Sn**	**19 58 39.1**	**-1.8**
PNHZ	**Pukenui**	**1.45**	**171**	P	**Pn**	**19 58 20.7**	**+1.7**
WAZ	**Wanganui**	**1.46**	**209**	P	**Pn**	**19 58 21.0**	**+2.0**
RIGZ	**Rimuhau**	**1.48**	**99**	P	**Pn**	**19 58 21.3**	**+2.0**
RUGZ	**Raukumara Rang**	**1.49**	**70**	P	**Pn**	**19 58 20.3**	**+0.8**
MKAZ	**Moumakai**	**1.50**	**337**	P	**Pn**	**19 58 21.0**	**+1.5**
KAHZ	**Kahuranaki**	**1.51**	**150**	P	**Pn**	**19 58 21.9**	**+2.4**
LREZ	**Lake Rotokare**	**1.52**	**230**	P	**Pn**	**19 58 22.0**	**+2.4**
TSZ	**Takapari Road**	**1.57**	**178**	P	**Pn**	**19 58 22.0**	**+1.8**
NEZ	**North Egmont**	**1.61**	**240**	P	**Pn**	**19 58 23.0**	**+2.4**
WPHZ	**Waipukurau**	**1.63**	**165**	P	**Pn**	**19 58 22.7**	**+1.9**
HAZ	**Te Kaha**	**1.65**	**65**	P	**Pn**	**19 58 22.1**	**+1.2**
PXZ	**Pawanui**	**1.72**	**155**	P	**Pn**	**19 58 23.6**	**+2.1**
KUZ	**Kuaotunu**	**1.74**	**355**	P	**Pn**	**19 58 23.2**	**+1.4**
KUZ	**Kuaotunu**	**1.74**	**355**	P	**Pn**	**19 58 23.2**	**+1.4**
DVHZ	**Dannevirke**	**1.82**	**174**	P	**Pn**	**19 58 24.2**	**+1.6**
PRHZ	**Porangahau**	**1.87**	**163**	P	**Pn**	**19 58 25.1**	**+2.0**
MBAZ	**Motutapu North**	**1.89**	**335**	P	**Pn**	**19 58 25.0**	**+1.7**
POWZ	**Post Office Ro**	**1.91**	**183**	P	**Pn**	**19 58 25.1**	**+1.6**
ANWZ	**Angora Road**	**2.02**	**167**	P	**Pn**	**19 58 26.8**	**+2.1**
PRWZ	**Pori Road**	**2.07**	**179**	P	**Pn**	**19 58 27.1**	**+1.9**
MRZ	**Mangatainoka R**	**2.19**	**186**	P	**Pn**	**19 58 27.9**	**+1.4**
BFZ	**Birch Farm**	**2.21**	**173**	S	**Sn**	**19 58 55.9**	**-1.8**
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	**19 58 27.9**	**+1.1**
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	**19 58 28.3**	**+1.5**
TIWZ	**Tintock**	**2.29**	**180**	P	**Pn**	**19 58 29.3**	**+1.6**
OGWZ	**Otaki Gorge**	**2.40**	**193**	P	**Pn**	**19 58 30.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**2.43**	**187**	P	**Pn**	**19 58 30.3**	**+1.1**
KIW	**Kapiti Island**	**2.50**	**198**	P	**Pn**	**19 58 31.0**	**+1.0**
TMWZ	**Te Maipa**	**2.62**	**180**	P	**Pn**	**19 58 32.7**	**+1.2**
MTW	**Mount Morrison**	**2.69**	**186**	P	**Pn**	**19 58 33.1**	**+0.8**
CAW	**Cannon Point**	**2.70**	**194**	P	**Pn**	**19 58 33.4**	**+1.0**
DUWZ	**D'Urville Isla**	**2.77**	**213**	P	**Pn**	**19 58 34.3**	**+1.0**
TRWZ	**Traveller**	**2.92**	**183**	P	**Pn**	**19 58 36.1**	**+1.1**
PAWZ	**Paruwai Farm**	**2.92**	**187**	P	**Pn**	**19 58 35.8**	**+0.8**
WEL	**Wellington**	**2.93**	**197**	P	**Pn**	**19 58 35.9**	**+0.8**
SNZO	**South Karori**	**2.97**	**198**	P	**Pn**	**19 58 36.1**	**+0.5**
MSWZ	**Moikau Station**	**2.97**	**189**	P	**Pn**	**19 58 36.3**	**+0.6**
TCW	**Tory Channel**	**3.00**	**204**	P	**Pn**	**19 58 36.8**	**+0.8**
BHW	**Baring Head**	**3.03**	**195**	P	**Pn**	**19 58 36.9**	**+0.6**
PLWZ	**Palliser**	**3.12**	**189**	P	**Pn**	**19 58 38.0**	**+0.5**
TUWZ	**Tuamarina**	**3.31**	**206**	P	**Pn**	**19 58 40.6**	**+0.9**
NNZ	**Nelson**	**3.35**	**215**	P	**Pn**	**19 58 40.9**	**+0.6**
TKNZ	**Takaka Hill**	**3.41**	**221**	P	**Pn**	**19 58 41.2**	**+0.1**
QRZ	**Quartz Range**	**3.50**	**227**	P	**Pn**	**19 58 42.3**	**+0.2**
QRZ	**Quartz Range**	**3.50**	**227**	S	**Sn**	**19 59 23.5**	**-1.6**
QRZ	**Quartz Range**	**3.50**	**227**	P	**Pn**	**19 58 42.2**	**0.0**
KHZ	**Kahutara**	**4.32**	**204**	P	**Pn**	**19 58 53.1**	**+0.6**
KHZ	**Kahutara**	**4.32**	**204**	S	**Sn**	**19 59 41.9**	**-1.8**
RPZ	**Rata Peaks**	**6.38**	**213**	P	**Pn**	**19 59 20.3**	**+1.1**

GCG 15 20:10:12.7±0.6,13°.96N×91°.43W,h28km±8km,MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.90**	**70**	*i* P	Pn	20 10 26.2	-3.4
FG8				*e*S	Sb	20 10 36.6	-4.8
FG16	**Alotenango, Sa**	**0.95**	**71**	*e*P	Pn	20 10 27.1	-3.2
FG16				*e*S	Sb	20 10 38.4	-4.5
PCG5	**San Vicente Pa**	**1.05**	**76**	*e*P	Pn	20 10 29.5	-2.3
APG	**El Apazote**	**1.40**	**42**	*e*P	Pn	20 10 37.1	+0.5

*AUST **15** 20:18:37.8±0.2,19°S±2°×12°5E±°,h10km,ML3.0/14,Error ellipse: s-maj=4.9km s-min=3.3km az=148.2*
*NOU **15** 20:18:37.5,19°.56S×125°.20E,h0km,mb3.6/9,Western Australia*
*IDC **15** 20:18:42.5±2.8,19°.24S×125°.96E,h0km,mbtmp3.4/3, ML3.5/3,Error ellipse: s-maj=42.6km s-min=11.4km az=54.0*
ISC 15 20:18:37.6±0.7,19°.52S±0°.05×125°.25E±0°.05,h10km,n42, σ1§38/49,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**1.47**	**15**	P	**Pn**	**20 19 04.6**	**+0.5**
FITZ				S	**Sn**	**20 19 22.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**1.47**	**15**	Pg	**Pb**	**20 19 05.0**	**0.0**
	7.7nm,0.3s,baz=156,slow=20,SNR=194						
FITZ				Lg	Lg	20 19 21.2	
	15nm,0.3s,baz=133,slow=22,SNR=34						
FITZ	**Fitzroy Crossi**	**1.47**	**15**	P	**Pb**	**20 19 05.0**	**0.0**
CAAN	**Eighty Mile Be**	**3.53**	**274**	P	**Pn**	**20 19 32.7**	**+0.1**
CAAN				S	**Sn**	**20 20 14.2**	**-0.3**
KNRA	**Kununurra**	**5.09**	**42**	P	**Pn**	**20 19 54.3**	**+0.4**
KNRA				S	**Sn**	**20 20 52.2**	**-0.6**
PSAD2	**Pilbara Seismi**	**5.37**	**246**	P	**Pn**	**20 19 58.8**	**+0.9**
PSAD2				S	**Sn**	**20 20 58.7**	**-1.2**
PSAC2	**Pilbara Seismi**	**5.41**	**247**	P	**Pn**	**20 19 59.9**	**+1.6**
MBWA	**Marble Bar**	**5.42**	**252**	P	**Pn**	**20 19 59.8**	**+1.2**
PSAA3	**Pilbara Seismi**	**5.45**	**247**	P	**Pn**	**20 19 59.7**	**+0.7**
PSAB3	**Pilbara Seismi**	**5.46**	**247**	P	**Pn**	**20 20 00.3**	**+1.3**
PSA00	**Pilbara Seismi**	**5.46**	**247**	P	**Pn**	**20 20 00.2**	**+1.1**
PSA00				S	**Sn**	**20 21 00.5**	**-1.4**
PSA00	**Pilbara Seismi**	**5.46**	**247**	P	**Pn**	**20 20 00.1**	**+1.1**
PSA00	**Pilbara Seismi**	**5.46**	**247**	S	**Sn**	**20 21 02.3**	**+0.4**
WRKA	**Warakurna**	**6.17**	**153**	P	**Pn**	**20 20 10.7**	**+1.8**
WRKA				S	**Sn**	**20 21 20.1**	**+0.5**
LAROZ	**Larrimah, NT**	**8.55**	**64**	P	**Pn**	**20 20 41.8**	**+0.2**
WRA	**Warramunga Arr**	**8.57**	**94**	Pn	**Pn**	**20 20 40.0**	**-2.0**
	0.4nm,0.3s,baz=272,slow=14,SNR=24						
WRA				Sn	Sn	20 22 10.9	-7.9
	1.3nm,0.3s,baz=271,slow=24,SNR=11						
WRA				Lg	Lg	20 22 53.6	
	0.5nm,0.3s,baz=263,slow=26,SNR=4.9						
	0.4nm,0.3s						
WRAB	**Tennant Creek**	**8.59**	**94**	P	**Pn**	**20 20 42.9**	**+0.8**
WB2	**Warramunga Arr**	**8.59**	**94**	P	**Pn**	**20 20 41.6**	**-0.5**
MTN	**Manton Dam**	**8.72**	**41**	P	**Pn**	**20 20 43.7**	**-0.3**
AS15	**Alice Springs**	**9.04**	**118**	P	**Pn**	**20 20 49.9**	**+1.5**
AS15	**Alice Springs**	**9.04**	**118**	P	**Pn**	**20 20 50.6**	**+2.3**
ASAR	**Alice Springs**	**9.05**	**119**	Pn	**Pn**	**20 20 49.4**	**+0.9**
	0.8nm,0.3s,baz=303,slow=12,SNR=27						
ASAR				Sn	**Sn**	**20 22 28.8**	**-1.7**
	1.6nm,0.3s,baz=306,slow=25,SNR=14						
ASAR				Lg	Lg	20 23 17.1	
	0.2nm,0.3s,baz=302,slow=25,SNR=4.3						
	2.0nm,0.4s						
AS31	**Alice Springs**	**9.05**	**119**	P	**Pn**	**20 20 50.1**	**+1.7**
AS31	**Alice Springs**	**9.05**	**119**	S	**Sn**	**20 22 27.9**	**-2.6**
AS01	**Alice Springs**	**9.09**	**119**	P	**Pn**	**20 20 50.3**	**+1.3**
AS09	**Alice Springs**	**9.09**	**119**	P	**Pn**	**20 20 50.6**	**+1.5**
AS09	**Alice Springs**	**9.09**	**119**	P	**Pn**	**20 20 51.8**	**+2.7**
AS17	**Alice Springs**	**9.12**	**118**	P	**Pn**	**20 20 50.9**	**+1.5**
MEEK	**Meekatharra**	**9.35**	**220**	P	**Pn**	**20 20 54.1**	**+1.5**
MEEK	**Meekatharra**	**9.35**	**220**	S	**Sn**	**20 22 33.5**	**-4.3**
KDU	**Kakadu**	**9.71**	**47**	P	**Pn**	**20 20 57.2**	**-0.3**
GIRL	**Giralia**	**10.74**	**251**	P	**Pn**	**20 21 12.7**	**+1.2**
FORT	**Forrest**	**11.49**	**168**	P	**Pn**	**20 21 22.3**	**+0.4**
KMBL	**Kambalda**	**12.18**	**194**	P	**Pn**	**20 21 31.0**	**-0.3**
MORW	**Morawa**	**12.67**	**220**	P	**Pn**	**20 21 37.3**	**-0.8**
MORW	**Morawa**	**12.67**	**220**	P	**Pn**	**20 21 37.6**	**-0.4**
BLDU	**Ballidu**	**13.48**	**213**	P	**Pn**	**20 21 48.7**	**-0.3**
BLDU	**Ballidu**	**13.48**	**213**	P	**Pn**	**20 21 49.7**	**+0.7**
QIS	**Mount Isa**	**13.54**	**97**	P	**Pn**	**20 21 50.1**	**+0.2**
QIS	**Mount Isa**	**13.54**	**97**	P	**Pn**	**20 21 51.8**	**+1.9**
COEN	**Coen**	**18.03**	**75**	P	**P**	**20 22 50.0**	**+1.0**
STKA	**Stephens Creek**	**19.16**	**133**	P	**P**	**20 23 02.7**	**+1.3**
	0.2nm,0.3s,baz=303,slow=10,SNR=4.1						
	0.8nm,0.5s						

*TAP **15** 20:30:44.8,23°.20N×121°.32E,h37km,ML3.8,B*
*JMA **15** 20:30:44.1±0.1,23°N±1°×12°1E±°,h38km±2km,MV3.6/16, TAIWAN REGION*
ISC 15 20:30:44.9±0.9,23°.17N±0°.02×121°.39E±0°.02,h33km±3km, n159,σ1§12/264,32C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.02**	**26**	⇓P	**Pb**	**20 30 51.1**	**+0.8**
CHKH				S	**Sb**	**20 30 55.6**	**+1.6**
CHKT	**Chengkung**	**0.07**	**194**	⇓*i*P	**Pb**	**20 30 51.2**	**+0.7**
CHKT				S	**Sb**	**20 30 55.9**	**+1.6**
FULB	**Fuli**	**0.09**	**287**	⇓*i*P	**Pb**	**20 30 51.2**	**+0.6**
FULB				*i* S	**Sb**	**20 30 56.0**	**+1.4**
ECBN	**Changbin**	**0.15**	**23**	⇑*i*P	**Pb**	**20 30 52.0**	**+0.9**
ECBN				S	**Sb**	**20 30 57.0**	**+1.8**
ECS	**Chishang**	**0.17**	**243**	⇓*i*P	**Pb**	**20 30 51.6**	**+0.4**
ECS				*i* S	**Sb**	**20 30 56.6**	**+1.1**
EYUL	**Yuli**	**0.18**	**341**	⇓*i*P	**Pn**	**20 30 51.4**	**+0.1**
EYUL				*e*S	**Sb**	**20 30 55.5**	**-0.2**
TWF1	**Yuli**	**0.20**	**335**	⇓*i*P	**Pn**	**20 30 51.3**	**-0.2**
TWF1				S	**Sb**	**20 30 55.5**	**-0.5**
EDH	**Donghe**	**0.21**	**201**	⇑*i*P	**Pn**	**20 30 51.9**	**+0.3**
EDH				*i* S	**Sb**	**20 30 57.4**	**+1.3**
YULB	**Yu-li**	**0.23**	**340**	P	**Pn**	**20 30 51.7**	**-0.4**
YULB	**Yu-li**	**0.23**	**340**	S	**Sn**	**20 30 56.1**	**-0.1**
YULB	**Yu-li**	**0.23**	**340**	⇓*i*P	**Pn**	**20 30 51.5**	**-0.5**
YULB				*i* S	**Sn**	**20 30 55.9**	**-0.3**
HGSD	**Ruisui**	**0.32**	**6**	⇑*i*P	**Pb**	**20 30 53.2**	**+0.3**
HGSD				S	**Sb**	**20 30 59.8**	**+1.5**
EHYH	**Wanrong**	**0.32**	**353**	⇑*i*P	**Pb**	**20 30 52.5**	**-0.4**
EHYH				S	**Sn**	**20 30 57.8**	**-1.1**
EHY	**Hungye**	**0.34**	**350**	⇑*i*P	**Pb**	**20 30 52.5**	**-0.6**
EHY				S	**Sn**	**20 30 57.6**	**-1.6**
ELDTW	**Lidau**	**0.34**	**273**	⇓*i*P	**Pb**	**20 30 52.8**	**-0.5**
ELDTW				S	**Sn**	**20 30 57.9**	**-1.5**
LONT	**Longtian**	**0.35**	**222**	⇑*i*P	**Pb**	**20 30 53.0**	**-0.4**
LONT				*i* S	**Sn**	**20 30 59.0**	**-0.6**
TWGBT	**Beinan**	**0.45**	**219**	P	**Pb**	**20 30 54.0**	**-0.8**
TWGBT	**Beinan**	**0.45**	**219**	S	**Sb**	**20 31 00.6**	**-0.9**
TWGBT	**Beinan**	**0.45**	**219**	⇑*i*P	**Pb**	**20 30 53.9**	**-0.9**
TWGBT				*i* S	**Sb**	**20 31 00.4**	**-1.1**
TWG	**Pinlang**	**0.45**	**220**	⇑*i*P	**Pb**	**20 30 53.9**	**-0.9**
TWG				S	**Sb**	**20 31 00.4**	**-1.2**
TTN	**Taitung**	**0.47**	**208**	*e*P	**Pb**	**20 30 55.2**	**+0.1**
TTN				*e*S	**Sb**	**20 31 03.0**	**+1.0**
EGFH	**Guangfu**	**0.49**	**4**	*e*P	**Pb**	**20 30 54.4**	**-1.0**
LDUT	**Ludao**	**0.50**	**171**	P	**Pb**	**20 30 55.4**	**-0.1**
LDUT				S	**Sb**	**20 31 03.5**	**+0.7**
YUS	**Yu-Shan**	**0.51**	**308**	⇓*i*P	**Pb**	**20 30 55.7**	**-0.3**
YUS				*i* S	**Sb**	**20 31 02.7**	**-0.9**
WARBT	**Fenglin Townsh**	**0.54**	**0**	⇑*i*P	**Pn**	**20 30 54.9**	**-1.5**
WARBT				S	**Sb**	**20 31 01.6**	**-2.4**
TEGC	**Jichi Village**	**0.55**	**15**	P	**Pn**	**20 30 56.4**	**-0.1**
TEGC				S	**Sb**	**20 31 05.0**	**+0.9**
STYH	**Taoyuan**	**0.56**	**270**	⇓*i*P	**Pn**	**20 30 56.2**	**-0.4**
STYH				S	**Sn**	**20 31 04.0**	**-0.8**
VWDT	**VWDT**	**0.62**	**339**	⇑*i*P	**Pn**	**20 30 57.1**	**-0.3**
VWDT				S	**Sn**	**20 31 05.1**	**-1.2**
ALS	**Alishan**	**0.63**	**302**	⇓*i*P	**Pn**	**20 30 57.8**	**-0.1**
ALS				S	**Sn**	**20 31 06.2**	**-0.8**
SHUL	**Shoufeng**	**0.63**	**15**	⇑*i*P	**Pn**	**20 30 57.2**	**-0.4**
SHUL				S	**Sn**	**20 31 06.5**	**-0.1**
ESL	**Shilin**	**0.64**	**4**	⇑*i*P	**Pn**	**20 30 56.2**	**-1.5**
ESL				S	**Sn**	**20 31 04.0**	**-2.7**
ECL	**Taimali**	**0.70**	**215**	⇑*i*P	**Pn**	**20 30 56.7**	**-1.8**
ECL				S	**Sn**	**20 31 05.5**	**-2.7**
TPUB	**Ta-pu**	**0.71**	**281**	P	**Pn**	**20 30 58.8**	**+0.1**
TPUB	**Ta-pu**	**0.71**	**281**	S	**Sb**	**20 31 09.4**	**+1.0**
TPUB	**Ta-pu**	**0.71**	**281**	⇓*i*P	**Pn**	**20 30 58.7**	**+0.1**
TPUB				*e*S	**Sn**	**20 31 08.6**	**+0.1**
WTP	**Ta-pu**	**0.71**	**276**	⇓P	**Pn**	**20 30 58.8**	**0.0**
WTP				S	**Sn**	**20 31 09.4**	**+0.7**
WHYT	**Xinyi Township**	**0.71**	**317**	⇓P	**Pn**	**20 30 59.0**	**+0.2**
WHYT				S	**Sn**	**20 31 08.4**	**-0.3**
TEYL	**Yanliau Villag**	**0.72**	**16**	⇑P	**Pn**	**20 30 58.8**	**-0.1**
TEYL				*e*S	**Sn**	**20 31 09.2**	**+0.5**
SSLB	**Suanglung**	**0.73**	**327**	P	**Pn**	**20 30 58.8**	**-0.2**
SSLB	**Suanglung**	**0.73**	**327**	⇑*i*P	**Pn**	**20 30 58.7**	**-0.3**
SSLB				*e*S	**Sn**	**20 31 07.6**	**-1.4**
SGST	**Jiashian**	**0.74**	**263**	⇓*i*P	**Pn**	**20 30 58.6**	**-0.6**
SGST				*e*S	**Sn**	**20 31 09.2**	**-0.2**
WCKO	**Fanlu**	**0.77**	**290**	*e*P	**Pn**	**20 30 59.8**	**+0.4**
WCKO				S	**Sn**	**20 31 10.3**	**+0.4**
CHN5	**Tsauling**	**0.78**	**303**	⇓P	**Pn**	**20 30 60.0**	**+0.3**
CHN5				*e*S	**Sn**	**20 31 10.5**	**+0.3**
CHN1	**Nanshi**	**0.79**	**271**	⇓*i*P	**Pn**	**20 31 00.3**	**+0.5**
CHN1				S	**Sn**	**20 31 11.3**	**+0.8**
ETM	**Tongmen**	**0.80**	**7**	⇑*i*P	**Pn**	**20 30 58.4**	**-1.5**
OWD	**Renai**	**0.80**	**346**	⇑*i*P	**Pn**	**20 30 59.5**	**-0.6**
OWD				*e*S	**Sn**	**20 31 08.7**	**-2.3**
SSD	**Sandimen**	**0.81**	**239**	P	**Pn**	**20 30 59.6**	**-0.5**
SSD				S	**Sn**	**20 31 10.6**	**-0.4**
HWA	**Hwalien**	**0.83**	**14**	P	**Pn**	**20 30 59.7**	**-0.6**
TSMG	**Majia**	**0.83**	**236**	*e*P	**Pn**	**20 31 00.1**	**-0.2**
TSMG				S	**Sn**	**20 31 11.4**	**+0.1**
TWK	**Hsinying**	**0.83**

NSTT				eS	Sn	20 31 29.7	+1.9
NSK	**Sanguang**	**1.50**	**359**	P	Pn	20 31 10.2	+0.6
NSK				eS	Sn	20 31 27.8	-0.2
LIOB	**Emei**	**1.50**	**347**	eP	Pn	20 31 10.8	+1.1
LIOB				eS	Sn	20 31 30.3	+2.1
TWE	**Neicheng**	**1.56**	**9**	eP	Pn	20 31 10.1	-0.3
FUSB	**Fushanzhiwuyua**	**1.59**	**7**	eP	Pn	20 31 10.6	-0.3
FUSB				eS	Sn	20 31 31.3	+0.9
NWLT	**Wulai**	**1.60**	**4**	eP	Pn	20 31 11.1	+0.1
NWLT				eS	Sn	20 31 30.6	0.0
KSHI	**Guanxi Townshi**	**1.61**	**353**	eP	Pn	20 31 13.0	+1.9
KSHI				eS	Sb	20 31 34.2	+0.2
HSN	**Hsinchu**	**1.67**	**347**	eS	Sn	20 31 34.6	+2.5
PHUB	**P'eng-hu**	**1.70**	**282**	eP	Pn	20 31 12.0	-0.3
PHUB				eS	Sn	20 31 31.4	-1.5
PNG	**Penghu**	**1.73**	**284**	eP	Pn	20 31 12.6	-0.1
PNG				eS	Sn	20 31 32.1	-1.5
NHDH	**Xindian Distri**	**1.79**	**4**	eP	Pn	20 31 14.2	+0.6
TWA	**Mucha**	**1.81**	**6**	eP	Pn	20 31 14.4	+0.5
TIPB	**Shuangxi**	**1.84**	**13**	eP	Pn	20 31 14.7	+0.5
TIPB				eS	Sn	20 31 37.0	+0.6
TWB1	**Santiao Chiao**	**1.91**	**17**	eP	Pn	20 31 16.3	+1.1
JYNG	**Yonagunijimaku**	**1.91**	**48**	eP	Pn	20 31 16.3	+1.1
TWS1	**Kuangyinshan**	**1.92**	**1**	eP	Pn	20 31 16.3	+0.9
TWS1				S	Sn	20 31 38.9	+0.5
NWF	**Wu-fen Shan**	**1.92**	**11**	eP	Pn	20 31 16.0	+0.5
NWF				eS	Sn	20 31 37.1	-1.5
WFSB	**Wu-fen Shan**	**1.92**	**11**	eP	Pn	20 31 15.9	+0.5
WFSB				eS	Sn	20 31 39.0	+0.6
SXI1	**Grass Mountain**	**1.96**	**13**	eP	Pn	20 31 16.9	+0.8
YOJ	**Yonaguni jima**	**1.96**	**49**	eS	Sn	20 31 40.6	+1.1
YOJ	**Yonaguni jima**	**1.96**	**49**	eS	Sn	20 31 39.9	+0.4
YM01	**YM01**	**1.97**	**5**	eP	Pn	20 31 16.2	+0.1
YM01				eS	Sn	20 31 39.9	+0.1
NTST	**Danshui**	**1.98**	**2**	eP	Pn	20 31 16.7	+0.5
ZUZH	**Zhuzihu**	**1.99**	**4**	eP	Pn	20 31 16.4	+0.1
ZUZH				eS	Sn	20 31 39.5	-0.5
ANP	**Anpu**	**2.01**	**3**	eP	Pn	20 31 17.3	+0.7
YM08	**YM08**	**2.02**	**5**	eP	Pn	20 31 16.2	-0.4
HATJ	**Hateruma jima**	**2.39**	**68**	eP	Pn	20 31 22.5	+0.8
HATJ				eS	Sn	20 31 50.3	+0.4
IRIF	**Iriomote-Funau**	**2.44**	**61**	eP	Pn	20 31 23.7	+1.2
IRIF				eS	Sn	20 31 52.0	+0.8
JKRS	**Kuro-shima**	**2.63**	**66**	eS	Sn	20 31 56.8	+1.0
PTMZ	**Houxiangcun**	**2.78**	**312**	eP	Pn	20 31 26.7	-0.5
PTMZ				eS	Sn	20 31 57.0	-2.6
JIJ	**Ishigaki jima**	**2.79**	**64**	P	Pn	20 31 27.9	+0.6
JIJ				eS	Sn	20 31 60.0	+0.1
KNM	**Kinmen**	**2.97**	**295**	eP	Pn	20 31 31.6	+1.8
KNM				eS	Sn	20 32 03.7	-0.7
JISG	**Ishigakijimahi**	**3.02**	**62**	P	Pn	20 31 31.0	+0.5
JISG				eS	Sn	20 32 05.0	-0.6
MATB	**Ma-tsu**	**3.24**	**336**	eP	Pn	20 31 33.0	-0.5
MATB				eS	Sn	20 32 08.3	-2.7
JTJ	**Tarama**	**3.37**	**64**	eP	Pn	20 31 36.5	+1.2
JTJ				eS	Sn	20 32 14.4	+0.3
ZPLA	**Ao Xicun**	**3.42**	**283**	eP	Pn	20 31 35.9	-0.1
ZPLA				eS	Sn	20 32 13.6	-1.8
AXDP	**Jialang**	**3.56**	**300**	eP	Pn	20 31 37.5	-0.5
AXDP				eS	Sn	20 32 15.6	-3.4
MHZQ	**Yeshan**	**3.62**	**324**	eP	Pn	20 31 38.7	0.0
MHZQ				S	Sn	20 32 17.7	-2.5
DSXP	**Dongshan**	**3.68**	**279**	eP	Pn	20 31 39.4	-0.1
DSXP				eS	Sn	20 32 19.7	-2.0
JIRB	**Irabujima**	**3.83**	**64**	eP	Pn	20 31 42.3	+0.6
JIRB				eS	Sn	20 32 24.6	-1.1
XPSS	**Dashiqiu**	**3.90**	**344**	eP	Pn	20 31 41.8	-0.7
XPSS				eS	Sn	20 32 24.9	-2.2
JMJ2	**Miyako jima3**	**3.93**	**66**	eS	Sn	20 32 28.0	0.0
SXFK	**Yanhouchang**	**4.68**	**314**	eP	Pn	20 31 52.6	-0.7
SXFK				eS	Sn	20 32 43.6	-2.9

*IDC **15** 20:48:44.5±2.1, 0°.52N×126°.79E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=173.8km s-min=27.0km az=66.0*
*DJA **15** 20:48:47.5±0.3, 0°N±4°×12°6E±°, h10km, M3.2/8, mb3.5/1, MLv3.1/8*
ISC 15 20:48:50.7±1.2, **0°.27N**±0°.10×**126°.24E**±0°.08, **h44**km, **n6**, σ0°.81/6, **mb3.0**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**66**	P	Pn	20 49 11.2	-0.4
KMSI	**Cibinong**	**2.28**	**278**	P	Pn	20 49 25.3	-0.5
SANI	**Sanana**	**2.31**	**186**	P	Pn	20 49 26.2	-0.2
WRA	**Warramunga Arr**	**21.60**	**159**	P	**P**	20 53 36.2	-0.8
0.2nm,0.4s,baz=339,slow=11,SNR=5.6							
0.2nm,0.4s							
ASAR	**Alice Springs**	**24.93**	**163**	P	**P**	20 54 10.6	+0.7
0.3nm,0.6s,baz=345,slow=12,SNR=4.7							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	20 58 54.5	+0.6
0.1nm,0.4s,baz=122,slow=7.2,SNR=5.4							
0.1nm,0.4s							

*IDC **15** 20:57:15.7±2.4, 3°.25S×128°.98E, h0km, mb3.6/2, mbtmp3.6/4, ML3.0/2, MS3.0/1, Error ellipse: s-maj=122.5km s-min=28.5km az=72.0*
*DJA **15** 20:57:17.5±0.4, 4°S±3°×12°8E±°, h10km, M3.4/6, MLv3.4/6*
ISC 15 20:57:17.1±1.3, **3°.6S**±0°.1×**128°.34E**±0°.06, **h12**km±10km, **n9**, σ0°.73/10, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.16**	**245**	P	**Pg**	20 57 21.0	+0.2
AAI				S	**Sg**	20 57 23.3	-0.1
MSAI	**Masohi**	**0.65**	**65**	P	Pn	20 57 31.9	-0.3
MSAI				S	Sn	20 57 41.5	-0.8
NLAI	**Namlea**	**1.29**	**287**	P	Pn	20 57 40.0	-1.1
SANI	**Sanana**	**2.82**	**303**	P	Pn	20 58 01.9	-0.2
SANI				S	Sn	20 58 36.0	-0.1
FITZ	**Fitzroy Crossi**	**14.63**	**190**	Pn	**P**	21 00 50.7	+0.2
0.1nm,0.3s,baz=17,slow=19,SNR=2.2							
1.8nm,0.9s							
WRA	**Warramunga Arr**	**17.25**	**161**	P	**P**	21 01 19.4	-0.2
0.1nm,0.3s,baz=341,slow=11,SNR=4.5							
0.7nm,0.9s							
ASAR	**Alice Springs**	**20.64**	**165**	P	Pn	21 01 59.1	0.0
3.1nm,0.7s,baz=347,slow=11,SNR=31							
3.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**36.33**	**308**	LR	LR	21 21 45.1	
comp=Z,23nm,19.1s,baz=15,slow=40							
MKAR	**Makanchi Array**	**64.51**	**327**	P	**P**	21 07 55.0	+1.0
0.3nm,0.8s,baz=111,slow=7.9,SNR=2.3							
0.3nm,0.8s							

*JMA **15** 21:10:13.7±0.1, 24°.8N±0°.5×121°.9E±0°.3, h100km±1km, MV2.9/11, TAIWAN REGION*
*TAP **15** 21:10:13.2, 24°.87N×121°.85E, h103km, ML3.6, B*
ISC 15 21:10:12.7±1.4, **24°.90N**±0°.03×**121°.85E**±0°.03, **h108**km±5km, **n128**, σ0°.69/223, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.05**	**202**	eP	Pn	21 10 27.2	-0.4
TIPB	**Shuangxi**	**0.08**	**343**	i P	Pn	21 10 27.7	0.0
TIPB				S	Sn	21 10 37.4	-1.6
EGS		**0.09**	**126**	P	Pn	21 10 27.9	+0.2
EGS				S	Sn	21 10 38.6	-0.3
TWB1	**Santiao Chiao**	**0.17**	**49**	i P	Pn	21 10 27.8	-0.1
TWB1				i S	Sn	21 10 37.9	-1.3
NWF	**Wu-fen Shan**	**0.18**	**340**	i P	Pn	21 10 27.9	-0.1
NWF				S	Sn	21 10 38.4	-1.1
WFSB	**Wu-fen Shan**	**0.18**	**340**	eP	Pn	21 10 28.1	+0.2
WFSB				S	Sn	21 10 38.7	-0.6
SXI1	**Grass Mountain**	**0.20**	**7**	eP	Pn	21 10 28.2	+0.2
SXI1				eS	Sn	21 10 39.8	+0.3
TWE	**Neicheng**	**0.24**	**223**	i P	Pn	21 10 28.5	+0.4
TWE				i S	Sn	21 10 39.6	+0.1
TWA	**Mucha**	**0.25**	**289**	i P	Pn	21 10 28.4	+0.3
TWA				i S	Sn	21 10 39.5	-0.1
TNOU	**National Taiwa**	**0.26**	**345**	eP	Pn	21 10 28.1	-0.1
TNOU				eS	Sn	21 10 38.9	-0.8
FUSB	**Fushanzhiwuyua**	**0.28**	**240**	i P	Pn	21 10 28.3	0.0
FUSB				S	Sn	21 10 40.0	0.0
TWC	**Suao**	**0.29**	**180**	i P	Pn	21 10 28.5	+0.3
TWC				S	Sn	21 10 39.7	-0.2
NHY	**Taipei**	**0.29**	**299**	P	Pn	21 10 28.6	+0.4
NHY				eS	Sn	21 10 40.3	+0.4
NDS	**Dongshan**	**0.29**	**205**	i P	Pn	21 10 29.1	+0.8
NDS				eS	Sn	21 10 40.4	+0.5
NHDH	**Xindian Distri**	**0.30**	**282**	eP	Pn	21 10 28.0	-0.3
NHDH				eS	Sn	21 10 39.4	-0.6
ESAO	**Su ao**	**0.32**	**181**	P	Pn	21 10 28.9	+0.5
ESAO				i S	Sn	21 10 40.6	+0.5
NWLT	**Wulai**	**0.34**	**249**	i P	Pn	21 10 28.3	-0.2
NWLT				S	Sn	21 10 39.2	-1.2
TAP	**Taipei**	**0.34**	**294**	eP	Pn	21 10 27.9	-0.5
TAP				S	Sn	21 10 40.2	-0.1
YM01	**YM01**	**0.35**	**314**	eP	Pn	21 10 28.8	+0.2
YM01				i S	Sn	21 10 40.8	+0.3
ENTT	**Nioudou**	**0.36**	**225**	i P	Pn	21 10 28.8	+0.2
YM08	**YM08**	**0.37**	**321**	P	Pn	21 10 28.9	+0.2
ZUZH	**Zhuzihu**	**0.38**	**314**	eP	Pn	21 10 28.9	+0.2
ZUZH				eS	Sn	21 10 40.4	-0.4
ANP	**Anpu**	**0.41**	**314**	i P	Pn	21 10 29.2	+0.2
TWY	**Chenhua**	**0.44**	**329**	eP	Pn	21 10 29.5	+0.5
TWY				i S	Sn	21 10 41.9	+0.6
TWS1	**Kuangyinshan**	**0.44**	**297**	i P	Pn	21 10 29.5	+0.5
TWS1				i S	Sn	21 10 41.6	+0.4
NTST	**Danshui**	**0.45**	**306**	P	Pn	21 10 29.6	+0.6
NTST				S	Sn	21 10 41.9	+0.6
EWUT	**Wuta**	**0.46**	**188**	eP	Pn	21 10 30.0	+0.9
EWUT				eS	Sn	21 10 41.5	+0.1
LATG	**Datong**	**0.47**	**219**	P	Pn	21 10 29.6	+0.2
LATG				i S	Sn	21 10 42.5	+0.8
ENA	**Nanau**	**0.48**	**192**	eP	Pn	21 10 29.6	+0.3
ENA				eS	Sn	21 10 42.1	+0.4
YHNB	**Yeheng**	**0.49**	**242**	i P	Pn	21 10 29.2	-0.2
YHNB				i S	Sn	21 10 40.8	-1.2
NSK	**Sanguang**	**0.50**	**244**	i P	Pn	21 10 29.2	-0.2
NSK				S	Sn	21 10 40.8	-1.3
EAHA	**Aohua**	**0.58**	**190**	eP	Pn	21 10 30.3	+0.3
EAHA				S	Sn	21 10 43.7	+0.8
EOS2	**EOS2**	**0.59**	**144**	eP	Pn	21 10 30.5	+0.6
EOS2				eS	Sn	21 10 43.4	+0.6
NCUH	**Zhongli**	**0.61**	**277**	eP	Pn	21 10 30.4	+0.3
NCUH				i S	Sn	21 10 42.8	-0.5
KSHI	**Guanxi Townshi**	**0.62**	**259**	eP	Pn	21 10 30.8	+0.5
KSHI				i S	Sn	21 10 43.8	+0.3
NNS	**Nan Shan**	**0.63**	**224**	i P	Pn	21 10 30.6	+0.1
NNS				S	Sn	21 10 43.6	-0.2
NNSB	**Datong**	**0.63**	**222**	i P	Pn	21 10 30.7	+0.1
NNSB				S	Sn	21 10 43.2	-0.7
NFF	**Wufeng Townshi**	**0.72**	**248**	i P	Pn	21 10 31.1	0.0
NFF				i S	Sn	21 10 44.0	-1.0
EOS3	**EOS3**	**0.74**	**145**	eP	Pn	21 10 31.9	+0.7
EOS3				eS	Sn	21 10 46.0	+1.0
PCYT	**Pengchaiyu**	**0.76**	**15**	eP	Pn	21 10 32.1	+0.7
NACB	**Ninganchiao**	**0.76**	**198**	eP	Pn	21 10 31.0	-0.5
NACB				eS	Sn	21 10 44.3	-1.2
ETL	**Fush Village**	**0.77**	**196**	eP	Pn	21 10 30.9	-0.7
ETL				eS	Sn	21 10 45.0	-0.8
ETLH	**Xiulin Townshi**	**0.77**	**206**	i P	Pn	21 10 31.4	-0.2
ETLH				eS	Sn	21 10 45.5	-0.3
SBCB	**Hsinchu**	**0.79**	**262**	P	Pn	21 10 32.1	+0.4
SBCB				eS	Sn	21 10 46.2	+0.2
LIOB	**Emei**	**0.80**	**252**	i P	Pn	21 10 32.1	+0.2
LIOB				S	Sn	21 10 45.4	-0.8
HSN	**Hsinchu**	**0.81**	**263**	i P	Pn	21 10 31.6	-0.2
HSN				i S	Sn	21 10 45.1	-1.1
NSTT	**Nanjuang**	**0.82**	**251**	i P	Pn	21 10 32.1	+0.2
NSTT				i S	Sn	21 10 45.7	-0.7
TWD	**Chiawan**	**0.85**	**196**	eP	Pn	21 10 31.5	-0.7
TWD				i S	Sn	21 10 45.5	-1.5
FUSS	**Fushou**	**0.85**	**220**	i P	Pn	21 10 33.3	+0.6
FUSS				i S	Sn	21 10 47.3	-0.2
EOS4	**EOS4**	**0.89**	**151**	i P	Pn	21 10 32.3	0.0
EOS4				eS	Sn	21 10 46.5	-0.5
TWT	**Tachien**	**0.89**	**224**	eP	Pn	21 10 33.8	+0.9
TWT				i S	Sn	21 10 48.3	+0.2
TDCB	**Techi**	**0.90**	**225**	i P	Pn	21 10 33.8	+0.8
TDCB				eS	Sn	21 10 48.2	+0.1
WHF	**Hehuan Shan**	**0.92**	**215**	P	Pn	21 10 33.7	+0.2
WHF				i S	Sn	21 10 48.4	-0.7
HWA	**Hwalien**	**0.94**	**194**	eP	Pn	21 10 32.9	-0.4
HWA				eS	Sn	21 10 49.1	+0.5
LXIB	**Xiulin Townshi**	**0.96**	**205**	i P	Pn	21 10 33.0	-0.6
LXIB				S	Sn	21 10 48.6	-0.6
ETM	**Tongmen**	**0.98**	**199**	eP	Pn	21 10 32.8	-0.8
NMLH	**Miaoli**	**1.03**	**250**	i P	Pn	21 10 34.6	+0.5
NMLH				eS	Sn	21 10 50.0	-0.2
WHP	**Taichung City**	**1.03**	**233**	i P	Pn	21 10 34.7	+0.5
WHP				S	Sn	21 10 50.8	+0.6
TEYL	**Yanliau Villag**	**1.05**	**193**	eS	Sn	21 10 50.6	0.0
JYNG	**Yonagunijimaku**	**1.09**	**114**	P	Pn	21 10 34.8	+0.1
NSY	**Sanyi**	**1.10**	**244**	i P	Pn	21 10 35.8	+0.9
NSY				S	Sn	21 10 52.2	+0.5
OWD	**Renai**	**1.12**	**213**	eP	Pn	21 10 35.9	+0.6
OWD				eS	Sn	21 10 52.2	0.0
TWQ1	**Liyutan**	**1.12**	**241**	eP	Pn	21 10 35.4	+0.3
TWQ1				S	Sn	21 10 51.7	-0.3
WUSB	**Renai**	**1.12**	**217**	i P	Pn	21 10 36.0	+0.7
WUSB				S	Sn	21 10 52.4	+0.2
SHUL	**Shoufeng**	**1.14**	**193**	eP	Pn	21 10 35.4	+0.1
SHUL				i S	Sn	21 10 52.3	0.0
YOJ	**Yonaguni jima**	**1.14**	**112**	P	Pn	21 10 35.4	+0.2
YOJ	**Yonaguni jima**	**1.14**	**112**	eP	Pn	21 10 35.5	+0.2
ESL	**Shilin**	**1.15**	**199**	eP	Pn	21 10 34.3	-1.0
WCS	**Beigang Elemen**	**1.20**	**226**	eP	Pn	21 10 36.5	+0.6
WDJ	**Dajia District**	**1.23**	**244**	eP	Pn	21 10 36.9	+0.6
WDJ				i S	Sn	21 10 54.8	+0.7
WARBT	**Fenglin Townsh**	**1.25**	**200**	eP	Pn	21 10 35.5	-1.0
WARBT				eS	Sn	21 10 52.9	-1.7
EGFH	**Guangfu**	**1.28**	**198**	eP	Pn	21 10 37.0	+0.1
VWDT	**VWDT**	**1.31**	**210**	i P	Pn	21 10 38.2	+1.0
VWDT				S	Sn	21 10 56.5	+0.8
SMLT	**Sun Moon Lake**	**1.33**	**221**	eP	Pn	21 10 38.0	+0.4
SMLT				i S	Sn	21 10 56.7	+0.4
TYC	**Yuchr**	**1.34**	**223**	eP	Pn	21 10 38.0	+0.4
TYC				i S	Sn	21 10 56.4	0.0
SSLB	**Suanglung**	**1.38**	**217**	i P	Pn	21 10 38.5	+0.5
SSLB				S	Sn	21 10 57.6	+0.4
HGSD	**Ruisui**	**1.45**	**196**	P	Pn	21 10 38.8	-0.1
HGSD				eS	Sn	21 10 58.9	+0.2
EHY	**Hungye**	**1.47**	**199**	eP	Pn	21 10 40.0	+0.9
EHY				eS	Sn	21 10 57.6	-1.5
WNT	**Mingjian**	**1.47**	**227**	eP	Pn	21 10 39.6	+0.5
WNT				eS	Sn	21 10 59.7	+0.6
EHYH	**Wanrong**	**1.47**	**198**	eP	Pn	21 10 39.5	+0.3
WHYT	**Xinyi Township**	**1.50**	**217**	i P	Pn	21 10 40.5	+0.9
WHYT				i S	Sn	21 11 00.4	+0.5
YULB	**Yu-li**	**1.58**	**199**	eP	Pn	21 10 40.4	-0.1
YULB				i S	Sn	21 11 00.9	-0.6
ECBN	**Changbin**	**1.62**	**193**	eS	Sn	21 11 02.0	-0.3
TWF1	**Yuli**	**1.62**	**198**	eP	Pn	21 10 40.3	-0.7
YUS	**Yu-Shan**	**1.62**	**210**	eP	Pn	21 10 42.8	+1.4
YUS				eS	Sn	21 11 04.8	+1.6
ALS	**Alishan**	**1.68**	**215**	eP	Pn	21 10 42.7	+0.8
ALS				i S	Sn	21 11 05.3	+1.2
WDL	**Douliou City**	**1.68**	**226**	eS	Sn	21 11 04.8	+1.2
CHN5	**Tsauling**	**1.68**	**220**	P	Pn	21 10 42.4	+0.7
CHN5				i S	Sn	21 11 04.6	+0.8
WGK	**Gukeng**	**1.69**	**224**	eP	Pn	21 10 41.7	0.0
WGK				eS	Sn	21 11 04.3	+0.6
WDLH	**Douliu**	**1.70**	**225**	eP	Pn	21 10 42.6	+0.7
WDLH				i S	Sn	21 11 04.3	+0.3
CHKH	**Chenggong**	**1.75**	**194**	eS	Sn	21 11 04.4	-0.8
FULB	**Fuli**	**1.77**	**197**	eP	Pn	21 10 43.3	+0.5
FULB				eS	Sn	21 11 06.1	+0.5
WTK	**Tuku**	**1.80**	**228**	P	Pn	21 10 43.3	+0.2
WTK				S	Sn	21 11 05.5	-0.7
IRIF	**Iriomote-Funau**	**1.80**	**108**	P	Pn	21 10 43.5	+0.4
IRIF				eS	Sn	21 11 06.0	-0.3
CHKT	**Chengkung**	**1.85**	**194**	eS	Sn	21 11 06.0	-1.2
WCKO	**Fanlu**	**1.85**	**218**	i P	Pn	21 10 44.7	+1.0
WCKO				i S	Sn	21 11 08.2	+0.9
CHN2	**Minshiung**	**1.85**	**223**	eS	Sn	21 11 08.6	+1.2
ELDTW	**Lidau**	**1.86**	**204**	eP	Pn	21 10 44.9	+0.9
ELDTW				S	Sn	21 11 08.2	+0.3
CHY	**Chiayi**	**1.91**	**223**	P	Pn	21 10 44.9	+0.4
CHY				S	Sn	21 11 08.7	+0.1
CHN4	**Tsaushan**	**1.92**	**217**	eP	Pn	21 10 45.5	+0.8
TPUB	**Ta-pu**	**1.94**	**215**	eP	Pn	21 10 45.4	+0.5
TPUB				S	Sn	21 11 09.6	0.0
WSF	**Szhu**	**1.94**	**230**	eS	Sn	21 11 10.1	+0.6
STYH	**Taoyuan**	**1.98**	**210**	eP	Pn	21 10 46.4	+1.0
EDH	**Donghe**	**1.98**	**195**	P	Pn	21 10 46.1	+0.7
EDH				S	Sn	21 11 09.4	-0.9
WTP	**Ta-pu**	**2.00**	**215**	eP	Pn	21 10 46.7	+1.0
WTP				eS	Sn	21 11 10.6	-0.1
WSL	**Shuilin Townsh**	**2.02**	**228**	eP	Pn	21 10 46.0	+0.2
WSL				i S	Sn	21 11 09.9	-1.2
TWK	**Hsinying**	**2.05**	**218**	eP	Pn	21 10 46.7	+0.4
JKRS	**Kuro-shima**	**2.07**	**108**	eP	Pn	21 10 47.3	+0.7
JKRS				eS	Sn	21 11 12.5	0.0
LONT	**Longtian**	**2.09**	**199**	eP	Pn	21 10 46.5	-0.4
LONT				eS	Sn	21 11 12.0	-0.8
CHN1	**Nanshi**	**2.09**	**216**	eP	Pn	21 10 47.3	+0.5
CHN1				S	Sn	21 11 12.8	-0.1
MATB	**Ma-tsu**	**2.12**	**306**	eP	Pn	21 10 47.4	+0.2
SGST	**Jiashian**	**2.15**	**213**	eS	Sn	21 11 13.3	-0.9
CHN8	**Yiju**	**2.15**	**224**	eP	Pn	21 10 47.8	+0.3
CHN8				S	Sn	21 11 14.7	+0.5
JIJ	**Ishigaki jima**	**2.15**	**104**	P	Pn	21 10 47.8	+0.2
JIJ				S	Sn	21 11 13.2	-1.1
TWG	**Pinlang**	**2.19**	**199**	eS	Sn	21 11 13.6	-1.5
TWGBT	**Beinan**	**2.19**	**199**	eS	Sn	21 11 13.7	-1.4
LDUT	**Ludao**	**2.24**	**189**	eS	Sn	21 11 14.2	-2.1
JISG	**Ishigakijimahi**	**2.26**	**97**	P	Pn	21 10 49.6	+0.6
JISG				eS	Sn	21 11 16.4	-0.3
CHN3	**Shinhua**	**2.27**	**217**	eS	Sn	21 11 16.3	-0.6
SCLT	**Jiali**	**2.29**	**222**	eS	Sn	21 11 17.9	+0.5
SCST	**Cishan**	**2.36**	**212**	eP	Pn	21 10 51.5	+1.3
TAI1	**Yung-k'ang**	**2.37**	**219**	eS	Sn	21 11 18.7	-0.6
TSCK	**Chigu Township**	**2.38**	**223**	i P	Pn	21 10 51.0	+0.5
TSCK				S	Sn	21 11 18.9	-0.5
ECL	**Taimali**	**2.43**	**200**	eP	Pn	21 10 51.0	-0.2
ECL				eS	Sn	21 11 19.9	-0.8
PTMZ	**Houxiangcun**	**2.48**	**274**	eP	Pn	21 10 52.0	+0.2
PTMZ				eS	Sn	21 11 21.0	-0.8
PHUB	**P'eng-hu**	**2.50**	**237**	eP	Pn	21 10 51.5	-0.5
PHUB				i S	Sn	21 11 20.0	-2.2
MASBT	**Mashibuluo**	**2.54**	**206**	eP	Pn	21 10 53.8	+1.2
MASBT				S	Sn	21 11 23.6	+0.5
AXDP	**Jialang**	**3.52**	**271**	eP	Pn	21 11 06.0	+0.4
AXDP				eS	Sn	21 11 44.9	-1.6

*IDC **15** 21:16:36.8±1.0, 56°.14N×113°.94E, h0km, mb3.7/5, mbtmp3.8/10, ML4.1/4, MS3.2/1, Error ellipse: s-maj=18.7km s-min=12.6km az=140.0*
*MOS **15** 21:16:36.7±1.9, 56°.19N×114°.10E, h12km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=6.6km az=66.5*
*BYKL **15** 21:16:38.9±0.1, 56°.28N×114°.09E, h19km±2km*
ISC 15 21:16:36.3±1.0, **56°.17N**±0°.03×**114°.07E**±0°.02, **h4**km±7km, **n77**, σ2°.35/132, **mb3.8**/7, **8C-15D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.29**	**259**	⇓i Pg	**Pb**	**21 16 46.0**	**+1.8**
SVKR				Pmax		21 16 46.2	
2μm,0.1s							
SVKR				eSg	**Sb**	**21 16 50.8**	**+1.4**
SVKR				Smax		21 16 52.9	
23μm,0.5s							
SVKR	**Severomuysk**	**0.29**	**259**	⇓i PG	**Pb**	**21 16 46.0**	**+1.8**
SVKR				e		21 16 50.8	
SVKR				pmax	pmax		
comp=Z,3μm,0.3s							
SVKR				smax	smax		
comp=N,23μm,0.6s							
UKT	**Uakit**	**0.73**	**200**	⇑i Pg	**Pn**	**21 16 54.5**	**+1.0**
UKT				Pmax		21 16 58.4	
comp=N,194nm,0.5s							
UKT				eSg	**Sn**	**21 17 05.8**	**+0.6**
UKT				Smax		21 17 07.5	
comp=N,5μm,0.4s							
UKT	**Uakit**	**0.73**	**200**	⇑i PG	**Pn**	**21 16 54.5**	**+1.0**
UKT				e		21 17 04.4	
UKT				pmax	pmax		
comp=Z,82nm,0.2s							
UKT				smax	smax		
comp=E,5μm,0.2s							
NLYR	**Nelyaty**	**0.96**	**70**	⇓i Pg	**Pg**	**21 16 56.2**	**+1.5**
NLYR				Pmax		21 16 56.8	
comp=E,491nm,0.5s							
NLY

comp=N,852nm,0.6s
VTMR Vitim 3.38 347 *e*Pn **Pn 21 17 29.7 0.0**
VTMR *e*Pg **Pb 21 17 37.3 +0.7**
VTMR *e*PgPg **PbPb 21 17 39.5 -0.3**
VTMR *e* 21 18 04.8
VTMR *e*Sg **Sb 21 18 19.0 +1.0**
SYVR Suvo 3.45 225⇓ *i*Pn **Pn 21 17 33.5 +2.8**
SYVR *e*Pg **Pb 21 17 42.1 +4.2**
SYVR Pmax 21 17 43.8
comp=N,78nm,0.7s
SYVR *e*Sg **Sg 21 18 28.0 +1.1**
SYVR Smax 21 18 34.2
comp=N,792nm,0.8s
TUP Tupik 3.79 115⇑ *i*Pn **Pn 21 17 37.2 +1.7**
TUP *e*Pg **Pb 21 17 47.5 +3.7**
TUP Pmax 21 17 49.0
comp=N,136nm,0.6s
TUP *e*Sn **Sn 21 18 19.9 -0.6**
TUP *e*Sg **Sg 21 18 37.0 -1.0**
TUP Smax 21 18 43.2
comp=N,844nm,0.5s
TUP Tupik 3.79 115⇑ *i*PN **Pn 21 17 37.2 +1.7**
TUP *e* 21 17 48.1
TUP *e*S **Sn 21 18 21.1 +0.6**
TUP *e* 21 18 37.2
TUP pmax pmax
comp=Z,136nm,0.8s
TUP smax smax
comp=N,845nm,0.6s
CIT Chita 4.17 184 *e*Pn **Pn 21 17 44.2 +3.4**
CIT *e* 21 17 49.4
CIT *e*Pg **Pg 21 17 56.2 0.0**
CIT Pmax 21 18 03.5
comp=N,92nm,0.4s
CIT *e*Sg **Sg 21 18 51.9 +1.7**
CIT Smax 21 18 57.3
comp=N,878nm,0.2s
CIT Chita 4.17 184 *e*PN **Pn 21 17 42.0 +1.2**
CIT *e* 21 17 55.2
CIT *e* 21 18 50.3
CIT pmax pmax
comp=Z,93nm,0.7s
CIT smax smax
comp=E,889nm,0.2s
YKLR Yuktali 4.24 81 *e*Pn **Pn 21 17 43.3 +1.7**
YKLR *e*Pg **Pb 21 17 54.3 +3.0**
YKLR *e*Sn **Sn 21 18 29.9 -1.6**
YKLR *e*Sg **Sg 21 18 48.7 -3.5**
MXMB Maximikha 4.25 229 *e*Pn **Pn 21 17 44.5 +2.8**
MXMB *e*Pg **Pg 21 17 56.9 -0.7**
MXMB *e*Sn **Sn 21 18 33.3 +1.6**
MXMB *e*Sg **Sg 21 18 53.6 +1.0**
OGRR Ongureny 4.52 239⇓ *i*Pn **Pn 21 17 47.9 +2.5**
OGRR *e* 21 17 57.0
OGRR *e*Pg **Pg 21 18 01.6 -1.1**
OGRR Pmax 21 18 02.1
comp=E,40nm,0.7s
OGRR *e* 21 18 35.6
OGRR *e*Sg **Sg 21 19 00.9 -0.3**
OGRR Smax 21 19 06.4
comp=E,219nm,1.3s
OGRR Ongureny 4.52 239 *e*PN **Pn 21 17 47.9 +2.5**
OGRR *e* 21 18 00.7
OGRR *e* 21 19 01.0
OGRR pmax pmax
comp=Z,40nm,1.6s
OGRR smax smax
comp=N,240nm,1.8s
GORB Goryachinsk 4.64 229 Smax 21 17 49.8
GORB Smax 21 18 03.7
GORB *e*Sg **Sg 21 19 04.6 -0.6**
KELR Kotokel 4.89 228 *e*Pn **Pn 21 17 53.2 +2.6**
KELR *e* 21 18 10.1
KELR *e*Sn **Sn 21 18 48.8 +1.2**
KELR *e*Sg **Sg 21 19 12.9 -0.3**
ZRHB Zarechye 5.43 231 *e*Pg **Pg 21 18 18.3 -2.0**
ZRHB Pmax 21 18 40.0
comp=N,70nm,0.7s
ZRHB *e*Sn **Sn 21 19 00.8 -0.1**
ZRHB *e*Sg **Sg 21 19 29.8 -0.8**
ZRHB Smax 21 19 46.1
comp=N,635nm,1.0s
TRG Tyrgan 5.65 236 *e*Pn **Pn 21 18 03.6 +2.5**
TRG *e* 21 18 13.4
TRG *e*Pg Pb 21 18 21.4 +5.9
TRG Pmax 21 18 23.1
comp=N,20nm,0.7s
TRG *e*Sn **Sn 21 19 05.8 -0.6**
TRG *e*Sg **Sg 21 19 35.2 -2.5**
TRG Smax 21 19 41.1
comp=N,141nm,1.0s
TRG *e* 21 19 51.5
TRG Tyrgan 5.65 236 *e*PN **Pn 21 18 04.2 +3.1**
TRG *e* 21 18 21.8
TRG *e* 21 19 36.9
TRG pmax pmax
comp=Z,20nm,0.7s
TRG smax smax
comp=E,111nm,0.6s
UUDB Ulan-Yde 5.73 224 *e*Pn **Pn 21 18 04.9 +2.7**
UUDB *e* 21 18 13.3
UUDB *e*Pg **Pg 21 18 24.0 -2.0**
UUDB Pmax 21 18 46.0
comp=E,67nm,0.1s
UUDB *e* 21 19 24.3
UUDB *e*Sg **Sg 21 19 39.6 -0.7**
UUDB Smax 21 19 43.9
comp=E,342nm,0.9s
FFNB Fofonovo 5.96 229 *e*Pg Pb 21 18 27.3 +6.6
FFNB *e*Sg **Sg 21 19 45.8 -1.8**
CLNS Chul'man 6.03 79 *e* **Pg 21 18 32.1 +0.4**
CLNS *e*Sg **Sg 21 19 43.9 -5.9**
HRMR Khuramsha 6.20 226 *e*Pn **Pn 21 18 11.2 +2.7**
HRMR *e* 21 18 19.0
HRMR *e*Pg Pg 21 18 32.1 -2.8
HRMR Pmax 21 18 40.8
comp=E,61nm,0.8s
HRMR *e* 21 19 36.4
HRMR *e*Sg **Sg 21 19 53.6 -1.5**
HRMR Smax 21 20 06.6
comp=E,356nm,0.9s
VBR Suhoy Ruchey 6.46 231 *e*Sg **Sg 21 20 00.6 -3.0**
BGT Bolshoye Golou 6.56 235 *e*Pg Pb 21 18 37.8 +6.9
BGT Pmax 21 18 41.0
comp=E,13nm,0.6s
BGT *e*Sg **Sg 21 20 03.5 -3.3**
BGT Smax 21 20 12.5
comp=E,101nm,1.1s
KPC Khapcheranga 6.56 190 *e*Pn **Pn 21 18 17.0 +3.4**
KPC *e*Pg Pg 21 18 39.2 -2.7
KPC Pmax 21 19 11.9
comp=E,17nm,0.8s
KPC *e*Sn **Sn 21 19 28.2 -0.6**
KPC *e*Sg **Sg 21 20 06.1 -0.7**
KPC Smax 21 20 10.9
comp=E,314nm,1.1s
KPC Khapcheranga 6.56 190 *e*PN **Pn 21 18 15.3 +1.7**
KPC *e* 21 18 37.5
KPC *e*S **Sn 21 19 28.9 +0.1**
KPC *e* 21 20 04.9
KPC pmax pmax
comp=Z,6.0nm,0.5s
KPC smax smax
comp=E,314nm,1.2s
LSTR Listvyanka 6.94 235 *e*Pg Pb 21 18 44.2 +6.8
LSTR Pmax 21 19 04.6
comp=E,21nm,1.3s
LSTR *e* 21 19 45.1
LSTR *e*Sg **Sg 21 20 14.8 -4.2**
LSTR Smax 21 20 20.9
comp=E,89nm,1.6s
IRK Irkutsk 6.96 240 *e*Sg **Sg 21 20 16.7 -3.0**
IRK Smax 21 20 31.4
comp=E,188nm,1.0s
IVK Ivanovka 7.18 236 *e*Pg Pg 21 18 50.2 -3.5
IVK Pmax 21 19 09.0
comp=E,31nm,1.1s
IVK *e*Sn **Sn 21 19 43.7 -0.3**
IVK *e*Sg **Sg 21 20 23.5 -3.2**
IVK Smax 21 20 40.5
comp=E,169nm,1.2s
HILR Hailar Array B 7.46 150 Pn **Pn 21 18 25.8 -0.1**
baz=327,slow=14
HILR Pg Pb 21 18 53.8 +7.5
baz=334,slow=15
HILR Sn **Sn 21 19 48.8 -2.2**
baz=64,slow=18
HILR Lg Lg 21 20 32.4
baz=338,slow=30
HILR LR LR 21 21 39.4
comp=E,157nm,19.3s,baz=20,slow=40
comp=E,4.7nm,0.3s
TLY Talaya 7.62 238 *e* Pg 21 18 59.2 -3.0
TLY max 21 19 00.0
comp=E,10.0nm,0.4s
TLY *e*Sg **Sg 21 20 35.6 -5.2**
TLY Smax 21 20 49.1
comp=E,59nm,0.8s
HIA Hailar 7.72 151 *e*Sg **Sg 21 20 39.8 -4.3**
HIA Smax 21 20 49.5
comp=E,158nm,1.9s
HIA Hailar 7.72 151⇑ *e*PN **Pn 21 18 31.2 +1.7**
HIA pmax pmax
comp=Z,4.0nm,0.8s
ZEA Zeya 7.97 102 *e*PN **Pn 21 18 35.2 +2.4**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ARS Arshan 8.07 243 *e*Pn **Pn 21 18 37.6 +3.4**
ARS *e*Pg Pb 21 19 05.2 +8.6
ARS Pmax 21 19 40.3
comp=Z,28nm,0.5s
ARS *e* 21 20 24.8
ARS *e*Sg **Sg 21 20 49.7 -5.4**
ARS Smax 21 20 52.4
comp=Z,222nm,0.9s
ZAK Zakamensk 8.68 233 *e*Pn **Pn 21 18 45.5 +2.8**
ZAK max 21 19 47.4
comp=Z,10.0nm,0.6s
ZAK *e*Sg **Sg 21 21 10.1 -4.6**
ZAK Smax 21 22 11.9
comp=Z,73nm,1.6s
MOY Mondy 8.94 245 *e*Pn **Pn 21 18 48.6 +2.4**
MOY *e* 21 18 57.4
MOY max 21 19 13.6
comp=Z,16nm,1.4s
MOY *e* 21 20 48.1
MOY *e*Sg **Sg 21 21 16.4 -6.5**
MOY Smax 21 21 32.6
comp=Z,98nm,1.3s
MOY Mondy 8.94 245 *e*PN **Pn 21 18 48.3 +2.1**
MOY *e* 21 19 18.4
MOY *e* 21 21 18.3
MOY pmax pmax
comp=Z,10.0nm,0.7s
MOY smax smax
comp=N,98nm,1.3s
ORL Orlik 9.09 252 *e*Pn **Pn 21 18 50.3 +2.1**
ORL *e*Pg 21 19 24.1
ORL Pmax 21 19 30.5
comp=N,11nm,1.1s
ORL *e* 21 20 47.2
ORL *e*Sg Sn 21 21 21.8 +51
ORL Smax 21 21 27.5
comp=N,109nm,1.3s
ULN Ulaanbaatar 9.37 210 *e*Pg Pn 21 19 31.0 +39
ULN *e*Pg 21 19 48.6
comp=N,6.0nm,0.4s
ULN *e*Sg Sn 21 21 33.9 +56
ULN Smax 21 21 47.8
comp=N,161nm,1.4s
ULN Ulaanbaatar 9.37 210⇓ *e*P **Pn 21 18 52.6 +0.4**
SONM Songino Array 9.59 213 Pn **Pn 21 18 57.0 +1.8**
comp=N,0.5nm,0.3s,baz=23,slow=13,SNR=11
SONM Lg Lg 21 21 39.6
comp=N,2.8nm,0.3s,baz=26,slow=25,SNR=12
comp=N,0.7nm,0.3s
SONM Songino Array 9.59 213 P **Pn 21 18 57.0 +1.8**
YAK Yakutsk 9.93 47 Pn **Pn 21 18 59.0 -0.5**
comp=N,0.9nm,0.3s,baz=84,slow=0.6,SNR=1.6
YAK Sn **Sn 21 20 45.6 -5.7**
baz=226,slow=23
YAK Lg Lg 21 21 41.0
comp=N,1.8nm,0.3s,baz=208,slow=22,SNR=7.2
comp=N,3.9nm,0.4s
YAK Yakutsk 9.93 47⇓ *e*P **Pn 21 18 59.8 +0.2**
HEH HeiHe 9.95 121 *e*P **Pn 21 19 01.3 +1.4**
HEH S **Sn 21 20 49.3 -2.7**
HEH smax smax
comp=N,120nm,0.9s
HEH smax smax
comp=E,100nm,1.2s
MINR Mina 11.33 272 *e* **Pn 21 19 18.7 -0.1**
MINR *e*Sn **Sn 21 21 22.0 -3.7**
MINR *e*Sg 21 22 29.4
KNGR Kungurtug, Tuv 11.34 247 *e*Pn **Pn 21 19 23.1 +4.1**
KNGR *e* 21 19 50.7
KNGR *e*Sg 21 22 31.2
KNGR Kungurtug, Tuv 11.34 247⇑ *e*P **Pn 21 19 18.8 -0.2**
TIXI Tiksi 16.75 16 Pn **Pn 21 20 26.4 -5.0**
comp=E,0.8nm,0.3s,baz=223,slow=12,SNR=11
comp=E,1.4nm,0.5s
TIXI Tiksi 16.75 16⇓ *e*P **Pn 21 20 30.8 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 16.85 275 Pn **Pn 21 20 32.6 -0.2**
comp=Z,0.3nm,0.3s,baz=54,slow=14,SNR=2.1
ZALV Lg Lg 21 25 25.9
comp=Z,0.3nm,0.3s,baz=83,slow=24,SNR=2.3
SEY Seymchan 20.30 55⇓ *e*P **P 21 21 11.4 -1.3**
SEY pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 21.64 270⇓ *e*P **P 21 21 29.0 +1.7**
KURK pmax pmax
comp=Z,5.0nm,1.5s
MK31 Makanchi Array 21.72 258 *c*e**P P 21 21 29.6 +1.3**
MKAR Makanchi Array 21.72 258 P P 21 21 29.6 +1.3
comp=Z,1.3nm,0.6s,baz=49,slow=6.8,SNR=19
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 21.72 258 *i* P **P 21 21 30.0 +1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KURBB **Kurchatov Arra 21.73 270** P **P 21 21 29.3 +1.0**
comp=Z,2.5nm,0.7s,baz=67,slow=11,SNR=10
comp=Z,2.5nm,0.7s
BORK Borovoye 25.21 281⇑ *e*P **P 21 22 04.4 +1.6**
BORK pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 42.57 315 P **P 21 24 32.1 -0.6**
comp=Z,1.2nm,0.6s,baz=61,slow=5.5,SNR=5.3
comp=Z,1.2nm,0.6s
FINES FINESS Array B 42.57 315 *i* P **P 21 24 32.7 0.0**
FINES pmax pmax
comp=Z,4.0nm,1.1s
ILAR Eielson Array 44.66 37 P **P 21 24 50.2 +0.7**
comp=Z,0.3nm,0.8s,baz=321,slow=6.5,SNR=3.0
comp=Z,0.3nm,0.8s
ESDC Sonseca Array 71.08 314 P **P 21 27 55.7 +0.3**
comp=Z,1.1nm,0.7s,baz=17,slow=5.8,SNR=6.8
comp=Z,1.1nm,0.7s

IDC 15 21:31:51.6±4.0, 21°.64S×178°.12W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=104.7km s-min=37.1km az=29.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.20**	**245**	P	P	21 39 04.2	-0.6
	1.1nm,0.4s,baz=86,slow=8.9,SNR=4.6						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**44.16**	**258**	P	P	21 40 02.3	-0.1
	2.1nm,0.6s,baz=100,slow=7.0,SNR=26						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**44.34**	**263**	P	P	21 40 04.1	+0.2
	2.6nm,0.6s,baz=103,slow=8.4,SNR=29						
	2.6nm,0.6s						
QSPA	**South Pole Qui**	**68.43**	**180**	P	P	21 42 55.6	+0.4
	1.4nm,0.8s,baz=35,slow=4.1,SNR=10						
	1.4nm,0.8s						
HFS	**Hagfors**	**140.64**	**351**	PKP	PKPdf	21 51 19.8	-2.9
	0.9nm,0.3s,baz=30,slow=3.8,SNR=7.5						

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*IDC **15** 21:39:58.5±1.8, 1°.17N×97°.07E, h0km, mb4.0/9, mbtmp4.0/11, ML4.3/2, MS2.8/1, Error ellipse: s-maj=57.1km s-min=20.4km az=57.0*
*NEIC **15** 21:40:00.1±1.6, 1°.09N±0°.09×96°.90E±0°.05, h10km±1km, mb4.3/11, Error ellipse: s-maj=16.5km s-min=6.5km az=162.0*
*DJA **15** 21:40:02.8±0.9, 1°.N±4°×9°.7E±°, h28km±8km, M3.9/11, mb3.9/2, MLv4.0/11*

ISC 15 21:40:01.9±0.8, 1°.21N±0°.08×97°.03E±0°.07, h25km, n49, σ1°.71/40, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.55**	**80**		**Pn**	**21 40 14.2**	**-0.1**
GSI					**Sn**	**21 40 22.9**	**+0.3**
GSI	**Gunungsitoli**	**0.55**	**80**	P	**Pn**	**21 40 14.1**	**-0.1**
SNSI	**Sinabang, Aceh**	**1.39**	**329**	P	**Pn**	**21 40 25.2**	**-0.5**
PBSI	**Pulau Batu**	**1.77**	**135**	P	**Pb**	**21 40 31.6**	**-2.1**
KCSI	**Kotacane, Aceh**	**2.42**	**18**	P	**Pn**	**21 40 38.7**	**-1.2**
PSI	**Prapat**	**2.47**	**50**	LR	LR	21 41 16.8	
	comp=Z,164nm,18.6s,baz=296,slow=33						
MNSI	**Mandailing Nat**	**2.58**	**99**	P	**Pn**	**21 40 42.5**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.10**	**348**	P	**Pn**	**21 40 48.8**	**-0.5**
BKNI	**Bangkinang**	**4.10**	**102**	Pn	**Pn**	**21 41 05.4**	**+2.3**
IPM	**Ipoh**	**5.14**	**51**		**Pn**	**21 41 16.5**	**-0.9**
KULM	**Kulim**	**5.43**	**42**		**Pn**	**21 41 21.2**	**-0.1**
CMBY	**CAMPBELL BAY**	**6.54**	**332**	*e*P	**Pn**	**21 41 37.6**	**+0.9**
CMBY				*e*S	**Sn**	**21 42 50.6**	**+0.1**
CMBY				IAML		21 44 21.5	
	comp=N,85nm,0.8s						
CMBY				IAML		21 44 29.1	
	comp=E,86nm,0.2s						
PBA	**Port Blair**	**11.22**	**338**	*e*P	**Pn**	**21 42 40.1**	**-0.7**
PBA				IAML		21 44 14.7	
	comp=N,191nm,0.8s						
PBA				IAML		21 44 15.6	
	comp=E,196nm,0.6s						
PBA				*e*S	**Sn**	**21 44 38.8**	**-6.7**
LEM	**Lembang**	**13.24**	**127**	Pn	**Pn**	**21 43 06.0**	**-2.6**
	comp=E,2.1nm,0.3s,baz=295,slow=14,SNR=5.0						
	comp=E,19nm,0.8s						
SBUM	**Sibu**	**15.23**	**85**	Pn	**Pn**	**21 43 36.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**Pn**	**21 43 59.5**	**-1.7**
	comp=E,0.3nm,0.3s,baz=192,slow=9.4,SNR=5.2						
	comp=E,0.5nm,0.3s						
IMP	**Imphal**	**23.67**	**353**	IAmb	IAmb	21 44 22.9	
	comp=Z,2.3nm,1.1s						
IMP				*e*P	**P**	**21 45 13.5**	**+1.7**
IMP				*e*S	**S**	**21 49 30.0**	**+4.6**
KOHI	**KOHIMA**	**24.53**	**354**	*e*P	**P**	**21 45 22.5**	**+2.7**
KOHI				IAmb	IAmb	21 45 23.4	
	comp=Z,6.2nm,0.2s						
SHL	**Shillong**	**24.72**	**349**	P	**P**	**21 45 21.3**	**-0.3**
H08S2	**Diego Garcia H**	**26.01**	**250**	T	T	22 12 32.6	
	baz=71,slow=75,SNR=585						
H08S3	**Diego Garcia H**	**26.01**	**250**	T	T	22 12 34.8	
	baz=71,slow=75,SNR=1003						
H08S1	**Diego Garcia H**	**26.02**	**250**	T	T	22 12 34.5	
	baz=71,slow=75,SNR=686						
H01W3	**Cape Leeuwin H**	**39.32**	**158**	T	T	22 28 57.8	
	baz=333,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**39.33**	**158**	T	T	22 29 12.1	
	baz=333,slow=76,SNR=9.3						
H01W1	**Cape Leeuwin H**	**39.33**	**158**	T	T	22 29 06.0	
	baz=333,slow=76,SNR=12						
WB0	**Warramunga Arr**	**42.15**	**122**	P	**P**	**21 47 52.6**	**-0.1**
WB0				IAmb	IAmb	21 47 57.9	
	comp=Z,5.6nm,1.4s						
WRA	**Warramunga Arr**	**42.18**	**122**	P	**P**	**21 47 52.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=297,slow=7.9,SNR=1.6						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**21 48 04.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=299,slow=8.8,SNR=1.8						
	comp=Z,0.3nm,0.8s						
DRK	**Karamyk**	**44.51**	**332**	P	**P**	**21 48 13.1**	**+1.3**
DRK				IAmb	IAmb	21 48 14.7	
	comp=Z,5.9nm,0.8s						
KSRS	**Korea Array**	**45.94**	**35**	P	**P**	**21 48 23.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=213,slow=11,SNR=5.3						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**21 48 32.0**	**-0.4**
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**21 48 32.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=187,slow=10,SNR=6.9						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**21 48 33.4**	**+0.9**
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**21 48 33.8**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=159,slow=8.9,SNR=12						
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**47.28**	**346**	P	**P**	**21 48 33.9**	**+0.7**
MAKZ				IAmb	IAmb	21 48 59.1	
	comp=Z,2.8nm,1.1s						
KURBB	**Kurchatov Arra**	**51.68**	**345**	P	**P**	**21 49 07.3**	**+0.6**
	comp=Z,4.5nm,0.2s,baz=165,slow=7.5,SNR=1.6						
	comp=Z,4.5nm,0.2s						
USRK	**Ussurisk Ar.**	**52.85**	**31**	P	**P**	**21 49 16.6**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=239,slow=18,SNR=4.3						
	comp=Z,2.8nm,0.7s						
ZAA0	**Zalesovo Array**	**53.52**	**351**	P	**P**	**21 49 20.5**	**+0.2**
ZAA0				IAmb	IAmb	21 49 21.8	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**53.52**	**351**	P	**P**	**21 49 20.7**	**+0.4**
ZALV	**Zalesovo Beam**	**53.52**	**351**	P	**P**	**21 49 21.0**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=176,slow=6.4,SNR=13						
	comp=Z,1.8nm,0.5s						
AB31	**Akbulak array**	**57.43**	**332**	P	**P**	**21 49 48.9**	**+0.4**
AB31				IAmb	IAmb	21 49 49.9	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**57.43**	**332**	P	**P**	**21 49 49.4**	**+0.9**
H04N2	**CROZET ISLANDS**	**61.69**	**214**	T	T	22 57 15.9	
	baz=54,slow=75,SNR=513						
H04N1	**CROZET ISLANDS**	**61.70**	**214**	T	T	22 57 16.4	
	baz=54,slow=75,SNR=416						
H04N3	**CROZET ISLANDS**	**61.70**	**214**	T	T	22 57 15.1	
	baz=54,slow=75,SNR=540						
H04S1	**CROZET ISLANDS**	**62.03**	**213**	T	T	22 57 38.3	
	baz=53,slow=75,SNR=65						
H04S3	**CROZET ISLANDS**	**62.04**	**213**	T	T	22 57 37.9	
	baz=53,slow=75,SNR=85						
H04S2	**CROZET ISLANDS**	**62.05**	**213**	T	T	22 57 39.5	
	baz=53,slow=75,SNR=87						
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**	**21 52 22.3**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=106,slow=6.9,SNR=5.0						
	comp=Z,1.5nm,1.0s						

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*IDC **15** 22:06:05.6±1.0, 2°.65S×138°.40E, h0km, mb3.6/5, mbtmp3.6/8, ML3.4/3, MS3.1/3, Error ellipse: s-maj=23.5km s-min=22.6km az=142.0*
*DJA **15** 22:06:08.7±0.5, 2°.S±7°×13°.8E±°, h10km, M3.7/6, MLv3.7/6*

ISC 15 22:06:07.2±0.7, 2°.66S±0°.08×138°.43E±0°.05, h10km, n15, σ1°.39/14, mb3.7/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.72**	**23**	P	**Pg**	**22 06 19.9**	**-1.2**
GENI	**Genyem**	**1.74**	**88**	P	**Pn**	**22 06 38.6**	**+1.1**
JAY	**Jayapura**	**2.28**	**86**	Pn	**Pn**	**22 06 45.8**	**+0.9**
	8.9nm,0.3s,baz=236,slow=10,SNR=26						
JAY				Sn	**Sn**	**22 07 16.0**	**+2.9**
	5.2nm,0.3s,baz=103,slow=18,SNR=3.6						
JAY				LR	LR	22 07 58.2	
	comp=Z,203nm,20.3s,baz=174,slow=49						
	38nm,0.6s						
JAY	**Jayapura**	**2.28**	**86**	P	**Pn**	**22 06 44.9**	**0.0**
SRPI	**Serui, Papua**	**2.32**	**290**	P	**Pn**	**22 06 47.0**	**+1.5**
BAKI	**Biak**	**2.74**	**302**	P	**Pn**	**22 06 52.5**	**+1.2**
WRA	**Warramunga Arr**	**17.64**	**193**	P	**Pn**	**22 10 11.8**	**-1.5**
	0.2nm,0.3s,baz=4.5,slow=12,SNR=11						
	0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.82**	**218**	P	**P**	**22 10 37.5**	**-0.7**
	baz=39,slow=11,SNR=2.4						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**21.34**	**191**	P	**P**	**22 10 54.7**	**0.0**
	0.8nm,0.7s,baz=20,slow=11,SNR=12						
	0.8nm,0.7s						
LEM	**Lembang**	**30.98**	**261**	LR	LR	22 28 30.3	
	comp=Z,40nm,18.3s,baz=300,slow=44						
CMAR	**Chiang Mai Arr**	**44.17**	**300**	P	**P**	**22 14 17.4**	**+0.7**
	0.6nm,0.5s,baz=116,slow=8.6,SNR=4.8						
	0.6nm,0.5s						
BRDH	**Bariadhala**	**52.12**	**301**	LR	LR	22 38 23.5	
	comp=Z,31nm,19.1s,baz=144,slow=37						
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**22 17 16.3**	**-0.2**
	1.0nm,0.8s,baz=108,slow=9.3,SNR=4.6						
	1.0nm,0.8s						
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**22 17 53.8**	**+0.5**
	0.6nm,0.7s,baz=310,slow=6.6,SNR=4.5						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**22 18 45.7**	**-1.4**
	0.3nm,0.8s,baz=284,slow=3.6,SNR=2.0						
	0.3nm,0.8s						

*NNC **15** 22:15:08.6±1.2, 41.°68N×80.°37E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=7.9km s-min=6.9km az=146.0*
*SOME **15** 22:15:08.3, 41.°65N×80.°33E, h10km*
*KRNET **15** 22:15:09.1±0.1, 41.°72N×80.°45E, mb3.0*
ISC 15 22:15:07.8±3.3, 41.°69N±0.°08×80.°57E±0.°09, h2km±23km, n28, σ0°99/46, 13C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 50nm,0.2s	**1.68**	**331**	P	**Pn**	**22 15 37.1**	**-1.2**
SHLS	194nm,0.3s			S	**Sn**	**22 15 58.1**	**-2.4**
SHLS	**Shalkode** 50nm,0.2s	**1.68**	**331**	*e*P	**Pn**	**22 15 37.1**	**-1.2**
SHLS	194nm,0.3s			*e*S	**Sn**	**22 15 58.1**	**-2.4**
PRZ	**Przheval'sk**	**1.80**	**297**⇑	*e*P	**Pn**	**22 15 40.5**	**+0.5**
PRZ			⇑	*e*S	**Sn**	**22 16 03.3**	**-0.2**
PDGK	**Podgornoye** 12nm,0.6s	**1.82**	**334**	⇓P	**Pn**	**22 15 40.9**	**+0.6**
PDGK	48nm,0.5s			⇑S	**Sn**	**22 16 04.7**	**+0.7**
UZB	**Uzynbulak** 12nm,0.3s	**1.85**	**322**	P	**Pn**	**22 15 41.6**	**+0.9**
UZB	41nm,0.2s			S	**Sn**	**22 16 05.6**	**+0.8**
UZB	**Uzynbulak** 12nm,0.3s	**1.85**	**322**	*e*P	**Pn**	**22 15 41.6**	**+0.9**
UZB	41nm,0.2s			*e*S	**Sn**	**22 16 05.6**	**+0.8**
TARG	**Taragay, Kyrgy**	**2.07**	**272**⇑	*e*P	**Pn**	**22 15 44.5**	**+0.5**
TARG			⇑	*e*S	**Sn**	**22 16 10.5**	**0.0**
SATY	**Saty** 6.0nm,0.5s	**2.11**	**311**	Pg	**Pn**	**22 15 45.7**	**+1.5**
SATY	47nm,0.3s			Lg	Lg	22 16 12.8	
KPKS	**Kokpek** 0.5nm,0.4s	**2.25**	**323**	Pg	**Pn**	**22 15 48.3**	**+2.1**
KPKS	198nm,0.4s			Lg	Lg	22 16 17.0	
KURS	**Kuram** 7.1nm,0.4s	**2.52**	**316**	Pg	**Pb**	**22 15 53.1**	**-0.7**
KURS	43nm,0.6s			Lg	Lg	22 16 25.7	
KDJ	**Kajisay**	**2.57**	**281**⇑	*e*P	**Pn**	**22 15 51.2**	**+0.6**
KDJ			⇑	*e*S	**Sn**	**22 16 22.0**	**-0.5**
KOTS	**Kotyrbulak** 7.5nm,0.3s	**2.99**	**302**	Pg	**Pb**	**22 16 01.1**	**-0.7**
KOTS	21nm,0.7s			Lg	Lg	22 16 39.3	
KOTS	**Kotyrbulak** 7.5nm,0.3s	**2.99**	**302**	*e*P	**Pb**	**22 16 01.1**	**-0.7**
KOTS	21nm,0.7s			*e*S	**Sb**	**22 16 39.3**	**+0.5**
MDOK	**Medeo** 3.0nm,0.3s	**2.99**	**301**	Pg	**Pb**	**22 16 00.4**	**-1.5**
MDOK	12nm,0.6s			Lg	Lg	22 16 38.1	
TNSS	**Tian-Shan** 2.2nm,0.3s	**3.00**	**298**	Pg	**Pb**	**22 16 01.4**	**-0.8**
TNSS	3.1nm,0.5s			Lg	Lg	22 16 39.3	
TNSS	**Tian-Shan** 2.2nm,0.3s	**3.00**	**298**	*e*P	**Pb**	**22 16 01.4**	**-0.8**
TNSS	3.1nm,0.5s			*e*S	**Sb**	**22 16 39.3**	**-0.2**
ARXS	**Arharly**	**3.23**	**322**	*e*P	**Pb**	**22 16 05.4**	**-0.4**
ARXS				*e*S	**Sb**	**22 16 46.3**	**+0.7**
ULHL	**Ulahol**	**3.27**	**281**⇑	*e*P	**Pn**	**22 16 01.2**	**+0.9**
ULHL			⇑	*e*S	**Sn**	**22 16 39.3**	**-0.7**
CHKK	**Chushkaly**	**3.41**	**311**	Pg	**Pb**	**22 16 08.4**	**-0.5**
CHKK				Lg	Lg	22 16 51.5	
CHKK	**Chushkaly** 2.3nm,0.1s	**3.41**	**311**	*e*P	**Pb**	**22 16 08.4**	**-0.5**
CHKK	16nm,0.2s			*e*S	**Sb**	**22 16 51.5**	**+0.7**
KTBS	**Karatobe** 5.7nm,0.4s	**3.50**	**306**	Pg	**Pb**	**22 16 10.3**	**-0.3**
KTBS	19nm,0.6s			Lg	Lg	22 16 55.0	
BOOM	**Boomskoye usch**	**3.54**	**285**⇑	*e*P	**Pn**	**22 16 04.7**	**+0.8**
BOOM			⇑	*e*S	**Sn**	**22 16 45.6**	**-0.8**
KST	**Kastek** 2.1nm,0.3s	**3.67**	**293**	Pg	**Pb**	**22 16 13.7**	**+0.2**
KST	9.1nm,0.6s			Lg	Lg	22 17 00.4	
KST	**Kastek** 1.0nm,0.2s	**3.67**	**293**	*e*P	**Pb**	**22 16 12.9**	**-0.5**
KST	12nm,0.6s			*e*S	**Sb**	**22 16 59.1**	**+0.6**
JNKS	**Jany-Kuch**	**3.75**	**262**⇓	*e*P	**Pn**	**22 16 07.7**	**+0.8**
JNKS			⇓	*e*S	**Sn**	**22 16 50.5**	**-1.3**
TKM2	**Tokmak 2**	**3.89**	**290**⇑	*e*P	**Pn**	**22 16 09.8**	**+1.0**
TKM2			⇑	*e*S	**Sn**	**22 16 54.4**	**-0.7**
KRBS	**Karabastau** 1.5nm,0.3s	**4.13**	**301**	Pg	**Pb**	**22 16 20.5**	**-0.7**
KRBS	1.9nm,0.5s			Lg	Lg	22 17 12.2	
MK31	**Makanchi Array** 0.2nm,0.3s,baz=201,slow=14,SNR=18	**5.25**	**13**	Pn	**Pn**	**22 16 27.8**	**+0.5**
MK31	0.3nm,0.3s,baz=203,slow=25,SNR=4.9			⇓Sn	**Sn**	**22 17 28.9**	**+0.5**
MK31	1.2nm,0.5s			⇓Lg	Lg	22 17 56.4	

IDC 15 22:16:13.7±7.6, 18.°29S×174.°79W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=347.1km s-min=68.3km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=98,slow=8.0,SNR=8.6 0.4nm,0.4s	**47.94**	**259**	P	P	22 24 54.4	0.0
ASAR	**Alice Springs** 0.6nm,0.3s,baz=88,slow=8.4,SNR=16 0.6nm,0.3s	**48.00**	**254**	P	P	22 24 54.7	-0.2
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=45,slow=4.3,SNR=2.6	**147.45**	**317**	PKPbc	PKPbc	22 35 59.2	-0.9

*IDC **15** 22:16:30.8±1.3, 15.°06N×123.°38E, h0km, mb3.4/7, mbtmp3.5/7, ML4.6/1, MS3.2/2, Error ellipse: s-maj=30.5km s-min=21.2km az=67.0*
ISC 15 22:16:35.4±1.2, 15.°1N±0.°1×123.°4E±0.°1, h33km, n16, σ0°81/9, mb3.5/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** 126nm,0.3s,baz=126,slow=9.3,SNR=5.0	**2.56**	**249**	Pn	**Pn**	**22 17 13.9**	**-0.8**
TGY	86nm,0.3s,baz=330,slow=19,SNR=3.8			Sn	**Sn**	**22 17 45.5**	**+0.8**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=101,slow=8.0,SNR=7.3 0.5nm,0.3s	**23.65**	**282**	P	**P**	**22 21 43.8**	**-0.2**
ASAJ	**Asahikawa** comp=Z,28nm,21.1s,baz=289,slow=35	**33.26**	**26**	LR	LR	22 36 00.6	
SONM	**Songino Array** 0.3nm,0.4s,baz=141,slow=9.3,SNR=2.0 0.3nm,0.4s	**35.59**	**340**	P	**P**	**22 23 30.6**	**+0.6**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=332,slow=10,SNR=1.9 0.3nm,0.8s	**36.41**	**162**	P	**P**	**22 23 36.9**	**-0.2**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=343,slow=8.6,SNR=2.0 0.2nm,0.5s	**39.83**	**165**	P	**P**	**22 24 06.5**	**+0.6**
H11S3	**WAKE ISLAND Hy** baz=272,slow=74,SNR=35	**41.52**	**79**	T	T	23 09 00.4	
H11S1	**WAKE ISLAND Hy** baz=272,slow=74,SNR=22	**41.54**	**79**	T	T	23 08 35.8	
H11S2	**WAKE ISLAND Hy** baz=272,slow=74,SNR=18	**41.54**	**79**	T	T	23 08 37.3	
H11N1	**WAKE ISLAND Hy** baz=266,slow=74	**41.69**	**77**	T	T	23 08 51.1	
H11N2	**WAKE ISLAND Hy** baz=266	**41.69**	**77**	T	T	23 08 51.7	
H11N3	**WAKE ISLAND Hy** baz=266,slow=74	**41.71**	**77**	T	T	23 08 52.2	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=99,slow=8.9,SNR=1.2 0.5nm,0.8s	**46.55**	**322**	P	**P**	**22 25 00.4**	**+0.4**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=103,slow=4.6,SNR=1.6	**49.11**	**331**	P	**P**	**22 25 18.4**	**-1.3**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=117,slow=8.7,SNR=3.3 0.7nm,0.6s	**50.57**	**324**	P	**P**	**22 25 31.0**	**+0.2**
KBZ	**Khabaz** comp=Z,23nm,19.4s,baz=2.5,slow=40	**72.94**	**312**	LR	LR	23 05 03.4	

*IDC **15** 22:23:08.3±2.3, 21.°99S×178.°20W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=60.9km s-min=40.0km az=26.0*
ISC 15 22:24:05.1±1.8, 22.°7S±0.°3×179.°6W±0.°3, h500km, n6, σ0°90/6, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.4nm,0.5s,baz=114,slow=7.2,SNR=3.1 1.4nm,0.5s	**35.57**	**247**	P	**P**	**22 30 19.1**	**-0.7**
ASAR	**Alice Springs** 2.3nm,0.8s,baz=99,slow=7.1,SNR=19 2.3nm,0.8s	**42.65**	**259**	P	**P**	**22 31 17.9**	**+0.7**
WRA	**Warramunga Arr** 2.5nm,0.4s,baz=103,slow=8.3,SNR=29 2.5nm,0.4s	**42.91**	**265**	P	**P**	**22 31 19.9**	**+0.6**
QSPA	**South Pole Qui** 1.7nm,1.0s,baz=32,slow=0.6,SNR=5.6 1.7nm,1.0s	**67.42**	**180**	P	**P**	**22 34 10.1**	**0.0**
HFS	**Hagfors** 3.1nm,1.0s,baz=36,slow=1.6,SNR=7.0	**141.40**	**349**	PKP	**PKPdf**	**22 42 38.7**	**+0.5**
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=48,slow=1.9,SNR=3.6	**147.13**	**309**	PKPbc	**PKPab**	**22 42 54.3**	**-0.9**

IDC 15 22:25:26.9±7.5, 5.°92S×149.°66E, h98km±52km, mb2.7/2, mbtmp3.3/3, Error ellipse: s-maj=128.1km s-min=53.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 13nm,0.3s,baz=33,slow=13,SNR=6.7	**4.26**	**215**	P	Pn	22 26 28.5	-1.1
PMG	13nm,0.4s,baz=334,slow=17,SNR=2.8			S	Sn	22 27 20.3	+2.1
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=51,slow=10.0,SNR=14 0.2nm,0.5s	**20.40**	**225**	P	P	22 29 54.8	-1.4
ASAR	**Alice Springs** 0.4nm,0.6s,baz=55,slow=9.4,SNR=5.8 0.4nm,0.6s	**23.27**	**219**	P	P	22 30 25.8	-0.3
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=61,slow=2.8,SNR=4.3	**147.63**	**285**	PKPbc	PKPbc	22 45 01.4	+0.3

*IDC **15** 22:33:13.0±1.1, 55.°47S×26.°89W, h0km, mb3.7/4, mbtmp3.5/5, ML2.7/1, MS3.1/2, Error ellipse: s-maj=49.6km s-min=24.1km az=80.0*
ISC 15 22:33:16.8±1.1, 55.°5S±0.°2×26.°9W±0.°3, h25km, n7, σ0°72/6, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** baz=306,slow=14,SNR=1.3	**19.18**	**157**	P	**P**	**22 37 37.4**	**-0.9**
SNAA	comp=Z,35nm,21.4s,baz=0.5,slow=33 0.3nm,0.9s			LR	LR	22 43 50.5	
QSPA	**South Pole Qui** 0.6nm,0.8s,baz=182,slow=5.4,SNR=6.0 0.6nm,0.8s	**34.76**	**180**	P	**P**	**22 40 05.1**	**+0.3**
VNDA	**Vanda** 0.7nm,0.9s,baz=169,slow=5.2,SNR=4.5 0.7nm,0.9s	**47.14**	**183**	P	**P**	**22 41 46.8**	**+0.5**
LPAZ	**La Paz** 1.0nm,0.7s,baz=174,slow=9.2,SNR=4.2 1.0nm,0.7s	**50.20**	**304**	P	**P**	**22 42 10.9**	**-0.2**
NNA	**Nana** comp=Z,29nm,18.5s,baz=260,slow=38	**58.14**	**298**	LR	LR	23 10 18.9	
TORD	**Torodi Ar. Bea** 0.8nm,0.7s,baz=197,slow=5.2,SNR=5.3 0.8nm,0.7s	**72.48**	**29**	P	**P**	**22 44 41.4**	**+0.3**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=130,slow=2.4,SNR=5.5	**149.87**	**312**	PKPbc	**PKPbc**	**22 53 02.7**	**-0.5**

*IDC **15** 22:41:43.0±2.0, 17.°69S×178.°67W, h544km±21km, mb3.7/14, mbtmp4.6/15, Error ellipse: s-maj=16.2km s-min=13.1km az=124.0*
*NEIC **15** 22:41:45.0±1.5, 17.°8S±0.°1×178.°6W±0.°1, h563km±6km, mb4.5/72, Error ellipse: s-maj=17.1km s-min=14.0km az=139.0*
*NOU **15** 22:41:51.5, 17.°97S×179.°17W, h617km, mb4.5/28, Fiji Islands Region*
ISC 15 22:41:43.1±0.4, 17.°72S±0.°07×178.°64W±0.°07, h547km, n160, σ0°91/159, mb4.5/57, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**269**		P	22 43 03.8	+4.8
FUTU	**Fugatoga**	**3.43**	**8**	P	**P**	**22 43 04.3**	**+3.5**
AFI	**Afiamalu**	**7.62**	**61**	P	**P**	**22 43 36.9**	**-0.2**
NIUE	**Niue**	**8.38**	**101**	P	**P**	**22 43 45.7**	**+1.1**
MARNC	**Mare, Loyalty**	**13.11**	**251**	P	**P**	**22 44 33.7**	**+0.6**
MARNC	**Mare, Loyalty**	**13.11**	**251**	P	**P**	**22 44 33.9**	**+0.8**
SANVU	**Saraoutou**	**13.76**	**277**	P	**P**	**22 44 41.6**	**+1.7**
SANVU	**Saraoutou**	**13.76**	**277**	P	P	22 44 44.8	+4.9
SANVU	**Saraoutou**	**13.76**	**277**	S	**S**	**22 47 04.6**	**-0.9**
PINNC	**Pines Island,**	**13.94**	**247**	P	**P**	**22 44 42.7**	**+1.0**
YATNC	**Mamie plateau,**	**14.28**	**250**	P	**P**	**22 44 46.1**	**+0.9**
OUENC	**Ouen Island, N**	**14.42**	**249**	P	**P**	**22 44 48.4**	**+1.8**
DZM	**Mont Dzumac** 14nm,0.5s,baz=95,slow=19,SNR=31	**14.68**	**250**	P	**P**	**22 44 50.5**	**+1.0**
ONTNC	**Ouen Toro**	**14.73**	**250**	P	**P**	**22 44 51.6**	**+1.8**
ONTNC	**Ouen Toro**	**14.73**	**250**	P	**P**	**22 44 52.9**	**+3.0**
OUZ	**Omahuta**	**18.75**	**200**	P	**P**	**22 45 29.7**	**+1.9**
URZ	**Urewera** 13nm,0.9s,baz=350,slow=12,SNR=1.5 13nm,0.9s	**20.80**	**189**	P	**P**	**22 45 45.0**	**-1.3**
BKZ	**Black Stump Fm**	**21.78**	**190**	P	**P**	**22 45 55.2**	**-0.1**
LHI	**Lord Howe Isla**	**24.42**	**232**	P	**P**	**22 46 19.4**	**+0.5**
JCZ	**Jackson Bay**	**28.33**	**199**	P	**P**	**22 46 52.8**	**-0.4**
EIDS	**Eidsvold**	**29.12**	**250**		**P**	**22 46 59.7**	**-0.6**
EIDS	comp=Z,16nm,0.7s			IAmb	IAmb	22 47 01.0	
ARMA	**Armidale**	**29.84**	**239**	P	**P**	**22 47 07.2**	**+0.6**
PYZ	**Puysegur Point**	**30.87**	**200**	P	**P**	**22 47 18.0**	**+3.0**
CTAO	**Charters Tower**	**33.26**	**260**		**P**	**22 47 35.8**	**0.0**
CTAO	comp=Z,18nm,0.8s			IAmb	IAmb	22 47 36.7	
CTAO	**Charters Tower**	**33.26**	**260**	P	**P**	**22 47 35.9**	**+0.2**
CAN	**Canberra**	**33.64**	**232**	P	**P**	**22 47 39.2**	**+0.4**
PMG	**Port Moresby**	**34.21**	**279**		**P**	**22 47 44.9**	**+1.1**
CMSA	**Cobar Meteorol**	**35.05**	**240**	P	**P**	**22 47 50.9**	**+0.3**
QLP	**Quilpie**	**35.40**	**249**	P	**P**	**22 47 53.7**	**+0.2**
COEN	**Coen**	**36.88**	**270**		**P**	**22 48 06.5**	**+0.6**
TOO	**Toolangi**	**37.12**	**230**		**P**	**22 48 08.2**	**+0.6**
TOO	comp=Z,14nm,0.8s			IAmb	IAmb	22 48 09.1	
TAU	**Tasmania Unive**	**38.23**	**222**	P	**P**	**22 48 16.0**	**-0.5**
STKA	**Stephens Creek** comp=Z,24nm,0.4s,baz=92,slow=10,SNR=60 comp=Z,24nm,0.4s	**38.53**	**241**	P	**P**	**22 48 19.5**	**+0.4**
INKA	**Innaminka**	**38.61**	**248**		**P**	**22 48 20.2**	**+0.3**
INKA	comp=Z,13nm,0.9s			IAmb	IAmb	22 48 21.7	
QIS	**Mount Isa**	**39.47**	**259**	P	**P**	**22 48 26.6**	**-0.3**
MGBR	**Mount Gambier**	**40.84**	**232**	P	**P**	**22 48 37.6**	**+0.1**
JAY	**Jayapura** comp=Z,46nm,0.8s	**42.64**	**286**	P	**P**	**22 48 53.2**	**+1.0**
BBOO	**Buckleboo**	**43.30**	**241**		**P**	**22 48 57.1**	**+0.1**
MLH	**Mauna Loa**	**43.47**	**33**	P	**P**	**22 48 59.0**	**+0.3**
HMH	**Humu'ula Sheep**	**43.51**	**33**	P	**P**	**22 48 59.6**	**+0.6**
WB0	**Warramunga Arr**	**44.41**	**260**	P	**P**	**22 49 05.0**	**-0.9**
WB0	comp=Z,15nm,0.7s			IAmb	IAmb	22 49 06.0	
WRAB	**Tennant Creek**	**44.44**	**259**	P	**P**	**22 49 05.2**	**-0.8**
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**22 49 05.2**	**-0.9**
WRA	**Warramunga Arr** comp=Z,10nm,0.5s,baz=91,slow=7.0,SNR=183	**44.45**	**259**	P	**P**	**22 49 05.2**	**-0.9**
WRA	comp=Z,2.1nm,0.6s,baz=93,slow=3.1,SNR=5.5			PcP	**PcP**	**22 50 37.5**	**-0.4**
WRA	comp=Z,0.9nm,0.8s,baz=90,slow=4.3,SNR=3.0 comp=Z,10nm,0.5s			ScP	**ScP**	**22 53 37.8**	**-0.2**
AS01	**Alice Springs**	**44.59**	**254**	P	**P**	**22 49 07.4**	**+0.2**
AS31	**Alice Springs**	**44.63**	**254**		**P**	**22 49 07.4**	**0.0**
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**22 49 07.5**	**0.0**
ASAR	**Alice Springs** comp=Z,140nm,0.6s,baz=89,slow=8.2,SNR=1366	**44.63**	**254**	P	**P**	**22 49 07.0**	**-0.4**
ASAR	comp=Z,3.2nm,0.5s,baz=109,slow=3.7,SNR=4.7			PcP	**PcP**	**22 50 38.0**	**-0.5**
ASAR	comp=Z,0.8nm,0.7s,baz=91,slow=3.5,SNR=4.9			ScP	**ScP**	**22 53 39.1**	**+0.3**
MTN	**Manton Dam**	**48.58**	**268**		**P**	**22 49 37.0**	**-0.4**
MTN	comp=Z,12nm,0.8s			IAmb	IAmb	22 49 38.0	
FORT	**Forrest**	**49.89**	**244**	P	**P**	**22 49 46.1**	**-0.7**
FORT	comp=Z,18nm,0.7s			IAmb	IAmb	22 49 46.8	
KNRA	**Kununurra**	**50.29**	**264**		**P**	**22 49 49.5**	**-0.4**
SWI	**Sorong**	**51.99**	**283**	P	**P**	**22 50 02.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.84**	**260**	P	**P**	**22 50 08.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.84**	**260**	P	**P**	**22 50 08.6**	**+0.3**
SOEI	**Soe**	**55.85**	**270**		**P**	**22 50 30.9**	**+1.2**
SOEI	**Soe** comp=Z,79nm,0.8s	**55.85**	**270**	P	**P**	**22 50 30.9**	**+1.2**
SANI	**Sanana** comp=Z,36nm,0.9s	**56.49**	**280**	P	**P**	**22 50 33.7**	**-0.3**
PSA00	**Pilbara Seismi**	**57.74**	**255**		**P**	**22 50 41.7**	**-0.8**
PSA00	comp=Z,23nm,0.6s			IAmb	IAmb	22 50 42.6	
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	**P**	**22 50 41.9**	**-0.5**
MBWA	**Marble Bar**	**57.91**	**256**	P	**P**	**22 50 43.1**	**-0.4**
MEEK	**Meekatharra**	**58.29**	**249**	P	**P**	**22 50 45.5**	**-0.6**
EDFI	**Ende, Flores** comp=Z,22nm,0.8s	**58.57**	**270**	P	**P**	**22 50 47.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**59.10**	**242**	P	**P**	**22 50 50.7**	**-0.7**
NWAO	comp=Z,31nm,1.1s			IAmb	IAmb	22 51 16.1	
BLDU	**Ballidu**	**59.66**	**245**	P	**P**	**22 50 54.6**	**-0.6**
LUWI	**Luwuk**	**59.86**	**279**	P	**P**	**22 50 56.6**	**-0.1**
LUWI	**Luwuk** comp=Z,41nm,0.5s	**59.86**	**279**	P	**P**	**22 50 56.3**	**-0.4**
MUN	**Mundaring**	**60.01**	**243**	P	**P**	**22 50 57.6**	**+0.1**
MORW	**Morawa**	**60.35**	**246**	P	**P**	**22 50 58.6**	**-1.2**
MORW	comp=Z,24nm,1.4s			IAmb	IAmb	22 51 26.3	
MORW	**Morawa**	**60.35**	**246**	P	**P**	**22 50 59.2**	**-0.6**
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**22 51 01.0**	**+0.4**
VNDA	**Vanda** comp=Z,1.1nm,0.8s,baz=16,slow=9.9,SNR=5.1 comp=Z,1.1nm,0.8s	**60.61**	**185**	P	**P**	**22 51 00.7**	**+0.1**
PLAI	**Plampang**	**62.28**	**269**	P	**P**	**22 51 12.5**	**-0.1**
TOLI2	**Tolitoli**	**62.47**	**281**	P	**P**	**22 51 13.4**	**-0.4**
TOLI2	comp=Z,7.3nm,0.6s			IAmb	IAmb	22 51 17.6	
TOLI2	**Tolitoli**	**62.47**	**281**	P	**P**	**22 51 13.7**	**-0.1**
TWSI	**Taliwang, Sumb** comp=Z,67nm,0.9s	**63.15**	**269**	P	**P**	**22 51 17.8**	**-0.4**
JAGI	**Jajag, Banyuwa**	**65.83**	**269**	P	**P**	**22 51 33.7**	**-1.4**
JAGI	comp=Z,23nm,0.6s			IAmb	IAmb	22 51 34.2	
JAGI	**Jajag, Banyuwa**	**65.83**	**269**	P	**P**	**22 51 33.4**	**-1.8**
CASY	**Casey**	**66.21**	**205**		**P**	**22 51 35.8**	**-0.8**
CASY	comp=Z,13nm,1.2s			IAmb	IAmb	22 51 37.2	
JGF	**Kuroka**	**67.46**	**322**	P	**P**	**22 51 45.0**	**+0.2**
JGF	comp=Z,54nm,1.5s			IAmb	IAmb	22 52 27.7	
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.7s,baz=162,slow=6.2,SNR=5.7 comp=Z,2.0nm,0.7s	**67.63**	**323**	P	**P**	**22 51 45.4**	**-0.4**
KKM	**Kota Kinabalu**	**68.48**	**284**	P	**P**	**22 51 51.5**	**-0.1**
KKM	comp=Z,11nm,0.6s			IAmb	IAmb	22 51 52.5	
KKM	**Kota Kinabalu**	**68.48**	**284**	P	**P**	**22 51 51.5**	**-0.1**
UGM	**Wanagama**	**69.43**	**268**	P	**P**	**22 51 56.8**	**-0.4**
TPUB	**Ta-pu**	**71.97**	**302**	P	**P**	**22 52 11.1**	**-0.9**
BBJI	**Bungbulang**	**72.29**	**268**	P	**P**	**22 52 13.1**	**-1.0**
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**22 52 15.3**	**+1.9**
QSPA	**South Pole Qui** comp=Z,7.4nm,0.8s,baz=18,slow=0.8,SNR=47 comp=Z,7.4nm,0.8s	**72.33**	**180**	P	**P**	**22 52 15.4**	**+1.9**
KSM	**Kuching**	**72.44**	**277**		**P**	**22 52 15.0**	**+0.1**
KSM	comp=Z,24nm,0.8s			IAmb	IAmb	22 52 16.4	
PETK	**Petropavlovsk-**	**73.44**	**345**	P	**P**	**22 52 20.1**	**+0.3**
PKD	**Bear Valley Ra**	**76.59**	**45**	P	**P**	**22 52 38.1**	**+0.4**
KCPM	**Cahto Peak**	**76.77**	**41**	P	**P**	**22 52 39.7**	**+0.9**
KMRM	**Mail Ridge**	**77.01**	**40**		**P**	**22 52 41.1**	**+1.0**
KMRM	comp=Z,13nm,0.8s			IAmb	IAmb	22 52 42.3	
PLK4	**Peulik 4**	**77.33**	**12**	P	**P**	**22 52 41.1**	**-0.2**
PLK4	comp=Z,53nm,1.4s			IAmb	IAmb	22 53 05.2	
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**22 52 45.0**	**+0.4**
YUH	**Yuha Desert**	**78.10**	**50**	P	**P**	**22 52 46.4**	**+0.4**
KSI	**Kapahiang**	**78.20**	**270**	P	**P**	**22 52 46.8**	**-0.2**
CWC	**Cottonwood Cre**	**78.53**	**46**		**P**	**22 52 48.9**	**+0.5**
MPMC	**Manual Prospec**	**78.73**	**46**	P	**P**	**22 52 49.8**	**+0.3**
WAKR	**Walker**	**78.74**	**43**		**P**	**22 52 50.5**	**+1.0**
O16K	**Kokwok River B**	**78.84**	**10**	P	**P**	**22 52 48.5**	**-0.7**
O16K	comp=Z,34nm,1.5s			IAmb	IAmb	22 52 57.0	
N15K	**Kwethluk River**	**79.06**	**9**	P	**P**	**22 52 50.7**	**+0.2**
N15K	comp=Z,39nm,1.4s			IAmb	IAmb	22 53 01.0	
DSP	**Deep Springs**	**79.10**	**45**		**P**	**22 52 52.3**	**+1.1**
P18K	**Big Mountain,**	**79.19**	**12**	P	**P**	**22 52 50.6**	**-0.5**
P18K	comp=Z,40nm,1.2s			IAmb	IAmb	22 52 51.8	
PAHR	**Pah Rah Range**	**79.43**	**42**	P	**P**	**22 52 53.3**	**+0.2**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**22 52 53.7**	**+0.4**
NVAR	**Mina Array Bea** comp=Z,3.7nm,0.7s,baz=223,slow=8.6,SNR=23 comp=Z,3.7nm,0.7s	**79.44**	**44**	P	**P**	**22 52 54.1**	**+0.8**
K05A	**Summer Lake**	**80.20**	**39**	P	**P**	**22 52 57.9**	**+0.8**
K05A	comp=Z,8.8nm,0.6s			IAmb	IAmb	22 52 58.6	
N18K	**Kilae Creek**	**80.26**	**11**	P	**P**	**22 52 56.1**	**-0.7**
N18K	comp=Z,21nm,1.4s			IAmb	IAmb	22 53 07.2	
PINE	**Pine Mountain**	**80.78**	**38**		**P**	**22 53 00.8**	**+0.7**
PINE	comp=Z,8.6nm,0.8s			IAmb	IAmb	22 53 01.8	
R11B	**Troy Canyon, C**	**81.22**	**45**	P	**P**	**22 53 02.6**	**+0.1**
M19K	**Big River Lodg**	**81.67**	**11**	P	**P**	**22 53 03.3**	**-0.7**
M19K	comp=Z,17nm,1.4s			IAmb	IAmb	22 53 41.7	
TUC	**Tucson**	**81.76**	**52**	P	**P**	**22 53 05.8**	**+0.5**
IPM	**Ipoh**	**82.18**	**277**	P	**P**	**22 53 07.7**	**-0.1**
IPM	comp=Z,12nm,0.7s			IAmb	IAmb	22 53 08.9	
BELA	**Belgrano 2**	**82.38**	**173**		**P**	**22 53 06.7**	**-0.8**
BELA	comp=Z,7.8nm,0.9s			IAmb	IAmb	22 53 07.4	
KNK	**Knik Glacier**	**82.47**	**14**	P	**P**	**22 53 07.4**	**-0.7**
KNK	comp=Z,30nm,1.3s			IAmb	IAmb	22 53 49.1	
ELK	**Elko**	**82.67**	**43**		**P**	**22 53 09.5**	**-0.4**
GHO	**Glory Hole Cre**	**82.68**	**14**	P	**P**	**22 53 08.9**	**-0.3**
GHO	comp=Z,14nm,0.6s			IAmb	IAmb	22 53 09.7	
KULM	**Kulim**	**82.79**	**278**	P	**

PD31	Pinedale Array	87.37	44	P	P	22 53 32.6	0.0
PDAR	Pinedale Array	87.37	44	P	P	22 53 32.7	+0.1
PDAR	Pinedale Array	87.37	44	P	P	22 53 32.6	0.0
	comp=Z,2.3nm,0.5s,baz=213,slow=3.2,SNR=33						
	comp=Z,2.3nm,0.5s						
CMAR	Chiang Mai Arr	88.62	290		P	22 53 38.9	+0.2
CMAR	Chiang Mai Arr	88.62	290	P	P	22 53 39.6	+1.0
	comp=Z,1.2nm,0.4s,baz=113,slow=2.8,SNR=14						
	comp=Z,1.2nm,0.4s						
TROLL	Troll, Antarti	90.49	180	⇓P	P	22 53 45.5	-1.0
	comp=Z,267nm,0.6s						
LZDM	Lanzhou Array	90.67	308	P	P	22 53 48.8	+0.6
	comp=Z,0.7nm,0.3s,baz=130,slow=13,SNR=2.1						
	comp=Z,0.7nm,0.3s						
SNAA	Sanae	90.79	179	⇓P	P	22 53 46.5	-1.3
	comp=Z,46nm,0.5s						
SNAA	Sanae	90.79	179	P	P	22 53 46.5	-1.3
SNAA				IAmb	IAmb	22 53 47.2	
	comp=Z,2.0nm,0.5s						
SNAA	Sanae	90.79	179	P	P	22 53 46.4	-1.4
	comp=Z,1.3nm,0.4s,baz=198,slow=9.6,SNR=39						
	comp=Z,1.3nm,0.4s						
VNA3	Neumayer Olymp	90.94	176	⇓P	P	22 53 47.7	-0.7
	comp=Z,9.5nm,0.6s						
VNA2	Neumayer--Watz	91.37	177	⇓P	P	22 53 49.3	-1.1
	comp=Z,4.1nm,0.8s,baz=227,slow=2.8						
VNA1	Neumayer--Stat	91.60	177	⇓P	P	22 53 51.5	0.0
	comp=Z,7.7nm,1.0s						
MKAR	Makanchi Array	108.85	314	PKiKP	PKiKP	22 59 09.6	-0.9
	comp=Z,0.4nm,0.5s,baz=127,slow=0.3,SNR=6.0						
KURBB	Kurchatov Arra	111.60	318	PKiKP	PKiKP	22 59 13.9	-1.6
	comp=Z,0.7nm,0.7s,baz=87,slow=1.6,SNR=5.4						
ARCES	ARCESS Array B	126.09	350	PKP	PKPdf	22 59 41.6	-1.2
	comp=Z,1.1nm,1.0s,baz=42,slow=2.2,SNR=4.4						
BNN	Bunyan	143.37	312	PKPbc	PKPbc	23 00 13.8	-0.6
LODK	Lodwar	143.78	251		PKPdf	23 00 16.2	-1.1
BUR08	Bucovina Ar. S	144.33	332		PKPab	23 00 17.2	-0.3
BURAR	Bucovina Array	144.35	332	PKPdf	PKPdf	23 00 16.6	-0.7
BR131	Keskin Array S	144.50	315		PKPbc	23 00 17.5	-0.5
BRTR	Keskin Array B	144.50	315	PKP	PKPbc	23 00 17.5	-0.4
	comp=Z,2.0nm,0.5s,baz=50,slow=1.0,SNR=18						
MMAI	Mount Meron Ar	145.86	303	PKPbc	PKPbc	23 00 22.1	0.0
	comp=Z,5.2nm,0.6s,baz=72,slow=5.4,SNR=16						
BORA	Eskisehir	146.53	317	PKPbc	PKPbc	23 00 22.7	-1.0
GERES	GERESS Array B	147.38	345	PKPbc	PKPbc	23 00 25.4	-0.3
	comp=Z,0.2nm,0.3s,baz=4.1,slow=4.1,SNR=3.2						
ELL	Elmali	148.51	313	PKPbc	PKPbc	23 00 28.2	-0.8
RDO	Rodhopi	148.76	323	PKPbc	PKPbc	23 00 28.4	-0.9
FUORN	Ofenpass-Fuorn	150.26	348	PKPbc	PKiKP	23 00 33.2	-0.3
KARP	Karpathos	151.03	313	PKPbc	PKPbc	23 00 33.6	-1.2
LIT	Litokhoron	151.17	325	PKPbc	PKPbc	23 00 33.5	-1.5
ESDC	Sonseca Array	157.64	11	PKPab	PKPab	23 01 11.3	-1.8
	comp=Z,0.7nm,1.0s,baz=348,slow=5.1,SNR=2.2						
TORD	Torodi Ar. Bea	175.44	184	PKPab	PKPab	23 02 31.3	-0.7
	comp=Z,0.4nm,0.6s,baz=165,slow=3.6,SNR=2.5						

KRNET ***15*** *22:50:54.7±0.1, 39.°43N×77.°08E, mb3.8*
SOME ***15*** *22:50:57.7, 39.°95N×77.°07E, h10km*
NNC ***15*** *22:50:58.4±1.2, 39.°93N×77.°10E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=8.8km s-min=6.5km az=155.0
ISC 15 22:50:53.3±1.9, 39.°54N±0.°09×77.°04E±0.°04, h10km, n61,
σ1.9°96/88, 20C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	Jany-Kuch	1.85	325	⇑eP	Pb	22 51 27.3	0.0
JNKS				⇑eS	Sg	22 51 51.1	-1.6
TARG	Taragay, Kyrgy	2.26	15	⇑eP	Pb	22 51 33.0	-1.5
TARG				⇑eS	Sb	22 52 00.8	-1.9
KDJ	Kajisay	2.59	2	⇓eP	Pb	22 51 37.5	-2.4
KDJ				⇓eS	Sn	22 52 08.6	+1.6
ULHL	Ulahol	2.77	348	P	Pb	22 51 42.3	-0.7
	SNR=8.1						
ULHL	Ulahol	2.77	348	⇑eP	Pb	22 51 40.2	-2.8
ULHL				⇑eS	Sn	22 52 13.2	+1.7
SALK	Salom-Alik	2.80	300	⇓eP	Pn	22 51 40.3	+1.9
SALK				⇓eS	Sn	22 52 13.5	+1.2
BOOM	Boomskoye usch	3.06	345	⇓eP	Pn	22 51 44.3	+2.4
BOOM				⇓eS	Sn	22 52 20.3	+1.7
PRZ	Przheval'sk	3.11	19	⇓eP	Pn	22 51 44.9	+2.2
PRZ				⇓eS	Sn	22 52 21.4	+1.4
UCH	Uchtor	3.29	325	P	Pb	22 51 50.2	-1.9
	SNR=14						
UCH	Uchtor	3.29	325	⇑eP	Pn	22 51 47.6	+2.2
UCH				⇑eS	Sn	22 52 26.1	+1.3
OHH	Osh	3.41	288	⇑eP	Pn	22 51 48.4	+1.8
OHH				⇑eS	Sn	22 52 27.4	+0.3
KBK	Karagaybulak	3.49	334	P	Pb	22 51 52.3	-2.9
	SNR=13						
KBK	Karagaybulak	3.49	334	⇓eP	Pn	22 51 50.2	+2.4
KBK				⇓eS	Sn	22 52 30.6	+1.4
TNSS	Tian-Shan	3.49	359	Pg	Pb	22 51 55.6	+0.2
	4.2nm,0.3s						
TNSS				Lg	Lg	22 52 37.6	
	36nm,0.4s						
TNSS	Tian-Shan	3.49	359	eP	Pb	22 51 55.6	+0.2
	4.0nm,0.3s						
TNSS				eS	Sb	22 52 37.6	-0.4
	36nm,0.4s						
TKM2	Tokmak 2	3.54	343	P	Pb	22 51 52.7	-3.5
	SNR=20						
TKM2	Tokmak 2	3.54	343	⇑eP	Pn	22 51 50.9	+2.3
TKM2				⇑eS	Sn	22 52 31.9	+1.2
KST	Kastek	3.59	347	Pg	Pb	22 51 57.9	+1.0
	7.7nm,0.4s						
KST				Lg	Lg	22 52 41.0	
	54nm,0.5s						
KST	Kastek	3.59	347	eP	Pb	22 51 57.0	0.0
	7.4nm,0.2s						
KST				eS	Sb	22 52 39.4	-1.2
	57nm,0.4s						
MTBS	Maitube	3.61	353	Pg	Pb	22 51 57.8	+0.5
	5.4nm,0.3s						
MTBS				Lg	Lg	22 52 41.0	
	96nm,0.6s						
MTBS	Maitube	3.61	353	eP	Pb	22 51 57.8	+0.5
	5.4nm,0.3s						
MTBS				eS	Sb	22 52 41.0	-0.3
	96nm,0.6s						
MDOK	Medeo	3.62	0	Pg	Pb	22 51 58.0	+0.5
	6.6nm,0.3s						
MDOK				Lg	Lg	22 52 41.0	
	97nm,0.5s						
AAK	Ala-Archa	3.64	329	P	Pb	22 51 54.6	-3.2
	SNR=5.9						
AAK	Ala-Archa	3.64	329	⇑Pg	Pb	22 51 58.7	+0.9
	8.6nm,0.8s						
AAK				⇑Lg	Lg	22 52 42.3	
	18nm,0.7s						
AAK	Ala-Archa	3.64	329	⇓eP	Pn	22 51 52.2	+2.3
AAK				⇓eS	Sn	22 52 34.1	+1.2
SATY	Saty	3.66	16	Pg	Pb	22 51 58.2	0.0
	24nm,0.5s						
SATY				Lg	Lg	22 52 42.2	
	85nm,0.5s						
AAA	Alma-Ata	3.66	359	Pg	Pb	22 51 59.5	+1.3
	15nm,0.2s						
AAA				Lg	Lg	22 52 44.0	
	13nm,0.6s						
AAA	Alma-Ata	3.66	359	eP	Pb	22 51 59.5	+1.3
	15nm,0.2s						
AAA				eS	Sb	22 52 44.0	+1.3
	13nm,0.6s						
KNDC	Almaty	3.67	359	⇓Pg	Pb	22 52 00.0	+1.7
	12nm,0.3s						
KNDC				⇑Lg	Lg	22 52 43.7	
	456nm,0.7s						
KOTS	Kotyrbulak	3.69	1	Pg	Pb	22 51 59.2	+0.6
	14nm,0.3s						
KOTS				Lg	Lg	22 52 43.9	
	375nm,0.7s						
KOTS	Kotyrbulak	3.69	1	eP	Pb	22 51 59.2	+0.6
	14nm,0.3s						
KOTS				eS	Sb	22 52 43.9	+0.4
	375nm,0.7s						
FRU1	Bishkek	3.73	332	⇑eP	Pn	22 51 53.8	+2.7
FRU1				⇑eS	Sn	22 52 36.9	+1.7
CHMS	Chumysh	3.86	334	P	Pb	22 51 57.5	-4.0
	SNR=7.2						
CHMS	Chumysh	3.86	334	⇓eP	Pn	22 51 55.1	+2.4
CHMS				⇓eS	Sn	22 52 39.2	+1.1
UZB	Uzynbulak	3.90	22	Pg	Pb	22 52 01.6	-0.6
	13nm,0.6s						
UZB				Lg	Lg	22 52 48.2	
	22nm,0.4s						
UZB	Uzynbulak	3.90	22	eP	Pb	22 52 01.6	-0.6
	13nm,0.6s						
UZB				eS	Sb	22 52 48.2	-1.3
	22nm,0.4s						
EKS2	Erkin-Say	3.97	323	P	Pb	22 51 59.9	-3.5
	SNR=21						
EKS2	Erkin-Say	3.97	323	⇓eP	Pn	22 51 56.7	+2.3
EKS2				⇓eS	Sn	22 52 42.0	+0.9
KURS	Kuram	4.03	12	Pg	Pb	22 52 04.4	0.0
	14nm,0.6s						
KURS				Lg	Lg	22 52 52.4	
	37nm,0.8s						
SHLS	Shalkode	4.05	26	Pg	Pg	22 52 07.9	-2.9
	30nm,0.4s						
SHLS				Lg	Lg	22 52 59.0	
	56nm,0.6s						
SHLS	Shalkode	4.05	26	eP	Pg	22 52 07.9	-2.9
	32nm,0.4s						
SHLS				eS	Sg	22 52 58.1	-5.1
	32nm,0.3s						
KPKS	Kokpek	4.11	17	Pg	Pb	22 52 06.8	+1.0
	0.3nm,0.1s						
KPKS				Lg	Lg	22 52 56.3	
	36nm,0.4s						
KTBS	Karatobe	4.17	356	Pg	Pb	22 52 06.6	-0.3
	5.1nm,0.3s						
KTBS				Lg	Lg	22 52 56.7	
	150nm,0.7s						
USP	Ospenovka	4.18	334	P	Pb	22 52 01.8	-5.2
	SNR=11						
USP	Ospenovka	4.18	334	⇓eP	Pn	22 51 59.6	+2.4
USP				⇓eS	Sn	22 52 47.0	+0.9
PDGK	Podgornoye	4.21	25	⇑Pg	Pb	22 52 07.5	0.0
	14nm,0.4s						
PDGK				⇑Lg	Lg	22 52 59.4	
	52nm,1.0s						
KRBS	Karabastau	4.27	347	Pg	Pb	22 52 09.4	+0.9
	9.2nm,0.4s						
KRBS				Lg	Lg	22 53 01.4	
	48nm,0.5s						
MRKS	Merke	4.30	319	Pg	Pg	22 52 12.1	-3.6
	14nm,0.4s						
MRKS				Lg	Lg	22 53 06.3	
	8.9nm,0.5s						
MRKS	Merke	4.30	319	eP	Pb	22 52 11.3	+2.3
	8.1nm,0.4s						
MRKS				eS	Sb	22 53 04.1	+3.0
	16nm,0.4s						
SGDS	Sogindy	4.30	336	Pg	Pb	22 52 11.1	+2.1
	4.2nm,0.4s						
SGDS				Lg	Lg	22 53 04.3	
	21nm,0.3s						
CHKK	Chushkaly	4.31	360	Pg	Pb	22 52 10.7	+1.6
	12nm,0.4s						
CHKK				Lg	Lg	22 53 03.1	
	106nm,0.3s						
CHKK	Chushkaly	4.31	360	eP	Pb	22 52 10.7	+1.6
	12nm,0.4s						
CHKK				eS	Sb	22 53 03.1	+1.9
	106nm,0.3s						
KUU	Kurty	4.38	353	Pg	Pg	22 52 15.1	-2.0
	3.2nm,0.1s						
KUU				Lg	Lg	22 53 10.4	
	54nm,0.6s						
KUU	Kurty	4.38	353	eP	Pb	22 52 12.5	+2.2
	4.9nm,0.1s						
KUU				eS	Sb	22 53 06.1	+2.9
	8.7nm,0.1s						
ARXS	Arharly	4.70	7	Pg	Pb	22 52 16.7	+0.8
	4.3nm,0.4s						
ARXS				Lg	Lg	22 53 13.8	
	42nm,0.5s						
ARXS	Arharly	4.70	7	eP	Pb	22 52 16.7	+0.8
ARXS				eS	Sb	22 53 13.8	+1.2
KNOS	Konyrlen	5.07	18	Pg	Pb	22 52 23.1	+0.9
	10nm,0.4s						
KNOS				Lg	Lg	22 53 24.6	
	11nm,0.5s						
TDK	Taldyqorghan	5.55	10	Pg	Pb	22 52 32.0	+1.7
	24nm,0.4s						
TDK				Lg	Lg	22 53 40.1	
	59nm,0.5s						
TDK	Taldyqorghan	5.55	10	eP	Pb	22 52 32.0	+1.7
	24nm,0.4s						
TDK				eS	Sb	22 53 40.1	+3.3
	59nm,0.5s						
KAPS	Kapalarasan	5.99	16	Pg	Pb	22 52 41.3	+3.5
	4.4nm,0.4s						
KAPS				Lg	Lg	22 53 55.2	
	7.4nm,0.2s						
KK31	Karatay Array	6.06	308	Pn	Pn	22 52 25.1	+2.1
	0.1nm,0.2s,baz=70,slow=20,SNR=9.2						
KK31				⇓Pg	Pg	22 52 44.0	-5.4
	1.5nm,0.5s,baz=134,slow=16,SNR=12						
KK31				⇑Lg	Lg	22 54 03.3	
	1.9nm,0.5s,baz=119,slow=28,SNR=4.1						

IDC ***15*** *23:15:57.2±8.6, 39.°12N×140.°30E, h172km±45km, mb3.3/6,*
mbtmp3.8/9, Error ellipse: s-maj=154.3km s-min=17.3km
az=67.0
JMA ***15*** *23:16:01.0±0.2, 39.°0N±0.°7×14.°0E±.°, h191km±1km,*
MV3.5/33, W OFF YAMAGATA PREF
ISC 15 23:16:00.6±0.8, 39.°01N±0.°07×139.°83E±0.°08, h193km±6km,
n30, σ0.°74/34, mb3.5/6, Near west coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYYZ	Yamagatayuza	0.08	86	P	Pn	23 16 26.7	+0.7
JYYZ				S	Sn	23 16 47.1	+1.6
JTB	Tobi-shima	0.28	311	iP	Pn	23 16 26.4	+0.1
JTB				S	Sn	23 16 46.2	0.0
JYK	Kaneyama	0.42	102	iP	Pn	23 16 26.7	0.0
JYK				S	Sn	23 16 45.9	-0.9
JYA	Atsumi	0.43	192	iP	Pn	23 16 26.9	+0.2
JYA				S	Sn	23 16 46.5	-0.4
JAW	Awa shima	0.72	219	P	Pn	23 16 27.9	0.0
JRG	Rokugo	0.73	58	iP	Pn	23 16 28.1	+0.1
JRG				S	Sn	23 16 48.8	-0.5
JYS	Shiratake	0.81	167	P	Pn	23 16 28.9	+0.4
JYS				S	Sn	23 16 50.4	+0.3
JOU	Okura	0.92	134	iP	Pn	23 16 29.5	+0.3
JMK	Ichinoseki	1.09	93	iP	Pn	23 16 30.4	+0.1
JOM	Ohasama	1.23	67	iP	Pn	23 16 31.6	+0.2
JOM				S	Sn	23 16 54.4	-0.9
JNS	Sasagawa	1.26	199	P	Pn	23 16 31.9	+0.2
JNS				S	Sn	23 16 54.6	-1.1
JOTO	OTAMA OYAMA	1.50	164	P	Pn	23 16 34.2	+0.3
JSD	Sado	1.57	232	iP	Pn	23 16 34.4	+0.1
JSD				S	Sn	23 16 59.7	-0.8
JANG	Nango	1.88	43	iP	Pn	23 16 37.4	0.0
JANG				S	Sn	23 17 04.7	-1.4
JAG	Ashikaga	2.60	187	P	Pn	23 16 45.7	+0.4
MJAR	Matsushiro Arr	2.78	208	P	Pn	23 16 46.0	-1.4
	3.1nm,0.4s,baz=22,slow=12,SNR=9.4						
USRK	Ussuriysk Ar.	7.83	314	P	Pn	23 17 51.4	-0.2
	2.7nm,0.6s,baz=117,slow=12,SNR=3.5						
HILR	Hailar Array B	17.77	313	P	P	23 19 53.0	-1.2
	1.8nm,0.4s,baz=109,slow=8.9,SNR=3.0						
SONM	Songino Array	25.67	301	P	P	23 21 14.3	+1.7
	0.5nm,0.5s,baz=96,slow=8.6,SNR=3.7						
	0.5nm,0.5s						
H11N2	WAKE ISLAND Hy	30.24	122	T	T	23 53 08.2	
	baz=317,slow=76,SNR=6.6						
H11N1	WAKE ISLAND Hy	30.25	122	T	T	23 53 13.2	
	baz=317,slow=76,SNR=6.9						
H11N3	WAKE ISLAND Hy	30.26	122	T	T	23 53 13.9	
	baz=317,slow=76,SNR=8.2						
H11S1	WAKE ISLAND Hy	30.99	124	T	T	23 53 49.3	
	baz=318,slow=76,SNR=3.9						
H11S3	WAKE ISLAND Hy	30.99	124	T	T	23 53 49.4	
	baz=318,slow=76,SNR=7.0						
H11S2	WAKE ISLAND Hy	31.00	124	T	T	23 53 49.3	
	baz=318,slow=76,SNR=4.3						
ZALV	Zalesovo Beam	39.67	311	P	P	23 23 14.1	+0.6
	0.7nm,0.5s,baz=76,slow=6.3,SNR=3.7						
	0.7nm,0.5s						
MKAR	Makanchi Array	42.03	300	P	P	23 23 33.4	+0.4
	0.8nm,0.7s,baz=84,slow=9.0,SNR=6.8						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	43.81	306	P	P	23 23 47.0	-0.1
	2.7nm,0.4s,baz=82,slow=8.7,SNR=40						
	2.7nm,0.4s						
WRA	Warramunga Arr	58.87	186	P	P	23 25 38.8	-0.3
	0.3nm,0.3s,baz=6.0,slow=7.1,SNR=1.6						
	0.3nm,0.3s						
ASAR	Alice Springs	62.59	186	P	P	23 26 04.2	0.0
	0.2nm,0.3s,baz=353,slow=8.8,SNR=1.9						
	0.2nm,0.3s						

NEIC ***15*** *23:21:36.9±0.8, 36.°077N±0.°008×97.°769W±0.°009,*
h5km±1km, mb_Lg2.5/46, ML2.6/37, ML2.8/85, Error ellipse:
s-maj=2.3km s-min=1.4km az=233.0
NEIC 15 23:21:37.0±0.9, 36.°073N±0.°009×97.°78W±0.°01, h7km±2km,
Error ellipse: s-maj=1.3km s-min=1.3km az=190.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.38	136	Pg	Pg	23 21 43.9	-0.5
OK029				Sg	Sg	23 21 50.1	+0.8
OK029				IAML		23 21 50.4	
	1μm,0.3s						
BCOK	Bluff Creek, N	0.44	162		Pg	23 21 45.6	+0.2
BCOK					Sg	23 21 51.9	+0.8
CROK	Carrier	0.46	339	Pg	Pg	23 21 46.1	+0.2
CROK				Sg	Sg	23 21 52.7	+0.7
CROK				IAML		23 21 59.3	
	comp=N,1μm,0.3s						
ADOK	Arcadia Dam	0.53	142	Pg	Pg	23 21 47.4	+0.1
ADOK				Sg	Sg	23 21 54.8	+0.6
OK004	Okla Sci Mus	0.60	156		Pg	23 21 48.7	+0.2
OK004					Sg	23 21 57.1	+0.8
OKCFA	Oklahoma City	0.71	158		Pg	23 21 50.6	0.0
OKCFA					Sg	23 22 00.4	+0.6
OKCSW	OKLAHOMA CITY	0.72	157	Pg	Pg	23 21 50.5	-0.3
OKCSW				Sg	Sg	23 22 00.6	+0.4
OKCSW				IAML		23 22 01.1	
	comp=N,470nm,0.5s						
OKCSW				IAML		23 22 10.5	
	comp=E,361nm,0.7s						
OK048	Pawnee Station	0.76	63	Pg	Pg	23 21 51.0	-0.5
GC02	Grant County #	0.78	355	Pg	Pg	23 21 51.4	-0.6
GC02				Sg	Sg	23 22 02.4	+0.2
OK052	Battle Ridge R	0.79	95	Pg	Pg	23 21 52.0	-0.2
OK052				Sg	Sg	23 22 02.9	+0.4
OK052				IAML		23 22 05.0	
	comp=E,303nm,0.1s						
OK052				IAML		23 22 06.2	
	comp=E,295nm,0.2s						
BLOK	Blackwell	0.82	33	Pg	Pg	23 21 52.5	-0.3
BLOK				Sg	Sg	23 22 03.9	+0.4
BLOK				IAML		23 22 09.8	
	comp=E,458nm,0.2s						
CSTR	Hydro, Custer	0.85	240	Pg	Pg	23 21 53.4	0.0
CSTR				Sg	Sg	23 22 05.1	+0.6
FNO	Franklin	0.87	159	Pg	Pg	23 21 53.3	-0.3
FNO				Sg	Sg	23 22 05.1	+0.1
FNO				IAML		23 22 08.3	
	comp=E,279nm,0.5s						
QUOK	Quay	0.87	83	Pg	Pg	23 21 53.4	-0.3
QUOK				Sg	Sg	23 22 05.3	+0.3
QUOK				IAML		23 22 06.9	
	comp=E,335nm,0.2s						
OK051	E0350 and S346	0.87	60	Pg	Pg	23 21 53.5	-0.2
OK051				Sg	Sg	23 22 04.6	-0.5
OK038	West end E0370	0.88	298	Pg	Pg	23 21 53.3	-0.5
KAN14	Manchester OK	0.90	350	Pg	Pg	23 21 53.8	-0.4
KAN14				IAML		23 22 10.5	
	comp=N,409nm,0.1s						
DEOK	Depew	1.06	102	Pg	Pg	23 21 56.5	-0.8
DEOK				Sg	Sg	23 22 10.9	-0.2
DEOK				IAML		23 22 11.7	
	comp=E,270nm,0.2s						
DEOK				IAML		23 22 13.8	
	comp=N,218nm,0.2s						
KAN01	Argonia South	1.08	1	Pg	Pg	23 21 57.1	-0.6
KAN01				Sg	Sg	23 22 11.3	-0.4
NOKA	Waynoka	1.09	301	Pg	Pg	23 21 57.0	-0.8
NOKA				Sg	Sg	23 22 11.3	-0.7
NOKA				IAML		23 22 17.1	
	comp=E,274nm,0.2s						
KAN08	Anthony NE Sta	1.16	352	Pg	Pg	23 21 58.6	-0.7
T35A	Sooner Cattle	1.32	50		Pn	23 22 01.2	-0.7
T35A				IAML		23 22 21.3	
	comp=E,223nm,0.2s						
ELIS	Ellis County	1.33	270		Pn	23 22 01.7	-0.3
X34A	Smith Ranch, M	1.47	182		Pn	23 22 04.2	+0.3
WMOK	Wichita Mounta	1.56	212		Pn	23 22 04.9	-0.4
TUL3	Leonard	1.62	95		Pn	23 22 06.0	0.0
LOOK	Love County	2.13	167	Pn	Pn	23 22 13.2	+0.2
SMWD	Samnorwood	2.23	245	Pn	Pn	23 22 15.2	+0.8
SMWD				IAmb_Lg		23 22 51.2	
	comp=Z,23nm,0.7s						
RLO	Rose Lookout	2.23	87	Pn	Pn	23 22 14.4	0.0
Z35A	Perchaven, San	2.77	171	Pn	Pn	23 22 21.6	-0.2
FW06	Azle	3.10	177	Pn	Pn	23 22 25.3	-1.0
HHAR	Hobbs	3.11	85	Pn	Pn	23 22 26.7	+0.2
CBKS	Cedar Bluff	3.15	331	IAmb_Lg		23 23 23.5	
	comp=Z,8.0nm,0.7s						
PLPT	Palo Pinto	3.28	188	Pn	Pn	23 22 29.3	+0.4
APMT	Aspermont	3.35	216	IAmb_Lg		23 23 29.7	
	comp=Z,9.1nm,1.0s						
AMTX	Amarillo	3.40	251	IAmb_Lg		23 23 24.1	
	comp=Z,12nm,0.9s						
DKNS	Dickens	3.53	228	Pn	Pn	23 22 33.4	+1.1
Z38A	Mt. Pleasant	3.63	140	Pn	Pn	23 22 33.0	-0.7
Z38A				IAmb_Lg		23 23 40.4	
	comp=Z,16nm,0.8s						
MIAR	Mount Ida	3.76	113	Pn	Pn	23 22 36.4	+1.0
ABTX	Abilene, Hawle	3.77	205	IAmb_Lg		23 23 44.9	
	comp=Z,16nm,1.2s						
SN07	Snyder 07	3.93	222	IAmb_Lg		23 23 44.1	
	comp=Z,16nm,0.9s						
RTBA	Rita Blanca	4.03	277	Pn	Pn	23 22 39.4	+0.2
POST	Post	4.29	227	Pn	Pn	23 22 40.9	-1.9
POST				IAmb_Lg		23 23 57.8	
	comp=Z,10.0nm,0.7s						
WHAR	Wooly Hollow	4.54	98	Pn	Pn	23 22 46.4	+0.3
WHAR				IAmb_Lg		23 24 11.4	
	comp=Z,9.4nm,0.9s						
MGMO	Mountain Grove	4.56	75	IAmb_Lg		23 24 04.2	
	comp=Z,14nm,0.9s						
FCAR	Ozark Folk Cen	4.59	91	IAmb_Lg		23 24 02.3	
	comp=Z,6.6nm,0.7s						
UALR	University of	4.62	105	IAmb_Lg		23 24 13.9	
	comp=Z,11nm,1.2s						
R40A	Maddies Statio	4.92	62

UZB					*e*S		Sg	23 30 04.2	+0.4
	6.6nm,0.1s								
PRZ	**Przheval'sk**	**0.49**	**200**	⇓	*e*P		**Pn**	**23 30 05.2**	**-0.5**
PRZ				⇓	*e*S		**Sb**	**23 30 11.2**	**+0.6**
KPKS	**Kokpek**	**0.53**	**5**		P		**Pg**	**23 30 02.1**	**-0.2**
	0.2nm,0.1s								
KPKS					S		**Sg**	**23 30 08.8**	**-0.3**
	3.8nm,0.3s								
PDGK	**Podgornoye**	**0.74**	**58**	⇓	P		**Pg**	**23 30 06.5**	**+0.1**
	1.9nm,0.8s								
PDGK				⇓	S		**Sg**	**23 30 16.1**	**+0.1**
	2.7nm,1.0s								
KNDC	**Almaty**	**1.25**	**283**	⇑	P		**Pn**	**23 30 16.4**	**+0.4**
	13nm,0.8s								
KNDC				⇑	S		**Sn**	**23 30 33.6**	**+0.5**
	2.5nm,0.4s								
KDJ	**Kajisay**	**1.34**	**233**	⇑	*e*P		**Pg**	**23 30 18.4**	**+0.6**
KDJ				⇑	*e*S		**Sb**	**23 30 34.9**	**-0.3**
TARG	**Taragay, Kyrgy**	**1.36**	**207**	⇓	*e*P		**Pn**	**23 30 18.2**	**+0.3**
TARG				⇓	*e*S		**Sg**	**23 30 35.2**	**-0.5**
ULHL	**Ulahol**	**1.89**	**249**	⇑	*e*P		**Pb**	**23 30 26.6**	**-0.5**
ULHL				⇑	*e*S		**Sn**	**23 30 49.8**	**+0.5**
BOOM	**Boomskoye usch**	**2.03**	**258**	⇑	*e*P		**Pb**	**23 30 28.6**	**-0.8**
BOOM				⇑	*e*S		**Sn**	**23 30 52.6**	**0.0**
TKM2	**Tokmak 2**	**2.22**	**270**	⇑	*e*P		**Pb**	**23 30 31.5**	**-1.3**
TKM2				⇑	*e*S		**Sn**	**23 30 58.3**	**+0.8**

*JSN **15** 23:35:17.1±1.3, 18.°66N×73.°51W, h0km±999km*
*OSPL **15** 23:35:18.5±3.2, 18.°45N×73.°61W, h0km±25km, ML3.3*
*SSNC **15** 23:35:18.8±1.9, 18.°39N×73.°57W, h5km±12km, MD3.8, ML3.0*

ISC 15 23:35:15.1±0.9, **18.°46N**±0.°05×**73.°58W**±0.°03, **h10**km, **n27**, σ2°**02**/45, **3D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.81**	**340**	*e*P		**Pb**	**23 35 48.6**	**+0.2**
MASC				*i* S		**Sb**	**23 36 11.1**	**-0.1**
MASC				IAML			23 36 12.9	
	comp=E,104nm,0.4s							
MASC				IAML			23 36 13.9	
	comp=N,49nm,0.3s							
MASC	**Masc**	**1.81**	**340**	*i* P		**Pg**	**23 35 48.8**	**-1.1**
MASC				*e*S		**Sb**	**23 36 11.2**	**0.0**
LOBH	**Bahia de las A**	**1.94**	**108**	*i* P		**Pb**	**23 35 49.3**	**-1.3**
LOBH				*e*S		**Sb**	**23 36 14.4**	**-0.5**
LOBH				IAML			23 36 16.7	
	comp=Z,360nm,0.6s							
LODU1	**El Espartillar**	**2.00**	**93**	*i* P		**Pb**	**23 35 51.1**	**-0.6**
LODU1				*e*S		**Sg**	**23 36 17.7**	**-1.8**
LODU1				IAML			23 36 21.5	
	comp=Z,684nm,0.4s							
LONE3	**El Aguacate, B**	**2.02**	**86**	*i* P		**Pb**	**23 35 51.8**	**-0.3**
LONE3				*e*S		**Sg**	**23 36 18.3**	**-1.8**
LONE3				IAML			23 36 25.1	
	comp=Z,214nm,0.8s							
GTBY	**Guantanamo Bay**	**2.05**	**315**	*i* P		**Pb**	**23 35 52.0**	**-0.6**
GTBY				*i* S		**Sb**	**23 36 19.0**	**+0.8**
GTBY				IAML			23 36 25.5	
	comp=Z,112nm,0.2s							
GTBY				IAML			23 36 25.9	
	comp=Z,64nm,0.1s							
GTBY	**Guantanamo Bay**	**2.05**	**315**	*i* P		**Pb**	**23 35 52.7**	**+0.1**
GTBY				IAML			23 36 28.4	
	comp=Z,70nm,0.5s							
QMBU	**Quimbuelo**	**2.08**	**326**	*i* P		**Pb**	**23 35 51.6**	**-1.4**
QMBU				*i* S		**Sb**	**23 36 18.4**	**-0.7**
QMBU				IAML			23 36 23.1	
	comp=E,96nm,0.3s							
QMBU				IAML			23 36 23.2	
	comp=N,68nm,0.3s							
PODR	**Polo**	**2.20**	**97**	*i* P		**Pb**	**23 35 54.5**	**-0.7**
PODR				*e*S		**Sg**	**23 36 24.6**	**-1.4**
SDDR	**Presa de Saban**	**2.23**	**76**	*e*P		**Pb**	**23 35 55.1**	**-0.6**
SDDR				*e*S		**Sb**	**23 36 22.1**	**-1.3**
SDDR	**Presa de Saban**	**2.23**	**76**	*i* P		**Pb**	**23 35 55.6**	**0.0**
SDDR				*e*S		**Sb**	**23 36 22.6**	**-0.8**
SDDR				IAML			23 36 26.9	
	comp=Z,220nm,0.6s							
RCC	**Rio Carpintero**	**2.52**	**308**	*e*P		**Pn**	**23 35 58.1**	**+2.0**
RCC				*i* P		**Pb**	**23 35 58.5**	**-1.9**
RCC				*i* S		**Sb**	**23 36 30.6**	**-0.8**
RCC				IAML			23 36 37.4	
	comp=E,66nm,0.2s							
RCC				IAML			23 36 37.8	
	comp=N,54nm,0.1s							
LOPP1	**Punta Rusia, P**	**2.64**	**58**	*i* P		**Pb**	**23 36 02.6**	**0.0**
LOPP1				IAML			23 36 39.0	
	comp=Z,100nm,0.3s							
MARVS	**Santiago de Cu**	**2.67**	**305**	*i* P		**Pb**	**23 36 01.6**	**-1.5**
MARVS				*i* S		**Sb**	**23 36 34.9**	**-1.1**
MARVS				IAML			23 36 41.5	
	comp=N,49nm,0.2s							
MARVS				IAML			23 36 42.2	
	comp=E,105nm,0.3s							
PINC	**Pinares de May**	**2.90**	**314**	*i* P		**Pn**	**23 36 03.5**	**+2.1**
PINC				*i* S		**Sn**	**23 36 38.9**	**+2.6**
PINC				IAML			23 36 46.3	
	comp=E,36nm,0.1s							
PINC				IAML			23 36 46.6	
	comp=N,36nm,0.1s							
GWJ	**Greenwich**	**3.02**	**263**	⇓	*i*P		**Pn**	**23 36 06.4**	**+3.3**
HOJ	**Hope**	**3.05**	**262**	*i* P		**Pn**	**23 36 06.2**	**+2.7**
CHIV	**Chivirico**	**3.07**	**300**	*i* P		**Pn**	**23 36 05.9**	**+2.1**
CHIV				*i* S		**Sn**	**23 36 43.3**	**+2.7**
CHIV				IAML			23 36 55.2	
	comp=N,18nm,0.3s							
CHIV				IAML			23 36 55.3	
	comp=E,18nm,0.2s							
STH	**Stony Hill**	**3.09**	**263**	⇓	*i*P		**Pb**	**23 36 07.8**	**-2.5**
YAR	**Yar**	**3.24**	**306**	*i* P		**Pb**	**23 36 09.5**	**-3.3**
YAR				*i* S		**Sn**	**23 36 47.4**	**+2.7**
LMGC	**Las Mercedes**	**3.61**	**297**	*i* P		**Pn**	**23 36 13.6**	**+2.5**
MTDJ	**Mount Denham**	**3.76**	**267**	*i* P		**Pn**	**23 36 17.2**	**+3.8**
MTDJ	**Mount Denham**	**3.76**	**267**	⇓	*i*P		**Pn**	**23 36 16.7**	**+3.3**
MTDJ	**Mount Denham**	**3.76**	**267**	*i* P		**Pn**	**23 36 16.9**	**+3.5**
MTDJ				IAML			23 37 12.1	
	comp=Z,20nm,1.0s							
GRTK	**Grand Turk**	**3.81**	**37**	*i* P		**Pn**	**23 36 16.6**	**+2.7**
GRTK				*e*S		**Sn**	**23 36 59.4**	**+0.6**
GRTK				IAML			23 37 01.9	
	comp=Z,34nm,1.0s							
MCJ	**Malvern**	**3.94**	**263**	*i* P		**Pn**	**23 36 19.0**	**+3.2**
CCCC	**Cccc**	**4.79**	**305**	*i* P		**Pn**	**23 36 27.2**	**-0.2**
CCCC				*i* S		**Sn**	**23 37 19.4**	**-3.6**
CCCC				IAML			23 37 29.4	
	comp=N,4.6nm,0.4s							
CCCC				IAML			23 37 30.1	
	comp=E,5.2nm,0.8s							

*TEH **15** 23:45:18.1, 32.°29N×47.°84E, h10km±101km*
*ISN **15** 23:45:18.1±1.9, 32.°30N×47.°61E, h10km±12km, ML2.9*

ISC 15 23:45:18.9±1.4, **32.°25N**±0.°07×**47.°82E**±0.°05, **h10**km, **n14**, σ0°**57**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**1.54**	**250**	*e*Pg		**Pn**	**23 45 46.0**	**-0.5**
	baz=65							
RAFI				*e*Sg		**Sn**	**23 46 07.0**	**+0.4**
BDRS	**Dareh Seyedi**	**1.91**	**27**	Pn		**Pn**	**23 45 51.2**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.93**	**316**	Pn		**Pn**	**23 45 50.9**	**-1.0**
IGHG	**Ghaleghazi**	**2.32**	**333**	Pn		**Pn**	**23 45 56.9**	**-0.5**
JHBN	**Jahan bin**	**2.41**	**90**	Pn		**Pn**	**23 45 58.8**	**+0.1**
GLG1	**Gilan-e-Gharb**	**2.45**	**320**	Pn		**Pn**	**23 46 00.3**	**+1.2**
ZNGN	**Zangian**	**2.57**	**92**	Pn		**Pn**	**23 46 01.1**	**+0.1**
IALM	**Almabolaq**	**2.62**	**6**	Pn		**Pn**	**23 46 02.0**	**+0.5**
IPIR	**Pirpir**	**2.63**	**80**	Pn		**Pn**	**23 46 01.8**	**+0.1**
IDHR	**Dehrash**	**2.72**	**334**	Pn		**Pn**	**23 46 03.0**	**+0.1**
HAGD	**Aghdareh**	**2.79**	**23**	Pn		**Pn**	**23 46 03.6**	**-0.2**
BHD	**Baghdad**	**3.07**	**290**	*e*Pn		**Pn**	**23 46 08.0**	**+0.5**
BHD				*e*Sn		**Sn**	**23 46 44.0**	**-0.3**
BHD				AML		AML	23 46 55.7	
	comp=E,63nm,0.5s							
IKLH	**Kolahrood**	**3.34**	**70**	Pn		**Pn**	**23 46 11.6**	**+0.2**
IRAM	**Ramesheh**	**3.90**	**95**	Pn		**Pn**	**23 46 18.8**	**-0.3**

*IDC **15** 23:49:41.0±1.8, 13.°79N×120.°27E, h75km±19km, mb3.5/10, mbtmp3.8/10, MS2.8/1, Error ellipse: s-maj=39.8km s-min=16.4km az=65.0*

ISC 15 23:49:42.9±0.9, **13.°9N**±0.°2×**120.°5E**±0.°2, **h100**km, **n13**, σ1°**13**/15, **mb3.7**/10, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.45**	**61**	P		**Pn**	**23 49 57.0**	**-1.5**
	2μm,0.5s,baz=250,slow=3.3,SNR=41							
TGY				S		**Sn**	**23 50 09.5**	**-0.6**
	3μm,0.5s,baz=340,slow=23,SNR=30							
CMAR	**Chiang Mai Arr**	**21.22**	**285**	P		**P**	**23 54 18.6**	**-2.3**
	0.5nm,0.3s,baz=82,slow=12,SNR=2.2							
	0.5nm,0.3s							
JCJ	**Chichijima**	**24.12**	**54**	LR		LR	00 03 37.1	
	comp=Z,23nm,21.9s,baz=131,slow=34							
SONM	**Songino Array**	**35.84**	**344**	P		**P**	**23 56 34.2**	**+1.2**
	0.9nm,0.8s,baz=177,slow=8.9,SNR=4.3							
	0.9nm,0.8s							
WRA	**Warramunga Arr**	**36.26**	**158**	P		**P**	**23 56 36.8**	**0.0**
	0.7nm,0.4s,baz=334,slow=9.7,SNR=6.3							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**39.55**	**161**	P		**P**	**23 57 05.2**	**+0.8**
	0.6nm,0.6s,baz=339,slow=7.2,SNR=8.2							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**45.79**	**324**	P		**P**	**23 57 53.8**	**-0.8**
	0.5nm,0.8s,baz=143,slow=10,SNR=3.6							
MKAR				PcP		**PcP**	**23 59 32.1**	**+1.4**
	0.4nm,0.7s,baz=113,slow=3.3,SNR=4.2							
	0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**48.82**	**333**	P		**P**	**23 58 17.6**	**-0.4**
	0.5nm,0.6s,baz=153,slow=4.8,SNR=1.7							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**49.94**	**326**	P		**P**	**23 58 27.5**	**+0.9**
	0.4nm,0.6s,baz=132,slow=7.7,SNR=5.5							
KURBB				PcP		**PcP**	**23 59 46.2**	**+0.8**
	0.2nm,0.6s,baz=114,slow=3.7,SNR=4.0							
	0.4nm,0.6s							
ARCES	**ARCESS Array B**	**78.85**	**339**	P		**P**	**00 01 35.7**	**+0.9**
	1.6nm,0.8s,baz=79,slow=5.5,SNR=7.2							
	1.6nm,0.8s							
HFS	**Hagfors**	**86.23**	**331**	P		**P**	**00 02 13.2**	**0.0**
	1.6nm,0.8s,baz=96,slow=9.3,SNR=1.6							
	1.6nm,0.8s							
NB2	**NORSAR Subarra**	**87.02**	**333**	P		**P**	**00 02 16.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**87.02**	**333**	P		**P**	**00 02 16.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=67,slow=4.7,SNR=5.5							
	comp=Z,1.0nm,0.7s							

*IDC **16** 00:15:13.3±2.1, 3.°61S×68.°04E, h0km, mb3.6/8, mbtmp3.6/8, MS3.3/1, Error ellipse: s-maj=58.2km s-min=26.4km az=55.0*

ISC 16 00:15:15.8±2.1, **3.°6S**±0.°3×**68.°1E**±0.°3, **h15**km, **n9**, σ1°**36**/8, **mb3.9**/8, **Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**34.82**	**40**	LR		LR	00 36 19.1	
	comp=Z,55nm,20.8s,baz=226,slow=36							
CMAR	**Chiang Mai Arr**	**37.50**	**53**	P		**P**	**00 22 30.0**	**+0.6**
	0.3nm,0.3s,baz=232,slow=8.0,SNR=6.4							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**51.72**	**12**	P		**P**	**00 24 24.0**	**+1.5**
	0.7nm,1.0s,baz=200,slow=12,SNR=3.1							
	0.7nm,1.0s							
BRTR	**Keskin Array B**	**53.45**	**327**	P		**P**	**00 24 36.1**	**+0.5**
	0.1nm,0.3s,baz=145,slow=5.3,SNR=1.7							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**54.74**	**8**	P		**P**	**00 24 43.5**	**-1.1**
	1.1nm,1.0s,baz=194,slow=6.9,SNR=3.2							
	1.1nm,1.0s							
ZALV	**Zalesovo Beam**	**59.02**	**11**	P		**P**	**00 25 13.8**	**-1.1**
	0.4nm,0.4s,baz=196,slow=8.5,SNR=1.8							
	0.4nm,0.4s							
SONM	**Songino Array**	**61.22**	**28**	P		**P**	**00 25 29.7**	**-0.6**
	0.6nm,0.7s,baz=232,slow=7.5,SNR=4.2							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**66.48**	**114**	P		**P**	**00 26 06.6**	**+1.2**
	1.1nm,1.1s,baz=283,slow=5.6,SNR=4.7							
	1.1nm,1.1s							
WRA	**Warramunga Arr**	**66.51**	**110**	P		**P**	**00 26 04.2**	**-1.4**
	0.9nm,1.0s,baz=271,slow=6.0,SNR=6.1							
	0.9nm,1.0s							

*IDC **16** 00:15:40.8±2.0, 3.°46S×67.°66E, h0km, mb3.8/7, mbtmp3.8/7, MS3.8/2, Error ellipse: s-maj=56.7km s-min=26.6km az=52.0*

ISC 16 00:15:42.4±2.1, **3.°5S**±0.°3×**67.°7E**±0.°3, **h10**km, **n18**, σ0°**96**/7, **mb3.9**/7, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**6.34**	**131**	T	T	00 23 48.5	
	baz=308,slow=75						
H08S1	**Diego Garcia H**	**6.34**	**131**	T	T	00 23 49.1	
	baz=308,slow=75						
H08S2	**Diego Garcia H**	**6.36**	**131**	T	T	00 23 52.0	
	baz=308,slow=75						
PALK	**Pallekele**	**16.81**	**51**	LR	LR	00 24 39.4	
	comp=Z,290nm,18.8s,baz=234,slow=32						
CMAR	**Chiang Mai Arr**	**37.72**	**54**	P		**P**	**00 22 58.8**	**+0.1**
	0.4nm,0.3s,baz=250,slow=10,SNR=4.5							
	0.4nm,0.3s							
H04N2	**CROZET ISLANDS**	**44.74**	**196**	T	T	01 12 40.7	
	baz=18						
H04N1	**CROZET ISLANDS**	**44.74**	**196**	T	T	01 12 30.0	
	baz=18						
H04N3	**CROZET ISLANDS**	**44.76**	**196**	T	T	01 12 45.3	
	baz=18						
BRTR	**Keskin Array B**	**53.13**	**327**	P		**P**	**00 25 01.1**	**+0.4**
	0.9nm,0.8s,baz=145,slow=7.9,SNR=5.7							
	0.9nm,0.8s							
H01W3	**Cape Leeuwin H**	**53.18**	**132**	T	T	01 22 27.1	
	baz=295						
H01W2	**Cape Leeuwin H**	**53.19**	**132**	T	T	01 22 15.8	
	baz=295						
H01W1	**Cape Leeuwin H**	**53.20**	**132**	T	T	01 22 27.4	
	baz=295						
KURBB	**Kurchatov Arra**	**54.67**	**8**	P		**P**	**00 25 10.4**	**-1.1**
	0.8nm,0.9s,baz=202,slow=7.2,SNR=4.5							
	0.8nm,0.9s							
BATI	**Baumata**	**55.94**	**100**	LR	LR	00 47 10.3	
	comp=Z,110nm,21.2s,baz=260,slow=34							
ZALV	**Zalesovo Beam**	**58.96**	**12**	P		**P**	**00 25 40.9**	**-1.0**
	0.3nm,0.2s,baz=210,slow=8.6,SNR=4.1							
	0.3nm,0.2s							
SONM	**Songino Array**	**61.28**	**29**	P		**P**	**00 25 59.1**	**+1.0**
	2.4nm,0.9s,baz=219,slow=7.8,SNR=7.8							
	2.4nm,0.9s							
ASAR	**Alice Springs**	**66.88**	**114**	P		**P**	**00 26 34.9**	**-0.5**
	0.8nm,0.9s,baz=280,slow=6.6,SNR=4.1							
	0.8nm,0.9s							
WRA	**Warramunga Arr**	**66.91**	**110**	P		**P**	**00 26 35.9**	**+0.3**
	0.6nm,0.4s,baz=283,slow=6.5,SNR=5.8							
	0.6nm,0.4s							

*IDC **16** 00:18:04.8±0.8, 36.°81N×26.°54E, h0km, mb3.7/6, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=23.9km s-min=14.4km az=142.0*
*ISK **16** 00:18:05.5, 36.°85N×26.°50E, h15km, ML3.7/30*
*THE **16** 00:18:06.7, 37.°N±2.°×2.°7E±.°, h14km±5km, M3.3/42, MLh3.3/42*
*AFAD **16** 00:18:06.0, 36.°88N×26.°51E, h15km±6km, MW3.6*
*ATH **16** 00:18:07.1, 36.°94N×26.°60E, h22km±1km, ML3.5/22, Manual Solution by N.Liadopoulou First location: 2019/10/16 00:19:22, This location: 2019/10/16 05:01:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 16 00:18:06.8±0.9, **36.°90N**±0.°02×**26.°55E**±0.°02, **h16**km±6km, **n175**, σ1°**10**/211, **mb3.8**/5, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNA	**Kalymnos**	**0.34**	**80**	P		**Pg**	**00 18 13.6**	**-0.4**
KLNA				S		**Sg**	**00 18 18.6**	**-0.2**
NISR	**Nisiros**	**0.54**	**121**	P		**Pg**	**00 18 17.4**	**-0.1**
NISR				S		**Sg**	**00 18 25.4**	**+0.6**
NISR	**Nisiros**	**0.54**	**121**	P		**Pg**	**00 18 17.3**	**-0.3**
NISR				S		**Sg**	**00 18 25.1**	**+0.2**
YKAV	**Yalikavak-Bodr**	**0.63**	**68**	Pg		**Pg**	**00 18 18.2**	**-0.9**
YKAV	**Yalikavak-Bodr**	**0.63**	**68**	P		**Pg**	**00 18 17.8**	**-1.4**
BODT	**Bodrum**	**0.63**	**75**	Pg		**Pg**	**00 18 19.3**	**+0.1**
BODT				Sg		**Sb**	**00 18 29.2**	**+1.2**
BODT	**Bodrum**	**0.63**	**75**	P		**Pb**	**00 18 20.0**	**+0.7**
BODT	**Bodrum**	**0.63**	**75**	P		**Pg**	**00 18 19.5**	**+0.3**
BODT				S		**Sb**	**00 18 28.8**	**+0.8**
DIDI	**Didim-Aydin**	**0.73**	**49**	Pg		**Pg**	**00 18 21.2**	**+0.1**
DIDI				Sg		**Sn**	**00 18 32.7**	**-0.5**
BDRM	**Kayabasi**	**0.73**	**76**	P		**Pg**	**00 18 21.2**	**0.0**
BDRM				S		**Sg**	**00 18 30.3**	**-0.6**
BDRM				*i* IAML			00 18 34.0	
	comp=E,2μm,0.2s							
YAZI	**Mula-Datşa-**	**0.75**	**106**	P		**Pb**	**00 18 22.0**	**+0.5**
YAZI				S		**Sb**	**00 18 32.0**	**+0.5**
YAZI				*i* IAML			00 18 34.0	
	comp=E,2μm,0.7s							
DDIM	**Aydin, Didim**	**0.79**	**44**	P		**Pg**	**00 18 22.2**	**+0.1**
DDIM				S		**Sb**	**00 18 34.0**	**+1.6**
DDIM				*i* IAML			00 18 36.0	
	comp=N,6μm,0.6s							
APE	**Apeiranthos**	**0.84**	**282**	Pg		**Pg**	**00 18 21.8**	**-1.3**
APE				Sg		**Sb**	**00 18 33.7**	**-0.2**
APE	**Apeiranthos**	**0.84**	**282**	P		**Pg**	**00 18 22.2**	**-0.9**
APE				S		**Sb**	**00 18 33.8**	**-0.2**
APE	**Apeiranthos**	**0.84**	**282**	P		**Pg**	**00 18 22.2**	**-0.9**
APE				S		**Sb**	**00 18 34.6**	**+0.6**
DAT	**Datca**	**0.84**	**101**	Pg		**Pg**	**00 18 22.8**	**-0.4**
DAT				Sg		**Sb**	**00 18 35.4**	**+1.3**
DAT	**Datca**	**0.84**	**101**	P		**Pg**	**00 18 23.1**	**-0.1**
DAT				S		**Sg**	**00 18 34.6**	**+0.3**
DATC	**Datca-Mugla**	**0.90**	**98**	Pg		**Pb**	**00 18 23.7**	**-0.3**
DATC				Sg		**Sn**	**00 18 37.5**	**+0.1**
DATC	**Datca-Mugla**	**0.90**	**98**	P		**Pn**	**00 18 24.9**	**+0.1**
DATC				S		**Sg**	**00 18 36.0**	**-0.1**
DATC				*i* IAML			00 18 39.0	
	comp=N,1μm,0.4s							
KRL1	**Karlovasi Samo**	**0.91**	**8**	P		**Pb**	**00 18 23.5**	**-0.6**
KRL1				S		**Sg**	**00 18 35.5**	**-0.8**
THERA	**Ancient Thera,**	**1.01**	**239**	P		**Pb**	**00 18 25.3**	**-0.7**
THERA				S		**Sn**	**00 18 40.5**	**+0.3**
SFIR	**Foira Santorin**	**1.02**	**243**	P		**Pb**	**00 18 25.5**	**-0.5**
THRA	**Thira**	**1.02**	**242**	P		**Pn**	**00 18 26.9**	**+0.5**
THR3	**Thira Island,**	**1.05**	**243**	P		**Pb**	**00 18 25.6**	**-0.9**
SNT5	**Nea Kammeni, S**	**1.05**	**243**	P		**Pb**	**00 18 25.3**	**-1.3**
SNT5				S		**Sg**	**00 18 40.8**	**-0.2**
SNT5	**Nea Kammeni, S**	**1.05**	**243**	P		**Pb**	**00 18 26.6**	**0.0**
SNT5				S		**Sn**	**00 18 41.3**	**+0.2**
MLSB	**Milas**	**1.06**	**67**	P		**Pb**	**00 18 23.5**	**-3.2**
MLSB				S		**Sb**	**00 18 38.5**	**-1.8**
SAP3	**Santorini-Thir**	**1.07**	**245**	P		**Pb**	**00 18 26.7**	**-0.2**
SAP3	**Santorini-Thir**	**1.07**	**245**	P		**Pg**	**00 18 27.1**	**-0.4**
SAP3				S		**Sn**	**00 18 42.3**	**+0.6**
KUSD	**Kusadasi-Aydin**	**1.13**	**31**	P		**Pg**	**00 18 28.8**	**+0.2**
KUSD				S		**Sb**	**00 18 40.8**	**-1.5**
KUSD				*i* IAML			00 18 45.0	
	comp=N,8μm,0.5s							
KUSD				*i* IAML			00 18 45.0	
	comp=E,5μm,0.6s							
DGB	**zmir**	**1.18**	**13**	P		**Pn**	**00 18 27.3**	**-1.3**
DGB				S		**Sb**	**00 18 44.2**	**+0.4**
DGB				*i* IAML			00 18 48.0	
	comp=N,1μm,0.7s							
GMLD	**Gumuldur**	**1.21**	**14**	Pn		**Pn**	**00 18 29.1**	**+0.1**
GMLD				Sn		**Sg**	**00 18 46.5**	**+0.4**
GMLD	**Gumuldur**	**1.21**	**14**	P		**Pn**	**00 18 28.8**	**-0.2**
GMLD				S		**Sg**	**00 18 46.2**	**+0.2**
GMLD				*i* IAML			00 18 49.0	
	comp=N,3μm,0.4s							
GMLD				*i* IAML			00 18 51.0	
	comp=E,3μm,0.4s							
TNSA	**Tinos**	**1.28**	**301**	P		**Pn**	**00 18 29.1**	**-0.9**
AYDN	**Tasoluk**	**1.30**	**54**	P		**Pn**	**00 18 29.4**	**-1.0**
ZEYE	**Izmir, Urla-Ze**	**1.34**	**358**	P		**Pn**	**00 18 29.5**	**-1.3**
ZEYE				S		**Sg**	**00 18 49.8**	**-0.3**
ZEYE				*i* IAML			00 18 53.0	
	comp=N,2μm,0.4s							
TURN	**Turunc**	**1.36**	**95**	Pn		**Pn**	**00 18 30.6**	**-0.5**
TURN	**Turunc**	**1.36**	**95**	P		**Pn**	**00 18 30.4**	**-0.7**
YER	**Yerkesik**	**1.41**	**80**	Pn		**Pn**	**00 18 32.0**	**+0.2**
YER	**Yerkesik**	**1.41**	**80**	P		**Pb**	**00 18 33.0**	**+0.4**
YER	**Yerkesik**	**1.41**	**80**	P		**Pb**	**00 18 32.8**	**+0.1**
RGE1	**Gennadi, Rhode**	**1.41**	**128**	P		**Pn**	**00 18 31.2**	**-0.5**
RGE1				S		**Sn**	**00 18 48.9**	**-1.0**
RDI1	**Rhodes Town Ha**	**1.42**	**108**	P		**Pn**	**00 18 30.8**	**-1.0**
RDI1				S		**Sn**	**00 18 49.2**	**-0.8**
RODB	**Rodos**	**1.42**	**108**	P		**Pn**	**00 18 31.1**	**-0.7**
RODB				S		**Sn**	**00 18 49.1**	**-0.9**
KARP	**Karpathos**	**1.43**	**160**	Pn		**Pn**	**00 18 31.2**	**-0.9**
KARP	**Karpathos**	**1.43**	**160**	P		**Pn**	**00 18 31.6**	**-0.6**
ARG	**Arkhangelos**	**1.44**	**118**	Pn		**Pn**	**00 18 31.9**	**-0.2**
ARG	**Arkhangelos**	**1.44**	**118**	P		**Pn**	**00 18 31.7**	**-0.4**
ARG	**Arkhangelos**	**1.44**	**118**	P		**Pn**	**00 18 31.7**	**-0.4

SKY1	Skyros Island	2.55 323	P	Pn	00 18 47.2	-0.2
KYMI	Kymi, Euboea I	2.60 312	P	Pn	00 18 47.8	-0.4
KYMI	Kymi, Euboea I	2.60 312	P	Pn	00 18 47.6	-0.6
MET4	Agioi Theodoro	2.62 287	P	Pn	00 18 48.4	0.0
MET6	Megalochori,Me	2.64 286	P	Pn	00 18 48.9	+0.2
MET5	Makryloggos,Me	2.65 287	P	Pn	00 18 49.1	+0.3
MET2	Kameni Chora,	2.67 287	P	Pn	00 18 49.3	+0.2
MAGU	Magoula	2.69 297	P	Pn	00 18 49.3	-0.1
ELL	Elmali	2.70 92	Pn	Pn	00 18 50.3	+0.7
STFN	Stefani	2.71 299	P	Pn	00 18 49.8	+0.1
STFN	Stefani	2.71 299	P	Pn	00 18 49.6	-0.1
ANKY	Antikythira Is	2.82 250	P	Pn	00 18 51.0	-0.1
ANKY	Antikythira Is	2.82 250	P	Pn	00 18 51.1	-0.1
VILL	Villia	2.87 297	P	Pn	00 18 52.9	+1.0
VLI	Veliai	2.91 268	P	Pn	00 18 52.1	-0.2
VLI	Veliai	2.91 268	P	Pn	00 18 51.9	-0.4
VIL2	Platees	2.92 298	P	Pn	00 18 51.7	-0.9
LOUT	Loutraki	3.05 292	P	Pn	00 18 54.2	-0.1
LTK	Loutraki	3.07 293	P	Pn	00 18 54.7	+0.2
LTK	Loutraki	3.07 293	P	Pn	00 18 54.4	-0.1
AOS	Alonnisos	3.10 318	P	Pn	00 18 54.9	-0.1
LIA	Limnos Island	3.18 341	P	Pn	00 18 55.6	-0.6
LIA	Limnos Island	3.18 341	P	Pn	00 18 55.4	-0.7
LKR	Lokris	3.31 303	P	Pn	00 18 57.8	-0.1
LKR	Lokris	3.31 303	P	Pn	00 18 57.8	-0.1
ATAL	Atalanti	3.32 304	P	Pn	00 18 58.0	-0.1
ATAL	Atalanti	3.32 304	P	Pn	00 18 57.9	-0.2
GADA	Gvkgeada	3.33 351	P	Pn	00 18 57.8	-0.4
GUR	Goura	3.51 288	P	Pn	00 19 00.7	0.0
NEO	Neokhori	3.56 314	P	Pn	00 19 01.4	0.0
NEO	Neokhori	3.56 314	P	Pn	00 19 01.2	-0.1
AXAR	Agios Charalam	3.60 302	P	Pn	00 19 02.5	+0.5
AXAR	Agios Charalam	3.60 302	P	Pn	00 19 01.9	0.0
SMTH	Samothraki Isl	3.66 348	P	Pn	00 19 01.4	-1.3
KLV	Kalavryta, Ach	3.68 289	P	Pn	00 19 03.5	+0.4
KLV	Kalavryta, Ach	3.68 289	P	Pn	00 19 03.2	+0.1
KALE	Kalithea	3.81 294	P	Pn	00 19 06.0	+1.2
KALE	Kalithea	3.81 294	P	Pn	00 19 05.2	+0.4
ENEZ	Enez	3.85 355	P	Pn	00 19 05.1	-0.1
PYL	PYLOS	3.86 271	P	Pn	00 19 07.2	+1.8
SERG	Sergoula	3.88 294	P	Pn	00 19 06.6	+0.9
AGG	Agios Georgios	3.95 304	P	Pn	00 19 07.5	+0.7
OUR	Ouranopolis	3.98 330	P	Pn	00 19 07.1	0.0
EFP	Efpalio	3.99 294	P	Pn	00 19 08.2	+1.0
DRO	Drossia	4.00 287	P	Pn	00 19 07.6	+0.3
ALN	Alexandroupoli	4.01 355	P	Pn	00 19 07.1	-0.5
ANX	Ano Chora	4.04 296	P	Pn	00 19 09.0	+0.9
MAKR	Makrakomi, Fth	4.08 303	P	Pn	00 19 10.2	+1.7
EVR	Evrytania	4.26 300	P	Pn	00 19 12.5	+1.5
RDO	Rodhopi	4.32 350	P	Pn	00 19 11.4	-0.3
THL	Klokotos Trika	4.46 308	P	Pn	00 19 14.0	+0.3
LIT	Litokhoron	4.51 316	P	Pn	00 19 14.8	+0.3
BRTR	Keskin Array B	6.25 61	Pn	Pn	00 19 40.2	+1.8
	0.8nm,0.3s,baz=243,slow=16,SNR=27					
	1.9nm,0.4s					
MMAI	Mount Meron Ar	8.23 115	Pn	Pn	00 20 04.8	-0.8
	1.0nm,0.3s,baz=318,slow=12,SNR=7.6					
MMAI			Sn	Sn	00 21 31.5	-6.8
	1.2nm,0.3s,baz=304,slow=12,SNR=4.6					
	0.5nm,0.3s					
MLR	Muntele Rosu	8.60 357	Pn	Pn	00 20 13.0	+2.4
	0.2nm,0.3s,baz=157,slow=9.5,SNR=3.3					
	1.2nm,0.7s					
EIL	Elat	10.06 133	Pn	Pn	00 20 29.4	-1.2
	0.4nm,0.3s,baz=274,slow=1.8,SNR=9.9					
EIL			Sn	Sn	00 22 17.1	-6.1
	1.0nm,0.3s,baz=253,slow=4.4,SNR=6.1					
	1.5nm,0.4s					
MODS	Modra-Piesok	13.34 332	ePN	Pn	00 21 16.2	+0.9
ESDC	Sonseca Array	24.06 286	P	P	00 23 21.5	+0.3
	0.7nm,0.8s,baz=76,slow=9.0,SNR=6.8					
	0.7nm,0.8s					
TORD	Torodi Ar. Bea	32.47 230	P	P	00 24 36.6	+0.1
	0.5nm,0.4s,baz=35,slow=10.0,SNR=16					
	0.5nm,0.4s					
KURBB	Kurchatov Arra	39.16 53	P	P	00 25 34.6	+1.0
	0.4nm,0.4s,baz=274,slow=8.8,SNR=4.4					
	0.4nm,0.4s					
MKAR	Makanchi Array	41.89 58	P	P	00 25 57.6	+1.4
	2.0nm,0.6s,baz=283,slow=6.5,SNR=20					
	2.0nm,0.6s					
ZALV	Zalesovo Beam	43.00 47	P	P	00 26 05.6	+0.6
	0.8nm,0.4s,baz=279,slow=8.2,SNR=2.7					
	0.8nm,0.4s					
SONM	Songino Array	57.52 52	P	P	00 27 56.8	+1.4
	0.7nm,0.8s,baz=297,slow=6.3,SNR=2.5					
	0.7nm,0.8s					
QSPA	South Pole Qui	126.75 180	PKP	PKPdf	00 37 08.6	+0.1
	0.5nm,0.4s,baz=240,slow=20,SNR=12					

*NNC **16** 00:48:41.3±5.7, 36°.40N×69°.74E, h56km±122km, mb3.9, mpv4.0, Error ellipse: s-maj=47.8km s-min=40.9km az=111.0*

ISC 16 00:48:38.7±3.7, 36°.3N±0°.2×69°.6E±0°.2, h35km, n12, σ1°29/14, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.82	6	⇑P	Pn	00 50 17.8	+1.6
	4.0nm,0.4s,baz=186,slow=13,SNR=28						
KK31				⇓S	Sn	00 51 34.1	+1.5
	4.3nm,0.4s,baz=193,slow=23,SNR=5.4						
UCH	Uchtor	7.03	31	P	Pn	00 50 19.4	-0.2
	SNR=23						
EKS2	Erkin-Say	7.12	26	P	Pn	00 50 21.1	+0.7
	SNR=11						
AAK	Ala-Archa	7.37	30	P	Pn	00 50 24.1	+0.2
	SNR=18						
AAK	Ala-Archa	7.37	30	⇓P	Pn	00 50 23.7	-0.2
	5.8nm,0.5s						
AAK				⇑S	Sn	00 51 44.5	-1.8
	10nm,0.8s						
KBK	Karagaybulak	7.57	32	P	Pn	00 50 26.7	0.0
	SNR=11						
CHMS	Chumysh	7.77	29	P	Pn	00 50 29.2	-0.1
	SNR=17						
USP	Ospenovka	7.91	27	P	Pn	00 50 30.6	-0.6
	SNR=34						
TKM2	Tokmak 2	8.06	33	P	Pn	00 50 32.8	-0.7
	SNR=19						
MK31	Makanchi Array	14.13	38	⇑P	Pn	00 51 59.2	+3.0
	1.9nm,0.7s,baz=208,slow=8.5,SNR=7.1						
AB31	Akbulak array	14.72	334	P	Pn	00 52 03.9	-0.4
	0.5nm,0.3s,baz=261,slow=37,SNR=28						
KURBB	Kurchatov Arra	15.69	21	⇑P	Pn	00 52 17.1	+0.2
	2.7nm,0.7s						

*NAO **16** 00:53:52.9±1.3, 79°.86N×19°.90E, h15km±5km, ML2.6*
*BER **16** 00:53:52.5±3.6, 79°.91N×20°.81E, h18km±18km, ML2.1, ML2.6(NAO), Confirmed Earthquake*
*FCIAR **16** 00:53:55.0, 79°.99N×20°.81E, h10km, station OMEGA has station magnitude of 3.30 station ZFI2 has station magnitude of 3.40*
*KOLA **16** 00:54:06.5, 79°.02N×19°.36E, h0km, ML1.8, Spitsbergen,Barentz Sea*

ISC 16 00:53:50.9±1.3, 79°.92N±0°.07×20°.62E±0°.06, h10km, n18, σ2°35/22, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.89	243	Pn	Pn	00 54 21.2	-1.8
KBS				Pg	Pb	00 54 24.8	-0.5
KBS				Sn	Sn	00 54 45.8	-1.0
KBS	Kingsbay	1.89	243	eP	Pn	00 54 21.0	-2.0
KBS				eS	Sn	00 54 46.0	-0.8
KBS				IAML		00 54 47.8	
	comp=Z,31nm,0.3s						
SPA0	Spitsbergen Ar	1.93	207	Pn	Pn	00 54 22.6	-1.1
	baz=32,slow=16						
SPA0				Pg	Pb	00 54 25.8	-0.3
	baz=32,slow=16						
SPA0				Lg	Lg	00 54 50.2	
	baz=39,slow=28						
SPA0	Spitsbergen Ar	1.93	207	eP	Pn	00 54 23.4	-0.2
SPA0				eS	Sn	00 54 49.1	+1.2
SPA0	Spitsbergen Ar	1.93	207	Pn	Pn	00 54 22.6	-1.1
	baz=32,slow=16						
SPA0				Pg	Pb	00 54 25.8	-0.3
	baz=32,slow=16						
SPA0				Sg	Sn	00 54 50.2	+2.3
	baz=39,slow=28						
SPA0				IAML		00 55 01.7	
	comp=Z,32nm,0.6s						
BRBB	Barentsburg B	2.21	217	Pn	Pn	00 54 26.2	-1.2
BRBB				Sn	Sn	00 54 50.5	-4.2
BRBB	Barentsburg B	2.21	217	Pn	Pn	00 54 26.2	-1.2
BRBB				Sn	Sn	00 54 50.5	-4.2
HSPB	Hornsund (broa	3.10	202	eP	Pn	00 54 45.7	+6.0
HSPB				eS	Sn	00 55 21.9	+5.1
HSPB	Hornsund (broa	3.10	202	ePg	Pn	00 54 46.4	+6.7
HSPB				IAML		00 55 33.1	
	comp=Z,14nm,0.7s						
HOPEN	Hopen	3.54	163	Pn	Pn	00 54 46.3	+0.5
HOPEN				Sn	Sn	00 55 25.6	-1.9
HOPEN	Hopen	3.54	163	eP	Pn	00 54 45.7	0.0
HOPEN				eS	Sn	00 55 25.7	-1.9
HOPEN	Hopen	3.54	163	eS	Sn	00 55 25.6	-1.9
HOPEN				IAML		00 55 46.7	
	comp=Z,12nm,0.6s						
ZFI2	Zemlya Franca-	4.60	66	eP	Pn	00 55 02.9	+2.6
ZFI2				eS	Sn	00 55 51.3	-2.3
	comp=Z,34nm,1.6s						
OMEGA	Omega	4.61	66	eP	Pn	00 55 01.9	+1.4
OMEGA				eS	Sn	00 55 51.3	-2.6
	comp=Z,28nm,1.6s						
VADS	Vadso	10.08	163	S	Sn	00 57 59.6	-8.7
ARA0	ARCESS Array S	10.51	171	Pn	Pn	00 56 21.4	+0.1
	baz=359,slow=10						
ARA0				Sn	Sn	00 58 09.4	-9.5
	baz=1.0,slow=22						
ARA0	ARCESS Array S	10.51	171	Pn	Pn	00 56 21.4	+0.1
	baz=359,slow=10						
ARA0				Sn	Sn	00 58 09.4	-9.5
	baz=1.0,slow=22						
ARCES	ARCESS Array B	10.51	171	P	Pn	00 56 23.1	+1.8
ARCES				S	Sn	00 58 07.6	-11

IDC 16 00:58:07.3±2.2, 6°.32N×125°.33E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=114.4km s-min=27.8km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.56	161	P	P	01 03 56.2	0.0
	0.5nm,0.5s,baz=341,slow=9.6,SNR=5.4						
	0.5nm,0.5s						
CMAR	Chiang Mai Arr	28.41	298	P	P	01 04 03.9	0.0
	0.7nm,0.3s,baz=113,slow=8.9,SNR=5.4						
	0.7nm,0.3s						
MKAR	Makanchi Array	54.65	325	P	P	01 07 38.0	-0.1
	0.8nm,0.5s,baz=133,slow=8.1,SNR=9.9						
	0.8nm,0.5s						

*MOS **16** 01:07:06.6±1.3, 36°.21N×141°.97E, h15km, mb4.5/17, Error ellipse: s-maj=14.0km s-min=7.5km az=131.6*
*NEIC **16** 01:07:06.1±1.1, 36°.09N±0°.04×142°.20E±0°.09, h10km±1km, mb4.5/22, Error ellipse: s-maj=14.5km s-min=2.9km az=121.0*
*NIED **16** 01:07:08.2, 36°.11N×142°.07E, h65km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.22; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-1.25; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.75; $M_{\phi r}$0.76; Fault plane solution: $M_0$1.62000×10^{15} NP1: ϕ_s209.00000°, δ30.00000°, λ97.00000°. NP2:ϕ_s21.00000°, δ60.00000°, λ86.00000°.*
*JMA **16** 01:07:08.2±0.3, 36°.1N±0°.7×14°.2E±°, h65km, MV3.8/35, FAR E OFF IBARAKI PREF*
*IDC **16** 01:07:12.4±2.6, 36°.07N×141°.76E, h42km±23km, mb3.7/19, mbtmp3.9/23, ML3.5/4, MS3.3/9, Error ellipse: s-maj=19.5km s-min=16.2km az=45.0*

ISC 16 01:07:08.0±0.5, 36°.06N±0°.04×142°.10E±0°.05, h23km, n135, σ1°55/131, mb4.3/42, MS3.5/10, 3C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	1.26	283	P	Pb	01 07 29.7	-1.3
JHYU				eS	Sb	01 07 45.5	-1.3
JHO	Hitachi	1.36	294	P	Pn	01 07 30.4	-1.1
JSMT	Sammumatsuo	1.41	253	P	Pb	01 07 32.8	-0.8
ONAJ	Iwakimizuishiy	1.48	315	eP	Pn	01 07 32.1	-1.2
JFK	Kawauchi	1.64	323	eP	Pn	01 07 34.4	-1.0
BSO1	Boso 1	1.68	214	eP	Pn	01 07 35.9	+0.5
BSO1				eS	Sb	01 07 57.5	-0.9
BSO3	Boso 3	1.81	226	eP	Pn	01 07 37.7	+0.2
JOTO	OTAMA OYAMA	2.06	317	eP	Pb	01 07 41.4	-3.4
JMM	Marumori	2.09	330	Pn	Pn	01 07 40.2	-1.4
JMM	Marumori	2.09	330	P	Pn	01 07 40.4	-1.2
JMM	Marumori	2.09	330	P	Pn	01 07 40.4	-1.2
JAG	Ashikaga	2.17	280	iP	Pn	01 07 42.3	-0.5
JOD2	Odawara 2	2.58	253	P	Pn	01 07 48.7	+0.3
JOD2				eS	Sn	01 08 19.8	+0.7
JRY	Ryogami san	2.60	270	P	Pn	01 07 48.4	-0.2
JYN	Shimob	2.95	260	P	Pn	01 07 54.3	+0.8
JMK	Ichinoseki	2.97	347	eP	Pn	01 07 53.1	-0.6
MJAR	Matsushiro Arr	3.18	280	Pn	Pn	01 07 57.0	+0.3
MJAR	Matsushiro Arr	3.18	280	P	Pn	01 07 56.8	+0.1
	2.3nm,0.3s,baz=100,slow=7.9,SNR=54						
MJAR				S	Sn	01 08 30.0	-3.9
	30nm,0.7s,baz=132,slow=12,SNR=5.7						
MJAR				LR	LR	01 08 42.6	
	comp=Z,173nm,18.4s,baz=194,slow=31						
	20nm,0.6s						
MJAR	Matsushiro Arr	3.18	280	P	Pn	01 07 57.0	+0.3
MAJO	Matsushiro	3.19	280	Pn	Pn	01 07 57.7	+1.0
MAJO	Matsushiro	3.19	280	P	Pn	01 07 58.0	+1.3
MAJO	Matsushiro	3.19	280	c iP	Pn	01 07 57.2	+0.5
MJB9	Matsu-Tunnel	3.19	280	Pn	Pn	01 07 58.6	+1.8
JHJ2	Mitsune	3.50	213	Pn	Pn	01 08 01.2	+0.3
JHJ2	Mitsune	3.50	213	P	Pn	01 08 02.3	+1.4
JHJ	Hachijo jima 2	3.50	214	P	Pn	01 08 01.6	+0.6
	33nm,0.3s,baz=88,slow=22,SNR=1.7						
JHJ				S	Sn	01 08 38.0	-3.8
	121nm,0.3s,baz=92,slow=23,SNR=2.0						
	99nm,0.3s						
JSD	Sado	3.65	304	Pn	Pn	01 08 03.0	-0.1
JSD	Sado	3.65	304	P	Pn	01 08 04.0	+0.9
JGF	Kuroka	3.88	265	Pn	Pn	01 08 07.3	+0.9
JGF	Kuroka	3.88	265	P	Pn	01 08 08.0	+1.6
INU	Inuyama	4.20	262	Pn	Pn	01 08 11.8	+1.1
JTM	Tenmabayashi	4.79	351	Pn	Pn	01 08 19.0	+0.3
JTM	Tenmabayashi	4.79	351	P	Pn	01 08 19.2	+0.5
ERM	Erimo	6.00	8	Pn	Pn	01 08 32.8	-2.6
ERM	Erimo	6.00	8	P	Pn	01 08 32.8	-2.6
JEM	Erimo	6.00	8	P	Pn	01 08 33.2	-2.2
JMN	Monobe	7.15	253	Pn	Pn	01 08 52.3	+1.1
JMN	Monobe	7.15	253	P	Pn	01 08 53.8	+2.6
ASAJ	Asahikawa	8.06	3	P	Pn	01 09 02.3	-1.2
	6.9nm,0.3s,baz=209,slow=9.8,SNR=4.1						
ASAJ				S	Sn	01 10 33.7	-0.2
	12nm,0.2s,baz=18,slow=21,SNR=2.6						
ASAJ				LR	LR	01 12 54.1	
	comp=Z,245nm,20.5s,baz=123,slow=42						
JCJ	Chichijima	8.94	180	P	Pn	01 09 13.5	-2.2
	24nm,0.3s,baz=9.2,slow=20,SNR=8.5						
JCJ				S	Sn	01 10 48.1	-7.5
	47nm,0.5s,baz=271,slow=22,SNR=5.8						
USRK	Ussuriysk Ar.	11.22	320	P	Pn	01 09 46.1	-0.8
	0.8nm,0.3s,baz=134,slow=15,SNR=1.4						
	1.3nm,0.5s						
KSRS	Korea Array	11.46	281	P	Pn	01 09 48.3	-1.9
	0.2nm,0.3s,baz=92,slow=13,SNR=7.8						
	0.6nm,0.5s						
NJ2	Nanjing	19.66	265	eP	Pn	01 11 36.4	-0.4
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
PETK	Petropavlovsk-	20.27	28	LR	LR	01 21 02.7	
	comp=Z,48nm,18.2s,baz=87,slow=41						
ZEA	Zeya	20.50	334	eP	Pn	01 11 44.1	-2.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
HILR	Hailar Array B	21.13	317	P	P	01 11 49.6	-1.5
	comp=Z,2.4nm,0.5s,baz=120,slow=11,SNR=4.6						
	comp=Z,2.4nm,0.5s						
HHC	Hu-ho-hao-te	24.32	291	eP	P	01 12 22.6	-1.4
HHC				pP	pP	01 12 23.5	-6.7
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.5s						
HHC				LR	LR		
	comp=N,100nm,8.6s						
HHC				LR	LR		
	comp=E,160nm,10.3s						
HHC				LR	LR		
	comp=Z,180nm,13.7s						
BTO	Baotou	25.49	290	eP	P	01 12 36.4	+1.8
BTO				PP		01 14 09.8	
BTO				S	S	01 17 06.3	+5.6
BTO				pmax	pmax		
	comp=Z,25nm,0.5s						
BTO				pmax	pmax		
	comp=Z,150nm,4.9s						
BTO				LR	LR		
	comp=N,220nm,4.8s						
BTO				LR	LR		
	comp=E,340nm,9.0s						
BTO				LR	LR		
	comp=Z,240nm,13.5s						
XAN	Xi'an	27.17	276	⇓P	P	01 12 49.8	0.0
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
H11N2	WAKE ISLAND Hy	27.18	120	T	T	01 41 21.6	
	baz=312,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	27.18	120	T	T	01 41 21.6	
	baz=312,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	27.19	120	T	T	01 41 21.6	
	baz=312,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	27.87	122	T	T	01 42 09.8	
	baz=314,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	27.87	122	T	T	01 42 09.8	
	baz=314,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy	27.88	122	T	T	01 42 09.8	
	baz=314,slow=76,SNR=14						
ULN	Ulaanbaatar	28.37	306	P	P	01 13 00.2	-0.3
ULN				IAmb	IAmb	01 13 04.0	
	comp=Z,5.1nm,0.6s						
ULN	Ulaanbaatar	28.37	306	deP	P	01 13 01.5	+1.0
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	Songino Array	28.80	305	P	P	01 13 04.7	+0.5
SONM	Songino Array	28.80	305	P	P	01 13 05.0	+0.8
	comp=Z,2.2nm,0.8s,baz=106,slow=9.5,SNR=7.5						
SONM				LR	LR	01 25 10.7	
	comp=Z,49nm,18.2s,baz=99,slow=38						
	comp=Z,2.2nm,0.8s						
LZDM	Lanzhou Array	30.94	281	P	P	01 13 22.1	-1.5
	comp=Z,0.9nm,0.3s,baz=91,slow=15,SNR=2.0						
	comp=Z,0.9nm,0.3s						
ZAK	Zakamensk	31.31	309	eP	P	01 13 26.3	-0.2
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TLY	Talaya	31.39	312	P	P	01 13 26.1	-0.9
TLY				IAmb	IAmb	01 13 37.9	
	comp=Z,5.5nm,1.0s						
GTA	Gaotai	33.39	289	eP	P	01 13 45.9	+1.1
GTA				pP	sP	01 13 52.5	-0.6
GTA				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH	PanZhiHua	35.57	266	P	P	01 14 05.5	+1.7
TIXI	Tiksi	36.32	353	LR	LR	01 30 49.3	
	comp=Z,108nm,18.3s,baz=202,slow=39						
CMAR	Chiang Mai Arr	41.80	257	P	P	01 14 55.7	-0.3
	comp=Z,1.0nm,0.2s,baz=56,slow=7.1,SNR=4.9						
	comp=Z,1.0nm,0.2s						
CMAR	Chiang Mai Arr	41.80	257	i P	P	01 14 57.5	+1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	Zalesovo Array	42.98	313	P	P	01 15 04.9	-0.3
ZALV	Zalesovo Beam	42.98	313	P	P	01 15 05.0	-0.2
ZALV	Zalesovo Beam	42.98	313	P	P	01 15 05.9	+0.7
	comp=Z,1.5nm,0.5s,baz=100,slow=8.1,SNR=8.0						
	comp=Z,1.5nm,0.5s						
ZALV	Zalesovo Beam	42.98	313	i P	P	01 15 05.9	+0.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	Makanchi Array	45.11	303	deP	P	01 15 25.2	+2.8
MKAR	Makanchi Array	45.11	303	P	P	01 15 22.6	+0.2
MKAR	Makanchi Array	45.11	303	P	P	01 15 23.2	+0.8
	comp=Z,3.1nm,0.8s,baz=89,slow=9.6,SNR=20						
MKAR				LR	LR	01 33 51.5	
	comp=Z,39nm,19.7s,baz=358,slow=36						
	comp=Z,3.1nm,0.8s						
MKAR	Makanchi Array	45.11	303	i P	P	01 15 25.3	+2.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAKZ	Makanchi	45.32	303	P	P	01 15 24.2	+0.1
MAKZ				IAmb	IAmb	01 15 27.7	
	comp=Z,4.0nm,0.8s						
MAKZ	Makanchi	45.32	303	P	P	01 15 24.2	+0.1
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	46.97	309	P	P	01 15 36.6	-0.3
KURK	Kurchatov	46.97	309	deP	P	01 15 37.3	+0.3
KURK				pmax	pmax		
	comp=Z,13nm,1.3s						
KURBB	Kurchatov Arra	47.04	309	P	P	01 15 37.7	+0.2
	comp=Z,4.5nm,0.8s,baz=84,slow=8.4,SNR=21						
KURBB				LR	LR	01 35 54.2	
	comp=Z,40nm,18.9s,baz=164,slow=37						
	comp=Z,4.5nm,0.8s						
B21K	Ikpikpuk River	47.43	25	P	P	01 15 39.4	-0.9
ILAR	Eielson Array	50.02	32	P	P	01 16 02.5	+2.3
	comp=Z,0.2nm,0.6s,baz=275,slow=6.4,SNR=6.5						
	comp=Z,0.2nm,0.6s						
KSH	Kashi	51.31	295	P	P	01 16 14.0	+3.4
BORK	Borovoye	51.68	313	deP	P	01 16 13.7	+0.8
BORK				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ARSB	Arslanbob	52.91	298	P	P	01 16 22.6	+0.1
ARSB				IAmb	IAmb	01 16 30.4	
	comp=Z,3.8nm,0.6s						
ARSB	Arslanbob	52.91	298	P	P	01 16 22.6	+0.1
ARSB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KK31	Karatay Array	54.10	301	P	P	01 16 31.0	0.0
KK31	Karatay Array	54.10	301	P	P	01 16 31.0	0.0
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	Karatay Array	54.10	301	P	P	01 16 30.8	-0.2
KKAR	Karatay Array	54.10	301	P	P	01 16 30.8	-0.2
G31M	Satah River	54.97	29	P	P	01 16 38.1	+1.3
G31M				IAmb	IAmb	01 17 07.0	
	comp=Z,12nm,1.5s						
WB0	Warramunga Arr	56.00	189	P	P	01 16 44.3	-0.5
WB0				IAmb	IAmb	01 17 25.6	
	comp=Z,9.8nm,1.5s						
FITZ	Fitzroy Crossi	56.07	199

comp=Z,1.8nm,0.9s
KIV Kislovodsk 71.97 311 *e*P **P 01 18 29.8 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
NVAR Mina Array Bea 75.12 53 P P 01 18 53.0 +4.4
comp=Z,0.2nm,0.5s,baz=291,slow=4.9,SNR=3.8
comp=Z,0.2nm,0.5s
NB2 NORSAR Subarra 75.30 338 P **P 01 18 49.7 +0.8**
comp=Z,0.6nm,0.6s,baz=41,slow=6.2
NOA NORSAR Array B 75.30 338 P **P 01 18 49.7 +0.8**
comp=Z,1.7nm,0.9s,baz=39,slow=5.8,SNR=4.8
NOA LR LR 01 58 50.9
comp=Z,24nm,18.4s,baz=280,slow=41
comp=Z,1.7nm,0.9s
AKASG Malin Array Be 75.41 323 P **P 01 18 50.1 +0.4**
comp=Z,0.7nm,0.5s,baz=63,slow=0.2,SNR=5.5
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 75.41 323 *i*P **P 01 18 50.0 +0.3**
AKBB Malin Array Si 75.41 323 P **P 01 18 49.5 -0.2**
AKBB IAmb IAmb 01 18 50.8
comp=Z,4.8nm,1.2s
AKBB Malin Array Si 75.41 323‖ *e*P **P 01 18 50.1 +0.4**
KIEV Kiev 75.42 323 P **P 01 18 49.6 -0.2**
KIEV IAmb IAmb 01 18 50.8
comp=Z,4.3nm,1.2s
KIEV Kiev 75.42 323 P **P 01 18 49.6 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,1.2s
PDAR Pinedale Array 77.95 46 P P 01 19 08.5 +3.9
comp=Z,0.3nm,0.7s,baz=290,slow=4.2,SNR=4.0
comp=Z,0.3nm,0.7s
BUR08 Bucovina Ar. S 79.41 322 P **P 01 19 12.4 +0.1**
BUR08 IAmb IAmb 01 19 38.2
comp=Z,3.9nm,1.3s
BURAR Bucovina Array 79.42 322 P **P 01 19 11.7 -0.7**
BURAR Bucovina Array 79.42 322 P **P 01 19 11.7 -0.7**
BURAR pmax pmax
comp=Z,2.0nm,1.3s
BR131 Keskin Array S 79.91 312 P **P 01 19 14.9 -0.4**
BR131 IAmb IAmb 01 19 27.4
comp=Z,4.4nm,0.8s
BR131 Keskin Array S 79.91 312 P **P 01 19 14.9 -0.4**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 79.91 312 P **P 01 19 15.1 -0.2**
BRTR Keskin Array B 79.91 312 P **P 01 19 15.5 +0.2**
comp=Z,0.7nm,1.0s,baz=121,slow=4.6,SNR=4.1
comp=Z,0.7nm,1.0s
BRTR Keskin Array B 79.91 312 *i*P **P 01 19 16.5 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MMAI Mount Meron Ar 82.98 306 LR LR 01 59 18.3
comp=Z,19nm,18.2s,baz=236,slow=38
TXAR Lajitas Array 90.27 53 P **P 01 20 10.1 +2.8**
comp=Z,0.2nm,0.7s,baz=22,slow=4.3,SNR=1.5
comp=Z,0.2nm,0.7s
H03N2 Juan Fernandez 146.35 98 T T 04 10 21.6
baz=291,slow=76,SNR=3.5
H03N3 Juan Fernandez 146.37 98 T T 04 10 21.6
baz=291,slow=76,SNR=4.3
H03N1 Juan Fernandez 146.37 98 T T 04 10 21.6
baz=291,slow=76,SNR=4.2
LPAZ La Paz 146.68 62 PKPbc **PKPab 01 26 49.9 -0.3**
comp=Z,0.5nm,0.4s,baz=285,slow=6.4,SNR=1.6
SIV San Ignacio 151.27 52 PKPbc **PKiKP 01 27 02.1 +1.5**
comp=Z,0.7nm,0.5s,baz=320,slow=16,SNR=4.7
SIV PKPab **sPKPbc 01 27 10.0 +1.1**
comp=Z,0.7nm,0.5s,baz=66,slow=0.9,SNR=3.4

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*TEH **16** 01:26:17.3,28°.79N×51°.57E,h20km±18km*
*OMAN **16** 01:26:21.7±0.1,28°.52N×51°.87E,h10km,mb3.8/5,ml3.4/8,*
Error ellipse: s-maj=1.4km s-min=1.0km az=342.0
ISC 16 01:26:17.4±1.0,28°.77N±0°.04×51°.68E±0°.04,h10km,n41,
σ1°.40/59,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.54**	**223**	Pg	**Pg**	**01 26 27.5**	**-0.4**
KAZ2	**Kazeron-Fars-I**	**0.84**	**359**	Pg	**Pg**	**01 26 32.9**	**-0.8**
SHI	**Shiraz**	**1.14**	**40**	Pg	**Pb**	**01 26 39.7**	**+0.4**
QIR1	**Qir**	**1.24**	**103**	Pg	**Pg**	**01 26 42.4**	**+1.3**
JHRM	**Jahrom**	**1.69**	**98**	Pg	**Pg**	**01 26 51.2**	**+1.4**
LMD1	**Lamerd**	**1.94**	**137**	Pn	**Pn**	**01 26 51.7**	**+1.3**
KLNJ	**Kolanjah**	**2.24**	**358**	Pn	**Pn**	**01 26 55.4**	**+0.5**
SHMA	**Al-Shehemyia** SNR=19	**2.97**	**193**	P	**Pn**	**01 27 05.6**	**+1.2**
SHMA				S	**Sn**	**01 27 40.9**	**+0.8**
IRAM	**Ramesheh**	**3.09**	**11**	Pn	**Pn**	**01 27 07.1**	**+0.6**
IBRJ	**Brojen**	**3.15**	**354**	Pn	**Pn**	**01 27 07.4**	**+0.1**
ZNGN	**Zangian**	**3.42**	**348**	Pn	**Pn**	**01 27 11.0**	**0.0**
JHBN	**Jahan bin**	**3.56**	**346**	Pn	**Pn**	**01 27 13.4**	**+0.3**
IMEH	**Mehriz**	**3.65**	**43**	Pn	**Pn**	**01 27 16.0**	**+1.9**
IPIR	**Pirpir**	**3.96**	**350**	Pn	**Pn**	**01 27 18.2**	**-0.3**
TRNA	**Turayna**	**4.04**	**186**	P	**Pn**	**01 27 20.3**	**+1.1**
TRNA				S	**Sn**	**01 28 06.6**	**+0.1**
SMRA	**Abu-Samra** SNR=9.5	**4.08**	**191**	P	**Pn**	**01 27 20.6**	**+0.9**
SMRA				S	**Sn**	**01 28 07.8**	**+0.3**
IZEF	**Zefreh**	**4.16**	**8**	Pn	**Pn**	**01 27 21.7**	**+0.6**
ICHK	**Chekchek**	**4.19**	**34**	Pn	**Pn**	**01 27 22.9**	**+1.3**
IBAF	**Bafgh**	**4.39**	**49**	Pn	**Pn**	**01 27 26.1**	**+1.9**
KHGB	**Koh Gabri**	**4.48**	**68**	Pn	**Pn**	**01 27 26.9**	**+1.4**
IKLH	**Kolahrood**	**4.54**	**359**	Pn	**Pn**	**01 27 26.8**	**+0.4**
ANAR	**Anarak**	**4.75**	**21**	Pn	**Pn**	**01 27 30.0**	**+0.9**
GHWR	**Ruwais**	**4.90**	**167**	P	**Pn**	**01 27 31.9**	**+0.8**
GHWR				S	**Sn**	**01 28 27.4**	**-0.5**
BANOM	**Banah**	**4.99**	**123**	P	**Pn**	**01 27 32.6**	**+0.3**
BANOM				S	**Sn**	**01 28 28.0**	**-2.2**
AJN	**Ajban**	**5.13**	**144**	P	**Pn**	**01 27 35.6**	**+1.4**
AJN				S	**Sn**	**01 28 32.3**	**-1.2**
NAZ	**Nazwa, Dubai**	**5.18**	**136**	P	**Pn**	**01 27 36.0**	**+1.0**
NAZ				S	**Sn**	**01 28 34.0**	**-0.7**
MASF	**Masafi**	**5.23**	**129**	P	**Pn**	**01 27 36.1**	**+0.3**
MASF				S	**Sn**	**01 28 34.6**	**-1.6**
CHMN	**Cheshme madani**	**5.24**	**77**	Pn	**Pn**	**01 27 37.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**5.26**	**141**	P	**Pn**	**01 27 37.3**	**+1.2**
ASUD				S	**Sn**	**01 28 36.2**	**-0.6**
FAQ	**Al Faqa, Dubai**	**5.32**	**138**	P	**Pn**	**01 27 37.6**	**+0.7**
FAQ				S	**Sn**	**01 28 36.6**	**-1.6**
MDH	**Madha**	**5.38**	**129**	P	**Pn**	**01 27 38.0**	**+0.3**
MDH				S	**Sn**	**01 28 37.5**	**-2.1**
UOSS	**Minazif**	**5.55**	**132**	P	**Pn**	**01 27 41.4**	**+1.3**
ASHO	**Ashiyiah** SNR=17	**5.64**	**135**	P	**Pn**	**01 27 42.0**	**+0.6**
ASHO				S	**Sn**	**01 28 44.4**	**-1.9**
ALNE	**Al Ain** SNR=6.3	**5.94**	**141**	P	**Pn**	**01 27 46.6**	**+1.2**
ALNE				S	**Sn**	**01 28 52.6**	**-1.1**
MZR	**Muzera**	**5.96**	**164**	P	**Pn**	**01 27 46.9**	**+1.1**
MZR				S	**Sn**	**01 28 52.6**	**-1.6**
SOHO	**SOHO**	**6.34**	**136**	P	**Pn**	**01 27 50.6**	**-0.3**
SOHO				S	**Sn**	**01 29 01.4**	**-2.0**
ARQ	**Araqi** SNR=10.0	**6.94**	**140**	P	**Pn**	**01 27 59.1**	**-0.1**
ARQ				S	**Sn**	**01 29 15.8**	**-2.5**
HOQ	**Hoqain**	**7.23**	**134**	P	**Pn**	**01 28 03.4**	**+0.3**
HOQ				S	**Sn**	**01 29 21.4**	**-3.9**
SMDO	**Samad**	**8.07**	**133**	P	**Pn**	**01 28 15.2**	**+0.4**
SMDO				S	**Sn**	**01 29 44.0**	**-2.3**
WSAR	**Wadi Sarin**	**8.33**	**130**	S	**Sn**	**01 29 48.1**	**-4.3**
JMDO	**Jabal Madar**	**8.61**	**136**	P	**Pn**	**01 28 21.9**	**-0.3**

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*IDC **16** 01:32:52.4±5.3,24°.60N×92°.94E,h0km,mb3.8/2,*
mbtmp3.8/4,ML3.3/2,MS4.5/1,Error ellipse:
s-maj=105.0km s-min=39.2km az=155.0
ISC 16 01:32:52.9±1.2,24°.51N±0°.10×92°.74E±0°.08,h10km,n13,
σ3°.01/17,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala** 77nm,0.3s,baz=107,slow=5.0,SNR=19	**2.09**	**209**	Pn	**Pn**	**01 33 30.9**	**+3.0**
BRDH	170nm,0.3s,baz=80,slow=19,SNR=8.5 179nm,0.3s			Sn	**Sn**	**01 33 50.3**	**-3.7**
ODAN	**Odare** baz=319,slow=0.0	**5.36**	**297**	Pn	**Pg**	**01 34 34.6**	**-1.0**
ODAN	131nm,0.4s,baz=319,slow=0.0			Sn	**Sb**	**01 35 37.4**	**+6.0**
RAMN	**Ramite** baz=314,slow=0.0	**6.05**	**295**	Pn	**Pb**	**01 34 42.4**	**+3.9**
RAMN				Sn	**Sb**	**01 35 51.1**	**+0.1**
	41nm,0.3s,baz=314,slow=0.0						
GUN	**Gumba** baz=317,slow=0.0	**7.03**	**300**	Pn	**Pb**	**01 34 57.3**	**+2.0**
GUN	baz=317,slow=0.0			Sn	**Sb**	**01 36 18.4**	**-1.0**
PKI	**Pulchoki** baz=313,slow=0.0	**7.26**	**296**	Pn	**Pb**	**01 34 58.7**	**-0.6**
PKI	37nm,0.4s,baz=313,slow=0.0			Sn	Sb	01 36 19.2	-6.9
PKIN	**Phulchoki** baz=313,slow=0.0	**7.28**	**296**	Pn	**Pb**	**01 34 58.9**	**-0.5**
PKIN	32nm,0.2s,baz=313,slow=0.0			Sn	Sb	01 36 19.2	-7.2
KKN	**Kakani** baz=313,slow=0.0	**7.46**	**298**	Pn	**Pb**	**01 35 02.3**	**-0.2**
KKN	44nm,0.3s,baz=313,slow=0.0			Sn	**Sb**	**01 36 25.7**	**-5.9**
DMN	**Daman** baz=312,slow=0.0	**7.53**	**296**	Pn	**Pb**	**01 35 02.3**	**-1.4**
DMN	30nm,0.4s,baz=312,slow=0.0			Sn	Sb	01 36 25.7	-7.9
GKN	**Gorkha** baz=312,slow=0.0	**8.06**	**297**	Pn	**Pb**	**01 35 09.8**	**-3.0**
GKN	67nm,0.3s,baz=312,slow=0.0			Sn	Sb	01 36 38.4	-11
CMAR	**Chiang Mai Arr** baz=313,slow=13,SNR=6.2 1.1nm,0.4s	**8.35**	**135**	Pn	**Pn**	**01 34 53.8**	**-0.2**
BELG	**Belogornoye** comp=Z,537nm,19.9s,baz=96,slow=41	**43.95**	**321**	LR	LR	02 02 39.6	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=316,slow=7.4,SNR=4.6 0.2nm,0.3s	**59.94**	**134**	P	**P**	**01 42 60.0**	**+0.4**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=321,slow=6.9,SNR=8.9 0.8nm,0.5s	**62.35**	**137**	P	**P**	**01 43 16.8**	**+1.0**

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*IDC **16** 01:46:36.1±1.5,5°.87N×94°.08E,h0km,mb4.0/7,*
mbtmp4.0/8,ML4.3/1,Error ellipse: s-maj=72.7km
s-min=19.1km az=58.0
*NEIC **16** 01:46:41.8±1.7,6°.1N±0°.1×94°.0E±0°.2,h40km±10km,*
mb4.1/7,Error ellipse: s-maj=37.2km s-min=4.8km
az=68.0
ISC 16 01:46:38.4±0.7,6°.74N±0°.09×94°.61E±0°.09,h10km,n37,
σ2°.67/22,mb4.1/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.73**	**292**	*e*P	**Pg**	**01 46 50.3**	**-2.2**
CMBY				*e*S	**Sg**	**01 47 01.4**	**-0.6**
CMBY	comp=N,4μm,0.3s			IAML		01 47 04.3	
CMBY	comp=E,4μm,0.3s			IAML		01 47 06.8	
GSI	**Gunungsitoli**	**6.16**	**151**	Pn	**Pn**	**01 48 07.9**	**-1.6**
DGPR	**DIGLIPUR**	**6.61**	**346**	*e*P	**Pn**	**01 48 11.2**	**-4.5**
DGPR				*e*S	Sn	01 49 22.4	-8.7
DGPR	comp=E,148nm,0.2s			IAML		01 49 29.4	
DGPR	comp=N,192nm,0.2s			IAML		01 49 29.6	
CMAR	**Chiang Mai Arr**	**12.39**	**20**	Pn	Pn	01 49 46.3	+11
CMAR	**Chiang Mai Arr**	**12.39**	**20**	Pn	Pn	01 49 47.5	+12
	comp=N,0.5nm,0.3s,baz=231,slow=14,SNR=13 comp=N,0.8nm,0.4s						
VIS	**Vishakhapatnam**	**15.50**	**316**	*e*P	Pn	01 50 05.2	-12
VIS	comp=Z,84nm,0.5s			IAmb	IAmb	01 50 05.3	
IMP	**Imphal** comp=Z,7.0nm,0.6s	**18.00**	**358**	IAmb	IAmb	01 48 29.2	
IMP				*e*P	**Pn**	**01 50 44.8**	**-4.1**
IMP				*e*S	**Sn**	**01 54 10.6**	**+0.6**
KOHI	**KOHIMA** comp=Z,26nm,0.2s	**18.88**	**359**	IAML		01 50 26.1	
KOHI				*e*P	**P**	**01 50 54.2**	**-5.0**
H08S3	**Diego Garcia H** baz=56,slow=75,SNR=715	**26.28**	**237**	T	T	02 17 45.9	
H08S2	**Diego Garcia H** baz=56,slow=75,SNR=450	**26.28**	**237**	T	T	02 17 45.9	
H08S1	**Diego Carcia H** baz=56,slow=75,SNR=351	**26.29**	**237**	T	T	02 17 45.9	
FITZ	**Fitzroy Crossi**	**39.34**	**129**	P	**P**	**01 54 06.2**	**-1.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=170,slow=8.2,SNR=5.1 comp=Z,0.4nm,0.5s	**41.29**	**347**	P	P	01 54 29.9	+5.8
KK31	**Karatay Array**	**41.98**	**333**	P	**P**	**01 54 29.2**	**-0.5**
KK31	comp=Z,4.2nm,1.4s			IAmb	IAmb	01 54 38.0	
KKAR	**Karatay Array**	**41.98**	**333**	P	**P**	**01 54 30.3**	**+0.6**
H01W3	**Cape Leeuwin H** baz=331,slow=76,SNR=5.1	**45.32**	**157**	T	T	02 43 35.2	
H01W2	**Cape Leeuwin H** baz=331,slow=76,SNR=6.8	**45.33**	**157**	T	T	02 43 32.7	
H01W1	**Cape Leeuwin H** baz=331,slow=76,SNR=5.9	**45.33**	**157**	T	T	02 43 33.5	
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.2s,baz=169,slow=7.0,SNR=6.7 comp=Z,1.0nm,0.2s	**45.75**	**346**	P	P	01 55 04.3	+4.4
WB0	**Warramunga Arr**	**47.19**	**125**	P	**P**	**01 55 10.9**	**-0.8**
WB0	comp=Z,4.1nm,1.2s			IAmb	IAmb	01 55 27.7	
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=304,slow=8.9,SNR=9.0 comp=Z,1.0nm,0.7s	**47.23**	**125**	P	**P**	**01 55 11.4**	**-0.6**
WR8	**Warramunga Arr**	**47.37**	**125**	P	**P**	**01 55 12.9**	**-0.2**
ZAA0	**Zalesovo Array**	**47.74**	**352**	P	**P**	**01 55 19.0**	**+3.6**
ZAA0	comp=Z,3.5nm,0.8s			IAmb	IAmb	01 55 22.6	
ZALV	**Zalesovo Beam**	**47.74**	**352**	P	**P**	**01 55 18.8**	**+3.4**
ZALV	**Zalesovo Beam** comp=Z,1.9nm,0.6s,baz=175,slow=7.0,SNR=8.5 comp=Z,1.9nm,0.6s	**47.74**	**352**	P	P	01 55 19.9	+4.5
ASAR	**Alice Springs** comp=Z,1.5nm,0.6s,baz=301,slow=7.5,SNR=12	**48.84**	**130**	P	**P**	**01 55 22.6**	**-1.8**
ASAR	comp=Z,0.6nm,0.7s,baz=314,slow=3.1,SNR=2.5 comp=Z,1.5nm,0.6s			PcP	**PcP**	**01 56 45.8**	**-3.4**
AB31	**Akbulak array**	**51.44**	**332**	P	**P**	**01 55 43.5**	**-0.3**
AB31	comp=Z,2.3nm,1.1s			IAmb	IAmb	01 55 46.5	
ABKAR	**Akbulak array**	**51.44**	**332**	P	**P**	**01 55 43.2**	**-0.5**
H04N2	**CROZET ISLANDS** baz=48,slow=75,SNR=18	**65.00**	**211**	T	T	03 06 37.8	
H04N1	**CROZET ISLANDS** baz=48,slow=75,SNR=20	**65.01**	**211**	T	T	03 06 35.9	
H04N3	**CROZET ISLANDS** baz=48,slow=75,SNR=122	**65.02**	**211**	T	T	03 06 37.1	
H04S1	**CROZET ISLANDS** baz=45	**65.39**	**211**	T	T	03 07 05.8	
H04S3	**CROZET ISLANDS** baz=45,slow=74,SNR=4.3	**65.41**	**211**	T	T	03 07 05.8	
H04S2	**CROZET ISLANDS** baz=45,slow=74	**65.41**	**211**	T	T	03 07 06.4	
BURAR	**Bucovina Array** comp=Z,1.5nm,1.4s	**71.19**	**318**	P	**P**	**01 57 57.2**	**-0.6**
BURAR				IAmb	IAmb	01 58 03.6	
ARCES	**ARCESS Array B** comp=Z,1.6nm,1.0s,baz=86,slow=3.9,SNR=5.1 comp=Z,1.6nm,1.0s	**76.48**	**340**	P	**P**	**01 58 31.9**	**+3.6**
HFS	**Hagfors** comp=Z,2.0nm,0.9s,baz=106,slow=5.1,SNR=1.7 comp=Z,2.0nm,0.9s	**79.66**	**330**	P	**P**	**01 58 48.5**	**+2.5**

IDC 16 01:46:58.3±11.0,18°.45S×178°.19W,h683km±147km,
mb3.0/4,mbtmp4.1/4,Error ellipse: s-maj=160.0km
s-min=50.5km az=171.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.4s,baz=107,slow=16,SNR=3.8 1.1nm,0.4s	**38.56**	**242**	P	P	01 53 26.6	-0.1
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=96,slow=7.6,SNR=26 1.6nm,0.3s	**44.74**	**260**	P	P	01 54 15.0	0.0
ASAR	**Alice Springs** 2.7nm,0.6s,baz=88,slow=7.9,SNR=27 2.7nm,0.6s	**44.85**	**255**	P	P	01 54 15.8	0.0
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=242,slow=5.9,SNR=2.6 0.3nm,0.7s	**86.11**	**58**	P	P	01 58 30.1	0.0
ARCES	**ARCESS Array B** 1.5nm,0.9s,baz=25,slow=1.5,SNR=5.3	**126.88**	**350**	PKP	PKPdf	02 04 46.3	0.0
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=159,slow=2.5,SNR=3.6	**145.30**	**314**	PKPbc	PKPdf	02 05 21.7	+0.5

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*RSNC **16** 02:03:28.8±0.0,7°.N±6°.×7°.2W±°,h3km±6km,M1.9,ML1.7*
*FUNV **16** 02:03:30.0,7°.08N×71°.89W,h21km,MW2.9*
ISC 16 02:03:27.1±1.2,7°.01N±0°.06×71°.84W±0°.06,h16km,n7,
σ0°.72/12,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.91**	**291**	P	**Pn**	**02 03 45.5**	**-0.2**
CAPV	**Capacho**	**0.97**	**331**	*e*P	**Pn**	**02 03 47.0**	**+0.8**
CAPV				*e*S	**Sn**	**02 03 58.7**	**-1.0**
BARC	**Barichara**	**1.40**	**253**	P	**Pb**	**02 03 52.7**	**-0.2**
RUSC	**La Rusia**	**1.66**	**228**	P	**Pb**	**02 03 58.1**	**+0.5**
RUSC				S	**Sg**	**02 04 20.6**	**-0.2**
OCAC	**Ocana**	**1.91**	**310**	P	**Pb**	**02 04 01.9**	**+0.3**
OCAC				S	**Sb**	**02 04 25.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**2.64**	**260**	P	**Pb**	**02 04 13.5**	**-0.5**
PTBC				S	**Sb**	**02 04 47.1**	**+0.9**
BAUV	**El Baul**	**4.22**	**63**	*e*P	**Pn**	**02 04 31.3**	**+0.5**
BAUV				*e*S	**Sn**	**02 05 18.8**	**-1.1**

DJA 16 02:04:01.0±0.4,9°.S±4°.×11°.8E±°,h108km±4km,M3.8/11,
mB6.7/1,mb4.2/1,MLv3.5/11,Mw(mB)6.5/1,Sumbawa
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.52**	**259**	P	Pn	02 04 19.1	+1.4
PLAI				S	Sn	02 04 33.7	+3.4
TWSI	**Taliwang, Sumb**	**1.39**	**270**	P	Pn	02 04 26.9	+0.5
WBSI	**Waikabubak, Su**	**1.42**	**130**	P	Pn	02 04 26.9	+0.2
WBSI				S	Sn	02 04 46.3	0.0
WSI	**Waingapu**	**2.19**	**115**	P	Pn	02 04 37.5	+1.2
BASI	**Baing, Sumba**	**2.70**	**123**	P	Pn	02 04 42.9	-0.1
SRBI	**Singaraja**	**3.11**	**282**	P	Pn	02 04 48.9	+0.5
BSSI	**Bau Bau, Buton**	**3.37**	**40**	P	Pn	02 04 52.1	+0.2
JAGI	**Jajag, Banyuwa**	**4.10**	**273**	P	Pn	02 05 00.4	-1.3
PCJI	**Pacitan** 46nm,1.6s	**7.06**	**274**	P	Pn	02 05 40.9	-0.8

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*NEIC **16** 02:11:59.0±1.4,37°.939N±0°.008×122°.082W±0°.009,*
h14km±1km,Error ellipse: s-maj=1.2km s-min=1.0km
az=170.0
NCEDC 16 02:11:58.5±1.3,37°.948N±0°.008×122°.06W±0°.01,
h14km±1km,ML3.2/92,ML2.9/108(NEIC),Error ellipse:
s-maj=1.2km s-min=1.2km az=62.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C018	**Christie Drive**	**0.05**	**305**		Pg	02 12 01.4	+0.2
C018					Sg	02 12 03.4	+0.3
BRIB	**Briones**	**0.08**	**248**		Pg	02 12 01.7	+0.2
BRIB					Sg	02 12 03.8	+0.4
C026	**Kell Court Ala**	**0.08**	**174**		Pg	02 12 02.0	+0.5
CTAM	**Taylor**	**0.09**	**25**		Pg	02 12 02.4	+0.8
CTAM					Sg	02 12 05.6	+1.9
CRHM	**Round Hill Res**	**0.10**	**148**		Pb	02 12 02.5	+0.1
C047	**Rutherford Dri**	**0.12**	**165**		Pb	02 12 02.8	+0.1
CRPB	**Russellman Par**	**0.13**	**106**		Pg	02 12 02.2	+0.2
CPIM	**Pinole Ridge**	**0.13**	**289**		Pb	02 12 02.7	0.0
BGC	**Bolinger Road**	**0.13**	**180**		Pb	02 12 02.7	-0.1
BGC					Sb	02 12 05.5	-0.2
BDM	**Black Diamond**	**0.15**	**88**		Pb	02 12 03.2	0.0
BKS	**Berkeley--Byer**	**0.15**	**242**		Pb	02 12 02.9	-0.3
VAK	**Adit at Lawren**	**0.16**	**245**		Pb	02 12 03.1	-0.3
VAK					Sb	02 12 06.0	-0.6
BL88	**Building 88, L**	**0.17**	**245**		Pb	02 12 03.1	-0.3
CMSB	**University of**	**0.17**	**243**		Pb	02 12 03.1	-0.3
BL67	**Building 67, L**	**0.17**	**244**		Pg	02 12 03.0	+0.3
BRK	**Berkeley--Havi**	**0.17**	**245**		Pb	02 12 03.2	-0.3
BRK					Sg	02 12 06.1	+0.6
NLHM	**Lake Herman**	**0.18**	**338**		Pb	02 12 03.5	-0.2
CMCM	**Mills College**	**0.19**	**209**		Pb	02 12 03.5	-0.3
CSPM	**San Pablo Ridg**	**0.20**	**273**		Pb	02 12 03.9	-0.1
CLCB	**Lake Chabot**	**0.21**	**181**		Pb	02 12 04.1	0.0
CSLM	**San Leandro Hi**	**0.23**	**192**		Pb	02 12 04.3	-0.2
CMOB	**Morgan Territo**	**0.25**	**124**		Pb	02 12 04.8	0.0
CYBM	**Yerba Buena Is**	**0.27**	**240**		Pb	02 12 04.8	-0.4
CPMM	**Point Molate**	**0.27**	**270**		Pb	02 12 04.8	-0.4
CPMM					Sb	02 12 09.2	-0.5
HMR	**Hamilton Ranch**	**0.29**	**45**		Pb	02 12 06.2	+0.7
C055	**Cottonwood Ave**	**0.29**	**188**		Pg	02 12 04.9	+0.2
C055					Sb	02 12 10.1	-0.2
TWIT	**Twitchell Isla**	**0.33**	**64**		Pb	02 12 07.3	+1.1
CNIC	**Niles Canyon**	**0.35**	**167**		Pb	02 12 06.5	0.0
CNIC					Sb	02 12 12.0	+0.1
NGVM		**0.35**	**340**		Pb	02 12 06.7	+0.1
CBSNC	**Byron Hot Spri**	**0.36**	**111**		Pb	02 12 07.0	+0.4
JPRM	**Presidio of Sa**	**0.36**	**245**		Pb	02 12 06.5	-0.2
JEPS	**Jepson Natural**	**0.36**	**31**		Pb	02 12 07.7	+1.0
CVLM	**Vallecito**	**0.37**	**151**		Pb	02 12 07.3	+0.5
CBZL	**Buffer Zone**	**0.38**	**133**		Pb	02 12 07.6	+0.7
JSBM	**San Bruno Moun**	**0.38**	**225**		Pg	02 12 06.6	+0.4
SNT	**Sears Point**	**0.39**	**307**		Pb	02 12 07.2	+0.1
SNT					Sb	02 12 13.7	+0.7
CSAM	**Sandia**	**0.39**	**134**		Pb	02 12 08.0	+0.7
WENL	**Wente Vineyard**	**0.41**	**143**		Pb	02 12 07.9	+0.4
JCPM	**Coyote Point**	**0.41**	**210**		Pb	02 12 07.3	-0.3
JMGM	**Milagra Ridge**	**0.45**	**227**		Pb	02 12 08.0	-0.3
SAC	**San Andreas**	**0.46**	**218**		Pb	02 12 08.1	-0.3
JCHM	**Cahill Ridge**	**0.50**	**210**		Pb	02 12 08.8	-0.2
CVS	**Carmenet Viney**	**0.51**	**322**		Pg	02 12 08.6	0.0
CVS				Sg	Sg	02 12 15.6	+0.3
NAPC	**Atlas Peak**	**0.51**	**343**		Pb	02 12 09.4	0.0
NADM	**Allendale**	**0.52**	**8**		Pb	02 12 10.1	+0.7
QRDG	**Quail Ridge Na**	**0.54**	**353**		Pb	02 12 10.0	+0.3
CALM	**Calaveras Res.**	**0.54**	**157**		Pb	02 12 09.7	0.0
CSTL	**Corral Hollow**	**0.54**	**124**		Pb	02 12 10.0	+0.2
CSTL	**Corral Hollow**	**0.54**	**124**		Pb	02 12 10.2	+0.3
JSFB	**Stanford Teles**	**0.55**	**189**		Pg	02 12 09.4	0.0
OAKV	**Oakville Exper**	**0.56**	**330**		Pb	02 12 09.8	-0.3
JRSC	**Jasper Ridge**	**0.56**	**195**	Pg	Pg	02 12 09.8	+0.2
JRSC				Sg	Sg	02 12 17.4	+0.3
JRSC	comp=N,863nm,0.4s			IAML		02 12 19.8	
CMLM	**Mount Lewis**	**0.57**	**145**		Pb	02 12 10.5	+0.1
NOLM	**Olema**	**0.58**	**279**		Pg	02 12 09.6	-0.4
JFP	**Foothills Park**	**0.60**	**190**		Pb	02 12 10.8	0.0
JSJM	**St Joseph**	**0.61**	**182**		Pb	02 12 11.5	+0.4
RUSS	**Russell Ranch**	**0.61**	**14**	Pg	Pg	02 12 10.8	+0.2
RUSS				Sg	Sg	02 12 19.0	+0.2

comp=N,301nm,0.2s
GDXM IAML 02 12 34.1
comp=E,360nm,0.2s
JELB Ellicott, Sant 1.04 170 Pb 02 12 17.8 -0.4
FTR Fort Ross 1.04 304 Pb 02 12 17.2 -1.1
HCBM Chamberlain 1.06 162 Pb 02 12 18.4 -0.3
HPCM Pacheco Lake 1.08 145 Pb 02 12 18.5 -0.6
HFEM San Felipe 1.10 151 Pb 02 12 18.5 -0.7
GRTM Round Top Moun 1.10 334 Pb 02 12 19.1 -0.3
SLD San Luis Dam 1.10 142 Pb 02 12 19.0 -0.3
GPMM Pine Mountain 1.14 323 Pb 02 12 19.4 -0.5
WELL Weller Preserv 1.16 65 Pn 02 12 19.1 -1.3
WELL IAML 02 12 37.5
comp=N,245nm,0.6s
WELL IAML 02 12 39.4
comp=E,325nm,0.4s
FRP Fremont Peak 1.28 159 Pn 02 12 20.7 -1.3
FORD Fort Ord Natur 1.28 170 Pn Pn 02 12 20.6 -1.3
SAO San Andreas Ge 1.28 157 Pn Pn 02 12 20.9 -1.0
SUTB Sutter Butte 1.30 10 Pn Pn 02 12 20.8 -1.4
SUTB IAML 02 12 41.8
comp=N,220nm,0.4s
SUTB IAML 02 13 00.3
comp=E,183nm,0.6s
GALB Galbreath Wild 1.31 315 Pn 02 12 20.9 -1.5
HOPS Hopland Field 1.31 323 Pn Pn 02 12 21.6 -0.9
GHGM Hogback Ridge 1.32 333 Pn 02 12 22.0 -0.7
CMB Columbia Colle 1.33 86 Pn Pn 02 12 21.6 -1.0
CMB IAML 02 12 42.6
comp=E,138nm,0.4s
CMB IAML 02 12 44.1
comp=N,190nm,0.5s
GSNM Snow Mountain 1.33 318 Pn 02 12 23.0 +0.3
HMOM Monterey 1.35 175 Pn 02 12 22.0 -0.9
GFC Funks Creek 1.39 353 Pn 02 12 22.5 -1.0
SFRE Sierra Foothil 1.43 24 Pn 02 12 22.0 -2.0
BJOM Mount Johnson 1.45 155 Pn 02 12 23.5 -0.7
SCZ Santa Cruz 1.45 158 Pn 02 12 22.9 -1.4
BONV Boonville, CA 1.45 316 Pn 02 12 23.7 -0.6
OHCM Honcut 1.46 18 Pn 02 12 22.6 -1.8
OSTM Stimpson Lane 1.46 14 Pn 02 12 22.9 -1.6
BJCM Johnson Can. 1.50 159 Pn 02 12 23.9 -1.0
BUCR Buckhorn Ranch 1.54 100 Pn 02 12 24.8 -0.9
BPRM Ponciano Ridge 1.56 170 Pn 02 12 25.1 -0.8
BBGB Big Mountain B 1.59 149 Pn 02 12 25.6 -0.7
GHOM Hamilton Openi 1.59 314 Pn 02 12 25.6 -0.8
GCK Clark Valley 1.62 350 Pn 02 12 25.9 -0.7
BMSM Mercy Hot Spri 1.64 141 Pn 02 12 26.3 -0.6
BSMM Soledad Missio 1.64 162 Pn 02 12 26.6 -0.5
BSGM Shirttail Gulc 1.66 157 Pn 02 12 26.5 -0.7
ORV Oroville 1.66 15 Pn Pn 02 12 25.3 -2.0
BCWM Chews Ridge 1.69 166 Pn 02 12 26.9 -0.8
LEGD La Grand CA 1.69 115 Pn Pn 02 12 26.4 -1.2
LEGD IAML 02 12 51.6
comp=E,156nm,0.4s
LEGD IAML 02 12 57.6
comp=N,131nm,0.5s
LRV Little Rabbit 1.73 151 Pn 02 12 25.8 -2.5
OGOM Van Goodin Ran 1.74 12 Pn 02 12 27.2 -1.1
DCMP DeCamp, Califo 1.82 327 Pn Pn 02 12 28.9 -0.4
YUBA Cisco Grove, Y 1.83 40 Pn 02 12 30.4 +0.6
MHDM Hidden Dam 1.91 115 Pn 02 12 30.2 -0.4
MMIM Miami Mountain 1.91 105 Pn 02 12 31.2 +0.4
DONR Donner Summit 1.96 44 Pn 02 12 32.0 +0.5
PCCM Crazy Canyon 1.99 159 Pn 02 12 31.1 -0.6
PMPB Monarch Peak 2.00 149 Pn Pn 02 12 30.9 -1.1
PMPB IAML 02 13 18.5
comp=E,126nm,0.8s
PMPB IAML 02 13 29.7
comp=N,102nm,0.9s
HULI Fort Hunter Li 2.03 161 Pn Pn 02 12 31.7 -0.7
HULI Pg 02 12 38.1 +0.6
HULI IAML 02 13 09.4
comp=E,90nm,1.1s
HULI IAML 02 13 11.0
comp=N,99nm,1.3s
KCPM Cahto Peak 2.10 326 Pn Pn 02 12 31.9 -1.5
WAKR Walker 2.14 74 Pn Pn 02 12 34.8 +0.8
WAKR IAML 02 13 07.4
comp=E,90nm,0.9s
WAKR IAML 02 13 12.0
comp=N,77nm,0.7s
PSMM Smith Mountain 2.21 148 Pn 02 12 35.9 +1.0
KCC Kaiser Creek 2.27 105 Pn 02 12 36.8 +1.2
O02D Mt. Diablo Mer 2.30 346 Pn Pn 02 12 36.6 +0.5
BEKR Beckworth 2.33 34 Pn Pn 02 12 36.8 +0.2
BEKR IAML 02 13 19.9
comp=E,67nm,0.6s
PEAR Peavine Mounta 2.33 44 Pn 02 12 37.7 +1.0
PKD Bear Valley Ra 2.34 148 Pn Pn 02 12 35.9 -0.7
PKD IAML 02 13 24.5
comp=N,45nm,0.6s
O03E Paynes Creek 2.35 5 Pn Pn 02 12 35.0 -1.8
O03E IAML 02 13 38.6
comp=E,50nm,0.7s
PVCM Vineyard Canyo 2.36 148 Pn 02 12 36.9 -0.1
MDPB Devils Postpil 2.38 97 Pn Pn 02 12 38.1 +0.7
MDPB IAML 02 13 12.9
comp=N,83nm,0.7s
MINS Minaret Summit 2.40 96 Pn 02 12 39.2 +1.6
MDCM Deadman Creek 2.40 95 Pn 02 12 39.2 +1.5
MRDM Red Cones 2.41 97 Pn 02 12 39.4 +1.7
MMPM Mammoth Pass 2.43 97 Pn 02 12 40.0 +1.9
MDYM Dry Creek 2.43 96 Pn 02 12 40.1 +2.0
KARE Kearney REC, C 2.45 123 Pn 02 12 38.1 +0.1
MMLB Mammoth Lakes 2.46 96 Pb 02 12 40.8 -1.9
MEMM East Mammoth H 2.49 96 Pb 02 12 41.1 -2.0
MLCM Laurel Creek C 2.52 97 Pb 02 12 41.5 -2.1
MCBM Casa Benchmark 2.52 96 Pb 02 12 41.9 -1.9
KMRM Mail Ridge 2.61 331 Pn Pn 02 12 42.1 +1.8
PAHR Pah Rah Range 2.73 49 Pn Pn 02 12 41.9 -0.2
LHV Little Huntoon 2.82 83 Pn Pn 02 12 44.2 +1.1
LHV IAML 02 13 41.6
comp=N,62nm,0.9s
RYN Ryan 2.87 75 Pn Pn 02 12 44.1 +0.2
RYN IAML 02 13 30.3
comp=N,41nm,0.4s
RYN IAML 02 13 32.7
comp=E,33nm,0.5s
NVAR Mina Array Bea 3.00 80 Pn 02 12 46.2 +0.4
NV11 Mina Array Sit 3.12 80 Pn Pn 02 12 46.6 -0.7
NV11 IAML 02 13 42.5
comp=E,20nm,1.0s
VES Vestal, Richgr 3.18 130 Pn Pn 02 12 47.5 -0.6
VES IAML 02 13 28.4
comp=E,29nm,0.6s
VES IAML 02 14 08.7
comp=N,31nm,4.4s
DSP Deep Springs 3.30 99 Pn Pn 02 12 49.4 -0.3
CWC Cottonwood Cre 3.52 114 Pn Pn 02 12 54.5 +1.6
CWC IAML 02 13 46.9
comp=E,21nm,0.2s
CWC IAML 02 13 50.5
comp=N,21nm,0.5s
MPMC Manual Prospec 4.12 116 Pn Pn 02 13 00.9 -0.3
MPMC IAML 02 14 17.1
comp=E,10.0nm,2.7s
MPMC IAML 02 14 36.5
comp=N,8.8nm,4.6s
KSXB Camp Six Broad 4.12 341 Pn Pn 02 13 02.8 +1.7
KSXB IAML 02 14 16.6
comp=E,13nm,4.8s
KSXB IAML 02 14 53.9
comp=N,11nm,4.6s
CLC China Lake 4.16 119 Pn Pn 02 13 02.0 +0.3
CCCA Chr Cany lake 4.48 121 Pn Pn 02 13 07.2 +1.1
WCT Wildcat Mounta 4.48 103 Pn Pn 02 13 07.0 +1.0
QSM Queen of Sheba 4.61 114 Pn Pn 02 13 07.9 +0.2
QSM IAML 02 15 44.5
comp=E,11nm,0.2s
QSM IAML 02 15 45.2
comp=N,8.7nm,0.8s
GWY Greenwater Val 4.66 111 Pn Pn 02 13 09.1 +0.5
GWY IAML 02 14 38.5
comp=E,9.4nm,3.8s
GWY IAML 02 14 43.9
comp=N,6.3nm,3.8s
TPNV Topopah Spring 4.73 100 Pn Pn 02 13 10.8 +1.2
TPNV IAML 02 14 46.9
comp=N,8.4nm,3.8s
TPNV IAML 02 15 58.4
comp=N,8.8nm,4.8s
K05A Summer Lake 4.86 10 Pn Pn 02 13 10.8 -0.5
MWC Mount Wilson 4.93 138 Pn Pn 02 13 11.7 -0.6
GSC Goldstone, Bar 4.98 120 Pn Pn 02 13 13.0 0.0
GSC IAML 02 14 46.0
comp=N,8.8nm,2.4s
BFSC Mount Baldy Ra 5.14 135 Pn Pn 02 13 14.3 -0.8
BFSC IAML 02 14 45.8
comp=E,9.6nm,5.0s
BFSC IAML 02 15 37.0
comp=N,6.2nm,4.2s

WEL 16 02:13:03.8±1.3, 31°S±8°×17°8E±1°3, h12km, M4.5/4, mB4.8/4, MLL4.8/9, MLv4.6/4, Mw(mB)4.1/4, Error ellipse: s-maj=19.3km s-min=5.7km az=119.1, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.00**	**63**	S	Sn	02 14 52.2	+0.4
HAZ	**Te Kaha**	**6.61**	**181**	P	Pn	02 14 42.4	+1.6
HAZ				S	Sn	02 15 58.5	+2.4
WMGZ	**Waiomatatini S**	**6.68**	**177**	P	Pn	02 14 42.9	+1.1
WMGZ				S	Sn	02 16 00.1	+2.3
PKGZ	**Pakihiroa**	**6.72**	**179**	P	Pn	02 14 44.0	+1.6
PKGZ				S	Sn	02 16 00.3	+1.4
RUGZ	**Raukumara Rang**	**6.82**	**182**	P	Pn	02 14 43.8	-0.1
RUGZ				S	Sn	02 16 01.4	-0.1
URZ	**Urewera**	**7.15**	**186**	P	Pn	02 14 48.4	+0.2
URZ				S	Sn	02 16 10.5	+1.2
MWZ	**Matawai**	**7.20**	**183**	P	Pn	02 14 49.3	+0.4
MWZ				S	Sn	02 16 10.1	-0.5
TKGZ	**Te Karaka**	**7.29**	**181**	P	Pn	02 14 49.2	-1.0
CNGZ	**Carnagh Statio**	**7.34**	**179**	P	Pn	02 14 49.8	-1.0
MUGZ	**Murupara**	**7.40**	**187**	P	Pn	02 14 52.8	+1.2
MUGZ				S	Sn	02 16 17.6	+2.1
RIGZ	**Rimuhau**	**7.56**	**181**	P	Pn	02 14 53.0	-0.9
BKZ	**Black Stump Fm**	**8.11**	**188**	P	Pn	02 14 59.7	-1.7
BKZ				S	Sn	02 16 31.0	-2.0

*BJI **16** 02:18:17.6, 1°.02N×97°.16E, h16km, mB5.2/16, mb4.9/61, Ms4.7/44, Ms7 4.5/44*
*MOS **16** 02:18:19.5±0.9, 1°.38N×97°.12E, h12km, mb5.0/38, Error ellipse: s-maj=10.1km s-min=5.3km az=108.1*
*IDC **16** 02:18:19.2±0.5, 1°.36N×97°.10E, h0km, mb4.5/28, mbtmp4.4/30, ML4.4/2, MS4.0/11, Error ellipse: s-maj=19.2km s-min=11.1km az=57.0*
*NEIC **16** 02:18:21.2±2.1, 1°.32N±0°.08×96°.98E±0°.05, h10km±1km, mb5.0/63, Error ellipse: s-maj=14.0km s-min=7.4km az=190.0*
*DJA **16** 02:18:22.6±0.8, 1°N±3°×9°7E±°, h16km±5km, M4.7/15, mB5.1/4, mb4.7/7, MLv4.8/15, Mw(mB)4.4/4, MwMwp4.5/1, Mwp4.9/1*

ISC 16 02:18:20.7±0.3, 1°39N±0°.04×97°.02E±0°.05, h10km, n288, σ1§83/277, mb4.8/108, MS4.5/27, 30C-19D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.56**	**99**	Pg	**Pn**	**02 18 34.0**	**-0.8**
GSI	**Gunungsitoli**	**0.56**	**99**	P	**Pn**	**02 18 33.9**	**-0.8**
GSI				S	**Sb**	**02 18 41.0**	**+0.3**
SNSI	**Sinabang, Aceh**	**1.23**	**325**	P	**Pb**	**02 18 45.3**	**+1.3**
PBSI	**Pulau Batu**	**1.91**	**139**	P	**Pb**	**02 18 55.5**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.24**	**19**	P	**Pn**	**02 18 59.3**	**+1.4**
PSI	**Prapat**	**2.36**	**54**	LR	LR	02 19 26.4	
comp=Z,710nm,21.6s,baz=302,slow=30							
TSI	**Tuntungan**	**2.60**	**36**	P	**Pn**	**02 19 02.8**	**0.0**
MNSI	**Mandailing Nat**	**2.62**	**103**	P	**Pn**	**02 19 03.4**	**+0.3**
MLSI	**Meulaboh, Aceh**	**2.92**	**348**	P	**Pn**	**02 19 08.1**	**+0.9**
SISI	**Saibi**	**3.40**	**143**	P	**Pn**	**02 19 15.7**	**+1.9**
LHMI	**Lhok Sumawe**	**3.81**	**359**	Pn	**Pn**	**02 19 21.9**	**+2.5**
LHMI	**Lhok Sumawe**	**3.81**	**359**	P	**Pn**	**02 19 21.2**	**+1.7**
PPI	**Padang Panjang**	**3.84**	**119**	P	**Pn**	**02 19 20.8**	**+0.9**
PDSI	**Padang**	**4.13**	**124**	P	**Pn**	**02 19 25.4**	**+1.5**
BKNI	**Bangkinang**	**4.15**	**105**	Pn	**Pn**	**02 19 24.7**	**+0.5**
IPM	**Ipoh**	**5.04**	**52**	Pn	**Pn**	**02 19 37.7**	**+1.3**
PPSI	**Pulau Pagai**	**5.09**	**144**	P	**Pn**	**02 19 38.4**	**+1.3**
1.2nm129nm,1.7s							
KULM	**Kulim**	**5.30**	**43**	Pn	**Pn**	**02 19 40.5**	**+0.5**
CMBY	**CAMPBELL BAY**	**6.38**	**331**	*e*P	Pn	02 19 46.0	-8.7
CMBY				*e*S	Sn	02 20 58.6	-9.1
CMBY				IAML		02 21 22.0	
comp=E,643nm,0.4s							
CMBY				IAML		02 21 25.5	
comp=N,734nm,1.2s							
MYKOM	**Kota Tinggi**	**6.84**	**87**	Pn	**Pn**	**02 20 01.4**	**+0.3**
MNAI	**Manna**	**8.23**	**134**	P	**Pn**	**02 20 19.9**	**-0.4**
comp=N,192nm,1.2s							
LHSI	**Lahat**	**8.31**	**129**	P	**Pn**	**02 20 21.1**	**-0.3**
comp=N,2μmcomp=N,62nm,1.1s							
MDSI	**Maura Dua**	**9.23**	**129**	P	**Pn**	**02 20 32.6**	**-1.4**
comp=N,744nmcomp=N,32nm,0.8s							
PPBI	**Pangkal Pinang**	**9.77**	**111**	P	**Pn**	**02 20 42.3**	**+0.9**
DGPR	**DIGLIPUR**	**12.39**	**341**	*e*P	Pn	02 21 07.3	-10
DGPR				*e*S	Sn	02 23 15.8	-20
DGPR				IAML		02 23 31.8	
comp=E,282nm,0.2s							
DGPR				IAML		02 23 45.0	
comp=N,176nm,1.3s							
KSM	**Kuching**	**13.28**	**89**	Pn	**Pn**	**02 21 28.8**	**-0.7**
SBUM	**Sibu**	**15.23**	**86**	Pn	**Pn**	**02 21 56.2**	**+0.3**
CM31	**Chiang Mai Arr**	**17.06**	**6**		**Pn**	**02 22 19.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.06**	**6**	Pn	**Pn**	**02 22 20.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.06**	**6**	Pn	**Pn**	**02 22 19.9**	**+0.3**
comp=N,1.3nm,0.3s,baz=196,slow=13,SNR=20							
CMAR				LR	LR	02 29 57.7	
comp=N,581nm,18.6s,baz=180,slow=41							
comp=N,4.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**17.06**	**6**	*i* P	**Pn**	**02 22 20.2**	**+0.7**
CMAR				pmax	pmax		
comp=Z,5.0nm,0.3s							
PALK	**Pallekele**	**17.28**	**290**		**P**	**02 22 24.8**	**+1.0**
PALK	**Pallekele**	**17.28**	**290**	P	**P**	**02 22 24.8**	**+1.0**
comp=Z,0.3nm,0.3s,baz=132,slow=14,SNR=1.4							
PALK				S	Sn	02 25 23.2	-12
comp=Z,3.5nm,0.3s,baz=30,slow=20,SNR=2.2							
PALK				LR	LR	02 28 45.8	
comp=Z,611nm,18.3s,baz=110,slow=36							
comp=Z,12nm,1.0s							
PALK	**Pallekele**	**17.28**	**290**	P	**P**	**02 22 24.8**	**+1.0**
PALK				pmax	pmax		
comp=Z,18nm,1.0s							
CHTO	**Chiang Mai**	**17.42**	**6**	Pn	**Pn**	**02 22 23.4**	**-0.5**
CHTO	**Chiang Mai**	**17.42**	**6**	P	**Pn**	**02 22 23.5**	**-0.5**
CHTO				pmax	pmax		
comp=Z,14nm,1.0s							
KKM	**Kota Kinabalu**	**19.70**	**76**	P	**P**	**02 22 49.9**	**-0.5**
KKM				IAmb	IAmb	02 22 53.3	
comp=Z,42nm,1.0s							
SLVN	**Son La**	**20.93**	**18**	P	**P**	**02 23 04.1**	**+0.4**
SLVN				IAmb	IAmb	02 23 06.3	
comp=Z,83nm,0.9s							
VIS	**Vishakhapatnam**	**21.08**	**321**	*e*P	P	02 22 55.9	-9.5
VIS				IAmb	IAmb	02 23 30.0	
comp=Z,21nm,1.6s							
VIS				*e*S	**S**	**02 26 51.2**	**-8.9**
KOD	**Kodaikanal**	**21.33**	**295**	*e*P	P	02 22 57.2	-11
KOD				IAmb	IAmb	02 23 20.4	
comp=Z,69nm,1.2s							
KOD				*e*S	S	02 26 55.0	-11
QIZ	**Qiongzhong**	**21.57**	**35**	P	**P**	**02 23 11.9**	**+1.3**
QIZ				S	**S**	**02 27 13.3**	**+3.5**
QIZ				LR	LR		
comp=Z,660nm,12.7s							
QIZ				LR	LR		
comp=Z,690nm,10.7s							
QIZ				LR	LR		
comp=Z,610nm,10.9s							
MYLDM	**Lahad Datu**	**21.77**	**80**	P	**P**	**02 23 12.6**	**-0.2**
MYLDM				IAmb	IAmb	02 23 28.3	
comp=Z,37nm,0.9s							
BRDH	**Bariadhala**	**21.79**	**347**	P	**P**	**02 23 14.2**	**+1.2**
comp=Z,102nm,0.3s,baz=142,slow=9.7,SNR=5.4							
IMP	**Imphal**	**23.49**	**353**	*e*P	P	02 23 23.4	-7.5
IMP				IAmb	IAmb	02 23 41.6	
comp=Z,25nm,0.9s							
IMP				*e*S	**S**	**02 27 35.7**	**-9.1**
TNCH	**TengChong**	**23.54**	**3**	P	**P**	**02 23 32.5**	**+1.0**
TNCH				S	**S**	**02 27 47.5**	**+1.7**
TNCH				pmax	pmax		
comp=Z,42nm,0.9s							
TNCH				LR	LR		
comp=Z,1μm,11.1s							
TNCH				LR	LR		
comp=Z,430nm,9.5s							
TNCH				LR	LR		
comp=Z,1μm,13.4s							
KAPI Kappang 23.58 106				P	**P**	**02 23 30.8**	**-1.0**
comp=Z,14nm,0.9s,baz=256,slow=8.3,SNR=2.9							
comp=Z,14nm,0.9s							
KAPI Kappang 23.58 106				*de*P	**P**	**02 23 31.2**	**-0.6**
KAPI				pmax	pmax		
comp=Z,24nm,1.2s							
TOLI2 Tolitoli 23.76 90				P	**P**	**02 23 31.9**	**-1.6**
TOLI2				IAmb	IAmb	02 23 33.4	
comp=Z,56nm,1.1s							
KMI Kunming 24.23 13				⇑P	**P**	**02 23 40.0**	**+1.9**
KMI				S	**S**	**02 27 57.4**	**+0.5**
KMI				pmax	pmax		
comp=Z,74nm,1.2s							
KMI				pmax	pmax		
comp=Z,390nm,4.2s							
KMI				LR	LR		
comp=Z,2μm,16.4s							
KMI				LR	LR		
comp=Z,1μm,15.0s							
KMI				LR	LR		
comp=Z,2μm,15.5s							
KOHI KOHIMA 24.35 354				*e*P	P	02 23 29.2	-10
KOHI				IAmb	IAmb	02 23 54.8	
comp=Z,42nm,1.8s							
SHL Shillong 24.54 349				P	**P**	**02 23 41.0**	**+0.1**
SHL Shillong 24.54 349				P	**P**	**02 23 41.0**	**+0.1**
SHL				pmax	pmax		
comp=Z,115nm,0.8s							
PZH PanZhiHua 25.38 10				P	**P**	**02 23 48.8**	**+0.4**
PZH				S	**S**	**02 28 20.8**	**+5.7**
PZH				LR	LR		
comp=Z,480nm,15.7s							
PZH				LR	LR		
comp=Z,470nm,16.2s							
PZH				LR	LR		
comp=Z,680nm,16.9s							
TEZP TEZPUR 25.41 351				*e*P	P	02 23 39.1	-9.4
TEZP				IAmb	IAmb	02 23 50.8	
comp=Z,66nm,1.4s							
TEZP				*e*S	**S**	**02 28 06.5**	**-8.8**
LUWI Luwuk 25.86 95				P	**P**	**02 23 50.9**	**-1.9**
H08S2 Diego Garcia H 26.06 249				T	T	02 50 53.6	
baz=71,slow=75,SNR=8396							
H08S3 Diego Garcia H 26.07 250				T	T	02 50 53.8	
baz=71,slow=75							
H08S1 Diego Carcia H 26.08 250				T	T	02 50 54.9	
baz=71,slow=75,SNR=9581							
GYA Guiyang 26.59 20				⇓P	**P**	**02 24 00.0**	**+0.6**
GYA				S	**S**	**02 28 35.3**	**+1.0**
GYA				pmax	pmax		
comp=Z,34nm,0.9s							
GYA				pmax	pmax		
comp=Z,190nm,3.2s							
GYA				LR	LR		
comp=Z,500nm,11.5s							
GYA				LR	LR		
comp=Z,1μm,17.1s							
GYA				LR	LR		
comp=Z,310nm,20.8s							
EVN Everest 28.16 341				P	**P**	**02 24 15.7**	**+1.6**
EVN				IAmb	IAmb	02 24 27.9	
comp=Z,21nm,0.8s							
LSA Lhasa 28.70 349				P	**P**	**02 24 17.9**	**-0.8**
LSA				pmax	pmax		
comp=Z,17nm,0.8s							
CD2 Chengdu 30.04 12				P	**P**	**02 24 30.4**	**+0.3**
CD2				pmax	pmax		
comp=Z,30nm,0.8s							
CD2				LR	LR		
comp=Z,1μm,14.6s							
CD2				LR	LR		
comp=Z,2μm,14.6s							
CD2				LR	LR		
comp=Z,1μm,15.9s							
ENH Enshi 31.07 21				P	**P**	**02 24 38.3**	**-0.8**
WHN Wuhan 33.33 28				P	**P**	**02 25 00.3**	**+1.4**
WHN				LR	LR		
comp=Z,2μm,13.2s							
FITZ Fitzroy Crossi 34.18 126				P	**P**	**02 25 04.7**	**-1.8**
comp=Z,4.5nm,0.8s,baz=312,slow=5.4,SNR=6.6							
comp=Z,4.5nm,0.8s							
XAN Xi'an 34.34 18				⇑P	**P**	**02 25 07.4**	**-0.3**
XAN				sP	sP	02 25 14.4	+2.6
XAN				pmax	pmax		
comp=Z,43nm,1.1s							
XAN				LR	LR		
comp=Z,970nm,17.2s							
XAN				LR	LR		
comp=Z,420nm,13.1s							
XAN				LR	LR		
comp=Z,1μm,15.1s							
LZDM Lanzhou Array 34.95 9				P	**P**	**02 25 12.1**	**-1.2**
comp=Z,1.6nm,0.3s,baz=200,slow=13,SNR=6.7							
comp=Z,1.6nm,0.3s							
LZH Lanzhou 35.10 10				*e*P	**P**	**02 25 15.8**	**+1.4**
LZH				sP	sP	02 25 22.6	+4.1
LZH				pmax	pmax		
comp=Z,34nm,1.3s							
LZH				LR	LR		
comp=Z,670nm,12.4s							
LZH				LR	LR		
comp=Z,670nm,12.7s							
LZH				LR	LR		
comp=Z,760nm,12.4s							
LYN LuoYang 36.00 22				P	**P**	**02 25 22.8**	**+0.8**
LYN				sP	sP	02 25 29.3	+3.2
LYN				pmax	pmax		
comp=Z,48nm,0.9s							
LYN				LR	LR		
comp=Z,630nm,14.1s							
LYN				LR	LR		
comp=Z,650nm,12.8s							
LYN				LR	LR		
comp=Z,490nm,12.6s							
NJ2 Nanjing 36.80 32				*e*P	**P**	**02 25 31.0**	**+2.2**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
GTA Gaotai 37.92 4				*e*P	**P**	**02 25 40.0**	**+1.5**
GTA				sP	sP	02 25 47.8	+5.2
GTA				pmax	pmax		
comp=Z,21nm,0.9s							
GTA				LR	LR		
comp=Z,500nm,13.5s							
GTA				LR	LR		
comp=Z,330nm,14.7s							
GTA				LR	LR		
comp=Z,560nm,13.9s							
NIL Nilore 39.06 328				P	**P**	**02 25 48.2**	**+0.2**
NIL Nilore 39.06 328				P	**P**	**02 25 48.2**	**+0.2**
NIL				pmax	pmax		
comp=Z,16nm,0.9s							
HNS HongShan 39.37 22				⇑P	**P**	**02 25 51.5**	**+1.1**
HNS				pmax	pmax		
comp=Z,15nm,1.0s							
HNS				LR	LR		
comp=Z,260nm,13.5s							
HNS				LR	LR		
comp=Z,400nm,14.5s							
HNS				LR	LR		
comp=Z,250nm,16.5s							
H01W3 Cape Leeuwin H 39.49 158				T	T	03 07 26.0	
baz=333,slow=76,SNR=142							
H01W2 Cape Leeuwin H 39.50 158				T	T	03 07 27.0	
baz=333,slow=76,SNR=175							
H01W1 Cape Leeuwin H 39.50 158				T	T	03 07 26.6	
baz=333,slow=76,SNR=142							
BTO Baotou 40.77 15				*e*P	**P**	**02 26 03.1**	**+0.9**
BTO				S	**S**	**02 32 16.1**	**+3.0**
BTO				SS	**SS**	**02 35 13.3**	**-0.8**
BTO				pmax	pmax		
comp=Z,21nm,0.5s							
BTO				pmax	pmax		
comp=Z,220nm,4.3s							
BTO				LR	LR		
comp=Z,600nm,17.6s							
BTO				LR	LR		
comp=Z,2μm,14.4s							
BTO				LR	LR		
comp=Z,530nm,17.3s							
HHC Hu-ho-hao-te 41.43 17				*e*P	**P**	**02 26 10.3**	**+2.7**
HHC				pmax	pmax		

comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.2s
HHC LR LR
comp=Z,630nm,13.9s
HHC LR LR
comp=Z,360nm,12.2s
HHC LR LR
comp=Z,710nm,16.9s
BJT Baijiatuau 42.21 22 P **P 02 26 13.6 -0.3**
BJT IAmb IAmb 02 26 16.3
comp=Z,20nm,0.8s
BJT Baijiatuau 42.21 22 P **P 02 26 13.6 -0.3**
BJT pmax pmax
comp=Z,20nm,0.8s
BJI Beijing 42.23 22 P **P 02 26 15.3 +1.3**
BJI sP **sP 02 26 22.3 +4.2**
BJI S **S 02 32 35.9 +1.5**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,130nm,15.1s
BJI LR LR
comp=Z,120nm,21.8s
BJI LR LR
comp=Z,130nm,13.1s
WB0 Warramunga Arr 42.26 122 P **P 02 26 12.9 -1.7**
WRA Warramunga Arr 42.29 122 P **P 02 26 13.5 -1.4**
comp=Z,3.3nm,0.7s,baz=301,slow=9.0,SNR=22
WRA PcP **PcP 02 28 08.7 0.0**
comp=Z,0.9nm,0.8s,baz=298,slow=3.3,SNR=2.3
comp=Z,3.3nm,0.7s
WRA Warramunga Arr 42.29 122 *i* P **P 02 26 13.5 -1.4**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 42.29 122 *de*P **P 02 26 14.0 -0.9**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WR8 Warramunga Arr 42.43 122 P **P 02 26 14.3 -1.7**
KSH Kashi 42.52 336 P **P 02 26 17.1 +0.5**
KSH pmax pmax
comp=Z,5.0nm,0.9s
WMQ Urumqi 43.05 350 *e*P **P 02 26 23.4 +2.6**
WMQ PP **PP 02 28 00.8 -0.1**
FORT Forrest 43.54 140 P **P 02 26 25.5 +0.7**
AS31 Alice Springs 43.65 127 P **P 02 26 24.8 -1.2**
ASAR Alice Springs 43.65 127 P **P 02 26 24.8 -1.1**
ASAR Alice Springs 43.65 127 P **P 02 26 25.1 -0.8**
comp=Z,4.0nm,0.9s,baz=300,slow=7.3,SNR=27
ASAR PcP **PcP 02 28 12.9 -0.4**
comp=Z,1.3nm,1.1s,baz=294,slow=3.0,SNR=5.6
comp=Z,4.0nm,0.9s
TARG Taragay, Kyrgy 43.73 339 P **P 02 26 27.6 +0.9**
TARG IAmb IAmb 02 26 54.1
comp=Z,35nm,1.4s
TARG Taragay, Kyrgy 43.73 339 P **P 02 26 27.6 +0.9**
TARG pmax pmax
comp=Z,35nm,1.4s
PRZ Przheval'sk 44.19 340 P **P 02 26 32.7 +2.6**
PRZ IAmb IAmb 02 26 37.5
comp=Z,12nm,0.7s
PRZ Przheval'sk 44.19 340 P **P 02 26 32.7 +2.6**
PRZ pmax pmax
comp=Z,12nm,0.7s
KDJ Kajisay 44.31 339 P **P 02 26 32.5 +1.5**
KDJ IAmb IAmb 02 26 36.2
comp=Z,19nm,0.9s
KDJ Kajisay 44.31 339 P **P 02 26 32.5 +1.5**
KDJ pmax pmax
comp=Z,19nm,0.9s
GAR Garm 44.68 330 P **P 02 26 35.0 +0.9**
GAR IAmb IAmb 02 26 36.3
comp=Z,13nm,0.8s
TJN Taejon 44.72 35 P **P 02 26 33.9 -0.3**
TJN Taejon 44.72 35 *de*P **P 02 26 34.6 +0.4**
CHGR Chuyangaron 45.01 329 P **P 02 26 37.2 +0.6**
CHGR Chuyangaron 45.01 329 P **P 02 26 37.2 +0.6**
CHGR pmax pmax
comp=Z,24nm,0.7s
BOOM Boomskoye usch 45.08 338 P **P 02 26 38.4 +1.2**
BOOM Boomskoye usch 45.08 338 P **P 02 26 38.4 +1.2**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
INCN Inchon 45.09 34 P **P 02 26 37.0 -0.2**
INCN Inchon 45.09 34 P **P 02 26 37.0 -0.2**
INCN pmax pmax
comp=Z,136nm,2.0s
AAK Ala-Archa 45.76 337 P **P 02 26 43.1 +0.5**
AAK Ala-Archa 45.76 337 LR LR 02 49 14.3
comp=Z,141nm,18.4s,baz=152,slow=40
AAK Ala-Archa 45.76 337⇑ *e*P **P 02 26 43.7 +1.1**
AAK pmax pmax
comp=Z,8.0nm,1.8s
KSAR Wonju Array Be 45.76 35 P **P 02 26 41.9 -0.6**
KSAR Wonju Array Be 45.76 35 P **P 02 26 41.9 -0.6**
KSRS Korea Array 45.79 35 P **P 02 26 42.7 0.0**
comp=Z,19nm,0.9s,baz=222,slow=9.1,SNR=56
comp=Z,19nm,0.9s
KS19 Wonju Array Si 45.79 35 P **P 02 26 41.9 -0.8**
KS19 IAmb IAmb 02 26 43.5
comp=Z,25nm,0.9s
ARK Arkit 46.12 334 P **P 02 26 46.2 +0.8**
SONM Songino Array 46.97 9 P **P 02 26 52.7 +0.8**
SONM IAmb IAmb 02 26 54.3
comp=Z,15nm,0.9s
SONM Songino Array 46.97 9 P **P 02 26 53.2 +1.2**
comp=Z,14nm,0.8s,baz=191,slow=9.0,SNR=45
SONM PcP **PcP 02 28 24.8 +0.4**
comp=Z,1.7nm,0.6s,baz=210,slow=2.7,SNR=2.7
comp=Z,14nm,0.8s
MK31 Makanchi Array 47.01 346 *ce*P **P 02 26 53.5 +1.3**
MKAR Makanchi Array 47.01 346 P **P 02 26 53.5 +1.3**
MKAR Makanchi Array 47.01 346 P **P 02 26 53.7 +1.5**
comp=Z,10nm,0.8s,baz=158,slow=8.0,SNR=58
comp=Z,10nm,0.8s
ULN Ulaanbaatar 47.10 9 P **P 02 26 53.1 +0.1**
ULN IAmb IAmb 02 26 55.1
comp=Z,11nm,0.8s
ULN Ulaanbaatar 47.10 9 *ce*P **P 02 26 53.9 +0.9**
ULN pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 47.10 346 P **P 02 26 54.4 +1.5**
MAKZ IAmb IAmb 02 26 57.3
comp=Z,7.3nm,0.8s
MAKZ Makanchi 47.10 346 P **P 02 26 54.4 +1.5**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
KK31 Karatay Array 47.81 334 P **P 02 26 59.8 +1.4**
KK31 IAmb IAmb 02 27 01.2
comp=Z,9.1nm,1.1s
KK31 Karatay Array 47.81 334 P **P 02 26 59.8 +1.4**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 47.81 334 P **P 02 26 59.1 +0.6**
KKAR Karatay Array 47.81 334 P **P 02 26 59.1 +0.6**
COEN Coen 48.20 110 P **P 02 27 00.3 -1.6**
COEN IAmb IAmb 02 27 01.6
comp=Z,14nm,1.1s
KNGR Kungurtug, Tuv 49.03 0⇓ *e*P **P 02 27 09.7 +1.8**
KNGR pmax pmax
comp=Z,16nm,1.1s
ZAK Zakamensk 49.10 5 *e*P **P 02 27 09.1 +0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
CN2 Changchun 49.22 27 P **P 02 27 07.9 -1.3**
CN2 sP sP 02 27 15.0 +1.6
CN2 S **S 02 34 12.9 -2.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
TLY Talaya 50.42 5 P **P 02 27 18.4 +0.1**
TLY IAmb IAmb 02 27 20.9
comp=Z,7.3nm,0.7s
TLY Talaya 50.42 5 *ce*P **P 02 27 20.6 +2.3**
TLY pmax pmax
comp=Z,7.0nm,0.8s
INKA Innaminka 51.01 128 P **P 02 27 22.0 -1.2**
KURBB Kurchatov Arra 51.50 345 P **P 02 27 27.8 +1.4**
comp=Z,6.7nm,0.7s,baz=167,slow=6.9,SNR=64
KURBB LR LR 02 53 01.6
comp=Z,115nm,18.1s,baz=170,slow=40
comp=Z,6.7nm,0.7s
HIA Hailar 51.52 19 *de*P **P 02 27 27.5 +0.9**
HIA pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 51.56 345 P **P 02 27 27.4 +0.5**
KURK IAmb IAmb 02 27 29.2
comp=Z,13nm,1.0s
KURK Kurchatov 51.56 345 *ce*P **P 02 27 28.2 +1.3**
KURK pmax pmax
comp=Z,12nm,0.9s
BNX BinXian 51.60 27⇑P **P 02 27 27.3 +0.1**
BNX pmax pmax
comp=Z,32nm,0.8s
MJAR Matsushiro Arr 51.67 43 P **P 02 27 27.8 -0.2**
comp=Z,1.4nm,0.4s,baz=216,slow=6.2,SNR=5.7
MJAR LR LR 02 49 03.1
comp=Z,377nm,21.3s,baz=204,slow=36
comp=Z,1.4nm,0.4s
HILR Hailar Array B 51.77 19 P **P 02 27 28.9 +0.3**
comp=Z,6.3nm,0.7s,baz=188,slow=9.0,SNR=7.0
comp=Z,6.3nm,0.7s
MDJ Mudanjiang 51.79 29 P **P 02 27 29.9 +1.2**
MDJ pmax pmax
comp=Z,19nm,1.0s
USRK Ussuriysk Ar. 52.70 31 P **P 02 27 35.4 0.0**
comp=Z,28nm,0.9s,baz=231,slow=5.3,SNR=37
comp=Z,28nm,0.9s
ZAA0 Zalesovo Array 53.34 351 P **P 02 27 40.6 +0.6**
ZAA0 IAmb IAmb 02 27 42.1
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 53.34 351 P **P 02 27 40.9 +0.9**
ZALV Zalesovo Beam 53.34 351 P **P 02 27 41.2 +1.2**
comp=Z,16nm,0.5s,baz=179,slow=6.2,SNR=91
comp=Z,16nm,0.5s
STKA Stephens Creek 53.62 132 P **P 02 27 42.3 -0.2**
STKA Stephens Creek 53.62 132 P **P 02 27 42.6 +0.1**
comp=Z,5.2nm,0.8s,baz=310,slow=8.0,SNR=8.2
comp=Z,5.2nm,0.8s
BORK Borovoye 56.05 341 *c i*P **P 02 28 00.1 +0.4**
BORK pmax pmax
comp=Z,15nm,0.8s
AB31 Akbulak array 57.26 332 P **P 02 28 08.3 -0.1**
ABKAR Akbulak array 57.26 332 P **P 02 28 08.7 +0.3**
ZEA Zeya 57.82 21 *e*P **P 02 28 13.1 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=N,400nm,15.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
EIDS Eidsvold 58.63 121 P **P 02 28 18.3 -0.1**
EIDS IAmb IAmb 02 28 19.5
comp=Z,16nm,0.9s
YSS Yuzhno-Sakhali 60.29 34 P **P 02 28 30.3 +0.8**
YSS Yuzhno-Sakhali 60.29 34 *e*P **P 02 28 30.5 +1.0**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,400nm,12.0s
GNI Garni 61.03 316 P **P 02 28 37.2 +2.3**
GNI IAmb IAmb 02 28 53.2
comp=Z,11nm,0.9s
GNI Garni 61.03 316 P **P 02 28 37.2 +2.3**
GNI pmax pmax
comp=Z,11nm,1.0s
H04N2 CROZET ISLANDS 61.83 214 T T 03 35 35.3
baz=54,slow=75
H04N1 CROZET ISLANDS 61.84 214 T T 03 35 35.9
baz=54,slow=75
H04N3 CROZET ISLANDS 61.85 214 T T 03 35 34.5
baz=54,slow=75,SNR=9135
H04S1 CROZET ISLANDS 62.17 213 T T 03 35 58.3
baz=53,slow=76,SNR=971
H04S3 CROZET ISLANDS 62.19 213 T T 03 36 00.1
baz=53,slow=76,SNR=800
H04S2 CROZET ISLANDS 62.19 213 T T 03 36 01.3
baz=53,slow=76,SNR=491
SVE Sverdlovsk 62.45 338 *e*P **P 02 28 44.5 +0.6**
SVE pmax pmax
comp=Z,18nm,0.9s
MARD Mardin 62.78 312 P **P 02 28 46.6 0.0**
MARD IAmb IAmb 02 28 57.0
comp=Z,9.4nm,0.9s
ARTI Arti 62.98 337 P **P 02 28 47.5 +0.1**
ARTI Arti 62.98 337 *ce*P **P 02 28 47.6 +0.1**
ARTI pmax pmax
comp=Z,11nm,0.8s
KBZ Khabaz 63.81 319 P **P 02 28 53.9 +0.7**
comp=Z,4.5nm,0.8s,baz=124,slow=5.5,SNR=16
comp=Z,4.5nm,0.8s
SHA1 Shidzhatmaz 63.97 319 *ce*P **P 02 28 55.0 +0.4**
KIV Kislovodsk 64.05 319 P **P 02 28 54.8 -0.1**
KIV Kislovodsk 64.05 319 *e*P **P 02 28 55.7 +0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 64.05 319 P **P 02 28 55.6 +0.7**
comp=Z,11nm,1.0s
YAK Yakutsk 65.29 16 P **P 02 29 02.2 -0.3**
YAK Yakutsk 65.29 16 *e*P **P 02 29 01.9 -0.6**
YAK *e* 02 29 33.3
YAK *e* 02 31 25.8
YAK *e*S **S 02 37 43.4 -2.6**
YAK *e**SS sS 02 38 04.0 +13
YAK *e* 02 38 53.0
YAK *e*SS **SS 02 41 59.2 +0.2**
YAK pmax pmax
comp=Z,65nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,102nm,3.5s
YAK pmax pmax
comp=E,84nm,3.2s
YAK pmax pmax
comp=N,90nm,2.7s
YAK smax smax
comp=N,160nm,4.3s
YAK smax smax
comp=E,116nm,3.2s
BELG Belogornoye 65.31 329 *de*P **P 02 29 02.0 -0.8**
BELG pmax pmax
comp=Z,3.0nm,0.9s
VRH Novokhopyorsk 67.86 326 *e*P **P 02 29 17.0 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 68.06 335 *ce*P **P 02 29 20.6 +0.3**
BR104 Keskin Array S 68.84 312 P **P 02 29 25.5 -0.3**
comp=Z,3.7nm,0.9s
BR131 Keskin Array S 68.85 312 P **P 02 29 25.5 -0.4**
BR131 Keskin Array S 68.85 312 *de*P **P 02 29 26.0 +0.1**
BRTR Keskin Array B 68.85 312 P **P 02 29 24.8 -1.0**
BRTR Keskin Array B 68.85 312 P **P 02 29 25.9 +0.1**
comp=Z,1.2nm,0.7s,baz=133,slow=6.3,SNR=11
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 68.85 312 *ce*P **P 02 29 25.8 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR106 Keskin Array S 68.87 312 P **P 02 29 25.6 -0.4**
comp=Z,41nmcomp=Z,4.8nm,0.9s
VORD Divnogorie 69.13 325 *e*P **P 02 29 25.1 -2.0**
VORD pmax pmax
comp=Z,7.0nm,0.9s
ILGA Ilgaz 69.18 314 P **P 02 29 28.7 +0.7**
ILGA IAmb IAmb 02 29 42.7
comp=Z,10.0nm,1.0s
VSR Storozhevoye 69.31 325 *e*P **P 02 29 25.8 -2.5**
VSR pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 70.00 253 LR LR 02 57 18.7
comp=Z,141nm,18.2s,baz=131,slow=33
LPSR Galich'ya Gora 70.04 327 *e*P **P 02 29 31.2 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MATP Matopo 70.43 248 LR LR 02 58 23.5
comp=Z,100nm,18.1s,baz=66,slow=34
MDUB Mudurnu 70.86 313 P **P 02 29 38.6 +0.5**
MDUB IAmb IAmb 02 29 54.1
comp=Z,16nm,1.0s
MOS Moscow 72.08 329 *e*P **P 02 29 43.7 -1.3**
MOS *e* 02 32 27.2
OBN Obninsk 72.36 328⇓ *e*P **P 02 29 46.3 -0.4**
OBN *e* 02 29 48.5
OBN *e* 02 29 52.7
OBN 02 30 05.0
OBN *e*S **S 02 39 02.5 -7.7**
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,58nm,15.0s
TIXI Tiksi 73.03 10 P **P 02 29 49.5 -0.9**
TIXI IAmb IAmb 02 29 51.0
comp=Z,11nm,0.8s
TIXI Tiksi 73.03 10⇓ *e*P **P 02 29 50.2 -0.2**
TIXI pmax pmax
comp=Z,12nm,0.8s
KLMR Klimovskoe 73.50 334 *e*P **P 02 29 51.1 -2.3**
KLMR pmax pmax
comp=Z,17nm,1.5s
SEY Seymchan 73.66 23 *e*P **P 02 29 53.7 -0.5**
SEY pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 73.81 244 LR LR 03 00 13.7
comp=Z,77nm,18.0s,baz=92,slow=34
VLDR Vladesti 74.43 317⇓P P 02 30 05.6 +6.5
NEGRR Negrea 74.50 317⇑P P 02 30 09.5 +10
IDI Anoyia 74.64 306 LR LR 03 08 28.7
comp=Z,36nm,18.4s,baz=115,slow=40
SORM Soroca 74.84 320⇑P **P 02 30 01.5 0.0**
SORM Soroca 74.84 320⇑P **P 02 30 01.5 0.0**
AK09 Malin Array Si 74.94 322 P **P 02 30 01.6 -0.4**
AK10 Malin Array Si 74.95 322 P **P 02 30 02.1 0.0**
AK08 Malin Array Si 74.96 322 P **P 02 30 02.1 0.0**
AK07 Malin Array Si 74.97 322 P **P 02 30 02.2 +0.1**
AK06 Malin Array Si 74.98 322 P **P 02 30 02.2 0.0**
AK05 Malin Array Si 74.99 322 P **P 02 30 02.4 +0.1**
AK02 Malin Array Si 75.00 322 P **P 02 30 02.2 -0.1**
AKASG Malin Array Be 75.00 322 P **P 02 30 01.5 -0.8**
comp=Z,1.9nm,0.7s,baz=93,slow=4.9,SNR=7.7
comp=Z,1.9nm,0.7s
AKASG Malin Array Be 75.00 322 *ce*P **P 02 30 02.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 75.00 322 P **P 02 30 01.6 -0.7**
AKBB IAmb IAmb 02 30 04.6
comp=Z,30nm,1.9s
AKBB Malin Array Si 75.00 322⇑ *e*P **P 02 30 02.1 -0.2**
AKBB Malin Array Si 75.00 322 P **P 02 30 02.4 +0.1**
KIEV Kiev 75.01 322 P **P 02 30 01.6 -0.7**
KIEV IAmb IAmb 02 30 04.6
comp=Z,29nm,2.0s
KIEV Kiev 75.01 322⇑P **P 02 30 01.7 -0.7**
KIEV Kiev 75.01 322⇑P **P 02 30 01.7 -0.7**
AK16 Malin Array Si 75.06 322 P **P 02 30 02.7 0.0**
VRI Vrincioaia 75.36 317⇑P **P 02 30 05.8 +1.3**
VRI Vrincioaia 75.36 317⇑P **P 02 30 05.8 +1.3**
VRI Vrincioaia 75.36 317 P **P 02 30 04.8 +0.3**
comp=Z,6.3nm,0.9s
PLOR5 Plostina Array 75.40 317 P **P 02 30 05.5 +0.7**
comp=Z,6.8nm,1.1s
PLOR Plostina 75.41 317⇑P **P 02 30 06.5 +1.7**
PLOR Plostina 75.41 317⇑P **P 02 30 06.5 +1.7**
TESR Tescani 75.56 318⇓P **P 02 30 06.9 +1.2**
TESR Tescani 75.56 318 P **P 02 30 06.4 +0.7**
comp=Z,10nm,1.4s
LUBAR Lubar, Ukraine 75.69 321 P **P 02 30 06.2 -0.1**
MLR Muntele Rosu 75.81 317 P **P 02 30 07.4 +0.1**
MLR IAmb IAmb 02 30 41.9
comp=Z,9.1nm,1.2s
MLR Muntele Rosu 75.81 317⇓P **P 02 30 08.6 +1.3**
MLR Muntele Rosu 75.81 317⇓P **P 02 30 08.6 +1.3**
MLR Muntele Rosu 75.81 317 P **P 02 30 07.3 0.0**
BURAR Bucovina Array 76.76 319 P **P 02 30 13.3 +0.7**
BURAR Bucovina Array 76.76 319⇓P **P 02 30 14.1 +1.5**
BURAR Bucovina Array 76.76 319⇓P **P 02 30 14.1 +1.5**
BUR08 Bucovina Ar. S 76.78 319 P **P 02 30 13.6 +0.9**
BUR08 IAmb IAmb 02 30 25.2
comp=Z,10nm,1.2s
RNPP5 Staryi Chortor 77.17 322 P **P 02 30 15.1 +0.4**
STNU Starunia 77.47 320 P **P 02 30 16.7 +0.2**
MORS Morshin 77.95 320 P **P 02 30 19.5 +0.4**
MARR Marisel-Cluj 77.97 317⇑P **P 02 30 20.8 +1.3**
DRGR 78.27 317⇑P **P 02 30 21.1 +0.1**
DRGR 78.27 317⇑P **P 02 30 21.1 +0.1**
SURR Surduc 78.49 316⇓P **P 02 30 23.6 +1.4**
BERU Beregovo 78.58 319 P **P 02 30 23.4 +0.8**
RPZ Rata Peaks 79.47 135 LR LR 03 05 04.1
comp=Z,298nm,20.6s,baz=318,slow=35
FINES FINESS Array B 79.75 333 P **P 02 30 28.9 +0.2**
comp=Z,3.3nm,0.8s,baz=75,slow=10,SNR=7.2
comp=Z,3.3nm,0.8s
FINES FINESS Array B 79.75 333 *i* P **P 02 30 29.2 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
SYO Syowa Base 80.13 198⇓ *e*P **P 02 30 31.8 +1.2**
SYO Syowa Base 80.13 198⇑ *es*P sP 02 30 37.0 +2.0
MORH Mrgy, Hungar 80.96 316⇓P **P 02 30 36.3 +0.8**
STEB Steborice 82.02 320 *e*P **P 02 30 42.8 +1.7**
ARCES ARCESS Array B 82.30 340 P **P 02 30 41.8 -0.4**
comp=Z,3.3nm,0.8s,baz=110,slow=4.0,SNR=13
comp=Z,3.3nm,0.8s
KRLC Kraliky 82.67 320 *e*P **P 02 30 45.4 +0.8**
KRLC Kraliky 82.67 320 *e*P **P 02 30 45.4 +0.8**
DPC Dobruska-Polom 82.99 320 *e*P **P 02 30 47.2 +0.9**
DPC Dobruska-Polom 82.99 320 *e*P **P 02 30 47.2 +0.9**
GERES GERESS Array B 84.55 319 P **P 02 30 53.9 -0.4**
comp=Z,2.3nm,0.9s,baz=79,slow=3.5,SNR=4.7
comp=Z,2.3nm,0.9s
KHC Kasperske Hory 84.65 319⇑ *e*P **P 02 30 55.7 +0.9**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 84.65 319 *e*P **P 02 30 55.0 +0.2**
HFS Hagfors 85.47 330 P **P 02 30 58.9 +0.4**
comp=Z,1.4nm,0.8s,baz=81,slow=8.9,SNR=1.5
comp=Z,1.4nm,0.8s
VNDA Vanda 86.05 169 P **P 02 31 01.5 +0.4**
comp=Z,0.3nm,0.7s,baz=299,slow=5.7,SNR=9.9
comp=Z,0.3nm,0.7s
SPITS Spitsbergen Ar 86.73 348 P **P 02 31 04.1 -0.4**
comp=Z,6.4nm,0.9s,baz=107,slow=1.5,SNR=1.9
comp=Z,6.4nm,0.9s
NB2 NORSAR Subarra 86.75 331 P **P 02 31 05.0 0.0**
comp=Z,0.9nm,0.7s,baz=97,slow=4.6
NOA NORSAR Array B 86.75 331 P **P 02 31 05.4 +0.5**
comp=Z,1.5nm,0.8s,baz=96,slow=4.9,SNR=6.0
comp=Z,1.5nm,0.8s
QSPA South Pole Qui 91.33 180 P **P 02 31 27.5 +0.9**
comp=Z,0.7nm,0.9s,baz=33,slow=2.5,SNR=3.3
comp=Z,0.7nm,0.9s
J16K Anvik River 94.32 26 P **P 02 31 41.1 +0.8**
SNAA Sanae 94.42 198 P **P 02 31 41.9 +1.3**
comp=Z,0.8nm,1.1s,baz=16,slow=5.1,SNR=3.7
comp=Z,0.8nm,1.1s
EKA Eskdalemuir Ar 94.66 326 P **P 02 31 41.7 -0.3**
comp=Z,2.0nm,0.8s,baz=68,slow=4.9,SNR=3.6
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 97.57 310 P **P 02 31 56.2 +0.5**
comp=Z,0.5nm,0.9s,baz=64,slow=3.0,SNR=2.1
comp=Z,0.5nm,0.9s
SFJD Kangerlussuaq 108.04 347 *i* P **Pdif 02 32 26.0 -16**
HOPE Hope Point 115.03 208 *i* PKIKP **PKPdf 02 37 04.0 +2.0**
NVAR Mina Array Bea 128.73 36 PKP **PKiKP 02 37 30.0 +0.2**
comp=Z,0.9nm,0.8s,baz=224,slow=2.0,SNR=6.8
PDAR Pinedale Array 129.94 25 PKP **PKPdf 02 37 31.0 -0.3**
comp=Z,0.4nm,0.6s,baz=232,slow=1.7,SNR=3.8
R11B Troy Canyon, C 130.33 34 PKPdf **PKiKP 02 37 33.5 +0.6**
MIAR Mount Ida 142.89 15 PKPdf **PKPdf 02 37 52.0 -3.2**
MIAR Mount Ida 142.89 15 PKIKP **PKPdf 02 37 52.0 -3.2**
TX31 Lajitas Ar. Si 143.60 31 PKPpre PKPpre 02 37 52.8
TXAR Lajitas Array 143.60 31 PKPdf PKPbc 02 37 54.1 +0.1
TXAR Lajitas Array 143.60 31 PKP PKPbc 02 37 54.4 +0.4
comp=Z,1.0nm,0.8s,baz=355,slow=1.2,SNR=9.2
TXAR PKKP **PKKPdf 02 47 10.2 +1.7**
comp=Z,0.3nm,0.9s,baz=96,slow=3.2,SNR=3.9
TXAR Lajitas Array 143.60 31 PKIKP PKPbc 02 37 54.2 +0.2
237A Washetta, Mont 144.63 19 PKPdf **PKPab 02 37 56.1 -0.8**
DRIO Del Rio 145.02 27 PKPdf **PKPbc 02 37 57.8 -0.6**
CPUP Villa Florida 145.03 223 PKPbc **PKPdf 02 37 59.2 +0.1**
comp=Z,0.7nm,0.8s,baz=111,slow=4.9,SNR=4.1
GOGA Godfrey 145.38 1 **PKPbc 02 37 59.1 -0.3**
GOGA Godfrey 145.38 1 PKIKP **PKPbc 02 37 59.1 -0.3**
154A Montrose 146.18 0 PKPbc **PKPbc 02 38 01.9 +0.1**

*IDC **16** 02:19:22.9± 1.2, 16°.38S× 69°.23W, h208km± 6km, mb3.2/7, mbtmp3.8/7, Error ellipse: s-maj=26.7km s-min=21.7km az=121.0*

ISC 16 02:19:22.1±1.0, 16°.4S±0°.2×69°.3W±0°.2, h200km, n8, σ1§10/9, mb3.5/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.17**	**86**	P	**Pn**	**02 19 54.9**	**+1.1**
	351nm,0.3s,baz=315,slow=6.2,SNR=3787						
LPAZ				S	**Sn**	**02 20 19.3**	**+1.1**
	50nm,0.5s,baz=357,slow=25,SNR=8.6						
BDFB	**Brasilia**	**20.52**	**91**	P	**P**	**02 23 44.6**	**-0.6**
	1.4nm,0.4s,baz=267,slow=12,SNR=4.2						
	1.4nm,0.4s						
PLCA	**Paso Flores**	**24.29**	**182**	P	**P**	**02 24 20.6**	**-0.5**
	1.4nm,0.5s,baz=4.1,slow=16,SNR=3.7						
	1.4nm,0.5s						
TXAR	**Lajitas Array**	**56.25**	**324**	P	**P**	**02 28 42.1**	**+0.2**
	0.1nm,0.6s,baz=150,slow=8.0,SNR=1.8						
	0.1nm,0.6s						
SNAA	**Sanae**	**67.23**	**162**	P	**P**	**02 29 53.7**	**-0.8**
	1.1nm,1.1s,baz=256,slow=4.2,SNR=2.3						
	1.1nm,1.1s						
DBIC	**Dimbokro**	**67.77**	**76**	P	**P**	**02 29 58.0**	**-0.8**
	2.2nm,0.7s,baz=264,slow=6.5,SNR=1.7						
	2.2nm,0.7s						
QSPA	**South Pole Qui**	**73.78**	**180**	P	**P**	**02 30 35.7**	**+1.4**
	0.3nm,0.5s,baz=70,slow=1.1,SNR=1.3						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.08**	**72**	P	**P**	**02 30 47.4**	**-0.8**
	1.1nm,0.6s,baz=253,slow=4.9,SNR=25						
	1.1nm,0.6s						

*IDC **16** 02:25:26.4±0.6, 3°.09S×130°.94E, h0km, mb4.3/14, mbtmp4.3/15, ML4.8/1, MS4.1/32, Error ellipse: s-maj=33.0km s-min=13.1km az=78.0*
*NEIC **16** 02:25:27.8±2.2, 3°.27S±0°.07×130°.69E±0°.08, h10km±1km, mb4.7/38, Error ellipse: s-maj=16.5km s-min=8.5km az=231.0*
*GCMT **16** 02:25:28.8±0.3, 3°.27S±0°.02×130°.63E±0°.02, h19km±1km, MW4.8/98, Moment Tensor Solution. s24,c27; s98,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.74±.13; $M_{\theta\theta}$-0.09±.10; $M_{\phi\phi}$0.83±.10; $M_{r\theta}$-0.95±.24; $M_{\theta\phi}$2.12±.07; $M_{\phi r}$-0.38±.20; Best double couple: $M_0$2.39800×10^{16} NP1:ϕ_s174.00000°, δ62.00000°, λ-172.00000°. NP2: ϕ_s81.00000°, δ83.00000°, λ-28.00000°. Principal axes: T 2.7700, Plg14.0000°, Azm131.0000°; N -0.7430, Plg61.0000°, Azm248.0000°; P -2.0270, Plg24.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **16** 02:25:30.0±0.3, 3°.5±4°×13°.1E±°, h10km, M4.7/11, mB5.4/4, mb4.8/6, MLv4.6/11, Mw(mB)4.8/4*

ISC 16 02:25:27.9±0.4, 3°.35S±0°.04×130°.60E±0°.05, h10km, n142, σ1§77/111, mb4.5/32, MS4.1/35, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.36**	**211**	P	**Pg**	**02 25 57.0**	**+3.0**
MSAI	**Masohi**	**1.67**	**270**	P	**Pg**	**02 26 00.4**	**+0.3**
AAI	**Ambon**	**2.43**	**262**	P	**Pb**	**02 26 10.8**	**-0.9**
SWI	**Sorong**	**2.56**	**15**	P	**Pn**	**02 26 08.2**	**-1.3**
KMPI	**Kaimana, Papua**	**3.11**	**96**	P	**Pn**	**02 26 18.3**	**+1.2**
NLAI	**Namlea**	**3.50**	**272**	P	**Pn**	**02 26 25.8**	**+3.4**
RKPI	**Ransiki, Papua**	**4.01**	**63**	P	**Pn**	**02 26 29.4**	**-0.1**
SAUI	**Saumlaki**	**4.65**	**171**	Pn	**Pn**	**02 26 38.6**	**+0.3**
SANI	**Sanana**	**4.79**	**286**	P	**Pn**	**02 26 38.8**	**-1.4**
SANI	**Sanana**	**4.79**	**286**	S	**Sn**	**02 27 34.1**	**-1.7**
SANI	**Sanana**	**4.79**	**286**	P	**Pn**	**02 26 40.4**	**+0.2**
TNTI	**Ternate**	**5.22**	**322**	Pn	**Pn**	**02 26 44.8**	**-1.3**
BAKI	**Biak**	**5.90**	**69**	P	**Pn**	**02 26 57.2**	**+1.7**
LUWI	**Luwuk**	**8.16**	**286**	Pn	**Pn**	**02 27 25.4**	**-1.1**
DRS	**Darwin Rock St**	**9.03**	**178**	P	**Pn**	**02 27 39.4**	**+1.0**
APSI	**Ampana**	**9.27**	**285**	P	**Pn**	**02 27 43.4**	**+1.6**
	1μm105nm,0.9s						
MTN	**Manton Dam**	**9.45**	**177**	Pn	**Pn**	**02 27 44.2**	**+0.1**
BATI	**Baumata**	**9.69**	**225**	Pn	Pn	02 27 54.5	+6.9
	8.4nm,0.3s,baz=68,slow=4.6,SNR=5.0						
	34nm,0.4s						
BKSI	**Bulukumba**	**10.63**	**259**	P	**Pn**	**02 28 02.6**	**+2.1**
	781nm52nm,0.9s						
TOLI2	**Tolitoli**	**10.77**	**294**	Pn	**Pn**	**02 28 01.1**	**-1.3**
SPSI	**Sidrap Palu**	**10.83**	**266**	P	**Pn**	**02 28 06.5**	**+3.3**
KAPI	**Kappang**	**10.95**	**261**	Pn	Pn	02 28 13.1	+8.3
KAPI	**Kappang**	**10.95**	**261**	Pn	Pn	02 28 13.4	+8.7
	3.8nm,0.3s,baz=98,slow=7.4,SNR=16						
KAPI	**Kappang**	**10.95**	**261**	P	**Pn**	**02 28 05.6**	**+0.8**
KNRA	**Kununurra**	**12.38**	**188**	Pn	**Pn**	**02 28 23.6**	**-0.8**
PLAI	**Plampang**	**13.86**	**246**	P	**Pn**	**02 28 46.3**	**+1.6**
MYLDM	**Lahad Datu**	**14.77**	**305**	Pn	**Pn**	**02 28 56.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**15.44**	**198**	P	**P**	**02 29 10.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**15.44**	**198**	Pn	**Pn**	**02 29 03.7**	**-2.3**
	0.8nm,0.3s,baz=34,slow=9.9,SNR=19						
FITZ				Sn	**Sn**	**02 31 49.4**	**-7.8**
	baz=110,slow=16						
FITZ				LR	LR	02 35 54.7	
	comp=Z,742nm,21.9s,baz=20,slow=40						
COEN	**Coen**	**16.28**	**131**	Pn	**Pn**	**02 29 15.2**	**-1.7**
COEN	**Coen**	**16.28**	**131**	P	**Pn**	**02 29 14.8**	**-2.1**
WB0	**Warramunga Arr**	**16.73**	**168**	P	**P**	**02 29 24.4**	**-0.5**
WB0				IAmb	IAmb	02 29 33.6	
	comp=Z,35nm,0.9s						
WRAB	**Tennant Creek**	**16.88**	**168**	Pn	**Pn**	**02 29 22.5**	**-2.0**
WRAB				IAmb	IAmb	02 29 46.7	
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**16.88**	**168**	P	**Pn**	**02 29 24.2**	**-0.3**
WRA	**Warramunga Arr**	**16.89**	**168**	Pn	**Pn**	**02 29 22.9**	**-1.7**
WRA	**Warramunga Arr**	**16.89**	**168**	P	**Pn**	**02 29 22.0**	**-2.6**
	comp=Z,9.9nm,0.6s,baz=351,slow=11,SNR=24						
WRA				S	Sn	02 32 2.3	-10
	comp=Z,11nm,1.0s,baz=342,slow=22,SNR=7.9						
WR8	**Warramunga Arr**	**16.94**	**167**	Pn	**Pn**	**02 29 23.2**	**-2.0**
WR8				IAmb	IAmb	02 29 37.6	
	comp=Z,57nm,1.2s						
PMG	**Port Moresby**	**17.51**	**111**	P	**P**	**02 29 32.6**	**-0.9**
	comp=Z,21nm,0.8s,baz=298,slow=11,SNR=8.1						
QIS	**Mount Isa**	**19.22**	**154**	S	**S**	**02 33 31.1**	**+0.8**
SBUM	**Sibu**	**19.26**	**287**	P	**Pn**	**02 29 54.9**	**+1.1**
AS31	**Alice Springs**	**20.45**	**171**	P	**P**	**02 30 06.7**	**+1.0**
AS31				IAmb	IAmb	02 30 12.4	
	comp=Z,33nm,0.6s						
ASAR	**Alice Springs**	**20.45**	**171**		**P**	**02 30 06.7**	**+0.9**
ASAR	**Alice Springs**	**20.45**	**171**	P	**P**	**02 30 07.1**	**+1.4**
	comp=Z,65nm,0.8s,baz=351,slow=11,SNR=255						
ASAR				S	**S**	**02 33 52.2**	**-2.6**
	comp=Z,8.9nm,1.1s,baz=351,slow=23,SNR=7.3						
AS01	**Alice Springs**	**20.45**	**171**	P	**P**	**02 30 06.7**	**+0.9**
MBWA	**Marble Bar**	**20.62**	**210**	P	**P**	**02 30 06.5**	**-1.1**
MBWA	**Marble Bar**	**20.62**	**210**	P	**P**	**02 30 09.0**	**+1.4**
KSM	**Kuching**	**20.85**	**283**	P	**P**	**02 30 08.0**	**-2.1**
KSM				IAmb	IAmb	02 30 23.7	
	comp=Z,24nm,0.8s						
KSM	**Kuching**	**20.85**	**283**	P	**P**	**02 30 08.8**	**-1.3**
PSA00	**Pilbara Seismi**	**20.91**	**209**	P	**P**	**02 30 10.0**	**-0.8**
PSA00				IAmb	IAmb	02 30 38.9	
	comp=Z,32nm,1.2s						
PSA00	**Pilbara Seismi**	**20.91**	**209**	P	**P**	**02 30 10.3**	**-0.5**
PSA00				IAmb	IAmb	02 30 17.6	
	comp=Z,18nm,1.3s						
PSA00	**Pilbara Seismi**	**20.91**	**209**	P	**P**	**02 30 10.8**	**0.0**
GUMO	**Guam**	**21.99**	**40**	LR	LR	02 38 40.9	
	comp=Z,337nm,20.6s,baz=206,slow=37						
LEM	**Lembang**	**23.15**	**261**	LR	LR	02 40 58.5	
	comp=Z,1μm,21.7s,baz=68,slow=40						
BBJI	**Bungbulang**	**23.21**	**259**	P	**P**	**02 30 33.1**	**-2.3**
MEEK	**Meekatharra**	**25.85**	**205**	P	**P**	**02 31 00.6**	**+0.8**
INKA	**Innaminka**	**26.11**	**159**	P	**P**	**02 31 02.4**	**+0.2**
INKA				IAmb	IAmb	02 31 24.6	
	comp=Z,11nm,0.9s						
MYKOM	**Kota Tinggi**	**27.23**	**280**	P	**P**	**02 31 13.0**	**+0.6**
MYKOM				IAmb	IAmb	02 31 27.9	
	comp=Z,28nm,1.2s						
FORT	**Forrest**	**27.39**	**185**	P	**P**	**02 31 13.7**	**+0.1**
FORT				IAmb	IAmb	02 31 21.4	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**29.75**	**171**	P	**P**	**02 31 34.4**	**-0.3**
HNR	**Honiara**	**29.76**	**103**	LR	LR	02 44 46.9	
	comp=Z,329nm,21.0s,baz=350,slow=39						
JOW	**Kunigami**	**30.09**	**356**	LR	LR	02 42 23.8	
	comp=Z,603nm,21.8s,baz=139,slow=34						
QIZ	**Qiongzhong**	**30.20**	**318**	P	**P**	**02 31 43.0**	**+4.2**
QIZ				S	**S**	**02 36 44.0**	**+5.7**
QIZ				LR	LR		
	comp=N,620nm,15.1s						
QIZ				LR	LR		
	comp=E,600nm,14.0s						
QIZ				LR	LR		
	comp=Z,530nm,10.7s						
STKA	**Stephens Creek**	**30.20**	**161**	P	**P**	**02 31 38.1**	**-0.6**
STKA	**Stephens Creek**	**30.20**	**161**	P	**P**	**02 31 39.3**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=337,slow=9.3,SNR=6.4						
STKA				LR	LR	02 45 29.5	
	comp=Z,524nm,18.9s,baz=341,slow=40						
	comp=Z,2.9nm,0.5s						
IPM	**Ipoh**	**30.56**	**285**	P	**P**	**02 31 42.0**	**-0.1**
IPM				IAmb	IAmb	02 31 55.5	
	comp=Z,13nm,0.8s						
KULM	**Kulim**	**31.13**	**286**	P	**P**	**02 31 46.9**	**-0.2**
KULM				IAmb	IAmb	02 31 49.6	
	comp=Z,9.1nm,0.8s						
PSI	**Prapat**	**32.25**	**281**	LR	LR	02 47 55.1	
	comp=Z,340nm,18.1s,baz=102,slow=42						
JCJ	**Chichijima**	**32.27**	**20**	LR	LR	02 43 15.8	
	comp=Z,463nm,19.3s,baz=206,slow=34						
CAN	**Canberra**	**36.09**	**154**	P	**P**	**02 32 29.9**	**-0.2**
CAN				IAmb	IAmb	02 32 36.0	
	comp=Z,14nm,1.0s						
NJ2	**Nanjing**	**36.94**	**343**	*e*P	**P**	**02 32 40.1**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JHJ	**Hachijo jima 2**	**37.30**	**13**	LR	LR	02 45 07.1	
	comp=Z,433nm,21.4s,baz=198,slow=32						
CMAR	**Chiang Mai Arr**	**37.98**	**306**	P	**P**	**02 32 44.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**37.98**	**306**	P	**P**	**02 32 47.8**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=129,slow=7.5,SNR=9.3						
	comp=Z,2.5nm,0.3s						
MJAR	**Matsushiro Arr**	**40.32**	**9**	P	**P**	**02 33 03.5**	**-2.1**
	comp=Z,1.8nm,0.5s,baz=190,slow=8.8,SNR=2.0						
	comp=Z,1.8nm,0.5s						
KSRS	**Korea Array**	**40.67**	**357**	P	**P**	**02 33 07.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=176,slow=9.9,SNR=6.7						
	comp=Z,1.5nm,0.6s						
PZH	**PanZhiHua**	**40.74**	**318**	P	**P**	**02 33 11.6**	**+2.2**
TIA	**Tai'an**	**41.33**	**343**	P	P	02 33 00.9	-13
TIA				S	S	02 39 02.3	-26
TIA				SS	**SS**	**02 42 31.1**	**-1.2**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIA				pmax	pmax		
	comp=Z,270nm,4.1s						
TIA				LR	LR		
	comp=N,940nm,15.8s						
TIA				LR	LR		
	comp=E,2μm,18.1s						
TIA				LR	LR		
	comp=Z,540nm,17.5s						
BJI	**Beijing**	**45.17**	**344**	P	**P**	**02 33 48.6**	**+3.7**
BJI				S	**S**	**02 40 27.3**	**+2.7**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJI				LR	LR		
	comp=N,110nm,14.0s						
BJI				LR	LR		
	comp=E,120nm,15.9s						
BJI				LR	LR		
	comp=Z,140nm,17.8s						
LZDM	**Lanzhou Array**	**46.50**	**330**	P	**P**	**02 33 54.1**	**-1.9**
	comp=Z,15nm,0.2s,baz=146,slow=6.7,SNR=29						
HHC	**Hu-ho-hae-te**	**47.31**	**340**	*e*P	P	02 34 06.8	+4.9
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,4.7s						
USRK	**Ussuriysk Ar.**	**47.35**	**1**	P	**P**	**02 34 00.0**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=205,slow=8.8,SNR=3.0						
	comp=Z,1.6nm,0.6s						
PALK	**Pallekele**	**50.91**	**282**	LR	LR	02 57 06.5	
	comp=Z,200nm,21.6s,baz=98,slow=37						
EVN	**Everest**	**52.38**	**309**	P	**P**	**02 34 40.2**	**-1.2**
EVN				IAmb	IAmb	02 34 57.2	
	comp=Z,6.7nm,0.6s						
URZ	**Urewera**	**54.78**	**136**	LR	LR	03 00 15.7	
	comp=Z,167nm,18.8s,baz=304,slow=38						
ULN	**Ulaanbaatar**	**55.02**	**341**	P	**P**	**02 34 59.3**	**-0.5**
ULN				IAmb	IAmb	02 35 06.8	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**55.21**	**340**	P	**P**	**02 35 00.7**	**-0.5**
SONM	**Songino Array**	**55.21**	**340**	P	**P**	**02 35 01.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=160,slow=11,SNR=5.2						
	comp=Z,1.6nm,0.8s						
PETK	**Petropavlovsk-**	**60.69**	**18**	LR	LR	02 59 27.4	
	comp=Z,151nm,21.3s,baz=198,slow=34						
WMQ	**Urumqi**	**60.71**	**326**	*e*P	**P**	**02 35 41.9**	**+2.1**
WMQ				LR	LR		
	comp=Z,270nm,20.1s						
CASY	**Casey**	**64.38**	**189**	P	**P**	**02 36 03.9**	**+0.2**
CASY				IAmb	IAmb	02 36 08.8	
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**02 36 10.7**	**-1.1**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**02 36 11.8**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=114,slow=7.8,SNR=20						
MKAR				LR	LR	03 06 38.8	
	comp=Z,111nm,21.0s,baz=130,slow=38						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**65.73**	**326**	P	**P**	**02 36 12.9**	**-0.1**
MAKZ				IAmb	IAmb	02 36 19.4	
	comp=Z,7.7nm,1.2s						
SHEM	**Shemya Is, Ala**	**66.78**	**27**	LR	LR	03 02 49.1	
	comp=Z,127nm,20.5s,baz=0.5,slow=34						
AAK	**Ala-Archa**	**68.19**	**319**	LR	LR	03 10 29.8	
	comp=Z,48nm,19.9s,baz=109,slow=40						
ZAA0	**Zalesovo Array**	**68.61**	**333**	P	**P**	**02 36 29.2**	**-1.8**
ZAA0				IAmb	IAmb	02 37 00.6	
	comp=Z,3.2nm,0.9s						
ZALV	**Zalesovo Beam**	**68.61**	**333**	P	**P**	**02 36 29.9**	**-1.1**
ZALV	**Zalesovo Beam**	**68.61**	**333**	P	**P**	**02 36 29.6**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=117,slow=5.2,SNR=6.7						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**69.75**	**328**	P	**P**	**02 36 38.0**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=126,slow=5.8,SNR=12						
	comp=Z,3.6nm,0.8s						
KURK	**Kurchatov**	**69.75**	**328**	P	**P**	**02 36 37.9**	**-0.3**
KURK				IAmb	IAmb	02 36 44.7	
	comp=Z,6.3nm,0.9s						
RAR	**Rarotonga**	**69.80**	**111**	LR	LR	03 07 18.6	
	comp=Z,31nm,19.0s,baz=258,slow=36						
KK31	**Karatay Array**	**71.03**	**318**	P	**P**	**02 36 44.7**	**-1.5**
KKAR	**Karatay Array**	**71.03**	**318**	P	**P**	**02 36 45.3**	**-1.0**
TIXI	**Tiksi**	**74.87**	**359**	LR	LR	03 09 56.0	
	comp=Z,168nm,20.9s,baz=204,slow=36						
VNDA	**Vanda**	**75.97**	**173**	P	**P**	**02 37 14.9**	**+0.2**
VNDA	**Vanda**	**75.97**	**173**	P	**P**	**02 37 16.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=307,slow=6.3,SNR=9.8						
	comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**78.55**	**201**	P	**P**	**02 37 31.2**	**+2.0**
	comp=Z,1.5nm,0.5s,baz=25,slow=6.8,SNR=5.1						
	comp=Z,1.5nm,0.5s						
PPT	**Papeete**	**79.30**	**107**	LR	LR	03 13 29.9	
	comp=Z,70nm,18.3s,baz=295,slow=36						
PPT2	**Papete2**	**79.30**	**107**	*e*LR	LR	03 02 09.6	
	comp=Z,342nm,32.5s						
PPT2				*e*LR	LR	03 02 13.9	
	comp=Z,229nm,34.8s						
AB31	**Akbulak array**	**80.05**	**321**	P	**P**	**02 37 37.0**	**-0.8**
AB31				IAmb	IAmb	02 37 44.7	
	comp=Z,5.8nm,1.1s						
ABKAR	**Akbulak array**	**80.05**	**321**	P	**P**	**02 37 37.0**	**-0.8**
VOI	**Vohitsoka**	**83.02**	**248**	P	**P**	**02 37 53.3**	**-1.1**
ARTI	**Arti**	**83.03**	**328**	LR	LR	03 17 15.8	
	comp=Z,76nm,20.2s,baz=122,slow=38						
M16K	**Timber Creek**	**83.57**	**28**	P	**P**	**02 37 57.4**	**+1.3**
D19K	**Kuna River**	**86.32**	**20**	P	**P**	**02 38 09.9**	**0.0**
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**	**02 38 13.5**	**+2.0**
QSPA				IAmb	IAmb	02 38 18.0	
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**	**02 38 13.7**	**+2.3**
	comp=Z,2.6nm,0.7s,baz=279,slow=1.1,SNR=17						
QSPA				LR	LR	03 17 17.0	
	comp=Z,135nm,20.4s,baz=355,slow=36						
	comp=Z,2.6nm,0.7s						
RAYN	**Ar Rayn**	**86.83**	**294**	P	**P**	**02 38 13.8**	**+0.4**
SLKM	**Skilak Lake**	**87.58**	**29**	P	**P**	**02 38 14.6**	**-1.5**
KIRV	**Kirov**	**88.25**	**329**	LR	LR	03 20 03.4	
	comp=Z,84nm,20.1s,baz=105,slow=37						
RND	**Reindeer**	**88.74**	**26**	P	**P**	**02 38 21.8**	**+0.1**
TAOE	**Nuku Hiva Isla**	**88.75**	**99**	*e*LR	LR	03 06 37.5	
	comp=Z,257nm,25.4s						
ILAR	**Eielson Array**	**89.81**	**25**	P	**P**	**02 38 23.8**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=269,slow=7.2,SNR=1.8						
ILAR				LR	LR	03 12 15.4	
	comp=Z,91nm,20.7s,baz=258,slow=31						
	comp=Z,0.3nm,0.7s						
KBZ	**Khabaz**	**90.63**	**314**	LR	LR	03 25 10.4	
	comp=Z,28nm,19.7s,baz=84,slow=40						
BMAR	**Burnt Mountain**	**91.07**	**23**	P	**P**	**02 38 32.8**	**+0.3**
RKT	**Rikitea**	**92.76**	**113**	*e*LR	LR	03 08 29.7	
	comp=Z,2μm,32.0s						
KMBO	**Kilima Mbogo**	**93.28**	**269**	LR	LR	03 17 46.7	
	comp=Z,156nm,21.2s,baz=100,slow=34						
ASF	**Jabal al Asfar**	**94.91**	**302**	LR	LR	03 27 17.2	
	comp=Z,38nm,20.4s,baz=152,slow=39						
SKAG	**Skagway**	**94.94**	**31**	P	**P**	**02 38 48.9**	**-1.5**
MMAI	**Mount Meron Ar**	**96.17**	**303**	LR	LR	03 27 54.4	
	comp=Z,42nm,20.9s,baz=94,slow=39						
EIL	**Elat**	**96.56**	**299**	LR	LR	03 25 50.7	
	comp=Z,45nm,21.8s,baz=144,slow=38						
DLBC	**Dease Lake**	**97.75**	**32**	LR	LR	03 19 10.3	
	comp=Z,704nm,19.3s,baz=229,slow=33						
TROLL	**Troll, Antarti**	**97.82**	**194**	↑P	Pdif	02 39 05.3	+1.7
	comp=Z,48nm,0.8s						
ARCES	**ARCESS Array B**	**98.39**	**340**	P	**P**	**02 39 05.4**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=78,slow=4.8,SNR=4.8						
	comp=Z,1.1nm,0.9s						
SNAA	**Sanae**	**99.33**	**193**	LR	LR	03 24 08.2	
	comp=Z,114nm,21.1s,baz=188,slow=35						
BBB	**Bella Bella**	**99.56**	**38**	LR	LR	03 17 39.0	
	comp=Z,98nm,21.2s,baz=264,slow=32						
AKASG	**Malin Array Be**	**99.79**	**321**	LR	LR	03 30 01.4	
	comp=Z,37nm,19.7s,baz=63,slow=39						
FINES	**FINESS Array B**	**99.86**	**332**	LR	LR	03 28 01.5	
	comp=Z,146nm,20.4s,baz=54,slow=38						
TORD	**Torodi Ar. Bea**	**128.60**	**284**	PKP	**PKiKP**	**02 44 37.0**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=30,slow=3.3,SNR=4.7						
PLTB	**Pedras Altas**	**144.85**	**174**	PKPdf	**PKPdf**	**02 45 06.4**	**+0.4**
CPUP	**Villa Florida**	**149.51**	**166**	PKPbc	**PKPbc**	**02 45 18.3**	**0.0**
	comp=Z,1.2nm,0.8s,baz=68,slow=1.4,SNR=5.8						
LPAZ	**La Paz**	**153.09**	**137**	PKPbc	**PKiKP**	**02 45 28.5**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=320,slow=3.3,SNR=6.6						

*IDC **16** 03:47:47.4±10.0, 20°.07S×178°.48W, h648km±132km, mb2.8/7, mbtmp3.7/7, Error ellipse: s-maj=45.9km s-min=32.1km az=96.0*

ISC 16 03:47:43.7±0.9, 20°.0S±0°.3×178°.4W±0°.2, h602km, n8, σ0§97/8, mb3.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.26**	**256**	P	**P**	**03 55 01.9**	**+0.3**
	2.2nm,0.8s,baz=89,slow=8.4,SNR=20						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	**03 55 01.8**	**0.0**
	0.5nm,0.5s,baz=96,slow=5.4,SNR=10.0						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**70.03**	**180**	P	**P**	**03 57 56.2**	**+0.2**
	0.5nm,0.6s,baz=139,slow=0.9,SNR=5.2						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**80.95**	**44**	P	**P**	**03 58 56.6**	**-0.3**
	0.6nm,0.9s,baz=258,slow=4.7,SNR=4.1						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**87.12**	**58**	P	**P**	**03 59 27.0**	**-0.2**
	0.2nm,0.5s,baz=210,slow=7.2,SNR=3.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**87.95**	**13**	P	**P**	**03 59 30.9**	**+0.9**
	0.6nm,0.8s,baz=213,slow=4.9,SNR=5.3						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**88.88**	**43**	P	**P**	**03 59 35.7**	**+0.5**
	0.2nm,0.6s,baz=244,slow=4.2,SNR=2.3						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**142.43**	**331**	PKP	**PKPdf**	**04 06 06.9**	**-1.9**
	0.1nm,0.2s,baz=46,slow=4.3,SNR=5.1						

IDC 16 03:52:05.4±13.0, 17°.71S×177°.88W, h380km±129km, mb3.3/5, mbtmp4.0/5, Error ellipse: s-maj=54.6km s-min=28.0km az=46.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.93**	**191**	P	P	03 56 19.0	-0.5
	14nm,0.9s,baz=23,slow=5.0,SNR=2.1						
	14nm,0.9s						
WRA	**Warramunga Arr**	**45.16**	**259**	P	P	03 59 46.0	-0.3
	0.8nm,0.4s,baz=96,slow=6.9,SNR=11						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**45.33**	**254**	P	P	03 59 47.8	+0.3
	5.7nm,0.5s,baz=88,slow=8.7,SNR=76						
	5.7nm,0.5s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	P	04 02 51.2	+0.6
	0.5nm,0.5s,baz=63,slow=0.6,SNR=5.7						
	0.5nm,0.5s						
ILAR	**

AKASG	**Malin Array Be**	**16.47**	**14**	Pn	**P**	**04 00 28.0**	**+0.5**
	0.8nm,0.3s,baz=202,slow=9.8,SNR=4.6						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**28.97**	**227**	P	**P**	**04 02 31.6**	**-1.6**
	0.1nm,0.7s,baz=41,slow=9.9,SNR=1.1						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**45.41**	**56**	P	**P**	**04 04 51.1**	**-0.9**
	0.3nm,0.4s,baz=271,slow=7.3,SNR=2.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.48**	**46**	P	**P**	**04 04 58.7**	**-1.6**
	1.0nm,0.4s,baz=271,slow=9.8,SNR=3.0						
	1.0nm,0.4s						

HEL 16 04:02:11.8±0.4, 69°.38N×30°.76E, h0km, ML1.3, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.27**	**225**	PG	Pg	04 02 34.7	-1.4
RAJF				SB	Sg	04 02 51.4	-1.1
KEV	**Kevo**	**1.37**	**288**	PG	Pg	04 02 36.6	-1.5
	baz=104						
KEV				SB	Sg	04 02 54.1	-1.7
VRF	**Varrio**	**1.69**	**195**	MSG		04 03 02.3	
	comp=Z,1.2nm,0.2s						
VRF				SN	Sn	04 03 04.6	-0.3
ARA0	**ARCESS Array S**	**1.86**	**277**	PG	Pn	04 02 45.3	+0.4
	baz=88						
ARA0				SG	Sn	04 03 09.1	0.0
KTK1	**Kautokeino**	**2.71**	**266**	SN	Sn	04 03 29.0	-1.0

*HEL **16** 04:02:35.1±0.3, 67°.91N×20°.09E, h0km, ML1.4, Suspected explosion*

UPP 16 04:02:34.6±0.3, 67°.82N×20°.30E, h0km, ML1.5, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**5**	P	Pg	04 02 37.3	+0.2
	baz=214						
KUA				S	Sg	04 02 39.4	+0.5
RATU	**Laukkuluspa**	**0.27**	**271**	P	Pg	04 02 40.0	+0.2
RATU				S	Sg	04 02 43.6	+0.4
KOVU	**Salmi**	**0.41**	**352**	P	Pg	04 02 42.5	+0.1
KOVU				S	Sg	04 02 47.9	+0.2
NIKU	**Nikkaluokta**	**0.48**	**276**	P	Pg	04 02 43.6	-0.2
NIKU				S	Sg	04 02 50.2	+0.1
LANU	**Lannavaara**	**0.68**	**70**	PG	Pg	04 02 48.3	+0.7
LANU				SG	Sg	04 02 57.6	+1.3
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	Pg	04 02 57.8	+0.1
KIF	**Kilpisjarvi**	**1.20**	**9**	PG	Sb	04 03 14.6	+0.4
KIF	**Kilpisjarvi**	**1.20**	**9**	PN	Pn	04 02 58.8	+0.2
	baz=193						
KIF				MSG		04 03 10.6	
	comp=Z,3.5nm,0.2s						
KIF				SN	Sb	04 03 14.6	+0.4
PAJU	**Pajala**	**1.35**	**125**	PG	Pb	04 03 01.5	+0.8
	baz=313						
PAJU				SG	Sn	04 03 20.3	+1.1
HEF	**Hetta**	**1.39**	**63**	*e*P	Pg	04 03 00.1	-1.1
HEF	**Hetta**	**1.39**	**63**	PG	Pb	04 03 01.6	+0.2
HEF				MSG		04 03 32.6	
	comp=Z,1.5nm,0.2s						
HEF	**Hetta**	**1.39**	**63**	PN	Pb	04 03 01.6	+0.2
HEF				MSG		04 03 18.1	
	comp=Z,1.9nm,0.2s						
HEF				SN	Sn	04 03 22.9	+2.6
ERTU	**Ertsjaerv**	**1.47**	**149**	PB	Sn	04 03 24.3	+2.1
ERTU	**Ertsjaerv**	**1.47**	**149**	PN	Pb	04 03 04.1	+1.4
	baz=326						
ERTU				SN	Sn	04 03 24.3	+2.1
KALU	**Kalix**	**2.31**	**147**	PB	Pb	04 03 16.4	-0.7
KALU				SB	Sg	04 03 48.0	-0.7
TOF	**Tornio**	**2.36**	**136**	PN	Pn	04 03 14.0	-0.5
TOF				SN	Sg	04 04 00.5	+10
TOF	**Tornio**	**2.36**	**136**	MSG		04 03 48.4	
	comp=Z,2.4nm,0.2s						
TOF				SG	Sg	04 03 51.8	+1.5
RNF	**Rovaniemi**	**2.54**	**116**	SG	Sg	04 03 54.7	-1.2
RNF	**Rovaniemi**	**2.54**	**116**	PB	Pb	04 03 20.6	-0.3
RNF				SB	Sg	04 03 54.7	-1.2
ARA0	**ARCESS Array S**	**2.56**	**45**	SG	Sb	04 03 55.1	+1.7
RAJF	**Raja-Jooseppi**	**3.07**	**74**	SG	Sg	04 04 11.1	-1.9
KEV	**Kevo**	**3.12**	**48**	SG	Sb	04 04 10.3	+1.0
RANF	**Ranua**	**3.13**	**122**	SG	Sg	04 04 16.7	+1.5
VRF	**Varrio**	**3.54**	**87**	SG	Sg	04 04 27.2	-0.8
OBF0	**Syolatti, Pyha**	**3.70**	**153**	SB	Sb	04 04 25.9	-0.1

*LDG **16** 04:14:13.1±0.1, 45°.70N×5°.37E, h8km, Md1.9/1, Ml2.2/22, Error ellipse: s-maj=1.0km s-min=0.8km az=68.0*

STR 16 04:14:13.3±0.3, 46°N±1°×2°±°, h8km, MLv1.9/13, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.24**	**110**	Pg	Pg	04 14 17.9	-0.2
OGSM				Sg	Sg	04 14 21.2	-0.2
OG35	**Corcelles**	**0.38**	**21**	Pg	Pg	04 14 20.6	-0.1
OG35				Sg	Sg	04 14 25.7	+0.1
OGMY	**Moye**	**0.41**	**62**	Pg	Pg	04 14 20.8	-0.4
OGMY				Sg	Sg	04 14 26.4	-0.1
GRN	**Grenoble**	**0.52**	**150**	Pg	Pg	04 14 23.2	-0.2
GRN				Sg	Sg	04 14 30.3	+0.1
SSB	**Saint Sauveur**	**0.72**	**235**	Pg	Pg	04 14 26.8	-0.3
SSB				Sg	Sg	04 14 36.5	+0.1
ORIF	**Oris-en-Rattie**	**0.85**	**155**	*e*Pg	Pg	04 14 29.2	-0.5
ORIF				*e*Sg	Sg	04 14 39.7	-1.1
	22nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.85**	**155**	Pg	Pg	04 14 29.6	-0.1
ORIF				Sg	Sg	04 14 40.7	-0.1
RSL	**Roselend**	**0.88**	**90**	Pg	Pg	04 14 29.7	-0.4
RSL				Sg	Sg	04 14 41.8	+0.2
LPL	**La Plagne**	**0.97**	**100**	*e*Pg	Pg	04 14 31.6	-0.3
LPL				*e*Sg	Sg	04 14 44.4	-0.1
	6.2nm,0.2s						
VIVF	**Saint-Julien-l**	**0.97**	**211**	*e*Pg	Pg	04 14 31.4	-0.5
VIVF				*e*Sg	Sg	04 14 44.4	-0.2
	9.7nm,0.2s						
LPG	**La Plagne**	**0.99**	**101**	*e*Pg	Pb	04 14 32.6	-0.2
LPG				*e*Sg	Sg	04 14 45.2	+0.1
	5.4nm,0.2s						
CABF	**La Chapelle**	**1.04**	**28**	*e*Pg	Pg	04 14 33.0	-0.3
CABF				*e*Sg	Sg	04 14 46.4	-0.4
	4.6nm,0.2s						
GIMEL	**St. Georges /**	**1.04**	**36**	Pg	Pg	04 14 33.3	0.0
GIMEL				Sg	Sb	04 14 47.4	-0.1
RIVEL	**MONT RIVEL**	**1.13**	**19**	Pg	Pg	04 14 34.6	-0.4
RIVEL				Sg	Sb	04 14 50.3	+0.3
COLF	**Collangettes**	**1.19**	**262**	Pg	Pg	04 14 36.1	0.0
PLDF	**La Plantade**	**1.26**	**283**	Pg	Pn	04 14 36.9	-0.3
PLDF				Sg	Sb	04 14 53.5	-0.1
RRL	**Rocca Remolon**	**1.26**	**127**	Pg	Pn	04 14 37.1	-0.3
RRL				Sg	Sn	04 14 54.5	-0.2
MBDF	**Montbardon**	**1.38**	**134**	*e*Pg	Pn	04 14 39.2	+0.2
MBDF				*e*Sg	Sb	04 14 57.3	0.0
	1.8nm,0.2s						
SMF	**Signal de Mont**	**1.43**	**312**	*e*Pg	Pn	04 14 39.5	0.0
SMF				*e*Sg	Sn	04 14 57.8	-0.7
	3.5nm,0.2s						
RSP	**Reno Superiore**	**1.44**	**112**	Pn	Pn	04 14 39.6	-0.1
RSP				Sn	Sg	04 14 59.3	-0.3
CREF	**Crivoux**	**1.45**	**142**	Pn	Pn	04 14 39.8	-0.1
BRANT	**Les Verriere**	**1.46**	**31**	Pn	Pn	04 14 39.8	-0.2
BRANT				Sn	Sb	04 14 59.6	+0.2
DIX	**Grande Dixence**	**1.47**	**74**	Pn	Pn	04 14 40.0	-0.3
DIX				Sn	Sn	04 14 59.9	0.0
OGAG	**Argentiere**	**1.49**	**146**	Pg	Pn	04 14 36.5	-3.9
SMRF	**Simiane la Rot**	**1.72**	**175**	*e*Pg	Pn	04 14 43.9	+0.3
SMRF				*e*Sg	Sb	04 15 07.7	+0.7
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**1.78**	**309**	*e*Pn	Pn	04 14 42.4	-1.9
AVF	**Avril sur Loir**	**1.78**	**309**	*e*Pn	Pb	04 14 46.5	+0.4
AVF				*e*Sg	Sb	04 15 08.7	+0.1
	1.3nm,0.2s						
SSF	**Saint Saulge**	**1.88**	**317**	*e*Pn	Pn	04 14 43.7	-2.0
SSF	**Saint Saulge**	**1.88**	**317**	*e*Pg	Pb	04 14 48.0	+0.1
SSF				*e*Sg	Sb	04 15 11.8	+0.3
	1.9nm,0.2s						
LOR	**Lormes**	**1.89**	**327**	*e*Pg	Pb	04 14 48.2	+0.2
LOR				*e*Sg	Sb	04 15 11.8	0.0
	3.5nm,0.2s						
LASF	**Ste Croix**	**1.94**	**214**	*e*Pn	Pn	04 14 44.7	-1.9
LASF	**Ste Croix**	**1.94**	**214**	*e*Pg	Pb	04 14 49.1	+0.2
LASF				*e*Sg	Sb	04 15 14.2	+0.9
	2.2nm,0.3s						
BGF	**Bois d'Agland**	**1.96**	**297**	*e*Pn	Pn	04 14 45.4	-1.4
BGF	**Bois d'Agland**	**1.96**	**297**	*e*Pg	Pb	04 14 49.9	+0.7
BGF				*e*Sg	Sb	04 15 14.0	+0.3
	1.9nm,0.2s						
TCF	**Toulx Ste Croi**	**2.28**	**286**	*e*Pn	Pn	04 14 49.3	-2.0
TCF	**Toulx Ste Croi**	**2.28**	**286**	*e*Pg	Pb	04 14 55.5	+0.8
TCF				*e*Sg	Sb	04 15 24.5	+1.4
	1.1nm,0.1s						
HINF	**Hinteralfeld**	**2.35**	**25**	*e*Pn	Pn	04 14 50.4	-1.9
HINF	**Hinteralfeld**	**2.35**	**25**	*e*Pg	Pb	04 14 56.8	+0.9
HINF				*e*Sg	Sb	04 15 26.7	+1.5
	1.5nm,0.2s						
HAU	**Haudompre**	**2.41**	**16**	*e*Pn	Pn	04 14 51.1	-1.9
HAU	**Haudompre**	**2.41**	**16**	*e*Pg	Pb	04 14 57.4	+0.6
HAU				*e*Sg	Sb	04 15 28.0	+1.3
	4.2nm,0.2s						
LMR	**La Mourre**	**2.50**	**161**	*e*Sg	Sb	04 15 29.9	+0.7
	1.9nm,0.2s						
CDF	**Champ du Feu**	**3.01**	**25**	*e*Sg	Sg	04 15 48.1	-1.9
	1.0nm,0.2s						
MTLF	**Montolieu**	**3.26**	**225**	*e*Pg	Pb	04 15 12.7	+1.4
MTLF				*e*Sg	Sg	04 15 55.0	-2.9
	0.3nm,0.2s						

IDC 16 04:50:39.5±3.1, 49°.19S×125°.19E, h0km, mb3.6/4, mbtmp3.6/4, MS3.2/2, Error ellipse: s-maj=126.8km s-min=27.2km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.44**	**326**	T	T	05 11 37.3	
	baz=153,slow=74,SNR=39						
H01W2	**Cape Leeuwin H**	**16.45**	**326**	T	T	05 11 28.4	
	baz=153,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**16.46**	**326**	T	T	05 11 26.0	
	baz=153,slow=74,SNR=36						
STKA	**Stephens Creek**	**21.24**	**42**	P	P	04 55 27.3	+0.3
	1.8nm,0.5s,baz=220,slow=13,SNR=3.9						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**26.38**	**18**	P	P	04 56 15.7	-1.8
	0.4nm,0.6s,baz=190,slow=10,SNR=4.6						
ASAR				LR	LR	05 05 39.8	
	comp=Z,41nm,20.9s,baz=127,slow=34						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**30.09**	**17**	P	P	04 56 52.6	+2.0
	0.7nm,0.9s,baz=188,slow=9.0,SNR=2.2						
WRA				LR	LR	05 08 03.4	
	comp=Z,70nm,20.0s,baz=190,slow=35						
	0.7nm,0.9s						
VNDA	**Vanda**	**31.67**	**166**	P	P	04 57 04.0	0.0
	0.8nm,0.8s,baz=330,slow=6.0,SNR=4.6						
	0.8nm,0.8s						
H08S2	**Diego Garcia H**	**60.40**	**295**	T	T	06 06 09.9	
	baz=144,slow=75						
H08S1	**Diego Carcia H**	**60.42**	**295**	T	T	06 06 18.0	
	baz=144						
H08S3	**Diego Garcia H**	**60.42**	**295**	T	T	06 06 17.0	
	baz=144,slow=75						

*NEIC **16** 05:06:47.0±0.4, 36°.691N±0°.008×98°.44W±0°.01, h6km±2km, mb_Lg2.2/21, ML2.6/32, ML2.7/55, Error ellipse: s-maj=1.6km s-min=1.2km az=105.0*

NEIC 16 05:06:47±0.4, 36°.69N±0°.01×98°.44W±0°.01, h7km±1km, Error ellipse: s-maj=1.7km s-min=1.2km az=167.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.33**	**229**		Pg	05 06 53.8	+0.4
OK038					Sg	05 06 58.6	+0.9
NOKA	**Waynoka**	**0.40**	**262**		Pg	05 06 55.2	+0.4
NOKA					Sg	05 07 01.0	+0.9
NOKA				IAML		05 07 01.3	
	comp=N,571nm,0.3s						
CROK	**Carrier**	**0.41**	**117**		Pg	05 06 55.2	+0.3
CROK					Sg	05 07 01.1	+0.7
CROK				IAML		05 07 05.5	
	comp=N,499nm,0.3s						
KAN14	**Manchester OK**	**0.46**	**55**		Pg	05 06 56.2	+0.2
KAN14					Sg	05 07 02.6	+0.6
KAN14				IAML		05 07 06.1	
	comp=N,397nm,0.1s						
GC02	**Grant County #**	**0.49**	**71**		Pg	05 06 56.7	+0.2
GC02					Sg	05 07 03.5	+0.6
KAN08	**Anthony NE Sta**	**0.65**	**35**		Pg	05 06 59.7	+0.1
KAN08					Sg	05 07 08.6	+0.5
KAN08				IAML		05 07 08.8	
	comp=N,264nm,0.3s						
KAN01	**Argonia South**	**0.71**	**50**		Pg	05 07 00.8	0.0
KAN01					Sg	05 07 10.4	+0.4
KAN01				IAML		05 07 10.8	
	comp=E,225nm,0.3s						
KAN01				IAML		05 07 10.8	
	comp=N,291nm,0.2s						
KAN13	**South Haven SW**	**0.83**	**67**		Pg	05 07 03.1	+0.1
KAN13					Sg	05 07 13.6	-0.2
BLOK	**Blackwell**	**0.98**	**86**		Pg	05 07 05.7	-0.3
BLOK					Sg	05 07 18.9	+0.2
BLOK				IAML		05 07 20.5	
	comp=E,223nm,0.2s						
BLOK				IAML		05 07 22.3	
	comp=N,277nm,0.2s						
CSTR	**Hydro, Custer**	**1.06**	**191**		Pg	05 07 07.3	-0.2
CSTR					Sb	05 07 21.8	-0.1
OK029	**Liberty Lake**	**1.20**	**138**		Pg	05 07 09.4	-0.6
OK029					Sg	05 07 25.5	0.0
OK029				IAML		05 07 25.6	
	comp=N,165nm,0.5s						
OK029				IAML		05 07 27.9	
	comp=N,133nm,0.2s						
BCOK	**Bluff Creek, N**	**1.23**	**147**		Pb	05 07 10.0	-0.6
BCOK					Sb	05 07 26.9	+0.2
OK048	**Pawnee Station**	**1.23**	**102**		Pb	05 07 09.9	-0.7
OK051	**E0350 and S346**	**1.30**	**98**		Pn	05 07 11.1	-0.5
QUOK	**Quay**	**1.49**	**110**		Pn	05 07 14.1	-0.1
OK052	**Battle Ridge R**	**1.49**	**117**		Pn	05 07 14.2	0.0
R32A	**Long Quarter,**	**1.74**	**353**		Pb	05 07 18.7	-0.6
R32A				IAmb_Lg		05 07 46.1	
	comp=Z,17nm,0.8s						
DEOK	**Depew**	**1.78**	**118**		Pn	05 07 18.6	+0.4
X34A	**Smith Ranch, M**	**2.14**	**167**		Pn	05 07 24.3	+1.1
SMWD	**Samnorwood**	**2.16**	**223**	Pn	Pn	05 07 24.8	+1.4
SMWD				IAmb_Lg		05 08 00.5	
	comp=Z,16nm,0.8s						
TUL3	**Leonard**	**2.27**	**109**	Pn	Pn	05 07 26.3	+1.3
AMTX	**Amarillo**	**3.19**	**237**	IAmb_Lg		05 08 34.3	
	comp=Z,16nm,0.8s						
U38A	**Gravette**	**3.27**	**93**	Pn	Pn	05 07 39.4	+0.6
U38A				IAmb_Lg		05 08 34.7	
	comp=Z,5.2nm,0.8s						
RTBA	**Rita Blanca**	**3.47**	**267**	Pn	Pn	05 07 43.4	+1.8
DKNS	**Dickens**	**3.64**	**215**	IAmb_Lg		05 08 48.3	
	comp=Z,5.2nm,0.8s						
MGMO	**Mountain Grove**	**4.96**	**83**	IAmb_Lg		05 09 25.4	
	comp=Z,8.7nm,1.1s						
LCAR	**Lake Charles**	**5.91**	**94**	IAmb_Lg		05 09 56.6	
	comp=Z,3.2nm,1.0s						
JCT	**Junction City**	**6.30**	**191**	IAmb_Lg		05 10 21.2	
	comp=Z,3.3nm,0.8s						

*NNC **16** 05:10:40.7±2.3, 42°.27N×74°.25E, h2km±8km, mb2.5, mpv2.3, Error ellipse: s-maj=20.7km s-min=10.3km az=154.0*

*KNET **16** 05:10:41.0±0.7, 42°.30N×74°.31E, h15km±4km, ml0.9, Error ellipse: s-maj=5.8km s-min=3.1km az=18.0*

*SOME **16** 05:10:41.0, 42°.28N×74°.30E, h5km*

ISC 16 05:10:40.3±1.4, 42°.24N±0°.06×74°.31E±0°.03, h17km±8km, n13, σ0°.29/24, 13C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.15**	**94**	⇑P	**Pb**	**05 10 45.0**	**+0.1**
	7.5nm,0.1s						
UCH				⇑S	**Sg**	**05 10 47.8**	**-0.1**
	99nm,0.1s						
AAK	**Ala-Archa**	**0.42**	**18**	⇑P	**Pb**	**05 10 49.3**	**-0.1**
	1.7nm,0.1s						
AAK				⇑S	**Sg**	**05 10 55.0**	**+0.1**
	9.9nm,0.2s						
AAK	**Ala-Archa**	**0.42**	**18**	⇑P	**Pg**	**05 10 49.1**	**+0.2**
	0.2nm,0.3s						
AAK				⇑S	**Sg**	**05 10 55.0**	**+0.1**
	1.9nm,0.4s						
EKS2	**Erkin-Say**	**0.58**	**317**	⇓P	**Pg**	**05 10 51.8**	**-0.1**
	0.9nm,0.1s						
EKS2				⇑S	**Sg**	**05 10 59.3**	**-0.3**
	5.5nm,0.1s						
KBK	**Karagaybulak**	**0.63**	**48**	⇓P	**Pb**	**05 10 53.2**	**+0.3**
	1.8nm,0.1s						
KBK				⇑S	**Sb**	**05 11 01.7**	**+0.2**
	9.1nm,0.3s						
CHMS	**Chumysh**	**0.83**	**23**	⇑P	**Pg**	**05 10 56.7**	**+0.3**
	1.9nm,0.2s						
CHMS				⇑S	**Sg**	**05 11 07.5**	**+0.2**
	1.9nm,0.1s						
MRKS	**Merke**	**0.95**	**303**	P	**Pb**	**05 10 58.4**	**+0.1**
	4.7nm,0.1s						
MRKS				S	**Sb**	**05 11 10.7**	**0.0**
	7.1nm,0.1s						
MRKS	**Merke**	**0.95**	**303**	*e*P	**Pb**	**05 10 58.4**	**+0.1**
	4.7nm,0.1s						
MRKS				*e*S	**Sb**	**05 11 10.7**	**0.0**
	7.1nm,0.1s						
TKM2	**Tokmak 2**	**1.17**	**54**	⇑P	**Pg**	**05 11 03.0**	**+0.1**
	0.9nm,0.1s						
TKM2				⇑S	**Sg**	**05 11 18.2**	**0.0**
	2.7nm,0.1s						
SGDS	**Sogindy**	**1.24**	**11**	P	**Pn**	**05 11 03.1**	**+0.2**
	0.5nm,0.1s						
SGDS				S	**Sb**	**05 11 18.5**	**-0.4**
	0.8nm,0.1s						
DGS	**Degeres**	**1.47**	**46**	P	**Pg**	**05 11 08.1**	**-0.6**
	1.7nm,0.4s						
DGS				S	**Sg**	**05 11 27.1**	**-0.7**
	2.8nm,0.6s						
KRBS	**Karabastau**	**1.77**	**34**	P	**Pg**	**05 11 13.8**	**-0.4**
	1.3nm,0.2s						
KRBS				S	**Sg**	**05 11 37.1**	**-0.2**
	0.5nm,0.2s						
KK31	**Karatay Array**	**2.94**	**288**	⇑Lg	Lg	05 12 11.4	
	0.9nm,0.3s,baz=114,slow=28,SNR=7.1						

*CATAC **16** 05:20:49.9±0.5, 13°N±3°×9°0W±°, h30km±2km, M2.9/19, MLv2.9/19, Error ellipse: s-maj=6.5km s-min=3.6km az=26.0, confirmed*

*SNET **16** 05:20:50.0±0.7, 13°.15N×89°.55W, h43km±6km, ML3.0*

*GCG **16** 05:20:50.9±0.5, 13°.23N×89°.56W, h53km±13km, MD3.8*

ISC 16 05:20:50.6±1.9, 13°.13N±0°.09×89°.56W±0°.06, h46km±14km, n67, σ0°.52/73, 11C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**33**	⇑*i*P	**Pn**	**05 21 00.5**	**-0.2**
LALI				*e*S	**Sn**	**05 21 08.5**	**+0.7**
LALI	**Alcalda de L**	**0.42**	**33**	*i*P	**Pn**	**05 21 00.5**	**-0.2**
LALI	**Alcalda de L**	**0.42**	**33**	P	**Pn**	**05 21 01.0**	**-0.5**
JAYA	**Jayaque - finc**	**0.53**	**11**	⇑*i*P	**Pn**	**05 21 01.8**	**-0.4**
JAYA				*e*S	**Sn**	**05 21 10.4**	**0.0**
JAYA	**Jayaque - finc**	**0.53**	**11**	⇑*i*P	**Pn**	**05 21 01.9**	**-0.4**
JAYA				*e*S	**Sn**	**05 21 09.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.53**	**11**	P	**Pn**	**05 21 01.8**	**-0.4**
PANCS	**Alcalda de**	**0.60**	**37**	S	**Sn**	**05 21 11.9**	**0.0**
ITCA	**Escuela Especi**	**0.60**	**26**	P	**Pn**	**05 21 02.7**	**-0.4**
PMON	**Piamonte**	**0.63**	**22**	⇑*e*P	**Pn**	**05 21 03.0**	**-0.4**
PMON	**Piamonte**	**0.63**	**22**	P	**Pn**	**05 21 02.9**	**-0.4**
LOMA	**Loma Larga**	**0.64**	**36**	⇑*e*P	**Pn**	**05 21 03.0**	**-0.5**
LOMA	**Loma Larga**	**0.64**	**36**	S	**Sn**	**05 21 13.3**	**+0.6**
LOMA	**Loma Larga**	**0.64**	**36**	P	**Pn**	**05 21 03.0**	**-0.5**
BOQS	**Boqueron**	**0.66**	**24**	⇑*i*P	**Pn**	**05 21 03.6**	**-0.3**
UEES	**Universidad Ev**	**0.66**	**28**	*e*P	**Pn**	**05 21 03.4**	**-0.4**
UEES	**Universidad Ev**	**0.66**	**28**	P	**Pn**	**05 21 03.5**	**-0.4**
UEES	**Universidad Ev**	**0.66**	**28**	S	**Sn**	**05 21 13.8**	**+0.5**
UTEC	**Universidad Te**	**0.67**	**31**	P	**Pn**	**05 21 03.5**	**-0.3**
UTEC	**Universidad Te**	**0.67**	**31**	S	**Sn**	**05 21 13.9**	**+0.6**
UESS	**Universidad de**	**0.68**	**30**	*e*P	**Pn**	**05 21 03.7**	**-0.4**
CEDA	**San Andres**	**0.69**	**13**	⇑*i*P	**Pn**	**05 21 03.9**	**-0.3**
CEDA	**San Andres**	**0.69**	**13**	P	**Pn**	**05 21 03.9**	**-0.3**
CEDA	**San Andres**	**0.69**	**13**	S	**Sn**	**05 21 14.5**	**+0.7**
LFRS	**El Faro**	**0.69**	**44**	⇑*e*P	**Pn**	**05 21 03.9**	**-0.3**
IGN	**Direccin Gen**	**0.69**	**33**	S	**Sn**	**05 21 14.9**	**+0.9**
IGN	**Direccin Gen**	**0.69**	**33**	P	**Pn**	**05 21 03.8**	**-0.4**
CEVE	**Cerro Verde**	**0.70**	**355**	⇑*e*P	**Pn**	**05 21 04.3**	**-0.1**
CEVE	**Cerro Verde**	**0.70**	**355**	P	**Pn**	**05 21 04.3**	**-0.1**
CEVE	**Cerro Verde**	**0.70**	**355**	S	**Sn**	**05 21 15.3**	**+1.0**
UDBS	**Universidad Do**	**0.70**	**34**	P	**Pn**	**05 21 04.0**	**-0.3**
UDBS	**Universidad Do**	**0.70**	**34**	S	**Sn**	**05 21 14.7**	**+0.6**
SBLS	**San Blas**	**0.71**	**355**	⇑*e*P	**Pn**	**05 21 04.4**	**-0.2**
LFU	**La Fuente**	**0.75**	**35**	*e*P	**Pn**	**05 21 04.8**	**-0.2**
RTR	**El Retiro**	**0.77**	**353**	*e*P	**Pn**	**05 21 05.3**	**-0.1**
LBRS	**Las Brisas**	**0.79**	**39**	*e*P	**Pn**	**05 21 05.3**	**-0.1**
NUBE	**Las Nubes**	**0.80**	**344**	⇑*e*P	**Pn**	**05 21 05.3**	**-0.4**
NUBE	**Las Nubes**	**0.80**	**344**	*i*P	**Pn**	**05 21 05.3**	**-0.4**
NUBE				*e*S	**Sn**	**05 21 16.6**	**-0.1**
NUBE	**Las Nubes**	**0.80**	**344**	P	**Pn**	**05 21 05.3**	**-0.4**
PAVA	**Las Pavas**	**0.84**	**46**	*e*P	**Pn**	**05 21 06.0**	**-0.2**
PAVA	**Las Pavas**	**0.84**	**46**	S	**Sn**	**05 21 18.5**	**+1.0**
PAVA	**Las Pavas**	**0.84**	**46**	P	**Pn**	**05 21 05.9**	**-0.2**
FAME	**Alcaldia de Sa**	**0.84**	**328**	S	**Sn**	**05 21 17.2**	**-0.1**
FAME	**Alcaldia de Sa**	**0.84**	**328**	P	**Pn**	**05 21

PAMC				S	Sn	05 25 08.8	+0.1
CBOC	**Ciudad Bolivar**	**2.31**	**284**	P	Pn	05 24 38.6	0.0
CBOC				S	Sn	05 25 08.1	-0.4
ZARC	**Zaragoza, Cauc**	**2.44**	**334**	P	Pn	05 24 38.5	-1.5
ZARC				S	Sn	05 25 09.8	-1.4
YOTC	**Yotoco, Valle**	**2.88**	**243**	P	Pn	05 24 44.0	-1.6
YOTC				S	Sn	05 25 22.8	+1.7
OCAC	**Ocana**	**2.96**	**8**	P	Pn	05 24 46.0	-0.6
OCAC				S	Sn	05 25 22.2	-0.8
DBBC	**Dabeiba**	**2.98**	**305**	P	Pn	05 24 46.8	0.0
DBBC				S	Sn	05 25 23.5	+0.3
UREC	**San Jos de Ur**	**3.01**	**324**	P	Pn	05 24 45.2	-1.9
UREC				S	Sn	05 25 21.3	-2.6
MACC	**Macarena, Meta**	**3.12**	**182**	P	Pn	05 24 46.2	-2.4
MACC				S	Sn	05 25 22.2	-4.3
POPC	**Popayan, Colom**	**3.99**	**227**	P	Pn	05 25 00.0	0.0
FLOC	**Florencia**	**4.14**	**207**	P	Pn	05 25 00.8	-0.9
ARGC	**Ariguani, Magd**	**4.56**	**354**	P	Pn	05 25 06.6	-0.7
SJCC	**San Jacinto, C**	**4.79**	**343**	P	Pn	05 25 07.2	-3.1
SJCC				S	Sn	05 26 00.9	-4.5
CRJC	**Cerrejon, Guaj**	**5.76**	**9**	P	Pn	05 25 21.2	-2.0
CRJC				S	Sn	05 26 23.7	-4.9

*IDC **16** 05:36:33.3±1.0, 17°.54N×101°.70E, h0km, mb4.0/5, mbtmp3.9/6, ML4.1/1, MS3.8/1, Error ellipse: s-maj=23.6km s-min=14.1km az=41.0*
*NEIC **16** 05:36:35.0±1.7, 17°.6N±0°.1×101°.63E±0°.07, h10km±2km, mb4.5/4, Error ellipse: s-maj=18.8km s-min=10.7km az=181.0*
*BKK **16** 05:36:35.0±0.2, 18°N±2°×10°2E±°, h5km, M3.9/28, MLv3.9/28*

ISC 16 05:36:34.8±0.8, 17°.58N±0°.06×101°.66E±0°.05, h10km, n26, σ0s78/29, mb4.1/7, Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHON	**Khomkaen**	**1.66**	**138**	P	**Pb**	**05 37 05.5**	**0.0**
CM04	**Chiang Mai Arr**	**2.68**	**288**	P	**Pn**	**05 37 18.1**	**+0.1**
CM09	**Chiang Mai Arr**	**2.68**	**289**	P	**Pn**	**05 37 18.3**	**+0.3**
CM01	**Chiang Mai Arr**	**2.70**	**288**	P	**Pn**	**05 37 18.6**	**+0.3**
CM05	**Chiang Mai Arr**	**2.71**	**288**	P	**Pn**	**05 37 18.7**	**+0.3**
CM31	**Chiang Mai Arr**	**2.73**	**289**		**Pn**	**05 37 19.2**	**+0.6**
CM31				Sn	**Sn**	**05 37 51.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**2.73**	**289**		**Pn**	**05 37 18.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**2.73**	**289**	Pn	**Pn**	**05 37 19.0**	**+0.3**
	7.8nm,0.3s,baz=112,slow=13,SNR=122						
CMAR				Pg	**Pb**	**05 37 25.1**	**+1.4**
	36nm,0.3s,baz=106,slow=18,SNR=61						
CMAR				Sn	**Sn**	**05 37 51.4**	**-0.3**
	15nm,0.3s,baz=119,slow=17,SNR=2.3						
CMAR				Lg	Lg	05 38 01.0	
	17nm,0.3s,baz=114,slow=30,SNR=4.2						
	28nm,0.5s						
CM13	**Chiang Mai Arr**	**2.75**	**288**	P	**Pn**	**05 37 19.1**	**+0.2**
CHTO	**Chiang Mai**	**2.86**	**296**		**Pn**	**05 37 20.7**	**+0.3**
CHTO				Sn	**Sn**	**05 37 54.6**	**-0.3**
CHTO	**Chiang Mai**	**2.86**	**296**	P	**Pn**	**05 37 20.6**	**+0.2**
UTHA	**Uthaitani**	**2.92**	**227**	P	**Pb**	**05 37 25.3**	**-1.7**
CMAI	**Chiengmai2**	**3.41**	**314**	P	**Pn**	**05 37 28.7**	**+0.5**
SRAK	**Srakaew**	**3.56**	**174**	P	**Pb**	**05 37 40.0**	**+2.1**
KHLT	**Khaolaem Dam**	**4.04**	**227**	P	**Pn**	**05 37 37.5**	**+0.8**
SLVN	**Son La**	**4.30**	**29**	Pn	**Pn**	**05 37 40.3**	**0.0**
TARG	**Taragay, Kyrgy**	**31.56**	**325**	P	**P**	**05 42 56.7**	**-1.2**
TARG				IAmb	IAmb	05 43 04.1	
	comp=Z,3.7nm,0.6s						
MKAR	**Makanchi Array**	**33.24**	**335**	P	**P**	**05 43 12.7**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=133,slow=9.4,SNR=9.0						
	comp=Z,1.2nm,0.6s						
BATI	**Baumata**	**35.14**	**140**	LR	LR	05 59 41.1	
	comp=Z,153nm,19.0s,baz=203,slow=40						
KURBB	**Kurchatov Arra**	**37.80**	**336**	P	**P**	**05 43 51.3**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=148,slow=8.9,SNR=8.0						
	comp=Z,1.1nm,0.7s						
ZAA0	**Zalesovo Array**	**38.58**	**344**	P	**P**	**05 43 56.7**	**-0.9**
ZALV	**Zalesovo Beam**	**38.58**	**344**	P	**P**	**05 43 57.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=143,slow=9.1,SNR=11						
	comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	**49.10**	**138**	P	**P**	**05 45 21.5**	**-1.2**
WB0				IAmb	IAmb	05 45 41.6	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**49.19**	**138**	P	**P**	**05 45 23.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=325,slow=8.0,SNR=11						
	comp=Z,1.3nm,0.7s						
WR8	**Warramunga Arr**	**49.30**	**138**	P	**P**	**05 45 23.7**	**-0.5**
ASAR	**Alice Springs**	**51.69**	**141**	P	**P**	**05 45 42.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=319,slow=6.8,SNR=8.4						
	comp=Z,0.9nm,0.6s						

*IDC **16** 06:24:06.7±7.6, 7°.51S×128°.84E, h133km±80km, mb3.1/2, mbtmp3.7/6, Error ellipse: s-maj=71.3km s-min=25.7km az=35.0*

ISC 16 06:24:08.4±1.4, 7°.81S±0°.10×128°.9E±0°.1, h150km, n6, σ2s39/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.66**	**245**	P	**Pn**	**06 25 31.1**	**+0.4**
	48nm,0.5s,baz=302,slow=12,SNR=8.5						
BATI				S	**Sn**	**06 26 35.5**	**+0.5**
	30nm,0.4s,baz=107,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**10.70**	**197**	P	**Pn**	**06 26 38.3**	**+0.7**
	1.9nm,0.3s,baz=22,slow=11,SNR=31						
FITZ				S	**Sn**	**06 28 33.6**	**-2.4**
	1.4nm,0.3s,baz=281,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**13.17**	**157**	P	**Pn**	**06 27 12.3**	**+2.4**
	0.2nm,0.2s,baz=340,slow=9.6,SNR=7.0						
WRA				S	**Sn**	**06 29 33.5**	**-2.3**
	1.3nm,0.6s,baz=330,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.49**	**164**	P	**Pn**	**06 27 55.2**	**+4.1**
	0.4nm,0.6s,baz=333,slow=9.9,SNR=8.2						
ASAR				S	**S**	**06 30 53.2**	**-1.3**
	0.5nm,0.7s,baz=341,slow=24,SNR=4.6						
MKAR	**Makanchi Array**	**68.30**	**328**	P	**P**	**06 34 51.5**	**-1.8**
	0.3nm,0.5s,baz=128,slow=6.7,SNR=4.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.62**	**329**	P	**P**	**06 35 18.3**	**-1.0**
	0.2nm,0.4s,baz=123,slow=5.1,SNR=1.7						
	0.2nm,0.4s						

NNC 16 06:26:21.6±6.1, 37°.79N×70°.25E, h0km, mb4.0, mpv3.5, 2C-1D, Error ellipse: s-maj=42.3km s-min=35.9km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.36**	**358**	Pg	Pg	06 27 43.6	-1.5
	14nm,0.4s						
IUG				Lg	Lg	06 28 42.3	
	93nm,0.9s						
BRLS	**Borolday**	**5.24**	**357**	Pg	Pb	06 27 51.4	-2.8
	3.0nm,0.5s						
BRLS				Lg	Lg	06 28 56.4	
	13nm,0.6s						
KK31	**Karatay Array**	**5.31**	**2**	⇓Pg	Pb	06 27 56.6	+1.3
	2.0nm,0.5s,baz=195,slow=18,SNR=4.3						
KK31				Lg	Lg	06 29 09.9	
	8.6nm,0.6s,baz=185,slow=28,SNR=7.4						
MRKS	**Merke**	**5.45**	**24**	Pg	Pg	06 28 03.1	-2.9
	3.1nm,0.4s						
MRKS				Lg	Lg	06 29 17.3	
	8.2nm,0.7s						
AAK	**Ala-Archa**	**5.83**	**32**	⇑Pg	Pb	06 28 08.2	+4.0
	3.0nm,0.7s						
AAK				⇑Lg	Lg	06 29 28.5	
	11nm,1.2s						
KST	**Kastek**	**6.82**	**38**	Pg	Pb	06 28 23.3	+2.2
	2.3nm,0.6s						
KST				Lg	Lg	06 29 54.1	
	3.5nm,1.1s						

*SJA **16** 06:40:38.9±2.1, 21°.17S×68°.88W, h123km±12km, ML3.7, MW3.7*
*NEIC **16** 06:40:39.9±1.7, 21°.23S±0°.05×68°.68W±0°.08, h107km±6km, mb4.2/11, ML3.8(GUC), Error ellipse: s-maj=10.6km s-min=7.2km az=85.0*
*GUC **16** 06:40:41.1±0.6, 21°.19S×68°.82W, h108km±4km, ML3.8*
*VAO **16** 06:40:41.0±0.8, 21°.09S×68°.51W, h116km±7km, mb4.2*
*IDC **16** 06:40:41.6±2.5, 21°.23S×68°.21W, h107km±24km, mb3.6/4, mbtmp4.0/8, MS2.5/1, Error ellipse: s-maj=26.6km s-min=17.6km az=88.0*

ISC 16 06:40:39.3±0.6, 21°.18S±0°.03×68°.73W±0°.05, h105km±6km, n103, σ1s59/117, mb4.1/9, 11C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.72**	**280**		**Pn**	**06 40 58.5**	**+1.1**
PB01	**IPOC Station P**	**0.72**	**280**	⇑*e*P	**Pn**	**06 40 58.3**	**+0.9**
PB01				*e*S	**Sn**	**06 41 11.5**	**+0.5**
PB01				IAML		06 41 13.4	
	comp=N,7μm,0.3s						
PB01	**IPOC Station P**	**0.72**	**280**	*i* P	**Pn**	**06 40 57.7**	**+0.2**
PB01				*e*S	**Sn**	**06 41 12.2**	**+1.1**
PB01				IAML		06 41 14.3	
	comp=Z,3μm,0.1s						
PB09	**IPOC Station P**	**0.78**	**218**		**Pn**	**06 40 59.3**	**+1.2**
PB09	**IPOC Station P**	**0.78**	**218**	⇑*e*P	**Pn**	**06 40 59.5**	**+1.4**
PB09				*e*S	**Sn**	**06 41 14.3**	**+2.1**
PB09				IAML		06 41 15.6	
	comp=N,2μm,0.4s						
PB09				IAML		06 41 16.9	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.78**	**218**	*i* P	**Pn**	**06 40 58.8**	**+0.7**
PB09				IAML		06 41 15.4	
	comp=Z,2μm,0.9s						
PB02	**IPOC Station P**	**1.10**	**262**		**Pn**	**06 41 02.4**	**+1.1**
PB02	**IPOC Station P**	**1.10**	**262**	⇑*e*P	**Pn**	**06 41 02.3**	**+1.0**
PB02				*e*S	**Sn**	**06 41 17.6**	**-0.2**
PB02	**IPOC Station P**	**1.10**	**262**	*i* P	**Pn**	**06 41 01.5**	**+0.3**
PB02				*e*S	**Sn**	**06 41 19.8**	**+2.0**
PB02				IAML		06 41 23.2	
	comp=Z,6μm,0.5s						
PB08	**IPOC Station P**	**1.10**	**339**		**Pn**	**06 41 03.3**	**+1.6**
PB08	**IPOC Station P**	**1.10**	**339**	⇓*e*P	**Pn**	**06 41 03.3**	**+1.6**
PB08				*e*S	**Sn**	**06 41 20.5**	**+2.1**
PB08				IAML		06 41 21.9	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.10**	**339**	*i* P	**Pn**	**06 41 02.6**	**+0.9**
PB08				*e*S	**Sn**	**06 41 21.0**	**+2.6**
PB08				IAML		06 41 22.4	
	comp=Z,1μm,0.3s						
PB03	**IPOC Station P**	**1.29**	**227**		**Pn**	**06 41 04.4**	**+0.9**
PB03	**IPOC Station P**	**1.29**	**227**	⇑*e*P	**Pn**	**06 41 04.3**	**+0.8**
PB03				*e*S	**Sn**	**06 41 22.4**	**+0.6**
PB03				IAML		06 41 23.1	
	comp=N,1μm,0.4s						
PB03	**IPOC Station P**	**1.29**	**227**	*i* P	**Pn**	**06 41 03.6**	**+0.1**
PB03				*e*S	**Sn**	**06 41 23.3**	**+1.5**
PB03				IAML		06 41 25.3	
	comp=Z,2μm,0.5s						
PATCX	**Punta Patache**	**1.38**	**285**		**Pn**	**06 41 05.8**	**+1.4**
TA01	**Diego Aracena**	**1.49**	**294**		**Pn**	**06 41 06.8**	**+1.2**
TA01	**Diego Aracena**	**1.49**	**294**	*e*S	**Sn**	**06 41 25.4**	**-0.3**
TA01				IAML		06 41 27.1	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**1.49**	**294**	*i* P	**Pn**	**06 41 05.7**	**+0.1**
TA01				IAML		06 41 27.8	
	comp=Z,1μm,0.5s						
GO01	**Chusmiza**	**1.56**	**344**		**Pn**	**06 41 08.5**	**+1.4**
GO01	**Chusmiza**	**1.56**	**344**	⇓*e*P	**Pn**	**06 41 08.4**	**+1.4**
GO01				*e*S	**Sn**	**06 41 30.3**	**+2.2**
GO01	**Chusmiza**	**1.56**	**344**	*i* P	**Pn**	**06 41 07.8**	**+0.6**
GO01				IAML		06 41 34.5	
	comp=Z,512nm,0.1s						
TA02	**Huaiquique**	**1.59**	**304**	⇑*e*P	**Pn**	**06 41 07.7**	**+0.7**
TA02				*e*S	**Sn**	**06 41 27.9**	**0.0**
TA02	**Huaiquique**	**1.59**	**304**	*i* P	**Pn**	**06 41 07.0**	**+0.1**
TA02				IAML		06 41 33.4	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**1.65**	**328**		**Pn**	**06 41 09.1**	**+1.2**
PB11	**IPOC Station P**	**1.65**	**328**	IAML		06 41 32.5	
	comp=E,3μm,0.2s						
PB11	**IPOC Station P**	**1.65**	**328**	*i* P	**Pn**	**06 41 08.2**	**+0.3**
PB11				IAML		06 41 32.7	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**1.71**	**207**		**Pn**	**06 41 09.4**	**+0.9**
PB06	**IPOC Station P**	**1.71**	**207**	⇑*e*P	**Pn**	**06 41 09.5**	**+0.9**
PB06				*e*S	**Sn**	**06 41 31.9**	**+1.0**
PB06				IAML		06 41 34.3	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.71**	**207**	*i* P	**Pn**	**06 41 08.8**	**+0.2**
PB06				*e*S	**Sn**	**06 41 32.9**	**+2.0**
PB06				IAML		06 41 39.3	
	comp=Z,920nm,0.2s						
AF01	**San Pedro de A**	**1.84**	**164**		**Pn**	**06 41 12.6**	**+2.2**
PB10	**IPOC Station P**	**2.87**	**216**		**Pn**	**06 41 24.0**	**+0.5**
PB10	**IPOC Station P**	**2.87**	**216**	*i* P	**Pn**	**06 41 23.5**	**-0.1**
PB10				IAML		06 42 00.6	
	comp=Z,113nm,0.3s						
PB16	**IPOC Station P**	**2.92**	**345**		**Pn**	**06 41 26.4**	**+1.7**
PB16	**IPOC Station P**	**2.92**	**345**	*i* P	**Pn**	**06 41 25.9**	**+1.2**
PB16				IAML		06 42 10.0	
	comp=Z,93nm,0.8s						
PB12	**IPOC Station P**	**2.96**	**329**		**Pn**	**06 41 24.3**	**-0.4**
PB12	**IPOC Station P**	**2.96**	**329**	⇑*e*P	**Pn**	**06 41 24.1**	**-0.7**
PB12				*e*S	**Sn**	**06 41 59.9**	**+0.1**
PB12				IAML		06 42 09.6	
	comp=E,370nm,0.2s						
PB12	**IPOC Station P**	**2.96**	**329**	*i* P	**Pn**	**06 41 23.8**	**-1.0**
PB12				IAML		06 42 03.6	
	comp=Z,205nm,0.3s						
AP01	**Chacalluta**	**3.18**	**331**	*i* P	**Pn**	**06 41 29.4**	**+1.8**
AP01				IAML		06 42 25.7	
	comp=Z,380nm,0.5s						
PB18	**Visviri**	**3.64**	**349**		**Pn**	**06 41 38.1**	**+3.9**
HJA	**Humahuaca**	**3.68**	**124**	*i* P	**Pn**	**06 41 38.1**	**+3.4**
HJA				IAML		06 42 23.6	
	comp=Z,8.3nm,0.6s						
SALTA		**3.75**	**144**	*i* P	**Pn**	**06 41 39.2**	**+3.5**
SALTA				IAML		06 42 38.1	
	comp=Z,12nm,1.1s						
PB14	**IPOC Station P**	**3.77**	**204**		**Pn**	**06 41 36.3**	**+0.6**
GO02	**Mina Guanaco**	**4.05**	**191**		**Pn**	**06 41 39.3**	**-0.2**
GO02	**Mina Guanaco**	**4.05**	**191**	*i* P	**Pn**	**06 41 39.0**	**-0.5**
GO02				IAML		06 42 31.2	
	comp=Z,112nm,0.7s						
LPAZ	**La Paz**	**4.89**	**7**		**Pn**	**06 41 53.6**	**+2.3**
LPAZ	**La Paz**	**4.89**	**7**	P	**Pn**	**06 41 54.1**	**+2.8**
	comp=Z,5.8nm,0.4s,baz=200,slow=2.8,SNR=97						
LPAZ				S	**Sn**	**06 42 50.5**	**+3.4**
	comp=Z,2.8nm,0.5s,baz=166,slow=6.4,SNR=3.7						
LPAZ				LR	LR	06 44 28.0	
	comp=Z,56nm,20.7s,baz=203,slow=46						
LPAZ	**La Paz**	**4.89**	**7**	*i* P	**Pn**	**06 41 53.9**	**+2.6**
LPAZ				IAML		06 43 08.4	
	comp=Z,3.9nm,0.8s						
LPAZ	**La Paz**	**4.89**	**7**	*e*P	**Pn**	**06 41 51.9**	**+0.6**
AC01	**Pan de Azucar**	**5.24**	**199**		**Pn**	**06 41 53.9**	**-1.5**
SIV	**San Ignacio**	**8.90**	**56**	P	**Pn**	**06 42 42.3**	**-2.9**
	comp=Z,15nm,0.4s,baz=247,slow=9.8,SNR=139						
MURT	**Porto Murtinho**	**10.37**	**95**	*e*P	**Pn**	**06 43 02.3**	**-2.8**
PTLB	**Pontes e Lacer**	**10.74**	**60**		**Pn**	**06 43 08.9**	**-1.2**
PTLB	**Pontes e Lacer**	**10.74**	**60**	*e*P	**Pn**	**06 43 08.0**	**-2.2**
BDQN	**Bodoquena, MS**	**11.23**	**88**	*e*P	**Pn**	**06 43 13.9**	**-2.8**
VILB	**Vilhena**	**11.54**	**46**		**Pn**	**06 43 19.2**	**-1.8**
VILB	**Vilhena**	**11.54**	**46**	*e*P	**Pn**	**06 43 19.4**	**-1.6**
AQDB	**Aquidauana**	**12.21**	**89**	*e*P	**Pn**	**06 43 29.0**	**-0.7**
MT02	**Curacav**	**12.22**	**190**	Pn	**Pn**	**06 43 29.1**	**-0.7**
SALV	**Santo Antonio**	**13.43**	**69**	*e*P	**Pn**	**06 43 44.5**	**-1.2**
BO02	**Sierra Bellavi**	**13.69**	**187**	Pn	**Pn**	**06 43 46.9**	**-2.2**
PDRB	**Porto dos Gac**	**14.92**	**52**	*e*P	**Pn**	**06 44 04.4**	**-0.6**
CLDB	**Colider**	**16.10**	**52**	*e*P	**P**	**06 44 19.5**	**-1.6**
ITAB	**Concordia**	**16.30**	**115**		**P**	**06 44 22.1**	**-1.0**
ITAB				IAmb	IAmb	06 44 57.2	
	comp=Z,28nm,1.3s						
ARAG	**Araguaiana, MT**	**16.94**	**74**	*e*P	**Pn**	**06 44 28.8**	**-1.4**
TRQA	**Tornquist**	**17.81**	**162**	P	**P**	**06 44 39.6**	**-0.2**
FRTB	**Fartura**	**17.87**	**101**	*e*P	**P**	**06 44 40.0**	**-0.7**
TEFE	**Tefe**	**18.01**	**13**	*e*P	**Pn**	**06 44 41.9**	**-1.1**
SNDB	**Serra Nova Dou**	**19.04**	**64**	*e*P	**P**	**06 44 52.3**	**-1.1**
NPGB	**Novo Progresso**	**19.09**	**45**	*e*P	**P**	**06 44 52.3**	**-1.7**
MACA	**Manacapuru-AM**	**19.54**	**25**	P	**P**	**06 44 56.6**	**-2.3**
MACA				IAmb	IAmb	06 44 60.0	
	comp=Z,18nm,1.1s						
MACA	**Manacapuru-AM**	**19.54**	**25**	*e*P	**P**	**06 44 56.6**	**-2.3**
PLCA	**Paso Flores**	**19.56**	**184**	P	**P**	**06 44 59.1**	**+0.2**
PLCA				IAmb	IAmb	06 45 03.9	
	comp=Z,9.4nm,1.4s						
PLCA	**Paso Flores**	**19.56**	**184**	P	**P**	**06 44 60.0**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=352,slow=12,SNR=7.8						
PLCA	**Paso Flores**	**19.56**	**184**	*e*P	**Pn**	**06 45 00.8**	**-0.4**
IPMB	**Ipameri, GO**	**19.59**	**84**	*e*P	**P**	**06 44 58.4**	**-1.1**
RCLB	**Rio Claro- Sao**	**19.73**	**98**	*e*P	**P**	**06 44 59.8**	**-1.1**
VAO	**Valinhos**	**20.25**	**99**	P	**P**	**06 45 04.5**	**-2.0**
VAO	**Valinhos**	**20.25**	**99**	*e*P	**P**	**06 45 05.1**	**-1.5**
BDFB	**Brasilia**	**20.41**	**78**	P	**P**	**06 45 06.9**	**-1.4**
BDFB	**Brasilia**	**20.41**	**78**	P	**P**	**06 45 05.8**	**-2.6**
	comp=Z,2.6nm,0.5s,baz=250,slow=11,SNR=8.0						
ITTB	**Itaituba**	**20.94**	**39**	*e*P	**P**	**06 45 11.8**	**-2.2**
PMNB	**Patos De Minas**	**21.13**	**87**	*e*P	**P**	**06 45 14.8**	**-1.2**
PRPB	**Parauapebas**	**23.62**	**54**	*e*P	**P**	**06 45 38.9**	**-2.2**
MAL2	**Monte Alegre,**	**23.74**	**39**	P	**P**	**06 45 40.8**	**-1.4**
MAL2				IAmb	IAmb	06 46 13.0	
	comp=Z,8.4nm,0.7s						
SMTB	**Santa Maria do**	**23.77**	**62**	*e*P	**P**	**06 45 41.0**	**-1.5**
JANB	**Januaria**	**23.98**	**79**	*e*P	**P**	**06 45 42.7**	**-1.7**
SDBA	**SAO DESIDERIO**	**24.39**	**73**	*e*P	**P**	**06 45 46.5**	**-1.7**
BOAV	**Boa Vista**	**24.77**	**20**	P	**P**	**06 45 51.3**	**-0.2**
BOAV				IAmb	IAmb	06 45 51.5	
	comp=Z,3.9nm,0.6s						
BOAV	**Boa Vista**	**24.77**	**20**	*e*P	**P**	**06 45 51.0**	**-0.5**
RUSC	**La Rusia**	**27.24**	**351**	P	**P**	**06 46 14.4**	**+0.1**
RUSC				IAmb	IAmb	06 46 16.7	
	comp=Z,7.8nm,1.3s						
OBIP	**Obispado Ponce**	**39.03**	**3**	P	**P**	**06 47 56.4**	**+0.5**
CELP	**Cerrillos**	**39.06**	**3**	P	**P**	**06 47 56.0**	**-0.3**
CELP				IAmb	IAmb	06 48 17.9	
	comp=Z,9.0nm,1.1s						
APG	**El Apazote**	**41.81**	**328**	P	**P**	**06 48 23.7**	**+4.5**
	comp=Z,0.4nm,0.5s,baz=145,slow=12,SNR=3.5						
	comp=Z,0.4nm,0.5s						
VNA3	**Neumayer Olymp**	**60.33**	**161**	⇑P	**P**	**06 50 37.1**	**+0.3**
	comp=Z,1.6nm,0.7s						
VNA2	**Neumayer--Watz**	**60.90**	**161**	⇑P	**P**	**06 50 40.7**	**0.0**
	comp=Z,1.6nm,0.6s,baz=282,slow=7.0						
SNAA	**Sanae**	**62.53**	**161**	⇑P	**P**	**06 50 51.8**	**+0.1**
	comp=Z,39nm,0.7s						
SNAA	**Sanae**	**62.53**	**161**	P	**P**	**06 50 52.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=280,slow=8.4,SNR=22						
	comp=Z,1.2nm,0.6s						
TROLL	**Troll, Antarti**	**64.25**	**161**	⇑P	**P**	**06 51 03.3**	**+0.3**
	comp=Z,80nm,0.5s						
QSPA	**South Pole Qui**	**69.01**	**180**	P	**P**	**06 51 36.4**	**+2.9**
	comp=Z,1.0nm,0.5s,baz=95,slow=2.8,SNR=3.1						
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**06 52 21.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=261,slow=4.5,SNR=18						
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**133.32**	**210**	PKP	**PKiKP**	**06 59 44.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=164,slow=1.7,SNR=4.6						
MKAR	**Makanchi Array**	**145.27**	**36**	PKPbc	**PKPab**	**07 00 04.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=314,slow=2.6,SNR=4.8						

*SNET **16** 06:46:09.0±0.5, 12°.72N×87°.56W, h93km±5km, ML3.5*
*CATAC **16** 06:46:59.5±0.2, 12°N±2°×87°8W±°, h28km, M3.9/41, MLv3.9/41, Error ellipse: s-maj=4.0km s-min=1.4km az=29.5, confirmed*
*UCR **16** 06:47:00.9±1.0, 12°.36N×87°.65W, h24km±6km, MW3.9*

ISC 16 06:47:00.6±1.2, 12°.49N±0°.05×87°.69W±0°.03, h62km±11km, n101, σ0s70/126, 10C-18D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.50**	**14**	P	**Pn**	**06 47 12.6**	**-0.3**
CSGN				S	**Sn**	**06 47 22.1**	**+0.4**
CSGN	**Cosiguina Volc**	**0.50**	**14**	⇑*i*P	**Pn**	**06 47 12.5**	**-0.3**
CSGN				*e*S	**Sn**	**06 47 22.3**	**+0.6**
PKGN	**Cerro Pekin**	**0.71**	**75**	⇓P	**Pn**	**06 47 15.0**	**-0.1**
PKGN				S	**Sn**	**06 47 26.6**	**+0.8**
CNCH	**Conchagua**	**0.80**	**350**	⇑*e*P	**Pn**	**06 47 15.9**	**-0.4**
CNCH				*e*S	**Sn**	**06 47 27.9**	**+0.3**
CNCH	**Conchagua**	**0.80**	**350**	S	**Sn**	**06 47 28.0**	**+0.3**
CNCH	**Conchagua**	**0.80**	**350**	⇑P	**Pn**	**06 47 15.9**	**-0.4**
LCND	**La Caada**	**0.84**	**346**	*e*P	**Pn**	**06 47 16.2**	**-0.5**
LCND				*e*S	**Sn**	**06 47 28.4**	**-0.1**
LCND	**La Caada**	**0.84**	**346**	⇑P	**Pn**	**06 47 16.2**	**-0.5**
PLRN	**Geotermica Pol**	**0.90**	**84**	⇓P	**Pn**	**06 47 15.9**	**-1.6**
PLRN				S	**Sn**	**06 47 28.8**	**-1.1**
CNGA	**AI SSO del Vol**	**0.96**	**90**	⇓P	**Pn**	**06 47 17.8**	**-0.5**
CNGA				S	**Sn**	**06 47 31.8**	**+0.4**
CNGN	**Cerro Negro**

OMEN	**Al SSO del Vol**	**2.24 116**	P	**Pn**	**06 47 35.0**	**-0.3**
OMEN			S	**Sn**	**06 48 01.8**	**-0.1**
CEVE	**Cerro Verde**	**2.31 305**	S	**Sn**	**06 48 04.7**	**+0.8**
UNIC	**Universidad Ca**	**2.34 309**	S	**Sn**	**06 48 05.3**	**+0.8**
LCRUZ	**La Cruz**	**2.45 125**	*eP*	**Pn**	**06 47 37.7**	**-0.5**
LCRUZ			*eS*	**Sn**	**06 48 07.0**	**-0.2**
NUBE	**Las Nubes**	**2.48 305**	S	**Sn**	**06 48 07.7**	**-0.2**
NUBE	**Las Nubes**	**2.48 305**	P	**Pn**	**06 47 38.9**	**+0.2**
CARN	**Rivas**	**2.48 121**	P	**Pn**	**06 47 38.2**	**-0.4**
CARN			S	**Sn**	**06 48 06.2**	**-1.6**
CARN	**Rivas**	**2.48 121**	*eP*	**Pn**	**06 47 38.2**	**-0.4**
ACON	**Acoyapa**	**2.51 102**	⇓*iP*	**Pn**	**06 47 36.8**	**-2.3**
FAME	**Alcaldia de Sa**	**2.64 301**	S	**Sn**	**06 48 10.0**	**-1.7**
FAME	**Alcaldia de Sa**	**2.64 301**	P	**Pn**	**06 47 40.3**	**-0.4**
LAPC	**Finca la Perla**	**2.79 128**	*eP*	**Pn**	**06 47 42.6**	**-0.4**
MESS	**Mesas**	**3.00 125**	*eP*	**Pn**	**06 47 45.6**	**-0.1**
VMAR	**Armenia, Volca**	**3.02 123**	*eP*	**Pn**	**06 47 45.5**	**-0.6**
CUI	**Cuipilapa**	**3.07 126**	*eP*	**Pn**	**06 47 46.9**	**+0.1**
JUD3	**Juan Diaz 3**	**3.13 137**	*eP*	**Pn**	**06 47 47.5**	**-0.1**
TENO	**El Achiote**	**3.19 123**	*eP*	**Pn**	**06 47 47.8**	**-0.6**
TIMP	**Tierras Morena**	**3.23 126**	*eP*	**Pn**	**06 47 50.3**	**+1.4**
JTS	**Las Juntas de**	**3.46 129**	*eP*	**Pn**	**06 47 52.3**	**+0.2**
MTEVE	**Monteverde**	**3.54 127**	*eP*	**Pn**	**06 47 55.2**	**+2.0**
JCR1	**Jicaral**	**3.64 136**	*eP*	**Pn**	**06 47 54.7**	**+0.1**
ACOS	**Acosta**	**4.37 127**	*eP*	**Pn**	**06 48 07.8**	**+3.1**
PIEC	**Cerro El Cedra**	**4.64 128**	*eP*	**Pn**	**06 48 09.7**	**+1.3**
VERB	**Verbena**	**4.66 122**	*eP*	Pn	06 48 12.9	+4.3

*SOME **16** 06:54:33.8, 44°.02N×86°.63E, h5km*
*NNC **16** 06:54:36.0±2.9, 44°.13N×86°.55E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=24.3km s-min=10.6km az=124.0
ISC 16 06:54:33.1±3.3, 44°.0N±0°.1×86°.7E±0°.2, h10km, n9,
σ2§39/13, 1C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.67 341**		Pg	**Pg**	**06 55 41.4**	**-2.0**
	5.7nm,0.2s						
ZSN				Lg	Lg	06 56 30.1	
	10nm,0.4s						
ZSN	**Zaisan**	**3.67 341**		*eP*	**Pg**	**06 55 41.4**	**-2.0**
	5.7nm,0.2s						
ZSN				*eS*	**Sg**	**06 56 30.1**	**-0.8**
	10nm,0.4s						
MK31	**Makanchi Array**	**4.15 314**		Pn	**Pn**	**06 55 39.0**	**+2.4**
	2.5nm,0.9s,baz=129,slow=14,SNR=7.6						
MK31				⇑Lg	Lg	06 56 46.2	
	2.9nm,0.7s,baz=132,slow=30,SNR=3.6						
SHLS	**Shalkode**	**5.29 263**		Pg	**Pb**	**06 56 06.1**	**+0.3**
	6.0nm,0.2s						
SHLS				Lg	Lg	06 57 12.6	
	14nm,0.8s						
SHLS	**Shalkode**	**5.29 263**		*eP*	**Pb**	**06 56 06.1**	**+0.3**
	6.0nm,0.2s						
SHLS				*eS*	**Sb**	**06 57 12.6**	**+3.3**
	14nm,0.8s						
UZB	**Uzynbulak**	**5.61 264**		Pg	**Pg**	**06 56 17.8**	**-2.7**
	1.8nm,0.3s						
UZB				Lg	Lg	06 57 33.0	
	2.7nm,0.4s						
UZB	**Uzynbulak**	**5.61 264**		*eP*	**Pg**	**06 56 17.8**	**-2.7**
	1.8nm,0.3s						
UZB				*eS*	**Sg**	**06 57 33.0**	**-0.1**
	2.7nm,0.4s						
ARXS	**Arharly**	**6.36 275**		Pg	**Pg**	**06 56 31.9**	**-2.9**
	1.7nm,0.3s						
ARXS				Lg	Lg	06 57 56.9	
	4.3nm,0.7s						
ARXS	**Arharly**	**6.36 275**		*eP*	**Pg**	**06 56 31.9**	**-2.9**
ARXS				*eS*	**Sg**	**06 57 56.9**	**-0.2**

*SKHL **16** 07:26:56.6±0.2, 44°.10N×149°.70E, h42km±8km, mb4.4/3*
*JMA **16** 07:26:56.1±0.7, 45°.N±3°×15°.0E±°, h30km, MV3.9/11, SE OFF ETOROFU*
ISC 16 07:26:55.7±4.2, 44°.1N±0°.1×149°.7E±0°.2, h35km, n12,
σ1§67/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.75 312**		*iP*	**Pn**	**07 27 23.3**	**-0.2**
KUR				AMB	AMB	07 27 26.0	
	50nm,0.3s						
KUR				*i* S	**Sn**	**07 27 43.3**	**-1.3**
KUR				A	A	07 27 49.1	
	290nm,0.3s						
KUR				A	A	07 27 49.1	
	150nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.77 271**		*eP*	**Pn**	**07 27 38.7**	**+1.2**
YUK				AMB	AMB	07 27 40.3	
	80nm,0.3s						
YUK				*eS*	**Sn**	**07 28 10.0**	**+0.4**
YUK				A	A	07 28 14.4	
	120nm,0.3s						
YUK				A	A	07 28 14.4	
	60nm,0.3s						
NEM2	**Nemuro 2**	**2.95 258**		*eP*	**Pn**	**07 27 40.8**	**+0.7**
NEM2				*eS*	**Sn**	**07 28 13.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.96 258**		*iP*	**Pn**	**07 27 41.0**	**+0.8**
NMR				*eS*	**Sn**	**07 28 14.4**	**-0.1**
GLVR	**Golovnino**	**3.04 265**		*eP*	**Pn**	**07 27 42.1**	**+0.9**
GLVR				AMB	AMB	07 27 43.7	
	70nm,0.3s						
GLVR				*eS*	**Sn**	**07 28 17.7**	**+1.3**
GLVR				A	A	07 28 22.9	
	100nm,0.3s						
GLVR				A	A	07 28 22.9	
	210nm,0.3s						
JRA	**Rausu**	**3.30 269**		*eP*	**Pn**	**07 27 46.1**	**+1.2**
JNK	**Nakash**	**3.63 264**		*eP*	**Pn**	**07 27 50.8**	**+1.3**
AKK	**Akkeshi**	**3.68 255**		*eP*	**Pn**	**07 27 51.8**	**+1.7**
JAK	**Akkeshi**	**3.79 255**		*eP*	**Pn**	**07 27 52.2**	**+0.6**
JAK				*eS*	**Sn**	**07 28 33.6**	**-1.4**
JOB	**Onbets**	**4.42 257**		*eP*	**Pn**	**07 28 01.9**	**+1.7**
JOB				*eS*	**Sn**	**07 28 50.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**5.38 253**		*eP*	**Pn**	**07 28 15.1**	**+1.6**
JNBK				*eS*	**Sn**	**07 29 12.1**	**-2.1**
JANG	**Nango**	**7.11 241**		*eS*	**Sn**	**07 29 52.0**	**-4.7**

*GII **16** 07:27:59.4±0.0, 37°.33N×30°.75E, h105km, Mws3.6, confirmed*
*ATH **16** 07:28:03.9, 37°.25N×30°.85E, h124km±6km, ML3.8/10,*
Manual Solution by N.Liadopoulou First location:
2019/10/16 07:30:06, This location: 2019/10/16 08:49:47
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 4
km; Longitude uncertainty: 2 km
*IDC **16** 07:28:03.3±1.0, 37°.21N×30°.78E, h113km±12km, mb3.5/8,*
mbtmp3.8/14, Error ellipse: s-maj=11.4km s-min=9.2km
az=119.0
*ISK **16** 07:28:04.2, 37°.31N×30°.75E, h130km, ML3.4/53*
*AFAD **16** 07:28:04.0, 37°.31N×30°.80E, h135km±1km, ML3.4*
*HLW **16** 07:28:06.2, 36°.90N×30°.75E, h12km±4km, Ml3.3*
*NIC **16** 07:28:07.2, 37°.11N×31°.19E, h14km±18km, Ml3.6/9*
ISC 16 07:28:04.3±0.7, 37°.20N±0°.03×30°.82E±0°.03, h131km±5km,
n159, σ1§65/201, mb3.7/7, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUCA	**Burdur, Bucak-**	**0.24 301**		P	**Pn**	**07 28 21.9**	**-0.5**
BUCA				S	**Sn**	**07 28 35.1**	**-1.1**
BUCA				*i* IAML		07 28 37.0	
	comp=E,515nm,0.7s						
BUCA				*i* IAML		07 28 38.0	
	comp=N,542nm,0.6s						
ANTB	**Antalya**	**0.33 203**		Pg	**Pn**	**07 28 23.2**	**+0.6**
KORT	**Korkueli**	**0.42 242**		Pg	**Pn**	**07 28 23.2**	**0.0**
KORT				Sg	**Sn**	**07 28 37.2**	**-0.3**
KORT	**Korkueli**	**0.42 242**		P	**Pn**	**07 28 23.6**	**+0.3**
KORT				S	**Sn**	**07 28 38.3**	**+0.7**
KORT				*i* IAML		07 28 39.0	
	comp=N,1μm,0.6s						
KORT				*i* IAML		07 28 42.0	
	comp=E,1μm,0.6s						
MNVG	**Manavgat-Antal**	**0.63 130**		Pg	**Pn**	**07 28 24.6**	**+0.4**
MNVG				Sg	**Sn**	**07 28 40.7**	**+1.4**
KEMT	**Kemer-ANTALYA**	**0.63 199**		Pg	**Pn**	**07 28 25.1**	**+0.8**
ISP	**Isparta**	**0.66 339**		Pg	**Pn**	**07 28 23.8**	**-0.8**
ISP				Sg	**Sn**	**07 28 38.2**	**-1.9**
ISP	**Isparta**	**0.66 339**		P	**Pn**	**07 28 23.6**	**-1.0**
ISP	**Isparta**	**0.66 339**		P	**Pn**	**07 28 23.8**	**-0.8**
ISP				S	**Sn**	**07 28 38.2**	**-1.9**
BRDR	**BURDUR-Merkez**	**0.78 309**		P	**Pn**	**07 28 24.3**	**-1.1**
BRDR				S	**Sn**	**07 28 38.6**	**-2.9**
BAGO	**Egridir - ISPA**	**0.79 358**		P	**Pn**	**07 28 24.5**	**-1.0**
BAGO				S	**Sn**	**07 28 40.1**	**-1.6**
BAGO				*i* IAML		07 28 41.0	
	comp=N,942nm,0.6s						
BAGO				*i* IAML		07 28 41.0	
	comp=E,455nm,0.7s						
SEDI	**Konya, Seydise**	**0.79 71**		P	**Pn**	**07 28 25.2**	**-0.3**
SEDI				S	**Sn**	**07 28 40.8**	**-0.9**
SEYD	**Seydisehir-KON**	**0.84 76**		Pg	**Pn**	**07 28 26.3**	**+0.3**
ELL	**Elmali**	**0.86 238**		Pg	**Pn**	**07 28 27.2**	**+1.0**
ELL	**Elmali**	**0.86 238**		P	**Pn**	**07 28 27.6**	**+1.5**
ELL				S	**Sn**	**07 28 45.2**	**+2.5**
ELL	**Elmali**	**0.86 238**		P	**Pn**	**07 28 26.6**	**+0.4**
ELL				S	**Sn**	**07 28 41.8**	**-1.0**
BASM	**Basmaki-Afyon**	**0.94 320**		Pg	**Pn**	**07 28 25.9**	**-0.9**
BASM				Sg	**Sn**	**07 28 42.1**	**-1.8**
AKUM	**Antalya-Kumluc**	**0.96 204**		P	**Pn**	**07 28 27.6**	**+0.7**
AKUM				S	**Sn**	**07 28 45.9**	**+1.9**
AKUM				*i* IAML		07 28 46.0	
	comp=N,809nm,0.5s						
AKUM				*i* IAML		07 28 57.0	
	comp=E,633nm,0.8s						
GOLH	**Golhisar**	**1.00 272**		P	**Pn**	**07 28 27.3**	**-0.1**
GOLH				S	**Sn**	**07 28 44.5**	**-0.5**
GOLH				*i* IAML		07 28 45.0	
	comp=N,541nm,0.3s						
GOLH				*i* IAML		07 28 50.0	
	comp=E,459nm,0.4s						
KNIK	**Mula-Seydike**	**1.06 251**		P	**Pn**	**07 28 28.3**	**+0.3**
KNIK				S	**Sn**	**07 28 45.8**	**-0.1**
KNIK				*i* IAML		07 28 47.0	
	comp=E,474nm,0.2s						
KNIK				*i* IAML		07 28 49.0	
	comp=N,581nm,0.7s						
INCE	**Denizli-Bozkur**	**1.11 297**		P	**Pn**	**07 28 26.9**	**-1.5**
INCE				S	**Sn**	**07 28 45.3**	**-1.5**
INCE				*i* IAML		07 28 46.0	
	comp=N,110nm,0.2s						
YVAC	**Isparta, Yalva**	**1.12 17**		P	**Pn**	**07 28 27.7**	**-0.8**
YVAC				S	**Sn**	**07 28 44.8**	**-2.2**
YVAC				*i* IAML		07 28 46.0	
	comp=N,407nm,0.7s						
YVAC				*i* IAML		07 28 46.0	
	comp=E,632nm,0.6s						
DOGA	**KONYA_Doganhis**	**1.13 37**		P	**Pn**	**07 28 28.3**	**-0.3**
DOGA				S	**Sn**	**07 28 45.3**	**-1.9**
DOGA				*i* IAML		07 28 47.0	
	comp=N,628nm,0.3s						
DOGA				*i* IAML		07 28 47.0	
	comp=E,806nm,0.5s						
KZIL	**AFYON_Kizioren**	**1.18 333**		P	**Pn**	**07 28 27.8**	**-1.3**
KZIL				*i* IAML		07 28 46.0	
	comp=E,558nm,0.6s						
KZIL				S	**Sn**	**07 28 46.1**	**-2.0**
CAEL	**Denizli, Camel**	**1.20 267**		P	**Pn**	**07 28 29.3**	**0.0**
CAEL				S	**Sn**	**07 28 48.7**	**+0.3**
CAEL				*i* IAML		07 28 49.0	
	comp=E,1μm,0.4s						
CAEL				*i* IAML		07 28 51.0	
	comp=N,1μm,0.5s						
DEMR	**Demre-Antalya**	**1.21 217**		Pn	**Pn**	**07 28 30.3**	**+1.0**
APMY	**Acipayam-Deniz**	**1.24 283**		Pn	**Pn**	**07 28 29.1**	**-0.6**
APMY				Sn	**Sn**	**07 28 47.4**	**-1.6**
CAME	**Cameli-Denizli**	**1.24 258**		Pn	**Pn**	**07 28 29.8**	**0.0**
HDMB	**Hadim**	**1.35 100**		Pn	**Pn**	**07 28 32.1**	**+1.0**
SHUT	**Suhut-Afyon**	**1.36 351**		Pn	**Pn**	**07 28 30.1**	**-1.0**
AKAS	**Kas**	**1.37 226**		Pn	**Pn**	**07 28 31.7**	**+0.5**
AKAS				Sn	**Sn**	**07 28 52.2**	**+0.5**
AKAS	**Kas**	**1.37 226**		P	**Pn**	**07 28 31.4**	**+0.3**
AKAS				*i* IAML		07 28 52.0	
	comp=E,924nm,0.3s						
AKAS				*i* IAML		07 28 53.0	
	comp=N,1μm,0.3s						
KSL	**Kastellorizon**	**1.45 224**		P	**Pn**	**07 28 32.4**	**+0.6**
KSL	**Kastellorizon**	**1.45 224**		P	**Pn**	**07 28 32.4**	**+0.6**
KSL				S	**Sn**	**07 28 52.4**	**-0.4**
KSL	**Kastellorizon**	**1.45 224**		P	**Pn**	**07 28 32.0**	**+0.2**
KSL				S	**Sn**	**07 28 52.8**	**+0.1**
SABU	**Mula-Dalaman**	**1.53 256**		P	**Pn**	**07 28 32.6**	**-0.1**
SABU				*i* IAML		07 28 55.0	
	comp=N,312nm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.54 280**		P	**Pn**	**07 28 32.3**	**-0.7**
TAVA				*i* IAML		07 28 54.0	
	comp=E,228nm,0.3s						
GAZI	**Gazipasa**	**1.54 128**		Pn	**Pn**	**07 28 34.6**	**+1.7**
PASA	**Karahalli, USA**	**1.56 318**		P	**Pn**	**07 28 32.0**	**-1.1**
PASA				S	**Sn**	**07 28 52.7**	**-2.5**
LADK	**Ladik-KONYA**	**1.58 50**		Pn	**Pn**	**07 28 33.5**	**+0.1**
BLVD	**Bolvadin-AFYON**	**1.60 8**		Pn	**Pn**	**07 28 32.9**	**-0.8**
DALY	**Dalyan (Mula)**	**1.77 258**		Pn	**Pn**	**07 28 35.7**	**+0.2**
KRMN	**Karaman**	**1.95 90**		Pn	**Pn**	**07 28 38.9**	**+1.1**
YER	**Yerkesik**	**2.03 269**		Pn	**Pn**	**07 28 39.1**	**+0.5**
YER	**Yerkesik**	**2.03 269**		P	**Pn**	**07 28 39.8**	**+1.2**
BOZY	**Bozyazi-Mersin**	**2.05 122**		Pn	**Pn**	**07 28 40.6**	**+1.7**
TURN	**Turunc**	**2.10 259**		Pn	**Pn**	**07 28 39.9**	**+0.4**
TURN	**Turunc**	**2.10 259**		P	**Pn**	**07 28 39.5**	**0.0**
TURN				*i* IAML		07 29 06.0	
	comp=E,134nm,0.2s						
TURN				*i* IAML		07 29 08.0	
	comp=N,121nm,0.2s						
BERE	**Bereket-Mersin**	**2.11 113**		Pn	**Pn**	**07 28 41.4**	**+1.6**
TEKE	**Tekeli-Mersin**	**2.13 119**		Pn	**Pn**	**07 28 41.3**	**+1.5**
NAZL	**Nazilli-Aydin**	**2.15 292**		Pn	**Pn**	**07 28 39.6**	**-0.5**
GEDZ	**Gediz**	**2.15 329**		Pn	**Pn**	**07 28 39.3**	**-0.8**
KULA	**Kula-Manisa**	**2.15 308**		Pn	**Pn**	**07 28 39.4**	**-0.8**
SHAP	**Saphane-Kutahy**	**2.21 326**		Pn	**Pn**	**07 28 40.0**	**-0.9**
TEVE	**Tevekalti-Mers**	**2.24 109**		Pn	**Pn**	**07 28 43.0**	**+1.7**
YORU	**Yoruktepe-Mers**	**2.33 116**		Pn	**Pn**	**07 28 44.2**	**+1.8**
OREN	**Orenkoy-Mersin**	**2.34 114**		Pn	**Pn**	**07 28 44.3**	**+1.8**
ARG	**Arkhangelos**	**2.38 246**		Pn	**Pn**	**07 28 42.9**	**0.0**
ARG	**Arkhangelos**	**2.38 246**		P	**Pn**	**07 28 42.9**	**0.0**
ARG	**Arkhangelos**	**2.38 246**		P	**Pn**	**07 28 42.6**	**-0.4**
TEPK	**Tepekoy-MERSIN**	**2.40 113**		Pn	**Pn**	**07 28 45.1**	**+1.8**
ODEM	**Odemis-Izmir**	**2.42 297**		Pn	**Pn**	**07 28 42.8**	**-0.8**
MLSB	**Milas**	**2.43 273**		Pn	**Pn**	**07 28 43.6**	**0.0**
AKK1	**Akkuyu-Mersin**	**2.43 115**		Pn	**Pn**	**07 28 45.6**	**+2.0**
AKK2	**Akkuyu-Mersin**	**2.44 115**		Pn	**Pn**	**07 28 45.9**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.44 289**		Pn	**Pn**	**07 28 42.9**	**-0.9**
KEBE	**Keben-Mersin**	**2.44 107**		Pn	**Pn**	**07 28 45.6**	**+1.8**
YESI	**Yesilovacik-Me**	**2.48 113**		Pn	**Pn**	**07 28 46.1**	**+1.9**
ALFC	**Alefka**	**2.50 144**		P	**Pn**	**07 28 43.9**	**-0.7**
ALFC				S	**Sn**	**07 29 13.0**	**-2.5**
ALFC				AML	AML	07 29 20.1	
	1.9nm,0.3s						
ALFC				AML	AML	07 29 20.7	
	1.9nm,0.2s						
ALFC	**Alefka**	**2.50 144**		P	**Pn**	**07 28 43.7**	**-0.8**
AKMS	**Akamas**	**2.50 150**		P	**Pn**	**07 28 44.3**	**-0.3**
AKMS				S	**Sn**	**07 29 13.2**	**-2.4**
AKMS				AML	AML	07 29 18.1	
	1.4nm,0.4s						
AKMS				AML	AML	07 29 18.1	
	2.1nm,0.3s						
AKMS	**Akamas**	**2.50 150**		P	**Pn**	**07 28 44.2**	**-0.3**
TISA	**Tisan-Mersin**	**2.52 113**		Pn	**Pn**	**07 28 46.7**	**+1.9**
KARG	**Kargicak-Mersi**	**2.53 112**		Pn	**Pn**	**07 28 46.7**	**+1.8**
DATC	**Datca-Mugla**	**2.57 261**		Pn	**Pn**	**07 28 45.7**	**+0.4**
RGE1	**Gennadi, Rhode**	**2.60 244**		P	**Pn**	**07 28 45.9**	**+0.1**
SILI	**Silifke-Mersin**	**2.63 108**		Pn	**Pn**	**07 28 47.9**	**+1.8**
DAT	**Datca**	**2.64 261**		Pn	**Pn**	**07 28 46.6**	**+0.3**
GORD	**Gordes-Manisa**	**2.69 310**		Pn	**Pn**	**07 28 46.3**	**-0.7**
KIZK	**Mersin**	**2.76 104**		Pn	**Pn**	**07 28 49.6**	**+1.8**
TROD	**Troodos**	**2.80 143**		P	**Pn**	**07 28 48.3**	**-0.2**
TROD				S	**Sn**	**07 29 20.7**	**-1.8**
TROD				AML	AML	07 29 30.3	
	0.8nm,0.4s						
TROD				AML	AML	07 29 33.2	
	0.7nm,0.6s						
NATA	**Nata**	**2.81 149**		P	**Pn**	**07 28 48.8**	**+0.4**
NATA				S	**Sn**	**07 29 20.8**	**-1.7**
NATA				AML	AML	07 29 26.4	
	2.5nm,0.4s						
NATA				AML	AML	07 29 34.8	
	1.3nm,0.6s						
NATA	**Nata**	**2.81 149**		P	**Pn**	**07 28 48.6**	**+0.1**
BODT	**Bodrum**	**2.81 268**		Pn	**Pn**	**07 28 48.6**	**+0.2**
BODT	**Bodrum**	**2.81 268**		P	**Pn**	**07 28 49.1**	**+0.7**
BODT				S	**Sn**	**07 29 15.7**	**-6.7**
XYLS	**Xyliatos**	**2.83 140**		P	**Pn**	**07 28 48.3**	**-0.5**
XYLS				S	**Sn**	**07 29 20.7**	**-2.5**
XYLS				AML	AML	07 29 27.9	
	0.9nm,0.3s						
XYLS				AML	AML	07 29 28.2	
	0.8nm,0.4s						
APOL	**The Sanctuary**	**3.02 146**		P	**Pn**	**07 28 51.5**	**+0.3**
CSS	**Mathiatis**	**3.02 137**		Pn	**Pn**	**07 28 51.6**	**+0.4**
CSS	**Mathiatis**	**3.02 137**		P	**Pn**	**07 28 50.7**	**-0.5**
CSS				S	**Sn**	**07 29 25.3**	**-2.2**
CSS				AML	AML	07 29 34.9	
	0.3nm,0.3s						
CSS				AML	AML	07 29 36.7	
	0.4nm,0.3s						
CSS	**Mathiatis**	**3.02 137**		P	**Pn**	**07 28 47.5**	**-3.8**
CSS	**Mathiatis**	**3.02 137**		S	**Sn**	**07 29 24.4**	**-3.0**
CSS	**Mathiatis**	**3.02 137**		P	**Pn**	**07 28 50.7**	**-0.5**
ASGA	**Asgata**	**3.12 140**		P	**Pn**	**07 28 53.1**	**+0.7**
ASGA				S	**Sn**	**07 29 27.9**	**-1.7**
ASGA				AML	AML	07 29 35.4	
	0.6nm,0.5s						
ASGA				AML	AML	07 29 39.1	
	0.4nm,0.2s						
ASGA	**Asgata**	**3.12 140**		P	**Pn**	**07 28 52.7**	**+0.3**
MVOU	**Mavrovouni**	**3.15 133**	⇑*iP*		**Pn**	**07 28 52.4**	**-0.5**
MVOU				S	**Sn**	**07 29 27.9**	**-2.6**
MVOU				AML	AML	07 29 33.4	
	0.5nm,0.4s						
MVOU				AML	AML	07 29 36.5	
	0.8nm,0.4s						
MVOU	**Mavrovouni**	**3.15 133**		P	**Pn**	**07 28 52.3**	**-0.6**
BRTR	**Keskin Array B**	**3.35 40**		P	**Pn**	**07 28 55.4**	**-0.2**
	7.0nm,0.7s,baz=221,slow=14,SNR=34						
BRTR				S	**Sn**	**07 29 34.3**	**-1.0**
	14nm,0.8s,baz=216,slow=24,SNR=24						
KARP	**Karpathos**	**3.38 242**		Pn	**Pn**	**07 28 55.9**	**-0.1**
KARP	**Karpathos**	**3.38 242**		P	**Pn**	**07 28 56.1**	**+0.2**
KARP	**Karpathos**	**3.38 242**		P	**Pn**	**07 28 55.8**	**-0.1**
KARP				S	**Sn**	**07 29 32.6**	**-3.2**
KARP	**Karpathos**	**3.38 242**		P	**Pn**	**07 28 55.8**	**-0.1**
PARAL	**Paralimni**	**3.42 129**		P	**Pn**	**07 28 58.1**	**+1.8**
PARAL				S	**Sn**	**07 29 38.4**	**+1.8**
PARAL				AML	AML	07 29 54.0	
	0.4nm,0.7s						
PARAL				AML	AML	07 29 56.1	
	0.3nm,0.9s						
URLA	**Izmir**	**3.54 290**		Pn	**Pn**	**07 28 57.7**	**-0.2**
CHOS	**Chios island**	**3.95 289**		Pn	**Pn**	**07 29 03.1**	**-0.3**
CHOS	**Chios island**	**3.95 289**		P	**Pn**	**07 29 05.1**	**+1.7**
ZKR	**Zakros**	**4.27 242**		Pn	**Pn**	**07 29 08.4**	**+0.8**
ZKR	**Zakros**	**4.27 242**		P	**Pn**	**07 29 07.8**	**+0.3**
ZKR	**Zakros**	**4.27 242**		P	**Pn**	**07 29 07.0**	**-0.5**
HWQ	**Hawqa**	**5.09 123**		*eP*	**Pn**	**07 29 19.0**	**+0.3**
BEIL	**Beino**	**5.10 120**		*eP*	**Pn**	**07 29 18.9**	**+0.2**
IDI	**Anoyia**	**5.16 250**		P	**Pn**	**07 29 19.7**	**+0.1**
	1.6nm,0.4s,baz=248,slow=17,SNR=1.5						
IDI				S	**Sn**	**07 30 14.8**	**-3.3**
	3.5nm,0.3s,baz=295,slow=19,SNR=2.6						
QRWL	**Qaraoun**	**5.39 131**		*eP*	**Pn**	**07 29 23.4**	**+0.7**
RCY	**Rachaya**	**5.52 131**		*eP*	**Pn**	**07 29 24.8**	**+0.3**
SHBL	**Chebaa**	**5.57 132**		*eP*	**Pn**	**07 29 25.6**	**+0.5**
MMAI	**Mount Meron Ar**	**5.62 137**		P	**Pn**	**07 29 26.0**	**+0.2**
	14nm,0.3s,baz=322,slow=13,SNR=46						
MMAI				S	**Sn**	**07 30 26.6**	**-2.6**
	10nm,0.3s,baz=302,slow=26,SNR=2.9						
OFRI	**`Ofer**	**5.71 142**		P	**Pn**	**07 29 23.3**	**-3.6**
BLGI	**Bet Lehem HaGe**	**5.72 140**		P	**Pn**	**07 29 23.8**	**-3.3**
BLGI	**Bet Lehem HaGe**	**5.72 140**		S	**Sn**	**07 30 29.3**	**-2.4**
KSHT	**Keshet**	**5.87 134**		P	**Pn**	**07 29 26.2**	**-2.9**
KSHT	**Keshet**	**5.87 134**		S	**Sn**	**07 30 33.6**	**-1.8**
SLTI	**Sal'it**	**6.05 144**		P	**Pn**	**07 29 28.8**	**-2.6**
MMLI	**Mount Malkishu**	**6.08 140**		P	**Pn**	**07 29 28.5**	**-3.4**
MMLI	**Mount Malkishu**	**6.08 140**		S	**Sn**	**07 30 38.6**	**-1.7**
SALP	**Salfit**	**6.26 144**		P	**Pn**	**07 29 31.7**	**-2.6**
SALP	**Salfit**	**6.26 144**		S	**Sn**	**07 30 43.1**	**-1.6**
AMAZ	**Amatzia**	**6.59 148**		P	**Pn**	**07 29 35.2**	**-3.6**
AMAZ	**Amatzia**	**6.59 148**		S	**Sn**	**07 30 50.9**	**-1.8**
YTIR	**Yattir**	**6.83 147**		P	**Pn**	**07 29 39.1**	**-2.8**
MDBI	**Mazsada**	**6.97 146**		P	**Pn**	**07 29 40.8**	**-3.1**
MDBI	**Mazsada**	**6.97 146**		S	**Sn**	**07 30 59.8**	**-1.9**
MSBI	**Mazada**	**6.97 146**		P	**Pn**	**07 29 40.9**	**-2.9**
MSBI	**Mazada**	**6.97 146**		S	**Sn**	**07 31 00.4**	**-1.4**
ASF	**Jabal al Asfar**	**7.09 133**		P	**Pn**	**07 29 46.1**	**+0.6**
	2.9nm,0.3s,baz=304,slow=7.2,SNR=9.5					

az=150.0
*DJA **16** 07:30:43.4±0.6, 1°N±3°×9°7E±°, h27km±3km, M4.6/15, mbB4.6/1, mb4.9/3, MLv4.4/15, Mw(mB)3.8/1*
ISC 16 07:30:40.7±0.5, 1°31N±0°.05×97°.18E±0°.05, h28km, n101, σ1°31/90, mb4.5/39, MS3.7/8, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.39**	**91**		**Pn**	**07 30 50.9**	**+0.3**
GSI	**Gunungsitoli**	**0.39**	**91**	P	**Pn**	**07 30 50.8**	**+0.2**
GSI				S	**Sb**	**07 30 56.8**	**+1.5**
SNSI	**Sinabang, Aceh**	**1.39**	**322**	P	**Pb**	**07 31 08.8**	**+2.8**
PBSI	**Pulau Batu**	**1.74**	**141**	P	**Pn**	**07 31 09.7**	**+0.5**
RPSI	**Rantau Prapat**	**2.22**	**52**		**Pn**	**07 31 15.8**	**+0.1**
RPSI					**Sn**	**07 31 46.0**	**+3.8**
KCSI	**Kotacane, Aceh**	**2.28**	**15**	P	**Pn**	**07 31 16.3**	**-0.2**
PSI	**Prapat**	**2.29**	**50**	Pn	**Pn**	**07 31 15.8**	**-0.9**
	12nm,0.3s,baz=238,slow=4.8,SNR=54						
PSI				Sn	**Sn**	**07 31 46.0**	**+2.0**
	16nm,0.3s,baz=90,slow=0.7,SNR=6.4						
PSI				LR	LR	07 32 05.4	
	comp=Z,397nm,21.6s,baz=304,slow=39						
	38nm,0.3s						
MNSI	**Mandailing Nat**	**2.45**	**102**	P	**Pn**	**07 31 20.0**	**+1.1**
TSI	**Tuntungan**	**2.58**	**32**	P	**Pn**	**07 31 21.8**	**+1.1**
MLSI	**Meulaboh, Aceh**	**3.04**	**345**	P	**Pn**	**07 31 30.6**	**+3.6**
PPI	**Padang Panjang**	**3.66**	**119**	P	**Pn**	**07 31 37.1**	**+1.5**
LHMI	**Lhok Sumawe**	**3.90**	**357**	Pn	**Pn**	**07 31 38.9**	**+0.1**
LHMI	**Lhok Sumawe**	**3.90**	**357**	P	**Pn**	**07 31 42.5**	**+3.6**
PDSI	**Padang**	**3.95**	**124**	P	**Pn**	**07 31 42.1**	**+2.5**
PPSI	**Pulau Pagai**	**4.94**	**145**	P	**Pn**	**07 31 55.1**	**+2.0**
IPM	**Ipoh**	**4.96**	**51**		**Pn**	**07 31 53.8**	**+0.3**
KULM	**Kulim**	**5.26**	**41**		**Pn**	**07 31 57.7**	**+0.2**
KRJI	**Kerinci**	**5.45**	**128**	P	**Pn**	**07 32 02.1**	**+1.8**
	307nm,0.7s						
CMBY	**CAMPBELL BAY**	**6.53**	**330**	*e*P	**Pn**	**07 32 17.9**	**+2.9**
CMBY				*e*S	**Sn**	**07 33 28.9**	**+0.3**
CMBY				IAML		07 35 01.8	
	comp=N,398nm,0.7s						
CMBY				IAML		07 35 06.2	
	comp=E,400nm,1.1s						
MYKOM	**Kota Tinggi**	**6.68**	**86**		**Pn**	**07 32 18.2**	**+1.0**
MNAI	**Manna**	**8.06**	**134**	Pn	**Pn**	**07 32 36.7**	**+0.6**
DGPR	**DIGLIPUR**	**12.52**	**341**	*e*P	**Pn**	**07 33 37.2**	**0.0**
DGPR				IAML		07 34 03.0	
	comp=E,65nm,0.1s						
DGPR				IAML		07 34 07.5	
	comp=N,49nm,0.4s						
DGPR				*e*S	Sn	07 35 45.6	-10
LEM	**Lembang**	**13.18**	**128**	LR	LR	07 39 20.3	
	comp=N,47nm,21.3s,baz=146,slow=39						
SBUM	**Sibu**	**15.07**	**85**		**Pn**	**07 34 11.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.13**	**6**	Pn	**Pn**	**07 34 37.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.13**	**6**	P	**Pn**	**07 34 36.4**	**-1.9**
	comp=N,1.1nm,0.3s,baz=199,slow=12,SNR=14						
CMAR				LR	LR	07 42 14.4	
	comp=N,138nm,18.0s,baz=165,slow=41						
	comp=N,1.1nm,0.3s						
PALK	**Pallekele**	**17.46**	**290**	LR	LR	07 40 53.4	
	comp=N,129nm,19.7s,baz=114,slow=36						
SLVN	**Son La**	**20.96**	**18**		**P**	**07 35 21.2**	**-0.6**
SLVN				IAmb	IAmb	07 35 22.7	
	comp=Z,29nm,0.8s						
MYLDM	**Lahad Datu**	**21.62**	**79**	P	**P**	**07 35 27.0**	**-2.0**
MYLDM				IAmb	IAmb	07 35 44.7	
	comp=Z,17nm,0.9s						
IMP	**Imphal**	**23.59**	**353**	*e*P	**P**	**07 35 49.9**	**+0.5**
IMP				IAmb	IAmb	07 35 58.1	
	comp=Z,3.4nm,0.3s						
IMP				*e*S	**S**	**07 40 03.6**	**+1.3**
TOLI2	**Tolitoli**	**23.60**	**90**	P	**P**	**07 35 48.7**	**-0.9**
TOLI2				IAmb	IAmb	07 35 49.7	
	comp=Z,15nm,0.8s						
TNCH	**TengChong**	**23.62**	**3**	P	**P**	**07 35 50.3**	**+0.5**
TNCH				pP	pP	07 35 59.5	+1.7
TNCH				S	**S**	**07 40 01.6**	**-1.2**
TNCH				pmax	pmax		
	comp=Z,120nm,3.6s						
TNCH				LR	LR		
	comp=N,300nm,9.7s						
TNCH				LR	LR		
	comp=E,180nm,5.0s						
TNCH				LR	LR		
	comp=Z,270nm,11.5s						
KMI	**Kunming**	**24.28**	**12**	⇓P	**P**	**07 35 56.9**	**+0.9**
KMI				pP	pP	07 36 03.1	-1.1
KMI				pmax	pmax		
	comp=Z,23nm,1.3s						
KMI				LR	LR		
	comp=Z,340nm,16.7s						
KOHI	**KOHIMA**	**24.45**	**353**	IAmb	IAmb	07 33 39.6	
	comp=Z,3.3nm,0.3s						
KOHI				*e*P	**P**	**07 35 55.6**	**-1.9**
SHL	**Shillong**	**24.65**	**348**		**P**	**07 35 58.6**	**-0.8**
PZH	**PanZhiHua**	**25.43**	**10**	P	**P**	**07 36 08.1**	**+1.7**
H08S2	**Diego Garcia H**	**26.18**	**250**	T	T	08 03 07.0	
	baz=71,slow=76,SNR=3450						
H08S3	**Diego Garcia H**	**26.19**	**250**	T	T	08 03 14.1	
	baz=71,slow=76,SNR=5167						
H08S1	**Diego Carcia H**	**26.20**	**250**	T	T	08 03 07.3	
	baz=71,slow=76,SNR=1867						
EVN	**Everest**	**28.29**	**340**		**P**	**07 36 32.9**	**+0.2**
EVN				IAmb	IAmb	07 36 38.0	
	comp=Z,7.3nm,0.7s						
ENH	**Enshi**	**31.09**	**21**	P	**P**	**07 36 55.6**	**-1.2**
XAN	**Xi'an**	**34.37**	**17**	⇑P	**P**	**07 37 24.0**	**-1.4**
XAN				pP	pP	07 37 31.0	-2.7
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
LZDM	**Lanzhou Array**	**35.00**	**9**	P	**P**	**07 37 29.7**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=170,slow=8.8,SNR=2.1						
	comp=Z,1.2nm,0.3s						
LYN	**LuoYang**	**36.02**	**22**	P	**P**	**07 37 39.8**	**+0.2**
LYN				pP	pP	07 37 46.4	-1.5
LYN				pmax	pmax		
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**36.78**	**32**	*e*P	**P**	**07 37 47.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GTA	**Gaotai**	**38.00**	**3**	*e*P	**P**	**07 37 56.9**	**+0.4**
GTA				pP	sP	07 38 07.9	-0.4
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H01W3	**Cape Leeuwin H**	**39.35**	**158**	T	T	08 19 39.1	
	baz=333,slow=76,SNR=62						
H01W2	**Cape Leeuwin H**	**39.37**	**158**	T	T	08 19 40.0	
	baz=333,slow=76,SNR=60						
H01W1	**Cape Leeuwin H**	**39.37**	**158**	T	T	08 19 35.6	
	baz=333,slow=76,SNR=46						
HHC	**Hu-ho-hao-te**	**41.46**	**17**	*e*P	**P**	**07 38 26.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,4.8s						
HHC				LR	LR		
	comp=N,170nm,14.7s						
HHC				LR	LR		
	comp=E,130nm,10.4s						
HHC				LR	LR		
	comp=Z,170nm,16.1s						
WB0	**Warramunga Arr**	**42.08**	**122**	P	**P**	**07 38 29.4**	**-1.2**
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**07 38 30.1**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=301,slow=9.1,SNR=5.1						
WRA				LR	LR	07 56 38.9	
	comp=Z,64nm,20.6s,baz=256,slow=37						
	comp=Z,2.1nm,0.7s						
WRAB	**Tennant Creek**	**42.11**	**122**	P	**P**	**07 38 30.1**	**-0.7**
BJI	**Beijing**	**42.24**	**22**	P	**P**	**07 38 32.0**	**+0.4**
BJI				sP	**sP**	**07 38 45.6**	**+2.2**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WR8	**Warramunga Arr**	**42.25**	**122**	P	**P**	**07 38 31.4**	**-0.6**
WR8				IAmb	IAmb	07 38 38.4	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**07 38 42.0**	**+0.1**
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**07 38 41.5**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=298,slow=8.1,SNR=15						
ASAR				PcP	**PcP**	**07 40 30.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=290,slow=2.7,SNR=4.1						
	comp=Z,2.2nm,0.9s						
AS31	**Alice Springs**	**43.48**	**127**	P	**P**	**07 38 41.9**	**0.0**
KDJ	**Kajisay**	**44.44**	**339**		**P**	**07 38 49.7**	**+0.1**
KDJ				IAmb	IAmb	07 38 50.9	
	comp=Z,9.8nm,0.9s						
JNU	**Nakatsue**	**44.74**	**41**	LR	LR	07 59 25.9	
	comp=Z,43nm,18.1s,baz=225,slow=39						
GAR	**Garm**	**44.83**	**330**	IAmb	IAmb	07 38 52.7	
	comp=Z,10.0nm,1.2s						
CHGR	**Chuyangaron**	**45.16**	**329**	IAmb	IAmb	07 38 54.8	
	comp=Z,9.2nm,0.6s						
BOOM	**Boomskoye usch**	**45.21**	**338**	P	**P**	**07 38 55.7**	**+0.1**
ARSB	**Arslanbob**	**45.43**	**334**	P	**P**	**07 38 57.4**	**-0.1**
ARSB				IAmb	IAmb	07 38 58.6	
	comp=Z,8.4nm,0.8s						
KSAR	**Wonju Array Be**	**45.74**	**35**		**P**	**07 38 59.0**	**-0.7**
KSRS	**Korea Array**	**45.77**	**35**	P	**P**	**07 38 58.7**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=223,slow=9.3,SNR=25						
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**47.03**	**8**	P	**P**	**07 39 09.6**	**-0.2**
SONM				IAmb	IAmb	07 39 10.7	
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**47.03**	**8**	P	**P**	**07 39 09.4**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=189,slow=8.8,SNR=12						
SONM				LR	LR	08 01 50.7	
	comp=Z,142nm,18.7s,baz=255,slow=40						
	comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**07 39 10.0**	**-0.5**
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**07 39 10.2**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=158,slow=8.3,SNR=23						
MKAR				LR	LR	08 02 00.8	
	comp=Z,30nm,20.5s,baz=141,slow=40						
	comp=Z,4.2nm,0.7s						
MAKZ	**Makanchi**	**47.22**	**346**	P	**P**	**07 39 11.1**	**-0.1**
MAKZ				IAmb	IAmb	07 39 11.3	
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**47.95**	**334**	P	**P**	**07 39 17.0**	**+0.1**
CN2	**Changchun**	**49.22**	**27**	P	**P**	**07 39 26.3**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**51.60**	**27**	⇓P	**P**	**07 39 44.4**	**-0.2**
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
KURBB	**Kurchatov Arra**	**51.62**	**345**	P	**P**	**07 39 44.4**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=166,slow=7.0,SNR=30						
	comp=Z,2.8nm,0.6s						
KURK	**Kurchatov**	**51.68**	**345**	P	**P**	**07 39 44.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**52.69**	**31**	P	**P**	**07 39 53.0**	**+0.3**
	comp=Z,9.2nm,0.9s,baz=227,slow=4.5,SNR=11						
	comp=Z,9.2nm,0.9s						
ZAA0	**Zalesovo Array**	**53.45**	**351**	P	**P**	**07 39 57.5**	**-0.7**
ZAA0				IAmb	IAmb	07 39 58.6	
	comp=Z,9.0nm,0.8s						
ZALV	**Zalesovo Beam**	**53.45**	**351**	P	**P**	**07 39 57.9**	**-0.3**
ZALV	**Zalesovo Beam**	**53.45**	**351**	P	**P**	**07 39 57.8**	**-0.4**
	comp=Z,9.5nm,0.6s,baz=179,slow=6.7,SNR=43						
	comp=Z,9.5nm,0.6s						
ABKAR	**Akbulak array**	**57.41**	**332**	P	**P**	**07 40 26.1**	**-0.7**
EIDS	**Eidsvold**	**58.45**	**121**	P	**P**	**07 40 35.1**	**+0.6**
EIDS				IAmb	IAmb	07 41 15.1	
	comp=Z,12nm,1.2s						
H04N2	**CROZET ISLANDS**	**61.85**	**214**	T	T	08 47 50.8	
	baz=53,slow=75,SNR=3993						
H04N1	**CROZET ISLANDS**	**61.86**	**214**	T	T	08 47 51.3	
	baz=53,slow=75,SNR=2961						
H04N3	**CROZET ISLANDS**	**61.87**	**214**	T	T	08 47 50.0	
	baz=53,slow=75,SNR=3090						
H04S1	**CROZET ISLANDS**	**62.19**	**213**	T	T	08 48 13.7	
	baz=54,slow=76,SNR=703						
H04S3	**CROZET ISLANDS**	**62.20**	**213**	T	T	08 48 13.5	
	baz=54,slow=76,SNR=1173						
H04S2	**CROZET ISLANDS**	**62.21**	**213**	T	T	08 48 14.4	
	baz=54,slow=76,SNR=1045						
ARTI	**Arti**	**63.12**	**337**	P	**P**	**07 41 03.8**	**-1.9**
KBZ	**Khabaz**	**63.98**	**319**	P	**P**	**07 41 10.7**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=111,slow=5.8,SNR=7.0						
	comp=Z,2.9nm,0.8s						
BELG	**Belogornoye**	**65.46**	**329**	P	**P**	**07 41 19.4**	**-1.7**
	comp=Z,13nm,0.8s,baz=272,slow=5.5,SNR=5.0						
	comp=Z,13nm,0.8s						
BRTR	**Keskin Array B**	**69.02**	**312**	P	**P**	**07 41 42.0**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=124,slow=8.2,SNR=4.0						
	comp=Z,0.6nm,0.6s						
LBTB	**Lobatse**	**73.92**	**244**	LR	LR	08 09 08.1	
	comp=Z,30nm,21.4s,baz=38,slow=31						
AKASG	**Malin Array Be**	**75.16**	**322**	P	**P**	**07 42 19.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=93,slow=4.6,SNR=3.0						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**79.89**	**332**	P	**P**	**07 42 45.6**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=96,slow=1.9,SNR=3.4						
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**82.43**	**340**	P	**P**	**07 42 58.9**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=98,slow=5.0,SNR=10						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**85.62**	**330**	P	**P**	**07 43 16.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=46,slow=6.2,SNR=2.0						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**85.94**	**169**	P	**P**	**07 43 19.5**	**+1.7**
	comp=Z,0.8nm,1.1s,baz=294,slow=6.7,SNR=4.0						
	comp=Z,0.8nm,1.1s						
PLCA	**Paso Flores**	**139.21**	**194**	PKP	**PKPdf**	**07 50 05.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=28,slow=2.1,SNR=2.2						
TXAR	**Lajitas Array**	**143.59**	**32**	PKhKP	PKPpre	07 50 06.3	
	comp=Z,0.4nm,0.8s,baz=201,slow=1.1,SNR=3.5						
TXAR				PKP	PKPbc	07 50 11.3	+0.1
	comp=Z,0.3nm,0.7s,baz=327,slow=1.7,SNR=2.6						
CPUP	**Villa Florida**	**145.07**	**222**	PKPbc	**PKPbc**	**07 50 14.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=13,slow=2.6,SNR=7.9						

IDC 16 07:35:58.5±2.5, 4°55S×152°32E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/2, Error ellipse: s-maj=80.3km s-min=49.5km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.99**	**123**	LR	LR	07 42 04.2	
	comp=Z,82nm,19.4s,baz=185,slow=41						
DZM	**Mont Dzumac**	**22.16**	**143**	LR	LR	07 47 32.7	
	comp=Z,28nm,21.1s,baz=24,slow=31						
WRA	**Warramunga Arr**	**23.26**	**227**	P	P	07 41 07.9	+0.1
	0.7nm,0.7s,baz=51,slow=9.8,SNR=12						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**26.02**	**221**	P	P	07 41 33.7	+0.2
	0.2nm,0.7s,baz=57,slow=8.8,SNR=7.5						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**85.41**	**180**	P	P	07 48 37.4	-0.4
	0.2nm,0.5s,baz=112,slow=6.1,SNR=0.9						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.77**	**288**	PKPbc	PKPbc	07 55 51.2	-0.4
	0.2nm,0.4s,baz=64,slow=3.4,SNR=2.0						

*NEIC **16** 07:45:34.5±0.9, 35°.12N±0°.02×95°.389W±0°.008, h5km±5km, Error ellipse: s-maj=3.0km s-min=0.5km az=166.0*
NEIC 16 07:45:33.8±1.0, 35°.10N±0°.02×95°.37W±0°.02, h2km±2km, ML2.5/12, ML2.1/6, Error ellipse: s-maj=3.1km s-min=2.2km az=149.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.88**	**337**		Pg	07 45 50.7	-0.1
TUL3					Sg	07 46 02.3	0.0
RLO	**Rose Lookout**	**1.10**	**15**		Pg	07 45 54.8	-0.2
RLO					Sb	07 46 10.1	-0.4
RLO				IAML		07 46 15.0	
	comp=N,162nm,0.2s						
DEOK	**Depew**	**1.19**	**309**		Pg	07 45 56.4	-0.2
DEOK					Sg	07 46 11.8	-0.2
DEOK				IAML		07 46 17.6	
	comp=E,97nm,0.2s						
DEOK				IAML		07 46 17.8	
	comp=N,96nm,0.2s						
OK052	**Battle Ridge R**	**1.47**	**308**		Pn	07 46 01.1	-0.3
OK052					Sb	07 46 21.0	-0.1
QUOK	**Quay**	**1.53**	**315**		Pn	07 46 02.1	-0.1
QUOK					Sn	07 46 22.6	0.0
U38A	**Gravette**	**1.56**	**31**		Pn	07 46 02.8	+0.2
U38A					Sn	07 46 23.4	0.0
MIAR	**Mount Ida**	**1.57**	**110**		Pg	07 46 04.5	+0.5
MIAR					Sg	07 46 25.6	+1.2
HHAR	**Hobbs**	**1.66**	**44**		Pb	07 46 05.0	-0.1
HHAR					Sb	07 46 26.7	+0.3
FNO	**Franklin**	**1.67**	**276**		Pn	07 46 04.6	+0.5
FNO					Sg	07 46 27.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.72**	**281**		Pb	07 46 05.6	-0.6
OKCSW					Sg	07 46 28.9	-0.3
OKCFA	**Oklahoma City**	**1.73**	**281**		Pb	07 46 05.8	-0.6
OKCFA					Sg	07 46 29.2	-0.3
OK048	**Pawnee Station**	**1.84**	**316**		Pn	07 46 06.9	+0.5
OK029	**Liberty Lake**	**1.84**	**293**		Pn	07 46 07.2	+0.7
OK029					Sg	07 46 32.4	-0.6
OK051	**E0350 and S346**	**1.84**	**320**		Pn	07 46 07.3	+0.8
T35A	**Sooner Cattle**	**2.04**	**333**		Pn	07 46 10.2	+1.0
X34A	**Smith Ranch, M**	**2.09**	**257**	Pn	Pn	07 46 10.3	+0.5
X40A	**Basin Creek Fa**	**2.17**	**105**	Pn	Pb	07 46 14.0	+0.2
WHAR	**Wooly Hollow**	**2.53**	**85**		Pn	07 46 17.3	+1.4
FCAR	**Ozark Folk Cen**	**2.76**	**72**		Pn	07 46 20.8	+1.7
WMOK	**Wichita Mounta**	**2.83**	**264**		Pn	07 46 21.0	+1.0

ASRS 16 07:56:23.0±1.0, 53°.54N×87°.50E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 16 07:57:09.0±1.3, 53°.59N×87°.96E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*ASRS **16** 07:59:01.0±0.7, 54°.66N×83°.65E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 16 07:59:03.8±2.2, 54°.60N×83°.80E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=18.1km s-min=9.8km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**137**	I	I	08 04 35.3	
	0.1nm,0.8s,baz=320,slow=336,SNR=6.4						
ZALV	**Zalesovo Beam**	**0.89**	**137**	Pg	Pg	07 59 20.0	-0.7
	1.8nm,0.3s,baz=313,slow=15,SNR=8.6						
ZALV				Lg	Lg	07 59 34.0	
	8.0nm,0.3s,baz=316,slow=32,SNR=12						
ZALV				Rg	Rg	07 59 39.1	
	5.9nm,0.4s,baz=317,slow=32,SNR=5.4						
KURBB	**Kurchatov Arra**	**5.11**	**221**	Pn	Pn	08 00 21.6	0.0
	0.1nm,0.3s,baz=41,slow=13,SNR=3.2						
KURBB				Pg	Pb	08 00 33.9	-0.1
	0.1nm,0.3s,baz=40,slow=17,SNR=5.8						
KURBB				Sn	Sn	08 01 19.0	-2.2
	baz=41,slow=29,SNR=1.6						
KURBB				Lg	Lg	08 01 46.6	
	0.1nm,0.3s,baz=41,slow=28,SNR=5.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.87**	**188**	Pn	Pn	08 00 59.4	-0.1
	0.1nm,0.3s,baz=4.5,slow=11,SNR=1.4						
MKAR				Lg	Lg	08 03 13.7	
	0.1nm,0.3s,baz=12,slow=34,SNR=2.0						
	0.2nm,0.4s						

*EST **16** 08:11:57.3±0.1, 59°.20N×27°.94E, h0km, ML1.6(HEL), Explosion*
*LVSN **16** 08:12:05.9±4.7, 58°.74N×25°.86E, h0km±19km, ML1.7*
HEL 16 08:11:54.2±0.3, 59°.08N×27°.92E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.29**	**356**	*e*P	Pg	08 12 00.4	+0.6
EE04				*e*S	Sg	08 12 02.9	-0.7
VSU	**Vasula**	**0.88**	**225**	*e*P	Pn	08 12 14.8	+1.0
VSU				*e*S	Sb	08 12 25.5	+1.0
VSU				AML	AML	08 12 33.1	
	comp=N,19nm,0.4s						
VSU				AML	AML	08 12 35.6	
	comp=E,19nm,0.1s						
VSU				AML	AML	08 12 38.9	
	comp=Z,10nm,0.3s						
VSU	**Vasula**	**0.88**	**225**	*e*P	Pn	08 12 14.5	+0.8
EE03	**Tooma soojaam,**	**0.88**	**257**	*e*P	Pn	08 12 13.8	+0.1
EE03				*e*S	Sb	08 12 25.5	+1.1
EE07	**Piusa Caves, O**	**1.27**	**191**	*e*SN	Sn	08 12 42.1	+5.4
EE08	**Sarghaua, Vand**	**1.45**	**254**	*e*P	Pb	08 12 24.1	+2.1
EE08				*e*S	Sn	08 12 43.2	+1.8
VJF	**Virojoki**	**1.47**	**353**	*e*P	Pn	08 12 21.4	-0.6
VJF				MSG		08 12 38.5	
	comp=Z,5.8nm,0.2s						
VJF				*e*SB	Sg	08 12 39.4	-2.1
EE02	**Kiisa, Saku**	**1.66**	**275**	*e*PG	Pg	08 12 27.3	+1.2
EE02				*e*S	Sg	08 12 47.5	-0.1
PVF	**Pernaja**	**1.80**	**326**	*e*PG	Pb	08 12 28.0	0.0
PVF				*e*S	Sn	08 12 49.6	-0.3
PVF				MSG		08 12 53.6	
	comp=Z,1.5nm,0.1s						
HEL1	**Helsinki**	**1.89**	**307**	*e*PG	Pg	08 12 30.2	-0.2
HEL1				*e*S	Sn	08 12 52.7	+0.5
HEL1				MSG		08 12 54.5	
	comp=Z,2.7nm,0.1s						
HEL5	**Espoo, Suvisaa**	**1.92**	**304**	*e*PG	Pg	08 12 31.0	0.0
HEL5				*e*SG	Sb	08 12 54.6	+0.1
HEL5				MSG		08 12 56.7	
	comp=Z,4.8nm,0.1s						
MEF	**Metsahovi**	**2.12**	**304**	AML	AML	08 12 36.0	
	comp=E,5.6nm,0.5s						
MEF				AML	AML	08 12 37.9	
	comp=N,4.3nm,0.8s						
MEF				AML	AML	08 12 40.7	
	comp=Z,6.6nm,0.5s						
MEF				*e*S	Sb	08 12 59.8	-0.4
MEF	**Metsahovi**	**2.12**	**304**	*e*PG	Pg	08 12 34.3	-0.4
MEF				*e*SB	Sb	08 12 60.0	-0.2
MEF				MSG		08 13 02.3	
	comp=Z,3.8nm,0.1s						
NUR	**Nurmijarvi**	**2.19**	**312**	*e*PG	Pb	08 12 34.9	+0.4
NUR				MSG		08 12 59.0	
	comp=Z,3.3nm,0.2s						
NUR				*e*SB	Sb	08 13 01.2	-0.9
EE01	**Perakula, Nova**	**2.22**	**275**	*e*PB	Pg	08 12 36.4	-0.2
EE01				*e*SG	Sg	08 13 05.7	+0.4
RUF	**Ruokolahti**	**2.41**	**12**	*

RBDL				*e*S		**Sg**	**08 38 23.7 +0.6**
FAME	**Alcaldia de Sa**	**0.25**	**215**	P		**Pg**	**08 38 21.5 +0.1**
FAME	**Alcaldia de Sa**	**0.25**	**215**	S		**Sg**	**08 38 25.8 +0.9**
RTR	**El Retiro**	**0.26**	**126⇑**	*i* P		**Pb**	**08 38 22.2 -0.9**
SNJE	**San Jose**	**0.31**	**126⇑**	*i* P		**Pb**	**08 38 23.0 -0.9**
SBLS	**San Blas**	**0.32**	**132⇑**	*i* P		**Pg**	**08 38 22.9 +0.3**
UNIC	**Universidad Ca**	**0.32**	**103**	P		**Pg**	**08 38 22.5 0.0**
UNIC	**Universidad Ca**	**0.32**	**103**	S		**Sg**	**08 38 27.3 +0.5**
JUAM	**Asuncion Mita**	**0.32**	**29**	*e*P		**Pg**	**08 38 22.7 0.0**
JUAM				IAML			08 38 28.2
	comp=N,2μm,0.3s						
CEVE	**Cerro Verde**	**0.32**	**133**	*e*P		**Pb**	**08 38 23.3 -0.9**
CEVE	**Cerro Verde**	**0.32**	**133**	P		**Pb**	**08 38 23.3 -0.9**
CEVE	**Cerro Verde**	**0.32**	**133**	S		**Sb**	**08 38 28.4 -1.1**
JAYA	**Jayaque - finc**	**0.57**	**134**‖	*e*P		**Pg**	**08 38 27.4 +0.1**
JAYA	**Jayaque - finc**	**0.57**	**134**	*i* P		**Pg**	**08 38 27.4 +0.1**
JAYA				*i* S		**Sb**	**08 38 35.5 -0.9**
JAYA	**Jayaque - finc**	**0.57**	**134**	P		**Pg**	**08 38 27.2 0.0**
MTO3	**Montecristo**	**0.60**	**55**	*e*P		**Pg**	**08 38 27.9 0.0**
MTO3	**Montecristo**	**0.60**	**55**	*i* P		**Pg**	**08 38 27.9 0.0**
MTO3	**Montecristo**	**0.60**	**55**	P		**Pg**	**08 38 27.9 0.0**
MTO3	**Montecristo**	**0.60**	**55**	S		**Sb**	**08 38 36.5 -0.9**
PMON	**Piamonte**	**0.63**	**122**	*e*P		**Pb**	**08 38 29.1 -0.3**
PMON	**Piamonte**	**0.63**	**122**	P		**Pg**	**08 38 28.2 -0.4**
PMON	**Piamonte**	**0.63**	**122**	S		**Sb**	**08 38 39.0 +0.7**
ESQI	**Esquipulas**	**0.72**	**45⇑**	*i* P		**Pg**	**08 38 30.1 +0.1**
ESQI	**Esquipulas**	**0.72**	**45**	P		**Pg**	**08 38 30.0 -0.1**
ESQI	**Esquipulas**	**0.72**	**45**	S		**Sb**	**08 38 40.2 -0.5**
LLGN	**La Laguna**	**0.90**	**83**	S		**Sb**	**08 38 45.6 -0.4**
LLGN	**La Laguna**	**0.90**	**83**	P		**Pg**	**08 38 32.9 -0.7**
APG	**El Apazote**	**1.11**	**329**	*e*P		**Pg**	**08 38 37.0 -0.5**
SCLA	**Alcaldia de Sa**	**1.16**	**107**	P		**Pg**	**08 38 38.0 -0.5**
SCLA	**Alcaldia de Sa**	**1.16**	**107**	S		**Sb**	**08 38 54.1 +0.7**
TECO	**Alcaldia de Te**	**1.17**	**116**	P		**Pn**	**08 38 38.9 +0.4**
TECO	**Alcaldia de Te**	**1.17**	**116**	S		**Sn**	**08 38 55.7 +1.1**
SARH	**Santa Rosa de**	**1.29**	**56**	P		**Pb**	**08 38 40.6 +0.1**
SARH	**Santa Rosa de**	**1.29**	**56**	S		**Sn**	**08 38 58.3 +0.7**

*IDC **16** 08:46:43.7±40.0, 16˚.95S×177˚.45W, h448km±352km, mb3.5/5, mbtmp4.4/5, Error ellipse: s-maj=281.3km s-min=39.3km az=44.0*
*NEIC **16** 08:46:58.8±0.9, 17˚.7S±0˚.3×177˚.9W±0˚.2, h582km±19km, mb4.2/15, Error ellipse: s-maj=43.9km s-min=23.2km az=173.0*
ISC 16 08:46:58.8±1.0, **17˚.5S**±0˚.2×**177˚.9W**±0˚.1, **h600**km, **n24**, σ0$**81**/25, **mb4.2**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.84**	**266**	P	**P**	**08 48 23.3**	**0.0**
AFI	**Afiamalu**	**6.91**	**60**	P	**P**	**08 48 47.4**	**-0.8**
PINNC	**Pines Island,**	**14.65**	**247**	P	**P**	**08 50 03.1**	**-0.7**
EIDS	**Eidsvold**	**29.84**	**249**	P	**P**	**08 52 19.2**	**-0.1**
EIDS				IAmb	IAmb	08 53 01.3	
	comp=Z,10nm,1.2s						
ARMA	**Armidale**	**30.55**	**239**	P	**P**	**08 52 24.9**	**-0.5**
CAN	**Canberra**	**34.32**	**232**	P	**P**	**08 52 55.9**	**-1.3**
COEN	**Coen**	**37.56**	**270**	P	**P**	**08 53 25.8**	**+1.8**
COEN				IAmb	IAmb	08 53 26.5	
	comp=Z,8.7nm,0.7s						
TOO	**Toolangi**	**37.79**	**231**	P	**P**	**08 53 24.5**	**-1.0**
TOO				IAmb	IAmb	08 53 27.5	
	comp=Z,2.3nm,1.0s						
STKA	**Stephens Creek**	**39.23**	**241**	P	**P**	**08 53 36.9**	**-0.3**
STKA	**Stephens Creek**	**39.23**	**241**	P	**P**	**08 53 37.1**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=96,slow=10,SNR=8.3						
	comp=Z,2.8nm,0.5s						
BBOO	**Buckleboo**	**44.01**	**241**	P	**P**	**08 54 13.8**	**-0.9**
BBOO				IAmb	IAmb	08 54 14.7	
	comp=Z,9.5nm,0.8s						
WR8	**Warramunga Arr**	**45.01**	**259**	P	**P**	**08 54 22.4**	**-0.2**
WR8				IAmb	IAmb	08 54 49.7	
	comp=Z,5.6nm,1.4s						
WB0	**Warramunga Arr**	**45.12**	**259**	P	**P**	**08 54 23.6**	**+0.1**
WB0				IAmb	IAmb	08 54 24.0	
	comp=Z,5.2nm,0.5s						
WRAB	**Tennant Creek**	**45.15**	**259**	P	**P**	**08 54 23.6**	**0.0**
WRAB				IAmb	IAmb	08 54 26.5	
	comp=Z,2.9nm,0.8s						
WRA	**Warramunga Arr**	**45.16**	**259**	P	**P**	**08 54 23.7**	**0.0**
WRA	**Warramunga Arr**	**45.16**	**259**	P	**P**	**08 54 23.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=94,slow=7.1,SNR=152						
	comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**45.34**	**254**	P	**P**	**08 54 25.2**	**+0.1**
AS31				IAmb	IAmb	08 54 26.1	
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**45.34**	**254**	P	**P**	**08 54 24.9**	**-0.3**
ASAR	**Alice Springs**	**45.34**	**254**	P	**P**	**08 54 25.1**	**0.0**
	comp=Z,7.8nm,0.4s,baz=87,slow=8.7,SNR=188						
ASAR				PcP	**PcP**	**08 55 52.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=99,slow=3.6,SNR=1.8						
	comp=Z,7.8nm,0.4s						
MTN	**Manton Dam**	**49.27**	**268**	P	**P**	**08 54 54.2**	**-0.3**
MTN				IAmb	IAmb	08 55 09.2	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.55**	**260**	P	**P**	**08 55 26.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**53.55**	**260**	P	**P**	**08 55 25.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=97,slow=6.1,SNR=2.1						
	comp=Z,1.1nm,0.5s						
QSPA	**South Pole Qui**	**72.56**	**180**	P	**P**	**08 57 27.6**	**+1.6**
QSPA	**South Pole Qui**	**72.56**	**180**	P	**P**	**08 57 27.2**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=74,slow=1.7,SNR=8.5						
	comp=Z,0.9nm,0.6s						

*GCG **16** 08:48:49.9±0.9, 12˚.95N×88˚.97W, h53km±25km, MD4.1*
*CATAC **16** 08:48:49.9±0.4, 13˚N±3˚×8˚9W±˚, h32km±3km, M3.2/23, MLv3.2/23, Error ellipse: s-maj=6.2km s-min=2.5km az=22.9, confirmed*
*SNET **16** 08:48:50.0±0.7, 12˚.98N×88˚.93W, h60km±389km, ML3.2*
ISC 16 08:48:50.3±1.4, **12˚.94N**±0˚.07×**88˚.95W**±0˚.04, **h49**km±19km, **n74**, σ0$**45**/82, **1C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.61**	**15**‖	*i* P	**Pn**	**08 49 02.4**	**-0.4**
TECO				*e*S	**Sn**	**08 49 11.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.61**	**15**	P	**Pn**	**08 49 02.5**	**-0.4**
LALI	**Alcalda de L**	**0.66**	**326**	*e*P	**Pn**	**08 49 02.2**	**-1.2**
LALI	**Alcalda de L**	**0.66**	**326**	*i* P	**Pn**	**08 49 02.3**	**-1.1**
LFRS	**El Faro**	**0.69**	**350**	*e*P	**Pn**	**08 49 03.6**	**-0.3**
TECA	**Tecapa**	**0.70**	**38**‖	*e*P	**Pn**	**08 49 03.9**	**-0.3**
UESV	**Universidad de**	**0.71**	**12**	S	**Sn**	**08 49 14.6**	**+0.5**
UESV	**Universidad de**	**0.71**	**12**	P	**Pn**	**08 49 03.8**	**-0.3**
LOMA	**Loma Larga**	**0.73**	**342**	*e*P	**Pn**	**08 49 04.2**	**-0.3**
LOMA				*e*S	**Sn**	**08 49 14.9**	**0.0**
LOMA	**Loma Larga**	**0.73**	**342**	P	**Pn**	**08 49 04.2**	**-0.3**
PAVA	**Las Pavas**	**0.77**	**1**‖	*e*P	**Pn**	**08 49 04.8**	**-0.2**
PAVA	**Las Pavas**	**0.77**	**1**	S	**Sn**	**08 49 16.3**	**+0.7**
PAVA	**Las Pavas**	**0.77**	**1**	P	**Pn**	**08 49 04.6**	**-0.4**
PQSS	**Presa 15 de Se**	**0.78**	**29**	P	**Pn**	**08 49 04.9**	**-0.1**
PQSS	**Presa 15 de Se**	**0.78**	**29**	S	**Sn**	**08 49 16.2**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.78**	**16**‖	*e*P	**Pn**	**08 49 05.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.78**	**16**	P	**Pn**	**08 49 05.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.78**	**16**	S	**Sn**	**08 49 16.5**	**+0.6**
LCY	**Lacayo**	**0.79**	**53**	*e*P	**Pn**	**08 49 05.5**	**+0.2**
UTEC	**Universidad Te**	**0.80**	**342**	P	**Pn**	**08 49 05.3**	**0.0**
UDBS	**Universidad Do**	**0.80**	**345**	P	**Pn**	**08 49 05.1**	**-0.2**
UDBS	**Universidad Do**	**0.80**	**345**	S	**Sn**	**08 49 16.7**	**+0.5**
IGN	**Direccin Gen**	**0.80**	**344**	P	**Pn**	**08 49 05.3**	**-0.1**
LBRS	**Las Brisas**	**0.80**	**353**	*e*P	**Pn**	**08 49 05.4**	**0.0**
PACA	**Pacayal**	**0.80**	**49**	*e*P	**Pn**	**08 49 05.5**	**0.0**
PACA				*e*S	**Sn**	**08 49 17.1**	**+0.6**
PACA	**Pacayal**	**0.80**	**49**	P	**Pn**	**08 49 05.4**	**0.0**
UEES	**Universidad Ev**	**0.82**	**340**	*e*P	**Pn**	**08 49 05.4**	**-0.3**
UEES	**Universidad Ev**	**0.82**	**340**	P	**Pn**	**08 49 05.4**	**-0.3**
UEES	**Universidad Ev**	**0.82**	**340**	S	**Sn**	**08 49 16.9**	**0.0**
PMON	**Piamonte**	**0.85**	**335**‖	*i* P	**Pn**	**08 49 05.8**	**-0.2**
PMON	**Piamonte**	**0.85**	**335**	S	**Sn**	**08 49 17.5**	**0.0**
PMON	**Piamonte**	**0.85**	**335**	P	**Pn**	**08 49 05.8**	**-0.2**
BOQS	**Boqueron**	**0.85**	**338**⇑	*i* P	**Pn**	**08 49 06.2**	**0.0**
JAYA	**Jayaque - finc**	**0.86**	**325**	*e*P	**Pn**	**08 49 05.9**	**-0.4**
JAYA	**Jayaque - finc**	**0.86**	**325**	*i* P	**Pn**	**08 49 05.9**	**-0.4**
JAYA				*e*S	**Sn**	**08 49 18.3**	**+0.3**
JAYA	**Jayaque - finc**	**0.86**	**325**	P	**Pn**	**08 49 05.8**	**-0.4**
CNRM	**Centro Naciona**	**0.92**	**55**	S	**Sn**	**08 49 20.3**	**+1.2**
CEDA	**San Andres**	**0.96**	**333**	P	**Pn**	**08 49 07.3**	**-0.2**
CEDA	**San Andres**	**0.96**	**333**	S	**Sn**	**08 49 20.6**	**+0.4**
LCND	**La Caada**	**1.09**	**70**	*e*P	**Pn**	**08 49 08.9**	**-0.2**
LCND	**La Caada**	**1.09**	**70**	P	**Pn**	**08 49 09.0**	**-0.2**
CEVE	**Cerro Verde**	**1.10**	**323**	*e*P	**Pn**	**08 49 09.7**	**+0.1**
CEVE	**Cerro Verde**	**1.10**	**323**	P	**Pn**	**08 49 09.7**	**+0.1**
CEVE	**Cerro Verde**	**1.10**	**323**	S	**Sn**	**08 49 25.0**	**+1.1**
SBLS	**San Blas**	**1.11**	**324**	*e*P	**Pn**	**08 49 10.1**	**+0.4**
SNJE	**San Jose**	**1.12**	**325**	*e*P	**Pn**	**08 49 09.9**	**+0.1**
CNCH	**Conchagua**	**1.13**	**73**	*e*P	**Pn**	**08 49 09.7**	**-0.2**
CNCH	**Conchagua**	**1.13**	**73**	S	**Sn**	**08 49 25.2**	**+0.8**
CNCH	**Conchagua**	**1.13**	**73**	P	**Pn**	**08 49 09.7**	**-0.2**
RTR	**El Retiro**	**1.17**	**324**	*e*P	**Pn**	**08 49 10.8**	**+0.4**
UNIC	**Universidad Ca**	**1.19**	**330**	S	**Sn**	**08 49 26.4**	**+0.7**
UNIC	**Universidad Ca**	**1.19**	**330**	P	**Pn**	**08 49 10.4**	**-0.2**
LLGN	**La Laguna**	**1.21**	**0**	P	**Pn**	**08 49 10.3**	**-0.7**
NUBE	**Las Nubes**	**1.25**	**320**	*e*P	**Pn**	**08 49 11.6**	**0.0**
NUBE	**Las Nubes**	**1.25**	**320**	*i* P	**Pn**	**08 49 11.6**	**0.0**
NUBE				*i* S	**Sn**	**08 49 27.7**	**+0.3**
NUBE	**Las Nubes**	**1.25**	**320**	P	**Pn**	**08 49 11.6**	**0.0**
CSGN	**Cosiguina Volc**	**1.35**	**88**	P	**Pn**	**08 49 12.9**	**+0.1**
CSGN				S	**Sn**	**08 49 30.4**	**+0.7**
FAME	**Alcaldia de Sa**	**1.37**	**311**	P	**Pn**	**08 49 13.1**	**0.0**
FAME	**Alcaldia de Sa**	**1.37**	**311**	S	**Sn**	**08 49 30.5**	**+0.4**
MTO3	**Montecristo**	**1.50**	**344**	*i* P	**Pn**	**08 49 14.6**	**-0.5**
MTO3	**Montecristo**	**1.50**	**344**	P	**Pn**	**08 49 14.6**	**-0.5**
JUAM	**Asuncion Mita**	**1.57**	**332**	*i* P	**Pn**	**08 49 15.6**	**-0.2**
ESQI	**Esquipulas**	**1.65**	**347**	*e*P	**Pn**	**08 49 16.9**	**-0.1**
ESQI	**Esquipulas**	**1.65**	**347**	P	**Pn**	**08 49 16.9**	**-0.1**
ESQI	**Esquipulas**	**1.65**	**347**	S	**Sn**	**08 49 36.7**	**-0.4**
SARH	**Santa Rosa de**	**1.83**	**6**	P	**Pn**	**08 49 19.4**	**0.0**
SARH	**Santa Rosa de**	**1.83**	**6**	S	**Sn**	**08 49 40.6**	**-0.9**
PKGN	**Cerro Pekin**	**1.94**	**98**	S	**Sn**	**08 49 43.5**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.97**	**56**	P	**Pn**	**08 49 20.7**	**-0.6**
TGUH				S	**Sn**	**08 49 44.4**	**-0.5**
CNGA	**Al SSO del Vol**	**2.23**	**101**	S	**Sn**	**08 49 50.4**	**-0.9**
CNGN	**Cerro Negro**	**2.23**	**101**	P	**Pn**	**08 49 24.9**	**0.0**
CNGN	**Cerro Negro**	**2.23**	**101**	S	**Sn**	**08 49 50.9**	**-0.4**
YUSH	**Yuscaran**	**2.28**	**64**	P	**Pn**	**08 49 25.0**	**-0.5**
LIMN	**Finca el Limon**	**2.52**	**87**	P	**Pn**	**08 49 29.0**	**+0.2**
LIMN				S	**Sn**	**08 49 58.8**	**+0.5**

*NEIC **16** 08:49:03.9±2.0, 51˚.32N±0˚.04×178˚.62W±0˚.04, h10km±2km, mb4.5/175, ML4.3/6, ML3.9(AEIC), Error ellipse: s-maj=6.0km s-min=3.9km az=12.0*
*AEIC **16** 08:49:03.4±2.1, 51˚.39N±0˚.03×178˚.67W±0˚.04, h13km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=192.0*
*IDC **16** 08:49:07.5±3.8, 51˚.88N×178˚.68W, h31km±26km, mb3.9/12, mbtmp4.1/14, ML4.1/2, MS2.8/2, Error ellipse: s-maj=23.4km s-min=15.6km az=173.0*
ISC 16 08:49:03.4±1.4, **51˚.35N**±0˚.06×**178˚.67W**±0˚.02, **h13**km±8km, **n151**, σ1$**43**/93, **mb4.5**/83, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.23**	**337**		**Pb**	**08 49 12.1**	**+2.8**
GALAA	**Gareloi Lava P**	**0.42**	**351**		**Pb**	**08 49 12.4**	**-0.3**
GALAA					**Sb**	**08 49 18.6**	**-0.4**
GANE	**Gareloi Northe**	**0.48**	**352**		**Pg**	**08 49 13.0**	**+0.2**
GANE					**Sb**	**08 49 19.8**	**-0.8**
GANO	**Gareloi North**	**0.48**	**350**		**Pg**	**08 49 12.9**	**0.0**
TASE	**Tanaga Southea**	**0.63**	**39**		**Pg**	**08 49 15.6**	**-0.1**
TASE					**Sb**	**08 49 24.4**	**-0.6**
TAFL	**Tanaga Flats**	**0.63**	**49**		**Pg**	**08 49 15.5**	**-0.3**
TAFL					**Sg**	**08 49 24.1**	**0.0**
TANO	**Tanaga North**	**0.66**	**31**		**Pg**	**08 49 16.3**	**0.0**
TANO					**Sb**	**08 49 25.4**	**-0.6**
TAPA	**Tanaga Point A**	**0.71**	**48**		**Pg**	**08 49 16.8**	**-0.4**
KIMD	**Kanaga Island**	**0.99**	**65**		**Pb**	**08 49 21.3**	**-1.0**
KIMD					**Sg**	**08 49 34.4**	**-0.9**
KIWB	**Kanaga Island**	**1.07**	**61**		**Sb**	**08 49 36.5**	**-1.3**
KIWB					**Sg**	**08 49 36.9**	**-1.1**
KIWB	**Kanaga Island**	**1.07**	**61**	Pn	**Pb**	**08 49 23.0**	**-0.8**
KIWB				IAML		08 49 45.4	
	comp=E,5μm,0.6s						
KIKV	**Kanaga Island**	**1.07**	**60**		**Sb**	**08 49 37.2**	**-0.6**
CERB	**Semis' Cerberu**	**1.21**	**300**		**Pn**	**08 49 25.8**	**-0.2**
CEPE	**Semis' Perret**	**1.22**	**301**		**Pn**	**08 49 25.6**	**-0.5**
AMKA	**Amchitka**	**1.27**	**272**		**Pn**	**08 49 25.8**	**-1.1**
AMKA	**Amchitka**	**1.27**	**272**		**Sb**	**08 49 42.4**	**-1.1**
ADK	**Adak**	**1.35**	**66**		**Sb**	**08 49 44.2**	**-1.4**
ADK					**Sn**	**08 49 45.6**	**-0.1**
ADK	**Adak**	**1.35**	**66**	Pn	**Pn**	**08 49 27.2**	**-0.7**
ADK				IAML		08 49 48.2	
	comp=E,5μm,0.5s						
ADK				IAML		08 49 48.5	
	comp=E,5μm,0.5s						
ADAG	**Mount Adagdak**	**1.43**	**63**		**Pn**	**08 49 28.2**	**-0.9**
ADAG					**Sb**	**08 49 48.4**	**+0.2**
ETKA	**Kagalaska Isla**	**1.50**	**69**		**Pn**	**08 49 29.7**	**-0.3**
ETKA					**Sn**	**08 49 49.1**	**-0.3**
GSSP	**Great Sitkin S**	**1.72**	**63**		**Pn**	**08 49 32.1**	**-0.9**
GSSP					**Sn**	**08 49 54.4**	**-0.5**
GSTD	**Great Sitkin T**	**1.72**	**65**		**Pn**	**08 49 32.6**	**-0.5**
GSTD					**Sn**	**08 49 55.3**	**+0.3**
GSMY	**Great Sitkin M**	**1.77**	**66**		**Sn**	**08 49 56.5**	**+0.4**
GSTR	**Great Sitkin T**	**1.79**	**64**		**Pn**	**08 49 34.4**	**+0.5**
GSTR				IAML		08 50 02.4	
	comp=E,9μm,0.6s						
LSSE	**Little Sitkin**	**1.82**	**290**		**Pn**	**08 49 34.3**	**-0.1**
LSPA	**Little Sitkin**	**1.82**	**291**		**Pn**	**08 49 34.1**	**-0.4**
LSPA					**Sn**	**08 49 58.3**	**+0.9**
LSNW	**Little Sitkin**	**1.86**	**291**		**Pn**	**08 49 34.7**	**-0.2**
LSNW					**Pb**	**08 49 35.7**	**-1.5**
KOWE	**Korovin West**	**2.92**	**68**		**Pn**	**08 49 50.1**	**+0.6**
KOWE					**Sn**	**08 50 25.8**	**+1.2**
KOKL	**Mount Kliuchef**	**2.94**	**69**		**Pn**	**08 49 50.2**	**+0.4**
KOKL					**Sn**	**08 50 26.2**	**+1.2**
KOFP	**Korovin Flat P**	**2.98**	**70**		**Pn**	**08 49 51.5**	**+1.0**
SHEM	**Shemya Is, Ala**	**4.67**	**290**	Pn	**Pn**	**08 50 14.4**	**+0.8**
	comp=E,3.9nm,0.3s,baz=128,slow=17,SNR=1.5						
SHEM				Sn	**Sn**	**08 51 06.1**	**-1.5**
	comp=E,4.4nm,0.3s,baz=291,slow=17,SNR=1.3						
	comp=E,44nm,0.7s						
SPIA	**Saint Paul Isl**	**7.64**	**37**	Pn	**Pn**	**08 50 57.0**	**+2.7**
UNV	**Unalaska Valle**	**7.82**	**67**	Pn	**Pn**	**08 50 59.6**	**+2.9**
AKUT	**Akutan**	**8.31**	**65**	Pn	**Pn**	**08 51 05.9**	**+2.5**
SDPT	**Sand Point**	**11.58**	**63**	Pn	**Pn**	**08 51 50.2**	**+2.1**
N14K	**Kuskokwak Cree**	**12.84**	**41**	Pn	**Pn**	**08 52 08.4**	**+3.0**
O15K	**Ungalikthiuk R**	**13.26**	**46**	Pn	**Pn**	**08 52 14.1**	**+2.9**
KDAK	**Kodiak Island**	**16.37**	**57**	Pn	**Pn**	**08 52 50.3**	**-2.4**
	comp=E,2.1nm,0.3s,baz=183,slow=4.0,SNR=32						
	comp=E,7.3nm,0.4s						
L19K	**White Mountain**	**16.86**	**41**	P	**P**	**08 53 02.5**	**+1.6**
SLKM	**Skilak Lake**	**18.25**	**49**	IAmb	IAmb	08 53 17.3	
	comp=Z,37nm,1.3s						
CUT	**Chulitna**	**18.88**	**43**	IAmb	IAmb	08 53 36.7	
	comp=Z,47nm,1.3s						
MA2	**Magadan**	**19.04**	**307**	LR	LR	08 59 17.1	
	comp=Z,21nm,20.0s,baz=78,slow=33						
KTH	**Kantishna Hill**	**19.09**	**40**	IAmb	IAmb	08 53 33.1	
	comp=Z,21nm,0.9s						
BPAW	**Bear Paw Mtn.**	**19.32**	**38**		**Pn**	**08 53 29.2**	**+0.1**
G21K	**Allakaket**	**19.76**	**30**	IAmb	IAmb	08 53 37.4	
	comp=Z,16nm,1.0s						
RND	**Reindeer**	**19.87**	**41**		**P**	**08 53 34.6**	**+0.5**
NEA2	**Nenana**	**20.29**	**38**	P	**P**	**08 53 39.3**	**+0.8**
DHY	**Denali Highway**	**20.37**	**43**	P	**P**	**08 53 39.7**	**+0.2**
DHY				IAmb	IAmb	08 53 44.7	
	comp=Z,16nm,0.8s						
D20K	**Etivluk River**	**20.39**	**23**	IAmb	IAmb	08 53 46.4	
	comp=Z,14nm,0.8s						
I23K	**Minto, Yukon-K**	**20.44**	**36**	P	**P**	**08 53 40.7**	**+0.6**
I23K				IAmb	IAmb	08 54 09.9	
	comp=Z,16nm,0.9s						
PAX	**Paxson**	**21.15**	**44**		**P**	**08 53 48.7**	**+0.7**
N25K	**Chitina, Valde**	**21.18**	**48**		**P**	**08 53 49.4**	**+1.2**
ILAR	**Eielson Array**	**21.22**	**39**	P	**P**	**08 53 46.8**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=247,slow=9.4,SNR=30						
ILAR				PcP	**PcP**	**08 57 52.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=265,slow=3.4,SNR=9.6						
ILAR				ScP	**ScP**	**09 01 27.9**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=263,slow=3.6,SNR=4.4						
	comp=Z,1.9nm,0.7s						
DOT	**Dot Lake**	**21.97**	**43**	P	**P**	**08 53 56.0**	**-0.6**
L26K	**Log Cabin Wild**	**22.10**	**44**	IAmb	IAmb	08 54 05.1	
	comp=Z,16nm,1.0s						
F24K	**Squaw Lake**	**22.15**	**31**	IAmb	IAmb	08 54 08.7	
	comp=Z,19nm,1.5s						
M27K	**Edge Creek, AK**	**22.59**	**47**	IAmb	IAmb	08 54 12.2	
	comp=Z,12nm,1.1s						
G26K	**Porcupine Rive**	**23.28**	**35**	IAmb	IAmb	08 54 11.8	
	comp=Z,7.3nm,0.6s						
EGAK	**Eagle**	**23.52**	**41**		**P**	**08 54 12.6**	**-0.2**
EGAK				IAmb	IAmb	08 54 14.1	
	comp=Z,15nm,1.4s						
DAWY	**Dawson**	**24.07**	**43**	P	**P**	**08 54 17.2**	**-0.9**
I28M	**Miner Creek**	**24.21**	**40**	IAmb	IAmb	08 54 20.2	
	comp=Z,6.0nm,0.6s						
I29M	**Ogilvie Camp,**	**24.84**	**40**	IAmb	IAmb	08 54 32.4	
	comp=Z,9.5nm,1.1s						
TIXI	**Tiksi**	**30.70**	**331**	LR	LR	09 07 45.4	
	comp=Z,25nm,18.2s,baz=60,slow=37						
H11S1	**WAKE ISLAND Hy**	**34.76**	**205**	T	T	09 32 38.3	
	baz=17,slow=76,SNR=308						
H11S2	**WAKE ISLAND Hy**	**34.77**	**205**	T	T	09 32 43.9	
	baz=17,slow=76,SNR=189						
H11S3	**WAKE ISLAND Hy**	**34.77**	**205**	T	T	09 32 41.8	
	baz=17,slow=76,SNR=134						
B08A	**Colville Reser**	**37.47**	**71**		**P**	**08 56 17.1**	**+0.7**
B08A				IAmb	IAmb	08 56 18.5	
	comp=Z,5.6nm,0.8s						
WAH2	**Wahluke Slope**	**38.09**	**73**	IAmb	IAmb	08 56 23.4	
	comp=Z,8.9nm,0.7s						
WIFE	**Three Sisters-**	**38.09**	**78**	IAmb	IAmb	08 56 24.8	
	comp=Z,18nm,1.2s						
HAWA	**Hanford**	**38.29**	**73**	IAmb	IAmb	08 56 25.3	
	comp=Z,11nm,0.8s						
C09A	**Chrisman Ranch**	**38.36**	**71**	IAmb	IAmb	08 56 25.6	
	comp=Z,5.6nm,0.9s						
YBH	**Yreka Blue Hor**	**38.80**	**82**		**P**	**08 56 30.0**	**+2.2**
J05D	**Fort Rock, OR**	**38.86**	**79**	IAmb	IAmb	08 56 32.1	
	comp=Z,20nm,1.3s						
O02D	**Mt. Diablo Mer**	**39.64**	**84**		**P**	**08 56 37.1**	**+2.4**
O02D				IAmb	IAmb	08 56 37.8	
	comp=Z,5.5nm,0.8s						
O03E	**Paynes Creek**	**40.19**	**83**	IAmb	IAmb	08 56 41.9	
	comp=Z,11nm,1.1s						
WVOR	**Wild Horse Val**	**40.93**	**78**	IAmb	IAmb	08 56 47.8	
	comp=Z,8.0nm,1.0s						
PLID	**Pearl Lake**	**41.08**	**73**	P	**P**	**08 56 47.6**	**+0.8**
PAHR	**Pah Rah Range**	**42.03**	**82**	IAmb	IAmb	08 56 56.8	
	comp=Z,6.2nm,0.8s						
WAKR	**Walker**	**42.72**	**84**		**P**	**08 57 02.1**	**+1.8**
HLID	**Hailey**	**42.87**	**74**		**P**	**08 57 02.4**	**+1.0**
HLID				IAmb	IAmb	08 57 03.1	
	comp=Z,5.6nm,0.8s						
BOZ	**Bozeman (W)**	**43.41**	**70**	IAmb	IAmb	08 57 06.7	
	comp=Z,6.5nm,1.0s						
NVAR	**Mina Array Bea**	**43.47**	**83**	P	**P**	**08 57 07.3**

MIAR	Mount Ida	61.05	70		P	08 59 17.1	+0.4
FPAL	Fort Paine	65.67	65	P	P	08 59 46.6	-0.7
FPAL				IAmb	IAmb	08 59 48.2	
	comp=Z,4.6nm,0.7s						
FINES	FINESS Array B	65.83	347	P	P	08 59 45.7	-2.1
	comp=Z,3.0nm,1.0s,baz=3.1,slow=5.5,SNR=1.6						
	comp=Z,3.0nm,1.0s						
HFS	Hagfors	68.42	353	P	P	09 00 03.1	-1.3
	comp=Z,5.1nm,1.2s,baz=350,slow=7.6,SNR=1.8						
	comp=Z,5.1nm,1.2s						
WRA	Warramunga Arr	82.05	224	P	P	09 01 27.0	+3.8
	comp=Z,0.2nm,0.6s,baz=24,slow=5.4,SNR=1.7						
	comp=Z,0.2nm,0.6s						
FITZ	Fitzroy Crossi	84.51	232	P	P	09 01 38.7	+2.8
	comp=Z,2.4nm,0.9s,baz=14,slow=4.2,SNR=6.2						
	comp=Z,2.4nm,0.9s						
ASAR	Alice Springs	85.52	223	P	P	09 01 44.4	+3.4
	comp=Z,0.3nm,0.5s,baz=22,slow=5.8,SNR=7.2						
	comp=Z,0.3nm,0.5s						
H03N2	Juan Fernandez	121.06	106	T	T	11 20 40.4	
	baz=317,slow=76						
H03N1	Juan Fernandez	121.07	106	T	T	11 20 40.8	
	baz=317,slow=76						
H03N3	Juan Fernandez	121.07	106	T	T	11 20 34.2	
	baz=317						
QSPA	South Pole Qui	141.10	180	PKhKP	PKPpre	09 08 30.4	
	comp=Z,0.8nm,0.8s,baz=153,slow=1.6,SNR=2.3						
BOSA	Boshof	151.06	313	PKPbc	PKPbc	09 08 55.5	-0.5
	comp=Z,2.2nm,0.6s,baz=356,slow=4.1,SNR=5.8						

*GCG **16** 09:00:37.9±0.6, 14°.06N×89°.84W, h3km±4km, MD3.8, ML2.6*
*SNET **16** 09:00:38.0±0.7, 14°.05N×89°.86W, h3km±5km, ML2.6*
*CATAC **16** 09:00:38.2±0.3, 14°N±1°×9°0W±°, h6km±1km, M2.6/14, MLv2.6/14, Error ellipse: s-maj=3.4km s-min=2.9km az=70.0, confirmed*

ISC 16 09:00:38.4±1.0, **14°.05N**±0°.03×**89°.86W**±0°.03, **h13**km±5km, **n49**, σ0°49/55, **8C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOAL	Lomas de Alarc	0.09	123	⇑iP	Pg	09 00 40.9	-0.4
LOAL				eS	Sg	09 00 43.0	-0.4
LOAL	Lomas de Alarc	0.09	123	P	Pg	09 00 41.0	-0.4
NUBE	Las Nubes	0.16	153	⇑iP	Pg	09 00 42.4	0.0
NUBE				eS	Sg	09 00 45.5	+0.3
NUBE	Las Nubes	0.16	153	iP	Pg	09 00 42.4	0.0
NUBE				iS	Sg	09 00 45.2	+0.1
NUBE	Las Nubes	0.16	153	P	Pg	09 00 42.4	0.0
RBDL	Robledal	0.18	68	⇑iP	Pg	09 00 42.9	+0.2
RBDL				eS	Sg	09 00 46.0	+0.4
RTR	El Retiro	0.25	126	⇑iP	Pb	09 00 44.4	-0.6
FAME	Alcaldia de Sa	0.26	217	S	Sg	09 00 48.0	+0.5
FAME	Alcaldia de Sa	0.26	217	P	Pg	09 00 44.0	+0.1
SNJE	San Jose	0.30	126	⇑iP	Pb	09 00 45.2	-0.6
SBLS	San Blas	0.30	132	⇑iP	Pg	09 00 45.1	+0.3
UNIC	Universidad Ca	0.30	102	eP	Pg	09 00 44.8	0.0
UNIC	Universidad Ca	0.30	102	S	Sg	09 00 49.7	+0.7
UNIC	Universidad Ca	0.30	102	P	Pg	09 00 44.8	0.0
CEVE	Cerro Verde	0.31	134	eP	Pb	09 00 45.5	-0.5
CEVE	Cerro Verde	0.31	134	S	Sb	09 00 50.3	-0.8
CEVE	Cerro Verde	0.31	134	P	Pb	09 00 45.7	-0.4
JUAM	Asuncion Mita	0.32	27	iP	Pg	09 00 45.0	-0.1
JUAM				eS	Sb	09 00 50.2	-1.1
JUAM				IAML		09 00 50.4	
	comp=N,3μm,0.2s						
CEDA	San Andres	0.51	118	P	Pg	09 00 48.1	-0.4
JAYA	Jayaque - finc	0.56	135	⇑eP	Pg	09 00 49.6	+0.2
JAYA	Jayaque - finc	0.56	135	eP	Pg	09 00 49.6	+0.2
JAYA				eS	Sb	09 00 57.9	-0.1
JAYA	Jayaque - finc	0.56	135	S	Sg	09 00 56.8	0.0
JAYA	Jayaque - finc	0.56	135	P	Pg	09 00 49.6	+0.2
MTO3	Montecristo	0.59	54	eP	Pg	09 00 50.1	0.0
MTO3	Montecristo	0.59	54	eP	Pg	09 00 50.1	0.0
MTO3	Montecristo	0.59	54	P	Pg	09 00 50.1	0.0
MTO3	Montecristo	0.59	54	S	Sg	09 00 58.4	+0.3
PMON	Piamonte	0.62	122	eP	Pb	09 00 51.2	-0.1
PMON	Piamonte	0.62	122	P	Pb	09 00 51.1	-0.1
PMON	Piamonte	0.62	122	S	Sg	09 00 58.8	-0.1
ESQI	Esquipulas	0.71	44	eP	Pg	09 00 52.3	0.0
ESQI	Esquipulas	0.71	44	P	Pg	09 00 52.3	0.0
ESQI	Esquipulas	0.71	44	S	Sb	09 01 02.1	-0.5
LOMA	Loma Larga	0.78	121	P	Pg	09 00 53.5	0.0
PANCS	Alcalda de	0.79	123	S	Sg	09 01 03.5	-0.5
LLGN	La Laguna	0.89	82	S	Sb	09 01 08.1	+0.4
LLGN	La Laguna	0.89	82	P	Pg	09 00 55.4	-0.3
PAVA	Las Pavas	0.95	110	S	Sg	09 01 09.3	-0.1
PAVA	Las Pavas	0.95	110	P	Pg	09 00 56.7	-0.2
UESV	Universidad de	1.11	111	S	Sg	09 01 14.1	-0.4
UESV	Universidad de	1.11	111	P	Pg	09 00 58.9	-1.1
APG	El Apazote	1.12	328	eP	Pg	09 00 59.4	-0.7
SCLA	Alcaldia de Sa	1.15	107	P	Pg	09 00 59.4	-1.1
SCLA	Alcaldia de Sa	1.15	107	S	Sb	09 01 15.5	+0.5
TECO	Alcaldia de Te	1.16	116	P	Pg	09 00 59.9	-1.0
TECO	Alcaldia de Te	1.16	116	S	Sb	09 01 15.9	+0.5
SARH	Santa Rosa de	1.28	56	S	Sn	09 01 20.3	+1.0
SARH	Santa Rosa de	1.28	56	P	Pn	09 01 03.0	+0.9
PACA	Pacayal	1.60	111	P	Pn	09 01 06.5	0.0

*MDD **16** 09:16:45.3±1.2, 36°.58N×11°.06W, h0km, mb_Lg2.9/8, Error ellipse: s-maj=9.1km s-min=6.9km az=78.0*
*IGIL **16** 09:16:46.3, 36°.43N×11°.21W, h33km, ML2.1*
*CNRM **16** 09:16:46.9, 36°.31N×10°.85W, h87km, ML2.9*
*INMG **16** 09:16:47.2±1.1, 36°.43N×11°.20W, h30km±12km, ML2.2, Error ellipse: s-maj=9.4km s-min=4.2km az=77.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*

ISC 16 09:16:42.4±2.2, **36°.44N**±0°.04×**11°.2W**±0°.1, **h17**km±13km, **n63**, σ1°79/85, **1C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.99	69	P	Pn	09 17 17.0	+1.8
PFVI				S	Sn	09 17 40.1	+0.2
PFVI	Vila Bisbo	1.99	69	⇑eP	Pn	09 17 17.3	+2.0
PFVI				eS	Sn	09 17 40.0	+0.2
PFVI				iIAML		09 17 40.4	
PFVI				iIAML		09 17 40.9	
PFVI				iIAML		09 17 41.0	
PFVI	Vila Bisbo	1.99	69	P	Pn	09 17 17.3	+2.0
PFVI	Vila Bisbo	1.99	69	S	Sn	09 17 39.6	-0.2
MORF	Marmelete	2.18	66	eP	Pn	09 17 19.9	+2.0
MORF				eS	Sn	09 17 44.3	-0.3
MORF				IAML		09 17 46.6	
	comp=N,18nm,0.2s						
PTEO	Sao Teotonio	2.23	60	eP	Pn	09 17 20.8	+2.1
PTEO				eS	Sn	09 17 46.6	+0.8
PTEO				iIAML		09 17 47.5	
PTEO				iIAML		09 17 47.8	
PTEO				iIAML		09 17 49.7	
PBDV	Barranco-do-Ve	2.71	72	P	Pn	09 17 26.7	+1.6
PBDV				S	Sn	09 17 58.3	+0.8
PBDV	Barranco-do-Ve	2.71	72	eP	Pn	09 17 27.5	+2.4
PBDV				eS	Sn	09 17 57.5	0.0
PBDV				iIAML		09 18 03.2	
PBDV				iIAML		09 18 05.1	
PBDV				iIAML		09 18 15.4	
MESJ	Messejana	2.73	58	eS	Sn	09 17 57.3	-0.7
MESJ				IAML		09 17 59.6	
	comp=N,5.2nm,0.3s						
MESJ	Messejana	2.73	58	eS	Sn	09 17 58.3	+0.3
MESJ				iIAML		09 17 59.6	
MESJ				iIAML		09 18 03.8	
MESJ				iIAML		09 18 05.5	
PCVE	Castro Verde	2.76	64	P	Pn	09 17 27.9	+2.0
PCVE				S	Sn	09 17 59.2	+0.4
PCVE	Castro Verde	2.76	64	eP	Pn	09 17 28.9	+3.1
PCVE				eS	Sn	09 17 59.4	+0.6
PCVE				iIAML		09 18 01.2	
PCVE				iIAML		09 18 01.8	
PCVE				iIAML		09 18 02.9	
PARRA	Arraiolos	2.90	35	eP	Pg	09 17 37.5	-0.6
PARRA				eS	Sg	09 18 14.7	-1.0
PARRA				iIAML		09 18 16.6	
PARRA				iIAML		09 18 17.1	
PARRA				iIAML		09 18 18.5	
PMAFR	Mafra	2.92	30	S	Sn	09 18 01.4	-1.2
PMAFR	Mafra	2.92	30	eS	Sn	09 18 02.2	-0.4
PMAFR				iIAML		09 18 02.5	
PMAFR				iIAML		09 18 03.3	
PMAFR				iIAML		09 18 12.4	
PVAQ	Vaqueiros	2.92	70	eP	Pn	09 17 30.3	+2.3
PVAQ				eS	Sn	09 18 02.8	+0.1
PVAQ				iIAML		09 18 05.3	
PVAQ				iIAML		09 18 05.5	
PVAQ				iIAML		09 18 08.3	
PVAQ	Vaqueiros	2.92	70	P	Pn	09 17 29.5	+1.6
PVAQ	Vaqueiros	2.92	70	S	Sn	09 18 01.6	-1.0
EGRO	El Granado	3.13	69	P	Pn	09 17 33.3	+2.4
EGRO				S	Sn	09 18 07.7	-0.4
EGRO	El Granado	3.13	69	Pn	Pn	09 17 33.4	+2.4
EGRO				Sn	Sn	09 18 07.9	-0.1
EGRO				iIVmb_Lg		09 18 09.8	
PMTG	Montargil	3.50	41	eS	Sn	09 18 16.4	-0.7
PMTG				iIAML		09 18 20.6	
PMTG				iIAML		09 18 20.7	
PMTG				iIAML		09 18 20.7	
PBAR	Barrancos	3.71	61	P	Pn	09 17 40.2	+1.3
PBAR				S	Sn	09 18 21.1	-1.1
PBAR	Barrancos	3.71	61	eP	Pn	09 17 41.1	+2.3
PBAR				eS	Sn	09 18 21.5	-0.7
PBAR				iIAML		09 18 22.8	
PBAR				iIAML		09 18 24.6	
PBAR				iIAML		09 18 25.1	
PESTR	Estremoz	3.72	48	P	Pn	09 17 40.9	+1.8
PESTR				S	Sn	09 18 21.5	-1.1
PESTR	Estremoz	3.72	48	eP	Pn	09 17 41.1	+2.0
PESTR				eS	Sn	09 18 21.9	-0.7
PESTR				iIAML		09 18 22.7	
PESTR				iIAML		09 18 23.9	
PESTR	Estremoz	3.72	48	P	Pn	09 17 40.9	+1.8
PESTR	Estremoz	3.72	48	S	Sn	09 18 22.6	0.0
EMIN	Mina Concepcio	3.82	68	S	Sn	09 18 23.8	-1.1
EMIN				P	Pn	09 17 41.6	+1.2
EMIN	Mina Concepcio	3.82	68	Pn	Pn	09 17 42.2	+1.8
EMIN				Sn	Sn	09 18 24.7	-0.3
EMIN				iIVmb_Lg		09 18 25.4	
PSARD	Sardoal	3.94	36	eP	Pn	09 17 44.4	+2.3
PSARD				eS	Sn	09 18 26.9	-1.1
PSARD				iIAML		09 18 28.3	
PSARD				iIAML		09 18 28.4	
PSARD				iIAML		09 18 28.5	
EBAD	Badajoz	4.02	54	S	Sn	09 18 28.9	-0.9
EBAD	Badajoz	4.02	54	Sn	Sn	09 18 28.8	-1.1
EBAD				iIVmb_Lg		09 18 31.7	
PMRV	Marv??o	4.21	44	eP	Pn	09 17 48.0	+2.1
PMRV				eS	Sn	09 18 32.5	-2.1
PMRV				iIAML		09 18 34.9	
PMRV				iIAML		09 18 35.0	
PMRV				iIAML		09 18 35.5	
ESPR	Espera	4.28	83	P	Pn	09 17 48.8	+2.1
ESPR				S	Sn	09 18 35.8	-0.5
ESPR	Espera	4.28	83	Pn	Pn	09 17 49.1	+2.3
ESPR				iIVmb_Lg		09 18 37.9	
PCBR	Castelo Branco	4.46	39	eS	Sn	09 18 39.2	-1.6
PCBR				iIAML		09 18 42.0	
EJIF	Jimena Fronter	4.58	88	Pn	Pn	09 17 53.8	+2.9
SRHM	Skhour des Reh	4.79	145	P	Pn	09 17 55.4	+1.6
SRHM	Skhour des Reh	4.79	145	S	Sn	09 18 49.7	+0.8
ECAB	El Cabril	4.86	69	P	Pn	09 17 55.9	+1.2
ECAB				S	Sn	09 18 48.5	-2.1
ECAB	El Cabril	4.86	69	Pn	Pn	09 17 56.7	+2.0
ECAB				Sn	Sn	09 18 48.8	-1.8
ECAB				iIVmb_Lg		09 18 52.3	
MTE	Manteigas	4.86	35	eP	Pn	09 17 56.8	+2.0
EPLA	Plasencia	5.39	46	Sn	Sn	09 19 02.2	-1.4
EADA	Adamuz	5.52	70	P	Pn	09 18 05.8	+2.0
EADA				S	Sn	09 19 04.9	-2.0
EADA	Adamuz	5.52	70	Pn	Pn	09 18 05.8	+2.0
EADA				Sn	Sn	09 19 04.7	-2.1
EADA				iIVmb_Lg		09 19 08.3	
MVO	Moncorvo	5.71	33	eS	Sn	09 19 08.7	-2.9
OUK	Oukaimeden	5.89	151	P	Pn	09 18 09.8	+0.6
OUK	Oukaimeden	5.89	151	S	Sn	09 19 12.9	-3.6
ELOB	Lobios	5.93	23	Sn	Sn	09 19 13.4	-3.6
ELGU	Los Guajares,	6.07	84	P	Pn	09 18 13.7	+2.4
TISM	Timmit	6.12	139	P	Pn	09 18 11.0	-1.0
TISM	Timmit	6.12	139	S	Sn	09 19 16.9	-4.7
PMOZ	Porto Moniz, M	6.15	236	S	Sn	09 19 15.8	-6.8
PAB	San Pablo	6.20	58	Pn	Pn	09 18 15.1	+1.9
PAB				Sn	Sn	09 19 21.3	-2.5
PAB				iIVmb_Lg		09 19 24.9	
MD31	MD31	6.36	122	P	Pn	09 18 14.7	-0.8
MD31	MD31	6.36	122	S	Sn	09 19 23.7	-4.1
ECAL	Calabor	6.47	31	Sn	Sn	09 19 27.8	-2.7
MDT	Midelt	6.50	122	P	Pn	09 18 15.7	-1.6
MDT	Midelt	6.50	122	S	Sn	09 19 27.6	-3.5
EQES	Quesada	6.60	76	Pn	Pn	09 18 20.9	+2.2
EQES				Sn	Sn	09 19 33.3	-0.3
OUZM	OUZ	6.62	145	P	Pn	09 18 19.5	+0.5
OUZM	OUZ	6.62	145	S	Sn	09 19 31.5	-2.7
GUD	Guadarrama	6.91	50	Sn	Sn	09 19 39.7	-1.5

GII 16 09:24:56.8±0.0, **31°.364N**±0°.003×**35°.796E**±0°.003, **h0**km, **confirmed, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAJ	Ghor Haditha	0.20	253	P	Pg	09 25 01.1	+0.3
GHAJ	Ghor Haditha	0.20	253	P	Pg	09 25 01.1	+0.3
MSBI	Mazada	0.38	262	P	Pb	09 25 05.8	-0.6
DSI	Dead Sea	0.41	300	P	Pg	09 25 02.6	-2.1
DSI	Dead Sea	0.41	300	S	Sb	09 25 13.8	-0.1
HMDT	Nahal Hemdat	0.92	346	P	Pb	09 25 15.2	-0.4
HMDT	Nahal Hemdat	0.92	346	S	Sn	09 25 29.8	-1.1
HMDT	Nahal Hemdat	0.92	346	P	Pg	09 25 07.7	-6.7
HMDT	Nahal Hemdat	0.92	346	S	Sg	09 25 21.0	-5.3
PRNI	Paran	1.22	214	P	Pb	09 25 20.7	-0.1
PRNI	Paran	1.22	214	S	Sn	09 25 39.2	+0.9
PRNI	Paran	1.22	214	P	Pg	09 25 19.2	-1.0
PRNI	Paran	1.22	214	S	Sn	09 25 39.7	+1.4
KSHT	Keshet	1.61	0	P	Pn	09 25 25.9	-0.8
MBRI	Mt Berech	1.74	206	P	Pn	09 25 28.4	0.0
MBRI	Mt Berech	1.74	206	S	Sg	09 25 52.9	+0.2

*SOME **16** 09:29:28.5, 40°.93N×79°.82E, h10km*
*KRNET **16** 09:29:30.0±0.1, 40°.92N×79°.86E, mb2.8*
*NNC **16** 09:29:29.6±1.8, 40°.92N×79°.70E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=12.2km s-min=9.9km az=160.0*

ISC 16 09:29:30.4±2.5, **40°.9N**±0°.1×**79°.99E**±0°.08, **h10**km, **n25**, σ1°34/39, **4C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.83	297	⇓iP	Pn	09 30 02.1	-0.2
TARG				⇓iS	Sn	09 30 25.9	+0.1
PRZ	Przheval'sk	1.96	323	⇓eP	Pb	09 30 05.3	-1.1
PRZ				⇓eS	Sb	09 30 31.8	+0.8
SHLS	Shalkode	2.27	350	Pg	Pn	09 30 09.4	+1.3
	23nm,0.2s						
SHLS				Lg	Lg	09 30 39.0	
	51nm,0.6s						
SHLS	Shalkode	2.27	350	eP	Pn	09 30 09.4	+1.3
	23nm,0.2s						
SHLS				eS	Sb	09 30 39.0	-0.7
	51nm,0.6s						
UZB	Uzynbulak	2.34	342	Pg	Pb	09 30 11.0	-1.8
	5.9nm,0.2s						
UZB				Lg	Lg	09 30 41.7	
	16nm,0.4s						
UZB	Uzynbulak	2.34	342	eP	Pb	09 30 11.0	-1.8
	5.9nm,0.2s						
UZB				eS	Sb	09 30 41.7	-0.1
	16nm,0.4s						
KDJ	Kajisay	2.43	301	⇓iP	Pn	09 30 11.5	+1.2
KDJ				⇓iS	Sn	09 30 41.5	+1.3
PDGK	Podgornoye	2.44	351	⇑Pn	Pn	09 30 11.0	+0.6
	2.8nm,0.5s						
PDGK				⇓Sn	Sb	09 30 43.5	-1.0
	11nm,0.5s						
KPKS	Kokpek	2.72	340	Pg	Pb	09 30 17.7	-1.6
	5.2nm,0.8s						
KPKS				Lg	Lg	09 30 53.3	
	12nm,0.5s						
KURS	Kuram	2.90	333	Pg	Pb	09 30 20.4	-1.8
	4.7nm,0.5s						
KURS				Lg	Lg	09 30 57.9	
	12nm,0.3s						
TNSS	Tian-Shan	3.10	314	Pg	Pb	09 30 23.8	-2.1
	1.2nm,0.3s						
TNSS				Lg	Lg	09 31 03.6	
	3.5nm,0.7s						
TNSS	Tian-Shan	3.10	314	eP	Pb	09 30 23.8	-2.1
	1.2nm,0.3s						
TNSS				eS	Sb	09 31 03.6	-0.3
	3.5nm,0.7s						
MDOK	Medeo	3.13	317	Pg	Pb	09 30 24.2	-2.1
	2.3nm,0.3s						
MDOK				Lg	Lg	09 31 04.0	
	6.2nm,0.5s						
KOTS	Kotyrbulak	3.15	318	eP	Pb	09 30 25.5	-1.1
	2.8nm,0.2s						
KOTS				eS	Sb	09 31 06.3	+1.2
	8.5nm,0.3s						
JNKS	Jany-Kuch	3.28	274	⇓eP	Pn	09 30 23.4	+1.3
JNKS				⇓eS	Sn	09 31 02.1	+0.8
BOOM	Boomskoye usch	3.41	299	⇑eP	Pn	09 30 24.9	+1.1
BOOM				⇑iS	Sn	09 31 04.8	+0.4
KNOS	Konyrlen	3.49	350	Pg	Pb	09 30 31.7	-0.7
	2.6nm,0.5s						
KNOS				Lg	Lg	09 31 17.1	
	5.3nm,0.3s						
ARXS	Arharly	3.66	335	Pg	Pb	09 30 33.0	-2.2
	1.6nm,0.3s						
ARXS				Lg	Lg	09 31 21.0	
	3.3nm,0.4s						
ARXS	Arharly	3.66	335	eP	Pb	09 30 34.0	-1.2
ARXS				eS	Sb	09 31 21.0	+1.4
KST	Kastek	3.67	307	Pg	Pb	09 30 33.5	-2.0
	2.1nm,0.4s						
KST				Lg	Lg	09 31 20.3	
	9.3nm,0.4s						
KST	Kastek	3.67	307	eP	Pb	09 30 33.5	-2.0
	2.1nm,0.4s						
KST				eS	Sb	09 31 20.3	+0.1
	9.3nm,0.4s						
KTBS	Karatobe	3.71	320	Pg	Pb	09 30 34.7	-1.4
	1.3nm,0.4s						
KTBS				Lg	Lg	09 31 22.5	
	3.3nm,0.5s						
TKM2	Tokmak 2	3.84	303	⇓iP	Pn	09 30 30.7	+1.0
TKM2				⇓iS	Sn	09 31 15.2	+0.2
KRBS	Karabastau	4.23	312	Pg	Pb	09 30 43.9	-1.1
	0.9nm,0.5s						
KRBS				Lg	Lg	09 31 38.3	
	0.6nm,0.3s						
MK31	Makanchi Array	6.10	15	Pn	Pn	09 31 00.9	+0.2
	0.1nm,0.2s,baz=196,slow=13,SNR=24						
MK31				⇑Sn	Sn	09 32 12.0	+1.5
	0.5nm,0.5s,baz=282,slow=16,SNR=4.2						

*GCG **16** 09:31:37.0±0.7, 14°.06N×89°.82W, h3km±7km, MD3.8, ML2.7*
*SNET **16** 09:31:37.1±0.7, 14°.06N×89°.86W, h6km±5km, ML2.7*
*CATAC **16** 09:31:37.5±0.4, 14°N±1°×9°0W±°, h4km±1km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=4.0km s-min=2.9km az=104.2, confirmed*

ISC 16 09:31:37.4±1.1, **14°.05N**±0°.03×**89°.86W**±0°.04, **h12**km±6km, **n47**, σ0°37/52, **10C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOAL	Lomas de Alarc	0.09	125	⇑iP	Pg	09 31 39.8	-0.3
LOAL				eS	Sg	09 31 41.9	-0.3
LOAL	Lomas de Alarc	0.09	125	P	Pg	09 31 39.8	-0.3
NUBE	Las Nubes	0.17	153	⇑iP	Pg	09 31 41.3	0.0
NUBE				eS	Sg	09 31 44.1	+0.1
NUBE	Las Nubes	0.17	153	iP	Pg	09 31 41.3	0.0
NUBE				⇓iS	Sg	09 31 44.4	+0.3
NUBE	Las Nubes	0.17	153	P	Pg	09 31 41.3	0.0
RBDL	Robledal	0.18	70	⇑iP	Pg	09 31 41.7	+0.2
RBDL				eS	Sg	09 31 44.9	+0.6
FAME	Alcaldia de Sa	0.26	216	P	Pg	09 31 42.9	+0.1
RTR	El Retiro	0.26	127	⇑eP	Pg	09 31 43.3	+0.4
SNJE	San Jose	0.31	127	⇑iP	Pg	09 31 44.1	+0.3
UNIC	Universidad Ca	0.31	103	⇑eP	Pg	09 31 43.7	0.0
UNIC	Universidad Ca	0.31	103	P	Pg	09 31 43.7	0.0
UNIC	Universidad Ca	0.31	103	S	Sg	09 31 48.5	+0.5
SBLS	San Blas	0.31	133	⇑eP	Pg	09 31 44.0	+0.2
JUAM	Asuncion Mita	0.32	28	iP	Pg	09 31 43.9	0.0
JUAM				eS	Sg	09 31 48.8	+0.6
JUAM				IAML		09 31 49.2	
	comp=N,3μm,0.3s						
CEVE	Cerro Verde	0.32	134	eP	Pg	09 31 44.5	+0.5
CEVE				IAML		09 31 50.9	
	comp=Z,909nm,0.3s						
CEVE	Cerro Verde	0.32	134	P	Pg	09 31 44.5	+0.5
CEVE	Cerro Verde	0.32	134	S	Sb	09 31 49.6	-0.9
CEDA	San Andres	0.52	119	S	Sg	09 31 54.4	+0.1
JAYA	Jayaque - finc	0.56	135	⇑eP	Pg	09 31 48.5	+0.1
JAYA	Jayaque - finc	0.56	135	eP	Pg	09 31 48.5	+0.1
JAYA	Jayaque - finc	0.56	135	S	Sg	09 31 56.2	+0.3
JAYA	Jayaque - finc	0.56	135	P	Pg	09 31 48.5	+0.1
MTO3	Montecristo	0.59	55	⇑iP	Pg	09 31 48.9	-0.1
MTO3	Montecristo	0.59	55	P	Pg	09 31 49.0	-0.1
MTO3	Montecristo	0.59	55	S	Sb	09 31 57.4	-1.0
PMON	Piamonte	0.63	123	eP	Pb	09 31 50.1	-0.3
PMON	Piamonte	0.63	123	P	Pb	09 31 49.9	-0.5
PMON	Piamonte	0.63	123	S	Sg	09 31 58.4	+0.4
ESQI	Esquipulas	0.71	45	⇑eP	Pg	09 31 51.2	0.0
ESQI	Esquipulas	0.71	45	P	Pg	09 31 51.2	0.0
ESQI	Esquipulas	0.71	45	S	Sb	09 32 01.0	-0.7
UDBS	Universidad Do	0.76	116	S	Sg	09 32 02.5	+0.4
UDBS	Universidad Do	0.76	116	P	Pg	09 31 52.0	-0.1
LOMA	Loma Larga	0.78	121	S	Sg	09 32 03.0	+0.2
LOMA	Loma Larga	0.78	121	P	Pg	09 31 52.2	-0.3
LLGN	La Laguna	0.90	83	S	Sb	09 32 06.9	0.0
LLGN	La Laguna	0.90	83	P	Pg	09 31

JAYA	Jayaque - finc	0.56	134	P	Pb	09 38 30.2	-0.4
MTO3	Montecristo	0.60	54	eP	Pb	09 38 30.7	-0.6
MTO3	Montecristo	0.60	54	eP	Pb	09 38 30.6	-0.6
MTO3	Montecristo	0.60	54	S	Sb	09 38 39.1	-0.6
MTO3	Montecristo	0.60	54	P	Pb	09 38 30.7	-0.6
PMON	Piamonte	0.63	122	eP	Pb	09 38 31.8	+0.1
PMON	Piamonte	0.63	122	S	Sg	09 38 39.6	+0.1
PMON	Piamonte	0.63	122	P	Pb	09 38 31.8	+0.1
ITCA	Escuela Especi	0.68	123	S	Sg	09 38 41.0	0.0
UEES	Universidad Ev	0.69	119	P	Pb	09 38 32.3	-0.4
ESQI	Esquipulas	0.72	45	S	Sg	09 38 42.1	-0.2
ESQI	Esquipulas	0.72	45	P	Pb	09 38 32.9	-0.3
UDBS	Universidad Do	0.76	116	P	Pb	09 38 33.6	-0.3
UDBS	Universidad Do	0.76	116	S	Sb	09 38 44.2	-0.1
LOMA	Loma Larga	0.78	121	S	Sb	09 38 44.9	0.0
LOMA	Loma Larga	0.78	121	P	Pb	09 38 34.1	-0.2
PANCS	Alcalda de	0.79	123	P	Pb	09 38 34.5	+0.1
PANCS	Alcalda de	0.79	123	S	Sb	09 38 44.9	-0.2
LLGN	La Laguna	0.90	83	P	Pb	09 38 36.0	-0.2
LLGN	La Laguna	0.90	83	S	Sb	09 38 48.3	+0.2
PAVA	Las Pavas	0.96	110	P	Pb	09 38 37.6	+0.3
PAVA	Las Pavas	0.96	110	S	Sb	09 38 50.7	+0.8
APG	El Apazote	1.11	329	eP	Pg	09 38 40.0	-0.3
APG				i S	Sb	09 38 54.9	+0.4
UESV	Universidad de	1.12	111	S	Sg	09 38 54.6	-0.5
UESV	Universidad de	1.12	111	P	Pb	09 38 40.1	+0.1
SCLA	Alcaldia de Sa	1.15	107	P	Pb	09 38 40.7	+0.1
SCLA	Alcaldia de Sa	1.15	107	S	Sb	09 38 56.3	+0.8
TECO	Alcaldia de Te	1.17	116	P	Pg	09 38 40.5	-0.8
TECO	Alcaldia de Te	1.17	116	S	Sb	09 38 56.5	+0.6
SARH	Santa Rosa de	1.29	56	eP	Pg	09 38 43.6	0.0
SARH				eS	Sn	09 39 01.1	+1.5
SARH	Santa Rosa de	1.29	56	S	Sg	09 38 59.5	-0.9
SARH	Santa Rosa de	1.29	56	P	Pg	09 38 43.6	0.0

IDC 16 09:52:01.2±2.0, 2°.64S×150°.77E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=66.9km s-min=29.0km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.52	222	P	P	09 57 13.9	+0.7
	0.6nm,0.7s,baz=50,slow=10,SNR=5.5 0.6nm,0.7s						
ASAR	Alice Springs	26.52	217	P	P	09 57 41.3	+0.6
	0.2nm,0.4s,baz=53,slow=8.4,SNR=7.0 0.2nm,0.4s						
MKAR	Makanchi Array	77.38	319	P	P	10 03 58.5	+0.4
	0.3nm,0.7s,baz=92,slow=3.5,SNR=2.1 0.3nm,0.7s						
ZALV	Zalesovo Beam	78.24	327	P	P	10 04 01.5	-1.3
	0.5nm,0.4s,baz=105,slow=9.5,SNR=1.7 0.5nm,0.4s						
QSPA	South Pole Qui	87.31	180	P	P	10 04 49.7	-0.2
	1.0nm,1.0s,baz=278,slow=3.6,SNR=2.3 1.0nm,1.0s						

GCG 16 09:58:03.9±0.8, 14°.06N×91°.59W, h22km±17km, MD3.7, ML3.0, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.43	28	eP	Pn	09 58 17.0	+2.1
STG2				i S	Sn	09 58 27.0	+4.9
FG8	Yepocapa, Chim	1.01	78	i P	Pb	09 58 18.2	-4.7
FG8				i S	Sb	09 58 29.7	-6.2
FG16	Alotenango, Sa	1.07	78	i P	Pn	09 58 19.3	-4.4
FG16				eS	Sb	09 58 31.5	-5.9
FG16				IAML		09 58 35.8	
	comp=N,2μm,0.3s						
APG	El Apazote	1.44	49	⇓iP	Pn	09 58 29.4	+0.6

*NEIC **16** 09:59:19.3±1.0, 56°.13N±0°.06×153°.16W±0°.09, h10km±2km, Error ellipse: s-maj=10.4km s-min=8.1km az=161.0*
*IDC **16** 09:59:19.7±0.9, 56°.33N×153°.24W, h0km, mb3.8/9, mbtmp3.9/11, ML4.2/2, MS3.4/6, Error ellipse: s-maj=22.7km s-min=18.2km az=37.0*
*AEIC **16** 09:59:21.0±1.1, 56°.09N±0°.07×153°.1W±0°.1, h25km±8km, ML3.6, mb4.0/2(NEIC), ML3.7/48(NEIC), Error ellipse: s-maj=11.4km s-min=8.3km az=148.0*

ISC 16 09:59:20.5±0.8, 56°.26N±0°.07×153°.24W±0°.05, h10km, n138, σ1§06/145, mb3.8/10, MS3.3/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.96	358		Pb	09 59 39.8	+0.6
OHAK					Sn	09 59 54.1	+0.3
R18K	Karluk	1.47	334		Pn	09 59 47.2	+0.3
KDAK	Kodiak Island	1.57	13		Pn	09 59 48.6	+0.3
KDAK				IAML		10 00 08.7	
	656nm,0.4s						
KDAK	Kodiak Island	1.57	13	Pn	Pn	09 59 48.3	0.0
	47nm,0.3s,baz=241,slow=1.6,SNR=647						
KDAK				Sn	Sn	10 00 07.5	-1.1
	84nm,0.3s,baz=44,slow=17,SNR=10						
CAHL	Cahill	2.12	329		Pn	09 59 56.0	+0.1
PLK3	Peulik 3	2.19	312		Pn	09 59 57.4	+0.5
PLK3					Sn	10 00 22.1	-1.9
PLK4	Peulik 4	2.19	310	Pn	Pn	09 59 58.1	+1.1
PLK4					Pb	09 59 58.3	-1.9
KJL	Kejulik	2.20	326		Pn	09 59 57.7	+0.6
KJL					Sn	10 00 25.4	+1.1
ACHA	Angle Creek He	2.26	331		Pn	09 59 58.6	+0.7
PLK2	Peulik 2	2.26	313		Pn	09 59 58.5	+0.7
PLK2					Pb	09 59 58.8	+1.0
PLK2					Sn	10 00 24.1	-1.8
KAKN	Katmai Knife C	2.27	335		Pn	09 59 59.0	+1.0
KAKN					Sn	10 00 25.1	-1.0
KAWH	Katmai	2.29	339		Pn	09 59 58.8	+0.5
KAWH					Sn	10 00 25.4	-1.1
ANCK	Angle Creek	2.30	329		Pn	09 59 58.9	+0.5
KABU	Katmai Buttres	2.30	332		Pn	09 59 59.0	+0.5
KABU					Sn	10 00 25.1	-1.8
KAHG	Katmai Hook Gl	2.35	343		Pn	10 00 00.0	+0.9
KAHG					Sn	10 00 26.6	-1.4
KARR	Katmai Rainbow	2.38	341		Pn	10 00 00.5	+1.0
PLK1	Peulik 1	2.40	311		Pn	10 00 00.3	+0.6
PLBL	Peulik Blue Cr	2.43	308		Pn	10 00 00.9	+0.7
PLBL					Pn	10 00 01.1	+0.9
CNTC	Contact Creek	2.47	326		Pn	10 00 01.7	+0.9
KAHC	Katmai Hardscr	2.58	339		Pn	10 00 03.2	+0.9
PLK5	Peulik 5	2.64	313		Pn	10 00 04.2	+1.2
R16K	Pilot Point	2.71	301	Pn	Pn	10 00 04.4	+0.4
R16K				IAML		10 01 04.6	
	comp=E,443nm,0.8s						
R16K				IAML		10 01 12.6	
	comp=N,378nm,0.8s						
ANNE	Aniakchak Nort	2.74	286		Pn	10 00 04.0	-0.6
ANPB	Aniakchak Plen	2.84	283		Pn	10 00 05.7	-0.2
Q16K	King Salmon	3.04	324		Pn	10 00 08.8	+0.2
P18K	Big Mountain,	3.31	342		Pn	10 00 12.8	+0.4
P18K				IAML		10 01 25.5	
	comp=E,106nm,1.1s						
CNPM	China Poot	3.44	17		Pn	10 00 14.7	+0.5
CNPM				IAML		10 00 53.5	
	comp=N,119nm,0.7s						
CNPM				IAML		10 01 44.3	
	comp=E,154nm,1.1s						
ILS	Iliamna Low So	3.71	1		Pn	10 00 17.8	0.0
ILS					Pn	10 00 18.5	+0.7
BRLK	Bradley Lake	3.73	19	Pn	Pn	10 00 17.9	-0.1
BRLK				IAML		10 01 04.4	
	comp=N,116nm,0.4s						
BRLK				IAML		10 01 42.6	
	comp=E,116nm,0.8s						
ILSW	Iliamna Southw	3.73	1		Pn	10 00 18.6	+0.4
ILSW				IAML		10 01 06.3	
	comp=N,101nm,0.8s						
ILSW				IAML		10 01 43.5	
	comp=E,129nm,1.0s						
IVE	Iliamna Volcan	3.77	2		Pn	10 00 18.7	+0.1
IVE					Pn	10 00 19.6	+0.9
P16K	Nushagak River	3.77	319	Pn	Pn	10 00 19.0	+0.4
P16K				IAML		10 01 44.1	
	comp=E,181nm,1.1s						
O20K	Slope Mountain	3.84	5		Pn	10 00 20.1	+0.4
O20K					Pn	10 00 20.5	+0.8
CNBA	Chernabura Isl	3.89	251	Pn	Pn	10 00 18.3	-1.8
O19K	Port Alsworth	3.98	352		Pn	10 00 22.2	+0.7
SDPT	Sand Point	4.18	260	Pn	Pn	10 00 23.0	-1.2
SDPT				IAML		10 02 01.1	
	comp=E,126nm,0.9s						
SDPT				IAML		10 02 02.7	
	comp=N,161nm,1.2s						
O16K	Kokwok River B	4.22	324	Pn	Pn	10 00 25.7	+0.9
RDWB	Redoubt West	4.24	3		Pn	10 00 25.3	+0.1
SEW	Seward	4.34	26	Pn	Pn	10 00 25.6	-0.9
SEW				IAML		10 01 03.5	
	comp=E,48nm,1.0s						
DFR	Drift River	4.35	4		Pn	10 00 26.9	+0.2
SLKM	Skilak Lake	4.54	19	Pn	Pn	10 00 27.8	-1.5
SLKM				IAML		10 01 22.4	
	comp=N,71nm,1.1s						
SLKM				IAML		10 01 26.2	
	comp=E,87nm,0.7s						
O15K	Ungalikthiuk R	4.58	312	Pn	Pn	10 00 30.8	+1.0
O15K				IAML		10 02 18.1	
	comp=E,48nm,0.9s						
N19K	Bonanza Creek	4.61	352		Pn	10 00 30.7	+0.4
N19K				IAML		10 02 00.4	
	comp=N,56nm,0.9s						
N19K				IAML		10 02 12.0	
	comp=E,65nm,1.2s						
O22K	Cooper Landing	4.62	22		Pn	10 00 29.2	-0.9
N18K	Kilae Creek	4.64	344	Pn	Pn	10 00 30.9	+0.3
N18K				IAML		10 02 11.8	
	comp=E,49nm,1.1s						
N17K	Nushagak Hills	4.75	336		Pn	10 00 32.8	+0.7
N17K				IAML		10 02 11.3	
	comp=E,40nm,1.0s						
P23K	Montague Islan	4.86	37	Pn	Pn	10 00 31.8	-1.7
P23K				IAML		10 01 30.9	
	comp=E,90nm,0.9s						
SPU	Mount Spurr	4.97	7		Pn	10 00 36.5	+1.3
N16K	Nishlik Lake	5.13	328		Pn	10 00 38.4	+1.2
RC01	Rabbit Creek A	5.17	19	Pn	Pn	10 00 36.4	-1.4
RC01				IAML		10 01 41.4	
	comp=E,65nm,0.5s						
RC01				IAML		10 01 45.5	
	comp=N,38nm,0.8s						
O14K	Tigyukauivet M	5.24	308	Pn	Pn	10 00 40.5	+1.8
PWL	Port Wells	5.28	27		Pn	10 00 38.2	-1.1
STLK	Strandline Lak	5.30	7	Pn	Pn	10 00 38.4	-1.3
N15K	Kwethluk River	5.33	320	Pn	Pn	10 00 41.2	+1.1
M18K	Stony River	5.41	347		Pn	10 00 41.8	+0.6
M18K					Pn	10 00 42.4	+1.3
HIN	Hinchinbrook I	5.46	38	Pn	Pn	10 00 40.0	-1.7
M17K	Holitna River	5.59	339		Pn	10 00 44.8	+1.2
M16K	Timber Creek	5.63	330	Pn	Pn	10 00 45.1	+1.0
FID	Port Fidalgo	5.73	35	Pn	Pn	10 00 43.4	-2.1
PMR	Palmer	5.75	20	Pn	Pn	10 00 46.2	+0.4
N14K	Kuskokwak Cree	5.79	313	Pn	Pn	10 00 47.4	+1.1
SKT	Skwentna	5.80	8	Pn	Pn	10 00 47.2	+0.7
EYAK	Cordova Ski Ar	5.83	39		Pn	10 00 45.6	-1.2
M15K	Kasigluk River	5.92	322		Pn	10 00 48.6	+0.6
KAIM	Kayak Island	5.95	48	Pn	Pn	10 00 47.6	-0.9
GHO	Glory Hole Cre	5.96	20	Pn	Pn	10 00 48.8	+0.1
L19K	White Mountain	6.00	353		Pn	10 00 50.1	+1.0
L18K	Granite Mounta	6.23	345		Pn	10 00 53.9	+1.5
DIV	Divide	6.24	35	Pn	Pn	10 00 52.4	-0.2
HMT	Hamilton	6.25	45	Pn	Pn	10 00 51.8	-0.8
SCM	Sheep Creek Mo	6.36	26		Pn	10 00 53.7	-0.6
M14K	Bethel	6.41	318	Pn	Pn	10 00 55.9	+1.1
L17K	Donlin	6.43	338		Pn	10 00 55.4	+0.3
BERG	Berg Lake	6.51	47	Pn	Pn	10 00 54.8	-1.3
BMRM	Bremner River	6.52	40	Pn	Pn	10 00 55.0	-1.4
SNH	Sunshine Point	6.75	50	Pn	Pn	10 00 59.0	-0.5
WAX	Waxell Ridge	6.89	48	Pn	Pn	10 01 00.2	-1.2
BARK	Barkley Ridge	7.01	49		Pn	10 01 01.5	-1.7
TGL	Tana Glacier	7.07	46	Pn	Pn	10 01 02.8	-1.2
VRDI	Verde Repeater	7.12	42	Pn	Pn	10 01 03.2	-1.5
MESA	MESA	7.13	52	Pn	Pn	10 01 03.4	-1.5
BAGL	Bagley Icefiel	7.23	50		Pn	10 01 04.5	-1.5
YAH	Yahtse	7.31	51	Pn	Pn	10 01 06.0	-1.5
MCARA	McCarthy VSAT	7.38	42	Pn	Pn	10 01 07.9	-0.2
KTH	Kantishna Hill	7.41	8	Pn	Pn	10 01 09.8	+1.2
BALM	Baldy	7.42	45		Pn	10 01 07.2	-1.6
J18K	Innoko River	7.43	348	Pn	Pn	10 01 10.4	+1.6
GRNC	Granite Creek	7.50	49	Pn	Pn	10 01 09.0	-1.0
TABL	Table Mountain	7.61	52	Pn	Pn	10 01 10.5	-1.0
PCA	Pinnacle	7.86	55	Pn	Pn	10 01 14.2	-0.6
LOGN	Logan Glacier	7.86	49	Pn	Pn	10 01 14.9	0.0
J20K	Nowinta River	7.95	357	Pn	Pn	10 01 17.7	+1.7
PNL	Peninsula	8.11	59		Pn	10 01 15.8	-2.4
M27K	Edge Creek, AK	8.42	39	Pn	Pn	10 01 22.5	-0.1
O29M	Mount Kennedy	8.72	56	Pn	Pn	10 01 26.6	0.0
CCB	Clear Creek Bu	8.83	15	Pn	Pn	10 01 28.9	+1.0
P29M	Windy Craggy	8.90	61		Pn	10 01 28.4	-0.7
ILAR	Eielson Array	9.09	17	Pn	Pn	10 01 32.3	+0.8
ILAR	Eielson Array	9.09	17	Pn	Pn	10 01 31.1	-0.4
	comp=N,0.2nm,0.3s,baz=205,slow=12,SNR=8.1						
ILAR				Sn	Sn	10 03 02.8	-11
	comp=N,0.6nm,0.3s,baz=16,slow=21,SNR=7.3						
H18K	Honhosa River	9.26	346	Pn	Pn	10 01 35.1	+1.2
HYT	Haines Junctio	9.40	54	Pn	Pn	10 01 34.1	-1.8
H21K	Melozitna Rive	9.43	1	Pn	Pn	10 01 37.2	+1.0
M29M	Somme Creek	9.75	44	Pn	Pn	10 01 40.1	-0.5
SIT	Sitka	9.90	78	Pn	Pn	10 01 39.6	-2.9
L29M	L29M	10.25	42	Pn	Pn	10 01 47.2	-0.2
G21K	Allakaket	10.29	359		Pn	10 01 48.9	+0.9
R32K	Eaglecrest	10.33	71	Pn	Pn	10 01 48.3	-0.2
WHY	Whitehorse	10.56	58	Pn	Pn	10 01 51.3	-0.6
P32M	Atlin	10.89	64	Pn	Pn	10 01 55.5	-0.8
E19K	Redstone River	11.39	352	Pn	Pn	10 02 05.3	+2.4
Q32M	Nakina River	11.55	68	Pn	Pn	10 02 05.3	-0.1
E22K	Anaktuvuk Pass	11.93	3	Pn	Pn	10 02 11.3	+0.8
E21K	Killik River	12.23	359	Pn	Pn	10 02 14.7	+0.3
R33M	Jennings River	12.26	66	Pn	Pn	10 02 13.4	-1.6
DLBC	Dease Lake	12.70	71	Pn	Pn	10 02 21.2	+0.2
	comp=N,1.7nm,0.3s,baz=228,slow=8.1,SNR=11						
DLBC				LR	LR	10 06 33.4	
	comp=N,890nm,18.9s,baz=210,slow=34 comp=N,28nm,1.0s						
INK	Inuvik	15.06	29	Pn	Pn	10 02 52.9	0.0
INK				IAmb	IAmb	10 03 15.0	
	comp=Z,5.4nm,1.1s						
INK	Inuvik	15.06	29	Pn	Pn	10 02 55.0	+2.1
	comp=Z,0.2nm,0.3s,baz=195,slow=6.3,SNR=6.0 comp=Z,3.7nm,1.0s						
C36M	Paulatuk	18.43	33	P	P	10 03 34.4	-1.1
C36M				IAmb	IAmb	10 03 36.6	
	comp=Z,14nm,0.9s						
NVAR	Mina Array Bea	29.20	113	P	P	10 05 23.5	+1.3
	comp=Z,1.2nm,0.8s,baz=302,slow=9.7,SNR=8.4 comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	30.84	97	P	P	10 05 37.2	+0.5
	comp=Z,0.5nm,0.6s,baz=305,slow=5.2,SNR=6.1 comp=Z,0.5nm,0.6s						
ULM	Lac du Bonnet	33.96	75	LR	LR	10 20 07.2	
	comp=Z,48nm,18.5s,baz=266,slow=37						
TIXI	Tiksi	34.49	327	LR	LR	10 21 16.7	
	comp=Z,21nm,18.6s,baz=130,slow=38						
YAK	Yakutsk	37.75	311	LR	LR	10 23 57.3	
	comp=Z,46nm,19.3s,baz=57,slow=39						
SCHQ	Schefferville	45.80	54	P	P	10 07 42.2	+0.2
	comp=Z,30nm,0.7s,baz=293,slow=8.3,SNR=5.3						
H11N2	WAKE ISLAND Hy	47.00	236	T	T	10 58 19.0	
	baz=30,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	47.01	236	T	T	10 58 19.4	
	baz=30,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	47.02	236	T	T	10 58 34.2	
	baz=30,slow=76,SNR=16						
H11S1	WAKE ISLAND Hy	48.16	235	T	T	10 59 39.2	
	baz=29,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	48.17	235	T	T	10 59 48.1	
	baz=29,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	48.17	235	T	T	10 59 47.6	
	baz=29,slow=76,SNR=13						
ARCES	ARCESS Array B	54.50	1	P	P	10 08 47.6	-0.1
	comp=Z,0.4nm,0.5s,baz=12,slow=7.4,SNR=7.6 comp=Z,0.4nm,0.5s						
SONM	Songino Array	56.94	308	P	P	10 09 06.4	+0.9
	comp=Z,1.6nm,0.7s,baz=36,slow=10.0,SNR=5.9						
SONM				LR	LR	10 36 08.5	
	comp=Z,44nm,18.8s,baz=42,slow=39 comp=Z,1.6nm,0.7s						
ZALV	Zalesovo Beam	60.34	325	P	P	10 09 29.5	+0.5
	comp=Z,0.6nm,0.5s,baz=25,slow=4.9,SNR=5.4 comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	65.18	327	P	P	10 10 01.2	-0.1
	comp=Z,0.3nm,0.4s,baz=28,slow=6.4,SNR=4.1 comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	67.29	322	P	P	10 10 15.3	+0.3
	comp=Z,0.2nm,0.5s,baz=44,slow=4.4,SNR=1.7 comp=Z,0.2nm,0.5s						
AKASG	Malin Array Be	73.38	358	P	P	10 10 51.9	-0.2
	comp=Z,0.3nm,0.4s,baz=2.9,slow=5.6,SNR=4.2						
AKASG				LR	LR	10 43 41.6	
	comp=Z,14nm,19.2s,baz=241,slow=36 comp=Z,0.3nm,0.4s						
ESDC	Sonseca Array	80.94	24	P	P	10 11 35.0	+0.2
	comp=Z,1.3nm,0.7s,baz=334,slow=4.8,SNR=5.8 comp=Z,1.3nm,0.7s						
QSPA	South Pole Qui	146.05	180	PKPbc	PKPab	10 19 00.5	+0.8
	comp=Z,3.6nm,0.8s,baz=353,slow=0.7,SNR=13						

IDC 16 10:00:14.5±3.8, 57°.90S×149°.64E, h0km, mb3.5/3, mbtmp3.6/3, MS3.4/3, Error ellipse: s-maj=356.5km s-min=29.2km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	20.15	172	P	P	10 04 49.8	0.0
	1.4nm,1.0s,baz=343,slow=13,SNR=5.0						
VNDA				LR	LR	10 11 54.8	
	comp=Z,84nm,18.9s,baz=350,slow=35 1.4nm,1.0s						
QSPA	South Pole Qui	32.20	180	LR	LR	10 20 17.5	
	comp=Z,66nm,19.1s,baz=32,slow=37						
H01W1	Cape Leeuwin H	32.98	299	T	T	10 41 21.7	
	baz=145,slow=75,SNR=99						
H01W2	Cape Leeuwin H	32.98	299	T	T	10 41 18.0	
	baz=145,slow=75,SNR=78						
H01W3	Cape Leeuwin H	33.00	299	T	T	10 41 23.0	
	baz=145,slow=75,SNR=95						
ASAR	Alice Springs	36.03	335	P	P	10 07 17.4	0.0
	0.5nm,0.6s,baz=163,slow=10,SNR=9.3 0.5nm,0.6s						
MAW	Mawson	37.58	219	LR	LR	10 22 18.0	
	comp=Z,83nm,18.3s,baz=96,slow=35						
WRA	Warramunga Arr	39.54	337	P	P	10 07 46.8	-0.2
	0.8nm,0.7s,baz=167,slow=7.6,SNR=8.4 0.8nm,0.7s						
H08S2	Diego Garcia H	76.73	277	T	T	11 35 48.0	
	baz=148,slow=76,SNR=9.1						
H08S1	Diego Carcia H	76.75	277	T	T	11 35 54.7	
	baz=148,slow=76,SNR=7.9						
H08S3	Diego Garcia H	76.75	277	T	T	11 35 50.4	
	baz=148,slow=76,SNR=10.0						
H03S2	Juan Fernandez	79.95	141	T	T	11 41 10.6	
	baz=201,slow=74,SNR=8.7						
H03S1	Juan Fernandez	79.95	141	T	T	11 41 12.1	
	baz=201,slow=74,SNR=9.0						
H03S3	Juan Fernandez	79.96	141	T	T	11 41 11.5	
	baz=201,slow=74,SNR=8.4						

*ISN **16** 10:02:09.0±0.5, 34°.50N×45°.56E, h6km±3km, ML2.9*
*TEH **16** 10:02:09.1, 34°.52N×45°.60E, h15km±33km*

ISC 16 10:02:10.6±1.0, 34°.54N±0°.05×45°.61E±0°.05, h11km±6km, n9, σ0§59/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.04	204	Pg	Pg	10 02 12.3	-0.4
KGS1				Sg	Sg	10 02 14.9	+0.7
GLG1	Gilan-e-Gharb	0.49	149	Pg	Pg	10 02 19.4	-0.9
IDHR	Dehrash	0.66	76	Pg	Pg	10 02 23.0	-0.5
IGHG	Ghaleghazi	0.82	104	Pg	Pg	10 02 26.7	+0.1
IKRK	Kirkuk	1.35	310	ePg	Pn	10 02 35.0	-0.4
IKRK				eSg	Sn	10 02 53.5	+0.1
IKRK				AML	AML	10 02 57.7	
	comp=N,107nm,0.5s						
IKRK				AML	AML	10 02 58.6	
	comp=E,91nm,0.6s						
BHD	Baghdad	1.63	219	ePn	Pn	10 02 39.0	-0.2
BHD				eSn	Sb	10 03 01.0	-0.1
BHD				AML	AML	10 03 03.0	
	comp=E,307nm,0.3s						
SNQR	Sonqor, Kerman	1.69	79	Pg	Pb	10 02 41.7	-0.3
MSL	Mosul	2.76	313	ePn	Pn	10 02 55.0	+0.2
MSL				eSn	Sn	10 03 29.0	+0.9
RAFI	Al-Rafai	2.84	171	ePn	Pn	10 02 56.5	+0.6
RAFI				eSn	Sn	10 03 30.5	+0.4
RAFI				AML	AML	10 03 36.6	
	comp=E,99nm,0.4s						
RAFI				AML	AML	10 03 38.4	
	comp=N,142nm,0.4s						

*NNC **16** 10:06:17.9±1.7, 43°.62N×69°.79E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=9.6km s-min=5.3km az=139.0, Suspected Mining explosion.*
*SOME **16** 10:06:17.9, 43°.62N×69°.88E*
*KRNET **16** 10:06:18.7±0.1, 43°.63N×74°.11E, mb2.4*

ISC 16 10:06:14.5±2.4, 43°.82N±0°.10×69°.8E±0°.1, h0km, n12, σ1§11/15, 4C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Boroloday	0.79	180	P	Pn	10 06 32.8	-0.2
	2.1nm,0.4s						
BRLS				S	Sb	10 06 43.5	+1.2
	24nm,0.2s						
KK31	Karatay Array	0.86	145	⇑P	Pb	10 06 32.4	0.0
	2.1nm,0.3s,baz=322,slow=17,SNR=26						
KK31				⇓S	Sg	10 06 42.7	+0.5
	27nm,0.6s,baz=315,slow=34,SNR=70						
IUG	Iuzhnay	1.68	175	P	Pg	10 06 46.8	+0.1
	27nm,0.3s						
IUG				S	Sn	10 07 07.7	+0.3
	60nm,0.5s						
ARK	Arkit	2.55	142	⇓eP	Pb	10 07 01.7	+0.5
ARK				⇓eS	Sb	10 07 33.2	0.0
MRKS	Merke	2.69	112	Pg	Pg	10 07 07.3	+1.2
	5.4nm,0.6s						
MRKS				Lg	Lg	10 07

comp=Z,38nm,19.6s,baz=89,slow=33
0.5nm,0.7s
ASAJ Asahikawa 59.94 341 LR LR 10 43 09.5
comp=Z,16nm,20.9s,baz=132,slow=32
MKAR Makanchi Array 94.47 317 P P 10 24 09.9 +0.3
1.0nm,0.6s,baz=96,slow=6.3,SNR=9.1
MKAR pP sP 10 24 21.5 -1.8
1.0nm,0.7s,baz=99,slow=6.3,SNR=5.5
1.0nm,0.6s

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*IDC **16** 10:12:31.3±3.2, 17°.62N×121°.38E, h50km±34km, mb3.3/6, mbtmp3.6/6, ML4.5/1, MS2.9/4, Error ellipse: s-maj=36.2km s-min=17.2km az=71.0*
ISC 16 10:12:30.5±1.1, 17°.68N±0°.09×121°.4E±0°.2, h40km, n10, σ0°93/8, mb3.5/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.58**	**187**	P	**Pn**	**10 13 24.9**	**+1.2**
	45nm,0.3s,baz=37,slow=20,SNR=1.8						
TGY				S	**Sn**	**10 14 04.5**	**-0.4**
	199nm,0.5s,baz=343,slow=9.7,SNR=3.7						
TGY				LR	LR	10 15 10.3	
	comp=Z,108nm,18.2s,baz=159,slow=45						
JOW	**Kunigami**	**11.11**	**34**	LR	LR	10 18 56.0	
	comp=Z,52nm,22.0s,baz=206,slow=34						
DAV	**Davao City (W)**	**11.30**	**158**	LR	LR	10 20 35.0	
	comp=Z,66nm,19.2s,baz=352,slow=43						
JNU	**Nakatsue**	**17.58**	**27**	LR	LR	10 23 58.0	
	comp=Z,56nm,18.6s,baz=213,slow=39						
KSRS	**Korea Array**	**20.52**	**15**	P	**P**	**10 17 05.5**	**+0.3**
	1.3nm,0.7s,baz=198,slow=12,SNR=6.4						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.37**	**276**	P	**P**	**10 17 13.9**	**-0.8**
	0.6nm,0.3s,baz=86,slow=8.7,SNR=5.5						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**39.48**	**161**	P	**P**	**10 19 56.4**	**-0.9**
	0.5nm,0.8s,baz=343,slow=9.1,SNR=4.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**42.87**	**163**	P	**P**	**10 20 24.7**	**-0.4**
	0.3nm,0.6s,baz=338,slow=7.0,SNR=7.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**43.32**	**321**	P	**P**	**10 20 29.6**	**+0.9**
	0.7nm,0.7s,baz=108,slow=9.3,SNR=4.1						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**47.34**	**324**	P	**P**	**10 20 59.8**	**-0.5**
	0.9nm,0.7s,baz=120,slow=8.4,SNR=6.4						
	0.9nm,0.7s						

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*GCG **16** 10:16:45.2±0.7, 14°.06N×89°.81W, h2km±7km, MD3.8, ML2.8*
*SNET **16** 10:16:45.0±0.6, 14°.05N×89°.85W, h5km±4km, ML2.7*
*CATAC **16** 10:16:45.6±0.5, 14°N±2°×9°0W±°, h5km±1km, M2.8/9, MLv2.8/9, Error ellipse: s-maj=5.2km s-min=3.1km az=113.7, confirmed*
ISC 16 10:16:45.4±1.1, 14°.05N±0°.03×89°.85W±0°.04, h13km±6km, n30, σ0°39/35, 6C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOAL	**Lomas de Alarc**	**0.09**	**126**	⇑ *i* P	**Pg**	**10 16 48.1**	**-0.2**
LOAL				*e* S	**Sg**	**10 16 50.1**	**-0.3**
LOAL	**Lomas de Alarc**	**0.09**	**126**	P	**Pg**	**10 16 48.1**	**-0.2**
NUBE	**Las Nubes**	**0.16**	**154**	⇑ *e* P	**Pg**	**10 16 49.5**	**+0.1**
NUBE				*e* S	**Sg**	**10 16 52.3**	**+0.1**
NUBE	**Las Nubes**	**0.16**	**154**	*i* P	**Pg**	**10 16 49.5**	**+0.1**
NUBE				*i* S	**Sg**	**10 16 52.6**	**+0.4**
NUBE	**Las Nubes**	**0.16**	**154**	P	**Pg**	**10 16 49.5**	**+0.1**
RBDL	**Robledal**	**0.17**	**68**	⇑ *i* P	**Pg**	**10 16 50.0**	**+0.4**
RBDL				*e* S	**Sg**	**10 16 53.4**	**+0.9**
RTR	**El Retiro**	**0.25**	**127**	⇑ *i* P	**Pb**	**10 16 51.5**	**-0.4**
FAME	**Alcaldia de Sa**	**0.26**	**218**	P	**Pg**	**10 16 51.3**	**+0.4**
SNJE	**San Jose**	**0.30**	**127**	⇑ *i* P	**Pb**	**10 16 52.4**	**-0.4**
UNIC	**Universidad Ca**	**0.30**	**103**	*e* P	**Pg**	**10 16 51.9**	**+0.2**
UNIC	**Universidad Ca**	**0.30**	**103**	P	**Pg**	**10 16 52.0**	**+0.2**
UNIC	**Universidad Ca**	**0.30**	**103**	S	**Sg**	**10 16 56.5**	**+0.6**
SBLS	**San Blas**	**0.30**	**133**	⇑ *e* P	**Pg**	**10 16 52.2**	**+0.4**
CEVE	**Cerro Verde**	**0.31**	**135**	*e* P	**Pb**	**10 16 52.6**	**-0.4**
CEVE	**Cerro Verde**	**0.31**	**135**	P	**Pb**	**10 16 52.7**	**-0.4**
CEVE	**Cerro Verde**	**0.31**	**135**	S	**Sb**	**10 16 57.6**	**-0.5**
JUAM	**Asuncion Mita**	**0.32**	**27**	*i* P	**Pg**	**10 16 52.2**	**+0.2**
JUAM				*e* S	**Sb**	**10 16 57.1**	**-1.1**
JUAM				IAML		10 16 57.5	
	comp=N,4μm,0.3s						
JAYA	**Jayaque - finc**	**0.56**	**135**	*e* P	**Pg**	**10 16 56.7**	**+0.3**
JAYA	**Jayaque - finc**	**0.56**	**135**	*e* P	**Pg**	**10 16 56.8**	**+0.3**
JAYA	**Jayaque - finc**	**0.56**	**135**	P	**Pg**	**10 16 56.6**	**+0.3**
MTO3	**Montecristo**	**0.59**	**54**	*i* P	**Pg**	**10 16 57.2**	**+0.2**
MTO3	**Montecristo**	**0.59**	**54**	P	**Pg**	**10 16 57.3**	**+0.2**
MTO3	**Montecristo**	**0.59**	**54**	S	**Sg**	**10 17 05.3**	**+0.3**
PMON	**Piamonte**	**0.62**	**123**	*e* P	**Pb**	**10 16 58.3**	**+0.1**
PMON	**Piamonte**	**0.62**	**123**	P	**Pb**	**10 16 58.3**	**+0.1**
ESQI	**Esquipulas**	**0.71**	**44**	P	**Pb**	**10 16 59.5**	**-0.3**
ESQI	**Esquipulas**	**0.71**	**44**	S	**Sb**	**10 17 09.2**	**-0.3**
LLGN	**La Laguna**	**0.89**	**83**	P	**Pg**	**10 17 02.6**	**-0.1**
LLGN	**La Laguna**	**0.89**	**83**	S	**Sb**	**10 17 14.8**	**+0.2**
APG	**El Apazote**	**1.12**	**328**	*e* P	**Pb**	**10 17 06.8**	**0.0**

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*NEIC **16** 10:21:12.0±1.4, 56°.19N±0°.04×153°.15W±0°.06, h10km±1km, Error ellipse: s-maj=8.1km s-min=3.5km az=146.0*
*IDC **16** 10:21:12.1±0.8, 56°.36N×153°.13W, h0km, mb3.9/14, mbtmp3.9/15, ML3.6/1, MS3.4/1, Error ellipse: s-maj=22.2km s-min=15.8km az=21.0*
*AEIC **16** 10:21:15.1±1.4, 56°.21N±0°.06×153°.20W±0°.09, h32km±6km, ML3.6, mb4.0/2(NEIC), ML3.7/52(NEIC), Error ellipse: s-maj=8.5km s-min=7.0km az=168.0*
ISC 16 10:21:13.7±3.2, 56°.31N±0°.07×153°.12W±0°.05, h14km±20km, n167, σ1°08/172, mb3.9/15, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.92**	**354**		**Pn**	**10 21 31.8**	**-0.3**
OHAK					**Sn**	**10 21 46.0**	**+0.9**
OHAK				IAML		10 22 03.9	
	comp=N,2μm,0.9s						
OHAK	**Old Harbor**	**0.92**	**354**	P	**Pb**	**10 21 31.0**	**-0.3**
R18K	**Karluk**	**1.45**	**330**		**Pn**	**10 21 38.9**	**-0.6**
R18K				IAML		10 22 13.9	
	comp=E,2μm,0.5s						
KDAK	**Kodiak Island**	**1.50**	**11**		**Pn**	**10 21 40.1**	**0.0**
KDAK				IAML		10 22 00.8	
	comp=E,671nm,0.4s						
KDAK	**Kodiak Island**	**1.50**	**11**		**Sn**	**10 21 59.7**	**+0.2**
KDAK	**Kodiak Island**	**1.50**	**11**	Pn	**Pn**	**10 21 39.8**	**-0.4**
	comp=E,48nm,0.3s,baz=197,slow=6.3,SNR=1065						
KDAK				Sn	**Sn**	**10 21 59.8**	**+0.3**
	comp=E,102nm,0.3s,baz=191,slow=4.5,SNR=10						
CAHL	**Cahill**	**2.11**	**327**		**Pn**	**10 21 48.2**	**-0.4**
KJL	**Kejulik**	**2.20**	**324**		**Pn**	**10 21 49.5**	**-0.3**
PLK3	**Peulik 3**	**2.21**	**310**		**Pn**	**10 21 49.5**	**-0.4**
PLK3					**Pn**	**10 21 49.9**	**0.0**
PLK3					**Sn**	**10 22 15.2**	**-1.8**
PLK4	**Peulik 4**	**2.21**	**308**		**Pn**	**10 21 49.7**	**-0.3**
ACHA	**Angle Creek He**	**2.25**	**329**		**Pn**	**10 21 50.6**	**+0.1**
KAKN	**Katmai Knife C**	**2.25**	**333**		**Pn**	**10 21 50.5**	**0.0**
KAKN					**Sn**	**10 22 17.4**	**-0.7**
PLK2	**Peulik 2**	**2.28**	**311**		**Pn**	**10 21 50.6**	**-0.3**
PLK2					**Sn**	**10 22 16.6**	**-2.1**
KABU	**Katmai Buttres**	**2.29**	**330**		**Pn**	**10 21 51.5**	**+0.4**
KABU					**Sn**	**10 22 17.9**	**-1.1**
ANCK	**Angle Creek**	**2.29**	**327**		**Pn**	**10 21 50.8**	**-0.3**
ANCK					**Pn**	**10 21 51.0**	**0.0**
KAHG	**Katmai Hook Gl**	**2.32**	**341**		**Pn**	**10 21 52.0**	**+0.5**
KARR	**Katmai Rainbow**	**2.35**	**339**		**Pn**	**10 21 52.0**	**+0.1**
PLK1	**Peulik 1**	**2.42**	**309**		**Pn**	**10 21 52.7**	**-0.1**
PLK1					**Sn**	**10 22 20.4**	**-1.7**
PLBL	**Peulik Blue Cr**	**2.46**	**306**		**Pn**	**10 21 53.0**	**-0.3**
PLBL					**Pn**	**10 21 54.3**	**+1.0**
KAHC	**Katmai Hardscr**	**2.55**	**337**		**Pn**	**10 21 55.0**	**+0.3**
ANNE	**Aniakchak Nort**	**2.80**	**284**		**Pn**	**10 21 56.1**	**-1.9**
ANPB	**Aniakchak Plen**	**2.90**	**282**		**Pn**	**10 21 57.8**	**-1.6**
Q16K	**King Salmon**	**3.04**	**323**		**Pn**	**10 22 00.9**	**-0.4**
P18K	**Big Mountain,**	**3.29**	**341**		**Pn**	**10 22 05.0**	**+0.2**
CNPM	**China Poot**	**3.37**	**17**		**Pn**	**10 22 06.3**	**+0.4**
CNPM				IAML		10 23 29.7	
	comp=N,114nm,1.0s						
CNPM				IAML		10 23 31.0	
	comp=E,135nm,1.2s						
VNHG	**Veniaminof 1**	**3.37**	**271**		**Pn**	**10 22 03.7**	**-2.2**
ILS	**Iliamna Low So**	**3.65**	**0**		**Pn**	**10 22 09.8**	**0.0**
ILS					**Pn**	**10 22 10.4**	**+0.6**
BRLK	**Bradley Lake**	**3.66**	**18**	Pn	**Pn**	**10 22 09.7**	**-0.1**
BRLK				IAML		10 22 54.5	
	comp=E,125nm,0.6s						
BRLK				IAML		10 22 58.0	
	comp=N,109nm,0.5s						
BRSE	**Bradley Lake S**	**3.66**	**19**		**Pn**	**10 22 09.8**	**-0.1**
ILSW	**Iliamna Southw**	**3.68**	**360**		**Pn**	**10 22 11.2**	**+1.0**
ILSW				IAML		10 23 33.7	
	comp=N,115nm,1.0s						
ILSW				IAML		10 23 36.5	
	comp=E,154nm,1.1s						
IVE	**Iliamna Volcan**	**3.71**	**1**		**Pn**	**10 22 10.8**	**+0.1**
IVE					**Pn**	**10 22 11.2**	**+0.5**
P16K	**Nushagak River**	**3.78**	**318**		**Pn**	**10 22 10.7**	**-0.7**
O20K	**Slope Mountain**	**3.79**	**4**		**Pn**	**10 22 11.9**	**+0.2**
O19K	**Port Alsworth**	**3.94**	**351**		**Pn**	**10 22 13.5**	**-0.2**
CNBA	**Chernabura Isl**	**3.97**	**251**	Pn	**Pn**	**10 22 10.0**	**-4.0**
CNBA				IAML		10 22 56.3	
	comp=E,105nm,0.8s						
CNBA				IAML		10 23 48.5	
	comp=N,94nm,1.2s						
RDWB	**Redoubt West**	**4.19**	**2**		**Pn**	**10 22 17.1**	**-0.1**
RDWB					**Pn**	**10 22 17.6**	**+0.3**
O16K	**Kokwok River B**	**4.22**	**323**		**Pn**	**10 22 17.2**	**-0.4**
SDPT	**Sand Point**	**4.26**	**260**	Pn	**Pn**	**10 22 15.4**	**-2.6**
SDPT				IAML		10 23 53.5	
	comp=E,135nm,0.9s						
SDPT	**Sand Point**	**4.26**	**260**	P	**Pn**	**10 22 15.9**	**-2.2**
SEW	**Seward**	**4.27**	**26**		**Pn**	**10 22 17.8**	**-0.3**
DFR	**Drift River**	**4.30**	**3**		**Pn**	**10 22 19.0**	**+0.3**
SLKM	**Skilak Lake**	**4.47**	**19**		**Pn**	**10 22 21.3**	**+0.3**
SLKM				IAML		10 23 11.9	
	comp=N,68nm,0.6s						
SLKM				IAML		10 23 18.2	
	comp=E,91nm,0.5s						
O22K	**Cooper Landing**	**4.54**	**22**	Pn	**Pn**	**10 22 24.3**	**+2.4**
N19K	**Bonanza Creek**	**4.57**	**352**		**Pn**	**10 22 22.9**	**+0.5**
N19K				IAML		10 23 52.8	
	comp=N,61nm,0.8s						
O15K	**Ungalikthiuk R**	**4.60**	**311**		**Pn**	**10 22 22.4**	**-0.3**
O15K				IAML		10 24 08.2	
	comp=E,48nm,1.1s						
N18K	**Kilae Creek**	**4.61**	**343**		**Pn**	**10 22 23.4**	**+0.4**
N17K	**Nushagak Hills**	**4.74**	**335**	Pn	**Pn**	**10 22 24.8**	**+0.2**
N17K				IAML		10 24 07.6	
	comp=E,47nm,1.1s						
SPU	**Mount Spurr**	**4.91**	**6**		**Pn**	**10 22 27.6**	**+0.5**
S12K	**Black Hills**	**5.06**	**267**	Pn	**Pn**	**10 22 26.2**	**-2.8**
S12K				IAML		10 23 28.3	
	comp=E,95nm,1.1s						
RC01	**Rabbit Creek A**	**5.10**	**19**		**Pn**	**10 22 29.4**	**-0.2**
RC01				IAML		10 23 33.4	
	comp=E,66nm,0.5s						
RC01				IAML		10 23 44.4	
	comp=N,42nm,0.5s						
PWL	**Port Wells**	**5.20**	**27**		**Pn**	**10 22 30.4**	**-0.6**
PWL				IAML		10 23 35.2	
	comp=N,76nm,0.5s						
STLK	**Strandline Lak**	**5.24**	**7**		**Pn**	**10 22 32.8**	**+1.2**
STLK				IAML		10 23 38.1	
	comp=N,31nm,0.9s						
O14K	**Tigyukauivet M**	**5.26**	**307**	Pn	**Pn**	**10 22 31.4**	**-0.4**
O14K				IAML		10 24 19.2	
	comp=N,48nm,1.1s						
O14K				IAML		10 24 30.6	
	comp=E,38nm,1.0s						
N15K	**Kwethluk River**	**5.34**	**319**		**Pn**	**10 22 32.8**	**-0.1**
N15K				IAML		10 24 19.4	
	comp=N,35nm,1.2s						
N15K				IAML		10 24 27.7	
	comp=E,46nm,0.8s						
HIN	**Hinchinbrook I**	**5.37**	**38**	Pn	**Pn**	**10 22 33.9**	**+0.5**
M18K	**Stony River**	**5.38**	**346**		**Pn**	**10 22 32.9**	**-0.5**
M18K					**Pn**	**10 22 34.1**	**+0.7**
GLI	**Glacier Island**	**5.55**	**32**	Pn	**Pn**	**10 22 35.5**	**-0.4**
M17K	**Holitna River**	**5.57**	**338**		**Pn**	**10 22 36.3**	**+0.2**
M16K	**Timber Creek**	**5.62**	**330**		**Pn**	**10 22 37.1**	**+0.3**
FID	**Port Fidalgo**	**5.64**	**35**	Pn	**Pn**	**10 22 35.3**	**-1.8**
M19K	**Big River Lodg**	**5.64**	**354**		**Pn**	**10 22 37.9**	**+0.8**
PMR	**Palmer**	**5.68**	**20**		**Pn**	**10 22 38.2**	**+0.6**
PMR	**Palmer**	**5.68**	**20**	P	**Pn**	**10 22 39.7**	**+2.2**
SKT	**Skwentna**	**5.74**	**8**		**Pn**	**10 22 40.5**	**+2.0**
EYAK	**Cordova Ski Ar**	**5.74**	**39**	Pn	**Pn**	**10 22 37.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.74**	**39**	P	**Pn**	**10 22 38.1**	**-0.3**
N14K	**Kuskokwak Cree**	**5.80**	**312**	Pn	**Pn**	**10 22 38.0**	**-1.2**
KAIM	**Kayak Island**	**5.86**	**48**	Pn	**Pn**	**10 22 40.2**	**+0.2**
GHO	**Glory Hole Cre**	**5.89**	**20**	Pn	**Pn**	**10 22 40.4**	**0.0**
M15K	**Kasigluk River**	**5.92**	**321**		**Pn**	**10 22 40.6**	**-0.2**
L19K	**White Mountain**	**5.95**	**352**		**Pn**	**10 22 41.8**	**+0.5**
RAGM	**Ragged Mountai**	**6.03**	**44**	Pn	**Pn**	**10 22 41.8**	**-0.6**
SML	**Sawmill**	**6.04**	**22**	Pn	**Pn**	**10 22 43.3**	**+0.8**
HMT	**Hamilton**	**6.17**	**45**	Pn	**Pn**	**10 22 43.6**	**-0.6**
L18K	**Granite Mounta**	**6.20**	**344**		**Pn**	**10 22 45.6**	**+0.9**
SCM	**Sheep Creek Mo**	**6.29**	**26**		**Pn**	**10 22 45.8**	**-0.2**
L16K	**Owhat River**	**6.33**	**331**		**Pn**	**10 22 45.8**	**-0.6**
KLU	**Klutina**	**6.39**	**33**	Pn	**Pn**	**10 22 47.9**	**+0.5**
BERG	**Berg Lake**	**6.42**	**47**	Pn	**Pn**	**10 22 47.0**	**-0.7**
BMRM	**Bremner River**	**6.44**	**40**	Pn	**Pn**	**10 22 47.3**	**-0.7**
WAX	**Waxell Ridge**	**6.80**	**48**	Pn	**Pn**	**10 22 53.7**	**+0.7**
N25K	**Chitina, Valde**	**6.89**	**36**	Pn	**Pn**	**10 22 54.4**	**+0.1**
L15K	**Ungalak Mounta**	**6.90**	**325**		**Pn**	**10 22 54.7**	**+0.4**
BARK	**Barkley Ridge**	**6.93**	**49**		**Pn**	**10 22 54.2**	**-0.6**
VRDI	**Verde Repeater**	**7.03**	**42**	Pn	**Pn**	**10 22 55.2**	**-1.1**
GLB	**Gilahina Butte**	**7.05**	**39**	Pn	**Pn**	**10 22 55.9**	**-0.4**
L14K	**Kuka Creek**	**7.07**	**319**	Pn	**Pn**	**10 22 56.6**	**0.0**
K20K	**Telida**	**7.08**	**357**	Pn	**Pn**	**10 22 58.7**	**+1.9**
ISLE	**Juniper Island**	**7.10**	**48**	Pn	**Pn**	**10 22 57.2**	**+0.1**
BAGL	**Bagley Icefiel**	**7.14**	**50**		**Pn**	**10 22 56.8**	**-0.8**
YAH	**Yahtse**	**7.23**	**51**		**Pn**	**10 22 59.0**	**0.0**
TRF	**Thorofare Moun**	**7.30**	**10**		**Pn**	**10 23 00.6**	**+0.7**
BALM	**Baldy**	**7.34**	**45**		**Pn**	**10 22 59.5**	**-0.9**
K15K	**Wolf Creek Mou**	**7.38**	**328**	Pn	**Pn**	**10 23 01.2**	**+0.3**
PTPK	**Patty Peak**	**7.38**	**44**		**Pn**	**10 22 59.9**	**-1.2**
J18K	**Innoko River**	**7.40**	**347**		**Pn**	**10 23 02.1**	**+1.0**
GRNC	**Granite Creek**	**7.41**	**49**		**Pn**	**10 23 01.0**	**-0.5**
TABL	**Table Mountain**	**7.53**	**52**	Pn	**Pn**	**10 23 03.1**	**0.0**
CTGM	**Chitina Glacie**	**7.71**	**48**	Pn	**Pn**	**10 23 05.2**	**-0.4**
PAX	**Paxson**	**7.71**	**27**	Pn	**Pn**	**10 23 05.1**	**-0.4**
PCA	**Pinnacle**	**7.78**	**56**	Pn	**Pn**	**10 23 06.6**	**+0.2**
J19K	**Poorman**	**7.80**	**352**	Pn	**Pn**	**10 23 07.6**	**+0.9**
J20K	**Nowinta River**	**7.91**	**357**		**Pn**	**10 23 10.1**	**+2.0**
BCPM	**Bancas Point**	**8.01**	**57**	Pn	**Pn**	**10 23 09.6**	**+0.1**
PNL	**Peninsula**	**8.03**	**60**		**Pn**	**10 23 08.3**	**-1.4**
PNL	**Peninsula**	**8.03**	**60**	P	**Pn**	**10 23 09.7**	**0.0**
UNV	**Unalaska Valle**	**8.07**	**258**	P	**Pn**	**10 23 09.8**	**-0.5**
O28M	**Mount Upton**	**8.10**	**51**	Pn	**Pn**	**10 23 10.9**	**-0.1**
M27K	**Edge Creek, AK**	**8.34**	**39**	Pn	**Pn**	**10 23 14.9**	**+0.7**
O29M	**Mount Kennedy**	**8.63**	**56**		**Pn**	**10 23 18.7**	**+0.5**
HDA	**Harding Lake**	**8.67**	**18**		**Pn**	**10 23 19.1**	**+0.5**
CCB	**Clear Creek Bu**	**8.76**	**15**		**Pn**	**10 23 19.8**	**+0.1**
P29M	**Windy Craggy**	**8.82**	**62**		**Pn**	**10 23 20.8**	**+0.1**
COLA	**College**	**8.97**	**15**	P	**Pn**	**10 23 23.7**	**+1.1**
IL31		**9.02**	**17**		**Pn**	**10 23 24.4**	**+1.1**
ILAR	**Eielson Array**	**9.02**	**17**	Pn	**Pn**	**10 23 23.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=204,slow=14,SNR=16						
ILAR				Sn	**Sn**	**10 24 57.4**	**-7.1**
	comp=E,0.8nm,0.3s,baz=200,slow=18,SNR=8.6						
H18K	**Honhosa River**	**9.23**	**346**		**Pn**	**10 23 26.9**	**+0.7**
HYT	**Haines Junctio**	**9.32**	**55**	Pn	**Pn**	**10 23 28.4**	**+0.8**
H21K	**Melozitna Rive**	**9.38**	**1**	Pn	**Pn**	**10 23 29.9**	**+1.7**
J26L	**Joseph Creek**	**9.46**	**26**	Pn	**Pn**	**10 23 30.2**	**+0.7**
M29M	**Somme Creek**	**9.66**	**45**	Pn	**Pn**	**10 23 32.3**	**0.0**
IMAR	**Indian Mountai**	**9.71**	**358**	Pn	**Pn**	**10 23 34.2**	**+1.5**
SIT	**Sitka**	**9.82**	**78**	P	**Pn**	**10 23 31.9**	**-2.4**
H24K	**Noodor Dome**	**9.88**	**13**	Pn	**Pn**	**10 23 36.4**	**+1.2**
SKAG	**Skagway**	**9.98**	**64**	Pn	**Pn**	**10 23 36.9**	**+0.4**
SKAG	**Skagway**	**9.98**	**64**	P	**Pn**	**10 23 36.1**	**-0.3**
BESE	**Bessie Mountai**	**10.10**	**69**	Pn	**Pn**	**10 23 38.0**	**-0.2**
L29M	**L29M**	**10.16**	**42**	Pn	**Pn**	**10 23 39.0**	**0.0**
S32K	**Killisnoo**	**10.21**	**76**	Pn	**Pn**	**10 23 39.1**	**-0.5**
R32K	**Eaglecrest**	**10.25**	**71**	Pn	**Pn**	**10 23 40.1**	**-0.1**
JIS	**Juneau Island**	**10.32**	**71**	P	**Pn**	**10 23 42.3**	**+1.1**
WHY	**Whitehorse**	**10.48**	**58**	Pn	**Pn**	**10 23 43.3**	**-0.1**
P32M	**Atlin**	**10.81**	**64**	Pn	**Pn**	**10 23 47.6**	**-0.3**
F20K	**Avaraart Lake**	**10.84**	**355**	Pn	**Pn**	**10 23 49.4**	**+1.2**
Q32M	**Nakina River**	**11.47**	**68**	Pn	**Pn**	**10 23 57.5**	**+0.4**
BMAR	**Burnt Mountain**	**11.84**	**16**	Pn	**Pn**	**10 24 02.8**	**+0.9**
R33M	**Jennings River**	**12.18**	**66**	Pn	**Pn**	**10 24 06.2**	**-0.4**
INK	**Inuvik**	**14.98**	**29**	Pn	**Pn**	**10 24 45.2**	**+0.5**
	comp=E,0.2nm,0.3s,baz=235,slow=11,SNR=5.1						
	comp=E,1.8nm,0.9s						
C36M	**Paulatuk**	**18.35**	**33**	P	**Pn**	**10 25 27.2**	**-0.1**
C36M				IAmb	IAmb	10 25 51.9	
	comp=Z,11nm,0.9s						
YKA	**Yellowknife Ar**	**20.30**	**56**	P	**P**	**10 25 48.9**	**+0.1**
	comp=Z,7.3nm,1.0s,baz=276,slow=12,SNR=4.0						
	comp=Z,7.3nm,1.0s						
BBOR	**Butler Butte**	**23.63**	**112**	P	**P**	**10 26 22.7**	**-1.6**
BBOR				IAmb	IAmb	10 26 27.5	
	comp=Z,4.8nm,0.8s						
PETK	**Petropavlovsk-**	**28.11**	**284**	P	**P**	**10 27 06.3**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=71,slow=11,SNR=0.9						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**29.16**	**113**	P	**P**	**10 27 15.5**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=303,slow=8.9,SNR=9.5						
	comp=Z,1.3nm,0.7s						
MA2	**Magadan**	**29.20**	**300**	LR	LR	10 40 54.2	
	comp=Z,62nm,18.2s,baz=79,slow=40						
PDAR	**Pinedale Array**	**30.78**	**97**	P	**P**	**10 27 29.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=319,slow=4.2,SNR=6.7						
	comp=Z,0.5nm,0.5s						
SUMG	**Summit**	**43.80**	**23**	*i* P	**P**	**10 29 19.0**	**+0.2**
TXAR	**Lajitas Array**	**43.86**	**107**	P	**P**	**10 29 19.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=316,slow=6.5,SNR=2.4						
	comp=Z,0.7nm,0.7s						
SCHQ	**Schefferville**	**45.72**	**54**	P	**P**	**10 29 34.2**	**+0.4**
	comp=Z,25nm,0.5s,baz=333,slow=7.9,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**47.09**	**236**	T	T	11 20 01.5	
	baz=29,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**47.09**	**236**	T	T	11 20 01.9	
	baz=29,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**47.11**	**236**	T	T	11 20 02.9	
	baz=29,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**48.24**	**235**	T	T	11 21 29.8	
	baz=29,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy**	**48.26**	**235**	T	T	11 21 30.8	
	baz=29,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**48.26**	**235**	T	T	11 21 31.0	
	baz=29,slow=75,SNR=24						
KSRS	**Korea Array**	**54.00**	**285**	P	**P**	**10 30 37.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=37,slow=6.4,SNR=1.8						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**54.45**	**1**	P	**P**	**10 30 40.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=6.4,slow=7.3,SNR=8.7						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**56.96**	**308**	P	**P**	**10 30 58.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=46,slow=11,SNR=5.6						
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**60.34**	**325**	P	**P**	**10 31 21.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=34,slow=7.9,SNR=5.9						
	comp=Z,1.3nm,0.6s						
HFS	**Hagfors**	**63.43**	**7**	P	**P**	**10 31 42.1**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=50,slow=4.6,SNR=5.6						
	comp=Z,2.8nm,1.0s						
KURBB	**Kurchatov Arra**	**65.17**	**327**	P	**P**	**10 31 53.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=30,slow=6.6,SNR=4.7						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**66.06**	**18**	P	**P**	**10 31 59.9**	**+0.4**
	comp

GUMO	Guam	22.55	53	LR	LR	11 24 42.1	
	comp=Z,18nm,19.6s,baz=192,slow=36						
ASAR	Alice Springs	24.84	164	P	P	11 16 17.8	-0.8
	4.3nm,0.8s,baz=343,slow=9.4,SNR=49						
	4.3nm,0.8s						
SONM	Songino Array	50.51	343	P	P	11 19 50.1	-4.2
	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.8						
	0.3nm,0.5s						
MKAR	Makanchi Array	60.27	327	P	P	11 20 57.2	-7.4
	0.5nm,0.4s,baz=121,slow=7.9,SNR=8.7						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	64.53	328	P	P	11 21 24.6	-8.4
	0.6nm,0.2s,baz=127,slow=5.9,SNR=7.8						
	0.6nm,0.2s						

IDC ***16*** *11:37:02.8±0.3, 6°.71N×125°.01E, h0km, mb5.5/35, mbtmp5.5/38, ML5.4/3, MS6.1/64, Error ellipse: s-maj=10.5km s-min=8.5km az=51.0*

BJI ***16*** *11:37:03.6, 6°.78N×125°.08E, h10km, mB6.3/84, mb5.7/91, Ms6.5/99, Ms7 6.2/96*

MAN ***16*** *11:37:05.0, 6°.82N×124°.99E, h13km, mb6.5, ML5.6, MS6.4*

MAN INTENSITY VII - KIDAPAWAN CITY; M"LANG MAKILALA AND TULUNAN COTABATO; DIGOS CITY; MAGSAYSAY DAVAO DEL SUR; INTENSITY VI - SANTO NIO SOUTH COTABATO; TACURONG CITY SULTAN KUDARAT; INTENSITY V - DAVAO CITY; PANABO CITY; GENERAL SANTOS CITY; KORONADAL CITY; LAKE SEBU POLOMOLOK TAMPAKAN AND TUPI SOUTH COTABATO; PIKIT AND PRES. ROXAS COTABATO; ; ALABEL GLAN MALAPATAN AND MALUNGON SARANGANI; KALAMANSIG LEBAK AND PALIMBANG SULTAN KUDARAT; INTENSITY IV - T"BOLI SOUTH COTABATO; KIAMBA AND MAITUM SARANGANI; ESPERANZA AND ROSARIO AGUSAN DEL SUR; DAMULOG KADINGILAN KALILANGAN AND QUEZON BUKIDNON;; MAWAB COMPOSTELA VALLEY; COTABATO CITY; BARIRA MATANOG AND SULTAN KUDARAT MAGUINDANAO; INTENSITY III - MALAYBALAY CITY; MANOLO FORTICH BUKIDNON; CAGAYAN DE ORO CITY; GINGOOG CITY; BALINGASAG MEDINA TAGOLOAN AND VILLANUEVA MISAMIS ORIENTAL; SANTA; JOSEFA AGUSAN DEL SUR; DIPOLOG CITY;; INTENSITY II - ILIGAN CITY; MAGSAYSAY AND TUBOD LANAO DEL NORTE; CABANGLASAN LIBONA AND MALITBOG BUKIDNON; BUTUAN CITY; ZAMBOANGA CITY; INTENSITY I - HINATUAN SURIGAO DEL SUR.

MOS ***16*** *11:37:05.8±1.0, 6°.79N×125°.02E, h18km, mb6.3/83, MS6.2/52, Error ellipse: s-maj=7.0km s-min=3.7km az=115.5*

NEIC ***16*** *11:37:06.8, 6°.82N×125°.22E, h24km, Moment Tensor Solution. Duration: 7s7 Moment tensor: Scale 10^18Nm; Mrr=0.14; Mθθ=5.16; Mφφ=-5.02; Mrθ=0.58; Mrφ=0.60; Mθφ=-0.47; Fault plane solution: M0=5.18000×10^18 NP1:φs=41.62000°, δ81.69000°, λ179.99000°. NP2:φs=131.62000°, δ89.99000°, λ8.31000°. Principal axes: T 5.2516, Plg6.0000°, Azm357.0000°; N -0.1466, Plg82.0000°, Azm132.0000°; P -5.1051, Plg6.0000°, Azm266.0000°;*

NEIC ***16*** *11:37:06.9, 6°.72N×125°.02E, h20km*

NEIC ***16*** *11:37:06.3±1.7, 6°.72N±0°.07×125°.01E±0°.05, h16km±4km, mb6.2/188, Ms_20 6.3/611, Mwb6.3/64, Mww6.4/53, Error ellipse: s-maj=10.4km s-min=6.8km az=149.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=0.02; Mθθ=3.02; Mφφ=-3.04; Mrθ=0.56; Mrφ=1.35; Mθφ=0.05; Fault plane solution: M0=3.36000×10^18 NP1: φs=212.68000°, δ81.50000°, λ175.55000°. NP2: φs=303.34000°, δ85.60000°, λ8.53000°. Principal axes: T 3.3882, Plg9.0000°, Azm168.0000°; N -0.0566, Plg80.0000°, Azm330.0000°; P -3.3316, Plg3.0000°, Azm78.0000°;*

IPGP ***16*** *11:37:06.0, 6°.71N×125°.01E, h21km, Mw6.4, Fault plane solution: NP1:φ=213.00000°, δ78.00000°, λ170.00000°. NP2:φ=305.00000°, δ80.00000°, λ12.00000°.*

NEIC ***16*** *11:37:06.8, 6°.72N×125°.01E, h24km*

ISC-PP ***16*** *11:37:06, 6°.72N×125°.01E, h17km, Mwppsm6.5, Moment Tensor Solution. s45 Moment tensor: Scale 10^18Nm; Mrr=0.22±.10; Mθθ=0.12±.13; Mφφ=-0.35±.17; Mrθ=0.57±.14; Mrφ=0.03±.16; Mθφ=0.29±.09; Fault plane solution: M0=6.76000×10^18 NP1:φs=292.30000°, δ78.50000°, λ54.70000°. NP2:φs=186.60000°, δ36.90000°, λ160.70000°.*

DJA ***16*** *11:37:06.3±0.1, 7°N±1°×12°5E±°, h15km, M6.3/144, mB6.5/140, mb6.1/144, MLv6.8/11, Mw6.4/36, Mw(mB)6.3/140, MwMwp6.2/136, Mwp6.2/136*

GCMT ***16*** *11:37:10.3±0.0, 6°.86N×125°.01E, h17km, MW6.4/169, Moment Tensor Solution. s169,c415; s169,c744; Duration: 4s0 Moment tensor: Scale 10^18Nm; Mrr=0.35±.02; Mθθ=5.26±.02; Mφφ=-4.91±.02; Mrθ=0.80±.05; Mrφ=1.46±.02; Mθφ=0.45±.05; Best double couple: M0=5.36400×10^18 NP1:φs=307.00000°, δ81.00000°, λ3.00000°. NP2:φs=217.00000°, δ87.00000°, λ171.00000°. Principal axes: T 5.5900, Plg8.0000°, Azm172.0000°; N -0.4540, Plg81.0000°, Azm18.0000°; P -5.1390, Plg4.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 16 11:37:06.1±0.3, 6.78N±0.02×125.07E±0.03, h18km±1km, h18km:pP-P, n2093, σ1°85/1992, mb6.0/329, MS6.3/485, 87C-61D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.58**	**60**		**Pb**	**11 37 17.8**	**+0.1**
DAV					**Sn**	**11 37 28.4**	**-0.1**
DAV	**Davao City (W)**	**0.58**	**60**	Pg	**Pg**	**11 37 17.3**	**-0.3**
	54μm,0.3s,baz=252,slow=4.1,SNR=1860						
DAV	**Davao City (W)**	**0.58**	**60**	P	**Pb**	**11 37 18.4**	**+0.7**
DAV	**Davao City (W)**	**0.58**	**60**	P	**Pb**	**11 37 18.6**	**+0.9**
DAV	**Davao City (W)**	**0.58**	**60**	S	**Sn**	**11 37 29.0**	**+0.5**
DAV	**Davao City (W)**	**0.58**	**60**	⇓P	**Pb**	**11 37 17.8**	**+0.1**
DAV	**Davao City (W)**	**0.58**	**60**	P	**Pb**	**11 37 18.2**	**+0.5**
DAV	**Davao City (W)**	**0.58**	**60**	P	Pg	11 37 09.0	-8.6
SGSI	**Sangihe**	**3.10**	**172**	P	**Pn**	**11 37 55.9**	**+1.7**
SGSI				S	**Sn**	**11 38 34.1**	**+3.2**
KMSI	**Cibinong**	**6.26**	**190**	P	**Pn**	**11 38 38.9**	**+1.3**
TNTI	**Ternate**	**6.39**	**159**		**Pn**	**11 38 40.1**	**+0.7**
TNTI	**Ternate**	**6.39**	**159**	P	**Pn**	**11 38 42.0**	**+2.6**
TNTI	**Ternate**	**6.39**	**159**	P	**Pn**	**11 38 41.3**	**+1.9**
TNTI	**Ternate**	**6.39**	**159**	⇑P	**Pn**	**11 38 40.1**	**+0.7**
MYLDM	**Lahad Datu**	**6.73**	**257**		**Pn**	**11 38 45.2**	**+1.1**
MYLDM	**Lahad Datu**	**6.73**	**257**	P	**Pn**	**11 38 46.2**	**+2.1**
MYLDM	**Lahad Datu**	**6.73**	**257**	⇓P	**Pn**	**11 38 45.5**	**+1.5**
MRSI	**Marisa**	**7.00**	**207**	P	**Pn**	**11 38 47.3**	**-0.4**
TOLI2	**Tolitoli**	**7.07**	**217**		**Pn**	**11 38 45.9**	**-2.9**
TOLI2				Sn	**Sn**	**11 40 05.5**	**-3.3**
LUWI	**Luwuk**	**8.10**	**197**	S	**Sn**	**11 40 38.8**	**+4.7**
LUWI				P	**Pn**	**11 39 04.2**	**+1.3**
LUWI	**Luwuk**	**8.10**	**197**		**Pn**	**11 39 05.1**	**+2.2**
LUWI	**Luwuk**	**8.10**	**197**	P	**Pn**	**11 39 05.7**	**+2.8**
TGY	**Tagaytay City**	**8.34**	**331**	Pn	**Pn**	**11 39 07.3**	**+1.1**
	30nm,0.3s,baz=157,slow=4.1,SNR=9.7						
TGY				Sn	Sn	11 40 28.6	-11
	39nm,0.3s,baz=40,slow=10,SNR=3.2						
TGY				LR	LR	11 42 45.8	
	comp=Z,212μm,18.9s,baz=104,slow=41						
	99nm,0.3s						
APSI	**Ampana**	**8.37**	**204**	P	**Pn**	**11 39 10.6**	**+4.0**
SANI	**Sanana**	**8.82**	**174**	S	**Sn**	**11 40 52.3**	**+0.6**
SANI				P	**Pn**	**11 39 11.3**	**-1.5**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**11 39 13.7**	**+1.0**
SANI	**Sanana**	**8.82**	**174**	S	**Sn**	**11 40 53.6**	**+1.9**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**11 39 12.4**	**-0.3**
I39PW	**PALAU INFRASON**	**9.43**	**85**	I	I	12 31 36.4	
	0.1nm,0.6s,baz=271,slow=309,SNR=5.2						
SWI	**Sorong**	**9.78**	**141**	P	**Pn**	**11 39 28.3**	**+2.3**
	88μm24μm1μm,0.9s						
SWI	**Sorong**	**9.78**	**141**	P	**Pn**	**11 39 28.8**	**+2.8**
NLAI	**Namlea**	**10.15**	**168**	P	**Pn**	**11 39 31.1**	**0.0**
MSAI	**Masohi**	**10.77**	**159**	P	**Pn**	**11 39 40.8**	**+1.3**
	26μm2μm,1.2s						
AAI	**Ambon**	**10.85**	**163**	P	**Pn**	**11 39 41.4**	**+0.7**
	23μm2μm,1.2s						
BKB	**Balikpapan**	**11.42**	**226**		**Pn**	**11 39 50.1**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKB	**Balikpapan**	**11.42**	**226**	P	**Pn**	**11 39 49.8**	**+1.4**
BKB	**Balikpapan**	**11.42**	**226**	P	**Pn**	**11 39 49.1**	**+0.7**
	162μm17μm698nm,1.0s						
BKB	**Balikpapan**	**11.42**	**226**	⇓P	**Pn**	**11 39 51.4**	**+3.0**
SZP	**Santa**	**11.62**	**338**	P	**Pn**	**11 39 53.4**	**+2.3**
SPSI	**Sidrap Palu**	**11.91**	**207**	P	**Pn**	**11 39 57.9**	**+2.7**
	84μm13μm653nm,0.8s						
FAKI	**Fak Fak**	**12.00**	**143**		**Pn**	**11 39 57.6**	**+1.2**
FAKI	**Fak Fak**	**12.00**	**143**	P	**Pn**	**11 39 58.9**	**+2.5**
FAKI	**Fak Fak**	**12.00**	**143**	S	**Sn**	**11 42 13.8**	**+3.8**
FAKI	**Fak Fak**	**12.00**	**143**	P	**Pn**	**11 39 58.5**	**+2.1**
	83μm36μm2μm,1.0s						
FAKI	**Fak Fak**	**12.00**	**143**	⇑P	**Pn**	**11 39 57.7**	**+1.2**
BNSI	**Bone**	**12.16**	**204**	P	**Pn**	**11 40 01.1**	**+2.5**
	115μm28μm871nm,0.9s						
BNDI	**Bandanaira**	**12.22**	**157**	P	**Pn**	**11 40 00.8**	**+1.5**
BNDI	**Bandanaira**	**12.22**	**157**	P	**Pn**	**11 40 01.0**	**+1.7**
	3μm,2.0s						
BNDI	**Bandanaira**	**12.22**	**157**	⇑P	**Pn**	**11 39 58.9**	**-0.5**
RKPI	**Ransiki, Papua**	**12.26**	**132**	P	**Pn**	**11 40 02.8**	**+2.8**
MTKI	**Muara Teweh, K**	**12.73**	**233**	P	**Pn**	**11 40 10.0**	**+3.7**
KAPI	**Kappang**	**12.86**	**205**		**Pn**	**11 40 10.0**	**+1.8**
KAPI	**Kappang**	**12.86**	**205**	Pn	**Pn**	**11 40 10.2**	**+2.0**
	7.3nm,0.3s,baz=3.5,slow=6.8,SNR=23						
KAPI				Sn	**Sn**	**11 42 30.6**	**-0.4**
	baz=246,slow=21						
KAPI	**Kappang**	**12.86**	**205**	P	**Pn**	**11 40 11.5**	**+3.3**
KAPI				P	**Pn**	**11 40 11.5**	**+3.3**
KAPI				P	**Pn**	**11 40 11.5**	**+3.3**
KAPI	**Kappang**	**12.86**	**205**	P	**Pn**	**11 40 10.8**	**+2.6**
KAPI	**Kappang**	**12.86**	**205**	*i* P	**Pn**	**11 40 11.2**	**+3.0**
KAPI	**Kappang**	**12.86**	**205**	⇑P	**Pn**	**11 40 09.0**	**+0.8**
KAPI	**Kappang**	**12.86**	**205**	P	**Pn**	**11 40 12.1**	**+3.9**
KAPI				S	**Sn**	**11 42 35.0**	**+4.0**
BKSI	**Bulukumba**	**13.00**	**202**	P	**Pn**	**11 40 13.1**	**+3.1**
	100μm12μm476nm,1.0s						
KMPI	**Kaimana, Papua**	**13.48**	**140**	P	**Pn**	**11 40 20.4**	**+3.8**
	62μm39μm2μm,1.3s						
SBUM	**Sibu**	**13.51**	**252**		**Pn**	**11 40 15.6**	**-1.5**
SBUM	**Sibu**	**13.51**	**252**	P	**Pn**	**11 40 20.1**	**+3.0**
SBUM	**Sibu**	**13.51**	**252**	⇓P	**Pn**	**11 40 18.5**	**+1.4**
BAKI	**Biak**	**13.56**	**125**	P	**Pn**	**11 40 21.0**	**+3.3**
	94μm2μm,1.1s						
BSSI	**Bau Bau, Buton**	**13.62**	**200**	P	**Pn**	**11 40 21.0**	**+2.4**
	91μm25μm583nm,1.2s						
SRPI	**Serui, Papua**	**14.07**	**127**	P	**P**	**11 40 31.4**	**-1.0**
BBKI	**Banjar Baru**	**14.42**	**225**	P	**P**	**11 40 33.6**	**-2.6**
MMRI	**Maumere**	**15.57**	**191**		**Pn**	**11 40 45.5**	**+0.7**
MMRI	**Maumere**	**15.57**	**191**	P	**P**	**11 40 47.9**	**-1.2**
MMRI	**Maumere**	**15.57**	**191**	P	**P**	**11 40 48.1**	**-1.0**
	91μm33μm2μm,1.4s						
MMRI	**Maumere**	**15.57**	**191**	⇑P	**Pn**	**11 40 44.9**	**0.0**
KSM	**Kuching**	**15.64**	**251**	P	**Pn**	**11 40 46.9**	**+1.1**
KSM	**Kuching**	**15.64**	**251**	P	**Pn**	**11 40 47.6**	**+1.8**
KSM	**Kuching**	**15.64**	**251**	⇓P	**Pn**	**11 40 47.2**	**+1.4**
EDFI	**Ende, Flores**	**15.79**	**192**	P	**Pn**	**11 40 49.5**	**+1.7**
	85μm17μm434nm,0.9s						
SAUI	**Saumlaki**	**15.92**	**157**	Pn	**Pn**	**11 40 48.9**	**-0.5**
SAUI				IAmb	IAmb	11 40 57.8	
	comp=Z,1μm,0.7s						
SAUI	**Saumlaki**	**15.92**	**157**	P	**P**	**11 40 51.6**	**-1.4**
SAUI	**Saumlaki**	**15.92**	**157**	P	**Pn**	**11 40 50.6**	**+1.2**
	comp=Z,106μmcomp=Z,3μm,1.4s						
SAUI	**Saumlaki**	**15.92**	**157**	⇑P	**Pn**	**11 40 47.0**	**-2.5**
SMPI	**Sarmi**	**16.16**	**122**	P	**Pn**	**11 40 53.4**	**+0.9**
	comp=Z,98μmcomp=Z,27μmcomp=Z,927nm,1.3s						
TWGBT	**Beinan**	**16.41**	**347**	P	**P**	**11 40 58.0**	**-0.3**
TWG	**Pinlang**	**16.41**	**347**		**Pn**	**11 40 56.0**	**+0.4**
SOEI	**Soe**	**16.44**	**183**	P	**P**	**11 40 57.7**	**-1.2**
SOEI	**Soe**	**16.44**	**183**		**Pn**	**11 40 56.8**	**+0.6**
SOEI	**Soe**	**16.44**	**183**	P	**P**	**11 40 58.5**	**-0.4**
SOEI	**Soe**	**16.44**	**183**	P	**P**	**11 40 57.9**	**-1.0**
	comp=Z,46μmcomp=Z,2μm,1.1s						
SOEI	**Soe**	**16.44**	**183**	⇑P	**P**	**11 40 57.7**	**-1.2**
YULB	**Yu-li**	**16.91**	**348**	Pn	**Pn**	**11 41 00.9**	**-1.1**
YULB	**Yu-li**	**16.91**	**348**	P	**P**	**11 41 04.0**	**+0.1**
BATI	**Baumata**	**16.93**	**185**	Pn	**Pn**	**11 41 01.3**	**-1.0**
	comp=Z,58nm,0.3s,baz=66,slow=0.3,SNR=82						
BATI				Sn	**Sn**	**11 44 11.1**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=148,slow=21,SNR=1.1						
	comp=Z,1μm,1.1s						
BATI	**Baumata**	**16.93**	**185**	P	**P**	**11 41 03.6**	**-0.6**
TPUB	**Ta-pu**	**16.98**	**346**	Pn	**Pn**	**11 41 02.5**	**-0.3**
TPUB	**Ta-pu**	**16.98**	**346**	P	**P**	**11 41 03.8**	**-0.8**
WSI	**Waingapu**	**17.02**	**196**	P	**P**	**11 41 05.6**	**+0.5**
	comp=Z,89μmcomp=Z,2μm,1.8s						
PLAI	**Plampang**	**17.12**	**205**	P	**P**	**11 41 07.5**	**+1.2**
PLAI	**Plampang**	**17.12**	**205**	P	**P**	**11 41 08.4**	**+2.1**
	comp=Z,63μmcomp=Z,20μmcomp=Z,2μm,1.0s						
DLV	**Lat**	**17.15**	**289**	Pn	**Pn**	**11 41 04.9**	**-0.3**
DLV	**Lat**	**17.15**	**289**	P	**Pn**	**11 41 07.5**	**+0.7**
DLV	**Lat**	**17.15**	**289**	⇓P	**Pn**	**11 41 05.9**	**+0.7**
WBSI	**Waikabubak, Su**	**17.27**	**199**	P	**P**	**11 41 08.7**	**+0.8**
	comp=Z,76μmcomp=Z,27μmcomp=Z,1μm,1.2s						
SSLB	**Suanglung**	**17.37**	**347**	Pn	**Pn**	**11 41 07.3**	**-0.5**
SSLB	**Suanglung**	**17.37**	**347**	P	**P**	**11 41 09.0**	**0.0**
TWSI	**Taiwang, Sumb**	**17.44**	**208**	P	**P**	**11 41 11.5**	**+1.7**
	comp=Z,59μmcomp=Z,21μmcomp=Z,1μm,0.9s						
BASI	**Baing, Sumba**	**17.47**	**195**	P	**P**	**11 41 10.6**	**+0.5**
	comp=Z,80μmcomp=Z,31μmcomp=Z,2μm,1.5s						
NACB	**Ninganchiao**	**17.62**	**349**	Pn	**Pn**	**11 41 09.8**	**-1.0**
NACB	**Ninganchiao**	**17.62**	**349**	P	**Pn**	**11 41 12.9**	**+1.2**
BWJI	**Bawean**	**17.63**	**225**	P	**P**	**11 41 12.9**	**+1.0**
	comp=Z,56μmcomp=Z,33μmcomp=Z,2μm,1.4s						
KMMI	**Kalianget**	**17.65**	**219**	P	**P**	**11 41 14.6**	**+2.5**
	comp=Z,96μmcomp=Z,31μmcomp=Z,1μm,1.5s						
YOJ	**Yonaguni jima**	**17.70**	**354**	Pn	**Pn**	**11 41 11.2**	**-0.5**
YOJ	**Yonaguni jima**	**17.70**	**354**	P	**P**	**11 41 14.1**	**+1.6**
YOJ	**Yonaguni jima**	**17.70**	**354**	P	**Pn**	**11 41 11.2**	**-0.5**
YOJ				pmax	pmax		
	comp=Z,183nm,0.9s						
YOJ	**Yonaguni jima**	**17.70**	**354**	P	**P**	**11 41 18.3**	**+5.8**
GENI	**Genyem**	**17.71**	**121**	P	**P**	**11 41 13.8**	**+1.0**
GENI	**Genyem**	**17.71**	**121**	P	**P**	**11 41 15.4**	**+2.6**
	comp=Z,101μmcomp=Z,34μmcomp=Z,1μm,0.9s						
GENI	**Genyem**	**17.71**	**121**	⇑P	**Pn**	**11 41 11.7**	**-0.3**
SRBI	**Singaraja**	**17.74**	**214**	P	**P**	**11 41 15.4**	**+2.3**
	comp=Z,39μmcomp=Z,21μmcomp=Z,619nm,1.3s						
JMJ	**Miyako jima 2**	**17.94**	**1**	P	**P**	**11 41 16.9**	**+1.7**
ABJI	**Asem Bagus**	**18.07**	**217**	P	**P**	**11 41 20.2**	**+3.5**
	comp=Z,64μmcomp=Z,22μmcomp=Z,620nm,0.9s						
JAY	**Jayapura**	**18.13**	**120**	P	**Pn**	**11 41 17.2**	**0.0**
	comp=Z,4.8nm,0.3s,baz=307,slow=4.6,SNR=19						
JAY				S	**Sn**	**11 44 39.2**	**-0.1**
	comp=Z,29nm,1.0s,baz=28,slow=15,SNR=0.8						
JAY				LR	LR	11 47 57.8	
	comp=Z,67μm,21.0s,baz=304,slow=36						
	comp=Z,131nm,0.8s						
JAY	**Jayapura**	**18.13**	**120**	P	**P**	**11 41 18.2**	**+0.7**
YHNB	**Yeheng**	**18.14**	**349**	P	**Pn**	**11 41 17.1**	**-0.2**
YHNB	**Yeheng**	**18.14**	**349**	P	**P**	**11 41 19.5**	**+1.9**
DNP	**Denpasar**	**18.23**	**213**	P	**P**	**11 41 25.3**	**+6.8**
BLJI	**Banyuglugur**	**18.42**	**219**	P	**Pn**	**11 41 22.5**	**+1.8**
	comp=Z,72μmcomp=Z,28μmcomp=Z,577nm,1.1s						
TATO	**Taipei**	**18.42**	**350**	P	**P**	**11 41 18.9**	**-1.6**
TATO	**Taipei**	**18.42**	**350**	P	**P**	**11 41 19.4**	**-1.1**
TATO				P	**P**	**11 41 19.4**	**-1.1**
TATO				P	**P**	**11 41 19.4**	**-1.1**
TATO	**Taipei**	**18.42**	**350**	P	**Pn**	**11 41 23.0**	**+2.4**
GRJI	**Gresik**	**18.52**	**223**	P	**Pn**	**11 41 24.7**	**+2.8**
	comp=Z,66μmcomp=Z,45μmcomp=Z,2μm,1.3s						
JAGI	**Jajag, Banyuwa**	**18.66**	**216**	P	**Pn**	**11 41 23.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**18.66**	**216**	P	**Pn**	**11 41 25.4**	**+1.8**
JAGI	**Jajag, Banyuwa**	**18.66**	**216**	P	**Pn**	**11 41 25.3**	**+1.7**
	comp=Z,43μmcomp=Z,21μmcomp=Z,893nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.66**	**216**	⇑P	**Pn**	**11 41 25.2**	**+1.7**
HKPS	**Hong Kong Po S**	**18.67**	**327**	P	**P**	**11 41 22.4**	**-1.0**
HKPS	**Hong Kong Po S**	**18.67**	**327**	P	**Pn**	**11 41 26.1**	**+2.3**
HKC	**Hong Kong Obse**	**18.68**	**327**	⇑P	**Pn**	**11 41 24.0**	**+0.2**
KNMB	**Chin-men Tao**	**18.72**	**341**	P	**P**	**11 41 23.0**	**-0.8**
MCO	**Taipa Grande**	**18.88**	**325**	P	**Pn**	**11 41 26.0**	**-0.2**
TBJI	**Tambak Boyo**	**18.88**	**225**	P	**Pn**	**11 41 28.1**	**+1.8**
	comp=Z,72μmcomp=Z,1μm,1.0s						
QZH	**Quanzhou**	**19.10**	**342**	⇑*i*P	**Pn**	**11 41 28.5**	**-0.4**
QZH				S	**Sn**	**11 45 00.0**	**-2.5**
QZH				pmax	pmax		
	comp=Z,620nm,1.8s						
QZH				pmax	pmax		
	comp=Z,50μm,9.3s						
QZH				LR	LR		
	comp=Z,104μm,25.6s						
QZH				LR	LR		
	comp=Z,196μm,23.9s						
QZH				LR	LR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,122μm,26.5s						
QIZ	**Qiongzhong**	**19.18**	**311**	P	**Pn**	**11 41 30.9**	**+1.0**
QIZ				PP	**PnPn**	**11 41 44.3**	**+1.4**
QIZ				S	**S**	**11 45 07.0**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,500nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,8μm,6.4s						
QIZ				LR	LR		
	comp=Z,78μm,23.5s						
QIZ				LR	LR		
	comp=Z,60μm,20.6s						
QIZ				LR	LR		
	comp=Z,78μm,19.4s						
QIZ	**Qiongzhong**	**19.18**	**311**	P	**Pn**	**11 41 31.1**	**+1.2**
NGJI	**Ngawi**	**19.54**	**224**	P	**Pn**	**11 41 36.0**	**+1.8**
	comp=Z,38μmcomp=Z,795nm,1.3s						
GZH	**Guangzhou**	**19.76**	**326**	P	**Pn**	**11 41 38.4**	**+1.6**
GZH				S	**Sn**	**11 45 23.4**	**+4.9**
GZH				pmax	pmax		
	comp=Z,18μm,7.7s						
GZH				LR	LR		
	comp=Z,152μm,19.3s						
GZH				LR	LR		
	comp=Z,112μm,18.6s						
GZH				LR	LR		
	comp=Z,125μm,17.3s						
TPI	**Tanjungpandan**	**19.80**	**242**	P	**Pn**	**11 41 36.8**	**-0.6**
JMZ	**Minamidaito 2**	**19.83**	**17**	P	**Pn**	**11 41 37.9**	**+0.4**
JMZ	**Minamidaito 2**	**19.83**	**17**	P	**P**	**11 41 36.5**	**+0.6**
AUDHS	**Darwin High Sc**	**19.93**	**163**	P	**P**	**11 41 36.8**	**-0.3**
DRS	**Darwin Rock St**	**19.94**	**163**	P	**Pn**	**11 41 38.2**	**-0.8**
SMRI	**Semarang**	**20.04**	**227**	P	**P**	**11 41 38.3**	**-0.1**
SMRI				IAmb	IAmb	11 41 50.2	
	comp=Z,3μm,1.7s						
SMRI	**Semarang**	**20.04**	**227**	P	Pn	11 41 40.4	+0.1
SMRI	**Semarang**	**20.04**	**227**	P	Pn	11 41 42.2	+1.9
	comp=Z,87μmcomp=Z,46μmcomp=Z,915nm,1.4s						
SMRI	**Semarang**	**20.04**	**227**	⇑P	Pn	11 41 42.5	+2.3
JOW	**Kunigami**	**20.18**	**8**	P	**P**	**11 41 38.8**	**-0.9**
JOW				IAmb	IAmb	11 41 47.4	
	comp=Z,1μm,1.2s						
JOW	**Kunigami**	**20.18**	**8**	P	**P**	**11 41 40.2**	**+0.5**
	comp=Z,306nm,0.7s,baz=214,slow=10,SNR=30						
JOW				S	**S**	**11 45 22.4**	**-3.2**
	comp=Z,36nm,1.1s,baz=265,slow=28,SNR=1.0						
JOW				LR	LR	11 49 26.4	
	comp=Z,75μm,20.6s,baz=187,slow=37						
	comp=Z,306nm,0.7s						
JOW	**Kunigami**	**20.18**	**8**	P	Pn	11 41 42.0	+0.3
JOW	**Kunigami**	**20.18**	**8**	⇑P	**P**	**11 41 40.2**	**+0.5**
JOW	**Kunigami**	**20.18**	**8**	P	**P**	**11 41 40.7**	**+0.9**
WOJI	**Wonogiri, Jawa**	**20.25**	**224**	P	Pn	11 41 43.0	+0.4
	comp=Z,57μmcomp=Z,19μmcomp=Z,1μm,1.6s						
PCJI	**Pacitan**	**20.33**	**223**	P	Pn	11 41 44.5	+0.9
	comp=Z,62μmcomp=Z,17μmcomp=Z,740nm,1.4s						
MTN	**Manton Dam**	**20.40**	**163**	P	**P**	**11 41 42.1**	**-0.1**
	comp=Z,0.0nmcomp=Z,991nm,0.7s						
MTN	**Manton Dam**	**20.40**	**163**	P	**P**	**11 41 42.3**	**0.0**
MTN				IAmb	IAmb	11 41 48.5	
	comp=Z,625nm,0.8s						
UGM	**Wanagama**	**20.58**	**225**	P	**P**	**11 41 42.8**	**-1.5**
UGM	**Wanagama**	**20.58**	**225**	P	Pn	11 41 46.4	-0.2
UGM	**Wanagama**	**20.58**	**225**	P	Pn	11 41 48.1	+1.5
	comp=Z,40μmcomp=Z,22μmcomp=Z,1μm,1.6s						
GUMO	**Guam**	**20.61**	**69**	P	**P**	**11 41 43.4**	**-1.2**
GUMO				IAmb	IAmb	11 41 58.2	
	comp=Z,2μm,1.2s						
GUMO	**Guam**	**20.61**	**69**	P	**P**	**11 41 44.5**	**-0.1**
	comp=Z,159nm,0.9s,baz=210,slow=6.3,SNR=10						
GUMO				S	**S**	**11 45 31.8**	**-2.8**
	comp=Z,36nm,1.0s,baz=179,slow=16,SNR=1.1						
GUMO				LR	LR	11 48 25.8	
	comp=Z,36μm,21.2s,baz=249,slow=33						
	comp=Z,159nm,0.9s						
GUMO	**Guam**	**20.61**	**

SSE			pmax	pmax		
	comp=Z,310nm,1.5s					
SSE			pmax	pmax		
	comp=Z,6μm,8.3s					
SSE			LR	LR		
	comp=Z,7μm,19.6s					
MNAI	**Manna**	**24.70 244**	P	**P**	**11 42 26.1**	**-0.4**
MNAI	**Manna**	**24.70 244**	P	**P**	**11 42 29.1**	**+2.6**
MNAI	**Manna**	**24.70 244**	P	**P**	**11 42 26.2**	**-0.3**
MNAI	**Manna**	**24.70 244**	⇓P	**P**	**11 42 26.7**	**+0.2**
KSI	**Kapahiang**	**24.72 246**	P	**P**	**11 42 28.2**	**+1.5**
	comp=Z,48μmcomp=Z,19μmcomp=Z,901nm,1.2s					
FITZ	**Fitzroy Crossi**	**24.72 179**	P	**P**	**11 42 25.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.72 179**	P	**P**	**11 42 25.1**	**-1.4**
BKNI	**Bangkinang**	**24.82 256**	P	**P**	**11 42 27.0**	**-0.5**
BKNI	**Bangkinang**	**24.82 256**	P	**P**	**11 42 27.3**	**-0.2**
BKNI	**Bangkinang**	**24.82 256**	P	**P**	**11 42 29.6**	**+2.1**
BKNI	**Bangkinang**	**24.82 256**	P	**P**	**11 42 29.6**	**+2.1**
	comp=Z,41μmcomp=Z,14μmcomp=Z,905nm,1.1s					
MASI	**Maura Aman, Be**	**24.83 247**	P	**P**	**11 42 28.7**	**+1.0**
	comp=Z,44μmcomp=Z,26μmcomp=Z,1μm,1.0s					
SLVN	**Son La**	**25.07 307**	P	**P**	**11 42 29.5**	**-0.3**
SLVN			IAmb	IAmb	11 42 49.1	
	comp=Z,641nm,1.5s					
SLVN	**Son La**	**25.07 307**	P	**P**	**11 42 31.7**	**+1.9**
JSU	**Suzuyama**	**25.11 11**	P	**P**	**11 42 29.4**	**-0.6**
KRJI	**Kerinci**	**25.16 250**	P	**P**	**11 42 31.3**	**+0.5**
PPI	**Padang Panjang**	**25.65 255**	P	**P**	**11 42 34.4**	**-0.7**
	comp=Z,53μmcomp=Z,11μmcomp=Z,350nm,1.4s					
WHN	**Wuhan**	**25.70 338**	⇑P	**P**	**11 42 36.5**	**+1.2**
WHN			pP	**pP**	**11 42 40.8**	**0.0**
WHN			sP	**sP**	**11 42 43.6**	**+0.5**
WHN			S	**S**	**11 47 06.3**	**+3.0**
WHN			pmax	pmax		
	comp=Z,3μm,1.6s					
WHN			pmax	pmax		
	comp=Z,27μm,10.0s					
WHN			LR	LR		
	comp=Z,29μm,10.4s					
WHN			LR	LR		
	comp=Z,210μm,17.2s					
WHN			LR	LR		
	comp=Z,253μm,26.8s					
PDSI	**Padang**	**25.72 254**	P	**P**	**11 42 36.6**	**+0.8**
	comp=Z,52μmcomp=Z,13μmcomp=Z,417nm,1.3s					
XMI	**Christmas Isla**	**25.80 229**	P	**P**	**11 42 38.7**	**+2.3**
XMI	**Christmas Isla**	**25.80 229**	⇑P	**P**	**11 42 38.5**	**+2.1**
NJ2	**Nanjing**	**25.81 348**	⇑P	**P**	**11 42 37.3**	**+1.0**
NJ2			sP	**sP**	**11 42 46.8**	**+2.7**
NJ2			PP	**PnPn**	**11 43 18.8**	**+5.3**
NJ2			S	**S**	**11 47 01.5**	**-3.5**
NJ2			pmax	pmax		
	comp=Z,190nm,1.9s					
NJ2			pmax	pmax		
	comp=Z,8μm,5.6s					
NJ2			LR	LR		
	comp=Z,16μm,19.7s					
NJ2			LR	LR		
	comp=Z,53μm,17.8s					
NJ2			LR	LR		
	comp=Z,22μm,24.3s					
CBIJ	**Chichi jima**	**25.94 37**	P	**P**	**11 42 35.1**	**-2.5**
JCJ	**Chichijima**	**25.94 37**	LR	LR	11 50 58.4	
	comp=Z,45μm,22.0s,baz=212,slow=32					
JCJ	**Chichijima**	**25.94 37**	P	**P**	**11 42 37.2**	**-0.4**
JCJ	**Chichijima**	**25.94 37**	⇓P	**P**	**11 42 35.5**	**-2.0**
JFU	**Fukue jima 2**	**25.97 7**	P	**P**	**11 42 38.3**	**+0.5**
MNSI	**Mandalling Nat**	**26.11 258**	P	**P**	**11 42 38.6**	**-0.7**
	comp=Z,57μmcomp=Z,8μmcomp=Z,382nm,1.5s					
GYA	**Guiyang**	**26.28 320**	⇑P	**P**	**11 42 42.3**	**+1.5**
GYA			pP	pP	11 42 47.0	+0.7
GYA			S	**S**	**11 47 11.0**	**-1.9**
GYA			pmax	pmax		
	comp=Z,41nm,0.8s					
GYA			pmax	pmax		
	comp=Z,2μm,4.1s					
GYA			LR	LR		
	comp=Z,88μm,20.3s					
GYA			LR	LR		
	comp=Z,96μm,21.6s					
GYA			LR	LR		
	comp=Z,86μm,21.4s					
PSI	**Prapat**	**26.35 263**	LR	LR	11 56 09.2	
	comp=Z,19μm,18.2s,baz=98,slow=44					
TSI	**Tuntungan**	**26.60 264**	P	**P**	**11 42 43.9**	**+0.2**
	comp=Z,57μmcomp=Z,17μmcomp=Z,567nm,1.2s					
PPSI	**Pulau Pagai**	**26.75 250**	P	**P**	**11 42 45.9**	**+0.8**
	comp=Z,21μmcomp=Z,932nm,1.2s					
JNU	**Nakatsue**	**26.76 11**	P	**P**	**11 42 45.3**	**+0.3**
JNU			IAmb	IAmb	11 42 49.9	
	comp=Z,522nm,1.2s					
JNU	**Nakatsue**	**26.76 11**	LR	LR	11 53 23.3	
	comp=Z,35μm,20.9s,baz=196,slow=36					
JNU	**Nakatsue**	**26.76 11**	P	**P**	**11 42 44.9**	**-0.1**
SISI	**Saibi**	**27.15 254**	P	**P**	**11 42 50.4**	**+1.7**
	comp=Z,60μmcomp=Z,10μmcomp=Z,624nm,1.1s					
PMG	**Port Moresby**	**27.25 126**	P	**P**	**11 42 48.8**	**-0.7**
PMG			IAmb	IAmb	11 42 56.2	
	comp=Z,673nm,0.9s					
PMG	**Port Moresby**	**27.25 126**	S	**S**	**11 47 27.4**	**-0.8**
	comp=Z,17nm,0.8s,baz=307,slow=20,SNR=2.1					
PMG			LR	LR	11 55 11.3	
	comp=Z,29μm,18.1s,baz=279,slow=40					
PMG	**Port Moresby**	**27.25 126**	P	**P**	**11 42 50.6**	**+1.0**
PMG	**Port Moresby**	**27.25 126**	P	**P**	**11 42 50.5**	**+1.0**
PMG	**Port Moresby**	**27.25 126**	*i* P	**P**	**11 42 48.7**	**-0.8**
PMG			pmax	pmax		
	comp=Z,919nm,1.2s					
PMG			MLR	MLR		
	comp=Z,32μm,18.0s					
PMG	**Port Moresby**	**27.25 126**	⇑P	**P**	**11 42 49.3**	**-0.3**
COEN	**Coen**	**27.33 139**	P	**P**	**11 42 50.3**	**0.0**
	comp=Z,0.0nmcomp=Z,1μm,1.9s					
COEN	**Coen**	**27.33 139**	P	**P**	**11 42 49.3**	**-1.0**
COEN	**Coen**	**27.33 139**	P	**P**	**11 42 50.7**	**+0.4**
KCSI	**Kotacane, Aceh**	**27.38 265**	P	**P**	**11 42 48.7**	**-2.1**
	comp=Z,32μmcomp=Z,281nm,0.8s					
ENH	**Enshi**	**27.58 330**	P	**P**	**11 42 53.2**	**+0.8**
JTU	**Tsushima**	**27.90 8**	P	**P**	**11 42 57.4**	**+2.3**
JTU	**Tsushima**	**27.90 8**	⇓P	**P**	**11 42 57.5**	**+2.3**
JTU	**Tsushima**	**27.90 8**	P	**P**	**11 42 57.0**	**+1.9**
WB0	**Warramunga Arr**	**27.93 161**	P	**P**	**11 42 54.2**	**-1.3**
WB0			IAmb	IAmb	11 43 39.5	
	comp=Z,578nm,0.9s					
WB9	**Warramunga Arr**	**27.95 161**	P	**P**	**11 42 53.6**	**-2.1**
GSI	**Gunungsitoli**	**27.95 260**	P	**P**	**11 42 54.5**	**-1.4**
GSI	**Gunungsitoli**	**27.95 260**	P	**P**	**11 42 56.5**	**+0.6**
GSI	**Gunungsitoli**	**27.95 260**	P	**P**	**11 42 54.9**	**-1.0**
	comp=Z,55μmcomp=Z,11μmcomp=Z,633nm,0.9s					
GSI	**Gunungsitoli**	**27.95 260**	⇑P	**P**	**11 42 55.2**	**-0.7**
CM31	**Chiang Mai Arr**	**27.97 297**	P	**P**	**11 42 55.9**	**-0.1**
CM31			IAmb	IAmb	11 43 09.9	
	comp=Z,477nm,1.4s					
CM31	**Chiang Mai Arr**	**27.97 297**	P	**P**	**11 42 56.7**	**+0.7**
	SNR=106					
CM31			P	**P**	**11 42 56.7**	**+0.7**
	SNR=106					
CM31			P	**P**	**11 42 56.7**	**+0.7**
	SNR=106					
CMAR	**Chiang Mai Arr**	**27.97 297**	P	**P**	**11 42 55.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.97 297**	P	**P**	**11 42 56.5**	**+0.5**
	comp=Z,30nm,1.0s,baz=118,slow=7.3,SNR=72					
CMAR			LR	LR	11 54 59.4	
	comp=Z,35μm,18.5s,baz=125,slow=38					
	comp=Z,30nm,1.0s					
CMAR	**Chiang Mai Arr**	**27.97 297**	*i* P	**P**	**11 42 56.5**	**+0.5**
CMAR			pmax	pmax		
	comp=Z,32nm,1.0s					
LHMI	**Lhok Sumawe**	**28.01 268**	P	**P**	**11 42 55.6**	**-0.8**
LHMI			IAmb	IAmb	11 43 30.0	
	comp=Z,809nm,1.2s					
LHMI	**Lhok Sumawe**	**28.01 268**	P	**P**	**11 42 59.2**	**+2.8**
LHMI	**Lhok Sumawe**	**28.01 268**	P	**P**	**11 42 57.9**	**+1.5**
	comp=Z,50μmcomp=Z,13μmcomp=Z,588nm,1.1s					
JMN	**Monobe**	**28.03 16**	P	**P**	**11 42 55.9**	**-0.4**
JMN			IAmb	IAmb	11 43 04.5	
	comp=Z,516nm,1.1s					
JMN	**Monobe**	**28.03 16**	P	**P**	**11 42 58.1**	**+1.7**
JMN	**Monobe**	**28.03 16**	⇓P	**P**	**11 42 56.2**	**-0.1**
JMN	**Monobe**	**28.03 16**	P	**P**	**11 42 56.0**	**-0.4**
I07AU	**WARRAMUNGA INE**	**28.06 161**	P	**P**	**11 42 55.3**	**-1.4**
	baz=322,slow=11,SNR=1.0					
WRAB	**Tennant Creek**	**28.07 161**	P	**P**	**11 42 55.5**	**-1.3**
WRAB			IAmb	IAmb	11 43 13.2	
	comp=Z,419nm,1.0s					
WRAB	**Tennant Creek**	**28.07 161**	P	**P**	**11 42 55.4**	**-1.3**
WRAB	**Tennant Creek**	**28.07 161**	*i* P	**P**	**11 42 54.8**	**-2.0**
WRAB			MLR	MLR		
	comp=Z,53μm,22.0s					
WRA	**Warramunga Arr**	**28.07 161**	P	**P**	**11 42 56.2**	**-0.6**
	comp=Z,117nm,0.7s,baz=337,slow=10,SNR=320					
WRA			S	**S**	**11 47 36.6**	**-4.4**
	comp=Z,16nm,0.9s,baz=339,slow=16,SNR=2.0					
	comp=Z,117nm,0.7s					
WRA	**Warramunga Arr**	**28.07 161**	*i* P	**P**	**11 42 55.4**	**-1.4**
WRA			pmax	pmax		
	comp=Z,126nm,0.8s					
KMI	**Kunming**	**28.09 313**	⇑P	**P**	**11 42 59.3**	**+2.1**
KMI			S	**S**	**11 47 43.4**	**+1.7**
KMI			pmax	pmax		
	comp=Z,130nm,0.8s					
KMI			pmax	pmax		
	comp=Z,5μm,8.8s					
KMI			LR	LR		
	comp=Z,80μm,23.0s					
KMI			LR	LR		
	comp=Z,42μm,21.9s					
KMI			LR	LR		
	comp=Z,49μm,23.9s					
CHTO	**Chiang Mai**	**28.10 298**	P	**P**	**11 42 56.1**	**-1.0**
CHTO			IAmb	IAmb	11 43 10.6	
	comp=Z,574nm,1.6s					
CHTO	**Chiang Mai**	**28.10 298**	P	**P**	**11 42 56.5**	**-0.6**
CHTO			P	**P**	**11 42 56.5**	**-0.6**
CHTO	**Chiang Mai**	**28.10 298**	P	**P**	**11 42 57.3**	**+0.2**
CHTO	**Chiang Mai**	**28.10 298**	P	**P**	**11 42 56.1**	**-1.0**
CHTO			pmax	pmax		
	comp=Z,574nm,1.6s					
CHTO			MLR	MLR		
	comp=Z,33μm,18.0s					
CHTO	**Chiang Mai**	**28.10 298**	⇓P	**P**	**11 42 56.7**	**-0.4**
CHTO	**Chiang Mai**	**28.10 298**	P	**P**	**11 42 56.9**	**-0.2**
CHTO			S	**S**	**11 47 43.5**	**+2.0**
WR8	**Warramunga Arr**	**28.14 161**	P	**P**	**11 42 55.5**	**-1.9**
WR8			IAmb	IAmb	11 43 13.9	
	comp=Z,461nm,0.8s					
MBWA	**Marble Bar**	**28.25 191**	P	**P**	**11 42 57.3**	**-1.0**
	comp=Z,0.0nmcomp=Z,293nm,1.2s					
MBWA	**Marble Bar**	**28.25 191**	P	**P**	**11 42 57.4**	**-1.0**
MBWA			IAmb	IAmb	11 43 38.3	
	comp=Z,436nm,1.1s					
MBWA	**Marble Bar**	**28.25 191**	P	**P**	**11 42 57.9**	**-0.5**
MBWA	**Marble Bar**	**28.25 191**	⇑P	**P**	**11 42 57.4**	**-1.0**
MBWA	**Marble Bar**	**28.25 191**	P	**P**	**11 42 57.4**	**-1.0**
PSAC1	**Pilbara Seismi**	**28.61 190**	P	**P**	**11 43 00.4**	**-1.1**
	comp=Z,304nm,1.1s					
PSA00	**Pilbara Seismi**	**28.64 190**	P	**P**	**11 43 01.0**	**-0.8**
	comp=Z,360nm,1.0s					
PSA00	**Pilbara Seismi**	**28.64 190**	P	**P**	**11 43 00.8**	**-1.0**
PSA00	**Pilbara Seismi**	**28.64 190**	P	**P**	**11 43 02.3**	**+0.5**
MLSI	**Meulaboh, Aceh**	**28.64 267**	P	**P**	**11 43 00.8**	**-1.2**
	comp=Z,46μmcomp=Z,11μmcomp=Z,396nm,0.9s					
PSAB3	**Pilbara Seismi**	**28.66 190**	P	**P**	**11 43 01.0**	**-1.0**
	comp=Z,0.0nmcomp=Z,368nm,1.3s					
SNSI	**Sinabang, Aceh**	**28.97 263**	P	**P**	**11 43 06.9**	**+1.9**
	comp=Z,43μmcomp=Z,7μmcomp=Z,451nm,1.3s					
JHS	**Saijyo**	**29.05 14**	P	**P**	**11 43 07.4**	**+2.0**
I40PG	**Keravat**	**29.05 112**	I	I	14 40 12.5	
	comp=Z,75nm,0.5s,baz=292,slow=320,SNR=1.0					
RABL	**Rabaul**	**29.15 111**	P	**P**	**11 43 07.0**	**+0.4**
RABL			IAmb	IAmb	11 43 45.9	
	comp=Z,260nm,0.8s					
JAD	**Aida**	**29.25 15**	P	**P**	**11 43 06.4**	**-0.8**
JIE	**Ise**	**29.51 20**	P	**P**	**11 43 09.3**	**-0.1**
TJN	**Taejon**	**29.54 4**	P	**P**	**11 43 10.3**	**+0.7**
TJN			IAmb	IAmb	11 43 30.2	
	comp=Z,328nm,1.0s					
TJN	**Taejon**	**29.54 4**	P	**P**	**11 43 11.8**	**+2.2**
TJN	**Taejon**	**29.54 4**	*i* P	**P**	**11 43 10.5**	**+0.9**
PZH	**PanZhiHua**	**29.64 314**	P	**P**	**11 43 11.8**	**+0.9**
PZH			S	**S**	**11 48 06.1**	**+0.3**
PZH			pmax	pmax		
	comp=Z,50nm,1.2s					
PZH			pmax	pmax		
	comp=Z,4μm,9.3s					
PZH			LR	LR		
	comp=Z,22μm,18.1s					
PZH			LR	LR		
	comp=Z,22μm,17.7s					
PZH			LR	LR		
	comp=Z,26μm,17.2s					
JWT	**Wachi**	**29.92 17**	P	**P**	**11 43 12.1**	**-0.9**
LYN	**LuoYang**	**29.99 339**	⇑P	**P**	**11 43 14.8**	**+1.1**
LYN			pP	pP	11 43 17.8	-1.4
LYN			S	**S**	**11 48 13.4**	**+2.5**
LYN			pmax	pmax		
	comp=Z,240nm,1.6s					
LYN			pmax	pmax		
	comp=Z,9μm,10.9s					
LYN			LR	LR		
	comp=Z,99μm,23.9s					
LYN			LR	LR		
	comp=Z,135μm,24.4s					
LYN			LR	LR		
	comp=Z,96μm,28.5s					
TIA	**Tai'an**	**30.19 347**	P	**P**	**11 43 14.8**	**-0.7**
TIA			PcP	**PcP**	**11 46 19.5**	**+3.1**
TIA			S	**S**	**11 48 15.5**	**+1.5**
TIA			pmax	pmax		
	comp=Z,48nm,1.4s					
TIA			pmax	pmax		
	comp=Z,6μm,7.9s					
TIA			LR	LR		
	comp=Z,30μm,24.9s					
TIA			LR	LR		
	comp=Z,98μm,25.0s					
TIA			LR	LR		
	comp=Z,45μm,25.0s					
JSG	**Sagara**	**30.28 22**	P	**P**	**11 43 17.7**	**+1.4**
JSG	**Sagara**	**30.28 22**	P	**P**	**11 43 18.6**	**+2.3**
JSG	**Sagara**	**30.28 22**	⇓P	**P**	**11 43 18.8**	**+2.5**
JSG	**Sagara**	**30.28 22**	P	**P**	**11 43 18.6**	**+2.3**
INU	**Inuyama**	**30.48 19**	P	**P**	**11 43 17.9**	**-0.2**
INU			IAmb	IAmb	11 43 27.1	
	comp=Z,264nm,0.9s					
INU			IAMs_20	IAMs_20	11 55 01.4	
	comp=Z,52μm,19.0s					
INU	**Inuyama**	**30.48 19**	P	**P**	**11 43 17.7**	**-0.4**
INU	**Inuyama**	**30.48 19**	⇓P	**P**	**11 43 17.0**	**-1.0**
INCN	**Inchon**	**30.60 2**	P	**P**	**11 43 19.6**	**+0.5**
INCN	**Inchon**	**30.60 2**	P	**P**	**11 43 22.1**	**+3.0**
INCN			P	**P**	**11 43 22.1**	**+3.0**
INCN			P	**P**	**11 43 22.1**	**+3.0**
INCN	**Inchon**	**30.60 2**	P	**P**	**11 43 20.6**	**+1.5**
INCN	**Inchon**	**30.60 2**	P	**P**	**11 43 19.6**	**+0.5**
INCN			pmax	pmax		
	comp=Z,60nm,1.0s					
KSAR	**Wonju Array Be**	**30.63 4**	P	**P**	**11 43 20.0**	**+0.7**
KSAR	**Wonju Array Be**	**30.63 4**	P	**P**	**11 43 20.0**	**+0.7**
KSRS	**Korea Array**	**30.65 4**	P	**P**	**11 43 19.6**	**+0.2**
	comp=Z,55nm,0.9s,baz=184,slow=9.7,SNR=79					
	comp=Z,55nm,0.9s					
KS19	**Wonju Array Si**	**30.69 4**	P	**P**	**11 43 20.1**	**+0.3**
QIS	**Mount Isa**	**30.69 153**	P	**P**	**11 43 19.5**	**-0.6**
	comp=Z,0.0nmcomp=Z,429nm,0.8s					
QIS	**Mount Isa**	**30.69 153**	P	**P**	**11 43 19.3**	**-0.8**
JGF	**Kuroka**	**30.82 20**	P	**P**	**11 43 21.5**	**+0.4**
JGF	**Kuroka**	**30.82 20**	P	**P**	**11 43 22.4**	**+1.3**
JGF	**Kuroka**	**30.82 20**	P	**P**	**11 43 19.3**	**-1.8**
CMBY	**CAMPBELL BAY**	**30.92 272**	*e*P	**P**	**11 43 19.2**	**-3.0**
CMBY			IAmb	IAmb	11 43 39.3	
	comp=Z,306nm,0.9s					
CMBY			*e*S	**S**	**11 48 24.1**	**-1.9**
XAN	**Xi'an**	**30.97 333**	⇑P	**P**	**11 43 21.9**	**-0.6**
XAN			pP	pP	11 43 25.8	-2.2
XAN			sP	sP	11 43 28.6	-1.7
XAN			PP	**PnPn**	**11 44 24.9**	**+1.4**
XAN			S	**S**	**11 48 25.6**	**-0.8**
XAN			pmax	pmax		
	comp=Z,68nm,1.0s					
XAN			pmax	pmax		
	comp=Z,5μm,8.0s					
XAN			LR	LR		
	comp=Z,47μm,19.2s					
XAN			LR	LR		
	comp=Z,98μm,18.6s					
XAN			LR	LR		
	comp=Z,42μm,22.7s					
GIRL	**Giralia**	**31.11 200**	P	**P**	**11 43 24.8**	**+1.1**
	comp=Z,0.0nmcomp=Z,128nm,1.1s					
JOD2	**Odawara 2**	**31.14 23**	P	**P**	**11 43 21.9**	**-2.0**
MTSU	**Mount Surprise**	**31.20 143**	P	**P**	**11 43 25.0**	**+0.4**
	comp=Z,154nm,0.9s					
MTSU	**Mount Surprise**	**31.20 143**	P	**P**	**11 43 26.1**	**+1.5**
TNCH	**TengChong**	**31.22 309**	P	**P**	**11 43 26.3**	**+1.4**
TNCH			pP	sP	11 43 32.1	-0.6
TNCH			S	**S**	**11 48 32.8**	**+2.0**
TNCH			pmax	pmax		
	comp=Z,160nm,2.5s					
TNCH			LR	LR		
	comp=Z,18μm,20.1s					
TNCH			LR	LR		
	comp=Z,19μm,20.1s					
TNCH			LR	LR		
	comp=Z,46μm,17.5s					
CD2	**Chengdu**	**31.23 323**	P	**P**	**11 43 25.1**	**+0.3**
CD2			S	**S**	**11 48 30.4**	**-0.1**
CD2			pmax	pmax		
	comp=Z,140nm,1.0s					
CD2			pmax	pmax		
	comp=Z,7μm,8.2s					
CD2			LR	LR		
	comp=Z,163μm,20.9s					
CD2			LR	LR		
	comp=Z,96μm,19.7s					
CD2			LR	LR		
	comp=Z,69μm,19.0s					
JGN	**Niukaw**	**31.38 19**	P	**P**	**11 43 24.3**	**-1.7**
AS15	**Alice Springs**	**31.44 164**	P	**P**	**11 43 25.7**	**-0.9**
	comp=Z,318nm,0.9s					
AS31	**Alice Springs**	**31.46 164**	P	**P**	**11 43 26.2**	**-0.7**
	comp=Z,0.0nmcomp=Z,86nm,0.6s					
AS31	**Alice Springs**	**31.46 164**	P	**P**	**11 43 26.3**	**-0.6**
ASAR	**Alice Springs**	**31.46 164**	P	**P**	**11 43 26.2**	**-0.7**
ASAR	**Alice Springs**	**31.46 164**	P	**P**	**11 43 25.7**	**-1.2**
	comp=Z,45nm,0.5s,baz=346,slow=7.7,SNR=358					
ASAR			S	**S**	**11 48 31.1**	**-3.2**
	comp=Z,5.8nm,0.8s,baz=328,slow=14,SNR=2.3					
	comp=Z,45nm,0.5s					
ASAR	**Alice Springs**	**31.46 164**	P	**P**	**11 43 26.2**	**-0.7**
AS01	**Alice Springs**	**31.47 164**	P	**P**	**11 43 26.7**	**-0.3**
AUALC	**St Philip's Co**	**31.48 164**	P	**P**	**11 43 26.3**	**-0.7**
JRY	**Ryogami san**	**31.74 22**	P	**P**	**11 43 27.0**	**-2.2**
WRKA	**Warakurna**	**31.78 174**	P	**P**	**11 43 29.1**	**-0.5**
	comp=Z,0.0nmcomp=Z,90nm,1.1s					
HNS	**HongShan**	**31.91 344**	⇑P	**P**	**11 43 30.5**	**-0.1**
HNS			S	**S**	**11 48 40.6**	**-0.2**
HNS			pmax	pmax		
	comp=Z,91nm,1.5s					
HNS			pmax	pmax		
	comp=Z,6μm,7.8s					
HNS			LR	LR		
	comp=Z,38μm,24.5s					
HNS			LR	LR		
	comp=Z,81μm,23.9s					
HNS			LR	LR		
	comp=Z,56μm,20.6s					
MAJO	**Matsushiro**	**31.97 20**	P	**P**	**11 43 29.6**	**-1.6**
MAJO			IAmb	IAmb	11 43 38.7	
	comp=Z,267nm,1.2s					
MAJO	**Matsushiro**	**31.97 20**	IAMs_20	IAMs_20	11 55 49.4	
	comp=Z,65μm,20.0s					
MAJO	**Matsushiro**	**31.97 20**	P	**P**	**11 43 30.0**	**-1.2**
MAJO	**Matsushiro**	**31.97 20**	*i* P	**P**	**11 43 28.6**	**-2.6**
MAJO			pmax	pmax		
	comp=Z,217nm,1.2s					
MAJO			MLR	MLR		
	comp=Z,64μm,19.0s					
MAJO	**Matsushiro**	**31.97 20**	⇓P	**P**	**11 43 29.1**	**-2.0**
MAJO	**Matsushiro**	**31.97 20**	P	**P**	**11 43 29.4**	**-1.8**
MAT	**Matsushiro**	**31.97 20**	P	**P**	**11 43 28.8**	**-2.4**
MJAR	**Matsushiro Arr**	**31.97 20**	P	**P**	**11 43 29.5**	**-1.7**
MJAR	**Matsushiro Arr**	**31.97 20**	P	**P**	**11 43 30.1**	**-1.1**
	comp=Z,50nm,0.9s,baz=194,slow=9.3,SNR=27					
MJAR			S	**S**	**11 48 40.3**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=186,slow=5.7,SNR=4.4					
MJAR			LR	LR	11 56 01.0	
	comp=Z,67μm,19.8s,baz=206,slow=36					
	comp=Z,50nm,0.9s					
MJB9	**Matsu-Tunnel**	**31.97 20**	P	**P**	**11 43 30.2**	**-1.0**
MJB9			IAmb	IAmb	11 43 39.7	
	comp=Z,259nm,1.2s					
PYAG	**Pyongyang**	**32.14 1**	P	**P**	**11 43 32.5**	**-0.1**
PYAG			S	**S**	**11 48 44.1**	**-0.2**
PYAG			AmB			
	comp=Z,5μm,6.5s					
DL2	**Dalian**	**32.14 355**	P	**P**	**11 43 33.6**	**+1.0**
DL2			S	**S**	**11 48 44.4**	**+0.1**
DL2			pmax	pmax		
	comp=Z,310nm,1.1s					
DL2			pmax	pmax		
	comp=Z,6μm,7.6s					
DL2			LR	LR		
	comp=Z,31μm,17.0s					
DL2			LR	LR		
	comp=Z,60μm,18.7s					
DL2			LR	LR		
	comp=Z,41μm,20.0s					
PBA	**Port Blair**	**32.26 281**	*e*P	**P**	**11 43 31.1**	**-2.9**
PBA			IAmb	IAmb	11 43 54.8	
PBA			*e*S	**S**	**11 48 45.5**	**-1.5**
DGPR	**DIGLIPUR**	**32.27 284**	*e*P	**P**	**11 43 32.1**	**-2.0**
DGPR			IAmb	IAmb	11 43 53.0	
	comp=Z,280nm,0.6s					
DGPR			*e*S	**S**	**11 48 45.8**	**-1.1**
JYT	**Yasato**	**32.42 23**	P	**P**	**11 43 33.6**	**-1.5**
TIY	**Taiyuan**	**32.87 341**	P	**P**	**11 43 40.3**	**+1.2**
TIY			S	**S**	**11 48 56.6**	**+0.6**
TIY			pmax	pmax		
	comp=Z,94nm,1.1s					
TIY			pmax	pmax		
	comp=Z,3μm,4.6s					
TIY			LR	LR		
	comp=Z,48μm,19.7s					
TIY			LR	LR		
	comp=Z,17μm,19.7s					
TIY			LR	LR		
	comp=Z,61μm,24.7s					
PATS	**Pohnpei**	**33.00 88**	P	**P**	**11 43 41.1**	**+0.6**
	comp=Z,0.0nmcomp=Z,186nm,1.4s					
PATS	**Pohnpei**	**33.00 88**	P	**P**	**11 43 42.1**	**+1.6**
JSD	**Sado**	**33.34 19**	P	**P**	**11 43 42.4**	**-0.7**
JSD	**Sado**	**33.34 19**	⇑P	**P**	**11 43 43.1**	**0.0**
JSD	**Sado**	**33.34 19**	P	**P**	**11 43 42.1**	**-1.0**
TV1H	**Townsville Har**	**33.58 141**	P	**P**	**11 43 46.7**	**+1.3**
MEEK	**Meekatharra**	**33.80 190**	P	**P**	**11 43 46.7**	**-0.6**
	comp=Z,0.0nmcomp=Z,268nm,0.8s					
MEEK	**Meekatharra**	**33.80 190**	P	**P**	**11 43 46.4**	**-0.9**
COCO	**West Island**	**33.82 236**	P	**P**	**11 43 50.4**	**+2.9**
BJT	**Baijiatuau**	**34.05 348**	P	**P**	**11 43 50.4**	**+1.1**
BJI	**Beijing**	**34.07 348**	P	**P**	**11 43 49.3**	**-0.1**
BJI			pP	**pP**	**11 43 53.8**	**-1.2**
BJI			sP	**sP**	**11 43 56.0**	**-1.3**
BJI			PP	**PnPn**	**11 45 04.9**	**+1.8**
BJI			S	**S**	**11 49 12.9**	**-1.4**
BJI			pmax	pmax		
	comp=Z,150nm,0.9s					
BJI		

comp=Z,36μm,18.5s
LZDM Lanzhou Array 35.03 329 P P 11 43 58.4 +0.1
comp=Z,53nm,0.9s,baz=158,slow=12,SNR=30
LZDM S **S** **11 49 30.3 +0.2**
comp=Z,2.9nm,0.4s,baz=301,slow=20,SNR=1.2
LZDM LR LR 11 59 37.9
comp=Z,23μm,18.7s,baz=130,slow=39
comp=Z,53nm,0.9s
KOHI KOHIMA 35.04 306 *e*P **P 11 43 55.3 -2.9**
KOHI IAmb IAmb 11 44 05.1
comp=Z,182nm,0.8s
KOHI *e*S **S 11 49 28.1 -2.0**
LZH Lanzhou 35.06 329 ⇑P **P 11 44 00.3 +2.0**
LZH pP pP 11 44 03.8 -0.1
LZH S **S 11 49 31.8 +1.7**
LZH sS sS 11 49 46.4 +7.1
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,4μm,4.5s
LZH LR LR
comp=Z,65μm,14.8s
LZH LR LR
comp=Z,49μm,15.5s
LZH LR LR
comp=Z,52μm,14.8s
JORH JORHAT 35.40 308 *e*P **P 11 44 00.3 -0.8**
JORH IAmb IAmb 11 44 06.4
comp=Z,289nm,0.9s
JORH *e*S **S 11 49 33.8 -1.5**
JOM Ohasama 35.68 22 P **P 11 44 02.0 -1.3**
SILR SILCHAR 35.70 304 *e*P **P 11 44 02.2 -1.5**
SILR IAmb IAmb 11 44 18.6
comp=Z,310nm,2.1s
SILR *e*S **S 11 49 37.7 -2.1**
BRDH Bariadhala 35.86 300 P **P 11 44 06.4 +1.2**
comp=Z,156nm,0.4s,baz=80,slow=9.1,SNR=18
comp=Z,156nm,0.4s
HHC Hu-ho-hao-te 36.01 342⇑ *i*P **P 11 44 07.9 +1.6**
HHC sP sP 11 44 14.6 +0.4
HHC PP **PP 11 45 31.4 +3.0**
HHC S **S 11 49 44.4 -0.1**
HHC sS sS 11 49 57.8 +4.2
HHC pmax pmax
comp=Z,530nm,1.4s
HHC pmax pmax
comp=Z,7μm,7.2s
HHC LR LR
comp=Z,31μm,21.0s
HHC LR LR
comp=Z,63μm,21.1s
HHC LR LR
comp=Z,79μm,22.7s
MSHR Mys Shultsa 36.06 8*ce*P **P 11 44 08.0 +1.4**
MSHR pmax pmax
comp=Z,525nm,1.7s
PSTR Posyet 36.08 7 *i* P **P 11 44 07.1 +0.3**
BTO Baotou 36.28 340 *e*P **P 11 44 10.4 +1.8**
BTO PP **PP 11 45 33.4 +2.1**
BTO S **S 11 49 51.5 +2.9**
BTO pmax pmax
comp=Z,57nm,0.9s
BTO pmax pmax
comp=Z,7μm,4.7s
BTO LR LR
comp=Z,99μm,21.0s
BTO LR LR
comp=Z,163μm,19.2s
BTO LR LR
comp=Z,115μm,21.0s
TEZP TEZPUR 36.49 307 *e*P **P 11 44 07.6 -2.9**
TEZP IAmb IAmb 11 44 24.7
comp=Z,370nm,1.6s
TEZP *e*S **S 11 49 50.5 -1.5**
AGT Agartala 36.64 301 *e*P **P 11 44 09.1 -2.7**
AGT IAmb IAmb 11 44 18.7
comp=Z,228nm,0.8s
AGT *e*S **S 11 49 52.6 -1.8**
MORW Morawa 36.69 193 P **P 11 44 11.6 -0.5**
comp=Z,0.0nmcomp=Z,195nm,1.1s
MORW Morawa 36.69 193 P **P 11 44 11.8 -0.3**
MORW Morawa 36.69 193 P **P 11 44 11.9 -0.2**
MORW Morawa 36.69 193 ⇑P **P 11 44 11.2 -0.8**
VLA Vladivostok 36.69 8 *i* P **P 11 44 12.8 +0.9**
VLA pmax pmax
comp=Z,990nm,1.2s
VLA MLR MLR
comp=Z,32μm,19.0s
JTM Tenmabayashi 36.76 20 P **P 11 44 14.2 +1.6**
JTM IAmb IAmb 11 44 21.6
comp=Z,540nm,1.2s
JTM Tenmabayashi 36.76 20 P **P 11 44 14.5 +1.9**
JTM Tenmabayashi 36.76 20 ⇑P **P 11 44 12.7 +0.1**
JTM Tenmabayashi 36.76 20 P **P 11 44 12.3 -0.2**
SHL Shillong 36.78 304 P **P 11 44 12.7 -0.6**
SHL IAmb IAmb 11 44 30.5
comp=Z,457nm,1.0s
SHL Shillong 36.78 304 P **P 11 44 12.6 -0.6**
SNR=241
SHL Shillong 36.78 304 *e*P **P 11 44 09.4 -3.8**
SHL IAmb IAmb 11 44 27.2
comp=Z,282nm,0.5s
SHL *e*S **S 11 49 53.5 -3.3**
SHL Shillong 36.78 304 P **P 11 44 12.7 -0.6**
SHL pmax pmax
comp=Z,457nm,1.0s
CN2 Changchun 36.88 0 P **P 11 44 12.8 -0.8**
CN2 sP pP 11 44 19.8 +0.7
CN2 PP **PP 11 45 38.8 +1.1**
CN2 S **S 11 49 56.8 -0.6**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,4μm,7.0s
CN2 LR LR
comp=Z,22μm,18.0s
CN2 LR LR
comp=Z,13μm,18.0s
CN2 LR LR
comp=Z,21μm,19.0s
GUWA GUWAHATI 37.20 305 *e*P **P 11 44 13.4 -3.2**
GUWA IAmb IAmb 11 44 30.8
comp=Z,68nm,2.3s
GUWA *e*S **S 11 50 01.4 -1.4**
JOT Ohata 37.28 20 P **P 11 44 17.3 +0.3**
FORT Forrest 37.45 176 P **P 11 44 17.7 -0.8**
comp=Z,0.0nmcomp=Z,401nm,0.7s
FORT Forrest 37.45 176 P **P 11 44 17.3 -1.3**
FORT IAmb IAmb 11 44 32.4
comp=Z,257nm,0.8s
INKA Innaminka 37.51 157 P **P 11 44 18.1 -1.1**
USRK Ussuriysk Ar. 37.76 8 P **P 11 44 21.4 +0.3**
comp=Z,285nm,1.0s,baz=191,slow=7.7,SNR=59
comp=Z,285nm,1.0s
XLT XiLinHaoTe 37.81 349 *e*P **P 11 44 22.0 +0.4**
XLT S **S 11 50 11.8 0.0**
XLT sS ScP 11 50 28.9 +3.9
XLT pmax pmax
comp=Z,180nm,1.2s
XLT pmax pmax
comp=Z,2μm,3.6s
XLT LR LR
comp=Z,62μm,19.0s
XLT LR LR
comp=Z,19μm,23.1s
MDJ Mudanjiang 37.90 5 P **P 11 44 22.3 +0.1**
MDJ S **S 11 50 11.8 -1.1**
MDJ pmax pmax
comp=Z,32nm,1.7s
MDJ pmax pmax
comp=Z,5μm,4.3s
MDJ LR LR
comp=Z,30μm,18.2s
MDJ LR LR
comp=Z,14μm,17.0s
MDJ LR LR
comp=Z,36μm,19.3s
MDJ Mudanjiang 37.90 5 P **P 11 44 23.6 +1.4**
QLP Quilpie 38.01 151 P **P 11 44 22.3 -1.1**
comp=Z,0.0nmcomp=Z,371nm,0.8s
QLP Quilpie 38.01 151 P **P 11 44 24.4 +1.0**
QLP Quilpie 38.01 151 ⇑P **P 11 44 22.3 -1.1**
BLDU Ballidu 38.03 192 P **P 11 44 22.6 -0.9**
comp=Z,0.0nmcomp=Z,137nm,0.8s
BLDU Ballidu 38.03 192 P **P 11 44 23.1 -0.4**

KMBL Kambalda 38.05 184 P **P 11 44 22.6 -1.1**
comp=Z,0.0nmcomp=Z,182nm,1.0s
SAVO Savo Central 38.06 114 P **P 11 44 25.4 +1.4**
JSH Shimam 38.09 18 P **P 11 44 26.2 +2.4**
HNR Honiara 38.30 114 P **P 11 44 25.7 -0.3**
HNR IAmb IAmb 11 44 44.4
comp=Z,288nm,0.8s
HNR Honiara 38.30 114 LR LR 11 58 01.5
comp=Z,15μm,19.9s,baz=292,slow=33
HNR Honiara 38.30 114 P **P 11 44 28.0 +2.0**
HNR Honiara 38.30 114 P **P 11 44 25.7 -0.3**
HNR pmax pmax
comp=Z,288nm,0.8s
ERM Erimo 38.59 22 P **P 11 44 28.8 +0.8**
ERM IAmb IAmb 11 44 38.4
comp=Z,463nm,1.1s
ERM Erimo 38.59 22 IAMs_20 IAMs_20 12 00 29.7
comp=Z,51μm,20.0s
ERM Erimo 38.59 22 P **P 11 44 29.9 +1.9**
ERM Erimo 38.59 22 P **P 11 44 28.8 +0.8**
ERM pmax pmax
comp=Z,463nm,1.1s
ERM MLR MLR
comp=Z,51μm,20.0s
ERM Erimo 38.59 22⇓P **P 11 44 31.6 +3.6**
ERM Erimo 38.59 22 P **P 11 44 29.3 +1.3**
JEM Erimo 38.59 22 P **P 11 44 30.2 +2.2**
JEM Erimo 38.59 22 P **P 11 44 28.6 +0.6**
JEW Eniwo 38.72 19 P **P 11 44 30.9 +1.8**
BNX BinXian 38.87 3⇓P **P 11 44 30.3 0.0**
BNX pP **pP 11 44 33.5 -2.4**
BNX S **S 11 50 30.9 +3.4**
BNX sS **sS 11 50 36.8 0.0**
BNX pmax pmax
comp=Z,310nm,1.4s
BNX pmax pmax
comp=Z,3μm,6.2s
BNX LR LR
comp=Z,25μm,19.0s
BNX LR LR
comp=Z,32μm,18.4s
BNX LR LR
comp=Z,33μm,20.1s
AUNRC North Rockhamp 38.93 141 P **P 11 44 32.7 +1.6**
LSA Lhasa 39.22 310 P **P 11 44 32.4 -1.7**
LSA S **S 11 50 29.3 -4.9**
LSA pmax pmax
comp=Z,66nm,1.5s
LSA LR LR
comp=Z,26μm,29.5s
LSA LR LR
comp=Z,16μm,23.4s
LSA LR LR
comp=Z,17μm,42.6s
LSA Lhasa 39.22 310 P **P 11 44 34.4 +0.4**
TEY Ternei 39.41 13*de*P **P 11 44 32.9 -2.0**
TEY *e* 11 44 37.0
TEY pmax pmax
comp=N,100nm,2.2s
TEY pmax pmax
comp=Z,200nm,2.4s
TEY pmax pmax
comp=N,100nm,0.7s
TEY pmax pmax
comp=Z,170nm,0.7s
TEY MLR MLR
comp=E,300nm,15.0s
MUN Mundaring 39.46 192 P **P 11 44 34.8 -0.7**
comp=Z,0.0nmcomp=Z,165nm,0.8s
MUN Mundaring 39.46 192 P **P 11 44 35.1 -0.3**
MUN Mundaring 39.46 192 P **P 11 44 35.1 -0.3**
AUMAZ Mazenod Senior 39.52 192 P **P 11 44 37.3 +1.3**
GTA Gaotai 39.65 329⇑P **P 11 44 38.6 +1.4**
GTA pP pP 11 44 43.3 +0.5
GTA S **S 11 50 34.4 -5.4**
GTA pmax pmax
comp=Z,180nm,1.0s
GTA pmax pmax
comp=Z,7μm,9.2s
GTA LR LR
comp=Z,49μm,21.1s
GTA LR LR
comp=Z,29μm,19.9s
GTA LR LR
comp=Z,52μm,18.3s
GD1S Gladstone Soft 39.69 141 P **P 11 44 39.3 +1.8**
NWAO Narrogin (SRO) 40.18 190 P **P 11 44 41.1 -0.4**
NWAO Narrogin (SRO) 40.18 190 P **P 11 44 40.3 -1.2**
NWAO IAmb IAmb 11 45 05.2
comp=Z,497nm,1.4s
NWAO Narrogin (SRO) 40.18 190 LR LR 12 03 05.5
comp=Z,20μm,21.9s,baz=13,slow=39
NWAO Narrogin (SRO) 40.18 190 P **P 11 44 41.6 +0.1**
NWAO Narrogin (SRO) 40.18 190 P **P 11 44 40.3 -1.2**
NWAO pmax pmax
comp=Z,497nm,1.4s
ASAJ Asahikawa 40.23 20 LR LR 12 00 51.6
comp=Z,47μm,20.5s,baz=216,slow=35
ASAJ Asahikawa 40.23 20 P **P 11 44 42.9 +1.1**
ASAJ pmax pmax
comp=Z,471nm,1.0s
ASAJ Asahikawa 40.23 20 P **P 11 44 42.6 +0.8**
JKA Kamikawa-asahi 40.23 20 P **P 11 44 42.9 +1.2**
JKA IAmb IAmb 11 44 53.1
comp=Z,471nm,1.0s
GOMU GeErMu 40.29 321 P **P 11 44 45.0 +2.2**
GOMU sP sP 11 44 53.0 +2.3
GOMU S **S 11 50 53.4 +3.4**
GOMU pmax pmax
comp=Z,59nm,2.5s
GOMU LR LR
comp=Z,29μm,19.7s
GOMU LR LR
comp=Z,36μm,19.0s
GOMU LR LR
comp=Z,50μm,19.5s
BWNR Bhubaneshwar 40.35 293 *e*P **P 11 44 40.2 -2.9**
BWNR IAmb IAmb 11 44 56.2
comp=Z,220nm,2.2s
BWNR *e*S **S 11 50 48.3 -2.2**
AUHAR St Anne's Scho 40.60 192 P **P 11 44 47.0 +2.1**
BBOO Buckleboo 40.73 166 P **P 11 44 45.4 -0.6**
comp=Z,0.0nmcomp=Z,624nm,0.8s
BBOO Buckleboo 40.73 166 P **P 11 44 45.3 -0.7**
BBOO IAmb IAmb 11 45 00.3
comp=Z,756nm,1.1s
BBOO Buckleboo 40.73 166 P **P 11 44 45.6 -0.4**
EIDS Eidsvold 40.76 143 P **P 11 44 45.0 -1.3**
comp=Z,212nm,1.1s
EIDS Eidsvold 40.76 143 P **P 11 44 45.0 -1.3**
EIDS Eidsvold 40.76 143 P **P 11 44 46.3 0.0**
EIDS Eidsvold 40.76 143⇑P **P 11 44 45.2 -1.2**
JWK2 Keihoku 41.08 18 P **P 11 44 51.1 +2.4**
YUK Yuzh-Kuril'sk 41.34 23*c i*P **P 11 44 51.2 +0.4**
YUK *i* 11 46 26.0
YUK *i* PPP PPP 11 46 52.3
YUK *i* S **S 11 51 00.3 -4.2**
YUK pmax pmax
comp=E,376nm,1.1s
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=Z,1μm,2.6s
WHYH Whyalla 41.34 164 P **P 11 44 51.3 +0.4**
STKA Stephens Creek 41.55 159 P **P 11 44 52.2 -0.6**
comp=Z,0.0nmcomp=Z,2μm,1.0s
STKA Stephens Creek 41.55 159 P **P 11 44 52.6 -0.1**
comp=Z,129nm,0.7s,baz=333,slow=8.9,SNR=147
STKA S **S 11 51 04.6 -3.3**
comp=Z,13nm,0.9s,baz=333,slow=21,SNR=1.6
STKA LR LR 12 05 54.5
comp=Z,12μm,18.2s,baz=337,slow=42
comp=Z,129nm,0.7s
STKA Stephens Creek 41.55 159 P **P 11 44 52.5 -0.2**
STKA Stephens Creek 41.55 159 *i* P **P 11 44 52.1 -0.6**
PTPS Port Pirie 41.58 164 P **P 11 44 54.8 +1.8**
AUJCS Jamestown Cent 41.79 163 P **P 11 44 55.3 +0.6**
RKGY Rocky Gully 41.87 190 P **P 11 44 56.0 +0.7**
comp=Z,0.0nmcomp=Z,526nm,1.0s
EVN Everest 41.88 305 P **P 11 44 56.1 -0.2**
EVN IAmb IAmb 11 45 15.6
comp=Z,924nm,1.5s
EVN Everest 41.88 305⇓P **P 11 44 56.1 -0.2**
AUCAS Cummins Area S 42.04 167 P **P 11 44 57.8 +1.1**
HTT Hallett 42.09 163 P **P 11 44 57.5 +0.2**

comp=Z,0.0nmcomp=Z,217nm,1.3s
HTT Hallett 42.09 163 P **P 11 44 58.0 +0.8**
HTT Hallett 42.09 163 P **P 11 44 57.7 +0.5**
HTT Hallett 42.09 163⇑P **P 11 44 57.4 +0.2**
VIS Vishakhapatnam 42.12 289 *e*P **P 11 44 54.8 -2.9**
VIS IAmb IAmb 11 45 11.7
comp=Z,382nm,1.6s
VIS *e*S **S 11 51 14.9 -2.0**
AULRC Lightning Ridg 42.21 150 P **P 11 44 58.4 +0.2**
I60US Wake Island 42.21 69 I I 16 08 00.0
baz=259,slow=320,SNR=1.4
WAKE Wake Island 42.25 69 P **P 11 45 00.2 +1.5**
JHSG JHARSUGUGA 42.54 295 *e*P **P 11 44 58.0 -3.1**
JHSG IAmb IAmb 11 45 14.3
comp=Z,388nm,2.4s
JHSG *e*S **S 11 51 20.7 -2.4**
HIA Hailar 42.58 355 IAMs_20 IAMs_20 12 01 34.2
comp=Z,37μm,22.0s
HIA Hailar 42.58 355 P **P 11 45 02.4 +1.4**
YSS Yuzhno-Sakhali 42.81 18 P **P 11 45 05.7 +2.9**
YSS IAmb IAmb 11 45 13.4
comp=Z,414nm,1.2s
YSS Yuzhno-Sakhali 42.81 18 P **P 11 45 05.0 +2.2**
YSS Yuzhno-Sakhali 42.81 18κ *i*P **P 11 45 05.9 +3.0**
YSS *e*S **S 11 51 27.4 +1.2**
YSS *e*SS **SnSn 11 54 52.7 -0.3**
YSS pmax pmax
comp=Z,2μm,4.6s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=E,600nm,4.3s
YSS pmax pmax
comp=Z,270nm,1.2s
YSS smax smax
comp=N,1μm,5.7s
YSS smax smax
comp=E,1μm,5.9s
YSS Yuzhno-Sakhali 42.81 18⇓P **P 11 45 05.8 +3.0**
HILR Hailar Array B 42.87 355 P **P 11 45 03.9 +0.5**
comp=E,59nm,0.4s,baz=164,slow=12,SNR=34
HILR LR LR 12 05 39.7
comp=E,24μm,18.2s,baz=105,slow=40
comp=E,59nm,0.4s
CMSA Cobar Meteorol 42.89 154 P **P 11 45 03.2 -0.5**
comp=Z,0.0nmcomp=Z,185nm,1.3s
CMSA Cobar Meteorol 42.89 154 P **P 11 45 03.9 +0.2**
TW1H Toowoomba 1 Ha 42.91 144 P **P 11 45 05.1 +1.1**
KUR Kuril'sk 43.12 24 *e*P **P 11 45 01.8 -3.6**
KUR *e* 11 46 53.2
KUR *e*S **S 11 51 25.0 -5.8**
KUR *e*SS **SS 11 54 37.2 -6.5**
KUR *e*SSS SSS 11 55 08.5
KUR pmax pmax
comp=Z,5μm,9.0s
KUR pmax pmax
comp=E,374nm,1.3s
KUR pmax pmax
comp=Z,913nm,1.3s
KUR pmax pmax
comp=N,683nm,1.1s
KUR MLR MLR
comp=Z,19μm,18.0s
KUR MLR MLR
comp=E,20μm,20.0s
KUR MLR MLR
comp=N,16μm,17.0s
HEH HeiHe 43.38 2 *e*P **P 11 45 06.9 -0.5**
HEH pP **pP 11 45 11.3 -1.7**
HEH PcP **PcP 11 46 58.8 +3.0**
HEH S **S 11 51 33.9 -0.5**
HEH sS **pS 11 51 41.1 +0.1**
HEH pmax pmax
comp=N,4μm,4.1s
HEH LR LR
comp=N,16μm,18.5s
HEH LR LR
comp=N,39μm,19.8s
HEH LR LR
comp=N,37μm,20.8s
AUMAR Marden Senior 43.38 164 P **P 11 45 09.3 +1.7**
GHSS Government Hou 43.39 164 P **P 11 45 09.1 +1.4**
AUWSH Wavell State H 43.43 143 P **P 11 45 09.8 +1.7**
ULN Ulaanbaatar 43.73 342 P **P 11 45 11.0 +0.5**
ULN IAmb IAmb 11 45 26.6
comp=Z,449nm,1.2s
ULN Ulaanbaatar 43.73 342 P **P 11 45 10.6 +0.1**
ULN P **P 11 45 10.6 +0.1**
ULN Ulaanbaatar 43.73 342*ce*P **P 11 45 10.9 +0.4**
ULN pmax pmax
comp=Z,462nm,1.2s
ULN MLR MLR
comp=Z,57μm,23.0s
ULN Ulaanbaatar 43.73 342⇑P **P 11 45 11.2 +0.7**
AUMBR Murray Bridge 43.79 163 P **P 11 45 12.2 +1.3**
SONM Songino Array 43.91 342 P **P 11 45 11.8 -0.1**
SONM IAmb IAmb 11 45 28.8
comp=Z,749nm,1.8s
SONM Songino Array 43.91 342 P **P 11 45 12.1 +0.2**
comp=Z,27nm,0.9s,baz=158,slow=9.2,SNR=39
SONM LR LR 12 05 06.2
comp=Z,43μm,21.6s,baz=157,slow=38
comp=Z,27nm,0.9s
PALK Pallekele 44.03 273 LR LR 12 06 20.9
comp=Z,11μm,18.1s,baz=79,slow=40
PALK Pallekele 44.03 273 P **P 11 45 13.4 +0.1**
PALK P **P 11 45 13.4 +0.1**
PALK P **P 11 45 13.4 +0.1**
PALK Pallekele 44.03 273 *i* P **P 11 45 13.3 +0.1**
PALK pmax pmax
comp=Z,257nm,2.5s
PALK MLR MLR
comp=Z,18μm,18.0s
PALK Pallekele 44.03 273 P **P 11 45 13.4 +0.1**
PALK S **S 11 51 49.1 +4.0**
MALK Mahakanadarawa 44.15 275 P **P 11 45 13.9 -0.3**
MALK Mahakanadarawa 44.15 275⇓P **P 11 45 14.4 +0.2**
GKPR Gorakhpur 44.26 302 *e*P **P 11 45 15.4 +0.6**
GKPR IAmb IAmb 11 45 28.6
comp=Z,288nm,1.5s
GKPR *e*S **S 11 51 47.8 -0.2**
GC1S Gold Coast 1 S 44.27 143 P **P 11 45 16.7 +1.8**
VJD Vijayawada 44.48 287 *e*P **P 11 45 13.9 -2.9**
VJD IAmb IAmb 11 45 30.3
comp=Z,270nm,0.9s
VJD *e*S **S 11 51 50.0 -1.4**
UGL Uglegorsk 44.53 16 *e*P **P 11 45 20.1 +3.4**
UGL *e*S **S 11 51 51.9 +0.6**
UGL pmax pmax
comp=Z,500nm,1.6s
UGL pmax pmax
comp=Z,4μm,4.7s
UGL smax smax
comp=E,12μm,8.0s
UGL smax smax
comp=N,11μm,14.0s
UGL MLR MLR
comp=E,20μm,16.0s
GRNR Gornyy 44.86 10⇑ *i*P **P 11 45 19.6 +0.3**
GRNR pmax pmax
comp=Z,50nm,1.1s
ARMA Armidale 44.90 147 P **P 11 45 20.0 0.0**
comp=Z,0.0nmcomp=Z,393nm,0.9s
ARMA Armidale 44.90 147 P **P 11 45 19.5 -0.5**
ARMA IAmb IAmb 11 45 34.8
comp=Z,260nm,0.8s
ARMA Armidale 44.90 147 P **P 11 45 21.5 +1.5**
ARMA Armidale 44.90 147⇑P **P 11 45 20.1 0.0**
AUPHS Peel High Scho 45.04 148 P **P 11 45 22.8 +1.8**
ARPS Mount Arapiles 46.08 161 P **P 11 45 29.4 +0.3**
comp=Z,0.0nmcomp=Z,283nm,1.0s
CIT Chita 46.09 350 *e*P **P 11 45 30.2 +1.1**
CIT *e* 11 45 46.0
CIT *e* 11 52 23.8
CIT *e* 11 55 15.2
CIT pmax pmax
comp=Z,535nm,1.7s
TYV Tymovskoe 46.32 15 *e*P **P 11 45 32.1 +1.3**
TYV *e*S **S 11 52 22.4 +5.3**
TYV pmax pmax
comp=Z,98nm,1.3s
TYV pmax pmax
comp=Z,1μm,2.9s
TYV smax smax
comp=N,22nm,2.3s

TYV smax smax
comp=E,23nm,2.3s
TYV smax smax
comp=N,3μm,5.6s
TYV smax smax
comp=E,4μm,5.6s
YNG Young 46.43 153 P **P 11 45 32.3 +0.4**
comp=Z,0.0nmcomp=Z,347nm,1.3s
AUMAG Moama Anglican 46.48 158 P **P 11 45 34.1 +1.8**
MGBR Mount Gambier 46.58 163 P **P 11 45 31.8 -1.1**
MGBR IAmb IAmb 11 45 40.1
comp=Z,224nm,0.9s
HYB Hyderabad 46.59 288 *e*P **P 11 45 33.7 +0.2**
HYB *e*pP **pP 11 45 38.1 -1.2**
HYB IVmB_BB 11 45 46.1
comp=Z,4μm,1.8s
HYB *e*S **S 11 52 24.3 +2.3**
HYB IAMs_20 IAMs_20 12 00 39.8
comp=Z,26μm,41.7s
NGP Nagpur 46.71 293 *e*P **P 11 45 31.3 -3.1**
NGP IAmb IAmb 11 45 47.4
comp=Z,393nm,1.4s
NGP *e*S **S 11 52 21.5 -2.1**
MGCD Mangrove Creek 46.83 150 P **P 11 45 35.8 +0.8**
ZEA Zeya 46.85 2 *e*P **P 11 45 34.9 -0.1**
ZEA *e*S **S 11 52 28.3 +3.6**
ZEA pmax pmax
comp=N,900nm,11.7s
ZEA pmax pmax
comp=Z,2μm,11.2s
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=N,140nm,1.1s
ZEA pmax pmax
comp=Z,350nm,1.1s
ZEA smax smax
comp=E,2μm,12.9s
ZEA smax smax
comp=N,3μm,14.9s
SYDH Sydney Hard Ro 47.09 150 P **P 11 45 38.6 +1.5**
ZAK Zakamensk 47.12 341 *e*P **P 11 45 37.2 -0.1**
ZAK pmax pmax
comp=Z,134nm,2.0s
KOUNC Koumac, New Ca 47.14 126 P **P 11 45 40.4 +2.7**
AUKHS Kincumber High 47.16 150 P **P 11 45 39.7 +2.0**
KOD Kodaikanal 47.18 278 *e*P **P 11 45 35.0 -3.5**
KOD IAmb IAmb 11 45 52.0
comp=Z,100nm,0.6s
KOD *e*S **S 11 52 29.6 -1.4**
SANVU Saraoutou 47.22 118 P **P 11 45 39.2 +0.9**
SANVU Saraoutou 47.22 118 P **P 11 45 39.7 +1.3**
SANVU Saraoutou 47.22 118 ⇑P **P 11 45 39.3 +0.9**
RIV Riverview 47.35 150 P **P 11 45 40.0 +0.8**
comp=Z,347nm,1.1s
RIV Riverview 47.35 150 P **P 11 45 40.7 +1.6**
RIV Riverview 47.35 150 P **P 11 45 39.9 +0.8**
RIV Riverview 47.35 150 ⇑P **P 11 45 40.4 +1.3**
AUHPC Hawkesdale P12 47.46 161 P **P 11 45 41.8 +1.9**
BRAT Ballarat 47.48 160 P **P 11 45 41.4 +1.3**
AUMTC Mt Clear Colle 47.52 160 P **P 11 45 42.3 +2.0**
AUMTS Mt Stromlo 47.56 153 P **P 11 45 42.4 +1.6**
CAN Canberra 47.56 153 P **P 11 45 41.4 +0.6**
comp=Z,0.0nmcomp=Z,524nm,1.2s
CAN Canberra 47.56 153 P **P 11 45 41.1 +0.3**
CAN Canberra 47.56 153 P **P 11 45 41.8 +1.0**
CAN Canberra 47.56 153 P **P 11 45 41.1 +0.3**
CAN pmax pmax
comp=Z,513nm,1.0s
CAN Canberra 47.56 153 ⇑P **P 11 45 41.5 +0.8**
AUDAR Daramalan Coll 47.56 153 P **P 11 45 43.1 +2.3**
AUSIS Research Schoo 47.57 153 P **P 11 45 42.8 +1.9**
AUMHS Melrose High S 47.63 153 P **P 11 45 42.9 +1.6**
TRD Trivandrum 47.70 275 *e*P **P 11 45 38.9 -3.3**
TRD IAmb IAmb 11 45 55.8
comp=Z,165nm,0.9s
TRD *e*S **S 11 52 36.9 -0.9**
CNB Canberra Magne 47.72 153 P **P 11 45 43.7 +1.7**
LGTI Lohaghat 47.80 304 *e*P **P 11 45 40.8 -2.0**
LGTI IAmb IAmb 11 45 53.7
comp=Z,290nm,1.7s
LGTI *e*S **S 11 52 39.7 +0.7**
PTH Pithoragarh 47.86 304 *e*P **P 11 45 42.3 -1.2**
PTH IAmb IAmb 11 45 57.4
comp=Z,145nm,0.8s
PTH *e*S **S 11 52 38.4 -1.8**
NKL Nikolayevsk 47.96 13 *e*P **P 11 45 41.2 -2.3**
NKL *e*S **S 11 52 39.1 -1.2**
NKL pmax pmax
comp=N,669nm,1.1s
NKL pmax pmax
comp=E,685nm,1.0s
NKL pmax pmax
comp=Z,3μm,1.0s
NKL smax smax
comp=E,3μm,5.4s
NKL smax smax
comp=N,2μm,5.1s
NKL MLR MLR
comp=N,57μm,18.0s
NKL MLR MLR
comp=E,57μm,19.0s
NKL MLR MLR
comp=Z,85μm,19.0s
TARA Tarawa 48.01 94 IAMs_20 IAMs_20 12 04 35.2
comp=Z,25μm,19.0s
TOO Toolangi 48.06 158 P **P 11 45 45.5 +0.8**
comp=Z,0.0nmcomp=Z,88nm,0.9s
TOO Toolangi 48.06 158 P **P 11 45 44.7 +0.1**
TOO IAmb IAmb 11 45 57.7
comp=Z,236nm,1.5s
TOO Toolangi 48.06 158 P **P 11 45 44.7 +0.1**
TOO pmax pmax
comp=Z,237nm,1.5s
TOO Toolangi 48.06 158 ⇑P **P 11 45 45.6 +0.9**
JHNI Jhansi 48.11 298 *e*P **P 11 45 44.2 -1.1**
JHNI IAmb IAmb 11 45 56.5
comp=Z,206nm,3.0s
JHNI *e*S **S 11 52 38.7 -4.7**
TLY Talaya 48.14 342 P **P 11 45 45.3 +0.3**
TLY Talaya 48.14 342 P **P 11 45 45.6 +0.5**
TLY P **P 11 45 45.6 +0.5**
TLY Talaya 48.14 342 *ce*P **P 11 45 44.3 -0.8**
TLY pmax pmax
comp=Z,231nm,1.4s
TLY MLR MLR
comp=Z,47μm,24.0s
TLY Talaya 48.14 342 ⇑P **P 11 45 45.7 +0.7**
AUUHS Ulladulla High 48.26 152 P **P 11 45 48.2 +2.1**
AUSMG Snowy Mountain 48.31 154 P **P 11 45 48.6 +2.0**
IRK Irkutsk 48.45 343 *e*P **P 11 45 48.4 +1.0**
IRK pmax pmax
comp=Z,57nm,2.2s
AKL Akola 48.50 292 *e*P **P 11 45 44.9 -3.4**
AKL IAmb IAmb 11 45 54.9
comp=Z,157nm,1.1s
AKL *e*S **S 11 52 47.1 -2.0**
BHPL Bhopal 48.60 295 *e*P **P 11 45 48.2 -0.9**
BHPL IAmb IAmb 11 46 01.4
comp=Z,153nm,0.9s
BHPL *e*S **S 11 52 47.4 -3.1**
JOSI Joshimath 48.73 305 *e*P **P 11 45 47.0 -3.2**
JOSI IAML 11 46 12.2
comp=Z,276nm,1.6s
JOSI *e*S **S 11 52 48.3 -4.2**
MOY Mondy 48.97 340 *e*P **P 11 45 51.5 -0.1**
MOY pmax pmax
comp=Z,617nm,3.4s
MILA Mila 49.08 154 P **P 11 45 53.2 +0.7**
comp=Z,0.0nmcomp=Z,52nm,1.3s
WMQ Urumqi 49.30 325 ⇑P **P 11 45 55.8 +1.6**
WMQ S **S 11 53 01.1 +1.3**
WMQ SS **SS 11 56 26.0 -5.5**
WMQ pmax pmax
comp=Z,140nm,1.5s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,64μm,19.9s
WMQ LR LR
comp=Z,31μm,18.9s
WMQ LR LR
comp=Z,24μm,16.1s
KNGR Kungurtug, Tuv 49.35 337 *i* P **P 11 45 55.9 +1.4**
KNGR pmax pmax
comp=Z,209nm,1.3s
KNGR MLR MLR
comp=Z,14μm,16.0s
DZM Mont Dzumac 49.65 126 LR LR 12 08 13.6
comp=Z,16μm,19.2s,baz=306,slow=38
ONTNC Ouen Toro 49.77 127 P **P 11 45 58.4 +0.4**
ONTNC IAmb IAmb 11 46 18.6
comp=Z,269nm,1.1s
ONTNC Ouen Toro 49.77 127 P **P 11 45 59.4 +1.4**
ONTNC Ouen Toro 49.77 127 ⇑P **P 11 45 59.2 +1.2**
DDI Dehra Dun 49.88 304 *e*P **P 11 45 55.8 -3.0**
DDI IAmb IAmb 11 46 26.5
comp=Z,389nm,1.4s
DDI *e*S **S 11 53 06.5 -1.9**
YATNC Mamie plateau, 50.00 126 P **P 11 46 01.6 +1.9**
LHI Lord Howe Isla 50.04 141 P **P 11 45 58.4 -1.4**
comp=Z,0.0nmcomp=Z,163nm,0.9s
LDR Lodi Road 50.07 302 *e*P **P 11 45 57.3 -2.9**
LDR IAmb IAmb 11 46 31.1
comp=Z,224nm,0.9s
LDR *e*S **S 11 53 09.2 -1.7**
NDI New Delhi 50.10 302 *e*P **P 11 45 57.5 -2.9**
NDI IAmb IAmb 11 46 11.5
comp=Z,392nm,2.8s
NDI *e*S **S 11 53 09.3 -2.0**
KLP Kalpa 50.12 306 *e*P **P 11 45 57.5 -3.4**
KLP IAmb IAmb 11 46 14.0
comp=Z,325nm,1.5s
KLP *e*S **S 11 53 10.0 -2.1**
OUENC Ouen Island, N 50.14 127 P **P 11 46 03.3 +2.5**
KUDL Kundal 50.57 301 *e*P **P 11 46 02.5 -1.5**
KUDL IAmb IAmb 11 46 24.7
comp=Z,229nm,1.2s
KUDL *e*S **S 11 53 16.1 -1.7**
MARNC Mare, Loyalty 50.63 125 P **P 11 46 06.4 +1.9**
MARNC Mare, Loyalty 50.63 125 ⇑P **P 11 46 06.2 +1.6**
PINNC Pines Island, 50.72 126 P **P 11 46 05.4 +0.3**
PINNC Pines Island, 50.72 126 P **P 11 46 07.1 +2.0**
SKR Severo-Kuril's 50.82 25 *e*P **P 11 46 07.4 +1.9**
SKR *e*PPP PPP 11 48 55.2
SKR *e*S **S 11 53 11.8 -8.8**
SKR pmax pmax
comp=Z,302nm,1.4s
SKR pmax pmax
comp=Z,2μm,9.2s
SKR smax smax
comp=E,13μm,9.5s
SKR smax smax
comp=N,9μm,12.6s
SKR MLR MLR
comp=Z,29μm,18.0s
GOA Goa 50.92 284 *e*P **P 11 46 03.7 -3.1**
GOA IAmb IAmb 11 46 27.2
comp=Z,326nm,3.2s
GOA *e*S **S 11 53 20.8 -2.1**
POO Poona 51.16 288 *e*P **P 11 46 05.4 -3.3**
POO IAmb IAmb 11 46 14.5
comp=Z,389nm,1.5s
POO *e*S **S 11 53 24.2 -2.2**
AUBRN Burnie High Sc 51.27 160 P **P 11 46 10.6 +1.6**
HMDM Hanimaadhoo 51.51 273 P **P 11 46 11.7 +0.5**
SNR=5.4
BHK Bhakra 51.56 305 *e*P P 11 46 05.3 -6.2
BHK IAmb IAmb 11 46 27.4
comp=Z,227nm,1.2s
BHK *e*S **S 11 53 24.2 -7.4**
ALCI Alchi Leh 51.87 309 *e*P **P 11 46 10.9 -3.2**
ALCI IAmb IAmb 11 46 29.3
comp=Z,226nm,1.2s
ALCI *e*S **S 11 53 34.2 -2.2**
DHRM DHARAMSHALA 51.91 306 *e*P **P 11 46 11.3 -3.1**
DHRM IAmb IAmb 11 46 27.1
comp=Z,202nm,0.9s
DHRM *e*S **S 11 53 34.0 -2.8**
GLAD Gladstone 51.99 158 P **P 11 46 15.8 +1.5**
CORO Coronation Par 52.08 159 P **P 11 46 16.4 +1.4**
TLWR Talawar 52.10 305 *e*P **P 11 46 14.8 -0.7**
TLWR IAmb IAmb 11 46 31.0
comp=Z,238nm,0.5s
TLWR *e*S **S 11 53 37.2 -1.9**
UDPR Udaipur 52.19 296 *e*P **P 11 46 13.1 -3.2**
UDPR IAmb IAmb 11 46 44.2
comp=N,97nm,1.2s
UDPR *e*S **S 11 53 38.3 -2.2**
TSSA Tissa 52.22 307 *e*P **P 11 46 14.6 -2.0**
TSSA IAmb IAmb 11 46 31.3
comp=Z,243nm,1.6s
TSSA *e*S **S 11 53 38.5 -2.5**
MOO Moorlands 52.97 160 P **P 11 46 22.1 +0.5**
comp=Z,0.0nmcomp=Z,243nm,1.4s
MOO Moorlands 52.97 160 P **P 11 46 23.5 +1.9**
JMU Jammu 53.18 306 *e*P **P 11 46 20.9 -2.5**
JMU IAmb IAmb 11 46 37.2
comp=Z,210nm,1.0s
JMU *e*S **S 11 53 53.1 -0.6**
PEA0B Petropavlovsk- 53.29 24 P **P 11 46 23.9 +0.1**
PEA0B IAmb IAmb 11 46 50.1
comp=Z,443nm,1.1s
PEA0B Petropavlovsk- 53.29 24 *ce*P **P 11 46 24.0 +0.1**
PETK Petropavlovsk- 53.29 24 P **P 11 46 23.6 -0.2**
comp=Z,146nm,0.9s,baz=209,slow=3.9,SNR=54
comp=Z,146nm,0.9s
TAU Tasmania Unive 53.43 160 P **P 11 46 25.3 +0.3**
TAU Tasmania Unive 53.43 160 P **P 11 46 26.9 +1.9**
TAU Tasmania Unive 53.43 160 P **P 11 46 25.3 +0.3**
TAU pmax pmax
comp=Z,104nm,0.9s
AUTAR Taroona High S 53.47 160 P **P 11 46 27.4 +2.2**
PET Petropavlovsk 53.61 25 P **P 11 46 27.3 +1.1**
PET IAMs_20 IAMs_20 12 11 42.5
comp=Z,22μm,20.0s
PET Petropavlovsk 53.61 25 P **P 11 46 28.6 +2.4**
PET Petropavlovsk 53.61 25 *e*P **P 11 46 26.8 +0.6**
PET *e* 11 47 35.3
PET *e*S **S 11 53 59.8 +1.0**
PET pmax pmax
comp=Z,365nm,1.4s
PET pmax pmax
comp=Z,4μm,8.9s
PET pmax pmax
comp=Z,2μm,9.4s
PET smax smax
comp=E,4μm,10.7s
PET smax smax
comp=E,8μm,13.9s
PET MLR MLR
comp=Z,13μm,17.0s
PET Petropavlovsk 53.61 25 ⇓P **P 11 46 27.9 +1.7**
PET Petropavlovsk 53.61 25 P **P 11 46 27.4 +1.2**
comp=Z,6μmcomp=Z,401nm,1.4s
SHLS Shalkode 53.97 320 *e*P **P 11 46 26.9 -2.3**
comp=Z,302nm,1.9s
SHLS *e*S **S 11 54 01.6 -2.8**
SHLS Shalkode 53.97 320 *e*P **P 11 46 26.9 -2.3**
SHLS *e*S **S 11 54 01.5 -2.8**
SHLS pmax pmax
comp=Z,302nm,1.9s
PDGK Podgornoye 54.03 320 P **P 11 46 29.6 0.0**
MK31 Makanchi Array 54.13 325 *i* P **P 11 46 30.4 +0.2**
MK31 pmax pmax
comp=Z,114nm,0.8s
MKAR Makanchi Array 54.13 325 P **P 11 46 31.0 +0.9**
MKAR Makanchi Array 54.13 325 P **P 11 46 30.1 -0.1**
comp=Z,48nm,0.7s,baz=123,slow=6.9,SNR=209
MKAR LR LR 12 09 53.3
comp=Z,28μm,21.4s,baz=124,slow=36
MKAR PKPPKP **P'P'df 12 16 41.9 -6.2**
comp=Z,4.2nm,1.1s,baz=266,slow=3.6,SNR=11
comp=Z,48nm,0.7s
MKAR Makanchi Array 54.13 325 *i* P **P 11 46 30.1 -0.1**
MKAR pmax pmax
comp=Z,47nm,0.7s
UZB Uzynbulak 54.24 320 *e*P **P 11 46 31.0 -0.3**
comp=Z,316nm,1.9s
UZB *e*S **S 11 54 09.2 +1.1**
UZB Uzynbulak 54.24 320 *e*P **P 11 46 30.9 -0.3**
UZB *e*S **S 11 54 09.2 +1.1**
UZB pmax pmax
comp=Z,316nm,1.9s
MAKZ Makanchi 54.32 325 P **P 11 46 31.6 +0.1**
MAKZ IAmb IAmb 11 47 04.3
comp=Z,244nm,1.1s
MAKZ Makanchi 54.32 325 P **P 11 46 31.6 +0.1**
MAKZ pmax pmax
comp=Z,244nm,1.2s
PRZ Przheval'sk 54.34 319 P **P 11 46 33.0 +1.0**
PRZ Przheval'sk 54.34 319 P **P 11 46 33.0 +1.0**
PRZ pmax pmax
comp=Z,683nm,1.1s
DGAR Diego Garcia 54.35 256 *i* P **P 11 46 30.7 -1.5**
DGAR pmax pmax
comp=Z,637nm,1.5s
DGAR MLR MLR
comp=Z,12μm,21.0s
H08S2 Diego Garcia H 54.36 256 P **P 11 46 33.2 +1.1**
baz=36,slow=11,SNR=18
H08S3 Diego Garcia H 54.37 256 P **P 11 46 34.8 +2.7**
baz=36,slow=11,SNR=16
H08S1 Diego Garcia H 54.38 256 P **P 11 46 33.5 +1.3**
baz=36,slow=11,SNR=16
SATY Saty 54.60 319 *e*P **P 11 46 33.6 -0.2**
SATY *e*S **S 11 54 14.2 +1.3**
SATY Saty 54.60 319 *e*P **P 11 46 33.6 -0.2**
SATY *e*S **S 11 54 14.1 +1.3**
KPKS Kokpek 54.61 320 *e*P **P 11 46 33.5 -0.3**
KPKS *e*S **S 11 54 14.2 +1.2**
KPKS Kokpek 54.61 320 *e*P **P 11 46 33.5 -0.3**
KPKS *e*S **S 11 54 14.1 +1.2**
KSH Kashi 54.74 314 P **P 11 46 37.4 +2.5**
KSH S **S 11 54 20.3 +5.4**
KSH pmax pmax
comp=Z,260nm,1.7s
KSH pmax pmax
comp=Z,3μm,5.5s
KSH LR LR
comp=Z,50μm,21.3s
KSH LR LR
comp=Z,20μm,23.4s
KSH LR LR
comp=Z,21μm,21.3s
NIL Nilore 54.78 307 P **P 11 46 35.5 +0.3**
NIL Nilore 54.78 307 P **P 11 46 35.1 -0.1**
NIL P **P 11 46 35.1 -0.1**
NIL Nilore 54.78 307 P **P 11 46 35.5 +0.3**
NIL pmax pmax
comp=Z,1μm,1.3s
KDJ Kajisay 54.99 318 P **P 11 46 36.9 +0.2**
KDJ IAmb IAmb 11 46 48.0
comp=Z,379nm,1.2s
KDJ Kajisay 54.99 318 P **P 11 46 36.9 +0.2**
KDJ pmax pmax
comp=Z,379nm,1.2s
YAK Yakutsk 55.24 3 P **P 11 46 38.3 +0.4**
YAK Yakutsk 55.24 3 IAMs_20 IAMs_20 12 10 51.1
comp=Z,27μm,21.0s
YAK Yakutsk 55.24 3 LR LR 12 10 59.7
comp=Z,27μm,21.2s,baz=192,slow=37
YAK Yakutsk 55.24 3 *e*P **P 11 46 38.2 +0.4**
YAK *e* 11 47 38.7
YAK *e* 11 48 41.1
YAK *e*S **S 11 54 22.5 +2.0**
YAK pmax pmax
comp=Z,510nm,1.4s
YAK pmax pmax
comp=E,55nm,1.4s
YAK pmax pmax
comp=N,225nm,1.5s
YAK pmax pmax
comp=Z,310nm,1.5s
YAK pmax pmax
comp=N,186nm,1.5s
YAK smax smax
comp=E,5μm,6.8s
YAK smax smax
comp=N,3μm,7.0s
YAK MLR MLR
comp=Z,27μm,21.0s
YAK MLR MLR
comp=N,15μm,20.0s
YAK MLR MLR
comp=E,9μm,18.0s
YAK Yakutsk 55.24 3 ⇑P **P 11 46 38.3 +0.4**
ARXS Arharly 55.51 320 *e*P **P 11 46 40.4 +0.1**
TDK Taldyqorghan 55.52 321 *e*P **P 11 46 40.2 -0.1**
comp=E,285nm,1.2s
TDK *e*S **S 11 54 26.2 +1.3**
TDK LR LR 12 13 18.3
comp=E,10μm,18.5s
TDK Taldyqorghan 55.52 321 *e*P **P 11 46 40.2 -0.1**
TDK *e*S **S 11 54 26.2 +1.3**
TDK pmax pmax
comp=Z,285nm,1.2s
TDK MLR MLR
comp=Z,10μm,19.0s
MDOK Medeo 55.54 319 *e*P **P 11 46 40.3 -0.3**
MDOK *e*S **S 11 54 26.5 +1.1**
MDOK LR LR 12 12 39.0
MDOK Medeo 55.54 319 *e*P **P 11 46 40.3 -0.3**
MDOK *e*S **S 11 54 26.5 +1.1**
TNSS Tian-Shan 55.55 319 *e*P **P 11 46 40.4 -0.6**
TNSS Tian-Shan 55.55 319 *e*P **P 11 46 40.4 -0.6**
BHUJ Bhuj 55.64 293 *e*P **P 11 46 38.4 -3.0**
BHUJ IAmb IAmb 11 47 07.5
comp=Z,207nm,1.2s
BHUJ *e*S **S 11 54 24.9 -2.1**
AAA Alma-Ata 55.64 319 *e*P **P 11 46 41.2 -0.1**
comp=Z,246nm,1.0s
AAA LR LR 12 13 36.5
comp=Z,13μm,18.6s
AAA Alma-Ata 55.64 319 *e*P **P 11 46 41.1 -0.1**
AAA pmax pmax
comp=Z,246nm,1.0s
AAA MLR MLR
comp=Z,13μm,19.0s
ULHL Ulahol 55.67 317 P **P 11 46 41.8 +0.2**
SNR=16
CHKK Chushkaly 55.88 319 *e*P **P 11 46 42.8 -0.1**
CHKK Chushkaly 55.88 319 *e*P **P 11 46 42.8 -0.1**
BOOM Boomskoye usch 55.98 318 P **P 11 46 44.6 +0.8**
BOOM IAmb IAmb 11 47 04.2
comp=Z,316nm,1.2s
BOOM Boomskoye usch 55.98 318 P **P 11 46 44.6 +0.8**
BOOM pmax pmax
comp=Z,316nm,1.2s
FUNA Funafuti 56.05 105 P **P 11 46 45.4 +0.8**
FUNA Funafuti 56.05 105 IAMs_20 IAMs_20 12 08 11.5
comp=Z,29μm,21.0s
FUNA Funafuti 56.05 105 P **P 11 46 46.1 +1.6**
MA2 Magadan 56.20 15 P **P 11 46 45.4 +0.5**
MA2 IAmb IAmb 11 46 50.9
comp=Z,252nm,1.0s
MA2 IAMs_20 IAMs_20 12 10 40.6
comp=Z,26μm,22.0s
MA2 Magadan 56.20 15 P **P 11 46 46.5 +1.7**
MA2 Magadan 56.20 15 *ce*P **P 11 46 43.9 -0.9**
MA2 pmax pmax
comp=Z,318nm,1.1s
MA2 MLR MLR
comp=Z,26μm,21.0s
MA2 Magadan 56.20 15 ⇓P **P 11 46 45.3 +0.5**
MA2 Magadan 56.20 15 P **P 11 46 44.1 -0.7**
comp=Z,5μmcomp=Z,336nm,1.6s
TKM2 Tokmak 2 56.39 318 P **P 11 46 48.2 +1.4**
SNR=74
KBK Karagaybulak 56.71 317 P **P 11 46 51.1 +2.0**
SNR=17
UCH Uchtor 56.83 317 P **P 11 46 50.8 +0.6**
SNR=96
CHMS Chumysh 56.99 318 P **P 11 46 51.9 +1.1**
SNR=18
AAK Ala-Archa 57.01 317 P **P 11 46 51.9 +0.8**
AAK Ala-Archa 57.01 317 IAMs_20 IAMs_20 12 14 06.4
comp=Z,29μm,22.0s
AAK Ala-Archa 57.01 317 P **P 11 46 51.0 -0.1**
comp=Z,22nm,0.9s,baz=113,slow=5.7,SNR=54
AAK LR LR 12 14 28.1
comp=Z,25μm,20.7s,baz=106,slow=39
comp=Z,22nm,0.9s
AAK Ala-Archa 57.01 317 P **P 11 46 51.0 -0.1**
AAK P **P 11 46 51.0 -0.1**
AAK P **P 11 46 51.0 -0.1**
AAK Ala-Archa 57.01 317 P **P 11 46 52.7 +1.6**
SNR=40
AAK Ala-Archa 57.01 317 *i* P **P 11 46 51.6 +0.4**
SNR=63
AAK Ala-Archa 57.01 317 *i* P **P 11 46 51.7 +0.6**
AAK pmax pmax
comp=Z,584nm,1.6s
AAK MLR MLR
comp=Z,33μm,23.0s

AAK Ala-Archa 57.01 317 P **P** **11 46 51.5 +0.4**
AAK S **S** **11 54 47.5 +2.4**
ZAA0 Zalesovo Array 57.14 333 P **P** **11 46 50.7 -0.9**
ZALV Zalesovo Beam 57.14 333 P **P** **11 46 50.8 -0.8**
ZALV Zalesovo Beam 57.14 333 P **P** **11 46 51.2 -0.4**
comp=Z,48nm,0.9s,baz=115,slow=6.7,SNR=45
ZALV LR LR 12 13 13.8
comp=Z,17μm,18.3s,baz=134,slow=38
ZALV PKPPKP **P'P'df** **12 16 40.5 -2.6**
comp=Z,0.8nm,0.3s,baz=298,slow=3.2,SNR=3.9
ZALV PKP2bc **P'P'bc** **12 16 50.8 -4.5**
comp=Z,0.8nm,0.3s,baz=267,slow=3.0,SNR=5.7
comp=Z,48nm,0.9s
ZALV Zalesovo Beam 57.14 333 *i* P **P** **11 46 51.2 -0.4**
ZALV pmax pmax
comp=Z,47nm,0.9s
SGDS Sogindy 57.25 318 *e*P **P** **11 46 52.5 -0.2**
SGDS *e*S **S** **11 54 49.4 +1.3**
USP Ospenovka 57.26 318 P **P** **11 46 52.2 -0.5**
SNR=96
EKS2 Erkin-Say 57.51 317 P **P** **11 46 55.4 +0.8**
SNR=38
MSVF Nonsavu 57.69 116 P **P** **11 46 56.8 +0.6**
MSVF Nonsavu 57.69 116 IAms_20 IAms_20 12 10 09.7
comp=Z,20μm,20.0s
MSVF Nonsavu 57.69 116 P **P** **11 46 58.5 +2.3**
MSVF Nonsavu 57.69 116 *i* P **P** **11 46 57.1 +0.9**
MSVF pmax pmax
comp=Z,616nm,1.1s
KURBB Kurchatov Arra 58.30 327 P **P** **11 46 59.5 -0.3**
comp=Z,83nm,1.0s,baz=128,slow=5.8,SNR=265
KURBB LR LR 12 14 20.7
comp=Z,15μm,20.0s,baz=132,slow=38
KURBB PKPPKP **P'P'df** **12 16 34.2 -7.3**
comp=Z,3.0nm,1.0s,baz=275,slow=3.2,SNR=8.2
comp=Z,83nm,1.0s
KURK Kurchatov 58.30 327 P **P** **11 46 59.4 -0.5**
KURK IAmb IAmb 11 47 30.2
comp=Z,204nm,0.9s
KURK Kurchatov 58.30 327 P **P** **11 46 59.5 -0.3**
KURK P **P** **11 46 59.5 -0.3**
KURK P **P** **11 46 59.5 -0.3**
KURK Kurchatov 58.30 327 *i* P **P** **11 46 59.5 -0.3**
KURK pmax pmax
comp=Z,385nm,1.5s
KURK MLR MLR
comp=Z,14μm,20.0s
KBU Kabul Universi 58.30 306 P **P** **11 46 58.5 -1.9**
MIDW Midway 58.31 61 P **P** **11 47 02.4 +2.1**
KBL Kabul 58.38 306 P **P** **11 47 00.5 -0.5**
KBL IAmb IAmb 11 47 14.1
comp=Z,203nm,1.0s
KBL Kabul 58.38 306 P **P** **11 47 01.7 +0.7**
SNR=144
KBL P **P** **11 47 01.7 +0.7**
SNR=144
KBL Kabul 58.38 306 P **P** **11 47 00.5 -0.5**
KBL pmax pmax
comp=Z,203nm,1.0s
GAR Garm 58.67 312 P **P** **11 47 01.8 -1.0**
DZA Taraz 59.26 316 *e*P **P** **11 47 06.8 0.0**
comp=Z,204nm,1.1s
DZA Taraz 59.26 316 *e*P **P** **11 47 06.7 0.0**
DZA pmax pmax
comp=Z,204nm,1.1s
CHGR Chuyangaron 59.42 311 P **P** **11 47 08.0 0.0**
CHGR Chuyangaron 59.42 311 P **P** **11 47 08.0 0.0**
CHGR pmax pmax
comp=Z,552nm,1.2s
SEY Seymchan 59.47 14 PKPPKP 12 16 38.4
comp=Z,1.0nm,0.5s,baz=197,slow=20,SNR=1.6
SEY Seymchan 59.47 14 *e*P **P** **11 47 07.8 +0.1**
SEY pmax pmax
comp=Z,439nm,1.6s
KK31 Karatay Array 59.90 316 P **P** **11 47 11.6 +0.5**
KK31 Karatay Array 59.90 316 P **P** **11 47 11.6 +0.5**
KK31 pmax pmax
comp=Z,535nm,1.1s
IUG Iuzhnay 59.90 315 *e*P **P** **11 47 11.1 -0.1**
comp=Z,160nm,1.0s
IUG Iuzhnay 59.90 315 *e*P **P** **11 47 11.1 -0.1**
IUG pmax pmax
comp=Z,160nm,1.0s
FUTU Fugatoga 60.11 111 P **P** **11 47 14.3 +1.3**
FUTU Fugatoga 60.11 111 P **P** **11 47 15.0 +2.0**
CHM Chimkent 60.26 315 *e*P **P** **11 47 13.4 -0.2**
comp=Z,94nm,0.8s
CHM LR LR 12 17 12.4
comp=Z,8μm,18.8s
CHM Chimkent 60.26 315 *e*P **P** **11 47 13.4 -0.2**
CHM pmax pmax
comp=Z,93nm,0.8s
CHM MLR MLR
comp=Z,8μm,19.0s
BRLS Borolday 60.34 316 *e*P **P** **11 47 14.2 +0.1**
comp=Z,186nm,1.2s
BRLS Borolday 60.34 316 *e*P **P** **11 47 14.2 +0.1**
BRLS pmax pmax
comp=Z,186nm,1.2s
SHEM Shemya Is, Ala 60.72 32 LR LR 12 08 48.2
comp=Z,7μm,20.6s,baz=232,slow=31
SMY Shemya 60.72 32 P **P** **11 47 18.7 +2.2**
BRZS Berezniki 61.27 324 *e*P **P** **11 47 20.2 -0.1**
BRZS Berezniki 61.27 324 *e*P **P** **11 47 20.2 -0.1**
OUZ Omahuta 61.88 136 IAms_20 IAms_20 12 10 44.4
comp=Z,20μm,22.0s
OUZ Omahuta 61.88 136 P **P** **11 47 27.2 +2.5**
WCZ Waipu Caves 62.78 136 P **P** **11 47 32.6 +2.0**
AMKA Amchitka 62.92 35 P **P** **11 47 32.6 +1.3**
NGCH Negor - Chabah 63.60 295 P **P** **11 47 36.6 +0.3**
HRA Herat 63.84 305 P **P** **11 47 37.9 -0.2**
HRA IAmb IAmb 11 47 50.9
comp=Z,160nm,1.1s
BORK Borovoye 63.93 327 *ce*P **P** **11 47 37.7 -0.3**
BORK pmax pmax
comp=Z,201nm,1.0s
BORK MLR MLR
comp=Z,19μm,22.0s
MKAZ Moumakai 63.96 137 P **P** **11 47 40.0 +1.6**
MSZ Milford Sound 64.07 147 P **P** **11 47 40.7 +1.7**
JCZ Jackson Bay 64.14 146 P **P** **11 47 41.3 +1.6**
JCZ Jackson Bay 64.14 146 P **P** **11 47 41.2 +1.6**
KUZ Kuaotunu 64.15 136 P **P** **11 47 41.5 +1.8**
KUZ Kuaotunu 64.15 136 P **P** **11 47 41.2 +1.5**
DCZ Deep Cove 64.19 148 P **P** **11 47 39.7 0.0**
DCZ IAmb IAmb 11 47 55.5
comp=Z,198nm,1.0s
DCZ Deep Cove 64.19 148 P **P** **11 47 40.9 +1.2**
QRZ Quartz Range 64.33 142 P **P** **11 47 41.5 +0.7**
QRZ Quartz Range 64.33 142 P **P** **11 47 41.9 +1.1**
FOZ Fox Glacier 64.37 145 IAms_20 IAms_20 12 15 49.7
comp=Z,18μm,19.0s
FOZ Fox Glacier 64.37 145 P **P** **11 47 42.5 +1.5**
PYZ Puysegur Point 64.42 149 P **P** **11 47 43.0 +1.7**
DSZ Denniston Nort 64.43 143 P **P** **11 47 42.4 +0.9**
HIZ Hauiti 64.51 138 IAms_20 IAms_20 12 13 29.8
comp=Z,18μm,22.0s
HIZ Hauiti 64.51 138 P **P** **11 47 44.7 +2.7**
TOZ Tahuroa Road 64.52 137 IAms_20 IAms_20 12 16 44.2
comp=Z,18μm,20.0s
TOZ Tahuroa Road 64.52 137 P **P** **11 47 44.2 +2.1**
MLZ Mavora Lakes 64.63 148 IAms_20 IAms_20 12 15 35.4
comp=Z,17μm,21.0s
MLZ Mavora Lakes 64.63 148 P **P** **11 47 42.7 0.0**
WKZ Wanaka 64.76 147 IAms_20 IAms_20 12 13 44.8
comp=Z,18μm,20.0s
WKZ Wanaka 64.76 147 P **P** **11 47 45.2 +1.6**
VRZ Vera Road 64.78 139 P **P** **11 47 45.4 +1.7**
INZ Inchbonnie 64.81 144 IAms_20 IAms_20 12 16 26.3
comp=Z,19μm,20.0s
INZ Inchbonnie 64.81 144 P **P** **11 47 44.7 +0.9**
TIXI Tiksi 64.84 1 P **P** **11 47 43.1 -0.5**
TIXI Tiksi 64.84 1 LR LR 12 17 38.2
comp=Z,36μm,20.5s,baz=204,slow=38
TIXI Tiksi 64.84 1 *ce*P **P** **11 47 42.5 -1.1**
TIXI pmax pmax
comp=Z,148nm,1.7s
TIXI MLR MLR
comp=Z,37μm,20.0s
WHZ Wether Hill Ro 64.89 148 P **P** **11 47 44.5 +0.2**
JLN Jalan Bani Buh 64.95 291 P **P** **11 47 44.5 -0.7**
SNR=22
JLN P **P** **11 47 44.5 -0.7**
SNR=22
JLN P **P** **11 47 44.5 -0.7**
SNR=22
TGRZ Tauranga 65.03 137 P **P** **11 47 47.3 +1.8**
NNZ Nelson 65.08 142 P **P** **11 47 44.8 -0.9**
THZ Tophouse 65.10 142 P **P** **11 47 45.2 -0.7**
LBZ Lake Benmore 65.11 146 IAms_20 IAms_20 12 15 57.4
comp=Z,17μm,20.0s
LBZ Lake Benmore 65.11 146 P **P** **11 47 46.2 +0.3**
EAZ Earnscleugh 65.17 147 P **P** **11 47 47.0 +0.8**
RPZ Rata Peaks 65.19 145 LR LR 12 16 51.9
comp=Z,21μm,19.7s,baz=308,slow=37
RPZ Rata Peaks 65.19 145 P **P** **11 47 48.1 +1.7**
PKVZ Pokaka 65.25 139 P **P** **11 47 49.6 +2.7**
WTVZ West Tongariro 65.32 139 P **P** **11 47 48.9 +1.5**
LTZ Lake Taylor 65.33 144 IAms_20 IAms_20 12 15 03.1
comp=Z,24μm,22.0s
LTZ Lake Taylor 65.33 144 P **P** **11 47 48.1 +0.8**
COVZ Chateau Observ 65.33 139 P **P** **11 47 50.9 +3.4**
NNVZ North Ngauruho 65.34 139 P **P** **11 47 48.7 +1.1**
NGZ Ngauruhoe 65.36 139 P **P** **11 47 49.5 +1.8**
NTVZ North Tongarir 65.36 139 P **P** **11 47 48.9 +1.1**
FWVZ Far West T-bar 65.37 139 P **P** **11 47 48.6 +0.7**
TRVZ Turoa 65.39 139 P **P** **11 47 49.4 +1.4**
TMVZ Te Maari 65.39 139 P **P** **11 47 49.0 +1.1**
WHVZ Whangaehu Hut 65.41 139 P **P** **11 47 51.4 +3.2**
ETVZ East Tongariro 65.41 139 P **P** **11 47 50.2 +2.2**
ADK Adak 65.42 35 P **P** **11 47 48.6 +0.9**
ADK Adak 65.42 35 IAms_20 IAms_20 12 12 30.1
comp=Z,16μm,21.0s
ADK Adak 65.42 35 P **P** **11 47 49.7 +2.0**
ADK Adak 65.42 35 P **P** **11 47 48.6 +0.9**
ADK pmax pmax
comp=Z,1μm,1.8s
ADK Adak 65.42 35 ⇑P **P** **11 47 49.4 +1.7**
RITZ Rihia Road 65.42 138 P **P** **11 47 51.0 +3.0**
WNVZ Wahianoa 65.44 139 P **P** **11 47 51.2 +2.9**
RAO Raoul Island 65.44 126 LR LR 12 15 29.5
comp=Z,6μm,21.2s,baz=293,slow=35
OXZ Oxford 65.52 144 P **P** **11 47 49.6 +1.1**
APZ The Paps 65.54 149 P **P** **11 47 49.3 +0.7**
TMZ Timaru 65.57 146 P **P** **11 47 50.7 +1.8**
MOVZ Moawhango 65.58 139 P **P** **11 47 50.1 +1.1**
WSAR Wadi Sarin 65.73 292 P **P** **11 47 49.3 -1.0**
SNR=42
ODZ Otahua Downs 65.78 146 IAms_20 IAms_20 12 17 00.1
comp=Z,18μm,20.0s
ODZ Otahua Downs 65.78 146 P **P** **11 47 51.2 +1.0**
KHZ Kahutara 65.87 143 P **P** **11 47 51.5 +0.8**
URZ Urewera 65.88 137 LR LR 12 18 21.6
comp=Z,15μm,19.1s,baz=300,slow=38
URZ Urewera 65.88 137 P **P** **11 47 51.8 +0.9**
GVZ Greta Valley S 65.89 143 IAms_20 IAms_20 12 15 19.0
comp=Z,21μm,22.0s
GVZ Greta Valley S 65.89 143 P **P** **11 47 52.2 +1.3**
SYZ Scrubby Hill 65.93 148 P **P** **11 47 53.2 +2.1**
SYZ Scrubby Hill 65.93 148 P **P** **11 47 53.3 +2.3**
BKZ Black Stump Fm 65.94 138 P **P** **11 47 52.2 +0.8**
BKZ Black Stump Fm 65.94 138 P **P** **11 47 51.1 -0.3**
AFI Afiamalu 65.95 108 IAms_20 IAms_20 12 13 19.5
comp=Z,18μm,20.0s
AFI Afiamalu 65.95 108 P **P** **11 47 54.3 +2.4**
AFI Afiamalu 65.95 108 P **P** **11 47 54.0 +2.1**
SNZO South Karori 65.95 141 P **P** **11 47 50.9 -0.4**
SNZO South Karori 65.95 141 P **P** **11 47 53.0 +1.7**
RTZ Ruatahuna 65.98 138 IAms_20 IAms_20 12 14 05.7
comp=Z,17μm,22.0s
RTZ Ruatahuna 65.98 138 P **P** **11 47 51.2 -0.5**
MTHZ Maungataniwha 66.01 138 P **P** **11 47 52.0 +0.2**
KWHZ Kaweka Forest 66.03 139 P **P** **11 47 49.8 -2.2**
TSZ Takapari Road 66.06 139 P **P** **11 47 53.5 +1.4**
HAZ Te Kaha 66.08 136 P **P** **11 47 52.5 +0.3**
MQZ McQueen's Vall 66.10 144 P **P** **11 47 53.6 +1.4**
BHW Baring Head 66.11 141 IAms_20 IAms_20 12 18 22.0
comp=Z,15μm,19.0s
RUGZ Raukumara Rang 66.12 137 P **P** **11 47 52.8 +0.2**
MRZ Mangatainoka R 66.14 140 IAms_20 IAms_20 12 15 46.0
comp=Z,22μm,21.0s
MRZ Mangatainoka R 66.14 140 P **P** **11 47 52.5 -0.1**
JMDO Jabal Madar 66.17 291 P **P** **11 47 52.0 -1.2**
SNR=42
JMDO P **P** **11 47 52.0 -1.2**
SNR=42
MWZ Matawai 66.20 137 P **P** **11 47 52.6 -0.5**
RAHZ Arahi 66.20 138 P **P** **11 47 53.3 +0.3**
BIDO Bidbid 66.20 293 P **P** **11 47 52.5 -0.9**
SNR=64
MHTO MHTO 66.25 290 P **P** **11 47 51.9 -1.8**
SNR=32
MHTO P **P** **11 47 51.9 -1.8**
SNR=32
MHTO P **P** **11 47 51.9 -1.8**
SNR=32
SMDO Samad 66.25 292 P **P** **11 47 52.4 -1.4**
SNR=32
SMDO P **P** **11 47 52.4 -1.4**
SNR=32
SNGZ Shannon Statio 66.30 138 P **P** **11 47 54.0 +0.3**
PUZ Puketiti 66.56 136 P **P** **11 47 55.9 +0.5**
BFZ Birch Farm 66.58 140 P **P** **11 47 58.3 +2.9**
BFZ Birch Farm 66.58 140 P **P** **11 47 55.1 -0.3**
DQM DQM 66.62 289 P **P** **11 47 55.9 -0.2**
SNR=21
DQM P **P** **11 47 55.9 -0.2**
SNR=21
DQM P **P** **11 47 55.9 -0.2**
SNR=21
PXZ Pawanui 66.64 139 P **P** **11 47 57.5 +1.8**
KNZ Kokohu 66.65 138 P **P** **11 47 56.1 +0.3**
HOQ Hoqain 66.96 293 P **P** **11 47 58.8 +0.6**
SNR=41
BILL Bilibino 67.06 16 P **P** **11 47 58.4 +0.4**
BILL IAms_20 IAms_20 12 16 01.7
comp=Z,22μm,22.0s
BILL Bilibino 67.06 16 *ce*P **P** **11 47 59.4 +1.4**
BILL pmax pmax
comp=Z,236nm,1.7s
ARQ Araqi 67.67 292 P **P** **11 48 01.3 -1.5**
SNR=24
SOHO SOHO 67.69 293 P **P** **11 48 01.4 -1.4**
SOHO P **P** **11 48 01.4 -1.4**
SOHO SOHO 67.69 293 *i* P **P** **11 48 00.9 -1.9**
SNR=14
MDH Madha 67.96 294 P **P** **11 48 03.7 -0.8**
SNR=6.8
BANOM Banah 67.99 295 P **P** **11 48 05.3 +0.5**
BANOM P **P** **11 48 05.3 +0.5**
BANOM Banah 67.99 295 *i* P **P** **11 48 03.3 -1.5**
SNR=15
UOSS Minazif 68.03 294 P **P** **11 48 04.2 -0.8**
UOSS Minazif 68.03 294 P **P** **11 48 04.8 -0.1**
UOSS Minazif 68.03 294 *i* P **P** **11 48 02.4 -2.5**
SNR=14
UOSS Minazif 68.03 294 P **P** **11 48 03.0 -1.9**
HATD Hatta, Dubai 68.09 294 P **P** **11 48 06.0 +0.7**
SNR=36
HATD P **P** **11 48 06.0 +0.7**
SNR=36
HATD Hatta, Dubai 68.09 294 *i* P **P** **11 48 03.7 -1.6**
SNR=24
MSFE Esma-Masafi 68.09 295 *i* P **P** **11 48 03.2 -2.2**
SNR=15
MASF Masafi 68.09 295 P **P** **11 48 06.6 +1.2**
SNR=20
SHME Shamm 68.14 295 P **P** **11 48 06.4 +0.8**
SNR=16
SHME Shamm 68.14 295 *i* P **P** **11 48 03.7 -2.0**
SNR=17
ASHO Ashiyiah 68.15 294 P **P** **11 48 05.6 -0.1**
SNR=55
ASHO P **P** **11 48 05.6 -0.1**
SNR=55
ASHO Ashiyiah 68.15 294 *i* P **P** **11 48 03.8 -2.0**
SNR=23
ALNE Al Ain 68.40 293 P **P** **11 48 07.2 -0.1**
SNR=45
ALNE P **P** **11 48 07.2 -0.1**
SNR=45
ALNE Al Ain 68.40 293 *i* P **P** **11 48 05.8 -1.5**
SNR=31
SHAO Shalim 68.42 287 P **P** **11 48 08.8 +1.3**
SNR=24
SHAO P **P** **11 48 08.8 +1.3**
SNR=24
SHAO P **P** **11 48 08.8 +1.3**
SNR=24
SHAO Shalim 68.42 287 *i* P **P** **11 48 06.7 -0.8**
SNR=20
NAZ Nazwa, Dubai 68.52 294 P **P** **11 48 08.7 +0.7**
SNR=12
NAZ P **P** **11 48 08.7 +0.7**
SNR=12
NAZ Nazwa, Dubai 68.52 294 P **P** **11 48 06.0 -2.0**
UMQ Umm Al-Quwin 68.55 295 P **P** **11 48 09.8 +1.7**
SNR=6.2
FAQ Al Faqa, Dubai 68.57 294 P **P** **11 48 07.9 -0.5**
SNR=14
FAQ P **P** **11 48 07.9 -0.5**
SNR=14
FAQ Al Faqa, Dubai 68.57 294 *i* P **P** **11 48 06.2 -2.2**
SNR=12
AB31 Akbulak array 68.76 320 P **P** **11 48 08.2 -0.9**
AB31 IAmb IAmb 11 48 22.3
comp=Z,314nm,1.3s
AB31 Akbulak array 68.76 320 *i* P **P** **11 48 08.3 -0.8**
ABKAR Akbulak array 68.76 320 P **P** **11 48 08.3 -0.7**
ASUD Al Ashush, Dub 68.81 294 P **P** **11 48 12.4 +2.6**
SNR=9.5
ASUD P **P** **11 48 12.4 +2.6**
SNR=9.5
ASUD P **P** **11 48 12.4 +2.6**
SNR=9.5
ASUD Al Ashush, Dub 68.81 294 P **P** **11 48 08.5 -1.3**
UMZA Um Al Zommool 68.90 292 P **P** **11 48 12.6 +2.2**
UMZA P **P** **11 48 12.6 +2.2**
UMZA P **P** **11 48 12.6 +2.2**
NIUE Niue 68.97 113 P **P** **11 48 11.2 +0.4**
comp=Z,0.0nmcomp=Z,600nm,0.9s
NIUE Niue 68.97 113 P **P** **11 48 13.0 +2.2**
DMTO DMTO 69.07 286 P **P** **11 48 11.9 +0.4**
SNR=17
DMTO P **P** **11 48 11.9 +0.4**
SNR=17
DMTO P **P** **11 48 11.9 +0.4**
SNR=17
AJN Ajban 69.12 294 P **P** **11 48 14.1 +2.4**
SNR=7.5
AJN P **P** **11 48 14.1 +2.4**
SNR=7.5
RBK Rabkut 69.78 286 P **P** **11 48 17.1 +1.1**
SNR=19
RBK P **P** **11 48 17.1 +1.1**
SNR=19
RBK P **P** **11 48 17.1 +1.1**
SNR=19
DOK Doka 69.84 287 P **P** **11 48 17.0 +0.7**
SNR=36
DOK P **P** **11 48 17.0 +0.7**
SNR=36
DOK P **P** **11 48 17.0 +0.7**
SNR=36
MZWR Madinat Zayed 70.11 293 P **P** **11 48 18.4 +0.5**
MZWR P **P** **11 48 18.4 +0.5**
MZWR P **P** **11 48 18.4 +0.5**
WHFO Wadi Hawf 70.19 287 P **P** **11 48 18.0 -0.4**
SNR=28
WHFO P **P** **11 48 18.0 -0.4**
SNR=28
AKTO Aktyubinsk 70.26 321 LR LR 12 21 58.0
comp=Z,25μm,18.9s,baz=108,slow=38
AKTO Aktyubinsk 70.26 321 P **P** **11 48 16.3 -2.0**
MSEY Mahe Island 70.39 263 P **P** **11 48 19.7 -0.1**
MSEY IAmb IAmb 11 48 32.3
comp=Z,212nm,1.3s
MSEY Mahe Island 70.39 263 P **P** **11 48 19.7 -0.1**
MSEY pmax pmax
comp=Z,212nm,1.3s
MZR Muzera 70.46 292 P **P** **11 48 20.6 +0.6**
SNR=56
MZR P **P** **11 48 20.6 +0.6**
SNR=56
MZR Muzera 70.46 292 *i* P **P** **11 48 18.6 -1.4**
SNR=41
SVE Sverdlovsk 70.52 328 *de*P **P** **11 48 19.5 -0.2**
SVE *e*PPP PPP 11 52 34.3
SVE *e*S **S** **11 57 34.1 +1.9**
SVE pmax pmax
comp=Z,193nm,1.2s
SVE MLR MLR
comp=Z,19μm,25.0s
ABTO Aybut 70.65 286 P **P** **11 48 21.5 +0.1**
SNR=23
ABTO P **P** **11 48 21.5 +0.1**
SNR=23
SPIA Saint Paul Isl 70.75 31 P **P** **11 48 22.7 +1.6**
baz=252
P08K Saint George I 70.94 32 P **P** **11 48 23.4 +1.1**
baz=253
JRN Qarnain Island 71.07 294 P **P** **11 48 23.5 -0.2**
SNR=16
JRN P **P** **11 48 23.5 -0.2**
SNR=16
ARTI Arti 71.58 327 P **P** **11 48 24.9 -1.3**
ARTI IAms_20 IAms_20 12 23 32.6
comp=Z,15μm,21.0s
ARTI Arti 71.58 327 LR LR 12 24 11.1
comp=Z,8μm,18.0s,baz=104,slow=40
ARTI Arti 71.58 327 *d i* P **P** **11 48 24.0 -2.2**
ARTI 11 48 46.9
ARTI 11 51 06.3
ARTI PPP PPP 11 52 54.0
ARTI S **S** **11 57 44.1 -0.4**
ARTI 11 58 26.4
ARTI SS **SS** **12 02 17.5 -2.2**
ARTI pmax pmax
comp=Z,72nm,0.9s
ARTI MLR MLR
comp=Z,14μm,19.0s
UNV Unalaska Valle 71.89 35 P **P** **11 48 28.0 0.0**
UNV Unalaska Valle 71.89 35 P **P** **11 48 28.6 +0.5**
baz=256,SNR=12
GAMB Gambell 72.31 25 P **P** **11 48 31.8 +1.4**
GAMB IAmb IAmb 11 48 46.5
comp=Z,427nm,1.3s
GAMB Gambell 72.31 25 P **P** **11 48 31.6 +1.2**
baz=248
AKUT Akutan 72.38 35 P **P** **11 48 31.8 +0.8**
AKUT Akutan 72.38 35 P **P** **11 48 32.3 +1.3**
TRNA Turayna 72.56 294 P **P** **11 48 32.7 +0.1**
SNR=21
SHMA Al-Shehemyia 72.79 295 P **P** **11 48 36.1 +2.1**
SNR=19
SMRA Abu-Samra 72.91 294 P **P** **11 48 37.0 +2.2**
SNR=24
SAKB Bahrain 73.18 295 P **P** **11 48 36.6 +0.2**
CASY Casey 73.64 186 P **P** **11 48 37.4 -0.7**
M11K Mekoryuk 73.70 29 P **P** **11 48 38.8 +0.2**
M11K Mekoryuk 73.70 29 P **P** **11 48 40.2 +1.5**
baz=255
FALS False Pass 73.87 35 P **P** **11 48 40.5 +0.6**
FALS False Pass 73.87 35 P **P** **11 48 41.3 +1.5**
FALS False Pass 73.87 35 P **P** **11 48 40.4 +0.6**
baz=259
TNA Tin City 74.45 23 IAms_20 IAms_20 12 22 53.4
comp=Z,13μm,20.0s
TNA Tin City 74.45 23 P **P** **11 48 44.2 +1.3**
baz=252
S12K Black Hills 74.80 34 IAms_20 IAms_20 12 18 18.6
comp=Z,19μm,22.0s
S12K Black Hills 74.80 34 P **P** **11 48 46.5 +1.3**
baz=260
K13K Kusilvak Mount 74.82 27 P **P** **11 48 46.4 +1.2**
K13K IAmb IAmb 11 49 01.0
comp=Z,345nm,1.3s
K13K Kusilvak Mount 74.82 27 P **P** **11 48 46.6 +1.4**
baz=256,SNR=11
F14K Arctic Creek 75.06 24 P **P** **11 48 47.5 +1.0**
baz=253
M13K Dall Lake 75.08 29 P **P** **11 48 48.0 +1.3**
M13K IAmb IAmb 11 49 32.7
comp=Z,514nm,1.5s
M13K Dall Lake 75.08 29 P **P** **11 48 47.4 +0.7**
baz=257
ANM Nome 75.19 25 P **P** **11 48 48.0 +0.7**
baz=254
KIP Kipapa 75.40 70 P **P** **11 48 51.7 +2.4**
KIP Kipapa 75.40 70 P **P** **11 48 51.5 +2.2**
KIP Kipapa 75.40 70 *i* P **P** **11 48 47.9 -1.4**
KIP pmax pmax
comp=Z,381nm,1.9s
J14K Nanvaranak Lak 75.52 27 P **P** **11 48 50.2 +1.1**
J14K IAmb IAmb 11 49 03.1
comp=Z,291nm,1.6s

J14K	**Nanvaranak Lak**	**75.52**	**27**	P	**P**	**11 48 50.0 +0.8**
	baz=256,SNR=10					
L14K	**Kuka Creek**	**75.60**	**28**	P	**P**	**11 48 51.0 +1.3**
L14K	**Kuka Creek**	**75.60**	**28**	P	**P**	**11 48 51.4 +1.7**
	baz=258,SNR=33					
SDPT	**Sand Point**	**75.62**	**35**	P	**P**	**11 48 52.1 +2.2**
SDPT	**Sand Point**	**75.62**	**35**	P	**P**	**11 48 50.5 +0.6**
	baz=261,SNR=12					
KBD	**Kabd**	**75.72**	**298**	P	**P**	**11 48 51.4 +0.3**
N14K	**Kuskokwak Cree**	**75.79**	**30**	P	**P**	**11 48 51.6 +0.9**
N14K	**Kuskokwak Cree**	**75.79**	**30**	P	**P**	**11 48 52.1 +1.3**
	baz=259,SNR=9.7					
F15K	**North Star Dit**	**75.80**	**24**	IAms_20	IAms_20	12 22 10.0
	comp=Z,13µm,20.0s					
F15K	**North Star Dit**	**75.80**	**24**	P	**P**	**11 48 51.5 +0.7**
	baz=255					
M14K	**Bethel**	**75.82**	**29**	P	**P**	**11 48 51.3 +0.4**
M14K	**Bethel**	**75.82**	**29**	P	**P**	**11 48 51.9 +1.0**
	baz=258,SNR=26					
G15K	**Niukluk**	**75.86**	**24**	P	**P**	**11 48 52.4 +1.3**
	baz=255					
O14K	**Tigyukauivet M**	**75.87**	**31**	P	**P**	**11 48 52.5 +1.3**
O14K	**Tigyukauivet M**	**75.87**	**31**	P	**P**	**11 48 52.6 +1.3**
	baz=259					
CHNA	**Chernabura Isl**	**76.05**	**35**	P	**P**	**11 48 54.3 +1.9**
CHNA	**Chernabura Isl**	**76.05**	**35**	P	**P**	**11 48 53.4 +1.0**
	baz=262					
AKT	**Akhty**	**76.06**	**311**	*e*P	**P**	**11 48 51.8 -1.1**
AKT				*e*		11 49 04.0
AKT				*e*		11 51 45.6
AKT				*e*PPP	PPP	11 53 31.8
AKT				*e*S	**S**	**11 58 35.0 -0.9**
AKT				pmax	pmax	
	comp=Z,185nm,1.2s					
AKT				MLR	MLR	
	comp=Z,14µm,23.0s					
L15K	**Ungalak Mounta**	**76.23**	**28**	P	**P**	**11 48 54.6 +1.3**
	baz=259,SNR=13					
C16K	**Lisburne Hills**	**76.24**	**21**	P	**P**	**11 48 54.2 +1.0**
	baz=253,SNR=12					
S14K	**Fog Glacier**	**76.28**	**34**	P	**P**	**11 48 54.0 +0.2**
	baz=262					
MAK	**Makhachkala**	**76.32**	**312**	*d i*P	**P**	**11 48 49.5 -4.7**
MAK				*e*S	**S**	**11 58 32.3 -6.0**
MAK				*e*SS	**SS**	**12 03 32.7 +0.2**
MAK				pmax	pmax	
	comp=Z,466nm,1.4s					
MAK				MLR	MLR	
	comp=Z,12µm,18.0s					
K15K	**Wolf Creek Mou**	**76.33**	**27**	P	**P**	**11 48 54.9 +1.0**
K15K				IAmb	IAmb	11 49 08.2
	comp=Z,529nm,1.6s					
K15K	**Wolf Creek Mou**	**76.33**	**27**	P	**P**	**11 48 54.3 +0.4**
	baz=258,SNR=14					
M15K	**Kasigluk River**	**76.42**	**29**	P	**P**	**11 48 54.8 +0.4**
	baz=260,SNR=17					
H16K	**Elim**	**76.52**	**25**	P	**P**	**11 48 55.3 +0.5**
	baz=257					
O15K	**Ungalikthiuk R**	**76.59**	**31**	P	**P**	**11 48 56.3 +0.9**
O15K				IAmb	IAmb	11 49 11.3
	comp=Z,392nm,1.6s					
O15K	**Ungalikthiuk R**	**76.59**	**31**	P	**P**	**11 48 56.2 +0.8**
	baz=261,SNR=9.8					
N15K	**Kwethluk River**	**76.62**	**30**	P	**P**	**11 48 56.1 +0.6**
	baz=260,SNR=19					
G16K	**Koyuk River**	**76.64**	**24**	P	**P**	**11 48 55.8 +0.3**
	baz=257					
KIRV	**Kirov**	**76.78**	**329**	LR	LR	12 25 22.6
	comp=Z,9µm,19.3s,baz=101,slow=38					
KIRV	**Kirov**	**76.78**	**329**	*i* P	**P**	**11 48 55.4 -1.0**
D17K	**Noatak River**	**76.91**	**22**	P	**P**	**11 48 58.0 +1.0**
	baz=256,SNR=59					
J16K	**Anvik River**	**76.95**	**27**	P	**P**	**11 48 58.7 +1.4**
J16K				IAmb	IAmb	11 49 10.7
	comp=Z,524nm,1.8s					
J16K				IAms_20	IAms_20	12 25 35.6
	comp=Z,13µm,19.0s					
J16K	**Anvik River**	**76.95**	**27**	P	**P**	**11 48 58.3 +1.0**
	baz=259,SNR=21					
BELG	**Belogornoye**	**77.00**	**322**	LR	LR	12 23 27.9
	comp=Z,13µm,21.4s,baz=91,slow=36					
BELG	**Belogornoye**	**77.00**	**322**	*i* P	**P**	**11 48 56.1 -1.7**
BELG				pmax	pmax	
	comp=Z,71nm,0.9s					
BELG				MLR	MLR	
	comp=Z,2µm,22.0s					
I17K	**Unalakleet**	**77.02**	**26**	P	**P**	**11 48 58.4 +0.6**
I17K				IAmb	IAmb	11 49 12.2
	comp=Z,379nm,1.2s					
I17K	**Unalakleet**	**77.02**	**26**	P	**P**	**11 48 58.7 +1.0**
	baz=259,SNR=6.2					
RDOG	**Red Dog Mine**	**77.06**	**22**	P	**P**	**11 48 59.0 +1.0**
	baz=256,SNR=36					
C17K	**DeLong Mountai**	**77.07**	**21**	P	**P**	**11 48 58.3 +0.3**
	baz=255,SNR=22					
L16K	**Owhat River**	**77.18**	**28**	P	**P**	**11 48 59.4 +0.7**
	baz=260,SNR=34					
E17K	**Hotham Inlet**	**77.24**	**23**	P	**P**	**11 48 59.7 +0.8**
	baz=257,SNR=40					
SBV	**Sambava**	**77.26**	**255**	P	**P**	**11 49 01.1 +1.1**
M16K	**Timber Creek**	**77.31**	**29**	P	**P**	**11 49 00.4 +1.0**
M16K				IAmb	IAmb	11 49 08.4
	comp=Z,248nm,1.1s					
M16K	**Timber Creek**	**77.31**	**29**	P	**P**	**11 49 00.1 +0.7**
	baz=261,SNR=34					
F17K	**Baldwin Pennin**	**77.32**	**23**	P	**P**	**11 49 00.9 +1.6**
F17K				IAmb	IAmb	11 49 16.8
	comp=Z,182nm,1.0s					
F17K	**Baldwin Pennin**	**77.32**	**23**	P	**P**	**11 49 00.8 +1.5**
	baz=258,SNR=6.1					
N16K	**Nishlik Lake**	**77.32**	**30**	P	**P**	**11 49 01.1 +1.5**
	baz=261,SNR=24					
XMAS	**Kiritimati**	**77.33**	**89**	P	**P**	**11 49 02.9 +2.4**
G17K	**Kiwalik Mounta**	**77.36**	**24**	P	**P**	**11 49 00.5 +0.9**
	baz=258,SNR=44					
P16K	**Nushagak River**	**77.50**	**31**	P	**P**	**11 49 01.9 +1.4**
P16K				IAmb	IAmb	11 49 14.5
	comp=Z,279nm,1.1s					
P16K	**Nushagak River**	**77.50**	**31**	P	**P**	**11 49 01.1 +0.6**
	baz=262					
O16K	**Kokwok River B**	**77.53**	**30**	P	**P**	**11 49 00.7 +0.1**
O16K				IAmb	IAmb	11 49 16.1
	comp=Z,456nm,1.4s					
O16K	**Kokwok River B**	**77.53**	**30**	P	**P**	**11 49 00.7 +0.1**
	baz=262,SNR=24					
R16K	**Pilot Point**	**77.53**	**33**	P	**P**	**11 49 01.3 +0.7**
	baz=263					
H17K	**Granite Mounta**	**77.56**	**25**	P	**P**	**11 49 01.2 +0.5**
H17K				IAmb	IAmb	11 49 15.0
	comp=Z,249nm,1.1s					
H17K	**Granite Mounta**	**77.56**	**25**	P	**P**	**11 49 02.1 +1.3**
	baz=259,SNR=37					
J17K	**VABM Dome**	**77.64**	**27**	IAms_20	IAms_20	12 26 17.0
	comp=Z,13µm,20.0s					
J17K	**VABM Dome**	**77.64**	**27**	P	**P**	**11 49 02.9 +1.6**
	baz=260					
B18K	**Kokolik River**	**77.77**	**20**	P	**P**	**11 49 03.5 +1.6**
	baz=256,SNR=17					
E18K	**Tukpahlearik C**	**77.77**	**22**	P	**P**	**11 49 03.3 +1.4**
E18K				IAmb	IAmb	11 49 16.1
	comp=Z,255nm,1.1s					
E18K	**Tukpahlearik C**	**77.77**	**22**	P	**P**	**11 49 03.2 +1.4**
	baz=258,SNR=55					
POHA	**Pohakuloa**	**77.79**	**71**	IAms_20	IAms_20	12 16 18.0
	comp=Z,12µm,22.0s					
POHA	**Pohakuloa**	**77.79**	**71**	P	**P**	**11 49 04.6 +1.4**
RAYN	**Ar Rayn**	**77.79**	**293**	P	**P**	**11 49 03.8 +0.9**
RAYN	**Ar Rayn**	**77.79**	**293**	*i* P	**P**	**11 49 01.3 -1.6**
	SNR=46					
RAYN	**Ar Rayn**	**77.79**	**293**	P	**P**	**11 49 03.5 +0.6**
L17K	**Donlin**	**77.80**	**28**	P	**P**	**11 49 03.4 +1.2**
	baz=261,SNR=33					
C18K	**Utukok River**	**77.82**	**21**	P	**P**	**11 49 02.9 +0.7**
C18K				IAmb	IAmb	11 49 16.1
	comp=Z,357nm,1.3s					
C18K	**Utukok River**	**77.82**	**21**	P	**P**	**11 49 03.4 +1.2**
	baz=257,SNR=31					
K17K	**Iditarod**	**77.88**	**27**	P	**P**	**11 49 03.6 +1.0**
K17K	**Iditarod**	**77.88**	**27**	P	**P**	**11 49 03.6 +1.0**
	baz=261,SNR=39					
F18K	**Selawik**	**77.98**	**23**	P	**P**	**11 49 04.3 +1.3**
	baz=259,SNR=36					
RSD	**Rainshed**	**78.04**	**72**	P	**P**	**11 49 03.7 -0.8**
O17K	**Koliganek Bris**	**78.05**	**30**	P	**P**	**11 49 04.7 +1.2**
	baz=263,SNR=26					
M17K	**Holitna River**	**78.09**	**29**	P	**P**	**11 49 05.3 +1.5**
M17K				IAmb	IAmb	11 49 13.4
	comp=Z,202nm,1.1s					
M17K	**Holitna River**	**78.09**	**29**	P	**P**	**11 49 05.1 +1.3**
	baz=262,SNR=18					
N17K	**Nushagak Hills**	**78.10**	**30**	P	**P**	**11 49 05.2 +1.3**
	baz=263,SNR=22					
Q16K	**King Salmon**	**78.14**	**32**	P	**P**	**11 49 04.8 +0.8**
	baz=264					
KNHH	**Kane Nui o Ham**	**78.15**	**72**	P	**P**	**11 49 05.5 +0.4**
R17L	**Mt. Peulik Vol**	**78.19**	**33**	P	**P**	**11 49 05.1 +0.7**
	baz=264,SNR=11					
A19K	**Wainwright**	**78.21**	**20**	P	**P**	**11 49 05.1 +0.9**
	baz=257					
H18K	**Honhosa River**	**78.24**	**25**	P	**P**	**11 49 05.8 +1.3**
H18K				IAmb	IAmb	11 49 18.4
	comp=Z,251nm,1.2s					
H18K				IAms_20	IAms_20	12 23 51.7
	comp=Z,11µm,20.0s					
H18K	**Honhosa River**	**78.24**	**25**	P	**P**	**11 49 05.7 +1.2**
	baz=261,SNR=21					
G18K	**Tagagawik**	**78.25**	**24**	IAms_20	IAms_20	12 23 35.8
	comp=Z,11µm,20.0s					
G18K	**Tagagawik**	**78.25**	**24**	P	**P**	**11 49 05.5 +0.9**
	baz=260					
GNI	**Garni**	**78.28**	**309**	P	**P**	**11 49 08.2 +2.7**
GNI				P	**P**	**11 49 08.2 +2.7**
GNI	**Garni**	**78.28**	**309**	P	**P**	**11 49 05.6 +0.1**
GNI	**Garni**	**78.28**	**309**	*i* P	**P**	**11 49 04.9 -0.6**
GNI				pmax	pmax	
	comp=Z,910nm,1.6s					
GNI				MLR	MLR	
	comp=Z,9µm,22.0s					
P17K	**Kvichak River**	**78.31**	**31**	P	**P**	**11 49 06.1 +1.1**
	baz=264					
C19K	**Lookout Ridge**	**78.49**	**21**	IAms_20	IAms_20	12 24 19.0
	comp=Z,13µm,21.0s					
C19K	**Lookout Ridge**	**78.49**	**21**	P	**P**	**11 49 07.1 +1.2**
	baz=259					
Q17K	**Contact Creek**	**78.50**	**32**	P	**P**	**11 49 06.5 +0.2**
	baz=264					
J18K	**Innoko River**	**78.70**	**27**	P	**P**	**11 49 07.2 0.0**
J18K				IAmb	IAmb	11 49 20.1
	comp=Z,332nm,1.6s					
J18K	**Innoko River**	**78.70**	**27**	P	**P**	**11 49 08.1 +1.0**
	baz=262,SNR=38					
RAR	**Rarotonga**	**78.74**	**113**	LR	LR	12 20 16.9
	comp=Z,5µm,20.6s,baz=274,slow=33					
RAR	**Rarotonga**	**78.74**	**113**	P	**P**	**11 49 10.1 +2.0**
RAR	**Rarotonga**	**78.74**	**113**	P	**P**	**11 49 11.1 +3.0**
F19K	**Shaleruckik Mo**	**78.75**	**23**	P	**P**	**11 49 08.7 +1.5**
	baz=261					
N18K	**Kilae Creek**	**78.75**	**30**	P	**P**	**11 49 08.2 +0.7**
	baz=264					
GCSA	**Galena City Sc**	**78.81**	**25**	P	**P**	**11 49 08.7 +1.1**
	baz=262,SNR=54					
M18K	**Stony River**	**78.88**	**29**	P	**P**	**11 49 08.9 +0.8**
	baz=264,SNR=35					
D19K	**Kuna River**	**78.90**	**21**	P	**P**	**11 49 09.3 +1.2**
	baz=260					
P18K	**Big Mountain,**	**78.95**	**31**	P	**P**	**11 49 08.8 +0.2**
P18K				IAmb	IAmb	11 49 24.0
	comp=Z,341nm,1.8s					
P18K	**Big Mountain,**	**78.95**	**31**	P	**P**	**11 49 09.2 +0.5**
	baz=265					
Q18K	**Katmai Hardscr**	**79.00**	**32**	P	**P**	**11 49 09.1 +0.1**
	baz=265,SNR=8.8					
O18K	**Koktuh Hills**	**79.01**	**30**	P	**P**	**11 49 09.6 +0.7**
	baz=264,SNR=40					
E19K	**Redstone River**	**79.06**	**23**	P	**P**	**11 49 09.6 +0.6**
	baz=261					
H19K	**Roundabout Mou**	**79.09**	**25**	P	**P**	**11 49 10.8 +1.6**
H19K				IAmb	IAmb	11 49 23.6
	comp=Z,359nm,1.1s					
H19K	**Roundabout Mou**	**79.09**	**25**	P	**P**	**11 49 10.0 +0.9**
	baz=262,SNR=70					
R18K	**Karluk**	**79.20**	**33**	P	**P**	**11 49 10.6 +0.7**
	baz=266					
J19K	**Poorman**	**79.25**	**26**	IAms_20	IAms_20	12 27 25.5
	comp=Z,12µm,20.0s					
J19K	**Poorman**	**79.25**	**26**	P	**P**	**11 49 11.1 +1.0**
	baz=263					
L19K	**White Mountain**	**79.41**	**28**	P	**P**	**11 49 11.8 +0.8**
	baz=264					
N19K	**Bonanza Creek**	**79.45**	**29**	P	**P**	**11 49 12.3 +0.9**
	baz=265					
D20K	**Etivluk River**	**79.48**	**21**	P	**P**	**11 49 11.9 +0.6**
	baz=262					
O19K	**Port Alsworth**	**79.48**	**30**	P	**P**	**11 49 11.7 +0.3**
O19K				IAmb	IAmb	11 49 25.1
	comp=Z,661nm,1.8s					
O19K	**Port Alsworth**	**79.48**	**30**	P	**P**	**11 49 12.3 +0.9**
	baz=265,SNR=22					
B20K	**Meade River**	**79.49**	**20**	IAms_20	IAms_20	12 27 54.4
	comp=Z,15µm,20.0s					
B20K	**Meade River**	**79.49**	**20**	P	**P**	**11 49 11.9 +0.7**
	baz=261,SNR=15					
E20K	**Nigu River**	**79.57**	**22**	P	**P**	**11 49 12.7 +0.9**
	baz=262					
F20K	**Avaraart Lake**	**79.58**	**23**	P	**P**	**11 49 12.3 +0.5**
F20K				IAmb	IAmb	11 49 28.7
	comp=Z,270nm,1.4s					
F20K	**Avaraart Lake**	**79.58**	**23**	P	**P**	**11 49 13.1 +1.3**
	baz=263,SNR=38					
M19K	**Big River Lodg**	**79.60**	**28**	P	**P**	**11 49 12.9 +0.8**
	baz=265					
GOF	**Gofitskoye**	**79.61**	**314**	*ce*P	**P**	**11 49 12.5 0.0**
GOF				*e*S	**S**	**11 59 12.0 -1.9**
KBZ	**Khabaz**	**79.70**	**313**	P	**P**	**11 49 13.1 +0.1**
	comp=Z,74nm,1.2s,baz=82,slow=6.4,SNR=56					
KBZ				LR	LR	12 28 35.0
	comp=Z,18µm,19.9s,baz=80,slow=39					
	comp=Z,74nm,1.2s					
KBZ	**Khabaz**	**79.70**	**313**	*i* P	**P**	**11 49 11.5 -1.4**
KBZ				pmax	pmax	
	comp=Z,310nm,1.3s					
KBZ				MLR	MLR	
	comp=Z,17µm,19.0s					
H20K	**Anotleneega Mo**	**79.74**	**25**	P	**P**	**11 49 13.4 +0.7**
	baz=264,SNR=50					
OHAK	**Old Harbor**	**79.81**	**33**	P	**P**	**11 49 15.2 +2.0**
OHAK	**Old Harbor**	**79.81**	**33**	P	**P**	**11 49 14.4 +1.1**
	baz=267,SNR=8.0					
I20K	**Naaghedeneel**	**79.83**	**25**	P	**P**	**11 49 14.0 +0.8**
I20K				IAmb	IAmb	11 49 21.3
	comp=Z,371nm,1.1s					
I20K	**Naaghedeneel**	**79.83**	**25**	P	**P**	**11 49 14.5 +1.3**
	baz=264,SNR=34					
KIV	**Kislovodsk**	**79.86**	**313**	P	**P**	**11 49 13.5 -0.5**
KIV				IAmb	IAmb	11 49 27.3
	comp=Z,287nm,1.0s					
KIV	**Kislovodsk**	**79.86**	**313**	P	**P**	**11 49 16.3 +2.4**
KIV				P	**P**	**11 49 16.3 +2.4**
KIV	**Kislovodsk**	**79.86**	**313**	⇑P	**P**	**11 49 15.0 +1.1**
KIV	**Kislovodsk**	**79.86**	**313**	*i* P	**P**	**11 49 12.6 -1.4**
	SNR=68					
KIV	**Kislovodsk**	**79.86**	**313**	*e*P	**P**	**11 49 12.4 -1.6**
KIV				*e*		11 52 13.9
KIV				*e*S	**S**	**11 59 15.9 -0.8**
KIV				pmax	pmax	
	comp=Z,78nm,4.8s					
KIV				pmax	pmax	
	comp=Z,84nm,1.0s					
KIV				MLR	MLR	
	comp=Z,11µm,19.0s					
KIV	**Kislovodsk**	**79.86**	**313**	P	**P**	**11 49 14.0 0.0**
	comp=Z,4µmcomp=Z,259nm,1.2s					
KIV	**Kislovodsk**	**79.86**	**313**	P	**P**	**11 49 13.4 -0.5**
KIV				S	**S**	**11 59 15.4 -1.4**
A21K	**Barrow**	**79.87**	**19**	P	**P**	**11 49 14.5 +1.1**
	baz=261					
K20K	**Telida**	**79.88**	**27**	IAms_20	IAms_20	12 27 46.0
	comp=Z,12µm,20.0s					
SHA1	**Shidzhatmaz**	**79.88**	**313**	*i* P	**P**	**11 49 13.6 -0.6**
J20K	**Nowinta River**	**79.92**	**26**	P	**P**	**11 49 14.7 +1.0**
	baz=265					
ILSW	**Iliamna Southw**	**80.06**	**30**	P	**P**	**11 49 14.6 -0.2**
C21K	**Knifeblade Rid**	**80.19**	**21**	P	**P**	**11 49 16.1 +0.9**
	baz=263,SNR=11					
KDAK	**Kodiak Island**	**80.22**	**33**	P	**P**	**11 49 16.1 +0.6**
KDAK				IAmb	IAmb	11 49 30.0
	comp=Z,160nm,0.8s					
KDAK	**Kodiak Island**	**80.22**	**33**	IAms_20	IAms_20	12 20 32.4
	comp=Z,15µm,22.0s					
KDAK	**Kodiak Island**	**80.22**	**33**	LR	LR	12 20 43.3
	comp=Z,12µm,20.8s,baz=249,slow=33					
KDAK	**Kodiak Island**	**80.22**	**33**	P	**P**	**11 49 16.1 +0.6**
KDAK				pmax	pmax	
	comp=Z,160nm,0.9s					
KDAK	**Kodiak Island**	**80.22**	**33**	P	**P**	**11 49 16.0 +0.6**
	baz=267					
B21K	**Ikpikpuk River**	**80.31**	**21**	IAms_20	IAms_20	12 28 34.1
	comp=Z,11µm,20.0s					
B21K	**Ikpikpuk River**	**80.31**	**21**	P	**P**	**11 49 16.8 +1.1**
	baz=263,SNR=41					
O20K	**Slope Mountain**	**80.32**	**30**	P	**P**	**11 49 16.8 +0.7**
	baz=267					
A22K	**Sinclair Lake**	**80.36**	**19**	P	**P**	**11 49 16.6 +0.7**
	baz=263					
GURO	**Guroymak-BITLI**	**80.38**	**308**	P	**P**	**11 49 17.0 0.0**
G21K	**Allakaket**	**80.40**	**24**	P	**P**	**11 49 17.2 +0.9**
	baz=265					
E21K	**Killik River**	**80.41**	**22**	IAms_20	IAms_20	12 27 40.8
	comp=Z,11µm,20.0s					
E21K	**Killik River**	**80.41**	**22**	P	**P**	**11 49 16.9 +0.5**
	baz=264					
F21K	**Alatna River**	**80.47**	**23**	P	**P**	**11 49 17.6 +0.9**
	baz=265,SNR=18					
SPCR	**Spurr Chakacha**	**80.59**	**29**	P	**P**	**11 49 17.9 +0.4**
	baz=267,SNR=29					
VRH	**Novokhopyorsk**	**80.59**	**321**	*e*P	**P**	**11 49 16.2 -1.4**
VRH				*e*S	**S**	**11 59 21.0 -2.9**
VRH				pmax	pmax	
	comp=Z,158nm,1.1s					
VRH				smax	smax	
	comp=E,4µm,10.8s					
VRH				MLR	MLR	
	comp=Z,14µm,23.0s					
BATM	**Batumi**	**80.59**	**311**	⇓P	**P**	**11 49 18.2 +0.4**
BATM	**Batumi**	**80.59**	**311**	P	**P**	**11 49 18.2 +0.4**
H21K	**Melozitna Rive**	**80.61**	**25**	P	**P**	**11 49 18.1 +0.6**
	baz=266					
SPU	**Mount Spurr**	**80.66**	**29**	P	**P**	**11 49 18.6 +0.8**
PPLA	**Purkeypile**	**80.69**	**27**	P	**P**	**11 49 18.1 0.0**
PPLA	**Purkeypile**	**80.69**	**27**	P	**P**	**11 49 18.9 +0.7**
	baz=267,SNR=28					
CHUM	**Lake Minchumin**	**80.70**	**26**	P	**P**	**11 49 18.7 +0.7**
	baz=266,SNR=27					
STLK	**Strandline Lak**	**80.78**	**29**	P	**P**	**11 49 18.0 -0.5**
B22K	**Teshekpuk Lake**	**80.80**	**20**	IAms_20	IAms_20	12 29 04.0
	comp=Z,13µm,20.0s					
B22K	**Teshekpuk Lake**	**80.80**	**20**	P	**P**	**11 49 19.0 +0.7**
	baz=264,SNR=14					
ABPO	**Ambohimpanom**	**80.80**	**250**	P	**P**	**11 49 18.9 -0.7**
ABPO	**Ambohimpanom**	**80.80**	**250**	P	**P**	**11 49 18.9 -0.7**
ABPO				pmax	pmax	
	comp=Z,66nm,1.1s					
D22K	**Ayikyak River**	**80.92**	**21**	P	**P**	**11 49 19.5 +0.4**
	baz=265					
I21K	**Tanana**	**80.92**	**25**	P	**P**	**11 49 19.8 +0.8**
	baz=266,SNR=26					
SKT	**Skwentna**	**80.95**	**28**	P	**P**	**11 49 19.3 0.0**
SKT	**Skwentna**	**80.95**	**28**	P	**P**	**11 49 19.5 +0.1**
	baz=267,SNR=50					
CNPM	**China Poot**	**81.00**	**31**	P	**P**	**11 49 19.7 +0.1**
F22K	**John River**	**81.00**	**23**	P	**P**	**11 49 20.4 +0.8**
	baz=266					
CAPN	**Captain Cook N**	**81.08**	**30**	P	**P**	**11 49 20.6 +0.6**
	baz=268					
ATD	**Arta Tunnel**	**81.09**	**281**	LR	LR	12 24 38.8
	comp=Z,177nm,21.4s,baz=58,slow=35					
ATD	**Arta Tunnel**	**81.09**	**281**	P	**P**	**11 49 23.9 +2.8**
	SNR=5.2					
E22K	**Anaktuvuk Pass**	**81.18**	**22**	P	**P**	**11 49 21.5 +1.0**
E22K				IAmb	IAmb	11 49 33.8
	comp=Z,299nm,1.3s					
E22K	**Anaktuvuk Pass**	**81.18**	**22**	P	**P**	**11 49 20.6 +0.1**
	baz=266,SNR=46					
BRLK	**Bradley Lake**	**81.18**	**31**	P	**P**	**11 49 20.4 -0.3**
BRLK				IAmb	IAmb	11 49 30.4
	comp=Z,219nm,0.9s					
H22K	**Ishtalitna Cre**	**81.22**	**24**	P	**P**	**11 49 21.4 +0.7**
	baz=267					
G22K	**Bettles**	**81.22**	**23**	P	**P**	**11 49 21.0 +0.3**
	baz=267					
BRSE	**Bradley Lake S**	**81.25**	**31**	P	**P**	**11 49 21.0 0.0**
	baz=268,SNR=31					
LABN	**Labinsk**	**81.26**	**314**	*e*P	**P**	**11 49 21.9 +0.5**
LABN				*e*S	**S**	**11 59 30.3 -0.9**
LABN				*e*		11 59 30.3
LABN				pmax	pmax	
	comp=Z,62nm,0.6s					
LABN				MLR	MLR	
	comp=Z,13µm,18.0s					
BPAW	**Bear Paw Mtn.**	**81.29**	**26**	P	**P**	**11 49 21.1 0.0**
BPAW	**Bear Paw Mtn.**	**81.29**	**26**	P	**P**	**11 49 21.3 +0.2**
	baz=268,SNR=109					
KTH	**Kantishna Hill**	**81.30**	**27**	P	**P**	**11 49 21.3 0.0**
KTH				IAmb	IAmb	11 49 34.5
	comp=Z,227nm,1.0s					
MARD	**Mardin**	**81.40**	**307**	P	**P**	**11 49 22.1 -0.3**
MARD				IAmb	IAmb	11 49 34.6
	comp=Z,280nm,1.4s					
ERBR	**Yeremizino-Bor**	**81.42**	**315**	*e*P	**P**	**11 49 22.3 +0.1**
ERBR				*e*S	**S**	**11 59 31.0 -1.8**
ERBR				pmax	pmax	
	comp=Z,309nm,1.2s					
ERBR				MLR	MLR	
	comp=Z,16µm,21.0s					
MLY	**Manley**	**81.44**	**25**	P	**P**	**11 49 22.6 +0.6**
MLY				IAmb	IAmb	11 49 39.7
	comp=Z,209nm,1.0s					
MLY	**Manley**	**81.44**	**25**	P	**P**	**11 49 22.6 +0.6**
	baz=268,SNR=34					
SLKM	**Skilak Lake**	**81.53**	**30**	P	**P**	**11 49 22.6 0.0**
KOPT	**Kop Dagi**	**81.54**	**309**	P	**P**	**11 49 24.4 +1.1**
KOPT				IAmb	IAmb	11 49 38.4
	comp=Z,406nm,1.2s					
CUT	**Chulitna**	**81.56**	**28**	P	**P**	**11 49 22.1 -0.4**
CUT	**Chulitna**	**81.56**	**28**	P	**P**	**11 49 22.8 +0.3**
	baz=268,SNR=32					
TRF	**Thorofare Moun**	**81.58**	**27**	P	**P**	**11 49 22.9 0.0**
	baz=268,SNR=65					
M22K	**Willow**	**81.61**	**29**	P	**P**	**11 49 22.7 -0.1**
	baz=269,SNR=106					
D23K	**Nanushuk River**	**81.65**	**21**	IAms_20	IAms_20	12 31 23.5
	comp=Z,14µm,20.0s					
D23K	**Nanushuk River**	**81.65**	**21**	P	**P**	**11 49 24.1 +1.2**
	baz=267					
C23K	**Itkillik River**	**81.72**	**20**	P	**P**	**11 49 23.9 +0.7**
	baz=267					
VOI	**Vohitsoka**	**81.73**	**247**	P	**P**	**11 49 23.1 -1.3**
VOI				IAms_20	IAms_20	12 22 38.4
	comp=Z,12µm,21.0s					
VOI	**Vohitsoka**	**81.73**	**247**	P	**P**	**11 49 23.9 -0.5**
COLD	**Coldfoot**	**81.75**	**23**	P	**P**	**11 49 23.8 +0.4**
	baz=268,SNR=40					
O22K	**Cooper Landing**	**81.78**	**30**	P	**P**	**11 49 24.1 +0.4**
	baz=269,SNR=17					
RC01	**Rabbit Creek A**	**81.78**	**29**	P	**P**	**11 49 23.9 +0.2**
	baz=269,SNR=36		

baz=270,SNR=61
VORD Divnogorie 82.12 320 *e*P **P 11 49 24.5 -1.2**
VORD pmax pmax
comp=Z,140nm,1.0s
NEA2 Nenana 82.14 26 IAMs_20 IAMs_20 12 26 34.8
comp=Z,11μm,20.0s
NEA2 Nenana 82.14 26 P **P 11 49 26.3 +0.7**
baz=269,SNR=66
VORR Voronezh 82.17 321 *e*P **P 11 49 24.9 -1.0**
VORR pmax pmax
comp=Z,240nm,1.1s
MCK McKinley 82.19 27 IAMs_20 IAMs_20 12 29 07.1
comp=Z,14μm,20.0s
MCK McKinley 82.19 27 P **P 11 49 25.9 0.0**
baz=269,SNR=158
VSR Storozhevoye 82.20 321 *e*P **P 11 49 24.2 -1.9**
VSR pmax pmax
comp=Z,130nm,1.0s
RND Reindeer 82.22 27 IAMs_20 IAMs_20 12 29 21.0
comp=Z,14μm,21.0s
D24K Happy Valley 82.32 21 IAMs_20 IAMs_20 12 27 07.3
comp=Z,15μm,22.0s
D24K Happy Valley 82.32 21 P **P 11 49 26.9 +0.5**
baz=269
LPSR Galich'ya Gora 82.32 322 *e*P **P 11 49 25.4 -1.3**
LPSR *e*S **S 11 59 38.7 -3.1**
LPSR pmax pmax
comp=Z,168nm,1.0s
LPSR smax smax
comp=E,2μm,6.4s
LPSR MLR MLR
comp=Z,17μm,23.0s
WAT1 Susitna Watana 82.36 28 P **P 11 49 26.8 0.0**
baz=270
C24K Franklin Bluff 82.38 21 IAMs_20 IAMs_20 12 27 37.2
comp=Z,14μm,22.0s
C24K Franklin Bluff 82.38 21 P **P 11 49 27.5 +0.8**
baz=269,SNR=20
KNK Knik Glacier 82.40 29 P **P 11 49 27.7 +0.6**
baz=270,SNR=37
E24K Your Creek 82.42 22 P **P 11 49 27.6 +0.5**
baz=269
SML Sawmill 82.46 29 P **P 11 49 27.4 0.0**
baz=270,SNR=58
PWL Port Wells 82.46 30 P **P 11 49 27.7 +0.3**
baz=270,SNR=45
F24K Squaw Lake 82.65 23 P **P 11 49 28.6 +0.4**
baz=270,SNR=53
COLA College 82.67 25 P **P 11 49 28.9 +0.6**
COLA IAmb IAmb 11 49 42.8
comp=Z,123nm,0.9s
COLA College 82.67 25 P **P 11 49 29.4 +1.1**
COLA College 82.67 25 P **P 11 49 28.9 +0.6**
COLA pmax pmax
comp=Z,123nm,0.9s
COLA MLR MLR
comp=Z,10μm,21.0s
COLA College 82.67 25 P **P 11 49 28.7 +0.5**
baz=270
COLA College 82.67 25 P **P 11 49 29.2 +0.9**
CCB Clear Creek Bu 82.69 26 IAMs_20 IAMs_20 12 27 00.2
comp=Z,10μm,20.0s
WAT6 Susitna Watana 82.73 28 P **P 11 49 28.8 -0.1**
baz=271,SNR=139
M23K Glacier View 82.75 29 P **P 11 49 29.0 +0.1**
baz=271,SNR=18
G24K Hadweenzic Riv 82.81 24 P **P 11 49 29.7 +0.7**
baz=270,SNR=24
POKR Poker Plat Res 82.84 25 P **P 11 49 29.8 +0.5**
baz=271,SNR=9.7
DHY Denali Highway 82.89 27 IAMs_20 IAMs_20 12 27 42.8
comp=Z,9μm,19.0s
DHY Denali Highway 82.89 27 P **P 11 49 30.3 +0.5**
baz=271,SNR=21
SCM Sheep Creek Mo 82.94 29 P **P 11 49 30.4 +0.5**
baz=271,SNR=37
P23K Montague Islan 82.94 30 P **P 11 49 30.4 +0.6**
baz=271,SNR=14
MOS Moscow 83.01 325 *e*P **P 11 49 26.9 -3.3**
MOS *e* 11 52 36.3
MOS *e*S **S 11 59 41.6 -7.1**
MOS pmax pmax
comp=Z,81nm,0.7s
MOS pmax pmax
comp=Z,1μm,3.6s
MOS pmax pmax
comp=E,1μm,3.8s
MOS MLR MLR
comp=E,14μm,20.0s
MOS MLR MLR
comp=Z,17μm,20.0s
HDA Harding Lake 83.06 26 IAMs_20 IAMs_20 12 27 03.1
comp=Z,10μm,20.0s
HDA Harding Lake 83.06 26 P **P 11 49 30.2 -0.2**
baz=271,SNR=54
GLI Glacier Island 83.07 29 P **P 11 49 31.0 +0.5**
baz=271,SNR=15
ILAR Eielson Array 83.08 26 P **P 11 49 29.7 -0.8**
comp=Z,34nm,1.0s,baz=265,slow=3.8,SNR=101
ILAR PKKPbc **PKKPdf 12 07 46.4 +1.3**
comp=Z,1.3nm,1.0s,baz=163,slow=2.2,SNR=6.5
ILAR PKPPKP **P'P'df 12 15 57.2 -1.6**
comp=Z,0.5nm,0.9s,baz=79,slow=0.6,SNR=4.5
ILAR LR LR 12 28 19.7
comp=Z,6μm,19.1s,baz=258,slow=37
comp=Z,34nm,1.0s
D25K Kavik River 83.19 21 IAMs_20 IAMs_20 12 30 58.4
comp=Z,14μm,20.0s
D25K Kavik River 83.19 21 P **P 11 49 32.4 +1.3**
baz=271
G25K Bearman Lake 83.36 24 P **P 11 49 32.3 +0.5**
baz=272,SNR=21
M24K Tolsona, Glenn 83.47 28 P **P 11 49 33.1 +0.5**
baz=272,SNR=36
H25L Birch Creek 83.48 24 P **P 11 49 33.6 +1.1**
baz=272,SNR=40
Q23K Middleton Isla 83.49 31 P **P 11 49 33.1 +0.5**
baz=272
F25K Christian Rive 83.51 23 IAMs_20 IAMs_20 12 29 14.8
comp=Z,13μm,20.0s
F25K Christian Rive 83.51 23 P **P 11 49 33.5 +0.8**
baz=272,SNR=23
E25K Arctic Village 83.52 22 IAMs_20 IAMs_20 12 28 17.1
comp=Z,13μm,21.0s
E25K Arctic Village 83.52 22 P **P 11 49 33.2 +0.5**
baz=272,SNR=41
K24K Donnelly Dome 83.59 27 P **P 11 49 33.0 -0.1**
baz=272,SNR=66
ANN Anapa 83.60 314 *e*P **P 11 49 32.9 -0.6**
ANN *e*S **S 11 59 52.0 -3.1**
ANN pmax pmax
comp=Z,380nm,1.2s
ANN MLR MLR
comp=Z,12μm,20.0s
KLU Klutina 83.62 29 P **P 11 49 33.9 +0.5**
baz=272,SNR=20
PRP Porcupine Dome 83.63 25 P **P 11 49 33.5 +0.1**
baz=272,SNR=22
OBN Obninsk 83.64 325 LR LR 12 29 29.9
comp=Z,14μm,21.3s,baz=30,slow=38
OBN Obninsk 83.64 325 *de*P **P 11 49 31.3 -2.2**
OBN *e**SP **pP 11 49 38.6 -0.9**
OBN *i* 11 49 44.9
OBN *i* 11 52 52.5
OBN *i* PPP PPP 11 54 38.1
OBN *i* S **S 11 59 50.6 -4.4**
OBN *i* PS **PnS 12 00 46.3 -1.6**
OBN *e*PPS PPS 12 01 11.7
OBN *e*SSS SSS 12 08 49.7
OBN pmax pmax
comp=Z,200nm,1.3s
OBN MLR MLR
comp=Z,19μm,22.0s
OBN Obninsk 83.64 325 P **P 11 49 33.5 0.0**
comp=Z,4μmcomp=Z,130nm,1.3s
C26K Camden Bay 83.69 20 P **P 11 49 33.6 +0.1**
baz=272
J25K Salcha River, 83.74 26 P **P 11 49 34.0 +0.1**
baz=273
EYAK Cordova Ski Ar 83.74 30 P **P 11 49 35.8 +1.9**
EYAK Cordova Ski Ar 83.74 30 P **P 11 49 34.8 +0.9**
baz=273,SNR=11
PAX Paxson 83.77 27 IAMs_20 IAMs_20 12 30 20.9
comp=Z,12μm,20.0s
PAX Paxson 83.77 27 P **P 11 49 34.7 +0.6**
baz=273,SNR=72
LVZ Lovozero 83.93 338 *i* P **P 11 49 34.3 -0.5**
LVZ pmax pmax
comp=Z,165nm,1.2s
LVZ MLR MLR
comp=Z,21μm,18.0s
LVZ Lovozero 83.93 338 P **P 11 49 34.4 -0.4**
comp=Z,3μmcomp=Z,140nm,1.1s
HARP HAARP 83.94 28 P **P 11 49 35.8 +0.9**
baz=273,SNR=17
RIDG Independent Ri 84.01 27 P **P 11 49 35.3 -0.1**
baz=273,SNR=42
F26K Sheenjek River 84.08 23 IAMs_20 IAMs_20 12 29 43.9
comp=Z,13μm,20.0s
F26K Sheenjek River 84.08 23 P **P 11 49 36.3 +0.7**
baz=273,SNR=25
C27K Jago River 84.12 21 IAMs_20 IAMs_20 12 32 10.8
comp=Z,13μm,20.0s
C27K Jago River 84.12 21 P **P 11 49 36.2 +0.4**
baz=274,SNR=17
N25K Chitina, Valde 84.25 29 P **P 11 49 37.2 +0.5**
baz=274,SNR=37
G26K Porcupine Rive 84.26 23 P **P 11 49 37.9 +1.4**
baz=274
BMRM Bremner River 84.28 29 P **P 11 49 37.3 +0.6**
baz=274,SNR=28
DOT Dot Lake 84.36 27 IAMs_20 IAMs_20 12 27 06.5
comp=Z,11μm,20.0s
SCRK Sand Creek 84.37 26 P **P 11 49 37.4 +0.2**
baz=274,SNR=49
APA Apatity 84.42 337 ⇓*i*P **P 11 49 35.7 -1.6**
APA *e* 11 49 46.2
APA *i*S **S 12 00 02.6 +0.1**
KAIM Kayak Island 84.44 30 P **P 11 49 38.5 +1.0**
baz=274,SNR=7.4
J26L Joseph Creek 84.52 26 P **P 11 49 38.2 +0.2**
baz=274
I26K Coal Creek Min 84.64 25 P **P 11 49 38.9 +0.5**
baz=274,SNR=91
L26K Log Cabin Wild 84.73 27 P **P 11 49 40.0 +1.1**
baz=274
VRDI Verde Repeater 84.82 29 IAMs_20 IAMs_20 12 23 03.9
comp=Z,15μm,22.0s
ASF Jabal al Asfar 84.90 302 LR LR 12 33 22.5
comp=Z,7μm,21.0s,baz=109,slow=40
M26K Nabesna, AK 84.94 28 IAMs_20 IAMs_20 12 28 22.0
comp=Z,11μm,20.0s
M26K Nabesna, AK 84.94 28 P **P 11 49 41.0 +0.9**
baz=275
BGLC Bering Glacier 85.00 30 P **P 11 49 41.1 +0.9**
baz=275
E27K Coleen River 85.00 22 IAMs_20 IAMs_20 12 29 21.2
comp=Z,12μm,21.0s
E27K Coleen River 85.00 22 P **P 11 49 41.1 +0.9**
baz=276,SNR=38
CRQM Cirque 85.01 30 IAMs_20 IAMs_20 12 27 29.1
comp=Z,10μm,22.0s
MCARA McCarthy VSAT 85.02 29 IAMs_20 IAMs_20 12 23 01.0
comp=Z,12μm,22.0s
MCARA McCarthy VSAT 85.02 29 P **P 11 49 41.2 +0.8**
baz=275,SNR=17
CRQE Cirque 85.04 30 P **P 11 49 41.0 +0.3**
baz=275,SNR=24
G27K Doyon Strip 85.11 23 P **P 11 49 41.5 +0.6**
baz=276,SNR=44
D27M Malcolm River 85.12 21 P **P 11 49 41.3 +0.4**
baz=276
K27K Chicken 85.21 26 P **P 11 49 42.1 +0.8**
baz=276
H27K Steamboat Moun 85.22 24 P **P 11 49 42.7 +1.3**
baz=276,SNR=53
I27K Kandik River 85.25 25 P **P 11 49 42.4 +0.8**
baz=276
L27K Beaver Creek, 85.42 27 IAMs_20 IAMs_20 12 31 21.5
comp=Z,11μm,20.0s
L27K Beaver Creek, 85.42 27 P **P 11 49 43.3 +0.9**
baz=276,SNR=41
FURI Furi 85.43 278 IAMs_20 IAMs_20 12 27 58.5
comp=Z,13μm,20.0s
M27K Edge Creek, AK 85.46 28 IAMs_20 IAMs_20 12 24 55.8
comp=Z,15μm,22.0s
M27K Edge Creek, AK 85.46 28 P **P 11 49 43.4 +0.5**
baz=276
EGAK Eagle 85.53 25 P **P 11 49 43.5 +0.7**
baz=276,SNR=54
VADS Vadso 85.62 340 *e*P **P 11 49 43.1 -0.1**
VADS IVmB_BB 11 49 54.9
comp=Z,1μm,5.5s
VADS *e*PP **PP 11 53 02.5 +0.7**
VADS *e*SS SS 12 05 55.9 +6.0
VADS IVMs_BB IVMs_BB 12 22 57.7
comp=Z,4μm,33.5s
MESA MESA 85.65 30 P **P 11 49 44.8 +0.9**
baz=276,SNR=8.6
E28M Babbage River 85.71 21 IAMs_20 IAMs_20 12 32 29.9
comp=Z,11μm,20.0s
E28M Babbage River 85.71 21 P **P 11 49 44.8 +1.0**
baz=278,SNR=26
F28M Old Crow 85.71 22 IAMs_20 IAMs_20 12 32 52.0
comp=Z,12μm,20.0s
F28M Old Crow 85.71 22 P **P 11 49 44.8 +1.0**
baz=277,SNR=38
HOPEN Hopen 85.80 347 *e*P **P 11 49 43.1 -0.9**
HOPEN *e*P **PcP 11 49 47.5 +0.7**
HOPEN IVmB_BB 11 50 22.7
comp=Z,2μm,3.5s
HOPEN *e*SKSac **S 12 00 12.4 -3.5**
HOPEN *e*SS **SS 12 05 59.2 +6.9**
HOPEN IVMs_BB IVMs_BB 12 25 55.5
comp=E,5μm,19.2s
HOPEN IAMs_20 IAMs_20 12 36 29.6
comp=Z,20μm,18.2s
CTG Chitna Glacier 85.87 29 P **P 11 49 45.6 +0.7**
baz=276,SNR=76
D28M Stokes Point 85.89 21 P **P 11 49 45.7 +1.1**
baz=278
SIM Simferopol' 85.94 315 *e*P **P 11 49 44.5 -0.9**
SIM *e*S **S 12 00 17.0 -1.4**
I28M Miner Creek 85.96 25 P **P 11 49 45.9 +0.7**
baz=277,SNR=90
MAW Mawson 86.03 200 P **P 11 49 44.8 -0.4**
comp=Z,7.8nm,0.6s,baz=86,slow=2.3,SNR=12
MAW LR LR 12 21 31.9
comp=Z,6μm,21.9s,baz=58,slow=31
comp=Z,7.8nm,0.6s
MMAI Mount Meron Ar 86.08 303 P **P 11 49 46.4 0.0**
comp=Z,38nm,0.9s,baz=86,slow=6.9,SNR=20
MMAI LR LR 12 33 13.9
comp=Z,6μm,21.4s,baz=83,slow=39
comp=Z,38nm,0.9s
BZK Bozkurt 86.32 312 ⇓P **P 11 49 47.7 +0.5**
MSF Maaselka 86.33 336 P **P 11 49 46.0 -0.8**
E29M Blow River 86.34 22 IAMs_20 IAMs_20 12 33 18.5
comp=Z,10μm,19.0s
E29M Blow River 86.34 22 P **P 11 49 47.4 +0.6**
baz=279
DAWY Dawson 86.38 26 P **P 11 49 47.9 +0.8**
baz=278,SNR=43
O28M Mount Upton 86.45 29 P **P 11 49 48.5 +0.6**
baz=278,SNR=32
KEV Kevo 86.48 340 P **P 11 49 48.1 +0.6**
KEV S **S 12 00 21.8 -0.9**
H29M Whitestone 86.49 24 P **P 11 49 47.8 +0.2**
baz=279,SNR=54
PINM Pinnacle 86.51 30 P **P 11 49 48.7 +0.8**
baz=277,SNR=9.3
G29M Pine Creek 86.52 23 P **P 11 49 48.4 +0.6**
baz=279,SNR=65
YUK8 Steele Glacier 86.59 29 P **P 11 49 48.9 +0.3**
baz=278,SNR=7.6
VNDA Vanda 86.64 173 P **P 11 49 47.0 -1.1**
comp=Z,23nm,1.0s,baz=315,slow=6.1,SNR=68
VNDA LR LR 12 29 41.2
comp=Z,4μm,18.3s,baz=335,slow=36
comp=Z,23nm,1.0s
VNDA Vanda 86.64 173 P **P 11 49 47.0 -1.1**
I29M Ogilvie Camp, 86.65 25 P **P 11 49 49.4 +0.9**
baz=279,SNR=15
KIRS Kirsehir-Merke 86.67 309 ⇓P **P 11 49 49.4 +0.2**
EIL Elat 86.80 299 LR LR 12 33 37.0
comp=Z,10μm,20.9s,baz=74,slow=39
BR104 Keskin Array S 86.82 309 P **P 11 49 49.6 -0.4**
comp=Z,281nmcomp=Z,29nm,0.9s
BR131 Keskin Array S 86.82 309 P **P 11 49 50.3 +0.3**
SNR=33
BR131 P **P 11 49 50.3 +0.3**
SNR=33
BRTR Keskin Array B 86.82 309 P **P 11 49 49.3 -0.7**
comp=Z,9.4nm,0.8s,baz=112,slow=4.5,SNR=27
BRTR P4KPbc 12 25 45.1
comp=Z,0.5nm,0.4s,baz=103,slow=5.3,SNR=3.8
BRTR LR LR 12 35 42.3
comp=Z,3μm,18.8s,baz=89,slow=40
comp=Z,9.4nm,0.8s
BRTR Keskin Array B 86.82 309 *i* P **P 11 49 50.0 0.0**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
J29N Klondike Camp 86.83 26 P **P 11 49 50.1 +0.7**
baz=279,SNR=14
BCPM Bancas Point 86.83 30 IAMs_20 IAMs_20 12 23 54.1
comp=Z,14μm,21.0s
BR106 Keskin Array S 86.84 309 P **P 11 49 50.3 +0.2**
comp=Z,264nmcomp=Z,26nm,0.9s
BR105 Keskin Array S 86.84 309 P **P 11 49 49.8 -0.3**
comp=Z,338nmcomp=Z,37nm,0.9s
PNL Peninsula 86.99 30 P **P 11 49 52.6 +2.4**
PNL Peninsula 86.99 30 P **P 11 49 50.3 0.0**
baz=278
M29M Somme Creek 87.03 28 IAMs_20 IAMs_20 12 32 21.2
comp=Z,12μm,20.0s
M29M Somme Creek 87.03 28 P **P 11 49 50.9 +0.4**
baz=279,SNR=38
ARA0 ARCESS Array S 87.04 340 *e*P **P 11 49 48.5 -1.8**
ARA0 *e*P **PcP 11 49 51.7 -0.7**
ARA0 IVmB_BB 11 50 30.7
comp=Z,1μm,5.0s
ARA0 *e* 12 00 16.9
ARA0 *e*SS SS 12 06 13.0 +2.3
ARA0 IVMs_BB IVMs_BB 12 33 26.8
comp=Z,6μm,17.4s
ARCES ARCESS Array B 87.04 340 P **P 11 49 49.0 -1.2**
comp=Z,25nm,0.9s,baz=65,slow=5.8,SNR=27
ARCES PKKPbc **PKKPdf 12 07 37.8 -0.7**
comp=Z,0.6nm,0.5s,baz=239,slow=0.7,SNR=3.6
ARCES LR LR 12 33 49.3
comp=Z,17μm,19.4s,baz=84,slow=39
comp=Z,25nm,0.9s
SGF Sodankyl 87.06 338 P **P 11 49 49.9 -0.5**
L29M L29M 87.08 27 IAMs_20 IAMs_20 12 25 51.4
comp=Z,12μm,22.0s
L29M L29M 87.08 27 P **P 11 49 51.2 +0.6**
baz=279,SNR=35
CIDE Kastamonu/Cide 87.11 312 ⇑P **P 11 49 52.0 +0.8**
YUK4 Talbot Arm 87.11 29 P **P 11 49 51.0 0.0**
baz=279
EPYK Eagle Plains 87.12 24 P **P 11 49 50.8 0.0**
baz=280,SNR=38
SPA0 Spitsbergen Ar 87.19 349 *e*P **P 11 49 51.9 +1.0**
SPA0 IVMs_BB IVMs_BB 12 31 40.1
comp=Z,6μm,18.3s
SPITS Spitsbergen Ar 87.19 349 P **P 11 49 50.2 -0.6**
comp=Z,20nm,0.8s,baz=75,slow=7.8,SNR=9.0
SPITS LR LR 12 32 24.5
comp=Z,16μm,21.0s,baz=60,slow=38
comp=Z,20nm,0.8s
G30M tAoh Zraii Nji 87.21 23 P **P 11 49 50.6 -0.6**
baz=281
K29M Barlow Dome 87.23 26 P **P 11 49 51.7 +0.3**
baz=280,SNR=16
F30M Barrier River 87.26 22 IAMs_20 IAMs_20 12 34 23.9
comp=Z,12μm,20.0s
F30M Barrier River 87.26 22 P **P 11 49 50.9 -0.4**
baz=281
O29M Mount Kennedy 87.31 30 P **P 11 49 51.9 0.0**
baz=279
KIBK Kibwezi 87.32 267 P **P 11 49 51.7 -1.2**
KIBK Kibwezi 87.32 267 P **P 11 49 54.1 +1.2**
SNR=24
HAMF Hammerfest 87.41 341 *e*P **P 11 49 52.1 +0.1**
HAMF *e*P **PcP 11 49 53.0 -1.0**
HAMF *e*PP **PP 11 53 16.7 +0.4**
HAMF *e*SKSac **SKSac 12 00 18.5 -0.1**
HAMF *e*SS **SS 12 06 22.5 +6.4**
HAMF IVMs_BB IVMs_BB 12 33 12.5
comp=Z,6μm,20.6s
ANTO Ankara 87.45 310 P **P 11 49 52.3 -0.7**
ANTO Ankara 87.45 310 P **P 11 49 53.6 +0.6**
ANTO Ankara 87.45 310 ⇑P **P 11 49 53.4 +0.4**
ANTO Ankara 87.45 310 P **P 11 49 52.3 -0.7**
ANTO pmax pmax
comp=Z,141nm,1.6s
ANTO Ankara 87.45 310 P **P 11 49 52.7 -0.3**
comp=Z,872nmcomp=Z,24nm,1.1s
ANTO Ankara 87.45 310 P **P 11 49 52.9 -0.1**
I30M Mount Dempster 87.47 25 IAMs_20 IAMs_20 12 34 26.7
comp=Z,9μm,20.0s
I30M Mount Dempster 87.47 25 P **P 11 49 52.8 +0.2**
baz=281,SNR=30
SBA Scott Base 87.56 172 P **P 11 49 52.4 -0.1**
SBA IAmb IAmb 11 50 19.4
comp=Z,120nm,1.2s
SBA Scott Base 87.56 172 P **P 11 49 52.4 -0.1**
SBA pmax pmax
comp=Z,120nm,1.2s
CSS Mathiatis 87.59 305 P **P 11 49 53.8 +0.1**
comp=Z,2μmcomp=Z,110nm,1.3s
J30M Hart River 87.61 25 IAMs_20 IAMs_20 12 30 27.4
comp=Z,10μm,21.0s
J30M Hart River 87.61 25 P **P 11 49 53.3 0.0**
baz=281,SNR=15
PPT Papeete 87.61 108 P **P 11 49 54.4 +0.4**
comp=Z,15nm,0.9s,baz=270,slow=23,SNR=1.6
PPT LR LR 12 22 45.8
comp=Z,6μm,20.8s,baz=266,slow=31
comp=Z,15nm,0.9s
PPT2 Papeete2 87.62 108 *e*P P 11 49 59.6 +5.5
comp=Z,138nm,1.4s
PPT2 Papeete2 87.62 108 *e*PP **PP 11 53 15.8 -3.8**
comp=Z,813nm,25.0s
PPT2 *e*S **S 12 00 34.3 -1.4**
comp=Z,4μm,26.5s
PPT2 *e*SS **SS 12 06 30.4 +8.3**
comp=Z,7μm,27.5s
PPT2 *e*LQ LQ 12 13 50.5
comp=Z,81μm,38.8s
PPT2 *e*LR LR 12 17 36.0
comp=Z,21μm,27.0s
PPT2 *e*LR LR 12 17 43.9
comp=Z,14μm,28.2s
PAE Paea 87.62 108 *e*P P 11 50 00.5 +6.5
comp=Z,31nm,1.2s
PAE Paea 87.62 108 *e*S **SKSac 12 00 26.0 +4.2**
comp=Z,484nm,24.8s
PAE *e*SS **SS 12 06 18.2 -3.8**
comp=Z,835nm,25.0s
PAE Paea 87.62 108 *e*LR LR 12 17 35.0
comp=Z,3μm,25.7s
PPTF Pamatai, Papee 87.63 108 P **P 11 49 56.4 +2.2**
KBS Kingsbay 87.73 350 *e*P **P 11 49 54.6 +1.1**
KBS *e*P **PcP 11 49 56.2 +0.9**
KBS *e*SKSac **SKSac 12 00 24.9 +4.5**
KBS *e*SS **SS 12 06 27.4 +6.9**
KBS IVMs_BB IVMs_BB 12 35 54.8
comp=Z,5μm,19.3s
HYT Haines Junctio 87.75 29 P **P 11 49 54.2 +0.2**
baz=280,SNR=24
HSPB Hornsund (broa 87.77 348 *e*P **P 11 49 52.4 -1.2**
HSPB *e*PP **PP 11 53 19.1 +0.1**
HSPB *e*S **S 12 00 26.6 -8.3**
HSPB *e*L L 12 27 32.7
comp=Z,20μm,25.8s
BJO1 Bjornoya 87.77 345 *e*P **P 11 49 55.0 +1.4**
BJO1 *e*P **PcP 11 49 57.0 +1.5**
BJO1 IVmB_BB 11 50 31.9
comp=Z,1μm,2.9s
BJO1 *e*PP **PP 11 53 20.1 +1.0**
BJO1 *e*SKSac **SKSac 12 00 22.0 +1.3**
BJO1 *e*SS **SS 12 06 29.1 +8.0**
BJO1 IVMs_BB IVMs_BB 12 25 59.0
comp=E,5μm,24.4s
M30M Minto, Yukon 87.77 27 IAMs_20 IAMs_20 12 32 42.8
comp=Z,13μm,21.0s
M30M Minto, Yukon 87.77 27 P **P 11 49 54.3 +0.3**
baz=280,SNR=16
TIAR Tiarei 87.83 108 *e*P **P 11 49 59.1 +4.0**
comp=Z,217nm,1.2s
TIAR Tiarei 87.83 108 *e*SS SS 12 06 17.4 -7.7
comp=Z,7μm,26.6s
TIAR Tiarei 87.83 108 *e*LR LR 12 17 40.1
comp=Z,14μm,24.8s
P29M Windy Craggy 87.83 30 P **P 11 49 54.8 +0.5**
P29M IAmb IAmb 11 50 17.2
comp=Z,99nm,1.0s
P29M Windy Craggy 87.83 30 P **P 11 49 55.1 +0.8**
baz=280,SNR=13
N30M Aishikik Lake 87.83 28 P **P 11 49 54.8 +0.5**
baz=280,SNR=28

KTK1	Kautokeino	87.94	339	eP	P	11 49 54.8	+0.2
KTK1				eP	pP	11 49 59.1	-1.6
KTK1				ePP	PP	11 53 21.0	+0.4
KTK1				e		12 00 15.7	
KTK1				eSS	SS	12 06 29.1	+5.2
KTK1				IVMs_BB	IVMs_BB	12 34 00.2	
	comp=Z,5μm,17.9s						
INK	Inuvik	87.94	21	LR	LR	12 33 45.5	
	comp=Z,6μm,18.7s,baz=284,slow=39						
INK	Inuvik	87.94	21	P	P	11 49 54.7	+0.1
	baz=283,SNR=21						
TVO	Taravao	87.95	108	eP	P	11 50 00.0	+4.3
	comp=Z,62nm,1.3s						
TVO	Taravao	87.95	108	eS	SKSac	12 00 26.9	+2.9
	comp=Z,919nm,25.8s						
TVO	Taravao	87.95	108	eLR	LR	12 17 44.6	
	comp=Z,3μm,23.9s						
KMBO	Kilima Mbogo	87.97	269	P	P	11 49 56.0	-0.2
	comp=Z,9.1nm,0.2s,baz=78,slow=5.1,SNR=24						
KMBO				LR	LR	12 29 54.1	
	comp=Z,5μm,19.1s,baz=94,slow=36						
	comp=Z,9.1nm,0.2s						
KMBO	Kilima Mbogo	87.97	269	P	P	11 49 56.0	-0.2
G31M	Satah River	87.97	23	P	P	11 49 54.6	-0.2
	baz=282,SNR=17						
MAYO	Mayo, Yukon	87.99	26	P	P	11 49 55.1	+0.2
	baz=281,SNR=13						
F31M	Tsiigehtchic	88.06	22	P	P	11 49 55.0	-0.2
	baz=283,SNR=15						
P30M	Million Dollar	88.13	30	P	P	11 49 56.3	+0.5
	baz=280,SNR=8.4						
H31M	Peel River	88.19	24	IAMs_20	IAMs_20	12 29 53.5	
	comp=Z,11μm,22.0s						
H31M	Peel River	88.19	24	P	P	11 49 56.4	+0.5
	baz=282,SNR=23						
FINES	FINESS Array B	88.39	332	P	P	11 49 56.1	-0.7
FINES	FINESS Array B	88.39	332	P	P	11 49 55.4	-1.4
	comp=Z,18nm,0.8s,baz=90,slow=7.6,SNR=17						
FINES				LR	LR	12 32 41.1	
	comp=Z,13μm,21.3s,baz=83,slow=38						
	comp=Z,18nm,0.8s						
FINES	FINESS Array B	88.39	332	i P	P	11 49 55.4	-1.4
FINES				pmax	pmax		
	comp=Z,17nm,0.8s						
O30N	Mendenhall	88.44	29	P	P	11 49 57.3	+0.2
	baz=281,SNR=10						
N31M	Braeburn, Yuko	88.45	28	IAMs_20	IAMs_20	12 33 10.7	
	comp=Z,11μm,20.0s						
N31M	Braeburn, Yuko	88.45	28	P	P	11 49 57.8	+0.7
	baz=281,SNR=22						
AK09	Malin Array Si	88.48	321	P	P	11 49 56.8	-0.7
AK08	Malin Array Si	88.50	321	P	P	11 49 56.3	-1.3
AK03	Malin Array Si	88.50	321	P	P	11 49 55.8	-1.8
AK10	Malin Array Si	88.50	321	P	P	11 49 56.3	-1.3
AKASG	Malin Array Be	88.50	321	P	P	11 49 55.9	-1.7
	comp=Z,28nm,1.0s,baz=70,slow=4.4,SNR=43						
AKASG				PP	PP	11 53 26.5	+0.9
	comp=Z,12nm,1.0s,baz=78,slow=7.2,SNR=4.2						
AKASG				LR	LR	12 33 00.9	
	comp=Z,10μm,20.6s,baz=77,slow=38						
	comp=Z,28nm,1.0s						
AKASG	Malin Array Be	88.50	321	i P	P	11 49 56.5	-1.1
AKASG				pmax	pmax		
	comp=Z,32nm,1.0s						
AKBB	Malin Array Si	88.50	321	i P	P	11 49 55.7	-1.9
AKBB				pmax	pmax		
	comp=Z,66nm,1.0s						
AKBB	Malin Array Si	88.50	321	P	P	11 49 56.2	-1.4
AK01	Malin Array Si	88.51	321	P	P	11 49 55.6	-2.1
KIEV	Kiev	88.52	321	⇓P	P	11 49 57.3	-0.4
KIEV	Kiev	88.52	321	i P	P	11 49 56.9	-0.8
	SNR=24						
KIEV	Kiev	88.52	321	P	P	11 49 57.2	-0.4
KIEV	Kiev	88.52	321	P	P	11 49 56.3	-1.4
	comp=Z,7μmcomp=Z,240nm,1.0s						
AK02	Malin Array Si	88.52	321	P	P	11 49 55.8	-1.9
AK05	Malin Array Si	88.53	321	P	P	11 49 56.0	-1.7
AK04	Malin Array Si	88.54	321	P	P	11 49 56.0	-1.8
AK06	Malin Array Si	88.54	321	P	P	11 49 56.0	-1.8
AK07	Malin Array Si	88.54	321	P	P	11 49 56.0	-1.8
AK11	Malin Array Si	88.54	321	P	P	11 49 56.0	-1.8
PLBC	Pleasant Camp	88.55	30	P	P	11 49 57.9	+0.2
	baz=281						
AK12	Malin Array Si	88.56	321	P	P	11 49 56.1	-1.8
AK23	Malin Array Si	88.56	321	P	P	11 49 56.9	-1.0
AK15	Malin Array Si	88.57	321	P	P	11 49 57.1	-0.8
MNK	Minsk	88.70	325	i P	P	11 49 59.1	+0.7
MNK				i		11 53 23.3	
MNK				i PPP	PPP	11 55 30.9	
MNK				i S	SKSac	12 00 27.7	+0.7
MNK				i PS	PS	12 01 50.9	+0.7
MNK				pmax	pmax		
	comp=E,28nm,0.9s						
MNK				pmax	pmax		
	comp=Z,83nm,1.0s						
MNK				pmax	pmax		
	comp=N,31nm,1.0s						
MNK				MLR	MLR		
	comp=N,12μm,22.0s						
MNK				MLR	MLR		
	comp=Z,12μm,20.0s						
MNK				MLR	MLR		
	comp=E,9μm,21.0s						
JETT	Jettan, Norway	88.77	340	eP	P	11 49 59.0	+0.4
JETT				IVmB_BB		11 50 41.1	
	comp=Z,1μm,2.5s						
JETT				eSKSac	SKSac	12 00 30.5	+3.5
SAHE	Sakarya_HENDEK	88.80	311	⇓P	P	11 49 59.3	0.0
PMOR	Pomariorio Ree	88.88	105	eP	P	11 50 03.2	+3.1
	comp=Z,236nm,1.3s						
PMOR	Pomariorio Ree	88.88	105	eS	S	12 00 43.1	-4.5
	comp=Z,6μm,27.6s						
PMOR				eSS	SS	12 06 33.6	-6.8
	comp=Z,5μm,26.3s						
PMOR	Pomariorio Ree	88.88	105	eLR	LR	12 18 18.4	
	comp=Z,17μm,20.9s						
S31K	Pelican	88.90	32	P	P	11 49 59.4	+0.1
	baz=281						
M31M	Drury Creek, Y	88.94	27	IAMs_20	IAMs_20	12 25 26.8	
	comp=Z,12μm,22.0s						
M31M	Drury Creek, Y	88.94	27	P	P	11 49 59.5	0.0
	baz=282,SNR=15						
WHY	Whitehorse	89.04	29	P	P	11 50 00.4	+0.3
	baz=282,SNR=26						
SKAG	Skagway	89.07	30	P	P	11 50 02.1	+2.0
SKAG	Skagway	89.07	30	P	P	11 50 00.8	+0.7
	baz=282,SNR=18						
R31K	City Hall, Gus	89.07	31	P	P	11 50 01.0	+0.9
	baz=281						
VAH	Vaihoa	89.17	105	eP	P	11 50 03.7	+2.3
	comp=Z,20nm,1.0s						
TRO	Tromso	89.25	340	eP	P	11 49 58.6	-2.1
TRO				eSKSac	SKSac	12 00 32.6	+3.0
TRO				IVMs_BB	IVMs_BB	12 34 49.4	
	comp=Z,8μm,17.9s						
LODK	Lodwar	89.32	273	P	P	11 50 03.2	+0.9
	SNR=14						
KIS	Kishinev	89.35	317	eP	P	11 49 55.0	-6.7
KIS	Kishinev	89.35	317	eP	P	11 49 55.0	-6.7
KIS				e		12 00 26.0	
KIS				ePS	PS	12 02 20.0	+22
MILM	Milestii Mici	89.36	317	⇑i P	P	11 49 55.0	-6.7
MILM				M	M	11 50 14.0	
	comp=Z,800nm,4.2s						
MILM	Milestii Mici	89.36	317	c i P	P	11 49 55.0	-6.7
MILM				i		11 50 06.0	
MILM				e		12 00 26.0	
MILM				ePS	PS	12 02 23.0	+25
MILM				pmax	pmax		
	comp=Z,500nm,3.1s						
MILM				pmax	pmax		
	comp=Z,800nm,4.2s						
MI28	Mi28,Pidlybu	89.44	321	P	P	11 50 00.7	-1.3
LUBAR	Lubar, Ukraine	89.56	320	P	P	11 50 01.3	-1.3
SIT	Sitka	89.56	33	P	P	11 50 03.7	+1.3
	baz=282						
A36M	Sachs Harbour	89.58	17	P	P	11 50 02.9	+0.7
	baz=291						
JURR	Jurilovca	89.66	315	⇓P	P	11 50 03.0	-0.2
R32K	Eaglecrest	89.73	31	P	P	11 50 04.6	+1.4
R32K	Eaglecrest	89.73	31	P	P	11 50 04.3	+1.1
	baz=282						
N32M	Quiet Lake	89.79	28	P	P	11 50 04.3	+0.8
	baz=284,SNR=44						
JIS	Juneau Island	89.80	31	P	P	11 50 06.4	+2.9
P32M	Atlin	89.84	30	P	P	11 50 04.8	+1.0
	baz=283						
S32K	Killisnoo	89.87	32	P	P	11 50 05.1	+1.2
	baz=282						
NOR	Nord	89.93	355	i P	P	11 50 02.1	-1.7
NOR				IAMs_20	IAMs_20	12 34 12.9	
	comp=Z,8μm,20.3s						
TPGR	Topolog	89.97	315	⇓P	P	11 50 04.8	+0.1
TIRR	Tirgusor	90.04	315	P	P	11 50 04.7	-0.3
TIRR	Tirgusor	90.04	315	⇑P	P	11 50 04.6	-0.3
TIRR	Tirgusor	90.04	315	P	P	11 50 04.5	-0.4
TIRR	Tirgusor	90.04	315	P	P	11 50 03.8	-1.1
	comp=Z,889nmcomp=Z,47nm,1.6s						
CFR	Carcaliu	90.11	315	⇑P	P	11 50 05.3	0.0
CFR	Carcaliu	90.11	315	P	P	11 50 05.2	0.0
ISK	Istanbul-Kandi	90.11	311	P	P	11 50 03.8	-1.6
P33M	Teslin, Yukon	90.14	29	IAMs_20	IAMs_20	12 26 30.5	
	comp=Z,14μm,22.0s						
P33M	Teslin, Yukon	90.14	29	P	P	11 50 05.7	+0.5
	baz=284,SNR=13						
KALB	Balgarevo	90.21	314	⇓P	P	11 50 06.2	+0.4
HARR	Harsova	90.34	315	⇓P	P	11 50 06.6	+0.3
RNPP9	Sopachiv	90.45	322	P	P	11 50 06.0	-0.7
RNPP8	Varash	90.49	322	P	P	11 50 06.8	-0.1
RNPP5	Staryi Chortor	90.49	322	P	P	11 50 05.9	-1.0
CTYL	Yalikoy Yolu	90.62	312	⇑P	P	11 50 07.9	+0.2
KMPD	K-Podol'skiy	90.64	319	P	P	11 50 06.2	-1.5
Q32M	Nakina River	90.72	30	P	P	11 50 08.6	+0.6
	baz=284						
T33K	Petersburg	90.88	33	P	P	11 50 09.3	+0.7
	baz=284						
TESR	Tescani	90.90	317	⇓P	P	11 50 08.6	-0.3
TESR	Tescani	90.90	317	P	P	11 50 08.2	-0.8
	comp=Z,1μmcomp=Z,123nm,1.2s						
C36M	Paulatuk	90.91	19	P	P	11 50 09.6	+1.1
	baz=292						
BAND	Balkesir-Ban	90.95	311	⇑P	P	11 50 09.2	-0.1
U33K	Whale Pass	90.95	33	P	P	11 50 09.6	+0.7
	baz=284						
VRI	Vrincioaia	90.97	316	⇑P	P	11 50 09.7	+0.5
VRI	Vrincioaia	90.97	316	P	P	11 50 09.8	+0.5
VRI	Vrincioaia	90.97	316	P	P	11 50 09.2	-0.1
	comp=Z,2μmcomp=Z,89nm,1.3s						
PLOR5	Plostina Array	91.01	316	P	P	11 50 09.7	+0.1
	comp=Z,2μmcomp=Z,46nm,0.9s						
PLOR	Plostina	91.02	316	⇓P	P	11 50 09.2	-0.4
BISRR	Bisoca	91.04	316	⇑P	P	11 50 07.5	-2.2
STEI	Steigen	91.08	339	eP	P	11 50 07.0	-2.3
STEI				IVmB_BB		11 50 17.2	
	comp=Z,624nm,1.3s						
STEI				e		11 53 59.5	
STEI				eSKSac	SKSac	12 00 44.9	+4.6
STEI				IVMs_BB	IVMs_BB	12 28 52.5	
	comp=Z,6μm,24.2s						
CRAG	Craig	91.11	34	P	P	11 50 10.7	+1.0
	baz=284						
ONER	Baraj Valea Uz	91.11	317	⇓P	P	11 50 10.1	+0.2
ISR	Istrita	91.23	316	⇑P	P	11 50 10.8	+0.2
R33M	Jennings River	91.25	30	P	P	11 50 11.1	+0.6
	baz=286,SNR=18						
FAUS	Fauske	91.26	339	eP	P	11 50 12.1	+2.0
FAUS				eSKSac	SKSac	12 00 45.6	+4.3
FAUS				IVMs_BB	IVMs_BB	12 35 05.5	
	comp=Z,7μm,19.4s						
WRAK	Wrangell Islan	91.30	33	P	P	11 50 11.5	+0.9
	baz=284						
YER	Yerkesik	91.34	307	P	P	11 50 11.7	+0.4
NEHR	Nehoiu	91.35	316	⇓P	P	11 50 11.9	+0.8
SUW	Suwalki	91.50	325	eP	P	11 50 09.4	-2.1
SUW				ePP	PP	11 53 58.0	+8.8
SUW				eS	SKSac	12 00 49.2	+5.9
SUW				eL	L	12 33 32.2	
	comp=Z,17μm,24.6s						
SUW	Suwalki	91.50	325	P	P	11 50 10.7	-0.8
SUW	Suwalki	91.50	325	P	P	11 50 10.7	-0.8
SUW				MLR	MLR		
	comp=Z,15μm,22.0s						
S34M	Telegraph Cree	91.56	31	P	P	11 50 12.7	+0.9
S34M	Telegraph Cree	91.56	31	P	P	11 50 12.7	+0.9
	baz=285,SNR=7.2						
OZUR		91.57	317	⇑P	P	11 50 13.6	+1.5
MLR	Muntele Rosu	91.58	316	IAMs_20	IAMs_20	12 39 05.8	
	comp=Z,9μm,20.0s						
MLR	Muntele Rosu	91.58	316	LR	LR	12 38 11.4	
	comp=Z,9μm,19.6s,baz=69,slow=40						
MLR	Muntele Rosu	91.58	316	⇓P	P	11 50 11.7	-0.5
MLR	Muntele Rosu	91.58	316	P	P	11 50 11.8	-0.5
MLR	Muntele Rosu	91.58	316	P	P	11 50 12.0	-0.3
	comp=Z,1μmcomp=Z,64nm,1.7s						
LOF	Lofoten	91.60	340	eP	P	11 50 13.6	+1.9
LOF				eSKSac	SKSac	12 00 46.6	+3.3
LOF				IVMs_BB	IVMs_BB	12 35 26.3	
	comp=Z,4μm,19.2s						
KSV	Kosov	91.60	319	P	P	11 50 10.8	-1.4
BURAR	Bucovina Array	91.64	318	P	P	11 50 12.0	-0.5
BURAR	Bucovina Array	91.64	318	⇓P	P	11 50 13.8	+1.2
BURAR	Bucovina Array	91.64	318	P	P	11 50 12.0	-0.5
BURAR				pmax	pmax		
	comp=Z,27nm,0.9s						
DOPR	Dopca	91.86	317	⇑P	P	11 50 13.4	0.0
TGTN	Hyland Airport	91.92	27	P	P	11 50 14.0	+0.6
	baz=288,SNR=27						
V35K	Ketchikan	91.97	34	P	P	11 50 14.3	+0.7
	baz=285						
DLBC	Dease Lake	91.98	31	LR	LR	12 28 33.4	
	comp=Z,65μm,21.4s,baz=273,slow=34						
DLBC	Dease Lake	91.98	31	P	P	11 50 14.8	+1.0
	baz=286,SNR=10						
MOR8	Moi Rana	92.01	338	eP	P	11 50 15.4	+1.7
MOR8				eSKSac	SKSac	12 00 49.4	+3.6
MOR8				IVMs_BB	IVMs_BB	12 36 28.4	
	comp=Z,6μm,16.6s						
RAUS	Rausandaksla	92.06	338	eP	P	11 50 15.5	+1.6
RAUS				ePP	PP	11 53 52.9	-0.4
RAUS				eSKSac	SKSac	12 00 48.3	+2.3
RAUS				IVMs_BB	IVMs_BB	12 35 20.6	
	comp=Z,6μm,20.0s						
WTLY	Watson Lake, Y	92.10	29	P	P	11 50 14.8	+0.5
WTLY				IAmb	IAmb	11 50 25.1	
	comp=Z,160nm,1.3s						
WTLY	Watson Lake, Y	92.10	29	P	P	11 50 15.2	+1.0
	baz=287						
ELND	Elena	92.12	313	⇓P	P	11 50 14.1	-0.6
VAGH	Vaagaholmen	92.23	338	eP	P	11 50 16.2	+1.6
VAGH				eSKSac	SKSac	12 00 49.8	+2.9
VAGH				IVMs_BB	IVMs_BB	12 35 36.7	
	comp=Z,6μm,18.6s						
T35M	Bob Quinn	92.27	32	P	P	11 50 15.9	+0.8
	baz=286,SNR=8.0						
EZN	Ezine	92.38	310	⇑P	P	11 50 15.2	-0.7
EZN	Ezine	92.38	310	P	P	11 50 15.2	-0.7
ALN	Alexandroupoli	92.39	311	P	P	11 50 14.8	-1.2
STOK	Stokkvaagen	92.48	338	eP	P	11 50 19.0	+3.2
STOK				ePP	PP	11 54 00.6	+4.0
STOK				eSKSac	SKSac	12 00 50.9	+2.6
STOK				IVMs_BB	IVMs_BB	12 35 43.2	
	comp=Z,7μm,20.8s						
KARP	Karpathos	92.50	306	P	P	11 50 16.4	-0.3
	comp=Z,3μmcomp=Z,230nm,1.0s						
ARR	Arges	92.50	316	⇑P	P	11 50 16.5	0.0
LEIR	Leirfjorden	92.53	338	eP	P	11 50 14.8	-1.3
LEIR				ePP	PP	11 53 57.0	0.0
LEIR				IVMs_BB	IVMs_BB	12 32 58.6	
	comp=Z,6μm,25.8s						
MEZ	Mezhgor'ye	92.57	319	P	P	11 50 16.8	+0.2
U35K	Hyder	92.69	33	P	P	11 50 17.4	+0.4
	baz=286						
BMR	Baia Mare	92.77	318	P	P	11 50 18.0	+0.4
KWP	Kalwaria Pacla	92.82	321	ePP	PP	11 54 09.6	+10
KWP				eL	L	12 34 56.0	
	comp=Z,13μm,25.1s						
LOT	Lotru	93.08	316	⇓P	P	11 50 19.0	-0.2
R9F13	Warsaw-Wawer	93.14	323	eP	P	11 50 19.7	+0.6
	comp=Z,0.9nm,0.5s						
R9F13				eS	S	12 01 25.9	+0.8
MARR	Marisel-Cluj	93.25	318	⇓P	P	11 50 19.7	-0.3
HOLU	Holmets	93.29	319	P	P	11 50 19.8	-0.1
WRGLY	Wrigley	93.44	25	P	P	11 50 20.1	-0.2
WRGLY				IAmb	IAmb	11 50 36.0	
	comp=Z,99nm,1.2s						
WRGLY	Wrigley	93.44	25	P	P	11 50 20.7	+0.4
	baz=292						
BEL	Belsk	93.45	323	eP	P	11 50 20.1	-0.5
BEL				eL	L	12 33 11.6	
	comp=Z,366μm,25.7s						
DRGR		93.49	318	⇓P	P	11 50 21.2	+0.2
LIRD	Liard River Hi	93.62	29	P	P	11 50 21.9	+0.6
	baz=290						
SRE	Strehaia	93.65	316	⇓P	P	11 50 24.0	+2.3
GZR	Gura Zlata	93.78	316	⇑P	P	11 50 22.2	-0.1
STHS	Stebnicka Huta	93.80	321	eP	P	11 50 22.5	+0.2
STHS				pmax	pmax		
	comp=Z,15nm,1.3s						
STHS	Stebnicka Huta	93.80	321	eP	P	11 50 22.5	+0.2
DAG	Danmarks Havn	94.03	352	i P	P	11 50 22.0	-0.8
DAG				IAMs_20	IAMs_20	12 30 10.4	
	comp=Z,13μm,28.2s						
OUR	Ouranopolis	94.04	311	P	P	11 50 22.5	-1.1
SURR	Surduc	94.14	317	⇑P	P	11 50 23.5	-0.4
SURR	Surduc	94.14	317	⇓S	S	12 01 33.9	-0.4
HERR	Herculane	94.14	316	⇓P	P	11 50 24.6	+0.6
TOAD	Toad River Com	94.23	29	P	P	11 50 25.0	+0.9
	baz=290,SNR=24						
SIRR	Siria	94.32	317	⇑P	P	11 50 24.8	0.0
KOTAN	Kotaneelee Air	94.34	28	P	P	11 50 25.6	+1.1
	baz=292,SNR=11						
IDI	Anoyia	94.37	306	P	P	11 50 24.0	-1.3
NIE	Niedzica	94.39	321	eP	P	11 50 24.4	-0.7
NIE				ePP	PP	11 54 21.9	+10
NIE				eS	SKSac	12 01 08.0	+8.3
NIE				eL	L	12 31 57.6	
	comp=Z,8μm,26.4s						
OJC	Ojcow	94.49	322	eP	P	11 50 24.5	-1.0
OJC				ePP	PP	11 54 21.2	+8.4
OJC				eS	SKSac	12 01 05.9	+5.9
OJC				eL	L	12 26 43.8	
	comp=Z,9μm,35.7s						
BZS	Buzias	94.51	317	⇑P	P	11 50 24.5	-1.2
HFS	Hagfors	94.57	332	P	P	11 50 23.6	-2.0
	comp=Z,8.5nm,0.8s,baz=100,slow=4.5,SNR=10						
HFS				LR	LR	12 37 21.9	
	comp=Z,15μm,19.1s,baz=64,slow=38						
	comp=Z,8.5nm,0.8s						
MDVR	Moldovita	94.65	316	⇑P	P	11 50 26.3	-0.1
SYO	Syowa Base	94.66	201	⇓i PcP	P	11 50 25.6	-0.1
SYO	Syowa Base	94.66	201	⇑i pP	pP	11 50 29.6	-2.1
BBB	Bella Bella	94.85	36	LR	LR	12 27 25.8	
	comp=Z,5μm,22.0s,baz=292,slow=32						
VAY	Valandovo	94.87	312	i P	P	11 50 26.6	-0.8
BOVS	Bovan	94.94	315	⇓P	P	11 50 28.6	+1.0
LANS	Liptovska Anna	94.99	321	eP	P	11 50 29.1	+1.3
LANS				pmax	pmax		
	comp=Z,7.0nm,1.6s						
LANS	Liptovska Anna	94.99	321	eP	P	11 50 29.1	+1.3
LANS				ePP	PP	11 54 24.6	+7.8
PSZ	Piszkesteto	95.06	319	P	P	11 50 26.9	-1.3
PSZ	Piszkesteto	95.06	319	⇑P	P	11 50 28.0	-0.2
PSZ	Piszkesteto	95.06	319	P	P	11 50 26.9	-1.3
PSZ				pmax	pmax		
	comp=Z,47nm,1.3s						
PSZ				MLR	MLR		
	comp=Z,18μm,22.0s						
GKP	Gorka Klasztor	95.11	325	ePP	PP	11 54 26.4	+8.9
GKP				eL	L	12 34 38.0	
	comp=Z,29μm,25.0s						
RES	Resolute Bay	95.12	10	LR	LR	12 38 09.6	
	comp=Z,6μm,19.0s,baz=322,slow=38						
NB2	NORSAR Subarra	95.34	333	P	P	11 50 26.8	-2.4
	comp=Z,157nm,3.3s,baz=66,slow=4.6						
NB2	NORSAR Subarra	95.34	333	P	P	11 50 27.3	-1.8
NB2				pmax	pmax		
	comp=Z,413nm,3.0s						
NB2	NORSAR Subarra	95.34	333	P	P	11 50 26.8	-2.4
	baz=66,slow=4.6						
NOA	NORSAR Array B	95.34	333	P	P	11 50 27.4	-1.8
	comp=Z,3.6nm,0.8s,baz=66,slow=4.6,SNR=15						
NOA				PP	PP	11 54 16.2	-3.0
	comp=Z,3.6nm,0.9s,baz=74,slow=8.3,SNR=3.5						
NOA				PKKPbc	PKKPbc	12 07 27.2	+3.0
	comp=Z,2.0nm,0.9s,baz=69,slow=3.2,SNR=3.7						
NOA				LR	LR	12 37 16.9	
	comp=Z,15μm,20.1s,baz=65,slow=38						
	comp=Z,3.6nm,0.8s						
OKC	Ostrava-Krasne	95.62	322	AMS	AMS	12 37 50.0	
	comp=Z,10μm,20.0s						
TAOE	Nuku Hiva Isla	95.72	98	eP	P	11 50 23.6	-8.3
	comp=Z,469nm,23.9s						
TAOE	Nuku Hiva Isla	95.72	98	eS	S	12 01 41.1	-8.3
	comp=Z,7μm,31.1s						
TAOE				eSS	SS	12 08 12.6	-6.5
	comp=Z,6μm,27.1s						
TAOE				eLQ	LQ	12 17 08.9	
	comp=Z,11μm,28.7s						
TAOE				eLR	LR	12 21 30.8	
	comp=Z,27μm,27.4s						
STEB	Steborice	95.82	322	eP	P	11 50 33.8	+2.3
DOMB	Dombas	95.84	335	e	P	11 50 39.6	+8.2
DOMB				eSKSac	SKSac	12 01 08.3	+1.4
DOMB				eSS	SS	12 08 19.5	+1.7
DOMB				IVMs_BB	IVMs_BB	12 34 01.2	
	comp=Z,7μm,20.0s						
NEEM	North Greenlan	95.88	359	i P	P	11 50 30.6	-1.0
NEEM				IAMs_20	IAMs_20	12 33 50.9	
	comp=Z,10μm,20.9s						
MAUC	Maruska	95.96	321	eP	P	11 50 32.5	+0.3
MORC	Moravsky Berou	96.01	322	P	P	11 50 32.1	-0.4
MORC	Moravsky Berou	96.01	322	⇑P	P	11 50 33.2	+0.7
MORC	Moravsky Berou	96.01	322	eP	P	11 50 32.3	-0.2
MORC				e		11 54 32.3	
MORC	Moravsky Berou	96.01	322	P	P	11 50 32.1	-0.4
MORC				pmax	pmax		
	comp=Z,91nm,1.9s						
SRO	Srobarova	96.11	320	eP	P	11 50 35.6	+2.7
SRO	Srobarova	96.11	320	eP	P	11 50 35.6	+2.7
JAVC	Velka Javorina	96.21	321	eP	P	11 50 33.7	+0.3
JAVC				e		11 54 29.3	
OHR	Ohrid	96.21	313	i P	P	11 50 32.6	-1.0
MOL	Molde	96.24	336	eP	P	11 50 35.0	+1.9
MOL				IVMs_BB	IVMs_BB	12 34 48.2	
	comp=Z,7μm,23.2s						
DBG	Daneborg	96.28	351	i P	P	11 50 29.9	-3.2
DBG				IAMs_20	IAMs_20	12 28 53.7	
	comp=Z,12μm,28.0s						
ITM	Ithomi	96.31	309	P	P	11 50 32.5	-1.5
ITM				IAmb	IAmb	11 50 44.3	
	comp=Z

QSPA South Pole Qui 96.66 180 P **P 11 50 35.7 +0.7**
comp=Z,14nm,1.2s,baz=334,slow=2.8,SNR=15
QSPA LR LR 12 32 43.0
comp=Z,6μm,22.0s,baz=352,slow=35
comp=Z,14nm,1.2s
UPC Upice 96.71 323 AMS AMS 12 38 10.0
comp=Z,17μm,19.5s
VRAC Vranov 96.74 321 LR LR 12 39 06.9
comp=Z,7μm,20.1s,baz=67,slow=38
VRAC Vranov 96.74 321 *e*P **P 11 50 34.6 -1.2**
VRAC *e* 11 54 34.6
SKAR Skarslia 96.78 334 *e*SKSac **SKSac 12 01 14.3 +2.4**
KRUC Moravsky 96.94 321 *e*P **P 11 50 36.2 -0.5**
KRUC *e* 11 54 37.3
PDG Podgorica 96.98 314 IAMs_20 IAMs_20 12 39 30.1
comp=Z,10μm,22.0s
PDG Podgorica 96.98 314 ⇓P **P 11 50 36.7 -0.3**
YKA Yellowknife Ar 97.41 24 P **P 11 50 38.5 0.0**
comp=Z,8.2nm,1.0s,baz=302,slow=5.8,SNR=7.2
YKA LR LR 12 34 26.1
comp=Z,6μm,21.8s,baz=300,slow=35
comp=Z,8.2nm,1.0s
TREC Trest 97.43 322 AMS AMS 12 36 20.0
comp=Z,12μm,21.5s
RONA Rosalia, Austr 97.44 320 *e*pP **pP 11 50 42.8 -2.3**
comp=Z,3.4nm,0.6s
RONA *e*PP **PP 11 54 39.2 +3.4**
comp=Z,15nm,1.3s
PVCC Panska Ves 97.57 323 P **P 11 50 36.0 -3.5**
CONA Conrad Observa 97.64 320 pP **pP 11 50 43.2 -2.9**
comp=Z,11nm,1.2s
CONA PP **PP 11 54 40.0 +2.6**
comp=Z,20nm,1.4s
HOMB Homborsund 97.77 332 *e* 12 08 56.4
HOMB IVMs_BB IVMs_BB 12 38 45.4
comp=Z,7μm,20.1s
PRU Pruhonice 97.78 322 AMS AMS 12 36 40.0
comp=Z,12μm,20.3s
PRA Prague 97.81 323 AMS AMS 12 39 00.0
comp=Z,12μm,18.6s
BRG Berggiesshubel 97.82 323 *e*P Pdif 11 50 40.8 +0.1
BRG Amp 11 50 48.5
comp=Z,35nm,1.1s
BRG Berggiesshubel 97.82 323 S S 12 02 16.0 +10
BRG Berggiesshubel 97.82 323 SP SP 12 03 36.0 +7.8
BRG Berggiesshubel 97.82 323 SS SS 12 08 56.0 +10
RICC Richard 97.85 323 AMS AMS 12 36 10.0
comp=Z,11μm,20.2s
ODD1 Odda 97.88 333 *e*P Pdif 11 50 41.7 +1.0
ODD1 *e* 12 08 57.5
ARSA Arzberg 98.08 320 *e*pP Pdif 11 50 44.4 +2.5
comp=Z,8.7nm,1.2s
ARSA *e*PP **PP 11 54 43.9 +3.2**
comp=Z,16nm,1.5s
SUE Sulen 98.13 335 *e*SKSac **SKSac 12 01 23.0 +4.5**
SUE *e*SS **SS 12 08 53.8 +4.0**
ZVC Zvikov 98.18 322 *e*P Pdif 11 50 44.1 +1.9
ZVC AMS AMS 12 35 40.0
comp=Z,13μm,22.3s
BLS5 Blasjo 98.19 333 *e*SKSac **SKSac 12 01 23.0 +3.9**
BLS5 *e* 12 09 03.6
BER Bergen 98.22 334 *e*P Pdif 11 50 44.4 +2.2
BER *e* 11 54 52.4
BER *e*SKSac **SKSac 12 01 23.7 +4.7**
BER IVMs_BB IVMs_BB 12 40 39.9
comp=Z,8μm,18.4s
CLL Collm 98.22 324 P **P 11 50 41.6 -0.8**
CLL IAmb IAmb 11 51 04.0
comp=Z,74nm,1.6s
CLL Collm 98.22 324 *i* P Pdif 11 50 42.5 +0.1
CLL *i* 11 50 49.0
CLL *e* 12 01 23.0
CLL *e*S **S 12 02 13.0 +3.8**
CLL pmax pmax
comp=Z,48nm,1.7s
CLL MLR MLR
comp=Z,21μm,21.5s
HSKC Hora Svate Kat 98.22 323 AMS AMS 12 34 10.0
comp=Z,16μm,23.5s
ASK Askoy 98.23 334 *e*SKSac **SKSac 12 01 22.6 +3.5**
ASK IVMs_BB IVMs_BB 12 40 39.5
comp=Z,9μm,20.1s
LSZ Lusaka 98.37 256 LR LR 12 33 06.7
comp=Z,10μm,20.4s,baz=95,slow=34
MATP Matopo 98.47 250 LR LR 12 31 39.2
comp=Z,4μm,21.1s,baz=80,slow=33
SOKA Soboth 98.59 319 *e*pPdiff Pdif 11 50 47.1 +2.8
comp=Z,9.4nm,1.4s
SOKA PP **PP 11 54 47.0 +2.4**
comp=Z,305nm,2.8s
KHC Kasperske Hory 98.66 322 IAMs_20 IAMs_20 12 42 21.6
comp=Z,10μm,20.0s
KHC Kasperske Hory 98.66 322 *e*P Pdif 11 50 45.9 +1.4
KHC *e* 11 54 49.8
KHC MLR MLR
comp=Z,15μm,23.3s
KHC Kasperske Hory 98.66 322 *e*P Pdif 11 50 45.9 +1.4
KHC *e*PP **PP 11 54 49.8 +4.7**
KHC *e*SKS **SKSac 12 01 26.6 +4.7**
KHC AMS AMS 12 33 50.0
comp=Z,15μm,23.3s
MOA Molln 98.68 320 *e*Pdiff Pdif 11 50 45.7 +1.2
comp=Z,12nm,1.0s
MOA PP **PP 11 54 48.2 +3.0**
comp=Z,0.1nm,0.2s
GEC2 GERESS Array S 98.69 322 P **P 11 50 43.9 -0.7**
GERES GERESS Array B 98.69 322 P **P 11 50 44.6 0.0**
comp=Z,5.0nm,0.9s,baz=64,slow=6.1,SNR=14
GERES PP **PP 11 54 43.3 -2.1**
comp=Z,1.4nm,0.6s,baz=64,slow=9.1,SNR=3.7
GERES LR LR 12 38 48.0
comp=Z,10μm,21.5s,baz=68,slow=38
comp=Z,5.0nm,0.9s
KMY Karmoy 98.83 333 *e*Pdif Pdif 11 50 45.7 +0.8
KMY *e*PP **PP 11 54 48.6 +2.7**
KMY *e*SKSac **SKSac 12 01 19.3 -2.9**
OBKA Obir 98.96 319 *e*pPdiff Pdif 11 50 47.8 +1.9
comp=Z,6.3nm,1.0s
OBKA *e*PP **PP 11 54 47.8 +0.3**
comp=Z,412nm,4.9s
LLLB Lilloet 99.05 36 P **Pdif 11 50 47.3 +1.1**
LLLB IAmb IAmb 11 50 54.4
comp=Z,51nm,1.1s
BIOA Bad Ischl, Aus 99.14 320 *e*Pdiff **Pdif 11 50 48.0 +1.4**
comp=Z,9.5nm,1.2s
KBA Koelnbreinsper 99.54 320 *e*Pdiff **Pdif 11 50 48.8 +0.2**
comp=Z,5.2nm,1.2s
KBA PP **PP 11 54 55.6 +3.6**
comp=Z,156nm,2.7s
LESA Schwarzleotal 99.84 320 *e*Pdiff **Pdif 11 50 49.7 -0.1**
comp=Z,9.2nm,1.2s
SUMG Summit 100.09 355 P **Pdif 11 50 49.7 -1.1**
SUMG Summit 100.09 355 IAMs_20 IAMs_20 12 39 01.9
comp=Z,8μm,19.0s
SUMG Summit 100.09 355 *i* P **Pdif 11 50 52.0 +1.3**
SUMG IAMs_20 IAMs_20 12 31 01.4
comp=Z,10μm,29.1s
ABTA Abfaltersbach 100.19 320 *e*Pdiff **Pdif 11 50 50.8 -0.5**
comp=Z,5.2nm,0.6s
KEBM Edson Butte 100.21 44 IAMs_20 IAMs_20 12 35 18.2
comp=Z,8μm,21.0s
WTTA Wattenberg 100.56 321 *e*Pdiff **Pdif 11 50 52.9 -0.2**
comp=Z,9.0nm,0.9s
WTTA PP **PP 11 55 00.8 +1.1**
comp=Z,25nm,1.4s
WATA Walderalm 100.57 321 *e*Pdiff **Pdif 11 50 53.8 +0.7**
comp=Z,11nm,1.2s
WATA PP **PP 11 55 00.9 +1.1**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 100.84 321 *e*pPdiff **Pdif 11 50 56.2 +1.9**
comp=Z,8.6nm,1.1s
SQTA *e*PP **PP 11 55 01.3 -0.5**
comp=Z,13nm,1.0s
MOTA Moosalm 100.86 321 *e*pPdiff **Pdif 11 50 56.9 +2.5**
comp=Z,7.4nm,1.1s
MOTA PP **PP 11 55 04.0 +2.0**
comp=Z,25nm,1.4s
RETA Reutte 101.02 321 PP **PP 11 55 02.8 -0.3**
comp=Z,20nm,1.2s
KMPM Mount Pierce 101.16 47 IAMs_20 IAMs_20 12 32 55.5
comp=Z,10μm,21.0s
FETA Feichten 101.22 321 *e*Pdiff **Pdif 11 50 56.7 +0.6**
comp=Z,6.3nm,1.0s
FETA PP **PP 11 55 07.0 +2.2**
comp=Z,12nm,1.2s
DAVA Damuels 101.65 321 *e*Pdiff **Pdif 11 50 59.3 +1.3**
comp=Z,4.1nm,0.8s
DAVA PP **PP 11 55 09.5 +1.6**
comp=Z,10nm,0.9s
M02C Callahan 101.75 45 IAMs_20 IAMs_20 12 28 31.8
comp=Z,8μm,21.0s
RKT Rikitea 101.76 112 *e*S **Sdif 12 02 35.8 -4.2**
comp=Z,13μm,26.0s
RKT *e*SS **SS 12 09 39.2 -4.1**
comp=Z,25μm,29.8s
RKT Rikitea 101.76 112 *e*LQ LQ 12 20 03.9
comp=Z,80μm,33.8s
RKT *e*LR LR 12 24 04.7
comp=Z,43μm,33.0s
KCPM Cahto Peak 101.79 47 IAMs_20 IAMs_20 12 29 41.2
comp=Z,10μm,21.0s
HAWA Hanford 102.13 40 IAMs_20 IAMs_20 12 27 40.5
comp=Z,11μm,22.0s
HOPS Hopland Field 102.39 48 IAMs_20 IAMs_20 12 27 39.2
comp=Z,10μm,22.0s
VLC Villacollemand 102.54 318 PP **PP 11 55 13.7 -0.9**
MCCM Marconi Confer 102.81 49 IAMs_20 IAMs_20 12 27 35.4
comp=Z,9μm,22.0s
MNRC McLaughlin Min 102.89 48 IAMs_20 IAMs_20 12 30 01.4
comp=Z,10μm,21.0s
CVS Carmenet Viney 103.06 48 IAMs_20 IAMs_20 12 34 05.9
comp=Z,8μm,20.0s
BIGH Upper Bighouse 103.20 335 *e*P **Pdif 11 51 19.1 +15**
BIGH IAMs_20 IAMs_20 12 33 30.9
comp=Z,18μm,26.8s
MCD Coleburn Disti 103.47 334 IAMs_20 IAMs_20 12 40 19.1
comp=Z,22μm,22.5s
DRUM Mains of Drumt 103.53 333 IAMs_20 IAMs_20 12 36 17.9
comp=Z,17μm,26.5s
JRSC Jasper Ridge 103.54 49 IAMs_20 IAMs_20 12 28 05.7
comp=Z,11μm,22.0s
LINV Loch Inver, As 103.95 335 IAMs_20 IAMs_20 12 34 03.9
comp=Z,21μm,27.9s
MHC Mount Hamilton 104.01 49 IAMs_20 IAMs_20 12 28 31.0
comp=Z,10μm,22.0s
FORD Fort Ord Natur 104.12 50 IAMs_20 IAMs_20 12 28 21.2
comp=Z,7μm,22.0s
ILULI Ilulissat 104.14 359 IAMs_20 IAMs_20 12 41 10.9
comp=Z,7μm,20.0s
GDLE Glaisdale, N Y 104.19 331 IAMs_20 IAMs_20 12 40 27.9
comp=Z,18μm,22.8s
WVOR Wild Horse Val 104.29 43 IAMs_20 IAMs_20 12 42 35.9
comp=Z,7μm,19.0s
WACR West Acre 104.39 329 IAMs_20 IAMs_20 12 41 57.6
comp=Z,18μm,21.3s
EDI Edinburgh 104.43 333 IAMs_20 IAMs_20 12 39 33.7
comp=Z,16μm,21.8s
LMK Market Rasen 104.48 330 IAMs_20 IAMs_20 12 40 40.4
comp=Z,15μm,20.7s
EDMD Edmundbyers 104.50 332 IAMs_20 IAMs_20 12 40 21.9
comp=Z,18μm,21.7s
INVG Invergeldie, C 104.52 334 IAMs_20 IAMs_20 12 36 59.7
comp=Z,15μm,24.7s
ELMS Elmsett, Ipswi 104.54 328 *e*P **Pdif 11 51 19.1 +8.7**
ELMS IAMs_20 IAMs_20 12 41 52.0
comp=Z,19μm,20.9s
KPL Plockton 104.65 335 IAMs_20 IAMs_20 12 42 56.9
comp=Z,15μm,21.0s
CMB Columbia Colle 104.70 48 IAMs_20 IAMs_20 12 30 45.3
comp=Z,9μm,22.0s
HULI Fort Hunter Li 104.76 50 IAMs_20 IAMs_20 12 35 48.2
comp=Z,8μm,21.0s
EKA Eskdalemuir Ar 104.77 332 Pdiff **Pdif 11 51 11.5 +0.1**
comp=Z,0.8nm,0.6s,baz=343,slow=7.4,SNR=1.4
EKA PKKP **PKKPdf 12 07 07.2 +0.7**
comp=Z,1.4nm,0.7s,baz=268,slow=2.3,SNR=3.7
ESK Eskdalemuir 104.80 332 *e*P **Pdif 11 51 21.4 +10**
ESK IAMs_20 IAMs_20 12 39 44.2
comp=Z,17μm,23.4s
GGERF Dalmarnock 104.95 333 *e*P **Pdif 11 51 26.1 +14**
GGERF IAMs_20 IAMs_20 12 37 27.8
comp=Z,28μm,27.6s
ELSH Elham, Standar 104.96 327 IAMs_20 IAMs_20 12 45 28.7
comp=Z,12μm,17.4s
PGBU Glenifferbraes 105.08 333 IAMs_20 IAMs_20 12 33 51.8
comp=Z,35μm,29.4s
KESW Keswick, Cumbr 105.19 332 IAMs_20 IAMs_20 12 37 01.2
comp=Z,21μm,27.0s
LAWE Loch Awe, Argy 105.21 334 *e*P Pdif 11 51 30.8 +17
LAWE IAMs_20 IAMs_20 12 41 21.8
comp=Z,20μm,21.3s
PKD Bear Valley Ra 105.32 50 IAMs_20 IAMs_20 12 42 12.8
comp=Z,7μm,18.0s
CWF Charnwood Fore 105.37 329 *e*P **Pdif 11 51 19.2 +5.1**
CWF IAMs_20 IAMs_20 12 38 00.3
comp=Z,12μm,24.2s
NEWG New Galloway 105.39 333 *e*P **Pdif 11 51 21.9 +7.8**
NEWG IAMs_20 IAMs_20 12 40 12.6
comp=Z,16μm,22.3s
HMNX Herstmonceux 105.54 327 IAMs_20 IAMs_20 12 42 38.1
comp=Z,23μm,21.6s
STNC Stoke 105.62 330 IAMs_20 IAMs_20 12 40 46.8
comp=Z,15μm,24.2s
SUR Sutherland 105.64 238 IAMs_20 IAMs_20 12 37 21.1
comp=Z,8μm,20.0s
GAL1 Galloway 105.77 333 IAMs_20 IAMs_20 12 40 23.9
comp=Z,19μm,23.1s
NVAR Mina Array Bea 106.08 47 Pdiff **Pdif 11 51 18.7 +0.7**
comp=Z,5.1nm,0.9s,baz=281,slow=5.1,SNR=7.5
NVAR PP **PP 11 55 38.3 -3.0**
comp=Z,5.3nm,0.9s,baz=271,slow=7.8,SNR=5.9
NVAR PKKPbc **PKKPbc 12 06 52.3 -0.6**
comp=Z,1.2nm,0.8s,baz=137,slow=3.6,SNR=4.2
NVAR PKKPab **PKKPab 12 07 08.4 -0.8**
comp=Z,1.2nm,0.7s,baz=132,slow=4.5,SNR=5.2
TROLL Troll, Antarti 106.11 196 ⇑P **Pdif 11 51 21.2 +4.1**
comp=Z,76nm,0.6s
WOL Wolverton 106.12 328 IAMs_20 IAMs_20 12 41 51.1
comp=Z,14μm,22.9s
FOEL Foel Wylfa 106.23 330 IAMs_20 IAMs_20 12 42 03.9
comp=Z,14μm,22.6s
HLM1 Long Mynd 106.29 330 *e*P **Pdif 11 51 29.2 +11**
HLM1 IAMs_20 IAMs_20 12 40 43.8
comp=Z,12μm,21.7s
SWN1 Swindon 106.31 329 IAMs_20 IAMs_20 12 43 04.6
comp=Z,19μm,22.0s
STRD Stroud 106.35 329 IAMs_20 IAMs_20 12 37 51.3
comp=Z,15μm,26.2s
WLF1 Llynfaes 106.57 331 IAMs_20 IAMs_20 12 41 58.2
comp=Z,36μm,22.1s
OLDB Oldbury-Upon-S 106.61 329 IAMs_20 IAMs_20 12 37 58.1
comp=Z,17μm,26.4s
MCH1 Michaelchurch 106.65 329 *e*P **Pdif 11 51 32.0 +12**
MCH1 IAMs_20 IAMs_20 12 40 41.6
comp=Z,15μm,26.1s
TIN Tinemaha, Big 106.65 48 IAMs_20 IAMs_20 12 30 07.0
comp=Z,9μm,22.0s
ISA Isabella, Lake 106.99 50 IAMs_20 IAMs_20 12 42 58.0
comp=Z,8μm,19.0s
CWC Cottonwood Cre 107.00 49 IAMs_20 IAMs_20 12 30 54.1
comp=Z,8μm,21.0s
OSI Osito Audit: C 107.18 51 IAMs_20 IAMs_20 12 41 31.2
comp=Z,6μm,20.0s
ELK Elko 107.31 44 IAMs_20 IAMs_20 12 44 30.8
comp=Z,6μm,19.0s
LRMC Laurel Mtn Rad 107.66 50 IAMs_20 IAMs_20 12 43 26.7
comp=Z,8μm,18.0s
PASC Pasadena Art C 107.75 51 IAMs_20 IAMs_20 12 39 58.4
comp=Z,8μm,21.0s
JSA Saint Aubin 107.81 327 *e*P **Pdif 11 51 33.9 +8.9**
JSA IAMs_20 IAMs_20 12 46 49.2
comp=Z,17μm,19.3s
MWC Mount Wilson 107.83 51 IAMs_20 IAMs_20 12 40 11.5
comp=Z,7μm,19.0s
HTL Hartland 107.99 329 IAMs_20 IAMs_20 12 46 27.6
comp=Z,12μm,19.5s
BFSC Mont Baldy Ra 108.14 51 IAMs_20 IAMs_20 12 38 02.5
comp=Z,7μm,20.0s
TPNV Topopah Spring 108.16 48 IAMs_20 IAMs_20 12 32 55.7
comp=Z,8μm,22.0s
TSUM Tsumeb 108.69 252 IAMs_20 IAMs_20 12 43 08.0
comp=Z,7μm,22.0s
FXWY Fox Creek 108.75 40 IAMs_20 IAMs_20 12 33 56.8
comp=Z,10μm,22.0s
TPAW Teton Pass 108.88 40 IAMs_20 IAMs_20 12 32 54.9
comp=Z,10μm,22.0s
AHID Auburn Hatcher 109.14 40 IAMs_20 IAMs_20 12 33 36.5
comp=Z,9μm,22.0s
WIN Windhoek 109.15 249 IAMs_20 IAMs_20 12 36 44.2
comp=Z,8μm,21.0s
PFO Pinyon Flats O 109.30 51 IAMs_20 IAMs_20 12 40 42.3
comp=Z,7μm,19.0s
DANC Danby, Needles 109.72 50 IAMs_20 IAMs_20 12 43 18.4
comp=Z,7μm,20.0s
BC3 Big Chuckawall 110.05 51 IAMs_20 IAMs_20 12 38 53.2
comp=Z,7μm,20.0s
DGMT Dagmar 110.11 32 IAMs_20 IAMs_20 12 47 46.8
comp=Z,8μm,20.0s
PDAR Pinedale Array 110.12 40 Pdiff **Pdif 11 51 36.4 +0.6**
comp=Z,1.0nm,0.9s,baz=292,slow=4.3,SNR=6.3
PDAR PKIKP **PKiKP 11 55 38.5 +1.0**
comp=Z,2.2nm,0.7s,baz=27,slow=0.6,SNR=7.5
PDAR PKKPbc **PKKPbc 12 06 38.2 -2.1**
comp=Z,1.0nm,0.9s,baz=131,slow=8.1,SNR=3.5
PDAR PKKP **PKKPab 12 06 51.5 +0.2**
comp=Z,2.2nm,0.9s,baz=122,slow=5.6,SNR=6.8
NEE2 Needles Airpor 110.24 49 IAMs_20 IAMs_20 12 39 00.2
comp=Z,7μm,21.0s
IVI Ivigtut 112.02 356 IAMs_20 IAMs_20 12 51 41.2
comp=Z,8μm,20.0s
RSSD Black Hills 112.76 36 IAMs_20 IAMs_20 12 38 36.4
comp=Z,7μm,22.0s
MDND Maddock 112.89 31 IAMs_20 IAMs_20 12 45 33.4
comp=Z,6μm,20.0s
ULM Lac du Bonnet 113.06 27 PKiKP **PKiKP 11 55 43.0 +0.6**
comp=Z,7.5nm,1.0s,baz=331,slow=3.1,SNR=3.0
CART Cartagena 113.16 316 IAMs_20 IAMs_20 12 47 34.3
comp=Z,7μm,22.0s
MVCO Mesa Verde 113.59 45 IAMs_20 IAMs_20 12 34 31.5
comp=Z,9μm,22.0s
ESDC Sonseca Array 114.09 319 PP **PP 11 56 37.4 -1.4**
comp=Z,5.8nm,1.1s,baz=58,slow=5.8,SNR=5.5
ESDC PKKP **PKKPdf 12 06 48.4 -0.6**
comp=Z,1.3nm,0.9s,baz=270,slow=3.1,SNR=4.0
EDA Edea 114.20 277 IAMs_20 IAMs_20 12 41 26.8
comp=Z,6μm,22.0s
ISCO Idaho Springs 114.20 41 IAMs_20 IAMs_20 12 44 10.1
comp=Z,7μm,21.0s
PAB San Pablo 114.41 319 IAMs_20 IAMs_20 12 45 30.1
comp=Z,7μm,22.0s
AGMN Agassiz Nation 114.44 29 IAMs_20 IAMs_20 12 47 21.0
comp=Z,9μm,21.0s
MVO Moncorvo 115.20 322 *e*PKP **PKPdf 11 55 49.6 +2.7**
MVO *e*SS SS 12 12 42.8 -0.1
MVO *e*LR LR 12 34 01.3
MVO *i* IAMs_20 IAMs_20 12 53 34.2
comp=Z,9μm,20.0s
PGAV Gavieira, Arco 115.48 323 *e*PKP **PKiKP 11 55 44.7 -2.8**
PGAV *e*SS SS 12 13 08.1 +22
PGAV *e*LR LR 12 32 24.1
PGAV *i* IAMs_20 IAMs_20 12 53 11.4
comp=Z,7μm,20.0s
POLO Lamas de Olo 115.55 322 *e*PKP **PKiKP 11 55 45.6 -2.0**
OGNE Ogallala 115.82 38 IAMs_20 IAMs_20 12 50 27.5
comp=Z,7μm,22.0s
F33A 5 Mile Ranch, 115.92 31 IAMs_20 IAMs_20 12 46 52.6
comp=Z,7μm,21.0s
MTE Manteigas 115.97 321 *e*SS SS 12 13 18.2 +25
MTE *e*LR LR 12 34 09.8
MTE *i* IAMs_20 IAMs_20 12 46 49.4
comp=Z,9μm,20.0s
PVIS Viseu 116.00 322 *e*PKP **PKiKP 11 55 46.5 -1.9**
ANMO Albuquerque 116.15 46 IAMs_20 IAMs_20 12 46 06.1
comp=Z,6μm,20.0s
ANMO Albuquerque 116.15 46 PKIKP **PKiKP 11 55 49.7 +0.6**
Y22D IRIS PASSCAL I 116.24 47 IAMs_20 IAMs_20 12 37 44.4
comp=Z,7μm,22.0s
PMRV Marv??o 116.43 320 *e*PKP **PKiKP 11 55 50.6 +1.3**
PMRV *e*SS SS 12 13 13.4 +14
PMRV *e*LR LR 12 34 46.6
PMRV *i* IAMs_20 IAMs_20 12 50 49.6
comp=Z,6μm,22.0s
EYMN Ely 116.71 27 IAMs_20 IAMs_20 12 51 20.9
comp=Z,6μm,20.0s
PCAS Casmilo, Conde 116.76 321 *e*PKP **PKPdf 11 55 48.3 -1.6**
ECSD EROS Data Cent 117.18 33 IAMs_20 IAMs_20 12 47 23.0
comp=Z,7μm,22.0s
E38A The Farm, Brul 117.68 28 IAMs_20 IAMs_20 12 52 43.7
comp=Z,6μm,20.0s
PVAQ Vaqueiros 117.80 319 *e*SS SS 12 13 44.2 +27
PVAQ *e*LR LR 12 34 53.1
PVAQ *i* IAMs_20 IAMs_20 12 59 21.6
comp=Z,5μm,18.0s
SCHQ Schefferville 117.81 8 PKP **PKiKP 11 55 51.7 +0.2**
comp=Z,95nm,0.8s,baz=292,slow=0.9,SNR=5.4
MESJ Messejana 117.88 319 *e*PP **PP 11 57 05.9 +0.6**
MESJ IAMs_20 IAMs_20 12 37 17.1
comp=N,13μm,32.2s
PCVE Castro Verde 117.88 319 *e*PKP **PKiKP 11 55 53.4 +1.2**
PMAFR Mafra 117.90 321 *e*PKP **PKiKP 11 55 52.8 +0.7**
MORF Marmelete 118.47 319 *e*PP **PP 11 57 10.0 +0.6**
MORF IAMs_20 IAMs_20 12 35 56.9
comp=N,28μm,49.2s
L34A Svendsen Farm, 118.49 34 IAMs_20 IAMs_20 12 49 06.8
comp=Z,7μm,22.0s
CBKS Cedar Bluff 118.50 39 IAMs_20 IAMs_20 12 51 13.7
comp=Z,8μm,21.0s
MNTX Cornudas Mount 118.53 48 IAMs_20 IAMs_20 12 56 11.5
comp=Z,6μm,20.0s
PFVI Vila Bisbo 118.68 319 *e*PKP **PKiKP 11 55 54.9 +1.2**
MSTX Muleshoe 119.25 45 IAMs_20 IAMs_20 12 47 55.3
comp=Z,7μm,20.0s
G40A Rib Lake 119.31 28 IAMs_20 IAMs_20 12 55 06.8
comp=Z,7μm,20.0s
R32A Long Quarter, 119.38 39 IAMs_20 IAMs_20 12 46 30.8
comp=Z,6μm,22.0s
AMTX Amarillo 119.51 43 IAMs_20 IAMs_20 12 40 11.9
comp=Z,7μm,21.0s
N35A Tabor 119.64 35 IAMs_20 IAMs_20 12 41 08.2
comp=Z,8μm,22.0s
F42A Maple Grove Fa 119.87 26 IAMs_20 IAMs_20 12 54 31.4
comp=Z,9μm,22.0s
KSU1 Kansas State U 120.23 37 IAMs_20 IAMs_20 12 42 47.6
comp=Z,7μm,22.0s
SCIA State Center 120.25 32 IAMs_20 IAMs_20 12 49 35.3
comp=Z,8μm,21.0s
TORD Torodi Ar. Bea 120.38 289 PKP **PKPdf 11 55 55.2 -2.3**
comp=Z,10nm,1.0s,baz=37,slow=3.8,SNR=14
TORD PKKPab **PKKPbc 12 06 00.9 -2.8**
comp=Z,3.2nm,1.1s,baz=322,slow=2.2,SNR=4.9
TORD PKKP **PKKPdf 12 06 33.6 -3.2**
comp=Z,4.5nm,1.0s,baz=286,slow=3.1,SNR=4.7
OK038 West end E0370 120.54 40 IAMs_20 IAMs_20 12 57 12.8
comp=Z,7μm,19.0s
I42A Draeger Farm, 120.95 28 IAMs_20 IAMs_20 12 55 13.9
comp=Z,7μm,21.0s
E46A Sault Ste Mari 120.97 23 IAMs_20 IAMs_20 12 53 19.4
comp=Z,8μm,21.0s
TXAR Lajitas Array 120.98 50 PKP **PKPdf 11 55 58.0 -0.5**
comp=Z,8.2nm,0.9s,baz=270,slow=1.3,SNR=18
TXAR PP **PP 11 57 25.7 -1.5**
comp=Z,8.6nm,1.1s,baz=292,slow=6.6,SNR=3.9
TXAR PKKPab **PKKPbc 12 06 00.5 -1.5**
comp=Z,1.7nm,0.8s,baz=114,slow=5.6,SNR=5.9
TXAR Lajitas Array 120.98 50 PKIKP **PKPdf 11 55 58.0 -0.5**
TIO Tiouine 120.98 312 PKP **PKiKP 11 55 59.0 +0.4**
N38A Joes South For 121.02 33 IAMs_20 IAMs_20 12 51 10.7
comp=Z,6μm,21.0s
JFWS Jewell Farm 121.05 30 IAMs_20 IAMs_20 12 43 30.0
comp=Z,7μm,21.0s
L40A Anamosa 121.18 31 IAMs_20 IAMs_20 12 55 04.7
comp=Z,6μm,20.0s
T35A Sooner Cattle 121.68 39 IAMs_20 IAMs_20 12 57 45.8
comp=Z,6μm,20.0s
PMSA Palmer Station 121.74 175 IAMs_20 IAMs_20 12 50 12.4
comp=Z,7μm,20.0s
OK029 Liberty Lake 121.78 40 IAMs_20 IAMs_20 12 55 43.6
comp=Z,7μm,20.0s
L42A Oliver, Polo 122.01 30 IAMs_20 IAMs_20 12 53 20.5
comp=Z,6μm,22.0s
ABTX Abilene, Hawle 122.18 45 IAMs_20 IAMs_20 12 51 36.7
comp=Z,7μm,20.0s
N41A Harden Midland 122.36 32 IAMs_20 IAMs_20 12 43 34.8
comp=Z,6μm,22.0s
P40A Paris 122.55 34 IAMs_20 IAMs_20 12 58 05.3
comp=Z,6μm,22.0s
JCT Junction City 123.25 47 IAMs_20 IAMs_20 12 56 01.4
comp=Z,6μm,21.0s
M44A Midewin, Midew 123.27 29 IAMs_20 IAMs_20 12 56 52.9
comp=Z,6μm,20.0s
R40A Maddies Statio 123.29 35 IAMs_20 IAMs_20 12 52 51.0
comp=Z,6μm,21.0s
U38A Gravette 123.30 38 IAMs_20 IAMs_20 12 48 54.4
comp=Z,7μm,21.0s
J47A Sunmer 123.31 26 IAMs_20 IAMs_20 12 54 21.5
comp=Z,7μm,20.0s
I49A Point Hope 123.57 24 IAMs_20 IAMs_20 12 55 45.2
comp=Z,8μm,21.0s
L46A Eue Claire 123.62 28 IAMs_20 IAMs_20 12 55 59.0
comp=Z,7μm,20.0s
CCM Cathedral Cave 124.03 34 IAMs_20 IAMs_20 12 51 48.6

comp=Z,8μm,22.0s
WHTX Lake Whitney, 124.06 44 IAMs_20 IAMs_20 13 01 38.4
comp=Z,6μm,19.0s
SFIN Lafayette 124.51 30 IAMs_20 IAMs_20 12 45 22.6
comp=Z,6μm,21.0s
VA02 Isla de Pascua 124.54 118 IAMs_20 IAMs_20 12 44 04.0
comp=Z,6μm,20.0s
K50A Casco 124.62 25 IAMs_20 IAMs_20 12 53 39.9
comp=Z,8μm,22.0s
RPN Rapa Nui 124.63 118 IAMs_20 IAMs_20 12 44 05.2
comp=Z,6μm,19.0s
Q44A Meyer Farm, Va 124.64 32 IAMs_20 IAMs_20 12 44 45.3
comp=Z,7μm,22.0s
N47A Urbana 124.79 28 IAMs_20 IAMs_20 12 46 17.9
comp=Z,7μm,21.0s
Z38A Mt. Pleasant 124.95 41 IAMs_20 IAMs_20 12 42 45.6
comp=Z,8μm,22.0s
P46A Rosedale 125.03 30 IAMs_20 IAMs_20 12 57 59.6
comp=Z,6μm,20.0s
S44A Carbondale 125.39 33 IAMs_20 IAMs_20 13 01 14.4
comp=Z,6μm,20.0s
O48B Farmland 125.53 28 IAMs_20 IAMs_20 12 55 43.6
comp=Z,6μm,21.0s
M50A Fremont 125.57 26 IAMs_20 IAMs_20 12 55 40.2
comp=Z,6μm,20.0s
735A Kenedy 125.59 47 IAMs_20 IAMs_20 12 55 48.4
comp=Z,5μm,19.0s
LONY Lake Ozonia 125.86 17 IAMs_20 IAMs_20 13 01 09.2
comp=Z,6μm,21.0s
P48A Milroy 126.03 29 IAMs_20 IAMs_20 12 57 01.8
comp=Z,6μm,21.0s
T45A Paducah 126.22 33 IAMs_20 IAMs_20 13 00 33.3
comp=Z,6μm,21.0s
WCI Wyandotte Cave 126.55 31 IAMs_20 IAMs_20 12 52 38.8
comp=Z,7μm,22.0s
PMOZ Porto Moniz, M 126.73 320 *e*LR LR 12 38 29.3
PMOZ *i* IAMs_20 IAMs_20 12 55 52.0
comp=Z,4μm,22.0s
H62A Milan 126.83 14 IAMs_20 IAMs_20 12 53 59.7
comp=Z,7μm,22.0s
K57A Scipio Center 126.95 20 IAMs_20 IAMs_20 12 55 01.2
comp=Z,7μm,21.0s
R49A Shelbyville 127.07 30 IAMs_20 IAMs_20 12 53 34.3
comp=Z,6μm,21.0s
T47A Sharon Grove 127.07 32 IAMs_20 IAMs_20 12 54 01.7
comp=Z,7μm,20.0s
WVL Waterville 127.20 13 IAMs_20 IAMs_20 12 55 42.2
comp=Z,7μm,20.0s
WVT Waverly 127.31 34 IAMs_20 IAMs_20 12 55 02.3
comp=Z,6μm,20.0s
I62A Tamworth 127.44 15 IAMs_20 IAMs_20 12 55 26.8
comp=Z,6μm,22.0s
I63A Otisfield 127.47 14 IAMs_20 IAMs_20 12 54 37.4
comp=Z,7μm,21.0s
OXF Oxford 127.58 36 IAMs_20 IAMs_20 12 55 26.6
comp=Z,7μm,20.0s
BINY Binghamton 127.60 20 IAMs_20 IAMs_20 12 59 12.5
comp=Z,7μm,22.0s
143A Socs Landing, 127.61 39 IAMs_20 IAMs_20 12 55 39.7
comp=Z,7μm,21.0s
441A DeRidder 127.71 42 IAMs_20 IAMs_20 12 59 47.8
comp=Z,6μm,20.0s
TRY Troy 127.86 17 IAMs_20 IAMs_20 12 54 54.0
comp=Z,7μm,21.0s
CMLA Cha da Macela 127.89 330 IAMs_20 IAMs_20 12 54 41.9
comp=Z,6μm,21.0s
Q52A Bidwell 127.90 27 IAMs_20 IAMs_20 12 58 48.1
comp=Z,6μm,20.0s
L59A Walton 127.92 19 IAMs_20 IAMs_20 12 51 50.8
comp=Z,8μm,22.0s
Y45A Yeager Farm, C 127.95 37 IAMs_20 IAMs_20 12 57 38.6
comp=Z,6μm,19.0s
PLAL Pickwick Lake 128.01 35 IAMs_20 IAMs_20 13 02 08.9
comp=Z,6μm,21.0s
V48A Smith Brothers 128.15 33 IAMs_20 IAMs_20 12 56 47.4
comp=Z,5μm,20.0s
DBIC Dimbokro 128.29 284 PKP **PKPdf 11 56 11.7 -1.0**
comp=Z,18nm,1.1s,baz=88,slow=2.8,SNR=5.7
DBIC Dimbokro 128.29 284 PKP **PKiKP 11 56 13.1 -0.2**
K62A Royalston 128.33 16 IAMs_20 IAMs_20 12 56 18.4
comp=Z,6μm,20.0s
L61B Northampton 128.40 17 IAMs_20 IAMs_20 12 53 55.4
comp=Z,5μm,22.0s
VBMS Vicksburg 128.49 39 IAMs_20 IAMs_20 12 49 57.0
comp=Z,6μm,22.0s
HRV Adam Dziewonsk 128.66 16 IAMs_20 IAMs_20 12 55 41.1
comp=Z,7μm,21.0s
WES Weston 128.84 16 IAMs_20 IAMs_20 12 55 56.8
comp=Z,8μm,22.0s
X48A Hartselle 128.98 34 IAMs_20 IAMs_20 12 54 59.5
comp=Z,5μm,21.0s
TZTN Tazewell 129.24 30 IAMs_20 IAMs_20 13 00 31.7
comp=Z,7μm,20.0s
P57A Homestead Farm 129.25 23 IAMs_20 IAMs_20 13 01 05.5
comp=Z,7μm,20.0s
UNM Universidad Na 129.28 58 IAMs_20 IAMs_20 12 41 59.3
comp=Z,8μm,22.0s
PAL Palisades 129.35 19 IAMs_20 IAMs_20 12 54 42.7
comp=Z,7μm,22.0s
L64A Middleborough 129.38 15 IAMs_20 IAMs_20 12 56 23.3
comp=Z,7μm,21.0s
WSPT Westport, CT 129.38 18 IAMs_20 IAMs_20 12 58 07.4
comp=Z,6μm,21.0s
M63A Gales Ferry 129.55 17 IAMs_20 IAMs_20 12 56 24.7
comp=Z,8μm,22.0s
N62A Caumsett State 129.56 18 IAMs_20 IAMs_20 12 56 39.1
comp=Z,6μm,21.0s
Y49A Blount Mountai 129.77 34 IAMs_20 IAMs_20 13 00 10.4
comp=Z,5μm,20.0s
LRAL Lakeview Retre 130.04 36 IAMs_20 IAMs_20 12 58 52.5
comp=Z,6μm,20.0s
U54A Nelsons Funny 130.09 28 IAMs_20 IAMs_20 12 59 16.2
comp=Z,8μm,22.0s
X51A Calhoun 130.09 33 IAMs_20 IAMs_20 13 01 43.8
comp=Z,6μm,21.0s
BLA Blacksburg 130.17 27 IAMs_20 IAMs_20 12 59 09.1
comp=Z,6μm,18.0s
W52A Murphy 130.18 31 IAMs_20 IAMs_20 12 57 23.8
comp=Z,6μm,22.0s
P61A Hammonton 130.26 20 IAMs_20 IAMs_20 13 01 04.9
comp=Z,6μm,20.0s
HOPE Hope Point 130.34 194 IAMs_20 IAMs_20 12 53 36.8
comp=Z,7μm,21.0s
S57A Dark Hollow, R 130.35 25 IAMs_20 IAMs_20 13 00 11.6
comp=Z,7μm,20.0s
U56A King 130.90 27 IAMs_20 IAMs_20 12 59 04.5
comp=Z,6μm,20.0s
MG01 Puerto William 130.91 170 IAMs_20 IAMs_20 12 51 57.0
comp=Z,6μm,21.0s
SHEL Horse Pasture 131.03 255 IAMs_20 IAMs_20 12 48 04.9
comp=Z,6μm,21.0s
BRAL Brewton 131.34 37 IAMs_20 IAMs_20 12 48 01.4
comp=Z,6μm,22.0s
152A Waverly Hall 131.60 34 IAMs_20 IAMs_20 13 03 48.9
comp=Z,6μm,20.0s
451A Vernon 132.52 37 IAMs_20 IAMs_20 12 49 45.5
comp=Z,7μm,20.0s
154A Montrose 132.53 33 IAMs_20 IAMs_20 13 00 02.2
comp=Z,6μm,21.0s
MG02 Cerro Sombrero 132.66 168 IAMs_20 IAMs_20 12 51 56.6
comp=Z,6μm,22.0s
X58A Rowland 132.86 28 IAMs_20 IAMs_20 13 04 58.4
comp=Z,7μm,21.0s
MG05 Puerto Natales 132.94 165 IAMs_20 IAMs_20 12 52 03.1
comp=Z,5μm,20.0s
TIGA Tifton 133.16 34 IAMs_20 IAMs_20 13 01 12.0
comp=Z,7μm,20.0s
Y58A Scranton 133.24 29 IAMs_20 IAMs_20 12 51 28.6
comp=Z,7μm,22.0s
GO09 Cerro Castillo 133.35 165 IAMs_20 IAMs_20 12 51 52.1
comp=Z,6μm,20.0s
EFI East Falkland 135.17 177 IAMs_20 IAMs_20 12 54 28.4
comp=Z,6μm,22.0s
DWPF Disney Wildern 136.89 35 IAMs_20 IAMs_20 13 01 37.2
comp=Z,6μm,22.0s
TEIG Tepich 137.62 50 IAMs_20 IAMs_20 13 10 16.4
comp=Z,5μm,22.0s
060A Indiantown 138.32 35 IAMs_20 IAMs_20 13 06 00.1
comp=Z,6μm,20.0s
COYC Coyhaique 138.59 162 IAMs_20 IAMs_20 12 58 32.9
comp=Z,5μm,19.0s
061Z Ochoppi 138.89 37 IAMs_20 IAMs_20 13 01 52.3
comp=Z,6μm,22.0s
SOR Soroa 139.77 42 *e*P **PKiKP 11 56 35.6 -0.8**
BBSR BB Station 139.97 13 IAMs_20 IAMs_20 13 03 52.3
comp=Z,5μm,20.0s
GO07 Milladeo Hill, 140.22 158 IAMs_20 IAMs_20 12 58 20.5
comp=Z,7μm,22.0s

CAMR Camarioca 140.65 40 *e*P **PKiKP 11 56 38.9 +0.8**
LL02 Futaleuf 140.79 160 IAMs_20 IAMs_20 12 56 54.3
comp=Z,6μm,21.0s
LL01 San Ignacio de 141.31 159 IAMs_20 IAMs_20 13 03 07.3
comp=Z,4μm,20.0s
LL05 Los Muermos 141.77 157 IAMs_20 IAMs_20 12 52 20.5
comp=Z,5μm,22.0s
MGV Manicaragua 142.22 40 *e*P **PKPdf 11 56 37.7 -0.7**
LL03 Petrohue 142.40 158 IAMs_20 IAMs_20 12 52 56.2
comp=Z,5μm,22.0s
LR05 Currie 143.34 158 IAMs_20 IAMs_20 12 57 38.1
comp=Z,5μm,21.0s
FSCY Frank Sound, G 143.38 44 *e*P PKPab 11 56 33.7 -2.7
PLCA Paso Flores 143.42 160 PKP PKPbc 11 56 37.6 +0.4
comp=Z,15nm,0.9s,baz=229,slow=2.6,SNR=15
PLCA Paso Flores 143.42 160 *e*P PKPbc 11 56 36.7 -0.5
LR03 Panguipulli 143.73 157 IAMs_20 IAMs_20 13 04 39.5
comp=Z,5μm,21.0s
CCCC Cccc 144.28 38 *e*P PKPbc 11 56 40.9 +0.7
ACON Acoyapa 144.62 58 *e*P **PKPab 11 56 40.0 -1.3**
LCRUZ La Cruz 144.67 60 *e*P **PKPab 11 56 41.2 -0.3**
CARN Rivas 144.71 60 *e*P **PKPab 11 56 40.0 -1.6**
ELI1 Hacienda Flor 144.94 61 *e*P **PKPab 11 56 42.0 -0.5**
ALIBA Liberia Airpor 144.97 61 *e*P **PKPab 11 56 42.1 -0.5**
LAPC Finca la Perla 144.98 60 *e*P **PKPab 11 56 41.3 -1.4**
BILN Bilwi Airport 145.00 54 *e*P PKPbc 11 56 42.9 +0.3
BUAI Buenos Aires 145.02 60 *e*P **PKPbc 11 56 41.8 -1.1**
PEJA Penjamo Buenos 145.03 60 *e*P **PKPab 11 56 43.0 +0.1**
DELF Filadelfia 145.03 61 *e*P **PKPbc 11 56 42.6 -0.2**
VRLE La Escondida, 145.03 60 *e*P **PKPbc 11 56 42.0 -1.0**
VORI VORI 145.03 60 *e*P **PKPbc 11 56 42.6 -0.5**
GPS3 Bodega del ICE 145.05 60 *e*P **PKiKP 11 56 45.6 -1.8**
GPS1 Guardaparques 145.05 60 *e*P **PKPbc 11 56 42.7 -0.3**
GPS2 Hotel Rincn d 145.06 60 *e*P **PKPbc 11 56 41.9 -1.1**
JUD3 Juan Diaz 3 145.17 61 *e*P **PKPdf 11 56 43.8 -0.1**
HORNC Hornillas 145.23 60 *e*P **PKPbc 11 56 43.2 -0.4**
COLC Colonia 145.23 60 *e*P **PKPdf 11 56 43.9 0.0**
VMAR Armenia, Volca 145.24 60 *e*P **PKPbc 11 56 42.8 -0.8**
PLVR Palo Verde 145.25 61 *e*P **PKPbc 11 56 43.3 -0.5**
CUI Cuipilapa 145.27 60 *e*P **PKPbc 11 56 42.4 -1.3**
NICO Nicoya 145.27 61 *e*P **PKPdf 11 56 45.1 +1.2**
MOTZ Rio Naranjo 145.33 60 *e*P **PKPbc 11 56 43.9 0.0**
TENO El Achiote 145.41 60 *e*P **PKPbc 11 56 44.0 -0.1**
TIMP Tierras Morena 145.43 60 *e*P **PKPbc 11 56 43.4 -0.8**
INVE Universidad In 145.44 61 *e*P **PKPbc 11 56 44.2 0.0**
NYURE Nandayure 145.50 61 *e*P **PKPab 11 56 44.9 +0.3**
QUEB Quebradon, Cot 145.52 60 *e*P **PKPdf 11 56 43.8 -0.6**
TILA Tilaran 145.53 60 *e*P **PKPab 11 56 44.7 0.0**
HLGC Holguin 145.55 37 *e*P **PKPab 11 56 45.0 +0.4**
CHIK Chiripa 145.59 60 *e*P **PKPdf 11 56 44.7 +0.1**
LMGC Las Mercedes 145.60 39 *e*P **PKPdf 11 56 44.2 -0.1**
JUNT Juntas 145.62 61 *e*P **PKPdf 11 56 44.2 -0.3**
JTS Las Juntas de 145.62 61 *e*P **PKPdf 11 56 44.5 -0.1**
TABAC Tabacon 145.69 60 *e*P **PKPdf 11 56 44.5 -0.3**
JCR1 Jicaral 145.69 62 *e*P **PKPab 11 56 45.5 +0.1**
MTEVE Monteverde 145.72 61 *e*P **PKPdf 11 56 44.8 -0.1**
ARE1 Arenal 1 145.75 60 *e*P **PKPdf 11 56 44.8 0.0**
CASO Castillo 145.75 60 *e*P **PKPdf 11 56 44.6 -0.2**
VARE2 V. Arenal 145.75 60 *e*P **PKPdf 11 56 41.9 -3.0**
CEDE Laguna Cedeo 145.75 60 *e*P **PKPbc 11 56 45.0 -0.2**
VACR Volcan Arenal 145.78 60 *e*P **PKPdf 11 56 42.8 -2.0**
FORC Fortuna 145.79 60 *e*P **PKPdf 11 56 44.0 -0.8**
CBL1 Cabuya 145.83 62 *e*P **PKPbc 11 56 45.2 -0.2**
PAQE Paquera 145.86 61 *e*P **PKPab 11 56 45.8 -0.2**
SOCE Pocosol 145.87 60 *e*P **PKPdf 11 56 44.7 -0.3**
PINC Pinares de May 146.02 37 *e*P **PKPab 11 56 46.7 +0.4**
CORNA Casa Canada 146.29 56 *e*P **PKPdf 11 56 43.4 -2.2**
MARVS Santiago de Cu 146.32 37 *e*P **PKPdf 11 56 45.3 -0.3**
NMDO Nuevo Mundo 146.43 36 *e*P **PKPbc 11 56 47.0 0.0**
RCC Rio Carpintero 146.45 37 *e*P **PKPbc 11 56 47.1 0.0**
HDC Heredia 146.49 60 *e*P **PKPdf 11 56 42.6 -3.6**
TRT2 Tortugero 146.54 59 *e*P **PKPbc 11 56 47.0 -0.5**
PICV PH. Pirrs 146.59 61 *e*P **PKPbc 11 56 47.9 +0.1**
MTDJ Mount Denham 146.61 42 IAMs_20 IAMs_20 13 13 45.3
comp=Z,5μm,21.0s
MTDJ Mount Denham 146.61 42 ⇑*i*P **PKPab 11 56 48.7 0.0**
MTDJ Mount Denham 146.61 42 *e*P **PKPab 11 56 48.5 -0.2**
CVIMO Finca Echandi 146.62 60 *e*P **PKPbc 11 56 48.1 0.0**
MCJ Malvern 146.72 42 ⇑*i*P **PKPbc 11 56 47.4 -0.6**
VICA Volcano Irazu 146.73 60 *e*P **PKPbc 11 56 48.7 +0.1**
CVTR Volcan Turrial 146.78 60 *e*P **PKPbc 11 56 48.9 +0.2**
CVTQ Turrialba Volc 146.79 60 *e*P **PKPbc 11 56 48.9 +0.2**
VTR0 Volcan Turrial 146.79 60 *e*P **PKPab 11 56 49.8 -0.2**
CVTV Tajo 146.80 60 *e*P **PKPdf 11 56 46.9 0.0**
PIEC Cerro El Cedra 146.80 61 *e*P **PKPdf 11 56 46.9 0.0**
GTBY Guantanamo Bay 146.85 36 IAMs_20 IAMs_20 13 12 23.1
comp=Z,5μm,22.0s
GTBY Guantanamo Bay 146.85 36 *e*P **PKPab 11 56 49.1 -0.4**
VINA Juan Vinas 146.86 60 *e*P **PKPbc 11 56 48.6 -0.1**
RESJ San Isidro (Tu 146.88 60 *e*P **PKPdf 11 56 46.7 -0.1**
LCOCO El Coco 146.93 60 *e*P **PKPdf 11 56 47.5 +0.8**
MASC Masc 147.17 35 *e*P **PKPbc 11 56 49.9 +0.8**
STH Stony Hill 147.19 41 ⇓⇓*i*P **PKPab 11 56 50.5 -0.5**
GWJ Greenwich 147.24 41 ⇑⇑*i*P **PKPbc 11 56 49.0 -0.6**
HOJ Hope 147.28 41 *i* P **PKPab 11 56 50.7 -0.6**
VERH Veragua Rainfo 147.32 60 *e*P **PKPdf 11 56 46.7 -0.8**
SAJE San Jernim 147.32 61 *e*P **PKPdf 11 56 48.3 +0.7**
EDPE Pejibaye, P 147.36 61 *e*P **PKPbc 11 56 48.9 -1.0**
ML02 Panimavida 147.42 155 IAMs_20 IAMs_20 12 59 52.6
comp=Z,5μm,22.0s
LAES El Progreso Va 147.52 60 *e*P **PKPbc 11 56 50.3 0.0**
GRTK Grand Turk 147.70 29 IAMs_20 IAMs_20 13 09 43.6
comp=Z,6μm,20.0s
GRTK Grand Turk 147.70 29 *e*P **PKPdf 11 56 46.7 -1.2**
PIRO Carate, Puerto 147.91 62 *e*P **PKPdf 11 56 49.0 +0.7**
TRQA Tornquist 148.21 169 IAMs_20 IAMs_20 13 01 23.9
comp=Z,4μm,20.0s
TRQA Tornquist 148.21 169 PKP **PKPdf 11 56 47.9 -0.3**
DMCAL E. de Neily 148.26 61 *e*P **PKPdf 11 56 50.0 +0.9**
LPPC Paso Canoas 148.29 62 *e*P **PKPdf 11 56 49.7 +0.7**
BRU2 Volcan 148.29 61 *e*P **PKPdf 11 56 47.8 -1.5**
LMNES Limones 148.47 62 *e*P **PKPdf 11 56 48.5 -0.8**
BANCO falda S V. Bar 148.47 61 *e*P **PKPbc 11 56 52.8 -0.3**
BQTLY Boquete Panama 148.51 61 *e*P **PKPbc 11 56 52.6 -0.6**
BO02 Sierra Bellavi 148.52 154 IAMs_20 IAMs_20 12 58 31.6
comp=Z,6μm,22.0s
WILLF Boquete 148.54 61 *e*P **PKPbc 11 56 53.4 +0.2**
BO01 Tunca 148.73 154 IAMs_20 IAMs_20 12 57 09.3
comp=Z,5μm,22.0s
KKNTU Kakint² 149.04 60 *e*P **PKPdf 11 56 50.3 +0.1**
MT01 Popeta 149.10 153 IAMs_20 IAMs_20 12 58 49.2
comp=Z,5μm,21.0s
BO04 La Punta 149.28 154 IAMs_20 IAMs_20 13 02 34.8
comp=Z,6μm,21.0s
LMEL Las Melosas 149.57 154 IAMs_20 IAMs_20 13 02 13.5
comp=Z,6μm,22.0s
MT05 Renca 149.73 153 IAMs_20 IAMs_20 12 59 15.7
comp=Z,5μm,20.0s
SDDR Presa de Saban 149.75 32 *e*P **PKPbc 11 56 55.8 -0.2**
MT16 CCHEN 149.79 153 IAMs_20 IAMs_20 12 59 29.4
comp=Z,4μm,20.0s
PEL Peldehue 149.96 153 IAMs_20 IAMs_20 13 00 15.0
comp=Z,5μm,20.0s
MT08 Bocatoma Ro 150.00 154 IAMs_20 IAMs_20 12 52 40.4
comp=Z,4μm,21.0s
GMAL Guarumal, Vera 150.05 62 *e*P **PKPdf 11 56 51.9 0.0**
VA06 Catapilco 150.16 151 IAMs_20 IAMs_20 13 02 36.5
comp=Z,4μm,22.0s
BCIP Isla Barro Col 150.55 58 IAMs_20 IAMs_20 13 01 31.9
comp=Z,5μm,22.0s
ZANG Zanguenga, Cho 150.64 58 *e*P **PKPbc 11 56 57.5 -0.7**
CAZU Cerro Azul, Pa 150.87 57 *e*P **PKPdf 11 56 52.3 -0.9**
CO02 Combarbal 151.42 150 IAMs_20 IAMs_20 13 01 11.9
comp=Z,4μm,21.0s
CO06 Fray Jorge 151.53 149 IAMs_20 IAMs_20 12 58 05.0
comp=Z,5μm,22.0s
CO03 El Pedregal 151.87 150 IAMs_20 IAMs_20 13 08 01.9
comp=Z,4μm,21.0s
CO05 La Serena 152.33 148 IAMs_20 IAMs_20 12 59 31.4
comp=Z,5μm,22.0s
CFA Coronel Fontan 152.34 155 PKP **PKPdf 11 56 54.5 -0.5**
comp=Z,6.6nm,0.7s,baz=226,slow=2.3,SNR=9.9
CO01 Juntas del Tor 152.87 150 IAMs_20 IAMs_20 13 06 28.3
comp=Z,5μm,21.0s
SJG San Juan 152.90 24 IAMs_20 IAMs_20 13 10 05.9
comp=Z,4μm,20.0s
LCO Las Campanas 153.34 148 IAMs_20 IAMs_20 13 02 57.1
comp=Z,6μm,22.0s
SABA Saba 154.40 19 IAMs_20 IAMs_20 13 08 06.1
comp=Z,5μm,21.0s
SEUS St. Eustatius 154.60 18 IAMs_20 IAMs_20 13 03 03.4
comp=Z,5μm,22.0s
ANWB Willy Bob 154.78 16 IAMs_20 IAMs_20 13 12 29.8

comp=Z,5μm,21.0s
PLTB Pedras Altas 155.11 183 *e*P **PKPdf 11 56 55.9 -3.0**
PLTB Pedras Altas 155.11 183 PKP **PKPdf 11 56 59.2 +0.4**
CBOC Ciudad Bolivar 155.50 60 P **PKPdf 11 57 03.2 +3.1**
OTAV Otavalo 155.51 74 IAMs_20 IAMs_20 13 03 05.5
comp=Z,4μm,20.0s
OTAV Otavalo 155.51 74 *e*P **PKPdf 11 56 56.4 -4.1**
OTAV Otavalo 155.51 74 PKP **PKPdf 11 57 00.6 +0.1**
PSAL Palomas, Salto 155.69 174 *e*P **PKPdf 11 56 56.7 -2.9**
HELC Santa Helena 155.74 58 P **PKPdf 11 57 03.8 +3.2**
AC02 Maricunga 155.91 148 IAMs_20 IAMs_20 13 12 13.2
comp=Z,5μm,20.0s
ABD La Joyeuse, An 156.00 16 IAMs_20 IAMs_20 13 06 47.2
comp=Z,5μm,21.0s
GDSD La Dsirade Is 156.27 15 IAMs_20 IAMs_20 13 11 56.1
comp=Z,5μm,22.0s
CBE Ff, Capester 156.35 16 IAMs_20 IAMs_20 13 04 42.6
comp=Z,6μm,22.0s
GUY2C Guyana, Caldas 156.37 60 P PKPdf 11 56 49.9 -12
GUY2C P PKPdf 11 56 49.9 -12
GUY2C P PKPdf 11 56 50.3 -11
GUY2C S **PKPdf 11 57 05.7 +4.1**
CPSB Cacapava Do Su 156.45 183 *e*P **PKPdf 11 56 57.8 -2.9**
ATAH Atahualpa 156.70 92 PKP **PKPdf 11 57 02.1 +0.2**
comp=Z,50nm,1.2s,baz=203,slow=1.2,SNR=23
ROSC El Rosal 157.46 60 PKP **PKPdf 11 57 03.8 +0.8**
comp=Z,55nm,1.0s,baz=62,slow=3.3,SNR=11
PB10 IPOC Station P 157.58 140 IAMs_20 IAMs_20 13 02 52.8
comp=Z,4μm,22.0s
NNA Nana 157.77 105 PKP **PKPdf 11 57 03.4 +0.6**
comp=Z,20nm,0.8s,baz=311,slow=4.9,SNR=6.3
ILAM Ilet Lapin Mar 157.79 15 IAMs_20 IAMs_20 13 05 13.5
comp=Z,4μm,22.0s
SDV Santo Domingo 157.93 45 *e*P **PKPdf 11 57 02.4 -0.8**
SDV Santo Domingo 157.93 45 PKP **PKPdf 11 57 02.5 -0.7**
URMC La Uribe, Meta 158.18 63 P **PKPdf 11 57 03.1 -0.3**
PB06 IPOC Station P 158.79 140 IAMs_20 IAMs_20 12 59 14.8
comp=Z,5μm,22.0s
PB03 IPOC Station P 159.13 138 IAMs_20 IAMs_20 13 00 10.2
comp=Z,5μm,20.0s
AF01 San Pedro de A 159.47 143 IAMs_20 IAMs_20 13 03 46.3
comp=Z,4μm,20.0s
PB02 IPOC Station P 159.54 136 IAMs_20 IAMs_20 13 06 17.2
comp=Z,5μm,20.0s
PB09 IPOC Station P 159.65 139 IAMs_20 IAMs_20 13 00 44.7
comp=Z,4μm,20.0s
PATCX Punta Patache 159.69 135 IAMs_20 IAMs_20 13 01 20.8
comp=Z,5μm,21.0s
CPUP Villa Florida 160.42 174 PKP **PKPdf 11 57 05.1 -0.4**
comp=Z,4.5nm,0.9s,baz=238,slow=0.6,SNR=11
CPUP Villa Florida 160.42 174 *e*P **PKPdf 11 57 04.8 -0.7**
CPUP Villa Florida 160.42 174 PKP **PKPdf 11 57 05.2 -0.4**
DUB01 Friburgo-RJ 160.55 217 *e*P **PKPdf 11 57 05.4 -0.5**
RCBR Riachuelo 161.07 272 PKP **PKPdf 11 57 06.9 +0.3**
SJMB Sao Joao De Ma 162.13 227 *e*P **PKPdf 11 57 06.8 -0.8**
SJMB Sao Joao De Ma 162.13 227 PKP **PKPdf 11 57 08.5 +1.0**
VAO Valinhos 162.14 205 *e*P **PKPdf 11 57 06.8 -0.8**
NBPA Parau_RN 162.26 272 PKP **PKPdf 11 57 08.3 +0.5**
CZSB Cruzeiro do Su 162.34 94 *e*P **PKPdf 11 57 04.0 -3.9**
CZSB Cruzeiro do Su 162.34 94 PKP **PKPdf 11 57 07.6 -0.3**
NBLA Lagarto - SE 162.56 255 PKP **PKPdf 11 57 06.9 -1.2**
CMC01 Camacan, BA 162.65 239 *e*P **PKPdf 11 57 05.1 -3.0**
CMC01 Camacan, BA 162.65 239 PKP **PKPdf 11 57 09.9 +1.8**
FRTB Fartura 162.74 197 *e*P **PKPdf 11 57 05.1 -3.0**
FRTB Fartura 162.74 197 PKP **PKPdf 11 57 07.8 -0.3**
AMBA Amambai (Brazi 163.94 180 *e*P **PKPdf 11 57 08.3 -0.9**
LPAZ La Paz 163.99 127 PKP **PKPdf 11 57 09.8 -0.3**
comp=Z,40nm,1.0s,baz=0.9,slow=1.9,SNR=62
LPAZ La Paz 163.99 127 *e*P **PKPdf 11 57 06.3 -3.8**
LPAZ La Paz 163.99 127 PKP **PKPdf 11 57 09.8 -0.3**
DIAM Diamantina, MG 164.15 223 *e*P **PKPdf 11 57 08.6 -1.1**
DIAM Diamantina, MG 164.15 223 PKP **PKPdf 11 57 10.2 +0.5**
MURT Porto Murtinho 164.98 170 *e*P **PKPdf 11 57 09.0 -1.1**
PMNB Patos De Minas 165.68 214 *e*P **PKPdf 11 57 10.3 -0.6**
SGC2 Sao Gabriel da 166.29 62 PKP **PKPdf 11 57 10.6 -0.9**
BDQN Bodoquena, MS 166.29 173 *e*P **PKPdf 11 57 11.0 -0.3**
AQDB Aquidauana 166.36 177 *e*P **PKPdf 11 57 10.6 -0.7**
ITRB Iturama 166.41 199 *e*P **PKPdf 11 57 11.4 0.0**
JANB Januaria 166.73 231 *e*P **PKPdf 11 57 10.8 -1.0**
JANB Januaria 166.73 231 PKP **PKPdf 11 57 11.8 0.0**
IPMB Ipameri, GO 167.08 210 *e*P **PKPdf 11 57 11.3 -0.7**
MDP Montagnes des 167.98 349 PKP **PKPdf 11 57 11.0 -1.7**
comp=Z,15nm,1.2s,baz=298,slow=3.9,SNR=3.9
MDP PKPab **PKPab 11 58 18.3 -1.3**
comp=Z,23nm,1.0s,baz=1.7,slow=1.6,SNR=4.8
BDFB Brasilia 168.89 217 PKP **PKPdf 11 57 12.8 -0.5**
comp=Z,10nm,0.8s,baz=11,slow=4.9,SNR=9.5
SIV San Ignacio 169.04 147 PKP **PKPdf 11 57 12.6 -0.8**
comp=Z,12nm,0.8s,baz=203,slow=2.1,SNR=38
LABB Ljbrea 169.06 104 PKP **PKPdf 11 57 12.6 -0.7**
PP1B Ponte de Pedra 169.24 180 *e*P **PKPdf 11 57 12.7 -0.7**
BOAV Boa Vista 169.31 32 *e*P **PKPdf 11 57 12.1 -1.5**
BOAV Boa Vista 169.31 32 PKP **PKPdf 11 57 12.6 -0.9**
TEFE Tefe 169.80 72 *e*P **PKPdf 11 57 13.0 -0.9**
TEFE Tefe 169.80 72 PKP **PKPdf 11 57 12.7 -1.2**
PTLB Pontes e Lacer 170.44 155 *e*P **PKPdf 11 57 13.6 -0.5**
PTLB Pontes e Lacer 170.44 155 PKP **PKPdf 11 57 13.7 -0.4**
ARAG Araguaiana, MT 170.62 199 *e*P **PKPdf 11 57 10.9 -3.3**
TMAB Toay-Au,PA,Br 171.91 302 *e*P **PKPdf 11 57 11.9 -3.1**
VILB Vilhena 171.96 140 *e*P **PKPdf 11 57 11.5 -3.5**
SMTB Santa Maria do 172.44 254 *e*P **PKPdf 11 57 14.1 -1.1**
SMTB Santa Maria do 172.44 254 PKP **PKPdf 11 57 14.5 -0.7**
MACA Manacapuru-AM 173.23 58 *e*P **PKPdf 11 57 14.2 -1.3**
SNDB Serra Nova Dou 173.72 214 *e*P **PKPdf 11 57 14.8 -0.8**
SNDB Serra Nova Dou 173.72 214 PKP **PKPdf 11 57 15.5 -0.2**
MAL2 Monte Alegre, 175.21 351 PKP **PKPdf 11 57 16.4 +0.2**
BMO2 UHE Belo Monte 175.51 319 PKP **PKPdf 11 57 14.7 -1.6**
ATM1 UHE Belo Monte 175.61 322 PKP **PKPdf 11 57 14.9 -1.4**
CLDB Colider 175.84 168 *e*P **PKPdf 11 57 14.8 -1.5**
ITTB Itaituba 177.47 19 *e*P **PKPdf 11 57 15.4 -1.2**
ITTB Itaituba 177.47 19 PKP **PKPdf 11 57 16.4 -0.3**
NPGB Novo Progresso 179.50 122 *e*P **PKPdf 11 57 13.5 -3.4**
NPGB Novo Progresso 179.50 122 PKP **PKPdf 11 57 15.2 -1.6**

BJI ***16*** *12:09:27.9, 6°.64N×125°.18E, h12km, mb5.0/78, Ms5.4/14, Ms7 5.2/12*
IDC ***16*** *12:09:28.1±0.3, 6°.71N×124°.92E, h0km, mb4.8/41, mbtmp4.8/45, ML5.0/4, MS4.9/5, Error ellipse: s-maj=7.3km s-min=6.3km az=92.0*
MOS ***16*** *12:09:30.8±0.9, 6°.76N×125°.01E, h19km, mb5.5/65, Error ellipse: s-maj=8.4km s-min=4.4km az=116.6*
MAN ***16*** *12:09:30.7, 6°.84N×125°.00E, h11km, mb5.9, ML4.9, MS5.4*
MAN INTENSITY IV- KIDAPAWAN CITY; INTENSITY III - TUPI SOUTH COTABATO; GLAN SARANGANI; INTENSITY II- GENERAL SANTOS CITY; POLOMOLOK SOUTH COTABATO; INTENSITY I - MAITUM SARANGANI.
NEIC ***16*** *12:09:31.3, 6°.73N×125°.30E, h16km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.10; $M_{\theta\theta}$=1.08; $M_{\phi\phi}$=-0.97; $M_{r\theta}$=-0.10; $M_{\theta\phi}$=0.24; $M_{\phi r}$=0.17; Fault plane solution: M_0=1.08000×10^{17} NP1: ϕ_s=218.75000°, δ=79.65000°, λ=-174.70000°. NP2: ϕ_s=127.80000°, δ=84.78000°, λ=-10.39000°. Principal axes: T 1.1109, Plg=4.0000°, Azm=174.0000°; N -0.0734, Plg=78.0000°, Azm=281.0000°; P -1.0374, Plg=11.0000°, Azm=83.0000°;*
NEIC ***16*** *12:09:31.0±1.4, 6°.75N±0°.07×125°.01E±0°.05, h12km±3km, mb5.4/164, Mww5.3/23 Error ellipse: s-maj=10.7km s-min=5.4km az=151.0*
NEIC ***16*** *12:09:31.3, 6°.73N×125°.00E, h16km*
DJA ***16*** *12:09:33.8±0.3, 7°N±2°×12°5E±°, h31km±3km, M5.9/96, mB6.2/20, mb5.5/96, MLv5.9/11, Mw5.4/10, Mw(mB)5.9/20*
GCMT

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.63**	**62**		**Pg**	**12 09 43.2**	**-0.5**
DAV					**Sb**	**12 09 53.6**	**+0.5**
DAV	**Davao City (W)**	**0.63**	**62**	Pg	**Pg**	**12 09 43.6**	**-0.1**
	17μm,0.3s,baz=258,slow=6.7,SNR=282						
DAV				Lg	Lg	12 09 52.8	
	8μm,0.3s,baz=186,slow=23,SNR=8.0						
DAV				LR	LR	12 10 14.9	
	comp=Z,87μm,21.3s,baz=322,slow=63						
DAV	**Davao City (W)**	**0.63**	**62**	P	**Pg**	**12 09 43.7**	**0.0**
DAV	**Davao City (W)**	**0.63**	**62**	S	**Sb**	**12 09 53.8**	**+0.7**
DAV	**Davao City (W)**	**0.63**	**62**	P	**Pg**	**12 09 40.0**	**-3.7**
SGSI	**Sangihe**	**3.11**	**171**	P	**Pn**	**12 10 20.9**	**+0.8**
SGSI				S	**Sn**	**12 10 58.6**	**+1.4**
KMSI	**Cibinong**	**6.24**	**190**	P	**Pn**	**12 11 04.0**	**+0.7**
TNTI	**Ternate**	**6.40**	**158**		**Pn**	**12 11 06.4**	**+1.0**
TNTI	**Ternate**	**6.40**	**158**	P	**Pn**	**12 11 08.0**	**+2.5**
TNTI	**Ternate**	**6.40**	**158**	P	**Pn**	**12 11 06.5**	**+1.0**
	2.4nm571nm,1.0s						
MYLDM	**Lahad Datu**	**6.67**	**257**		**Pn**	**12 11 11.1**	**+1.9**
MYLDM	**Lahad Datu**	**6.67**	**257**	P	**Pn**	**12 11 11.4**	**+2.2**
MRSI	**Marisa**	**6.96**	**206**	P	**Pn**	**12 11 12.9**	**-0.3**
TOLI2	**Tolitoli**	**7.03**	**217**		**Pn**	**12 11 11.4**	**-2.7**
LUWI	**Luwuk**	**8.08**	**196**		**Pn**	**12 11 30.6**	**+2.2**
LUWI	**Luwuk**	**8.08**	**196**	P	**Pn**	**12 11 30.7**	**+2.2**
LUWI	**Luwuk**	**8.08**	**196**	P	**Pn**	**12 11 31.0**	**+2.5**
	14μm1μm,1.4s						
TGY	**Tagaytay City**	**8.32**	**331**	Pn	**Pn**	**12 11 31.0**	**-0.8**
	44nm,0.3s,baz=350,slow=9.8,SNR=3.8						
TGY				Sn	**Sn**	**12 13 05.5**	**-0.2**
	63nm,0.3s,baz=252,slow=16,SNR=1.6						
TGY				LR	LR	12 14 22.8	
	comp=Z,5μm,20.3s,baz=149,slow=35						
	122nm,0.4s						
APSI	**Ampana**	**8.34**	**204**	P	**Pn**	**12 11 35.8**	**+3.7**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**12 11 38.4**	**-0.2**
SANI	**Sanana**	**8.82**	**174**	S	**Sn**	**12 13 20.4**	**+2.5**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**12 11 37.0**	**-1.6**
I39PW	**PALAU INFRASON**	**9.49**	**85**	I	I	13 10 20.0	
	baz=267,slow=310,SNR=4.5						
SWI	**Sorong**	**9.81**	**140**	P	**Pn**	**12 11 53.3**	**+1.0**
	198nm,0.9s						
SWI	**Sorong**	**9.81**	**140**	P	**Pn**	**12 11 54.2**	**+1.9**
NLAI	**Namlea**	**10.16**	**168**	P	**Pn**	**12 11 56.5**	**-0.5**
	444nm,0.8s						
MSAI	**Masohi**	**10.78**	**159**	P	**Pn**	**12 12 06.1**	**+0.5**
	229nm,0.8s						
AAI	**Ambon**	**10.86**	**163**	P	**Pn**	**12 12 06.1**	**-0.6**
	217nm,0.5s						
KDI	**Kendari**	**10.92**	**193**	P	**Pn**	**12 12 09.8**	**+2.3**
SPSI	**Sidrap Palu**	**11.88**	**206**	P	**Pn**	**12 12 23.8**	**+3.2**
	83nm,0.9s						
FAKI	**Fak Fak**	**12.03**	**143**		**Pn**	**12 12 23.0**	**+0.3**
FAKI	**Fak Fak**	**12.03**	**143**	P	**Pn**	**12 12 24.9**	**+2.2**
FAKI	**Fak Fak**	**12.03**	**143**	P	**Pn**	**12 12 23.1**	**+0.3**
	300nm,1.0s						
BNSI	**Bone**	**12.13**	**204**	P	**Pn**	**12 12 26.8**	**+2.7**
	192nm,1.2s						
BNDI	**Bandanaira**	**12.23**	**156**	P	**Pn**	**12 12 27.9**	**+2.4**
BNDI	**Bandanaira**	**12.23**	**156**	P	**Pn**	**12 12 28.6**	**+3.1**
	6μm359nm,1.0s						
RKPI	**Ransiki, Papua**	**12.30**	**132**	P	**Pn**	**12 12 28.5**	**+2.1**
	341nm,1.4s						
MTKI	**Muara Teweh, K**	**12.68**	**233**	P	Pn	12 12 36.3	+4.7
KAPI	**Kappang**	**12.83**	**204**		**Pn**	**12 12 35.8**	**+2.2**
KAPI	**Kappang**	**12.83**	**204**	Pn	**Pn**	**12 12 31.6**	**-2.1**
	1.4nm,0.3s,baz=17,slow=11,SNR=8.2						
KAPI				Sn	**Sn**	**12 14 57.5**	**+1.0**
	1.4nm,0.3s,baz=84,slow=19,SNR=1.1						
	3.6nm,0.3s						
KAPI	**Kappang**	**12.83**	**204**	P	**Pn**	**12 12 35.9**	**+2.2**
KAPI	**Kappang**	**12.83**	**204**	*i* P	**Pn**	**12 12 35.1**	**+1.4**
BKSI	**Bulukumba**	**12.97**	**202**	P	**Pn**	**12 12 37.8**	**+2.3**
SBUM	**Sibu**	**13.46**	**252**		**Pn**	**12 12 44.2**	**+2.1**
SBUM	**Sibu**	**13.46**	**252**	P	**Pn**	**12 12 44.2**	**+2.1**
BSSI	**Bau Bau, Buton**	**13.60**	**199**	P	**Pn**	**12 12 45.7**	**+1.6**
	103nm,1.1s						
BAKI	**Biak**	**13.60**	**125**	P	**Pn**	**12 12 46.3**	**+2.1**
	236nm,0.9s						
SRPI	**Serui, Papua**	**14.11**	**127**	P	**Pn**	**12 12 52.0**	**+0.8**
	218nm,0.8s						
BBKI	**Banjar Baru**	**14.37**	**225**	P	**P**	**12 12 58.9**	**-2.8**
	8μm206nm,1.1s						
MMRI	**Maumere**	**15.55**	**190**	P	**P**	**12 13 12.7**	**-2.2**
MMRI	**Maumere**	**15.55**	**190**	P	**Pn**	**12 13 12.5**	**+1.9**
	232nm,1.2s						
KSM	**Kuching**	**15.58**	**251**		**Pn**	**12 13 11.8**	**+0.8**
KSM	**Kuching**	**15.58**	**251**	P	**Pn**	**12 13 12.9**	**+2.0**
EDFI	**Ende, Flores**	**15.77**	**192**	P	**Pn**	**12 13 13.5**	**0.0**
SAUI	**Saumlaki**	**15.94**	**157**	Pn	**Pn**	**12 13 14.4**	**-1.1**
SAUI				IAmb	IAmb	12 13 20.2	
	comp=Z,288nm,0.7s						
SAUI	**Saumlaki**	**15.94**	**157**	P	**P**	**12 13 18.1**	**-1.0**
SAUI	**Saumlaki**	**15.94**	**157**	P	**P**	**12 13 17.3**	**-1.8**
SMPI	**Sarmi**	**16.20**	**122**	P	**P**	**12 13 21.1**	**-1.0**
TWGBT	**Beinan**	**16.40**	**347**	P	**P**	**12 13 23.4**	**-0.8**
TWG	**Pinlang**	**16.40**	**347**	Pn	**Pn**	**12 13 20.6**	**-0.9**
SOEI	**Soe**	**16.43**	**183**		**Pn**	**12 13 22.2**	**+0.2**
SOEI	**Soe**	**16.43**	**183**	P	**P**	**12 13 24.5**	**-0.3**
SOEI	**Soe**	**16.43**	**183**	P	**P**	**12 13 23.8**	**-1.0**
	comp=Z,399nm,1.0s						
YULB	**Yu-li**	**16.91**	**348**	P	**P**	**12 13 30.0**	**+0.1**
BATI	**Baumata**	**16.92**	**185**	Pn	**Pn**	**12 13 26.2**	**-1.9**
	comp=Z,17nm,0.3s,baz=312,slow=1.9,SNR=25						
BATI				Sn	**Sn**	**12 16 35.1**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=90,slow=19,SNR=1.2						
	comp=Z,123nm,1.0s						
BATI	**Baumata**	**16.92**	**185**	P	**P**	**12 13 29.3**	**-0.7**
	comp=Z,6μmcomp=Z,513nm,0.8s						
TPUB	**Ta-pu**	**16.97**	**346**	Pn	**Pn**	**12 13 27.9**	**-0.8**
TPUB	**Ta-pu**	**16.97**	**346**	P	**P**	**12 13 31.6**	**+1.1**
WSI	**Waingapu**	**17.00**	**196**	P	P	12 13 38.6	+7.8
PLAI	**Plampang**	**17.09**	**205**	P	**P**	**12 13 32.6**	**+0.7**
PLAI	**Plampang**	**17.09**	**205**	P	**P**	**12 13 32.7**	**+0.8**
	comp=Z,5μmcomp=Z,330nm,1.0s						
DLV	**Lat**	**17.10**	**289**	P	**P**	**12 13 32.6**	**+0.4**
WBSI	**Waikabubak, Su**	**17.24**	**199**	P	**P**	**12 13 33.8**	**+0.2**
	comp=Z,154nm,0.9s						
SSLB	**Suanglung**	**17.36**	**347**	P	**P**	**12 13 36.4**	**+1.5**
TWSI	**Taliwang, Sumb**	**17.41**	**208**	P	**P**	**12 13 36.6**	**+1.2**
	comp=Z,283nm,1.1s						
KMMI	**Kalianget**	**17.61**	**219**	P	**P**	**12 13 40.0**	**+2.4**
	comp=Z,283nm,1.1s						
NACB	**Ninganchiao**	**17.61**	**350**	P	**Pn**	**12 13 36.7**	**+0.1**
NACB	**Ninganchiao**	**17.61**	**350**	P	**P**	**12 13 39.0**	**+1.4**
SRBI	**Singaraja**	**17.70**	**214**	P	**P**	**12 13 40.8**	**+2.1**
	comp=Z,142nm,1.0s						
GENI	**Genyem**	**17.76**	**121**	P	**P**	**12 13 40.9**	**+1.6**
GENI	**Genyem**	**17.76**	**121**	P	**P**	**12 13 40.5**	**+1.2**
	comp=Z,184nm,0.9s						
ABJI	**Asem Bagus**	**18.03**	**217**	P	P	12 14 00.8	+19
YHNB	**Yeheng**	**18.14**	**349**	P	**Pn**	**12 13 42.2**	**-0.9**
YHNB	**Yeheng**	**18.14**	**349**	P	**P**	**12 13 44.7**	**+1.2**
JAY	**Jayapura**	**18.18**	**120**	P	**Pn**	**12 13 41.3**	**-2.4**
	comp=Z,2.7nm,0.3s,baz=210,slow=13,SNR=7.1						
JAY				S	**S**	**12 17 09.9**	**-2.1**
	comp=Z,11nm,0.8s,baz=55,slow=8.6,SNR=1.4						
	comp=Z,22nm,1.0s						
GRJI	**Gresik**	**18.47**	**223**	P	Pn	12 13 56.4	+9.1
JAGI	**Jajag, Banyuwa**	**18.62**	**216**	P	**Pn**	**12 13 49.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**18.62**	**216**	P	**Pn**	**12 13 51.1**	**+2.0**
JAGI	**Jajag, Banyuwa**	**18.62**	**216**	P	**Pn**	**12 13 50.8**	**+1.7**
	comp=Z,138nm,0.9s						
QZH	**Quanzhou**	**19.09**	**342**	P	**Pn**	**12 13 55.3**	**+0.6**
QZH				pmax	pmax		
	comp=Z,110nm,1.4s						
QIZ	**Qiongzhong**	**19.14**	**311**	P	**Pn**	**12 13 56.3**	**+0.9**
QIZ				S	**S**	**12 17 32.5**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,140nm,1.3s						
QIZ	**Qiongzhong**	**19.14**	**311**	IAmb	IAmb	12 14 03.2	
	comp=Z,375nm,1.5s						
QIZ	**Qiongzhong**	**19.14**	**311**	P	**Pn**	**12 13 56.5**	**+1.1**
NGJI	**Ngawi**	**19.50**	**224**	P	**Pn**	**12 14 01.8**	**+2.1**
	comp=Z,220nm,1.1s						
GZH	**Guangzhou**	**19.73**	**327**	P	**Pn**	**12 14 05.6**	**+3.2**
TPI	**Tanjungpandan**	**19.75**	**242**	P	**P**	**12 14 00.8**	**-0.4**
AUDHS	**Darwin High Sc**	**19.94**	**163**	P	**P**	**12 14 03.6**	**+0.4**
DRS	**Darwin Rock St**	**19.95**	**163**	P	**P**	**12 14 03.5**	**+0.1**
SMRI	**Semarang**	**20.00**	**227**	P	**Pn**	**12 14 06.3**	**+0.6**
SMRI	**Semarang**	**20.00**	**227**	P	**Pn**	**12 14 05.0**	**-0.7**
	comp=Z,198nm,1.1s						
JOW	**Kunigami**	**20.19**	**8**	P	**P**	**12 14 05.3**	**-0.6**
JOW				IAmb	IAmb	12 14 17.1	
	comp=Z,181nm,1.3s						
JOW	**Kunigami**	**20.19**	**8**	P	**P**	**12 14 04.8**	**-1.2**
	comp=Z,67nm,1.0s,baz=186,slow=13,SNR=5.5						
JOW				S	**S**	**12 17 52.9**	**+0.6**
	comp=Z,19nm,0.9s,baz=87,slow=8.8,SNR=1.5						
	comp=Z,67nm,1.0s						
JOW	**Kunigami**	**20.19**	**8**	P	Pn	12 14 08.4	+0.6
WOJI	**Wongiri, Jawa**	**20.20**	**224**	P	Pn	12 14 08.6	+0.6
	comp=Z,161nm,1.0s						
PCJI	**Pacitan**	**20.29**	**223**	P	Pn	12 14 10.3	+1.3
	comp=Z,138nm,1.4s						
MTN	**Manton Dam**	**20.41**	**163**	P	**P**	**12 14 07.7**	**-0.7**
	comp=Z,153nm,0.9s						
MTN	**Manton Dam**	**20.41**	**163**	P	**P**	**12 14 06.5**	**-1.9**
MTN				IAmb	IAmb	12 14 17.4	
	comp=Z,98nm,0.7s						
UGM	**Wanagama**	**20.54**	**225**	P	Pn	12 14 12.0	0.0
GUMO	**Guam**	**20.67**	**69**	P	**P**	**12 14 11.7**	**+0.5**
	comp=Z,14nm,0.4s,baz=299,slow=6.2,SNR=4.2						
GUMO				LR	LR	12 23 57.3	
	comp=Z,2μm,18.5s,baz=243,slow=42						
	comp=Z,14nm,0.4s						
KDU	**Kakadu**	**20.70**	**159**	P	**P**	**12 14 10.3**	**-1.2**
	comp=Z,109nm,0.8s						
PPBI	**Pangkal Pinang**	**20.83**	**245**	P	Pn	12 14 26.4	+11
TPRI	**Tanjung Pinang**	**21.25**	**255**	P	**P**	**12 14 19.1**	**+1.6**
	comp=Z,240nm,1.2s						
KPJI	**Karang Pucung**	**21.30**	**229**	P	**P**	**12 14 20.8**	**+2.8**
	comp=Z,167nm,1.0s						
MMPI	**Merauke**	**21.54**	**134**	P	P	12 14 29.4	+8.9
DSRI	**Dabo**	**21.63**	**251**	P	**P**	**12 14 22.8**	**+1.2**
	comp=Z,169nm,1.9s						
MYKOM	**Kota Tinggi**	**21.67**	**258**	P	**P**	**12 14 21.7**	**-0.4**
MYKOM	**Kota Tinggi**	**21.67**	**258**	P	**P**	**12 14 24.2**	**+2.1**
BTDF	**Bukit Timah Da**	**21.85**	**257**	P	**P**	**12 14 26.2**	**+2.2**
LEM	**Lembang**	**22.00**	**232**	P	**P**	**12 14 24.7**	**-1.0**
	comp=Z,17nm,0.6s,baz=44,slow=8.8,SNR=13						
LEM				S	**S**	**12 18 32.1**	**+3.7**
	comp=Z,12nm,0.6s,baz=316,slow=23,SNR=1.4						
LEM				LR	LR	12 24 04.4	
	comp=Z,3μm,19.2s,baz=25,slow=40						
	comp=Z,17nm,0.6s						
LEM	**Lembang**	**22.00**	**232**	P	**P**	**12 14 28.3**	**+2.6**
	comp=Z,253nm,1.0s						
BBJI	**Bungbulang**	**22.36**	**231**	P	**P**	**12 14 31.9**	**+2.4**
DBJI	**Dramaga**	**22.53**	**234**	P	**P**	**12 14 33.4**	**+2.2**
	comp=Z,7μmcomp=Z,213nm,1.2s						
KNRA	**Kununurra**	**22.61**	**171**	P	**P**	**12 14 30.3**	**-1.7**
	comp=Z,412nm,0.8s						
KNRA	**Kununurra**	**22.61**	**171**	P	**P**	**12 14 29.9**	**-2.2**
CNJI	**Cibinong**	**22.67**	**232**	P	**P**	**12 14 34.8**	**+2.1**
	comp=Z,110nm,1.1s						
SBJI	**Serang**	**22.79**	**236**	P	P	12 14 46.8	+13
SKJI	**Sukabumi**	**22.95**	**234**	P	**P**	**12 14 38.5**	**+2.9**
	comp=Z,6μmcomp=Z,313nm,0.8s						
GULI	**GuiLin**	**23.14**	**324**	P	**P**	**12 14 34.8**	**-2.7**
GULI				pmax	pmax		
	comp=Z,36nm,1.2s						
CGJI	**Cibinong**	**23.42**	**236**	P	**P**	**12 14 41.8**	**+1.4**
	comp=Z,148nm,0.8s						
MDSI	**Maura Dua**	**23.62**	**242**	P	**P**	**12 14 42.5**	**+0.1**
	comp=Z,79nm,0.8s						
KASI	**Kota Agung**	**23.84**	**240**	P	**P**	**12 14 45.5**	**+0.9**
	comp=Z,139nm,0.8s						
LHSI	**Lahat**	**23.90**	**244**	P	**P**	**12 14 46.4**	**+1.3**
	comp=Z,222nm,1.2s						
LWLI	**Liwa**	**23.97**	**241**	P	**P**	**12 14 47.0**	**+1.0**
IPM	**Ipoh**	**23.98**	**266**	P	**P**	**12 14 45.6**	**-0.3**
IPM				IAmb	IAmb	12 14 47.5	
	comp=Z,128nm,1.1s						
IPM	**Ipoh**	**23.98**	**266**	P	**P**	**12 14 46.6**	**+0.6**
CNSH	**ChangSha**	**24.18**	**333**	P	**P**	**12 14 45.3**	**-2.3**
CNSH				pmax	pmax		
	comp=Z,42nm,1.5s						
KULM	**Kulim**	**24.28**	**268**	P	**P**	**12 14 48.6**	**0.0**
KULM	**Kulim**	**24.28**	**268**	P	**P**	**12 14 50.0**	**+1.3**
MNAI	**Manna**	**24.64**	**244**	P	**P**	**12 14 50.3**	**-1.7**
MNAI	**Manna**	**24.64**	**244**	P	**P**	**12 14 54.2**	**+2.2**
MNAI	**Manna**	**24.64**	**244**	P	**P**	**12 14 53.7**	**+1.7**
KSI	**Kapahiang**	**24.66**	**246**	P	**P**	**12 14 56.0**	**+3.7**
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**12 14 51.0**	**-1.6**
	comp=Z,33nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**12 14 51.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**12 14 51.0**	**-1.6**
	comp=Z,74nm,0.8s,baz=5.5,slow=7.4,SNR=77						
FITZ				S	**S**	**12 19 09.2**	**-5.1**
	comp=Z,3.9nm,0.8s,baz=128,slow=16,SNR=0.9						
	comp=Z,74nm,0.8s						
BKNI	**Bangkinang**	**24.76**	**256**	P	**P**	**12 14 55.4**	**+2.3**
MASI	**Maura Aman, Be**	**24.78**	**247**	P	**P**	**12 14 54.0**	**+0.7**
	comp=Z,374nm,1.0s						
SLVN	**Son La**	**25.03**	**307**	P	**P**	**12 14 54.0**	**-1.5**
SLVN				IAmb	IAmb	12 15 04.2	
	comp=Z,156nm,1.8s						
SLVN	**Son La**	**25.03**	**307**	P	**P**	**12 14 58.0**	**+2.5**
KRJI	**Kerinci**	**25.11**	**250**	P	**P**	**12 14 56.9**	**+0.6**
PPI	**Padang Panjang**	**25.59**	**255**	P	**P**	**12 15 00.5**	**-0.1**
	comp=Z,157nm,1.4s						
PDSI	**Padang**	**25.67**	**254**	P	**P**	**12 15 01.8**	**+0.5**
	comp=Z,88nm,1.2s						
WHN	**Wuhan**	**25.68**	**338**	P	**P**	**12 15 03.5**	**+2.3**
WHN				sP	**sP**	**12 15 08.1**	**+1.1**
WHN				pmax	pmax		
	comp=Z,240nm,1.6s						
NJ2	**Nanjing**	**25.80**	**348**	*e*P	**P**	**12 15 03.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,35nm,0.7s						
JCJ	**Chichijima**	**25.98**	**37**	P	**P**	**12 15 07.1**	**+3.1**
MNSI	**Mandailing Nat**	**26.05**	**258**	P	**P**	**12 15 05.7**	**+0.9**
	comp=Z,96nm,1.2s						
PSI	**Prapat**	**26.29**	**263**	LR	LR	12 28 47.3	
	comp=Z,3μm,18.0s,baz=266,slow=44						
TSI	**Tuntungan**	**26.54**	**264**	P	**P**	**12 15 12.7**	**+3.5**
	comp=Z,9μmcomp=Z,135nm,0.5s						
PPSI	**Pulau Pagai**	**26.70**	**250**	P	P	12 15 28.2	+18
JNU	**Nakatsue**	**26.78**	**11**	P	**P**	**12 15 09.8**	**-1.3**
	comp=Z,17nm,1.1s,baz=176,slow=6.1,SNR=6.3						
	comp=Z,17nm,1.1s						
JNU	**Nakatsue**	**26.78**	**11**	P	**P**	**12 15 14.5**	**+3.3**
SISI	**Saibi**	**27.10**	**254**	P	**P**	**12 15 14.7**	**+0.5**
PMG	**Port Moresby**	**27.30**	**126**	P	**P**	**12 15 13.8**	**-2.2**
	comp=Z,19nm,0.8s,baz=335,slow=6.7,SNR=14						
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**27.30**	**126**	P	**P**	**12 15 19.1**	**+3.1**
PMG	**Port Moresby**	**27.30**	**126**	P	**P**	**12 15 19.0**	**+3.1**
PMG	**Port Moresby**	**27.30**	**126**	*ce*P	**P**	**12 15 13.8**	**-2.2**
PMG				pmax	pmax		
	comp=Z,146nm,0.9s						
KCSI	**Kotacane, Aceh**	**27.32**	**265**	P	**P**	**12 15 15.0**	**-1.3**
	comp=Z,66nm,1.0s						
COEN	**Coen**	**27.37**	**139**	P	**P**	**12 15 16.0**	**-0.6**
	comp=Z,110nm,1.2s						
COEN	**Coen**	**27.37**	**139**	P	**P**	**12 15 15.9**	**-0.7**
COEN				IAmb	IAmb	12 15 26.3	
	comp=Z,83nm,0.9s						
COEN	**Coen**	**27.37**	**139**	P	**P**	**12 15 19.6**	**+3.0**
ENH	**Enshi**	**27.56**	**330**	P	**P**	**12 15 16.6**	**-1.7**
ENH				IAmb	IAmb	12 15 26.3	
	comp=Z,48nm,0.9s						
ENH	**Enshi**	**27.56**	**330**	P	**P**	**12 15 20.2**	**+2.0**
GSI	**Gunungsitoli**	**27.90**	**260**	P	**P**	**12 15 20.1**	**-1.3**
GSI	**Gunungsitoli**	**27.90**	**260**	P	**P**	**12 15 21.6**	**+0.2**
GSI	**Gunungsitoli**	**27.90**	**260**	P	**P**	**12 15 20.8**	**-0.6**
CM31	**Chiang Mai Arr**	**27.92**	**297**	P	**P**	**12 15 20.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**27.92**	**297**	P	**P**	**12 15 21.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.92**	**297**	P	**P**	**12 15 18.7**	**-2.9**
	comp=Z,4.9nm,0.8s,baz=122,slow=7.3,SNR=32						
CMAR				S	**S**	**12 20 05.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=47,slow=12,SNR=5.3						
CMAR				ScP	**ScP**	**12 22 16.6**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=120,slow=1.7,SNR=5.7						
	comp=Z,4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.92**	**297**	*i* P	**P**	**12 15 22.3**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WB0	**Warramunga Arr**	**27.94**	**161**	P	**P**	**12 15 19.6**	**-2.1**
WB0				IAmb	IAmb	12 15 43.0	
	comp=Z,73nm,0.8s						
CHTO	**Chiang Mai**	**28.05**	**298**	P	**P**	**12 15 22.3**	**-0.5**
CHTO	**Chiang Mai**	**28.05**	**298**	P	**P**	**12 15 23.3**	**+0.6**
CHTO	**Chiang Mai**	**28.05**	**298**	P	**P**	**12 15 22.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,36nm,1.2s						
JMN	**Monobe**	**28.05**	**16**	P	**P**	**12 15 21.4**	**-1.2**
JMN				IAmb	IAmb	12 15 51.5	
	comp=Z,59nm,1.0s						
JMN	**Monobe**	**28.05**	**16**	P	**P**	**12 15 25.9**	**+3.3**
KMI	**Kunming**	**28.05**	**313**	P	**P**	**12 15 24.6**	**+1.7**
KMI				pmax	pmax		
	comp=Z,36nm,1.4s						
WRAB	**Tennant Creek**	**28.08**	**161**	P	**P**	**12 15 20.9**	**-2.0**
WRAB				IAmb	IAmb	12 15 56.3	
	comp=Z,70nm,1.0s						
WRAB	**Tennant Creek**	**28.08**	**161**	*ce*P	**P**	**12 15 20.9**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**28.09**	**161**	P	**P**	**12 15 20.9**	**-2.2**
	comp=Z,25nm,0.8s,baz=330,slow=11,SNR=44						
WRA				S	**S**	**12 20 09.1**	**+1.3**
	comp=Z,7.3nm,1.1s,baz=320,slow=14,SNR=4.7						
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**28.09**	**161**	*i* P	**P**	**12 15 20.8**	**-2.2**
WRA				pmax	pmax		
	comp=Z,22nm,0.8s						
WR8	**Warramunga Arr**	**28.15**	**161**	P	**P**	**12 15 21.4**	**-2.2**
WR8				IAmb	IAmb	12 16 06.3	
	comp=Z,69nm,0.9s						
MBWA	**Marble Bar**	**28.24**	**190**	P	**P**	**12 15 23.2**	**-1.1**
	comp=Z,44nm,1.1s						
MBWA	**Marble Bar**	**28.24**	**190**	P	**P**	**12 15 23.1**	**-1.1**
MBWA				IAmb	IAmb	12 15 28.9	
	comp=Z,45nm,1.0s						
MBWA	**Marble Bar**	**28.24**	**190**	P	**P**	**12 15 24.4**	**+0.1**
MLSI	**Meulaboh, Aceh**	**28.59**	**267**	P	**P**	**12 15 26.2**	**-1.3**
PSAC1	**Pilbara Seismi**	**28.59**	**190**	P	**P**	**12 15 26.0**	**-1.4**
	comp=Z,75nm,1.1s						
PSA00	**Pilbara Seismi**	**28.62**	**190**	P	**P**	**12 15 26.2**	**-1.5**
PSA00				IAmb	IAmb	12 15 32.9	
	comp=Z,70nm,1.1s						
PSA00	**Pilbara Seismi**	**28.62**	**190**	P	**P**	**12 15 26.7**	**-1.1**
PSA00				IAmb	IAmb	12 15 32.3	
	comp=Z,42nm,1.1s						
PSA00	**Pilbara Seismi**	**28.62**	**190**	P	**P**	**12 15 27.4**	**-0.3**
SNSI	**Sinabang, Aceh**	**28.92**	**263**	P	**P**	**12 15 31.0**	**+0.5**
	comp=Z,199nm,1.2s						
PZH	**PanZhiHua**	**29.60**	**314**	P	**P**	**12 15 36.3**	**-0.3**
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LYN	**LuoYang**	**29.97**	**339**	P	**P**	**12 15 39.6**	**0.0**
LYN				sP	sP	12 15 47.1	+1.7
LYN				pmax	pmax		
	comp=Z,42nm,1.5s						
TIA	**Tai'an**	**30.18**	**347**	P	**P**	**12 15 41.3**	**-0.1**
TIA				pmax	pmax		
	comp=Z,23nm,1.5s						
INU	**Inuyama**	**30.51**	**20**	P	**P**	**12 15 44.3**	**0.0**
KSRS	**Korea Array**	**30.66**	**5**	P	**P**	**12 15 44.9**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=184,slow=9.8,SNR=20						
KSRS				PcP	**PcP**	**12 18 42.1**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=191,slow=6.3,SNR=8.8						
	comp=Z,5.4nm,0.8s						
QIS	**Mount Isa**	**30.71**	**152**	P	**P**	**12 15 44.4**	**-1.9**
	comp=Z,73nm,0.8s						
JGF	**Kuroka**	**30.85**	**20**	P	**P**	**12 15 46.4**	**-1.0**
XAN	**Xi'an**	**30.95**	**333**	⇑P	**P**	**12 15 47.0**	**-1.3**
XAN				sP	sP	12 15 53.3	-0.8
XAN				pmax	pmax		
	comp=Z,21nm,1.2s						
CD2	**Chengdu**	**31.20**	**323**	P	**P**	**12 15 50.3**	**-0.3**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
MTSU	**Mount Surprise**	**31.23**	**143**	P	**P**	**12 15 50.5**	**-0

SHL IAmb IAmb 12 16 44.7
comp=Z,88nm,0.9s
SHL Shillong 36.73 304 *e*P **P 12 16 39.3 +0.5**
SHL IAmb IAmb 12 16 44.8
comp=Z,37nm,0.3s
SHL Shillong 36.73 304 P **P 12 16 38.4 -0.5**
SHL pmax pmax
comp=Z,88nm,0.9s
CN2 Changchun 36.88 1 P **P 12 16 41.6 +1.9**
CN2 sP sP 12 16 46.0 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
FORT Forrest 37.45 176 P **P 12 16 43.5 -1.1**
comp=Z,70nm,1.0s
FORT Forrest 37.45 176 P **P 12 16 43.3 -1.3**
FORT IAmb IAmb 12 16 49.3
comp=Z,54nm,0.8s
INKA Innaminka 37.53 157 P **P 12 16 44.2 -1.1**
USRK Ussuriysk Ar. 37.78 8 P **P 12 16 47.1 -0.1**
comp=Z,22nm,0.8s,baz=186,slow=7.7,SNR=21
comp=Z,22nm,0.8s
XLT XiLinHaoTe 37.80 349 *e*P **P 12 16 46.6 -1.0**
XLT pP pP 12 16 51.4 -0.4
XLT pmax pmax
comp=Z,23nm,1.2s
MDJ Mudanjiang 37.91 5 P **P 12 16 48.6 +0.3**
MDJ pmax pmax
comp=Z,48nm,1.4s
MDJ Mudanjiang 37.91 5 P **P 12 16 47.6 -0.7**
MDJ Mudanjiang 37.91 5 P **P 12 16 49.7 +1.4**
BLDU Ballidu 38.02 192 P **P 12 16 51.9 +2.5**
QLP Quilpie 38.03 151 P **P 12 16 48.9 -0.7**
comp=Z,81nm,1.0s
QLP Quilpie 38.03 151 P **P 12 16 50.1 +0.5**
KMBL Kambalda 38.04 184 P **P 12 16 48.2 -1.4**
comp=Z,40nm,1.1s
BNX BinXian 38.88 3 ⇓P **P 12 16 55.8 -0.7**
BNX pmax pmax
comp=Z,30nm,1.2s
AUNRC North Rockhamp 38.96 141 P **P 12 17 00.4 +3.0**
LSA Lhasa 39.18 310 P **P 12 16 59.0 -0.8**
LSA Lhasa 39.18 310 P **P 12 16 59.0 -0.8**
LSA pmax pmax
comp=Z,77nm,1.4s
TEY Ternei 39.43 13⇑ *e*P **P 12 17 00.6 -0.5**
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
MUN Mundaring 39.44 192 P **P 12 17 00.5 -0.8**
comp=Z,31nm,1.4s
GTA Gaotai 39.63 329 P **P 12 17 05.0 +2.0**
GTA pP sP 12 17 10.3 +1.4
GTA pmax pmax
comp=Z,60nm,1.2s
NWAO Narrogin (SRO) 40.17 190 P **P 12 17 06.9 -0.5**
comp=Z,77nm,1.3s
NWAO Narrogin (SRO) 40.17 190 P **P 12 17 06.3 -1.0**
NWAO IAmb IAmb 12 17 17.8
comp=Z,77nm,1.1s
NWAO Narrogin (SRO) 40.17 190 P **P 12 17 06.0 -1.4**
comp=Z,25nm,0.8s,baz=19,slow=3.8,SNR=8.9
comp=Z,25nm,0.8s
NWAO Narrogin (SRO) 40.17 190 P **P 12 17 09.9 +2.5**
NWAO Narrogin (SRO) 40.17 190 P **P 12 17 07.8 +0.4**
ASAJ Asahikawa 40.26 20 P **P 12 17 07.8 -0.2**
comp=Z,12nm,0.7s,baz=215,slow=5.1,SNR=11
comp=Z,12nm,0.7s
JKA Kamikawa-asahi 40.26 20 P **P 12 17 08.3 +0.2**
GOMU GeErMu 40.26 321 P **P 12 17 09.6 +1.0**
GOMU pP sP 12 17 14.8 +0.3
GOMU sP pP 12 17 19.8 +7.1
GOMU pmax pmax
comp=Z,9.0nm,1.2s
BBOO Buckleboo 40.74 166 P **P 12 17 10.8 -1.3**
comp=Z,221nm,1.0s
BBOO Buckleboo 40.74 166 P **P 12 17 10.8 -1.3**
BBOO Buckleboo 40.74 166 P **P 12 17 12.4 +0.3**
EIDS Eidsvold 40.78 143 P **P 12 17 12.6 0.0**
comp=Z,33nm,1.2s
EIDS Eidsvold 40.78 143 P **P 12 17 15.6 +3.0**
WHYH Whyalla 41.35 164 P **P 12 17 17.8 +0.7**
STKA Stephens Creek 41.56 159 P **P 12 17 17.6 -1.3**
comp=Z,345nm,0.9s
STKA Stephens Creek 41.56 159 P **P 12 17 18.2 -0.7**
STKA Stephens Creek 41.56 159 P **P 12 17 17.8 -1.1**
comp=Z,15nm,0.6s,baz=337,slow=8.8,SNR=19
STKA LR LR 12 35 06.7
comp=Z,2μm,21.4s,baz=318,slow=37
comp=Z,15nm,0.6s
STKA Stephens Creek 41.56 159 P **P 12 17 20.0 +1.1**
STKA Stephens Creek 41.56 159 *i* P **P 12 17 17.1 -1.8**
AUJCS Jamestown Cent 41.80 163 P **P 12 17 23.8 +3.0**
EVN Everest 41.84 305 P **P 12 17 21.8 -0.3**
EVN IAmb IAmb 12 17 30.4
comp=Z,50nm,0.8s
RKGY Rocky Gully 41.85 190 P **P 12 17 22.2 +0.9**
comp=Z,140nm,1.4s
AUCAS Cummins Area S 42.05 167 P **P 12 17 25.7 +2.9**
VIS Vishakhapatnam 42.07 289 *e*P **P 12 17 24.6 +1.3**
VIS IAmb IAmb 12 17 42.9
HTT Hallett 42.10 163 P **P 12 17 23.6 +0.2**
comp=Z,50nm,1.1s
HTT Hallett 42.10 163 P **P 12 17 25.1 +1.7**
AULRC Lightning Ridg 42.23 150 P **P 12 17 26.3 +1.9**
HIA Hailar 42.58 355 P **P 12 17 25.6 -1.5**
HIA IAmb IAmb 12 17 34.6
comp=Z,117nm,1.5s
HIA Hailar 42.58 355 P **P 12 17 28.1 +1.0**
HIA Hailar 42.58 355 P **P 12 17 25.6 -1.5**
HIA pmax pmax
comp=Z,117nm,1.5s
YSS Yuzhno-Sakhali 42.84 18 P **P 12 17 32.3 +3.2**
YSS Yuzhno-Sakhali 42.84 18 *e*P **P 12 17 32.6 +3.5**
YSS pmax pmax
comp=Z,40nm,1.3s
HILR Hailar Array B 42.87 355 P **P 12 17 29.8 +0.3**
comp=Z,7.3nm,0.5s,baz=156,slow=11,SNR=9.3
comp=Z,7.3nm,0.5s
CMSA Cobar Meteorol 42.91 154 P **P 12 17 28.4 -1.5**
comp=Z,28nm,1.7s
CMSA Cobar Meteorol 42.91 154 P **P 12 17 32.3 +2.4**
TW1H Toowoomba 1 Ha 42.94 144 P **P 12 17 33.0 +2.7**
HEH HeiHe 43.38 2 *e*P **P 12 17 32.6 -0.9**
HEH pmax pmax
comp=Z,35nm,1.0s
AUMAR Marden Senior 43.39 164 P **P 12 17 36.5 +2.8**
GHSS Government Hou 43.41 164 P **P 12 17 36.7 +2.9**
AUWSH Wavell State H 43.46 143 P **P 12 17 37.4 +3.0**
ULN Ulaanbaatar 43.72 343 P **P 12 17 36.0 -0.5**
ULN IAmb IAmb 12 17 53.2
comp=Z,116nm,1.8s
ULN Ulaanbaatar 43.72 343 *i* P **P 12 17 35.6 -0.9**
ULN pmax pmax
comp=Z,85nm,2.1s
AUMBR Murray Bridge 43.80 163 P **P 12 17 39.7 +2.7**
SONM Songino Array 43.89 342 P **P 12 17 38.3 +0.5**
SONM Songino Array 43.89 342 P **P 12 17 38.0 +0.2**
comp=Z,4.3nm,0.8s,baz=160,slow=7.2,SNR=12
comp=Z,4.3nm,0.8s
GRNR Gornyy 44.87 10 *e*P **P 12 17 46.0 +0.5**
ARMA Armidale 44.93 147 P **P 12 17 45.4 -0.9**
ARMA IAmb IAmb 12 17 59.3
comp=Z,57nm,1.1s
ARMA Armidale 44.93 147 P **P 12 17 49.1 +2.8**
AUPHS Peel High Scho 45.07 148 P **P 12 17 49.0 +1.7**
AUMAG Moama Anglican 46.50 158 P **P 12 18 00.6 +2.1**
HYB Hyderabad 46.53 288 *e*P **P 12 17 60.0 +0.8**
HYB *es*P **pP 12 18 03.7 +0.4**
HYB IVmB_BB 12 18 04.9
comp=Z,573nm,1.7s
HYB *e*S **S 12 24 48.0 +0.2**
ZEA Zeya 46.86 2 *e*P **P 12 18 00.5 -0.6**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZAK Zakamensk 47.11 341 *e*P **P 12 18 06.0 +2.8**
ZAK pmax pmax
comp=Z,22nm,1.7s
SANVU Saraoutou 47.27 118 P **P 12 18 07.9 +3.1**
BRAT Ballarat 47.50 160 P **P 12 18 09.1 +2.9**
AUMTC Mt Clear Colle 47.53 160 P **P 12 18 09.4 +2.9**
AUMTS Mt Stromlo 47.58 153 P **P 12 18 09.7 +2.7**
CAN Canberra 47.58 153 P **P 12 18 07.0 0.0**
comp=Z,54nm,0.9s
CAN Canberra 47.58 153 P **P 12 18 06.0 -1.0**
CAN Canberra 47.58 153 P **P 12 18 09.9 +2.9**
CAN Canberra 47.58 153 P **P 12 18 06.0 -1.0**
CAN pmax pmax
comp=Z,75nm,1.1s
AUDAR Daramalan Coll 47.58 153 P **P 12 18 09.7 +2.7**
AUSIS Research Schoo 47.59 153 P **P 12 18 09.9 +2.8**
AUMHS Melrose High S 47.65 153 P **P 12 18 10.5 +2.9**
CNB Canberra Magne 47.74 153 P **P 12 18 08.1 -0.2**
comp=Z,59nm,1.0s
CNB Canberra Magne 47.74 153 P **P 12 18 11.0 +2.7**
TOO Toolangi 48.08 158 P **P 12 18 10.7 -0.1**
comp=Z,28nm,1.3s
TOO Toolangi 48.08 158 P **P 12 18 10.9 +0.1**
TOO IAmb IAmb 12 18 17.6
comp=Z,32nm,1.1s
TOO Toolangi 48.08 158 P **P 12 18 10.9 +0.1**
TOO pmax pmax
comp=Z,32nm,1.2s
AUUHS Ulladulla High 48.28 152 P **P 12 18 15.4 +3.0**
AUSMG Snowy Mountain 48.33 154 P **P 12 18 15.5 +2.6**
comp=Z,35nm,1.0s
IRK Irkutsk 48.44 343 *e*P P 12 18 18.3 +4.9
IRK pmax pmax
comp=Z,62nm,2.1s
MOY Mondy 48.96 340 *e*P **P 12 18 19.8 +2.2**
MOY pmax pmax
comp=Z,76nm,2.0s
WMQ Urumqi 49.27 325 *e*P **P 12 18 22.4 +2.4**
WMQ pP sP 12 18 26.4 +0.5
WMQ PcP **PcP 12 19 44.3 +1.4**
WMQ pmax pmax
comp=Z,28nm,1.1s
ONTNC Ouen Toro 49.81 127 P **P 12 18 27.2 +2.8**
YATNC Mamie plateau, 50.04 126 P **P 12 18 29.2 +3.1**
PINNC Pines Island, 50.76 126 P **P 12 18 34.6 +3.1**
AUBRN Burnie High Sc 51.29 160 P **P 12 18 37.9 +2.8**
CORO Coronation Par 52.10 159 P **P 12 18 44.1 +2.9**
ZSN Zaisan 53.04 327 *e*P **P 12 18 47.5 -0.8**
ZSN Zaisan 53.04 327 *e*P **P 12 18 47.4 -0.8**
PEA0B Petropavlovsk- 53.32 24 *i* P **P 12 18 50.3 +0.2**
PETK Petropavlovsk- 53.32 24 P **P 12 18 49.6 -0.5**
PETK Petropavlovsk- 53.32 24 P **P 12 18 50.4 +0.3**
comp=Z,13nm,0.9s,baz=212,slow=3.8,SNR=15
comp=Z,13nm,0.9s
PETK Petropavlovsk- 53.32 24 P **P 12 18 49.6 -0.5**
PET Petropavlovsk 53.64 25 *i* P **P 12 18 52.0 -0.5**
PET pmax pmax
comp=Z,156nm,1.7s
SHLS Shalkode 53.93 320 *e*P **P 12 18 52.1 -3.0**
comp=Z,64nm,1.4s
SHLS Shalkode 53.93 320 *e*P **P 12 18 52.0 -3.0**
SHLS pmax pmax
comp=Z,64nm,1.4s
MK31 Makanchi Array 54.10 325 *i* P **P 12 18 56.1 +0.1**
MKAR Makanchi Array 54.10 325 P **P 12 18 55.6 -0.4**
MKAR Makanchi Array 54.10 325 P **P 12 18 56.2 +0.2**
comp=Z,14nm,0.9s,baz=124,slow=8.0,SNR=34
MKAR ScP **ScP 12 23 57.2 -1.6**
comp=Z,1.4nm,0.9s,baz=92,slow=3.8,SNR=3.1
comp=Z,14nm,0.9s
UZB Uzynbulak 54.21 320 *e*P **P 12 18 56.3 -0.8**
comp=Z,75nm,2.0s
UZB Uzynbulak 54.21 320 *e*P **P 12 18 56.2 -0.8**
UZB pmax pmax
comp=Z,75nm,2.0s
MAKZ Makanchi 54.29 325 P **P 12 18 57.5 +0.2**
MAKZ Makanchi 54.29 325 P **P 12 18 57.6 +0.2**
MAKZ pmax pmax
comp=Z,100nm,1.4s
SATY Saty 54.57 319 *e*P **P 12 18 58.8 -0.8**
comp=Z,21nm,1.1s
SATY Saty 54.57 319 *e*P **P 12 18 58.8 -0.8**
SATY pmax pmax
comp=Z,21nm,1.1s
KSH Kashi 54.70 314 P **P 12 19 01.3 +0.6**
KSH pmax pmax
comp=Z,23nm,1.7s
NIL Nilore 54.74 307 **P 12 18 59.9 -1.0**
NIL Nilore 54.74 307 P **P 12 18 59.9 -1.0**
NIL pmax pmax
comp=Z,88nm,1.1s
KDJ Kajisay 54.96 318 P **P 12 19 01.5 -1.0**
KDJ IAmb IAmb 12 19 11.0
comp=Z,42nm,0.8s
KDJ Kajisay 54.96 318 P **P 12 19 01.5 -1.0**
KDJ pmax pmax
comp=Z,42nm,0.8s
YAK Yakutsk 55.25 3 P **P 12 19 03.5 -0.5**
YAK Yakutsk 55.25 3 P **P 12 19 04.5 +0.5**
comp=Z,19nm,0.7s,baz=26,slow=2.8,SNR=11
comp=Z,19nm,0.7s
YAK Yakutsk 55.25 3 *e*P **P 12 19 04.3 +0.3**
YAK *e*S **S 12 26 48.7 +1.5**
YAK pmax pmax
comp=Z,63nm,1.3s
YAK pmax pmax
comp=N,34nm,1.3s
YAK pmax pmax
comp=E,12nm,1.4s
YAK smax smax
comp=N,885nm,7.8s
YAK smax smax
comp=E,276nm,3.4s
ARXS Arharly 55.48 320 *e*P **P 12 19 04.4 -1.7**
TDK Taldyqorghan 55.49 321 *e*P **P 12 19 05.3 -0.9**
comp=E,27nm,0.6s
TDK Taldyqorghan 55.49 321 *e*P **P 12 19 05.2 -0.9**
TDK pmax pmax
comp=Z,27nm,0.6s
MDOK Medeo 55.50 319 *e*P **P 12 19 05.6 -0.8**
MDOK Medeo 55.50 319 *e*P **P 12 19 05.6 -0.8**
TNSS Tian-Shan 55.51 319 *e*P **P 12 19 05.5 -1.3**
TNSS Tian-Shan 55.51 319 *e*P **P 12 19 05.4 -1.3**
ULHL Ulahol 55.64 317 P **P 12 19 08.7 +1.2**
SNR=7.8
BOOM Boomskoye usch 55.94 318 **P 12 19 08.7 -0.9**
BOOM IAmb IAmb 12 19 26.3
comp=Z,98nm,1.8s
BOOM Boomskoye usch 55.94 318 P **P 12 19 08.7 -0.9**
BOOM pmax pmax
comp=Z,98nm,1.8s
FUNA Funafuti 56.11 105 P **P 12 19 10.0 -1.0**
FUNA Funafuti 56.11 105 P **P 12 19 12.5 +1.5**
MA2 Magadan 56.22 15 P **P 12 19 11.0 0.0**
comp=Z,11nm,0.8s,baz=211,slow=7.4,SNR=5.4
comp=Z,11nm,0.8s
MA2 Magadan 56.22 15 P **P 12 19 11.0 0.0**
TKM2 Tokmak 2 56.36 318 P **P 12 19 13.0 +0.4**
SNR=10
UCH Uchtor 56.80 317 P **P 12 19 16.7 +0.6**
SNR=18
AAK Ala-Archa 56.98 317 P **P 12 19 17.7 +0.7**
AAK IAmb IAmb 12 19 28.8
comp=Z,77nm,1.5s
AAK Ala-Archa 56.98 317 P **P 12 19 16.0 -1.0**
SNR=5.7
AAK Ala-Archa 56.98 317 *i* P **P 12 19 16.9 -0.1**
AAK pmax pmax
comp=Z,63nm,1.5s
ZAA0 Zalesovo Array 57.12 333 P **P 12 19 16.9 -0.6**
ZALV Zalesovo Beam 57.12 333 P **P 12 19 17.2 -0.3**
comp=Z,8.8nm,0.9s,baz=111,slow=8.1,SNR=6.2
comp=Z,8.8nm,0.9s
ZALV Zalesovo Beam 57.12 333 *i* P **P 12 19 20.1 +2.6**
ZALV pmax pmax
comp=Z,9.0nm,0.9s
SGDS Sogindy 57.22 318 *e*P **P 12 19 17.5 -1.1**
USP Ospenovka 57.23 318 P **P 12 19 18.6 -0.1**
SNR=10
EKS2 Erkin-Say 57.47 317 P **P 12 19 20.9 +0.5**
SNR=10
MSVF Nonsavu 57.74 116 P **P 12 19 21.5 -1.1**
MSVF Nonsavu 57.74 116 P **P 12 19 25.3 +2.7**
MSVF Nonsavu 57.74 116 *i* P **P 12 19 20.8 -1.8**
KURBB Kurchatov Arra 58.27 327 P **P 12 19 25.7 0.0**
comp=Z,12nm,0.8s,baz=126,slow=5.9,SNR=41
comp=Z,12nm,0.8s
KURK Kurchatov 58.28 327 P **P 12 19 25.7 0.0**
KURK Kurchatov 58.28 327 *ce*P **P 12 19 25.7 0.0**
KURK pmax pmax
comp=Z,104nm,1.3s
KBL Kabul 58.34 307 P **P 12 19 25.3 -1.5**
KBL IAmb IAmb 12 19 47.1
comp=Z,41nm,1.2s
KBL Kabul 58.34 307 P **P 12 19 25.3 -1.5**
KBL pmax pmax
comp=Z,41nm,1.2s
GAR Garm 58.63 312 P **P 12 19 28.4 -0.2**
DZA Taraz 59.23 316 *e*P **P 12 19 31.7 -0.9**
comp=Z,19nm,1.3s
DZA Taraz 59.23 316 *e*P **P 12 19 31.7 -0.9**
DZA pmax pmax
comp=Z,19nm,1.3s
CHGR Chuyangaron 59.38 311 P **P 12 19 33.9 +0.1**
CHGR Chuyangaron 59.38 311 P **P 12 19 33.9 +0.1**
CHGR pmax pmax
comp=Z,99nm,1.2s
SEY Seymchan 59.49 14 P **P 12 19 34.0 +0.1**
comp=Z,4.3nm,0.7s,baz=222,slow=5.6,SNR=9.2
comp=Z,4.3nm,0.7s
SEY Seymchan 59.49 14 *e*P **P 12 19 38.0 +4.0**
SEY pmax pmax
comp=Z,31nm,2.2s
KK31 Karatay Array 59.86 316 P **P 12 19 36.0 -0.9**
KK31 IAmb IAmb 12 19 49.6
comp=Z,37nm,1.1s
KK31 Karatay Array 59.86 316 P **P 12 19 36.0 -0.9**
KK31 pmax pmax
comp=Z,37nm,1.1s
KKAR Karatay Array 59.86 316 P **P 12 19 36.7 -0.2**
KKAR Karatay Array 59.86 316 P **P 12 19 36.7 -0.2**
IUG Iuzhnay 59.86 315 *e*P **P 12 19 36.2 -0.9**
comp=Z,30nm,1.0s
IUG Iuzhnay 59.86 315 *e*P **P 12 19 36.1 -0.9**
IUG pmax pmax
comp=Z,31nm,1.0s
FUTU Fugatoga 60.16 111 P **P 12 19 42.5 +3.1**
CHM Chimkent 60.22 315 *e*P **P 12 19 38.7 -0.7**
CHM Chimkent 60.22 315 *e*P **P 12 19 38.7 -0.7**
BRLS Borolday 60.30 316 *e*P **P 12 19 39.2 -0.8**
comp=Z,32nm,1.9s
BRLS Borolday 60.30 316 *e*P **P 12 19 39.2 -0.8**
BRLS pmax pmax
comp=Z,32nm,1.9s
BRZS Berezniki 61.24 324 *e*P **P 12 19 45.5 -0.7**
BRZS Berezniki 61.24 324 *e*P **P 12 19 45.5 -0.7**
HRA Herat 63.79 305 P **P 12 20 03.2 -0.6**
HRA IAmb IAmb 12 20 14.8
comp=Z,51nm,1.7s
BORK Borovoye 63.90 327 *ce*P **P 12 20 04.1 +0.2**
BORK pmax pmax
comp=Z,24nm,1.0s
JCZ Jackson Bay 64.17 146 P **P 12 20 09.1 +3.2**
TIXI Tiksi 64.85 1 P **P 12 20 09.0 -0.8**
comp=Z,1.9nm,0.3s,baz=186,slow=3.8,SNR=4.4
comp=Z,1.9nm,0.3s
TIXI Tiksi 64.85 1 *ce*P **P 12 20 08.6 -1.1**
TIXI pmax pmax
comp=Z,12nm,0.9s
LBZ Lake Benmore 65.14 146 P **P 12 20 11.3 -0.9**
RPZ Rata Peaks 65.21 145 P **P 12 20 12.3 -0.3**
BKZ Black Stump Fm 65.97 138 P **P 12 20 20.6 +2.9**
BILL Bilibino 67.08 16 *i* P **P 12 20 24.4 +0.2**
BILL pmax pmax
comp=Z,48nm,1.3s
AB31 Akbulak array 68.73 320 P **P 12 20 33.7 -1.3**
ABKAR Akbulak array 68.73 320 P **P 12 20 33.8 -1.1**
SVE Sverdlovsk 70.49 328 *e*P **P 12 20 45.1 -0.6**
SVE pmax pmax
comp=Z,41nm,1.5s
P08K Saint George I 70.98 32 P **P 12 20 49.1 +0.5**
baz=253
ARTI Arti 71.55 327 P **P 12 20 51.1 -1.0**
ARTI IAmb IAmb 12 21 12.2
comp=Z,22nm,1.0s
ARTI Arti 71.55 327 *d i*P **P 12 20 50.3 -1.8**
ARTI S **S 12 30 10.4 -0.4**
ARTI pmax pmax
comp=Z,11nm,1.1s
UNV Unalaska Valle 71.93 35 P **P 12 20 54.7 +0.4**
baz=256
GAMB Gambell 72.34 25 P **P 12 20 57.1 +0.4**
baz=248
CASY Casey 73.63 186 P **P 12 21 02.9 -1.3**
CASY IAmb IAmb 12 21 09.3
comp=Z,25nm,0.9s
M11K Mekoryuk 73.73 29 P **P 12 21 05.4 +0.5**
baz=255
FALS False Pass 73.91 35 P **P 12 21 05.8 -0.3**
baz=259
TNA Tin City 74.48 23 P **P 12 21 08.7 -0.5**
baz=252
S12K Black Hills 74.83 34 P **P 12 21 11.3 -0.2**
baz=260
K13K Kusilvak Mount 74.85 27 P **P 12 21 11.7 +0.3**
baz=256
F14K Arctic Creek 75.09 24 P **P 12 21 13.1 +0.3**
baz=253
M13K Dall Lake 75.11 29 P **P 12 21 12.3 -0.6**
baz=257
ANM Nome 75.22 25 P **P 12 21 13.9 +0.3**
baz=254
J14K Nanvaranak Lak 75.55 27 P **P 12 21 14.7 -0.8**
baz=256
L14K Kuka Creek 75.63 28 P **P 12 21 16.4 +0.5**
baz=258
SDPT Sand Point 75.66 35 P **P 12 21 15.7 -0.6**
baz=261
N14K Kuskokwak Cree 75.82 30 P **P 12 21 16.6 -0.4**
baz=259
F15K North Star Dit 75.82 24 P **P 12 21 17.5 +0.5**
baz=255
M14K Bethel 75.85 29 P **P 12 21 16.5 -0.7**
M14K Bethel 75.85 29 P **P 12 21 17.4 +0.2**
baz=258
G15K Niukluk 75.89 24 P **P 12 21 17.9 +0.5**
baz=255
O14K Tigyukauivet M 75.91 31 P **P 12 21 18.2 +0.6**
baz=259
AKT Akhty 76.02 311 *e*P **P 12 21 17.8 -1.0**
AKT *e* 12 21 26.7
AKT *e* 12 24 08.6
AKT pmax pmax
comp=Z,39nm,1.0s
CHNA Chernabura Isl 76.09 35 P **P 12 21 18.4 -0.3**
baz=262
L15K Ungalak Mounta 76.26 28 P **P 12 21 19.8 +0.2**
baz=259
C16K Lisburne Hills 76.27 21 P **P 12 21 19.5 0.0**
baz=253
S14K Fog Glacier 76.32 34 P **P 12 21 19.7 -0.4**
baz=262
K15K Wolf Creek Mou 76.36 27 P **P 12 21 20.1 -0.1**
baz=258
M15K Kasigluk River 76.45 29 P **P 12 21 21.1 +0.4**
baz=260
H16K Elim 76.55 25 P **P 12 21 21.0 -0.2**
baz=257
O15K Ungalikthiuk R 76.62 31 P **P 12 21 21.5 -0.1**
baz=261
N15K Kwethluk River 76.65 30 P **P 12 21 21.3 -0.5**
N15K IAmb IAmb 12 21 33.3
comp=Z,34nm,0.9s
N15K Kwethluk River 76.65 30 P **P 12 21 22.4 +0.6**
baz=260
G16K Koyuk River 76.67 24 P **P 12 21 22.0 +0.1**
baz=257
D17K Noatak River 76.94 22 P **P 12 21 23.6 +0.3**
baz=256
J16K Anvik River 76.98 27 P **P 12 21 23.9 +0.3**
baz=259
I17K Unalakleet 77.05 26 P **P 12 21 24.1 +0.1**
baz=259
RDOG Red Dog Mine 77.09 22 P **P 12 21 24.4 +0.3**
baz=256
C17K DeLong Mountai 77.10 21 P **P 12 21 24.7 +0.5**
baz=255
L16K Owhat River 77.21 28 P **P 12 21 24.3 -0.6**
L16K IAmb IAmb 12 21 35.5
comp=Z,26nm,1.0s
L16K Owhat River 77.21 28 P **P 12 21 25.3 +0.4**
baz=260
E17K Hotham Inlet 77.26 23 P **P 12 21 25.2 +0.1**
baz=257
M16K Timber Creek 77.34 29 P **P 12 21 25.1 -0.6**
M16K IAmb IAmb 12 21 33.6
comp=Z,84nm,1.6s
M16K Timber Creek 77.34 29 P **P 12 21 25.8 +0.1**
baz=261

F17K	Baldwin Pennin	77.35	23	P	P	12 21 25.4	-0.2
	baz=258						
N16K	Nishlik Lake	77.35	30	P	P	12 21 26.5	+0.7
	baz=261						
G17K	Kiwalik Mounta	77.39	24	P	P	12 21 26.5	+0.7
	baz=258						
P16K	Nushagak River	77.53	31	P	P	12 21 26.7	-0.1
	baz=262						
O16K	Kokwok River B	77.56	30	P	P	12 21 25.9	-1.0
O16K				IAmb	IAmb	12 21 48.8	
	comp=Z,37nm,1.2s						
O16K	Kokwok River B	77.56	30	P	P	12 21 27.5	+0.5
	baz=262						
H17K	Granite Mounta	77.59	25	P	P	12 21 26.3	-0.7
H17K				IAmb	IAmb	12 21 41.9	
	comp=Z,32nm,1.1s						
H17K	Granite Mounta	77.59	25	P	P	12 21 27.1	+0.1
	baz=259						
J17K	VABM Dome	77.67	27	IAmb	IAmb	12 21 41.8	
	comp=Z,92nm,1.8s						
J17K	VABM Dome	77.67	27	P	P	12 21 27.5	0.0
	baz=260						
RAYN	Ar Rayn	77.74	293	P	P	12 21 28.8	+0.1
B18K	Kokolik River	77.80	20	P	P	12 21 28.5	+0.5
	baz=256						
E18K	Tukpahlearik C	77.80	22	P	P	12 21 28.3	+0.2
	baz=258						
L17K	Donlin	77.83	28	P	P	12 21 29.0	+0.6
	baz=261						
C18K	Utukok River	77.85	21	P	P	12 21 28.6	+0.2
	baz=257						
K17K	Iditarod	77.91	27	P	P	12 21 29.2	+0.4
	baz=261						
F18K	Selawik	78.00	23	P	P	12 21 30.1	+0.9
	baz=259						
O17K	Koliganek Bris	78.08	30	P	P	12 21 30.5	+0.7
	baz=263						
M17K	Holitna River	78.13	29	P	P	12 21 30.7	+0.7
	baz=262						
N17K	Nushagak Hills	78.13	30	P	P	12 21 31.2	+1.1
	baz=263						
R17L	Mt. Peulik Vol	78.22	33	P	P	12 21 30.5	-0.2
	baz=264						
A19K	Wainwright	78.24	20	P	P	12 21 30.0	-0.5
	baz=257						
GNI	Garni	78.24	309	P	P	12 21 31.0	-0.4
GNI	Garni	78.24	309	P	P	12 21 31.0	-0.4
GNI				pmax	pmax		
	comp=Z,108nm,1.4s						
H18K	Honhosa River	78.27	25	P	P	12 21 30.9	+0.1
	baz=261						
G18K	Tagagawik	78.28	24	IAmb	IAmb	12 21 52.5	
	comp=Z,44nm,1.4s						
G18K	Tagagawik	78.28	24	P	P	12 21 31.2	+0.4
	baz=260						
P17K	Kvichak River	78.35	31	P	P	12 21 31.4	+0.1
	baz=264						
C19K	Lookout Ridge	78.51	21	P	P	12 21 32.3	+0.2
	baz=259						
Q17K	Contact Creek	78.54	32	P	P	12 21 31.9	-0.6
	baz=264						
J18K	Innoko River	78.73	27	P	P	12 21 33.7	+0.3
	baz=262						
F19K	Shaleruckik Mo	78.78	23	P	P	12 21 33.6	0.0
	baz=261						
N18K	Kilae Creek	78.79	30	P	P	12 21 33.4	-0.3
	baz=264						
GCSA	Galena City Sc	78.83	25	P	P	12 21 34.3	+0.4
	baz=262						
M18K	Stony River	78.91	29	P	P	12 21 34.7	+0.3
	baz=264						
D19K	Kuna River	78.93	21	IAmb	IAmb	12 21 44.5	
	comp=Z,46nm,1.1s						
D19K	Kuna River	78.93	21	P	P	12 21 34.4	0.0
	baz=260						
P18K	Big Mountain,	78.99	31	P	P	12 21 35.3	+0.4
	baz=265						
Q18K	Katmai Hardscr	79.03	32	P	P	12 21 35.4	+0.1
	baz=265						
O18K	Koktuh Hills	79.04	30	P	P	12 21 35.2	0.0
	baz=264						
E19K	Redstone River	79.09	23	IAmb	IAmb	12 21 44.9	
	comp=Z,53nm,1.1s						
E19K	Redstone River	79.09	23	P	P	12 21 35.5	+0.2
	baz=261						
H19K	Roundabout Mou	79.12	25	P	P	12 21 35.6	+0.2
H19K				IAmb	IAmb	12 21 46.4	
	comp=Z,32nm,0.9s						
H19K	Roundabout Mou	79.12	25	P	P	12 21 36.2	+0.8
	baz=262						
R18K	Karluk	79.24	33	P	P	12 21 36.8	+0.6
	baz=266						
J19K	Poorman	79.28	26	IAmb	IAmb	12 21 50.5	
	comp=Z,34nm,1.3s						
J19K	Poorman	79.28	26	P	P	12 21 36.3	-0.1
	baz=263						
L19K	White Mountain	79.44	28	IAmb	IAmb	12 21 52.1	
	comp=Z,103nm,1.8s						
L19K	White Mountain	79.44	28	P	P	12 21 37.0	-0.3
	baz=264						
N19K	Bonanza Creek	79.49	29	P	P	12 21 37.6	-0.1
	baz=265						
D20K	Etivluk River	79.50	21	IAmb	IAmb	12 21 51.9	
	comp=Z,39nm,1.0s						
D20K	Etivluk River	79.50	21	P	P	12 21 37.9	+0.4
	baz=262						
B20K	Meade River	79.51	20	P	P	12 21 37.8	+0.3
	baz=261						
O19K	Port Alsworth	79.52	30	P	P	12 21 37.6	-0.1
	baz=265						
GOF	Gofitskoye	79.58	314	*ce*P	P	12 21 43.0	+4.6
E20K	Nigu River	79.59	22	P	P	12 21 38.4	+0.3
	baz=262						
F20K	Avaraaart Lake	79.61	23	P	P	12 21 37.6	-0.4
F20K	Avaraart Lake	79.61	23	P	P	12 21 38.1	0.0
	baz=263						
M19K	Big River Lodg	79.63	28	IAmb	IAmb	12 21 46.7	
	comp=Z,45nm,1.4s						
M19K	Big River Lodg	79.63	28	P	P	12 21 38.7	+0.4
	baz=265						
KBZ	Khabaz	79.67	313	P	P	12 21 37.8	-1.0
	comp=Z,8.6nm,1.0s,baz=164,slow=3.7,SNR=8.8						
	comp=Z,8.6nm,1.0s						
KBZ	Khabaz	79.67	313	*i* P	P	12 21 37.3	-1.5
KBZ				pmax	pmax		
	comp=Z,18nm,1.3s						
H20K	Anotleneega Mo	79.77	25	P	P	12 21 39.3	+0.3
	baz=264						
KIV	Kislovodsk	79.82	313	*e*P	P	12 21 38.1	-1.8
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
SHA1	Shidzhatmaz	79.84	313	*i* P	P	12 21 38.7	-1.4
OHAK	Old Harbor	79.84	33	P	P	12 21 39.5	0.0
	baz=267						
I20K	Naaghedeneel	79.86	25	P	P	12 21 39.8	+0.3
I20K				IAmb	IAmb	12 21 50.0	
	comp=Z,31nm,0.8s						
I20K	Naaghedeneel	79.86	25	P	P	12 21 39.7	+0.3
	baz=264						
K20K	Telida	79.91	27	IAmb	IAmb	12 21 49.2	
	comp=Z,46nm,1.5s						
J20K	Nowinta River	79.95	26	P	P	12 21 40.4	+0.4
	baz=265						
C21K	Knifeblade Rid	80.22	21	P	P	12 21 41.3	0.0
	baz=263						
KDAK	Kodiak Island	80.25	33	P	P	12 21 41.1	-0.7
	baz=267						
IMAR	Indian Mountai	80.28	24	P	P	12 21 41.7	0.0
B21K	Ikpikpuk River	80.33	21	IAmb	IAmb	12 21 43.5	
	comp=Z,35nm,1.1s						
B21K	Ikpikpuk River	80.33	21	P	P	12 21 42.4	+0.4
	baz=263						
GURO	Guroymak-BITLI	80.34	308	P	P	12 21 41.8	-1.1
G21K	Allakaket	80.43	24	P	P	12 21 42.9	+0.3
	baz=265						
E21K	Killik River	80.43	22	P	P	12 21 42.9	+0.3
	baz=264						
F21K	Alatna River	80.50	23	P	P	12 21 43.2	+0.3
	baz=265						
VRH	Novokhopyorsk	80.56	321	*e*P	P	12 21 40.8	-2.7
VRH				pmax	pmax		
	comp=Z,35nm,1.0s						
SPCR	Spurr Chakacha	80.62	29	P	P	12 21 43.9	+0.1
	baz=267						
H21K	Melozitna Rive	80.64	25	IAmb	IAmb	12 21 51.9	
	comp=Z,80nm,1.7s						
H21K	Melozitna Rive	80.64	25	P	P	12 21 43.6	-0.2
	baz=266						
SPU	Mount Spurr	80.69	29	P	P	12 21 43.5	-0.7
PPLA	Purkeypile	80.72	27	P	P	12 21 44.7	+0.3
PPLA				IAmb	IAmb	12 22 36.4	
	comp=Z,65nm,1.6s						
PPLA	Purkeypile	80.72	27	P	P	12 21 44.4	0.0
	baz=267						
CHUM	Lake Minchumin	80.73	26	P	P	12 21 44.3	+0.1
	baz=266						
STLK	Strandline Lak	80.82	29	P	P	12 21 44.3	-0.6
B22K	Teshekpuk Lake	80.82	20	P	P	12 21 44.8	+0.2
	baz=264						
D22K	Ayikyak River	80.94	21	P	P	12 21 45.2	-0.1
	baz=265						
I21K	Tanana	80.95	25	P	P	12 21 45.7	+0.3
	baz=266						
SKT	Skwentna	80.98	28	P	P	12 21 44.9	-0.8
SKT	Skwentna	80.98	28	P	P	12 21 45.8	+0.2
	baz=267						
F22K	John River	81.03	23	P	P	12 21 46.4	+0.7
	baz=266						
CAPN	Captain Cook N	81.11	30	P	P	12 21 45.9	-0.4
	baz=268						
E22K	Anaktuvuk Pass	81.21	22	P	P	12 21 47.0	+0.3
E22K				IAmb	IAmb	12 22 01.5	
	comp=Z,50nm,1.2s						
E22K	Anaktuvuk Pass	81.21	22	P	P	12 21 46.4	-0.4
	baz=266,SNR=8.3						
BRLK	Bradley Lake	81.22	31	P	P	12 21 46.9	0.0
BRLK				IAmb	IAmb	12 21 49.3	
	comp=Z,55nm,1.1s						
LABN	Labinsk	81.23	314	*e*P	P	12 21 44.3	-3.0
LABN				pmax	pmax		
	comp=Z,50nm,0.6s						
H22K	Ishtalitna Cre	81.24	24	P	P	12 21 46.5	-0.4
	baz=267						
G22K	Bettles	81.25	23	P	P	12 21 47.3	+0.4
	baz=267						
BRSE	Bradley Lake S	81.29	31	P	P	12 21 47.4	+0.1
	baz=268						
BPAW	Bear Paw Mtn.	81.32	26	P	P	12 21 47.2	-0.2
BPAW	Bear Paw Mtn.	81.32	26	P	P	12 21 47.6	+0.2
	baz=268						
KTH	Kantishna Hill	81.33	27	P	P	12 21 47.7	+0.2
KTH				IAmb	IAmb	12 22 01.6	
	comp=Z,51nm,1.3s						
ERBR	Yeremizino-Bor	81.38	315	*e*P	P	12 21 44.5	-3.6
ERBR				pmax	pmax		
	comp=Z,26nm,0.6s						
MLY	Manley	81.47	25	P	P	12 21 48.1	0.0
MLY				IAmb	IAmb	12 21 58.7	
	comp=Z,32nm,1.2s						
MLY	Manley	81.47	25	P	P	12 21 48.2	0.0
	baz=268						
KOPT	Kop Dagi	81.50	309	P	P	12 21 48.1	-1.1
KOPT				IAmb	IAmb	12 22 05.4	
	comp=Z,60nm,1.3s						
CUT	Chulitna	81.59	28	P	P	12 21 49.3	+0.5
	baz=268						
TRF	Thorofare Moun	81.61	27	P	P	12 21 49.1	0.0
	baz=268						
M22K	Willow	81.64	29	P	P	12 21 48.4	-0.7
M22K	Willow	81.64	29	P	P	12 21 49.1	0.0
	baz=269						
D23K	Nanushuk River	81.67	21	IAmb	IAmb	12 22 04.2	
	comp=Z,51nm,1.2s						
D23K	Nanushuk River	81.67	21	P	P	12 21 49.9	+0.8
	baz=267						
C23K	Itkillik River	81.74	20	IAmb	IAmb	12 21 59.7	
	comp=Z,61nm,1.1s						
C23K	Itkillik River	81.74	20	P	P	12 21 49.9	+0.4
	baz=267						
COLD	Coldfoot	81.78	23	P	P	12 21 49.5	-0.2
COLD				IAmb	IAmb	12 21 53.8	
	comp=Z,23nm,0.9s						
COLD	Coldfoot	81.78	23	P	P	12 21 50.5	+0.7
	baz=268						
O22K	Cooper Landing	81.81	30	P	P	12 21 49.8	-0.2
	baz=269						
RC01	Rabbit Creek A	81.81	29	P	P	12 21 49.6	-0.5
	baz=269						
G23K	Bananza Creek	81.83	24	IAmb	IAmb	12 21 58.3	
	comp=Z,94nm,1.9s						
G23K	Bananza Creek	81.83	24	P	P	12 21 51.0	+1.0
	baz=268						
KLMR	Klimovskoe	81.94	330	*e*P	P	12 21 47.8	-2.8
KLMR				*e*		12 24 55.7	
KLMR				pmax	pmax		
	comp=Z,75nm,1.4s						
SEW	Seward	81.94	30	P	P	12 21 50.7	0.0
	baz=270						
SOC	Sochi	81.97	313	*e*P	P	12 21 48.1	-3.1
SOC				*e*S	S	12 32 02.6	-2.6
SOC				*e*SS	SS	12 37 18.4	-5.5
SOC				*e*SSS	SSS	12 40 51.3	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,2µm,19.0s						
H23K	Yukon River	82.00	24	P	P	12 21 50.9	0.0
H23K	Yukon River	82.00	24	P	P	12 21 50.9	0.0
	baz=269,SNR=10						
E23K	Chandalar	82.03	22	IAmb	IAmb	12 21 55.5	
	comp=Z,27nm,1.0s						
E23K	Chandalar	82.03	22	P	P	12 21 51.3	+0.2
	baz=268						
I23K	Minto, Yukon-K	82.06	25	P	P	12 21 51.3	+0.1
	baz=269						
TOLK	Toolik Lake Re	82.06	22	P	P	12 21 50.8	-0.4
TOLK				IAmb	IAmb	12 22 01.6	
	comp=Z,30nm,1.1s						
TOLK	Toolik Lake Re	82.06	22	P	P	12 21 51.7	+0.5
	baz=268						
VORD	Divnogorie	82.09	320	*e*P	P	12 21 49.2	-2.5
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PMR	Palmer	82.11	29	P	P	12 21 52.0	+0.5
	baz=270						
VORR	Voronezh	82.13	321	*e*P	P	12 21 49.6	-2.3
VORR				pmax	pmax		
	comp=Z,30nm,1.0s						
VSR	Storozhevoye	82.17	321	*e*P	P	12 21 48.1	-4.0
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NEA2	Nenana	82.17	26	P	P	12 21 52.2	+0.3
	baz=269,SNR=17						
MCK	McKinley	82.22	27	P	P	12 21 51.9	-0.3
	baz=270						
LPSR	Galich'ya Gora	82.29	322	*e*P	P	12 21 50.5	-2.2
LPSR				pmax	pmax		
	comp=Z,41nm,1.0s						
D24K	Happy Valley	82.35	21	P	P	12 21 53.2	+0.5
D24K				IAmb	IAmb	12 22 00.6	
	comp=Z,28nm,0.9s						
D24K	Happy Valley	82.35	21	P	P	12 21 53.0	+0.3
	baz=269						
WAT1	Susitna Watana	82.39	28	P	P	12 21 52.8	-0.3
	baz=270						
C24K	Franklin Bluff	82.40	21	P	P	12 21 52.8	-0.2
	baz=269						
KNK	Knik Glacier	82.44	29	P	P	12 21 53.2	-0.1
	baz=270						
E24K	Your Creek	82.45	22	P	P	12 21 53.5	+0.2
	baz=269						
SML	Sawmill	82.49	29	P	P	12 21 53.2	-0.4
SML				IAmb	IAmb	12 22 04.2	
	comp=Z,42nm,0.9s						
SML	Sawmill	82.49	29	P	P	12 21 53.2	-0.4
SML				pmax	pmax		
	comp=Z,42nm,0.9s						
SML	Sawmill	82.49	29	P	P	12 21 54.0	+0.3
	baz=270						
PWL	Port Wells	82.50	30	P	P	12 21 53.6	-0.1
	baz=270						
WRH	Wood River Hil	82.59	26	P	P	12 21 54.6	+0.6
WRH				IAmb	IAmb	12 22 03.8	
	comp=Z,23nm,1.0s						
F24K	Squaw Lake	82.68	23	P	P	12 21 54.5	0.0
	baz=270						
H24K	Noodor Dome	82.68	24	IAmb	IAmb	12 22 09.9	
	comp=Z,22nm,1.0s						
COLA	College	82.70	25	P	P	12 21 54.6	0.0
	baz=270						
WAT6	Susitna Watana	82.77	28	P	P	12 21 55.4	+0.2
	baz=271						
M23K	Glacier View	82.78	29	P	P	12 21 55.5	+0.4
	baz=271						
G24K	Hadweenzic Riv	82.84	24	IAmb	IAmb	12 22 08.3	
	comp=Z,27nm,1.1s						
G24K	Hadweenzic Riv	82.84	24	P	P	12 21 55.8	+0.5
	baz=270						
POKR	Poker Plat Res	82.87	25	P	P	12 21 55.9	+0.4
	baz=271						
DHY	Denali Highway	82.92	27	P	P	12 21 55.6	-0.4
DHY	Denali Highway	82.92	27	P	P	12 21 56.3	+0.3
	baz=271						
SCM	Sheep Creek Mo	82.97	29	P	P	12 21 56.0	-0.2
SCM	Sheep Creek Mo	82.97	29	P	P	12 21 56.0	-0.2
SCM				pmax	pmax		
	comp=Z,224nm,2.0s						
SCM	Sheep Creek Mo	82.97	29	P	P	12 21 55.8	-0.4
	baz=271						
P23K	Montague Islan	82.97	30	P	P	12 21 56.2	+0.1
	baz=271						
MOS	Moscow	82.98	325	*e*P	P	12 21 58.4	+2.2
MOS				*e*		12 25 09.3	
MOS				pmax	pmax		
	comp=Z,35nm,0.6s						
HDA	Harding Lake	83.09	26	P	P	12 21 56.0	-0.7
	baz=271						
GLI	Glacier Island	83.10	29	P	P	12 21 56.2	-0.5
	baz=271						
ILAR	Eielson Array	83.11	26	P	P	12 21 56.1	-0.6
ILAR	Eielson Array	83.11	26	P	P	12 21 55.8	-1.0
	comp=Z,6.6nm,0.9s,baz=256,slow=4.4,SNR=38						
	comp=Z,6.6nm,0.9s						
D25K	Kavik River	83.22	21	IAmb	IAmb	12 22 18.4	
	comp=Z,23nm,1.1s						
D25K	Kavik River	83.22	21	P	P	12 21 57.1	-0.2
	baz=271						
G25K	Bearman Lake	83.38	24	P	P	12 21 58.6	+0.5
	baz=272						
M24K	Tolsona, Glenn	83.51	28	P	P	12 21 59.1	+0.2
	baz=272,SNR=6.8						
H25L	Birch Creek	83.51	24	P	P	12 21 58.8	0.0
	baz=272,SNR=6.3						
F25K	Christian Rive	83.54	23	IAmb	IAmb	12 22 08.8	
	comp=Z,67nm,1.9s						
F25K	Christian Rive	83.54	23	P	P	12 21 59.1	+0.2
	baz=272						
E25K	Arctic Village	83.55	22	P	P	12 21 59.2	+0.2
	baz=272						
ANN	Anapa	83.57	314	*e*P	P	12 21 55.6	-3.8
ANN				pmax	pmax		
	comp=Z,42nm,1.1s						
OBN	Obninsk	83.61	325⇑	*e*P	P	12 21 58.3	-1.1
OBN				*SP	sP	12 22 06.0	+0.5
OBN				*e*PPP	PPP	12 27 09.6	
OBN				PS	PnS	12 33 33.0	+19
OBN				pmax	pmax		
	comp=Z,13nm,0.5s						
OBN				MLR	MLR		
	comp=Z,2µm,18.0s						
K24K	Donnelly Dome	83.62	27	P	P	12 21 59.1	-0.3
	baz=272						
KLU	Klutina	83.65	29	P	P	12 22 00.2	+0.5
KLU				IAmb	IAmb	12 22 36.9	
	comp=Z,29nm,1.1s						
KLU	Klutina	83.65	29	P	P	12 21 59.9	+0.2
	baz=272						
PRP	Porcupine Dome	83.66	25	P	P	12 21 59.6	-0.1
	baz=272						
FYU	Fort Yukon	83.74	24	P	P	12 21 59.5	-0.4
DIV	Divide	83.74	29	P	P	12 22 00.2	+0.1
J25K	Salcha River,	83.77	26	IAmb	IAmb	12 22 13.9	
	comp=Z,15nm,0.9s						
J25K	Salcha River,	83.77	26	P	P	12 21 59.7	-0.5
	baz=273						
EYAK	Cordova Ski Ar	83.78	30	P	P	12 22 00.6	+0.4
	baz=273						
PAX	Paxson	83.80	27	P	P	12 21 59.5	-0.8
PAX	Paxson	83.80	27	P	P	12 21 59.6	-0.8
PAX				pmax	pmax		
	comp=Z,91nm,1.7s						
PAX	Paxson	83.80	27	P	P	12 22 00.0	-0.4
	baz=273						
LVZ	Lovozero	83.91	338	*i* P	P	12 21 58.5	-2.3
LVZ				pmax	pmax		
	comp=Z,18nm,0.9s						
BMAR	Burnt Mountain	83.95	23	P	P	12 22 01.8	+0.7
HARP	HAARP	83.97	28	P	P	12 22 01.3	+0.1
	baz=273						
RIDG	Independent Ri	84.04	27	P	P	12 22 00.7	-0.9
RIDG	Independent Ri	84.04	27	P	P	12 22 01.5	-0.1
	baz=273						
F26K	Sheenjek River	84.10	23	P	P	12 22 02.4	+0.6
	baz=273						
C27K	Jago River	84.15	21	IAmb	IAmb	12 22 27.4	
	comp=Z,39nm,1.2s						
C27K	Jago River	84.15	21	P	P	12 22 02.2	+0.2
	baz=274						
N25K	Chitina, Valde	84.28	29	P	P	12 22 03.3	+0.4
	baz=274						
G26K	Porcupine Rive	84.29	23	IAmb	IAmb	12 22 13.0	
	comp=Z,46nm,1.2s						
G26K	Porcupine Rive	84.29	23	P	P	12 22 03.3	+0.6
	baz=274						
BMRM	Bremner River	84.31	29	P	P	12 22 03.0	0.0
	baz=274						
SCRK	Sand Creek	84.41	26	P	P	12 22 03.0	-0.6
	baz=274						
APA	Apatity	84.41	337 ‖	*i* P	P	12 22 00.9	-2.4
APA				MLR	MLR		
	comp=Z,2µm,19.7s						
KAIM	Kayak Island	84.48	30	P	P	12 22 04.6	+0.8
	baz=274						
J26L	Joseph Creek	84.55	26	IAmb	IAmb	12 22 25.7	
	comp=Z,23nm,1.0s						
J26L	Joseph Creek	84.55	26	P	P	12 22 03.9	-0.3
	baz=274						
I26K	Coal Creek Min	84.67	25	P	P	12 22 05.3	+0.6
	baz=274						
GLB	Gilahina Butte	84.67	29	P	P	12 22 05.2	+0.4
GLB				IAmb	IAmb	12 22 13.8	
	comp=Z,52nm,1.4s						
L26K	Log Cabin Wild	84.76	27	P	P	12 22 05.3	+0.1
	baz=274						
VRDI	Verde Repeater	84.86	29	P	P	12 22 05.9	-0.1
VRDI				IAmb	IAmb	12 22 25.2	
	comp=Z,23nm,1.1s						
M26K	Nabesna, AK	84.97	28	IAmb	IAmb	12 22 15.2	
	comp=Z,56nm,1.5s						
M26K	Nabesna, AK	84.97	28	P	P	12 22 06.5	+0.1
	baz=275						
E27K	Coleen River	85.03	22	IAmb	IAmb	12 22 20.0	
	comp=Z,43nm,1.2s						
E27K	Coleen River	85.03	22	P	P	12 22 06.6	+0.1
	baz=276						
MCARA	McCarthy VSAT	85.05	29	P	P	12 22 07.4	+0.7
	baz=275						
CRQE	Cirque	85.07	30	P	P	12 22 07.9	+1.0
	baz=275						
G27K	Doyon Strip	85.14	23	P	P	12 22 08.1	+1.0
	baz=276						
D27M	Malcolm River	85.14	21	P	P	12 22 07.4	+0.3
	baz=276						
BNN	Bunyan	85.16	308	P	P	12 22 06.6	-1.3
BNN				IAmb	IAmb	12 22 14.8	
	comp=Z,46nm,1.3s						
K27K	Chicken	85.24	26	P	P	12 22 07.9	+0.3
	baz=276						
H27K	Steamboat Moun	85.25	24	P	P	12 22 07.9	+0.2
H27K				IAmb	IAmb	12 22 15.5	
	comp=Z,18nm,0.9s						
H27K	Steamboat Moun	85.25	24	P	P	12 22 07.5	-0.1
	baz=276						
I27K	Kandik River	85.28	25	P	P	12 22 08.1	+0.3
	baz=276						
L27K	Beaver Creek,	85.45	27	P	P	12 22 09.2	+0.5
	baz=276						
BCAR	Beaver Creek A	85.47	27	P	P	12 22 08.1	-0.7
M27K	Edge Creek, AK	85.50	28	P	P	12 22 09.1	0.0
	baz=276						
EGAK	Eagle	85.56	25	P	P	12 22 09.6	+0.5
	baz=276						
MESA	MESA	85.69	30	P	P	12 22 10.1	0.0
	baz=276						
E28M	Babbage River	85.73	21	P	P	12 22 09.9	-0.1
	baz=278						
F28M	Old Crow	85.74	22	P	P	12 22 09.1	-1.0
F28M				IAmb	IAmb	12 22 32.1	
	comp=Z,19nm,0.9s						
F28M	Old Crow	85.74	22	P	P	12 22 10.2	+0.1
	baz=277						
CTG	Chitna Glacier	85.90	29	P	P	12 22 12.0	+0.9

baz=276,SNR=8.4
SIM Simferopol' 85.91 315 *e*P P 12 22 09.9 -1.4
I28M Miner Creek 85.99 25 P P 12 22 11.8 +0.4
baz=277
MAW Mawson 86.01 200 P P 12 22 09.1 -2.1
comp=Z,5.1nm,0.8s,baz=67,slow=5.8,SNR=4.5
comp=Z,5.1nm,0.8s
MMAI Mount Meron Ar 86.03 303 P P 12 22 11.6 -0.7
comp=Z,4.7nm,0.8s,baz=95,slow=9.4,SNR=5.0
comp=Z,4.7nm,0.8s
E29M Blow River 86.36 22 P P 12 22 13.7 +0.6
baz=279
DAWY Dawson 86.41 26 P P 12 22 13.9 +0.4
baz=278
O28M Mount Upton 86.48 29 P P 12 22 13.9 -0.3
baz=278
H29M Whitestone 86.52 24 P P 12 22 13.9 0.0
baz=279
PINM Pinnacle 86.54 30 P P 12 22 14.3 +0.1
baz=278
G29M Pine Creek 86.55 23 IAmb IAmb 12 22 54.4
comp=Z,53nm,1.4s
G29M Pine Creek 86.55 23 P P 12 22 14.6 +0.5
baz=279
YUK8 Steele Glacier 86.62 29 P P 12 22 14.8 0.0
baz=278
VNDA Vanda 86.64 172 P P 12 22 12.8 -1.3
comp=Z,9.3nm,1.2s,baz=307,slow=5.9,SNR=22
VNDA PP **PP** 12 25 36.3 0.0
comp=Z,3.5nm,1.0s,baz=322,slow=7.2,SNR=3.3
comp=Z,9.3nm,1.2s
I29M Ogilvie Camp, 86.68 25 P P 12 22 15.2 +0.5
baz=279
BR104 Keskin Array S 86.78 309 P P 12 22 13.6 -2.3
comp=Z,54nmcomp=Z,4.2nm,0.9s
BR131 Keskin Array S 86.78 309 P P 12 22 13.6 -2.3
BR131 Keskin Array S 86.78 309 *i*P P 12 22 15.5 -0.4
BRTR Keskin Array B 86.78 309 P P 12 22 13.6 -2.4
BRTR Keskin Array B 86.78 309 P P 12 22 13.7 -2.2
comp=Z,1.4nm,0.7s,baz=100,slow=5.5,SNR=7.1
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 86.78 309 *i*P P 12 22 16.7 +0.8
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BR106 Keskin Array S 86.80 309 P P 12 22 14.3 -1.7
J29N Klondike Camp 86.86 26 P P 12 22 15.2 -0.5
baz=279
ARCES ARCESS Array B 87.02 340 P P 12 22 14.2 -2.1
ARCES ARCESS Array B 87.02 340 P P 12 22 14.0 -2.3
comp=Z,4.5nm,0.9s,baz=46,slow=8.7,SNR=8.5
comp=Z,4.5nm,0.9s
ARCES ARCESS Array B 87.02 340 P P 12 22 14.2 -2.1
ARCES pmax pmax
comp=Z,12nm,1.1s
PNL Peninsula 87.03 30 P P 12 22 16.2 -0.3
baz=278
M29M Somme Creek 87.06 28 P P 12 22 16.5 -0.2
M29M Somme Creek 87.06 28 P P 12 22 17.4 +0.6
baz=279
L29M L29M 87.11 27 P P 12 22 17.3 +0.4
baz=279
YUK4 Talbot Arm 87.15 29 P P 12 22 17.6 +0.3
baz=279
EPYK Eagle Plains 87.15 24 P P 12 22 17.1 0.0
baz=280
G30M tAoh Zraii Nji 87.24 23 P P 12 22 17.7 +0.3
baz=281
K29M Barlow Dome 87.26 26 P P 12 22 17.5 -0.2
baz=280
F30M Barrier River 87.28 22 P P 12 22 18.4 +0.8
baz=281
O29M Mount Kennedy 87.34 30 P P 12 22 18.4 +0.2
baz=279
YUK6 Outpost Mounta 87.34 29 P P 12 22 18.4 +0.1
baz=279
I30M Mount Dempster 87.50 25 P P 12 22 18.5 -0.4
baz=281
SBA Scott Base 87.56 172 P P 12 22 18.3 -0.3
J30M Hart River 87.64 25 P P 12 22 19.7 +0.2
baz=281
HYT Haines Junctio 87.78 29 P P 12 22 20.4 +0.1
baz=280
M30M Minto, Yukon 87.80 27 P P 12 22 20.5 +0.3
baz=280
P29M Windy Craggy 87.86 30 P P 12 22 20.4 -0.2
baz=280
N30M Aishikik Lake 87.87 28 P P 12 22 20.8 +0.2
baz=280
KMBO Kilima Mbogo 87.91 269 P P 12 22 20.6 -1.4
comp=Z,3.6nm,0.4s,baz=67,slow=5.8,SNR=9.9
comp=Z,3.6nm,0.4s
INK Inuvik 87.97 21 P P 12 22 21.4 +0.6
baz=283
G31M Satah River 88.00 23 P P 12 22 21.3 +0.3
baz=282
MAYO Mayo, Yukon 88.02 26 P P 12 22 20.9 -0.2
baz=281
F31M Tsiigehtchic 88.09 22 P P 12 22 21.7 +0.3
baz=283
P30M Million Dollar 88.17 30 P P 12 22 22.1 +0.1
baz=280
H31M Peel River 88.22 24 P P 12 22 21.9 -0.2
baz=282
FINES FINESS Array B 88.36 332 P P 12 22 21.0 -1.8
comp=Z,5.3nm,0.8s,baz=101,slow=3.9,SNR=6.2
comp=Z,5.3nm,0.8s
FINES FINESS Array B 88.36 332 *i*P P 12 22 21.7 -1.1
FINES pmax pmax
comp=Z,8.0nm,0.9s
AK08 Malin Array Si 88.46 321 P P 12 22 20.7 -2.8
O30N Mendenhall 88.47 29 P P 12 22 22.9 -0.6
baz=281
AK10 Malin Array Si 88.47 321 P P 12 22 20.7 -2.9
AKASG Malin Array Be 88.47 321 P P 12 22 20.9 -2.6
AKASG Malin Array Be 88.47 321 P P 12 22 20.8 -2.8
comp=Z,6.2nm,0.9s,baz=72,slow=4.3,SNR=14
comp=Z,6.2nm,0.9s
AKASG Malin Array Be 88.47 321 P P 12 22 21.0 -2.6
AKASG pmax pmax
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 88.47 321 *i*P P 12 22 21.0 -2.6
AKBB pmax pmax
comp=Z,11nm,1.0s
AKBB Malin Array Si 88.47 321 P P 12 22 20.9 -2.6
N31M Braeburn, Yuko 88.48 28 P P 12 22 23.6 +0.1
baz=281
AK01 Malin Array Si 88.48 321 P P 12 22 21.0 -2.6
KIEV Kiev 88.48 321 P P 12 22 20.9 -2.7
KIEV Kiev 88.48 321 P P 12 22 20.9 -2.7
KIEV pmax pmax
comp=Z,10.0nm,1.0s
AK02 Malin Array Si 88.49 321 P P 12 22 20.9 -2.8
AK06 Malin Array Si 88.51 321 P P 12 22 21.0 -2.7
M31M Drury Creek, Y 88.97 27 P P 12 22 25.5 -0.2
baz=282
WHY Whitehorse 89.08 29 P P 12 22 26.4 0.0
baz=282
SKAG Skagway 89.10 30 P P 12 22 26.5 +0.2
baz=282
SIT Sitka 89.59 33 P P 12 22 28.5 -0.1
baz=282
A36M Sachs Harbour 89.60 17 P P 12 22 29.3 +0.9
baz=291
R32K Eaglecrest 89.76 31 P P 12 22 30.1 +0.6
baz=282
N32M Quiet Lake 89.82 28 P P 12 22 30.1 +0.3
baz=284
P33M Teslin, Yukon 90.17 29 P P 12 22 31.0 -0.5
baz=284
Q32M Nakina River 90.75 30 P P 12 22 34.8 +0.5
baz=284
U33K Whale Pass 90.99 33 P P 12 22 35.0 -0.2
baz=284
CRAG Craig 91.14 34 P P 12 22 35.8 -0.1
baz=284
R33M Jennings River 91.28 30 P P 12 22 36.6 -0.1
baz=286
WRAK Wrangell Islan 91.34 33 P P 12 22 36.2 -0.6
baz=284
MLR Muntele Rosu 91.54 316 P P 12 22 37.7 -0.5
comp=Z,3.3nm,0.7s,baz=134,slow=1.7,SNR=5.1
comp=Z,3.3nm,0.7s
BUR08 Bucovina Ar. S 91.62 318 P P 12 22 36.5 -2.0
TGTN Hyland Airport 91.95 27 P P 12 22 39.1 -0.6
baz=288
V35K Ketchikan 92.01 34 P P 12 22 40.0 0.0
baz=285
DLBC Dease Lake 92.02 31 P P 12 22 40.0 -0.1
baz=286
T35M Bob Quinn 92.31 32 P P 12 22 39.9 -1.5
baz=286
U35K Hyder 92.72 33 P P 12 22 43.0 -0.2
baz=286
LIRD Liard River Hi 93.65 29 P P 12 22 46.8 -0.7
baz=290
TOAD Toad River Com 94.27 29 P P 12 22 50.4 0.0
baz=290
KOTAN Kotaneelee Air 94.37 28 P P 12 22 50.5 -0.3
baz=292
HFS Hagfors 94.55 332 P P 12 22 49.7 -1.9
comp=Z,2.4nm,0.9s,baz=69,slow=7.9,SNR=2.7
comp=Z,2.4nm,0.9s
SYO Syowa Base 94.63 201⇓*es*P sP 12 22 58.0 +0.3
NOA NORSAR Array B 95.32 333 P P 12 22 53.3 -1.9
comp=Z,1.5nm,0.8s,baz=92,slow=10,SNR=2.8
comp=Z,1.5nm,0.8s
QSPA South Pole Qui 96.66 180 P P 12 23 01.9 +0.7
QSPA IAmb IAmb 12 23 30.7
comp=Z,18nm,1.4s
QSPA South Pole Qui 96.66 180 P P 12 23 00.5 -0.7
comp=Z,4.2nm,1.0s,baz=316,slow=2.8,SNR=6.8
comp=Z,4.2nm,1.0s
BRG Berggiesshubel 97.80 323 *e*P P 12 23 05.7 -0.8
BRG Amp 12 23 07.3
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 97.80 323 P Pdif 12 23 11.4 +4.8
BRG Amp 12 23 12.5
comp=Z,8.1nm,1.1s
CLL Collm 98.19 324 *e*P P 12 23 07.0 -1.3
CLL Collm 98.19 324 *e*Pdif P 12 23 07.0 -1.3
CLL *ex* x 12 23 16.0
comp=Z,70nm,2.4s
GERES GERESS Array B 98.66 322 P P 12 23 09.1 -1.5
comp=Z,0.3nm,0.3s,baz=22,slow=4.3,SNR=4.4
comp=Z,0.3nm,0.3s
TROLL Troll, Antarti 106.09 196 ⇑P **Pdif** 12 23 42.1 -1.0
comp=Z,36nm,0.6s
NVAR Mina Array Bea 106.12 47 Pdiff **Pdif** 12 23 43.4 -0.8
comp=Z,0.8nm,0.8s,baz=272,slow=4.8,SNR=5.0
NVAR PP **PP** 12 28 08.9 +1.2
comp=Z,0.9nm,0.9s,baz=269,slow=4.4,SNR=3.6
ESDC Sonseca Array 114.06 319 PP **PP** 12 29 06.5 +1.8
comp=Z,2.6nm,1.2s,baz=69,slow=8.1,SNR=5.5
TORD Torodi Ar. Bea 120.33 289 PKP **PKPdf** 12 28 20.2 -3.3
comp=Z,1.1nm,0.7s,baz=39,slow=2.2,SNR=6.9
TXAR Lajitas Array 121.03 50 PKP **PKPdf** 12 28 21.4 -3.3
comp=Z,1.4nm,0.9s,baz=318,slow=3.5,SNR=5.7
CCM Cathedral Cave 124.07 34 **PKPdf** 12 28 29.0 -1.1
CCM Cathedral Cave 124.07 34 PKIKP **PKPdf** 12 28 29.0 -1.1
WVT Waverly 127.35 34 **PKPdf** 12 28 35.6 -0.8
WVT Waverly 127.35 34 PKIKP **PKPdf** 12 28 35.6 -0.8
PLCA Paso Flores 143.43 160 PKP PKPbc 12 29 04.3 +1.0
comp=Z,5.0nm,0.9s,baz=200,slow=4.7,SNR=9.6
SIUN Universidad Ur 144.10 55 PKPbc 12 29 05.8 -0.1
TRQA Tornquist 148.22 169 **PKPdf** 12 29 14.5 +0.1
TRQA Tornquist 148.22 169 PKP2 **PKPdf** 12 29 14.5 +0.1
BO02 Sierra Bellavi 148.54 155 **PKPdf** 12 29 14.8 -0.3
BO01 Tunca 148.75 154 **PKPbc** 12 29 18.0 -1.2
PEL Peldehue 149.98 153 **PKPbc** 12 29 21.1 -1.2
PEL Peldehue 149.98 153 PKP2 **PKPbc** 12 29 21.1 -1.2
SDV Santo Domingo 157.97 45 **PKPdf** 12 29 27.4 -2.0
CPUP Villa Florida 160.42 174 PKP **PKPdf** 12 29 29.9 -1.8
comp=Z,1.0nm,0.8s,baz=259,slow=2.1,SNR=4.7
CPUP PKPab **PKPab** 12 30 11.5 -0.8
comp=Z,1.1nm,0.7s,baz=47,slow=7.0,SNR=3.6
LPAZ La Paz 164.03 127 PKP **PKPdf** 12 29 34.6 -1.7
comp=Z,8.9nm,1.0s,baz=315,slow=2.9,SNR=20
LPAZ PKPab **PKPab** 12 30 28.1 -1.2
comp=Z,5.2nm,1.0s,baz=239,slow=5.9,SNR=4.0
LPAZ La Paz 164.03 127 *e*P **PKPdf** 12 29 32.8 -3.5
BOAV Boa Vista 169.35 31 **PKPdf** 12 29 37.7 -2.0

*IDC **16** 12:17:27.5±0.9, 6°.61N×126°.09E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=24.3km s-min=9.0km az=46.0*

ISC 16 12:17:28.9±0.9, 6°.6N±0°.1×125°.8E±0°.2, h10km, n10, σ0°.71/10, mb4.0/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.53**	**330**		Pg		**Pb**	**12 17 40.5**	**+0.2**
	1μm,0.3s,baz=250,slow=2.4,SNR=24								
DAV					Lg		Lg	12 17 50.7	
	656nm,0.3s,baz=12,slow=23,SNR=25								
FITZ	**Fitzroy Crossi**	**24.55**	**180**	P			**P**	**12 22 48.6**	**-0.3**
	2.5nm,0.6s,baz=3.6,slow=9.3,SNR=1.7								
	2.5nm,0.6s								
WRA	**Warramunga Arr**	**27.67**	**163**	P			**P**	**12 23 18.6**	**+1.4**
	1.6nm,1.1s,baz=330,slow=11,SNR=5.0								
	1.6nm,1.1s								
ASAR	**Alice Springs**	**31.10**	**166**	P			**P**	**12 23 47.2**	**-0.4**
	0.5nm,0.5s,baz=341,slow=7.0,SNR=5.0								
	0.5nm,0.5s								
MJAR	**Matsushiro Arr**	**31.87**	**19**	P			**P**	**12 23 54.9**	**+0.6**
	1.3nm,0.6s,baz=186,slow=11,SNR=3.0								
	1.3nm,0.6s								
USRK	**Ussuriysk Ar.**	**37.83**	**7**	P			**P**	**12 24 45.6**	**-0.1**
	5.5nm,0.9s,baz=190,slow=7.7,SNR=4.2								
	5.5nm,0.9s								
PETK	**Petropavlovsk-**	**53.14**	**23**	P			**P**	**12 26 46.0**	**-0.7**
	3.8nm,1.1s,baz=195,slow=4.6,SNR=3.6								
	3.8nm,1.1s								
MKAR	**Makanchi Array**	**54.71**	**325**	P			**P**	**12 26 58.9**	**+0.5**
	0.8nm,0.9s,baz=123,slow=5.3,SNR=2.5								
	0.8nm,0.9s								
KURBB	**Kurchatov Arra**	**58.86**	**327**	P			**P**	**12 27 27.2**	**-0.6**
	0.8nm,0.7s,baz=129,slow=5.8,SNR=7.0								
	0.8nm,0.7s								
ILAR	**Eielson Array**	**82.91**	**26**	P			**P**	**12 29 53.5**	**-0.1**
	0.4nm,1.0s,baz=252,slow=4.9,SNR=7.2								
	0.4nm,1.0s								

*IDC **16** 12:18:20.8±0.9, 6°.71N×124°.92E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=18.1km s-min=10.2km az=147.0*

*NEIC **16** 12:18:22.9±0.5, 6°.8N±0°.1×124°.97E±0°.04, h10km±2km, mb4.4/6, Error ellipse: s-maj=18.6km s-min=5.2km az=342.0*

ISC 16 12:18:22.8±0.7, 6°.78N±0°.08×124°.98E±0°.08, h13km, n22, σ0°.65/22, mb4.1/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.66**	**64**		Pg		**Pg**	**12 18 35.9**	**+0.2**
DAV	**Davao City (W)**	**0.66**	**64**		Pg		**Pg**	**12 18 35.1**	**-0.6**
	3μm,0.3s,baz=259,slow=7.9,SNR=27								
DAV					Lg		Lg	12 18 45.9	
	2μm,0.3s,baz=10,slow=23,SNR=7.5								
MYLDM	**Lahad Datu**	**6.64**	**257**		Pn		**Pn**	**12 20 00.1**	**0.0**
LUWI	**Luwuk**	**8.07**	**196**		Pn		**Pn**	**12 20 20.3**	**+0.5**
FAKI	**Fak Fak**	**12.06**	**143**		Pn		**Pn**	**12 21 14.6**	**+0.1**
SBUM	**Sibu**	**13.43**	**252**		Pn		**Pn**	**12 21 32.9**	**-0.3**
MTN	**Manton Dam**	**20.43**	**163**		P		**P**	**12 22 59.6**	**-0.3**
MTN					IAmb		IAmb	12 23 05.8	
	comp=Z,7.2nm,0.6s								
KNRA	**Kununurra**	**22.62**	**170**		P		**P**	**12 23 23.6**	**0.0**
KNRA					IAmb		IAmb	12 23 37.2	
	comp=Z,14nm,0.8s								
FITZ	**Fitzroy Crossi**	**24.72**	**179**		P		**P**	**12 23 44.0**	**0.0**
FITZ	**Fitzroy Crossi**	**24.72**	**179**		P		**P**	**12 23 44.2**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=6.5,slow=8.4,SNR=8.5								
	comp=Z,5.8nm,0.6s								
COEN	**Coen**	**27.39**	**139**		P		**P**	**12 24 09.4**	**+1.2**
COEN					IAmb		IAmb	12 24 18.2	
	comp=Z,7.8nm,0.8s								
WRAB	**Tennant Creek**	**28.10**	**161**		P		**P**	**12 24 13.0**	**-1.5**
WRAB					IAmb		IAmb	12 24 26.1	
	comp=Z,2.3nm,0.7s								
WRA	**Warramunga Arr**	**28.10**	**161**		P		**P**	**12 24 13.6**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=332,slow=11,SNR=6.0								
	comp=Z,3.2nm,0.9s								
ASAR	**Alice Springs**	**31.49**	**164**		P		**P**	**12 24 43.2**	**-1.3**
ASAR	**Alice Springs**	**31.49**	**164**		P		**P**	**12 24 44.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=353,slow=8.1,SNR=7.7								
	comp=Z,1.1nm,0.7s								
BBOO	**Buckleboo**	**40.75**	**166**		P		**P**	**12 26 03.6**	**-0.1**
SONM	**Songino Array**	**43.88**	**342**		P		**P**	**12 26 28.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=150,slow=12,SNR=2.4								
	comp=Z,0.3nm,0.4s								
PETK	**Petropavlovsk-**	**53.33**	**24**		P		**P**	**12 27 42.0**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=234,slow=8.0,SNR=3.6								
	comp=Z,11nm,1.1s								
MKAR	**Makanchi Array**	**54.08**	**325**		P		**P**	**12 27 47.1**	**-0.1**
MKAR	**Makanchi Array**	**54.08**	**325**		P		**P**	**12 27 48.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=124,slow=8.2,SNR=6.0								
	comp=Z,1.2nm,0.7s								
KURBB	**Kurchatov Arra**	**58.25**	**327**		P		**P**	**12 28 17.3**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=123,slow=6.4,SNR=5.5								
	comp=Z,0.9nm,0.7s								
ILAR	**Eielson Array**	**83.12**	**26**		P		**P**	**12 30 48.0**	**-0.1**
	0.4nm,0.8s,baz=241,slow=6.4,SNR=6.5								
	comp=Z,0.4nm,0.8s								

*IDC **16** 12:20:56.7±0.6, 6°.93N×126°.33E, h0km, mb3.9/17, mbtmp4.0/17, ML5.0/1, Error ellipse: s-maj=13.1km s-min=9.2km az=22.0*

*BJI **16** 12:21:00.5, 6°.72N×125°.54E, h14km, mb4.6/25, Ms5.5/3, Ms7 5.4/3*

*NEIC **16** 12:21:01.1±1.3, 6°.66N±0°.06×125°.27E±0°.07, h10km±1km, mb4.9/36, Error ellipse: s-maj=14.2km s-min=7.4km az=125.0*

*DJA **16** 12:21:01.0±0.3, 7°N±2°×12°5E±°, h10km, M5.0/25, mb4.9/25, MLv5.1/10*

ISC 16 12:21:00.5±0.4, 6°.65N±0°.05×125°.24E±0°.07, h10km, n88, σ1°.67/78, mb4.7/42, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**39**				**Pg**	**12 21 11.1**	**+0.1**
DAV	**Davao City (W)**	**0.54**	**39**		Pg		**Pb**	**12 21 11.9**	**-0.1**
	2μm,0.3s,baz=265,slow=7.6,SNR=20								
DAV					Lg		Lg	12 21 22.3	
	2μm,0.3s,baz=84,slow=20,SNR=9.1								
DAV	**Davao City (W)**	**0.54**	**39**		P		Pn	12 21 24.0	+10
SGSI	**Sangihe**	**2.96**	**174**		P		**Pn**	**12 21 50.4**	**+2.9**
SGSI					S		**Sb**	**12 22 27.8**	**-1.8**
KMSI	**Cibinong**	**6.16**	**192**		P		**Pn**	**12 22 33.5**	**+1.9**
TNTI	**Ternate**	**6.21**	**160**				**Pn**	**12 22 32.4**	**+0.1**
TNTI	**Ternate**	**6.21**	**160**		P		**Pn**	**12 22 34.6**	**+2.3**
	0.3nm74nm,0.8s								
MYLDM	**Lahad Datu**	**6.86**	**258**		Pn		**Pn**	**12 22 41.6**	**+0.4**
MRSI	**Marisa**	**6.96**	**208**		P		**Pn**	**12 22 44.0**	**+1.4**
	0.7nm185nm,0.9s								
TOLI2	**Tolitoli**	**7.07**	**219**		Pn		**Pn**	**12 22 41.7**	**-2.4**
LUWI	**Luwuk**	**8.03**	**198**		P		**Pn**	**12 23 00.7**	**+3.5**
	164nm,0.7s								
APSI	**Ampana**	**8.32**	**206**		P		**Pn**	**12 23 02.7**	**+1.4**
	102nm,0.9s								
SANI	**Sanana**	**8.67**	**175**		P		**Pn**	**12 23 06.9**	**+0.8**
	73nm,0.8s								
NLAI	**Namlea**	**10.00**	**169**		P		**Pn**	**12 23 27.2**	**+2.9**
	89nm,0.8s								
FAKI	**Fak Fak**	**11.80**	**143**				**Pn**	**12 23 48.2**	**-0.9**
FAKI	**Fak Fak**	**11.80**	**143**		P		**Pn**	**12 23 53.0**	**+3.9**
	39nm,1.2s								
BNSI	**Bone**	**12.11**	**205**		P		**Pn**	**12 23 55.6**	**+2.3**
	33nm,0.8s								
SBUM	**Sibu**	**13.63**	**253**		Pn		**Pn**	**12 24 12.9**	**-1.1**
EDFI	**Ende, Flores**	**15.70**	**193**		P		**Pn**	**12 24 43.6**	**+1.6**
KSM	**Kuching**	**15.75**	**252**		Pn		**Pn**	**12 24 42.0**	**-0.6**
BATI	**Baumata**	**16.82**	**185**		P		**P**	**12 24 59.8**	**+1.3**
	5.1nm,0.3s,baz=296,slow=2.8,SNR=7.5								
BATI	**Baumata**	**16.82**	**185**		P		**P**	**12 24 58.2**	**-0.2**
	60nm,1.1s								
PLAI	**Plampang**	**17.08**	**206**		P		**P**	**12 25 00.8**	**-0.5**
	44nm,1.1s								
MTN	**Manton Dam**	**20.23**	**163**				**P**	**12 25 36.2**	**+0.2**
LEM	**Lembang**	**22.10**	**233**		P		P	12 26 04.1	+7.8
	24nm,0.7s,baz=88,slow=18,SNR=3.6								
	24nm,0.7s								
KNRA	**Kununurra**	**22.45**	**171**		P		**P**	**12 25 59.7**	**-0.2**
KNRA					IAmb		IAmb	12 26 09.0	
	comp=Z,43nm,1.0s								
IPM	**Ipoh**	**24.19**	**266**				**P**	**12 26 18.7**	**+1.2**
IPM					IAmb		IAmb	12 26 26.0	
	comp=Z,32nm,1.5s								
FITZ	**Fitzroy Crossi**	**24.59**	**179**		P		**P**	**12 26 19.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.59**	**179**		P		**P**	**12 26 20.4**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=327,slow=5.0,SNR=9.3								
	comp=Z,6.2nm,0.6s								
BKNI	**Bangkinang**	**24.95**	**256**		P		P	12 26 42.2	+18
NJ2	**Nanjing**	**25.97**	**348**	*e*P			**P**	**12 26 34.4**	**+1.1**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
COEN	**Coen**	**27.13**	**139**		P		**P**	**12 26 44.5**	**+0.5**
COEN					IAmb		IAmb	12 26 53.7	
	comp=Z,26nm,0.9s								
WB0	**Warramunga Arr**	**27.75**	**161**		P		**P**	**12 26 49.0**	**-0.6**
WB0					IAmb		IAmb	12 27 06.5	
	comp=Z,13nm,0.8s								
WRA	**Warramunga Arr**	**27.90**	**161**		P		**P**	**12 26 49.2**	**-1.7**
WRA	**Warramunga Arr**	**27.90**	**161**		P		**P**	**12 26 48.0**	**-2.9**
	comp=Z,2.1nm,0.8s,baz=328,slow=11,SNR=9.4								
	comp=Z,2.1nm,0.8s								
WR8	**Warramunga Arr**	**27.96**	**161**				**P**	**12 26 51.4**	**0.0**
WR8					IAmb		IAmb	12 27 08.3	
	comp=Z,16nm,1.1s								
CMAR	**Chiang Mai Arr**	**28.17**	**297**		P		P	12 26 58.2	+4.8
	comp=Z,0.9nm,0.7s,baz=114,slow=6.2,SNR=8.5								
	comp=Z,0.9nm,0.7s								
PSA00	**Pilbara Seismi**	**28.54**	**191**		P		**P**	**12 26 56.0**	**-0.6**
PSA00					IAmb		IAmb	12 27 00.8	
	comp=Z,19nm,1.1s								
PZH	**PanZhiHua**	**29.84**	**314**		P		P	12 27 13.4	+5.1
KSRS	**Korea Array**	**30.76**	**4**		P		**P**	**12 27 12.4**	**-3.6**
	comp=Z,0.3nm,0.6s,baz=181,slow=10,SNR=7.2								
	comp=Z,0.3nm,0.6s								
AS31	**Alice Springs**	**31.30**	**165**				**P**	**12 27 21.1**	**+0.1**
ASAR	**Alice Springs**	**31.30**	**165**		P		**P**	**12 27 20.6**	**-0.4**
ASAR	**Alice Springs**	**31.30**	**165**		P		**P**	**12 27 19.6**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=349,slow=8.0,SNR=15								
	comp=Z,1.3nm,0.6s								
MJAR	**Matsushiro Arr**	**32.03**	**20**		P		P	12 27 20.3	-7.1
	comp=Z,0.4nm,0.5s,baz=194,slow=8.6,SNR=2.2								
	comp=Z,0.4nm,0.5s								
HNS	**HongShan**	**32.08**	**344**	⇓P			**P**	**12 27 30.4**	**+2.7**
HNS					pmax		pmax		
	comp=Z,7.0nm,1.0s								
LZH	**Lanzhou**	**35.25**	**329**	*e*P			**P**	**12 27 58.9**	**+3.3**
LZH					sP		sP	12 28 05.4	+5.5
LZH					pmax		pmax		
	comp=Z,17nm,1.3s								
HHC	**Hu-ho-hao-te**	**36.18**	**342**	*e*P			**P**	**12 28 04.0**	**+0.6**
HHC					pmax		pmax		
	comp=Z,20nm,0.5s								
BTO	**Baotou**	**36.45**	**340**	*e*P			**P**	**12 28 09.4**	**+3.7**
BTO					pmax		pmax		
	comp=Z,15nm,0.6s								
MORW	**Morawa**	**36.60**	**194**		P		**P**	**12 28 08.3**	**+1.4**
MORW					IAmb		IAmb	12 29 21.7	
	comp=Z,35nm,1.6s								
SHL	**Shillong**	**36.98**	**304**		P		**P**	**12 28 12.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**37.87**	**8**		P		P	12 28 11.7	-5.9
	comp=Z,0.5nm,0.5s,baz=206,slow=8.1,SNR=5.0								
	comp=Z,0.5nm,0.5s								
NWAO	**Narrogin (SRO)**	**40.09**	**190**		P		**P**	**12 28 36.3**	**0.0**
NWAO					IAmb		IAmb	12 29 18.7	
	comp=Z,46nm,1.4s								
STKA	**Stephens Creek**	**41.37**	**159**		P		**P**	**12 28 48.1**	**+1.2**
STKA	**Stephens Creek**	**41.37**	**159**		P		**P**	**12 28 43.8**	**-3.1**
	comp=Z,3.2nm,0.8s,baz=335,slow=9.2,SNR=6.5								
	comp=Z,3.2nm,0.8s								
EVN	**Everest**	**42.09**	**305**				**P**	**12 28 54.9**	**+1.2**
HEH	**HeiHe**	**43.50**	**2**	*e*P			**P**	**12 29 03.0**	**-1.0**
HEH					pmax		pmax		
	comp=Z,5.0nm,1.0s								
SONM	**Songino Array**	**44.08**	**342**		P		**P**	**12 29 06.4**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=145,slow=5.4,SNR=3.6								
	comp=Z,0.3nm,0.3s								
WMQ	**Urumqi**	**49.50**	**325**	*e*P			**P**	**12 29 50.3**	**-1.0**
WMQ					pmax		pmax		
	comp=Z,84nm,0.9s								
PETK	**Petropavlovsk-**	**53.34**	**24**		P		**P**	**12 30 21.4**	**+1.6**
PETK	**Petropavlovsk-**	**53.34**	**24**		P		P	12 30 11.9	-7.9
	comp=Z,7.4nm,1.0s,baz=268,slow=10,SNR=2.9								
	comp=Z,7.4nm,1.0s								
PET	**

	comp=Z,6.0nm,1.0s						
ZALV	Zalesovo Beam	57.33	333	P	P	12 30 47.9	-0.7
	comp=Z,0.4nm,0.3s,baz=99,slow=8.9,SNR=1.3						
	comp=Z,0.4nm,0.3s						
KURBB	Kurchatov Arra	58.50	327	P	P	12 30 56.0	-0.9
	comp=Z,1.5nm,0.7s,baz=125,slow=6.1,SNR=10						
	comp=Z,1.5nm,0.7s						
KURK	Kurchatov	58.50	327	P	P	12 30 57.0	+0.1
GAR	Garm	58.87	312		P	12 31 00.0	+0.1
GAR				IAmb	IAmb	12 31 09.8	
	comp=Z,13nm,0.9s						
KK31	Karatay Array	60.10	316	P	P	12 31 07.8	-0.4
KK31				IAmb	IAmb	12 31 19.6	
	comp=Z,12nm,1.5s						
KKAR	Karatay Array	60.10	316	P	P	12 31 06.3	-1.9
THZ	Tophouse	64.90	142	P	P	12 31 39.3	-1.0
CASY	Casey	73.53	186	P	P	12 32 33.2	0.0
CASY				IAmb	IAmb	12 34 04.0	
	comp=Z,18nm,1.9s						
L16K	Owhat River	77.21	28	P	P	12 32 53.4	-1.1
J18K	Innoko River	78.75	27	P	P	12 33 04.8	+1.8
J18K				IAmb	IAmb	12 34 43.6	
	comp=Z,25nm,1.6s						
KDAK	Kodiak Island	80.24	33	P	P	12 33 11.2	-0.1
SKT	Skwentna	80.99	28	P	P	12 33 16.0	+0.8
SKT				IAmb	IAmb	12 34 54.2	
	comp=Z,23nm,1.6s						
CNPM	China Poot	81.02	31	P	P	12 33 17.1	+1.6
BPAW	Bear Paw Mtn.	81.34	26	P	P	12 33 16.8	-0.3
GHO	Glory Hole Cre	82.22	29	P	P	12 33 22.2	+0.4
ILAR	Eielson Array	83.12	26	P	P	12 33 21.2	-5.2
	comp=Z,0.2nm,0.8s,baz=243,slow=4.3,SNR=8.5						
	comp=Z,0.2nm,0.8s						
J26L	Joseph Creek	84.57	26	IAmb	IAmb	12 33 39.8	
	comp=Z,5.1nm,1.0s						
I26K	Coal Creek Min	84.68	25	IAmb	IAmb	12 33 40.4	
	comp=Z,18nm,1.2s						
I28M	Miner Creek	86.01	25	P	P	12 33 41.2	+0.1
I28M				IAmb	IAmb	12 33 48.8	
	comp=Z,9.4nm,1.0s						
VNDA	Vanda	86.49	173	P	P	12 33 42.7	-0.4
VNDA				IAmb	IAmb	12 36 31.6	
	comp=Z,15nm,1.9s						
VNDA	Vanda	86.49	173	P	P	12 33 41.4	-1.6
	comp=Z,0.6nm,0.6s,baz=305,slow=5.9,SNR=4.9						
	comp=Z,0.6nm,0.6s						
SBA	Scott Base	87.41	172	P	P	12 33 45.0	-2.5
SBA				IAmb	IAmb	12 35 23.6	
	comp=Z,9.2nm,1.0s						
AKASG	Malin Array Be	88.71	321	P	P	12 33 54.8	+0.5
	comp=Z,0.2nm,0.3s,baz=81,slow=2.9,SNR=1.1						
	comp=Z,0.2nm,0.3s						

CATAC 16 12:24:23.3±0.6, 12°N±3°×87°W±°, h9km±3km, M3.0/13, MLv3.0/13, 1C, Error ellipse: s-maj=7.6km s-min=3.7km az=27.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.80	68	P	Pg	12 24 38.8	0.0
COPN	Copaltepe	0.80	68	*i* P	Pg	12 24 38.7	0.0
PKGN	Cerro Pekin	0.87	25	P	Pb	12 24 40.5	-0.1
CNGA	AI SSO del Vol	0.89	46	P	Pg	12 24 40.4	0.0
CNGA				S	Sb	12 24 52.6	-0.2
CNGN	Cerro Negro	0.89	46	S	Sb	12 24 53.9	+0.9
CNGN	Cerro Negro	0.89	46	P	Pg	12 24 40.1	-0.4
MOM2	El Cardon	1.02	56	P	Pg	12 24 42.0	-0.9
MOM2				S	Sb	12 24 56.7	+0.2
MOM3	MOM3	1.03	52	P	Pg	12 24 42.1	-1.1
MOM3				S	Sb	12 24 56.8	-0.2
APQ3	Volcan Apoyequ	1.04	67	P	Pb	12 24 43.4	-0.1
APQ3				S	Sb	12 24 57.1	-0.1
APYN	Apoyeque	1.04	70	P	Pg	12 24 43.3	-0.1
APYN				S	Sb	12 24 57.4	+0.1
UNAN	Cigeo UNAN	1.08	77	P	Pg	12 24 44.0	-0.1
UNAN				S	Sb	12 24 58.8	+0.3
CSGN	Cosiguina Volc	1.12	350	P	Pg	12 24 43.8	-1.0
CSGN				S	Sb	12 24 59.4	-0.1
CSGN	Cosiguina Volc	1.12	350	*e*P	Pg	12 24 43.8	-1.0
WILN	Americas 2	1.17	76	P	Pb	12 24 44.9	-0.8
WILN				S	Sg	12 25 01.2	+0.1
NANN	Nandasmo	1.21	87	P	Pb	12 24 46.1	-0.2
NANN	Nandasmo	1.21	87	S	Sn	12 25 03.2	+0.3
LCND	La Caada	1.52	340	P	Pn	12 24 49.7	-1.0
PACA	Pacayal	1.85	329	S	Sn	12 25 19.5	+0.6
PACA	Pacayal	1.85	329	P	Pn	12 24 55.6	+0.3
RCVN	Varillal2	2.04	33	P	Pn	12 24 57.3	-0.7
YUSH	Yuscaran	2.13	13	P	Pn	12 24 59.0	-0.1
TGUH	Tegucigalpa,Un	2.17	2	S	Sn	12 25 27.7	+0.8

UCR 16 12:24:35.0±0.7, 9°40N×83°91W, h4km±2km, MW3.8, 5C-16D, Fault plane solution: NP1:φ=99.59000°, δ43.96000°, λ60.48000°, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.20	292	*e*P	Pg	12 24 39.9	+0.9
LLNJ				*e*S	Sg	12 24 43.6	+2.0
PIEC	Cerro El Cedra	0.23	349	*e*P	Pg	12 24 40.5	+0.9
ZEDO	Perez Zeledon	0.23	100	*i* P	Pg	12 24 40.5	+1.0
ZEDO				*e*S	Sg	12 24 44.5	+1.9
QUEP	Quepos	0.25	278	*i* P	Pg	12 24 40.4	+0.5
QUEP				*e*S	Sg	12 24 44.4	+1.2
SVQ2	Quepos	0.25	278	*e*P	Pg	12 24 40.4	+0.5
SVQ2				*e*S	Sg	12 24 44.4	+1.2
PITB	Pirrs, San	0.28	337	*e*P	Pg	12 24 41.2	+0.6
PICV	PH. Pirrs	0.36	309	*e*P	Pg	12 24 42.8	+0.8
PICV				*e*S	Sb	12 24 48.7	-1.4
PAR1A	Puntarenas Pro	0.39	300	*e*P	Pb	12 24 43.6	-0.9
EDPE	Pejibaye, P	0.41	125	*e*P	Pg	12 24 43.8	+0.8
REPA	Paraso	0.43	6	*e*P	Pg	12 24 44.0	+0.7
PCAYA	Pacayas	0.53	11	*e*P	Pg	12 24 46.0	+0.8
CORON	Coronado	0.58	351	*e*P	Pb	12 24 47.2	-0.7
VICA	Volcano Irazu	0.59	6	*e*P	Pg	12 24 47.0	+0.6
BURE	Buenos Aires	0.61	111	*e*P	Pg	12 24 47.3	+0.6
CVTQ	Turrialba Volc	0.62	13	*i* P	Pb	12 24 47.9	-0.8
CVIMO	Finca Echandi	0.62	357	*e*P	Pb	12 24 47.9	-0.8
CVTV	Tajo	0.62	15	*i* P	Pb	12 24 48.1	-0.6
VTR0	Volcan Turrial	0.63	14	*i* P	Pb	12 24 48.2	-0.7
ABRB	Las Abras (San	0.64	18	*e*P	Pb	12 24 48.2	-0.6
CVTR	Volcan Turrial	0.64	14	*i* P	Pg	12 24 48.1	+0.8
RESJ	San Isidro (Tu	0.68	23	*i* P	Pb	12 24 48.9	-0.6
LCOCO	El Coco	0.77	27	*i* P	Pg	12 24 50.3	+0.5
RVLA	Villa Bonita	0.78	24	*e*P	Pg	12 24 50.2	+0.3
EDP2	Potrero Grande	0.82	117	*e*P	Pg	12 24 51.3	+0.5
PILE	Guapiles	0.82	8	*e*P	Pb	12 24 51.7	-0.2
VERH	Veragua Rainfo	0.89	53	*e*P	Pg	12 24 52.2	+0.2
LAES	El Progreso Va	0.93	67	*e*P	Pg	12 24 53.0	+0.2
TRT2	Tortugero	1.17	9	*e*P	Pg	12 24 56.6	-0.8
SOCE	Pocosol	1.20	325	*e*P	Pg	12 24 57.4	-0.6
JCR1	Jicaral	1.27	291	*e*P	Pg	12 24 58.0	-1.3
DMCAL	E. de Neily	1.32	123	*e*P	Pn	12 24 58.9	-1.4
ARE1	Arenal 1	1.32	323	*e*P	Pn	12 24 59.5	-0.8
VARE2	V. Arenal	1.32	323	*e*P	Pn	12 24 59.6	-0.8
CEDE	Laguna Cedeo	1.33	324	*e*P	Pn	12 24 60.0	-0.5
BRU2	Volcan	1.35	116	*e*P	Pn	12 24 59.5	-1.2
JTS	Las Juntas de	1.36	311	*e*P	Pn	12 24 60.0	-0.8
NYURE	Nandayure	1.45	294	*e*P	Pn	12 25 01.1	-0.9
BANCO	falda S V. Bar	1.52	116	*e*P	Pn	12 25 02.1	-1.0
JEFFS	S de V. Baru	1.54	118	*e*P	Pn	12 25 02.5	-0.9
BQTLY	Boquete Panama	1.57	114	*e*P	Pn	12 25 02.7	-1.1
WILLF	Boquete	1.59	114	*e*P	Pn	12 25 03.1	-1.0
CUI	Cuipilapa	1.76	316	*e*P	Pn	12 25 06.9	+0.6
PBNVO	Pueblo Nuevo,	1.77	106	*e*P	Pn	12 25 05.8	-0.6
JUD3	Juan Diaz 3	1.78	296	*e*P	Pn	12 25 06.3	-0.3
RBALA	Bur	1.81	106	*e*P	Pn	12 25 06.2	-0.8
VMAR	Armenia, Volca	1.84	320	*e*P	Pn	12 25 07.6	+0.2
KKNTU	Kakint2	2.15	105	*e*P	Pn	12 25 11.3	-0.3

*IDC **16** 12:34:25.7±1.2, 7°27N×126°38E, h0km, mb3.7/5, mbtmp3.7/5, MS4.2/1, Error ellipse: s-maj=21.0km s-min=11.7km az=177.0*

*DJA **16** 12:35:06.3±1.8, 4°N±18°×12°6E±°, h11km±5km, M3.8/6, mb4.2/3, MLv3.6/6*

ISC 16 12:34:26.9±1.5, 7°1N±0°1×126°3E±0°2, h10km, n11, σ1s97/10, mb3.7/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.75	268	Pg	Pb	12 34 42.0	-0.1
	1μm,0.3s,baz=256,slow=4.2,SNR=64						
DAV				Lg	Lg	12 34 52.5	
	536nm,0.3s,baz=131,slow=23,SNR=8.2						
SGSI	Sangihe	3.48	193	P	Pn	12 35 18.6	-2.6
SGSI				S	Pb	12 35 28.6	-0.1
MRSI	Marisa	7.90	214	P	Pn	12 36 11.4	-11
LUWI	Luwuk	8.83	204	P	Pn	12 36 36.3	+1.6
	76nm,1.0s						
SANI	Sanana	9.09	182	P	Pn	12 36 36.2	-2.1
KAPI	Kappang	13.71	209	LR	LR	12 44 17.6	
	comp=Z,926nm,18.5s,baz=28,slow=43						
FITZ	Fitzroy Crossi	25.04	182	P	P	12 39 51.9	+0.4
	1.6nm,0.5s,baz=357,slow=7.3,SNR=12						
	1.6nm,0.5s						
WRA	Warramunga Arr	28.00	164	P	P	12 40 21.1	+2.9
	0.3nm,0.5s,baz=344,slow=10,SNR=8.0						
	0.3nm,0.5s						
ASAR	Alice Springs	31.46	167	P	P	12 40 50.6	+1.8
	0.3nm,0.5s,baz=343,slow=7.3,SNR=7.2						
	0.3nm,0.5s						
MKAR	Makanchi Array	54.60	324	P	P	12 43 55.7	0.0
	0.5nm,0.7s,baz=108,slow=7.9,SNR=5.1						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	58.72	326	P	P	12 44 23.5	-1.4
	0.4nm,0.4s,baz=123,slow=5.6,SNR=4.9						
	0.4nm,0.4s						

IDC 16 12:36:42.5±1.3, 6°45N×125°32E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=42.8km s-min=9.2km az=106.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.67	23	Pg	Pg	12 36 54.9	-0.5
	1μm,0.3s,baz=267,slow=6.3,SNR=17						
DAV				Lg	Lg	12 37 05.0	
	659nm,0.3s,baz=336,slow=23,SNR=17						
FITZ	Fitzroy Crossi	24.39	179	P	P	12 42 02.8	+0.1
	1.6nm,0.5s,baz=3.0,slow=9.4,SNR=2.7						
	1.6nm,0.5s						
WRA	Warramunga Arr	27.69	161	P	P	12 42 32.1	-0.4
	0.3nm,0.4s,baz=335,slow=10,SNR=4.7						
	0.3nm,0.4s						
ASAR	Alice Springs	31.09	165	P	P	12 43 03.1	+0.4
	0.2nm,0.3s,baz=346,slow=7.1,SNR=4.2						
	0.2nm,0.3s						
MKAR	Makanchi Array	54.53	325	P	P	12 46 12.9	+0.5
	0.1nm,0.4s,baz=121,slow=6.4,SNR=1.8						
	0.1nm,0.4s						

*BGSI **16** 12:57:53.8±1.4, 24°58S×24°54E, h55km±52km, ML2.3, Explosion*

PRE 16 12:57:46.8±0.9, 24°48S×24°56E, h0km, ML1.9, Suspected explosion, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKOMA	Sekoma	0.58	267	*i* P	Pn	12 58 05.6	+3.2
SKOMA				IAML		12 58 23.6	
	comp=N,71nm,0.1s						
LBTB	Lobatse	1.08	120	*e*P	Pg	12 58 07.5	0.0
LBTB				*e*S	Sg	12 58 22.2	+0.7
LBTB				IAML		12 58 31.4	
	comp=Z,28nm,0.4s						
KDWAN	Kaudwane	1.10	5	*i* P	Pn	12 58 13.6	+4.0
KDWAN				*i* S	Sn	12 58 27.5	+2.0
KDWAN				IAML		12 58 34.2	
	comp=E,192nm,0.1s						
MAKGR	Makgori	1.34	171	*i* P	Pn	12 58 13.3	+0.4
MAKGR				*i* S	Sg	12 58 29.7	-0.3
MAKGR				IAML		12 58 38.9	
	comp=N,136nm,0.2s						
LPHEP	Lephephe	1.63	47	*i* P	Pg	12 58 21.2	+3.2
LPHEP				*i* S	Sg	12 58 39.7	+0.6
LPHEP				IAML		12 58 44.0	
	comp=E,15nm,0.2s						
LEPH	Lephalale, Lim	3.02	79	*e*P	Pn	12 58 36.5	+0.5
LEPH				*e*S	Sn	12 59 12.9	0.0
LEPH				IAML		12 59 29.9	
	comp=Z,5.4nm,0.4s						
HRAO	HartRAO	3.16	117	*e*P	Pn	12 58 39.1	+1.2
HRAO				*e*S	Sn	12 59 16.9	+0.5
HRAO				IAML		12 59 38.5	
	comp=Z,7.9nm,0.2s						
PRYS	Parys	3.50	135	*e*P	Pn	12 58 44.4	+1.7
PRYS				*e*S	Sn	12 59 25.7	+0.7
PRYS				IAML		12 59 42.0	
	comp=Z,4.3nm,0.2s						
BOSA	Boshof	4.16	172	*e*P	Pn	12 58 52.0	+0.3
BOSA				*e*S	Sn	12 59 40.2	-0.9
BOSA				IAML		13 00 06.6	
	comp=Z,3.7nm,0.2s						

*NEIC **16** 13:09:13.3±1.7, 36°630N±0°008×121°30W±0°01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=215.0*

NCEDC 16 13:09:13.5±1.6, 36°643N±0°010×121°27W±0°01, h10km±2km, ML3.3/71, ML3.0/98(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	Mount Johnson	0.04	249		Pg	13 09 15.7	+0.2
BJOM					Sg	13 09 17.1	+0.2
SCZ	Santa Cruz	0.12	248		Pg	13 09 16.3	-0.2
SCZ					Sg	13 09 18.2	-0.3
BJCM	Johnson Can.	0.14	227		Pg	13 09 16.6	-0.1
SAO	San Andreas Ge	0.19	310		Pg	13 09 17.7	+0.1
BBGB	Big Mountain B	0.19	109		Pb	13 09 18.5	-0.7
BSRM	Salinas Radio	0.20	277		Pg	13 09 17.8	0.0
FRP	Fremont Peak	0.21	302		Pg	13 09 17.8	-0.2
BSGM	Shirttail Gulc	0.23	177		Pg	13 09 18.0	-0.3
BSMM	Soledad Missio	0.29	207		Pg	13 09 19.4	-0.1
LRV	Little Rabbit	0.30	137		Pg	13 09 19.8	+0.3
HTUM	Tustin Road	0.35	301		Pg	13 09 20.4	-0.1
HFEM	San Felipe	0.36	342		Pb	13 09 21.3	-0.6
BMSM	Mercy Hot Spri	0.38	88		Pb	13 09 21.9	-0.5
HERM	Elkhorn Road	0.39	294		Pg	13 09 21.3	+0.1
BCWM	Chews Ridge	0.41	216		Pg	13 09 21.6	-0.1
FORD	Fort Ord Natur	0.42	276		Pg	13 09 21.8	+0.1
FORD				IAML		13 09 30.4	
	comp=N,2μm,0.6s						
HPCM	Pacheco Lake	0.42	359		Pb	13 09 22.4	-0.6
CDC	Canada Road	0.42	335		Pb	13 09 22.6	-0.4
HCBM	Chamberlain	0.43	312		Pg	13 09 21.8	-0.2
SLD	San Luis Dam	0.43	5		Pb	13 09 22.8	-0.5
LRC	Lone Oak Road	0.43	155		Pg	13 09 21.9	-0.1
BPRM	Ponciano Ridge	0.44	238		Pg	13 09 22.0	-0.2
GHS	Gilroy Hot Spr	0.47	342		Pg	13 09 23.4	+0.6
HLPM	Lions Peak	0.49	324		Pg	13 09 23.4	+0.2
HMOM	Monterey	0.53	266		Pg	13 09 23.6	-0.2
JELB	Ellicott, Sant	0.53	302		Pg	13 09 23.8	-0.1
PCCM	Crazy Canyon	0.56	171		Pg	13 09 24.4	+0.1
SCKWR	San Luis Creek	0.56	16		Pb	13 09 25.6	+0.2
JPLM	Pleasant Valle	0.56	306		Pb	13 09 26.0	+0.6
PMPB	Monarch Peak	0.57	138		Pg	13 09 24.4	-0.1
CADM	Anderson Res.	0.59	331		Pg	13 09 25.3	+0.2
HULI	Fort Hunter Li	0.62	178		Pg	13 09 25.4	-0.2
HULI	Fort Hunter Li	0.62	178	IAML		13 09 36.3	
	comp=N,1μm,0.5s						
HULI				IAML		13 09 43.0	
	comp=E,1μm,0.6s						
JLAB	Laurel Hill	0.63	324		Pg	13 09 25.9	+0.1
PSAM	San Ardo	0.69	154		Pg	13 09 26.6	-0.2
PPTM	Peach Tree Val	0.69	140		Pg	13 09 26.6	-0.3
CCOB	Coe Ranch Numb	0.70	332		Pb	13 09 27.8	0.0
ARN	Arnold Ranch	0.74	343		Pb	13 09 28.1	-0.3
MHC	Mount Hamilton	0.76	337		Pg	13 09 28.4	+0.2
PSMM	Smith Mountain	0.79	136		Pg	13 09 28.6	-0.1
JJOM	Saint Joseph's	0.80	315		Pg	13 09 28.2	-0.8
SCCB	Santa Clara Co	0.80	324		Pg	13 09 29.1	0.0
CMMM	Mount Mocho	0.83	347		Pg	13 09 29.7	+0.1
PHPM	Hope Ranch	0.85	141		Pg	13 09 29.2	-0.6
JBNB	Ben Lomond Mou	0.86	304		Pg	13 09 29.0	-1.1
MTOS	Mt Oso, Westle	0.86	357		Pb	13 09 30.6	0.0
CMLM	Mount Lewis	0.89	340		Pg	13 09 30.6	-0.1
PKD	Bear Valley Ra	0.91	140		Pg	13 09 30.4	-0.6
PKD				IAML		13 09 45.5	
	comp=E,809nm,0.5s						
CALM	Calaveras Res.	0.91	332		Pg	13 09 30.6	-0.5
PVCM	Vineyard Canyo	0.93	140		Pg	13 09 30.8	-0.6
PPO	Portuguese Can	0.94	146		Pg	13 09 31.3	-0.2
PSTM	Stockdale Moun	0.94	139		Pg	13 09 30.9	-0.8
JSJM	St Joseph	0.95	317		Pg	13 09 31.1	-0.8
WSRE	Westside REC,	0.97	108		Pb	13 09 32.6	+0.2
JBMM	Black Mountain	0.98	314		Pg	13 09 31.2	-1.2
AVNL	Avenal, CA USA	1.00	128		Pg	13 09 32.5	-0.4
CSTL	Corral Hollow	1.01	350		Pg	13 09 32.8	-0.2
CSTL	Corral Hollow	1.01	350		Pb	13 09 33.3	+0.2
JFP	Foothills Park	1.03	314		Pg	13 09 31.9	-1.4
JPSM		1.03	303		Pg	13 09 31.8	-1.5
PHFM	Heflinger Ranc	1.03	137		Pg	13 09 32.5	-0.9
CTM	Castle Mountai	1.03	133		Pg	13 09 33.5	0.0
JSFB	Stanford Teles	1.05	316		Pg	13 09 32.3	-1.4
RAMR	Ramage Ranch	1.05	162		Pg	13 09 32.5	-1.3
LEGD	La Grand CA	1.06	57		Pb	13 09 32.9	-1.0
LCUV	Le Cuvier	1.08	156		Pb	13 09 32.6	-1.7
CVLM	Vallecito	1.08	335		Pb	13 09 33.2	-1.1
JRSC	Jasper Ridge	1.09	315		Pb	13 09 32.5	-1.8
JRSC				IAML		13 09 52.2	
	comp=N,488nm,0.5s						
CNIC	Niles Canyon	1.11	330		Pb	13 09 33.5	-1.3
PCBM	Cambria	1.13	171		Pb	13 09 33.5	-1.7
PKLM	Kerr Lake	1.15	139		Pb	13 09 34.1	-1.3
TCAS	Cass Winery, P	1.18	151		Pb	13 09 34.0	-1.9
TCHL	Shandon	1.18	143		Pb	13 09 34.7	-1.3
PMRM	Maxey Ranch	1.20	135		Pb	13 09 35.0	-1.3
MHDM	Hidden Dam	1.20	66		Pb	13 09 34.7	-1.6
CBSNC	Byron Hot Spri	1.21	346		Pn	13 09 35.6	-0.9
PAGB	Antelope Grade	1.23	138		Pn	13 09 35.3	-1.4
CMOB	Morgan Territo	1.24	340		Pg	13 09 38.7	+1.3
JCHM	Cahill Ridge	1.25	315		Pn	13 09 34.9	-2.1
CLCB	Lake Chabot	1.27	330		Pn	13 09 35.5	-1.7
JCPM	Coyote Point	1.27	319		Pn	13 09 35.1	-2.1
CSLM	San Leandro Hi	1.28	328		Pn	13 09 35.4	-1.9
TSCN	Private Proper	1.32	146		Pn	13 09 37.7	-0.3
PTAM	Tassajara Cree	1.33	160		Pg	13 09 38.8	-0.2
JSBM	San Bruno Moun	1.37	319		Pn	13 09 36.3	-2.4
LSDC	Los Osos Digit	1.39	166		Pg	13 09 40.2	+0.1
KARE	Kearney REC, C	1.42	91		Pn	13 09 38.6	-0.7
BKS	Berkeley--Byer	1.45	328		Pn	13 09 38.1	-1.7
BRIB	Briones	1.46	331		Pn	13 09 38.6	-1.3
DCD	Diablo Creek	1.47	166		Pn	13 09 38.0	-2.0
JPRM	Presidio of Sa	1.50	320		Pn	13 09 38.0	-2.4
CPIM	Pinole Ridge	1.54	331		Pn	13 09 39.9	-1.2
CSPM	San Pablo Ridg	1.55	328		Pn	13 09 40.4	-0.8
CMB	Columbia Colle	1.56	27		Pn	13 09 40.7	-0.6
CMB				IAML		13 10 04.0	
	comp=N,215nm,0.3s						
CMB				IAML		13 10 04.2	
	comp=E,215nm,0.9s						
CPMM	Point Molate	1.59	325		Pn	13 09 39.5	-2.2
SMMC	Simmler	1.68	142		Pn	13 09 41.5	-1.5
KCC	Kaiser Creek	1.70	66		Pb	13 09 44.5	-0.4
FARB	Farallon Islan	1.74	308		Pn	13 09 41.6	-2.1
CARC	Carrizo Plain	1.76	139		Pn	13 09 43.0	-1.1
WELL	Weller Preserv	1.84	13		Pn	13 09 44.6	-0.6
WELL				IAML		13 10 17.7	
	comp=E,96nm,0.3s						
VES	Vestal, Richgr	1.94	114		Pn	13 09 45.4	-1.0
VES				IAML		13 10 15.3	
	comp=E,129nm,0.6s						
VES				IAML		13 10 16.6	
	comp=N,160nm,0.5s						
CVS	Carmenet Viney	1.95	331		Pn	13 09 44.8	-1.8
MCCM	Marconi Confer	1.98	320		Pn	13 09 44.5	-2.5
MCCM				IAML		13 10 17.7	
	comp=N,86nm,0.6s						
MCCM				IAML		13 10 23.8	
	comp=E,94nm,0.4s						
MDPB	Devils Postpil	2.01	60		Pn	13 09 48.1	+0.5
MINS	Minaret Summit	2.03	60		Pn	13 09 48.7	+0.6
MMPM	Mammoth Pass	2.03	61		Pb	13 09 49.5	-1.2
SPG2	Springville 2	2.06	102		Pn	13 09 48.1	-0.2
MDYM	Dry Creek	2.07	60		Pn	13 09 49.6	+1.0
NTYM	Taylor	2.07	328		Pn	13 09 46.7	-1.5
MDCM	Deadman Creek	2.07	58		Pn	13 09 49.5	+0.9
MMLB	Mammoth Lakes	2.09	60		Pn	13 09 50.0	+1.2
MLCM	Laurel Creek C	2.11	62		Pn	13 09 50.4	+1.2
MEMM	East Mammoth H	2.12	61		Pb	13 09 50.8	-1.4
MCSM	Casa Diablo Ho	2.14	61		Pb	13 09 51.3	-1.2
MCBM	Casa Benchmark	2.14	61		Pn	13 09 51.0	+1.5
MLAC	Mammoth, Mammo	2.18	62		Pb	13 09 51.6	-1.5
MDRNC	Doe Ridge	2.18	62		Pb	13 09 51.7	-1.5
MLHM	Little Hot Cre	2.21	61		Pb	13 09 52.5	-1.2
BCW	Bitter Crk WRg	2.27	138		Pn	13 09 51.6	+0.4
MTUM	Tungsten Hills	2.28	71		Pn	13 09 52.6	+1.3
NJQ	Nojoqui County	2.28	157		Pn	13 09 50.5	-0.7
WAKR	Walker	2.36	37		Pn	13 09 53.0	+0.6
WAKR				IAML		13 10 29.7	
	comp=N,116nm,0.5s						
ISA	Isabella, Lake	2.46	113	

IDC 16 13:19:43.7±2.3, 6°.08S×129°.93E, h0km, mb3.7/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=98.8km s-min=28.7km az=76.0, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.65 199**	Pn	Pn	13 22 47.0	+1.9
	0.2nm, 0.3s, baz=24, slow=12, SNR=5.6					
FITZ			Sn	Sn	13 24 54.3	-13
	0.2nm, 0.3s, baz=265, slow=21, SNR=1.6					
	2.3nm, 1.0s					
WRA	**Warramunga Arr**	**14.43 163**	Pn	Pn	13 23 08.5	-0.9
	0.4nm, 0.3s, baz=339, slow=13, SNR=32					
WRA			Sn	Sn	13 25 34.0	-16
	0.4nm, 0.3s, baz=339, slow=22, SNR=7.9					
	1.0nm, 1.0s					
ASAR	**Alice Springs**	**17.90 168**	P	Pn	13 23 53.4	-0.9
	0.3nm, 0.3s, baz=348, slow=11, SNR=26					
ASAR			S	Sn	13 27 04.0	-11
	0.1nm, 0.5s, baz=349, slow=11, SNR=5.0					
	1.3nm, 0.6s					
MKAR	**Makanchi Array**	**67.42 327**	P	P	13 30 41.2	0.0
	0.4nm, 0.5s, baz=124, slow=7.3, SNR=4.8					
	0.4nm, 0.5s					

*IDC **16** 13:20:20.4±7.4, 15°.28S×175°.58W, h0km, mb4.5/4, mbtmp4.5/4, Error ellipse: s-maj=194.0km s-min=40.4km az=24.0*
*NEIC **16** 13:21:38.8±0.7, 17°.3S±0°.1×178°.8W±0°.1, h549km±10km, mb4.3/17, Error ellipse: s-maj=23.0km s-min=17.3km az=138.0*

ISC 16 13:21:37.5±0.8, 17°.4S±0°.1×178°.8W±0°.1, h539km, n28, σ1§04/27, mb4.3/13, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.04 262**	P	**P**	**13 22 54.1**	**+2.2**
FUTU	**Fugatoga**	**3.10 12**	P	**P**	**13 22 54.3**	**+2.0**
AFI	**Afiamalu**	**7.57 64**	P	**P**	**13 23 31.5**	**+0.8**
FUNA	**Funafuti**	**9.00 347**	P	**P**	**13 23 43.8**	**-1.3**
MARNC	**Mare, Loyalty**	**13.10 250**	P	**P**	**13 24 26.4**	**-1.0**
EIDS	**Eidsvold**	**29.12 249**	P	**P**	**13 26 55.2**	**+0.1**
EIDS			IAmb	IAmb	13 26 56.8	
	comp=Z,18nm,1.5s					
ARMA	**Armidale**	**29.91 239**	P	**P**	**13 27 02.6**	**+0.7**
CAN	**Canberra**	**33.76 232**	P	**P**	**13 27 34.9**	**+0.3**
CAN			IAmb	IAmb	13 27 57.4	
	comp=Z,24nm,1.5s					
COEN	**Coen**	**36.74 270**	P	**P**	**13 27 59.8**	**+0.2**
COEN			IAmb	IAmb	13 28 37.4	
	comp=Z,6.1nm,1.0s					
TOO	**Toolangi**	**37.24 230**	P	**P**	**13 28 04.3**	**+0.8**
TOO			IAmb	IAmb	13 28 06.2	
	comp=Z,2.6nm,0.7s					
STKA	**Stephens Creek**	**38.58 240**	P	**P**	**13 28 15.8**	**+1.3**
	comp=Z,3.4nm,0.4s,baz=95,slow=11,SNR=10					
	comp=Z,3.4nm,0.4s					
WB0	**Warramunga Arr**	**44.34 259**	P	**P**	**13 28 59.1**	**-1.1**
WB0			IAmb	IAmb	13 29 44.1	
	comp=Z,14nm,1.5s					
WRA	**Warramunga Arr**	**44.38 259**	P	**P**	**13 28 59.7**	**-0.8**
WRA	**Warramunga Arr**	**44.38 259**	P	**P**	**13 29 00.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=91,slow=7.2,SNR=27					
	comp=Z,1.2nm,0.3s					
AS31	**Alice Springs**	**44.60 254**	P	**P**	**13 29 02.1**	**0.0**
AS31			IAmb	IAmb	13 29 03.1	
	comp=Z,3.8nm,0.7s					
ASAR	**Alice Springs**	**44.60 254**	P	**P**	**13 29 02.0**	**-0.1**
ASAR	**Alice Springs**	**44.60 254**	P	**P**	**13 29 02.5**	**+0.4**
	comp=Z,12nm,0.5s,baz=88,slow=8.1,SNR=166					
	comp=Z,12nm,0.5s					
KNRA	**Kununurra**	**50.19 264**		**P**	**13 29 44.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.77 260**		**P**	**13 30 03.3**	**+0.6**
PSA00	**Pilbara Seismi**	**57.70 255**	P	**P**	**13 30 37.1**	**0.0**
PSA00			IAmb	IAmb	13 30 46.6	
	comp=Z,6.6nm,1.1s					
MORW	**Morawa**	**60.37 246**	P	**P**	**13 30 54.9**	**0.0**
MORW			IAmb	IAmb	13 30 55.5	
	comp=Z,40nm,1.5s					
VNDA	**Vanda**	**60.96 185**	P	**P**	**13 30 55.3**	**-2.6**
CASY	**Casey**	**66.48 205**	P	**P**	**13 31 34.3**	**+1.0**
JMM	**Marumori**	**66.79 326**	P	**P**	**13 31 35.5**	**-0.1**
JMM			IAmb	IAmb	13 31 36.9	
	comp=Z,14nm,0.8s					
YOJ	**Yonaguni jima**	**70.34 305**	P	**P**	**13 31 56.9**	**-0.4**
YULB	**Yu-li**	**71.17 303**	P	**P**	**13 32 01.8**	**-0.5**
QSPA	**South Pole Qui**	**72.69 180**	P	P	13 32 02.3	-8.2
	comp=Z,0.9nm,0.4s,baz=184,slow=1.1,SNR=15					
	comp=Z,0.9nm,0.4s					
JPRM	**Presidio of Sa**	**76.19 43**	P	**P**	**13 32 30.4**	**-0.1**

*IDC **16** 13:22:01.5±2.4, 31°.46S×178°.09W, h86km±16km, mb4.1/3, mbtmp4.4/5, Error ellipse: s-maj=48.7km s-min=13.1km az=109.0*

ISC 16 13:22:01.0±2.1, 31°.5S±0°.1×177°.9W±0°.3, h100km, n13, σ0§93/9, mb4.4/3, Kermadec Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.26 358**	P	**Pn**	**13 22 37.5**	**+0.4**
	674nm, 0.2s, baz=86, slow=9.6, SNR=18					
RAO			S	**Sn**	**13 23 03.2**	**-1.3**
	1μm, 0.4s, baz=94, slow=20, SNR=6.0					
URZ	**Urewera**	**7.89 210**	P	**Pn**	**13 23 53.0**	**0.0**
	10nm, 0.8s, baz=266, slow=4.6, SNR=23					
URZ			S	**Sn**	**13 25 19.6**	**-1.1**
	7.9nm, 0.3s, baz=118, slow=20, SNR=12					
STKA	**Stephens Creek**	**34.37 259**	P	**P**	**13 28 39.5**	**+1.1**
	1.4nm, 0.4s, baz=113, slow=15, SNR=4.0					
	1.4nm, 0.4s					
ASAR	**Alice Springs**	**43.19 268**	P	**P**	**13 29 52.1**	**-0.1**
	2.0nm, 0.3s, baz=108, slow=7.4, SNR=12					
	2.0nm, 0.3s					
WRA	**Warramunga Arr**	**44.28 273**	P	**P**	**13 30 00.7**	**-0.3**
	3.5nm, 0.3s, baz=111, slow=8.1, SNR=35					
	3.5nm, 0.3s					
H03S2	**Juan Fernandez**	**79.74 123**	T	T	15 03 29.3	
	baz=237					
H03S1	**Juan Fernandez**	**79.75 123**	T	T	15 03 27.9	
	baz=237					
H03S3	**Juan Fernandez**	**79.76 123**	T	T	15 03 27.2	
	baz=237					
H03N3	**Juan Fernandez**	**79.94 123**	T	T	15 03 17.5	
	baz=241, slow=74					
H03N2	**Juan Fernandez**	**79.94 123**	T	T	15 03 27.2	
	baz=241					
H03N1	**Juan Fernandez**	**79.96 123**	T	T	15 03 20.9	
	baz=241, slow=74					
FINES	**FINESS Array B**	**146.24 339**	PKPbc	**PKPab**	**13 41 30.7**	**+0.6**
	0.7nm, 0.3s, baz=46, slow=5.5, SNR=6.8					
AKASG	**Malin Array Be**	**152.26 322**	PKP	**PKPdf**	**13 41 37.2**	**-0.6**
	0.7nm, 0.4s, baz=337, slow=0.2, SNR=2.5					

*IDC **16** 13:24:45.4±0.7, 6°.61N×124°.98E, h0km, mb4.1/13, mbtmp4.1/14, ML5.0/1, MS3.7/1, Error ellipse: s-maj=16.4km s-min=12.9km az=97.0*
*NEIC **16** 13:24:46.2±0.8, 6°.70N±0°.08×125°.01E±0°.06, h10km±1km, mb4.6/12, Error ellipse: s-maj=14.9km s-min=7.7km az=323.0*
*DJA **16** 13:24:48.9±0.4, 7°N±3°×12°5E±°, h10km, M4.8/10, mb4.9/10, mB5.3/6, MLv4.8/9, Mw(mB)4.7/6*

ISC 16 13:24:46.6±0.5, 6.76N±0°.06×125°.03E±0°.07, h13km, n47, σ1§66/45, mb4.2/20, Mindanao

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.62 61**		**Pb**	**13 24 59.3**	**-0.2**
DAV	**Davao City (W)**	**0.62 61**	Pg	**Pb**	**13 24 59.7**	**+0.2**
	3μm, 0.3s, baz=255, slow=1.5, SNR=96					
DAV	**Davao City (W)**	**0.62 61**	P	**Pg**	**13 24 58.0**	**-0.9**
SGSI	**Sangihe**	**3.10 171**	P	**Pn**	**13 25 38.1**	**+2.9**
SGSI			S	**Sn**	**13 26 15.3**	**+3.2**
KMSI	**Cibinong**	**6.23 190**	P	**Pn**	**13 26 21.7**	**+3.3**
	1.0nm, 295nm, 1.1s					
TNTI	**Ternate**	**6.39 159**		**Pn**	**13 26 19.6**	**-0.9**
TNTI	**Ternate**	**6.39 159**	P	**Pn**	**13 26 22.8**	**+2.2**
MYLDM	**Lahad Datu**	**6.68 257**	Pn	**Pn**	**13 26 24.3**	**-0.3**
MRSI	**Marisa**	**6.96 206**	P	**Pn**	**13 26 30.6**	**+2.2**
	0.4nm, 76nm, 0.5s					
TOLI2	**Tolitoli**	**7.03 217**		**Pn**	**13 26 29.2**	**-0.2**
LUWI	**Luwuk**	**8.07 196**	Pn	**Pn**	**13 26 43.4**	**-0.3**
LUWI	**Luwuk**	**8.07 196**	P	Pn	13 26 48.9	+5.2
	2μm, 74nm, 0.6s					
SANI	**Sanana**	**8.80 174**	P	**Pn**	**13 26 54.7**	**+1.0**
	29nm, 0.7s					
I39PW	**PALAU INFRASON**	**9.47 85**	I	I	14 24 48.8	
	baz=268, slow=311, SNR=2.5					
FAKI	**Fak Fak**	**12.02 143**	Pn	**Pn**	**13 27 36.8**	**-1.0**
BATI	**Baumata**	**16.91 185**	Pn	**Pn**	**13 28 41.9**	**-1.3**
	5.7nm, 0.3s, baz=349, slow=5.2, SNR=5.6					
	14nm, 0.7s					
NACB	**Ninganchiao**	**17.62 350**	Pn	**Pn**	**13 28 49.7**	**-2.4**
FITZ	**Fitzroy Crossi**	**24.71 179**	P	**P**	**13 30 04.0**	**-3.7**
	5.0nm, 0.5s, baz=75, slow=8.3, SNR=23					
PMG	**Port Moresby**	**27.28 126**	P	**P**	**13 30 30.8**	**-0.3**
	12nm, 0.8s, baz=298, slow=12, SNR=2.0					
	12nm, 0.8s					
COEN	**Coen**	**27.35 139**		**P**	**13 30 29.9**	**-1.8**
COEN			IAmb	IAmb	13 30 38.2	
	comp=Z,8.2nm,0.9s					
WB0	**Warramunga Arr**	**27.93 161**	P	**P**	**13 30 35.9**	**-0.9**
WB0			IAmb	IAmb	13 31 00.8	
	comp=Z,5.7nm,0.7s					
CMAR	**Chiang Mai Arr**	**27.94 297**	P	**P**	**13 30 39.0**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=123,slow=7.2,SNR=5.0					
	comp=Z,0.5nm,0.4s					
WRAB	**Tennant Creek**	**28.07 161**		**P**	**13 30 36.5**	**-1.5**
WRAB			IAmb	IAmb	13 30 54.5	
	comp=Z,5.4nm,0.8s					
WRA	**Warramunga Arr**	**28.07 161**	P	**P**	**13 30 36.7**	**-1.4**
WRA	**Warramunga Arr**	**28.07 161**	P	**P**	**13 30 37.3**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=336,slow=10.0,SNR=21					
	comp=Z,3.1nm,0.6s					
JHJ	**Hachijo jima 2**	**29.59 26**	LR	LR	13 44 24.9	
	comp=Z,131nm,19.0s,baz=309,slow=40					
AS31	**Alice Springs**	**31.46 164**		**P**	**13 31 06.6**	**-1.6**
ASAR	**Alice Springs**	**31.46 164**	P	**P**	**13 31 07.1**	**-1.1**
ASAR	**Alice Springs**	**31.46 164**	P	**P**	**13 31 07.8**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=338,slow=6.9,SNR=25					
	comp=Z,1.5nm,0.5s					
MJAR	**Matsushiro Arr**	**32.00 20**	P	**P**	**13 31 16.5**	**+3.7**
	comp=Z,2.1nm,0.8s,baz=180,slow=10,SNR=5.5					
	comp=Z,2.1nm,0.8s					
JTM	**Tenmabayashi**	**36.79 21**	P	**P**	**13 31 53.4**	**-0.7**
FORT	**Forrest**	**37.44 176**	P	**P**	**13 31 58.5**	**-1.3**
FORT			IAmb	IAmb	13 32 18.6	
	comp=Z,13nm,1.2s					
USRK	**Ussuriysk Ar.**	**37.79 8**	P	**P**	**13 32 04.5**	**+1.9**
	comp=Z,4.8nm,0.8s,baz=201,slow=10,SNR=4.2					
	comp=Z,4.8nm,0.8s					
STKA	**Stephens Creek**	**41.55 159**	P	**P**	**13 32 33.9**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=318,slow=9.0,SNR=4.3					
	comp=Z,3.9nm,0.7s					
SONM	**Songino Array**	**43.91 342**	P	**P**	**13 32 54.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=170,slow=8.8,SNR=2.0					
	comp=Z,0.3nm,0.3s					
ARMA	**Armidale**	**44.91 147**	P	**P**	**13 32 59.8**	**-1.7**
TOO	**Toolangi**	**48.06 158**	P	**P**	**13 33 26.1**	**+0.1**
TOO			IAmb	IAmb	13 33 59.8	
	comp=Z,8.2nm,1.5s					
MKAR	**Makanchi Array**	**54.12 325**	P	**P**	**13 34 09.9**	**-1.5**
MKAR	**Makanchi Array**	**54.12 325**	P	**P**	**13 34 12.3**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=112,slow=9.4,SNR=5.8					
	comp=Z,0.6nm,0.6s					
ZALV	**Zalesovo Beam**	**57.14 333**	P	**P**	**13 34 34.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=150,slow=10.0,SNR=2.1					
	comp=Z,0.4nm,0.3s					
KURBB	**Kurchatov Arra**	**58.29 327**	P	**P**	**13 34 42.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=126,slow=6.0,SNR=8.7					
	comp=Z,0.8nm,0.7s					
GAR	**Garm**	**58.65 312**	P	**P**	**13 34 43.6**	**-0.4**
CHGR	**Chuyangaron**	**59.40 311**	P	**P**	**13 34 48.9**	**-0.4**
CHGR			IAmb	IAmb	13 34 53.9	
	comp=Z,5.6nm,0.6s					
KK31	**Karatay Array**	**59.88 316**	P	**P**	**13 34 50.9**	**-1.4**
KKAR	**Karatay Array**	**59.88 316**	P	**P**	**13 34 51.6**	**-0.8**
ILAR	**Eielson Array**	**83.11 26**	P	**P**	**13 37 13.1**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=238,slow=4.5,SNR=8.7					
	comp=Z,1.4nm,1.0s					
VNDA	**Vanda**	**86.63 172**	P	**P**	**13 37 30.4**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=317,slow=2.9,SNR=4.1					
	comp=Z,0.7nm,0.9s					

DJA 16 13:35:05.3±0.5, 7°N±3°×12°5E±°, h10km, M4.3/6, mB5.0/1, mb4.4/5, MLv4.3/6, Mw(mB)4.3/1, Mindanao

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.07 172**	P	Pn	13 35 53.7	-0.2
SGSI			S	Sn	13 36 31.1	+0.3
MRSI	**Marisa**	**6.99 207**	P	Pn	13 36 48.3	+0.5
	0.1nm, 14nm, 0.5s					
SANI	**Sanana**	**8.79 174**	P	Pn	13 37 12.1	-0.4

DJA 16 13:41:59.3±0.8, 7°N±6°×12°5E±°, h61km±10km, M4.6/7, mB5.2/1, mb4.7/6, MLv4.5/7, Mw(mB)4.6/1, Mindanao

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.33 176**	P	Pn	13 42 48.2	-0.8
SGSI			S	Sn	13 43 28.2	+0.8
KMSI	**Cibinong**	**6.54 192**	P	Pn	13 43 33.3	+0.3
	0.4nm, 97nm, 0.6s					

*TRN **16** 13:43:15.9, 19°.04N×64°.36W, h32km, MD3.7, North of Anegada.*
*NEIC **16** 13:43:18.8±1.2, 18°.9N±0°.1×64°.40W±0°.05, h35km±2km, ML3.4/29, Md3.2/12(RSPR), Error ellipse: s-maj=23.3km s-min=8.4km az=4.0*
*RSPR **16** 13:43:21.0, 18°.86N×64°.46W, h37km±15km, MD3.2/12*

ISC 16 13:43:18.7±1.7, 18°.9N±0°.1×64°.41W±0°.04, h42km, n56, σ0§61/66, 9C-3D, Virgin Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	**Saba**	**1.70 139**	Pn	**Pn**	**13 43 45.1**	**-0.8**
SABA			IAML		13 44 09.7	
	comp=N,439nm,0.3s					
SABA			IAML		13 44 17.4	
	comp=E,559nm,0.7s					
GCPR	**Guaynabo City**	**1.70 250**		**Pn**	**13 43 45.6**	**-0.3**
GCPR				**Sn**	**13 44 05.3**	**-1.2**
GCPR	**Guaynabo City**	**1.70 250⇑**	*eP*	**Pn**	**13 43 45.6**	**-0.3**
GCPR	**Guaynabo City**	**1.70 250**	*eS*	**Sn**	**13 44 05.3**	**-1.2**
PDPR	**Patillas Dam,**	**1.78 240**		**Pn**	**13 43 46.9**	**-0.1**
PDPR			IAML		13 44 10.9	
	comp=N,436nm,0.1s					
PDPR			IAML		13 44 14.3	
	comp=E,277nm,0.1s					
PDPR	**Patillas Dam,**	**1.78 240⇑**	*eP*	**Pn**	**13 43 46.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.78 240**	*eS*	**Sn**	**13 44 07.7**	**-0.6**
SJG	**San Juan**	**1.84 244**		**Pn**	**13 43 47.3**	**-0.5**
SJG			IAML		13 44 11.6	
	comp=E,252nm,0.2s					
SJG	**San Juan**	**1.84 244⇑**	*eP*	**Pn**	**13 43 48.1**	**+0.3**
SJG	**San Juan**	**1.84 244**	*eS*	**Sn**	**13 44 09.3**	**-0.6**
IGPR	**InterUniversit**	**1.87 240**		**Pn**	**13 43 48.3**	**0.0**
IGPR				**Sn**	**13 44 10.1**	**-0.6**
IGPR	**InterUniversit**	**1.87 240⇑**	*eP*	**Pn**	**13 43 48.3**	**0.0**
IGPR	**InterUniversit**	**1.87 240**	*eS*	**Sn**	**13 44 10.1**	**-0.6**
ECPR	**Experimental S**	**1.95 253⇑**	*eP*	**Pn**	**13 43 49.4**	**+0.1**
ECPR	**Experimental S**	**1.95 253**	*eS*	**Sn**	**13 44 11.6**	**-1.0**
EMPR	**Esperanza - Ma**	**2.06 258**		**Sn**	**13 44 15.0**	**-0.4**
EMPR	**Esperanza - Ma**	**2.06 258**	Pn	**Pn**	**13 43 51.0**	**+0.1**
EMPR	**Esperanza - Ma**	**2.06 258⇓**	*eP*	**Pn**	**13 43 51.5**	**+0.6**
EMPR	**Esperanza - Ma**	**2.06 258**	*eS*	**Sn**	**13 44 15.0**	**-0.4**
CELP	**Cerrillos**	**2.23 248**		**Pn**	**13 43 53.4**	**+0.3**
CELP				**Sn**	**13 44 18.9**	**-0.6**
CELP	**Cerrillos**	**2.23 248**	IAML		13 44 20.4	
	comp=N,240nm,0.4s					
CELP			IAML		13 44 20.6	
	comp=E,191nm,0.4s					
CELP	**Cerrillos**	**2.23 248⇑**	*eP*	**Pn**	**13 43 53.4**	**+0.3**
CELP	**Cerrillos**	**2.23 248**	*eS*	**Sn**	**13 44 18.9**	**-0.6**
SKI	**Saint Kitts**	**2.23 135**	*eP*	**Pn**	**13 43 53.1**	**-0.2**
SKI			*eS*	**Sn**	**13 44 19.9**	**+0.2**
OBIP	**Obispado Ponce**	**2.26 248**		**Pn**	**13 43 54.1**	**+0.4**
OBIP			IAML		13 44 20.9	
	comp=E,291nm,0.3s					
OBIP			IAML		13 44 21.3	
	comp=N,222nm,0.2s					
UUPR	**Utuado, UPR, P**	**2.29 254**		**Pn**	**13 43 54.0**	**-0.1**
AOPR	**Arecibo Observ**	**2.30 256**		**Pn**	**13 43 54.6**	**+0.4**
AOPR	**Arecibo Observ**	**2.30 256⇓**	*eP*	**Pn**	**13 43 54.6**	**+0.4**
AOPR	**Arecibo Observ**	**2.30 256**	*eP*	**Pn**	**13 43 54.8**	**+0.6**
AOPR			*eS*	**Sn**	**13 44 22.4**	**+1.1**
AGPR	**Aguadilla, PR**	**2.60 261**		**Pn**	**13 43 59.0**	**+0.7**
AGPR				**Sn**	**13 44 28.4**	**-0.3**
AGPR	**Aguadilla, PR**	**2.60 261⇓**	*eP*	**Pn**	**13 43 59.0**	**+0.7**
AGPR	**Aguadilla, PR**	**2.60 261**	*eS*	**Sn**	**13 44 28.4**	**-0.3**
LSP	**Las Mesas**	**2.65 254**		**Pn**	**13 43 59.9**	**+0.9**
LSP				**Sn**	**13 44 29.9**	**0.0**
LSP	**Las Mesas**	**2.65 254⇑**	*eP*	**Pn**	**13 43 59.9**	**+0.9**
LSP	**Las Mesas**	**2.65 254**	*eS*	**Sn**	**13 44 29.9**	**0.0**
MLPR	**Magueyes Islan**	**2.68 250⇑**	*eP*	**Pn**	**13 44 00.2**	**+0.9**
MLPR	**Magueyes Islan**	**2.68 250**	*eS*	**Sn**	**13 44 30.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.72 251**		**Pn**	**13 44 00.8**	**+0.8**
CRPR				**Sn**	**13 44 31.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.72 251**	IAML		13 44 33.4	
	comp=E,100nm,0.4s					
CRPR	**Cabo Rojo, PR**	**2.72 251⇑**	*eP*	**Pn**	**13 44 00.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.72 251**	*eS*	**Sn**	**13 44 31.6**	**-0.1**
ANWB	**Willy Bob**	**2.78 116**	Pn	**Pn**	**13 43 59.5**	**-1.3**
ANWB	**Willy Bob**	**2.78 116**	*eP*	**Pn**	**13 43 59.7**	**-1.1**
ANWB			*eS*	**Sn**	**13 44 33.3**	**+0.2**
DHSZ	**Broadband at M**	**3.64 136**	*eP*	**Pn**	**13 44 13.0**	**+0.5**
GDHS	**Morne Mazeau,**	**3.64 136**	Pn	**Pn**	**13 44 12.1**	**-0.5**
GDHS			IAML		13 45 23.9	
	comp=E,99nm,0.6s					
ABD	**La Joyeuse, An**	**3.69 131**	Pn	**Pn**	**13 44 13.1**	**-0.2**
ABD			IAML		13 45 18.1	
	comp=E,92nm,2.8s					
ABD			IAML		13 45 38.4	
	comp=N,67nm,1.1s					
ATGZ	**Broadband at L**	**3.79 137**	*eP*	**Pn**	**13 44 15.0**	**+0.3**
ATGZ			*eS*	**Sn**	**13 44 58.8**	**+0.7**
MMLZ	**Guadeloupe Bro**	**3.87 137**	*eP*	**Pn**	**13 44 16.1**	**+0.4**
MMLZ			*eS*	**Sn**	**13 45 00.1**	**+0.1**
CBE	**Ff, Capester**	**3.89 136**	Pn	**Pn**	**13 44 17.2**	**+1.1**
TDBA	**Terre de Bas,**	**4.04 139**	Pn	**Pn**	**13 44 17.8**	**-0.3**
TDBA			IAML		13 46 56.5	
	comp=N,70nm,1.5s					
DSDZ	**La Diserade, G**	**4.10 129**	*eP*	**Pn**	**13 44 19.0**	**0.0**
GDSD	**La Dsirade Is**	**4.10 129**	Pn	**Pn**	**13 44 20.1**	**+1.2**
GDSD			IAML		13 46 43.7	
	comp=N,44nm,3.2s					
MAGL	**Barre de l'ile**	**4.19 134**	Pn	**Pn**	**13 44 21.0**	**+0.8**
DSLB	**Salisbury**	**4.48 140**	*eP*	**Pn**	**13 44 24.7**	**+0.5**
DSLB			*eS*	**Sn**	**13 45 14.9**	**-0.2**
DR12	**Loma Pena Alta**	**4.71 269**	Pn	**Pn**	**13 44 27.6**	**+0.2**
BIM	**Bigot**	**5.42 143**	*eP*	**Pn**	**13 44 37.9**	**+0.9**

*IDC **16** 13:45:17.0±2.9, 30°.32S×177°.62W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=59.9km s-min=22.4km az=104.0*

ISC 16 13:45:19.6±2.5, 30°.50S±0°.08×177°.5W±0°.4, h33km, n6, σ2§29/8, mb3.9/3, Kermadec Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.30 343**	Pn	**Pn**	**13 45 40.5**	**-0.9**
	565nm, 0.3s, baz=75, slow=9.8, SNR=37					
RAO			Sn	**Sn**	**13 45 55.5**	**-2.1**
	892nm, 0.3s, baz=107, slow=23, SNR=11					
URZ	**Urewera**	**8.93 208**	Pn	**Pn**	**13 47 24.5**	**-1.8**
	0.4nm, 0.3s, baz=356, slow=18, SNR=1.5					
URZ			Sn	**Sn**	**13 49 03.7**	**-2.0**
	1.2nm, 0.3s, baz=98, slow=21, SNR=7.3					
STKA	**Stephens Creek**	**34.89 257**	P	**P**	**13 52 11.3**	**+3.3**
	1.3nm, 0.5s, baz=95, slow=14, SNR=2.2					
	1.3nm, 0.5s					
ASAR	**Alice Springs**	**43.55 267**	P	**P**	**13 53 21.9**	**+1.4**
	0.4nm, 0.5s, baz=105, slow=7.4, SNR=9.4					
	0.4nm, 0.5s					
WRA	**Warramunga Arr**	**44.54 272**	P	**P**	**13 53 28.6**	**+0.1**
	0.7nm, 0.4s, baz=110, slow=8.1, SNR=24					
	0.7nm, 0.4s					
FINES	**FINESS Array B**	**145.39 340**	PKPbc	**PKPdf**	**14 04 54.3**	**+1.0**
	1.2nm, 0.4s, baz=48, slow=4.1, SNR=13					

*SNET **16** 13:45:33.2±1.3, 14°.05N×89°.86W, h10km, ML2.4*
*GCG **16** 13:45:33.2±0.6, 14°.06N×89°.81W, h1km±4km, MD3.9*
*CATAC **16** 13:45:33.4±0.3, 14°N±1°×9°0W±°, h5km±2km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=3.1km s-min=2.9km az=31.0, confirmed*

ISC 16 13:45:33.5±1.1, 14°.05N±0°.03×89°.87W±0°.04, h11km±6km, n34, σ0§52/41, 1C, Guatemala

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOAL	**Lomas de Alarc**	**0.10 118⇑**	*iP*	**Pg**	**13 45 36.1**	**-0.2**
LOAL			*eS*	**Sg**	**13 45 38.5**	**+0.2**
LOAL	**Lomas de Alarc**	**0.10 118**	P	**Pg**	**13 45 35.9**	**-0.4**
NUBE	**Las Nubes**	**0.17 148**	*eP*	**Pg**	**13 45 37.6**	**+0.2**
NUBE			*eS*	**Sg**	**13 45 40.4**	**+0.2**
NUBE	**Las Nubes**	**0.17 148**	*i P*	**Pg**	**13 45 37.5**	**+0.1**
NUBE			*i S*	**Sg**	**13 45 40.3**	**+0.2**
NUBE	**Las Nubes**	**0.17 148**	P	**Pg**	**13 45 37.2**	**-0.2**
FAME	**Alcaldia de Sa**	**0.24 215**	P	**Pg**	**13 45 38.5**	**-0.1**
UNIC	**Universidad Ca**	**0.32 101**	P	**Pg**	**13 45 39.9**	**0.0**
UNIC	**Universidad Ca**	**0.32 101**	S	**Sg**	**13 45 44.9**	**+0.6**
CEVE	**Cerro Verde**	**0.32 132**	*eP*	**Pb**	**13 45 40.7**	**-0.7**
CEVE			*eS*	**Sb**	**13 45 45.8**	**-0.9**
CEVE	**Cer

MTO3	Montecristo	0.59	54	S		Sg	13 48 03.1 +0.6
PMON	Piamonte	0.63	122	S		Sb	13 48 05.3 +0.5
PMON	Piamonte	0.63	122	P		Pg	13 47 55.5 +0.4
ESQI	Esquipulas	0.71	45	S		Sg	13 48 06.6 +0.4
ESQI	Esquipulas	0.71	45	P		Pg	13 47 56.7 -0.1
LLGN	La Laguna	0.89	83	S		Sg	13 48 12.1 +0.2
LLGN	La Laguna	0.89	83	P		Pg	13 47 59.7 -0.5
PAVA	Las Pavas	0.96	110	S		Sg	13 48 13.8 -0.1
PAVA	Las Pavas	0.96	110	P		Pg	13 47 59.9 -1.4
APG	El Apazote	1.11	328	eP		Pg	13 48 04.0 -0.5
SARH	Santa Rosa de	1.28	56	P		Pn	13 48 07.3 +0.3
SARH	Santa Rosa de	1.28	56	S		Sn	13 48 24.7 +0.4

*SJA **16** 13:51:28.7±0.7, 22°.43S×66°.15W, h262km±4km, ML4.7, MW4.4*
*VAO **16** 13:51:28.6±0.5, 22°.31S×66°.21W, h267km±4km, mb4.5*
*IDC **16** 13:51:28.1±1.2, 22°.47S×65°.94W, h249km±11km, mb3.6/10, mbtmp4.3/17, Error ellipse: s-maj=15.2km s-min=12.2km az=80.0*
*NEIC **16** 13:51:29.0±1.8, 22°.42S±0°.07×66°.1W±0°.1, h260km±9km, mb4.6/20, Error ellipse: s-maj=16.5km s-min=10.7km az=93.0*

ISC 16 13:51:27.5±0.4, 22°.40S±0°.04×66°.12W±0°.04, h251km, n156, σ1§76/170, mb4.4/17, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.60	69	eP	Pn	13 52 04.6	+3.2
YJA				eS	S	13 52 31.1	+3.1
HJA	Humahuaca	1.04	141	eP	Pn	13 52 06.4	+3.0
HJA				eS	S	13 52 36.2	+4.6
SALTA		1.83	186	eP	Pn	13 52 11.7	+2.6
AF01	San Pedro de A	1.98	253		Pn	13 52 13.0	+2.7
AF01	San Pedro de A	1.98	253	eP	Pn	13 51 54.4	-16
AF01				eS	S	13 52 44.1	+0.2
AF01				IAML		13 53 17.1	
	comp=Z,889nm,0.6s						
AZAP	Zapla	2.06	152	eP	Pn	13 52 13.0	+2.1
AZAP				eS	S	13 52 46.6	+1.5
SLA	San Lorenzo	2.38	166	eP	Pn	13 52 16.4	+2.5
PB09	IPOC Station P	2.96	281	Pn	Pn	13 52 21.9	+2.1
PB09	IPOC Station P	2.96	281	eP	Pn	13 52 22.2	+2.3
PB09				eS	S	13 53 03.3	+2.2
PB09				IAML		13 53 06.5	
	comp=Z,881nm,0.7s						
PB06	IPOC Station P	3.21	264		Pn	13 52 23.8	+1.2
PB06	IPOC Station P	3.21	264	eP	Pn	13 52 24.3	+1.8
PB06				eS	S	13 53 07.0	+1.0
PB06				IAML		13 53 13.0	
	comp=Z,2μm,0.5s						
PB03	IPOC Station P	3.39	275	Pn	Pn	13 52 25.8	+1.3
PB03	IPOC Station P	3.39	275	eP	Pn	13 52 26.2	+1.7
PB03				eS	S	13 53 09.0	-0.6
PB03				IAML		13 53 12.6	
	comp=Z,2μm,0.4s						
PB01	IPOC Station P	3.41	293	Pn	Pn	13 52 26.1	+1.4
PB01	IPOC Station P	3.41	293	eP	Pn	13 52 26.4	+1.7
PB01				eS	S	13 53 10.6	+0.6
PB01				IAML		13 53 12.4	
	comp=Z,879nm,0.2s						
PB08	IPOC Station P	3.61	308	Pn	Pn	13 52 29.8	+2.4
PB08	IPOC Station P	3.61	308	eP	Pn	13 52 29.9	+2.6
PB08				eS	S	13 53 16.1	+1.5
PB08				IAML		13 53 19.2	
	comp=Z,324nm,0.7s						
PB02	IPOC Station P	3.67	286	Pn	Pn	13 52 28.9	+1.2
PB02	IPOC Station P	3.67	286	eP	Pn	13 52 29.3	+1.6
PB02				eS	S	13 53 14.8	-0.6
PB02				IAML		13 53 15.9	
	comp=Z,2μm,0.3s						
FSA	Cafayete	3.70	178	eP	Pn	13 52 30.2	+2.1
FSA				eS	S	13 53 17.8	+1.6
GO01	Chusmiza	3.95	313	Pn	Pn	13 52 33.3	+1.9
GO01	Chusmiza	3.95	313	eP	Pn	13 52 33.6	+2.3
GO01				eS	S	13 53 25.9	+4.0
GO01				IAML		13 53 28.4	
	comp=Z,257nm,0.6s						
PATCX	Punta Patache	4.07	292		Pn	13 52 33.4	+1.0
TA01	Diego Aracena	4.20	295		Pn	13 52 34.4	+0.6
TA01	Diego Aracena	4.20	295	eP	Pn	13 52 34.8	+1.0
TA01				eS	S	13 53 24.9	-1.5
TA01				IAML		13 53 26.5	
	comp=Z,295nm,0.2s						
GO02	Mina Guanaco	4.21	228		Pn	13 52 35.2	+1.0
GO02	Mina Guanaco	4.21	228	eS	S	13 53 26.6	-0.4
PB11	IPOC Station P	4.22	308	eP	Pn	13 52 35.1	+0.9
PB11				eS	S	13 53 26.4	-0.7
PB11				IAML		13 53 28.1	
	comp=Z,523nm,0.1s						
PB10	IPOC Station P	4.24	254		Pn	13 52 34.7	+0.5
PB10	IPOC Station P	4.24	254	eP	Pn	13 52 34.7	+0.5
PB10				eS	S	13 53 24.7	-2.5
PB10				IAML		13 53 26.7	
	comp=Z,2μm,0.3s						
TA02	Huaiquique	4.30	299	eP	Pn	13 52 35.8	+0.9
TA02				eS	S	13 53 27.1	-1.4
TA02				IAML		13 53 30.6	
	comp=Z,761nm,0.1s						
PB14	IPOC Station P	4.52	240		Pn	13 52 38.2	+0.4
PB14	IPOC Station P	4.52	240	eP	Pn	13 52 38.6	+0.8
PB14				eS	S	13 53 20.6	-13
PB16	IPOC Station P	5.14	321	Pn	Pn	13 52 47.9	+2.1
PB16	IPOC Station P	5.14	321	eS	S	13 53 50.2	+2.3
PB16				IAML		13 53 52.5	
	comp=Z,168nm,0.7s						
AC02	Maricunga	5.20	211		Pn	13 52 46.6	+0.3
AC02	Maricunga	5.20	211	eP	Pn	13 52 47.4	+1.1
AC02				eS	S	13 53 35.0	-14
AC02				IAML		13 53 58.3	
	comp=Z,374nm,0.7s						
PB12	IPOC Station P	5.45	313		Pn	13 52 49.0	-0.1
AC01	Pan de Azucar	5.54	227		Pn	13 52 49.2	-0.7
AC06	Mina Casimiro	6.26	217		Pn	13 52 58.0	-1.0
LPAZ	La Paz	6.37	342	P	Pn	13 53 03.0	+2.1
	comp=Z,15nm,0.6s,baz=157,slow=7.1,SNR=44						
LPAZ				S	S	13 54 11.9	-3.7
	comp=Z,15nm,0.7s,baz=326,slow=18,SNR=7.4						
LPAZ	La Paz	6.37	342	eP	Pn	13 53 01.4	+0.4
AC04	Llanos de Chal	7.32	217		Pn	13 53 10.6	-1.6
LCO	Las Campanas	7.78	211		Pn	13 53 17.3	-1.0
MURT	Porto Murtinho	7.93	86	eP	Pn	13 53 20.7	+0.7
SIV	San Ignacio	7.96	38	P	Pn	13 53 20.9	+0.4
	comp=Z,13nm,0.5s,baz=209,slow=14,SNR=57						
SIV				S	S	13 54 42.5	-8.8
	comp=Z,2.5nm,0.5s,baz=229,slow=17,SNR=3.5						
CO01	Juntas del Tor	8.35	204		Pn	13 53 25.9	+0.4
GO04	Tololo Observa	8.81	207		Pn	13 53 29.8	-1.5
CPUP	Villa Florida	8.92	118	eP	P	13 53 36.4	-3.0
BDQN	Bodoquena, MS	8.94	79	eP	Pn	13 53 33.0	+0.2
CO03	El Pedregal	9.35	205		Pn	13 53 36.8	-1.2
CFA	Coronel Fontan	9.37	191	P	Pn	13 53 37.3	-0.8
	comp=Z,4.2nm,0.3s,baz=23,slow=14,SNR=22						
CFA				S	S	13 55 15.8	-8.0
	comp=Z,12nm,0.3s,baz=306,slow=23,SNR=18						
PTLB	Pontes e Lacer	9.56	45		Pn	13 53 40.3	-0.3
PTLB	Pontes e Lacer	9.56	45	eP	Pn	13 53 41.3	+0.6
CO02	Combarbal	9.79	205		Pn	13 53 42.3	-1.3
AQDB	Aquidauana	9.89	81		Pn	13 53 45.4	+0.6
AQDB	Aquidauana	9.89	81	eP	Pn	13 53 46.8	+2.0
VILB	Vilhena	10.95	32	Pn	Pn	13 53 57.4	-0.8
VILB	Vilhena	10.95	32	eP	Pn	13 53 58.6	+0.4
VA03	San Esteban	11.05	200		Pn	13 54 00.0	+0.7
PEL	Peldehue	11.44	200	Pn	Pn	13 54 03.8	-0.4
MT08	Bocatoma Ro	11.53	197		Pn	13 54 05.3	-0.2
PP1B	Ponte de Pedra	11.59	68	eP	Pn	13 54 06.5	+0.3
MT02	Curacav	11.70	201	Pn	Pn	13 54 06.8	-0.5
SALV	Santo Antonio	11.78	59	eP	Pn	13 54 09.2	+0.8
BO04	La Punta	12.21	198	P	P	13 54 14.1	-2.3
C2SB	Chapadao do Su	12.95	76	eP	P	13 54 25.0	+0.3
BO02	Sierra Bellavi	13.01	197		P	13 54 23.8	-1.5
PTGB	Pitanga	13.10	103	eP	P	13 54 27.2	+0.8
ITAB	Concordia	13.58	114	eP	P	13 54 32.5	+0.8
LDASE	Londrina, Braz	13.86	97	eP	P	13 54 36.0	+1.1
CPSB	Cacapava Do Su	13.87	128	eP	P	13 54 36.3	+1.4
PDRB	Porto dos Gac	13.98	41	eP	P	13 54 36.5	+0.3
PLTB	Pedras Altas	14.53	133		P	13 54 42.2	+0.1
PLTB	Pedras Altas	14.53	133	eP	P	13 54 42.2	+0.1
NNA	Nana	14.55	314	P	P	13 54 44.0	+1.4
	comp=Z,9.9nm,0.5s,baz=160,slow=13,SNR=5.2						
BI02	San Fabin de	14.90	196		Pn	13 54 46.1	-0.5
ITRB	Iturama	14.95	83	eP	Pn	13 54 48.3	+1.0
ARAG	Araguaiana, MT	15.07	66	eP	Pn	13 54 49.1	+0.5
CLDB	Colider	15.12	42	eP	Pn	13 54 49.2	-0.2
FRTB	Fartura	15.29	97	eP	Pn	13 54 52.6	+1.3
BI05	Punta Hualpn	15.56	202		Pn	13 54 54.0	-0.3
BI05				IAmb	IAmb	13 54 57.1	
	comp=Z,31nm,0.6s						
H03N1	Juan Fernandez	15.76	223	P	Pn	13 55 03.8	+7.3
	baz=117,slow=18,SNR=7.4						
H03N2	Juan Fernandez	15.77	223	P	Pn	13 55 04.6	+8.0
	baz=117,slow=18,SNR=3.3						
H03N3	Juan Fernandez	15.78	223	P	Pn	13 55 04.5	+7.8
	baz=117,slow=18,SNR=7.1						
VA04	Juan Fernndez	15.84	222		Pn	13 54 57.3	-0.4
CZSB	Cruzeiro do Su	15.90	335	eP	P	13 54 53.8	-3.5
H03S3	Juan Fernandez	16.02	222	P	Pn	13 55 06.0	+6.6
	baz=55,slow=74,SNR=4.6						
H03S1	Juan Fernandez	16.02	222	P	Pn	13 55 07.0	+7.5
H03S2	Juan Fernandez	16.03	222	P	Pn	13 55 06.3	+6.7
	baz=245,slow=74,SNR=4.8						
MAJ01	Sao Joao Batis	16.30	111	eP	Pn	13 55 02.7	-0.5
BB19B	Bebedouro	16.40	89	eP	Pn	13 55 04.1	-0.4
RCLB	Rio Claro- Sao	17.19	94	eP	Pn	13 55 12.6	-1.1
SPB	Sao Paulo	17.25	98	eP	Pn	13 55 13.4	-0.9
IPMB	Ipameri, GO	17.37	79	eP	Pn	13 55 14.4	-1.5
PET01	Itanhaem-SP	17.41	100	eP	Pn	13 55 15.1	-1.0
SNDB	Serra Nova Dou	17.53	56	eP	P	13 55 15.8	+0.7
VAO	Valinhos	17.68	96		P	13 55 17.2	+0.4
VAO	Valinhos	17.68	96	eP	Pn	13 55 17.7	-1.8
BDFB	Brasilia	18.38	72	P	P	13 55 24.9	+0.4
BDFB				IAmb	IAmb	13 55 27.6	
	comp=Z,51nm,1.0s						
BDFB	Brasilia	18.38	72	P	P	13 55 25.2	+0.8
	comp=Z,33nm,0.8s,baz=248,slow=11,SNR=31						
NPGB	Novo Progresso	18.45	36	eP	P	13 55 24.8	-0.4
LR05	Currie	18.47	194		Pn	13 55 25.7	-2.8
PLCA	Paso Flores	18.66	191		Pn	13 55 27.9	-2.9
PLCA	Paso Flores	18.66	191	P	Pn	13 55 27.9	-2.9
	comp=Z,3.3nm,0.4s,baz=11,slow=13,SNR=15						
PLCA	Paso Flores	18.66	191	eP	Pn	13 55 28.0	-2.9
TEFE	Tefe	18.83	5	eP	P	13 55 28.8	-0.4
PMNB	Patos De Minas	18.83	82	eP	P	13 55 30.2	+0.9
PARB	Paraibuna	18.91	97	eP	Pn	13 55 31.2	-2.7
ATAH	Atahualpa	19.24	320	P	Pn	13 55 37.0	-1.3
	comp=Z,2.8nm,0.6s,baz=141,slow=9.0,SNR=5.2						
ITTB	Itaituba	20.55	31	eP	P	13 55 46.8	-0.7
LL01	San Ignacio de	20.61	193	P	P	13 55 48.4	+0.5
LL01				IAmb	IAmb	13 55 51.6	
	comp=Z,18nm,1.2s						
VAS01	Vassouras-RJ	20.98	94	eP	P	13 55 52.9	+0.9
LL02	Futaleuf	21.28	192	P	P	13 55 54.9	+0.3
DIAM	Diamantina, MG	21.43	83	eP	P	13 55 56.9	+0.3
JANB	Januaria	21.89	74	eP	P	13 56 00.6	-0.1
DUB01	Friburgo-RJ	21.98	94	eP	P	13 56 01.9	+0.5
SMTB	Santa Maria do	22.31	56	eP	P	13 56 04.5	0.0
SDBA	SAO DESIDERIO	22.52	67	eP	P	13 56 06.3	-0.1
PRPB	Paraupebas	22.54	47	eP	P	13 56 06.2	-0.3
CAM01	Campos-RJ	22.67	93	eP	P	13 56 08.0	+0.4
MAL2	Monte Alegre,	23.34	31	P	P	13 56 13.9	+0.1
MAL2				IAmb	IAmb	13 56 16.8	
	comp=Z,36nm,0.7s						
SJMB	Sao Joao De Ma	23.62	86	eP	P	13 56 16.8	+0.4
RIB01	Linhares ES	24.22	87	eP	P	13 56 21.6	-0.3
BOAV	Boa Vista	25.24	13	P	P	13 56 31.4	+0.4
BOAV	Boa Vista	25.24	13	eP	P	13 56 31.8	+0.9
GUA01	Guaratinga, BA	25.45	82	eP	P	13 56 33.4	+0.5
RUSC	La Rusia	28.93	346	P	P	13 57 03.8	-0.6
EFI	East Falkland	29.89	170	P	P	13 57 13.2	+1.3
NBAN	Anadia - AL	31.27	71	eP	P	13 57 24.2	-0.3
RCBR	Riachuelo	33.50	65	P	P	13 57 44.5	+0.6
RCBR				IAmb	IAmb	13 57 45.9	
	comp=Z,24nm,1.0s						
RCBR	Riachuelo	33.50	65	eP	P	13 57 44.2	+0.3
CELP	Cerrillos	40.22	359	P	P	13 58 39.4	-0.7
CELP				IAmb	IAmb	13 58 44.5	
	comp=Z,22nm,1.3s						
VNA3	Neumayer Olymp	58.41	162	⇑P	P	14 00 57.8	+1.2
	comp=Z,4.2nm,0.9s						
VNA1	Neumayer--Stat	58.58	161	⇑P	P	14 00 59.5	+1.8
	comp=Z,13nm,1.0s						
VNA2	Neumayer--Watz	58.95	161	⇑P	P	14 01 01.7	+1.3
	comp=Z,8.1nm,0.9s,baz=297,slow=8.4						
SNAA	Sanae	60.59	161	P	P	14 01 11.7	+0.2
SNAA				IAmb	IAmb	14 01 14.8	
	comp=Z,16nm,1.4s						
SNAA	Sanae	60.59	161	P	P	14 01 11.4	-0.2
	comp=Z,2.3nm,0.2s,baz=300,slow=6.0,SNR=9.7						
	comp=Z,2.3nm,0.2s						
TROLL	Troll, Antarti	62.30	161	⇑P	P	14 01 24.2	+1.2
	comp=Z,177nm,0.6s						
TXAR	Lajitas Array	62.87	323	P	P	14 01 28.7	+1.5
	comp=Z,0.2nm,0.4s,baz=128,slow=6.3,SNR=2.0						
	comp=Z,0.2nm,0.4s						
DBIC	Dimbokro	66.53	72	P	P	14 01 50.4	-0.7
DBIC				IAmb	IAmb	14 02 08.0	
	comp=Z,9.7nm,1.2s						
DBIC	Dimbokro	66.53	72	P	P	14 01 50.2	-0.9
	comp=Z,3.8nm,0.6s,baz=249,slow=5.3,SNR=4.1						
	comp=Z,3.8nm,0.6s						
QSPA	South Pole Qui	67.80	180	P	P	14 02 02.1	+3.7
TORD	Torodi Ar. Bea	75.24	69	P	P	14 02 41.5	-1.8
TORD	Torodi Ar. Bea	75.24	69	P	P	14 02 42.6	-0.7
	comp=Z,3.8nm,0.5s,baz=260,slow=4.6,SNR=26						
	comp=Z,3.8nm,0.5s						
PDAR	Pinedale Array	76.20	329	P	P	14 02 49.9	+1.4
	comp=Z,0.5nm,0.8s,baz=125,slow=7.8,SNR=4.1						
	comp=Z,0.5nm,0.8s						
VNDA	Vanda	76.41	190	P	P	14 02 50.0	+1.1
	comp=Z,0.8nm,0.9s,baz=116,slow=1.8,SNR=3.2						
	comp=Z,0.8nm,0.9s						
SCHQ	Schefferville	76.91	360	P	P	14 02 53.0	+1.1
	comp=Z,30nm,0.6s,baz=211,slow=7.1,SNR=3.5						
NVAR	Mina Array Bea	77.81	321	P	P	14 02 59.4	+1.9
	comp=Z,0.2nm,0.4s,baz=164,slow=7.7,SNR=4.2						
	comp=Z,0.2nm,0.4s						
BOSA	Boshof	80.74	117	P	P	14 03 13.4	-0.1
	comp=Z,2.1nm,0.6s,baz=261,slow=8.4,SNR=2.8						
	comp=Z,2.1nm,0.6s						
ESDC	Sonseca Array	84.68	43	P	P	14 03 33.9	+0.6
	comp=Z,2.8nm,0.8s,baz=250,slow=3.7,SNR=6.2						
	comp=Z,2.8nm,0.8s						
CASY	Casey	91.57	179	P	P	14 04 07.5	+2.0
CASY				IAmb	IAmb	14 04 10.0	
	comp=Z,7.4nm,1.5s						
KEST	Kesra	91.79	52	P	P	14 04 08.8	+1.6
	comp=Z,4.3nm,0.9s,baz=264,slow=7.6,SNR=3.5						
	comp=Z,4.3nm,0.9s						
ASAR	Alice Springs	130.25	204	PKP	PKiKP	14 10 09.3	-0.1
	comp=Z,0.3nm,0.4s,baz=130,slow=1.8,SNR=8.0						
ASAR				SKPbc	SKPab	14 13 08.0	+0.1
	comp=Z,1.6nm,0.9s,baz=148,slow=3.5,SNR=19						
WRA	Warramunga Arr	133.42	207	PKP	PKiKP	14 10 15.8	-0.2
	comp=Z,0.3nm,0.3s,baz=153,slow=1.7,SNR=16						
WRA				SKPbc	SKPab	14 13 19.6	-1.9
	comp=Z,1.5nm,0.8s,baz=156,slow=2.9,SNR=15						
MKAR	Makanchi Array	144.77	39	PKP	PKPdf	14 10 35.0	+0.6
	comp=Z,4.7nm,0.7s,baz=314,slow=3.7,SNR=33						
MKAR				PP	PP	14 13 50.3	-3.9
	comp=Z,0.8nm,0.8s,baz=328,slow=2.2,SNR=4.4						

DJA 16 13:55:29.3±0.7, 2°N±2°×12°6E±°, h17km±5km, M3.9/12, mB4.9/1, mb4.1/3, MLv3.9/12, Mw(mB)4.2/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.83	123	P	Pn	13 56 00.2	+0.1
TNTI				S	Sn	13 56 23.1	+0.2
SGSI	Sangihe	1.92	351	P	Pn	13 56 00.8	-0.4
SGSI				S	Sn	13 56 25.5	+0.5
KMSI	Cibinong	2.20	237	P	Pn	13 56 05.8	+0.7
KMSI				S	Sn	13 56 33.1	+1.1
SANI	Sanana	3.81	178	P	Pn	13 56 25.6	-1.6
MRSI	Marisa	4.10	252	P	Pn	13 56 32.1	+0.9
MRSI				S	Sn	13 57 19.1	+0.3
LUWI	Luwuk	4.15	228	P	Pn	13 56 33.9	+2.0
LUWI				S	Sn	13 57 21.6	+1.6
NLAI	Namlea	5.14	166	P	Pn	13 56 44.8	-0.8
	0.2nm1μm23nm,0.4s						

*GCG **16** 14:01:21.4±0.6, 14°.06N×89°.84W, h3km±4km, MD3.8*
*CATAC **16** 14:01:22.3±0.6, 14°N±2°×9°0W±°, h4km±2km, M2.3/6, MLv2.3/6, Error ellipse: s-maj=6.7km s-min=3.6km az=130.3, confirmed*

ISC 16 14:01:22.1±1.2, 14°.07N±0°.04×89°.86W±0°.04, h11km±9km, n15, σ0§50/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOAL	Lomas de Alarc	0.10	130	P	Pg	14 01 24.5	-0.4
NUBE	Las Nubes	0.18	154	eP	Pg	14 01 26.1	-0.1
NUBE				eS	Sg	14 01 28.8	-0.2
NUBE	Las Nubes	0.18	154	P	Pg	14 01 26.0	-0.1
FAME	Alcaldia de Sa	0.27	214	S	Sg	14 01 31.7	+0.5
FAME	Alcaldia de Sa	0.27	214	P	Pg	14 01 27.6	+0.1
UNIC	Universidad Ca	0.32	105	S	Sg	14 01 33.3	+0.5
JAYA	Jayaque - finc	0.57	136	eP	Pg	14 01 32.9	-0.4
JAYA				eS	Sb	14 01 41.4	-1.0
JAYA	Jayaque - finc	0.57	136	P	Pg	14 01 33.2	-0.1
MTO3	Montecristo	0.59	56	eP	Pg	14 01 33.8	+0.2
MTO3	Montecristo	0.59	56	S	Sb	14 01 42.3	-0.7
MTO3	Montecristo	0.59	56	P	Pg	14 01 33.6	0.0
PMON	Piamonte	0.64	123	P	Pb	14 01 36.0	+0.7
ESQI	Esquipulas	0.70	46	S	Sb	14 01 46.1	-0.1
LLGN	La Laguna	0.90	84	S	Sb	14 01 51.2	-0.5
APG	El Apazote	1.10	328	eP	Pg	14 01 42.9	-0.5

*IDC **16** 14:41:23.2±0.9, 6°.63N×124°.98E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=20.3km s-min=14.2km az=112.0*
*NEIC **16** 14:41:24.5±1.4, 6°.61N±0°.06×125°.15E±0°.06, h10km±1km, mb4.4/15, Error ellipse: s-maj=14.7km s-min=3.2km az=133.0*
*DJA **16** 14:41:27.4±0.4, 7°N±3°×12°5E±°, h10km, M4.7/10, mb4.8/10, mB5.1/2, MLv4.6/8, Mw(mB)4.5/2*

ISC 16 14:41:24.5±0.5, 6°.65N±0°.04×125°.14E±0°.07, h10km, n41, σ1§72/40, mb4.2/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.61	47		Pb	14 41 36.9	-0.4
DAV	Davao City (W)	0.61	47	Pg	Pb	14 41 37.4	+0.2
	746nm,0.3s,baz=260,slow=8.9,SNR=75						
DAV	Davao City (W)	0.61	47	P	Pg	14 41 36.0	-0.3
SGSI	Sangihe	2.97	172	P	Pb	14 42 15.6	-2.0
SGSI				S	Sb	14 42 55.0	+1.0
KMSI	Cibinong	6.14	191	P	Pn	14 43 00.3	+4.9
	180nm,0.8s						
TNTI	Ternate	6.25	159	Pn	Pn	14 42 55.1	-1.7
TNTI	Ternate	6.25	159	P	Pn	14 43 00.0	+3.1
	0.1nm32nm,1.1s						
MYLDM	Lahad Datu	6.76	258		Pn	14 43 03.2	-0.6
TOLI2	Tolitoli	7.01	218	Pn	Pn	14 43 06.5	-0.9
LUWI	Luwuk	8.00	197		Pn	14 43 21.2	+0.4
LUWI	Luwuk	8.00	197	P	Pn	14 43 25.9	+5.0
	784nm65nm,0.8s						
APSI	Ampana	8.28	205	P	Pn	14 43 29.1	+4.4
	41nm,0.7s						
SANI	Sanana	8.69	174	P	Pn	14 43 34.0	+3.7
	26nm,0.8s						
SBUM	Sibu	13.53	253	Pn	Pn	14 44 35.3	-1.4
MTN	Manton Dam	20.26	163	P	P	14 45 58.8	-1.6
MTN				IAmb	IAmb	14 46 06.0	
	comp=Z,9.9nm,0.8s						
KNRA	Kununurra	22.47	171	P	P	14 46 24.5	+0.3
KNRA				IAmb	IAmb	14 46 32.0	
	comp=Z,18nm,0.8s						
SKJI	Sukabumi	22.97	234	P	P	14 46 34.2	+4.7
FITZ	Fitzroy Crossi	24.60	179	P	P	14 46 43.9	-1.2
FITZ	Fitzroy Crossi	24.60	179	P	P	14 46 45.9	+0.8
	comp=Z,2.0nm,0.5s,baz=18,slow=7.7,SNR=7.0						
	comp=Z,2.0nm,0.5s						
WB0	Warramunga Arr	27.79	161	P	P	14 47 12.6	-1.3
WB0				IAmb	IAmb	14 47 32.5	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	27.93	161	P	P	14 47 14.4	-0.9
WRA	Warramunga Arr	27.93	161	P	P	14 47 14.3	-1.0
	comp=Z,0.6nm,0.6s,baz=333,slow=10,SNR=7.2						
	comp=Z,0.6nm,0.6s						
AS31	Alice Springs	31.32	164	P	P	14 47 42.5	-2.8
AS31				IAmb	IAmb	14 48 06.0	
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	31.33	164	P	P	14 47 42.5	-2.8
ASAR	Alice Springs	31.33	164	P	P	14 47 46.0	+0.7
	comp=Z,0.3nm,0.3s,baz=343,slow=7.1,SNR=12						
	comp=Z,0.3nm,0.3s						
JYT	Yasato	32.51	23	P	P	14 47 54.2	-1.3
BJT	Baijiatuau	34.19	348	P	P	14 48 10.9	+0.8
BJT				IAmb	IAmb	14 48 12.4	
	comp=Z,5.0nm,0.5s						
LSA	Lhasa	39.34	310	P	P	14 48 54.4	-0.5
LSA				IAmb	IAmb	14 49 11.3	
	comp

INU Inuyama 20.31 334 Pn 15 15 30.5 -1.7
INU IAmb IAmb 15 15 39.1
comp=Z,33nm,0.9s
JGF Kuroka 20.39 335 P **P** **15 15 31.1 0.0**
JGF IAmb IAmb 15 15 40.0
comp=Z,47nm,1.0s
JAY Jayapura 20.80 200 LR LR 15 24 46.0
comp=Z,469nm,18.1s,baz=15,slow=40
MJAR Matsushiro Arr 20.90 338 P **P** **15 15 37.0 +0.4**
MJAR Matsushiro Arr 20.90 338 P Pn 15 15 38.3 -0.9
comp=Z,16nm,0.8s,baz=170,slow=10,SNR=19
MJAR S Sn 15 19 34.7 +0.1
comp=Z,2.9nm,0.9s,baz=123,slow=18,SNR=5.2
comp=Z,16nm,0.8s
MAJO Matsushiro 20.90 338 P **P** **15 15 35.5 -1.1**
MJB9 Matsu-Tunnel 20.91 338 P **P** **15 15 35.8 -0.8**
GENI Genyem 21.05 201 P **P** **15 15 38.0 -0.3**
comp=Z,1μmcomp=Z,68nm,1.2s
JMM Marumori 21.36 345 P **P** **15 15 41.2 -0.2**
JMM IAmb IAmb 15 15 48.6
comp=Z,56nm,1.2s
JNU Nakatsue 21.79 320 P **P** **15 15 45.0 -1.2**
JNU IAmb IAmb 15 15 53.6
comp=Z,75nm,1.7s
JNU Nakatsue 21.79 320 P **P** **15 15 47.5 +1.3**
comp=Z,10nm,0.8s,baz=65,slow=7.6,SNR=4.1
JNU LR LR 15 23 35.7
comp=Z,290nm,19.3s,baz=130,slow=35
comp=Z,10nm,0.8s
JSD Sado 22.24 340 P **P** **15 15 51.6 +0.7**
JSD IAmb IAmb 15 15 58.0
comp=Z,69nm,1.2s
JTM Tenmabayashi 24.09 348 P **P** **15 16 10.2 +0.7**
JTM IAmb IAmb 15 16 28.8
comp=Z,66nm,1.2s
SWI Sorong 24.15 223 P **P** **15 16 10.7 +0.4**
comp=Z,495nmcomp=Z,35nm,1.3s
YULB Yu-li 25.35 288 P **P** **15 16 19.9 -1.4**
YULB IAmb IAmb 15 16 28.5
comp=Z,21nm,1.0s
YHNB Yeheng 25.51 291 P **P** **15 16 20.6 -2.1**
SSLB Suanglung 25.73 289 P **P** **15 16 22.6 -2.1**
SSLB IAmb IAmb 15 16 25.8
comp=Z,26nm,0.8s
KSRS Korea Array 26.51 323 P **P** **15 16 31.5 -0.1**
comp=Z,5.6nm,0.9s,baz=144,slow=9.4,SNR=17
comp=Z,5.6nm,0.9s
PMG Port Moresby 26.52 181 LR LR 15 26 38.5
comp=Z,89nm,18.7s,baz=328,slow=36
KSAR Wonju Array Be 26.53 323 P **P** **15 16 31.8 +0.1**
KS19 Wonju Array Si 26.58 323 P **P** **15 16 31.2 -0.9**
KS19 IAmb IAmb 15 17 11.4
comp=Z,58nm,1.9s
HNR Honiara 29.22 154 LR LR 15 27 33.9
comp=Z,287nm,21.7s,baz=348,slow=34
NJ2 Nanjing 29.84 305 *e*P **P** **15 17 01.3 0.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
USRK Ussuriysk Ar. 29.89 337 P **P** **15 17 02.0 +0.4**
comp=Z,5.0nm,0.8s,baz=149,slow=9.8,SNR=5.7
comp=Z,5.0nm,0.8s
TOLI2 Tolitoli 30.86 241 P **P** **15 17 09.5 -1.1**
MYLDM Lahad Datu 30.89 251 P **P** **15 17 10.2 -0.6**
MYLDM IAmb IAmb 15 17 18.7
comp=Z,18nm,1.1s
WHN Wuhan 32.98 300 P **P** **15 17 29.1 +0.1**
BNX BinXian 32.98 334 ⇓P **P** **15 17 29.8 +0.9**
BNX pmax pmax
comp=Z,17nm,1.1s
HNS HongShan 35.15 311 ⇑P **P** **15 17 49.4 +1.7**
HNS pmax pmax
comp=Z,11nm,1.3s
KAPI Kappang 35.29 234 LR LR 15 30 09.5
comp=Z,107nm,21.4s,baz=34,slow=33
BJI Beijing 35.39 316 P **P** **15 17 50.0 +0.3**
BJI pmax pmax
comp=Z,4.0nm,1.0s
BJI LR LR
comp=Z,140nm,15.7s
BJI LR LR
comp=Z,89nm,13.7s
BJI LR LR
comp=Z,150nm,14.8s
QIZ Qiongzhong 35.85 279 P **P** **15 17 53.9 -0.1**
QIZ S **S** **15 23 25.3 -5.2**
QIZ LR LR
comp=Z,540nm,15.5s
PETK Petropavlovsk- 36.62 10 LR LR 15 33 05.5
comp=Z,131nm,19.8s,baz=196,slow=36
HEH HeiHe 36.67 338 *e*P **P** **15 18 01.1 +0.5**
HEH pmax pmax
comp=Z,23nm,1.3s
XLT XiLinHaoTe 37.54 322 *e*P **P** **15 18 09.8 +1.6**
XLT pmax pmax
comp=Z,18nm,1.3s
XLT LR LR
comp=Z,420nm,15.6s
XLT LR LR
comp=Z,420nm,16.5s
SBUM Sibu 37.71 251 P **P** **15 18 09.9 0.0**
HHC Hu-ho-hao-te 38.86 315 *e*P **P** **15 18 20.8 +1.4**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,38nm,4.5s
GYA Guiyang 38.91 291 ⇓P **P** **15 18 20.8 +0.8**
GYA pmax pmax
comp=Z,8.0nm,1.1s
WB0 Warramunga Arr 39.02 200 P **P** **15 18 21.2 +0.4**
HIA Hailar 39.06 331 P **P** **15 18 21.5 +0.7**
HIA IAmb IAmb 15 18 23.0
comp=Z,24nm,1.1s
WR8 Warramunga Arr 39.16 200 P **P** **15 18 22.6 +0.6**
WRAB Tennant Creek 39.19 200 P **P** **15 18 23.3 +1.1**
WRA Warramunga Arr 39.20 200 P **P** **15 18 21.0 -1.3**
WRA Warramunga Arr 39.20 200 P **P** **15 18 23.7 +1.4**
comp=Z,7.9nm,1.0s,baz=22,slow=9.2,SNR=22
WRA PcP **PcP** **15 20 33.4 +2.0**
comp=Z,1.2nm,0.7s,baz=23,slow=3.5,SNR=4.9
WRA ScP **S** **15 24 22.2 +1.0**
comp=Z,0.9nm,0.8s,baz=10,slow=4.3,SNR=5.7
comp=Z,7.9nm,1.0s
HILR Hailar Array B 39.26 331 P **P** **15 18 22.8 +0.3**
comp=Z,2.7nm,0.4s,baz=146,slow=11,SNR=7.0
comp=Z,2.7nm,0.4s
BTO Baotou 39.81 314 *e*P **P** **15 18 30.0 +2.6**
BTO S **S** **15 24 32.0 +1.6**
BTO pmax pmax
comp=Z,10.0nm,0.7s
BTO pmax pmax
comp=Z,270nm,4.3s
BTO LR LR
comp=Z,380nm,13.3s
BTO LR LR
comp=Z,400nm,13.8s
BTO LR LR
comp=Z,550nm,18.0s
KSM Kuching 39.85 251 P **P** **15 18 26.7 -1.2**
KSM IAmb IAmb 15 18 28.4
comp=Z,28nm,1.1s
FITZ Fitzroy Crossi 41.25 213 P **P** **15 18 39.5 +0.2**
FITZ Fitzroy Crossi 41.25 213 P **P** **15 18 40.2 +0.9**
comp=Z,0.9nm,0.3s,baz=30,slow=12,SNR=5.9
comp=Z,0.9nm,0.3s
SLVN Son La 41.31 283 P **P** **15 18 39.6 -0.4**
MA2 Magadan 42.30 2 LR LR 15 36 43.2
comp=Z,138nm,18.8s,baz=184,slow=37
AS31 Alice Springs 42.83 199 P **P** **15 18 48.8 -3.3**
ASAR Alice Springs 42.83 199 P **P** **15 18 51.7 -0.4**
ASAR Alice Springs 42.83 199 P **P** **15 18 53.6 +1.4**
comp=Z,1.9nm,1.0s,baz=34,slow=7.6,SNR=11
ASAR PcP **PcP** **15 20 45.3 +2.2**
comp=Z,0.9nm,0.8s,baz=29,slow=2.5,SNR=4.1
ASAR ScP **ScP** **15 24 35.0 +2.5**
comp=Z,1.4nm,1.1s,baz=20,slow=4.0,SNR=5.5
comp=Z,1.9nm,1.0s
LZH Lanzhou 42.91 305 *e*P **P** **15 18 54.1 +1.1**
LZH pP pwP 15 19 04.8 -0.5
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=Z,270nm,14.4s
LZH LR LR
comp=Z,210nm,13.7s
LZH LR LR
comp=Z,260nm,14.1s

DZM Mont Dzumac 43.25 154 LR LR 15 34 05.0
comp=Z,325nm,22.0s,baz=25,slow=32
PZH PanZhiHua 43.31 290 P **P** **15 18 56.4 +0.1**
ULN Ulaanbaatar 44.98 322 P **P** **15 19 09.2 -0.3**
ULN Ulaanbaatar 44.98 322 P **P** **15 19 10.3 +0.9**
SONM Songino Array 45.36 321 P **P** **15 19 12.4 0.0**
SONM Songino Array 45.36 321 P **P** **15 19 12.9 +0.5**
comp=Z,5.9nm,1.1s,baz=129,slow=8.3,SNR=23
SONM PcP **PcP** **15 20 53.0 +1.4**
comp=Z,2.1nm,1.0s,baz=116,slow=3.4,SNR=3.5
comp=Z,5.9nm,1.1s
CHTO Chiang Mai 46.15 280 P **P** **15 19 18.2 -0.6**
CHTO Chiang Mai 46.15 280 P **P** **15 19 19.6 +0.8**
CM31 Chiang Mai Arr 46.19 279 P **P** **15 19 19.8 +0.6**
CM31 IAmb IAmb 15 19 21.1
comp=Z,20nm,1.1s
CM31 Chiang Mai Arr 46.19 279 P **P** **15 19 20.4 +1.3**
CMAR Chiang Mai Arr 46.19 279 P **P** **15 19 19.5 +0.3**
CMAR Chiang Mai Arr 46.19 279 P **P** **15 19 20.1 +1.0**
comp=Z,10nm,0.9s,baz=69,slow=6.3,SNR=73
comp=Z,10nm,0.9s
YAK Yakutsk 46.45 348 P **P** **15 19 21.9 +1.4**
YAK Yakutsk 46.45 348 P **P** **15 19 22.1 +1.5**
comp=Z,17nm,0.9s,baz=124,slow=7.3,SNR=4.2
comp=Z,17nm,0.9s
IPM Ipoh 47.31 260 P **P** **15 19 28.2 +0.2**
IPM IAmb IAmb 15 19 30.1
comp=Z,9.9nm,0.9s
KULM Kulim 47.40 261 P **P** **15 19 28.9 +0.2**
KULM IAmb IAmb 15 19 31.2
comp=Z,24nm,1.3s
STKA Stephens Creek 49.21 187 LR LR 15 40 32.3
comp=Z,101nm,20.8s,baz=19,slow=36
GOMU GeErMu 50.11 303 P **P** **15 19 50.6 +0.9**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
KCSI Kotacane, Aceh 50.69 260 P **P** **15 19 54.0 +0.1**
comp=Z,11nm,1.0s
GSI Gunungsitoli 51.63 258 P **P** **15 20 00.5 -0.5**
GSI Gunungsitoli 51.63 258 P **P** **15 20 01.4 +0.4**
SHL Shillong 52.18 289 P **P** **15 20 03.9 -1.3**
SHL IAmb IAmb 15 20 07.4
comp=Z,8.1nm,0.4s
LSA Lhasa 52.75 294 P **P** **15 20 09.7 0.0**
LSA IAmb IAmb 15 20 13.6
comp=Z,21nm,1.7s
LSA Lhasa 52.75 294 P **P** **15 20 11.9 +2.2**
WMQ Urumqi 56.58 311 *e*P **P** **15 20 38.4 +1.6**
WMQ sP pwP 15 20 56.8 +7.4
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ LR LR
comp=Z,270nm,14.1s
WMQ LR LR
comp=Z,240nm,19.3s
WMQ LR LR
comp=Z,85nm,15.9s
EVN Everest 56.59 292 P **P** **15 20 37.7 -0.1**
EVN IAmb IAmb 15 20 40.9
comp=Z,20nm,1.4s
ZAA0 Zalesovo Array 60.22 323 P **P** **15 21 01.4 -0.5**
ZAA0 IAmb IAmb 15 21 02.7
comp=Z,5.7nm,0.8s
ZALV Zalesovo Beam 60.22 323 P **P** **15 21 01.3 -0.6**
ZALV Zalesovo Beam 60.22 323 P **P** **15 21 01.9 +0.1**
comp=Z,4.9nm,0.7s,baz=102,slow=7.4,SNR=16
comp=Z,4.9nm,0.7s
MKAR Makanchi Array 60.73 314 P **P** **15 21 04.9 -0.7**
MKAR Makanchi Array 60.73 314 P **P** **15 21 05.6 +0.1**
comp=Z,3.8nm,0.8s,baz=90,slow=9.0,SNR=22
MKAR ScP **ScP** **15 25 49.5 +0.2**
comp=Z,1.1nm,1.0s,baz=74,slow=5.1,SNR=3.9
comp=Z,3.8nm,0.8s
MAKZ Makanchi 60.94 314 P **P** **15 21 06.9 -0.1**
MAKZ IAmb IAmb 15 21 08.6
comp=Z,12nm,1.0s
J20K Nowinta River 60.96 25 P **P** **15 21 04.2 -2.6**
URZ Urewera 61.81 154 LR LR 15 43 55.1
comp=Z,90nm,21.9s,baz=310,slow=32
BPAW Bear Paw Mtn. 62.24 26 P **P** **15 21 14.5 -0.9**
PRZ Przheval'sk 63.26 309 P **P** **15 21 23.5 +0.6**
KURK Kurchatov 63.51 318 P **P** **15 21 23.7 -0.4**
KURK Kurchatov 63.51 318 P **P** **15 21 24.6 +0.5**
KURK S **S** **15 29 53.5 -2.3**
KURBB Kurchatov Arra 63.56 318 P **P** **15 21 24.3 -0.1**
comp=Z,5.4nm,0.6s,baz=97,slow=7.5,SNR=63
comp=Z,5.4nm,0.6s
ILAR Eielson Array 64.14 26 P **P** **15 21 26.3 -1.7**
ILAR Eielson Array 64.14 26 P **P** **15 21 29.1 +1.1**
comp=Z,2.8nm,1.1s,baz=260,slow=5.5,SNR=9.7
comp=Z,2.8nm,1.1s
KDJ Kajisay 64.16 309 P **P** **15 21 28.7 -0.1**
RAR Rarotonga 64.24 125 LR LR 15 48 19.3
comp=Z,47nm,18.0s,baz=292,slow=35
BOOM Boomskoye usch 65.08 309 P **P** **15 21 35.0 +0.2**
BOOM IAmb IAmb 15 21 37.1
comp=Z,10nm,1.0s
KSH Kashi 65.14 306 P **P** **15 21 38.0 +2.8**
KSH pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 66.14 309 P **P** **15 21 41.1 -0.6**
AAK IAmb IAmb 15 21 43.1
comp=Z,6.2nm,1.1s
AAK Ala-Archa 66.14 309 P **P** **15 21 42.6 +0.9**
H27K Steamboat Moun 66.64 25 P **P** **15 21 44.2 0.0**
H27K IAmb IAmb 15 22 02.7
comp=Z,13nm,1.2s
NIL Nilore 67.78 300 P **P** **15 21 52.4 +0.4**
NIL Nilore 67.78 300 P **P** **15 21 53.2 +1.2**
KK31 Karatay Array 69.04 310 P **P** **15 21 59.4 -0.3**
KK31 IAmb IAmb 15 22 01.9
comp=Z,12nm,1.0s
KKAR Karatay Array 69.04 310 P **P** **15 21 59.3 -0.4**
GAR Garm 69.56 306 P **P** **15 22 03.0 -0.2**
CHGR Chuyangaron 70.49 306 P **P** **15 22 08.6 -0.3**
PPT Papeete 70.90 116 LR LR 15 44 59.4
comp=Z,134nm,21.5s,baz=305,slow=29
PPT2 Papeete2 70.91 116 *e*LR LR 15 43 43.2
comp=Z,180nm,26.8s
PPT2 *e*LR LR 15 43 50.0
comp=Z,180nm,22.5s
KBL Kabul 71.13 301 P **P** **15 22 12.2 -0.8**
KBL Kabul 71.13 301 P **P** **15 22 13.0 +0.1**
SNR=6.2
ARTI Arti 75.35 325 P **P** **15 22 37.1 -0.1**
ARTI IAmb IAmb 15 22 40.1
comp=Z,15nm,1.0s
AB31 Akbulak array 75.59 317 P **P** **15 22 38.0 -0.7**
ABKAR Akbulak array 75.59 317 P **P** **15 22 38.6 -0.1**
AKTO Aktyubinsk 76.60 319 P **P** **15 22 44.0 -0.5**
comp=Z,1.5nm,0.5s,baz=65,slow=4.9,SNR=5.1
comp=Z,1.5nm,0.5s
HRA Herat 76.68 302 P **P** **15 22 44.9 -0.6**
HRA IAmb IAmb 15 22 47.1
comp=Z,8.0nm,1.0s
SPITS Spitsbergen Ar 80.85 351 P **P** **15 23 08.4 +1.1**
comp=Z,3.4nm,0.8s,baz=108,slow=9.3,SNR=1.4
comp=Z,3.4nm,0.8s
JLN Jalan Bani Buh 82.00 291 P **P** **15 23 14.5 +0.1**
WSAR Wadi Sarin 82.41 292 P **P** **15 23 17.2 +0.6**
NVAR Mina Array Bea 82.60 52 P **P** **15 23 16.1 -1.6**
NVAR Mina Array Bea 82.60 52 P **P** **15 23 20.1 +2.5**
comp=Z,0.8nm,0.7s,baz=255,slow=8.2,SNR=5.1
comp=Z,0.8nm,0.7s
BIDO Bidbid 82.78 292 P **P** **15 23 19.8 +1.3**
SMDO Samad 82.97 292 P **P** **15 23 20.8 +1.2**
JMDO Jabal Madar 83.11 291 P **P** **15 23 21.4 +1.2**
HOQ Hoqain 83.48 293 P **P** **15 23 23.3 +1.2**
MHTO MHTO 83.61 290 P **P** **15 23 23.3 +0.5**
SNR=3.3
BANOM Banah 83.73 295 P **P** **15 23 25.3 +1.9**
SHME Shamm 83.83 295 P **P** **15 23 25.3 +1.4**
MDH Madha 83.90 294 P **P** **15 23 24.7 +0.5**
MASF Masafi 84.00 295 P **P** **15 23 26.5 +1.7**
SOHO SOHO 84.02 293 P **P** **15 23 25.1 +0.2**
UOSS Minazif 84.08 294 P **P** **15 23 24.0 -1.2**
UOSS IAmb IAmb 15 23 26.7
comp=Z,7.6nm,0.8s
UOSS Minazif 84.08 294 P **P** **15 23 25.7 +0.5**
HATD Hatta, Dubai 84.18 294 P **P** **15 23 27.0 +1.3**
ARQ Araqi 84.25 293 P **P** **15 23 27.0 +0.9**
ASHO Ashiyiah 84.28 294 P **P** **15 23 27.1 +0.9**
ARCES ARCESS Array B 84.38 343 P **P** **15 23 27.7 +1.8**
comp=Z,2.7nm,0.8s,baz=56,slow=6.5,SNR=11
comp=Z,2.7nm,0.8s

ALNE Al Ain 84.72 293 P **P** **15 23 30.1 +1.6**
SNR=6.6
ASUD Al Ashush, Dub 84.93 294 P **P** **15 23 31.8 +2.3**
YHL Hebgen Lake 85.70 44 P **P** **15 23 33.4 +0.1**
YHL IAmb IAmb 15 24 28.2
comp=Z,21nm,1.8s
YHH Holmes Hill 85.95 44 P **P** **15 23 33.1 -1.4**
MZR Muzera 87.03 293 P **P** **15 23 41.2 +1.3**
DMTO DMTO 87.27 288 P **P** **15 23 42.2 +1.1**
OBN Obninsk 87.43 328 LR LR 16 05 10.3
comp=Z,117nm,18.9s,baz=34,slow=37
PDAR Pinedale Array 87.54 46 P **P** **15 23 45.2 +3.0**
comp=Z,0.7nm,0.9s,baz=221,slow=1.6,SNR=4.2
comp=Z,0.7nm,0.9s
DOK Doka 87.75 289 P **P** **15 23 44.1 +0.7**
RBK Rabkut 88.01 288 P **P** **15 23 45.8 +1.0**
WHFO Wadi Hawf 88.28 288 P **P** **15 23 46.9 +0.9**
KBZ Khabaz 88.40 315 P **P** **15 23 47.0 +1.0**
comp=Z,4.7nm,1.0s,baz=187,slow=1.1,SNR=7.6
KBZ LR LR 16 08 11.2
comp=Z,77nm,18.0s,baz=62,slow=39
comp=Z,4.7nm,1.0s
ABTO Aybut 88.88 288 P **P** **15 23 50.0 +1.1**
FINES FINESS Array B 88.91 336 P **P** **15 23 48.8 +0.7**
comp=Z,2.6nm,0.6s,baz=73,slow=3.9,SNR=15
comp=Z,2.6nm,0.6s
PV21 Cone Mtn., Par 89.49 50 P **P** **15 23 50.0 -1.6**
PV21 IAmb IAmb 15 23 56.3
comp=Z,4.5nm,0.8s
PV23 Carpenter Ridg 89.50 50 P **P** **15 23 50.5 -1.2**
GURO Guroymak-BITLI 91.00 311 P **P** **15 23 58.4 -0.1**
KOPT Kop Dagi 91.51 313 P **P** **15 24 00.3 -0.8**
KOPT IAmb IAmb 15 24 16.9
comp=Z,8.0nm,1.2s
MARD Mardin 92.40 310 P **P** **15 24 02.9 -2.1**
MARD IAmb IAmb 15 24 06.6
comp=Z,5.3nm,1.0s
AKASG Malin Array Be 93.48 326 P **P** **15 24 09.3 -0.2**
comp=Z,0.4nm,0.3s,baz=52,slow=3.6,SNR=4.6
AKASG LR LR 16 08 30.7
comp=Z,79nm,19.4s,baz=46,slow=37
comp=Z,0.4nm,0.3s
LPIG La Paz 93.64 64 LR LR 16 08 02.6
comp=Z,31nm,18.4s,baz=264,slow=37
RAYN Ar Rayn 93.80 296 P **P** **15 24 10.3 -1.3**
RAYN IAmb IAmb 15 24 13.4
comp=Z,4.8nm,1.1s
HFS Hagfors 94.35 339 P **P** **15 24 13.6 +0.2**
comp=Z,3.9nm,1.0s,baz=54,slow=5.9,SNR=2.2
comp=Z,3.9nm,1.0s
BNN Bunyan 95.26 313 P **P** **15 24 17.8 -0.4**
BRTR Keskin Array B 96.37 315 P **P** **15 24 21.8 -1.4**
BRTR Keskin Array B 96.37 315 P **P** **15 24 22.9 -0.3**
comp=Z,2.0nm,1.1s,baz=127,slow=1.9,SNR=7.2
comp=Z,2.0nm,1.1s
TORD Torodi Ar. Bea 134.73 310 PKP **PKiKP** **15 30 14.2 -0.6**
comp=Z,0.8nm,0.8s,baz=32,slow=2.8,SNR=4.9
DBIC Dimbokro 143.82 309 PKP **PKPdf** **15 30 30.5 +0.4**
comp=Z,3.8nm,0.8s,baz=122,slow=7.5,SNR=3.1
CFA Coronel Fontan 144.59 120 PKP **PKiKP** **15 30 31.8 -2.9**
comp=Z,3.9nm,0.7s,baz=252,slow=4.5,SNR=8.1
PB11 IPOC Station P 144.66 100 PKPdf **PKPab** **15 30 27.6 -2.6**
LPAZ La Paz 145.83 94 PKPbc **PKPab** **15 30 35.0 -0.1**

IDC 16 15:23:13.5±47.0, 21°.90S×174°.84W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=890.5km s-min=171.7km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.88**	**246**	P	P	15 30 49.0	-0.2
	2.5nm,0.8s,baz=78,slow=9.3,SNR=4.5						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**47.08**	**258**	P	P	15 31 47.6	+0.1
	1.2nm,0.4s,baz=102,slow=8.1,SNR=24						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**47.34**	**263**	P	P	15 31 49.2	-0.3
	1.7nm,0.7s,baz=101,slow=7.7,SNR=75						
	1.7nm,0.7s						

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*IDC **16** 16:18:39.4±2.7, 6°.32S×130°.98E, h94km±25km, mb4.0/14, mbtmp4.4/17, MS3.3/2, Error ellipse: s-maj=21.7km s-min=13.3km az=81.0*

*NEIC **16** 16:18:40.8±2.1, 6°.27S±0°.06×130°.92E±0°.09, h99km±7km, mb4.5/45, Error ellipse: s-maj=12.5km s-min=8.8km az=91.0*

*DJA **16** 16:18:42.2±0.2, 6°S±2°×13°1E±°, h123km±3km, M4.8/37, mb4.7/37, mB5.2/13, MLv5.1/14, Mw(mB)4.6/13, MwMwp5.2/1, Mwp5.4/1*

ISC 16 16:18:40.2±0.4, 6°35S±0°.04×130°.86E±0°.05, h100km, n148, σ1°174/148, mb4.6/38, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.68**	**165**		**Pn**	**16 19 12.1**	**+3.4**
SAUI				Sn	**Sn**	**16 19 32.2**	**+1.9**
SAUI	**Saumlaki**	**1.68**	**165**	P	**Pn**	**16 19 10.8**	**+2.1**
SAUI	**Saumlaki**	**1.68**	**165**	P	**Pn**	**16 19 12.7**	**+4.0**
BNDI	**Bandanaira**	**2.05**	**332**	P	**Pn**	**16 19 17.0**	**+3.5**
BNDI	**Bandanaira**	**2.05**	**332**	P	**Pn**	**16 19 16.8**	**+3.3**
MSAI	**Masohi**	**3.55**	**327**	P	**Pn**	**16 19 36.3**	**+2.8**
FAKI	**Fak Fak**	**3.68**	**22**	Pn	**Pn**	**16 19 35.5**	**+0.3**
FAKI	**Fak Fak**	**3.68**	**22**	P	**Pn**	**16 19 35.5**	**+0.3**
FAKI	**Fak Fak**	**3.68**	**22**	P	**Pn**	**16 19 35.7**	**+0.5**
AAI	**Ambon**	**3.75**	**315**	P	**Pn**	**16 19 39.4**	**+3.3**
KMPI	**Kaimana, Papua**	**3.90**	**47**	P	**Pn**	**16 19 38.9**	**+0.8**
NLAI	**Namlea**	**4.86**	**309**	P	**Pn**	**16 19 55.0**	**+3.9**
SWI	**Sorong**	**5.47**	**4**	P	**Pn**	**16 19 59.0**	**-0.4**
	309nm,0.7s						
RKPI	**Ransiki, Papua**	**5.84**	**35**	P	**Pn**	**16 20 05.9**	**+1.5**
DRS	**Darwin Rock St**	**6.04**	**180**	P	**Pn**	**16 20 08.4**	**+1.3**
MTN	**Manton Dam**	**6.45**	**178**	Pn	**Pn**	**16 20 13.4**	**+0.7**
SANI	**Sanana**	**6.47**	**311**	P	**Pn**	**16 20 15.5**	**+2.5**
SANI	**Sanana**	**6.47**	**311**	P	**Pn**	**16 20 15.3**	**+2.3**
	0.2nm847nm34nm,0.8s						
SRPI	**Serui, Papua**	**6.97**	**51**	P	**Pn**	**16 20 20.2**	**+0.4**
BAKI	**Biak**	**7.33**	**46**	P	**Pn**	**16 20 26.9**	**+2.2**
SOEI	**Soe**	**7.35**	**242**	Pn	**Pn**	**16 20 26.4**	**+1.3**
SOEI	**Soe**	**7.35**	**242**	P	**Pn**	**16 20 27.6**	**+2.5**
SOEI	**Soe**	**7.35**	**242**	P	**Pn**	**16 20 28.0**	**+2.9**
	0.6nm2μm129nm,0.6s						
BATI	**Baumata**	**8.09**	**241**	P	**Pn**	**16 20 35.9**	**+0.9**
	74nm,0.5s,baz=105,slow=1.5,SNR=34						
BATI				S	**Sn**	**16 22 00.3**	**-4.5**
	49nm,0.4s,baz=258,slow=22,SNR=4.7						
BATI	**Baumata**	**8.09**	**241**	P	**Pn**	**16 20 37.9**	**+2.9**
	1μm97nm,0.8s						
BBSI	**Bau Bau**	**8.29**	**276**	P	**Pn**	**16 20 40.5**	**+2.7**
	37nm,1.0s						
MMRI	**Maumere**	**8.85**	**255**	Pn	**Pn**	**16 20 49.4**	**+4.1**
MMRI	**Maumere**	**8.85**	**255**	P	**Pn**	**16 20 49.1**	**+3.8**
	42nm,1.1s						
SMPI	**Sarmi**	**8.95**	**61**	P	**Pn**	**16 20 48.0**	**+1.3**
	37nm,0.8s						
EDFI	**Ende, Flores**	**9.40**	**255**	P	**Pn**	**16 20 56.2**	**+3.3**
KNRA	**Kununurra**	**9.49**	**192**	Pn	**Pn**	**16 20 53.2**	**-0.8**
MMPI	**Merauke**	**9.67**	**103**	P	**Pn**	**16 20 57.3**	**+0.7**
KMSI	**Cibinong**	**9.72**	**315**	P	**Pn**	**16 20 59.4**	**+2.2**
	3μm78nm,0.8s						
BSSI	**Bau Bau, Buton**	**10.31**	**271**	P	**Pn**	**16 21 06.7**	**+1.4**
	27nm,1.5s						
JAY	**Jayapura**	**10.53**	**69**	P	**Pn**	**16 21 05.1**	**-3.2**
	8.8nm,0.8s,baz=249,slow=8.6,SNR=2.3						
JAY	**Jayapura**	**10.53**	**69**	P	**Pn**	**16 21 07.6**	**-0.7**
	14nm,0.8s						
WSI	**Waingapu**	**10.96**	**252**	P	**Pn**	**16 21 14.8**	**+0.7**
	78nm,0.5s						
WBSI	**Waikabubak, Su**	**11.82**	**253**	P	**Pn**	**16 21 26.0**	**+0.4**
	21nm,0.7s						
TOLI2	**Tolitoli**	**12.50**	**306**	Pn	**Pn**	**16 21 36.6**	**+1.9**
TOLI2	**Tolitoli**	**12.50**	**306**	P	**Pn**	**16 21 37.5**	**+2.9**
FITZ	**Fitzroy Crossi**	**12.74**	**203**	Pn	**Pn**	**16 21 34.8**	**-3.0**
FITZ	**Fitzroy Crossi**	**12.74**	**203**	P	**Pn**	**16 21 34.2**	**-3.5**
	19nm,0.3s,baz=37,slow=11,SNR=72						
FITZ				S	Sn	16 23 44.5	-13
	10nm,0.3s,baz=115,slow=19,SNR=7.8						
PLAI	**Plampang**	**13.20**	**258**	P	**Pn**	**16 21 46.5**	**+2.6**
PLAI	**Plampang**	**13.20**	**258**	P	**Pn**	**16 21 45.1**	**+1.2**
	29nm,1.6s						
WB0	**Warramunga Arr**	**13.77**	**166**	Pn	**Pn**	**16 21 46.9**	**-4.4**
WRAB	**Tennant Creek**	**13.92**	**166**	Pn	**Pn**	**16 21 49.3**	**-3.9**
WRA	**Warramunga Arr**	**13.92**	**166**	Pn	Pn	16 21 48.0	-5.2

WRA	**Warramunga Arr**	**13.92**	**166**	P	**Pn**	**16 21 49.5**	**-3.8**
	3.1nm,0.3s,baz=348,slow=14,SNR=25						
WRA				S	Sn	16 24 10.6	-16
	7.8nm,0.3s,baz=341,slow=22,SNR=10						
WR8	**Warramunga Arr**	**13.97**	**166**	Pn	**Pn**	**16 21 49.5**	**-4.4**
TWSI	**Taliwang, Sumb**	**14.06**	**259**	P	**Pn**	**16 21 56.4**	**+1.4**
COEN	**Coen**	**14.28**	**123**	Pn	**Pn**	**16 21 57.0**	**-0.9**
COEN	**Coen**	**14.28**	**123**	P	**Pn**	**16 21 57.3**	**-0.6**
BBKI	**Banjar Baru**	**16.21**	**279**	P	**P**	**16 22 26.2**	**+2.6**
PMG	**Port Moresby**	**16.43**	**102**		**P**	**16 22 26.6**	**+0.7**
PMG				IAmb	IAmb	16 22 38.4	
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**16.43**	**102**	P	**Pn**	**16 22 24.5**	**-0.4**
PMG	**Port Moresby**	**16.43**	**102**	P	**Pn**	**16 22 24.3**	**-0.6**
QIS	**Mount Isa**	**16.47**	**150**	P	**Pn**	**16 22 25.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**16.70**	**262**	Pn	**Pn**	**16 22 26.6**	**-1.7**
JAGI				IAmb	IAmb	16 22 59.4	
	comp=Z,47nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.70**	**262**	P	**P**	**16 22 29.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.70**	**262**	P	**Pn**	**16 22 28.8**	**+0.5**
	comp=Z,21nm,1.1s						
MYLDM	**Lahad Datu**	**16.84**	**313**		**Pn**	**16 22 30.7**	**+0.7**
MYLDM				IAmb	IAmb	16 22 44.7	
	comp=Z,21nm,1.1s						
MYLDM	**Lahad Datu**	**16.84**	**313**	P	**P**	**16 22 31.7**	**+1.2**
AS31	**Alice Springs**	**17.46**	**171**	P	**P**	**16 22 36.3**	**-1.0**
AS31				IAmb	IAmb	16 22 39.5	
	comp=Z,9.3nm,0.5s						
ASAR	**Alice Springs**	**17.46**	**171**	P	**P**	**16 22 36.5**	**-0.8**
ASAR	**Alice Springs**	**17.46**	**171**	P	**P**	**16 22 36.2**	**-1.1**
	comp=Z,18nm,0.6s,baz=340,slow=8.0,SNR=189						
ASAR				S	Sn	16 25 37.2	-15
	comp=Z,3.7nm,0.6s,baz=356,slow=28,SNR=6.9						
AS01	**Alice Springs**	**17.47**	**171**	P	**Pn**	**16 22 37.8**	**+0.2**
MTSU	**Mount Surprise**	**17.59**	**133**	P	**Pn**	**16 22 38.7**	**-0.5**
MBWA	**Marble Bar**	**18.24**	**215**	P	**P**	**16 22 46.2**	**+0.3**
MBWA	**Marble Bar**	**18.24**	**215**	P	**Pn**	**16 22 47.1**	**+0.1**
PSA00	**Pilbara Seismi**	**18.50**	**214**	P	**P**	**16 22 48.8**	**0.0**
PSA00	**Pilbara Seismi**	**18.50**	**214**	P	**P**	**16 22 49.0**	**+0.2**
SBUM	**Sibu**	**20.56**	**295**	P	**P**	**16 23 11.5**	**+0.3**
SBUM				IAmb	IAmb	16 23 14.4	
	comp=Z,11nm,0.8s						
SBUM	**Sibu**	**20.56**	**295**	P	**P**	**16 23 12.3**	**+1.1**
KPJI	**Karang Pucung**	**21.79**	**266**	P	**P**	**16 23 26.0**	**+1.6**
	comp=Z,28nm,0.8s						
KSM	**Kuching**	**21.94**	**290**	P	**P**	**16 23 24.6**	**-1.3**
KSM				IAmb	IAmb	16 23 28.8	
	comp=Z,16nm,1.1s						
BBJI	**Bungbulang**	**23.07**	**266**	P	**P**	**16 23 38.5**	**+1.0**
LEM	**Lembang**	**23.09**	**268**	LR	LR	16 34 21.6	
	comp=Z,60nm,18.9s,baz=282,slow=41						
INKA	**Innaminka**	**23.25**	**157**	P	**P**	**16 23 40.1**	**+1.1**
MEEK	**Meekatharra**	**23.30**	**209**	P	**P**	**16 23 39.6**	**+0.1**
CGJI	**Cibinong**	**25.01**	**268**	P	**P**	**16 23 55.3**	**+0.2**
	comp=Z,38nm,1.5s						
BBOO	**Buckleboo**	**26.77**	**170**	P	**P**	**16 24 10.6**	**-0.1**
BBOO				IAmb	IAmb	16 24 38.3	
	comp=Z,50nm,1.5s						
STKA	**Stephens Creek**	**27.30**	**160**	P	**P**	**16 24 14.8**	**-0.8**
STKA	**Stephens Creek**	**27.30**	**160**	P	**P**	**16 24 15.5**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=335,slow=8.5,SNR=7.7						
	comp=Z,2.7nm,0.6s						
STKA	**Stephens Creek**	**27.30**	**160**	P	**P**	**16 24 15.4**	**-0.1**
BLDU	**Ballidu**	**27.55**	**207**	P	**P**	**16 24 17.6**	**-0.2**
CMSA	**Cobar Meteorol**	**28.64**	**153**	P	**P**	**16 24 27.3**	**-0.2**
KULM	**Kulim**	**32.30**	**290**	P	**P**	**16 24 58.7**	**-1.3**
KULM				IAmb	IAmb	16 24 59.7	
	comp=Z,10nm,0.9s						
KULM	**Kulim**	**32.30**	**290**	P	**P**	**16 25 00.0**	**0.0**
CAN	**Canberra**	**33.31**	**152**	P	**P**	**16 25 09.9**	**+1.3**
CAN				IAmb	IAmb	16 25 35.1	
	comp=Z,21nm,1.4s						
GSI	**Gunungsitoli**	**34.09**	**282**	P	**P**	**16 25 16.1**	**+0.5**
GSI	**Gunungsitoli**	**34.09**	**282**	P	**P**	**16 25 15.7**	**+0.1**
	comp=Z,19nm,0.7s						
NJ2	**Nanjing**	**39.87**	**344**	*e*P	**P**	**16 26 07.3**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CM31	**Chiang Mai Arr**	**39.99**	**309**	P	**P**	**16 26 04.8**	**-0.6**
CM31				IAmb	IAmb	16 26 06.5	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P	**P**	**16 26 05.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P	**P**	**16 26 05.5**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=136,slow=7.0,SNR=30						
	comp=Z,3.6nm,0.8s						
CHTO	**Chiang Mai**	**40.19**	**309**	P	**P**	**16 26 06.7**	**-0.5**
CHTO				IAmb	IAmb	16 26 08.0	
	comp=Z,7.5nm,0.8s						
ENH	**Enshi**	**41.79**	**332**	P	**P**	**16 26 19.1**	**-1.0**
PZH	**PanZhiHua**	**43.17**	**320**	P	**P**	**16 26 33.5**	**+2.0**
MAJO	**Matsushiro**	**43.22**	**9**	P	**P**	**16 26 30.1**	**-1.5**
MAJO				IAmb	IAmb	16 26 31.0	
	comp=Z,9.5nm,0.8s						
MAJO	**Matsushiro**	**43.22**	**9**	P	**P**	**16 26 31.6**	**0.0**
MJAR	**Matsushiro Arr**	**43.22**	**9**	P	**P**	**16 26 30.1**	**-1.5**
MJAR	**Matsushiro Arr**	**43.22**	**9**	P	**P**	**16 26 30.2**	**-1.3**
	comp=Z,5.2nm,0.7s,baz=186,slow=9.5,SNR=13						
	comp=Z,5.2nm,0.7s						
MJB9	**Matsu-Tunnel**	**43.23**	**9**	P	**P**	**16 26 30.9**	**-0.7**
MJB9				IAmb	IAmb	16 26 32.0	
	comp=Z,9.2nm,0.8s						
KSRS	**Korea Array**	**43.67**	**357**	P	**P**	**16 26 34.8**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=173,slow=8.6,SNR=11						
	comp=Z,2.0nm,0.7s						
JMM	**Marumori**	**44.96**	**11**	P	**P**	**16 26 45.2**	**-0.1**
JMM				IAmb	IAmb	16 26 49.7	
	comp=Z,11nm,0.8s						
JMM	**Marumori**	**44.96**	**11**	P	**P**	**16 26 45.2**	**-0.1**
LZDM	**Lanzhou Array**	**49.22**	**331**	P	**P**	**16 27 20.2**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=156,slow=11,SNR=4.2						
LZDM				LR	LR	16 50 23.8	
	comp=Z,41nm,18.5s,baz=255,slow=39						
	comp=Z,1.6nm,0.3s						
HHC	**Hu-ho-hao-te**	**50.21**	**341**	*e*P	**P**	**16 27 28.4**	**+2.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,75nm,5.1s						
USRK	**Ussuriysk Ar.**	**50.33**	**1**	P	**P**	**16 27 26.5**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=180,slow=6.9,SNR=14						
	comp=Z,3.0nm,0.5s						
JKA	**Kamikawa-asahi**	**51.34**	**11**	P	**P**	**16 27 34.1**	**-0.3**
EVN	**Everest**	**54.50**	**311**	P	**P**	**16 27 58.5**	**-0.2**
HEH	**HeiHe**	**56.45**	**357**	*e*P	**P**	**16 28 10.5**	**-1.0**
ULN	**Ulaanbaatar**	**57.92**	**341**	P	**P**	**16 28 22.5**	**+0.4**
ULN				IAmb	IAmb	16 28 23.5	
	comp=Z,4.3nm,0.7s						
SONM	**Songino Array**	**58.11**	**341**	P	**P**	**16 28 24.5**	**+1.1**
SONM	**Songino Array**	**58.11**	**341**	P	**P**	**16 28 23.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=157,slow=8.4,SNR=6.6						
	comp=Z,1.5nm,0.5s						
PEA0B	**Petropavlovsk-**	**63.45**	**18**	P	**P**	**16 28 59.7**	**+0.3**
PETK	**Petropavlovsk-**	**63.45**	**18**	P	**P**	**16 28 59.1**	**-0.2**
PETK	**Petropavlovsk-**	**63.45**	**18**	P	**P**	**16 28 59.8**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=172,slow=4.3,SNR=10						
	comp=Z,3.1nm,0.6s						
KSH	**Kashi**	**68.13**	**317**	P	**P**	**16 29 30.8**	**+1.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**68.16**	**326**	P	**P**	**16 29 30.1**	**+0.3**
MKAR	**Makanchi Array**	**68.16**	**326**	P	**P**	**16 29 29.9**	**+0.2**
	comp=Z,6.7nm,0.5s,baz=116,slow=7.8,SNR=109						
	comp=Z,6.7nm,0.5s						
YAK	**Yakutsk**	**68.19**	**359**	P	**P**	**16 29 28.9**	**-0.7**
MAKZ	**Makanchi**	**68.34**	**326**	P	**P**	**16 29 30.8**	**-0.2**
MAKZ				IAmb	IAmb	16 29 32.7	
	comp=Z,5.1nm,0.6s						
KDJ	**Kajisay**	**68.63**	**320**	P	**P**	**16 29 33.3**	**+0.3**
BOOM	**Boomskoye usch**	**69.60**	**320**	P	**P**	**16 29 39.4**	**+0.4**
BOOM				IAmb	IAmb	16 29 39.9	
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**70.61**	**319**	P	**P**	**16 29 46.1**	**+1.0**
ARSB	**Arslanbob**	**70.99**	**318**	P	**P**	**16 29 47.4**	**-0.1**
ARSB				IAmb	IAmb	16 29 49.6	
	comp=Z,7.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.39**	**333**	P	**P**	**16 29 48.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=116,slow=3.4,SNR=5.8						
	comp=Z,0.7nm,0.3s						
GAR	**Garm**	**71.82**	**314**	P	**P**	**16 29 52.0**	**-0.5**
GAR				IAmb	IAmb	16 29 54.0	
	comp=Z,8.5nm,0.8s						
KURBB	**Kurchatov Arra**	**72.41**	**328**	P	**P**	**16 29 55.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=127,slow=4.9,SNR=19						
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**72.42**	**328**	P	**P**	**16 29 54.7**	**-0.8**
KURK				IAmb	IAmb	16 29 56.0	
	comp=Z,4.3nm,1.1s						
VNDA	**Vanda**	**72.98**	**173**	P	**P**	**16 29 58.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=327,slow=6.6,SNR=5.7						
	comp=Z,0.5nm,0.6s						
KKAR	**Karatay Array**	**73.42**	**318**	P	**P**	**16 30 01.3**	**-0.5**
SBA	**Scott Base**	**73.86**	**173**	P	**P**	**16 30 05.2**	**+1.5**
TIXI	**Tiksi**	**77.86**	**359**	P	**P**	**16 30 25.8**	**-0.6**
TIXI				IAmb	IAmb	16 30 26.5	
	comp=Z,4.1nm,0.8s						
AB31	**Akbulak array**	**82.54**	**321**	P	**P**	**16 30 50.4**	**-1.6**
ABKAR	**Akbulak array**	**82.54**	**321**	P	**P**	**16 30 50.2**	**-1.8**
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**16 30 59.4**	**+1.9**
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**16 30 59.1**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=295,slow=1.1,SNR=6.5						
	comp=Z,1.4nm,0.9s						
J17K	**VABM Dome**	**86.88**	**25**	P	**P**	**16 31 12.7**	**-0.8**
L18K	**Granite Mounta**	**87.52**	**27**	P	**P**	**16 31 17.1**	**+0.4**
L18K				IAmb	IAmb	16 31 34.0	
	comp=Z,6.5nm,1.4s						
D19K	**Kuna River**	**89.03**	**20**	P	**P**	**16 31 22.6**	**-1.1**
E22K	**Anaktuvuk Pass**	**91.16**	**21**	P	**P**	**16 31 33.0**	**-0.7**
H24K	**Noodor Dome**	**92.18**	**24**	P	**P**	**16 31 37.5**	**-0.9**
H24K				IAmb	IAmb	16 31 56.6	
	comp=Z,7.1nm,1.5s						
ILAR	**Eielson Array**	**92.40**	**25**	P	**P**	**16 31 37.4**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=267,slow=4.1,SNR=5.2						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**101.27**	**340**	P	**Pdif**	**16 32 17.5**	**-2.0**
	comp=Z,1.1nm,0.9s,baz=71,slow=5.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**129.52**	**282**	PKPdf	**PKPdf**	**16 37 37.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**129.52**	**282**	PKP	**PKPdf**	**16 37 37.3**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=28,slow=3.1,SNR=6.0						

LJU 16 16:42:59.4, 46°.39N×15°.07E, h0km, 1D, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAVS	**Zavodnje**	**0.05**	**325**	↓*i*Pg	Pg	16 42 59.4	-1.1

VIE 16 16:43:13.4±0.3, 47°.67N×13°.60E, h0km, mb-0.4/1, ml1.2/1, Error ellipse: s-maj=3.0km s-min=1.4km az=84.0 3 km NNW of Bad Goisern Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIOA	**Bad Ischl, Aus**	**0.04**	**51**	*i*Pg	Pg	16 43 14.1	0.0
BIOA	41nm,0.1s						
				*i*Sg	Sg	16 43 14.8	+0.2
	90nm,0.1s						

JMA 16 16:46:03.2±0.1, 35°.5N±0°.1×139°.1E±0°.2, h20km, MV0.8/26, EASTERN YAMANASHI PREF, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSGW	**Sagamiharawaka**	**0.12**	**40**	P	Pg	16 46 07.1	-0.2
JSGW				S	Sg	16 46 10.1	0.0
JOD2	**Odawara 2**	**0.25**	**185**	*e*P	Pb	16 46 08.8	-0.1
JOD2				*e*S	Sb	16 46 12.8	+0.1
JYN	**Shimob**	**0.47**	**269**	P	Pg	16 46 12.4	-0.4
JYN				*e*S	Sb	16 46 19.5	+0.1

JMA 16 16:46:28.4±0.1, 34°.8N±0°.1×138°.9E±0°.3, h7km±2km, MV0.1/11, CENTRAL IZU PENINSULA, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.13**	**171**	*e*S	Sg	16 46 31.2	-1.8
JIZS	**Izushimoda**	**0.13**	**171**	P	Pg	16 46 31.2	+0.1

RSNC 16 17:08:14.3±0.0, 5°N±1°×74°W±°, h149km±2km, M2.7, mb3.6, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.52**	**318**	P	Pn	17 08 35.5	-0.3
SPBC				S	Sn	17 08 51.5	-0.6
ROSC	**El Rosal**	**0.73**	**235**	P	Pn	17 08 38.2	+0.8
ROSC				S	Sn	17 08 55.9	+1.0
CVER	**Cruz Verde, Cu**	**0.81**	**206**	P	Pn	17 08 38.4	+0.3
CVER				S	Sn	17 08 56.8	+0.6
RUSC	**La Rusia**	**0.89**	**45**	P	Pn	17 08 38.8	+0.1
RUSC				S	Sn	17 08 57.2	0.0
NORC	**Norcasia**	**1.18**	**285**	P	Pn	17 08 40.1	-0.6
NORC				S	Sn	17 08 59.9	-0.9
BARC	**Barichara**	**1.43**	**22**	P	Pn	17 08 42.5	-0.8
BARC				S	Sn	17 09 04.6	-0.9
PTBC	**PUERTO BERRIO,**	**1.47**	**330**	P	Pn	17 08 42.1	-1.4
PTBC				S	Sn	17 09 04.3	-1.6
GUY2C	**Guyana, Caldas**	**1.64**	**269**	P	Pn	17 08 45.4	-0.4
GUY2C				S	Sn	17 09 09.8	0.0
BRJC	**Barrancabermej**	**1.70**	**359**	P	Pn	17 08 46.2	+0.2
BRJC				S	Sn	17 09 10.1	-0.3
PTGC	**Puerto Gaitan,**	**1.90**	**124**	P	Pn	17 08 47.7	-0.5
PTGC				S	Sn	17 09 12.9	-1.4
PRAC	**Prado**	**1.93**	**217**	P	Pn	17 08 48.0	-0.6
PRAC				S	Sn	17 09 13.9	-1.0
HELC	**Santa Helena**	**2.02**	**297**	P	Pn	17 08 49.8	-0.2
HELC				S	Sn	17 09 16.1	-1.3
ORTC	**Ortega, Tolima**	**2.03**	**229**	P	Pn	17 08 49.0	-0.8
ORTC				S	Sn	17 09 15.7	-1.3
URMC	**La Uribe, Meta**	**2.10**	**198**	P	Pn	17 08 50.8	+0.1
URMC				S	Sn	17 09 19.1	+0.4
PAMC	**Pamplona, Colo**	**2.30**	**26**	P	Pn	17 08 53.8	+0.3
CBOC	**Ciudad Bolivar**	**2.36**	**285**	P	Pn	17 08 53.4	-0.4
CBOC				S	Sn	17 09 23.8	-0.4
ZARC	**Zaragoza, Cauc**	**2.49**	**333**	P	Pn	17 08 53.5	-1.8
ZARC				S	Sn	17 09 24.6	-2.3
OCAC	**Ocana**	**2.99**	**8**	P	Pn	17 09 01.3	-0.3
OCAC				S	Sn	17 09 37.9	-0.3
DBBC	**Dabeiba**	**3.03**	**305**	P	Pn	17 09 01.6	-0.5
DBBC				S	Sn	17 09 38.2	-0.9
UREC	**San Jos de Ur**	**3.06**	**324**	P	Pn	17 08 59.7	-2.8
UREC				S	Sn	17 09 36.0	-3.7
APAC	**Apartado, Choc**	**3.87**	**313**	P	Pn	17 09 12.3	-0.5
APAC				S	Sn	17 09 58.3	0.0
FLOC	**Florencia**	**4.13**	**208**	P	Pn	17 09 16.3	0.0
SJCC	**San Jacinto, C**	**4.83**	**343**	P	Pn	17 09 22.1	-3.4
SJCC				S	Sn	17 10 15.6	-5.5
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	17 09 48.8	-0.6
URIC				S	Sn	17 10 59.1	-4.8

*CATAC **16** 18:06:22.9±0.9, 10°N±7°×8°6W±°, h20km±9km, M3.1/7, MLv3.1/7, Error ellipse: s-maj=15.3km s-min=10.3km az=174.7, confirmed*
*UCR **16** 18:06:22.8±0.8, 10°.43N×86°.35W, h18km±8km, MW3.6*
ISC 16 18:06:24.0±1.8, 10°.43N±0°.06×86°.29W±0°.06, h19km±4km, n25, σ0°69/31, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.75**	**77**	*e*P	**Pg**	**18 06 38.9**	**+0.2**
ALIBA				*e*S	**Sn**	**18 06 50.4**	**+0.1**
ELI1	**Hacienda Flor**	**0.75**	**73**	P	**Pn**	**18 06 39.3**	**-0.2**
ELI1				S	**Sn**	**18 06 51.5**	**+1.1**
ELI1	**Hacienda Flor**	**0.75**	**73**	*e*P	**Pn**	**18 06 39.3**	**-0.2**
JUD3	**Juan Diaz 3**	**0.78**	**110**	*e*P	**Pb**	**18 06 38.2**	**-0.7**
LAPC	**Finca la Perla**	**0.90**	**68**	*e*P	**Pb**	**18 06 40.8**	**-0.3**
LAPC				*e*S	**Sb**	**18 06 53.0**	**+0.3**
LCRUZ	**La Cruz**	**0.91**	**45**	*e*P	**Pn**	**18 06 41.5**	**-0.3**
LCRUZ				*e*S	**Sn**	**18 06 55.3**	**+0.9**
GPS2	**Hotel Rincn d**	**0.97**	**71**	*e*P	**Pb**	**18 06 42.0**	**-0.3**
VRLE	**La Escondida,**	**0.97**	**68**	*e*P	**Pb**	**18 06 41.8**	**-0.5**
BUAI	**Buenos Aires**	**1.04**	**65**	*e*P	**Pb**	**18 06 42.8**	**-0.5**
CARN	**Rivas**	**1.06**	**45**	P	**Pg**	**18 06 44.3**	**-0.4**
CARN				S	**Sg**	**18 07 00.3**	**+1.6**
CARN	**Rivas**	**1.06**	**45**	*e*P	**Pb**	**18 06 43.4**	**-0.3**
MESS	**Mesas**	**1.12**	**74**	*e*P	**Pn**	**18 06 43.9**	**-0.7**
HORNC	**Hornillas**	**1.12**	**75**	*e*P	**Pn**	**18 06 44.1**	**-0.6**
CUI	**Cuipilapa**	**1.13**	**78**	*e*P	**Pn**	**18 06 44.2**	**-0.6**
VMAR	**Armenia, Volca**	**1.21**	**72**	*e*P	**Pn**	**18 06 45.6**	**-0.3**
OMEN	**Al SSO del Vol**	**1.25**	**31**	P	**Pb**	**18 06 47.0**	**-0.1**
TIMP	**Tierras Morena**	**1.25**	**83**	*e*P	**Pn**	**18 06 46.6**	**0.0**
CONN	**Concepcion**	**1.30**	**30**	P	**Pb**	**18 06 47.5**	**-0.3**
TENO	**El Achiote**	**1.31**	**78**	*e*P	**Pn**	**18 06 46.3**	**-1.1**
JTS	**Las Juntas de**	**1.32**	**96**	P	**Pb**	**18 06 47.8**	**-0.3**
JTS	**Las Juntas de**	**1.32**	**96**	*e*P	**Pn**	**18 06 47.6**	**+0.3**
NANN	**Nandasmo**	**1.51**	**6**	P	**Pg**	**18 06 52.0**	**-1.2**
ACON	**Acoyapa**	**1.88**	**35**	P	**Pn**	**18 06 54.2**	**-0.9**
ACON				S	**Sb**	**18 07 20.8**	**+0.1**
ACON	**Acoyapa**	**1.88**	**35**	*e*P	**Pn**	**18 06 54.1**	**-1.0**
NUBE	**Las Nubes**	**4.86**	**316**	P	**Pb**	**18 07 49.4**	**+0.8**

KRSC 16 18:07:09.3±1.6, 50°.27N×158°.89E, h63km±36km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.78**	**313**	*e*P	Pn	18 07 40.3	+2.4
SKR	**Severo-Kuril's**	**1.82**	**284**	*e*P	Pn	18 07 39.6	+1.2
SKR				*e*S	Sn	18 08 01.2	+0.8
RUS	**Russkaya**	**2.18**	**354**	*e*P	Pn	18 07 45.2	+2.0
RUS				*e*S	Sn	18 08 11.0	+1.9
ASAK	**Asacha**	**2.21**	**344**	*e*P	Pn	18 07 46.3	+2.6
ASAK				*e*S	Sn	18 08 13.3	+3.4
MTVR	**Mutnovka**	**2.26**	**349**	*e*P	Pn	18 07 47.0	+2.5
MTVR				*e*S	Sn	18 08 14.0	+2.7
GRL	**Gorelyy**	**2.34**	**348**	*e*P	Pn	18 07 48.5	+2.9
GRL				*e*S	Sn	18 08 16.8	+3.5
MIPR	**Malaya Ipel'ka**	**2.42**	**327**	*e*P	Pn	18 07 49.6	+3.2
KRMR	**Karymshinskiy**	**2.61**	**350**	*e*P	Pn	18 07 51.9	+2.8
KRMR				*e*S	Sn	18 08 23.1	+3.6
PET	**Petropavlovsk**	**2.76**	**357**	*e*P	Pn	18 07 53.8	+2.7
PET				*e*S	Sn	18 08 25.9	+2.6
DALK	**Dalny**	**2.77**	**358**	*e*P	Pn	18 07 53.9	+2.7
DALK				*e*S	Sn	18 08 25.5	+2.0
INSR	**Institute**	**2.81**	**356**	*e*S	Sn	18 08 27.6	+3.1
SPN	**Mys Shipunski**	**2.92**	**14**	*e*P	Pn	18 07 55.5	+2.1
SPN				*e*S	Sn	18 08 29.3	+2.2
SMAR	**Somma**	**3.00**	**359**	*e*P	Pn	18 07 58.4	+3.8
AVH	**Avacha**	**3.00**	**358**	*e*P	Pn	18 07 57.9	+3.4
AVH				*e*S	Sn	18 08 32.3	+2.9
SDLR	**Sedlovina**	**3.01**	**360**	*e*P	Pn	18 07 58.1	+3.4
KOK	**Koryaka**	**3.03**	**357**	*e*P	Pn	18 07 58.5	+3.6
KOK				*e*S	Sn	18 08 33.6	+3.5
KRER	**Koryakskii**	**3.04**	**358**	*e*P	Pn	18 07 58.3	+3.1
KRER				*e*S	Sn	18 08 33.5	+3.1
KRX	**Arik**	**3.10**	**357**	*e*P	Pn	18 07 58.5	+2.6
GNL	**Ganaly**	**3.48**	**351**	*e*P	Pn	18 08 05.1	+4.0
KZV	**Kizimen**	**4.93**	**9**	*e*P	Pn	18 08 24.0	+3.1
KZV				*e*S	Sn	18 09 19.2	+2.6
TUMD	**Tumrok D**	**5.03**	**10**	*e*P	Pn	18 08 24.6	+2.5
TUMD				*e*S	Sn	18 09 20.6	+1.8

*NEIC **16** 18:30:58.4±1.3, 56°.34N±0°.03×156°.11W±0°.08, h64km±5km, Error ellipse: s-maj=6.7km s-min=3.4km az=77.0*
*AEIC **16** 18:30:58.7±1.0, 56°.31N±0°.04×156°.10W±0°.08, h66km±8km, ML3.2, ML3.1/52(NEIC), Error ellipse: s-maj=6.7km s-min=5.0km az=68.0*
*ANF **16** 18:30:58.6±0.4, 56°.33N×156°.09W, h47km±15km, ML3.6/11, Error ellipse: s-maj=5.0km s-min=2.4km az=9.0*
ISC 16 18:30:57.8±1.7, 56°.31N±0°.07×156°.07W±0°.04, h71km±17km, n122, σ0°61/130, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.55**	**152**	Pn	**Pn**	**18 31 10.8**	**-0.3**
CHIR				IAML		18 31 25.4	
	comp=E,627nm,0.7s						
CHIR				IAML		18 31 25.9	
	comp=N,828nm,0.8s						
CHIR	**Chirikof Islan**	**0.55**	**152**		**Sn**	**18 31 21.4**	**+0.4**
CHIR	**Chirikof Islan**	**0.55**	**152**	P	**Pn**	**18 31 10.9**	**-0.3**
	baz=331						
R17L	**Mt. Peulik Vol**	**1.34**	**353**	P	**Pn**	**18 31 20.6**	**-0.1**
	baz=174						
R17L				S	**Sn**	**18 31 38.0**	**+0.1**
	baz=174						
PLK4	**Peulik 4**	**1.34**	**353**	Pn	**Pn**	**18 31 20.5**	**-0.2**
PLK4				Sn	**Sn**	**18 31 35.9**	**-2.0**
PLBL	**Peulik Blue Cr**	**1.46**	**344**		**Pn**	**18 31 22.0**	**-0

ILSW				IAML			18 32 54.4	
	comp=E,16nm,1.2s							
O14K	**Tigyukauivet M**	**4.06**	**319**	Pn	**Pn**		**18 31 57.3**	**0.0**
O14K				IAML			18 32 45.9	
	comp=E,17nm,1.1s							
O14K				IAML			18 32 59.4	
	comp=N,16nm,0.9s							
O14K	**Tigyukauivet M**	**4.06**	**319**	P	**Pn**		**18 31 57.3**	**0.0**
CNPM	**China Poot**	**4.13**	**37**	Pn	**Pn**		**18 31 58.7**	**+0.4**
CNPM				IAML			18 33 00.9	
	comp=N,29nm,1.1s							
CNPM				IAML			18 33 08.8	
	comp=E,18nm,1.2s							
N17K	**Nushagak Hills**	**4.27**	**353**	Pn	**Pn**		**18 32 00.1**	**-0.2**
N17K				IAML			18 33 22.0	
	comp=E,13nm,0.8s							
N17K				IAML			18 33 22.0	
	comp=N,14nm,0.8s							
N18K	**Kilae Creek**	**4.39**	**1**	Pn	**Pn**		**18 32 01.8**	**0.0**
N18K				IAML			18 33 19.1	
	comp=E,12nm,1.2s							
N16K	**Nishlik Lake**	**4.42**	**342**	P	**Pn**		**18 32 02.9**	**+0.6**
	baz=160							
N15K	**Kwethluk River**	**4.42**	**333**	Pn	**Pn**		**18 32 02.3**	**+0.1**
N15K				IAML			18 33 18.7	
	comp=N,29nm,1.1s							
N15K				IAML			18 34 00.6	
	comp=E,22nm,1.1s							
N15K	**Kwethluk River**	**4.42**	**333**	P	**Pn**		**18 32 02.9**	**+0.6**
	baz=150							
BRLK	**Bradley Lake**	**4.43**	**36**	Pn	**Pn**		**18 32 01.5**	**-0.9**
N19K	**Bonanza Creek**	**4.60**	**10**	Pn	**Pn**		**18 32 05.1**	**+0.3**
N19K				IAML			18 33 26.6	
	comp=N,10nm,1.2s							
N19K				IAML			18 33 39.4	
	comp=E,10nm,0.8s							
N14K	**Kuskokwak Cree**	**4.69**	**323**	Pn	**Pn**		**18 32 06.1**	**+0.2**
N14K	**Kuskokwak Cree**	**4.69**	**323**	P	**Pn**		**18 32 06.4**	**+0.5**
	baz=138							
M16K	**Timber Creek**	**4.96**	**344**	Pn	**Pn**		**18 32 10.5**	**+0.8**
M16K				IAML			18 33 07.7	
	comp=N,14nm,1.1s							
M16K	**Timber Creek**	**4.96**	**344**	P	**Pn**		**18 32 10.3**	**+0.6**
	baz=161							
M15K	**Kasigluk River**	**5.02**	**333**		**Pn**		**18 32 10.1**	**-0.4**
M15K	**Kasigluk River**	**5.02**	**333**	P	**Pn**		**18 32 10.8**	**+0.3**
	baz=149							
M17K	**Holitna River**	**5.16**	**353**	Pn	**Pn**		**18 32 12.8**	**+0.4**
M17K	**Holitna River**	**5.16**	**353**	P	**Pn**		**18 32 12.7**	**+0.3**
	baz=172							
M18K	**Stony River**	**5.20**	**1**		**Pn**		**18 32 13.0**	**+0.1**
M18K	**Stony River**	**5.20**	**1**	P	**Pn**		**18 32 13.9**	**+0.9**
	baz=182							
SLKM	**Skilak Lake**	**5.22**	**34**	Pn	**Pn**		**18 32 14.1**	**+1.0**
SLKM				IAML			18 35 03.5	
	comp=E,16nm,0.2s							
SLKM				IAML			18 35 03.7	
	comp=N,18nm,0.2s							
SPU	**Mount Spurr**	**5.32**	**21**	Pn	**Pn**		**18 32 16.8**	**+2.2**
M14K	**Bethel**	**5.42**	**328**	Pn	**Pn**		**18 32 16.7**	**+0.8**
M14K	**Bethel**	**5.42**	**328**	P	**Pn**		**18 32 16.4**	**+0.5**
	baz=143							
M13K	**Dall Lake**	**5.62**	**320**		**Pn**		**18 32 19.5**	**+0.9**
STLK	**Strandline Lak**	**5.65**	**21**	Pn	**Pn**		**18 32 19.6**	**+0.5**
M19K	**Big River Lodg**	**5.68**	**8**	Pn	**Pn**		**18 32 18.8**	**-0.7**
L16K	**Owhat River**	**5.70**	**343**	Pn	**Pn**		**18 32 19.8**	**+0.1**
L16K	**Owhat River**	**5.70**	**343**	P	**Pn**		**18 32 19.7**	**+0.1**
	baz=161							
RC01	**Rabbit Creek A**	**5.82**	**32**	Pn	**Pn**		**18 32 20.0**	**-1.4**
SUA	**Susitna One**	**5.86**	**26**	Pn	**Pn**		**18 32 21.7**	**-0.3**
L19K	**White Mountain**	**5.93**	**6**	Pn	**Pn**		**18 32 23.6**	**+0.7**
L19K	**White Mountain**	**5.93**	**6**	P	**Pn**		**18 32 24.1**	**+1.3**
	baz=187							
L18K	**Granite Mounta**	**5.94**	**357**	Pn	**Pn**		**18 32 23.5**	**+0.5**
L17K	**Donlin**	**5.96**	**350**	P	**Pn**		**18 32 23.5**	**+0.3**
	baz=168							
L15K	**Ungalak Mounta**	**6.07**	**335**		**Pn**		**18 32 24.0**	**-0.8**
L15K	**Ungalak Mounta**	**6.07**	**335**	P	**Pn**		**18 32 24.7**	**0.0**
	baz=150							
PWL	**Port Wells**	**6.10**	**38**	Pn	**Pn**		**18 32 24.4**	**-0.7**
PWL	**Port Wells**	**6.10**	**38**	P	**Pn**		**18 32 24.7**	**-0.5**
	baz=225							
L14K	**Kuka Creek**	**6.11**	**329**		**Pn**		**18 32 25.5**	**+0.3**
L14K	**Kuka Creek**	**6.11**	**329**	P	**Pn**		**18 32 25.5**	**+0.3**
	baz=143							
KNK	**Knik Glacier**	**6.46**	**34**	Pn	**Pn**		**18 32 30.5**	**+0.3**
HIN	**Hinchinbrook I**	**6.49**	**47**	Pn	**Pn**		**18 32 31.3**	**+0.7**
K17K	**Iditarod**	**6.53**	**351**		**Pn**		**18 32 30.4**	**-0.6**
K17K	**Iditarod**	**6.53**	**351**	P	**Pn**		**18 32 31.4**	**+0.4**
	baz=169							
GHO	**Glory Hole Cre**	**6.60**	**31**	Pn	**Pn**		**18 32 31.9**	**-0.3**
K15K	**Wolf Creek Mou**	**6.62**	**337**	Pn	**Pn**		**18 32 32.7**	**+0.4**
K15K	**Wolf Creek Mou**	**6.62**	**337**	P	**Pn**		**18 32 33.5**	**+1.2**
	baz=153							
FID	**Port Fidalgo**	**6.71**	**44**	Pn	**Pn**		**18 32 33.4**	**-0.2**
EYAK	**Cordova Ski Ar**	**6.89**	**48**	Pn	**Pn**		**18 32 35.0**	**-0.9**
SCM	**Sheep Creek Mo**	**7.14**	**35**	Pn	**Pn**		**18 32 39.8**	**+0.4**
K20K	**Telida**	**7.15**	**7**	Pn	**Pn**		**18 32 40.0**	**+0.5**
K13K	**Kusilvak Mount**	**7.16**	**326**		**Pn**		**18 32 40.1**	**+0.5**
K13K	**Kusilvak Mount**	**7.16**	**326**	P	**Pn**		**18 32 40.2**	**+0.6**
	baz=138							
J18K	**Innoko River**	**7.19**	**358**	Pn	**Pn**		**18 32 40.2**	**+0.2**
J17K	**VABM Dome**	**7.27**	**349**	Pn	**Pn**		**18 32 40.7**	**-0.5**
J17K	**VABM Dome**	**7.27**	**349**	P	**Pn**		**18 32 41.5**	**+0.3**
	baz=167							
J16K	**Anvik River**	**7.36**	**344**		**Pn**		**18 32 41.6**	**-0.8**
J16K	**Anvik River**	**7.36**	**344**	P	**Pn**		**18 32 42.4**	**0.0**
	baz=160							
KLU	**Klutina**	**7.39**	**41**	Pn	**Pn**		**18 32 42.9**	**+0.1**
J14K	**Nanvaranak Lak**	**7.49**	**333**	Pn	**Pn**		**18 32 44.9**	**+0.7**
J19K	**Poorman**	**7.72**	**1**	Pn	**Pn**		**18 32 48.6**	**+1.4**
TRF	**Thorofare Moun**	**7.73**	**20**	Pn	**Pn**		**18 32 48.2**	**+0.6**
J20K	**Nowinta River**	**7.96**	**6**	Pn	**Pn**		**18 32 51.2**	**+0.7**
N25K	**Chitina, Valde**	**7.96**	**43**	Pn	**Pn**		**18 32 49.9**	**-0.7**
RND	**Reindeer**	**7.99**	**24**	Pn	**Pn**		**18 32 50.7**	**-0.4**
ISLE	**Juniper Island**	**8.38**	**53**	Pn	**Pn**		**18 32 56.5**	**0.0**
GRNC	**Granite Creek**	**8.70**	**53**	Pn	**Pn**		**18 33 01.0**	**+0.1**
H18K	**Honhosa River**	**8.95**	**354**	Pn	**Pn**		**18 33 04.7**	**+0.6**
CCB	**Clear Creek Bu**	**9.30**	**23**	Pn	**Pn**		**18 33 08.4**	**-0.4**
O28M	**Mount Upton**	**9.42**	**55**	Pn	**Pn**		**18 33 10.8**	**0.0**
I23K	**Minto, Yukon-K**	**9.45**	**18**	Pn	**Pn**		**18 33 10.3**	**-0.6**
ANM	**Nome**	**9.46**	**335**	Pn	**Pn**		**18 33 12.2**	**+1.1**
J25K	**Salcha River,**	**9.85**	**28**	Pn	**Pn**		**18 33 15.5**	**-0.9**

*WEL **16** 18:42:53.9±0.2, 43°S±2°×17°1E±°, h5km, M3.5/13, ML3.7/13, MLv3.5/13, Error ellipse: s-maj=2.2km s-min=1.9km az=36.8, confirmed*
*WEL **16** 18:42:54.4, 43°.25S×170°.87E, h2km, ML3.6, Mw3.4, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}=0.94; $M_{\theta\theta}$=0.40; $M_{\phi\phi}$=-1.34; $M_{r\theta}$=-0.25; $M_{\theta\phi}$=-0.22; M_{0r}=0.93; Fault plane solution: M_0=1.52000×10^{14} NP1: ϕ_s=349.00000°, δ=67.00000°, λ=70.00000°. NP2: ϕ_s=211.00000°, δ=30.00000°, λ=128.00000°. Principal axes: T 1.3690, Plg=63.0000°, Azm=228.0000°; N 0.3100, Plg=18.0000°, Azm=356.0000°; P -1.6780, Plg=20.0000°, Azm=94.0000°; Stations used: RPZ INZ LBZ JCZ REVERSE FAULTING*
*IDC **16** 18:42:54.1±4.1, 43°.34S×170°.62E, $h_0$km, mb3.2/2, mbtmp3.2/2 Error ellipse: s-maj=216.8km s-min=8.6km az=44.0*
*NOU **16** 18:42:55.0, 43°.33S×170°.97E, h11km, MLv4.0/15, South Island, New Zealand*
ISC 16 18:42:53.8±1.0, **43°.28S**±0°.02×**170°.88E**±0°.02, **h7**km±8km, **n94**, σ1$98/117, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.23**	**334**	P	**Pg**	**18 42 58.4**	**0.0**
WVZ				S	**Sg**	**18 43 01.6**	**+0.1**
WVAS	**Waitaha Valley**	**0.24**	**334**	P	**Pg**	**18 42 58.5**	**0.0**
WVAS				S	**Sg**	**18 43 01.8**	**+0.2**
HAFS	**Harihari Fire**	**0.27**	**300**	P	**Pg**	**18 42 59.6**	**+0.4**
HAFS				S	**Sg**	**18 43 04.1**	**+1.3**
KOKS	**Kokatahi**	**0.43**	**26**	P	**Pg**	**18 43 01.5**	**-0.8**
KOKS				S	**Sg**	**18 43 07.3**	**-0.7**
RPZ	**Rata Peaks**	**0.45**	**164**	Pg	**Pb**	**18 43 03.5**	**-0.6**
	123nm,0.3s,baz=48,slow=19,SNR=296						
RPZ				Lg	Lg	18 43 10.2	
	282nm,0.3s,baz=14,slow=7.2,SNR=29						
RPZ	**Rata Peaks**	**0.45**	**164**	P	**Pb**	**18 43 03.5**	**-0.6**
RPZ	**Rata Peaks**	**0.45**	**164**	S	**Sb**	**18 43 09.9**	**-1.2**
RPZ	**Rata Peaks**	**0.45**	**164**	P	**Pb**	**18 43 03.5**	**-0.6**
RPZ				S	**Sb**	**18 43 09.5**	**-1.6**
MHCZ	**Mount Hutt**	**0.56**	**116**	P	**Pg**	**18 43 05.1**	**+0.4**
MHCZ				S	**Sg**	**18 43 12.9**	**+0.9**
MSMC	**Mount Somers S**	**0.57**	**138**	P	**Pb**	**18 43 05.5**	**-0.7**
HMCS	**Hokitika Medic**	**0.57**	**6**	S	**Sg**	**18 43 12.6**	**+0.4**
APPS	**Arthurs Pass P**	**0.61**	**57**	P	**Pg**	**18 43 04.9**	**-0.6**
APPS				S	**Sg**	**18 43 12.6**	**-0.8**
CSHS	**Castle Hill**	**0.62**	**85**	P	**Pg**	**18 43 06.0**	**+0.2**
CSHS				S	**Sg**	**18 43 14.3**	**+0.5**
MTHS	**Methven North**	**0.64**	**116**	P	**Pb**	**18 43 06.9**	**-0.5**
MTHS				S	**Sb**	**18 43 15.9**	**-0.7**
MAYC	**Mayfield Schoo**	**0.67**	**144**	P	**Pb**	**18 43 07.7**	**-0.2**
MAYC				S	**Sb**	**18 43 17.9**	**+0.5**
INZ	**Inchbonnie**	**0.70**	**37**	P	**Pg**	**18 43 06.0**	**-1.2**
ARCZ	**Arundel**	**0.70**	**162**	P	**Pb**	**18 43 08.0**	**-0.3**
ARCZ				S	**Sb**	**18 43 17.9**	**-0.3**
KOWC	**Kowai**	**0.71**	**93**	P	**Pg**	**18 43 07.8**	**+0.3**
KOWC				S	**Sg**	**18 43 17.7**	**+0.9**
MCNS	**Mount Cook Ann**	**0.73**	**231**	P	**Pg**	**18 43 08.1**	**+0.3**
MCNS				S	**Sb**	**18 43 17.9**	**-1.2**
WCSS	**Whitecliffs**	**0.74**	**104**	P	**Pg**	**18 43 08.5**	**+0.5**
WCSS				S	**Sb**	**18 43 18.9**	**-0.5**
WSFC	**Westerfield**	**0.77**	**136**	P	**Pb**	**18 43 09.3**	**-0.2**
SPRS	**Springfield Vo**	**0.77**	**94**	P	**Pg**	**18 43 08.9**	**+0.3**
SPRS				S	**Sg**	**18 43 19.8**	**+1.2**
FOZ	**Fox Glacier**	**0.81**	**252**	P	**Pg**	**18 43 09.9**	**+0.4**
FOZ				S	**Sb**	**18 43 22.1**	**+0.6**
SHFC	**Sheffield Scho**	**0.84**	**98**	P	**Pg**	**18 43 10.2**	**+0.2**
OXZ	**Oxford**	**0.85**	**93**	P	**Pg**	**18 43 10.4**	**+0.3**
OXZ				S	**Sb**	**18 43 24.0**	**+1.4**
GMFS	**Greymouth Fire**	**0.86**	**16**	P	**Pg**	**18 43 10.2**	**-0.2**
GMFS				S	**Sg**	**18 43 21.4**	**-0.1**
RKAC	**Rakaia School**	**0.95**	**120**	P	**Pn**	**18 43 13.5**	**-0.2**
RKAC				S	**Sn**	**18 43 28.0**	**+0.4**
WACZ	**Wakanui South**	**0.96**	**134**	P	**Pb**	**18 43 13.1**	**+0.3**
WACZ				S	**Sn**	**18 43 26.8**	**-0.9**
RACZ	**Rakaia**	**1.02**	**116**	P	**Pb**	**18 43 13.9**	**+0.1**
RACZ				S	**Sn**	**18 43 29.0**	**-0.1**
DSLC	**Dunsandel Scho**	**1.03**	**112**	P	**Pb**	**18 43 14.2**	**+0.1**
DSLC				S	**Sn**	**18 43 29.7**	**+0.2**
SMHS	**Summerhill**	**1.06**	**89**	P	**Pg**	**18 43 14.5**	**+0.3**
TMZ	**Timaru**	**1.10**	**175**	P	**Pn**	**18 43 15.6**	**-0.2**
LTZ	**Lake Taylor**	**1.14**	**64**	P	**Pg**	**18 43 15.5**	**-0.2**
LBZ	**Lake Benmore**	**1.21**	**204**	P	**Pn**	**18 43 17.0**	**-0.2**
AMCZ	**Amberley**	**1.30**	**86**	P	**Pn**	**18 43 18.7**	**+0.3**
AMCZ				S	**Sn**	**18 43 36.9**	**+0.8**
MQZ	**McQueen's Vall**	**1.36**	**109**	P	**Pn**	**18 43 19.1**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.59**	**112**	P	**Pn**	**18 43 22.0**	**-0.4**
GVZ	**Greta Valley S**	**1.61**	**79**	P	**Pn**	**18 43 22.7**	**-0.1**
OKCZ	**Okains Bay**	**1.65**	**106**	P	**Pn**	**18 43 23.5**	**+0.3**
DSZ	**Denniston Nort**	**1.68**	**24**	P	**Pn**	**18 43 23.4**	**-0.3**
JCZ	**Jackson Bay**	**1.71**	**242**	P	**Pb**	**18 43 25.1**	**-0.6**
JCZ	**Jackson Bay**	**1.71**	**242**	S	**Sg**	**18 43 48.2**	**-0.6**
JCZ	**Jackson Bay**	**1.71**	**242**	P	**Pn**	**18 43 24.9**	**+0.7**
ODZ	**Otahua Downs**	**1.77**	**185**	P	**Pb**	**18 43 25.7**	**-0.9**
ODZ	**Otahua Downs**	**1.77**	**185**	P	**Pb**	**18 43 25.8**	**-0.8**
WKZ	**Wanaka**	**2.04**	**220**	P	**Pn**	**18 43 29.5**	**+0.8**
THZ	**Tophouse**	**2.13**	**45**	P	**Pn**	**18 43 30.8**	**+0.8**
KHZ	**Kahutara**	**2.14**	**67**	P	**Pn**	**18 43 30.2**	**+0.2**
KHZ	**Kahutara**	**2.14**	**67**	S	**Sn**	**18 43 56.9**	**+0.1**
KHZ	**Kahutara**	**2.14**	**67**	P	**Pn**	**18 43 30.0**	**0.0**
EAZ	**Earnscleugh**	**2.25**	**210**	P	**Pn**	**18 43 31.5**	**0.0**
MRNZ	**Matariki Terra**	**2.34**	**37**	P	**Pn**	**18 43 33.7**	**+0.9**
MSZ	**Milford Sound**	**2.54**	**236**	P	**Pb**	**18 43 38.9**	**-0.9**
HHSZ	**Highcliff Hill**	**2.61**	**184**	P	**Pn**	**18 43 37.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**2.71**	**56**	P	**Pn**	**18 43 40.0**	**+2.1**
TKNZ	**Takaka Hill**	**2.73**	**35**	P	**Pn**	**18 43 38.9**	**+0.7**
QRZ	**Quartz Range**	**2.75**	**27**	P	**Pn**	**18 43 38.9**	**+0.6**
QRZ	**Quartz Range**	**2.75**	**27**	P	**Pn**	**18 43 38.7**	**+0.3**
NNZ	**Nelson**	**2.78**	**43**	P	**Pn**	**18 43 40.2**	**+1.4**
TUZ	**Tuapeka**	**2.81**	**198**	P	**Pn**	**18 43 39.9**	**+0.7**
MLZ	**Mavora Lakes**	**2.87**	**223**	P	**Pn**	**18 43 40.6**	**+0.5**
CMWZ	**Cape Campbell**	**2.90**	**59**	P	**Pb**	**18 43 45.7**	**-0.2**
TUWZ	**Tuamarina**	**2.93**	**52**	P	**Pn**	**18 43 43.0**	**+2.1**
TCW	**Tory Channel**	**3.26**	**52**	P	**Pn**	**18 43 47.7**	**+2.2**
WHZ	**Wether Hill Ro**	**3.34**	**218**	P	**Pn**	**18 43 46.5**	**-0.1**
DUWZ	**D'Urville Isla**	**3.36**	**43**	P	**Pn**	**18 43 48.3**	**+1.5**
DCZ	**Deep Cove**	**3.45**	**229**	P	**Pn**	**18 43 48.4**	**+0.4**
SNZO	**South Karori**	**3.46**	**57**	P	**Pn**	**18 43 48.1**	**0.0**
SYZ	**Scrubby Hill**	**3.48**	**200**	P	**Pn**	**18 43 47.8**	**-0.6**
SYZ	**Scrubby Hill**	**3.48**	**200**	P	**Pn**	**18 43 48.1**	**-0.3**
KIW	**Kapiti Island**	**3.85**	**52**	P	**Pn**	**18 43 53.4**	**-0.2**
PAWZ	**Paruwai Farm**	**3.87**	**62**	P	**Pn**	**18 43 53.6**	**-0.2**
OGWZ	**Otaki Gorge**	**4.00**	**54**	P	**Pn**	**18 43 55.6**	**-0.4**
APZ	**The Paps**	**4.10**	**209**	P	**Pn**	**18 43 56.3**	**-0.6**
PYZ	**Puysegur Point**	**4.15**	**225**	P	**Pn**	**18 43 58.6**	**+0.9**
HOWZ	**Holdsworth Sta**	**4.19**	**57**	P	**Pb**	**18 44 04.9**	**-3.1**
MRZ	**Mangatainoka R**	**4.38**	**55**	P	**Pn**	**18 44 00.2**	**-0.5**
NMEZ	**Namu Road**	**4.48**	**31**	P	**Pn**	**18 44 04.4**	**+2.3**
NBEZ	**Newall Road No**	**4.60**	**30**	P	**Pn**	**18 44 05.3**	**+1.5**
KHEZ	**Kahui Hut**	**4.63**	**32**	P	**Pn**	**18 44 05.9**	**+1.6**
KHEZ	**Kahui Hut**	**4.63**	**32**	P	**Pn**	**18 44 06.1**	**+1.8**
PKE	**Pukeiti**	**4.71**	**31**	P	**Pn**	**18 44 07.1**	**+1.8**
BFZ	**Birch Farm**	**4.77**	**59**	P	**Pn**	**18 44 06.1**	**-0.1**
WNVZ	**Wahianoa**	**5.32**	**44**	P	**Pn**	**18 44 14.6**	**+0.8**
OTVZ	**Oturere**	**5.47**	**43**	P	**Pn**	**18 44 18.5**	**+2.6**
KRVZ	**Karewarewa**	**5.51**	**42**	P	**Pn**	**18 44 20.2**	**+3.7**
HIZ	**Hauiti**	**5.64**	**34**	P	**Pn**	**18 44 18.7**	**+0.6**
HIZ	**Hauiti**	**5.64**	**34**	P	**Pn**	**18 44 18.6**	**+0.5**
RAHZ	**Arahi**	**6.40**	**49**	P	**Pn**	**18 44 26.7**	**-1.9**
MKAZ	**Moumakai**	**6.99**	**29**	P	**Pn**	**18 44 38.3**	**+1.7**
OUZ	**Omahuta**	**8.32**	**16**	P	**Pn**	**18 44 55.8**	**+0.9**
ASAR	**Alice Springs**	**36.14**	**291**	P	**P**	**18 49 56.2**	**-0.6**
	0.2nm,0.6s,baz=129,slow=7.4,SNR=5.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**38.41**	**296**	P	**P**	**18 50 16.0**	**0.0**
	0.4nm,0.6s,baz=131,slow=8.3,SNR=7.9						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.55**	**201**	PKPbc	**PKPbc**	**19 02 42.9**	**+1.1**
	1.0nm,0.8s,baz=107,slow=1.6,SNR=8.7						

*IDC **16** 18:44:27.2±0.9, 24°.69N×124°.66E, $h_0$km, mb4.0/7, mbtmp3.9/10, ML3.3/3, MS3.2/8, Error ellipse: s-maj=30.7km s-min=18.2km az=68.0*
*NIED **16** 18:44:29.2, 24°.70N×124°.83E, h19km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.30; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=1.51; $M_{r\theta}$=0.04; $M_{\theta\phi}$=-0.96; M_{0r}=-0.77; Fault plane solution: M_0=1.82000×10^{15} NP1: ϕ_s=134.00000°, δ=38.00000°, λ=-124.00000°. NP2: ϕ_s=354.00000°, δ=60.00000°, λ=-67.00000°.*
*JMA **16** 18:44:29.2±0.1, 24°.7N±0°.9×124°.8E±0°.4, h19km±1km, MD4.4/10, MV4.0/10, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
*NEIC **16** 18:44:31.4±2.0, 24°.61N±0°.10×124°.89E±0°.07, h35km±2km, mb4.2/10, Error ellipse: s-maj=17.3km s-min=10.0km az=343.0*
ISC 16 18:44:29.2±0.9, **24°.65N**±0°.07×**124°.85E**±0°.03, **h18**km±4km, **n83**, σ1$**02**/71, **mb4.1**/14, **MS3.2**/5, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.13**	**265**	P	**Pg**	**18 44 33.2**	**0.0**
JTJ				S	**Sg**	**18 44 36.3**	**+0.3**
JTJ	**Tarama**	**0.13**	**265**	A	A	18 44 33.2	
	comp=N,121nm,1.5s,comp=E,158nm,4.9s						
JIRB	**Irabujima**	**0.34**	**59**	P	**Pg**	**18 44 36.1**	**-0.4**
JIRB				S	**Sg**	**18 44 41.2**	**-0.2**
JIRB	**Irabujima**	**0.34**	**59**	A	A	18 44 36.1	
	comp=N,37nm,1.6s,comp=E,42nm,3.1s						
JMJ	**Miyako jima 2**	**0.44**	**68**	P	**Pg**	**18 44 38.1**	**-0.1**
JMJ	**Miyako jima 2**	**0.44**	**68**	S	**Sb**	**18 44 44.6**	**-0.1**
JMJ2	**Miyako jima3**	**0.45**	**79**	P	**Pg**	**18 44 38.1**	**-0.2**
JMJ2				*eS*	**Sb**	**18 44 45.1**	**+0.2**
JMJ2	**Miyako jima3**	**0.45**	**79**	A	A	18 44 38.1	
	comp=N,30nm,1.3s,comp=E,108nm,1.8s						
JIKM	**Ikemajima**	**0.45**	**53**	P	**Pg**	**18 44 38.1**	**-0.3**
JIKM				*eS*	**Sg**	**18 44 44.5**	**-0.1**
JIKM	**Ikemajima**	**0.45**	**53**	A	A	18 44 38.1	
	comp=N,23nm,4.1s,comp=E,38nm,1.5s						
JISG	**Ishigakijimahi**	**0.49**	**262**	P	**Pg**	**18 44 38.9**	**-0.3**
JISG				*eS*	**Sb**	**18 44 45.9**	**-0.4**
JISG	**Ishigakijimahi**	**0.49**	**262**	A	A	18 44 38.9	
	comp=N,36nm,0.8s,comp=E,25nm,1.0s						
JOGS	**Gusukube**	**0.52**	**78**	P	**Pb**	**18 44 39.5**	**-0.3**
JOGS				*eS*	**Sb**	**18 44 47.5**	**+0.5**
JOGS	**Gusukube**	**0.52**	**78**	A	A	18 44 39.5	
	comp=N,45nm,1.1s,comp=E,67nm,1.7s						
JIJ	**Ishigaki jima**	**0.70**	**246**	P	**Pb**	**18 44 42.3**	**-0.7**
JIJ				S	**Sb**	**18 44 52.1**	**-0.3**
JIJ	**Ishigaki jima**	**0.70**	**246**	A	A	18 44 42.3	
	comp=N,13nm,1.4s,comp=E,14nm,1.0s						
JKRS	**Kuro-shima**	**0.87**	**242**	P	**Pb**	**18 44 46.0**	**+0.2**
JKRS				*eS*	**Sg**	**18 44 57.6**	**-0.1**
JKRS	**Kuro-shima**	**0.87**	**242**	A	A	18 44 46.0	
	comp=N,38nm,1.8s,comp=E,42nm,1.5s						
IRIF	**Iriomote-Funau**	**1.07**	**253**	P	**Pb**	**18 44 48.8**	**-0.3**
IRIF				*eS*	**Sb**	**18 45 03.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.07**	**253**	A	A	18 44 48.8	
	comp=N,17nm,1.1s,comp=E,25nm,1.5s						
HATJ	**Hateruma jima**	**1.12**	**238**	P	**Pb**	**18 44 50.3**	**+0.2**
HATJ				*eS*	**Sn**	**18 45 05.5**	**+0.4**
HATJ	**Hateruma jima**	**1.12**	**238**	A	A	18 44 50.3	
	comp=N,35nm,2.9s,comp=E,21nm,1.1s						
YOJ	**Yonaguni jima**	**1.68**	**264**		**Pn**	**18 44 57.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.68**	**264**	P	**Pn**	**18 44 57.9**	**+0.1**
NACB	**Ninganchiao**	**3.00**	**262**		**Pn**	**18 45 16.5**	**+0.5**
NACB	**Ninganchiao**	**3.00**	**262**	P	**Pn**	**18 45 17.4**	**+1.4**
NACB	**Ninganchiao**	**3.00**	**262**	P	**Pn**	**18 45 18.2**	**+2.2**
TATO	**Taipei**	**3.07**	**277**	Pn	**Pn**	**18 45 18.9**	**+2.0**
YHNB	**Yeheng**	**3.16**	**271**		**Pn**	**18 45 19.6**	**+1.5**
YHNB	**Yeheng**	**3.16**	**271**	P	**Pn**	**18 45 19.7**	**+1.5**
YHNB	**Yeheng**	**3.16**	**271**	P	**Pn**	**18 45 19.8**	**+1.6**
YULB	**Yu-li**	**3.48**	**250**		**Pn**	**18 45 22.2**	**-0.4**
YULB	**Yu-li**	**3.48**	**250**	P	**Pn**	**18 45 22.5**	**-0.1**
YULB	**Yu-li**	**3.48**	**250**	S	**Sn**	**18 46 03.4**	**0.0**
SSLB	**Suanglung**	**3.66**	**257**		**Pn**	**18 45 25.8**	**+0.8**
SSLB	**Suanglung**	**3.66**	**257**	P	**Pn**	**18 45 26.1**	**+1.1**
SSLB	**Suanglung**	**3.66**	**257**	P	**Pn**	**18 45 26.5**	**+1.5**
JOW	**Kunigami**	**3.77**	**54**		**Pn**	**18 45 26.9**	**+0.2**
JOW	**Kunigami**	**3.77**	**54**	Pn	**Pn**	**18 45 27.4**	**+0.7**
	comp=E,6.6nm,0.3s,baz=130,slow=17,SNR=12						
JOW				Sn	**Sn**	**18 46 11.9**	**+1.3**
	comp=E,13nm,0.3s,baz=236,slow=10.0,SNR=4.5						
	comp=E,52nm,0.7s						
JOW	**Kunigami**	**3.77**	**54**	P	**Pn**	**18 45 27.6**	**+1.0**
TWGBT	**Beinan**	**3.91**	**243**	P	**Pn**	**18 45 30.8**	**+2.4**
TWG	**Pinlang**	**3.91**	**243**		**Pn**	**18 45 27.6**	**-0.9**
TPUB	**Ta-pu**	**4.09**	**252**		**Pn**	**18 45 32.8**	**+1.9**
TPUB	**Ta-pu**	**4.09**	**252**	P	**Pn**	**18 45 33.0**	**+2.1**
TPUB	**Ta

BRDH S **Sn** **18 46 49.3 -1.7**
comp=E,661nm,0.3s,baz=248,slow=23,SNR=17
KOHI KOHIMA 2.66 358 *eP* **Pn** **18 46 25.1 -0.4**
KOHI IAML 18 46 54.2
comp=E,1μm,0.4s
KOHI *eS* **Sn** **18 46 54.5 -2.9**
KOHI IAML 18 46 55.3
comp=N,1μm,0.8s
AGT Agartala 2.85 288 *eP* **Pn** **18 46 28.6 +0.7**
AGT IAML 18 46 59.5
comp=N,2μm,0.6s
AGT IAML 18 47 00.3
comp=E,2μm,0.0s
AGT *eS* **Sn** **18 47 01.2 -0.3**
SHL Shillong 3.29 320 **Pn** **18 46 30.4 -3.5**
SHL Sn Sn 18 47 03.1 -9.3
SHL Shillong 3.29 320 *eP* **Pn** **18 46 34.0 +0.1**
SHL IAML 18 47 06.2
comp=E,2μm,0.3s
SHL IAML 18 47 06.3
comp=N,3μm,0.4s
SHL *eS* **Sn** **18 47 08.5 -3.9**
TEZP TEZPUR 3.78 340 *eP* **Pn** **18 46 40.8 +0.5**
TEZP IAML 18 47 19.2
comp=E,1μm,0.1s
TEZP IAML 18 47 19.6
comp=N,2μm,0.3s
TEZP *eS* **Sn** **18 47 20.3 -3.6**
GUWA GUWAHATI 3.88 324 IAML 18 46 38.1
comp=N,2μm,0.2s
GUWA IAML 18 46 38.2
comp=E,1μm,0.3s
GUWA *eP* **Pn** **18 46 43.0 +1.2**
GUWA *eS* **Sn** **18 47 23.7 -2.7**
TNCH TengChong 4.40 63 P **Pn** **18 46 46.3 -2.7**
TNCH sP 18 47 08.8
ZIRO ZIRO 4.47 356 *eP* **Pn** **18 46 51.0 +1.1**
ZIRO *eS* **Sn** **18 47 37.8 -3.1**
ZIRO IAML 18 47 38.8
comp=E,3μm,0.2s
ZIRO IAML 18 47 41.7
comp=N,2μm,0.9s
CMAI Chiengmai2 5.46 124 P **Pn** **18 47 01.7 -1.7**
comp=N,75nm,0.7s
MHMT Maesarieng 5.97 144 P **Pn** **18 47 09.0 -1.1**
comp=N,49nm,0.7s
CHTO Chiang Mai 6.11 133 Pn **Pn** **18 47 10.5 -1.5**
CHTO Chiang Mai 6.11 133 P **Pn** **18 47 10.7 -1.3**
comp=N,12nm,0.5s
CM15 Chiang Mai Arr 6.35 135 P **Pn** **18 47 14.7 -0.6**
comp=N,13nm,0.7s
CM31 Chiang Mai Arr 6.36 135 **Pn** **18 47 14.3 -1.2**
CMAR Chiang Mai Arr 6.36 135 **Pn** **18 47 13.8 -1.6**
CMAR Chiang Mai Arr 6.36 135 P **Pn** **18 47 14.3 -1.1**
comp=N,4.6nm,0.5s,baz=312,slow=14,SNR=30
CMAR S **Sn** **18 48 25.0 -1.7**
comp=N,2.8nm,0.7s,baz=302,slow=15,SNR=4.2
CM13 Chiang Mai Arr 6.36 136 P **Pn** **18 47 13.3 -2.2**
comp=N,15nm,0.8s
CM02 Chiang Mai Arr 6.38 135 P **Pn** **18 47 14.5 -1.2**
comp=N,13nm,0.7s
CM09 Chiang Mai Arr 6.40 135 P **Pn** **18 47 15.0 -1.0**
comp=N,18nm,0.7s
CM04 Chiang Mai Arr 6.42 135 P **Pn** **18 47 15.1 -1.2**
comp=N,15nm,0.7s
LSA Lhasa 7.17 338 P Pn 18 47 21.8 -5.0
LSA Lhasa 7.17 338 **Pn** **18 47 24.2 -2.6**
KMI Kunming 8.06 73 P **Pn** **18 47 41.3 +2.6**
KMI pmax pmax
comp=N,10.0nm,1.7s
PHIT Phitsanulok 8.24 134 P **Pn** **18 47 40.1 -0.9**
comp=N,39nm,0.9s
EVN Everest 8.28 308 Pn 18 47 38.0 -4.1
UTHA Uthaitani 8.94 146 P **Pn** **18 47 51.0 +0.5**
comp=N,71nm,0.6s
ENH Enshi 15.42 59 **Pn** **18 49 13.8 -2.5**
LZH Lanzhou 15.45 31 *eP* **Pn** **18 49 13.1 -3.5**
LZH pP P 18 49 21.8 +2.8
LZH pmax pmax
comp=N,10.0nm,1.3s
HYB Hyderabad 15.73 252 *eP* **P** **18 49 22.5 +0.4**
HYB IVmB_BB 18 49 25.6
comp=Z,88nm,1.1s
HYB *eS* **S** **18 52 24.7 +2.2**
WMQ Urumqi 21.41 347 *eP* **P** **18 50 26.8 +2.9**
BTO Baotou 22.00 34 *eP* **P** **18 50 34.3 +4.0**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO LR LR
comp=Z,200nm,6.2s
BTO LR LR
comp=Z,290nm,4.8s
BTO LR LR
comp=Z,210nm,6.4s
KSH Kashi 22.57 321 P **P** **18 50 36.0 -0.3**
KSH pmax pmax
comp=Z,11nm,1.0s
HHC Hu-ho-hao-te 22.98 35 *eP* **P** **18 50 40.1 -0.3**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,49nm,3.5s
HHC LR LR
comp=Z,180nm,10.8s
HHC LR LR
comp=Z,190nm,14.2s
HHC LR LR
comp=Z,120nm,13.7s
PRZ Przheval'sk 23.43 330 P **P** **18 50 45.3 +0.6**
PRZ IAmb IAmb 18 50 47.6
comp=Z,9.3nm,0.6s
KDJ Kajisay 23.75 327 P **P** **18 50 48.1 +0.6**
KDJ IAmb IAmb 18 50 51.3
comp=Z,12nm,1.2s
BOOM Boomskoye usch 24.64 326 **P** **18 50 56.3 +0.7**
BOOM IAmb IAmb 18 50 58.7
comp=Z,7.1nm,0.7s
DRK Karamyk 25.10 316 P **P** **18 51 00.4 +0.5**
DRK IAmb IAmb 18 51 01.5
comp=Z,12nm,0.8s
ARSB Arslanbob 25.48 321 **P** **18 51 03.8 +0.7**
MKAR Makanchi Array 25.57 341 **P** **18 51 04.2 +0.5**
MKAR Makanchi Array 25.57 341 P **P** **18 51 04.4 +0.7**
comp=Z,7.3nm,0.6s,baz=148,slow=9.5,SNR=67
comp=Z,7.3nm,0.6s
MAKZ Makanchi 25.68 340 **P** **18 51 05.3 +0.6**
CHGR Chuyangaron 26.43 312 P **P** **18 51 12.2 +0.5**
CHGR IAmb IAmb 18 51 12.7
comp=Z,5.2nm,0.6s
SONM Songino Array 26.58 19 P **P** **18 51 14.2 +1.2**
comp=Z,0.3nm,0.5s,baz=186,slow=10,SNR=1.8
SONM LR LR 19 02 11.8
comp=Z,42nm,18.0s,baz=96,slow=37
comp=Z,0.3nm,0.5s
KURBB Kurchatov Arra 30.12 340 P **P** **18 51 44.5 +0.2**
comp=Z,1.9nm,0.7s,baz=153,slow=8.3,SNR=17
comp=Z,1.9nm,0.7s
KURK Kurchatov 30.17 340 **P** **18 51 45.2 +0.5**
AB31 Akbulak array 37.55 323 **P** **18 52 49.8 +1.2**
AB31 IAmb IAmb 18 52 50.3
comp=Z,5.2nm,1.1s
ABKAR Akbulak array 37.55 323 **P** **18 52 49.8 +1.2**
ARTI Arti 42.36 331 P **P** **18 53 28.0 -0.3**
RAYN Ar Rayn 44.57 281 P **P** **18 53 47.6 +1.1**
BRTR Keskin Array B 53.36 303 P **P** **18 54 54.0 +0.4**
comp=Z,0.3nm,0.5s,baz=113,slow=6.7,SNR=2.8
comp=Z,0.3nm,0.5s
AKASG Malin Array Be 56.76 316 P **P** **18 55 17.3 -0.4**
comp=Z,1.0nm,0.4s,baz=86,slow=5.9,SNR=7.6
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 56.76 316 P **P** **18 55 17.1 -0.6**
AKBB IAmb IAmb 18 55 18.0
comp=Z,3.6nm,0.7s
KIEV Kiev 56.77 316 P **P** **18 55 16.8 -0.9**
KIEV IAmb IAmb 18 55 18.0
comp=Z,3.2nm,0.7s
WB0 Warramunga Arr 57.87 134 P **P** **18 55 25.6 -0.2**
WB0 IAmb IAmb 18 55 28.5
comp=Z,5.7nm,1.3s
WRA Warramunga Arr 57.95 134 P **P** **18 55 26.8 +0.4**
comp=Z,0.3nm,0.5s,baz=319,slow=7.6,SNR=9.6
comp=Z,0.3nm,0.5s
WR8 Warramunga Arr 58.07 134 P **P** **18 55 27.2 -0.1**
WR8 IAmb IAmb 18 55 48.5
comp=Z,7.9nm,1.5s
BURAR Bucovina Array 59.33 313 P **P** **18 55 35.2 -0.6**

FINES FINESS Array B 59.59 329 P **P** **18 55 37.4 +0.3**
comp=Z,1.7nm,0.6s,baz=104,slow=8.0,SNR=6.2
comp=Z,1.7nm,0.6s
ASAR Alice Springs 60.36 138 P **P** **18 55 43.9 +0.8**
comp=Z,0.6nm,0.7s,baz=320,slow=6.8,SNR=11
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 61.18 338 P **P** **18 55 48.1 +0.2**
ARCES ARCESS Array B 61.18 338 P **P** **18 55 47.7 -0.2**
comp=Z,0.6nm,0.5s,baz=112,slow=8.5,SNR=6.1
comp=Z,0.6nm,0.5s
HFS Hagfors 65.61 327 P **P** **18 56 17.3 +0.1**
comp=Z,2.0nm,0.5s,baz=98,slow=6.3,SNR=14
comp=Z,2.0nm,0.5s
NB201 NORSAR Array S 66.71 328 P **P** **18 56 23.5 -0.8**
NOA NORSAR Array B 66.75 328 P **P** **18 56 24.4 -0.2**
comp=Z,0.8nm,0.6s,baz=85,slow=6.4,SNR=4.4
comp=Z,0.8nm,0.6s
GERES GERESS Array B 66.89 315 P **P** **18 56 26.4 +0.7**
comp=Z,0.9nm,0.6s,baz=79,slow=6.9,SNR=7.8
comp=Z,0.9nm,0.6s
NC204 NORSAR Array S 66.94 329 P **P** **18 56 25.7 -0.1**
NRCA Norcia 68.37 309 P **P** **18 56 35.6 +0.4**
NRCA IAmb IAmb 18 56 36.0
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 87.22 283 P **P** **18 58 20.5 +0.5**
comp=Z,0.6nm,0.9s,baz=32,slow=4.2,SNR=3.6
comp=Z,0.6nm,0.9s

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*SNET **16** 18:45:59.9±1.1, 13.°50N×89.°79W, h74km, ML3.4*
*GCG **16** 18:46:00.9±1.0, 13.°54N×89.°77W, h67km±6km, MD4.5*
*CATAC **16** 18:46:00.5±0.5, 13.°N±6.°×9.°0W±.°, h44km±4km, M3.6/17, MLv3.6/17, Error ellipse: s-maj=13.8km s-min=3.9km az=25.4, confirmed*
ISC 16 18:46:02.6±1.7, 13.°53N±0.°08×89.°73W±0.°06, h61km±8km, n47, σ1.°32/59, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.29**	**66**	***eP***	**Pn**	**18 46 12.1**	**-0.9**
JAYA				*eS*	**Sn**	**18 46 21.8**	**+1.2**
JAYA	**Jayaque - finc**	**0.29**	**66**	***eP***	**Pn**	**18 46 11.9**	**-1.1**
JAYA				*eS*	**Sn**	**18 46 21.4**	**+0.9**
JAYA	**Jayaque - finc**	**0.29**	**66**	P	**Pn**	**18 46 12.1**	**-0.9**
CEVE	**Cerro Verde**	**0.31**	**19**	***eP***	**Pn**	**18 46 12.4**	**-0.9**
CEVE				*eS*	**Sn**	**18 46 23.1**	**+2.2**
CEVE	**Cerro Verde**	**0.31**	**19**	P	**Pn**	**18 46 12.1**	**-1.2**
NUBE	**Las Nubes**	**0.37**	**352**	***eP***	**Pn**	**18 46 12.4**	**-1.3**
NUBE				*eS*	**Sn**	**18 46 22.5**	**+0.9**
NUBE	**Las Nubes**	**0.37**	**352**	***eP***	**Pn**	**18 46 12.3**	**-1.3**
NUBE				*eS*	**Sn**	**18 46 22.0**	**+0.4**
NUBE	**Las Nubes**	**0.37**	**352**	P	**Pn**	**18 46 12.3**	**-1.3**
LALI	**Alcalda de L**	**0.40**	**96**	***eP***	**Pn**	**18 46 12.7**	**-1.0**
LALI				*eS*	**Sn**	**18 46 22.5**	**+0.9**
LALI	**Alcalda de L**	**0.40**	**96**	***eP***	**Pn**	**18 46 12.6**	**-1.0**
LALI				*eS*	**Sn**	**18 46 22.0**	**+0.4**
LALI	**Alcalda de L**	**0.40**	**96**	P	**Pn**	**18 46 12.6**	**-1.0**
FAME	**Alcaldia de Sa**	**0.42**	**318**	P	**Pn**	**18 46 12.3**	**-1.6**
CEDA	**San Andres**	**0.42**	**50**	***eP***	**Pn**	**18 46 13.1**	**-0.8**
CEDA				*eS*	**Sn**	**18 46 23.3**	**+1.2**
PMON	**Piamonte**	**0.44**	**66**	***eP***	**Pn**	**18 46 13.2**	**-1.0**
PMON				*eS*	**Sn**	**18 46 23.6**	**+1.1**
PMON	**Piamonte**	**0.44**	**66**	P	**Pn**	**18 46 13.0**	**-1.1**
ITCA	**Escuela Especi**	**0.46**	**72**	P	**Pn**	**18 46 13.3**	**-1.1**
ITCA	**Escuela Especi**	**0.46**	**72**	S	**Sn**	**18 46 23.5**	**+0.6**
LOAL	**Lomas de Álarc**	**0.47**	**353**	P	**Pn**	**18 46 13.2**	**-1.2**
BOQS	**Boqueron**	**0.48**	**65**	***eP***	**Pn**	**18 46 13.7**	**-1.0**
BOQS				*eS*	**Sn**	**18 46 26.7**	**+3.3**
UNIC	**Universidad Ca**	**0.48**	**21**	P	**Pn**	**18 46 13.0**	**-1.5**
UEES	**Universidad Ev**	**0.51**	**69**	P	**Pn**	**18 46 13.5**	**-1.4**
PANCS	**Alcalda de**	**0.54**	**81**	P	**Pn**	**18 46 13.9**	**-1.2**
PANCS	**Alcalda de**	**0.54**	**81**	S	**Sn**	**18 46 24.3**	**0.0**
LOMA	**Loma Larga**	**0.55**	**78**	***eP***	**Pn**	**18 46 14.5**	**-0.9**
LOMA				*eS*	**Sn**	**18 46 25.6**	**+0.9**
LOMA	**Loma Larga**	**0.55**	**78**	P	**Pn**	**18 46 14.4**	**-1.0**
LFRS	**El Faro**	**0.65**	**82**	***eP***	**Pn**	**18 46 15.4**	**-1.1**
LFRS				*eS*	**Sn**	**18 46 27.5**	**+0.9**
PAVA	**Las Pavas**	**0.79**	**77**	***eP***	**Pn**	**18 46 17.3**	**-0.8**
PAVA				*eS*	**Sn**	**18 46 31.3**	**+1.8**
PAVA	**Las Pavas**	**0.79**	**77**	P	**Pn**	**18 46 16.9**	**-1.2**
JUAM	**Asuncion Mita**	**0.80**	**1**	*i P*	**Pn**	**18 46 16.9**	**-1.3**
TECO	**Alcaldia de Te**	**0.92**	**90**	P	**Pn**	**18 46 18.2**	**-1.5**
TECO	**Alcaldia de Te**	**0.92**	**90**	S	**Sn**	**18 46 31.8**	**-0.5**
PCG5	**San Vicente Pa**	**0.93**	**317**	***eP***	**Pn**	**18 46 22.2**	**+2.3**
MTO3	**Montecristo**	**0.93**	**22**	*i P*	**Pn**	**18 46 18.8**	**-1.3**
MTO3	**Montecristo**	**0.93**	**22**	P	**Pn**	**18 46 18.7**	**-1.4**
LLGN	**La Laguna**	**0.98**	**50**	P	**Pn**	**18 46 18.8**	**-1.8**
FG16	**Alotenango, Sa**	**1.06**	**314**	***eP***	Pn	18 46 24.7	+3.0
ESQI	**Esquipulas**	**1.09**	**20**	P	**Pn**	**18 46 20.8**	**-1.2**
FG8	**Yepocapa, Chim**	**1.09**	**312**	***eP***	Pn	18 46 26.0	+4.1
PACA	**Pacayal**	**1.36**	**92**	P	**Pn**	**18 46 25.5**	**-0.1**
PACA	**Pacayal**	**1.36**	**92**	S	**Sn**	**18 46 44.9**	**+2.0**
ESSG	**Sabana Grande**	**1.37**	**308**	***eP***	**Pn**	**18 46 23.6**	**-2.1**
SARH	**Santa Rosa de**	**1.55**	**37**	*i P*	**Pn**	**18 46 27.5**	**-0.6**
SARH	**Santa Rosa de**	**1.55**	**37**	P	**Pn**	**18 46 27.4**	**-0.7**
APG	**El Apazote**	**1.63**	**334**	*i P*	**Pn**	**18 46 28.1**	**-1.3**
CNCH	**Conchagua**	**1.86**	**98**	P	**Pn**	**18 46 30.8**	**-1.5**
CNCH	**Conchagua**	**1.86**	**98**	S	**Sn**	**18 46 57.1**	**+2.3**
CSGN	**Cosiguina Volc**	**2.18**	**104**	P	**Pn**	**18 46 36.0**	**-0.6**
CSGN				S	**Sn**	**18 47 03.0**	**+0.4**

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*IDC **16** 18:52:10.8±3.9, 22.°19N×144.°46E, h42km±30km, mb3.5/13, mbtmp3.8/15, ML3.2/2, MS2.9/2, Error ellipse: s-maj=53.0km s-min=15.2km az=83.0*
ISC 16 18:52:13.9±1.6, 22.°2N±0.°1×144.°4E±0.°3, h69km, n23, σ0.°83/16, mb3.7/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.23**	**338**	P	**Pn**	**18 53 29.2**	**-0.3**
JCJ	3.0nm,0.3s,baz=252,slow=21,SNR=1.9			S	**Sn**	**18 54 26.9**	**-1.7**
	33nm,0.3s,baz=287,slow=22,SNR=7.6						
	29nm,0.7s						
GUMO	**Guam**	**8.61**	**177**	LR	LR	18 56 58.4	
	comp=Z,72nm,21.7s,baz=316,slow=34						
MJAR	**Matsushiro Arr**	**15.23**	**341**	P	**Pn**	**18 55 45.5**	**+0.6**
	baz=166,slow=12,SNR=4.3						
	1.2nm,0.8s						
KSRS	**Korea Array**	**20.77**	**321**	P	**P**	**18 56 49.5**	**+0.3**
	0.8nm,0.5s,baz=142,slow=9.3,SNR=6.6						
	0.8nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**21.19**	**93**	T	T	19 19 01.6	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**21.19**	**93**	T	T	19 18 59.0	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**21.21**	**93**	T	T	19 19 06.1	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**21.26**	**96**	T	T	19 19 07.1	
	baz=283,slow=74,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**21.27**	**96**	T	T	19 19 08.2	
	baz=283,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**21.28**	**96**	T	T	19 19 03.8	
	baz=283,slow=74,SNR=3.4						
DAV	**Davao City (W)**	**23.56**	**233**	LR	LR	19 06 40.9	
	comp=Z,27nm,19.6s,baz=110,slow=37						
USRK	**Ussuriysk Ar.**	**24.18**	**338**	P	**P**	**18 57 23.0**	**-0.7**
	1.7nm,0.8s,baz=346,slow=5.3,SNR=5.0						
	1.7nm,0.8s						
SONM	**Songino Array**	**39.63**	**319**	P	**P**	**18 59 38.9**	**-0.1**
	0.4nm,0.5s,baz=136,slow=8.6,SNR=1.7						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.63**	**273**	P	**P**	**19 00 04.2**	**+0.4**
	0.5nm,0.6s,baz=73,slow=7.3,SNR=6.1						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**43.04**	**194**	P	**P**	**19 00 05.8**	**-1.1**
	0.6nm,0.6s,baz=13,slow=8.7,SNR=10						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**44.06**	**206**	P	**P**	**19 00 14.6**	**-0.6**
	1.6nm,0.9s,baz=13,slow=9.3,SNR=2.0						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**46.74**	**193**	P	**P**	**19 00 35.5**	**-0.8**
	0.2nm,0.6s,baz=15,slow=7.2,SNR=7.4						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**54.48**	**321**	P	**P**	**19 01 34.2**	**0.0**
	0.8nm,0.5s,baz=105,slow=11,SNR=2.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**55.14**	**312**	P	**P**	**19 01 40.0**	**+0.8**
	1.0nm,0.6s,baz=88,slow=6.9,SNR=9.5						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**57.88**	**317**	P	**P**	**19 01 59.1**	**+0.5**
	1.7nm,0.6s,baz=94,slow=7.6,SNR=18						
	1.7nm,0.6s						
ARCES	**ARCESS Array B**	**78.76**	**342**	P	**P**	**19 04 09.8**	**+1.1**
	0.4nm,0.5s,baz=46,slow=6.9,SNR=4.7						
	0.4nm,0.5s						
KBZ	**Khabaz**	**82.78**	**314**	P	**P**	**19 04 31.2**	**+0.7**
	1.7nm,0.9s,baz=45,slow=11,SNR=4.4						
	1.7nm,0.9s						
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**19 04 32.1**	**-0.1**
	1.3nm,0.4s,baz=76,slow=5.5,SNR=17						
	1.3nm,0.4s						

CATAC 16 19:01:02.7±0.7, 12.°N±4.°×8.°8W±.°, h10km±5km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=9.3km s-min=4.5km az=25.2, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.29**	**34**	P	Pn	19 01 26.0	-0.8
CSGN				S	Sg	19 01 44.3	+0.1
CNCH	**Conchagua**	**1.44**	**19**	P	Pn	19 01 27.8	-1.0
CNCH	**Conchagua**	**1.44**	**19**	S	Sb	19 01 48.5	+0.5
LCND	**La Caada**	**1.45**	**16**	P	Pn	19 01 27.9	-1.0
CRIN	**San Cristobal**	**1.46**	**57**	S	Sb	19 01 48.8	+0.2
CRIN	**San Cristobal**	**1.46**	**57**	P	Pn	19 01 28.9	-0.2
PKGN	**Cerro Pekin**	**1.50**	**60**	P	Pn	19 01 29.2	-0.5
PKGN				S	Sb	19 01 50.4	+0.6
PACA	**Pacayal**	**1.55**	**359**	S	Sn	19 01 50.3	-0.4
PACA	**Pacayal**	**1.55**	**359**	P	Pn	19 01 30.0	-0.5
POLN	**Al Sur del Vol**	**1.64**	**63**	S	Sb	19 01 53.1	-0.5
CNGA	**Al SSO del Vol**	**1.67**	**69**	P	Pn	19 01 32.1	0.0
CNGA				S	Sn	19 01 53.2	-0.4
CNGN	**Cerro Negro**	**1.68**	**69**	S	Sb	19 01 54.5	-0.3
CNGN	**Cerro Negro**	**1.68**	**69**	P	Pn	19 01 31.9	-0.2
TECO	**Alcaldia de Te**	**1.69**	**344**	S	Sn	19 01 54.2	+0.4
TECO	**Alcaldia de Te**	**1.69**	**344**	P	Pn	19 01 32.3	+0.1
COPN	**Copaltepe**	**1.70**	**81**	P	Pn	19 01 32.3	0.0
SCLA	**Alcaldia de Sa**	**1.83**	**347**	P	Pn	19 01 34.3	+0.1
SCLA	**Alcaldia de Sa**	**1.83**	**347**	S	Sn	19 01 58.0	+0.5
RCVN	**Varillal2**	**2.65**	**51**	P	Pn	19 01 45.4	-0.1
RCVN	**Varillal2**	**2.65**	**51**	S	Sn	19 02 17.4	-0.5
RCPN	**Sur Rio San Ju**	**2.69**	**53**	P	Pn	19 01 45.9	-0.2

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*GEN **16** 19:06:16.4, 45.°91N×6.°90E, h4km±2km, Ml1.3*
*LDG **16** 19:06:17.6±0.1, 45.°89N×6.°92E, h5km, Md1.8/2, Ml2.1/14, Error ellipse: s-maj=1.1km s-min=1.0km az=98.0*
*ROM **16** 19:06:17.1±0.2, 45.°89N±0.°01×6.°93E±0.°01, h8km±1km, ML1.4/12, Error ellipse: s-maj=1.5km s-min=1.1km az=176.0*
*ZUR **16** 19:06:17.4, 45.°89N×6.°92E, h0km±1km, MLh1.4/46, Error ellipse: s-maj=2006.8km s-min=561.3km az=237.0*
STR 16 19:06:17.7±0.2, 46.°N±1.°×1.°±.°, h5km, MLv1.6/11, 12C-12D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**163**	⇑Pg	Pg	19 06 18.8	-0.6
BLANC				Sg	Sg	19 06 19.6	-0.8
MFERR	**Prayon, Val Fe**	**0.15**	**64**	Pg	Pg	19 06 20.8	0.0
MFERR				Sg	Sg	19 06 22.9	0.0
MFERR	**Prayon, Val Fe**	**0.15**	**64**	Pg	Pg	19 06 20.8	0.0
MFERR				Sg	Sg	19 06 22.9	0.0
MRGE	**Morge**	**0.15**	**139**	P	Pg	19 06 20.9	0.0
MRGE				S	Sg	19 06 23.5	+0.6
MRGE	**Morge**	**0.15**	**139**	⇑P	Pg	19 06 20.9	0.0
MRGE				S	Sg	19 06 23.6	+0.6
MRGE				AML	AML		
	comp=E,192μm,0.3s						
MRGE				AML	AML		
	comp=N,182μm,0.3s						
REMY	**Saint-Rhmy-en**	**0.17**	**105**	⇑Pg	Pg	19 06 21.4	+0.2
REMY				Sg	Sg	19 06 24.4	+0.8
REMY	**Saint-Rhmy-en**	**0.17**	**105**	⇑Pg	Pg	19 06 21.5	+0.2
REMY				Sg	Sg	19 06 24.4	+0.8
REMY	**Saint-Rhmy-en**	**0.17**	**105**	P	Pg	19 06 21.5	+0.2
REMY				S	Sg	19 06 24.4	+0.8
REMY	**Saint-Rhmy-en**	**0.17**	**105**	⇑P	Pg	19 06 21.5	+0.2
REMY				S	Sg	19 06 24.3	+0.7
REMY				AML	AML		
	comp=E,149μm,0.2s						
REMY				AML	AML		
	comp=N,310μm,0.4s						
REMY	**Saint-Rhmy-en**	**0.17**	**105**	Pg	Pg	19 06 21.5	+0.2
REMY				Sg	Sg	19 06 24.4	+0.8
SEMOS	**Emosson Stauma**	**0.18**	**4**	⇑Pg	Pg	19 06 21.9	-0.2
SEMOS				Sg	Sg	19 06 23.8	-0.2
OGSI	**Sixt**	**0.21**	**328**	⇑Pg	Pg	19 06 21.6	-0.4
OGSI				Sg	Sg	19 06 24.3	-0.6
OGSI	**Sixt**	**0.21**	**328**	⇑Pg	Pg	19 06 21.6	-0.4
OGSI				Sg	Sg	19 06 24.4	-0.5
OGSI	**Sixt**	**0.21**	**328**	Pg	Pg	19 06 21.6	-0.4
OGSI				Sg	Sg	19 06 24.4	-0.5
SMAO	**Martigny, Rue**	**0.24**	**27**	⇓Pg	Pg	19 06 22.5	0.0
SMAO	**Martigny, Rue**	**0.24**	**27**	Pg	Pg	19 06 22.5	0.0
SMAO				Sg	Sg	19 06 25.7	0.0
SALAN	**Lac Salanfe**	**0.26**	**8**	⇓Pg	Pg	19 06 22.8	-0.2
SALAN				Sg	Sg	19 06 26.2	-0.3
SALAN	**Lac Salanfe**	**0.26**	**8**	⇓Pg	Pg	19 06 22.8	-0.2
SALAN				Sg	Sg	19 06 26.3	-0.2
RSL	**Roselend**	**0.28**	**226**	⇑Pg	Pg	19 06 22.9	-0.3
RSL	**Roselend**	**0.28**	**226**	⇑Pg	Pg	19 06 23.0	-0.3
RSL				Sg	Sg	19 06 26.7	-0.3
RSL	**Roselend**	**0.28**	**226**	P	Pg	19 06 23.0	-0.3
RSL				S	Sg	19 06 26.6	-0.5
RSL	**Roselend**	**0.28**	**226**	Pg	Pg	19 06 23.0	-0.3
RSL				Sg	Sg	19 06 26.6	-0.5
FULLY	**Reservoir Maze**	**0.31**	**29**	⇓Pg	Pg	19 06 23.7	-0.2
LAVEY	**Lavey les Bain**	**0.33**	**13**	⇓Pg	Pg	19 06 23.9	-0.2
LAVEY				Sg	Sg	19 06 28.0	-0.4
LAVEY	**Lavey les Bain**	**0.33**	**13**	⇓Pg	Pg	19 06 23.9	-0.2
LAVEY				Sg	Sg	19 06 28.0	-0.3
ILLEZ	**Chalet Vouargn**	**0.34**	**3**	⇓Pg	Pg	19 06 24.2	-0.2
ILLEZ				Sg	Sg	19 06 28.5	-0.3
ILLEZ	**Chalet Vouargn**	**0.34**	**3**	⇑Pg	Pg	19 06 24.2	-0.1
ILLEZ				Sg	Sg	19 06 28.5	-0.3
RAW4	**Former Reservo**	**0.37**	**29**	Pg	Pg	19 06 24.9	-0.1
RAW4				Sg	Sg	19 06 29.9	0.0
LPL	**La Plagne**	**0.39**	**199**	***eP***g	Pg	19 06 25.1	-0.2
LPL				***eS***g	Sg	19 06 30.0	-0.5
	comp=N,7.5nm,0.3s						
GRYON	**Gryon**	**0.39**	**20**	⇓Pg	Pg	19 06 25.2	-0.2
GRYON	**Gryon**	**0.39**	**20**	⇑Pg	Pg	19 06 25.3	-0.1
GRYON				Sg	Sg	19 06 30.3	-0.2
DIX	**Grande Dixence**	**0.40**	**60**	Pg	Pg	19 06 25.3	-0.2
DIX				Sg	Sg	19 06 30.7	0.0
DIX	**Grande Dixence**	**0.40**	**60**	Pg	Pg	19 06 25.4	0.0
DIX				Sg	Sg	19 06 30.7	0.0
DIX	**Grande Dixence**	**0.40**	**60**	P	Pg	19 06 25.3	-0.2
DIX				S	Sg	19 06 30.7	0.0
DIX	**Grande Dixence**	**0.40**	**60**	P	Pg	19 06 25.4	0.0
DIX				S	Sg	19 06 30.6	-0.1
DIX				AML	AML		

CIRO	Champorcher	0.54	121	Pg	Pg	19 06 28.0	-0.1
CIRO				Sg	Sg	19 06 35.0	-0.1
SENIN	Lac Senin/Sane	0.55	29	Pg	Pg	19 06 28.1	-0.3
SENIN	Lac Senin/Sane	0.55	29	Pg	Pg	19 06 28.2	-0.1
SENIN				Sg	Sg	19 06 35.3	-0.2
SENIN	Lac Senin/Sane	0.55	29	P	Pg	19 06 28.1	-0.2
SENIN				S	Sg	19 06 35.5	0.0
OG02	Monnetier-Morn	0.56	299	Pg	Pg	19 06 28.5	+0.1
VANNI	Vissoie, Val d	0.57	55	Pg	Pg	19 06 28.8	0.0
VANNI				Sg	Sg	19 06 35.9	-0.4
SATI	Passo dei Sala	0.67	90	P	Pg	19 06 29.7	-0.8
SATI				S	Sg	19 06 38.5	-0.7
SATI	Passo dei Sala	0.67	90	P	Pg	19 06 30.1	-0.5
SATI				AML	AML		
	comp=E,29μm,1.3s						
SATI				AML	AML		
	comp=N,23μm,1.5s						
SATI				AML	AML		
	comp=E,29μm,0.7s						
SATI				AML	AML		
	comp=N,23μm,0.5s						
SATI	Passo dei Sala	0.67	90	Pg	Pg	19 06 30.4	-0.2
SATI				Sg	Sg	19 06 39.5	+0.2
TRAV	Traversella	0.69	122	Pg	Pg	19 06 30.6	-0.4
TRAV	Traversella	0.69	122	⇓Pg	Pg	19 06 30.7	-0.3
TRAV	Traversella	0.69	122	P	Pg	19 06 30.6	-0.4
TRAV				S	Sg	19 06 39.6	-0.3
TRAV	Traversella	0.69	122	P	Pg	19 06 30.7	-0.3
TRAV				AML	AML		
	comp=E,32μm,1.6s						
TRAV				AML	AML		
	comp=N,43μm,1.4s						
TRAV				AML	AML		
	comp=E,32μm,0.4s						
TRAV				AML	AML		
	comp=N,43μm,0.6s						
TRAV	Traversella	0.69	122	Pg	Pg	19 06 30.6	-0.4
TRAV				Sg	Sg	19 06 39.8	-0.2
OGMY	Moye	0.72	270	Pg	Pg	19 06 31.0	-0.5
OGMY				Sg	Sg	19 06 40.3	-0.5
EMBD	Embd, Matterta	0.72	62	Pg	Pg	19 06 31.4	-0.1
EMBD				Sg	Sg	19 06 41.4	+0.5
MMK	Mattmark	0.75	77	P	Pg	19 06 31.8	-0.3
MMK				S	Sg	19 06 41.8	-0.1
RSP	Reno Superiore	0.78	161	P	Pg	19 06 32.4	-0.2
RSP				S	Sg	19 06 42.8	+0.1
RSP	Reno Superiore	0.78	161	Pg	Pg	19 06 32.5	-0.2
RSP				Sg	Sg	19 06 43.0	+0.3
GIMEL	St. Georges /	0.79	325	P	Pg	19 06 33.0	0.0
GIMEL	St. Georges /	0.79	325	Pg	Pg	19 06 32.5	-0.4
GIMEL				Sg	Sg	19 06 43.2	-0.1
TORNY	Torny/Romont	0.89	2	Pg	Pg	19 06 34.8	-0.1
TORNY				Sg	Sg	19 06 47.1	+0.7
OGSM	Saint Maurice	0.90	253	Pg	Pg	19 06 34.8	-0.2
OGSM				Sg	Sg	19 06 47.0	+0.4
CABF	La Chapelle	0.93	322	*e*Pg	Pb	19 06 36.0	-0.4
CABF				*e*Sg	Sb	19 06 48.5	-0.6
	comp=N,16nm,0.3s						
OG35	Corcelles	0.95	280	Pg	Pg	19 06 35.4	-0.6
OG35				Sg	Sg	19 06 48.5	+0.2
RRL	Rocca Remolon	0.97	185	P	Pg	19 06 35.6	-0.7
RRL	Rocca Remolon	0.97	185	Pg	Pg	19 06 35.7	-0.6
RRL				Sg	Sg	19 06 49.4	+0.5
BHB	Bricherasio	1.07	167	Pg	Pg	19 06 37.9	-0.3
BHB				Sg	Sg	19 06 52.5	+0.4
BRANT	Les Verrieres	1.10	344	Pg	Pg	19 06 38.7	-0.1
BRANT				Sg	Sb	19 06 53.9	-0.1
RIVEL	MONT RIVEL	1.11	322	Pg	Pg	19 06 39.0	-0.1
RIVEL				Sg	Sb	19 06 54.3	-0.1
MBDF	Montbardon	1.16	185	*e*Pg	Pg	19 06 39.2	-0.8
MBDF				*e*Sg	Sg	19 06 54.5	-0.6
	comp=N,1.1nm,0.2s						
ORIF	Oris-en-Rattie	1.21	217	*e*Pg	Pg	19 06 40.0	-1.0
ORIF				*e*Sg	Sg	19 06 55.7	-0.9
	comp=N,1.2nm,0.3s						
ORIF	Oris-en-Rattie	1.21	217	P	Pg	19 06 40.3	-0.6
ORIF	Oris-en-Rattie	1.21	217	Pg	Pg	19 06 40.5	-0.5
CREF	Crivoux	1.35	189	Pn	Pn	19 06 42.9	-0.5
CREF				Sn	Sn	19 07 01.8	0.0
CHMF	Charmoille	1.38	352	Pn	Pn	19 06 43.6	-0.1
CHMF				Sn	Sn	19 07 02.6	+0.3
PZZ	Stroppo	1.38	174	Pn	Pn	19 06 43.6	-0.3
PZZ				Sn	Sn	19 07 02.7	+0.1
SURF	Saint Ours	1.41	183	Pn	Pn	19 06 44.0	-0.1
JAUF	Jausiers	1.46	185	Pn	Pn	19 06 44.8	-0.1
JAUF				Sn	Sg	19 07 04.9	+0.3
MUGIO	Muggio	1.48	88	AML	AML		
	comp=E,20μm,0.4s						
MUGIO				AML	AML		
	comp=E,20μm,1.6s						
MUGIO				AML	AML		
	comp=N,18μm,1.6s						
BOURR	Bourrignon	1.53	8	Pn	Pn	19 06 45.6	-0.2
BOURR				Sn	Sb	19 07 06.4	+0.2
BALST	Balsthal	1.55	20	Pn	Pn	19 06 45.8	-0.2
BALST				Sn	Sn	19 07 06.4	-0.1
VIVF	Saint-Julien-l	1.89	238	*e*Pg	Pn	19 06 51.6	+0.9
VIVF				*e*Sg	Sb	19 07 17.1	+0.5
	comp=N,4.2nm,0.4s						
HINF	Hinteralfeld	1.93	359	*e*Sg	Sb	19 07 18.9	+0.9
	comp=N,2.0nm,0.3s						
HAU	Haudompre	2.16	350	*e*Pg	Pg	19 06 59.3	+0.2
HAU				*e*Sg	Sg	19 07 25.8	-1.3
	comp=N,3.7nm,0.3s						
SMF	Signal de Mont	2.27	291	*e*Pg	Pb	19 06 58.9	-0.2
SMF				*e*Sg	Sb	19 07 28.7	+1.2
	comp=N,4.8nm,0.3s						
LOR	Lormes	2.52	304	*e*Pg	Pg	19 07 05.2	-0.9
	baz=122						
LOR				*e*Sg	Sb	19 07 35.0	+0.1
	comp=N,1.9nm,0.3s						
AVF	Avril sur Loir	2.63	291	*e*Pg	Pg	19 07 06.9	-1.2
AVF				*e*Sg	Sb	19 07 39.2	+1.3
	comp=N,1.0nm,0.3s						
SSF	Saint Saulge	2.63	298	*e*Pg	Pb	19 07 05.6	+0.2
SSF				*e*Sg	Sb	19 07 39.4	+1.3
	comp=N,1.4nm,0.4s						
BGF	Bois d'Agland	2.91	285	*e*Pg	Pb	19 07 10.7	+0.7
BGF				*e*Sg	Sb	19 07 48.1	+2.3
	comp=N,2.8nm,0.2s						
TCF	Toulx Ste Croi	3.30	279	*e*Sn	Sn	19 07 46.1	-3.6
TCF				*e*Sg	Sg	19 08 01.0	-2.7
	comp=N,0.9nm,0.2s						

*IDC **16** 19:17:17.9±0.6,29°.10S×13°.10W,h0km,mb4.2/17, mbtmp4.2/17,MS3.7/38,Error ellipse: s-maj=19.3km s-min=15.4km az=119.0*

*GCMT **16** 19:17:19.8±0.4,29°.29S±0°.04×13°.07W±0°.03,h24km±1km, MW4.9/86,Moment Tensor Solution. s11,c11; s86,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.23; $M_{\theta\theta}$0.31±.13; $M_{\phi\phi}$2.43±.15; $M_{r\theta}$-0.60±.20; $M_{\theta\phi}$-0.86±.09; $M_{\phi r}$0.04±.16; Best double couple: $M_0$2.80200×10^{16} NP1:ϕ_s351.00000°,δ44.00000°,λ-74.00000°. NP2: ϕ_s150.00000°,δ49.00000°,λ-105.00000°. Principal axes: T 2.7460, Plg3.0000°, Azm250.0000°; N 0.1110, Plg11.0000°, Azm159.0000°; P -2.8570, Plg79.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **16** 19:17:19.8±1.1,29°.2S±0°.1×13°.0W±0°.1,h10km±1km, mb4.8/64 Error ellipse: s-maj=20.8km s-min=17.0km az=157.0*

ISC 16 19:17:19.8±0.4,29°.06S±0°.08×13°.03W±0°.08,h11km,n124, σ1§14/89,mb4.7/54,MS3.8/38,4C-2D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	20.06	355	T	T	19 42 24.7	
	baz=175,slow=74,SNR=599						
H10S3	ASCENSION HYDR	20.07	355	T	T	19 42 25.3	
	baz=45,slow=74,SNR=578						
H10N1	ASCENSION HYDR	21.15	356	T	T	19 43 44.9	
	baz=233,slow=71,SNR=9.4						
H10N3	ASCENSION HYDR	21.16	356	T	T	19 43 47.7	
	baz=233,slow=71,SNR=61						
H10N2	ASCENSION HYDR	21.17	356	T	T	19 43 48.8	
	baz=233,slow=71,SNR=15						
WIN	Windhoek	27.83	84	P	P	19 23 07.9	-1.6
WIN				IAmb	IAmb	19 23 10.2	
	comp=Z,16nm,1.1s						
TSUM	Tsumeb	29.54	77	P	P	19 23 23.5	-1.2
TSUM	Tsumeb	29.54	77	LR	LR	19 32 51.1	
	comp=Z,140nm,20.2s,baz=261,slow=32						
KOOLE	Kule	30.39	86	P	P	19 23 30.9	-1.3
RCBR	Riachuelo	31.65	313	LR	LR	19 33 02.7	
	comp=Z,55nm,20.8s,baz=78,slow=30						
GRTLG	Ghanzi	31.83	84		P	19 23 43.6	-1.3
XAUDM	Khaudum	33.03	79	P	P	19 23 54.3	-1.2
XAUDM				IAmb	IAmb	19 23 56.1	
	comp=Z,27nm,1.4s						
BOSA	Boshof	33.44	99	P	P	19 23 58.5	-0.5
	comp=Z,2.7nm,0.9s,baz=266,slow=5.8,SNR=4.0						
BOSA				LR	LR	19 34 53.6	
	comp=Z,191nm,21.5s,baz=256,slow=32						
	comp=Z,2.7nm,0.9s						
LBTB	Lobatse	34.54	93	P	P	19 24 07.9	-0.6
LBTB				IAmb	IAmb	19 24 08.5	
	comp=Z,23nm,1.6s						
LBTB	Lobatse	34.54	93	LR	LR	19 35 29.7	
	comp=Z,162nm,21.7s,baz=250,slow=32						
BDFB	Brasilia	34.86	285	P	P	19 24 11.1	-0.3
BDFB				IAmb	IAmb	19 24 11.6	
	comp=Z,8.0nm,0.6s						
BDFB	Brasilia	34.86	285	P	P	19 24 11.5	+0.1
	comp=Z,7.4nm,0.5s,baz=110,slow=9.2,SNR=11						
BDFB				LR	LR	19 35 38.9	
	comp=Z,173nm,21.7s,baz=113,slow=32						
	comp=Z,7.4nm,0.5s						
PHDHD	Phuduhudu	35.15	84	P	P	19 24 12.1	-1.7
PHDHD				IAmb	IAmb	19 24 13.4	
	comp=Z,12nm,0.8s						
KHWEE	KHWEE	35.33	87	P	P	19 24 14.1	-1.3
KHWEE				IAmb	IAmb	19 24 16.7	
	comp=Z,22nm,1.2s						
DBIC	Dimbokro	36.39	14	P	P	19 24 24.3	0.0
	comp=Z,12nm,1.1s,baz=195,slow=7.6,SNR=5.4						
DBIC				LR	LR	19 36 05.7	
	comp=Z,53nm,18.1s,baz=182,slow=31						
	comp=Z,12nm,1.1s						
KSANE	Kasane	36.64	81		P	19 24 25.9	-0.7
KSANE				IAmb	IAmb	19 24 27.1	
	comp=Z,20nm,1.4s						
MATP	Matopo	38.52	87	LR	LR	19 38 25.2	
	comp=Z,281nm,19.9s,baz=230,slow=33						
CPUP	Villa Florida	39.15	263	P	P	19 24 47.1	-0.5
	comp=Z,0.7nm,0.8s,baz=280,slow=6.1,SNR=3.9						
CPUP				LR	LR	19 38 57.5	
	comp=Z,68nm,18.0s,baz=314,slow=33						
	comp=Z,0.7nm,0.8s						
AQDB	Aquidauana	39.50	273	P	P	19 24 50.9	+0.3
LSZ	Lusaka	40.35	79		P	19 24 56.7	-1.2
LSZ	Lusaka	40.35	79	LR	LR	19 40 17.8	
	comp=Z,336nm,18.6s,baz=242,slow=34						
TRQA	Tornquist	41.36	244	P	P	19 25 05.2	-0.7
VNA2	Neumayer--Watz	42.02	177	⇑P	P	19 25 10.9	+0.1
	comp=Z,5.2nm,0.6s,baz=351,slow=9.8						
VNA3	Neumayer Olymp	42.27	178	⇑P	P	19 25 12.7	-0.1
	comp=Z,3.9nm,1.0s						
SNAA	Sanae	43.02	175	⇑P	P	19 25 17.7	-1.4
	comp=Z,36nm,0.9s						
SNAA	Sanae	43.02	175		P	19 25 18.9	-0.1
SNAA	Sanae	43.02	175	P	P	19 25 18.9	-0.1
	comp=Z,2.0nm,1.0s,baz=338,slow=7.5,SNR=6.0						
SNAA				LR	LR	19 38 38.9	
	comp=Z,46nm,21.4s,baz=5.0,slow=30						
	comp=Z,2.0nm,1.0s						
TROLL	Troll, Antarti	43.83	173	⇑P	P	19 25 26.0	+0.5
	comp=Z,219nm,0.8s						
TORD	Torodi Ar. Bea	44.31	21		P	19 25 29.4	-0.4
TORD	Torodi Ar. Bea	44.31	21	P	P	19 25 29.7	-0.2
	comp=Z,2.1nm,0.6s,baz=193,slow=7.0,SNR=16						
TORD				LR	LR	19 40 36.7	
	comp=Z,150nm,18.6s,baz=153,slow=32						
	comp=Z,2.1nm,0.6s						
PTLB	Pontes e Lacer	44.50	277		P	19 25 32.7	+1.2
SIV	San Ignacio	45.95	276	LR	LR	19 43 17.9	
	comp=Z,145nm,19.1s,baz=131,slow=34						
MAL2	Monte Alegre,	47.49	297	P	P	19 25 55.6	+0.4
PMSA	Palmer Station	47.73	207	LR	LR	19 42 41.2	
	comp=Z,120nm,18.2s,baz=104,slow=32						
PLCA	Paso Flores	47.83	240	P	P	19 25 56.4	-1.2
	comp=Z,3.0nm,0.9s,baz=79,slow=7.6,SNR=4.9						
PLCA				LR	LR	19 44 26.8	
	comp=Z,59nm,19.5s,baz=90,slow=34						
	comp=Z,3.0nm,0.9s						
MT08	Bocatoma Ro	48.40	250	P	P	19 26 02.6	+0.3
LMEL	Las Melosas	48.48	249	P	P	19 26 02.6	-0.1
LMEL				IAmb	IAmb	19 26 04.8	
	comp=Z,15nm,1.1s						
BO02	Sierra Bellavi	48.78	248		P	19 26 03.9	-1.1
BO01	Tunca	49.10	248		P	19 26 06.4	-1.0
BO01				IAmb	IAmb	19 26 08.0	
	comp=Z,15nm,1.1s						
MT09	Talagante	49.13	249	P	P	19 26 07.3	-0.6
MT09				IAmb	IAmb	19 26 08.1	
	comp=Z,8.7nm,0.9s						
CO01	Juntas del Tor	49.21	254		P	19 26 09.3	+0.8
CO01				IAmb	IAmb	19 26 10.9	
	comp=Z,12nm,1.2s						
VA06	Catapilco	49.63	251	P	P	19 26 10.7	-0.7
GO04	Tololo Observa	49.76	254	P	P	19 26 12.1	-0.6
BELA	Belgrano 2	49.88	186	P	P	19 26 11.6	-1.1
BELA				IAmb	IAmb	19 27 21.5	
	comp=Z,8.9nm,0.8s						
LCO	Las Campanas	49.97	255	P	P	19 26 12.7	-1.7
LCO				IAmb	IAmb	19 26 51.9	
	comp=Z,8.8nm,0.6s						
SYO	Syowa Base	50.03	158	⇓*e*pP	P	19 26 14.0	+0.1
SYO	Syowa Base	50.03	158	⇓*e*sP	P	19 26 15.5	+1.6
MBAR	Mbarara	50.41	64	P	P	19 26 15.3	-2.4
PB09	IPOC Station P	50.88	265	P	P	19 26 21.2	0.0
PB09				IAmb	IAmb	19 26 33.5	
	comp=Z,15nm,1.0s						
MDP	Montagnes des	51.02	305	LR	LR	19 46 36.9	
	comp=Z,85nm,18.8s,baz=130,slow=34						
PB01	IPOC Station P	51.36	265	P	P	19 26 24.2	-0.5
PB01				IAmb	IAmb	19 26 25.4	
	comp=Z,9.9nm,0.8s						
GO01	Chusmiza	51.61	267	IAmb	IAmb	19 26 27.4	
	comp=Z,9.1nm,0.8s						
PB11	IPOC Station P	51.98	267		P	19 26 28.6	-0.9
PB11				IAmb	IAmb	19 26 29.1	
	comp=Z,13nm,1.1s						
HMBC	Humberstone	51.99	266	IAmb	IAmb	19 26 30.0	
	comp=Z,11nm,0.7s						
LPAZ	La Paz	51.99	272	P	P	19 26 28.2	-1.9
	comp=Z,1.9nm,0.7s,baz=50,slow=5.7,SNR=7.1						
LPAZ				LR	LR	19 46 51.8	
	comp=Z,98nm,20.2s,baz=98,slow=34						
	comp=Z,1.9nm,0.7s						
PB16	IPOC Station P	52.39	269	P	P	19 26 32.4	-0.6
TAM	Tamanrasset	54.57	21		P	19 26 49.5	+1.2
LODK	Lodwar	56.52	63	P	P	19 27 02.6	+0.1
LODK				IAmb	IAmb	19 27 06.7	
	comp=Z,12nm,1.3s						
MAW	Mawson	58.12	154	P	P	19 27 12.2	-0.8
	comp=Z,4.6nm,0.8s,baz=276,slow=9.9,SNR=9.1						
MAW				LR	LR	19 47 34.9	
	comp=Z,43nm,18.9s,baz=264,slow=31						
	comp=Z,4.6nm,0.8s						
QSPA	South Pole Qui	61.17	180	P	P	19 27 37.5	+3.3
	comp=Z,18nm,0.9s,baz=218,slow=3.3,SNR=49						
MDT	Midelt	62.06	8	LR	LR	19 51 40.4	
	comp=Z,73nm,19.1s,baz=206,slow=33						
MD31	MD31	62.09	8	P	P	19 27 41.0	+0.3
MD31				IAmb	IAmb	19 27 42.3	
	comp=Z,4.9nm,0.8s						
MD01	Midelt array s	62.09	8	P	P	19 27 40.8	0.0
ATAH	Atahualpa	65.05	276	LR	LR	19 55 23.5	
	comp=Z,76nm,21.5s,baz=143,slow=35						
SDV	Santo Domingo	67.09	295	LR	LR	19 56 04.2	
	comp=Z,80nm,18.1s,baz=135,slow=35						
FLOC	Florencia	67.10	286	P	P	19 28 13.2	-0.5
ROSC	El Rosal	67.76	289	LR	LR	19 56 43.8	
	comp=Z,117nm,18.5s,baz=178,slow=35						
KEST	Kesra	67.81	20	P	P	19 28 18.7	+0.9
KEST				IAmb	IAmb	19 28 21.1	
	comp=Z,12nm,1.1s						
KEST	Kesra	67.81	20	P	P	19 28 18.7	+0.9
	comp=Z,8.7nm,1.0s,baz=238,slow=5.4,SNR=6.3						
KEST				LR	LR	19 56 14.6	
	comp=Z,115nm,18.0s,baz=319,slow=34						
	comp=Z,8.7nm,1.0s						
COHC	Cochancay	68.08	280	P	P	19 28 20.4	+0.5
ESDC	Sonseca Array	68.91	7	P	P	19 28 24.4	-0.2
	comp=Z,1.7nm,0.9s,baz=179,slow=8.2,SNR=8.1						
ESDC				LR	LR	19 56 46.2	
	comp=Z,36nm,18.3s,baz=162,slow=34						
	comp=Z,1.7nm,0.9s						
SJG	San Juan	69.49	306	LR	LR	19 58 24.4	
	comp=Z,44nm,19.2s,baz=106,slow=36						
CRPR	Cabo Rojo, PR	70.11	305	P	P	19 28 31.9	-0.4
IDI	Anoyia	73.32	32	P	P	19 28 51.1	-0.3
SBA	Scott Base	73.33	180	P	P	19 28 51.6	+0.7
SBA				IAmb	IAmb	19 29 01.2	
	comp=Z,13nm,1.4s						
TIP	Timpagrande	73.35	24	P	P	19 28 51.5	0.0
TIP				IAmb	IAmb	19 29 00.9	
	comp=Z,8.3nm,0.9s						
VNDA	Vanda	73.62	179	P	P	19 28 51.6	-1.1
VNDA	Vanda	73.62	179	P	P	19 28 53.5	+0.9
	comp=Z,1.3nm,1.0s,baz=199,slow=5.8,SNR=4.0						
VNDA				LR	LR	19 56 44.3	
	comp=Z,38nm,21.4s,baz=166,slow=32						
	comp=Z,1.3nm,1.0s						
EIL	Elat	74.22	42	LR	LR	20 00 11.7	
	comp=Z,58nm,18.4s,baz=157,slow=35						
RAYN	Ar Rayn	76.84	54	P	P	19 29 12.7	+0.7
RAYN				IAmb	IAmb	19 29 16.0	
	comp=Z,7.6nm,1.1s						
MMAI	Mount Meron Ar	76.94	40	P	P	19 29 13.9	+1.5
	comp=Z,2.3nm,0.8s,baz=165,slow=6.0,SNR=4.4						
MMAI				LR	LR	20 01 29.0	
	comp=Z,31nm,19.4s,baz=180,slow=34						
	comp=Z,2.3nm,0.8s						
ASF	Jabal al Asfar	77.18	42	LR	LR	20 00 35.2	
	comp=Z,26nm,21.6s,baz=281,slow=34						
MANT	Manisa	77.63	32	IAmb	IAmb	19 29 19.1	
	comp=Z,7.5nm,1.0s						
CTI	Castel Tesino	78.04	17	IAmb	IAmb	19 29 26.7	
	comp=Z,6.5nm,1.0s						
RDO	Rodhopi	78.45	29	IAmb	IAmb	19 29 23.0	
	comp=Z,8.9nm,1.2s						
FETA	Feichten	78.71	16	*e*P	P	19 29 21.3	-0.8
	comp=Z,7.9nm,1.6s						
DAVA	Damuels	78.76	16	*e*P	P	19 29 21.7	-0.6
	comp=Z,9.8nm,1.2s						
WTTA	Wattenberg	79.17	17	*e*P	P	19 29 24.1	-0.5
	comp=Z,5.4nm,1.2s						
OBKA	Obir	79.25	19	*e*P	P	19 29 25.6	+0.7
	comp=Z,1.4nm,0.7s						
JTS	Las Juntas de	79.54	288	LR	LR	20 05 14.0	
	comp=Z,66nm,18.0s,baz=110,slow=36						
SOKA	Soboth	79.55	19	*e*P	P	19 29 27.1	+0.6
	comp=Z,3.1nm,0.8s						
LESA	Schwarzleotal	79.58	17	*e*P	P	19 29 26.0	-0.7
	comp=Z,1.8nm,0.6s						
ARSA	Arzberg	80.21	19	*e*P	P	19 29 30.4	+0.4
	comp=Z,6.0nm,1.5s						
CONA	Conrad Observa	80.92	19	*e*P	P	19 29 34.5	+0.6
	comp=Z,3.7nm,1.0s						
BRTR	Keskin Array B	81.04	35	P	P	19 29 35.0	+0.1
BRTR	Keskin Array B	81.04	35	P	P	19 29 35.4	+0.6
	comp=Z,2.8nm,1.0s,baz=191,slow=5.8,SNR=12						
	comp=Z,2.8nm,1.0s						
GERES	GERESS Array B	81.16	18	P	P	19 29 34.5	-0.7
	comp=Z,0.6nm,0.7s,baz=214,slow=6.9,SNR=3.6						
GERES				LR	LR	20 02 28.0	
	comp=Z,44nm,21.3s,baz=266,slow=33						
	comp=Z,0.6nm,0.7s						
MODS	Modra-Piesok	81.73	20	*e*P	P	19 29 38.2	+0.1
ILGA	Ilgaz	82.10	34	IAmb	IAmb	19 29 44.5	
	comp=Z,10nm,1.0s						
MLR	Muntele Rosu	82.23	27	LR	LR	20 06 26.2	
	comp=Z,25nm,18.1s,baz=228,slow=36						
RPN	Rapa Nui	82.33	243	LR	LR	19 59 44.2	
	comp=Z,43nm,18.3s,baz=110,slow=31						
VRAC	Vranov	82.38	19	LR	LR	20 04 50.5	
	comp=Z,60nm,19.1s,baz=221,slow=35						
BURAR	Bucovina Array	83.72	25	P	P	19 29 49.2	+0.6
EKA	Eskdalemuir Ar	84.48	6	P	P	19 29 52.8	+0.7
	comp=Z,3.1nm,0.9s,baz=194,slow=5.6,SNR=3.5						
	comp=Z,3.1nm,0.9s						
GURO	Guroymak-BITLI	84.65	40	P	P	19 29 53.1	-0.6
UOSS	Minazif	85.47	58	P	P	19 29 57.0	-0.8
UOSS				IAmb	IAmb	19 30 00.9	
	comp=Z,8.5nm,1.2s						
GNI	Garni	87.28	40	LR	LR	20 08 51.7	
	comp=Z,40nm,19.1s,baz=246,slow=35						
AKASG	Malin Array Be	87.76	25	LR	LR	20 08 30.6	
	comp=Z,20nm,19.9s,baz=247,slow=35						
KBZ	Khabaz	88.70	37	P	P	19 30 13.2	+0.2
	comp=Z,2.1nm,1.0s,baz=242,slow=4.4,SNR=4.0						
	comp=Z,2.1nm,1.0s						
D62A	Allapoint, All	91.06	325	P	P	19 30 24.8	+0.8
CMIG	Matias Romero	91.29	289	LR	LR	20 10 56.2	
	comp=Z,24nm,19.1s,baz=180,slow=35						
NOA	NORSAR Array B	91.93	12	LR	LR	20 11 16.3	
	comp=Z,22nm,18.9s,baz=270,slow=35						
LMQ	La Malbaie	92.01	325	P	P	19 30 28.2	-0.3
PALK	Pallekele	96.74	85	LR	LR	20 09 17.8	
	comp=Z,83nm,18.9s,baz=240,slow=32						
OZNA	Ozona	102.84	298		Pdif	19 31 24.3	+6.4
ASAR	Alice Springs	118.67	145	PKP	PKPdf	19 36 07.8	-0.8
	comp=Z,0.6nm,0.7s,baz=197,slow=1.9,SNR=9.8						
ASAR				PKKPbc	PKKPbc	19 46 23.1	-1.0
	comp=Z,0.5nm,0.9s,baz=28,slow=4.5,SNR=4.2						
ILAR	Eielson Array	134.16	334	PKP	PKPdf	19 36 36.7	0.0
	comp=Z,0.6nm,0.7s,baz=45,slow=0.5,SNR=3.3						
KSRS	Korea Array	146.48	65	PKPbc	PKPdf	19 37 00.8	+1.0
	comp=Z,11nm,0.9s,baz=265,slow=2.6,SNR=28						
MDJ	Mudanjiang	146.63	52	PKPdf	PKPdf	19 36 58.5	-1.2

*CATAC **16** 19:27:39.4±0.6,8°.N±4°.×8°.3W±°,h16km±2km,M3.8/8, MLv3.8/8,Error ellipse: s-maj=8.7km s-min

CHIR3 *e*S **Sb** **19 27 57.3 -0.2**
PIRO Carate, Puerto 0.50 273 P **Pb** **19 27 49.2 -1.2**
PIRO Carate, Puerto 0.50 273⇓ *e*P **Pb** **19 27 49.1 -1.4**
JIME Puerto Jimenez 0.51 288⇓ *e*P **Pb** **19 27 49.6 -1.1**
BQTLY Boquete Panama 0.53 44⇑ *e*P **Pb** **19 27 50.1 -1.0**
BQSF3 Alto Boquete, 0.54 47⇑/*i*P **Pb** **19 27 50.1 -1.1**
BQSF3 AMP 19 27 50.2
comp=Z,6μm,0.1s
BQSF3 *e*S **Sb** **19 27 58.4 -0.3**
WILLF Boquete 0.54 46⇑ *e*P **Pb** **19 27 50.1 -1.1**
ALCO Alturas Coton, 0.57 360⇑ *e*P **Pb** **19 27 50.7 -1.1**
DAP26 falda E V. Bar 0.58 45 *e*P **Pb** **19 27 50.4 -1.4**
PSOM3 Paja de Sombre 0.59 59⇑/*i*P **Pb** **19 27 50.6 -1.4**
PSOM3 AMP 19 27 53.3
comp=Z,3μm,0.2s
PSOM3 *e*S **Sb** **19 27 59.3 -0.8**
EDP2 Potrero Grande 0.72 332 *e*P **Pb** **19 27 53.3 -0.8**
PBNVO Pueblo Nuevo, 0.81 51⇑ *e*P **Pb** **19 27 53.8 -1.9**
RBALA Bur 0.84 53⇑ *e*P **Pb** **19 27 54.5 -1.5**
PANP Palmar Norte 0.85 313⇓ *e*P **Pb** **19 27 55.0 -1.3**
CHGR2 Aguacate 0.88 51 *e*P **Pb** **19 27 54.9 -1.9**
CHGR2 *e*S **Sb** **19 28 06.9 -1.4**
DRK0 Durika 0.97 335 P **Pb** **19 27 56.8 -1.7**
DRK0 Durika 0.97 335 S **Sb** **19 28 10.3 -0.7**
DRK0 Durika 0.97 335⇑ *e*P **Pb** **19 27 56.7 -1.8**
EDPE Pejibaye, P 1.07 317 *e*P **Pb** **19 27 58.3 -1.6**
OCHAL Ojochal 1.08 312 P **Pb** **19 27 58.4 -1.7**
OCHAL Ojochal 1.08 312 S **Sn** **19 28 14.0 +0.9**
KKNTU Kakint° **1.11 65** *e*P **Pn** **19 27 58.3 -1.3**
SAJE San Jermim 1.17 325⇓ *e*P **Pn** **19 27 59.5 -1.1**
BRIBI Bribri 1.24 1 *e*P **Pb** **19 28 02.6 -0.2**
LAES El Progreso Va 1.39 351 *e*P **Pn** **19 28 03.6 +0.1**
VERH Veragua Rainfo 1.58 347 *e*P **Pn** **19 28 06.2 +0.1**
MESA3 La Mesa, Verag 1.65 98 *e*P **Pn** **19 28 06.4 -0.6**
MESA3 *e*S **Sb** **19 28 29.5 -0.6**
LLNJ Naranjito 1.66 311 *e*P **Pn** **19 28 07.1 -0.1**
PIEC Cerro El Cedra 1.66 318 *e*P **Pn** **19 28 07.0 -0.4**
GMAL Guarumal, Vera 1.70 111 *e*P **Pn** **19 28 07.9 +0.2**
GMAL *e*S **Sn** **19 28 29.2 +0.9**
PICV PH. Pirrs 1.83 313 *e*P **Pn** **19 28 09.9 +0.3**
ABRB Las Abras (San 1.84 332 *e*P **Pn** **19 28 10.6 +0.8**
LCOCO El Coco 1.84 337 *e*P **Pn** **19 28 10.7 +1.0**
SFRA3 San Francisco, 1.84 94 *e*P **Pn** **19 28 10.7 +1.0**
CVTV Tajo 1.85 331 *e*P **Pn** **19 28 10.5 +0.4**
PAR1A Puntarenas Pro 1.85 311 *e*P **Pn** **19 28 10.6 +0.8**
CVTQ Turrialba Volc 1.86 330 *e*P **Pn** **19 28 10.9 +0.7**
VTR0 Volcan Turrial 1.87 331 *e*P **Pn** **19 28 10.8 +0.4**
CVTR Volcan Turrial 1.87 331 *e*P **Pn** **19 28 11.0 +0.6**
CACAO El Cacao, Vera 2.21 118 *e*P **Pn** **19 28 15.9 +1.3**
CACAO *e*S **Sn** **19 28 42.1 +1.2**
AZU Azuero 2.60 103 *e*P **Pn** **19 28 21.7 +1.7**
SOCE Pocosol 2.66 319 P **Pn** **19 28 23.0 +2.0**
JTS Las Juntas de 2.83 312 *e*P **Pn** **19 28 23.6 +0.3**
JTS *e*S **Sn** **19 28 57.9 +1.5**
JTS Las Juntas de 2.83 312 P **Pn** **19 28 23.7 +0.5**
JTS Las Juntas de 2.83 312 *e*P **Pn** **19 28 23.5 +0.2**
BCIP Isla Barro Col 3.06 75 *e*P **Pn** **19 28 27.0 +0.6**
BCIP *e*S **Sn** **19 29 03.3 +1.2**
BCIP Isla Barro Col 3.06 75 P **Pn** **19 28 27.4 +0.9**
CUI Cuipilapa 3.23 315 *e*P **Pn** **19 28 30.7 +1.9**

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*IDC **16** 19:52:29.9±3.0, 43.°13N×105.°15W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=61.9km s-min=10.4km az=156.0*
*NEIC **16** 19:52:30.1±3.0, 43.°48N±0.°05×105.°30W±0.°05, h0km±1km, ML3.2/62, Error ellipse: s-maj=9.2km s-min=4.6km az=326.0*
ISC 16 19:52:31.2±1.1, 43.°55N±0.°06×105.°23W±0.°06, h0km, n27, σ1§14/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**56**		**Pn**	**19 52 53.6**	**+0.3**
K22A	**Casper**	**1.30**	**227**		**Pg**	**19 52 55.3**	**-0.9**
LAO	**LASA Array**	**3.22**	**348**		**Pn**	**19 53 22.7**	**-0.4**
LAO				IAML		19 54 25.6	
	72nm,0.9s						
BW06	**Boulder Array**	**3.26**	**258**		**Pn**	**19 53 23.6**	**-0.2**
BW06				IAML		19 54 21.4	
	33nm,0.9s						
PD31	**Pinedale Array**	**3.26**	**258**		**Pn**	**19 53 22.2**	**-1.6**
PDAR	**Pinedale Array**	**3.26**	**258**		**Pn**	**19 53 25.4**	**+1.6**
PDAR	**Pinedale Array**	**3.26**	**258**	Pn	**Pn**	**19 53 25.8**	**+2.0**
	1.4nm,0.3s,baz=80,slow=14,SNR=27						
PDAR				Pg	**Pb**	**19 53 31.6**	**+1.6**
	3.1nm,0.3s,baz=66,slow=17,SNR=17						
PDAR				Lg	Lg	19 54 12.1	
	4.7nm,0.3s,baz=67,slow=34,SNR=5.0						
	1.2nm,0.3s						
RLMT	**Red Lodge**	**3.29**	**300**		**Pn**	**19 53 25.4**	**+1.1**
RLMT				IAML		19 54 25.5	
	41nm,0.7s						
RLMT				IAML		19 54 34.0	
	34nm,1.9s						
HAYD	**Hayden**	**3.38**	**207**		**Pn**	**19 53 25.7**	**+0.2**
HAYD				IAML		19 54 41.7	
	comp=N,54nm,1.1s						
HAYD				IAML		19 55 01.2	
	comp=E,46nm,1.2s						
OGNE	**Ogallala**	**3.52**	**137**		**Pn**	**19 53 27.1**	**-0.2**
YNE	**Yellowstone No**	**3.73**	**295**		**Pn**	**19 53 29.9**	**-0.4**
YNE				IAML		19 54 40.8	
	comp=E,46nm,0.9s						
YNE				IAML		19 54 46.4	
	comp=N,40nm,1.2s						
YMP	**Mirror Lake Pl**	**3.74**	**290**		**Pn**	**19 53 29.1**	**-1.3**
ISCO	**Idaho Springs**	**3.76**	**184**		**Pn**	**19 53 29.8**	**-0.9**
LOHW	**Long Hollow**	**3.90**	**273**		**Pb**	**19 53 41.8**	**+0.7**
LOHW				IAML		19 54 39.2	
	comp=N,22nm,1.1s						
LOHW				IAML		19 54 44.4	
	comp=N,20nm,1.2s						
H17A	**Grant Village**	**3.95**	**284**		**Pb**	**19 53 40.7**	**-1.1**
H17A				IAML		19 54 46.0	
	comp=N,40nm,1.6s						
H17A				IAML		19 54 59.8	
	comp=E,33nm,0.1s						
SNOW	**Snow King Moun**	**4.02**	**271**	IAML		19 54 59.5	
	comp=E,40nm,1.3s						
SNOW				IAML		19 55 01.3	
	comp=E,38nm,1.9s						
O20A	**White River Ci**	**4.09**	**214**		**Pb**	**19 53 44.9**	**+0.8**
YPP	**Pitchstone Pla**	**4.09**	**282**	IAML		19 54 54.2	
	comp=N,19nm,1.5s						
YFT	**Old Faithful**	**4.14**	**284**	IAML		19 54 56.4	
	comp=N,17nm,1.3s						
TPAW	**Teton Pass**	**4.16**	**271**	IAML		19 54 54.1	
	comp=N,39nm,1.2s						
TPAW				IAML		19 55 15.2	
	comp=N,24nm,1.6s						
RDMU	**Red Mountain**	**4.39**	**229**	IAML		19 55 07.0	
	comp=N,26nm,1.2s						
YHB	**Horse Butte**	**4.46**	**288**	IAML		19 55 13.1	
	comp=E,15nm,1.1s						
YHB				IAML		19 56 08.4	
	comp=N,18nm,2.4s						
YHL	**Hebgen Lake**	**4.47**	**289**	IAML		19 55 15.4	
	comp=N,25nm,1.3s						
YHL				IAML		19 56 03.7	
	comp=E,21nm,3.7s						
BOZ	**Bozeman (W)**	**5.01**	**296**	IAML		19 56 10.9	
	comp=E,11nm,4.7s						
BOZ				IAML		19 56 15.4	
	comp=E,12nm,4.5s						
BSUT	**Blindstream Ca**	**5.10**	**236**	IAML		19 55 21.1	
	comp=N,14nm,1.6s						
BSUT				IAML		19 55 31.4	
	comp=E,14nm,1.4s						
I10CA	**LAC DU BONNET**	**9.16**	**40**	I	I	20 46 50.0	
	comp=E,0.1nm,2.1s,baz=223,slow=308,SNR=11						
ULM	**Lac du Bonnet**	**9.27**	**40**	Pn	**Pn**	**19 54 46.6**	**+0.7**
	comp=E,0.5nm,0.3s,baz=227,slow=11,SNR=1.8						
ULM				Lg	Lg	19 57 21.8	
	comp=E,0.2nm,0.3s,baz=316,slow=13,SNR=1.8						
	comp=E,2.2nm,0.4s						

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*SNET **16** 20:05:01.3±1.5, 13.°24N×89.°39W, h70km, ML3.0*
*CATAC **16** 20:05:01.8±0.6, 13.°N±5.°×8.°9W±.°, h34km±4km, M3.0/11, MLv3.0/11, Error ellipse: s-maj=9.9km s-min=4.6km az=11.2, confirmed*

ISC 16 20:05:00.1±2.4, 13.°0N±0.°1×89.°40W±0.°05, h32km±12km, n33, σ0§58/42, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.49**	**9**	P	**Pn**	**20 05 11.8**	**+0.8**
JAYA	**Jayaque - finc**	**0.65**	**356**	*e*P	**Pb**	**20 05 13.6**	**+0.3**
JAYA				*e*S	**Sn**	**20 05 22.7**	**+0.1**
JAYA	**Jayaque - finc**	**0.65**	**356**	P	**Pb**	**20 05 13.5**	**+0.2**
JAYA	**Jayaque - finc**	**0.65**	**356**	S	**Sn**	**20 05 23.1**	**+0.5**
LOMA	**Loma Larga**	**0.68**	**19**	*e*P	**Pb**	**20 05 13.9**	**+0.2**
LOMA				*e*S	**Sn**	**20 05 23.6**	**+0.3**
LOMA	**Loma Larga**	**0.68**	**19**	P	**Pb**	**20 05 13.7**	**0.0**
ITCA	**Escuela Especi**	**0.68**	**10**	S	**Sn**	**20 05 23.4**	**+0.2**
LFRS	**El Faro**	**0.70**	**28**	*e*P	**Pb**	**20 05 14.1**	**0.0**
LFRS				*e*S	**Sb**	**20 05 23.5**	**-0.1**
PMON	**Piamonte**	**0.71**	**7**	*e*P	**Pb**	**20 05 14.2**	**-0.1**
PMON				*e*S	**Sb**	**20 05 24.3**	**+0.4**
PMON	**Piamonte**	**0.71**	**7**	P	**Pb**	**20 05 14.1**	**-0.1**
UEES	**Universidad Ev**	**0.73**	**12**	P	**Pb**	**20 05 14.7**	**+0.2**
UEES	**Universidad Ev**	**0.73**	**12**	S	**Sb**	**20 05 24.8**	**+0.5**
BOQS	**Boqueron**	**0.74**	**9**	*e*P	**Pb**	**20 05 14.8**	**0.0**
BOQS				*e*S	**Sb**	**20 05 25.0**	**+0.2**
UDBS	**Universidad Do**	**0.75**	**19**	S	**Sb**	**20 05 24.9**	**0.0**
UDBS	**Universidad Do**	**0.75**	**19**	P	**Pb**	**20 05 14.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.81**	**48**	S	**Sb**	**20 05 25.6**	**-0.8**
PAVA	**Las Pavas**	**0.84**	**32**	S	**Sb**	**20 05 26.9**	**-0.6**
PAVA	**Las Pavas**	**0.84**	**32**	P	**Pb**	**20 05 16.1**	**-0.3**
CEVE	**Cerro Verde**	**0.85**	**345**	*e*P	**Pb**	**20 05 16.5**	**-0.2**
CEVE				*e*S	**Sb**	**20 05 28.6**	**+0.7**
CEVE	**Cerro Verde**	**0.85**	**345**	P	**Pb**	**20 05 16.4**	**-0.3**
SBLS	**San Blas**	**0.86**	**346**	*e*P	**Pb**	**20 05 16.5**	**-0.3**
SBLS				*e*S	**Sb**	**20 05 28.8**	**+0.6**
UESV	**Universidad de**	**0.87**	**43**	S	**Sb**	**20 05 27.2**	**-1.0**
SCLA	**Alcaldia de Sa**	**0.96**	**43**	P	**Pn**	**20 05 17.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.96**	**43**	S	**Sb**	**20 05 30.3**	**-0.4**
NUBE	**Las Nubes**	**0.97**	**338**	*e*P	**Pn**	**20 05 17.8**	**+0.2**
NUBE				*e*S	**Sb**	**20 05 30.6**	**-0.6**
NUBE	**Las Nubes**	**0.97**	**338**	P	**Pn**	**20 05 17.9**	**+0.2**
UNIC	**Universidad Ca**	**0.99**	**352**	P	**Pb**	**20 05 18.2**	**-0.7**
PQSS	**Presa 15 de Se**	**1.03**	**53**	S	**Sn**	**20 05 31.1**	**-0.6**
FAME	**Alcaldia de Sa**	**1.03**	**325**	P	**Pn**	**20 05 18.2**	**-0.1**
PACA	**Pacayal**	**1.15**	**66**	*e*P	**Pn**	**20 05 21.2**	**+1.0**
PACA				*e*S	**Sb**	**20 05 36.0**	**-0.2**
PACA	**Pacayal**	**1.15**	**66**	P	**Pn**	**20 05 21.1**	**+1.0**
PACA	**Pacayal**	**1.15**	**66**	S	**Sb**	**20 05 35.5**	**-0.7**
MTO3	**Montecristo**	**1.39**	**2**	S	**Sn**	**20 05 39.0**	**-1.9**

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*IDC **16** 20:31:58.1±0.6, 40.°35S×92.°07W, h0km, mb4.2/12, mbtmp4.2/13, ML4.2/1, MS3.7/14, Error ellipse: s-maj=21.3km s-min=17.4km az=79.0*
*NEIC **16** 20:31:59.4±1.6, 40.°33S±0.°05×91.°8W±0.°1, h10km±1km, mb4.7/121, Error ellipse: s-maj=19.1km s-min=7.3km az=259.0*
ISC 16 20:32:00.1±0.4, 40.°30S±0.°07×91.°79W±0.°08, h15km, n149, σ1§54/111, mb4.7/66, MS3.6/12, 5C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.13**	**62**	T	T	20 47 28.4	
	baz=233,slow=74,SNR=922						
H03S1	**Juan Fernandez**	**12.14**	**62**	T	T	20 47 31.9	
	baz=233,slow=74,SNR=456						
H03S3	**Juan Fernandez**	**12.14**	**62**	T	T	20 47 30.4	
	baz=233,slow=74,SNR=1021						
H03N3	**Juan Fernandez**	**12.36**	**60**	T	T	20 47 39.8	
	baz=234,slow=71,SNR=753						
H03N2	**Juan Fernandez**	**12.36**	**60**	T	T	20 47 42.1	
	baz=234,slow=71,SNR=874						
H03N1	**Juan Fernandez**	**12.37**	**60**	T	T	20 47 45.9	
	baz=234,slow=71,SNR=1282						
LL01	**San Ignacio de**	**14.71**	**104**		**Pn**	**20 35 24.3**	**-3.2**
LL03	**Petrohue**	**14.73**	**100**		**Pn**	**20 35 26.4**	**-1.4**
LR03	**Panguipulli**	**14.93**	**94**		**Pn**	**20 35 27.2**	**-3.4**
LR05	**Currie**	**15.11**	**96**	P	**Pn**	**20 35 28.3**	**-4.7**
LR05				IAmb	IAmb	20 35 57.4	
	comp=Z,42nm,1.3s						
LL02	**Futaleuf**	**15.16**	**108**		**Pn**	**20 35 29.4**	**-4.2**
COYC	**Coyhaique**	**15.36**	**117**	Pn	**Pn**	**20 35 32.5**	**-3.6**
PLCA	**Paso Flores**	**16.16**	**98**		**Pn**	**20 35 44.3**	**-2.4**
PLCA	**Paso Flores**	**16.16**	**98**	Pn	**P**	**20 35 50.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=261,slow=11,SNR=6.4						
PLCA				Sn	**Sn**	**20 38 47.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=1.7						
PLCA				LR	LR	20 40 27.8	
	comp=Z,162nm,21.0s,baz=264,slow=31						
	comp=Z,2.6nm,0.6s						
BI02	**San Fabin de**	**16.47**	**84**		Pn	20 35 42.9	-7.8
GO09	**Cerro Castillo**	**17.39**	**136**		**P**	**20 36 03.1**	**-0.2**
GO09				IAmb	IAmb	20 36 07.1	
	comp=Z,49nm,1.2s						
BO01	**Tunca**	**17.48**	**77**	Pn	**Pn**	**20 36 02.2**	**-1.0**
MG05	**Puerto Natales**	**17.52**	**137**	Pn	**Pn**	**20 36 02.6**	**-1.1**
MG05				IAmb	IAmb	20 36 09.0	
	comp=Z,51nm,1.3s						
MT01	**Popeta**	**17.59**	**75**	P	**Pn**	**20 36 00.4**	**-4.3**
MT09	**Talagante**	**17.82**	**75**	P	**Pn**	**20 36 05.7**	**-2.0**
LMEL	**Las Melosas**	**18.37**	**76**	P	**P**	**20 36 12.2**	**-2.2**
VA03	**San Esteban**	**18.63**	**73**	P	**P**	**20 36 15.8**	**-1.4**
MT08	**Bocatoma Ro**	**18.69**	**75**	P	**P**	**20 36 16.3**	**-1.7**
CO02	**Combarbal**	**19.13**	**68**		**P**	**20 36 24.0**	**+1.3**
RPN	**Rapa Nui**	**19.59**	**307**	LR	LR	20 41 46.2	
	comp=Z,227nm,21.0s,baz=172,slow=30						
CO01	**Juntas del Tor**	**20.47**	**67**	P	**P**	**20 36 38.9**	**+1.4**
ZON	**Zonda**	**20.61**	**72**		**P**	**20 36 40.0**	**+1.2**
LCO	**Las Campanas**	**20.63**	**63**	P	**P**	**20 36 39.0**	**-0.3**
CFA	**Coronel Fontan**	**20.91**	**73**	P	**P**	**20 36 42.8**	**+0.8**
	comp=Z,6.3nm,1.0s,baz=239,slow=12,SNR=11						
CFA				LR	LR	20 43 04.6	
	comp=Z,179nm,19.4s,baz=186,slow=32						
	comp=Z,6.3nm,1.0s						
AC02	**Maricunga**	**23.09**	**61**	P	**P**	**20 37 06.5**	**+0.7**
TRQA	**Tornquist**	**23.17**	**94**		**P**	**20 37 05.8**	**-0.2**
TRQA				IAmb	IAmb	20 37 08.2	
	comp=Z,17nm,1.1s						
GO02	**Mina Guanaco**	**23.92**	**58**	P	**P**	**20 37 14.1**	**+0.3**
GO02				IAmb	IAmb	20 37 17.1	
	comp=Z,22nm,1.4s						
PB16	**IPOC Station P**	**29.11**	**48**	P	**P**	**20 38 02.3**	**+1.3**
PMSA	**Palmer Station**	**29.29**	**156**	LR	LR	20 46 14.0	
	comp=Z,157nm,21.4s,baz=320,slow=29						
LPAZ	**La Paz**	**31.54**	**47**	IAmb	IAmb	20 38 43.6	
	comp=Z,9.9nm,1.4s						
LPAZ	**La Paz**	**31.54**	**47**	P	**P**	**20 38 24.3**	**+1.9**
	comp=Z,2.7nm,0.6s,baz=197,slow=5.8,SNR=10						
LPAZ				LR	LR	20 47 45.9	
	comp=Z,78nm,21.1s,baz=210,slow=30						
	comp=Z,2.7nm,0.6s						
CPUP	**Villa Florida**	**31.78**	**75**	P	**P**	**20 38 27.4**	**+3.5**
	comp=Z,0.5nm,0.5s,baz=72,slow=13,SNR=4.2						
CPUP				LR	LR	20 49 10.4	
	comp=Z,32nm,21.9s,baz=92,slow=32						
	comp=Z,0.5nm,0.5s						
ATAH	**Atahualpa**	**35.13**	**24**	LR	LR	20 49 32.4	
	comp=Z,100nm,21.4s,baz=225,slow=30						
SIV	**San Ignacio**	**36.03**	**57**	LR	LR	20 52 01.0	
	comp=Z,130nm,21.9s,baz=294,slow=33						
AQDB	**Aquidauana**	**36.54**	**68**		**P**	**20 39 04.6**	**-0.5**
AQDB				IAmb	IAmb	20 39 11.8	
	comp=Z,12nm,0.9s						
PTLB	**Pontes e Lacer**	**37.67**	**58**		**P**	**20 39 14.5**	**-0.3**
PTLB				IAmb	IAmb	20 39 15.9	
	comp=Z,14nm,1.4s						
VILB	**Vilhena**	**38.87**	**54**	P	P	20 39 20.7	-4.3
VILB				IAmb	IAmb	20 39 25.9	
	comp=Z,19nm,1.1s						
COHC	**Cochancay**	**39.34**	**20**	P	**P**	**20 39 26.2**	**-2.5**
BELA	**Belgrano 2**	**44.16**	**165**	P	**P**	**20 40 05.5**	**-2.2**
BELA				IAmb	IAmb	20 40 08.7	
	comp=Z,12nm,1.5s						
BDFB	**Brasilia**	**45.20**	**70**	LR	LR	20 58 34.2	
	comp=Z,183nm,18.1s,baz=261,slow=35						
ROSC	**El Rosal**	**47.70**	**24**	P	**P**	**20 40 35.6**	**-1.1**
RUSC	**La Rusia**	**49.09**	**25**	P	**P**	**20 40 46.8**	**-0.7**
RUSC				IAmb	IAmb	20 40 55.0	
	comp=Z,9.8nm,0.7s						
QSPA	**South Pole Qui**	**49.93**	**180**	P	**P**	**20 40 53.8**	**+0.8**
QSPA				IAmb	IAmb	20 41 03.8	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**49.93**	**180**	P	**P**	**20 40 55.7**	**+2.7**
	comp=Z,4.2nm,0.8s,baz=140,slow=2.2,SNR=16						
VNA3	**Neumayer Olymp**	**49.95**	**155**	⇑P	**P**	**20 40 52.3**	**-0.6**
	comp=Z,6.3nm,0.7s						
VNA1	**Neumayer--Stat**	**50.50**	**155**	⇑P	**P**	**20 40 56.4**	**-0.5**
	comp=Z,8.0nm,1.0s						
VNA2	**Neumayer--Watz**	**50.73**	**155**	⇑P	**P**	**20 40 58.4**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=232,slow=8.5						
SNAA	**Sanae**	**52.01**	**156**	⇑P	**P**	**20 41 07.3**	**-1.1**
	comp=Z,42nm,0.6s						
SNAA	**Sanae**	**52.01**	**156**		**P**	**20 41 06.6**	**-1.8**
SNAA				IAmb	IAmb	20 41 08.6	
	comp=Z,8.8nm,1.3s						
SNAA	**Sanae**	**52.01**	**156**	P	**P**	**20 41 07.8**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=264,slow=8.0,SNR=14						
SNAA				LR	LR	20 58 35.0	
	comp=Z,42nm,21.6s,baz=259,slow=31						
	comp=Z,2.6nm,0.9s						
SDV	**Santo Domingo**	**52.70**	**27**	LR	LR	21 02 11.3	
	comp=Z,61nm,18.1s,baz=266,slow=34						
TAOE	**Nuku Hiva Isla**	**53.07**	**293**	*e*LR	LR	20 56 24.8	
	comp=Z,199nm,28.5s						
SBA	**Scott Base**	**53.31**	**195**		**P**	**20 41 18.3**	**+0.4**
SBA				IAmb	IAmb	20 41 25.2	
	comp=Z,8.4nm,1.0s						
TROLL	**Troll, Antarti**	**53.53**	**157**	⇑P	**P**	**20 41 19.4**	**-0.3**
	comp=Z,236nm,0.7s						
BAUV	**El Baul**	**53.69**	**30**	P	**P**	**20 41 21.1**	**-0.2**
PPT2	**Papeete2**	**54.38**	**277**	*e*LR	LR	20 57 03.8	
	comp=Z,151nm,27.2s						
PPT2				*e*LR	LR	20 57 05.8	
	comp=Z,82nm,24.8s						
VNDA	**Vanda**	**54.41**	**195**		**P**	**20 41 25.5**	**-0.4**
VNDA	**Vanda**	**54.41**	**195**	P	**P**	**20 41 26.2**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=105,slow=5.4,SNR=11						
	comp=Z,1.6nm,0.7s						
MDP	**Montagnes des**	**57.73**	**48**	LR	LR	21 04 48.8	
	comp=Z,70nm,18.8s,baz=248,slow=34						
OBIP	**Obispado Ponce**	**62.60**	**27**	P	**P**	**20 42 23.5**	**-0.2**
CELP	**Cerrillos**	**62.64**	**27**	P	**P**	**20 42 23.8**	**-0.2**
PDPR	**Patillas Dam,**	**62.79**	**28**		**P**	**20 42 24.5**	**-0.4**
PDPR				IAmb	IAmb	20 42 31.1	
	comp=Z,7.0nm,0.8s						
SJG	**San Juan**	**62.83**	**28**	P	**P**	**20 42 23.4**	**-1.8**
SJG	**San Juan**	**62.83**	**28**	LR	LR	21 08 07.1	
	comp=Z,26nm,19.1s,baz=181,slow=34						
SOR	**Soroa**	**63.30**	**9**	P	**P**	**20 42 28.3**	**+0.1**
SABA	**Saba**	**63.46**	**31**	P	**P**	**20 42 29.2**	**-0.2**
ZAIG	**Zacatecas**	**63.54**	**349**	P	**P**	**20 42 29.4**	**-0.8**
ZAIG				IAmb	IAmb	20 42 39.1	
	comp=Z,7.0nm,1.1s						
HPIG		**68.12**	**347**		**P**	**20 42 59.1**	**-0.4**
INZ	**Inchbonnie**	**68.34**	**232**	P	**P**	**20 43 00.4**	**-0.3**
833A	**Chaparral WMA,**	**68.64**	**353**	P	**P**	**20 43 03.3**	**+0.8**
HNDO	**Hondo**	**69.82**	**353**	P	**P**	**20 43 09.6**	**-0.2**
DRIO	**Del Rio**	**69.85**	**352**	P	**P**	**20 43 10.0**	**0.0**
DRIO				IAmb	IAmb	20 43 17.3	
	comp=Z,6.7nm,1.0s						
TXAR	**Lajitas Array**	**70.15**	**349**		**P**	**20 43 12.3**	**+0.3**
TXAR	**Lajitas Array**	**70.15**	**349**	P	**P**	**20 43 13.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=170,slow=7.6,SNR=11						
	comp=Z,1.2nm,0.6s						
TX31	**Lajitas Ar. Si**	**70.15**	**349**	P	**P**	**20 43 12.1**	**+0.1**
TX31				IAmb	IAmb	20 43 19.6	
	comp=Z,8.6nm,1.3s						
MAW	**Mawson**	**70.72**	**170**	P	**P**	**20 43 16.8**	**+1.9**
	comp=Z,3.6nm,0.8s,baz=215,slow=7.0,SNR=6.3						
	comp=Z,3.6nm,0.8s						
JCT	**Junction City**	**70.81**	**353**	P	**P**	**20 43 15.3**	**-0.6**
JCT				IAmb	IAmb	20 43 23.5	
	comp=Z,7.5nm,0.9s						
ALPN	**Alpine**	**71.17**	**349**	P	**P**	**20 43 18.5**	**+0.3**
ALPN				IAmb	IAmb	20 43 19.7	
	comp=Z,4.7nm,0.6s						
OZNA	**Ozona**	**71.39**	**352**		**P**	**20 43 19.6**	**+0.2**
OZNA				IAmb	IAmb	20 43 26.8	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**71.54**	**354**	P	**P**	**20 43 20.3**	**0.0**
VHRN	**Van Horn**	**71.78**	**348**	P	**P**	**20 43 21.5**	**-0.3**
MNHN	**Monahans**	**72.00**	**350**	P	**P**	**20 43 23.1**	**0.0**
MNHN				IAmb	IAmb	20 43 24.8	
	comp=Z,5.8nm,0.7s						
SGCY	**Sterling City**	**72.37**	**352**		**P**	**20 43 25.4**	**+0.2**
PLPT	**Palo Pinto**	**73.00**	**354**	P	**P**	**20 43 28.8**	**-0.1**
APMT	**Aspermont**	**73.66**	**353**		**P**	**20 43 33.5**	**+0.6**
APMT				IAmb	IAmb	20 43 40.7	
	comp=Z,8.0nm,0.7s						
121A	**Cookes Peak, D**	**73.96**	**346**	P	**P**	**20 43 34.7**	**-0.2**
121A				IAmb	IAmb	20 43 42.1	
	comp=Z,3.5nm,0.7s						
DKNS	**Dickens**	**74.08**	**352**	P	**P**	**20 43 34.9**	**-0.4**
DKNS				IAmb	IAmb	20 43 42.6	
	comp=Z,5.3nm,1.0s						
TUC	**Tucson**	**74.35**	**343**	P	**P**	**20 43 38.6**	**+1.6**
TUC				IAmb	IAmb	20 43 46.1	
	comp=Z,6.6nm,1.1s						
WHAR	**Wooly Hollow**	**75.22**	**360**	

	comp=Z,7.7nm,0.9s				
DUG	**Dugway, Tooele**	**82.37 344**	IAmb	IAmb	20 44 29.9
	comp=Z,7.1nm,1.1s				
ELK	**Elko**	**83.44 342**	IAmb	IAmb	20 44 34.9
	comp=Z,5.3nm,1.2s				
ELK	**Elko**	**83.44 342**	P	**P**	**20 44 27.8 +1.0**
	comp=Z,1.5nm,0.8s,baz=170,slow=1.8,SNR=4.9				
	comp=Z,1.5nm,0.8s				
ECSD	**EROS Data Cent**	**83.76 356**		**P**	**20 44 27.4 -0.8**
ECSD			IAmb	IAmb	20 44 35.6
	comp=Z,10nm,1.1s				
BEKR	**Beckworth**	**83.93 338**	IAmb	IAmb	20 44 37.7
	comp=Z,3.3nm,0.9s				
PDAR	**Pinedale Array**	**84.23 347**	P	**P**	**20 44 32.0 +1.1**
	comp=Z,3.1nm,0.7s,baz=151,slow=6.2,SNR=9.1				
	comp=Z,3.1nm,0.7s				
DZM	**Mont Dzumac**	**84.49 246**	LR	LR	21 16 15.8
	comp=Z,263nm,18.9s,baz=212,slow=32				
FXWY	**Fox Creek**	**85.34 346**	IAmb	IAmb	20 44 38.1
	comp=Z,5.7nm,1.1s				
HLID	**Hailey**	**85.94 344**	IAmb	IAmb	20 44 58.4
	comp=Z,5.5nm,1.4s				
BOSA	**Boshof**	**89.94 128**	P	**P**	**20 45 00.3 +1.3**
	comp=Z,3.1nm,1.1s,baz=217,slow=10,SNR=3.0				
	comp=Z,3.1nm,1.1s				
EKA	**Eskdalemuir Ar**	**121.22 42**	PKP	**PKiKP**	**20 50 56.2 +4.6**
	comp=Z,1.4nm,0.7s,baz=294,slow=0.7,SNR=5.1				
GERES	**GERESS Array B**	**128.22 54**	PKP	**PKPdf**	**20 51 05.2 -0.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=1.0,SNR=2.1				
NOA	**NORSAR Array B**	**130.28 38**	PKP	**PKiKP**	**20 51 09.6 -0.1**
	comp=Z,1.5nm,0.9s,baz=265,slow=2.1,SNR=4.2				
BRTR	**Keskin Array B**	**138.77 72**	PKhKP	PKPpre	20 51 19.7
	comp=Z,0.2nm,0.4s,baz=132,slow=2.1,SNR=2.1				
BRTR		PKP		**PKPdf**	**20 51 26.1 +0.6**
	comp=Z,0.7nm,0.8s,baz=203,slow=2.3,SNR=4.1				
KBZ	**Khabaz**	**146.48 69**	PKPbc	**PKPab**	**20 51 41.5 +0.3**
	comp=Z,6.0nm,0.8s,baz=231,slow=3.0,SNR=8.0				
USRK	**Ussuriysk Ar.**	**147.64 292**	PKPbc	**PKPbc**	**20 51 42.2 -1.2**
	comp=Z,3.2nm,0.7s,baz=101,slow=8.0,SNR=4.7				
KSRS	**Korea Array**	**149.13 278**	PKPbc	**PKPbc**	**20 51 46.5 -1.1**
	comp=Z,5.3nm,1.0s,baz=113,slow=2.8,SNR=14				
HILR	**Hailar Array B**	**155.98 303**	PKPab	**PKPab**	**20 52 19.9 -0.5**
	comp=Z,2.8nm,0.6s,baz=64,slow=3.4,SNR=3.7				
CMAR	**Chiang Mai Arr**	**156.35 206**	PKP	**PKPdf**	**20 51 57.3 +2.8**
	comp=Z,0.4nm,0.4s,baz=225,slow=1.2,SNR=2.5				
SONM	**Songino Array**	**164.93 306**	PKPab	**PKPab**	**20 52 57.6 -2.0**
	comp=Z,0.4nm,0.4s,baz=95,slow=3.5,SNR=4.9				
ZALV	**Zalesovo Beam**	**166.15 8**	PKP	**PKPdf**	**20 52 01.6 -2.1**
	comp=Z,0.8nm,0.6s,baz=208,slow=2.9,SNR=4.1				
KURBB	**Kurchatov Arra**	**167.66 30**	PKP	**PKPdf**	**20 52 04.1 -0.9**
	comp=Z,1.5nm,0.8s,baz=356,slow=0.6,SNR=9.8				
KURBB		PKPab		**PKPab**	**20 53 10.8 -0.4**
	comp=Z,0.2nm,0.3s,baz=329,slow=3.9,SNR=7.5				

*IDC **16** 20:33:00.5±1.0, 24°.74N×124°.79E, h0km, mb3.6/7, mbtmp3.6/8, ML3.5/1, MS2.9/1, Error ellipse: s-maj=33.1km s-min=21.1km az=60.0*

*NIED **16** 20:33:02.8, 24°.70N×124°.83E, h19km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.48; $M_{\theta\theta}$=1.61; $M_{\phi\phi}$=4.10; $M_{r\theta}$=0.59; $M_{\theta\phi}$=-4.84; $M_{\phi r}$=3.66; Fault plane solution: M_0=6.94000×10^{14} NP1: ϕ_s=109.00000°, δ51.00000°, λ=163.00000°. NP2:ϕ_s=8.00000°, δ77.00000°, λ=-40.00000°.*

*JMA **16** 20:33:02.8±0.1, 25°.N±1°×124°.8E±0°.5, h19km±1km, MD4.1/10, MV3.6/10, NEAR MIYAKOJIMA ISLAND*

ISC 16 20:33:03.2±1.0, 24°.70N±0°.09×124°.82E±0°.04, h20km±3km, n32, σ0°.72/29, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.12**	**242**	P	**Pg**	**20 33 06.8**	**-0.5**
JTJ				*e*S	**Sg**	**20 33 09.9**	**-0.2**
JTJ	**Tarama**	**0.12**	**242**	A	A	20 33 06.8	
	comp=N,44nm,1.0s,comp=E,72nm,3.9s						
JIRB	**Irabujima**	**0.34**	**68**	*i* P	**Pb**	**20 33 09.7**	**-1.0**
JIRB				*e*S	**Sb**	**20 33 15.2**	**-0.6**
JIRB	**Irabujima**	**0.34**	**68**	A	A	20 33 09.7	
	comp=N,15nm,2.5s,comp=E,18nm,1.6s						
JIKM	**Ikemajima**	**0.45**	**60**	*i* P	**Pb**	**20 33 11.7**	**-0.8**
JIKM				*e*S	**Sb**	**20 33 18.3**	**-0.4**
JIKM	**Ikemajima**	**0.45**	**60**	A	A	20 33 11.7	
	comp=N,11nm,1.0s,comp=E,17nm,1.7s						
JMJ2	**Miyako jima3**	**0.46**	**85**	*i* P	**Pb**	**20 33 11.7**	**-1.0**
JMJ2				*e*S	**Sb**	**20 33 18.6**	**-0.5**
JMJ2	**Miyako jima3**	**0.46**	**85**	A	A	20 33 11.7	
	comp=N,14nm,3.9s,comp=E,38nm,1.9s						
JISG	**Ishigakijimahi**	**0.48**	**257**	*i* P	**Pb**	**20 33 12.5**	**-0.5**
JISG				*e*S	**Sb**	**20 33 19.5**	**-0.2**
JISG	**Ishigakijimahi**	**0.48**	**257**	A	A	20 33 12.5	
	comp=N,14nm,0.9s,comp=E,14nm,0.7s						
JOGS	**Gusukube**	**0.53**	**83**	*i* P	**Pb**	**20 33 13.2**	**-0.7**
JOGS				*e*S	**Sb**	**20 33 22.2**	**+1.0**
JOGS	**Gusukube**	**0.53**	**83**	A	A	20 33 13.2	
	comp=N,23nm,1.1s,comp=E,30nm,1.1s						
JIJ	**Ishigaki jima**	**0.70**	**242**	*i* P	**Pb**	**20 33 15.9**	**-0.8**
JIJ				S	**Sb**	**20 33 25.9**	**-0.2**
JIJ	**Ishigaki jima**	**0.70**	**242**	A	A	20 33 15.9	
	comp=N,6.0nm,1.0s,comp=E,6.0nm,1.4s						
JKRS	**Kuro-shima**	**0.87**	**238**	*i* P	**Pb**	**20 33 19.3**	**-0.4**
JKRS				S	**Sn**	**20 33 31.9**	**-0.6**
JKRS	**Kuro-shima**	**0.87**	**238**	A	A	20 33 19.3	
	comp=N,16nm,1.6s,comp=E,19nm,2.3s						
IRIF	**Iriomote-Funau**	**1.06**	**250**	*i* P	**Pb**	**20 33 22.2**	**-0.7**
IRIF				*e*S	**Sn**	**20 33 37.9**	**+0.8**
IRIF	**Iriomote-Funau**	**1.06**	**250**	A	A	20 33 22.2	
	comp=N,7.0nm,1.3s,comp=E,11nm,1.9s						
HATJ	**Hateruma jima**	**1.13**	**236**	*e*P	**Pn**	**20 33 23.7**	**-0.1**
HATJ				*e*S	**Sn**	**20 33 39.4**	**+0.6**
HATJ	**Hateruma jima**	**1.13**	**236**	A	A	20 33 23.7	
	comp=N,16nm,2.9s,comp=E,10.0nm,1.4s						
JOW	**Kunigami**	**3.77**	**55**	Pn	**Pn**	**20 34 01.1**	**+0.8**
	comp=E,6.6nm,0.3s,baz=154,slow=12,SNR=6.8						
	comp=E,16nm,0.4s						
MJAR	**Matsushiro Arr**	**16.47**	**41**	Pn	**P**	**20 36 56.9**	**+1.1**
	baz=230,slow=11,SNR=4.3						
CMAR	**Chiang Mai Arr**	**24.83**	**261**	P	**P**	**20 38 25.1**	**+0.7**
	comp=E,0.5nm,0.7s,baz=51,slow=6.7,SNR=4.9						
CMAR				LR	LR	20 48 29.3	
	comp=E,24nm,18.2s,baz=80,slow=37						
	comp=E,0.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**39.15**	**89**	T	T	21 22 00.9	
	baz=284,slow=74,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**39.15**	**89**	T	T	21 22 00.9	
	baz=284,slow=74,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**39.17**	**89**	T	T	21 22 02.1	
	baz=284,slow=74,SNR=4.4						
MKAR	**Makanchi Array**	**40.32**	**314**	P	**P**	**20 40 39.6**	**+0.3**
	comp=E,0.7nm,0.7s,baz=92,slow=10,SNR=5.9						
	comp=E,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**43.89**	**318**	P	**P**	**20 41 07.8**	**-0.5**
	comp=E,0.7nm,0.8s,baz=109,slow=8.1,SNR=4.7						
	comp=E,0.7nm,0.8s						
WRA	**Warramunga Arr**	**45.33**	**167**	P	**P**	**20 41 20.6**	**+0.6**
	comp=E,1.1nm,0.8s,baz=348,slow=8.7,SNR=8.0						
	comp=E,1.1nm,0.8s						
ASAR	**Alice Springs**	**48.88**	**169**	P	**P**	**20 41 48.2**	**+0.4**
	comp=E,0.5nm,0.9s,baz=354,slow=13,SNR=6.6						
	comp=E,0.5nm,0.9s						
BRTR	**Keskin Array B**	**75.52**	**307**	P	**P**	**20 44 47.1**	**+0.5**
	comp=E,1.1nm,0.9s,baz=116,slow=5.6,SNR=6.3						
	comp=E,1.1nm,0.9s						
GERES	**GERESS Array B**	**84.52**	**322**	P	**P**	**20 45 33.9**	**-1.1**
	comp=E,0.5nm,0.9s,baz=9.7,slow=4.4,SNR=3.5						
	comp=E,0.5nm,0.9s						

DJA 16 20:53:28.5±0.7, 3°.S±2°×10°.1E±°, h36km±14km, M4.0/17, mB3.0/1, mb4.1/6, MLv3.9/17, Mw(mB)1.6/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.07**	**87**	P	Pn	20 53 46.5	-0.5
MASI				S	Sn	20 54 02.2	+1.6
KRJI	**Kerinci**	**1.14**	**15**	P	Pn	20 53 47.8	-0.2
KRJI				S	Sn	20 54 03.5	+1.1
PPSI	**Pulau Pagai**	**1.24**	**291**	P	Pn	20 53 50.2	+0.9
PPSI				S	Sn	20 54 06.6	+1.9
KSI	**Kapahiang**	**1.49**	**108**	P	Pn	20 53 52.6	-0.2
KSI				S	Sn	20 54 11.8	+0.8
MNAI	**Manna**	**2.12**	**123**	P	Pn	20 54 01.4	-0.1
MNAI				S	Sn	20 54 27.0	+0.4
PDSI	**Padang**	**2.38**	**343**	P	Pn	20 54 05.0	0.0
PDSI				S	Sn	20 54 33.7	+0.7
LHSI	**Lahat**	**2.43**	**105**	P	Pn	20 54 06.8	+1.1
LHSI				S	Sn	20 54 35.4	+1.2
SISI	**Saibi**	**2.79**	**312**	P	Pn	20 54 10.7	+0.1
SISI				S	Sn	20 54 44.2	+1.1
PPI	**Padang Panjang**	**2.83**	**344**	P	Pn	20 54 11.9	+0.7
PPI				S	Sn	20 54 45.3	+1.2
MDSI	**Maura Dua**	**3.26**	**113**	P	Pn	20 54 17.9	+0.8
MDSI				S	Sn	20 54 55.1	+0.4
LWLI	**Liwa**	**3.40**	**122**	P	Pn	20 54 21.1	+2.0
LWLI				S	Sn	20 54 59.3	+1.0
KASI	**Kota Agung**	**4.04**	**125**	P	Pn	20 54 28.2	+0.4
PBSI	**Pulau Batu**	**4.25**	**317**	P	Pn	20 54 30.0	-0.8
PPBI	**Pangkal Pinang**	**5.07**	**78**	P	Pn	20 54 42.3	+0.3
PPBI				S	Sn	20 55 39.5	+0.2
CGJI	**Cibinong**	**5.64**	**127**	P	Pn	20 54 48.5	-1.3
	0.1nm27nm,1.3s						
GSI	**Gunungsitoli**	**5.74**	**321**	P	Pn	20 54 51.3	+0.1
SNSI	**Sinabang, Aceh**	**7.38**	**319**	P	Pn	20 55 14.2	+0.4
	113nm,1.2s						
KCSI	**Kotacane, Aceh**	**7.49**	**333**	P	Pn	20 55 15.2	-0.1
	0.0nm4.2nm,0.9s						

*BJI **16** 20:53:50.7, 7°.34N×126°.73E, h128km, mB5.3/38, mb5.2/81*

*IDC **16** 20:53:52.6±0.4, 7°.32N×126°.72E, h125km±3km, mb4.7/31, mbtmp5.1/35, MS3.7/37, Error ellipse: s-maj=9.6km s-min=7.2km az=85.0*

*MOS **16** 20:53:52.4±1.0, 7°.38N×126°.64E, h126km, mb5.4/45, Error ellipse: s-maj=8.8km s-min=3.9km az=120.7*

*GCMT **16** 20:53:53.6±0.1, 7°.26N±0°.01×126°.49E±0°.01, h123km±1km, MW5.2/148, Moment Tensor Solution. s104, c152; s148, c271; Duration: 1ꝏ Moment tensor: Scale 10^{17} Nm; M_{rr}0.56±.01; $M_{\theta\theta}$0.19±.01; $M_{\phi\phi}$-0.74±.01; $M_{r\theta}$0.37±.01; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$0.36±.01; Best double couple: $M_0$0.88100×10^{17} NP1:ϕ_s137.00000°, δ43.00000°, λ39.00000°. NP2:ϕ_s17.00000°, δ64.00000°, λ126.00000°. Principal axes: T 0.9000, Plg55.0000°, Azm334.0000°; N -0.0380, Plg32.0000°, Azm179.0000°; P -0.8630, Plg12.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **16** 20:53:53.7±2.3, 7°.31N±0°.07×126°.55E±0°.08, h130km±4km, mb5.1/209, Mww5.1/32 Error ellipse: s-maj=12.2km s-min=10.2km az=65.0*

*NEIC **16** 20:53:53.6, 7°.29N×126°.56E, h120km*

*NEIC **16** 20:53:53.6, 7°.09N×126°.56E, h120km, Moment Tensor Solution. Duration: 1ꝏ Moment tensor: Scale 10^{16}Nm; M_{rr}4.69; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-4.38; $M_{r\theta}$2.33; $M_{\theta\phi}$1.80; $M_{\phi r}$2.69; Fault plane solution: $M_0$6.05000×10^{16} NP1: ϕ_s137.19000°, δ40.20000°, λ48.83000°. NP2:ϕ_s6.06000°, δ60.93000°, λ119.09000°. Principal axes: T 6.5311, Plg62.0000°, Azm323.0000°; N -1.1260, Plg25.0000°, Azm171.0000°; P -5.4051, Plg11.0000°, Azm76.0000°;*

*MAN **16** 20:53:53.0, 7°.31N×126°.59E, h114km, mb5.8, ML4.8, MS5.2*

MAN INTENSITY II - GENERAL SANTOS CITY; TUPI SOUTH COTABATO.

*DJA **16** 20:53:53.7±0.3, 7°N±2°×12°7E±°, h121km±3km, M5.2/48, mb5.5/48, mB5.6/39, MLv6.1/8, Mw(mB)5.1/39, MwMwp4.8/7, Mwp5.1/7*

ISC 16 20:53:52.6±0.3, 7°.28N±0°.03×126°.61E±0°.04, h127km±2km, h128km:pP-P, n1025, σ1ꝏ26/1005, mb5.2/245, 59C-53D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.05**	**258**		**Pn**	**20 54 16.6**	**+0.8**
DAV	**Davao City (W)**	**1.05**	**258**	P	**Pn**	**20 54 16.4**	**+0.7**
	67μm,0.5s,baz=48,slow=1.4,SNR=857						
DAV				S	**Sn**	**20 54 35.6**	**+2.3**
	baz=197,slow=19						
DAV	**Davao City (W)**	**1.05**	**258**	P	**Pn**	**20 54 16.8**	**+1.0**
DAV				S	**Sn**	**20 54 35.3**	**+2.0**
DAV	**Davao City (W)**	**1.05**	**258**	P	**Pn**	**20 54 16.7**	**+1.0**
DAV	**Davao City (W)**	**1.05**	**258**	P	**Pn**	**20 54 14.0**	**-1.8**
SGSI	**Sangihe**	**3.73**	**197**	P	**Pn**	**20 54 50.7**	**+1.8**
SGSI				S	**Sn**	**20 55 33.9**	**+1.5**
TNTI	**Ternate**	**6.51**	**173**		**Pn**	**20 55 25.8**	**-0.3**
TNTI	**Ternate**	**6.51**	**173**	P	**Pn**	**20 55 26.5**	**+0.4**
TNTI	**Ternate**	**6.51**	**173**	S	**Sn**	**20 56 37.7**	**-1.4**
TNTI	**Ternate**	**6.51**	**173**	P	**Pn**	**20 55 26.1**	**0.0**
	7μm783nm,0.9s						
TNTI				S	**Sn**	**20 56 38.1**	**-1.0**
	7μm783nm,0.9s						
KMSI	**Cibinong**	**7.16**	**202**	P	**Pn**	**20 55 35.9**	**+1.0**
KMSI				S	**Sn**	**20 56 55.4**	**+0.5**
I39PW	**PALAU INFRASON**	**7.87**	**88**	I	I	21 42 10.0	
	baz=269,slow=310,SNR=3.0						
MRSI	**Marisa**	**8.21**	**215**	P	**Pn**	**20 55 49.5**	**+0.5**
MYLDM	**Lahad Datu**	**8.33**	**256**		**Pn**	**20 55 52.0**	**+1.5**
MYLDM	**Lahad Datu**	**8.33**	**256**	P	**Pn**	**20 55 52.1**	**+1.5**
TOLI2	**Tolitoli**	**8.45**	**224**		**Pn**	**20 55 50.3**	**-1.9**
TOLI2	**Tolitoli**	**8.45**	**224**	P	**Pn**	**20 55 50.7**	**-1.5**
TGY	**Tagaytay City**	**8.77**	**321**	P	**Pn**	**20 55 58.9**	**+2.3**
	152nm,0.3s,baz=208,slow=2.8,SNR=14						
LUWI	**Luwuk**	**9.12**	**205**		**Pn**	**20 55 59.8**	**-1.4**
LUWI	**Luwuk**	**9.12**	**205**	P	**Pn**	**20 56 00.5**	**-0.7**
LUWI	**Luwuk**	**9.12**	**205**	P	**Pn**	**20 56 01.8**	**+0.6**
SANI	**Sanana**	**9.29**	**184**	S	Sn	20 57 36.0	-10
SWI	**Sorong**	**9.33**	**150**	P	**Pn**	**20 56 05.0**	**+1.0**
	3μm249nm,0.6s						
SWI	**Sorong**	**9.33**	**150**	P	**Pn**	**20 56 04.7**	**+0.7**
APSI	**Ampana**	**9.53**	**212**	P	**Pn**	**20 56 09.0**	**+2.2**
	6μm851nm,1.0s						
NLAI	**Namlea**	**10.46**	**177**	P	**Pn**	**20 56 17.6**	**-1.7**
AAI	**Ambon**	**11.01**	**172**	P	**Pn**	**20 56 26.3**	**-0.4**
	3μm275nm,0.8s						
RKPI	**Ransiki, Papua**	**11.55**	**139**	P	**Pn**	**20 56 32.8**	**-0.9**
	3μm386nm,0.7s						
FAKI	**Fak Fak**	**11.59**	**151**		**Pn**	**20 56 35.9**	**+1.5**
FAKI	**Fak Fak**	**11.59**	**151**	P	**Pn**	**20 56 37.2**	**+2.8**
FAKI	**Fak Fak**	**11.59**	**151**	P	**Pn**	**20 56 36.8**	**+2.4**
	1μm107nm,1.0s						
KDI	**Kendari**	**11.86**	**200**	P	**Pn**	**20 56 38.5**	**+0.7**
BNDI	**Bandanaira**	**12.18**	**164**	P	**Pn**	**20 56 41.7**	**-0.4**
	202nm,0.9s						
BAKI	**Biak**	**12.67**	**131**	P	**Pn**	**20 56 46.9**	**-1.6**
	6μm419nm,1.6s						
BKB	**Balikpapan**	**12.88**	**229**		**Pn**	**20 56 49.4**	**-1.9**
BKB	**Balikpapan**	**12.88**	**229**	P	**Pn**	**20 56 52.4**	**+1.2**
BKB	**Balikpapan**	**12.88**	**229**	P	**Pn**	**20 56 51.6**	**+0.4**
	4μm322nm,0.8s						
KMPI	**Kaimana, Papua**	**12.97**	**147**	P	**Pn**	**20 56 52.2**	**-0.2**
	220nm,0.9s						
SPSI	**Sidrap Palu**	**13.10**	**212**	P	**Pn**	**20 56 54.9**	**+0.9**
	2μm129nm,0.8s						
SRPI	**Serui, Papua**	**13.23**	**133**	P	**Pn**	**20 56 55.5**	**-0.2**
	3μm267nm,1.0s						
BNSI	**Bone**	**13.30**	**209**	P	**Pn**	**20 56 58.3**	**+1.7**
	3μm225nm,1.3s						
BBSI	**Bau Bau**	**13.31**	**198**	P	**Pn**	**20 56 56.9**	**+0.1**
	2μm127nm,1.2s						
KAPI	**Kappang**	**14.01**	**209**		**Pn**	**20 57 05.2**	**-0.5**
KAPI	**Kappang**	**14.01**	**209**	P	**Pn**	**20 57 05.8**	**+0.1**
	125nm,0.9s,baz=19,slow=8.5,SNR=47						
KAPI				LR	LR	21 02 59.0	
	comp=Z,206nm,20.8s,baz=26,slow=39						
KAPI	**Kappang**	**14.01**	**209**	P	**Pn**	**20 57 06.6**	**+1.0**
KAPI	**Kappang**	**14.01**	**209**	P	**Pn**	**20 57 05.9**	**+0.3**
KAPI	**Kappang**	**14.01**	**209**	P	**Pn**	**20 57 05.5**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,162nm,0.9s						
BKSI	**Bulukumba**	**14.10**	**208**	P	**Pn**	**20 57 06.6**	**-0.2**
	comp=Z,79nm,0.9s						
MTKI	**Muara Teweh, K**	**14.26**	**236**	P	**Pn**	**20 57 10.3**	**+1.4**
	comp=Z,2μmcomp=Z,289nm,1.1s						
BSSI	**Bau Bau, Buton**	**14.67**	**205**	P	**Pn**	**20 57 15.0**	**+0.9**
SBUM	**Sibu**	**15.12**	**252**		**Pn**	**20 57 19.9**	**+0.1**
SBUM	**Sibu**	**15.12**	**252**	P	**P**	**20 57 22.0**	**+0.1**
SMPI	**Sarmi**	**15.19**	**127**	P	**Pn**	**20 57 20.7**	**+0.1**
BBKI	**Banjar Baru**	**15.87**	**228**	P	**P**	**20 57 31.0**	**+0.8**
	comp=Z,5μmcomp=Z,185nm,1.3s						
MMRI	**Maumere**	**16.41**	**195**		**Pn**	**20 57 34.9**	**-0.7**
MMRI	**Maumere**	**16.41**	**195**	P	**P**	**20 57 37.1**	**+1.0**
MMRI	**Maumere**	**16.41**	**195**	S	**S**	**21 00 41.0**	**+0.7**
MMRI	**Maumere**	**16.41**	**195**	P	**P**	**20 57 38.4**	**+2.3**
	comp=Z,3μcomp=Z,267nm,0.7s						
EDFI	**Ende, Flores**	**16.67**	**197**	P	**P**	**20 57 39.6**	**+0.5**
	comp=Z,98nm,0.7s						
GENI	**Genyem**	**16.71**	**125**	P	**P**	**20 57 42.8**	**+3.3**
GENI	**Genyem**	**16.71**	**125**	P	**P**	**20 57 39.7**	**+0.2**
	comp=Z,6μmcomp=Z,371nm,1.6s						
TPUB	**Ta-pu**	**16.93**	**341**	P	**P**	**20 57 37.3**	**-4.6**
SOEI	**Soe**	**17.09**	**188**	P	**Pn**	**20 57 45.6**	**+1.6**
SOEI	**Soe**	**17.09**	**188**	P	**Pn**	**20 57 45.7**	**+1.6**
SOEI	**Soe**	**17.09**	**188**	P	**Pn**	**20 57 46.7**	**+2.6**
	comp=Z,3μcomp=Z,280nm,0.8s						
JAY	**Jayapura**	**17.10**	**124**	P	**Pn**	**20 57 45.9**	**+1.7**
	comp=Z,88nm,0.9s,baz=292,slow=5.9,SNR=21						
JAY	**Jayapura**	**17.10**	**124**	P	**Pn**	**20 57 45.9**	**+1.7**
KSM	**Kuching**	**17.25**	**251**		**Pn**	**20 57 46.6**	**+0.8**
KSM	**Kuching**	**17.25**	**251**	P	**Pn**	**20 57 47.7**	**+1.8**
SSLB	**Suanglung**	**17.29**	**342**		**Pn**	**20 57 46.7**	**+0.5**
SSLB	**Suanglung**	**17.29**	**342**	P	**Pn**	**20 57 47.1**	**+0.8**
BATI	**Baumata**	**17.62**	**190**	P	**Pn**	**20 57 51.6**	**+1.2**
	comp=Z,234nm,0.7s,baz=250,slow=0.4,SNR=27						
BATI				S	**S**	**21 01 02.1**	**-4.3**
	comp=Z,31nm,0.6s,baz=302,slow=19,SNR=2.0						
BATI	**Baumata**	**17.62**	**190**	P	**Pn**	**20 57 51.7**	**+1.3**
	comp=Z,3μcomp=Z,335nm,1.0s						
WSI	**Waingapu**	**17.98**	**201**	P	**Pn**	**20 57 55.1**	**+0.5**
	comp=Z,3μcomp=Z,155nm,0.7s						
YHNB	**Yeheng**	**18.00**	**344**	P	**P**	**20 57 52.9**	**-0.8**
PLAI	**Plampang**	**18.27**	**209**	P	**Pn**	**20 57 58.8**	**+0.7**
PLAI	**Plampang**	**18.27**	**209**	P	**Pn**	**20 57 58.2**	**+0.1**
	comp=Z,1μcomp=Z,225nm,0.7s						
WBSI	**Waikabubak, Su**	**18.29**	**203**	P	**P**	**20 57 56.8**	**-0.1**
	comp=Z,128nm,0.8s						
DLV	**Lat**	**18.46**	**286**		**Pn**	**20 58 00.7**	**+0.2**
DLV	**Lat**	**18.46**	**286**	P	**Pn**	**20 58 01.4**	**+0.9**
TWSI	**Taliwang, Sumb**	**18.64**	**212**	P	**Pn**	**20 58 01.6**	**-0.8**
	comp=Z,2μcomp=Z,230nm,0.7s						
GUMO	**Guam**	**19.01**	**69**		**Pn**	**20 58 10.1**	**+3.3**
GUMO	**Guam**	**19.01**	**69**	P	**Pn**	**20 58 07.6**	**+0.8**
	comp=Z,165nm,0.9s,baz=192,slow=3.6,SNR=7.8						
GUMO				LR	LR	21 05 29.2	
	comp=Z,224nm,20.4s,baz=246,slow=37						
GUMO	**Guam**	**19.01**	**69**	P	**Pn**	**20 58 06.4**	**-0.4**
GUMO	**Guam**	**19.01**	**69**	P	**Pn**	**20 58 10.1**	**+3.3**
KMMI	**Kalianget**	**19.02**	**222**	P	**Pn**	**20 58 07.9**	**+0.9**
	comp=Z,182nm,1.2s						
HKPS	**Hong Kong Po S**	**19.15**	**322**		**P**	**20 58 05.9**	**-0.3**
HKPS	**Hong Kong Po S**	**19.15**	**322**	P	**Pn**	**20 58 08.4**	**0.0**
JOW	**Kunigami**	**19.50**	**4**		**P**	**20 58 11.0**	**+1.0**
JOW	**Kunigami**	**19.50**	**4**	P	**Pn**	**20 58 11.3**	**-1.2**
	comp=Z,229nm,0.9s,baz=193,slow=8.7,SNR=19						
JOW				LR	LR	21 06 11.5	
	comp=Z,54nm,18.9s,baz=121,slow=38						
JOW	**Kunigami**	**19.50**	**4**	P	**Pn**	**20 58 11.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**19.98**	**219**		**P**	**20 58 15.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**19.98**	**219**	P	**Pn**	**20 58 17.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**19.98**	**219**	S	**S**	**21 01 57.7**	**+4.5**
JAGI	**Jajag, Banyuwa**	**19.98**	**219**	P	**Pn**	**20 58 17.7**	**-0.5**
AUDHS	**Darwin High Sc**	**20.04**	**168**	P	Pn	20 58 17.8	-1.0
DRS	**Darwin Rock St**	**20.05**	**168**	P	Pn	20 58 18.2	-0.7
QIZ	**Qiongzhong**	**20.05**	**307**	P	Pn	20 58 17.6	-1.3
QIZ				pP	pP	20 58 39.8	+0.6
QIZ				sP	sP	20 58 55.1	-0.1
QIZ				S	**S**	**21 01 52.3**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,170nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,820nm,3.6s						
QIZ	**Qiongzhong**	**20.05**	**307**		**P**	**20 58 16.4**	**+0.4**
QIZ	**Qiongzhong**	**20.05**	**307**	P	Pn	20 58 17.7	-1.2
GZH	**Guangzhou**	**20.24**	**322**	P	Pn	20 58 20.6	-0.5
MTN	**Manton Dam**	**20.50**	**167**	P	**P**	**20 58 21

WRA				pmax	pmax	
	comp=Z,3.0nm,0.6s					
WR8	**Warramunga Arr**	**28.16 164**		IAmb	IAmb	21 00 30.7
	comp=Z,37nm,0.7s					
KMI	**Kunming**	**28.89 311**	⇑	P	**P**	**20 59 41.0 +1.1**
KMI				pP	pP	21 00 10.3 +2.8
KMI				sS	sS	21 05 09.9 +0.8
KMI				LR	LR	
	comp=Z,210nm,20.6s					
KMI				LR	LR	
	comp=Z,340nm,14.5s					
KMI				LR	LR	
	comp=Z,260nm,15.5s					
MBWA	**Marble Bar**	**29.06 193**		P	**P**	**20 59 41.5 +0.4**
	comp=Z,50nm,1.2s					
CM31	**Chiang Mai Arr**	**29.12 295**		P	**P**	**20 59 41.1 -0.7**
CM31				IAmb	IAmb	21 00 18.0
	comp=Z,42nm,1.4s					
CM31	**Chiang Mai Arr**	**29.12 295**		P	**P**	**20 59 41.9 +0.1**
	SNR=10					
CMAR	**Chiang Mai Arr**	**29.12 295**		P	**P**	**20 59 41.1 -0.7**
CMAR					**PcP**	**21 02 47.5 +0.8**
CMAR	**Chiang Mai Arr**	**29.12 295**		P	**P**	**20 59 42.2 +0.5**
	comp=Z,7.9nm,0.9s,baz=124,slow=7.3,SNR=59					
CMAR				pP	**pP**	**21 00 08.9 -0.4**
	comp=Z,6.8nm,0.9s,baz=102,slow=14,SNR=5.5					
CMAR				PcP	**PcP**	**21 02 48.5 +1.8**
	comp=Z,7.3nm,0.9s,baz=122,slow=0.8,SNR=13					
CMAR				ScP	**ScP**	**21 06 16.2 -0.4**
	comp=Z,2.0nm,0.5s,baz=108,slow=1.4,SNR=5.1					
CMAR				LR	LR	21 10 07.7
	comp=Z,310nm,21.9s,baz=115,slow=33					
	comp=Z,7.9nm,0.9s					
CHTO	**Chiang Mai**	**29.24 296**			**P**	**20 59 42.1 -0.7**
CHTO				IAmb	IAmb	21 00 15.2
	comp=Z,60nm,1.5s					
CHTO					**PcP**	**21 02 47.3 +0.4**
CHTO	**Chiang Mai**	**29.24 296**		P	**P**	**20 59 42.9 +0.1**
CHTO	**Chiang Mai**	**29.24 296**		P	**P**	**20 59 42.9 +0.1**
CHTO	**Chiang Mai**	**29.24 296**		P	**P**	**20 59 42.1 -0.7**
CHTO				pmax	pmax	
	comp=Z,60nm,1.5s					
PSAD1	**Pilbara Seismi**	**29.33 193**		P	**P**	**20 59 44.1 +0.7**
	comp=Z,41nm,0.7s					
PSAC1	**Pilbara Seismi**	**29.41 193**		P	**P**	**20 59 44.4 +0.2**
	comp=Z,48nm,0.7s					
PSAC2	**Pilbara Seismi**	**29.41 193**		P	**P**	**20 59 44.9 +0.7**
	comp=Z,66nm,0.7s					
PSA00	**Pilbara Seismi**	**29.44 193**		P	**P**	**20 59 44.4 -0.1**
	comp=Z,52nm,0.8s					
PSA00	**Pilbara Seismi**	**29.44 193**			**P**	**20 59 45.2 +0.8**
PSA00				IAmb	IAmb	21 00 10.8
	comp=Z,40nm,1.3s					
PSA00	**Pilbara Seismi**	**29.44 193**		IAmb	IAmb	21 00 11.5
	comp=Z,66nm,1.1s					
PSA00	**Pilbara Seismi**	**29.44 193**		P	**P**	**20 59 47.4 +3.0**
PSAB3	**Pilbara Seismi**	**29.45 193**		P	**P**	**20 59 44.2 -0.4**
	comp=Z,51nm,0.8s					
INU	**Inuyama**	**29.52 17**			**P**	**20 59 44.9 -0.2**
INU				IAmb	IAmb	20 59 46.0
	comp=Z,70nm,1.1s					
INU	**Inuyama**	**29.52 17**		P	**P**	**20 59 45.0 0.0**
GSI	**Gunungsitoli**	**29.55 260**		IAmb	IAmb	21 00 16.2
	comp=Z,65nm,0.8s					
GSI	**Gunungsitoli**	**29.55 260**		P	**P**	**20 59 46.4 +0.8**
JGF	**Kuroka**	**29.86 18**		IAmb	IAmb	20 59 55.0
	comp=Z,24nm,1.0s					
JGF	**Kuroka**	**29.86 18**		P	**P**	**20 59 49.1 +1.0**
KSAR	**Wonju Array Be**	**30.04 2**			**P**	**20 59 49.0 -0.6**
KSAR	**Wonju Array Be**	**30.04 2**		P	**P**	**20 59 49.0 -0.6**
KSRS	**Korea Array**	**30.06 2**		P	**P**	**20 59 50.2 +0.5**
	comp=Z,4.7nm,0.9s,baz=183,slow=10,SNR=16					
KSRS				pP	**pP**	**21 00 17.4 +0.3**
	comp=Z,3.1nm,0.7s,baz=180,slow=10.0,SNR=3.6					
KSRS				PcP	**PcP**	**21 02 49.0 +0.4**
	comp=Z,3.1nm,0.9s,baz=198,slow=4.3,SNR=6.6					
KSRS				ScP	**ScP**	**21 06 19.9 +0.7**
	comp=Z,2.7nm,0.9s,baz=186,slow=3.6,SNR=8.7					
KSRS				LR	LR	21 12 00.8
	comp=Z,32μm,21.1s,baz=185,slow=36					
	comp=Z,4.7nm,0.9s					
TIA	**Tai'an**	**30.07 345**		P	**P**	**20 59 49.0 -0.9**
TIA				pmax	pmax	
	comp=Z,32nm,0.9s					
TIA				pmax	pmax	
	comp=Z,150nm,6.2s					
LYN	**LuoYang**	**30.11 336**		P	**P**	**20 59 50.0 -0.2**
LYN				pP	pP	21 00 22.1 +4.2
LYN				PcP	**PcP**	**21 02 50.0 +1.2**
LYN				pmax	pmax	
	comp=Z,26nm,0.7s					
LYN				pmax	pmax	
	comp=Z,340nm,6.6s					
PZH	**PanZhiHua**	**30.41 312**		P	**P**	**20 59 53.3 +0.1**
PZH				pmax	pmax	
	comp=Z,30nm,1.0s					
QIS	**Mount Isa**	**30.47 155**		P	**P**	**20 59 54.7 +1.0**
	comp=Z,57nm,0.9s					
QIS	**Mount Isa**	**30.47 155**		P	**P**	**20 59 55.0 +1.4**
MTSU	**Mount Surprise**	**30.71 146**		P	**P**	**20 59 56.8 +1.0**
	comp=Z,7.9nm,0.7s					
MTSU	**Mount Surprise**	**30.71 146**		P	**P**	**20 59 58.3 +2.5**
MJAR	**Matsushiro Arr**	**30.99 18**			**P**	**20 59 56.0 -2.0**
MJAR	**Matsushiro Arr**	**30.99 18**		P	**P**	**20 59 56.6 -1.4**
	comp=Z,13nm,0.9s,baz=196,slow=9.1,SNR=32					
MJAR				pP	**pP**	**21 00 25.7 +1.2**
	comp=Z,8.1nm,0.8s,baz=193,slow=9.1,SNR=5.9					
MJAR				LR	LR	21 11 50.4
	comp=Z,93nm,21.4s,baz=196,slow=35					
	comp=Z,13nm,0.9s					
MAJO	**Matsushiro**	**30.99 18**		P	**P**	**20 59 56.7 -1.3**
MAJO				IAmb	IAmb	20 59 57.9
	comp=Z,29nm,1.1s					
MAJO	**Matsushiro**	**30.99 18**		P	**P**	**20 59 57.3 -0.7**
MAJO	**Matsushiro**	**30.99 18**	*i*	P	**P**	**20 59 56.3 -1.7**
MAJO				pmax	pmax	
	comp=Z,29nm,1.1s					
MAJO	**Matsushiro**	**30.99 18**		P	**P**	**20 59 57.3 -0.7**
MAJO				pP	**pP**	**21 00 25.5 +1.0**
MJB9	**Matsu-Tunnel**	**30.99 18**		IAmb	IAmb	20 59 58.9
	comp=Z,28nm,1.1s					
XAN	**Xi'an**	**31.24 331**	⇑	P	**P**	**20 59 59.4 -0.9**
XAN				pP	pP	21 00 25.1 -2.9
XAN				PcP	**PcP**	**21 02 53.1 +1.2**
XAN				pmax	pmax	
	comp=Z,50nm,0.8s					
XAN				LR	LR	
	comp=Z,360nm,11.4s					
XAN				LR	LR	
	comp=Z,300nm,24.0s					
XAN	**Xi'an**	**31.24 331**		P	**P**	**20 59 59.6 -0.7**
XAN				PcP	**PcP**	**21 02 52.9 +0.9**
AS15	**Alice Springs**	**31.55 167**		P	**P**	**21 00 03.6 +0.6**
	comp=Z,23nm,0.8s					
AS31	**Alice Springs**	**31.57 167**		P	**P**	**21 00 04.0 +0.7**
	comp=Z,12nm,0.6s					
ASAR	**Alice Springs**	**31.58 167**			**P**	**21 00 03.4 +0.1**
ASAR	**Alice Springs**	**31.58 167**		P	**P**	**21 00 03.9 +0.5**
	comp=Z,4.0nm,0.4s,baz=343,slow=7.0,SNR=69					
ASAR				PcP	**PcP**	**21 02 53.3 +0.3**
	comp=Z,5.0nm,0.5s,baz=356,slow=2.4,SNR=5.7					
ASAR				S	**S**	**21 04 59.6 -3.3**
	comp=Z,4.1nm,0.9s,baz=346,slow=17,SNR=4.3					
ASAR				ScP	**ScP**	**21 06 23.6 -0.9**
	comp=Z,2.1nm,0.7s,baz=340,slow=3.6,SNR=4.4					
	comp=Z,4.0nm,0.4s					
AS01	**Alice Springs**	**31.59 167**		P	**P**	**21 00 04.4 +1.0**
AS09	**Alice Springs**	**31.62 167**		P	**P**	**21 00 04.0 +0.3**
	comp=Z,41nm,0.6s					
CD2	**Chengdu**	**31.78 321**		P	**P**	**21 00 05.5 +0.4**
CD2				pmax	pmax	
	comp=Z,250nm,1.1s					
CD2				pmax	pmax	
	comp=Z,750nm,3.9s					
CD2				LR	LR	
	comp=Z,380nm,11.2s					
CD2				LR	LR	
	comp=Z,320nm,11.4s					
CD2				LR	LR	
	comp=Z,340nm,14.6s					
DL2	**Dalian**	**31.80 353**		P	**P**	**21 00 05.4 +0.3**
DL2				pP	**pP**	**21 00 34.3 +1.5**
DL2				S	**S**	**21 05 08.0 +2.0**
DL2				pmax	pmax	
	comp=Z,78nm,0.9s					
DL2				pmax	pmax	
	comp=Z,260nm,5.6s					
HNS	**HongShan**	**31.87 342**	⇑	P	**P**	**21 00 05.4 -0.3**
HNS				S	**S**	**21 05 05.3 -1.8**
HNS				pmax	pmax	
	comp=Z,75nm,1.0s					
HNS				LR	LR	
	comp=Z,120nm,7.5s					
HNS				LR	LR	
	comp=Z,190nm,9.2s					
HNS				LR	LR	
	comp=Z,170nm,11.0s					
TNCH	**TengChong**	**32.12 307**	⇑	*i*P	**P**	**21 00 08.5 +0.2**
TNCH				pP	pP	21 00 37.8 +1.7
TNCH				sP	sP	21 00 54.1 +3.3
TNCH				S	**S**	**21 05 10.4 -1.3**
TNCH				pmax	pmax	
	comp=Z,41nm,1.5s					
TNCH				pmax	pmax	
	comp=Z,310nm,4.2s					
TNCH				LR	LR	
	comp=Z,180nm,15.3s					
TNCH				LR	LR	
	comp=Z,240nm,14.2s					
TNCH				LR	LR	
	comp=Z,260nm,22.0s					
WRKA	**Warakurna**	**32.17 177**		P	**P**	**21 00 09.1 +0.7**
	comp=Z,11nm,1.1s					
JSD	**Sado**	**32.38 17**		P	**P**	**21 00 11.3 +1.1**
JMM	**Marumori**	**33.05 21**		P	**P**	**21 00 16.5 +0.5**
BJT	**Baijiatuau**	**33.91 346**			**P**	**21 00 22.4 -1.0**
BJT				IAmb	IAmb	21 00 24.2
	comp=Z,59nm,1.0s					
BJT	**Baijiatuau**	**33.91 346**		P	**P**	**21 00 23.4 0.0**
BJT	**Baijiatuau**	**33.91 346**		P	**P**	**21 00 22.4 -1.0**
BJT				pmax	pmax	
	comp=Z,59nm,1.0s					
BJT	**Baijiatuau**	**33.91 346**		P	**P**	**21 00 23.7 +0.3**
BJI	**Beijing**	**33.93 346**		P	**P**	**21 00 22.9 -0.7**
BJI				PP	**PnPn**	**21 01 41.9 +0.6**
BJI				PcP	**PcP**	**21 03 00.4 +1.2**
BJI				S	**S**	**21 05 37.0 -1.9**
BJI				pmax	pmax	
	comp=Z,31nm,1.0s					
BJI				pmax	pmax	
	comp=Z,96nm,3.1s					
BJI				LR	LR	
	comp=Z,50nm,11.6s					
BJI				LR	LR	
	comp=Z,54nm,12.4s					
BJI				LR	LR	
	comp=Z,60nm,14.3s					
SNY	**Shenyang**	**34.51 356**	⇑	P	**P**	**21 00 28.3 -0.2**
SNY				pmax	pmax	
	comp=Z,66nm,1.1s					
MEEK	**Meekatharra**	**34.60 193**		P	**P**	**21 00 29.9 +0.4**
	comp=Z,39nm,0.8s					
MEEK	**Meekatharra**	**34.60 193**		P	**P**	**21 00 31.4 +1.8**
LZDM	**Lanzhou Array**	**35.41 327**		P	**P**	**21 00 38.2 +1.4**
	comp=Z,33nm,0.8s,baz=144,slow=10,SNR=11					
LZDM				LR	LR	21 16 00.3
	comp=Z,143nm,19.5s,baz=160,slow=38					
	comp=Z,33nm,0.8s					
LZH	**Lanzhou**	**35.43 327**	⇑	P	**P**	**21 00 37.8 +1.0**
LZH				pP	pP	21 01 06.0 +1.1
LZH				sP	sP	21 01 25.3 +5.8
LZH				PcP	**PcP**	**21 03 05.8 +1.9**
LZH				PcS	**PcS**	**21 06 52.5 +1.2**
LZH				pmax	pmax	
	comp=Z,130nm,1.3s					
LZH				pmax	pmax	
	comp=Z,720nm,4.4s					
LZH				LR	LR	
	comp=Z,320nm,13.7s					
LZH				LR	LR	
	comp=Z,330nm,14.1s					
LZH				LR	LR	
	comp=Z,280nm,13.1s					
VLA	**Vladivostok**	**35.99 7**	*e*	P	**P**	**21 00 40.6 -0.6**
VLA				pmax	pmax	
	comp=Z,82nm,1.4s					
BTO	**Baotou**	**36.34 338**	*e*	P	**P**	**21 00 45.6 +1.2**
BTO				sP	**sP**	**21 01 27.8 +0.6**
BTO				S	**S**	**21 06 18.3 +2.2**
BTO				pmax	pmax	
	comp=Z,24nm,0.7s					
BTO				pmax	pmax	
	comp=Z,410nm,4.0s					
BTO				LR	LR	
	comp=Z,220nm,5.4s					
BTO				LR	LR	
	comp=Z,220nm,11.5s					
BTO				LR	LR	
	comp=Z,180nm,6.7s					
CN2	**Changchun**	**36.39 359**		P	**P**	**21 00 46.3 +1.7**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
USRK	**Ussuriysk Ar.**	**37.07 6**		P	**P**	**21 00 50.2 -0.2**
	comp=Z,12nm,0.7s,baz=194,slow=9.4,SNR=17					
USRK				pP	**pP**	**21 01 18.1 +0.1**
	comp=Z,20nm,0.8s,baz=186,slow=7.0,SNR=6.1					
	comp=Z,12nm,0.7s					
HNR	**Honiara**	**37.13 116**		LR	LR	21 13 32.7
	comp=Z,99nm,21.7s,baz=356,slow=32					
MDJ	**Mudanjiang**	**37.28 4**		P	**P**	**21 00 52.5 +0.4**
MDJ				S	**S**	**21 06 29.8 -0.2**
MDJ				pmax	pmax	
	comp=Z,35nm,1.2s					
MDJ	**Mudanjiang**	**37.28 4**		IAmb	IAmb	21 00 53.8
	comp=Z,76nm,1.5s					
MDJ	**Mudanjiang**	**37.28 4**		P	**P**	**21 00 53.1 +1.0**
INKA	**Innaminka**	**37.41 159**			**P**	**21 00 54.1 +0.7**
MORW	**Morawa**	**37.55 195**		P	**P**	**21 00 55.0 +0.4**
	comp=Z,36nm,1.2s					
MORW	**Morawa**	**37.55 195**		IAmb	IAmb	21 01 25.4
	comp=Z,59nm,1.1s					
MORW	**Morawa**	**37.55 195**		P	**P**	**21 00 55.8 +1.2**
XLT	**XiLinHaoTe**	**37.62 347**	*e*	P	**P**	**21 00 54.8 -0.4**
XLT				pmax	pmax	
	comp=Z,40nm,0.8s					
XLT				pmax	pmax	
	comp=Z,200nm,3.6s					
QLP	**Quilpie**	**37.76 154**		P	**P**	**21 00 59.4 +3.0**
SHL	**Shillong**	**37.77 303**		P	**P**	**21 00 56.7 -0.1**
	SNR=24					
SHL	**Shillong**	**37.77 303**		P	**P**	**21 00 56.2 -0.6**
FORT	**Forrest**	**37.87 178**		P	**P**	**21 00 58.3 +1.0**
	comp=Z,39nm,0.5s					
FORT	**Forrest**	**37.87 178**		IAmb	IAmb	21 01 21.4
	comp=Z,31nm,0.5s					
BNX	**BinXian**	**38.32 1**	⇓	P	**P**	**21 01 00.4 -0.5**
BNX				S	**S**	**21 06 47.9 +2.2**
BNX				pmax	pmax	
	comp=Z,11nm,1.0s					
KMBL	**Kambalda**	**38.70 186**		P	**P**	**21 01 04.8 +0.5**
	comp=Z,41nm,1.0s					
BLDU	**Ballidu**	**38.86 194**		P	**P**	**21 01 06.0 +0.4**
	comp=Z,47nm,0.7s					
BLDU	**Ballidu**	**38.86 194**		P	**P**	**21 01 06.6 +1.0**
GTA	**Gaotai**	**40.04 327**	⇑	P	**P**	**21 01 17.3 +1.9**
GTA				pP	pP	21 01 46.0 +2.0
GTA				PcP	**PcP**	**21 03 19.5 +1.5**
GTA				ScP	**ScP**	**21 06 56.0 +0.6**
GTA				PcS	**PcS**	**21 07 08.1 -0.4**
GTA				S	**S**	**21 07 13.4 +1.5**
GTA				ScS	**ScS**	**21 11 09.4 +0.3**
GTA				pmax	pmax	
	comp=Z,99nm,1.4s					
GTA				pmax	pmax	
	comp=Z,480nm,9.2s					
GTA				LR	LR	
	comp=Z,190nm,15.1s					
GTA				LR	LR	
	comp=Z,200nm,15.5s					
GTA				LR	LR	
	comp=Z,310nm,21.1s					
LSA	**Lhasa**	**40.08 308**		P	**P**	**21 01 14.3 -2.1**
LSA				pmax	pmax	
	comp=Z,28nm,1.3s					
LSA	**Lhasa**	**40.08 308**		IAmb	IAmb	21 01 18.9
	comp=Z,71nm,1.5s					
LSA	**Lhasa**	**40.08 308**		P	**P**	**21 01 17.4 +1.1**
LSA	**Lhasa**	**40.08 308**		P	**P**	**21 01 17.5 +1.1**
LSA	**Lhasa**	**40.08 308**		P	**P**	**21 01 16.9 +0.5**
EIDS	**Eidsvold**	**40.25 145**		P	**P**	**21 01 16.7 -0.6**
	comp=Z,20nm,0.8s					
MUN	**Mundaring**	**40.29 194**		P	**P**	**21 01 18.1 +0.7**
	comp=Z,74nm,0.7s					
MUN	**Mundaring**	**40.29 194**		P	**P**	**21 01 19.0 +1.6**
MUN	**Mundaring**	**40.29 194**		P	**P**	**21 01 18.0 +0.7**
AUMAZ	**Mazenod Senior**	**40.36 194**		P	**P**	**21 01 20.7 +2.7**
BBOO	**Buckleboo**	**40.87 168**		P	**P**	**21 01 23.0 +0.8**
	comp=Z,72nm,1.0s					
BBOO	**Buckleboo**	**40.87 168**			**P**	**21 01 23.1 +0.9**
BBOO				IAmb	IAmb	21 01 50.8
	comp=Z,102nm,1.2s					
GOMU	**GeErMu**	**40.88 319**		P	**P**	**21 01 23.5 +0.8**
GOMU				PP	**PP**	**21 03 01.1 +1.5**
GOMU				S	**S**	**21 07 25.5 +0.4**
GOMU				pmax	pmax	
	comp=Z,41nm,1.3s					
GOMU				LR	LR	
	comp=Z,85nm,13.9s					
GOMU				LR	LR	
	comp=Z,110nm,13.7s					
GOMU				LR	LR	
	comp=Z,130nm,13.2s					
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 23.7 +0.7**
NWAO	**Narrogin (SRO)**	**40.97 192**			**P**	**21 01 23.6 +0.7**
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 24.9 +1.9**
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 24.6 +1.6**
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 25.1 +2.1**
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 23.7 +0.7**
NWAO				pmax	pmax	
	comp=Z,145nm,1.3s					
NWAO	**Narrogin (SRO)**	**40.97 192**		P	**P**	**21 01 24.1 +1.1**
NWAO				pP	**pP**	**21 01 44.9 -6.2**
STKA	**Stephens Creek**	**41.49 161**		P	**P**	**21 01 28.0 +0.8**
	comp=Z,181nm,0.9s					
STKA	**Stephens Creek**	**41.49 161**		P	**P**	**21 01 28.2 +0.9**
STKA	**Stephens Creek**	**41.49 161**		P	**P**	**21 01 27.6 +0.4**
	comp=Z,14nm,0.8s,baz=343,slow=9.0,SNR=17					
STKA				pP	**pP**	**21 01 55.1 +0.7**
	comp=Z,35nm,0.7s,baz=336,slow=8.7,SNR=7.6					
	comp=Z,14nm,0.8s					
STKA	**Stephens Creek**	**41.49 161**		P	**P**	**21 01 29.0 +1.8**
STKA	**Stephens Creek**	**41.49 161**	*i*	P	**P**	**21 01 27.4 +0.2**
YSS	**Yuzhno-Sakhali**	**41.88 17**	*e*	P	**P**	**21 01 31.2 +1.0**
YSS			*e*	*P	**pP**	**21 01 59.3 +1.7**
YSS			*e*			21 03 20.7
YSS			*e*	S	**S**	**21 07 39.4 +0.7**
YSS			*e*	SS	**SS**	**21 10 46.5 -3.7**
YSS				pmax	pmax	
	comp=Z,20nm,0.8s					
YSS				pmax	pmax	
	comp=Z,300nm,3.4s					
HTT	**Hallett**	**42.15 165**		P	**P**	**21 01 33.5 +0.9**
	comp=Z,12nm,1.1s					
HTT	**Hallett**	**42.15 165**		P	**P**	**21 01 33.5 +0.9**
HIA	**Hailar**	**42.24 353**		IAmb	IAmb	21 01 34.1
	comp=Z,26nm,1.1s					
HIA	**Hailar**	**42.24 353**		P	**P**	**21 01 34.1 +0.9**
HILR	**Hailar Array B**	**42.52 353**		P	**P**	**21 01 35.2 -0.3**
	comp=Z,25nm,0.8s,baz=163,slow=11,SNR=17					
HILR				PcP	**PcP**	**21 03 26.4 +0.6**
	comp=Z,4.5nm,0.6s,baz=116,slow=3.4,SNR=3.9					
	comp=Z,25nm,0.8s					
RKGY	**Rocky Gully**	**42.65 192**		P	**P**	**21 01 38.2 +1.6**
	comp=Z,140nm,0.8s					
CMSA	**Cobar Meteorol**	**42.70 156**		P	**P**	**21 01 37.6 +0.5**
	comp=Z,20nm,0.9s					
HEH	**HeiHe**	**42.83 1**	*e*	P	**P**	**21 01 37.4 -0.5**
HEH				pmax	pmax	
	comp=Z,28nm,0.9s					
EVN	**Everest**	**42.86 304**		P	**P**	**21 01 39.2 0.0**
EVN				IAmb	IAmb	21 01 41.0
	comp=Z,78nm,1.2s					
ULN	**Ulaanbaatar**	**43.73 341**			**P**	**21 01 45.1 -0.2**
ULN				IAmb	IAmb	21 01 46.9
	comp=Z,34nm,1.1s					
ULN	**Ulaanbaatar**	**43.73 341**		P	**P**	**21 01 45.5 +0.1**
ULN	**Ulaanbaatar**	**43.73 341**		P	**P**	**21 01 45.6 +0.2**
ULN	**Ulaanbaatar**	**43.73 341**		P	**P**	**21 01 45.7 +0.3**
SONM	**Songino Array**	**43.92 340**		P	**P**	**21 01 46.1 -0.7**
SONM	**Songino Array**	**43.92 340**		P	**P**	**21 01 46.8 0.0**
	comp=Z,12nm,1.1s,baz=158,slow=8.5,SNR=50					
SONM				pP	**pP**	**21 02 15.5 -0.3**
	comp=Z,4.9nm,0.8s,baz=154,slow=7.0,SNR=1.9					
SONM				PcP	**PP**	**21 03 31.5 -0.2**
	comp=Z,2.9nm,0.6s,baz=156,slow=4.3,SNR=4.3					
SONM				LR	LR	21 20 59.7
	comp=Z,73nm,18.4s,baz=146,slow=37					
	comp=Z,12nm,1.1s					
GRNR	**Gornyy**	**44.11 9**	⇓	*i*P	**P**	**21 01 48.5 +0.4**
GRNR				pmax	pmax	
	comp=Z,20nm,1.1s					
PALK	**Pallekele**	**45.52 273**		LR	LR	21 24 46.3
	comp=Z,60nm,18.1s,baz=54,slow=41					
CIT	**Chita**	**45.88 349**	*e*	P	**P**	**21 02 02.6 +0.4**
CIT			*e*			21 02 35.6
CIT			*e*			21 03 38.2
CIT				pmax	pmax	
	comp=Z,84nm,0.7s					
ARPS	**Mount Arapiles**	**46.09 163**		P	**P**	**21 02 05.2 +1.2**
	comp=Z,33nm,1.1s					
ZEA	**Zeya**	**46.32 1**	*e*	P	**P**	**21 02 04.7 -0.8**
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.1s					
ZAK	**Zakamensk**	**47.16 340**	*e*	P	**P**	**21 02 11.3 -1.0**
ZAK				pmax	pmax	
	comp=Z,13nm,1.9s					
CAN	**Canberra**	**47.34 155**		P	**P**	**21 02 14.8 +1.0**
CAN				IAmb	IAmb	21 03 04.8
	comp=Z,20nm,0.8s					
CAN	**Canberra**	**47.34 155**		P	**P**	**21 02 14.8 +1.0**
CAN				pmax	pmax	
	comp=Z,20nm,0.8s					
HYB	**Hyderabad**	**47.90 287**	*e*	P	**P**	**21 02 18.6 +0.2**
HYB				IVmB_BB		21 02 18.7
	comp=Z,577nm,1.1s					
HYB			*e*	pP	**pP**	**21 02 47.7 -0.1**
HYB			*e*	S	**S**	**21 09 02.1 -4.4**
TLY	**Talaya**	**48.15 341**		P	**P**	**21 02 20.4 +0.6**
TLY	**Talaya**	**48.15 341**	*ce*	P	**P**	**21 02 19.6 -0.2**
TLY				pmax	pmax	
	comp=Z,18nm,1.0s					
IRK	**Irkutsk**	**48.43 342**	*e*	P	**P**	**21 02 19.5 -2.4**
IRK				pmax	pmax	
	comp=Z,44nm,2.0s					
MOY	**Mondy**	**49.03 339**	*e*	P	**P**	**21 02 27.0 +0.3**
MOY				pmax	pmax	
	comp=Z,53nm,2.3s					
KNGR	**Kungurtug, Tuv**	**49.50 336**	*i*	P	**P**	**21 02 30.9 +0.7**
KNGR				pmax	pmax	
	comp=Z,17nm,1.3s					
WMQ	**Urumqi**	**49.79 323**	⇑	P	**P**	**21 02 33.3 +0.8**
WMQ				pmax	pmax	
	comp=Z,77nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,250nm,3.8s					
WMQ				LR	LR	
	comp=Z,460nm,18.5s					
WMQ				LR	LR	
	comp=Z,200nm,24.1s					
PEA0B	**Petropavlovsk-**	**52.22 23**	*ce*	P	**P**	**21 02 50.3 -0.1**
PETK	**Petropavlovsk-**	**52.22 23**		P	**P**	**21 02 50.6 +0.2**
PETK	**Petropavlovsk-**	**52.22 23**		P	**P**	**21 02 51.2 +0.8**
	comp=Z,6.8nm,0.8s,baz=194,slow=5.5,SNR=5.4					
PETK				pP	**pP**	**21 03 18.1 -1.1**
	comp=Z,5.4nm,0.7s,baz=175,slow=2.9,SNR=2.8					
	comp=Z,6.8nm,0.8s					
SHLS	**Shalkode**	**54.58 319**	⇑	*i*P	**P**	**21 03 05.8 -2.2**
	comp=Z,31nm,1.0s					
SHLS	**Shalkode**	**54.58 319**	*c*	*i*P	**P**	**21 03 05.8 -2.2**
SHLS				pmax	pmax	
	comp=Z,31nm,1.0s					
MK31	**Makanchi Array**	**54.61 324**	*ce*	P	**P**	**21 03 08.4 +0.4**
MKAR	**Makanchi Array**	**54.61 324**		P	**P**	**21 03 08.0 0.0**
MKAR	**Makanchi Array**	**54.61 324**		P	**P**	**21 03 08.6 +0.6**
	comp=Z,56nm,0.8s,baz=120,slow=8.6,SNR=264					
MKAR				PcP

YAK			*e*			21 04 09.2
YAK			*e*			21 05 10.7
YAK			*e*S		**S**	**21 10 38.2 0.0**
YAK			*e**SS		**sS**	**21 11 31.9 +6.7**
YAK			*e*			21 12 44.3
YAK			*e*SS		**SS**	**21 14 23.0 0.0**
YAK			pmax	pmax		
comp=Z,69nm,0.9s						
YAK			pmax	pmax		
comp=N,20nm,1.0s						
YAK			pmax	pmax		
comp=E,8.0nm,1.0s						
YAK			pmax	pmax		
comp=Z,25nm,1.6s						
YAK			pmax	pmax		
comp=E,22nm,1.8s						
YAK			smax	smax		
comp=N,43nm,1.8s						
YAK			smax	smax		
comp=E,20nm,1.9s						
MAKZ	**Makanchi**	**54.80 324**	P		**P**	**21 03 09.7 +0.4**
MAKZ	**Makanchi**	**54.80 324**	P		**P**	**21 03 09.8 +0.4**
MAKZ	**Makanchi**	**54.80 324**	P		**P**	**21 03 09.8 +0.4**
MAKZ			PcP		**PcP**	**21 04 10.3 +0.1**
UZB	**Uzynbulak**	**54.87 319⇑**	*i*P		**P**	**21 03 09.9 -0.2**
comp=E,38nm,1.1s						
UZB	**Uzynbulak**	**54.87 319**	*c i*P		**P**	**21 03 09.9 -0.2**
UZB			pmax	pmax		
comp=Z,38nm,1.1s						
SATY	**Saty**	**55.23 318**	*e*P		**P**	**21 03 12.5 -0.3**
comp=Z,40nm,1.1s						
SATY	**Saty**	**55.23 318**	*e*P		**P**	**21 03 12.4 -0.3**
SATY			pmax	pmax		
comp=Z,40nm,1.1s						
KSH	**Kashi**	**55.49 313**	P		**P**	**21 03 16.3 +1.7**
KSH			pmax	pmax		
comp=Z,89nm,1.2s						
NIL	**Nilore**	**55.72 306**			**P**	**21 03 16.3 +0.1**
NIL	**Nilore**	**55.72 306**	P		**P**	**21 03 16.4 +0.1**
NIL	**Nilore**	**55.72 306**	P		**P**	**21 03 16.3 +0.1**
NIL			pmax	pmax		
comp=Z,282nm,1.0s						
TDK	**Taldyqorghan**	**56.09 320**	*e*P		**P**	**21 03 18.6 -0.1**
comp=Z,41nm,0.8s						
TDK	**Taldyqorghan**	**56.09 320**	*e*P		**P**	**21 03 18.6 -0.1**
TDK			pmax	pmax		
comp=Z,41nm,0.8s						
MDOK	**Medeo**	**56.17 318**	*e*P		**P**	**21 03 19.2 -0.3**
MDOK	**Medeo**	**56.17 318**	*e*P		**P**	**21 03 19.2 -0.3**
TNSS	**Tian-Shan**	**56.19 318**	*e*P		**P**	**21 03 19.3 -0.7**
TNSS	**Tian-Shan**	**56.19 318**	*e*P		**P**	**21 03 19.2 -0.7**
AAA	**Alma-Ata**	**56.28 318**	*e*P		**P**	**21 03 20.0 -0.1**
comp=Z,43nm,1.0s						
AAA	**Alma-Ata**	**56.28 318**	*e*P		**P**	**21 03 20.0 -0.1**
AAA			pmax	pmax		
comp=Z,43nm,1.0s						
ULHL	**Ulahol**	**56.34 317**	P		**P**	**21 03 21.4 +0.7**
SNR=38						
CHKK	**Chushkaly**	**56.51 319**	*e*P		**P**	**21 03 21.5 -0.1**
CHKK	**Chushkaly**	**56.51 319**	*e*P		**P**	**21 03 21.5 -0.1**
MSVF	**Nonsavu**	**56.55 117**	P		**P**	**21 03 24.6 +2.2**
MSVF			IAmb	IAmb		21 04 26.4
comp=Z,65nm,1.4s						
MSVF	**Nonsavu**	**56.55 117**	P		**P**	**21 03 24.6 +2.2**
MSVF			pmax	pmax		
comp=Z,65nm,1.4s						
TKM2	**Tokmak 2**	**57.05 317**	P		**P**	**21 03 26.2 +0.5**
SNR=101						
KBK	**Karagaybulak**	**57.39 317**	P		**P**	**21 03 29.0 +0.9**
SNR=54						
ZAA0	**Zalesovo Array**	**57.40 332**	IAmb		IAmb	21 03 28.6
comp=Z,61nm,1.8s						
ZALV	**Zalesovo Beam**	**57.40 332**	P		**P**	**21 03 26.6 -1.1**
ZALV	**Zalesovo Beam**	**57.40 332**	P		**P**	**21 03 27.2 -0.5**
comp=Z,6.4nm,0.3s,baz=125,slow=7.2,SNR=34						
ZALV			LR	LR		21 29 12.6
comp=Z,71nm,18.3s,baz=104,slow=37						
comp=Z,6.4nm,0.3s						
UCH	**Uchtor**	**57.52 316**	P		**P**	**21 03 30.5 +1.1**
SNR=149						
CHMS	**Chumysh**	**57.65 317**	P		**P**	**21 03 30.1 +0.4**
SNR=30						
AAK	**Ala-Archa**	**57.69 316**	P		**P**	**21 03 30.4 +0.2**
AAK	**Ala-Archa**	**57.69 316**	LR		LR	21 31 15.4
comp=Z,43nm,19.9s,baz=101,slow=39						
AAK	**Ala-Archa**	**57.69 316**	P		**P**	**21 03 31.0 +0.9**
AAK	**Ala-Archa**	**57.69 316**	P		**P**	**21 03 31.0 +0.9**
SNR=13						
AAK	**Ala-Archa**	**57.69 316**	*i* P		**P**	**21 03 30.7 +0.6**
SNR=13						
AAK	**Ala-Archa**	**57.69 316**	*ce*P		**P**	**21 03 31.1 +0.9**
AAK			pmax	pmax		
comp=Z,80nm,1.7s						
AAK	**Ala-Archa**	**57.69 316**	⇑P		**P**	**21 03 30.9 +0.7**
AAK			PcP		**PcP**	**21 04 21.2 -0.6**
SGDS	**Sogindy**	**57.91 317**	⇑*i*P		**P**	**21 03 31.4 -0.2**
comp=Z,25nm,1.4s						
USP	**Ospenovka**	**57.92 317**	P		**P**	**21 03 31.8 +0.1**
SNR=98						
EKS2	**Erkin-Say**	**58.19 316**	P		**P**	**21 03 34.4 +0.8**
SNR=115						
SEY	**Seymchan**	**58.62 13**	*e*P		**P**	**21 03 34.9 -1.1**
SEY			pmax	pmax		
comp=Z,18nm,1.4s						
KURK	**Kurchatov**	**58.72 326**	P		**P**	**21 03 36.6 -0.4**
KURK	**Kurchatov**	**58.72 326**	P		**P**	**21 03 37.0 +0.1**
KURK	**Kurchatov**	**58.72 326**	*ce*P		**P**	**21 03 37.0 +0.1**
KURK			pmax	pmax		
comp=Z,197nm,1.3s						
KURK	**Kurchatov**	**58.72 326**	P		**P**	**21 03 37.0 +0.1**
KURK			pP		**pP**	**21 04 08.1 +0.6**
KURBB	**Kurchatov Arra**	**58.72 326**	P		**P**	**21 03 37.4 +0.5**
comp=Z,34nm,0.9s,baz=122,slow=7.3,SNR=119						
KURBB			LR	LR		21 29 37.5
comp=Z,45nm,18.8s,baz=160,slow=36						
KURBB			PKPPKP		**P'P'df**	**21 33 06.8 -5.7**
comp=Z,0.7nm,1.0s,baz=274,slow=3.0,SNR=4.8						
comp=Z,34nm,0.9s						
KBL	**Kabul**	**59.32 306**	P		**P**	**21 03 41.2 -0.5**
KBL	**Kabul**	**59.32 306**	P		**P**	**21 03 41.7 0.0**
SNR=38						
KBL	**Kabul**	**59.32 306**	P		**P**	**21 03 41.2 -0.5**
KBL			pmax	pmax		
comp=Z,90nm,1.0s						
DZA	**Taraz**	**59.96 316**	*e*P		**P**	**21 03 45.6 -0.1**
DZA	**Taraz**	**59.96 316**	*e*P		**P**	**21 03 45.6 -0.1**
CHGR	**Chuyangaron**	**60.25 311**	P		**P**	**21 03 47.6 -0.2**
SIMJ	**Simiganj**	**60.36 310**	P		**P**	**21 03 48.4 -0.3**
KK31	**Karatay Array**	**60.59 316**	P		**P**	**21 03 49.6 -0.4**
KK31	**Karatay Array**	**60.59 316**	P		**P**	**21 03 49.6 -0.4**
KK31			pmax	pmax		
comp=Z,119nm,1.1s						
KKAR	**Karatay Array**	**60.59 316**	P		**P**	**21 03 49.3 -0.7**
KKAR	**Karatay Array**	**60.59 316**	P		**P**	**21 03 49.3 -0.7**
IUG	**Iuzhnay**	**60.62 315⇑**	*i*P		**P**	**21 03 50.2 -0.2**
IUG	**Iuzhnay**	**60.62 315**	*c i*P		**P**	**21 03 50.1 -0.2**
CHM	**Chimkent**	**60.98 315**	*e*P		**P**	**21 03 52.6 0.0**
comp=Z,25nm,0.8s						
CHM	**Chimkent**	**60.98 315**	*e*P		**P**	**21 03 52.6 0.0**
CHM			pmax	pmax		
comp=Z,25nm,0.8s						
BRLS	**Borolday**	**61.04 315⇑**	*i*P		**P**	**21 03 53.1 +0.1**
comp=Z,46nm,1.0s						
BRLS	**Borolday**	**61.04 315**	*c i*P		**P**	**21 03 53.1 +0.1**
BRLS			pmax	pmax		
comp=Z,46nm,1.0s						
BRZS	**Berezniki**	**61.76 324**	*e*P		**P**	**21 03 57.6 -0.1**
BRZS	**Berezniki**	**61.76 324**	*e*P		**P**	**21 03 57.6 -0.1**
TIXI	**Tiksi**	**64.31 1**	P		**P**	**21 04 13.4 -0.8**
TIXI			IAmb		IAmb	21 04 14.6
comp=Z,25nm,1.1s						
TIXI	**Tiksi**	**64.31 1**	LR		LR	21 31 34.2
comp=Z,90nm,22.0s,baz=198,slow=35						
TIXI	**Tiksi**	**64.31 1**	*i* P		**P**	**21 04 12.6 -1.5**
TIXI			pmax	pmax		
comp=Z,30nm,1.4s						
TIXI	**Tiksi**	**64.31 1**	P		**P**	**21 04 13.3 -0.8**
TIXI			pP		**pP**	**21 04 45.7 +0.9**
BORK	**Borovoye**	**64.36 326**	*ce*P		**P**	**21 04 14.8 +0.1**
BORK			pmax	pmax		
comp=Z,167nm,1.3s						
BORK	**Borovoye**	**64.36 326**	P		**P**	**21 04 14.9 +0.1**
RAO	**Raoul Island**	**64.52 127**	LR		LR	21 30 54.6
comp=Z,45nm,19.5s,baz=222,slow=34						
HRA	**Herat**	**64.80 305**	IAmb		IAmb	21 04 19.2
comp=Z,50nm,1.0s						
URZ	**Urewera**	**65.22 138**	LR		LR	21 31 34.7
comp=Z,58nm,21.8s,baz=296,slow=35						
BILL	**Biiibino**	**66.17 15**	*i* P		**P**	**21 04 25.0 -1.2**
BILL			pmax	pmax		
comp=Z,30nm,1.9s						
JLN	**Jalan Bani Buh**	**66.20 291**	P		**P**	**21 04 25.7 -1.5**
WSAR	**Wadi Sarin**	**66.95 292**	P		**P**	**21 04 31.4 -0.7**
SNR=9.9						
JMDO	**Jabal Madar**	**67.41 291**	P		**P**	**21 04 34.0 -0.9**
SNR=8.4						
BIDO	**Bidbid**	**67.42 292**	P		**P**	**21 04 34.6 -0.4**
SNR=21						
SMDO	**Samad**	**67.48 292**	P		**P**	**21 04 34.6 -0.9**
SNR=8.3						
MHTO	**MHTO**	**67.52 290**	P		**P**	**21 04 34.8 -0.8**
SNR=9.5						
DQM	**DQM**	**67.91 288**	P		**P**	**21 04 38.0 -0.1**
HOQ	**Hoqain**	**68.17 292**	P		**P**	**21 04 38.8 -0.9**
SNR=12						
ARQ	**Araqi**	**68.89 292**	P		**P**	**21 04 43.3 -0.9**
SNR=7.5						
SOHO	**SOHO**	**68.90 293**	P		**P**	**21 04 43.0 -1.2**
SOHO	**SOHO**	**68.90 293**	*i* P		**P**	**21 04 42.8 -1.3**
SNR=6.8						
BANOM	**Banah**	**69.16 295**	P		**P**	**21 04 45.2 -0.6**
BANOM	**Banah**	**69.16 295**	P		**P**	**21 04 45.2 -0.6**
UOSS	**Minazif**	**69.22 294**	P		**P**	**21 04 43.7 -2.5**
UOSS	**Minazif**	**69.22 294**	P		**P**	**21 04 44.6 -1.6**
UOSS			P		**P**	**21 04 45.6 -0.6**
UOSS	**Minazif**	**69.22 294**	*i* P		**P**	**21 04 44.6 -1.6**
SNR=5.8						
MASF	**Masafi**	**69.27 294**	P		**P**	**21 04 46.0 -0.5**
MSFE	**Esma-Masafi**	**69.27 294**	*i* P		**P**	**21 04 45.9 -0.6**
SNR=5.2						
HATD	**Hatta, Dubai**	**69.28 294**	P		**P**	**21 04 46.5 -0.1**
SNR=9.0						
HATD	**Hatta, Dubai**	**69.28 294**	*i* P		**P**	**21 04 45.6 -0.9**
SNR=6.0						
SHME	**Shamm**	**69.31 295**	P		**P**	**21 04 46.9 +0.3**
SHME	**Shamm**	**69.31 295**	P		**P**	**21 04 47.0 +0.3**
ASHO	**Ashiyiah**	**69.34 294**	P		**P**	**21 04 46.7 -0.3**
SNR=9.0						
ASHO	**Ashiyiah**	**69.34 294**	*i* P		**P**	**21 04 45.7 -1.3**
SNR=11						
AB31	**Akbulak array**	**69.36 320**	P		**P**	**21 04 46.3 -0.2**
ABKAR	**Akbulak array**	**69.36 320**	P		**P**	**21 04 46.0 -0.5**
ALNE	**Al Ain**	**69.61 293**	P		**P**	**21 04 48.5 -0.1**
SNR=15						
ALNE	**Al Ain**	**69.61 293**	*i* P		**P**	**21 04 48.4 -0.2**
SNR=11						
NAZ	**Nazwa, Dubai**	**69.71 294**	P		**P**	**21 04 47.7 -1.5**
SHAO	**Shalim**	**69.74 286**	P		**P**	**21 04 51.0 +1.5**
SNR=7.7						
SHAO	**Shalim**	**69.74 286**	*i* P		**P**	**21 04 48.9 -0.6**
SNR=7.7						
FAQ	**Al Faqa, Dubai**	**69.77 294**	P		**P**	**21 04 48.1 -1.4**
ASUD	**Al Ashush, Dub**	**70.01 293**	P		**P**	**21 04 50.4 -0.6**
UMZA	**Um Al Zommool**	**70.14 291**	P		**P**	**21 04 51.1 -0.7**
DMTO	**DMTO**	**70.39 286**	P		**P**	**21 04 54.0 +0.5**
AKTO	**Aktyubinsk**	**70.83 321**	LR		LR	21 38 37.1
comp=Z,104nm,19.4s,baz=246,slow=38						
SVE	**Sverdlovsk**	**70.90 328**	*d i*P		**P**	**21 04 56.0 +0.2**
SVE			pmax	pmax		
comp=Z,180nm,1.2s						
RBK	**Rabkut**	**71.11 286**	P		**P**	**21 04 57.4 -0.4**
SNR=5.5						
DOK	**Doka**	**71.15 287**	P		**P**	**21 04 57.6 -0.4**
SNR=8.1						
MZWR	**Madinat Zayed**	**71.32 293**	P		**P**	**21 04 58.6 -0.4**
WHFO	**Wadi Hawf**	**71.51 286**	P		**P**	**21 04 59.3 -0.9**
SNR=5.4						
MZR	**Muzera**	**71.69 292**	P		**P**	**21 05 01.4 +0.2**
SNR=21						
MZR	**Muzera**	**71.69 292**	*i* P		**P**	**21 05 01.0 -0.2**
SNR=40						
ABTO	**Aybut**	**71.98 286**	P		**P**	**21 05 02.8 -0.4**
SNR=7.3						
ARTI	**Arti**	**71.98 327**	P		**P**	**21 05 01.5 -0.8**
ARTI	**Arti**	**71.98 327**	LR		LR	21 38 36.9
comp=Z,51nm,20.8s,baz=228,slow=37						
ARTI	**Arti**	**71.98 327**	*c i*P		**P**	**21 05 01.8 -0.5**
ARTI						21 05 19.3
ARTI			*PP		**pP**	**21 05 34.2 +0.2**
ARTI						21 07 38.9
ARTI			S		**S**	**21 14 16.2 +2.9**
ARTI			SS		**SS**	**21 18 52.5 0.0**
ARTI			pmax	pmax		
comp=Z,125nm,1.1s						
ARTI	**Arti**	**71.98 327**	P		**P**	**21 05 01.8 -0.5**
GHWR	**Ruwais**	**72.24 293**	P		**P**	**21 05 04.5 +0.1**
JRN	**Qarnain Island**	**72.26 294**	P		**P**	**21 05 04.4 -0.2**
SNR=5.5						
TNA	**Tin City**	**73.39 23**	P		**P**	**21 05 11.5 +1.1**
baz=250						
K13K	**Kusilvak Mount**	**73.67 27**	P		**P**	**21 05 13.4 +1.3**
baz=254						
TRNA	**Turayna**	**73.75 294**	P		**P**	**21 05 13.4 0.0**
SNR=9.2						
M13K	**Dall Lake**	**73.89 29**	P		**P**	**21 05 15.0 +1.6**
baz=256						
SHMA	**Al-Shehemyia**	**73.97 295**	P		**P**	**21 05 14.8 +0.2**
F14K	**Arctic Creek**	**73.99 24**	P		**P**	**21 05 15.9 +2.0**
baz=252						
ANM	**Nome**	**74.10 25**	P		**P**	**21 05 16.5 +1.9**
baz=253						
SMRA	**Abu-Samra**	**74.11 294**	P		**P**	**21 05 15.4 0.0**
SNR=10						
CASY	**Casey**	**74.31 187**	P		**P**	**21 05 15.7 +0.1**
CASY	**Casey**	**74.31 187**	P		**P**	**21 05 16.6 +0.9**
SAKB	**Bahrain**	**74.35 295**	P		**P**	**21 05 16.9 +0.1**
DRV	**Dumont d'Urvil**	**74.40 175**	P		**P**	**21 05 16.6 +0.5**
DRV			sP		**sP**	**21 05 59.5 -0.9**
L14K	**Kuka Creek**	**74.43 28**	P		**P**	**21 05 18.4 +1.8**
baz=256						
N14K	**Kuskokwak Cree**	**74.59 30**	P		**P**	**21 05 19.1 +1.6**
baz=258						
M14K	**Bethel**	**74.64 29**	P		**P**	**21 05 19.4 +1.7**
baz=257						
O14K	**Tigyukauivet M**	**74.66 30**	P		**P**	**21 05 19.5 +1.5**
baz=258						
G15K	**Niukluk**	**74.77 24**	P		**P**	**21 05 20.1 +1.6**
baz=254						
L15K	**Ungalak Mounta**	**75.07 28**	P		**P**	**21 05 21.7 +1.4**
baz=257						
K15K	**Wolf Creek Mou**	**75.18 27**	P		**P**	**21 05 22.1 +1.2**
baz=257						
C16K	**Lisburne Hills**	**75.23 21**	P		**P**	**21 05 22.3 +1.3**
baz=252						
M15K	**Kasigluk River**	**75.24 29**	P		**P**	**21 05 22.8 +1.5**
baz=258						
H16K	**Elim**	**75.42 25**	P		**P**	**21 05 23.4 +1.2**
baz=256						
N15K	**Kwethluk River**	**75.42 30**	P		**P**	**21 05 23.8 +1.5**
baz=259						
G16K	**Koyuk River**	**75.56 24**	P		**P**	**21 05 24.7 +1.7**
baz=256						
J16K	**Anvik River**	**75.81 26**	P		**P**	**21 05 25.8 +1.3**
baz=258						
D17K	**Noatak River**	**75.88 22**	P		**P**	**21 05 26.3 +1.6**
baz=254						
I17K	**Unalakleet**	**75.90 26**	P		**P**	**21 05 26.7 +1.8**
baz=258						
LKRN	**Lenkeran, Azer**	**75.99 308**	P		**P**	**21 05 27.7 +1.7**
L16K	**Owhat River**	**76.01 28**	P		**P**	**21 05 27.5 +1.9**
baz=259						
RDOG	**Red Dog Mine**	**76.03 21**	P		**P**	**21 05 27.5 +1.8**
baz=254						
C17K	**DeLong Mountai**	**76.05 21**	P		**P**	**21 05 27.7 +1.9**
baz=254						
N16K	**Nishlik Lake**	**76.13 29**	P		**P**	**21 05 27.8 +1.4**
baz=260						
M16K	**Timber Creek**	**76.13 29**	P		**P**	**21 05 27.6 +1.3**
baz=260						
E17K	**Hotham Inlet**	**76.19 22**	P		**P**	**21 05 28.1 +1.6**
baz=256						
F17K	**Baldwin Pennin**	**76.25 23**	P		**P**	**21 05 28.6 +1.7**
baz=256						
G17K	**Kiwalik Mounta**	**76.28 24**	P		**P**	**21 05 28.5 +1.4**
baz=257						
O16K	**Kokwok River B**	**76.32 30**	P		**P**	**21 05 28.9 +1.5**
baz=261						
H17K	**Granite Mounta**	**76.46 25**	P		**P**	**21 05 29.7 +1.6**
baz=258						
L17K	**Donlin**	**76.64 28**	P		**P**	**21 05 31.0 +1.8**
baz=260						
E18K	**Tukpahlearik C**	**76.73 22**	P		**P**	**21 05 31.2 +1.7**
baz=257						
K17K	**Iditarod**	**76.74 27**	IAmb		IAmb	21 05 32.6
comp=Z,33nm,1.1s						
K17K	**Iditarod**	**76.74 27**	P		**P**	**21 05 31.2 +1.5**
baz=260						
B18K	**Kokolik River**	**76.77 20**	P		**P**	**21 05 31.3 +1.6**
baz=255						
C18K	**Utukok River**	**76.80 21**	P		**P**	**21 05 31.3 +1.3**
baz=256						
KBD	**Kabd**	**76.83 298**	P		**P**	**21 05 30.8 -0.1**
O17K	**Koliganek Bris**	**76.84 30**	P		**P**	**21 05 31.7 +1.4**
baz=262						
AKT	**Akhty**	**76.89 311**	*e*P		**P**	**21 05 31.3 +0.1**
AKT			*e*			21 05 41.6
AKT			*e*			21 08 27.2
AKT			pmax	pmax		
comp=Z,132nm,1.2s						
N17K	**Nushagak Hills**	**76.91 30**	P		**P**	**21 05 32.3 +1.6**
baz=262						
F18K	**Selawik**	**76.91 23**	P		**P**	**21 05 32.0 +1.5**
baz=258						
M17K	**Holitna River**	**76.92 29**	P		**P**	**21 05 32.5 +1.7**
baz=261						
P17K	**Kvichak River**	**77.10 31**	P		**P**	**21 05 33.1 +1.4**
baz=263						
H18K	**Honhosa River**	**77.14 25**	P		**P**	**21 05 33.2 +1.3**
baz=260						
KIRV	**Kirov**	**77.15 328**	LR		LR	21 41 50.8
comp=Z,64nm,20.1s,baz=119,slow=37						
KIRV	**Kirov**	**77.15 328**	*ce*P		**P**	**21 05 32.2 +0.2**
G18K	**Tagagawik**	**77.17 24**	P		**P**	**21 05 32.8 +0.7**
baz=259						
Q17K	**Contact Creek**	**77.27 32**	P		**P**	**21 05 33.5 +0.6**
baz=263						
SEKA	**Sheki**	**77.28 311**	P		**P**	**21 05 33.9 +0.6**
MNGR	**Mingechevir, A**	**77.36 310**	P		**P**	**21 05 34.4 +0.8**
L18K	**Granite Mounta**	**77.40 28**	P		**P**	**21 05 34.6 +1.2**
baz=262						
C19K	**Lookout Ridge**	**77.47 21**	P		**P**	**21 05 35.2 +1.4**
baz=258						
RAR	**Rarotonga**	**77.54 114**	LR		LR	21 33 08.5
comp=Z,47nm,20.5s,baz=298,slow=30						
BELG	**Belogornoye**	**77.55 322**	*i* P		**P**	**21 05 32.5 -1.9**
BELG			pmax	pmax		
comp=Z,65nm,1.0s						
J18K	**Innoko River**	**77.57 27**	P		**P**	**21 05 35.7 +1.3**
baz=261						
GCSA	**Galena City Sc**	**77.70 25**	P		**P**	**21 05 36.5 +1.5**
baz=261						
M18K	**Stony River**	**77.70 29**	P		**P**	**21 05 36.3 +1.2**
baz=263						
O18K	**Koktuh Hills**	**77.80 30**	P		**P**	**21 05 37.0 +1.3**
baz=264						
D19K	**Kuna River**	**77.87 21**	P		**P**	**21 05 37.5 +1.5**
baz=259						
GANJ	**Ganja**	**77.93 310**	P		**P**	**21 05 37.1 +0.2**
H19K	**Roundabout Mou**	**78.00 25**	P		**P**	**21 05 38.1 +1.4**
baz=261						
E19K	**Redstone River**	**78.01 23**	P		**P**	**21 05 37.9 +1.2**
baz=260						
J19K	**Poorman**	**78.13 26**	P		**P**	**21 05 38.7 +1.2**
baz=262						
L19K	**White Mountain**	**78.24 28**	P		**P**	**21 05 39.3 +1.2**
baz=263						
N19K	**Bonanza Creek**	**78.27 29**	IAmb		IAmb	21 06 27.4
comp=Z,71nm,1.8s						
O19K	**Port Alsworth**	**78.28 30**	P		**P**	**21 05 39.5 +1.2**
baz=264						
D20K	**Etivluk River**	**78.45 21**	P		**P**	**21 05 40.8 +1.6**
baz=260						
E20K	**Nigu River**	**78.53 22**	P		**P**	**21 05 41.3 +1.6**
baz=261						
OHAK	**Old Harbor**	**78.55 33**	P		**P**	**21 05 41.6 +1.7**
baz=266						
NAX	**Nakhchivan**	**78.56 308**	P		**P**	**21 05 41.9 +1.5**
H20K	**Anotleneega Mo**	**78.64 25**	P		**P**	**21 05 41.8 +1.6**
baz=263						
I20K	**Naaghedeneel**	**78.72 25**	P		**P**	**21 05 42.5 +1.8**
baz=263						
A21K	**Barrow**	**78.91 19**	P		**P**	**21 05 43.5 +2.0**
baz=260						
KDAK	**Kodiak Island**	**78.97 33**	LR		LR	21 34 45.3
comp=Z,70nm,21.5s,baz=239,slow=31						
KDAK	**Kodiak Island**	**78.97 33**	P		**P**	**21 05 43.3 +1.1**
baz=266						
KDAK	**Kodiak Island**	**78.97 33**	P		**P**	**21 05 43.3 +1.1**
KDAK			pP		**pP**	**21 06 12.3 -0.8**
RAYN	**Ar Rayn**	**79.00 293**	P		**P**	**21 05 42.6 -0.5**
RAYN			IAmb		IAmb	21 05 43.8
comp=Z,50nm,0.9s						
RAYN	**Ar Rayn**	**79.00 293**	P		**P**	**21 05 43.0 -0.2**
RAYN	**Ar Rayn**	**79.00 293**	*i* P		**P**	**21 05 42.5 -0.7**
SNR=73						
RAYN	**Ar Rayn**	**79.00 293**	P		**P**	**21 05 43.0 -0.2**
RAYN	**Ar Rayn**	**79.00 293**	P		**P**	**21 05 42.7 -0.4**
RAYN			pP		**pP**	**21 06 14.1 -1.6**
RAYN			sP		**sP**	**21 06 29.2 -0.3**
GNI	**Garni**	**79.14 309**	P		**P**	**21 05 44.4 +0.7**
GNI	**Garni**	**79.14 309**	P		**P**	**21 05 44.9 +1.1**
GNI	**Garni**	**79.14 309**	P		**P**	**21 05 44.8 +1.1**
GNI	**Garni**	**79.14 309**	*ce*P		**P**	**21 05 42.7 -1.0**
GNI			pmax	pmax		
comp=Z,184nm,1.7s						
GNI	**Garni**	**79.14 309**	P		**P**	**21 05 44.0 +0.3**
comp=Z,2μmcomp=Z,93nm,1.1s						
GNI	**Garni**	**79.14 309**	P		**P**	**21 05 44.8 +1.1**
IMAR	**Indian Mountai**	**79.17 24**	P		**P**	**21 05 43.8 +0.7**
B21K	**Ikpikpuk River**	**79.30 20**	P		**P**	**21 05 45.2 +1.5**
baz=262						
G21K	**Allakaket**	**79.32 24**	P		**P**	**21 05 45.6 +1.7**
baz=264						
E21K	**Killik River**	**79.37 22**	P		**P**	**21 05 45.5 +1.3**
baz=263						
F21K	**Alatna River**	**79.41 23**	P		**P**	**21 05 45.7 +1.3**
baz=264						
PPLA	**Purkeypile**	**79.54 27**	P		**P**	**21 05 46.2 +0.9**
baz=266						
CHUM	**Lake Minchumin**	**79.57 26**	P		**P**	**21 05 46.5 +1.2**
baz=265						
TRLG	**Trialeti**	**79.61 311**	P		**P**	**21 05 47.0 +0.8**
SKT	**Skwentna**	**79.78 28**	P		**P**	**21 05 47.5 +1.0**
baz=266						
I21K	**Tanana**	**79.82 25**	IAmb		IAmb	21 07 00.6
comp=Z,32nm,1.3s						
I21K	**Tanana**	**79.82 25**	P		**P**	**21 05 47.9 +1.3**
baz=265						
BRSE	**Bradley Lake S**	**80.04 31**	P		**P**	**21 05 49.3 +1.3**
baz=267						
SUA	**Susitna One**	**80.12 29**	P		**P**	**21 05 49.2 +0.7**
baz=267						
H22K	**Ishtalitna Cre**	**80.13 24**	P		**P**	**21 05 49.3 +1.0**
baz=266						
E22K	**Anaktuvuk Pass**	**80.14 22**	P		**P**	**21 05 49.3 +0.9**
baz=265						
G22K	**Bettles**	**80.15 23**	P		**P**	**21 05 49.4 +1.0**

comp=Z,1µmcomp=Z,85nm,1.2s
KIV Kislovodsk 80.62 313 P **P 21 05 51.5 0.0**
COLD Coldfoot 80.69 23 P **P 21 05 52.7 +1.5**
baz=267
SEW Seward 80.70 30 P **P 21 05 52.7 +1.2**
baz=268
C23K Itkillik River 80.71 20 P **P 21 05 52.5 +1.2**
baz=266
G23K Bananza Creek 80.73 24 P **P 21 05 52.7 +1.2**
baz=267
BWN Browne 80.84 26 IAmb IAmb 21 06 32.4
comp=Z,34nm,1.0s
PMR Palmer 80.90 29 P **P 21 05 53.1 +0.7**
baz=268
I23K Minto, Yukon-K 80.92 25 IAmb IAmb 21 06 28.5
comp=Z,83nm,1.8s
I23K Minto, Yukon-K 80.92 25 P **P 21 05 53.9 +1.4**
baz=268,SNR=7.4
E23K Chandalar 80.96 22 P **P 21 05 53.9 +1.2**
baz=267
TOLK Toolik Lake Re 81.00 22 P **P 21 05 54.6 +1.7**
baz=267
NEA2 Nenana 81.03 26 P **P 21 05 54.4 +1.3**
baz=268
MCK McKinley 81.06 27 IAmb IAmb 21 05 54.8
comp=Z,41nm,1.0s
MCK McKinley 81.06 27 P **P 21 05 54.1 +0.8**
baz=268
RND Reindeer 81.08 27 IAmb IAmb 21 05 55.3
comp=Z,30nm,1.2s
VRH Novokhopyorsk 81.17 321 *e*P **P 21 05 52.9 -1.2**
VRH pmax pmax
comp=Z,119nm,0.9s
WAT1 Susitna Watana 81.21 28 P **P 21 05 55.2 +1.0**
baz=269
KNK Knik Glacier 81.22 29 IAmb IAmb 21 06 45.5
comp=Z,33nm,1.2s
KNK Knik Glacier 81.22 29 P **P 21 05 55.0 +0.8**
baz=269
PWL Port Wells 81.27 30 IAmb IAmb 21 05 56.8
comp=Z,41nm,1.0s
PWL Port Wells 81.27 30 P **P 21 05 55.9 +1.4**
baz=269,SNR=6.3
SML Sawmill 81.29 29 IAmb IAmb 21 05 56.9
comp=Z,50nm,1.3s
SML Sawmill 81.29 29 P **P 21 05 55.1 +0.4**
baz=269,SNR=5.8
D24K Happy Valley 81.30 21 P **P 21 05 55.6 +1.2**
baz=268
C24K Franklin Bluff 81.37 21 P **P 21 05 55.8 +1.0**
baz=268
BATM Batumi 81.42 311 ⇓P **P 21 05 56.4 +0.8**
BATM Batumi 81.42 311 P **P 21 05 56.4 +0.8**
COLA College 81.56 25 P **P 21 05 55.3 -0.5**
COLA College 81.56 25 P **P 21 05 55.3 -0.5**
COLA College 81.56 25 P **P 21 05 57.1 +1.3**
baz=269
M23K Glacier View 81.58 29 P **P 21 05 57.4 +1.3**
baz=270
WAT6 Susitna Watana 81.58 28 P **P 21 05 57.3 +1.1**
baz=270
POKR Poker Plat Res 81.73 25 P **P 21 05 58.5 +1.7**
baz=270
G24K Hadweenzic Riv 81.74 24 P **P 21 05 58.0 +1.2**
baz=269,SNR=6.2
DHY Denali Highway 81.75 27 P **P 21 05 58.3 +1.2**
baz=270
SCM Sheep Creek Mo 81.77 29 IAmb IAmb 21 05 59.1
comp=Z,31nm,1.1s
SCM Sheep Creek Mo 81.77 29 P **P 21 05 58.2 +1.1**
baz=270
GLI Glacier Island 81.88 30 P **P 21 05 58.3 +0.6**
baz=270
HDA Harding Lake 81.94 26 P **P 21 05 58.5 +0.6**
baz=270
ILAR Eielson Array 81.97 26 P **P 21 05 56.8 -1.2**
ILAR Eielson Array 81.97 26 P **P 21 05 57.8 -0.3**
comp=Z,5.5nm,0.9s,baz=235,slow=5.1,SNR=35
ILAR LR LR 21 44 33.6
comp=Z,28nm,19.7s,baz=254,slow=37
comp=Z,5.5nm,0.9s
LABN Labinsk 82.01 314 *e*P **P 21 05 57.5 -1.2**
LABN pmax pmax
comp=Z,49nm,0.9s
ERBR Yeremizino-Bor 82.14 315 *e*P **P 21 05 58.6 -0.7**
ERBR pmax pmax
comp=Z,152nm,1.1s
CCD Concordia, Ant 82.27 181 P **P 21 06 00.8 +0.9**
CCD pP **pwP 21 06 34.0 -0.6**
KLMR Klimovskoe 82.27 330 *e*P **P 21 05 56.8 -2.9**
KLMR *e**PP **pP 21 06 28.9 -3.1**
KLMR *e* 21 09 07.5
KLMR pmax pmax
comp=Z,187nm,1.6s
G25K Bearman Lake 82.28 24 P **P 21 06 00.8 +1.1**
baz=270
MARD Mardin 82.33 307 IAmb IAmb 21 06 02.4
comp=Z,41nm,1.1s
H25L Birch Creek 82.40 24 P **P 21 06 01.5 +1.2**
baz=271,SNR=6.9
ABPO Ambohimpanom 82.41 250 P **P 21 06 00.7 -0.8**
ABPO Ambohimpanom 82.41 250 P **P 21 06 00.7 -0.8**
ABPO pmax pmax
comp=Z,15nm,0.9s
F25K Christian Rive 82.45 23 P **P 21 06 01.6 +1.0**
baz=271
E25K Arctic Village 82.48 22 P **P 21 06 01.9 +1.2**
baz=271
DIV Divide 82.52 29 IAmb IAmb 21 07 13.5
comp=Z,26nm,1.2s
PRP Porcupine Dome 82.53 25 P **P 21 06 02.0 +0.8**
baz=271
PAX Paxson 82.62 27 IAmb IAmb 21 07 14.5
comp=Z,57nm,2.0s
PAX Paxson 82.62 27 P **P 21 06 02.5 +0.9**
baz=272
C26K Camden Bay 82.69 20 P **P 21 06 02.9 +1.3**
baz=271
VORD Divnogorie 82.71 320 *e*P **P 21 06 00.3 -1.8**
VORD pmax pmax
comp=Z,80nm,1.0s
VORR Voronezh 82.73 321 *e*P **P 21 06 01.9 -0.3**
VORR pmax pmax
comp=Z,90nm,0.6s
HARP HAARP 82.78 28 P **P 21 06 03.4 +1.1**
baz=272
VSR Storozhevoye 82.78 321 *e*P **P 21 06 00.0 -2.5**
VSR pmax pmax
comp=Z,60nm,1.0s
SOC Sochi 82.79 313 *e*P **P 21 06 02.2 -0.5**
SOC *e* 21 09 13.5
SOC *e*PPP PPP 21 11 04.0
SOC *e*S **S 21 16 11.1 +0.6**
SOC *e*SS **SS 21 21 42.0 +6.4**
SOC pmax pmax
comp=Z,61nm,1.3s
LPSR Galich'ya Gora 82.86 322 *e*P **P 21 06 01.9 -1.0**
LPSR pmax pmax
comp=Z,156nm,1.0s
BMAR Burnt Mountain 82.87 23 P **P 21 06 03.8 +1.1**
RIDG Independent Ri 82.87 27 P **P 21 06 04.2 +1.3**
baz=272
F26K Sheenjek River 83.03 23 P **P 21 06 05.0 +1.5**
baz=272
N25K Chitina, Valde 83.07 29 IAmb IAmb 21 06 06.7
comp=Z,25nm,1.2s
N25K Chitina, Valde 83.07 29 P **P 21 06 05.1 +1.1**
baz=272,SNR=6.1
BMRM Bremner River 83.09 29 IAmb IAmb 21 06 06.4
comp=Z,31nm,1.2s
BMRM Bremner River 83.09 29 P **P 21 06 05.2 +1.2**
baz=273
C27K Jago River 83.11 21 P **P 21 06 05.6 +1.7**
baz=272
G26K Porcupine Rive 83.19 23 IAmb IAmb 21 06 07.6
comp=Z,49nm,1.7s
G26K Porcupine Rive 83.19 23 P **P 21 06 05.7 +1.3**
baz=273
DOT Dot Lake 83.23 27 IAmb IAmb 21 06 06.5
comp=Z,37nm,1.6s
KAIM Kayak Island 83.23 30 P **P 21 06 06.0 +1.3**
baz=273
SCRK Sand Creek 83.25 26 P **P 21 06 06.4 +1.5**
baz=273
GLB Gilahina Butte 83.45 29 IAmb IAmb 21 06 08.3
comp=Z,33nm,1.1s
MOS Moscow 83.47 325 *e*P **P 21 06 04.1 -1.8**
MOS *e**PP **pP 21 06 38.9 +0.4**
MOS *e* 21 09 14.9
MOS pmax pmax
comp=Z,400nm,1.9s
MOS pmax pmax
comp=Z,148nm,1.4s
MOS pmax pmax
comp=N,45nm,1.1s
MOS pmax pmax
comp=E,29nm,0.8s
I26K Coal Creek Min 83.53 25 IAmb IAmb 21 06 08.9
comp=Z,20nm,1.0s
I26K Coal Creek Min 83.53 25 P **P 21 06 07.5 +1.4**
baz=273
BERG Berg Lake 83.57 30 IAmb IAmb 21 06 08.5
comp=Z,64nm,1.2s
L26K Log Cabin Wild 83.58 27 P **P 21 06 07.5 +1.1**
baz=273
VRDI Verde Repeater 83.64 29 IAmb IAmb 21 06 09.2
comp=Z,21nm,1.1s
M26K Nabesna, AK 83.78 28 P **P 21 06 08.7 +1.1**
baz=274
CRQM Cirque 83.82 30 IAmb IAmb 21 06 10.3
comp=Z,39nm,1.1s
MCARA McCarthy VSAT 83.84 29 IAmb IAmb 21 06 27.1
comp=Z,31nm,1.2s
MCARA McCarthy VSAT 83.84 29 P **P 21 06 09.0 +1.2**
baz=274
CRQE Cirque 83.84 30 P **P 21 06 09.6 +1.6**
baz=274,SNR=7.5
E27K Coleen River 83.96 22 IAmb IAmb 21 06 11.2
comp=Z,35nm,1.2s
E27K Coleen River 83.96 22 P **P 21 06 09.5 +1.2**
baz=274
TGL Tana Glacier 83.97 30 IAmb IAmb 21 06 11.1
comp=Z,25nm,1.0s
WAX Wraxell Ridge 83.98 30 IAmb IAmb 21 06 10.8
comp=Z,22nm,0.7s
G27K Doyon Strip 84.04 23 IAmb IAmb 21 06 11.8
comp=Z,20nm,1.1s
G27K Doyon Strip 84.04 23 P **P 21 06 10.2 +1.4**
baz=274
LVZ Lovozero 84.05 338 P **P 21 06 08.2 -0.5**
LVZ IAmb IAmb 21 06 09.9
comp=Z,83nm,1.6s
LVZ Lovozero 84.05 338 *ce*P **P 21 06 10.2 +1.5**
LVZ pmax pmax
comp=Z,29nm,1.3s
OBN Obninsk 84.11 325 P **P 21 06 08.6 -0.6**
OBN Obninsk 84.11 325 ⇓P **P 21 06 09.8 +0.6**
OBN Obninsk 84.11 325 *c i*P **P 21 06 08.9 -0.3**
OBN *i* *PP **pP 21 06 38.7 -3.1**
OBN *i* *SP **sP 21 06 54.8 -0.6**
OBN *i* 21 09 24.9
OBN *e*S **S 21 16 24.2 +1.0**
OBN *e**SS **sS 21 17 12.7 -6.5**
OBN pmax pmax
comp=Z,299nm,1.7s
OBN MLR MLR
comp=Z,62nm,18.0s
OBN Obninsk 84.11 325 P **P 21 06 08.4 -0.8**
comp=Z,2µmcomp=Z,147nm,1.5s
H27K Steamboat Moun 84.14 24 IAmb IAmb 21 06 12.4
comp=Z,24nm,1.1s
H27K Steamboat Moun 84.14 24 P **P 21 06 10.7 +1.4**
baz=275,SNR=16
ISLE Juniper Island 84.23 30 IAmb IAmb 21 06 11.8
comp=Z,37nm,1.1s
L27K Beaver Creek, 84.27 27 P **P 21 06 11.2 +1.3**
baz=275
BCAR Beaver Creek A 84.29 27 P **P 21 06 10.6 +0.6**
ANN Anapa 84.34 314 *e*P **P 21 06 09.9 -0.7**
ANN *e**PP **pP 21 06 43.2 0.0**
ANN *e*S **SKSac 21 16 20.3 -2.3**
ANN pmax pmax
comp=Z,209nm,1.0s
EGAK Eagle 84.42 25 IAmb IAmb 21 06 12.8
comp=Z,24nm,1.1s
EGAK Eagle 84.42 25 P **P 21 06 12.0 +1.4**
baz=275,SNR=11
MESA MESA 84.45 30 P **P 21 06 11.9 +0.8**
baz=275
GRNC Granite Creek 84.50 30 IAmb IAmb 21 06 14.2
comp=Z,35nm,1.0s
BARN Barnard Glacie 84.52 29 IAmb IAmb 21 06 14.4
comp=Z,45nm,1.0s
YAH Yahtse 84.54 30 IAmb IAmb 21 06 14.6
comp=Z,41nm,1.0s
APA Apatity 84.55 337 ⇓*i*P **P 21 06 08.9 -2.3**
APA *i* *PP **pP 21 06 44.3 +0.6**
APA *i* 21 09 24.1
F28M Old Crow 84.66 23 IAmb IAmb 21 06 14.3
comp=Z,41nm,1.1s
F28M Old Crow 84.66 23 P **P 21 06 12.9 +1.1**
baz=276
E28M Babbage River 84.68 22 IAmb IAmb 21 06 14.6
comp=Z,41nm,1.1s
E28M Babbage River 84.68 22 P **P 21 06 13.1 +1.2**
baz=276
CTG Chitna Glacier 84.68 29 P **P 21 06 13.7 +1.4**
baz=275,SNR=22
TABL Table Mountain 84.83 30 IAmb IAmb 21 06 15.9
comp=Z,39nm,0.9s
LOGN Logan Glacier 84.86 29 IAmb IAmb 21 06 16.1
comp=Z,29nm,1.0s
I28M Miner Creek 84.87 25 IAmb IAmb 21 06 15.9
comp=Z,59nm,1.1s
I28M Miner Creek 84.87 25 P **P 21 06 14.5 +1.5**
baz=276,SNR=36
DAWY Dawson 85.25 26 P **P 21 06 16.7 +1.8**
baz=277,SNR=9.2
O28M Mount Upton 85.26 29 IAmb IAmb 21 06 51.7
comp=Z,18nm,0.9s
O28M Mount Upton 85.26 29 P **P 21 06 16.2 +0.9**
baz=276,SNR=6.6
PCA Pinnacle 85.30 30 IAmb IAmb 21 06 18.1
comp=Z,40nm,1.2s
E29M Blow River 85.31 22 P **P 21 06 16.3 +1.4**
baz=278
PINM Pinnacle 85.31 30 P **P 21 06 16.9 +1.6**
baz=276
H29M Whitestone 85.41 24 IAmb IAmb 21 06 18.1
comp=Z,29nm,1.1s
H29M Whitestone 85.41 24 P **P 21 06 16.8 +1.2**
baz=278,SNR=11
G29M Pine Creek 85.46 23 IAmb IAmb 21 06 18.8
comp=Z,40nm,1.0s
G29M Pine Creek 85.46 23 P **P 21 06 17.6 +1.7**
baz=278
M29M Somme Creek 85.88 28 P **P 21 06 19.7 +1.6**
baz=278,SNR=5.5
ASF Jabal al Asfar 85.93 302 LR LR 21 48 51.8
comp=Z,42nm,20.9s,baz=130,slow=38
L29M L29M 85.94 27 IAmb IAmb 21 06 22.0
comp=Z,19nm,1.1s
L29M L29M 85.94 27 P **P 21 06 19.8 +1.5**
baz=278,SNR=9.7
EPYK Eagle Plains 86.05 24 IAmb IAmb 21 06 21.4
comp=Z,20nm,1.1s
EPYK Eagle Plains 86.05 24 P **P 21 06 20.1 +1.4**
baz=279
K29M Barlow Dome 86.10 26 P **P 21 06 21.0 +1.8**
baz=278,SNR=5.0
O29M Mount Kennedy 86.11 30 P **P 21 06 21.2 +1.9**
baz=278
YUK6 Outpost Mounta 86.13 29 P **P 21 06 20.9 +1.4**
baz=278
G30M tAoh Zraii Nji 86.15 23 P **P 21 06 21.1 +1.8**
baz=280
F30M Barrier River 86.21 22 P **P 21 06 21.4 +1.9**
baz=280
PPT Papeete 86.32 108 LR LR 21 41 21.7
comp=Z,42nm,18.3s,baz=296,slow=33
PPT2 Papeete2 86.32 108 *e*S **SKSac 21 16 34.2 -2.0**
comp=Z,94nm,27.0s
PPT2 *e*SS **SS 21 22 23.6 -5.6**
comp=Z,141nm,25.8s
PPT2 *e*LQ LQ 21 30 13.2
comp=Z,183nm,26.8s
PPT2 *e*LR LR 21 33 38.8
comp=Z,152nm,39.2s
PPT2 *e*LR LR 21 33 46.8
comp=Z,122nm,25.5s
I30M Mount Dempster 86.38 25 P **P 21 06 22.2 +1.7**
baz=280
J30M Hart River 86.50 25 P **P 21 06 22.9 +1.8**
baz=280,SNR=5.6
HYT Haines Junctio 86.56 29 P **P 21 06 23.0 +1.5**
baz=279
M30M Minto, Yukon 86.62 27 IAmb IAmb 21 06 24.6
comp=Z,23nm,1.5s
M30M Minto, Yukon 86.62 27 P **P 21 06 23.3 +1.6**
baz=279
P29M Windy Craggy 86.62 30 P **P 21 06 23.3 +1.6**
baz=279
N30M Aishikik Lake 86.66 29 P **P 21 06 23.5 +1.6**
baz=279
G31M Satah River 86.92 23 P **P 21 06 23.9 +1.0**
baz=281
INK Inuvik 86.92 22 P **P 21 06 23.9 +1.0**
baz=282
PUL Pulkovo 86.92 330 *ce*P **P 21 06 24.3 +1.2**
PUL pmax pmax
comp=Z,73nm,0.4s
P30M Million Dollar 86.94 30 P **P 21 06 24.0 +0.8**
baz=279
VNDA Vanda 86.94 173 P **P 21 06 22.5 -0.3**
VNDA Vanda 86.94 173 P **P 21 06 23.4 +0.7**
comp=Z,6.9nm,0.9s,baz=316,slow=5.6,SNR=32
comp=Z,6.9nm,0.9s
VNDA Vanda 86.94 173 P **P 21 06 23.5 +0.7**
SPITS Spitsbergen Ar 86.99 349 P **P 21 06 23.1 -0.1**
comp=Z,11nm,0.8s,baz=90,slow=8.8,SNR=9.8
comp=Z,11nm,0.8s
F31M Tsiigehtchic 87.02 22 P **P 21 06 23.9 +0.5**
baz=282
MAW Mawson 87.03 200 P **P 21 06 23.2 -0.1**
comp=Z,6.6nm,1.1s,baz=48,slow=5.4,SNR=5.9
comp=Z,6.6nm,1.1s
MMAI Mount Meron Ar 87.09 303 P **P 21 06 25.8 +1.2**
comp=Z,54nm,1.1s,baz=74,slow=8.8,SNR=45
MMAI pP **pP 21 06 56.8 -0.7**
comp=Z,17nm,1.0s,baz=83,slow=10,SNR=5.0
MMAI LR LR 21 50 34.1
comp=Z,47nm,19.5s,baz=90,slow=39
comp=Z,54nm,1.1s
ARCES ARCESS Array B 87.09 340 P **P 21 06 22.6 -1.1**
ARCES IAmb IAmb 21 06 26.9
comp=Z,16nm,1.1s
ARCES ARCESS Array B 87.09 340 P **P 21 06 23.1 -0.7**
comp=Z,8.2nm,0.8s,baz=88,slow=6.3,SNR=25
ARCES PKKPbc **PKKPbc 21 24 15.3 -2.8**
comp=Z,0.6nm,0.6s,baz=262,slow=3.7,SNR=5.5
comp=Z,8.2nm,0.8s
H31M Peel River 87.11 24 P **P 21 06 24.8 +0.9**
baz=281
O30N Mendenhall 87.25 29 P **P 21 06 25.8 +1.0**
baz=280
N31M Braeburn, Yuko 87.28 28 P **P 21 06 25.5 +0.7**
baz=280
ILGA Ilgaz 87.45 311 IAmb IAmb 21 06 27.0
comp=Z,20nm,1.0s
KIRS Kirsehir-Merke 87.54 309 ⇑P **P 21 06 26.1 -0.5**
BR131 Keskin Array S 87.68 310 IAmb IAmb 21 06 28.6
comp=Z,22nm,1.0s
BR131 Keskin Array S 87.68 310 P **P 21 06 26.8 -0.6**
SNR=13
BRTR Keskin Array B 87.68 310 P **P 21 06 25.9 -1.5**
BRTR Keskin Array B 87.68 310 P **P 21 06 26.6 -0.8**
comp=Z,12nm,0.9s,baz=106,slow=4.4,SNR=61
BRTR pP **pP 21 06 59.3 -1.1**
comp=Z,2.6nm,0.8s,baz=102,slow=5.5,SNR=2.6
BRTR PP **PP 21 09 48.8 -5.6**
comp=Z,2.1nm,1.1s,baz=76,slow=5.2,SNR=3.8
comp=Z,12nm,0.9s
BRTR Keskin Array B 87.68 310 *i* P **P 21 06 26.6 -0.8**
BRTR pmax pmax
comp=Z,11nm,0.9s
BR104 Keskin Array S 87.68 310 P **P 21 06 26.0 -1.4**
comp=Z,143nmcomp=Z,18nm,1.0s
BR106 Keskin Array S 87.69 310 P **P 21 06 26.1 -1.3**
comp=Z,114nmcomp=Z,13nm,1.0s
BR105 Keskin Array S 87.70 310 P **P 21 06 26.0 -1.5**
comp=Z,141nmcomp=Z,18nm,0.9s
SBA Scott Base 87.85 172 P **P 21 06 28.7 +1.6**
SBA Scott Base 87.85 172 P **P 21 06 28.7 +1.6**
SBA pmax pmax
comp=Z,14nm,1.3s
WHY Whitehorse 87.86 29 IAmb IAmb 21 06 30.9
comp=Z,24nm,1.1s
WHY Whitehorse 87.86 29 P **P 21 06 28.5 +0.8**
baz=281
EIL Elat 87.88 299 LR LR 21 51 44.2
comp=Z,33nm,18.5s,baz=146,slow=40
ANTO Ankara 88.31 310 P **P 21 06 29.1 -1.2**
ANTO IAmb IAmb 21 06 31.0
comp=Z,24nm,1.1s
ANTO Ankara 88.31 310 P **P 21 06 30.1 -0.2**
ANTO Ankara 88.31 310 ⇓P **P 21 06 31.2 +0.9**
ANTO Ankara 88.31 310 P **P 21 06 31.1 +0.9**
ANTO Ankara 88.31 310 P **P 21 06 29.8 -0.4**
comp=Z,12nm,1.3s
CSS Mathiatis 88.56 305 P **P 21 06 30.8 -0.6**
comp=Z,669nmcomp=Z,62nm,0.9s
N32M Quiet Lake 88.62 29 IAmb IAmb 21 06 34.2
comp=Z,17nm,0.8s
N32M Quiet Lake 88.62 29 P **P 21 06 32.4 +1.2**
baz=283
P32M Atlin 88.64 30 P **P 21 06 31.8 +0.5**
baz=282
FINES FINESS Array B 88.66 332 P **P 21 06 30.4 -1.0**
FINES FINESS Array B 88.66 332 P **P 21 06 31.2 -0.1**
comp=Z,29nm,1.0s,baz=108,slow=6.2,SNR=32
FINES LR LR 21 48 58.9
comp=Z,38nm,21.9s,baz=58,slow=37
comp=Z,29nm,1.0s
KIBK Kibwezi 88.87 268 P **P 21 06 32.5 -0.9**
KIBK IAmb IAmb 21 06 34.7
comp=Z,13nm,1.1s
KIBK Kibwezi 88.87 268 P **P 21 06 33.5 +0.1**
P33M Tesin, Yukon 88.95 29 P **P 21 06 32.8 0.0**
baz=283
VSU Vasula 88.98 329 *ce*P **P 21 06 31.7 -1.2**
VSU pmax pmax
comp=Z,133nm,1.0s
AK09 Malin Array Si 89.06 321 P **P 21 06 32.5 -0.9**
AK08 Malin Array Si 89.07 321 P **P 21 06 32.0 -1.5**
AK03 Malin Array Si 89.08 321 P **P 21 06 32.3 -1.2**
AKASG Malin Array Be 89.08 321 P **P 21 06 32.2 -1.3**
AKASG Malin Array Be 89.08 321 P **P 21 06 32.9 -0.6**
comp=Z,30nm,0.9s,baz=66,slow=4.4,SNR=66
AKASG LR LR 21 47 54.0
comp=Z,43nm,20.7s,baz=82,slow=36
comp=Z,30nm,0.9s
AKBB Malin Array Si 89.08 321 *ce*P **P 21 06 32.8 -0.7**
AKBB pmax pmax
comp=Z,63nm,1.1s
AKBB Malin Array Si 89.08 321 P **P 21 06 32.3 -1.2**
AK10 Malin Array Si 89.08 321 P **P 21 06 32.3 -1.2**
AK01 Malin Array Si 89.09 321 P **P 21 06 32.1 -1.4**
KIEV Kiev 89.09 321 P **P 21 06 32.4 -1.2**
KIEV Kiev 89.09 321 ⇑P **P 21 06 33.0 -0.6**
KIEV Kiev 89.09 321 *i* P **P 21 06 32.6 -0.9**
SNR=20
KIEV Kiev 89.09 321 P **P 21 06 32.9 -0.6**
KIEV Kiev 89.09 321 P **P 21 06 31.8 -1.7**
comp=Z,185nm,1.1s
AK02 Malin Array Si 89.10 321 P **P 21 06 31.8 -1.8**
MMPY Sheldon Lake, 89.12 27 IAmb IAmb 21 06 37.3
comp=Z,17nm,1.4s
MMPY Sheldon Lake, 89.12 27 P **P 21 06 34.1 +0.6**
baz=284
MNK Minsk 89.17 325 *i* P **P 21 06 33.7 -0.1**
MNK *i* *PP **pP 21 07 07.0 +0.3**
MNK *i* S **SKSac 21 16 50.7 -1.2**
MNK *i* PS **PS 21 18 32.2 -1.1**
MNK *i* SSS SSS 21 26 40.4
MNK pmax pmax
comp=Z,58nm,0.9s
MNK pmax pmax
comp=N,29nm,1.1s
MNK pmax pmax
comp=E,17nm,1.0s
MDUB Mudurnu 89.43 311 IAmb IAmb 21 06 36.8
comp=Z,38nm,1.0s
KMBO Kilima Mbogo 89.51 269 P **P 21 06 36.6 +0.1**
comp=Z,10nm,0.9s,baz=64,slow=6.3,SNR=6.9
comp=Z,10nm,0.9s
SAHE Sakarya_HENDEK 89.62 311 ⇑P **P 21 06 37.3 +1.0**
C36M Paulatuk 89.92 20 P **P 21 06 37.9 +0.9**
baz=291
MI28 Mi28,Pidlybu 90.00 321 P **P 21 06 37.2 -0.6**
KIS Kishinev 90.02 317 *e*P **P 21 06 36.0 -2.0**
comp=Z,90nm,4.8s

KIS	Kishinev	90.02	317	*e*P	P	21 06 36.0	-2.0
KIS				pmax	pmax		
comp=Z,90nm,4.8s							
MILM	Milestii Mici	90.03	317	⇑P	P	21 06 37.0	-1.0
MILM	Milestii Mici	90.03	317	⇑*i*P	P	21 06 35.9	-2.1
comp=Z,60nm,1.6s							
MILM	Milestii Mici	90.03	317	P	P	21 06 37.0	-1.0
WRAK	Wrangell Islan	90.05	33	P	P	21 06 38.6	+0.7
baz=283							
R33M	Jennings River	90.05	30	P	P	21 06 39.2	+1.1
baz=284							
BORA	Eskisehir	90.08	310	IAmb	IAmb	21 06 38.8	
comp=Z,35nm,1.1s							
SORM	Soroca	90.11	318	⇓P	P	21 06 37.8	-0.6
SORM	Soroca	90.11	318	P	P	21 06 37.7	-0.6
LUBAR	Lubar, Ukraine	90.15	320	P	P	21 06 37.3	-1.2
S34M	Telegraph Cree	90.34	31	P	P	21 06 39.9	+0.7
baz=284							
TLCR		90.35	316	⇓P	P	21 06 39.5	-0.1
TLCR		90.35	316	P	P	21 06 39.4	-0.1
ISP	Isparta	90.37	308	*e*P	P	21 06 39.6	-0.4
ISP				pmax	pmax		
comp=Z,51nm,1.3s							
JURR	Jurilovca	90.39	315	⇓P	P	21 06 39.7	0.0
TPGR	Topolog	90.69	315	⇓P	P	21 06 41.2	0.0
VLDR	Vladesti	90.73	316	⇑P	P	21 06 42.3	+1.0
MANR	Mangalia	90.77	314	⇓P	P	21 06 41.9	+0.4
TGTN	Hyland Airport	90.77	28	P	P	21 06 42.1	+0.9
baz=287							
TIRR	Tirgusor	90.77	315	IAmb	IAmb	21 06 42.3	
comp=Z,36nm,1.1s							
TIRR	Tirgusor	90.77	315	⇓P	P	21 06 41.5	-0.1
TIRR	Tirgusor	90.77	315	P	P	21 06 41.4	-0.1
DLBC	Dease Lake	90.77	31	LR	LR	21 54 14.6	
comp=Z,292nm,18.4s,baz=224,slow=40							
LODK	Lodwar	90.81	274	P	P	21 06 41.3	-1.1
LODK	Lodwar	90.81	274	P	P	21 06 42.3	-0.1
CFR	Carcaliu	90.82	316	⇓P	P	21 06 41.7	0.0
CFR	Carcaliu	90.82	316	P	P	21 06 41.7	0.0
SCTR	Scanteiesti	90.83	316	⇑P	P	21 06 42.7	+1.0
VARL	Varlezi	90.88	316	⇑P	P	21 06 42.7	+0.7
ISK	Istanbul-Kandi	90.93	311	P	P	21 06 41.4	-0.9
KALB	Balgarevo	90.96	314	⇑P	P	21 06 43.1	+0.6
RNPP9	Sopachiv	91.00	322	P	P	21 06 40.9	-1.5
RNPP8	Varash	91.03	322	P	P	21 06 41.7	-0.9
RNPP5	Staryi Chortor	91.04	322	P	P	21 06 41.7	-0.9
HARR	Harsova	91.06	315	⇓P	P	21 06 43.2	+0.3
HARR	Harsova	91.06	315	P	P	21 06 43.1	+0.3
PSN	Preselentsi	91.12	314	*e*P	P	21 06 43.6	+0.4
KMPD	K-Podol'skiy	91.26	319	P	P	21 06 41.7	-2.0
ICOR	Ion Corvin	91.27	315	⇓P	P	21 06 44.2	+0.4
CTYL	Yalikoy Yolu	91.42	312	⇓P	P	21 06 44.8	+0.2
TESR	Tescani	91.57	317	⇑P	P	21 06 44.9	-0.3
TESR	Tescani	91.57	317	P	P	21 06 43.8	-1.4
comp=Z,531nmcomp=Z,43nm,1.3s							
GRER		91.59	316	⇓P	P	21 06 47.3	+2.0
VRI	Vrincioaia	91.66	316	⇓P	P	21 06 46.2	+0.5
VRI	Vrincioaia	91.66	316	P	P	21 06 46.3	+0.6
VRI	Vrincioaia	91.66	316	P	P	21 06 45.3	-0.4
comp=Z,585nmcomp=Z,39nm,1.4s							
PLOR5	Plostina Array	91.70	316	P	P	21 06 45.2	-0.7
comp=Z,584nmcomp=Z,21nm,1.4s							
PLOR	Plostina	91.71	316	⇑P	P	21 06 47.0	+1.0
PLOR	Plostina	91.71	316	P	P	21 06 46.9	+1.0
PRD	Provadia	91.73	314	*e*P	P	21 06 46.4	+0.4
BAND	Balkesir-Ban	91.78	311	⇓P	P	21 06 45.8	-0.5
ONER	Baraj Valea Uz	91.78	317	⇓P	P	21 06 46.8	+0.5
ISR	Istrita	91.94	316	⇓P	P	21 06 47.9	+0.9
ISR	Istrita	91.94	316	P	P	21 06 47.9	+0.9
ISR	Istrita	91.94	316	P	P	21 06 46.6	-0.4
comp=Z,22nm,1.1s							
SUW	Suwalki	91.97	325	*e*P	P	21 06 46.8	0.0
NEHR	Nehoiu	92.05	316	⇓P	P	21 06 48.3	+0.8
TURR	Turia	92.10	317	⇓P	P	21 06 48.4	+0.6
SULR		92.23	315	⇓P	P	21 06 49.0	+0.7
OZUR		92.25	317	⇓P	P	21 06 48.6	+0.2
MLR	Muntele Rosu	92.27	316	LR	LR	21 52 37.8	
comp=Z,49nm,19.6s,baz=80,slow=38							
MLR	Muntele Rosu	92.27	316	⇑P	P	21 06 48.5	-0.2
MLR	Muntele Rosu	92.27	316	P	P	21 06 48.5	-0.2
MLR	Muntele Rosu	92.27	316	P	P	21 06 47.3	-1.4
comp=Z,28nm,1.5s							
LOZB	Loznitsa	92.27	314	⇑P	P	21 06 48.3	-0.3
BURAR	Bucovina Array	92.28	318	P	P	21 06 48.2	-0.4
BURAR				IAmb	IAmb	21 06 51.7	
comp=Z,11nm,0.9s							
BURAR	Bucovina Array	92.28	318	⇑P	P	21 06 48.9	+0.3
BURAR	Bucovina Array	92.28	318	P	P	21 06 48.9	+0.3
BUR08	Bucovina Ar. S	92.29	318	IAmb	IAmb	21 06 51.4	
comp=Z,15nm,1.0s							
JMB	Yambol	92.50	313	*e*P	P	21 06 49.7	+0.1
SGRR	Singureni	92.53	315	⇑P	P	21 06 50.2	+0.5
DOPR	Dopca	92.55	317	⇓P	P	21 06 50.3	+0.6
SZH	Strazhitsa	92.74	314	*e*P	P	21 06 51.0	+0.3
ELND	Elena	92.88	314	⇓P	P	21 06 51.4	0.0
TOAD	Toad River Com	93.04	30	P	P	21 06 52.5	+0.7
baz=289							
COPA	Copaceanca	93.08	315	⇓P	P	21 06 52.3	+0.1
HUMR	Humele	93.16	315	⇑P	P	21 06 52.7	+0.2
KOTAN	Kotaneelee Air	93.17	28	P	P	21 06 52.4	+0.1
baz=290							
ARR	Arges	93.20	316	⇓P	P	21 06 53.0	+0.2
EZN	Ezine	93.22	311	⇓P	P	21 06 52.6	-0.4
EZN	Ezine	93.22	311	P	P	21 06 52.5	-0.4
PVL	Pavlikeni	93.34	314	*e*P	P	21 06 53.9	+0.4
KWP	Kalwaria Pacla	93.40	321	*e*P	P	21 06 54.1	+0.5
KWP	Kalwaria Pacla	93.40	321	P	P	21 06 53.1	-0.5
comp=Z,75nm,1.4s							
RDO	Rodhopi	93.52	312	IAmb	IAmb	21 06 54.4	
comp=Z,20nm,1.0s							
BBB	Bella Bella	93.53	37	LR	LR	21 54 02.2	
comp=Z,47nm,18.1s,baz=190,slow=39							
KDZ	Kurdzhali	93.56	313	*e*P	P	21 06 54.0	-0.5
CJR	Cluj-Napoca	93.57	318	⇓P	P	21 06 55.3	+0.7
CJR	Cluj-Napoca	93.57	318	P	P	21 06 55.2	+0.7
PLVB	Pleven	93.67	314	⇓P	P	21 06 55.1	+0.1
VLAD	Vladila	93.68	315	⇓P	P	21 06 55.4	+0.4
LOT	Lotru	93.77	317	⇓P	P	21 06 55.7	+0.2
MARR	Marisel-Cluj	93.90	318	⇑P	P	21 06 56.2	+0.1
BEL	Belsk	93.96	323	*e*P	P	21 06 57.0	+0.9
RZN	Rozhen	93.98	313	*e*P	P	21 06 56.2	-0.5
DRGR		94.14	318	⇓P	P	21 06 57.4	+0.2
DRGR		94.14	318	P	P	21 06 57.4	+0.2
PGB	Panagyurishte	94.20	314	*e*P	P	21 06 57.5	0.0
DEV	Deva	94.25	317	⇓P	P	21 06 58.3	+0.7
DEV	Deva	94.25	317	P	P	21 06 58.2	+0.7
TAOE	Nuku Hiva Isla	94.28	98	*e*LR	LR	21 37 32.1	
comp=Z,176nm,23.6s							
MPEP	Malo Peshtene	94.30	315	*e*P	P	21 06 58.2	+0.3
RES	Resolute Bay	94.36	10	LR	LR	21 54 50.0	
comp=Z,33nm,18.4s,baz=23,slow=39							
STHS	Stebnicka Huta	94.38	321	*e*P	P	21 06 58.3	+0.2
STHS				pmax	pmax		
comp=Z,19nm,1.5s							
STHS	Stebnicka Huta	94.38	321	*e*P	P	21 06 58.3	+0.2
BAIL	Bailesti	94.42	315	⇓P	P	21 06 58.9	+0.5
VALD	Valchedram	94.44	315	P	P	21 06 58.5	+0.1
GZR	Gura Zlata	94.46	317	⇓P	P	21 06 58.8	+0.2
GZR	Gura Zlata	94.46	317	P	P	21 06 58.8	+0.2
PUNG	Punghina	94.64	316	⇓P	P	21 06 59.8	+0.4
MMB	Musomishta	94.73	313	*e*P	P	21 06 59.4	-0.6
PLNA	Plana	94.74	314	*e*P	P	21 07 00.4	+0.3
SURR	Surduc	94.81	317	⇓P	P	21 07 00.1	0.0
HFS	Hagfors	94.84	332	P	P	21 06 59.5	-0.4
comp=Z,24nm,1.0s,baz=57,slow=5.5,SNR=13							
comp=Z,24nm,1.0s							
HERR	Herculane	94.84	316	⇓P	P	21 07 00.3	0.0
VTS	Vitosha	94.84	314	*e*P	P	21 07 00.7	+0.1
NIE	Niedzica	94.97	321	*e*P	P	21 07 02.2	+1.3
NIE	Niedzica	94.97	321	P	P	21 07 00.7	-0.1
comp=Z,11nm,1.2s							
SIRR	Siria	94.98	318	⇓P	P	21 07 01.2	+0.3
OJC	Ojcow	95.04	322	*e*P	P	21 07 01.4	+0.3
OJC	Ojcow	95.04	322	P	P	21 07 00.6	-0.5
comp=Z,31nm,1.2s							
KKB	Krupnik	95.11	313	*e*P	P	21 07 01.2	-0.5
BZS	Buzias	95.19	317	⇓P	P	21 07 01.5	-0.4
BZS	Buzias	95.19	317	P	P	21 07 01.5	-0.4
MDVR	Moldovita	95.35	316	⇓P	P	21 07 02.8	+0.1
LANS	Liptovska Anna	95.57	321	*e*P	P	21 07 04.2	+0.6
LANS				pmax	pmax		
comp=Z,6.0nm,1.2s							
LANS	Liptovska Anna	95.57	321	*e*P	P	21 07 04.2	+0.6
NB2	NORSAR Subarra	95.57	334	P	P	21 07 01.9	-1.4
comp=Z,32nm,1.4s,baz=64,slow=4.6							
NB2	NORSAR Subarra	95.57	334	P	P	21 07 01.9	-1.4
baz=64,slow=4.6							
NOA	NORSAR Array B	95.57	334	P	P	21 07 02.5	-0.8
comp=Z,5.4nm,0.9s,baz=64,slow=4.6,SNR=9.9							
NOA				LR	LR	21 53 48.7	
comp=Z,57nm,19.7s,baz=65,slow=38							
comp=Z,5.4nm,0.9s							
BOVS	Bovan	95.66	315	⇓P	P	21 07 04.0	-0.1
PSZ	Piszkesteto	95.67	320	IAmb	IAmb	21 07 05.2	
comp=Z,17nm,1.2s							
PSZ	Piszkesteto	95.67	320	⇓P	P	21 07 04.3	+0.1
PSZ	Piszkesteto	95.67	320	P	P	21 07 04.2	+0.1
SYO	Syowa Base	95.68	201	⇓*e*P	P	21 07 05.0	+1.5
MBAR	Mbarara	95.90	270	P	P	21 07 05.3	-0.7
MBAR	Mbarara	95.90	270	*ce*P	P	21 07 05.9	-0.1
MBAR				pmax	pmax		
comp=Z,6.0nm,1.7s							
YKA	Yellowknife Ar	96.33	24	P	P	21 07 07.6	+1.0
comp=Z,2.5nm,0.8s,baz=304,slow=5.4,SNR=4.6							
comp=Z,2.5nm,0.8s							
STEB	Steborice	96.37	322	*e*P	P	21 07 07.5	+0.4
MAUC	Maruska	96.52	321	*e*P	P	21 07 08.5	+0.6
MORC	Moravsky Berou	96.56	322	⇓P	P	21 07 07.9	-0.2
MORC	Moravsky Berou	96.56	322	*e*P	P	21 07 08.3	+0.2
MORC	Moravsky Berou	96.56	322	P	P	21 07 07.8	-0.2
JAVC	Velka Javorina	96.78	321	*e*P	P	21 07 10.5	+1.4
KRLC	Kraliky	96.92	322	*e*P	P	21 07 10.1	+0.4
KRLC	Kraliky	96.92	322	*e*P	P	21 07 10.1	+0.4
KSP	Ksiaz	96.95	323	*e*P	P	21 07 09.9	+0.2
OHR	Ohrid	96.99	313	*i* P	P	21 07 09.0	-1.3
MORH	Mrgy, Hungar	97.00	318	⇓P	P	21 07 10.0	0.0
MORH	Mrgy, Hungar	97.00	318	P	P	21 07 09.3	-0.8
comp=Z,8.4nm,1.9s							
DPC	Dobruska-Polom	97.10	323	*e*P	Pdif	21 07 10.9	+0.3
DPC	Dobruska-Polom	97.10	323	*e*P	Pdif	21 07 10.9	+0.3
DPC	Dobruska-Polom	97.10	323	P	P	21 07 10.1	-0.4
comp=Z,17nm,1.7s							
QSPA	South Pole Qui	97.17	180	P	Pdif	21 07 13.3	+2.7
comp=Z,1.9nm,1.0s,baz=22,slow=1.6,SNR=5.4							
CHVC	Chvalec	97.18	323	*e*P	Pdif	21 07 10.9	0.0
CHVC	Chvalec	97.18	323	*e*P	Pdif	21 07 10.9	0.0
UPC	Upice	97.23	323	*e*P	Pdif	21 07 11.3	+0.2
UPC	Upice	97.23	323	*e*P	Pdif	21 07 11.3	+0.2
VRAC	Vranov	97.30	322	LR	LR	21 54 20.6	
comp=Z,37nm,19.4s,baz=76,slow=37							
VRAC	Vranov	97.30	322	⇑P	Pdif	21 07 12.2	+0.8
VRAC	Vranov	97.30	322	*e*P	Pdif	21 07 11.9	+0.5
VRAC	Vranov	97.30	322	P	Pdif	21 07 12.2	+0.8
KRUC	Moravsky	97.50	321	*e*P	Pdif	21 07 12.6	+0.3
PDG	Podgorica	97.73	315	⇑P	P	21 07 12.7	-0.7
RONA	Rosalia, Austr	98.03	320	*e*P	P	21 07 14.6	-0.2
comp=Z,7.2nm,1.3s							
CONA	Conrad Observa	98.23	321	*e*Pdiff	Pdif	21 07 15.7	0.0
comp=Z,7.4nm,1.2s							
PRU	Pruhonice	98.30	323	*e*P	Pdif	21 07 16.3	+0.4
PRU	Pruhonice	98.30	323	*e*P	Pdif	21 07 16.3	+0.4
BRG	Berggiesshubel	98.33	324	Amp		21 11 21.5	
comp=Z,11nm,1.6s							
BRG	Berggiesshubel	98.33	324	⇓*i*Pif		21 07 16.3	
BRG	Berggiesshubel	98.33	324	Amp		21 07 17.5	
comp=Z,18nm,1.1s							
BRG	Berggiesshubel	98.33	324	pP	pP	21 07 46.8	-2.2
BRG	Berggiesshubel	98.33	324	Amp		21 07 51.4	
comp=Z,3.7nm,1.0s							
BRG	Berggiesshubel	98.33	324	PP	PP	21 11 18.4	+1.4
ARSA	Arzberg	98.68	320	*e*Pdiff	P	21 07 17.6	-0.1
comp=Z,3.9nm,1.0s							
CLL	Collm	98.70	324	IAmb	IAmb	21 07 18.7	
comp=Z,17nm,1.3s							
CLL	Collm	98.70	324	*i* P	P	21 07 17.5	-0.1
CLL				pmax	pmax		
comp=Z,15nm,1.2s							
CLL	Collm	98.70	324	*i* Pdif	P	21 07 17.5	-0.1
comp=Z,15nm,1.2s							
CLL				*e*PP	PP	21 11 20.0	+0.1
CLL				*ex*	x	21 19 48.0	
CLL				*e*PS	PS	21 20 18.0	+0.1
CLL				*e*PPS	PPS	21 21 12.0	
ZVC	Zvikov	98.72	322	*e*P	Pdif	21 07 17.8	+0.1
PERS	Pernice	99.16	320	*i* P	Pdif	21 07 19.4	-0.5
SOKA	Soboth	99.20	320	*e*Pdiff	Pdif	21 07 19.8	-0.3
comp=Z,6.4nm,1.0s							
KHC	Kasperske Hory	99.21	322	*ce*P	Pdif	21 07 20.5	+0.5
KHC				pmax	pmax		
comp=Z,12nm,1.3s							
KHC	Kasperske Hory	99.21	322	*e*P	Pdif	21 07 20.1	+0.1
KHC	Kasperske Hory	99.21	322	P	Pdif	21 07 19.9	-0.1
CRES	Cresnjevec Ost	99.22	319	*i* P	Pdif	21 07 20.1	0.0
GERES	GERESS Array B	99.24	322	P	Pdif	21 07 20.4	+0.2
comp=Z,6.4nm,0.9s,baz=48,slow=6.0,SNR=41							
GERES				LR	LR	21 54 34.1	
comp=Z,55nm,21.2s,baz=89,slow=37							
comp=Z,6.4nm,0.9s							
MOA	Molln	99.26	321	*e*Pdiff	Pdif	21 07 20.6	+0.4
comp=Z,14nm,1.0s,SNR=7.6							
OBKA	Obir	99.57	320	*e*Pdiff	Pdif	21 07 21.8	+0.1
comp=Z,7.1nm,1.2s							
BIOA	Bad Ischl, Aus	99.71	321	*i* Pdiff	Pdif	21 07 22.3	0.0
comp=Z,10nm,1.3s,SNR=5.5							
LSZ	Lusaka	99.98	256	P	Pdif	21 07 22.7	-1.4
KBA	Koelnbreinsper	100.13	320	*e*Pdiff	Pdif	21 07 23.1	-1.2
comp=Z,5.1nm,1.0s							
VOJS	Vojsko	100.18	319	*e*P	Pdif	21 07 23.7	-0.7
LESA	Schwarzleotal	100.42	321	*i* Pdiff	Pdif	21 07 25.1	-0.3
comp=Z,16nm,1.6s,SNR=5.3							
ABTA	Abfaltersbach	100.78	320	*e*Pdiff	Pdif	21 07 24.2	-2.9
comp=Z,12nm,1.3s							
WTTA	Wattenberg	101.13	321	*e*Pdiff	Pdif	21 07 28.4	-0.3
comp=Z,16nm,1.1s,SNR=5.2							
WATA	Walderalm	101.14	321	*e*Pdiff	Pdif	21 07 28.4	-0.3
comp=Z,12nm,1.1s							
SQTA	Sankt Quirin	101.42	321	*e*Pdiff	Pdif	21 07 29.8	-0.2
comp=Z,16nm,1.1s,SNR=5.9							
MOTA	Moosalm	101.43	321	*e*Pdiff	Pdif	21 07 29.6	-0.5
comp=Z,11nm,1.1s							
FETA	Feichten	101.80	321	*e*Pdiff	Pdif	21 07 30.0	-1.7
comp=Z,12nm,1.2s							
DAVA	Damuels	102.21	322	*e*Pdiff	Pdif	21 07 33.3	-0.3
comp=Z,9.1nm,1.1s							
NVAR	Mina Array Bea	104.62	47	Pdiff	Pdif	21 07 46.1	+1.6
comp=Z,0.7nm,0.7s,baz=251,slow=4.5,SNR=3.9							
NVAR				PKKPbc	PKKPbc	21 23 28.6	-1.5
comp=Z,0.5nm,0.7s,baz=54,slow=4.7,SNR=4.1							
NVAR				PKKP	PKKPab	21 23 44.9	-4.2
comp=Z,2.3nm,1.0s,baz=124,slow=2.2,SNR=8.1							
SNAA	Sanae	108.60	195	PKKPbc	PKKPbc	21 23 14.5	-4.3
comp=Z,0.8nm,0.7s,baz=314,slow=3.5,SNR=8.5							
SNAA				PKKPab	PKKPab	21 23 26.1	-3.1
comp=Z,1.4nm,0.8s,baz=318,slow=6.3,SNR=6.0							
PDAR	Pinedale Array	108.75	40	PKKPbc	PKKPbc	21 23 15.2	-2.3
comp=Z,0.3nm,0.8s,baz=207,slow=2.4,SNR=4.3							
PDAR				PKKP	PKKPab	21 23 28.2	-2.4
comp=Z,1.0nm,0.8s,baz=111,slow=2.3,SNR=7.9							
ESDC	Sonseca Array	114.70	320	PP	PP	21 13 14.5	-2.9
comp=Z,3.5nm,1.1s,baz=69,slow=5.9,SNR=6.6							
PCBR	Castelo Branco	116.81	322	*e*PKP	PKiKP	21 12 23.5	+1.0
MNTX	Cornudas Mount	117.05	49		PKiKP	21 12 23.6	+0.3
PESTR	Estremoz	117.47	321	*e*PKP	PKiKP	21 12 24.9	+1.1
PBAR	Barrancos	117.53	320	*e*PKP	PKiKP	21 12 24.9	+1.0
PBEJ	Beja	118.14	320	*e*PKP	PKiKP	21 12 26.1	+0.9
MESJ	Messejana	118.48	320	*e*PKP	PKiKP	21 12 26.3	+0.5
PCVE	Castro Verde	118.48	320	*e*PKP	PKiKP	21 12 27.0	+1.2
MD01	Midelt array s	118.93	314		PKPdf	21 12 26.4	-0.5
MD31	MD31	118.93	314		PKPdf	21 12 24.4	-2.4
TXAR	Lajitas Array	119.48	50		PKPdf	21 12 27.0	-1.0
TXAR	Lajitas Array	119.48	50	PKP	PKiKP	21 12 28.1	0.0
comp=Z,2.1nm,1.0s,baz=352,slow=2.4,SNR=9.6							
TXAR				PKKPbc	PKKPbc	21 22 40.5	0.0
comp=Z,2.0nm,0.9s,baz=121,slow=6.4,SNR=11							
TORD	Torodi Ar. Bea	121.65	290		PKPdf	21 12 29.7	-2.7
TORD	Torodi Ar. Bea	121.65	290	PKP	PKPdf	21 12 32.3	-0.1
comp=Z,9.4nm,0.9s,baz=38,slow=3.9,SNR=39							
TORD				PKKPbc	PKKPbc	21 22 29.2	-2.7
comp=Z,0.6nm,0.7s,baz=339,slow=2.0,SNR=3.6							
U38A	Gravette	121.96	39		PKiKP	21 12 32.7	0.0
HHAR	Hobbs	122.33	38		PKPdf	21 12 31.8	-1.5
MIAR	Mount Ida	123.67	40		PKPdf	21 12 35.9	+0.1
MIAR	Mount Ida	123.67	40	PKIKP	PKPdf	21 12 35.9	+0.1
WVT	Waverly	126.04	34		PKiKP	21 12 41.1	+0.4
WVT	Waverly	126.04	34	PKIKP	PKiKP	21 12 41.1	+0.4
DBIC	Dimbokro	129.64	285	PKP	PKiKP	21 12 49.1	+0.6
comp=Z,14nm,0.9s,baz=81,slow=2.8,SNR=8.9							
DBIC				pPKP	pPKPdf	21 13 20.8	-1.4
comp=Z,8.3nm,0.9s,baz=88,slow=2.5,SNR=3.6							
PLCA	Paso Flores	143.34	158		PKPdf	21 13 11.8	-0.6
PLCA	Paso Flores	143.34	158	PKP	PKPdf	21 13 11.2	-1.2
comp=Z,3.7nm,0.9s,baz=253,slow=3.9,SNR=5.3							
PLCA				pPKP	pPKPdf	21 13 46.0	-0.3
comp=Z,4.5nm,0.8s,baz=179,slow=3.4,SNR=4.3							
PLCA	Paso Flores	143.34	158	PKIKP	PKPdf	21 13 11.8	-0.6
CHIV	Chivirico	144.68	40		PKPbc	21 13 14.6	+0.3
BO02	Sierra Bellavi	148.28	152		PKPdf	21 13 21.9	+0.9
TRQA	Tornquist	148.39	167		PKPbc	21 13 25.2	+0.6
TRQA	Tornquist	148.39	167	PKP2	PKPbc	21 13 25.2	+0.6
MT01	Popeta	148.82	150		PKPdf	21 13 19.5	-2.3
BCIP	Isla Barro Col	148.99	59		PKiKP	21 13 27.9	-0.1
BCIP	Isla Barro Col	148.99	59	PKP2	PKiKP	21 13 27.9	-0.1
MT09	Talagante	149.02	151		PKPdf	21 13 20.3	-2.1
DR12	Loma Pena Alta	149.67	31		PKiKP	21 13 29.0	-0.4
CELP	Cerrillos	151.63	27		PKPdf	21 13 21.3	-5.4
SJG	San Juan	151.79	26		PKPdf	21 13 25.5	-1.4
SJG	San Juan	151.79	26	PKIKP	PKPdf	21 13 25.5	-1.4
LCO	Las Campanas	152.91	145		PKiKP	21 13 36.8	+0.7
SDV	Santo Domingo	156.47	47	*e*P	PKPdf	21 13 32.3	-1.5
LPAZ	La Paz	163.03	123	PKP	PKPdf	21 13 43.1	+1.5
comp=Z,3.5nm,0.9s,baz=356,slow=4.2,SNR=14							
LPAZ	La Paz	163.03	123	*e*P	PKPdf	21 13 40.0	-1.6
BOAV	Boa Vista	168.03	37	*e*P	PKPdf	21 13 43.8	-1.3
TEFE	Tefe	168.19	72	*e*P	PKPdf	21 13 45.5	+0.2
BDFB	Brasilia	170.17	212	PKPab	PKPab	21 15 02.4	-0.2
comp=Z,2.0nm,0.4s,baz=108,slow=3.2,SNR=4.4							
SMTB	Santa Maria do	174.05	254	*e*P	PKPdf	21 13 47.7	-0.5
ITTB	Itaituba	176.28	39	*e*P	PKPdf	21 13 49.0	+0.2

SJA ***16*** *21:00:49.1±0.7,24°.13S×67°.09W,h194km±5km,ML3.5, MW3.4*

GUC ***16*** *21:00:51.4±0.8,24°.08S×67°.50W,h208km±16km,ML3.6*

ISC 16 21:00:47.4±1.8,24°.17S±0°.04×67°.06W±0°.04, h211km±14km,n32,σ1§71/59,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.66**	**95**	⇓*e*P	**Pn**	**21 01 17.6**	**+0.6**
SALTA		**0.66**	**95**	*e*P	Pn	21 01 02.0	-15
SALTA				*e*P	**Pn**	**21 01 17.6**	**+0.6**
SALTA				*e*P	**Pn**	**21 01 17.6**	**+0.6**
SALTA				IAML		21 01 17.7	
comp=Z,311nm,0.3s							
SLA	**San Lorenzo**	**1.52**	**112**	*e*P	**Pn**	**21 01 18.8**	**-3.6**
SLA				*e*S	**S**	**21 01 48.8**	**-0.5**
AF01	**San Pedro de A**	**1.59**	**319**	*e*P	**Pn**	**21 01 25.6**	**+2.3**
AF01				*e*S	S	21 01 39.0	-12
AF01				IAML		21 02 14.3	
comp=Z,89nm,0.3s							
HJA	**Humahuaca**	**1.79**	**58**	*e*P	**Pn**	**21 01 26.5**	**+1.3**
HJA				*e*S	**S**	**21 01 54.0**	**-0.1**
AZAP	**Zapla**	**1.82**	**92**	*e*P	**Pn**	**21 01 26.6**	**+1.3**
AZAP				*e*S	**S**	**21 01 55.1**	**+0.8**
FSA

KNRA IAmb IAmb 21 07 23.4
comp=Z,8.5nm,0.8s
FITZ Fitzroy Crossi 24.60 179 P **P 21 07 36.3 -1.0**
WB0 Warramunga Arr 27.79 161 P **P 21 08 05.4 -0.7**
WRA Warramunga Arr 27.94 161 P **P 21 08 05.9 -1.5**
comp=Z,1.1nm,0.7s,baz=345,slow=8.3,SNR=2.5
comp=Z,1.1nm,0.7s
AS31 Alice Springs 31.33 164 P **P 21 08 35.9 -1.6**
AS31 IAmb IAmb 21 08 35.9
comp=Z,1.8nm,1.1s
ASAR Alice Springs 31.33 164 P **P 21 08 35.9 -1.6**
comp=Z,0.5nm,0.5s,baz=341,slow=8.4,SNR=5.0
comp=Z,0.5nm,0.5s
MJAR Matsushiro Arr 32.06 20 P **P 21 08 44.5 +0.7**
comp=Z,1.5nm,0.8s,baz=190,slow=9.9,SNR=4.4
comp=Z,1.5nm,0.8s
MKAR Makanchi Array 54.27 325 P **P 21 11 43.5 +0.5**
KKAR Karatay Array 60.03 316 P **P 21 12 23.0 -0.9**

PDG 16 21:05:06.2±0.2, 42°45N×18°43E, h11km±2km, MD1.7/1, ML1.7/7, 4C-3D, Error ellipse: s-maj=0.6km s-min=1.4km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCY	**Herceg Novi**	**0.04**	**95**	⇓*i*Pg	Pg	21 05 08.0	-0.3
HCY				*i* Sg	Sg	21 05 08.8	-1.1
CEME	**Cevo**	**0.37**	**75**	⇓*i*Pg	Pg	21 05 13.0	-0.6
CEME				*i* Sg	Sg	21 05 18.8	+0.3
BUM	**Brajici-Budva**	**0.37**	**114**	⇑*i*Pg	Pg	21 05 13.6	0.0
BUM				*e*Sg	Sg	21 05 19.4	+0.8
BRY	**Bratogost**	**0.46**	**10**	*e*Pg	Pg	21 05 15.1	-0.1
BRY				*e*Sg	Sb	21 05 22.3	-0.9
NKME	**Niksic**	**0.50**	**50**	⇑*i*Pg	Pg	21 05 15.6	-0.3
NKME				*i* Sg	Sb	21 05 23.4	-0.9
DRME	**Dracevica, Mon**	**0.62**	**115**	⇑*i*Pg	Pg	21 05 18.1	-0.1
DRME				*i* Sg	Sb	21 05 27.7	+0.1
ULC	**Ulcinj**	**0.77**	**129**	⇓*i*Pg	Pg	21 05 20.5	-0.7
ULC				*e*Sg	Sb	21 05 33.2	+1.0
KOME	**Kolasin**	**0.89**	**63**	⇑*i*Pg	Pg	21 05 23.1	-0.3
KOME				*i* Sg	Sb	21 05 36.7	+1.0

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*IDC **16** 21:10:16.0±0.5, 7°.59S×127°.72E, h0km, mb4.8/16, mbtmp4.7/19, ML4.8/3, MS3.3/14, Error ellipse: s-maj=26.8km s-min=11.3km az=79.0*
*NEIC **16** 21:10:17.8±1.7, 7°.52S±0°.06×127°.88E±0°.05, h10km±1km, mb4.9/74, Error ellipse: s-maj=10.2km s-min=8.8km az=180.0*
*DJA **16** 21:10:20.3±0.8, 8°S±2°×12°8E±°, h27km±7km, M4.8/53, mb4.9/53, mB5.3/21, MLv4.9/18, Mw(mB)4.7/21, MwMwp6.0/1, Mwp6.1/1*
ISC 16 21:10:20.7±0.3, 7°.63S±0°.04×127°.83E±0°.05, h35km, n232, σ1§60/231, **mb4.9**/74, **MS3.3**/12, **4C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.46**	**96**	Pn	**Pn**	**21 11 11.8**	**-0.2**
SAUI	**Saumlaki**	**3.46**	**96**	P	**Pn**	**21 11 12.1**	**0.0**
BNDI	**Bandanaira**	**3.71**	**34**	P	**Pn**	**21 11 13.7**	**-1.9**
BNDI	**Bandanaira**	**3.71**	**34**	P	**Pn**	**21 11 11.8**	**-3.8**
AAI	**Ambon**	**3.93**	**5**	P	**Pn**	**21 11 15.6**	**-3.0**
SOEI	**Soe**	**4.10**	**239**		**Pn**	**21 11 23.4**	**+2.3**
SOEI	**Soe**	**4.10**	**239**	P	**Pn**	**21 11 23.6**	**+2.5**
SOEI	**Soe**	**4.10**	**239**	P	**Pn**	**21 11 23.1**	**+2.0**
MSAI	**Masohi**	**4.39**	**15**	P	**Pn**	**21 11 22.3**	**-2.7**
NLAI	**Namlea**	**4.42**	**351**	P	**Pn**	**21 11 24.2**	**-1.1**
BATI	**Baumata**	**4.84**	**238**	Pn	**Pn**	**21 11 33.7**	**+2.6**
209nm,0.3s,baz=116,slow=2.2,SNR=319							
BATI				Sn	**Sn**	**21 12 29.1**	**+2.9**
70nm,0.3s,baz=111,slow=20,SNR=12							
BATI	**Baumata**	**4.84**	**238**	P	**Pn**	**21 11 33.5**	**+2.3**
MMRI	**Maumere**	**5.62**	**259**		**Pn**	**21 11 44.1**	**+2.2**
MMRI	**Maumere**	**5.62**	**259**	P	**Pn**	**21 11 43.8**	**+2.0**
MMRI	**Maumere**	**5.62**	**259**	P	**Pn**	**21 11 44.0**	**+2.2**
BBSI	**Bau Bau**	**5.64**	**292**	P	**Pn**	**21 11 43.2**	**+1.1**
0.5nm190nm,1.0s							
DRS	**Darwin Rock St**	**5.65**	**148**	P	**Pn**	**21 11 44.7**	**+2.5**
SANI	**Sanana**	**5.84**	**342**	P	**Pn**	**21 11 43.5**	**-1.3**
SANI	**Sanana**	**5.84**	**342**	P	**Pn**	**21 11 43.5**	**-1.3**
0.7nm2μm190nm,0.7s							
MTN	**Manton Dam**	**6.12**	**148**		**Pn**	**21 11 49.9**	**+1.2**
EDFI	**Ende, Flores**	**6.17**	**259**	P	**Pn**	**21 11 51.5**	**+2.0**
0.7nm2μm205nm,1.2s							
KDI	**Kendari**	**6.34**	**305**	P	**Pn**	**21 11 50.7**	**-0.9**
FAKI	**Fak Fak**	**6.42**	**43**		**Pn**	**21 11 52.7**	**-0.2**
FAKI	**Fak Fak**	**6.42**	**43**	P	**Pn**	**21 11 52.8**	**-0.1**
FAKI	**Fak Fak**	**6.42**	**43**	P	**Pn**	**21 11 52.2**	**-0.7**
0.2nm61nm,0.8s							
KMPI	**Kaimana, Papua**	**7.05**	**56**	P	**Pn**	**21 11 59.9**	**-1.6**
0.9nm229nm,1.2s							
BSSI	**Bau Bau, Buton**	**7.43**	**281**	P	**Pn**	**21 12 06.3**	**-0.4**
0.4nm956nm79nm,1.1s							
SWI	**Sorong**	**7.54**	**27**	P	**Pn**	**21 12 07.0**	**-1.2**
0.2nm67nm,0.7s							
BASI	**Baing, Sumba**	**7.61**	**250**	P	**Pn**	**21 12 10.0**	**+0.9**
WSI	**Waingapu**	**7.71**	**254**	P	**Pn**	**21 12 11.5**	**+0.9**
BKSI	**Bulukumba**	**7.99**	**286**	P	**Pn**	**21 12 13.9**	**-0.5**
0.2nm65nm,0.8s							
KNRA	**Kununurra**	**8.05**	**174**		**Pn**	**21 12 16.6**	**+1.4**
LUWI	**Luwuk**	**8.26**	**322**	Pn	**Pn**	**21 12 14.7**	**-3.4**
LUWI	**Luwuk**	**8.26**	**322**	P	**Pn**	**21 12 15.1**	**-3.0**
2μm64nm,1.0s							
BNSI	**Bone**	**8.32**	**292**	P	**Pn**	**21 12 19.1**	**+0.2**
862nm62nm,0.7s							
TNTI	**Ternate**	**8.36**	**357**		**Pn**	**21 12 18.8**	**-0.6**
TNTI	**Ternate**	**8.36**	**357**	P	**Pn**	**21 12 19.6**	**+0.2**
KAPI	**Kappang**	**8.44**	**287**		**Pn**	**21 12 20.9**	**+0.4**
KAPI	**Kappang**	**8.44**	**287**	Pn	**Pn**	**21 12 21.3**	**+0.8**
2.2nm,0.3s,baz=131,slow=11,SNR=5.4							
KAPI				LR	LR	21 15 16.8	
comp=Z,142nm,19.2s,baz=112,slow=36							
WBSI	**Waikabubak, Su**	**8.58**	**256**	P	**Pn**	**21 12 22.1**	**-0.4**
817nm111nm,0.9s							
RKPI	**Ransiki, Papua**	**8.78**	**46**	P	**Pn**	**21 12 24.0**	**-1.1**
2μm128nm,0.8s							
SPSI	**Sidrap Palu**	**8.80**	**294**	P	**Pn**	**21 12 24.9**	**-0.6**
36nm,0.9s							
KMSI	**Cibinong**	**9.01**	**335**	P	**Pn**	**21 12 27.0**	**-1.3**
APSI	**Ampana**	**9.08**	**317**	P	**Pn**	**21 12 28.6**	**-0.7**
PLAI	**Plampang**	**10.02**	**262**	P	**Pn**	**21 12 43.2**	**+1.0**
PLAI	**Plampang**	**10.02**	**262**	P	**Pn**	**21 12 43.3**	**+1.0**
BAKI	**Biak**	**10.44**	**53**	P	**Pn**	**21 12 50.0**	**+2.0**
1μm75nm,0.9s							
FITZ	**Fitzroy Crossi**	**10.62**	**191**	Pn	**Pn**	**21 12 51.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.62**	**191**	Pn	**Pn**	**21 12 49.7**	**-0.8**
7.1nm,0.3s,baz=31,slow=12,SNR=169							
FITZ				Sn	**Sn**	**21 14 43.0**	**-5.2**
4.2nm,0.3s,baz=95,slow=9.8,SNR=3.6							
FITZ				LR	LR	21 17 32.4	
comp=Z,482nm,18.8s,baz=16,slow=41							
19nm,0.3s							
TWSI	**Taliwang, Sumb**	**10.89**	**263**	P	**Pn**	**21 12 54.5**	**+0.4**
49nm,0.9s							
TOLI2	**Tolitoli**	**11.17**	**321**		**Pn**	**21 12 57.5**	**-0.4**
TOLI2	**Tolitoli**	**11.17**	**321**	P	**Pn**	**21 12 58.6**	**+0.6**
WAMI	**Wamena**	**11.45**	**72**	P	**Pn**	**21 13 04.6**	**+2.8**
88nm,0.8s							
SGSI	**Sangihe**	**11.47**	**348**	P	**Pn**	**21 13 01.7**	**-0.4**
SMPI	**Sarmi**	**12.20**	**63**	P	**Pn**	**21 13 12.7**	**+0.6**
36nm,1.1s							
JAGI	**Jajag, Banyuwa**	**13.57**	**266**	Pn	**Pn**	**21 13 28.5**	**-2.2**
WRAB	**Tennant Creek**	**13.77**	**153**		**Pn**	**21 13 31.0**	**-2.6**
WRAB	**Tennant Creek**	**13.77**	**153**	P	**Pn**	**21 13 33.0**	**-0.5**
WRA	**Warramunga Arr**	**13.77**	**153**		Pn	21 13 29.5	-4.1
WRA	**Warramunga Arr**	**13.77**	**153**	Pn	**Pn**	**21 13 31.2**	**-2.4**
4.8nm,0.3s,baz=325,slow=14,SNR=112							
WRA				Sn	**Sn**	**21 15 58.6**	**-6.8**
8.0nm,0.3s,baz=326,slow=24,SNR=14							
WRA				LR	LR	21 19 20.2	
comp=Z,321nm,18.2s,baz=334,slow=39							
JAY	**Jayapura**	**13.79**	**69**	P	**Pn**	**21 13 33.8**	**-0.1**
WR8	**Warramunga Arr**	**13.86**	**153**	Pn	**Pn**	**21 13 31.7**	**-3.0**
DAV	**Davao City (W)**	**14.77**	**351**	LR	LR	21 19 58.0	
comp=Z,76nm,18.6s,baz=159,slow=40							
MBWA	**Marble Bar**	**15.56**	**209**		**Pn**	**21 13 55.8**	**-1.7**
MBWA	**Marble Bar**	**15.56**	**209**	P	**Pn**	**21 13 58.7**	**+1.2**
MYLDM	**Lahad Datu**	**15.76**	**324**	P	**Pn**	**21 14 00.9**	**+0.7**
PSA00	**Pilbara Seismi**	**15.86**	**208**	P	**Pn**	**21 14 01.1**	**-0.3**
COEN	**Coen**	**16.33**	**114**		**Pn**	**21 14 07.0**	**-0.4**
COEN	**Coen**	**16.33**	**114**	P	**Pn**	**21 14 08.0**	**+0.6**
PCJI	**Pacitan**	**16.50**	**267**	P	**Pn**	**21 14 07.8**	**-1.8**
38nm,1.3s							
AS31	**Alice Springs**	**16.98**	**161**		**Pn**	**21 14 14.8**	**-0.8**
ASAR	**Alice Springs**	**16.98**	**161**		**Pn**	**21 14 15.3**	**-0.3**
ASAR	**Alice Springs**	**16.98**	**161**	P	**Pn**	**21 14 14.3**	**-1.3**
1.9nm,0.3s,baz=328,slow=9.6,SNR=78							
ASAR				S	**Sn**	**21 17 18.2**	**-5.2**
21nm,1.1s,baz=334,slow=25,SNR=6.6							
16nm,0.7s							
AS01	**Alice Springs**	**16.99**	**160**	P	**Pn**	**21 14 16.2**	**+0.4**
QIS	**Mount Isa**	**17.18**	**140**	P	**Pn**	**21 14 17.4**	**-0.7**
SBUM	**Sibu**	**18.51**	**302**	P	**P**	**21 14 33.4**	**-0.7**
KPJI	**Karang Pucung**	**18.74**	**270**	P	**Pn**	**21 14 38.2**	**+0.9**
PMG	**Port Moresby**	**19.20**	**97**		**P**	**21 14 42.1**	**+0.4**
PMG	**Port Moresby**	**19.20**	**97**	P	**Pn**	**21 14 46.3**	**+3.5**
21nm,0.8s,baz=252,slow=13,SNR=4.9							
KSM	**Kuching**	**19.68**	**297**	P	**P**	**21 14 46.9**	**-0.1**
LEM	**Lembang**	**20.07**	**271**	P	**P**	**21 14 50.4**	**-1.0**
3.2nm,0.3s,baz=308,slow=19,SNR=3.9							
LEM				LR	LR	21 24 44.3	
comp=Z,125nm,18.3s,baz=19,slow=44							
8.8nm,0.4s							
MANU	**Manus Island**	**20.24**	**75**	P	**P**	**21 14 52.3**	**-0.8**
MANU				IAmb	IAmb	21 15 00.8	
comp=Z,56nm,0.9s							
TPI	**Tanjungpandan**	**20.66**	**282**	P	**P**	**21 14 58.2**	**+0.6**
comp=Z,22nm,0.8s							
MEEK	**Meekatharra**	**20.83**	**204**	P	**P**	**21 15 00.3**	**+0.8**
CGJI	**Cibinong**	**21.99**	**271**	P	**P**	**21 15 11.1**	**-0.8**
comp=Z,32μmcomp=Z,47nm,1.0s							
TGY	**Tagaytay City**	**22.65**	**342**	P	**P**	**21 15 22.4**	**+3.4**
comp=Z,218nm,0.4s,baz=5.7,slow=1.1,SNR=3.4							
FORT	**Forrest**	**23.03**	**179**	P	**P**	**21 15 23.2**	**+0.4**
FORT				IAmb	IAmb	21 15 31.6	
comp=Z,52nm,0.8s							
PMBI	**Palembang**	**23.42**	**280**	P	**P**	**21 15 26.8**	**-0.1**
INKA	**Innaminka**	**23.45**	**150**	P	**P**	**21 15 27.4**	**+0.5**
INKA				IAmb	IAmb	21 15 41.7	
comp=Z,27nm,1.1s							
MORW	**Morawa**	**24.04**	**206**	P	**P**	**21 15 33.0**	**+0.4**
MORW				IAmb	IAmb	21 15 43.9	
comp=Z,28nm,1.0s							
MORW	**Morawa**	**24.04**	**206**	P	**P**	**21 15 33.5**	**+0.9**
DSRI	**Dabo**	**24.24**	**286**	P	**P**	**21 15 35.5**	**+0.9**
comp=Z,725nmcomp=Z,46nm,1.2s							
QLP	**Quilpie**	**24.46**	**142**	P	**P**	**21 15 38.3**	**+1.8**
TPRI	**Tanjung Pinang**	**24.74**	**289**	P	**P**	**21 15 39.7**	**+0.5**
comp=Z,1μmcomp=Z,61nm,1.0s							
BLDU	**Ballidu**	**25.13**	**203**	P	**P**	**21 15 43.6**	**+1.1**
MYKOM	**Kota Tinggi**	**25.68**	**290**	P	**P**	**21 15 47.1**	**-0.6**
MYKOM				IAmb	IAmb	21 15 49.2	
comp=Z,28nm,1.0s							
BBOO	**Buckleboo**	**26.20**	**164**	P	**P**	**21 15 53.3**	**+1.1**
BBOO				IAmb	IAmb	21 16 02.6	
comp=Z,43nm,1.1s							
BBOO	**Buckleboo**	**26.20**	**164**	P	**P**	**21 15 53.8**	**+1.7**
NWAO	**Narrogin (SRO)**	**27.02**	**200**	P	**P**	**21 16 01.1**	**+1.5**
STKA	**Stephens Creek**	**27.32**	**154**	P	**P**	**21 16 03.2**	**+0.9**
STKA	**Stephens Creek**	**27.32**	**154**	P	**P**	**21 16 04.1**	**+1.8**
comp=Z,4.4nm,0.4s,baz=328,slow=9.3,SNR=18							
comp=Z,4.4nm,0.4s							
STKA	**Stephens Creek**	**27.32**	**154**	P	**P**	**21 16 04.4**	**+2.1**
HTT	**Hallett**	**27.65**	**160**	P	**P**	**21 16 07.0**	**+1.7**
EIDS	**Eidsvold**	**28.34**	**131**	P	**P**	**21 16 11.4**	**-0.2**
EIDS				IAmb	IAmb	21 17 00.2	
comp=Z,22nm,1.4s							
CMSA	**Cobar Meteorol**	**29.05**	**147**	P	**P**	**21 16 19.7**	**+2.0**
IPM	**Ipoh**	**29.32**	**293**	P	**P**	**21 16 19.4**	**-0.9**
KULM	**Kulim**	**30.00**	**295**	P	**P**	**21 16 24.6**	**-1.7**
KULM				IAmb	IAmb	21 16 26.8	
comp=Z,17nm,1.1s							
KULM	**Kulim**	**30.00**	**295**	P	**P**	**21 16 26.4**	**+0.1**
TPUB	**Ta-pu**	**31.54**	**347**	P	**P**	**21 16 38.0**	**-1.8**
LHMI	**Lhok Sumawe**	**33.35**	**292**	P	**P**	**21 16 53.9**	**-1.9**
JMZ	**Minamidaito 2**	**33.41**	**6**	P	**P**	**21 16 57.5**	**+1.4**
CAN	**Canberra**	**33.72**	**148**	P	**P**	**21 16 59.8**	**+0.9**
CAN				IAmb	IAmb	21 17 04.2	
comp=Z,12nm,0.9s							
TOO	**Toolangi**	**33.84**	**154**	P	**P**	**21 17 00.8**	**+1.0**
SLVN	**Son La**	**37.15**	**321**	P	**P**	**21 17 28.3**	**-0.2**
SLVN				IAmb	IAmb	21 17 33.8	
comp=Z,26nm,1.6s							
CM31	**Chiang Mai Arr**	**38.52**	**313**	P	**P**	**21 17 39.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**38.52**	**313**		**P**	**21 17 39.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.52**	**313**	P	**P**	**21 17 40.2**	**+0.2**
comp=Z,8.2nm,0.9s,baz=145,slow=7.0,SNR=45							
CMAR				PcP	**PcP**	**21 19 52.2**	**-0.3**
comp=Z,1.2nm,0.7s,baz=175,slow=2.3,SNR=4.4							
CMAR				LR	LR	21 34 25.9	
comp=Z,21nm,20.9s,baz=170,slow=38							
comp=Z,8.2nm,0.9s							
CHTO	**Chiang Mai**	**38.75**	**313**	P	**P**	**21 17 41.5**	**-0.5**
CHTO	**Chiang Mai**	**38.75**	**313**	P	**P**	**21 17 42.2**	**+0.2**
SANVU	**Saraoutou**	**39.30**	**105**	P	**P**	**21 17 45.5**	**-1.1**
SANVU	**Saraoutou**	**39.30**	**105**	P	**P**	**21 17 48.0**	**+1.4**
GYA	**Guiyang**	**39.62**	**330**	⇑P	**P**	**21 17 51.4**	**+2.1**
GYA				pmax	pmax		
comp=Z,17nm,1.1s							
WHN	**Wuhan**	**40.10**	**342**	P	**P**	**21 17 54.1**	**+1.1**
WHN				pmax	pmax		
comp=Z,46nm,0.9s							
NJ2	**Nanjing**	**40.38**	**348**	*e*P	**P**	**21 17 56.8**	**+1.5**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
JNU	**Nakatsue**	**40.63**	**4**	P	**P**	**21 17 56.8**	**-0.7**
JNU	**Nakatsue**	**40.63**	**4**	LR	LR	21 35 45.5	
comp=Z,33nm,18.1s,baz=201,slow=38							
KMI	**Kunming**	**40.70**	**324**	P	**P**	**21 18 00.1**	**+1.7**
KMI				pmax	pmax		
comp=Z,16nm,1.1s							
JMN	**Monobe**	**41.53**	**8**	P	**P**	**21 18 04.1**	**-0.8**
JMN				IAmb	IAmb	21 18 29.9	
comp=Z,51nm,1.4s							
JMN	**Monobe**	**41.53**	**8**	P	**P**	**21 18 06.0**	**+1.2**
ENH	**Enshi**	**41.60**	**336**	P	**P**	**21 18 05.1**	**-0.3**
ENH				IAmb	IAmb	21 18 11.5	
comp=Z,43nm,1.8s							
PZH	**PanZhiHua**	**42.33**	**324**	P	**P**	**21 18 11.8**	**+0.2**
LYN	**LuoYang**	**44.40**	**342**	⇑P	**P**	**21 18 29.4**	**+1.4**
LYN				pmax	pmax		
comp=Z,27nm,0.9s							
CD2	**Chengdu**	**44.73**	**330**	P	**P**	**21 18 31.3**	**+0.6**
CD2				pmax	pmax		
comp=Z,30nm,0.8s							
TIA	**Tai'an**	**44.75**	**348**	P	**P**	**21 18 31.8**	**+1.0**
TIA				pmax	pmax		
comp=Z,10.0nm,0.8s							
KSAR	**Wonju Array Be**	**44.84**	**0**		**P**	**21 18 32.0**	**+0.5**
KSRS	**Korea Array**	**44.85**	**0**	P	**P**	**21 18 32.8**	**+1.3**
comp=Z,10nm,0.6s,baz=178,slow=9.5,SNR=47							
KSRS				LR	LR	21 36 29.6	
comp=Z,12μm,21.9s,baz=165,slow=35							
comp=Z,10nm,0.6s							
KS19	**Wonju Array Si**	**44.90**	**0**	P	**P**	**21 18 31.8**	**-0.1**
KS19				IAmb	IAmb	21 18 33.9	
comp=Z,16nm,0.8s							
MJAR	**Matsushiro Arr**	**45.01**	**12**	P	**P**	**21 18 31.7**	**-1.2**
MJAR	**Matsushiro Arr**	**45.01**	**12**	P	**P**	**21 18 31.9**	**-1.0**
comp=Z,9.8nm,0.9s,baz=190,slow=9.5,SNR=22							
MJAR				LR	LR	21 38 28.3	
comp=Z,29nm,18.1s,baz=196,slow=38							
comp=Z,9.8nm,0.9s							
MAJO	**Matsushiro**	**45.01**	**12**	P	**P**	**21 18 31.6**	**-1.3**
MAJO				IAmb	IAmb	21 18 32.6	
comp=Z,15nm,0.9s							
MJB9	**Matsu-Tunnel**	**45.01**	**12**	P	**P**	**21 18 32.4**	**-0.5**
MJB9				IAmb	IAmb	21 18 33.6	
comp=Z,14nm,0.9s							
XAN	**Xi'an**	**45.15**	**338**	⇓P	**P**	**21 18 33.3**	**-0.8**
XAN				pmax	pmax		
comp=Z,16nm,0.9s							
HNS	**HongShan**	**46.45**	**346**	⇓P	**P**	**21 18 44.9**	**+0.8**
HNS				pmax	pmax		
comp=Z,39nm,1.0s							
JMM	**Marumori**	**46.85**	**14**		**P**	**21 18 46.6**	**-0.7**
SHL	**Shillong**	**48.07**	**315**		**P**	**21 18 55.9**	**-1.4**
SHL				IAmb	IAmb	21 18 57.0	
comp=Z,8.2nm,0.8s							
BJT	**Baijiatuau**	**48.62**	**348**	P	**P**	**21 19 00.4**	**-0.6**
BJT				IAmb	IAmb	21 19 02.3	
comp=Z,15nm,1.0s							
BJI	**Beijing**	**48.64**	**348**	P	**P**	**21 19 01.8**	**+0.7**
BJI				pmax	pmax		
comp=Z,8.0nm,0.9s							
LZDM	**Lanzhou Array**	**48.94**	**334**	P	**P**	**21 19 04.8**	**+0.8**
comp=Z,3.5nm,0.4s,baz=177,slow=10,SNR=9.7							
comp=Z,3.5nm,0.4s							
LZH	**Lanzhou**	**48.98**	**334**	*e*P	**P**	**21 19 05.3**	**+1.2**
LZH				sP	pP	21 19 12.0	-1.9
HHC	**Hu-ho-hao-te**	**50.51**	**344**	*e*P	**P**	**21 19 16.3**	**+0.7**
HHC				pmax	pmax		
comp=Z,15nm,1.1s							
HHC				pmax	pmax		
comp=Z,100nm,4.9s							
BTO	**Baotou**	**50.73**	**342**	*e*P	**P**	**21 19 20.8**	**+3.6**
BTO				S	**S**	**21 26 36.3**	**+6.0**
BTO				pmax	pmax		
comp=Z,11nm,0.6s							
BTO				pmax	pmax		
comp=Z,180nm,4.5s							
BTO				LR	LR		
comp=N,200nm,6.0s							
BTO				LR	LR		
comp=E,120nm,5.9s							
BTO				LR	LR		
comp=Z,190nm,13.1s							
JCZ	**Jackson Bay**	**50.88**	**142**	P	**P**	**21 19 19.9**	**+1.6**
LSA	**Lhasa**	**51.19**	**318**	P	**P**	**21 19 21.1**	**-0.3**
LSA				IAmb	IAmb	21 19 23.0	
comp=Z,17nm,0.9s							
QRZ	**Quartz Range**	**51.64**	**137**	P	**P**	**21 19 26.1**	**+2.1**
USRK	**Ussuriysk Ar.**	**51.72**	**4**	P	**P**	**21 19 25.2**	**+0.8**
comp=Z,12nm,0.5s,baz=180,slow=7.1,SNR=25							
comp=Z,12nm,0.5s							
MDJ	**Mudanjiang**	**52.03**	**2**	P	**P**	**21 19 26.8**	**+0.1**
MDJ				pmax	pmax		
comp=Z,31nm,1.8s							
MDJ	**Mudanjiang**	**52.03**	**2**	P	**P**	**21 19 26.1**	**-0.6**
RPZ	**Rata Peaks**	**52.08**	**141**	P	**P**	**21 19 30.2**	**+2.9**
XLT	**XiLinHaoTe**	**52.38**	**349**	*e*P	**P**	**21 19 30.0**	**+0.5**
XLT				pmax	pmax		
comp=Z,35nm,1.1s							
OXZ	**Oxford**	**52.51**	**140**	P	**P**	**21 19 31.5**	**+1.1**
OXZ				IAmb	IAmb	21 19 38.0	
comp=Z,24nm,0.9s							
KHZ	**Kahutara**	**53.04**	**138**	P	**P**	**21 19 36.0**	**+1.6**
KHZ	**Kahutara**	**53.04**	**138**	P	**P**	**21 19 36.7**	**+2.3**
EVN	**Everest**	**53.12**	**313**	P	**P**	**21 19 35.7**	**-0.2**
BNX	**BinXian**	**53.13**	**360**	⇓P	**P**	**21 19 34.8**	**0.0**
BNX				pmax	pmax		
comp=Z,13nm,0.6s							
ASAJ	**Asahikawa**	**53.21**	**13**	LR	LR	21 40 55.0	
comp=Z,16nm,21.1s,baz=174,slow=35							
GTA	**Gaotai**	**53.52**	**333**	P	**P**	**21 19 39.3**	**+1.3**
GTA				pP	pP	21 19 43.3	-4.1
GTA				pmax	pmax		
comp=Z,85nm,0.8s							
BKZ	**Black Stump Fm**	**53.71**	**134**	P	**P**	**21 19 41.4**	**+2.0**
BFZ	**Birch Farm**	**54.13**	**135**	P	**P**	**21 19 44.0**	**+1.6**
HIA	**Hailar**	**57.10**	**354**	P	**P**	**21 20 03.4**	**-0.1**
HIA				IAmb	IAmb	21 20 05.3	
comp=Z,31nm,1.6s							
HILR	**Hailar Array B**	**57.38**	**354**	P	**P**	**21 20 06.7**	**+1.2**
comp=Z,10nm,0.5s,baz=170,slow=7.9,SNR=13							
comp=Z,10nm,0.5s							
HEH	**HeiHe**	**57.65**	**360**	*e*P	**P**	**21 20 07.3**	**0.0**
HEH				pmax	pmax		
comp=Z,45nm,1.0s							
ULN	**Ulaanbaatar**	**58.23**	**344**	P	**P**	**21 20 12.3**	**+0.7**
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**21 20 13.4**	**+0.7**
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**21 20 13.8**	**+1.1**
comp=Z,32nm,0.9s,baz=161,slow=7.6,SNR=133							
comp=Z,32nm,0.9s							
TLY	**Talaya**	**62.63**	**343**	P	**P**	**21 20 41.7**	**+0.3**
TLY				IAmb	IAmb	21 20 43.4	
comp=Z,10.0nm,0.9s							
WMQ	**Urumqi**	**62.77**	**328**	*e*P	**P**	**21 20 43.3**	**+0.7**
WMQ				pP	pP	21 20 46.5	-5.7
WMQ				sP	pwP	21 20 54.1	-2.8
WMQ				pmax	pmax		
comp=Z,54nm,1.3s							
WMQ				pmax	pmax		
comp=Z,94nm,3.8s							
PETK	**Petropavlovsk-**	**65.61**	**19**	P	**P**	**21 21 00.6**	**-0.4**
comp=Z,1.8nm,0.6s,baz=33,slow=1.5,SNR=4.6							
comp=Z,1.8nm,0.6s							
NIL	**Nilore**	**66.01**	**312**	P	**P**	**21 21 03.1**	**-0.9**
NIL				IAmb	IAmb	21 21 04.1	
comp=Z,16nm,1.2s							
KSH	**Kashi**	**67.04**	**319**	P	**P**	**21 21

TAOE	**Nuku Hiva Isla**	**90.83**	**99**	*e*LR	LR	21 52 16.4	
	comp=Z,124nm,24.6s						
KDAK	**Kodiak Island**	**90.88**	**32**	LR	LR	22 04 23.7	
	comp=Z,39nm,18.0s,baz=240,slow=36						
GURO	**Guroymak-BITLI**	**91.42**	**309**		**P**	**21 23 22.5**	**-1.2**
GURO				IAmb	IAmb	21 23 24.9	
	comp=Z,3.4nm,0.8s						
TROLL	**Troll, Antarti**	**93.02**	**195**	⇑P	**P**	**21 23 31.7**	**+1.3**
	comp=Z,111nm,0.8s						
SNAA	**Sanae**	**94.55**	**194**	P	**P**	**21 23 38.5**	**+1.2**
	comp=Z,2.1nm,1.1s,baz=152,slow=5.1,SNR=7.1						
	comp=Z,2.1nm,1.1s						
ILAR	**Eielson Array**	**94.83**	**25**	P	**P**	**21 23 34.8**	**-3.8**
	comp=Z,0.4nm,0.8s,baz=224,slow=3.8,SNR=2.8						
BRTR	**Keskin Array B**	**98.03**	**309**	P	**P**	**21 23 50.8**	**-3.1**
	comp=Z,0.4nm,0.6s,baz=112,slow=5.5,SNR=3.8						
BRTR				PP	**PP**	**21 27 50.3**	**-2.9**
	comp=Z,0.6nm,1.0s,baz=58,slow=5.4,SNR=2.1						
ARCES	**ARCESS Array B**	**101.41**	**339**	PKiKP	**PKiKP**	**21 28 32.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=51,slow=1.9,SNR=1.2						
ARCES				PKKPbc	**PKKPbc**	**21 40 16.0**	**-3.6**
	comp=Z,2.3nm,1.0s,baz=281,slow=2.4,SNR=5.9						
GERES	**GERESS Array B**	**111.51**	**320**	PKiKP	**PKiKP**	**21 28 50.2**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=118,slow=1.4,SNR=5.2						
EKA	**Eskdalemuir Ar**	**118.67**	**331**	PKP	**PKPdf**	**21 29 03.3**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=11,slow=1.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**126.81**	**281**	PKP	**PKPdf**	**21 29 20.5**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=56,slow=3.4,SNR=15						
DBIC	**Dimbokro**	**133.06**	**272**	PKP	**PKPdf**	**21 29 33.8**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=159,slow=2.8,SNR=2.4						
CPUP	**Villa Florida**	**145.87**	**172**	PKPbc	**PKPbc**	**21 29 57.3**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=39,slow=3.6,SNR=10						
LPAZ	**La Paz**	**151.47**	**146**	PKP	**PKPdf**	**21 30 08.5**	**+1.8**
	comp=Z,3.0nm,0.9s,baz=212,slow=2.3,SNR=4.1						
LPAZ				PKPbc	**PKiKP**	**21 30 13.4**	**+0.2**
	comp=Z,6.8nm,0.8s,baz=186,slow=1.3,SNR=19						
LPAZ				PKPab	**pPKPbc**	**21 30 23.3**	**+0.2**
	comp=Z,11nm,0.6s,baz=163,slow=2.5,SNR=21						

TEH ***16*** *21:25:05.6,27.°72N×57.°41E, h10km±57km*
DSN ***16*** *21:25:05.2±1.8,27.°54N×57.°69E, h10km, ML3.0/4, Error ellipse: s-maj=52.6km s-min=12.1km az=136.0*
OMAN ***16*** *21:25:06.6±2.4,27.°48N×57.°33E, h10km, ml3.0/9, Error ellipse: s-maj=20.1km s-min=9.2km az=26.0*

ISC 16 21:25:04.7±0.9, 27.°63N±0.°04×57.°42E±0.°04, h10km, n29, σ1§51/42, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.41**	**38**	Pg	**Pg**	**21 25 12.3**	**-0.5**
IBND	**Bandar-abas**	**0.80**	**258**	Pg	**Pb**	**21 25 21.5**	**+0.7**
GENO	**Geno**	**1.13**	**259**	Pg	**Pn**	**21 25 27.2**	**+0.4**
BNDS	**Bandar-Abbas**	**1.14**	**259**	Pg	**Pg**	**21 25 26.9**	**+0.4**
KBAM	**BAM**	**1.76**	**31**	Pg	**Pn**	**21 25 35.7**	**+0.4**
SHME	**Shamm**	**1.94**	**216**	P	**Pb**	**21 25 39.9**	**-0.3**
	SNR=17						
SHME				S	**Sn**	**21 26 03.4**	**+1.2**
SHME	**Shamm**	**1.94**	**216**	P	**Pb**	**21 25 39.7**	**-0.5**
SHME				S	**Sb**	**21 26 05.0**	**+0.5**
BANOM	**Banah**	**1.97**	**211**	P	**Pb**	**21 25 40.2**	**-0.5**
BANOM				S	**Sb**	**21 26 06.6**	**+1.3**
BANOM	**Banah**	**1.97**	**211**	P	**Pn**	**21 25 39.7**	**+1.5**
BANOM				S	**Sb**	**21 26 06.7**	**+1.4**
NGRK	**Negar Kerman**	**2.10**	**343**	Pn	**Pn**	**21 25 40.7**	**+0.4**
CHMN	**Cheshme madani**	**2.23**	**3**	Pn	**Pn**	**21 25 43.7**	**+1.6**
MASF	**Masafi**	**2.51**	**207**	S	**Sn**	**21 26 16.9**	**+0.5**
	SNR=6.6						
MSFE	**Esma-Masafi**	**2.52**	**207**	P	**Pn**	**21 25 47.7**	**+1.9**
MDH	**Madha**	**2.53**	**204**	P	**Pn**	**21 25 45.6**	**-0.2**
MDH	**Madha**	**2.53**	**204**	P	**Pn**	**21 25 45.6**	**-0.2**
KHGB	**Koh Gabri**	**2.86**	**343**	Pn	**Pn**	**21 25 52.0**	**+1.3**
KRM1	**Kerman Provinc**	**2.87**	**357**	Pn	**Pn**	**21 25 52.7**	**+1.9**
UOSS	**Minazif**	**2.88**	**203**	P	**Pn**	**21 25 53.3**	**+2.5**
ASHO	**Ashiyiah**	**3.17**	**203**	P	**Pn**	**21 25 56.6**	**+1.9**
HOQ	**Hoqain**	**4.03**	**181**	P	**Pn**	**21 26 06.0**	**-0.5**
	SNR=13						
HOQ				S	**Sn**	**21 26 51.2**	**-2.5**
ARQ	**Araqi**	**4.35**	**191**	P	**Pn**	**21 26 13.0**	**+2.2**
	SNR=12						
ARQ				S	**Sn**	**21 27 02.9**	**+1.3**
IMEH	**Mehriz**	**4.48**	**328**	Pn	**Pn**	**21 26 14.2**	**+1.3**
WSAR	**Wadi Sarin**	**4.50**	**166**	P	**Pn**	**21 26 13.3**	**+0.4**
WSAR				S	**Sn**	**21 27 03.7**	**-1.7**
GHWR	**Ruwais**	**5.49**	**229**	P	**Pn**	**21 26 25.7**	**-0.8**
GHWR				S	**Sn**	**21 27 26.5**	**-3.2**
JLN	**Jalan Bani Buh**	**5.74**	**161**	P	**Pn**	**21 26 30.0**	**-0.1**
	SNR=5.0						
JLN				S	**Sn**	**21 27 34.6**	**-1.4**
SHMA	**Al-Shehemyia**	**6.04**	**255**	P	**Pn**	**21 26 35.0**	**+0.9**
	SNR=18						
SHMA				S	**Sn**	**21 27 41.1**	**-2.1**
TRNA	**Turayna**	**6.28**	**244**	P	**Pn**	**21 26 37.1**	**-0.3**
	SNR=6.2						
TRNA				S	**Sn**	**21 27 46.5**	**-2.7**
SMRA	**Abu-Samra**	**6.59**	**246**	P	**Pn**	**21 26 41.2**	**-0.4**
SMRA				S	**Sn**	**21 27 54.0**	**-2.7**
MHTO	**MHTO**	**6.63**	**176**	P	**Pn**	**21 26 43.9**	**+1.7**
MHTO				S	**Sn**	**21 27 55.9**	**-2.0**

JMA ***16*** *21:42:15.4±0.1,36.°4N±0.°3×141.°1E±0.°8, h46km±1km, MV2.5/35, E OFF IBARAKI PREF*
IDC ***16*** *21:42:22.7±5.1,36.°16N×140.°25E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=114.6km s-min=25.8km az=35.0*

ISC 16 21:42:15.5±2.5, 36.°41N±0.°08×141.°1E±0.°1, h33km±3km, n13, σ0§76/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.42**	**261**	P	**Pb**	**21 42 25.1**	**+0.1**
JHYU				S	**Sb**	**21 42 31.6**	**+0.2**
JHO	**Hitachi**	**0.48**	**295**	P	**Pb**	**21 42 25.9**	**+0.1**
JHO				S	**Sb**	**21 42 32.7**	**-0.2**
JIHU	**Itakohorinouch**	**0.64**	**227**	*e*S	**Sb**	**21 42 37.5**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.74**	**340**	P	**Pn**	**21 42 29.2**	**-0.4**
ONAJ				S	**Sb**	**21 42 38.8**	**-1.1**
JYT	**Yasato**	**0.76**	**257**	*e*P	**Pn**	**21 42 29.1**	**-0.7**
JFK	**Kawauchi**	**0.98**	**349**	P	**Pn**	**21 42 32.4**	**-0.4**
JFK				S	**Sn**	**21 42 45.2**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.31**	**332**	P	**Pn**	**21 42 38.5**	**+1.0**
JOTO				S	**Sn**	**21 42 55.0**	**+1.3**
JAG	**Ashikaga**	**1.33**	**271**	P	**Pn**	**21 42 37.5**	**-0.2**
JMM	**Marumori**	**1.48**	**350**	P	**Pn**	**21 42 40.1**	**+0.4**
JMM				S	**Sn**	**21 42 58.0**	**+0.1**
JKT	**Katashina**	**1.54**	**284**	P	**Pn**	**21 42 41.4**	**+0.7**
MJAR	**Matsushiro Arr**	**2.34**	**274**	Pn	**Pn**	**21 42 52.4**	**+0.8**
	0.2nm,0.3s,baz=106,slow=9.1,SNR=11						
MJAR				Sn	**Sn**	**21 43 17.9**	**-1.3**
	0.1nm,0.3s,baz=50,slow=49,SNR=2.0						
WRA	**Warramunga Arr**	**56.41**	**188**	P	P	21 52 03.1	+9.5
	0.2nm,0.4s,baz=4.4,slow=7.3,SNR=5.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**60.13**	**188**	P	P	21 52 30.4	+11
	0.2nm,0.5s,baz=352,slow=8.7,SNR=2.0						
	0.2nm,0.5s						

NEIC ***16*** *22:10:49.7±1.2,41.°50N±0.°02×124.°09W±0.°05, h31km±6km, Error ellipse: s-maj=6.1km s-min=2.3km az=71.0*
SEA ***16*** *22:10:50.5±1.0,41.°52N±0.°02×124.°06W±0.°05, h32km±6km, Error ellipse: s-maj=5.3km s-min=2.7km az=75.0*

NCEDC 16 22:10:49.9±1.0, 41.°51N±0.°01×124.°08W±0.°05, h31km±6km, ML3.2/43, ML2.9/57(NEIC), ML3.2/4(SEA), Error ellipse: s-maj=5.3km s-min=1.8km az=89.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRMB	**Red Mountain**	**0.13**	**82**		Pb	22 10 55.7	0.0
KRMB					Sb	22 10 59.8	+0.1
KRPM	**Rodgers**	**0.35**	**173**		Pb	22 10 58.4	+0.2
KRPM					Sn	22 11 04.5	-0.4
KSXB	**Camp Six Broad**	**0.36**	**25**		Pb	22 10 58.2	-0.1
KSXB					Sb	22 11 04.1	0.0
SIGP	**Signal Peak, C**	**0.37**	**1**		Pb	22 10 58.4	0.0
SIGP					Sb	22 11 04.5	+0.3
KOMM	**Orleans Mounta**	**0.52**	**116**		Pb	22 11 00.8	+0.1
KOMM					Sb	22 11 08.6	+0.3
KTRM	**Thompson Ridge**	**0.66**	**52**		Pb	22 11 02.5	-0.6
KHMM	**Horse Mountain**	**0.68**	**157**		Pb	22 11 03.2	-0.3
KHMM				Sn	Sb	22 11 12.7	0.0
JCC	**Jacoby Creek,**	**0.69**	**177**		Pb	22 11 02.8	-0.6
JCC					Sb	22 11 11.9	-0.7
KBO	**Bosley Butte**	**0.71**	**351**		Pb	22 11 03.3	-0.7
KBO				Sn	Sb	22 11 12.9	-0.6
L02F	**Cave Junction**	**0.72**	**31**		Pn	22 11 03.2	-0.8
L02F				Sn	Sb	22 11 13.1	-0.5
L02F				IAML		22 11 14.1	
	comp=E,626nm,0.7s						
L02F				IAML		22 11 14.3	
	comp=N,684nm,0.3s						
DMOR	**Dinsmores, CA**	**0.84**	**160**		Pn	22 11 05.5	-0.3
M02C	**Callahan**	**0.93**	**97**		Pn	22 11 06.5	-0.3
M02C				Sn	Sn	22 11 18.6	-0.6
M02C				IAML		22 11 18.9	
	comp=N,314nm,0.4s						
M02C				IAML		22 11 19.4	
	comp=E,318nm,0.7s						
KCTM	**Capetown**	**1.05**	**191**		Pn	22 11 08.2	-0.3
YBH	**Yreka Blue Hor**	**1.05**	**77**		Pn	22 11 08.6	0.0
YBH				IAML		22 11 23.9	
	comp=N,224nm,0.5s						
KHBM	**Hayfork Bally**	**1.06**	**142**		Pn	22 11 08.5	-0.4
KHBM				IAML		22 11 25.1	
	comp=E,179nm,0.5s						
KMPM	**Mount Pierce**	**1.09**	**182**		Pn	22 11 08.6	-0.5
KMPM				IAML		22 11 23.6	
	comp=N,313nm,0.5s						
KMPM				IAML		22 11 23.0	
	comp=E,365nm,0.5s						
WEAV	**Weaverville**	**1.12**	**132**		Pn	22 11 09.1	-0.5
LBKM	**Bonanza King**	**1.15**	**111**		Pn	22 11 09.7	-0.2
N02D	**Trinity Center**	**1.16**	**117**		Pn	22 11 09.8	-0.3
K02D	**Willamette Mer**	**1.23**	**14**		Pn	22 11 10.9	-0.1
K02D				IAML		22 11 26.9	
	comp=N,255nm,0.3s						
K02D				IAML		22 11 28.1	
	comp=E,234nm,0.4s						
PETL	**Petrolia**	**1.23**	**189**		Pn	22 11 10.5	-0.5
LCSM	**College of the**	**1.27**	**93**		Pn	22 11 12.0	+0.4
B040	**Montague**	**1.28**	**75**		Pn	22 11 12.1	+0.3
KMRM	**Mail Ridge**	**1.31**	**168**		Pn	22 11 12.3	+0.1
KMRM				IAML		22 11 31.6	
	comp=E,150nm,0.8s						
KEBM	**Edson Butte**	**1.38**	**352**		Pn	22 11 12.6	-0.5
KEBM				IAML		22 11 31.7	
	comp=E,162nm,1.1s						
KEBM				IAML		22 11 32.8	
	comp=N,168nm,0.7s						
BRIC	**Briceland Vine**	**1.40**	**174**		Pn	22 11 13.3	0.0
BRIC				IAML		22 11 32.2	
	comp=N,253nm,0.5s						
BRIC				IAML		22 11 33.1	
	comp=E,209nm,0.3s						
LHEM	**Herd Peak**	**1.40**	**84**		Pn	22 11 14.2	+0.7
LGBM	**Gray Butte**	**1.43**	**96**		Pn	22 11 14.9	+1.0
LMPM	**Military Pass**	**1.44**	**90**		Pb	22 11 15.5	-0.7
L04D	**Klamath Falls**	**1.50**	**61**		Pn	22 11 16.0	+1.1
L04D				IAML		22 11 37.4	
	comp=N,133nm,0.5s						
L04D				IAML		22 11 48.9	
	comp=E,176nm,0.9s						
O02D	**Mt. Diablo Mer**	**1.65**	**143**		Pn	22 11 16.8	0.0
LBFM	**Black Fox Moun**	**1.65**	**95**		Pn	22 11 18.1	+1.2
J01E	**Myrtle Point**	**1.66**	**4**	Pn	Pn	22 11 17.1	+0.2
J01E				IAML		22 11 43.0	
	comp=E,159nm,0.3s						
J01E				IAML		22 11 43.2	
	comp=N,140nm,0.3s						
LGMM	**Garner Mountai**	**1.69**	**86**		Pn	22 11 18.4	+1.0
LSHM	**Sage Hen Hill**	**1.70**	**114**		Pn	22 11 17.9	+0.5
M04C	**Macdoel**	**1.70**	**80**		Pn	22 11 18.5	+1.0
BBOR	**Butler Butte**	**1.73**	**37**		Pn	22 11 18.5	+0.5
BBOR				IAML		22 11 41.7	
	comp=N,81nm,0.5s						
KBNM	**Bluenose Ridge**	**1.75**	**157**		Pn	22 11 18.5	+0.3
KCPM	**Cahto Peak**	**1.86**	**168**		Pn	22 11 19.6	-0.1
KCPM				IAML		22 11 43.7	
	comp=E,166nm,0.3s						
INGLE	**Inglenook, Smi**	**2.00**	**172**		Pn	22 11 20.9	-0.6
GVV	**Valley View**	**2.03**	**148**		Pn	22 11 22.3	+0.2
K04D	**Chiloquin, OR**	**2.06**	**56**		Pn	22 11 23.3	+0.8
K04D				IAML		22 12 13.1	
	comp=E,136nm,1.2s						
O03E	**Paynes Creek**	**2.11**	**124**		Pn	22 11 22.8	-0.3
O03E				IAML		22 12 06.0	
	comp=E,65nm,1.1s						
O03E				IAML		22 12 08.2	
	comp=N,68nm,0.7s						
DCMP	**DeCamp, Califo**	**2.11**	**164**	Pn	Pn	22 11 23.3	+0.2
GTC	**Three Chop Rid**	**2.14**	**169**		Pn	22 11 22.9	-0.6
I03D	**Drain, OR**	**2.25**	**14**	Pn	Pn	22 11 25.2	+0.2
I03D				IAML		22 12 13.9	
	comp=N,47nm,3.0s						
I03D				IAML		22 12 14.7	
	comp=E,47nm,1.4s						
GHOM	**Hamilton Openi**	**2.49**	**170**		Pn	22 11 27.5	-0.9
I04A	**Tendick Farm,**	**2.60**	**28**	Pn	Pn	22 11 30.8	+1.0
K05A	**Summer Lake**	**2.66**	**62**		Pn	22 11 31.2	+0.4
ORV	**Oroville**	**2.77**	**134**		Pn	22 11 32.6	+0.5
WIFE	**Three Sisters-**	**3.05**	**32**		Pn	22 11 36.9	+0.8
WIFE				IAML		22 11 58.5	
	comp=E,44nm,3.4s						
WIFE				IAML		22 12 36.7	
	comp=N,38nm,3.4s						
PPO	**Portuguese Can**	**6.25**	**153**		Pn	22 12 18.3	-1.7

NEIC ***16*** *22:37:40.2±0.5,36.°981N±0.°009×98.°05W±0.°01, h5km±2km, mb_Lg2.3/11, ML2.4/32, ML2.6/61, Error ellipse: s-maj=1.7km s-min=1.3km az=101.0*

NEIC 16 22:37:40.4±0.6, 36.°977N±0.°010×98.°04W±0.°01, h6km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.07**	**107**		Pg	22 37 42.4	+0.4
KAN14				Sg	Sg	22 37 43.7	+0.5
KAN14				IAML		22 37 44.1	
	comp=E,4μm,0.1s						
GC02	**Grant County #**	**0.19**	**130**		Pg	22 37 44.7	+0.5
GC02				Sg	Sg	22 37 47.7	+0.9
KAN08	**Anthony NE Sta**	**0.26**	**13**		Pg	22 37 45.9	+0.5
KAN08				Sg	Sg	22 37 49.5	+0.7
KAN01	**Argonia South**	**0.29**	**52**		Pg	22 37 46.4	+0.4
KAN01				Sg	Sg	22 37 50.6	+0.7
KAN13	**South Haven SW**	**0.46**	**85**		Pg	22 37 49.5	+0.4
KAN13					Sg	22 37 55.7	+0.6
CROK	**Carrier**	**0.47**	**174**		Pg	22 37 49.9	+0.4
CROK				Sg	Sg	22 37 56.6	+0.9
BLOK	**Blackwell**	**0.70**	**108**		Pg	22 37 54.0	+0.2
BLOK				Sg	Sg	22 38 03.6	+0.8
BLOK				IAML		22 38 05.7	
	comp=E,245nm,0.2s						
BLOK				IAML		22 38 06.8	
	comp=N,261nm,0.2s						
OK038	**West end E0370**	**0.75**	**229**		Pg	22 37 54.9	+0.2
OK038					Sg	22 38 05.2	+0.7
OK038				IAML		22 38 10.3	
	comp=N,301nm,0.3s						
NOKA	**Waynoka**	**0.79**	**245**		Pg	22 37 55.5	-0.1
NOKA					Sg	22 38 06.3	+0.5
NOKA				IAML		22 38 14.6	
	comp=N,200nm,0.2s						
OK048	**Pawnee Station**	**1.05**	**122**		Pg	22 38 00.2	-0.2
OK048				IAML		22 38 19.9	
	comp=N,135nm,0.2s						
OK048				IAML		22 38 20.0	
	comp=N,143nm,0.2s						
OK051	**E0350 and S346**	**1.08**	**116**		Pg	22 38 00.4	-0.6
T35A	**Sooner Cattle**	**1.23**	**92**		Pg	22 38 03.6	-0.4
T35A					Sg	22 38 19.6	-0.2
T35A				IAML		22 38 20.7	
	comp=N,134nm,0.1s						
OK029	**Liberty Lake**	**1.27**	**158**		Pn	22 38 03.9	-0.8
QUOK	**Quay**	**1.34**	**126**		Pn	22 38 05.5	-0.2
OK052	**Battle Ridge R**	**1.40**	**134**		Pn	22 38 06.5	+0.1
CSTR	**Hydro, Custer**	**1.43**	**202**		Pn	22 38 06.9	+0.1
R32A	**Long Quarter,**	**1.54**	**340**		Pn	22 38 08.8	+0.4
DEOK	**Depew**	**1.68**	**132**		Pb	22 38 11.1	-0.7
TUL3	**Leonard**	**2.10**	**120**	IAmb_Lg		22 38 47.8	
	comp=Z,16nm,0.8s						
CBKS	**Cedar Bluff**	**2.27**	**324**	IAmb_Lg		22 38 56.1	
	comp=Z,9.4nm,0.7s						
WMOK	**Wichita Mounta**	**2.31**	**195**		Pn	22 38 19.5	+0.5
X34A	**Smith Ranch, M**	**2.38**	**176**		Pn	22 38 20.8	+0.9
RLO	**Rose Lookout**	**2.56**	**108**		Pn	22 38 22.5	+0.1
SMWD	**Samnorwood**	**2.58**	**224**		Pn	22 38 22.9	+0.2
U38A	**Gravette**	**2.99**	**99**	Pn	Pn	22 38 29.2	+0.9
U38A				IAmb_Lg		22 39 22.5	
	comp=Z,4.0nm,0.7s						
AMTX	**Amarillo**	**3.62**	**236**	IAmb_Lg		22 39 43.7	
	comp=Z,8.0nm,0.9s						
N35A	**Tabor**	**4.31**	**25**	IAmb_Lg		22 40 05.6	
	comp=Z,24nm,0.7s						
MGMO	**Mountain Grove**	**4.62**	**86**	IAmb_Lg		22 40 17.5	
	comp=Z,5.9nm,0.9s						
CCM	**Cathedral Cave**	**5.51**	**77**	IAmb_Lg		22 40 46.2	
	comp=Z,8.1nm,1.2s						

IDC ***16*** *22:53:28.3±1.3,54.°39S×132.°76W, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/23, Error ellipse: s-maj=58.6km s-min=27.9km az=171.0*
GCMT ***16*** *22:53:35.0±0.3,54.°37S±0.°02×132.°54W±0.°03, h24km±2km, MW4.8/77, Moment Tensor Solution. s23,c25; s77,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.07±.14; Mθθ=0.91±.13; Mφφ=-0.83±.10; Mrθ=0.34±.17; Mφθ=1.59±.08; Mφr=0.62±.16; Best double couple: M0=1.94200×10^16 NP1:φs=105.00000°, δ70.00000°, λ3.00000°. NP2: φs=14.00000°, δ87.00000°, λ160.00000°. Principal axes: T 2.0310, Plg16.0000°, Azm328.0000°; N -0.1770, Plg69.0000°, Azm186.0000°; P -1.8540, Plg12.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 16 22:53:29.6±1.4, 54.°05±0.°3×132.°8W±0.°2, h10km, n36, σ2§23/6, mb3.8/6, MS3.7/23, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.93**	**42**	LR	LR	23 09 33.0	
	comp=Z,144nm,21.7s,baz=172,slow=30						
VNDA	**Vanda**	**32.71**	**201**	LR	LR	23 09 13.5	
	comp=Z,85nm,18.0s,baz=80,slow=29						
PMSA	**Palmer Station**	**34.81**	**136**	LR	LR	23 10 07.7	
	comp=Z,192nm,20.9s,baz=262,slow=29						
QSPA	**South Pole Qui**	**36.16**	**180**	P	**P**	**23 00 34.3**	**+2.4**
	1.3nm,0.9s,baz=98,slow=5.9,SNR=3.2						
QSPA				LR	LR	23 12 30.6	
	comp=Z,75nm,21.2s,baz=76,slow=32						
URZ	**Urewera**	**37.27**	**274**	LR	LR	23 12 39.4	
	comp=Z,56nm,18.1s,baz=86,slow=31						
PPT2	**Papeete2**	**38.61**	**334**	*e*S	S	23 06 35.6	-13
	116nm,31.8s						
PPT2				*e*LR	LR	23 11 00.6	
	284nm,26.2s						
PPT2				*e*LR	LR	23 11 10.2	
	262nm,28.8s						
PPT	**Papeete**	**38.63**	**334**	LR	LR	23 12 22.3	
	comp=Z,169nm,18.2s,baz=168,slow=29						
RAR	**Rarotonga**	**38.63**	**317**	LR	LR	23 15 18.7	
	comp=Z,90nm,18.1s,baz=98,slow=34						
H03S2	**Juan Fernandez**	**42.51**	**84**	T	T	23 47 00.6	
	baz=222,slow=74,SNR=97						
H03S1	**Juan Fernandez**	**42.52**	**84**	T	T	23 46 55.4	
	baz=222,slow=74,SNR=114						
H03S3	**Juan Fernandez**	**42.53**	**84**	T	T	23 47 07.2	
	baz=222,slow=74,SNR=77						
H03N3	**Juan Fernandez**	**42.78**	**84**	T	T	23 47 17.2	
	baz=226,slow=72,SNR=83						
H03N2	**Juan Fernandez**	**42.79**	**84**	T	T	23 47 09.3	
	baz=226,slow=72,SNR=127						
H03N1	**Juan Fernandez**	**42.80**	**84**	T	T	23 47 11.0	
	baz=226,slow=72,SNR=84						
TAOE	**Nuku Hiva Isla**	**45.42**	**350**	*e*LR	LR	23 14 26.6	
	252nm,25.5s						
SNAA	**Sanae**	**49.77**	**161**	P	**P**	**23 02 19.1**	**-2.7**
	1.1nm,1.0s,baz=28,slow=0.9,SNR=3.7						
SNAA				LR	LR	23 21 20.5	
	comp=Z,60nm,21.9s,baz=198,slow=34						
	1.1nm,1.0s						
NNA	**Nana**	**60.66**	**68**	LR	LR	23 23 21.1	
	comp=Z,88nm,21.1s,baz=225,slow=30						
CPUP	**Villa Florida**	**60.72**	**95**	LR	LR	23 26 09.0	
	comp=Z,18nm,18.8s,baz=80,slow=32						
LPAZ	**La Paz**	**62.12**	**79**	P	**P**	**23 03 52.5**	**+1.0**
	0.9nm,0.7s,baz=192,slow=9.3,SNR=2.1						
LPAZ				LR	LR	23 25 24.2	
	comp=Z,31nm,19.7s,baz=212,slow=31						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**62.44**	**253**	LR	LR	23 26 55.5	
	comp=Z,47nm,19.3s,baz=207,slow=32						
ATAH	**Atahualpa**	**63.86**	**64**	LR	LR	23 26 34.2	
	comp=Z,41nm,21.5s,baz=148,slow=31						
SIV	**San Ignacio**	**66.48**	**85**	P	**P**	**23 04 19.3**	**-0.1**
	0.6nm,0.5s,baz=193,slow=12,SNR=3.9						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**73.08**	**253**	P	**P**	**23 05 00.3**	**+0.3**
	0.7nm,0.7s,baz=142,slow=6.8,SNR=6.1						
ASAR				LR	LR	23 33 36.3	
	comp=Z,53nm,18.1s,baz=118,slow=33						
	0.7nm,0.7s						
JTS	**Las Juntas de**	**75.72**	**49**	LR	LR	23 30 47.1	
	comp=Z,54nm,20.9s,baz=200,slow=30						
WRA	**Warramunga Arr**	**75.77**	**256**	P	**P**	**23 05 14.7**	**-0.9**
	0.5nm,0.7s,baz=141,slow=5.8,SNR=2.8						
	0.5nm,0.7s				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRNS				S	Sn	22 54 24.1	+1.3
PRNS	**Prines Rethymn**	**0.75**	**329**	P	**Pb**	**22 54 12.9**	**+0.1**
SIT2	**Siteia**	**1.04**	**62**	P	**Pb**	**22 54 20.4**	**+2.7**
ZKR	**Zakros**	**1.09**	**69**	Pg	**Pb**	**22 54 18.9**	**+0.4**
ZKR	**Zakros**	**1.09**	**69**	P	**Pb**	**22 54 20.0**	**+1.5**
ZKR	**Zakros**	**1.09**	**69**	P	**Pb**	**22 54 20.0**	**+1.5**
CHAN	**Chania**	**1.11**	**316**	P	**Pn**	**22 54 18.2**	**+0.9**
THERA	**Ancient Thera,**	**1.69**	**14**	P	**Pn**	**22 54 25.4**	**0.0**
SNT5	**Nea Kammeni, S**	**1.71**	**11**	P	**Pn**	**22 54 25.8**	**+0.1**
SAP3	**Santorini-Thir**	**1.74**	**10**	P	**Pn**	**22 54 26.8**	**+0.8**
KARP	**Karpathos**	**1.97**	**65**	Pn	**Pb**	**22 54 31.9**	**-1.4**
YAZI	**Mula-Dat§a-**	**2.81**	**45**	P	**Pn**	**22 54 42.2**	**+1.5**
YAZI				S	**Sn**	**22 55 09.2**	**-4.3**
DAT	**Datca**	**2.91**	**46**	Pn	**Pn**	**22 54 45.6**	**+3.3**
ARG	**Arkhangelos**	**2.97**	**59**	Pn	**Pn**	**22 54 45.3**	**+2.3**
BODT	**Bodrum**	**3.01**	**38**	Pn	**Pn**	**22 54 46.9**	**+3.4**
TURN	**Turunc**	**3.35**	**51**	P	**Pn**	**22 54 49.6**	**+1.4**
TURN				S	**Sn**	**22 55 22.1**	**-4.9**
IZZE	**Mula-Seydike**	**3.86**	**62**	P	**Pn**	**22 54 54.9**	**-0.4**
IZZE				S	Sn	22 55 29.5	-10
SABU	**Mula-Dalaman**	**3.86**	**56**	P	**Pn**	**22 54 56.4**	**+1.1**
SABU				S	Sn	22 55 29.9	-10
AKAS	**Kas**	**4.07**	**67**	P	**Pn**	**22 54 59.3**	**+1.1**
AKAS				*i* IAML		22 56 14.0	
	comp=E,16nm,1.8s						
AKAS				*i* IAML		22 56 43.0	
	comp=N,23nm,1.3s						
ESEN	**Aydn-Nazilli**	**4.10**	**41**	P	**Pn**	**22 55 00.6**	**+2.0**
DNZT	**Denizli-Tavas-**	**4.16**	**51**	P	**Pn**	**22 55 00.8**	**+1.4**
DNZT				S	Sn	22 55 38.1	-8.8
KNIK	**Mula-Seydike**	**4.29**	**59**	P	**Pn**	**22 55 01.8**	**+0.5**
GOLH	**Golhisar**	**4.48**	**55**	P	**Pn**	**22 55 04.8**	**+0.9**
GOLH				*i* IAML		22 56 17.0	
	comp=E,6.0nm,1.1s						
GOLH				*i* IAML		22 56 29.0	
	comp=N,5.9nm,1.1s						
AKUM	**Antalya-Kumluc**	**4.66**	**68**	P	**Pn**	**22 55 05.4**	**-0.8**
AKUM				S	Sn	22 55 49.1	-10
AKUM				*i* IAML		22 56 39.0	
	comp=E,8.4nm,1.7s						
AKUM				*i* IAML		22 56 56.0	
	comp=N,7.2nm,2.0s						
GERES	**GERESS Array B**	**16.40**	**333**	Pn	**Pn**	**22 57 46.8**	**+0.9**
	baz=147,slow=13,SNR=5.3 0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.09**	**230**	P	**P**	**23 00 04.2**	**-0.5**
	0.4nm,0.6s,baz=35,slow=10,SNR=5.3 0.4nm,0.6s						
MKAR	**Makanchi Array**	**44.14**	**56**	P	**P**	**23 02 02.6**	**-1.0**
	0.3nm,0.5s,baz=277,slow=9.5,SNR=4.4 0.3nm,0.5s						

*ROM **16** 22:54:44.6±0.2, 45°.86N±0°.01×6°.99E±0°.01, h9km, ML1.8/17, Error ellipse: s-maj=1.3km s-min=1.1km az=199.0*
*GEN **16** 22:54:44.2, 45°.87N×6°.99E, h7km±1km, Ml1.8*
*LDG **16** 22:54:45.4±0.1, 45°.86N×6°.99E, h5km, Md1.8/2, Ml2.3/22, Error ellipse: s-maj=1.2km s-min=0.9km az=104.0*
*ZUR **16** 22:54:45.2, 45°.87N×6°.97E, h1km, MLh1.8/47, Error ellipse: s-maj=1257.1km s-min=538.3km az=45.0*
STR 16 22:54:45.4±0.2, 46°N±1°×°±°, h5km, MLv2.0/15, 43C-9D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**250**	⇓Pg	Pg	22 54 46.3	-0.6
BLANC				Sg	Sg	22 54 47.1	-1.0
BLANC	**P.ta Helbronne**	**0.04**	**250**	⇓Pg	Pg	22 54 46.3	-0.6
BLANC				Sg	Sg	22 54 47.1	-1.0
MRGE	**Morge**	**0.10**	**151**	P	Pg	22 54 47.7	+0.1
MRGE				S	Sg	22 54 49.7	+0.6
MRGE	**Morge**	**0.10**	**151**	P	Pg	22 54 47.7	+0.1
MRGE				S	Sg	22 54 49.6	+0.5
MRGE				AML	AML		
	comp=E,3870μm,0.3s						
MRGE				AML	AML		
	comp=N,3985μm,0.3s						
REMY	**Saint-Rhmy-en**	**0.12**	**100**	⇑Pg	Pg	22 54 48.3	+0.3
REMY				Sg	Sg	22 54 50.6	+1.0
REMY	**Saint-Rhmy-en**	**0.12**	**100**	⇑Pg	Pg	22 54 48.3	+0.3
REMY				Sg	Sg	22 54 50.5	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**100**	P	Pg	22 54 48.2	+0.3
REMY				S	Sg	22 54 50.5	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**100**	P	Pg	22 54 48.2	+0.3
REMY				S	Sg	22 54 50.5	+0.8
REMY				AML	AML		
	comp=N,1030μm,0.7s						
REMY				AML	AML		
	comp=N,1030μm,1.3s						
REMY				AML	AML		
	comp=E,738μm,0.5s						
REMY	**Saint-Rhmy-en**	**0.12**	**100**	Pg	Pg	22 54 48.3	+0.3
REMY				Sg	Sg	22 54 50.4	+0.8
MFERR	**Prayon, Val Fe**	**0.12**	**43**	⇑Pg	Pg	22 54 48.0	0.0
MFERR				Sg	Sg	22 54 50.1	+0.3
MFERR	**Prayon, Val Fe**	**0.12**	**43**	⇑Pg	Pg	22 54 48.0	0.0
MFERR				Sg	Sg	22 54 50.0	+0.2
SEMOS	**Emosson Stauma**	**0.21**	**349**	⇑Pg	Pg	22 54 49.4	-0.2
SEMOS	**Emosson Stauma**	**0.21**	**349**	⇑Pg	Pg	22 54 49.4	-0.2
SEMOS				Sg	Sg	22 54 52.1	-0.3
SMAO	**Martigny, Rue**	**0.25**	**14**	⇑Pg	Pg	22 54 50.2	0.0
SMAO	**Martigny, Rue**	**0.25**	**14**	⇑Pg	Pg	22 54 50.2	0.0
SMAO				Sg	Sg	22 54 53.5	0.0
OGSI	**Sixt**	**0.27**	**321**	⇑Pg	Pg	22 54 50.0	-0.5
OGSI				Sg	Sg	22 54 53.3	-0.8
OGSI	**Sixt**	**0.27**	**321**	⇑Pg	Pg	22 54 50.0	-0.5
OGSI				Sg	Sg	22 54 53.3	-0.8
OGSI	**Sixt**	**0.27**	**321**	Pg	Pg	22 54 50.0	-0.5
OGSI				Sg	Sg	22 54 53.3	-0.8
SALAN	**Lac Salanfe**	**0.28**	**357**	⇑Pg	Pg	22 54 50.8	-0.2
SALAN				Sg	Sg	22 54 54.5	-0.3
SALAN	**Lac Salanfe**	**0.28**	**357**	⇑Pg	Pg	22 54 50.8	-0.2
SALAN				Sg	Sg	22 54 54.5	-0.3
RSL	**Roselend**	**0.31**	**236**	⇑Pg	Pg	22 54 51.0	-0.4
RSL				Sg	Sg	22 54 54.7	-0.7
RSL	**Roselend**	**0.31**	**236**	⇑Pg	Pg	22 54 51.0	-0.4
RSL				Sg	Sg	22 54 54.7	-0.7
RSL	**Roselend**	**0.31**	**236**	P	Pg	22 54 51.0	-0.4
RSL				S	Sg	22 54 54.7	-0.7
RSL	**Roselend**	**0.31**	**236**	Pg	Pg	22 54 51.0	-0.4
RSL				Sg	Sg	22 54 54.8	-0.7
FULLY	**Reservoir Maze**	**0.31**	**19**	⇑Pg	Pg	22 54 51.4	-0.1
FULLY	**Reservoir Maze**	**0.31**	**19**	⇑Pg	Pg	22 54 51.4	-0.1
FULLY				Sg	Sg	22 54 55.5	-0.1
LAVEY	**Lavey les Bain**	**0.34**	**4**	⇑Pg	Pg	22 54 51.8	-0.2
LAVEY	**Lavey les Bain**	**0.34**	**4**	⇑Pg	Pg	22 54 51.8	-0.2
LAVEY				Sg	Sg	22 54 56.1	-0.4
ILLEZ	**Chalet Vouargn**	**0.36**	**354**	⇑Pg	Pg	22 54 52.2	-0.3
ILLEZ				Sg	Sg	22 54 56.8	-0.4
ILLEZ	**Chalet Vouargn**	**0.36**	**354**	⇑Pg	Pg	22 54 52.2	-0.3
ILLEZ				Sg	Sg	22 54 56.9	-0.4
DIX	**Grande Dixence**	**0.36**	**53**	⇑Pg	Pg	22 54 52.4	-0.1
DIX	**Grande Dixence**	**0.36**	**53**	⇑Pg	Pg	22 54 52.4	-0.1
DIX				Sg	Sg	22 54 57.7	+0.3
DIX	**Grande Dixence**	**0.36**	**53**	P	Pg	22 54 52.4	-0.1
DIX				S	Sg	22 54 57.8	+0.4
DIX	**Grande Dixence**	**0.36**	**53**	P	Pg	22 54 52.6	+0.1
DIX				S	Sg	22 54 57.6	+0.3
DIX				AML	AML		
	comp=E,266μm,1.2s						
DIX				AML	AML		
	comp=N,215μm,1.5s						
DIX				AML	AML		
	comp=N,215μm,1.5s						
DIX				AML	AML		
	comp=N,215μm,0.5s						
DIX	**Grande Dixence**	**0.36**	**53**	Pg	Pg	22 54 52.6	0.0
DIX				Sg	Sg	22 54 57.8	+0.4
RAW4	**Former Reservo**	**0.37**	**20**	⇑Pg	Pg	22 54 52.5	-0.1
RAW4	**Former Reservo**	**0.37**	**20**	⇑Pg	Pg	22 54 52.5	-0.1
RAW4				Sg	Sg	22 54 57.5	0.0
LPL	**La Plagne**	**0.39**	**208**	*e*Pg	Pg	22 54 52.5	-0.4
LPL				*e*Sg	Sg	22 54 58.5	+0.5
	comp=N,22nm,0.2s						
SARC	**Ardon Commune,**	**0.40**	**28**	Pg	Pg	22 54 53.1	0.0
SARC	**Ardon Commune,**	**0.40**	**28**	⇓Pg	Pg	22 54 53.1	+0.1
SARC				Sg	Sg	22 54 58.3	+0.1
LPG	**La Plagne**	**0.40**	**205**	*e*Pg	Pg	22 54 52.8	-0.3
LPG				*e*Sg	Sg	22 54 58.0	-0.4
	comp=N,28nm,0.2s						
GRYON	**Gryon**	**0.40**	**12**	⇑Pg	Pg	22 54 53.0	-0.2
GRYON				Sg	Sg	22 54 58.7	+0.3
GRYON	**Gryon**	**0.40**	**12**	⇑Pg	Pg	22 54 53.0	-0.2
GRYON				Sg	Sg	22 54 58.7	+0.3
VET02	**Vtroz, Route**	**0.41**	**29**	Pg	Pg	22 54 53.4	+0.2
VET02				Sg	Sg	22 54 59.2	+0.6
VET01	**Vtroz, Route**	**0.41**	**28**	⇑Pg	Pg	22 54 53.3	0.0
VET01	**Vtroz, Route**	**0.41**	**28**	⇑Pg	Pg	22 54 53.3	0.0
VET01				Sg	Sg	22 54 58.8	0.0
CON01	**Conthey, Agros**	**0.41**	**32**	Sg	Sg	22 54 59.8	+1.0
SHER	**Hrmence, R**	**0.43**	**41**	⇑Pg	Pg	22 54 53.7	0.0
SHER	**Hrmence, R**	**0.43**	**41**	⇑Pg	Pg	22 54 53.7	0.0
SHER				Sg	Sg	22 54 59.8	+0.4
SAIG	**Aigle Rue de l**	**0.46**	**358**	Pg	Pg	22 54 54.0	-0.2
SAIG	**Aigle Rue de l**	**0.46**	**358**	Pg	Pg	22 54 54.1	-0.1
SAIG				Sg	Sg	22 55 00.0	-0.2
CIRO	**Champorcher**	**0.48**	**122**	Pg	Pg	22 54 54.7	0.0
CIRO				Sg	Sg	22 55 01.1	+0.2
CIRO	**Champorcher**	**0.48**	**122**	⇓Pn	Pg	22 54 54.6	0.0
CIRO				Sg	Sg	22 55 01.1	+0.2
CIRO	**Champorcher**	**0.48**	**122**	P	Pg	22 54 54.6	0.0
CIRO				S	Sg	22 55 01.0	+0.2
CIRO	**Champorcher**	**0.48**	**122**	P	Pg	22 54 54.5	-0.1
CIRO				S	Sg	22 55 01.1	+0.2
CIRO				AML	AML		
	comp=N,190μm,0.7s						
CIRO				AML	AML		
	comp=N,191μm,0.7s						
CIRO				AML	AML		
	comp=E,115μm,0.9s						
CIRO	**Champorcher**	**0.48**	**122**	Pg	Pg	22 54 54.6	0.0
CIRO				Sg	Sg	22 55 01.1	+0.2
AIGLE	**Aigle**	**0.48**	**357**	⇑Pg	Pg	22 54 54.4	-0.2
AIGLE	**Aigle**	**0.48**	**357**	⇑Pg	Pg	22 54 54.4	-0.2
AIGLE				Sg	Sg	22 55 00.8	-0.2
AIGLE	**Aigle**	**0.48**	**357**	Pg	Pg	22 54 54.4	-0.2
AIGLE				Sg	Sg	22 55 00.9	-0.1
MH36	**Zermatt, Posit**	**0.49**	**75**	Pg	Pg	22 54 54.5	-0.4
MH44	**Zermatt, Posit**	**0.49**	**75**	Pg	Pg	22 54 54.4	-0.5
RAW2	**Sanetsch, VS**	**0.51**	**26**	⇑Pg	Pg	22 54 55.2	0.0
RAW2	**Sanetsch, VS**	**0.51**	**26**	⇑Pg	Pg	22 54 55.2	0.0
RAW2				Sg	Sg	22 55 02.4	+0.6
NVL3	**Port Valais, L**	**0.52**	**351**	⇑Pg	Pg	22 54 55.0	-0.4
NVL3	**Port Valais, L**	**0.52**	**351**	⇑Pg	Pg	22 54 55.0	-0.4
NVL3				Sg	Sg	22 55 01.8	-0.3
NVL1	**Lau de Morge,**	**0.53**	**343**	Pg	Pg	22 54 55.2	-0.2
NVL1	**Lau de Morge,**	**0.53**	**343**	⇑Pg	Pg	22 54 55.3	-0.2
NVL1				Sg	Sg	22 55 02.9	+0.6
SIE01	**Sierre, Farmho**	**0.54**	**40**	Pg	Pg	22 54 55.7	-0.1
SIE01	**Sierre, Farmho**	**0.54**	**40**	⇑Pg	Pg	22 54 55.8	0.0
SIE01				Sg	Sg	22 55 03.6	+0.8
SENIN	**Lac Senin/Sane**	**0.55**	**23**	⇑Pg	Pg	22 54 55.6	-0.3
SENIN	**Lac Senin/Sane**	**0.55**	**23**	⇑Pg	Pg	22 54 55.7	-0.2
SENIN				Sg	Sg	22 55 03.3	+0.2
SENIN	**Lac Senin/Sane**	**0.55**	**23**	P	Pg	22 54 55.7	-0.2
VANNI	**Vissoie, Val d**	**0.55**	**50**	Pg	Pg	22 54 55.9	-0.1
VANNI	**Vissoie, Val d**	**0.55**	**50**	⇓Pg	Pg	22 54 55.9	0.0
VANNI				Sg	Sg	22 55 03.3	+0.2
VANNI	**Vissoie, Val d**	**0.55**	**50**	P	Pg	22 54 55.9	-0.1
OG02	**Monnetier-Morn**	**0.61**	**299**	Pg	Pg	22 54 57.0	-0.1
OG02	**Monnetier-Morn**	**0.61**	**299**	Pn	Pg	22 54 57.0	-0.1
SATI	**Passo dei Sala**	**0.61**	**88**	P	Pg	22 54 56.9	-0.3
SATI				S	Sg	22 55 05.2	0.0
SATI	**Passo dei Sala**	**0.61**	**88**	P	Pg	22 54 57.0	-0.2
SATI				S	Sg	22 55 04.9	-0.3
SATI				AML	AML		
	comp=N,65μm,0.1s						
SATI				AML	AML		
	comp=E,49μm,1.1s						
SATI	**Passo dei Sala**	**0.61**	**88**	Pg	Pg	22 54 57.0	-0.2
SATI				Sg	Sg	22 55 05.3	+0.1
ILL12	**Sagenschleif I**	**0.62**	**46**	Pg	Pg	22 54 57.1	-0.2
ILL12	**Sagenschleif I**	**0.62**	**46**	⇓Pn	Pg	22 54 57.1	-0.2
ILL12				Pg	Pg	22 54 57.1	-0.2
TRAV	**Traversella**	**0.63**	**123**	⇓Pg	Pg	22 54 57.5	0.0
TRAV	**Traversella**	**0.63**	**123**	⇓Pg	Pg	22 54 57.5	0.0
TRAV				Sg	Sg	22 55 05.5	-0.2
TRAV	**Traversella**	**0.63**	**123**	P	Pg	22 54 57.5	-0.1
TRAV				S	Sg	22 55 05.6	-0.1
TRAV	**Traversella**	**0.63**	**123**	P	Pg	22 54 57.5	-0.1
TRAV				S	Sg	22 55 05.4	-0.3
TRAV				AML	AML		
	comp=E,102μm,0.4s						
TRAV				AML	AML		
	comp=N,190μm,0.3s						
TRAV	**Traversella**	**0.63**	**123**	Pg	Pg	22 54 57.5	0.0
RAW1	**Lenk, BE**	**0.64**	**29**	⇑Pg	Pg	22 54 57.4	-0.3
RAW1				Sg	Sg	22 55 06.0	-0.1
EMBD	**Embd, Matterta**	**0.69**	**58**	Pg	Pg	22 54 58.4	-0.2
EMBD	**Embd, Matterta**	**0.69**	**58**	Pg	Pg	22 54 58.4	-0.2
EMBD				Sg	Sg	22 55 07.1	-0.4
EMBD	**Embd, Matterta**	**0.69**	**58**	P	Pg	22 54 58.2	-0.3
EMBD				S	Sg	22 55 07.5	0.0
EMBD	**Embd, Matterta**	**0.69**	**58**	Pg	Pg	22 54 58.3	-0.3
EMBD				Sg	Sg	22 55 07.6	+0.1
OGMO	**Fort Saint-Gob**	**0.69**	**198**	Pg	Pg	22 54 58.4	-0.1
OGMO				Sg	Sg	22 55 07.9	+0.5
LKBD2	**Leukerbad 2**	**0.69**	**41**	Pg	Pg	22 54 58.4	-0.2
LKBD2	**Leukerbad 2**	**0.69**	**41**	⇓Pg	Pg	22 54 58.4	-0.2
MMK	**Mattmark**	**0.70**	**74**	P	Pg	22 54 58.9	0.0
MMK				S	Sg	22 55 08.2	+0.1
RSP	**Reno Superiore**	**0.74**	**165**	Pg	Pg	22 54 59.1	-0.4
RSP	**Reno Superiore**	**0.74**	**165**	Pg	Pg	22 54 59.1	-0.4
RSP	**Reno Superiore**	**0.74**	**165**	P	Pg	22 54 59.1	-0.4
RSP				S	Sg	22 55 08.4	-0.6
RSP	**Reno Superiore**	**0.74**	**165**	P	Pg	22 54 59.2	-0.3
RSP				AML	AML		
	comp=E,78μm,0.2s						
RSP				AML	AML		
	comp=N,107μm,0.2s						
RSP				AML	AML		
	comp=E,109μm,1.9s						
RSP				AML	AML		
	comp=E,109μm,0.1s						
RSP	**Reno Superiore**	**0.74**	**165**	Pg	Pg	22 54 59.2	-0.3
RSP				Sg	Sg	22 55 09.0	0.0
SAVIG	**Le Moulin, Sav**	**0.74**	**287**	⇑Pg	Pg	22 54 59.4	-0.2
SAVIG	**Le Moulin, Sav**	**0.74**	**287**	⇑Pg	Pg	22 54 59.4	-0.2
SAVIG				Sg	Sg	22 55 09.5	+0.4
OGMY	**Moye**	**0.77**	**272**	Pg	Pg	22 55 00.2	0.0
OGMY				Sg	Sg	22 55 10.4	+0.3
LAUCH	**Lauchernalp**	**0.78**	**44**	P	Pg	22 54 60.0	-0.3
SIMPL	**Simplonpass**	**0.81**	**62**	P	Pg	22 55 00.4	-0.5
BNI	**Bardonecchia**	**0.84**	**195**	P	Pg	22 55 00.8	-0.6
BNI				S	Sg	22 55 11.6	-0.6
GIMEL	**St. Georges /**	**0.84**	**324**	P	Pg	22 55 01.4	-0.1
GIMEL	**St. Georges /**	**0.84**	**324**	Pg	Pg	22 55 01.3	-0.2
GIMEL				Sg	Sg	22 55 12.8	+0.3
TORNY	**Torny/Romont**	**0.92**	**359**	Pg	Pg	22 55 03.0	0.0
TORNY				Sg	Sb	22 55 15.8	-0.5
OGSM	**Saint Maurice**	**0.94**	**255**	Pg	Pg	22 55 03.3	-0.1
OGSM				Sg	Sg	22 55 15.8	+0.2
RRL	**Rocca Remolon**	**0.95**	**189**	P	Pg	22 55 03.3	-0.5
RRL				S	Sg	22 55 15.2	-0.6
RRL	**Rocca Remolon**	**0.95**	**189**	P	Pg	22 55 03.0	-0.6
RRL	**Rocca Remolon**	**0.95**	**189**	Pg	Pg	22 55 03.0	-0.5
FIESA	**Fiescheralp**	**0.97**	**53**	P	Pg	22 55 03.6	-0.4
CABF	**La Chapelle**	**0.98**	**320**	*e*Pg	Pg	22 55 03.7	-0.5
CABF	**La Chapelle**	**0.98**	**320**	*e*P	Pn	22 55 05.8	-0.1
CABF				*e*Sg	Sg	22 55 16.0	-0.9
	comp=E,18nm,0.2s						
OG35	**Corcelles**	**1.01**	**281**	Pg	Pg	22 55 04.3	-0.4
BHB	**Bricherasio**	**1.03**	**169**	Pg	Pg	22 55 04.9	-0.3
BHB				S	Sg	22 55 17.6	-1.1
BHB	**Bricherasio**	**1.03**	**169**	P	Pg	22 55 04.8	-0.4
BHB				AML	AML		
	comp=E,33μm,0.4s						
BHB				AML	AML		
	comp=N,58μm,1.0s						
BHB	**Bricherasio**	**1.03**	**169**	Pg	Pg	22 55 04.9	-0.3
BHB				Sg	Sg	22 55 18.6	-0.1
GRN	**Grenoble**	**1.07**	**235**	Pg	Pg	22 55 05.8	-0.1
GRN				Sg	Sb	22 55 20.5	-0.3
BRANT	**Les Verrieres**	**1.14**	**342**	Pg	Pg	22 55 07.2	0.0
BRANT				Sg	Sb	22 55 22.8	+0.1
MBDF	**Montbardon**	**1.14**	**188**	*e*Pg	Pg	22 55 06.6	-0.7
MBDF				*e*Sg	Sg	22 55 21.2	-0.9
	comp=N,5.1nm,0.2s						
RIVEL	**MONT RIVEL**	**1.17**	**321**	Pg	Pg	22 55 07.2	-0.5
RIVEL				Sg	Sg	22 55 23.0	+0.2
ORIF	**Oris-en-Rattie**	**1.22**	**220**	*e*Pg	Pg	22 55 08.6	-0.2
ORIF				*e*Sg	Sg	22 55 23.0	-1.7
	comp=N,12nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.22**	**220**	Pg	Pg	22 55 08.6	-0.2
CREF	**Crivoux**	**1.33**	**191**	Pg	Pn	22 55 10.3	-0.5
CREF				Sg	Sn	22 55 29.0	0.0
PZZ	**Stroppo**	**1.35**	**176**	Pn	Pn	22 55 10.4	-0.7
SURF	**Saint Ours**	**1.38**	**185**	Pn	Pn	22 55 11.2	-0.3
SURF				Sn	Sn	22 55 30.1	-0.2
CHMF	**Charmoille**	**1.41**	**351**	Pn	Pn	22 55 11.7	-0.1
CHMF				Sn	Sb	22 55 30.6	+0.1
JAUF	**Jausiers**	**1.44**	**187**	Pn	Pn	22 55 12.1	-0.2
JAUF				Sn	Sg	22 55 31.7	+0.1
OGAG	**Argentiere**	**1.44**	**193**	Pg	Pn	22 55 06.3	-6.0
OGAG				Sg	Sb	22 55 22.2	-9.2
BOUC	**Bouclans**	**1.48**	**340**	Pn	Pn	22 55 12.5	-0.1
BOUC				Sn	Sb	22 55 32.6	+0.1
BOURR	**Bourrignon**	**1.54**	**6**	Pn	Pn	22 55 13.2	-0.4
BOURR				Sn	Sn	22 55 33.9	-0.1
BALST	**Balsthal**	**1.56**	**18**	Pn	Pn	22 55 13.5	-0.3
BALST				Sn	Sn	22 55 34.4	0.0
VIVF	**Saint-Julien-l**	**1.92**	**239**	*e*Pg	Pb	22 55 21.0	+0.2
VIVF				*e*Sg	Sb	22 55 45.5	+0.4
	comp=N,19nm,0.3s						
HINF	**Hinteralfeld**	**1.96**	**357**	*e*Pg	Pb	22 55 21.8	+0.2
HINF				*e*Sg	Sb	22 55 46.3	0.0
	comp=N,1.1nm,0.1s						
SBF	**Sospel**	**2.02**	**171**	*e*Pg	Pb	22 55 22.8	+0.2
SBF				*e*Sg	Sg	22 55 49.5	-0.8
	comp=N,17nm,0.5s						
SMRF	**Simiane la Rot**	**2.13**	**209**	*e*Pg	Pb	22 55 24.3	-0.2
SMRF				*e*Sg	Sg	22 55 53.2	-0.7
	comp=N,3.8nm,0.4s						
HAU	**Haudompre**	**2.19**	**349**	*e*Pn	Pn	22 55 21.9	-0.6
HAU	**Haudompre**	**2.19**	**349**	*e*Pg	Pg	22 55 26.6	-0.8
HAU				*e*Sn	Sn	22 55 47.0	-3.0
	comp=N,2.6nm,0.3s						
SMF	**Signal de Mont**	**2.32**	**291**	*e*Pg	Pg	22 55 28.8	-1.1
SMF				*e*Sg	Sb	22 55 57.6	+0.9
	comp=N,6.4nm,0.2s						
DAVA	**Damuels**	**2.45**	**53**	*e*Pg	Pg	22 55 33.9	+1.6
	comp=N,0.6nm,0.2s						
DAVA				*e*Sg	Sg	22 56 05.7	+1.6
	comp=N,4.4nm,0.4s						
LMR	**La Mourre**	**2.55**	**188**	*e*Pg	Pb	22 55 32.5	+1.0
LMR				*e*Sg	Sb	22 56 02.6	-0.6
	comp=N,0.9nm,0.3s						
CDF	**Champ du Feu**	**2.56**	**4**	*e*Pn	Pn	22 55 26.6	-1.0
CDF	**Champ du Feu**	**2.56**	**4**	*e*Pn	Pb	22 55 32.9	+1.1
CDF				*e*Sg	Sg	22 56 06.0	-1.6
	comp=N,1.0nm,0.3s						
LOR	**Lormes**	**2.58**	**304**	*e*Pn	Pn	22 55 27.9	+0.1
LOR	**Lormes**	**2.58**	**304**	*e*Pg	Pg	22 55 33.6	-1.2
	baz=122						
LOR				*e*Sn	Sn	22 55 56.9	-2.7
LOR				*e*Sg	Sb	22 56 04.6	+0.5
	comp=N,2.2nm,0.2s						
AVF	**Avril sur Loir**	**2.69**	**292**	*e*P	Pn	22 55 29.4	+0.1
AVF	**Avril sur Loir**	**2.69**	**292**	*e*Pg	Pg	22 55 35.5	-1.4
AVF				*e*Sg	Sb	22 56 08.5	+1.3
	comp=N,1.1nm,0.2s						
SSF	**Saint Saulge**	**2.69**	**298**	*e*Pn	Pn	22 55 29.9	+0.6
SSF	**Saint Saulge**	**2.69**	**298**	*e*Pg	Pb	22 55 35.4	+1.4
SSF				*e*Sn	Sn	22 55 59.5	-2.8
SSF				*e*Sg	Sb	22 56 08.7	+1.4
	comp=N,1.8nm,0.2s						
FETA	**Feichten**	**2.83**	**64**	Pg	Pb	22 55 37.2	+0.6
	comp=N,0.4nm,0.4s						
LASF	**Ste Croix**	**2.85**	**232**	*e*Pn	Pn	22 55 32.0	+0.5
LASF				*e*Sg	Sb	22 56 13.5	+1.6
	comp=N,0.8nm,0.2s						
**BGF

SNT5	Nea Kammeni, S	2.35	63	P		Pn	23 55 23.8	+1.4
SNT5	Nea Kammeni, S	2.35	63	P		Pn	23 55 21.9	-0.6
THERA	Ancient Thera,	2.40	64	P		Pn	23 55 24.8	+1.7
THERA	Ancient Thera,	2.40	64	P		Pn	23 55 22.5	-0.5
VLY	Voula,Athens	2.62	18	P		Pn	23 55 24.6	-1.5
LOUT	Loutraki	2.63	3	P		Pn	23 55 25.6	-0.7
LTK	Loutraki	2.67	3	P		Pn	23 55 26.1	-0.7
SIT2	Siteia	2.71	92	P		Pn	23 55 26.6	-0.7
ATH	Athens Observa	2.72	15	P		Pn	23 55 26.2	-1.2
MAGU	Magoula	2.78	12	P		Pn	23 55 27.5	-0.8
ZKR	Zakros	2.81	94	Pn		Pn	23 55 29.8	+1.1
ZKR	Zakros	2.81	94	P		Pn	23 55 28.1	-0.6
PTL	Penteli	2.83	17	P		Pn	23 55 28.2	-0.7
DION	Dionisos Attik	2.87	18	P		Pn	23 55 31.7	+2.1
DION	Dionisos Attik	2.87	18	P		Pn	23 55 28.7	-0.8
VIL2	Platees	2.88	7	P		Pn	23 55 28.7	-1.0
STFN	Stefani	2.88	12	P		Pn	23 55 28.9	-0.8
KARY	Karystos	2.98	26	P		Pn	23 55 30.2	-0.8
KARP	Karpathos	3.57	86	Pn		Pn	23 55 40.6	+1.5
CHOS	Chios island	4.00	40	Pn		Pn	23 55 46.6	+1.5
BODT	Bodrum	4.03	64	Pn		Pn	23 55 46.7	+1.2
DAT	Datca	4.11	69	Pn		Pn	23 55 48.1	+1.4
URLA	Izmir	4.28	44	Pn		Pn	23 55 50.2	+1.3
ARG	Arkhangelos	4.42	77	Pn		Pn	23 55 52.5	+1.7
TURN	Turunc	4.63	71	Pn		Pn	23 55 55.7	+1.9
DALY	Dalyan (Mula)	4.96	71	Pn		Pn	23 56 00.1	+1.8
CAME	Cameli-Denizli	5.50	71	Pn		Pn	23 56 07.9	+2.1
AKAS	Kas	5.60	79	Pn		Pn	23 56 09.4	+2.2
ELL	Elmali	5.93	74	Pn		Pn	23 56 13.9	+2.3
KORT	Korkueli	6.33	73	Pn		Pn	23 56 19.8	+2.7
BRTR	Keskin Array B	9.65	60	Pn		Pn	23 57 06.2	+3.5
	0.1nm,0.3s,baz=236,slow=13,SNR=9.6							
	1.7nm,0.8s							
MLR	Muntele Rosu	10.41	12	LR		LR	00 01 49.2	
	comp=Z,32nm,20.4s,baz=162,slow=41							
MMAI	Mount Meron Ar	10.70	99	Pn		Pn	23 57 15.4	-1.7
	0.1nm,0.3s,baz=306,slow=12,SNR=1.4							
	0.2nm,0.3s							
EIL	Elat	11.71	116	Pn		Pn	23 57 31.6	+0.6
	0.3nm,0.3s,baz=31,slow=5.9,SNR=1.9							
	1.9nm,0.5s							
KBZ	Khabaz	17.59	56	P		P	23 58 50.4	+0.5
	baz=273,slow=12,SNR=3.6							
	1.2nm,0.9s							
GNI	Garni	17.99	68	LR		LR	00 06 53.5	
	comp=Z,20nm,20.1s,baz=298,slow=41							
HFS	Hagfors	25.49	349	P		P	00 00 11.2	-0.7
	0.9nm,0.5s,baz=152,slow=13,SNR=4.9							
	0.9nm,0.5s							
FINES	FINESS Array B	26.20	4	P		P	00 00 17.5	-0.7
	4.5nm,1.1s,baz=179,slow=17,SNR=3.8							
	4.5nm,1.1s							
EKA	Eskdalemuir Ar	26.79	326	P		P	00 00 25.3	+1.6
	1.6nm,0.7s,baz=128,slow=8.9,SNR=2.8							
	1.6nm,0.7s							
TORD	Torodi Ar. Bea	29.18	226	P		P	00 00 45.7	+0.3
	0.5nm,0.7s,baz=34,slow=12,SNR=6.5							
	0.5nm,0.7s							
ARCES	ARCESS Array B	34.27	2	P		P	00 01 28.4	-1.3
	1.0nm,0.8s,baz=180,slow=8.9,SNR=1.9							
	1.0nm,0.8s							
KURBB	Kurchatov Arra	42.51	51	P		P	00 02 37.8	-1.3
	0.5nm,0.5s,baz=276,slow=8.7,SNR=12							
	0.5nm,0.5s							
MKAR	Makanchi Array	45.28	56	P		P	00 03 00.6	-0.9
	0.3nm,0.5s,baz=274,slow=7.4,SNR=5.8							
	0.3nm,0.5s							

NEIC ***16*** *23:59:52.5±1.3, 47°.7S±0°.1×9°.95W±0°.07, h10km±1km, mb5.0/48, Error ellipse: s-maj=20.0km s-min=8.8km az=176.0*

IDC ***16*** *23:59:53.2±0.6, 46°.83S×10°.36W, h0km, mb4.1/12, mbtmp4.1/12, MS4.1/35, Error ellipse: s-maj=20.0km s-min=16.9km az=52.0*

GCMT ***16*** *23:59:56.5±0.2, 47°.01S±0°.02×10°.21W±0°.03, h12km±1km, MW4.9/113, Moment Tensor Solution. s20,c22; s113,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.61±.14; $M_{\theta\theta}$1.70±.10; $M_{\phi\phi}$-0.09±.09; $M_{r\theta}$0.25±.22; $M_{\theta\phi}$-1.86±.07; $M_{r\phi}$0.81±.28; Best double couple: $M_0$2.58000×10^{16} NP1:ϕ_s270.00000°, δ54.00000°, λ-141.00000°. NP2:ϕ_s154.00000°, δ59.00000°, λ-43.00000°. Principal axes: T 2.8800, Plg3.0000°, Azm213.0000°; N -0.6020, Plg39.0000°, Azm305.0000°; P -2.2790, Plg51.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 23:59:54.7±0.5, 46°.89S±0°.10×10°.32W±0°.10, h10km, n109, σ1§31/69, mb4.8/31, MS4.2/37, 1C-4D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	23.85	178	⇓P	P	00 05 08.5	+0.8
VNA2	Neumayer--Watz	24.15	178	⇓P	P	00 05 10.6	+0.1
	baz=345,slow=7.7						
VNA3	Neumayer Olymp	24.43	179	⇑P	P	00 05 14.3	+1.2
SNAA	Sanae	25.11	174	⇓P	P	00 05 19.0	-0.3
SNAA	Sanae	25.11	174	P	P	00 05 06.0	-13
SNAA				IAmb	IAmb	00 05 27.6	
	comp=Z,92nm,1.7s						
SNAA	Sanae	25.11	174	P	P	00 05 19.9	+0.6
	comp=Z,8.9nm,0.9s,baz=340,slow=8.8,SNR=15						
SNAA				LR	LR	00 12 38.7	
	comp=Z,360nm,20.9s,baz=354,slow=30						
	comp=Z,8.9nm,0.9s						
TROLL	Troll, Antarti	25.90	171	⇓P	P	00 05 26.7	+0.1
	comp=Z,210nm,0.8s						
BELA	Belgrano 2	32.49	189		P	00 06 15.6	-9.3
BELA				IAmb	IAmb	00 06 31.6	
	comp=Z,14nm,1.1s						
WIN	Windhoek	32.81	52	P	P	00 06 26.6	-1.9
BOSA	Boshof	33.16	69	P	P	00 06 28.6	-2.8
BOSA				IAmb	IAmb	00 06 46.0	
	comp=Z,31nm,1.7s						
BOSA	Boshof	33.16	69	P	P	00 06 30.8	-0.5
	comp=Z,2.7nm,0.8s,baz=218,slow=12,SNR=4.4						
BOSA				LR	LR	00 17 49.8	
	comp=Z,383nm,18.0s,baz=228,slow=32						
	comp=Z,2.7nm,0.8s						
PMSA	Palmer Station	33.76	218	P	P	00 06 28.9	-7.1
PMSA				IAmb	IAmb	00 06 54.1	
	comp=Z,17nm,1.1s						
PMSA	Palmer Station	33.76	218	LR	LR	00 17 35.7	
	comp=Z,503nm,21.7s,baz=80,slow=32						
LKGWB	Lokgwabe	33.92	59	P	P	00 06 40.3	+2.3
KOOLE	Kule	34.20	56		P	00 06 40.9	+0.5
KOOLE				IAmb	IAmb	00 06 47.7	
	comp=Z,11nm,0.8s						
KGCAE	Kacgae	35.47	59	P	P	00 06 50.5	-0.9
KGCAE				IAmb	IAmb	00 06 55.2	
	comp=Z,38nm,1.4s						
TSUM	Tsumeb	35.83	49	P	P	00 06 54.8	+0.3
TSUM	Tsumeb	35.83	49	LR	LR	00 18 37.2	
	comp=Z,361nm,18.1s,baz=158,slow=31						
LBTB	Lobatse	35.91	65	P	P	00 06 52.6	-2.5
LBTB	Lobatse	35.91	65	LR	LR	00 19 41.4	
	comp=Z,288nm,18.1s,baz=220,slow=33						
KDWAN	Kaudwane	36.53	62	P	P	00 07 00.0	-0.5
KHWEE	KHWEE	38.09	62	P	P	00 07 12.3	-1.4
KHWEE				IAmb	IAmb	00 07 20.7	
	comp=Z,14nm,0.8s						
TRQA	Tornquist	38.50	264		P	00 07 16.7	-0.3
MATP	Matopo	41.09	63	LR	LR	00 22 10.6	
	comp=Z,256nm,20.2s,baz=222,slow=32						
H04S2	CROZET ISLANDS	41.52	114	T	T	00 52 33.1	
	baz=247,slow=75,SNR=54						
H04S3	CROZET ISLANDS	41.52	114	T	T	00 52 33.9	
	baz=247,slow=75,SNR=51						
H04S1	CROZET ISLANDS	41.53	114	T	T	00 52 33.4	
	baz=247,slow=75,SNR=59						
MAW	Mawson	41.56	146	P	P	00 07 41.2	-0.7
	comp=Z,6.0nm,1.1s,baz=282,slow=7.7,SNR=4.7						
MAW				LR	LR	00 21 41.1	
	comp=Z,57nm,20.6s,baz=278,slow=31						
	comp=Z,6.0nm,1.1s						
CPUP	Villa Florida	42.21	282	P	P	00 07 48.0	+0.2
CPUP	Villa Florida	42.21	282	P	P	00 07 48.1	+0.4
	comp=Z,1.2nm,0.8s,baz=318,slow=7.5,SNR=7.2						
CPUP				LR	LR	00 22 37.3	
	comp=Z,19nm,19.9s,baz=4.0,slow=32						
	comp=Z,1.2nm,0.8s						
LL02	Futaleuf	42.66	252		P	00 07 46.8	-4.5
LL02				IAmb	IAmb	00 07 53.2	
	comp=Z,32nm,1.1s						
PLCA	Paso Flores	42.96	255	P	P	00 07 51.7	-2.1
PLCA	Paso Flores	42.96	255	P	P	00 07 52.4	-1.4
	comp=Z,1.7nm,0.7s,baz=185,slow=10,SNR=4.6						
PLCA				LR	LR	00 23 06.4	
	comp=Z,92nm,20.8s,baz=122,slow=32						
	comp=Z,1.7nm,0.7s						
QSPA	South Pole Qui	43.37	180	P	P	00 07 44.9	-12
QSPA	South Pole Qui	43.37	180	P	P	00 07 59.0	+2.1
	comp=Z,1.8nm,0.5s,baz=259,slow=2.2,SNR=14						
QSPA				LR	LR	00 24 06.4	
	comp=Z,346nm,21.3s,baz=210,slow=34						
	comp=Z,1.8nm,0.5s						
BDFB	Brasilia	44.13	302	P	P	00 08 04.0	+0.6
BDFB				IAmb	IAmb	00 08 08.8	
	comp=Z,45nm,1.9s						
BDFB	Brasilia	44.13	302	P	P	00 08 03.8	+0.3
	comp=Z,3.3nm,0.6s,baz=134,slow=11,SNR=6.0						
BDFB				LR	LR	00 23 26.1	
	comp=Z,242nm,18.2s,baz=148,slow=32						
	comp=Z,3.3nm,0.6s						
BO02	Sierra Bellavi	46.24	262		P	00 08 18.6	-1.5
BO02				IAmb	IAmb	00 08 22.3	
	comp=Z,7.6nm,0.7s						
CFA	Coronel Fontan	46.34	268	P	P	00 08 20.2	-0.7
	comp=Z,6.3nm,0.9s,baz=130,slow=8.6,SNR=16						
	comp=Z,6.3nm,0.9s						
RCBR	Riachuelo	46.46	324	LR	LR	00 23 20.2	
	comp=Z,31nm,18.2s,baz=128,slow=30						
MT08	Bocatoma Ro	46.49	265	P	P	00 08 21.9	-0.3
MT08				IAmb	IAmb	00 08 25.3	
	comp=Z,7.8nm,0.9s						
BO04	La Punta	46.58	264	P	P	00 08 21.8	-0.9
BO04				IAmb	IAmb	00 08 24.4	
	comp=Z,13nm,1.1s						
BO01	Tunca	46.67	263		P	00 08 22.1	-1.3
BO01				IAmb	IAmb	00 08 25.0	
	comp=Z,18nm,0.9s						
ZON	Zonda	46.68	268	P	P	00 08 22.6	-1.0
ZON				IAmb	IAmb	00 08 25.3	
	comp=Z,8.3nm,0.9s						
BI05	Punta Hualpn	46.79	259	P	P	00 08 22.5	-1.7
MT09	Talagante	46.96	264		P	00 08 23.8	-2.0
MT01	Popeta	47.09	263	P	P	00 08 25.5	-1.2
PEL	Peldehue	47.12	264	P	P	00 08 25.3	-1.7
VA03	San Esteban	47.25	265	P	P	00 08 27.0	-1.0
VA03				IAmb	IAmb	00 08 40.9	
	comp=Z,19nm,1.1s						
VA06	Catapilco	47.87	265		P	00 08 31.8	-1.0
CO02	Combarbal	48.48	266		P	00 08 36.2	-1.4
CO02				IAmb	IAmb	00 08 40.0	
	comp=Z,22nm,1.1s						
CO01	Juntas del Tor	48.60	268		P	00 08 36.8	-1.9
CO01				IAmb	IAmb	00 08 42.1	
	comp=Z,18nm,0.9s						
GO04	Tololo Observa	48.96	268	P	P	00 08 40.1	-1.4
GO04				IAmb	IAmb	00 08 42.9	
	comp=Z,18nm,0.8s						
LCO	Las Campanas	49.61	269		P	00 08 45.7	-0.8
LCO				IAmb	IAmb	00 08 48.4	
	comp=Z,18nm,0.8s						
GO02	Mina Guanaco	51.30	273	P	P	00 08 59.5	+0.2
SIV	San Ignacio	51.94	289	P	P	00 09 03.0	-0.8
	comp=Z,2.1nm,0.8s,baz=134,slow=7.8,SNR=11						
SIV				LR	LR	00 28 34.1	
	comp=Z,104nm,18.6s,baz=117,slow=33						
	comp=Z,2.1nm,0.8s						
PB06	IPOC Station P	52.91	276	P	P	00 09 11.4	+0.3
PB09	IPOC Station P	53.30	277		P	00 09 14.4	+0.3
DBIC	Dimbokro	53.55	7	LR	LR	00 26 41.4	
	comp=Z,203nm,19.4s,baz=200,slow=30						
PB01	IPOC Station P	53.98	277	P	P	00 09 20.0	+1.1
PB11	IPOC Station P	54.97	278	P	P	00 09 26.4	+0.1
VNDA	Vanda	55.77	178	P	P	00 09 22.4	-8.7
VNDA	Vanda	55.77	178	P	P	00 09 32.4	+1.3
	comp=Z,0.7nm,0.8s,baz=178,slow=3.6,SNR=4.0						
VNDA				LR	LR	00 31 49.8	
	comp=Z,274nm,19.5s,baz=180,slow=34						
	comp=Z,0.7nm,0.8s						
PB16	IPOC Station P	55.86	280	P	P	00 09 33.6	+0.4
LPAZ	La Paz	56.38	283	P	P	00 09 38.0	+1.1
LPAZ	La Paz	56.38	283	LR	LR	00 33 06.8	
	comp=Z,56nm,19.3s,baz=106,slow=35						
MAL2	Monte Alegre,	58.69	306	P	P	00 09 54.3	+1.8
MAL2				IAmb	IAmb	00 09 55.3	
	comp=Z,13nm,1.0s						
TORD	Torodi Ar. Bea	60.73	13		P	00 10 07.7	+1.3
TORD	Torodi Ar. Bea	60.73	13	P	P	00 10 06.8	+0.5
	comp=Z,0.5nm,0.8s,baz=196,slow=6.4,SNR=7.0						
TORD				LR	LR	00 30 47.3	
	comp=Z,301nm,20.3s,baz=170,slow=31						
	comp=Z,0.5nm,0.8s						
KMBO	Kilima Mbogo	61.52	57	LR	LR	00 34 46.3	
	comp=Z,272nm,20.1s,baz=276,slow=34						
BOAV	Boa Vista	65.90	303	P	P	00 10 41.2	+0.5
BOAV				IAmb	IAmb	00 10 46.4	
	comp=Z,20nm,1.9s						
ATAH	Atahualpa	69.89	281	LR	LR	00 41 26.4	
	comp=Z,34nm,20.1s,baz=140,slow=36						
ATD	Arta Tunnel	75.02	54	LR	LR	00 43 02.1	
	comp=Z,11nm,20.9s,baz=190,slow=34						
BAUV	El Baul	75.56	300	P	P	00 11 39.6	0.0
BAUV				IAmb	IAmb	00 11 40.5	
	comp=Z,32nm,1.7s						
ROSC	El Rosal	76.20	293	LR	LR	00 43 23.8	
	comp=Z,85nm,19.8s,baz=97,slow=34						
RUSC	La Rusia	76.23	294	P	P	00 11 43.5	-0.5
RUSC				IAmb	IAmb	00 11 48.2	
	comp=Z,35nm,1.8s						
SDV	Santo Domingo	77.06	298	LR	LR	00 43 24.1	
	comp=Z,90nm,20.5s,baz=239,slow=34						
MDT	Midelt	79.50	5	LR	LR	00 44 01.2	
	comp=Z,274nm,18.0s,baz=189,slow=33						
MD01	Midelt array s	79.55	5	P	P	00 12 02.8	+1.2
SJG	San Juan	81.87	307	LR	LR	00 46 02.0	
	comp=Z,52nm,19.0s,baz=138,slow=34						
KEST	Kesra	84.13	16	LR	LR	00 47 45.4	
	comp=Z,152nm,18.2s,baz=22,slow=34						
H01W2	Cape Leeuwin H	84.51	137	T	T	01 46 52.1	
	baz=214,SNR=2.2						
H01W1	Cape Leeuwin H	84.53	137	T	T	01 46 53.6	
	baz=214,SNR=3.5						
H01W3	Cape Leeuwin H	84.53	137	T	T	01 46 53.0	
	baz=214						
RAYN	Ar Rayn	86.28	50	P	P	00 12 35.9	-0.7
ESDC	Sonseca Array	86.37	5	P	P	00 12 38.5	+1.9
	comp=Z,0.5nm,0.7s,baz=196,slow=4.5,SNR=4.5						
ESDC				LR	LR	00 47 16.7	
	comp=Z,88nm,20.1s,baz=167,slow=33						
	comp=Z,0.5nm,0.7s						
EIL	Elat	86.46	38	LR	LR	00 50 09.7	
	comp=Z,259nm,18.0s,baz=162,slow=35						
VAE	Valguarnera	86.87	19	LR	LR	00 48 16.6	
	comp=Z,201nm,19.6s,baz=174,slow=33						
JTS	Las Juntas de	87.15	288	LR	LR	00 50 39.6	
	comp=Z,34nm,19.0s,baz=79,slow=35						
ASF	Jabal al Asfar	89.46	38	LR	LR	00 51 27.2	
	comp=Z,136nm,18.0s,baz=211,slow=35						
MMAI	Mount Meron Ar	89.53	37	LR	LR	00 50 50.2	
	comp=Z,206nm,19.3s,baz=206,slow=34						
PALK	Pallekele	95.95	86	LR	LR	00 47 51.2	
	comp=Z,77nm,20.9s,baz=232,slow=30						
MLR	Muntele Rosu	97.37	25	LR	LR	00 55 02.4	
	comp=Z,86nm,20.6s,baz=206,slow=34						
STKA	Stephens Creek	97.60	156	LR	LR	00 55 03.7	
	comp=Z,68nm,18.2s,baz=203,slow=34						
GERES	GERESS Array B	97.62	16	LR	LR	00 54 29.8	
	comp=Z,131nm,19.7s,baz=262,slow=34						
VRAC	Vranov	98.62	17	LR	LR	00 55 54.2	
	comp=Z,116nm,18.8s,baz=204,slow=34						
GNI	Garni	99.57	40	LR	LR	00 58 46.9	
	comp=Z,111nm,18.0s,baz=210,slow=36						
PPT2	Papeete2	106.08	220	*e*SS	SS	00 33 22.8	-7.7
	comp=Z,88μm,34.2s						
PPT2				*e*SS	SS	00 33 28.1	-2.4
	comp=Z,32nm,24.0s						
PPT2	Papeete2	106.08	220	*e*LR	LR	00 48 40.7	
	comp=Z,154nm,23.5s						
PPT2				*e*LR	LR	00 48 41.3	
	comp=Z,172nm,23.5s						
TAOE	Nuku Hiva Isla	108.83	233	*e*LR	LR	00 50 14.9	
	comp=Z,126nm,30.7s						
KURBB	Kurchatov Arra	123.52	50	PKP	PKPdf	00 18 50.1	-1.2
	comp=Z,0.3nm,0.7s,baz=226,slow=2.0,SNR=3.3						
PDAR	Pinedale Array	124.99	297	PKP	PKPdf	00 18 53.4	-1.4
	comp=Z,0.4nm,0.8s,baz=258,slow=1.5,SNR=2.8						
F31M	Tsiigehtchic	144.80	326		PKPab	00 19 29.3	-0.1
G31M	Satah River	145.07	325		PKPdf	00 19 30.7	-0.1
H29M	Whitestone	146.79	324		PKPbc	00 19 35.4	-0.3
HYT	Haines Junctio	146.88	314		PKPab	00 19 36.9	-0.7
HILR	Hailar Array B	147.12	67	PKPbc	PKPbc	00 19 36.6	-0.6
	comp=Z,0.8nm,0.3s,baz=292,slow=3.9,SNR=4.5						
ILAR	Eielson Array	150.57	323		PKPbc	00 19 44.0	-1.5
ILAR	Eielson Array	150.57	323	PKPbc	PKPbc	00 19 44.4	-1.1
	comp=Z,1.4nm,0.7s,baz=28,slow=1.3,SNR=13						

ZUR 17 00:10:02.8, 46°.26N×7°.40E, h8km, MLh0.8/23, 11C-4D, Error ellipse: s-maj=971.8km s-min=464.1km az=63.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEO01	Saint Lonard,	0.02	120	Sg	Sg	00 10 05.6	+0.3
SAYF2	Ayent-Fortunoz	0.03	30	Sg	Sg	00 10 05.5	0.0
SIOO	Sion-Ophtalmol	0.03	197	⇑Pg	Pg	00 10 04.6	+0.2
SIOO				Sg	Sg	00 10 05.8	+0.4
SIOV	Sion-Valere	0.04	219	⇑Pg	Pg	00 10 04.4	+0.1
SIOV				Sg	Sg	00 10 05.4	-0.1
SIE01	Sierre, Farmho	0.07	84	Sg	Sg	00 10 06.7	+0.5
RAW2	Sanetsch, VS	0.08	313	⇓Pg	Pg	00 10 05.2	+0.2
RAW2				Sg	Sg	00 10 06.8	+0.1
SHER	Hrmence, R	0.08	180	Pg	Pg	00 10 05.2	+0.3
SHER				Sg	Sg	00 10 06.7	+0.2
STSW2	Zeuzier, Staus	0.09	18	Sg	Sg	00 10 06.9	+0.1
VET01	Vtroz, Route	0.10	246	⇑Pg	Pg	00 10 05.3	+0.2
VET01				Sg	Sg	00 10 06.8	0.0
VET02	Vtroz, Route	0.10	242	⇑Pg	Pg	00 10 05.4	+0.3
SARC	Ardon Commune,	0.11	241	⇑Pg	Pg	00 10 05.5	+0.2
SENIN	Lac Senin/Sane	0.12	326	⇓Pg	Pg	00 10 05.8	+0.2
SENIN				Sg	Sg	00 10 07.8	+0.2
VANNI	Vissoie, Val d	0.15	111	⇓Pg	Pg	00 10 06.4	+0.4
VANNI				Sg	Sg	00 10 08.6	+0.4
RAW1	Lenk, BE	0.16	10	Sg	Sg	00 10 08.9	+0.3
ILL12	Sagenschleif I	0.16	81	Sg	Sg	00 10 09.2	+0.6
DIX	Grande Dixence	0.18	177	Sg	Sg	00 10 09.5	+0.2
GRYON	Gryon	0.20	267	Pg	Pg	00 10 07.1	+0.3
GRYON				Sg	Sg	00 10 09.9	+0.3
LKBD2	Leukerbad 2	0.20	57	⇑Pg	Pg	00 10 07.3	+0.3
FULLY	Reservoir Maze	0.21	240	⇑Pg	Pg	00 10 07.2	+0.2
LAVEY	Lavey les Bain	0.27	257	⇑Pg	Pg	00 10 08.3	+0.2
LAVEY				Sg	Sg	00 10 11.8	+0.2
SALAN	Lac Salanfe	0.32	248	⇑Pg	Pg	00 10 09.3	+0.2
SALAN				Sg	Sg	00 10 13.7	+0.4
ILLEZ	Chalet Vouargn	0.32	262	⇓Pg	Pg	00 10 09.4	+0.3
ILLEZ				Sg	Sg	00 10 13.8	+0.4
MH44	Zermatt, Posit	0.34	146	⇑Pg	Pg	00 10 09.7	+0.1
MFERR	Prayon, Val Fe	0.37	212	Pg	Pg	00 10 10.0	0.0
JAUN	Jaun, Euschels	0.38	349	Sg	Sg	00 10 16.3	+1.1
SIMPL	Simplonpass	0.43	93	Sg	Sg	00 10 17.0	+0.1
OGSI	Sixt	0.49	246	Sg	Sg	00 10 19.0	+0.4
FIESA	Fiescheralp	0.52	71	⇑Pg	Pg	00 10 13.1	+0.1

ZUR 17 00:10:53.0, 46°.27N×7°.39E, h8km±1km, MLh0.4/3, 1C-2D, Error ellipse: s-maj=3147.4km s-min=1055.3km az=306.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAW2	Sanetsch, VS	0.07	312	⇓Pg	Pg	00 10 55.4	+0.1
VET01	Vtroz, Route	0.10	243	⇑Pg	Pg	00 10 55.4	+0.1
SENIN	Lac Senin/Sane	0.12	326	⇓Pg	Pg	00 10 56.0	+0.1

LDG ***17*** *00:10:54.5±0.1, 46°.24N×7°.40E, h8km, Md1.6/1, Ml1.4/2, Error ellipse: s-maj=1.6km s-min=1.4km az=88.0*

ZUR 17 00:10:54.2, 46°.27N×7°.39E, h8km±1km, MLh1.0/12, Error ellipse: s-maj=2512.6km s-min=798.8km az=181.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEO01	Saint Lonard,	0.03	118	Sg	Sg	00 10 57.2	+0.2
SAYF2	Ayent-Fortunoz	0.03	39	Sg	Sg	00 10 57.1	-0.1
SIOO	Sion-Ophtalmol	0.03	188	Sg	Sg	00 10 57.4	+0.4
SIOV	Sion-Valere	0.03	211	Sg	Sg	00 10 56.9	-0.1
RAW2	Sanetsch, VS	0.07	314	Sg	Sg	00 10 58.3	+0.2
SIE01	Sierre, Farmho	0.07	86	Sg	Sg	00 10 58.3	+0.5
SHER	Hrmence, R	0.08	177	Sg	Sg	00 10 58.3	+0.2
STSW2	Zeuzier, Staus	0.09	21	Sg	Sg	00 10 58.4	+0.1
VET01	Vtroz, Route	0.09	243	Sg	Sg	00 10 58.3	+0.1
VET02	Vtroz, Route	0.09	240	Sg	Sg	00 10 58.9	+0.7
SIEB	Ecole de Borzu	0.10	73	Sg	Sg	00 10 58.9	+0.3
SENIN	Lac Senin/Sane	0.12	328	Sg	Sg	00 10 59.3	+0.2
VANNI	Vissoie, Val d	0.15	111	Sg	Sg	00 11 00.3	+0.4
RAW1	Lenk, BE	0.16	12	Sg	Sg	00 11 00.5	+0.4
DIX	Grande Dixence	0.18	176	S

0.8nm,1.0s,baz=119,slow=5.2,SNR=3.6
0.8nm,1.0s
VNDA Vanda 75.83 175 P P 00 28 28.0 -0.3
0.6nm,0.7s,baz=326,slow=7.4,SNR=4.1
VNDA LR LR 01 02 02.0
comp=Z,48nm,18.8s,baz=12,slow=36
0.6nm,0.7s
ILAR Eielson Array 85.91 24 P P 00 29 24.4 +2.0
0.5nm,0.7s,baz=252,slow=4.0,SNR=4.8
0.5nm,0.7s
ARTI Arti 86.73 327 LR LR 01 09 16.3
comp=Z,24nm,19.1s,baz=222,slow=36

IDC 17 00:21:42.6±13.0, 14°.50S×166°.32E, h0km, mb4.0/4, mbtmp4.0/5, Error ellipse: s-maj=233.5km s-min=36.9km az=61.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.54**	**179**	Pn	Pn	00 23 33.5	-0.4
4.2nm,0.3s,baz=284,slow=4.2							
DZM				Sn	Sn	00 24 58.8	-1.4
baz=323,slow=20							
STKA	**Stephens Creek**	**28.45**	**228**	P	P	00 27 40.9	+1.4
1.5nm,0.4s,baz=37,slow=8.0,SNR=4.7							
1.5nm,0.4s							
WRA	**Warramunga Arr**	**31.00**	**255**	P	P	00 28 01.7	-0.4
0.6nm,0.6s,baz=84,slow=9.7,SNR=4.9							
0.6nm,0.6s							
ASAR	**Alice Springs**	**31.90**	**248**	P	P	00 28 09.7	-0.4
0.9nm,0.5s,baz=77,slow=8.9,SNR=15							
0.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**39.16**	**259**	P	P	00 29 12.2	-0.2
2.4nm,0.9s,baz=47,slow=5.6,SNR=1.9							
2.4nm,0.9s							

KRSC 17 00:33:19.7±3.8, 49°.89N×156°.14E, h82km±29km, MI4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.79**	**359**	*eP*	Pn	00 33 37.6	+1.2
SKR				*eS*	Sn	00 33 50.2	+1.3
PAU	**Pauzhetka**	**1.63**	**15**	*eP*	Pn	00 33 48.4	+1.6
PAU				*eS*	Sn	00 34 09.3	+2.0
MIPR	**Malaya Ipel'ka**	**2.42**	**9**	*eP*	Pn	00 33 58.4	+1.2
ASAK	**Asacha**	**2.73**	**23**	*eP*	Pn	00 34 04.2	+2.8
MTVR	**Mutnovka**	**2.90**	**26**	*eP*	Pn	00 34 06.6	+2.9
GRL	**Gorelyy**	**2.93**	**24**	*eP*	Pn	00 34 07.0	+2.9
RUS	**Russkaya**	**2.95**	**30**	*eP*	Pn	00 34 06.1	+1.8
KRMR	**Karymshinskiy**	**3.19**	**22**	*eP*	Pn	00 34 11.5	+3.9
SMAR	**Somma**	**3.76**	**25**	*eP*	Pn	00 34 18.7	+3.2
SDLR	**Sedlovina**	**3.80**	**26**	*eP*	Pn	00 34 18.8	+2.8
KRX	**Arik**	**3.81**	**23**	*eP*	Pn	00 34 19.6	+3.6
NLC	**Nalytchevo**	**3.84**	**30**	*eP*	Pn	00 34 17.7	+1.2
GNL	**Ganaly**	**3.97**	**16**	*eP*	Pn	00 34 21.0	+2.8
SPN	**Mys Shipunski**	**4.02**	**36**	*eP*	Pn	00 34 21.1	+2.2
KZV	**Kizimen**	**5.81**	**24**	*eP*	Pn	00 34 47.9	+4.5

IDC 17 00:35:33.9±1.9, 0°.90N×124°.65E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=127.3km s-min=26.7km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91**	**177**	P	P	00 39 55.0	-1.3
0.2nm,0.3s,baz=7.4,slow=11,SNR=2.3							
0.7nm,0.3s							
WRA	**Warramunga Arr**	**22.79**	**156**	P	P	00 40 38.8	+0.4
3.0nm,0.5s,baz=336,slow=10,SNR=36							
3.0nm,0.5s							
ASAR	**Alice Springs**	**26.03**	**160**	P	P	00 41 09.0	0.0
0.3nm,0.4s,baz=342,slow=12,SNR=5.6							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**58.74**	**327**	P	P	00 45 33.9	+0.2
0.3nm,0.6s,baz=111,slow=7.9,SNR=2.3							
0.3nm,0.6s							

IDC 17 00:38:26.8±2.8, 32°.73N×140°.64E, h56km±23km, mb3.3/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=41.3km s-min=17.0km az=87.0
JMA 17 00:38:27.6±0.2, 32°.9N±0°.6×14°1E±°, h61km, MV3.4/29, E OFF HACHIJOJIMA ISLAND
ISC 17 00:38:26.7±1.6, 32°.85N±0°.06×140°.8E±0°.1, h60km±14km, n18, σ1°17/28, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.84**	**289**	P	**Pn**	**00 38 43.3**	**+0.6**
JHJ2				S	**Sn**	**00 38 54.2**	**-0.2**
JHCJ	**Hachijojimakas**	**0.85**	**286**	*eP*	**Pn**	**00 38 43.2**	**+0.5**
JHCJ				*eS*	**Sn**	**00 38 53.9**	**-0.7**
JHJ	**Hachijo jima 2**	**0.87**	**288**	P	**Pn**	**00 38 43.3**	**+0.3**
170nm,0.3s,baz=109,slow=21,SNR=53							
JHJ				S	**Sn**	**00 38 53.8**	**-1.3**
566nm,0.2s,baz=73,slow=19,SNR=5.6							
JAOM	**Aogashimamukai**	**0.93**	**246**	P	**Pn**	**00 38 44.7**	**+0.9**
JAOM				S	**Sn**	**00 38 56.9**	**+0.4**
JMKN	**Mikurajimanish**	**1.44**	**317**	P	**Pn**	**00 38 50.8**	**+0.3**
JMKN				S	**Sn**	**00 39 06.9**	**-1.5**
JMYK	**Miyake Tsubota**	**1.59**	**320**	*eP*	**Pn**	**00 38 53.5**	**+1.0**
JMYK				*eS*	**Sn**	**00 39 12.0**	**0.0**
BSO1	**Boso 1**	**1.81**	**5**	*eP*	**Pn**	**00 38 55.4**	**+0.3**
BSO2	**Boso 2**	**1.90**	**360**	*eS*	**Sn**	**00 39 19.9**	**+0.7**
BSO3	**Boso 3**	**1.96**	**354**	P	**Pn**	**00 38 58.2**	**+0.8**
BSO3				*eS*	**Sn**	**00 39 21.0**	**+0.2**
JIM2	**Oshima 3**	**2.18**	**330**	P	**Pn**	**00 39 00.9**	**+0.4**
JIM2				S	**Sn**	**00 39 25.0**	**-1.4**
JIZS	**Izushimoda**	**2.44**	**320**	P	**Pn**	**00 39 05.4**	**+1.2**
TK02	**Tokai 2**	**2.75**	**294**	*eP*	**Pn**	**00 39 09.9**	**+1.8**
JOD2	**Odawara 2**	**2.79**	**330**	P	**Pn**	**00 39 09.5**	**+0.6**
JOD2				*eS*	**Sn**	**00 39 39.2**	**-2.1**
JYN	**Shimob**	**3.23**	**326**	*eP*	**Pn**	**00 39 17.0**	**+2.1**
MJAR	**Matsushiro Arr**	**4.25**	**331**	P	**Pn**	**00 39 28.1**	**-0.8**
0.2nm,0.3s,baz=162,slow=14,SNR=3.5							
MJAR				S	**Sn**	**00 40 19.8**	**+2.6**
2.5nm,0.5s,baz=336,slow=18,SNR=5.0							
3.5nm,0.6s							
MKAR	**Makanchi Array**	**46.01**	**305**	P	**P**	**00 46 43.9**	**-0.2**
0.5nm,0.8s,baz=74,slow=11,SNR=2.1							
0.5nm,0.8s							
WRA	**Warramunga Arr**	**52.85**	**188**	P	**P**	**00 47 35.7**	**-0.6**
0.4nm,0.3s,baz=3.7,slow=7.4,SNR=6.3							
0.4nm,0.3s							
ASAR	**Alice Springs**	**56.58**	**188**	P	**P**	**00 48 02.8**	**-0.5**
0.3nm,0.6s,baz=360,slow=6.4,SNR=4.3							
0.3nm,0.6s							

RSNC 17 00:46:07.5±0.4, 2°N±2°×7°9W±°, h5km, M2.7, mb3.6, ML2.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**1.46**	**160**	P	Pn	00 46 33.8	-0.9
PAC1				S	Sb	00 46 53.9	-0.4
CUSE	**Cuicocha Este**	**1.60**	**146**	P	Pn	00 46 37.2	+0.3
CUSE				S	Sn	00 46 57.6	-0.7
CMBC	**Cumbal**	**1.62**	**116**	P	Pn	00 46 36.3	-0.9
CMBC				S	Sn	00 46 56.9	-1.9
OTAV	**Otavalo**	**1.64**	**149**	P	Pn	00 46 36.9	-0.5
OTAV				S	Sn	00 46 57.8	-1.2
GR1C	**Gorgona, Isla**	**1.75**	**40**	P	Pn	00 46 34.6	-3.9
GR1C				S	Sg	00 47 04.0	+0.2
TULM	**Tulcn-Chalpat**	**1.77**	**122**	P	Pn	00 46 38.5	-0.7
TULM				S	Sn	00 47 01.4	-0.9
GCUF	**Volcan Galeras**	**1.99**	**102**	P	Pn	00 46 42.0	-0.3
GCUF				S	Sn	00 47 07.1	-0.7
BONI	**La Bonita**	**2.12**	**124**	P	Pb	00 46 46.1	-0.6
BONI				S	Sb	00 47 13.8	+0.3
CRUC	**La Cruz**	**2.34**	**92**	P	Pn	00 46 47.3	+0.3
CRUC				S	Sn	00 47 17.0	+0.7
POPC	**Popayan, Colom**	**2.76**	**71**	P	Pn	00 46 50.8	-1.8
POPC				S	Sn	00 47 26.9	+0.4
FLOC	**Florencia**	**3.64**	**91**	P	Pn	00 47 05.2	+0.7
FLOC				S	Sn	00 47 49.7	+1.8
YOTC	**Yotoco, Valle**	**3.75**	**52**	P	Pn	00 47 01.5	-4.6
YOTC				S	Sn	00 47 50.2	-0.5
COHC	**Cochancay**	**4.09**	**180**	P	Pn	00 47 10.2	-0.5
COHC				S	Sn	00 48 01.3	+2.3
ORTC	**Ortega, Tolima**	**4.62**	**61**	P	Pn	00 47 17.7	-0.4
ORTC				S	Sn	00 48 14.2	+2.0
PRAC	**Prado**	**4.85**	**65**	P	Pn	00 47 22.4	+1.1
PRAC				S	Sn	00 48 21.4	+3.4
GUY2C	**Guyana, Caldas**	**5.29**	**48**	P	Pn	00 47 26.4	-1.2
3.5nm,0.6s							
GUY2C				S	Sn	00 48 32.6	+3.4
3.5nm,0.6s							
CBOC	**Ciudad Bolivar**	**5.31**	**38**	P	Pn	00 47 25.8	-1.9
4.8nm,0.7s							
CBOC				S	Sn	00 48 35.2	+5.7
4.8nm,0.7s							
MACC	**Macarena, Meta**	**5.46**	**85**	P	Pn	00 47 29.1	-0.5

IDC 17 00:48:41.9±1.4, 4°.44N×51°.89E, h0km, mb3.7/8, mbtmp3.7/9, ML3.8/1, MS3.1/2, Error ellipse: s-maj=34.6km s-min=24.3km az=167.0
OMAN 17 00:48:48.5±0.1, 14°.69N×51°.80E, h129km±1km, mb3.2/5, ml3.8/6, Error ellipse: s-maj=2.4km s-min=1.0km az=324.0
ISC 17 00:48:45.1±0.9, 14°.63N±0°.08×51°.79E±0°.07, h15km, n28, σ1°65/40, mb3.8/7, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.07**	**28**	P	**Pn**	**00 49 33.8**	**+0.6**
SNR=14							
ABTO				S	**Sn**	**00 50 11.8**	**+2.2**
SNR=8.9							
RBK	**Rabkut**	**3.68**	**39**	P	**Pn**	**00 49 42.6**	**+1.1**
SNR=45							
RBK				S	**Sn**	**00 50 26.6**	**+1.9**
SNR=6.1							
WHFO	**Wadi Hawf**	**3.78**	**30**	P	**Pn**	**00 49 43.8**	**+0.8**
SNR=249							
WHFO				S	**Sn**	**00 50 29.6**	**+2.4**
DMTO	**DMTO**	**4.31**	**44**	P	**Pn**	**00 49 50.5**	**+0.3**
SNR=5.4							
DMTO				S	**Sn**	**00 50 43.0**	**+2.8**
DOK	**Doka**	**4.55**	**29**	P	**Pn**	**00 49 54.3**	**+0.8**
SNR=90							
DOK				S	**Sn**	**00 50 47.5**	**+1.3**
SHAO	**Shalim**	**4.99**	**47**	P	**Pn**	**00 50 00.0**	**+0.5**
SNR=16							
DQM	**DQM**	**7.61**	**45**	P	**Pn**	**00 50 36.2**	**+0.7**
DQM				S	**Sn**	**00 52 01.0**	**-0.5**
MZR	**Muzera**	**8.48**	**11**	P	**Pn**	**00 50 48.4**	**+0.9**
SNR=9.7							
MZR				S	**Sn**	**00 52 23.1**	**+0.2**
SNR=6.7							
MHTO	**MHTO**	**8.63**	**42**	P	**Pn**	**00 50 49.8**	**+0.2**
MHTO				S	**Sn**	**00 52 24.9**	**-1.8**
ATD	**Arta Tunnel**	**9.24**	**252**	Pn	**Pn**	**00 50 58.7**	**+0.7**
0.9nm,0.3s,baz=358,slow=3.5,SNR=39							
2.2nm,0.3s							
ATD	**Arta Tunnel**	**9.24**	**252**	P	**Pn**	**00 50 59.0**	**+1.0**
ARQ	**Araqi**	**9.74**	**27**	P	**Pn**	**00 51 05.6**	**+0.7**
ARQ				S	**Sn**	**00 52 50.9**	**-3.2**
SNR=5.9							
JMDO	**Jabal Madar**	**9.75**	**37**	P	**Pn**	**00 51 04.8**	**-0.1**
JMDO				S	**Sn**	**00 52 53.4**	**-0.8**
SMRA	**Abu-Samra**	**10.10**	**355**	P	**Pn**	**00 51 09.9**	**+0.2**
SMRA				S	**Sn**	**00 53 00.1**	**-2.7**
SMDO	**Samad**	**10.26**	**34**	P	**Pn**	**00 51 11.3**	**-0.7**
SMDO				S	**Sn**	**00 53 03.0**	**-3.9**
JLN	**Jalan Bani Buh**	**10.40**	**43**	P	**Pn**	**00 51 14.1**	**+0.3**
JLN				S	**Sn**	**00 53 08.9**	**-1.3**
ASUD	**Al Ashush, Dub**	**10.48**	**18**	P	**Pn**	**00 51 15.8**	**+0.9**
ASUD				S	**Sn**	**00 53 07.9**	**-4.2**
BANOM	**Banah**	**12.00**	**20**	P	**Pn**	**00 51 36.2**	**+0.5**
EIL	**Elat**	**21.57**	**317**	LR	LR	01 02 13.1	
comp=Z,88nm,18.3s,baz=152,slow=37							
KBZ	**Khabaz**	**29.98**	**347**	P	**P**	**00 54 55.1**	**+2.2**
1.1nm,0.7s,baz=187,slow=8.1,SNR=4.1							
1.1nm,0.7s							
MKAR	**Makanchi Array**	**40.94**	**32**	P	**P**	**00 56 26.7**	**-0.3**
0.4nm,0.5s,baz=211,slow=7.9,SNR=4.7							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**41.91**	**25**	P	**P**	**00 56 35.9**	**+0.9**
0.2nm,0.3s,baz=216,slow=7.9,SNR=1.9							
0.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**45.27**	**78**	P	**P**	**00 57 01.4**	**-1.1**
0.8nm,0.4s,baz=265,slow=8.2,SNR=5.6							
0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**46.98**	**26**	P	**P**	**00 57 14.2**	**-1.3**
0.3nm,0.3s,baz=226,slow=8.3,SNR=3.7							
0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**48.58**	**275**	P	**P**	**00 57 27.0**	**-1.4**
0.2nm,0.6s,baz=80,slow=8.4,SNR=2.3							
0.2nm,0.6s							
FINES	**FINESS Array B**	**50.27**	**344**	P	**P**	**00 57 41.5**	**+0.9**
2.7nm,0.8s,baz=152,slow=6.3,SNR=5.5							
2.7nm,0.8s							
NOA	**NORSAR Array B**	**54.75**	**337**	LR	LR	01 26 27.4	
comp=Z,10nm,18.4s,baz=285,slow=41							
WRA	**Warramunga Arr**	**88.11**	**111**	P	**P**	**01 01 34.6**	**-1.2**
0.1nm,0.5s,baz=294,slow=3.7,SNR=1.7							
0.1nm,0.5s							

IDC 17 01:11:33.3±1.5, 24°.99N×109°.46W, h0km, mbtmp3.2/3, ML3.9/3, Error ellipse: s-maj=38.2km s-min=10.4km az=131.0
MEX 17 01:11:37.2±0.4, 25°.23N×109°.82W, h15km±7km, MD4.1
ISC 17 01:11:34.6±1.6, 25°.08N±0°.05×109°.66W±0°.06, h17km±13km, n14, σ1°63/23, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.76**	**47**	*eP*	**Pb**	**01 11 50.0**	**+0.6**
TSIG				*eS*	**Sb**	**01 11 60.0**	**+0.4**
LPIG	**La Paz**	**1.14**	**211**	Pg	**Pg**	**01 11 56.3**	**-0.2**
27nm,0.3s,baz=31,slow=12,SNR=8.3							
LPIG				Lg	Lg	01 12 11.0	
80nm,0.3s,baz=215,slow=16,SNR=7.0							
LPIG	**La Paz**	**1.14**	**211**	*eP*	**Pb**	**01 11 55.6**	**-0.2**
LPIG				*eS*	**Sb**	**01 12 10.4**	**+0.1**
SLBS	**Sierra La Lagu**	**1.41**	**191**	*eP*	**Pg**	**01 12 01.0**	**-0.8**
SLBS				*eS*	**Sb**	**01 12 18.6**	**+0.2**
CSIG	**Choix**	**2.09**	**33**	*eP*	**Pn**	**01 12 07.2**	**-1.7**
CSIG				*eS*	**Sn**	**01 12 32.2**	**-2.4**
SSIG	**Sanalona**	**2.31**	**96**	*eP*	**Pn**	**01 12 13.0**	**+1.2**
SSIG				*eS*	**Sb**	**01 12 42.7**	**-1.3**
GUYB	**Guaymas**	**3.01**	**339**	*eP*	Pn	01 12 16.0	-5.4
GUYB				*eS*	Sn	01 12 47.0	-10
MAIG	**Mazatlaan**	**3.51**	**122**	*eP*	**Pn**	**01 12 28.3**	**-0.1**
PDIG	**Papasquiaro**	**3.87**	**90**	*eP*	**Pn**	**01 12 37.1**	**+3.6**
PDIG				*eS*	**Sn**	**01 13 14.7**	**-4.1**
HPIG		**4.04**	**62**	*eP*	**Pn**	**01 12 37.4**	**+1.5**
HPIG				*eS*	**Sn**	**01 13 23.1**	**+0.2**
BCIG	**La Boquilla**	**4.54**	**56**	*eP*	**Pn**	**01 12 42.8**	**+0.2**
BCIG				*eS*	**Sn**	**01 13 36.0**	**+0.9**
TXAR	**Lajitas Array**	**6.81**	**50**	Pn	**Pn**	**01 13 14.4**	**+0.5**
0.3nm,0.3s,baz=230,slow=13,SNR=15							
TXAR				Pg	**Pb**	**01 13 32.4**	**-0.2**
0.3nm,0.3s,baz=235,slow=15,SNR=4.1							
TXAR				Sn	**Sn**	**01 14 29.9**	**-1.2**
1.7nm,0.3s,baz=235,slow=25,SNR=4.8							
TXAR				Lg	Lg	01 15 03.8	
0.4nm,0.3s,baz=227,slow=29,SNR=2.0							
0.5nm,0.3s							
NVAR	**Mina Array Bea**	**15.19**	**333**	Pn	**P**	**01 15 14.8**	**+1.3**
0.1nm,0.3s,baz=170,slow=10,SNR=5.0							
0.2nm,0.4s							
PDAR	**Pinedale Array**	**17.64**	**0**	P	**P**	**01 15 42.0**	**+1.3**
0.2nm,0.3s,baz=182,slow=12,SNR=4.9							
0.3nm,0.4s							

IDC 17 01:11:44.1±7.2, 17°.29S×178°.83W, h610km±95km, mb3.0/7, mbtmp3.9/7, Error ellipse: s-maj=115.5km s-min=28.2km az=158.0
ISC 17 01:11:38.1±2.0, 17°.0S±0°.7×178°.8W±0°.4, h533km, n9, σ0°64/8, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**01 19 02.1**	**+0.2**
2.9nm,1.0s,baz=94,slow=8.3,SNR=13							
2.9nm,1.0s							
ASAR	**Alice Springs**	**44.66**	**253**	P	**P**	**01 19 03.9**	**+0.1**
3.0nm,0.6s,baz=85,slow=8.6,SNR=32							
3.0nm,0.6s							
NVAR	**Mina Array Bea**	**79.05**	**44**	P	**P**	**01 22 48.4**	**+0.9**
0.7nm,0.7s,baz=224,slow=6.5,SNR=7.0							
0.7nm,0.7s							
ELK	**Elko**	**82.27**	**43**	P	**P**	**01 23 03.8**	**-0.4**
0.6nm,0.7s,baz=256,slow=3.9,SNR=3.6							
0.6nm,0.7s							
ILAR	**Eielson Array**	**85.09**	**13**	P	**P**	**01 23 17.4**	**+0.2**
0.2nm,0.4s,baz=224,slow=5.2,SNR=4.3							
0.2nm,0.4s							
TXAR	**Lajitas Array**	**85.84**	**58**	P	**P**	**01 23 21.9**	**+0.1**
1.0nm,0.8s,baz=204,slow=5.5,SNR=9.7							
1.0nm,0.8s							
PDAR	**Pinedale Array**	**86.97**	**44**	P	**P**	**01 23 26.6**	**-0.5**
0.4nm,0.5s,baz=204,slow=4.2,SNR=3.9							
0.4nm,0.5s							
BRTR	**Keskin Array B**	**143.86**	**315**	PKP	PKPbc	01 30 10.3	-2.0
1.0nm,0.9s,baz=128,slow=3.6,SNR=5.3							
GERES	**GERESS Array B**	**146.63**	**345**	PKPbc	**PKPbc**	**01 30 19.3**	**-0.8**
0.8nm,0.6s,baz=27,slow=3.3,SNR=6.5							

BJI 17 01:28:51.4, 4°.66N×126°.16E, h88km, mB4.9/19, mb4.9/62, Ms4.3/29, Ms7 4.0/34
MAN 17 01:28:53.0, 4°.92N×126°.29E, h75km, mb5.7, ML4.7, MS5.0
MOS 17 01:28:53.8±1.3, 5°.27N×125°.98E, h77km, mb5.2/40, Error ellipse: s-maj=9.0km s-min=4.5km az=114.0
NEIC 17 01:28:55.7, 5°.18N×126°.16E, h80km
NEIC 17 01:28:55.7, 5°.28N×126°.26E, h80km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}3.34; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-3.31; $M_{r\theta}$-1.53; $M_{\theta\phi}$1.79; $M_{\phi r}$-0.20; Fault plane solution: $M_0$4.08000×10^{16} NP1: ϕ_s178.72000°, δ46.59000°, λ124.34000°. NP2: ϕ_s313.89000°, δ53.14000°, λ59.19000°. Principal axes: T 4.0368, Plg66.0000°, Azm163.0000°; N 0.0856, Plg24.0000°, Azm334.0000°; P -4.1225, Plg4.0000°, Azm65.0000°;
GCMT 17 01:28:56.7±0.2, 5°.21N±0°.01×126°.30E±0°.01, h87km±1km, MW5.0/126, Moment Tensor Solution. s86,c112; s126,c207; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.71±.09; $M_{\theta\theta}$0.37±.10; $M_{\phi\phi}$-3.08±.10; $M_{r\theta}$-2.71±.06; $M_{\theta\phi}$2.47±.09; $M_{\phi r}$-0.73±.07; Best double couple: $M_0$4.71400×10^{16} NP1:ϕ_s184.00000°, δ52.00000°, λ143.00000°. NP2:ϕ_s299.00000°, δ62.00000°, λ45.00000°. Principal axes: T 4.9990, Plg51.0000°, Azm157.0000°; N -0.5700, Plg39.0000°, Azm325.0000°; P -4.4290, Plg6.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 17 01:28:56.3±1.9, 5°.19N±0°.06×126°.14E±0°.06, h75km±4km, mb5.2/190, Mww5.0/23 Error ellipse: s-maj=9.3km s-min=8.1km az=79.0
IDC 17 01:28:57.4±1.0, 5°.19N×125°.98E, h91km±8km, mb4.5/37, mbtmp4.9/40, MS3.7/40, Error ellipse: s-maj=14.5km s-min=7.0km az=75.0
DJA 17 01:28:58.3±0.2, 5°N±2°×12°6E±°, h104km±2km, M5.2/69, mB5.7/48, mb5.4/69, MLv5.9/14, Mw5.2/23, Mw(mB)5.2/48, MwMwp4.7/6, Mwp5.0/6
ISC 17 01:28:56.2±0.3, 5°.26N±0°.03×126°.21E±0°.04, h81km±2km, h82km:pP-P, n791, σ1°58/761, mb5.1/214, 16C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.70**	**204**	P	**Pn**	**01 29 26.0**	**+1.8**
SGSI				S	**Sn**	**01 29 49.4**	**+4.0**
DAV	**Davao City (W)**	**1.91**	**341**		**Pn**	**01 29 28.8**	**+1.8**
DAV	**Davao City (W)**	**1.91**	**341**	P	**Pn**	**01 29 29.7**	**+2.8**
2μm,0.8s,baz=127,slow=1.8,SNR=58							
DAV				S	**Sn**	**01 29 52.1**	**+1.7**
2μm,0.4s,baz=97,slow=14,SNR=6.4							
DAV				LR	LR	01 30 11.7	
comp=Z,3μm,19.0s,baz=108,slow=39							
DAV	**Davao City (W)**	**1.91**	**341**	P	**Pn**	**01 29 29.5**	**+2.6**
DAV	**Davao City (W)**	**1.91**	**341**	P	**Pn**	**01 29 28.0**	**+1.1**
TNTI	**Ternate**	**4.60**	**165**		**Pn**	**01 30 02.1**	**-1.3**
TNTI	**Ternate**	**4.60**	**165**	P	**Pn**	**01 30 03.9**	**+0.5**
TNTI	**Ternate**	**4.60**	**165**	P	**Pn**	**01 30 03.9**	**+0.5**
TNTI				S	**Sn**	**01 30 55.2**	**-0.4**
KMSI	**Cibinong**	**5.16**	**206**	P	**Pn**	**01 30 13.5**	**+2.6**
KMSI				S	**Sn**	**01 31 10.5**	**+1.4**
MRSI	**Marisa**	**6.38**	**222**	P	**Pn**	**01 30 29.8**	**+2.2**
MRSI				S	**Sn**	**01 31 39.8**	**+0.7**
TOLI2	**Tolitoli**	**6.80**	**233**		**Pn**	**01 30 32.6**	**-0.8**
TOLI2	**Tolitoli**	**6.80**	**233**	P	**Pn**	**01 30 33.3**	**-0.1**
LUWI	**Luwuk**	**7.14**	**209**		**Pn**	**01 30 39.2**	**+1.2**
LUWI	**Luwuk**	**7.14**	**209**	P	**Pn**	**01 30 40.8**	**+2.8**
LUWI	**Luwuk**	**7.14**	**209**	S	**Sn**	**01 32 04.0**	**+6.4**
LUWI	**Luwuk**	**7.14**	**209**	P	Pn	01 30 42.7	+4.7
LUWI				S	**Sn**	**01 31 59.2**	**+1.6**
SANI	**Sanana**	**7.26**	**182**	P	**Pn**	**01 30 37.1**	**-2.6**
SANI	**Sanana**	**7.26**	**182**	P	**Pn**	**01 30 37.2**	**-2.5**
2.0nm9μm419nm,0.7s							
APSI	**Ampana**	**7.63**	**217**	P	Pn	01 30 49.5	+4.8
MYLDM	**Lahad Datu**	**7.68**	**270**		**Pn**	**01 30 47.4**	**+2.0**
MYLDM	**Lahad Datu**	**7.68**	**270**	P	Pn	01 30 50.2	+4.9
MYLDM	**Lahad Datu**	**7.68**	**270**	S	**Sn**	**01 32 15.8**	**+5.0**
SWI	**Sorong**	**7.90**	**140**	P	**Pn**	**01 30 48.8**	**+0.4**
1.3nm3μm222nm,0.6s							
SWI				S	**Sn**	**01 32 14.0**	**-2.2**
1.3nm3μm222nm,0.6s							
SWI	**Sorong**	**7.90**	**140**	P	**Pn**	**01 30 48.5**	**+0.1**
NLAI	**Namlea**	**8.48**	**174**	P	**Pn**	**01 30 55.0**	**-1.4**
MSAI	**Masohi**	**8.97**	**162**	P	**Pn**	**01 31 02.9**	**-0.1**
9μm457nm,0.7s							
AAI	**Ambon**	**9.10**	**167**	P	**Pn**	**01 31 04.7**	**-0.1**
7μm471nm,0.9s							
FAKI	**Fak Fak**	**10.12**	**143**		**Pn**	**01 31

SOEI	Soe	15.04	187	P	Pn	01 32 23.2	-1.2
	3µm349nm,1.0s						
BATI	Baumata	15.57	189	P	Pn	01 32 31.1	0.0
	213nm,0.8s,baz=237,slow=0.8,SNR=28						
BATI				S	Sn	01 35 26.6	+3.6
	25nm,0.3s,baz=0.0,slow=8.1,SNR=1.7						
BATI				LR	LR	01 38 45.3	
	comp=Z,476nm,21.4s,baz=344,slow=38						
BATI	Baumata	15.57	189	P	Pn	01 32 31.6	+0.5
	2µm4µm455nm,0.9s						
WSI	Waingapu	15.95	202	P	Pn	01 32 34.9	-1.0
	362nm,1.0s						
GENI	Genyem	15.98	119	P	Pn	01 32 34.5	-1.7
WBSI	Waikabubak, Su	16.28	205	P	Pn	01 32 39.4	-0.7
	2µm259nm,0.8s						
KSM	Kuching	16.31	257		Pn	01 32 40.3	-0.1
KSM	Kuching	16.31	257	P	P	01 32 44.8	+2.9
PLAI	Plampang	16.32	211	P	Pn	01 32 40.2	-0.3
PLAI	Plampang	16.32	211	P	Pn	01 32 40.6	+0.1
	2µm296nm,0.8s						
BASI	Baing, Sumba	16.36	200	P	Pn	01 32 39.2	-1.8
	3µm280nm,0.7s						
JAY	Jayapura	16.41	118	P	P	01 32 44.2	+1.1
	23nm,0.7s,baz=268,slow=2.9,SNR=8.3						
JAY				LR	LR	01 39 10.5	
	comp=Z,167nm,18.8s,baz=232,slow=37						
TWSI	Taliwang, Sumb	16.73	214	P	P	01 32 47.2	+0.7
	3µm369nm,0.9s						
SRBI	Singaraja	17.20	220	P	P	01 32 51.8	0.0
	2µm162nm,1.1s						
KMMI	Kalianget	17.28	225	P	P	01 32 53.3	+0.6
	103nm,0.8s						
DNP	Denpasar	17.66	218	P	Pn	01 32 57.2	+0.2
	386nm,1.0s						
AUDHS	Darwin High Sc	18.17	165	P	P	01 33 01.7	-0.7
JAGI	Jajag, Banyuwa	18.18	221	P	P	01 33 02.2	-0.4
JAGI	Jajag, Banyuwa	18.18	221	P	Pn	01 33 06.2	+2.9
JAGI	Jajag, Banyuwa	18.18	221	P	P	01 33 02.4	-0.2
	90nm,0.9s						
DRS	Darwin Rock St	18.18	165	P	P	01 33 01.6	-0.9
MTN	Manton Dam	18.64	165	P	P	01 33 07.0	-0.5
	comp=Z,99nm,0.7s						
MTN	Manton Dam	18.64	165	P	P	01 33 06.1	-1.5
TPUB	Ta-pu	18.73	344	P	P	01 33 08.3	-0.3
TPUB	Ta-pu	18.73	344	P	Pn	01 33 12.0	+2.1
KDU	Kakadu	18.88	161	P	P	01 33 09.6	-0.6
	comp=Z,73nm,0.8s						
SMRI	Semarang	19.93	232	P	P	01 33 21.4	-0.3
SMRI	Semarang	19.93	232	P	Pn	01 33 24.8	+0.8
SMRI	Semarang	19.93	232	P	P	01 33 21.9	+0.2
	comp=Z,10µmcomp=Z,173nm,1.0s						
GUMO	Guam	20.17	64	P	Pn	01 33 26.6	-0.2
	comp=Z,64nm,0.3s,baz=12,slow=20,SNR=5.0						
GUMO				LR	LR	01 40 16.9	
	comp=Z,229nm,20.0s,baz=254,slow=33						
	comp=Z,64nm,0.3s						
TPI	Tanjungpandan	20.17	247	P	P	01 33 24.9	+0.6
	comp=Z,1µmcomp=Z,97nm,1.2s						
HKPS	Hong Kong Po S	20.56	327	P	P	01 33 28.8	+0.4
QZH	Quanzhou	20.90	340	eP	P	01 33 32.0	0.0
KNRA	Kununurra	20.95	173	P	P	01 33 32.0	-0.7
	comp=Z,209nm,0.8s						
KNRA	Kununurra	20.95	173	P	P	01 33 31.6	-1.1
QIZ	Qiongzhong	21.03	312	P	P	01 33 40.8	+7.3
QIZ				pP	pwP	01 33 50.9	-0.6
QIZ				sP	sP	01 33 56.6	-2.9
QIZ				S	S	01 37 25.3	+2.0
QIZ				sS	sS	01 37 51.8	+2.9
QIZ				LR	LR		
	comp=Z,360nm,15.7s						
KPJI	Karang Pucung	21.30	234	P	P	01 33 36.6	+0.2
	comp=Z,117nm,1.0s						
PPBI	Pangkal Pinang	21.36	250	P	P	01 33 38.5	+1.4
JOW	Kunigami	21.55	5	LR	LR	01 41 11.7	
	comp=Z,150nm,21.5s,baz=26,slow=34						
LEM	Lembang	22.10	237	P	P	01 33 46.9	+1.7
	comp=Z,34nm,0.7s,baz=101,slow=7.6,SNR=5.5						
LEM				LR	LR	01 43 34.2	
	comp=Z,333nm,20.1s,baz=134,slow=40						
DSRI	Dabo	22.34	256	P	P	01 33 48.4	+0.8
MYKOM	Kota Tinggi	22.58	262	P	P	01 33 50.7	+0.5
MYKOM				IAmb	IAmb	01 33 59.3	
	comp=Z,140nm,1.0s						
MYKOM	Kota Tinggi	22.58	262	P	P	01 33 53.2	+3.1
DBJI	Dramaga	22.69	239	P	P	01 33 51.5	+0.2
	comp=Z,93nm,0.4s						
BTDF	Bukit Timah Da	22.73	261	P	P	01 33 53.1	+1.4
PMBI	Palembang	22.91	250	P	P	01 33 57.9	+4.4
FITZ	Fitzroy Crossi	23.21	181	P	P	01 33 55.7	-0.6
	comp=Z,96nm,0.9s,baz=13,slow=7.8,SNR=118						
FITZ				S	S	01 37 56.7	-5.3
	comp=Z,20nm,0.8s,baz=26,slow=23,SNR=3.2						
	comp=Z,96nm,0.9s						
CGJI	Cibinong	23.63	240	P	P	01 34 00.2	-0.1
	comp=Z,2µmcomp=Z,85nm,0.9s						
MDSI	Maura Dua	24.04	247	P	P	01 34 05.6	+1.7
	comp=Z,64nm,0.9s						
KASI	Kota Agung	24.18	244	P	P	01 34 05.6	+0.4
LWLI	Liwa	24.36	246	P	P	01 34 07.2	+0.2
	comp=Z,208nm,0.9s						
IPM	Ipoh	25.10	269	P	P	01 34 17.8	+4.1
KSI	Kapahiang	25.20	250	P	P	01 34 15.1	+0.6
MASI	Maura Aman, Be	25.36	251	P	P	01 34 15.9	-0.1
KULM	Kulim	25.45	271	P	P	01 34 17.1	+0.3
KULM				IAmb	IAmb	01 34 26.0	
	comp=Z,84nm,1.2s						
KULM	Kulim	25.45	271	P	P	01 34 20.9	+4.1
COEN	Coen	25.45	139	P	P	01 34 16.7	-0.1
	comp=Z,194nm,0.8s						
COEN	Coen	25.45	139	P	P	01 34 16.0	-0.7
COEN	Coen	25.45	139	P	P	01 34 16.8	0.0
PMG	Port Moresby	25.46	125	P	P	01 34 16.9	+0.1
PMG	Port Moresby	25.46	125	P	P	01 34 17.5	+0.7
	comp=Z,32nm,0.8s,baz=279,slow=4.1,SNR=9.2						
	comp=Z,32nm,0.8s						
PMG	Port Moresby	25.46	125	P	P	01 34 16.7	-0.1
PMG	Port Moresby	25.46	125	P	P	01 34 16.3	-0.5
PMG	Port Moresby	25.46	125	P	P	01 34 16.9	+0.1
PMG				pmax	pmax		
	comp=Z,28nm,0.6s						
WB0	Warramunga Arr	26.14	162		P	01 34 21.9	-1.0
WRAB	Tennant Creek	26.28	162	P	P	01 34 23.0	-1.2
WRAB				IAmb	IAmb	01 34 52.6	
	comp=Z,57nm,0.8s						
WRAB	Tennant Creek	26.28	162	P	P	01 34 23.4	-0.8
WRAB	Tennant Creek	26.28	162	ceP	P	01 34 23.6	-0.6
WRAB				pmax	pmax		
	comp=Z,108nm,1.3s						
WRA	Warramunga Arr	26.29	163	P	P	01 34 23.4	-0.9
	comp=Z,39nm,0.6s,baz=340,slow=10,SNR=192						
WRA				S	S	01 38 55.5	+4.4
	comp=Z,5.3nm,0.9s,baz=347,slow=14,SNR=5.3						
WRA				LR	LR	01 45 24.7	
	comp=Z,80nm,19.0s,baz=16,slow=38						
	comp=Z,39nm,0.6s						
WRA	Warramunga Arr	26.29	163	i P	P	01 34 22.2	-2.0
WRA				pmax	pmax		
	comp=Z,60nm,0.5s						
WR8	Warramunga Arr	26.35	162		P	01 34 22.9	-1.9
PPI	Padang Panjang	26.40	258	P	P	01 34 26.1	+0.8
	comp=Z,1µmcomp=Z,115nm,1.1s						
MBWA	Marble Bar	27.01	193	P	P	01 34 29.8	-0.9
	comp=Z,89nm,0.9s						
MBWA	Marble Bar	27.01	193		P	01 34 29.4	-1.3
MBWA				IAmb	IAmb	01 34 39.5	
	comp=Z,87nm,1.1s						
MBWA	Marble Bar	27.01	193	P	P	01 34 32.1	+1.4
PSAC1	Pilbara Seismi	27.35	193	P	P	01 34 33.1	-0.7
	comp=Z,120nm,0.8s						
PSA00	Pilbara Seismi	27.38	193	P	P	01 34 33.1	-1.0
	comp=Z,114nm,0.8s						
PSA00	Pilbara Seismi	27.38	193		P	01 34 32.1	-1.9
PSA00				IAmb	IAmb	01 34 34.2	
	comp=Z,86nm,0.8s						
PSA00				PcP	PcP	01 37 50.8	-0.6
PSA00	Pilbara Seismi	27.38	193		P	01 34 32.7	-1.4
PSA00				IAmb	IAmb	01 34 34.3	
	comp=Z,86nm,0.8s						
PSA00				PcP	PcP	01 37 49.6	-1.8
PSA00	Pilbara Seismi	27.38	193	P	P	01 34 34.1	+0.1
PSAB3	Pilbara Seismi	27.40	193	P	P	01 34 33.8	-0.4
	comp=Z,124nm,1.1s						
NJ2	Nanjing	27.53	346	eP	P	01 34 38.9	+3.6
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
JNU	Nakatsue	28.07	8		P	01 34 40.3	+0.2
JNU				IAmb	IAmb	01 35 05.5	
	comp=Z,53nm,0.9s						
GYA	Guiyang	28.16	321	⇑P	P	01 34 43.8	+2.7
GYA				pP	pwP	01 35 01.8	-1.4
GYA				S	S	01 39 21.3	+0.4
GYA				pmax	pmax		
	comp=Z,12nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,3.4s						
GYA				LR	LR		
	comp=Z,250nm,11.1s						
GYA				LR	LR		
	comp=Z,190nm,10.0s						
GYA				LR	LR		
	comp=Z,190nm,16.9s						
KCSI	Kotacane, Aceh	28.41	268	P	P	01 34 44.0	+0.7
	comp=Z,23nm,0.8s						
QIS	Mount Isa	28.83	153	P	P	01 34 46.9	-0.1
	comp=Z,56nm,0.7s						
QIS	Mount Isa	28.83	153	P	P	01 34 47.2	+0.2
GSI	Gunungsitoli	28.85	263		P	01 34 45.9	-1.3
GSI				IAmb	IAmb	01 34 54.0	
	comp=Z,69nm,0.8s						
GSI	Gunungsitoli	28.85	263	P	P	01 34 52.3	+5.0
GSI	Gunungsitoli	28.85	263	P	P	01 34 47.9	+0.6
	comp=Z,80nm,0.5s						
MTSU	Mount Surprise	29.31	143	P	P	01 34 52.0	+0.7
	comp=Z,55nm,0.8s						
MTSU	Mount Surprise	29.31	143	P	P	01 34 52.1	+0.8
ENH	Enshi	29.46	330	P	P	01 34 57.1	+4.6
CMAR	Chiang Mai Arr	29.67	299		P	01 34 55.1	+0.6
CMAR				PcP	PcP	01 37 57.6	+0.4
CMAR	Chiang Mai Arr	29.67	299	P	P	01 34 54.5	0.0
	comp=Z,2.3nm,0.5s,baz=111,slow=6.8,SNR=14						
CMAR				PcP	PcP	01 37 57.6	+0.4
	comp=Z,2.3nm,0.3s,baz=164,slow=1.2,SNR=6.5						
CMAR				ScP	ScP	01 41 30.7	-1.4
	comp=Z,5.8nm,1.1s,baz=141,slow=1.4,SNR=16						
CMAR				LR	LR	01 47 25.6	
	comp=Z,141nm,18.3s,baz=115,slow=38						
	comp=Z,2.3nm,0.5s						
CMAR	Chiang Mai Arr	29.67	299	P	P	01 34 55.1	+0.6
CMAR						01 37 57.6	
AS15	Alice Springs	29.68	166	P	P	01 34 54.0	-0.6
	comp=Z,57nm,0.8s						
AS31	Alice Springs	29.71	166	P	P	01 34 53.5	-1.2
	comp=Z,13nm,0.7s						
AS31	Alice Springs	29.71	166		P	01 34 54.0	-0.7
AS31				PcP	PcP	01 37 56.7	-0.5
ASAR	Alice Springs	29.71	166		P	01 34 54.1	-0.7
ASAR				PcP	PcP	01 37 57.0	-0.2
ASAR	Alice Springs	29.71	166	P	P	01 34 54.1	-0.7
	comp=Z,18nm,0.6s,baz=344,slow=7.3,SNR=170						
ASAR				PcP	PcP	01 37 57.5	+0.2
	comp=Z,13nm,0.7s,baz=359,slow=2.4,SNR=7.5						
ASAR				S	S	01 39 45.4	+0.3
	comp=Z,2.5nm,0.8s,baz=354,slow=17,SNR=3.2						
	comp=Z,18nm,0.6s						
AS01	Alice Springs	29.72	166	P	P	01 34 54.3	-0.6
CHTO	Chiang Mai	29.81	299		P	01 34 56.5	+0.7
CHTO				PcP	PcP	01 37 57.2	-0.4
CHTO	Chiang Mai	29.81	299	P	P	01 35 00.1	+4.4
CHTO	Chiang Mai	29.81	299	P	P	01 34 57.9	+2.2
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
WRKA	Warakurna	30.18	176	P	P	01 34 57.6	-1.3
	comp=Z,29nm,0.8s						
JHJ	Hachijo jima 2	30.47	23	LR	LR	01 45 17.2	
	comp=Z,207nm,21.9s,baz=288,slow=32						
TJN	Taejon	30.99	2	i P	P	01 35 06.5	+0.6
PZH	PanZhiHua	31.50	315	P	P	01 35 14.1	+3.4
TV1H	Townsville Har	31.69	141	P	P	01 35 13.6	+1.4
LYN	LuoYang	31.81	338	P	P	01 35 13.1	0.0
LYN				pmax	pmax		
	comp=Z,14nm,0.8s						
LYN				LR	LR		
	comp=Z,450nm,21.3s						
LYN				LR	LR		
	comp=Z,340nm,23.4s						
LYN				LR	LR		
	comp=Z,540nm,21.6s						
TIA	Tai'an	31.92	346	P	P	01 35 18.9	+4.8
TIA				pmax	pmax		
	comp=Z,12nm,0.9s						
TIA				LR	LR		
	comp=Z,310nm,25.0s						
KSAR	Wonju Array Be	32.07	3		P	01 35 16.7	+1.3
KSAR	Wonju Array Be	32.07	3	P	P	01 35 16.7	+1.3
KSRS	Korea Array	32.09	3	P	P	01 35 16.8	+1.3
	comp=Z,7.0nm,1.0s,baz=177,slow=11,SNR=18						
KSRS				LR	LR	01 49 57.1	
	comp=Z,26µm,19.6s,baz=185,slow=39						
	comp=Z,7.0nm,1.0s						
CMBY	CAMPBELL BAY	32.14	275	eP	P	01 35 16.0	-0.3
CMBY				IAmb	IAmb	01 39 03.5	
CMBY				eS	S	01 40 22.8	-0.5
MEEK	Meekatharra	32.55	193	P	P	01 35 18.4	-1.3
	comp=Z,93nm,0.8s						
MEEK	Meekatharra	32.55	193	P	P	01 35 18.7	-1.0
XAN	Xi'an	32.83	333	⇓P	P	01 35 21.4	-0.8
XAN				pmax	pmax		
	comp=Z,22nm,0.8s						
XAN				LR	LR		
	comp=Z,190nm,11.0s						
XAN				LR	LR		
	comp=Z,170nm,14.4s						
XAN				LR	LR		
	comp=Z,250nm,18.5s						
XAN	Xi'an	32.83	333	P	P	01 35 21.4	-0.8
XAN				sP	sP	01 35 47.8	-1.4
MJAR	Matsushiro Arr	33.03	18	P	P	01 35 25.5	+1.7
	comp=Z,4.2nm,0.9s,baz=196,slow=9.4,SNR=6.1						
MJAR				LR	LR	01 49 47.2	
	comp=Z,135nm,18.7s,baz=224,slow=38						
	comp=Z,4.2nm,0.9s						
CD2	Chengdu	33.12	323	P	P	01 35 25.8	+1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	HongShan	33.68	343	⇓P	P	01 35 29.5	+0.1
HNS				pmax	pmax		
	comp=Z,11nm,1.1s						
HNS				LR	LR		
	comp=Z,250nm,17.7s						
HNS				LR	LR		
	comp=Z,210nm,12.9s						
HNS				LR	LR		
	comp=Z,260nm,21.9s						
DL2	Dalian	33.75	354	P	P	01 35 30.4	+0.4
DL2				pmax	pmax		
	comp=Z,32nm,0.7s						
DL2				LR	LR		
	comp=Z,200nm,16.2s						
DL2				LR	LR		
	comp=Z,270nm,13.8s						
DL2				LR	LR		
	comp=Z,250nm,14.1s						
JMM	Marumori	35.08	20		P	01 35 41.3	-0.2
JMM	Marumori	35.08	20	P	P	01 35 42.0	+0.5
MORW	Morawa	35.50	195	P	P	01 35 44.3	-0.9
	comp=Z,47nm,0.9s						
MORW	Morawa	35.50	195		P	01 35 43.4	-1.8
MORW				IAmb	IAmb	01 35 45.2	
	comp=Z,28nm,0.8s						
MORW	Morawa	35.50	195	P	P	01 35 44.6	-0.6
INKA	Innaminka	35.68	158		P	01 35 46.7	-0.1
BJT	Baijiatuau	35.77	347		P	01 35 47.3	-0.1
BJT				IAmb	IAmb	01 36 02.7	
	comp=Z,42nm,1.3s						
BJT	Baijiatuau	35.77	347	P	P	01 35 48.5	+1.1
BJT	Baijiatuau	35.77	347	P	P	01 35 47.3	-0.1
BJT				pmax	pmax		
	comp=Z,43nm,1.3s						
BJI	Beijing	35.79	347	P	P	01 35 47.3	-0.3
BJI				pP	pP	01 36 05.3	-0.7
BJI				sP	sP	01 36 15.1	-0.1
BJI				PP	PP	01 37 12.6	+2.2
BJI				S	S	01 41 20.0	+1.0
BJI				ScP	ScP	01 41 52.3	-0.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=Z,61nm,22.9s						
BJI				LR	LR		
	comp=Z,73nm,24.9s						
BJI				LR	LR		
	comp=Z,89nm,24.9s						
FORT	Forrest	35.88	177	P	P	01 35 48.0	-0.3
	comp=Z,91nm,0.8s						
FORT	Forrest	35.88	177		P	01 35 47.8	-0.6
QLP	Quilpie	36.15	152	P	P	01 35 50.2	-0.6
	comp=Z,133nm,1.4s						
QLP	Quilpie	36.15	152	P	P	01 35 51.0	+0.2
IMP	Imphal	36.57	306	eP	P	01 35 53.2	-1.4
IMP				IAmb	IAmb	01 36 16.7	
	comp=Z,25nm,1.4s						
IMP				eS	S	01 41 28.6	-2.9
KMBL	Kambalda	36.65	186	P	P	01 35 54.2	-0.8
	comp=Z,72nm,0.9s						
HNR	Honiara	36.65	113	LR	LR	01 49 36.0	
	comp=Z,37nm,21.4s,baz=338,slow=34						
BLDU	Ballidu	36.81	194	P	P	01 35 55.7	-0.6
	comp=Z,62nm,0.9s						
BLDU	Ballidu	36.81	194	P	P	01 35 55.5	-0.9
KOHI	KOHIMA	36.85	307	eP	P	01 35 56.5	-0.5
KOHI				IAmb	IAmb	01 36 19.2	
	comp=Z,18nm,0.8s						
KOHI				eS	S	01 41 36.8	+1.0
LZDM	Lanzhou Array	36.91	329	P	P	01 35 58.1	+0.5
	comp=Z,5.8nm,0.5s,baz=165,slow=12,SNR=8.6						
LZDM				PcP	PcP	01 38 18.5	+0.8
	comp=Z,9.1nm,0.7s,baz=164,slow=5.9,SNR=4.5						
LZDM				LR	LR	01 51 54.5	
	comp=Z,116nm,19.4s,baz=235,slow=37						
	comp=Z,5.8nm,0.5s						
LZH	Lanzhou	36.93	329	eP	P	01 35 58.6	+1.0
LZH				pP	pP	01 36 15.1	-0.8
LZH				sP	sP	01 36 26.3	+1.4
LZH				pmax	pmax		
	comp=Z,55nm,1.2s						
LZH				LR	LR		
	comp=Z,360nm,13.4s						
LZH				LR	LR		
	comp=Z,200nm,13.1s						
LZH				LR	LR		
	comp=Z,200nm,13.4s						
HHC	Hu-ho-hao-te	37.80	342	eP	P	01 36 08.0	+3.3
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,84nm,4.6s						
HHC				LR	LR		
	comp=Z,120nm,14.5s						
HHC				LR	LR		
	comp=Z,130nm,15.3s						
HHC				LR	LR		
	comp=Z,140nm,14.5s						
GD1S	Gladstone Soft	37.80	141	P	P	01 36 06.2	+1.4
ZIRO	ZIRO	37.92	309	eP	P	01 36 05.1	-0.9
ZIRO				IAmb	IAmb	01 37 43.3	
	comp=Z,14nm,0.6s						
ZIRO				eS	S	01 41 51.1	-1.0
BTO	Baotou	38.08	340	eP	P	01 36 09.6	+2.5
BTO				pP	pwP	01 36 31.3	+1.6
BTO				PP	PP	01 37 35.8	+0.1
BTO				S	S	01 41 58.9	+4.8
BTO				pmax	pmax		
	comp=Z,16nm,0.7s						
BTO				pmax	pmax		
	comp=Z,160nm,4.7s						
BTO				LR	LR		
	comp=Z,290nm,12.7s						
BTO				LR	LR		
	comp=Z,310nm,13.8s						
BTO				LR	LR		
	comp=Z,470nm,17.5s						
MUN	Mundaring	38.23	194	P	P	01 36 07.6	-0.8
	comp=Z,82nm,1.0s						
MUN	Mundaring	38.23	194	P	P	01 36 07.8	-0.6
MUN	Mundaring	38.23	194	P	P	01 36 08.0	-0.4
CN2	Changchun	38.39	359	P	P	01 36 11.3	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SHL	Shillong	38.57	305		P	01 36 11.1	-0.4
SHL	Shillong	38.57	305	P	P	01 36 11.1	-0.4
SHL				pmax	pmax		
	comp=Z,41nm,0.6s						
EIDS	Eidsvold	38.87	143	P	P	01 36 13.6	-0.2
	comp=Z,123nm,0.9s						
EIDS	Eidsvold	38.87	143		P	01 36 13.5	-0.2
EIDS	Eidsvold	38.87	143	P	P	01 36 14.1	+0.3
NWAO	Narrogin (SRO)	38.92	192	P	P	01 36 13.6	-0.5
	comp=Z,159nm,1.2s						
NWAO	Narrogin (SRO)	38.92	192		P	01 36 13.8	-0.2
NWAO	Narrogin (SRO)	38.92	192	P	P	01 36 14.0	-0.1
NWAO	Narrogin (SRO)	38.92	192	P	P	01 36 14.3	+0.2
NWAO	Narrogin (SRO)	38.92	192	P	P	01 36 13.9	-0.2
NWAO				pmax	pmax		
	comp=Z,154nm,1.4s						
NWAO	Narrogin (SRO)	38.92	192	P	P	01 36 13.9	-0.2
BBOO	Buckleboo	39.00	167	P	P	01 36 14.4	-0.4
	comp=Z,140nm,1.0s						
BBOO	Buckleboo	39.00	167		P	01 36 14.8	0.0
BBOO	Buckleboo	39.00	167	P	P	01 36 15.1	+0.3
USRK	Ussuriysk Ar.	39.12	7	P	P	01 36 17.1	+1.4
	comp=Z,9.4nm,0.7s,baz=188,slow=6.1,SNR=12						
	comp=Z,9.4nm,0.7s						
MDJ	Mudanjiang	39.31	4	P	P	01 36 20.3	+3.0
MDJ				pmax	pmax		
	comp=Z,35nm,1.2s						
MDJ	Mudanjiang	39.31	4		P	01 36 18.5	+1.3
MDJ				IAmb	IAmb	01 36 45.4	
	comp=Z,49nm,1.0s						
MDJ	Mudanjiang	39.31	4	P	P	01 36 20.8	+3.5
XLT	XiLinHaoTe	39.51	348	eP	P	01 36 17.8	-1.2
XLT				pP	pwP	01 36 42.5	+1.3
XLT				sP	sP	01 36 54.5	+7.9
XLT				PP	PP	01 37 51.8	+0.6
XLT				PcP	PcP	01 38 24.8	-0.4
XLT				S	S	01 42 16.5	+1.1
XLT				sS	sS	01 42 51.4	+4.2
XLT				pmax	pmax		
	comp=Z,13nm,0.7s						
XLT				pmax	pmax		
	comp=Z,64nm,5.9s						
XLT				LR	LR		
	comp=Z,160nm,17.4s						
WHYH	Whyalla	39.58	165	P	P	01 36 20.0	+0.4
STKA	Stephens Creek	39.73	159	P	P	01 36 20.9	0.0
	comp=Z,415nm,1.0s						
STKA	Stephens Creek	39.73	159		P	01 36 20.2	-0.7
STKA	Stephens Creek	39.73	159	P	P	01 36 21.0	0.0
	comp=Z,64nm,0.8s,baz=335,slow=8.5,SNR=67						
STKA				LR	LR	01 54 44.5	
	comp=Z,120nm,19.0s,baz=1.2,slow=39						
	comp=Z,64nm,0.8s						
STKA	Stephens Creek	39.73	159	P	P	01 36 21.0	+0.1
STKA	Stephens Creek	39.73	159	i P	P	01 36 18.4	-2.5
HTT	Hallett	40.32	163	P	P	01 36 26.0	+0.2
	comp=Z,16nm,0.8s						
HTT	Hallett	40.32	163	P	P	01 36 26.5	+0.7
HTT	Hallett	40.32	163	P	P	01 36 26.7	+0.9
AULRC	Lightning Ridg	40.33	150	P	P	01 36 26.7	+0.8
BNX	BinXian	40.34	1	⇑P	P	01 36 29.8	+4.1
BNX				S	S	01 42 33.4	+5.8
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX				pmax	pmax		
	comp=Z,120nm,3.8s						
BNX				LR	LR		
	comp=Z,140nm,24.9s						
RKGY	Rocky Gully	40.60	192	P	P	01 36 27.9	-0.1
	comp=Z,185nm,1.0s						
TW1H	Toowoomba 1 Ha	41.02

BWNR	**Bhubaneshwar**	**41.99**	**295**	*e*P	**P**	**01 36 37.9**	**-1.8**
BWNR				IAmb	IAmb	01 37 07.2	
BWNR				*e*S	**S**	**01 42 54.6**	**+1.8**
H11N1	**WAKE ISLAND Hy**	**42.10**	**66**	T	T	02 22 55.7	
	baz=255,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**42.11**	**66**	T	T	02 22 54.6	
	baz=255,slow=74,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**42.12**	**66**	T	T	02 22 47.0	
	baz=255,slow=74,SNR=10						
ARMA	**Armidale**	**43.02**	**147**		**P**	**01 36 48.3**	**+0.3**
ARMA	**Armidale**	**43.02**	**147**	P	**P**	**01 36 49.5**	**+1.5**
EVN	**Everest**	**43.68**	**306**		**P**	**01 36 54.0**	**0.0**
EVN				IAmb	IAmb	01 37 20.4	
	comp=Z,22nm,0.7s						
YSS	**Yuzhno-Sakhali**	**43.93**	**16**	*e*P	**P**	**01 36 54.3**	**-0.6**
YSS				*e**PP	**pwP**	**01 37 16.8**	**-0.1**
YSS				*e*S	**S**	**01 43 16.8**	**-3.6**
YSS				pmax	pmax		
	comp=Z,200nm,3.3s						
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
HILR	**Hailar Array B**	**44.48**	**354**	P	**P**	**01 37 00.9**	**+1.6**
	comp=N,1.9nm,0.4s,baz=183,slow=8.9,SNR=4.3						
	comp=N,1.9nm,0.4s						
HEH	**HeiHe**	**44.85**	**1**	*e*P	**P**	**01 37 04.0**	**+1.8**
HEH				pmax	pmax		
	comp=N,16nm,1.1s						
PALK	**Pallekele**	**45.27**	**275**	LR	LR	01 57 22.1	
	comp=N,70nm,19.6s,baz=86,slow=38						
ULN	**Ulaanbaatar**	**45.52**	**342**		**P**	**01 37 07.8**	**+0.1**
ULN	**Ulaanbaatar**	**45.52**	**342**	*ce*P	**P**	**01 37 07.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRAT	**Ballarat**	**45.68**	**160**	P	**P**	**01 37 09.8**	**+0.9**
SONM	**Songino Array**	**45.70**	**341**		**P**	**01 37 09.3**	**+0.2**
SONM				PcP	**PcP**	**01 38 45.7**	**-0.1**
SONM	**Songino Array**	**45.70**	**341**	P	**P**	**01 37 09.2**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=163,slow=5.6,SNR=6.5						
SONM				PcP	**PcP**	**01 38 46.0**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=149,slow=3.4,SNR=4.2						
SONM				LR	LR	01 57 43.0	
	comp=Z,108nm,18.2s,baz=198,slow=38						
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**45.70**	**341**	P	**P**	**01 37 09.3**	**+0.2**
SONM						01 38 45.7	
SONM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AUMTS	**Mt Stromlo**	**45.70**	**154**	P	**P**	**01 37 10.8**	**+1.6**
CAN	**Canberra**	**45.70**	**154**		**P**	**01 37 09.6**	**+0.4**
CAN	**Canberra**	**45.70**	**154**	P	**P**	**01 37 10.8**	**+1.6**
CAN	**Canberra**	**45.70**	**154**	P	**P**	**01 37 09.6**	**+0.4**
CAN				pmax	pmax		
	comp=Z,78nm,0.8s						
CAN	**Canberra**	**45.70**	**154**	P	**P**	**01 37 10.8**	**+1.6**
CAN				pP	**pP**	**01 37 30.0**	**+2.0**
CAN				sP	**sP**	**01 37 37.8**	**+1.1**
AUMHS	**Melrose High S**	**45.77**	**154**	P	**P**	**01 37 11.5**	**+1.7**
CNB	**Canberra Magne**	**45.86**	**153**	P	**P**	**01 37 11.3**	**+0.8**
	comp=Z,65nm,0.9s						
CNB	**Canberra Magne**	**45.86**	**153**	P	**P**	**01 37 11.2**	**+0.8**
TOO	**Toolangi**	**46.24**	**159**		**P**	**01 37 15.0**	**+1.6**
TOO				IAmb	IAmb	01 37 16.0	
	comp=Z,29nm,1.1s						
TOO	**Toolangi**	**46.24**	**159**	P	**P**	**01 37 15.0**	**+1.6**
TOO				pmax	pmax		
	comp=Z,29nm,1.1s						
AUKSC	**Keysborough Se**	**46.48**	**159**	P	**P**	**01 37 15.4**	**+0.2**
HYB	**Hyderabad**	**48.13**	**289**	*e*P	**P**	**01 37 26.8**	**-1.7**
HYB				IVmB_BB		01 37 29.6	
	comp=Z,90nm,2.1s						
HYB				*e*pP	**pP**	**01 37 46.2**	**-1.5**
HYB				*e*S	S	**01 44 21.5**	**-0.1**
HYB				IAMs_20	IAMs_20	01 49 38.5	
	comp=Z,134nm,25.1s						
YATNC	**Mamie plateau,**	**48.20**	**126**	P	**P**	**01 37 29.7**	**+0.9**
ZEA	**Zeya**	**48.34**	**1**	*e*P	**P**	**01 37 30.8**	**+1.4**
ZEA				*e*		01 37 54.4	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KOD	**Kodaikanal**	**48.51**	**279**	*e*P	**P**	**01 37 31.1**	**-0.6**
KOD				IAmb	IAmb	01 38 07.4	
	comp=Z,9.2nm,0.2s						
KOD				*e*S	**S**	**01 44 24.7**	**-2.9**
ZAK	**Zakamensk**	**48.92**	**341**	*e*P	P	01 37 41.7	+7.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MOY	**Mondy**	**50.78**	**340**	*e*P	**P**	**01 37 48.3**	**+0.1**
MOY				pmax	pmax		
	comp=Z,12nm,1.9s						
MOO	**Moorlands**	**51.16**	**160**	P	**P**	**01 37 51.6**	**+0.6**
	comp=Z,50nm,1.6s						
WMQ	**Urumqi**	**51.19**	**325**	*e*P	**P**	**01 37 54.5**	**+3.2**
WMQ				LR	LR		
	comp=Z,140nm,13.3s						
WMQ				LR	LR		
	comp=Z,140nm,17.3s						
TAU	**Tasmania Unive**	**51.62**	**160**	P	**P**	**01 37 55.6**	**+1.3**
TAU				IAmb	IAmb	01 37 56.5	
	comp=Z,27nm,0.8s						
TAU	**Tasmania Unive**	**51.62**	**160**	P	**P**	**01 37 55.7**	**+1.3**
TAU				pmax	pmax		
	comp=Z,27nm,0.9s						
PEA0B	**Petropavlovsk-**	**54.23**	**23**	*i* P	**P**	**01 38 11.5**	**-2.0**
PETK	**Petropavlovsk-**	**54.23**	**23**	P	**P**	**01 38 14.9**	**+1.4**
PETK	**Petropavlovsk-**	**54.23**	**23**	P	**P**	**01 38 14.8**	**+1.3**
	comp=Z,13nm,1.1s,baz=197,slow=4.6,SNR=6.1						
PETK				LR	LR	02 02 49.3	
	comp=Z,50nm,19.2s,baz=215,slow=37						
	comp=Z,13nm,1.1s						
PETK	**Petropavlovsk-**	**54.23**	**23**	P	**P**	**01 38 14.9**	**+1.4**
PET	**Petropavlovsk**	**54.54**	**23**	*ce*P	**P**	**01 38 15.7**	**0.0**
PET				pmax	pmax		
	comp=Z,81nm,1.7s						
ZSN	**Zaisan**	**54.95**	**327**	*e*P	**P**	**01 38 17.5**	**-1.4**
ZSN	**Zaisan**	**54.95**	**327**	*e*P	**P**	**01 38 17.5**	**-1.4**
SHLS	**Shalkode**	**55.85**	**320**	*e*P	**P**	**01 38 22.1**	**-3.4**
	comp=Z,19nm,1.6s						
SHLS	**Shalkode**	**55.85**	**320**	*e*P	**P**	**01 38 22.1**	**-3.4**
SHLS				pmax	pmax		
	comp=Z,19nm,1.6s						
PDGK	**Podgornoye**	**55.91**	**320**	P	**P**	**01 38 24.9**	**-1.1**
MK31	**Makanchi Array**	**56.02**	**325**	*i* P	**P**	**01 38 25.3**	**-1.2**
MK31				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**56.02**	**325**		**P**	**01 38 25.6**	**-1.0**
MKAR	**Makanchi Array**	**56.02**	**325**	P	**P**	**01 38 25.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=123,slow=7.8,SNR=59						
MKAR				ScP	**ScP**	**01 43 12.9**	**-3.1**
	comp=Z,2.8nm,1.0s,baz=104,slow=6.1,SNR=4.6						
MKAR				LR	LR	02 03 22.8	
	comp=Z,144nm,18.4s,baz=116,slow=37						
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**56.02**	**325**	*i* P	**P**	**01 38 25.3**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MSVF	**Nonsavu**	**56.02**	**115**		**P**	**01 38 28.4**	**+1.3**
MSVF				IAmb	IAmb	01 38 29.9	
	comp=Z,36nm,1.1s						
MSVF	**Nonsavu**	**56.02**	**115**	P	**P**	**01 38 28.4**	**+1.3**
MSVF	**Nonsavu**	**56.02**	**115**	P	**P**	**01 38 28.4**	**+1.3**
MSVF				pmax	pmax		
	comp=Z,36nm,1.1s						
UZB	**Uzynbulak**	**56.13**	**320**	*e*P	**P**	**01 38 25.9**	**-1.6**
UZB	**Uzynbulak**	**56.13**	**320**	*e*P	**P**	**01 38 25.9**	**-1.6**
MAKZ	**Makanchi**	**56.20**	**325**		**P**	**01 38 26.8**	**-1.0**
MAKZ				IAmb	IAmb	01 38 28.2	
	comp=Z,11nm,0.7s						
MAKZ	**Makanchi**	**56.20**	**325**	P	**P**	**01 38 26.8**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.7s						
TARG	**Taragay, Kyrgy**	**56.28**	**318**	P	**P**	**01 38 29.5**	**+0.5**
TARG	**Taragay, Kyrgy**	**56.28**	**318**	P	**P**	**01 38 29.5**	**+0.5**
TARG				pmax	pmax		
	comp=Z,11nm,1.1s						
SATY	**Saty**	**56.48**	**319**	*e*P	**P**	**01 38 28.6**	**-1.5**
SATY	**Saty**	**56.48**	**319**	*e*P	**P**	**01 38 28.6**	**-1.5**
KSH	**Kashi**	**56.61**	**315**	P	**P**	**01 38 32.4**	**+1.4**
KSH				sP	sP	01 39 00.6	+1.5
YAK	**Yakutsk**	**56.71**	**2**		**P**	**01 38 32.0**	**+1.0**
YAK	**Yakutsk**	**56.71**	**2**	LR	LR	02 06 22.8	
	comp=Z,36nm,18.1s,baz=172,slow=40						
YAK	**Yakutsk**	**56.71**	**2**	*e*P	**P**	**01 38 31.2**	**+0.1**
YAK				*e**PP	**pwP**	**01 38 53.2**	**-0.6**
YAK				*e*S	**S**	**01 46 18.6**	**+1.3**
YAK				*e*SS	**SS**	**01 50 04.1**	**-2.2**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				smax	smax		
	comp=E,54nm,2.0s						
YAK				smax	smax		
	comp=N,59nm,2.0s						
YAK	**Yakutsk**	**56.71**	**2**	P	**P**	**01 38 31.4**	**+0.3**
YAK				pP	**pP**	**01 38 50.3**	**-0.6**
KDJ	**Kajisay**	**56.87**	**318**		**P**	**01 38 32.9**	**0.0**
KDJ	**Kajisay**	**56.87**	**318**	P	**P**	**01 38 32.9**	**0.0**
KDJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**57.36**	**15**	P	**P**	**01 38 37.7**	**+2.0**
	comp=Z,12nm,0.7s,baz=156,slow=19,SNR=2.7						
MA2				LR	LR	02 01 39.6	
	comp=Z,32nm,21.8s,baz=202,slow=34						
	comp=Z,12nm,0.7s						
TDK	**Taldyqorghan**	**57.41**	**321**	*e*P	**P**	**01 38 35.1**	**-1.4**
	comp=Z,9.3nm,0.5s						
TDK	**Taldyqorghan**	**57.41**	**321**	*e*P	**P**	**01 38 35.0**	**-1.4**
TDK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MDOK	**Medeo**	**57.42**	**319**	*e*P	**P**	**01 38 35.0**	**-1.7**
MDOK	**Medeo**	**57.42**	**319**	*e*P	**P**	**01 38 34.9**	**-1.7**
TNSS	**Tian-Shan**	**57.43**	**319**	*e*P	**P**	**01 38 35.0**	**-2.0**
TNSS	**Tian-Shan**	**57.43**	**319**	*e*P	**P**	**01 38 35.0**	**-2.0**
AAA	**Alma-Ata**	**57.52**	**319**	*e*P	**P**	**01 38 35.8**	**-1.6**
AAA	**Alma-Ata**	**57.52**	**319**	*e*P	**P**	**01 38 35.7**	**-1.6**
AAK	**Ala-Archa**	**58.89**	**317**	P	**P**	**01 38 46.0**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=185,slow=7.5,SNR=4.2						
AAK				LR	LR	02 06 26.2	
	comp=Z,67nm,18.0s,baz=108,slow=38						
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	**58.89**	**317**	*i* P	**P**	**01 38 44.8**	**-2.2**
AAK				pmax	pmax		
	comp=Z,12nm,2.3s						
ZAA0	**Zalesovo Array**	**59.00**	**333**		**P**	**01 38 45.6**	**-1.7**
ZALV	**Zalesovo Beam**	**59.00**	**333**		**P**	**01 38 45.7**	**-1.6**
ZALV	**Zalesovo Beam**	**59.00**	**333**	P	**P**	**01 38 46.0**	**-1.3**
	comp=Z,4.1nm,0.6s,baz=133,slow=6.1,SNR=14						
ZALV				LR	LR	02 04 23.3	
	comp=Z,80nm,21.1s,baz=127,slow=36						
	comp=Z,4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**59.00**	**333**	*i* P	**P**	**01 38 45.7**	**-1.6**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SGDS	**Sogindy**	**59.13**	**318**	*e*P	**P**	**01 38 47.0**	**-1.5**
ARSB	**Arslanbob**	**59.41**	**316**		**P**	**01 38 50.3**	**-0.3**
ARSB	**Arslanbob**	**59.41**	**316**	P	**P**	**01 38 50.3**	**-0.3**
ARSB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURBB	**Kurchatov Arra**	**60.18**	**327**	P	**P**	**01 38 54.6**	**-0.9**
	comp=Z,3.6nm,0.3s,baz=124,slow=6.0,SNR=63						
	comp=Z,3.6nm,0.3s						
KURK	**Kurchatov**	**60.18**	**327**		**P**	**01 38 54.3**	**-1.2**
KURK				IAmb	IAmb	01 40 04.4	
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**60.18**	**327**	*i* P	**P**	**01 38 53.5**	**-2.0**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**60.18**	**327**	P	**P**	**01 38 54.5**	**-0.9**
KURK				pP	**pP**	**01 39 14.0**	**-1.2**
KBL	**Kabul**	**60.19**	**307**	P	**P**	**01 38 55.8**	**-0.4**
KBL	**Kabul**	**60.19**	**307**	P	**P**	**01 38 55.8**	**-0.4**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GAR	**Garm**	**60.52**	**312**		**P**	**01 38 57.7**	**-0.5**
GAR				IAmb	IAmb	01 38 58.5	
	comp=Z,25nm,0.9s						
SEY	**Seymchan**	**60.67**	**13**	P	**P**	**01 39 00.9**	**+2.3**
	comp=Z,10nm,0.9s,baz=227,slow=6.2,SNR=11						
SEY				LR	LR	02 06 25.3	
	comp=Z,14nm,18.9s,baz=176,slow=37						
	comp=Z,10nm,0.9s						
SEY	**Seymchan**	**60.67**	**13**	*e*P	**P**	**01 38 59.4**	**+0.8**
SEY				pmax	pmax		
	comp=Z,23nm,1.4s						
DZA	**Taraz**	**61.13**	**317**	*e*P	**P**	**01 39 00.8**	**-1.4**
DZA	**Taraz**	**61.13**	**317**	*e*P	**P**	**01 39 00.8**	**-1.4**
CHGR	**Chuyangaron**	**61.27**	**311**		**P**	**01 39 02.6**	**-0.6**
CHGR				IAmb	IAmb	01 39 48.1	
	comp=Z,20nm,1.0s						
CHGR	**Chuyangaron**	**61.27**	**311**	P	**P**	**01 39 02.7**	**-0.6**
CHGR				pmax	pmax		
	comp=Z,21nm,1.0s						
SHEM	**Shemya Is, Ala**	**61.42**	**31**	LR	LR	02 11 43.6	
	comp=Z,12nm,18.1s,baz=286,slow=42						
IUG	**Iuzhnay**	**61.77**	**315**	*e*P	**P**	**01 39 05.0**	**-1.6**
	comp=Z,7.0nm,0.4s						
IUG	**Iuzhnay**	**61.77**	**315**	*e*P	**P**	**01 39 05.0**	**-1.6**
IUG				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KK31	**Karatay Array**	**61.77**	**317**		**P**	**01 39 06.3**	**-0.1**
KK31				IAmb	IAmb	01 39 34.4	
	comp=Z,16nm,1.1s						
KK31	**Karatay Array**	**61.77**	**317**	*i* P	**P**	**01 39 05.1**	**-1.3**
KKAR	**Karatay Array**	**61.77**	**317**		**P**	**01 39 05.9**	**-0.5**
KKAR	**Karatay Array**	**61.77**	**317**	P	**P**	**01 39 05.9**	**-0.5**
CHM	**Chimkent**	**62.12**	**316**	*e*P	**P**	**01 39 07.6**	**-1.3**
	comp=Z,8.0nm,0.7s						
CHM	**Chimkent**	**62.12**	**316**	*e*P	**P**	**01 39 07.5**	**-1.3**
CHM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRLS	**Borolday**	**62.21**	**316**	*e*P	**P**	**01 39 08.2**	**-1.3**
BRLS	**Borolday**	**62.21**	**316**	*e*P	**P**	**01 39 08.1**	**-1.3**
JCZ	**Jackson Bay**	**62.26**	**147**	P	**P**	**01 39 11.1**	**+1.4**
DCZ	**Deep Cove**	**62.31**	**149**		**P**	**01 39 10.1**	**+0.2**
FOZ	**Fox Glacier**	**62.48**	**146**	P	**P**	**01 39 11.6**	**+0.5**
INZ	**Inchbonnie**	**62.92**	**144**	IAmb	IAmb	01 39 16.6	
	comp=Z,38nm,1.0s						
BRZS	**Berezniki**	**63.15**	**324**	*e*P	**P**	**01 39 14.2**	**-1.4**
BRZS	**Berezniki**	**63.15**	**324**	*e*P	**P**	**01 39 14.1**	**-1.4**
LBZ	**Lake Benmore**	**63.23**	**146**		**P**	**01 39 16.9**	**+0.8**
RPZ	**Rata Peaks**	**63.30**	**145**		**P**	**01 39 17.0**	**+0.4**
LTZ	**Lake Taylor**	**63.44**	**144**	IAmb	IAmb	01 39 18.8	
	comp=Z,33nm,0.9s						
URZ	**Urewera**	**64.00**	**137**	LR	LR	02 07 24.9	
	comp=Z,35nm,20.9s,baz=299,slow=36						
BKZ	**Black Stump Fm**	**64.06**	**138**	IAmb	IAmb	01 39 22.7	
	comp=Z,29nm,0.8s						
BKZ	**Black Stump Fm**	**64.06**	**138**	P	**P**	**01 39 22.6**	**+0.9**
BVAR	**Borovoye Array**	**65.77**	**327**	LR	LR	02 10 29.7	
	comp=Z,75nm,19.9s,baz=109,slow=38						
BORK	**Borovoye**	**65.81**	**327**	*ce*P	**P**	**01 39 32.0**	**-0.8**
BORK				pmax	pmax		
	comp=Z,18nm,1.0s						
BORK	**Borovoye**	**65.81**	**327**	P	**P**	**01 39 31.9**	**-0.8**
BORK				pP	**pP**	**01 39 52.0**	**-0.7**
TIXI	**Tiksi**	**66.33**	**1**		**P**	**01 39 36.6**	**+0.8**
TIXI				IAmb	IAmb	01 40 05.6	
	comp=Z,29nm,1.1s						
TIXI	**Tiksi**	**66.33**	**1**	P	**P**	**01 39 36.2**	**+0.4**
	comp=Z,8.5nm,0.5s,baz=199,slow=4.8,SNR=4.7						
TIXI				LR	LR	02 10 22.0	
	comp=Z,58nm,20.7s,baz=193,slow=37						
	comp=Z,8.5nm,0.5s						
TIXI	**Tiksi**	**66.33**	**1**	*ce*P	**P**	**01 39 36.4**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,29nm,1.3s						
AB31	**Akbulak array**	**70.65**	**321**	*e*P	**P**	**01 40 01.4**	**-1.7**
ABKAR	**Akbulak array**	**70.65**	**321**		**P**	**01 40 01.8**	**-1.3**
SPIA	**Saint Paul Isl**	**71.46**	**31**	P	**P**	**01 40 08.7**	**+0.9**
	baz=250						
P08K	**Saint George I**	**71.63**	**32**	P	**P**	**01 40 10.1**	**+1.2**
	baz=251						
AKTO	**Aktyubinsk**	**72.15**	**321**	P	**P**	**01 40 11.6**	**-0.5**
	comp=Z,11nm,0.7s,baz=99,slow=6.4,SNR=33						
AKTO				LR	LR	02 13 57.4	
	comp=Z,102nm,19.0s,baz=163,slow=38						
	comp=Z,11nm,0.7s						
CASY	**Casey**	**72.26**	**187**		**P**	**01 40 12.6**	**+0.3**
CASY				IAmb	IAmb	01 40 13.5	
	comp=Z,16nm,0.7s						
CASY	**Casey**	**72.26**	**187**	P	**P**	**01 40 12.4**	**+0.1**
SVE	**Sverdlovsk**	**72.40**	**328**	*e*P	**P**	**01 40 12.6**	**-0.8**
SVE				pmax	pmax		
	comp=Z,16nm,0.7s						
DRV	**Dumont d'Urvil**	**72.44**	**174**	P	**P**	**01 40 13.1**	**-0.3**
UNV	**Unalaska Valle**	**72.47**	**35**	P	**P**	**01 40 15.4**	**+1.5**
	baz=254						
GAMB	**Gambell**	**73.22**	**24**	P	**P**	**01 40 19.8**	**+1.7**
	baz=247						
ARTI	**Arti**	**73.46**	**328**		**P**	**01 40 18.0**	**-1.8**
ARTI				IAmb	IAmb	01 40 44.5	
	comp=Z,14nm,0.6s						
ARTI	**Arti**	**73.46**	**328**	P	**P**	**01 40 18.4**	**-1.3**
	comp=Z,7.8nm,0.6s,baz=57,slow=3.4,SNR=19						
ARTI				LR	LR	02 13 53.6	
	comp=Z,72nm,20.2s,baz=80,slow=37						
	comp=Z,7.8nm,0.6s						
ARTI	**Arti**	**73.46**	**328**	*e*P	**P**	**01 40 18.4**	**-1.3**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARTI	**Arti**	**73.46**	**328**	P	**P**	**01 40 17.9**	**-1.8**
ARTI				pP	**PcP**	**01 40 37.2**	**+1.8**
ARTI				sP	**sP**	**01 40 46.2**	**-2.4**
M11K	**Mekoryuk**	**74.48**	**28**	P	**P**	**01 40 27.5**	**+2.0**
	baz=253						
TNA	**Tin City**	**75.40**	**23**	P	**P**	**01 40 33.1**	**+2.4**
	baz=250						
S12K	**Black Hills**	**75.42**	**34**	P	**P**	**01 40 32.8**	**+1.7**
	baz=258						
K13K	**Kusilvak Mount**	**75.64**	**27**	P	**P**	**01 40 34.2**	**+1.9**
	baz=254						
M13K	**Dall Lake**	**75.85**	**29**	P	**P**	**01 40 34.8**	**+1.3**
	baz=255						
ANM	**Nome**	**76.10**	**24**	P	**P**	**01 40 36.7**	**+1.9**
	baz=252						
SDPT	**Sand Point**	**76.23**	**34**	P	**P**	**01 40 37.4**	**+1.7**
	baz=259						
L14K	**Kuka Creek**	**76.40**	**28**	P	**P**	**01 40 38.2**	**+1.7**
	baz=256						
N14K	**Kuskokwak Cree**	**76.54**	**30**	P	**P**	**01 40 38.9**	**+1.5**
	baz=257						
M14K	**Bethel**	**76.60**	**29**	P	**P**	**01 40 39.2**	**+1.6**
	baz=256						
O14K	**Tigyukauivet M**	**76.60**	**30**	P	**P**	**01 40 39.1**	**+1.4**
	baz=258						
F15K	**North Star Dit**	**76.73**	**23**	P	**P**	**01 40 40.1**	**+1.7**
	baz=253						
S14K	**Fog Glacier**	**76.92**	**33**	P	**P**	**01 40 41.3**	**+1.6**
	baz=260						
L15K	**Ungalak Mounta**	**77.04**	**28**	P	**P**	**01 40 41.7**	**+1.5**
	baz=257						
RAR	**Rarotonga**	**77.11**	**113**	LR	LR	02 09 28.4	
	comp=Z,29nm,22.0s,baz=240,slow=32						
K15K	**Wolf Creek Mou**	**77.16**	**27**	P	**P**	**01 40 42.8**	**+2.0**
	baz=256						
M15K	**Kasigluk River**	**77.20**	**29**	P	**P**	**01 40 43.3**	**+2.3**
	baz=258						
C16K	**Lisburne Hills**	**77.25**	**21**	P	**P**	**01 40 43.2**	**+1.9**
	baz=252						
O15K	**Ungalikthiuk R**	**77.31**	**30**	P	**P**	**01 40 43.4**	**+1.7**
	baz=259						
N15K	**Kwethluk River**	**77.38**	**29**	P	**P**	**01 40 43.9**	**+1.8**
	baz=258						
H16K	**Elim**	**77.42**	**25**	P	**P**	**01 40 43.8**	**+1.6**
	baz=255						
G16K	**Koyuk River**	**77.56**	**24**	P	**P**	**01 40 44.5**	**+1.5**
	baz=255						
J16K	**Anvik River**	**77.80**	**26**	P	**P**	**01 40 46.4**	**+2.0**
	baz=257						
I17K	**Unalakleet**	**77.89**	**26**	P	**P**	**01 40 46.9**	**+2.0**
	baz=257						
D17K	**Noatak River**	**77.90**	**22**	P	**P**	**01 40 46.4**	**+1.6**
	baz=254						
AKT	**Akhty**	**77.91**	**311**	*e*P	**P**	**01 40 44.8**	**-0.8**
AKT				pmax	pmax		
	comp=Z,14nm,1.6s						
L16K	**Owhat River**	**77.98**	**28**	IAmb	IAmb	01 40 54.4	
	comp=Z,35nm,1.2s						
L16K	**Owhat River**	**77.98**	**28**	P	**P**	**01 40 46.8**	**+1.4**
	baz=258						
RDOG	**Red Dog Mine**	**78.06**	**21**	P	**P**	**01 40 47.6**	**+1.9**
	baz=254						
C17K	**DeLong Mountai**	**78.08**	**21**	P	**P**	**01 40 47.3**	**+1.4**
	baz=254						
N16K	**Nishlik Lake**	**78.08**	**29**	P	**P**	**01 40 47.7**	**+1.6**
	baz=259						
M16K	**Timber Creek**	**78.09**	**29**	IAmb	IAmb	01 40 51.4	
	comp=Z,45nm,1.2s						
M16K	**Timber Creek**	**78.09**	**29**	P	**P**	**01 40 47.2**	**+1.1**
	baz=259						
R16K	**Pilot Point**	**78.20**	**32**	P	**P**	**01 40 48.2**	**+1.5**
	baz=261						
E17K	**Hotham Inlet**	**78.20**	**22**	P	**P**	**01 40 47.9**	**+1.4**
	baz=255						
P16K	**Nushagak River**	**78.22**	**31**	P	**P**	**01 40 48.1**	**+1.3**
	baz=260						
O16K	**Kokwok River B**	**78.26**	**30**	P	**P**	**01 40 48.2**	**+1.2**
	baz=260						
F17K	**Baldwin Pennin**	**78.26**	**23**	P	**P**	**01 40 48.3**	**+1.4**
	baz=256						
H17K	**Granite Mounta**	**78.46**	**25**	P	**P**	**01 40 49.4**	**+1.4**
	baz=258						
J17K	**VABM Dome**	**78.50**	**26**	IAmb	IAmb	01 41 17.0	
	comp=Z,19nm,0.7s						
J17K	**VABM Dome**	**78.50**	**26**	P	**P**	**01 40 49.9**	**+1.7**
	baz=258						
L17K	**Donlin**	**78.61**	**28**	P	**P**	**01 40 50.2**	**+1.4**
	baz=260						
KIRV	**Kirov**	**78.66**	**329**	*ce*P	**P**	**01 40 48.2**	**-1.0**
K17K	**Iditarod**	**78.71**	**27**	IAmb	IAmb	01 41 18.4	
	comp=Z,41nm,0.9s						
K17K	**Iditarod**	**78.71

H19K	**Roundabout Mou**	80.00	24	P	P	01 40 58.0 +1.7
	baz=261					
GNI	**Garni**	80.11	310	LR	LR	02 22 23.3
	comp=Z,15nm,19.6s,baz=82,slow=40					
J19K	**Poorman**	80.11	26	P	P	01 40 58.8 +1.8
	baz=262					
L19K	**White Mountain**	80.21	28	IAmb	IAmb	01 41 09.7
	comp=Z,79nm,1.8s					
L19K	**White Mountain**	80.21	28	P	P	01 40 59.0 +1.4
	baz=263					
N19K	**Bonanza Creek**	80.22	29	P	P	01 40 59.3 +1.5
	baz=263					
O19K	**Port Alsworth**	80.23	30	P	P	01 40 58.8 +1.2
	baz=263					
CCD	**Concordia, Ant**	80.25	181	P	P	01 40 58.3 +0.4
Q19K	**Cape Douglas,**	80.43	31	P	P	01 40 59.6 +0.7
	baz=264					
OHAK	**Old Harbor**	80.46	33	P	P	01 41 00.3 +1.3
	baz=265					
D20K	**Etivluk River**	80.48	21	IAmb	IAmb	01 41 27.3
	comp=Z,33nm,0.8s					
F20K	**Avaraart Lake**	80.53	23	IAmb	IAmb	01 41 27.8
	comp=Z,22nm,0.9s					
E20K	**Nigu River**	80.56	22	P	P	01 41 01.1 +1.7
	baz=260					
H20K	**Anotleneega Mo**	80.64	25	P	P	01 41 01.5 +1.7
	baz=262					
K20K	**Telida**	80.72	27	IAmb	IAmb	01 41 29.2
	comp=Z,24nm,1.0s					
P19K	**Oil Pt**	80.72	30	P	P	01 41 02.2 +1.8
	baz=264					
I20K	**Naaghedeneel**	80.72	25	P	P	01 41 02.1 +1.9
	baz=262					
J20K	**Nowinta River**	80.78	26	IAmb	IAmb	01 41 29.0
	comp=Z,26nm,0.8s					
J20K	**Nowinta River**	80.78	26	P	P	01 41 02.5 +1.9
	baz=263					
KDAK	**Kodiak Island**	80.89	32	P	P	01 41 02.2 +1.0
	comp=Z,13nm,0.7s,baz=237,slow=6.7,SNR=12					
KDAK				LR	LR	02 10 19.5
	comp=Z,208nm,21.6s,baz=237,slow=31					
	comp=Z,13nm,0.7s					
KDAK	**Kodiak Island**	80.89	32	P	P	01 41 02.9 +1.6
	baz=265					
A21K	**Barrow**	80.95	19	P	P	01 41 02.7 +1.4
	baz=259					
Q20K	**Shuyak Island**	81.05	32	P	P	01 41 03.1 +1.0
	baz=265					
IMAR	**Indian Mountai**	81.17	24	P	P	01 41 03.9 +1.3
C21K	**Knifeblade Rid**	81.20	21	P	P	01 41 15.6 +13
	baz=262					
B21K	**Ikpikpuk River**	81.33	20	P	P	01 41 05.0 +1.6
	baz=262					
G21K	**Allakaket**	81.33	24	IAmb	IAmb	01 41 33.0
	comp=Z,38nm,0.9s					
SPCR	**Spurr Chakacha**	81.36	29	P	P	01 41 05.1 +1.2
	baz=265					
E21K	**Killik River**	81.40	22	IAmb	IAmb	01 41 32.1
	comp=Z,42nm,0.9s					
E21K	**Killik River**	81.40	22	P	P	01 41 05.1 +1.2
	baz=262					
A22K	**Sinclair Lake**	81.42	19	P	P	01 41 19.3 +15
	baz=261					
PPLA	**Purkeypile**	81.52	27	IAmb	IAmb	01 41 32.4
	comp=Z,23nm,0.9s					
PPLA	**Purkeypile**	81.52	27	P	P	01 41 06.1 +1.4
	baz=265					
H21K	**Melozitna Rive**	81.52	24	IAmb	IAmb	01 41 33.2
	comp=Z,31nm,0.9s					
H21K	**Melozitna Rive**	81.52	24	P	P	01 41 06.5 +2.0
	baz=264					
HOM	**Homer**	81.52	31	P	P	01 41 06.0 +1.4
	baz=266					
CHUM	**Lake Minchumin**	81.55	26	P	P	01 41 05.8 +1.2
	baz=265					
KBZ	**Khabaz**	81.56	313	P	P	01 41 06.2 +1.0
	comp=Z,0.9nm,0.5s,baz=158,slow=5.4,SNR=2.4					
	comp=Z,0.9nm,0.5s					
KIV	**Kislovodsk**	81.72	314	*e*P	P	01 41 02.2 -3.9
KIV				pmax	pmax	
	comp=Z,7.0nm,1.0s					
SKT	**Skwentna**	81.75	28	P	P	01 41 06.5 +0.7
	baz=266					
I21K	**Tanana**	81.81	25	P	P	01 41 07.6 +1.5
	baz=265					
B22K	**Teshekpuk Lake**	81.84	20	P	P	01 40 58.1 -7.9
	baz=263					
BRLK	**Bradley Lake**	81.91	30	IAmb	IAmb	01 41 33.8
	comp=Z,31nm,0.8s					
BRSE	**Bradley Lake S**	81.98	31	P	P	01 41 08.6 +1.6
	baz=267					
SUA	**Susitna One**	82.08	29	IAmb	IAmb	01 41 36.2
	comp=Z,35nm,0.8s					
SUA	**Susitna One**	82.08	29	P	P	01 41 08.5 +0.8
	baz=266					
H22K	**Ishtalitna Cre**	82.13	24	P	P	01 41 08.9 +1.2
	baz=265,SNR=6.6					
KTH	**Kantishna Hill**	82.14	27	IAmb	IAmb	01 41 36.6
	comp=Z,39nm,1.2s					
BPAW	**Bear Paw Mtn.**	82.15	26	P	P	01 41 09.4 +1.5
	baz=266,SNR=12					
E22K	**Anaktuvuk Pass**	82.16	22	IAmb	IAmb	01 41 36.5
	comp=Z,38nm,0.9s					
E22K	**Anaktuvuk Pass**	82.16	22	P	P	01 41 09.3 +1.4
	baz=264					
G22K	**Bettles**	82.16	23	P	P	01 41 09.3 +1.5
	baz=265					
SLKM	**Skilak Lake**	82.28	30	IAmb	IAmb	01 41 15.9
	comp=Z,25nm,0.8s					
MLY	**Manley**	82.33	25	IAmb	IAmb	01 41 36.7
	comp=Z,29nm,0.8s					
MLY	**Manley**	82.33	25	P	P	01 41 10.0 +1.2
	baz=266,SNR=12					
CUT	**Chulitna**	82.37	28	P	P	01 41 10.0 +1.0
	baz=267					
M22K	**Willow**	82.40	28	P	P	01 41 10.0 +0.9
	baz=267					
TRF	**Thorofare Moun**	82.42	27	IAmb	IAmb	01 41 38.4
	comp=Z,28nm,0.9s					
TRF	**Thorofare Moun**	82.42	27	P	P	01 41 10.1 +0.7
	baz=266,SNR=10					
VRH	**Novokhopyorsk**	82.48	321	*e*P	P	01 41 07.0 -2.8
VRH				pmax	pmax	
	comp=Z,7.0nm,0.8s					
O22K	**Cooper Landing**	82.53	30	P	P	01 41 10.7 +0.8
	baz=267					
RC01	**Rabbit Creek A**	82.55	29	P	P	01 41 11.2 +1.3
	baz=267					
D23K	**Nanushuk River**	82.65	21	IAmb	IAmb	01 41 38.9
	comp=Z,30nm,0.9s					
D23K	**Nanushuk River**	82.65	21	P	P	01 41 11.8 +1.5
	baz=265					
SEW	**Seward**	82.65	30	P	P	01 41 11.6 +1.2
	baz=268					
COLD	**Coldfoot**	82.70	23	P	P	01 41 12.8 +2.2
	baz=266					
G23K	**Bananza Creek**	82.73	23	IAmb	IAmb	01 41 40.8
	comp=Z,23nm,0.8s					
C23K	**Itkillik River**	82.74	20	IAmb	IAmb	01 41 39.1
	comp=Z,37nm,0.8s					
C23K	**Itkillik River**	82.74	20	P	P	01 41 12.2 +1.4
	baz=265					
PMR	**Palmer**	82.86	29	IAmb	IAmb	01 41 39.0
	comp=Z,27nm,0.9s					
PMR	**Palmer**	82.86	29	P	P	01 41 12.0 +0.5
PMR	**Palmer**	82.86	29	P	P	01 41 12.8 +1.2
	baz=268					
H23K	**Yukon River**	82.88	24	IAmb	IAmb	01 41 40.0
	comp=Z,25nm,0.9s					
I23K	**Minto, Yukon-K**	82.92	25	P	P	01 41 13.0 +1.3
	baz=267					
NEA2	**Nenana**	83.02	26	IAmb	IAmb	01 41 41.2
	comp=Z,37nm,1.0s					
NEA2	**Nenana**	83.02	26	P	P	01 41 13.0 +0.7
	baz=267,SNR=14					
TOLK	**Toolik Lake Re**	83.03	22	IAmb	IAmb	01 41 40.6
	comp=Z,21nm,0.8s					
TOLK	**Toolik Lake Re**	83.03	22	P	P	01 41 13.6 +1.3
	baz=266					
MCK	**McKinley**	83.04	27	P	P	01 41 13.2 +0.7
	baz=268,SNR=9.6					
RND	**Reindeer**	83.06	27	IAmb	IAmb	01 41 39.5
	comp=Z,26nm,0.8s					
WAT1	**Susitna Watana**	83.18	27	P	P	01 41 13.9 +0.7
	baz=268					
KNK	**Knik Glacier**	83.18	29	IAmb	IAmb	01 41 41.3
	comp=Z,36nm,0.9s					
KNK	**Knik Glacier**	83.18	29	P	P	01 41 13.9 +0.7
	baz=268,SNR=6.8					
PWL	**Port Wells**	83.22	29	P	P	01 41 14.5 +1.0
	baz=268,SNR=7.1					
SML	**Sawmill**	83.25	28	P	P	01 41 14.3 +0.6
	baz=268,SNR=8.5					
D24K	**Happy Valley**	83.33	21	IAmb	IAmb	01 41 42.2
	comp=Z,38nm,0.8s					
D24K	**Happy Valley**	83.33	21	P	P	01 41 15.2 +1.3
	baz=267					
C24K	**Franklin Bluff**	83.40	20	P	P	01 41 15.7 +1.6
	baz=267					
E24K	**Your Creek**	83.40	22	IAmb	IAmb	01 41 43.1
	comp=Z,20nm,0.9s					
WRH	**Wood River Hil**	83.43	26	IAmb	IAmb	01 41 42.0
	comp=Z,37nm,1.0s					
M23K	**Glacier View**	83.54	28	P	P	01 41 15.5 +0.4
	baz=269					
WAT6	**Susitna Watana**	83.55	28	P	P	01 41 16.4 +1.1
	baz=269,SNR=9.3					
COLA	**College**	83.55	25	P	P	01 41 16.0 +1.0
COLA	**College**	83.55	25	*i* P	P	01 41 12.7 -2.3
COLA				pmax	pmax	
	comp=Z,14nm,0.9s					
COLA	**College**	83.55	25	P	P	01 41 16.2 +1.2
	baz=268					
CCB	**Clear Creek Bu**	83.56	26	IAmb	IAmb	01 41 42.3
	comp=Z,27nm,1.1s					
H24K	**Noodor Dome**	83.56	24	IAmb	IAmb	01 41 44.4
	comp=Z,36nm,0.9s					
F24K	**Squaw Lake**	83.61	23	IAmb	IAmb	01 41 44.4
	comp=Z,29nm,0.8s					
P23K	**Montague Islan**	83.67	30	P	P	01 41 16.9 +1.1
	baz=269					
DHY	**Denali Highway**	83.72	27	IAmb	IAmb	01 41 45.3
	comp=Z,19nm,0.9s					
DHY	**Denali Highway**	83.72	27	P	P	01 41 17.6 +1.4
	baz=269					
SCM	**Sheep Creek Mo**	83.73	28	IAmb	IAmb	01 41 44.3
	comp=Z,43nm,1.0s					
SCM	**Sheep Creek Mo**	83.73	28	P	P	01 41 17.2 +1.0
	baz=269					
POKR	**Poker Plat Res**	83.73	25	P	P	01 41 16.8 +0.9
	baz=269					
KLMR	**Klimovskoe**	83.83	331	*e*P	P	01 41 13.4 -3.1
KLMR				*e**PP	pP	01 41 34.7 -2.6
KLMR				pmax	pmax	
	comp=Z,39nm,1.3s					
GLI	**Glacier Island**	83.83	29	P	P	01 41 17.5 +0.9
	baz=270					
HDA	**Harding Lake**	83.93	26	P	P	01 41 17.6 +0.6
	baz=269					
ILAR	**Eielson Array**	83.96	25	P	P	01 41 16.9 -0.2
	comp=Z,8.3nm,1.0s,baz=236,slow=5.0,SNR=35					
ILAR				LR	LR	02 16 11.3
	comp=Z,40nm,21.6s,baz=269,slow=34					
	comp=Z,8.3nm,1.0s					
VORR	**Voronezh**	84.05	321	*e*P	P	01 41 15.8 -2.1
VORR				pmax	pmax	
	comp=Z,26nm,0.4s					
VSR	**Storozhevoye**	84.08	321	*e*P	P	01 41 17.3 -0.7
VSR				pmax	pmax	
	comp=Z,5.0nm,0.8s					
D25K	**Kavik River**	84.20	21	P	P	01 41 05.7 -13
	baz=269					
LPSR	**Galich'ya Gora**	84.21	322	*e*P	P	01 41 18.1 -0.5
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.4s					
M24K	**Tolsona, Glenn**	84.27	28	P	P	01 41 19.9 +1.0
	baz=270					
KLU	**Klutina**	84.40	29	IAmb	IAmb	01 41 49.8
	comp=Z,17nm,0.8s					
KLU	**Klutina**	84.40	29	P	P	01 41 21.0 +1.4
	baz=271					
H25L	**Birch Creek**	84.41	24	P	P	01 41 21.2 +1.8
	baz=270					
F25K	**Christian Rive**	84.47	23	IAmb	IAmb	01 41 48.8
	comp=Z,25nm,1.0s					
F25K	**Christian Rive**	84.47	23	P	P	01 41 21.1 +1.4
	baz=270					
E25K	**Arctic Village**	84.50	22	P	P	01 41 21.6 +1.8
	baz=270					
PRP	**Porcupine Dome**	84.53	25	P	P	01 41 21.7 +1.5
	baz=271					
PAX	**Paxson**	84.59	27	IAmb	IAmb	01 41 48.7
	comp=Z,21nm,1.2s					
PAX	**Paxson**	84.59	27	P	P	01 41 21.6 +1.1
	baz=271					
J25K	**Salcha River,**	84.61	26	IAmb	IAmb	01 41 47.2
	comp=Z,13nm,0.7s					
J25K	**Salcha River,**	84.61	26	P	P	01 41 20.8 +0.2
	baz=271					
C26K	**Camden Bay**	84.71	20	P	P	01 41 22.6 +1.8
	baz=271					
HARP	**HAARP**	84.75	28	P	P	01 41 22.6 +1.4
	baz=271					
RIDG	**Independent Ri**	84.86	27	IAmb	IAmb	01 41 49.5
	comp=Z,44nm,1.1s					
RIDG	**Independent Ri**	84.86	27	P	P	01 41 23.2 +1.4
	baz=271,SNR=5.9					
BMAR	**Burnt Mountain**	84.88	23		P	01 41 23.2 +1.4
MOS	**Moscow**	84.90	325	*e*P	P	01 41 18.2 -3.8
MOS				*e*		01 41 39.1
VNDA	**Vanda**	85.00	173		P	01 41 22.0 -0.1
VNDA				IAmb	IAmb	01 41 23.1
	comp=Z,18nm,0.8s					
VNDA	**Vanda**	85.00	173	P	P	01 41 22.0 -0.1
	comp=Z,20nm,0.9s,baz=316,slow=5.8,SNR=84					
	comp=Z,20nm,0.9s					
VNDA	**Vanda**	85.00	173	P	P	01 41 22.0 -0.1
VNDA	**Vanda**	85.00	173	P	P	01 41 21.9 -0.1
MAW	**Mawson**	85.00	200	P	P	01 41 21.9 -0.3
	comp=Z,11nm,0.9s,baz=50,slow=6.8,SNR=21					
MAW				LR	LR	02 13 44.4
	comp=Z,44nm,21.8s,baz=69,slow=32					
	comp=Z,11nm,0.9s					
N25K	**Chitina, Valde**	85.03	29	P	P	01 41 24.6 +1.9
	baz=272					
BMRM	**Bremner River**	85.05	29	IAmb	IAmb	01 41 51.1
	comp=Z,28nm,0.9s					
BMRM	**Bremner River**	85.05	29	P	P	01 41 24.7 +1.9
	baz=272					
C27K	**Jago River**	85.14	21	P	P	01 41 24.8 +1.8
	baz=272					
KAIM	**Kayak Island**	85.17	30	P	P	01 41 24.9 +1.5
	baz=272					
G26K	**Porcupine Rive**	85.20	23	IAmb	IAmb	01 41 52.4
	comp=Z,28nm,1.0s					
G26K	**Porcupine Rive**	85.20	23	P	P	01 41 25.0 +1.7
	baz=272,SNR=5.3					
SCRK	**Sand Creek**	85.23	26	P	P	01 41 25.1 +1.4
	baz=272					
J26L	**Joseph Creek**	85.39	26	IAmb	IAmb	01 41 52.2
	comp=Z,18nm,0.8s					
J26L	**Joseph Creek**	85.39	26	P	P	01 41 25.9 +1.4
	baz=272					
GLB	**Gilahina Butte**	85.41	29	IAmb	IAmb	01 41 52.9
	comp=Z,29nm,1.1s					
ANN	**Anapa**	85.47	314	*e*P	P	01 41 20.4 -4.7
ANN				*e**PP	pP	01 41 42.1 -3.8
ANN				*e*		01 44 39.9
ANN				*e*S	SKSac	01 51 37.1 -6.1
ANN				pmax	pmax	
	comp=Z,21nm,1.0s					
BERG	**Berg Lake**	85.51	30	IAmb	IAmb	01 41 54.2
	comp=Z,37nm,1.0s					
OBN	**Obninsk**	85.52	325	*e*P	P	01 41 24.3 -0.8
OBN				*e**PP	pP	01 41 44.7 -1.2
OBN				*e**SP	sP	01 41 54.6 +0.3
OBN				*e*		01 44 44.4
OBN				*e*PPP	PPP	01 46 37.0
OBN				pmax	pmax	
	comp=Z,16nm,1.0s					
I26K	**Coal Creek Min**	85.53	25	IAmb	IAmb	01 41 52.8
	comp=Z,23nm,0.9s					
I26K	**Coal Creek Min**	85.53	25	P	P	01 41 26.6 +1.6
	baz=273,SNR=6.0					
L26K	**Log Cabin Wild**	85.56	27	P	P	01 41 26.6 +1.3
	baz=273					
VRDI	**Verde Repeater**	85.60	29	IAmb	IAmb	01 41 53.8
	comp=Z,17nm,1.0s					
BGLC	**Bering Glacier**	85.74	30	P	P	01 41 27.3 +1.2
	baz=273					
M26K	**Nabesna, AK**	85.75	28	P	P	01 41 27.6 +1.3
	baz=273					
CRQM	**Cirque**	85.77	29	IAmb	IAmb	01 41 55.0
	comp=Z,29nm,1.1s					
MCARA	**McCarthy VSAT**	85.79	29	P	P	01 41 27.5 +1.0
	baz=273					
CRQE	**Cirque**	85.80	29	P	P	01 41 28.4 +1.8
	baz=273					
SBA	**Scott Base**	85.91	172		P	01 41 27.4 +0.8
SBA				IAmb	IAmb	01 41 28.7
	comp=Z,46nm,1.6s					
SBA	**Scott Base**	85.91	172	P	P	01 41 27.4 +0.8
SBA				pmax	pmax	
	comp=Z,46nm,1.6s					
SBA	**Scott Base**	85.91	172	P	P	01 41 27.5 +0.8
TGL	**Tana Glacier**	85.92	29	IAmb	IAmb	01 41 55.6
	comp=Z,20nm,1.0s					
E27K	**Coleen River**	85.98	22	IAmb	IAmb	01 41 56.1
	comp=Z,15nm,0.8s					
G27K	**Doyon Strip**	86.05	23	P	P	01 41 29.2 +1.6
	baz=274					
PPT2	**Papeete2**	86.08	108	*e*LR	LR	02 08 44.6
	comp=Z,103nm,37.8s					
PPT2				*e*LR	LR	02 08 51.8
	comp=Z,131nm,28.8s					
H27K	**Steamboat Moun**	86.14	24	IAmb	IAmb	01 41 57.2
	comp=Z,16nm,0.8s					
H27K	**Steamboat Moun**	86.14	24	P	P	01 41 29.7 +1.5
	baz=274					
I27K	**Kandik River**	86.15	25	P	P	01 41 29.8 +1.6
	baz=274					
L27K	**Beaver Creek,**	86.25	27	P	P	01 41 30.0 +1.3
	baz=274					
APA	**Apatity**	86.25	337⇓	*e*P	P	01 41 28.0 -0.5
APA				MLR	MLR	
	comp=Z,205nm,6.1s					
M27K	**Edge Creek, AK**	86.27	28	P	P	01 41 30.9 +1.9
	baz=274					
EGAK	**Eagle**	86.41	25	P	P	01 41 30.8 +1.5
	baz=275					
GRNC	**Granite Creek**	86.45	29	IAmb	IAmb	01 42 08.0
	comp=Z,28nm,1.2s					
CTG	**Chitna Glacier**	86.64	29	P	P	01 41 32.1 +1.4
	baz=275					
CTGM	**Chitina Glacie**	86.64	29	IAmb	IAmb	01 41 59.8
	comp=Z,16nm,0.8s					
ASF	**Jabal al Asfar**	86.65	302	LR	LR	02 26 26.1
	comp=Z,29nm,18.0s,baz=137,slow=40					
F28M	**Old Crow**	86.68	23	IAmb	IAmb	01 41 59.3
	comp=Z,24nm,0.8s					
F28M	**Old Crow**	86.68	23	P	P	01 41 32.1 +1.5
	baz=276					
E28M	**Babbage River**	86.70	22	P	P	01 41 32.3 +1.5
	baz=276					
I28M	**Miner Creek**	86.86	25	IAmb	IAmb	01 42 00.6
	comp=Z,23nm,0.7s					
I28M	**Miner Creek**	86.86	25	P	P	01 41 33.0 +1.3
	baz=276					
D28M	**Stokes Point**	86.91	21	P	P	01 41 17.3 -14
	baz=276					
O28M	**Mount Upton**	87.22	29	P	P	01 41 34.8 +1.1
	baz=276					
DAWY	**Dawson**	87.24	26	P	P	01 41 34.5 +1.0
	baz=276					
PINM	**Pinnacle**	87.25	30	P	P	01 41 35.2 +1.5
	baz=276					
E29M	**Blow River**	87.33	22	P	P	01 41 35.6 +1.8
	baz=277					
YUK8	**Steele Glacier**	87.37	29	P	P	01 41 35.8 +1.3
	baz=276					
H29M	**Whitestone**	87.42	24	P	P	01 41 36.3 +2.0
	baz=277					
PNL	**Peninsula**	87.73	30	P	P	01 41 37.6 +1.7
	baz=276					
M29M	**Somme Creek**	87.85	28	P	P	01 41 38.2 +1.6
	baz=277					
YUK4	**Talbot Arm**	87.90	29	P	P	01 41 38.3 +1.4
	baz=277					
L29M	**L29M**	87.92	27	P	P	01 41 38.5 +1.7
	baz=277					
EPYK	**Eagle Plains**	88.06	24	IAmb	IAmb	01 42 05.1
	comp=Z,17nm,0.9s					
EPYK	**Eagle Plains**	88.06	24	P	P	01 41 38.5 +1.1
	baz=278					
O29M	**Mount Kennedy**	88.06	30	P	P	01 41 38.9 +1.3
	baz=277					
YUK6	**Outpost Mounta**	88.08	29	P	P	01 41 38.4 +0.5
	baz=277					
K29M	**Barlow Dome**	88.09	26	P	P	01 41 38.8 +1.2
	baz=278					
F30M	**Barrier River**	88.23	22	IAmb	IAmb	01 42 05.5
	comp=Z,17nm,0.8s					
F30M	**Barrier River**	88.23	22	P	P	01 41 39.5 +1.4
	baz=279					
I30M	**Mount Dempster**	88.38	25	P	P	01 41 40.0 +1.0
	baz=279					
J30M	**Hart River**	88.50	25	P	P	01 41 40.7 +1.2
	baz=279					
HYT	**Haines Junctio**	88.52	29	P	P	01 41 40.8 +1.1
	baz=278					
P29M	**Windy Craggy**	88.57	30	P	P	01 41 41.2 +1.3
	baz=278					
M30M	**Minto, Yukon**	88.60	27	P	P	01 41 41.2 +1.2
	baz=279					
N30M	**Aishikik Lake**	88.62	28	P	P	01 41 41.0 +0.8
	baz=278					
BR104	**Keskin Array S**	88.65	310	P	P	01 41 39.2 -1.7
	comp=Z,33nmcomp=Z,3.4nm,0.9s					
BR104				pP	pP	01 42 00.5 -1.3
	comp=Z,33nmcomp=Z,3.4nm,0.9s					
BRTR	**Keskin Array B**	88.65	310	P	P	01 41 38.9 -2.0
	comp=Z,1.3nm,0.9s,baz=122,slow=5.0,SNR=7.0					
	comp=Z,1.3nm,0.9s					
BR106	**Keskin Array S**	88.67	310	P	P	01 41 40.0 -0.9
	comp=Z,2.2nm,1.0s					
BR105	**Keskin Array S**	88.67	310	P	P	01 41 39.9 -1.1
	comp=Z,38nmcomp=Z,3.8nm,0.9s					
ARA0	**ARCESS Array S**	88.85	340	*e*P	P	01 41 39.0 -1.9
ARCES	**ARCESS Array B**	88.85	340		P	01 41 39.9 -1.0
ARCES				IAmb	IAmb	01 41 45.6
	comp=Z,13nm,0.9s					
ARCES	**ARCESS Array B**	88.85	340	P	P	01 41 40.3 -0.7
	comp=Z,6.9nm,0.7s,baz=77,slow=6.4,SNR=21					
ARCES				LR	LR	02 24 40.7
	comp=Z,91nm,21.9s,baz=88,slow=38					
	comp=Z,6.9nm,0.7s					
P30M	**Million Dollar**	88.89	30	P	P	01 41 42.1 +0.7
	baz=278					
SPA0	**Spitsbergen Ar**	88.89	349	*e*P	P	01 41 40.8 -0.2
SPITS	**Spitsbergen Ar**	88.89	349	P	P	01 41 41.2 +0.2
	comp=Z,5.9nm,0.6s,baz=96,slow=7.6,SNR=20					
	comp=Z,5.9nm,0.6s					
SPITS	**Spitsbergen Ar**	88.89	349	P	P	01 41 41.4 +0.4
SPITS				pmax	pmax	
	comp=Z,73nm,1.7s					
G31M	**Satah River**	88.93	23	IAmb	IAmb	01 42 08.3
	comp=Z,20nm,0.8s					
G31M	**Satah River**	88.93	23	P	P	01 41 42.2 +0.9
	baz=281					
INK	**Inuvik**	88.94	21	IAmb	IAmb	01 42 08.4
	comp=Z,15nm,1.1s					
INK	**Inuvik**	88.94	21	P	P	01 41 41.9 +0.5
	comp=Z,8.0nm,0.9s,baz=247,slow=6.2,SNR=7.2					
	comp=Z,8.0nm,0.9s					
INK	**Inuvik**	88.94	21	P	P	01 41 42.0 +0.7
	baz=281					
F31M	**Tsiigehtchic**	89.03	22	P	P	01 41 42.5 +0.7
	baz=281					
H31M	**Peel River**	89.11	24	P	P	01 41 42.7 +0.4
	baz=281					
O30N	**Mendenhall**	89.21	29	P	P	01 41 44.2 +1.3
	baz=279					
HAMF	**Hammerfest**	89.21	341	*e*P	P	01 41 40.4 -2.2
N31M	**Braeburn, Yuko**	89.24	28	P	P	01 41 44.3 +1.3
	baz=280					
KBS	**Kingsbay**	89.42	350	*e*P	P	01 41 43.1 -0.4
BJO1	**Bjornoya**	89.52	345	*e*P	P	01 41 43.1 -0.9
KTK1	**Kautokeino**	89.75	339	*e*P	P	01 41 43.0 -2.2
SKAG	**Skagway**	89.81	30	P	P	01 41 46.8 +1.2
	baz=280					
WHY	**Whitehorse**	89.81	29	P	P	01 41 46.7 +0.8
	baz=280					
SIT	**Sitka**	90.22	33	P	P	01 41 49.3 +1.8
	baz=280					
FINES	**FINESS Array B**	90.25	332	P	P	01 41 46.1 -1.6
	comp=Z,3.0nm,0.5s,baz=54,slow=4.7,SNR=46					
	comp=Z,3.0nm,0.5s					
AK09	**Malin Array Si**	90.36	321	P	P	01 41 48.8 +0.4
AK10

baz=281
S32K Killisnoo 90.55 32 P **P 01 41 50.3 +1.2**
baz=280
JETT Jettan, Norway 90.58 340 *e*P **P 01 41 47.6 -1.5**
N32M Quiet Lake 90.58 28 IAmb IAmb 01 42 17.2
comp=Z,17nm,0.8s
MNK Minsk 90.58 325 *i* P **P 01 41 45.6 -3.7**
MNK *i* *PP **pP 01 42 07.2 -3.1**
MNK *i* 01 45 22.4
MNK *i* PPP PPP 01 47 20.2
MNK *i* S **SKSac 01 52 09.3 -4.3**
MNK *i* SS **SS 01 58 38.3 -2.5**
MNK *i* SSS SSS 02 02 15.9
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=Z,72nm,25.0s
MNK MLR MLR
comp=N,90nm,22.0s
A36M Sachs Harbour 90.69 17 P **P 01 41 51.0 +1.5**
baz=289
P33M Teslin, Yukon 90.91 29 P **P 01 41 52.5 +1.6**
baz=282
TRO Tromso 91.05 340 *e*P **P 01 41 48.9 -2.3**
MMPY Sheldon Lake, 91.10 27 P **P 01 41 52.9 +1.3**
baz=284
LUBAR Lubar, Ukraine 91.44 320 P **P 01 41 52.6 -0.9**
Q32M Nakina River 91.45 31 P **P 01 41 54.3 +0.8**
baz=282
U33K Whale Pass 91.60 33 P **P 01 41 55.3 +1.3**
baz=282
CRAG Craig 91.73 34 P **P 01 41 55.0 +0.4**
baz=282
C36M Paulatuk 91.96 20 P **P 01 41 56.1 +0.7**
baz=290
WRAK Wrangell Islan 91.96 33 P **P 01 41 56.1 +0.4**
baz=282
CFR Carcaliu 91.98 316 ⇑P P 01 42 04.1 +8.1
CFR Carcaliu 91.98 316 ⇑P P 01 42 04.1 +8.1
R33M Jennings River 92.00 30 P **P 01 41 57.3 +1.3**
baz=284
S34M Telegraph Cree 92.27 31 P **P 01 41 58.1 +1.0**
baz=284
DLBC Dease Lake 92.71 31 LR LR 02 18 04.3
comp=N,819nm,21.4s,baz=210,slow=32
TGTN Hyland Airport 92.74 28 P **P 01 42 00.6 +1.3**
baz=286
TESR Tescani 92.78 317 ⇓P **P 01 41 58.2 -1.5**
TESR Tescani 92.78 317 P **P 01 41 57.4 -2.3**
comp=N,5.5nm,0.6s
VRI Vrincioaia 92.84 316 ⇑P **P 01 42 01.3 +1.3**
VRI Vrincioaia 92.84 316 ⇑P **P 01 42 01.3 +1.3**
WTLY Watson Lake, Y 92.88 29 P **P 01 42 01.3 +1.4**
baz=286
PLOR5 Plostina Array 92.89 316 P **P 01 42 00.2 -0.1**
comp=N,5.5nm,0.9s
BISRR Bisoca 92.91 316 P **P 01 42 00.4 0.0**
MLR Muntele Rosu 93.45 316 LR LR 02 28 43.0
comp=N,68nm,20.5s,baz=61,slow=38
MLR Muntele Rosu 93.45 316 ⇓P **P 01 41 59.0 -4.0**
MLR Muntele Rosu 93.45 316 ⇓P **P 01 41 59.0 -4.0**
BURAR Bucovina Array 93.52 318 ⇓P **P 01 42 05.6 +2.3**
BURAR Bucovina Array 93.52 318 ⇓P **P 01 42 05.6 +2.3**
SYO Syowa Base 93.65 201⇑*e*P **P 01 42 02.8 -0.3**
SYO Syowa Base 93.65 201⇑*e*pP pP 01 42 24.6 +0.5
TAOE Nuku Hiva Isla 94.38 98 *e*LR LR 02 12 33.6
comp=N,183nm,28.3s
TOAD Toad River Com 94.99 30 P **P 01 42 10.5 +0.8**
baz=289
KOTAN Kotaneelee Air 95.14 28 P **P 01 42 11.1 +0.9**
baz=290
QSPA South Pole Qui 95.15 180 P **P 01 42 11.5 +1.3**
QSPA IAmb IAmb 01 42 13.7
comp=Z,14nm,1.1s
QSPA South Pole Qui 95.15 180 P **P 01 42 12.0 +1.7**
comp=Z,7.9nm,0.9s,baz=293,slow=1.0,SNR=22
BBB Bella Bella 95.39 37 LR LR 02 33 13.5
comp=Z,45nm,18.3s,baz=248,slow=40
HFS Hagfors 96.44 332 P **P 01 42 14.8 -1.4**
comp=Z,2.0nm,0.5s,baz=101,slow=4.7,SNR=19
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 97.20 334 P **P 01 42 17.9 -1.7**
comp=Z,1.0nm,0.6s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.20 334 P **P 01 42 18.7 -0.9**
NB2 NORSAR Subarra 97.20 334 P **P 01 42 17.9 -1.7**
baz=65,slow=4.6
NOA NORSAR Array B 97.20 334 P **P 01 42 18.0 -1.7**
comp=Z,1.4nm,0.6s,baz=66,slow=4.6,SNR=7.6
comp=Z,1.4nm,0.6s
NOA NORSAR Array B 97.20 334 P **P 01 42 18.0 -1.7**
YKA Yellowknife Ar 98.33 24 P Pdif 01 42 25.3 +0.7
comp=Z,1.9nm,0.8s,baz=310,slow=6.1,SNR=5.6
YKA LR LR 02 36 43.5
comp=Z,24nm,18.0s,baz=264,slow=41
comp=Z,1.9nm,0.8s
TROLL Troll, Antarti 104.96 196 ⇑P **Pdif 01 42 58.3 +4.2**
comp=Z,33nm,0.7s
NVAR Mina Array Bea 106.28 48 Pdiff **Pdif 01 43 02.5 +1.6**
comp=Z,0.4nm,0.6s,baz=289,slow=7.5,SNR=2.7
NVAR PKiKP **PKiKP 01 47 13.5 +1.4**
comp=Z,0.4nm,0.6s,baz=259,slow=1.5,SNR=5.3
NVAR PKKPbc **PKKPbc 01 58 32.0 -2.2**
comp=Z,0.4nm,0.7s,baz=348,slow=0.6,SNR=2.4
VNA1 Neumayer--Stat 108.56 195 ⇑P **Pdif 01 43 04.7 -5.2**
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 110.55 41 PKKPab PKKPab 01 58 27.5 -3.9
comp=Z,0.9nm,0.7s,baz=106,slow=3.5,SNR=6.7
ANMO Albuquerque 116.38 47 **PKiKP 01 47 31.5 +0.2**
ANMO Albuquerque 116.38 47 PKiKP **PKiKP 01 47 31.5 +0.2**
MNTX Cornudas Mount 118.67 50 **PKiKP 01 47 36.2 +0.6**
SCHQ Schefferville 119.15 9 PKP **PKiKP 01 47 36.0 +0.2**
comp=Z,22nm,0.7s,baz=63,slow=2.3,SNR=3.8
VHRN Van Horn 119.39 50 **PKPdf 01 47 36.8 -0.3**
TXAR Lajitas Array 121.07 51 PKP **PKiKP 01 47 41.0 +0.6**
comp=Z,1.9nm,0.8s,baz=212,slow=0.6,SNR=15
TXAR PKKPbc **PKKPbc 01 57 38.4 -5.3**
comp=Z,0.3nm,0.5s,baz=103,slow=3.8,SNR=5.7
TORD Torodi Ar. Bea 121.94 289 PKhKP PKPpre 01 47 38.6
comp=Z,6.6nm,0.7s,baz=41,slow=3.7,SNR=43
TORD PKP **PKPdf 01 47 41.4 -0.8**
comp=Z,6.5nm,0.7s,baz=40,slow=3.7,SNR=42
TORD PKKPab **PKKPab 01 57 41.0 +0.1**
comp=Z,0.9nm,0.7s,baz=301,slow=2.6,SNR=7.6
TORD PKKP **PKKPdf 01 58 07.8 -7.7**
comp=Z,0.8nm,0.8s,baz=324,slow=2.9,SNR=4.5
R40A Maddies Statio 123.87 36 **PKiKP 01 47 46.1 +0.5**
DBIC Dimbokro 129.74 283 PKP **PKPdf 01 47 57.5 +0.3**
comp=Z,8.2nm,0.8s,baz=75,slow=2.9,SNR=7.5
PLCA Paso Flores 141.61 159 PKhKP PKPpre 01 48 12.1
comp=Z,4.8nm,0.9s,baz=187,slow=5.9,SNR=7.1
PLCA PKP **PKPdf 01 48 18.8 +0.2**
comp=Z,4.6nm,0.8s,baz=191,slow=5.1,SNR=9.7
HERN Volcan Telica 142.67 61 **PKPdf 01 48 20.6 -0.5**
CCCC Cccc 144.72 41 *e*P **PKPdf 01 48 24.7 +0.2**
HLGC Holguin 146.04 39 *e*P **PKPbc 01 48 28.1 +0.3**
YAR Yar 146.23 40 *e*P **PKPab 01 48 28.8 -0.3**
TRQA Tornquist 146.51 168 PKPdf **PKPdf 01 48 27.0 -0.2**
TRQA Tornquist 146.51 168 PKP2 **PKPdf 01 48 27.0 -0.2**
MTDJ Mount Denham 146.94 45 PKPab **PKPab 01 48 31.4 -0.6**
QMBU Quimbuelo 147.34 39 *e*P **PKPdf 01 48 29.5 +0.5**
MASC Masc 147.71 38 *e*P **PKPbc 01 48 32.5 0.0**
MT05 Renca 147.87 153 **PKPdf 01 48 29.8 +0.2**
MT16 CCHEN 147.93 153 PKPdf **PKPdf 01 48 27.7 -2.0**
PEL Peldehue 148.10 153 **PKPbc 01 48 33.0 -0.2**
PEL Peldehue 148.10 153 PKP2 **PKPbc 01 48 33.0 -0.2**
LCO Las Campanas 151.46 148 **PKPdf 01 48 37.7 +2.0**
LCO Las Campanas 151.46 148 PKIKP **PKPdf 01 48 37.7 +2.0**
CPUP Villa Florida 158.77 171 PKP **PKPdf 01 48 45.2 -0.1**
comp=Z,1.2nm,1.0s,baz=105,slow=3.7,SNR=4.8
CPUP PKPab **PKPab 01 49 21.2 +0.2**
comp=Z,2.9nm,0.8s,baz=64,slow=3.7,SNR=13
LPAZ La Paz 162.17 129 PKP **PKPdf 01 48 50.3 +0.3**
comp=Z,3.7nm,1.0s,baz=244,slow=2.0,SNR=10.0
LPAZ PKPab **PKPab 01 49 39.6 +2.6**
comp=Z,6.2nm,0.9s,baz=241,slow=3.9,SNR=7.2
BDFB Brasilia 168.22 208 PKPab **PKPab 01 50 02.9 -0.1**
comp=Z,6.8nm,0.9s,baz=142,slow=4.8,SNR=7.4

***IDC 17** 01:43:13.0±66.0,* **15°.30S×167°.57E, h0**km**, mb4.2**/3, **mbtmp4.2**/3, **Error ellipse: s-maj=1111.0km**

s-min=116.6km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.86**	**231**	P	P	01 49 13.1	-0.3
	0.8nm,0.3s,baz=56,slow=8.6,SNR=4.1						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**31.98**	**257**	P	P	01 49 41.5	+0.3
	1.2nm,0.5s,baz=88,slow=8.7,SNR=13						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**32.75**	**250**	P	P	01 49 47.8	-0.2
	2.3nm,0.4s,baz=76,slow=9.5,SNR=35						
	2.3nm,0.4s						

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*RSPR **17** 01:46:12.2, 19°.06N×67°.16W, h33*km*±16*km*, MD2.8/11*
ISC 17 01:46:09.1±1.5, **19°.10N**±0°.09×**67°.16W**±0°.06, **h29**km**, n26,**
σ0°98/25, **5C-5D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.77**	**203**	⇓*iP*	**Pn**	**01 46 24.3**	**+0.3**
IDE	**Isla Desecheo**	**0.77**	**203**	*e*S	**Sn**	**01 46 35.4**	**+0.8**
AOPR	**Arecibo Observ**	**0.84**	**153**	⇓*e*P	**Pb**	**01 46 25.7**	**+0.5**
AOPR	**Arecibo Observ**	**0.84**	**153**	*e*S	**Sn**	**01 46 36.9**	**+0.5**
LSP	**Las Mesas**	**0.92**	**175**	⇓*e*P	**Pb**	**01 46 26.4**	**-0.1**
LSP	**Las Mesas**	**0.92**	**175**	*e*S	**Sb**	**01 46 37.8**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.94**	**153**	*e*S	**Sb**	**01 46 38.8**	**-0.2**
ECPR	**Experimental S**	**1.08**	**136**⇑*e*P		**Pb**	**01 46 29.6**	**+0.3**
ECPR	**Experimental S**	**1.08**	**136**	*e*S	**Sb**	**01 46 43.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.09**	**177**	⇓*e*P	**Pb**	**01 46 28.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.09**	**177**	*e*S	**Sb**	**01 46 42.9**	**-0.2**
MLPR	**Magueyes Islan**	**1.13**	**174**⇑*e*P		**Pb**	**01 46 29.4**	**-0.6**
MLPR	**Magueyes Islan**	**1.13**	**174**	*e*S	**Sb**	**01 46 44.1**	**-0.2**
CELP	**Cerrillos**	**1.16**	**151**⇑*e*P		**Pb**	**01 46 30.2**	**-0.3**
CELP	**Cerrillos**	**1.16**	**151**	*e*S	**Sb**	**01 46 44.3**	**-0.9**
OBIP	**Obispado Ponce**	**1.18**	**153**⇓*e*P		**Pb**	**01 46 30.8**	**0.0**
OBIP	**Obispado Ponce**	**1.18**	**153**	*e*S	**Sb**	**01 46 44.8**	**-0.8**
PDPR	**Patillas Dam,**	**1.52**	**135**⇑*e*P		**Pb**	**01 46 35.3**	**-1.5**
PDPR	**Patillas Dam,**	**1.52**	**135**	*e*S	**Sb**	**01 46 54.0**	**-1.7**
MIDR	**Miches**	**1.79**	**267**⇑*e*P		**Pb**	**01 46 39.9**	**-1.3**
MIDR	**Miches**	**1.79**	**267**	*e*S	**Sb**	**01 47 03.4**	**+0.2**
GTBY	**Guantanamo Bay**	**7.54**	**278**	*e*P	Pb	01 48 30.3	+11
RCC	**Rio Carpintero**	**8.10**	**278**	*e*P	**Pb**	**01 48 30.0**	**+1.4**
PINC	**Pinares de May**	**8.24**	**281**	*e*P	**Pb**	**01 48 29.3**	**-1.8**
MARVS	**Santiago de Cu**	**8.29**	**278**	*e*P	**Pb**	**01 48 29.9**	**-2.0**
MTDJ	**Mount Denham**	**9.87**	**267**	*e*P	**Pn**	**01 48 30.2**	**+1.0**

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*IDC **17** 01:53:38.6±0.8, 6°.66N×124°.98E, h0*km*, mb4.1/10, mbtmp4.1/10, MS3.7/21, Error ellipse: s-maj=17.0km s-min=9.2km az=133.0*
*DJA **17** 01:53:38.6±0.6, 7°N±5°×12°5E±°, h30*km*±8*km*, M5.1/10, mb5.0/10, mB5.4/6, MLv5.4/7, Mw(mB)4.8/6*
*NEIC **17** 01:53:40.2±1.5, 6°.74N±0°.05×125°.03E±0°.02, h10*km*±1*km*, mb4.7/22, Error ellipse: s-maj=8.6km s-min=3.8km az=185.0*
*GCMT **17** 01:53:42.2±0.4, 6°.92N±0°.02×125°.10E±0°.02, h17*km*±2*km*, MW4.7/77, Moment Tensor Solution. s10,c10; s77,c98; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.02±.10; $M_{\theta\theta}$1.46±.08; $M_{\phi\phi}$-1.44±.08; $M_{r\theta}$-0.08±.18; $M_{\theta\phi}$-0.22±.07; $M_{\phi r}$-0.04±.24; Best double couple: $M_0$1.46900×10^16^ NP1:φ$_s$319.00000°, δ86.00000°, λ1.00000°. NP2: φ$_s$229.00000°, δ89.00000°, λ176.00000°. Principal axes: T 1.4800, Plg3.0000°, Azm184.0000°; N -0.0250, Plg86.0000°, Azm39.0000°; P -1.4580, Plg2.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 01:53:40.8±0.5, **6°.78N**±0°.05×**125°.03E**±0°.06, **h13**km**, n67,**
σ1°64/50, **mb4.5**/24, **MS3.7**/18, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.62**	**62**	Pg	**Pg**	**01 53 52.2**	**-0.7**
DAV				Sg	**Sb**	**01 54 02.4**	**+0.3**
DAV	**Davao City (W)**	**0.62**	**62**	Pg	**Pg**	**01 53 52.4**	**-0.5**
	3μm,0.3s,baz=249,slow=8.4,SNR=186						
DAV				Lg	Lg	01 54 02.5	
	4μm,0.3s,baz=72,slow=19,SNR=11						
DAV				LR	LR	01 54 21.5	
	comp=Z,10μm,20.7s,baz=348,slow=59						
DAV	**Davao City (W)**	**0.62**	**62**	P	Pg	01 53 47.0	-5.9
SGSI	**Sangihe**	**3.11**	**171**	P	**Pn**	**01 54 31.3**	**+1.7**
SGSI				S	**Sb**	**01 55 15.5**	**+1.5**
MYLDM	**Lahad Datu**	**6.69**	**257**		**Pn**	**01 55 17.1**	**-1.7**
MRSI	**Marisa**	**6.98**	**206**	P	**Pn**	**01 55 24.1**	**+1.3**
	0.5nm122nm,0.6s						
MRSI				S	**Sn**	**01 56 45.0**	**+2.9**
	0.5nm122nm,0.6s						
TOLI2	**Tolitoli**	**7.04**	**217**		**Pn**	**01 55 21.6**	**-2.1**
TGY	**Tagaytay City**	**8.32**	**331**	LR	LR	01 59 18.3	
	comp=Z,411nm,19.7s,baz=80,slow=40						
APSI	**Ampana**	**8.35**	**204**	P	**Pn**	**01 55 42.7**	**+1.0**
	1μm68nm,0.7s						
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**01 55 49.5**	**+1.4**
	29nm,0.7s						
I39PW	**PALAU INFRASON**	**9.47**	**85**	I	I	02 47 20.0	
	baz=267,slow=308,SNR=1.7						
NLAI	**Namlea**	**10.16**	**168**	P	**Pn**	**01 56 09.6**	**+3.1**
	868nm70nm,0.8s						
SOEI	**Soe**	**16.44**	**183**	Pn	**Pn**	**01 57 28.6**	**-2.9**
BATI	**Baumata**	**16.93**	**185**	Pn	**P**	**01 57 39.1**	**-0.5**
	5.1nm,0.3s,baz=32,slow=1.8,SNR=4.1						
BATI				LR	LR	02 05 56.1	
	comp=Z,262nm,19.1s,baz=14,slow=44						
JAY	**Jayapura**	**18.17**	**120**	LR	LR	02 03 37.5	
	comp=Z,177nm,20.0s,baz=328,slow=33						
JOW	**Kunigami**	**20.18**	**8**	LR	LR	02 06 07.0	
	comp=Z,249nm,20.2s,baz=142,slow=37						
MTN	**Manton Dam**	**20.42**	**163**	P	**P**	**01 58 16.7**	**-1.1**
GUMO	**Guam**	**20.66**	**69**	P	**P**	**01 58 19.8**	**-0.7**
GUMO	**Guam**	**20.66**	**69**	LR	LR	02 04 54.2	
	comp=Z,133nm,21.4s,baz=266,slow=33						
KNRA	**Kununurra**	**22.61**	**171**		**P**	**01 58 40.0**	**-1.5**
KNRA				IAmb	IAmb	01 58 57.9	
	comp=Z,22nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.73**	**179**	P	**P**	**01 59 01.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.73**	**179**	P	**P**	**01 59 01.2**	**-0.9**
	comp=Z,11nm,0.8s,baz=351,slow=4.8,SNR=23						
	comp=Z,11nm,0.8s						
JCJ	**Chichijima**	**25.96**	**37**	LR	LR	02 07 37.0	
	comp=Z,99nm,20.6s,baz=147,slow=32						
JNU	**Nakatsue**	**26.77**	**11**	LR	LR	02 09 21.5	
	comp=Z,101nm,21.6s,baz=212,slow=35						
COEN	**Coen**	**27.36**	**139**	P	**P**	**01 59 24.7**	**-1.3**
COEN				IAmb	IAmb	01 59 43.0	
	comp=Z,9.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.93**	**297**	P	**P**	**01 59 36.3**	**+5.2**
	comp=Z,1.5nm,0.3s,baz=114,slow=8.0,SNR=5.4						
CMAR				LR	LR	02 10 32.7	
	comp=Z,107nm,21.0s,baz=100,slow=36						
WB0	**Warramunga Arr**	**27.94**	**161**		**P**	**01 59 29.4**	**-1.8**
WB0				IAmb	IAmb	01 59 47.9	
	comp=Z,9.5nm,1.0s						
WRAB	**Tennant Creek**	**28.08**	**161**	P	**P**	**01 59 31.0**	**-1.4**
WRAB				IAmb	IAmb	01 59 47.5	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**28.09**	**161**	P	**P**	**01 59 31.0**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=338,slow=9.8,SNR=15						
	comp=Z,2.8nm,0.8s						
WR8	**Warramunga Arr**	**28.15**	**161**		**P**	**01 59 31.7**	**-1.3**
WR8				IAmb	IAmb	01 59 47.7	
	comp=Z,12nm,1.2s						
KSRS	**Korea Array**	**30.65**	**5**	P	**P**	**01 59 56.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=167,slow=8.6,SNR=4.1						
	comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**31.48**	**164**	P	**P**	**02 00 00.1**	**-2.4**
ASAR	**Alice Springs**	**31.48**	**164**	P	**P**	**02 00 01.2**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=342,slow=6.7,SNR=14						
	comp=Z,1.6nm,0.6s						
MJAR	**Matsushiro Arr**	**31.98**	**20**	LR	LR	02 12 31.4	
	comp=Z,217nm,19.8s,baz=202,slow=35						
JMM	**Marumori**	**34.10**	**23**	P	**P**	**02 00 24.2**	**-1.0**
JMM				IAmb	IAmb	02 00 35.2	
	comp=Z,12nm,0.8s						
SHL	**Shillong**	**36.74**	**304**		**P**	**02 00 48.6**	**+0.2**
SHL				IAmb	IAmb	02 00 55.5	
	comp=Z,9.1nm,0.9s						
FORT	**Forrest**	**37.46**	**176**	P	**P**	**02 00 53.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**37.77**	**8**	P	**P**	**02 00 58.2**	**+1.6**
	comp=Z,6.0nm,0.9s,baz=156,slow=6.3,SNR=5.1						
	comp=Z,6.0nm,0.9s						
BBOO	**Buckleboo**	**40.74**	**166**	P	**P**	**02 01 21.1**	**-0.5**
BBOO				IAmb	IAmb	02 01 26.5	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**41.56**	**159**	P	**P**	**02 01 27.4**	**-0.9**
STKA	**Stephens Creek**	**41.56**	**159**	P	**P**	**02 01 27.9**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=335,slow=11,SNR=4.2						
	comp=Z,2.7nm,0.5s						
SONM	**Songino Array**	**43.89**	**342**	P	**P**	**02 01 51.1**	**+3.9**
	comp=Z,0.6nm,0.6s,baz=145,slow=5.3,SNR=2.1						
PALK	**Pallekele**	**43.98**	**273**	LR	LR	02 22 31.9	
	comp=Z,60nm,18.5s,baz=73,slow=39						
PETK	**Petropavlovsk-**	**53.30**	**24**	LR	LR	02 25 34.7	
	comp=Z,103nm,19.9s,baz=220,slow=36						
MKAR	**Makanchi Array**	**54.10**	**325**	P	**P**	**02 03 05.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=128,slow=6.8,SNR=6.4						
MKAR				LR	LR	02 26 23.0	
	comp=Z,44nm,21.6s,baz=117,slow=36						
	comp=Z,0.5nm,0.5s						
AAK	**Ala-Archa**	**56.98**	**317**	LR	LR	02 30 23.6	
	comp=Z,134nm,20.8s,baz=102,slow=39						
ZALV	**Zalesovo Beam**	**57.12**	**333**	LR	LR	02 30 25.2	
	comp=Z,50nm,18.2s,baz=96,slow=39						
KURBB	**Kurchatov Arra**	**58.28**	**327**	P	**P**	**02 03 35.0**	**-0.2**
	comp=Z,0.7nm,0.2s,baz=131,slow=5.2,SNR=4.6						
	comp=Z,0.7nm,0.2s						
GAR	**Garm**	**58.63**	**312**		**P**	**02 03 36.8**	**-1.3**
KKAR	**Karatay Array**	**59.87**	**316**		**P**	**02 03 46.6**	**+0.2**
PYZ	**Puysegur Point**	**64.44**	**149**	P	**P**	**02 04 17.4**	**+0.4**
AB31	**Akbulak array**	**68.73**	**320**	P	**P**	**02 04 45.1**	**+0.7**
AB31				IAmb	IAmb	02 05 01.6	
	comp=Z,7.5nm,1.4s						
ABKAR	**Akbulak array**	**68.73**	**320**		**P**	**02 04 43.3**	**-1.1**
AKTO	**Aktyubinsk**	**70.23**	**121**	LR	LR	02 38 17.0	
	comp=Z,105nm,19.4s,baz=145,slow=38						
KIRV	**Kirov**	**76.75**	**329**	LR	LR	02 42 19.5	
	comp=Z,64nm,18.2s,baz=95,slow=38						
RAYN	**Ar Rayn**	**77.75**	**293**		**P**	**02 05 36.6**	**-1.6**
KBZ	**Khabaz**	**79.67**	**313**	LR	LR	02 44 54.8	
	comp=Z,58nm,19.2s,baz=49,slow=39						
MCK	**McKinley**	**82.21**	**27**	P	**P**	**02 06 00.9**	**-0.6**
RND	**Reindeer**	**82.24**	**27**	P	**P**	**02 06 01.2**	**-0.5**
RND				IAmb	IAmb	02 06 06.4	
	comp=Z,18nm,1.5s						
ILAR	**Eielson Array**	**83.10**	**26**	P	**P**	**02 06 06.3**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=236,slow=4.8,SNR=5.7						
	comp=Z,1.2nm,1.0s						
K27K	**Chicken**	**85.23**	**26**	P	**P**	**02 06 17.6**	**+0.6**
K27K				IAmb	IAmb	02 06 24.3	
	comp=Z,11nm,1.4s						
I28M	**Miner Creek**	**85.98**	**25**	P	**P**	**02 06 20.2**	**-0.6**
I28M				IAmb	IAmb	02 06 29.5	
	comp=Z,9.8nm,1.2s						
MAW	**Mawson**	**86.02**	**200**	LR	LR	02 42 36.9	
	comp=Z,29nm,19.8s,baz=52,slow=34						
VNDA	**Vanda**	**86.65**	**172**	P	**P**	**02 06 22.8**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=334,slow=10,SNR=5.0						
	comp=Z,0.2nm,0.5s						
EIL	**Elat**	**86.76**	**299**	LR	LR	02 50 07.4	
	comp=Z,34nm,20.5s,baz=348,slow=39						
FINES	**FINESS Array B**	**88.36**	**332**	LR	LR	02 48 35.5	
	comp=Z,89nm,19.4s,baz=32,slow=37						
HFS	**Hagfors**	**94.55**	**332**	LR	LR	02 51 26.2	
	comp=Z,102nm,21.6s,baz=56,slow=37						

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*IDC **17** 01:53:50.3±10.0, 36°.04N×70°.79E, h145*km*±97*km*, mb3.3/7, mbtmp3.7/9, Error ellipse: s-maj=49.1km s-min=27.9km az=27.0*
*NNC **17** 01:53:51.6±3.2, 36°.94N×70°.62E, h0*km*, mb3.9, mpv3.7, Error ellipse: s-maj=26.9km s-min=21.4km az=157.0*
ISC 17 01:53:53.1±1.4, **36°.6N**±0°.1×**71°.0E**±0°.1, **h150**km**, n16,**
σ2°05/15, **mb3.3**/5, **3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**6.41**	**15**	Pg	**Pn**	**01 55 25.0**	**-0.2**
MRKS				Lg	Lg	01 56 35.4	
BRLS	**Borolday**	**6.53**	**352**	Pg	Pn	01 55 20.2	-6.6
	3.7nm,0.3s						
BRLS				Lg	Lg	01 56 30.3	
	13nm,0.6s						
KK31	**Karatay Array**	**6.55**	**357**	⇑P	Pn	01 55 24.0	-3.0
	3.4nm,0.3s,baz=176,slow=12,SNR=99						
KK31				⇓S	**Sn**	**01 56 36.0**	**-4.6**
	29nm,0.6s,baz=177,slow=24						
AAK	**Ala-Archa**	**6.63**	**23**	⇑P	**Pn**	**01 55 27.7**	**-0.6**
	0.8nm,0.3s						
AAK				⇑S	**Sn**	**01 56 43.1**	**+0.3**
	10nm,0.7s						
MK31	**Makanchi Array**	**13.23**	**36**	P	**P**	**01 57 00.4**	**+0.9**
	1.0nm,0.7s,baz=208,slow=10,0,SNR=4.5						
MKAR	**Makanchi Array**	**13.23**	**36**	P	**P**	**01 57 01.1**	**+1.6**
	0.6nm,0.7s,baz=211,slow=10,SNR=5.1						
AB31	**Akbulak array**	**15.05**	**331**	P	**Pn**	**01 57 17.7**	**-0.1**
	1.0nm,0.5s,baz=157,slow=12,SNR=53						
KURBB	**Kurchatov Arra**	**15.06**	**19**	P	**P**	**01 57 22.9**	**+3.2**
	1.0nm,0.2s,baz=205,slow=9.9,SNR=4.3						
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P	**P**	**01 57 39.9**	**+1.5**
	2.7nm,0.7s						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**P**	**01 58 14.1**	**+1.9**
	1.9nm,0.3s,baz=206,slow=10,SNR=8.1						
	1.9nm,0.3s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**02 00 51.7**	**+0.2**
	2.2nm,0.8s,baz=122,slow=13,SNR=3.5						
	2.2nm,0.8s						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**02 01 23.3**	**+1.6**
	0.1nm,0.3s,baz=116,slow=10,SNR=3.8						
	0.1nm,0.3s						
HFS	**Hagfors**	**43.04**	**322**	P	**P**	**02 01 37.8**	**+0.3**
	1.3nm,0.7s,baz=103,slow=12,SNR=2.0						
	1.3nm,0.7s						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**02 01 47.8**	**-0.2**
	0.4nm,0.6s,baz=97,slow=7.9,SNR=2.5						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	P	02 04 18.4	-3.8
	0.9nm,0.6s,baz=47,slow=7.2,SNR=12						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**82.00**	**

NOA	**NORSAR Array B**	**97.03 334**	LR	LR	02 56 16.2	
	comp=Z,46nm,18.9s,baz=60,slow=37					
TORD	**Torodi Ar. Bea**	**122.44 289**	PKP	**PKPdf**	**02 14 31.1**	**+0.1**
	0.4nm,0.7s,baz=61,slow=3.0,SNR=4.4					

*DJA **17** 01:56:32.5±0.5, 3°N±7°×12°7E±°, h37km±18km, M4.6/9, mb4.9/3, MLv4.4/9*
*NEIC **17** 01:56:33.5±1.5, 3°.33N±0°.09×126°.73E±0°.10, h35km±2km, mb4.8/46, Error ellipse: s-maj=19.0km s-min=12.5km az=230.0*
*IDC **17** 01:56:41.2±6.0, 3°.14N×126°.69E, h122km±58km, mb3.9/13, mbtmp4.3/14, Error ellipse: s-maj=40.4km s-min=14.5km az=75.0*

ISC 17 01:56:34.5±0.4, 3°27N±0°.06×126°.65E±0°.07, h53km, n79, σ1§14/83, mb4.7/41, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.19**	**291**	P	**Pn**	**01 56 53.4**	**-1.4**
SGSI				S	**Sn**	**01 57 09.3**	**-0.7**
TNTI	**Ternate**	**2.58**	**164**		**Pn**	**01 57 14.4**	**+0.6**
TNTI	**Ternate**	**2.58**	**164**	P	**Pn**	**01 57 14.6**	**+0.8**
MRSI	**Marisa**	**5.46**	**240**	P	**Pn**	**01 57 55.5**	**+2.2**
TOLI2	**Tolitoli**	**6.24**	**250**	Pn	**Pn**	**01 58 04.4**	**+0.4**
JAY	**Jayapura**	**15.18**	**112**	P	**Pn**	**02 00 06.7**	**+1.0**
	34nm,1.1s,baz=244,slow=6.7,SNR=4.8						
JAGI	**Jajag, Banyuwa**	**17.06**	**227**	Pn	**Pn**	**02 00 30.1**	**+0.6**
KNRA	**Kununurra**	**18.94**	**174**		**P**	**02 00 52.2**	**+1.0**
TPUB	**Ta-pu**	**20.75**	**344**	P	**P**	**02 01 09.4**	**-1.6**
TPUB				IAmb	IAmb	02 01 23.1	
	comp=Z,52nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.25**	**183**	P	**P**	**02 01 16.3**	**0.0**
FITZ	**Fitzroy Crossi**	**21.25**	**183**	P	**P**	**02 01 16.6**	**+0.2**
	comp=Z,5.9nm,0.6s,baz=357,slow=11,SNR=7.7						
	comp=Z,5.9nm,0.6s						
COEN	**Coen**	**23.70**	**137**	P	**P**	**02 01 40.6**	**-1.1**
WB0	**Warramunga Arr**	**24.12**	**162**		**P**	**02 01 44.4**	**-1.1**
WB0				IAmb	IAmb	02 01 46.4	
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**24.27**	**162**	P	**P**	**02 01 45.8**	**-1.1**
WRAB				IAmb	IAmb	02 01 47.9	
	comp=Z,22nm,1.0s						
WRA	**Warramunga Arr**	**24.27**	**162**		**P**	**02 01 46.3**	**-0.6**
WRA	**Warramunga Arr**	**24.27**	**162**	P	**P**	**02 01 45.8**	**-1.2**
	comp=Z,15nm,0.9s,baz=341,slow=10,SNR=14						
	comp=Z,15nm,0.9s						
WR8	**Warramunga Arr**	**24.33**	**162**		**P**	**02 01 46.3**	**-1.1**
WR8				IAmb	IAmb	02 01 48.6	
	comp=Z,22nm,1.0s						
MBWA	**Marble Bar**	**25.20**	**195**	P	**P**	**02 01 55.1**	**-0.2**
MBWA				IAmb	IAmb	02 02 33.9	
	comp=Z,26nm,1.3s						
PSA00	**Pilbara Seismi**	**25.57**	**195**	P	**P**	**02 01 58.9**	**+0.2**
PSA00				IAmb	IAmb	02 02 16.5	
	comp=Z,22nm,1.2s						
ASAR	**Alice Springs**	**27.69**	**166**	P	**P**	**02 02 15.5**	**-2.3**
ASAR	**Alice Springs**	**27.69**	**166**	P	**P**	**02 02 17.1**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=344,slow=7.5,SNR=5.4						
	comp=Z,1.4nm,0.6s						
NJ2	**Nanjing**	**29.56**	**347**	*e*P	**P**	**02 02 35.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PZH	**PanZhiHua**	**33.22**	**316**	P	**P**	**02 03 08.4**	**+1.7**
FORT	**Forrest**	**33.88**	**178**	P	**P**	**02 03 12.4**	**+0.1**
FORT				IAmb	IAmb	02 03 16.8	
	comp=Z,5.7nm,0.6s						
KSRS	**Korea Array**	**34.04**	**2**	P	**P**	**02 03 15.1**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=180,slow=10,SNR=4.5						
	comp=Z,0.9nm,0.5s						
XAN	**Xi'an**	**34.79**	**334**	⇑P	**P**	**02 03 18.9**	**-1.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
EIDS	**Eidsvold**	**37.04**	**142**	P	**P**	**02 03 38.1**	**-1.4**
EIDS				IAmb	IAmb	02 03 39.4	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**37.73**	**159**		**P**	**02 03 44.8**	**-0.4**
STKA	**Stephens Creek**	**37.73**	**159**	P	**P**	**02 03 44.4**	**-0.9**
	comp=Z,12nm,0.8s,baz=353,slow=9.9,SNR=8.4						
	comp=Z,12nm,0.8s						
BJI	**Beijing**	**37.81**	**347**	P	**P**	**02 03 46.8**	**+1.0**
BJI				pP	**pP**	**02 03 56.9**	**-1.9**
BJI				sP	**pwP**	**02 04 00.3**	**-1.7**
BJI				S	**S**	**02 09 35.5**	**+2.4**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BJI				LR	LR		
	comp=N,62nm,21.6s						
BJI				LR	LR		
	comp=E,120nm,23.0s						
BJI				LR	LR		
	comp=Z,61nm,22.2s						
LZH	**Lanzhou**	**38.86**	**330**	*e*P	**P**	**02 03 56.8**	**+1.9**
LZH				pP	pP	02 04 07.3	-0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
HHC	**Hu-ho-hao-te**	**39.81**	**342**	*e*P	**P**	**02 04 05.9**	**+3.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,60nm,3.6s						
SHL	**Shillong**	**40.08**	**307**		**P**	**02 04 06.4**	**+1.1**
SHL				IAmb	IAmb	02 04 09.1	
	comp=Z,12nm,0.5s						
ARMA	**Armidale**	**41.13**	**146**	P	**P**	**02 04 13.7**	**-0.1**
ARMA				IAmb	IAmb	02 04 14.8	
	comp=Z,13nm,1.0s						
EVN	**Everest**	**45.20**	**307**	P	**P**	**02 04 47.6**	**+0.3**
WMQ	**Urumqi**	**53.05**	**325**	*e*P	**P**	**02 05 46.8**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				LR	LR		
	comp=Z,96nm,16.9s						
MKAR	**Makanchi Array**	**57.89**	**325**		**P**	**02 06 21.3**	**+0.2**
MKAR	**Makanchi Array**	**57.89**	**325**	P	**P**	**02 06 21.1**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=125,slow=7.9,SNR=11						
	comp=Z,3.4nm,0.7s						
MAKZ	**Makanchi**	**58.07**	**325**	P	**P**	**02 06 22.6**	**+0.2**
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**02 06 41.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=133,slow=5.7,SNR=5.1						
	comp=Z,1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**62.08**	**328**	P	**P**	**02 06 50.4**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=128,slow=6.2,SNR=16						
	comp=Z,3.7nm,0.6s						
KURK	**Kurchatov**	**62.08**	**328**		**P**	**02 06 50.4**	**+0.7**
KURK				IAmb	IAmb	02 06 53.7	
	comp=Z,6.9nm,0.6s						
RTZ	**Ruatahuna**	**62.35**	**137**	P	**P**	**02 06 51.8**	**0.0**
AB31	**Akbulak array**	**72.45**	**321**	P	**P**	**02 07 55.4**	**0.0**
J17K	**VABM Dome**	**80.08**	**26**	P	**P**	**02 08 39.2**	**+0.9**
J17K				IAmb	IAmb	02 08 48.4	
	comp=Z,18nm,1.5s						
L18K	**Granite Mounta**	**80.92**	**27**	P	**P**	**02 08 43.0**	**+0.1**
L18K				IAmb	IAmb	02 08 46.3	
	comp=Z,22nm,1.5s						
C19K	**Lookout Ridge**	**81.20**	**20**	P	**P**	**02 08 46.4**	**+2.0**
C19K				IAmb	IAmb	02 08 46.5	
	comp=Z,26nm,1.4s						
D19K	**Kuna River**	**81.58**	**21**	P	**P**	**02 08 47.7**	**+1.3**
D19K				IAmb	IAmb	02 09 18.6	
	comp=Z,30nm,1.5s						
J19K	**Poorman**	**81.70**	**26**	P	**P**	**02 08 48.8**	**+1.7**
D20K	**Etivluk River**	**82.17**	**21**	P	**P**	**02 08 50.8**	**+1.4**
D20K				IAmb	IAmb	02 09 06.0	
	comp=Z,12nm,1.2s						
F20K	**Avaraart Lake**	**82.19**	**23**	P	**P**	**02 08 51.4**	**+1.9**
F20K				IAmb	IAmb	02 09 03.6	
	comp=Z,12nm,1.5s						
KDAK	**Kodiak Island**	**82.32**	**32**	P	**P**	**02 08 51.2**	**+0.8**
J20K	**Nowinta River**	**82.37**	**26**	P	**P**	**02 08 51.5**	**+1.0**
J20K				IAmb	IAmb	02 09 03.2	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**82.80**	**24**	P	**P**	**02 08 53.6**	**+0.9**
VNDA	**Vanda**	**82.98**	**173**	P	**P**	**02 08 51.4**	**-2.1**
	comp=Z,2.4nm,1.1s,baz=286,slow=7.3,SNR=6.0						
	comp=Z,2.4nm,1.1s						
B21K	**Ikpikpuk River**	**83.03**	**20**	P	**P**	**02 08 54.8**	**+1.0**
PPLA	**Purkeypile**	**83.08**	**27**	P	**P**	**02 08 55.1**	**+0.7**
PPLA				IAmb	IAmb	02 09 20.9	
	comp=Z,22nm,1.4s						
SKT	**Skwentna**	**83.28**	**28**	P	**P**	**02 08 55.5**	**+0.1**
SKT				IAmb	IAmb	02 08 57.5	
	comp=Z,14nm,1.4s						
BRLK	**Bradley Lake**	**83.39**	**30**	P	**P**	**02 08 56.1**	**+0.1**
SLKM	**Skilak Lake**	**83.79**	**30**	P	**P**	**02 08 58.2**	**+0.3**
H23K	**Yukon River**	**84.50**	**24**	P	**P**	**02 09 02.7**	**+1.2**
RND	**Reindeer**	**84.63**	**27**	P	**P**	**02 09 02.6**	**+0.4**
RND				IAmb	IAmb	02 09 11.3	
	comp=Z,7.8nm,1.4s						
KNK	**Knik Glacier**	**84.70**	**29**	P	**P**	**02 09 03.0**	**+0.4**
PWL	**Port Wells**	**84.73**	**29**	P	**P**	**02 09 03.6**	**+0.8**
SML	**Sawmill**	**84.78**	**28**	P	**P**	**02 09 03.8**	**+0.7**
SCM	**Sheep Creek Mo**	**85.26**	**28**	P	**P**	**02 09 05.6**	**+0.1**
GLI	**Glacier Island**	**85.34**	**29**	P	**P**	**02 09 05.5**	**-0.3**
ILAR	**Eielson Array**	**85.56**	**25**	P	**P**	**02 09 06.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=237,slow=4.5,SNR=4.4						
	comp=Z,0.3nm,0.6s						
J25K	**Salcha River,**	**86.20**	**26**	P	**P**	**02 09 09.3**	**-0.8**
J25K				IAmb	IAmb	02 09 25.0	
	comp=Z,5.4nm,1.4s						
BMAR	**Burnt Mountain**	**86.53**	**23**	P	**P**	**02 09 12.6**	**+0.9**
BCAR	**Beaver Creek A**	**87.83**	**27**	P	**P**	**02 09 18.2**	**+0.2**
I28M	**Miner Creek**	**88.48**	**25**	P	**P**	**02 09 22.0**	**+0.9**
DAWY	**Dawson**	**88.83**	**26**	P	**P**	**02 09 23.3**	**+0.6**
DAWY				IAmb	IAmb	02 09 40.1	
	comp=Z,4.8nm,1.4s						
BRTR	**Keskin Array B**	**90.25**	**310**	P	**P**	**02 09 27.9**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=138,slow=6.5,SNR=4.2						
	comp=Z,0.6nm,0.9s						
ARCES	**ARCESS Array B**	**90.85**	**340**	P	**P**	**02 09 31.6**	**-0.4**
ARCES				IAmb	IAmb	02 09 39.3	
	comp=Z,9.4nm,1.4s						
ARCES	**ARCESS Array B**	**90.85**	**340**	P	**P**	**02 09 30.6**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=83,slow=5.2,SNR=2.0						
	comp=Z,1.3nm,0.9s						
SYO	**Syowa Base**	**91.97**	**201**	‖*e*P	**P**	**02 09 37.0**	**0.0**
FINES	**FINESS Array B**	**92.20**	**332**	P	**P**	**02 09 39.0**	**+0.7**
FINES	**FINESS Array B**	**92.20**	**332**	P	**P**	**02 09 38.3**	**0.0**
	comp=Z,2.1nm,0.9s,baz=98,slow=7.2,SNR=1.6						
	comp=Z,2.1nm,0.9s						

IDC 17 02:01:43.1±4.5, 20°.75S×175°.52W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=118.2km s-min=78.1km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**46.33**	**287**	P	P	02 10 11.5	+0.2
	12nm,0.8s,baz=100,slow=6.1,SNR=4.2						
	12nm,0.8s						
ASAR	**Alice Springs**	**46.72**	**257**	P	P	02 10 15.1	+0.8
	1.5nm,0.8s,baz=95,slow=7.5,SNR=12						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**46.86**	**262**	P	P	02 10 15.1	-0.3
	0.9nm,0.5s,baz=97,slow=8.2,SNR=12						
	0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.29**	**262**	P	P	02 11 17.6	-1.2
	0.6nm,0.5s,baz=72,slow=3.2,SNR=7.1						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**144.33**	**333**	PKP	PKPdf	02 21 20.6	-0.5
	0.8nm,0.5s,baz=46,slow=3.3,SNR=5.8						

*SKHL **17** 02:04:22.0±0.3, 44°.50N×148°.40E, h41km±1km, mb4.6/3*
*JMA **17** 02:04:22.2±0.4, 44°N±2°×14°8E±°, h0km, MV3.8/22, SE OFF ETOROFU*

ISC 17 02:04:19.7±3.7, 44°.41N±0°.10×148°.6E±0°.2, h35km, n11, σ1§49/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**329**	*e*P	**Pn**	**02 04 36.9**	**+0.2**
KUR				AMB	AMB	02 04 38.5	
	210nm,0.2s						
KUR				*e*S	**Sn**	**02 04 48.1**	**-1.1**
KUR				A	A	02 04 52.9	
	590nm,0.2s						
KUR				A	A	02 04 52.9	
	480nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.99**	**260**	*e*P	**Pn**	**02 04 51.5**	**+0.8**
YUK				AMB	AMB	02 04 53.0	
	90nm,0.2s						
YUK				*e*S	**Sn**	**02 05 13.3**	**-1.1**
YUK				A	A	02 05 14.5	
	180nm,0.2s						
YUK				A	A	02 05 14.5	
	150nm,0.2s						
NEM2	**Nemuro 2**	**2.30**	**244**	P	**Pn**	**02 04 55.5**	**+0.5**
NEM2				*e*S	**Sn**	**02 05 19.4**	**-2.7**
GLVR	**Golovnino**	**2.30**	**254**	*e*P	**Pn**	**02 04 56.8**	**+1.7**
GLVR				AMB	AMB	02 04 57.3	
	130nm,0.3s						
GLVR				*e*S	**Sn**	**02 05 23.1**	**+0.9**
GLVR				A	A	02 05 27.6	
	320nm,0.3s						
GLVR				A	A	02 05 27.6	
	220nm,0.3s						
NMR	**Nemuro--Hokkai**	**2.31**	**244**	*i* P	**Pn**	**02 04 55.4**	**+0.3**
NMR				*i* S	**Sn**	**02 05 20.5**	**-1.8**
JRA	**Rausu**	**2.53**	**260**	P	**Pn**	**02 05 00.1**	**+1.9**
JNSB	**Nemuroshibetsu**	**2.65**	**257**	*e*P	**Pn**	**02 05 01.7**	**+1.8**
JKHN	**Kushirohamanak**	**2.81**	**243**	*e*P	**Pn**	**02 05 02.9**	**+0.8**
JNK	**Nakash**	**2.90**	**255**	P	**Pn**	**02 05 04.9**	**+1.6**
JNK				*e*S	**Sn**	**02 05 36.1**	**-0.9**
AKK	**Akkeshi**	**3.04**	**244**	*e*P	**Pn**	**02 05 06.1**	**+0.8**
JAK	**Akkeshi**	**3.15**	**245**	*e*P	**Pn**	**02 05 07.6**	**+0.9**
JAK				*e*S	**Sn**	**02 05 41.3**	**-1.8**

IDC 17 02:18:08.5±10.0, 6°.91S×129°.51E, h159km±105km, mb3.4/2, mbtmp3.7/5, Error ellipse: s-maj=104.5km s-min=33.7km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.74**	**198**	P	Pn	02 20 51.8	+0.6
	1.7nm,1.0s,baz=20,slow=11,SNR=12						
FITZ				S	Sn	02 22 54.5	-6.8
	1.7nm,0.5s,baz=208,slow=6.2,SNR=6.9						
WRA	**Warramunga Arr**	**13.78**	**161**	P	Pn	02 21 15.7	-1.6
	0.3nm,0.4s,baz=340,slow=13,SNR=7.0						
WRA				S	Sn	02 23 41.9	-8.4
	0.6nm,0.4s,baz=334,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**17.19**	**166**	P	Pn	02 22 00.1	+0.8
	1.2nm,0.4s,baz=347,slow=11,SNR=20						
STKA	**Stephens Creek**	**27.28**	**157**	P	P	02 23 37.7	-0.5
	0.6nm,0.3s,baz=329,slow=12,SNR=1.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	02 28 49.9	0.0
	0.3nm,0.4s,baz=141,slow=5.9,SNR=4.1						
	0.3nm,0.4s						

*OSPL **17** 02:18:46.6±1.5, 18°.54N×73°.33W, h8km±12km, ML2.4*
*SSNC **17** 02:18:49.2±1.2, 18°.91N×73°.02W, h14km±11km, MD3.2, ML2.1*

ISC 17 02:18:47.6±1.2, 18°.8N±0°.1×73°.14W±0°.07, h22km±9km, n14, σ1§01/25, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**1.60**	**96**	*i* P	**Pn**	**02 19 14.8**	**+0.1**
LONE3				*e*S	**Sb**	**02 19 37.2**	**+0.8**
LONE3				IAML		02 19 43.3	
	comp=Z,39nm,0.8s						
LODU1	**El Espartillar**	**1.64**	**105**	*i* P	**Pn**	**02 19 15.4**	**+0.4**
LODU1				IAML		02 19 47.6	
	comp=Z,98nm,0.4s						
LOBH	**Bahia de las A**	**1.69**	**122**	*i* P	**Pn**	**02 19 14.6**	**-1.3**
LOBH				*e*S	**Sn**	**02 19 36.4**	**-0.4**
LOBH				IAML		02 19 39.7	
	comp=Z,38nm,0.3s						
MASC	**Masc**	**1.73**	**324**	*e*P	**Pn**	**02 19 16.7**	**+0.3**
MASC				*e*S	**Sn**	**02 19 36.0**	**-1.7**
MASC				*e*Sg	**Sb**	**02 19 38.5**	**-1.4**
MASC				IAML		02 19 39.7	
	comp=N,9.5nm,0.3s						
MASC				IAML		02 19 39.7	
	comp=E,15nm,0.4s						
MASC	**Masc**	**1.73**	**324**	*i* P	**Pn**	**02 19 16.7**	**+0.3**
MASC				*e*S	**Sn**	**02 19 38.7**	**+1.0**
MASC				IAML		02 19 42.7	
	comp=Z,8.4nm,0.3s						
SDDR	**Presa de Saban**	**1.76**	**83**	*i* P	**Pb**	**02 19 19.3**	**0.0**
SDDR				*e*S	**Sb**	**02 19 41.9**	**+0.8**
SDDR				IAML		02 19 46.9	
	comp=Z,34nm,0.3s						
LOVI	**El Cajuil, Ovi**	**1.95**	**120**	*i* P	**Pn**	**02 19 18.9**	**-0.4**
LOVI				*e*S	**Sn**	**02 19 43.5**	**+0.4**
LOVI				IAML		02 19 52.1	
	comp=Z,38nm,1.0s						
QMBU	**Quimbuelo**	**2.12**	**312**	*e*P	**Pn**	**02 19 21.1**	**-0.7**
QMBU				*e*S	**Sn**	**02 19 46.2**	**-1.2**
QMBU				IAML		02 19 52.0	
	comp=N,15nm,0.3s						
QMBU				IAML		02 19 52.2	
	comp=E,13nm,0.4s						
LOPP1	**Punta Rusia, P**	**2.12**	**59**	*i* P	**Pb**	**02 19 25.3**	**0.0**
LOPP1				IAML		02 20 00.2	
	comp=Z,21nm,0.3s						
GTBY	**Guantanamo Bay**	**2.18**	**302**	*e*P	**Pn**	**02 19 23.1**	**+0.5**
GTBY				*e*S	**Sn**	**02 19 49.2**	**+0.2**
GTBY				IAML		02 19 56.6	
	comp=Z,8.0nm,0.2s						
GTBY				IAML		02 19 57.4	
	comp=Z,24nm,0.4s						
RCC	**Rio Carpintero**	**2.70**	**297**	*e*P	**Pn**	**02 19 28.7**	**-1.0**
RCC				*e*S	**Sn**	**02 20 01.3**	**-0.4**
RCC				IAML		02 20 07.6	
	comp=E,2.5nm,0.1s						
RCC				IAML		02 20 09.9	
	comp=N,6.0nm,0.3s						
MARVS	**Santiago de Cu**	**2.88**	**295**	*e*P	**Pn**	**02 19 34.3**	**+2.2**
MARVS				*e*S	**Sn**	**02 20 05.7**	**-0.3**
MARVS				IAML		02 20 15.8	
	comp=E,4.7nm,0.1s						
MARVS				IAML		02 20 17.6	
	comp=N,5.6nm,0.2s						
PINC	**Pinares de May**	**3.02**	**305**	*e*P	**Pn**	**02 19 35.7**	**+1.5**
YAR	**Yar**	**3.42**	**298**	*e*P	**Pn**	**02 19 40.9**	**+1.2**

IDC 17 02:38:59.7±2.3, 6°.05S×130°.02E, h0km, mb3.7/1, mbtmp3.4/4, ML3.4/3, MS3.7/1, Error ellipse: s-maj=93.0km s-min=28.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.72**	**199**	Pn	Pn	02 42 03.2	+1.2
	0.1nm,0.3s,baz=23,slow=9.2,SNR=9.5						
FITZ				Sn	Sn	02 44 11.0	-13
	0.4nm,0.3s,baz=159,slow=16,SNR=9.0						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**14.44**	**163**	Pn	Pn	02 42 25.5	0.0
	0.2nm,0.3s,baz=345,slow=12,SNR=8.8						
WRA				Sn	Sn	02 44 51.0	-16
	0.4nm,0.3s,baz=338,slow=22,SNR=9.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**17.92**	**168**	P	Pn	02 43 09.6	-0.9
	0.1nm,0.3s,baz=344,slow=11,SNR=8.4						
ASAR				S	Sn	02 46 16.0	-15
	0.2nm,0.4s,baz=348,slow=26,SNR=1.9						
	0.5nm,0.7s						
RAO	**Raoul Island**	**54.19**	**122**	LR	LR	03 12 24.6	
	comp=Z,63nm,18.0s,baz=308,slow=37						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	02 49 57.3	0.0
	0.4nm,0.5s,baz=124,slow=7.7,SNR=5.2						
	0.4nm,0.5s						

*NEIC **17** 02:52:54.3±1.1, 18°.3N±0°.1×145°.3E±0°.1, h456km±8km, mb4.1/31, Error ellipse: s-maj=20.1km s-min=16.9km az=135.0*
*IDC **17** 02:52:54.2±5.2, 18°.35N×145°.44E, h463km±63km, mb3.1/9, mbtmp3.9/10, Error ellipse: s-maj=27.9km s-min=14.5km az=87.0*

ISC 17 02:52:53.5±0.8, 18°.3N±0°.1×145°.3E±0°.1, h450km, n46, σ0§73/46, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**18.64**	**339**	P	**P**	**02 56 41.8**	**-0.5**
MJAR	**Matsushiro Arr**	**19.24**	**342**	P	**P**	**02 56 47.0**	**-0.8**
	1.3nm,0.4s,baz=170,slow=9.9,SNR=4.5						
MAJO	**Matsushiro**	**19.24**	**342**	P	**P**	**02 56 47.8**	**0.0**
MAJO				IAmb	IAmb	02 56 49.8	
	comp=Z,6.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.25**	**342**	P	**P**	**02 56 48.5**	**+0.6**
MJB9				IAmb	IAmb	02 56 50.7	
	comp=Z,6.2nm,0.8s						
FAKI	**Fak Fak**	**24.70**	**213**	P	**P**	**02 57 36.8**	**-0.6**
SBUM	**Sibu**	**36.05**	**248**	P	**P**	**02 59 16.5**	**+0.8**
SBUM				IAmb	IAmb	02 59 17.4	
	comp=Z,2.8nm,0.4s						
WB0	**Warramunga Arr**	**39.31**	**196**	P	**P**	**02 59 42.7**	**+0.4**
WB0				IAmb	IAmb	02 59 49.7	
	comp=Z,4.9nm,1.2s						
WR8	**Warramunga Arr**	**39.46**	**196**	P	**P**	**02 59 43.5**	**-0.1**
WR8				IAmb	IAmb	03 00 12.1	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**39.49**	**196**	P	**P**	**02 59 43.2**	**-0.6**
WRA	**Warramunga Arr**	**39.49**	**196**	P	**P**	**02 59 44.1**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=13,slow=8.6,SNR=13						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.01**	**209**	P	**P**	**02 59 56.8**	**+0.7**
ASAR	**Alice Springs**	**43.16**	**195**	P	**P**	**03 00 12.1**	**-1.1**
ASAR	**Alice Springs**	**43.16**	**195**	P	**P**	**03 00 13.3**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=14,slow=6.8,SNR=17						
	comp=Z,0.7nm,0.4s						
MYKOM	**Kota Tinggi**	**43.84**	**253**	P	**P**	**03 00 17.6**	**-1.0**
MYKOM				IAmb	IAmb	03 00 19.8	
	comp=Z,6.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.92**	**278**	P	**P**	**03 00 20.2**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=71,slow=7.5,SNR=4.1						
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**58.49**	**314**	P	**P**	**03 02 06.0**	**+0.8**
MKAR	**Makanchi Array**	**58.49**	**314**	P	**P**	**03 02 05.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=86,slow=9.0,SNR=2.3						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.39**	**318**	P	**P**	**03 02 24.6**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=97,slow=7.5,SNR=9.8						
	comp=Z,0.9nm,0.3s						
ILAR	**Eielson Array**	**64.17**	**26**	P	**P**	**03 02 40.8**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=249,slow=6.3,SNR=5.9						
	comp=Z,0.5nm,0.5s						
F26K	**Sheenjek River**	**65.85**	**23**	P	**P**	**03 02 53.3**	**+

comp=Z,5.0nm,1.4s
PV12 **Saucer Basin,** 90.68 49 P P 03 05 07.7 +0.1
PV02 **Paradox Valley** 90.77 49 P P 03 05 08.4 +0.4
NBO00 **NORSAR Array S** 92.98 340 P P 03 05 18.4 +1.0

*IDC **17** 03:05:06.2±1.2,35°.98N×77°.46E,h0km,mb3.8/8, mbtmp3.7/12,ML3.1/4,MS2.9/6,Error ellipse: s-maj=22.5km s-min=18.7km az=67.0*
ISC 17 03:05:13.2±0.7,36°.07N±0°.05×77°.73E±0°.09,h50km,n20, σ3§02/22,mb3.7/6,MS2.8/5,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCI	**Alchi Leh**	**1.91**	**194**	*eP*	Pn	03 05 50.7	+7.1
ALCI	comp=N,949nm,0.1s			IAML		03 05 58.9	
ALCI	comp=E,983nm,0.3s			IAML		03 06 00.9	
ALCI				*eS*	**Sn**	**03 06 08.0**	**+1.4**
HNLY	**HANLEY**	**3.44**	**162**	*eP*	**Pn**	**03 06 09.4**	**+4.6**
HNLY				*eS*	**Sn**	**03 06 40.1**	**-4.5**
HNLY	comp=E,948nm,1.1s			IAML		03 06 56.3	
HNLY	comp=N,744nm,6.3s			IAML		03 07 08.0	
DHRM	**DHARAMSHALA**	**3.99**	**198**	*eP*	Pn	03 06 19.3	+7.2
DHRM				*eS*	**Sn**	**03 06 56.0**	**-1.7**
DHRM	comp=N,920nm,0.9s			IAML		03 07 13.6	
DHRM	comp=E,825nm,0.6s			IAML		03 07 18.5	
JMU	**Jammu**	**4.08**	**216**	*eP*	Pn	03 06 21.7	+8.6
JMU				*eS*	**Sn**	**03 07 01.0**	**+1.4**
JMU	comp=N,840nm,0.8s			IAML		03 07 09.7	
JMU	comp=E,740nm,0.9s			IAML		03 07 10.7	
BHK	**Bhakra**	**4.77**	**194**	*eP*	**Pn**	**03 06 27.1**	**+4.5**
BHK				*eS*	**Sn**	**03 07 10.9**	**-5.7**
BHK	comp=N,646nm,0.3s			IAML		03 07 36.8	
BHK	comp=E,410nm,1.5s			IAML		03 07 40.1	
SMLA	**Simla**	**4.95**	**186**	*eP*	**Pn**	**03 06 29.4**	**+4.4**
SMLA				*eS*	**Sn**	**03 07 15.2**	**-5.8**
SMLA	comp=E,356nm,0.9s			IAML		03 07 38.0	
SMLA	comp=N,337nm,0.6s			IAML		03 07 38.4	
AAK	**Ala-Archa**	**7.02**	**340**	Pn	**Pn**	**03 06 54.9**	**+1.3**
AAK	comp=N,0.9nm,0.3s,baz=222,slow=22,SNR=6.1			Lg	Lg	03 08 50.8	
AAK	comp=N,1.2nm,0.3s,baz=352,slow=22,SNR=3.7			LR	LR	03 10 13.2	
AAK	comp=N,89nm,19.9s,baz=154,slow=44 comp=N,6.4nm,0.7s						
MKAR	**Makanchi Array**	**11.24**	**16**	Pn	**Pn**	**03 07 51.0**	**-0.2**
MKAR	comp=N,0.3nm,0.3s,baz=201,slow=13,SNR=9.1			Sn	**Sn**	**03 09 56.2**	**+0.9**
MKAR	comp=N,0.5nm,0.3s,baz=196,slow=25,SNR=10 comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**14.56**	**2**	Pn	**Pn**	**03 08 35.1**	**-1.0**
KURBB	baz=191,slow=12,SNR=5.0			Lg	Lg	03 12 50.7	
KURBB	baz=187,slow=27,SNR=2.8 comp=N,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**18.55**	**13**	P	**Pn**	**03 09 27.3**	**+1.1**
	comp=N,0.1nm,0.3s,baz=208,slow=13,SNR=1.8 comp=N,0.5nm,0.4s						
AKTO	**Aktyubinsk**	**20.21**	**321**	P	**P**	**03 09 42.0**	**-1.9**
	comp=N,2.9nm,0.6s,baz=107,slow=9.6,SNR=8.0 comp=N,2.9nm,0.6s						
SONM	**Songino Array**	**24.20**	**52**	P	**P**	**03 10 26.7**	**+1.6**
SONM	comp=N,2.2nm,0.6s,baz=251,slow=10.0,SNR=11			LR	LR	03 21 16.1	
SONM	comp=N,33nm,18.6s,baz=244,slow=40 comp=N,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.66**	**128**	P	**P**	**03 10 38.8**	**+0.3**
CMAR	comp=N,1.9nm,0.3s,baz=317,slow=10.0,SNR=4.5			LR	LR	03 22 58.1	
CMAR	comp=N,17nm,18.0s,baz=340,slow=42 comp=N,1.9nm,0.3s						
GNI	**Garni**	**26.18**	**289**	LR	LR	03 23 36.1	
	comp=N,24nm,18.5s,baz=320,slow=43						
BRTR	**Keskin Array B**	**34.72**	**290**	P	**P**	**03 11 56.2**	**-2.4**
	comp=N,0.5nm,0.7s,baz=105,slow=9.1,SNR=4.1 comp=N,0.5nm,0.7s						
AKASG	**Malin Array Be**	**37.46**	**308**	LR	LR	03 30 58.5	
	comp=N,41nm,18.9s,baz=9.0,slow=42						
FINES	**FINESS Array B**	**40.92**	**325**	P	**P**	**03 12 49.1**	**-1.2**
	comp=N,0.9nm,0.4s,baz=112,slow=6.7,SNR=6.7 comp=N,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**43.67**	**336**	P	**P**	**03 13 11.6**	**-1.1**
	comp=N,1.0nm,0.8s,baz=96,slow=8.5,SNR=5.7 comp=N,1.0nm,0.8s						
NOA	**NORSAR Array B**	**47.99**	**323**	P	**P**	**03 13 47.1**	**+0.2**
	comp=N,0.3nm,0.6s,baz=90,slow=7.8,SNR=1.9						
NOA	comp=N,13nm,20.3s,baz=235,slow=37 comp=N,0.3nm,0.6s			LR	LR	03 34 51.4	
TORD	**Torodi Ar. Bea**	**71.16**	**273**	P	**P**	**03 16 25.7**	**-1.3**
	comp=N,0.5nm,0.8s,baz=42,slow=7.6,SNR=2.5 comp=N,0.5nm,0.8s						

*NEIC **17** 03:09:25.9±1.6,60°.22S±0°.08×26°.0W±0°.2,h10km±1km, mb4.5/43,Error ellipse: s-maj=21.4km s-min=11.2km az=60.0*
*IDC **17** 03:09:26.2±0.9,60°.12S×26°.44W,h0km,mb4.1/5, mbtmp4.1/5,MS3.1/2,Error ellipse: s-maj=38.0km s-min=22.1km az=76.0*
ISC 17 03:09:25.9±0.6,60°.23S±0°.08×25°.9W±0°.1,h10km,n59, σ1§66/56,mb4.5/25,7C-3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.69**	**153**	⇓P	**Pn**	**03 12 23.0**	**-3.2**
VNA1	comp=Z,19nm,0.3s			⇓S	Sn	03 14 30.9	-16
VNA3	**Neumayer Olymp**	**12.84**	**156**	⇑P	**Pn**	**03 12 23.9**	**-4.2**
VNA3	comp=Z,10nm,0.3s			⇑S	Sn	03 14 34.1	-17
VNA2	**Neumayer--Watz**	**13.09**	**153**	⇑P	**Pn**	**03 12 28.2**	**-3.4**
VNA2	comp=Z,1.1nm,0.2s,baz=310,slow=13 baz=168,slow=18			⇑S	Sn	03 14 41.0	-16
SNAA	**Sanae**	**14.68**	**151**	⇑P	**Pn**	**03 12 50.3**	**-3.0**
SNAA	comp=Z,34nm,0.5s			⇓S	Sn	03 15 21.1	-15
SNAA	**Sanae**	**14.68**	**151**	Pn	**Pn**	**03 12 50.4**	**-3.0**
SNAA	comp=Z,0.5nm,0.3s,baz=0.3,slow=9.1,SNR=49			Sn	Sn	03 15 21.6	-14
SNAA	comp=Z,0.1nm,0.3s,baz=352,slow=16,SNR=3.9			LR	LR	03 17 11.1	
SNAA	comp=Z,83nm,19.0s,baz=15,slow=31						
TROLL	**Troll, Antarti**	**16.24**	**148**	⇑P	**Pn**	**03 13 12.0**	**-1.9**
TROLL	comp=Z,133nm,0.7s			⇑S	Sn	03 15 58.5	-15
BELA	**Belgrano 2**	**17.96**	**186**		**Pn**	**03 13 33.7**	**-1.6**
PMSA	**Palmer Station**	**18.00**	**239**		**P**	**03 13 36.7**	**+0.5**
SMAI	**San Martin Ant**	**19.26**	**228**	Pn	**Pn**	**03 13 52.5**	**+1.5**
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**03 15 37.7**	**+3.2**
QSPA	comp=Z,6.5nm,0.8s			IAmb	IAmb	03 15 39.0	
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**03 15 37.8**	**+3.2**
	comp=Z,4.2nm,0.6s,baz=209,slow=1.4,SNR=35 comp=Z,4.2nm,0.6s						
TRQA	**Tornquist**	**31.76**	**298**	P	**P**	**03 15 49.6**	**-0.4**
TRQA	comp=Z,4.1nm,0.8s			IAmb	IAmb	03 15 49.9	
PLTB	**Pedras Altas**	**33.88**	**315**	P	**P**	**03 16 08.2**	**-0.3**
BO02	**Sierra Bellavi**	**38.45**	**291**	P	**P**	**03 16 46.0**	**-1.7**
BO01	**Tunca**	**38.93**	**291**	P	**P**	**03 16 48.7**	**-2.8**
BO04	**La Punta**	**39.04**	**292**	P	**P**	**03 16 51.3**	**-1.2**
MT08	**Bocatoma Ro**	**39.22**	**293**	P	**P**	**03 16 53.4**	**-0.9**
MT08	comp=Z,5.7nm,0.8s			IAmb	IAmb	03 16 55.9	
MT09	**Talagante**	**39.39**	**292**		**P**	**03 16 54.4**	**-1.2**
MT09	comp=Z,21nm,1.4s			IAmb	IAmb	03 16 55.1	
MT01	**Popeta**	**39.44**	**291**	P	**P**	**03 16 54.4**	**-1.5**
MT01	comp=Z,9.2nm,1.4s			IAmb	IAmb	03 17 04.9	
MT16	**CCHEN**	**39.46**	**292**		**P**	**03 16 54.5**	**-1.6**
MT16	comp=Z,32nm,1.2s			IAmb	IAmb	03 16 56.5	
PEL	**Peldehue**	**39.77**	**292**	P	**P**	**03 16 56.8**	**-1.9**
PEL	comp=Z,14nm,1.0s			IAmb	IAmb	03 16 59.0	
MT02	**Curacav**	**39.89**	**292**	P	**P**	**03 16 58.3**	**-1.3**
MT02	comp=Z,15nm,1.4s			IAmb	IAmb	03 17 30.8	
VA03	**San Esteban**	**40.03**	**293**	P	**P**	**03 17 00.2**	**-0.8**
VA03	comp=Z,15nm,0.9s			IAmb	IAmb	03 17 01.4	
CPUP	**Villa Florida**	**40.15**	**313**	P	**P**	**03 17 01.4**	**-0.4**
CPUP	**Villa Florida**	**40.15**	**313**	P	**P**	**03 17 01.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=355,slow=7.6,SNR=4.9 comp=Z,0.7nm,0.7s						
ZON	**Zonda**	**40.20**	**296**	P	**P**	**03 17 01.5**	**-0.9**
VA06	**Catapilco**	**40.54**	**292**	P	**P**	**03 17 04.7**	**-0.4**
VA06	comp=Z,8.0nm,0.9s			IAmb	IAmb	03 17 21.8	
CO02	**Combarbal**	**41.55**	**294**	P	**P**	**03 17 12.8**	**-0.6**
CO02	comp=Z,12nm,1.1s			IAmb	IAmb	03 17 16.2	
CO03	**El Pedregal**	**41.71**	**294**	P	**P**	**03 17 14.0**	**-0.8**
CO03	comp=Z,6.0nm,0.9s			IAmb	IAmb	03 17 14.6	
CO01	**Juntas del Tor**	**42.17**	**296**		**P**	**03 17 18.7**	**-0.1**
CO01	comp=Z,14nm,1.1s			IAmb	IAmb	03 17 20.1	
CO06	**Fray Jorge**	**42.28**	**293**	P	**P**	**03 17 18.5**	**-0.9**
CO06	comp=Z,19nm,1.2s			IAmb	IAmb	03 17 40.1	
GO04	**Tololo Observa**	**42.33**	**295**	P	**P**	**03 17 19.4**	**-0.6**
GO04	comp=Z,8.5nm,0.8s			IAmb	IAmb	03 17 34.1	
VNDA	**Vanda**	**42.42**	**182**	P	**P**	**03 17 21.9**	**+2.0**
VNDA	**Vanda**	**42.42**	**182**	P	**P**	**03 17 21.0**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=271,slow=4.7,SNR=3.8						
VNDA	comp=Z,19nm,18.0s,baz=125,slow=34 comp=Z,0.8nm,0.9s			LR	LR	03 33 46.7	
AC04	**Llanos de Chal**	**44.13**	**296**	P	**P**	**03 17 33.7**	**-0.6**
AC02	**Maricunga**	**44.45**	**299**	P	**P**	**03 17 36.6**	**-0.9**
H04S2	**CROZET ISLANDS**	**45.34**	**109**	T	T	04 07 07.8	
	baz=223,slow=75,SNR=4.3						
H04S3	**CROZET ISLANDS**	**45.35**	**109**	T	T	04 07 03.8	
	baz=223,slow=75,SNR=5.2						
H04S1	**CROZET ISLANDS**	**45.36**	**109**	T	T	04 07 05.8	
	baz=223,slow=75,SNR=4.9						
GO02	**Mina Guanaco**	**46.11**	**300**		**P**	**03 17 49.3**	**-1.1**
PB05	**IPOC Station P**	**48.40**	**300**	P	**P**	**03 18 06.8**	**-1.3**
PB03	**IPOC Station P**	**48.92**	**301**	P	**P**	**03 18 11.5**	**-0.6**
PB02	**IPOC Station P**	**49.62**	**302**	P	**P**	**03 18 16.9**	**-0.5**
PB01	**IPOC Station P**	**49.70**	**302**	P	**P**	**03 18 17.3**	**-0.6**
PB01	comp=Z,8.4nm,0.8s			IAmb	IAmb	03 18 17.8	
CASY	**Casey**	**49.74**	**159**	P	**P**	**03 18 20.4**	**+2.7**
CASY	comp=Z,5.8nm,1.1s			IAmb	IAmb	03 18 23.0	
GO01	**Chusmiza**	**50.80**	**303**	P	**P**	**03 18 26.2**	**-0.6**
GO01	comp=Z,5.8nm,0.8s			IAmb	IAmb	03 18 27.1	
PTLB	**Pontes e Lacer**	**50.82**	**317**		**P**	**03 18 26.6**	**+0.2**
PTLB	comp=Z,5.8nm,1.1s			IAmb	IAmb	03 18 27.6	
PB16	**IPOC Station P**	**52.12**	**304**	P	**P**	**03 18 35.8**	**-1.0**
PB16	comp=Z,8.8nm,1.4s			IAmb	IAmb	03 18 37.2	
PB12	**IPOC Station P**	**52.21**	**303**	P	**P**	**03 18 36.5**	**-0.4**
LPAZ	**La Paz**	**53.40**	**306**		**P**	**03 18 45.4**	**-1.0**
LPAZ	comp=Z,7.2nm,1.4s			IAmb	IAmb	03 18 47.4	
LPAZ	**La Paz**	**53.40**	**306**	P	**P**	**03 18 46.1**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=140,slow=4.5,SNR=18 comp=Z,2.2nm,0.5s						
BOAV	**Boa Vista**	**68.03**	**322**	P	**P**	**03 20 24.2**	**-1.1**
BOAV	comp=Z,3.4nm,0.9s			IAmb	IAmb	03 20 24.4	
DBIC	**Dimbokro**	**68.73**	**22**	P	**P**	**03 20 30.1**	**+0.6**
MLZ	**Mavora Lakes**	**74.14**	**190**	P	**P**	**03 21 01.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**76.40**	**28**		**P**	**03 21 16.6**	**+1.4**
TORD	comp=Z,2.6nm,0.8s			IAmb	IAmb	03 21 23.8	
TORD	**Torodi Ar. Bea**	**76.40**	**28**	P	**P**	**03 21 16.7**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=194,slow=4.8,SNR=51 comp=Z,2.9nm,0.6s						
ARCES	**ARCESS Array B**	**134.56**	**23**	PKP	**PKiKP**	**03 28 44.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=205,slow=4.0,SNR=3.5						
SONM	**Songino Array**	**150.05**	**93**	PKPbc	**PKPab**	**03 29 20.3**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=180,slow=3.6,SNR=3.9						
ILAR	**Eielson Array**	**153.27**	**305**	PKPbc	**PKiKP**	**03 29 23.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=128,slow=2.9,SNR=8.0						

*IDC **17** 03:23:56.9±15.0,2°.86N×98°.98E,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=322.7km s-min=42.2km az=102.0*
*DJA **17** 03:24:36.2±0.2,2°S±2°×10°1E±°,h10km,M4.3/13,mb4.6/1, MLv4.2/13*
ISC 17 03:24:34.1±0.7,1°.76S±0°.04×100°.75E±0°.05,h10km,n13, σ1§33/20,mb3.7/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.79**	**115**	P	**Pn**	**03 24 52.7**	**+1.3**
KRJI				S	**Sn**	**03 25 05.5**	**+2.2**
PDSI	**Padang**	**0.89**	**341**	P	**Pb**	**03 24 51.9**	**+0.3**
PDSI				S	**Sg**	**03 25 02.9**	**+0.1**
PPSI	**Pulau Pagai**	**1.24**	**216**	P	**Pg**	**03 24 58.9**	**+0.9**
PPI	**Padang Panjang**	**1.34**	**345**	P	**Pg**	**03 24 59.9**	**+0.1**
PPI				S	**Sn**	**03 25 16.9**	**+0.1**
SISI	**Saibi**	**1.71**	**284**	P	**Pn**	**03 25 04.8**	**+0.8**
SISI				S	**Sn**	**03 25 25.5**	**-0.4**
MASI	**Maura Aman, Be**	**2.03**	**133**	P	**Pb**	**03 25 11.1**	**0.0**
KSI	**Kapahiang**	**2.63**	**136**	P	**Pb**	**03 25 21.6**	**+0.1**
KSI				S	**Sb**	**03 25 54.7**	**+0.8**
MNSI	**Mandailing Nat**	**2.79**	**335**	P	**Pn**	**03 25 20.2**	**+1.3**
MNSI				S	**Sn**	**03 25 54.8**	**+2.1**
PBSI	**Pulau Batu**	**2.99**	**304**	P	**Pn**	**03 25 23.1**	**+1.5**
PBSI				S	**Sn**	**03 25 58.4**	**+0.8**
GSI	**Gunungsitoli**	**4.39**	**314**	P	**Pn**	**03 25 41.7**	**+0.8**
WRA	**Warramunga Arr**	**37.48**	**121**	P	**P**	**03 31 46.1**	**-2.1**
	0.2nm,0.3s,baz=304,slow=8.9,SNR=6.8 0.2nm,0.3s						
ASAR	**Alice Springs**	**38.79**	**127**	P	**P**	**03 31 57.8**	**-1.6**
	1.0nm,0.6s,baz=302,slow=7.8,SNR=14 1.0nm,0.6s						
STKA	**Stephens Creek**	**48.76**	**132**	P	**P**	**03 33 17.4**	**-2.0**
	1.3nm,0.5s,baz=313,slow=6.4,SNR=4.7 1.3nm,0.5s						

*IDC **17** 03:26:40.9±0.6,1°.96N×90°.78W,h0km,mb4.3/18, mbtmp4.3/23,ML3.3/6,MS4.5/49,Error ellipse: s-maj=23.9km s-min=12.0km az=57.0*
*NEIC **17** 03:26:42.4±1.4,1°.77N±0°.07×90°.8W±0°.1,h10km±1km, mb4.8/244,Error ellipse: s-maj=19.1km s-min=11.2km az=264.0*
*GCMT **17** 03:26:44.4±0.1,1°.91N±0°.01×90°.85W±0°.01,h14km, MW5.2/144,Moment Tensor Solution. s104,c168; s144,c270; Duration: 1s0 Moment tensor: Scale 1016 Nm; Mrr-1.00±.11; Mθθ1.76±.10; Mφφ-0.76±.12; Mrθ-1.77±.23; Mrφ-8.56±.11; Mθφ0.64±.23; Best double couple: M0 8.83300×1016 NP1:φs356.00000°,δ79.00000°, λ3.00000°. NP2:φs266.00000°,δ87.00000°,λ169.00000°. Principal axes: T 9.4470, Plg10.0000°, Azm220.0000°; N -1.2280, Plg79.0000°, Azm71.0000°; P -8.2180, Plg5.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 03:26:42.7±0.4,1°.83N±0°.05×90°.91W±0°.06,h17km,n320, σ1§47/217,mb4.8/125,MS4.6/47,5C,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.56**	**166**		**Pn**	**03 27 23.4**	**-0.1**
PAYG	**Puerto Ayora**	**2.56**	**166**	P	**Pn**	**03 27 23.9**	**+0.4**
JTS	**Las Juntas de**	**10.28**	**35**		**Pn**	**03 29 08.9**	**-0.7**
JTS	**Las Juntas de**	**10.28**	**35**	Pn	**Pn**	**03 29 08.8**	**-0.8**
	0.4nm,0.3s,baz=196,slow=6.6,SNR=7.7						
JTS				LR	LR	03 32 08.7	
	comp=Z,10μm,19.0s,baz=211,slow=32 3.7nm,0.6s						
HDC	**Heredia**	**10.56**	**39**		**Pn**	**03 29 15.4**	**+1.9**
HDC	**Heredia**	**10.56**	**39**	*eP*	**Pn**	**03 29 17.9**	**+4.4**
BRU2	**Volcan**	**10.71**	**49**		**Pn**	**03 29 16.9**	**+1.3**
CNGN	**Cerro Negro**	**11.39**	**21**		**Pn**	**03 29 26.8**	**+2.0**
ACON	**Acoyapa**	**11.57**	**29**		**Pn**	**03 29 28.0**	**+0.9**
ACON	**Acoyapa**	**11.57**	**29**	P	**Pn**	**03 29 27.4**	**+0.3**
	958nm25nm,0.8s						
PAC1	**Pacto, Paraso**	**12.21**	**97**	P	**Pn**	**03 29 35.5**	**-0.7**
	734nm48nm,1.4s						
COHC	**Cochancay**	**12.41**	**110**	P	**Pn**	**03 29 38.1**	**-0.6**
	597nm36nm,1.4s						
OTAV	**Otavalo**	**12.56**	**97**	*eP*	**Pn**	**03 29 37.7**	**-3.4**
OTAV	**Otavalo**	**12.56**	**97**	P	**Pn**	**03 29 40.8**	**-0.3**
	660nm51nm,1.4s						
MCRA	**Macar, Loja**	**12.56**	**119**	P	**Pn**	**03 29 43.2**	**+2.4**
	1μm79nm,1.2s						
MTO3	**Montecristo**	**12.58**	**7**		**Pn**	**03 29 42.9**	**+1.6**
CUSE	**Cuicocha Este**	**12.60**	**97**	P	**Pn**	**03 29 42.0**	**+0.3**
	3μm44nm,2.2s						
TGUH	**Tegucigalpa,Un**	**12.67**	**16**		**Pn**	**03 29 44.2**	**+1.9**
PIAT	**Ana Tenorio**	**12.95**	**102**	P	**Pn**	**03 29 47.8**	**+1.3**
	700nm22nm,1.2s						
APG	**El Apazote**	**13.10**	**2**	Pn	**Pn**	**03 29 46.9**	**-1.4**
	baz=202,slow=14,SNR=4.3						
APG				LR	LR	03 33 46.6	
	comp=Z,188nm,20.2s,baz=234,slow=33						
TULM	**Tulcn-Chalpat**	**13.17**	**95**	P	**Pn**	**03 29 50.4**	**+0.9**
	960nm52nm,1.2s						
SIUN	**Universidad Ur**	**13.28**	**27**		**Pn**	**03 29 51.8**	**+1.3**
POPC	**Popayan, Colom**	**14.24**	**87**	P	**Pn**	**03 30 02.7**	**-1.3**
	1μm16nm,1.1s						
CCIG	**Comitan**	**14.41**	**355**	Pn	**Pn**	**03 30 06.0**	**-0.2**
PRVC	**Isla de Provid**	**14.86**	**39**	Pn	**Pn**	**03 30 13.1**	**+0.9**
FLOC	**Florencia**	**15.25**	**91**		**Pn**	**03 30 14.7**	**-2.8**
FLOC				IAmb	IAmb	03 30 19.2	
	comp=Z,45nm,1.4s						
ATAH	**Atahualpa**	**15.34**	**126**	Pn	**Pn**	**03 30 20.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=308,slow=15,SNR=9.6						
ATAH				LR	LR	03 35 12.6	
	comp=Z,6μm,18.2s,baz=311,slow=33 comp=Z,13nm,1.1s						
CBOC	**Ciudad Bolivar**	**15.39**	**74**	P	**Pn**	**03 30 17.4**	**-2.0**
	comp=Z,613nmcomp=Z,37nm,1.2s						
APAC	**Apartado, Choc**	**15.49**	**67**	P	**P**	**03 30 22.7**	**-2.2**
	comp=Z,2μmcomp=Z,114nm,1.7s						
DBBC	**Dabeiba**	**15.53**	**70**	P	**Pn**	**03 30 22.5**	**+1.3**
CMIG	**Matias Romero**	**15.66**	**346**	Pn	**Pn**	**03 30 22.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=181,slow=9.5,SNR=5.8 comp=Z,4.6nm,0.9s						
ORTC	**Ortega, Tolima**	**15.78**	**82**	P	**Pn**	**03 30 23.1**	**-1.2**
	comp=Z,35nm,1.4s						
GUY2C	**Guyana, Caldas**	**15.88**	**77**	P	**Pn**	**03 30 25.9**	**-0.1**
	comp=Z,753nmcomp=Z,40nm,1.4s						
PTLC	**Puerto Leguiza**	**16.19**	**96**	P	**Pn**	**03 30 29.1**	**-0.5**
	comp=Z,1μmcomp=Z,66nm,1.7s						
UREC	**San Jos de Ur**	**16.41**	**68**	P	**P**	**03 30 34.7**	**-0.4**
ROSC	**El Rosal**	**16.83**	**79**	Pn	**Pn**	**03 30 34.5**	**-3.6**
ROSC				IAmb	IAmb	03 30 44.8	
	comp=Z,117nm,1.8s						
ROSC	**El Rosal**	**16.83**	**79**	Pn	**Pn**	**03 30 36.8**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=250,slow=4.5,SNR=14						
ROSC				LR	LR	03 36 01.6	
	comp=Z,2μm,20.2s,baz=262,slow=34 comp=Z,3.8nm,0.3s						
MACC	**Macarena, Meta**	**17.05**	**89**	P	**Pn**	**03 30 40.1**	**-0.5**
	comp=Z,59nm,1.3s						
PTBC	**PUERTO BERRIO,**	**17.06**	**74**	P	**P**	**03 30 42.5**	**+0.2**
	comp=Z,215nmcomp=Z,19nm,1.2s						
TLIG	**Tlapa**	**17.35**	**335**		**P**	**03 30 45.5**	**-0.1**
SJCC	**San Jacinto, C**	**17.57**	**62**	P	**Pn**	**03 30 46.8**	**-0.2**
	comp=Z,1μmcomp=Z,73nm,1.4s						
RUSC	**La Rusia**	**18.23**	**77**		**Pn**	**03 30 54.5**	**-1.1**
RUSC				IAmb	IAmb	03 30 58.2	
	comp=Z,116nm,1.3s						
TEIG	**Tepich**	**18.46**	**8**		**Pn**	**03 30 58.4**	**+0.5**
TEIG				IAmb	IAmb	03 31 11.3	
	comp=Z,46nm,1.2s						
OCAC	**Ocana**	**18.63**	**69**	P	**Pn**	**03 31 00.0**	**-0.2**
	comp=Z,2μmcomp=Z,37nm,0.9s						
PAMC	**Pamplona, Colo**	**18.95**	**73**	P	**Pn**	**03 31 07.0**	**+2.6**
NNA	**Nana**	**19.59**	**135**	P	**P**	**03 31 09.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=274,slow=3.7,SNR=4.3						
NNA				LR	LR	03 37 20.7	
	comp=Z,2μm,19.7s,baz=311,slow=33 comp=Z,8.6nm,0.6s						
CRJC	**Cerrejon, Guaj**	**20.09**	**62**	P	**P**	**03 31 16.5**	**+0.8**
	comp=Z,1μmcomp=Z,77nm,1.7s						
MTDJ	**Mount Denham**	**20.92**	**38**	P	Pn	03 31 26.2	-1.1
MTDJ				IAmb	IAmb	03 31 27.3	
	comp=Z,72nm,1.1s						
MTDJ	**Mount Denham**	**20.92**	**38**	*eP*	**P**	**03 31 25.3**	**+0.6**
URIC	**Uribia, Colomb**	**21.17**	**62**	P	**P**	**03 31 27.7**	**+0.3**
	comp=Z,1μmcomp=Z,100nm,1.3s						
STH	**Stony Hill**	**21.27**	**40**	*eP*	**P**	**03 31 28.5**	**+0.1**
SDV	**Santo Domingo**	**21.36**	**70**		**P**	**03 31 28.8**	**-0.8**
SDV	**Santo Domingo**	**21.36**	**70**	P	**P**	**03 31 28.6**	**-1.0**
	comp=Z,24nm,0.9s,baz=234,slow=8.4,SNR=15						
SDV				LR	LR	03 38 33.1	
	comp=Z,1μm,21.2s,baz=253,slow=34 comp=Z,24nm,0.9s						
SDV	**Santo Domingo**	**21.36**	**70**	*eP*	**P**	**03 31 28.8**	**-0.8**
SDV	**Santo Domingo**	**21.36**	**70**	P	**P**	**03 31 29.2**	**-0.4**
SOR	**Soroa**	**22.20**	**20**	*eP*	**P**	**03 31 31.3**	**-7.1**
LMGC	**Las Mercedes**	**22.65**	**36**	*eP*	**P**	**03 31 43.9**	**+0.7**
MGV	**Manicaragua**	**22.79**	**27**	*eP*	**P**	**03 31 44.3**	**-0.3**
CHIV	**Chivirico**	**22.93**	**37**	P	**P**	**03 31 46.7**	**+0.6**
CHIV				IAmb	IAmb	03 31 51.3	
	comp=Z,25nm,1.4s						
CHIV	**Chivirico**	**22.93**	**37**	*eP*	**P**	**03 31 46.9**	**+0.7**
CAMR	**Camarioca**	**23.04**	**23**	*eP*	**P**	**03 31 48.4**	**+1.2**
CCCC	**Cccc**	**23.13**	**33**	*eP*	**P**	**03 31 49.8**	**+1.7**
MARVS	**Santiago de Cu**	**23.27**	**38**	*eP*	**P**	**03 31 48.8**	**-0.8**
YAR	**Yar**	**23.27**	**37**	*eP*	**P**	**03 31 47.5**	**-2.1**
RCC	**Rio Carpintero**	**23.39**	**38**	*eP*	**P**	**03 31 51.7**	**+0.9**
ZAIG	**Zacatecas**	**23.69**	**

TXAR Lajitas Array 29.93 337 P P 03 32 51.2 +1.2
comp=Z,2.9nm,1.1s,baz=146,slow=9.1,SNR=8.4
TXAR PcP **PcP 03 35 55.1 +2.3**
comp=Z,0.4nm,0.8s,baz=158,slow=4.0,SNR=2.5
TXAR LR LR 03 43 54.3
comp=Z,816nm,18.7s,baz=144,slow=35
comp=Z,2.9nm,1.1s
TX31 Lajitas Ar. Si 29.93 337 P P 03 32 50.7 +0.7
SAND Sanderson 29.93 340 P 03 32 50.3 +0.3
SAND IAmb IAmb 03 33 05.9
comp=Z,14nm,1.4s
GO01 Chusmiza 30.18 136 P P 03 32 51.9 -0.9
GO01 IAmb IAmb 03 32 59.6
comp=Z,39nm,1.6s
BRDY Brady 30.28 346 P 03 32 53.3 +0.2
BOAV Boa Vista 30.37 88 P 03 32 52.6 -1.5
BOAV Boa Vista 30.37 88 *eP* **P 03 32 52.9 -1.2**
MACA Manacapuru-AM 30.62 99 *eP* **P 03 32 56.2 0.0**
WHTX Lake Whitney, 30.63 349 P **P 03 32 56.8 +0.7**
ALPN Alpine 30.85 338 P 03 32 59.3 +1.1
FW13 Cleburne 30.98 349 P **P 03 32 59.5 +0.3**
MNHN Monahans 31.42 340 P **P 03 33 03.7 +0.6**
MNHN IAmb IAmb 03 33 10.9
comp=Z,15nm,1.2s
SGCY Sterling City 31.44 343 P **P 03 33 03.3 0.0**
SGCY IAmb IAmb 03 33 11.8
comp=Z,16nm,1.1s
PLPT Palo Pinto 31.60 348 P 03 33 05.4 +0.7
PLPT IAmb IAmb 03 33 11.1
comp=Z,22nm,1.1s
FW06 Azle 31.60 349 P **P 03 33 05.5 +0.9**
ABTX Abilene, Hawle 31.71 346 P **P 03 33 05.9 +0.2**
ABTX IAmb IAmb 03 33 11.2
comp=Z,10nm,1.1s
VHRN Van Horn 31.74 337 P 03 33 06.2 +0.1
VHRN IAmb IAmb 03 33 16.8
comp=Z,19nm,1.6s
Z35A Perchaven, San 31.90 350 P **P 03 33 07.0 -0.2**
ODSA Odessa 32.06 341 P 03 33 08.6 -0.2
APMT Aspermont 32.50 346 P **P 03 33 13.2 +0.6**
WTFS Witchita Falls 32.55 348 P **P 03 33 13.7 +0.7**
POST Post 32.62 343 P 03 33 14.4 +0.6
MIAR Mount Ida 32.64 356 IAmb IAmb 03 33 22.1
comp=Z,30nm,1.6s
CLNB Carlsbad 32.64 339 P P 03 33 13.5 -0.5
DKNS Dickens 33.03 345 P **P 03 33 17.1 -0.2**
X34A Smith Ranch, M 33.24 350 P **P 03 33 19.6 +0.6**
WMOK Wichita Mounta 33.55 348 P **P 03 33 21.6 -0.2**
RPN Rapa Nui 33.83 210 LR LR 03 43 29.6
comp=Z,2μm,21.4s,baz=35,slow=30
VILB Vilhena 33.83 117 P P 03 33 22.8 -1.7
VILB IAmb IAmb 03 33 29.3
comp=Z,12nm,0.9s
VILB Vilhena 33.83 117 *eP* **P 03 33 23.8 -0.7**
MSTX Muleshoe 33.84 342 P **P 03 33 24.6 +0.2**
V48A Smith Brothers 33.95 6 P **P 03 33 25.8 +0.6**
V48A IAmb IAmb 03 33 40.9
comp=Z,19nm,1.4s
319A Douglas 34.13 331 P 03 33 26.8 -0.2
TUL3 Leonard 34.21 353 IAmb IAmb 03 33 32.9
comp=Z,15nm,1.1s
SMWD Samnorwood 34.23 346 P 03 33 28.6 +0.9
DEOK Depew 34.24 352 P **P 03 33 28.8 +1.1**
DEOK IAmb IAmb 03 33 37.1
comp=Z,18nm,1.1s
TKL Tuckaleechee C 34.30 10 LR LR 03 45 57.4
comp=Z,478nm,21.7s,baz=189,slow=34
AMTX Amarillo 34.38 344 P **P 03 33 29.1 +0.1**
SIV San Ignacio 34.39 122 LR LR 03 47 07.6
comp=Z,2μm,18.0s,baz=318,slow=36
121A Cookes Peak, D 34.42 334 P 03 33 30.2 +0.7
121A IAmb IAmb 03 33 39.2
comp=Z,24nm,1.4s
U38A Gravette 34.59 355 IAmb IAmb 03 33 38.6
comp=Z,38nm,1.9s
QUOK Quay 34.59 352 IAmb IAmb 03 33 39.0
comp=Z,13nm,0.8s
OK048 Pawnee Station 34.87 351 IAmb IAmb 03 33 41.5
comp=Z,20nm,1.1s
OK051 E0350 and S346 34.94 352 IAmb IAmb 03 33 42.2
comp=Z,26nm,1.1s
T47A Sharon Grove 35.16 5 IAmb IAmb 03 33 37.6
comp=Z,16nm,1.0s
MGMO Mountain Grove 35.17 358 IAmb IAmb 03 33 39.5
comp=Z,16nm,1.1s
T35A Sooner Cattle 35.30 352 IAmb IAmb 03 33 45.7
comp=Z,17nm,1.1s
Y22A Socorro 35.30 337 IAmb IAmb 03 33 50.1
comp=Z,35nm,1.7s
TUC Tucson 35.63 330 P **P 03 33 40.1 +0.2**
ITTB Itaituba 35.68 100 *eP* **P 03 33 40.0 -0.5**
PTLB Pontes e Lacer 35.81 120 P 03 33 39.9 -1.6
PTLB IAmb IAmb 03 33 49.2
comp=Z,10nm,1.0s
PTLB Pontes e Lacer 35.81 120 *eP* **P 03 33 41.4 -0.1**
ANMO Albuquerque 35.99 338 P 03 33 43.8 +0.7
ANMO Albuquerque 35.99 338 LR LR 03 47 44.3
comp=Z,1μm,19.8s,baz=250,slow=35
CCM Cathedral Cave 36.05 360 P 03 33 43.1 -0.2
R40A Maddies Statio 36.31 358 IAmb IAmb 03 34 20.8
comp=Z,43nm,1.7s
PDRB Porto dos Gac 36.50 112 *eP* **P 03 33 46.6 -0.9**
NPGB Novo Progresso 36.56 104 *eP* **P 03 33 45.8 -2.2**
X18A Snowflake 37.07 333 IAmb IAmb 03 33 59.4
comp=Z,14nm,1.2s
CLDB Colider 37.14 111 *eP* **P 03 33 50.5 -2.4**
T25A Trinidad 37.28 342 IAmb IAmb 03 34 03.7
comp=Z,38nm,1.4s
P40A Paris 37.54 359 IAmb IAmb 03 34 05.0
comp=Z,19nm,1.0s
CO03 El Pedregal 37.77 151 IAmb IAmb 03 34 03.7
comp=Z,38nm,1.9s
CO02 Combarbal 37.92 152 IAmb IAmb 03 34 04.4
comp=Z,18nm,1.1s
MDP Montagnes des 38.33 84 LR LR 03 48 29.0
comp=Z,538nm,20.2s,baz=270,slow=34
WUAZ Wupatki 38.53 333 IAmb IAmb 03 34 11.9
comp=Z,20nm,1.1s
N38A Joes South For 38.84 357 IAmb IAmb 03 34 15.4
comp=Z,36nm,1.2s
SALV Santo Antonio 39.01 118 *eP* **P 03 34 07.1 -1.6**
VA03 San Esteban 39.43 153 P **P 03 34 11.6 -0.5**
VA03 IAmb IAmb 03 34 18.8
comp=Z,23nm,0.8s
MT02 Curacav 39.58 154 P **P 03 34 13.6 +0.4**
MT02 IAmb IAmb 03 34 19.2
comp=Z,33nm,1.5s
CFA Coronel Fontan 39.61 149 LR LR 03 46 52.4
comp=Z,617nm,21.2s,baz=328,slow=30
PFO Pinyon Flats O 39.65 326 LR LR 03 47 46.8
comp=Z,582nm,20.6s,baz=125,slow=32
PV15 Paradox Valley 39.75 338 IAmb IAmb 03 34 24.2
comp=Z,18nm,1.1s
PV18 Skein Mesa, Pa 39.82 338 IAmb IAmb 03 34 24.3
comp=Z,41nm,1.5s
PV12 Saucer Basin, 39.85 338 P **P 03 34 16.8 +1.1**
PV12 IAmb IAmb 03 34 26.7
comp=Z,39nm,1.1s
PV11 David Mesa, Pa 39.86 338 P **P 03 34 16.0 +0.3**
PV11 IAmb IAmb 03 34 24.7
comp=Z,27nm,1.2s
PV17 East Way Mesa 39.87 338 P **P 03 34 16.6 +0.7**
PV19 Morning Glory 39.91 338 IAmb IAmb 03 34 22.6
comp=Z,16nm,1.1s
PV20 West Nyswonger 39.93 338 IAmb IAmb 03 34 25.2
comp=Z,15nm,1.1s
PV04 Paradox Valley 39.95 338 P **P 03 34 17.1 +0.6**
PV04 IAmb IAmb 03 34 25.5
comp=Z,22nm,1.2s
PV14 Lion Creek, Pa 39.98 338 P **P 03 34 17.6 +0.8**
PV14 IAmb IAmb 03 34 26.2
comp=Z,18nm,1.2s
PV10 Paradox Valley 39.99 338 IAmb IAmb 03 34 25.0
comp=Z,47nm,1.5s
PV22 Blue Mesa, Par 40.03 338 P **P 03 34 18.4 +1.3**
PV23 Carpenter Ridg 40.04 338 P **P 03 34 18.6 +1.3**
PV23 IAmb IAmb 03 34 28.5
comp=Z,17nm,1.0s
MURT Porto Murtinho 40.05 127 *eP* **P 03 34 15.7 -1.6**
MT09 Talagante 40.08 154 IAmb IAmb 03 34 22.5
comp=Z,16nm,0.8s
ISCO Idaho Springs 40.09 342 P **P 03 34 18.8 +1.1**
ISCO IAmb IAmb 03 34 26.7
comp=Z,26nm,1.2s
BDQN Bodoquena, MS 40.13 125 *eP* **P 03 34 17.2 -0.8**

MT08 Bocatoma Ro 40.24 153 P **P 03 34 18.6 -0.3**
MT08 IAmb IAmb 03 34 25.2
comp=Z,13nm,0.8s
HMU Henry Mountain 40.29 335 P **P 03 34 20.4 +1.1**
HMU IAmb IAmb 03 34 29.0
comp=Z,38nm,1.2s
V12A Nelson 40.38 329 P 03 34 21.0 +1.0
V12A IAmb IAmb 03 34 27.0
comp=Z,13nm,1.1s
PP1B Ponte de Pedra 40.41 120 *eP* **P 03 34 19.3 -1.0**
LMEL Las Melosas 40.49 153 P **P 03 34 21.6 +0.6**
BO01 Tunca 40.56 154 P **P 03 34 20.3 -1.0**
BO01 IAmb IAmb 03 34 27.0
comp=Z,38nm,1.6s
AQDB Aquidauana 41.01 125 *eP* **P 03 34 24.6 -0.6**
BO02 Sierra Bellavi 41.03 154 IAmb IAmb 03 34 36.6
comp=Z,15nm,0.9s
SHPR Sheep Range 41.15 330 P **P 03 34 27.1 +0.7**
O20A White River Ci 41.25 340 IAmb IAmb 03 34 34.5
comp=Z,24nm,1.3s
SHOC Shoshone, Teco 41.26 328 IAmb IAmb 03 34 43.4
comp=Z,31nm,1.6s
P18A Preston Nutter 41.54 337 IAmb IAmb 03 34 38.7
comp=Z,15nm,1.3s
CCCA Chr Cany lake 41.56 327 IAmb IAmb 03 34 39.4
comp=Z,21nm,1.2s
ML02 Panimavida 41.60 156 P **P 03 34 29.2 -0.7**
QSM Queen of Sheba 41.62 328 IAmb IAmb 03 34 37.0
comp=Z,14nm,1.2s
GWY Greenwater Val 41.68 328 IAmb IAmb 03 34 37.7
comp=Z,36nm,1.9s
SNDB Serra Nova Dou 41.68 110 *eP* **P 03 34 28.6 -2.2**
LRMC Laurel Mtn Rad 41.70 326 IAmb IAmb 03 34 38.1
comp=Z,42nm,1.9s
PRPB Paraúapebas 41.79 101 *eP* **P 03 34 29.3 -2.5**
FURC Furnace Creek, 41.99 328 IAmb IAmb 03 34 40.4
comp=Z,16nm,1.2s
MPMC Manual Prospec 42.02 327 IAmb IAmb 03 34 40.6
comp=Z,16nm,1.4s
ECSD EROS Data Cent 42.03 354 IAmb IAmb 03 34 41.7
comp=Z,18nm,1.0s
RDMU Red Mountain 42.11 339 IAmb IAmb 03 34 50.5
comp=Z,18nm,1.4s
ARAG Araguaiana, MT 42.39 116 *eP* **P 03 34 37.4 +0.8**
BSUT Blindstream Ca 42.52 337 IAmb IAmb 03 34 46.9
comp=Z,22nm,1.2s
GRAC Grapevine Rang 42.66 328 IAmb IAmb 03 34 45.4
comp=Z,14nm,1.2s
CPUP Villa Florida 42.84 133 P **P 03 34 41.0 +0.9**
comp=Z,1.7nm,0.9s,baz=155,slow=8.7,SNR=8.1
CPUP LR LR 03 52 58.1
comp=Z,250nm,21.4s,baz=182,slow=37
comp=Z,1.7nm,0.9s
CPUP Villa Florida 42.84 133 *eP* **P 03 34 41.6 +1.5**
TMAB Tom-Au,PA,Br 43.01 95 *eP* **P 03 34 42.1 +0.4**
RSSD Black Hills 43.69 346 P **P 03 34 47.2 +0.2**
RSSD IAmb IAmb 03 34 55.7
comp=Z,11nm,1.1s
HWUT Hardware Ranch 43.75 338 IAmb IAmb 03 34 53.9
comp=Z,31nm,1.6s
SADO Sadowa 44.01 12 LR LR 03 53 03.3
comp=Z,3μm,19.0s,baz=219,slow=36
PDAR Pinedale Array 44.04 340 P **P 03 34 50.1 +0.2**
PDAR Pinedale Array 44.04 340 P **P 03 34 49.9 0.0**
comp=Z,0.5nm,0.7s,baz=157,slow=3.3,SNR=9.0
PDAR LR LR 03 53 01.8
comp=Z,756nm,18.6s,baz=156,slow=36
comp=Z,0.5nm,0.7s
F33A 5 Mile Ranch, **44.08 355** IAmb IAmb 03 34 57.4
comp=Z,14nm,1.1s
NV11 Mina Array Sit 44.15 329 IAmb IAmb 03 35 00.2
comp=Z,8.8nm,1.1s
NVAR Mina Array Bea 44.22 329 P **P 03 34 51.6 +0.2**
NVAR Mina Array Bea 44.22 329 P **P 03 34 52.7 +1.3**
comp=Z,2.7nm,0.8s,baz=155,slow=8.3,SNR=18
NVAR PcP **PcP 03 36 37.0 +1.0**
comp=Z,1.3nm,0.7s,baz=133,slow=3.8,SNR=5.1
NVAR LR LR 03 51 33.7
comp=Z,354nm,20.3s,baz=132,slow=34
comp=Z,2.7nm,0.8s
SMTB Santa Maria do 44.46 105 *eP* **P 03 34 53.3 -0.1**
RYN Ryan 44.49 329 IAmb IAmb 03 35 07.3
comp=Z,28nm,1.9s
ELK Elko 44.55 334 LR LR 03 51 47.5
comp=Z,645nm,20.8s,baz=150,slow=34
LOHW Long Hollow 45.15 340 IAmb IAmb 03 35 07.6
comp=Z,11nm,1.2s
FXWY Fox Creek 45.31 339 IAmb IAmb 03 35 08.2
comp=Z,14nm,1.2s
WELL Weller Preserv 45.52 327 IAmb IAmb 03 35 08.0
comp=Z,7.8nm,1.1s
BDFB Brasilia 45.82 114 P **P 03 35 02.0 -2.2**
BDFB IAmb IAmb 03 35 08.0
comp=Z,15nm,1.2s
BDFB Brasilia 45.82 114 P **P 03 35 05.2 +1.0**
comp=Z,5.7nm,1.0s,baz=276,slow=9.6,SNR=6.7
BDFB LR LR 03 54 52.8
comp=Z,1μm,18.3s,baz=295,slow=37
comp=Z,5.7nm,1.0s
H17A Grant Village 45.83 340 IAmb IAmb 03 35 18.3
comp=Z,11nm,1.4s
YNE Yellowstone No 46.18 341 IAmb IAmb 03 35 22.0
comp=Z,12nm,1.5s
PLCA Paso Flores 46.25 159 IAmb IAmb 03 35 13.2
comp=Z,19nm,1.2s
PLCA Paso Flores 46.25 159 P **P 03 35 09.7 +2.4**
comp=Z,11nm,1.1s,baz=339,slow=8.5,SNR=11
PLCA LR LR 03 50 39.9
comp=Z,611nm,19.4s,baz=338,slow=31
comp=Z,11nm,1.1s
PLCA Paso Flores 46.25 159 *eP* **P 03 35 10.3 +3.0**
BEKR Beckworth 46.36 328 IAmb IAmb 03 35 14.4
comp=Z,7.3nm,1.2s
IPMB Ipameri, GO 46.42 117 *eP* **P 03 35 09.5 +0.6**
HLID Hailey 46.52 336 IAmb IAmb 03 35 15.8
comp=Z,10nm,1.1s
ORV Orovilla 46.74 327 IAmb IAmb 03 35 23.2
comp=Z,10.0nm,1.2s
MFID Camas Ranch 46.98 335 IAmb IAmb 03 35 34.3
comp=Z,24nm,1.8s
LL01 San Ignacio de 47.08 161 P **P 03 35 14.1 +0.5**
BOZ Bozeman (W) 47.24 340 IAmb IAmb 03 35 23.3
comp=Z,9.1nm,1.2s
DLMT Dillon 47.37 339 IAmb IAmb 03 35 29.2
comp=Z,9.6nm,1.2s
SDBA SAO DESIDERIO 47.82 108 *eP* **P 03 35 19.2 -0.8**
CPSB Cacapava Do Su 47.98 135 *eP* **P 03 35 21.2 +0.3**
LL02 Futaleuf 47.99 161 P **P 03 35 21.0 +0.3**
PLID Pearl Lake 48.42 336 IAmb IAmb 03 35 31.0
comp=Z,8.3nm,1.2s
ULM Lac du Bonnet 48.43 356 P **P 03 35 24.3 +0.4**
comp=Z,4.9nm,0.5s,baz=205,slow=6.3,SNR=3.6
ULM LR LR 03 56 26.1
comp=Z,291nm,20.2s,baz=170,slow=37
comp=Z,4.9nm,0.5s
VAO Valinhos 49.40 123 *eP* **P 03 35 32.1 +0.1**
RKT Rikitea 49.55 237 *eS* **S 03 42 42.0 +1.5**
RKT *e*LQ LQ 03 47 22.9
comp=Z,2μm,35.5s
RKT *e*LR LR 03 49 43.0
comp=Z,2μm,37.0s
F10A Beach Ranch, E 49.64 336 IAmb IAmb 03 35 51.1
comp=Z,3μm,25.2s
comp=Z,8.9nm,1.0s
TAOE Nuku Hiva Isla 50.20 257 *eP* P 03 35 43.9 +5.6
TAOE *e*S **S 03 42 46.6 -3.5**
comp=Z,53nm,40.6s
TAOE *e*LQ LQ 03 47 54.9
comp=Z,131nm,24.6s
TAOE *e*LR LR 03 49 55.6
comp=Z,5μm,34.3s
CMC01 Camacan, BA 53.60 111 *eP* **P 03 36 03.3 -0.2**
RCBR Riachuelo 55.45 98 LR LR 04 01 20.6
comp=Z,1μm,19.6s,baz=325,slow=1.8,SNR=3.6
SCHQ Schefferville 56.37 16 LR LR 04 00 58.6
comp=Z,370nm,18.2s,baz=281,slow=38
PPT Papeete 60.90 249 LR LR 03 57 05.6
comp=Z,5μm,18.4s,baz=204,slow=37
PPT2 Papeete2 60.91 249 *eP* **P 03 36 53.3 -1.9**
comp=Z,432nm,18.7s,baz=74,slow=30
PPT2 *e*S **S 03 45 14.2 +1.2**
comp=Z,29nm,23.2s
PPT2 *e*SS **SS 03 49 07.8 -4.7**
comp=Z,274nm,28.0s
PPT2 *e*LQ LQ 03 52 16.4
comp=Z,165nm,29.5s
PPT2 *e*LR LR 03 54 53.7
comp=Z,1μm,39.5s
comp=Z,700nm,29.0s
PPT2 *e*LR LR 03 54 54.2
comp=Z,900nm,25.8s
YKA Yellowknife Ar 63.06 348 P 03 37 09.7 +0.9
YKA Yellowknife Ar 63.06 348 P **P 03 37 09.5 +0.8**
comp=Z,5.5nm,1.0s,baz=151,slow=5.6,SNR=11
YKA LR LR 04 05 26.5
comp=Z,328nm,19.5s,baz=164,slow=37
comp=Z,5.5nm,1.0s
FRB Frobisher Bay 63.93 11 LR LR 04 04 58.8
comp=Z,474nm,20.0s,baz=191,slow=36
DLBC Dease Lake 64.22 338 LR LR 04 05 14.2
comp=Z,5μm,18.6s,baz=112,slow=36
NUUK Nuuk 68.42 17 *i* P **P 03 37 44.5 +1.3**
NUUK IAmb IAmb 03 37 56.0
comp=Z,16nm,0.8s
NRS Narsarsuaq 68.44 22 *eP* **P 03 37 39.0 -4.5**
NRS IAmb IAmb 03 38 01.4
comp=Z,18nm,0.8s
M29M Somme Creek 70.01 339 IAmb IAmb 03 38 06.5
comp=Z,8.5nm,1.1s
L29M L29M 70.31 339 IAmb IAmb 03 38 07.7
comp=Z,12nm,1.2s
SFJD Kangerlussuaq 70.80 16 LR LR 04 07 10.7
comp=Z,344nm,21.6s,baz=220,slow=34
RAR Rarotonga 71.04 247 LR LR 04 01 37.0
comp=Z,414nm,18.1s,baz=76,slow=29
DY2G Dye2 71.67 17 *i* P **P 03 38 03.1 -0.4**
DY2G IAmb IAmb 03 38 10.9
comp=Z,10.0nm,0.6s
H29M Whitestone 72.36 342 IAmb IAmb 03 38 18.7
comp=Z,14nm,1.1s
INK Inuvik 72.37 345 IAmb IAmb 03 38 16.3
comp=Z,18nm,1.3s
INK Inuvik 72.37 345 LR LR 04 11 51.4
comp=Z,287nm,18.1s,baz=122,slow=38
G29M Pine Creek 72.70 342 P 03 38 10.8 +1.4
RES Resolute Bay 72.81 359 LR LR 04 12 43.0
comp=Z,387nm,18.3s,baz=184,slow=38
J26L Joseph Creek 73.08 339 IAmb IAmb 03 38 31.8
comp=Z,9.9nm,1.1s
SAATT Saattut 73.39 13 *i* P **P 03 38 16.5 +3.1**
SAATT IAmb IAmb 03 38 22.3
comp=Z,9.9nm,0.7s
KDAK Kodiak Island 73.69 331 LR LR 04 08 55.9
comp=Z,299nm,18.8s,baz=111,slow=34
ANGG Ammassalik, Gr 73.92 20 *i* P **P 03 38 14.3 -2.2**
ANGG IAmb IAmb 03 38 23.9
comp=Z,23nm,1.1s
PRP Porcupine Dome 74.33 339 IAmb IAmb 03 38 31.1
comp=Z,24nm,1.8s
BBTS Babate 74.42 75 LR LR 04 09 05.8
comp=Z,155nm,20.8s,baz=90,slow=34
ILAR Eielson Array 74.43 338 P 03 38 20.2 +0.5
ILAR Eielson Array 74.43 338 P **P 03 38 19.1 -0.5**
comp=Z,1.8nm,0.6s,baz=138,slow=4.3,SNR=41
ILAR LR LR 04 11 58.3
comp=Z,517nm,18.1s,baz=106,slow=36
comp=Z,1.8nm,0.6s
SUMG Summit 77.66 14 P 03 38 38.7 +0.3
SUMG IAmb IAmb 03 38 47.0
comp=Z,14nm,1.1s
SUMG Summit 77.66 14 *i* P **P 03 38 37.5 -0.8**
SUMG IAmb IAmb 03 38 42.9
comp=Z,6.0nm,0.7s
NEEM North Greenlan 78.53 8 *i* P **P 03 38 46.5 +3.5**
NEEM IAmb IAmb 03 38 50.6
comp=Z,5.7nm,1.0s
BORG Borgarnes 79.73 24 LR LR 04 11 45.1
comp=Z,262nm,19.6s,baz=267,slow=34
DAG Danmarks Havn 84.20 13 *i* P **P 03 39 13.0 +0.3**
DAG IAmb IAmb 03 39 21.1
comp=Z,5.6nm,0.9s
BELA Belgrano 2 85.05 170 P 03 39 17.0 0.0
BELA IAmb IAmb 03 39 22.1
comp=Z,6.9nm,1.1s
JMIC Jan Mayen 85.80 19 LR LR 04 17 13.9
comp=Z,80nm,18.1s,baz=237,slow=35
DBIC Dimbokro 85.87 83 P **P 03 39 22.2 -0.1**
comp=Z,5.9nm,0.7s,baz=275,slow=4.2,SNR=6.1
DBIC LR LR 04 15 34.6
comp=Z,128nm,19.5s,baz=282,slow=34
comp=Z,5.9nm,0.7s
MDT Midelt 85.91 57 LR LR 04 11 37.4
comp=Z,196nm,21.9s,baz=294,slow=32
ESDC Sonseca Array 86.49 51 P **P 03 39 25.1 +0.1**
comp=Z,1.7nm,0.7s,baz=287,slow=4.7,SNR=9.1
ESDC LR LR 04 12 31.2
comp=Z,273nm,20.9s,baz=270,slow=32
comp=Z,1.7nm,0.7s
EKA Eskdalemuir Ar 87.22 35 P **P 03 39 27.5 -0.6**
comp=Z,2.2nm,0.8s,baz=287,slow=3.4,SNR=5.2
comp=Z,2.2nm,0.8s
RAO Raoul Island 88.27 241 LR LR 04 09 32.6
comp=Z,281nm,21.8s,baz=118,slow=29
VNA3 Neumayer Olymp 88.90 161 ⇑P **P 03 39 36.1 +0.3**
comp=Z,4.3nm,0.8s
VNA1 Neumayer--Stat 89.27 161 ⇑P **P 03 39 40.5 +3.0**
comp=Z,3.6nm,1.1s
VNA2 Neumayer--Watz 89.59 161 ⇑P **P 03 39 39.8 +0.7**
comp=Z,3.0nm,0.7s,baz=303,slow=4.8
SNAA Sanae 91.11 162 ⇑P **P 03 39 45.3 -0.9**
comp=Z,62nm,0.9s
SNAA Sanae 91.11 162 P 03 39 45.9 -0.3
SNAA IAmb IAmb 03 39 55.3
comp=Z,5.9nm,1.1s
SNAA Sanae 91.11 162 P 03 39 47.1 +0.9
comp=Z,3.8nm,1.0s,baz=301,slow=2.3,SNR=5.0
comp=Z,3.8nm,1.0s
SHEM Shemya Is, Ala 91.59 323 LR LR 04 11 58.1
comp=Z,141nm,20.7s,baz=170,slow=30
QSPA South Pole Qui 91.86 180 P 03 39 52.3 +2.5
comp=Z,1.5nm,0.8s,baz=295,slow=3.2,SNR=1.1
QSPA LR LR 04 13 59.5
comp=Z,179nm,18.7s,baz=137,slow=31
comp=Z,1.5nm,0.8s
TORD Torodi Ar. Bea 92.12 77 P **P 03 39 51.4 -0.6**
comp=Z,0.6nm,0.9s,baz=292,slow=2.4,SNR=4.3
comp=Z,0.6nm,0.9s
URZ Urewera 92.68 232 LR LR 04 13 38.4
comp=Z,322nm,19.3s,baz=115,slow=30
TROLL Troll, Antarti 92.80 162 ⇑P **P 03 39 54.3 +0.2**
comp=Z,161nm,0.8s
NOA NORSAR Array B 94.27 28 P **P 03 40 01.6 +0.7**
comp=Z,0.6nm,0.8s,baz=281,slow=4.4,SNR=3.4
comp=Z,0.6nm,0.8s
VNDA Vanda 95.47 192 LR LR 04 12 55.3
comp=Z,166nm,21.8s,baz=116,slow=29
RPZ Rata Peaks 97.08 226 LR LR 04 15 58.3
comp=Z,444nm,18.6s,baz=144,slow=30
KEST Kesra 97.26 54 LR LR 04 19 19.1
comp=Z,112nm,19.6s,baz=290,slow=32
ARCES ARCESS Array B 97.28 19 LR LR 04 22 51.7
comp=Z,115nm,19.0s,baz=295,slow=35
VRAC Vranov 99.95 39 LR LR 04 20 08.0
comp=Z,388nm,20.9s,baz=276,slow=32
H11N3 WAKE ISLAND Hyl00.84 290 T T 05 32 57.2
baz=85,slow=75,SNR=6.3
H11N2 WAKE ISLAND Hyl00.85 290 T T 05 32 59.7
baz=85,slow=75,SNR=4.5
H11N1 WAKE ISLAND Hyl00.86 290 T T 05 33 04.3
baz=85,slow=75,SNR=6.8
H11S2 WAKE ISLAND Hyl01.15 289 T T 05 33 32.5
baz=85,slow=75,SNR=50
H11S1 WAKE ISLAND Hyl01.16 289 T T 05 33 36.8
baz=85,slow=75,SNR=65
H11S3 WAKE ISLAND Hyl01.17 289 T T 05 33 35.9
baz=85,slow=75,SNR=58
ZALV Zalesovo Beam 124.30 3 PKP **PKPdf 03 45 39.9 -0.7**
comp=Z,0.9nm,0.6s,baz=325,slow=1.8,SNR=3.6
KURBB Kurchatov Arra 126.97 8 PKP **PKPdf 03 45 45.6 -0.3**
comp=Z,0.5nm,0.3s,baz=334,slow=2.2,SNR=4.9
ASAR Alice Springs 131.51 240 PKP **PKPdf 03 45 55.8 +0.4**
comp=Z,0.4nm,0.6s,baz=98,slow=1.8,SNR=4.6
WRA Warramunga Arr 132.28 245 PKP **PKPdf 03 45 57.1 +0.2**
comp=Z,0.6nm,0.6s,baz=101,slow=1.9,SNR=13
H01W1 Cape Leeuwin H 139.67 213 T T 06 21 42.8
baz=138,slow=76,SNR=11
H01W2 Cape Leeuwin H 139.68 213 T T 06 21 44.1
baz=138,slow=76,SNR=10.0
H01W3 Cape Leeuwin H 139.69 213 T T 06 21 41.8
baz=138,slow=76,SNR=8.3
CMAR Chiang Mai Arr 157.63 335 PKPab **PKPab 03 47 12.2 +1.1**
comp=Z,1.1nm,0.3s,baz=14,slow=3.6,SNR=5.4

IDC 17 03:33:12.6±7.6, 5°28S×150°59E, h124km±54km, mb3.2/3,

mbtmp3.7/4, Error ellipse: s-maj=72.0km s-min=54.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**220**	P	Pn	03 34 30.3	+0.2
	15nm,0.4s,baz=43,slow=7.9,SNR=5.3						
PMG				S	Sn	03 35 31.1	+0.8
	32nm,0.5s,baz=203,slow=14,SNR=8.6						
WRA	**Warramunga Arr**	**21.50**	**226**	P	P	03 37 51.2	-0.6
	0.5nm,0.3s,baz=52,slow=9.6,SNR=9.3						
WRA				PcP	PcP	03 41 48.6	-1.2
	0.5nm,0.9s,baz=42,slow=2.1,SNR=5.2						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**24.34**	**220**	P	P	03 38 19.2	+0.1
	0.8nm,0.6s,baz=56,slow=8.2,SNR=12						
	0.8nm,0.6s						
QSPA	**South Pole Qui**	**84.68**	**180**	P	P	03 45 33.5	+1.1
	0.8nm,0.8s,baz=346,slow=4.6,SNR=1.7						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.35**	**286**	PKPbc	PKPbc	03 52 45.0	-0.5
	0.2nm,0.4s,baz=79,slow=3.4,SNR=5.1						

RSPR ***17*** *03:36:49.1, 19°.04N×67°.28W, h75km±3km, MD3.1/7*
SDD ***17*** *03:36:50.2±1.7, 18°.99N×67°.28W, h20km±95km, MD2.9, ML1.6, MW2.5*

ISC 17 03:36:51.6±2.0, 19°.0N±0°.1×67°.19W±0°.06, h47km±47km, n20, σ1°21/23, 13C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.63**	**205**	⇑*e*P	**Pn**	**03 37 03.5**	**-0.8**
IDE	**Isla Desecheo**	**0.63**	**205**	*e*S	**Sn**	**03 37 14.8**	**+1.4**
AOPR	**Arecibo Observ**	**0.73**	**146**	⇑*e*P	Pn	03 37 05.7	0.0
AOPR	**Arecibo Observ**	**0.73**	**146**	*e*Pg	**Pn**	**03 37 03.9**	**-1.8**
AOPR				⇓*e*Sg	**Sn**	**03 37 16.5**	**+0.6**
AOPR				IAML		03 37 20.0	
	comp=N,25nm,0.2s						
PRSN	**Puerto Rico Se**	**0.74**	**177**	*e*Pg	**Pn**	**03 37 04.2**	**-1.5**
PRSN				⇑*e*Sg	**Sn**	**03 37 14.2**	**-1.7**
PRSN				IAML		03 37 18.8	
	comp=N,40nm,0.1s						
LSP	**Las Mesas**	**0.78**	**173**	⇑*e*P	**Pn**	**03 37 05.5**	**-0.8**
CRPR	**Cabo Rojo, PR**	**0.95**	**175**	⇑*e*P	**Pn**	**03 37 07.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.95**	**175**	*e*S	**Sn**	**03 37 22.6**	**+1.6**
CRPR	**Cabo Rojo, PR**	**0.95**	**175**	*e*Pg	Pn	03 37 08.5	0.0
CRPR				⇓*e*Sg	**Sn**	**03 37 20.2**	**-0.8**
CRPR				IAML		03 37 29.1	
	comp=N,19nm,2.2s						
MLPR	**Magueyes Islan**	**0.99**	**172**	⇑*e*P	**Pn**	**03 37 08.5**	**-0.6**
MLPR	**Magueyes Islan**	**0.99**	**172**	*e*S	**Sn**	**03 37 23.2**	**+1.3**
MLPR	**Magueyes Islan**	**0.99**	**172**	⇑*e*Pg	**Pn**	**03 37 08.3**	**-0.8**
MLPR				⇑*e*Sg	**Sn**	**03 37 22.0**	**0.0**
MLPR				IAML		03 37 56.2	
	comp=N,5.5nm,2.4s						
ECPR	**Experimental S**	**1.01**	**129**	⇑*e*P	**Pn**	**03 37 08.9**	**-0.5**
ECPR	**Experimental S**	**1.01**	**129**	*e*S	**Sn**	**03 37 24.1**	**+1.7**
CELP	**Cerrillos**	**1.05**	**146**	⇑*e*P	**Pn**	**03 37 09.0**	**-0.9**
CELP	**Cerrillos**	**1.05**	**146**	*e*S	**Sn**	**03 37 24.8**	**+1.3**
CELP	**Cerrillos**	**1.05**	**146**	⇑*e*Pg	**Pn**	**03 37 09.3**	**-0.7**
CELP				⇓*e*Sg	**Sn**	**03 37 23.5**	**0.0**
CELP				IAML		03 37 25.6	
	comp=N,11nm,0.2s						
OBIP	**Obispado Ponce**	**1.06**	**148**	⇑*e*P	**Pn**	**03 37 09.3**	**-0.8**
OBIP	**Obispado Ponce**	**1.06**	**148**	*e*S	**Sn**	**03 37 25.2**	**+1.4**
HATOM	**Hato Mayor del**	**2.08**	**266**	*e*Pg	Pn	03 37 25.3	+1.3
HATOM				⇑*e*Sg	**Sn**	**03 37 49.6**	**+0.8**
HATOM				IAML		03 38 09.8	
	comp=N,6.9nm,3.9s						

CATAC ***17*** *03:57:43.2±0.7, 13°.N±4°.4×9°.1W±°., h14km±3km, M3.3/12, MLv3.3/12, Error ellipse: s-maj=8.6km s-min=3.6km az=28.2, confirmed*
GCG ***17*** *03:57:45.4±0.4, 13°.52N×90°.90W, h14km±3km, MD3.8, ML3.2*
SNET ***17*** *03:57:50.6±4.0, 13°.55N×90°.62W, h18km, ML3.1*

ISC 17 03:57:44.5±2.1, 13°.50N±0°.10×90°.97W±0°.08, h29km, n45, σ1°07/49, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.89**	**9**	*i* P	**Pn**	**03 58 01.2**	**+0.1**
FAME	**Alcaldia de Sa**	**0.99**	**70**	P	**Pb**	**03 58 02.8**	**-0.3**
FAME	**Alcaldia de Sa**	**0.99**	**70**	S	**Sn**	**03 58 17.0**	**+1.5**
NUBE	**Las Nubes**	**1.22**	**71**	*e*P	**Pb**	**03 58 06.0**	**-1.1**
NUBE	**Las Nubes**	**1.22**	**71**	*i* P	**Pb**	**03 58 06.1**	**-1.1**
NUBE	**Las Nubes**	**1.22**	**71**	P	**Pb**	**03 58 06.1**	**-1.1**
NUBE	**Las Nubes**	**1.22**	**71**	S	**Sb**	**03 58 23.9**	**+1.3**
RTAL	**Retalhuleu**	**1.23**	**325**	S	**Sn**	**03 58 21.9**	**+0.3**
LOAL	**Lomas de Alarc**	**1.26**	**67**	P	**Pb**	**03 58 07.0**	**-0.7**
LOAL	**Lomas de Alarc**	**1.26**	**67**	S	**Sb**	**03 58 24.2**	**+0.7**
RTR	**El Retiro**	**1.34**	**73**	*e*P	**Pb**	**03 58 08.2**	**-1.0**
CEVE	**Cerro Verde**	**1.35**	**76**	*e*P	**Pb**	**03 58 08.2**	**-1.0**
CEVE	**Cerro Verde**	**1.35**	**76**	P	**Pb**	**03 58 08.3**	**-1.0**
CEVE	**Cerro Verde**	**1.35**	**76**	S	**Sb**	**03 58 26.9**	**+0.6**
SBLS	**San Blas**	**1.35**	**76**	*e*P	**Pb**	**03 58 08.3**	**-1.1**
SNJE	**San Jose**	**1.38**	**75**	*e*P	**Pb**	**03 58 08.7**	**-1.0**
RBDL	**Robledal**	**1.39**	**64**	*e*P	**Pb**	**03 58 09.3**	**-0.6**
RBDL				*e*S	**Sb**	**03 58 27.8**	**+0.5**
UNIC	**Universidad Ca**	**1.46**	**71**	P	**Pb**	**03 58 10.1**	**-1.0**
UNIC	**Universidad Ca**	**1.46**	**71**	S	**Sb**	**03 58 29.9**	**+0.6**
JAYA	**Jayaque - finc**	**1.49**	**84**	*e*P	**Pn**	**03 58 10.2**	**+0.7**
JAYA				*e*S	**Sb**	**03 58 27.8**	**-2.4**
JAYA	**Jayaque - finc**	**1.49**	**84**	*i* P	**Pn**	**03 58 10.0**	**+0.6**
JAYA				*i* S	**Sb**	**03 58 29.3**	**-0.8**
JAYA	**Jayaque - finc**	**1.49**	**84**	P	**Pn**	**03 58 10.0**	**+0.6**
JAYA	**Jayaque - finc**	**1.49**	**84**	S	**Sb**	**03 58 30.1**	**-0.1**
CEDA	**San Andres**	**1.56**	**79**	S	**Sb**	**03 58 32.9**	**+0.8**
CEDA	**San Andres**	**1.56**	**79**	P	**Pn**	**03 58 11.0**	**+0.7**
APG	**El Apazote**	**1.57**	**18**	*i* P	**Pb**	**03 58 12.8**	**-0.3**
LALI	**Alcalda de L**	**1.60**	**90**	S	**Sb**	**03 58 33.6**	**+0.2**
PMON	**Piamonte**	**1.62**	**82**	*e*P	**Pb**	**03 58 12.3**	**-1.6**
PMON				*e*S	**Sb**	**03 58 32.0**	**-2.0**
PMON	**Piamonte**	**1.62**	**82**	P	**Pn**	**03 58 12.2**	**+0.9**
PMON	**Piamonte**	**1.62**	**82**	S	**Sb**	**03 58 34.2**	**+0.2**
ITCA	**Escuela Especi**	**1.65**	**84**	S	**Sb**	**03 58 34.9**	**0.0**
UEES	**Universidad Ev**	**1.70**	**83**	S	**Sb**	**03 58 35.7**	**-0.4**
SEMO	**Seminario San**	**1.71**	**83**	S	**Sb**	**03 58 36.4**	**0.0**
SEMO	**Seminario San**	**1.71**	**83**	P	**Pb**	**03 58 14.0**	**-1.3**
PANCS	**Alcalda de**	**1.74**	**86**	S	**Sb**	**03 58 37.3**	**-0.1**
LOMA	**Loma Larga**	**1.75**	**85**	S	**Sb**	**03 58 37.7**	**-0.1**
LOMA	**Loma Larga**	**1.75**	**85**	P	**Pb**	**03 58 14.3**	**-1.8**
MTO3	**Montecristo**	**1.80**	**60**	*e*P	**Pb**	**03 58 15.4**	**-1.5**
MTO3	**Montecristo**	**1.80**	**60**	*i* P	**Pb**	**03 58 15.4**	**-1.5**
MTO3	**Montecristo**	**1.80**	**60**	P	**Pb**	**03 58 15.5**	**-1.5**
MTO3	**Montecristo**	**1.80**	**60**	S	**Sb**	**03 58 38.7**	**-0.5**
LFRS	**El Faro**	**1.86**	**86**	*e*P	**Pb**	**03 58 16.4**	**-1.5**
PAVA	**Las Pavas**	**1.99**	**84**	S	**Sb**	**03 58 43.1**	**-1.4**
PAVA	**Las Pavas**	**1.99**	**84**	P	**Pn**	**03 58 16.0**	**-0.3**
PACA	**Pacayal**	**2.58**	**90**	*e*P	**Pb**	**03 58 32.2**	**+2.1**

IDC ***17*** *04:04:03.1±1.2, 3°.07S×126°.34E, h0km, mb3.8/4, mbtmp3.9/7, ML3.8/3, MS3.4/3, Error ellipse: s-maj=49.2km s-min=20.9km az=67.0*
DJA ***17*** *04:04:05.1±0.3, 3°.S±3°.×12°.7E±°., h10km, M4.0/7, mb4.2/2, MLv3.9/7*

ISC 17 04:04:06.4±0.8, 2°.94S±0°.08×126°.68E±0°.06, h32km, n17, σ2°04/19, mb3.9/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.51**	**125**	P	**Pn**	**04 04 17.3**	**-0.1**
NLAI				S	**Sn**	**04 04 26.3**	**+1.2**
SANI	**Sanana**	**1.13**	**322**	P	**Pn**	**04 04 25.0**	**-0.9**
SANI				S	**Sn**	**04 04 39.1**	**-1.2**
AAI	**Ambon**	**1.68**	**116**	P	**Pb**	**04 04 36.0**	**-0.7**
AAI				S	**Sb**	**04 04 56.1**	**-1.4**
MSAI	**Masohi**	**2.28**	**100**	P	**Pn**	**04 04 42.2**	**+0.4**
MSAI				S	**Sn**	**04 05 08.6**	**-0.2**
SWI	**Sorong**	**5.02**	**66**	P	**Pn**	**04 05 16.8**	**-2.7**
APSI	**Ampana**	**5.42**	**292**	P	**Pn**	**04 05 28.5**	**+3.5**
FAKI	**Fak Fak**	**5.56**	**90**	P	**Pn**	**04 05 24.8**	**-2.2**
	0.1nm21nm,1.5s						
KAPI	**Kappang**	**7.21**	**253**	Pn	Pn	04 05 43.1	-6.5
	2.7nm,0.3s,baz=154,slow=15,SNR=4.2						
KAPI				Sn	**Sn**	**04 07 06.8**	**-3.7**
	1.5nm,0.3s,baz=124,slow=15,SNR=1.3						
	5.4nm,0.3s						
BATI	**Baumata**	**7.81**	**202**	LR	LR	04 09 40.9	
	comp=Z,144nm,18.0s,baz=68,slow=45						
FITZ	**Fitzroy Crossi**	**15.10**	**184**	Pn	**Pn**	**04 07 34.1**	**-3.4**
	0.1nm,0.3s,baz=358,slow=8.6,SNR=2.5						
FITZ				Sn	Sn	04 10 07.9	-16
	baz=226,slow=13,SNR=1.8						
FITZ				LR	LR	04 14 33.5	
	comp=Z,59nm,19.3s,baz=350,slow=42						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**18.48**	**157**	P	**Pn**	**04 08 20.6**	**+0.5**
	0.5nm,0.3s,baz=338,slow=12,SNR=18						
	5.8nm,0.9s						
ASAR	**Alice Springs**	**21.75**	**162**	P	**P**	**04 08 56.4**	**+0.9**
	2.1nm,0.8s,baz=340,slow=11,SNR=18						
	2.1nm,0.8s						
MJAR	**Matsushiro Arr**	**40.73**	**14**	LR	LR	04 29 06.8	
	comp=Z,169nm,19.5s,baz=76,slow=37						
MKAR	**Makanchi Array**	**63.05**	**327**	P	**P**	**04 14 32.5**	**+2.0**
	0.8nm,0.8s,baz=120,slow=7.6,SNR=4.7						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**67.35**	**329**	P	**P**	**04 14 58.8**	**+0.5**
	0.7nm,0.8s,baz=130,slow=5.3,SNR=7.5						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**87.01**	**180**	P	**P**	**04 16 50.3**	**+1.9**
	2.1nm,1.1s,baz=322,slow=3.3,SNR=3.6						
	2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**124.70**	**284**	PKP	**PKiKP**	**04 23 05.4**	**+1.2**
	0.3nm,0.8s,baz=72,slow=4.7,SNR=2.4						

NEIC ***17*** *04:04:21.9±0.9, 19°.13N±0°.03×67°.07W±0°.02, h10km±1km, ML3.3/15, Md3.2/13(RSPR), Error ellipse: s-maj=5.7km s-min=3.3km az=199.0*
SDD ***17*** *04:04:22.9±1.6, 19°.14N×67°.10W, h22km±75km, MD3.6, ML3.4, MW3.5*
RSPR ***17*** *04:04:24.1, 19°.13N×67°.18W, h14km±7km, MD3.2/13*
OSPL ***17*** *04:04:24.7±2.6, 19°.01N×67°.00W, h0km±43km, ML3.2*

ISC 17 04:04:20.4±1.7, 19°.18N±0°.06×67°.05W±0°.03, h7km±10km, n73, σ1°49/89, 18C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.86**	**144**		**Pn**	**04 04 39.4**	**+0.4**
EMPR	**Esperanza - Ma**	**0.86**	**144**	Pg	**Pn**	**04 04 39.2**	**+0.2**
EMPR	**Esperanza - Ma**	**0.86**	**144**	⇑*e*P	**Pn**	**04 04 39.4**	**+0.4**
AOPR	**Arecibo Observ**	**0.88**	**161**		**Pb**	**04 04 38.6**	**+0.6**
AOPR	**Arecibo Observ**	**0.88**	**161**	Sg	**Sg**	**04 04 48.0**	**-0.6**
AOPR				IAML		04 04 55.3	
	comp=N,2μm,0.2s						
AOPR	**Arecibo Observ**	**0.88**	**161**	⇑*e*P	**Pb**	**04 04 38.6**	**+0.6**
AOPR	**Arecibo Observ**	**0.88**	**161**	⇓*e*Pg	**Pb**	**04 04 38.8**	**+0.8**
AOPR				⇓*e*Sg	**Sb**	**04 04 49.4**	**-0.5**
AOPR				IAML		04 04 55.3	
	comp=N,2μm,0.2s						
IDE	**Isla Desecheo**	**0.88**	**207**		**Pg**	**04 04 38.0**	**+0.6**
IDE					**Sg**	**04 04 48.5**	**-0.3**
IDE	**Isla Desecheo**	**0.88**	**207**	⇓*e*P	**Pg**	**04 04 38.0**	**+0.6**
IDE	**Isla Desecheo**	**0.88**	**207**	*e*S	**Sg**	**04 04 48.5**	**-0.3**
PRSN	**Puerto Rico Se**	**0.96**	**185**		**Pg**	**04 04 39.4**	**+0.5**
PRSN					**Sg**	**04 04 51.3**	**0.0**
PRSN	**Puerto Rico Se**	**0.96**	**185**	⇑*e*P	**Pg**	**04 04 39.4**	**+0.5**
PRSN	**Puerto Rico Se**	**0.96**	**185**	*e*S	**Sg**	**04 04 51.3**	**0.0**
PRSN	**Puerto Rico Se**	**0.96**	**185**	⇓*e*Pg	**Pb**	**04 04 39.6**	**+0.2**
PRSN				⇓*e*Sg	**Sg**	**04 04 51.2**	**-0.2**
PRSN				IAML		04 04 54.1	
	comp=N,4μm,0.2s						
UUPR	**Utuado, UPR, P**	**0.97**	**161**		**Pb**	**04 04 40.0**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.97**	**161**	Pg	**Pb**	**04 04 39.9**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.97**	**161**	⇑*e*P	**Pb**	**04 04 40.0**	**+0.3**
LSP	**Las Mesas**	**1.00**	**182**		**Pb**	**04 04 40.3**	**+0.2**
LSP					**Sb**	**04 04 52.9**	**-0.6**
LSP	**Las Mesas**	**1.00**	**182**	⇑*e*P	**Pb**	**04 04 40.3**	**+0.2**
LSP	**Las Mesas**	**1.00**	**182**	*e*S	**Sb**	**04 04 52.9**	**-0.6**
ECPR	**Experimental S**	**1.08**	**142**	⇑*e*P	**Pn**	**04 04 42.4**	**+0.4**
ECPR	**Experimental S**	**1.08**	**142**	*e*S	**Sb**	**04 04 56.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.17**	**183**		**Pb**	**04 04 42.6**	**-0.3**
CRPR					**Sg**	**04 04 56.7**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.17**	**183**	IAML		04 05 00.4	
	comp=E,732nm,0.2s						
CRPR				IAML		04 05 03.2	
	comp=N,693nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.17**	**183**	⇑*e*P	**Pb**	**04 04 42.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.17**	**183**	*e*S	**Sg**	**04 04 56.7**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.17**	**183**	*e*Pg	**Pb**	**04 04 42.8**	**-0.1**
CRPR				⇓*e*Sg	**Sg**	**04 04 57.3**	**-0.7**
CRPR				IAML		04 04 59.4	
	comp=N,677nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.17**	**183**	*i* P	**Pb**	**04 04 42.6**	**-0.3**
CRPR				*e*S	**Sg**	**04 04 54.9**	**-3.1**
CRPR				IAML		04 04 58.2	
	comp=Z,650nm,0.1s						
CELP	**Cerrillos**	**1.19**	**158**		**Pb**	**04 04 43.5**	**+0.2**
CELP					**Sb**	**04 04 58.0**	**-0.9**
CELP				IAML		04 05 00.1	
	comp=N,850nm,0.2s						
CELP	**Cerrillos**	**1.19**	**158**	*e*S	**Sn**	**04 04 59.3**	**-0.7**
CELP	**Cerrillos**	**1.19**	**158**	⇓*e*Pg	**Pg**	**04 04 43.9**	**+0.7**
CELP				⇓*e*Sg	**Sb**	**04 04 57.5**	**-1.3**
CELP				IAML		04 05 00.1	
	comp=N,856nm,0.2s						
MLPR	**Magueyes Islan**	**1.20**	**180**	⇑*e*P	**Pb**	**04 04 43.2**	**-0.3**
MLPR	**Magueyes Islan**	**1.20**	**180**	*e*S	**Sb**	**04 04 58.0**	**-1.4**
MLPR	**Magueyes Islan**	**1.20**	**180**	⇓*e*Pg	**Pb**	**04 04 43.4**	**-0.1**
MLPR				⇓*e*Sg	**Sb**	**04 04 57.7**	**-1.6**
MLPR				IAML		04 05 03.9	
	comp=N,206nm,0.4s						
OBIP	**Obispado Ponce**	**1.21**	**159**		**Pb**	**04 04 43.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.21**	**159**	IAML		04 05 00.4	
	comp=E,667nm,0.2s						
OBIP				IAML		04 05 01.5	
	comp=N,562nm,0.4s						
OBIP	**Obispado Ponce**	**1.21**	**159**	⇑*e*P	**Pb**	**04 04 43.9**	**+0.2**
GCPR	**Guaynabo City**	**1.26**	**133**		**Pn**	**04 04 45.2**	**+0.7**
GCPR					**Sn**	**04 05 02.3**	**+0.5**
GCPR	**Guaynabo City**	**1.26**	**133**	⇑*e*P	**Pn**	**04 04 45.2**	**+0.7**
GCPR	**Guaynabo City**	**1.26**	**133**	*e*S	**Sn**	**04 05 02.3**	**+0.5**
SJG	**San Juan**	**1.36**	**141**	Pn	**Pn**	**04 04 46.6**	**+0.6**
SJG	**San Juan**	**1.36**	**141**	IAML		04 05 11.0	
	comp=N,487nm,0.4s						
SJG				IAML		04 05 12.1	
	comp=N,618nm,0.3s						
SJG	**San Juan**	**1.36**	**141**	⇑*e*P	**Pb**	**04 04 47.0**	**+0.7**
SJG	**San Juan**	**1.36**	**141**	*e*S	**Sn**	**04 05 04.5**	**+0.2**
SJG	**San Juan**	**1.36**	**141**	⇓*e*Pg	**Pb**	**04 04 47.0**	**+0.7**
SJG				⇑*e*Sg	**Sn**	**04 05 04.6**	**+0.2**
SJG	**San Juan**	**1.36**	**141**	*i* P	**Pg**	**04 04 47.3**	**+0.7**
SJG				IAML		04 05 15.2	
	comp=Z,244nm,0.2s						
IGPR	**InterUniversit**	**1.50**	**143**		**Pn**	**04 04 48.8**	**+1.0**
IGPR					**Sn**	**04 05 07.0**	**-0.8**
IGPR	**InterUniversit**	**1.50**	**143**	⇑*e*P	**Pn**	**04 04 48.8**	**+1.0**
IGPR	**InterUniversit**	**1.50**	**143**	*e*S	**Sn**	**04 05 07.0**	**-0.8**
PDPR	**Patillas Dam,**	**1.51**	**140**		**Pn**	**04 04 48.5**	**+0.5**
PDPR				IAML		04 05 12.4	
	comp=E,413nm,0.4s						
PDPR				IAML		04 05 14.3	
	comp=N,498nm,0.2s						
PDPR	**Patillas Dam,**	**1.51**	**140**	⇑*e*P	**Pn**	**04 04 48.8**	**+0.8**
PDPR	**Patillas Dam,**	**1.51**	**140**	*e*S	**Sn**	**04 05 07.2**	**-0.7**
HIDR	**Higuey Centro**	**1.68**	**250**	⇓*e*Pg	**Pn**	**04 04 50.8**	**+0.5**
HIDR				⇑*e*Sg	**Sn**	**04 05 12.7**	**+0.6**
HIDR				IAML		04 05 16.9	
	comp=N,361nm,0.2s						
MIDR	**Miches**	**1.90**	**264**	⇑*e*Pg	**Pn**	**04 04 54.5**	**+1.2**
MIDR				IAML		04 05 23.8	
	comp=N,216nm,0.8s						
SMDR	**Samana, DR**	**2.02**	**273**	*e*Pg	**Pn**	**04 04 55.5**	**+0.6**
SMDR				⇑*e*Sg	**Sn**	**04 05 22.3**	**+1.8**
SMDR				IAML		04 05 43.1	
	comp=N,124nm,0.8s						
DR12	**Loma Pena Alta**	**2.23**	**260**		**Pn**	**04 04 58.7**	**+0.7**
HATOM	**Hato Mayor del**	**2.24**	**260**	*e*Pg	**Pn**	**04 04 59.6**	**+1.6**
HATOM				*e*Sg	**Sb**	**04 05 28.8**	**-0.3**
HATOM				IAML		04 05 33.5	
	comp=N,127nm,0.5s						
NADR	**Nagua**	**2.65**	**274**	*e*Pg	**Pb**	**04 05 08.1**	**-0.2**
NADR				⇓*e*Sg	**Sb**	**04 05 41.5**	**+0.4**
NADR				IAML		04 06 00.1	
	comp=N,504nm,0.4s						
SDD	**Santo Domingo**	**2.80**	**256**	*i* P	**Pb**	**04 05 09.9**	**-0.9**
SC01	**Santiago de lo**	**3.48**	**275**	Pn	**Pn**	**04 05 15.8**	**+0.8**
SC01	**Santiago de lo**	**3.48**	**275**	*i* P	**Pn**	**04 05 18.8**	**+3.8**
LOPP1	**Punta Rusia, P**	**3.97**	**280**	⇓*i*P	**Pn**	**04 05 23.9**	**+2.2**
LOPP1				IAML		04 06 40.6	
	comp=Z,88nm,1.2s						
SDDR	**Presa de Saban**	**4.01**	**268**	*e*P	**Pb**	**04 05 28.2**	**-3.2**
SDDR				*e*S	**Sb**	**04 06 24.7**	**+4.5**
SDDR	**Presa de Saban**	**4.01**	**268**	*i* P	**Pn**	**04 05 25.9**	**+3.5**
LONE3	**El Aguacate, B**	**4.21**	**263**	*i* P	**Pn**	**04 05 28.5**	**+3.3**
LONE3				IAML		04 06 34.4	
	comp=Z,25nm,1.0s						
LODU1	**El Espartillar**	**4.27**	**260**	*i* P	**Pn**	**04 05 29.5**	**+3.6**
LOBH	**Bahia de las A**	**4.54**	**254**	*i* P	**Pn**	**04 05 33.3**	**+3.7**
LOBH				*e*S	**Sn**	**04 06 24.8**	**+2.0**
LOBH				IAML		04 06 33.6	
	comp=Z,27nm,0.7s						
MASC	**Masc**	**6.83**	**280**	*e*P	**Pn**	**04 06 00.1**	**-1.0**
MASC				IVMs_BB	IVMs_BB	04 06 15.6	
	comp=N,82nm,3.1s						
MASC				⇑*e*S	**Sn**	**04 07 13.3**	**-6.0**
QMBU	**Quimbuelo**	**7.38**	**279**	*e*P	**Pn**	**04 06 06.9**	**-1.8**
QMBU				IVMs_BB	IVMs_BB	04 06 09.7	
	comp=Z,84nm,3.0s						
RCC	**Rio Carpintero**	**8.19**	**277**	*e*P	**Pn**	**04 06 19.9**	**+0.2**
PINC	**Pinares de May**	**8.33**	**280**	*e*P	Pn	04 06 14.1	-7.5
CHIV	**Chivirico**	**8.86**	**277**	*e*P	**Pn**	**04 06 28.1**	**-0.9**
CCCC	**Cccc**	**10.26**	**283**	*e*P	Pn	04 06 41.3	-6.8

IDC ***17*** *04:05:51.8±2.3, 4°.45S×101°.09E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=82.5km s-min=21.2km az=56.0*
DJA ***17*** *04:05:58.4±0.9, 4°.S±5°.×10°.1E±°., h10km±5km, M4.0/9, mb4.0/1, MLv4.0/9*

ISC 17 04:05:56.0±1.0, 4°.37S±0°.10×101°.17E±0°.06, h29km, n30, σ1°26/25, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.59**	**63**	P	**Pn**	**04 06 22.9**	**+0.6**
KSI				S	**Sb**	**04 06 44.4**	**-0.1**
MASI	**Maura Aman, Be**	**1.62**	**41**	P	**Pn**	**04 06 24.1**	**+1.4**
PPSI	**Pulau Pagai**	**1.97**	**324**	P	**Pn**	**04 06 27.9**	**+0.4**
PPSI				S	**Sn**	**04 06 49.5**	**-1.8**
LHSI	**Lahat**	**2.41**	**77**	P	**Pn**	**04 06 35.4**	**+1.9**
LWLI	**Liwa**	**2.95**	**103**	P	**Pb**	**04 06 47.2**	**-0.8**
LWLI				S	**Sb**	**04 07 23.8**	**+0.1**
MDSI	**Maura Dua**	**3.00**	**92**	P	**Pb**	**04 06 45.8**	**-3.0**
MDSI				S	**Sb**	**04 07 23.9**	**-1.1**
KASI	**Kota Agung**	**3.50**	**109**	P	**Pb**	**04 06 56.0**	**-1.4**
KASI				S	**Sb**	**04 07 38.8**	**-0.8**
SISI	**Saibi**	**3.67**	**325**	P	**Pn**	**04 06 50.3**	**-0.6**
SISI				S	**Sn**	**04 07 33.1**	**-0.1**
PBSI	**Pulau Batu**	**5.17**	**326**	P	**Pn**	**04 07 13.4**	**+1.9**
PBSI				S	**Sn**	**04 08 08.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**22.79**	**355**	P	**P**	**04 10 57.3**	**+0.8**
	1.1nm,0.2s,baz=181,slow=8.0,SNR=12						
	1.1nm,0.2s						
H08S2	**Diego Garcia H**	**28.70**	**262**	T	T	04 41 49.7	
	baz=85,slow=75,SNR=385						
H08S3	**Diego Garcia H**	**28.71**	**262**	T	T	04 41 40.9	
	baz=85,slow=75,SNR=79						
H08S1	**Diego Carcia H**	**28.72**	**262**	T	T	04 41 44.4	
	baz=85,slow=75,SNR=154						
H01W3	**Cape Leeuwin H**	**32.65**	**160**	T	T	04 46 38.6	
	baz=337,slow=76,SNR=107						
H01W2	**Cape Leeuwin H**	**32.67**	**160**	T	T	04 46 39.7	
	baz=337,slow=76,SNR=117						
H01W1

NZBK	**Nazarbek**	**1.94**	**232**	S		**Sg**		**04 17 55.3**	**+2.0**
EKS2	**Erkin-Say**	**1.95**	**82**	⇑	*iP*	**Pb**		**04 17 27.7**	**+0.5**
EKS2				⇑	*iS*	**Sg**		**04 17 53.8**	**+0.2**
FRG	**Fergana**	**2.11**	**167**	S		**Sg**		**04 18 00.7**	**+2.2**
CHMI	**Chimion**	**2.17**	**173**	P		**Pg**		**04 17 34.3**	**+1.7**
CHMI				S		**Sg**		**04 18 00.9**	**+0.1**
OHH	**Osh**	**2.26**	**147**	⇓	*iP*	**Pb**		**04 17 32.1**	**-0.4**
OHH				⇓	*iS*	**Sb**		**04 18 01.7**	**+0.7**
AAK	**Ala-Archa**	**2.48**	**84**	⇓	*iP*	**Pb**		**04 17 35.2**	**-1.0**
AAK				⇓	*iS*	**Sb**		**04 18 06.9**	**-0.3**
UCH	**Uchtor**	**2.50**	**93**	⇑	*iP*	**Pb**		**04 17 35.7**	**-1.1**
UCH				⇑	*iS*	**Sb**		**04 18 07.8**	**-0.3**
SALK	**Salom-Alik**	**2.52**	**127**	⇑	*iP*	**Pb**		**04 17 35.7**	**-1.3**
SALK				⇑	*iS*	**Sb**		**04 18 07.9**	**-0.7**
FRU1	**Bishkek**	**2.59**	**80**	⇓	*iP*	**Pb**		**04 17 36.8**	**-1.3**
FRU1				⇓	*iS*	**Sb**		**04 18 09.3**	**-1.2**
USP	**Ospenovka**	**2.60**	**70**	⇑	*iP*	**Pb**		**04 17 36.7**	**-1.5**
USP				⇑	*iS*	**Sb**		**04 18 09.7**	**-0.9**
CHMS	**Chumysh**	**2.71**	**77**	⇓	*iP*	**Pb**		**04 17 38.5**	**-1.6**
CHMS				⇓	*iS*	**Sb**		**04 18 12.3**	**-1.5**
KBK	**Karagaybulak**	**2.81**	**84**	⇑	*iP*	**Pb**		**04 17 40.0**	**-1.9**
KBK				⇑	*iS*	**Sb**		**04 18 15.1**	**-1.8**
TKM2	**Tokmak 2**	**3.31**	**80**	⇓	*iP*	**Pn**		**04 17 46.9**	**+3.0**
TKM2				⇓	*iS*	**Sn**		**04 18 26.9**	**+2.9**
GAR	**Garm**	**3.48**	**191**	⇑	*iP*	**Pb**		**04 17 49.4**	**-3.9**
GAR				⇑	*iS*	**Sb**		**04 18 31.7**	**-4.4**
KST	**Kastek**	**3.59**	**79**	*eP*		**Pb**		**04 17 58.1**	**+2.9**
	9.6nm,0.8s								
KST				*eS*		**Sg**		**04 18 44.8**	**-1.5**
	21nm,0.5s								
MTBS	**Maitube**	**3.94**	**78**	*eP*		**Pg**		**04 18 04.9**	**-1.6**
	4.3nm,0.5s								
MTBS				*eS*		**Sg**		**04 18 56.5**	**-1.1**
	11nm,0.5s								
KUU	**Kurty**	**4.07**	**67**	*eP*		**Pg**		**04 18 07.9**	**-0.8**
	3.4nm,0.1s								
KUU				*eS*		**Sg**		**04 19 01.6**	**+0.2**
	5.6nm,0.1s								
TNSS	**Tian-Shan**	**4.31**	**80**	*eP*		**Pg**		**04 18 12.1**	**-1.4**
	0.7nm,0.3s								
TNSS				*eS*		**Sg**		**04 19 08.8**	**-0.6**
	4.5nm,0.4s								
KOTS	**Kotyrbulak**	**4.46**	**78**	*eP*		**Pg**		**04 18 15.4**	**-0.9**
	5.4nm,0.2s								
KOTS				*eS*		**Sg**		**04 19 14.4**	**+0.4**
	23nm,0.4s								
CHKK	**Chushkaly**	**4.50**	**70**	*eP*		**Pg**		**04 18 16.8**	**-0.4**
	1.6nm,0.1s								
CHKK				*eS*		**Sg**		**04 19 17.0**	**+1.6**
	19nm,0.4s								
ARXS	**Arharly**	**5.18**	**68**	*eP*		**Pg**		**04 18 27.5**	**-2.7**
	0.7nm,0.3s								
ARXS				*eS*		**Sg**		**04 19 35.5**	**-1.9**
	20nm,0.5s								

*GCG **17** 04:31:03.4±0.9, 14.°08N×93.°19W, h15km±9km, MD4.2, ML3.0*
*MEX **17** 04:31:03.6±0.5, 14.°16N×93.°31W, h4km±23km, MD4.1*
ISC 17 04:31:02.1±2.2, 14.°30N±0.°08×93.°20W±0.°04, h5km±13km, n20, σ1§51/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**56**	*eP*	**Pb**	**04 31 24.0**	**+0.6**
THIG				*eS*	**Sn**	**04 31 39.5**	**0.0**
THIG		**1.08**	**56**	*eP*	**Pn**	**04 31 24.5**	**+0.5**
THIG				*eS*	**Sn**	**04 31 40.6**	**+1.2**
SMCA	**Catarina**	**1.22**	**63**	*eP*	**Pn**	**04 31 26.3**	**+0.4**
PATR	**El Naranjo**	**1.23**	**49**	*eP*	**Pg**	**04 31 26.3**	**+0.5**
PATR				*eS*	**Sn**	**04 31 44.3**	**+0.8**
CHUJ	**Union Juarez**	**1.31**	**53**	*eP*	**Pn**	**04 31 27.6**	**+0.2**
CHUJ				*eS*	**Sn**	**04 31 45.5**	**0.0**
PAVE	**Pavencul**	**1.32**	**48**	*eP*	**Pn**	**04 31 27.9**	**+0.3**
PAVE				*eS*	**Sb**	**04 31 45.3**	**+0.2**
PCIG		**1.39**	**359**	*eP*	**Pb**	**04 31 28.3**	**-0.4**
PCIG				*eS*	**Sb**	**04 31 43.8**	**-3.0**
RTAL	**Retalhuleu**	**1.47**	**81**	*eP*	**Pn**	**04 31 29.2**	**-0.1**
RTAL				*eS*	**Sn**	**04 31 48.9**	**-0.1**
QUEO	**Labor Ovalle**	**1.72**	**71**	*eP*	**Pb**	**04 31 34.5**	**0.0**
STG2	**El Palmar, Qui**	**1.77**	**85**	*eP*	**Pn**	**04 31 31.1**	**-2.5**
CCIG	**Comitan**	**2.22**	**27**	*eP*	**Pb**	**04 31 43.0**	**+0.2**
CCIG				*eS*	**Sb**	**04 32 11.0**	**+0.2**
CCIG	**Comitan**	**2.22**	**27**	*eP*	**Pb**	**04 31 43.5**	**+0.6**
CCIG				*eS*	**Sg**	**04 32 13.4**	**-0.1**
CCIG				IAML		04 32 19.7	
	comp=E,94nm,0.4s						
TGIG		**2.46**	**2**	*eP*	**Pb**	**04 31 45.6**	**-1.4**
TGIG				*eS*	**Sn**	**04 32 13.5**	**-0.1**
TGIG		**2.46**	**2**	*iP*	**Pb**	**04 31 45.8**	**-1.2**
TGIG				IAML		04 32 23.3	
	comp=E,59nm,0.6s						
NILT	**Santiago Nilte**	**2.63**	**329**	*eP*	**Pn**	**04 31 46.9**	**+1.6**
NILT				*eS*	**Sn**	**04 32 18.4**	**+0.6**
UXUV	**UXUV**	**3.13**	**343**	*eP*	**Pb**	**04 31 55.1**	**-3.3**
UXUV				*eS*	**Sn**	**04 32 32.3**	**+2.2**
CMIG	**Matias Romero**	**3.21**	**330**	*eP*	**Pn**	**04 31 54.5**	**+1.2**
CMIG				*eS*	**Sn**	**04 32 30.0**	**-2.1**
NUBE	**Las Nubes**	**3.34**	**96**	*eP*	**Pn**	**04 31 55.5**	**+0.3**
NEUV	**Arroyo Zacate**	**4.22**	**324**	*eP*	**Pn**	**04 32 07.7**	**+0.6**
NEUV				*eS*	**Sn**	**04 32 54.3**	**-2.5**
TOIG	**Toxpalan**	**5.29**	**316**	*eP*	**Pn**	**04 32 25.8**	**+3.7**
TOIG				*eS*	**Sn**	**04 33 25.3**	**+1.7**

*NEIC **17** 04:34:20.9±1.4, 35.°985N±0.°008×117.°33W±0.°01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=151.0*
PAS 17 04:34:21.4±1.3, 35.°979N±0.°008×117.°33W±0.°01, h3km±2km, ML3.0/132, ML2.8/160(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=87.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.15**	**302**		Pg	04 34 24.6	+0.2
MPMC				Sg	Sg	04 34 26.9	+0.4
CLC	**China Lake**	**0.27**	**233**		Pg	04 34 26.6	0.0
CLC				Sg	Sg	04 34 30.3	+0.2
CLC				IAML		04 34 30.7	
	comp=E,1μm,0.2s						
CLC				IAML		04 34 30.8	
	comp=N,2μm,0.5s						
WCSM	**Coso Springs S**	**0.36**	**278**		Pg	04 34 28.4	+0.1
WCSM					Sg	04 34 33.3	+0.4
QSM	**Queen of Sheba**	**0.38**	**92**		Pg	04 34 28.4	-0.2
QSM				IAML		04 34 34.4	
	comp=E,1μm,0.1s						
TOW	**Tower One**	**0.39**	**244**		Pg	04 34 29.4	+0.5
TOW					Sg	04 34 35.7	+1.7
WVPM	**Volcano Peak E**	**0.40**	**266**		Pg	04 34 29.2	+0.2
WVPM					Sg	04 34 34.8	+0.6
WSHM	**Spangler Hills**	**0.40**	**199**		Pg	04 34 29.0	-0.1
WSHM	**Spangler Hills**	**0.40**	**199**		Sg	04 34 34.7	+0.4
SRTC	**Snort**	**0.45**	**230**		Pg	04 34 30.3	+0.4
SRTC					Sg	04 34 36.5	+0.8
MFS	**McCloud Flat S**	**0.45**	**288**		Pg	04 34 30.0	0.0
CCCA	**Chr Cany lake**	**0.45**	**184**		Sg	04 34 37.4	+1.4
CCCA	**Chr Cany lake**	**0.45**	**184**		Pg	04 34 30.3	+0.3
CCCA				IAML		04 34 37.9	
	comp=N,2μm,0.6s						
CCCA				IAML		04 34 40.4	
	comp=E,2μm,0.5s						
WRVM	**Rose V. Centra**	**0.46**	**274**		Pg	04 34 30.1	0.0
WRVM					Sg	04 34 36.5	+0.5
WNMM	**Nine Mile Cany**	**0.49**	**254**		Pg	04 34 30.9	+0.2
WNMM					Sg	04 34 37.6	+0.6
GWY	**Greenwater Val**	**0.57**	**69**		Pg	04 34 32.3	-0.1
GWY				IAML		04 34 45.5	
	comp=E,667nm,0.3s						
GWY				IAML		04 34 45.7	
	comp=N,516nm,0.3s						
GWY	**Greenwater Val**	**0.57**	**69**		Sg	04 34 40.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.57**	**210**		Sg	04 34 40.3	+0.5
LRMC	**Laurel Mtn Rad**	**0.57**	**210**		Pg	04 34 32.1	-0.3
LRMC				IAML		04 34 40.5	
	comp=E,673nm,0.2s						
LRMC				IAML		04 34 41.0	
	comp=N,863nm,0.2s						
FURC	**Furnace Creek,**	**0.62**	**38**		Pg	04 34 33.2	0.0
FURC	**Furnace Creek,**	**0.62**	**38**		Sg	04 34 41.9	+0.7
CGO	**Cerro Gordo**	**0.69**	**326**		Pg	04 34 34.2	-0.4
CGO					Sg	04 34 43.5	0.0
CWC	**Cottonwood Cre**	**0.76**	**307**		Pg	04 34 35.7	-0.3
CWC				IAML		04 34 46.8	
	comp=N,306nm,0.2s						
CWC				IAML		04 34 48.5	
	comp=E,254nm,0.2s						
CWC	**Cottonwood Cre**	**0.76**	**307**		Sg	04 34 46.5	+0.6
WBSM	**Bird Springs**	**0.79**	**236**		Pg	04 34 36.2	-0.3
WBSM					Sg	04 34 47.0	+0.2
WORM	**Onyx Ranch**	**0.79**	**249**		Pg	04 34 36.2	-0.4
WORM					Sg	04 34 46.6	-0.2
GSC	**Goldstone, Bar**	**0.80**	**148**		Pg	04 34 36.4	-0.2
GSC					Sg	04 34 47.3	+0.3
GSC	**Goldstone, Bar**	**0.80**	**148**	IAML		04 34 50.5	
	comp=E,472nm,0.4s						
GSC				IAML		04 34 51.1	
	comp=N,350nm,0.7s						
DTP	**Desert Tortois**	**0.82**	**211**		Pg	04 34 36.5	-0.7
DTP					Sg	04 34 47.8	0.0
SHOC	**Shoshone, Teco**	**0.86**	**95**		Pg	04 34 37.7	-0.1
SHOC	**Shoshone, Teco**	**0.86**	**95**		Sg	04 34 49.2	+0.2
WHFM	**Hanning Flat**	**0.88**	**252**		Pg	04 34 37.8	-0.3
WHFM					Sg	04 34 49.3	-0.2
AMDNV	**Amargosa**	**0.97**	**61**		Pg	04 34 39.6	-0.4
AMDNV					Sg	04 34 52.1	-0.5
ISA	**Isabella, Lake**	**0.98**	**252**		Pg	04 34 39.7	-0.5
ISA				IAML		04 34 54.6	
	comp=E,292nm,0.2s						
ISA				IAML		04 34 55.8	
	comp=N,286nm,0.5s						
ISA	**Isabella, Lake**	**0.98**	**252**		Sg	04 34 52.7	-0.2
WCT	**Wildcat Mounta**	**0.99**	**35**		Pg	04 34 39.9	-0.5
WCT				IAML		04 34 55.2	
	comp=E,287nm,0.4s						
WCT				IAML		04 34 56.5	
	comp=N,160nm,0.4s						
WCT	**Wildcat Mounta**	**0.99**	**35**		Sg	04 34 53.6	+0.3
CCAC	**Calif City Air**	**1.00**	**214**		Pg	04 34 40.0	-0.5
CCAC					Sg	04 34 53.6	+0.3
GRAC	**Grapevine Rang**	**1.02**	**358**		Pg	04 34 40.5	-0.4
GRAC					Sg	04 34 54.3	+0.3
GRAC	**Grapevine Rang**	**1.02**	**358**	IAML		04 34 57.8	
	comp=N,361nm,0.4s						
WASM	**Alta Sierra Ca**	**1.02**	**257**		Pg	04 34 40.7	-0.3
WASM					Sg	04 34 54.3	0.0
SGV	**South Grapevin**	**1.03**	**13**		Pg	04 34 40.7	-0.4
HYS	**Haystack Butte**	**1.13**	**190**		Pg	04 34 42.2	-0.8
HYS					Sg	04 34 57.7	0.0
RRX	**Edison Barstow**	**1.13**	**166**		Pb	04 34 43.6	-0.1
SPG2	**Springville 2**	**1.18**	**281**		Pg	04 34 43.4	-0.6
EDW2	**Edwards Air Fo**	**1.22**	**207**		Pg	04 34 44.4	-0.4
TUQ	**Turquoise Moun**	**1.27**	**115**		Pg	04 34 44.6	-1.0
LCH	**Last Change Ra**	**1.28**	**349**		Pg	04 34 45.3	-0.6
TIN	**Tinemaha, Big**	**1.30**	**326**		Pg	04 34 45.4	-0.9
TIN				IAML		04 35 05.1	
	comp=E,212nm,0.7s						
DSCC	**Desert Studies**	**1.30**	**129**		Pg	04 34 45.0	-1.3
TPNV	**Topopah Spring**	**1.30**	**42**		Pg	04 34 45.5	-0.9
TPNV				IAML		04 35 05.1	
	comp=E,204nm,0.7s						
TPNV				IAML		04 35 05.2	
	comp=E,142nm,0.5s						
TPO	**Tropico Hills**	**1.32**	**214**		Pg	04 34 45.6	-1.0
TPO				IAML		04 35 06.1	
	comp=E,153nm,0.9s						
TPO				IAML		04 35 08.1	
	comp=N,176nm,1.2s						
TPO	**Tropico Hills**	**1.32**	**214**		Sg	04 35 03.9	+0.1
GMN	**Gold Mountain**	**1.32**	**2**		Pg	04 34 45.9	-0.8
GMN				IAML		04 35 06.4	
	comp=E,99nm,0.5s						
GMN				IAML		04 35 14.0	
	comp=N,108nm,0.5s						
TEJ	**El Tejon**	**1.34**	**236**		Pg	04 34 47.0	0.0
SBB	**Saddle Back Bu**	**1.35**	**198**		Pn	04 34 46.2	-1.0
HEC	**Hector,Ludlow**	**1.41**	**144**		Pn	04 34 47.7	-0.2
HEC					Sn	04 35 07.4	+0.3
VTV	**Victorville**	**1.42**	**180**		Sn	04 35 07.6	+0.3
VES	**Vestal, Richgr**	**1.43**	**265**		Pn	04 34 47.9	-0.3
VES				IAML		04 35 10.6	
	comp=N,138nm,0.4s						
VES				IAML		04 35 12.8	
	comp=E,165nm,0.7s						
VES	**Vestal, Richgr**	**1.43**	**265**		Sb	04 35 07.1	-0.2
DSP	**Deep Springs**	**1.48**	**340**		Pn	04 34 48.1	-0.8
THC	**Tehachapi Micr**	**1.52**	**226**		Pn	04 34 49.5	-0.2
MTPC	**Mountain Pass**	**1.53**	**108**		Pn	04 34 48.1	-1.6
MTPC				IAML		04 35 12.2	
	comp=E,126nm,0.2s						
MTPC				IAML		04 35 14.4	
	comp=N,110nm,0.2s						
LEOC	**Leona Valley**	**1.56**	**211**		Pg	04 34 51.4	+0.1
HOLC	**Holcomb Ridge**	**1.57**	**196**		Pn	04 34 49.0	-1.3
HOLC					Sg	04 35 12.0	0.0
JNH	**Juniper Hills**	**1.61**	**199**		Pb	04 34 51.8	-0.1
SIL	**Silver Peak**	**1.68**	**166**		Pb	04 34 52.7	-0.3
VOG	**Valley Oaks Go**	**1.70**	**282**		Pb	04 34 53.0	-0.2
BBRC	**Big Bear Solar**	**1.75**	**169**		Pb	04 34 53.5	-0.6
BFSC	**Mount Baldy Ra**	**1.76**	**189**		Pn	04 34 51.6	-1.2
BFSC				IAML		04 35 18.7	
	comp=N,54nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.76**	**189**		Sg	04 35 17.5	-0.3
SS2	**San Sevaine**	**1.77**	**185**		Pg	04 34 55.4	0.0
SSK	**Sunset Peak**	**1.79**	**190**		Pb	04 34 55.1	+0.2
SHPR	**Sheep Range**	**1.83**	**73**		Pn	04 34 53.0	-1.0
PDE	**Pardee, Santa**	**1.84**	**214**		Sn	04 35 14.2	-3.7
MWC	**Mount Wilson**	**1.85**	**199**		Pn	04 34 53.4	-0.8
MWC				IAML		04 35 25.7	
	comp=N,75nm,0.6s						
MWC				IAML		04 35 29.4	
	comp=E,56nm,0.5s						
GTM	**Goat Mountain**	**1.86**	**154**		Pb	04 34 55.6	-0.5
PASC	**Pasadena Art C**	**1.94**	**202**		Pn	04 34 54.7	-0.5
V12A	**Nelson**	**2.03**	**96**		Pn	04 34 55.5	-1.1
DANC	**Danby, Needles**	**2.08**	**129**		Pn	04 34 57.9	+0.7
S11A	**Rachel**	**2.09**	**37**	Pn	Pn	04 34 57.4	-0.1
S11A				IAML		04 35 33.4	
	comp=N,78nm,0.7s						
TPH	**Tonopah**	**2.09**	**2**	Pn	Pn	04 34 58.3	+0.7
TPH				IAML		04 35 30.8	
	comp=E,58nm,0.8s						
TPH				IAML		04 35 31.3	
	comp=N,74nm,1.1s						
MCSM	**Casa Diablo Ho**	**2.10**	**323**		Pb	04 35 00.8	+0.6
TPC	**Twentynine Pal**	**2.14**	**150**		Pn	04 34 56.9	-1.2
MDPB	**Devils Postpil**	**2.17**	**320**		Pn	04 34 58.4	-0.3
MDPB				IAML		04 35 31.8	
	comp=N,51nm,0.8s						
MDPB				IAML		04 35 34.9	
	comp=E,39nm,0.8s						
BELC	**Belle Mtn. Jos**	**2.26**	**151**		Pn	04 34 58.3	-1.5
BELC				IAML		04 35 33.5	
	comp=E,63nm,0.5s						
BELC				IAML		04 35 36.0	
	comp=N,53nm,0.3s						
HMTC	**Hemet**	**2.28**	**173**		Pn	04 34 59.2	-0.8
POB	**Polly Butte**	**2.31**	**172**		Pn	04 34 60.0	-0.5
PRN	**Pahroc Range**	**2.32**	**51**	Pn	Pn	04 35 00.2	-0.4
PRN				IAML		04 35 38.8	
	comp=N,56nm,0.4s						
PRN				IAML		04 35 46.8	
	comp=E,59nm,0.7s						
ELS	**Elsinore Mount**	**2.33**	**182**	Pn	Pn	04 34 59.9	-0.7
ELS				IAML		04 35 35.8	
	comp=E,32nm,0.5s						
PMD	**Palm Desert**	**2.45**	**161**	Pn	Pn	04 35 01.6	-0.7
LHV	**Little Huntoon**	**2.46**	**338**	Pn	Pn	04 35 02.1	-0.2
LHV				IAML		04 35 48.8	
	comp=E,31nm,0.5s						
PFO	**Pinyon Flats O**	**2.47**	**163**	Pn	Pn	04 35 01.9	-0.8
DNR	**Dunn Ranch,Anz**	**2.47**	**166**	Pn	Pn	04 35 02.4	-0.3
NV11	**Mina Array Sit**	**2.54**	**345**	Pn	Pn	04 35 03.0	-0.7
BZNA	**Buzz No.'s Pla**	**2.54**	**167**		Pn	04 35 03.0	-0.7
IRM	**Iron Mountain**	**2.55**	**135**		Pn	04 35 02.6	-1.1
IRM				IAML		04 35 44.8	
	comp=N,30nm,0.2s						
IRM				IAML		04 35 47.8	
	comp=E,32nm,0.5s						
LEGD	**La Grand CA**	**2.58**	**299**	Pn	Pn	04 35 04.0	-0.1
PKD	**Bear Valley Ra**	**2.61**	**270**	Pn	Pn	04 35 04.2	-0.2
R11B	**Troy Canyon, C**	**2.75**	**30**	Pn	Pn	04 35 06.4	-0.1
BC3	**Big Chuckawall**	**2.79**	**146**	Pn	Pn	04 35 05.5	-1.5
BC3				IAML		04 35 57.4	
	comp=E,28nm,0.8s						
BC3				IAML		04 35 57.6	
	comp=N,36nm,0.5s						
BORC	**Borrego Spring**	**2.81**	**164**	Pn	Pn	04 35 07.2	0.0
RYN	**Ryan**	**2.81**	**341**	Pn	Pn	04 35 07.3	-0.1
PMPB	**Monarch Peak**	**2.82**	**276**	Pn	Pn	04 35 07.3	-0.2
PMPB				IAML		04 35 53.8	
	comp=E,30nm,0.7s						
PMPB				IAML		04 35 54.9	
	comp=N,30nm,2.7s						
W13A	**Hualapai Mount**	**2.94**	**106**	Pn	Pn	04 35 08.8	-0.4
DPP	**Dos Picos Cty**	**2.99**	**174**	Pn	Pn	04 35 09.1	-0.6
DPP				IAML		04 35 59.3	
	comp=E,26nm,1.0s						
BBGB	**Big Mountain B**	**3.06**	**282**	IAML		04 36 07.1	
	comp=E,38nm,0.8s						
CMB	**Columbia Colle**	**3.19**	**311**	IAML		04 36 01.5	
	comp=N,14nm,0.3s						
BLYC	**Blythe**	**3.20**	**133**	IAML		04 36 06.1	
	comp=N,27nm,0.3s						
BLYC				IAML		04 36 06.8	
	comp=E,22nm,0.4s						
BAR	**Barrett**	**3.33**	**170**	IAML		04 36 08.3	
	comp=N,18nm,0.3s						
BAR				IAML		04 36 08.3	
	comp=E,19nm,0.3s						
WELL	**Weller Preserv**	**3.66**	**313**	IAML		04 36 16.4	
	comp=N,13nm,0.7s						
WELL				IAML		04 36 19.4	
	comp=E,18nm,0.4s						
KNB	**Kanab**	**3.78**	**73**	IAML		04 36 29.4	
	comp=E,11nm,3.7s						
KNB				IAML		04 36 49.6	
	comp=N,8.6nm,4.5s						
SPR3	**Spring Creek 3**	**3.84**	**37**	IAML		04 36 22.1	
	comp=N,9.1nm,0.9s						
SPR3				IAML		04 36 22.7	
	comp=E,11nm,0.8s						
Y14A	**Wickenburg**	**4.09**	**119**	IAML		04 36 38.2	
	comp=E,14nm,0.5s						
WUAZ	**Wupatki**	**4.87**	**94**	IAML		04 37 51.4	
	comp=E,8.9nm,4.0s						
WUAZ				IAML		04 38 45.1	
	comp=E,10.0nm,4.2s						
ELK	**Elko**	**5.03**	**18**	IAML		04 37 18.8	
	comp=E,4.5nm,4.7s						
X16A	**Lo Mia Camp, P**	**5.07**	**106**	IAML		04 37 48.2	
	comp=N,5.8nm,4.6s						
X16A				IAML		04 38 44.4	
	comp=E,5.2nm,3.9s						

*NEIC **17** 04:40:59.8±1.2, 1.°73N±0.°08×90.°9W±0.°1, h10km±2km, mb4.4/7, Error ellipse: s-maj=22.7km s-min=12.6km az=280.0*
*IDC **17** 04:40:59.4±1.2, 1.°72N×91.°17W, h0km, mb3.7/7, mbtmp3.8/8, ML3.6/1, MS3.6/23, Error ellipse: s-maj=48.1km s-min=19.9km az=53.0*
ISC 17 04:41:00.1±0.8, 1.78N±0.°08×90.9W±0.°1, h10km, n44, σ1§47/23, mb3.7/9, MS3.5/19, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.50**	**166**	Pn	**Pn**	**04 41 39.9**	**-1.0**
JTS	**Las Juntas de**	**10.30**	**35**	LR	LR	04 46 25.9	
	comp=Z,626nm,19.1s,baz=216,slow=31						
SOCE	**Pocosol**	**10.57**	**36**	Pn	**Pn**	**04 43 31.9**	**+0.2**
BRU2	**Volcan**	**10.72**	**49**	Pn	**Pn**	**04 43 34.3**	**+0.4**
ACON	**Acoyapa**	**11.60**	**29**	Pn	**Pn**	**04 43 46.7**	**+0.9**
COHC	**Cochancay**	**12.35**	**110**		**Pn**	**04 43 55.4**	**-0.7**
OTAV	**Otavalo**	**12.51**	**97**	Pn	**Pn**	**04 43 57.8**	**-1.0**
SLOR	**San Lorenzo -**	**12.62**	**101**	Pn	**Pn**	**04 43 58.5**	**-1.8**
SIUN	**Universidad Ur**	**13.31**	**27**	Pn	**Pn**	**04 44 09.2**	**0.0**
FLOC	**Florencia**	**15.21**	**90**	Pn	**Pn**	**04 44 35.1**	**-0.1**
FLOC				IAmb	IAmb	04 44 44.0	
	comp=Z,23nm,1.5s						
ATAH	**Atahualpa**	**15.28**	**126**	Pn	**P**	**04 44 39.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=306,slow=10,SNR=4.7						
ATAH				LR	LR	04 49 29.9	
	comp=Z,422nm,18.6s,baz=303,slow=33						
	comp=Z,7.6nm,0.8s						
CMIG	**Matias Romero**	**15.72**	**346**	LR	LR	04 49 22.6	
	comp=Z,97nm,21.2s,baz=163,slow=32						
ROSC	**El Rosal**	**16.80**	**79**	LR	LR	04 50 19.1	
	comp=Z,160nm,19.1s,baz=265,slow=33						
TLIG	**Tlapa**	**17.42**	**335**		**P**	**04 45 03.4**	**-1.3**
RUSC	**La Rusia**	**18.21**	**77**	P	**P**	**04 45 12.4**	**-1.5**
RUSC				IAmb	IAmb	04 45 32.8	
	comp=Z,21nm,1.2s						
MTDJ	**Mount Denham**	**20.94**	**38**	P	**P**	**04 45 42.8**	**-0.6**
SDV	**Santo Domingo**	**21.34**	**70**	P	**P**	**04 45 48.1**	**+0.3**
SDV				IAmb	IAmb	04 46 08.5	
	comp=Z,18nm,1.2s						
SDV	**Santo Domingo**	**21.34**	**70**	P	**P**	**04 45 51.8**	**+3.9**
	comp=Z,6.4nm,0.3s,baz=238,slow=8.5,SNR=4.3						
SDV				LR	LR	04 52 49.2	
	comp=Z,104nm,19.3s,baz=255,slow=33						
	comp=Z,6.4nm,0.3s						
BAUV	**El Baul**	**23.80**	**72**	P	**P**	**04 46 12.1**	**-1.3**
BAUV				IAmb	IAmb	04 46 23.9	
	comp=Z,16nm,1.2s						
H06E1	**SOCORRO T-PHAS**	**25.92**	**312**	T	T	05 13 24.3	
**LPAZ

IDC 17 04:42:37.3±4.9, 3°.77S×148°.90E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=189.3km s-min=54.4km az=109.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.45	220	P	P	04 47 28.5	+1.1
	1.1nm,1.0s,baz=43,slow=10.0,SNR=8.7 1.1nm,1.0s						
ASAR	Alice Springs	24.52	215	P	P	04 47 57.6	-1.1
	0.6nm,0.8s,baz=57,slow=9.1,SNR=4.7 0.6nm,0.8s						
TORD	Torodi Ar. Bea	146.30	288	PKPbc	PKPdf	05 02 20.5	+0.5
	0.5nm,0.9s,baz=80,slow=2.5,SNR=3.0						

RSNC 17 04:43:15.8±0.0, 5°.N±1°.×7°.4W±°, h150km±2km, M2.4, mb3.6, ML2.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.46	320	P	Pn	04 43 36.8	-0.3
SPBC				S	Sn	04 43 53.0	-0.3
ROSC	El Rosal	0.71	230	P	Pn	04 43 38.9	+0.1
ROSC				S	Sn	04 43 54.3	-2.0
CVER	Cruz Verde, Cu	0.83	201	P	Pn	04 43 39.8	0.0
CVER				S	Sn	04 43 57.5	-0.5
RUSC	La Rusia	0.91	50	P	Pn	04 43 40.1	-0.3
RUSC				S	Sn	04 43 58.8	-0.3
PTBC	PUERTO BERRIO,	1.40	331	P	Pn	04 43 43.4	-1.0
PTBC				S	Sn	04 44 05.9	-0.4
BARC	Barichara	1.42	25	P	Pn	04 43 44.3	-0.5
BARC				S	Sn	04 44 05.6	-1.3
GUY2C	Guyana, Caldas	1.58	267	P	Pn	04 43 46.9	+0.2
GUY2C				S	Sn	04 44 09.9	-0.4
BRJC	Barrancabermej	1.66	1	P	Pn	04 43 47.0	-0.1
BRJC				S	Sn	04 44 11.3	+0.1
PRAC	Prado	1.92	215	P	Pn	04 43 49.4	-0.7
PRAC				S	Sn	04 44 15.7	-0.8
HELC	Santa Helena	1.95	297	P	Pn	04 43 51.0	+0.2
HELC				S	Sn	04 44 17.4	-0.1
ORTC	Ortega, Tolima	2.01	227	P	Pn	04 43 50.5	-0.6
ORTC				S	Sn	04 44 17.4	-0.9
URMC	La Uribe, Meta	2.12	196	P	Pn	04 43 52.0	-0.5
URMC				S	Sn	04 44 20.6	-0.2
CBOC	Ciudad Bolivar	2.29	284	P	Pn	04 43 54.7	+0.1
CBOC				S	Sn	04 44 24.7	+0.3
PAMC	Pamplona, Colo	2.29	28	P	Pn	04 43 54.3	-0.6
PAMC				S	Sn	04 44 24.3	-0.7
ZARC	Zaragoza, Cauc	2.43	334	P	Pn	04 43 54.4	-1.7
ZARC				S	Sn	04 44 26.0	-1.1
YOTC	Yotoco, Valle	2.87	243	P	Pn	04 44 00.9	-0.8
OCAC	Ocana	2.96	9	P	Pn	04 44 01.9	-0.9
OCAC				S	Sn	04 44 38.7	-0.4
DBBC	Dabeiba	2.96	305	P	Pn	04 44 02.7	0.0
DBBC				S	Sn	04 44 39.2	+0.2
UREC	San Jos de Ur	2.99	325	P	Pn	04 44 00.8	-2.3
UREC				S	Sn	04 44 37.7	-2.1
MACC	Macarena, Meta	3.13	181	P	Pn	04 44 02.7	-2.3
MACC				S	Sn	04 44 39.1	-3.9
APAC	Apartado, Choc	3.80	313	P	Pn	04 44 13.0	-0.4
APAC				S	Sn	04 44 58.5	+0.3
SJCC	San Jacinto, C	4.77	343	P	Pn	04 44 23.1	-3.2
SJCC				S	Sn	04 45 16.1	-5.2
URIC	Uribia, Colomb	6.60	15	P	Pn	04 44 48.7	-1.9
URIC				S	Sn	04 45 59.6	-5.2

IDC 17 05:02:52.7±3.9, 24°.66N×124°.48E, h0km, mb3.5/5, mbtmp3.5/5, MS2.8/1, Error ellipse: s-maj=271.5km s-min=22.5km az=63.0
JMA 17 05:02:54.8±0.1, 24°.7N±0°.6×124°.8E±0°.3, h19km, MV3.6/10, NEAR MIYAKOJIMA ISLAND
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
ISC 17 05:02:54.7±1.0, 24°.74N±0°.09×124°.82E±0°.04, h19km±3km, n16, σ0°.39/25, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.15	227	i P	Pg	05 02 59.0	-0.1
JTJ				S	Sg	05 03 01.9	-0.1
JIRB	Irabujima	0.33	75	i P	Pg	05 03 01.7	-0.1
JIRB				eS	Sg	05 03 06.5	-0.2
JIKM	Ikemajima	0.43	65	i P	Pg	05 03 03.6	+0.1
JIKM				eS	Sg	05 03 09.7	+0.1
JMJ2	Miyako jima3	0.46	90	i P	Pg	05 03 03.7	-0.4
JMJ2				S	Sg	05 03 10.4	0.0
JISG	Ishigakijimahi	0.49	252	i P	Pg	05 03 04.6	0.0
JISG				S	Sg	05 03 11.5	+0.2
JOGS	Gusukube	0.53	88	i P	Pg	05 03 05.2	-0.2
JOGS				S	Sg	05 03 12.9	+0.2
JIJ	Ishigaki jima	0.72	239	P	Pb	05 03 08.0	-0.6
JIJ				S	Sb	05 03 17.7	-0.4
JKRS	Kuro-shima	0.89	236	P	Pb	05 03 11.2	-0.3
JKRS				S	Sb	05 03 23.1	0.0
IRIF	Iriomote-Funau	1.07	248	P	Pb	05 03 14.4	-0.2
IRIF				eS	Sb	05 03 28.6	+0.4
HATJ	Hateruma jima	1.15	234	P	Pn	05 03 15.5	-0.2
HATJ				eS	Sb	05 03 30.3	-0.1
JNU	Nakatsue	9.89	31	LR	LR	05 08 27.4	
	comp=Z,62nm,21.6s,baz=1.0,slow=33						
MKAR	Makanchi Array	40.29	314	P	P	05 10 30.6	0.0
	0.6nm,0.8s,baz=96,slow=10.0,SNR=3.7 0.6nm,0.8s						
ZALV	Zalesovo Beam	41.63	325	P	P	05 10 41.0	-0.4
	0.5nm,0.3s,baz=116,slow=6.6,SNR=1.5 0.5nm,0.3s						
KURBB	Kurchatov Arra	43.86	318	P	P	05 10 59.4	-0.1
	0.4nm,0.4s,baz=110,slow=8.0,SNR=4.6 0.4nm,0.4s						
WRA	Warramunga Arr	45.37	167	P	P	05 11 13.2	+1.2
	0.3nm,0.8s,baz=348,slow=8.8,SNR=5.3 0.3nm,0.8s						
ASAR	Alice Springs	48.92	169	P	P	05 11 40.1	+0.4
	0.3nm,0.4s,baz=348,slow=8.9,SNR=3.0 0.3nm,0.4s						

DJA 17 05:14:54.5±0.8, 7°.N±5°.×12°.5E±°, h60km±10km, M4.7/7, mB5.4/2, mb4.7/6, MLv4.7/7, Mw(mB)4.9/2
IDC 17 05:14:56.6±1.0, 6°.47N×125°.26E, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/3, Error ellipse: s-maj=28.8km s-min=10.1km az=109.0
ISC 17 05:14:57.8±0.8, 6°.71N±0°.07×125°.3E±0°.1, h10km, n15, σ1°.63/14, mb3.8/6, MS3.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.43	34	Pg	Pn	05 15 09.2	-0.9
	2μm,0.3s,baz=265,slow=0.9,SNR=49						
DAV				Lg	Lg	05 15 19.7	
	532nm,0.3s,baz=102,slow=23,SNR=4.0						
DAV	Davao City (W)	0.43	34	P	Pg	05 15 05.0	-1.3
SGSI	Sangihe	3.01	176	P	Pn	05 15 47.1	+1.5
SGSI				S	Sb	05 16 28.1	-0.3
MRSI	Marisa	7.06	209	P	Pn	05 16 38.8	-2.5
	0.2nm39nm,0.5s						
MRSI				S	Sn	05 18 02.2	+0.6
	0.2nm39nm,0.5s						
LUWI	Luwuk	8.11	198	P	Pn	05 16 54.6	-1.2
	5μm94nm,1.0s						
SANI	Sanana	8.72	176	P	Pn	05 17 04.6	+0.4
	18nm,0.7s						
WRA	Warramunga Arr	27.93	162	P	P	05 20 47.1	-1.4
	1.1nm,0.7s,baz=341,slow=9.4,SNR=12 1.1nm,0.7s						
ASAR	Alice Springs	31.33	165	P	P	05 21 17.3	-1.3
	0.7nm,0.5s,baz=338,slow=6.9,SNR=13 0.7nm,0.5s						
ASAJ	Asahikawa	40.21	19	LR	LR	05 40 19.1	
	comp=Z,31nm,19.1s,baz=188,slow=38						
MKAR	Makanchi Array	54.34	325	P	P	05 24 27.6	+2.9
	0.6nm,0.6s,baz=131,slow=7.9,SNR=3.6 0.6nm,0.6s						
KURBB	Kurchatov Arra	58.50	327	P	P	05 24 54.3	+0.1
	0.3nm,0.5s,baz=126,slow=6.2,SNR=4.2 0.3nm,0.5s						
ILAR	Eielson Array	83.03	26	P	P	05 27 25.3	+2.1
	0.5nm,1.0s,baz=256,slow=5.7,SNR=2.5 0.5nm,1.0s						
PPT	Papeete	87.34	108	P	P	05 27 45.4	-0.4
	12nm,0.7s,baz=58,slow=22,SNR=1.3						
KMBO	Kilima Mbogo	88.23	269	LR	LR	06 05 24.3	
	comp=Z,23nm,18.6s,baz=303,slow=34						
NOA	NORSAR Array B	95.52	333	LR	LR	06 16 01.4	
	comp=Z,11nm,19.2s,baz=350,slow=38						

IDC 17 05:17:44.0±1.2, 25°.53N×109°.68W, h0km, mb3.4/1, mbtmp3.3/6, ML3.6/4, MS3.2/9, Error ellipse: s-maj=24.1km s-min=10.2km az=112.0
MEX 17 05:17:47.2±0.8, 25°.69N×109°.96W, h11km±17km, MD4.2
ISC 17 05:17:43.6±1.9, 25°.62N±0°.04×110°.02W±0°.04, h0km±13km, n29, σ2°.31/34, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	Topolobambo	0.88	91	eP	Pg	05 18 00.6	0.0
TSIG				eS	Sg	05 18 11.5	-0.5
LPIG	La Paz	1.53	190	Pg	Pn	05 18 12.2	-0.1
	6.2nm,0.3s,baz=2.3,slow=7.5,SNR=17						
LPIG				Lg	Lg	05 18 31.6	
	50nm,0.3s,baz=182,slow=13,SNR=7.3						
LPIG	La Paz	1.53	190	eP	Pn	05 18 10.9	-1.4
LPIG				eS	Sn	05 18 30.8	-2.1
CSIG	Choix	1.91	50	eP	Pn	05 18 16.0	-1.5
CSIG				eS	Sn	05 18 39.7	-2.5
SLBS	Sierra La Lagu	1.92	178	eP	Pn	05 18 18.6	+0.8
GUYB	Guaymas	2.40	342	eP	Pn	05 18 22.4	-1.8
GUYB				eS	Sn	05 18 47.8	-6.5
SRIG	Santa Rosalia	2.62	311	eP	Pn	05 18 30.3	+3.1
SSIG	Sanalona	2.72	106	eP	Pn	05 18 31.1	+2.4
SSIG				eS	Sb	05 19 07.7	+0.5
HSIG		3.49	346	eP	Pn	05 18 40.3	+1.1
MAIG	Mazatlaan	4.07	126	eP	Pn	05 18 53.4	+6.2
MAIG				eS	Sn	05 19 37.8	+2.2
HPIG		4.12	70	eP	Pn	05 18 47.7	-0.4
PDIG	Papasquiaro	4.22	97	eP	Pn	05 18 48.2	-1.2
PDIG				eS	Sn	05 19 38.9	-0.7
BCIG	La Boquilla	4.55	64	eP	Pn	05 18 53.0	-0.9
BCIG				eS	Sn	05 19 49.5	+1.9
NZIG	Nacozari, Sono	4.76	5	eP	Pn	05 18 56.4	-0.4
NZIG				eS	Sn	05 19 55.4	+2.7
CGIG		5.06	20	eP	Pn	05 19 01.5	+0.5
CGIG				eS	Sn	05 19 58.1	-2.2
TUC	Tucson	6.70	354	eP	Pn	05 19 23.8	+0.3
TUC				eS	Sn	05 20 35.6	-5.0
TXAR	Lajitas Array	6.75	55	Pn	Pn	05 19 22.4	-1.7
	0.5nm,0.3s,baz=232,slow=14,SNR=19						
TXAR				Sn	Sn	05 20 37.3	-4.4
	0.8nm,0.3s,baz=311,slow=25,SNR=3.6						
TXAR				Lg	Lg	05 21 09.7	
	1.9nm,0.3s,baz=232,slow=33,SNR=4.0						
TXAR				LR	LR	05 22 19.1	
	comp=Z,115nm,19.0s,baz=236,slow=42 0.2nm,0.3s						
ANMO	Albuquerque	9.79	17	Pn	Pn	05 20 06.4	+0.5
	1.2nm,1.0s,baz=169,slow=10,SNR=3.7						
ANMO				Lg	Lg	05 22 52.0	
	0.2nm,0.3s,baz=23,slow=14,SNR=6.1						
ANMO				LR	LR	05 24 09.3	
	comp=Z,201nm,18.7s,baz=278,slow=39						
NVAR	Mina Array Bea	14.57	333	Pn	P	05 21 17.4	-0.7
	0.1nm,0.3s,baz=151,slow=13,SNR=9.3						
NVAR				LR	LR	05 26 56.3	
	comp=Z,39nm,20.3s,baz=164,slow=38 0.1nm,0.4s						
ELK	Elko	15.70	345	Pn	P	05 21 31.3	+0.6
	0.1nm,0.3s,baz=190,slow=13,SNR=5.4						
ELK				LR	LR	05 27 53.0	
	comp=Z,162nm,18.3s,baz=129,slow=38 1.1nm,0.7s						
CMIG	Matias Romero	16.44	118	LR	LR	05 28 00.4	
	comp=Z,99nm,20.6s,baz=272,slow=38						
PDAR	Pinedale Array	17.11	1	P	P	05 21 47.3	+1.0
	0.1nm,0.3s,baz=171,slow=10,SNR=6.3						
PDAR				S	Sn	05 24 57.5	+2.0
	0.3nm,0.8s,baz=189,slow=9.4,SNR=2.3						
PDAR				LR	LR	05 28 11.7	
	comp=Z,99nm,18.5s,baz=142,slow=36 1.5nm,1.0s						
YBH	Yreka Blue Hor	19.20	330	LR	LR	05 28 18.9	
	comp=Z,10nm,21.8s,baz=326,slow=33						
TKL	Tuckaleechee C	24.63	60	LR	LR	05 33 32.6	
	comp=Z,86nm,21.6s,baz=252,slow=39						
YKA	Yellowknife Ar	37.00	356	LR	LR	05 41 06.9	
	comp=Z,141nm,19.6s,baz=203,slow=38						
ILAR	Eielson Array	45.73	339	P	P	05 26 08.6	+2.3
	0.5nm,0.8s,baz=155,slow=7.2,SNR=5.1 0.5nm,0.8s						
H03N2	Juan Fernandez	65.75	152	T	T	06 40 01.8	
	baz=331,slow=78,SNR=103						
H03N1	Juan Fernandez	65.76	152	T	T	06 40 03.8	
	baz=331,slow=78,SNR=162						
H03N3	Juan Fernandez	65.77	152	T	T	06 40 02.9	
	baz=331,slow=78,SNR=133						

IDC 17 05:34:23.1±1.9, 6°.47S×129°.83E, h0km, mb3.8/2, mbtmp3.9/6, ML3.7/4, Error ellipse: s-maj=47.9km s-min=27.7km az=70.0
ISC 17 05:34:36.4±1.4, 7°.3S±0°.1×129°.4E±0°.1, h100km, n6, σ3°.57/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.35	243	Pn	Pn	05 36 10.1	+2.5
	4.4nm,0.3s,baz=56,slow=3.5,SNR=2.4						
BATI				Sn	Sn	05 37 18.2	-0.6
	6.7nm,0.3s,baz=348,slow=4.8,SNR=1.6 82nm,1.0s						
FITZ	Fitzroy Crossi	11.32	199	Pn	Pn	05 37 17.5	+2.5
	0.2nm,0.3s,baz=14,slow=11,SNR=6.2						
FITZ				Sn	Sn	05 39 15.0	-4.6
	0.6nm,0.3s,baz=110,slow=20,SNR=8.9 0.6nm,0.3s						
WRA	Warramunga Arr	13.43	160	Pn	Pn	05 37 44.1	+1.1
	0.4nm,0.3s,baz=345,slow=13,SNR=16						
WRA				Sn	Sn	05 40 07.6	-3.2
	0.5nm,0.3s,baz=335,slow=23,SNR=10 0.7nm,0.5s						
ASAR	Alice Springs	16.81	166	P	P	05 38 28.1	+1.7
	0.3nm,0.3s,baz=345,slow=11,SNR=18						
ASAR				S	Sn	05 41 29.9	-2.8
	0.2nm,0.4s,baz=79,slow=7.8,SNR=4.9 1.3nm,0.6s						
STKA	Stephens Creek	26.94	157	P	P	05 40 12.8	+4.2
	1.6nm,0.7s,baz=332,slow=18,SNR=2.8 1.6nm,0.7s						
MKAR	Makanchi Array	68.17	327	P	P	05 45 22.1	-4.0
	0.2nm,0.4s,baz=110,slow=8.1,SNR=2.6 0.2nm,0.4s						

NIED 17 05:42:08.7, 34°.66N×136°.88E, h343km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr7.30; Mθθ-1.95; Mφφ-5.35; Mrθ1.00; Mθφ2.62; Mφr-2.53; Fault plane solution: M0 7.54000×10^14 NP1: φs329.00000°, δ35.00000°, λ86.00000°. NP2: φs154.00000°, δ56.00000°, λ93.00000°.
JMA 17 05:42:08.7±0.2, 35°.N±1°.×13°.7E±°, h343km±2km, MV3.7/36, MIKAWA BAY REGION
IDC 17 05:42:09.6±0.6, 34°.55N×136°.87E, h338km±5km, mb3.2/16, mbtmp3.8/20, Error ellipse: s-maj=12.6km s-min=9.5km az=77.0
ISC 17 05:42:09.5±0.7, 34°.61N±0°.07×136°.90E±0°.05, h336km±5km, n46, σ0°.97/61, mb3.5/16, 4D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.20	84	P	Pn	05 42 52.2	+0.5
JAA				eS	S	05 43 25.6	+0.2
JIE	Ise	0.27	217	P	Pn	05 42 52.2	+0.3
JIE				eS	S	05 43 25.4	-0.3
TK02	Tokai 2	0.97	133	eP	Pn	05 42 54.1	+0.7
TTO1	TONANKAI O.B.S	0.99	186	P	Pn	05 42 54.1	+0.7
JYTA	Yamagatataniai	0.99	352	P	Pn	05 42 53.9	+0.3
JWY	Kouya	1.15	251	P	Pn	05 42 54.7	+0.2
JTNC	Tanabenakahech	1.33	234	P	Pn	05 42 55.4	0.0
JWT	Wachi	1.40	299	P	Pn	05 42 55.8	+0.1
JWT				eS	S	05 43 31.6	-0.9
JKG	Kaga	1.73	345	P	Pn	05 42 57.5	0.0
JOD2	Odawara 2	1.91	69	P	Pn	05 42 59.2	+0.4
JRY	Ryogami san	2.15	49	⇓P	Pn	05 43 00.9	+0.3
JRY				⇓eS	S	05 43 40.9	-0.7
JAI	Aioi	2.19	249	P	Pn	05 43 00.8	-0.1
JAI				eS	S	05 43 40.8	-1.3
MAT	Matsushiro	2.20	29	P	Pn	05 43 01.2	+0.2
MAT				eS	S	05 43 41.4	-0.8
MJAR	Matsushiro Arr	2.20	29	P	Pn	05 43 01.4	+0.5
	13nm,0.5s,baz=193,slow=8.5,SNR=28						
MJAR				S	S	05 43 43.5	+1.3
	12nm,0.8s,baz=253,slow=29,SNR=10						
JMN	Monobe	2.66	252	P	Pn	05 43 04.8	0.0
JMN	Monobe	2.66	252	eP	Pn	05 43 04.7	-0.1
JAG	Ashikaga	2.76	48	⇓P	Pn	05 43 04.3	-1.3
JAG				⇓S	S	05 43 47.7	-2.8
JHJ	Hachijo jima 2	2.82	121	P	Pn	05 43 05.7	-0.5
	93nm,0.7s,baz=66,slow=22,SNR=0.9						
JHJ				S	S	05 43 54.1	+2.4
	77nm,0.3s,baz=34,slow=12,SNR=1.6						
JHS	Saijyo	3.14	278	eP	Pn	05 43 09.2	+0.1
JHS				S	S	05 43 56.7	-0.2
BSO1	Boso 1	3.36	88	eP	Pn	05 43 09.2	-1.4
BSO1				eS	S	05 43 58.1	-1.7
JSD	Sado	3.59	17	P	Pn	05 43 13.5	+0.1
JMM	Marumori	4.52	43	P	Pn	05 43 22.1	-1.0
JNU	Nakatsue	5.23	255	P	Pn	05 43 31.0	-0.1
	12nm,0.8s,baz=82,slow=5.4,SNR=4.6						
JNU	Nakatsue	5.23	255	P	Pn	05 43 31.5	+0.4
JTM	Tenmabayashi	6.99	27	P	Pn	05 43 52.2	+0.9
KSRS	Korea Array	7.81	294	P	Pn	05 44 01.9	+0.9
	7.8nm,0.6s,baz=106,slow=12,SNR=24						
ERM	Erimo	8.88	32	P	Pn	05 44 12.7	-1.1
JEM	Erimo	8.88	32	P	Pn	05 44 12.7	-1.1
PETK	Petropavlovsk-	23.66	32	P	P	05 46 53.0	+1.4
	0.6nm,0.3s,baz=224,slow=8.1,SNR=1.4 0.6nm,0.3s						
SONM	Songino Array	26.29	309	P	P	05 47 16.5	+1.2
	1.4nm,0.6s,baz=121,slow=8.9,SNR=4.0 1.4nm,0.6s						
ZALV	Zalesovo Beam	40.92	315	P	P	05 49 21.6	+1.7
	0.4nm,0.3s,baz=106,slow=7.7,SNR=2.4						
ZALV				PcP	PcP	05 51 12.5	-0.5
	0.7nm,0.5s,baz=108,slow=4.8,SNR=2.5 0.4nm,0.3s						
MKAR	Makanchi Array	42.35	304	P	P	05 49 31.6	0.0
	0.3nm,0.4s,baz=84,slow=11,SNR=4.5						
MKAR				PcP	PcP	05 51 17.7	-0.3
	0.2nm,0.5s,baz=64,slow=3.4,SNR=3.2 0.3nm,0.4s						
KURBB	Kurchatov Arra	44.65	309	P	P	05 49 50.5	+0.8
	0.6nm,0.6s,baz=88,slow=8.9,SNR=6.9 0.6nm,0.6s						
ILAR	Eielson Array	53.48	31	P	P	05 50 56.0	+0.3
	0.4nm,0.5s,baz=260,slow=5.4,SNR=12 0.4nm,0.5s						
WRA	Warramunga Arr	54.30	183	P	P	05 51 00.9	-1.3
	1.9nm,0.3s,baz=359,slow=7.7,SNR=59						
WRA				PcP	PcP	05 52 01.6	+0.1
	0.3nm,0.4s,baz=355,slow=4.3,SNR=1.6						
WRA				ScP	ScP	05 55 26.8	0.0
	0.5nm,0.6s,baz=324,slow=13,SNR=9.8 1.9nm,0.3s						
ASAR	Alice Springs	58.02	183	P	P	05 51 27.3	-0.9
	1.0nm,0.3s,baz=359,slow=6.1,SNR=25 1.0nm,0.3s						
ARCES	ARCESS Array B	64.95	339	P	P	05 52 12.4	-1.2
	0.9nm,0.6s,baz=64,slow=8.4,SNR=11 0.9nm,0.6s						
YKA	Yellowknife Ar	67.71	28	P	P	05 52 31.5	+0.4
	0.2nm,0.5s,baz=307,slow=12,SNR=6.0 0.2nm,0.5s						
FINES	FINESS Array B	69.21	331	P	P	05 52 40.0	-0.2
	1.0nm,0.6s,baz=64,slow=4.9,SNR=5.9 1.0nm,0.6s						
HFS	Hagfors	74.73	334	P	P	05 53 12.2	-0.5
	1.3nm,0.6s,baz=64,slow=6.6,SNR=5.0 1.3nm,0.6s						
NOA	NORSAR Array B	74.94	336	P	P	05 53 14.1	0.0
	0.3nm,0.5s,baz=65,slow=4.3,SNR=1.7 0.3nm,0.5s						
NVAR	Mina Array Bea	79.36	51	P	P	05 53 40.5	+1.4
	0.5nm,0.5s,baz=294,slow=5.5,SNR=6.2 0.5nm,0.5s						
PDAR	Pinedale Array	81.96	43	P	P	05 53 52.0	-0.7
	0.8nm,0.7s,baz=27,slow=1.7,SNR=7.3 0.8nm,0.7s						
TXAR	Lajitas Array	94.49	50	P	P	05 54 53.2	+0.7
	0.4nm,0.7s,baz=297,slow=2.8,SNR=4.7 0.4nm,0.7s						
TORD	Torodi Ar. Bea	116.26	310	PKP	PKPdf	06 00 11.6	-2.2
	0.1nm,0.3s,baz=26,slow=3.3,SNR=1.8						
LPAZ	La Paz	151.08	57	PKPbc	PKiKP	06 01 24.9	0.0
	0.9nm,0.6s,baz=359,slow=9.5,SNR=4.2						

TRN 17 06:03:52.5, 15°.27N×60°.88W, h29km, MD3.5, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	La Plaine	0.36	280	eP	Pn	06 04 02.0	+0.2
DLPL				eS	Sn	06 04 09.8	+1.8
ILAM	Ilet Lapin Mar	0.49	180	eP	Pn	06 04 04.8	+1.3
ILAM				eS	Sn	06 04 12.4	+1.4
SVN	Savane Anatole	0.51	214	eP	Pn	06 04 05.3	+1.5
SVN				eS	Sn	06 04 14.0	+2.4
DWS	Wesley	0.52	306	eP	Pn	06 04 04.8	+1.0
DWS				eS	Sn	06 04 12.1	+0.4
DSLB	Salisbury	0.55	288	eP	Pn	06 04 05.9	+1.5
DSLB				eS	Sn	06 04 14.3	+1.7
BIM	Bigot	0.77	194	eP	Pn	06 04 09.1	+1.7
BIM				eS	Sn	06 04 20.0	+2.0
TBG	Guadaloupe-3	0.94	308	eP	Pb	06 04 10.9	+0.6
TBG				eS	Sb	06 04 22.7	+0.3
DSDZ	La Diserade, G	1.06	350	eP	Pb	06 04 12.0	-0.1
DSDZ				eS	Sb	06 04 27.2	+1.5
MMLZ	Guadeloupe Bro	1.09	315	eP	Pb	06 04 13.5	+0.8
ATGZ	Broadband at L	1.16	315	eP	Pb	06 04 14.6	+0.7
ATGZ				eS	Sb	06 04 30.7	+2.0
SLBI	Saint Lucia, B	1.24	184	eP	Pb	06 04 16.0	+0.7
SLBI				eS	Sb	06 04 31.7	+0.8
DHSZ	Broadband at M	1.32	320	eP	Pb	06 04 16.6	0.0
DHSZ				eS	Sb	06 04 32.6	-0.5
SVB	Belmont	2.02	190	eP	Pb	06 04 26.8	-1.7

GCG 17 06:09:38.6±0.6, 13°.39N×90°.99W, h14km±5km, MD3.8, ML3.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	Yepocapa, Chim	0.96	26	i P	Pn	06 09 57.5	-0.3
FG16	Alotenango, Sa	0.99	28	i P	Pn	06 09 58.1	-0.2
NUBE	Las Nubes	1.28	66	i P	Pn	06 10 01.8	-0.4
JAYA	Jayaque - finc	1.52	80	i P	Pn	06 10 05.2	-0.3
JAYA				i S	Sn	06 10 25.4	+0.2
APG	El Apazote	1.68	18	i P	Pn	06 10 08.1	+0.3
APG				i S	Sb	06 10 31.1	+0.4
MTO3	Montecristo	1.87	57	i P	Pn	06 10 10.2	-0.3

*DJA 17 06:18:12.4±0.8, 8°.N

DAV	**Davao City (W)**	**0.50**	**64**	Pg	**Pb**	**06 18 33.0 +0.4**
	356nm,0.3s,baz=252,slow=8.5,SNR=26					
DAV				Lg	Lg	06 18 44.1
	1μm,0.3s,baz=300,slow=20,SNR=10					
DAV				LR	LR	06 18 57.8
	comp=Z,26μm,18.2s,baz=352,slow=52					
DAV	**Davao City (W)**	**0.50**	**64**	P	**Pb**	**06 18 33.0 +0.4**
SGSI	**Sangihe**	**3.17**	**173**	P	**Pn**	**06 19 13.9 +2.3**
SGSI				S	**Sg**	**06 20 04.2 +0.3**
TNTI	**Ternate**	**6.44**	**160**		**Pn**	**06 19 57.6 +1.1**
TNTI	**Ternate**	**6.44**	**160**	P	**Pn**	**06 20 01.0 +4.4**
	1μm0.5nm1μm70nm,0.9s					
MYLDM	**Lahad Datu**	**6.80**	**256**		**Pn**	**06 20 03.3 +1.8**
MRSI	**Marisa**	**7.09**	**207**	P	**Pn**	**06 20 05.1 -0.3**
	0.5nm1μm107nm,0.9s					
LUWI	**Luwuk**	**8.19**	**197**		**Pn**	**06 20 21.5 +0.9**
LUWI	**Luwuk**	**8.19**	**197**	P	**Pn**	**06 20 20.8 +0.2**
	2μm236nm,1.0s					
TGY	**Tagaytay City**	**8.30**	**331**	LR	LR	06 24 17.8
	comp=Z,696nm,19.1s,baz=134,slow=43					
SANI	**Sanana**	**8.88**	**174**	P	**Pn**	**06 20 33.2 +3.1**
I39PW	**PALAU INFRASON**	**9.37**	**85**	I	I	07 15 00.0
	baz=266,slow=308,SNR=1.8					
FAKI	**Fak Fak**	**12.03**	**144**	Pn	**Pn**	**06 21 13.6 +0.3**
KAPI	**Kappang**	**12.95**	**205**	LR	LR	06 26 33.5
	comp=Z,907nm,20.7s,baz=38,slow=39					
SBUM	**Sibu**	**13.59**	**252**	Pn	**Pn**	**06 21 36.1 +1.5**
KSM	**Kuching**	**15.71**	**251**	Pn	**Pn**	**06 22 04.2 +1.0**
KSM				IAmb	IAmb	06 22 20.7
	comp=Z,22nm,1.1s					
SOEI	**Soe**	**16.52**	**183**	P	**P**	**06 22 17.9 +1.6**
SOEI				IAmb	IAmb	06 22 43.3
	comp=Z,44nm,1.0s					
BATI	**Baumata**	**17.01**	**185**	LR	LR	06 30 27.1
	comp=Z,471nm,19.7s,baz=24,slow=43					
JAY	**Jayapura**	**18.12**	**120**	LR	LR	06 29 12.7
	comp=Z,283nm,21.0s,baz=346,slow=36					
JOW	**Kunigami**	**20.09**	**8**	LR	LR	06 30 08.2
	comp=Z,478nm,21.9s,baz=185,slow=35					
MTN	**Manton Dam**	**20.46**	**163**	P	Pn	06 23 01.1 -0.5
KNRA	**Kununurra**	**22.67**	**171**	P	**P**	**06 23 24.4 +1.2**
IPM	**Ipoh**	**24.10**	**266**	P	**P**	**06 23 38.8 +1.1**
IPM				IAmb	IAmb	06 23 39.8
	comp=Z,17nm,1.1s					
FITZ	**Fitzroy Crossi**	**24.80**	**179**	P	**P**	**06 23 42.7 -1.1**
JCJ	**Chichijima**	**25.85**	**37**	LR	LR	06 32 19.8
	comp=Z,212nm,21.6s,baz=174,slow=32					
JNU	**Nakatsue**	**26.68**	**11**	LR	LR	06 33 53.7
	comp=Z,238nm,21.6s,baz=206,slow=35					
PMG	**Port Moresby**	**27.25**	**126**	LR	LR	06 36 08.4
	comp=Z,149nm,18.4s,baz=295,slow=39					
CMAR	**Chiang Mai Arr**	**27.98**	**297**	P	**P**	**06 24 11.7 -1.0**
	comp=Z,0.6nm,0.3s,baz=114,slow=7,SNR=4.8					
CMAR				LR	LR	06 35 10.4
	comp=Z,236nm,20.3s,baz=110,slow=36					
	comp=Z,0.6nm,0.3s					
WRA	**Warramunga Arr**	**28.13**	**161**	P	**P**	**06 24 12.2 -1.8**
	comp=Z,2.8nm,0.9s,baz=339,slow=8.9,SNR=14					
WRA				S	**S**	**06 28 55.9 -3.0**
	comp=Z,1.1nm,1.0s,baz=338,slow=15,SNR=3.8					
	comp=Z,2.8nm,0.9s					
JHJ	**Hachijo jima 2**	**29.47**	**26**	LR	LR	06 35 46.9
	comp=Z,464nm,20.4s,baz=308,slow=35					
KSRS	**Korea Array**	**30.57**	**4**	P	**P**	**06 24 37.3 +1.9**
	comp=Z,0.6nm,0.4s,baz=213,slow=13,SNR=1.2					
	comp=Z,0.6nm,0.4s					
ASAR	**Alice Springs**	**31.52**	**164**	P	**P**	**06 24 42.2 -1.8**
	comp=Z,2.6nm,1.0s,baz=341,slow=8.5,SNR=17					
ASAR				S	**S**	**06 29 52.4 +0.1**
	comp=Z,0.4nm,0.9s,baz=348,slow=18,SNR=2.1					
ASAR				LR	LR	06 38 24.4
	comp=Z,110nm,21.3s,baz=351,slow=38					
	comp=Z,2.6nm,1.0s					
MJAR	**Matsushiro Arr**	**31.88**	**20**	P	**P**	**06 24 47.2 +0.2**
	comp=Z,1.0nm,0.3s,baz=201,slow=9.9,SNR=1.5					
MJAR				LR	LR	06 37 23.3
	comp=Z,401nm,19.3s,baz=207,slow=36					
	comp=Z,1.0nm,0.3s					
CTA	**Charters Tower**	**33.89**	**143**	LR	LR	06 38 58.3
	comp=Z,4.8nm,19.5s,baz=0.5,slow=37					
BRDH	**Bariadhala**	**35.87**	**300**	LR	LR	06 42 29.7
	comp=Z,284nm,18.3s,baz=118,slow=40					
HNR	**Honiara**	**38.28**	**115**	LR	LR	06 39 17.0
	comp=Z,91nm,22.0s,baz=345,slow=33					
NWAO	**Narrogin (SRO)**	**40.27**	**190**	LR	LR	06 44 05.3
	comp=Z,99nm,20.9s,baz=350,slow=39					
STKA	**Stephens Creek**	**41.60**	**159**	P	**P**	**06 26 07.1 -2.7**
	comp=Z,5.3nm,0.9s,baz=337,slow=15,SNR=5.6					
STKA				LR	LR	06 45 28.1
	comp=Z,97nm,19.0s,baz=347,slow=39					
	comp=Z,5.3nm,0.9s					
EVN	**Everest**	**41.89**	**305**	P	**P**	**06 26 14.4 +1.4**
EVN				IAmb	IAmb	06 26 35.6
	comp=Z,7.4nm,1.0s					
HILR	**Hailar Array B**	**42.80**	**355**	LR	LR	06 47 20.4
	comp=Z,141nm,18.1s,baz=145,slow=40					
SONM	**Songino Array**	**43.85**	**342**	P	**P**	**06 26 29.0 +0.9**
	comp=Z,0.4nm,0.7s,baz=153,slow=9.7,SNR=4.9					
SONM				LR	LR	06 45 34.8
	comp=Z,425nm,21.1s,baz=152,slow=37					
	comp=Z,0.4nm,0.7s					
PALK	**Pallekele**	**44.08**	**273**	LR	LR	06 45 27.9
	comp=Z,113nm,22.0s,baz=80,slow=37					
PETK	**Petropavlovsk-**	**53.20**	**24**	LR	LR	06 50 16.9
	comp=Z,205nm,19.9s,baz=224,slow=36					
MKAR	**Makanchi Array**	**54.10**	**325**	P	**P**	**06 27 44.7 -1.9**
	comp=Z,0.7nm,0.6s,baz=113,slow=6.6,SNR=5.2					
MKAR				LR	LR	06 51 31.9
	comp=Z,138nm,18.9s,baz=127,slow=37					
	comp=Z,0.7nm,0.6s					
AAK	**Ala-Archa**	**56.99**	**317**	LR	LR	06 54 14.7
	comp=Z,250nm,21.6s,baz=103,slow=38					
ZALV	**Zalesovo Beam**	**57.10**	**333**	LR	LR	06 53 33.0
	comp=Z,140nm,18.5s,baz=144,slow=37					
KURBB	**Kurchatov Arra**	**58.27**	**327**	P	**P**	**06 28 14.7 -1.6**
	comp=Z,0.7nm,0.6s,baz=126,slow=6.3,SNR=6.0					
	comp=Z,0.7nm,0.6s					
KURK	**Kurchatov**	**58.27**	**327**	P	**P**	**06 28 16.9 +0.6**
KK31	**Karatay Array**	**59.88**	**316**	P	**P**	**06 28 27.4 -0.3**
KK31				IAmb	IAmb	06 28 45.2
	comp=Z,3.9nm,1.0s					
BVAR	**Borovoye Array**	**63.85**	**327**	LR	LR	06 58 29.0
	comp=Z,98nm,18.9s,baz=113,slow=38					
URZ	**Urewera**	**65.90**	**137**	LR	LR	06 59 25.5
	comp=Z,37nm,18.4s,baz=317,slow=37					
AB31	**Akbulak array**	**68.74**	**320**	P	**P**	**06 29 25.7 +0.1**
AB31				IAmb	IAmb	06 29 44.2
	comp=Z,2.6nm,0.9s					
AKTO	**Aktyubinsk**	**70.24**	**321**	LR	LR	07 02 25.4
	comp=Z,199nm,21.3s,baz=38,slow=38					
ARTI	**Arti**	**71.55**	**327**	LR	LR	07 02 36.1
	comp=Z,82nm,21.0s,baz=73,slow=37					
CASY	**Casey**	**73.72**	**186**	P	**P**	**06 29 55.1 -0.1**
CASY				IAmb	IAmb	06 30 06.1
	comp=Z,3.1nm,0.9s					
KIRV	**Kirov**	**76.74**	**329**	LR	LR	07 06 49.9
	comp=Z,145nm,19.5s,baz=103,slow=38					
KBZ	**Khabaz**	**79.69**	**313**	LR	LR	07 09 26.8
	comp=Z,63nm,19.3s,baz=84,slow=38					
ILAR	**Eielson Array**	**82.99**	**26**	P	**P**	**06 30 47.7 +1.0**
	comp=Z,0.4nm,0.8s,baz=255,slow=4.6,SNR=4.9					
ILAR				LR	LR	07 06 54.0
	comp=Z,46nm,22.0s,baz=266,slow=35					
	comp=Z,0.4nm,0.8s					
OBN	**Obninsk**	**83.61**	**325**	LR	LR	07 11 07.0
	comp=Z,104nm,19.1s,baz=158,slow=38					
ASF	**Jabal al Asfar**	**84.91**	**302**	LR	LR	07 13 32.7
	comp=Z,45nm,20.7s,baz=110,slow=39					
MMAI	**Mount Meron Ar**	**86.09**	**303**	LR	LR	07 14 04.3
	comp=Z,60nm,21.2s,baz=80,slow=39					
MAW	**Mawson**	**86.12**	**200**	LR	LR	07 02 53.1
	comp=Z,35nm,21.5s,baz=60,slow=31					
VNDA	**Vanda**	**86.71**	**173**	P	**P**	**06 31 04.7 -0.4**
	comp=Z,0.9nm,0.9s,baz=311,slow=4.8,SNR=4.7					
VNDA				LR	LR	07 11 07.7
	comp=Z,38nm,19.2s,baz=340,slow=37					
	comp=Z,0.9nm,0.9s					
EIL	**Elat**	**86.81**	**299**	LR	LR	07 14 45.6
	comp=Z,57nm,19.9s,baz=2.0,slow=39					
ARCES	**ARCESS Array B**	**86.99**	**340**	LR	LR	07 14 15.1
	comp=Z,78nm,19.7s,baz=79,slow=38					
SPITS	**Spitsbergen Ar**	**87.13**	**349**	LR	LR	07 15 45.9
	comp=Z,135nm,18.3s,baz=58,slow=40					
PPT	**Papeete**	**87.58**	**108**	LR	LR	07 07 15.0
	comp=Z,32nm,18.2s,baz=289,slow=34					
FINES	**FINESS Array B**	**88.34**	**332**	LR	LR	07 13 18.6
	comp=Z,175nm,20.4s,baz=47,slow=37					
AKASG	**Malin Array Be**	**88.48**	**321**	P	**P**	**06 31 11.6 -2.6**
	comp=Z,0.2nm,0.3s,baz=69,slow=3.9,SNR=1.7					
AKASG				LR	LR	07 15 16.9
	comp=Z,77nm,18.1s,baz=80,slow=39					
	comp=Z,0.2nm,0.3s					
MLR	**Muntele Rosu**	**91.56**	**316**	LR	LR	07 16 55.0
	comp=Z,134nm,21.2s,baz=70,slow=38					
HFS	**Hagfors**	**94.53**	**332**	LR	LR	07 18 24.8
	comp=Z,170nm,19.5s,baz=54,slow=38					
RES	**Resolute Bay**	**95.04**	**10**	LR	LR	07 17 13.5
	comp=Z,47nm,19.9s,baz=324,slow=37					
NOA	**NORSAR Array B**	**95.30**	**333**	LR	LR	07 20 27.6
	comp=Z,116nm,19.1s,baz=70,slow=39					
JMIC	**Jan Mayen**	**96.47**	**346**	LR	LR	07 20 51.0
	comp=Z,68nm,18.8s,baz=54,slow=39					
VRAC	**Vranov**	**96.72**	**321**	LR	LR	07 18 15.2
	comp=Z,68nm,21.5s,baz=65,slow=37					
LSZ	**Lusaka**	**98.44**	**256**	LR	LR	07 12 49.5
	comp=Z,102nm,20.6s,baz=152,slow=33					
MATP	**Matopo**	**98.55**	**250**	LR	LR	07 11 29.7
	comp=Z,70nm,18.6s,baz=60,slow=32					
GERES	**GERESS Array B**	**98.67**	**322**	LR	LR	07 20 09.2
	comp=Z,102nm,19.0s,baz=77,slow=38					
ESDC	**Sonseca Array**	**114.07**	**319**	PKP	PKPdf	06 37 00.9 -0.6
	comp=Z,0.6nm,0.3s,baz=27,slow=4.2,SNR=4.0					
TORD	**Torodi Ar. Bea**	**120.41**	**290**	PKP	**PKPdf**	**06 37 13.7 -0.6**
	comp=Z,0.4nm,0.7s,baz=112,slow=7.0,SNR=3.7					
TXAR	**Lajitas Array**	**120.89**	**50**	PKP	**PKiKP**	**06 37 15.3 +0.2**
	comp=Z,0.3nm,0.8s,baz=347,slow=6.1,SNR=2.5					

*IDC **17** 06:29:40.7±9.7, 22°.12N×120°.88E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=799.6km s-min=29.5km az=60.0*

*TAP **17** 06:29:46.1, 22°.26N×120°.72E, h35km, ML3.6, C*

ISC 17 06:29:46.1±1.1, 22°.19N±0°.03×120°.66E±0°.02, h43km±5km, n124, σ1§20/231, mb3.6/3, 5C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIU	**Shizi**	**0.14**	**78**	⇓*iP*	**Pn**	**06 29 52.3**	**-1.0**
SLIU				*i* S	**Sn**	**06 29 56.6**	**-1.7**
SCZT	**Fangliau**	**0.18**	**349**	⇓*iP*	**Pn**	**06 29 52.8**	**-0.8**
SCZT				*i* S	**Sn**	**06 29 57.4**	**-1.4**
HEN	**Hengchun**	**0.20**	**158**	*i* P	**Pn**	**06 29 54.0**	**+0.3**
HEN				*i* S	**Sn**	**06 30 00.0**	**+1.1**
SMST	**Manzhou Townsh**	**0.24**	**135**	*i* P	**Pn**	**06 29 54.0**	**0.0**
SMST				*i* S	**Sn**	**06 29 59.4**	**-0.2**
TAWH	**Dawu Township**	**0.26**	**55**	⇓*iP*	**Pn**	**06 29 53.1**	**-1.2**
TAWH				*i* S	**Sn**	**06 29 58.0**	**-1.9**
EAST	**Anshuo**	**0.26**	**42**	⇓*iP*	**Pn**	**06 29 53.1**	**-1.2**
EAST				*i* S	**Sn**	**06 29 58.0**	**-2.0**
TAW	**Tawu**	**0.28**	**53**	*i* P	**Pn**	**06 29 53.3**	**-1.1**
TAW				*i* S	**Sn**	**06 29 58.2**	**-2.0**
TWK1	**Hengchun**	**0.28**	**151**	⇑*iP*	**Pn**	**06 29 54.9**	**+0.5**
TWK1				*i* S	**Sn**	**06 30 01.1**	**+0.9**
TWKBT	**Hengchun**	**0.29**	**150**	⇑*iP*	**Pn**	**06 29 54.9**	**+0.4**
TWKBT				*i* S	**Sn**	**06 30 01.0**	**+0.6**
WLCH	**Liuqiu**	**0.30**	**302**	*i* P	**Pn**	**06 29 56.0**	**+1.4**
WLCH				S	**Sn**	**06 30 03.5**	**+2.8**
TSEB	**Hengchuen, Pin**	**0.36**	**142**	⇑*iP*	**Pn**	**06 29 55.7**	**+0.4**
TSEB				*i* S	**Sn**	**06 30 02.8**	**+1.1**
MASBT	**Mashibuluo**	**0.42**	**357**	*i* P	**Pn**	**06 29 55.3**	**-0.8**
MASBT				*i* S	**Sn**	**06 30 01.8**	**-1.2**
ECL	**Taimali**	**0.49**	**34**	⇑*iP*	**Pn**	**06 29 56.0**	**-0.9**
ECL				*i* S	**Sn**	**06 30 02.3**	**-2.1**
KAU	**Kaohsiung**	**0.50**	**320**	*i* P	**Pn**	**06 29 58.0**	**+1.1**
KAU				*e*S	**Sn**	**06 30 06.0**	**+1.4**
TSMG	**Majia**	**0.51**	**359**	*i* P	**Pn**	**06 29 56.5**	**-0.7**
TSMG				*i* S	**Sn**	**06 30 03.5**	**-1.5**
SGLT	**Jiouru**	**0.56**	**344**	*i* P	**Pn**	**06 29 58.7**	**+0.9**
SGLT				S	**Sn**	**06 30 07.7**	**+1.8**
SSD	**Sandimen**	**0.56**	**358**	⇑*iP*	**Pn**	**06 29 57.1**	**-0.6**
SSD				*i* S	**Sn**	**06 30 04.7**	**-1.3**
WSSB	**Gushan**	**0.58**	**321**	*i* P	**Pn**	**06 29 58.6**	**+0.5**
WSSB				*e*S	**Sn**	**06 30 08.9**	**+2.4**
TWM1	**Shoushan**	**0.67**	**341**	*i* P	**Pn**	**06 30 00.2**	**+0.9**
TWM1				S	**Sn**	**06 30 10.8**	**+2.2**
SCST	**Cishan**	**0.71**	**348**	*i* P	**Pn**	**06 29 59.9**	**+0.1**
SCST				S	**Sn**	**06 30 10.6**	**+1.0**
TTN	**Taitung**	**0.72**	**39**	*i* P	**Pn**	**06 29 59.6**	**-0.3**
TTN				S	**Sn**	**06 30 08.9**	**-1.0**
TWG	**Pinlang**	**0.74**	**31**	*i* P	**Pn**	**06 29 59.5**	**-0.7**
TWG				*i* S	**Sn**	**06 30 09.1**	**-1.1**
TWGBT	**Beinan**	**0.74**	**32**	*i* P	**Pn**	**06 29 59.4**	**-0.8**
TWGBT				*i* S	**Sn**	**06 30 09.0**	**-1.3**
LONT	**Longtian**	**0.84**	**31**	*i* P	**Pn**	**06 30 00.8**	**-0.7**
LONT				*i* S	**Sn**	**06 30 11.9**	**-0.9**
LAY	**Lan-yu**	**0.84**	**100**	*i* P	**Pn**	**06 30 00.3**	**-1.3**
LAY				S	**Sn**	**06 30 12.4**	**-0.4**
SHHT	**Tainan City**	**0.88**	**341**	*i* P	**Pn**	**06 30 02.6**	**+0.5**
SHHT				S	**Sn**	**06 30 16.2**	**+2.6**
LYUB	**Lan-yu**	**0.88**	**102**	*i* P	**Pn**	**06 29 58.8**	**-2.2**
LYUB				S	**Sn**	**06 30 11.8**	**-2.0**
SGST	**Jiashian**	**0.89**	**356**	*i* P	**Pn**	**06 30 01.9**	**-0.4**
SGST				*i* S	**Sn**	**06 30 13.2**	**-0.8**
LDUT	**Ludao**	**0.89**	**57**	*i* P	**Pn**	**06 30 01.3**	**-1.0**
LDUT				*i* S	**Sn**	**06 30 13.0**	**-1.0**
CHN3	**Shinhua**	**0.92**	**343**	*e*P	**Pn**	**06 30 04.6**	**+1.9**
CHN3				S	**Sn**	**06 30 16.7**	**+1.9**
TAI1	**Yung-k'ang**	**0.94**	**335**	*e*P	**Pn**	**06 30 02.2**	**-0.6**
TAI1				S	**Sn**	**06 30 16.3**	**+1.3**
STYT	**Tauyuan**	**0.97**	**5**	*i* P	**Pn**	**06 30 03.0**	**-0.4**
STYT				S	**Sn**	**06 30 16.0**	**-0.2**
EDH	**Donghe**	**0.98**	**37**	*i* P	**Pn**	**06 30 03.0**	**-0.5**
EDH				S	**Sn**	**06 30 15.8**	**-0.4**
STYH	**Taoyuan**	**0.98**	**6**	*i* P	**Pn**	**06 30 03.2**	**-0.2**
STYH				S	**Sn**	**06 30 16.4**	**+0.1**
CHN1	**Nanshi**	**1.00**	**353**	*i* P	**Pn**	**06 30 03.6**	**-0.2**
CHN1				S	**Sn**	**06 30 16.6**	**-0.1**
SSHA	**Shanhua**	**1.00**	**340**	*e*P	**Pn**	**06 30 04.1**	**+0.4**
SSHA				*i* S	**Sn**	**06 30 17.9**	**+1.2**
SNST	**Tainan City**	**1.04**	**352**	*i* P	**Pn**	**06 30 03.9**	**-0.3**
SNST				*e*S	**Sn**	**06 30 17.6**	**0.0**
ECS	**Chishang**	**1.04**	**30**	P	**Pn**	**06 30 04.2**	**-0.1**
ECS				S	**Sn**	**06 30 18.4**	**+0.7**
ELDTW	**Lidau**	**1.05**	**18**	*i* P	**Pn**	**06 30 04.5**	**0.0**
ELDTW				*i* S	**Sn**	**06 30 17.9**	**-0.2**
WTP	**Ta-pu**	**1.05**	**358**	*i* P	**Pn**	**06 30 04.3**	**-0.2**
WTP				*i* S	**Sn**	**06 30 18.0**	**0.0**
TWK	**Hsinying**	**1.08**	**352**	*i* P	**Pn**	**06 30 04.4**	**-0.6**
TWK				*e*S	**Sn**	**06 30 19.8**	**+1.0**
TSCK	**Chigu Township**	**1.09**	**331**	*i* P	**Pn**	**06 30 04.5**	**-0.5**
TSCK				*i* S	**Sn**	**06 30 18.4**	**-0.4**
TPUB	**Ta-pu**	**1.11**	**359**	*i* P	**Pn**	**06 30 04.8**	**-0.4**
TPUB				*e*S	**Sn**	**06 30 18.6**	**-0.7**
CHKT	**Chengkung**	**1.12**	**36**	*i* P	**Pn**	**06 30 05.2**	**-0.1**
CHKT				*i* S	**Sn**	**06 30 19.5**	**0.0**
CHN4	**Tsaushan**	**1.16**	**357**	*i* P	**Pn**	**06 30 05.1**	**-0.8**
CHN4				*e*S	**Sn**	**06 30 21.7**	**+1.1**
FULB	**Fuli**	**1.17**	**30**	*i* P	**Pn**	**06 30 05.5**	**-0.5**
FULB				S	**Sn**	**06 30 20.8**	**0.0**
CHKH	**Chenggong**	**1.21**	**34**	*i* P	**Pn**	**06 30 06.5**	**-0.1**
CHKH				*i* S	**Sn**	**06 30 21.7**	**0.0**
CHN8	**Yiju**	**1.22**	**340**	*e*P	**Pn**	**06 30 06.6**	**-0.2**
CHN8				*e*S	**Sn**	**06 30 22.9**	**+0.8**
WCKO	**Fanlu**	**1.25**	**358**	*i* P	**Pn**	**06 30 06.3**	**-0.8**
WCKO				*e*S	**Sn**	**06 30 22.5**	**-0.2**
TWF1	**Yuli**	**1.30**	**27**	*i* P	**Pn**	**06 30 08.5**	**+0.6**
TWF1				*i* S	**Sn**	**06 30 23.8**	**-0.3**
CHY	**Chiayi**	**1.32**	**351**	*i* P	**Pn**	**06 30 07.5**	**-0.6**
CHY				S	**Sn**	**06 30 23.8**	**-0.7**
ALS	**Alishan**	**1.32**	**6**	*i* P	**Pn**	**06 30 08.0**	**-0.5**
ALS				*e*S	**Sn**	**06 30 25.5**	**+0.5**
YUS	**Yu-Shan**	**1.32**	**12**	*i* P	**Pn**	**06 30 08.6**	**0.0**
YUS				S	**Sn**	**06 30 27.2**	**+2.0**
YULB	**Yu-li**	**1.34**	**26**	*i* P	**Pn**	**06 30 08.3**	**0.0**
YULB				*i* S	**Sn**	**06 30 24.6**	**-0.3**
ECBN	**Changbin**	**1.34**	**33**	*i* P	**Pn**	**06 30 08.1**	**-0.3**
ECBN				S	**Sn**	**06 30 24.8**	**-0.2**
WSL	**Shuilin Townsh**	**1.39**	**343**	*i* P	**Pn**	**06 30 08.0**	**-1.0**
WSL				*i* S	**Sn**	**06 30 26.0**	**-0.2**
CHN5	**Tsauling**	**1.40**	**1**	*i* P	**Pn**	**06 30 08.8**	**-0.5**
CHN5				*e*S	**Sn**	**06 30 27.8**	**+1.1**
WDGT	**Dungji**	**1.41**	**319**	*i* P	**Pn**	**06 30 08.4**	**-0.9**
WDGT				*i* S	**Sn**	**06 30 24.2**	**-2.5**
EHYH	**Wanrong**	**1.45**	**26**	*i* P	**Pn**	**06 30 10.4**	**+0.5**
EHYH				S	**Sn**	**06 30 28.4**	**+0.8**
EHY	**Hungye**	**1.45**	**25**	*e*P	**Pn**	**06 30 11.3**	**+1.5**
EHY				*e*S	**Sn**	**06 30 28.6**	**+0.9**
HGSD	**Ruisui**	**1.48**	**28**	*i* P	**Pn**	**06 30 09.7**	**-0.6**
HGSD				*e*S	**Sn**	**06 30 29.8**	**+1.4**
WDLH	**Douliu**	**1.50**	**356**	*i* P	**Pn**	**06 30 10.0**	**-0.5**
WDLH				*i* S	**Sn**	**06 30 28.3**	**-0.6**
WSF	**Szhu**	**1.50**	**345**	P	**Pn**	**06 30 09.7**	**-0.8**
WSF				*i* S	**Sn**	**06 30 29.0**	**+0.1**
WTK	**Tuku**	**1.51**	**351**	*i* P	**Pn**	**06 30 09.7**	**-1.0**
WTK				*i* S	**Sn**	**06 30 28.2**	**-1.1**
VCHM	**Qimei**	**1.52**	**312**	*i* P	**Pn**	**06 30 09.9**	**-1.0**
VCHM				*i* S	**Sn**	**06 30 27.4**	**-2.1**
SSLB	**Suanglung**	**1.61**	**10**	*e*P	**Pn**	**06 30 10.9**	**-1.3**
SSLB				*e*S	**Sn**	**06 30 32.5**	**+0.7**
VWDT	**VWDT**	**1.62**	**16**	*i* P	**Pn**	**06 30 12.6**	**+0.4**
VWDT				*e*S	**Sn**	**06 30 32.6**	**+0.7**
EGFH	**Guangfu**	**1.64**	**26**	*e*P	**Pn**	**06 30 11.4**	**-1.1**
EGFH				S	**Sn**	**06 30 32.6**	**+0.3**
PHUB	**P'eng-hu**	**1.66**	**323**	*i* P	**Pn**	**06 30 11.3**	**-1.3**
PHUB				*i* S	**Sn**	**06 30 30.0**	**-2.7**
WARBT	**Fenglin Townsh**	**1.66**	**24**	*i* P	**Pn**	**06 30 12.9**	**0.0**
WARBT				S	**Sn**	**06 30 32.5**	**-0.5**
WNT	**Mingjian**	**1.68**	**1**	*e*P	**Pn**	**06 30 12.4**	**-0.7**
WNT				*i* S	**Sn**	**06 30 32.6**	**-0.9**
SMLT	**Sun Moon Lake**	**1.70**	**8**	*i* P	**Pn**	**06 30 13.4**	**0.0**
SMLT				*i* S	**Sn**	**06 30 34.9**	**+0.9**
PNG	**Penghu**	**1.71**	**324**	*i* P	**Pn**	**06 30 12.2**	**-1.2**
PNG				*i* S	**Sn**	**06 30 31.3**	**-2.7**
RLNB	**Erlin**	**1.72**	**351**	*e*P	**Pn**	**06 30 13.5**	**0.0**
RLNB				S	**Sn**	**06 30 34.3**	**0.0**
TYC	**Yuchr**	**1.72**	**6**	*i* P	**Pn**	**06 30 13.8**	**+0.2**
TYC				*i* S	**Sn**	**06 30 35.2**	**+0.9**
SHUL	**Shoufeng**	**1.80**	**28**	*e*P	**Pn**	**06 30 16.1**	**+1.4**
SHUL				*i* S	**Sn**	**06 30 37.6**	**+1.4**
OWD	**Renai**	**1.82**	**15**	*i* P	**Pn**	**06 30 15.7**	**+0.5**
OWD				S	**Sn**	**06 30 37.4**	**+0.3**
WUSB	**Renai**	**1.84**	**13**	*i* P	**Pn**	**06 30 15.7**	**+0.3**
WUSB				S	**Sn**	**06 30 37.1**	**-0.5**
WWF	**Wufeng**	**1.85**	**1**	*e*P	**Pn**	**06 30 15.0**	**-0.4**
WWF				*e*S	**Sn**	**06 30 36.4**	**-1.1**
WCS	**Beigang Elemen**	**1.87**	**7**	*i* P	**Pn**	**06 30 15.5**	**-0.2**
WCS				*i* S	**Sn**	**06 30 37.0**	**-1.1**
WCH1	**Changhua City**	**1.88**	**357**	*e*P	**Pn**	**06 30 15.7**	**-0.1**
WCH1				S	**Sn**	**06 30 38.9**	**+0.7**
WHF	**Hehuan Shan**	**2.03**	**16**	*i* P	**Pn**	**06 30 18.2**	**0.0**
WHF				*e*S	**Sn**	**06 30 43.3**	**+0.8**
TWD	**Chiawan**	**2.07**	**24**	*e*P	**Pn**	**06 30 19.6**	**+1.1**
TWD				*e*S	**Sn**	**06 30 42.7**	**-0.3**
WHP	**Taichung City**	**2.10**	**7**	*i* P	**Pn**	**06 30 18.6**	**-0.3**
WHP				*i* S	**Sn**	**06 30 43.6**	**-0.2**
TDCB	**Techi**	**2.11**	**13**	*i* P	**Pn**	**06 30 19.0**	**0.0**
TDCB				S	**Sn**	**06 30 44.6**	**+0.5**
TWT	**Tachien**	**2.11**	**13**	*i* P	**Pn**	**06 30 18.9**	**-0.2**
TWT				*e*S	**Sn**	**06 30 44.0**	**-0.3**
FUSS	**Fushou**	**2.12**	**15**	*i* P	**Pn**	**06 30 19.6**	**+0.2**
FUSS				*i* S	**Sn**	**06 30 46.1**	**+1.5**
ETLH	**Xiulin Townshi**	**2.15**	**21**	*i* P	**Pn**	**06 30 19.8**	**+0.3**
ETLH				S	**Sn**	**06 30 46.9**	**+1.9**
TWQ1	**Liyutan**	**2.15**	**3**	*e*P	**Pn**	**06 30 20.1

comp=E,13μm,0.5s
AF01 San Pedro de A 1.07 44 *eP* **Pn 06 35 24.8 +0.9**
AF01 *eS* **Sn 06 35 41.2 +1.4**
AF01 IAML 06 35 45.3
comp=Z,7μm,0.6s
PB06 IPOC Station P 1.15 332 Sn **Sn 06 35 41.7 +0.4**
PB06 IPOC Station P 1.15 332⇑*iP* **Pn 06 35 25.4 +0.6**
PB06 *eS* **Sn 06 35 41.7 +0.4**
PB06 IAML 06 35 43.3
comp=E,11μm,0.1s
PB06 IPOC Station P 1.15 332 *eP* **Pn 06 35 25.3 +0.6**
PB06 *eS* **Sn 06 35 42.6 +1.3**
PB06 IAML 06 35 44.6
comp=Z,3μm,0.1s
PB05 IPOC Station P 1.42 307 Pn 06 35 28.4 +0.5
PB05 IPOC Station P 1.42 307⇑*eP* **Pn 06 35 28.4 +0.5**
PB05 *eS* **Sn 06 35 47.0 0.0**
PB05 IPOC Station P 1.42 307 *eP* **Pn 06 35 27.7 -0.2**
PB05 *eS* **Sn 06 35 47.0 0.0**
PB05 IAML 06 35 50.2
comp=Z,2μm,0.3s
PB10 IPOC Station P 1.46 278 Pn 06 35 29.0 +0.8
PB10 IPOC Station P 1.46 278⇑*eP* **Pn 06 35 29.0 +0.8**
PB10 *eS* **Sn 06 35 47.9 +0.3**
PB10 IPOC Station P 1.46 278 *eP* **Pn 06 35 28.3 0.0**
PB10 *eS* **Sn 06 35 49.6 +2.0**
PB10 IAML 06 35 52.9
comp=Z,2μm,0.4s
GO02 Mina Guanaco 1.54 201 Pn 06 35 31.0 +1.5
GO02 Mina Guanaco 1.54 201⇑*eP* **Pn 06 35 30.7 +1.2**
GO02 *eS* **Sn 06 35 51.3 +1.5**
GO02 IAML 06 35 57.1
comp=N,6μm,0.2s
GO02 Mina Guanaco 1.54 201 *eP* Pn 06 35 15.3 -14
GO02 IAML 06 35 55.8
comp=Z,3μm,0.3s
PB14 IPOC Station P 1.58 235 Pn 06 35 30.7 +0.6
PB14 IPOC Station P 1.58 235⇑*iP* **Pn 06 35 30.6 +0.6**
PB14 *eS* **Sn 06 35 51.1 +0.4**
PB14 IAML 06 35 52.5
comp=N,3μm,0.3s
PB14 IPOC Station P 1.58 235 *eP* **Pn 06 35 30.1 +0.1**
PB14 *eS* **Sn 06 35 51.2 +0.4**
PB14 IAML 06 35 52.4
comp=Z,3μm,0.3s
PB03 IPOC Station P 1.81 337 Pn 06 35 33.3 +0.4
PB03 IPOC Station P 1.81 337⇑*iP* **Pn 06 35 33.5 +0.6**
PB03 *eS* **Sn 06 35 55.2 -0.7**
PB03 IAML 06 35 56.7
comp=E,3μm,0.5s
PB03 IPOC Station P 1.81 337 *eP* **Pn 06 35 33.5 +0.6**
PB03 *eS* **Sn 06 35 56.9 +1.0**
PB03 IAML 06 35 59.7
comp=Z,2μm,0.2s
PB09 IPOC Station P 1.93 353 Pn 06 35 35.9 +1.4
PB09 IPOC Station P 1.93 353⇑*iP* **Pn 06 35 35.9 +1.4**
PB09 IAML 06 36 01.6
comp=E,2μm,0.5s
PB09 IPOC Station P 1.93 353 *eP* **Pn 06 35 35.5 +1.0**
PB09 IAML 06 36 14.7
comp=Z,2μm,0.7s
SALTA 2.47 102⇑*eP* **Pn 06 35 43.6 +1.9**
SALTA 2.47 102 *eP* **Pn 06 35 38.7 -3.0**
SALTA *eP* 06 35 43.4
SALTA IAML 06 36 10.0
comp=Z,1μm,0.8s
PB02 IPOC Station P 2.54 340 Pn 06 35 42.5 +0.2
PB02 IPOC Station P 2.54 340⇑*eP* **Pn 06 35 42.4 0.0**
PB02 IAML 06 36 42.1
comp=E,2μm,0.5s
PB02 IPOC Station P 2.54 340 *eP* **Pn 06 35 42.2 -0.2**
PB02 IAML 06 36 43.0
comp=Z,2μm,0.4s
PB01 IPOC Station P 2.71 350 Pn 06 35 44.9 +0.3
PB01 IPOC Station P 2.71 350 *eP* **Pn 06 35 44.7 +0.1**
PB01 IPOC Station P 2.71 350 *eP* **Pn 06 35 44.6 0.0**
PB01 IAML 06 36 45.2
comp=Z,646nm,0.6s
AC01 Pan de Azucar 2.82 211 Pn 06 35 46.4 +0.4
AC01 Pan de Azucar 2.82 211 *eP* **Pn 06 35 45.5 -0.4**
AC01 Pan de Azucar 2.82 211 *eP* **Pn 06 35 45.6 -0.4**
AC01 *eS* Sn 06 36 06.3 -13
AC01 IAML 06 36 40.6
comp=Z,755nm,0.5s
AC02 Maricunga 3.10 182 Pn 06 35 51.8 +1.7
AC02 Maricunga 3.10 182 *eP* **Pn 06 35 51.5 +1.3**
AC02 Maricunga 3.10 182 *eP* **Pn 06 35 51.1 +1.0**
AC02 IAML 06 36 55.4
comp=Z,426nm,0.6s
HJA Humahuaca 3.32 82 *eP* **Pn 06 35 56.5 +3.4**
SLA San Lorenzo 3.33 108⇑*eP* **Pn 06 35 55.2 +2.4**
SLA San Lorenzo 3.33 108 *eP* **Pn 06 35 55.0 +2.1**
TA01 Diego Aracena 3.33 340 Pn 06 35 51.8 -1.0
TA01 Diego Aracena 3.33 340 *eP* **Pn 06 35 51.4 -1.4**
TA01 Diego Aracena 3.33 340 *eS* Sn 06 36 45.6 +14
TA01 IAML 06 36 56.2
comp=Z,535nm,0.8s
YJA Yavi 3.55 65 *eP* **Pn 06 35 58.6 +2.5**
PB08 IPOC Station P 3.57 357 Pn 06 35 57.1 +0.7
PB08 IPOC Station P 3.57 357 *eP* **Pn 06 35 56.5 +0.2**
PB08 IPOC Station P 3.57 357 *eP* **Pn 06 35 56.2 -0.2**
PB08 *eS* Sn 06 36 57.7 +20
PB08 IAML 06 37 09.0
comp=Z,332nm,0.6s
TA02 Huaiquique 3.60 343 *eP* **Pn 06 35 55.1 -1.4**
TA02 IAML 06 37 02.7
comp=E,569nm,0.6s
FSA Cafayete 3.62 132 *eP* **Pn 06 35 59.1 +2.3**
PB11 IPOC Station P 3.99 351 Pn 06 36 01.4 -0.6
PB11 IPOC Station P 3.99 351 *eP* **Pn 06 36 00.8 -1.1**
PB11 IPOC Station P 3.99 351 *eP* **Pn 06 36 00.8 -1.1**
PB11 IAML 06 37 34.0
comp=Z,414nm,0.8s
GO03 Copiapo 4.01 196 Pn 06 36 01.6 -0.5
GO03 Copiapo 4.01 196 *eP* **Pn 06 36 01.3 -0.8**
GO03 Copiapo 4.01 196 *eP* **Pn 06 36 01.6 -0.5**
GO03 *eS* Sn 06 36 26.5 -22
GO03 IAML 06 37 20.8
comp=Z,351nm,0.8s
GO01 Chusmiza 4.04 357 Pn 06 36 02.7 -0.2
GO01 Chusmiza 4.04 357 *eP* **Pn 06 36 02.7 -0.2**
AC04 Llanos de Chal 4.84 202 Pn 06 36 11.2 -2.0
AC04 Llanos de Chal 4.84 202 *eP* **Pn 06 36 10.6 -2.7**
AC04 Llanos de Chal 4.84 202 *eP* **Pn 06 36 11.7 -1.5**
AC04 IAML 06 37 28.4
comp=Z,210nm,0.9s
VCA Vinchina 5.04 172 *eP* **Pn 06 36 14.3 -1.7**
VCA *eS* **Sn 06 37 18.4 +5.2**
VCA IAML 06 37 21.6
comp=Z,71nm,1.3s
PB12 IPOC Station P 5.24 346 Pn 06 36 15.9 -2.9
PB12 IPOC Station P 5.24 346 *eP* **Pn 06 36 15.8 -2.9**
PB12 IAML 06 37 53.1
comp=Z,134nm,0.7s
PB16 IPOC Station P 5.38 355 *eP* **Pn 06 36 21.4 +0.3**
PB16 IAML 06 38 05.6
comp=Z,106nm,1.0s
CYA Choya 5.50 149⇑*eP* **Pn 06 36 23.2 +1.0**
CO01 Juntas del Tor 6.31 189 Pn 06 36 33.6 +0.3
GO04 Tololo Observa 6.62 194 Pn 06 36 35.8 -1.8
CO03 El Pedregal 7.25 192 Pn 06 36 43.8 -2.2
CO06 Fray Jorge 7.31 198 Pn 06 36 47.6 +0.8
LPAZ La Paz 7.44 6 P **Pn 06 36 49.5 +0.3**
comp=Z,1.4nm,0.4s,baz=187,slow=10.0,SNR=11
LPAZ LR LR 06 40 56.1
comp=Z,20nm,18.9s,baz=170,slow=48
ZON Zonda 7.80 178 Pn 06 36 52.6 -0.8
CFA Coronel Fontan 7.88 175 P **Pn 06 36 53.3 -1.3**
comp=Z,4.3nm,0.3s,baz=352,slow=14,SNR=8.3
CFA S **Sn 06 38 15.6 -6.5**
comp=Z,4.5nm,0.2s,baz=16,slow=20,SNR=1.3
VA03 San Esteban 9.11 188 Pn 06 37 11.1 -0.3
MT01 Popeta 10.30 191 Pn 06 37 26.6 -0.8
MURT Porto Murtinho 10.70 81 *eP* **Pn 06 37 32.7 -0.3**
SIV San Ignacio 10.70 45 P **Pn 06 37 29.5 -3.6**
comp=Z,5.2nm,0.5s,baz=228,slow=11,SNR=38
SIV S Sn 06 39 19.7 -11
comp=Z,1.9nm,0.6s,baz=156,slow=19,SNR=1.3
CPUP Villa Florida 10.88 106 P **Pn 06 37 31.9 -3.5**
comp=Z,1.0nm,0.8s,baz=226,slow=9.7,SNR=7.8
BDQN Bodoquena, MS 11.80 76 *eP* **Pn 06 37 49.0 +1.2**
PTLB Pontes e Lacer 12.40 50 Pn 06 37 54.7 -1.1
PTLB Pontes e Lacer 12.40 50 *eP* **Pn 06 37 52.9 -2.9**
PSAL Palomas, Salto 12.48 128 *eP* **Pn 06 37 54.7 -2.0**
AQDB Aquidauana 12.73 78 Pn 06 38 01.4 +1.2
AQDB Aquidauana 12.73 78 *eP* **Pn 06 38 01.0 +0.9**
VILB Vilhena 13.57 39 Pn **Pn 06 38 10.5 -0.7**
VILB Vilhena 13.57 39 *eP* **Pn 06 38 09.3 -1.9**
PP1B Ponte de Pedra 14.53 68 *eP* **Pn 06 38 24.5 +0.8**
SALV Santo Antonio 14.72 61 *eP* **Pn 06 38 25.5 -0.6**
CPSB Cacapava Do Su 15.35 119 *eP* **Pn 06 38 33.3 -0.7**
PTGB Pitanga 15.47 97 *eP* **Pn 06 38 37.3 +1.7**
TRQA Tornquist 15.49 159 Pn 06 38 35.4 -0.3
ITAB Concordia 15.61 106 Pn 06 38 35.6 -1.7
ITAB Concordia 15.61 106 *eP* **Pn 06 38 38.8 +1.5**
PLTB Pedras Altas 15.78 124 Pn **Pn 06 38 36.7 -2.8**
PLTB Pedras Altas 15.78 124 *eP* **Pn 06 38 39.0 -0.4**
C2SB Chapadao do Su 15.83 75 *eP* **P 06 38 42.5 +0.5**
LDASE Londrina, Braz 16.39 92 *eP* **Pn 06 38 48.2 +1.2**
PDRB Porto dos Gac 16.76 46 *eP* **Pn 06 38 51.4 -0.3**
PLCA Paso Flores 17.01 184 P **Pn 06 38 55.0 +0.4**
comp=Z,0.9nm,0.8s,baz=4.6,slow=12,SNR=4.4
PLCA LR LR 06 46 13.9
comp=Z,47nm,19.5s,baz=349,slow=39
CNLB Canela 17.15 113 *eP* **Pn 06 38 56.8 +0.4**
ITRB Iturama 17.76 81 *eP* **P 06 39 03.0 -0.2**
FRTB Fartura 17.81 93 *eP* **P 06 39 03.1 -0.7**
CLDB Colider 17.92 47 *eP* **P 06 39 03.8 -1.2**
ARAG Araguaiana, MT 18.01 67 *eP* **P 06 39 05.2 -0.9**
BB19B Bebedouro 19.10 86 *eP* **P 06 39 17.4 -0.6**
SPB Sao Paulo 19.74 94 *eP* **P 06 39 24.5 -0.4**
RCLB Rio Claro- Sao 19.78 91 *eP* **P 06 39 24.7 -0.7**
PET01 Itanhaem-SP 19.84 96 *eP* **P 06 39 25.2 -0.7**
IPMB Ipameri, GO 20.22 78 *eP* **P 06 39 29.6 -0.6**
VAO Valinhos 20.23 92 P **P 06 39 28.5 -1.7**
VAO Valinhos 20.23 92 *eP* **P 06 39 29.2 -1.1**
SNDB Serra Nova Dou 20.47 58 *eP* **P 06 39 31.4 -1.3**
TEFE Tefe 20.53 12 *eP* **P 06 39 33.4 0.0**
NPGB Novo Progresso 21.12 40 *eP* **P 06 39 37.7 -2.1**
BDFB Brasilia 21.30 72 P **P 06 39 38.9 -2.9**
comp=Z,9.2nm,0.5s,baz=240,slow=10.0,SNR=20
comp=Z,9.2nm,0.5s
PARB Paraibuna 21.42 94 *eP* **P 06 39 42.7 -0.3**
PMNB Patos De Minas 21.64 80 *eP* **P 06 39 45.5 +0.1**
MACA Manacapuru-AM 21.96 23 P **P 06 39 46.8 -1.9**
MACA Manacapuru-AM 21.96 23 *eP* **P 06 39 47.0 -1.7**
ITTB Itaituba 23.10 36 *eP* **P 06 39 58.9 -1.5**
DIAM Diamantina, MG 24.22 82 *eP* **P 06 40 10.6 -0.1**
SMTB Santa Maria do 25.24 58 *eP* **P 06 40 20.4 +0.5**
PRPB Parauapebas 25.38 50 *eP* **P 06 40 21.4 +0.2**
SDBA SAO DESIDERIO 25.46 68 *eP* **P 06 40 21.1 -0.8**
MAL2 Monte Alegre, 25.90 36 P **P 06 40 26.0 +0.1**
RIB01 Linhares ES 26.93 86 *eP* **P 06 40 35.3 +0.2**
BOAV Boa Vista 27.24 19 P **P 06 40 38.2 +0.4**
GUA01 Guaratinga, BA 28.26 81 *eP* **P 06 40 47.5 +0.5**
CMC01 Camacan, BA 28.94 79 *eP* **P 06 40 53.1 +0.1**
RUSC La Rusia 29.71 352 P **P 06 41 00.9 +0.7**
NBAN Anadia - AL 34.20 71 *eP* **P 06 41 39.6 +0.5**
TEIG Tepich 47.56 335 P **P 06 43 29.4 +0.8**
CMIG Matias Romero 47.81 326 LR LR 07 00 18.6
comp=Z,195nm,21.2s,baz=149,slow=32
BELA Belgrano 2 56.57 172 P **P 06 44 35.4 +0.6**
LRAL Lakeview Retre 59.00 342 P **P 06 44 52.0 -0.2**
Z47A Carrollton 59.46 341 P **P 06 44 55.6 +0.3**
833A Chaparral WMA, 59.47 329 P **P 06 44 55.9 +0.2**
Y49A Blount Mountai 59.62 343 P **P 06 44 56.1 -0.5**
V58A Windy Hill, Pi 59.97 350 P **P 06 44 59.3 +0.4**
SNAA Sanae 60.21 161⇑P **P 06 45 01.3 +1.0**
comp=Z,19nm,0.5s
SNAA Sanae 60.21 161 P **P 06 45 01.1 +0.9**
SNAA Sanae 60.21 161 P **P 06 44 59.7 -0.5**
comp=Z,0.7nm,0.6s,baz=266,slow=11,SNR=6.9
comp=Z,0.7nm,0.6s
X48A Hartselle 60.35 343 P **P 06 45 01.6 +0.1**
V55A Taylorsville 60.37 349 P **P 06 45 02.4 +0.8**
Y45A Yeager Farm, C 60.52 340 P **P 06 45 02.2 -0.5**
W50A Signal Mountai 60.61 345 P **P 06 45 03.5 +0.2**
SWET Sewanee 60.78 344 P **P 06 45 04.9 +0.4**
JCT Junction City 61.48 330 P **P 06 45 10.1 +0.8**
WLAR White Oak Lake 61.54 337 P **P 06 45 10.0 +0.5**
BRDY Brady 61.79 331 P **P 06 45 11.8 +0.5**
TROLL Troll, Antarti 61.93 160⇑P **P 06 45 13.0 +1.1**
comp=Z,92nm,0.5s
WVT Waverly 62.14 343 P **P 06 45 13.3 -0.2**
SAND Sanderson 62.15 328 P **P 06 45 15.3 +1.5**
TXAR Lajitas Array 62.42 326 P **P 06 45 16.6 +0.9**
comp=Z,1.0nm,0.7s,baz=145,slow=6.8,SNR=16
comp=Z,1.0nm,0.7s
MIAR Mount Ida 62.48 337 P **P 06 45 16.6 +0.7**
WHAR Wooly Hollow 62.71 339 P **P 06 45 18.1 +0.7**
PBMO Poplar Bluff 63.49 341 P **P 06 45 22.8 +0.4**
CGM3 Cape Girardeau 63.74 342 P **P 06 45 24.4 +0.2**
MVL Millersville 63.77 354 P **P 06 45 25.5 +1.3**
FVM French Village 64.61 341 P **P 06 45 30.4 +0.6**
CCM Cathedral Cave 64.92 341 P **P 06 45 32.0 +0.2**
MNTX Cornudas Mount 65.19 326 P **P 06 45 33.9 +0.2**
R40A Maddies Statio 65.45 340 P **P 06 45 35.9 +0.7**
PAOC Oil Creek Stat 65.66 351 P **P 06 45 37.9 +1.4**
L59A Walton 65.82 355 P **P 06 45 39.1 +1.5**
QSPA South Pole Qui 66.48 180 P **P 06 45 44.6 +2.9**
comp=Z,2.7nm,0.5s,baz=124,slow=0.9,SNR=40
QSPA pP **PcP 06 46 10.1 -0.4**
comp=Z,3.4nm,0.7s,baz=172,slow=2.3,SNR=5.7
P38A Dawn 67.06 340 P **P 06 45 45.8 +0.3**
DBIC Dimbokro 69.44 73 P **P 06 45 57.4 -3.5**
comp=Z,2.8nm,0.7s,baz=226,slow=4.8,SNR=3.0
comp=Z,2.8nm,0.7s
VNDA Vanda 74.66 190 P **P 06 46 30.8 -0.3**
comp=Z,0.8nm,0.9s,baz=124,slow=5.0,SNR=4.2
comp=Z,0.8nm,0.9s
PDAR Pinedale Array 76.00 330 P **P 06 46 40.6 +1.1**
comp=Z,0.5nm,0.7s,baz=138,slow=6.7,SNR=4.2
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 77.20 322 P **P 06 46 46.4 +0.1**
comp=Z,0.8nm,0.8s,baz=161,slow=2.7,SNR=4.1
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 78.17 70 P **P 06 46 49.3 -2.6**
comp=Z,1.7nm,0.4s,baz=261,slow=4.5,SNR=30
TORD pP **pP 06 47 17.2 -0.6**
comp=Z,2.4nm,0.8s,baz=263,slow=2.4,SNR=5.4
comp=Z,1.7nm,0.4s
MAW Mawson 82.23 163 P **P 06 47 12.6 -0.2**
comp=Z,1.7nm,0.5s,baz=204,slow=6.3,SNR=6.1
MAW pP **pP 06 47 39.5 +0.5**
comp=Z,1.2nm,0.4s,baz=233,slow=5.1,SNR=2.8
comp=Z,1.7nm,0.5s
YKA Yellowknife Ar 93.25 341 P **P 06 48 06.1 +0.3**
comp=Z,1.2nm,0.8s,baz=138,slow=4.1,SNR=4.5
comp=Z,1.2nm,0.8s
ASAR Alice Springs 127.91 207 PKP **PKPdf 06 53 58.7 +0.8**
comp=Z,1.6nm,0.8s,baz=126,slow=1.6,SNR=5.0
WRA Warramunga Arr 131.00 210 PKP **PKPdf 06 54 04.8 +0.9**
comp=Z,1.1nm,0.8s,baz=151,slow=1.4,SNR=5.0
WRA pPKP **pPKPdf 06 54 31.6 +0.3**
comp=Z,0.5nm,0.6s,baz=145,slow=1.9,SNR=2.3
KURBB Kurchatov Arra 143.21 PKP PKPbc 06 54 22.8 +0.3
comp=Z,0.7nm,0.3s,baz=316,slow=3.9,SNR=2.4
ZALV Zalesovo Beam 143.98 26 PKP PKPab 06 54 24.4 +0.3
comp=Z,1.2nm,0.5s,baz=314,slow=4.0,SNR=7.4
ZALV pPKP pPKPdf 06 54 53.1 -0.9
comp=Z,1.1nm,0.6s,baz=298,slow=3.1,SNR=2.9
MKAR Makanchi Array 147.44 38 PKPbc **PKPdf 06 54 34.0 +1.2**
comp=Z,1.4nm,0.7s,baz=294,slow=4.6,SNR=8.5
MKAR pPKPbc **pPKPbc 06 55 03.3 +0.7**
comp=Z,1.5nm,0.7s,baz=307,slow=3.0,SNR=6.0
SONM Songino Array 155.66 8 PKP **PKPdf 06 54 42.6 -2.6**
comp=Z,0.4nm,0.5s,baz=20,slow=4.6,SNR=2.3
SONM PKPab **PKPab 06 55 10.6 -1.1**
comp=Z,0.6nm,0.6s,baz=350,slow=6.0,SNR=2.5

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*IDC **17** 06:36:25.4±1.7,25°.15N×140°.86E,h148km±16km,mb3.4/6, mbtmp4.0/8,Error ellipse: s-maj=39.2km s-min=15.9km az=98.0*
*JMA **17** 06:36:30.8±0.2,25°.4N±0°.9×14°.1E±°,h144km,MV4.7/18, IOTO ISLANDS REGION*
ISC 17 06:36:26.1±0.8,25°.08N±0°.09×141°.0E±0°.2,h150km,n16, σ1$69/19,mb3.6/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.89**	**35**	P	**Pn**	**06 37 01.8**	**+2.0**
JHH2				*eS*	**Sn**	**06 37 25.5**	**-0.4**
JCJ	**Chichijima**	**2.28**	**28**	P	**Pn**	**06 37 05.6**	**+1.1**
	204nm,0.3s,baz=270,slow=20,SNR=85						
JCJ				S	**Sn**	**06 37 33.2**	**-1.0**
	467nm,0.3s,baz=270,slow=20,SNR=48						
CBIJ	**Chichi jima**	**2.28**	**28**	P	**Pn**	**06 37 06.5**	**+2.0**
CBIJ				*eS*	**Sn**	**06 37 33.9**	**-0.3**
JHJ	**Hachijo jima 2**	**8.08**	**353**	P	**Pn**	**06 38 20.3**	**-0.1**
	49nm,0.3s,baz=259,slow=16,SNR=1.1						
BSO3	**Boso 3**	**9.70**	**358**	*eP*	**Pn**	**06 38 40.4**	**-1.3**
BSO4	**Boso 4**	**9.89**	**357**	*eP*	**Pn**	**06 38 43.9**	**-0.6**
JAG	**Ashikaga**	**11.38**	**354**	*eP*	**Pn**	**06 39 01.5**	**-2.7**
JHO	**Hitachi**	**11.50**	**358**	*eP*	**Pn**	**06 39 03.2**	**-2.5**
KSRS	**Korea Array**	**16.61**	**321**	P	**Pn**	**06 40 14.0**	**+3.9**
	2.1nm,0.8s,baz=135,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**45.22**	**189**	P	**P**	**06 44 28.5**	**+0.1**
	2.4nm,0.4s,baz=8.3,slow=8.1,SNR=70						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**48.94**	**189**	P	**P**	**06 44 57.2**	**0.0**
	0.2nm,0.5s,baz=4.6,slow=5.6,SNR=6.2						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**56.64**	**179**	P	**P**	**06 45 52.9**	**-0.6**
	1.2nm,0.5s,baz=350,slow=11,SNR=4.2						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**59.99**	**28**	P	**P**	**06 46 17.5**	**+1.0**
	0.2nm,0.8s,baz=260,slow=6.4,SNR=1.1						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**79.26**	**334**	P	**P**	**06 48 12.9**	**-1.5**
	1.0nm,0.4s,baz=68,slow=5.9,SNR=14						
	1.0nm,0.4s						
NVAR	**Mina Array Bea**	**82.62**	**51**	P	**P**	**06 48 33.1**	**+0.1**
	0.2nm,0.3s,baz=298,slow=6.9,SNR=2.5						
	0.2nm,0.3s						
LPAZ	**La Paz**	**151.45**	**78**	PKPbc	**PKPbc**	**06 56 02.8**	**-0.9**
	0.6nm,0.4s,baz=297,slow=6.8,SNR=4.8						

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*IDC **17** 06:52:35.9±0.7,11°.86N×86°.32W,h0km,mb4.0/9, mbtmp4.0/11,ML3.6/2,MS3.3/4,Error ellipse: s-maj=40.7km s-min=12.2km az=52.0*
*CATAC **17** 06:52:36.4±0.6,11°.N±3°.×8°.7W±°,h27km±8km,M4.5/30, MLv4.5/30,Error ellipse: s-maj=8.4km s-min=3.9km az=39.0,confirmed*
*NEIC **17** 06:52:42.0±1.4,11°.36N±0°.02×86°.81W±0°.08,h43km±12km, mb4.4/78,Error ellipse: s-maj=10.9km s-min=2.2km az=77.0*
*GCG **17** 06:52:42.7±0.4,11°.17N×87°.87W,h0km±278km,MD4.2*
ISC 17 06:52:38.4±1.2,11°.23N±0°.03×86°.96W±0°.04,h24km±9km, n234,σ1$61/233,mb4.4/47,MS3.3/3,22C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.01**	**21**	⇑P	**Pn**	**06 52 57.1**	**0.0**
COPN	**Copaltepe**	**1.01**	**21**⇑*iP*		**Pn**	**06 52 57.0**	**0.0**
COPN				*eS*	**Sb**	**06 53 06.4**	**-3.6**
NADN	**Granada**	**1.04**	**60**	⇑P	**Pn**	**06 52 57.5**	**0.0**
NADN				S	**Sn**	**06 53 13.1**	**+1.8**
NADN	**Granada**	**1.04**	**60**⇑*eP*		**Pn**	**06 52 57.5**	**0.0**
SABN	**Sabanita**	**1.06**	**47**	P	**Pn**	**06 52 58.0**	**+0.2**
NANN	**Nandasmo**	**1.08**	**49**	S	**Sn**	**06 53 15.3**	**+3.0**
NANN	**Nandasmo**	**1.08**	**49**	⇑P	**Pn**	**06 52 58.9**	**+0.8**
ABCN	**Banco Central**	**1.09**	**35**	P	**Pb**	**06 52 59.0**	**+0.4**
MASN	**Masaya**	**1.09**	**46**	⇑P	**Pb**	**06 52 58.8**	**+0.2**
MASN				S	**Sn**	**06 53 15.6**	**+3.1**
MASN	**Masaya**	**1.09**	**46**	*eP*	**Pb**	**06 52 58.5**	**-0.1**
MAS3	**Al N del Volca**	**1.10**	**44**	P	**Pb**	**06 52 58.1**	**-0.7**
MAS3				S	**Sn**	**06 53 15.9**	**+3.1**
UNAN	**Cigeo UNAN**	**1.10**	**37**	⇑P	**Pb**	**06 52 58.3**	**-0.5**
UNAN				S	**Sn**	**06 53 17.1**	**+4.2**
USIM	**UNAN**	**1.10**	**37**		**Pb**	**06 52 58.9**	**+0.1**
ARIN	**Rivas**	**1.12**	**78**	*eP*	**Pn**	**06 52 56.4**	**-2.2**
AMTN	**Mateare**	**1.12**	**27**	S	**Sn**	**06 53 16.6**	**+3.2**
AMTN	**Mateare**	**1.12**	**27**	P	**Pb**	**06 52 59.3**	**+0.2**
TISN	**Laguna Tiscapa**	**1.13**	**36**	⇑P	**Pb**	**06 52 58.8**	**-0.4**
ALLN	**Telcor Managua**	**1.14**	**36**	P	**Pb**	**06 52 59.5**	**+0.1**
APQ2	**Apoyeque**	**1.14**	**33**	⇓P	**Pb**	**06 52 58.8**	**-0.6**
APQ2				S	**Sn**	**06 53 16.0**	**+2.1**
MGAN	**Managua**	**1.14**	**37**		**Pb**	**06 52 59.3**	**-0.2**
MGAN	**Managua**	**1.14**	**37**	S	**Sn**	**06 53 16.9**	**+3.1**
MGAN	**Managua**	**1.14**	**37**	⇑P	**Pb**	**06 52 59.1**	**-0.4**
MGAN	**Managua**	**1.14**	**37**⇑*iP*		**Pb**	**06 52 59.0**	**-0.5**
MGAN				*eS*	**Sn**	**06 53 11.4**	**-2.5**
APYN	**Apoyeque**	**1.16**	**31**	P	**Pb**	**06 52 59.9**	**+0.1**
APYN				S	**Sn**	**06 53 17.5**	**+3.2**
APQN	**BB Volcan Apoy**	**1.18**	**33**	P	**Pn**	**06 52 58.5**	**-0.9**
APQ3	**Volcan Apoyequ**	**1.18**	**29**	P	**Pb**	**06 52 59.8**	**-0.4**
AERN	**Aeropuerto Man**	**1.19**	**40**	P	**Pb**	**06 52 59.9**	**-0.4**
AERN	**Aeropuerto Man**	**1.19**	**40**	S	**Sn**	**06 53 17.8**	**+2.7**
WILN	**Americas 2**	**1.19**	**39**	⇑P	**Pb**	**06 52 59.8**	**-0.5**
WILN				S	**Sn**	**06 53 19.1**	**+4.1**
CNGA	**AI SSO del Vol**	**1.28**	**11**	⇑P	**Pb**	**06 53 01.0**	**-0.8**
MOM2	**El Cardon**	**1.28**	**21**	⇑P	**Pb**	**06 53 00.9**	**-0.9**
MOM2				S	**Sb**	**06 53 20.1**	**+2.1**
CNGN	**Cerro Negro**	**1.29**	**11**		**Pb**	**06 53 00.9**	**-1.0**
CNGN	**Cerro Negro**	**1.29**	**11**	⇑P	**Pb**	**06 53 00.9**	**-1.0**
CNGN	**Cerro Negro**	**1.29**	**11**	*eP*	**Pn**	**06 53 00.2**	**-0.7**
LCRUZ	**La Cruz**	**1.31**	**96**⇑*eP*		**Pn**	**06 53 00.7**	**-0.5**
MORN	**AI O del Volca**	**1.32**	**76**	P	**Pb**	**06 53 01.4**	**-1.1**
OMEN	**AI SSO del Vol**	**1.33**	**78**	⇑P	**Pn**	**06 53 00.9**	**-0.6**
OMEN				S	**Sb**	**06 53 20.2**	**+0.9**
MOM3	**MOM3**	**1.34**	**19**	P	**Pb**	**06 53 02.0**	**-0.9**
MOM3				S	**Sb**	**06 53 22.0**	**+2.3**
CONN	**Concepcion**	**1.34**	**76**	⇑P	**Pb**	**06 53 01.4**	**-1.5**
CONN				S	**Sb**	**06 53 20.6**	**+0.9**
CARN	**Rivas**	**1.41**	**92**	⇑P	**Pn**	**06 53 02.4**	**-0.2**
CARN				S	**Sb**	**06 53 22.8**	**+1.3**
CARN	**Rivas**	**1.41**	**92**	*eP*	**Pn**	**06 53 02.0**	**-0.5**
POLN	**AI Sur del Vol**	**1.42**	**6**	S	**Sb**	**06 53 23.0**	**+1.2**
PKGN	**Cerro Pekin**	**1.43**	**359**	⇑P	**Pb**	**06 53 03.1**	**+0.3**
PKGN				S	**Sb**	**06 53 23.2**	**+1.1**
CRIN	**San Cristobal**	**1.46**	**356**		**Pn**	**06 53 03.8**	**+0.3**
CRIN	**San Cristobal**	**1.46**	**356**	P	**Pn**	**06 53 03.7**	**+0.3**
CRIN	**San Cristobal**	**1.46**	**356**	S	**Sb**	**06 53 24.3**	**+1.1**
CRIN	**San Cristobal**	**1.46**	**356**⇑*iP*		**Pn**	**06 53 03.2**	**-0.2**
ELI1	**Hacienda Flor**	**1.50**	**113**	*eP*	**Pn**	**06 53 03.4**	**-0.3**
ALIBA	**Liberia Airpor**	**1.52**	**114**	*eP*	**Pn**	**06 53 03.5**	**-0.6**
LAPC	**Finca la Perla**	**1.56**	**107**	*eP*	**Pn**	**06 53 03.8**	**-1.0**
DELF	**Filadelfia**	**1.58**	**119**	*eP*	**Pn**	**06 53 04.9**	**-0.1**
VRLE	**La Escondida,**	**1.62**	**106**	*eP*	**Pn**	**06 53 04.7**	**-0.9**
BUAI	**Buenos Aires**	**1.63**	**102**	*eP*	**Pn**	**06 53 04.7**	**-1.0**
GPS3	**Bodega del ICE**	**1.63**	**107**	*eP*	**Pb**	**06 53 09.1**	**+1.2**
VORI	**VORI**	**1.63**	**104**⇑*eP*		**Pn**	**06 53 05.5**	**-0.3**
GPS1	**Guardaparques**	**1.64**	**106**	*eP*	**Pn**	**06 53 05.4**	**-0.4**
GPS2	**Hotel Rincn d**	**1.64**	**107**	*eP*	**Pn**	**06 53 05.0**	**-0.8**
PEJA	**Penjamo Buenos**	**1.65**	**102**	*eP*	**Pn**	**06 53 05.8**	**-0.1**
JUD3	**

ARE1	Arenal 1	2.33 109	eP		Pn	06 53 15.3 +0.1
VARE2	V. Arenal	2.33 109	eP		Pn	06 53 15.4 +0.1
CEDE	Laguna Cedeo	2.33 108	eP		Pn	06 53 15.8 +0.4
VACR	Volcan Arenal	2.36 108	eP		Pn	06 53 16.1 +0.4
FORC	Fortuna	2.37 108	eP		Pn	06 53 16.1 +0.3
PAQE	Paquera	2.43 125	eP		Pn	06 53 18.8 +2.1
SOCE	Pocosol	2.44 110			Pn	06 53 19.2 +2.3
SOCE	Pocosol	2.44 110	eP		Pn	06 53 18.1 +1.2
CBL1	Cabuya	2.45 132	eP		Pb	06 53 21.5 -0.3
ROBF	Roble, Puntare	2.51 119	eP		Pb	06 53 22.4 -0.3
ARZA	Esparza	2.56 119	eP		Pn	06 53 18.7 +0.3
QUEU	Ciudad Quesada	2.63 110	eP		Pb	06 53 22.8 -2.2
VPL2	V. Platanar	2.69 110	eP		Pn	06 53 22.7 +2.4
RAMO	San Ramon	2.70 115	eP		Pn	06 53 23.2 +2.8
PALD	Palmares	2.74 115	eP		Pn	06 53 21.7 +0.7
ITAL	Pital	2.75 106	eP		Pn	06 53 20.6 -0.4
NARAN	Naranjo de Ala	2.77 114	eP		Pn	06 53 23.5 +2.0
SARCI	Sarchí	2.80 114	eP		Pn	06 53 24.1 +2.2
ATEO	Atenas	2.82 116	eP		Pn	06 53 25.1 +3.0
TGUH	Tegucigalpa,Un	2.83 354			Pn	06 53 23.0 +0.8
ARTO	Ro Cuarto	2.83 108	eP		Pn	06 53 22.8 +0.6
ARTO			eS		Sn	06 53 56.9 +1.2
PURI	Puriscal	2.94 118	eP		Pn	06 53 26.4 +2.7
BELE	Belen	2.99 114	eP		Pb	06 53 29.4 -1.7
SANTA	Santa Ana	3.01 115	eP		Pn	06 53 26.4 +1.6
HDC	Heredia	3.05 113			Pn	06 53 27.6 +2.4
HDC	Heredia	3.05 113	eP		Pn	06 53 28.6 +3.3
DOMI	Santo Domingo	3.08 114	eP		Pn	06 53 28.6 +2.9
ACOS	Acosta	3.09 117	eP		Pn	06 53 27.0 +1.1
PAR1A	Puntarenas Pro	3.12 121	eP		Pn	06 53 27.5 +1.4
LUPE	Guadalupe	3.12 114	eP		Pn	06 53 28.7 +2.4
SJS	Escuela Geolog	3.13 114	eP		Pn	06 53 28.8 +2.4
ECI	Escuela Centro	3.13 114	eP		Pn	06 53 28.5 +2.1
AMPA	Desamparados	3.14 115	eP		Pn	06 53 26.8 +0.3
PICV	PH. Pirrs	3.15 120	eP		Pn	06 53 27.9 +1.4
CORON	Coronado	3.16 113	eP		Pn	06 53 30.2 +3.3
TRIO	Tres Rios	3.19 114	eP		Pn	06 53 29.0 +1.7
TRT2	Tortugero	3.23 102	eP		Pn	06 53 29.1 +1.5
SIUN	Universidad Ur	3.26 41			Pn	06 53 29.5 +1.4
PILE	Guapiles	3.27 108	eP		Pn	06 53 31.6 +3.4
RAZU	San Marcos de	3.28 118	eP		Pn	06 53 29.7 +1.2
VICA	Volcano Irazu	3.30 112	eP		Pn	06 53 31.2 +2.3
REPA	Paraso	3.34 114	eP		Pn	06 53 31.6 +2.3
PIEC	Cerro El Cedra	3.35 118	eP		Pn	06 53 30.2 +0.6
PCAYA	Pacayas	3.35 113	eP		Pn	06 53 32.6 +3.1
CVTQ	Turrialba Volc	3.36 111	eP		Pn	06 53 32.6 +2.9
CVTR	Volcan Turrial	3.36 111	eP		Pn	06 53 32.6 +2.8
CVTV	Tajo	3.38 111	eP		Pn	06 53 33.2 +3.2
ABRB	Las Abras (San	3.41 111	eP		Pn	06 53 32.8 +2.5
VINA	Juan Vinas	3.42 113	eP		Pn	06 53 32.2 +1.8
JAYA	Jayaque - finc	3.43 315	i P		Pn	06 53 30.2 -0.3
VERB	Verbena	3.45 111	eP		Pn	06 53 33.6 +2.8
RESJ	San Isidro (Tu	3.47 110	eP		Pn	06 53 34.5 +3.5
LCOCO	El Coco	3.53 109	eP		Pb	06 53 36.3 -3.9
NUBE	Las Nubes	3.83 314	i P		Pn	06 53 36.3 +0.2
NUBE			i S		Sn	06 54 17.9 -2.5
SAJE	San Jernim	3.87 119	eP		Pn	06 53 38.8 +2.1
VERH	Veragua Rainfo	3.92 109	eP		Pn	06 53 37.7 +0.5
MTO3	Montecristo	3.93 324			Pn	06 53 38.2 +0.8
SARH	Santa Rosa de	3.94 334	i P		Pn	06 53 41.4 +4.0
ESQI	Esquipulas	4.04 325	Pn		Pn	06 53 43.0 +4.0
BURE	Buenos Aires	4.11 120	eP		Pn	06 53 40.8 +1.1
EDP2	Potrero Grande	4.32 120	eP		Pn	06 53 44.9 +2.2
PIRO	Carate, Puerto	4.54 128			Pn	06 53 47.3 +1.6
PIRO	Carate, Puerto	4.54 128	eP		Pn	06 53 46.4 +0.7
ALCO	Alturas Coton,	4.65 119	eP		Pn	06 53 47.7 +0.4
BRU2	Volcan	4.85 120			Pn	06 53 52.4 +2.3
BANCO	falda S V. Bar	5.02 119	eP		Pn	06 53 53.7 +1.2
BQTLY	Boquete Panama	5.06 119	eP		Pn	06 53 54.4 +1.4
APG	El Apazote	5.08 318	Pn		Pn	06 53 55.7 +2.4
	0.1nm,0.3s,baz=128,slow=12,SNR=5.6					
APG			Sn		Sn	06 54 54.8 +3.6
	0.1nm,0.3s,baz=133,slow=12,SNR=1.7					
WILLF	Boquete	5.09 119	eP		Pn	06 53 53.8 +0.4
RBALA	Bur	5.27 116	eP		Pn	06 53 57.4 +1.6
PRVC	Isla de Provid	5.87 68	Pn		Pn	06 54 04.3 +0.4
CMIG	Matias Romero	9.64 308	Pn		Pn	06 54 56.5 +0.7
	0.5nm,0.3s,baz=128,slow=12,SNR=13					
CMIG			Sn		Sn	06 56 44.8 +1.3
	0.2nm,0.3s,baz=72,slow=6.4,SNR=1.9					
	1.8nm,0.3s					
TLIG	Tlapa	12.89 301	Pn		Pn	06 55 43.5 +3.2
COHC	Cochancay	15.62 150			Pn	06 56 20.1 +3.0
060A	Indiantown	16.90 21	Pn		Pn	06 56 32.3 -1.1
BAUV	El Baul	18.76 95	P		P	06 56 54.8 -1.1
ATAH	Atahualpa	20.14 155	LR		LR	07 04 01.4
	comp=Z,127nm,19.2s,baz=333,slow=34					
HKT	Hockley	20.38 337			P	06 57 14.3 +0.9
833A	Chaparral WMA,	20.61 327	P		P	06 57 16.4 +0.4
HNDO	Hondo	21.53 330	P		P	06 57 26.2 +0.3
LRAL	Lakeview Retre	21.70 360			P	06 57 28.4 +0.7
LRAL			IAmb		IAmb	06 57 29.6
	comp=Z,9.4nm,0.9s					
GOGA	Godfrey	22.31 8	P		P	06 57 34.4 +0.2
GOGA			IAmb		IAmb	06 57 36.5
	comp=Z,8.8nm,0.8s					
Y49A	Blount Mountai	22.53 1	P		P	06 57 36.1 -0.5
Y49A			IAmb		IAmb	06 57 37.2
	comp=Z,8.3nm,0.6s					
Y52A	Lilburn	22.68 6	P		P	06 57 38.6 +0.3
Y52A			IAmb		IAmb	06 57 39.7
	comp=Z,7.6nm,0.7s					
BRDY	Brady	22.86 333			P	06 57 40.1 -0.1
FW13	Cleburne	23.13 337	P		P	06 57 42.8 -0.2
FW13			IAmb		IAmb	06 57 44.6
	comp=Z,12nm,0.8s					
Z38A	Mt. Pleasant	23.13 343	P		P	06 57 42.7 -0.2
Z38A			IAmb		IAmb	06 57 44.5
	comp=Z,16nm,0.8s					
FPAL	Fort Paine	23.24 3	P		P	06 57 43.7 -0.3
FW06	Azle	23.73 337	P		P	06 57 48.7 -0.1
FW06			IAmb		IAmb	06 57 50.7
	comp=Z,15nm,0.8s					
TXAR	Lajitas Array	23.82 322	P		P	06 57 49.4 -0.4
	comp=Z,3.1nm,0.8s,baz=133,slow=9.7,SNR=34					
TXAR			PcP		PcP	07 01 35.0 +2.0
	comp=Z,1.0nm,0.8s,baz=124,slow=2.7,SNR=8.4					
	comp=Z,3.1nm,0.8s					
TX31	Lajitas Ar. Si	23.82 322	P		P	06 57 49.8 0.0
PLPT	Palo Pinto	23.89 336			P	06 57 49.6 -0.7
PLPT			IAmb		IAmb	06 57 52.7
	comp=Z,7.2nm,0.9s					
W50A	Signal Mountai	23.91 3	P		P	06 57 49.9 -0.6
W50A			IAmb		IAmb	06 57 51.5
	comp=Z,13nm,0.9s					
W52A	Murphy	23.91 6	P		P	06 57 50.7 +0.2
W52A			IAmb		IAmb	06 58 01.0
	comp=Z,22nm,1.4s					
MIAR	Mount Ida	23.98 346			P	06 57 50.4 -0.7
MIAR			IAmb		IAmb	06 57 52.9
	comp=Z,9.7nm,0.8s					
CPCT	Cooper Cave	24.21 5	P		P	06 57 53.0 -0.3
CPCT			IAmb		IAmb	06 57 54.9
	comp=Z,12nm,0.8s					
ABTX	Abilene, Hawle	24.28 333	IAmb		IAmb	06 58 05.3
	comp=Z,6.8nm,0.8s					
H06E1	SOCORRO T-PHAS	24.32 291	T		T	07 23 03.4
	SNR=97					
WHAR	Wooly Hollow	24.44 349	P		P	06 57 53.8 -1.5
WHAR			IAmb		IAmb	06 57 55.5
	comp=Z,7.4nm,0.9s					
LOOK	Love County	24.51 339	P		P	06 57 56.1 +0.1
CLTN	Cedars of Leba	24.76 1	P		P	06 57 56.9 -1.3
CLTN			IAmb		IAmb	06 57 59.5
	comp=Z,7.3nm,0.9s					
WTFS	Witchita Falls	24.78 337	IAmb		IAmb	06 57 59.5
	comp=Z,8.6nm,0.6s					
MNHN	Monahans	24.79 326	IAmb		IAmb	06 57 58.9
	comp=Z,7.0nm,0.8s					
LCAR	Lake Charles	25.02 352	IAmb		IAmb	06 57 59.7
	comp=Z,6.8nm,0.8s					
T47A	Sharon Grove	25.65 360	IAmb		IAmb	06 58 05.8
	comp=Z,11nm,0.8s					
WMOK	Wichita Mounta	25.76 337	IAmb		IAmb	06 58 15.8
	comp=Z,20nm,1.3s					
TUL3	Leonard	25.84 343	IAmb		IAmb	06 58 10.2
	comp=Z,7.7nm,0.8s					
SMWD	Samnorwood	26.66 335	IAmb		IAmb	06 58 23.1
	comp=Z,10nm,0.9s					
P38A	Dawn	28.88 349	IAmb		IAmb	06 58 33.7
	comp=Z,11nm,0.8s					
MACA	Manacapuru-AM	29.79 117	P		P	06 58 43.2 -0.4
MACA			IAmb		IAmb	06 58 43.5
	comp=Z,7.0nm,0.7s					
MVCO	Mesa Verde	32.32 327	IAmb		IAmb	06 59 07.8
	comp=Z,4.1nm,0.9s					
LPAZ	La Paz	33.08 145	LR		LR	07 12 45.5
	comp=Z,53nm,19.5s,baz=348,slow=36					
PV03	Paradox Valley	33.28 328	IAmb		IAmb	06 59 16.4
	comp=Z,4.5nm,0.9s					
PV05	Paradox Valley	33.28 327	IAmb		IAmb	06 59 16.2
	comp=Z,3.9nm,0.8s					
PV11	David Mesa, Pa	33.33 328	IAmb		IAmb	06 59 17.9
	comp=Z,6.4nm,0.8s					
PV16	Nyswonger Mesa	33.36 328	IAmb		IAmb	06 59 15.8
	comp=Z,3.6nm,0.8s					
ECSD	EROS Data Cent	33.45 347	IAmb		IAmb	06 59 14.1
	comp=Z,7.5nm,0.9s					
PV10	Paradox Valley	33.47 328	IAmb		IAmb	06 59 21.8
	comp=Z,6.1nm,0.7s					
PV23	Carpenter Ridg	33.51 328	IAmb		IAmb	06 59 18.8
	comp=Z,7.2nm,0.8s					
VILB	Vilhena	35.81 131	P		P	06 59 36.8 +0.5
RSSD	Black Hills	35.94 339	P		P	06 59 37.6 +0.3
RSSD			IAmb		IAmb	07 00 01.2
	comp=Z,3.7nm,1.1s					
BSUT	Blindstream Ca	35.96 328	P		P	06 59 38.4 +0.7
PDAR	Pinedale Array	37.07 332	P		P	06 59 45.9 -1.1
	comp=Z,1.0nm,0.6s,baz=142,slow=7.9,SNR=16					
PDAR			PcP		PcP	07 02 07.3 -0.1
	comp=Z,0.4nm,0.7s,baz=175,slow=4.7,SNR=3.6					
PDAR			ScP		ScP	07 05 55.8 +2.6
	comp=Z,0.2nm,0.6s,baz=96,slow=3.1,SNR=2.5					
	comp=Z,1.0nm,0.6s					
HWUT	Hardware Ranch	37.16 329	P		P	06 59 48.1 +0.3
HWUT			IAmb		IAmb	06 59 49.5
	comp=Z,5.3nm,0.9s					
SIV	San Ignacio	37.25 136	P		P	06 59 48.9 +0.3
	comp=Z,6.1nm,0.7s,baz=311,slow=9.1,SNR=41					
	comp=Z,6.1nm,0.7s					
SNOW	Snow King Moun	38.16 332	IAmb		IAmb	06 59 57.5
	comp=Z,4.2nm,0.6s					
PTLB	Pontes e Lacer	38.23 133	P		P	06 59 57.2 +0.4
PTLB			IAmb		IAmb	06 59 58.2
	comp=Z,4.9nm,0.9s					
TPAW	Teton Pass	38.28 331	P		P	06 59 57.2 -0.1
TPAW			IAmb		IAmb	07 00 22.0
	comp=Z,10nm,1.5s					
NVAR	Mina Array Bea	38.94 319	P		P	07 00 04.1 +1.3
	comp=Z,0.6nm,0.6s,baz=119,slow=6.1,SNR=5.4					
NVAR			PcP		PcP	07 02 13.7 +0.5
	comp=Z,1.0nm,0.8s,baz=83,slow=4.6,SNR=4.7					
	comp=Z,0.6nm,0.6s					
ULM	Lac du Bonnet	39.59 351	P		P	07 00 04.7 -3.2
	comp=Z,6.1nm,0.8s,baz=153,slow=9.2,SNR=4.1					
	comp=Z,6.1nm,0.8s					
HLID	Hailey	40.03 329	P		P	07 00 11.9 +0.1
MCMT	McKenzie Canyo	40.18 331	P		P	07 00 12.1 -1.0
H03N2	Juan Fernandez	45.07 171	T		T	07 49 04.2
	baz=349,slow=76,SNR=5.8					
H03N1	Juan Fernandez	45.08 170	T		T	07 49 05.1
	baz=349,slow=76,SNR=6.0					
H03N3	Juan Fernandez	45.09 171	T		T	07 49 02.6
	baz=349,slow=76,SNR=6.4					
SCHQ	Schefferville	46.30 16	P		P	07 00 58.4 -3.7
	comp=Z,38nm,1.0s,baz=207,slow=9.0,SNR=1.7					
BDFB	Brasilia	46.89 124	P		P	07 01 06.6 -0.8
	comp=Z,3.3nm,0.7s,baz=270,slow=6.1,SNR=6.3					
	comp=Z,3.3nm,0.7s					
PLCA	Paso Flores	53.88 165	P		P	07 02 05.1 +5.2
	comp=Z,1.8nm,0.9s,baz=325,slow=8.5,SNR=3.7					
	comp=Z,1.8nm,0.9s					
YKA	Yellowknife Ar	54.91 345	P		P	07 02 04.7 -2.2
	comp=Z,1.0nm,0.9s,baz=150,slow=5.6,SNR=4.0					
	comp=Z,1.0nm,0.9s					
ILAR	Eielson Array	67.33 336	P		P	07 03 29.3 -1.8
	comp=Z,0.7nm,0.9s,baz=118,slow=7.6,SNR=5.9					
	comp=Z,0.7nm,0.9s					
MDT	Midelt	77.62 59	LR		LR	07 35 17.9
	comp=Z,36nm,19.4s,baz=22,slow=33					
KSRS	Korea Array	121.56 328	PKP		PKPdf	07 11 30.6 +0.1
	comp=Z,1.4nm,0.6s,baz=15,slow=2.3,SNR=5.8					
ASAR	Alice Springs	139.25 247	PKhKP		PKPpre	07 12 02.5
	comp=Z,0.7nm,0.8s,baz=91,slow=2.0,SNR=4.4					
ASAR			PKP		PKiKP	07 12 07.8 +1.2
	comp=Z,0.7nm,0.8s,baz=89,slow=1.7,SNR=4.8					
WRA	Warramunga Arr	139.38 252	PKP		PKiKP	07 12 07.6 +0.7
	comp=Z,0.8nm,0.8s,baz=92,slow=1.8,SNR=4.5					
CMAR	Chiang Mai Arr	149.93 349	PKPbc		PKPbc	07 12 27.8 0.0
	comp=Z,1.3nm,0.6s,baz=10,slow=4.5,SNR=6.3					

IDC 17 06:57:05.9±1.0, 6°.62N×125°.04E, h0km, mb3.9/7, mbtmp3.9/7, MS3.1/3, Error ellipse: s-maj=20.7km s-min=9.2km az=129.0

ISC 17 06:57:07.5±1.0, 6.7N±0°.1×125°.2E±0°.2, h10km, n11, σ1§70/9, mb3.7/7, MS3.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.51	42	Pg	Pg	Pg	06 57 19.3	+1.9
	2μm,0.3s,baz=229,slow=19,SNR=42							
DAV				Lg	Lg	Lg	06 57 29.1	
	563nm,0.3s,baz=233,slow=20,SNR=12							
DAV				LR	LR	LR	06 57 43.1	
	comp=Z,790nm,21.7s,baz=13,slow=53							
DAV	Davao City (W)	0.51	42	P	Pg	Pg	06 57 15.0	-2.3
FITZ	Fitzroy Crossi	24.64	179	P	P	P	07 02 28.0	-0.3
	2.5nm,0.5s,baz=3.5,slow=8.0,SNR=12							
	2.5nm,0.5s							
WRA	Warramunga Arr	27.95	161	P	P	P	07 02 57.5	-0.8
	1.0nm,0.8s,baz=330,slow=10,SNR=7.2							
	1.0nm,0.8s							
CMAR	Chiang Mai Arr	28.15	297	LR	LR	LR	07 14 50.5	
	comp=Z,17nm,18.8s,baz=105,slow=38							
ASAR	Alice Springs	31.34	165	P	P	P	07 03 27.7	-0.7
	0.6nm,0.5s,baz=341,slow=8.4,SNR=12							
ASAR				LR	LR	LR	07 17 38.0	
	comp=Z,55nm,18.4s,baz=90,slow=39							
	0.6nm,0.5s							
STKA	Stephens Creek	41.41	159	P	P	P	07 04 55.2	+1.0
	2.4nm,0.9s,baz=325,slow=10,SNR=4.1							
	2.4nm,0.9s							
MKAR	Makanchi Array	54.29	325	P	P	P	07 06 32.2	-1.7
	0.3nm,0.7s,baz=128,slow=8.1,SNR=1.6							
	0.3nm,0.7s							
KURBB	Kurchatov Arra	58.46	327	P	P	P	07 07 05.2	+1.7
	1.4nm,0.2s,baz=124,slow=5.0,SNR=1.4							
	1.4nm,0.2s							
AKTO	Aktyubinsk	70.43	321	LR	LR	LR	07 42 01.1	
	comp=Z,20nm,19.4s,baz=353,slow=38							
ILAR	Eielson Array	83.09	26	P	P	P	07 09 33.6	+0.4
	0.2nm,0.6s,baz=256,slow=6.0,SNR=4.4							
	0.2nm,0.6s							

RSNC 17 07:11:45.6±0.0, 7°N±1°×7°3W±°, h146km±1km, M2.3, mb3.6, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	186	P	Pn	Pn	07 12 05.3	-0.5
BARC				S	Sn	Sn	07 12 20.5	-0.6
BRJC	Barrancabermej	0.60	286	P	Pn	Pn	07 12 06.8	-0.2
BRJC				S	Sn	Sn	07 12 23.4	+0.1
PAMC	Pamplona, Colo	0.70	41	P	Pn	Pn	07 12 08.2	0.0
PAMC				S	Sn	Sn	07 12 25.4	0.0
RUSC	La Rusia	0.92	175	P	Pn	Pn	07 12 09.2	-0.7
RUSC				S	Sn	Sn	07 12 28.3	0.0
PTBC	PUERTO BERRIO,	1.31	258	P	Pn	Pn	07 12 11.6	-1.4
PTBC				S	Sn	Sn	07 12 33.2	-0.6
OCAC	Ocana	1.43	354	P	Pn	Pn	07 12 13.7	-0.6
OCAC				S	Sn	Sn	07 12 36.2	-0.1
SPBC	San Pablo de B	1.47	218	P	Pn	Pn	07 12 14.1	-0.5
SPBC				S	Sn	Sn	07 12 36.3	-0.5
ROSC	El Rosal	2.27	211	P	Pn	Pn	07 12 25.3	+1.1
ROSC				S	Sn	Sn	07 12 55.5	+1.7
HELC	Santa Helena	2.43	255	P	Pn	Pn	07 12 26.1	0.0
HELC				S	Sn	Sn	07 12 56.5	-0.6
CVER	Cruz Verde, Cu	2.45	202	P	Pn	Pn	07 12 26.1	-0.3
GUY2C	Guyana, Caldas	2.70	234	P	Pn	Pn	07 12 30.1	+0.6
GUY2C				S	Sn	Sn	07 13 04.7	+1.4
CBOC	Ciudad Bolivar	2.99	252	P	Pn	Pn	07 12 32.5	-0.3
CBOC				S	Sn	Sn	07 13 08.4	-0.9
DBBC	Dabeiba	3.04	274	P	Pn	Pn	07 12 33.2	-0.1
DBBC				S	Sn	Sn	07 13 09.1	-1.1
PRAC	Prado	3.52	209	P	Pn	Pn	07 12 38.6	-1.0
PRAC				S	Sn	Sn	07 13 20.3	-1.2
ORTC	Ortega, Tolima	3.55	216	P	Pn	Pn	07 12 39.5	-0.5
ORTC				S	Sn	Sn	07 13 21.8	-0.4
APAC	Apartado, Choc	3.56	288	P	Pn	Pn	07 12 38.6	-1.4
APAC				S	Sn	Sn	07 13 21.1	-1.1
SJCC	San Jacinto, C	3.66	327	P	Pn	Pn	07 12 39.0	-2.4
SJCC				S	Sn	Sn	07 13 20.6	-4.1
URMC	La Uribe, Meta	3.74	199	P	Pn	Pn	07 12 41.4	-1.1
URMC				S	Sn	Sn	07 13 25.9	-0.8
MACC	Macarena, Meta	4.68	188	P	Pn	Pn	07 12 52.0	-2.8
MACC				S	Sn	Sn	07 13 43.4	-5.4
URIC	Uribia, Colomb	5.00	13	P	Pn	Pn	07 12 55.7	-3.2
URIC				S	Sn	Sn	07 13 52.8	-3.3

NEIC 17 07:25:40±1.9, 35°.15N±0°.02×95°.37W±0°.02, h5km±1km, Error ellipse: s-maj=3.3km s-min=2.9km az=167.0

NEIC 17 07:25:40.0±1.8, 35°.13N±0°.02×95°.36W±0°.01, h5km±1km, ML2.6/12, ML2.4/6, Error ellipse: s-maj=3.8km s-min=2.9km az=159.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUL3	Leonard	0.85	336			Pg	07 25 56.0	-0.4
TUL3					Sg	Sg	07 26 07.7	+0.2
RLO	Rose Lookout	1.07	15			Pg	07 25 60.0	-0.6
RLO					Sg	Sg	07 26 14.2	-0.2
RLO					IAML		07 26 17.0	
	comp=N,145nm,0.2s							
DEOK	Depew	1.17	308			Pg	07 26 02.0	-0.4
DEOK					Sg	Sg	07 26 17.3	-0.2
DEOK					IAML		07 26 17.8	
	comp=N,106nm,0.3s							
DEOK					IAML		07 26 22.0	
	comp=E,118nm,0.2s							
OK052	Battle Ridge R	1.46	307			Pn	07 26 06.7	-0.2
OK052						Sn	07 26 26.4	0.0
QUOK	Quay	1.51	314			Pn	07 26 07.3	-0.4
QUOK						Sb	07 26 28.1	+0.2
U38A	Gravette	1.53	31			Pn	07 26 07.9	-0.1
U38A						Sn	07 26 27.9	-0.4
MIAR	Mount Ida	1.58	111			Pn	07 26 08.9	+0.2
MIAR						Sb	07 26 29.8	-0.2
HHAR	Hobbs	1.63	45			Pn	07 26 09.4	0.0
HHAR						Sb	07 26 31.4	-0.1
FNO	Franklin	1.67	275			Pn	07 26 09.8	-0.2
FNO						Sg	07 26 33.3	-0.5
OKCSW	OKLAHOMA CITY	1.72	280			Pb	07 26 11.7	-0.4
OKCSW						Sg	07 26 34.6	-0.6
OK048	Pawnee Station	1.82	315			Pn	07 26 12.0	+0.1
WHAR	Wooly Hollow	2.52	85			Pn	07 26 20.2	-1.4

JMA 17 07:31:56.6±0.2, 24°.4N±0°.5×121°.8E±0°.7, h55km±1km, MV3.3/14, TAIWAN REGION
TAP 17 07:31:57.3, 24°.43N×121°.83E, h45km, ML4.0, B

ISC 17 07:31:57.9±1.2, 24°.44N±0°.02×121°.85E±0°.02, h45km±4km, n155, σ1§41/308, 17C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.07	272	⇑iP		Pn	07 32 04.8	-0.2
EWUT				i S		Sn	07 32 10.0	0.0
ENA	Nanau	0.10	262	⇑iP		Pn	07 32 04.9	-0.3
ENA				i S		Sn	07 32 10.6	+0.3
ESAO	Su ao	0.13	357	⇑iP		Pn	07 32 05.2	-0.1
ESAO				i S		Sn	07 32 11.0	+0.5
EAHA	Aohua	0.15	223	⇑iP		Pn	07 32 04.9	-0.5
EAHA				i S		Sn	07 32 11.5	+0.8
TWC	Suao	0.17	359	⇑iP		Pn	07 32 05.5	0.0
TWC				i S		Sn	07 32 11.3	+0.5
EHP	Heping Village	0.17	218	⇓iP		Pn	07 32 05.1	-0.4
EHP				i S		Sn	07 32 11.3	+0.5
NDS	Dongshan	0.23	327	⇑iP		Pn	07 32 06.0	+0.1
NDS				i S		Sn	07 32 12.3	+0.7
LATG	Datong	0.31	287	⇑iP		Pn	07 32 06.5	-0.4
LATG				i S		Sn	07 32 13.1	-0.1
TWE	Neicheng	0.33	329	⇑iP		Pn	07 32 07.0	+0.2
TWE				i S		Sn	07 32 14.1	+1.0
ENTT	Nioudou	0.33	307	⇓iP		Pn	07 32 06.8	-0.1
ENTT				i S		Sn	07 32 13.3	+0.1
ILA	Ilan	0.34	344	⇑iP		Pn	07 32 07.4	+0.4
ILA				i S		Sn	07 32 15.1	+1.8
EOS2	EOS2	0.35	94	⇑iP		Pn	07 32 07.8	+0.9
EOS2				i S		Sn	07 32 16.3	+3.0
ETL	Fush Village	0.35	217	⇓iP		Pn	07 32 06.4	-0.8
ETL				i S		Sn	07 32 13.6	-0.1
NACB	Ninganchiao	0.36	221	⇑iP		Pn	07 32 06.3	-0.9
NACB				i S		Sn	07 32 13.4	-0.4
FUSB	Fushanzhiwuyua	0.40	323	⇓iP		Pn	07 32 07.9	+0.1
FUSB				i S		Sn	07 32 14.9	+0.3
EGS		0.41	10	⇑iP		Pn	07 32 08.2	+0.5
EGS				i S		Sn	07 32 16.3	+1.6
NTC	Toucheng	0.41	357	i P		Pn	07 32 08.2	+0.4
NTC				i S		Sn	07 32 16.1	+1.3
ETLH	Xiulin Townshi	0.41	235	⇑iP		Pn	07 32 07.1

TWS1	Kuangyinshan	0.77 329	i P	Pn	07 32 12.5	+0.2
TWS1			i S	Sn	07 32 24.1	+1.2
ZUZH	Zhuzihu	0.77 339	i P	Pn	07 32 12.4	0.0
ZUZH			i S	Sn	07 32 23.5	+0.5
YM08	YM08	0.78 342	i P	Pn	07 32 12.3	-0.3
YM08			eS	Sn	07 32 23.6	+0.4
TEGC	Jichi Village	0.78 201	i P	Pn	07 32 12.7	+0.1
TEGC			S	Sn	07 32 24.7	+1.4
OWD	Renai	0.79 232	i P	Pn	07 32 12.5	-0.2
OWD			i S	Sn	07 32 22.8	-0.7
LIOB	Emei	0.79 285	i P	Pn	07 32 13.2	+0.5
LIOB			i S	Sn	07 32 24.8	+1.4
NSTT	Nanjuang	0.80 284	i P	Pn	07 32 13.1	+0.3
NSTT			i S	Sn	07 32 24.2	+0.6
ANP	Anpu	0.80 338	i P	Pn	07 32 12.4	-0.5
ANP			eS	Sn	07 32 23.8	0.0
NCU	National Centr	0.80 311	eP	Pn	07 32 07.8	-5.1
NCU			eS	Sn	07 32 21.1	-2.6
NCUH	Zhongli	0.80 311	i P	Pn	07 32 12.9	0.0
NCUH			i S	Sn	07 32 25.2	+1.5
NTST	Danshui	0.81 333	i P	Pn	07 32 13.1	+0.1
NTST			i S	Sn	07 32 24.5	+0.7
WUSB	Renai	0.81 236	i P	Pn	07 32 12.9	-0.1
WUSB			i S	Sn	07 32 23.4	-0.6
HSN1	Hsinchu	0.83 294	i P	Pn	07 32 13.7	+0.5
HSN1			eS	Sn	07 32 28.1	+3.7
WARBT	Fenglin Townsh	0.84 211	i P	Pn	07 32 11.7	-1.7
WARBT			S	Sn	07 32 24.4	-0.2
WHP	Taichung City	0.84 259	i P	Pn	07 32 14.1	+0.6
WHP			i S	Sn	07 32 25.4	+0.6
TWY	Chenhua	0.86 345	i P	Pn	07 32 14.0	+0.4
TWY			S	Sn	07 32 26.7	+1.5
EGFH	Guangfu	0.86 207	i P	Pn	07 32 13.5	-0.2
EGFH			i S	Sn	07 32 25.5	+0.3
SBCB	Hsinchu	0.86 294	i P	Pn	07 32 14.1	+0.4
SBCB			i S	Sn	07 32 27.7	+2.5
NSM	Shimen	0.88 344	P	Pn	07 32 13.5	-0.4
NSM			eS	Sn	07 32 27.9	+2.4
HSN	Hsinchu	0.88 294	i P	Pn	07 32 13.6	-0.3
HSN			i S	Sn	07 32 27.1	+1.5
WPL	Puli Township	0.92 243	P	Pn	07 32 14.4	-0.1
WPL			S	Sn	07 32 26.9	+0.3
DPDB	Guoxing	0.94 244	i P	Pn	07 32 15.0	+0.3
DPDB			S	Sn	07 32 28.3	+1.2
WCS	Beigang Elemen	0.94 246	i P	Pn	07 32 15.3	+0.6
WCS			i S	Sn	07 32 28.1	+1.0
VWDT	VWDT	0.94 224	i P	Pn	07 32 14.7	-0.1
VWDT			S	Sn	07 32 28.4	+1.3
NMLH	Miaoli	0.97 276	i P	Pn	07 32 15.7	+0.6
NMLH			i S	Sn	07 32 30.4	+2.5
TWQ1	Liyutan	0.99 265	i P	Pn	07 32 15.9	+0.5
TWQ1			i S	Sn	07 32 30.6	+2.3
NSY	Sanyi	0.99 269	i P	Pn	07 32 16.4	+0.9
NSY			i S	Sn	07 32 31.5	+3.1
JYNG	Yonagunijimaku	1.00 89	P	Pn	07 32 15.4	-0.1
JYNG			eS	Sn	07 32 28.9	+0.5
HGSD	Ruisui	1.02 203	i P	Pn	07 32 15.8	0.0
HGSD			S	Sn	07 32 30.2	+1.2
SMLT	Sun Moon Lake	1.03 238	i P	Pn	07 32 16.5	+0.4
SMLT			i S	Sn	07 32 31.8	+2.4
SSLB	Suanglung	1.05 232	i P	Pn	07 32 16.8	+0.5
SSLB			i S	Sn	07 32 30.9	+1.2
EHY	Hungye	1.05 208	i P	Pn	07 32 14.1	-2.1
EHY			S	Sn	07 32 30.8	+1.1
EHYH	Wanrong	1.05 206	i P	Pn	07 32 15.5	-0.8
EHYH			eS	Sn	07 32 29.5	-0.3
TYC	Yuchr	1.06 240	i P	Pn	07 32 16.8	+0.5
TYC			S	Sn	07 32 30.8	+1.0
YOJ	Yonaguni jima	1.06 89	eP	Pn	07 32 16.1	-0.2
YOJ			eS	Sn	07 32 29.7	-0.1
YOJ	Yonaguni jima	1.06 89	i P	Pn	07 32 16.1	-0.2
YOJ			i S	Sn	07 32 30.2	+0.3
WDJ	Dajia District	1.11 265	i P	Pn	07 32 17.5	+0.5
WDJ			eS	Sn	07 32 32.6	+1.5
TCU	Taichung	1.11 255	i P	Pn	07 32 17.2	+0.1
TCU			S	Sn	07 32 34.2	+2.9
YULB	Yu-li	1.16 206	i P	Pn	07 32 16.9	-0.9
YULB			eS	Sn	07 32 30.7	-1.8
WHYT	Xinyi Township	1.18 231	i P	Pn	07 32 19.1	+1.1
WHYT			i S	Sn	07 32 34.7	+1.8
ECBN	Changbin	1.18 198	i P	Pn	07 32 17.6	-0.3
ECBN			eS	Sn	07 32 32.9	0.0
EYUL	Yuli	1.20 204	eP	Pn	07 32 18.0	-0.2
EYUL			eS	Sn	07 32 32.3	-1.0
PCYT	Pengchaiyu	1.20 9	i P	Pn	07 32 18.6	+0.3
PCYT			i S	Sn	07 32 35.2	+1.9
TWF1	Yuli	1.20 205	i P	Pn	07 32 17.2	-1.1
TWF1			eS	Sn	07 32 32.5	-0.9
WNT	Mingjian	1.21 242	i P	Pn	07 32 19.0	+0.7
WNT			i S	Sn	07 32 36.0	+2.5
WCHH	Zhanghua	1.23 253	i P	Pn	07 32 18.9	+0.2
WCHH			i S	Sn	07 32 35.6	+1.3
WCH1	Changhua City	1.25 253	eP	Pn	07 32 19.7	+0.8
WCH1			S	Sn	07 32 36.4	+1.8
CHKH	Chenggong	1.31 199	i P	Pn	07 32 19.7	-0.1
CHKH			S	Sn	07 32 36.3	+0.1
ALS	Alishan	1.33 226	i P	Pn	07 32 20.8	+0.5
ALS			S	Sn	07 32 39.0	+1.9
FULB	Fuli	1.34 203	i P	Pn	07 32 20.1	-0.1
FULB			i S	Sn	07 32 38.1	+1.2
CHN5	Tsauling	1.36 232	i P	Pn	07 32 22.0	+1.4
CHN5			i S	Sn	07 32 40.5	+2.9
WGK	Gukeng	1.40 238	i P	Pn	07 32 22.1	+1.1
WGK			S	Sn	07 32 42.4	+4.1
WDL	Douliou City	1.40 239	eP	Pn	07 32 23.5	+2.4
WDL			S	Sn	07 32 41.8	+3.4
CHKT	Chengkung	1.41 199	i P	Pn	07 32 20.6	-0.5
CHKT			S	Sn	07 32 38.8	+0.2
WDLH	Douliu	1.42 238	i P	Pn	07 32 22.1	+0.9
WDLH			i S	Sn	07 32 41.5	+2.8
ECS	Chishang	1.46 204	P	Pn	07 32 20.9	-0.9
ECS			eS	Sn	07 32 40.5	+0.6
ELDTW	Lidau	1.46 212	i P	Pn	07 32 22.1	+0.1
ELDTW			i S	Sn	07 32 40.8	+0.8
WCKO	Fanlu	1.52 229	i P	Pn	07 32 23.9	+1.3
WCKO			i S	Sn	07 32 43.8	+2.5
WTK	Tuku	1.54 241	i P	Pn	07 32 23.2	+0.4
WTK			i S	Sn	07 32 43.2	+1.6
EDH	Donghe	1.55 199	i P	Pn	07 32 22.8	-0.3
EDH			i S	Sn	07 32 40.6	-1.3
CHN2	Minshiung	1.55 235	eP	Pn	07 32 24.4	+1.4
CHN2			S	Sn	07 32 45.4	+3.4
TPUB	Ta-pu	1.60 225	i P	Pn	07 32 24.7	+1.0
TPUB			i S	Sn	07 32 46.6	+3.4
STYH	Taoyuan	1.60 218	i P	Pn	07 32 24.7	+0.9
STYH			i S	Sn	07 32 46.0	+2.7
CHY	Chiayi	1.61 235	i P	Pn	07 32 24.5	+0.6
CHY			i S	Sn	07 32 46.1	+2.7
WTP	Ta-pu	1.65 224	i P	Pn	07 32 25.3	+0.8
WTP			i S	Sn	07 32 48.3	+3.9
LONT	Longtian	1.67 204	eP	Pn	07 32 21.9	-2.8
LONT			eS	Sn	07 32 44.5	-0.3
WSF	Szhu	1.69 242	eP	Pn	07 32 24.1	-0.9
WSF			i S	Sn	07 32 47.8	+2.4
TWK	Hsinying	1.71 227	i P	Pn	07 32 26.2	+0.8
TWK			i S	Sn	07 32 50.0	+3.9
IRIF	Iriomote-Funau	1.71 93	P	Pn	07 32 24.7	-0.6
IRIF			eS	Sn	07 32 44.7	-1.4
SNST	Tainan City	1.74 226	P	Pn	07 32 26.1	+0.4
SNST			S	Sn	07 32 49.3	+2.7
CHN1	Nanshi	1.74 224	i P	Pn	07 32 26.3	+0.5
CHN1			i S	Sn	07 32 49.8	+3.0
WSL	Shuilin Townsh	1.75 239	i P	Pn	07 32 25.8	+0.1
WSL			i S	Sn	07 32 49.0	+2.2
TWG	Pinlang	1.77 204	i P	Pn	07 32 25.1	-0.9
TWG			eS	Sn	07 32 46.6	-0.7
TWGBT	Beinan	1.77 204	P	Pn	07 32 26.4	+0.4
TWGBT			eS	Sn	07 32 46.6	-0.7
HATJ	Hateruma jima	1.82 102	eP	Pn	07 32 27.0	+0.2
HATJ			eS	Sn	07 32 49.2	+0.6
CHN8	Yiju	1.86 234	eP	Pn	07 32 27.2	-0.1
CHN8			S	Sn	07 32 51.9	+2.4
JKRS	Kuro-shima	1.98 95	P	Pn	07 32 28.9	0.0
JKRS			eS	Sn	07 32 52.3	-0.2
SCST	Cishan	1.99 219	i P	Pn	07 32 30.5	+1.4
SCST			S	Sn	07 32 56.7	+3.9
ECL	Taimali	2.01 204	i P	Pn	07 32 29.1	-0.3
ECL			eS	Sn	07 32 52.3	-1.1
SSD	Sandimen	2.03 214	i P	Pn	07 32 30.6	+1.0
SSD			i S	Sn	07 32 57.4	+3.7
TSMG	Majia	2.05 213	P	Pn	07 32 31.3	+1.3
TSMG			i S	Sn	07 32 59.9	+5.5
JIJ	Ishigaki jima	2.09 92	P	Pn	07 32 29.8	-0.7
JIJ			eS	Sn	07 32 54.1	-1.1
MASBT	Mashibuluo	2.14 212	i P	Pn	07 32 33.2	+2.1
MASBT			i S	Sn	07 32 59.9	+3.4
JISG	Ishigakijimahi	2.24 86	P	Pn	07 32 32.0	-0.5
JISG			eS	Sn	07 32 57.9	-1.2
EAST	Anshuo	2.25 204	i P	Pn	07 32 34.8	+2.1
EAST			eS	Sn	07 32 59.1	-0.2
TAWH	Dawu Township	2.27 203	i P	Pn	07 32 32.6	-0.4
TAWH			eS	Sn	07 32 57.9	-1.8
PNG	Penghu	2.27 248	i P	Pn	07 32 31.8	-1.1
PNG			S	Sn	07 32 58.7	-1.1
PHUB	P'eng-hu	2.28 247	P	Pn	07 32 31.3	-1.8
PHUB			i S	Sn	07 32 60.0	0.0
SCZT	Fangliau	2.35 209	i P	Pn	07 32 35.1	+1.1
SCZT			S	Sn	07 33 03.4	+1.7
SLIU	Shizi	2.42 204	i P	Pn	07 32 35.5	+0.5
SLIU			eS	Sn	07 33 06.8	+3.4
MATB	Ma-tsu	2.42 315	i P	Pn	07 32 33.5	-1.5
MATB			eS	Sn	07 33 02.0	-1.5
LYUB	Lan-yu	2.44 186	i P	Pn	07 32 33.6	-1.7
LYUB			S	Sn	07 33 00.2	-3.7
VCHM	Qimei	2.54 242	P	Pn	07 32 36.4	-0.2
VCHM			i S	Sn	07 33 06.0	-0.3
PTMZ	Houxiangcun	2.56 284	i P	Pn	07 32 35.6	-1.2
PTMZ			i S	Sn	07 33 04.8	-1.9
JTJ	Tarama	2.60 85	eP	Pn	07 32 37.6	+0.1
TWKBT	Hengchun	2.67 201	eP	Pn	07 32 40.1	+1.7
TWKBT			eS	Sn	07 33 08.7	-0.8
XPSS	Dashiqiu	2.90 329	i P	Pn	07 32 40.7	-0.8
XPSS			S	Sn	07 33 12.3	-2.7
MHZQ	Yeshan	3.04 303	i P	Pn	07 32 42.3	-1.2
MHZQ			eS	Sn	07 33 16.6	-2.1
KNM	Kinmen	3.12 270	i P	Pn	07 32 45.0	+0.5
KNM			eS	Sn	07 33 19.3	-1.3
KNMB	Chin-men Tao	3.16 271	i P	Pn	07 32 44.1	-1.0
KNMB			S	Sn	07 33 18.2	-3.3
AXDP	Jialang	3.56 278	i P	Pn	07 32 49.8	-0.9
AXDP			eS	Sn	07 33 29.6	-1.9
ZPLA	Ao Xicun	3.78 263	eP	Pn	07 32 53.1	-0.6
ZPLA			eS	Sn	07 33 38.8	+1.9
DSXP	Dongshan	4.11 261	P	Pn	07 32 57.7	-0.5
DSXP			eS	Sn	07 33 46.5	+1.4
SXFK	Yanhouchang	4.27 298	i P	Pn	07 32 59.1	-1.4
SXFK			eS	Sn	07 33 47.6	-1.5

IDC 17 07:41:17.7±2.6, 54°.71N×83°.75E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=21.5km s-min=11.6km az=172.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	140	I	I	07 47 40.0	
	baz=321,slow=318,SNR=2.8						
ZALV	Zalesovo Beam	0.99	140	Pg	Pg	07 41 35.8	-0.7
	2.5nm,0.3s,baz=322,slow=18,SNR=15						
ZALV				Lg	Lg	07 41 51.3	
	2.4nm,0.3s,baz=323,slow=29,SNR=4.7						
KURBB	Kurchatov Arra	5.18	220	Pn	Pn	07 42 35.9	-0.5
	baz=40,slow=13,SNR=3.4						
KURBB				Sn	Sn	07 43 35.8	-1.0
	baz=42,slow=30,SNR=1.6						
KURBB				Lg	Lg	07 44 01.5	
	0.1nm,0.3s,baz=42,slow=30,SNR=5.1						
	0.4nm,0.5s						
MKAR	Makanchi Array	7.98	187	Pn	Pn	07 43 16.1	+1.2
	0.1nm,0.3s,baz=6.9,slow=14,SNR=2.2						
MKAR				Lg	Lg	07 45 28.6	
	0.1nm,0.3s,baz=13,slow=28,SNR=1.6						
	0.3nm,0.6s						

*ASRS **17** 07:50:08.0±0.7, 53°.79N×88°.23E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 17 07:50:04.6±6.0, 53°.84N×88°.99E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=64.6km s-min=30.3km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.47	274	I	I	08 06 00.0	
	baz=90,slow=307,SNR=0.8						
ZALV	Zalesovo Beam	2.47	274	Pn	Pn	07 50 46.5	+0.4
	1.9nm,0.3s,baz=89,slow=16,SNR=13						
ZALV				Sn	Sn	07 51 16.1	-0.9
	2.9nm,0.3s,baz=90,slow=24,SNR=11						
	2.7nm,0.3s						
KURBB	Kurchatov Arra	7.19	248	Pn	Pn	07 51 51.4	+0.6
	0.2nm,0.3s,baz=63,slow=14,SNR=5.5						
	0.7nm,0.3s						
MKAR	Makanchi Array	8.25	214	Pn	Pn	07 52 06.1	+0.6
	0.1nm,0.3s,baz=26,slow=14,SNR=1.6						
	0.4nm,0.8s						

IDC 17 07:58:12.3±1.4, 6°.55N×125°.09E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=29.6km s-min=9.7km az=124.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.71	43	Pg	Pg	07 58 25.7	-0.2
	399nm,0.3s,baz=242,slow=6.4,SNR=12						
DAV				Lg	Lg	07 58 36.0	
	519nm,0.3s,baz=163,slow=19,SNR=26						
DAV				LR	LR	07 58 56.7	
	comp=Z,509nm,21.3s,baz=348,slow=63						
WRA	Warramunga Arr	27.86	161	P	P	08 04 03.8	0.0
	0.2nm,0.6s,baz=339,slow=9.1,SNR=4.8						
	0.2nm,0.6s						
CMAR	Chiang Mai Arr	28.09	297	P	P	08 04 06.1	+0.2
	0.7nm,0.2s,baz=110,slow=9.5,SNR=1.4						
	0.7nm,0.2s						
ASAR	Alice Springs	31.24	164	P	P	08 04 34.4	+0.6
	0.3nm,0.4s,baz=341,slow=8.4,SNR=11						
	0.3nm,0.4s						
STKA	Stephens Creek	41.33	159	P	P	08 05 59.0	-1.0
	0.9nm,0.4s,baz=328,slow=15,SNR=2.5						
	0.9nm,0.4s						
SONM	Songino Array	44.12	342	LR	LR	08 26 08.9	
	comp=Z,27nm,18.2s,baz=338,slow=38						

*IDC **17** 07:59:27.4±0.8, 37°.23N×20°.56E, h0km, mb3.8/11, mbtmp3.8/23, ML3.5/10, MS2.8/3, Error ellipse: s-maj=16.1km s-min=12.8km az=0.0*

*ATH **17** 07:59:28.9, 37°.20N×20°.47E, h7km±1km, ML4.0/18, Manual Solution by N.Liadopoulou First location: 2019/10/17 08:00:29, This location: 2019/10/17 08:16:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*THE **17** 07:59:31.3, 37°N±2°×2°1E±°, h4km±2km, M3.9/19, MLh3.9/19*

*NAO **17** 07:59:39.2, 37°.23N×20°.57E, h10km, mb4.0*

ISC 17 07:59:28.7±1.4, 37°.22N±0°.03×20°.53E±0°.03, h8km±9km, n96, σ0°98/118, mb3.8/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.54	27	P	Pb	07 59 40.7	+0.2
LTHK				S	Sb	07 59 48.4	-0.1
LTHK	Lithakia	0.54	27	P	Pb	07 59 40.2	-0.3
LTHK				S	Sb	07 59 47.9	-0.6
ZAK2	Zakynthos	0.64	28	P	Pb	07 59 42.2	+0.1
KYPS	Kipseli, Zakin	0.64	22	P	Pb	07 59 41.8	-0.4
KYPS				S	Sb	07 59 51.1	-0.1
ORTH	Orthonies,Zaky	0.64	12	P	Pb	07 59 42.6	+0.5
ORTH				S	Sb	07 59 51.5	+0.2
ORTH	Orthonies,Zaky	0.64	12	P	Pb	07 59 42.3	+0.1
ORTH				S	Sb	07 59 51.0	-0.3
CLEM	Kyllini,Ilia,G	0.82	36	P	Pb	07 59 45.0	-0.2
CLEM				S	Sb	07 59 56.5	0.0
RTZL	Ratzakli, Kefa	0.87	13	P	Pb	07 59 46.9	+0.7
RTZL				S	Sb	07 59 58.5	+0.6
PSDA	Pessada-Kefalo	0.89	3	P	Pb	07 59 47.2	+0.8
PSDA				S	Sb	07 59 59.2	+0.8
PSDA	Pessada-Kefalo	0.89	3	P	Pb	07 59 46.7	+0.3
PSDA				S	Sb	07 59 58.9	+0.4
LCHA	Lechaina	0.92	39	P	Pb	07 59 47.7	+0.7
LCHA				S	Sb	08 00 00.6	+1.2
ZARO	Zacharo	0.93	73	P	Pn	07 59 48.5	+0.4
ARG2	Argostoli	0.95	358	P	Pn	07 59 48.6	+0.2
ARG2				S	Sb	08 00 00.1	-0.1
VLS	Valsamata	0.95	3	P	Pn	07 59 48.4	-0.1
VLS				S	Sb	08 00 01.1	+0.8
VLS	Valsamata	0.95	3	P	Pn	07 59 48.4	-0.1
VLS				S	Sb	08 00 00.6	+0.3
PYL1	Pylos	0.99	108	P	Pb	07 59 48.3	+0.3
PYL1				S	Sb	08 00 02.5	+1.3
AMT	Artemida-Makis	0.99	72	P	Pn	07 59 49.0	0.0
AMT				S	Sn	08 00 02.9	-0.3
PYL	PYLOS	1.03	108	P	Pn	07 59 50.6	+1.1
PYL	PYLOS	1.03	108	P	Pb	07 59 49.3	+0.5
PYL				S	Sn	08 00 05.6	+1.5
MTHA	Methoni	1.03	113	P	Pn	07 59 50.6	+1.2
SMHA	Samh	1.03	5	P	Pg	07 59 48.5	0.0
SMHA				S	Sg	08 00 02.2	+0.3
RLS	Riolos of Patr	1.12	42	P	Pg	07 59 50.3	+0.1
RLS				S	Sn	08 00 06.3	0.0
ITM	Ithomi	1.12	92	P	Pn	07 59 52.2	+1.5
ITM	Ithomi	1.12	92	P	Pn	07 59 51.3	+0.6
AXS	Araxos	1.18	35	P	Pn	07 59 52.4	+0.8
AXS				S	Sn	08 00 09.4	+1.5
AXS	Araxos	1.18	35	P	Pg	07 59 50.9	-0.5
VSK1	VASILIKIADES	1.18	1	P	Pn	07 59 52.6	+1.0
DRO	Drossia	1.19	52	P	Pn	07 59 52.6	+0.9
DRO	Drossia	1.19	52	P	Pg	07 59 51.5	0.0
FSK	Fiskardo	1.23	1	P	Pn	07 59 53.2	+0.9
FSK	Fiskardo	1.23	1	P	Pg	07 59 52.4	0.0
MSL1	Messolongi	1.35	32	P	Pn	07 59 54.3	+0.4
EVGI	Lefkada island	1.40	4	P	Pg	07 59 55.9	+0.3
EVGI				S	Sn	08 00 15.6	+2.4
EVGI	Lefkada island	1.40	4	P	Pn	07 59 54.9	+0.3
PATC	Patra C	1.43	43	P	Pg	07 59 56.4	+0.2
UPR	University Cam	1.46	43	P	Pn	07 59 56.0	+0.6
VLX	Vlachokerasia	1.49	84	P	Pg	07 59 57.6	+0.4
NYDR	Nydri-Lefkada	1.49	5	P	Pg	07 59 57.5	+0.2
NYDR	Nydri-Lefkada	1.49	5	P	Pb	07 59 57.1	+0.4
KLV1	Kalavrita	1.49	57	P	Pb	07 59 57.1	+0.3
KLV	Kalavryta, Ach	1.53	57	P	Pb	07 59 57.6	+0.3
KLV	Kalavryta, Ach	1.53	57	P	Pb	07 59 57.2	-0.1
LKD2	Lefkada island	1.57	4	P	Pb	07 59 58.0	0.0
PVO	Paravola	1.60	29	P	Pg	07 59 59.2	-0.2
PVO	Paravola	1.60	29	P	Pb	07 59 58.4	-0.1
TSLK	Tsoukalades, L	1.60	4	P	Pb	07 59 58.7	+0.1
GUR	Goura	1.61	63	P	Pg	07 59 59.4	-0.2
GUR	Goura	1.61	63	P	Pb	07 59 58.9	+0.1
EFP	Efpalio	1.62	42	P	Pg	07 59 59.4	+0.5
EFP	Efpalio	1.62	42	P	Pn	07 59 58.2	+0.6
SERG	Sergoula	1.70	45	P	Pb	08 00 00.3	+0.1
SERG	Sergoula	1.70	45	P	Pn	07 59 59.7	+1.0
KALE	Kalithea	1.73	47	P	Pb	08 00 01.1	+0.3
KALE	Kalithea	1.73	47	P	Pn	08 00 00.2	+1.1
ANX	Ano Chora	1.76	39	P	Pb	08 00 01.4	+0.1
ANX	Ano Chora	1.76	39	P	Pb	08 00 00.8	-0.5
AMPL	Ampelaki	1.78	18	P	Pb	08 00 01.6	0.0
VLI	Veliai	2.00	104	P	Pb	08 00 05.4	+0.1
VLI	Veliai	2.00	104	P	Pb	08 00 05.0	-0.3
DLFA	Delphi	2.00	51	P	Pn	08 00 03.6	+0.8
LOUT	Loutraki	2.09	68	P	Pn	08 00 05.5	+1.4
LTK	Loutraki	2.10	67	P	Pn	08 00 05.7	+1.5
AXAR	Agios Charalam	2.28	47	P	Pn	08 00 08.3	+1.6
AGG	Agios Georgios	2.29	38	P	Pn	08 00 08.3	+1.5
LKR	Lokris	2.42	53	P	Pn	08 00 10.2	+1.7
THL	Klokotos Trika	2.61	26	P	Pn	08 00 13.0	+1.8
DION	Dionisos Attik	2.84	71	P	Pn	08 00 16.2	+1.8
KYMI	Kymi, Euboea I	3.16	62	P	Pn	08 00 20.4	+1.6
IDI	Anoyia	4.02	117	Pn	Pn	08 00 31.9	+1.2
	2.0nm,0.4s,baz=301,slow=18,SNR=12						
IDI				Sn	Sn	08 01 18.3	+0.3
	3.4nm,0.3s,baz=300,slow=20,SNR=9.2						
VAY	Valandovo	4.39	21	i Pn	Pn	08 00 37.1	+1.4
SKO	Skopje	4.79	8	i Pn	Pn	08 00 41.3	+0.1
VAE	Valguarnera	4.88	275	Pn	Pn	08 00 41.8	-0.6
	10nm,0.3s,baz=124,slow=3.8,SNR=5.4						
VAE				Sn	Sn	08 01 40.6	+1.5
	3.5nm,0.3s,baz=168,slow=19,SNR=1.5						
	11nm,0.2s						
KEST	Kesra	9.13	264	Pn	Pn	08 01 39.2	-1.6
	0.5nm,0.3s,baz=88,slow=13,SNR=4.5						
	3.6nm,0.8s						
MLR	Muntele Rosu	9.21	25	Pn	Pn	08 01 44.2	+2.3
	0.3nm,0.3s,baz=243,slow=11,SNR=5.1						
MLR				LR	LR	08 06 03.8	
	comp=Z,71nm,20.5s,baz=222,slow=43						
	4.1nm,0.6s						
BRTR	Keskin Array B	10.58	72	Pn	Pn	08 02 03.7	+2.9
	0.1nm,0.3s,baz=257,slow=10,SNR=2.3						
	0.5nm,0.7s						
VRAC	Vranov	12.41	348	LR	LR	08 08 01.5	
	comp=Z,46nm,19.4s,baz=224,slow=41						
GERES	GERESS Array B	12.63	339	Pn	Pn	08 02 29.2	+0.5
	baz=152,slow=14,SNR=1.8						
	0.3nm,0.4s						
MMAI	Mount Meron Ar	12.88	105	Pn	Pn	08 02 31.5	-0.7
	0.8nm,0.3s,baz=309,slow=14,SNR=2.1						
EIL	Elat	14.20	118	Pn	Pn	08 02 47.6	-2.5
	0.4nm,0.3s,baz=314,slow=18,SNR=3.5						
EIL				Sn	Sn	08 05 16.9	-11
	0.3nm,0.3s,baz=336,slow=18,SNR=2.0						
	6.9nm,0.8s						
ASF	Jabal al Asfar	14.38	106	Pn	Pn	08 02 52.7	0.0
	0.2nm,0.3s,baz=315,slow=7.1,SNR=1.4						
	1.0nm,0.4s						
AKASG	Malin Array Be	14.84	22	Pn	Pn	08 02 56.4	-2.4
	0.9nm,0.3s,baz=212,slow=9.1,SNR=5.3						
AKASG

LALI	Alcalda de L	0.55	33	P	Pn	08 00 25.5	+0.4
JAYA	Jayaque - finc	0.65	15	P	Pn	08 00 27.2	+0.6
JAYA	Jayaque - finc	0.65	15	S	Sb	08 00 35.6	+0.3
PMON	Piamonte	0.75	24	S	Sn	08 00 40.1	+1.8
PMON	Piamonte	0.75	24	P	Pn	08 00 27.7	-0.2
LOMA	Loma Larga	0.76	36	P	Pn	08 00 27.9	-0.2
LOMA	Loma Larga	0.76	36	S	Sn	08 00 39.1	+0.5
UEES	Universidad Ev	0.79	29	S	Sn	08 00 40.5	+1.4
UEES	Universidad Ev	0.79	29	P	Pb	08 00 29.8	+1.2
IGN	Direccin Gen	0.82	33	P	Pn	08 00 28.7	-0.1
IGN	Direccin Gen	0.82	33	S	Sn	08 00 41.9	+1.9
UDBS	Universidad Do	0.83	34	P	Pb	08 00 29.2	-0.1
UDBS	Universidad Do	0.83	34	S	Sn	08 00 40.2	+0.1
NUBE	Las Nubes	0.89	350	P	Pb	08 00 30.4	+0.1
NUBE	Las Nubes	0.89	350	S	Sn	08 00 41.6	-0.2
FAME	Alcaldia de Sa	0.90	335	S	Sb	08 00 42.3	+0.2
FAME	Alcaldia de Sa	0.90	335	P	Pn	08 00 30.1	+0.2
PAVA	Las Pavas	0.96	44	S	Sb	08 00 44.0	0.0
PAVA	Las Pavas	0.96	44	P	Pb	08 00 31.7	+0.2
TECO	Alcaldia de Te	0.97	58	P	Pn	08 00 30.9	+0.1
TECO	Alcaldia de Te	0.97	58	S	Sb	08 00 44.3	+0.1
UESV	Universidad de	1.02	53	S	Sn	08 00 44.7	-0.2
UESV	Universidad de	1.02	53	P	Pn	08 00 30.7	-0.8
ESQI	Esquipulas	1.55	10	S	Sn	08 00 58.6	+0.5
ESQI	Esquipulas	1.55	10	P	Pn	08 00 39.1	+0.2
LCND	La Caada	1.72	80	P	Pn	08 00 40.8	-0.3
LCND	La Caada	1.72	80	S	Sn	08 01 02.8	+0.8
CNCH	Conchagua	1.77	82	P	Pn	08 00 40.6	-1.3
CNCH	Conchagua	1.77	82	S	Sn	08 01 04.4	+1.0

*IDC **17** 08:11:05.4±1.4, 38°.37N×20°.64E, h0km, mb3.5/7, mbtmp3.6/7, MS2.7/1, Error ellipse: s-maj=36.6km s-min=25.8km az=121.0*
*ATH **17** 08:11:08.8, 38°.40N×20°.49E, h15km, ML3.4/20, Manual Solution by F.Xalaris First location: 2019/10/17 08:12:11, This location: 2021/06/30 07:32:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **17** 08:11:09.1, 38°.4N±0°.5×2°.1E±°, h16km±1km, M3.3/8, MLh3.3/8*
ISC 17 08:11:08.6±0.8, 38°.40N±0°.02×20°.51E±0°.04, h18km±3km, n52, σ0s47/67, mb3.5/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	Fiskardo	0.07	34	P	Pg	08 11 12.1	0.0
FSK	Fiskardo	0.07	34	P	Pg	08 11 12.0	0.0
FSK				S	Sg	08 11 14.1	-0.2
LXR1	Lixouri, Cepha	0.21	196	P	Pb	08 11 13.9	+0.2
LXR1				S	Sb	08 11 17.9	+0.8
ARG2	Argostoli	0.22	185	P	Pg	08 11 13.9	0.0
ARG2				S	Sb	08 11 17.9	+0.3
ARG2	Argostoli	0.22	185	P	Pg	08 11 13.8	-0.1
ARG2				S	Sg	08 11 17.1	-0.2
VLS	Valsamata	0.23	165	P	Pg	08 11 14.1	+0.1
VLS				S	Sb	08 11 18.0	+0.2
VLS	Valsamata	0.23	165	P	Pg	08 11 14.0	0.0
VLS				S	Sg	08 11 17.6	-0.1
EVGI	Lefkada island	0.25	27	P	Pb	08 11 14.7	+0.1
EVGI				S	Sb	08 11 19.0	+0.5
EVGI	Lefkada island	0.25	27	P	Pb	08 11 14.6	+0.1
EVGI				S	Sb	08 11 18.6	+0.1
PSDA	Pessada-Kefalo	0.29	169	P	Pg	08 11 15.0	+0.1
PSDA				S	Sb	08 11 20.1	+0.3
PSDA	Pessada-Kefalo	0.29	169	P	Pg	08 11 14.9	-0.1
PSDA				S	Sg	08 11 19.4	+0.1
NYDR	Nydri-Lefkada	0.35	25	P	Pg	08 11 16.1	+0.2
NYDR				S	Sb	08 11 21.8	+0.3
NYDR	Nydri-Lefkada	0.35	25	P	Pg	08 11 15.9	0.0
NYDR				S	Sg	08 11 21.0	+0.1
RTZL	Ratzakli, Kefa	0.38	148	P	Pg	08 11 16.7	+0.1
LKD2	Lefkada island	0.41	16	P	Pg	08 11 17.2	+0.2
LKD2	Lefkada island	0.41	16	P	Pg	08 11 16.9	-0.2
LKD2				S	Sg	08 11 23.0	+0.3
TSLK	Tsoukalades, L	0.44	15	P	Pg	08 11 18.0	+0.4
TSLK	Tsoukalades, L	0.44	15	P	Pg	08 11 17.7	+0.1
TSLK				S	Sb	08 11 24.4	+0.2
ORTH	Orthonies,Zaky	0.57	165	P	Pb	08 11 20.4	+0.4
ORTH	Orthonies,Zaky	0.57	165	P	Pb	08 11 20.4	+0.4
ORTH				S	Sb	08 11 28.8	+1.0
KYPS	Kipseli, Zakin	0.63	157	P	Pb	08 11 21.2	+0.1
KYPS				S	Sb	08 11 30.5	+1.0
CLEM	Kyllini,Ilia,G	0.71	136	P	Pb	08 11 22.6	+0.2
AXS	Araxos	0.71	106	P	Pb	08 11 22.7	+0.2
MSL1	Messolongi	0.72	92	P	Pb	08 11 23.2	+0.6
LTHK	Lithakia	0.73	159	P	Pg	08 11 22.5	-0.6
AMPL	Ampelaki	0.76	46	P	Pg	08 11 23.4	-0.1
PVO	Paravola	0.82	74	P	Pn	08 11 25.3	0.0
RLS	Riolos of Patr	0.83	114	P	Pn	08 11 25.5	+0.1
PRGA	Parga	0.89	354	P	Pg	08 11 26.1	+0.2
PATC	Patra C	0.99	97	P	Pn	08 11 28.8	+1.2
DRO	Drossia	1.04	115	P	Pn	08 11 28.9	+0.5
EFP	Efpalio	1.10	88	P	Pg	08 11 30.1	+0.2
TETR	Tetrakomo, Epi	1.12	32	P	Pg	08 11 30.3	0.0
ANX	Ano Chora	1.12	80	P	Pg	08 11 30.9	+0.5
EVR	Evrytania	1.14	63	P	Pg	08 11 30.5	-0.2
IGT	Igoumenitsa	1.14	353	P	Pn	08 11 30.5	+0.8
SERG	Sergoula	1.21	89	P	Pb	08 11 31.5	+0.5
KALE	Kalithea	1.28	90	P	Pb	08 11 32.4	+0.1
AMT	Artemida-Makis	1.28	132	P	Pg	08 11 33.8	+0.4
JAN	Janina	1.28	12	P	Pb	08 11 32.8	+0.5
KLV	Kalavryta, Ach	1.34	105	P	Pb	08 11 33.4	+0.2
MAKR	Makrakomi, Fth	1.41	64	P	Pg	08 11 35.4	-0.4
GUR	Goura	1.52	107	P	Pb	08 11 36.2	0.0
THL	Klokotos Trika	1.65	45	P	Pb	08 11 39.1	+0.6
MLR	Muntele Rosu	8.16	28	LR	LR	08 17 21.5	
	comp=Z,52nm,21.2s,baz=140,slow=46						
HFS	Hagfors	22.18	351	P	P	08 16 03.9	+0.3
	0.8nm,0.6s,baz=165,slow=12,SNR=1.4 0.8nm,0.6s						
FINES	FINESS Array B	23.33	7	P	P	08 16 14.3	-1.2
	2.4nm,0.7s,baz=189,slow=9.6,SNR=6.0 2.4nm,0.7s						
NOA	NORSAR Array B	23.40	349	P	P	08 16 16.7	+0.4
	0.2nm,0.4s,baz=161,slow=11,SNR=1.8 0.2nm,0.4s						
TORD	Torodi Ar. Bea	30.20	219	P	P	08 17 17.8	-0.2
	0.4nm,0.7s,baz=33,slow=10,SNR=4.1 0.4nm,0.7s						
KURBB	Kurchatov Arra	42.10	54	P	P	08 18 58.5	-0.9
	0.2nm,0.4s,baz=286,slow=8.6,SNR=3.3 0.2nm,0.4s						
MKAR	Makanchi Array	45.19	59	P	P	08 19 23.7	-0.7
	0.5nm,0.5s,baz=296,slow=6.4,SNR=6.1 0.5nm,0.5s						
ZALV	Zalesovo Beam	45.55	48	P	P	08 19 25.7	-1.4
	1.3nm,0.4s,baz=273,slow=9.2,SNR=6.1 1.3nm,0.4s						

IDC 17 08:20:22.6±2.9, 54°.79N×83°.71E, h0km, mbtmp2.9/2, ML2.2/2, 2C, Error ellipse: s-maj=23.8km s-min=13.3km az=177.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.06	142	I	I	08 26 30.0	
	baz=322,slow=315,SNR=2.1						
ZAA0	Zalesovo Array	1.06	142	⇑P	Pb	08 20 43.5	-0.3
	0.4nm,0.3s,baz=332,slow=16						
ZAA0				⇑S	Sb	08 20 58.6	+0.3
	3.0nm,0.3s,baz=334,slow=28						
ZALV	Zalesovo Beam	1.06	142	Pg	Pg	08 20 43.3	+0.4
	3.0nm,0.3s,baz=321,slow=19,SNR=22						
ZALV				Lg	Lg	08 20 57.6	
	6.7nm,0.3s,baz=325,slow=30,SNR=21						
KURBB	Kurchatov Arra	5.22	219	Pn	Pn	08 21 41.9	0.0
	0.1nm,0.3s,baz=42,slow=13,SNR=2.1						
KURBB				Lg	Lg	08 23 10.3	
	baz=36,slow=27,SNR=4.6 0.9nm,0.2s						
MK31	Makanchi Array	8.05	187	P	Pn	08 22 23.8	+3.0
	13nm,1.4s,baz=17,slow=12,SNR=4.6						
MKAR	Makanchi Array	8.05	187	Pn	Pn	08 22 20.3	-0.5
	baz=5.2,slow=9.4,SNR=1.8 0.4nm,0.8s						

*IDC **17** 08:21:49.7±1.8, 34°.73N×25°.69E, h34km±12km, mb3.5/10, mbtmp3.7/18, ML3.7/8, MS2.6/1, Error ellipse: s-maj=20.1km s-min=13.7km az=16.0*
*THE **17** 08:21:52.3, 35°N±6°×2°6E±°, h27km±8km, M3.7/9, MLh3.7/9*
*ATH **17** 08:21:54.6, 34°.95N×25°.65E, h29km±2km, ML3.5/13, Manual Solution by N.Liadopoulou First location: 2019/10/17 08:22:58, This location: 2019/10/17 08:28:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*
*ISK **17** 08:22:12.1, 35°.80N×27°.15E, h20km, ML2.8/17*
ISC 17 08:21:50.7±1.1, 34°.73N±0°.07×25°.69E±0°.04, h43km±10km, n76, σ2s11/85, mb3.7/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.53	353	P	Pn	08 22 01.9	-0.2
NPS				S	Sn	08 22 10.7	+0.7
NPS	Neapolis	0.53	353	P	Pn	08 22 01.6	-0.4
NPS				S	Sn	08 22 07.4	-2.6
ZKR	Zakros	0.57	49	P	Pn	08 22 03.8	+1.2
ZKR	Zakros	0.57	49	P	Pn	08 22 03.6	+1.0
ZKR				S	Sn	08 22 13.6	+2.5
SIT2	Siteia	0.58	36	P	Pn	08 22 04.3	+1.6
SIT2				S	Sn	08 22 11.0	-0.1
IACM	Heraklion	0.76	318	P	Pn	08 22 06.0	+1.0
IACM				S	Sn	08 22 17.4	+1.9
IACM	Heraklion	0.76	318	P	Pn	08 22 06.2	+1.2
IACM				S	Sn	08 22 14.7	-0.8
IDI	Anoyia	0.86	310	P	Pn	08 22 06.4	-0.1
IDI	Anoyia	0.86	310	Pg	Pn	08 22 06.5	0.0
	94nm,0.3s,baz=136,slow=18,SNR=195						
IDI				Lg	Lg	08 22 20.3	
	309nm,0.3s,baz=34,slow=16,SNR=6.6						
IDI	Anoyia	0.86	310	P	Pn	08 22 07.6	+1.1
PRNS	Prines Rethymn	1.16	303	P	Pn	08 22 12.4	+1.9
PRNS				S	Sn	08 22 27.6	+2.5
PRNS	Prines Rethymn	1.16	303	P	Pn	08 22 12.6	+2.1
GVD	Gavdhos	1.32	275	P	Pn	08 22 13.9	+1.2
GVD	Gavdhos	1.32	275	P	Pn	08 22 14.0	+1.2
KARP	Karpathos	1.45	56	Pg	Pn	08 22 18.5	+4.0
KARP	Karpathos	1.45	56	P	Pn	08 22 18.8	+4.2
KARP	Karpathos	1.45	56	P	Pn	08 22 17.9	+3.4
CHNB	Souda	1.53	300	P	Pn	08 22 18.5	+3.0
CHAN	Chania	1.56	301	P	Pn	08 22 19.3	+3.3
CHAN				S	Sn	08 22 38.1	+3.1
CHAN	Chania	1.56	301	P	Pn	08 22 19.3	+3.3
CH01	Chania	1.58	300	P	Pn	08 22 18.9	+2.7
THERA	Ancient Thera,	1.64	354	P	Pn	08 22 18.3	+1.2
THERA	Ancient Thera,	1.64	354	P	Pn	08 22 18.3	+1.2
SNT5	Nea Kammeni, S	1.68	352	P	Pn	08 22 19.4	+1.7
THR3	Thira Island,	1.69	352	P	Pn	08 22 19.4	+1.7
SAP3	Santorini-Thir	1.72	351	P	Pn	08 22 19.5	+1.3
SAP3	Santorini-Thir	1.72	351	P	Pn	08 22 19.3	+1.1
NISR	Nisiros	2.21	32	P	Pn	08 22 28.0	+3.2
MHLO	Agia Marina, M	2.21	332	P	Pn	08 22 26.5	+1.5
MHLO	Agia Marina, M	2.21	332	P	Pn	08 22 26.3	+1.3
ANKY	Antikythira Is	2.26	301	P	Pn	08 22 27.0	+1.5
ANKY	Antikythira Is	2.26	301	P	Pn	08 22 28.3	+2.7
ARG	Arkhangelos	2.48	53	Pg	Pn	08 22 30.0	+1.4
ARG	Arkhangelos	2.48	53	P	Pn	08 22 31.4	+2.9
DAT	Datca	2.51	37	Pg	Pn	08 22 31.4	+2.2
KTHA	Kythira Island	2.63	306	P	Pn	08 22 31.0	+0.3
KTHA	Kythira Island	2.63	306	P	Pn	08 22 31.5	+0.8
BODT	Bodrum	2.67	29	Pn	Pn	08 22 35.4	+4.2
TURN	Turunc	2.91	45	Pn	Pn	08 22 36.2	+1.7
VLI	Veliai	2.99	312	P	Pn	08 22 35.6	0.0
SMG	Samos	3.11	17	P	Pn	08 22 38.8	+1.6
DALY	Dalyan (Mula)	3.18	48	Pn	Pn	08 22 39.9	+1.7
YER	Yerkesik	3.19	41	Pn	Pn	08 22 40.3	+1.9
MET4	Agioi Theodoro	3.43	328	P	Pn	08 22 42.2	+0.6
KARY	Karystos	3.44	343	P	Pn	08 22 43.1	+1.3
KSL	Kastellorizon	3.48	65	P	Pn	08 22 44.0	+1.7
AKAS	Kas	3.53	64	Pn	Pn	08 22 46.2	+3.1
AYDB	Zeytinkoy-Aydi	3.66	28	Pn	Pn	08 22 49.0	+4.0
CAME	Cameli-Denizli	3.67	52	Pn	Pn	08 22 47.4	+2.3
NAZL	Nazilli-Aydin	3.85	32	Pn	Pn	08 22 50.7	+3.3
ELL	Elmali	3.98	58	Pn	Pn	08 22 51.7	+2.4
APMY	Acipayam-Deniz	4.00	46	Pn	Pn	08 22 51.5	+1.9
ODEM	Odemis-Izmir	4.02	28	Pn	Pn	08 22 53.0	+3.1
KORT	Korkueli	4.41	58	Pn	Pn	08 22 57.9	+2.7
KULA	Kula-Manisa	4.46	31	Pn	Pn	08 22 59.6	+3.6
SEYD	Seydisehir-KON	5.65	60	Pn	Pn	08 23 15.8	+3.6
BRTR	Keskin Array B	8.06	50	Pn	Pn	08 23 48.3	+2.9
	0.1nm,0.3s,baz=232,slow=14,SNR=6.8						
BRTR				Sn	Sn	08 25 10.3	-4.9
	0.1nm,0.3s,baz=239,slow=25,SNR=1.4 0.5nm,0.6s						
MMAI	Mount Meron Ar	8.26	99	Pn	Pn	08 23 46.8	-1.2
	2.1nm,0.3s,baz=284,slow=18,SNR=3.8						
MMAI				Sn	Sn	08 25 15.4	-4.6
	1.7nm,0.3s,baz=307,slow=41,SNR=1.6 1.0nm,0.3s						
EIL	Elat	9.33	120	Pn	Pn	08 24 02.4	-0.2
	0.5nm,0.3s,baz=324,slow=12,SNR=14						
EIL				Sn	Sn	08 25 43.2	-3.0
	1.7nm,0.3s,baz=312,slow=17,SNR=6.3 2.9nm,0.4s						
ASF	Jabal al Asfar	9.71	102	Pn	Pn	08 24 07.2	-0.7
	0.6nm,0.3s,baz=332,slow=4.7,SNR=2.2						
ASF				Sn	Sn	08 25 52.1	-3.4
	0.4nm,0.3s,baz=276,slow=7.1,SNR=1.5 1.5nm,0.4s						
MLR	Muntele Rosu	10.75	1	Pn	Pn	08 24 22.1	+0.1
	0.1nm,0.3s,baz=180,slow=7.1,SNR=4.6						
MLR				LR	LR	08 29 07.7	
	comp=Z,33nm,20.6s,baz=222,slow=41 2.1nm,0.6s						
VRAC	Vranov	16.04	338	Pn	Pn	08 25 32.0	-1.1
	0.4nm,0.3s,baz=108,slow=19,SNR=5.1 1.3nm,0.3s						
KBZ	Khabaz	16.05	51	Pn	P	08 25 39.4	+3.2
	0.1nm,0.3s,baz=236,slow=15,SNR=5.5						
KBZ				Sn	Sn	08 28 16.1	-14
	0.1nm,0.3s,baz=234,slow=19,SNR=1.6						
AKASG	Malin Array Be	16.16	8	Pn	Pn	08 25 35.1	+0.4
	1.3nm,0.3s,baz=201,slow=11,SNR=6.8 0.3nm,0.3s						
GERES	GERESS Array B	16.66	331	Pn	Pn	08 25 40.7	-0.4
	baz=156,slow=9.7,SNR=1.4 0.3nm,0.4s						
ESDC	Sonseca Array	24.07	291	P	P	08 27 01.5	-0.6
	0.2nm,0.3s,baz=97,slow=7.9,SNR=1.8 0.2nm,0.3s						
HFS	Hagfors	26.59	347	P	P	08 27 23.0	-1.6
	6.2nm,1.1s,baz=156,slow=14,SNR=2.7 6.2nm,1.1s						
FINES	FINESS Array B	26.73	0	P	P	08 27 23.8	-2.0
	1.4nm,0.7s,baz=172,slow=10.0,SNR=1.1 1.4nm,0.7s						
EKA	Eskdalemuir Ar	28.64	325	P	P	08 27 43.3	+0.3
	0.2nm,0.3s,baz=118,slow=9.2,SNR=1.6 0.2nm,0.3s						
TORD	Torodi Ar. Bea	30.56	231	P	P	08 28 00.7	+0.3
	0.6nm,0.6s,baz=41,slow=11,SNR=6.9 0.6nm,0.6s						
ARCES	ARCESS Array B	34.85	360	P	P	08 28 35.8	-1.6
	0.6nm,0.5s,baz=176,slow=7.9,SNR=11 0.6nm,0.5s						
KURBB	Kurchatov Arra	41.05	51	P	P	08 29 31.2	+1.4
	0.7nm,0.5s,baz=277,slow=8.7,SNR=5.7 0.7nm,0.5s						
MKAR	Makanchi Array	43.65	56	P	P	08 29 52.5	+1.5
	0.6nm,0.6s,baz=279,slow=7.0,SNR=4.2 0.6nm,0.6s						
ZALV	Zalesovo Beam	44.98	46	P	P	08 30 00.9	-0.6
	0.6nm,0.4s,baz=265,slow=10.0,SNR=2.4 0.6nm,0.4s						
SCHQ	Schefferville	63.79	320	P	P	08 32 17.9	-0.3
	13nm,0.3s,baz=63,slow=16,SNR=8.5						
ILAR	Eielson Array	80.65	357	P	P	08 33 56.9	-1.8
	0.2nm,0.8s,baz=341,slow=5.7,SNR=2.2 0.2nm,0.8s						

NNC 17 09:11:40.0±6.5, 37°.54N×71°.49E, h0km, mb4.0, mpv3.6, 2C-2D, Error ellipse: s-maj=50.9km s-min=40.9km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	4.74	347	Pg	Pn	09 12 53.0	+0.2
	9.7nm,0.4s						
IUG				Lg	Lg	09 13 51.7	
	9.4nm,0.3s						
MRKS	Merke	5.37	14	Pg	Pn	09 13 01.3	-0.2
	4.7nm,0.4s						
MRKS				Lg	Lg	09 14 06.3	
	6.7nm,0.5s						
AAK	Ala-Archa	5.59	23	⇓P	Pn	09 13 03.9	-0.6
	1.0nm,0.4s						
AAK				⇓S	Sn	09 14 11.6	+2.0
	1.0nm,0.5s						
KK31	Karatay Array	5.61	353	⇑P	Pn	09 13 05.1	+0.4
	1.8nm,0.2s,baz=169,slow=12,SNR=72						
KK31				⇑S	Sn	09 14 10.3	+0.5
	1.6nm,0.3s,baz=171,slow=22						

ZUR 17 09:15:40.4, 45°.88N×6°.98E, h5km±3km, MLh0.3/3, 2C, Error ellipse: s-maj=6936.7km s-min=1045.0km az=178.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFERR	Prayon, Val Fe	0.12	52	Pg	Pg	09 15 43.1	+0.2
MFERR				Sg	Sg	09 15 44.9	+0.4
MFERR	Prayon, Val Fe	0.12	52	Pg	Pg	09 15 43.1	+0.2
MFERR				Sg	Sg	09 15 45.0	+0.4
REMY	Saint-Rhmy-en	0.13	109	⇑Pg	Pg	09 15 43.3	+0.1
REMY				Sg	Sg	09 15 45.5	+0.5
OGSI	Sixt	0.24	319	Pg	Pg	09 15 45.0	-0.2
OGSI				Sg	Sg	09 15 48.3	-0.2
SALAN	Lac Salanfe	0.26	358	Pg	Pg	09 15 45.8	+0.2
SALAN				Sg	Sg	09 15 49.5	+0.3
SALAN	Lac Salanfe	0.26	358	⇑Pg	Pg	09 15 45.8	+0.2
SALAN				Sg	Sg	09 15 49.6	+0.4
RSL	Roselend	0.32	233	Pg	Pg	09 15 47.0	+0.4
RSL				Sg	Sg	09 15 50.0	-0.8
ILLEZ	Chalet Vouargn	0.34	355	Sg	Sg	09 15 51.9	+0.2
LSD	Lago del Serru	0.43	166	Sg	Sg	09 15 53.7	-0.9

STR 17 09:16:09.0±0.3, 48°N±2°×°±°, h0km, MLv1.7/7, LOCSAT earthModelID haslach_taup-2.11 preliminary, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STUF	Presbytere Uff	0.08	261	Pg	Pg	09 16 10.4	0.0
STUF				Sg	Sg	09 16 11.6	+0.1
ENDD	Endenburg	0.13	66	Pg	Pg	09 16 11.3	-0.1
ENDD				Sg	Sg	09 16 13.9	+0.7
ILLF	Illfurth	0.21	276	Pg	Pg	09 16 13.2	+0.3
ILLF				Sg	Sg	09 16 16.0	+0.5
BALST	Balsthal	0.34	164	Pg	Pg	09 16 15.6	+0.2
BALST				Sg	Sg	09 16 20.2	+0.4
BOURR	Bourrignon	0.35	220	Pg	Pg	09 16 15.8	+0.2
WALT	Westhalten	0.36	328	Pg	Pg	09 16 15.9	0.0
WALT				Sg	Sg	09 16 20.7	+0.2
FELD	Feldberg im Sc	0.37	54	Pg	Pg	09 16 15.9	-0.1
FELD				Sg	Sg	09 16 21.4	+0.7
KIZ	Kirchzarten	0.38	39	Pg	Pg	09 16 15.9	-0.3
KIZ				Sg	Sg	09 16 21.4	+0.2
ECH	Echery	0.62	334	Pg	Pg	09 16 20.4	-0.4
ECH				Sg	Sg	09 16 29.5	+0.7
SLE	Schleitheim	0.64	80	Pg	Pg	09 16 21.2	0.0
SLE				Sg	Sg	09 16 30.3	+0.8

*IDC **17** 09:22:42.3±0.7, 26°.21S×71°.80E, h0km, mb4.0/11, mbtmp4.0/11, MS3.5/17, Error ellipse: s-maj=23.5km s-min=21.4km az=94.0*
ISC 17 09:22:43.9±0.7, 26°.2S±0°.2×71°.8E±0°.2, h10km, n37, σ0s59/12, mb4.2/10, MS3.5/17, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	18.49	2	T	T	09 46 11.6	
	baz=183,slow=76,SNR=5.1						
H08S2	Diego Garcia H	18.49	2	T	T	09 46 13.7	
	baz=183,slow=76,SNR=7.5						
H08S3	Diego Garcia H	18.51	2	T	T	09 46 12.9	
	baz=183,slow=76,SNR=9.3						
H04N2	CROZET ISLANDS	25.49	214	T	T	09 54 43.9	
	baz=46,slow=75,SNR=74						
H04N1	CROZET ISLANDS	25.50	214	T	T	09 54 27.4	
	baz=46,slow=75,SNR=52						
H04N3	CROZET ISLANDS	25.51	214	T	T	09 54 24.5	
	baz=46,slow=75,SNR=55						
H04S1	CROZET ISLANDS	25.92	212	T	T	09 55 14.6	
	baz=46						
H04S3	CROZET ISLANDS	25.93	212	T	T	09 55 10.6	
	baz=46						
H04S2	CROZET ISLANDS	25.94	212	T	T	09 55 07.7	
	baz=46						
PALK	Pallekele	34.40	16	LR	LR	09 40 32.7	
	comp=Z,118nm,18.2s,baz=196,slow=31						
H01W2	Cape Leeuwin H	37.23	114	T	T	10 09 32.9	
	baz=271,slow=75,SNR=6.7						
H01W3	Cape Leeuwin H	37.23	114	T	T	10 09 33.2	
	baz=271,slow=75,SNR=6.3						
H01W1	Cape Leeuwin H	37.25	114	T	T	10 09 32.1	
	baz=271,slow=75,SNR=6.1						
MATP	Matopo	40.05	269	LR	LR	09 45 00.5	
	comp=Z,68nm,21.7s,baz=157,slow=33						
BOSA	Boshof	41.19	256	P	P	09 30 29.3	+0.3
	4.4nm,1.2s,baz=74,slow=7.4,SNR=4.9						
BOSA				LR	LR	09 43 36.0	
	comp=Z,82nm,18.3s,baz=65,slow=30 4.4nm,1.2s						
LBTB	Lobatse	41.51	261	LR	LR	09 44 48.2	
	comp=Z,86nm,19.0s,baz=127,slow=32						
MAW	Mawson	41.75	185	LR	LR	09 43 57.7	
	comp=Z,88nm,18.7s,baz=351,slow=30						
LSZ	Lusaka	42.04	276	LR	LR	09 46 54.3	
	comp=Z,62nm,18.8s,baz=180,slow=34						
FITZ	Fitzroy Crossi	50.22	92	LR	LR	09 50 21.4	
	comp=Z,40nm,21.1s,baz=348,slow=33						
KAPI	Kappang	50.39	74	LR	LR	09 51 42.2	
	comp=Z,23nm,18.6s,baz=208,slow=34						
CM

ASRS 17 09:43:06.0±0.9, 56°.14N×86°.22E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 09:43:05.2±8.0, 56°.25N×86°.72E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=82.1km s-min=34.7km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.56**	**206**	I	I	09 59 58.7	
	baz=27,slow=332,SNR=7.4						
ZALV	**Zalesovo Beam**	**2.56**	**206**	Pn	Pn	09 43 48.6	+0.8
	0.9nm,0.3s,baz=27,slow=14,SNR=25						
ZALV				Sn	Sn	09 44 19.6	0.0
	3.4nm,0.3s,baz=26,slow=26,SNR=16 6.3nm,0.6s						
KURBB	**Kurchatov Arra**	**7.46**	**224**	Pn	Pn	09 44 54.0	-1.1
	baz=41,slow=14,SNR=4.7 0.4nm,0.5s						
MKAR	**Makanchi Array**	**9.87**	**198**	Pn	Pn	09 45 28.9	+0.8
	0.1nm,0.3s,baz=12,slow=12,SNR=2.0 0.4nm,0.6s						

NEIC 17 09:49:01.2±1.3, 23°.1S±0°.1×176°.8W±0°.1, h60km±9km, mb4.5/23, Error ellipse: s-maj=21.6km s-min=4.0km az=131.0
IDC 17 09:49:02.2±5.3, 23°.11S×176°.90W, h75km±45km, mb3.8/12, mbtmp4.1/14, ML3.6/2, MS3.2/2, Error ellipse: s-maj=20.2km s-min=18.5km az=136.0

ISC 17 09:49:00.6±0.4, 23°.10S±0°.09×176°.83W±0°.09, h60km, n61, σ1§12/53, mb4.3/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.18**	**317**		Pn	09 50 55.2	+12
NIUE	**Niue**	**7.59**	**59**		**Pn**	**09 50 48.1**	**-0.4**
NIUE				Sn	Sn	09 52 03.5	-10
AFI	**Afiamalu**	**10.32**	**28**	Pn	**Pn**	**09 51 25.6**	**-0.4**
RAR	**Rarotonga**	**15.91**	**86**		**Pn**	**09 52 41.6**	**+0.9**
RAR				IAmb	IAmb	09 53 11.3	
	comp=Z,78nm,1.4s						
RAR	**Rarotonga**	**15.91**	**86**	P	**Pn**	**09 52 42.1**	**+1.4**
	comp=Z,2.3nm,0.3s,baz=252,slow=12,SNR=8.5						
RAR				S	Sn	09 55 23.6	-13
	comp=Z,30nm,1.1s,baz=290,slow=14,SNR=3.1						
RAR				LR	LR	09 57 21.4	
	comp=Z,52nm,21.6s,baz=298,slow=31 comp=Z,10nm,0.5s						
URZ	**Urewera**	**15.97**	**198**	P	**Pn**	**09 52 40.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=43,slow=19,SNR=1.4						
URZ				S	Sn	09 55 25.2	-12
	comp=Z,5.0nm,0.7s,baz=324,slow=17,SNR=1.6 comp=Z,3.6nm,0.5s						
MQZ	**McQueen's Vall**	**22.31**	**200**	P	**P**	**09 53 55.4**	**+2.4**
MQZ				IAmb	IAmb	09 54 03.0	
	comp=Z,32nm,1.5s						
PPT2	**Papeete2**	**26.11**	**83**	eLR	LR	10 01 11.8	
	comp=Z,40nm,23.2s						
EIDS	**Eidsvold**	**29.31**	**259**	P	**P**	**09 54 59.3**	**+1.6**
EIDS				IAmb	IAmb	09 55 07.3	
	comp=Z,16nm,1.3s						
TOO	**Toolangi**	**35.32**	**237**	P	**P**	**09 55 51.6**	**+1.4**
TOO				IAmb	IAmb	09 55 56.0	
	comp=Z,7.8nm,1.2s						
STKA	**Stephens Creek**	**37.72**	**247**	P	**P**	**09 56 10.5**	**-0.1**
STKA	**Stephens Creek**	**37.72**	**247**	P	**P**	**09 56 09.2**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=86,slow=9.3,SNR=4.7 comp=Z,2.4nm,0.8s						
BBOO	**Buckleboo**	**42.43**	**246**	P	**P**	**09 56 48.5**	**-1.1**
AS31	**Alice Springs**	**45.04**	**259**	P	**P**	**09 57 10.7**	**0.0**
ASAR	**Alice Springs**	**45.04**	**259**	P	**P**	**09 57 11.5**	**+0.8**
ASAR	**Alice Springs**	**45.04**	**259**	P	**P**	**09 57 10.4**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=97,slow=7.3,SNR=29						
ASAR				PcP	**PcP**	**09 58 49.4**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=104,slow=3.6,SNR=6.1 comp=Z,1.7nm,0.6s						
WR8	**Warramunga Arr**	**45.22**	**264**	P	**P**	**09 57 12.3**	**+0.2**
WR8				IAmb	IAmb	09 57 13.2	
	comp=Z,3.2nm,0.6s						
WB0	**Warramunga Arr**	**45.37**	**265**		**P**	**09 57 13.2**	**-0.1**
WB0				IAmb	IAmb	09 57 15.4	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**45.37**	**264**		**P**	**09 57 13.3**	**-0.1**
WRA	**Warramunga Arr**	**45.37**	**264**	P	**P**	**09 57 13.2**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=103,slow=8.1,SNR=48						
WRA				PcP	**PcP**	**09 58 51.9**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=98,slow=3.8,SNR=6.3 comp=Z,3.5nm,0.6s						
FORT	**Forrest**	**49.31**	**249**	P	**P**	**09 57 42.6**	**-1.3**
FORT				IAmb	IAmb	09 57 43.1	
	comp=Z,5.7nm,0.8s						
MTN	**Manton Dam**	**50.32**	**272**	P	**P**	**09 57 51.6**	**0.0**
KNRA	**Kununurra**	**51.61**	**268**	P	**P**	**09 58 01.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**53.80**	**264**	P	**P**	**09 58 18.0**	**+0.5**
SBA	**Scott Base**	**55.36**	**184**	P	**P**	**09 58 29.7**	**+1.8**
SBA				IAmb	IAmb	09 58 30.2	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**55.43**	**186**	P	**P**	**09 58 28.9**	**+0.5**
VNDA	**Vanda**	**55.43**	**186**	P	**P**	**09 58 28.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=347,slow=7.0,SNR=3.6 comp=Z,0.5nm,0.7s						
CASY	**Casey**	**62.10**	**206**	P	**P**	**09 59 14.0**	**-0.8**
QSPA	**South Pole Qui**	**66.98**	**180**	P	**P**	**09 59 49.0**	**+2.1**
QSPA				IAmb	IAmb	09 59 50.0	
	comp=Z,5.6nm,0.8s						
QSPA	**South Pole Qui**	**66.98**	**180**	P	**P**	**09 59 48.3**	**+1.5**
	comp=Z,5.7nm,0.8s,baz=37,slow=1.2,SNR=27 comp=Z,5.7nm,0.8s						
JHJ	**Hachijo jima 2**	**69.55**	**322**	LR	LR	10 31 36.1	
	comp=Z,32nm,18.2s,baz=328,slow=37						
BELA	**Belgrano 2**	**76.85**	**172**	P	**P**	**10 00 44.1**	**-1.5**
BELA				IAmb	IAmb	10 00 45.1	
	comp=Z,2.8nm,0.8s						
PETK	**Petropavlovsk-**	**79.06**	**345**	P	**P**	**10 00 59.1**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=176,slow=8.7,SNR=1.9 comp=Z,2.7nm,0.9s						
MAW	**Mawson**	**79.49**	**200**	P	**P**	**10 01 00.3**	**0.0**
	comp=Z,3.0nm,0.6s,baz=128,slow=5.2,SNR=9.8 comp=Z,3.0nm,0.6s						
H03S2	**Juan Fernandez**	**83.63**	**124**	T	T	11 33 23.8	
	baz=245,slow=74,SNR=46						
H03S1	**Juan Fernandez**	**83.65**	**124**	T	T	11 33 18.6	
	baz=245,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**83.65**	**124**	T	T	11 33 17.3	
	baz=245,slow=74,SNR=51						
H03N2	**Juan Fernandez**	**83.78**	**124**	T	T	11 33 24.0	
	baz=250,slow=73,SNR=16						
H03N3	**Juan Fernandez**	**83.79**	**124**	T	T	11 33 21.0	
	baz=250,slow=73,SNR=21						
H03N1	**Juan Fernandez**	**83.80**	**124**	T	T	11 33 22.1	
	baz=250,slow=73,SNR=19						
SNAA	**Sanae**	**85.39**	**178**	P	**P**	**10 01 29.1**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=205,slow=8.2,SNR=5.6 comp=Z,1.3nm,0.8s						
PLCA	**Paso Flores**	**86.70**	**133**	P	**P**	**10 01 37.4**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=176,slow=12,SNR=1.7 comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**87.55**	**57**	P	**P**	**10 01 42.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=213,slow=7.8,SNR=5.7 comp=Z,0.3nm,0.7s						
TRF	**Thorofare Mount**	**88.76**	**12**	P	**P**	**10 01 48.0**	**+0.5**
PDAR	**Pinedale Array**	**90.11**	**43**	P	**P**	**10 01 55.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=258,slow=5.1,SNR=2.6 comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**90.61**	**12**	P	**P**	**10 01 55.8**	**0.0**
	comp=Z,0.6nm,0.8s,baz=230,slow=4.9,SNR=5.6 comp=Z,0.6nm,0.8s						
J26L	**Joseph Creek**	**91.06**	**14**	P	**P**	**10 01 58.9**	**+0.8**
E19K	**Redstone River**	**91.47**	**7**	P	**P**	**10 02 00.2**	**+0.4**
I28M	**Miner Creek**	**92.68**	**15**	P	**P**	**10 02 06.5**	**+1.0**
KURBB	**Kurchatov Arra**	**116.68**	**316**	PKP	**PKPdf**	**10 07 35.6**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=107,slow=2.0,SNR=2.2						
ARCES	**ARCESS Array B**	**131.67**	**350**	PKP	**PKPdf**	**10 08 05.2**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=45,slow=3.6,SNR=6.0						
FINES	**FINESS Array B**	**138.57**	**344**	PKhKP	PKPpre	10 08 10.4	
	comp=Z,1.8nm,0.8s,baz=7.1,slow=6.1,SNR=3.5						
FINES				PKP	**PKPdf**	**10 08 20.2**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=70,slow=2.2,SNR=6.3						
NOA	**NORSAR Array B**	**141.68**	**354**	PKP	**PKPdf**	**10 08 25.7**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=51,slow=7.9,SNR=4.7						
HFS	**Hagfors**	**142.27**	**351**	PKhKP	PKPpre	10 08 20.7	
	comp=Z,1.3nm,0.5s,baz=63,slow=3.6,SNR=6.9						
AKASG	**Malin Array Be**	**145.81**	**330**	PKPbc	**PKPdf**	**10 08 30.4**	**-1.8**
	comp=Z,3.8nm,0.5s,baz=43,slow=4.2,SNR=25						
EKA	**Eskdalemuir Ar**	**147.47**	**7**	PKPbc	**PKPdf**	**10 08 36.5**	**+1.7**
	comp=Z,1.2nm,0.4s,baz=352,slow=2.5,SNR=5.9						
BRTR	**Keskin Array B**	**149.36**	**310**	PKPbc	**PKPbc**	**10 08 42.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=134,slow=3.6,SNR=5.5						
MMAI	**Mount Meron Ar**	**150.00**	**296**	PKPbc	**PKPbc**	**10 08 43.7**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=41,slow=9.2,SNR=3.8						
GERES	**GERESS Array B**	**152.99**	**345**	PKP	**PKPdf**	**10 08 42.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=329,slow=3.7,SNR=1.6						
ESDC	**Sonseca Array**	**162.41**	**18**	PKPab	**PKPab**	**10 09 43.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=344,slow=7.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**170.00**	**172**	PKPab	**PKPab**	**10 10 16.0**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=192,slow=3.5,SNR=4.6						

RSNC 17 09:58:03.7±0.0, 7°.N±1°.×7°.3W±°, h149km±2km, M2.3, mb3.4, mB4.8, ML2.1, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**183**	P	Pn	09 58 23.8	-0.5
BARC				S	Sn	09 58 39.3	-0.7
BRJC	**Barrancabermej**	**0.58**	**283**	P	Pn	09 58 25.4	0.0
BRJC				S	Sn	09 58 42.2	+0.3
PAMC	**Pamplona, Colo**	**0.68**	**43**	P	Pn	09 58 26.8	+0.2
PAMC				S	Sn	09 58 43.7	-0.2
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	09 58 27.8	-0.7
RUSC				S	Sn	09 58 46.7	-0.7
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	09 58 30.5	-0.8
PTBC				S	Sn	09 58 51.8	-0.5
OCAC	**Ocana**	**1.40**	**354**	P	Pn	09 58 31.7	-0.6
OCAC				S	Sn	09 58 53.9	-0.3
SPBC	**San Pablo de B**	**1.48**	**217**	P	Pn	09 58 33.7	+0.6
SPBC				S	Sn	09 58 54.7	-0.9
ROSC	**El Rosal**	**2.29**	**210**	P	Pn	09 58 44.1	+1.4
ROSC				S	Sn	09 59 12.3	-0.3
HELC	**Santa Helena**	**2.43**	**255**	P	Pn	09 58 44.4	+0.1
HELC				S	Sn	09 59 15.1	-0.4
CVER	**Cruz Verde, Cu**	**2.47**	**201**	P	Pn	09 58 44.5	-0.4
UREC	**San Jos de Ur**	**2.51**	**291**	P	Pn	09 58 44.1	-0.9
UREC				S	Sn	09 59 14.4	-2.3
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	09 58 47.6	-0.3
GUY2C				S	Sn	09 59 20.6	-1.2
CBOC	**Ciudad Bolivar**	**2.99**	**251**	P	Pn	09 58 50.9	-0.1
CBOC				S	Sn	09 59 28.4	+0.8
PRAC	**Prado**	**3.54**	**209**	P	Pn	09 58 56.9	-1.2
PRAC				S	Sn	09 59 39.0	-1.3
ORTC	**Ortega, Tolima**	**3.57**	**215**	P	Pn	09 58 57.6	-0.8
ORTC				S	Sn	09 59 41.2	+0.3
SJCC	**San Jacinto, C**	**3.63**	**327**	P	Pn	09 58 57.7	-1.5
SJCC				S	Sn	09 59 38.4	-3.9
URMC	**La Uribe, Meta**	**3.77**	**199**	P	Pn	09 59 00.3	-0.7
URMC				S	Sn	09 59 44.8	-0.7
CRJC	**Cerrejon, Guaj**	**4.16**	**4**	P	Pn	09 59 03.7	-2.5
CRJC				S	Sn	09 59 52.3	-2.5
YOTC	**Yotoco, Valle**	**4.25**	**228**	P	Pn	09 59 07.8	+0.5
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	09 59 13.9	-2.8
URIC				S	Sn	10 00 11.7	-2.0

FUNV 17 10:04:51.2, 10°.65N×71°.91W, h9km, MW2.7
RSNC 17 10:04:52.4±0.0, 11°.N±6°.×7°.2W±°, h115km±6km, M2.1, ML2.1

ISC 17 10:04:50.0±1.0, 10°.63N±0°.04×71°.90W±0°.05, h16km, n8, σ1§65/14, 1C, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.85**	**227**	*i*P	**Pg**	**10 05 06.8**	**+0.2**
MCQV				*e*S	**Sn**	**10 05 18.7**	**-0.8**
CRJC	**Cerrejon, Guaj**	**1.04**	**292**	P	**Pb**	**10 05 09.5**	**-0.2**
CRJC				S	**Sb**	**10 05 23.5**	**+0.3**
URIC	**Uribia, Colomb**	**1.07**	**355**	P	**Pn**	**10 05 10.6**	**+0.3**
URIC				S	**Sg**	**10 05 24.9**	**+0.2**
OCAC	**Ocana**	**2.76**	**211**	P	**Pb**	**10 05 38.0**	**-1.1**
OCAC				S	**Sb**	**10 06 14.3**	**+1.5**
CAPV	**Capacho**	**2.78**	**189**	*e*P	**Pn**	**10 05 34.7**	**+0.6**
SJCC	**San Jacinto, C**	**3.31**	**258**	P	**Pn**	**10 05 43.9**	**+2.6**
SJCC				S	**Sb**	**10 06 25.0**	**-3.6**
BAUV	**El Baul**	**4.15**	**113**	*e*P	**Pn**	**10 05 54.0**	**+1.2**
BAUV				*e*S	**Sn**	**10 06 39.6**	**-1.5**
BENV	**Beln**	**4.28**	**99**	*e*P	**Pn**	**10 05 56.0**	**+1.3**

ASRS 17 10:25:10.9±0.2, 51°.N±1°.×8°.7E±°, h10km, MLh3.2/12, Error ellipse: s-maj=3.4km s-min=2.2km az=75.9, confirmed
NNC 17 10:25:13.1±2.2, 50°.54N×87°.58E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.0km s-min=9.4km az=100.0

ISC 17 10:25:13.1±0.8, 50°.55N±0°.02×87°.57E±0°.03, h8km, n23, σ1§63/44, 6C-10D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.23**	**171**	⇓Pg	**Pg**	**10 25 16.9**	**-0.9**
AKAR				Sg	**Sg**	**10 25 20.2**	**-0.7**
ULGR	**Ulagan, Altay**	**0.26**	**73**	Pg	**Pb**	**10 25 19.1**	**-1.1**
ULGR				Sg	**Sb**	**10 25 23.4**	**-1.4**
CUR	**Chagan-Uzun**	**0.68**	**131**	Pg	**Pg**	**10 25 25.7**	**-0.4**
CUR				Sg	**Sb**	**10 25 35.8**	**-0.9**
DGZ	**Jazzator, Alta**	**0.85**	**186**	⇓Pg	**Pg**	**10 25 27.8**	**-1.7**
DGZ				Sg	**Sg**	**10 25 38.5**	**-2.1**
ELDR	**Elanda**	**1.15**	**306**	Pg	**Pg**	**10 25 33.0**	**-2.2**
ELDR				Sg	**Sg**	**10 25 47.2**	**-2.8**
YALR	**Yailyu, Altay**	**1.22**	**1**	Pg	**Pb**	**10 25 35.4**	**-1.0**
YALR				Sg	**Sb**	**10 25 51.4**	**-0.9**
ARTR	**Artybash**	**1.26**	**352**	Pg	**Pb**	**10 25 36.2**	**-0.9**
ARTR				Sg	**Sn**	**10 25 53.7**	**-0.5**
TEL	**Teeli**	**1.74**	**73**	Pg	**Pg**	**10 25 46.1**	**-0.2**
TEL				Sg	**Sg**	**10 26 09.5**	**+0.6**
TASR	**Tashtagol**	**2.22**	**5**	Pg	**Pg**	**10 25 54.6**	**-1.1**
TASR				Sg	**Sg**	**10 26 24.5**	**+0.1**
ELT	**Eltsovka**	**2.84**	**344**	Pg	**Pb**	**10 26 01.6**	**-2.4**
ELT				Sg	**Sb**	**10 26 38.4**	**-0.4**
KALT2	**Kaltan 2**	**2.86**	**357**	Pg	**Pb**	**10 26 04.8**	**+0.5**
KALT2				Sg	**Sg**	**10 26 43.8**	**-1.1**
KIYZ	**Kiyzas, Kuzbas**	**3.02**	**2**	Pg	**Pb**	**10 26 07.2**	**+0.2**
KIYZ				Sg	**Sg**	**10 26 50.0**	**+0.1**
DJO	**Djoy, Khakassi**	**3.19**	**44**	Pg	**Pg**	**10 26 12.5**	**-1.7**
DJO				Sg	**Sg**	**10 26 54.6**	**-0.8**
VEH	**Verkhnyaya Baz**	**3.20**	**31**	Pg	**Pb**	**10 26 10.7**	**+0.5**
VEH				Sg	**Sg**	**10 26 54.5**	**-1.3**
LUZB	**Luzhba, Kemero**	**3.22**	**14**	Pg	**Pb**	**10 26 11.4**	**+0.8**
LUZB				Sg	**Sg**	**10 26 57.1**	**+0.5**
CERR	**Cheremushki**	**3.33**	**45**	Pg	**Pg**	**10 26 15.7**	**-1.1**
CERR				Sg	**Sg**	**10 26 57.8**	**-2.0**
ZSN	**Zaisan**	**3.57**	**211**	Pg	**Pg**	**10 26 18.3**	**-3.2**
	7.2nm,0.3s						
ZSN				Lg	Lg	10 26 56.6	
	16nm,0.3s						
ZAA0	**Zalesovo Array**	**3.80**	**335**	⇑Pn	**Pn**	**10 26 14.1**	**+2.3**
	0.3nm,0.4s,baz=150,slow=15						
ZAA0				⇑Sn	**Sn**	**10 26 59.0**	**+2.3**
	1.9nm,0.4s,baz=156,slow=21						
ZAA0				⇑Lg	Lg	10 27 12.8	
	4.0nm,0.8s,baz=155,slow=25						
SEM	**Semipalatinsk**	**4.67**	**271**	Pg	**Pg**	**10 26 44.2**	**+1.7**
	5.1nm,0.2s						
SEM				Lg	Lg	10 27 40.9	
	18nm,0.5s						
MK31	**Makanchi Array**	**5.13**	**225**	Pn	**Pn**	**10 26 32.3**	**+2.1**
	2.4nm,0.6s,baz=45,slow=11,SNR=28						
MK31				⇑Sn	**Sn**	**10 27 32.9**	**+3.3**
	2.8nm,0.5s,baz=44,slow=24						
MK31				⇓Lg	Lg	10 27 56.3	
	21nm,0.7s,baz=49,slow=35						
MAKZ	**Makanchi**	**5.26**	**227**	⇓Pn	**Pn**	**10 26 33.6**	**+1.6**
	15nm,1.4s						
MAKZ				⇓Sn	**Sn**	**10 27 36.0**	**+3.2**
	7.8nm,0.7s						
MAKZ				⇓Lg	Lg	10 27 59.4	
	16nm,1.0s						
KURK	**Kurchatov**	**5.70**	**275**	⇓Pn	**Pn**	**10 26 38.2**	**+0.4**
	0.6nm,0.6s						
KURK				⇓Sn	**Sn**	**10 27 45.6**	**+2.2**
	1.3nm,0.6s						
KURK				⇑Lg	Lg	10 28 12.7	
	4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**5.76**	**274**	⇑Pn	**Pn**	**10 26 39.0**	**+0.2**
	3.2nm,0.4s,baz=86,slow=15						
KURBB				⇓Sn	**Sn**	**10 27 46.6**	**+1.7**
	4.6nm,0.4s						
KURBB				⇓Lg	Lg	10 28 15.5	
	25nm,0.7s						

HEL 17 10:30:45.2±0.2, 62°.31N×25°.85E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.29**	**133**	PG	Pg	10 30 50.7	-0.1
KAF				SG	Sg	10 30 54.1	-0.5
SUF	**Sumiainen**	**0.43**	**19**	PG	Pg	10 30 53.8	+0.3
	baz=196						
SUF				SG	Sg	10 30 58.9	0.0
KEF	**Keuruu**	**0.48**	**253**	PG	Pg	10 30 53.7	-0.7
KEF				SG	Sg	10 30 59.9	-0.8
KEF				MSG		10 31 01.0	
	comp=Z,5.5nm,0.2s						
FIA0	**FINESS Array S**	**0.88**	**173**	PG	Pg	10 31 01.9	-0.1
	baz=353						
FIA0				MSG		10 31 12.4	
	comp=Z,1.0nm,0.2s						
FIA0				SB	Sb	10 31 14.6	-1.0
NIF	**Nilsia**	**1.41**	**39**	PN	Pn	10 31 11.6	-0.4
NIF				MSG		10 31 27.4	
	comp=Z,0.5nm,0.2s						
VAF	**Ylistaro**	**1.64**	**298**	PG	Pn	10 31 15.4	+0.2
	baz=119						
VAF				MSG		10 31 34.5	
	comp=Z,2.0nm,0.2s						
VAF				SN	Sn	10 31 37.1	+0.1
RUF	**Ruokolahti**	**1.72**	**120**	PN	Pg	10 31 18.1	0.0
RUF				MSG		10 31 36.5	
	comp=Z,2.4nm,0.2s						
KPF	**Kankaanpaa**	**1.84**	**257**	PG	Pn	10 31 18.8	+0.7
KPF				MSG		10 31 40.1	
	comp=Z,9.1nm,0.2s						
KPF				SG	Sb	10 31 43.7	+0.4
NUR	**Nurmijarvi**	**1.90**	**198**	SN	Sn	10 31 43.1	-0.3
OUF	**Merijarvi**	**2.12**	**347**	MSG		10 31 48.2	
	comp=Z,1.2nm,0.2s						
OUF				SG	Sb	10 31 51.8	+0.5
JOF	**Joensuu**	**2.60**	**74**	SG	Sb	10 32 04.6	-0.3
UMAU	**Umeaa**	**2.83**	**306**	SG	Sb	10 32 12.2	+0.5
HUSU	**Husum**	**3.21**	**292**	SN	Sn	10 32 16.5	+0.7
HEMU	**Hemsoen**	**3.64**	**279**	SN	Sn	10 32 24.1	-2.3
KALU	**Kalix**	**3.72**	**344**	SG	Sb	10 32 40.4	+3.0
RANF	**Ranua**	**3.74**	**6**	SG	Sg	10 32 42.1	-3.0
TOF	**Tornio**	**3.84**	**351**	SN	Sn	10 32 28.4	-2.8
VSU	**Vasula**	**3.89**	**173**	PB	Pb	10 31 50.6	-4.0
KU6	**Riekki**	**4.12**	**24**	SB	Sb	10 32 46.8	-2.0
OLKF	**Oulanka, Finla**	**4.31**	**19**	SB	Sb	10 32 51.6	-2.6
RNF	**Rovaniemi**	**4.31**	**1**	SB	Sb	10 32 50.9	-3.4

IDC 17 10:31:03.5±2.9, 59°.43N×24°.88E, h0km, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=34.0km s-min=10.4km az=153.0
LVSN 17 10:31:05.1±2.1, 59°.59N×25°.02E, h0km±38km, ML2.3
DNK 17 10:31:11.3±0.6, 59°.61N×23°.57E, h0km, ML2.1(UPP), Suspected explosion
UPP 17 10:31:16.3±19.0, 59°.67N×22°.96E, h6km±181km, ML2.1, Presumed earthquake

ISC 17 10:31:02.7±0.9, 59°.52N±0°.03×24°.68E±0°.04, h0km, n40, σ1§25/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.72**	**349**	*e*P	**Pb**	**10 31 18.5**	**+0.5**
MEF	**Metsahovi**	**0.72**	**349**	*e*P	**Pb**	**10 31 17.8**	**-0.3**
MEF				*e*S	**Sb**	**10 31 27.3**	**-1.1**
MEF				AML	AML	10 31 31.6	
	comp=N,32nm,0.1s						
MEF				AML	AML	10 31 34.4	
	comp=Z,41nm,0.6s						
MEF				AML	AML	10 31 37.7	
	comp=E,47nm,0.1s						
VSU	**Vasula**	**1.50**	**134**	*e*P	**Pn**	**10 31 30.6**	**-0.2**
VSU				*e*S	**Sg**	**10 31 49.0**	**-1.9**
VSU				AML	AML	10 31 54.0	
	comp=Z,52nm,0.1s						
VSU				AML	AML	10 31 54.7	
	comp=E,71nm,0.4s						
VSU				AML	AML	10 31 58.1	
	comp=N,67nm,0.4s						
FINES	**FINESS Array B**	**2.06**	**19**	Pn	**Pb**	**10 31 41.0**	**+0.2**
	comp=N,5.6nm,0.3s,baz=198,slow=13,SNR=177						
FINES				Sn	**Sg**	**10 32 08.3**	**-0.3**
	comp=N,5.5nm,0.3s,baz=199,slow=25,SNR=15 comp=N,12nm,0.3s						
RAF	**Rauma**	**2.10**	**317**	*e*P	**Pb**	**10 31 41.5**	**0.0**
SLIT	**Slitere, Latvi**	**2.27**	**214**	*e*P	**Pb**	**10 31 43.6**	**-0.8**
SLIT	**Slitere, Latvi**	**2.27**	**214**	*e*P	**Pn**	**10 31 43.0**	**+1.6**
SLIT				AML	AML	10 31 45.1	
	comp=Z,148nm,0.1s						
SLIT				*e*S	**Sb**	**10 32 13.5**	**+0.6**
SLIT				AML	AML	10 32 17.7	
	comp=E,203nm,0.4s						
SLIT				AML	AML	10 32 19.9	
	comp=N,165nm,0.3s						
AAL	**Aland**	**2.45**	**288**	P	**Pn**	**10 31 45.5**	**+1.6**
AAL	**Aland**	**2.45**	**288**	*e*P	**Pb**	**10 31 46.4**	**-1.2**
AAL	**Aland**	**2.45**	**288**	P	**Pn**	**10 31 45

5.6nm,0.7s
KK31 Karatay Array 6.00 351 Pn Pn 10 43 18.2 -2.7
3.7nm,0.3s,baz=180,slow=13,SNR=31
KK31 ⇑Sn Sn 10 44 24.6 -5.4
32nm,0.3s,baz=189,slow=24
AB31 Akbulak array 14.84 328 ⇑P **Pn 10 45 15.7 +1.8**
1.2nm,0.4s
AKTO Aktyubinsk 16.55 328 P **P 10 45 34.8 +1.2**
6.2nm,0.6s,baz=120,slow=11,SNR=16
AKTO S **S 10 48 32.6 -3.7**
1.0nm,0.5s,baz=158,slow=14,SNR=1.5
AKTO Aktyubinsk 16.55 328 ⇓P **Pn 10 45 37.9 +3.5**
3.8nm,0.7s
ZALV Zalesovo Beam 19.01 24 P **P 10 46 00.5 +0.3**
3.1nm,0.3s,baz=216,slow=11,SNR=17
SONM Songino Array 27.38 56 P **P 10 47 20.7 +0.1**
0.3nm,0.3s,baz=265,slow=3.6,SNR=1.7
0.3nm,0.3s
ARCES ARCESS Array B 40.78 337 P **P 10 49 15.6 +0.6**
4.0nm,1.2s,baz=119,slow=8.5,SNR=3.7
4.0nm,1.2s
TORD Torodi Ar. Bea 66.42 269 P **P 10 52 19.6 -2.2**
0.3nm,0.8s,baz=67,slow=8.0,SNR=2.5
0.3nm,0.8s

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*CATAC **17** 10:42:05.7±0.5, 11°N±2°×8°7W±°, h10km±3km, M3.6/24, MLv3.6/24, Error ellipse: s-maj=5.2km s-min=3.9km az=32.9, confirmed*
*UCR **17** 10:42:06.6±1.4, 11°.26N×86°.94W, h76km±39km, MW4.2*
ISC 17 10:42:04.6±1.7, 11°.25N±0°.05×86°.98W±0°.05, h7km±10km, n52, σ0°77/66, 5C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.00**	**22**	P	**Pn**	**10 42 25.2**	**+0.1**
COPN	**Copaltepe**	**1.00**	**22**	⇑*i*P	**Pn**	**10 42 25.2**	**+0.1**
NADN	**Granada**	**1.05**	**62**	P	**Pn**	**10 42 25.7**	**-0.1**
NADN				S	**Sn**	**10 42 41.3**	**+0.6**
NADN	**Granada**	**1.05**	**62**	⇑*i*P	**Pn**	**10 42 25.7**	**-0.1**
SABN	**Sabanita**	**1.07**	**48**	P	**Pb**	**10 42 25.1**	**-0.3**
NANN	**Nandasmo**	**1.08**	**50**	P	**Pn**	**10 42 27.4**	**+1.2**
NANN	**Nandasmo**	**1.08**	**50**	S	**Sn**	**10 42 42.7**	**+1.2**
MAS3	**Al N del Volca**	**1.10**	**45**	P	**Pn**	**10 42 26.0**	**-0.4**
MAS3				S	**Sn**	**10 42 42.8**	**+0.9**
UNAN	**Cigeo UNAN**	**1.10**	**39**	P	**Pn**	**10 42 26.7**	**+0.3**
UNAN				S	**Sn**	**10 42 42.9**	**+0.9**
TISN	**Laguna Tiscapa**	**1.13**	**38**	P	**Pn**	**10 42 27.7**	**+0.8**
MGAN	**Managua**	**1.15**	**39**	P	**Pn**	**10 42 26.6**	**-0.5**
MGAN	**Managua**	**1.15**	**39**	S	**Sn**	**10 42 43.0**	**0.0**
MGAN	**Managua**	**1.15**	**39**	⇑*e*P	**Pn**	**10 42 27.0**	**0.0**
APYN	**Apoyeque**	**1.16**	**32**	P	**Pn**	**10 42 27.7**	**+0.5**
APYN				S	**Sn**	**10 42 42.2**	**-1.1**
APQ3	**Volcan Apoyequ**	**1.18**	**30**	P	**Pn**	**10 42 27.8**	**+0.3**
APQ3				S	**Sn**	**10 42 43.8**	**0.0**
WILN	**Americas 2**	**1.19**	**40**	P	**Pn**	**10 42 28.0**	**+0.3**
WILN				S	**Sn**	**10 42 45.4**	**+1.3**
CNGA	**Al SSO del Vol**	**1.27**	**12**	P	**Pg**	**10 42 29.0**	**0.0**
CNGA				S	**Sg**	**10 42 45.2**	**-0.4**
CNGN	**Cerro Negro**	**1.28**	**12**	S	**Sn**	**10 42 46.5**	**+0.3**
CNGN	**Cerro Negro**	**1.28**	**12**	P	**Pg**	**10 42 29.0**	**-0.1**
CNGN	**Cerro Negro**	**1.28**	**12**	*e*P	**Pg**	**10 42 28.9**	**-0.3**
MOM2	**El Cardon**	**1.28**	**22**	P	**Pg**	**10 42 29.3**	**+0.1**
MOM2				S	**Sn**	**10 42 46.0**	**-0.3**
LCRUZ	**La Cruz**	**1.33**	**97**	⇑*i*P	**Pn**	**10 42 29.0**	**-0.6**
MOM3	**MOM3**	**1.34**	**20**	P	**Pg**	**10 42 29.8**	**-0.5**
MOM3				S	**Sb**	**10 42 46.5**	**-0.8**
MORN	**Al O del Volca**	**1.34**	**77**	P	**Pb**	**10 42 29.5**	**-0.5**
MORN				S	**Sn**	**10 42 50.0**	**+2.3**
OMEN	**Al SSO del Vol**	**1.35**	**79**	P	**Pn**	**10 42 29.0**	**-0.9**
OMEN				S	**Sg**	**10 42 49.5**	**+1.4**
CONN	**Concepcion**	**1.36**	**76**	P	**Pb**	**10 42 29.9**	**-0.6**
CONN				S	**Sg**	**10 42 50.1**	**+1.6**
POLN	**Al Sur del Vol**	**1.41**	**7**	S	**Sg**	**10 42 49.2**	**-0.6**
CARN	**Rivas**	**1.43**	**92**	S	**Sg**	**10 42 51.4**	**+0.8**
CARN	**Rivas**	**1.43**	**92**	*e*P	**Pn**	**10 42 30.6**	**-0.3**
ELI1	**Hacienda Flor**	**1.52**	**113**	P	**Pg**	**10 42 34.1**	**+0.3**
ALIBA	**Liberia Airpor**	**1.55**	**115**	*e*P	**Pn**	**10 42 32.0**	**-0.5**
LAPC	**Finca la Perla**	**1.59**	**107**	*e*P	**Pn**	**10 42 32.2**	**-0.9**
VRLE	**La Escondida,**	**1.65**	**106**	*e*P	**Pn**	**10 42 33.6**	**-0.4**
GPS3	**Bodega del ICE**	**1.66**	**107**	*e*P	**Pn**	**10 42 34.1**	**-0.1**
GPS2	**Hotel Rincn d**	**1.67**	**107**	*e*P	**Pn**	**10 42 33.9**	**-0.4**
JUD3	**Juan Diaz 3**	**1.77**	**127**	*e*P	**Pn**	**10 42 34.2**	**-1.5**
CSGN	**Cosiguina Volc**	**1.81**	**342**	P	**Pn**	**10 42 36.6**	**+0.3**
CSGN				S	**Sn**	**10 43 00.0**	**+0.5**
CSGN	**Cosiguina Volc**	**1.81**	**342**	*e*P	**Pn**	**10 42 36.1**	**-0.1**
MESS	**Mesas**	**1.82**	**106**	*e*P	**Pn**	**10 42 36.4**	**0.0**
CUI	**Cuipilapa**	**1.87**	**108**	⇓*e*P	**Pn**	**10 42 37.1**	**0.0**
VMAR	**Armenia, Volca**	**1.88**	**103**	*e*P	**Pn**	**10 42 36.6**	**-0.5**
LIMN	**Finca el Limon**	**1.90**	**18**	P	**Pn**	**10 42 37.7**	**+0.1**
LIMN				S	**Sb**	**10 43 02.8**	**-0.9**
ACON	**Acoyapa**	**1.91**	**68**	*e*P	**Pn**	**10 42 35.5**	**-2.0**
MATN	**Matagalpa**	**1.96**	**31**	S	**Sb**	**10 43 04.9**	**-0.6**
MATN	**Matagalpa**	**1.96**	**31**	P	**Pn**	**10 42 37.4**	**-1.0**
QUEB	**Quebradon, Cot**	**2.13**	**107**	*e*P	**Pn**	**10 42 40.7**	**0.0**
CNCH	**Conchagua**	**2.19**	**338**	P	**Pn**	**10 42 42.0**	**+0.5**
LCND	**La Caada**	**2.24**	**337**	P	**Pn**	**10 42 42.8**	**+0.7**
ARE1	**Arenal 1**	**2.35**	**109**	*e*P	**Pn**	**10 42 43.8**	**+0.2**
RCPN	**Sur Rio San Ju**	**2.42**	**21**	P	**Pn**	**10 42 45.4**	**+0.6**
RCVN	**Varilla2**	**2.45**	**18**	P	**Pn**	**10 42 45.6**	**+0.5**
PACA	**Pacayal**	**2.57**	**329**	P	**Pn**	**10 42 47.9**	**+1.1**

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*SOME **17** 10:43:39.7, 43°.35N×81°.97E, h15km*
*NNC **17** 10:43:39.6±0.8, 43°.12N×82°.13E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=7.5km s-min=2.8km az=145.0, Suspected Mining explosion.*
ISC 17 10:43:38.0±3.4, 43°.0N±0°.2×81°.9E±0°.1, h0km, n7, σ1°93/13, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.78**	**276**	*e*P	**Pn**	**10 44 08.7**	**-1.5**
SHLS	31nm,0.1s			*e*S	**Sn**	**10 44 29.5**	**-4.1**
PDGK	**Podgornoye**	**1.79**	**282**	Pn	**Pg**	**10 44 13.9**	**+1.7**
UZB	19nm,0.5s **Uzynbulak** 7.9nm,0.2s	**2.10**	**275**	*e*P	**Pg**	**10 44 19.1**	**+0.8**
UZB	25nm,0.3s			*e*S	**Sg**	**10 44 47.7**	**+2.1**
KOTS	**Kotyrbulak** 1.4nm,0.3s	**3.50**	**276**	*e*P	**Pb**	**10 44 43.2**	**+2.2**
KOTS	22nm,0.8s			*e*S	**Sg**	**10 45 29.0**	**-1.6**
TNSS	**Tian-Shan** 0.3nm,0.1s	**3.62**	**272**	*e*P	**Pg**	**10 44 47.1**	**-0.3**
TNSS	1.9nm,0.3s			*e*S	**Sg**	**10 45 35.5**	**+1.1**
MK31	**Makanchi Array** 0.6nm,0.2s,baz=180,slow=13,SNR=9.2	**3.82**	**4**	⇑Pn	**Pn**	**10 44 37.9**	**-0.2**
MK31	2.9nm,0.4s,baz=182,slow=16,SNR=7.2			⇓Pg	**Pb**	**10 44 47.4**	**+1.1**
MAKZ	**Makanchi**	**3.82**	**1**	⇑Pn	**Pn**	**10 44 37.9**	**-0.3**
MAKZ				⇑Pg	**Pb**	**10 44 46.3**	**-0.1**

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*GCG **17** 10:45:39.9±1.2, 16°.27N×93°.74W, h119km±20km, MD4.0, ML2.7*
*MEX **17** 10:45:40.3±0.9, 16°.53N×93°.72W, h146km±6km, MD4.1*
ISC 17 10:45:38.6±1.5, 16°.54N±0°.05×93°.72W±0°.04, h145km±10km, n25, σ1°37/50, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.62**	**68**	*e*P	**Pn**	**10 46 00.6**	**+0.5**
TGIG				*e*S	**Sn**	**10 46 15.6**	**-0.9**
TGIG		**0.62**	**68**	*i*P	**Pn**	**10 46 00.6**	**+0.5**
TGIG				*i*S	**Sn**	**10 46 15.5**	**-0.9**
TGIG	comp=E,236nm,0.2s			IAML		10 46 16.6	
NILT	**Santiago Nilte**	**0.86**	**272**	*e*P	**Pn**	**10 46 02.4**	**+0.6**
NILT				*e*S	**Sn**	**10 46 19.8**	**+0.5**
UXUV	**UXUV**	**0.87**	**332**	*e*P	**Pn**	**10 46 02.6**	**+0.8**
UXUV				*e*S	**Sn**	**10 46 19.1**	**-0.6**
PCIG		**0.96**	**150**	*e*P	**Pn**	**10 46 03.0**	**+0.4**
PCIG				*e*S	**Sn**	**10 46 20.6**	**-0.3**
CMIG	**Matias Romero**	**1.24**	**296**	*e*P	**Pn**	**10 46 06.0**	**+0.9**
CMIG				*e*S	**Sn**	**10 46 25.6**	**+0.2**
CCIG	**Comitan**	**1.54**	**99**	*e*P	**Pn**	**10 46 08.8**	**+0.4**
CCIG				*e*S	**Sn**	**10 46 30.6**	**-0.5**
CCIG	**Comitan**	**1.54**	**99**	*i*P	**Pn**	**10 46 08.9**	**+0.4**
CCIG				*i*S	**Sn**	**10 46 30.8**	**-0.4**
CCIG	comp=E,37nm,0.3s			IAML		10 46 37.2	
TUIG	**Tuzandepetl**	**1.63**	**336**	*e*P	**Pn**	**10 46 09.7**	**+0.5**
TUIG				*e*S	**Sn**	**10 46 33.8**	**+1.1**
PAVE	**Pavencul**	**2.00**	**132**	*e*P	**Pn**	**10 46 14.2**	**+0.5**
PAVE				*e*S	**Sn**	**10 46 40.4**	**-0.2**
PATR	**El Naranjo**	**2.01**	**135**	*e*P	**Pn**	**10 46 14.4**	**+0.6**
PATR				*e*S	**Sn**	**10 46 40.4**	**-0.5**
CHUJ	**Union Juarez**	**2.12**	**133**	*e*P	**Pn**	**10 46 15.5**	**+0.4**
CHUJ				*e*S	**Sn**	**10 46 42.8**	**-0.3**
NEUV	**Arroyo Zacate**	**2.31**	**301**	*e*P	**Pn**	**10 46 18.0**	**+0.9**
NEUV				*e*S	**Sn**	**10 46 45.6**	**-1.2**
PMUV	**Sontecomapan**	**2.40**	**326**	*e*P	**Pn**	**10 46 18.3**	**0.0**
PMUV				*e*S	**Sn**	**10 46 45.4**	**-3.6**
HUIG	**Huatulco**	**2.42**	**252**	*e*P	**Pn**	**10 46 17.3**	**-1.2**
HUIG				*e*S	**Sn**	**10 46 48.3**	**-1.0**
HUIG	**Huatulco**	**2.42**	**252**	*i*P	**Pn**	**10 46 17.1**	**-1.4**
HUIG				*i*S	**Sn**	**10 46 48.1**	**-1.2**
VHO	**Vista Hermosa**	**2.93**	**281**	*e*P	**Pn**	**10 46 28.1**	**+2.9**
VHO				*e*S	**Sn**	**10 47 01.2**	**+0.1**
PEIG	**Puerto Escondi**	**3.34**	**261**	*e*P	**Pn**	**10 46 32.0**	**+1.9**
PEIG				*e*S	**Sn**	**10 47 08.2**	**-1.8**
TOIG	**Toxpalan**	**3.55**	**296**	*e*P	**Pn**	**10 46 34.5**	**+1.5**
TOIG				*e*S	**Sn**	**10 47 14.7**	**-0.3**
YOIG	**Yosondua**	**3.68**	**275**	*e*P	**Pn**	**10 46 37.5**	**+2.6**
YOIG				*e*S	**Sn**	**10 47 17.7**	**-0.7**
TXIG	**Tlaxiaco**	**3.94**	**281**	*e*P	**Pn**	**10 46 40.6**	**+2.4**
TXIG				*e*S	**Sn**	**10 47 24.3**	**-0.1**
JAUV	**Jalcomulco**	**4.06**	**314**	*e*P	**Pn**	**10 46 39.6**	**0.0**
JAUV				*e*S	**Sn**	**10 47 25.6**	**-1.4**
HLIG	**Huajuapan de L**	**4.11**	**289**	*e*P	**Pn**	**10 46 42.3**	**+2.0**
HLIG				*e*S	**Sn**	**10 47 26.6**	**-1.7**
PNIG	**Pinotepa**	**4.23**	**269**	*e*P	**Pn**	**10 46 42.2**	**+0.4**
PNIG				*e*S	**Sn**	**10 47 28.8**	**-2.1**
FTIG	**Fresnillo de T**	**4.43**	**288**	*e*P	**Pn**	**10 46 46.9**	**+2.4**
FTIG				*e*S	**Sn**	**10 47 33.0**	**-2.8**

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*CATAC **17** 10:46:45.9±0.6, 11°N±4°×8°7W±°, h12km±7km, M3.6/16, MLv3.6/16, Error ellipse: s-maj=9.9km s-min=5.6km az=32.9, confirmed*
*UCR **17** 10:46:49.5±1.2, 11°.16N×87°.05W, h21km±15km, MW4.0*
ISC 17 10:46:48.6±1.9, 11°.12N±0°.05×87°.07W±0°.06, h15km±13km, n45, σ0°91/57, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.16**	**24**	P	**Pn**	**10 47 09.3**	**-0.9**
COPN	**Copaltepe**	**1.16**	**24**	⇑*i*P	**Pn**	**10 47 09.2**	**-0.9**
NADN	**Granada**	**1.19**	**58**	P	**Pn**	**10 47 09.8**	**-1.0**
NADN				S	**Sg**	**10 47 27.8**	**+0.5**
NADN	**Granada**	**1.19**	**58**	*e*P	**Pn**	**10 47 09.8**	**-1.0**
SABN	**Sabanita**	**1.22**	**47**	P	**Pn**	**10 47 10.0**	**-1.1**
NANN	**Nandasmo**	**1.24**	**48**	S	**Sg**	**10 47 29.8**	**+1.2**
NANN	**Nandasmo**	**1.24**	**48**	P	**Pb**	**10 47 11.6**	**-0.1**
MAS3	**Al N del Volca**	**1.26**	**44**	S	**Sg**	**10 47 29.8**	**+0.5**
UNAN	**Cigeo UNAN**	**1.26**	**38**	P	**Pn**	**10 47 10.8**	**-0.9**
UNAN				S	**Sg**	**10 47 29.7**	**+0.3**
TISN	**Laguna Tiscapa**	**1.29**	**37**	P	**Pn**	**10 47 11.1**	**-0.9**
APQ2	**Apoyeque**	**1.30**	**34**	P	**Pn**	**10 47 11.1**	**-1.1**
APQ2				S	**Sb**	**10 47 29.8**	**+0.7**
MGAN	**Managua**	**1.30**	**38**	P	**Pn**	**10 47 10.8**	**-1.4**
MGAN	**Managua**	**1.30**	**38**	S	**Sb**	**10 47 30.6**	**+1.3**
MGAN	**Managua**	**1.30**	**38**	⇓*i*P	**Pn**	**10 47 11.6**	**-0.6**
APYN	**Apoyeque**	**1.31**	**32**	S	**Sb**	**10 47 30.9**	**+1.2**
APQ3	**Volcan Apoyequ**	**1.34**	**31**	S	**Sg**	**10 47 31.9**	**+0.1**
WILN	**Americas 2**	**1.35**	**40**	P	**Pn**	**10 47 12.1**	**-0.8**
WILN				S	**Sb**	**10 47 31.4**	**+0.8**
LCRUZ	**La Cruz**	**1.41**	**91**	⇑*i*P	**Pn**	**10 47 13.2**	**-0.5**
CNGA	**Al SSO del Vol**	**1.42**	**15**	P	**Pn**	**10 47 13.0**	**-0.8**
CNGA				S	**Sb**	**10 47 33.8**	**+1.2**
CNGN	**Cerro Negro**	**1.42**	**15**	P	**Pn**	**10 47 13.2**	**-0.8**
CNGN	**Cerro Negro**	**1.42**	**15**	S	**Sg**	**10 47 34.4**	**-0.2**
CNGN	**Cerro Negro**	**1.42**	**15**	*e*P	**Pn**	**10 47 12.9**	**-1.0**
MOM2	**El Cardon**	**1.43**	**23**	P	**Pn**	**10 47 13.2**	**-0.9**
MOM2				S	**Sb**	**10 47 34.3**	**+1.3**
MORN	**Al O del Volca**	**1.46**	**73**	P	**Pn**	**10 47 13.7**	**-0.7**
MORN				S	**Sb**	**10 47 34.9**	**+1.1**
OMEN	**Al SSO del Vol**	**1.47**	**74**	P	**Pn**	**10 47 13.4**	**-1.1**
OMEN				S	**Sb**	**10 47 35.3**	**+1.2**
CONN	**Concepcion**	**1.48**	**72**	P	**Pn**	**10 47 13.5**	**-1.2**
CONN				S	**Sb**	**10 47 34.9**	**+0.4**
MOM3	**MOM3**	**1.49**	**21**	P	**Pn**	**10 47 14.3**	**-0.5**
MOM3				S	**Sb**	**10 47 36.0**	**+1.3**
CARN	**Rivas**	**1.52**	**87**	*e*P	**Pn**	**10 47 14.7**	**-0.5**
POLN	**Al Sur del Vol**	**1.54**	**9**	S	**Sb**	**10 47 36.3**	**0.0**
PKGN	**Cerro Pekin**	**1.55**	**3**	P	**Pn**	**10 47 15.2**	**-0.4**
PKGN				S	**Sb**	**10 47 36.9**	**+0.5**
ALIBA	**Liberia Airpor**	**1.58**	**109**	*e*P	**Pb**	**10 47 16.5**	**-1.0**
LAPC	**Finca la Perla**	**1.64**	**102**	*e*P	**Pn**	**10 47 15.8**	**-1.2**
VRLE	**La Escondida,**	**1.70**	**101**	*e*P	**Pn**	**10 47 17.9**	**0.0**
VORI	**VORI**	**1.72**	**100**	*e*P	**Pn**	**10 47 17.8**	**-0.3**
GPS2	**Hotel Rincn d**	**1.72**	**102**	*e*P	**Pn**	**10 47 17.8**	**-0.3**
JUD3	**Juan Diaz 3**	**1.77**	**122**	*e*P	**Pn**	**10 47 18.3**	**-0.5**
PLVR	**Palo Verde**	**1.85**	**114**	*e*P	**Pg**	**10 47 23.9**	**-0.4**
MESS	**Mesas**	**1.88**	**101**	*e*P	**Pn**	**10 47 20.8**	**+0.6**
HORNC	**Hornillas**	**1.90**	**102**	*e*P	**Pn**	**10 47 21.2**	**+0.6**
CSGN	**Cosiguina Volc**	**1.91**	**345**	P	**Pn**	**10 47 20.6**	**-0.1**
CSGN				S	**Sb**	**10 47 48.1**	**+1.2**
CSGN	**Cosiguina Volc**	**1.91**	**345**	*e*P	**Pn**	**10 47 20.6**	**-0.1**
CUI	**Cuipilapa**	**1.92**	**103**	⇓*e*P	**Pn**	**10 47 21.4**	**+0.5**
VMAR	**Armenia, Volca**	**1.94**	**99**	*e*P	**Pn**	**10 47 21.3**	**+0.2**
MOTZ	**Rio Naranjo**	**2.01**	**102**	*e*P	**Pb**	**10 47 24.9**	**+0.1**
ACON	**Acoyapa**	**2.04**	**65**	*e*P	**Pn**	**10 47 19.8**	**-2.6**

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*WEL **17** 10:49:24.3±0.2, 43°S±2°×17°1E±°, h10km±2km, M3.6/36, ML3.7/19, MLv3.6/36, Error ellipse: s-maj=2.4km s-min=2.3km az=127.8, confirmed*
*WEL **17** 10:49:24.3, 42°.71S×171°.36E, h14km, ML3.6, Mw3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14} Nm; M_{rr}0.98; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.28; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.21000×10^{14} NP1: ϕ_s19.00000°, δ59.00000°, λ98.00000°. NP2:ϕ_s184.00000°, δ32.00000°, λ78.00000°. Principal axes: T -1.3050, Plg75.0000°, Azm311.0000°; N 0.1830, Plg7.0000°, Azm194.0000°; P 1.1220, Plg14.0000°, Azm103.0000°; Stations used: WVZ LTZ MQZ REVERSE FAULTING*
*NOU **17** 10:49:26.1, 42°.73S×171°.29E, h32km, MLv4.0/16, South Island, New Zealand*
ISC 17 10:49:24.7±0.8, 42°.72S±0°.02×171°.36E±0°.02, h14km±5km, n117, σ1°12/127, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.06**	**91**	P	**Pg**	**10 49 27.4**	**-0.1**
INZ				S	**Sg**	**10 49 29.2**	**-0.1**
IFPS	**Inchbonnie Fit**	**0.08**	**92**	P	**Pg**	**10 49 27.5**	**-0.2**
IFPS				S	**Sg**	**10 49 29.6**	**-0.1**
ARPN	**Arnold River P**	**0.20**	**10**	P	**Pg**	**10 49 29.5**	**+0.2**
KOKS	**Kokatahi**	**0.23**	**224**	P	**Pg**	**10 49 30.3**	**+0.4**
KOKS				S	**Sg**	**10 49 34.4**	**+1.1**
APPS	**Arthurs Pass P**	**0.27**	**146**	P	**Pg**	**10 49 30.6**	**+0.1**
APPS				S	**Sg**	**10 49 34.7**	**+0.2**
GMFS	**Greymouth Fire**	**0.29**	**337**	P	**Pg**	**10 49 31.0**	**+0.3**
GMFS				S	**Sg**	**10 49 35.4**	**+0.6**
HMCS	**Hokitika Medic**	**0.29**	**271**	P	**Pg**	**10 49 31.5**	**+0.7**
HMCS				S	**Sb**	**10 49 36.3**	**0.0**
CSHS	**Castle Hill**	**0.57**	**152**	P	**Pg**	**10 49 36.4**	**+0.4**
WVAS	**Waitaha Valley**	**0.57**	**233**	P	**Pg**	**10 49 36.3**	**+0.4**
WVZ	**Waitaha Valley**	**0.58**	**232**	P	**Pg**	**10 49 36.3**	**+0.3**
WVZ				S	**Sg**	**10 49 44.1**	**+0.5**
LTZ	**Lake Taylor**	**0.67**	**95**	P	**Pg**	**10 49 37.7**	**-0.2**
LTZ				S	**Sg**	**10 49 46.5**	**-0.3**
KOWC	**Kowai**	**0.70**	**149**	P	**Pg**	**10 49 38.6**	**+0.3**
RDCS	**Reefton DOC Ce**	**0.71**	**32**	P	**Pb**	**10 49 38.1**	**-0.7**
SJFS	**Springs Juncti**	**0.72**	**58**	P	**Pb**	**10 49 38.0**	**-1.0**
HAFS	**Harihari Fire**	**0.73**	**234**	P	**Pg**	**10 49 39.4**	**+0.6**
SPRS	**Springfield Vo**	**0.74**	**146**	P	**Pb**	**10 49 39.4**	**0.0**
OXZ	**Oxford**	**0.78**	**141**	P	**Pb**	**10 49 40.1**	**0.0**
OXZ				S	**Sb**	**10 49 51.5**	**+1.0**
MHCZ	**Mount Hutt**	**0.82**	**169**	P	**Pb**	**10 49 40.9**	**+0.1**
MHCZ				S	**Sg**	**10 49 53.5**	**+2.0**
WCSS	**Whitecliffs**	**0.82**	**153**	P	**Pb**	**10 49 41.1**	**+0.3**
SHFC	**Sheffield Scho**	**0.83**	**144**	P	**Pb**	**10 49 40.9**	**+0.1**
MTHS	**Methven North**	**0.87**	**165**	P	**Pb**	**10 49 42.1**	**+0.6**
LSRC	**Lake Sumner Ro**	**0.88**	**100**	P	**Pb**	**10 49 42.3**	**+0.5**
DFHS	**Darfield**	**0.94**	**145**	P	**Pb**	**10 49 43.1**	**+0.4**
CSTC	**Cust School**	**0.95**	**128**	P	**Pb**	**10 49 43.1**	**+0.1**
INGS	**Inangahua Fire**	**0.97**	**27**	P	**Pb**	**10 49 42.4**	**-0.9**
WBCS	**Westport Bulle**	**0.98**	**11**	P	**Pb**	**10 49 43.2**	**-0.3**
RPZ	**Rata Peaks**	**1.01**	**193**	P	**Pb**	**10 49 44.4**	**+0.3**
RPZ	**Rata Peaks**	**1.01**	**193**	S	**Sg**	**10 49 58.5**	**+0.9**
RPZ	**Rata Peaks**	**1.01**	**193**	P	**Pg**	**10 49 44.3**	**+0.3**
RPZ				S	**Sb**	**10 49 58.1**	**+0.8**
WAKC	**Waikari**	**1.02**	**104**	P	**Pb**	**10 49 44.2**	**+0.1**
DSZ	**Denniston Nort**	**1.03**	**19**	P	**Pb**	**10 49 43.3**	**-1.0**
DSZ				S	**Sb**	**10 49 57.2**	**-0.6**
AMCZ	**Amberley**	**1.05**	**116**	P	**Pb**	**10 49 44.4**	**-0.2**
SWNC	**Swannanoa Scho**	**1.05**	**128**	P	**Pb**	**10 49 44.4**	**-0.3**
WIGC	**Waiau Gorge**	**1.06**	**89**	P	**Pb**	**10 49 45.0**	**+0.2**
CULC	**Culverden Airl**	**1.06**	**92**	P	**Pb**	**10 49 45.2**	**+0.3**
FJDS	**Franz Josef DO**	**1.09**	**232**	P	**Pb**	**10 49 45.6**	**+0.3**
HSES	**Hanmer Springs**	**1.10**	**80**	P	**Pb**	**10 49 45.2**	**-0.6**
DSLC	**Dunsandel Scho**	**1.12**	**147**	P	**Pn**	**10 49 45.1**	**-0.9**
RACZ	**Rakaia**	**1.15**	**151**	P	**Pn**	**10 49 45.5**	**-0.8**
ARCZ	**Arundel**	**1.23**	**186**	P	**Pn**	**10 49 46.9**	**-0.6**
GVZ	**Greta Valley S**	**1.26**	**102**	P	**Pn**	**10 49 47.4**	**-0.4**
GVZ				S	**Sb**	**10 50 03.9**	**-0.3**
WACZ	**Wakanui South**	**1.27**	**164**	P	**Pn**	**10 49 47.1**	**-0.8**
MQZ	**McQueen's Vall**	**1.36**	**136**	P	**Pn**	**10 49 47.9**	**-1.3**
FOZ	**Fox Glacier**	**1.39**	**234**	P	**Pn**	**10 49 48.7**	**-0.9**
THZ	**Tophouse**	**1.50**	**51**	P	**Pn**	**10 49 51.0**	**-0.2**
OKCZ	**Okains Bay**	**1.59**	**129**	P	**Pn**	**10 49 51.6**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.61**	**136**	P	**Pn**	**10 49 51.7**	**-1.0**
KHZ	**Kahutara**	**1.64**	**80**	P	**Pn**	**10 49 53.1**	**+0.1**
KHZ	**Kahutara**	**1.64**	**80**	S	**Sn**	**10 50 14.3**	**+0.4**
KHZ	**Kahutara**	**1.64**	**80**	P	**Pn**	**10 49 53.5**	**+0.4**
TMZ	**Timaru**	**1.68**	**189**	P	**Pn**	**10 49 53.1**	**-0.5**
MRNZ	**Matariki Terra**	**1.69**	**39**	P	**Pn**	**10 49 53.0**	**-0.7**
LBZ	**Lake Benmore**	**1.87**	**207**	P	**Pn**	**10 49 56.0**	**-0.2**
TKNZ	**Takaka Hill**	**2.07**	**36**	P	**Pn**	**10 49 58.5**	**-0.5**
QRZ	**Quartz Range**	**2.09**	**25**	P	**Pn**	**10 49 58.6**	**-0.6**
QRZ	**Quartz Range**	**2.09**	**25**	P	**Pn**	**10 49 58.7**	**-0.5**
BSWZ	**Blackbirch Sta**	**2.12**	**63**	P	**Pn**	**10 50 01.1**	**+1.3**
NNZ	**Nelson**	**2.13**	**46**	P	**Pn**	**10 49 60.0**	**+0.2**
JCZ	**Jackson Bay**	**2.31**	**233**	P	**Pn**	**10 50 01.1**	**-1.3**
JCZ	**Jackson Bay**	**2.31**	**233**	S	**Sn**	**10 50 28.5**	**-2.1**
JCZ	**Jackson Bay**	**2.31**	**233**	P	**Pn**	**10 50 01.4**	**-1.0**
TUWZ	**Tuamarina**	**2.32**	**57**	P	**Pn**	**10 50 03.6**	**+1.3**
CMWZ	**Cape Campbell**	**2.33**	**66**	P	**Pn**	**10 50 05.8**	**+3.2**
ODZ	**Otahua Downs**	**2.38**	**192**	P	**Pn**	**10 50 02.4**	**-0.8**
ODZ	**Otahua Downs**	**2.38**	**192**	S	**Sn**	**10 50 31.3**	**-0.8**
ODZ	**Otahua Downs**	**2.38**	**192**	P	**Pn**	**10 50 02.5**	**-0.8**
TCW	**Tory Channel**	**2.65**	**56**	P	**Pn**	**10 50 07.6**	**+0.7**
WKZ	**Wanaka**	**2.70**	**218**	P	**Pn**	**10 50 06.9**	**-0.8**
DUWZ	**D'Urville Isla**	**2.71**	**46**	P	**Pn**	**10 50 08.7**	**+0.8**
SNZO	**South Karori**	**2.87**	**62

GBOS	**Grotte di Boss**	**0.43 113**	P	Pb	10 57 21.2	-0.3
GBOS			S	Sg	10 57 27.0	+0.4
GBOS			AML	AML		
	comp=E,21μm,0.3s					
MBDF	**Montbardon**	**0.48 311**	*e*Pg	Pg	10 57 22.0	+0.3
MBDF			*e*Sg	Sg	10 57 28.8	+0.5
	comp=E,11nm,0.3s					
MGRO	**Montegrosso**	**0.53 135**	P	Pg	10 57 22.8	+0.3
MGRO			S	Sb	10 57 30.6	-0.2
SBF	**Sospel**	**0.56 169**	*e*Pg	Pg	10 57 22.2	-0.9
SBF			*e*Sg	Sg	10 57 30.4	-0.2
	comp=E,6.6nm,0.2s					
RRL	**Rocca Remolon**	**0.62 325**	P	Pg	10 57 23.9	-0.4
RRL			S	Sg	10 57 32.6	+0.1
RORO	**Rocca Rossa**	**0.64 118**	P	Pb	10 57 24.8	-0.2
RORO	**Rocca Rossa**	**0.64 118**	P	Pg	10 57 24.7	+0.2
RORO			S	Sb	10 57 33.4	-0.3
RORO			AML	AML		
	comp=N,19μm,0.2s					
IMI	**Imperia**	**0.67 139**	P	Pg	10 57 25.1	0.0
IMI			S	Sg	10 57 33.9	0.0
IMI			AML	AML		
	comp=N,20μm,0.1s					
QLNO	**Quiliano**	**0.77 96**	P	Pg	10 57 26.5	-0.4
PCP	**Piancastagn**	**0.91 81**	P	Pg	10 57 29.7	0.0
ORIF	**Oris-en-Rattie**	**1.12 297**	*e*Pg	Pb	10 57 32.9	-0.4
ORIF			*e*Sg	Sb	10 57 47.4	-0.4
	comp=N,1.7nm,0.3s					
LPG	**La Plagne**	**1.15 341**	*e*Pg	Pb	10 57 33.8	-0.1
LPG			*e*Sg	Sb	10 57 48.8	0.0
	comp=N,1.0nm,0.2s					
LPL	**La Plagne**	**1.17 341**	*e*Pg	Pg	10 57 34.7	0.0
LPL			*e*Sg	Sg	10 57 49.9	-0.1
	comp=N,1.1nm,0.3s					
LMR	**La Mourre**	**1.22 208**	*e*Sg	Sb	10 57 50.4	0.0
	comp=N,5.7nm,0.3s					
SMRF	**Simiane la Rot**	**1.31 251**	*e*Pg	Pb	10 57 36.7	+0.3
SMRF			*e*Sg	Sg	10 57 54.7	+0.5
	comp=N,2.3nm,0.3s					

IDC 17 11:04:33.5±1.3, 30°.05S×179°.24W, h320km±15km, mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=28.6km s-min=22.2km az=87.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**56**	P	Pn	11 05 18.3	+0.2
	285nm,0.3s,baz=142,slow=19,SNR=6.0						
RAO				S	S	11 05 47.2	-6.4
	108nm,0.3s,baz=131,slow=20,SNR=1.1						
URZ	**Urewera**	**8.73**	**199**	P	Pn	11 06 35.7	-0.3
	4.4nm,0.7s,baz=27,slow=2.3,SNR=16						
URZ				S	S	11 08 14.2	-1.7
	5.0nm,0.5s,baz=66,slow=20,SNR=9.4						
ASAR	**Alice Springs**	**42.06**	**267**	P	P	11 11 55.0	0.0
	0.3nm,0.4s,baz=100,slow=6.1,SNR=7.8						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**43.02**	**272**	P	P	11 12 02.6	0.0
	1.8nm,0.5s,baz=111,slow=7.4,SNR=21						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**60.06**	**180**	P	P	11 14 08.0	+0.7
	1.1nm,1.1s,baz=39,slow=1.8,SNR=5.6						
	1.1nm,1.1s						
FINES	**FINESS Array B**	**144.44**	**339**	PKP	PKPab	11 23 28.8	-1.7
	1.8nm,0.5s,baz=57,slow=2.9,SNR=9.2						

*EST **17** 11:09:24.4±0.1, 59°.28N×27°.65E, h0km, ML1.6(HEL), Explosion*
*LVSN **17** 11:09:25.0±1.9, 58°.45N×24°.65E, h0km±5km, ML1.8*
HEL 17 11:09:23.4±0.4, 59°.25N×27°.70E, h0km, ML1.7, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.15**	**35**	*e*P	Pg	11 09 27.3	+0.9
EE03	**Tooma soojaam,**	**0.83**	**244**	*e*P	Pg	11 09 38.8	-0.4
EE03				*e*S	Sg	11 09 49.3	-0.7
VSU	**Vasula**	**0.94**	**213**	*e*S	Sn	11 10 01.1	+3.3
VSU				AML	AML	11 10 14.1	
	comp=Z,10nm,0.3s						
VSU				AML	AML	11 10 16.4	
	comp=N,21nm,0.5s						
VSU				AML	AML	11 10 17.8	
	comp=E,17nm,0.4s						
VSU	**Vasula**	**0.94**	**213**	*e*P	Pg	11 09 40.7	-0.6
VJF	**Virojoki**	**1.30**	**357**	*e*P	Pg	11 09 46.8	-1.5
VJF				*e*PB	Pb	11 09 47.5	-1.1
VJF				*e*PN	Pn	11 09 48.9	+0.2
VJF				MSG		11 10 02.5	
	comp=Z,7.3nm,0.2s						
VJF				*e*SB	Sg	11 10 03.8	-1.2
EE08	**Sarghaua, Vand**	**1.41**	**246**	*e*P	Pn	11 09 49.1	-1.1
EE08				*e*S	Sg	11 10 06.8	-1.7
EE07	**Piusa Caves, O**	**1.42**	**185**	*e*PG	Pg	11 09 50.5	0.0
EE07				*e*SB	Sb	11 10 09.1	-0.1
EE02	**Kiisa, Saku**	**1.55**	**269**	*e*PG	Pn	11 09 51.6	-0.6
EE02				*e*SB	Sn	11 10 11.8	-1.0
PVF	**Pernaja**	**1.60**	**325**	*e*PG	Pn	11 09 52.3	-0.5
PVF				MSG		11 10 11.3	
	comp=Z,4.8nm,0.2s						
PVF				*e*S	Sn	11 10 11.7	-2.5
HEL1	**Helsinki**	**1.71**	**304**	*e*PN	Pn	11 09 54.5	+0.2
HEL1				MSG		11 10 17.4	
	comp=Z,2.5nm,0.1s						
HEL5	**Espoo, Suvisaa**	**1.74**	**301**	*e*PG	Pn	11 09 54.9	+0.2
HEL5				MSG		11 10 15.2	
	comp=Z,6.8nm,0.2s						
HEL5				*e*SN	Sn	11 10 17.1	-0.5
MEF	**Metsahovi**	**1.94**	**302**	*e*P	Pn	11 09 58.1	+0.6
MEF	**Metsahovi**	**1.94**	**302**	*e*P	Pb	11 09 58.5	-1.0
MEF				AML	AML	11 09 58.7	
	comp=Z,8.7nm,0.1s						
MEF				AML	AML	11 09 58.7	
	comp=E,12nm,0.1s						
MEF				*e*S	Sn	11 10 22.2	-0.3
MEF				AML	AML	11 10 23.7	
	comp=N,15nm,0.3s						
MEF	**Metsahovi**	**1.94**	**302**	*e*PG	Pn	11 09 58.4	+0.9
MEF				MSG		11 10 20.9	
	comp=Z,5.9nm,0.2s						
MEF				*e*SN	Sn	11 10 22.3	-0.2
NUR	**Nurmijarvi**	**1.99**	**311**	*e*PG	Pn	11 09 59.3	+1.0
NUR				*e*S	Sn	11 10 23.6	-0.3
NUR				MSG		11 10 26.0	
	comp=Z,3.5nm,0.1s						
EE01	**Perakula, Nova**	**2.10**	**271**	*e*PB	Pn	11 10 00.8	+1.1
EE01				*e*SB	Sn	11 10 27.3	+0.9
RUF	**Ruokolahti**	**2.27**	**15**	*e*P	Pn	11 10 02.0	-0.1
RUF				MSG		11 10 30.5	
	comp=Z,2.3nm,0.2s						
RUF				*e*SG	Sb	11 10 34.1	+0.3
TVF	**Tvarminne**	**2.34**	**287**	*e*P	Pn	11 10 03.7	+0.6
TVF				*e*PB	Pb	11 10 05.0	-1.4
TVF				MSG		11 10 32.6	
	comp=Z,1.3nm,0.2s						
TVF				*e*SB	Sb	11 10 34.5	-1.4
FIA0	**FINESS Array S**	**2.34**	**341**	*e*PB	Pn	11 10 04.6	+1.4
FIA0				MSG		11 10 32.9	
	comp=Z,3.1nm,0.2s						
FIA0				*e*SB	Sn	11 10 33.7	+1.1
FIA1	**FINESS Array S**	**2.35**	**341**	*e*P	Pn	11 10 03.3	+0.2
FIA1				*e*PB	Pb	11 10 04.5	-2.0
FIA1				MSG		11 10 36.2	
	comp=Z,2.1nm,0.1s						
EE06	**Soera, Palade,**	**2.52**	**266**	*e*P	Pn	11 10 06.1	+0.6
EE06				*e*SB	Sb	11 10 39.9	-1.0
KAF	**Kangasniemi**	**2.95**	**347**	*e*PB	Pb	11 10 14.5	-2.3
KAF				MSG		11 10 50.2	
	comp=Z,1.6nm,0.2s						
KAF				*e*SG	Sb	11 10 53.8	+0.3
KEF	**Keuruu**	**3.24**	**336**	*e*P	Pn	11 10 16.9	+1.4
RAF	**Rauma**	**3.46**	**303**	*e*P	Pn	11 10 19.5	+1.0
RAF	**Rauma**	**3.46**	**303**	*e*P	Pn	11 10 19.4	+1.0
KPF	**Kankaanpaa**	**3.80**	**315**	*e*P	Pn	11 10 24.4	+1.3
JOF	**Joensuu**	**4.08**	**24**	*e*P	Pn	11 10 27.8	+0.9
JOF	**Joensuu**	**4.08**	**24**	*e*P	Pn	11 10 28.2	+1.2
VAF	**Ylistaro**	**4.52**	**330**	*e*P	Pn	11 10 34.1	+1.2

*IDC **17** 11:22:18.5±0.9, 50°.99N×73°.66E, h0km, mb3.4/1, mbtmp3.2/6, ML2.6/5, Error ellipse: s-maj=14.5km s-min=9.4km az=11.0*
*NNC **17** 11:22:27.3±5.0, 51°.12N×73°.63E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=40.3km s-min=34.0km az=161.0, Suspected Mining explosion.*
ISC 17 11:22:17.3±0.9, 50°.95N±0°.08×73°.58E±0°.05, h0km, n12, σ1§45/15, 5C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**3.16**	**94**	Pn	**Pn**	**11 23 08.6**	**+0.3**
	0.5nm,0.3s,baz=278,slow=14,SNR=21						
KURBB				Lg	Lg	11 23 53.3	
	0.7nm,0.3s,baz=263,slow=30,SNR=10						
	2.8nm,0.3s						
KURBB	**Kurchatov Arra**	**3.16**	**94**	⇓Pn	**Pg**	**11 23 19.2**	**+1.4**
	10.0nm,0.6s,baz=285,slow=10						
KURBB				⇑Sn	**Sg**	**11 23 58.1**	**-0.6**
	157nm,0.7s,baz=288,slow=29						
KURK	**Kurchatov**	**3.20**	**92**	⇑Pn	**Pg**	**11 23 18.2**	**-0.5**
	2.3nm,0.7s						
KURK				⇑Sn	**Sb**	**11 23 57.2**	**+2.6**
	11nm,0.6s						
MAKZ	**Makanchi**	**6.92**	**124**	⇑Pn	Pb	11 24 10.8	-7.6
	7.6nm,1.4s						
MAKZ				⇓Sn	Sn	11 25 31.0	+12
	12nm,0.8s						
MK31	**Makanchi Array**	**7.09**	**123**	⇑Pn	Pb	11 24 12.8	-8.5
	9.4nm,1.4s,baz=298,slow=13,SNR=5.3						
MK31				⇓Sn	Sb	11 25 36.5	-10
	14nm,0.7s,baz=304,slow=25						
MKAR	**Makanchi Array**	**7.09**	**123**	Pn	**Pn**	**11 24 02.4**	**+0.1**
	0.1nm,0.3s,baz=305,slow=11,SNR=1.7						
MKAR				Pg	**Pb**	**11 24 20.0**	**-1.4**
	0.3nm,0.3s,baz=307,slow=13,SNR=6.4						
MKAR				Sn	**Sn**	**11 25 21.7**	**-1.9**
	0.3nm,0.3s,baz=310,slow=16,SNR=2.0						
MKAR				Lg	Lg	11 25 54.5	
	0.3nm,0.3s,baz=315,slow=19,SNR=5.2						
	0.2nm,0.4s						
I46RU	**ZALESOVO INFRA**	**7.49**	**62**	I	I	12 06 30.0	
	baz=247,slow=318,SNR=3.5						
ZALV	**Zalesovo Beam**	**7.49**	**62**	Pn	**Pn**	**11 24 08.9**	**+1.1**
	0.2nm,0.3s,baz=256,slow=24,SNR=2.6						
ZALV				Sn	**Sn**	**11 25 31.6**	**-1.7**
	0.1nm,0.3s,baz=249,slow=24,SNR=3.7						
ZALV				Lg	Lg	11 26 14.8	
	0.2nm,0.3s,baz=248,slow=27,SNR=5.4						
	0.6nm,0.4s						
AAK	**Ala-Archa**	**8.34**	**175**	Pn	**Pn**	**11 24 21.7**	**+2.0**
	baz=8.4,slow=19,SNR=1.5						
AAK				Sn	**Sn**	**11 25 53.8**	**-0.8**
	0.2nm,0.3s,baz=30,slow=20,SNR=1.5						
AAK				Lg	Lg	11 26 34.9	
	0.3nm,0.3s,baz=349,slow=19,SNR=8.5						
	0.9nm,0.7s						
AKTO	**Aktyubinsk**	**9.89**	**273**	Pn	**Pn**	**11 24 39.8**	**-0.9**
	0.4nm,0.3s,baz=84,slow=9.8,SNR=4.2						
AKTO				Sn	**Sn**	**11 26 31.8**	**-0.7**
	0.1nm,0.3s,baz=355,slow=12,SNR=1.5						
AKTO				Lg	Lg	11 27 33.8	
	0.1nm,0.3s,baz=3.3,slow=10,SNR=3.6						
	1.5nm,0.5s						
ARTI	**Arti**	**10.52**	**307**	Lg	Lg	11 27 48.3	
	0.2nm,0.3s,baz=53,slow=20,SNR=1.5						
ILAR	**Eielson Array**	**60.42**	**19**	P	**P**	**11 32 27.9**	**-0.1**
	0.2nm,0.6s,baz=319,slow=4.5,SNR=4.6						
	0.2nm,0.6s						

RSNC 17 11:25:30.6±0.0, 7°N±1°×7°3W±°, h152km±2km, M3.0, mb3.8, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**198**	P	Pn	11 25 51.3	-0.2
BARC				S	Sn	11 26 06.7	-0.8
BRJC	**Barrancabermej**	**0.65**	**284**	P	Pn	11 25 52.8	-0.2
BRJC				S	Sn	11 26 09.4	-0.6
PAMC	**Pamplona, Colo**	**0.66**	**38**	P	Pn	11 25 54.0	+0.4
PAMC				S	Sn	11 26 10.9	-0.3
RUSC	**La Rusia**	**0.92**	**178**	P	Pn	11 25 55.1	-0.4
RUSC				S	Sn	11 26 14.1	-0.4
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	P	Pn	11 25 57.8	-1.2
PTBC				S	Sn	11 26 19.7	-1.6
OCAC	**Ocana**	**1.43**	**352**	P	Pn	11 25 59.2	-0.5
OCAC				S	Sn	11 26 20.9	-1.2
SPBC	**San Pablo de B**	**1.50**	**220**	P	Pn	11 26 00.1	-0.4
SPBC				S	Sn	11 26 22.6	-0.8
ROSC	**El Rosal**	**2.31**	**212**	P	Pn	11 26 10.9	+1.0
ROSC				S	Sn	11 26 40.1	0.0
CVER	**Cruz Verde, Cu**	**2.48**	**203**	P	Pn	11 26 12.0	0.0
CVER				S	Sn	11 26 43.5	-0.4
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	11 26 12.9	+0.9
HELC				S	Sn	11 26 43.0	-0.8
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	Pn	11 26 15.1	-0.2
GUY2C				S	Sn	11 26 52.3	+2.5
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	11 26 14.2	-1.1
PTGC				S	Sn	11 26 48.1	-1.8
CBOC	**Ciudad Bolivar**	**3.04**	**252**	P	Pn	11 26 18.4	-0.3
CBOC				S	Sn	11 26 54.7	-1.2
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	11 26 19.4	+0.2
DBBC				S	Sn	11 26 54.8	-2.0
SDV	**Santo Domingo**	**3.20**	**50**	P	Pn	11 26 20.7	-0.1
SDV				S	Sn	11 26 57.8	-1.8
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	11 26 20.1	-0.8
ARGC				S	Sn	11 27 00.2	+0.3
PRAC	**Prado**	**3.56**	**210**	P	Pn	11 26 24.4	-0.8
PRAC				S	Sn	11 27 06.4	-1.2
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	11 26 25.1	-0.6
ORTC				S	Sn	11 27 08.6	+0.2
APAC	**Apartado, Choc**	**3.60**	**288**	P	Pn	11 26 24.2	-1.6
APAC				S	Sn	11 27 05.4	-3.2
SJCC	**San Jacinto, C**	**3.68**	**326**	P	Pn	11 26 24.4	-2.4
SJCC				S	Sn	11 27 06.3	-4.2
URMC	**La Uribe, Meta**	**3.77**	**200**	P	Pn	11 26 28.1	+0.1
URMC				S	Sn	11 27 12.3	-0.3
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	P	Pn	11 26 31.2	-2.2
CRJC				S	Sn	11 27 19.7	-2.5
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	11 26 41.3	-2.4
URIC				S	Sn	11 27 38.4	-2.4
FLOC	**Florencia**	**5.79**	**206**	P	Pn	11 26 54.2	-0.4

*IDC **17** 11:27:34.2±0.8, 39°.29N×99°.61W, h0km, mbtmp4.1/4, ML4.5/3, Error ellipse: s-maj=10.2km s-min=8.9km az=95.0*
*NEIC **17** 11:27:36.4±1.4, 39°.25N±0°.04×99°.44W±0°.03, h5km±2km, mb_Lg3.4/147, Error ellipse: s-maj=6.2km s-min=3.8km az=3.0*
ISC 17 11:27:33.3±0.7, 39°.38N±0°.04×99°.39W±0°.04, h10km, n85, σ1§95/34, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.63**	**206**		**Pg**	**11 27 44.4**	**-1.1**
CBKS				Sg	**Sg**	**11 27 51.3**	**-2.4**
R32A	**Long Quarter,**	**1.09**	**151**		**Pb**	**11 27 53.9**	**-0.4**
R32A				Sg	**Sb**	**11 28 07.5**	**-1.2**
KSU1	**Kansas State U**	**2.18**	**96**		**Pb**	**11 28 12.5**	**-0.3**
KSU1	**Kansas State U**	**2.18**	**96**		**Sb**	**11 28 41.3**	**+1.5**
KSU1				IAmb_Lg		11 28 51.8	
	comp=Z,149nm,0.8s						
BGNE	**Belgrade**	**2.24**	**25**		**Pg**	**11 28 15.6**	**-0.5**
KAN08	**Anthony NE Sta**	**2.42**	**152**		**Pn**	**11 28 16.2**	**+3.2**
KAN08				IAmb_Lg		11 28 49.2	
	comp=Z,220nm,0.8s						
KSCO	**Kaye Shedlock'**	**2.54**	**263**		**Pn**	**11 28 17.2**	**+2.5**
KSCO				IAmb_Lg		11 29 01.2	
	comp=Z,185nm,0.8s						
OGNE	**Ogallala**	**2.56**	**308**		**Pb**	**11 28 19.4**	**+0.1**
KAN01	**Argonia South**	**2.57**	**149**	Pn	**Pn**	**11 28 17.5**	**+2.6**
KAN14	**Manchester OK**	**2.67**	**155**		**Pn**	**11 28 18.6**	**+2.2**
KAN14				IAmb_Lg		11 29 04.2	
	comp=Z,157nm,0.7s						
GC02	**Grant County #**	**2.80**	**154**		**Pn**	**11 28 20.2**	**+2.1**
OK038	**West end E0370**	**2.94**	**170**		**Pn**	**11 28 22.6**	**+2.5**
CROK	**Carrier**	**3.08**	**158**		**Pn**	**11 28 23.9**	**+1.9**
BLOK	**Blackwell**	**3.13**	**146**	IAmb_Lg		11 29 21.6	
	comp=Z,125nm,0.8s						
N35A	**Tabor**	**3.23**	**62**		**Pb**	**11 28 28.3**	**-2.4**
T35A	**Sooner Cattle**	**3.35**	**136**		**Pn**	**11 28 27.3**	**+1.6**
OK051	**E0350 and S346**	**3.51**	**144**		**Pn**	**11 28 29.9**	**+2.0**
CSTR	**Hydro, Custer**	**3.77**	**171**		**Pn**	**11 28 34.3**	**+2.8**
QUOK	**Quay**	**3.84**	**146**		**Pn**	**11 28 34.3**	**+1.8**
OK052	**Battle Ridge R**	**3.96**	**148**	IAmb_Lg		11 29 49.5	
	comp=Z,71nm,0.8s						
DEOK	**Depew**	**4.21**	**146**	IAmb_Lg		11 29 49.3	
	comp=Z,104nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**4.26**	**158**	IAmb_Lg		11 29 59.3	
	comp=Z,120nm,0.8s						
SMWD	**Samnorwood**	**4.32**	**189**		**Pn**	**11 28 40.0**	**+0.9**
FNO	**Franklin**	**4.41**	**158**	IAmb_Lg		11 30 02.5	
	comp=Z,65nm,0.8s						
TUL3	**Leonard**	**4.49**	**139**		**Pn**	**11 28 42.9**	**+1.6**
Q24A	**Divide**	**4.50**	**267**	IAmb_Lg		11 29 58.1	
	comp=Z,63nm,0.8s						
P38A	**Dawn**	**4.54**	**85**	IAmb_Lg		11 30 06.8	
	comp=Z,64nm,0.8s						
WMOK	**Wichita Mounta**	**4.66**	**174**		**Pn**	**11 28 44.8**	**+1.1**
RLO	**Rose Lookout**	**4.72**	**131**	IAmb_Lg		11 30 03.0	
	comp=Z,100nm,0.8s						
AMTX	**Amarillo**	**4.85**	**203**		**Pn**	**11 28 47.5**	**+1.1**
U38A	**Gravette**	**4.93**	**125**	IAmb_Lg		11 30 17.5	
	comp=Z,55nm,0.7s						
SDCO	**Great Sand Dun**	**5.06**	**253**	IAmb_Lg		11 30 13.3	
	comp=Z,55nm,0.8s						
SUSD	**Miller**	**5.07**	**4**	IAmb_Lg		11 30 31.9	
	comp=Z,85nm,0.8s						
SCIA	**State Center**	**5.33**	**60**	IAmb_Lg		11 30 33.4	
	comp=Z,79nm,0.8s						
WTFS	**Witchita Falls**	**5.65**	**172**	IAmb_Lg		11 30 38.4	
	comp=Z,50nm,0.8s						
R40A	**Maddies Statio**	**5.67**	**99**	IAmb_Lg		11 30 35.5	
	comp=Z,61nm,0.7s						
P40A	**Paris**	**5.68**	**86**	IAmb_Lg		11 30 43.3	
	comp=Z,75nm,0.8s						
DKNS	**Dickens**	**5.83**	**193**	IAmb_Lg		11 30 45.3	
	comp=Z,62nm,0.9s						
RSSD	**Black Hills**	**5.87**	**325**	IAmb_Lg		11 30 46.2	
	comp=Z,59nm,1.0s						
MGMO	**Mountain Grove**	**6.03**	**109**	IAmb_Lg		11 30 53.3	
	comp=Z,59nm,0.7s						
MSTX	**Muleshoe**	**6.04**	**208**	IAmb_Lg		11 30 54.0	
	comp=Z,75nm,0.8s						
APMT	**Aspermont**	**6.07**	**186**	IAmb_Lg		11 30 54.0	
	comp=Z,49nm,0.7s						
Z35A	**Perchaven, San**	**6.28**	**163**	IAmb_Lg		11 30 59.3	
	comp=Z,46nm,0.8s						
SN07	**Snyder 07**	**6.39**	**191**	IAmb_Lg		11 30 54.9	
	comp=Z,53nm,0.7s						
CCM	**Cathedral Cave**	**6.50**	**99**	IAmb_Lg		11 31 04.5	
	comp=Z,48nm,0.8s						
POST	**Post**	**6.53**	**196**	IAmb_Lg		11 31 08.5	
	comp=Z,50nm,0.8s						
FW06	**Azle**	**6.56**	**166**	IAmb_Lg		11 31 17.0	
	comp=Z,52nm,0.8s						
MIAR	**Mount Ida**	**6.70**	**134**	IAmb_Lg		11 31 14.9	
	comp=Z,62nm,1.0s						
FCAR	**Ozark Folk Cen**	**6.74**	**119**	IAmb_Lg		11 31 13.3	
	comp=Z,45nm,0.8s						
L40A	**Anamosa**	**6.76**	**64**	IAmb_Lg		11 31 14.3	
	comp=Z,61nm,0.8s						
F33A	**5 Mile Ranch,**	**6.85**	**18**	IAmb_Lg		11 31 15.3	
	comp=Z,44nm,0.9s						
FVM	**French Village**	**7.15**	**98**	IAmb_Lg		11 31 27.0	
	comp=Z,44nm,0.9s						
TREL	**Terrell**	**7.15**	**157**	IAmb_Lg		11 31 32.0	
	comp=Z,50nm,0.9s						
X40A	**Basin Creek Fa**	**7.17**	**131**	IAmb_Lg		11 31 34.0	
	comp=Z,44nm,0.8s						
ANMO	**Albuquerque**	**7.17**	**234**	Pn	**Pn**	**11 29 19.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=43,slow=11,SNR=3.9						
ANMO				Pg	**Pb**	**11 29 39.8**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=140,slow=16,SNR=11						
ANMO				Sn	**Sn**	**11 30 38.1**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=134,slow=12,SNR=3.6						
ANMO				Lg	Lg	11 31 11.5	
	comp=Z,4.7nm,0.3s,baz=19,slow=20,SNR=11						
FW13	**Cleburne**	**7.19**	**167**	IAmb_Lg		11 31 35.7	
	comp=Z,43nm,1.1s						
E28A	**Huff**	**7.25**	**353**	IAmb_Lg		11 31 44.6	
	comp=Z,54nm,0.7s						
UALR	**University of**	**7.27**	**127**	IAmb_Lg		11 31 31.5	
	comp=Z,60nm,1.0s						
LCAR	**Lake Charles**	**7.32**	**114**	IAmb_Lg		11 31 31.4	
	comp=Z,34nm,0.9s						
PV02	**Paradox Valley**	**7.39**	**264**	IAmb_Lg		11 31 38.1	
	comp=Z,49nm,1.0s						
PV12	**Saucer Basin,**	**7.42**	**265**	IAmb_Lg		11 31 33.7	
	comp=Z,40nm,0.9s						
PV11	**David Mesa, Pa**	**7.48**	**265**	IAmb_Lg		11 31 38.7	
	comp=Z,59nm,1.0s						
MVCO	**Mesa Verde**	**7.48**	**256**	IAmb_Lg		11 31 41.3	
	comp=Z,39nm,1.1s						
PV18	**Skein Mesa, Pa**	**7.52**	**264**	IAmb_Lg		11 31 45.3	
	comp=Z,33nm,1.0s						
PBMO	**Poplar Bluff**	**7.53**	**107**	IAmb_Lg		11 31 39.3	
	comp=Z,44nm,0.8s						
PV20	**West Nyswonger**	**7.54**	**265**	IAmb_Lg		11 31 37.0	
	comp=Z,49nm,1.1s						
PV23	**Carpenter Ridg**	**7.56**	**266**	IAmb_Lg		11 31 39.8	
	comp=Z,44nm,0.9s						
PV19	**Morning Glory**	**7.56**	**265**	IAmb_Lg		11 31 41.2	
	comp=Z,54nm,1.2s						
SGCY	**Sterling City**	**7.58**	**191**	IAmb_Lg		11 31 50.2	
	comp=Z,42nm,0.9s						
WLAR	**White Oak Lake**	**7.60**	**136**	IAmb_Lg		11 31 30.3	
	comp=Z,44nm,0.8s						
JFWS	**Jewell Farm**	**7.75**	**60**	IAmb_Lg		11 31 48.8	
	comp=Z,58nm,0.8s						
237A	**Washetta, Mont**	**7.92**	**157**	IAmb_Lg		11 31 47.8	
	comp=Z,42nm,0.8s						
BRDY	**Brady**	**8.08**	**178**	IAmb_Lg		11 31 49.8	
	comp=Z,44nm,1

0.3nm,0.4s,baz=108,slow=7.8,SNR=8.3
0.3nm,0.4s
WRA Warramunga Arr 43.82 273 P P 11 40 40.9 -0.2
0.5nm,0.3s,baz=111,slow=8.1,SNR=7.9
0.5nm,0.3s
FINES FINESS Array B 145.55 339 PKPbc PKPdf 11 52 11.8 -0.7
4.0nm,1.0s,baz=325,slow=14,SNR=2.2

IDC ***17*** *11:44:28.9±0.4,24°.18N×122°.55E,h0km,mb4.8/31, mbtmp4.9/36,ML4.8/4,MS4.8/72,Error ellipse: s-maj=13.0km s-min=11.4km az=58.0*
BJI ***17*** *11:44:30.4,24°.02N×122°.63E,h16km,mB5.2/62,mb5.0/74, ML5.3/10,Ms5.3/92,Ms7 5.3/88*
NEIC ***17*** *11:44:33.2,23°.99N×122°.54E,h24km*
TAP ***17*** *11:44:33.4,24°.03N×122°.50E,h30km,ML5.6,C*
NEIC ***17*** *11:44:33.2,23°.99N×122°.43E,h24km,Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10^{16}Nm; M_{rr}3.27; $M_{\theta\theta}$-5.80; $M_{\phi\phi}$2.53; $M_{r\theta}$3.41; $M_{\theta\phi}$2.07; $M_{\phi r}$0.85; Fault plane solution: $M_0$6.49000×10^{16} NP1: ϕ_s318.41000°,δ39.82000°,λ146.22000°. NP2: ϕ_s75.60000°,δ69.14000°,λ55.28000°. Principal axes: T 5.2684, Plg53.0000°, Azm304.0000°; N 1.9765, Plg32.0000°, Azm89.0000°; P -7.2448, Plg17.0000°, Azm191.0000°;*
ASIES ***17*** *11:44:33.6,24°.01N×122°.44E,h16km,Mw5.2,Fault plane solution: NP1:ϕ_s314.00000°,δ39.00000°,λ141.00000°. NP2:ϕ_s77.00000°,δ66.00000°,λ58.00000°.*
NIED ***17*** *11:44:33.1,23°.97N×122°.49E,h20km,MW5.2,Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}3.56; $M_{\theta\theta}$-5.90; $M_{\phi\phi}$2.33; $M_{r\theta}$3.71; $M_{\theta\phi}$5.44; $M_{\phi r}$1.41; Fault plane solution: $M_0$8.34000×10^{16} NP1: ϕ_s336.00000°,δ53.00000°,λ158.00000°. NP2: ϕ_s80.00000°,δ73.00000°,λ39.00000°.*
NEIC ***17*** *11:44:33.1±2.8,24°.05N±0°.05×122°.48E±0°.06,h18km±3km, mb5.2/228,Mww5.1/27 Error ellipse: s-maj=8.5km s-min=7.0km az=93.0*
JMA ***17*** *11:44:33.1±0.2,24°N±1°×122°.5E±0°.4,h20km±3km, MD5.4/15,MW5.3/15,NW OFF ISHIGAKIJIMA IS*
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
GCMT ***17*** *11:44:34.1±0.1,23°.84N±0°.01×122°.39E±0°.01,h36km, MW5.3/135,Moment Tensor Solution. s121,c200; s135,c241; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.85±.02; $M_{\theta\theta}$-0.93±.01; $M_{\phi\phi}$0.07±.01; $M_{r\theta}$0.58±.02; $M_{\theta\phi}$0.09±.01; $M_{\phi r}$0.14±.02; Best double couple: $M_0$1.07100×10^{17} NP1:ϕ_s287.00000°,δ30.00000°, λ110.00000°. NP2:ϕ_s85.00000°,δ62.00000°,λ79.00000°. Principal axes: T 1.0430, Plg71.0000°, Azm330.0000°; N 0.0550, Plg10.0000°, Azm90.0000°; P -1.0990, Plg16.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***17*** *11:44:34.0±1.1,24°.15N×122°.57E,h18km,mb5.4/47, MS5.0/17 Error ellipse: s-maj=6.9km s-min=4.1km az=114.3*
ISC 17 11:44:33.8±0.4,23°.99N±0°.02×122°.50E±0°.02,h30km±2km, h30km:pP-P,n871,σ1ŝ69/929,mb5.2/229,MS5.0/104, 46C-35D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.21**	**307**	⇓*i*P	**Pb**	**11 44 39.4**	**-0.4**
EOS4				S	**Sb**	**11 44 43.9**	**+0.1**
EOS3	**EOS3**	**0.34**	**330**	⇓*i*P	**Pn**	**11 44 41.4**	**-1.1**
EOS3				*e*S	**Sn**	**11 44 47.2**	**-1.1**
EOS2	**EOS2**	**0.49**	**330**	⇓*i*P	**Pn**	**11 44 44.0**	**-0.6**
EOS2				S	**Sn**	**11 44 52.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.61**	**42**	P	**Pb**	**11 44 45.3**	**-0.8**
JYNG				S	**Sb**	**11 44 53.6**	**-0.9**
JYNG	**Yonagunijimaku**	**0.61**	**42**	A	A	11 44 45.3	
	comp=N,263nm,3.3s,comp=E,212nm,2.6s						
YOJ	**Yonaguni jima**	**0.66**	**45**		**Pn**	**11 44 46.3**	**-0.9**
YOJ	**Yonaguni jima**	**0.66**	**45**	P	**Pn**	**11 44 46.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.66**	**45**	S	**Sn**	**11 44 55.2**	**-1.3**
YOJ	**Yonaguni jima**	**0.66**	**45**	P	**Pn**	**11 44 46.3**	**-0.9**
YOJ	**Yonaguni jima**	**0.66**	**45**	P	**Pn**	**11 44 46.2**	**-0.9**
YOJ				*e*S	**Sb**	**11 44 55.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.66**	**45**	A	A	11 44 46.2	
	comp=N,210nm,3.1s,comp=E,372nm,2.6s						
YOJ	**Yonaguni jima**	**0.66**	**45**	⇓*i*P	**Pb**	**11 44 46.1**	**-0.7**
YOJ				S	**Sb**	**11 44 54.9**	**-0.9**
EHP	**Heping Village**	**0.76**	**295**	*e*P	**Pn**	**11 44 48.1**	**-0.4**
EHP				*e*S	**Sn**	**11 45 00.0**	**+1.0**
EAHA	**Aohua**	**0.77**	**296**	*e*P	**Pn**	**11 44 48.3**	**-0.3**
EAHA				*e*S	**Sn**	**11 44 59.7**	**+0.5**
ENA	**Nanau**	**0.82**	**302**	*e*P	**Pn**	**11 44 48.8**	**-0.5**
ENA				*e*S	**Sn**	**11 45 00.1**	**-0.3**
ETL	**Fush Village**	**0.82**	**282**	*e*P	**Pn**	**11 44 48.9**	**-0.4**
ETL				*e*S	**Sn**	**11 45 01.0**	**+0.6**
HWA	**Hwalien**	**0.82**	**269**	*e*P	**Pn**	**11 44 49.1**	**-0.2**
HWA				*e*S	**Sn**	**11 45 00.7**	**+0.3**
TWD	**Chiawan**	**0.83**	**276**	P	**Pn**	**11 44 48.5**	**-0.9**
TWD				*e*S	**Sb**	**11 44 59.7**	**-0.9**
ESAO	**Su ao**	**0.83**	**314**	*e*P	**Pn**	**11 44 48.9**	**-0.6**
ESAO				*e*S	**Sn**	**11 45 00.2**	**-0.5**
TEYL	**Yanliau Villag**	**0.83**	**262**	*e*P	**Pn**	**11 44 49.4**	**-0.1**
TEYL				*e*S	**Sn**	**11 45 00.8**	**+0.1**
NACB	**Ninganchiao**	**0.85**	**282**		**Pn**	**11 44 49.0**	**-0.7**
NACB	**Ninganchiao**	**0.85**	**282**	P	**Pn**	**11 44 49.3**	**-0.4**
NACB	**Ninganchiao**	**0.85**	**282**	S	**Sn**	**11 45 01.2**	**+0.1**
NACB	**Ninganchiao**	**0.85**	**282**	P	**Pn**	**11 44 48.9**	**-0.8**
NACB				*e*S	**Sn**	**11 45 00.7**	**-0.3**
TWC	**Suao**	**0.85**	**316**	⇓*i*P	**Pn**	**11 44 49.0**	**-0.8**
TWC				*e*S	**Sn**	**11 45 00.3**	**-0.9**
SHUL	**Shoufeng**	**0.88**	**257**	*e*P	**Pn**	**11 44 49.9**	**-0.3**
SHUL				*e*S	**Sn**	**11 45 01.4**	**-0.5**
ETM	**Tongmen**	**0.92**	**268**	P	**Pn**	**11 44 49.8**	**-0.9**
ETM				*e*S	**Sn**	**11 45 02.4**	**-0.5**
TEGC	**Jichi Village**	**0.92**	**252**	*e*P	**Pb**	**11 44 50.9**	**-0.4**
TEGC				*e*S	**Sn**	**11 45 02.8**	**-0.1**
ETLH	**Xiulin Townshi**	**0.95**	**283**	P	**Pn**	**11 44 50.6**	**-0.6**
ETLH				*e*S	**Sb**	**11 45 03.6**	**-0.6**
NDS	**Dongshan**	**0.96**	**312**	P	**Pb**	**11 44 51.2**	**-0.6**
NDS				*e*S	**Sb**	**11 45 04.0**	**-0.2**
ESL	**Shilin**	**0.99**	**260**	P	**Pn**	**11 44 50.6**	**-1.1**
ESL				*e*S	**Sn**	**11 45 04.1**	**-0.6**
EGS		**0.99**	**329**	⇑P	**Pb**	**11 44 52.1**	**-0.3**
EGS				*e*S	**Sb**	**11 45 05.3**	**+0.1**
ILA	**Ilan**	**1.03**	**318**	*e*P	**Pb**	**11 44 52.9**	**-0.1**
ILA				*e*S	**Sb**	**11 45 07.2**	**+1.0**
EGFH	**Guangfu**	**1.03**	**252**	*e*P	**Pn**	**11 44 51.9**	**-0.4**
EGFH				*e*S	**Sn**	**11 45 05.0**	**-0.7**
LATG	**Datong**	**1.04**	**301**	⇑*i*P	**Pb**	**11 44 52.4**	**-0.9**
LATG				*e*S	**Sb**	**11 45 06.7**	**+0.1**
TWE	**Neicheng**	**1.05**	**314**	P	**Pb**	**11 44 52.6**	**-0.8**
TWE				*e*S	**Sb**	**11 45 06.9**	**+0.1**
NTC	**Toucheng**	**1.05**	**325**	*e*P	**Pb**	**11 44 53.6**	**+0.1**
NTC				*e*S	**Sb**	**11 45 07.6**	**+0.7**
WARBT	**Fenglin Townsh**	**1.05**	**255**	P	**Pn**	**11 44 51.6**	**-1.0**
WARBT				*e*S	**Sn**	**11 45 05.2**	**-1.1**
ENTT	**Nioudou**	**1.07**	**307**	⇑P	**Pb**	**11 44 52.8**	**-0.9**
ENTT				*e*S	**Sb**	**11 45 07.7**	**+0.3**
HGSD	**Ruisui**	**1.10**	**243**	P	**Pn**	**11 44 52.2**	**-1.0**
HGSD				*e*S	**Sn**	**11 45 07.2**	**-0.3**
NNSB	**Datong**	**1.11**	**293**	⇑*i*P	**Pn**	**11 44 53.3**	**-0.1**
NNSB				S	**Sb**	**11 45 08.0**	**-0.7**
TWB1	**Santiao Chiao**	**1.11**	**335**	P	**Pb**	**11 44 53.2**	**-1.2**
TWB1				*e*S	**Sb**	**11 45 09.7**	**+1.1**
NNS	**Nan Shan**	**1.12**	**294**	⇑*i*P	**Pn**	**11 44 53.4**	**-0.1**
NNS				S	**Sb**	**11 45 08.4**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.13**	**313**	⇑*i*P	**Pb**	**11 44 54.1**	**-0.7**
FUSB				S	**Sb**	**11 45 09.3**	**+0.2**
WHF	**Hehuan Shan**	**1.14**	**278**	*i* P	**Pn**	**11 44 53.5**	**-0.6**
WHF				S	**Sn**	**11 45 08.3**	**-0.6**
TIPB	**Shuangxi**	**1.15**	**328**	P	**Pb**	**11 44 54.1**	**-1.0**
TIPB				S	**Sb**	**11 45 09.6**	**-0.2**
EHYH	**Wanrong**	**1.17**	**245**	*e*P	**Pn**	**11 44 54.0**	**-0.1**
EHYH				S	**Sn**	**11 45 09.0**	**-0.1**
ECBN	**Changbin**	**1.17**	**235**	P	**Pn**	**11 44 53.6**	**-0.6**
ECBN				S	**Sn**	**11 45 08.0**	**-1.1**
IRIF	**Iriomote-Funau**	**1.17**	**73**	P	**Pb**	**11 44 54.9**	**-0.6**
IRIF				*e*S	**Sb**	**11 45 10.7**	**+0.3**
IRIF	**Iriomote-Funau**	**1.17**	**73**	A	A	11 44 54.9	
	comp=N,135nm,1.4s,comp=E,82nm,2.0s						
FUSS	**Fushou**	**1.18**	**283**	P	**Pn**	**11 44 54.5**	**0.0**
FUSS				*e*S	**Sb**	**11 45 10.3**	**-0.3**
EHY	**Hungye**	**1.18**	**246**	P	**Pn**	**11 44 53.7**	**-0.6**
EHY				*e*S	**Sn**	**11 45 08.1**	**-1.3**
HATJ	**Hateruma jima**	**1.20**	**87**	P	**Pb**	**11 44 55.2**	**-0.7**
HATJ				*e*S	**Sb**	**11 45 12.4**	**+1.4**
HATJ	**Hateruma jima**	**1.20**	**87**	A	A	11 44 55.2	
	comp=N,170nm,4.2s,comp=E,147nm,2.6s						
NWLT	**Wulai**	**1.20**	**311**	*e*P	**Pb**	**11 44 55.1**	**-0.9**
NWLT				*e*S	**Sb**	**11 45 11.4**	**+0.3**
OWD	**Renai**	**1.21**	**268**	P	**Pn**	**11 44 54.7**	**-0.1**
OWD				*e*S	**Sn**	**11 45 10.4**	**+0.1**
YHNB	**Yeheng**	**1.23**	**304**		**Pb**	**11 44 55.4**	**-1.1**
YHNB	**Yeheng**	**1.23**	**304**	P	**Pb**	**11 44 55.7**	**-0.8**
YHNB	**Yeheng**	**1.23**	**304**	S	**Sb**	**11 45 12.0**	**0.8**
YHNB	**Yeheng**	**1.23**	**304**	*i* P	**Pb**	**11 44 55.2**	**-1.2**
YHNB				*e*S	**Sb**	**11 45 11.9**	**0.0**
SXI1	**Grass Mountain**	**1.23**	**333**	P	**Pn**	**11 44 54.9**	**-0.2**
SXI1				S	**Sb**	**11 45 12.3**	**+0.2**
TWT	**Tachien**	**1.24**	**282**	*e*P	**Pb**	**11 44 55.8**	**-0.9**
TWT				*e*S	**Sb**	**11 45 11.8**	**-0.6**
NSK	**Sanguang**	**1.24**	**303**	P	**Pn**	**11 44 55.3**	**+0.1**
NSK				*e*S	**Sb**	**11 45 11.8**	**-0.7**
TDCB	**Techi**	**1.25**	**282**	P	**Pn**	**11 44 55.6**	**+0.2**
TDCB				*e*S	**Sn**	**11 45 11.4**	**+0.1**
YULB	**Yu-li**	**1.25**	**242**		**Pn**	**11 44 54.9**	**-0.5**
YULB	**Yu-li**	**1.25**	**242**	P	**Pn**	**11 44 55.5**	**+0.2**
YULB	**Yu-li**	**1.25**	**242**	S	**Sn**	**11 45 10.7**	**-0.5**
YULB	**Yu-li**	**1.25**	**242**	⇓*i*P	**Pn**	**11 44 54.8**	**-0.5**
YULB				*i* S	**Sn**	**11 45 10.8**	**-0.3**
NWF	**Wu-fen Shan**	**1.26**	**329**	P	**Pn**	**11 44 55.6**	**-1.4**
NWF				*e*S	**Sb**	**11 45 13.8**	**+1.0**
WFSB	**Wu-fen Shan**	**1.26**	**329**	P	**Pb**	**11 44 55.5**	**-1.4**
WFSB				*e*S	**Sb**	**11 45 13.2**	**+0.5**
EYUL	**Yuli**	**1.26**	**239**	P	**Pn**	**11 44 55.3**	**0.0**
EYUL				*e*S	**Sn**	**11 45 11.4**	**+0.1**
WUSB	**Renai**	**1.26**	**270**	⇑P	**Pn**	**11 44 55.5**	**-0.1**
WUSB				*e*S	**Sn**	**11 45 11.6**	**0.0**
VWDT	**VWDT**	**1.27**	**259**	P	**Pn**	**11 44 55.5**	**0.0**
VWDT				*i* S	**Sn**	**11 45 10.9**	**-0.5**
TWF1	**Yuli**	**1.27**	**240**	⇓*i*P	**Pn**	**11 44 55.0**	**-0.5**
TWF1				S	**Sn**	**11 45 11.7**	**0.0**
CHKH	**Chenggong**	**1.29**	**232**	*e*P	**Pn**	**11 44 54.8**	**-1.0**
CHKH				*e*S	**Sn**	**11 45 09.7**	**-2.3**
TWA	**Mucha**	**1.29**	**320**	P	**Pb**	**11 44 56.3**	**-1.1**
TWA				*e*S	**Sb**	**11 45 14.4**	**+0.7**
NHDH	**Xindian Distri**	**1.31**	**318**	*e*P	**Pb**	**11 44 57.2**	**-0.6**
NHDH				*e*S	**Sb**	**11 45 15.6**	**+1.3**
TNOU	**National Taiwa**	**1.33**	**330**	P	**Pn**	**11 44 56.2**	**-0.1**
TNOU				*e*S	**Sb**	**11 45 16.0**	**-0.8**
NHY	**Taipei**	**1.34**	**321**	*e*P	**Pb**	**11 44 58.0**	**-0.3**
NHY				*e*S	**Sb**	**11 45 16.7**	**+1.5**
TATO	**Taipei**	**1.34**	**317**		**Pb**	**11 44 57.7**	**-0.7**
TATO	**Taipei**	**1.34**	**317**	P	**Pb**	**11 44 57.3**	**-1.0**
TATO	**Taipei**	**1.34**	**317**	P	**Pb**	**11 44 57.9**	**-0.5**
TATO	**Taipei**	**1.34**	**317**	S	**Sb**	**11 45 16.7**	**+1.5**
FULB	**Fuli**	**1.36**	**235**	*e*P	**Pn**	**11 44 56.0**	**-0.7**
FULB				*e*S	**Sn**	**11 45 13.3**	**-0.6**
CHKT	**Chengkung**	**1.37**	**230**	P	**Pn**	**11 44 55.7**	**-1.1**
CHKT				*e*S	**Sn**	**11 45 11.9**	**-2.0**
JKRS	**Kuro-shima**	**1.40**	**80**	P	**Pb**	**11 44 58.6**	**-0.8**
JKRS	**Kuro-shima**	**1.40**	**80**	A	A	11 44 58.6	
	comp=N,287nm,3.3s,comp=E,208nm,2.3s						
NFF	**Wufeng Townshi**	**1.41**	**297**	P	**Pb**	**11 44 58.2**	**-1.4**
NFF				*e*S	**Sb**	**11 45 16.9**	**-0.4**
YM01	**YM01**	**1.43**	**324**	P	**Pn**	**11 44 57.9**	**+0.2**
YM01				*e*S	**Sb**	**11 45 17.8**	**+0.2**
SSLB	**Suanglung**	**1.43**	**262**		**Pn**	**11 44 58.2**	**+0.4**
SSLB	**Suanglung**	**1.43**	**262**	P	**Pb**	**11 44 59.4**	**-0.5**
SSLB	**Suanglung**	**1.43**	**262**	S	**Sn**	**11 45 15.9**	**+0.4**
SSLB	**Suanglung**	**1.43**	**262**	*e*P	**Pn**	**11 44 58.1**	**+0.4**
SSLB				*e*S	**Sn**	**11 45 15.2**	**-0.3**
KSHI	**Guanxi Townshi**	**1.44**	**303**	P	**Pb**	**11 44 59.2**	**-0.8**
KSHI				*e*S	**Sb**	**11 45 19.4**	**+1.5**
WHP	**Taichung City**	**1.45**	**282**	*e*P	**Pn**	**11 44 58.6**	**+0.6**
WHP				*e*S	**Sb**	**11 45 17.3**	**-1.0**
YM08	**YM08**	**1.45**	**325**	P	**Pn**	**11 44 57.9**	**-0.1**
YM08				*e*S	**Sb**	**11 45 18.1**	**-0.2**
ZUZH	**Zhuzihu**	**1.45**	**323**	*e*P	**Pn**	**11 44 57.9**	**-0.1**
ZUZH				*e*S	**Sb**	**11 45 17.1**	**-1.3**
SMLT	**Sun Moon Lake**	**1.47**	**266**	P	**Pn**	**11 44 58.6**	**+0.3**
SMLT				*e*S	**Sn**	**11 45 16.9**	**+0.3**
ECS	**Chishang**	**1.48**	**233**	*e*P	**Pn**	**11 44 58.3**	**-0.1**
ECS				*e*S	**Sn**	**11 45 16.7**	**0.0**
TWS1	**Kuangyinshan**	**1.48**	**318**	*e*P	**Pn**	**11 44 59.0**	**-1.7**
TWS1				*e*S	**Sb**	**11 45 19.5**	**+0.4**
ANP	**Anpu**	**1.48**	**323**	*e*P	**Pn**	**11 44 58.6**	**0.0**
EDH	**Donghe**	**1.50**	**227**	*e*P	**Pn**	**11 44 57.7**	**-1.0**
EDH				*e*S	**Sn**	**11 45 15.1**	**-2.0**
LIOB	**Emei**	**1.50**	**296**	P	**Pb**	**11 45 00.1**	**-1.0**
LIOB				*e*S	**Sb**	**11 45 19.3**	**-0.4**
TYC	**Yuchr**	**1.50**	**267**	*e*P	**Pn**	**11 44 59.2**	**+0.4**
TYC				*e*S	**Sn**	**11 45 17.6**	**+0.2**
NSTT	**Nanjuang**	**1.51**	**295**	P	**Pb**	**11 45 00.3**	**-0.8**
NSTT				*e*S	**Sb**	**11 45 19.0**	**-0.9**
NTST	**Danshui**	**1.51**	**321**	*e*P	**Pb**	**11 44 59.7**	**-1.5**
WHYT	**Xinyi Township**	**1.54**	**259**	*e*P	**Pn**	**11 45 00.1**	**+0.9**
WHYT				*e*S	**Sb**	**11 45 19.4**	**-1.3**
NCU	**National Centr**	**1.54**	**309**	*e*S	**Sb**	**11 45 19.3**	**-1.6**
NCUH	**Zhongli**	**1.54**	**309**	*e*P	**Pb**	**11 45 00.1**	**-1.6**
JIJ	**Ishigaki jima**	**1.54**	**76**	P	**Pn**	**11 44 59.7**	**+0.4**
JIJ				S	**Sb**	**11 45 19.9**	**-1.1**
JIJ	**Ishigaki jima**	**1.54**	**76**	A	A	11 44 59.7	
	comp=N,42nm,4.6s,comp=E,28nm,3.0s						
ELDTW	**Lidau**	**1.58**	**240**	P	**Pn**	**11 44 59.2**	**-0.7**
ELDTW				*e*S	**Sn**	**11 45 17.4**	**-1.9**
SBCB	**Hsinchu**	**1.59**	**300**	*e*P	**Pb**	**11 45 01.3**	**-1.3**
HSN	**Hsinchu**	**1.61**	**300**	*e*P	**Pb**	**11 45 01.0**	**-1.9**
HSN				*e*S	**Sb**	**11 45 21.4**	**-1.5**
TWQ1	**Liyutan**	**1.62**	**283**	P	**Pb**	**11 45 01.8**	**-1.3**
TWQ1				*e*S	**Sb**	**11 45 22.9**	**-0.2**
LDUT	**Ludao**	**1.62**	**216**	*e*P	**Pn**	**11 44 59.2**	**-1.1**
LDUT				*e*S	**Sn**	**11 45 17.7**	**-2.4**
ALS	**Alishan**	**1.62**	**253**	P	**Pn**	**11 45 01.4**	**+0.8**
ALS				S	**Sn**	**11 45 21.6**	**+0.8**
NSY	**Sanyi**	**1.64**	**285**	P	**Pb**	**11 45 02.5**	**-1.0**
NSY				S	**Sb**	**11 45 24.0**	**+0.2**
NMLH	**Miaoli**	**1.65**	**289**	P	**Pb**	**11 45 02.5**	**-1.1**
NMLH				*e*S	**Sb**	**11 45 24.1**	**+0.1**
LONT	**Longtian**	**1.66**	**230**	P	**Pn**	**11 45 00.5**	**-0.4**
LONT				S	**Sn**	**11 45 20.8**	**-0.4**
WNT	**Mingjian**	**1.67**	**266**	P	**Pb**	**11 45 03.0**	**-0.8**
WNT				*e*S	**Sb**	**11 45 24.1**	**-0.3**
PCYT	**Pengchaiyu**	**1.67**	**347**	*e*P	**Pn**	**11 45 01.5**	**+0.4**
TCU	**Taichung**	**1.67**	**276**	P	**Pb**	**11 45 02.9**	**-1.1**
TCU				S	**Sb**	**11 45 25.2**	**+0.6**
CHN5	**Tsauling**	**1.71**	**257**	P	**Pb**	**11 45 03.1**	**-1.6**
CHN5				*e*S	**Sb**	**11 45 24.4**	**-1.5**
WDJ	**Dajia District**	**1.73**	**282**	*e*P	**Pb**	**11 45 03.2**	**-1.8**
WDJ				*e*S	**Sb**	**11 45 25.5**	**-0.9**
TTN	**Taitung**	**1.75**	**225**	*e*P	**Pn**	**11 45 02.7**	**+0.6**
TTN				*e*S	**Sn**	**11 45 23.3**	**-0.1**
TWGBT	**Beinan**	**1.75**	**228**	P	**Pn**	**11 45 01.6**	**-0.6**
TWGBT	**Beinan**	**1.75**	**228**	S	**Sn**	**11 45 22.7**	**-0.8**
TWGBT	**Beinan**	**1.75**	**228**	P	**Pn**	**11 45 01.5**	**-0.7**
TWGBT				*e*S	**Sn**	**11 45 22.2**	**-1.2**
JISG	**Ishigakijimahi**	**1.75**	**70**	P	**Pn**	**11 45 02.4**	**+0.2**
JISG				S	**Sb**	**11 45 25.2**	**-1.8**
JISG	**Ishigakijimahi**	**1.75**	**70**	A	A	11 45 02.4	
	comp=N,58nm,4.5s,comp=E,26nm,1.4s						
TWG	**Pinlang**	**1.76**	**229**		**Pn**	**11 45 01.5**	**-0.7**
TWG	**Pinlang**	**1.76**	**229**	*e*P	**Pn**	**11 45 01.5**	**-0.7**
TWG				*e*S	**Sn**	**11 45 22.3**	**-1.2**
WCHH	**Zhanghua**	**1.78**	**273**	*e*P	**Pb**	**11 45 04.1**	**-1.6**
WCHH				*e*S	**Sb**	**11 45 27.3**	**-0.3**
STYH	**Taoyuan**	**1.78**	**243**	*e*P	**Pn**	**11 45 03.4**	**+0.9**
STYH				*e*S	**Sn**	**11 45 24.9**	**+0.8**
WCH1	**Changhua City**	**1.79**	**273**	*e*P	**Pb**	**11 45 04.7**	**-1.2**
WCH1				S	**Sb**	**11 45 27.6**	**-0.3**
WGK	**Gukeng**	**1.80**	**261**	*e*P	**Pb**	**11 45 04.7**	**-1.4**
WGK				*e*S	**Sb**	**11 45 28.0**	**-0.3**
WDL	**Douliou City**	**1.82**	**262**	*e*P	**Pb**	**11 45 05.7**	**-0.7**
WDL				*e*S	**Sb**	**11 45 28.4**	**-0.3**
WDLH	**Douliu**	**1.82**	**261**	*e*P	**Pb**	**11 45 05.2**	**-1.3**
WDLH				*e*S	**Sb**	**11 45 28.8**	**-0.1**
WCKO	**Fanlu**	**1.82**	**253**	*e*P	**Pb**	**11 45 05.5**	**-1.0**
WCKO				S	**Sb**	**11 45 28.4**	**-0.5**
TPUB	**Ta-pu**	**1.85**	**248**		**Pn**	**11 45 05.0**	**+1.5**
TPUB	**Ta-pu**	**1.85**	**248**	P	**Pb**	**11 45 05.2**	**-1.8**
TPUB	**Ta-pu**	**1.85**	**248**	S	**Sb**	**11 45 28.8**	**-0.9**
TPUB	**Ta-pu**	**1.85**	**248**	*e*P	**Pb**	**11 45 05.3**	**-1.6**
TPUB				S	**Sb**	**11 45 28.4**	**-1.3**
WTP	**Ta-pu**	**1.88**	**247**	P	**Pn**	**11 45 05.4**	**+1.5**
WTP				*e*S	**Sn**	**11 45 28.8**	**+2.0**
CHN2	**Minshiung**	**1.91**	**256**	*e*P	**Pb**	**11 45 07.6**	**-0.4**
CHN2				*e*S	**Sb**	**11 45 31.5**	**0.0**
WTK	**Tuku**	**1.96**	**261**	*e*P	**Pb**	**11 45 07.0**	**-1.8**
WTK				*e*S	**Sb**	**11 45 32.3**	**-0.5**
CHY	**Chiayi**	**1.96**	**256**	*e*P	**Pb**	**11 45 07.2**	**-1.7**
CHY				*e*S	**Sb**	**11 45 32.1**	**-1.0**
CHN1	**Nanshi**	**1.98**	**246**	*e*P	**Pb**	**11 45 07.3**	**-1.9**
CHN1				*e*S	**Sb**	**11 45 31.8**	**-1.7**
TWK	**Hsinying**	**1.98**	**249**	*e*P	**Pb**	**11 45 07.4**	**-1.8**
TWK				*e*S	**Sb**	**11 45 31.4**	**-2.2**
ECL	**Taimali**	**1.99**	**226**	*e*P	**Pn**	**11 45 04.5**	**-0.9**
ECL				*e*S	**Sn**	**11 45 22.4**	**-1.9**
WTCT	**Ta-ch'eng**	**2.03**	**267**	*e*P	**Pb**	**11 45 08.0**	**-2.1**
WTCT				S	**Sb**	**11 45 33.9**	**-1.1**
JTJ	**Tarama**	**2.11**	**72**	P	**Pn**	**11 45 08.0**	**+0.9**
JTJ	**Tarama**	**2.11**	**72**	A	A	11 45 08.0	
	comp=N,82nm,3.1s,comp=E,68nm,4.9s						
WSF	**Szhu**	**2.12**	**261**	*e*P	**Pb**	**11 45 09.3**	**-2.2**
WSF				S	**Sb**	**11 45 36.1**	**-1.2**
SSD	**Sandimen**	**2.12**	**234**	P	**Pn**	**11 45 07.9**	**+0.8**
SSD				*e*S	**Sb**	**11 45 35.9**	**-1.5**
ICHU	**Yijhu**	**2.13**	**253**	*e*P	**Pb**	**11 45 09.7**	**-2.1**
ICHU				*e*S	**Sb**	**11 45 36.5**	**-1.3**
LAY	**Lan-yu**	**2.13**	**204**	*e*P	**Pn**	**11 45 05.9**	**-1.5**
WSL	**Shuilin Townsh**	**2.13**	**258**	*e*P	**Pn**	**11 45 09.0**	**+1.6**
WSL				*e*S	**Sb**	**11 45 36.1**	**-1.8**
SCST	**Cishan**	**2.15**	**239**	*e*P	**Pb**	**11 45 10.7**	**-1.4**
SCST				*e*S	**Sb**	**11 45 37.6**	**-0.7**
LYUB	**Lan-yu**	**2.15**	**203**	P	**Pn**	**11 45 05.9**	**-1.8**
LYUB				*e*S	**Sn**	**11 45 30.7**	**-2.7**
CHN3	**Shinhua**	**2.16**	**245**	*e*P	**Pb**	**11 45 10.9**	**-1.4**
CHN3				*e*S	**Sb**	**11 45 39.6**	**+1.0**
CHN8	**Yiju**	**2.19**	**253**	*e*P	**Pn**	**11 45 10.0**	**+1.8**
CHN8				*e*S	**Sn**	**11 45 36.9**	**+2.6**
TAW	**Tawu**	**2.20**	**222**	*e*P	**Pn**	**11 45 07.7**	**-0.6**
TAW				*e*S	**Sn**	**11 45 33.3**	**-1.1**
MASBT	**Mashibuluo**	**2.20**	**232**	*e*P	**Pn**	**11 45 08.8**	**+0.5**
MASBT				*e*S	**Sb**	**11 45 37.6**	**-2.1**
SHHT	**Tainan City**	**2.20**	**244**	*e*P	**Pb**	**11 45 11.9**	**-1.0**
SHHT				*e*S	**Sb**	**11 45 40.2**	**+0.4**
EAST	**Anshuo**	**2.21**	**224**	*e*P	**Pn**	**11 45 07.9**	**-0.6**
TAWH	**Dawu Township**	**2.22**	**222**	*e*P	**Pn**	**11 45 08.1**

comp=E,18μm,12.6s
NJ2 LR LR
comp=E,8μm,12.2s
NJ2 LR LR
comp=E,19μm,12.6s
CNSH ChangSha 9.56 298 P **Pn 11 46 49.4 0.0**
CNSH S **Sn 11 48 36.6 +0.8**
CNSH smax smax
comp=E,2μm,0.9s
CNSH smax smax
comp=E,2μm,0.9s
CNSH LR LR
comp=E,10μm,9.7s
CNSH LR LR
comp=E,13μm,14.9s
CNSH LR LR
comp=E,14μm,12.8s
WHN Wuhan 9.75 314 P **Pn 11 46 51.6 -0.4**
WHN pP 11 46 56.8
WHN S **Sn 11 48 40.4 -0.1**
WHN LR LR
comp=E,20μm,8.1s
WHN LR LR
comp=E,19μm,9.9s
WHN LR LR
comp=E,38μm,15.0s
TGY Tagaytay City 9.95 189 Pn **Pn 11 46 57.4 +2.5**
comp=E,44nm,0.3s,baz=88,slow=7.9,SNR=4.1
TGY LR LR 11 50 56.1
comp=E,5μm,21.1s,baz=9.0,slow=38
comp=E,106nm,0.3s
GULI GuiLin 11.11 279 P Pn 11 47 17.8 +7.1
GULI LR LR
comp=E,3μm,12.5s
GULI LR LR
comp=E,9μm,13.6s
GULI LR LR
comp=E,12μm,14.1s
JNU Nakatsue 11.70 37 **Pn 11 47 17.0 -1.7**
JNU Nakatsue 11.70 37 Pn **Pn 11 47 18.1 -0.6**
comp=E,0.7nm,0.3s,baz=180,slow=13,SNR=5.1
JNU LR LR 11 52 09.3
comp=E,5μm,18.7s,baz=214,slow=40
JNU Nakatsue 11.70 37 P **Pn 11 47 21.5 +2.8**
QIZ Qiongzhong 12.77 250 P **Pn 11 47 36.3 +2.9**
QIZ S **Sn 11 50 00.3 +5.7**
QIZ LR LR
comp=E,3μm,19.7s
QIZ LR LR
comp=E,2μm,15.8s
QIZ LR LR
comp=E,4μm,16.3s
TIA Tai'an 13.03 340 P **Pn 11 47 38.1 +1.2**
TIA S **Sn 11 50 01.3 +0.5**
TIA pmax pmax
comp=E,910nm,5.9s
TIA LR LR
comp=E,10μm,15.1s
TIA LR LR
comp=E,7μm,10.8s
TIA LR LR
comp=E,18μm,13.3s
TJN Taejon 13.04 18 **Pn 11 47 38.5 +1.6**
TJN Taejon 13.04 18 P Pn 11 47 41.2 +4.3
TJN Taejon 13.04 18*d* *i*P **Pn 11 47 38.1 +1.2**
ENH Enshi 13.16 301 **Pn 11 47 39.1 +0.4**
ENH Enshi 13.16 301 P **Pn 11 47 41.1 +2.4**
LYN LuoYang 13.68 323 P **Pn 11 47 46.8 +1.1**
LYN S **Sn 11 50 19.0 +2.4**
LYN SS **S 11 50 38.6 -0.1**
LYN pmax pmax
comp=E,46nm,0.8s
LYN pmax pmax
comp=E,640nm,7.6s
LYN LR LR
comp=E,20μm,15.1s
LYN LR LR
comp=E,8μm,13.7s
LYN LR LR
comp=E,25μm,14.4s
INCN Inchon 13.90 14 **Pn 11 47 49.5 +0.7**
INCN Inchon 13.90 14 P **Pn 11 47 51.3 +2.5**
INCN Inchon 13.90 14 P **Pn 11 47 49.5 +0.7**
KSAR Wonju Array Be 14.18 18 **Pn 11 47 54.4 +1.9**
KSAR Wonju Array Be 14.18 18 P **Pn 11 47 54.4 +1.9**
KSRS Korea Array 14.20 18 Pn **Pn 11 47 54.5 +1.7**
comp=E,3.3nm,0.3s,baz=196,slow=12,SNR=89
KS19 Wonju Array Si 14.23 18 P **P 11 47 56.4 -3.8**
GYA Guiyang 14.54 283 ⇓P **Pn 11 47 58.8 +1.1**
GYA S **Sn 11 50 39.4 +1.4**
GYA pmax pmax
comp=E,14nm,1.0s
GYA pmax pmax
comp=E,480nm,3.3s
GYA LR LR
comp=E,4μm,9.9s
GYA LR LR
comp=E,8μm,16.4s
GYA LR LR
comp=E,11μm,16.5s
DL2 Dalian 14.88 357 P **P 11 48 04.3 -3.2**
DL2 S **Sn 11 50 53.6 +7.6**
DL2 pmax pmax
comp=E,97nm,1.1s
DL2 pmax pmax
comp=E,2μm,11.3s
DL2 LR LR
comp=E,10μm,13.5s
DL2 LR LR
comp=E,3μm,14.8s
DL2 LR LR
comp=E,12μm,13.7s
HNS HongShan 14.94 335 ⇓P **Pn 11 48 04.0 +1.2**
HNS S **S 11 50 58.5 -6.0**
HNS pmax pmax
comp=E,33nm,2.1s
HNS LR LR
comp=E,13μm,14.8s
HNS LR LR
comp=E,9μm,13.6s
HNS LR LR
comp=E,16μm,14.7s
XAN Xi'an 15.52 313 ⇑P **Pn 11 48 10.5 0.0**
XAN pP P 11 48 14.3 -0.3
XAN sP pP 11 48 16.9 -5.0
XAN PP **sP 11 48 21.5 -4.0**
XAN S **Sn 11 51 06.3 +4.8**
XAN pmax pmax
comp=E,18nm,1.1s
XAN pmax pmax
comp=E,660nm,5.8s
XAN LR LR
comp=E,3μm,11.7s
XAN LR LR
comp=E,8μm,15.1s
XAN LR LR
comp=E,10μm,15.8s
TIY Taiyuan 16.16 330 P **P 11 48 22.3 +0.5**
TIY sP **pP 11 48 30.4 +1.0**
TIY S **Sn 11 51 14.9 -2.3**
TIY SS **SnSn 11 51 35.5 +5.0**
TIY pmax pmax
comp=E,42nm,0.7s
TIY pmax pmax
comp=E,1μm,5.0s
TIY LR LR
comp=E,11μm,13.9s
TIY LR LR
comp=E,5μm,12.1s
TIY LR LR
comp=E,11μm,13.9s
BJT Baijiatuau 16.85 343 **P 11 48 28.5 -0.8**
BJT Baijiatuau 16.85 343 P **P 11 48 31.2 +1.9**
BJT Baijiatuau 16.85 343 P **P 11 48 28.5 -0.8**
BJT pmax pmax
comp=Z,70nm,1.9s
BJI Beijing 16.86 343 P **P 11 48 29.0 -0.4**
BJI pP **pP 11 48 34.8 -2.3**
BJI sP **sP 11 48 39.8 -1.1**
BJI PP **pwP 11 48 43.3 +6.2**
BJI S **Sn 11 51 36.1 +2.0**
BJI pmax pmax
comp=Z,14nm,2.3s
BJI pmax pmax
comp=Z,580nm,6.1s
BJI LR LR
comp=Z,2μm,23.1s
BJI LR LR
comp=Z,2μm,19.9s
BJI LR LR
comp=Z,4μm,13.7s
DAV Davao City (W) 17.09 170 LR LR 11 54 57.8
comp=Z,3μm,21.1s,baz=9.5,slow=36
SLVN Son La 17.36 265 **P 11 48 36.3 +1.1**
SLVN Son La 17.36 265 P **P 11 48 36.1 +0.9**
JHJ Hachijo jima 2 17.68 55 P **Pn 11 48 36.8 -1.0**
comp=Z,16nm,0.3s,baz=217,slow=18,SNR=2.0
JHJ LR LR 11 55 44.5
comp=Z,1μm,18.3s,baz=280,slow=38
comp=Z,208nm,0.8s
SNY Shenyang 17.81 3 ⇑P **P 11 48 40.1 +0.3**
SNY S **Sn 11 51 56.5 -0.4**
SNY pmax pmax
comp=Z,25nm,0.6s
SNY pmax pmax
comp=Z,770nm,7.4s
SNY LR LR
comp=Z,4μm,13.3s
SNY LR LR
comp=Z,3μm,14.9s
SNY LR LR
comp=Z,6μm,13.8s
CD2 Chengdu 17.99 297 P **P 11 48 42.3 +0.2**
CD2 pP pP 11 48 49.0 -0.4
CD2 sP pwP 11 48 54.3 +1.6
CD2 S **S 11 52 04.1 -3.0**
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,1μm,6.3s
CD2 LR LR
comp=Z,7μm,9.2s
CD2 LR LR
comp=Z,10μm,11.8s
CD2 LR LR
comp=Z,11μm,13.2s
KMI Kunming 18.01 278 ⇑P **P 11 48 43.4 +0.9**
KMI sP pwP 11 48 53.1 -0.7
KMI S **S 11 52 05.9 -1.9**
KMI pmax pmax
comp=Z,28nm,0.9s
KMI pmax pmax
comp=Z,570nm,7.2s
KMI LR LR
comp=Z,2μm,15.7s
KMI LR LR
comp=Z,8μm,13.8s
KMI LR LR
comp=Z,8μm,13.2s
JCJ Chichijima 18.03 76 P **Pn 11 48 40.5 -1.7**
comp=Z,7.7nm,0.3s,baz=192,slow=17,SNR=6.5
JCJ LR LR 11 55 01.5
comp=Z,2μm,20.6s,baz=250,slow=35
comp=Z,57nm,0.9s
MAJO Matsushiro 18.42 44⇓*e*P **P 11 48 45.1 -1.6**
MAJO pmax pmax
comp=Z,20nm,1.6s
MJAR Matsushiro Arr 18.42 44 **P 11 48 45.5 -1.3**
MJAR Matsushiro Arr 18.42 44 P **P 11 48 45.6 -1.1**
comp=Z,3.2nm,0.5s,baz=227,slow=21,SNR=9.0
MJAR LR LR 11 56 18.3
comp=Z,2μm,20.6s,baz=226,slow=39
PZH PanZhiHua 18.94 282 P **Pn 11 48 54.8 +1.4**
MYLDM Lahad Datu 19.10 192 **Pn 11 48 55.7 +0.5**
MYLDM IAmb IAmb 11 49 07.1
comp=Z,228nm,2.0s
MYLDM Lahad Datu 19.10 192 P **Pn 11 48 58.0 +2.8**
HHC Hu-ho-hao-te 19.15 334 *e*P **Pn 11 48 56.1 +0.3**
HHC pP pP 11 49 01.6 -0.8
HHC sP sP 11 49 06.8 +0.6
HHC S **S 11 52 31.8 +1.7**
HHC sS sS 11 52 38.0 -3.7
HHC SS **SnSn 11 52 51.8 +8.0**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,1μm,5.0s
HHC LR LR
comp=Z,9μm,12.2s
HHC LR LR
comp=Z,5μm,13.0s
HHC LR LR
comp=Z,12μm,13.0s
BTO Baotou 19.60 331 *e*P **Pn 11 49 02.3 +1.1**
BTO PP **PnPn 11 49 23.1 +8.1**
BTO pmax pmax
comp=Z,70nm,1.0s
BTO LR LR
comp=Z,23μm,13.7s
BTO LR LR
comp=Z,11μm,13.0s
BTO LR LR
comp=Z,30μm,13.6s
PSTR Posyet 19.84 18*d* *i*P **P 11 49 02.3 +0.2**
MSHR Mys Shultsa 19.88 19*c* *i*P **P 11 49 02.1 -0.4**
MSHR pmax pmax
comp=Z,33nm,0.8s
CN2 Changchun 19.91 6 P **P 11 49 02.6 -0.3**
CN2 S **S 11 52 40.3 -5.0**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,9μm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
CN2 LR LR
comp=Z,10μm,15.0s
LZH Lanzhou 20.11 311 ⇑P Pn 11 49 07.0 -0.3
LZH sP pwP 11 49 16.0 +0.2
LZH S Sn 11 52 51.3 -1.6
LZH SS **SnSn 11 53 20.8 +13**
LZH pmax pmax
comp=Z,85nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.5s
LZH LR LR
comp=Z,3μm,12.7s
LZH LR LR
comp=Z,7μm,12.7s
LZH LR LR
comp=Z,10μm,12.4s
LZDM Lanzhou Array 20.14 311 P Pn 11 49 06.8 -1.1
comp=Z,145nm,0.9s,baz=146,slow=11,SNR=20
LZDM PcP **PcP 11 53 20.1 -0.1**
comp=Z,2.4nm,0.4s,baz=146,slow=2.6,SNR=2.3
XLT XiLinHaoTe 20.54 347 *e*P **P 11 49 05.4 -4.5**
XLT pP Pn 11 49 12.8 +0.6
XLT sP pP 11 49 15.3 -2.4
XLT PP **sP 11 49 22.4 +1.0**
XLT S **S 11 52 48.6 -10**
XLT sS sS 11 53 08.1 -1.5
XLT PcP **PcP 11 53 16.5 -3.9**
XLT SS **SnSn 11 53 23.3 +5.3**
XLT pmax pmax
comp=Z,26nm,0.9s
XLT LR LR
comp=N,310nm,20.0s
XLT LR LR
comp=E,3μm,16.1s
XLT LR LR
comp=Z,9μm,15.0s
MDJ Mudanjiang 21.37 14 P **P 11 49 19.0 +0.3**
MDJ pmax pmax
comp=Z,11nm,0.6s
MDJ LR LR
comp=Z,4μm,18.1s
MDJ LR LR
comp=Z,5μm,16.9s
MDJ LR LR
comp=Z,8μm,15.1s
MDJ Mudanjiang 21.37 14 **P 11 49 17.2 -1.5**
MDJ Mudanjiang 21.37 14 P **P 11 49 19.4 +0.7**
USRK Ussuriysk Ar. 21.60 19 P **P 11 49 18.8 -2.4**
comp=Z,15nm,0.7s,baz=203,slow=9.5,SNR=25
comp=Z,15nm,0.7s
TNCH TengChong 21.84 278 ⇑P **P 11 49 25.9 +1.8**
TNCH pP pP 11 49 28.0 -3.4
TNCH sP sP 11 49 31.8 -3.0
TNCH S **S 11 53 23.8 -0.4**
TNCH pmax pmax
comp=Z,49nm,1.3s
TNCH pmax pmax
comp=Z,820nm,3.6s
TNCH LR LR
comp=Z,3μm,9.2s
TNCH LR LR
comp=Z,3μm,12.1s
TNCH LR LR
comp=Z,10μm,13.9s
BNX BinXian 22.06 9 ⇓P **P 11 49 26.8 +0.8**
BNX pP **pP 11 49 33.0 -0.9**
BNX sP **pwP 11 49 34.8 +0.9**
BNX S **S 11 53 32.3 +4.7**
BNX pmax pmax
comp=Z,32nm,0.9s
BNX pmax pmax
comp=Z,420nm,6.2s
BNX LR LR
comp=Z,5μm,14.6s
BNX LR LR
comp=Z,2μm,11.4s
BNX LR LR
comp=Z,6μm,14.8s
CHTO Chiang Mai 22.52 261 **P 11 49 32.5 +1.3**
CHTO Chiang Mai 22.52 261 P **P 11 49 33.1 +1.8**
CHTO Chiang Mai 22.52 261 P **P 11 49 33.8 +2.5**
CHTO Chiang Mai 22.52 261 P **P 11 49 32.5 +1.3**
CHTO pmax pmax
comp=Z,15nm,0.8s
CM31 Chiang Mai Arr 22.63 260 P **P 11 49 34.1 +1.7**
CMAR Chiang Mai Arr 22.63 260 P **P 11 49 32.9 +0.5**
CMAR Chiang Mai Arr 22.63 260 P **P 11 49 33.9 +1.5**
comp=Z,7.5nm,0.8s,baz=64,slow=9.1,SNR=50
CMAR PcP **PcP 11 53 25.2 +0.4**
comp=Z,2.5nm,0.7s,baz=47,slow=0.5,SNR=8.5
CMAR LR LR 11 59 23.0
comp=Z,1μm,18.5s,baz=75,slow=39
comp=Z,7.5nm,0.8s
CMAR Chiang Mai Arr 22.63 260 P **P 11 49 32.9 +0.5**
TOLI2 Tolitoli 22.81 184 P **P 11 49 35.1 +0.8**
TOLI2 Tolitoli 22.81 184 P **P 11 49 37.2 +2.9**
KMSI Cibinong 23.32 176 P **P 11 49 40.3 +0.8**
comp=Z,2μmcomp=Z,190nm,0.9s
MRSI Marisa 23.38 181 P **P 11 49 41.1 +1.0**
comp=Z,2μmcomp=Z,85nm,1.6s
GUMO Guam 23.54 112 P **P 11 49 42.0 +0.4**
comp=Z,80nm,1.1s,baz=6.3,slow=5.6,SNR=3.8
GUMO LR LR 11 58 43.7
comp=Z,2μm,19.0s,baz=290,slow=36
comp=Z,80nm,1.1s
GUMO Guam 23.54 112 P **P 11 49 42.0 +0.4**
TNTI Ternate 23.56 168 P **P 11 49 43.2 +1.4**
TNTI Ternate 23.56 168 P **P 11 49 44.7 +2.8**
TNTI Ternate 23.56 168 P **P 11 49 42.7 +0.8**
comp=Z,3μmcomp=Z,122nm,1.0s
SBUM Sibu 23.61 206 P **P 11 49 41.4 -0.9**
SBUM Sibu 23.61 206 P **P 11 49 43.0 +0.7**
TEY Ternei 23.93 25 *e*P **P 11 49 41.8 -3.2**
GTA Gaotai 24.57 314 ⇑P **P 11 49 51.4 +0.1**
GTA pP pP 11 49 58.5 -0.9
GTA PcP **PcP 11 53 29.6 +0.8**
GTA S **S 11 54 09.8 -0.7**
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,630nm,8.0s
GTA LR LR
comp=Z,2μm,11.9s
GTA LR LR
comp=Z,5μm,13.5s
GTA LR LR
comp=Z,7μm,15.1s
APSI Ampana 24.77 182 P **P 11 49 54.5 +1.5**
comp=Z,2μmcomp=Z,106nm,1.3s
LUWI Luwuk 24.89 179 P **P 11 49 55.6 +1.5**
comp=Z,7μmcomp=Z,150nm,1.2s
KSM Kuching 25.31 210 P **P 11 49 58.4 +0.4**
KSM IAmb IAmb 11 50 14.0
comp=Z,119nm,1.6s
KSM Kuching 25.31 210 P **P 11 49 59.7 +1.8**
HILR Hailar Array B 25.61 356 P **P 11 49 59.3 -1.1**
comp=Z,13nm,0.7s,baz=175,slow=10,SNR=7.3
HILR LR LR 12 01 28.7
comp=Z,3μm,18.9s,baz=105,slow=40
comp=Z,13nm,0.7s
MTKI Muara Teweh, K 25.86 198 P **P 11 50 03.8 +0.8**
comp=Z,2μmcomp=Z,143nm,0.8s
ASAJ Asahikawa 25.95 34 P **P 11 50 00.7 -2.9**
comp=Z,5.3nm,0.4s,baz=236,slow=11,SNR=16
ASAJ LR LR 12 00 06.5
comp=Z,3μm,21.4s,baz=241,slow=36
comp=Z,5.3nm,0.4s
SANI Sanana 26.11 172 P **P 11 50 05.5 +0.3**
SANI Sanana 26.11 172 P **P 11 50 05.9 +0.7**
comp=Z,2μmcomp=Z,1μmcomp=Z,46nm,1.1s
SWI Sorong 26.13 160 P **P 11 50 07.5 +2.1**
SWI Sorong 26.13 160 P **P 11 50 07.5 +2.1**
HEH HeiHe 26.49 7 *e*P **P 11 50 06.9 -1.4**
HEH pP **pP 11 50 11.8 -4.4**
HEH S **S 11 54 44.1 +3.7**
HEH pmax pmax
comp=Z,12nm,0.7s
HEH pmax pmax
comp=Z,530nm,8.8s
HEH LR LR
comp=Z,5μm,15.1s
HEH LR LR
comp=Z,3μm,15.5s
HEH LR LR
comp=Z,7μm,14.6s
GOMU GeErMu 26.77 303 P **P 11 50 12.1 +0.7**
GOMU pP pP 11 50 14.9 -4.2
GOMU sP pwP 11 50 19.8 -4.0
GOMU S **S 11 54 47.0 +1.2**
GOMU pmax pmax
comp=Z,19nm,0.9s
GOMU LR LR
comp=Z,2μm,15.9s
GOMU LR LR
comp=Z,1μm,15.6s
GOMU LR LR
comp=Z,2μm,15.7s
ULN Ulaanbaatar 26.80 337 **P 11 50 09.8 -1.6**
ULN Ulaanbaatar 26.80 337 P **P 11 50 10.7 -0.7**
ULN Ulaanbaatar 26.80 337 P **P 11 50 09.8 -1.6**
ULN pmax pmax
comp=Z,18nm,0.8s
SONM Songino Array 27.02 336 P **P 11 50 11.8 -1.5**
SONM Songino Array 27.02 336 P **P 11 50 11.9 -1.4**
comp=Z,13nm,0.6s,baz=151,slow=9.6,SNR=54
SONM PcP **PcP 11 53 34.8 +0.6**
comp=Z,2.1nm,0.5s,baz=163,slow=5.1,SNR=5.7
SONM ScP **ScP 11 57 16.6 +4.2**
comp=Z,1.8nm,1.1s,baz=154,slow=4.6,SNR=4.0
SONM LR LR 12 02 06.2
comp=Z,6μm,19.7s,baz=159,slow=39
comp=Z,13nm,0.6s
NLAI Namlea 27.44 170 P **P 11 50 17.3 +0.2**
MSAI Masohi 27.89 166 P **P 11 50 22.4 +1.2**
comp=Z,121nm,1.1s
YSS Yuzhno-Sakhali 28.07 30 P **P 11 50 22.6 0.0**
YSS IAmb IAmb 11 50 58.5
comp=Z,92nm,1.7s
YSS Yuzhno-Sakhali 28.07 30 P **P 11 50 23.2 +0.7**
YSS Yuzhno-Sakhali 28.07 30⇑*e*P **P 11 50 22.8 +0.3**
YSS *e*S **S 11 55 04.8 -0.5**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,100nm,3.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=E,1μm,14.0s
BRDH Bariadhala 28.34 274 LR LR 12 04 13.7
comp=E,1μm,18.3s,baz=105,slow=42
LSA Lhasa 28.49 288 IAmb IAmb 11 50 41.1
comp=Z,20nm,0.6s
LSA Lhasa 28.49 288 P **P 11 50 28.7 +1.7**
LSA Lhasa 28.49 288 P **P 11 50 28.6 +1.6**
KAPI Kappang 28.96 186 LR LR 12 03 26.8
comp=Z,757nm,19.8s,baz=14,slow=39
KAPI Kappang 28.96 186 P P 11 50 37.9 +7.2
UGL Uglegorsk 29.39 27 *e*P **P 11 50 31.9 -2.3**

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UGL                                  MLR   MLR
      comp=E,3µm,13.0s
UGL                                  MLR   MLR
      comp=Z,1µm,15.0s
ZEA   Zeya          29.92    6 eP          P     11 50 36.9 -2.0
ZEA                             e                11 51 43.1
ZEA                             e                11 53 39.4
ZEA                                  pmax  pmax
      comp=Z,10.0nm,0.6s
ZEA                                  MLR   MLR
      comp=N,2µm,13.0s
ZEA                                  MLR   MLR
      comp=Z,2µm,14.0s
ZAK   Zakamensk     30.28 335 eP          P     11 50 40.1 -2.2
ZAK                                  pmax  pmax
      comp=Z,8.0nm,1.2s
TLY   Talaya        31.21 337 P           P     11 50 48.6 -1.7
TLY   Talaya        31.21 337 P           P     11 50 48.9 -1.4
TLY   Talaya        31.21 337 ceP         P     11 50 48.6 -1.7
TLY                                  pmax  pmax
      comp=Z,13nm,0.7s
IRK   Irkutsk       31.46 338 eP          P     11 50 44.6 -7.9
IRK                                  pmax  pmax
      comp=Z,42nm,2.4s
JAY   Jayapura      31.75 144 LR          LR    12 01 16.6
      comp=Z,2µm,20.9s,baz=354,slow=32
MOY   Mondy         32.19 335 eP          P     11 50 56.7 -2.4
MOY                                  pmax  pmax
      comp=Z,12nm,1.9s
EVN   Everest       32.25 285 P           P     11 51 01.2 +0.7
PPI   Padang Panjang 32.42 225 P          P     11 51 02.3 +1.0
      comp=Z,25nm,0.8s
MMRI  Maumere       32.43 180 P           P     11 51 01.2 -0.2
      comp=Z,67nm,1.3s
EDFI  Ende, Flores  32.55 181 P           P     11 51 02.2 -0.3
      comp=Z,39nm,0.7s
NGJI  Ngawi         32.98 200 P           P     11 51 07.3 +1.1
WOJI  Wonogiri, Jawa 33.60 201 P          P     11 51 12.5 +1.0
KPJI  Karang Pucung 33.84 205 P           P     11 51 14.9 +1.3
      comp=Z,35nm,0.8s
BATI  Baumata       34.01 178 LR          LR    12 06 36.0
      comp=Z,803nm,19.5s,baz=360,slow=39
WMQ   Urumqi        34.66 313 eP          P     11 51 21.3 +0.7
WMQ                             pP            sP    11 51 31.9 -0.4
WMQ                             PcP           PcP   11 53 59.5 +5.1
WMQ                             S             S     11 56 57.5 +9.1
WMQ                                  pmax  pmax
      comp=Z,24nm,0.7s
WMQ                                  pmax  pmax
      comp=Z,300nm,4.9s
WMQ                                  LR    LR
      comp=Z,2µm,12.7s
WMQ                                  LR    LR
      comp=Z,2µm,14.1s
WMQ                                  LR    LR
      comp=Z,1µm,14.1s
MTN   Manton Dam    37.57 166 P           P     11 51 44.7 -1.0
      comp=Z,47nm,1.2s
MTN   Manton Dam    37.57 166 IAmb        IAmb  11 52 01.2
      comp=Z,71nm,1.3s
ZSN   Zaisan        37.95 318 eP          P     11 51 48.8 +0.2
ZSN   Zaisan        37.95 318 eP          P     11 51 48.8 +0.2
YAK   Yakutsk       38.33    5 P          P     11 51 49.5 -2.1
YAK   Yakutsk       38.33    5 LR         LR    12 09 25.4
      comp=Z,3µm,18.2s,baz=186,slow=39
YAK   Yakutsk       38.33    5 eP         P     11 51 48.0 -3.6
YAK                             eS            S     11 57 44.0 +0.1
YAK                             eSSS          SSS   12 00 49.2
YAK                                  pmax  pmax
      comp=Z,58nm,0.9s
YAK                                  pmax  pmax
      comp=N,15nm,1.0s
YAK                                  pmax  pmax
      comp=E,5.0nm,1.1s
YAK                                  smax  smax
      comp=E,42nm,3.0s
YAK                                  smax  smax
      comp=N,43nm,2.8s
YAK                                  MLR   MLR
      comp=Z,3µm,14.0s
YAK                                  MLR   MLR
      comp=N,2µm,13.0s
YAK                                  MLR   MLR
      comp=E,351nm,14.0s
PATS  Pohnpei       38.34 111 P           P     11 51 54.5 +2.2
      comp=Z,71nm,1.9s
MK31  Makanchi Array 39.31 316 i P        P     11 51 59.6 -0.5
MK31                                 pmax  pmax
      comp=Z,30nm,0.6s
MKAR  Makanchi Array 39.31 316 P          P     11 51 59.6 -0.5
MKAR  Makanchi Array 39.31 316 P          P     11 51 59.5 -0.6
      comp=Z,28nm,0.5s,baz=100,slow=11,SNR=191
MKAR                            PcP           PcP   11 54 06.7 -1.6
      comp=Z,10nm,1.0s,baz=86,slow=3.2,SNR=4.3
MKAR                            ScP           S     11 57 56.9 -2.3
      comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=3.1
MKAR                                 LR    LR    12 09 44.7
      comp=Z,3µm,18.0s,baz=96,slow=39
      comp=Z,28nm,0.5s
PETK  Petropavlovsk- 39.36   33 P         P     11 51 58.1 -2.3
      comp=Z,1.9nm,0.7s,baz=193,slow=6.4,SNR=8.1
PETK                                 LR    LR    12 09 04.6
      comp=Z,2µm,19.0s,baz=227,slow=38
      comp=Z,1.9nm,0.7s
MAKZ  Makanchi      39.52 315            P     11 52 01.4 -0.4
MAKZ                                 IAmb  IAmb  11 52 03.4
      comp=Z,75nm,1.1s
MAKZ  Makanchi      39.52 315 P          P     11 52 01.4 -0.4
MAKZ                                 pmax  pmax
      comp=Z,75nm,1.2s
PET   Petropavlovsk 39.80   34 eP         P     11 52 05.0 +1.0
PET                             eS            S     11 58 08.0 +1.9
PET                                  pmax  pmax
      comp=Z,100nm,4.5s
PET                                  MLR   MLR
      comp=Z,900nm,15.0s
KNRA  Kununurra     39.90 171 P          P     11 52 04.6 -0.6
      comp=Z,52nm,1.1s
KNRA  Kununurra     39.90 171 P          P     11 52 05.6 +0.4
KNRA                                 IAmb  IAmb  11 52 19.3
      comp=Z,39nm,0.9s
SHLS  Shalkode      40.11 309 eP         P     11 52 04.5 -2.5
      comp=Z,28nm,0.8s
SHLS  Shalkode      40.11 309 eP         P     11 52 04.5 -2.5
SHLS                                 pmax  pmax
      comp=Z,28nm,0.8s
PDGK  Podgornoye    40.14 309 P          P     11 52 07.2  0.0
UZB   Uzynbulak     40.42 309⇑ i P       P     11 52 09.4 -0.1
      comp=Z,43nm,1.4s
UZB   Uzynbulak     40.42 309c i P       P     11 52 09.4 -0.1
UZB                                  pmax  pmax
      comp=Z,43nm,1.4s
MA2   Magadan       40.71   22 LR        LR    12 10 03.7
      comp=Z,3µm,19.2s,baz=218,slow=38
MA2   Magadan       40.71   22⇓ eP       P     11 52 10.3 -1.2
MA2                                  pmax  pmax
      comp=Z,45nm,1.4s
PRZ   Przheval'sk   40.72 308 IAmb       IAmb  11 52 15.6
      comp=Z,71nm,1.0s
SATY  Saty          40.84 309 eP         P     11 52 13.1  0.0
      comp=Z,36nm,1.3s
SATY  Saty          40.84 309 eP         P     11 52 13.0  0.0
SATY                                 pmax  pmax
      comp=Z,36nm,1.3s
PMG   Port Moresby  41.02 141 LR         LR    12 09 00.5
      comp=Z,1µm,19.3s,baz=321,slow=36
PMG   Port Moresby  41.02 141 P          P     11 52 18.1 +3.6
PMG   Port Moresby  41.02 141 P          P     11 52 18.0 +3.6
ZAA0  Zalesovo Array 41.06 327 P         P     11 52 12.7 -1.8
ZAA0                                 IAmb  IAmb  11 52 15.0
      comp=Z,40nm,1.0s
ZALV  Zalesovo Beam 41.06 327            P     11 52 12.4 -2.1
ZALV  Zalesovo Beam 41.06 327 P          P     11 52 12.6 -1.8
      comp=Z,24nm,0.6s,baz=114,slow=7.3,SNR=87
ZALV                            PcP           PcP   11 54 12.6 -1.2
      comp=Z,6.2nm,0.5s,baz=102,slow=3.8,SNR=8.9
ZALV                                 LR    LR    12 10 00.4
      comp=Z,2µm,21.4s,baz=126,slow=37
      comp=Z,24nm,0.6s
H11N1 WAKE ISLAND Hy 41.30   87 T         T     12 38 06.3
      baz=283,slow=74,SNR=5.6
H11N2 WAKE ISLAND Hy 41.30   87 T         T     12 37 59.6
      baz=283,slow=74,SNR=6.0
H11N3 WAKE ISLAND Hy 41.31   87 T         T     12 38 12.5
      baz=283,slow=74,SNR=6.1
TDK   Taldyqorghan  41.32 312 eP         P     11 52 17.0 +0.2
TDK   Taldyqorghan  41.32 312 eP         P     11 52 17.0 +0.2
H11S3 WAKE ISLAND Hy 41.42   89 T         T     12 38 21.1
      baz=284,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 41.43   89 T         T     12 38 20.7
      baz=284,slow=75,SNR=6.6
H11S2 WAKE ISLAND Hy 41.44   89 T         T     12 38 20.7
      baz=284,slow=75,SNR=7.2
HYB   Hyderabad     41.50 269 eP         P     11 52 18.7 +0.2
HYB                             epP           pP    11 52 24.5 -1.9
HYB                             eS            S     11 58 34.2 +1.8
MDOK  Medeo         41.83 309 eP         P     11 52 21.3 +0.1
MDOK  Medeo         41.83 309 eP         P     11 52 21.3 +0.1
TNSS  Tian-Shan     41.88 308 eP         P     11 52 21.7 -0.2
TNSS  Tian-Shan     41.88 308 eP         P     11 52 21.6 -0.2
AAA   Alma-Ata      41.94 309 eP         P     11 52 22.1 +0.2
      comp=Z,42nm,1.0s
AAA   Alma-Ata      41.94 309 eP         P     11 52 22.1 +0.2
AAA                                  pmax  pmax
      comp=Z,41nm,1.0s
FITZ  Fitzroy Crossi 41.95 176 P         P     11 52 20.9 -1.1
      comp=Z,4.8nm,1.3s
FITZ  Fitzroy Crossi 41.95 176 P         P     11 52 22.8 +0.7
FITZ  Fitzroy Crossi 41.95 176 P         P     11 52 21.5 -0.5
KSH   Kashi         42.01 303 P          P     11 52 26.0 +3.4
KSH                             pP            pwP   11 52 33.3 -1.8
KSH                             PP            11 54 07.1
KSH                             S             S     11 58 44.6 +4.8
KSH                                  pmax  pmax
      comp=Z,61nm,0.9s
KSH                                  pmax  pmax
      comp=Z,300nm,5.7s
KSH                                  LR    LR
      comp=Z,850nm,14.4s
KSH                                  LR    LR
      comp=Z,3µm,17.2s
KSH                                  LR    LR
      comp=Z,3µm,17.2s
ULHL  Ulahol        42.23 307 P          P     11 52 25.4 +0.9
      SNR=16
COEN  Coen          42.79 150 P          P     11 52 30.2 +1.2
      comp=Z,55nm,1.2s
COEN  Coen          42.79 150 P          P     11 52 30.2 +1.2
COEN                                 IAmb  IAmb  11 52 47.2
      comp=Z,59nm,1.1s
COEN  Coen          42.79 150 P          P     11 52 30.5 +1.5
TKM2  Tokmak 2      42.83 308 P          P     11 52 30.2 +0.8
      SNR=78
KURK  Kurchatov     43.01 320 P          P     11 52 29.3 -1.1
KURK                                 IAmb  IAmb  11 52 31.8
      comp=Z,32nm,0.8s
KURK  Kurchatov     43.01 320 P          P     11 52 29.6 -0.8
KURK  Kurchatov     43.01 320 P          P     11 52 29.3 -1.1
KURK                                 pmax  pmax
      comp=Z,32nm,0.9s
KURBB Kurchatov Arra 43.03 320 P         P     11 52 28.9 -1.6
      comp=Z,30nm,0.9s,baz=110,slow=7.9,SNR=49
KURBB                           PcP           PcP   11 54 18.9 -1.5
      comp=Z,5.2nm,0.8s,baz=104,slow=2.7,SNR=7.2
KURBB                                LR    LR    12 10 43.5
      comp=Z,437nm,21.6s,baz=154,slow=37
      comp=Z,30nm,0.9s
KBK   Karagaybulak  43.25 307 P          P     11 52 33.7 +1.0
      SNR=29
PALK  Palikele      43.34 254 LR         LR    12 11 00.2
      comp=Z,731nm,20.2s,baz=60,slow=37
CHMS  Chumysh       43.45 308 P          P     11 52 35.1 +1.0
      SNR=19
UCH   Uchtor        43.50 307 P          P     11 52 36.5 +1.4
      SNR=95
AAK   Ala-Archa     43.58 307            P     11 52 36.1 +0.8
AAK                                  IAmb  IAmb  11 52 38.5
      comp=Z,28nm,0.8s
AAK   Ala-Archa     43.58 307 LR         LR    12 13 43.8
      comp=Z,3µm,18.4s,baz=91,slow=40
AAK   Ala-Archa     43.58 307 P          P     11 52 35.8 +0.5
AAK   Ala-Archa     43.58 307 P          P     11 52 36.0 +0.8
      SNR=30
AAK   Ala-Archa     43.58 307 i P        P     11 52 36.0 +0.7
      SNR=32
AAK   Ala-Archa     43.58 307 i P        P     11 52 35.3  0.0
AAK                                  pmax  pmax
      comp=Z,170nm,0.8s
SGDS  Sogindy       43.62 308 eP         P     11 52 35.6  0.0
USP   Ussenovka     43.68 308 P          P     11 52 36.9 +0.9
      SNR=12
SEY   Seymchan      43.75   19 LR        LR    12 12 39.1
      comp=Z,2µm,18.5s,baz=212,slow=39
SEY   Seymchan      43.75   19⇓ eP       P     11 52 37.2 +1.0
SEY                                  pmax  pmax
      comp=Z,15nm,1.8s
NIL   Nilore        43.86 294            P     11 52 38.0 +0.4
NIL                                  IAmb  IAmb  11 52 39.9
      comp=Z,46nm,0.9s
NIL   Nilore        43.86 294 P          P     11 52 38.2 +0.7
NIL   Nilore        43.86 294 P          P     11 52 38.0 +0.4
NIL                                  pmax  pmax
      comp=Z,46nm,0.9s
EKS2  Erkin-Say     44.10 307 P          P     11 52 40.1 +0.6
      SNR=27
MBWA  Marble Bar    44.96 184 P          P     11 52 47.9 +1.6
      comp=Z,15nm,0.9s
WB0   Warramunga Arr 45.01 164 IAmb      IAmb  11 53 05.8
      comp=Z,29nm,1.0s
WRAB  Tennant Creek 45.16 164 P          P     11 52 48.5 +0.5
WRAB  Tennant Creek 45.16 164d i P       P     11 52 48.1 +0.1
WRAB                                 pmax  pmax
      comp=Z,33nm,0.9s
WRA   Warramunga Arr 45.17 164 P         P     11 52 48.7 +0.7
WRA   Warramunga Arr 45.17 164 P         P     11 52 48.4 +0.4
      comp=Z,21nm,0.8s,baz=346,slow=8.5,SNR=84
WRA                             S             S     11 59 25.6 -0.3
      comp=Z,1.0nm,1.1s,baz=346,slow=14,SNR=5.1
      comp=Z,21nm,0.8s
WRA   Warramunga Arr 45.17 164 P         P     11 52 48.7 +0.7
WR8   Warramunga Arr 45.22 164 IAmb      IAmb  11 53 02.7
      comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 45.37 183 P         P     11 52 49.3 -0.3
PSA00                                IAmb  IAmb  11 53 03.3
      comp=Z,63nm,2.0s
PSA00 Pilbara Seismi 45.37 183 P         P     11 52 52.5 +3.0
PSAD3 Pilbara Seismi 45.44 184 P         P     11 52 52.6 +2.5
      comp=Z,23nm,1.3s
DZA   Taraz         45.92 307 eP         P     11 52 54.0 +0.1
      comp=Z,25nm,1.0s
DZA   Taraz         45.92 307 eP         P     11 52 53.9 +0.1
DZA                                  pmax  pmax
      comp=Z,25nm,1.0s
BRZS  Berezniki     46.39 317 eP         P     11 52 57.6 +0.1
BRZS  Berezniki     46.39 317 eP         P     11 52 57.5 +0.1
KK31  Karatay Array 46.54 307 IAmb       IAmb  11 53 01.7
      comp=Z,30nm,0.9s
KK31  Karatay Array 46.54 307 i P        P     11 52 59.2 +0.5
KKAR  Karatay Array 46.54 307 P          P     11 52 58.8 +0.1
KKAR  Karatay Array 46.54 307 P          P     11 52 58.8 +0.1
IUG   Iuzhnay       46.79 306⇑ i P       P     11 53 00.9 +0.1
      comp=Z,31nm,0.8s
IUG   Iuzhnay       46.79 306c i P       P     11 53 00.8 +0.1
IUG                                  pmax  pmax
      comp=Z,31nm,0.8s
MTSU  Mount Surprise 46.97 151 P         P     11 53 04.1 +1.9
      comp=Z,30nm,0.9s
MTSU  Mount Surprise 46.97 151 P         P     11 53 04.6 +2.3
BRLS  Borolday      47.02 307⇑ i P       P     11 53 03.1 +0.6
BRLS  Borolday      47.02 307c i P       P     11 53 03.1 +0.6
QIS   Mount Isa     47.31 158 P          P     11 53 06.0 +1.2
      comp=Z,48nm,0.9s
QIS   Mount Isa     47.31 158 P          P     11 53 06.3 +1.4
KBL   Kabul         47.33 296 P          P     11 53 06.1 +0.9
KBL   Kabul         47.33 296 P          P     11 53 06.1 +0.9
      SNR=33
KBL   Kabul         47.33 296 P          P     11 53 06.1 +0.9
KBL                                  pmax  pmax
      comp=Z,55nm,0.8s
TIXI  Tiksi         47.82    3 P         P     11 53 05.2 -2.9
TIXI                                 IAmb  IAmb  11 53 07.0
      comp=Z,16nm,0.7s
TIXI  Tiksi         47.82    3 LR        LR    12 15 51.6
      comp=Z,6µm,18.4s,baz=192,slow=40
TIXI  Tiksi         47.82    3⇓ i P      P     11 53 05.0 -3.2
TIXI                                 pmax  pmax
      comp=Z,15nm,0.7s
SHEM  Shemya Is, Ala 48.20   40 LR        LR    12 12 27.2
      comp=Z,686nm,21.7s,baz=289,slow=35
BVAR  Borovoye Array 48.58 321 LR        LR    12 16 05.4
      comp=Z,833nm,18.5s,baz=102,slow=39
AS15  Alice Springs 48.62 166 P          P     11 53 16.6 +1.6
      comp=Z,39nm,0.9s
BORK  Borovoye      48.63 321c i P       P     11 53 13.4 -1.3
BORK                                 pmax  pmax
      comp=Z,29nm,1.1s
AS31  Alice Springs 48.65 166 P          P     11 53 16.7 +1.5
      comp=Z,8.2nm,0.6s
ASAR  Alice Springs 48.65 166 P          P     11 53 16.2 +1.0
ASAR  Alice Springs 48.65 166 P          P     11 53 16.5 +1.3
      comp=Z,11nm,0.9s,baz=347,slow=6.5,SNR=64
ASAR                                 LR    LR    12 14 08.9
      comp=Z,388nm,19.6s,baz=328,slow=36
      comp=Z,11nm,0.9s
ASAR  Alice Springs 48.65 166 P          P     11 53 16.2 +1.0
AS01  Alice Springs 48.66 166 P          P     11 53 17.2 +1.9
AUALC St Philip's Co 48.67 166 P         P     11 53 17.2 +1.9
WRKA  Warakurna     49.06 173 P          P     11 53 19.8 +1.5
      comp=Z,11nm,1.7s
HNR   Honiara       49.41 128 LR         LR    12 12 38.0
      comp=Z,687nm,20.5s,baz=278,slow=34
INKA  Innaminka     54.36 160            P     11 53 59.5 +1.6
INKA                                 IAmb  IAmb  11 54 14.3
      comp=Z,21nm,0.8s
AUNRC North Rockhamp 54.37 148 P         P     11 54 00.4 +2.5
AB31  Akbulak array 54.43 314 IAmb       IAmb  11 54 00.7
      comp=Z,29nm,0.8s
AB31  Akbulak array 54.43 314 P          P     11 53 57.4 -0.8
ABKAR Akbulak array 54.43 314            P     11 53 58.0 -0.2
QLP   Quilpie       54.49 156 P          P     11 54 01.1 +2.3
SVE   Sverdlovsk    54.91 324 eP         P     11 54 00.6 -0.9
SVE                                  pmax  pmax
      comp=Z,18nm,0.7s
SVE                                  MLR   MLR
      comp=Z,2µm,16.0s
NGCH  Negor - Chabah 55.33 285 P         P     11 54 06.6 +1.6
AKTO  Aktyubinsk    55.75 316 LR         LR    12 19 47.5
      comp=Z,1µm,20.3s,baz=68,slow=38
AKTO  Aktyubinsk    55.75 316 P          P     11 54 06.7 -1.0
ARTI  Arti          56.07 323 P          P     11 54 08.1 -1.8
ARTI  Arti          56.07 323 LR         LR    12 22 12.1
      comp=Z,556nm,18.7s,baz=94,slow=40
ARTI  Arti          56.07 323ceP         P     11 54 07.8 -2.1
ARTI                                 pmax  pmax
      comp=Z,19nm,0.7s
JLN   Jalan Bani Buh 57.63 282 P         P     11 54 22.3 +0.8
BBOO  Buckleboo     57.95 167 P          P     11 54 24.9 +1.5
      comp=Z,51nm,1.1s
BBOO  Buckleboo     57.95 167 P          P     11 54 23.4  0.0
BBOO  Buckleboo     57.95 167 P          P     11 54 26.6 +3.2
WSAR  Wadi Sarin    58.05 283 P          P     11 54 24.7 +0.2
BIDO  Bidbid        58.43 284 P          P     11 54 27.6 +0.6
      SNR=6.3
STKA  Stephens Creek 58.48 161 P         P     11 54 28.7 +1.7
      comp=Z,135nm,0.9s
STKA  Stephens Creek 58.48 161 P         P     11 54 28.0 +0.9
      comp=Z,5.3nm,0.7s,baz=339,slow=8.6,SNR=9.3
STKA                                 LR    LR    12 21 16.4
      comp=Z,461nm,19.6s,baz=352,slow=38
      comp=Z,5.3nm,0.7s
STKA  Stephens Creek 58.48 161 P         P     11 54 28.8 +1.7
STKA  Stephens Creek 58.48 161 P         P     11 54 28.0 +0.9
AULRC Lightning Ridg 58.49 154 P         P     11 54 30.3 +3.1
WHYH  Whyalla       58.50 165 P          P     11 54 28.4 +1.2
SMDO  Samad         58.61 283 P          P     11 54 28.7 +0.2
      SNR=5.0
JMDO  Jabal Madar   58.74 282 P          P     11 54 29.3 -0.1
AUJCS Jamestown Cent 58.91 164 P         P     11 54 32.6 +2.5
HOQ   Hoqain        59.14 284 P          P     11 54 31.0 -1.0
      SNR=7.8
HTT   Hallett       59.21 164 P          P     11 54 34.6 +2.4
MHTO  MHTO          59.24 281 P          P     11 54 32.3 -0.4
BANOM Banah         59.46 287 P          P     11 54 35.6 +1.3
BANOM Banah         59.46 287 i P        P     11 54 35.2 +1.0
      SNR=7.6
CMSA  Cobar Meteorol 59.51 157 P         P     11 54 36.9 +2.6
      comp=Z,39nm,1.0s
CMSA  Cobar Meteorol 59.51 157 P         P     11 54 37.2 +2.9
SHME  Shamm         59.56 287 P          P     11 54 34.9  0.0
SOHO  SOHO          59.69 285 P          P     11 54 35.6 -0.2
SOHO  SOHO          59.69 285 i P        P     11 54 35.8  0.0
      SNR=10
MASF  Masafi        59.71 286 P          P     11 54 36.2 +0.2
UOSS  Minazif       59.78 286 P          P     11 54 37.2 +0.8
UOSS  Minazif       59.78 286 P          P     11 54 36.2 -0.2
HATD  Hatta, Dubai  59.87 286 P          P     11 54 37.6 +0.6
HATD  Hatta, Dubai  59.87 286 P          P     11 54 37.7 +0.6
ARQ   Araqi         59.90 284 P          P     11 54 37.9 +0.6
DQM   DQM           59.92 280 P          P     11 54 36.8 -0.7
ASHO  Ashiyiah      59.97 286 P          P     11 54 38.3 +0.5
      SNR=5.6
NAZ   Nazwa, Dubai  60.24 286 P          P     11 54 40.2 +0.6
FAQ   Al Faqa, Dubai 60.36 286 P         P     11 54 40.6 +0.2
      SNR=5.8
FAQ   Al Faqa, Dubai 60.36 286 i P       P     11 54 40.9 +0.5
      SNR=6.7
ALNE  Al Ain        60.40 285 P          P     11 54 40.5 -0.2
      SNR=11
ALNE  Al Ain        60.40 285 i P        P     11 54 41.1 +0.4
      SNR=11
AUMAR Marden Senior 60.53 165 P          P     11 54 44.6 +3.4
ASUD  Al Ashush, Dub 60.62 286 P         P     11 54 42.7 +0.5
ASUD  Al Ashush, Dub 60.62 286 i P       P     11 54 42.8 +0.6
      SNR=6.6
AJN   Ajban         60.94 286 P          P     11 54 44.2 -0.1
KIRV  Kirov         61.06 325 LR         LR    12 23 03.6
      comp=Z,2µm,20.4s,baz=92,slow=38
AUPHS Peel High Scho 61.16 152 P         P     11 54 49.1 +3.5
UMZA  Um Al Zommool 61.27 284 P          P     11 54 46.0 -0.7
MZWR  Madinat Zayed 62.13 285 P          P     11 54 52.3 -0.1
BELG  Belogornoye   62.24 318 LR         LR    12 24 04.8
      comp=Z,464nm,19.9s,baz=95,slow=38
MZR   Muzera        62.69 284 P          P     11 54 54.7 -1.4
      SNR=5.9
MZR   Muzera        62.69 284 i P        P     11 54 55.4 -0.7
      SNR=9.1
JRN   Qarnain Island 62.72 287 P          P     11 54 55.5 -0.9
DMTO  DMTO          62.92 278 P          P     11 54 58.0 +0.3
GHWR  Ruwais        62.96 286 P          P     11 54 57.4 -0.5
E18K  Tukpahlearik C 63.06   25 IAmb     IAmb  11 55 06.9
      comp=Z,11nm,0.8s
LKRN  Lenkeran, Azer 63.10 303 P          P     11 54 58.4 -0.2
MAK   Makhachkala   63.36 308 eP         P     11 54 57.6 -2.6
MAK                             e             11 57 22.4
MAK                             eS            S     12 03 27.9 -2.9
MAK                             eSS           SS    12 07 39.7 +2.3
MAK                                  pmax  pmax
      comp=Z,144nm,1.1s
MAK                                  MLR   MLR
      comp=Z,747nm,15.0s
DOK   Doka          63.38 280 P          P     11 54 59.9 -0.9
AKT   Akhty         63.43 306 eP         P     11 54 58.9 -2.0
AKT                             e             11 55 36.1
AKT                             e             11 57 16.8
AKT                             ePPP          PPP   11 58 56.7
AKT                                  pmax  pmax
      comp=Z,51nm,1.0s
AKT                                  MLR   MLR
      comp=Z,1µm,17.0s
RBK   Rabkut        63.66 278 P          P     11 55 01.8 -0.9
SEKA  Sheki         63.87 306 P          P     11 55 03.7 -0.1
WHFO  Wadi Hawf     63.92 279 P          P     11 55 03.3 -1.1
WHFO                            P             pP    11 55 04.0 -8.8
D19K  Kuna River    64.02   24 IAmb     IAmb  11 55 47.8
      comp=Z,24nm,0.9s
MNGR  Mingechevir, A 64.03 305 P          P     11 55 05.1 +0.4
SHMA  Al-Shehemyia  64.13 288 P          P     11 55 05.1 -0.5
TRNA  Turayna       64.21 287 P          P     11 55 05.7 -0.4
E19K  Redstone River 64.36   25 IAmb     IAmb  11 55 17.4
      comp=Z,11nm,0.8s
SAKB  Bahrain       64.47 288 P          P     11 55 08.3 +0.5
ABTO  Aybut         64.53 279 P          P     11 55 08.5 +0.1
SMRA  Abu-Samra     64.55 287 P          P     11 55 08.7 +0.3
      SNR=5.5
GANJ  Ganja         64.62 305 P          P     11 55 08.1 -0.6
H19K  Roundabout Mou 64.73   27 P         P     11 55 08.9  0.0
H19K                                 IAmb  IAmb  11 55 55.0
      comp=Z,18nm,1.1s
NAX   Nakhchivan    65.53 304 P          P     11 55 16.2 +1.5
E21K  Killik River  65.55   24 IAmb     IAmb  11 55 15.1
      comp=Z,13nm,0.6s
I20K  Naaghedeneel  65.61   28 IAmb     IAmb  11 55 25.1
      comp=Z,18nm,0.8s
J20K  Nowinta River 65.80   28 IAmb     IAmb  11 55 18.2
      comp=Z,36nm,1.6s
G21K  Allakaket     65.87   26 IAmb     IAmb  11 56 56.1
      comp=Z,47nm,1.9s
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GNI	**Garni**	**65.90 305**	P	**P**	**11 55 17.7**	**+0.5**
GNI	**Garni**	**65.90 305**	LR	LR	12 28 08.5	
	comp=Z,454nm,18.6s,baz=84,slow=40					
GNI	**Garni**	**65.90 305**	P	**P**	**11 55 17.7**	**+0.5**
GNI			pmax	pmax		
	comp=Z,33nm,1.1s					
KLMR	**Klimovskoe**	**65.96 328**	*e*P	**P**	**11 55 14.3**	**-2.6**
KLMR			pmax	pmax		
	comp=Z,27nm,1.5s					
KLMR			MLR	MLR		
	comp=Z,2μm,17.0s					
VRH	**Novokhopyorsk**	**66.01 317**	*i* P	**P**	**11 55 16.8**	**-0.6**
VRH			pmax	pmax		
	comp=Z,23nm,0.6s					
KBD	**Kabd**	**66.06 293**	P	**P**	**11 55 18.5**	**+0.4**
TRLG	**Trialeti**	**66.09 306**	P	**P**	**11 55 18.7**	**+0.3**
H21K	**Melozitna Rive**	**66.23 27**	IAmb	IAmb	11 55 20.1	
	comp=Z,8.7nm,0.6s					
E22K	**Anaktuvuk Pass**	**66.38 24**	IAmb	IAmb	11 55 20.8	
	comp=Z,11nm,0.6s					
KBZ	**Khabaz**	**66.53 309**	P	**P**	**11 55 20.4**	**-0.5**
	comp=Z,26nm,0.9s,baz=124,slow=3.9,SNR=42					
KBZ			LR	LR	12 28 02.8	
	comp=Z,836nm,19.0s,baz=66,slow=39					
	comp=Z,26nm,0.9s					
KIV	**Kislovodsk**	**66.64 309**	P	**P**	**11 55 21.5**	**-0.2**
KIV	**Kislovodsk**	**66.64 309**	P	**P**	**11 55 22.5**	**+0.8**
KIV	**Kislovodsk**	**66.64 309**	⇓P	**P**	**11 55 22.6**	**+0.8**
KIV	**Kislovodsk**	**66.64 309**	*i* P	**P**	**11 55 21.9**	**+0.2**
	SNR=8.5					
KIV	**Kislovodsk**	**66.64 309**	*e*P	**P**	**11 55 21.6**	**-0.2**
KIV			pmax	pmax		
	comp=Z,53nm,1.1s					
KIV			MLR	MLR		
	comp=Z,559nm,17.0s					
TOLK	**Toolik Lake Re**	**67.15 23**	IAmb	IAmb	11 55 25.6	
	comp=Z,10nm,0.7s					
E23K	**Chandalar**	**67.21 24**	IAmb	IAmb	11 55 37.9	
	comp=Z,16nm,1.1s					
LVZ	**Lovozero**	**67.21 336**	P	**P**	**11 55 25.2**	**+0.3**
D24K	**Happy Valley**	**67.35 23**	IAmb	IAmb	11 55 26.9	
	comp=Z,15nm,0.7s					
KDAK	**Kodiak Island**	**67.36 35**	LR	LR	12 24 52.1	
	comp=Z,442nm,22.0s,baz=243,slow=36					
VORR	**Voronezh**	**67.48 318**	*e*P	**P**	**11 55 26.6**	**-0.2**
VORR			pmax	pmax		
	comp=Z,112nm,0.5s					
LPSR	**Galich'ya Gora**	**67.49 319**	*e*P	**P**	**11 55 25.1**	**-1.7**
LPSR			pmax	pmax		
	comp=Z,17nm,0.9s					
H23K	**Yukon River**	**67.55 26**	IAmb	IAmb	11 55 29.7	
	comp=Z,12nm,0.9s					
E24K	**Your Creek**	**67.62 24**	IAmb	IAmb	11 55 29.1	
	comp=Z,10.0nm,0.7s					
MOS	**Moscow**	**67.69 322**	*e*P	**P**	**11 55 25.7**	**-2.3**
MOS			*e*		11 55 51.5	
MOS			MLR	MLR		
	comp=Z,1μm,18.0s					
I23K	**Minto, Yukon-K**	**67.73 27**	IAmb	IAmb	11 55 57.2	
	comp=Z,17nm,1.2s					
APA	**Apatity**	**67.73 336**	⇓*i* P	**P**	**11 55 26.1**	**-2.0**
APA			*i*		11 55 49.9	
APA			*i* S	**S**	**12 04 17.9**	**-5.6**
APA			*i*		12 05 21.1	
APA			*i* SS	**SS**	**12 08 43.7**	**-0.6**
APA			pmax	pmax		
	comp=Z,11nm,0.8s					
APA			MLR	MLR		
	comp=Z,2μm,16.6s					
ERBR	**Yeremizino-Bor**	**67.82 311**	*e*P	**P**	**11 55 27.8**	**-1.3**
ERBR			*e**PP	**pP**	**11 55 37.5**	**+0.2**
ERBR			*e*S	**S**	**12 04 24.8**	**-0.5**
ERBR			pmax	pmax		
	comp=Z,57nm,1.1s					
ERBR			MLR	MLR		
	comp=Z,678nm,17.0s					
BATM	**Batumi**	**67.85 307**	⇓P	**P**	**11 55 30.3**	**+0.9**
BATM	**Batumi**	**67.85 307**	P	**P**	**11 55 30.2**	**+0.9**
LABN	**Labinsk**	**67.88 310**	*e*P	**P**	**11 55 25.8**	**-3.6**
LABN			*e**PP	**pP**	**11 55 35.1**	**-2.7**
LABN			*e*S	**S**	**12 04 20.5**	**-5.5**
LABN			pmax	pmax		
	comp=Z,24nm,0.5s					
BRLK	**Bradley Lake**	**67.91 33**	IAmb	IAmb	11 55 40.3	
	comp=Z,22nm,1.0s					
F24K	**Squaw Lake**	**67.94 25**	IAmb	IAmb	11 55 31.2	
	comp=Z,15nm,0.7s					
NEA2	**Nenana**	**67.94 28**	IAmb	IAmb	11 55 31.6	
	comp=Z,11nm,0.6s					
MCK	**McKinley**	**68.14 29**	IAmb	IAmb	11 56 21.4	
	comp=Z,27nm,1.5s					
H24K	**Noodor Dome**	**68.22 26**	IAmb	IAmb	11 56 17.3	
	comp=Z,35nm,1.8s					
RND	**Reindeer**	**68.23 29**	IAmb	IAmb	11 55 42.1	
	comp=Z,19nm,0.9s					
OBN	**Obninsk**	**68.39 322**	LR	LR	12 28 21.7	
	comp=Z,1μm,18.6s,baz=22,slow=39					
OBN	**Obninsk**	**68.39 322**	*e*P	**P**	**11 55 32.4**	**0.0**
OBN			*e*		11 55 58.3	
OBN			*e*		11 58 05.3	
OBN			*e*PPP	PPP	11 59 42.1	
OBN			pmax	pmax		
	comp=Z,7.0nm,0.9s					
OBN			MLR	MLR		
	comp=Z,1μm,18.0s					
COLA	**College**	**68.41 27**	P	P	11 55 37.5	+5.2
VADS	**Vadso**	**68.72 338**	*e*P	**P**	**11 55 33.1**	**-1.2**
F25K	**Christian Rive**	**68.77 24**	IAmb	IAmb	11 55 37.5	
	comp=Z,11nm,0.8s					
SOC	**Sochi**	**68.82 309**	*e*P	**P**	**11 55 32.6**	**-2.7**
SOC			*e*PPP	PPP	11 59 44.8	
SOC			*e*S	**S**	**12 04 33.7**	**-3.5**
SOC			*e*SS	**SS**	**12 09 02.3**	**+0.1**
SOC			pmax	pmax		
	comp=Z,13nm,0.5s					
SOC			MLR	MLR		
	comp=Z,656nm,15.0s					
IL31		**68.83 27**	IAmb	IAmb	11 57 13.0	
	comp=Z,28nm,1.9s					
ILAR	**Eielson Array**	**68.83 27**	P	**P**	**11 55 33.3**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=266,slow=4.9,SNR=25					
ILAR			LR	LR	12 28 23.0	
	comp=Z,392nm,18.1s,baz=280,slow=38					
	comp=Z,1.0nm,0.5s					
PWL	**Port Wells**	**68.95 32**	P	**P**	**11 55 34.8**	**-1.1**
PWL			IAmb	IAmb	11 57 56.2	
	comp=Z,18nm,0.7s					
DHY	**Denali Highway**	**68.95 29**	IAmb	IAmb	11 56 50.0	
	comp=Z,31nm,1.8s					
BMAR	**Burnt Mountain**	**69.20 24**		**P**	**11 55 36.9**	**-0.5**
PRP	**Porcupine Dome**	**69.24 26**	P	**P**	**11 55 37.7**	**0.0**
RAYN	**Ar Rayn**	**69.55 287**	P	**P**	**11 55 40.4**	**+0.1**
RAYN			IAmb	IAmb	11 55 42.1	
	comp=Z,14nm,0.8s					
RAYN	**Ar Rayn**	**69.55 287**	P	**P**	**11 55 40.2**	**-0.1**
RAYN	**Ar Rayn**	**69.55 287**	*i* P	**P**	**11 55 40.7**	**+0.4**
	SNR=6.4					
RAYN	**Ar Rayn**	**69.55 287**	P	**P**	**11 55 40.5**	**+0.2**
KEV	**Kevo**	**69.60 338**	P	**P**	**11 55 38.3**	**-1.4**
KEV			IAmb	IAmb	11 55 40.1	
	comp=Z,18nm,0.9s					
KEV	**Kevo**	**69.60 338**	P	**P**	**11 55 38.3**	**-1.4**
KEV			pmax	pmax		
	comp=Z,18nm,0.9s					
G26K	**Porcupine Rive**	**69.61 25**	IAmb	IAmb	11 55 42.3	
	comp=Z,11nm,0.8s					
SPB2	**Spitsbergen Ar**	**69.92 348**	IAmb	IAmb	11 56 09.6	
	comp=Z,24nm,1.1s					
SPA0	**Spitsbergen Ar**	**69.92 348**	*e*P	**P**	**11 55 40.9**	**-0.7**
SPITS	**Spitsbergen Ar**	**69.92 348**	P	**P**	**11 55 39.8**	**-1.8**
	comp=Z,7.0nm,0.5s,baz=84,slow=9.3,SNR=27					
SPITS			LR	LR	12 30 40.9	
	comp=Z,2μm,18.1s,baz=58,slow=40					
	comp=Z,7.0nm,0.5s					
SPITS	**Spitsbergen Ar**	**69.92 348**	P	**P**	**11 55 41.0**	**-0.6**
SPITS			pmax	pmax		
	comp=Z,34nm,1.3s					
ANN	**Anapa**	**70.12 311**	*e*P	**P**	**11 55 42.4**	**-1.0**
ANN			*e**PP	**pP**	**11 55 52.3**	**+0.6**
ANN			*e*S	**S**	**12 04 52.5**	**0.0**
ANN			pmax	pmax		
	comp=Z,63nm,0.9s					
ARA0	**ARCESS Array S**	**70.16 338**	*e*P	**P**	**11 55 41.4**	**-1.8**
ARCES	**ARCESS Array B**	**70.16 338**		**P**	**11 55 42.6**	**-0.6**
ARCES			IAmb	IAmb	11 57 53.6	
	comp=Z,52nm,1.8s					
ARCES	**ARCESS Array B**	**70.16 338**	P	**P**	**11 55 42.2**	**-1.0**
	comp=Z,5.2nm,0.8s,baz=75,slow=6.4,SNR=13					
ARCES			LR	LR	12 31 41.1	
	comp=Z,769nm,18.6s,baz=86,slow=40					
	comp=Z,5.2nm,0.8s					
ARCES	**ARCESS Array B**	**70.16 338**	P	**P**	**11 55 42.6**	**-0.6**
ARCES			pmax	pmax		
	comp=Z,52nm,1.8s					
HSPB	**Hornsund (broa**	**70.52 347**	*e*P	**P**	**11 55 44.7**	**-0.5**
E28M	**Babbage River**	**70.75 23**	IAmb	IAmb	11 56 32.2	
	comp=Z,22nm,1.4s					
ARPR	**Arapgir-MALATY**	**70.95 305**	IAmb	IAmb	11 55 51.4	
	comp=Z,24nm,1.0s					
M26K	**Nabesna, AK**	**71.07 29**	IAmb	IAmb	11 56 16.4	
	comp=Z,13nm,0.8s					
KTK1	**Kautokeino**	**71.08 338**	*e*P	**P**	**11 55 47.6**	**-1.2**
EGAK	**Eagle**	**71.21 27**	P	**P**	**11 55 48.9**	**-0.8**
EGAK			IAmb	IAmb	11 56 23.6	
	comp=Z,30nm,1.7s					
G29M	**Pine Creek**	**71.81 24**	IAmb	IAmb	11 55 55.9	
	comp=Z,17nm,1.1s					
JETT	**Jettan, Norway**	**71.86 339**	*e*P	**P**	**11 55 52.5**	**-1.1**
DAWY	**Dawson**	**72.16 27**	P	**P**	**11 55 54.9**	**-0.5**
FINES	**FINESS Array B**	**72.21 330**	P	**P**	**11 55 55.6**	**-0.1**
	comp=Z,10nm,0.5s,baz=60,slow=5.2,SNR=63					
FINES			LR	LR	12 31 05.9	
	comp=Z,3μm,18.6s,baz=64,slow=39					
	comp=Z,10nm,0.5s					
FINES	**FINESS Array B**	**72.21 330**	*i* P	**P**	**11 55 55.0**	**-0.7**
FINES			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CTGM	**Chitina Glacie**	**72.24 31**	IAmb	IAmb	11 56 06.0	
	comp=Z,14nm,0.8s					
TRO	**Tromso**	**72.32 339**	*e*P	**P**	**11 55 55.2**	**-1.0**
SIM	**Simferopol'**	**72.36 312**	*e*P	**P**	**11 55 55.6**	**-1.3**
SIM			pmax	pmax		
	comp=Z,26nm,0.9s					
F30M	**Barrier River**	**72.40 23**	IAmb	IAmb	11 55 59.2	
	comp=Z,17nm,1.1s					
LOGN	**Logan Glacier**	**72.44 31**	IAmb	IAmb	11 56 08.4	
	comp=Z,31nm,1.4s					
J29N	**Klondike Camp**	**72.52 27**	IAmb	IAmb	11 55 59.3	
	comp=Z,12nm,0.5s					
NOR	**Nord**	**72.65 354**	*i* P	**P**	**11 55 56.2**	**-1.8**
NOR			IAmb	IAmb	11 56 02.0	
	comp=Z,1.8nm,0.8s					
BNN	**Bunyan**	**72.88 305**	IAmb	IAmb	11 56 02.4	
	comp=Z,28nm,0.8s					
INK	**Inuvik**	**72.95 22**	LR	LR	12 31 31.1	
	comp=Z,748nm,19.1s,baz=308,slow=39					
L29M	**L29M**	**73.00 28**	IAmb	IAmb	11 56 34.1	
	comp=Z,52nm,1.7s					
I30M	**Mount Dempster**	**73.00 26**	IAmb	IAmb	11 56 46.9	
	comp=Z,30nm,1.6s					
BZK	**Bozkurt**	**73.31 309**	IAmb	IAmb	11 56 04.1	
	comp=Z,37nm,1.2s					
BZK	**Bozkurt**	**73.31 309**	⇑P	**P**	**11 56 03.1**	**+0.5**
MNK	**Minsk**	**73.41 323**	*i* P	**P**	**11 56 00.9**	**-2.0**
MNK			*i* PPP	PPP	12 00 29.9	
MNK			*i* S	**S**	**12 05 28.3**	**-1.7**
MNK			*i* SS	**SS**	**12 10 12.5**	**+0.5**
MNK			*i*		12 58 43.4	
MNK			pmax	pmax		
	comp=E,17nm,0.8s					
MNK			pmax	pmax		
	comp=Z,26nm,0.8s					
MNK			pmax	pmax		
	comp=N,593nm,16.2s					
MNK			MLR	MLR		
	comp=Z,875nm,17.0s					
MNK			MLR	MLR		
	comp=N,593nm,16.0s					
MNK			MLR	MLR		
	comp=E,768nm,19.0s					
MAYO	**Mayo, Yukon**	**73.78 27**	IAmb	IAmb	11 56 31.5	
	comp=Z,21nm,0.9s					
AKASG	**Malin Array Be**	**73.81 319**	P	**P**	**11 56 03.5**	**-1.8**
	comp=Z,4.8nm,0.7s,baz=61,slow=6.5,SNR=13					
AKASG			LR	LR	12 31 50.0	
	comp=Z,667nm,18.0s,baz=66,slow=39					
	comp=Z,4.8nm,0.7s					
AKASG	**Malin Array Be**	**73.81 319**	*i* P	**P**	**11 56 04.0**	**-1.3**
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.6s					
KIEV	**Kiev**	**73.82 319**	P	**P**	**11 56 03.9**	**-1.6**
KIEV	**Kiev**	**73.82 319**	⇓P	**P**	**11 56 05.1**	**-0.4**
KIEV	**Kiev**	**73.82 319**	*i* P	**P**	**11 56 04.1**	**-1.3**
	SNR=5.6					
KIEV	**Kiev**	**73.82 319**	P	**P**	**11 56 05.0**	**-0.4**
ASF	**Jabal al Asfar**	**74.11 298**	LR	LR	12 34 49.1	
	comp=Z,365nm,18.5s,baz=154,slow=41					
STEI	**Steigen**	**74.23 338**	*e*P	**P**	**11 56 05.8**	**-1.6**
KIRS	**Kirsehir-Merke**	**74.23 306**	⇓P	**P**	**11 56 08.0**	**-0.2**
BR131	**Keskin Array S**	**74.25 307**	P	**P**	**11 56 08.7**	**+0.4**
BRTR	**Keskin Array B**	**74.25 307**	P	**P**	**11 56 08.5**	**+0.2**
BRTR	**Keskin Array B**	**74.25 307**	P	**P**	**11 56 08.3**	**-0.1**
	comp=Z,21nm,0.8s,baz=104,slow=5.2,SNR=76					
	comp=Z,21nm,0.8s					
BRTR	**Keskin Array B**	**74.25 307**	*i* P	**P**	**11 56 07.9**	**-0.5**
BRTR			pmax	pmax		
	comp=Z,22nm,0.8s					
FAUS	**Fauske**	**74.44 337**	*e*P	**P**	**11 56 07.6**	**-1.1**
ANTO	**Ankara**	**74.82 307**	P	**P**	**11 56 11.4**	**-0.2**
ANTO	**Ankara**	**74.82 307**	P	**P**	**11 56 11.4**	**-0.2**
ANTO			pmax	pmax		
	comp=Z,43nm,1.1s					
MMAI	**Mount Meron Ar**	**75.04 300**	P	**P**	**11 56 13.8**	**+0.9**
	comp=Z,7.7nm,0.5s,baz=63,slow=9.4,SNR=13					
MMAI			LR	LR	12 35 48.1	
	comp=Z,406nm,18.1s,baz=57,slow=41					
	comp=Z,7.7nm,0.5s					
SORM	**Soroca**	**75.17 316**	⇓P	**P**	**11 56 12.8**	**-0.6**
SORM	**Soroca**	**75.17 316**	P	**P**	**11 56 12.7**	**-0.6**
MILM	**Milestii Mici**	**75.28 315**	*e*P	P	11 56 03.0	-11
	comp=Z,46nm,0.5s					
MILM			*e*L	L	12 27 30.0	
MILM			LRM	MLR	12 33 01.0	
	comp=Z,600nm,18.0s					
RAUS	**Rausandaksla**	**75.30 337**	*e*P	**P**	**11 56 12.7**	**-1.0**
WHY	**Whitehorse**	**75.31 30**	IAmb	IAmb	11 56 50.1	
	comp=Z,44nm,1.3s					
STOK	**Stokkvaagen**	**75.71 337**	*e*P	**P**	**11 56 15.6**	**-0.4**
LEIR	**Leirfjorden**	**75.78 337**	*e*P	**P**	**11 56 14.9**	**-1.5**
SAHE	**Sakarya_HENDEK**	**75.90 309**	⇑P	**P**	**11 56 17.6**	**-0.1**
JURR	**Jurilovca**	**75.96 313**	⇑P	**P**	**11 56 18.4**	**+0.5**
ATD	**Arta Tunnel**	**76.04 277**	LR	LR	12 30 55.7	
	comp=Z,5.7nm,18.2s,baz=42,slow=37					
TPGR	**Topolog**	**76.23 313**	⇑P	**P**	**11 56 18.8**	**-0.7**
P32M	**Atlin**	**76.28 31**	IAmb	IAmb	11 56 21.2	
	comp=Z,17nm,1.1s					
CFR	**Carcaliu**	**76.31 313**	⇑P	**P**	**11 56 19.3**	**-0.6**
CFR	**Carcaliu**	**76.31 313**	P	**P**	**11 56 19.2**	**-0.6**
P33M	**Teslin, Yukon**	**76.43 30**	IAmb	IAmb	11 56 53.3	
	comp=Z,56nm,1.9s					
EIL	**Elat**	**76.51 297**	LR	LR	12 35 07.0	
	comp=Z,386nm,20.0s,baz=120,slow=40					
BORA	**Eskisehir**	**76.52 308**	IAmb	IAmb	11 56 22.4	
	comp=Z,24nm,0.9s					
HARR	**Harsova**	**76.62 313**	⇑P	**P**	**11 56 21.7**	**+0.1**
HARR	**Harsova**	**76.62 313**	P	**P**	**11 56 21.7**	**+0.1**
TESR	**Tescani**	**76.82 315**	⇓P	**P**	**11 56 22.7**	**0.0**
VRI	**Vrincioaia**	**77.00 314**	⇓P	**P**	**11 56 24.1**	**+0.3**
VRI	**Vrincioaia**	**77.00 314**	P	**P**	**11 56 24.1**	**+0.3**
ONER	**Baraj Valea Uz**	**77.05 315**	⇑P	**P**	**11 56 24.5**	**+0.5**
PLOR	**Plostina**	**77.05 314**	⇑P	**P**	**11 56 24.7**	**+0.6**
PLOR	**Plostina**	**77.05 314**	P	**P**	**11 56 24.7**	**+0.6**
BURAR	**Bucovina Array**	**77.33 317**	⇑P	**P**	**11 56 25.5**	**-0.3**
BURAR	**Bucovina Array**	**77.33 317**	P	**P**	**11 56 25.4**	**-0.3**
TURR	**Turia**	**77.39 315**	⇑P	**P**	**11 56 25.7**	**-0.4**
R33M	**Jennings River**	**77.63 30**	IAmb	IAmb	11 57 53.5	
	comp=Z,56nm,2.0s					
MLR	**Muntele Rosu**	**77.64 314**	LR	LR	12 34 58.7	
	comp=Z,746nm,19.2s,baz=64,slow=39					
MLR	**Muntele Rosu**	**77.64 314**	⇑P	**P**	**11 56 27.8**	**+0.2**
MLR	**Muntele Rosu**	**77.64 314**	P	**P**	**11 56 27.8**	**+0.2**
DOPR	**Dopca**	**77.83 315**	⇑P	**P**	**11 56 28.1**	**-0.4**
RAO	**Raoul Island**	**77.99 130**	LR	LR	12 24 32.6	
	comp=Z,398nm,19.3s,baz=290,slow=31					
BAND	**Balkesir-Ban**	**78.04 309**	⇑P	**P**	**11 56 29.8**	**0.0**
KWP	**Kalwaria Pacla**	**78.11 319**	*e*P	**P**	**11 56 29.9**	**-0.1**
S34M	**Telegraph Cree**	**78.21 32**	IAmb	IAmb	11 57 47.1	
	comp=Z,49nm,1.9s					
HFS	**Hagfors**	**78.32 331**	P	**P**	**11 56 29.5**	**-1.3**
	comp=Z,11nm,0.8s,baz=76,slow=6.3,SNR=15					
HFS			LR	LR	12 34 36.1	
	comp=Z,4μm,18.0s,baz=64,slow=38					
	comp=Z,11nm,0.8s					
MANT	**Manisa**	**78.39 307**	IAmb	IAmb	11 56 33.0	
	comp=Z,18nm,1.1s					
DLBC	**Dease Lake**	**78.50 31**	LR	LR	12 31 57.9	
	comp=Z,4μm,20.7s,baz=279,slow=36					
ARR	**Arges**	**78.55 315**	⇑P	**P**	**11 56 32.0**	**-0.5**
ELND	**Elena**	**78.64 312**	⇓P	**P**	**11 56 32.6**	**-0.4**
RES	**Resolute Bay**	**78.65 9**	LR	LR	12 34 49.9	
	comp=Z,769nm,19.4s,baz=354,slow=38					
NC405	**NORSAR Array S**	**78.70 332**	IAmb	IAmb	11 56 34.0	
	comp=Z,23nm,0.8s					
NEEM	**North Greenlan**	**78.71 359**	*i* P	**P**	**11 56 29.5**	**-3.6**
NEEM			IAmb	IAmb	11 56 36.4	
	comp=Z,17nm,0.8s					
NB2	**NORSAR Subarra**	**78.95 332**	P	**P**	**11 56 32.8**	**-1.6**
	comp=Z,8.6nm,0.8s,baz=61,slow=5.3					
NB2	**NORSAR Subarra**	**78.95 332**	P	**P**	**11 56 31.6**	**-2.8**
NB2			pmax	pmax		
	comp=Z,1.0nm,0.6s					
NB2	**NORSAR Subarra**	**78.95 332**	P	**P**	**11 56 32.8**	**-1.6**
	baz=61,slow=5.3					
NOA	**NORSAR Array B**	**78.95 332**	P	**P**	**11 56 32.5**	**-1.9**
	comp=Z,8.4nm,0.8s,baz=58,slow=5.6,SNR=22					
NOA			LR	LR	12 35 01.1	
	comp=Z,2μm,19.7s,baz=75,slow=38					
	comp=Z,8.4nm,0.8s					
DBG	**Daneborg**	**78.99 350**	*i* P	**P**	**11 56 33.2**	**-1.1**
DBG			IAmb	IAmb	11 56 36.8	
	comp=Z,5.6nm,0.4s					
MARR	**Marisel-Cluj**	**79.01 316**	⇓P	**P**	**11 56 34.0**	**-1.1**
STHS	**Stebnicka Huta**	**79.07 319**	*e*P	**P**	**11 56 37.7**	**+2.5**
STHS	**Stebnicka Huta**	**79.07 319**	*e*P	**P**	**11 56 37.7**	**+2.5**
DRGR		**79.22 316**	⇑P	**P**	**11 56 36.3**	**+0.1**
DRGR		**79.22 316**	P	**P**	**11 56 36.3**	**+0.1**
JMIC	**Jan Mayen**	**79.32 345**	LR	LR	12 35 45.8	
	comp=Z,904nm,18.7s,baz=53,slow=39					
DOMB	**Dombas**	**79.33 334**	*e*P	**P**	**11 56 36.1**	**-0.3**
EZN	**Ezine**	**79.50 309**	⇑P	**P**	**11 56 36.7**	**-1.1**
EZN	**Ezine**	**79.50 309**	P	**P**	**11 56 36.6**	**-1.1**
OJC	**Ojcow**	**79.59 320**	*e*P	**P**	**11 56 37.2**	**-0.8**
NIE	**Niedzica**	**79.63 320**	*e*P	**P**	**11 56 38.7**	**+0.4**
MOL	**Molde**	**79.65 335**	*e*P	**P**	**11 56 37.3**	**-0.7**
GZR	**Gura Zlata**	**79.74 315**	⇑P	**P**	**11 56 38.1**	**-1.0**
GZR	**Gura Zlata**	**79.74 315**	P	**P**	**11 56 38.0**	**-1.0**
SURR	**Surduc**	**80.01 316**	⇑P	**P**	**11 56 40.4**	**0.0**
AKN	**Aaknes**	**80.08 335**	*e*P	**P**	**11 56 40.2**	**-0.2**
SIRR	**Siria**	**80.10 316**	⇑P	**P**	**11 56 41.2**	**+0.3**
HERR	**Herculane**	**80.18 315**	⇑P	**P**	**11 56 40.6**	**-0.7**
URZ	**Urewera**	**80.35 139**	LR	LR	12 26 50.6	
	comp=Z,373nm,21.4s,baz=304,slow=32					
MDVR	**Moldovita**	**80.68 315**	⇓P	**P**	**11 56 43.4**	**-0.7**
OKC	**Ostrava-Krasne**	**80.71 321**	AMS	AMS	12 37 50.0	
	comp=Z,800nm,16.9s					
RPZ	**Rata Peaks**	**80.76 147**	LR	LR	12 29 26.5	
	comp=Z,413nm,21.3s,baz=328,slow=33					
MORC	**Moravsky Berou**	**81.09 321**	⇑P	**P**	**11 56 44.9**	**-1.3**
MORC	**Moravsky Berou**	**81.09 321**	*e*P	**P**	**11 56 45.5**	**-0.7**
MORC	**Moravsky Berou**	**81.09 321**	P	**P**	**11 56 44.8**	**-1.3**
BOVS	**Bovan**	**81.16 314**	⇓P	**P**	**11 56 46.1**	**-0.5**
KSP	**Ksiaz**	**81.32 322**	*e*P	**P**	**11 56 47.4**	**+0.1**
KRLC	**Kraliky**	**81.40 321**	AMS	AMS	12 36 30.0	
	comp=Z,900nm,15.2s					
JAVC	**Velka Javorina**	**81.43 320**	*e*P	**P**	**11 56 49.2**	**+1.2**
OSTC	**Ostas**	**81.50 322**	AMS	AMS	12 36 20.0	
	comp=Z,1μm,25.2s					
DPC	**Dobruska-Polom**	**81.53 322**	*e*P	**P**	**11 56 49.1**	**+0.6**
DPC			MLR	MLR		
	comp=Z,1μm,15.2s					
DPC	**Dobruska-Polom**	**81.53 322**	*e*P	**P**	**11 56 49.1**	**+0.6**
DPC			AMS	AMS	12 36 30.0	
	comp=Z,1μm,15.2s					
CHVC	**Chvalec**	**81.57 322**	AMS	AMS	12 36 20.0	
	comp=Z,1μm,20.1s					
UPC	**Upice**	**81.64 322**	AMS	AMS	12 36 20.0	
	comp=Z,1μm,22.1s					
VRAC	**Vranov**	**81.86 321**	LR	LR	12 36 40.5	
	comp=Z,465nm,18.2s,baz=60,slow=38					
MODS	**Modra-Piesok**	**81.88 319**	*e*P	**P**	**11 56 51.1**	**+0.7**
MODS	**Modra-Piesok**	**81.88 319**	*e*P	**P**	**11 56 51.1**	**+0.7**
MORH	**Mrgy, Hungar**	**82.02 317**	⇓P	**P**	**11 56 50.5**	**-0.5**
KRUC	**Moravsky**	**82.08 320**	*e*P	**P**	**11 56 51.2**	**-0.2**
LIT	**Litokhoron**	**82.10 310**	IAmb	IAmb	11 56 52.9	
	comp=Z,13nm,0.7s					
IDI	**Anoyia**	**82.33 305**	IAmb	IAmb	11 57 10.9	
	comp=Z,13nm,0.8s					
IDI	**Anoyia**	**82.33 305**	LR	LR	12 40 04.8	
	comp=Z,203nm,20.1s,baz=78,slow=41					
PVCC	**Panska Ves**	**82.44 322**	AMS	AMS	12 38 20.0	
	comp=Z,2μm,17.8s					
BRG	**Berggiesshubel**	**82.62 323**	*e*P	**P**	**11 56 56.3**	**+2.1**
BRG			Amp		11 56 57.9	
	comp=Z,5.4nm,0.9s					
YKAW3	**Yellowknife Wh**	**82.63 23**	IAmb	IAmb	11 56 54.7	
	comp=Z,16nm,0.7s					
YKA	**Yellowknife Ar**	**82.67 23**	P	**P**	**11 56 52.2**	**-2.0**
YKA	**Yellowknife Ar**	**82.67 23**	P	**P**	**11 56 53.1**	**-1.1**
	comp=Z,6.9nm,0.7s,baz=311,slow=5.9,SNR=43					
YKA			LR	LR	12 37 34.6	
	comp=Z,308nm,18.2s,baz=318,slow=39					
	comp=Z,6.9nm,0.7s					
YKA	**Yellowknife Ar**	**82.67 23**	*i* P	**P**	**11 56 53.0**	**-1.1**
YKA			pmax

	comp=Z,11nm,0.8s					
STAL	**STALIGIAL**	85.62	319	IAmb	IAmb	11 57 10.3
	comp=Z,12nm,1.0s					
WATA	**Walderalm**	85.74	320	*e*P	**P**	**11 57 09.9 -0.4**
	comp=Z,4.5nm,0.6s					
WTTA	**Wattenberg**	85.74	320	*i* P	**P**	**11 57 09.3 -1.0**
	comp=Z,17nm,1.1s					
KIBK	**Kibwezi**	85.88	266	P	**P**	**11 57 13.4 +2.0**
MOTA	**Moosalm**	86.01	321	*e*P	**P**	**11 57 10.9 -0.7**
	comp=Z,7.9nm,1.1s					
SQTA	**Sankt Quirin**	86.01	320	*e*P	**P**	**11 57 11.0 -0.6**
	comp=Z,8.3nm,0.7s					
RETA	**Reutte**	86.13	321	*e*P	**P**	**11 57 12.6 +0.4**
	comp=Z,4.4nm,0.9s					
FETA	**Feichten**	86.40	320	*e*P	**P**	**11 57 12.3 -1.3**
	comp=Z,6.7nm,1.0s					
TIP	**Timpagrande**	86.47	311	IAmb	IAmb	11 57 15.4
	comp=Z,12nm,1.0s					
TEOL	**Teolo**	86.70	319	IAmb	IAmb	11 57 18.4
	comp=Z,17nm,0.7s					
DAVA	**Damuels**	86.75	321	*e*PcP	**P**	**11 57 15.8 +0.5**
	comp=Z,7.4nm,1.0s					
FUORN	**Ofenpass-Fuorn**	86.88	320	IAmb	IAmb	11 57 18.8
	comp=Z,11nm,0.9s					
NRCA	**Norcia**	87.10	316	IAmb	IAmb	11 57 19.3
	comp=Z,22nm,1.1s					
BORG	**Borgarnes**	87.22	345	LR	LR	12 40 55.5
	comp=Z,988nm,18.3s,baz=28,slow=39					
TUE	**Stuetta**	87.50	320	IAmb	IAmb	11 57 50.5
	comp=Z,26nm,1.8s					
WLF	**Walferdange**	87.50	324	*d*P	**P**	**11 57 18.6 0.0**
	comp=Z,14nm,0.9s					
BCLA	**Clavier**	87.51	325	*d*P	**P**	**11 57 19.6 +0.9**
RCHB	**Rochefort**	87.70	325	*d*P	**P**	**11 57 19.4 -0.2**
	comp=Z,8.7nm,1.1s					
GNW	**Green Mountain**	87.77	38	IAmb	IAmb	11 57 22.4
	comp=Z,20nm,1.0s					
BMRD	**Maredsous**	87.86	325	*d*P	**P**	**11 57 20.1 -0.2**
	comp=Z,7.6nm,1.1s					
RAR	**Rarotonga**	87.94	114	LR	LR	12 31 32.7
	comp=Z,212nm,19.8s,baz=298,slow=32					
DOU	**Dourbes**	88.07	325	*d*P	**P**	**11 57 21.4 0.0**
	comp=Z,6.8nm,1.3s					
EKA	**Eskdalemuir Ar**	88.44	332	P	**P**	**11 57 22.0 -1.0**
	comp=Z,3.1nm,0.8s,baz=35,slow=2.8,SNR=4.4					
	comp=Z,3.1nm,0.8s					
EKA	**Eskdalemuir Ar**	88.44	332	P	**P**	**11 57 22.0 -1.0**
LON	**Longmire**	88.80	38	IAmb	IAmb	11 57 27.4
	comp=Z,13nm,0.9s					
VAE	**Valguarnera**	88.91	311	LR	LR	12 43 09.2
	comp=Z,253nm,19.5s,baz=48,slow=40					
LTY	**Liberty**	89.15	37	IAmb	IAmb	11 57 28.4
	comp=Z,15nm,0.9s					
BNI	**Bardonecchia**	89.84	320	IAmb	IAmb	11 57 31.4
	comp=Z,1nm,1.1s					
C09A	**Chrisman Ranch**	90.14	36	IAmb	IAmb	11 57 33.3
	comp=Z,16nm,0.7s					
HAWA	**Hanford**	90.29	38	IAmb	IAmb	11 57 34.9
	comp=Z,18nm,1.0s					
E08A	**Dider Farm, El**	90.49	37	IAmb	IAmb	11 57 35.3
	comp=Z,14nm,0.8s					
YPT	**Yellepit**	90.81	38	IAmb	IAmb	11 57 37.4
	comp=Z,21nm,1.0s					
SSB	**Saint Sauveur**	90.94	321	IAmb	IAmb	11 57 52.0
	comp=Z,15nm,1.3s					
PINE	**Pine Mountain**	90.99	40	IAmb	IAmb	11 57 38.9
	comp=Z,12nm,0.9s					
L04D	**Klamath Falls**	91.06	42	P	**P**	**11 57 36.4 +0.6**
YBH	**Yreka Blue Hor**	91.08	43	LR	LR	12 34 13.3
	comp=Z,10nm,20.6s,baz=294,slow=33					
J05D	**Fort Rock, OR**	91.11	41	P	**P**	**11 57 36.1 +0.1**
J05D				IAmb	IAmb	11 57 38.3
	comp=Z,29nm,1.5s					
VSL	**Villasalto**	91.25	315	IAmb	IAmb	11 57 38.1
	comp=Z,19nm,1.0s					
G08A	**Pilot Rock**	91.26	38	IAmb	IAmb	11 57 56.4
	comp=Z,24nm,1.7s					
LNOR	**Lincton Mounta**	91.30	38	IAmb	IAmb	11 57 39.6
	comp=Z,10.0nm,1.0s					
K05A	**Summer Lake**	91.63	41		**P**	**11 57 39.1 +0.7**
M03C	**McCloud**	91.70	43	IAmb	IAmb	11 57 54.0
	comp=Z,10nm,0.8s					
F10A	**Beach Ranch, E**	91.82	37	IAmb	IAmb	11 57 56.9
	comp=Z,31nm,1.8s					
FRB	**Frobisher Bay**	92.12	5	LR	LR	12 41 01.6
	comp=Z,564nm,21.1s,baz=330,slow=37					
BMO	**Blue Mountains**	92.46	38	IAmb	IAmb	11 57 44.0
	comp=Z,20nm,1.4s					
FFC	**Flin Flon**	92.82	24		**P**	**11 57 42.8 -0.6**
FFC	**Flin Flon**	92.82	24	P	**P**	**11 57 42.8 -0.6**
FFC				pmax	pmax	
	comp=Z,30nm,1.0s					
MSO	**Missoula**	93.05	35	IAmb	IAmb	11 57 50.0
	comp=Z,18nm,1.4s					
WVOR	**Wild Horse Val**	93.15	40	IAmb	IAmb	11 58 02.5
	comp=Z,8.3nm,1.1s					
KEST	**Kesra**	93.30	311	IAmb	IAmb	11 57 47.8
	comp=Z,13nm,0.9s					
KEST	**Kesra**	93.30	311	P	**P**	**11 57 45.7 -0.4**
	comp=Z,9.6nm,0.8s,baz=3.1,slow=3.1,SNR=8.3					
KEST				LR	LR	12 46 59.2
	comp=Z,465nm,18.7s,baz=18,slow=40					
	comp=Z,9.6nm,0.8s					
KEST	**Kesra**	93.30	311	P	**P**	**11 57 45.7 -0.4**
EGMT	**Eagleton**	94.37	32	IAmb	IAmb	11 57 52.2
	comp=Z,8.6nm,0.8s					
DLMT	**Dillon**	94.71	35	IAmb	IAmb	11 57 54.5
	comp=Z,15nm,1.2s					
PPT	**Papeete**	95.15	107	LR	LR	12 32 49.0
	comp=Z,328nm,21.3s,baz=290,slow=30					
PPT2	**Papeete2**	95.16	107	*e*PKIKP	P	11 57 47.9 -6.9
	comp=Z,39nm,25.2s					
PPT2	**Papeete2**	95.16	107	*e*S	**S**	**12 09 00.7 -7.7**
	comp=Z,126nm,27.5s					
PPT2				*e*SS	SS	12 15 23.0 -12
	comp=Z,228nm,24.0s					
PPT2				*e*LQ	LQ	12 24 12.9
	comp=Z,270nm,26.0s					
PPT2				*e*LR	LR	12 28 36.5
	comp=Z,843nm,23.2s					
PPT2				*e*LR	LR	12 28 37.5
	comp=Z,697nm,23.8s					
NVAR	**Mina Array Bea**	95.75	44	P	**P**	**11 57 57.8 +0.3**
NVAR	**Mina Array Bea**	95.75	44	P	**P**	**11 57 57.2 -0.2**
	comp=Z,2.3nm,0.7s,baz=297,slow=5.4,SNR=14					
NVAR				LR	LR	12 37 15.3
	comp=Z,163nm,21.5s,baz=310,slow=33					
	comp=Z,2.3nm,0.7s					
LAO	**LASA Array**	97.01	31	IAmb	IAmb	11 58 04.9
	comp=Z,12nm,1.2s					
R11B	**Troy Canyon, C**	97.49	42	IAmb	IAmb	11 58 07.0
	comp=Z,9.2nm,1.5s					
PDAR	**Pinedale Array**	98.08	36	P	**P**	**11 58 06.5 -1.4**
	comp=Z,0.2nm,0.3s,baz=9.1,slow=2.4,SNR=4.8					
PDAR				LR	LR	12 41 17.2
	comp=Z,105nm,21.8s,baz=328,slow=35					
	comp=Z,0.2nm,0.3s					
ULM	**Lac du Bonnet**	98.64	24	P	**P**	**11 58 06.9 -3.1**
	comp=Z,1.7nm,0.4s,baz=333,slow=4.5,SNR=1.9					
ULM				LR	LR	12 47 33.0
	comp=Z,405nm,19.1s,baz=331,slow=38					
	comp=Z,1.7nm,0.4s					
ESDC	**Sonseca Array**	99.34	321	P	**Pdif**	**11 58 12.0 -1.5**
	comp=Z,0.3nm,0.7s,baz=18,slow=8.4,SNR=1.5					
ESDC				LR	LR	12 48 29.5
	comp=Z,526nm,18.8s,baz=32,slow=39					
	comp=Z,0.3nm,0.7s					
PFO	**Pinyon Flats O**	99.83	47	LR	LR	12 40 23.4
	comp=Z,226nm,19.2s,baz=292,slow=34					
TAOE	**Nuku Hiva Isla**	100.22	95	*e*PKIKP	**Pdif**	**11 58 14.1 -3.7**
	comp=Z,25nm,22.2s					
TAOE	**Nuku Hiva Isla**	100.22	95	*e*S	**Sdif**	**12 09 42.2 -10**
	comp=Z,49nm,25.1s					
TAOE				*e*SS	**SS**	**12 16 47.8 +0.9**
	comp=Z,41nm,23.5s					
TAOE	**Nuku Hiva Isla**	100.22	95	*e*LR	LR	12 30 46.6
	comp=Z,304nm,22.4s					
VNDA	**Vanda**	103.94	172	PP	**PP**	**12 02 52.0 +1.5**
	comp=Z,1.3nm,1.1s,baz=345,slow=9.6,SNR=2.4					
RKT	**Rikitea**	109.91	107	*e*S	Sdif	12 10 45.6 -26
	comp=Z,526nm,29.5s					
RKT				*e*SS	SS	12 18 45.2 -14
	comp=Z,1μm,35.2s					
RKT	**Rikitea**	109.91	107	*e*LR	LR	12 35 20.6
	comp=Z,1μm,23.5s					
TXAR	**Lajitas Array**	110.86	42	PKiKP	**PKiKP**	**12 03 05.0 +0.4**
	comp=Z,0.4nm,0.4s,baz=201,slow=1.6,SNR=7.8					
TXAR	**Lajitas Array**	110.86	42	*i* PKIKP	**PKiKP**	**12 03 05.0 +0.4**
TORD	**Torodi Ar. Bea**	111.40	296	PKiKP	**PKiKP**	**12 03 04.2 -1.6**
	comp=Z,1.1nm,0.8s,baz=17,slow=4.6,SNR=5.7					
NVL	**N'lazarevskaya**	119.24	201	*i* PKIKP	PKPpre	12 03 08.1
NVL				*e*		12 10 17.2
NVL				pmax	pmax	
	comp=Z,11nm,1.2s					
NVL				pmax	pmax	
	comp=N,127nm,9.5s					
DBIC	**Dimbokro**	120.30	294	PKP	**PKPdf**	**12 03 22.6 -0.3**
	comp=N,5.2nm,0.8s,baz=102,slow=3.2,SNR=5.0					
SNAA	**Sanae**	123.43	198	PKP	**PKPdf**	**12 03 27.2 -0.1**
	comp=N,1.2nm,1.0s,baz=34,slow=4.1,SNR=2.4					
SDV	**Santo Domingo**	144.89	23		**PKPab**	**12 04 07.4 -0.7**
BAUV	**El Baul**	145.68	19		**PKPdf**	**12 04 09.5 -0.7**
RUSC	**La Rusia**	146.63	29		**PKPdf**	**12 04 12.8 +0.3**
ROSC	**El Rosal**	146.98	32	PKPbc	**PKPbc**	**12 04 15.1 +0.2**
	comp=N,11nm,0.5s,baz=42,slow=5.3,SNR=7.1					
RCBR	**Riachuelo**	152.48	308		**PKiKP**	**12 04 28.0 -0.3**
RCBR	**Riachuelo**	152.48	308	PKIKP	**PKiKP**	**12 04 28.0 -0.3**
PLCA	**Paso Flores**	160.04	150	PKPab	**PKPab**	**12 05 08.5 -1.5**
	comp=N,1.4nm,0.8s,baz=193,slow=5.2,SNR=4.0					
LPAZ	**La Paz**	167.42	54	PKP	**PKPdf**	**12 04 37.9 -0.6**
	comp=N,2.3nm,0.7s,baz=18,slow=3.5,SNR=8.9					
LPAZ				PKPab	**PKPab**	**12 05 41.4 -2.4**
	comp=N,1.5nm,0.7s,baz=17,slow=6.6,SNR=1.8					
BDFB	**Brasilia**	167.81	311	PKPab	**PKPab**	**12 05 43.8 -1.0**
	comp=N,7.6nm,0.8s,baz=56,slow=3.1,SNR=9.3					

ISN 17 11:48:54.6±0.5, 34°.63N×46°.27E, h7km±5km, ML3.4
TEH 17 11:48:55.0, 34°.58N×46°.27E, h5km
ISC 17 11:48:55.7±0.8, 34°.58N±0°.03×46°.25E±0°.03, h10km, n23, σ1§69/29, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	0.16	44	Pg	**Pg**	**11 48 58.1**	**-1.4**
IGHG	**Ghaleghazi**	0.37	134	Pg	**Pb**	**11 49 02.9**	**-1.6**
GLG1	**Gilan-e-Gharb**	0.55	211	Pg	**Pg**	**11 49 06.2**	**-0.2**
GLG1				Sg	**Sb**	**11 49 15.5**	**+0.1**
KGS1	**Ghasr-e-Shirin**	0.55	262	Pg	**Pg**	**11 49 06.4**	**-0.1**
KCHF	**Cheshme Sefid,**	0.72	115	Pg	**Pb**	**11 49 09.5**	**-1.0**
KCHF				Sg	**Sb**	**11 49 20.5**	**-0.1**
IBZA	**Bozab**	1.34	94	Pg	**Pg**	**11 49 22.4**	**+1.0**
IALM	**Almabolaq**	1.60	80	Pg	**Pb**	**11 49 25.1**	**-0.6**
IKRK	**Kirkuk**	1.77	298	*e*Pn	**Pb**	**11 49 27.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**11 49 51.0**	**+0.5**
IKRK				AML	AML	11 49 55.8	
	comp=E,444nm,0.4s						
IKRK				AML	AML	11 49 59.5	
	comp=N,465nm,0.5s						
IDOB	**Doab**	1.79	116	Pg	**Pg**	**11 49 28.9**	**-1.1**
BHD	**Baghdad**	2.03	230	*e*Pn	**Pb**	**11 49 31.5**	**-1.2**
BHD				*e*Sn	**Sb**	**11 49 58.5**	**+0.4**
BHD				AML	AML	11 50 05.3	
	comp=E,307nm,0.4s						
MAHB	**Mahabad**	2.22	349	Pn	**Pb**	**11 49 35.1**	**-1.0**
BDRS	**Dareh Seyedi**	2.27	105	Pn	**Pb**	**11 49 35.6**	**-1.4**
HGHA	**Hamedan- Ghaye**	2.32	66	Pn	**Pb**	**11 49 36.7**	**-1.1**
HAGD	**Aghdareh**	2.39	83	Pn	**Pb**	**11 49 37.0**	**-2.1**
IHSH	**Hashtrud**	2.84	17	Pn	**Pb**	**11 49 44.1**	**-2.6**
RAFI	**Al-Rafai**	2.85	182	*e*Pn	**Pn**	**11 49 43.0**	**+1.7**
RAFI				*e*Sn	**Sb**	**11 50 18.5**	**-3.3**
RAFI				AML	AML	11 50 35.4	
	comp=E,174nm,0.3s						
RAFI				AML	AML	11 50 58.0	
	comp=N,204nm,0.6s						
ZNJK	**Zanjan**	2.88	43	Pn	**Pn**	**11 49 43.5**	**+1.6**
IAZR	**Azarshahr**	3.10	356	Pn	**Pn**	**11 49 47.2**	**+2.2**
MSL	**Mosul**	3.14	306	*e*Pn	**Pn**	**11 49 46.0**	**+0.8**
MSL				*e*Sn	**Sn**	**11 50 23.0**	**+0.2**
ISHB	**Shabestar**	3.73	352	Pn	**Pn**	**11 49 55.7**	**+2.1**
QAMS	**Qamsar**	4.35	100	Pn	**Pn**	**11 50 04.9**	**+2.7**
IKLH	**Kolahrood**	4.61	104	Pn	**Pn**	**11 50 08.8**	**+3.1**
ISFB	**Sefidab**	4.96	91	Pn	**Pn**	**11 50 12.2**	**+1.9**

HEL 17 12:06:16.8±0.2, 62°.32N×25°.77E, h0km, ML1.0,
Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	0.33	130	PG	Pg	12 06 22.8	-0.3
KAF				SG	Sg	12 06 27.6	+0.3
SUF	**Sumiainen**	0.43	24	PG	Pg	12 06 24.4	-0.7
	baz=204						
SUF				SG	Sg	12 06 30.7	-0.1
KEF	**Keuruu**	0.45	250	PG	Pg	12 06 24.2	-1.2
	baz=69						
KEF				SG	Sg	12 06 30.8	-0.4
FIA0	**FINESS Array S**	0.90	171	MSG		12 06 44.3	
	comp=Z,1.3nm,0.2s						
FIA0				SB	Sg	12 06 45.5	0.0
NIF	**Nilsia**	1.42	40	PN	Pn	12 06 43.6	-0.2
NIF				MSG		12 06 59.6	
	comp=Z,0.7nm,0.2s						
VAF	**Ylistaro**	1.60	298	PG	Pn	12 06 46.0	-0.3
	baz=116						
VAF				MSG		12 07 04.8	
	comp=Z,0.8nm,0.2s						
VAF				SN	Sn	12 07 06.5	-1.2
KPF	**Kankaanpaa**	1.81	256	PG	Pn	12 06 49.8	+0.7
	baz=68						
KPF				MSG		12 07 10.7	
	comp=Z,0.5nm,0.2s						
KPF				SN	Sb	12 07 14.0	+0.1
OUF	**Merijarvi**	2.10	348	MSG		12 07 19.3	
	comp=Z,0.9nm,0.2s						
OUF				SG	Sb	12 07 22.8	+0.4
OBF4	**Vikkela, Lumij**	2.52	353	MSG		12 07 31.2	
	comp=Z,0.6nm,0.2s						
OBF4				SG	Sb	12 07 34.0	-0.2
JOF	**Joensuu**	2.63	74	SG	Sb	12 07 37.8	+0.3
AAL	**Aland**	3.52	235	PN	Pn	12 07 12.3	-0.4
RNF	**Rovaniemi**	4.30	1	SB	Sb	12 08 21.0	-4.7

SJA 17 12:08:20.5±0.6, 24°.19S×66°.90W, h219km±4km, ML3.4, MW3.5
GUC 17 12:08:21.6±0.7, 24°.21S×66°.99W, h198km±9km, ML3.7
ISC 17 12:08:19.8±2.1, 24°.19S±0°.05×66°.88W±0°.06,
h219km±16km, n31, σ1§46/48, 3C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.49	94	⇓*i*P	**Pn**	**12 08 50.5**	**+0.7**
SALTA		0.49	94	*e*P	**Pn**	**12 08 50.7**	**+0.9**
SLA	**San Lorenzo**	1.36	113	*e*P	**Pn**	**12 08 55.9**	**+1.6**
SLA	**San Lorenzo**	1.36	113	*e*P	**Pn**	**12 08 55.9**	**+1.6**
SLA				*e*S	**S**	**12 09 21.5**	**+0.4**
HJA	**Humahuaca**	1.67	54	*e*P	**Pn**	**12 08 58.6**	**+1.4**
FSA	**Cafayete**	2.08	157	*e*P	**Pn**	**12 09 02.4**	**+1.7**
FSA				*e*S	**S**	**12 09 27.0**	**-5.6**
GO02	**Mina Guanaco**	2.65	248	*e*P	**Pn**	**12 09 08.4**	**+1.5**
GO02				*e*S	**S**	**12 09 43.0**	**-0.4**
GO02				IAML		12 09 44.9	
	comp=E,295nm,0.4s						
GO02	**Mina Guanaco**	2.65	248	*e*P	**Pn**	**12 09 07.9**	**+1.0**
GO02				*e*S	**S**	**12 09 43.9**	**+0.5**
GO02				IAML		12 09 47.3	
	comp=Z,189nm,0.4s						
PB06	**IPOC Station P**	2.88	300	⇑*i*P	**Pn**	**12 09 10.7**	**+1.3**
PB06				*e*S	**S**	**12 09 46.1**	**-1.7**
PB06				IAML		12 09 47.7	
	comp=N,156nm,0.5s						
PB06	**IPOC Station P**	2.88	300	*e*P	**Pn**	**12 09 10.5**	**+1.2**
PB06				*e*S	**S**	**12 09 47.0**	**-0.8**
PB06				IAML		12 09 50.4	
	comp=Z,108nm,0.3s						
PB09	**IPOC Station P**	3.23	317	⇑*i*P	**Pn**	**12 09 15.0**	**+1.7**
PB09				IAML		12 09 58.0	
	comp=N,54nm,0.4s						
PB09	**IPOC Station P**	3.23	317	*e*P	**Pn**	**12 09 14.7**	**+1.3**
PB09				*e*S	**S**	**12 09 54.4**	**-0.7**
PB09				IAML		12 09 57.4	
	comp=Z,56nm,0.4s						
PB14	**IPOC Station P**	3.24	262	*e*P	**Pn**	**12 09 15.0**	**+1.3**
PB14				IAML		12 09 55.7	
	comp=E,73nm,0.5s						
PB14	**IPOC Station P**	3.24	262	*e*P	**Pn**	**12 09 14.9**	**+1.3**
PB14				*e*S	**S**	**12 09 54.5**	**-1.0**
PB14				IAML		12 09 57.2	
	comp=Z,52nm,0.3s						
PB05	**IPOC Station P**	3.33	293	*e*P	**Pn**	**12 09 15.6**	**+1.2**
PB05	**IPOC Station P**	3.33	293	*e*P	**Pn**	**12 09 15.4**	**+1.0**
PB05				*e*S	**S**	**12 09 55.8**	**-1.2**
PB05				IAML		12 09 60.0	
	comp=Z,31nm,0.4s						
PB03	**IPOC Station P**	3.40	308	*e*P	**Pn**	**12 09 16.3**	**+0.9**
PB03	**IPOC Station P**	3.40	308	*e*P	**Pn**	**12 09 16.3**	**+0.9**
PB03				*e*S	**S**	**12 09 57.7**	**-0.9**
PB03				IAML		12 10 00.5	
	comp=Z,84nm,0.3s						
PB10	**IPOC Station P**	3.43	281	⇑*i*P	**Pn**	**12 09 16.8**	**+1.3**
PB10	**IPOC Station P**	3.43	281	*e*P	**Pn**	**12 09 16.4**	**+0.8**
PB10				*e*S	**S**	**12 09 58.0**	**-1.0**
PB10				IAML		12 10 01.7	
	comp=Z,43nm,0.8s						
AC01	**Pan de Azucar**	3.89	239	*e*P	**Pn**	**12 09 21.7**	**+0.7**
AC01	**Pan de Azucar**	3.89	239	*e*P	**Pn**	**12 09 21.9**	**+0.9**
AC01				*e*S	**S**	**12 10 07.9**	**-1.1**
AC01				IAML		12 10 09.3	
	comp=Z,24nm,0.5s						
PB01	**IPOC Station P**	3.95	322	*e*P	**Pn**	**12 09 22.6**	**+0.7**
PB01	**IPOC Station P**	3.95	322	*e*P	**Pn**	**12 09 22.9**	**+1.0**
PB01				*e*S	**S**	**12 10 09.5**	**-1.0**
PB01				IAML		12 10 13.4	
	comp=Z,38nm,0.4s						
PB02	**IPOC Station P**	3.99	315	*e*P	**Pn**	**12 09 22.9**	**+0.6**
PB02	**IPOC Station P**	3.99	315	*e*P	**Pn**	**12 09 23.1**	**+0.8**
PB02				*e*S	**S**	**12 10 09.5**	**-1.9**
PB02				*e*S	S	12 10 10.0	-1.4
PB02				IAML		12 10 18.7	
	comp=Z,98nm,0.3s						
GO03	**Copiapo**	4.54	221	*e*P	**Pn**	**12 09 30.2**	**+1.2**
PB08	**IPOC Station P**	4.55	332	*e*P	**Pn**	**12 09 31.0**	**+1.5**
PB08	**IPOC Station P**	4.55	332	*e*P	**Pn**	**12 09 30.7**	**+1.2**
PB08				*e*S	**S**	**12 10 23.6**	**-0.6**
PB08				IAML		12 10 26.9	
	comp=Z,22nm,0.6s						
TA01	**Diego Aracena**	4.73	319	*e*P	**Pn**	**12 09 31.9**	**+0.5**
TA01				*e*S	**S**	**12 10 26.2**	**-1.4**
TA01				IAML		12 10 29.9	
	comp=Z,22nm,0.4s						
PB11	**IPOC Station P**	5.11	329	*e*P	**Pn**	**12 09 36.5**	**+0.2**
PB11				*e*S	**S**	**12 10 34.6**	**-2.0**
PB11				IAML		12 10 37.2	
	comp=Z,22nm,0.3s						

JMA 17 12:13:09.2±0.3, 24°.N±2°.×122°.5E±0°.8, h20km, MV2.4/13,
NW OFF ISHIGAKIJIMA IS
TAP 17 12:13:10.5, 24°.11N×122°.46E, h26km, ML2.9, C
ISC 17 12:13:09.6±1.0, 23°.99N±0°.03×122°.48E±0°.02, h27km±8km,
n68, σ0§67/98, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	0.19	312	⇑*i*P	**Pb**	**12 13 15.3**	**+0.2**
EOS4				*i* S	**Sb**	**12 13 19.3**	**+0.5**
EOS3	**EOS3**	0.33	334	⇓*i*P	**Pn**	**12 13 17.5**	**-1.1**
EOS3				*i* S	**Sn**	**12 13 22.9**	**-1.4**
EOS2	**EOS2**	0.48	332	*i* P	**Pn**	**12 13 20.3**	**-0.4**
JYNG	**Yonagunijimaku**	0.63	43	P	**Pb**	**12 13 21.3**	**-0.8**
JYNG				*e*S	**Sb**	**12 13 30.0**	**-0.5**
YOJ	**Yonaguni jima**	0.68	46	*e*P	**Pn**	**12 13 23.2**	**-0.3**
YOJ	**Yonaguni jima**	0.68	46	P	**Pn**	**12 13 23.2**	**-0.3**
YOJ				S	**Sb**	**12 13 31.2**	**-0.6**
EAHA	**Aohua**	0.75	297	*e*P	**Pn**	**12 13 24.8**	**+0.3**
EAHA				*e*S	**Sn**	**12 13 35.4**	**+0.4**
ETL	**Fush Village**	0.80	282	*e*P	**Pb**	**12 13 24.3**	**-0.6**
ETL				*e*S	**Sn**	**12 13 35.9**	**-0.3**
HWA	**Hwalien**	0.80	269	*e*S	**Sn**	**12 13 36.5**	**+0.4**
ENA	**Nanau**	0.80	303	P	**Pb**	**12 13 24.7**	**-0.3**
ENA				S	**Sn**	**12 13 35.5**	**-0.7**
TWD	**Chiawan**	0.81	276	S	**Sb**	**12 13 35.5**	**-0.2**
ESAO	**Su ao**	0.82	315	*e*P	**Pn**	**12 13 25.5**	**+0.1**
ESAO				*e*S	**Sn**	**12 13 36.5**	**-0.2**
NACB	**Ninganchiao**	0.83	283	*e*P	**Pb**	**12 13 24.9**	**-0.5**
NACB				S	**Sb**	**12 13 36.0**	**-0.1**
TWC	**Suao**	0.84	317	*i* P	**Pb**	**12 13 24.8**	**-0.8**
TWC				S	**Sb**	**12 13 35.5**	**-1.1**
SHUL	**Shoufeng**	0.86	257	*e*S	**Sb**	**12 13 37.7**	**+0.5**
ETM	**Tongmen**	0.90	269	P	**Pb**	**12 13 25.0**	**-1.7**
ETM				*e*S	**Sb**	**12 13 37.5**	**-0.8**
ETLH	**Xiulin Townshi**	0.93	283	*e*P	**Pb**	**12 13 26.6**	**-0.7**
ETLH				*e*S	**Sb**	**12 13 39.3**	**-0.1**
NDS	**Dongshan**	0.94	313	*e*P	**Pb**	**12 13 25.9**	**-1.4**
EGFH	**Guangfu**	1.01	252	*e*S	**Sb**	**12 13 41.0**	**-0.5**
LATG	**Datong**	1.02	302	*e*P	**Pn**	**12 13 28.6**	**+0.3**
LATG				*e*S	**Sn**	**12 13 43.3**	**+1.5**
TWE	**Neicheng**	1.03	315	P	**Pb**	**12 13 28.6**	**-0.3**
TWE				S	**Sn**	**12 13 42.4**	**+0.4**
WARBT	**Fenglin Townsh**	1.03	255	*e*P	**Pn**	**12 13 26.9**	**-1.5**
ENTT	**Nioudou**	1.05	308	P	**Pb**	**12 13 28.9**	**-0.3**
HGSD	**Ruisui**	1.08	243	*e*P	**Pn**	**12 13 28.2**	**-0.8**
NNSB	**Datong**	1.09	294	*e*P	**Pn**	**12 13 29.4**	**+0.2**
NNSB				*e*S	**Sn**	**12 13 43.5**	**0.0**

az=93.0
ISC 17 12:30:31.3±0.7, 67°43N±0°02×23°10E±0°03, h0km, n40, σ1§17/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.41**	**179**	P	**Pg**	**12 30 39.3**	**+0.3**
PAJU				S	**Sg**	**12 30 45.3**	**+1.0**
PAJU	**Pajala**	**0.41**	**179**	PG	**Pg**	**12 30 39.2**	**+0.2**
	baz=12						
PAJU				SG	**Sg**	**12 30 45.3**	**+1.0**
LANU	**Lannavaara**	**0.75**	**327**	*eP*	**Pg**	**12 30 44.5**	**-1.1**
LANU	**Lannavaara**	**0.75**	**327**	PB	**Pg**	**12 30 44.1**	**-1.5**
LANU				SB	**Sn**	**12 31 01.2**	**0.0**
ERTU	**Ertsjaerv**	**0.95**	**203**	P	**Pg**	**12 30 49.8**	**+0.3**
ERTU	**Ertsjaerv**	**0.95**	**203**	PG	**Pg**	**12 30 49.7**	**+0.3**
ERTU				SG	**Sb**	**12 31 03.6**	**-0.1**
HEF	**Hetta**	**1.01**	**12**	*eP*	**Pg**	**12 30 50.3**	**-0.3**
HEF	**Hetta**	**1.01**	**12**	PB	**Pg**	**12 30 50.1**	**-0.5**
	baz=190						
HEF				MSG		12 31 02.2	
	comp=Z,8.3nm,0.2s						
HEF				SB	**Sg**	**12 31 04.4**	**+0.7**
DUNU	**Dundret**	**1.03**	**254**	P	**Pb**	**12 30 52.4**	**+0.4**
KUA	**Kurravaara**	**1.18**	**298**	P	**Pn**	**12 30 54.9**	**-0.1**
RATU	**Laukkuluspa**	**1.40**	**288**	P	**Pb**	**12 30 58.9**	**+0.6**
RNF	**Rovaniemi**	**1.41**	**124**	PG	**Pn**	**12 30 56.1**	**-2.1**
RNF				SG	**Sg**	**12 31 15.4**	**-1.1**
TOF	**Tornio**	**1.44**	**160**	PG	**Pn**	**12 30 57.6**	**-1.0**
TOF				MSG		12 31 14.9	
	comp=Z,4.4nm,0.2s						
TOF				SG	**Sg**	**12 31 15.6**	**-1.9**
HARU	**Harads**	**1.52**	**214**	P	**Pb**	**12 31 00.3**	**-0.1**
KALU	**Kalix**	**1.58**	**176**	P	**Pn**	**12 31 00.4**	**-0.1**
KALU	**Kalix**	**1.58**	**176**	PG	**Pn**	**12 31 00.5**	**0.0**
KALU				SN	**Sg**	**12 31 23.9**	**+2.0**
KTK1	**Kautokeino**	**1.59**	**2**	PN	**Pn**	**12 31 00.5**	**-0.2**
NIKU	**Nikkaluokta**	**1.61**	**288**	P	**Pg**	**12 31 02.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.80**	**333**	*eP*	**Pb**	**12 31 05.3**	**+0.2**
SJUU	**Sjulsmark**	**2.02**	**198**	*eP*	**Pn**	**12 31 03.4**	**-3.1**
RANF	**Ranua**	**2.04**	**132**	PG	**Pn**	**12 31 07.2**	**+0.3**
	baz=319						
RANF				SB	**Sn**	**12 31 33.2**	**+0.2**
RAJF	**Raja-Jooseppi**	**2.23**	**59**	PG	**Pn**	**12 31 09.2**	**-0.3**
RAJF				SG	**Sb**	**12 31 39.8**	**-0.7**
ARA0	**ARCESS Array S**	**2.30**	**22**	PG	**Pn**	**12 31 10.6**	**+0.2**
ARCES	**ARCESS Array B**	**2.30**	**22**	Pn	**Pn**	**12 31 10.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=193,slow=15,SNR=18						
ARCES				Sn	**Sn**	**12 31 40.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=190,slow=21,SNR=13						
	comp=Z,0.9nm,0.3s						
VRF	**Varrio**	**2.52**	**80**	PB	**Pn**	**12 31 13.6**	**+0.2**
VRF				MSG		12 31 43.9	
	comp=Z,3.7nm,0.2s						
VRF				SB	**Sn**	**12 31 45.9**	**+1.2**
OUL	**Oulu**	**2.61**	**153**	PG	**Pb**	**12 31 19.0**	**+0.1**
OUL				SG	**Sb**	**12 31 52.6**	**+1.1**
KUZ	**Taivalkoski**	**2.68**	**128**	PB	**Pn**	**12 31 16.8**	**+1.1**
OLKF	**Oulanka, Finla**	**2.73**	**111**	PB	**Pn**	**12 31 17.7**	**+1.4**
OLKF				MSG		12 31 50.1	
	comp=Z,2.3nm,0.2s						
OLKF				SB	**Sb**	**12 31 53.4**	**-1.3**
KEV	**Kevo**	**2.74**	**30**	PB	**Pn**	**12 31 16.8**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.75**	**162**	PN	**Pn**	**12 31 16.7**	**+0.1**
OBF4				MSG		12 31 52.7	
	comp=Z,1.4nm,0.2s						
MSF	**Maaselka**	**2.81**	**120**	SB	**Sb**	**12 31 55.8**	**-1.5**
BURU	**Burvik**	**2.94**	**195**	PG	**Pb**	**12 31 23.9**	**-0.6**
KU6	**Riekki**	**3.04**	**114**	PN	**Pn**	**12 31 20.7**	**+0.1**
KU6				SN	**Sn**	**12 31 58.8**	**+1.1**
KU6				MSG		12 31 59.4	
	comp=Z,1.8nm,0.2s						
OUF	**Merijarvi**	**3.15**	**167**	PB	**Pn**	**12 31 24.9**	**+2.9**
OUF				MSG		12 32 04.3	
	comp=Z,1.3nm,0.2s						
OUF				SB	**Sb**	**12 32 04.5**	**-2.4**
KU1	**Kurvinen**	**3.19**	**123**	PN	**Pn**	**12 31 22.7**	**0.0**
VAF	**Ylistaro**	**4.41**	**183**	*eP*	**Pn**	**12 31 36.6**	**-2.7**
JOF	**Joensuu**	**5.70**	**139**	*eP*	**Pn**	**12 31 54.7**	**-2.3**
FINES	**FINESS Array B**	**6.14**	**167**	Pn	**Pn**	**12 32 04.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=13,SNR=1.2						
FINES				Sn	**Sn**	**12 33 14.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=355,slow=24,SNR=1.5						
FINES				Lg	Lg	12 33 44.4	
	comp=Z,0.1nm,0.3s,baz=352,slow=29,SNR=1.9						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**8.22**	**224**	Pn	Pn	12 32 38.8	+7.0
	comp=Z,0.1nm,0.3s,baz=35,slow=14,SNR=1.8						
SPITS	**Spitsbergen Ar**	**10.98**	**353**	Pn	**Pn**	**12 33 10.4**	**+1.1**
	baz=163,slow=10						
	comp=Z,5.8nm,0.9s						

*IDC **17** 13:06:41.8±6.4, 10°42N×82°74W, h0km, mb3.4/3, mbtmp3.4/3, MS3.3/1, Error ellipse: s-maj=257.5km s-min=101.7km az=62.0*
*UCR **17** 13:06:57.7±1.4, 10°11N×85°14W, h39km±3km, MW4.2*
*CATAC **17** 13:06:58.6±0.3, 10°N±2°×8°5W±°, h26km±2km, M4.2/19, MLv4.2/19, Error ellipse: s-maj=5.7km s-min=2.3km az=41.0, confirmed*
ISC 17 13:06:58.3±0.9, 10°11N±0°02×85°12W±0°02, h33km±2km, n158, σ0§75/212, mb3.2/3, 24C-52D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYURE	**Nandayure**	**0.18**	**230**	⇑*iP*	**Pb**	**13 07 04.6**	**-0.1**
NYURE				*eS*	**Sb**	**13 07 10.3**	**+1.3**
JUNT	**Juntas**	**0.23**	**42**	*eP*	**Pn**	**13 07 05.2**	**+0.1**
JUNT				*eS*	**Sb**	**13 07 10.8**	**+0.9**
JTS	**Las Juntas de**	**0.24**	**42**	P	**Pn**	**13 07 05.2**	**-0.1**
JTS				S	**Sb**	**13 07 11.1**	**+0.9**
JTS	**Las Juntas de**	**0.24**	**42**	*eP*	**Pn**	**13 07 05.1**	**-0.1**
JCR1	**Jicaral**	**0.26**	**179**	⇑*iP*	**Pn**	**13 07 05.4**	**-0.3**
JCR1				*eS*	**Sb**	**13 07 11.7**	**+1.0**
ENAS	**Puntarenas**	**0.31**	**116**	⇓*iP*	**Pb**	**13 07 06.1**	**-0.1**
ENAS				*eS*	**Sb**	**13 07 12.8**	**+1.3**
CNAS	**Canas**	**0.32**	**4**	⇑*eP*	**Pn**	**13 07 07.3**	**+0.6**
CNAS				*eS*	**Sb**	**13 07 14.3**	**+2.5**
NICO	**Nicoya**	**0.33**	**274**	⇓*iP*	**Pb**	**13 07 06.3**	**-0.1**
NICO				*eS*	**Sb**	**13 07 13.1**	**+1.1**
PLVR	**Palo Verde**	**0.33**	**315**	⇓*iP*	**Pb**	**13 07 06.2**	**-0.4**
PLVR				*eS*	**Sb**	**13 07 13.3**	**+1.0**
PAQE	**Paquera**	**0.34**	**148**	⇑*eP*	**Pb**	**13 07 06.3**	**-0.3**
PAQE				*eS*	**Sb**	**13 07 13.2**	**+0.8**
MTEVE	**Monteverde**	**0.35**	**54**	⇓*eP*	**Pb**	**13 07 06.8**	**-0.2**
MTEVE				*eS*	**Sb**	**13 07 13.9**	**+1.1**
INVE	**Universidad In**	**0.37**	**8**	⇑*iP*	**Pb**	**13 07 07.0**	**-0.1**
INVE				*eS*	**Sb**	**13 07 14.0**	**+1.1**
TILA	**Tilaran**	**0.38**	**22**	⇑*eP*	**Pb**	**13 07 07.0**	**-0.2**
TILA				*eS*	**Sn**	**13 07 14.2**	**+0.5**
CHIK	**Chiripa**	**0.39**	**32**	⇑*eP*	**Pb**	**13 07 07.3**	**-0.1**
CHIK				*eS*	**Sn**	**13 07 15.1**	**+1.1**
ROBF	**Roble, Puntare**	**0.40**	**109**	⇓*iP*	**Pb**	**13 07 07.0**	**-0.4**
JUD3	**Juan Diaz 3**	**0.42**	**277**	⇓*iP*	**Pb**	**13 07 07.4**	**-0.4**
JUD3				*eS*	**Sn**	**13 07 15.1**	**+0.3**
ARZA	**Esparza**	**0.46**	**105**	⇓*iP*	**Pb**	**13 07 07.6**	**-0.7**
ARZA				*eS*	**Sb**	**13 07 15.5**	**+0.4**
TIMP	**Tierras Morena**	**0.48**	**12**	*eP*	**Pb**	**13 07 07.5**	**-1.2**
SACU	**Santa Cruz**	**0.48**	**288**	⇓*iP*	**Pb**	**13 07 08.1**	**-0.6**
CASO	**Castillo**	**0.49**	**50**	*eP*	**Pb**	**13 07 08.8**	**-0.1**
CASO				*eS*	**Sn**	**13 07 17.8**	**+1.2**
TABAC	**Tabacon**	**0.52**	**42**	⇑*eP*	**Pb**	**13 07 09.4**	**+0.1**
TABAC				*eS*	**Sn**	**13 07 18.8**	**+1.7**
CBL1	**Cabuya**	**0.52**	**177**	⇑*iP*	**Pb**	**13 07 08.1**	**-1.1**
CBL1				*eS*	**Sb**	**13 07 16.8**	**0.0**
ARE1	**Arenal 1**	**0.52**	**48**	⇑*iP*	**Pn**	**13 07 09.5**	**0.0**
ARE1				*eS*	**Sn**	**13 07 18.9**	**+1.7**
VARE2	**V. Arenal**	**0.52**	**48**	⇑*eP*	**Pn**	**13 07 09.5**	**-0.1**
DELF	**Filadelfia**	**0.54**	**308**	⇓*iP*	**Pn**	**13 07 09.2**	**-0.5**
CUI	**Cuipilapa**	**0.55**	**355**	⇑*iP*	**Pn**	**13 07 09.3**	**-0.6**
CUI				*eS*	**Sn**	**13 07 18.1**	**+0.3**
CEDE	**Laguna Cedeo**	**0.55**	**47**	⇑*eP*	**Pn**	**13 07 09.8**	**-0.1**
CEDE				*eS*	**Sn**	**13 07 19.6**	**+1.5**
QUEB	**Quebradon, Cot**	**0.55**	**23**	⇑*eP*	**Pn**	**13 07 09.3**	**-0.6**
COLC	**Colonia**	**0.56**	**351**	⇑*eP*	**Pn**	**13 07 09.3**	**-0.7**
COLC				*eS*	**Sb**	**13 07 18.3**	**+0.5**
SOCE	**Pocosol**	**0.56**	**61**	P	**Pn**	**13 07 09.7**	**-0.3**
SOCE	**Pocosol**	**0.56**	**61**	S	**Sn**	**13 07 19.0**	**+0.8**
SOCE	**Pocosol**	**0.56**	**61**	⇓*eP*	**Pn**	**13 07 09.7**	**-0.3**
VACR	**Volcan Arenal**	**0.56**	**50**	⇑*eP*	**Pn**	**13 07 09.8**	**-0.2**
FORC	**Fortuna**	**0.56**	**51**	⇓*eP*	**Pn**	**13 07 09.9**	**-0.1**
FORC				*eS*	**Sn**	**13 07 19.6**	**+1.4**
MOTZ	**Rio Naranjo**	**0.57**	**4**	*eP*	**Pn**	**13 07 09.7**	**-0.5**
REZ	**Monterrey de S**	**0.58**	**45**	*eP*	**Pn**	**13 07 10.3**	**0.0**
HORNC	**Hornillas**	**0.60**	**354**	⇓*eP*	**Pn**	**13 07 09.9**	**-0.7**
HORNC				*eS*	**Sn**	**13 07 19.1**	**-0.2**
TENO	**El Achiote**	**0.60**	**13**	⇑*eP*	**Pn**	**13 07 09.3**	**-1.3**
TENO				*eS*	**Sn**	**13 07 18.2**	**-1.1**
ERIA	**Liberia**	**0.61**	**329**	⇓*iP*	**Pn**	**13 07 10.2**	**-0.4**
MESS	**Mesas**	**0.63**	**353**	*eP*	**Pn**	**13 07 10.3**	**-0.6**
MESS				*eS*	**Sn**	**13 07 19.9**	**0.0**
ALIBA	**Liberia Airpor**	**0.64**	**319**	⇓*iP*	**Pn**	**13 07 10.8**	**-0.3**
ALIBA				*eS*	**Sb**	**13 07 21.2**	**+1.2**
RAMO	**San Ramon**	**0.64**	**92**	⇓*iP*	**Pn**	**13 07 10.4**	**-0.7**
PALD	**Palmares**	**0.67**	**95**	⇓*iP*	**Pn**	**13 07 10.8**	**-0.9**
PALD				*eS*	**Sn**	**13 07 21.1**	**0.0**
GPS2	**Hotel Rincn d**	**0.68**	**340**	*eP*	**Pn**	**13 07 10.9**	**-0.7**
ELI1	**Hacienda Flor**	**0.68**	**321**	P	**Pn**	**13 07 11.2**	**-0.4**
ELI1	**Hacienda Flor**	**0.68**	**321**	S	**Sb**	**13 07 22.0**	**+0.8**
ELI1	**Hacienda Flor**	**0.68**	**321**	⇓*iP*	**Pn**	**13 07 11.3**	**-0.4**
ELI1				*eS*	**Sb**	**13 07 22.3**	**+1.2**
GPS3	**Bodega del ICE**	**0.68**	**339**	⇓*eP*	**Pn**	**13 07 12.0**	**+0.2**
GPS3				*eS*	**Sb**	**13 07 22.5**	**+1.2**
VMAR	**Armenia, Volca**	**0.70**	**0**	*eP*	**Pn**	**13 07 11.4**	**-0.5**
VMAR				*eS*	**Sn**	**13 07 21.6**	**0.0**
GPS1	**Guardaparques**	**0.70**	**341**	⇓*eP*	**Pn**	**13 07 11.3**	**-0.6**
GPS1				*eS*	**Sn**	**13 07 21.6**	**-0.1**
QUEU	**Ciudad Quesada**	**0.70**	**73**	⇓*eP*	**Pn**	**13 07 11.9**	**-0.1**
VRLE	**La Escondida,**	**0.72**	**340**	⇓*iP*	**Pn**	**13 07 11.6**	**-0.7**
ZARE	**Zarcero**	**0.72**	**84**	*eP*	**Pn**	**13 07 11.9**	**-0.5**
LAPC	**Finca la Perla**	**0.72**	**334**	⇓*iP*	**Pn**	**13 07 11.4**	**-0.8**
NARAN	**Naranjo de Ala**	**0.73**	**91**	⇓*eP*	**Pn**	**13 07 11.9**	**-0.5**
ATEO	**Atenas**	**0.73**	**100**	⇓*iP*	**Pn**	**13 07 11.6**	**-0.9**
ATEO				*eS*	**Sn**	**13 07 22.2**	**-0.4**
VORI	**VORI**	**0.74**	**342**	⇓*eP*	**Pn**	**13 07 11.9**	**-0.7**
VPL2	**V. Platanar**	**0.75**	**75**	⇓*iP*	**Pn**	**13 07 12.5**	**-0.2**
VPL1	**V. Platanar**	**0.75**	**79**	⇓*eP*	**Pn**	**13 07 11.4**	**-1.4**
SARCI	**Sarchi**	**0.76**	**92**	*eP*	**Pn**	**13 07 12.1**	**-0.7**
BUAI	**Buenos Aires**	**0.79**	**344**	⇓*eP*	**Pn**	**13 07 12.7**	**-0.5**
BUAI				*eS*	**Sn**	**13 07 24.2**	**+0.3**
PEJA	**Penjamo Buenos**	**0.80**	**346**	⇑*iP*	**Pn**	**13 07 13.7**	**+0.3**
PEJA				*eS*	**Sb**	**13 07 24.9**	**+0.4**
PURI	**Puriscal**	**0.84**	**108**	⇓*eP*	**Pn**	**13 07 13.0**	**-0.9**
POAS	**San Pedro de P**	**0.86**	**92**	*eP*	**Pn**	**13 07 13.4**	**-0.8**
VPS8	**V Poas**	**0.86**	**85**	⇓*iP*	**Pn**	**13 07 14.0**	**-0.4**
VPS5	**V. Poas**	**0.87**	**85**	⇓*iP*	**Pn**	**13 07 14.0**	**-0.6**
ITAL	**Pital**	**0.90**	**68**	⇓*iP*	**Pn**	**13 07 14.2**	**-0.4**
ITAL				*eS*	**Sb**	**13 07 27.5**	**+0.4**
UELA	**Alajuela**	**0.90**	**96**	⇓*iP*	**Pn**	**13 07 13.5**	**-1.2**
ARTO	**Ro Cuarto**	**0.92**	**75**	⇓*eP*	**Pn**	**13 07 14.8**	**-0.2**
ARTO				*eS*	**Sn**	**13 07 27.9**	**+1.0**
BELE	**Belen**	**0.92**	**98**	⇓*eP*	**Pn**	**13 07 14.3**	**-0.7**
BELE				*eS*	**Sn**	**13 07 27.1**	**-0.1**
COVE	**Coope Vega, Sa**	**0.93**	**49**	P	**Pn**	**13 07 14.6**	**-0.4**
COVE	**Coope Vega, Sa**	**0.93**	**49**	S	**Sn**	**13 07 28.0**	**+0.8**
SANTA	**Santa Ana**	**0.93**	**101**	*eP*	**Pn**	**13 07 14.0**	**-1.2**
HEME	**Heredia, Merce**	**0.97**	**97**	⇓*eP*	**Pn**	**13 07 16.5**	**+0.7**
ACOS	**Acosta**	**0.99**	**108**	⇓*eP*	**Pn**	**13 07 15.2**	**-0.8**
HDC	**Heredia**	**0.99**	**96**	⇓*iP*	**Pn**	**13 07 15.7**	**-0.4**
HDC				*eS*	**Sn**	**13 07 30.1**	**+1.1**
PAR1A	**Puntarenas Pro**	**0.99**	**121**	*eP*	**Pn**	**13 07 15.7**	**-0.2**
PAVB	**Pavas, San Jos**	**1.00**	**100**	*eP*	**Pn**	**13 07 16.4**	**+0.2**
LCHIL	**Los Chiles**	**1.00**	**23**	⇑*iP*	**Pn**	**13 07 15.7**	**-0.3**
LCHIL				*eS*	**Sb**	**13 07 30.3**	**+0.2**
DOMI	**Santo Domingo**	**1.02**	**97**	⇑*iP*	**Pn**	**13 07 16.3**	**-0.1**
PICV	**PH. Pirrs**	**1.03**	**118**	⇓*iP*	**Pn**	**13 07 15.7**	**-0.8**
CENT	**San Jose**	**1.04**	**100**	*eP*	**Pn**	**13 07 17.2**	**+0.5**
LUJA	**Lujan**	**1.04**	**100**	*eP*	**Pn**	**13 07 16.1**	**-0.7**
LUPE	**Guadalupe**	**1.06**	**99**	*eP*	**Pn**	**13 07 16.3**	**-0.7**
AMPA	**Desamparados**	**1.06**	**102**	⇑*iP*	**Pn**	**13 07 16.4**	**-0.6**
AMPA				*eS*	**Sn**	**13 07 30.4**	**-0.3**
SJS	**Escuela Geolog**	**1.06**	**99**	*eP*	**Pn**	**13 07 16.3**	**-0.7**
ECI	**Escuela Centro**	**1.06**	**99**	*eP*	**Pn**	**13 07 16.6**	**-0.4**
ECI				*eS*	**Sn**	**13 07 31.7**	**+1.0**
SJS3	**Mercedes San J**	**1.06**	**99**	*eP*	**Pn**	**13 07 16.6**	**-0.4**
LCRUZ	**La Cruz**	**1.09**	**332**	⇓*iP*	**Pn**	**13 07 17.2**	**0.0**
LCRUZ				*eS*	**Sb**	**13 07 32.5**	**-0.1**
CORON	**Coronado**	**1.10**	**97**	*eP*	**Pn**	**13 07 17.7**	**+0.1**
TRIO	**Tres Rios**	**1.12**	**100**	*eP*	**Pn**	**13 07 17.1**	**-0.8**
CARN	**Rivas**	**1.14**	**340**	P	**Pn**	**13 07 18.3**	**+0.2**
CARN				S	**Sn**	**13 07 33.5**	**+1.0**
CARN	**Rivas**	**1.14**	**340**	⇑*iP*	**Pn**	**13 07 18.2**	**+0.2**
CARN				*eS*	**Sb**	**13 07 34.6**	**+0.5**
LCR2	**La Lucha 2**	**1.16**	**108**	S	**Sn**	**13 07 33.8**	**+0.7**
LCR2	**La Lucha 2**	**1.16**	**108**	P	**Pn**	**13 07 18.3**	**-0.1**
SVQ2	**Quepos**	**1.16**	**126**	*eP*	**Pn**	**13 07 17.6**	**-0.6**
QUEP	**Quepos**	**1.16**	**126**	P	**Pn**	**13 07 19.5**	**+1.3**
QUEP	**Quepos**	**1.16**	**126**	S	**Sb**	**13 07 35.2**	**+0.7**
QUEP	**Quepos**	**1.16**	**126**	*eP*	**Pn**	**13 07 17.6**	**-0.6**
CVIMO	**Finca Echandi**	**1.16**	**94**	⇓*iP*	**Pn**	**13 07 18.1**	**-0.3**
CVIMO				*eS*	**Sb**	**13 07 34.8**	**0.0**
PITB	**Pirrs, San**	**1.17**	**112**	⇑*iP*	**Pn**	**13 07 18.1**	**-0.4**
RAZU	**San Marcos de**	**1.17**	**113**	*eP*	**Pn**	**13 07 17.9**	**-0.6**
LLNJ	**Naranjito**	**1.19**	**122**	*eP*	**Pn**	**13 07 18.5**	**-0.1**
TAGO	**Cartago**	**1.20**	**102**	*eP*	**Pn**	**13 07 18.5**	**-0.5**
PIEC	**Cerro El Cedra**	**1.24**	**113**	*eP*	**Pn**	**13 07 18.8**	**-0.8**
VICA	**Volcano Irazu**	**1.26**	**96**	⇓*iP*	**Pn**	**13 07 19.7**	**-0.3**
REPA	**Paraso**	**1.26**	**103**	*eP*	**Pn**	**13 07 19.7**	**-0.1**
PCAYA	**Pacayas**	**1.30**	**98**	*eP*	**Pn**	**13 07 20.7**	**+0.3**
PCAYA				*eS*	**Sn**	**13 07 38.3**	**+1.6**
PILE	**Guapiles**	**1.31**	**85**	⇓*iP*	**Pn**	**13 07 20.8**	**+0.5**
CVTQ	**Turrialba Volc**	**1.33**	**94**	⇓*iP*	**Pn**	**13 07 21.2**	**+0.3**
CVTQ				*eS*	**Sb**	**13 07 39.9**	**0.0**
CVTR	**Volcan Turrial**	**1.34**	**94**	⇓*iP*	**Pn**	**13 07 21.2**	**+0.1**
CVTR				*eS*	**Sn**	**13 07 39.6**	**+1.7**
VTR0	**Volcan Turrial**	**1.34**	**94**	⇓*iP*	**Pn**	**13 07 21.3**	**+0.2**
CVTV	**Tajo**	**1.35**	**94**	⇓*iP*	**Pn**	**13 07 21.5**	**+0.3**
VINA	**Juan Vinas**	**1.37**	**99**	⇓*iP*	**Pn**	**13 07 21.4**	**+0.2**
CARI	**Cariari**	**1.38**	**79**	*eP*	**Pn**	**13 07 22.1**	**+0.8**
CARI				*eS*	**Sb**	**13 07 40.5**	**-0.4**
ABRB	**Las Abras (San**	**1.38**	**94**	⇓*iP*	**Pn**	**13 07 21.9**	**+0.4**
VERB	**Verbena**	**1.41**	**97**	⇓*eP*	**Pn**	**13 07 22.4**	**+0.6**
TRT2	**Tortugero**	**1.43**	**72**	S	**Sn**	**13 07 40.0**	**+0.4**
TRT2	**Tortugero**	**1.43**	**72**	P	**Pn**	**13 07 21.5**	**-0.5**
TRT2	**Tortugero**	**1.43**	**72**	*eP*	**Pn**	**13 07 21.1**	**-0.9**
RESJ	**San Isidro (Tu**	**1.45**	**93**	*eP*	**Pn**	**13 07 23.1**	**+0.7**
OMEN	**AI SSO del Vol**	**1.48**	**340**	P	**Pn**	**13 07 22.5**	**-0.2**
OMEN				S	**Sn**	**13 07 41.2**	**+0.4**
RVLA	**Villa Bonita**	**1.50**	**90**	*eP*	**Pn**	**13 07 23.4**	**+0.4**
ARIN	**Rivas**	**1.51**	**332**	P	**Pn**	**13 07 24.3**	**+1.2**
MORN	**AI O del Volca**	**1.52**	**340**	P	**Pn**	**13 07 23.2**	**-0.1**
MORN				S	**Sn**	**13 07 42.5**	**+0.7**
CONN	**Concepcion**	**1.53**	**341**	P	**Pn**	**13 07 23.3**	**-0.1**
CONN				S	**Sn**	**13 07 42.5**	**+0.4**
LCOCO	**El Coco**	**1.54**	**91**	*eP*	**Pn**	**13 07 23.8**	**+0.4**
LCOCO				*eS*	**Sb**	**13 07 45.5**	**+0.1**
IRES	**Siquirres**	**1.59**	**90**	*eP*	**Pn**	**13 07 24.8**	**+0.7**
ZEDO	**Perez Zeledon**	**1.60**	**118**	*eP*	**Pn**	**13 07 24.9**	**+0.6**
OCHAL	**Ojochal**	**1.77**	**125**	P	**Pn**	**13 07 27.5**	**+0.9**
OCHAL	**Ojochal**	**1.77**	**125**	S	**Sn**	**13 07 50.3**	**+2.4**
EDPE	**Pejibaye, P**	**1.79**	**122**	*eP*	**Pn**	**13 07 26.6**	**-0.4**
ACON	**Acoyapa**	**1.85**	**358**	P	**Pn**	**13 07 26.4**	**-1.4**
ACON	**Acoyapa**	**1.85**	**358**	⇑*iP*	**Pn**	**13 07 26.3**	**-1.4**
ACON				*eS*	**Sn**	**13 07 48.7**	**-1.2**
NADN	**Granada**	**1.86**	**331**	P	**Pn**	**13 07 28.5**	**+0.6**
NADN				S	**Sn**	**13 07 50.9**	**+0.6**
VERH	**Veragua Rainfo**	**1.91**	**95**	⇓*iP*	**Pn**	**13 07 28.8**	**+0.3**
LAES	**El Progreso Va**	**2.07**	**99**	*eP*	**Pn**	**13 07 30.9**	**+0.2**
NANN	**Nandasmo**	**2.07**	**332**	P	**Pn**	**13 07 31.7**	**+1.0**
NANN	**Nandasmo**	**2.07**	**332**	S	**Sn**	**13 07 56.3**	**+0.9**
EDP2	**Potrero Grande**	**2.20**	**119**	*eP*	**Pn**	**13 07 34.3**	**+1.7**
UNAN	**Cigeo UNAN**	**2.29**	**330**	P	**Pn**	**13 07 34.6**	**+0.8**
WILN	**Americas 2**	**2.29**	**333**	P	**Pn**	**13 07 34.6**	**+0.8**
WILN				S	**Sn**	**13 08 02.0**	**+1.1**
PIRO	**Carate, Puerto**	**2.44**	**134**	P	**Pn**	**13 07 37.1**	**+1.2**
PIRO	**Carate, Puerto**	**2.44**	**134**	⇓*iP*	**Pn**	**13 07 36.5**	**+0.6**
COPN	**Copaltepe**	**2.51**	**325**	P	**Pn**	**13 07 37.1**	**+0.2**
COPN	**Copaltepe**	**2.51**	**325**	*eP*	**Pn**	**13 07 36.3**	**-0.6**
ALCO	**Alturas Coton,**	**2.53**	**117**	*eP*	**Pn**	**13 07 36.6**	**-0.7**
BRU2	**Volcan**	**2.73**	**118**	*eP*	**Pn**	**13 07 39.6**	**-0.4**
CNGN	**Cerro Negro**	**2.84**	**327**	*eP*	**Pn**	**13 07 41.5**	**+0.1**
CORNA	**Casa Canada**	**2.88**	**45**	*eP*	**Pn**	**13 07 41.3**	**-0.7**
BANCO	**falda S V. Bar**	**2.90**	**118**	*eP*	**Pn**	**13 07 42.0**	**-0.5**
RBALA	**Bur**	**3.17**	**112**	*eP*	**Pn**	**13 07 44.9**	**-1.0**
CSGN	**Cosiguina Volc**	**3.72**	**320**	*eP*	**Pn**	**13 07 53.4**	**-0.2**
TXAR	**Lajitas Array**	**25.82**	**320**	P	**P**	**13 12 27.6**	**+0.8**
	0.4nm,0.4s,baz=136,slow=10,SNR=7.5						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**38.91**	**331**	P	P	13 14 16.6	-4.6
	0.3nm,0.8s,baz=144,slow=9.5,SNR=2.7						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**40.96**	**319**	P	**P**	**13 14 37.2**	**-1.1**
	0.4nm,0.7s,baz=101,slow=6.4,SNR=3.2						
	0.4nm,0.7s						
ULM	**Lac du Bonnet**	**40.99**	**349**	LR	LR	13 30 54.9	
	comp=Z,37nm,21.0s,baz=106,slow=35						
ASAR	**Alice Springs**	**140.45**	**245**	PKP	PKPdf	13 26 17.7	-7.3
	0.2nm,0.8s,baz=122,slow=2.2,SNR=1.1						

*SJA **17** 13:44:25.0±2.0, 34°36S×72°65W, h10km, ML4.3, MW4.0*
*NEIC **17** 13:44:29.4, 34°33S×72°36W, h10km*
*NEIC **17** 13:44:31.3±1.4, 34°29S±0°04×72°42W±0°08, h29km±6km, mb4.6/8, Mwr4.4/56, Mwr4.5(GUC), Error ellipse: s-maj=9.1km s-min=5.7km az=89.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.86; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-2.86; $M_{r\theta}$1.28; $M_{\theta\phi}$0.53; $M_{\phi r}$-2.87; Fault plane solution: $M_0$4.28000×10^{15} NP1:φs0.05000°, δ22.46000°, λ108.92000°. NP2:φs159.70000°, δ68.81000°, λ82.36000°. Principal axes: T 4.2807, Plg65.0000°, Azm57.0000°; N -0.0050, Plg7.0000°, Azm162.0000°; P -4.2757, Plg23.0000°, Azm256.0000°;*
*GUC **17** 13:44:31.9±0

GO04 IAML 13 46 56.9
comp=Z,2µm,0.6s
CFA Coronel Fontan 4.41 54 P **Pn 13 45 38.0 +1.7**
comp=Z,12nm,0.3s,baz=234,slow=11,SNR=60
CFA S **Sn 13 46 27.6 +0.5**
comp=Z,56nm,0.5s,baz=214,slow=11,SNR=4.6
CFA LR LR 13 47 37.7
comp=Z,683nm,19.2s,baz=202,slow=43
comp=Z,27nm,0.3s
CFA Coronel Fontan 4.41 54 *i* P **Pn 13 45 37.5 +1.2**
CFA IAML 13 47 01.0
comp=Z,330nm,0.9s
RTLL Cerro Villicun 4.44 49 *i* P **Pn 13 45 38.5 +1.8**
RTLL IAML 13 46 46.5
comp=Z,812nm,0.5s
LC02 Puerto Saavedr 4.54 190 Pn 13 45 36.9 -1.1
ACCO Cerro Coronel 4.66 38 *i* P **Pn 13 45 42.3 +2.4**
CO01 Juntas del Tor 4.74 25 *i* P **Pn 13 45 41.8 +0.9**
CO01 IAML 13 47 08.0
comp=Z,392nm,1.4s
AROD Rodeo 4.81 32 *i* P **Pn 13 45 45.1 +3.0**
ACDV Cuesta del Vie 4.97 35 *i* P **Pn 13 45 46.7 +2.6**
ACDV IAML 13 47 17.1
comp=Z,303nm,1.7s
GO06 Curarrehue 5.32 172 *i* P **Pn 13 45 49.6 +0.8**
GO06 IAML 13 47 15.4
comp=Z,53nm,1.2s
VA04 Juan Fernndez 5.39 275 *e*P **Pn 13 45 51.2 +1.6**
H03S1 Juan Fernandez 5.42 273 P **Pn 13 45 50.8 +0.9**
baz=60,slow=15,SNR=23
H03S1 S **Sn 13 46 47.2 -4.2**
baz=211,slow=75,SNR=5.7
H03S1 T T 13 51 45.0
baz=95,slow=74,SNR=3038
H03S3 Juan Fernandez 5.43 273 P **Pn 13 45 51.1 +1.2**
baz=60,slow=15,SNR=37
H03S3 S **Sn 13 46 47.7 -3.9**
baz=211,slow=75,SNR=4.4
H03S3 T T 13 51 47.0
baz=95,slow=74,SNR=7774
H03S2 Juan Fernandez 5.44 273 P **Pn 13 45 51.0 +0.9**
baz=60,slow=15,SNR=48
H03S2 S **Sn 13 46 47.4 -4.4**
baz=211,slow=75,SNR=3.7
H03S2 T T 13 51 45.5
baz=95,slow=74,SNR=3778
LCO Las Campanas 5.47 16 Pn 13 45 50.8 -0.3
H03N1 Juan Fernandez 5.49 277 P **Pn 13 45 53.1 +2.3**
baz=129,slow=24,SNR=28
H03N1 S **Sn 13 46 49.0 -4.1**
H03N1 T T 13 51 52.2
baz=101,slow=79,SNR=65
H03N3 Juan Fernandez 5.50 277 P **Pn 13 45 53.7 +2.8**
baz=129,slow=24,SNR=27
H03N3 S **Sn 13 46 48.8 -4.5**
H03N3 T T 13 52 02.0
baz=101,slow=79,SNR=42
H03N2 Juan Fernandez 5.51 277 P **Pn 13 45 53.6 +2.6**
baz=129,slow=24,SNR=23
H03N2 S **Sn 13 46 49.2 -4.2**
H03N2 T T 13 51 57.2
baz=101,slow=79,SNR=44
LR04 Corral 5.62 188 Pn 13 45 52.2 -0.7
PLCA Paso Flores 6.58 168 Pn 13 46 06.2 +0.2
PLCA Paso Flores 6.58 168 P **Pn 13 46 07.5 +1.5**
comp=Z,0.4nm,0.3s,baz=339,slow=9.2,SNR=16
PLCA S **Sn 13 47 26.3 +5.9**
comp=Z,12nm,0.9s,baz=296,slow=18,SNR=1.3
PLCA LR LR 13 48 53.4
comp=Z,418nm,21.9s,baz=346,slow=40
comp=Z,2.7nm,0.5s
PLCA Paso Flores 6.58 168 *e*P **Pn 13 46 07.8 +1.8**
GO03 Copiapo 6.95 16 Pn 13 46 10.2 -0.9
TCA Tanti 7.20 68 *e*P **Pn 13 46 14.7 0.0**
AC02 Maricunga 7.96 22 Pn 13 46 24.8 -0.6
TRQA Tornquist 9.21 117 Pn 13 46 42.5 +0.3
CPUP Villa Florida 15.24 63 P **Pn 13 48 05.0 +0.7**
comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=1.7
CPUP S **Sn 13 50 52.5 +0.1**
comp=Z,1.2nm,0.9s,baz=247,slow=15,SNR=1.4
CPUP LR LR 13 54 26.3
comp=Z,232nm,18.2s,baz=94,slow=39
comp=Z,0.3nm,0.6s
CPUP Villa Florida 15.24 63 *e*P Pn 13 47 56.6 -7.8
PB16 IPOC Station P 16.12 10 P **Pn 13 48 18.9 +2.5**
LPAZ La Paz 18.35 13 P **Pn 13 48 45.3 +1.0**
LPAZ IAmb IAmb 13 48 56.5
comp=Z,22nm,0.8s
LPAZ La Paz 18.35 13 P **P 13 48 46.0 +1.7**
comp=Z,1.3nm,0.3s,baz=186,slow=8.3,SNR=42
comp=Z,8.3nm,0.6s
LPAZ La Paz 18.35 13 *e*P **Pn 13 48 45.1 +0.8**
BDQN Bodoquena, MS 19.55 49 *e*P **P 13 48 52.7 -4.1**
PTGB Pitanga 20.08 67 *e*P **P 13 48 57.3 -5.4**
AQDB Aquidauana 20.20 51 P **P 13 49 03.7 -0.1**
AQDB IAmb IAmb 13 49 04.9
comp=Z,62nm,1.5s
AQDB Aquidauana 20.20 51 *e*P **P 13 48 59.8 -4.1**
SIV San Ignacio 20.89 32 P **P 13 49 11.0 -0.4**
comp=Z,16nm,0.7s,baz=206,slow=11,SNR=37
SIV LR LR 13 58 39.1
comp=Z,474nm,18.4s,baz=260,slow=41
comp=Z,16nm,0.7s
MAJ01 Sao Joao Batis 21.20 77 *e*P **P 13 49 08.4 -6.3**
PTLB Pontes e Lacer 22.26 36 *e*P **P 13 49 24.2 -1.8**
NNA Nana 22.59 349 P **P 13 49 32.0 +2.3**
comp=Z,3.8nm,0.3s,baz=218,slow=14,SNR=1.5
comp=Z,3.8nm,0.3s
PP1B Ponte de Pedra 22.85 48 *e*P **P 13 49 27.9 -4.6**
SALV Santo Antonio 23.70 43 *e*P **P 13 49 38.4 -2.5**
VILB Vilhena 23.97 30 *e*P **P 13 49 43.1 -0.4**
ATAH Atahualpa 27.60 347 LR LR 13 59 15.0
comp=Z,21nm,19.0s,baz=130,slow=32
CLDB Colider 27.82 37 *e*P **P 13 50 17.1 -1.3**
BDFB Brasilia 28.75 56 P **P 13 50 25.7 -1.0**
comp=Z,3.9nm,0.5s,baz=214,slow=9.5,SNR=5.7
BDFB LR LR 14 02 57.1
comp=Z,341nm,19.6s,baz=205,slow=38
comp=Z,3.9nm,0.5s
PMSA Palmer Station 30.92 173 LR LR 14 02 18.7
comp=Z,240nm,20.9s,baz=21,slow=34
NPGB Novo Progresso 31.36 34 *e*P **P 13 50 48.4 -1.3**
HOPE Hope Point 32.05 140 P **P 13 50 53.8 -1.5**
RPN Rapa Nui 32.42 273 LR LR 14 00 58.8
comp=Z,212nm,18.8s,baz=105,slow=30
BOAV Boa Vista 38.18 19 P **P 13 51 46.1 -2.5**
BOAV Boa Vista 38.18 19 *e*P **P 13 51 48.9 +0.3**
RUSC La Rusia 39.99 359 P **P 13 52 02.0 -2.2**
RUSC IAmb IAmb 13 52 07.7
comp=Z,37nm,1.4s
BAUV El Baul 43.21 6 P **P 13 52 29.0 -1.0**
MDP Montagnes des 43.41 29 LR LR 14 11 27.1
comp=Z,147nm,21.8s,baz=288,slow=37
VNA3 Neumayer Olymp 49.19 158 ⇓P **P 13 53 17.9 +1.4**
comp=Z,1.8nm,0.8s
VNA1 Neumayer--Stat 49.51 157 ⇑P **P 13 53 21.1 +2.2**
comp=Z,1.9nm,0.8s
VNA2 Neumayer--Watz 49.84 157 ⇓P **P 13 53 22.9 +1.4**
comp=Z,1.6nm,0.6s,baz=282,slow=9.8
SNAA Sanae 51.41 158 ⇑P **P 13 53 32.3 -1.1**
comp=Z,52nm,1.2s
SNAA Sanae 51.41 158 P **P 13 53 33.6 +0.2**
SNAA IAmb IAmb 13 53 45.2
comp=Z,7.5nm,1.3s
SNAA Sanae 51.41 158 P **P 13 53 34.4 +1.0**
comp=Z,1.6nm,0.8s,baz=280,slow=9.1,SNR=5.3
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 55.93 180 P **P 13 54 10.6 +4.0**
comp=Z,0.5nm,0.6s,baz=136,slow=3.1,SNR=6.5
VNDA Vanda 63.74 191 P **P 13 55 01.4 +1.4**
comp=Z,0.3nm,1.0s,baz=108,slow=3.2,SNR=1.1
comp=Z,0.3nm,1.0s
TAOE Nuku Hiva Isla 66.70 275 *e*LR LR 14 15 22.4
comp=Z,58nm,24.0s
TXAR Lajitas Array 69.86 331 P **P 13 55 41.9 +2.3**
comp=Z,0.8nm,0.4s,baz=160,slow=8.4,SNR=11
comp=Z,0.8nm,0.4s
PPT2 Papeete2 69.90 262 *e*LR LR 14 16 49.8
comp=Z,109nm,25.8s
PPT2 *e*LR LR 14 16 52.4
comp=Z,106nm,27.0s
BBTS Babate 72.03 57 LR LR 14 26 36.4
comp=Z,135nm,19.6s,baz=138,slow=35
MAW Mawson 72.97 164 P **P 13 55 57.8 0.0**
comp=Z,0.7nm,0.4s,baz=282,slow=8.5,SNR=1.9
MAW LR LR 14 30 58.1
comp=Z,72nm,18.2s,baz=233,slow=38
comp=Z,0.7nm,0.4s
BOSA Boshof 80.19 118 P **P 13 56 40.0 +0.4**
comp=Z,3.3nm,0.8s,baz=234,slow=8.7,SNR=3.9
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 83.90 333 P **P 13 57 00.0 +1.3**
comp=Z,0.4nm,0.6s,baz=119,slow=5.2,SNR=3.8
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 83.97 325 P **P 13 56 59.5 +0.4**
comp=Z,0.2nm,0.3s,baz=168,slow=5.8,SNR=3.5
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 84.59 70 P **P 13 57 02.3 -0.2**
comp=Z,2.3nm,0.9s,baz=295,slow=2.9,SNR=15
comp=Z,2.3nm,0.9s
MATP Matopo 87.25 113 LR LR 14 35 30.6
comp=Z,50nm,18.6s,baz=208,slow=35
LSZ Lusaka 89.99 108 LR LR 14 33 24.4
comp=Z,65nm,20.7s,baz=182,slow=33
MODS Modra-Piesok 114.52 47 *e*PDIFF **Pdif 13 59 21.8 +3.7**
WRA Warramunga Arr 120.35 209 PKP **PKPdf 14 03 20.2 -0.4**
comp=Z,0.4nm,0.8s,baz=160,slow=1.7,SNR=4.9
ARCES ARCESS Array B 124.42 25 PKP **PKPdf 14 03 25.5 -1.3**
comp=Z,0.9nm,0.9s,baz=259,slow=1.5,SNR=3.7
H11S2 WAKE ISLAND Hyl 25.47 269 T T 16 21 54.1
baz=120,slow=74,SNR=9.7
H11S1 WAKE ISLAND Hyl 25.48 269 T T 16 21 59.5
baz=120,slow=74,SNR=13
H11S3 WAKE ISLAND Hyl 25.49 269 T T 16 21 55.3
baz=120,slow=74,SNR=8.0
H11N3 WAKE ISLAND Hyl 25.89 271 T T 16 22 21.4
baz=115,slow=78,SNR=11
H11N1 WAKE ISLAND Hyl 25.91 271 T T 16 22 29.7
baz=115,slow=78,SNR=16
H11N2 WAKE ISLAND Hyl 25.91 271 T T 16 22 24.1
baz=115,slow=78,SNR=8.5
KURBB Kurchatov Arra 153.30 44 PKPbc **PKPbc 14 04 27.2 +0.9**
comp=Z,1.7nm,0.5s,baz=301,slow=2.8,SNR=16
ZALV Zalesovo Beam 154.64 32 PKPbc **PKPbc 14 04 30.1 +1.0**
comp=Z,3.4nm,0.7s,baz=309,slow=3.4,SNR=16
ZALV PKPab **sPKPbc 14 04 41.2 +2.1**
comp=Z,4.2nm,0.8s,baz=287,slow=3.3,SNR=12
MKAR Makanchi Array 157.19 49 PKPab **PKPab 14 04 53.3 -1.9**
comp=Z,0.8nm,0.6s,baz=252,slow=4.1,SNR=4.5
SONM Songino Array 166.46 3 PKPab **PKPab 14 05 36.1 +0.4**
comp=Z,0.7nm,0.6s,baz=358,slow=3.5,SNR=3.0

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*IDC **17** 13:56:31.4±1.5, 3°.38N×126°.77E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/2, Error ellipse: s-maj=102.7km s-min=19.6km az=68.0*
*DJA **17** 13:56:38.2±0.4, 3°.N±4°.×12°.7E±°, h10km, M3.8/9, mB4.9/2, mb4.0/6, MLv3.7/9, Mw(mB)4.2/2*
ISC 17 13:56:38.2±1.3, 3°.4N±0°.2×126°.8E±0°.2, h48km, n13, σ1§**42**/11, **mb3.9/6, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.31**	**281**	P	**Pn**	**13 57 02.3**	**+2.1**
TNTI	**Ternate**	**2.69**	**168**	P	**Pn**	**13 57 20.7**	**+1.6**
SANI	**Sanana**	**5.50**	**189**	P	**Pn**	**13 57 56.9**	**-0.8**
0.1nm1µm8.8nm,0.9s							
NLAI	**Namlea**	**6.63**	**178**	P	**Pn**	**13 58 14.7**	**+1.6**
FAKI	**Fak Fak**	**8.32**	**139**	P	**Pn**	**13 58 37.7**	**+1.4**
28nm,1.3s							
FITZ	**Fitzroy Crossi**	**21.42**	**183**	P	**P**	**14 01 21.5**	**-0.7**
1.1nm,0.5s,baz=6.5,slow=11,SNR=9.5							
1.1nm,0.5s							
JOW	**Kunigami**	**23.32**	**3**	LR	LR	14 13 19.0	
comp=Z,20nm,18.2s,baz=323,slow=43							
WRA	**Warramunga Arr**	**24.37**	**163**	P	**P**	**14 01 50.5**	**-1.5**
5.1nm,0.8s,baz=341,slow=11,SNR=24							
5.1nm,0.8s							
ASAR	**Alice Springs**	**27.80**	**166**	P	**P**	**14 02 22.3**	**-0.7**
0.3nm,0.3s,baz=336,slow=7.6,SNR=20							
0.3nm,0.3s							
STKA	**Stephens Creek**	**37.82**	**159**	P	**P**	**14 03 49.5**	**-0.6**
0.9nm,0.4s,baz=359,slow=7.9,SNR=6.5							
0.9nm,0.4s							
MKAR	**Makanchi Array**	**57.85**	**325**	P	**P**	**14 06 25.0**	**-0.1**
0.2nm,0.3s,baz=120,slow=8.0,SNR=5.1							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**62.04**	**327**	P	**P**	**14 06 53.4**	**-0.3**
1.3nm,0.3s,baz=122,slow=6.7,SNR=2.3							
1.3nm,0.3s							
EIL	**Elat**	**89.95**	**300**	LR	LR	14 55 43.7	
comp=Z,57nm,19.1s,baz=134,slow=40							

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*IDC **17** 14:36:49.0±3.7, 31°.03S×138°.85E, h0km, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=74.9km s-min=17.4km az=35.0*
*AUST **17** 14:36:49.6±0.2, 31°.S±2°.×13°.9E±°, h10km, ML2.6/13, Error ellipse: s-maj=4.9km s-min=3.3km az=72.0*
ISC 17 14:36:48.3±0.8, 31°.32S±0°.04×138°.71E±0°.04, h14km, n21, σ1§**43**/29, **South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAPP	**Yappala Statio**	**0.64**	**212**	P	**Pn**	**14 37 02.3**	**-0.7**
LCRK	**Leigh Creek**	**0.97**	**334**	P	**Pg**	**14 37 07.0**	**+0.1**
LCRK				S	**Sg**	**14 37 19.8**	**+0.2**
NAPP	**Napperby**	**1.92**	**194**	P	**Pn**	**14 37 21.6**	**+1.1**
WHYH	**Whyalla**	**1.96**	**209**	P	**Pb**	**14 37 23.2**	**-0.6**
WHYH				S	**Sg**	**14 37 49.8**	**-1.6**
HTT	**Hallett**	**2.11**	**175**	P	**Pb**	**14 37 25.5**	**-0.9**
HTT				S	**Sb**	**14 37 52.1**	**-0.4**
STKA	**Stephens Creek**	**2.52**	**103**	P	**Pg**	**14 37 37.3**	**+0.6**
STKA	**Stephens Creek**	**2.52**	**103**	S	**Sg**	**14 38 07.7**	**-1.7**
STKA	**Stephens Creek**	**2.52**	**103**	Pn	**Pn**	**14 37 30.3**	**+1.5**
0.7nm,0.3s,baz=289,slow=17,SNR=22							
STKA				Pg	**Pg**	**14 37 35.4**	**-1.3**
1.2nm,0.3s,baz=283,slow=17,SNR=9.1							
STKA				Sn	**Sb**	**14 38 03.4**	**-0.9**
1.1nm,0.3s,baz=287,slow=14,SNR=3.8							
STKA				Lg	Lg	14 38 07.8	
4.2nm,0.3s,baz=34,slow=24,SNR=10							
0.8nm,0.3s							
BBOO	**Buckleboo**	**2.70**	**236**	P	**Pn**	**14 37 32.6**	**+1.4**
BBOO	**Buckleboo**	**2.70**	**236**	S	**Sn**	**14 38 05.0**	**+1.3**
SDAN	**Sedan**	**3.22**	**171**	P	**Pn**	**14 37 40.5**	**+2.1**
BOX6	**Mt Lofy**	**3.65**	**180**	P	**Pn**	**14 37 46.5**	**+2.1**
BOX6				S	**Sn**	**14 38 29.7**	**+2.4**
INKA	**Innaminka**	**3.98**	**27**	P	**Pn**	**14 37 51.6**	**+2.8**
MULG	**Mulgathing**	**4.13**	**283**	P	**Pn**	**14 37 51.9**	**+0.9**
MULG				S	**Sn**	**14 38 37.8**	**-1.3**
OOD	**Oodnadatta**	**4.39**	**322**	P	**Pn**	**14 37 55.7**	**+1.2**
OOD				S	**Sn**	**14 38 44.3**	**-1.1**
CMSA	**Cobar Meteorol**	**5.97**	**94**	P	**Pn**	**14 38 18.2**	**+2.0**
ARPS	**Mount Arapiles**	**6.03**	**155**	P	**Pn**	**14 38 18.6**	**+1.6**
AS17	**Alice Springs**	**8.70**	**330**	P	**Pn**	**14 38 54.4**	**+0.6**
ASAR	**Alice Springs**	**8.73**	**330**	Pn	**Pn**	**14 38 53.0**	**-1.2**
baz=149,slow=13,SNR=1.5							
ASAR				Sn	Sn	14 40 23.4	-9.1
0.1nm,0.3s,baz=153,slow=22,SNR=6.5							
0.2nm,0.9s							
FORT	**Forrest**	**9.15**	**271**	P	**Pn**	**14 38 59.3**	**-0.6**
WRA	**Warramunga Arr**	**11.99**	**340**	Pn	**Pn**	**14 39 39.2**	**+0.3**
0.1nm,0.3s,baz=156,slow=13,SNR=1.5							
0.1nm,0.4s							

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*NEIC **17** 14:54:54.9±1.8, 36°.66N±0°.01×121°.25W±0°.02, h10km±2km, Error ellipse: s-maj=3.4km s-min=2.8km az=231.0*
NCEDC 17 14:54:55.5±1.4, 36°.64N±0°.02×121°.26W±0°.02, h10km±7km, Mwr3.6/3, ML3.3/112(NEIC), **Error ellipse: s-maj=3.0km s-min=2.2km az=50.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.05**	**256**		Pg	14 54 57.6	+0.1
BJOM					Sg	14 54 59.0	+0.3
SCZ	**Santa Cruz**	**0.12**	**251**		Pg	14 54 58.3	-0.1
SCZ					Sg	14 55 00.3	-0.1
BJCM	**Johnson Can.**	**0.14**	**230**		Pg	14 54 58.6	-0.1
BBGB	**Big Mountain B**	**0.19**	**109**		Pg	14 55 00.4	+0.9
SAO	**San Andreas Ge**	**0.20**	**309**		Pg	14 54 59.6	-0.1
BSRM	**Salinas Radio**	**0.21**	**278**		Pg	14 54 59.9	0.0
FRP	**Fremont Peak**	**0.22**	**302**		Pg	14 54 59.9	-0.2
BSGM	**Shirttail Gulc**	**0.23**	**179**		Pg	14 54 59.9	-0.2
LRV	**Little Rabbit**	**0.29**	**138**		Pg	14 55 01.7	+0.4
BSMM	**Soledad Missio**	**0.29**	**208**		Pg	14 55 01.4	0.0
HTUM	**Tustin Road**	**0.36**	**301**		Pg	14 55 02.6	-0.1
HTUM					Sg	14 55 07.9	+0.4
HERM	**Elkhorn Road**	**0.40**	**294**		Pg	14 55 03.5	+0.1
BCWM	**Chews Ridge**	**0.41**	**217**		Pg	14 55 03.6	-0.1
FORD	**Fort Ord Natur**	**0.42**	**277**		Pg	14 55 04.0	+0.2
FORD				Sg	Sg	14 55 09.6	+0.2
CDC	**Canada Road**	**0.43**	**335**		Pg	14 55 04.5	+0.6
HCAM	**Canada Road**	**0.43**	**335**		Pb	14 55 04.8	-0.4
HCBM	**Chamberlain**	**0.44**	**312**		Pg	14 55 03.9	-0.2
BPRM	**Ponciano Ridge**	**0.45**	**239**		Pg	14 55 04.2	-0.1
GHS	**Gilroy Hot Spr**	**0.48**	**342**		Pb	14 55 05.6	-0.6
HLPM	**Lions Peak**	**0.50**	**323**		Pg	14 55 05.5	+0.2
HMOM	**Monterey**	**0.53**	**266**		Pg	14 55 05.8	-0.1
JELB	**Ellicott, Sant**	**0.54**	**302**		Pg	14 55 06.0	-0.1
PCCM	**Crazy Canyon**	**0.55**	**172**		Pg	14 55 06.4	+0.1
PMPB	**Monarch Peak**	**0.56**	**139**		Pg	14 55 06.4	0.0
CADM	**Anderson Res.**	**0.60**	**331**		Pg	14 55 07.4	+0.2
HULI	**Fort Hunter Li**	**0.62**	**178**		Pg	14 55 07.3	-0.2
HULI				IAML		14 55 19.0	
comp=E,2µm,0.4s							
HULI				IAML		14 55 22.9	
comp=N,3µm,0.7s							
JLAB	**Laurel Hill**	**0.64**	**324**		Pg	14 55 08.1	+0.2
PSAM	**San Ardo**	**0.68**	**154**		Pg	14 55 08.5	-0.2
PPTM	**Peach Tree Val**	**0.68**	**141**		Pg	14 55 08.5	-0.3
CCOB	**Coe Ranch Numb**	**0.70**	**332**		Pb	14 55 09.9	0.0
PAPM	**Alder Peak**	**0.73**	**187**		Pg	14 55 09.5	-0.1
ARN	**Arnold Ranch**	**0.74**	**343**		Pb	14 55 10.3	-0.3
MHC	**Mount Hamilton**	**0.77**	**336**		Pg	14 55 10.6	+0.3
PSMM	**Smith Mountain**	**0.78**	**137**		Pg	14 55 10.5	-0.1
JJOM	**Saint Joseph's**	**0.81**	**315**		Pg	14 55 10.5	-0.6
SCCB	**Santa Clara Co**	**0.81**	**323**		Pg	14 55 11.2	+0.1
CMMM	**Mount Mocho**	**0.84**	**347**		Pg	14 55 11.9	+0.2
PHPM	**Hope Ranch**	**0.84**	**141**		Pg	14 55 11.2	-0.6
MTOS	**Mt Oso, Westle**	**0.87**	**356**		Pb	14 55 12.8	+0.1
JBNB	**Ben Lomond Mou**	**0.87**	**304**		Pg	14 55 11.2	-1.0
CMLM	**Mount Lewis**	**0.89**	**340**		Pg	14 55 12.8	0.0
PKD	**Bear Valley Ra**	**0.90**	**140**		Pg	14 55 12.3	-0.6
CALM	**Calaveras Res.**	**0.92**	**332**		Pg	14 55 12.9	-0.4
PVCM	**Vineyard Canyo**	**0.92**	**141**		Pg	14 55 12.8	-0.6
PPO	**Portuguese Can**	**0.93**	**146**		Pg	14 55 13.1	-0.3
PSTM	**Stockdale Moun**	**0.93**	**139**		Pg	14 55 12.8	-0.7
JSJM	**St Joseph**	**0.96**	**316**		Pg	14 55 12.4	-1.7
WSRE	**Westside REC,**	**0.96**	**108**		Pb	14 55 14.2	-0.1
JBMM	**Black Mountain**	**0.99**	**314**		Pg	14 55 13.4	-1.1
AVNL	**Avenal, CA USA**	**1.00**	**128**		Pg	14 55 14.6	-0.1
CSTL	**Corral Hollow**	**1.02**	**349**		Pg	14 55 15.1	0.0
CSTL	**Corral Hollow**	**1.02**	**349**		Pb	14 55 15.5	+0.2
PHFM	**Heflinger Ranc**	**1.02**	**137**		Pg	14 55 14.5	-0.8
CTM	**Castle Mountai**	**1.03**	**133**		Pb	14 55 15.6	+0.1
JFP	**Foothills Park**	**1.04**	**314**		Pg	14 55 14.1	-1.4
JPSM		**1.04**	**303**		Pg	14 55 14.1	-1.4
RAMR	**Ramage Ranch**	**1.05**	**162**		Pg	14 55 14.5	-1.2
LEGD	**La Grand CA**	**1.06**	**57**		Pg	14 55 15.1	-0.8
WENL	**Wente Vineyard**	**1.06**	**338**		Pg	14 55 14.9	-1.0
JSFB	**Stanford Teles**	**1.06**	**316**		Pg	14 55 14.5	-1.4
LCUV	**Le Cuvier**	**1.07**	**156**		Pg	14 55 14.9	-1.3
CVLM	**Vallecito**	**1.09**	**335**		Pg	14 55 15.7	-0.8
JRSC	**Jasper Ridge**	**1.09**	**314**		Pg	14 55 14.9	-1.7
CBZL	**Buffer Zone**	**1.11**	**341**		Pb	14 55 16.7	-0.2
CNIC	**Niles Canyon**	**1.12**	**330**		Pb	14 55 15.7	-1.4
PCBM	**Cambria**	**1.13**	**172**		Pb	14 55 15.6	-1.6
PKLM	**Kerr Lake**	**1.14**	**139**		Pb	14 55 16.1	-1.3
TCAS	**Cass Winery, P**	**1.17**	**151**		Pb	14 55 16.3	-1.6
TCHL	**Shandon**	**1.18**	**144**		Pb	14 55 16.6	-1.4
PMRM	**Maxey Ranch**	**1.19**	**136**		Pb	14 55 17.0	-1.2
MHDM	**Hidden Dam**	**1.19**	**66**		Pb	14 55 16.8	-1.5
CBSNC	**Byron Hot Spri**	**1.22**	**346**		Pn	14 55 17.9	-0.8
PAGB	**Antelope Grade**	**1.22**	**138**		Pn	14 55 17.4	-1.4
JCHM	**Cahill Ridge**	**1.25**	**315**		Pn	14 55 17.0	-2.2
CLCB	**Lake Chabot**	**1.27**	**330**		Pn	14 55 17.8	-1.7
JCPM	**Coyote Point**	**1.27**	**318**		Pn	14 55 19.1	-0.4
CSLM	**San Leandro Hi**	**1.28**	**328**		Pn	14 55 17.7	-1.9
TSCN	**Private Proper**	**1.32**	**146**		Pn	14 55 18.6	-1.5
PTAM	**Tassajara Cree**	**1.32**	**160**		Pn	14 55 18.4	-1.7
SAC	**San Andreas**	**1.32**	**316**		Pn	14 55 18.1	-2.0
BUCR	**Buckhorn Ranch**	**1.36**	**40**		Pn	14 55 19.7	-1.1
JSBM	**San Bruno Moun**	**1.38**	**319**		Pn	14 55 18.4	-2.6
LSDC	**Los Osos Digit**	**1.38**	**166**		Pn	14 55 20.4	-0.5
JMGM	**Milagra Ridge**	**1.39**	**316**		Pn	14 55 18.7	-2.3
KARE	**Kearney REC, C**	**1.41**	**91**		Pn	14 55 20.4	-1.0
TRAY	**Twisselman Ran**	**1.42**	**139**		Pn	14 55 20.0	-1.5
PBPM	**Bitterwater Pu**	**1.43**	**138**		Pn	14 55 20.4	-1.2
MMIM	**Miami Mountain**	**1.44**	**57**		Pn	14 55 20.9	-1.0
BKS	**Berkeley--Byer**	**1.46**	**328**		Pn	14 55 20.2	-1.9
BRIB	**Briones**	**1.46**	**331**		Pn	14 55 20.6	-1.5
DCD	**Diablo Creek**	**1.46**	**167**		Pn	14 55 20.2	-1.8
CYBM	**Yerba Buena Is**	**1.46**	**323**		Pn	14 55 19.6	-2.4
JPRM	**Presidio of Sa**	**1.51**	**320**		Pn	14 55 20.2	-2.5
VOG	**Valley Oaks Go**	**1.54**	**101**		Pn	14 55 20.2	-2.9
CPIM	**Pinole Ridge**	**1.55**	**331**		Pn	14 55 22.1	-1.1
CMB	**Columbia Colle**	**1.56**	**26**		Pn	14 55 22.9	-0.5
CMB				IAML		14 55 46.3	
comp=N,522nm,0.3s							
CMB				IAML		14 55 46.4	
comp=E,554nm,0.9s							
CSPM	**San Pablo Ridg**	**1.56**	**328**		Pn	14 55 21.8	-1.7
CPMM	**Point Molate**	**1.60**	**325**		Pn	14 55 21.6	-2.3
NLHM	**Lake Herman**	**1.64**	**335**		Pn	14 55 23.6	-0.9
SMMC	**Simmler**	**1.67**	**142**		Pn	14 55 23.4	-1.6
KCC	**Kaiser Creek**	**1.70**	**66**		Pn	14 55 25.3	0.0
FARB	**Farallon Islan**	**1.75**	**308**		Pn	14 55 23.7	-2.2
FARB				IAML		14 55 56.7	
comp=N,235nm,0.7s							
FARB				IAML		14 55 56.7	
comp=E,262nm,0.7s							
CARC	**Carrizo Plain**	**1.75**	**139**		Pn	14 55 24.9	-1.2
WELL	**Weller Preserv**	**1.85**	**13**		Pn	14 55 26.9	-0.5
WELL				IAML		14 55 53.5	
comp=N,191nm,0.4s							
WELL				IAML		14 55 58.2	
comp=E,236nm,0.4s							
NOLM	**Olema**	**1.86**	**319**		Pn	14 55 25.0	-2.5
CRGC	**Crocker Grade**	**1.87**	**138**		Pn	14 55 26.9	-0.8
NPRM	**Point Reyes**	**1.95**	**315**		Pn	14 55 25.9	-2.9
CVS	**Carmenet Viney**	**1.95**	**331**		Pn	14 55 27.0	-1.8
RUSS	**Russell Ranch**	**1.96**	**346**	Pn	Pn	14 55 27.7	-1.2
RUSS				IAML		14 56 14.2	
comp=E,235nm,0.8s							
RUSS				IAML		14 56 28.8	
comp=N,248nm,1.4s							
MCCM	**Marconi Confer**	**1.98**	**320**		Pn	14 55 27.1	-2.

HOPS	**Hopland Field**	**2.75 329**	Pn	Pn	14 55 37.9	-1.9
MFS	**McCloud Flat S**	**2.79 100**		Pn	14 55 42.0	+1.5
ORV	**Oroville**	**2.92 356**		Pn	14 55 41.2	-0.9
NVAR	**Mina Array Bea**	**2.95 52**		Pn	14 55 43.9	+1.2
NV11	**Mina Array Sit**	**3.05 53**	IAML		14 56 37.2	
	comp=N,70nm,1.1s					
LRMC	**Laurel Mtn Rad**	**3.12 111**	IAML		14 56 32.4	
	comp=E,57nm,0.7s					
LRMC			IAML		14 56 36.5	
	comp=N,99nm,0.6s					
BEKR	**Beckworth**	**3.30 12**		Pn	14 55 48.1	+0.6
BEKR			IAML		14 56 43.2	
	comp=N,51nm,0.6s					
BEKR			IAML		14 56 43.9	
	comp=E,135nm,0.7s					
PAHR	**Pah Rah Range**	**3.40 25**	IAML		14 56 48.5	
	comp=N,61nm,0.7s					
PAHR			IAML		14 56 49.8	
	comp=E,72nm,1.7s					
FURC	**Furnace Creek,**	**3.54 91**	IAML		14 57 04.8	
	comp=N,75nm,0.8s					
FURC			IAML		14 57 06.2	
	comp=E,73nm,0.8s					
MWC	**Mount Wilson**	**3.55 132**	IAML		14 56 38.5	
	comp=E,42nm,1.2s					
MWC			IAML		14 56 56.1	
	comp=N,44nm,1.1s					
O03E	**Paynes Creek**	**3.67 353**	IAML		14 57 14.3	
	comp=N,50nm,1.2s					
O03E			IAML		14 57 24.9	
	comp=E,86nm,0.8s					
BFSC	**Mount Baldy Ra**	**3.79 128**	IAML		14 56 58.4	
	comp=N,38nm,0.2s					
BFSC			IAML		14 57 04.6	
	comp=E,40nm,0.1s					
GSC	**Goldstone, Bar**	**3.85 109**	IAML		14 56 55.4	
	comp=N,37nm,1.6s					
GSC			IAML		14 57 12.6	
	comp=E,51nm,1.1s					
TPNV	**Topopah Spring**	**4.03 84**	IAML		14 57 19.8	
	comp=E,34nm,1.2s					
TPNV			IAML		14 57 22.1	
	comp=E,36nm,0.8s					
BELC	**Belle Mtn. Jos**	**5.04 120**	Pn	Pn	14 56 09.5	-1.9
BELC			IAML		14 57 49.1	
	comp=N,12nm,0.7s					
BELC			IAML		14 58 01.3	
	comp=E,14nm,1.6s					
DANC	**Danby, Needles**	**5.19 111**		Pn	14 56 12.6	-0.7
BAR	**Barrett**	**5.46 135**	Pn	Pn	14 56 15.8	-1.4
ESJX	**Sierra Juarez**	**6.38 135**	Pn	Pn	14 56 30.3	+0.5

MOS ***17*** *15:05:49.0±1.2,6°.64N×124°.94E,h14km,mb5.0/25,Error ellipse: s-maj=11.4km s-min=6.0km az=108.2*

BJI ***17*** *15:05:50.1,6°.73N×125°.19E,h14km,mB4.9/17,mb4.6/47, Ms4.2/23,Ms7 3.9/21*

NEIC ***17*** *15:05:50.3±1.2,6°.66N±0°.05×124°.98E±0°.05,h10km, mb5.0/111,Error ellipse: s-maj=10.4km s-min=6.1km az=140.0*

DJA ***17*** *15:05:53.7±0.3,7°N±3°×12°5E±°,h10km,M4.8/39, mb5.0/39,mB5.3/22,MLv5.3/11,Mw(mB)4.7/22, MwMwp4.6/4,Mwp5.0/4*

IDC ***17*** *15:05:53.8±1.9,6°.69N×125°.18E,h33km±13km,mb4.1/19, mbtmp4.3/19,ML5.1/1,MS3.6/30,Error ellipse: s-maj=22.8km s-min=10.6km az=73.0*

GCMT ***17*** *15:05:54.3±0.4,6°.81N±0°.03×125°.02E±0°.02,h32km±2km, MW4.8/74,Moment Tensor Solution. s16,c16; s74,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.25±.17; $M_{\theta\theta}$1.83±.11; $M_{\phi\phi}$-2.08±.12; $M_{r\theta}$-0.70±.14; $M_{\phi\theta}$-0.49±.11; $M_{\phi r}$0.93±.20; Best double couple: $M_0$2.33300×10^{16} NP1:ϕ_s232.00000°,δ60.00000°,λ176.00000°. NP2: ϕ_s324.00000°,δ86.00000°,λ30.00000°. Principal axes: T 2.2490, Plg24.0000°, Azm192.0000°; N 0.1700, Plg59.0000°, Azm330.0000°; P -2.4170, Plg18.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 15:05:50.9±0.5,6°.66N±0°.03×125°.05E±0°.04,h13km±3km, h13km:pP-P,n313,σ1º67/285,mb4.8/111,MS3.8/36, 8C-11D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.66**	**52**		**Pg**	**15 06 04.3**	**+0.5**
DAV				Sg	**Sb**	**15 06 13.8**	**+0.4**
DAV	**Davao City (W)**	**0.66**	**52**	Pg	**Pb**	**15 06 04.4**	**+0.1**
	5μm,0.3s,baz=256,slow=4.3,SNR=174						
DAV				Lg	Lg	15 06 14.5	
	4μm,0.3s,baz=345,slow=23,SNR=13						
DAV				LR	LR	15 06 21.6	
	comp=Z,2μm,20.1s,baz=58,slow=51						
DAV	**Davao City (W)**	**0.66**	**52**	P	**Pg**	**15 06 00.0**	**-3.8**
SGSI	**Sangihe**	**2.99**	**171**	P	**Pb**	**15 06 42.2**	**-2.0**
SGSI				S	**Sb**	**15 07 20.4**	**-0.3**
KMSI	**Cibinong**	**6.14**	**190**	P	**Pn**	**15 07 26.2**	**+4.8**
TNTI	**Ternate**	**6.29**	**158**	Pn	**Pn**	**15 07 23.7**	**+0.2**
TNTI				Sn	**Sn**	**15 07 35.6**	**+0.3**
TNTI	**Ternate**	**6.29**	**158**	P	**Pn**	**15 07 28.1**	**+4.6**
TNTI	**Ternate**	**6.29**	**158**	P	**Pn**	**15 07 28.1**	**+4.6**
	1μm103nm,0.8s						
MYLDM	**Lahad Datu**	**6.68**	**258**		**Pn**	**15 07 29.1**	**+0.3**
MRSI	**Marisa**	**6.88**	**207**	P	**Pn**	**15 07 35.1**	**+3.5**
TOLI2	**Tolitoli**	**6.97**	**218**		**Pn**	**15 07 32.8**	**0.0**
LUWI	**Luwuk**	**7.99**	**197**		**Pn**	**15 07 45.7**	**-1.1**
LUWI	**Luwuk**	**7.99**	**197**	P	Pn	15 07 52.0	+5.3
LUWI	**Luwuk**	**7.99**	**197**	P	Pn	15 07 52.3	+5.6
APSI	**Ampana**	**8.26**	**204**	P	Pn	15 07 55.8	+5.4
	3μm285nm,1.1s						
TGY	**Tagaytay City**	**8.43**	**332**	LR	LR	15 11 28.3	
	comp=Z,328nm,21.3s,baz=123,slow=40						
SANI	**Sanana**	**8.70**	**174**	P	**Pn**	**15 07 59.2**	**+2.6**
SANI	**Sanana**	**8.70**	**174**	P	**Pn**	**15 07 59.3**	**+2.6**
	1μm98nm,1.0s						
I39PW	**PALAU INFRASON**	**9.46**	**84**	I	I	15 57 40.0	
	baz=267,slow=307,SNR=2.0						
SWI	**Sorong**	**9.71**	**140**	P	**Pn**	**15 08 14.6**	**+4.2**
	37nm,0.9s						
SWI	**Sorong**	**9.71**	**140**	P	**Pn**	**15 08 14.5**	**+4.2**
NLAI	**Namlea**	**10.05**	**168**	P	**Pn**	**15 08 17.8**	**+2.8**
	1μm1μm85nm,0.6s						
MSAI	**Masohi**	**10.67**	**159**	P	**Pn**	**15 08 28.0**	**+4.4**
	61nm,0.8s						
AAI	**Ambon**	**10.75**	**163**	P	**Pn**	**15 08 27.7**	**+3.0**
	4μm54nm,0.5s						
KDI	**Kendari**	**10.82**	**193**	P	Pn	15 08 31.4	+5.7
SPSI	**Sidrap Palu**	**11.80**	**207**	P	Pn	15 08 45.0	+5.9
	29nm,0.9s						
FAKI	**Fak Fak**	**11.93**	**143**		**Pn**	**15 08 41.2**	**+0.4**
FAKI	**Fak Fak**	**11.93**	**143**	P	Pn	15 08 46.3	+5.5
FAKI	**Fak Fak**	**11.93**	**143**	P	Pn	15 08 46.7	+5.9
	84nm,1.2s						
BNSI	**Bone**	**12.05**	**204**	P	Pn	15 08 48.8	+6.3
	58nm,1.0s						
RKPI	**Ransiki, Papua**	**12.20**	**131**	P	Pn	15 08 51.0	+6.4
BBSI	**Bau Bau**	**12.32**	**192**	P	P	15 08 53.4	-5.0
KAPI	**Kappang**	**12.75**	**205**	Pn	**Pn**	**15 08 50.6**	**-1.5**
KAPI	**Kappang**	**12.75**	**205**	Pn	Pn	15 08 56.9	+4.9
	1.5nm,0.3s,baz=33,slow=9.2,SNR=6.1						
KAPI				LR	LR	15 14 08.2	
	comp=Z,384nm,20.6s,baz=34,slow=38						
KAPI	**Kappang**	**12.75**	**205**	P	**Pn**	**15 08 50.6**	**-1.5**
BKSI	**Bulukumba**	**12.88**	**203**	P	Pn	15 08 58.8	+4.9
	435nm35nm,1.0s						
SBUM	**Sibu**	**13.46**	**252**		**Pn**	**15 09 00.3**	**-1.4**
BSSI	**Bau Bau, Buton**	**13.51**	**200**	P	**P**	**15 09 08.4**	**-3.3**
	38nm,1.0s						
BAKI	**Biak**	**13.51**	**125**	P	**Pn**	**15 09 05.1**	**+2.6**
	922nm52nm,1.1s						
SRPI	**Serui, Papua**	**14.02**	**127**	P	**P**	**15 09 15.5**	**-1.8**
	52nm,0.9s						
MMRI	**Maumere**	**15.45**	**191**		**Pn**	**15 09 27.4**	**-1.4**
MMRI	**Maumere**	**15.45**	**191**	P	**P**	**15 09 32.5**	**-0.8**
KSM	**Kuching**	**15.58**	**251**	Pn	**Pn**	**15 09 29.2**	**-1.3**
EDFI	**Ende, Flores**	**15.67**	**192**	P	**P**	**15 09 35.0**	**-0.8**
	17nm,0.8s						
SOEI	**Soe**	**16.33**	**183**		**Pn**	**15 09 39.9**	**-0.3**
SOEI	**Soe**	**16.33**	**183**	P	**P**	**15 09 45.6**	**+2.5**
	1μm80nm,1.1s						
TWG	**Pinlang**	**16.52**	**347**	Pn	**Pn**	**15 09 41.7**	**-0.8**
BATI	**Baumata**	**16.82**	**185**	Pn	**P**	**15 09 49.3**	**+0.9**
	7.6nm,0.3s,baz=164,slow=0.3,SNR=9.3						
BATI	**Baumata**	**16.82**	**185**	P	**P**	**15 09 52.9**	**+4.5**
	1μm110nm,0.8s						
PLAI	**Plampang**	**17.01**	**205**	P	**P**	**15 09 53.6**	**+3.0**
PLAI	**Plampang**	**17.01**	**205**	P	**P**	**15 09 53.1**	**+2.5**
	985nm96nm,1.0s						
YULB	**Yu-li**	**17.02**	**348**	Pn	**Pn**	**15 09 48.0**	**-0.9**
TPUB	**Ta-pu**	**17.08**	**346**		**Pn**	**15 09 49.2**	**-0.4**
WBSI	**Waikabubak, Su**	**17.15**	**199**	P	**P**	**15 09 54.1**	**+2.0**
	940nm101nm,1.2s						
TWSI	**Taliwang, Sumb**	**17.33**	**208**	P	**P**	**15 09 58.7**	**+4.6**
	64nm,0.9s						
SSLB	**Suanglung**	**17.48**	**347**	P	**Pn**	**15 09 54.6**	**0.0**
JAY	**Jayapura**	**18.09**	**120**	LR	LR	15 17 07.9	
	comp=Z,113nm,19.4s,baz=306,slow=38						
QIZ	**Qiongzhong**	**19.24**	**311**	P	**P**	**15 10 15.4**	**+0.3**
QIZ				S	**S**	**15 13 53.1**	**+0.1**
QIZ				LR	LR		
	comp=N,300nm,4.8s						
QIZ				LR	LR		
	comp=E,390nm,5.6s						
QIZ				LR	LR		
	comp=Z,330nm,11.6s						
DRS	**Darwin Rock St**	**19.84**	**163**	P	**Pn**	**15 10 23.8**	**+0.5**
JOW	**Kunigami**	**20.29**	**8**	P	**P**	**15 10 25.9**	**-0.7**
JOW				IAmb	IAmb	15 10 27.8	
	comp=Z,76nm,1.2s						
JOW	**Kunigami**	**20.29**	**8**	P	**P**	**15 10 26.6**	**+0.1**
	comp=Z,38nm,0.9s,baz=190,slow=5.3,SNR=5.3						
JOW				LR	LR	15 18 08.1	
	comp=Z,101nm,20.6s,baz=318,slow=36						
	comp=Z,38nm,0.9s						
MTN	**Manton Dam**	**20.30**	**163**	P	Pn	15 10 28.2	-0.5
	comp=Z,45nm,0.7s						
MTN	**Manton Dam**	**20.30**	**163**		**P**	**15 10 26.9**	**+0.2**
MTN				IAmb	IAmb	15 10 31.1	
	comp=Z,31nm,0.5s						
KDU	**Kakadu**	**20.59**	**159**	P	**P**	**15 10 31.0**	**+1.2**
	comp=Z,36nm,0.7s						
GUMO	**Guam**	**20.67**	**69**	LR	LR	15 17 21.6	
	comp=Z,35nm,20.5s,baz=236,slow=34						
KPJI	**Karang Pucung**	**21.26**	**229**	P	**P**	**15 10 41.6**	**+4.5**
	comp=Z,42nm,0.9s						
DSRI	**Dabo**	**21.63**	**252**	P	**P**	**15 10 45.4**	**+4.3**
LEM	**Lembang**	**21.96**	**233**	P	**P**	**15 10 49.2**	**+4.4**
	comp=Z,32nm,1.1s						
KNRA	**Kununurra**	**22.50**	**171**	P	**P**	**15 10 51.7**	**+1.3**
	comp=Z,68nm,0.5s						
KNRA	**Kununurra**	**22.50**	**171**		**P**	**15 10 49.7**	**-0.6**
KLI	**Kotabumi**	**23.18**	**241**	P	**P**	**15 11 01.1**	**+3.5**
	comp=Z,106nm,0.5s						
MDSI	**Maura Dua**	**23.60**	**243**	P	**P**	**15 11 05.0**	**+3.2**
IPM	**Ipoh**	**24.01**	**266**	P	**P**	**15 11 04.1**	**-1.7**
KULM	**Kulim**	**24.31**	**268**	P	**P**	**15 11 08.9**	**+0.4**
KULM				IAmb	IAmb	15 11 29.6	
	comp=Z,35nm,1.3s						
FITZ	**Fitzroy Crossi**	**24.61**	**179**	P	**P**	**15 11 11.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.61**	**179**		**P**	**15 11 11.2**	**+0.1**
MNAI	**Manna**	**24.63**	**244**	P	**P**	**15 11 11.8**	**+0.4**
WHN	**Wuhan**	**25.80**	**338**	P	**P**	**15 11 20.9**	**-0.9**
NJ2	**Nanjing**	**25.91**	**348**	*e*P	**P**	**15 11 24.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
JCJ	**Chichijima**	**26.04**	**37**	LR	LR	15 19 40.9	
	comp=Z,80nm,21.1s,baz=146,slow=32						
JNU	**Nakatsue**	**26.88**	**11**	P	**P**	**15 11 30.4**	**-1.2**
JNU				IAmb	IAmb	15 11 31.5	
	comp=Z,31nm,1.1s						
JNU	**Nakatsue**	**26.88**	**11**	LR	LR	15 21 53.8	
	comp=Z,58nm,21.4s,baz=184,slow=36						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**15 11 34.6**	**-0.1**
PMG				IAmb	IAmb	15 11 48.7	
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**15 11 34.6**	**-0.1**
PMG				pmax	pmax		
	comp=Z,14nm,0.9s						
COEN	**Coen**	**27.26**	**139**	P	**P**	**15 11 38.0**	**+2.8**
	comp=Z,20nm,1.5s						
COEN	**Coen**	**27.26**	**139**		**P**	**15 11 35.0**	**-0.2**
COEN				IAmb	IAmb	15 11 44.3	
	comp=Z,37nm,1.4s						
COEN	**Coen**	**27.26**	**139**	P	**P**	**15 11 37.4**	**+2.2**
ENH	**Enshi**	**27.67**	**330**	P	**P**	**15 11 37.6**	**-1.1**
WB0	**Warramunga Arr**	**27.83**	**161**		**P**	**15 11 39.6**	**-0.6**
WB0				IAmb	IAmb	15 11 56.6	
	comp=Z,19nm,1.0s						
WB9	**Warramunga Arr**	**27.85**	**161**	P	**P**	**15 11 40.1**	**-0.3**
GSI	**Gunungsitoli**	**27.91**	**260**	P	**P**	**15 11 40.7**	**-0.4**
GSI				IAmb	IAmb	15 12 03.6	
	comp=Z,39nm,1.1s						
WRAB	**Tennant Creek**	**27.97**	**161**	P	**P**	**15 11 42.3**	**+0.8**
WRA	**Warramunga Arr**	**27.97**	**161**		**P**	**15 11 40.8**	**-0.7**
WRA	**Warramunga Arr**	**27.97**	**161**	P	**P**	**15 11 41.5**	**0.0**
	comp=Z,5.2nm,0.7s,baz=331,slow=11,SNR=43						
	comp=Z,5.2nm,0.7s						
CM31	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**15 11 41.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**15 11 40.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**15 11 43.0**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=114,slow=6.8,SNR=15						
CMAR				LR	LR	15 23 34.4	
	comp=Z,66nm,18.7s,baz=100,slow=38						
	comp=Z,1.5nm,0.7s						
WR8	**Warramunga Arr**	**28.04**	**161**		**P**	**15 11 41.3**	**-0.8**
WR8				IAmb	IAmb	15 12 16.8	
	comp=Z,12nm,0.9s						
MBWA	**Marble Bar**	**28.14**	**191**	P	**P**	**15 11 44.4**	**+1.4**
	comp=Z,15nm,1.8s						
MBWA	**Marble Bar**	**28.14**	**191**	P	**P**	**15 11 42.1**	**-0.8**
MBWA				IAmb	IAmb	15 12 21.9	
	comp=Z,28nm,1.1s						
JMN	**Monobe**	**28.15**	**16**	P	**P**	**15 11 41.2**	**-1.8**
PSAC1	**Pilbara Seismi**	**28.49**	**190**	P	**P**	**15 11 46.5**	**+0.5**
	comp=Z,26nm,1.2s						
PSA00	**Pilbara Seismi**	**28.52**	**190**	P	**P**	**15 11 47.0**	**+0.7**
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**28.52**	**190**	P	**P**	**15 11 45.7**	**-0.6**
PSA00				IAmb	IAmb	15 11 56.4	
	comp=Z,47nm,1.4s						
PSA00	**Pilbara Seismi**	**28.52**	**190**		**P**	**15 11 45.4**	**-0.9**
PSA00				IAmb	IAmb	15 11 49.0	
	comp=Z,9.8nm,1.1s						
PZH	**PanZhiHua**	**29.70**	**314**	P	**P**	**15 11 58.8**	**+1.8**
INU	**Inuyama**	**30.60**	**19**	P	**P**	**15 12 02.5**	**-2.1**
QIS	**Mount Isa**	**30.60**	**152**	P	**P**	**15 12 05.8**	**+1.0**
	comp=Z,20nm,0.7s						
QIS	**Mount Isa**	**30.60**	**152**	P	**P**	**15 12 06.1**	**+1.3**
KSAR	**Wonju Array Be**	**30.75**	**4**	P	**P**	**15 12 05.5**	**-0.4**
KSAR	**Wonju Array Be**	**30.75**	**4**	P	**P**	**15 12 05.5**	**-0.4**
KSRS	**Korea Array**	**30.76**	**4**	P	**P**	**15 12 05.5**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=181,slow=10,SNR=10						
	comp=Z,3.2nm,0.8s						
XAN	**Xi'an**	**31.06**	**333**	⇓P	**P**	**15 12 10.8**	**+1.9**
XAN				LR	LR		
	comp=Z,200nm,17.9s						
XAN				LR	LR		
	comp=Z,290nm,15.8s						
XAN				LR	LR		
	comp=Z,190nm,13.1s						
MTSU	**Mount Surprise**	**31.12**	**143**	P	**P**	**15 12 12.8**	**+3.3**
	comp=Z,4.0nm,0.6s						
CD2	**Chengdu**	**31.31**	**323**	*e*P	**P**	**15 12 10.8**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
AS31	**Alice Springs**	**31.36**	**164**	P	**P**	**15 12 12.0**	**+0.4**
	comp=Z,3.2nm,0.5s						
AS31	**Alice Springs**	**31.36**	**164**		**P**	**15 12 10.5**	**-1.1**
ASAR	**Alice Springs**	**31.36**	**164**	P	**P**	**15 12 10.7**	**-0.8**
ASAR	**Alice Springs**	**31.36**	**164**	P	**P**	**15 12 11.9**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=341,slow=7.1,SNR=82						
ASAR				S	**S**	**15 17 16.7**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=336,slow=12,SNR=3.6						
	comp=Z,2.5nm,0.5s						
AS01	**Alice Springs**	**31.37**	**164**	P	**P**	**15 12 12.5**	**+0.9**
WRKA	**Warakurna**	**31.67**	**174**	P	**P**	**15 12 15.2**	**+1.0**
	comp=Z,5.7nm,1.5s						
HNS	**HongShan**	**32.01**	**344**	⇑P	**P**	**15 12 17.8**	**+0.7**
HNS				pP	**sP**	**15 12 23.3**	**+0.4**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HNS				LR	LR		
	comp=Z,290nm,18.6s						
HNS				LR	LR		
	comp=Z,190nm,19.2s						
MJAR	**Matsushiro Arr**	**32.08**	**20**	P	**P**	**15 12 16.4**	**-1.4**
MJAR	**Matsushiro Arr**	**32.08**	**20**	P	**P**	**15 12 15.3**	**-2.5**
	comp=Z,4.8nm,0.9s,baz=197,slow=9.5,SNR=6.2						
MJAR				LR	LR	15 24 44.1	
	comp=Z,133nm,20.0s,baz=217,slow=35						
	comp=Z,4.8nm,0.9s						
MJAR	**Matsushiro Arr**	**32.08**	**20**	P	**P**	**15 12 16.4**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,14nm,1.9s						
MAJO	**Matsushiro**	**32.08**	**20**	⇑*e*P	**P**	**15 12 18.8**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,22nm,2.7s						
MEEK	**Meekatharra**	**33.69**	**190**	P	**P**	**15 12 33.7**	**+1.8**
BJT	**Baijiatuau**	**34.16**	**348**	P	**P**	**15 12 34.6**	**-1.2**
BJT				IAmb	IAmb	15 12 38.1	
	comp=Z,10nm,0.9s						
BJT	**Baijiatuau**	**34.16**	**348**	P	**P**	**15 12 34.6**	**-1.2**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJI	**Beijing**	**34.18**	**348**	P	**P**	**15 12 35.8**	**-0.1**
BJI				pP	**pP**	**15 12 40.4**	**+0.3**
BJI				sP	**sP**	**15 12 42.4**	**+0.7**
BJI				S	**S**	**15 18 02.1**	**0.0**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,38nm,7.3s						
BJI				LR	LR		
	comp=Z,55nm,21.3s						
BJI				LR	LR		
	comp=Z,120nm,24.9s						
BJI				LR	LR		
	comp=Z,59nm,16.8s						
JMM	**Marumori**	**34.19**	**22**		**P**	**15 12 34.2**	**-2.0**
JMM				IAmb	IAmb	15 12 39.0	
	comp=Z,26nm,0.9s						
LZH	**Lanzhou**	**35.15**	**329**	*e*P	**P**	**15 12 47.1**	**+2.5**
LZH				pP	sP	15 12 52.8	+2.4
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=Z,240nm,13.1s						
LZH				LR	LR		
	comp=Z,160nm,14.1s						
LZH				LR	LR		
	comp=Z,190nm,13.1s						
HHC	**Hu-ho-hao-te**	**36.11**	**343**	*e*P	**P**	**15 12 54.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,68nm,4.0s						
HHC				LR	LR		
	comp=Z,130nm,16.8s						
HHC				LR	LR		
	comp=Z,140nm,16.2s						
HHC				LR	LR		
	comp=Z,130nm,16.4s						
MSHR	**Mys Shultsa**	**36.18**	**8**	⇓*e*P	**P**	**15 12 54.6**	**+1.5**
MSHR				pmax	pmax		
	comp=Z,22nm,1.7s						
BTO	**Baotou**	**36.38**	**341**	*e*P	**P**	**15 12 57.6**	**+2.5**
BTO				pmax	pmax		
	comp=Z,13nm,0.7s						
BTO				pmax	pmax		
	comp=Z,120nm,3.6s						
MORW	**Morawa**	**36.57**	**193**	P	**P**	**15 12 56.1**	**-0.5**
MORW				IAmb	IAmb	15 13 56.7	
	comp=Z,33nm,1.4s						
VLA	**Vladivostok**	**36.81**	**8**	⇓*e*P	**P**	**15 12 59.3**	**+0.8**
SHL	**Shillong**	**36.83**	**304**	P	**P**	**15 12 58.0**	**-1.2**
SHL				IAmb	IAmb	15 13 16.9	
	comp=Z,16nm,1.0s						
SHL	**Shillong**	**36.83**	**304**	P	**P**	**15 12 58.0**	**-1.2**
SHL				pmax	pmax		
	comp=Z,16nm,1.0s						
FORT	**Forrest**	**37.34**	**176**	P	**P**	**15 13 04.0**	**+0.8**
	comp=Z,12nm,0.7s						
FORT	**Forrest**	**37.34**	**176**		**P**	**15 13 02.7**	**-0.5**
INKA	**Innaminka**	**37.41**	**157**	P	**P**	**15 13 03.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**37.88**	**8**	P	**P**	**15 13 08.2**	**+0.6**
	comp=Z,23nm,1.0s,baz=184,slow=8.1,SNR=17						
	comp=Z,23nm,1.0s						
XLT	**XiLinHaoTe**	**37.92**	**349**	*e*P	**P**	**15 13 09.3**	**+1.2**
XLT				pP	pP	15 13 12.6	+0.4
XLT				sP	sP	15 13 16.6	+2.7
XLT				pmax	pmax		
	comp=Z,14nm,1.1s						
XLT				LR	LR		
	comp=Z,190nm,19.7s						
XLT				LR	LR		
	comp=Z,110nm,18.7s						
BLDU	**Ballidu**	**37.92**	**192**	P	**P**	**15 13 10.1**	**+2.0**
KMBL	**Kambalda**	**37.94**	**184**	P	**P**	**15 13 08.6**	**+0.4**
	comp=Z,12nm,1.1s						
MDJ	**Mudanjiang**	**38.01**	**5**	P	**P**	**15 13 10.1**	**+1.3**
MDJ				S	**S**	**15 19 04.0**	**+3.3**
MDJ				ScP	**ScP**	**15 19 06.5**	**-5.3**
MDJ				pmax	pmax		
	comp=Z,29nm,0.8s						
MDJ				LR	LR		
	comp=Z,110nm,4.0s						
MDJ				LR	LR		
	comp=Z,120nm,4.5s						
MDJ	**Mudanjiang**	**38.01**	**5**	P	**P**	**15 13 08.5**	**-0.3**
MDJ				IAmb	IAmb	15 13 12.1	
	comp=Z,22nm,0.9s						
HNR	**Honiara**	**38.27**	**114**	LR	LR	15 27 47.9	
	comp=Z,48nm,21.2s,baz=286,slow=34						
BNX	**BinXian**	**38.98**	**3**	⇓P	**P**	**15 13 18.0**	**+1.1**
BNX				pmax	pmax		
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**39.27**	**310**	P	P	15 13 10.1	-10
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LSA	**Lhasa**	**39.27**	**310**	P	**P**	**15 13 19.3**	**-0.9**
LSA	**Lhasa**	**39.27**	**310**	P	**P**	**15 13 19.3**	**-0.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA	**Gaotai**	**39.74**	**329**	*e*P	**P**	**15 13 25.5**	**+2.0**
GTA				pP	sP	15 13 31.8	+2.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NWAO	**Narrogin (SRO)**	**40.07**	**190**	P	**P**	**15 13 27.1**	**+1.0**
	comp=Z,43nm,1.6s						
NWAO	**Nar

CMSA Cobar Meteorol 42.80 154 P **P 15 13 49.6 +1.1**
HILR Hailar Array B 42.98 355 P **P 15 13 49.6 -0.3**
comp=Z,2.5nm,0.5s,baz=160,slow=8.9,SNR=4.3
comp=Z,2.5nm,0.5s
HEH HeiHe 43.49 2 *e*P **P 15 13 53.0 -0.9**
HEH pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 43.84 343 P **P 15 13 55.6 -1.3**
ULN Ulaanbaatar 43.84 343⇑ *e*P **P 15 13 58.9 +2.0**
ULN pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 44.01 342 **P 15 13 57.4 -0.9**
SONM Songino Array 44.01 342 P **P 15 13 58.8 +0.5**
comp=Z,1.5nm,0.9s,baz=161,slow=9.7,SNR=6.6
SONM LR LR 15 33 16.0
comp=Z,155nm,21.1s,baz=156,slow=37
comp=Z,1.5nm,0.9s
PALK Pallekele 44.02 274 P **P 15 13 57.7 -1.1**
PALK IAmb IAmb 15 14 12.5
comp=Z,15nm,1.2s
PALK Pallekele 44.02 274 LR LR 15 32 44.9
comp=Z,38nm,21.2s,baz=73,slow=36
PALK Pallekele 44.02 274 P **P 15 13 57.7 -1.1**
PALK pmax pmax
comp=Z,15nm,1.3s
ARMA Armidale 44.82 147 P **P 15 14 03.7 -1.3**
ARPS Mount Arapiles 45.98 161 P **P 15 14 15.3 +1.4**
comp=Z,17nm,1.5s
YNG Young 46.34 153 P **P 15 14 19.2 +2.4**
HYB Hyderabad 46.60 288 *e*P **P 15 14 17.8 -1.4**
HYB *e*pP **pP 15 14 21.0 -2.5**
HYB IVmB_BB 15 14 21.2
comp=Z,102nm,2.7s
HYB *e*S **S 15 21 07.2 -1.1**
ZEA Zeya 46.97 2 *e*P **P 15 14 21.3 -0.2**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
CAN Canberra 47.46 153 P **P 15 14 27.5 +1.8**
comp=Z,21nm,2.0s
CAN Canberra 47.46 153 P **P 15 14 25.0 -0.7**
CAN Canberra 47.46 153 P **P 15 14 25.0 -0.7**
CAN pmax pmax
comp=Z,98nm,1.8s
TOO Toolangi 47.96 158 P **P 15 14 31.7 +2.2**
comp=Z,7.9nm,1.6s
TOO Toolangi 47.96 158 P **P 15 14 28.1 -1.4**
TOO IAmb IAmb 15 14 33.4
comp=Z,37nm,1.9s
TOO Toolangi 47.96 158 P **P 15 14 28.1 -1.4**
TOO pmax pmax
comp=Z,37nm,2.0s
WMQ Urumqi 49.38 325 *e*P **P 15 14 42.9 +2.5**
PEA0B Petropavlovsk- 53.40 24⇓ *e*P **P 15 15 11.1 +0.8**
PETK Petropavlovsk- 53.40 24 P **P 15 15 09.6 -0.7**
PETK Petropavlovsk- 53.40 24 P **P 15 15 11.1 +0.8**
comp=Z,6.8nm,0.8s,baz=235,slow=4.2,SNR=5.3
comp=Z,6.8nm,0.8s
MK31 Makanchi Array 54.21 325 P **P 15 15 15.0 -1.4**
MK31 Makanchi Array 54.21 325 *d i*P **P 15 15 16.9 +0.5**
MKAR Makanchi Array 54.21 325 **P 15 15 15.3 -1.1**
MKAR Makanchi Array 54.21 325 P **P 15 15 16.8 +0.4**
comp=Z,1.6nm,0.7s,baz=125,slow=8.1,SNR=11
MKAR LR LR 15 38 44.3
comp=Z,51nm,18.5s,baz=136,slow=36
comp=Z,1.6nm,0.7s
KSH Kashi 54.81 314 P **P 15 15 25.3 +4.3**
KSH pP sP 15 15 31.0 +4.1
KSH pmax pmax
comp=Z,5.0nm,1.2s
NIL Nilore 54.83 307 P **P 15 15 19.4 -1.7**
NIL IAmb IAmb 15 15 30.6
comp=Z,20nm,0.9s
NIL Nilore 54.83 307 P **P 15 15 19.4 -1.7**
NIL pmax pmax
comp=Z,20nm,0.9s
YAK Yakutsk 55.36 3 **P 15 15 23.3 -1.0**
YAK Yakutsk 55.36 3 LR LR 15 39 29.9
comp=Z,47nm,21.8s,baz=196,slow=36
YAK Yakutsk 55.36 3 *e*P **P 15 15 24.9 +0.6**
YAK *e**PP **sP 15 15 31.3 +1.1**
YAK *e* 15 17 27.4
YAK *e*S **S 15 23 06.4 -1.8**
YAK *e*SS **SS 15 26 53.3 +0.6**
YAK *e*SSS SSS 15 28 51.8
YAK pmax pmax
comp=Z,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,30nm,2.3s
YAK pmax pmax
comp=N,34nm,2.4s
YAK pmax pmax
comp=E,35nm,2.8s
YAK smax smax
comp=N,59nm,2.3s
YAK smax smax
comp=E,35nm,2.1s
AAK Ala-Archa 57.08 317 LR LR 15 42 38.4
comp=E,77nm,21.4s,baz=106,slow=39
AAK Ala-Archa 57.08 317⇑ *e*P **P 15 15 39.8 +2.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 57.23 333 P **P 15 15 35.9 -1.9**
ZALV Zalesovo Beam 57.23 333 P **P 15 15 36.3 -1.6**
ZALV Zalesovo Beam 57.23 333 P **P 15 15 36.7 -1.2**
comp=Z,1.1nm,0.7s,baz=126,slow=7.3,SNR=4.5
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 57.23 333 *i* P **P 15 15 36.5 -1.4**
ARSB Arslanbob 57.61 315 P **P 15 15 39.1 -1.9**
ARSB IAmb IAmb 15 15 50.2
comp=Z,9.2nm,1.0s
ARSB Arslanbob 57.61 315 P **P 15 15 39.1 -1.9**
ARSB pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 58.38 327 P **P 15 15 45.9 -0.2**
comp=Z,1.9nm,0.9s,baz=127,slow=5.9,SNR=14
comp=Z,1.9nm,0.9s
KURK Kurchatov 58.39 327 **P 15 15 45.4 -0.6**
KURK IAmb IAmb 15 16 00.5
comp=Z,7.7nm,1.0s
KURK Kurchatov 58.39 327 *ce*P **P 15 15 46.6 +0.6**
KURK pmax pmax
comp=Z,10.0nm,1.4s
GAR Garm 58.73 312 **P 15 15 47.9 -0.9**
CHGR Chuyangaron 59.48 311 P **P 15 15 52.3 -1.8**
CHGR IAmb IAmb 15 16 02.3
comp=Z,12nm,0.9s
CHGR Chuyangaron 59.48 311 P **P 15 15 52.3 -1.8**
CHGR pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 59.97 316 **P 15 15 56.0 -1.2**
KK31 IAmb IAmb 15 16 06.0
comp=Z,7.9nm,0.8s
KK31 Karatay Array 59.97 316 P **P 15 15 56.0 -1.2**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 59.97 316 **P 15 15 56.1 -1.0**
KKAR Karatay Array 59.97 316 P **P 15 15 56.2 -1.0**
BVAR Borovoye Array 63.97 327 LR LR 15 45 47.5
comp=Z,80nm,18.4s,baz=122,slow=37
BORK Borovoye 64.02 327⇑ *e*P **P 15 16 24.5 +0.3**
BORK pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 64.96 1 LR LR 15 46 30.6
comp=Z,71nm,20.6s,baz=224,slow=38
TIXI Tiksi 64.96 1⇓ *e*P **P 15 16 31.9 +1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
LBZ Lake Benmore 65.03 146 P **P 15 16 29.5 -1.5**
TCW Tory Channel 65.55 141 P **P 15 16 32.8 -1.6**
KHZ Kahutara 65.79 143 P **P 15 16 35.5 -0.4**
BKZ Black Stump Fm 65.87 138 P **P 15 16 36.1 -0.4**
BKZ IAmb IAmb 15 17 22.5
comp=Z,20nm,1.2s
RTZ Ruatahuna 65.91 138 P **P 15 16 36.0 -0.8**
BFZ Birch Farm 66.51 140 P **P 15 16 39.9 -0.7**
AB31 Akbulak array 68.84 320 **P 15 16 53.5 -1.6**
ABKAR Akbulak array 68.84 320 **P 15 16 53.3 -1.8**
ARTI Arti 71.66 327 LR LR 15 51 08.1
comp=Z,46nm,18.1s,baz=176,slow=38
ARTI Arti 71.66 327 *d i*P **P 15 17 11.7 -0.6**
ARTI 15 17 34.3
ARTI S **S 15 26 31.5 -0.1**
ARTI pmax pmax
comp=Z,8.0nm,1.9s
CASY Casey 73.52 186 P **P 15 17 22.2 -0.9**
CASY IAmb IAmb 15 19 39.8
comp=Z,52nm,1.9s
L14K Kuka Creek 75.71 28 P **P 15 17 35.6 -0.3**
N14K Kuskokwak Cree 75.90 30 P **P 15 17 35.8 -1.2**
F15K North Star Dit 75.91 24 P **P 15 17 36.7 -0.3**
M14K Bethel 75.93 29 P **P 15 17 36.7 -0.5**
AKT Akhty 76.12 311 *e*P **P 15 17 37.0 -1.9**
AKT *e* 15 17 49.4
AKT pmax pmax
comp=Z,7.0nm,1.2s
KIRV Kirov 76.86 329 LR LR 15 53 24.4
comp=Z,40nm,19.1s,baz=94,slow=37
BELG Belogornoye 77.08 322 *i* P **P 15 17 45.1 +1.2**
L16K Owhat River 77.29 28 P **P 15 17 44.1 -0.8**
M16K Timber Creek 77.42 29 P **P 15 17 44.6 -1.1**
F17K Baldwin Pennin 77.43 23 P **P 15 17 45.1 -0.5**
O16K Kokwok River B 77.64 30 P **P 15 17 46.2 -0.6**
J17K VABM Dome 77.75 27 P **P 15 17 46.7 -0.8**
RAYN Ar Rayn 77.81 293 **P 15 17 47.4 -1.3**
RAYN Ar Rayn 77.81 293 P **P 15 17 47.4 -1.3**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
E18K Tukpahlearik C 77.89 22 P **P 15 17 48.5 +0.3**
E18K IAmb IAmb 15 20 35.4
comp=Z,43nm,1.8s
C18K Utukok River 77.94 21 P **P 15 17 48.1 -0.3**
H18K Honhosa River 78.36 25 P **P 15 17 49.8 -1.1**
H18K IAmb IAmb 15 20 14.2
comp=Z,40nm,1.7s
L18K Granite Mounta 78.67 28 P **P 15 17 52.4 -0.1**
E19K Redstone River 79.17 23 P **P 15 17 54.7 -0.5**
E19K IAmb IAmb 15 18 04.9
comp=Z,8.7nm,0.9s
H19K Roundabout Mou 79.20 25 P **P 15 17 55.0 -0.4**
H19K IAmb IAmb 15 17 58.7
comp=Z,7.2nm,0.8s
KBZ Khabaz 79.77 313 P **P 15 18 00.9 +2.0**
comp=Z,0.9nm,0.6s,baz=49,slow=9.3,SNR=4.3
comp=Z,0.9nm,0.6s
KBZ Khabaz 79.77 313⇓ *e*P **P 15 18 01.8 +2.9**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
NEUR Neytrino 79.91 313 *e*P **P 15 18 03.1 +3.1**
NEUR pmax pmax
comp=Z,5.0nm,1.5s
KIV Kislovodsk 79.92 313 *e*P **P 15 17 58.4 -1.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,36nm,19.0s
KDAK Kodiak Island 80.33 33 LR LR 15 51 43.7
comp=Z,29nm,21.6s,baz=187,slow=34
G21K Allakaket 80.51 24 P **P 15 18 02.0 -0.5**
G21K IAmb IAmb 15 18 14.2
comp=Z,13nm,1.2s
I21K Tanana 81.03 25 P **P 15 18 04.9 -0.4**
I21K IAmb IAmb 15 18 15.7
comp=Z,20nm,1.4s
SKT Skwentna 81.06 28 **P 15 18 05.1 -0.5**
SKT IAmb IAmb 15 18 18.5
comp=Z,43nm,1.8s
BPAW Bear Paw Mtn. 81.41 26 **P 15 18 06.9 -0.5**
BPAW IAmb IAmb 15 18 15.4
comp=Z,11nm,0.9s
MLY Manley 81.55 25 P **P 15 18 07.7 -0.5**
MLY IAmb IAmb 15 18 20.2
comp=Z,35nm,1.7s
TRF Thorofare Moun 81.69 27 **P 15 18 08.3 -0.8**
KLMR Klimovskoe 82.05 330 *e*P **P 15 18 10.5 -0.3**
H23K Yukon River 82.08 24 P **P 15 18 10.7 -0.2**
E23K Chandalar 82.11 22 IAmb IAmb 15 18 44.7
comp=Z,17nm,1.4s
I23K Minto, Yukon-K 82.14 25 IAmb IAmb 15 18 23.3
comp=Z,12nm,1.0s
GHO Glory Hole Cre 82.29 29 P **P 15 18 11.7 -0.5**
GHO IAmb IAmb 15 19 22.4
comp=Z,34nm,1.6s
MCK McKinley 82.30 27 **P 15 18 11.2 -0.9**
MCK IAmb IAmb 15 18 19.8
comp=Z,16nm,1.0s
MCK McKinley 82.30 27 P **P 15 18 11.2 -0.9**
MCK pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 82.33 27 IAmb IAmb 15 18 21.4
comp=Z,12nm,1.0s
SML Sawmill 82.57 29 P **P 15 18 13.7 +0.1**
SML IAmb IAmb 15 18 23.6
comp=Z,15nm,0.9s
PWL Port Wells 82.57 30 IAmb IAmb 15 18 22.1
comp=Z,17nm,1.1s
F24K Squaw Lake 82.76 23 **P 15 18 14.7 +0.2**
F24K IAmb IAmb 15 18 21.4
comp=Z,7.4nm,1.0s
H24K Noodor Dome 82.77 24 IAmb IAmb 15 18 25.2
comp=Z,7.1nm,0.8s
COLA College 82.78 25⇓ *e*P **P 15 18 16.3 +1.8**
COLA pmax pmax
comp=Z,6.0nm,1.1s
ILAR Eielson Array 83.19 26 P **P 15 18 15.4 -1.3**
comp=Z,1.3nm,0.8s,baz=242,slow=4.3,SNR=19
comp=Z,1.3nm,0.8s
OBN Obninsk 83.72 325 *e*P **P 15 18 20.5 +1.0**
OBN *e* 15 21 32.3
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,50nm,22.0s
C27K Jago River 84.23 21 P **P 15 18 21.9 0.0**
J26L Joseph Creek 84.63 26 **P 15 18 23.7 -0.5**
J26L IAmb IAmb 15 18 34.0
comp=Z,5.7nm,0.9s
L27K Beaver Creek, 85.53 27 **P 15 18 28.4 -0.2**
BCAR Beaver Creek A 85.55 27 **P 15 18 28.1 -0.7**
I28M Miner Creek 86.08 25 **P 15 18 30.1 -1.3**
I28M IAmb IAmb 15 18 49.3
comp=Z,11nm,0.9s
VNDA Vanda 86.53 172 P **P 15 18 32.8 -0.4**
VNDA IAmb IAmb 15 19 09.7
comp=Z,16nm,2.0s
VNDA Vanda 86.53 172 P **P 15 18 32.4 -0.8**
comp=Z,0.7nm,0.7s,baz=311,slow=6.2,SNR=4.8
comp=Z,0.7nm,0.7s
VNDA Vanda 86.53 172 P **P 15 18 32.8 -0.4**
VNDA pmax pmax
comp=Z,16nm,2.0s
G29M Pine Creek 86.64 23 P **P 15 18 33.8 -0.2**
G29M IAmb IAmb 15 19 06.8
comp=Z,26nm,1.4s
BRTR Keskin Array B 86.88 309 P **P 15 18 35.9 0.0**
comp=Z,0.3nm,0.4s,baz=58,slow=5.8,SNR=2.3
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 87.14 340 P **P 15 18 35.4 -1.0**
ARCES ARCESS Array B 87.14 340 LR LR 16 02 41.6
comp=Z,57nm,18.2s,baz=72,slow=39
ARCES ARCESS Array B 87.14 340 P **P 15 18 35.4 -1.0**
ARCES pmax pmax
comp=Z,43nm,1.8s
SPITS Spitsbergen Ar 87.30 349 LR LR 16 01 17.6
comp=Z,43nm,19.7s,baz=62,slow=38
PPT2 Papeete2 87.60 108 *e*LR LR 15 46 21.7
comp=Z,31nm,22.2s
FINES FINESS Array B 88.47 332 LR LR 16 00 12.1
comp=Z,74nm,20.7s,baz=64,slow=37
AKASG Malin Array Be 88.58 321 P **P 15 18 42.6 -1.1**
comp=Z,1.0nm,0.8s,baz=75,slow=3.9,SNR=1.8
AKASG LR LR 15 59 33.7
comp=Z,46nm,21.8s,baz=66,slow=36
comp=Z,1.0nm,0.8s
N32M Quiet Lake 89.90 28 P **P 15 18 47.9 -1.8**
N32M IAmb IAmb 15 21 02.5
comp=Z,20nm,1.4s
MLR Muntele Rosu 91.64 316 LR LR 16 06 24.9
comp=Z,46nm,18.4s,baz=69,slow=40
SYO Syowa Base 94.54 201⇓ *e*pP pP 15 19 14.4 -0.9
SYO Syowa Base 94.54 201⇑ *e*sP sP 15 19 16.4 -0.6
NOA NORSAR Array B 95.44 333 LR LR 16 05 24.9
comp=Z,44nm,20.8s,baz=260,slow=37
QSPA South Pole Qui 96.55 180 P **P 15 19 22.6 +2.4**
comp=Z,1.4nm,1.0s,baz=61,slow=2.6,SNR=3.0
MODS Modra-Piesok 96.68 320 *i* P **P 15 19 22.9 +1.8**
MODS Modra-Piesok 96.68 320 *e*PDIFF **P 15 19 22.9 +1.8**
VRAC Vranov 96.82 321 LR LR 16 05 29.9
comp=Z,36nm,19.9s,baz=54,slow=37
GERES GERESS Array B 98.77 321 LR LR 16 08 39.2
comp=Z,28nm,18.9s,baz=35,slow=38
TXAR Lajitas Array 121.07 50 PKP **PKPdf 15 24 42.0 -2.3**
comp=Z,0.2nm,0.6s,baz=329,slow=0.7,SNR=2.1
PLCA Paso Flores 143.32 160 PKPdf PKPab 15 25 18.2 -3.2
PLCA Paso Flores 143.32 160 PKP **PKPdf 15 25 25.2 -0.4**
comp=Z,0.6nm,0.7s,baz=238,slow=3.8,SNR=1.2

CRAAG ***17*** *15:15:00.0,36.˚46N×5.˚13E,Ml3.7,Algerie 04km SE Bouandas*
MDD ***17*** *15:15:00.8±0.5,36.˚65N×5.˚28E,h0km,Mb4.4/41, M_mb3.9/44,Error ellipse: s-maj=3.8km s-min=2.3km az=154.0*
IDC ***17*** *15:15:00.5±2.0,36.˚17N×4.˚99E,h0km,mb3.3/1, mbtmp3.4/4,ML3.3/3,MS2.9/1,Error ellipse: s-maj=32.9km s-min=31.2km az=103.0*
CNRM ***17*** *15:16:16.9,33.˚57N×1.˚61W,h80km,ML2.0*
ISC 17 15:14:59.9±0.8,36.˚62N±0.˚04×5.˚21E±0.˚03,h13km,n60, σ1§84/80,15C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAZD	**Ain Tagrout**	**0.45**	**185**	P	**Pg**	**15 15 07.0**	**-1.9**
SET	**Setif**	**0.45**	**160**	P	**Pg**	**15 15 08.0**	**-0.9**
CTCHA	**Tamokra**	**0.49**	**247**	P	**Pg**	**15 15 08.0**	**-1.6**
CKHR	**Kef el Ahmar**	**0.65**	**158**	P	**Pg**	**15 15 11.7**	**-1.0**
CBHR	**Beni Haroun da**	**0.86**	**94**	P	**Pg**	**15 15 16.0**	**-0.5**
ATKB	**Taksebt**	**0.88**	**274**	P	**Pn**	**15 15 17.7**	**-0.2**
CBOS	**Bilal Ibnou Ra**	**0.91**	**79**	P	**Pg**	**15 15 17.0**	**-0.4**
COAT	**Oued Athmania**	**0.95**	**114**	P	**Pn**	**15 15 19.5**	**+0.5**
CASM	**Ain Smara**	**1.09**	**109**	P	**Pb**	**15 15 20.0**	**-0.8**
CTEI	**Djebel Teioual**	**1.12**	**120**	P	**Pg**	**15 15 21.9**	**+0.4**
AKET	**Djebel Ketaf**	**1.22**	**242**	P	**Pb**	**15 15 23.3**	**+0.4**
CKFL	**Kef-Lekhel**	**1.24**	**100**	P	**Pb**	**15 15 23.4**	**+0.2**
CAEH	**'Ain El Ouahch**	**1.33**	**83**	P	**Pg**	**15 15 25.6**	**+0.1**
ABSD	**Ouled Sidi Bra**	**1.44**	**215**	P	**Pn**	**15 15 25.4**	**-0.4**
CKTS	**El Kantara**	**1.45**	**164**	P	**Pg**	**15 15 28.1**	**+0.3**
ADJB	**Djebel Djouab**	**1.50**	**252**	P	**Pg**	**15 15 28.9**	**+0.1**
CMAH	**Djebel Manchou**	**1.78**	**89**	P	**Pb**	**15 15 32.2**	**-0.2**
KEST	**Kesra**	**3.46**	**104**	Pn	**Pn**	**15 15 55.2**	**+1.6**
	5.0nm,0.3s,baz=296,slow=4.0,SNR=27						
KEST				Sn	**Sn**	**15 16 38.0**	**+3.5**
	baz=151,slow=21						
	36nm,0.6s						
ETOS	**Mallorca**	**3.66**	**330**	Sn	**Sn**	**15 16 37.3**	**-2.1**
ETOS				Pn	**Pn**	**15 15 57.9**	**+1.6**
ETOS	**Mallorca**	**3.66**	**330**	Pn	**Pn**	**15 15 57.8**	**+1.5**
ETOS				⇑ *i*IVmb_VC		15 15 58.4	
	2μm,SNR=9.1						
ETOS				Sn	**Sn**	**15 16 38.6**	**-0.7**
EIBI	**Ibiza**	**3.89**	**309**	Sn	**Sn**	**15 16 45.0**	**+0.1**
EIBI				Pn	**Pn**	**15 16 01.5**	**+2.2**
EIBI	**Ibiza**	**3.89**	**309**	Pn	**Pn**	**15 16 00.4**	**+1.1**
EIBI				⇑ *i*IVmb_VC		15 16 05.9	
	458nm,SNR=1.7						
EIBI				Sn	**Sn**	**15 16 44.4**	**-0.5**
VSL	**Villasalto**	**4.36**	**48**	Pn	**Pn**	**15 16 06.7**	**+0.8**
VSL				Sn	**Sn**	**15 16 55.4**	**-1.3**
EBEN2	**Beniarda presa**	**4.75**	**297**	Pn	**Pn**	**15 16 11.9**	**+0.7**
EBEN2				⇑ *i*IVmb_VC		15 16 16.0	
	648nm,SNR=2.3						
EBEN2				Sn	**Sn**	**15 17 07.6**	**+1.4**
ECOL	**Islas Columbre**	**4.83**	**314**	Pn	**Pn**	**15 16 13.3**	**+1.0**
ECOL				Sn	**Sn**	**15 17 08.1**	**-0.1**
AFON	**Font Roja**	**5.00**	**296**	Pn	**Pn**	**15 16 15.7**	**+1.0**
AFON				⇑ *i*IVmb_VC		15 16 21.2	
	239nm,SNR=1.5						
AFON				Sn	**Sn**	**15 17 13.2**	**+0.8**
DGI	**Dorgali Grotta**	**5.05**	**42**	Pn	**Pn**	**15 16 16.1**	**+0.8**
DGI				Sn	**Sn**	**15 17 12.4**	**-1.1**
EMUR	**La Murta**	**5.29**	**285**	Pn	**Pn**	**15 16 22.4**	**+3.7**
EMUR	**La Murta**	**5.29**	**285**	Pn	**Pn**	**15 16 19.9**	**+1.3**
EMUR				⇑ *i*IVmb_VC		15 16 22.8	
	160nm,SNR=1.6						
EMUR				Sn	**Sn**	**15 17 18.8**	**-0.7**
EVIV	**Cofrentes, Val**	**5.65**	**300**	Pn	**Pn**	**15 16 25.4**	**+1.7**
EVIV				⇑ *i*IVmb_VC		15 16 26.9	
	426nm,SNR=3.6						
EVIV				Sn	**Sn**	**15 17 27.8**	**-0.6**
ECHE	**Chera**	**5.70**	**303**	Pn	**Pn**	**15 16 26.4**	**+2.1**
ECHE	**Chera**	**5.70**	**303**	Pn	**Pn**	**15 16 25.8**	**+1.5**
ECHE				⇑ *i*IVmb_VC		15 16 30.6	
	372nm,SNR=3.4						
ECHE				Sn	**Sn**	**15 17 28.2**	**-1.4**
EPOB	**Poblet**	**5.71**	**327**	Pn	**Pn**	**15 16 25.4**	**+0.9**
EPOB				⇑ *i*IVmb_VC		15 16 27.0	
	220nm,SNR=3.4						
EPOB				Sn	**Sn**	**15 17 27.6**	**-2.4**
ETOB	**Tobarra**	**5.73**	**293**	Pn	**Pn**	**15 16 26.5**	**+1.7**
ETOB	**Tobarra**	**5.73**	**293**	Pn	**Pn**	**15 16 26.2**	**+1.4**
ETOB				⇑ *i*IVmb_VC		15 16 32.7	
	269nm,SNR=2.3						
ETOB				Sn	**Sn**	**15 17 28.6**	**-1.8**
ERTA	**Horta de San J**	**5.76**	**320**	Pn	**Pn**	**15 16 26.3**	**+1.1**
ERTA				⇑ *i*IVmb_VC		15 16 27.9	
	151nm,SNR=1.3						
ERTA				Sn	**Sn**	**15 17 31.0**	**-0.1**
EMOS	**Mosqueruela**	**5.81**	**312**	Pn	**Pn**	**15 16 27.6**	**+1.6**
EMOS				⇑ *i*IVmb_VC		15 16 30.7	
	135nm,SNR=0.8						
EMOS				Sn	**Sn**	**15 17 31.5**	**-1.1**
EJON	**La Jonquera**	**6.09**	**344**	Sn	**Sn**	**15 17 34.7**	**-4.5**
EJON				Pn	**Pn**	**15 16 30.3**	**+0.8**
EJON	**La Jonquera**	**6.09**	**344**	Pn	**Pn**	**15 16 30.4**	**+0.8**
EJON				⇑ *i*IVmb_VC		15 16 31.8	
	227nm,SNR=1.3						
EJON				Sn	**Sn**	**15 17 37.9**	**-1.2**
EQES	**Quesada**	**6.71**	**283**	Pn	**Pn**	**15 16 40.8**	**+2.5**
EQES				⇑ *i*IVmb_VC		15 16 45.0	
	295nm,SNR=3.5						
EQES				Sn	**Sn**	**15 17 52.1**	**-2.6**
JBK	**JBK**	**6.74**	**252**	P	**Pn**	**15 16 37.6**	**-1.2**
JBK	**JBK**	**6.74**	**252**	S		15 16 54.0	
GOG	**Mont Gurugu**	**6.80**	**261**	P	Pn	15 16 48.7	+9.2
GOG	**Mont Gurugu**	**6.80**	**261**	S	Sn	15 17 14.3	-43
EQUE	**Quentar**	**6.95**	**277**	Pn	**Pn**	**15 16 44.5**	**+2.9**
EQUE				⇑ *i*IVmb_VC		15 16 49.3	
	75nm,SNR=1.8						
EQUE				Sn	**Sn**	**15 18 00.4**	**-0.2**
EQTA	**Presa de Quent**	**6.96**	**277**	Pn	**Pn**	**15 16 45.9**	**+4.3**
FIGM	**Figuig**	**6.98**	**232**	P	**Pn**	**15 16 42.0**	**0.0**
FIGM	**Figuig**	**6.98**	**232**	S		15 17 01.5	
ELGU	**Los Guajares,**	**7.10**	**275**	Pn	**Pn**	**15 16 48.2**	**+4.6**
PSIM	**Granatula de C**	**7.44**	**290**	Pn	**Pn**	**15 16 50.4**	**+2.2**
PSIM				Sn	**Sn**	**15 18 11.7**	**-0.7**
EGOR	**Sierra Gorda,**	**7.49**	**276**	Pn	**Pn**	**15 16 52.7**	**+3.7**
AKLM	**AKL**	**7.69**	**257**	P	**Pn**	**15 16 52.2**	**+0.5**
AKLM	**AKL**	**7.69**	**257**	S		15 17 18.9	
ESDC	**Sonseca Array**	**7.84**	**296**	Pn	**Pn**	**15 16 54.8**	**+1.1**
	0.3nm,0.3s,baz=116,slow=14,SNR=9.6						
ESDC				Sn	**Sn**	**15 18 23.9**	**+1.5**
	baz=114,slow=25						
	1.1nm,0.5s						
EORO	**Oroz-Betelu**	**8.02**	**323**	Pn	**Pn**	**15 16 56.8**	**+0.5**
EORO				Sn	**Sn**	**15 18 22.2**	**-4.6**
PAB	**San Pablo**	**8.08**	**294**	Pn	**Pn**	**15 16 57.4**	**+0.4**
PAB				⇑ *i*IVmb_VC		15 17 00.0	
	73nm,SNR=1.3						
PAB				Sn	**Sn**	**15 18 25.5**	**-2.8**
PCP	**Piancastagn**	**8.30**	**17**	Pn	**Pn**	**15 17 00.2**	**+0.1**
PCP				Sn	**Sn**	**15 18 29.1**	**-4.6**
GERES	**GERESS Array B**	**13.70**	**24**	Pn	**P**	**15 18 24.2**	**+1.5**
	baz=214,slow=15,SNR=1.6						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**23.59**	**189**	P	**P**	**15 20 09.1**	**-1.4**
	0.6nm,0.6s,baz=8.1,slow=11,SNR=4.2						
	0.6nm,0.6s						
EIL	**Elat**	**25.78**	**97**	LR	LR	15 32 56.1	
	comp=Z,26nm,18.5s,baz=336,slow=42						

HVO ***17*** *15:30:29.0±0.8,19.˚32N±0.˚02×155.˚13W±0.˚01,h7km±1km, Error ellipse: s-maj=3.0km s-min=1.2km az=147.0*
NEIC 17 15:30:29.7±1.2,19.˚317N±0.˚008×155.˚155W±0.˚009, h5km±1km,ML3.4/44,ML3.5/52(HVO),Error ellipse: s-maj=2.6km s-min=1.7km az=351.0,Hawaiian Islands

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

KNHH	**Kane Nui o Ham**	**0.06 347**	Pg	Pg	15 30 31.2	-0.2
STCH	**Steam Cracks**	**0.07 22**	Pg	Pg	15 30 31.1	-0.4
STCH			Sg	Sg	15 30 32.8	+0.1
STCH			IAML		15 30 34.8	
	comp=N,31μm,0.4s					
PUH	**Pauahi**	**0.08 314**	Pg		15 30 31.5	-0.1
PUH			Sg		15 30 33.4	+0.5
PUH			IAML		15 30 34.1	
	comp=E,16μm,0.7s					
PUH			IAML		15 30 34.2	
	comp=N,18μm,0.3s					
JCUZ	**Jacuzzi**	**0.08 37**	Pg		15 30 31.2	-0.4
JCUZ			Sg		15 30 33.1	+0.1
NPOC	**North of Pu'u**	**0.09 29**	Pg		15 30 31.3	-0.4
NPOC			Sg		15 30 33.3	+0.3
KKO	**Keanakako'i**	**0.13 307**	Pg		15 30 32.4	0.0
KKO			Sg		15 30 35.2	+0.9
BYL	**Byron's Ledge**	**0.14 313**	Pg		15 30 32.4	-0.2
BYL			IAML		15 30 36.4	
	comp=N,14μm,0.9s					
BYL	**Byron's Ledge**	**0.14 313**	Sg		15 30 35.4	+0.9
RIM	**Rim**	**0.14 305**	Pg		15 30 32.5	-0.1
RIM			Sg		15 30 35.4	+0.9
HATHI	**Halema'uma'u T**	**0.14 316**	Pg		15 30 32.5	-0.2
HATHI			Sg		15 30 35.2	+0.5
HATHI	**Halema'uma'u T**	**0.14 316**	IAML		15 30 37.0	
	comp=E,14μm,1.0s					
HATHI			IAML		15 30 37.8	
	comp=N,10μm,0.7s					
HLP	**Hilina Pali**	**0.15 262**	Pg		15 30 33.0	+0.3
HLP	**Hilina Pali**	**0.15 262**	Sg		15 30 36.1	+1.4
SDHHI	**Sand Hill**	**0.15 299**	Pg		15 30 32.7	-0.1
SDHHI			Sg		15 30 35.8	+1.0
SBLHI	**Steaming Bluff**	**0.15 316**	Pg		15 30 32.6	-0.2
SBLHI			Sg		15 30 35.5	+0.6
OBL	**Observatory Le**	**0.16 309**	Pg		15 30 32.9	-0.1
OBL			Sg		15 30 36.0	+1.0
UWB	**Uwekahuna Bluf**	**0.16 313**	Pg		15 30 32.7	-0.2
UWB			Sg		15 30 35.7	+0.6
WRMHI	**West Rim**	**0.16 303**	Pg		15 30 32.9	-0.2
WRMHI			Sg		15 30 36.1	+0.8
UWE	**Uwekahuna**	**0.17 308**	Pg		15 30 33.0	-0.1
UWE			Sg		15 30 36.4	+1.0
UWE	**Uwekahuna**	**0.17 308**	IAML		15 30 37.1	
	comp=E,8μm,1.2s					
UWE			IAML		15 30 37.1	
	comp=N,11μm,1.2s					
RSD	**Rainshed**	**0.19 321**	Pg		15 30 33.2	-0.3
RSD			Sg		15 30 36.6	+0.7
RSD	**Rainshed**	**0.19 321**	IAML		15 30 37.1	
	comp=E,5μm,1.3s					
RSD			IAML		15 30 37.2	
	comp=N,6μm,1.0s					
HTC	**Hot Caves**	**0.24 251**	Pg		15 30 34.9	+0.4
MLH	**Mauna Loa**	**0.28 309**	Pg		15 30 35.0	-0.3
MLH			Sb		15 30 41.3	-1.3
MLH	**Mauna Loa**	**0.28 309**	IAML		15 30 41.4	
	comp=N,4μm,0.2s					
MLH			IAML		15 30 41.6	
	comp=E,4μm,0.1s					
AIN	**Ainahou**	**0.29 281**	Pg		15 30 35.4	-0.1
AIN			Sb		15 30 42.0	-0.7
AIN	**Ainahou**	**0.29 281**	IAML		15 30 42.5	
	comp=E,18μm,0.2s					
AIN			IAML		15 30 42.8	
	comp=N,19μm,0.3s					
HMH	**Humu'ula Sheep**	**0.42 313**	Pg		15 30 37.7	-0.3
HMH			Sg		15 30 44.9	+1.4
HMH	**Humu'ula Sheep**	**0.42 313**	IAML		15 30 45.6	
	comp=N,13μm,0.2s					
HMH			IAML		15 30 45.6	
	comp=E,11μm,0.3s					
KHU	**Kahuku**	**0.44 261**	Pg		15 30 37.9	-0.4
KHU			Sg		15 30 45.1	+1.0
MWH	**Mokuaweoweo**	**0.45 292**	Pg		15 30 38.0	-0.5
MWH			Sg		15 30 44.9	+0.4
MWH	**Mokuaweoweo**	**0.45 292**	IAML		15 30 47.1	
	comp=E,12μm,0.8s					
MWH			IAML		15 30 52.9	
	comp=N,5μm,0.9s					
ALEP	**Alea Permanent**	**0.51 296**	Pg		15 30 38.8	-0.8
ALEP			Sg		15 30 47.4	+1.0
POHA	**Pohakuloa**	**0.56 321**	Pg		15 30 39.5	-1.1
POHA			Sg		15 30 48.1	+0.1
POHA	**Pohakuloa**	**0.56 321**	IAML		15 30 51.4	
	comp=N,3μm,0.7s					
HUH	**Hualalai**	**0.74 300**	Pg		15 30 42.4	-1.5
HPAH	**Hawaii Prepara**	**0.88 324**	Pg		15 30 43.9	-2.7
HPAH	**Hawaii Prepara**	**0.88 324**	IAML		15 30 58.8	
	comp=E,2μm,0.2s					
HPAH			IAML		15 31 05.2	
	comp=N,1μm,1.0s					
MHA	**Mahukona**	**1.12 321**	Pg		15 30 47.5	-3.6
HLK	**Haleakala**	**1.76 325**	Pn	Pn	15 30 56.2	-4.9
KHLH	**Kahului Airpor**	**1.98 323**	Pn	Pn	15 30 58.2	-5.6
DHH	**Diamond Head**	**3.15 308**	Pn	Pn	15 31 13.9	-6.1
HON	**Honolulu**	**3.33 307**	Pn	Pn	15 31 16.9	-5.6
KIP	**Kipapa**	**3.40 308**	Pn	Pn	15 31 18.0	-5.5
KIP	**Kipapa**	**3.40 308**	IAML		15 31 56.4	
	comp=N,129nm,4.8s					
KIP			IAML		15 33 03.9	
	comp=N,133nm,4.2s					
KEKH	**Kekaha**	**5.02 303**	Pn	Pn	15 31 39.6	-6.2

*IDC **17** 15:30:42.2±2.1, 32°.95N×86°.23E, h0km, mb3.6/4, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=69.8km s-min=20.9km az=72.0*

ISC 17 15:30:46.8±1.9, 33°.0N±0°.2×86°.2E±0°.4, h35km, n7, σ0s76/7, mb3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.09**	**349**	Pn	**Pn**	**15 34 03.0**	**-0.9**
	0.1nm,0.3s,baz=160,slow=13,SNR=3.8						
	1.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.46**	**139**	P	**Pn**	**15 34 59.1**	**-0.7**
	0.4nm,0.3s,baz=321,slow=13,SNR=9.0						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**18.49**	**344**	P	**Pn**	**15 35 00.4**	**+0.4**
	3.0nm,0.9s,baz=158,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**20.96**	**358**	P	**P**	**15 35 27.1**	**+0.5**
	3.6nm,0.8s,baz=178,slow=11,SNR=16						
	3.6nm,0.8s						
SONM	**Songino Array**	**21.26**	**40**	P	**P**	**15 35 30.3**	**+0.3**
	3.6nm,1.0s,baz=230,slow=12,SNR=11						
	3.6nm,1.0s						
WRA	**Warramunga Arr**	**69.90**	**132**	P	**P**	**15 41 54.4**	**0.0**
	0.3nm,0.6s,baz=321,slow=6.0,SNR=2.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**72.42**	**135**	P	**P**	**15 42 10.3**	**+0.7**
	0.4nm,0.8s,baz=307,slow=4.9,SNR=5.7						
	0.4nm,0.8s						

PRU 17 15:31:39.4, 50°.07N×18°.40E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	**Steborice**	**0.43**	**252**	*e*PG	Pg	15 31 46.6	-1.0
STEB				*e*SG	Sg	15 31 53.3	+0.2
	comp=Z,10nm,0.6s						
MORC	**Moravsky Berou**	**0.63**	**242**	*e*PG	Pg	15 31 50.0	-1.4
MORC				*e*SG	Sg	15 31 58.5	-1.0
MAUC	**Maruska**	**0.80**	**208**	*e*SG	Sg	15 32 05.2	+0.2
KRLC	**Kraliky**	**1.04**	**271**	*e*SG	Sg	15 32 12.1	-0.8
	comp=Z,4.2nm,0.4s						
DPC	**Dobruska-Polom**	**1.36**	**283**	*e*SG	Sg	15 32 23.4	+0.2
	comp=Z,3.8nm,0.5s						
VRAC	**Vranov**	**1.40**	**238**	*e*SG	Sg	15 32 22.5	-1.8
KRUC	**Moravsky**	**1.65**	**233**	*e*SG	Sn	15 32 29.9	-1.6

*HVO **17** 15:32:29.6±0.9, 19°.33N±0°.01×155°.13W±0°.01, h6km±2km, Error ellipse: s-maj=2.7km s-min=0.4km az=141.0*

NEIC 17 15:32:30.2±0.9, 19°.343N±0°.007×155°.14W±0°.01, h8km±2km, ML2.8/42, ML3.0/27(HVO), Error ellipse: s-maj=1.5km s-min=0.9km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.04**	**326**	Pg	Pg	15 32 31.9	-0.1
STCH	**Steam Cracks**	**0.05**	**23**	Pg	Pg	15 32 31.7	-0.3
JCUZ	**Jacuzzi**	**0.06**	**44**		Pg	15 32 31.7	-0.4
JCUZ					Sg	15 32 33.4	-0.1
NPOC	**North of Pu'u**	**0.06**	**33**		Pg	15 32 31.8	-0.3
NPOC					Sg	15 32 33.5	-0.1
PUH	**Pauahi**	**0.07**	**294**		Pg	15 32 32.2	-0.2
PUH				IAML		15 32 34.4	
	comp=E,4μm,0.3s						
PUH				IAML		15 32 35.8	
	comp=N,4μm,0.5s						
PUH	**Pauahi**	**0.07**	**294**		Sg	15 32 34.3	+0.4
KKO	**Keanakako'i**	**0.13**	**295**		Pg	15 32 33.1	0.0
KKO					Sg	15 32 35.7	+0.6
BYL	**Byron's Ledge**	**0.13**	**302**		Pg	15 32 33.1	0.0
BYL					Sg	15 32 35.8	+0.6
BYL	**Byron's Ledge**	**0.13**	**302**	IAML		15 32 36.0	
	comp=N,4μm,0.3s						
BYL				IAML		15 32 38.3	
	comp=E,3μm,0.4s						
RIM	**Rim**	**0.13**	**293**		Pg	15 32 33.2	0.0
RIM					Sg	15 32 35.8	+0.5
HATHI	**Halema'uma'u T**	**0.14**	**306**		Pg	15 32 33.2	-0.1
HATHI				IAML		15 32 38.4	
	comp=E,2μm,0.7s						
HATHI	**Halema'uma'u T**	**0.14**	**306**		Sg	15 32 36.3	+0.9
SBLHI	**Steaming Bluff**	**0.14**	**306**		Pg	15 32 33.3	-0.1
SBLHI					Sg	15 32 36.2	+0.6
SDHHI	**Sand Hill**	**0.15**	**288**		Pg	15 32 33.4	0.0
SDHHI					Sg	15 32 36.3	+0.6
UWB	**Uwekahuna Bluf**	**0.15**	**303**		Pg	15 32 33.4	-0.1
UWB					Sg	15 32 36.2	+0.5
OBL	**Observatory Le**	**0.15**	**299**		Pg	15 32 33.5	0.0
OBL					Sg	15 32 36.3	+0.5
UWE	**Uwekahuna**	**0.16**	**299**		Pg	15 32 33.7	0.0
UWE					Sg	15 32 37.1	+1.0
UWE	**Uwekahuna**	**0.16**	**299**	IAML		15 32 39.1	
	comp=E,1μm,0.6s						
UWE				IAML		15 32 39.2	
	comp=N,2μm,0.7s						
WRMHI	**West Rim**	**0.16**	**293**		Pg	15 32 33.6	-0.1
WRMHI					Sg	15 32 36.9	+0.9
HLP	**Hilina Pali**	**0.16**	**253**		Pg	15 32 33.8	+0.1
HLP	**Hilina Pali**	**0.16**	**253**		Sg	15 32 37.0	+1.0
RSD	**Rainshed**	**0.17**	**313**		Pg	15 32 33.9	0.0
RSD					Sg	15 32 37.2	+0.7
RSD	**Rainshed**	**0.17**	**313**	IAML		15 32 38.6	
	comp=N,848nm,0.8s						
RSD				IAML		15 32 39.4	
	comp=E,819nm,0.2s						
HTC	**Hot Caves**	**0.26**	**246**		Pg	15 32 35.7	+0.2
MLH	**Mauna Loa**	**0.27**	**303**		Sb	15 32 41.1	-1.4
MLH	**Mauna Loa**	**0.27**	**303**		Pg	15 32 35.6	-0.1
MLH				IAML		15 32 41.9	
	comp=N,1μm,0.4s						
MLH				IAML		15 32 43.7	
	comp=E,989nm,0.2s						
AIN	**Ainahou**	**0.30**	**276**		Pg	15 32 36.1	-0.1
AIN					Sb	15 32 42.2	-0.9
AIN	**Ainahou**	**0.30**	**276**	IAML		15 32 42.7	
	comp=E,6μm,0.3s						
AIN				IAML		15 32 43.3	
	comp=N,6μm,0.3s						
HMH	**Humu'ula Sheep**	**0.41**	**309**		Pg	15 32 38.5	+0.1
HMH					Sg	15 32 44.7	+0.9
MWH	**Mokuaweoweo**	**0.45**	**288**		Sg	15 32 44.9	-0.2
MWH	**Mokuaweoweo**	**0.45**	**288**		Pg	15 32 38.9	-0.3
MWH				IAML		15 32 52.7	
	comp=E,2μm,0.9s						
MWH				IAML		15 32 54.2	
	comp=N,1μm,0.5s						
KHU	**Kahuku**	**0.46**	**258**		Pg	15 32 38.5	-0.6
KHU					Sg	15 32 45.9	+0.7
ALEP	**Alea Permanent**	**0.51**	**293**		Pg	15 32 39.5	-0.7
ALEP					Sg	15 32 48.0	+1.0
POHA	**Pohakuloa**	**0.55**	**318**		Sg	15 32 47.6	-0.6
POHA	**Pohakuloa**	**0.55**	**318**	Pg	Pg	15 32 40.2	-0.8
POHA				IAML		15 32 49.4	
	comp=N,1μm,0.7s						
POHA				IAML		15 32 53.3	
	comp=N,849nm,0.5s						
HUH	**Hualalai**	**0.74**	**298**		Pg	15 32 43.0	-1.5
HPAH	**Hawaii Prepara**	**0.86**	**323**	Pg	Pg	15 32 44.2	-2.6
HPAH				IAML		15 32 59.1	
	comp=N,303nm,0.3s						
MHA	**Mahukona**	**1.10**	**320**	Pg	Pg	15 32 47.7	-3.7

*NEIC **17** 15:33:07.9±0.8, 36°.549N±0°.007×97°.18W±0°.01, h10km±6km, mb_Lg2.4/15, ML2.6/31, ML2.7/77, Error ellipse: s-maj=1.6km s-min=0.9km az=60.0*

NEIC 17 15:33:07.8±0.7, 36°.55N±0°.01×97°.17W±0°.01, h9km±7km, Error ellipse: s-maj=1.6km s-min=1.3km az=208.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.21**	**351**		Pg	15 33 12.5	+0.3
BLOK					Sg	15 33 15.6	+0.5
OK048	**Pawnee Station**	**0.23**	**126**		Pg	15 33 12.9	+0.4
OK048				Sg	Sg	15 33 16.2	+0.6
OK051	**E0350 and S346**	**0.27**	**100**	Pg	Pg	15 33 13.8	+0.5
OK051				Sg	Sg	15 33 17.6	+0.6
OK051				IAML		15 33 18.6	
	1μm,0.1s						
KAN13	**South Haven SW**	**0.52**	**332**		Pg	15 33 18.1	+0.2
KAN13					Sg	15 33 25.3	+0.5
QUOK	**Quay**	**0.53**	**135**		Pg	15 33 18.5	+0.4
QUOK					Sg	15 33 25.5	+0.4
QUOK				IAML		15 33 25.8	
	comp=N,623nm,0.2s						
QUOK				IAML		15 33 25.8	
	comp=E,586nm,0.2s						
GC02	**Grant County #**	**0.63**	**299**		Pg	15 33 19.9	-0.1
GC02					Sg	15 33 28.3	+0.1
OK052	**Battle Ridge R**	**0.63**	**152**		Pg	15 33 20.2	+0.2
OK052					Sg	15 33 28.6	+0.4
OK052				IAML		15 33 30.7	
	comp=E,383nm,0.3s						
OK052				IAML		15 33 32.2	
	comp=E,401nm,0.5s						
T35A	**Sooner Cattle**	**0.64**	**55**		Pg	15 33 20.5	+0.2
T35A					Sg	15 33 29.0	+0.3
CROK	**Carrier**	**0.66**	**266**		Pg	15 33 20.3	-0.1
CROK				IAML		15 33 36.0	
	comp=N,442nm,0.3s						
CROK				IAML		15 33 37.9	
	comp=E,292nm,0.2s						
KAN14	**Manchester OK**	**0.75**	**303**		Pg	15 33 22.2	-0.2
KAN14					Sg	15 33 32.2	+0.1
KAN14				IAML		15 33 39.9	
	comp=E,337nm,0.1s						
KAN14				IAML		15 33 42.4	
	comp=N,215nm,0.1s						
KAN01	**Argonia South**	**0.76**	**322**		Pg	15 33 22.5	0.0
KAN01					Sg	15 33 32.6	+0.1
OK029	**Liberty Lake**	**0.79**	**197**		Pg	15 33 22.9	-0.1
OK029					Sg	15 33 33.5	+0.3
DEOK	**Depew**	**0.89**	**142**		Pg	15 33 24.9	-0.1
DEOK					Sb	15 33 37.4	-0.1
DEOK				IAML		15 33 38.8	
	comp=E,287nm,0.2s						
DEOK				IAML		15 33 38.9	
	comp=N,239nm,0.2s						
ADOK	**Arcadia Dam**	**0.91**	**190**		Pg	15 33 25.2	-0.1
KAN08	**Anthony NE Sta**	**0.93**	**317**		Pg	15 33 25.5	-0.2
KAN08					Sg	15 33 38.0	+0.2
BCOK	**Bluff Creek, N**	**0.96**	**202**		Pg	15 33 26.0	-0.3
BCOK					Sg	15 33 39.1	+0.4
OK004	**Okla Sci Mus**	**1.05**	**194**		Pg	15 33 28.0	-0.1
OKCFA	**Oklahoma City**	**1.16**	**191**		Pb	15 33 29.5	-0.5
OKCFA					Sn	15 33 45.8	-0.4
OKCSW	**OKLAHOMA CITY**	**1.16**	**191**		Pb	15 33 29.7	-0.4
OKCSW				IAML		15 33 49.4	
	comp=N,189nm,0.3s						
TUL3	**Leonard**	**1.29**	**119**		Pn	15 33 31.8	-0.2
TUL3					Sg	15 33 49.2	0.0
TUL3				IAML		15 33 55.5	
	comp=N,118nm,0.2s						
FNO	**Franklin**	**1.30**	**188**		Pn	15 33 32.0	-0.3
FNO					Sn	15 33 51.0	+1.1
FNO				IAML		15 33 52.5	
	comp=E,141nm,0.1s						
NOKA	**Waynoka**	**1.42**	**274**		Pn	15 33 33.9	+0.1
NOKA					Sg	15 33 53.4	-0.1
CSTR	**Hydro, Custer**	**1.53**	**234**		Pn	15 33 34.6	-0.7
RLO	**Rose Lookout**	**1.78**	**102**		Pn	15 33 39.2	+0.5
ELIS	**Ellis County**	**1.88**	**256**	Pn	Pn	15 33 39.8	-0.4
X34A	**Smith Ranch, M**	**2.02**	**196**		Pn	15 33 42.1	0.0
R32A	**Long Quarter,**	**2.23**	**327**	Pn	Pn	15 33 44.4	-0.6
WMOK	**Wichita Mounta**	**2.23**	**216**		Pn	15 33 44.2	-0.8
WMOK	**Wichita Mounta**	**2.23**	**216**	Pn	Pn	15 33 44.1	-0.9
WMOK				IAmb_Lg		15 34 24.6	
	comp=Z,9.3nm,0.8s						
U38A	**Gravette**	**2.25**	**92**		Pn	15 33 45.4	+0.2
U38A				IAmb_Lg		15 34 24.6	
	comp=Z,14nm,0.9s						
KSU1	**Kansas State U**	**2.58**	**10**	Pn	Pn	15 33 50.5	+0.6
HHAR	**Hobbs**	**2.62**	**95**		Pn	15 33 50.9	+0.5
WTFS	**Witchita Falls**	**2.97**	**201**	Pn	Pn	15 33 54.7	-0.5
CBKS	**Cedar Bluff**	**3.04**	**319**		Pn	15 33 56.2	0.0
Z35A	**Perchaven, San**	**3.21**	**181**	Pn	Pn	15 33 59.0	+0.5
MIAR	**Mount Ida**	**3.55**	**123**		Pn	15 34 02.9	-0.2
MIAR				IAmb_Lg		15 35 08.1	
	comp=Z,11nm,0.7s						
Z38A	**Mt. Pleasant**	**3.74**	**151**	Pn	Pn	15 34 04.8	-1.0
PLPT	**Palo Pinto**	**3.85**	**195**	Pn	Pn	15 34 06.4	-0.8
MGMO	**Mountain Grove**	**3.98**	**80**		Pn	15 34 08.2	-0.8
AMTX	**Amarillo**	**4.03**	**247**	Pn	Pn	15 34 07.8	-2.0
APMT	**Aspermont**	**4.03**	**218**	Pn	Pn	15 34 07.8	-1.9
X40A	**Basin Creek Fa**	**4.09**	**119**	Pn	Pn	15 34 09.4	-1.1
X40A				IAmb_Lg		15 35 19.8	
	comp=Z,9.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.13**	**98**	Pn	Pn	15 34 09.2	-2.0
WHAR	**Wooly Hollow**	**4.16**	**106**	Pn	Pn	15 34 09.3	-2.2
P38A	**Dawn**	**4.20**	**42**		Pn	15 34 09.3	-2.8
DKNS	**Dickens**	**4.21**	**228**		Pn	15 34 09.9	-2.4
R40A	**Maddies Statio**	**4.27**	**65**	Pn	Pn	15 34 12.1	-0.9
N35A	**Tabor**	**4.47**	**15**		Pn	15 34 14.8	-0.9
RTBA	**Rita Blanca**	**4.49**	**270**	Pn	Pn	15 34 15.7	-0.4
SN07	**Snyder 07**	**4.61**	**223**		Pn	15 34 15.6	-2.2
SN07				IAmb_Lg		15 35 42.8	
	comp=Z,6.1nm,0.9s						
LCAR	**Lake Charles**	**4.88**	**94**	Pn	Pn	15 34 22.3	+0.9
BGNE	**Belgrade**	**4.91**	**351**	IAmb_Lg		15 35 49.8	
	comp=Z,10.0nm,0.7s						
CCM	**Cathedral Cave**	**4.96**	**71**	Pn	Pn	15 34 21.6	-0.9
POST	**Post**	**4.98**	**227**	Pn	Pn	15 34 22.3	-0.5
P40A	**Paris**	**5.02**	**52**	Pn	Pn	15 34 23.1	-0.2
FVM	**French Village**	**5.57**	**73**	Pn	Pn	15 34 29.2	-1.6
T25A	**Trinidad**	**5.83**	**278**	Pn	Pn	15 34 33.5	-1.2
CGM3	**Cape Girardeau**	**6.07**	**81**	Pn	Pn	15 34 36.9	-0.8

ROM 17 15:33:33.9±0.1, 46°.142N±0°.007×11°.17E±0°.01, h0km, ML1.0/8, 5C, Error ellipse: s-maj=0.9km s-min=0.8km az=307.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANI	**Panarotta**	**0.15**	**128**	⇑*e*Pg	Pg	15 33 37.7	+0.9
PANI	**Panarotta**	**0.15**	**128**	P	Pg	15 33 37.7	+0.9
LUSI	**Trento, Gardas**	**0.24**	**221**	⇑P	Pg	15 33 39.7	+1.3
LUSI				AML	AML		
	comp=E,82μm,1.4s						
LUSI				AML	AML		
	comp=N,148μm,0.2s						
LUSI				AML	AML		
	comp=E,82μm,0.6s						
DOSS	**Dosso del Somm**	**0.26**	**177**	⇑*e*Pg	Pg	15 33 39.9	+1.0
DOSS	**Dosso del Somm**	**0.26**	**177**	P	Pg	15 33 39.9	+1.0
DOSS				AML	AML		
	comp=E,53μm,0.4s						
DOSS				AML	AML		
	comp=N,66μm,0.4s						
OZOL	**Ozolo**	**0.27**	**343**	⇑*e*Pg	Pb	15 33 40.6	-1.2
ZIAN	**Ziano**	**0.31**	**64**	⇑*e*Pg	Pg	15 33 40.7	+1.0
ZIAN	**Ziano**	**0.31**	**64**	P	Pg	15 33 40.7	+1.0
APPI	**Appiano**	**0.34**	**7**	P	Pb	15 33 41.6	-1.2
CTI	**Castel Tesino**	**0.35**	**106**	P	Pg	15 33 41.5	+0.9
CTI				AML	AML		
	comp=E,41μm,1.1s						
CTI				AML	AML		
	comp=N,42μm,1.3s						
CTI				AML	AML		
	comp=N,42μm,0.7s						
VARA	**Varagna**	**0.37**	**211**	*e*Pg	Pg	15 33 42.1	+1.2
VARA	**Varagna**	**0.37**	**211**	P	Pb	15 33 42.2	-1.1
CARE	**Lago del Cares**	**0.43**	**311**	*e*Pg	Pb	15 33 43.4	-1.1
CARE	**Lago del Cares**	**0.43**	**311**	P	Pb	15 33 43.4	-1.1
MABI	**Malga Bissina**	**0.46**	**259**	P	Pb	15 33 44.0	-1.0
MABI				AML	AML		
	comp=N,16μm,0.5s						
MABI				AML	AML		
	comp=E,12μm,0.6s						
MBAL	**Monte Baldo -**	**0.49**	**206**	P	Pb	15 33 44.5	-1.0
ROVR	**Rover Verones**	**0.50**	**188**	P	Pg	15 33 44.3	+0.9
CGRP	**Cima Grappa**	**0.51**	**121**	P	Pb	15 33 45.0	-0.9
VARN	**Col Varnada, M**	**0.67**	**103**	*e*Pg	Pb	15 33 48.0	-0.5
BRES	**Bressanone**	**0.68**	**35**	P	Pg	15 33 47.8	+0.8

*IDC **17** 15:56:20.8±1.4, 31°.41N×139°.21E, h0km, mb3.2/2, mbtmp3.3/4, ML2.7/2, MS2.9/1, Error ellipse: s-maj=68.8km s-min=20.2km az=90.0*

*JMA **17** 15:56:29.8±0.6, 32°.7N±3°.7×140°.8E±0°.9, h41km, MV3.1/12, NEAR TORISHIMA IS*

ISC 17 15:56:25.2±1.1, 31°.73N±0°.07×140°.8E±0°.1, h35km, n12, σ2s61/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.11**	**311**	*e*S	**Sn**	**15 57 00.1**	**+1.7**
JHJ2	**Mitsune**	**1.59**	**330**	P	**Pn**	**15 56 53.1**	**+2.3**
JHJ2				*e*S	**Sn**	**15 57 10.0**	**-0.1**
JHJ	**Hachijo jima 2**	**1.61**	**330**	Pn	**Pn**	**15 56 52.9**	**+1.9**
	23nm,0.3s,baz=53,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**15 57 07.9**	**-2.7**
	31nm,0.3s,baz=77,slow=23,SNR=6.4						
JMKN	**Mikurajimanish**	**2.36**	**336**	*e*P	**Pn**	**15 57 04.5**	**+3.0**
BSO1	**Boso 1**	**2.92**	**4**	P	**Pn**	**15 57 11.5**	**+2.9**
BSO3	**Boso 3**	**3.07**	**356**	*e*P	**Pn**	**15 57 13.9**	**+3.1**
TK02	**Tokai 2**	**3.35**	**312**	*e*P	**Pn**	**15 57 18.2**	**+3.4**
JCJ	**Chichijima**	**4.79**	**165**	Pn	**Pn**	**15 57 37.5**	**+2.6**
	1.1nm,0.3s,baz=306,slow=19,SNR=1.4						
JCJ				Sn	**Sn**	**15 58 28.5**	**-0.6**
	2.6nm,0.3s,baz=237,slow=20,SNR=1.

KDZV	Kedmat Zvi	1.03 192	S	Sn	15 57 07.8	-0.2
KSHT	Keshet	1.07 186	P	Pg	15 56 50.8	-0.6
KSHT	Keshet	1.07 186	S	Sn	15 57 08.6	-0.2
MMC7	Mount Meron ar	1.12 205	P	Pg	15 56 52.0	-0.5
MMA0B	Mount Meron ar	1.12 204	P	Pg	15 56 52.0	-0.5
MMA0B	Mount Meron ar	1.12 204	S	Sn	15 57 10.8	+0.6
HNTI	Hanita	1.16 214	P	Pg	15 56 52.6	-0.6
HNTI	Hanita	1.16 214	S	Sn	15 57 11.6	+0.6
GOLA	Golan Heights	1.35 191	P	Pg	15 56 55.2	-1.7
GOLA	Golan Heights	1.35 191	S	Sn	15 57 16.1	+0.3
OFRI	`Ofer	1.64 210	P	Pn	15 56 59.2	-1.8
OFRI	`Ofer	1.64 210	S	Sg	15 57 23.4	-0.1
MMLI	Mount Malkishu	1.66 196	P	Pn	15 56 59.5	-1.9
MMLI	Mount Malkishu	1.66 196	S	Sb	15 57 23.9	-0.1
HMDT	Nahal Hemdat	1.82 191	P	Pn	15 57 01.6	-2.0
HMDT	Nahal Hemdat	1.82 191	S	Sn	15 57 27.7	+0.3

IDC 17 16:13:19.9±2.6, 7°.55S×128°.13E, h0km, mb3.4/1, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=287.5km s-min=33.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.72	155	Pn	Pn	16 16 35.7	-0.1
	0.5nm,0.3s,baz=334,slow=13,SNR=20						
WRA				Sn	Sn	16 18 59.1	-10
	0.6nm,0.3s,baz=335,slow=22,SNR=9.1						
	0.7nm,0.4s						
ASAR	Alice Springs	16.96	162	Pn	Pn	16 17 18.9	+0.1
	0.3nm,0.3s,baz=336,slow=9.4,SNR=28						
ASAR				Sn	Sn	16 20 15.8	-12
	0.2nm,0.3s,baz=322,slow=21,SNR=4.8						
	1.7nm,0.7s						
MKAR	Makanchi Array	67.68	328	P	P	16 24 18.9	0.0
	0.2nm,0.5s,baz=130,slow=6.0,SNR=1.6						
	0.2nm,0.5s						

SNET 17 16:17:59.5±13.0, 14°.31N×90°.38W, h160km, ML3.1
GCG 17 16:18:01.1±0.5, 14°.28N×90°.40W, h166km±8km, MD3.8
CATAC 17 16:18:02.4±0.4, 14°N±4°×9°0W±°, h158km±3km, M3.2/17, MLv3.2/17, Error ellipse: s-maj=9.0km s-min=2.9km az=21.5, confirmed

ISC 17 16:18:03.7±1.8, 14°.30N±0°.06×90°.29W±0°.05, h159km±10km, n46, σ1°25/57, 3C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	Alotenango, Sa	0.21	262	eP	Pn	16 18 25.2	-0.1
FG16				eS	Sn	16 18 44.6	+2.8
FG8	Yepocapa, Chim	0.27	261	⇑eP	Pn	16 18 25.1	-0.3
ESSG	Sabana Grande	0.53	279	⇑eP	Pn	16 18 24.5	-1.8
ESSG				eS	Sn	16 18 44.1	+0.6
FAME	Alcaldia de Sa	0.53	150	P	Pn	16 18 24.8	-1.4
NUBE	Las Nubes	0.64	129	eP	Pn	16 18 24.7	-2.3
NUBE	Las Nubes	0.64	129	S	Sn	16 18 45.8	+1.1
NUBE	Las Nubes	0.64	129	P	Pn	16 18 26.1	-0.8
APG	El Apazote	0.72	347	⇓iP	Pn	16 18 26.8	-0.7
APG				eS	Sn	16 18 46.2	+0.3
CEVE	Cerro Verde	0.80	126	eP	Pn	16 18 27.9	-0.3
CEVE				eS	Sn	16 18 45.3	-1.5
CEVE	Cerro Verde	0.80	126	S	Sn	16 18 47.3	+0.5
CEVE	Cerro Verde	0.80	126	P	Pn	16 18 27.8	-0.4
MTO3	Montecristo	0.91	84	⇓iP	Pn	16 18 28.1	-0.7
MTO3				eS	Sn	16 18 48.8	+0.8
MTO3	Montecristo	0.91	84	P	Pn	16 18 28.2	-0.7
ESQI	Esquipulas	0.95	74	eS	Pn	16 18 28.9	-0.2
ESQI	Esquipulas	0.95	74	S	Sn	16 18 47.8	-0.6
ESQI	Esquipulas	0.95	74	P	Pn	16 18 28.8	-0.2
JAYA	Jayaque - finc	1.04	128	eP	Pn	16 18 28.8	-1.0
JAYA				eS	Sn	16 18 48.6	-1.2
JAYA	Jayaque - finc	1.04	128	⇑eP	Pn	16 18 28.8	-1.0
JAYA				eS	Sn	16 18 50.0	+0.2
JAYA	Jayaque - finc	1.04	128	P	Pn	16 18 28.9	-1.0
STG2	El Palmar, Qui	1.06	277	eP	Pn	16 18 30.3	+0.3
STG2				eS	Sn	16 18 55.4	+5.4
PMON	Piamonte	1.12	122	P	Pn	16 18 29.9	-0.6
PMON	Piamonte	1.12	122	S	Sn	16 18 50.9	0.0
LALI	Alcalda de L	1.24	131	eS	Sn	16 18 53.9	+1.2
LALI	Alcalda de L	1.24	131	S	Sn	16 18 52.8	+0.1
LALI	Alcalda de L	1.24	131	P	Pn	16 18 30.8	-0.6
LOMA	Loma Larga	1.27	121	P	Pn	16 18 31.2	-0.6
LLGN	La Laguna	1.31	96	P	Pn	16 18 31.4	-0.8
LFRS	El Faro	1.37	119	eP	Pn	16 18 32.0	-0.7
RTAL	Retalhuleu	1.38	279	P	Pn	16 18 30.6	-2.1
RTAL	Retalhuleu	1.38	279	S	Sn	16 18 53.3	-1.7
PAVA	Las Pavas	1.44	114	P	Pn	16 18 32.8	-0.6
PAVA	Las Pavas	1.44	114	S	Sn	16 18 57.1	+0.8
SARH	Santa Rosa de	1.56	72	⇓iP	Pn	16 18 34.4	-0.1
SARH				eS	Sn	16 19 00.4	+2.1
SARH	Santa Rosa de	1.56	72	P	Pn	16 18 34.5	-0.1
SARH	Santa Rosa de	1.56	72	S	Sn	16 18 58.1	-0.2
TECO	Alcaldia de Te	1.65	117	S	Sn	16 19 00.8	+0.8
PACA	Pacayal	2.08	113	S	Sn	16 19 09.8	+1.0
PACA	Pacayal	2.08	113	P	Pn	16 18 40.0	-0.5
INTHN	La Esperanza I	2.12	89	S	Sn	16 19 09.6	-0.2
INTHN	La Esperanza I	2.12	89	P	Pn	16 18 40.5	-0.5
CNCH	Conchagua	2.60	113	S	Sn	16 19 20.6	+0.9
PETF	Flores	2.63	9	P	Pn	16 18 45.8	-1.0
CSGN	Cosiguina Volc	2.97	116	P	Pn	16 18 51.4	+0.3
CSGN				S	Sn	16 19 28.8	+1.0
YUSH	Yuscaran	3.36	96	P	Pn	16 18 55.1	-1.0
PKGN	Cerro Pekin	3.61	116	P	Pn	16 18 59.4	+0.3
PKGN				S	Sn	16 19 42.8	+0.6
COPN	Copaltepe	4.17	120	P	Pn	16 19 06.2	-0.3

IDC 17 16:41:52.1±1.5, 23°.54N×126°.16E, h0km, mb3.3/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=53.3km s-min=27.6km az=82.0
JMA 17 16:41:55.6±0.3, 24°N±2°×12°6E±°, h107km, MV3.0/18, NEAR MIYAKOJIMA ISLAND

ISC 17 16:41:54.1±2.8, 23°.7N±0°.3×125°.9E±0°.2, h102km±49km, n19, σ1°06/25, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	1.21	336	P	Pn	16 42 17.8	+0.8
JOGS				S	Sn	16 42 34.0	-0.2
JMJ2	Miyako jima3	1.22	333	P	Pn	16 42 17.6	+0.4
JMJ2				S	Sn	16 42 34.3	-0.3
JIRB	Irabujima	1.36	329	P	Pn	16 42 19.2	+0.4
JIRB				eS	Sn	16 42 36.3	-1.3
JIKM	Ikemajima	1.42	334	P	Pn	16 42 20.3	+0.8
JIKM				S	Sn	16 42 39.7	+1.1
JTJ	Tarama	1.50	311	P	Pn	16 42 20.8	+0.3
JTJ				S	Sn	16 42 39.1	-1.4
JISG	Ishigakijimahi	1.76	302	P	Pn	16 42 24.5	+0.9
JISG				eS	Sn	16 42 45.6	-0.6
JIJ	Ishigaki jima	1.79	294	P	Pn	16 42 24.7	+0.6
JIJ				eS	Sn	16 42 46.2	-0.8
JKRS	Kuro-shima	1.86	289	eP	Pn	16 42 25.9	+0.9
JKRS				S	Sn	16 42 47.4	-1.1
HATJ	Hateruma jima	2.00	282	eS	Sn	16 42 50.1	-1.5
IRIF	Iriomote-Funau	2.13	289	P	Pn	16 42 29.5	+1.0
JKE	Kume jima 2	2.77	16	P	Pn	16 42 38.1	+1.2
JJT3	Tamagusuku3	2.99	34	eP	Pn	16 42 40.5	+0.7
JNTH	Nagotoyohara	3.42	33	eP	Pn	16 42 46.0	+0.5
JOW	Kunigami	3.81	33	Pn	Pn	16 42 51.4	+0.6
	5.4nm,0.3s,baz=176,slow=16,SNR=21						
JOW				Sn	Sn	16 43 32.3	-2.3
	1.0nm,0.3s,baz=97,slow=15,SNR=1.5						
	11nm,0.3s						
JOW	Kunigami	3.81	33	eP	Pn	16 42 51.6	+0.8
JIH	Iheya	3.83	28	P	Pn	16 42 52.0	+0.9
MKAR	Makanchi Array	41.78	315	P	P	16 49 45.3	+12
	1.1nm,1.0s,baz=106,slow=8.4,SNR=2.9						
	1.1nm,1.0s						
WRA	Warramunga Arr	44.10	169	P	P	16 50 00.6	+8.2
	0.3nm,0.6s,baz=347,slow=8.1,SNR=1.8						
	0.3nm,0.6s						
ASAR	Alice Springs	47.67	170	P	P	16 50 29.6	+9.2
	0.2nm,0.8s,baz=345,slow=7.6,SNR=1.9						
	0.2nm,0.8s						

SOME 17 16:43:47.2, 42°.22N×80°.55E, h15km
KRNET 17 16:43:50.8±0.1, 42°.27N×80°.43E, mb3.1

ISC 17 16:43:44.9±3.2, 42°.14N±0°.08×80°.6E±0°.1, h9km±13km, n15, σ2°62/29, 14C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.33	320	eP	Pn	16 44 07.3	-2.5
	15nm,0.1s						
SHLS				eS	Sb	16 44 22.2	-5.0
	113nm,0.2s						
UZB	Uzynbulak	1.55	311	eP	Pb	16 44 14.7	+0.8
	3.3nm,0.1s						
UZB				eS	Sg	16 44 34.6	-0.2
	12nm,0.1s						
PRZ	Przheval'sk	1.68	282	⇑iP	Pg	16 44 19.5	+2.3
PRZ				⇑iS	Sg	16 44 40.3	+1.3
KDJ	Kajisay	2.56	271	⇑iP	Pb	16 44 33.4	+2.3
KDJ				⇑iS	Sb	16 45 04.8	+2.1
KOTS	Kotyrbulak	2.81	294	eP	Pb	16 44 37.6	+2.3
	2.2nm,0.1s						
KOTS				eS	Sg	16 45 13.8	-1.3
	25nm,0.3s						
TNSS	Tian-Shan	2.85	289	eP	Pb	16 44 38.3	+2.0
	0.7nm,0.1s						
TNSS				eS	Sg	16 45 15.1	-1.6
	1.9nm,0.2s						
ARXS	Arharly	2.91	316	eP	Pb	16 44 38.1	+1.1
ARXS				eS	Sb	16 45 14.6	+2.0
CHKK	Chushkaly	3.17	304	eP	Pb	16 44 43.3	+2.0
	2.0nm,0.1s						
CHKK				eS	Sg	16 45 23.6	-3.0
	11nm,0.3s						
MTBS	Maitube	3.25	289	eP	Pb	16 44 44.6	+1.9
	2.7nm,0.1s						
MTBS				eS	Sg	16 45 25.9	-3.3
	11nm,0.2s						
ULHL	Ulahol	3.25	273	⇑iP	Pb	16 44 43.4	+0.4
ULHL				⇑iS	Sb	16 45 21.7	-1.1
BOOM	Boomskoye usch	3.49	277	⇑iP	Pb	16 44 46.5	-0.4
BOOM				⇑iS	Sb	16 45 26.9	-2.5
KST	Kastek	3.55	286	eP	Pb	16 44 51.2	+3.2
	2.0nm,0.1s						
KST				eS	Sg	16 45 37.3	-1.7
	5.9nm,0.2s						
TKM2	Tokmak 2	3.79	284	⇑iP	Pb	16 44 50.5	-1.6
TKM2				⇑iS	Sb	16 45 34.2	-4.1
JNKS	Jany-Kuch	3.88	255	⇑iP	Pb	16 44 52.5	-1.1
JNKS				⇑iS	Sb	16 45 37.7	-3.1
AAK	Ala-Archa	4.56	278	⇑iP	Pb	16 45 01.2	-4.1
AAK				⇑iS	Sn	16 45 52.6	+5.1

KRSC 17 16:56:42.9±1.7, 50°.37N×157°.24E, h47km±23km, Ml4.2
MOS 17 16:56:44.6±0.7, 50°.44N×156°.84E, h69km, mb4.3/3, Error ellipse: s-maj=15.3km s-min=4.1km az=78.5
IDC 17 16:56:48.2±2.5, 50.63N×156°.86E, h80km±22km, mb3.4/10, mbtmp3.8/14, Error ellipse: s-maj=24.1km s-min=15.8km az=138.0

ISC 17 16:56:44.9±1.3, 50°.35N±0°.08×157°.06E±0°.07, h56km±11km, n85, σ1°34/99, mb3.7/12, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.69	300	⇓iPN	Pn	16 56 57.9	-0.9
SKR				iS	Sn	16 57 08.0	-0.9
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax	smax		
	comp=E,6μm,0.2s						
SKR				smax	smax		
	comp=N,12μm,0.7s						
SKR	Severo-Kuril's	0.69	300	eP	Pn	16 56 57.9	-0.9
SKR				eS	Sn	16 57 07.9	-0.9
PAU	Pauzhetka	1.13	352	PN	Pn	16 57 04.2	-0.3
PAU				S	Sn	16 57 18.8	-0.3
PAU	Pauzhetka	1.13	352	eP	Pn	16 57 04.1	-0.4
PAU				eS	Sn	16 57 18.7	-0.3
MIPR	Malaya Ipel'ka	1.94	355	eP	Pn	16 57 15.9	+0.5
ASAK	Asacha	2.10	14	PN	Pn	16 57 18.7	+1.0
ASAK	Asacha	2.10	14	eP	Pn	16 57 18.8	+1.0
MTVR	Mutnovka	2.25	18	PN	Pn	16 57 19.6	-0.2
MTVR	Mutnovka	2.25	18	eP	Pn	16 57 20.0	+0.2
MTVR				eS	Sn	16 57 46.7	+0.2
RUS	Russkaya	2.28	23	PN	Pn	16 57 19.4	-0.6
RUS				S	Sn	16 57 44.5	-2.4
RUS	Russkaya	2.28	23	eP	Pn	16 57 19.4	-0.6
RUS				eS	Sn	16 57 44.6	-2.4
GRL	Gorelyy	2.30	16	PN	Pn	16 57 20.5	+0.1
GRL				S	Sn	16 57 47.8	+0.2
GRL	Gorelyy	2.30	16	eP	Pn	16 57 20.6	+0.2
GRL				eS	Sn	16 57 47.5	0.0
KRMR	Karymshinskiy	2.57	15	PN	Pn	16 57 24.9	+0.9
KRMR	Karymshinskiy	2.57	15	eP	Pn	16 57 24.9	+0.9
KRMR				eS	Sn	16 57 54.8	+0.7
APC	Apacha	2.58	1	PN	Pn	16 57 25.0	+0.8
APC	Apacha	2.58	1	eP	Pn	16 57 25.0	+0.8
PEA0B	Petropavlovsk-	2.79	8	d iPN	Pn	16 57 27.7	+0.6
PETK	Petropavlovsk-	2.79	8	P	Pn	16 57 26.9	-0.2
	comp=N,9.9nm,0.4s,baz=289,slow=15,SNR=103						
PETK				S	Sn	16 58 04.1	+4.6
	comp=N,8.6nm,0.5s,baz=192,slow=20,SNR=1.7						
PET	Petropavlovsk	2.86	20	ePN	Pn	16 57 27.1	-0.8
PET				eS	Sn	16 58 00.4	-0.7
PET				pmax	pmax		
	comp=Z,47nm,0.5s						
PET				smax	smax		
	comp=E,142nm,0.6s						
PET				smax	smax		
	comp=N,181nm,0.5s						
PET	Petropavlovsk	2.86	20	eP	Pn	16 57 28.6	+0.6
DALK	Dalny	2.89	21	PN	Pn	16 57 28.2	-0.1
DALK				S	Sn	16 58 00.8	-1.0
DALK	Dalny	2.89	21	eP	Pn	16 57 28.2	-0.1
DALK				eS	Sn	16 58 00.9	-1.0
INSR	Institute	2.89	19	PN	Pn	16 57 28.9	+0.5
INSR				S	Sn	16 58 02.3	+0.5
INSR	Institute	2.89	19	eP	Pn	16 57 29.0	+0.7
INSR				eS	Sn	16 58 01.9	+0.1
AVH	Avacha	3.10	19	PN	Pn	16 57 32.3	+0.9
AVH				S	Sn	16 58 08.4	+1.2
AVH	Avacha	3.10	19	eP	Pn	16 57 32.7	+1.3
KOK	Koryaka	3.11	18	PN	Pn	16 57 33.1	+1.7
KOK	Koryaka	3.11	18	eP	Pn	16 57 33.2	+1.7
SMAR	Somma	3.11	20	PN	Pn	16 57 32.5	+0.8
SMAR	Somma	3.11	20	eP	Pn	16 57 32.2	+0.6
KRER	Koryakskii	3.14	19	PN	Pn	16 57 33.1	+1.1
KRER	Koryakskii	3.14	19	eP	Pn	16 57 33.3	+1.2
SDLR	Sedlovina	3.15	20	PN	Pn	16 57 33.4	+1.4
SDLR	Sedlovina	3.15	20	eP	Pn	16 57 32.7	+0.7
NLC	Nalytchevo	3.16	26	eP	Pn	16 57 32.0	-0.1
KRX	Arik	3.17	17	PN	Pn	16 57 33.6	+1.2
KRX				S	Sn	16 58 11.9	+2.8
KRX	Arik	3.17	17	eP	Pn	16 57 33.7	+1.2
KRX				eS	Sn	16 58 12.2	+3.1
SPN	Mys Shipunski	3.31	33	PN	Pn	16 57 33.9	-0.3
SPN				S	Sn	16 58 10.3	-2.0
SPN	Mys Shipunski	3.31	33	eP	Pn	16 57 34.2	+0.1
GNL	Ganaly	3.40	9	PN	Pn	16 57 37.0	+1.6
GNL	Ganaly	3.40	9	eP	Pn	16 57 37.1	+1.7
KII	Karymskiy	3.98	21	PN	Pn	16 57 45.2	+1.9
KII	Karymskiy	3.98	21	eP	Pn	16 57 45.8	+2.5
MKZ	Mys Kozlova	5.09	32	PN	Pn	16 57 57.8	-0.7
MKZ	Mys Kozlova	5.09	32	eP	Pn	16 57 58.0	-0.5
KZV	Kizimen	5.16	21	PN	Pn	16 58 01.2	+1.5
KZV	Kizimen	5.16	21	eP	Pn	16 58 01.1	+1.5
TUMD	Tumrok D	5.27	21	PN	Pn	16 58 02.1	+1.1
TUMD	Tumrok D	5.27	21	eP	Pn	16 58 02.3	+1.3
TUMR	Tumrok	5.29	20	PN	Pn	16 58 03.5	+2.2
TUMR	Tumrok	5.29	20	eP	Pn	16 58 03.0	+1.8
ESO	Esso	5.67	9	PN	Pn	16 58 07.2	+0.7
ESO	Esso	5.67	9	eP	Pn	16 58 08.5	+2.0
KPT	Kopyto	5.94	17	PN	Pn	16 58 11.8	+1.6
KPT	Kopyto	5.94	17	eP	Pn	16 58 12.8	+2.6
KBTR	Krutoberegovo	6.81	28	eP	Pn	16 58 22.0	-0.1
MA2	Magadan	9.92	341	P	Pn	16 59 04.6	0.0
	comp=N,4.0nm,0.3s,baz=154,slow=18,SNR=9.5						
MA2	Magadan	9.92	341	⇑ePN	Pn	16 59 04.5	-0.1
YSS	Yuzhno-Sakhali	10.06	256	ePN	Pn	16 59 07.7	+1.2
ASAJ	Asahikawa	11.63	243	P	Pn	16 59 29.7	+1.7
	comp=N,8.9nm,1.0s,baz=22,slow=11,SNR=5.2						
SEY	Seymchan	12.87	350	P	Pn	16 59 46.5	+1.7
	comp=N,1.8nm,0.9s,baz=207,slow=17,SNR=2.7						
YAK	Yakutsk	19.03	318	⇓eP	Pn	17 01 01.3	-1.8
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MJAR	Matsushiro Arr	19.36	232	P	Pn	17 01 09.7	+2.4
	comp=Z,0.8nm,0.5s,baz=35,slow=9.2,SNR=2.2						
MAJO	Matsushiro	19.36	232	⇑eP	P	17 01 04.9	-0.8
MAJO				pmax	pmax		
	comp=Z,23nm,2.0s						
H11N2	WAKE ISLAND Hy	31.54	162	T	T	17 36 37.2	
	baz=348,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy	31.55	162	T	T	17 36 38.4	
	baz=348,slow=76,SNR=71						
H11N1	WAKE ISLAND Hy	31.55	162	T	T	17 36 40.0	
	baz=348,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	32.69	163	T	T	17 38 02.1	
	baz=348,slow=76,SNR=129						
H11S3	WAKE ISLAND Hy	32.70	163	T	T	17 38 03.8	
	baz=348,slow=76,SNR=200						
H11S2	WAKE ISLAND Hy	32.71	163	T	T	17 38 06.2	
	baz=348,slow=76,SNR=136						
KURK	Kurchatov	47.60	302	⇑eP	P	17 05 14.1	-0.6
KURK				pmax	pmax		
	comp=Z,5.0nm,2.3s						
MK31	Makanchi Array	47.66	296	⇓eP	P	17 05 13.6	-1.7
MKAR	Makanchi Array	47.66	296	P	P	17 05 13.7	-1.7
	comp=Z,0.2nm,0.3s,baz=60,slow=6.7,SNR=5.5						
	comp=Z,0.2nm,0.3s						
KURBB	Kurchatov Arra	47.70	302	P	P	17 05 13.6	-1.9
	comp=Z,0.2nm,0.3s,baz=63,slow=8.2,SNR=2.8						
	comp=Z,0.2nm,0.3s						
SPITS	Spitsbergen Ar	49.52	350	P	P	17 05 28.4	-0.8
	comp=Z,5.3nm,1.0s,baz=123,slow=5.3,SNR=1.0						
	comp=Z,5.3nm,1.0s						
CMAR	Chiang Mai Arr	55.75	257	P	P	17 06 17.1	+1.2
	comp=Z,0.9nm,0.6s,baz=39,slow=7.5,SNR=9.7						
	comp=Z,0.9nm,0.6s						
CMAR	Chiang Mai Arr	55.75	257	i P	P	17 06 16.6	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	Mina Array Bea	58.51	66	P	P	17 06 35.4	-0.1
	comp=Z,0.3nm,0.5s,baz=314,slow=4.9,SNR=2.0						
	comp=Z,0.3nm,0.5s						
PDAR	Pinedale Array	60.55	58	P	P	17 06 50.7	+1.2
	comp=Z,0.5nm,0.8s,baz=158,slow=0.8,SNR=4.1						
	comp=Z,0.5nm,0.8s						
OBN	Obninsk	63.79	327	eP	P	17 07 10.0	-0.5
OBN				e		17 07 46.5	
OBN				e		17 09 28.8	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	Hagfors	65.96	341	P	P	17 07 22.7	-1.9
	comp=Z,1.7nm,0.9s,baz=106,slow=3.1,SNR=6.2						
	comp=Z,1.7nm,0.9s						
EKA	Eskdalemuir Ar	73.40	348	P	P	17 08 09.2	-1.3
	comp=Z,0.2nm,0.3s,baz=20,slow=5.4,SNR=4.8						
	comp=Z,0.2nm,0.3s						
TXAR	Lajitas Array	73.50	64	P	P	17 08 12.6	+1.0
	comp=Z,0.4nm,0.5s,baz=294,slow=4.3,SNR=5.6						
	comp=Z,0.4nm,0.5s						
ASAR	Alice Springs	76.49	202	P	P	17 08 29.9	+1.3
	comp=Z,0.4nm,0.6s,baz=9.8,slow=5.0,SNR=9.7						
	comp=Z,0.4nm,0.6s						

SJA 17 16:58:23.5±0.7, 46°.28S×68°.73W, h15km, ML5.0, MW5.0
NEIC 17 16:58:28.6, 46°.60S×69°.22W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.97; $M_{\theta\theta}$=2.22; $M_{\phi\phi}$=-1.25; $M_{r\theta}$=1.42; $M_{\theta\phi}$=0.16; $M_{\phi r}$=0.03; Fault plane solution: M_0=2.40000×10^{16} NP1: ϕ_s=298.01000°, δ=27.87000°, λ=-54.69000°. NP2: ϕ_s=79.32000°, δ=67.58000°, λ=-106.99000°. Principal axes: T 2.7684, Plg21.0000°, Azm182.0000°; N -1.2270, Plg16.0000°, Azm86.0000°; P -1.5414, Plg63.0000°, Azm322.0000°;
NEIC 17 16:58:28.6, 46°.40S×69°.08W, h12km
NEIC 17 16:58:28.6±1.4, 46°.40S±0°.05×69°.07W±0°.05, h10km±1km, mb4.5/23, Mww4.9/29, Error ellipse: s-maj=9.6km s-min=4.3km az=332.0
IDC 17 16:58:28.0±0.9, 46°.35S×68°.73W, h0km, mb3.9/5, mbtmp4.0/7, ML4.0/2, MS4.2/29, Error ellipse: s-maj=52.3km s-min=13.7km az=83.0
GCMT 17 16:58:32.6±0.3, 46°.51S±0°.01×68°.89W±0°.04, h12km, MW4.8/84, Moment Tensor Solution. s20,c21; s84,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.89±.09; $M_{\theta\theta}$2.37±.05; $M_{\phi\phi}$-1.48±.09; $M_{r\theta}$-0.30±.21; $M_{\theta\phi}$0.04±.07; $M_{\phi r}$-1.00±.29; Best double couple: M_0=2.31600×10^{16} NP1: ϕ_s308.00000°, δ60.00000°, λ-24.00000°. NP2: ϕ_s51.00000°, δ69.00000°, λ-148.00000°. Principal axes: T 2.4030, Plg6.0000°, Azm178.0000°; N -0.1750, Plg52.0000°, Azm80.0000°; P -2.2300, Plg37.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 16:58:28.6±0.5, 46°.42S±0°.04×69°.04W±0°.07, h10km, n86, σ1°26/66, mb4.4/16, MS4.2/26, 1C-3D, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	Coyhaique	2.28	291	Pn	Pn	16 59 04.8	-1.5
COYC	Coyhaique	2.28	291	eP	Pn	16 59 05.2	-1.0
AY03	Cochrane	2.57	250	Pn	Pn	16 59 09.7	-0.6
GO08	Villa O'Higgin	3.14	228	i P	Pn	16 59 18.1	+0.1
GO08				eS	Sb	16 59 59.9	-2.9
LL02	Futaleuf	3.80	327	Pn	Pn	16 59 26.1	-1.0
LL02	Futaleuf	3.80	327	eP	Pn	16 59 26.2	-0.9
LL02				i S	Sb	17 00 18.2	-3.5

comp=Z,225nm,18.9s,baz=62,slow=37
comp=Z,2.4nm,0.8s
PB10 IPOC Station P 22.89 356 P P 17 03 31.6 -0.7
PB03 IPOC Station P 24.32 358 P **P 17 03 46.6 +0.1**
PB03 IAmb IAmb 17 04 12.7
comp=Z,11nm,1.0s
PB09 IPOC Station P 24.57 360 P **P 17 03 47.8 -1.0**
PB01 IPOC Station P 25.32 359 P **P 17 03 56.0 +0.6**
PB01 IAmb IAmb 17 03 59.9
comp=Z,8.2nm,1.0s
PB08 IPOC Station P 26.21 360 P **P 17 04 02.5 -1.4**
PB08 IAmb IAmb 17 04 09.1
comp=Z,9.1nm,1.2s
PB11 IPOC Station P 26.59 359 P **P 17 04 06.8 -0.3**
GO01 Chusmiza 26.68 360 P **P 17 04 07.6 -0.7**
GO01 IAmb IAmb 17 04 10.8
comp=Z,9.5nm,0.9s
PB12 IPOC Station P 27.75 357 P **P 17 04 17.0 -0.4**
PB12 IAmb IAmb 17 04 27.5
comp=Z,17nm,1.1s
PB16 IPOC Station P 28.01 359 P **P 17 04 18.3 -2.0**
LPAZ La Paz 30.05 2 P **P 17 04 37.9 -0.6**
LPAZ La Paz 30.05 2 P **P 17 04 39.2 +0.7**
comp=Z,1.9nm,0.8s,baz=156,slow=5.8,SNR=5.9
LPAZ LR LR 17 17 38.0
comp=Z,795nm,19.1s,baz=140,slow=38
comp=Z,1.9nm,0.8s
BELA Belgrano 2 34.27 168 P **P 17 05 14.5 +0.3**
NNA Nana 34.95 347 LR LR 17 17 29.6
comp=Z,448nm,20.0s,baz=172,slow=33
BDFB Brasilia 35.35 37 LR LR 17 21 55.6
comp=Z,590nm,19.4s,baz=194,slow=40
RPN Rapa Nui 37.08 287 LR LR 17 17 16.5
comp=Z,294nm,21.5s,baz=56,slow=30
VNA3 Neumayer Olymp 37.13 153 ⇓P **P 17 05 38.6 -0.3**
comp=Z,0.9nm,0.7s
VNA1 Neumayer--Stat 37.50 151 ⇓P **P 17 05 40.9 -1.0**
comp=Z,3.4nm,1.0s
VNA2 Neumayer--Watz 37.82 152 ⇓P **P 17 05 40.9 -3.8**
comp=Z,2.9nm,0.8s,baz=279,slow=7.8
SNAA Sanae 39.35 153 ⇑P **P 17 05 57.8 +0.2**
comp=Z,43nm,0.7s
SNAA Sanae 39.35 153 P **P 17 05 56.6 -1.0**
SNAA IAmb IAmb 17 06 13.9
comp=Z,10nm,1.3s
SNAA Sanae 39.35 153 P **P 17 05 57.0 -0.6**
comp=Z,3.5nm,1.0s,baz=255,slow=11,SNR=7.7
SNAA LR LR 17 20 54.8
comp=Z,380nm,19.5s,baz=13,slow=34
comp=Z,3.5nm,1.0s
ATAH Atahualpa 39.96 345 LR LR 17 20 11.6
comp=Z,343nm,19.5s,baz=178,slow=33
QSPA South Pole Qui 43.83 180 P **P 17 06 34.4 -0.1**
QSPA IAmb IAmb 17 06 51.9
comp=Z,26nm,1.8s
QSPA South Pole Qui 43.83 180 P **P 17 06 37.1 +2.6**
comp=Z,4.2nm,0.9s,baz=157,slow=2.1,SNR=13
QSPA LR LR 17 24 53.8
comp=Z,421nm,18.8s,baz=170,slow=36
comp=Z,4.2nm,0.9s
COHC Cochancay 44.68 345 P **P 17 06 41.0 -0.5**
FLOC Florencia 48.16 351 P **P 17 07 08.3 -0.6**
FLOC IAmb IAmb 17 07 25.0
comp=Z,4.1nm,0.6s
BOAV Boa Vista 49.19 11 P **P 17 07 16.1 -0.7**
BOAV IAmb IAmb 17 07 18.7
comp=Z,5.9nm,1.0s
SBA Scott Base 51.44 193 P **P 17 07 35.3 +2.1**
SBA IAmb IAmb 17 07 46.6
comp=Z,20nm,1.9s
VNDA Vanda 52.42 192 LR LR 17 27 08.7
comp=Z,334nm,21.2s,baz=127,slow=33
SDV Santo Domingo 55.07 358 LR LR 17 34 30.3
comp=Z,331nm,20.7s,baz=171,slow=39
JTS Las Juntas de 58.23 341 LR LR 17 28 30.3
comp=Z,102nm,19.8s,baz=141,slow=31
MAW Mawson 60.67 161 LR LR 17 34 48.7
comp=Z,335nm,19.9s,baz=233,slow=36
SJG San Juan 64.28 3 LR LR 17 41 14.5
comp=Z,203nm,18.0s,baz=154,slow=40
CMIG Matias Romero 67.39 333 LR LR 17 33 18.9
comp=Z,103nm,19.3s,baz=181,slow=31
TLIG Tlapa 69.04 330 P **P 17 09 35.7 +1.2**
PPT2 Papeete2 71.01 264 *e*LR LR 17 31 14.1
comp=Z,144nm,22.2s
PPT2 *e*LR LR 17 31 17.9
comp=Z,186nm,23.0s
PPT Papeete 71.02 264 LR LR 17 33 06.9
comp=Z,155nm,19.4s,baz=157,slow=29
BOSA Boshof 72.64 113 P **P 17 09 56.8 +0.3**
BOSA Boshof 72.64 113 LR LR 17 38 51.6
comp=Z,139nm,18.5s,baz=206,slow=33
LBTB Lobatse 75.35 111 P **P 17 10 11.3 -1.1**
LBTB Lobatse 75.35 111 LR LR 17 40 49.8
comp=Z,99nm,18.3s,baz=214,slow=34
RAR Rarotonga 75.43 255 P **P 17 10 11.7 -1.0**
BBTS Babate 76.94 52 LR LR 17 42 58.5
comp=Z,96nm,20.1s,baz=134,slow=35
URZ Urewera 76.99 228 LR LR 17 39 28.0
comp=Z,66nm,18.4s,baz=119,slow=32
LPIG La Paz 79.52 322 LR LR 17 38 56.5
comp=Z,178nm,18.5s,baz=165,slow=30
MATP Matopo 80.48 109 LR LR 17 45 46.7
comp=Z,76nm,18.0s,baz=211,slow=35
TXAR Lajitas Array 81.66 330 P **P 17 10 48.7 +1.9**
comp=Z,0.3nm,0.7s,baz=142,slow=5.2,SNR=1.7
TXAR LR LR 17 42 19.1
comp=Z,74nm,18.2s,baz=130,slow=32
comp=Z,0.3nm,0.7s
ANMO Albuquerque 87.73 330 LR LR 17 44 28.0
comp=Z,130nm,20.1s,baz=239,slow=31
PDAR Pinedale Array 95.81 331 LR LR 17 50 38.0
comp=Z,93nm,18.2s,baz=118,slow=33
ELK Elko 96.07 327 LR LR 17 52 12.9
comp=Z,112nm,20.6s,baz=182,slow=34
STKA Stephens Creek 97.29 206 LR LR 17 48 35.2
comp=Z,66nm,19.9s,baz=201,slow=31
ILAR Eielson Array 126.16 329 PKP **PKiKP 17 17 30.6 +0.3**
comp=Z,0.4nm,0.9s,baz=149,slow=1.9,SNR=4.1
CMAR Chiang Mai Arr 150.40 156 PKPbc **PKPbc 17 18 20.3 -0.1**
comp=Z,1.2nm,0.6s,baz=161,slow=2.4,SNR=8.5

*IDC **17** 17:12:40.0±2.7,6°.48S×130°.10E,h155km±23km,mb3.7/9, mbtmp4.2/13,MS3.0/1,Error ellipse: s-maj=29.0km s-min=12.8km az=63.0*
*DJA **17** 17:12:40.9±0.2,7°.5±2°.×13°.0E±°.,h172km±4km,M4.4/26, mb4.4/26,mB5.0/8,MLv4.5/16,Mw(mB)4.3/8,MwMwp4.2/1, Mwp4.7/1*
*NEIC **17** 17:12:41.0±2.3,6°.52S±0°.07×130°.08E±0°.08,h163km±8km, mb4.5/19,Error ellipse: s-maj=11.8km s-min=10.5km az=117.0*
ISC 17 17:12:39.3±0.4,6°.66S±0°.04×130°.04E±0°.05,h150km,n100, σ2§16/109,mb4.4/19,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**136**		**Pn**	**17 13 16.5**	**+4.2**
SAUI					**Sn**	**17 13 36.8**	**-0.8**
SAUI	**Saumlaki**	**1.81**	**136**	P	**Pn**	**17 13 17.0**	**+4.7**
SAUI	**Saumlaki**	**1.81**	**136**	P	**Pn**	**17 13 16.8**	**+4.5**
BNDI	**Bandanaira**	**2.13**	**356**	P	**Pn**	**17 13 18.1**	**+2.1**
BNDI	**Bandanaira**	**2.13**	**356**	P	**Pn**	**17 13 17.8**	**+1.8**
BNDI				S	**Sn**	**17 13 46.1**	**+1.8**
MSAI	**Masohi**	**3.48**	**341**	P	**Pn**	**17 13 34.5**	**+1.7**
MSAI				S	**Sn**	**17 14 13.6**	**-0.7**
AAI	**Ambon**	**3.48**	**328**	P	**Pn**	**17 13 34.5**	**+1.6**
FAKI	**Fak Fak**	**4.32**	**31**	Pn	**Pn**	**17 13 42.9**	**-1.0**
FAKI	**Fak Fak**	**4.32**	**31**	P	**Pn**	**17 13 43.5**	**-0.3**
FAKI	**Fak Fak**	**4.32**	**31**	P	**Pn**	**17 13 43.3**	**-0.5**
NLAI	**Namlea**	**4.49**	**319**	P	**Pn**	**17 13 49.8**	**+3.7**
NLAI				S	**Sn**	**17 14 40.0**	**+2.0**
KMPI	**Kaimana, Papua**	**4.71**	**51**	P	**Pn**	**17 13 49.4**	**+0.4**
DRS	**Darwin Rock St**	**5.79**	**172**	P	**Pn**	**17 14 06.7**	**+3.4**
SWI	**Sorong**	**5.89**	**12**	P	**Pn**	**17 14 03.7**	**-0.9**
	0.7nm1μm21nm,0.9s						
SANI	**Sanana**	**6.11**	**318**	P	**Pn**	**17 14 09.5**	**+1.9**
SANI	**Sanana**	**6.11**	**318**	P	**Pn**	**17 14 09.9**	**+2.3**
	0.1nm35nm,0.7s						
MTN	**Manton Dam**	**6.24**	**170**		**Pn**	**17 14 11.5**	**+2.3**
SOEI	**Soe**	**6.49**	**241**		**Pn**	**17 14 14.7**	**+1.9**
SOEI	**Soe**	**6.49**	**241**	P	**Pn**	**17 14 15.4**	**+2.7**
SOEI	**Soe**	**6.49**	**241**	S	**Sn**	**17 15 27.1**	**+1.3**
SOEI	**Soe**	**6.49**	**241**	P	**Pn**	**17 14 15.4**	**+2.7**
	0.6nm57nm,0.6s						
RKPI	**Ransiki, Papua**	**6.57**	**39**	P	**Pn**	**17 14 13.7**	**0.0**
	2μm126nm,0.7s						
BATI	**Baumata**	**7.22**	**240**	P	**Pn**	**17 14 24.0**	**+1.5**
	56nm,0.4s,baz=298,slow=5.9,SNR=27						
BATI				S	**Sn**	**17 15 43.7**	**+0.3**
	133nm,0.5s,baz=218,slow=14,SNR=10						
BATI	**Baumata**	**7.22**	**240**	P	**Pn**	**17 14 24.9**	**+2.4**
	0.6nm56nm,0.5s						
MMRI	**Maumere**	**7.98**	**255**		**Pn**	**17 14 34.9**	**+2.4**
MMRI	**Maumere**	**7.98**	**255**	P	**Pn**	**17 14 36.2**	**+3.7**
MMRI	**Maumere**	**7.98**	**255**	P	**Pn**	**17 14 34.9**	**+2.4**
	0.1nm39nm,0.6s						
BAKI	**Biak**	**8.13**	**48**	P	**Pn**	**17 14 36.6**	**+2.0**
EDFI	**Ende, Flores**	**8.53**	**255**	P	**Pn**	**17 14 42.5**	**+2.5**
	17nm,0.7s						
KNRA	**Kununurra**	**9.05**	**188**		**Pn**	**17 14 47.4**	**+0.6**
WSI	**Waingapu**	**10.10**	**252**	P	**Pn**	**17 14 59.5**	**-1.2**
MRSI	**Marisa**	**10.75**	**311**	P	**Pn**	**17 15 10.0**	**+0.6**
	71nm91nm,1.0s						
WBSI	**Waikabubak, Su**	**10.95**	**254**	P	**Pn**	**17 15 11.2**	**-0.8**
	34nm,0.9s						
TOLI2	**Tolitoli**	**12.04**	**310**	Pn	**Pn**	**17 15 28.1**	**+1.8**
TOLI2	**Tolitoli**	**12.04**	**310**	P	**Pn**	**17 15 26.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.15**	**200**	Pn	**Pn**	**17 15 27.7**	**+0.1**
FITZ					**Sn**	**17 17 35.3**	**-6.7**
FITZ	**Fitzroy Crossi**	**12.15**	**200**	P	**Pn**	**17 15 28.6**	**+1.0**
	2.0nm,0.3s,baz=34,slow=13,SNR=26						
FITZ				S	**Sn**	**17 17 34.9**	**-7.1**
	12nm,0.5s,baz=108,slow=11,SNR=7.6						
FITZ	**Fitzroy Crossi**	**12.15**	**200**	P	**Pn**	**17 15 29.9**	**+2.3**
PLAI	**Plampang**	**12.34**	**259**	P	**Pn**	**17 15 30.3**	**+0.1**
PLAI	**Plampang**	**12.34**	**259**	P	**Pn**	**17 15 29.5**	**-0.7**
	40nm,0.8s						
TWSI	**Taliwang, Sumb**	**13.20**	**260**	P	**Pn**	**17 15 41.2**	**0.0**
	19nm,0.6s						
WB0	**Warramunga Arr**	**13.70**	**162**		**Pn**	**17 15 47.1**	**-0.4**
WRA	**Warramunga Arr**	**13.85**	**163**		**Pn**	**17 15 48.3**	**-1.1**
WRA	**Warramunga Arr**	**13.85**	**163**	P	**Pn**	**17 15 48.7**	**-0.7**
	4.0nm,0.8s,baz=338,slow=13,SNR=23						
WRA				S	**Sn**	**17 18 14.8**	**-8.1**
	4.7nm,0.3s,baz=341,slow=22,SNR=7.7						
WR8	**Warramunga Arr**	**13.90**	**162**		**Pn**	**17 15 49.9**	**-0.2**
COEN	**Coen**	**14.81**	**120**		**P**	**17 16 04.0**	**+0.5**
COEN	**Coen**	**14.81**	**120**	P	**P**	**17 16 03.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**15.85**	**262**	Pn	**Pn**	**17 16 11.3**	**-3.2**
JAGI				IAmb	IAmb	17 16 18.9	
	comp=Z,45nm,1.3s						
JAGI	**Jajag, Banyuwa**	**15.85**	**262**	P	**P**	**17 16 15.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**15.85**	**262**	P	**Pn**	**17 16 13.2**	**-1.2**
	comp=Z,17nm,0.5s						
QIS	**Mount Isa**	**16.64**	**147**	P	**Pn**	**17 16 26.3**	**+2.4**
PMG	**Port Moresby**	**17.17**	**100**	P	**P**	**17 16 29.0**	**-0.6**
	comp=Z,12nm,0.9s,baz=203,slow=17,SNR=2.4						
AS31	**Alice Springs**	**17.31**	**168**		**Pn**	**17 16 32.2**	**+0.1**
ASAR	**Alice Springs**	**17.31**	**168**	P	**Pn**	**17 16 33.8**	**+1.7**
	comp=Z,5.7nm,0.6s,baz=354,slow=12,SNR=7.3						
ASAR				S	**S**	**17 19 43.0**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=354,slow=26,SNR=6.3						
ASAR				ScP	**ScP**	**17 24 24.6**	**-2.4**
	comp=Z,0.9nm,0.4s,baz=358,slow=1.8,SNR=4.6						
AS01	**Alice Springs**	**17.32**	**168**	P	**Pn**	**17 16 33.4**	**+1.3**
MBWA	**Marble Bar**	**17.53**	**214**		**Pn**	**17 16 35.7**	**+1.1**
MBWA				IAmb	IAmb	17 17 16.3	
	comp=Z,36nm,1.4s						
MBWA	**Marble Bar**	**17.53**	**214**	P	**Pn**	**17 16 35.3**	**+0.7**
PSA00	**Pilbara Seismi**	**17.80**	**213**		**Pn**	**17 16 37.8**	**-0.1**
PSA00				IAmb	IAmb	17 16 39.6	
	comp=Z,19nm,0.6s						
PSA00	**Pilbara Seismi**	**17.80**	**213**	P	**P**	**17 16 36.9**	**+0.4**
PSA00				IAmb	IAmb	17 16 39.6	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**17.80**	**213**	P	**Pn**	**17 16 38.8**	**+0.9**
MTSU	**Mount Surprise**	**17.99**	**131**	P	**Pn**	**17 16 41.6**	**+1.4**
PCJI	**Pacitan**	**18.77**	**264**	P	**P**	**17 16 44.9**	**-2.2**
	comp=Z,51nm,1.3s						
SBUM	**Sibu**	**19.96**	**296**		**P**	**17 17 01.3**	**+1.3**
KPJI	**Karang Pucung**	**20.96**	**267**	P	**P**	**17 17 11.3**	**+0.5**
	comp=Z,21nm,1.5s						
BBJI	**Bungbulang**	**22.24**	**267**	P	**P**	**17 17 24.1**	**-0.1**
LEM	**Lembang**	**22.27**	**268**	P	**P**	**17 17 26.8**	**+2.2**
	comp=Z,12nm,0.5s,baz=24,slow=16,SNR=3.7						
	comp=Z,12nm,0.5s						
INKA	**Innaminka**	**23.29**	**155**		**P**	**17 17 34.6**	**+0.8**
INKA				IAmb	IAmb	17 17 38.3	
	comp=Z,7.1nm,0.7s						
QLP	**Quilpie**	**23.98**	**147**	P	**P**	**17 17 42.0**	**+1.9**
FORT	**Forrest**	**24.06**	**184**	P	**P**	**17 17 42.9**	**+2.1**
FORT				IAmb	IAmb	17 17 59.2	
	comp=Z,9.0nm,1.1s						
BBOO	**Buckleboo**	**26.61**	**169**	P	**P**	**17 18 05.4**	**+1.6**
BBOO	**Buckleboo**	**26.61**	**169**	P	**P**	**17 18 05.1**	**+1.3**
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**17 18 11.8**	**+1.7**
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**17 18 11.8**	**+1.7**
	comp=Z,4.1nm,0.5s,baz=340,slow=8.7,SNR=14						
	comp=Z,4.1nm,0.5s						
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**17 18 12.0**	**+1.9**
HTT	**Hallett**	**27.88**	**164**	P	**P**	**17 18 16.8**	**+1.6**
CMSA	**Cobar Meteorol**	**28.75**	**151**	P	**P**	**17 18 25.2**	**+2.3**
HNR	**Honiara**	**29.73**	**97**	LR	LR	17 33 34.7	
	comp=Z,24nm,18.4s,baz=34,slow=42						
ARMA	**Armidale**	**31.14**	**142**	P	**P**	**17 18 43.8**	**-0.3**
ARMA				IAmb	IAmb	17 18 49.4	
	comp=Z,19nm,1.4s						
KULM	**Kulim**	**31.65**	**291**	P	**P**	**17 18 46.0**	**-2.6**
KULM				IAmb	IAmb	17 19 26.1	
	comp=Z,16nm,1.2s						
CAN	**Canberra**	**33.43**	**151**	P	**P**	**17 19 05.1**	**+1.2**
CAN	**Canberra**	**33.43**	**151**	P	**P**	**17 19 05.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**39.55**	**310**	P	**P**	**17 19 55.2**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=125,slow=8.4,SNR=13						
	comp=Z,1.3nm,0.5s						
CHTO	**Chiang Mai**	**39.76**	**310**	P	**P**	**17 19 57.0**	**-0.7**
NJ2	**Nanjing**	**39.95**	**345**	*e*P	**P**	**17 19 58.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH	**PanZhiHua**	**42.90**	**321**	P	**P**	**17 20 24.8**	**+1.4**
HHC	**Hu-ho-hao-te**	**50.24**	**342**	*e*P	**P**	**17 21 22.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,65nm,5.0s						
XLT	**XiLinHaoTe**	**51.89**	**347**	*e*P	**P**	**17 21 36.4**	**+3.9**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EVN	**Everest**	**54.09**	**312**	P	**P**	**17 21 48.5**	**-1.1**
EVN				IAmb	IAmb	17 21 49.6	
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**58.14**	**341**	P	**P**	**17 22 17.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=164,slow=7.7,SNR=2.7						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**17 23 21.5**	**-0.6**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**17 23 21.7**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=115,slow=8.4,SNR=47						
	comp=Z,3.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	**P**	**17 23 40.6**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=109,slow=8.0,SNR=4.5						
	comp=Z,0.7nm,0.5s						
GAR	**Garm**	**71.46**	**315**	P	**P**	**17 23 43.1**	**-0.7**
GAR				IAmb	IAmb	17 23 45.3	
	comp=Z,7.0nm,0.8s						
CHGR	**Chuyangaron**	**72.14**	**314**	P	**P**	**17 23 47.1**	**-0.8**
CHGR				IAmb	IAmb	17 23 48.2	
	comp=Z,7.4nm,0.9s						
KURBB	**Kurchatov Arra**	**72.25**	**328**	P	**P**	**17 23 47.2**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=131,slow=5.1,SNR=12						
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**72.78**	**173**	P	**P**	**17 23 51.8**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=306,slow=5.6,SNR=5.4						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**83.31**	**180**	P	**P**	**17 24 51.2**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=261,slow=5.9,SNR=6.3						
	comp=Z,0.9nm,0.8s						
H18K	**Honhosa River**	**88.39**	**24**	P	**P**	**17 25 13.7**	**-0.3**
AF01	**San Pedro de A**	**145.59**	**149**	PKPdf	**PKPdf**	**17 31 57.5**	**-3.5**
CPUP	**Villa Florida**	**146.43**	**168**	PKPbc	**PKPdf**	**17 32 02.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=163,slow=7.9,SNR=3.1						

*NEIC **17** 17:18:03.1±1.4,51°.20N±0°.03×178°.67W±0°.03,h10km±2km, mb4.0/4,ML3.3(AEIC),Error ellipse: s-maj=5.7km s-min=3.3km az=11.0*
*AEIC **17** 17:18:05.9±4.2,51°.42N±0°.03×178°.70W±0°.03,h9km±6km, Error ellipse: s-maj=5.0km s-min=2.9km az=184.0*
*IDC **17** 17:18:17.1±3.9,51°.76N×178°.91W,h114km±34km,mb3.1/5, mbtmp3.5/6,MS2.7/1,Error ellipse: s-maj=44.5km s-min=19.6km az=162.0*
ISC 17 17:18:03.9±1.8,51°.28N±0°.07×178°.68W±0°.03,h7km±11km, n45,σ1§14/49,mb3.7/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.29**	**343**		**Pn**	**17 18 13.6**	**-1.0**
GALAA	**Gareloi Lava P**	**0.49**	**353**		**Pn**	**17 18 18.2**	**+0.8**
GAEA	**Gareloi East**	**0.51**	**355**		**Pg**	**17 18 14.5**	**+0.8**
GAEA					**Sg**	**17 18 19.6**	**-0.7**
GASW	**Gareloi Southw**	**0.52**	**348**		**Pg**	**17 18 14.4**	**+0.6**
GASW					**Sg**	**17 18 20.6**	**+0.1**
GANE	**Gareloi Northe**	**0.55**	**353**		**Pg**	**17 18 14.9**	**+0.5**
GANE					**Sg**	**17 18 21.9**	**+0.4**
GANO	**Gareloi North**	**0.55**	**352**		**Pg**	**17 18 14.8**	**+0.3**
TAFL	**Tanaga Flats**	**0.68**	**45**		**Pb**	**17 18 18.0**	**-0.2**
TAFL					**Sb**	**17 18 27.2**	**-0.6**
TASE	**Tanaga Southea**	**0.69**	**35**		**Pb**	**17 18 18.0**	**-0.2**
TANO	**Tanaga North**	**0.73**	**28**		**Pb**	**17 18 18.6**	**-0.2**
TAFP	**Tanaga Falls P**	**0.76**	**34**		**Pg**	**17 18 18.9**	**+0.4**
TAFP					**Sg**	**17 18 28.8**	**+0.4**
TAPA	**Tanaga Point A**	**0.76**	**45**		**Pg**	**17 18 19.3**	**+0.8**
TAPA					**Sb**	**17 18 29.9**	**-0.2**
KIMD	**Kanaga Island**	**1.02**	**61**		**Pb**	**17 18 23.9**	**0.0**
KIWB	**Kanaga Island**	**1.11**	**58**	Pn	**Pb**	**17 18 25.6**	**+0.1**
KIKV	**Kanaga Island**	**1.12**	**57**		**Pb**	**17 18 25.4**	**-0.1**
KIKV					**Sg**	**17 18 40.5**	**+0.7**
KICM	**Kanaga Island**	**1.13**	**55**		**Pn**	**17 18 25.9**	**-0.1**
CEPE	**Semis' Perret**	**1.25**	**304**		**Pn**	**17 18 27.1**	**-0.7**
CESW	**Semis' Southwe**	**1.26**	**300**		**Pn**	**17 18 27.3**	**-0.6**
AMKA	**Amchitka**	**1.27**	**275**		**Pn**	**17 18 27.4**	**-0.7**
AMKA				Sn	**Sb**	**17 18 42.7**	**-2.0**
ADK	**Adak**	**1.38**	**63**	Pn	**Pb**	**17 18 29.8**	**-0.2**
ADK				Sn	**Sn**	**17 18 46.4**	**-1.7**
GSSP	**Great Sitkin S**	**1.76**	**61**		**Pb**	**17 18 35.5**	**-0.9**
GSSP					**Sb**	**17 18 58.5**	**-0.2**
GSTR	**Great Sitkin T**	**1.82**	**62**		**Pn**	**17 18 34.6**	**-1.1**
LSPA	**Little Sitkin**	**1.85**	**293**		**Pb**	**17 18 36.7**	**-1.2**
GSIG	**Igitkin Island**	**1.86**	**66**		**Pb**	**17 18 37.2**	**-0.9**
GSIG					**Sb**	**17 19 01.0**	**-0.5**
LSNW	**Little Sitkin**	**1.88**	**293**		**Pn**	**17 18 37.1**	**+0.7**
SHEM	**Shemya Is, Ala**	**4.70**	**291**	P	Pb	17 19 20.6	-5.8
	42nm,0.9s,baz=86,slow=16,SNR=1.5						
SHEM				S	**Sn**	**17 20 13.1**	**+3.4**
	23nm,0.5s,baz=7.1,slow=17,SNR=1.3						
M16K	**Timber Creek**	**14.63**	**41**	P	**P**	**17 21 35.2**	**-2.4**
L16K	**Owhat River**	**14.82**	**38**	P	**P**	**17 21 37.3**	**-2.3**
KDAK	**Kodiak Island**	**16.41**	**56**	P	**Pn**	**17 21 55.3**	**+0.9**
	5.9nm,0.9s,baz=196,slow=3.2,SNR=19						
MA2	**Magadan**	**19.08**	**308**	LR	LR	17 28 26.4	
	comp=Z,22nm,20.0s,baz=137,slow=33						
DHY	**Denali Highway**	**20.42**	**43**	P	**P**	**17 22 40.9**	**-0.6**
D20K	**Etivluk River**	**20.45**	**23**	P	**P**	**17 22 40.9**	**-0.8**
KLU	**Klutina**	**20.59**	**48**	P	**P**	**17 22 41.9**	**-1.3**
KLU				IAmb	IAmb	17 23 21.6	
	comp=Z,12nm,1.3s						
E21K	**Killik River**	**20.95**	**26**	P	**P**	**17 22 46.1**	**-0.9**
E21K				IAmb	IAmb	17 23 18.6	
	comp=Z,8.8nm,1.2s						
ILAR	**Eielson Array**	**21.27**	**38**	P	**P**	**17 22 51.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=271,slow=9.5,SNR=1.8						
	comp=Z,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.47**	**205**	T	T	18 00 17.2	
	baz=16,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**33.48**	**205**	T	T	18 00 18.0	
	baz=16,slow=76,SNR=79						
H11N1	**WAKE ISLAND Hy**	**33.48**	**205**	T	T	18 00 18.7	
	baz=16,slow=76,SNR=81						
H11S1	**WAKE ISLAND Hy**	**34.69**	**205**	T	T	18 01 48.7	
	baz=16,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**34.71**	**205**	T	T	18 01 49.9	
	baz=16,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**34.71**	**205**	T	T	18 01 49.9	
	baz=16,slow=76,SNR=90						
PDAR	**Pinedale Array**	**46.27**	**72**	P	**P**	**17 26 31.1**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=342,slow=2.8,SNR=7.8						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**60.16**	**309**	P	**P**	**17 28 10.1**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=46,slow=4.5,SNR=1.8						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**81.99**	**224**	P	**P**	**17 30 25.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=24,slow=5.4,SNR=1.8						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**85.46**	**223**	P	**P**	**17 30 43.8**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=23,slow=5.5,SNR=6.2						
	comp=Z,0.3nm,0.4s						
BOSA	**Boshof**	**151.10**	**312**	PKPbc	**PKPdf**	**17 37 54.0**	**+2.2**
	comp=Z,3.7nm,1.1s,baz=37,slow=5.1,SNR=3.6						

JSN 17 17:20:36.4±0.5,18°.13N×76°.79W,h11km±3km,MD2.1,4C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.06**	**197**	⇑*i*P	Pg	17 20 38.9	+0.1
STH	**Stony Hill**	**0.06**	**197**	⇑*i*P	Pg	17 20 38.8	+0.1
GWJ	**Greenwich**	**0.08**	**134**	⇑*i*P	Pg	17 20 38.9	-0.2
GWJ	**Greenwich**	**0.08**	**134**	⇑*i*P	Pg	17 20 39.0	-0.2
HOJ	**Hope**	**0.13**	**163**	*i* P	Pg	17 20 39.6	-0.1
HOJ	**Hope**	**0.13**	**163**	*i* P	Pg

HEMU S Sn 17 21 27.5 +0.5
HEMU Hemsoen 1.04 194 P Pb 17 21 13.9 -0.1
HEMU S Sn 17 21 27.5 +0.5
HEMU Hemsoen 1.04 194 P Pb 17 21 13.9 -0.1
HEMU S Sn 17 21 27.5 +0.5
HEMU Hemsoen 1.04 194 *e*P Pb 17 21 14.1 0.0
HEMU *e*S Sn 17 21 27.5 +0.5
HEMU MSG 17 21 28.9
comp=Z,71nm,0.1s
ODEU Stanfors 1.18 51 P Pn 17 21 15.8 +0.5
ODEU S Sn 17 21 30.6 +0.2
ODEU Stanfors 1.18 51 P Pn 17 21 15.8 +0.5
ODEU S Sn 17 21 30.6 +0.2
ODEU Stanfors 1.18 51 P Pn 17 21 15.8 +0.5
ODEU S Sn 17 21 30.6 +0.2
ODEU Stanfors 1.18 51 *e*P Pn 17 21 15.8 +0.5
ODEU *e*S Sn 17 21 30.6 +0.2
BURU Burvik 1.52 52 ⇑P Pb 17 21 21.3 -0.7
BURU S Sb 17 21 40.5 -0.3
BURU Burvik 1.52 52 ⇑P Pb 17 21 21.3 -0.7
BURU S Sb 17 21 40.5 -0.3
BURU Burvik 1.52 52 ⇑P Pb 17 21 21.3 -0.7
BURU S Sb 17 21 40.5 -0.3
BURU Burvik 1.52 52 *e*P Pb 17 21 21.3 -0.7
BURU *e*PB Pn 17 21 21.8 +2.0
BURU *e*SB Sb 17 21 40.9 +0.1
BURU MSG 17 21 43.3
comp=Z,62nm,0.1s
NOD Norderasen 1.69 263 P Pn 17 21 23.1 +0.7
NOD S Sb 17 21 45.2 -0.7
NOD Norderasen 1.69 263 P Pn 17 21 23.1 +0.7
NOD S Sb 17 21 45.2 -0.7
NOD Norderasen 1.69 263 *e*P Pn 17 21 23.1 +0.7
NOD *e*S Sb 17 21 45.2 -0.7
HASU Hassela 1.79 212 P Pn 17 21 25.1 +1.5
HASU S Sb 17 21 47.4 -1.2
HASU Hassela 1.79 212 P Pn 17 21 25.1 +1.5
HASU S Sb 17 21 47.4 -1.2
HASU Hassela 1.79 212 P Pn 17 21 25.1 +1.5
HASU S Sb 17 21 47.4 -1.2
HASU Hassela 1.79 212 *e*P Pn 17 21 25.1 +1.5
HASU *e*S Sb 17 21 47.4 -1.2
VAF Ylistaro 1.94 108 *e*P Pb 17 21 28.6 -0.7
VAF Ylistaro 1.94 108 *e*PB Pb 17 21 28.7 -0.7
VAF *e*SB Sb 17 21 53.2 +0.1
VAF MSG 17 21 54.7
comp=Z,58nm,0.1s
ARNU Arnoeviken 2.08 196 P Pn 17 21 29.2 +1.6
ARNU Arnoeviken 2.08 196 P Pn 17 21 29.2 +1.6
ARNU Arnoeviken 2.08 196 P Pn 17 21 29.2 +1.6
ARNU Arnoeviken 2.08 196 *e*PB Pb 17 21 30.6 -1.0
SJUU Sjulsmark 2.24 34 ⇑P Pn 17 21 30.8 +1.0
SJUU S Sn 17 21 58.2 +1.6
SJUU Sjulsmark 2.24 34 *e*P Pn 17 21 31.1 +1.2
SJUU Sjulsmark 2.24 34 ⇑P Pn 17 21 30.8 +1.0
SJUU S Sn 17 21 58.2 +1.6
SJUU Sjulsmark 2.24 34 ⇑P Pn 17 21 30.8 +1.0
SJUU S Sn 17 21 58.2 +1.6
SJUU Sjulsmark 2.24 34⇑*e*P Pn 17 21 30.8 +1.0
SJUU *e*S Sn 17 21 58.2 +1.6
KPF Kankaanpaa 2.45 138 *e*PB Pb 17 21 36.5 -1.4
KPF *e*SB Sb 17 22 07.3 -0.3
KPF MSG 17 22 09.1
comp=Z,21nm,0.1s
OBF0 Syolatti, Pyha 2.60 69 *e*P Pn 17 21 35.8 +0.9
OBF0 *e*S Sn 17 22 06.6 +1.1
OUF Merijarvi 2.78 73 *e*P Pn 17 21 37.9 +0.6
NSS Namsos 3.03 289 *e*P Pn 17 21 42.2 +1.5
NSS IAML 17 22 33.1
comp=Z,30nm,0.3s
NSS Namsos 3.03 289 *e*P Pn 17 21 42.2 +1.5
NSS IAML 17 22 33.1
comp=Z,30nm,0.3s
RAF Rauma 3.05 150 *e*P Pn 17 21 44.6 +3.6
OBF4 Vikkela, Lumij 3.06 65 *e*P Pn 17 21 41.6 +0.6
OBF4 *e*S Sn 17 22 17.6 +1.0
OBF4 MSG 17 22 19.2
comp=Z,17nm,0.2s
KEF Keuruu 3.25 115 *e*P Pn 17 21 45.8 +2.1
RAUS Rausandaksla 3.37 327 *e*P Pn 17 21 46.1 +0.8
RAUS IAML 17 22 42.5
comp=Z,32nm,0.9s
LEIR Leirfjorden 3.38 319 *e*P Pn 17 21 46.9 +1.5
LEIR IAML 17 22 44.0
comp=Z,34nm,0.6s
LEIR Leirfjorden 3.38 319 *e*P Pn 17 21 46.9 +1.5
LEIR IAML 17 22 44.0
comp=Z,34nm,0.6s
TOF Tornio 3.42 43 *e*P Pn 17 21 46.7 +0.6
STOK Stokkvaagen 3.56 321 *e*P Pn 17 21 48.7 +0.8
STOK IAML 17 22 50.2
comp=Z,24nm,0.7s
STOK Stokkvaagen 3.56 321 *e*P Pn 17 21 48.7 +0.8
STOK IAML 17 22 50.2
comp=Z,24nm,0.7s
AAL Aland 3.58 169 *e*P Pn 17 21 49.9 +1.7
SALU Saltoluokta 3.71 359 *e*P Pn 17 21 51.1 +1.1
SALU *e*S Sn 17 22 31.9 -0.9
SALU Saltoluokta 3.71 359 *e*P Pn 17 21 51.1 +1.1
SALU *e*S Sn 17 22 31.9 -0.9
VAGH Vaagaholmen 3.79 326 *e*P Pn 17 21 52.1 +1.0
VAGH *e*Pg Pb 17 22 01.9 +1.1
VAGH *e* 17 22 52.1
VAGH IAML 17 22 55.5
comp=Z,22nm,0.5s
VAGH Vaagaholmen 3.79 326 *e*P Pn 17 21 52.1 +1.0
VAGH IAML 17 22 55.5
comp=Z,22nm,0.5s
FAUS Fauske 3.96 341 *e*P Pn 17 21 54.1 +0.7
FAUS Fauske 3.96 341 *e*P Pn 17 21 54.1 +0.7
NC405 NORSAR Array S 4.11 234 *e*P Pn 17 21 57.0 +1.4
FINES FINESS Array B 4.12 120 Pn Pn 17 21 56.8 +1.0
comp=Z,0.2nm,0.3s,baz=307,slow=13,SNR=5.3
FINES Pg Pb 17 22 05.7 -0.7
comp=Z,0.8nm,0.3s,baz=313,slow=15,SNR=18
FINES Lg Lg 17 23 00.1
comp=Z,5.1nm,0.3s,baz=309,slow=28,SNR=22
comp=Z,2.2nm,0.8s
NC303 NORSAR Array S 4.17 237 *e*P Pn 17 21 58.0 +1.7
NC303 *e* 17 23 03.6
HFS Hagfors 4.25 215 Pn Pn 17 21 58.1 +0.7
comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=1.3
HFS Pg Pb 17 22 04.6 -4.0
comp=Z,0.4nm,0.3s,baz=36,slow=12,SNR=17
HFS Sn Sn 17 22 47.8 +1.7
comp=Z,0.6nm,0.3s,baz=54,slow=18,SNR=6.7
HFS Lg Lg 17 23 03.9
comp=Z,2.1nm,0.3s,baz=33,slow=29,SNR=11
comp=Z,0.9nm,0.7s
NB201 NORSAR Array S 4.31 235 *e*P Pn 17 21 59.8 +1.5
NOA NORSAR Array B 4.34 236 Pn Pn 17 21 59.8 +1.0
baz=41,slow=22,SNR=8.4
NOA Lg Lg 17 23 02.3
comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=10
comp=Z,0.1nm,0.4s
NC204 NORSAR Array S 4.37 240 *e*P Pn 17 22 00.4 +1.3
MEF Metsahovi 4.42 139 *e*P Pn 17 22 02.6 +2.8
NC602 NORSAR Array S 4.44 231 *e*P Pn 17 22 01.7 +1.7
NC602 NORSAR Array S 4.44 231 *e*P Pn 17 22 01.7 +1.7
STEI Steigen 4.48 344 *e*P Pn 17 22 02.1 +1.6
STEI IAML 17 23 24.4
comp=Z,7.4nm,0.3s
STEI Steigen 4.48 344 *e*P Pn 17 22 02.1 +1.6
STEI IAML 17 23 24.4
comp=Z,7.4nm,0.3s
NBO00 NORSAR Array S 4.51 237 *e*P Pn 17 22 02.7 +1.6
NAO01 NORSAR Array S 4.59 235 *e*P Pn 17 22 03.6 +1.4
NAO01 NORSAR Array S 4.59 235 *e*P Pn 17 22 03.6 +1.4
LANU Lannavaara 4.60 16 *e*P Pn 17 22 03.2 +1.0
KOVU Salmi 4.60 7 *e*P Pn 17 22 03.3 +1.0
KOVU Salmi 4.60 7 *e*P Pn 17 22 03.3 +1.0
LOF Lofoten 4.92 337 *e*P Pn 17 22 09.8 +3.2
LOF IAML 17 23 33.2
comp=Z,11nm,0.7s
LOF Lofoten 4.92 337 *e*P Pn 17 22 09.8 +3.2
LOF IAML 17 23 33.2
comp=Z,11nm,0.7s
MOL Molde 5.14 262 *e*P Pn 17 22 11.6 +1.9
MOL *e* 17 23 31.1
MOL IAML 17 23 40.0
comp=Z,15nm,0.4s
MOL Molde 5.14 262 *e*P Pn 17 22 11.6 +1.9
MOL IAML 17 23 40.0
comp=Z,15nm,0.4s
HEF Hetta 5.17 21 *e*P Pn 17 22 09.6 -0.4
HEF Hetta 5.17 21 *e*P Pn 17 22 09.6 -0.4
KIF Kilpisjarvi 5.42 8 *e*P Pn 17 22 14.2 +0.9
KIF *e*S Sn 17 23 11.2 -3.4
KIF Kilpisjarvi 5.42 8 *e*P Pn 17 22 14.2 +0.9
KIF *e*S Sn 17 23 11.2 -3.4
AKN Aaknes 5.51 259 *e*P Pn 17 22 15.4 +0.7
AKN *e* 17 23 46.5
AKN IAML 17 23 51.7
comp=Z,7.2nm,0.4s
AKN Aaknes 5.51 259 *e*P Pn 17 22 15.4 +0.7
AKN IAML 17 23 51.7
comp=Z,7.2nm,0.4s
KTK1 Kautokeino 5.66 17 *e*P Pn 17 22 17.1 +0.3
KTK1 *e*S Sn 17 23 18.5 -2.3
KTK1 IAML 17 23 53.2
comp=Z,4.6nm,0.9s
KTK1 Kautokeino 5.66 17 *e*P Pn 17 22 17.1 +0.3
KTK1 *e*S Sn 17 23 18.5 -2.3
KTK1 IAML 17 23 53.2
comp=Z,4.6nm,0.9s
SKAR Skarslia 5.69 243 *e*P Pn 17 22 17.7 +0.5
SKAR *e*S Sn 17 23 18.7 -2.8
SKAR IAML 17 23 56.0
comp=Z,8.4nm,0.6s
JOF Joensuu 5.78 92 *e*P Pn 17 22 20.8 +2.3
STRU Stroemstad 5.87 221 *e*P Pn 17 22 19.7 0.0
STRU Stroemstad 5.87 221 *i*P Pn 17 22 23.3 +3.6
STRU *i*S Sn 17 23 23.7 -2.2
JETT Jettan, Norway 5.94 6 *e*P Pn 17 22 20.8 +0.1
JETT *e*S Sn 17 23 24.7 -3.0
JETT Jettan, Norway 5.94 6 *e*P Pn 17 22 20.8 +0.1
JETT *e*S Sn 17 23 24.7 -3.0
ARCES ARCESS Array B 6.48 22 Pn Pn 17 22 26.5 -1.6
comp=Z,0.2nm,0.3s,baz=205,slow=14,SNR=21
ARCES Sn Sn 17 23 35.8 -5.1
comp=Z,0.4nm,0.3s,baz=206,slow=24,SNR=6.0
ARCES Lg Lg 17 24 08.9
comp=Z,0.5nm,0.3s,baz=207,slow=29,SNR=7.5
comp=Z,0.4nm,0.3s
TJOU Tjoern 6.61 214 *e*S Sn 17 23 43.0 -1.2
BORU Boraas 6.71 208 *i*P Pn 17 22 40.7 +9.5
BORU *e*S Sn 17 23 46.6 0.0
KEV Kevo 6.94 25 *e*P Pn 17 22 33.6 -0.6
KEV Kevo 6.94 25 *e*P Pn 17 22 33.6 -0.6
ONAU Onsala 7.12 211 *i*P Pn 17 22 40.9 +4.2
ONAU *i*S Sn 17 23 52.2 -4.3
FABU Falkenberg 7.31 206 *i*P Pn 17 22 45.1 +5.7
FABU *i*S Sn 17 23 59.0 -2.4
BJUU Bjuv 8.13 203 *i*P Pn 17 22 55.0 +4.3
KLMR Klimovskoe 10.14 97 *e*P Pn 17 23 16.6 -1.5
KLMR *e*S Sn 17 25 01.2 -9.5
LSH Leshukonskoye 11.81 72 *e*P Pn 17 23 38.0 -2.9
LSH *e*S Sn 17 25 38.2 -13
SHIP Srednieye Shipi 12.68 87 *e*P Pn 17 23 54.2 +1.4
SHIP *e*S Sn 17 26 02.9 -10

NEIC ***17*** *17:49:58.4±2.7,6°.66N×0°.06×124°.90E±0°.06,h10km±2km, mb4.4/9,Error ellipse: s-maj=10.6km s-min=9.7km az=2.0*
IDC ***17*** *17:49:59.8±1.1,6°.64N×124°.93E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=23.1km s-min=10.3km az=138.0*
ISC 17 17:49:59.7±0.8,6°.60N±0°.09×125°.08E±0°.10,h10km,n22, σ2s36/21,mb3.9/9,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.68**	**47**	Pg	**Pg**	**17 50 13.7**	**+1.0**
	172nm,0.3s,baz=217,slow=1.0,SNR=12						
DAV				Lg	Lg	17 50 26.4	
	237nm,0.3s,baz=93,slow=23,SNR=8.2						
DAV				LR	LR	17 50 36.6	
	comp=Z,808nm,19.5s,baz=354,slow=48						
DAV	**Davao City (W)**	**0.68**	**47**	P	**Pg**	**17 50 14.0**	**+1.2**
TNTI	**Ternate**	**6.22**	**158**	Pn	**Pn**	**17 51 32.7**	**+1.0**
MYLDM	**Lahad Datu**	**6.70**	**258**	Pn	**Pn**	**17 51 36.0**	**-2.2**
TOLI2	**Tolitoli**	**6.94**	**218**	Pn	**Pn**	**17 51 40.9**	**-0.6**
LUWI	**Luwuk**	**7.94**	**197**	Pn	**Pn**	**17 51 54.1**	**-1.1**
BATI	**Baumata**	**16.76**	**185**	Pn	**P**	**17 54 02.6**	**+5.7**
	1.4nm,0.3s,baz=283,slow=24,SNR=1.7						
MTN	**Manton Dam**	**20.23**	**163**	P	**P**	**17 54 33.9**	**-1.3**
MTN				IAmb	IAmb	17 55 07.9	
	comp=Z,15nm,1.2s						
KNRA	**Kununurra**	**22.43**	**171**	P	**P**	**17 54 59.3**	**+0.4**
KNRA				IAmb	IAmb	17 55 23.5	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.55**	**179**	P	**P**	**17 55 22.1**	**+2.3**
FITZ	**Fitzroy Crossi**	**24.55**	**179**	P	**P**	**17 55 22.7**	**+2.9**
	comp=Z,1.7nm,0.6s,baz=9.0,slow=3.8,SNR=12						
	comp=Z,1.7nm,0.6s						
WB0	**Warramunga Arr**	**27.76**	**161**	P	**P**	**17 55 46.9**	**-1.9**
WB0				IAmb	IAmb	17 56 31.0	
	comp=Z,8.7nm,1.3s						
WRA	**Warramunga Arr**	**27.91**	**161**	P	**P**	**17 55 51.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=339,slow=8.9,SNR=2.2						
	comp=Z,0.3nm,0.5s						
WR8	**Warramunga Arr**	**27.97**	**161**	P	**P**	**17 55 49.1**	**-1.6**
WR8				IAmb	IAmb	17 56 31.9	
	comp=Z,8.2nm,1.3s						
RABL	**Rabaul**	**29.08**	**111**	P	**P**	**17 55 60.0**	**-0.7**
AS31	**Alice Springs**	**31.29**	**164**	P	**P**	**17 56 18.9**	**-1.2**
ASAR	**Alice Springs**	**31.29**	**164**	P	**P**	**17 56 17.3**	**-2.8**
ASAR	**Alice Springs**	**31.29**	**164**	P	**P**	**17 56 22.4**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=342,slow=6.7,SNR=18						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.28**	**325**	P	**P**	**17 59 28.2**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=105,slow=8.8,SNR=1.2						
	comp=Z,0.2nm,0.6s						
MAKZ	**Makanchi**	**54.46**	**325**	P	P	17 59 21.1	-6.3
MAKZ				IAmb	IAmb	17 59 32.0	
	comp=Z,14nm,1.5s						
FUNA	**Funafuti**	**56.00**	**105**	P	**P**	**17 59 35.2**	**-3.8**
KURBB	**Kurchatov Arra**	**58.45**	**327**	P	**P**	**17 59 55.5**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=126,slow=6.0,SNR=2.8						
	comp=Z,0.3nm,0.7s						

CATAC 17 18:14:14.8±0.2,10°N±2°×8°4W±°,h6km±1km,M2.8/10, MLv2.8/10,Error ellipse: s-maj=4.6km s-min=2.4km az=50.8,confirmed,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.06**	**178**	P	Pg	18 14 17.1	+0.4
LCR2				S	Sg	18 14 18.2	+0.2
QUEP	**Quepos**	**0.40**	**203**	P	Pb	18 14 24.0	-0.4
OCHAL	**Ojochal**	**0.79**	**153**	P	Pg	18 14 30.4	+0.4
OCHAL	**Ojochal**	**0.79**	**153**	S	Sb	18 14 42.1	+0.2
SOCE	**Pocosol**	**0.83**	**314**	P	Pb	18 14 31.5	-0.2
SOCE	**Pocosol**	**0.83**	**314**	S	Sb	18 14 43.2	0.0
DRK0	**Durika**	**0.93**	**126**	S	Sg	18 14 44.0	-0.7
DRK0	**Durika**	**0.93**	**126**	P	Pg	18 14 31.7	-0.9
COVE	**Coope Vega, Sa**	**0.99**	**337**	S	Sg	18 14 47.1	+0.5
COVE	**Coope Vega, Sa**	**0.99**	**337**	P	Pg	18 14 34.0	+0.1
JTS	**Las Juntas de**	**1.05**	**297**	P	Pg	18 14 34.7	-0.3
JTS				S	Sb	18 14 49.0	-0.4
PIRO	**Carate, Puerto**	**1.54**	**154**	P	Pn	18 14 42.7	-0.2
PIRO	**Carate, Puerto**	**1.54**	**154**	S	Sb	18 15 03.5	-0.1
BRU2	**Volcan**	**1.64**	**128**	P	Pn	18 14 43.7	-0.7
BRU2	**Volcan**	**1.64**	**128**	S	Sb	18 15 06.7	+0.1
ELI1	**Hacienda Flor**	**1.73**	**299**	S	Sn	18 15 06.5	-1.5
ELI1	**Hacienda Flor**	**1.73**	**299**	P	Pn	18 14 45.1	-0.4

IDC ***17*** *18:14:40.0±2.3,5°.09N×125°.99E,h0km,mb3.2/4, mbtmp3.2/4,Error ellipse: s-maj=230.5km s-min=23.3km az=66.0*
DJA ***17*** *18:14:54.2±1.1,5°N±10°×12°7E±°,h146km±10km,M3.6/7, mb3.5/2,MLv3.7/7*
ISC 17 18:14:55.7±1.5,5°.3N±0°.1×126°.8E±0°.2,h150km,n5, σ0s79/6,mb3.2/4,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.03**	**218**	P	**Pn**	**18 15 30.6**	**-0.6**
SGSI				S	**Sn**	**18 15 59.0**	**+0.6**
WRA	**Warramunga Arr**	**26.17**	**164**	P	**P**	**18 20 17.3**	**+1.0**
	0.1nm,0.3s,baz=342,slow=10.0,SNR=1.4						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**29.62**	**167**	P	**P**	**18 20 46.6**	**-0.4**
	0.1nm,0.3s,baz=337,slow=7.1,SNR=4.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.30**	**325**	P	**P**	**18 24 21.1**	**+0.2**
	0.2nm,0.4s,baz=114,slow=7.3,SNR=4.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**60.45**	**327**	P	**P**	**18 24 49.4**	**0.0**
	0.3nm,0.5s,baz=126,slow=7.0,SNR=7.1						
	0.3nm,0.5s						

IDC ***17*** *18:16:02.5±0.7,6°.78N×72°.93W,h158km±6km,mb3.2/5, mbtmp3.8/8,MS2.8/2,Error ellipse: s-maj=18.2km s-min=7.2km az=130.0*
CATAC ***17*** *18:16:02.2±0.6,7°N±3°×7°3W±°,h156km±5km,M4.3/9, mb4.3/1,mB4.6/1,MLv4.3/9,Mw(mB)3.8/1,Error ellipse: s-maj=10.2km s-min=5.4km az=99.8,confirmed*
RSNC ***17*** *18:16:03.5±0.0,7°N±1°×7°3W±°,h148km±2km,M3.9, mB4.9,mb4.0,ML3.5,Mw(mB)4.2*
ISC 17 18:16:02.0±0.7,6°.85N±0°.03×73°.09W±0°.04,h154km±5km, n57,σ1s19/93,mb3.7/5,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**201**	P	**Pn**	**18 16 23.6**	**+0.3**
BARC				S	**Sn**	**18 16 38.3**	**-1.2**
PAMC	**Pamplona, Colo**	**0.62**	**38**	P	**Pn**	**18 16 26.4**	**+1.3**
PAMC				S	**Sn**	**18 16 43.4**	**+0.8**
BRJC	**Barrancabermej**	**0.67**	**281**	P	**Pn**	**18 16 25.4**	**+0.7**
BRJC				S	**Sn**	**18 16 41.9**	**-0.1**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**18 16 27.6**	**+0.3**
RUSC				S	**Sn**	**18 16 46.0**	**-0.7**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**18 16 27.5**	**+0.1**
RUSC				S	**Sn**	**18 16 45.9**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.40**	**257**	P	**Pn**	**18 16 30.2**	**-0.7**
PTBC				S	**Sn**	**18 16 50.9**	**-2.0**
OCAC	**Ocana**	**1.40**	**350**	P	**Pn**	**18 16 31.9**	**+0.8**
OCAC				S	**Sn**	**18 16 53.8**	**+0.4**
SPBC	**San Pablo de B**	**1.54**	**220**	P	**Pn**	**18 16 32.2**	**-0.3**
SPBC				S	**Sn**	**18 16 54.6**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**18 16 36.5**	**+0.6**
ZARC				S	**Sn**	**18 17 02.3**	**+0.3**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**18 16 39.8**	**+0.2**
NORC				S	**Sn**	**18 17 07.5**	**-1.1**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**18 16 43.7**	**+1.9**
	131nm,0.4s,baz=72,slow=11,SNR=40						
ROSC				S	**Sn**	**18 17 14.2**	**+1.6**
	504nm,0.6s,baz=192,slow=23,SNR=18						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**18 16 43.6**	**+1.7**
ROSC				S	**Sn**	**18 17 12.9**	**+0.3**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**18 16 45.2**	**+1.2**
CVER				S	**Sn**	**18 17 16.2**	**-0.2**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**18 16 44.2**	**+0.4**
HELC				S	**Sn**	**18 17 15.6**	**-0.5**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**18 16 44.3**	**+0.4**
HELC				S	**Sn**	**18 17 14.9**	**-1.2**
UREC	**San Jos de Ur**	**2.59**	**290**	P	**Pn**	**18 16 44.2**	**-0.2**
UREC				S	**Sn**	**18 17 16.0**	**-1.2**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**18 16 48.6**	**+1.3**
GUY2C				S	**Sn**	**18 17 21.7**	**-0.5**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P	**Pn**	**18 16 46.7**	**-0.4**
PTGC				S	**Sn**	**18 17 19.7**	**-2.2**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P	**Pn**	**18 16 51.7**	**+1.1**
CBOC				S	**Sn**	**18 17 27.4**	**-0.8**
DBBC	**Dabeiba**	**3.11**	**273**	P	**Pn**	**18 16 51.5**	**+0.5**
DBBC				S	**Sn**	**18 17 27.9**	**-1.0**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**18 16 53.4**	**+1.5**
	86nm,0.3s,baz=234,slow=11,SNR=133						
SDV				S	**Sn**	**18 17 29.6**	**-0.7**
	328nm,0.4s,baz=113,slow=20,SNR=23						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**18 16 53.3**	**+1.5**
SDV				S	**Sn**	**18 17 30.0**	**-0.3**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**18 16 54.4**	**+2.3**
ARGC				S	**Sn**	**18 17 32.1**	**+1.1**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**18 16 57.3**	**+0.1**
PRAC				S	**Sn**	**18 17 40.0**	**0.0**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**18 16 57.5**	**+0.3**
PRAC				S	**Sn**	**18 17 39.2**	**-0.9**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**18 16 58.0**	**+0.5**
APAC				S	**Sn**	**18 17 41.1**	**+0.6**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**18 16 58.4**	**+0.8**
ORTC				S	**Sn**	**18 17 40.5**	**-0.3**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**18 16 58.4**	**+0.2**
SJCC				S	**Sn**	**18 17 40.3**	**-1.5**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**18 16 57.8**	**-0.4**
SJCC				S	**Sn**	**18 17 39.4**	**-2.4**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**18 17 00.8**	**+0.8**
URMC				S	**Sn**	**18 17 44.2**	**-0.8**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**18 17 04.3**	**-0.1**
CRJC				S	**Sn**	**18 17 50.2**	**-2.8**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**18 17 06.7**	**0.0**
YOTC				S	**Sn**	**18 17 57.2**	**+0.2**
PTAC	**Punta Ardita,**	**4.70**	**274**	P	**Pn**	**18 17 11.0**	**-0.5**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**18 17 10.7**	**-1.4**
MACC				S	**Sn**	**18 18 03.2**	**-3.5**
URI	**Uribia**	**4.94**	**13**	P	**Pn**	**18 17 14.4**	**-0.4**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**18 17 14.3**	**-0.4**
URIC				S	**Sn**	**18 18 09.7**	**-1.8**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**18 17 23.9**	**+0.5**
	11nm,0.6s						
POPC				S	**Sn**	**18 18 25.9**	**-1.2**
	11nm,0.6s						
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**18 17 26.8**	**+0.3**
	517nm20nm,1.1s						
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**18 17 32.7**	**-0.7**
CRUC	**La Cruz**	**6.51**	**216**	P	**Pn**	**18 17 38.7**	**+2.8**
GCUF	**Volcan Galeras**	**7.02**	**217**	P	**Pn**	**18 17 42.9**	**+0.1**
	19nm,0.7s						
BCIP	**Isla Barro Col**	**7.07**	**289**	P	**Pn**	**18 17 41.3**	**-1.8**
OTAV	**Otavalo**	**8.47**	**219**	P	**Pn**	**18 18 03.6**	**+1.4**
JTS	**Las Juntas de**	**12.22**	**287**	LR	LR	18 24 41.5	
	comp=Z,38nm,21.2s,baz=218,slow=42						
ATAH	**Atahualpa**	**14.87**	**201**	P	**P**	**18 19 26.6**	**-0.4**
	3.1nm,0.6s,baz=66,slow=22,SNR=3.5						
LPAZ	**La Paz**	**23.51**	**168**	P	**P**	**18 20 57.6**	**-1.3**
	1.4nm,0.6s,baz=338,slow=12,SNR=6.6						
	1.4nm,0.6s						
BDFB	**Brasilia**	**33.41**	**132**	P	**P**	**18 22 26.7**	**+0.3**
	2.4nm,0.6s,baz=302,slow=12,SNR=3.3						
	2.4nm,0.6s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**18 22 54.3**	**+1.8**
	0.7nm,0.7s,baz=126,slow=9.4,SNR=8.0						
TXAR				PcP	**PcP**	**18 25 15.4**	**+2.2**
	0.3nm,0.6s,baz=149,slow=2.8,SNR=3.6						
TXAR				LR	LR	18 41 30.0	
	comp=Z,16nm,18.4s,baz=282,slow=42						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**18 24 28.3**	**+1.9**
	0.2nm,0.4s,baz=139,slow=8.1,SNR=2.1						
	0.2nm,0.4s						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**18 24 25.3**	**-0.8**
	46nm,0.8s,baz=222,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**73.70**	**78**	P	**P**	**18 27 18.3**	**-1.3**
	0.2nm,0.7s,baz=299,slow=5.5,SNR=1.7						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**117.72**	**20**	PKP	**PKPdf**	**18 34 30.4**	**+0.4**
	0.3nm,0.6s,baz=336,slow=2.0,SNR=2.7						
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	**PKPdf**	**18 34 38.7**	**-0.3**
	0.2nm,0.4s,baz=294,slow=3.7,SNR=5.7						
SONM	**Songino Array**	**125.55**	**0**	PKP	**PKiKP**	**18 34 46.7**	**+0.9**
	0.7nm,0.6s,baz=0.0,slow=3.0,SNR=2.7						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PK

BUJR	**Buynaksk**	**0.23 147**	*e*Pg	Pn	18 23 47.7	+1.5
BUJR			*e*Sg	Sn	18 23 57.4	+2.5
BUJR	**Buynaksk**	**0.23 147**	*e*P	Pn	18 23 47.7	+1.5
BUJR			*e*S	Sn	18 23 57.4	+2.5
BUJR			pmax	pmax		
	comp=Z,88nm,0.3s					
UNCR	**Uncukul**	**0.32 199**	*e*P	Pn	18 23 48.2	+1.4
UNCR			*e*S	Sn	18 23 58.0	+2.2
UNCR			pmax	pmax		
	comp=Z,35nm,0.3s					
ARKR	**Arakani**	**0.42 174**	*e*Pg	Pn	18 23 48.0	+0.6
ARKR			*e*Sg	Sn	18 23 58.6	+1.5
ARKR	**Arakani**	**0.42 174**	*e*P	Pn	18 23 48.0	+0.6
ARKR			*e*S	Sn	18 23 58.5	+1.5
ARKR			pmax	pmax		
	comp=Z,75nm,0.6s					
MAK	**Makhachkala**	**0.42 98**	*e*P	Pn	18 23 48.5	+1.2
MAK			*e*S	Sn	18 23 58.8	+1.9
MAK			pmax	pmax		
	comp=Z,104nm,0.4s					
KANR	**Karaman**	**0.44 66**	*e*Pg	Pn	18 23 48.7	+1.3
KANR			*e*Sg	Sn	18 23 59.3	+2.2
KANR	**Karaman**	**0.44 66**	*e*P	Pn	18 23 48.7	+1.2
KANR			*e*S	Sn	18 23 59.3	+2.1
KANR			pmax	pmax		
	comp=Z,216nm,0.6s					
DVE	**Vedeno**	**0.60 264**	*e*Pg	Pn	18 23 50.4	+1.4
DVE			*e*Sg	Sn	18 24 02.0	+2.2
DVE	**Vedeno**	**0.60 264**	*d i*P	Pn	18 23 50.0	+1.0
DVE			*i* S	Sn	18 24 02.0	+2.2
DVE			pmax	pmax		
	comp=Z,110nm,0.7s					
BTLR	**Botlikh**	**0.64 236**	*e*Pg	Pn	18 23 50.4	+1.0
BTLR			*e*Sg	Sn	18 24 02.1	+1.7
BTLR	**Botlikh**	**0.64 236**	*e*P	Pn	18 23 50.4	+1.0
BTLR			*e*S	Sn	18 24 02.1	+1.6
BTLR			pmax	pmax		
	comp=Z,65nm,0.4s					
SGKR	**Sergokala**	**0.77 136**	*e*Pg	Pn	18 23 52.6	+1.9
SGKR			*e*Sg	Sn	18 24 05.1	+2.2
SGKR	**Sergokala**	**0.77 136**	*e*P	Pn	18 23 52.6	+1.8
SGKR			*e*S	Sn	18 24 05.1	+2.2
SGKR			pmax	pmax		
	comp=Z,54nm,0.3s					
GROC	**Groznyy**	**0.85 283**	*e*Pg	Pn	18 23 53.4	+1.8
GROC			*e*Sg	Sn	18 24 07.0	+2.5
GROC	**Groznyy**	**0.85 283**	*e*P	Pn	18 23 53.4	+1.8
GROC			*e*S	Sn	18 24 07.0	+2.5
KMKR	**Kumukh**	**0.90 172**	*e*Pg	Pn	18 23 53.8	+1.5
KMKR			*e*Sg	Sn	18 24 07.9	+2.2
KMKR	**Kumukh**	**0.90 172**	*e*P	Pn	18 23 53.8	+1.4
KMKR			*e*S	Sn	18 24 07.9	+2.2
KMKR			pmax	pmax		
	comp=Z,31nm,0.4s					
URKR	**Urkarakh**	**1.00 149**	*e*Pg	Pn	18 23 55.1	+1.6
URKR			*e*Sg	Sn	18 24 09.8	+2.1
URKR	**Urkarakh**	**1.00 149**	*e*P	Pn	18 23 55.0	+1.5
URKR			*e*S	Sn	18 24 09.7	+2.0
URKR			pmax	pmax		
	comp=Z,27nm,0.8s					
TLTR	**Tlyarata**	**1.01 205**	*e*Pg	Pn	18 23 55.0	+1.3
TLTR			*e*Sg	Sn	18 24 09.5	+1.5
TLTR	**Tlyarata**	**1.01 205**	*e*P	Pn	18 23 54.9	+1.3
TLTR			*e*S	Sn	18 24 09.4	+1.4
TLTR			pmax	pmax		
	comp=Z,20nm,0.6s					
DRN	**Derbent**	**1.43 133**	*e*Pg	Pn	18 24 00.3	+1.6
DRN			*e*Sg	Sn	18 24 19.8	+2.8
DRN	**Derbent**	**1.43 133**	*e*P	Pn	18 24 00.3	+1.6
DRN			*e*S	Sn	18 24 19.7	+2.7
DRN			pmax	pmax		
	comp=Z,52nm,0.2s					
KMGR	**Komgaron**	**1.52 272**	*e*Pg	Pn	18 24 01.1	+1.1
KMGR			*e*Sg	Sn	18 24 21.7	+2.4
KMGR	**Komgaron**	**1.52 272**	*e*P	Pn	18 24 01.8	+1.9
KMGR			*e*S	Sn	18 24 21.7	+2.5
AKT	**Akhty**	**1.65 159**	*e*Pg	Pn	18 24 03.2	+1.5
AKT			*e*Sg	Sn	18 24 24.7	+2.4
AKT	**Akhty**	**1.65 159**	*e*P	Pn	18 24 03.2	+1.5
AKT			*e*S	Sn	18 24 24.7	+2.3
AKT			pmax	pmax		
	comp=Z,15nm,0.2s					
VLKR	**Vladikavkaz**	**1.66 272**	*e*Pg	Pn	18 24 02.5	+0.8
VLKR			*e*Sg	Sn	18 24 25.2	+2.8
VLKR	**Vladikavkaz**	**1.66 272**	*e*P	Pn	18 24 03.4	+1.7
VLKR			*e*S	Sn	18 24 25.1	+2.6
KSMR	**Kasumkent**	**1.67 148**	*e*Pg	Pn	18 24 03.8	+1.9
KSMR			*e*Sg	Sn	18 24 25.7	+2.9
KSMR	**Kasumkent**	**1.67 148**	*e*P	Pn	18 24 03.8	+1.9
KSMR			*e*S	Sn	18 24 25.7	+2.9
KSMR			pmax	pmax		
	comp=Z,21nm,0.4s					
TRKR	**Terskaya**	**1.75 294**	*e*Pg	Pn	18 24 03.5	+0.5
TRKR			*e*Sg	Sn	18 24 27.0	+2.3
TRKR	**Terskaya**	**1.75 294**	*e*P	Pn	18 24 03.4	+0.4
TRKR			*e*S	Sn	18 24 27.0	+2.3
BTKR	**Batakoyurt**	**1.79 282**	*e*Pg	Pn	18 24 04.5	+1.1
BTKR			*e*Sg	Sn	18 24 28.9	+3.4
BTKR	**Batakoyurt**	**1.79 282**	*e*P	Pn	18 24 04.5	+1.1
BTKR			*e*S	Sn	18 24 28.9	+3.4
LACR	**Lac**	**1.95 265**	*e*Pg	Pn	18 24 06.9	+1.3
LACR			*e*Sg	Sn	18 24 29.8	+0.3
LACR	**Lac**	**1.95 265**	*e*P	Pn	18 24 07.3	+1.6
LACR			*e*S	Sn	18 24 31.4	+1.9
ARNR	**Ardon**	**1.95 276**	*e*P	Pn	18 24 08.3	+2.7
ARNR			*e*S	Sn	18 24 32.4	+3.1
PRTR	**Priterechnaya**	**2.07 292**	*e*Pg	Pn	18 24 09.1	+2.0
PRTR			*e*Sg	Sn	18 24 34.5	+2.4
PRTR	**Priterechnaya**	**2.07 292**	*e*P	Pn	18 24 09.2	+2.1
PRTR			*e*S	Sn	18 24 35.5	+3.4
KORR	**Kora**	**2.10 273**	*e*Pg	Pn	18 24 09.8	+2.1
KORR			*e*Sg	Sn	18 24 35.1	+2.1
KORR	**Kora**	**2.10 273**	*e*P	Pn	18 24 09.8	+2.1
KORR			*e*S	Sn	18 24 35.8	+2.8
STDR	**Stavd-Durt**	**2.13 280**	*e*Pg	Pn	18 24 07.3	-0.6
STDR			*e*Sg	Sn	18 24 36.0	+2.4
STDR	**Stavd-Durt**	**2.13 280**	*e*P	Pn	18 24 10.8	+2.8
STDR			*e*S	Sn	18 24 36.6	+3.0
LSNR	**Lesken**	**2.29 278**	*e*Pn	Pn	18 24 11.5	+1.3
LSNR			*e*Sn	Sn	18 24 39.5	+1.9
LSNR	**Lesken**	**2.29 278**	*e*P	Pn	18 24 11.8	+1.6
LSNR			*e*S	Sn	18 24 40.1	+2.6
DIGR	**Digorskoe uzhe**	**2.47 268**	*e*P	Pn	18 24 13.8	+1.1
DIGR			*e*S	Sn	18 24 42.3	+0.3
NCK	**Nalchik**	**2.49 282**	*e*Pn	Pn	18 24 12.9	+0.1
NCK			*e*Sn	Sn	18 24 43.5	+1.3
NCK	**Nalchik**	**2.49 282**	⇓*e*P	Pn	18 24 13.1	+0.3
NCK			*i* S	Sn	18 24 41.6	-0.6
NCK			pmax	pmax		
	comp=Z,29nm,0.2s					
NCK			smax	smax		
	comp=Z,63nm,0.2s					
KBTC	**Kuba-Taba**	**2.69 288**	*e*Pn	Pn	18 24 16.2	+0.7
KBTC			*e*Sn	Sn	18 24 47.9	+0.8
KBTC	**Kuba-Taba**	**2.69 288**	*e*P	Pn	18 24 16.2	+0.6
KBTC			*e*S	Sn	18 24 47.9	+0.7
PYA1	**Pyatigorsk**	**2.98 292**	*e*Pn	Pn	18 24 19.6	+0.1
PYA1			*e*Sn	Sn	18 24 53.0	-1.1
PYA1	**Pyatigorsk**	**2.98 292**	⇑*e*P	Pn	18 24 21.1	+1.6
NEUR	**Neytrino**	**3.11 276**	*e*Pn	Pn	18 24 21.5	+0.2
NEUR			*e*Sn	Sn	18 24 57.9	+0.4
NEUR	**Neytrino**	**3.11 276**	⇓*e*P	Pn	18 24 22.7	+1.4
NEUR			*i* S	Sn	18 24 57.1	-0.4
NEUR			pmax	pmax		
	comp=Z,2.0nm,1.0s					
SHA1	**Shidzhatmaz**	**3.20 284**	*e*Pn	Pn	18 24 22.9	+0.3
SHA1			*e*Sn	Sn	18 24 58.0	-1.8
SHA1	**Shidzhatmaz**	**3.20 284**	*c i*P	Pn	18 24 22.7	+0.1
KIV	**Kislovodsk**	**3.23 288**	*e*Pn	Pn	18 24 23.1	+0.2
KIV			*e*Sn	Sn	18 24 59.5	-0.9
KIV	**Kislovodsk**	**3.23 288**	*e*P	Pn	18 24 23.2	+0.3
KIV			*i* S	Sn	18 25 00.0	-0.4
KIV			pmax	pmax		
	comp=Z,7.0nm,1.2s					
KIV			smax	smax		
	comp=N,30nm,0.7s					
GNI	**Garni**	**3.31 211**	*e*P	Pn	18 24 24.8	+0.8
GNI			*e*S	Sn	18 25 03.8	+1.5
GRYR	**Gornoye**	**4.38 286**	*e*Pn	Pn	18 24 40.4	+1.8
GRYR			*e*Sn	Sn	18 25 29.8	+1.3
GRYR	**Gornoye**	**4.38 286**	*e*P	Pn	18 24 40.4	+1.8
GRYR			*e*S	Sn	18 25 29.8	+1.4
GUZR	**Guzeripl'**	**5.05 283**	*e*P	Pn	18 24 47.9	+0.2
GUZR			*e*S	Sn	18 25 47.8	+3.0

SOME ***17*** *18:27:15.6, 39.°13N×70.°97E, h15km*
KRNET ***17*** *18:27:25.6±0.1, 39.°42N×70.°57E, mb2.9*
NNC ***17*** *18:27:37.5±9.2, 39.°89N×70.°04E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=85.3km s-min=50.2km az=0.0

ISC 17 18:27:27.9±1.8, 39.°48N±0.°10×70.°66E±0.°06, h10km, n12, σ1§53/19, 6C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.88**	**90**	⇑*e*P	**Pg**	**18 27 44.2**	**-0.8**
DRK				⇑*e*S	**Sb**	**18 27 57.6**	**+0.1**
OHH	**Osh**	**1.94**	**57**	⇓*e*P	**Pb**	**18 28 03.2**	**-0.1**
OHH				⇓*e*S	**Sg**	**18 28 30.8**	**+0.6**
ARK	**Arkit**	**2.52**	**23**	⇓*e*P	**Pb**	**18 28 11.3**	**-2.0**
ARK				⇓*e*S	**Sb**	**18 28 44.6**	**+0.2**
ARSB	**Arslanbob**	**2.56**	**43**	⇑*e*P	**Pb**	**18 28 11.6**	**-2.3**
ARSB				⇑*e*S	**Sb**	**18 28 45.8**	**+0.3**
IUG	**Iuzhnay**	**2.71**	**350**	Pg	**Pn**	**18 28 11.7**	**+0.1**
	18nm,0.3s						
IUG				Lg	Lg	18 28 53.9	
	74nm,0.5s						
SALK	**Salom-Alik**	**2.80**	**59**	⇓*e*P	**Pb**	**18 28 15.4**	**-2.7**
SALK				⇓*e*S	**Sb**	**18 28 51.4**	**-1.1**
BRLS	**Borolday**	**3.60**	**350**	Pg	**Pn**	**18 28 24.4**	**+0.6**
	1.0nm,0.1s						
BRLS				Lg	Lg	18 29 15.8	
	5.8nm,0.1s						
BRLS	**Borolday**	**3.60**	**350**	*e*P	**Pn**	**18 28 24.4**	**+0.6**
	1.0nm,0.1s						
BRLS				*e*S	**Sb**	**18 29 15.0**	**-0.4**
	5.6nm,0.1s						
KK31	**Karatay Array**	**3.62**	**358**	⇑Pn	**Pb**	**18 28 29.7**	**-2.3**
	0.9nm,0.3s,baz=178,slow=12,SNR=5.3						
KK31				⇑Lg	Lg	18 29 20.1	
	2.5nm,0.3s,baz=188,slow=30						
MRKS	**Merke**	**3.79**	**30**	Pg	**Pn**	**18 28 28.4**	**+1.9**
	3.9nm,0.3s						
MRKS				Lg	Lg	18 29 22.6	
	4.3nm,0.3s						
MRKS	**Merke**	**3.79**	**30**	*e*P	**Pn**	**18 28 28.6**	**+2.1**
	3.2nm,0.2s						
MRKS				*e*S	**Sb**	**18 29 22.2**	**+1.2**
	7.6nm,0.3s						
AB31	**Akbulak array**	**12.41**	**325**	P	**Pn**	**18 30 26.2**	**+1.7**
	0.3nm,0.5s,baz=138,slow=13,SNR=9.2						

IDC 17 18:29:41.8±6.1, 5.°98S×148.°19E, h100km±46km, mb3.2/2, mbtmp3.8/5, Error ellipse: s-maj=69.9km s-min=27.1km az=146.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**197**	P	Pn	18 30 34.3	-0.7
	7.8nm,0.4s,baz=10,slow=5.3,SNR=13						
PMG				S	Sn	18 31 16.9	+0.7
	9.5nm,0.4s,baz=158,slow=23,SNR=11						
HNR	**Honiara**	**12.15**	**107**	P	Pn	18 32 32.0	+0.5
	29nm,0.3s,baz=228,slow=21,SNR=9.3						
WRA	**Warramunga Arr**	**19.34**	**223**	P	Pn	18 34 00.7	-0.8
	0.2nm,0.4s,baz=46,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**22.32**	**217**	P	P	18 34 31.4	-0.1
	0.4nm,1.0s,baz=51,slow=9.3,SNR=2.6						
	0.4nm,1.0s						
STKA	**Stephens Creek**	**26.49**	**193**	P	P	18 35 09.2	-0.7
	3.9nm,1.1s,baz=11,slow=13,SNR=2.4						
	3.9nm,1.1s						

IDC ***17*** *18:33:08.8±2.2, 6.°35S×146.°59E, h117km±21km, mb3.6/6, mbtmp4.2/9, MS3.4/2, Error ellipse: s-maj=27.4km s-min=14.5km az=111.0*
NEIC ***17*** *18:33:09.4±1.6, 6.°36S±0.°08×146.°2E±0.°2, h105km±5km, mb4.2/16, Error ellipse: s-maj=23.3km s-min=11.0km az=87.0*

ISC 17 18:33:08.4±0.7, 6.°32S±0.°07×146.°47E±0.°09, h110km, n38, σ1§54/40, mb4.1/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.14**	**167**		**Pn**	**18 33 57.9**	**+1.6**
PMG				Sn	**Sn**	**18 34 33.6**	**+0.3**
PMG	**Port Moresby**	**3.14**	**167**	P	**Pn**	**18 33 57.7**	**+1.4**
	140nm,0.3s,baz=349,slow=6.0,SNR=188						
PMG				S	**Sn**	**18 34 33.2**	**0.0**
	238nm,0.4s,baz=142,slow=22,SNR=39						
PMG	**Port Moresby**	**3.14**	**167**	P	**Pn**	**18 33 57.7**	**+1.4**
MANU	**Manus Island**	**4.34**	**12**	Pn	**Pn**	**18 34 14.8**	**+2.4**
COEN	**Coen**	**8.25**	**203**		**Pn**	**18 35 06.7**	**+1.3**
COEN	**Coen**	**8.25**	**203**	P	**Pn**	**18 35 07.4**	**+2.0**
MTSU	**Mount Surprise**	**11.93**	**190**	P	**Pn**	**18 35 57.6**	**+2.6**
HNR	**Honiara**	**13.70**	**104**	P	**Pn**	**18 36 15.0**	**-3.2**
	13nm,0.3s,baz=237,slow=22,SNR=1.4						
MTN	**Manton Dam**	**16.45**	**246**		**Pn**	**18 36 51.1**	**-1.7**
MTN				IAmb	IAmb	18 37 33.1	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**17.79**	**220**	P	**P**	**18 37 07.5**	**-0.8**
WR8	**Warramunga Arr**	**17.86**	**220**		**P**	**18 37 08.1**	**-1.0**
WRAB	**Tennant Creek**	**17.94**	**220**	P	**P**	**18 37 08.2**	**-1.8**
WRAB				IAmb	IAmb	18 37 09.5	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**17.95**	**220**	P	**P**	**18 37 08.9**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=39,slow=11,SNR=36						
EIDS	**Eidsvold**	**19.45**	**167**	P	**P**	**18 37 27.3**	**+0.9**
EIDS				IAmb	IAmb	18 37 44.6	
	comp=Z,9.7nm,0.9s						
KNRA	**Kununurra**	**19.70**	**240**	P	**P**	**18 37 26.6**	**-2.5**
KNRA				IAmb	IAmb	18 37 31.9	
	comp=Z,27nm,1.5s						
QLP	**Quilpie**	**20.26**	**186**	P	**P**	**18 37 36.7**	**+1.5**
AS01	**Alice Springs**	**21.03**	**214**	P	**P**	**18 37 44.5**	**+0.9**
AS31	**Alice Springs**	**21.06**	**214**	P	**P**	**18 37 43.4**	**-0.4**
ASAR	**Alice Springs**	**21.06**	**214**	P	**P**	**18 37 43.1**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=57,slow=8.9,SNR=43						
ASAR				S	**S**	**18 41 33.4**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=29,slow=23,SNR=4.7						
ASAR				LR	LR	18 46 52.8	
	comp=Z,60nm,21.6s,baz=340,slow=39						
	comp=Z,2.4nm,0.6s						
INKA	**Innaminka**	**21.99**	**194**	P	**P**	**18 37 54.0**	**+0.4**
INKA				IAmb	IAmb	18 37 56.3	
	comp=Z,9.4nm,0.5s						
AULRC	**Lightning Ridg**	**23.03**	**177**	P	**P**	**18 38 04.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.45**	**238**		**P**	**18 38 06.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**23.45**	**238**	P	**P**	**18 38 07.4**	**-0.7**
ARMA	**Armidale**	**24.46**	**169**	P	**P**	**18 38 19.1**	**+1.9**
ARMA				IAmb	IAmb	18 38 56.4	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**25.83**	**190**	P	**P**	**18 38 30.1**	**+0.5**
STKA	**Stephens Creek**	**25.83**	**190**	P	**P**	**18 38 30.1**	**+0.5**
	comp=Z,3.6nm,0.4s,baz=6.7,slow=12,SNR=3.2						
	comp=Z,3.6nm,0.4s						
BBOO	**Buckleboo**	**28.08**	**199**	P	**P**	**18 38 47.5**	**-2.3**
MBWA	**Marble Bar**	**29.79**	**238**	P	**P**	**18 39 03.1**	**-2.0**
FORT	**Forrest**	**29.84**	**213**	P	**P**	**18 39 04.5**	**-0.8**
FORT				IAmb	IAmb	18 39 41.6	
	comp=Z,5.6nm,0.9s						
PSA00	**Pilbara Seismi**	**29.88**	**237**	P	**P**	**18 39 04.4**	**-1.4**
PSA00	**Pilbara Seismi**	**29.88**	**237**	P	**P**	**18 39 04.0**	**-1.8**
PSA00				IAmb	IAmb	18 39 07.5	
	comp=Z,3.1nm,1.1s						
RAO	**Raoul Island**	**40.59**	**129**	LR	LR	18 53 05.9	
	comp=Z,89nm,19.7s,baz=157,slow=30						
CMAR	**Chiang Mai Arr**	**52.94**	**299**	P	**P**	**18 42 15.0**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=111,slow=7.1,SNR=5.2						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**18 44 17.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=327,slow=6.5,SNR=10						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**77.41**	**321**	P	**P**	**18 44 51.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=112,slow=6.9,SNR=2.0						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**83.65**	**180**	P	**P**	**18 45 27.3**	**+2.7**
	comp=Z,1.3nm,0.5s,baz=276,slow=1.6,SNR=7.8						
ILAR	**Eielson Array**	**85.98**	**23**	P	**P**	**18 45 35.0**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=257,slow=5.2,SNR=32						
	comp=Z,2.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**144.66**	**284**	PKP	**PKPdf**	**18 52 33.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=59,slow=5.1,SNR=11						

JMA 17 19:03:18.3±0.2, 29.°6N±0.°8×14.°2E±.°, h66km, MV3.9/15, NEAR TORISHIMA IS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**182**	*e*P	Pn	19 03 57.4	+0.7
CBIJ				*e*S	Sn	19 04 26.6	+0.5
JAOM	**Aogashimamukai**	**3.58**	**323**	*e*S	Sn	19 04 54.4	+1.8
BSO1	**Boso 1**	**5.16**	**348**	*e*P	Pn	19 04 34.6	+2.1
BSO1				*e*S	Sn	19 05 32.3	+1.9
BSO3	**Boso 3**	**5.40**	**344**	*e*P	Pn	19 04 39.1	+3.1
JHO	**Hitachi**	**7.14**	**349**	*e*P	Pn	19 05 00.4	+0.4
JHO				*e*S	Sn	19 06 16.1	-3.5
JAG	**Ashikaga**	**7.21**	**341**	*e*P	Pn	19 05 03.0	+1.9

IDC ***17*** *19:07:38.0±1.3, 2.°72S×138.°36E, h0km, mb3.5/3, mbtmp3.5/6, ML3.2/3, Error ellipse: s-maj=27.0km s-min=23.8km az=133.0*

ISC 17 19:07:42.7±1.0, 2.°8S±0.°1×138.°33E±0.°10, h35km, n6, σ2§24/7, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.40**	**83**	Pn	**Pn**	**19 08 17.0**	**-2.5**
	2.9nm,0.3s,baz=270,slow=7.1,SNR=11						
JAY				Sn	**Sn**	**19 08 50.4**	**+2.7**
	4.6nm,0.3s,baz=114,slow=18,SNR=6.4						
	8.2nm,0.4s						
WRA	**Warramunga Arr**	**17.46**	**193**	P	**P**	**19 11 45.6**	**+0.9**
	0.1nm,0.3s,baz=13,slow=12,SNR=8.9						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.63**	**218**	P	**Pn**	**19 12 09.4**	**-0.6**
	baz=27,slow=14,SNR=1.4						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**21.16**	**191**	P	**P**	**19 12 25.9**	**+0.8**
	0.4nm,0.4s,baz=13,slow=11,SNR=9.7						
	0.4nm,0.4s						
SONM	**Songino Array**	**57.65**	**335**	P	**P**	**19 17 31.5**	**+1.8**
	0.3nm,0.5s,baz=133,slow=5.9,SNR=1.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.64**	**323**	P	**P**	**19 18 47.5**	**-1.2**
	0.8nm,0.6s,baz=111,slow=6.3,SNR=2.9						
	0.8nm,0.6s						

SOME ***17*** *19:09:54.9, 42.°13N×80.°93E, h15km*
NNC ***17*** *19:09:55.7±1.0, 42.°12N×80.°82E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=7.4km s-min=5.8km az=166.0*
IDC ***17*** *19:09:58.1±5.0, 42.°55N×80.°54E, h0km, mbtmp3.6/3, ML3.1/3, Error ellipse: s-maj=69.5km s-min=35.0km az=84.0*

ISC 17 19:09:57.0±1.5, 42.°22N±0.°08×80.°83E±0.°04, h10km, n36, σ2§28/46, 9C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.38**	**313**	*e*P	**Pn**	**19 10 19.4**	**-3.0**
	110nm,0.1s						
SHLS				*e*S	**Sn**	**19 10 37.7**	**-3.0**
	2μm,0.2s						
PDGK	**Podgornoye**	**1.49**	**319**	⇑Pn	**Pb**	**19 10 24.2**	**-0.5**
	24nm,0.2s						
PDGK				⇑Sn	**Sg**	**19 10 46.7**	**+1.9**
	90nm,0.2s						
UZB	**Uzynbulak**	**1.63**	**305**	*e*P	**Pb**	**19 10 27.5**	**+0.4**
	34nm,0.2s						
UZB				*e*S	**Sg**	**19 10 51.5**	**+2.2**
	279nm,0.3s						
SATY	**Saty**	**1.98**	**296**	Pg	**Pb**	**19 10 33.6**	**+0.5**
	66nm,0.2s						
KPKS	**Kokpek**	**2.01**	**309**	Pg	**Pb**	**19 10 34.3**	**+0.6**
	70nm,0.2s						
KPKS				Lg	Lg	19 11 02.2	
	432nm,0.3s						
KURS	**Kuram**	**2.33**	**304**	Pg	**Pb**	**19 10 39.6**	**+0.4**
	73nm,0.5s						
KURS				Lg	Lg	19 11 11.5	
	328nm,0.5s						
MDOK	**Medeo**	**2.95**	**290**	Pg	**Pb**	**19 10 50.1**	**+0.4**
	24nm,0.4s						
MDOK				Lg	Lg	19 11 28.9	
	136nm,0.4s						
ARXS	**Arharly**	**2.97**	**313**	Pg	**Pb**	**19 10 51.2**	**+1.3**
	20nm,0.3s						
ARXS				Lg	Lg	19 11 31.0	
	386nm,0.3s						
ARXS	**Arharly**	**2.97**	**313**	*e*P	**Pb**	**19 10 51.2**	**+1.3**
ARXS				*e*S	**Sg**	**19 11 31.0**	**-1.2**
TNSS	**Tian-Shan**	**2.98**	**287**	Pg	**Pb**	**19 10 50.8**	**+0.4**
	10.0nm,0.3s						
TNSS				Lg	Lg	19 11 30.9	
	53nm,0.5s						
TNSS	**Tian-Shan**	**2.98**	**287**	*e*P	**Pb**	**19 10 50.8**	**+0.4**
	10.0nm,0.3s						
TNSS				*e*S	**Sg**	**19 11 30.9**	**-1.8**
	53nm,0.5s						
KNDC	**Almaty**	**3.02**	**291**	⇑Pg	**Pb**	**19 10 50.9**	**+0.1**
	64nm,0.6s						
KNDC				⇓Lg	Lg	19 11 34.0	
	206nm,0.5s						
KAPS	**Kapalarasan**	**3.25**	**341**	Pg	**Pb**	**19 10 55.2**	**+0.5**
	15nm,0.2s						
KAPS				Lg	Lg	19 11 38.7	
	237nm,0.2s						
CHKK	**Chushkaly**	**3.26**	**301**	Pg	**Pb**	**19 10 56.2**	**+1.3**
	3.7nm,0.1s						
CHKK				Lg	Lg	19 11 39.9	
	68nm,0.3s						
CHKK	**Chushkaly**	**3.26**	**301**	*e*P	**Pb**	**19 10 56.2**	**+1.3**
	3.7nm,0.1s			

AAK				⇑Lg	Lg	19 12 25.9	
	33nm,1.1s						
SGDS	**Sogindy**	**4.72 287**		Pg	**Pg**	**19 11 24.3**	**-3.2**
	3.3nm,0.3s						
MRKS	**Merke**	**5.65 278**		Pg	**Pg**	**19 11 40.7**	**-4.5**
	6.6nm,0.4s						
ZSN	**Zaisan**	**5.96**	**27**	Pg	**Pb**	**19 11 43.7**	**+2.7**
	7.5nm,0.3s						
ZSN	**Zaisan**	**5.96**	**27**	*e*P	**Pb**	**19 11 43.7**	**+2.7**
	7.5nm,0.3s						
ZSN				*e*S	**Sg**	**19 13 01.3**	**-7.0**
	29nm,0.5s						
KK31	**Karatay Array**	**7.66 280**		Pg	Pb	19 12 16.1	+6.3
	1.9nm,0.6s,baz=93,slow=16,SNR=11						
KK31				⇑Lg	Lg	19 14 00.6	
	4.6nm,0.5s,baz=96,slow=27						
KURK	**Kurchatov**	**8.63 351**		⇓Pn	**Pn**	**19 12 04.0**	**+2.2**
	1.6nm,1.0s						
KURK				⇓Lg	Lg	19 14 32.2	
	12nm,1.1s						
ZALV	**Zalesovo Beam**	**12.03**	**11**	Pn	**Pn**	**19 12 46.7**	**-1.6**
	0.2nm,0.3s,baz=191,slow=14,SNR=5.9						
	1.1nm,0.5s						
SONM	**Songino Array**	**18.88**	**64**	P	**Pn**	**19 14 20.9**	**+3.0**
	baz=265,slow=11,SNR=3.8						
	0.6nm,0.5s						

SOME ***17*** *19:14:18.6,42°.08N×81°.00E,h15km*
NNC ***17*** *19:14:21.2±1.6,42°.21N×81°.01E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=13.6km s-min=9.5km az=24.0
ISC 17 19:14:20.9±2.2,42°.12N±0°.09×80°.83E±0°.08,h10km,n25,
σ2°03/33,8C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.45 316**		*e*P	**Pn**	**19 14 44.2**	**-3.1**
	34nm,0.1s						
SHLS				*e*S	**Sn**	**19 15 02.5**	**-3.9**
	338nm,0.3s						
PDGK	**Podgornoye**	**1.56 321**		⇑P	**Pb**	**19 14 49.7**	**-0.3**
	9.2nm,0.3s						
PDGK				⇑S	**Sg**	**19 15 11.7**	**+0.5**
	18nm,0.2s						
UZB	**Uzynbulak**	**1.69 308**		*e*P	**Pb**	**19 14 52.3**	**+0.2**
	12nm,0.2s						
UZB				*e*S	**Sg**	**19 15 16.6**	**+1.5**
	70nm,0.1s						
KPKS	**Kokpek**	**2.08 311**		Pg	**Pb**	**19 14 58.5**	**-0.2**
	0.2nm,0.1s						
KPKS				Lg	Lg	19 15 27.4	
	104nm,0.2s						
KURS	**Kuram**	**2.39 306**		Pg	**Pb**	**19 15 04.4**	**+0.3**
	15nm,0.3s						
KURS				Lg	Lg	19 15 36.8	
	26nm,0.4s						
MDOK	**Medeo**	**2.98 292**		Pg	**Pb**	**19 15 15.0**	**+0.9**
	5.1nm,0.3s						
MDOK				Lg	Lg	19 15 56.0	
	34nm,0.4s						
TNSS	**Tian-Shan**	**3.01 289**		Pg	**Pb**	**19 15 16.0**	**+1.1**
TNSS				Lg	Lg	19 15 58.1	
TNSS	**Tian-Shan**	**3.01 289**		*e*P	**Pb**	**19 15 16.0**	**+1.1**
	2.1nm,0.2s						
TNSS				*e*S	**Sg**	**19 15 57.3**	**-0.4**
	11nm,0.3s						
ARXS	**Arharly**	**3.04 315**		*e*P	**Pb**	**19 15 15.2**	**+0.2**
ARXS				*e*S	**Sb**	**19 15 55.8**	**+3.6**
KNDC	**Almaty**	**3.05 292**		⇑Pn	**Pb**	**19 15 12.6**	**-2.8**
	37nm,1.0s						
KNDC				⇑Lg	Lg	19 16 01.0	
	49nm,0.5s						
CHKK	**Chushkaly**	**3.31 303**		Pg	**Pb**	**19 15 20.4**	**+0.7**
CHKK				Lg	Lg	19 16 04.7	
CHKK	**Chushkaly**	**3.31 303**		*e*P	**Pb**	**19 15 20.4**	**+0.7**
	2.1nm,0.1s						
CHKK				*e*S	**Sb**	**19 16 04.9**	**+4.8**
	26nm,0.2s						
KAPS	**Kapalarasan**	**3.34 342**		Pg	**Pb**	**19 15 19.5**	**-0.8**
	4.1nm,0.1s						
KAPS				Lg	Lg	19 16 03.5	
	59nm,0.2s						
TDK	**Taldyqorghan**	**3.38 329**		*e*P	**Pb**	**19 15 20.8**	**-0.1**
	6.2nm,0.1s						
TDK				*e*S	**Sb**	**19 16 05.2**	**+3.2**
	52nm,0.3s						
MTBS	**Maitube**	**3.40 289**		Pg	**Pb**	**19 15 22.4**	**+1.2**
	2.8nm,0.2s						
MTBS				Lg	Lg	19 16 08.4	
	21nm,0.3s						
MTBS	**Maitube**	**3.40 289**		*e*P	**Pb**	**19 15 22.4**	**+1.2**
	2.8nm,0.2s						
MTBS				*e*S	**Sg**	**19 16 08.4**	**-1.7**
	21nm,0.3s						
KTBS	**Karatobe**	**3.44 299**		Pg	**Pb**	**19 15 22.5**	**+0.6**
	1.7nm,0.2s						
KTBS				Lg	Lg	19 16 08.5	
	22nm,0.4s						
KST	**Kastek**	**3.71 286**		Pg	**Pb**	**19 15 29.4**	**+2.8**
	4.6nm,0.3s						
KST				Lg	Lg	19 16 20.3	
	18nm,0.4s						
KST	**Kastek**	**3.71 286**		*e*P	**Pb**	**19 15 29.4**	**+2.8**
	3.6nm,0.1s						
KST				*e*S	**Sg**	**19 16 20.3**	**+0.3**
	24nm,0.2s						
DGS	**Degeres**	**3.89 289**		Pg	**Pb**	**19 15 31.8**	**+2.1**
	2.3nm,0.2s						
DGS				Lg	Lg	19 16 24.4	
	29nm,0.4s						
KRBS	**Karabastau**	**4.10 294**		Pg	**Pb**	**19 15 35.0**	**+1.8**
	1.0nm,0.2s						
KRBS				Lg	Lg	19 16 30.1	
	6.9nm,0.3s						
AAK	**Ala-Archa**	**4.72 278**		⇑Pg	**Pg**	**19 15 49.1**	**-2.2**
	3.4nm,0.9s						
AAK				⇑Lg	Lg	19 16 55.1	
	4.1nm,0.7s						
MAKZ	**Makanchi**	**4.76**	**10**	⇑Pn	**Pn**	**19 15 33.6**	**+0.8**
MAKZ				⇑Lg	Lg	19 16 48.9	
	6.5nm,0.8s						
MK31	**Makanchi Array**	**4.79**	**12**	Pn	**Pn**	**19 15 34.5**	**+1.3**
	1.8nm,0.2s,baz=185,slow=12,SNR=55						
MK31				⇓Lg	Lg	19 16 49.1	
	3.1nm,0.4s,baz=188,slow=28						
KK31	**Karatay Array**	**7.67 281**		Lg	Lg	19 18 28.2	
	0.9nm,0.5s,baz=95,slow=27,SNR=4.1						

SJA ***17*** *19:23:19.2±0.6,22°.84S×66°.39W,h248km±7km,ML3.6,*
MW3.6
ISC 17 19:23:20.0±1.4,22°.79S±0°.06×66°.37W±0°.05,h222km,n22,
σ2°01/42,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.97 115**		*e*P	**Pn**	**19 23 55.1**	**+2.7**
YJA	**Yavi**	**1.00**	**52**	*e*P	**Pn**	**19 23 55.6**	**+3.0**
YJA				*e*S	**S**	**19 24 10.5**	**-7.3**
AZAP	**Zapla**	**1.86 140**		*e*P	**Pn**	**19 24 00.9**	**+1.8**
AZAP				*e*S	S	19 24 12.9	-17
PB09	**IPOC Station P**	**2.84 290**		*e*P	**Pn**	**19 24 11.3**	**+2.1**
PB09				*i* S	**S**	**19 24 49.1**	**+1.6**
PB06	**IPOC Station P**	**2.96 271**		*e*P	**Pn**	**19 24 11.9**	**+1.4**
PB06				*i* S	**S**	**19 24 50.6**	**+0.7**
PB06				IAML		19 24 54.0	
	comp=E,389nm,0.1s						
PB03	**IPOC Station P**	**3.22 283**		*e*P	**Pn**	**19 24 14.8**	**+1.3**
PB03				*i* S	**S**	**19 24 54.9**	**-0.3**
PB01	**IPOC Station P**	**3.38 300**		*e*P	**Pn**	**19 24 16.4**	**+1.1**
PB01				*i* S	**S**	**19 24 58.7**	**+0.2**
PB01	**IPOC Station P**	**3.38 300**		*e*P	**Pn**	**19 24 16.6**	**+1.3**
PB01				*e*S	**S**	**19 24 59.4**	**+0.9**
PB01				IAML		19 25 00.4	
	comp=Z,74nm,0.2s						
PB05	**IPOC Station P**	**3.54 268**		*e*P	**Pn**	**19 24 18.2**	**+1.0**
PB05				*i* S	**S**	**19 25 00.5**	**-1.5**
PB05	**IPOC Station P**	**3.54 268**		*e*P	**Pn**	**19 24 17.9**	**+0.7**
PB05				*e*S	**S**	**19 25 01.4**	**-0.6**
PB02	**IPOC Station P**	**3.59 293**		*e*P	**Pn**	**19 24 18.9**	**+1.2**
PB02				*i* S	**S**	**19 25 01.6**	**-1.4**
PB02	**IPOC Station P**	**3.59 293**		*e*P	**Pn**	**19 24 18.7**	**+0.9**
PB02				*e*S	**S**	**19 25 02.5**	**-0.5**
PB02				IAML		19 25 05.5	
	comp=Z,133nm,0.1s						
PB08	**IPOC Station P**	**3.70 315**		*e*P	**Pn**	**19 24 21.5**	**+2.1**
PB08				*i* S	**S**	**19 25 07.1**	**+1.3**
PB10	**IPOC Station P**	**3.92 259**		*e*P	**Pn**	**19 24 22.3**	**+0.7**
PB10				*i* S	**S**	**19 25 07.2**	**-2.8**
PB10	**IPOC Station P**	**3.92 259**		*e*P	**Pn**	**19 24 21.8**	**+0.2**
PB10				*e*S	**S**	**19 25 07.8**	**-2.2**
PB10				IAML		19 25 11.2	
	comp=Z,39nm,0.5s						
PB14	**IPOC Station P**	**4.13 243**		*e*P	**Pn**	**19 24 25.3**	**+0.9**
PB14				*e*S	**S**	**19 25 13.5**	**-1.6**
PB14				IAML		19 25 14.5	
	comp=Z,34nm,0.1s						
TA01	**Diego Aracena**	**4.18 301**		*e*P	**Pn**	**19 24 25.3**	**+0.5**
TA01				*i* S	**S**	**19 25 13.8**	**-2.0**
PB11	**IPOC Station P**	**4.30 314**		*e*P	**Pn**	**19 24 27.0**	**+0.6**
PB11				*i* S	**S**	**19 25 17.1**	**-1.6**
PB11	**IPOC Station P**	**4.30 314**		*e*P	**Pn**	**19 24 27.0**	**+0.6**
PB11				*e*S	**S**	**19 25 17.7**	**-1.0**
PB11				IAML		19 25 19.5	
	comp=Z,49nm,0.1s						
PB16	**IPOC Station P**	**5.32 326**		*e*P	**Pn**	**19 24 41.1**	**+1.5**
PB16				*i* S	**S**	**19 25 41.5**	**-0.9**
PB16	**IPOC Station P**	**5.32 326**		*e*P	**Pn**	**19 24 40.8**	**+1.3**
PB16				*e*S	**S**	**19 25 43.1**	**+0.7**
PB12	**IPOC Station P**	**5.57 318**		*e*P	**Pn**	**19 24 41.5**	**-0.8**
PB12				*i* S	**S**	**19 25 42.5**	**-4.9**

SNET ***17*** *19:27:58.6±4.5,12°.95N×88°.12W,h34km,ML3.4*
CATAC 17 19:27:53.8±0.3,13°N±3°×88°W±°,h54km±4km,M3.1/18,
MLv3.1/18,Error ellipse: s-maj=6.4km s-min=1.9km
az=22.9,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.60**	**60**	P	Pn	19 28 07.6	+1.0
CSGN				S	Sn	19 28 18.9	+2.9
CNCH	**Conchagua**	**0.65**	**23**	*e*P	Pn	19 28 07.8	+0.5
CNCH				*e*S	Sn	19 28 19.6	+2.6
CNCH	**Conchagua**	**0.65**	**23**	P	Pn	19 28 07.7	+0.4
LCND	**La Caada**	**0.66**	**18**	*e*P	Pn	19 28 07.9	+0.6
LCND				*e*S	Sn	19 28 19.0	+1.9
LCND	**La Caada**	**0.66**	**18**	P	Pn	19 28 07.8	+0.5
BLLM	**Bellamira**	**0.78**	**350**	*e*P	Pn	19 28 08.9	+0.1
PACA	**Pacayal**	**0.82**	**344**	S	Sn	19 28 22.5	+1.6
PACA	**Pacayal**	**0.82**	**344**	P	Pn	19 28 09.6	+0.1
CRIN	**San Cristobal**	**1.02**	**88**	P	Pn	19 28 13.1	+1.1
TECO	**Alcaldia de Te**	**1.09**	**322**	S	Sn	19 28 27.2	+0.2
TECO	**Alcaldia de Te**	**1.09**	**322**	P	Pn	19 28 13.0	+0.1
PKGN	**Cerro Pekin**	**1.09**	**90**	P	Pn	19 28 13.3	+0.5
PKGN				S	Sn	19 28 28.2	+1.2
UESV	**Universidad de**	**1.17**	**325**	S	Sn	19 28 29.7	+0.7
UESV	**Universidad de**	**1.17**	**325**	P	Pn	19 28 14.0	0.0
SCLA	**Alcaldia de Sa**	**1.19**	**329**	P	Pn	19 28 14.3	-0.1
SCLA	**Alcaldia de Sa**	**1.19**	**329**	S	Sn	19 28 30.2	+0.6
ALEN	**Leon**	**1.22**	**100**	S	Sn	19 28 30.3	+0.3
POLN	**Al Sur del Vol**	**1.25**	**91**	P	Pn	19 28 14.9	-0.2
POLN				S	Sn	19 28 31.7	+0.7
PLRN	**Geotermica Pol**	**1.30**	**94**	S	Sn	19 28 32.4	+0.4
CNGA	**Al SSO del Vol**	**1.37**	**97**	P	Pn	19 28 16.7	0.0
CNGA				S	Sn	19 28 34.3	+0.4
CNGN	**Cerro Negro**	**1.37**	**97**	P	Pn	19 28 16.3	-0.4
CNGN	**Cerro Negro**	**1.37**	**97**	S	Sn	19 28 34.6	+0.7
LOMA	**Loma Larga**	**1.43**	**313**	S	Sn	19 28 35.8	+0.5
LALI	**Alcalda de L**	**1.44**	**304**	S	Sn	19 28 35.7	+0.2
COPN	**Copaltepe**	**1.55**	**108**	P	Pn	19 28 19.0	-0.1
BOQS	**Boqueron**	**1.56**	**313**	*e*P	Pn	19 28 20.0	+0.5
PMON	**Piamonte**	**1.57**	**311**	P	Pn	19 28 19.6	+0.1
PMON	**Piamonte**	**1.57**	**311**	S	Sn	19 28 39.3	+0.4
MOM2	**El Cardon**	**1.59**	**98**	P	Pn	19 28 19.9	+0.3
MOM2				S	Sn	19 28 40.1	+1.0
TGUH	**Tegucigalpa,Un**	**1.59**	**30**	P	Pn	19 28 19.7	-0.1
TGUH				S	Sn	19 28 39.6	+0.3
JAYA	**Jayaque - finc**	**1.64**	**307**	*e*P	Pn	19 28 20.8	+0.3
JAYA				*e*S	Sn	19 28 40.8	+0.2
JAYA	**Jayaque - finc**	**1.64**	**307**	S	Sn	19 28 41.2	+0.6
JAYA	**Jayaque - finc**	**1.64**	**307**	P	Pn	19 28 20.4	-0.1
LIMN	**Finca el Limon**	**1.73**	**77**	P	Pn	19 28 21.3	-0.3
LIMN				S	Sn	19 28 42.7	0.0
APYN	**Apoyeque**	**1.76**	**104**	S	Sn	19 28 43.2	-0.1
YUSH	**Yuscaran**	**1.76**	**44**	S	Sn	19 28 44.0	+0.6
YUSH	**Yuscaran**	**1.76**	**44**	P	Pn	19 28 21.9	-0.1
APQ2	**Apoyeque**	**1.79**	**105**	S	Sn	19 28 43.9	-0.1
CEVE	**Cerro Verde**	**1.88**	**308**	*e*P	Pn	19 28 24.2	+0.4
CEVE				*e*S	Sn	19 28 49.7	+3.2
CEVE	**Cerro Verde**	**1.88**	**308**	S	Sn	19 28 46.5	-0.1
CEVE	**Cerro Verde**	**1.88**	**308**	P	Pn	19 28 24.4	+0.6
NUBE	**Las Nubes**	**2.04**	**307**	P	Pn	19 28 26.3	+0.3
NUBE	**Las Nubes**	**2.04**	**307**	S	Sn	19 28 50.3	-0.1
RCVN	**Varillal2**	**2.06**	**64**	S	Sn	19 28 51.3	+0.4
RCVN	**Varillal2**	**2.06**	**64**	P	Pn	19 28 26.4	+0.2
MTO3	**Montecristo**	**2.11**	**324**	S	Sn	19 28 52.1	0.0
MTO3	**Montecristo**	**2.11**	**324**	P	Pn	19 28 26.8	-0.2
MATN	**Matagalpa**	**2.13**	**83**	S	Sn	19 28 51.9	-0.6
FAME	**Alcaldia de Sa**	**2.20**	**302**	S	Sn	19 28 53.7	-0.4

IDC ***17*** *19:34:03.4±0.4,2°.97S×141°.71E,h0km,mb5.3/20,*
mbtmp5.4/25,ML5.6/5,MS4.9/38,Error ellipse:
s-maj=9.3km s-min=7.6km az=97.0
BJI ***17*** *19:34:04.8,3°.10S×142°.27E,h41km,mB5.6/66,mb5.3/91,*
Ms5.0/94,Ms7 5.0/94
MOS ***17*** *19:34:05.8±0.9,2°.92S×141°.64E,h25km,mb5.8/43,*
MS5.0/10,Error ellipse: s-maj=8.5km s-min=4.9km
az=109.2
NEIC ***17*** *19:34:07.3,2°.93S×141°.65E,h24km,Moment Tensor*
Solution. Duration: 3s1 Moment tensor: Scale 10^17Nm;
Mrr=0.16; Mθθ=0.99; Mφφ1.16; Mrθ-1.72; Mφφ-0.84; Mφr0.88;
Fault plane solution: M0 2.37000×10^17 NP1:φs24.69000°,
δ35.06000°,λ-4.17000°. NP2:φs118.10000°,δ87.61000°,
λ-124.99000°. Principal axes: T 2.3849, Plg33.0000°,
Azm237.0000°; N -0.0320, Plg35.0000°, Azm120.0000°;
P -2.3529, Plg37.0000°, Azm357.0000°;
NEIC ***17*** *19:34:07.3,2°.93S×141°.65E,h24km*
NEIC ***17*** *19:34:07.3,2°.90S×141°.63E,h18km*
ISC-PP ***17*** *19:34:07,2°.90S×141°.63E,h10km±1km*
NEIC ***17*** *19:34:07.6±1.7,2°.90S±0°.07×141°.63E±0°.05,h20km±3km,*
mb5.8/320,Ms_20 5.3/310,Mwb5.5/42,Mww5.5/23,Error
ellipse: s-maj=9.9km s-min=7.5km az=201.0,Moment
Tensor Solution. Moment tensor: Scale 10^17Nm;
Mrr0.42; Mθθ-1.70; Mφφ1.28; Mrθ-1.06; Mθφ-0.29; Mφr0.69;
Fault plane solution: M0 2.01000×10^17 NP1:
φs304.59000°,δ82.91000°,λ137.94000°. NP2:
φs40.94000°,δ48.34000°,λ9.51000°. Principal axes: T
1.8469, Plg34.0000°, Azm254.0000°; N 0.2906,
Plg47.0000°, Azm117.0000°; P -2.1376, Plg23.0000°,
Azm360.0000°;
IPGP ***17*** *19:34:08.0,2°.94S×141°.65E,h29km,Mw5.5,Fault plane*
solution: NP1:φs29.00000°,δ42.00000°,λ17.00000°.
NP2:φs286.00000°,δ79.00000°,λ131.00000°.
DJA ***17*** *19:34:10.3±0.3,3°S±2°×14°2E±°,h47km±2km,M5.5/110,*
mb5.6/110,mB6.0/90,MLv5.9/8,Mw(mB)5.6/90,
MwMwp5.2/48,Mwp5.4/48
GCMT ***17*** *19:34:10.6±0.1,2°.81S±0°.01×141°.64E±0°.01,h40km,*
MW5.6/153,Moment Tensor Solution. s132,c232;
s153,c298; Duration: 1s5 Moment tensor: Scale 10^17
Nm; Mrr0.18±.03; Mθθ-1.78±.02; Mφφ1.60±.03;
Mrθ-1.65±.04; Mθφ-1.21±.02; Mφr0.82±.03; Best double
couple: M0 2.78000×10^17 NP1:φs28.00000°,δ48.00000°,
λ3.00000°. NP2:φs296.00000°,δ88.00000°,λ138.00000°.
Principal axes: T 2.7360, Plg30.0000°, Azm243.0000°; N
0.0880, Plg48.0000°, Azm113.0000°; P -2.8240,
Plg26.0000°, Azm350.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 17 19:34:08.2±0.4,2°.92S±0°.03×141°.65E±0°.03,h30km±2km,
h30km:pP-P,n1199,σ1°41/1068,mb5.7/313,MS5.2/230,
20C-40D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.02 293**		Pg	**Pn**	**19 34 25.9**	**-0.7**
	791nm,0.3s,baz=149,slow=8.7,SNR=2453						
JAY				Lg	Lg	19 34 40.0	
	5μm,0.3s,baz=360,slow=21,SNR=21						
JAY	**Jayapura**	**1.02 293**		P	**Pn**	**19 34 26.1**	**-0.5**
JAY				S	**Sb**	**19 34 39.7**	**-0.8**
GENI	**Genyem**	**1.51 282**		P	**Pn**	**19 34 33.6**	**+0.3**
GENI	**Genyem**	**1.51 282**		P	**Pn**	**19 34 33.2**	**-0.1**
GENI				S	**Sb**	**19 34 53.7**	**-0.8**
SMPI	**Sarmi**	**3.08 287**		P	**Pn**	**19 34 55.6**	**+0.8**
SRPI	**Serui, Papua**	**5.50 281**		P	**Pn**	**19 35 28.0**	**-0.2**
	5.9nm15μm1μm,0.9s						
SRPI				S	**Sn**	**19 36 31.5**	**+1.0**
	5.9nm15μm1μm,0.9s						
MMPI	**Merauke**	**5.65 193**		P	**Pn**	**19 35 32.3**	**+2.1**
MANU	**Manus Island**	**5.78 81**		P	**Pn**	**19 35 31.1**	**-1.0**
BAKI	**Biak**	**5.79 287**		P	**Pn**	**19 35 34.6**	**+2.3**
	4.7nm10μm14μm1μm,0.8s						
BAKI				S	**Sn**	**19 36 37.7**	**-0.1**
	4.7nm10μm14μm1μm,0.8s						
RKPI	**Ransiki, Papua**	**7.59 280**		P	**Pn**	**19 35 57.5**	**+0.5**
KMPI	**Kaimana, Papua**	**7.96 264**		P	**Pn**	**19 36 03.3**	**+1.3**
	3.5nm9μm13μm591nm,0.5s						
PMG	**Port Moresby**	**8.46 140**			**Pn**	**19 36 09.2**	**+0.5**
PMG	**Port Moresby**	**8.46 140**		Pn	**Pn**	**19 36 09.0**	**+0.2**
	6.7nm,0.3s,baz=19,slow=8.8,SNR=18						
PMG				LR	LR	19 40 29.5	
	comp=Z,8μm,18.6s,baz=350,slow=46						
PMG	**Port Moresby**	**8.46 140**		P	**Pn**	**19 36 10.2**	**+1.4**
PMG	**Port Moresby**	**8.46 140**		*de*P	**Pn**	**19 36 09.3**	**+0.5**
FAKI	**Fak Fak**	**9.38 270**			**Pn**	**19 36 22.1**	**+0.5**
FAKI	**Fak Fak**	**9.38 270**		P	**Pn**	**19 36 22.7**	**+1.1**
FAKI	**Fak Fak**	**9.38 270**		P	**Pn**	**19 36 20.2**	**-1.4**
	6μm4μm279nm,0.9s						
I40PG	**Keravat**	**10.44**	**98**	I	I	20 31 30.0	
	116nm,0.4s,baz=276,slow=317,SNR=0.7						
RABL	**Rabaul**	**10.57**	**97**		**Pn**	**19 36 40.9**	**+3.1**
SWI	**Sorong**	**10.58 281**		P	**Pn**	**19 36 39.6**	**+1.7**
	6μm417nm,0.5s						
COEN	**Coen**	**11.07 172**		P	**Pn**	**19 36 46.7**	**+2.0**
	comp=Z,0.0nmcomp=Z,199nm,1.3s						
COEN	**Coen**	**11.07 172**			**Pn**	**19 36 45.8**	**+1.1**
COEN	**Coen**	**11.07 172**		P	**Pn**	**19 36 46.7**	**+2.0**
COEN	**Coen**	**11.07 172**		S	**Sn**	**19 38 48.7**	**+1.2**
SAUI	**Saumlaki**	**11.46 244**		Pn	**Pn**	**19 36 49.7**	**-0.3**
SAUI	**Saumlaki**	**11.46 244**		P	**Pn**	**19 36 50.7**	**+0.7**
SAUI	**Saumlaki**	**11.46 244**		S	**Sn**	**19 38 57.9**	**+0.9**
SAUI	**Saumlaki**	**11.46 244**		P	**Pn**	**19 36 50.3**	**+0.3**
BNDI	**Bandanaira**	**11.82 262**		P	**Pn**	**19 36 55.7**	**+0.7**
BNDI	**Bandanaira**	**11.82 262**		P	**Pn**	**19 36 55.6**	**+0.6**
	comp=Z,8μmcomp=Z,11μmcomp=Z,453nm,1.6s						
MSAI	**Masohi**	**12.71 268**		P	**Pn**	**19 37 05.5**	**-1.5**
	comp=Z,4μmcomp=Z,6μmcomp=Z,292nm,1.0s						
KDU	**Kakadu**	**13.29 223**		P	**Pn**	**19 37 12.8**	**-2.1**
	comp=Z,188nm,0.5s						
AAI	**Ambon**	**13.45 266**		P	**Pn**	**19 37 14.8**	**-2.4**
	comp=Z,5μmcomp=Z,3μmcomp=Z,150nm,1.1s						
DRS	**Darwin Rock St**	**14.23 228**		P	**Pn**	**19 37 27.4**	**-0.4**
AUDHS	**Darwin High Sc**	**14.29 228**		P	**Pn**	**19 37 27.0**	**-1.6**
AUDHS	**Darwin High Sc**	**14.29 228**		S	**Sn**	**19 40 05.5**	**-0.7**
MTN	**Manton Dam**	**14.33 226**		P	**Pn**	**19 37 27.8**	**-1.5**
	comp=Z,0.0nmcomp=Z,696nm,1.3s						
MTN	**Manton Dam**	**14.33 226**			**Pn**	**19 37 27.2**	**-2.0**
NLAI	**Namlea**	**14.53 268**		P	**Pn**	**19 37 29.0**	**-2.9**
	comp=Z,4μmcomp=Z,4μmcomp=Z,211nm,0.7s						
TNTI	**Ternate**	**14.74 284**			**Pn**	**19 37 35.4**	**+0.6**
TNTI	**Ternate**	**14.74 284**		P	**Pn**	**19 37 36.2**	**+1.4**
TNTI	**Ternate**	**14.74 284**		P	**Pn**	**19 37 36.4**	**+1.6**
	comp=Z,3μmcomp=Z,329nm,1.2s						
MTSU	**Mount Surprise**	**15.34 170**		P	**Pn**	**19 37 42.1**	**-0.8**
	comp=Z,81nm,1.2s						
MTSU	**Mount Surprise**	**15.34 170**		P	**Pn**	**19 37 44.9**	**+2.1**
SANI	**Sanana**	**15.67 273**		P	**Pn**	**19 37 46.5**	**-0.5**
SANI	**Sanana**	**15.67 273**		P	**Pn**	**19 37 43.9**	**-3.1**
	comp=Z,108nm,0.5s						
GUMO	**Guam**	**16.71**	**11**		**Pn**	**19 37 60.0**	**-0.4**
GUMO				IAmb	IAmb	19 38 05.6	
	comp=Z,1μm,1.4s						
GUMO	**Guam**	**16.71**	**11**	Pn	**Pn**	**19 37 60.0**	**-0.4**
	comp=Z,5.1nm,0.3s,baz=183,slow=9.8,SNR=21						
GUMO				Sn	**Sn**	**19 40 59.6**	**-5.6**
	comp=Z,9.7nm,0.3s,baz=31,slow=18,SNR=4.4						
GUMO				LR	LR	19 43 47.5	
	comp=Z,4μm,19.9s,baz=198,slow=35						
	comp=Z,419nm,0.9s						
GUMO	**Guam**	**16.71**	**11**	P	**P**	**19 38 02.1**	**-0.3**
GUMO	**Guam**	**16.71**	**11**	P	**Pn**	**19 38 00.0**	**-0.4**
TV1H	**Townsville Har**	**17.00 163**		P	**P**	**19 38 05.5**	**-0.1**
SGSI	**Sangihe**	**17.39 292**		P	**P**	**19 38 09.2**	**-0.8**
	comp=Z,3μmcomp=Z,8μmcomp=Z,439nm,1.1s						
QIS	**Mount Isa**	**17.64 186**		P	**Pn**	**19 38 10.4**	**-1.6**
	comp=Z,0.0nmcomp=Z,290nm,1.4s						
QIS	**Mount Isa**	**17.64 186**		P	**Pn**	**19 38 11.7**	**-0.3**
KNRA	**Kununurra**	**17.93 224**		P	**Pn**	**19 38 13.4**	**-2.2**
	comp=Z,0.0nmcomp=Z,455nm,0.7s						
KNRA	**Kununurra**	**17.93 224**		P	**Pn**	**19 38 12.7**	**-2.9**
KNRA				IAmb	IAmb	19 38 19.7	
	comp=Z,1μm,1.4s						
KMSI	**Cibinong**	**18.00 281**		P	**Pn**	**19 38 14.5**	**-1.9**
	comp=Z

comp=Z,273nm,1.0s
TOLI2 Tolitoli 21.24 281 P P 19 38 52.3 +0.2
BSSI Bau Bau, Buton 21.33 261 P P 19 38 53.8 +0.8
BNSI Bone 21.55 265 P P 19 38 55.8 +0.4
comp=Z,4μmcomp=Z,6μmcomp=Z,446nm,1.2s
BKSI Bulukumba 21.60 263 P P 19 38 55.2 -0.7
comp=Z,6μmcomp=Z,4μmcomp=Z,412nm,1.3s
FITZ Fitzroy Crossi 21.76 225 P P 19 38 56.5 -1.2
FITZ Fitzroy Crossi 21.76 225 P P 19 38 56.6 -1.0
comp=Z,285nm,1.0s,baz=47,slow=11,SNR=387
FITZ S **S 19 42 57.2 +0.2**
comp=Z,64nm,0.7s,baz=58,slow=19,SNR=3.1
FITZ LR LR 19 48 03.2
comp=Z,13μm,19.0s,baz=46,slow=39
comp=Z,285nm,1.0s
SPSI Sidrap Palu 21.86 267 P P 19 38 58.9 +0.1
comp=Z,5μmcomp=Z,6μmcomp=Z,439nm,1.3s
AS06 Alice Springs 21.90 199 P P 19 38 58.4 -0.8
comp=Z,230nm,1.2s
AS15 Alice Springs 21.91 199 P P 19 38 59.5 +0.3
comp=Z,297nm,1.2s
AS17 Alice Springs 21.91 199 P P 19 38 58.1 -1.1
comp=Z,205nm,0.9s
AS01 Alice Springs 21.92 199 P P 19 38 59.3 -0.1
AS31 Alice Springs 21.94 199 P P 19 38 58.9 -0.6
comp=Z,0.0nmcomp=Z,111nm,0.8s
AS31 Alice Springs 21.94 199 P P 19 38 59.3 -0.3
KAPI Kappang 21.94 264 P P 19 38 59.3 -0.3
KAPI IAmb IAmb 19 39 15.1
comp=Z,399nm,1.6s
KAPI Kappang 21.94 264 LR LR 19 49 15.2
comp=Z,2μm,20.8s,baz=74,slow=42
KAPI Kappang 21.94 264 P P 19 39 01.0 +1.4
KAPI S **S 19 43 02.9 +2.4**
KAPI Kappang 21.94 264 P P 19 39 00.2 +0.6
KAPI Kappang 21.94 264*c i*P **P 19 38 59.8 +0.2**
KAPI pmax pmax
comp=Z,300nm,1.5s
ASAR Alice Springs 21.94 199 P P 19 38 57.9 -1.6
ASAR Alice Springs 21.94 199 P P 19 38 58.5 -1.1
comp=Z,73nm,0.5s,baz=18,slow=6.3,SNR=600
ASAR S **S 19 43 00.5 0.0**
comp=Z,17nm,1.0s,baz=16,slow=27,SNR=2.8
ASAR LR LR 19 48 01.1
comp=Z,11μm,20.5s,baz=20,slow=38
comp=Z,73nm,0.5s
AS09 Alice Springs 21.96 199 P P 19 38 59.2 -0.5
comp=Z,279nm,1.2s
AUALC St Philip's Co 21.97 199 P P 19 38 59.9 0.0
AUNRC North Rockhamp 22.05 158 P P 19 39 03.2 +2.5
BASI Baing, Sumba 22.14 250 P P 19 39 00.1 -1.6
WSI Waingapu 22.24 251 P P 19 38 58.6 -4.2
comp=Z,4μmcomp=Z,9μmcomp=Z,856nm,1.0s
GD1S Gladstone Soft 22.75 157 P P 19 39 07.3 -0.8
WBSI Waikabubak, Su 23.09 252 P P 19 39 07.3 -4.6
comp=Z,4μmcomp=Z,4μmcomp=Z,551nm,1.1s
QLP Quilpie 23.66 174 P P 19 39 17.0 -0.2
comp=Z,485nm,1.3s
QLP Quilpie 23.66 174 P P 19 39 17.7 +0.5
EIDS Eidsvold 24.10 159 P P 19 39 21.8 +0.4
comp=Z,180nm,1.1s
EIDS Eidsvold 24.10 159 P P 19 39 21.1 -0.2
EIDS IAmb IAmb 19 39 34.2
comp=Z,253nm,1.2s
EIDS Eidsvold 24.10 159 P P 19 39 23.1 +1.7
RMQ Roma 24.40 164 P P 19 39 24.3 +0.1
comp=Z,122nm,1.5s
RMQ Roma 24.40 164 P P 19 39 26.1 +1.9
PLAI Plampang 24.45 255 P P 19 39 22.8 -1.9
PLAI Plampang 24.45 255 P P 19 39 21.0 -3.7
comp=Z,2μmcomp=Z,2μmcomp=Z,165nm,1.1s
BKB Balikpapan 24.79 273 P P 19 39 28.6 +0.8
BKB Balikpapan 24.79 273 P P 19 39 28.3 +0.5
TWSI Taliwang, Sumb 25.29 256 P P 19 39 28.9 -3.5
comp=Z,2μmcomp=Z,134nm,1.2s
WRKA Warakurna 25.47 209 P P 19 39 33.4 -0.5
comp=Z,0.0nmcomp=Z,178nm,1.1s
TW1H Toowoomba 1 Ha 26.40 159 P P 19 39 43.4 +1.0
TGY Tagaytay City 26.60 310 LR LR 19 49 43.7
comp=Z,998nm,20.2s,baz=118,slow=35
AUWSH Wavell State H 26.67 157 P P 19 39 46.9 +2.2
BBKI Banjar Baru 26.77 268 P P 19 39 46.1 +0.3
comp=Z,373nm,1.4s
SRBI Singaraja 26.80 258 P P 19 39 44.0 -2.0
comp=Z,163nm,1.2s
MTKI Muara Teweh, K 26.80 274 P P 19 39 45.7 -0.4
comp=Z,2μmcomp=Z,136nm,2.2s
AULRC Lightning Ridg 27.04 168 P P 19 39 49.2 +1.2
KMMI Kalianget 27.87 260 P P 19 39 56.2 +0.5
comp=Z,397nm,1.4s
JAGI Jajag, Banyuwa 27.90 257 P P 19 39 52.8 -3.1
JAGI Jajag, Banyuwa 27.90 257 P P 19 39 53.2 -2.7
JAGI Jajag, Banyuwa 27.90 257 P P 19 39 52.4 -3.5
comp=Z,1μmcomp=Z,97nm,1.2s
MBWA Marble Bar 27.99 228 P P 19 39 56.7 0.0
comp=Z,154nm,1.1s
MBWA Marble Bar 27.99 228 P P 19 39 55.5 -1.1
MBWA IAmb IAmb 19 40 02.0
comp=Z,201nm,1.1s
MBWA Marble Bar 27.99 228 P P 19 39 57.0 +0.3
MBWA Marble Bar 27.99 228 P P 19 39 57.0 +0.3
PSAD1 Pilbara Seismi 28.10 227 P P 19 39 57.2 -0.4
comp=Z,101nm,1.0s
PSA00 Pilbara Seismi 28.16 227 P P 19 39 57.9 -0.2
PSA00 Pilbara Seismi 28.16 227 P P 19 39 56.9 -1.3
PSA00 Pilbara Seismi 28.16 227 P P 19 39 58.6 +0.4
PSAC1 Pilbara Seismi 28.16 227 P P 19 39 58.6 +0.4
PSAB3 Pilbara Seismi 28.17 227 P P 19 39 58.1 -0.1
BLJI Banyuglugur 28.33 259 P P 19 39 57.8 -1.9
comp=Z,2μmcomp=Z,114nm,1.2s
CMSA Cobar Meteorol 28.72 173 P P 19 40 03.6 +0.6
comp=Z,213nm,1.1s
CMSA Cobar Meteorol 28.72 173 P P 19 40 04.2 +1.2
STKA Stephens Creek 28.80 180 P P 19 40 03.4 -0.4
comp=Z,421nm,1.7s
STKA Stephens Creek 28.80 180 P P 19 40 02.8 -1.0
STKA Stephens Creek 28.80 180 P P 19 40 03.2 -0.5
comp=Z,16nm,0.4s,baz=358,slow=8.6,SNR=65
STKA LR LR 19 54 21.4
comp=Z,3μm,19.3s,baz=351,slow=42
comp=Z,16nm,0.4s
STKA Stephens Creek 28.80 180 P P 19 40 03.9 +0.2
STKA Stephens Creek 28.80 180*c i*P **P 19 40 03.4 -0.4**
ARMA Armidale 28.94 162 P P 19 40 05.2 +0.1
comp=Z,61nm,1.7s
ARMA Armidale 28.94 162 P P 19 40 05.0 -0.1
ARMA Armidale 28.94 162 P P 19 40 06.7 +1.6
BWJI Bawean 29.05 263 P P 19 40 07.1 +1.0
GRJI Gresik 29.32 261 P P 19 40 09.1 +0.5
comp=Z,280nm,1.1s
AUPHS Peel High Scho 29.36 164 P P 19 40 10.1 +1.4
SBUM Sibu 29.89 280 P P 19 40 13.8 +0.1
SBUM Sibu 29.89 280 P P 19 40 15.4 +1.7
BBOO Buckleboo 30.19 189 P P 19 40 15.9 -0.2
comp=Z,181nm,1.7s
BBOO Buckleboo 30.19 189 IAmb IAmb 19 40 17.2
comp=Z,150nm,0.9s
BBOO Buckleboo 30.19 189 P P 19 40 16.4 +0.3
WHYH Whyalla 30.20 187 P P 19 40 16.9 +0.8
AUJCS Jamestown Cent 30.26 185 P P 19 40 17.3 +0.7
HTT Hallett 30.46 184 P P 19 40 18.2 -0.3
comp=Z,37nm,1.7s
HTT Hallett 30.46 184 P P 19 40 18.8 +0.3
FORT Forrest 30.54 203 P P 19 40 19.3 +0.1
comp=Z,378nm,1.0s
FORT Forrest 30.54 203 P P 19 40 18.7 -0.4
PCJI Pacitan 30.76 259 P P 19 40 19.4 -1.9
comp=Z,230nm,1.2s
ONTNC Ouen Toro 30.84 131 P P 19 40 21.7 -0.2
ONTNC Ouen Toro 30.84 131 P P 19 40 24.6 +2.7
YATNC Mamie plateau, 31.03 130 P P 19 40 26.4 +2.8
OUENC Ouen Island, N 31.20 130 P P 19 40 27.7 +2.7
SMRI Semarang 31.35 261 P P 19 40 24.9 -1.6
SMRI Semarang 31.35 261 P P 19 40 27.1 +0.6
SMRI Semarang 31.35 261 P P 19 40 25.0 -1.6
comp=Z,226nm,1.0s
UGM Wanagama 31.37 260 P P 19 40 26.3 -0.4
UGM Wanagama 31.37 260 P P 19 40 25.3 -1.4
comp=Z,150nm,1.4s
YOGI Yogyakarta 31.58 260 P P 19 40 27.7 -0.9
MARNC Mare, Loyalty 31.60 128 P P 19 40 30.1 +1.5
KSM Kuching 31.63 278 IAmb IAmb 19 40 31.2
comp=Z,144nm,1.2s
KSM Kuching 31.63 278 P P 19 40 30.2 +1.2
AUCAS Cummins Area S 31.66 189 P P 19 40 30.4 +1.4

SYDH Sydney Hard Ro 31.84 166 P P 19 40 31.8 +1.3
YNG Young 31.84 169 P P 19 40 31.1 +0.4
comp=Z,72nm,0.8s
AUMAR Marden Senior 31.93 185 P P 19 40 32.6 +1.3
GHSS Government Hou 31.96 185 P P 19 40 33.1 +1.5
AUMBR Murray Bridge 32.13 184 P P 19 40 33.9 +0.9
JOW Kunigami 32.28 337 LR LR 19 50 40.9
comp=Z,3μm,21.9s,baz=154,slow=31
JOW Kunigami 32.28 337 P P 19 40 36.2 +1.7
MEEK Meekatharra 32.30 221 P P 19 40 34.5 -0.3
comp=Z,100nm,0.9s
MEEK Meekatharra 32.30 221 P P 19 40 35.0 +0.2
KPJI Karang Pucung 32.87 261 P P 19 40 39.0 -0.8
AUDAR Daramalan Coll 32.91 169 P P 19 40 41.6 +1.6
AUSIS Research Schoo 32.93 169 P P 19 40 41.8 +1.6
AUMTS Mt Stromlo 32.95 169 P P 19 40 41.7 +1.3
CAN Canberra 32.95 169 P P 19 40 40.5 +0.1
CAN Canberra 32.95 169 IAmb IAmb 19 40 55.5
comp=Z,84nm,1.0s
CAN IAMs_20 IAMs_20 19 54 41.6
comp=Z,5μm,20.0s
CAN Canberra 32.95 169 P P 19 40 41.6 +1.2
AUMHS Melrose High S 33.01 169 P P 19 40 42.5 +1.6
CNB Canberra Magne 33.02 168 P P 19 40 41.4 +0.5
comp=Z,57nm,1.1s
CNB Canberra Magne 33.02 168 P P 19 40 42.4 +1.4
GIRL Giralia 33.02 231 P P 19 40 41.4 +0.3
comp=Z,160nm,1.4s
WAKE Wake Island 33.04 47 IAMs_20 IAMs_20 19 51 17.5
comp=Z,4μm,21.0s
AUMAG Moama Anglican 33.14 175 P P 19 40 43.7 +1.8
NACB Ninganchiao 33.25 325 IAmb IAmb 19 40 57.2
comp=Z,184nm,1.5s
NACB Ninganchiao 33.25 325 P P 19 40 44.2 +1.1
H11N1 WAKE ISLAND Hy 33.48 47 T T 20 15 57.1
baz=230,slow=76,SNR=154
H11N2 WAKE ISLAND Hy 33.50 47 T T 20 15 58.3
baz=230,slow=76,SNR=159
H11N3 WAKE ISLAND Hy 33.50 47 T T 20 15 58.4
baz=230,slow=76,SNR=126
ARPS Mount Arapiles 33.68 180 P P 19 40 46.8 +0.2
comp=Z,131nm,1.5s
YHNB Yeheng 33.76 325 IAmb IAmb 19 40 54.0
comp=Z,103nm,1.1s
YHNB Yeheng 33.76 325 P P 19 40 48.6 +1.0
KMBL Kambalda 33.88 211 P P 19 40 48.1 -0.4
comp=Z,98nm,1.3s
TATO Taipei 33.94 326 P P 19 40 49.7 +0.7
AUSMG Snowy Mountain 33.95 170 P P 19 40 50.0 +0.9
TPI Tanjungpandan 33.95 269 P P 19 40 50.4 +1.1
comp=Z,3μmcomp=Z,281nm,1.5s
LEM Lembang 34.12 262 LR LR 19 57 07.7
comp=Z,1μm,21.9s,baz=101,slow=40
BBJI Bungbulang 34.14 261 P P 19 40 49.7 -1.4
BRAT Ballarat 34.53 177 P P 19 40 55.0 +1.1
AUMTC Mt Clear Colle 34.58 177 P P 19 40 55.9 +1.5
CNJI Cibinong 34.64 261 P P 19 40 53.4 -1.9
comp=Z,2μmcomp=Z,155nm,1.0s
MILA Mila 34.66 169 P P 19 40 55.3 +0.1
comp=Z,20nm,1.1s
MILA Mila 34.66 169 P P 19 40 55.9 +0.7
TOO Toolangi 34.66 175 P P 19 40 55.9 +0.6
comp=Z,50nm,1.1s
DBJI Dramaga 34.95 263 P P 19 40 56.8 -1.2
comp=Z,3μmcomp=Z,267nm,1.2s
AUHPC Hawkesdale P12 35.03 179 P P 19 41 00.0 +1.7
SKJI Sukabumi 35.18 262 P P 19 40 58.3 -1.7
QZH Quanzhou 35.61 322 *e*P P 19 40 58.3 -5.2
QZH S **S 19 46 29.4 -8.5**
QZH LR LR
comp=N,1μm,19.9s
QZH LR LR
comp=E,1μm,19.2s
QZH LR LR
comp=Z,2μm,20.3s
MORW Morawa 35.62 221 P P 19 41 02.9 -0.6
comp=Z,255nm,1.2s
MORW Morawa 35.62 221 P P 19 41 03.7 +0.2
JHJ Hachijo jima 2 35.89 357 LR LR 19 52 47.2
comp=Z,4μm,21.0s,baz=219,slow=31
CGJI Cibinong 36.01 263 P P 19 41 04.9 -2.2
BLDU Ballidu 36.26 218 P P 19 41 08.6 -0.4
comp=Z,156nm,1.1s
BLDU Ballidu 36.26 218 P P 19 41 09.4 +0.4
PMBI Palembang 36.82 269 P P 19 41 14.6 +0.5
DSRI Dabo 37.13 273 P P 19 41 16.7 +0.1
comp=Z,1μmcomp=Z,76nm,2.0s
KASI Kota Agung 37.13 265 P P 19 41 14.9 -1.8
JMN Monobe 37.18 349 IAmb IAmb 19 41 18.8
comp=Z,149nm,1.1s
JMN Monobe 37.18 349 P P 19 41 18.1 +1.3
JNU Nakatsue 37.27 345 P P 19 41 17.7 +0.1
JNU Nakatsue 37.27 345 LR LR 19 55 36.2
comp=Z,1μm,19.5s,baz=170,slow=35
JNU Nakatsue 37.27 345 P P 19 41 17.1 -0.5
TPRI Tanjung Pinang 37.30 275 P P 19 41 17.2 -0.9
comp=Z,1μmcomp=Z,81nm,1.7s
MDSI Maura Dua 37.42 266 P P 19 41 18.6 -0.5
comp=Z,4μmcomp=Z,272nm,1.2s
MUN Mundaring 37.52 217 P P 19 41 18.7 -1.0
comp=Z,74nm,1.0s
MUN Mundaring 37.52 217 P P 19 41 20.3 +0.6
MUN Mundaring 37.52 217 P P 19 41 18.7 -1.0
LWLI Liwa 37.55 266 P P 19 41 19.2 -1.2
comp=Z,4μmcomp=Z,207nm,1.0s
NWAO Narrogin (SRO) 37.60 215 P P 19 41 20.1 -0.3
NWAO Narrogin (SRO) 37.60 215 P P 19 41 20.4 0.0
NWAO IAmb IAmb 19 42 44.9
comp=Z,120nm,1.2s
NWAO Narrogin (SRO) 37.60 215 IAMs_20 IAMs_20 19 57 32.8
comp=Z,5μm,22.0s
NWAO Narrogin (SRO) 37.60 215 LR LR 19 58 02.4
comp=Z,5μm,18.7s,baz=34,slow=38
NWAO Narrogin (SRO) 37.60 215 P P 19 41 21.4 +1.0
NWAO Narrogin (SRO) 37.60 215 P P 19 41 21.4 +1.0
NWAO Narrogin (SRO) 37.60 215 P P 19 41 20.4 0.0
NWAO pmax pmax
comp=Z,120nm,1.2s
NWAO MLR MLR
comp=Z,5μm,22.0s
AUMAZ Mazenod Senior 37.64 217 P P 19 41 21.4 +0.7
MTKN Mount Kenneth 37.75 217 P P 19 41 22.9 +1.3
GZH Guangzhou 37.81 315 P P 19 41 25.6 +3.3
GZH S **S 19 47 16.1 +4.5**
GZH pmax pmax
comp=Z,96nm,1.4s
GZH LR LR
comp=Z,1μm,20.2s
GZH LR LR
comp=Z,960nm,18.1s
GZH LR LR
comp=Z,1μm,17.6s
LHSI Lahat 38.06 268 P P 19 41 25.2 +0.6
comp=Z,2μmcomp=Z,368nm,1.4s
MYKOM Kota Tinggi 38.07 277 P P 19 41 25.6 +1.0
BTDF Bukit Timah Da 38.10 276 P P 19 41 25.3 +0.4
QIZ Qiongzhong 38.13 306 P P 19 41 27.3 +2.2
QIZ S **S 19 47 14.0 -2.6**
QIZ pmax pmax
comp=Z,37nm,1.5s
QIZ pmax pmax
comp=Z,510nm,4.4s
QIZ LR LR
comp=Z,480nm,13.5s
QIZ LR LR
comp=Z,870nm,21.2s
QIZ LR LR
comp=Z,1μm,17.1s
AUBRN Burnie High Sc 38.14 175 P P 19 41 26.7 +2.0
INU Inuyama 38.32 354 P P 19 41 27.0 +0.7
GLAD Gladstone 38.32 172 P P 19 41 27.6 +1.3
JGF Kuroka 38.53 354 P P 19 41 28.7 +0.5
CORO Coronation Par 38.68 173 P P 19 41 30.5 +1.2
KSI Kapahiang 38.99 268 P P 19 41 31.7 -0.8
comp=Z,2μmcomp=Z,81nm,1.4s
RKGY Rocky Gully 38.99 213 P P 19 41 32.3 +0.2
comp=Z,205nm,1.3s
SSE Sheshan 39.04 332 P P 19 41 34.0 +1.5
SSE S **S 19 47 31.4 +1.5**
SSE pmax pmax
comp=Z,51nm,1.1s
SSE pmax pmax
comp=Z,450nm,4.0s
SSE LR LR
comp=Z,690nm,18.9s

SSE LR LR
comp=Z,190nm,19.2s
MASI Maura Aman, Be 39.35 269 P P 19 41 34.8 -0.6
MJAR Matsushiro Arr 39.39 356 P P 19 41 33.8 -1.6
MJAR Matsushiro Arr 39.39 356 P P 19 41 33.8 -1.6
comp=Z,17nm,0.7s,baz=168,slow=8.1,SNR=30
MJAR LR LR 19 57 18.8
comp=Z,1μm,19.7s,baz=149,slow=35
comp=Z,17nm,0.7s
MAJO Matsushiro 39.39 356 P P 19 41 33.6 -1.7
MAJO Matsushiro 39.39 356 P P 19 41 34.4 -1.0
MAJO Matsushiro 39.39 356*d i*P **P 19 41 34.0 -1.4**
MAJO pmax pmax
comp=Z,104nm,1.4s
MOO Moorlands 39.66 174 P P 19 41 39.3 +1.8
MOO Moorlands 39.66 174 P P 19 41 39.3 +1.8
TAU Tasmania Unive 40.14 174 P P 19 41 41.0 -0.5
TAU Tasmania Unive 40.14 174 P P 19 41 42.6 +1.2
TAU Tasmania Unive 40.14 174 P P 19 41 41.0 -0.5
TAU pmax pmax
comp=Z,51nm,0.9s
TAU MLR MLR
comp=Z,6μm,19.0s
JMM Marumori 40.59 359 IAmb IAmb 19 41 52.8
comp=Z,130nm,0.9s
JMM Marumori 40.59 359 P P 19 41 45.8 +0.6
BKNI Bangkinang 40.72 274 P P 19 41 46.5 -0.3
BKNI IAmb IAmb 19 41 48.1
comp=Z,264nm,1.0s
BKNI Bangkinang 40.72 274 P P 19 41 47.3 +0.6
JSD Sado 40.87 356 P P 19 41 47.6 0.0
NJ2 Nanjing 40.96 330 ⇓P **P 19 41 49.8 +1.4**
NJ2 pP **pP 19 41 55.0 -2.3**
NJ2 S **S 19 48 01.3 +2.6**
NJ2 pmax pmax
comp=Z,44nm,1.2s
NJ2 pmax pmax
comp=Z,840nm,5.1s
NJ2 LR LR
comp=Z,1μm,18.3s
NJ2 LR LR
comp=Z,810nm,20.6s
NJ2 LR LR
comp=Z,2μm,18.7s
PDSI Padang 41.21 272 P P 19 41 49.6 -1.2
comp=Z,1μmcomp=Z,100nm,1.3s
IPM Ipoh 41.25 280 P P 19 41 51.7 +0.6
PPI Padang Panjang 41.30 273 P P 19 41 51.1 -0.4
comp=Z,3μmcomp=Z,255nm,1.1s
TJN Taejon 41.31 342 P P 19 41 51.3 +0.1
TJN IAmb IAmb 19 41 54.1
comp=Z,196nm,1.0s
TJN Taejon 41.31 342 P P 19 41 52.5 +1.3
TJN Taejon 41.31 342*d i*P **P 19 41 51.4 +0.2**
GULI GuiLin 41.31 315 P P 19 41 54.3 +2.9
GULI S **S 19 48 07.1 +3.1**
GULI pmax pmax
comp=Z,130nm,1.0s
GULI LR LR
comp=Z,380nm,19.5s
GULI LR LR
comp=Z,560nm,19.5s
GULI LR LR
comp=Z,920nm,16.8s
CNSH ChangSha 41.46 320 P P 19 41 54.0 +1.4
CNSH S **S 19 48 08.4 +2.3**
CNSH SS **SS 19 51 15.8 +4.5**
CNSH pmax pmax
comp=Z,140nm,0.9s
CNSH LR LR
comp=Z,700nm,25.7s
CNSH LR LR
comp=Z,2μm,23.5s
CNSH LR LR
comp=Z,2μm,21.4s
KULM Kulim 41.76 281 P P 19 41 54.5 -0.7
KULM Kulim 41.76 281 P P 19 41 55.7 +0.4
KSAR Wonju Array Be 42.15 344 P P 19 41 58.4 +0.3
KSAR Wonju Array Be 42.15 344 P P 19 41 58.4 +0.3
KSRS Korea Array 42.15 344 P P 19 41 57.9 -0.1
comp=Z,22nm,1.0s,baz=160,slow=8.8,SNR=39
KSRS PcP **PcP 19 43 52.7 +0.6**
comp=Z,6.4nm,0.8s,baz=168,slow=4.8,SNR=6.6
KSRS LR LR 19 57 14.4
comp=Z,702μm,20.4s,baz=160,slow=33
comp=Z,22nm,1.0s
MNSI Mandailing Nat 42.21 274 P P 19 41 58.2 -0.8
comp=Z,1μmcomp=Z,57nm,1.1s
WHN Wuhan 42.26 324 ⇓P **P 19 42 01.1 +2.0**
WHN pP **sP 19 42 11.9 +0.3**
WHN sP **pP 19 42 14.8 +6.8**
WHN S **S 19 48 21.3 +3.4**
WHN LR LR
comp=Z,3μm,16.8s
WHN LR LR
comp=Z,1μm,10.3s
WHN LR LR
comp=Z,4μm,20.4s
INCN Inchon 42.55 342 P P 19 42 02.1 +0.8
INCN IAmb IAmb 19 42 03.6
comp=Z,131nm,1.1s
INCN Inchon 42.55 342 P P 19 42 02.2 +0.8
INCN P **P 19 42 02.2 +0.8**
INCN Inchon 42.55 342 P P 19 42 02.5 +1.1
INCN Inchon 42.55 342 P P 19 42 02.1 +0.8
INCN pmax pmax
comp=Z,131nm,1.1s
INCN MLR MLR
comp=Z,2μm,20.0s
SISI Saibi 42.55 271 P P 19 42 00.4 -1.4
comp=Z,3μmcomp=Z,235nm,1.2s
JTM Tenmabayashi 43.50 359 IAmb IAmb 19 42 10.4
comp=Z,185nm,1.2s
JTM Tenmabayashi 43.50 359 P P 19 42 10.5 +1.5
OUZ Omahuta 43.70 141 P P 19 42 12.4 +1.6
SLVN Son La 44.11 305 P P 19 42 14.4 +0.1
GSI Gunungsitoli 44.26 275 P P 19 42 14.1 -1.4
GSI Gunungsitoli 44.26 275 P P 19 42 15.7 +0.2
GSI Gunungsitoli 44.26 275 P P 19 42 14.2 -1.3
comp=Z,121nm,0.8s
KCSI Kotacane, Aceh 44.31 278 P P 19 42 14.8 -1.2
comp=Z,745nmcomp=Z,58nm,1.1s
GYA Guiyang 44.67 313 ⇑P **P 19 42 21.3 +2.5**
GYA S **S 19 48 55.0 +1.3**
GYA pmax pmax
comp=Z,45nm,1.5s
GYA pmax pmax
comp=Z,470nm,5.5s
GYA LR LR
comp=Z,490nm,18.3s
GYA LR LR
comp=Z,360nm,16.3s
GYA LR LR
comp=Z,530nm,18.7s
ENH Enshi 45.09 319 IAmb IAmb 19 42 24.3
comp=Z,112nm,1.0s
TIA Tai'an 45.16 332 P P 19 42 22.8 +0.4
TIA S **S 19 48 59.5 -0.8**
TIA SS **ScS 19 52 13.6 -3.9**
TIA pmax pmax
comp=Z,66nm,1.3s
TIA pmax pmax
comp=Z,720nm,3.5s
TIA LR LR
comp=Z,970nm,21.1s
TIA LR LR
comp=Z,460nm,21.6s
TIA LR LR
comp=Z,2μm,25.0s
COCO West Island 45.30 256 P P 19 42 25.9 +2.1
COCO West Island 45.30 256 P P 19 42 25.2 +1.4
LHMI Lhok Sumawe 45.38 280 P P 19 42 23.8 -0.7
LHMI Lhok Sumawe 45.38 280 P P 19 42 23.5 -1.0
LHMI Lhok Sumawe 45.38 280 P P 19 42 24.0 -0.5
comp=Z,2μmcomp=Z,202nm,1.1s
DL2 Dalian 45.53 338 P P 19 42 26.3 +1.1
DL2 S **S 19 49 07.4 +2.0**
DL2 pmax pmax
comp=Z,66nm,1.0s
DL2 pmax pmax
comp=Z,660nm,5.6s
DL2 LR LR
comp=Z,950nm,20.1s
DL2 LR LR
comp=Z,1μm,22.1s

DL2				LR	LR	
	comp=Z,2μm,19.6s					
SNSI	**Sinabang, Aceh**	**45.61 276**		P	**P**	**19 42 24.3 -2.0**
	comp=Z,3μmcomp=Z,142nm,1.0s					
MLSI	**Meulaboh, Aceh**	**45.77 279**		P	**P**	**19 42 26.8 -0.8**
	comp=Z,221nm,1.0s					
KUZ	**Kuaotunu**	**46.00 141**		P	**P**	**19 42 31.2 +2.2**
LYN	**LuoYang**	**46.28 326**		⇓P	**P**	**19 42 31.5 +0.3**
LYN				PP	**PP**	**19 44 17.3 -3.0**
LYN				S	**S**	**19 49 16.3 0.0**
LYN				SS	**SS**	**19 52 38.3 -4.0**
LYN				pmax	pmax	
	comp=Z,120nm,0.8s					
LYN				pmax	pmax	
	comp=Z,860nm,5.2s					
LYN				LR	LR	
	comp=Z,2μm,17.5s					
LYN				LR	LR	
	comp=Z,750nm,23.4s					
LYN				LR	LR	
	comp=Z,2μm,22.0s					
PSTR	**Posyet**	**46.41 349**	*de*	P	**P**	**19 42 32.5 +0.4**
TOZ	**Tahuroa Road**	**46.49 142**		IAmb	IAmb	19 42 54.2
	comp=Z,152nm,1.8s					
HIZ	**Hauiti**	**46.61 144**		P	**P**	**19 42 35.5 +1.7**
VLA	**Vladivostok**	**46.67 350**	*c i*	P	**P**	**19 42 35.0 +0.9**
VLA				pmax	pmax	
	comp=Z,171nm,1.3s					
ASAJ	**Asahikawa**	**46.83 1**		LR	LR	19 59 46.4
	comp=Z,754nm,21.8s,baz=178,slow=33					
ASAJ	**Asahikawa**	**46.83 1**		P	**P**	**19 42 35.3 -0.1**
ASAJ				pmax	pmax	
	comp=Z,114nm,0.8s					
JKA	**Kamikawa-asahi**	**46.83 1**		P	**P**	**19 42 35.3 -0.1**
QRZ	**Quartz Range**	**46.89 148**		P	**P**	**19 42 36.9 +1.0**
KMI	**Kunming**	**46.91 309**		⇓P	**P**	**19 42 38.0 +1.4**
KMI				sP	sP	19 42 54.5 +5.2
KMI				PP	**PP**	**19 44 27.9 +0.6**
KMI				S	**S**	**19 49 28.1 +1.9**
KMI				pmax	pmax	
	comp=Z,49nm,1.2s					
KMI				pmax	pmax	
	comp=Z,250nm,5.4s					
KMI				LR	LR	
	comp=Z,290nm,25.1s					
KMI				LR	LR	
	comp=Z,850nm,22.7s					
KMI				LR	LR	
	comp=Z,1μm,25.0s					
CM31	**Chiang Mai Arr**	**47.10 299**		P	**P**	**19 42 39.2 +1.2**
	SNR=14					
CMAR	**Chiang Mai Arr**	**47.10 299**		P	**P**	**19 42 38.0 0.0**
CMAR	**Chiang Mai Arr**	**47.10 299**		P	**P**	**19 42 38.6 +0.7**
	comp=Z,20nm,0.9s,baz=121,slow=6.2,SNR=34					
CMAR				PcP	**PcP**	**19 44 11.0 +1.3**
	comp=Z,2.4nm,0.8s,baz=121,slow=3.3,SNR=1.2					
CMAR				LR	LR	20 03 26.0
	comp=Z,264nm,19.7s,baz=120,slow=37					
	comp=Z,20nm,0.9s					
CMAR	**Chiang Mai Arr**	**47.10 299**	*i*	P	**P**	**19 42 40.7 +2.8**
CMAR				pmax	pmax	
	comp=Z,23nm,0.9s					
CHTO	**Chiang Mai**	**47.23 299**		P	**P**	**19 42 38.8 -0.2**
CHTO	**Chiang Mai**	**47.23 299**		P	**P**	**19 42 39.4 +0.4**
CHTO				S	**S**	**19 49 31.1 +0.6**
CHTO	**Chiang Mai**	**47.23 299**		P	**P**	**19 42 39.5 +0.5**
CHTO	**Chiang Mai**	**47.23 299**		P	**P**	**19 42 38.8 -0.2**
CHTO				pmax	pmax	
	comp=Z,20nm,1.1s					
HNS	**HongShan**	**47.28 331**		⇓P	**P**	**19 42 39.3 +0.3**
HNS				S	**S**	**19 49 29.4 -1.1**
HNS				SS	**SS**	**19 52 54.8 -3.6**
HNS				pmax	pmax	
	comp=Z,94nm,1.4s					
HNS				LR	LR	
	comp=Z,1μm,19.6s					
HNS				LR	LR	
	comp=Z,1μm,19.0s					
HNS				LR	LR	
	comp=Z,2μm,21.8s					
SNY	**Shenyang**	**47.47 342**		⇓P	**P**	**19 42 40.4 0.0**
SNY				S	**S**	**19 49 33.9 +0.8**
SNY				pmax	pmax	
	comp=Z,99nm,0.8s					
SNY				pmax	pmax	
	comp=Z,660nm,4.5s					
SNY				LR	LR	
	comp=Z,750nm,17.1s					
SNY				LR	LR	
	comp=Z,700nm,18.4s					
SNY				LR	LR	
	comp=Z,1μm,21.1s					
NGZ	**Ngauruhoe**	**47.49 144**		P	**P**	**19 42 42.5 +1.7**
JCZ	**Jackson Bay**	**47.49 154**		P	**P**	**19 42 42.4 +1.7**
JCZ	**Jackson Bay**	**47.49 154**		P	**P**	**19 42 41.6 +0.9**
USRK	**Ussuriysk Ar.**	**47.70 351**		P	**P**	**19 42 42.1 -0.1**
	comp=Z,79nm,0.8s,baz=170,slow=7.9,SNR=112					
	comp=Z,79nm,0.8s					
INZ	**Inchbonnie**	**47.71 150**		IAMs_20	IAMs_20	20 00 53.1
	comp=Z,3μm,21.0s					
THZ	**Tophouse**	**47.76 148**		IAMs_20	IAMs_20	19 59 48.3
	comp=Z,2μm,22.0s					
URZ	**Urewera**	**47.81 142**		LR	LR	20 01 26.0
	comp=Z,2μm,21.8s,baz=308,slow=34					
URZ	**Urewera**	**47.81 142**		P	**P**	**19 42 44.1 +0.9**
DCZ	**Deep Cove**	**47.91 156**		IAmb	IAmb	19 42 52.8
	comp=Z,90nm,0.8s					
DCZ	**Deep Cove**	**47.91 156**		P	**P**	**19 42 44.9 +1.1**
HAZ	**Te Kaha**	**47.92 141**		P	**P**	**19 42 44.4 +0.4**
RTZ	**Ruatahuna**	**47.95 142**		P	**P**	**19 42 44.7 +0.3**
TEY	**Ternei**	**47.96 355**	⇓*e*	P	**P**	**19 42 43.1 -1.0**
TEY			*e*			19 44 30.8
TEY			*e*			19 49 42.5
TEY				pmax	pmax	
	comp=Z,100nm,4.6s					
TEY				pmax	pmax	
	comp=E,10.0nm,1.3s					
TEY				pmax	pmax	
	comp=N,10.0nm,1.7s					
TEY				pmax	pmax	
	comp=Z,20nm,1.6s					
XAN	**Xi'an**	**47.97 323**		⇓P	**P**	**19 42 44.8 +0.3**
XAN				pP	pP	19 42 53.4 -0.1
XAN				sP	sP	19 42 56.9 -0.2
XAN				PP	**PP**	**19 44 34.3 -2.5**
XAN				S	**S**	**19 49 40.3 -0.3**
XAN				pmax	pmax	
	comp=Z,110nm,1.3s					
XAN				pmax	pmax	
	comp=Z,470nm,6.2s					
XAN				LR	LR	
	comp=Z,950nm,22.7s					
XAN				LR	LR	
	comp=Z,870nm,20.6s					
XAN				LR	LR	
	comp=Z,2μm,22.7s					
RUGZ	**Raukumara Rang**	**47.98 141**		P	**P**	**19 42 44.7 0.0**
BKZ	**Black Stump Fm**	**48.01 143**		IAmb	IAmb	19 43 04.0
	comp=Z,107nm,1.4s					
BKZ	**Black Stump Fm**	**48.01 143**		P	**P**	**19 42 46.7 +2.0**
BKZ	**Black Stump Fm**	**48.01 143**		P	**P**	**19 42 45.2 +0.5**
MTHZ	**Maungataniwha**	**48.02 143**		P	**P**	**19 42 45.2 +0.4**
MWZ	**Matawai**	**48.12 142**		P	**P**	**19 42 46.3 +0.7**
LTZ	**Lake Taylor**	**48.17 150**		IAmb	IAmb	19 43 16.5
	comp=Z,102nm,1.5s					
LTZ				IAMs_20	IAMs_20	20 01 17.1
	comp=Z,3μm,21.0s					
LTZ	**Lake Taylor**	**48.17 150**		P	**P**	**19 42 45.8 -0.1**
PKGZ	**Pakihiroa**	**48.17 141**		P	**P**	**19 42 46.9 +0.9**
RAHZ	**Arahi**	**48.21 143**		P	**P**	**19 42 47.1 +0.8**
MLZ	**Mavora Lakes**	**48.23 155**		P	**P**	**19 42 46.5 +0.2**
MLZ				IAmb	IAmb	19 42 55.1
	comp=Z,66nm,0.8s					
MLZ	**Mavora Lakes**	**48.23 155**		P	**P**	**19 42 46.8 +0.4**
RPZ	**Rata Peaks**	**48.26 152**		P	**P**	**19 42 46.0 -0.5**
RPZ	**Rata Peaks**	**48.26 152**		LR	LR	20 00 57.6
	comp=Z,2μm,21.8s,baz=310,slow=34					
RPZ	**Rata Peaks**	**48.26 152**		P	**P**	**19 42 46.7 +0.1**
TSZ	**Takapari Road**	**48.27 145**		P	**P**	**19 42 46.9 +0.1**
SNGZ	**Shannon Statio**	**48.28 142**		P	**P**	**19 42 46.9 +0.1**
PYZ	**Puysegur Point**	**48.30 157**		P	**P**	**19 42 48.4 +1.6**
TWGZ	**Tauwhareparae**	**48.30 141**		P	**P**	**19 42 47.8 +0.8**
WMGZ	**Waiomatatini S**	**48.36 141**		P	**P**	**19 42 47.8 +0.5**
LBZ	**Lake Benmore**	**48.37 153**		P	**P**	**19 42 47.1 -0.3**
LBZ				IAmb	IAmb	19 42 55.0
	comp=Z,96nm,1.3s					
PZH	**PanZhiHua**	**48.39 310**		P	**P**	**19 42 48.3 +0.3**
PZH				S	**S**	**19 49 45.4 -1.5**
PZH				pmax	pmax	
	comp=Z,400nm,2.7s					
PZH				pmax	pmax	
	comp=Z,200nm,6.7s					
PZH				LR	LR	
	comp=Z,510nm,21.8s					
PZH				LR	LR	
	comp=Z,520nm,23.4s					
PZH				LR	LR	
	comp=Z,690nm,22.7s					
PUZ	**Puketiti**	**48.41 141**		P	**P**	**19 42 48.0 +0.2**
MRZ	**Mangatainoka R**	**48.45 145**		IAmb	IAmb	19 43 07.5
	comp=Z,125nm,1.3s					
MRZ	**Mangatainoka R**	**48.45 145**		P	**P**	**19 42 47.8 -0.3**
MDJ	**Mudanjiang**	**48.54 349**		P	**P**	**19 42 49.3 +0.7**
MDJ				S	**S**	**19 49 51.1 +2.9**
MDJ				sS	sS	19 50 05.8 +4.0
MDJ				pmax	pmax	
	comp=Z,82nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,700nm,3.8s					
MDJ				LR	LR	
	comp=Z,1μm,21.6s					
MDJ				LR	LR	
	comp=Z,1μm,21.3s					
MDJ				LR	LR	
	comp=Z,3μm,23.4s					
MDJ	**Mudanjiang**	**48.54 349**		IAmb	IAmb	19 42 50.4
	comp=Z,70nm,1.0s					
MDJ				IAMs_20	IAMs_20	19 59 19.3
	comp=Z,2μm,22.0s					
MDJ	**Mudanjiang**	**48.54 349**		P	**P**	**19 42 49.5 +0.9**
KHZ	**Kahutara**	**48.55 149**		IAMs_20	IAMs_20	20 03 04.4
	comp=Z,2μm,18.0s					
KHZ	**Kahutara**	**48.55 149**		P	**P**	**19 42 47.9 -0.9**
WHZ	**Wether Hill Ro**	**48.58 156**		IAmb	IAmb	19 42 56.6
	comp=Z,69nm,1.1s					
TIY	**Taiyuan**	**48.66 329**		P	**P**	**19 42 51.4 +1.6**
TIY				PP	**PP**	**19 44 40.5 -2.6**
TIY				S	**S**	**19 49 51.4 +1.1**
TIY				SS	**SS**	**19 53 22.8 +1.8**
TIY				pmax	pmax	
	comp=Z,360nm,6.0s					
TIY				LR	LR	
	comp=Z,1μm,19.1s					
TIY				LR	LR	
	comp=Z,810nm,18.9s					
TIY				LR	LR	
	comp=Z,2μm,19.6s					
GVZ	**Greta Valley S**	**48.69 149**		IAMs_20	IAMs_20	20 01 02.9
	comp=Z,2μm,20.0s					
GVZ	**Greta Valley S**	**48.69 149**		P	**P**	**19 42 49.3 -0.5**
BJT	**Baijiatuau**	**48.70 334**		IAmb	IAmb	19 42 52.9
	comp=Z,134nm,1.4s					
BJT	**Baijiatuau**	**48.70 334**		P	**P**	**19 42 50.7 +0.7**
BJI	**Beijing**	**48.72 334**		P	**P**	**19 42 51.3 +1.2**
BJI				PP	**PP**	**19 44 42.8 -0.6**
BJI				S	**S**	**19 49 52.8 +2.0**
BJI				pmax	pmax	
	comp=Z,38nm,1.4s					
BJI				pmax	pmax	
	comp=Z,300nm,3.7s					
BJI				LR	LR	
	comp=Z,610nm,20.6s					
BJI				LR	LR	
	comp=Z,260nm,19.2s					
BJI				LR	LR	
	comp=Z,790nm,20.1s					
CN2	**Changchun**	**48.74 344**		P	**P**	**19 42 51.0 +0.8**
CN2				sP	sP	19 43 04.5 +1.8
CN2				PP	**PP**	**19 44 40.8 -2.7**
CN2				S	**S**	**19 49 50.4 -0.6**
CN2				pmax	pmax	
	comp=Z,90nm,1.0s					
CN2				pmax	pmax	
	comp=Z,500nm,5.0s					
CN2				LR	LR	
	comp=Z,700nm,20.0s					
CN2				LR	LR	
	comp=Z,1μm,20.0s					
CN2				LR	LR	
	comp=Z,2μm,17.0s					
TMZ	**Timaru**	**48.74 152**		P	**P**	**19 42 49.9 -0.4**
PXZ	**Pawanui**	**48.78 144**		P	**P**	**19 42 50.9 +0.3**
BFZ	**Birch Farm**	**48.85 145**		IAmb	IAmb	19 43 01.8
	comp=Z,82nm,1.1s					
BFZ	**Birch Farm**	**48.85 145**		P	**P**	**19 42 52.2 +1.1**
BFZ	**Birch Farm**	**48.85 145**		P	**P**	**19 42 50.5 -0.6**
CD2	**Chengdu**	**49.34 316**		P	**P**	**19 42 56.3 +1.2**
CD2				S	**S**	**19 50 01.6 +1.6**
CD2				pmax	pmax	
	comp=Z,250nm,0.8s					
CD2				pmax	pmax	
	comp=Z,560nm,4.4s					
CD2				LR	LR	
	comp=Z,1μm,15.7s					
CD2				LR	LR	
	comp=Z,2μm,18.2s					
CD2				LR	LR	
	comp=Z,1μm,17.2s					
YSS	**Yuzhno-Sakhali**	**49.67 1**		P	**P**	**19 42 56.5 -0.8**
YSS	**Yuzhno-Sakhali**	**49.67 1**		P	**P**	**19 42 57.1 -0.1**
YSS	**Yuzhno-Sakhali**	**49.67 1**	*de*	P	**P**	**19 42 56.7 -0.5**
YSS			*e*	S	**S**	**19 50 02.3 -1.7**
YSS				pmax	pmax	
	comp=N,50nm,1.1s					
YSS				pmax	pmax	
	comp=Z,130nm,1.1s					
YSS				pmax	pmax	
	comp=E,110nm,0.9s					
YSS				pmax	pmax	
	comp=E,200nm,3.8s					
YSS				pmax	pmax	
	comp=Z,300nm,3.8s					
YSS				pmax	pmax	
	comp=N,200nm,3.2s					
BNX	**BinXian**	**50.07 347**		⇓P	**P**	**19 43 00.0 -0.3**
BNX				sP	**sP**	**19 43 15.3 +2.4**
BNX				PP	**PP**	**19 44 55.6 -0.1**
BNX				S	**S**	**19 50 08.6 -1.1**
BNX				sS	**sS**	**19 50 23.8 -0.3**
BNX				pmax	pmax	
	comp=N,300nm,0.9s					
BNX				pmax	pmax	
	comp=N,310nm,4.1s					
BNX				LR	LR	
	comp=N,700nm,20.1s					
BNX				LR	LR	
	comp=N,720nm,20.6s					
BNX				LR	LR	
	comp=N,2μm,18.4s					
TNCH	**TengChong**	**50.21 306**		⇑P	**P**	**19 43 04.0 +2.0**
TNCH				PP	**PP**	**19 45 00.3 +2.7**
TNCH				S	**S**	**19 50 05.1 -7.6**
TNCH				pmax	pmax	
	comp=N,23nm,1.3s					
TNCH				pmax	pmax	
	comp=N,280nm,4.1s					
TNCH				LR	LR	
	comp=N,310nm,15.3s					
TNCH				LR	LR	
	comp=N,320nm,18.0s					
TNCH				LR	LR	
	comp=N,810nm,22.8s					
HHC	**Hu-ho-hao-te**	**51.49 331**	*e*	P	**P**	**19 43 11.8 +0.5**
HHC				S	**S**	**19 50 31.3 +1.5**
HHC				SS	**SS**	**19 54 04.1 -2.1**
HHC				pmax	pmax	
	comp=N,37nm,0.7s					
HHC				pmax	pmax	
	comp=N,560nm,5.4s					
HHC				LR	LR	
	comp=N,730nm,19.1s					
HHC				LR	LR	
	comp=N,740nm,18.3s					
HHC				LR	LR	
	comp=N,1μm,17.6s					
XLT	**XiLinHaoTe**	**51.95 337**	*e*	P	**P**	**19 43 15.1 +0.5**
XLT				sP	sP	19 43 28.3 +1.1
XLT				ScP	**ScP**	**19 48 21.9 0.0**
XLT				S	**S**	**19 50 33.0 -3.0**
XLT				sS	sS	19 50 53.8 +3.6
XLT				SS	**SS**	**19 54 09.6 -3.8**
XLT				pmax	pmax	
	comp=N,34nm,1.0s					
XLT				pmax	pmax	
	comp=N,200nm,4.7s					
XLT				LR	LR	
	comp=N,810nm,19.9s					
XLT				LR	LR	
	comp=N,1μm,20.1s					
BTO	**Baotou**	**52.07 330**	*e*	P	**P**	**19 43 18.4 +2.8**
BTO				pP	**sP**	**19 43 28.3 +0.1**
BTO				sP	pP	19 43 32.3 +7.6
BTO				PP	**PP**	**19 45 15.3 +1.2**
BTO				S	**S**	**19 50 42.5 +4.7**
BTO				SS	**SS**	**19 54 12.6 -2.8**
BTO				pmax	pmax	
	comp=N,130nm,0.8s					
BTO				pmax	pmax	
	comp=N,1μm,4.3s					
BTO				LR	LR	
	comp=N,3μm,18.4s					
BTO				LR	LR	
	comp=N,2μm,19.2s					
BTO				LR	LR	
	comp=N,5μm,19.4s					
LZH	**Lanzhou**	**52.45 321**		⇓P	**P**	**19 43 20.0 +1.5**
LZH				S	**S**	**19 50 44.8 +1.7**
LZH				SS	**SS**	**19 54 19.0 -2.6**
LZH				pmax	pmax	
	comp=N,110nm,1.3s					
LZH				pmax	pmax	
	comp=N,310nm,4.2s					
LZH				LR	LR	
	comp=N,750nm,14.8s					
LZH				LR	LR	
	comp=N,890nm,14.1s					
LZH				LR	LR	
	comp=N,2μm,14.8s					
LZDM	**Lanzhou Array**	**52.46 321**		P	**P**	**19 43 19.2 +0.4**
	comp=N,7.3nm,0.5s,baz=157,slow=4.7,SNR=12					
LZDM				LR	LR	20 03 32.5
	comp=N,582nm,21.6s,baz=80,slow=34					
	comp=N,7.3nm,0.5s					
TYV	**Tymovskoe**	**53.58 1**	*e*	P	**P**	**19 43 27.5 +1.1**
TYV			*e*	S	**S**	**19 50 57.9 +0.2**
TYV				pmax	pmax	
	comp=Z,79nm,0.9s					
TYV				pmax	pmax	
	comp=Z,400nm,3.1s					
TYV				smax	smax	
	comp=N,600nm,5.7s					
TYV				smax	smax	
	comp=E,200nm,5.7s					
TYV				smax	smax	
	comp=N,20nm,2.1s					
TYV				smax	smax	
	comp=E,15nm,2.1s					
GRNR	**Gornyy**	**53.67 356**	⇓*i*	P	**P**	**19 43 27.0 -0.1**
GRNR				pmax	pmax	
	comp=Z,40nm,1.0s					
IMP	**Imphal**	**53.87 304**	*e*	P	**P**	**19 43 27.9 -1.2**
IMP				IAmb	IAmb	19 43 41.7
	comp=Z,22nm,0.7s					
IMP			*e*	S	**S**	**19 51 00.4 -2.3**
KOHI	**KOHIMA**	**54.10 305**	*e*	P	**P**	**19 43 29.9 -1.0**
KOHI				IAmb	IAmb	19 43 43.8
	comp=Z,83nm,1.0s					
KOHI			*e*	S	**S**	**19 51 04.2 -1.7**
HEH	**HeiHe**	**54.37 349**	*e*	P	**P**	**19 43 31.8 -0.3**
HEH				S	**S**	**19 51 06.5 -1.8**
HEH				pmax	pmax	
	comp=Z,72nm,1.1s					
HEH				pmax	pmax	
	comp=Z,810nm,4.2s					
HEH				LR	LR	
	comp=Z,2μm,20.0s					
HEH				LR	LR	
	comp=Z,780nm,21.4s					
HEH				LR	LR	
	comp=Z,3μm,20.6s					
SKR	**Severo-Kuril's**	**54.82 11**	⇑*i*	P	**P**	**19 43 36.0 +0.6**
ZIRO	**ZIRO**	**55.07 307**	*e*	P	**P**	**19 43 36.0 -1.9**
ZIRO				IAmb	IAmb	19 44 11.6
	comp=Z,52nm,0.4s					
ZIRO			*e*	S	**S**	**19 51 19.1 +0.1**
HIA	**Hailar**	**55.34 343**		IAmb	IAmb	19 43 41.2
	comp=Z,118nm,1.2s					
HIA	**Hailar**	**55.34 343**		IAMs_20	IAMs_20	20 05 14.2
	comp=Z,2μm,21.0s					
HIA	**Hailar**	**55.34 343**		P	**P**	**19 43 40.4 +1.1**
HILR	**Hailar Array B**	**55.59 343**		P	**P**	**19 43 41.4 +0.3**
	comp=Z,70nm,0.9s,baz=145,slow=10,SNR=45					
HILR				LR	LR	20 05 33.5
	comp=Z,1μm,21.2s,baz=100,slow=34					
	comp=Z,70nm,0.9s					
SHL	**Shillong**	**55.88 304**		P	**P**	**19 43 44.5 +0.7**
	SNR=27					
SHL	**Shillong**	**55.88 304**	*e*	P	**P**	**19 43 41.4 -2.4**
SHL				IAmb	IAmb	19 44 00.9
	comp=Z,56nm,1.3s					
SHL			*e*	S	**S**	**19 51 27.3 -2.6**
GUWA	**GUWAHATI**	**56.28 304**	*e*	P	**P**	**19 43 45.6 -0.8**
GUWA				IAmb	IAmb	19 44 03.6
	comp=Z,31nm,1.0s					
GUWA			*e*	S	**S**	**19 51 31.9 -3.0**
GTA	**Gaotai**	**57.01 322**	⇓P	P	**P**	**19 43 53.4 +1.9**
GTA				S	**S**	**19 51 44.6 +0.3**
GTA				ScS	**ScS**	**19 53 40.0 +0.9**
GTA				pmax	pmax	
	comp=Z,98nm,1.2s					
GTA				pmax	pmax	
	comp=Z,600nm,8.4s					
GTA				LR	LR	
	comp=Z,530nm,19.9s					
GTA				LR	LR	
	comp=Z,760nm,21.5s					
GTA				LR	LR	
	comp=Z,900nm,19.9s					
PETK	**Petropavlovsk-**	**57.44 11**		LR	LR	20 04 39.2
	comp=Z,1μm,21.4s,baz=201,slow=32					
PET	**Petropavlovsk**	**57.55 12**		P	**P**	**19 43 55.1 +0.2**
PET	**Petropavlovsk**	**57.55 12**		P	**P**	**19 43 55.8 +0.9**
PET	**Petropavlovsk**	**57.55 12**	*e*	P	**P**	**19 43 55.2 +0.3**
PET			*e*	S	**S**	**19 51 49.8 -0.8**
PET			*e*	SS	**SS**	**19 55 45.9 +4.8**
PET				pmax	pmax	
	comp=Z,500nm,3.6s					
PET				pmax	pmax	
	comp=Z,69nm,0.8s					
PET				pmax	pmax	
	comp=Z,100nm,4.3s					
ZEA	**Zeya**	**57.73 350**	*e*	P	**P**	**19 43 56.2 +0.1**
ZEA			*e*			19 46 01.4
ZEA			*e*	S	**S**	**19 51 52.5 -0.4**
ZEA			*e*			19 53 44.6
ZEA			*e*	SS	**SS**	**19 55 41.4 -2.5**
ZEA				pmax	pmax	
	comp=N,100nm,6.4s					
ZEA				pmax	pmax	
	comp=Z,400nm,4.1s					
ZEA				pmax	pmax	
	comp=E,10.0nm,0.6s					
ZEA				pmax	pmax	
	comp=N,30nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,70nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,100nm,5.1s					
ZEA				smax	smax	
	comp=N,100nm,8.5s					
CAL	**Calcutta**	**57.84 299**	*e*	P	**P**	**19 43 56.4 -1.1**
CAL			*e*	S	**S**	**19 51 54.1 -1.3**
LSA	**Lhasa**	**58.14 308**		P	**P**	**19 43 58.8 -1.3**
LSA				S	**S**	**19 51 57.5 -2.7**
LSA				pmax	pmax	
	comp=N,5.0nm,0.8s					
LSA				LR	LR	
	comp=N,440nm,27.5s					
LSA	**Lhasa**	**58.14 308**		P	**P**	**19 44 01.3 +1.2**
LSA	**Lhasa**	**58.14 308**		P	**P**	**19 44 01.9 +1.8**
COBR	**COOCHBEHAR**	**58.17 303**	⇓*e*	P	**P**	**19 43 58.6 -1.1**
COBR				IAmb	IAmb	19 44 01.0
	comp=Z,93nm,0.6s					
COBR			*e*	S	**S**	**19 51 59.1 -0.5**
GOMU	**GeErMu**	**58.47 316**		P	**P**	**19 44 03.5 +1.3**
GOMU				S	**S**	**19 52 05.5 +1.4**
GOMU				pmax	pmax	

comp=Z,23nm,0.9s
GOMU LR LR
comp=Z,160nm,18.0s
GOMU LR LR
comp=Z,300nm,18.4s
GOMU LR LR
comp=Z,560nm,18.5s
ULN Ulaanbaatar 58.92 333 P **P** **19 44 05.3 +0.5**
ULN IAmb IAmb 19 44 07.7
comp=Z,88nm,1.1s
ULN Ulaanbaatar 58.92 333 P **P** **19 44 05.9 +1.1**
ULN P **P** **19 44 05.9 +1.1**
ULN S **S** **19 52 11.8 +2.7**
ULN S **S** **19 52 11.8 +2.7**
ULN Ulaanbaatar 58.92 333*d i*P **P** **19 44 05.8 +1.0**
ULN pmax pmax
comp=Z,102nm,1.3s
SONM Songino Array 59.20 333 P **P** **19 44 06.8 +0.1**
SONM IAmb IAmb 19 44 09.3
comp=Z,185nm,1.9s
SONM Songino Array 59.20 333 P **P** **19 44 07.1 +0.4**
comp=Z,23nm,0.9s,baz=152,slow=8.0,SNR=69
comp=Z,23nm,0.9s
CIT Chita 59.69 340 *e*P **P** **19 44 11.4 +1.5**
CIT *e* 19 44 22.6
CIT *e* 19 44 50.4
CIT *e* 19 46 19.8
CIT *e* 19 47 47.4
CIT pmax pmax
comp=Z,355nm,1.7s
RAR Rarotonga 59.74 113 LR LR 20 07 15.2
comp=Z,303nm,21.5s,baz=284,slow=33
EVN Everest 60.97 304 P **P** **19 44 20.1 +0.2**
EVN IAmb IAmb 19 44 38.5
comp=Z,54nm,0.8s
JHSG JHARSUGUGA 61.64 297⇓*e*P **P** **19 44 22.0 -1.7**
JHSG IAmb IAmb 19 44 28.2
comp=Z,35nm,0.7s
JHSG ⇓*e*S **S** **19 52 43.3 -1.2**
PALK Pallekele 61.65 280 P **P** **19 44 23.5 -0.4**
PALK Pallekele 61.65 280 P **P** **19 44 24.2 +0.2**
PALK Pallekele 61.65 280*c i*P **P** **19 44 24.3 +0.3**
PALK pmax pmax
comp=Z,44nm,1.2s
SHEM Shemya Is, Ala 61.81 22 LR LR 20 06 02.6
comp=Z,2μm,21.8s,baz=272,slow=31
ZAK Zakamensk 62.46 333 *e*P **P** **19 44 29.2 +0.4**
ZAK pmax pmax
comp=Z,166nm,1.4s
MA2 Magadan 62.72 5 P **P** **19 44 30.8 +0.6**
MA2 Magadan 62.72 5 P **P** **19 44 31.9 +1.7**
MA2 Magadan 62.72 5*ce*P **P** **19 44 30.0 -0.2**
MA2 pmax pmax
comp=Z,134nm,1.2s
TLY Talaya 63.23 335 P **P** **19 44 34.3 +0.5**
TLY IAmb IAmb 19 44 36.5
comp=Z,72nm,1.1s
TLY Talaya 63.23 335 P **P** **19 44 34.8 +1.0**
TLY P **P** **19 44 34.8 +1.0**
TLY S **S** **19 53 05.8 +2.3**
TLY S **S** **19 53 05.8 +2.3**
TLY Talaya 63.23 335*d i*P **P** **19 44 34.7 +0.9**
TLY pmax pmax
comp=Z,105nm,1.3s
IRK Irkutsk 63.38 335 *e*P **P** **19 44 33.5 -1.3**
IRK pmax pmax
comp=Z,142nm,2.7s
KIP Kipapa 63.76 65 P **P** **19 44 38.2 +0.4**
KIP Kipapa 63.76 65 P **P** **19 44 39.7 +1.8**
KIP Kipapa 63.76 65 P **P** **19 44 39.5 +1.7**
KIP Kipapa 63.76 65*ce*P **P** **19 44 39.6 +1.7**
KIP pmax pmax
comp=Z,209nm,1.0s
MOY Mondy 64.39 333 *e*P **P** **19 44 42.6 +1.1**
MOY pmax pmax
comp=Z,206nm,2.7s
KIWB Kanaga Island 64.76 27 P **P** **19 44 44.2 +0.3**
ADK Adak 65.00 27 IAms_20 IAms_20 20 06 41.5
comp=Z,3μm,21.0s
KOD Kodaikanal 65.21 283 *e*P **P** **19 44 46.5 -1.3**
KOD IAmb IAmb 19 45 00.3
comp=Z,42nm,1.3s
KOD *e*S **S** **19 53 28.6 -1.4**
KNGR Kungurtug, Tuv 65.31 331*d i*P **P** **19 44 48.6 +1.0**
KNGR pmax pmax
comp=Z,104nm,1.0s
HYB Hyderabad 65.39 291 *e*P **P** **19 44 47.9 -0.7**
HYB IVmB_BB 19 44 58.5
comp=Z,197nm,1.9s
HYB *e*PcP PcP 19 45 32.8 +12
YAK Yakutsk 65.42 354 P **P** **19 44 47.8 0.0**
YAK Yakutsk 65.42 354 *e*P **P** **19 44 47.8 0.0**
YAK *e**PP **pP** **19 44 56.5 -0.6**
YAK *e* 19 47 10.1
YAK *e*PPP PPP 19 48 56.8
YAK *e*S **S** **19 53 30.9 +0.8**
YAK *e* 19 54 39.9
YAK pmax pmax
comp=Z,181nm,1.1s
YAK pmax pmax
comp=N,81nm,1.2s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,99nm,2.2s
YAK pmax pmax
comp=N,37nm,1.7s
YAK pmax pmax
comp=E,58nm,2.0s
YAK smax smax
comp=E,47nm,3.2s
YAK smax smax
comp=N,256nm,4.8s
SEY Seymchan 66.18 5 *e*P **P** **19 44 51.4 -1.4**
SEY pmax pmax
comp=Z,129nm,1.5s
CASY Casey 66.91 193 P **P** **19 44 57.0 -0.4**
CASY IAmb IAmb 19 44 58.7
comp=Z,74nm,1.1s
CASY Casey 66.91 193 IAms_20 IAms_20 20 15 38.9
comp=Z,1μm,20.0s
WMQ Urumqi 67.02 321 *e*P **P** **19 45 01.0 +2.4**
WMQ PcP **PcP** **19 45 28.8 +1.9**
WMQ S **S** **19 53 52.5 +2.1**
WMQ pmax pmax
comp=Z,92nm,1.1s
WMQ pmax pmax
comp=Z,470nm,3.9s
WMQ LR LR
comp=Z,270nm,14.7s
WMQ LR LR
comp=Z,330nm,18.5s
WMQ LR LR
comp=Z,380nm,21.3s
PPT Papeete 68.90 108 LR LR 20 11 31.8
comp=Z,472nm,21.0s,baz=267,slow=33
PPT2 Papeete2 68.90 108 *e*P **P** **19 45 10.3 -0.7**
comp=Z,44nm,25.8s
PPT2 *e*S **S** **19 54 17.6 +3.8**
comp=Z,349nm,23.2s
PPT2 *e*SS **SS** **19 58 35.7 -4.0**
comp=Z,464nm,27.8s
PPT2 *e*LR LR 20 05 55.9
comp=Z,591nm,35.5s
PPT2 *e*LR LR 20 05 56.7
comp=Z,751nm,22.0s
DGAR Diego Garcia 69.00 263 P **P** **19 45 13.4 +1.9**
DGAR P **P** **19 45 13.4 +1.9**
DGAR Diego Garcia 69.00 263*c i*P **P** **19 45 12.7 +1.1**
DGAR pmax pmax
comp=Z,395nm,1.5s
NIKH Nikolski High 69.39 29 IAms_20 IAms_20 20 08 13.2
comp=Z,2μm,21.0s
SMLA Simla 69.94 305 *e*P **P** **19 45 15.6 -1.5**
SMLA IAmb IAmb 19 45 39.4
comp=Z,46nm,0.9s
SMLA *e*S **S** **19 54 25.1 -0.4**
ZSN Zaisan 70.48 323 *e*P **P** **19 45 20.4 +0.3**
ZSN Zaisan 70.48 323 *e*P **P** **19 45 20.3 +0.3**
DHRM DHARAMSHALA 70.97 305 *e*P **P** **19 45 21.9 -1.7**
DHRM IAmb IAmb 19 45 53.5
comp=Z,59nm,1.0s
DHRM *e*S **S** **19 54 34.7 -3.2**
UNV Unalaska Valle 71.05 30 P **P** **19 45 24.1 +0.8**
baz=236
P08K Saint George I 71.24 26 P **P** **19 45 25.3 +0.9**
baz=232
SPIA Saint Paul Isl 71.29 25 P **P** **19 45 25.2 +0.5**
baz=232
MK31 Makanchi Array 71.76 322*d i*P **P** **19 45 28.2 +0.3**
MKAR Makanchi Array 71.76 322 P **P** **19 45 28.4 +0.6**
MKAR Makanchi Array 71.76 322 P **P** **19 45 28.6 +0.7**
comp=Z,34nm,0.8s,baz=111,slow=6.8,SNR=115
MKAR LR LR 20 16 07.0
comp=Z,431nm,21.8s,baz=95,slow=35
comp=Z,34nm,0.8s
MAKZ Makanchi 71.96 321 P **P** **19 45 29.6 +0.6**
MAKZ IAmb IAmb 19 45 32.2
comp=Z,74nm,1.0s
MAKZ Makanchi 71.96 321 P **P** **19 45 29.6 +0.6**
MAKZ pmax pmax
comp=Z,74nm,1.0s
MAKZ MLR MLR
comp=Z,600nm,22.0s
SHLS Shalkode 72.15 317 *e*P **P** **19 45 28.9 -1.5**
SHLS Shalkode 72.15 317 *e*P **P** **19 45 28.8 -1.6**
UZB Uzynbulak 72.44 317 *e*P **P** **19 45 32.4 +0.1**
UZB Uzynbulak 72.44 317 *e*P **P** **19 45 32.3 +0.1**
SATY Saty 72.83 317 *e*P **P** **19 45 34.6 +0.1**
SATY Saty 72.83 317 *e*P **P** **19 45 34.5 +0.1**
BILL Bilibino 72.87 9 P **P** **19 45 34.5 +0.5**
BILL Bilibino 72.87 9*d i*P **P** **19 45 33.9 -0.1**
BILL pmax pmax
comp=Z,64nm,1.1s
FALS False Pass 73.12 30 P **P** **19 45 36.3 +0.6**
baz=239
KSH Kashi 73.37 313 P **P** **19 45 39.9 +2.2**
KSH pP pP 19 45 46.3 -0.9
KSH S **SKiKP** **19 55 09.1 +2.0**
KSH pmax pmax
comp=Z,24nm,1.1s
KSH pmax pmax
comp=Z,180nm,4.5s
KSH LR LR
comp=Z,350nm,21.3s
KSH LR LR
comp=Z,380nm,20.6s
KSH LR LR
comp=Z,1μm,21.0s
TDK Taldyqorghan 73.54 319 *e*P **P** **19 45 38.6 +0.1**
comp=Z,57nm,1.1s
TDK Taldyqorghan 73.54 319 *e*P **P** **19 45 38.6 +0.1**
TDK pmax pmax
comp=Z,57nm,1.1s
ZALV Zalesovo Beam 73.61 329 P **P** **19 45 38.1 -0.5**
comp=Z,17nm,0.7s,baz=109,slow=5.6,SNR=73
comp=Z,17nm,0.7s
MDOK Medeo 73.80 317 *e*P **P** **19 45 40.3 0.0**
MDOK Medeo 73.80 317 *e*P **P** **19 45 40.2 0.0**
NIL Nilore 73.81 306 **P** **19 45 41.3 +1.0**
NIL Nilore 73.81 306 P **P** **19 45 41.9 +1.6**
NIL Nilore 73.81 306 P **P** **19 45 41.3 +1.0**
NIL pmax pmax
comp=Z,36nm,0.7s
TNSS Tian-Shan 73.83 316 *e*P **P** **19 45 40.5 -0.3**
TNSS Tian-Shan 73.83 316 *e*P **P** **19 45 40.4 -0.3**
AAA Alma-Ata 73.91 317 *e*P **P** **19 45 40.9 +0.1**
AAA Alma-Ata 73.91 317 *e*P **P** **19 45 40.8 +0.1**
S12K Black Hills 74.22 29 P **P** **19 45 42.1 -0.1**
baz=240
TKM2 Tokmak 2 74.72 316 P **P** **19 45 46.6 +1.0**
SNR=18
SDPT Sand Point 74.83 30 P **P** **19 45 45.9 +0.2**
baz=241
TIXI Tiksi 74.90 356 P **P** **19 45 45.3 -0.5**
TIXI Tiksi 74.90 356*c i*P **P** **19 45 45.9 +0.1**
TIXI pmax pmax
comp=Z,49nm,1.1s
M11K Mekoryuk 74.91 24 P **P** **19 45 46.0 0.0**
baz=235
GAMB Gambell 74.98 20 P **P** **19 45 47.0 +0.6**
baz=229
CHNA Chernabura Isl 75.03 31 P **P** **19 45 46.8 -0.1**
baz=242
KBK Karagaybulak 75.09 315 P **P** **19 45 48.9 +1.1**
SNR=5.6
UCH Uchtor 75.27 315 P **P** **19 45 51.1 +2.0**
SNR=16
VNDA Vanda 75.33 176 P **P** **19 45 48.0 -0.2**
VNDA Vanda 75.33 176 P **P** **19 45 47.5 -0.7**
comp=Z,19nm,0.8s,baz=322,slow=6.3,SNR=122
VNDA LR LR 20 18 53.7
comp=Z,2μm,18.4s,baz=351,slow=36
comp=Z,19nm,0.8s
VNDA Vanda 75.33 176 P **P** **19 45 48.0 -0.2**
VNDA pmax pmax
comp=Z,25nm,0.9s
CHMS Chumysh 75.34 316 P **P** **19 45 48.6 -0.3**
SNR=6.4
AAK Ala-Archa 75.40 315 P **P** **19 45 49.8 +0.3**
AAK Ala-Archa 75.40 315 LR LR 20 18 37.1
comp=Z,241nm,20.9s,baz=101,slow=35
AAK Ala-Archa 75.40 315 P **P** **19 45 50.6 +1.1**
AAK S **S** **19 55 31.0 +3.2**
AAK Ala-Archa 75.40 315 *i* P **P** **19 45 51.1 +1.5**
SNR=8.1
AAK Ala-Archa 75.40 315*c i*P **P** **19 45 49.9 +0.3**
AAK pmax pmax
comp=Z,35nm,1.4s
SGDS Sogindy 75.56 316 *e*P **P** **19 45 50.4 +0.1**
KURK Kurchatov 75.59 324 P **P** **19 45 50.0 -0.2**
KURK Kurchatov 75.59 324 P **P** **19 45 50.8 +0.6**
KURK S **S** **19 55 30.0 +0.9**
KURK Kurchatov 75.59 324*d i*P **P** **19 45 50.1 -0.1**
KURK pmax pmax
comp=Z,77nm,1.4s
USP Ospenovka 75.60 316 P **P** **19 45 51.5 +1.0**
SNR=24
KURBB Kurchatov Arra 75.60 324 P **P** **19 45 50.1 -0.1**
comp=Z,6.4nm,0.6s,baz=117,slow=5.0,SNR=77
comp=Z,6.4nm,0.6s
S14K Fog Glacier 75.73 29 P **P** **19 45 51.5 +0.5**
baz=242
EKS2 Erkin-Say 75.92 315 P **P** **19 45 53.7 +1.3**
SNR=14
SBA Scott Base 76.05 175 P **P** **19 45 53.2 +0.8**
SBA IAmb IAmb 19 45 55.0
comp=Z,108nm,1.8s
SBA Scott Base 76.05 175 IAms_20 IAms_20 20 16 59.4
comp=Z,971nm,20.0s
SBA Scott Base 76.05 175 P **P** **19 45 53.2 +0.8**
SBA pmax pmax
comp=Z,108nm,1.8s
SBA MLR MLR
comp=Z,1μm,20.0s
M13K Dall Lake 76.10 25 P **P** **19 45 53.8 +0.9**
baz=237
O14K Tigyukauivet M 76.39 26 IAmb IAmb 19 45 57.0
comp=Z,105nm,1.1s
O14K IAms_20 IAms_20 20 13 52.1
comp=Z,2μm,22.0s
O14K Tigyukauivet M 76.39 26 P **P** **19 45 56.2 +1.7**
baz=240
K13K Kusilvak Mount 76.41 23 IAmb IAmb 19 45 57.0
comp=Z,80nm,1.1s
K13K IAms_20 IAms_20 20 14 25.4
comp=Z,1μm,21.0s
K13K Kusilvak Mount 76.41 23 P **P** **19 45 55.6 +1.0**
baz=236
N14K Kuskokwak Cree 76.55 26 P **P** **19 45 56.1 +0.8**
baz=239
M14K Bethel 76.86 25 IAmb IAmb 19 45 59.4
comp=Z,94nm,1.1s
M14K Bethel 76.86 25 P **P** **19 45 57.8 +0.7**
baz=239
L14K Kuka Creek 76.87 24 IAmb IAmb 19 45 59.4
comp=Z,76nm,0.9s
L14K IAms_20 IAms_20 20 13 50.8
comp=Z,2μm,21.0s
L14K Kuka Creek 76.87 24 P **P** **19 45 58.2 +1.0**
baz=238
O15K Ungalikthiuk R 76.99 27 P **P** **19 45 58.9 +0.9**
baz=241
R16K Pilot Point 77.29 29 P **P** **19 46 00.1 +0.4**
baz=243
J14K Nanvaranak Lak 77.29 23 IAmb IAmb 19 46 02.1
comp=Z,168nm,1.7s
J14K IAms_20 IAms_20 20 13 32.7
comp=Z,1μm,22.0s
J14K Nanvaranak Lak 77.29 23 P **P** **19 46 00.5 +1.0**
baz=237,SNR=7.5
N15K Kwethluk River 77.36 26 IAmb IAmb 19 46 02.2
comp=Z,102nm,1.2s
N15K Kwethluk River 77.36 26 P **P** **19 46 00.7 +0.6**
baz=240
M15K Kasigluk River 77.37 25 P **P** **19 46 00.7 +0.6**
baz=240
TNA Tin City 77.37 19 P **P** **19 46 00.3 +0.3**
baz=232
KBL Kabul 77.41 306 P **P** **19 46 00.8 -0.4**
KBL Kabul 77.41 306 P **P** **19 46 01.4 +0.2**
SNR=9.0
KBL S **S** **19 55 49.1 -1.2**
KBL Kabul 77.41 306 P **P** **19 46 00.8 -0.4**
KBL pmax pmax
comp=Z,17nm,1.0s
GAR Garm 77.44 311 IAmb IAmb 19 46 14.1
comp=Z,192nm,1.6s
CHIR Chirikof Islan 77.50 31 P **P** **19 46 00.7 -0.2**
baz=245
L15K Ungalak Mounta 77.54 24 P **P** **19 46 01.3 +0.3**
baz=239
ANM Nome 77.64 21 IAmb IAmb 19 46 04.0
comp=Z,141nm,1.5s
ANM IAMs_20 IAMs_20 20 14 26.0
comp=Z,1μm,22.0s
ANM Nome 77.64 21 P **P** **19 46 02.3 +0.8**
baz=235
DZA Taraz 77.71 315 *e*P **P** **19 46 02.5 +0.1**
DZA Taraz 77.71 315 *e*P **P** **19 46 02.5 +0.1**
P16K Nushagak River 77.76 27 P **P** **19 46 02.5 +0.3**
baz=243,SNR=7.3
K15K Wolf Creek Mou 77.84 24 IAmb IAmb 19 46 05.0
comp=Z,116nm,1.2s
K15K IAMs_20 IAMs_20 20 14 45.3
comp=Z,2μm,21.0s
K15K Wolf Creek Mou 77.84 24 P **P** **19 46 03.4 +0.8**
baz=239
F14K Arctic Creek 77.85 20 P **P** **19 46 03.7 +1.1**
baz=234
R17L Mt. Peulik Vol 77.90 29 P **P** **19 46 03.6 +0.5**
baz=244
TAOE Nuku Hiva Isla 77.91 98 *e*LR LR 20 10 11.0
comp=Z,1μm,23.2s
O16K Kokwok River B 77.97 27 IAmb IAmb 19 46 05.3
comp=Z,76nm,1.0s
O16K IAMs_20 IAMs_20 20 16 28.0
comp=Z,1μm,20.0s
O16K Kokwok River B 77.97 27 P **P** **19 46 04.3 +0.9**
baz=242
N16K Nishlik Lake 78.08 26 P **P** **19 46 04.4 +0.3**
baz=242
CHGR Chuyangaron 78.24 310 IAmb IAmb 19 46 23.9
comp=Z,140nm,1.3s
CHGR Chuyangaron 78.24 310 P **P** **19 46 04.0 -1.5**
M16K Timber Creek 78.27 25 IAmb IAmb 19 46 07.3
comp=Z,71nm,1.1s
M16K IAMs_20 IAMs_20 20 15 06.4
comp=Z,1μm,19.0s
M16K Timber Creek 78.27 25 P **P** **19 46 05.7 +0.6**
baz=241
KKAR Karatay Array 78.34 315 P **P** **19 46 06.1 +0.2**
KKAR Karatay Array 78.34 315 P **P** **19 46 06.1 +0.2**
G15K Niukluk 78.36 21 P **P** **19 46 06.2 +0.7**
baz=236
L16K Owhat River 78.38 25 IAmb IAmb 19 46 07.6
comp=Z,91nm,1.3s
L16K IAMs_20 IAMs_20 20 17 43.7
comp=Z,2μm,19.0s
L16K Owhat River 78.38 25 P **P** **19 46 05.8 +0.1**
baz=241
Q17K Contact Creek 78.40 29 P **P** **19 46 05.0 -1.0**
baz=245,SNR=8.6
IUG Iuzhnay 78.44 314 *e*P **P** **19 46 06.5 -0.2**
IUG Iuzhnay 78.44 314 *e*P **P** **19 46 06.4 -0.2**
O17K Koliganek Bris 78.50 27 P **P** **19 46 06.5 +0.1**
baz=243
SII Sitkinak Islan 78.54 31 P **P** **19 46 06.9 +0.2**
baz=246
F15K North Star Dit 78.55 20 IAmb IAmb 19 46 08.9
comp=Z,119nm,1.2s
F15K IAMs_20 IAMs_20 20 15 59.8
comp=Z,1μm,20.0s
F15K North Star Dit 78.55 20 P **P** **19 46 07.0 +0.5**
baz=235
J16K Anvik River 78.72 23 IAmb IAmb 19 46 10.3
comp=Z,221nm,1.7s
J16K IAMs_20 IAMs_20 20 13 51.5
comp=Z,2μm,22.0s
J16K Anvik River 78.72 23 P **P** **19 46 08.3 +0.9**
baz=239,SNR=12
BRLS Boroldoy 78.80 315 *e*P **P** **19 46 08.7 +0.2**
BRLS Boroldoy 78.80 315 *e*P **P** **19 46 08.6 +0.1**
N17K Nushagak Hills 78.80 26 IAmb IAmb 19 46 10.6
comp=Z,86nm,1.3s
N17K Nushagak Hills 78.80 26 P **P** **19 46 08.7 +0.6**
baz=243
H16K Elim 78.81 21 P **P** **19 46 08.2 +0.2**
baz=238
R18K Karluk 78.81 30 P **P** **19 46 09.5 +1.4**
baz=246
BRZS Berezniki 78.89 322 *e*P **P** **19 46 08.8 0.0**
BRZS Berezniki 78.89 322 *e*P **P** **19 46 08.7 0.0**
Q18K Katmai Hardscr 78.98 28 P **P** **19 46 08.8 -0.4**
baz=245
I17K Unalakleet 78.99 22 IAmb IAmb 19 46 11.8
comp=Z,175nm,1.4s
I17K IAMs_20 IAMs_20 20 15 31.6
comp=Z,1μm,20.0s
I17K Unalakleet 78.99 22 P **P** **19 46 10.3 +1.3**
baz=239,SNR=32
L17K Donlin 79.08 24 P **P** **19 46 10.3 +0.8**
baz=242,SNR=7.1
M17K Holitna River 79.09 25 IAmb IAmb 19 46 12.4
comp=Z,108nm,1.1s
M17K Holitna River 79.09 25 P **P** **19 46 10.6 +1.0**
baz=243
G16K Koyuk River 79.17 21 IAMs_20 IAMs_20 20 15 37.1
comp=Z,1μm,22.0s
G16K Koyuk River 79.17 21 P **P** **19 46 10.8 +0.9**
baz=237
P18K Big Mountain, 79.19 28 P **P** **19 46 10.1 -0.1**
baz=245
OHAK Old Harbor 79.25 30 IAmb IAmb 19 46 12.4
comp=Z,104nm,1.0s
OHAK Old Harbor 79.25 30 P **P** **19 46 12.5 +2.0**
OHAK Old Harbor 79.25 30 P **P** **19 46 11.3 +0.8**
baz=247
K17K Iditarod 79.35 24 IAMs_20 IAMs_20 20 14 57.3
comp=Z,1μm,21.0s
K17K Iditarod 79.35 24 P **P** **19 46 12.0 +1.0**
baz=242
J17K VABM Dome 79.37 23 IAmb IAmb 19 46 13.7
comp=Z,143nm,1.2s
J17K IAMs_20 IAMs_20 20 15 31.7
comp=Z,1μm,21.0s
J17K VABM Dome 79.37 23 P **P** **19 46 12.0 +0.9**
baz=241,SNR=20
O18K Koktuh Hills 79.40 27 IAMs_20 IAMs_20 20 17 31.3
comp=Z,2μm,21.0s
O18K Koktuh Hills 79.40 27 P **P** **19 46 11.3 0.0**
baz=245
N18K Kilae Creek 79.44 26 IAmb IAmb 19 46 14.1
comp=Z,88nm,1.2s
N18K IAMs_20 IAMs_20 20 16 10.9
comp=Z,1μm,21.0s
N18K Kilae Creek 79.44 26 P **P** **19 46 12.4 +0.8**
baz=244
L18K Granite Mounta 79.78 25 IAmb IAmb 19 46 15.9
comp=Z,104nm,1.1s
L18K IAMs_20 IAMs_20 20 15 07.8
comp=Z,2μm,22.0s
L18K Granite Mounta 79.78 25 P **P** **19 46 14.0 +0.7**
baz=243
H17K Granite Mounta 79.81 22 IAmb IAmb 19 46 16.0
comp=Z,150nm,1.1s
H17K IAMs_20 IAMs_20 20 18 45.5
comp=Z,1μm,20.0s
H17K Granite Mounta 79.81 22 P **P** **19 46 14.5 +1.0**
baz=240,SNR=22
KDAK Kodiak Island 79.82 30 P **P** **19 46 14.0 +0.5**
KDAK Kodiak Island 79.82 30 LR LR 20 15 56.0
comp=Z,2μm,21.4s,baz=242,slow=32
KDAK Kodiak Island 79.82 30 *i* P **P** **19 46 13.3 -0.3**
KDAK pmax pmax
comp=Z,250nm,1.1s
KDAK Kodiak Island 79.82 30 P **P** **19 46 13.9 +0.3**
baz=248

C16K	**Lisburne Hills** comp=Z,123nm,1.3s	**79.82**	**18**	IAmb	IAmb	19 46 15.8	
C16K	**Lisburne Hills** baz=234	**79.82**	**18**	P	**P**	**19 46 13.8**	**+0.4**
M18K	**Stony River** baz=244	**79.83**	**26**	P	**P**	**19 46 14.8**	**+1.2**
G17K	**Kiwalik Mounta** baz=239	**79.83**	**21**	P	**P**	**19 46 14.6**	**+1.0**
O19K	**Port Alsworth** comp=Z,2μm,19.0s	**79.94**	**27**	IAMs_20	IAMs_20	20 16 36.2	
O19K	**Port Alsworth** baz=246	**79.94**	**27**	P	**P**	**19 46 14.0**	**-0.2**
F17K	**Baldwin Pennin** comp=Z,71nm,1.1s	**80.12**	**20**	IAmb	IAmb	19 46 17.4	
F17K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 15 43.4	
F17K	**Baldwin Pennin** baz=238	**80.12**	**20**	P	**P**	**19 46 15.3**	**+0.3**
N19K	**Bonanza Creek** comp=Z,2μm,21.0s	**80.13**	**27**	IAMs_20	IAMs_20	20 16 53.9	
N19K	**Bonanza Creek** baz=246	**80.13**	**27**	P	**P**	**19 46 15.8**	**+0.4**
D17K	**Noatak River** baz=236	**80.19**	**19**	P	**P**	**19 46 16.3**	**+0.9**
Q20K	**Shuyak Island** baz=248	**80.22**	**29**	P	**P**	**19 46 15.4**	**-0.4**
SYI	**Shuyak Island** comp=Z,112nm,1.1s	**80.22**	**29**	IAmb	IAmb	19 46 17.4	
P19K	**Oil Pt** baz=247	**80.23**	**28**	P	**P**	**19 46 15.2**	**-0.6**
E17K	**Hotham Inlet** baz=238	**80.26**	**19**	P	**P**	**19 46 16.7**	**+0.9**
J18K	**Innoko River** comp=Z,86nm,1.2s	**80.34**	**24**	IAmb	IAmb	19 46 18.3	
J18K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 16 34.4	
J18K	**Innoko River** baz=243,SNR=10	**80.34**	**24**	P	**P**	**19 46 16.7**	**+0.4**
ILSW	**Iliamna Southw** comp=Z,87nm,1.3s	**80.40**	**28**	IAmb	IAmb	19 46 18.1	
RDOG	**Red Dog Mine** comp=Z,106nm,1.2s	**80.44**	**18**	IAmb	IAmb	19 46 19.1	
RDOG	**Red Dog Mine** baz=236,SNR=8.8	**80.44**	**18**	P	**P**	**19 46 17.4**	**+0.6**
H18K	**Honhosa River** comp=Z,84nm,1.1s	**80.49**	**22**	IAmb	IAmb	19 46 18.9	
H18K	comp=Z,1μm,19.0s			IAMs_20	IAMs_20	20 19 18.4	
H18K	**Honhosa River** baz=241	**80.49**	**22**	P	**P**	**19 46 17.1**	**-0.1**
L19K	**White Mountain** baz=245,SNR=13	**80.54**	**25**	P	**P**	**19 46 17.7**	**+0.2**
C17K	**DeLong Mountai** baz=236	**80.59**	**18**	P	**P**	**19 46 17.8**	**+0.2**
O20K	**Slope Mountain** baz=247	**80.68**	**28**	P	**P**	**19 46 17.9**	**-0.4**
F18K	**Selawik** baz=240	**80.75**	**20**	P	**P**	**19 46 18.4**	**0.0**
G18K	**Tagagawik** comp=Z,101nm,1.0s	**80.75**	**21**	IAmb	IAmb	19 46 20.4	
G18K	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	20 19 53.1	
G18K	**Tagagawik** baz=241	**80.75**	**21**	P	**P**	**19 46 18.9**	**+0.4**
E18K	**Tukpahlearik C** comp=Z,71nm,1.0s	**80.85**	**19**	IAmb	IAmb	19 46 21.2	
E18K	**Tukpahlearik C** baz=239	**80.85**	**19**	P	**P**	**19 46 19.9**	**+1.0**
GCSA	**Galena City Sc** baz=243,SNR=17	**80.86**	**22**	P	**P**	**19 46 19.7**	**+0.7**
HOM	**Homer** baz=248	**80.98**	**28**	P	**P**	**19 46 20.1**	**+0.3**
J19K	**Poorman** comp=Z,134nm,1.1s	**81.01**	**23**	IAmb	IAmb	19 46 22.2	
J19K	comp=Z,2μm,22.0s			IAMs_20	IAMs_20	20 15 36.7	
J19K	**Poorman** baz=244,SNR=50	**81.01**	**23**	P	**P**	**19 46 20.5**	**+0.6**
BORK	**Borovoye**	**81.22**	**325***d*	*i*P	**P**	**19 46 21.7**	**+0.5**
BORK	comp=Z,78nm,1.1s			pmax	pmax		
SPCR	**Spurr Chakacha**	**81.30**	**27**	P	**P**	**19 46 20.8**	**-0.8**
C18K	**Utukok River** comp=Z,160nm,1.8s	**81.30**	**18**	IAmb	IAmb	19 46 26.0	
C18K	**Utukok River** baz=238	**81.30**	**18**	P	**P**	**19 46 22.2**	**+0.7**
K20K	**Telida** comp=Z,2μm,22.0s	**81.36**	**24**	IAMs_20	IAMs_20	20 16 41.5	
BRLK	**Bradley Lake** comp=Z,56nm,0.9s	**81.37**	**28**	IAmb	IAmb	19 46 27.8	
H19K	**Roundabout Mou** comp=Z,1μm,22.0s	**81.38**	**22**	IAMs_20	IAMs_20	20 15 22.8	
H19K	**Roundabout Mou** baz=243	**81.38**	**22**	P	**P**	**19 46 22.7**	**+0.9**
BRSE	**Bradley Lake S** baz=249	**81.43**	**28**	P	**P**	**19 46 22.4**	**+0.2**
B18K	**Kokolik River** baz=237	**81.50**	**17**	P	**P**	**19 46 23.6**	**+1.2**
F19K	**Shaleruckik Mo** comp=Z,1μm,22.0s	**81.51**	**20**	IAMs_20	IAMs_20	20 16 26.0	
F19K	**Shaleruckik Mo** baz=242	**81.51**	**20**	P	**P**	**19 46 22.9**	**+0.4**
CAPN	**Captain Cook N** baz=248	**81.61**	**27**	P	**P**	**19 46 22.9**	**-0.2**
J20K	**Nowinta River** comp=Z,2μm,22.0s	**81.67**	**23**	IAMs_20	IAMs_20	20 16 52.3	
J20K	**Nowinta River** baz=245	**81.67**	**23**	P	**P**	**19 46 24.2**	**+0.7**
I20K	**Naaghedeneel** comp=Z,1μm,20.0s	**81.81**	**23**	IAMs_20	IAMs_20	20 18 01.1	
I20K	**Naaghedeneel** baz=245	**81.81**	**23**	P	**P**	**19 46 25.0**	**+0.9**
SKT	**Skwentna** baz=248,SNR=11	**81.89**	**26**	P	**P**	**19 46 23.5**	**-1.1**
SLKM	**Skilak Lake** comp=Z,131nm,1.0s	**81.95**	**28**	IAmb	IAmb	19 46 25.9	
H20K	**Anotleneega Mo** baz=244	**81.95**	**22**	P	**P**	**19 46 25.6**	**+0.7**
PPLA	**Purkeypile** comp=Z,1μm,20.0s	**81.96**	**25**	IAMs_20	IAMs_20	20 16 48.4	
PPLA	**Purkeypile** baz=247,SNR=6.9	**81.96**	**25**	P	**P**	**19 46 24.4**	**-0.8**
E19K	**Redstone River** comp=Z,97nm,0.9s	**82.00**	**20**	IAmb	IAmb	19 46 27.2	
E19K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 17 46.7	
E19K	**Redstone River** baz=242	**82.00**	**20**	P	**P**	**19 46 24.9**	**-0.1**
C19K	**Lookout Ridge** comp=Z,124nm,1.1s	**82.04**	**18**	IAmb	IAmb	19 46 27.7	
C19K	**Lookout Ridge** baz=240	**82.04**	**18**	P	**P**	**19 46 25.3**	**0.0**
A19K	**Wainwright** baz=238	**82.17**	**17**	P	**P**	**19 46 25.3**	**-0.5**
SEW	**Seward** comp=Z,167nm,1.3s	**82.17**	**28**	IAmb	IAmb	19 46 28.0	
SEW	**Seward** baz=250	**82.17**	**28**	P	**P**	**19 46 26.0**	**-0.1**
O22K	**Cooper Landing** baz=250	**82.17**	**28**	P	**P**	**19 46 26.1**	**0.0**
D19K	**Kuna River** comp=Z,91nm,1.0s	**82.20**	**19**	IAmb	IAmb	19 46 28.1	
D19K	comp=Z,787nm,18.0s			IAMs_20	IAMs_20	20 25 05.0	
D19K	**Kuna River** baz=241	**82.20**	**19**	P	**P**	**19 46 26.4**	**+0.3**
CHUM	**Lake Minchumin** baz=247,SNR=61	**82.29**	**24**	P	**P**	**19 46 27.3**	**+0.6**
F20K	**Avaraart Lake** comp=Z,103nm,1.1s	**82.33**	**21**	IAmb	IAmb	19 46 29.2	
F20K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 18 05.2	
F20K	**Avaraart Lake** baz=244	**82.33**	**21**	P	**P**	**19 46 27.4**	**+0.6**
RC01	**Rabbit Creek A** comp=Z,102nm,0.9s	**82.38**	**27**	IAmb	IAmb	19 46 28.1	
RC01	**Rabbit Creek A** baz=250,SNR=22	**82.38**	**27**	P	**P**	**19 46 26.9**	**-0.3**
M22K	**Willow** baz=249	**82.44**	**26**	P	**P**	**19 46 27.0**	**-0.4**
IMAR	**Indian Mountai**	**82.58**	**22**	P	**P**	**19 46 28.1**	**-0.1**
CUT	**Chulitna** comp=Z,116nm,1.1s	**82.60**	**26**	IAmb	IAmb	19 46 28.8	
CUT	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 21 45.4	
CUT	**Chulitna** baz=249,SNR=13	**82.60**	**26**	P	**P**	**19 46 27.7**	**-0.6**
NGCH	**Negor - Chabah**	**82.68**	**296**	P	**P**	**19 46 31.2**	**+1.7**
NGCH				S	**S**	**19 56 47.8**	**+2.2**
E20K	**Nigu River** baz=243	**82.72**	**19**	P	**P**	**19 46 29.0**	**+0.1**
KTH	**Kantishna Hill** comp=Z,97nm,1.0s	**82.74**	**25**	IAmb	IAmb	19 46 29.9	
KTH	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 17 11.9	
RKT	**Rikitea** comp=Z,10μm,32.0s	**82.78**	**113**	*e*LR	LR	20 12 24.5	
D20K	**Etivluk River** comp=Z,63nm,0.9s	**82.79**	**19**	IAmb	IAmb	19 46 31.1	
D20K	**Etivluk River** baz=242	**82.79**	**19**	P	**P**	**19 46 28.9**	**-0.3**
H21K	**Melozitna Rive** comp=Z,65nm,1.1s	**82.80**	**22**	IAmb	IAmb	19 46 31.3	
H21K	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	20 17 14.5	
H21K	**Melozitna Rive** baz=246,SNR=27	**82.80**	**22**	P	**P**	**19 46 29.6**	**+0.3**
PMR	**Palmer** comp=Z,113nm,1.2s	**82.82**	**27**	IAmb	IAmb	19 46 30.3	
PMR	**Palmer** baz=250	**82.82**	**27**	P	**P**	**19 46 30.5**	**+1.1**
PMR	**Palmer** baz=252	**82.82**	**27**	P	**P**	**19 46 28.8**	**-0.6**
G21K	**Allakaket** comp=Z,52nm,1.0s	**82.89**	**21**	IAmb	IAmb	19 46 31.6	
G21K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 21 11.8	
G21K	**Allakaket** baz=246,SNR=7.1	**82.89**	**21**	P	**P**	**19 46 30.2**	**+0.4**
BPAW	**Bear Paw Mtn.** comp=Z,59nm,1.1s	**82.92**	**24**	IAmb	IAmb	19 46 31.1	
BPAW	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 17 05.6	
BPAW	**Bear Paw Mtn.** baz=248,SNR=18	**82.92**	**24**	P	**P**	**19 46 29.3**	**-0.7**
I21K	**Tanana** comp=Z,94nm,1.1s	**82.93**	**23**	IAmb	IAmb	19 46 32.2	
I21K	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	20 16 32.6	
I21K	**Tanana** baz=247	**82.93**	**23**	P	**P**	**19 46 30.3**	**+0.4**
PWL	**Port Wells** baz=251,SNR=28	**82.94**	**28**	P	**P**	**19 46 29.3**	**-0.8**
TRF	**Thorofare Moun** comp=Z,2μm,20.0s	**82.97**	**25**	IAMs_20	IAMs_20	20 17 54.0	
TRF	**Thorofare Moun** baz=249,SNR=15	**82.97**	**25**	P	**P**	**19 46 29.4**	**-1.0**
GHO	**Glory Hole Cre** comp=Z,91nm,1.2s	**82.98**	**27**	IAmb	IAmb	19 46 31.4	
MAW	**Mawson** comp=Z,37nm,1.0s,baz=71,slow=6.6,SNR=38	**83.03**	**202**	P	**P**	**19 46 30.1**	**-0.4**
MAW	comp=Z,1μm,19.4s,baz=71,slow=34 comp=Z,37nm,1.0s			LR	LR	20 21 16.5	
KNK	**Knik Glacier** comp=Z,2μm,20.0s	**83.07**	**27**	IAMs_20	IAMs_20	20 17 30.7	
KNK	**Knik Glacier** baz=251,SNR=34	**83.07**	**27**	P	**P**	**19 46 30.6**	**-0.2**
P23K	**Montague Islan** baz=252	**83.11**	**29**	P	**P**	**19 46 30.5**	**-0.4**
F21K	**Alatna River** comp=Z,1μm,18.0s	**83.19**	**21**	IAMs_20	IAMs_20	20 20 34.4	
F21K	**Alatna River** baz=246	**83.19**	**21**	P	**P**	**19 46 31.0**	**-0.3**
B20K	**Meade River** baz=242	**83.23**	**18**	P	**P**	**19 46 32.0**	**+0.6**
SML	**Sawmill** baz=251,SNR=54	**83.25**	**27**	P	**P**	**19 46 31.5**	**-0.3**
MLY	**Manley** comp=Z,1μm,20.0s	**83.36**	**23**	IAMs_20	IAMs_20	20 18 38.3	
MLY	**Manley** baz=248,SNR=38	**83.36**	**23**	P	**P**	**19 46 32.4**	**+0.1**
H22K	**Ishtalitna Cre** baz=248	**83.44**	**22**	P	**P**	**19 46 32.9**	**+0.2**
WAT1	**Susitna Watana** baz=251	**83.49**	**26**	P	**P**	**19 46 32.3**	**-0.7**
M23K	**Glacier View** baz=251	**83.52**	**27**	P	**P**	**19 46 33.1**	**0.0**
GLI	**Glacier Island** comp=Z,86nm,1.0s	**83.52**	**28**	IAmb	IAmb	19 46 34.3	
GLI	**Glacier Island** baz=252,SNR=13	**83.52**	**28**	P	**P**	**19 46 32.8**	**-0.4**
E21K	**Killik River** comp=Z,897nm,21.0s	**83.54**	**20**	IAMs_20	IAMs_20	20 17 07.1	
E21K	**Killik River** baz=245	**83.54**	**20**	P	**P**	**19 46 33.7**	**+0.6**
RND	**Reindeer** comp=Z,2μm,22.0s	**83.56**	**25**	IAMs_20	IAMs_20	20 17 15.5	
C21K	**Knifeblade Rid** baz=244	**83.58**	**19**	P	**P**	**19 46 33.2**	**-0.1**
MCK	**McKinley** comp=Z,1μm,20.0s	**83.63**	**25**	IAMs_20	IAMs_20	20 18 34.6	
MCK	**McKinley** baz=250,SNR=38	**83.63**	**25**	P	**P**	**19 46 32.9**	**-0.7**
SCM	**Sheep Creek Mo** baz=252,SNR=28	**83.71**	**27**	P	**P**	**19 46 34.2**	**+0.1**
WAT6	**Susitna Watana** baz=251,SNR=42	**83.77**	**26**	P	**P**	**19 46 34.0**	**-0.5**
F22K	**John River** baz=247	**83.77**	**21**	P	**P**	**19 46 35.0**	**+0.7**
G22K	**Bettles** baz=247	**83.78**	**21**	P	**P**	**19 46 34.6**	**+0.3**
B21K	**Ikpikpuk River** comp=Z,47nm,0.8s	**83.84**	**18**	IAmb	IAmb	19 46 37.8	
B21K	**Ikpikpuk River** baz=244	**83.84**	**18**	P	**P**	**19 46 34.8**	**+0.2**
NEA2	**Nenana** comp=Z,62nm,1.1s	**83.87**	**24**	IAmb	IAmb	19 46 35.6	
NEA2	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 17 11.9	
NEA2	**Nenana** baz=250,SNR=29	**83.87**	**24**	P	**P**	**19 46 34.0**	**-0.9**
JLN	**Jalan Bani Buh** SNR=18	**83.91**	**293**	P	**P**	**19 46 36.4**	**+0.5**
JLN				S	**SKSac**	**19 56 57.6**	**+0.1**
I23K	**Minto, Yukon-K** comp=Z,74nm,1.0s	**83.95**	**23**	IAmb	IAmb	19 46 36.7	
I23K	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	20 18 13.8	
I23K	**Minto, Yukon-K** baz=250	**83.95**	**23**	P	**P**	**19 46 35.3**	**+0.1**
DHY	**Denali Highway** baz=252,SNR=86	**84.08**	**26**	P	**P**	**19 46 35.9**	**-0.3**
H23K	**Yukon River** comp=Z,1μm,20.0s	**84.12**	**23**	IAMs_20	IAMs_20	20 19 31.8	
H23K	**Yukon River** baz=249	**84.12**	**23**	P	**P**	**19 46 36.3**	**+0.2**
E22K	**Anaktuvuk Pass** comp=Z,59nm,1.1s	**84.15**	**20**	IAmb	IAmb	19 46 38.4	
E22K	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 17 34.9	
E22K	**Anaktuvuk Pass** baz=247,SNR=8.4	**84.15**	**20**	P	**P**	**19 46 36.8**	**+0.5**
D22K	**Ayikyak River** comp=Z,45nm,1.0s	**84.15**	**19**	IAmb	IAmb	19 46 38.6	
D22K	comp=Z,997nm,19.0s			IAMs_20	IAMs_20	20 15 59.6	
D22K	**Ayikyak River** baz=246	**84.15**	**19**	P	**P**	**19 46 37.1**	**+0.9**
KLU	**Klutina** comp=Z,80nm,1.0s	**84.25**	**27**	IAmb	IAmb	19 46 38.6	
KLU	**Klutina** baz=253,SNR=22	**84.25**	**27**	P	**P**	**19 46 37.1**	**+0.2**
G23K	**Bananza Creek** comp=Z,56nm,0.9s	**84.25**	**22**	IAmb	IAmb	19 46 38.9	
G23K	comp=Z,1μm,19.0s			IAMs_20	IAMs_20	20 18 57.3	
G23K	**Bananza Creek** baz=249,SNR=20	**84.25**	**22**	P	**P**	**19 46 37.3**	**+0.5**
M24K	**Tolsona, Glenn** comp=Z,1μm,20.0s	**84.31**	**27**	IAMs_20	IAMs_20	20 20 20.7	
M24K	**Tolsona, Glenn** baz=253	**84.31**	**27**	P	**P**	**19 46 37.3**	**0.0**
COLD	**Coldfoot** comp=Z,61nm,1.0s	**84.37**	**21**	IAmb	IAmb	19 46 39.6	
COLD	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 16 03.9	
COLD	**Coldfoot** baz=249,SNR=10.0	**84.37**	**21**	P	**P**	**19 46 37.8**	**+0.5**
COLA	**College**	**84.46**	**24**	P	**P**	**19 46 37.3**	**-0.5**
COLA	**College** comp=Z,1μm,22.0s	**84.46**	**24**	IAMs_20	IAMs_20	20 18 38.3	
COLA	**College**	**84.46**	**24**	P	**P**	**19 46 38.2**	**+0.4**
COLA	**College**	**84.46**	**24***d*	*i*P	**P**	**19 46 36.9**	**-0.8**
COLA	comp=Z,73nm,0.9s			pmax	pmax		
COLA	**College** baz=251	**84.46**	**24**	P	**P**	**19 46 37.0**	**-0.8**
B22K	**Teshekpuk Lake** baz=245	**84.52**	**18**	P	**P**	**19 46 38.2**	**+0.2**
KAIM	**Kayak Island** baz=255	**84.52**	**29**	P	**P**	**19 46 39.0**	**+0.7**
HDA	**Harding Lake** comp=Z,56nm,1.1s	**84.68**	**24**	IAmb	IAmb	19 46 40.6	
HDA	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 21 28.2	
HDA	**Harding Lake** baz=252	**84.68**	**24**	P	**P**	**19 46 37.7**	**-1.2**
POKR	**Poker Plat Res** comp=Z,1μm,22.0s	**84.71**	**24**	IAMs_20	IAMs_20	20 18 00.9	
POKR	**Poker Plat Res** baz=251	**84.71**	**24**	P	**P**	**19 46 38.0**	**-1.1**
BMRM	**Bremner River** baz=254,SNR=13	**84.71**	**28**	P	**P**	**19 46 38.9**	**-0.4**
WSAR	**Wadi Sarin** SNR=21	**84.73**	**294**	P	**P**	**19 46 40.7**	**+0.6**
WSAR				S	**SKSac**	**19 57 02.3**	**-0.5**
H24K	**Noodor Dome** comp=Z,51nm,1.0s	**84.77**	**23**	IAmb	IAmb	19 46 41.1	
H24K	comp=Z,2μm,22.0s			IAMs_20	IAMs_20	20 18 51.4	
IL31	comp=Z,68nm,0.8s	**84.82**	**24**	IAmb	IAmb	19 46 39.5	
ILAR	**Eielson Array**	**84.82**	**24**	P	**P**	**19 46 37.9**	**-1.8**
ILAR	**Eielson Array** comp=Z,53nm,0.8s,baz=258,slow=4.5,SNR=254 comp=Z,53nm,0.8s	**84.82**	**24**	P	**P**	**19 46 38.0**	**-1.6**
D23K	**Nanushuk River** baz=248	**84.85**	**20**	P	**P**	**19 46 40.5**	**+0.8**
HARP	**HAARP** baz=254	**84.86**	**27**	P	**P**	**19 46 39.6**	**-0.3**
PAX	**Paxson** comp=Z,80nm,1.4s	**84.88**	**26**	IAmb	IAmb	19 46 41.4	
PAX	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 19 14.5	
PAX	**Paxson** baz=253,SNR=21	**84.88**	**26**	P	**P**	**19 46 40.0**	**-0.1**
E23K	**Chandalar** comp=Z,84nm,1.1s	**84.88**	**21**	IAmb	IAmb	19 46 44.0	
E23K	comp=Z,1μm,18.0s			IAMs_20	IAMs_20	20 22 58.0	
E23K	**Chandalar** baz=249	**84.88**	**21**	P	**P**	**19 46 40.6**	**+0.6**
N25K	**Chitina, Valde** baz=254	**84.89**	**27**	P	**P**	**19 46 39.9**	**-0.3**
TOLK	**Toolik Lake Re** comp=Z,68nm,1.1s	**85.11**	**20**	IAmb	IAmb	19 46 54.3	
TOLK	**Toolik Lake Re** baz=249	**85.11**	**20**	P	**P**	**19 46 42.0**	**+0.9**
BGLC	**Bering Glacier** baz=256	**85.12**	**29**	P	**P**	**19 46 41.9**	**+0.7**
JMDO	**Jabal Madar** SNR=14	**85.13**	**293**	P	**P**	**19 46 42.5**	**+0.3**
MHTO	**MHTO** SNR=22	**85.14**	**291**	P	**P**	**19 46 42.6**	**+0.4**
MHTO				S	**SKSac**	**19 57 06.9**	**+1.5**
C23K	**Itkillik River** baz=248	**85.20**	**19**	P	**P**	**19 46 41.5**	**+0.1**
G24K	**Hadweenzic Riv** comp=Z,76nm,1.1s	**85.20**	**22**	IAmb	IAmb	19 46 43.5	
G24K	comp=Z,1μm,21.0s			IAMs_20	IAMs_20	20 18 41.4	
G24K	**Hadweenzic Riv** baz=251,SNR=28	**85.20**	**22**	P	**P**	**19 46 42.1**	**+0.6**
GLB	**Gilahina Butte** comp=Z,65nm,1.0s	**85.21**	**28**	IAmb	IAmb	19 46 43.2	
GLB	comp=Z,1μm,21.0s			IAMs_20	IAMs_20	20 20 38.4	
BIDO	**Bidbid** SNR=33	**85.22**	**294**	P	**P**	**19 46 43.3**	**+0.8**
SMDO	**Samad** SNR=12	**85.25**	**293**	P	**P**	**19 46 43.4**	**+0.6**
E24K	**Your Creek** comp=Z,1μm,19.0s	**85.29**	**21**	IAMs_20	IAMs_20	20 22 21.4	
E24K	**Your Creek** baz=250	**85.29**	**21**	P	**P**	**19 46 42.1**	**+0.1**
F24K	**Squaw Lake** comp=Z,70nm,1.0s	**85.31**	**21**	IAmb	IAmb	19 46 46.2	
F24K	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 18 57.4	
F24K	**Squaw Lake** baz=251	**85.31**	**21**	P	**P**	**19 46 43.0**	**+0.9**
RIDG	**Independent Ri** comp=Z,1μm,20.0s	**85.37**	**25**	IAMs_20	IAMs_20	20 23 32.4	
RIDG	**Independent Ri** baz=254,SNR=22	**85.37**	**25**	P	**P**	**19 46 42.5**	**0.0**
CRQE	**Cirque** baz=256,SNR=18	**85.37**	**28**	P	**P**	**19 46 43.0**	**+0.3**
J25K	**Salcha River,** comp=Z,87nm,1.0s	**85.39**	**24**	IAmb	IAmb	19 46 43.3	
J25K	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 18 57.7	
J25K	**Salcha River,** baz=253	**85.39**	**24**	P	**P**	**19 46 41.8**	**-0.8**
WAX	**Waxell Ridge** comp=Z,84nm,1.0s	**85.41**	**29**	IAmb	IAmb	19 46 44.7	
WAX	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	20 23 15.4	
DQM	**DQM**	**85.45**	**290**	P	**P**	**19 46 44.5**	**+0.8**
TGL	**Tana Glacier** comp=Z,1μm,22.0s	**85.50**	**28**	IAMs_20	IAMs_20	20 18 00.0	
D24K	**Happy Valley** baz=250	**85.54**	**20**	P	**P**	**19 46 44.4**	**+1.3**
MCARA	**McCarthy VSAT** comp=Z,41nm,1.0s	**85.56**	**28**	IAmb	IAmb	19 46 45.1	
MCARA	comp=Z,1μm,21.0s			IAMs_20	IAMs_20	20 20 37.7	
MCARA	**McCarthy VSAT** baz=256,SNR=8.0	**85.56**	**28**	P	**P**	**19 46 43.8**	**+0.4**
PRP	**Porcupine Dome** comp=Z,2μm,21.0s	**85.59**	**24**	IAMs_20	IAMs_20	20 19 13.3	
PRP	**Porcupine Dome** baz=253	**85.59**	**24**	P	**P**	**19 46 42.8**	**-0.8**
ISLE	**Juniper Island** comp=Z,70nm,1.0s	**85.70**	**29**	IAmb	IAmb	19 46 45.9	
H25L	**Birch Creek** baz=253	**85.70**	**23**	P	**P**	**19 46 45.0**	**+1.0**
G25K	**Bearman Lake** baz=252	**85.74**	**22**	P	**P**	**19 46 45.1**	**+0.9**
C24K	**Franklin Bluff** baz=250	**85.78**	**19**	P	**P**	**19 46 44.9**	**+0.6**
MESA	**MESA** comp=Z,62nm,0.9s	**85.78**	**29**	IAmb	IAmb	19 46 46.6	
MESA	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	20 19 28.7	
MESA	**MESA** baz=257	**85.78**	**29**	P	**P**	**19 46 45.3**	**+0.4**
SCRK	**Sand Creek** baz=255,SNR=12	**85.80**	**25**	P	**P**	**19 46 44.5**	**-0.2**
L26K	**Log Cabin Wild** comp=Z,58nm,1.0s	**85.83**	**26**	IAmb	IAmb	19 46 46.3	
L26K	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	20 22 39.6	
L26K	**Log Cabin Wild** baz=255	**85.83**	**26**	P	**P**	**19 46 44.9**	**+0.2**
M26K	**Nabesna, AK** baz=256,SNR=10	**85.83**	**27**	P	**P**	**19 46 44.8**	**0.0**
YAH	**Yahtse** comp=Z,50nm,0.9s	**85.93**	**29**	IAmb	IAmb	19 46 47.4	
HOQ	**Hoqain** SNR=32	**85.97**	**294**	P	**P**	**19 46 46.8**	**+0.5**
HOQ				S	**SKSac**	**19 57 11.2**	**+0.6**
GRNC	**Granite Creek** comp=Z,60nm,1.0s	**86.01**	**29**	IAmb	IAmb	19 46 47.7	
FYU	**Fort Yukon** comp=Z,2μm,22.0s	**86.01**	**23**	IAMs_20	IAMs_20	20 18 18.3	
J26L	**Joseph Creek** comp=Z,62nm,1.0s	**86.11**	**25**	IAmb	IAmb	19 46 47.7	
J26L	**Joseph Creek** baz=255	**86.11**	**25**	P	**P**	**19 46 46.5**	**+0.3**
BARN	**Barnard Glacie** comp=Z,2μm,22.0s	**86.13**	**28**	IAMs_20	IAMs_20	20 17 32.2	
F25K	**Christian Rive** comp=Z,53nm,1.1s	**86.16**	**22**	IAmb	IAmb	19 46 59.7	
F25K	comp=Z,1μm,22.0s			IAMs_20	IAMs_20	20 20 49.7	
F25K	**Christian Rive** baz=253	**86.16**	**22**	P	**P**	**19 46 47.6**	**+1.3**
CTG	**Chitna Glacier** baz=257,SNR=28	**86.26**	**28**	P	**P**	**19 46 47.7**	**+0.7**
M27K	**Edge Creek, AK** baz=257	**86.32**	**27**	P	**P**	**19 46 47.9**	**+0.5**
E25K	**Arctic Village** comp=Z,2μm,22.0s	**86.34**	**21**	IAMs_20	IAMs_20	20 17 56.9	

E25K	Arctic Village	86.34	21	P	P	19 46 47.9	+0.7
	baz=253						
LOGN	Logan Glacier	86.39	29	IAmb	IAmb	19 46 49.5	
	comp=Z,54nm,0.8s						
D25K	Kavik River	86.42	20	IAMs_20	IAMs_20	20 19 58.6	
	comp=Z,988nm,21.0s						
D25K	Kavik River	86.42	20	P	P	19 46 48.1	+0.5
	baz=252						
I26K	Coal Creek Min	86.49	24	P	P	19 46 47.6	-0.4
	baz=255						
BMAR	Burnt Mountain	86.50	22	P	P	19 46 48.3	+0.3
L27K	Beaver Creek,	86.51	26	IAMs_20	IAMs_20	20 23 07.9	
	comp=Z,2µm,19.0s						
L27K	Beaver Creek,	86.51	26	P	P	19 46 48.7	+0.6
	baz=257						
BCAR	Beaver Creek A	86.53	26	P	P	19 46 47.7	-0.6
PCA	Pinnacle	86.59	29	IAmb	IAmb	19 46 50.2	
	comp=Z,64nm,0.8s						
PINM	Pinnacle	86.60	29	P	P	19 46 49.2	+0.5
	baz=258,SNR=11						
K27K	Chicken	86.63	25	P	P	19 46 49.7	+1.1
	baz=256						
ARQ	Araqi	86.67	293	P	P	19 46 50.1	+0.3
	SNR=8.9						
G26K	Porcupine Rive	86.67	22	IAmb	IAmb	19 46 51.3	
	comp=Z,66nm,0.9s						
G26K				IAMs_20	IAMs_20	20 19 13.3	
	comp=Z,1µm,20.0s						
G26K	Porcupine Rive	86.67	22	P	P	19 46 49.9	+1.2
	baz=255						
SOHO	SOHO	86.72	294	P	P	19 46 50.5	+0.5
SOHO				S	SKSac	19 57 13.8	-1.4
SOHO	SOHO	86.72	294	*i* P	P	19 46 49.6	-0.4
	SNR=12						
F26K	Sheenjek River	86.73	22	P	P	19 46 50.4	+1.3
	baz=254						
O28M	Mount Upton	86.77	29	IAmb	IAmb	19 46 51.5	
	comp=Z,47nm,0.8s						
O28M	Mount Upton	86.77	29	P	P	19 46 50.2	+0.4
	baz=258,SNR=20						
ABKAR	Akbulak array	86.78	320	P	P	19 46 48.4	-1.3
BCPM	Bancas Point	86.87	30	IAmb	IAmb	19 46 51.7	
	comp=Z,114nm,1.4s						
PNL	Peninsula	86.94	30	P	P	19 46 51.5	+1.2
PNL	Peninsula	86.94	30	P	P	19 46 50.4	+0.2
	baz=259,SNR=12						
QSPA	South Pole Qui	87.03	180	P	P	19 46 52.4	+1.7
	comp=Z,90nm,0.8s,baz=337,slow=1.2,SNR=358						
QSPA				LR	LR	20 24 51.1	
	comp=Z,3µm,22.0s,baz=5.5,slow=35						
	comp=Z,90nm,0.8s						
MDH	Madha	87.03	295	P	P	19 46 52.8	+1.4
YUK8	Steele Glacier	87.07	28	P	P	19 46 51.7	+0.5
	baz=259						
BANOM	Banah	87.08	296	P	P	19 46 52.3	+0.6
BANOM	Banah	87.08	296	*i* P	P	19 46 52.8	+1.1
	SNR=5.2						
UOSS	Minazif	87.09	295	P	P	19 46 52.5	+0.7
UOSS				S	SKSac	19 57 14.5	-3.0
UOSS	Minazif	87.09	295	P	P	19 46 52.3	+0.5
C26K	Camden Bay	87.09	19	P	P	19 46 52.2	+1.5
	baz=253						
HATD	Hatta, Dubai	87.14	295	P	P	19 46 52.8	+0.7
HATD				S	SKSac	19 57 15.4	-2.5
HATD	Hatta, Dubai	87.14	295	P	P	19 46 52.6	+0.6
MSFE	Esma-Masafi	87.16	295	*i* P	P	19 46 52.6	+0.5
	SNR=7.0						
MASF	Masafi	87.16	295	P	P	19 46 52.8	+0.6
	SNR=11						
MASF				S	SKSac	19 57 16.7	-1.3
EGAK	Eagle	87.19	25	IAmb	IAmb	19 46 52.9	
	comp=Z,59nm,1.1s						
EGAK	Eagle	87.19	25	P	P	19 46 51.2	-0.2
	baz=257						
I27K	Kandik River	87.19	24	P	P	19 46 52.0	+0.6
	baz=257						
ASHO	Ashiyiah	87.20	295	P	P	19 46 52.9	+0.6
ASHO				S	SKSac	19 57 16.1	-2.2
ASHO	Ashiyiah	87.20	295	*i* P	P	19 46 52.1	-0.2
	SNR=5.5						
SHME	Shamm	87.23	296	P	P	19 46 53.2	+0.8
SHME	Shamm	87.23	296	P	P	19 46 53.3	+0.9
H27K	Steamboat Moun	87.37	23	IAMs_20	IAMs_20	20 23 54.1	
	comp=Z,2µm,20.0s						
H27K	Steamboat Moun	87.37	23	P	P	19 46 53.1	+0.9
	baz=257,SNR=5.5						
C27K	Jago River	87.41	20	P	P	19 46 53.7	+1.4
	baz=255						
ALNE	Al Ain	87.43	294	P	P	19 46 54.1	+0.7
	SNR=16						
ALNE				S	SKSac	19 57 18.2	-1.4
ALNE	Al Ain	87.43	294	*i* P	P	19 46 52.7	-0.7
	SNR=5.6						
G27K	Doyon Strip	87.45	23	IAmb	IAmb	19 46 56.3	
	comp=Z,76nm,1.7s						
G27K				IAMs_20	IAMs_20	20 20 21.9	
	comp=Z,2µm,22.0s						
G27K	Doyon Strip	87.45	23	P	P	19 46 53.7	+1.1
	baz=257						
O29M	Mount Kennedy	87.46	29	IAmb	IAmb	19 46 54.9	
	comp=Z,38nm,0.8s						
O29M	Mount Kennedy	87.46	29	P	P	19 46 53.7	+0.8
	baz=260,SNR=14						
SVE	Sverdlovsk	87.51	327	*e*P	P	19 46 53.1	+0.1
SVE				pmax	pmax		
	comp=Z,20nm,1.4s						
SVE				MLR	MLR		
	comp=Z,540nm,20.0s						
NAZ	Nazwa, Dubai	87.58	295	P	P	19 46 53.7	-0.4
YUK4	Talbot Arm	87.61	28	P	P	19 46 54.5	+0.8
	baz=260						
FAQ	Al Faqa, Dubai	87.63	295	P	P	19 46 54.1	-0.2
FAQ				S	SKSac	19 57 17.2	-3.5
YUK6	Outpost Mounta	87.68	29	P	P	19 46 54.7	+0.6
	baz=260,SNR=19						
DMTO	DMTO	87.73	288	P	P	19 46 55.3	+0.4
P29M	Windy Craggy	87.76	30	P	P	19 46 54.9	+0.7
	baz=260,SNR=8.6						
DAWY	Dawson	87.79	26	P	P	19 46 55.1	+0.7
	baz=259						
E27K	Coleen River	87.79	21	P	P	19 46 55.2	+1.0
	baz=257						
I28M	Miner Creek	87.83	24	IAmb	IAmb	19 46 56.5	
	comp=Z,57nm,1.0s						
I28M	Miner Creek	87.83	24	P	P	19 46 55.2	+0.6
	baz=258						
ASUD	Al Ashush, Dub	87.86	295	P	P	19 46 56.0	+0.5
UMZA	Um Al Zommool	87.87	293	P	P	19 46 55.2	-0.4
M29M	Somme Creek	87.90	27	P	P	19 46 55.4	+0.4
	baz=260						
HYT	Haines Junctio	88.07	29	IAmb	IAmb	19 46 57.8	
	comp=Z,69nm,1.0s						
HYT	Haines Junctio	88.07	29	P	P	19 46 56.7	+0.8
	baz=261						
L29M	L29M	88.17	27	P	P	19 46 56.8	+0.6
	baz=260						
P30M	Million Dollar	88.22	30	P	P	19 46 57.3	+0.9
	baz=261,SNR=13						
D27M	Malcolm River	88.26	20	IAMs_20	IAMs_20	20 20 21.8	
	comp=Z,1µm,19.0s						
D27M	Malcolm River	88.26	20	P	P	19 46 56.9	+0.5
	baz=257						
F28M	Old Crow	88.30	22	IAMs_20	IAMs_20	20 20 37.9	
	comp=Z,1µm,22.0s						
F28M	Old Crow	88.30	22	P	P	19 46 57.4	+0.7
	baz=258						
J29N	Klondike Camp	88.36	25	IAmb	IAmb	19 46 59.5	
	comp=Z,82nm,1.2s						
J29N				IAMs_20	IAMs_20	20 24 09.6	
	comp=Z,2µm,21.0s						
J29N	Klondike Camp	88.36	25	P	P	19 46 58.0	+0.9
	baz=260						
N30M	Aishikik Lake	88.37	28	IAmb	IAmb	19 46 59.1	
	comp=Z,58nm,1.1s						
N30M	Aishikik Lake	88.37	28	P	P	19 46 57.6	+0.4
	baz=261						
PLBC	Pleasant Camp	88.42	30	P	P	19 46 58.2	+0.9
	baz=262						
RBK	Rabkut	88.43	288	P	P	19 46 58.4	+0.1
I29M	Ogilvie Camp,	88.49	24	P	P	19 46 57.7	+0.1
	baz=260,SNR=77						
K29M	Barlow Dome	88.56	26	P	P	19 46 59.0	+0.9
	baz=260						
DOK	Doka	88.57	289	P	P	19 46 59.0	+0.1
H29M	Whitestone	88.62	24	IAmb	IAmb	19 47 20.9	
	comp=Z,48nm,1.1s						
H29M	Whitestone	88.62	24	P	P	19 46 58.6	+0.5
	baz=260						
E28M	Babbage River	88.63	21	IAmb	IAmb	19 47 00.2	
	comp=Z,99nm,1.6s						
E28M				IAMs_20	IAMs_20	20 20 04.1	
	comp=Z,979nm,20.0s						
E28M	Babbage River	88.63	21	P	P	19 46 58.7	+0.6
	baz=258						
SIT	Sitka	88.64	33	P	P	19 46 59.1	+0.8
	baz=263						
ARTI	Arti	88.68	326	P	P	19 46 57.2	-1.4
ARTI	Arti	88.68	326	*d i* P	P	19 46 57.6	-1.0
ARTI				pmax	pmax		
	comp=Z,15nm,1.4s						
M30M	Minto, Yukon	88.68	27	IAmb	IAmb	19 47 00.5	
	comp=Z,43nm,0.8s						
M30M	Minto, Yukon	88.68	27	P	P	19 46 59.1	+0.5
	baz=261						
O30N	Mendenhall	88.75	29	IAmb	IAmb	19 47 00.7	
	comp=Z,88nm,1.4s						
O30N	Mendenhall	88.75	29	P	P	19 46 59.0	+0.1
	baz=262						
WHFO	Wadi Hawf	88.87	288	P	P	19 47 00.3	-0.1
G29M	Pine Creek	88.88	23	IAMs_20	IAMs_20	20 19 19.0	
	comp=Z,2µm,22.0s						
G29M	Pine Creek	88.88	23	P	P	19 46 59.8	+0.4
	baz=260,SNR=27						
SKAG	Skagway	88.95	30	IAmb	IAmb	19 47 01.7	
	comp=Z,40nm,1.0s						
SKAG	Skagway	88.95	30	P	P	19 47 01.2	+1.4
SKAG	Skagway	88.95	30	P	P	19 47 00.3	+0.5
	baz=262						
N31M	Braeburn, Yuko	89.00	28	IAmb	IAmb	19 47 02.0	
	comp=Z,61nm,0.9s						
N31M	Braeburn, Yuko	89.00	28	P	P	19 47 00.6	+0.5
	baz=262						
BESE	Bessie Mountai	89.08	31	IAmb	IAmb	19 47 02.3	
	comp=Z,42nm,0.9s						
S32K	Killisnoo	89.09	32	IAmb	IAmb	19 47 02.2	
	comp=Z,53nm,1.2s						
S32K	Killisnoo	89.09	32	P	P	19 47 00.7	+0.2
	baz=263						
MZWR	Madinat Zayed	89.12	294	P	P	19 47 01.8	+0.4
E29M	Blow River	89.18	21	P	P	19 47 00.3	-0.4
	baz=260						
J30M	Hart River	89.19	25	IAmb	IAmb	19 47 03.1	
	comp=Z,70nm,0.9s						
J30M	Hart River	89.19	25	P	P	19 47 01.6	+0.5
	baz=262						
R32K	Eaglecrest	89.22	32	P	P	19 47 01.7	+0.6
	baz=263						
MAYO	Mayo, Yukon	89.24	26	P	P	19 47 01.8	+0.7
	baz=262						
I30M	Mount Dempster	89.27	25	IAmb	IAmb	19 47 03.1	
	comp=Z,48nm,0.9s						
I30M	Mount Dempster	89.27	25	P	P	19 47 01.8	+0.4
	baz=262						
ABTO	Aybut	89.28	287	P	P	19 47 02.7	+0.3
JIS	Juneau Island	89.29	32	P	P	19 47 03.0	+1.6
EPYK	Eagle Plains	89.30	24	P	P	19 47 01.5	+0.1
	baz=261						
WHY	Whitehorse	89.32	29	IAmb	IAmb	19 47 03.4	
	comp=Z,50nm,0.9s						
WHY	Whitehorse	89.32	29	P	P	19 47 01.9	+0.2
	baz=263						
MZR	Muzera	89.44	293	P	P	19 47 03.6	+0.7
	SNR=7.4						
MZR	Muzera	89.44	293	*i* P	P	19 47 02.9	-0.1
	SNR=21						
G30M	tAoh Zraii Nji	89.59	23	IAmb	IAmb	19 47 03.9	
	comp=Z,102nm,1.7s						
G30M				IAMs_20	IAMs_20	20 21 16.4	
	comp=Z,1µm,22.0s						
G30M	tAoh Zraii Nji	89.59	23	P	P	19 47 03.1	+0.3
	baz=262						
CRAG	Craig	89.68	35	P	P	19 47 03.8	+0.5
	baz=264						
M31M	Drury Creek, Y	89.74	28	P	P	19 47 03.8	+0.2
	baz=263						
P32M	Atlin	89.78	30	P	P	19 47 03.9	+0.1
	baz=264						
F30M	Barrier River	89.84	22	P	P	19 47 03.7	-0.2
	baz=262						
T33K	Petersburg	89.90	33	P	P	19 47 05.0	+0.7
	baz=264						
GHWR	Ruwais	90.05	294	P	P	19 47 06.2	+0.5
GHWR				S	SKSac	19 57 33.7	-1.5
H31M	Peel River	90.18	24	IAmb	IAmb	19 47 19.8	
	comp=Z,56nm,1.3s						
H31M	Peel River	90.18	24	P	P	19 47 05.5	-0.1
	baz=263						
WRAK	Wrangell Islan	90.20	34	IAmb	IAmb	19 47 07.5	
	comp=Z,61nm,0.9s						
WRAK	Wrangell Islan	90.20	34	P	P	19 47 05.7	0.0
	baz=265						
N32M	Quiet Lake	90.25	29	IAmb	IAmb	19 47 08.2	
	comp=Z,56nm,1.0s						
N32M				IAMs_20	IAMs_20	20 26 51.9	
	comp=Z,1µm,18.0s						
N32M	Quiet Lake	90.25	29	P	P	19 47 06.2	+0.3
	baz=264						
P33M	Teslin, Yukon	90.29	30	P	P	19 47 05.8	-0.4
	baz=265						
G31M	Satah River	90.34	23	IAmb	IAmb	19 47 08.5	
	comp=Z,131nm,1.9s						
G31M	Satah River	90.34	23	P	P	19 47 05.9	-0.3
	baz=263						
Q32M	Nakina River	90.46	31	P	P	19 47 07.0	-0.2
	baz=265						
F31M	Tsiigehtchic	90.60	23	P	P	19 47 06.6	-0.8
	baz=264						
INK	Inuvik	90.78	22	LR	LR	20 23 11.2	
	comp=Z,834nm,21.3s,baz=269,slow=32						
INK	Inuvik	90.78	22	P	P	19 47 08.3	+0.2
INK				pmax	pmax		
	comp=Z,28nm,0.9s						
INK	Inuvik	90.78	22	P	P	19 47 07.7	-0.4
	baz=264						
S34M	Telegraph Cree	90.97	32	P	P	19 47 09.9	+0.6
	baz=266						
R33M	Jennings River	91.16	31	P	P	19 47 10.9	+0.5
	baz=266						
MMPY	Sheldon Lake,	91.23	28	P	P	19 47 10.7	+0.2
	baz=266						
T35M	Bob Quinn	91.39	33	IAmb	IAmb	19 47 13.2	
	comp=Z,49nm,1.4s						
T35M	Bob Quinn	91.39	33	P	P	19 47 11.5	+0.2
	baz=267						
DLBC	Dease Lake	91.59	32	LR	LR	20 23 19.8	
	comp=Z,7µm,19.7s,baz=254,slow=32						
DLBC	Dease Lake	91.59	32	P	P	19 47 12.6	+0.4
	baz=267						
SYO	Syowa Base	91.60	201	⇑ *i* P	P	19 47 11.9	-0.1
SYO	Syowa Base	91.60	201	⇓ *e* PcP	PcP	19 47 14.6	+1.7
SYO	Syowa Base	91.60	201	⇑ *e* PP	PP	19 50 51.5	+1.3
BBB	Bella Bella	92.44	38	LR	LR	20 23 04.5	
	comp=Z,1µm,19.6s,baz=246,slow=32						
TGTN	Hyland Airport	92.59	29	P	P	19 47 16.9	+0.1
	baz=269						
ABPO	Ambohimpanom	93.23	251	IAMs_20	IAMs_20	20 31 42.7	
	comp=Z,750nm,19.0s						
LIRD	Liard River Hi	93.65	31	P	P	19 47 21.9	+0.2
	baz=270						
A36M	Sachs Harbour	93.72	18	P	P	19 47 21.6	-0.1
	baz=272						
TOAD	Toad River Com	94.10	31	P	P	19 47 23.9	0.0
	baz=271						
C36M	Paulatuk	94.23	21	P	P	19 47 24.9	+0.8
	baz=273						
KOTAN	Kotaneelee Air	94.67	30	P	P	19 47 26.5	+0.1
	baz=272						
BELG	Belogornoye	94.76	322	*d i* P	P	19 47 25.3	-1.6
BELG				pmax	pmax		
	comp=Z,16nm,1.1s						
WRGLY	Wrigley	94.80	27	IAmb	IAmb	19 47 32.1	
	comp=Z,20nm,0.6s						
WRGLY	Wrigley	94.80	27	P	P	19 47 26.4	-0.5
	baz=273						
AKT	Akhty	94.86	311	*e*P	P	19 47 25.2	-2.6
AKT				*e*		19 51 13.3	
AKT				pmax	pmax		
	comp=Z,13nm,1.4s						
MAK	Makhachkala	95.01	313	*d i* P	P	19 47 22.3	-6.0
MAK				*e*		19 57 54.9	
MAK				*e*SS	SS	20 05 05.7	-1.0
MAK				pmax	pmax		
	comp=Z,186nm,1.3s						
M02C	Callahan	96.05	49	IAmb	IAmb	19 47 35.2	
	comp=Z,28nm,1.2s						
O02D	Mt. Diablo Mer	96.13	50	P	P	19 47 33.2	-0.4
O02D				IAmb	IAmb	19 47 35.7	
	comp=Z,27nm,1.1s						
YBH	Yreka Blue Hor	96.15	49	LR	LR	20 22 39.5	
	comp=Z,122nm,21.2s,baz=284,slow=30						
M03C	McCloud	96.60	49	IAmb	IAmb	19 47 37.3	
	comp=Z,23nm,0.8s						
RAYN	Ar Rayn	96.79	293	P	P	19 47 36.3	-0.6
RAYN	Ar Rayn	96.79	293	P	P	19 47 36.5	-0.4
RAYN	Ar Rayn	96.79	293	*i* P	P	19 47 36.0	-0.9
	SNR=8.2						
RAYN	Ar Rayn	96.79	293	P	P	19 47 36.3	-0.6
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RAYN				MLR	MLR		
	comp=Z,400nm,22.0s						
GNI	Garni	97.15	310	⇑ *e*P	P	19 47 37.2	-1.1
GNI				pmax	pmax		
	comp=Z,18nm,1.9s						
J05D	Fort Rock, OR	97.18	47	IAmb	IAmb	19 47 51.9	
	comp=Z,62nm,1.8s						
PINE	Pine Mountain	97.37	46	P	P	19 47 39.1	-0.2
NCK	Nalchik	97.84	313	⇑ *e*P	P	19 47 41.1	-0.1
NCK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KBZ	Khabaz	98.34	314	P	P	19 47 42.9	-0.5
	comp=Z,1.3nm,0.8s,baz=90,slow=3.0,SNR=3.6						
	comp=Z,1.3nm,0.8s						
KLMR	Klimovskoe	98.44	331	*e*P	P	19 47 40.6	-2.8
KLMR				*e*		19 51 41.0	
KLMR				pmax	pmax		
	comp=Z,19nm,1.3s						
KIV	Kislovodsk	98.47	314	*e*P	P	19 47 42.1	-2.0
KIV				*e*		19 51 42.7	
KIV				*e*SS	SS	20 05 56.3	+0.5
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VRH	Novokhopyorsk	98.49	321	*e*P	P	19 47 42.5	-1.3
VRH				pmax	pmax		
	comp=Z,13nm,0.6s						
SHA1	Shidzhatmaz	98.51	314	⇓ *e*P	P	19 47 43.2	-1.2
NEUR	Neytrino	98.51	313	⇓ *e*P	Pdif	19 47 45.5	+1.1
NEUR				pmax	pmax		
	comp=Z,6.0nm,1.8s						
YKAW3	Yellowknife Wh	98.91	27	IAmb	IAmb	19 47 46.4	
	comp=Z,18nm,1.0s						
YKA	Yellowknife Ar	98.92	27	P	P	19 47 44.8	-0.7
YKA	Yellowknife Ar	98.92	27	P	P	19 47 45.2	-0.3
	comp=Z,8.4nm,0.9s,baz=286,slow=5.5,SNR=21						
YKA				PP	PP	19 51 47.8	+0.6
	comp=Z,1.9nm,0.9s,baz=282,slow=9.0,SNR=4.8						
YKA				LR	LR	20 27 13.0	
	comp=Z,1µm,22.0s,baz=290,slow=32						
	comp=Z,8.4nm,0.9s						
YKA	Yellowknife Ar	98.92	27	*i* P	P	19 47 45.5	0.0
YKA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LVZ	Lovozero	99.05	339	IAMs_20	IAMs_20	20 32 38.8	
	comp=Z,710nm,22.0s						
APA	Apatity	99.60	338	⇓ *i* P	Pdif	19 47 51.4	+3.0
APA				*i*		19 51 52.7	
APA				*i* S	S	19 59 26.3	+7.1
APA				*i* PS	PS	20 00 48.3	-2.0
APA				*i* SS	SS	20 06 08.4	-1.5
NEW	Newport	99.65	42	LR	LR	20 23 51.3	
	comp=Z,638nm,21.9s,baz=260,slow=30						
NVAR	Mina Array Bea	99.69	52	P	Pdif	19 47 50.0	+0.2
	comp=Z,1.6nm,0.8s,baz=259,slow=6.8,SNR=6.6						
NVAR				PP	PP	19 51 55.3	+1.1
	comp=Z,1.4nm,0.9s,baz=279,slow=2.9,SNR=3.8						
NVAR				LR	LR	20 29 43.5	
	comp=Z,358nm,18.1s,baz=289,slow=34						
	comp=Z,1.6nm,0.8s						
SPITS	Spitsbergen Ar	99.70	350	LR	LR	20 32 57.2	
	comp=Z,739nm,20.2s,baz=44,slow=35						
LABN	Labinsk	99.82	315	*e*P	Pdif	19 47 46.7	-3.3
LABN				*e**PP	pP	19 47 54.0	-5.7
LABN				*e*S	SKSac	19 58 24.0	-2.7
LABN				pmax	pmax		
	comp=Z,23nm,0.9s						
LABN				MLR	MLR		
	comp=Z,788nm,21.0s						
ERBR	Yeremizino-Bor	99.88	316	*e*P	Pdif	19 47 49.1	-1.1
ERBR				*e**PP	pP	19 47 55.0	-4.9
ERBR				*e*S	SKSac	19 58 26.7	-0.3
ERBR				pmax	pmax		
	comp=Z,21nm,0.8s						
VORR	Voronezh	100.00	322	*e*P	Pdif	19 47 48.9	-1.6
VORR				pmax	pmax		
	comp=Z,35nm,0.5s						
LPSR	Galich'ya Gora	100.03	323	*e*P	Pdif	19 47 47.4	-3.3
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSLR	Vesyoloye	100.43	314	*de*P	Pdif	19 47 52.5	-0.2
VSLR				pmax	pmax		
	comp=Z,18nm,1.1s						
SOC	Sochi	100.65	314	*e*P	Pdif	19 47 52.7	-1.0
SOC				*e*		19 51 58.0	
OBN	Obninsk	100.99	326	IAMs_20	IAMs_20	20 36 14.6	
	comp=Z,1µm,21.0s						
OBN	Obninsk	100.99	326	*e*P	Pdif	19 47 52.8	-2.1
OBN				*e*		19 52 03.0	
OBN				pmax	pmax		
	comp=Z,28nm,1.6s						
OBN				MLR	MLR		
	comp=Z,994nm,20.0s						
KEV	Kevo	101.09	341	IAMs_20	IAMs_20	20 34 31.2	
	comp=Z,665nm,22.0s						
ARCES	ARCESS Array B	101.66	341	P	Pdif	19 47 57.7	+0.1
	comp=Z,4.6nm,0.9s,baz=77,slow=6.4,SNR=7.1						
SNAA	Sanae	102.07	191	⇑ P	Pdif	19 47 59.8	+0.3
	comp=Z,137nm,1.0s						
SNAA	Sanae	102.07	191	P	Pdif	19 47 58.9	-0.6
	comp=Z,7.5nm,1.0s,baz=149,slow=4.1,SNR=20						
SNAA	Sanae	102.07	191	*e*P	Pdif	19 48 00.1	+0.6
SNAA				pmax	pmax		
	comp=Z,13nm,1.1s						
ANN	Anapa	102.13	315	*e*P	Pdif	19 47 57.5	-2.7
ANN				*e*S	SKSac	19 58 35.8	-2.0
ANN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DLMT	Dillon	103.13	44	IAMs_20	IAMs_20	20 30 32.0	
	comp=Z,732nm,19.0s						
VNA2	Neumayer--Watz	103.52	190	⇓ P	Pdif	19 48 06.4	+0.5
	comp=Z,2.6nm,0.8s,baz=161,slow=3.0						
VNA3	Neumayer Olymp	103.62	189	⇓ P	Pdif	19 48 06.2	-0.2
	comp=Z,3.4nm,0.7s						
VNA1	Neumayer--Stat	103.90	190	⇓ P	Pdif	19 48 08.2	+0.7
	comp=Z,5.8nm,1.2s						
FINES	FINESS Array B	104.57	333	Pdiff	Pdif	19 48 09.3	-1.4
	comp=Z,4.4nm,0.9s,baz=84,slow=9.8,SNR=7.0						
BRTR	Keskin Array B	105.68	310	Pdiff	Pdif	19 48 15.0	-1.4
	comp=Z,0.6nm,0.5s,baz=123,slow=4.6,SNR=5.8						
BRTR				PKiKP	PKiKP	19 52 28.8	-0.5
	comp=Z,0.4nm,0.7s,baz=106,slow=4.7,SNR=1.8						
PDAR	Pinedale Array	105.74	46	Pdiff	Pdif	19 48 10.5	-6.1
	comp=Z,1.0nm,0.4s,baz=63,slow=33,SNR=3.3						
PDAR				PKiKP	PKiKP	19 52 29.4	-0.1
	comp=Z,0.6nm,0.7s,baz=174,slow=2.3,SNR=5.1						
MNK	Minsk	106.01	326	*i* P	Pdif	19 48 15.2	-2.1
MNK				*i* P	Pdif	19 48 15.2	-2.1
MNK				*i* P	Pdif	19

comp=Z,1μm,20.0s
MILM Milestii Mici 107.61 318⇑ *e*P Pdif 19 48 25.0 +0.5
MILM *e*L L 20 36 13.0
MILM LRM MLR 20 40 43.0
comp=Z,300nm,20.0s
MILM Milestii Mici 107.61 318 *c*e P Pdif 19 48 25.0 +0.5
PABE Paberze 107.79 328 IAMs_20 IAMs_20 20 39 39.2
comp=Z,858nm,20.0s
SUW Suwalki 108.77 327 IAMs_20 IAMs_20 20 39 34.1
comp=Z,804nm,22.0s
Y22D IRIS PASSCAL I 109.34 55 IAMs_20 IAMs_20 20 28 34.4
comp=Z,1μm,21.0s
Q24A Divide 109.78 50 IAMs_20 IAMs_20 20 36 18.7
comp=Z,560nm,20.0s
MLR Muntele Rosu 109.92 318 IAMs_20 IAMs_20 20 43 30.3
comp=Z,571nm,22.0s
EPT El Paso 110.07 57 IAMs_20 IAMs_20 20 33 09.8
comp=Z,917nm,18.0s
T25A Trinidad 110.75 51 IAMs_20 IAMs_20 20 34 41.4
comp=Z,910nm,20.0s
OGNE Ogallala 111.62 47 IAMs_20 IAMs_20 20 34 00.1
comp=Z,989nm,20.0s
LSZ Lusaka 111.74 252 IAMs_20 IAMs_20 20 34 09.5
comp=Z,833nm,22.0s
KONO Kongsberg 112.54 336 IAMs_20 IAMs_20 20 43 06.0
comp=Z,994nm,20.0s
TXAR Lajitas Array 112.89 59 PKiKP **PKiKP 19 52 42.5 -0.6**
comp=Z,0.8nm,0.8s,baz=243,slow=0.9,SNR=4.4
BRG Berggiesshubel 115.22 326 *e*P **PKPdf 19 52 47.1 +0.2**
BRG Amp 19 52 48.9
comp=Z,3.5nm,1.0s
PDG Podgorica 115.47 316 IAMs_20 IAMs_20 20 46 46.4
comp=Z,532nm,22.0s
CLL Collm 115.52 327 *e*PKIKP **PKPdf 19 52 48.0 +0.6**
CLL MLR MLR
comp=Z,700nm,18.7s
CLL Collm 115.52 327 *e*PKiKP **PKPdf 19 52 48.0 +0.6**
CLL *ex* x 19 53 19.0
CLL *e*PP **PP 19 53 46.0 -3.1**
CLL *e*Sdif Sdif 20 01 32.0 -0.8
CLL *e*PS **PKKPab 20 03 27.0 +0.6**
CLL *e*PPS PPS 20 04 47.0
CLL *e*SS **SS 20 09 41.0 -5.0**
CLL *ex* x 20 13 27.0
CLL Lm MLR 20 47 00.0
comp=N,600nm,19.4s
CLL Lm MLR 20 47 00.0
comp=E,300nm,19.6s
CLL Lm MLR 20 47 00.0
comp=Z,700nm,18.7s
WMOK Wichita Mounta 115.76 53 IAMs_20 IAMs_20 20 33 32.2
comp=Z,1μm,21.0s
JCT Junction City 115.95 57 IAMs_20 IAMs_20 20 32 36.7
comp=Z,697nm,19.0s
ARSA Arzberg 115.99 322 *e*PKiKP **PKPdf 19 52 49.7 +1.2**
comp=Z,1.3nm,0.5s
GERES GERESS Array B 116.34 324 PKP **PKPdf 19 52 48.8 -0.4**
comp=Z,0.4nm,0.6s,baz=64,slow=3.1,SNR=5.1
BRDY Brady 116.44 56 PKPdf 19 52 49.4 -0.4
GRTLG Ghanzi 116.95 244 PKiKP 19 52 51.4 +0.2
OK052 Battle Ridge R 116.96 51 IAMs_20 IAMs_20 20 35 45.8
comp=Z,1μm,22.0s
Z35A Perchaven, San 117.36 54 IAMs_20 IAMs_20 20 34 48.6
comp=Z,1μm,22.0s
KBA Koelnbreinsper 117.39 323 *e*PKP **PKPdf 19 52 51.3 -0.1**
comp=Z,0.7nm,0.5s
KOOLE Kule 117.42 242 PKPdf 19 52 50.6 -1.5
735A Kenedy 118.01 59 IAMs_20 IAMs_20 20 31 34.2
comp=Z,799nm,22.0s
ABTA Abfaltersbach 118.05 323 *e*PKP **PKPdf 19 52 52.4 -0.2**
comp=Z,0.8nm,0.5s
STAL STALIGIAL 118.16 322 PKPdf 19 52 52.3 -0.4
WATA Walderalm 118.32 324 *e*PKP **PKPdf 19 52 52.7 -0.4**
comp=Z,1.5nm,0.4s
WTTA Wattenberg 118.32 324 *e*PKP **PKPdf 19 52 52.7 -0.5**
comp=Z,3.5nm,0.6s
MOTA Moosalm 118.59 324 *e*PKP **PKPdf 19 52 53.2 -0.4**
comp=Z,2.0nm,0.6s
SQTA Sankt Quirin 118.59 324 *e*PKiKP **PKiKP 19 52 54.1 +0.4**
comp=Z,0.7nm,0.3s
FETA Feichten 118.98 324 *e*PKP **PKPdf 19 52 54.1 -0.3**
comp=Z,1.8nm,0.8s
Z38A Mt. Pleasant 119.20 53 IAMs_20 IAMs_20 20 34 30.4
comp=Z,994nm,20.0s
DAVA Damuels 119.34 324 *i* PKP **PKPdf 19 52 54.6 -0.5**
comp=Z,2.2nm,0.5s
CAMP Campotosto 119.40 318 PKPdf 19 52 54.6 -0.8
CCM Cathedral Cave 120.45 47 PKPdf 19 52 56.4 -0.9
CCM Cathedral Cave 120.45 47 PKiKP **PKPdf 19 52 56.4 -0.9**
EKA Eskdalemuir Ar 120.52 338 PKP **PKPdf 19 52 56.5 -0.4**
comp=Z,1.9nm,0.6s,baz=27,slow=2.5,SNR=8.8
SCHQ Schefferville 123.31 19 PKP **PKPdf 19 53 02.1 -0.2**
comp=Z,40nm,0.7s,baz=333,slow=4.5,SNR=5.3
WVT Waverly 123.72 48 PKPdf 19 53 02.5 -1.1
WVT Waverly 123.72 48 PKiKP **PKPdf 19 53 02.5 -1.1**
WVT MLR MLR
comp=Z,1μm,19.0s
KEST Kesra 125.19 313 PKP **PKiKP 19 53 07.4 +0.5**
comp=Z,3.4nm,0.9s,baz=77,slow=3.4,SNR=4.1
LL01 San Ignacio de 125.39 149 IAMs_20 IAMs_20 20 48 55.7
comp=Z,628nm,19.0s
250A Grady 126.55 52 IAMs_20 IAMs_20 20 44 43.0
comp=Z,818nm,20.0s
X51A Calhoun 126.58 48 IAMs_20 IAMs_20 20 42 36.2
comp=Z,959nm,21.0s
PLCA Paso Flores 127.54 149 PKP **PKiKP 19 53 11.5 0.0**
comp=Z,3.8nm,0.8s,baz=214,slow=3.6,SNR=5.6
TEIG Tepich 128.41 66 IAMs_20 IAMs_20 20 41 27.6
comp=Z,514nm,21.0s
R58B Mineral 129.78 41 IAMs_20 IAMs_20 20 47 06.2
comp=Z,795nm,20.0s
TGUH Tegucigalpa,Un 130.47 74 IAMs_20 IAMs_20 20 42 20.0
comp=Z,565nm,20.0s
ESDC Sonseca Array 131.93 324 PKP **PKPdf 19 53 19.5 +0.2**
comp=Z,0.4nm,0.5s,baz=67,slow=1.9,SNR=2.7
ESDC PP **PP 19 55 44.5 +4.9**
comp=Z,1.5nm,1.0s,baz=39,slow=8.3,SNR=5.6
VA01 Torpederas 132.37 141 IAMs_20 IAMs_20 20 55 39.6
comp=Z,895nm,21.0s
MVO Moncorvo 132.63 328 *e*PKPdf **PKPdf 19 53 21.1 +0.5**
MVO *i* IAMs_20 IAMs_20 20 55 32.4
comp=Z,938nm,22.0s
PGAV Gavieira, Arco 132.70 329 *e*PKPdf **PKiKP 19 53 25.8 +3.9**
POLO Lamas de Olo 132.89 329 *e*PKPdf **PKPdf 19 53 19.7 -1.4**
JTS Las Juntas de 133.18 79 IAMs_20 IAMs_20 20 46 17.1
comp=Z,472nm,19.0s
VA03 San Esteban 133.22 142 IAMs_20 IAMs_20 21 01 42.0
comp=Z,562nm,19.0s
MTE Manteigas 133.45 327 *e*PKPdf **PKiKP 19 53 24.0 +0.6**
MTE *i* IAMs_20 IAMs_20 20 56 09.4
comp=Z,846nm,20.0s
PCBR Castelo Branco 133.81 327 *e*PKPdf **PKiKP 19 53 23.8 -0.2**
HDC Heredia 134.03 79 IAMs_20 IAMs_20 20 40 36.3
comp=Z,604nm,21.0s
PBAR Barrancos 134.72 325 *e*PKPdf **PKiKP 19 53 30.4 +4.5**
NNA Nana 138.98 112 IAMs_20 IAMs_20 20 53 23.0
comp=Z,373nm,20.0s
TORD Torodi Ar. Bea 139.13 287 PKPpre 19 53 25.1
TORD Torodi Ar. Bea 139.13 287 PKhKP PKPpre 19 53 20.5
comp=Z,1.9nm,0.8s,baz=55,slow=4.1,SNR=10
TORD PKP **PKPdf 19 53 32.8 -0.5**
comp=Z,3.0nm,0.7s,baz=67,slow=3.8,SNR=6.8
OTAV Otavalo 139.83 93 IAMs_20 IAMs_20 20 50 26.4
comp=Z,359nm,19.0s
GTBY Guantanamo Bay 140.35 62 IAMs_20 IAMs_20 20 58 58.7
comp=Z,541nm,19.0s
TA01 Diego Aracena 141.03 128 IAMs_20 IAMs_20 20 44 22.5
comp=Z,495nm,18.0s
YOTC Yotoco, Valle 142.07 87 P **PKPdf 19 53 34.1 -4.7**
CBOC Ciudad Bolivar 142.35 84 P **PKPdf 19 53 35.8 -3.5**
FLOC Florencia 142.71 91 PKPdf 19 53 36.4 -3.4
PB16 IPOC Station P 142.75 126 PKPdf 19 53 37.1 -3.4
GUY2C Guyana, Caldas 143.02 85 P PKPab 19 53 36.2 0.0
PB18 Visviri 143.16 125 PKPbc 19 53 39.3 +1.3
ORTC Ortega, Tolima 143.16 87 P PKPab 19 53 36.3 +0.1
ZARC Zaragoza, Cauc 143.38 81 P PKPab 19 53 36.6 -0.4
NORC Norcasia 143.50 85 P PKPab 19 53 37.8 +0.3
PRAC Prado 143.52 88 P PKPab 19 53 37.8 +0.2
PTBC PUERTO BERRIO 143.85 83 P PKPab 19 53 38.6 -0.3
URMC La Uribe, Meta 144.03 89 P **PKPab 19 53 39.9 +0.3**
SDDR Presa de Saban 144.05 61 IAMs_20 IAMs_20 20 56 20.7
comp=Z,471nm,19.0s
ROSC El Rosal 144.07 86 PKP PKPbc 19 53 41.4 +0.8
comp=Z,48nm,0.6s,baz=270,slow=6.1,SNR=15
ROSC El Rosal 144.07 86 P PKPbc 19 53 41.1 +0.4
CZSB Cruzeiro do Su 144.13 107 PKPbc 19 53 40.6 +0.2

PMOZ Porto Moniz, M 144.25 329 PKPab 19 53 38.8 -1.1
SPBC San Pablo de B 144.28 84 P **PKPab 19 53 39.7 -0.9**
CRJC Cerrejon, Guaj 144.83 75 P **PKPab 19 53 41.7 -0.9**
LPAZ La Paz 144.92 124 PKP PKPbc 19 53 44.0 +0.4
comp=Z,34nm,0.7s,baz=257,slow=1.4,SNR=126
LPAZ La Paz 144.92 124 PKIKP PKPbc 19 53 44.0 +0.5
BARC Barichara 145.11 83 P **PKPbc 19 53 43.5 -0.3**
RUSC La Rusia 145.25 84 P **PKPbc 19 53 43.5 -1.0**
PAMC Pamplona, Colo 145.52 81 P **PKPdf 19 53 44.6 -0.7**
CPUP Villa Florida 145.61 149 PKPbc **PKPdf 19 53 43.8 -0.7**
comp=Z,5.6nm,1.1s,baz=265,slow=3.1,SNR=14
DR12 Loma Pena Alta 145.79 60 PKPdf 19 53 43.9 -1.1
DBIC Dimbokro 146.42 278 PKPbc **PKPbc 19 53 47.4 -0.1**
comp=Z,36nm,0.5s,baz=106,slow=4.4,SNR=61
SDV Santo Domingo 147.37 78 PKPdf 19 53 46.6 -1.5
SDV IAMs_20 IAMs_20 20 49 26.2
comp=Z,665nm,20.0s
SDV Santo Domingo 147.37 78 P **PKPdf 19 53 47.5 -0.5**
CRPR Cabo Rojo, PR 148.08 60 PKPdf 19 53 46.5 -2.3
SJG San Juan 148.86 59 PKPbc 19 53 53.3 -0.7
SJG San Juan 148.86 59 IAMs_20 IAMs_20 21 03 50.1
comp=Z,320nm,19.0s
SJG San Juan 148.86 59 PKP2 **PKPbc 19 53 53.3 -0.7**
SJG MLR MLR
comp=Z,300nm,19.0s
PDPR Patillas Dam, 149.01 59 PKPdf 19 53 50.2 -0.1
AQDB Aquidauana 151.19 145 PKPbc 19 53 59.1 -0.5
SABA Saba 151.55 57 IAMs_20 IAMs_20 20 54 40.2
comp=Z,618nm,19.0s
GDHS Morne Mazeau, 153.43 59 IAMs_20 IAMs_20 20 55 46.8
comp=Z,530nm,20.0s
ABD La Joyeuse, An 153.57 58 IAMs_20 IAMs_20 21 12 04.7
comp=Z,411nm,19.0s
GDSD La Dsirade Is 154.00 58 IAMs_20 IAMs_20 21 02 06.1
comp=Z,410nm,20.0s
ILAM Ilet Lapin Mar 154.86 61 IAMs_20 IAMs_20 20 42 58.3
comp=Z,288nm,19.0s
MPOM Morne Pois Mar 155.01 61 IAMs_20 IAMs_20 21 03 23.5
comp=Z,427nm,19.0s
GRGR Grenville 155.18 67 IAMs_20 IAMs_20 21 00 17.4
comp=Z,483nm,21.0s
BDFB Brasilia 159.23 153 PKP **PKPdf 19 54 04.8 -0.1**
comp=Z,1.6nm,0.4s,baz=165,slow=4.3,SNR=3.1
BDFB PKPab **PKPab 19 54 41.4 -0.4**
comp=Z,4.8nm,0.7s,baz=209,slow=5.5,SNR=4.5
RCBR Riachuelo 170.97 196 PKPab 19 55 33.9 +0.6
RCBR Riachuelo 170.97 196 PKP2 **PKPab 19 55 33.9 +0.6**

*BJI **17** 19:50:57.2, 42.°64N×141.°86E, h126km, mB4.7/5, mb4.3/14*
*NEIC **17** 19:50:58.6±1.7, 42.°66N±0.°06×141.°8E±0.°1, h121km±3km, mb4.5/23, Error ellipse: s-maj=13.2km s-min=7.9km az=110.0*
*IDC **17** 19:50:59.0±1.0, 42.°70N×141.°86E, h126km±7km, mb3.7/22, mbtmp4.1/25, Error ellipse: s-maj=14.8km s-min=11.1km az=117.0*
*SKHL **17** 19:50:58.0±0.3, 42.°60N×141.°90E, h128km±5km, mb5.5/3, msha5.9/3*
*MOS **17** 19:50:58.3±0.8, 42.°49N×141.°91E, h126km, mb4.4/21, Error ellipse: s-maj=8.1km s-min=6.2km az=92.5*
*JMA **17** 19:50:59.0±0.2, 42.°7N±0.°6×141.°8E±0.°7, h126km±1km, MD3.9/40, MV3.9/40, ISHIKARI DEPRESSION*
JMA Felt I J1 at ISHIKARI DEPRESSION .
ISC 17 19:50:59.1±0.5, 42.°66N±0.°03×141.°85E±0.°03, h128km±4km, n155, σ1§16/176, mb4.4/55, 14C-26D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.06**	**125**	*i* P	**Pn**	**19 51 16.6**	**+0.2**
JIAM				S	**Sn**	**19 51 29.9**	**+0.5**
JIAM	**Iburiatsuma**	**0.06**	**125**	A	A	19 51 16.6	
comp=N,30nm,0.3s,comp=E,29nm,0.3s							
JEW	**Eniwo**	**0.35**	**302**	P	**Pn**	**19 51 16.7**	**-0.3**
JEW				S	**Sn**	**19 51 29.9**	**-0.8**
JEW	**Eniwo**	**0.35**	**302**	A	A	19 51 16.7	
comp=N,19nm,0.9s,comp=E,7.0nm,0.7s							
JBT2	**Biratori 2**	**0.40**	**72**	*i* P	**Pn**	**19 51 17.3**	**0.0**
JBT2				S	**Sn**	**19 51 31.4**	**+0.3**
JBT2	**Biratori 2**	**0.40**	**72**	A	A	19 51 17.3	
comp=N,13nm,1.3s,comp=E,13nm,1.2s							
JSHD	**Hidakashinhida**	**0.52**	**118**	A	A	19 51 18.2	
comp=N,13nm,1.2s,comp=E,13nm,0.6s							
JNB	**Noboribetsu**	**0.63**	**253**	P	**Pn**	**19 51 18.1**	**-0.5**
JNB				S	**Sn**	**19 51 32.6**	**-0.9**
JISS	**Ishikarishitsu**	**0.69**	**333**	⇓*i* P	**Pn**	**19 51 18.9**	**-0.2**
JISS				⇓S	**Sn**	**19 51 33.6**	**-0.7**
JFR	**Furan**	**0.74**	**47**	⇓*i* P	**Pn**	**19 51 19.0**	**-0.5**
JFR				⇓S	**Sn**	**19 51 34.0**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.77**	**119**	*i* P	**Pn**	**19 51 20.2**	**+0.5**
JNBK				S	**Sn**	**19 51 36.6**	**+1.4**
JNBK	**Urakawa-nobuka**	**0.77**	**119**	A	A	19 51 20.2	
comp=N,14nm,0.4s,comp=E,21nm,1.1s							
JAB	**Ashibetsu**	**0.89**	**18**	⇓*i* P	**Pn**	**19 51 20.8**	**0.0**
JAB				⇓S	**Sn**	**19 51 36.8**	**-0.3**
JAB	**Ashibetsu**	**0.89**	**18**	A	A	19 51 20.8	
comp=N,6.0nm,0.4s,comp=E,11nm,0.6s							
JKB	**Kayabe**	**0.98**	**219**	*i* P	**Pn**	**19 51 21.3**	**-0.2**
JKB				S	**Sn**	**19 51 37.9**	**-0.7**
JKB	**Kayabe**	**0.98**	**219**	A	A	19 51 21.3	
comp=N,9.0nm,0.6s,comp=E,8.0nm,1.6s							
JHR	**Hokuryu**	**1.09**	**355**	⇓*i* P	**Pn**	**19 51 22.8**	**+0.2**
JHR				⇓S	**Sn**	**19 51 40.8**	**+0.3**
JCH	**Churui**	**1.11**	**92**	⇓*i* P	**Pn**	**19 51 22.4**	**-0.5**
JCH				⇓S	**Sn**	**19 51 40.0**	**-0.8**
JCH	**Churui**	**1.11**	**92**	A	A	19 51 22.4	
comp=N,6.0nm,1.3s,comp=E,4.0nm,0.9s							
ERM	**Erimo**	**1.16**	**123**		**Pn**	**19 51 23.8**	**+0.5**
ERM	**Erimo**	**1.16**	**123**	PN	**Pn**	**19 51 23.8**	**+0.5**
JKK2	**Kamakawa 2**	**1.38**	**28**	⇓*i* P	**Pn**	**19 51 25.3**	**-0.3**
JKK2				⇓*e*S	**Sn**	**19 51 46.0**	**+0.1**
JOT	**Ohata**	**1.41**	**205**	*i* P	**Pn**	**19 51 25.9**	**-0.1**
JOT				S	**Sn**	**19 51 45.9**	**-0.5**
JOB	**Onbets**	**1.48**	**80**	A	A	19 51 27.2	
comp=N,8.0nm,0.8s,comp=E,7.0nm,0.6s							
JAR	**Ashorobuto**	**1.54**	**65**	⇓*i* P	**Pn**	**19 51 26.9**	**-0.5**
JAR				⇓S	**Sn**	**19 51 48.0**	**-1.1**
ASAJ	**Asahikawa**	**1.56**	**20**	P	**Pn**	**19 51 27.2**	**-0.4**
comp=E,261nm,0.4s,baz=204,slow=17,SNR=664							
ASAJ				S	**Sn**	**19 51 48.5**	**-0.9**
comp=E,132nm,0.4s,baz=338,slow=31,SNR=6.1							
JKA	**Kamikawa-asahi**	**1.56**	**20**		**Pn**	**19 51 27.1**	**-0.5**
JSS	**Shosan**	**1.74**	**0**	⇓P	**Pn**	**19 51 30.4**	**+0.6**
JSS				⇓S	**Sn**	**19 51 54.0**	**+0.8**
JOMM	**Oshimamatsumae**	**1.78**	**231**	P	**Pn**	**19 51 30.6**	**+0.4**
JOMM				*e*S	**Sn**	**19 51 54.5**	**+0.5**
JOSM	**Okushiri--Mats**	**1.85**	**253**	⇓*i* P	**Pn**	**19 51 31.1**	**+0.1**
JOSM				⇓*e*S	**Sn**	**19 51 54.9**	**-0.6**
JTM	**Tenmabayashi**	**1.96**	**198**		**Pn**	**19 51 32.3**	**-0.2**
JTM				Sn	**Sn**	**19 51 55.3**	**-2.6**
JTKR	**Abashiri--Toko**	**1.99**	**48**	⇓*i* P	**Pn**	**19 51 33.2**	**+0.4**
AKK	**Akkeshi**	**2.23**	**80**	*e*P	**Pn**	**19 51 34.9**	**-0.8**
RUSJ	**Misakicho**	**2.87**	**59**	*e*PN	**Pn**	**19 51 43.9**	**+0.1**
RUSJ				*e*S	**Sn**	**19 52 23.4**	**+5.1**
GLVR	**Golovnino**	**2.89**	**67**	*e*PN	**Pn**	**19 51 44.3**	**+0.2**
GLVR				*e*S	**Sn**	**19 52 18.8**	**0.0**
GLVR				pmax	pmax		
comp=Z,263nm,0.3s							
GLVR				pmax	pmax		
comp=E,49nm,0.1s							
GLVR				smax	smax		
comp=N,1μm,0.3s							
GLVR				smax	smax		
comp=E,744nm,0.3s							
GLVR	**Golovnino**	**2.89**	**67**	*e*P	**Pn**	**19 51 44.0**	**-0.1**
GLVR				AMB	AMB	19 51 44.8	
comp=E,260nm,0.3s							
GLVR				*e*S	**Sn**	**19 52 18.6**	**-0.2**
GLVR				A	A	19 52 25.9	
comp=E,1μm,0.3s							
GLVR				A	A	19 52 25.9	
comp=E,740nm,0.3s							
NMR	**Nemuro--Hokkai**	**2.93**	**75**	⇓*i* PN	**Pn**	**19 51 43.5**	**-1.1**
NMR				*i* S	**Sn**	**19 52 16.3**	**-3.4**
NMR	**Nemuro--Hokkai**	**2.93**	**75**	*i* P	**Pn**	**19 51 43.5**	**-1.1**
NMR				*i* S	**Sn**	**19 52 16.4**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**3.23**	**63**	*d i* PN	**Pn**	**19 51 48.8**	**+0.3**
YUK				*i* S	**Sn**	**19 52 27.7**	**+0.9**
YUK				pmax	pmax		
comp=Z,918nm,0.3s							
YUK				pmax	pmax		
comp=N,49nm,0.2s							
YUK				smax	smax		
comp=E,210nm,0.3s							
YUK				smax	smax		
comp=N,542nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**3.23**	**63**	*e*P	**Pn**	**19 51 48.4**	**-0.1**
YUK				AMB	AMB	19 51 49.6	
comp=N,460nm,0.3s							
YUK				*e*S	**Sn**	**19 52 26.3**	**-0.5**
YUK				A	A	19 52 27.9	
comp=N,540nm,0.4s							
YUK				A	A	19 52 27.9	
comp=N,210nm,0.4s							
YSS	**Yuzhno-Sakhali**	**4.34**	**8**		**Pn**	**19 52 03.1**	**-0.1**
YSS	**Yuzhno-Sakhali**	**4.34**	**8**	⇑*e*PN	**Pn**	**19 52 04.4**	**+1.2**
YSS				*e*S	**Sn**	**19 52 51.5**	**-1.6**
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				pmax	pmax		
comp=E,20nm,0.8s							
YSS				smax	smax		
comp=N,300nm,3.4s							
YSS				smax	smax		
comp=N,40nm,0.9s							
YSS	**Yuzhno-Sakhali**	**4.34**	**8**	*e*P	**Pn**	**19 52 04.3**	**+1.1**
YSS				AMB	AMB	19 52 10.5	
comp=N,20nm,0.5s							
YSS				*e*S	**Sn**	**19 52 52.5**	**-0.6**
YSS				A	A	19 52 53.7	
comp=N,310nm,3.0s							
YSS				A	A	19 52 53.7	
comp=N,140nm,3.0s							
YSS				A	A	19 52 54.0	
comp=N,50nm,0.7s							
YSS				A	A	19 52 54.0	
comp=N,20nm,0.7s							
TEY	**Ternei**	**4.48**	**304**	⇑*e*PN	**Pn**	**19 52 04.5**	**-0.6**
TEY				pmax	pmax		
comp=E,30nm,0.6s							
TEY				pmax	pmax		
comp=N,10.0nm,0.7s							
TEY				pmax	pmax		
comp=Z,30nm,0.5s							
JMM	**Marumori**	**4.86**	**190**		**Pn**	**19 52 08.7**	**-1.5**
KUR	**Kuril'sk**	**5.05**	**57**	*e*PN	**Pn**	**19 52 13.8**	**+1.2**
KUR				*e*S	**Sn**	**19 53 13.4**	**+3.4**
KUR				pmax	pmax		
comp=Z,112nm,0.5s							
KUR	**Kuril'sk**	**5.05**	**57**	*e*P	**Pn**	**19 52 12.7**	**+0.1**
KUR				AMB	AMB	19 52 14.4	
comp=Z,130nm,0.4s							
KUR				*e*S	**Sn**	**19 53 08.9**	**-1.1**
KUR				A	A	19 53 13.0	
comp=Z,120nm,0.5s							
KUR				A	A	19 53 13.0	
comp=Z,150nm,0.5s							
MJB9	**Matsu-Tunnel**	**6.72**	**206**		**Pn**	**19 52 35.8**	**+0.5**
MAJO	**Matsushiro**	**6.72**	**206**		**Pn**	**19 52 35.4**	**+0.1**
MAJO	**Matsushiro**	**6.72**	**206**	*c e*PN	**Pn**	**19 52 36.2**	**+0.9**
MJAR	**Matsushiro Arr**	**6.72**	**206**	P	**Pn**	**19 52 35.9**	**+0.5**
comp=Z,4.8nm,0.6s,baz=24,slow=11,SNR=30							
VLA	**Vladivostok**	**7.34**	**277**	⇓*e*PN	**Pn**	**19 52 44.9**	**+1.4**
PSTR	**Posyet**	**8.14**	**274**	*c e*PN	**Pn**	**19 52 57.2**	**+2.8**
PSTR	**Posyet**	**8.14**	**274**	*e*P	**Pn**	**19 52 55.0**	**+0.6**
KSRS	**Korea Array**	**11.87**	**249**	P	**Pn**	**19 53 44.4**	**+0.2**
comp=Z,5.6nm,0.8s,baz=59,slow=13,SNR=12							
HEH	**HeiHe**	**12.51**	**312**	*e*P	**Pn**	**19 53 50.8**	**-1.7**
ZEA	**Zeya**	**14.72**	**324**	*e*P	**Pn**	**19 54 20.5**	**-0.3**
ZEA				pmax	pmax		
comp=Z,10.0nm,1.0s							
ZEA	**Zeya**	**14.72**	**324**	*e*P	**Pn**	**19 54 20.5**	**-0.3**
HILR	**Hailar Array B**	**16.77**	**302**	P	**Pn**	**19 54 45.3**	**-0.9**
comp=Z,4.1nm,0.5s,baz=115,slow=13,SNR=6.9							
MA2	**Magadan**	**17.81**	**15**	P	**P**	**19 54 57.2**	**-0.3**
MA2				IAmb	IAmb	19 54 59.5	
comp=Z,19nm,0.8s							
MA2	**Magadan**	**17.81**	**15**	*e*P	**P**	**19 54 57.2**	**-0.3**
MA2				pmax	pmax		
comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**20.71**	**344**	*e*P	**P**	**19 55 24.8**	**-4.1**
YAK				*e*S	**S**	**19 59 09.4**	**-3.5**
YAK				*e**SS	**sS**	**19 59 50.6**	**-1.0**
YAK				pmax	pmax		
comp=Z,17nm,0.8s							
YAK				pmax	pmax		
comp=N,4.0nm,1.0s							
YAK				pmax	pmax		
comp=E,4.0nm,0.9s							
YAK				smax	smax		
comp=N,27nm,1.9s							
YAK				smax	smax		
comp=E,30nm,1.8s							
NJ2	**Nanjing**	**21.06**	**247**	*e*P	**P**	**19 55 33.8**	**+0.8**
NJ2				pmax	pmax		
comp=E,8.0nm,0.5s							
SEY	**Seymchan**	**21.23**	**13**	⇑*e*P	**P**	**19 55 33.3**	**-1.1**
SEY				pmax	pmax		
comp=Z,3.0nm,0.6s							
SEY	**Seymchan**	**21.23**	**13**	*e*P	**P**	**19 55 33.3**	**-1.1**
HHC	**Hu-ho-hao-te**	**22.61**	**276**	*e*P	**P**	**19 55 47.3**	**-1.8**
HHC				pmax	pmax		
comp=Z,12nm,0.5s							
HHC				pmax	pmax		
comp=Z,100nm,5.4s							
BTO	**Baotou**	**23.81**	**276**	*e*P	**P**	**19 56 01.3**	**+1.1**
BTO				pmax	pmax		
comp=Z,10.0nm,0.7s							
BTO				pmax	pmax		
comp=Z,120nm,4.0s							
ULN	**Ulaanbaatar**	**24.90**	**294**	⇑*e*P	**P**	**19 56 11.4**	**+1.3**
ULN				pmax	pmax		
comp=Z,4.0nm,1.6s							
ULN	**Ulaanbaatar**	**24.90**	**294**	*e*P	**P**	**19 56 11.4**	**+1.3**
SONM	**Songino Array**	**25.34**	**294**	P	**P**	**19 56 14.4**	**+0.3**
comp=Z,3.3nm,1.1s,baz=88,slow=9.5,SNR=8.1							
comp=Z,3.3nm,1.1s							
TLY	**Talaya**	**27.23**	**303**	⇓*e*P	**P**	**19 56 31.3**	**+0.5**
TLY				pmax	pmax		
comp=Z,3.0nm,0.9s							
TLY	**Talaya**	**27.23**	**303**	*e*P	**P**	**19 56 31.3**	**+0.5**
BILL	**Bilibino**	**28.57**	**19**	⇑*e*P	**P**	**19 56 43.9**	**+1.4**
BILL				pmax	pmax		
comp=Z,12nm,1.5s							
BILL	**Bilibino**	**28.57**	**19**	*e*P	**P**	**19 56 43.9**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**31.11**	**129**	T	T	20 28 57.8	
baz=326,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**31.12**	**130**	T	T	20 29 04.4	
baz=326,slow=75,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**31.13**	**129**	T	T	20 29 05.7	
baz=326,slow=75,SNR=5.3							
H11S1	**WAKE ISLAND Hy**	**31.98**	**131**	T	T	20 30 12.4	
baz=326,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**31.98**	**131**	T	T	20 30 09.4	
baz=326,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**32.00**	**131**	T	T	20 30 09.4	
baz=326,slow=76,SNR=24							
PZH	**PanZhiHua**	**36.37**	**257**	P	**P**	**19 57 51.8**	**+0.8**
ZALV	**Zalesovo Beam**	**38.57**	**307**	P	**P**	**19 58 08.8**	**-0.2**
comp=Z,2.2nm,0.4s,baz=89,slow=8.9,SNR=12							
ZALV				PcP	**PcP**	**20 00 19.4**	**+0.5**
comp=Z,1.4nm,0.5s,baz=86,slow=2.6,SNR=6.2							
ZALV				ScP	**S**	**20 03 55.5**	**+0.2**
comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=4.7							
comp=

KURK	Kurchatov	42.91	304	c iP		P	19 58 44.8	0.0
KURK					pmax	pmax		
comp=Z,7.0nm,0.8s								
KURK	Kurchatov	42.91	304	eP		P	19 58 44.8	0.0
KTH	Kantishna Hill	42.98	37	P		P	19 58 45.5	+0.3
KURBB	Kurchatov Arra	42.99	303	P		P	19 58 45.1	-0.3
comp=Z,5.9nm,0.4s,baz=74,slow=9.0,SNR=30								
KURBB				PcP		PcP	20 00 33.4	0.0
comp=Z,0.8nm,0.3s,baz=67,slow=3.2,SNR=4.2								
comp=Z,5.9nm,0.4s								
CMAR	Chiang Mai Arr	43.51	250	P		P	19 58 50.8	+0.9
comp=Z,0.4nm,0.3s,baz=41,slow=5.8,SNR=4.5								
comp=Z,0.4nm,0.3s								
CMAR	Chiang Mai Arr	43.51	250	i P		P	19 58 51.2	+1.3
COLA	College	44.22	35	⇑iP		P	19 58 55.0	0.0
COLA					pmax	pmax		
comp=Z,20nm,2.2s								
DHY	Denali Highway	44.62	38	P		P	19 58 58.3	-0.2
DHY					IAmb	IAmb	19 58 59.5	
comp=Z,8.2nm,1.0s								
IL31		44.64	35	P		P	19 58 58.2	-0.1
ILAR	Eielson Array	44.64	35	P		P	19 58 58.4	0.0
comp=Z,1.9nm,0.8s,baz=270,slow=7.5,SNR=21								
comp=Z,1.9nm,0.8s								
SCRK	Sand Creek	45.99	36	P		P	19 59 08.7	-0.5
SCRK					IAmb	IAmb	19 59 09.6	
comp=Z,7.0nm,0.8s								
BORK	Borovoye	47.21	309	c iP		P	19 59 19.1	+0.4
BORK					pmax	pmax		
comp=Z,12nm,1.5s								
I28M	Miner Creek	47.44	34			P	19 59 21.0	+0.6
BARN	Barnard Glacie	47.64	40	P		P	19 59 23.0	+0.9
BARN					IAmb	IAmb	19 59 39.3	
comp=Z,9.2nm,1.3s								
CTGM	Chitina Glacie	47.82	40	P		P	19 59 24.3	+0.8
CTGM					IAmb	IAmb	19 59 59.5	
comp=Z,13nm,1.4s								
H29M	Whitestone	47.91	33	P		P	19 59 24.5	+0.5
H29M					IAmb	IAmb	19 59 44.9	
comp=Z,12nm,1.4s								
L29M	L29M	48.74	37	IAmb		IAmb	19 59 33.0	
comp=Z,9.2nm,0.9s								
K29M	Barlow Dome	48.82	36	IAmb		IAmb	19 59 32.9	
comp=Z,6.6nm,0.7s								
I30M	Mount Dempster	48.95	34	IAmb		IAmb	19 59 34.0	
comp=Z,7.4nm,0.8s								
INK	Inuvik	49.27	29	P		P	19 59 34.4	+0.2
INK					IAmb	IAmb	19 59 36.3	
comp=Z,12nm,1.2s								
INK	Inuvik	49.27	29	P		P	19 59 34.4	+0.2
INK					pmax	pmax		
comp=Z,12nm,1.3s								
HYT	Haines Junctio	49.66	39	IAmb		IAmb	19 59 40.7	
comp=Z,7.5nm,0.9s								
SVE	Sverdlovsk	51.25	316	eP		P	19 59 50.1	+0.8
SVE					pmax	pmax		
comp=Z,9.0nm,0.8s								
ARTI	Arti	52.57	316			P	19 59 58.3	-0.8
ARTI	Arti	52.57	316	c iP		P	19 59 59.1	0.0
ARTI							20 01 01.1	
ARTI							20 01 55.4	
ARTI					S	S	20 07 17.4	+1.4
ARTI					SS	SS	20 10 52.8	-2.4
ARTI					pmax	pmax		
comp=Z,11nm,0.8s								
ABKAR	Akbulak array	54.69	307			P	20 00 14.0	-0.6
SPITS	Spitsbergen Ar	55.09	348	P		P	20 00 16.7	-0.4
comp=Z,7.5nm,0.9s,baz=78,slow=4.7,SNR=5.2								
comp=Z,7.5nm,0.9s								
YKA	Yellowknife Ar	58.82	32	P		P	20 00 43.1	-0.4
comp=Z,0.4nm,0.6s,baz=295,slow=5.0,SNR=1.5								
comp=Z,0.4nm,0.6s								
ARCES	ARCESS Array B	58.88	338	P		P	20 00 44.2	+0.3
comp=Z,0.9nm,0.5s,baz=46,slow=8.7,SNR=9.2								
comp=Z,0.9nm,0.5s								
BELG	Belogornoye	59.99	315	c iP		P	20 00 51.7	0.0
BELG					pmax	pmax		
comp=Z,3.0nm,1.0s								
WRA	Warramunga Arr	62.67	188	P		P	20 01 09.7	-0.4
comp=Z,0.5nm,0.5s,baz=5.6,slow=6.8,SNR=16								
comp=Z,0.5nm,0.5s								
WRA	Warramunga Arr	62.67	188	i P		P	20 01 10.6	+0.5
WRA					pmax	pmax		
comp=Z,1.0nm,0.5s								
OBN	Obninsk	63.84	322	eP		P	20 01 17.3	-0.1
OBN				e			20 01 52.4	
OBN				e			20 03 38.9	
OBN				ePPP		PPP	20 05 08.8	
OBN					pmax	pmax		
comp=Z,3.0nm,0.8s								
OBN					MLR	MLR		
comp=Z,451nm,24.0s								
FINES	FINESS Array B	64.03	331	P		P	20 01 17.8	-0.7
comp=Z,4.7nm,0.5s,baz=56,slow=6.8,SNR=70								
comp=Z,4.7nm,0.5s								
FINES	FINESS Array B	64.03	331	i P		P	20 01 18.0	-0.5
FINES					pmax	pmax		
comp=Z,5.0nm,0.5s								
ASAR	Alice Springs	66.40	188	P		P	20 01 34.8	+0.5
comp=Z,0.4nm,0.7s,baz=4.0,slow=3.9,SNR=5.1								
comp=Z,0.4nm,0.7s								
NCK	Nalchik	67.30	309	⇓eP		P	20 01 41.2	+1.3
NCK					pmax	pmax		
comp=Z,2.0nm,0.2s								
KIV	Kislovodsk	67.53	310	P		P	20 01 40.4	-1.1
KIV	Kislovodsk	67.53	310	eP		P	20 01 42.2	+0.7
KIV					pmax	pmax		
comp=Z,9.0nm,1.1s								
KIV	Kislovodsk	67.53	310	eP		P	20 01 42.7	+1.2
KBZ	Khabaz	67.55	309	P		P	20 01 41.3	-0.1
comp=Z,2.5nm,0.7s,baz=57,slow=4.9,SNR=8.5								
comp=Z,2.5nm,0.7s								
SHA1	Shidzhatmaz	67.69	309	⇓eP		P	20 01 43.7	+1.1
MNK	Minsk	68.06	325	i P		P	20 01 43.7	-0.8
MNK				i *PP		pP	20 02 18.0	+2.3
MNK				i			20 04 15.8	
MNK				i PPP		PPP	20 05 51.5	
MNK				i S		S	20 10 32.7	-0.7
MNK				i SS		SS	20 15 01.2	+4.0
MNK					pmax	pmax		
comp=Z,5.0nm,0.8s								
MNK					pmax	pmax		
comp=N,10.0nm,1.1s								
MNK					pmax	pmax		
comp=E,7.0nm,0.9s								
NC405	NORSAR Array S	68.94	337			P	20 01 49.5	-0.4
NC405					IAmb	IAmb	20 01 52.3	
comp=Z,6.8nm,0.7s								
HFS	Hagfors	69.12	335	P		P	20 01 50.4	-0.6
comp=Z,5.2nm,0.4s,baz=46,slow=6.4,SNR=40								
comp=Z,5.2nm,0.4s								
NB2	NORSAR Subarra	69.15	337	P		P	20 01 50.7	-0.4
comp=Z,1.8nm,0.5s,baz=34,slow=6.5								
NB2	NORSAR Subarra	69.15	337	P		P	20 01 49.2	-2.0
NOA	NORSAR Array B	69.15	337	P		P	20 01 50.8	-0.4
comp=Z,2.0nm,0.6s,baz=36,slow=6.3,SNR=16								
comp=Z,2.0nm,0.6s								
NORES	NORESS Array B	69.30	336	P		P	20 01 53.6	+1.6
AKASG	Malin Array Be	70.09	321	P		P	20 01 56.6	-0.4
comp=Z,2.0nm,0.5s,baz=44,slow=6.3,SNR=16								
comp=Z,2.0nm,0.5s								
AKBB	Malin Array Si	70.09	321	⇑iP		P	20 01 56.3	-0.7
AKBB					pmax	pmax		
comp=Z,6.0nm,0.8s								
NVAR	Mina Array Bea	71.41	55	P		P	20 02 06.4	+0.9
comp=Z,0.6nm,0.6s,baz=338,slow=9.6,SNR=2.5								
comp=Z,0.6nm,0.6s								
PDAR	Pinedale Array	73.52	47	P		P	20 02 17.2	-0.9
comp=Z,0.4nm,0.4s,baz=277,slow=0.2,SNR=4.9								
comp=Z,0.4nm,0.4s								
BUR08	Bucovina Ar. S	74.12	321			P	20 02 21.1	-0.2
BURAR	Bucovina Array	74.13	321	P		P	20 02 21.2	-0.1
BURAR	Bucovina Array	74.13	321	P		P	20 02 21.2	-0.1
BURAR					pmax	pmax		
comp=Z,3.0nm,0.7s								
BRTR	Keskin Array B	75.41	311	P		P	20 02 29.6	+0.8
comp=Z,0.4nm,0.6s,baz=53,slow=5.8,SNR=2.4								
comp=Z,0.4nm,0.6s								
MODS	Modra-Piesok	77.05	326	eP		P	20 02 39.7	+1.9
MODS	Modra-Piesok	77.05	326	eP		P	20 02 39.7	+1.9
EKA	Eskdalemuir Ar	77.95	340	P		P	20 02 42.3	-0.3
comp=Z,1.2nm,0.6s,baz=16,slow=5.9,SNR=2.5								
comp=Z,1.2nm,0.6s								
GERES	GERESS Array B	78.12	328	P		P	20 02 43.4	-0.5
comp=Z,0.3nm,0.4s,baz=32,slow=3.8,SNR=2.9								
comp=Z,0.3nm,0.4s								
MMAI	Mount Meron Ar	79.01	305	P		P	20 02 50.0	+1.0
comp=Z,1.4nm,0.7s,baz=28,slow=3.4,SNR=2.7								
comp=Z,1.4nm,0.7s								
NRCA	Norcia	83.23	325	IAmb	IAmb	20 03 12.3		
comp=Z,5.9nm,1.0s								
BELA	Belgrano 2	144.64	181		PKPab	20 10 16.4	-1.7	
GO01	Chusmiza	145.23	58		PKPbc	20 10 20.1	-2.2	

IDC 17 19:54:15.6±6.7, 16°.80S×177°.02W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=323.3km s-min=55.4km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.15	258	P	P	20 02 42.1	-0.1
0.2nm,0.5s,baz=93,slow=8.2,SNR=7.5							
0.2nm,0.5s							
ASAR	Alice Springs	46.37	253	P	P	20 02 43.9	-0.1
1.0nm,0.7s,baz=86,slow=8.7,SNR=16							
1.0nm,0.7s							
GERES	GERESS Array B	146.86	347	PKPbc	PKPbc	20 13 59.1	-0.9
0.2nm,0.4s,baz=35,slow=2.4,SNR=2.2							

ATH 17 19:59:02.4, 40°.19N×19°.78E, h2km±1km, ML2.6/6, Manual Solution by A.Moschou First location: 2019/10/17 20:00:17, This location: 2020/11/25 06:13:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
BEO 17 19:59:04.7±0.5, 40°.04N×19°.79E, h15km, ML2.2/5
TIR 17 19:59:05.3, 40°.11N×19°.94E, h38km±1km, Ml2.7/4
THE 17 19:59:05.8, 40°N±3°×2°0E±°, h33km±7km, M2.5/10, MLh2.5/10

ISC 17 19:59:07.6±2.8, 40°.10N±0°.02×19°.89E±0°.04, h37km±2km, n45, σ1°81/72, 4C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.39	191	P	Pn	19 59 15.5	-1.0
KEK				S	Sn	19 59 22.9	-0.3
KEK	Kerkira	0.39	191	⇑Pg	Pn	19 59 15.6	-0.9
KEK				Sg	Sn	19 59 22.2	-1.0
VLO	Vlora	0.48	321	⇑Pg	Pn	19 59 13.6	-4.2
VLO				Sg	Sn	19 59 23.0	-2.0
VLO				AML	AML	19 59 24.6	
5.4nm,0.4s							
IGT	Igoumenitsa	0.66	149	P	Pn	19 59 16.3	-4.3
IGT				S	Sn	19 59 30.0	+0.4
IGT	Igoumenitsa	0.66	149	⇓Pg	Pn	19 59 16.5	-4.0
IGT				Sg	Sn	19 59 28.4	-1.1
IGT				AML	AML	19 59 34.9	
0.8nm,0.2s							
IGT	Igoumenitsa	0.66	149	ePg	Pn	19 59 16.2	-4.3
IGT				eSg	Sn	19 59 27.8	-1.8
IGT	Igoumenitsa	0.66	149	P	Pn	19 59 17.4	-3.1
IGT				S	Sn	19 59 27.9	-1.7
LFKM	Lefkimmi	0.66	169	P	Pn	19 59 18.6	-1.9
LFKM				S	Sn	19 59 29.2	-0.4
JAN	Janina	0.86	121	P	Pn	19 59 21.5	-1.6
JAN				S	Sn	19 59 34.3	-0.3
JAN	Janina	0.86	121	P	Pn	19 59 21.2	-2.0
JAN				S	Sn	19 59 34.1	-0.5
KBN	Korca	0.86	52	P	Pn	19 59 21.0	-2.3
KBN				S	Sn	19 59 34.0	-0.8
KBN	Korca	0.86	52	⇑Pg	Pn	19 59 21.2	-2.1
KBN				Sg	Sn	19 59 33.0	-1.7
NEST	Nestorio	0.94	70	P	Pn	19 59 21.8	-2.5
NEST	Nestorio	0.94	70	⇑Pg	Pn	19 59 21.7	-2.6
NEST				Sg	Sn	19 59 36.0	-0.7
NEST				AML	AML	19 59 41.6	
0.3nm,0.6s							
NEST	Nestorio	0.94	70	P	Pn	19 59 21.7	-2.6
NEST				S	Sn	19 59 34.9	-1.7
PENT	Pentalofos	0.96	84	P	Pn	19 59 22.0	-2.6
PENT	Pentalofos	0.96	84	P	Pn	19 59 23.2	-1.4
PENT				S	Sn	19 59 36.0	-1.1
PRMD	Pramanda	1.09	121	P	Pn	19 59 25.6	-0.7
PRMD	Pramanda	1.09	121	P	Pn	19 59 26.3	0.0
PRMD				S	Sn	19 59 42.5	+2.4
TETR	Tetrakomo, Epi	1.30	125	P	Pn	19 59 28.7	-0.7
TETR	Tetrakomo, Epi	1.30	125	P	Pn	19 59 29.6	+0.3
TETR				S	Sn	19 59 49.6	+4.1
TSLK	Tsoukalades, L	1.40	155	P	Pn	19 59 30.9	+0.3
TSLK	Tsoukalades, L	1.40	155	P	Pn	19 59 31.5	+0.9
TSLK				S	Sn	19 59 50.4	+2.6
LKD2	Lefkada island	1.44	155	P	Pn	19 59 30.8	-0.3
LKD2	Lefkada island	1.44	155	⇓Pn	Pn	19 59 30.8	-0.3
LKD2				Sn	Sn	19 59 50.9	+2.3
LKD2				AML	AML	19 59 56.6	
0.6nm,0.4s							
NYDR	Nydri-Lefkada	1.52	155	P	Pn	19 59 31.5	-0.6
NYDR	Nydri-Lefkada	1.52	155	P	Pn	19 59 32.4	+0.3
NYDR				S	Sn	19 59 54.1	+3.6
AMPL	Ampelaki	1.56	139	P	Pn	19 59 32.7	0.0
EVGI	Lefkada island	1.59	158	P	Pn	19 59 32.8	-0.3
FSK	Fiskardo	1.72	162	P	Pn	19 59 34.1	-0.8
PDG	Podgorica	2.38	349	ePn	Pn	19 59 43.0	-1.0
PDG				eSn	Sn	20 00 13.0	+1.1
KOME	Kolasin	2.77	354	ePn	Pn	19 59 49.7	+0.3
KOME				eSn	Sn	20 00 22.7	+1.1
BEY	Berane	2.77	0	ePn	Pn	19 59 49.9	+0.4
BEY				eSn	Sn	20 00 23.5	+1.8
BARS	Barje	3.08	27	ePn	Pn	19 59 53.3	-0.3
BARS				eSn	Sn	20 00 31.1	+2.0
BOSS	Bosilegrad	3.09	38	ePn	Pn	19 59 53.8	0.0
BOSS				eSn	Sn	20 00 30.9	+1.4
SJES	Sjenica	3.16	1	ePn	Pn	19 59 55.3	+0.4
SJES				eSn	Sn	20 00 32.7	+1.3
PLE	Pljevlja	3.25	354	ePn	Pn	19 59 55.1	-1.0
SELS	Selova	3.25	16	ePn	Pn	19 59 56.1	+0.1
SELS				eSn	Sn	20 00 35.4	+1.9
IVAS	Ivanjica	3.48	3	ePn	Pn	20 00 00.1	+0.9
GOCS	Kraljevo Serbi	3.54	12	ePn	Pn	19 59 59.1	-0.9
ZAPS	Zavoj	3.78	32	ePn	Pn	20 00 03.2	-0.1
BOVS	Bovan	3.79	20	ePn	Pn	20 00 03.0	-0.3
GRUS	Gruza	3.84	9	ePn	Pn	20 00 03.9	-0.1
DIVS	Divibare	4.00	1	ePn	Pn	20 00 06.7	+0.4
ZAGS	Zajecar	4.10	24	ePn	Pn	20 00 08.1	+0.4

NNC 17 20:00:04.2±4.5, 41°.84N×80°.69E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=34.4km s-min=22.9km az=6.0
SOME 17 20:00:06.4, 42°.22N×81°.00E, h15km

ISC 17 20:00:01.9±3.6, 42°.1N±0°.2×81°.2E±0°.1, h10km, n5, σ3°42/8, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.60	310	eP	Pn	20 00 29.3	-1.1
2.3nm,0.2s							
SHLS				eS	Sn	20 00 45.4	-5.9
5.8nm,0.3s							
PDGK	Podgornoye	1.70	315	⇑Pn	Pb	20 00 35.3	+1.9
2.9nm,1.0s							
PDGK				⇑Sn	Sg	20 00 59.9	+3.2
1.6nm,0.4s							
UZB	Uzynbulak	1.86	303	eP	Pb	20 00 39.0	+2.8
1.5nm,0.1s							
UZB				eS	Sg	20 01 01.9	+0.1
1.6nm,0.2s							
MAKZ	Makanchi	4.70	7	⇑Pn	Pn	20 01 21.6	+8.7
5.6nm,1.4s							
MAKZ				⇑Sn	Sb	20 02 20.9	-0.2
6.0nm,1.9s							
MK31	Makanchi Array	4.72	10	⇓Pn	Pn	20 01 21.8	+8.7
2.6nm,1.1s,baz=197,slow=13,SNR=4.3							
MK31				⇓Sn	Sb	20 02 21.5	-0.1
1.7nm,0.9s,baz=199,slow=22							

IDC 17 20:01:48.3±2.1, 43°.57N×105°.36W, h0km, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=58.6km s-min=9.8km az=151.0
NEIC 17 20:01:49.7±2.4, 43°.67N±0°.06×105°.3W±0°.1, h0km±1km, ML3.6/70, Error ellipse: s-maj=15.0km s-min=9.9km az=74.0

ISC 17 20:01:49.8±1.0, 43°.72N±0°.05×105°.37W±0°.05, h0km, n36, σ2°04/30, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.05	67	Pg	Pg	20 02 09.3	-0.6
K22A	Casper	1.36	219		Pg	20 02 14.2	-1.6
K22A				IAML		20 02 37.4	
651nm,0.3s							
K22A				IAML		20 02 37.8	
626nm,0.3s							
LAO	LASA Array	3.03	349		Pn	20 02 42.0	+2.9
LAO				IAML		20 03 35.5	
191nm,0.7s							
LAO				IAML		20 03 35.8	
154nm,1.1s							
RLMT	Red Lodge	3.12	298		Pn	20 02 42.7	+2.2
RLMT				IAML		20 03 52.8	
107nm,1.4s							
BW06	Boulder Array	3.20	254		Pn	20 02 43.7	+2.1
BW06				IAML		20 03 31.4	
112nm,0.6s							
PD31	Pinedale Array	3.20	254		Pn	20 02 43.1	+1.5
PDAR	Pinedale Array	3.20	254		Pn	20 02 43.4	+1.8
PDAR	Pinedale Array	3.20	254	Pn	Pn	20 02 42.4	+0.8
5.4nm,0.3s,baz=59,slow=16,SNR=73							
PDAR				Lg	Lg	20 03 27.3	
37nm,0.3s,baz=68,slow=20,SNR=7.4							
7.3nm,0.3s							
HAYD	Hayden	3.49	204		Pn	20 02 47.7	+2.2
HAYD				IAML		20 03 49.8	
comp=N,182nm,1.1s							
HAYD				IAML		20 03 50.5	
comp=E,97nm,1.0s							
YNE	Yellowstone No	3.57	293	Pn	Pn	20 02 47.6	+1.0
YNE				IAML		20 04 14.5	
comp=E,101nm,0.7s							
YNE				IAML		20 04 16.9	
comp=N,103nm,1.0s							
YMP	Mirror Lake Pl	3.59	288	Pn	Pn	20 02 48.5	+1.6
YMP				IAML		20 03 55.4	
comp=N,125nm,1.0s							
YMP				IAML		20 04 05.4	
comp=E,129nm,1.1s							
OGNE	Ogallala	3.71	137	Pn	Pn	20 02 48.5	-0.1
LOHW	Long Hollow	3.80	270		Pn	20 02 54.0	+4.2
H17A	Grant Village	3.81	282		Pn	20 02 53.4	+3.4
H17A				IAML		20 03 57.5	
comp=E,62nm,2.0s							
H17A				IAML		20 03 59.2	
comp=N,61nm,1.5s							
ISCO	Idaho Springs	3.92	183		Pn	20 02 51.9	+0.4
ISCO				IAML		20 03 56.1	
comp=N,65nm,1.2s							
ISCO				IAML		20 03 59.1	
comp=N,55nm,1.2s							
SNOW	Snow King Moun	3.92	268		Pn	20 02 48.7	-2.7
YNR	Norris Junctio	3.94	287		Pn	20 02 48.9	-2.9
YPP	Pitchstone Pla	3.96	280		Pn	20 02 49.0	-3.1
YFT	Old Faithful	4.00	282		Pn	20 02 52.6	-0.1
TPAW	Teton Pass	4.06	269		Pn	20 02 52.5	-0.9
TPAW				IAML		20 04 18.5	
comp=N,75nm,1.1s							
TPAW				IAML		20 04 21.1	
comp=N,48nm,1.2s							
YHH	Holmes Hill	4.08	287		Pn	20 02 52.7	-1.1
YMR	Madison River	4.13	285	IAML		20 04 19.9	
comp=E,66nm,1.2s							
YMR				IAML		20 04 52.9	
comp=N,79nm,1.0s							
O20A	White River Ci	4.17	212		Pn	20 02 56.3	+1.4
YHL	Hebgen Lake	4.32	287	IAML		20 04 22.5	
comp=E,41nm,1.9s							
YHL				IAML		20 04 31.1	
comp=N,54nm,1.5s							
K30B	Basset	4.34	102		Pb	20 03 07.6	+0.6
RDMU	Red Mountain	4.43	226	IAML		20 04 13.6	
comp=N,63nm,1.2s							
RDMU				IAML		20 04 26.6	
comp=E,57nm,1.3s							
DGMT	Dagmar	4.83	9		Pn	20 03 05.8	+2.1
BOZ	Bozeman (W)	4.84	295	IAML		20 04 23.9	
comp=E,27nm,1.6s							
BSUT	Blindstream Ca	5.11	233		Pn	20 03 08.4	+0.4
BSUT				IAML		20 04 57.0	
comp=N,30nm,3.1s							
BSUT				IAML		20 04 57.2	
comp=E,36nm,2.4s							
EGMT	Eagleton	5.28	326		Pn	20 03 12.4	+2.4
PV22	Blue Mesa, Par	5.78	208		Pn	20 03 18.4	+1.3
DUG	Dugway, Tooele	6.57	240		Pn	20 03 28.3	+0.5
I10CA	LAC DU BONNET	9.10	41	I	I	20 56 40.0	
baz=223,slow=295,SNR=2.7							
ULM	Lac du Bonnet	9.21	41	Pn	Pn	20 04 01.5	-2.3
comp=E,1.5nm,0.3s,baz=227,slow=14,SNR=4.7							
ULM				Pg		20 04 32.0	
comp=E,0.3nm,0.3s,baz=210,slow=20,SNR=1.3							
ULM				Lg	Lg	20 06 34.8	
comp=E,0.4nm,0.3s,baz=168,slow=19,SNR=1.3							
comp=E,3.1nm,0.3s							
NVAR	Mina Array Bea	11.09	246	Pn	Pn	20 04 31.0	+1.1
comp=E,0.1nm,0.3s,baz=52,slow=14,SNR=5.8							
comp=E,0.3nm,0.5s							
TXAR	Lajitas Array	14.42	174	Pg	P	20 06 20.6	+58
baz=2.1,slow=15,SNR=3.4							

NEIC 17 20:42:05.5±1.0, 14°.5S±0°.1×167°.6E±0°.2, h102km±8km, mb4.4/10, Error ellipse: s-maj=23.6km s-min=17.7km az=122.0
IDC 17 20:42:07.5±5.5, 14°.71S×167°.24E, h101km±43km, mb3.7/8, mbtmp4.1/9, Error ellipse: s-maj=38.8km s-min=24.7km az=49.0

ISC 17 20:42:06.7±1.2, 14°.7S±0°.1×167°.4E±0°.2, h100km, n24, σ1°34/24, mb4.1/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.81	196		Pn	20 42 26.0	+0.9
DZM	Mont Dzumac	7.42	187	P	Pn	20 43 52.2	-0.2
44nm,0.3s,baz=4.6,slow=13,SNR=45							
DZM				S	Sn	20 45 15.3	+0.2
41nm,0.5s,baz=347,slow=22,SNR=7.3							
ONTNC	Ouen Toro	7.66	187		Pn	20 43 56.2	+0.7
PINNC	Pines Island,	7.90	180		Pn	20 43 59.6	+0.7
EIDS	Eidsvold	18.67	233	P	P	20 46 18.8	+1.8
EIDS				IAmb	IAmb	20 46 19.4	
comp=Z,8.1nm,0.6s							
RTZ	Ruatahuna	25.30	162	P	P	20 47 22.8	-1.2
RTZ				IAmb	IAmb	20 47 52.9	
comp=Z,13nm,1.1s							
BKZ	Black Stump Fm	25.68	164	P	P	20 47 26.0	-1.3
BKZ				IAmb	IAmb	20 47 39.1	
comp=Z,11nm,1.1s							
MSWZ	Moikau Station	27.50	167	P	P	20 47 42.3	-1.4
LTZ	Lake Taylor	28.32	172	P	P	20 47 50.4	-0.7
STKA	Stephens Creek	29.16	230	P	P	20 47 58.8	+0.3
STKA	Stephens Creek	29.16	230	P	P	20 47 58.6	+0.1
comp=Z,2.6nm,0.5s,baz=42,slow=9.8,SNR=12							

ZALV Zalesovo Beam 97.44 324 P Pdif 20 55 28.5 -0.5
comp=Z,0.2nm,0.3s,baz=89,slow=7.5,SNR=1.6
comp=Z,0.2nm,0.3s
ARCES ARCESS Array B 120.23 345 PKP **PKiKP 21 00 45.5 -0.1**
comp=Z,0.4nm,0.3s,baz=46,slow=2.0,SNR=14

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*IDC **17** 20:43:26.8±0.8, 43°.20N×126°.22W, h0km, mb3.9/11, mbtmp4.0/18, ML3.9/7, MS4.0/30, Error ellipse: s-maj=18.6km s-min=8.8km az=40.0*
*NEIC **17** 20:43:27.6, 43°.01N×126°.43W, h16km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16^Nm; Mrr-0.49; Mθθ-0.92; Mϕϕ1.42; Mrθ-0.46; Mϕϕ-1.08; Mϕr0.12; Fault plane solution: M0 1.72000×10^16^ NP1:ϕs22.26000°, δ70.06000°, λ-10.49000°. NP2:ϕs115.87000°, δ80.14000°, λ-159.75000°. Principal axes: T 1.8745, Plg7.0000°, Azm248.0000°; N -0.3786, Plg68.0000°, Azm141.0000°; P -1.4959, Plg21.0000°, Azm340.0000°;*
*NEIC **17** 20:43:27.2±2.0, 43°.00N±0°.05×126°.32W±0°.09, h10km±1km, mb4.7/151, ML3.9/121, Mww4.8/44 Error ellipse: s-maj=11.2km s-min=8.3km az=240.0*
*NEIC **17** 20:43:27.6, 43°.01N×126°.29W, h16km*
*GCMT **17** 20:43:29.2±0.4, 43°.08N±0°.02×126°.57W±0°.02, h12km, MW4.8/96, Moment Tensor Solution. s5,c5; s96,c129; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.32±.08; Mθθ-1.22±.07; Mϕϕ1.54±.06; Mrθ-0.34±.22; Mϕϕ-0.92±.06; Mϕr-0.58±.19; Best double couple: M0 1.79800×10^16^ NP1:ϕs119.00000°, δ67.00000°, λ-174.00000°. NP2: ϕs26.00000°, δ84.00000°, λ-23.00000°. Principal axes: T 1.9150, Plg12.0000°, Azm75.0000°; N -0.2310, Plg66.0000°, Azm193.0000°; P -1.6820, Plg20.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 20:43:27.7±0.5, 43°.00N±0°.07×126°.39W±0°.07, h14km, n202, σ1§43/110, mb4.7/67, MS4.0/23, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.51**	**94**		**Pn**	**20 43 52.5**	**-1.9**
KEBM				IAML		20 44 18.3	
	comp=N,3μm,0.6s						
KBO	**Bosley Butte**	**1.78**	**116**		**Pn**	**20 43 56.9**	**-1.2**
KBO				Sn	**Sn**	**20 44 18.3**	**-2.2**
KBO				IAML		20 44 25.2	
	comp=E,2μm,1.8s						
KBO				IAML		20 44 43.5	
	comp=N,1μm,1.4s						
J01E	**Myrtle Point**	**1.81**	**84**		**Pn**	**20 43 56.8**	**-1.5**
J01E				Sn	**Sn**	**20 44 19.9**	**-1.2**
J01E				IAML		20 44 21.1	
	comp=N,1μm,0.3s						
K02D	**Willamette Mer**	**2.02**	**98**		**Pn**	**20 44 00.4**	**-1.1**
K02D				IAML		20 44 28.6	
	comp=E,787nm,0.6s						
I02E	**Swisshome, OR**	**2.15**	**58**		**Pn**	**20 44 01.7**	**-1.3**
I02E				IAML		20 44 33.3	
	comp=N,744nm,0.8s						
I02E				IAML		20 44 48.8	
	comp=E,777nm,1.9s						
KSXB	**Camp Six Broad**	**2.20**	**121**		**Pn**	**20 44 02.9**	**-1.0**
KSXB				IAML		20 44 48.2	
	comp=E,590nm,1.9s						
KSXB				IAML		20 44 53.5	
	comp=N,520nm,1.6s						
L02F	**Cave Junction**	**2.26**	**112**		**Pn**	**20 44 04.0**	**-0.6**
L02F				IAML		20 44 34.9	
	comp=N,464nm,0.5s						
L02F				IAML		20 44 37.5	
	comp=E,645nm,1.8s						
I03D	**Drain, OR**	**2.32**	**72**		**Pn**	**20 44 04.2**	**-1.2**
I03D				IAML		20 44 33.3	
	comp=E,775nm,0.7s						
I03D				IAML		20 44 33.8	
	comp=N,1μm,0.5s						
KRMB	**Red Mountain**	**2.36**	**128**		**Pn**	**20 44 05.0**	**-1.1**
KRPM	**Rodgers**	**2.55**	**136**		**Pn**	**20 44 07.4**	**-1.2**
KRPM				IAML		20 44 40.9	
	comp=E,431nm,1.2s						
KRPM				IAML		20 44 45.2	
	comp=N,344nm,1.8s						
BBOR	**Butler Butte**	**2.72**	**91**		**Pn**	**20 44 11.1**	**0.0**
BBOR				IAML		20 44 45.4	
	comp=E,558nm,0.7s						
BBOR				IAML		20 44 53.2	
	comp=N,403nm,0.9s						
COR	**Corvallis**	**2.74**	**54**	Pn	**Pn**	**20 44 10.4**	**-0.7**
COR				IAML		20 44 46.0	
	comp=N,806nm,0.9s						
COR				IAML		20 44 54.9	
	comp=N,546nm,1.0s						
BUCK	**Buck Mountain**	**2.74**	**63**		**Pn**	**20 44 10.2**	**-1.1**
BUCK				IAML		20 44 48.3	
	comp=N,698nm,1.0s						
BUCK				IAML		20 45 05.8	
	comp=E,567nm,1.8s						
JCC	**Jacoby Creek,**	**2.80**	**140**		**Pn**	**20 44 10.3**	**-1.7**
KHMM	**Horse Mountain**	**2.91**	**136**		**Pn**	**20 44 12.7**	**-1.0**
I04A	**Tendick Farm,**	**3.00**	**73**		**Pn**	**20 44 14.6**	**-0.3**
I04A				IAML		20 44 59.4	
	comp=E,674nm,0.7s						
YBH	**Yreka Blue Hor**	**3.00**	**114**		**Pn**	**20 44 15.6**	**+0.7**
YBH	**Yreka Blue Hor**	**3.00**	**114**	Pn	**Pn**	**20 44 15.3**	**+0.4**
	comp=E,2.5nm,0.3s,baz=324,slow=8.4,SNR=164						
YBH				Sn	**Sn**	**20 44 51.2**	**+0.4**
	comp=E,0.4nm,0.3s,baz=314,slow=6.3,SNR=5.7						
YBH				LR	LR	20 45 01.1	
	comp=E,25nm,21.6s,baz=286,slow=32						
	comp=E,6.3nm,0.3s						
H04D	**Lebanon**	**3.05**	**59**		**Pn**	**20 44 15.4**	**0.0**
H04D				IAML		20 44 59.8	
	comp=N,623nm,0.8s						
M02C	**Callahan**	**3.08**	**120**		**Pn**	**20 44 16.1**	**+0.2**
KMPM	**Mount Pierce**	**3.09**	**146**		**Pn**	**20 44 14.9**	**-1.2**
L04D	**Klamath Falls**	**3.11**	**103**		**Pn**	**20 44 17.4**	**+0.9**
L04D				IAML		20 44 59.6	
	comp=N,427nm,1.1s						
L04D				IAML		20 45 11.8	
	comp=E,448nm,1.5s						
G03D	**McMinnville, O**	**3.15**	**44**		**Pn**	**20 44 16.4**	**-0.4**
N02D	**Trinity Center**	**3.41**	**125**		**Pn**	**20 44 20.1**	**-0.4**
N02D				IAML		20 45 26.5	
	comp=E,203nm,1.2s						
KMRM	**Mail Ridge**	**3.43**	**143**		**Pn**	**20 44 21.5**	**+0.8**
BRIC	**Briceland Vine**	**3.44**	**146**	IAML		20 45 05.4	
	comp=E,150nm,1.7s						
H04A	**Detroit Lake**	**3.47**	**60**		**Pn**	**20 44 21.0**	**-0.3**
H04A				IAML		20 45 05.7	
	comp=N,434nm,0.4s						
WIFE	**Three Sisters-**	**3.49**	**71**	IAML		20 45 16.1	
	comp=E,444nm,0.8s						
WIFE				IAML		20 45 20.0	
	comp=N,366nm,1.4s						
M03C	**McCloud**	**3.61**	**117**		**Pn**	**20 44 24.7**	**+1.4**
M03C				IAML		20 45 27.0	
	comp=N,211nm,1.4s						
J05D	**Fort Rock, OR**	**3.78**	**84**		**Pn**	**20 44 25.6**	**0.0**
J05D				IAML		20 45 18.8	
	comp=E,205nm,1.8s						
J05D				IAML		20 45 46.5	
	comp=N,212nm,1.6s						
I05D	**Terrebonne, OR**	**3.90**	**68**	IAML		20 45 32.6	
	comp=E,322nm,1.3s						
O02D	**Mt. Diablo Mer**	**3.91**	**135**		**Pn**	**20 44 26.7**	**-0.6**
KCPM	**Cahto Peak**	**3.93**	**147**		**Pn**	**20 44 27.8**	**+0.1**
KCPM				IAML		20 45 31.0	
	comp=E,111nm,4.4s						
KCPM				IAML		20 45 39.4	
	comp=N,104nm,4.2s						
PINE	**Pine Mountain**	**4.05**	**77**	IAML		20 45 38.0	
	comp=E,144nm,2.1s						
PINE				IAML		20 45 41.7	
	comp=N,145nm,1.0s						
K05A	**Summer Lake**	**4.05**	**92**	IAML		20 45 45.5	
	comp=E,167nm,2.2s						
K05A				IAML		20 46 08.7	
	comp=N,141nm,4.5s						
E03A	**Lebam**	**4.07**	**29**		**Pn**	**20 44 28.4**	**-1.1**
E03A				IAML		20 45 23.7	
	comp=E,194nm,0.6s						
G05A	**Wamic**	**4.28**	**57**	IAML		20 45 31.8	
	comp=N,198nm,1.5s						
G05A				IAML		20 45 49.0	
	comp=E,220nm,1.8s						
O03E	**Paynes Creek**	**4.37**	**127**	IAML		20 46 35.1	
	comp=N,95nm,2.1s						
O03E				IAML		20 46 42.0	
	comp=E,119nm,2.4s						
G06A	**Carlson Farm,**	**4.70**	**60**	IAML		20 46 36.2	
	comp=N,77nm,2.8s						
G06A				IAML		20 46 37.2	
	comp=E,66nm,2.1s						
LON	**Longmire**	**4.96**	**39**	IAML		20 45 43.1	
	comp=N,115nm,0.9s						
LON				IAML		20 45 46.2	
	comp=E,95nm,0.7s						
MNRC	**McLaughlin Min**	**5.09**	**143**	IAML		20 47 43.3	
	comp=N,53nm,3.7s						
MNRC				IAML		20 48 05.2	
	comp=E,44nm,3.7s						
I07A	**Izee**	**5.12**	**75**	IAML		20 47 00.2	
	comp=E,56nm,3.5s						
SUTB	**Sutter Butte**	**5.13**	**136**	IAML		20 46 07.8	
	comp=E,40nm,3.5s						
SUTB				IAML		20 46 15.9	
	comp=N,53nm,2.2s						
GNW	**Green Mountain**	**5.21**	**28**	IAML		20 45 44.2	
	comp=E,40nm,0.8s						
CBB	**Campbell River**	**7.07**	**5**		**Pn**	**20 45 08.9**	**-1.7**
NVAR	**Mina Array Bea**	**7.65**	**124**		**Pn**	**20 45 18.2**	**-0.6**
NVAR	**Mina Array Bea**	**7.65**	**124**	Pn	**Pn**	**20 45 22.1**	**+3.2**
	comp=E,1.3nm,0.3s,baz=298,slow=13,SNR=11						
NVAR				LR	LR	20 48 14.3	
	comp=E,460nm,19.3s,baz=298,slow=37						
	comp=E,4.4nm,0.6s						
NEW	**Newport**	**8.35**	**48**	Pn	**Pn**	**20 45 27.3**	**-1.0**
	comp=E,1.1nm,0.3s,baz=223,slow=12,SNR=6.6						
NEW				LR	LR	20 48 45.4	
	comp=E,2μm,21.5s,baz=242,slow=39						
	comp=E,2.2nm,0.3s						
DSP	**Deep Springs**	**8.55**	**128**		**Pn**	**20 45 32.3**	**+1.4**
ELK	**Elko**	**8.62**	**101**	Pn	**Pn**	**20 45 35.4**	**+3.3**
	comp=E,0.5nm,0.3s,baz=287,slow=14,SNR=19						
ELK				LR	LR	20 48 57.0	
	comp=E,418nm,21.7s,baz=280,slow=39						
	comp=E,5.4nm,0.7s						
CWC	**Cottonwood Cre**	**9.16**	**133**		**Pn**	**20 45 40.3**	**+0.8**
BBB	**Bella Bella**	**9.26**	**353**	Pn	**Pn**	**20 45 42.6**	**+2.0**
	comp=E,0.9nm,0.3s,baz=172,slow=8.9,SNR=4.0						
BBB				LR	LR	20 48 31.6	
	comp=E,732nm,20.6s,baz=206,slow=34						
GWY	**Greenwater Val**	**10.12**	**129**		**Pn**	**20 45 51.7**	**-1.0**
TPO	**Tropico Hills**	**10.30**	**139**		**Pn**	**20 45 55.1**	**+0.1**
DUG	**Dugway, Tooele**	**10.55**	**101**		**Pn**	**20 46 00.1**	**+1.6**
BOZ	**Bozeman (W)**	**10.89**	**71**		**Pn**	**20 46 04.0**	**+0.9**
MWC	**Mount Wilson**	**10.91**	**141**		**Pn**	**20 46 03.5**	**-0.1**
TPAW	**Teton Pass**	**11.27**	**82**		**Pn**	**20 46 08.9**	**+0.4**
YFT	**Old Faithful**	**11.35**	**77**		**Pn**	**20 46 09.3**	**-0.3**
SNOW	**Snow King Moun**	**11.42**	**82**		**Pn**	**20 46 11.8**	**+1.4**
PFO	**Pinyon Flats O**	**12.19**	**137**		**Pn**	**20 46 21.5**	**+0.6**
PFO	**Pinyon Flats O**	**12.19**	**137**	Pn	**Pn**	**20 46 24.5**	**+3.6**
	comp=E,0.6nm,0.3s,baz=328,slow=5.5,SNR=6.2						
PFO				LR	LR	20 51 14.5	
	comp=E,991nm,19.0s,baz=322,slow=38						
	comp=E,8.2nm,0.8s						
PDAR	**Pinedale Array**	**12.35**	**85**		**Pn**	**20 46 23.6**	**+0.4**
PDAR	**Pinedale Array**	**12.35**	**85**	Pn	**Pn**	**20 46 25.6**	**+2.4**
	comp=E,0.2nm,0.3s,baz=285,slow=12,SNR=23						
PDAR				LR	LR	20 51 36.6	
	comp=E,948nm,18.7s,baz=267,slow=40						
	comp=E,12nm,1.1s						
W18A	**Petrified Fore**	**15.13**	**116**	IAmb	IAmb	20 47 07.5	
	comp=Z,31nm,0.8s						
214A	**Organ Pipe Nat**	**15.40**	**131**	IAmb	IAmb	20 47 09.6	
	comp=Z,49nm,1.7s						
DLBC	**Dease Lake**	**15.62**	**353**	Pn	**Pn**	**20 47 09.1**	**+1.8**
	comp=Z,9.2nm,0.3s,baz=155,slow=19,SNR=3.2						
DLBC				LR	LR	20 52 24.0	
	comp=Z,2μm,19.8s,baz=150,slow=35						
TUC	**Tucson**	**16.30**	**126**		**Pn**	**20 47 15.4**	**-0.7**
Q32M	**Nakina River**	**16.39**	**349**	IAmb	IAmb	20 47 25.2	
	comp=Z,91nm,1.7s						
DGMT	**Dagmar**	**16.41**	**63**		**Pn**	**20 47 15.7**	**-1.7**
DGMT				IAmb	IAmb	20 47 25.0	
	comp=Z,208nm,1.6s						
SDCO	**Great Sand Dun**	**16.75**	**101**	IAmb	IAmb	20 47 26.4	
	comp=Z,53nm,1.2s						
DUN6	**Lazy B Ranch**	**17.16**	**122**	IAmb	IAmb	20 47 34.5	
	comp=Z,90nm,1.2s						
P32M	**Atlin**	**17.21**	**347**		**Pn**	**20 47 27.2**	**-0.3**
P32M				IAmb	IAmb	20 47 31.1	
	comp=Z,62nm,1.4s						
ANMO	**Albuquerque**	**17.43**	**111**		**Pn**	**20 47 30.0**	**-0.6**
ANMO	**Albuquerque**	**17.43**	**111**	P	**P**	**20 47 32.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=315,slow=2.9,SNR=24						
ANMO				LR	LR	20 53 31.8	
	comp=Z,271nm,20.4s,baz=27,slow=35						
	comp=Z,22nm,0.9s						
P33M	**Teslin, Yukon**	**17.67**	**349**		**Pn**	**20 47 31.7**	**-1.5**
121A	**Cookes Peak, D**	**18.00**	**119**	IAmb	IAmb	20 47 44.7	
	comp=Z,58nm,1.4s						
RTBA	**Rita Blanca**	**19.30**	**102**	IAmb	IAmb	20 48 00.9	
	comp=Z,52nm,1.3s						
N30M	**Aishikik Lake**	**19.56**	**345**	IAmb	IAmb	20 48 04.4	
	comp=Z,50nm,1.7s						
K30B	**Basset**	**19.61**	**82**	IAmb	IAmb	20 47 59.8	
	comp=Z,40nm,0.8s						
FFC	**Flin Flon**	**19.77**	**45**		**P**	**20 47 57.2**	**+0.1**
FFC				IAmb	IAmb	20 48 05.7	
	comp=Z,61nm,1.2s						
M31M	**Drury Creek, Y**	**19.81**	**349**	IAmb	IAmb	20 48 03.7	
	comp=Z,41nm,1.2s						
MMPY	**Sheldon Lake,**	**19.86**	**353**	P	**Pn**	**20 47 59.3**	**-0.4**
WAX	**Waxell Ridge**	**20.12**	**336**	IAmb	IAmb	20 48 05.3	
	comp=Z,99nm,1.8s						
WRGLY	**Wrigley**	**20.33**	**4**	P	**P**	**20 48 01.3**	**-1.9**
MSTX	**Muleshoe**	**20.51**	**108**	IAmb	IAmb	20 48 12.5	
	comp=Z,50nm,1.4s						
CBKS	**Cedar Bluff**	**20.54**	**93**	IAmb	IAmb	20 48 10.6	
	comp=Z,80nm,1.1s						
YKA	**Yellowknife Ar**	**20.72**	**16**	P	**P**	**20 48 07.3**	**0.0**
	comp=Z,3.0nm,1.0s,baz=212,slow=12,SNR=4.3						
	comp=Z,3.0nm,1.0s						
YKAW1	**Yellowknife Wh**	**20.73**	**16**	P	**P**	**20 48 06.8**	**-0.7**
YKAW1				IAmb	IAmb	20 48 20.3	
	comp=Z,17nm,1.1s						
AMTX	**Amarillo**	**20.80**	**105**	IAmb	IAmb	20 48 19.2	
	comp=Z,75nm,1.2s						
L29M	**L29M**	**21.27**	**345**		**P**	**20 48 12.6**	**-0.8**
L29M				IAmb	IAmb	20 48 20.7	
	comp=Z,66nm,1.9s						
PECS	**Pecos**	**21.30**	**116**	IAmb	IAmb	20 48 20.6	
	comp=Z,38nm,1.3s						
R32A	**Long Quarter,**	**21.43**	**93**	IAmb	IAmb	20 48 19.8	
	comp=Z,73nm,1.0s						
N25K	**Chitina, Valde**	**21.56**	**336**	IAmb	IAmb	20 48 24.7	
	comp=Z,59nm,1.9s						
ECSD	**EROS Data Cent**	**21.61**	**78**		**P**	**20 48 17.9**	**+0.8**
ECSD				IAmb	IAmb	20 48 20.4	
	comp=Z,43nm,1.4s						
F33A	**5 Mile Ranch,**	**21.62**	**72**	IAmb	IAmb	20 48 21.2	
	comp=Z,49nm,1.1s						
SMWD	**Samnorwood**	**21.72**	**103**	IAmb	IAmb	20 48 23.8	
	comp=Z,78nm,1.3s						
ODSA	**Odessa**	**21.72**	**112**	IAmb	IAmb	20 48 28.6	
	comp=Z,43nm,1.0s						
AGMN	**Agassiz Nation**	**21.90**	**65**		**P**	**20 48 20.4**	**+0.3**
DKNS	**Dickens**	**21.97**	**107**	IAmb	IAmb	20 48 30.2	
	comp=Z,33nm,1.4s						
BCAR	**Beaver Creek A**	**22.01**	**341**	P	**P**	**20 48 22.0**	**+0.7**
ULM	**Lac du Bonnet**	**22.06**	**60**	P	**P**	**20 48 21.7**	**-0.2**
	comp=Z,14nm,0.8s,baz=273,slow=11,SNR=9.9						
ULM				LR	LR	20 57 23.1	
	comp=Z,781nm,19.2s,baz=286,slow=38						
	comp=Z,14nm,0.8s						
ALPN	**Alpine**	**22.09**	**117**	IAmb	IAmb	20 48 30.1	
	comp=Z,41nm,1.3s						
KDAK	**Kodiak Island**	**22.11**	**321**	LR	LR	20 54 51.6	
	comp=Z,541nm,18.8s,baz=133,slow=31						
J30M	**Hart River**	**22.34**	**349**	IAmb	IAmb	20 48 29.4	
	comp=Z,77nm,1.8s						
L26K	**Log Cabin Wild**	**22.36**	**340**	IAmb	IAmb	20 48 28.4	
	comp=Z,27nm,1.3s						
DAWY	**Dawson**	**22.38**	**345**		**P**	**20 48 25.9**	**+0.6**
DAWY				IAmb	IAmb	20 48 29.9	
	comp=Z,24nm,1.3s						
KAN08	**Anthony NE Sta**	**22.42**	**95**	P	**P**	**20 48 28.2**	**+2.3**
KNK	**Knik Glacier**	**22.66**	**332**	IAmb	IAmb	20 48 31.9	
	comp=Z,30nm,1.3s						
TX31	**Lajitas Ar. Si**	**22.77**	**119**	IAmb	IAmb	20 48 40.3	
	comp=Z,26nm,1.3s						
TXAR	**Lajitas Array**	**22.77**	**119**	P	**P**	**20 48 32.6**	**+2.9**
TXAR	**Lajitas Array**	**22.77**	**119**	P	**P**	**20 48 31.6**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=308,slow=8.7,SNR=12						
	comp=Z,0.7nm,0.5s						
SGCY	**Sterling City**	**22.82**	**111**	IAmb	IAmb	20 48 39.8	
	comp=Z,35nm,1.1s						
WMOK	**Wichita Mounta**	**22.95**	**102**	IAmb	IAmb	20 48 36.7	
	comp=Z,32nm,1.1s						
LPIG	**La Paz**	**23.05**	**140**	LR	LR	20 56 57.1	
	comp=Z,401nm,19.1s,baz=325,slow=35						
H31M	**Peel River**	**23.27**	**352**	IAmb	IAmb	20 48 37.6	
	comp=Z,38nm,1.2s						
SAND	**Sanderson**	**23.36**	**116**	IAmb	IAmb	20 48 41.8	
	comp=Z,48nm,1.6s						
EPLO	**Experimental L**	**23.38**	**62**	IAmb	IAmb	20 48 43.6	
	comp=Z,38nm,1.5s						
OK029	**Liberty Lake**	**23.41**	**98**	P	**P**	**20 48 39.3**	**+3.2**
OZNA	**Ozona**	**23.41**	**113**	IAmb	IAmb	20 48 47.6	
	comp=Z,27nm,1.7s						
OK048	**Pawnee Station**	**23.51**	**96**		**P**	**20 48 41.5**	**+4.4**
DHY	**Denali Highway**	**23.52**	**336**	IAmb	IAmb	20 48 41.1	
	comp=Z,44nm,1.7s						
WTFS	**Witchita Falls**	**23.66**	**104**		**P**	**20 48 41.0**	**+2.4**
WTFS				IAmb	IAmb	20 48 44.6	
	comp=Z,53nm,1.1s						
OK052	**Battle Ridge R**	**23.80**	**97**		**P**	**20 48 43.0**	**+3.2**
SPU	**Mount Spurr**	**23.82**	**329**	IAmb	IAmb	20 49 02.4	
	comp=Z,45nm,2.0s						
DEOK	**Depew**	**24.08**	**97**	P	**P**	**20 48 44.3**	**+1.7**
EPYK	**Eagle Plains**	**24.10**	**350**	IAmb	IAmb	20 48 51.5	
	comp=Z,17nm,0.9s						
SPMN	**Marine on St.**	**24.12**	**73**	IAmb	IAmb	20 48 47.8	
	comp=Z,20nm,1.0s						
H29M	**Whitestone**	**24.19**	**348**	IAmb	IAmb	20 48 52.3	
	comp=Z,22nm,0.9s						
DRIO	**Del Rio**	**24.70**	**115**	IAmb	IAmb	20 48 57.6	
	comp=Z,17nm,1.0s						
ILAR	**Eielson Array**	**24.70**	**339**	P	**P**	**20 48 48.6**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=152,slow=8.1,SNR=11						
ILAR				LR	LR	20 57 08.9	
	comp=Z,144nm,19.3s,baz=115,slow=34						
	comp=Z,1.6nm,0.9s						
G29M	**Pine Creek**	**24.79**	**349**	IAmb	IAmb	20 48 57.9	
	comp=Z,24nm,0.9s						
WRH	**Wood River Hil**	**24.79**	**338**	IAmb	IAmb	20 48 52.9	
	comp=Z,8.4nm,0.7s						
EYMN	**Ely**	**24.82**	**66**		**P**	**20 48 50.7**	**+1.4**
BWN	**Browne**	**24.97**	**336**	IAmb	IAmb	20 48 54.6	
	comp=Z,34nm,1.2s						
RLO	**Rose Lookout**	**25.02**	**95**	IAmb	IAmb	20 49 07.5	
	comp=Z,17nm,1.0s						
NEA2	**Nenana**	**25.16**	**337**	IAmb	IAmb	20 48 55.5	
	comp=Z,22nm,1.3s						
INK	**Inuvik**	**25.64**	**354**	LR	LR	20 58 38.6	
	comp=Z,365nm,19.1s,baz=153,slow=36						
I23K	**Minto, Yukon-K**	**25.66**	**338**	IAmb	IAmb	20 49 04.6	
	comp=Z,52nm,1.9s						
HHAR	**Hobbs**	**25.76**	**94**	IAmb	IAmb	20 49 02.2	
	comp=Z,52nm,1.6s						
MLY	**Manley**	**25.97**	**336**	IAmb	IAmb	20 49 09.5	
	comp=Z,17nm,1.3s						
E29M	**Blow River**	**26.16**	**350**	IAmb	IAmb	20 49 10.8	
	comp=Z,17nm,1.2s						
TBO	**Thunder Bay**	**26.20**	**65**	IAmb	IAmb	20 49 09.3	
	comp=Z,26nm,1.3s						
R40A	**Maddies Statio**	**26.20**	**89**	IAmb	IAmb	20 49 05.1	
	comp=Z,31nm,1.5s						
I21K	**Tanana**	**26.45**	**336**	IAmb	IAmb	20 49 08.8	
	comp=Z,68nm,1.9s						
MGMO	**Mountain Grove**	**26.63**	**91**	IAmb	IAmb	20 49 09.6	
	comp=Z,18nm,1.1s						
MIAR	**Mount Ida**	**26.80**	**97**	IAmb	IAmb	20 49 11.6	
	comp=Z,12nm,1.0s						
CCM	**Cathedral Cave**	**27.04**	**89**	P	**P**	**20 49 10.0**	**+0.7**
FVM	**French Village**	**27.66**	**88**	IAmb	IAmb	20 49 29.4	
	comp=Z,16nm,0.8s						
LCAR	**Lake Charles**	**27.89**	**92**	IAmb	IAmb	20 49 25.8	
	comp=Z,7.9nm,0.8s						
H19K	**Roundabout Mou**	**28.08**	**334**	IAmb	IAmb	20 49 25.4	
	comp=Z,12nm,1.1s						
PLAL	**Pickwick Lake**	**30.62**	**92**	IAmb	IAmb	20 49 50.0	
	comp=Z,10.0nm,0.7s						
P48A	**Milroy**	**30.79**	**82**	IAmb	IAmb	20 49 45.5	
	comp=Z,20nm,0.9s						
FPAL	**Fort Paine**	**32.63**	**91**	IAmb	IAmb	20 50 02.3	
	comp=Z,14nm,1.0s						
TKL	**Tuckaleechee C**	**33.48**	**88**	LR	LR	21 04 24.3	
	comp=Z,410nm,18.2s,baz=312,slow=38						
Y52A	**Lilburn**	**34.08**	**91**	IAmb	IAmb	20 50 15.3	
	comp=Z,17nm,0.9s						
GOGA	**Godfrey**	**34.73**	**91**	IAmb	IAmb	20 50 20.6	
	comp=Z,18nm,1.1s						
RES	**Resolute Bay**	**34.77**	**14**	LR	LR	21 04 26.2	
	comp=Z,154nm,21.9s,baz=50,slow=36						
FRB	**Frobisher Bay**	**38.52**	**37**	LR	LR	21 06 35.9	
	comp=Z,186nm,21.2s,baz=281,slow=36						
CHIV	**Chivirico**	**47.58**	**103**	P	**P**	**20 52 01.7**	**-1.2**
CHIV				IAmb	IAmb	20 52 12.0	
	comp=Z,58nm,1.8s						
NMDO	**Nuevo Mundo**	**48.23**	**101**	P	**P**	**20 52 09.0**	**+1.0**
NMDO				IAmb	IAmb	20 52 16.2	
	comp=Z,11nm,0.9s						
SDV	**Santo Domingo**	**59.19**	**108**	P	**P**	**20 53 28.2**	**-0.4**
SDV				IAmb	IAmb	20 53 37.7	
	comp=Z,5.5nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.92**	**270**	T	T	21 58 29.6	
	baz=51,slow=75,SNR=890						
H11N2	**WAKE ISLAND Hy**	**59.92**	**270**	T	T	21 58 31.1	
	baz=51,slow=75,SNR=585						
H11N1	**WAKE ISLAND Hy**	**59.93**	**270**	T	T	21 58 29.8	
	baz=51,slow=75,SNR=645						
H11S1	**WAKE ISLAND Hy**	**60.83**	**269**	T	T	21 59 38.2	
	baz=50,slow=75,SNR=2181						
H11S2	**WAKE ISLAND Hy**	**60.84**	**269**	T	T	21 59 34.2	

comp=Z,0.6nm,0.5s
NJ2 Nanjing 84.38 309 *e*P **P 20 55 58.4 -1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
HNR Honiara 84.67 252 LR LR 21 27 01.1
comp=Z,117nm,20.4s,baz=352,slow=31
AKTO Aktyubinsk 86.86 357 LR LR 21 35 44.4
comp=Z,41nm,21.6s,baz=330,slow=36
MKAR Makanchi Array 87.04 341 P **P 20 56 14.6 +2.1**
comp=Z,0.3nm,0.5s,baz=31,slow=6.4,SNR=2.1
MKAR LR LR 21 36 48.5
comp=Z,52nm,20.5s,baz=347,slow=37
comp=Z,0.3nm,0.5s
AB31 Akbulak array 87.95 356 **P 20 56 16.4 -0.5**
AB31 IAmb IAmb 20 56 27.2
comp=Z,4.6nm,1.2s
ABKAR Akbulak array 87.95 356 **P 20 56 16.6 -0.2**
WMQ Urumqi 88.33 336 *e*P **P 20 56 20.0 +1.1**
WMQ LR LR
comp=Z,96nm,16.9s
DZM Mont Dzumac 89.42 239 LR LR 21 30 24.8
comp=Z,76nm,18.4s,baz=86,slow=31
AAK Ala-Archa 92.70 345 LR LR 21 44 27.5
comp=Z,35nm,18.3s,baz=358,slow=40
PMG Port Moresby 93.76 261 LR LR 21 35 42.9
comp=Z,49nm,18.2s,baz=129,slow=33
URZ Urewera 95.76 221 LR LR 21 32 02.1
comp=Z,69nm,20.4s,baz=44,slow=30
GNI Garni 96.84 7 LR LR 21 42 13.7
comp=Z,46nm,21.0s,baz=276,slow=36
PZH PanZhiHua 97.88 318 P **P 20 57 01.8 -1.4**
QSPA South Pole Qui 132.81 180 PKP **PKiKP 21 02 43.9 +1.7**
comp=Z,0.5nm,0.3s,baz=98,slow=2.4,SNR=5.3
LSZ Lusaka 144.82 46 **PKPdf 21 03 04.3 -0.3**
KSANE Kasane 145.18 53 **PKPbc 21 03 04.6 -0.1**
KOOLE Kule 145.91 65 **PKPdf 21 03 04.4 -1.9**
BOSA Boshof 153.04 67 PKPbc **PKPbc 21 03 24.2 -0.7**
comp=Z,5.2nm,0.7s,baz=333,slow=3.9,SNR=5.0

*KRSC **17** 21:25:15.8±2.2, 50°.46N×157°.44E, h40km±25km, Ml4.3, Felt [II-III] at Severo-Kurilsk.*
*MOS **17** 21:25:15.1±1.1, 50°.25N×157°.42E, h47km, mb4.4/1, Error ellipse: s-maj=27.3km s-min=5.0km az=83.0*
MOS Felt (II) at Severo-Kuril'sk.

ISC 17 21:25:16.1±2.2, 50°.3N±0°.1×157°.42E±0°.08, h30km±15km, n47, σ1§52/76, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.90**	**294**	‖ *i*PN	**Pb**	**21 25 33.2**	**0.0**
SKR				*i* S	**Sb**	**21 25 44.4**	**-0.5**
SKR				pmax	pmax		
	comp=Z,395nm,0.2s						
SKR				smax	smax		
	comp=E,8μm,0.2s						
SKR				smax	smax		
	comp=N,16μm,0.5s						
SKR	**Severo-Kuril's**	**0.90**	**294**	*e*P	**Pb**	**21 25 33.2**	**0.0**
SKR				*e*S	**Sb**	**21 25 44.7**	**-0.2**
PAU	**Pauzhetka**	**1.20**	**342**	PN	**Pn**	**21 25 36.7**	**-0.1**
PAU				S	**Sn**	**21 25 50.6**	**-1.5**
PAU	**Pauzhetka**	**1.20**	**342**	*e*P	**Pn**	**21 25 36.8**	**-0.1**
PAU				*e*S	**Sn**	**21 25 50.7**	**-1.5**
ASAK	**Asacha**	**2.08**	**8**	PN	**Pn**	**21 25 48.7**	**-0.2**
ASAK	**Asacha**	**2.08**	**8**	*e*P	**Pn**	**21 25 48.8**	**-0.2**
MTVR	**Mutnovka**	**2.21**	**12**	PN	**Pn**	**21 25 50.7**	**-0.1**
MTVR				S	**Sn**	**21 26 15.5**	**-1.7**
MTVR	**Mutnovka**	**2.21**	**12**	*e*P	**Pn**	**21 25 50.8**	**-0.1**
MTVR				*e*S	**Sn**	**21 26 15.6**	**-1.7**
RUS	**Russkaya**	**2.22**	**18**	PN	**Pn**	**21 25 50.0**	**-0.7**
RUS				S	**Sn**	**21 26 14.2**	**-2.9**
RUS	**Russkaya**	**2.22**	**18**	*e*P	**Pn**	**21 25 50.0**	**-0.7**
RUS				*e*S	**Sn**	**21 26 14.2**	**-2.9**
GRL	**Gorelyy**	**2.27**	**10**	PN	**Pn**	**21 25 51.8**	**+0.3**
GRL				S	**Sn**	**21 26 17.0**	**-1.5**
GRL	**Gorelyy**	**2.27**	**10**	*e*P	**Pn**	**21 25 51.8**	**+0.3**
GRL				*e*S	**Sn**	**21 26 17.1**	**-1.5**
KRMR	**Karymshinskiy**	**2.55**	**10**	PN	**Pn**	**21 25 56.0**	**+0.8**
KRMR	**Karymshinskiy**	**2.55**	**10**	*e*P	**Pn**	**21 25 56.1**	**+0.8**
APC	**Apacha**	**2.61**	**357**	PN	**Pn**	**21 25 56.8**	**+0.7**
APC	**Apacha**	**2.61**	**357**	*e*P	**Pn**	**21 25 56.9**	**+0.7**
PET	**Petropavlovsk**	**2.81**	**15**	*e*PN	**Pn**	**21 25 58.5**	**-0.4**
PET				*e*S	**Sn**	**21 26 30.7**	**-1.0**
PET				pmax	pmax		
	comp=Z,26nm,0.5s						
PET				smax	smax		
	comp=E,260nm,0.4s						
PET				smax	smax		
	comp=N,229nm,0.5s						
DALK	**Dalny**	**2.83**	**17**	PN	**Pn**	**21 25 59.5**	**+0.3**
DALK				S	**Sn**	**21 26 30.5**	**-1.7**
DALK	**Dalny**	**2.83**	**17**	*e*P	**Pn**	**21 25 59.5**	**+0.3**
DALK				*e*S	**Sn**	**21 26 30.6**	**-1.7**
INSR	**Institute**	**2.84**	**15**	*e*S	**Sn**	**21 26 31.6**	**-0.9**
AVH	**Avacha**	**3.06**	**15**	PN	**Pn**	**21 26 04.3**	**+2.0**
AVH				S	**Sn**	**21 26 37.6**	**-0.3**
AVH	**Avacha**	**3.06**	**15**	*e*P	**Pn**	**21 26 04.4**	**+2.0**
AVH				*e*S	**Sn**	**21 26 37.6**	**-0.3**
KOK	**Koryaka**	**3.06**	**14**	PN	**Pn**	**21 26 04.9**	**+2.4**
KOK				S	**Sn**	**21 26 37.3**	**-0.8**
KOK	**Koryaka**	**3.06**	**14**	*e*P	**Pn**	**21 26 04.9**	**+2.4**
KOK				*e*S	**Sn**	**21 26 37.3**	**-0.8**
SMAR	**Somma**	**3.06**	**16**	PN	**Pn**	**21 26 04.4**	**+1.8**
SMAR				S	**Sn**	**21 26 38.0**	**-0.3**
SMAR	**Somma**	**3.06**	**16**	*e*P	**Pn**	**21 26 04.4**	**+1.8**
SMAR				*e*S	**Sn**	**21 26 38.0**	**-0.3**
NLC	**Nalytchevo**	**3.09**	**22**	*e*S	**Sn**	**21 26 34.9**	**-3.6**
SDLR	**Sedlovina**	**3.09**	**17**	PN	**Pn**	**21 26 03.4**	**+0.5**
SDLR				S	**Sn**	**21 26 40.8**	**+1.9**
SDLR	**Sedlovina**	**3.09**	**17**	*e*P	**Pn**	**21 26 03.5**	**+0.5**
SDLR				*e*S	**Sn**	**21 26 40.8**	**+1.9**
KRER	**Koryakskii**	**3.09**	**15**	PN	**Pn**	**21 26 04.5**	**+1.5**
KRER				S	**Sn**	**21 26 39.5**	**+0.5**
KRER	**Koryakskii**	**3.09**	**15**	*e*P	**Pn**	**21 26 04.6**	**+1.5**
KRER				*e*S	**Sn**	**21 26 39.5**	**+0.5**
KRX	**Arik**	**3.13**	**14**	PN	**Pn**	**21 26 05.3**	**+1.9**
KRX				S	**Sn**	**21 26 40.8**	**+0.9**
KRX	**Arik**	**3.13**	**14**	*e*P	**Pn**	**21 26 05.3**	**+1.9**
KRX				*e*S	**Sn**	**21 26 40.8**	**+0.9**
SPN	**Mys Shipunski**	**3.21**	**29**	PN	**Pn**	**21 26 04.9**	**+0.5**
SPN				S	**Sn**	**21 26 39.8**	**-1.8**
SPN	**Mys Shipunski**	**3.21**	**29**	*e*P	**Pn**	**21 26 05.0**	**+0.5**
SPN				*e*S	**Sn**	**21 26 39.9**	**-1.8**
GNL	**Ganaly**	**3.39**	**5**	PN	**Pn**	**21 26 08.9**	**+1.9**
GNL	**Ganaly**	**3.39**	**5**	*e*P	**Pn**	**21 26 08.9**	**+1.9**
KII	**Karymskiy**	**3.92**	**18**	PN	**Pn**	**21 26 17.0**	**+2.8**
KII				S	**Sn**	**21 27 00.8**	**+1.7**
KII	**Karymskiy**	**3.92**	**18**	*e*P	**Pn**	**21 26 17.1**	**+2.8**
KII				*e*S	**Sn**	**21 27 00.9**	**+1.7**
MKZ	**Mys Kozlova**	**4.99**	**30**	PN	**Pn**	**21 26 28.2**	**-0.6**
MKZ	**Mys Kozlova**	**4.99**	**30**	*e*P	**Pn**	**21 26 28.3**	**-0.6**
KZV	**Kizimen**	**5.10**	**19**	PN	**Pn**	**21 26 32.3**	**+1.8**
KZV	**Kizimen**	**5.10**	**19**	*e*P	**Pn**	**21 26 32.4**	**+1.8**
TUMD	**Tumrok D**	**5.21**	**19**	PN	**Pn**	**21 26 34.8**	**+2.9**
TUMD	**Tumrok D**	**5.21**	**19**	*e*P	**Pn**	**21 26 34.8**	**+2.9**
YAK	**Yakutsk**	**19.20**	**318**	‖ *e*P	**P**	**21 29 36.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN	**Obninsk**	**63.93**	**327**	*e*P	**P**	**21 35 46.1**	**+0.4**
OBN				*e*		21 36 22.4	
OBN				*e*		21 38 05.4	
OBN				*e*PPP	PPP	21 39 36.5	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,64nm,17.0s						

GII 17 21:28:49.1±0.0, 32°.801N±0°.002×35°.561E±0°.001, h2km, Mws1.2, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGDL	**Migdal**	**0.06**	**311**	P	Pg	21 28 50.8	+0.5
MGDL	**Migdal**	**0.06**	**311**	S	Sg	21 28 52.3	+1.2
SPIR	**Sapir Facility**	**0.07**	**344**	P	Pg	21 28 50.8	+0.4
SPIR	**Sapir Facility**	**0.07**	**344**	S	Sg	21 28 52.3	+0.9
KNHM	**Kefar Nahum**	**0.08**	**11**	P	Pg	21 28 51.2	+0.4
KNHM	**Kefar Nahum**	**0.08**	**11**	S	Sg	21 28 53.0	+1.0
RMOT	**Ramot**	**0.10**	**60**	P	Pg	21 28 51.8	+0.7
RMOT	**Ramot**	**0.10**	**60**	S	Sg	21 28 53.6	+1.2
HDNS	**Had-Ness**	**0.14**	**28**	P	Pg	21 28 52.5	+0.5
HDNS	**Had-Ness**	**0.14**	**28**	S	Sg	21 28 55.8	+2.0
MMA0B	**Mount Meron ar**	**0.25**	**328**	P	Pg	21 28 54.8	+0.8
MMA0B	**Mount Meron ar**	**0.25**	**328**	S	Sg	21 28 59.2	+1.9
MMC7	**Mount Meron ar**	**0.26**	**327**	P	Pg	21 28 54.8	+0.6
KSHT	**Keshet**	**0.28**	**49**	P	Pg	21 28 55.3	+0.8
KSHT	**Keshet**	**0.28**	**49**	S	Sb	21 29 00.1	-1.9
BLGI	**Bet Lehem HaGe**	**0.32**	**258**	P	Pg	21 28 55.8	+0.5
BLGI	**Bet Lehem HaGe**	**0.32**	**258**	S	Sb	21 29 01.5	-1.7
MMLI	**Mount Malkishu**	**0.38**	**198**	P	Pg	21 28 57.0	+0.6
MMLI	**Mount Malkishu**	**0.38**	**198**	S	Sb	21 29 03.8	-1.2
GEM	**Giv'at Ha'Em**	**0.42**	**12**	P	Pg	21 28 57.8	+0.7
GEM	**Giv'at Ha'Em**	**0.42**	**12**	S	Sb	21 29 05.0	-1.0
HNTI	**Hanita**	**0.43**	**311**	P	Pg	21 28 58.2	+0.8
HNTI	**Hanita**	**0.43**	**311**	S	Sb	21 29 05.6	-0.8
NATI	**Neve Ativ**	**0.48**	**18**	P	Pg	21 28 59.3	+0.9
NATI	**Neve Ativ**	**0.48**	**18**	S	Sb	21 29 06.8	-1.1
OFRI	**`Ofer**	**0.52**	**250**	P	Pb	21 29 00.1	-0.9
OFRI	**`Ofer**	**0.52**	**250**	S	Sb	21 29 08.4	-0.6
HMDT	**Nahal Hemdat**	**0.55**	**183**	P	Pb	21 29 00.6	-0.8
HMDT	**Nahal Hemdat**	**0.55**	**183**	S	Sb	21 29 10.0	+0.3

DJA 17 21:34:45.8±0.4, 0°N±4°×12°1E±°, h97km±7km, M3.8/11, mB4.8/1, mb3.7/4, MLv3.8/11, Mw(mB)4.1/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.98**	**83**	P	Pn	21 35 07.1	+1.4
MPSI	**Mapaga**	**1.07**	**269**	P	Pn	21 35 06.9	+0.1
APSI	**Ampana**	**1.43**	**152**	P	Pn	21 35 12.4	+1.3
LUWI	**Luwuk**	**2.28**	**128**	P	Pn	21 35 23.5	+1.6
KMSI	**Cibinong**	**3.02**	**86**	P	Pn	21 35 31.8	+0.1
SGKI	**Sangatta, Kali**	**3.48**	**255**	P	Pn	21 35 35.6	-2.4
BKB	**Balikpapan**	**4.38**	**248**	P	Pn	21 35 49.1	-1.0
SPSI	**Sidrap Palu**	**4.46**	**196**	P	Pn	21 35 50.9	-0.3
SANI	**Sanana**	**5.56**	**116**	P	Pn	21 36 04.1	-2.0
	0.1nm6.7nm,0.9s						

*GEN **17** 21:34:58.8, 45°.72N×7°.06E, h7km, Ml1.1*
*LDG **17** 21:34:59.5±0.1, 45°.70N×7°.09E, h2km, Md1.7/2, Ml1.8/8, Error ellipse: s-maj=1.1km s-min=0.8km az=108.0*
*ZUR **17** 21:34:59.6, 45°.70N×7°.07E, h5km±1km, MLh1.3/18, Error ellipse: s-maj=3163.9km s-min=612.6km az=201.0*
*STR **17** 21:34:59.5±0.3, 46°N±2°×°±°, h8km, MLv1.3/6, LOCSAT earthModelID alpes_taup-2.11 preliminary*

ROM 17 21:34:58.8±0.1, 45°.713N±0°.010×7°.08E±0°.02, h10km±1km, ML1.4/12, 8C-3D, Error ellipse: s-maj=1.5km s-min=1.1km az=293.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.06**	**346**	P	Pg	21 35 01.2	+0.1
MRGE				S	Sg	21 35 02.5	-0.4
MRGE	**Morge**	**0.06**	**346**	P	Pg	21 35 01.2	+0.1
MRGE				S	Sg	21 35 02.4	-0.5
MRGE				AML	AML		
	comp=N,1550μm,0.5s						
MRGE				AML	AML		
	comp=E,1090μm,0.5s						
REMY	**Saint-Rhmy-en**	**0.14**	**23**	‖ Pg	Pg	21 35 02.9	+0.7
REMY				Sg	Sg	21 35 05.1	+0.5
REMY	**Saint-Rhmy-en**	**0.14**	**23**	P	Pg	21 35 02.9	+0.7
REMY				S	Sg	21 35 04.9	+0.3
REMY	**Saint-Rhmy-en**	**0.14**	**23**	P	Pg	21 35 02.9	+0.7
REMY				S	Sg	21 35 05.0	+0.5
REMY				AML	AML		
	comp=E,268μm,0.3s						
REMY				AML	AML		
	comp=N,177μm,0.4s						
REMY	**Saint-Rhmy-en**	**0.14**	**23**	Pg	Pb	21 35 03.0	-0.7
REMY				Sg	Sg	21 35 05.1	+0.5
BLANC	**P.ta Helbronne**	**0.17**	**322**	⇑ Pg	Pg	21 35 03.2	+0.4
MFERR	**Prayon, Val Fe**	**0.24**	**5**	⇑ Pg	Pg	21 35 04.5	+0.7
MFERR				Sg	Sg	21 35 07.9	+0.7
LSD	**Lago del Serru**	**0.26**	**172**	⇑ Pg	Pg	21 35 04.6	+0.5
LSD				Sg	Sg	21 35 07.9	+0.2
LSD	**Lago del Serru**	**0.26**	**172**	P	Pg	21 35 04.6	+0.5
LSD				S	Sg	21 35 08.0	+0.2
LSD	**Lago del Serru**	**0.26**	**172**	P	Pg	21 35 04.6	+0.5
LSD				S	Sg	21 35 07.9	+0.2
LSD	**Lago del Serru**	**0.26**	**172**	Pg	Pg	21 35 04.7	+0.5
LSD				Sg	Sg	21 35 07.9	+0.1
LPL	**La Plagne**	**0.31**	**231**	*e*Pg	Pg	21 35 05.3	+0.1
LPL				*e*Sg	Sg	21 35 09.3	-0.1
LPG	**La Plagne**	**0.32**	**227**	*e*Pg	Pg	21 35 05.3	0.0
LPG				*e*Sg	Sg	21 35 09.3	-0.2
RSL	**Roselend**	**0.32**	**266**	Pg	Pg	21 35 05.6	+0.3
RSL				Sg	Sg	21 35 09.4	-0.2
RSL	**Roselend**	**0.32**	**266**	P	Pg	21 35 05.5	+0.2
RSL				S	Sg	21 35 09.3	-0.3
RSL	**Roselend**	**0.32**	**266**	Pg	Pg	21 35 05.7	+0.4
RSL				Sg	Sg	21 35 09.6	0.0
CIRO	**Champorcher**	**0.36**	**108**	Pg	Pg	21 35 06.7	+0.7
CIRO				Sg	Sg	21 35 11.4	+0.5
CIRO	**Champorcher**	**0.36**	**108**	P	Pg	21 35 06.8	+0.7
CIRO				S	Sg	21 35 11.4	+0.5
CIRO	**Champorcher**	**0.36**	**108**	P	Pg	21 35 06.7	+0.6
CIRO				S	Sg	21 35 11.4	+0.5
CIRO	**Champorcher**	**0.36**	**108**	Pg	Pg	21 35 06.5	+0.5
CIRO				Sg	Sg	21 35 11.4	+0.5
SEMOS	**Emosson Stauma**	**0.37**	**344**	⇑ Pg	Pg	21 35 06.8	+0.6
SEMOS				Sg	Sg	21 35 11.7	+0.5
SMAO	**Martigny, Rue**	**0.39**	**359**	Pg	Pb	21 35 07.3	-0.5
SMAO				Sg	Sg	21 35 12.6	+1.0
OGSI	**Sixt**	**0.42**	**327**	⇑ Pg	Pg	21 35 07.5	+0.3
OGSI				Sg	Sg	21 35 12.9	+0.2
OGSI	**Sixt**	**0.42**	**327**	Pg	Pg	21 35 07.4	+0.3
OGSI				Sg	Sg	21 35 12.8	+0.1
DIX	**Grande Dixence**	**0.43**	**32**	‖ Pg	Pb	21 35 08.1	-0.6
DIX				Sg	Sg	21 35 13.9	+0.7
DIX	**Grande Dixence**	**0.43**	**32**	P	Pb	21 35 08.1	-0.6
DIX				S	Sg	21 35 13.9	+0.7
DIX	**Grande Dixence**	**0.43**	**32**	P	Pb	21 35 08.2	-0.6
DIX				S	Sg	21 35 13.8	+0.6
DIX				AML	AML		
	comp=E,136μm,0.8s						
DIX				AML	AML		
	comp=N,107μm,1.2s						
DIX				AML	AML		
	comp=N,107μm,0.8s						
DIX	**Grande Dixence**	**0.43**	**32**	Pg	Pb	21 35 08.2	-0.6
DIX				Sg	Sg	21 35 13.9	+0.7
SALAN	**Lac Salanfe**	**0.44**	**350**	⇑ Pg	Pb	21 35 08.2	-0.6
SALAN				Sg	Sg	21 35 13.8	+0.5
FULLY	**Reservoir Maze**	**0.45**	**5**	⇑ Pg	Pb	21 35 08.4	-0.4
FULLY				Sg	Sg	21 35 14.1	+0.6
LAVEY	**Lavey les Bain**	**0.49**	**355**	Pg	Pb	21 35 09.0	-0.5
LAVEY				Sg	Sg	21 35 15.2	+0.4
TRAV	**Traversella**	**0.51**	**113**	P	Pb	21 35 09.5	-0.4
TRAV				S	Sg	21 35 15.9	+0.5
TRAV	**Traversella**	**0.51**	**113**	P	Pb	21 35 09.6	-0.3
TRAV				AML	AML		
	comp=E,60μm,0.5s						
TRAV				AML	AML		
	comp=N,49μm,0.3s						
TRAV	**Traversella**	**0.51**	**113**	Pg	Pg	21 35 09.3	+0.6
TRAV				Sg	Sg	21 35 15.9	+0.4
ILLEZ	**Chalet Vouargn**	**0.52**	**349**	Pg	Pb	21 35 09.5	-0.5
ILLEZ				Sg	Sg	21 35 16.3	+0.6
GRYON	**Gryon**	**0.54**	**2**	⇑ Pg	Pb	21 35 10.1	-0.3
GRYON				Sg	Sg	21 35 17.1	+0.6
SATI	**Passo dei Sala**	**0.57**	**73**	P	Pg	21 35 10.1	+0.1
SATI				S	Sb	21 35 19.1	-0.4
SATI	**Passo dei Sala**	**0.57**	**73**	P	Pg	21 35 10.2	+0.1
SATI	**Passo dei Sala**	**0.57**	**73**	Pg	Pb	21 35 10.9	-0.3
SATI				Sg	Sg	21 35 18.3	+0.6
RSP	**Reno Superiore**	**0.58**	**167**	‖ Pg	Pg	21 35 10.4	+0.3
RSP	**Reno Superiore**	**0.58**	**167**	P	Pg	21 35 10.4	+0.3
RSP				S	Sg	21 35 17.5	-0.3
RSP	**Reno Superiore**	**0.58**	**167**	P	Pg	21 35 10.5	+0.4
RSP				AML	AML		
	comp=N,27μm,1.6s						
RSP				AML	AML		
	comp=E,31μm,1.1s						
RSP				AML	AML		
	comp=N,27μm,0.4s						
RSP				AML	AML		
	comp=E,31μm,0.9s						
RSP	**Reno Superiore**	**0.58**	**167**	Pg	Pg	21 35 10.4	+0.3
RSP				Sg	Sg	21 35 18.2	+0.5
VANNI	**Vissoie, Val d**	**0.61**	**36**	Pg	Pb	21 35 11.4	-0.4
VANNI				Sg	Sg	21 35 19.3	+0.4
VANNI	**Vissoie, Val d**	**0.61**	**36**	P	Pg	21 35 11.1	+0.3
VANNI				S	Sg	21 35 19.4	+0.5
AIGLE	**Aigle**	**0.64**	**352**	Pg	Pb	21 35 11.9	-0.1
AIGLE				Sg	Sg	21 35 20.0	+0.5
SENIN	**Lac Senin/Sane**	**0.67**	**13**	P	Pb	21 35 12.7	0.0
SENIN				S	Sg	21 35 21.4	+0.8
MMK	**Mattmark**	**0.70**	**61**	Pg	Pg	21 35 12.7	+0.2
MMK				Sg	Sg	21 35 21.7	0.0
MMK	**Mattmark**	**0.70**	**61**	P	Pg	21 35 12.6	+0.1
MMK				S	Sg	21 35 21.6	-0.2
BNI	**Bardonecchia**	**0.72**	**203**	P	Pb	21 35 13.9	+0.4
BNI				S	Sg	21 35 21.7	-0.5
EMBD	**Embd, Matterta**	**0.73**	**46**	P	Pb	21 35 13.5	-0.1
EMBD				S	Sg	21 35 22.3	-0.1
EMBD	**Embd, Matterta**	**0.73**	**46**	Pg	Pb	21 35 13.7	0.0
EMBD				Sg	Sg	21 35 23.0	+0.6
LKBD2	**Leukerbad 2**	**0.77**	**30**	Sg	Sb	21 35 25.1	0.0
RRL	**Rocca Remolon**	**0.82**	**195**	P	Pg	21 35 14.8	+0.2
RRL				S	Sg	21 35 25.1	-0.3
RRL	**Rocca Remolon**	**0.82**	**195**	Pg	Pg	21 35 14.7	+0.1
RRL				Sg	Sg	21 35 25.8	+0.5
SIMPL	**Simplonpass**	**0.84**	**51**	P	Pb	21 35 15.5	-0.2
SIMPL				S	Sb	21 35 26.6	-0.5
OGMY	**Moye**	**0.85**	**282**	Pg	Pn	21 35 16.6	-0.3
OGMY				Sg	Sb	21 35 27.6	+0.4
LAUCH	**Lauchernalp**	**0.85**	**34**	P	Pb	21 35 16.1	+0.3
BHB	**Bricherasio**	**0.88**	**172**	P	Pb	21 35 16.1	-0.1
BHB				S	Sg	21 35 27.1	-0.1
BHB	**Bricherasio**	**0.88**	**172**	P	Pb	21 35 16.1	-0.2
BHB	**Bricherasio**	**0.88**	**172**	Pg	Pb	21 35 16.3	+0.1
BHB				Sg	Sg	21 35 27.4	+0.1
OGSM	**Saint Maurice**	**0.98**	**264**	Pg	Pn	21 35 18.2	-0.4
GIMEL	**St. Georges /**	**1.00**	**326**	Pg	Pn	21 35 18.8	-0.2
GIMEL				Sg	Sn	21 35 32.8	-0.4
MBDF	**Montbardon**	**1.01**	**193**	*e*Pg	Pg	21 35 18.0	-0.3
MBDF				*e*Sg	Sg	21 35 31.1	-0.3
	comp=E,1.0nm,0.1s						
GRN	**Grenoble**	**1.05**	**244**	Pg	Pn	21 35 19.8	+0.2
GRN				Sg	Sn	21 35 34.2	-0.3
CABF	**La Chapelle**	**1.13**	**323**	*e*Pg	Pn	21 35 21.7	+0.9
CABF	**La Chapelle**	**1.13**	**323**	*e*P	Pn	21 35 22.9	+2.1
CABF				*e*Sg	Sn	21 35 36.0	-0.5
	comp=E,2.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.16**	**227**	*e*Pg	Pb	21 35 21.0	0.0
ORIF				*e*Sg	Sb	21 35 35.7	-0.5
	comp=E,1.4nm,0.2s						
VIVF	**Saint-Julien-I**	**1.90**	**244**	*e*Pg	Pg	21 35 34.8	-0.5
VIVF				*e*Sn	Sn	21 35 54.1	-1.3
	comp=E,1.3nm,0.3s						
HINF	**Hinteralfeld**	**2.11**	**356**	*e*Sg	Sg	21 36 05.7	-0.9
	comp=E,0.6nm,0.2s						
SMF	**Signal de Mont**	**2.44**	**294**	*e*Sg	Sg	21 36 15.9	-1.2
	comp=E,0.6nm,0.2s						
LOR	**Lormes**	**2.71**	**306**	*e*Sg	Sg	21 36 24.3	-1.7
	comp=E,0.3nm,0.2s						

*VIE **17** 21:47:37.7±0.7, 50°.27N×18°.74E, h0km, mb2.2/2, ml2.1/3, ms3.6/1, Error ellipse: s-maj=7.5km s-min=3.7km az=172.0*
18 km W of Katowice Suspected Mining induced.
*IPEC **17** 21:47:38.1±0.1, 50°.21N×18°.78E, h1km, ML2.1/6, Error ellipse: s-maj=1.4km s-min=0.5km az=175.0*
*PRU **17** 21:47:39.3, 50°.20N×18°.71E, h0km*

ISC 17 21:47:37.8±0.8, 50°.16N±0°.04×18.73E±0°.02, h0km, n32, σ1§43/56, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.49**	**230**	*e*PG	**Pb**	**21 47 49.0**	**-0.4**
STEB	**Steborice**	**0.66**	**250**	*e*PG	**Pb**	**21 47 51.9**	**-0.2**
STEB				*e*SG	**Sb**	**21 48 01.6**	**-0.2**
OJC	**Ojcow**	**0.69**	**85**	*e*Pg	**Pg**	**21 47 50.8**	**-0.2**
OJC				*e*Sg	**Sg**	**21 48 00.4**	**+0.4**
MORC	**Moravsky Berou**	**0.86**	**244**	*e*PG	**Pb**	**21 47 55.3**	**-0.3**
MORC				*e*SG	**Sb**	**21 48 06.6**	**-1.1**
MORC	**Moravsky Berou**	**0.86**	**244**	*e*Pg	**Pb**	**21 47 55.2**	**-0.3**
MORC	baz=61			*e*Sg	**Sb**	**21 48 06.5**	**-1.1**
	33nm,0.5s,baz=61						
ANAC	**Anensky vrch**	**0.87**	**265**	*e*Pg	**Pb**	**21 47 55.6**	**-0.3**
ANAC	baz=81			*e*Sg	**Sg**	**21 48 06.7**	**+0.9**
	60nm,0.3s,baz=81						
MAUC	**Maruska**	**0.99**	**217**	*e*PG	**Pn**	**21 47 58.3**	**-0.6**
LOSC	**Losov**	**1.03**	**239**	*e*Pg	**Pb**	**21 47 58.7**	**+0.2**
LOSC	baz=56			*e*Sg	**Sb**	**21 48 12.0**	**-0.5**
	18nm,0.3s,baz=56						
LANS	**Liptovska Anna**	**1.12**	**154**	*e*PG	**Pn**	**21 48 00.5**	**-0.2**
LANS				*e*SG	**Sn**	**21 48 16.9**	**+0.1**
LANS				*e*LG	Lg	21 48 21.5	
KRLC	**Kraliky**	**1.26**	**267**	*e*PG	**Pg**	**21 48 01.8**	**-0.1**
KR

ISC 17 21:54:41.5±1.9, 19°.23N±0°.08×67°.18W±0°.04, h13km±10km, n38, σ0°.56/47, 13C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76 175**			**Pb**	**21 54 57.0**	**+0.4**
AGPR					**Sb**	**21 55 07.4**	**+5.5**
AGPR	**Aguadilla, PR**	**0.76 175**		⇓*e*P	**Pb**	**21 54 57.0**	**+0.4**
AGPR	**Aguadilla, PR**	**0.76 175**		*e*S	**Sb**	**21 55 07.4**	**+5.5**
AGPR	**Aguadilla, PR**	**0.76 175**		⇑*i*P	**Pg**	**21 54 55.9**	**-0.4**
AGPR				⇑*i*S	**Sg**	**21 55 06.9**	**+0.7**
	comp=N,116nm,0.3s						
AGPR				IAML		21 55 08.7	
	comp=N,116nm,0.3s						
IDE	**Isla Desecheo**	**0.89 199**			**Pg**	**21 54 58.6**	**0.0**
IDE					**Sg**	**21 55 10.5**	**+0.3**
IDE	**Isla Desecheo**	**0.89 199**		⇓*i*P	**Pg**	**21 54 58.6**	**0.0**
IDE	**Isla Desecheo**	**0.89 199**		*e*S	**Sg**	**21 55 10.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.97 155**			**Sb**	**21 55 13.1**	**+0.2**
AOPR				IAML		21 55 16.3	
	comp=N,78nm,0.3s						
AOPR	**Arecibo Observ**	**0.97 155**			**Pn**	**21 55 01.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.97 155**		⇑*e*P	**Pn**	**21 55 01.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.97 155**		*i* P	**Pn**	**21 55 01.1**	**+0.3**
AOPR				⇑*i*S	**Sb**	**21 55 13.0**	**+0.2**
AOPR				IAML		21 55 16.3	
	comp=N,75nm,0.3s						
LSP	**Las Mesas**	**1.05 175**			**Pb**	**21 55 01.6**	**0.0**
LSP					**Sg**	**21 55 16.1**	**+0.5**
LSP	**Las Mesas**	**1.05 175**		⇓*e*P	**Pb**	**21 55 01.6**	**0.0**
LSP	**Las Mesas**	**1.05 175**		*e*S	**Sg**	**21 55 16.1**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.06 156**			**Sg**	**21 55 16.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.06 156**		*e*S	**Sg**	**21 55 16.1**	**+0.2**
ECPR	**Experimental S**	**1.19 139**		⇑*e*P	**Pg**	**21 55 05.8**	**+1.4**
ECPR	**Experimental S**	**1.19 139**		*e*S	**Sn**	**21 55 21.0**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.22 177**			**Pn**	**21 55 03.9**	**-0.4**
CRPR					**Sb**	**21 55 19.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.22 177**		IAML		21 55 28.5	
	comp=N,25nm,1.1s						
CRPR				IAML		21 55 32.4	
	comp=E,26nm,1.6s						
CRPR	**Cabo Rojo, PR**	**1.22 177**		⇓*e*P	**Pn**	**21 55 03.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.22 177**		⇑*i*P	**Pn**	**21 55 03.8**	**-0.4**
CRPR				⇑*i*S	**Sb**	**21 55 19.3**	**-0.8**
	comp=N,30nm,0.9s						
CRPR				IAML		21 55 28.5	
	comp=N,30nm,0.9s						
MLPR	**Magueyes Islan**	**1.26 174**		⇑*i*P	**Pn**	**21 55 04.4**	**-0.4**
MLPR	**Magueyes Islan**	**1.26 174**		*i* P	**Pn**	**21 55 03.6**	**-1.3**
MLPR				⇑*i*S	**Sb**	**21 55 20.2**	**-1.0**
	comp=N,5.0nm,0.8s						
MLPR				IAML		21 55 30.9	
	comp=N,5.0nm,0.8s						
CELP	**Cerrillos**	**1.28 154**			**Sn**	**21 55 22.3**	**+0.1**
CELP	**Cerrillos**	**1.28 154**			**Pb**	**21 55 05.2**	**-0.3**
CELP				IAML		21 55 26.7	
	comp=E,26nm,0.4s						
CELP				IAML		21 55 26.7	
	comp=N,33nm,0.3s						
CELP	**Cerrillos**	**1.28 154**		⇓*i*P	**Pg**	**21 55 05.8**	**-0.4**
CELP	**Cerrillos**	**1.28 154**		⇑*i*P	**Pb**	**21 55 05.4**	**-0.1**
CELP				⇑*i*S	**Sg**	**21 55 22.5**	**-0.3**
	comp=N,33nm,0.3s						
CELP				IAML		21 55 26.6	
	comp=N,33nm,0.3s						
OBIP	**Obispado Ponce**	**1.30 155**			**Sb**	**21 55 22.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.30 155**			**Pg**	**21 55 05.8**	**-0.7**
OBIP				IAML		21 55 24.9	
	comp=E,35nm,0.4s						
OBIP				IAML		21 55 24.9	
	comp=N,40nm,0.5s						
OBIP	**Obispado Ponce**	**1.30 155**		⇓*e*P	**Pg**	**21 55 05.9**	**-0.6**
OBIP	**Obispado Ponce**	**1.30 155**		*e*S	**Sb**	**21 55 22.4**	**-0.1**
SJG	**San Juan**	**1.48 139**	Pn		**Pb**	**21 55 08.0**	**-0.9**
PDPR	**Patillas Dam,**	**1.63 138**	Pn		**Pn**	**21 55 09.9**	**0.0**
PDPR	**Patillas Dam,**	**1.63 138**		⇑*e*P	**Pb**	**21 55 11.0**	**-0.4**
PDPR	**Patillas Dam,**	**1.63 138**		*e*S	**Sg**	**21 55 33.2**	**-0.7**
DR12	**Loma Pena Alta**	**2.13 258**			**Pn**	**21 55 17.6**	**+0.7**
HATOM	**Hato Mayor del**	**2.13 258**		⇑*i*P	**Pb**	**21 55 19.3**	**-0.7**
HATOM				⇑*i*S	**Sn**	**21 55 43.4**	**+0.1**
	comp=N,12nm,1.2s						
HATOM				IAML		21 55 50.7	
	comp=N,12nm,1.2s						

NEIC 17 22:00:10.7±1.4, 23°.9S±0°.1×179°.9E±0°.1, h519km±12km, mb4.3/18, Error ellipse: s-maj=20.8km s-min=10.4km az=138.0
IDC 17 22:00:22.5±23.0, 21°.75S×178°.91E, h650km±312km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=247.0km s-min=103.2km az=166.0

ISC 17 22:00:10.3±0.7, 23°.8S±0°.1×179°.9E±0°.1, h526km, n29, σ1°.20/28, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.81 160**		P	**P**	**22 01 45.5**	**-0.4**
MSVF	**Nonsavu**	**6.24 344**		P	**P**	**22 01 50.1**	**-0.2**
PINNC	**Pines Island,**	**11.48 273**		P	**P**	**22 02 44.4**	**+1.0**
ONTNC	**Ouen Toro**	**12.43 274**		P	**P**	**22 02 53.4**	**0.0**
AFI	**Afiamalu**	**12.60 40**		P	**P**	**22 02 55.8**	**+0.4**
THZ	**Tophouse**	**18.86 196**		P	**P**	**22 03 55.9**	**-1.2**
LTZ	**Lake Taylor**	**19.97 197**		P	**P**	**22 04 06.6**	**-0.7**
WHZ	**Wether Hill Ro**	**24.08 201**		P	**P**	**22 04 43.9**	**-0.1**
WHZ				IAmb	IAmb	22 05 27.8	
	comp=Z,28nm,1.3s						
ARMA	**Armidale**	**25.95 249**		P	**P**	**22 05 01.8**	**+0.9**
ARMA				IAmb	IAmb	22 05 05.1	
	comp=Z,11nm,1.2s						
EIDS	**Eidsvold**	**26.20 261**		P	**P**	**22 05 03.6**	**+0.6**
EIDS				IAmb	IAmb	22 05 18.3	
	comp=Z,22nm,1.4s						
CAN	**Canberra**	**29.09 240**		P	**P**	**22 05 28.4**	**+0.1**
CAN				IAmb	IAmb	22 05 31.7	
	comp=Z,39nm,1.5s						
TOO	**Toolangi**	**32.41 237**		P	**P**	**22 05 56.6**	**-0.2**
TOO				IAmb	IAmb	22 06 37.7	
	comp=Z,7.3nm,1.3s						
BBOO	**Buckleboo**	**39.38 247**		P	**P**	**22 06 53.8**	**-0.8**
AS31	**Alice Springs**	**41.93 261**		P	**P**	**22 07 14.9**	**-0.1**
ASAR	**Alice Springs**	**41.93 261**		P	**P**	**22 07 15.4**	**+0.4**
ASAR	**Alice Springs**	**41.93 261**		P	**P**	**22 07 14.9**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=100,slow=7.1,SNR=26						
	comp=Z,3.2nm,0.8s						
WR8	**Warramunga Arr**	**42.14 266**		P	**P**	**22 07 16.3**	**-0.4**
WR8				IAmb	IAmb	22 07 31.8	
	comp=Z,5.3nm,1.1s						
WB0	**Warramunga Arr**	**42.28 266**		P	**P**	**22 07 17.4**	**-0.4**
WB0				IAmb	IAmb	22 07 17.9	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**42.29 266**		P	**P**	**22 07 17.3**	**-0.5**
WRA	**Warramunga Arr**	**42.29 266**		P	**P**	**22 07 17.4**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=95,slow=8.3,SNR=16						
	comp=Z,4.0nm,0.6s						
FORT	**Forrest**	**46.23 249**		P	**P**	**22 07 47.6**	**-0.6**
FORT				IAmb	IAmb	22 07 50.9	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**48.56 270**		P	**P**	**22 08 06.0**	**+0.1**
KNRA				IAmb	IAmb	22 08 47.4	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.71 266**		P	**P**	**22 08 22.1**	**+0.5**
CASY	**Casey**	**60.17 206**		P	**P**	**22 09 27.8**	**+1.1**
CASY				IAmb	IAmb	22 09 56.3	
	comp=Z,33nm,1.5s						
QSPA	**South Pole Qui**	**66.31 180**		P	**P**	**22 10 07.9**	**+1.6**
TXAR	**Lajitas Array**	**90.47 58**		P	**P**	**22 12 16.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=209,slow=7.0,SNR=5.1						
	comp=Z,0.4nm,0.6s						
E25K	**Arctic Village**	**95.10 12**		P	**P**	**22 12 38.0**	**+1.7**
HFS	**Hagfors**	**142.40 349**				22 18 37.7	
HFS	**Hagfors**	**142.40 349**		PKP	**PKPdf**	**22 18 37.7**	**-4.8**
	comp=Z,0.8nm,0.4s,baz=45,slow=2.2,SNR=8.7						

ROM 17 22:03:55.5±0.3, 39°.18N±0°.01×17°.16E±0°.02, h9km±1km, ML2.7/27, Error ellipse: s-maj=1.8km s-min=1.1km az=311.0
BEO 17 22:03:57.5±0.7, 39°.36N×17°.00E, h15km, ML2.7/7

ISC 17 22:03:56.2±1.1, 39°.24N±0°.04×17°.13E±0°.03, h18km±3km, n43, σ1°.14/56, 3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.12 289**		⇓P	**Pg**	**22 03 59.7**	**-0.5**
LADO				S	**Sg**	**22 04 03.6**	**+0.7**
LADO				AML	AML		
	comp=E,3200μm,0.3s						
LADO				AML	AML		
	comp=N,1610μm,0.4s						
TIP	**Timpagrande**	**0.30 258**		⇓P	**Pg**	**22 04 02.5**	**-0.3**
TIP				S	**Sb**	**22 04 07.9**	**+0.4**
TIP				AML	AML		
	comp=N,1280μm,0.8s						
TIP				AML	AML		
	comp=E,1260μm,0.7s						
TIP				AML	AML		
	comp=N,1305μm,0.7s						
TIP				AML	AML		
	comp=E,1295μm,0.7s						
TIP				AML	AML		
	comp=E,1260μm,1.3s						
TIP				AML	AML		
	comp=N,1275μm,0.8s						
TIP				AML	AML		
	comp=E,1295μm,1.3s						
CELI	**Celico**	**0.51 289**		⇓P	**Pb**	**22 04 06.4**	**-0.3**
CELI				S	**Sb**	**22 04 15.0**	**+1.2**
CELI				AML	AML		
	comp=E,1205μm,0.8s						
CELI				AML	AML		
	comp=N,1050μm,0.6s						
CELI				AML	AML		
	comp=E,3040μm,0.8s						
CELI				AML	AML		
	comp=E,1210μm,0.8s						
CELI				AML	AML		
	comp=N,1051μm,0.6s						
CELI				AML	AML		
	comp=N,2590μm,0.6s						
SPS2	**Spezzano della**	**0.62 275**		P	**Pg**	**22 04 07.7**	**-0.8**
SPS2				AML	AML		
	comp=E,371μm,0.8s						
SPS2				AML	AML		
	comp=N,780μm,0.3s						
SPS2				AML	AML		
	comp=E,371μm,1.2s						
GRI	**Girifalco**	**0.69 233**		P	**Pg**	**22 04 09.1**	**-0.8**
CAR1	**CAROLEI**	**0.71 271**		P	**Pg**	**22 04 09.7**	**-0.5**
CAR1				S	**Sn**	**22 04 21.8**	**-0.2**
CAR1				AML	AML		
	comp=E,890μm,0.6s						
CAR1				AML	AML		
	comp=N,1120μm,0.8s						
CAR1				AML	AML		
	comp=N,1004μm,0.8s						
CAR1				AML	AML		
	comp=E,890μm,0.6s						
CAR1				AML	AML		
	comp=E,1035μm,1.3s						
CAR1				AML	AML		
	comp=E,759μm,0.4s						
CAR1				AML	AML		
	comp=N,1004μm,1.2s						
CAR1				AML	AML		
	comp=E,890μm,1.4s						
CAR1				AML	AML		
	comp=E,759μm,1.6s						
CAR1				AML	AML		
	comp=N,1120μm,1.2s						
TDS	**Terranova Siba**	**0.74 304**		P	**Pg**	**22 04 09.8**	**-1.0**
TDS				S	**Sn**	**22 04 22.4**	**-0.2**
TDS				AML	AML		
	comp=E,351μm,1.3s						
TDS				AML	AML		
	comp=E,351μm,0.7s						
TDS				AML	AML		
	comp=N,351μm,0.9s						
SALB	**San Lorenzo Be**	**0.88 317**		P	**Pg**	**22 04 12.3**	**-1.0**
SALB				AML	AML		
	comp=E,292μm,0.9s						
SALB				AML	AML		
	comp=N,178μm,1.0s						
SALB				AML	AML		
	comp=N,178μm,1.0s						
SALB				AML	AML		
	comp=N,178μm,1.0s						
SALB				AML	AML		
	comp=E,292μm,1.1s						
CET2	**Cetraro**	**0.95 288**		P	**Pg**	**22 04 13.9**	**-0.9**
CET2				AML	AML		
	comp=N,988μm,0.6s						
CET2				AML	AML		
	comp=N,988μm,1.4s						
CET2				AML	AML		
	comp=E,466μm,0.5s						
PLAC	**Placanica**	**0.96 215**		P	**Pg**	**22 04 13.8**	**-1.1**
PLAC				AML	AML		
	comp=E,328μm,0.7s						
PLAC				AML	AML		
	comp=N,379μm,0.6s						
PLAC				AML	AML		
	comp=E,396μm,0.6s						
PLAC				AML	AML		
	comp=N,338μm,1.3s						
PLAC				AML	AML		
	comp=E,396μm,1.4s						
PLAC				AML	AML		
	comp=N,379μm,1.4s						
PLAC				AML	AML		
	comp=E,328μm,1.3s						
ORI	**Oriolo Calabro**	**0.97 328**		P	**Pb**	**22 04 15.0**	**+0.4**
MMN	**Mormanno**	**1.09 307**		P	**Pn**	**22 04 17.3**	**+0.7**
GRIS	**Grisolia**	**1.11 297**		P	**Pb**	**22 04 16.5**	**-0.4**
TAR1	**Taranto**	**1.29 5**		P	**Pg**	**22 04 20.9**	**-0.2**
MATE	**Matera**	**1.44 347**		P	**Pg**	**22 04 23.5**	**-0.5**
MESG	**Mesagne**	**1.45 22**		P	**Pb**	**22 04 23.5**	**+0.8**
MIGL	**Miglionico**	**1.46 339**		P	**Pg**	**22 04 24.0**	**-0.4**
MIGL				AML	AML		
	comp=E,541μm,1.6s						
MIGL				AML	AML		
	comp=E,541μm,0.4s						
MIGL				AML	AML		
	comp=N,704μm,0.6s						
IGT	**Igoumenitsa**	**2.50 82**		*e*Pn	**Pn**	**22 04 38.5**	**+2.5**
IGT				*e*Sn	**Sb**	**22 05 10.8**	**-0.2**
HLNI	**Lentini**	**2.59 224**		P	**Pn**	**22 04 37.8**	**+0.6**
MELA	**Melanico ??? S**	**2.90 329**		AML	AML		
	comp=E,99μm,0.7s						
MELA				AML	AML		
	comp=N,74μm,1.2s						
DRME	**Dracevica, Mon**	**3.33 27**		*e*Pn	**Pn**	**22 04 48.8**	**+1.4**
PDG	**Podgorica**	**3.57 26**		*e*Pn	**Pn**	**22 04 50.8**	**+0.2**
PDG				*e*Sn	**Sn**	**22 05 31.2**	**-1.1**
TREB	**Trebinje**	**3.59 15**		*e*Pn	**Pn**	**22 04 49.6**	**-1.4**
STON	**Ston**	**3.65 7**		*e*Pn	**Pn**	**22 04 52.7**	**+0.9**
STON	**Ston**	**3.65 7**		*e*Pn	**Pn**	**22 04 53.2**	**+1.4**
KOME	**Kolasin**	**4.03 26**		*e*Pn	**Pn**	**22 04 58.4**	**+1.3**
KOME				*e*Sn	**Sn**	**22 05 43.2**	**-0.7**
BEY	**Berane**	**4.18 29**		*e*Pn	**Pn**	**22 04 59.5**	**+0.3**
BEY				*e*Sn	**Sn**	**22 05 46.6**	**-1.0**
SJES	**Sjenica**	**4.55 27**		*e*Pn	**Pn**	**22 05 04.0**	**-0.3**
SJES				*e*Sn	**Sn**	**22 05 55.2**	**-1.5**
RUDO	**Rudo**	**4.68 20**		*e*Pn	**Pn**	**22 05 04.6**	**-1.4**
RUDO	**Rudo**	**4.68 20**		*e*Pn	**Pn**	**22 05 06.1**	**+0.1**
RUDO				*e*Sn	**Sn**	**22 05 57.6**	**-2.3**
KIJV	**Kijevo**	**4.79 354**		*e*Pn	**Pn**	**22 05 08.7**	**+1.3**
IVAS	**Ivanjica**	**4.89 27**		*e*Pn	**Pn**	**22 05 10.3**	**+1.4**
BBLS	**Lazi&#263i**	**4.92 20**		*e*Pn	**Pn**	**22 05 10.7**	**+1.3**
BBLS				*e*Sn	**Sn**	**22 06 04.1**	**-1.8**
SELS	**Selova**	**4.98 36**		*e*Pn	**Pn**	**22 05 10.6**	**+0.5**
SELS				*e*Sn	**Sn**	**22 06 06.0**	**-1.2**
GOCS	**Kraljevo Serbi**	**5.15 32**		*e*Pn	**Pn**	**22 05 11.8**	**-0.7**
GOCS				*e*Sn	**Sn**	**22 06 11.2**	**-0.3**
BLY	**Banja Luka**	**5.50 0**		*e*Pn	**Pn**	**22 05 20.0**	**+2.8**
BLY	**Banja Luka**	**5.50 0**		*e*Pn	**Pn**	**22 05 17.3**	**+0.1**
TRUS	**Trudelj**	**5.55 25**		*e*Pn	**Pn**	**22 05 17.2**	**-0.6**
TEKS	**Tekeris**	**5.60 18**		*e*Pn	**Pn**	**22 05 19.0**	**+0.5**
ZAPS	**Zavoj**	**5.78 44**		*e*Pn	**Pn**	**22 05 22.4**	**+1.3**
ZAGS	**Zajecar**	**5.96 38**		*e*Pn	**Pn**	**22 05 23.0**	**-0.5**
MOSL	**Moslavina**	**6.37 358**		*e*Pn	**Pn**	**22 05 29.8**	**+0.6**
OZLJ	**Ozalj**	**6.49 350**		*e*Pn	**Pn**	**22 05 33.4**	**+2.7**

AFAD 17 22:11:36.9, 40°.87N×28°.27E, h7km±2km, ML0.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.31 23**		P	Pg	22 11 43.2	+0.3
ELBA				S	Sg	22 11 47.4	+0.4
ELBA				*i* IAML		22 11 48.0	
	comp=E,10nm,0.1s						
ELBA				*i* IAML		22 11 50.0	
	comp=N,12nm,0.3s						
BAND	**Balkesir-Ban**	**0.53 194**		P	Pg	22 11 47.7	+0.7
BAND				S	Sb	22 11 55.2	-1.1
BAND				*i* IAML		22 11 57.0	
	comp=E,5.1nm,1.0s						
BAND				*i* IAML		22 12 02.0	
	comp=N,7.9nm,1.1s						
VIZE	**Kirklareli, Vi**	**0.78 336**		P	Pg	22 11 52.3	+0.4
VIZE				S	Sb	22 12 02.9	-0.8
VIZE				*i* IAML		22 12 06.0	
	comp=N,5.1nm,0.1s						
ARMN	**Kirklareli, Me**	**1.18 328**		P	Pg	22 11 59.2	-0.4
ARMN				S	Sb	22 12 15.3	+0.1
ARMN				*i* IAML		22 12 18.0	
	comp=N,2.0nm,0.4s						
ARMN				*i* IAML		22 12 26.0	
	comp=E,1.7nm,0.5s						

ISK 17 22:12:10.7, 38°.99N×29°.02E, h14km±1km, ML1.0/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.12 346**		Pg	Pg	22 12 14.2	0.0
SMAA				Sg	Sg	22 12 16.9	+0.4
SHAP	**Saphane-Kutahy**	**0.16 78**		Pg	Pg	22 12 15.0	+0.2
SHAP				Sg	Sg	22 12 18.1	+0.5
GEDZ	**Gediz**	**0.31 79**		Pg	Pg	22 12 17.6	+0.4
KULA	**Kula-Manisa**	**0.55 211**		Pg	Pb	22 12 21.9	-0.2

JMA 17 22:22:03.6±0.2, 23°.8N±0°.7×122°.1E±0°.8, h28km, MV2.7/9, TAIWAN REGION
TAP 17 22:22:04.0, 23°.72N×122°.06E, h28km, ML3.5, D

ISC 17 22:22:03.3±1.0, 23°.71N±0°.02×122°.07E±0°.02, h26km±10km, n123, σ0°.69/204, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.46 291**		P	**Pb**	**22 22 13.1**	**+0.2**
TEYL				S	**Sn**	**22 22 21.0**	**-0.6**
EOS4	**EOS4**	**0.47 29**		*i* P	**Pb**	**22 22 13.2**	**+0.4**
EOS4				*i* S	**Sb**	**22 22 20.2**	**+0.9**
SHUL	**Shoufeng**	**0.47 280**		*i* P	**Pb**	**22 22 13.5**	**+0.4**
SHUL				*i* S	**Sb**	**22 22 20.6**	**+0.9**
TEGC	**Jichi Village**	**0.49 271**		P	**Pb**	**22 22 13.6**	**+0.2**
TEGC				S	**Sn**	**22 22 21.6**	**-0.6**
HWA	**Hwalien**	**0.51 303**		*i* P	**Pb**	**22 22 13.4**	**-0.2**
HWA				*i* S	**Sn**	**22 22 21.8**	**-0.9**
TWD	**Chiawan**	**0.57 311**		⇓*i*P	**Pb**	**22 22 14.3**	**-0.5**
TWD				*i* S	**Sb**	**22 22 22.2**	**-0.3**
ETM	**Tongmen**	**0.59 296**		P	**Pb**	**22 22 14.4**	**-0.6**
ETM				S	**Sb**	**22 22 23.5**	**+0.4**
EGFH	**Guangfu**	**0.59 267**		*e*P	**Pb**	**22 22 15.2**	**+0.1**
EGFH				*e*S	**Sb**	**22 22 24.1**	**+1.0**
ESL	**Shilin**	**0.59 281**		*i* P	**Pb**	**22 22 14.4**	**-0.8**
ESL				S	**Sb**	**22 22 23.3**	**+0.1**
ETL	**Fush Village**	**0.61 318**		P	**Pb**	**22 22 14.8**	**-0.6**
ETL				S	**Sb**	**22 22 23.4**	**-0.3**
EOS3	**EOS3**	**0.62 21**		*i* P	**Pb**	**22 22 15.9**	**+0.4**
EOS3				*i* S	**Sn**	**22 22 25.1**	**-0.3**
WARBT	**Fenglin Townsh**	**0.63 271**		⇓*i*P	**Pb**	**22 22 15.1**	**-0.6**
WARBT				S	**Sb**	**22 22 23.5**	**-0.6**
HGSD	**Ruisui**	**0.63 250**		⇑*i*P	**Pb**	**22 22 15.5**	**-0.3**
HGSD				S	**Sb**	**22 22 24.4**	**+0.2**
NACB	**Ninganchiao**	**0.64 317**		P	**Pb**	**22 22 15.1**	**-0.7**
NACB	**Ninganchiao**	**0.64 317**		S	**Sb**	**22 22 23.4**	**-1.1**
NACB	**Ninganchiao**	**0.64 317**		⇓*i*P	**Pb**	**22 22 15.2**	**-0.7**
NACB				S	**Sb**	**22 22 23.4**	**-1.1**
LXIB	**Xiulin Townshi**	**0.68 298**		⇑*i*P	**Pb**	**22 22 16.1**	**-0.5**
LXIB				*i* S	**Sb**	**22 22 25.9**	**+0.1**
ECBN	**Changbin**	**0.69 236**		P	**Pb**	**22 22 16.8**	**+0.1**
ECBN				S	**Sb**	**22 22 26.2**	**+0.4**
EAHA	**Aohua**	**0.69 334**		P	**Pb**	**22 22 16.6**	**-0.1**
EAHA				S	**Sb**	**22 22 26.1**	**+0.2**
EHYH	**Wanrong**	**0.70 253**		P	**Pb**	**22 22 17.2**	**+0.3**
EHYH				*i* S	**Sb**	**22 22 26.8**	**+0.7**
EHY	**Hungye**	**0.71 254**		*i* P	**Pb**	**22 22 17.1**	**-0.1**
EHY				*i* S	**Sb**	**22 22 26.4**	**-0.2**
EOS2	**EOS2**	**0.73 12**		P	**Pn**	**22 22 17.7**	**0.0**
EOS2				S	**Sb**	**22 22 27.0**	**+0.2**
ETLH	**Xiulin Townshi**	**0.73 313**		P	**Pb**	**22 22 16.9**	**-0.7**
YULB	**Yu-li**	**0.78 246**		P	**Pb**	**22 22 18.3**	**+0.1**
YULB	**Yu-li**	**0.78 246**		S	**Sb**	**22 22 28.9**	**+0.6**
YULB	**Yu-li**	**0.78 246**		P	**Pb**	**22 22 18.2**	**+0.1**
YULB				S	**Sb**	**22 22 28.7**	**+0.3**
EYUL	**Yuli**	**0.78 243**		P	**Pb**	**22 22 17.6**	**-0.5**
EYUL				S	**Sb**	**22 22 28.8**	**+0.5**
ENA	**Nanau**	**0.78 337**		*i* P	**Pb**	**22 22 18.1**	**-0.1**
ENA				*i* S	**Sn**	**22 22 28.6**	**-0.9**
EWUT	**Wuta**	**0.78 340**		P	**Pn**	**22 22 18.5**	**-0.1**
EWUT				*e*S	**Sn**	**22 22 28.9**	**-0.7**
TWF1	**Yuli**	**0.79 244**		*i* P	**Pb**	**22 22 18.4**	**-0.1**
TWF1				*i* S	**Sb**	**22 22 29.4**	**+0.6**
CHKH	**Chenggong**	**0.80 231**		*i* P	**Pb**	**22 22 17.5**	**-1.1**
CHKH				S	**Sb**	**22 22 28.3**	**-0.8**
VWDT	**VWDT**	**0.85 273**		P	**Pn**	**22 22 19.0**	**-0.6**
VWDT				S	**Sb**	**22 22 30.5**	**-0.1**
OWD	**Renai**	**0.86 287**		P	**Pb**	**22 22 19.4**	**-0.2**
OWD				S	**Sb**	**22 22 30.8**	**0.0**
WHF	**Hehuan Shan**	**0.86 301**		P	**Pb**	**22 22 18.9**	**-0.9**
WHF				*i* S	**Sb**	**22 22 30.4**	**-0.7**
FULB	**Fuli**	**0.87 235**		*i* P	**Pn**	**22 22 19.0**	**-0.9**
FULB				*i* S	**Sb**	**22 22 30.5**	**-0.7**
CHKT	**Chengkung**	**0.89 227**		*i* P	**Pn**	**22 22 18.8**	**-1.3**
CHKT				*i* S	**Sb**	**22 22 29.9**	**-1.5**
WUSB	**Renai**	**0.92 288**		*e*P	**Pn**	**22 22 20.2**	**-0.4**
WUSB				S	**Sn**	**22 22 33.1**	**+0.1**
TWC	**Suao**	**0.92 347**		P	**Pb**	**22 22 20.7**	**0.0**
TWC				S	**Sb**	**22 22 32.2**	**-0.3**
FUSS	**Fushou**	**0.93 306**		*e*P	**Pn**	**22 22 20.4**	**-0.5**
FUSS				S	**Sb**	**22 22 32.5**	**-0.5**
NNSB	**Datong**	**0.96 319**		*i* P	**Pn**	**22 22 20.8**	**-0.3**
NNSB				*i* S	**Sb**	**22 22 33.4**	**-0.3**

WHP	Taichung City	1.18	299	P		Pb	22 22 25.0 0.0
WHP				eS		Sb	22 22 39.6 -0.3
ALS	Alishan	1.18	261	eP		Pn	22 22 24.9 +0.6
ALS				S		Sn	22 22 40.0 +0.3
NWLT	Wulai	1.19	334	eP		Pb	22 22 24.8 -0.3
NWLT				i S		Sb	22 22 39.7 -0.5
TWGBT	Beinan	1.27	226	P		Pn	22 22 24.8 -0.6
TWGBT	Beinan	1.27	226	S		Sn	22 22 42.2 +0.6
TWGBT	Beinan	1.27	226	eP		Pn	22 22 24.9 -0.4
TWGBT				eS		Sn	22 22 42.0 +0.5
TTN	Taitung	1.27	222	eP		Pn	22 22 25.9 +0.6
TWG	Pinlang	1.27	226	P		Pn	22 22 24.8 -0.6
TWG				eS		Sn	22 22 41.0 -0.7
TIPB	Shuangxi	1.28	350	eP		Pb	22 22 26.9 +0.1
TIPB				eS		Sb	22 22 43.9 +1.1
CHN5	Tsauling	1.28	265	i P		Pb	22 22 27.1 +0.2
CHN5				i S		Sb	22 22 43.6 +0.7
WNT	Mingjian	1.28	278	eP		Pb	22 22 26.8 0.0
STYH	Taoyuan	1.30	246	i P		Pn	22 22 26.5 +0.7
STYH				S		Sn	22 22 43.1 +0.7
NSTT	Nanjuang	1.34	314	eP		Pb	22 22 27.9 +0.1
NSTT				S		Sb	22 22 44.4 -0.3
KSHI	Guanxi Townshi	1.34	323	eP		Pb	22 22 28.4 +0.6
LIOB	Emei	1.34	314	i P		Pb	22 22 28.1 +0.2
LIOB				eS		Sb	22 22 44.5 -0.1
TWA	Mucha	1.34	341	eS		Sb	22 22 44.7 0.0
TWQ1	Liyutan	1.35	299	eP		Pb	22 22 27.7 -0.2
WCKO	Fanlu	1.37	259	eP		Pb	22 22 29.2 +0.9
WCKO				S		Sb	22 22 46.5 +1.1
TATO	Taipei	1.37	337	S		Sb	22 22 46.0 +0.6
TPUB	Ta-pu	1.38	253	P		Pb	22 22 28.4 -0.1
TPUB	Ta-pu	1.38	253	S		Sb	22 22 46.5 +0.7
TPUB	Ta-pu	1.38	253	eP		Pb	22 22 28.7 +0.2
TPUB				S		Sb	22 22 46.8 +1.0
NWF	Wu-fen Shan	1.39	349	eP		Pb	22 22 28.4 -0.2
NWF				S		Sb	22 22 45.1 -0.8
WFSB	Wu-fen Shan	1.39	349	eP		Pb	22 22 28.6 0.0
WFSB				i S		Sb	22 22 45.4 -0.5
NSY	Sanyi	1.39	301	eS		Sb	22 22 47.9 +1.9
SXI1	Grass Mountain	1.40	353	i P		Pb	22 22 28.4 -0.4
SXI1				i S		Sn	22 22 44.8 0.0
NHY	Taipei	1.41	341	eP		Pb	22 22 29.0 +0.1
WDLH	Douliu	1.41	270	eP		Pb	22 22 28.9 +0.1
WDLH				i S		Sb	22 22 47.3 +1.0
NMLH	Miaoli	1.43	306	eP		Pb	22 22 30.5 +1.1
WCHH	Zhanghua	1.43	285	eP		Pb	22 22 29.9 +0.6
SBCB	Hsinchu	1.47	318	eP		Pb	22 22 29.9 0.0
SBCB				eS		Sb	22 22 50.5 +2.3
CHN2	Minshiung	1.47	264	eS		Sb	22 22 49.9 +1.5
HSN	Hsinchu	1.48	318	eP		Pb	22 22 30.3 +0.1
HSN				i S		Sb	22 22 49.1 +0.4
NCUH	Zhongli	1.50	327	eP		Pb	22 22 30.3 -0.1
NCUH				eS		Sb	22 22 49.0 0.0
YM01	YM01	1.51	342	eP		Pb	22 22 30.6 0.0
YM01				eS		Sb	22 22 49.1 -0.2
ECL	Taimali	1.51	223	eP		Pn	22 22 27.9 -0.7
CHN1	Nanshi	1.51	250	eP		Pb	22 22 30.9 +0.2
TWS1	Kuangyinshan	1.51	337	eP		Pb	22 22 31.1 +0.4
TWK	Hsinying	1.52	254	P		Pb	22 22 30.7 -0.1
TWK				eS		Sb	22 22 50.7 +1.1
SNST	Tainan City	1.52	252	eS		Sb	22 22 50.6 +0.9
CHY	Chiayi	1.52	263	eS		Sb	22 22 50.7 +0.9
ZUZH	Zhuzihu	1.53	342	eP		Pb	22 22 30.4 -0.6
ZUZH				S		Sb	22 22 48.8 -1.2
YM08	YM08	1.54	344	eP		Pb	22 22 30.5 -0.7
YM08				S		Sb	22 22 49.2 -1.1
WTK	Tuku	1.54	270	eP		Pb	22 22 32.1 +1.0
IRIF	Iriomote-Funau	1.64	67	eS		Sn	22 22 51.7 +1.0
SCST	Cishan	1.66	241	eS		Sb	22 22 55.8 +2.0
WSL	Shuilin Townsh	1.70	264	eP		Pb	22 22 32.9 -1.0
WSL				S		Sn	22 22 53.5 +1.3
MASBT	Mashibuluo	1.71	231	eP		Pn	22 22 32.5 +1.0
MASBT				S		Sn	22 22 52.8 +0.3
TAW	Tawu	1.72	219	eS		Sn	22 22 51.5 -1.2
CHN8	Yiju	1.74	259	eS		Sb	22 22 56.1 0.0
LYUB	Lan-yu	1.75	195	eP		Pn	22 22 30.3 -1.7
TSCK	Chigu Township	1.91	253	eP		Pn	22 22 35.6 +1.5
TSCK				S		Sb	22 23 00.4 -0.3
JIJ	Ishigaki jima	2.00	70	eP		Pn	22 22 36.2 +0.7
JIJ				eS		Sn	22 22 59.5 -0.2
JISG	Ishigakijimahi	2.23	66	eP		Pn	22 22 39.1 +0.6
JISG				eS		Sn	22 23 04.1 -1.1
PHUB	P'eng-hu	2.30	266	eP		Pn	22 22 40.9 +1.4
PHUB				i S		Sn	22 23 07.9 +0.9
PTMZ	Houxiangcun	3.00	297	i P		Pn	22 22 49.6 +0.5
PTMZ				S		Sn	22 23 23.5 -0.8

IDC 17 22:26:22.6±11.0, 56°.05S×27°.43W, h192km±105km, mb3.3/3, mbtmp3.8/3, Error ellipse: s-maj=56.2km s-min=24.0km az=85.0

ISC 17 22:26:13.9±1.0, 56°.1S±0°.2×27°.3W±0°.4, h100km, n9, σ1§75/9, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.81	158	⇓P	Pn	22 30 01.1	-1.7
	comp=Z,1.0nm,0.6s						
VNA3	Neumayer Olymp	17.01	160	⇓P	P	22 30 05.6	+0.2
	comp=Z,1.9nm,0.6s						
VNA2	Neumayer--Watz	17.21	158	⇓P	Pn	22 30 07.5	-0.1
	comp=Z,3.5nm,0.5s,baz=308,slow=9.3						
SNAA	Sanae	18.76	156	⇓P	P	22 30 25.3	+0.6
	comp=Z,60nm,0.4s						
BDFB	Brasilia	43.34	330	P	P	22 34 05.0	-1.1
	comp=Z,2.4nm,0.7s,baz=174,slow=9.2,SNR=3.2						
	comp=Z,2.4nm,0.7s						
VNDA	Vanda	46.57	183	P	P	22 34 30.2	-0.6
	comp=Z,0.7nm,0.6s,baz=176,slow=5.8,SNR=7.5						
	comp=Z,0.7nm,0.6s						
TORD	Torodi Ar. Bea	73.09	30	P	P	22 37 32.0	-1.0
	comp=Z,0.3nm,0.5s,baz=196,slow=5.0,SNR=5.3						
	comp=Z,0.3nm,0.5s						
ILAR	Eielson Array	150.07	312	PKPbc	PKPdf	22 45 48.5	+2.4
	comp=Z,0.6nm,0.7s,baz=114,slow=2.3,SNR=4.7						
SONM	Songino Array	150.78	87	PKPbc	PKPdf	22 45 50.6	+2.6
	comp=Z,0.6nm,0.4s,baz=247,slow=3.3,SNR=3.6						

JMA 17 22:31:18.5±0.1, 39°.2N±0°.3×142°.4E±0°.7, h32km±1km, MV3.5/36, E OFF IWATE PREF
IDC 17 22:31:26.7±6.1, 39°.15N×141°.98E, h108km±65km, mb3.2/2, mbtmp3.5/4, Error ellipse: s-maj=88.4km s-min=26.3km az=103.0

ISC 17 22:31:18.2±2.4, 39°.17N±0°.07×142°.5E±0°.1, h25km±16km, n19, σ1§54/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.61	262	P	Pb	22 31 30.4	+0.1
OFUJ				S	Sb	22 31 38.8	+0.2
MIYJ	Miyakonagasawa	0.64	310	P	Pb	22 31 30.4	-0.4
MIYJ				S	Sb	22 31 38.6	-0.7
JKMT	Kesennumamotoy	0.84	245	i P	Pn	22 31 33.9	-0.6
JKMT				S	Sn	22 31 44.7	-1.2
JTH	Tanohata	0.89	330	i P	Pn	22 31 34.2	-1.0
JOM	Ohasama	0.95	289	P	Pn	22 31 35.5	-0.5
JOM				S	Sb	22 31 48.1	0.0
JMK	Ichinoseki	0.98	258	P	Pn	22 31 36.1	-0.3
JMK				S	Sn	22 31 48.9	-0.6
JIO	Ouri	1.11	231	P	Pn	22 31 37.7	-0.5
JKZ	Kuzumaki	1.19	314	P	Pn	22 31 39.1	-0.2
JANG	Nango	1.40	329	P	Pn	22 31 41.8	-0.5
MJAR	Matsushiro Arr	4.26	233	P	Pn	22 32 24.9	+3.4
	3.9nm,0.7s,baz=38,slow=12,SNR=14						
USRK	Ussuriysk Ar.	9.30	306	P	Pn	22 33 34.3	+3.7
	2.3nm,0.8s,baz=114,slow=14,SNR=6.2						
H11N2	WAKE ISLAND Hy 28.63	126		T	T	23 07 43.2	
	baz=318,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy 28.64	126		T	T	23 07 48.1	
	baz=318,slow=75,SNR=54						
H11N3	WAKE ISLAND Hy 28.65	126		T	T	23 07 48.9	
	baz=318,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy 29.42	127		T	T	23 08 44.1	
	baz=320,slow=76,SNR=4.4						
H11S3	WAKE ISLAND Hy 29.42	128		T	T	23 08 45.0	
	baz=320,slow=76,SNR=5.3						
H11S2	WAKE ISLAND Hy 29.44	128		T	T	23 08 46.6	
	baz=320,slow=76,SNR=5.2						
ILAR	Eielson Array	47.26	33	P	P	22 39 50.1	+1.1
	0.3nm,0.8s,baz=268,slow=6.2,SNR=2.8						
	0.3nm,0.8s						

WRA	Warramunga Arr	59.29	189	P	P	22 41 16.5	-1.3
	1.4nm,1.0s,baz=6.2,slow=7.0,SNR=6.3						
	1.4nm,1.0s						

MDD 17 22:46:19.4±0.3, 36°.92N×5°.02W, h0km, mb_Lg2.7/20, Error ellipse: s-maj=2.6km s-min=1.5km az=175.0
SFS 17 22:46:19.9, 36°.83N×4°.92W, h17km, ML2.8/11, ML2.6/13, MLv2.5/13
IGIL 17 22:46:20.1, 36°.92N×5°.02W, h0km
INMG 17 22:46:20.3±1.5, 36°.93N×5°.04W, h2km±2km, ML2.4, Error ellipse: s-maj=2.2km s-min=2.1km az=106.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Malaga (ESP)
CNRM 17 22:46:20.9, 37°.03N×5°.01W, h82km, ML2.4

ISC 17 22:46:19.1±1.0, 36°.92N±0°.02×5°.00W±0°.01, h8km±8km, n79, σ1§05/138, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	Villanueva de	0.19	312	Pg	Pg	22 46 23.4	+0.4
UMV12				Sg	Sg	22 46 25.5	-0.2
E1302	La Puebla de C	0.29	317	Pg	Pg	22 46 25.2	+0.4
E1302				Sg	Sg	22 46 28.7	+0.1
EMAL	Malaga-Limoner	0.48	109	Pg	Pg	22 46 27.4	-1.0
EMAL				Sg	Sg	22 46 33.8	-0.9
EJIF	Jimena Fronter	0.60	219	Pg	Pb	22 46 31.8	-0.1
EJIF				Sg	Sg	22 46 37.4	-1.1
ESPR	Espera	0.69	266	Pg	Pb	22 46 34.0	+0.7
ESPR				Sg	Sb	22 46 43.9	+0.8
ESPR	Espera	0.69	266	Pg	Pn	22 46 34.4	-0.8
ESPR				Sg	Sg	22 46 40.0	-1.3
EGOR	Sierra Gorda,	0.74	75	Pg	Pg	22 46 33.7	+0.5
EGOR				Sg	Sg	22 46 41.7	-1.2
EGOR	Sierra Gorda,	0.74	75	Pg	Pg	22 46 34.2	+1.0
EGOR				Sg	Sb	22 46 44.4	-0.1
EGOR				i IVmb_Lg		22 46 51.2	
ELGU	Los Guajares,	1.10	92	Pg	Pb	22 46 38.7	-1.7
ELGU				Sg	Sb	22 46 52.6	-2.4
ELGU	Los Guajares,	1.10	92	Pg	Pb	22 46 38.5	-1.9
ELGU				Sg	Sn	22 46 56.5	+0.1
ELGU				i IVmb_Lg		22 47 06.1	
ECAB	El Cabril	1.20	344	Pn	Pn	22 46 41.5	-0.7
ECAB				Sn	Sn	22 46 58.5	-0.3
ECAB	El Cabril	1.20	344	Pg	Pn	22 46 41.6	-0.7
ECAB				Sg	Sn	22 46 58.9	+0.1
ECAB				i IVmb_Lg		22 47 00.6	
SMIR	Smir Dam	1.27	194	P	Pg	22 46 45.0	+1.5
SMIR	Smir Dam	1.27	194	S	Sg	22 47 03.3	+3.3
EQUE	Quentar	1.28	77	Pg	Pg	22 46 44.4	+0.8
EQUE				i IVmb_Lg		22 46 51.0	
EQUE				Sg	Sb	22 47 00.3	+0.2
EADA	Adamuz	1.29	15	Pn	Pn	22 46 43.3	-0.2
EADA				Sn	Sn	22 47 01.0	0.0
EADA	Adamuz	1.29	15	Pn	Pn	22 46 43.4	-0.2
EADA				Sg	Sn	22 47 00.8	-0.1
EADA				i IVmb_Lg		22 47 04.2	
E0803	Jimena (Jaen)	1.52	53	Pn	Pb	22 46 47.6	0.0
E0803				Sg	Sg	22 47 08.5	+0.5
EMIN	Mina Concepcio	1.58	303	Pn	Pn	22 46 46.7	-0.7
EMIN				Sn	Sg	22 47 09.8	0.0
EMIN	Mina Concepcio	1.58	303	Pn	Pn	22 46 46.7	-0.7
EMIN				Sn	Sn	22 47 05.2	-2.9
EMIN				Sg	Sg	22 47 09.8	0.0
EMIN				i IVmb_Lg		22 47 12.3	
E0802	Ubeda,Jaen	1.70	49	Pg	Pb	22 46 51.0	+0.4
E0802				Sg	Sn	22 47 11.6	+0.5
EQES	Quesada	1.77	60	Pg	Pn	22 46 51.1	+1.0
EQES				Sg	Sg	22 47 16.0	0.0
EQES				i IVmb_Lg		22 47 20.8	
PALE	Palemas	1.90	153	P	Pb	22 46 53.2	-0.8
PALE	Palemas	1.90	153	S	Sb	22 47 17.7	-0.4
PBAR	Barrancos	2.05	308	Pn	Pn	22 46 53.4	-0.5
PBAR	Barrancos	2.05	308	ePn	Pn	22 46 53.8	-0.1
PBAR				eSn	Sn	22 47 19.0	-0.6
PBAR				eSg	Sg	22 47 24.2	-0.8
PBAR				i IAML		22 47 29.0	
PBAR				i IAML		22 47 30.6	
PBAR				i IAML		22 47 34.9	
EGRO	El Granado	2.08	288	Pn	Pn	22 46 54.0	-0.3
EGRO				Sn	Sn	22 47 18.9	-1.4
EGRO	El Granado	2.08	288	Pn	Pn	22 46 53.9	-0.3
EGRO				Sn	Sn	22 47 19.2	-1.0
EGRO				Sg	Sb	22 47 24.1	+1.1
EGRO				i IVmb_Lg		22 47 28.7	
PSIM	Granatula de C	2.14	27	Pn	Pn	22 46 56.3	+1.2
PSIM				Pg	Pb	22 46 58.8	+0.7
PSIM				Sg	Sb	22 47 25.8	+1.0
RSA	Sarsar	2.14	198	P	Pb	22 46 56.7	-1.4
RSA	Sarsar	2.14	198	S	Sb	22 47 23.9	-0.9
PVAQ	Vaqueiros	2.23	283	ePn	Pn	22 46 56.0	-0.3
PVAQ				eSn	Sn	22 47 23.2	-0.8
PVAQ				i IAML		22 47 24.9	
PVAQ				i IAML		22 47 25.0	
PVAQ				i IAML		22 47 36.0	
PVAQ	Vaqueiros	2.23	283	P	Pn	22 46 56.0	-0.3
PVAQ	Vaqueiros	2.23	283	S	Sn	22 47 22.6	-1.4
GOG	Mont Gurugu	2.34	136	P	Pn	22 46 58.9	+0.9
GOG	Mont Gurugu	2.34	136	S	Sn	22 47 28.6	+1.5
PBDV	Barranco-do-Ve	2.37	279	Pn	Pn	22 46 58.3	0.0
PBDV	Barranco-do-Ve	2.37	279	ePn	Pn	22 46 58.3	0.0
PBDV				eSn	Sn	22 47 28.2	+0.6
PBDV				i IAML		22 47 28.5	
PBDV				i IAML		22 47 29.7	
PBDV				i IAML		22 47 30.0	
EBAD	Badajoz	2.43	320	Pn	Pn	22 46 58.7	-0.4
EBAD	Badajoz	2.43	320	Pn	Pn	22 46 58.4	-0.7
EBAD				Sn	Sn	22 47 28.8	-0.2
EBAD				i IVmb_Lg		22 47 32.8	
PCVE	Castro Verde	2.53	287	Pn	Pn	22 47 00.0	-0.4
PCVE	Castro Verde	2.53	287	ePn	Pn	22 47 00.1	-0.4
PCVE				eSn	Sn	22 47 31.6	+0.2
PCVE				eSg	Sg	22 47 40.7	+0.4
PCVE				i IAML		22 47 45.0	
PCVE				i IAML		22 47 50.7	
PCVE				i IAML		22 47 51.6	
PBEJ	Beja	2.54	297	eSg	Sg	22 47 42.1	+1.6
PBEJ				i IAML		22 47 44.0	
PBEJ				i IAML		22 47 47.4	
PBEJ				i IAML		22 47 48.2	
AKLM	AKL	2.58	159	P	Pn	22 47 00.5	-0.7
AKLM	AKL	2.58	159	S	Sn	22 47 31.5	-1.2
PAB	San Pablo	2.67	11	Pn	Pn	22 47 03.5	+1.0
PAB				Sn	Sn	22 47 35.1	0.0
PAB				Sg	Sg	22 47 44.3	-0.6
PAB				i IVmb_Lg		22 47 52.6	
MESJ	Messejana	2.73	291	eP	Pn	22 47 02.9	-0.2
MESJ	Messejana	2.73	291	ePn	Pn	22 47 03.0	-0.2
MESJ				eSn	Sn	22 47 35.6	-0.8
MESJ				eSg	Sg	22 47 49.2	+2.6
MESJ				i IAML		22 47 53.9	
MESJ				i IAML		22 47 56.3	
MESJ				i IAML		22 47 58.1	
PESTR	Estremoz	2.83	314	Pn	Pn	22 47 04.4	-0.1
PESTR	Estremoz	2.83	314	ePn	Pn	22 47 04.7	+0.1
PESTR				eSn	Sn	22 47 38.4	-0.5
PESTR				eSg	Sg	22 47 48.6	-1.2
PESTR				i IAML		22 47 51.6	
PESTR				i IAML		22 47 53.2	
PESTR				i IAML		22 47 55.8	
MORF	Marmelete	2.95	279	eP	Pn	22 47 06.1	-0.2
TAF	Taforalt	2.97	134	P	Pn	22 47 07.9	+1.3
PTEO	Sao Teotonio	3.04	283	ePn	Pn	22 47 07.5	0.0
PTEO				eSn	Sn	22 47 44.0	-0.1
PTEO				i IAML		22 47 45.2	
PTEO				i IAML		22 48 01.7	
PTEO				i IAML		22 48 02.5	
PFVI	Vila Bisbo	3.07	275	ePn	Pn	22 47 07.9	-0.1
PFVI				eSn	Sn	22 47 43.3	-1.6
PFVI				i IAML		22 48 00.9	
PFVI				i IAML		22 48 06.3	
PFVI				i IAML		22 48 08.5	
PFVI	Vila Bisbo	3.07	275	P	Pn	22 47 06.7	-1.2
PFVI	Vila Bisbo	3.07	275	S	Sn	22 47 43.2	-1.6
PMRV	Marv??o	3.14	324	ePn	Pn	22 47 09.2	+0.4
PMRV				eSg	Sg	22 47 57.8	-2.0
PMRV				i IAML		22 48 00.6	
PMRV				i IAML		22 48 06.9	
PMRV				i IAML		22 48 08.7	
ETOB	Tobarra	3.23	57	Pn	Pn	22 47 10.3	+0.1
ETOB				Sn	Sn	22 47 50.1	+1.1
ETOB				Sg	Sg	22 48 03.9	+1.1
ETOB				i IVmb_Lg		22 48 14.0	
JBK	JBK	3.25	142	P	Pn	22 47 10.5	-0.1
JBK	JBK	3.25	142	S	Sn	22 47 49.7	+0.2
EPLA	Plasencia	3.25	345	Pn	Pn	22 47 10.2	-0.3
EPLA				Sn	Sn	22 47 47.1	-2.3
EPLA				Sg	Sb	22 48 00.1	+3.2
EPLA				i IVmb_Lg		22 48 05.5	
PMTG	Montargil	3.33	311	ePn	Pn	22 47 12.1	+0.6
PMTG				eSn	Sn	22 47 50.5	-0.8
PMTG				eSg	Sg	22 48 05.1	-1.0
PMTG				i IAML		22 48 12.5	
PMTG				i IAML		22 48 13.4	
PMTG				i IAML		22 48 20.4	
PCBR	Castelo Branco	3.51	327	ePn	Pn	22 47 14.7	+0.8
PCBR				eSn	Sn	22 47 54.9	-0.7
PCBR				eSg	Sg	22 48 10.9	-0.8
PCBR				i IAML		22 48 18.3	
PCBR				i IAML		22 48 18.6	
PCBR				i IAML		22 48 21.0	
PSARD	Sardoal	3.66	318	ePn	Pn	22 47 16.8	+0.9
PSARD				eSn	Sn	22 47 58.7	-0.6
PSARD				i IAML		22 48 21.8	
PSARD				i IAML		22 48 22.9	
PSARD				i IAML		22 48 27.7	
PARRA	Arraiolos	3.72	302	ePn	Pn	22 47 08.2	-8.6
PARRA				eSn	Sn	22 47 45.2	-16
PARRA				eSg	Sb	22 47 55.4	-15
PARRA				i IAML		22 48 01.7	
PARRA				i IAML		22 48 02.1	
PARRA				i IAML		22 48 02.1	
GUD	Guadarrama	3.78	10	Pn	Pn	22 47 18.1	+0.3
GUD				i IVmb_Lg		22 48 17.2	
EVIV	Cofrentes, Val	3.85	51	Pn	Pn	22 47 19.7	+1.0
EVIV				Sn	Sn	22 48 03.0	-1.2
EVIV				Sg	Sg	22 48 22.4	-0.5
EVIV				i IVmb_Lg		22 50 08.5	
PMAFR	Mafra	3.95	302	ePn	Pn	22 47 20.7	+0.7
PMAFR				eSn	Sn	22 48 05.8	-0.8
MTE	Manteigas	4.01	331	ePn	Pn	22 47 21.7	+0.8
MTE				eSn	Sn	22 48 07.4	-0.6
MTE				eSg	Sg	22 48 25.8	-1.9
MTE				i IAML		22 48 30.1	
MTE				i IAML		22 48 32.6	
MTE				i IAML		22 48 36.3	
MD31	MD31	4.05	177	P	Pn	22 47 22.3	+0.9
MD31	MD31	4.05	177	S	Sn	22 48 09.8	+0.7
PCAS	Casmilo, Conde	4.16	320	eSn	Sn	22 48 10.9	-0.9
PCAS				eSg	Sg	22 48 32.9	+0.2
PCAS				i IAML		22 48 37.5	
PCAS				i IAML		22 48 39.5	
PCAS				i IAML		22 48 40.2	
PVIS	Viseu	4.41	330	ePn	Pn	22 47 27.9	+1.5
ETOR	Torete	4.52	30	Pn	Pn	22 47 28.7	+0.7
ETOR				Sn	Sn	22 48 19.9	-0.8
ETOR				Sg	Sg	22 48 41.3	-3.0
MVO	Moncorvo	4.52	340	ePn	Pn	22 47 28.6	+0.6
MVO				eSn	Sn	22 48 19.4	-1.4
MVO				i IAML		22 48 48.3	
MVO				i IAML		22 48 48.9	
MVO				i IAML		22 48 49.1	
PVRL	Vila Real	4.84	335	eSn	Sn	22 48 26.9	-1.5
POLO	Lamas de Olo	4.95	335	ePn	Pn	22 47 34.5	+0.6
PBRG	Braganca	5.06	345	ePn	Pn	22 47 36.3	+1.0
PCAB	Cabril	5.33	335	ePn	Pn	22 47 40.1	+1.2

DJA 17 22:47:34.2±0.4, 10°S±5°×11°9E±°, h62km±6km, M3.8/13, mb4.0/2, MLv3.7/13, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.24	120	P	Pn	22 47 44.8	+0.6
WBSI				S	Sn	22 47 53.5	+2.1
WSI	Waingapu	1.11	98	P	Pn	22 47 54.0	+0.2
WSI				S	Sn	22 48 09.9	+1.5
BASI	Baing, Sumba	1.54	117	P	Pn	22 48 00.3	+0.8
PLAI	Plampang	1.55	296	P	Pn	22 48 00.1	+0.5
TWSI	Taliwang, Sumb	2.40	289	P	Pn	22 48 11.5	+0.4
EDFI	Ende, Flores	2.59	73	P	Pn	22 48 13.3	-0.6
MMRI	Maumere	3.15	74	P	Pn	22 48 21.5	+0.2
BSSI	Bau Bau, Buton	3.60	21	P	Pn	22 48 27.8	+0.3
BKSI	Bulukumba	4.27	13	P	Pn	22 48 36.8	0.0
BATI	Baumata	4.47	99	P	Pn	22 48 39.9	+0.4
JAGI	Jajag, Banyuwa	5.08	281	P	Pn	22 48 46.5	-1.3
	0.1nm19nm,1.1s						
BNSI	Bone	5.17	10	P	Pn	22 48 47.8	-1.3

NEIC 17 22:53:36.3±2.5, 29°.98S±0°.07×177°.5W±0°.2, h36km±10km, mb4.2/11, Error ellipse: s-maj=23.6km s-min=8.9km az=76.0
IDC 17 22:53:39.7±1.9, 29°.67S×177°.72W, h61km±13km, mb3.7/4, mbtmp3.9/4, MS3.0/1, Error ellipse: s-maj=34.7km s-min=29.8km az=152.0

ISC 17 22:53:36.4±1.0, 29°.98S±0°.07×177°.7W±0°.2, h35km, n36, σ1§33/28, mb4.2/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.76	343		Pn	22 53 51.2	+0.6
RAO					Sn	22 54 01.1	+0.2
RAO	Raoul Island	0.76	343	P	Pn	22 53 51.5	+0.9
	1μm,0.2s,baz=100,slow=8.9,SNR=40						
RAO				S	Sn	22 54 02.1	+1.2
	4μm,0.2s,baz=118,slow=15,SNR=25						
RTZ	Ruatahuna	9.68	206	Pn	Pn	22 55 52.5	-0.7
THZ	Tophouse	14.01	210	Pn	Pn	22 56 54.6	+2.2
DZM	Mont Dzumac	16

KURBB	Kurchatov Arra	121.00	314	PKP	PKPdf	23 12 23.6	-1.2
	comp=Z,0.2nm,0.5s,baz=123,slow=2.1,SNR=1.8						
H10N3	ASCENSION HYDR	139.06	154	T	T	01 49 35.8	
	baz=204,slow=74						
H10N1	ASCENSION HYDR	139.07	154	T	T	01 49 25.1	
	baz=204,slow=74						
H10N2	ASCENSION HYDR	139.08	154	T	T	01 49 01.2	
	baz=204						
FINES	FINESS Array B	144.85	340	PKP	PKPab	23 13 07.2	-0.8
	comp=Z,1.5nm,0.4s,baz=51,slow=3.3,SNR=28						
NOA	NORSAR Array B	148.38	352	PKPbc	PKPdf	23 13 16.3	+1.3
	comp=Z,0.3nm,0.7s,baz=8.2,slow=3.7,SNR=3.3						
HFS	Hagfors	148.89	349	PKPbc	PKPbc	23 13 19.2	-0.5
	comp=Z,1.1nm,0.6s,baz=30,slow=3.8,SNR=2.1						
AKASG	Malin Array Be	151.14	323	PKPbc	PKPbc	23 13 25.2	-0.3
	comp=Z,0.4nm,0.4s,baz=48,slow=2.0,SNR=4.4						
MMAI	Mount Meron Ar	151.70	285	PKPbc	PKPbc	23 13 27.9	+0.4
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=4.6						

*CATAC **17** 23:37:59.3±0.3, 15°N±2°×9°1W±°, h1km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=4.2km s-min=2.5km az=174.6, confirmed*
*GCG **17** 23:37:59.2±0.9, 15°.27N×90°.75W, h4km±7km, MD3.6, ML3.6, MW3.3*

ISC 17 23:37:58.8±0.8, 15°.33N±0°.04×90°.67W±0°.03, h8km, n25, σ1°.00/27, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	0.38	148	*i* P	Pg	23 38 06.2	-0.1
QUIS	Sacapulas	0.41	265	*i* P	Pg	23 38 05.8	-1.0
QUIS				*i* S	Sg	23 38 12.2	0.0
SOKI	Kika Raxquin	0.87	235	*i* P	Pg	23 38 14.9	-0.6
SOKI				IAML		23 38 34.2	
	comp=N,1μm,0.6s						
QUEO	Labor Ovalle	0.93	241	*i* P	Pg	23 38 16.5	-0.3
ESSG	Sabana Grande	0.95	189	*i* S	Sg	23 38 30.1	+0.7
ESSG				IAML		23 38 35.3	
	comp=E,1μm,0.4s						
FG16	Alotenango, Sa	1.06	171	*i* P	Pg	23 38 15.7	-3.5
FG16				IAML		23 38 32.6	
	comp=N,6μm,0.5s						
RTAL	Retalhuleu	1.27	231	P	Pn	23 38 22.9	0.0
RTAL	Retalhuleu	1.27	231	S	Sn	23 38 40.5	+0.4
ESQI	Esquipulas	1.50	120	P	Pn	23 38 26.3	+0.2
ESQI	Esquipulas	1.50	120	S	Sg	23 38 47.6	+0.7
MTO3	Montecristo	1.57	126	P	Pg	23 38 27.4	+0.2
MTO3	Montecristo	1.57	126	S	Sb	23 38 49.3	+1.0
LOAL	Lomas de Alarc	1.58	147	P	Pn	23 38 27.8	+0.6
FAME	Alcaldia de Sa	1.60	157	P	Pn	23 38 28.3	+0.8
FAME	Alcaldia de Sa	1.60	157	S	Sg	23 38 50.8	+0.4
NUBE	Las Nubes	1.66	148	P	Pn	23 38 29.4	+1.0
CCIG	Comitan	1.70	304	*i* P	Pn	23 38 30.0	+1.0
CCIG				*i* S	Sg	23 38 53.4	-0.2
CCIG				IAML		23 39 01.8	
	comp=N,617nm,1.0s						
CCIG	Comitan	1.70	304	P	Pn	23 38 29.9	+0.9
UNIC	Universidad Ca	1.72	141	P	Pn	23 38 30.2	+1.0
PETF	Flores	1.76	26	*i* P	Pb	23 38 31.4	-0.1
PETF				IAML		23 38 56.9	
	comp=N,2μm,0.5s						
PETF	Flores	1.76	26	P	Pb	23 38 31.3	-0.1
PETF	Flores	1.76	26	S	Sn	23 38 51.0	-1.3
CEVE	Cerro Verde	1.80	146	P	Pb	23 38 32.2	-0.1
SARH	Santa Rosa de	1.93	106	*i* S	Sb	23 38 59.7	+1.2
SCLA	Alcaldia de Sa	2.48	130	P	Pb	23 38 43.6	-0.1

*IDC **18** 00:19:44.8±1.6, 34°.10N×24°.49E, h0km, mb3.7/3, mbtmp3.5/6, ML3.2/3, Error ellipse: s-maj=80.2km s-min=25.1km az=137.0*
*ISK **18** 00:19:49.5, 34°.61N×23°.94E, h85km, ML3.2/16*
*THE **18** 00:19:49.8, 34°N±18°×2°4E±°, h16km±20km, M3.2/5, MLh3.2/5*
*ATH **18** 00:19:52.0, 34°.67N×24°.11E, h28km±5km, ML3.1/21, Manual Solution by N.Liadopoulou First location: 2019/10/18 00:20:57, This location: 2019/10/18 05:15:48*
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
*AFAD **18** 00:19:52.6, 34°.03N×25°.24E, h6km±4km, ML2.8*

ISC 18 00:19:50.1±1.3, 34°.56N±0°.07×24°.02E±0°.04, h31km±7km, n90, σ1°.36/79, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.29	10	P	Pb	00 19 57.3	-0.2
GVD				S	Sb	00 20 02.9	+0.4
GVD	Gavdhos	0.29	10	P	Pb	00 19 57.3	-0.2
GVD				S	Sb	00 20 01.7	-0.9
PRNS	Prines Rethymn	0.90	26	P	Pn	00 20 05.7	-0.8
PRNS				S	Sb	00 20 15.7	-3.1
CHNB	Souda	0.93	2	P	Pn	00 20 07.6	+0.7
CH01	Chania	0.96	360	P	Pn	00 20 08.2	+0.9
CH01				S	Sb	00 20 19.3	-1.2
CHAN	Chania	0.96	1	P	Pb	00 20 08.9	+0.7
CHAN				S	Sn	00 20 23.6	+3.6
CHAN	Chania	0.96	1	P	Pn	00 20 08.1	+0.7
CHAN				S	Sb	00 20 19.2	-1.4
IDI	Anoyia	1.02	44	Pg	Pn	00 20 09.2	+0.9
IDI				Sg	Sb	00 20 25.2	+2.9
IDI	Anoyia	1.02	44	P	Pb	00 20 09.3	+0.1
IDI				S	Sb	00 20 25.3	+3.0
IDI	Anoyia	1.02	44	P	Pn	00 20 08.6	+0.3
IACM	Heraklion	1.14	49	P	Pn	00 20 09.8	0.0
ANKY	Antikythira Is	1.44	336	P	Pb	00 20 15.4	-0.8
ANKY	Antikythira Is	1.44	336	P	Pb	00 20 15.4	-0.8
NPS	Neapolis	1.48	61	P	Pb	00 20 16.3	-0.7
STIA	Sitia Lasithi	1.82	69	P	Pn	00 20 20.1	+0.9
KTHA	Kythira Island	1.87	335	Pn	Pn	00 20 20.3	+0.4
KTHA	Kythira Island	1.87	335	P	Pn	00 20 21.2	+1.3
ZKR	Zakros	1.89	72	Pn	Pn	00 20 22.1	+2.0
ZKR	Zakros	1.89	72	P	Pn	00 20 21.1	+1.0
THR6	Thira Island,	2.12	32	P	Pn	00 20 24.9	+1.7
THR5	Thira Island,	2.15	30	P	Pn	00 20 24.4	+0.7
MHLO	Agia Marina, M	2.15	8	P	Pn	00 20 24.9	+1.1
SNT5	Nea Kammeni, S	2.16	31	P	Pn	00 20 24.3	+0.5
SNT5	Nea Kammeni, S	2.16	31	P	Pn	00 20 24.4	+0.6
SAP3	Santorini-Thir	2.16	30	P	Pn	00 20 24.7	+0.8
SAP3	Santorini-Thir	2.16	30	P	Pn	00 20 24.6	+0.7
THR3	Thira Island,	2.16	31	P	Pn	00 20 25.0	+1.1
VLI	Veliai	2.33	338	P	Pn	00 20 28.5	+2.2
KARP	Karpathos	2.76	68	Pn	Pn	00 20 34.0	+1.9
KARP				Sn	Sn	00 21 06.5	+2.1
PYL	PYLOS	2.98	322	P	Pn	00 20 36.3	+1.1
PYL2	Kinigos	3.00	322	P	Pn	00 20 36.4	+1.0
MET6	Megalochori,Me	3.08	350	P	Pn	00 20 36.9	+0.5
MET2	Kameni Chora,	3.10	350	P	Pn	00 20 37.4	+0.6
MET4	Agioi Theodoro	3.10	351	P	Pn	00 20 37.1	+0.3
MET5	Makryloggos,Me	3.11	350	P	Pn	00 20 37.6	+0.7
ITM	Ithomi	3.12	328	P	Pn	00 20 39.7	+2.5
VLY	Voula,Athens	3.29	357	P	Pn	00 20 39.4	-0.1
KARY	Karystos	3.48	5	Pn_2		00 20 41.7	
PTL	Penteli	3.49	358	Pn_2		00 20 41.8	
DION	Dionisos Attik	3.51	359	Pn_0		00 20 42.2	
LOUT	Loutraki	3.53	346	Pn_2		00 20 44.9	
LTK	Loutraki	3.56	346	Pn_2		00 20 43.7	
DAT	Datca	3.62	52	Pn	Pn	00 20 45.1	+1.1
GUR	Goura	3.64	339	Pn_2		00 20 45.7	
BODT	Bodrum	3.66	46	Pn	Pn	00 20 45.6	+1.1
VIL2	Platees	3.70	351	Pn_2		00 20 44.0	
ARG	Arkhangelos	3.74	63	Pn	Pn	00 20 46.8	+1.2
ARG	Arkhangelos	3.74	63	Pn_2		00 20 46.4	
KLV	Kalavryta, Ach	3.79	337	Pn_2		00 20 47.8	
SMG	Samos	3.88	35	Pn_2		00 20 48.1	
RLS	Riolos of Patr	4.06	330	Pn_2		00 20 51.6	
KYMI	Kymi, Euboea I	4.07	1	Pn_2		00 20 50.1	
TURN	Turunc	4.09	56	Pn	Pn	00 20 51.2	+0.9
KALE	Kalithea	4.12	339	Pn_2		00 20 51.6	
CHOS	Chios island	4.16	23	Pn	Pn	00 20 51.5	+0.1
LKR	Lokris	4.17	349	Pn_2		00 20 51.3	
ATAL	Atalanti	4.21	349	Pn_2		00 20 51.4	
AXS	Araxos	4.21	330	Pn_2		00 20 54.1	
EFP	Efpalio	4.22	337	Pn_2		00 20 54.0	
YER	Yerkesik	4.31	52	Pn	Pn	00 20 54.5	+1.0
URLA	Izmir	4.32	28	Pn	Pn	00 20 53.7	0.0
AXAR	Agios Charalam	4.34	346	Pn_2		00 20 55.5	
ANX	Ano Chora	4.37	338	Pn_2		00 20 56.1	
DALY	Dalyan (Mula)	4.39	58	Pn	Pn	00 20 55.6	+1.1
PVO	Paravola	4.52	334	Pn_2		00 20 58.9	
VLS	Valsamata	4.55	324	Pn_2		00 20 56.6	
FETY	Fethiye	4.61	62	P	Pn	00 20 49.1	-8.5
FETY				S	Sn	00 21 41.5	-8.7
SABU	Mula-Dalaman	4.62	59	P	Pn	00 20 58.8	+1.2
SABU				S	Sn	00 21 49.8	-0.4
SABU				*i* IAML		00 21 56.0	
	comp=E,12nm,1.0s						
SABU				*i* IAML		00 23 27.0	
	comp=N,17nm,4.7s						
IZZE	Mula-Seydike	4.64	65	P	Pn	00 20 58.0	0.0
IZZE				S	Sn	00 21 47.4	-3.3
IZZE				*i* IAML		00 21 50.0	
	comp=N,48nm,0.4s						
IZZE				*i* IAML		00 21 56.0	
	comp=E,29nm,0.5s						
MAKR	Makrakomi, Fth	4.70	342	Pn_2		00 21 00.2	
EVR	Evrytania	4.70	338	Pn_2		00 21 00.8	
NEO	Neokhori	4.78	353	Pn_2		00 20 59.7	
FSK	Fiskardo	4.79	325	Pn_2		00 21 01.0	
KSL	Kastellorizon	4.81	69	Pn_2		00 21 00.3	
NAZL	Nazilli-Aydin	4.84	44	Pn	Pn	00 21 01.3	+0.5
AKAS	Kas	4.86	68	Pn	Pn	00 21 01.9	+0.8
AKAS	Kas	4.86	68	P	Pn	00 21 01.1	0.0
AKAS				S	Sn	00 21 55.3	-1.0
AKAS				*i* IAML		00 22 01.0	
	comp=N,36nm,0.6s						
AKAS				*i* IAML		00 22 05.0	
	comp=E,29nm,0.4s						
DNZT	Denizli-Tavas-	4.88	55	P	Pn	00 21 02.5	+1.1
DNZT				S	Sn	00 21 56.6	-0.3
DNZT				*i* IAML		00 22 00.0	
	comp=E,5.6nm,0.7s						
DNZT				*i* IAML		00 22 22.0	
	comp=N,8.3nm,1.7s						
CAME	Camili-Denizli	4.91	59	Pn	Pn	00 21 02.6	+0.8
CAEL	Denizli, Camel	5.01	58	P	Pn	00 21 06.3	+3.2
CAEL				S	Sn	00 21 59.7	-0.3
CAEL				*i* IAML		00 22 19.0	
	comp=E,35nm,0.9s						
CAEL				*i* IAML		00 22 23.0	
	comp=N,27nm,1.0s						
KNIK	Mula-Seydike	5.06	62	P	Pn	00 21 04.7	+0.8
KNIK				S	Sn	00 21 58.8	-2.4
KNIK				*i* IAML		00 21 59.0	
	comp=E,11nm,0.6s						
KNIK				*i* IAML		00 22 06.0	
	comp=N,9.4nm,1.2s						
APMY	Acipayam-Deniz	5.17	54	Pn	Pn	00 21 06.0	+0.6
GOLH	Golhisar	5.23	58	P	Pn	00 21 07.3	+1.1
GOLH				S	Sn	00 22 04.1	-1.4
GOLH				*i* IAML		00 22 10.0	
	comp=N,13nm,0.8s						
GOLH				*i* IAML		00 22 11.0	
	comp=E,12nm,0.7s						
ELL	Elmali	5.27	64	Pn	Pn	00 21 07.5	+0.8
BRTR	Keskin Array B	9.25	53	Pn	Pn	00 22 02.3	+1.0
	0.1nm,0.3s,baz=232,slow=13,SNR=5.9						
	0.7nm,0.7s						
AKASG	Malin Array Be	16.57	12	Pn	P	00 23 43.6	+1.4
	0.4nm,0.3s,baz=208,slow=10,SNR=4.8						
	0.2nm,0.3s						
KBZ	Khabaz	17.24	52	P	Pn	00 23 48.4	+0.1
	baz=240,slow=14,SNR=3.9						
	2.5nm,1.0s						
TORD	Torodi Ar. Bea	29.39	229	P	P	00 25 50.1	-0.5
	0.7nm,1.0s,baz=35,slow=9.1,SNR=3.0						
	0.7nm,1.0s						
MKAR	Makanchi Array	44.88	56	P	P	00 28 00.8	-0.7
	0.5nm,0.5s,baz=272,slow=8.3,SNR=9.5						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	46.09	46	P	P	00 28 09.4	-1.5
	0.6nm,0.4s,baz=265,slow=8.4,SNR=4.4						
	0.6nm,0.4s						

*KOLA **18** 00:56:49.3, 78°.81N×10°.51E, h0km, ML3.6, Error ellipse: s-maj=12.1km s-min=7.0km az=100.0, Spitsbergen,Greenland sea*
*IDC **18** 00:56:50.2±1.4, 78°.91N×10°.62E, h0km, mb3.8/7, mbtmp3.8/10, ML3.3/3, Error ellipse: s-maj=25.1km s-min=17.0km az=14.0*
*NEIC **18** 00:56:51.3±1.1, 78°.77N±0°.06×10°.5E±0°.2, h10km±1km, mb4.9/17, Error ellipse: s-maj=11.9km s-min=3.4km az=336.0*
*BER **18** 00:56:52.9±4.1, 78°.91N×10°.71E, h10km±17km, ML3.5, ML3.8(NAO), Confirmed Earthquake*
*FCIAR **18** 00:56:52.0, 78°.84N×10°.91E, h10km, station OMEGA has station magnitude of 4.60 station ZFI2 has station magnitude of 4.60*
*NAO **18** 00:56:52.5±0.0, 78°.84N×10°.54E, h18km±4km, ML3.8*

ISC 18 00:56:51.3±1.0, 78°.77N±0°.04×10°.51E±0°.04, h17km±7km, n106, σ2°.54/148, mb4.3/14, 1C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	0.32	60		Pg	00 56 57.7	-0.3
KBS				Sg	Sg	00 57 01.7	-0.9
KBS	Kingsbay	0.32	60	Pg	Pg	00 56 57.5	-0.5
KBS				Sg	Sg	00 57 01.1	-1.5
KBS	Kingsbay	0.32	60	P	Pg	00 56 56.8	-1.2
KBS				S	Sg	00 57 01.1	-1.5
KBS	Kingsbay	0.32	60	*e* P	Pg	00 56 57.4	-0.6
KBS				*e* S	Sg	00 57 01.1	-1.5
KBS				IAML		00 57 01.5	
	comp=Z,15μm,0.3s						
KBS	Kingsbay	0.32	60	*i* P	Pg	00 56 57.6	-0.5
KBS				*i* S	Sg	00 57 01.1	-1.5
BRBB	Barentsburg B	1.01	130	Pb	Pb	00 57 10.7	+0.5
BRBB				Sb	Sb	00 57 23.9	+0.7
BRBB	Barentsburg B	1.01	130	P	Pb	00 57 10.3	+0.1
BRBB				S	Sb	00 57 23.9	+0.7
BRBB	Barentsburg B	1.01	130	Pb	Pb	00 57 10.7	+0.5
BRBB				*e* S	Sb	00 57 23.3	0.0
BRBA	Barentsburg A	1.04	132	Pb	Pb	00 57 11.2	+0.5
BRBA				Sb	Sb	00 57 24.7	+0.7
BRBA	Barentsburg A	1.04	132	*e* P	Pb	00 57 11.1	+0.5
BRBA				*e* S	Sb	00 57 24.6	+0.7
BRBA				IAML		00 57 27.9	
	comp=Z,3μm,0.5s						
SPA0	Spitsbergen Ar	1.32	114	Pb	Pn	00 57 15.9	+0.9
	baz=294,slow=12						
SPA0				Sb	Sn	00 57 32.8	+0.7
	baz=306,slow=37						
SPA0	Spitsbergen Ar	1.32	114	*e* P	Pn	00 57 14.4	-0.6
SPA0				*e* S	Sn	00 57 32.9	+0.7
SPA0	Spitsbergen Ar	1.32	114	*e* P	Pn	00 57 15.8	+0.9
SPA0				*e* S	Sb	00 57 33.8	+1.6
SPA0				IAML		00 57 37.8	
	comp=Z,2μm,0.5s						
SPITS	Spitsbergen Ar	1.32	114	Pn	Pn	00 57 15.8	+0.9
	baz=302,slow=12						
SPITS				Sn	Sn	00 57 33.0	+0.9
	baz=255,slow=22						
SPITS	Spitsbergen Ar	1.32	114	P	Pn	00 57 15.3	+0.4
SPITS				S	Sn	00 57 33.1	+1.0
SPB2	Spitsbergen Ar	1.32	114	Pn	Pn	00 57 15.8	+0.8
SPB2				Sn	Sb	00 57 33.8	+1.4
HSPB	Hornsund (broa	2.07	147	Pn	Pn	00 57 24.8	-0.4
HSPB				Sn	Sn	00 57 49.0	-1.5
HSPB	Hornsund (broa	2.07	147	P	Pn	00 57 24.8	-0.4
HSPB				S	Sn	00 57 49.7	-0.8
HSPB	Hornsund (broa	2.07	147	*e* P	Pn	00 57 22.5	-2.7
HSPB				*e* S	Sn	00 57 48.6	-1.9
HSPB	Hornsund (broa	2.07	147	*i* P	Pn	00 57 24.7	-0.4
HSPB				*e* S	Sn	00 57 50.1	-0.5
HSPB				IAML		00 58 02.8	
	comp=Z,669nm,0.7s						
HOPEN	Hopen	3.85	119	Pn	Pn	00 57 49.8	+0.2
HOPEN				Sn	Sn	00 58 33.7	-0.6
HOPEN	Hopen	3.85	119	*e* P	Pn	00 57 48.6	-1.0
HOPEN				*e* S	Sn	00 58 31.8	-2.5
HOPEN	Hopen	3.85	119	*e* P	Pn	00 57 49.8	+0.2
HOPEN				*e* S	Sn	00 58 33.5	-0.8
HOPEN				IAML		00 58 58.7	
	comp=Z,358nm,0.7s						
BJO1	Bjornoya	4.71	151	*e* P	Pn	00 58 01.4	-0.1
BJO1				*e* S	Sn	00 58 51.3	-4.4
BJO1	Bjornoya	4.71	151	*e* P	Pn	00 58 01.6	+0.1
BJO1				IAML		00 59 42.3	
	comp=Z,83nm,0.7s						
BEA6	Bear Island, N	4.72	151	Pn	Pn	00 58 02.0	+0.5
	baz=340,slow=18						
BEA6				Sn	Sn	00 58 54.5	-1.4
	baz=340,slow=37						
NOR	Nord	5.39	314	Pn	Pn	00 58 11.2	+0.5
NOR	Nord	5.39	314	*e* P	Pn	00 58 11.2	+0.5
NOR	Nord	5.39	314	*i* P	Pn	00 58 11.0	+0.3
NOR				*e* S	Sn	00 59 09.1	-3.1
NOR				IAML		00 59 19.6	
	comp=Z,1.8nm,0.6s						
DAG	Danmarks Havn	6.45	267	*e* P	Pn	00 58 27.5	+2.2
DAG				*e* S	Sn	00 59 33.0	-5.4
DAG	Danmarks Havn	6.45	267	*i* P	Pn	00 58 27.7	+2.4
DAG				*i* S	Sn	00 59 33.5	-4.9
DAG				IAML		00 59 40.8	
	comp=Z,11nm,0.4s						
ZFI2	Zemlya Franca-	6.80	55	*e* P	Pn	00 58 29.9	-0.1
ZFI2				*e* S	Sn	00 59 40.3	-6.7
	comp=Z,206nm,0.9s						
OMEGA	Omega	6.81	55	*e* P	Pn	00 58 29.9	-0.3
OMEGA				*e* S	Sn	00 59 40.3	-7.0
	comp=Z,204nm,1.0s						
DBG	Daneborg	8.33	254	Pn	Pn	00 58 50.1	-1.0
DBG				Sn	Sn	01 00 16.4	-8.2
DBG	Daneborg	8.33	254	Pn	Pn	00 58 50.1	-1.0
DBG				*e* S	Sn	01 00 16.9	-7.7
DBG	Daneborg	8.33	254	*i* P	Pn	00 58 51.1	0.0
DBG				*e* S	Sn	01 00 12.8	-12
DBG				IAML		01 00 27.6	
	comp=Z,4.1nm,0.6s						
JNW	Jan Mayen West	9.14	222	*e* P	Pn	00 59 03.5	+1.4
JETT	Jettan, Norway	9.62	159	*e* P	Pn	00 59 09.9	+1.1
VADS	Vadso	9.97	140	P	Pn	00 59 13.2	-0.3
VADS				S	Sn	01 00 57.8	-7.0
VADS	Vadso	9.97	140	P	Pn	00 59 13.3	-0.1
VADS				S	Sn	01 00 57.5	-7.3
VADS	Vadso	9.97	140	*e* P	Pn	00 59 13.2	-0.3
VADS				*e* S	Sn	01 00 57.5	-7.3
VADS				IAML		01 01 02.6	
	comp=Z,20nm,0.6s						
KEV	Kevo	10.04	145	Pn	Pn	00 59 15.2	+0.8
KEV	Kevo	10.04	145	*e* P	Pn	00 59 15.8	+1.4
KEV				*e* S	Sn	01 00 60.0	-6.4
ARA0	ARCESS Array S	10.09	149	Pn	Pn	00 59 15.2	+0.1
	baz=345,slow=12						
ARA0				Sn	Sn	01 01 01.7	-6.0
	baz=352,slow=22						
ARA0	ARCESS Array S	10.09	149	*e* P	Pn	00 59 17.2	+2.0
ARA0				*e* S	Sn	01 01 00.9	-6.8
ARA0				IAML		01 01 55.2	
	comp=Z,5.9nm,0.6s						
ARCES	ARCESS Array B	10.09	149	Pn	Pn	00 59 16.1	+1.0
ARCES	ARCESS Array B	10.09	149	Pn	Pn	00 59 16.4	+1.3
	comp=Z,0.6nm,0.3s,baz=352,slow=12,SNR=19						
ARCES				Sn	Sn	01 01 02.0	-5.7
	comp=Z,0.8nm,0.3s,baz=354,slow=21,SNR=5.1						
	comp=Z,2.4nm,0.5s						
ARCES	ARCESS Array B	10.09	149	P	Pn	00 59 15.1	0.0
ARCES				S	Sn	01 01 02.1	-5.6
KIF	Kilpisjarvi	10.20	159	P	Pn	00 59 16.7	+0.2
KIF	Kilpisjarvi	10.20	159	*e* P	Pn	00 59 17.1	+0.6
KTK1	Kautokeino	10.38	154	*e* P	Pn	00 59 20.4	+1.3
LOF	Lofoten	10.73	174	*e* P	Pn	00 59 23.0	-0.9
STEI	Steigen	10.98	171	*e* P	Pn	00 59 29.2	+2.0
HEF	Hetta	11.01	154	*e* P	Pn	00 59 28.6	+1.0
LANU	Lannavaara	11.23	157	*e* P	Pn	00 59 33.2	+2.5
FAUS	Fauske	11.53	171	*e* P	Pn	00 59 38.2	+3.4
TERR	Teriberka	11.60	132	P	Pn	00 59 34.8	-1.0
TERR				S	Sn	01 01 34.6	-10
SALU	Saltoluokta	11.66	165	*e* P	Pn	00 59 40.9	+4.2
VAGH	Vaagaholmen	12.13	175	*e* P	Pn	00 59 43.2	+0.2
NEEM	North Greenlan	12.24	295	*e* P	Pn	00 59 43.1	-1.7
NEEM				*e*		01 01 33.6	
NEEM	North Greenlan	12.24	295	*e* P	Pn	00 59 43.1	-1.7
NEEM				*e*		01 01 33.6	
RAUS	Rausandaksla	12.44	173	*e* P	Pn	00 59 48.9	+1.6
STOK	Stokkvaagen	12.53	175	*e* P	Pn	00 59 49.0	+0.6
MOR8	Moi Rana	12.72	173	*e* P	Pn	00 59 52.3	+1.2
LVZ	Lovozero	12.74	135	Pn	Pn	00 59 52.4	+0.9
LEIR	Leirfjorden	12.75	175	*e* P	Pn	00 59 52.8	+1.3
APA0	Apatity Array	12.80	139	Pn	Pn	00 59 51.3	-0.8
	baz=333,slow=14						
APA0				Sn	Sn	01 02 04.6	-9.4
	baz=350,slow=28						
APA0	Apatity Array	12.80	139	P	Pn	00 59 50.9	-1.3
APA0				S	Sn	01 02 04.7	-9.2
APA0	Apatity Array	12.80	139	Pn	Pn	00 59 51.3	-0.8
	baz=333,slow=14						
APA0				Sn	Sn	01 02 04.6	-9.4
	baz=350,slow=28						
SUMG	Summit	13.14	268	Pn	Pn	00 59 57.1	-0.1
KVDA	Kovda	13.65	140	P	Pn	01 00 02.1	-1.6
KVDA				S	Sn	01 02 27.4	-7.3
NSS	Namsos	14.32	177	*e* P	Pn	01 00 15.5	+2.6
NC204	NORSAR Array S	17.58	180		P	01 00 57.4	+1.2
FIA1	FINESS Array S	18.06	155	Pn	Pn	01 01 00.2	-0.8
FIA1				IAmb	IAmb	01 01 03.9	
	comp=Z,55nm,1.4s						
FIA0	FINESS Array S	18.06	155	P	Pn	01 01 01.8	+0.8
	baz=3.0,slow=14						
FIA0	FINESS Array S	18.06	155	P	Pn	01 01 01.8	+0.8
	baz=3.0,slow=14						
FINES	FINESS Array B	18.06	155	Pn	Pn	01 00 59.2	-1.9
FINES	FINESS Array B	18.06	155	P	P	01 01 02.3	+0.9
	comp=Z,0.3nm,0.3s,baz=1.8,slow=12,SNR=15						
	comp=Z,3.9nm,0.8s						
NC602	NORSAR Array S	18.13	178		P	01 01 02.8	+

TORD Torodi Ar. Bea 65.78 189 P P 01 07 37.4 +2.4
comp=Z,0.4nm,0.7s,baz=6.5,slow=7.5,SNR=4.7
comp=Z,0.4nm,0.7s

833A Chaparral WMA, 66.17 295 P P 01 07 37.9 +0.4
833A IAmb IAmb 01 07 43.3
comp=Z,15nm,1.1s

QSPA South Pole Qui 168.75 180 PKP PKPdf 01 16 55.4 +0.2
comp=Z,0.5nm,0.4s,baz=266,slow=7.1,SNR=5.1

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*BJI **18** 00:58:27.0, 66°.30N×157°.30W, h10km, mB5.3/47, mb5.1/76, Ms5.6/51, Ms7 5.5/78*
*ANF **18** 00:58:28.0±0.2, 66°.31N×157°.28W, h1km±2km, ML5.9/91, Error ellipse: s-maj=1.2km s-min=1.0km az=116.0*
*NEIC **18** 00:58:28.6, 66°.29N×157°.27W, h12km*
*AEIC **18** 00:58:28.3±1.6, 66°.30N±0°.02×157°.22W±0°.05, h6km±3km, ML5.3, mb5.2/481(NEIC), ML5.6/172(NEIC), Ms_20 5.2/370(NEIC), Mwr5.4/91(NEIC), Mww5.4/176(NEIC), Error ellipse: s-maj=2.8km s-min=2.5km az=69.0*
*NEIC **18** 00:58:28.6, 66°.39N×157°.27W, h12km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17 Nm; Mrr-0.78; Mθθ1.01; Mφφ-0.23; Mrθ-0.07; Mθφ-1.55; Mφr0.04; Fault plane solution: M0 1.80000×10^17 NP1: φs349.13000°, δ87.85000°, λ0.20000°. NP2: φs259.12000°, δ89.80000°, λ177.85000°. Principal axes: T 2.0565, Plg2.0000°, Azm214.0000°; N -0.7813, Plg88.0000°, Azm74.0000°; P -1.2752, Plg1.0000°, Azm304.0000°;*
*NEIC **18** 00:58:28.6, 66°.29N×157°.27W, h10km*
*NEIC **18** 00:58:29.5±1.6, 66°.31N±0°.02×157°.21W±0°.06, h10km±1km, Error ellipse: s-maj=3.9km s-min=3.5km az=247.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.55; Mθθ0.77; Mφφ-0.22; Mrθ0.26; Mθφ-1.10; Mφr0.32; Fault plane solution: M0 1.36000×10^17 NP1: φs163.13000°, δ66.41000°, λ-23.47000°. NP2: φs262.99000°, δ68.59000°, λ-154.54000°. Principal axes: T 1.4843, Plg1.0000°, Azm33.0000°; N -0.2918, Plg57.0000°, Azm300.0000°; P -1.1925, Plg33.0000°, Azm124.0000°;*
*MOS **18** 00:58:29.0±1.1, 66°.30N×157°.17W, h15km, mb5.3/82, MS4.9/44 Error ellipse: s-maj=10.5km s-min=3.7km az=99.6*
*IDC **18** 00:58:29.1±0.4, 66°.48N×157°.17W, h0km, mb4.7/38, mbtmp4.7/40, ML5.1/4, MS4.8/69, Error ellipse: s-maj=12.9km s-min=7.2km az=26.0*
*GCMT **18** 00:58:32.3±0.1, 66°.37N±0°.01×157°.13W±0°.01, h12km, MW5.4/157, Moment Tensor Solution. s137, c236; s157, c307; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-0.73±.02; Mθθ1.00±.02; Mφφ-0.27±.02; Mrθ0.36±.04; Mθφ-1.57±.01; Mφr0.26±.04; Best double couple: M0 1.80500×10^17 NP1: φs166.00000°, δ69.00000°, λ-18.00000°. NP2: φs263.00000°, δ74.00000°, λ-158.00000°. Principal axes: T 2.0650, Plg3.0000°, Azm34.0000°; N -0.5250, Plg63.0000°, Azm297.0000°; P -1.5440, Plg27.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 00:58:30.5±0.4, 66°.32N±0°.02×157°.11W±0°.02, h11km±2km, h11km:pP-P, n1580, σ1958/1414, mb5.2/401, MS5.1/300, 48C-49D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	**Shaleruckik Mo**	**0.58 333**			**Pg**	**00 58 39.3**	**-2.4**
F19K					**Sg**	**00 58 47.9**	**-1.6**
F19K	**Shaleruckik Mo**	**0.58 333**		P	**Pg**	**00 58 39.4**	**-2.4**
	baz=158,SNR=35						
F19K				S	**Sg**	**00 58 47.4**	**-2.0**
	baz=158						
G18K	**Tagagawik**	**0.76 236**			**Sg**	**00 58 52.5**	**-2.6**
G18K	**Tagagawik**	**0.76 236**			**Pg**	**00 58 42.0**	**-3.2**
G18K	**Tagagawik**	**0.76 236**		P	**Pg**	**00 58 42.0**	**-3.2**
	baz=54						
H19K	**Roundabout Mou**	**0.84 161**			**Pg**	**00 58 44.1**	**-2.6**
H19K	**Roundabout Mou**	**0.84 161**			**Sg**	**00 58 56.8**	**-0.8**
H19K	**Roundabout Mou**	**0.84 161**		P	**Pg**	**00 58 44.3**	**-2.4**
	baz=338						
H19K				S	**Sg**	**00 58 56.4**	**-1.3**
	baz=338						
F20K	**Avaraart Lake**	**0.92 36**			**Pg**	**00 58 46.2**	**-2.0**
F20K					**Pb**	**00 58 46.3**	**-2.1**
F20K	**Avaraart Lake**	**0.92 36**		P	**Pg**	**00 58 46.2**	**-2.0**
	baz=219						
F18K	**Selawik**	**1.06 287**			**Pb**	**00 58 47.4**	**-3.3**
F18K					**Pg**	**00 58 47.8**	**-3.1**
F18K					**Sb**	**00 59 02.2**	**-2.3**
F18K	**Selawik**	**1.06 287**		P	**Pb**	**00 58 47.5**	**-3.3**
	baz=106						
E19K	**Redstone River**	**1.14 358**			**Pb**	**00 58 50.0**	**-2.2**
E19K					**Pn**	**00 58 50.4**	**-2.1**
E19K					**Sb**	**00 59 05.1**	**-2.1**
E19K	**Redstone River**	**1.14 358**		IAML		00 59 09.8	
	comp=N,101μm,0.6s						
E19K	**Redstone River**	**1.14 358**		P	**Pb**	**00 58 50.1**	**-2.2**
	baz=180,SNR=26						
E19K				S	**Sb**	**00 59 05.3**	**-1.8**
	baz=180						
H20K	**Anotleneega Mo**	**1.24 131**			**Pn**	**00 58 51.9**	**-1.8**
H20K					**Sb**	**00 59 09.8**	**+0.1**
H20K	**Anotleneega Mo**	**1.24 131**		P	**Pn**	**00 58 52.0**	**-1.8**
	baz=311						
H18K	**Honhosa River**	**1.28 204**			**Pn**	**00 58 51.3**	**-3.0**
H18K				IAML		00 59 12.9	
	comp=E,90μm,0.9s						
H18K	**Honhosa River**	**1.28 204**			**Sb**	**00 59 08.8**	**-2.3**
H18K	**Honhosa River**	**1.28 204**		P	**Pn**	**00 58 51.4**	**-3.0**
	baz=22						
IMAR	**Indian Mountai**	**1.41 102**			**Pn**	**00 58 54.5**	**-1.6**
IM01	**Indian Mountai**	**1.42 102**			**Pn**	**00 58 54.0**	**-2.2**
G21K	**Allakaket**	**1.47 81**			**Pn**	**00 58 55.3**	**-1.6**
G21K					**Pn**	**00 58 55.5**	**-1.4**
G21K					**Sg**	**00 59 17.1**	**-0.5**
G21K	**Allakaket**	**1.47 81**		IAML		00 59 19.4	
	comp=N,110μm,1.0s						
G21K	**Allakaket**	**1.47 81**		P	**Pn**	**00 58 55.4**	**-1.4**
	baz=263						
G21K				S	**Sb**	**00 59 16.7**	**+0.3**
	baz=263						
GCSA	**Galena City Sc**	**1.58 176**			**Pn**	**00 58 56.5**	**-1.9**
GCSA					**Sn**	**00 59 18.0**	**-0.8**
GCSA	**Galena City Sc**	**1.58 176**		P	**Pn**	**00 58 56.5**	**-1.9**
	baz=355,SNR=1000						
G17K	**Kiwalik Mounta**	**1.67 242**			**Pn**	**00 58 56.5**	**-3.1**
G17K					**Pb**	**00 58 56.8**	**-4.4**
G17K					**Sn**	**00 59 20.2**	**-0.8**
G17K	**Kiwalik Mounta**	**1.67 242**		P	**Pn**	**00 58 56.7**	**-2.9**
	baz=59						
F17K	**Baldwin Pennin**	**1.67 276**			**Pn**	**00 58 57.1**	**-2.5**
F17K					**Pn**	**00 58 57.2**	**-2.5**
F17K	**Baldwin Pennin**	**1.67 276**		P	**Pn**	**00 58 57.1**	**-2.5**
	baz=93						
F21K	**Alatna River**	**1.70 56**		IAML		00 59 31.7	
	comp=N,46μm,0.8s						
F21K				IAML		00 59 32.0	
	comp=E,45μm,0.9s						
F21K	**Alatna River**	**1.70 56**			**Pn**	**00 58 58.7**	**-1.4**
F21K					**Pb**	**00 58 59.0**	**-2.8**
F21K					**Sb**	**00 59 23.5**	**+0.3**
F21K	**Alatna River**	**1.70 56**		P	**Pn**	**00 58 58.9**	**-1.3**
	baz=240						
E18K	**Tukpahlearik C**	**1.77 310**			**Pn**	**00 58 59.5**	**-1.5**
E18K					**Pb**	**00 59 00.7**	**-2.2**
E18K	**Tukpahlearik C**	**1.77 310**		P	**Pn**	**00 58 59.6**	**-1.4**
	baz=129						
H17K	**Granite Mounta**	**1.81 221**			**Pn**	**00 58 58.9**	**-2.7**
H17K				IAML		00 59 27.9	
	comp=E,76μm,0.7s						
H17K				IAML		00 59 30.6	
	comp=N,43μm,0.9s						
H17K	**Granite Mounta**	**1.81 221**		P	**Pn**	**00 58 58.9**	**-2.7**
	baz=38,SNR=518						
I20K	**Naaghedeneel**	**1.88 143**			**Pn**	**00 59 01.5**	**-1.0**
I20K	**Naaghedeneel**	**1.88 143**			**Sn**	**00 59 26.9**	**+0.7**
I20K	**Naaghedeneel**	**1.88 143**		P	**Pn**	**00 59 01.3**	**-1.2**
	baz=324						
H21K	**Melozitna Rive**	**1.88 109**		IAML		00 59 33.7	
	comp=E,62μm,0.6s						
H21K				IAML		00 59 34.3	
	comp=N,34μm,0.9s						
H21K	**Melozitna Rive**	**1.88 109**		P	**Pn**	**00 59 01.1**	**-1.5**
	baz=292,SNR=1000						
E20K	**Nigu River**	**1.98 10**			**Pn**	**00 59 03.7**	**-0.2**
E20K					**Pb**	**00 59 04.1**	**-2.5**
E20K	**Nigu River**	**1.98 10**		P	**Pn**	**00 59 03.9**	**0.0**
	baz=192						
E17K	**Hotham Inlet**	**2.02 294**			**Pn**	**00 59 02.3**	**-2.2**
E17K					**Pn**	**00 59 02.7**	**-1.8**
E17K	**Hotham Inlet**	**2.02 294**		P	**Pn**	**00 59 02.5**	**-2.0**
	baz=111,SNR=84						
D19K	**Kuna River**	**2.22 350**		IAML		00 59 42.7	
	comp=N,29μm,1.1s						
D19K				IAML		00 59 46.5	
	comp=E,34μm,2.0s						
D19K	**Kuna River**	**2.22 350**		P	**Pn**	**00 59 06.8**	**-0.4**
	baz=171						
F22K	**John River**	**2.28 56**			**Pn**	**00 59 07.0**	**-1.1**
F22K					**Pb**	**00 59 08.8**	**-2.9**
F22K	**John River**	**2.28 56**		P	**Pn**	**00 59 07.1**	**-1.0**
	baz=241						
G22K	**Bettles**	**2.32 72**			**Pn**	**00 59 07.0**	**-1.6**
G22K					**Pn**	**00 59 08.1**	**-0.4**
G22K	**Bettles**	**2.32 72**		P	**Pn**	**00 59 07.0**	**-1.6**
	baz=257						
G16K	**Koyuk River**	**2.35 249**			**Pn**	**00 59 05.4**	**-3.6**
G16K					**Pn**	**00 59 06.5**	**-2.4**
G16K	**Koyuk River**	**2.35 249**		P	**Pn**	**00 59 05.5**	**-3.4**
	baz=64						
H22K	**Ishtalitna Cre**	**2.38 98**		P	**Pn**	**00 59 08.2**	**-1.1**
	baz=282						
H22K				Sb	**Sb**	**00 59 43.5**	**+1.0**
	baz=282						
I21K	**Tanana**	**2.41 116**			**Pn**	**00 59 08.3**	**-1.5**
I21K				IAML		01 00 00.5	
	comp=E,32μm,0.9s						
I21K	**Tanana**	**2.41 116**		P	**Pn**	**00 59 08.5**	**-1.2**
	baz=300						
D20K	**Etivluk River**	**2.41 4**			**Pn**	**00 59 09.0**	**-0.9**
D20K					**Pn**	**00 59 09.7**	**-0.2**
D20K	**Etivluk River**	**2.41 4**		IAML		00 59 48.3	
	comp=E,23μm,1.5s						
D20K				IAML		00 59 51.7	
	comp=N,22μm,1.5s						
D20K	**Etivluk River**	**2.41 4**		P	**Pn**	**00 59 09.5**	**-0.4**
	baz=186						
J19K	**Poorman**	**2.42 164**		IAML		00 59 46.7	
	comp=E,40μm,1.3s						
J19K				IAML		00 59 53.2	
	comp=N,36μm,1.0s						
J19K	**Poorman**	**2.42 164**		P	**Pn**	**00 59 08.5**	**-1.5**
	baz=344,SNR=806						
J19K				Sb	**Sb**	**00 59 43.4**	**-0.4**
	baz=344						
E21K	**Killik River**	**2.45 28**			**Pn**	**00 59 09.8**	**-0.7**
E21K					**Pn**	**00 59 10.0**	**-0.4**
E21K	**Killik River**	**2.45 28**		P	**Pn**	**00 59 09.8**	**-0.7**
	baz=212						
J20K	**Nowinta River**	**2.49 149**		IAML		00 59 58.5	
	comp=E,20μm,0.6s						
J20K				IAML		00 59 58.5	
	comp=N,23μm,0.7s						
J20K	**Nowinta River**	**2.49 149**		P	**Pn**	**00 59 09.3**	**-1.5**
	baz=330,SNR=339						
D17K	**Noatak River**	**2.72 303**			**Pn**	**00 59 12.2**	**-1.9**
D17K					**Pn**	**00 59 13.1**	**-1.0**
D17K	**Noatak River**	**2.72 303**		P	**Pn**	**00 59 12.2**	**-1.9**
	baz=119						
H16K	**Elim**	**2.72 234**			**Pn**	**00 59 10.6**	**-3.5**
H16K					**Pn**	**00 59 11.5**	**-2.6**
H16K	**Elim**	**2.72 234**		P	**Pn**	**00 59 10.6**	**-3.5**
	baz=49						
E22K	**Anaktuvuk Pass**	**2.75 46**			**Pn**	**00 59 14.5**	**0.0**
E22K	**Anaktuvuk Pass**	**2.75 46**		P	**Pn**	**00 59 14.7**	**+0.1**
	baz=231						
C18K	**Utukok River**	**2.82 328**			**Pn**	**00 59 13.9**	**-1.5**
C18K					**Pn**	**00 59 15.1**	**-0.4**
C18K	**Utukok River**	**2.82 328**		P	**Pn**	**00 59 13.8**	**-1.7**
	baz=145,SNR=954						
RDOG	**Red Dog Mine**	**2.85 310**			**Pn**	**00 59 15.0**	**-0.9**
RDOG	**Red Dog Mine**	**2.85 310**		P	**Pn**	**00 59 14.2**	**-1.7**
	baz=126,SNR=485						
G23K	**Bananza Creek**	**2.87 79**			**Pn**	**00 59 14.2**	**-1.9**
G23K					**Pn**	**00 59 15.9**	**-0.2**
G23K	**Bananza Creek**	**2.87 79**		IAML		01 00 06.9	
	comp=N,26μm,1.9s						
G23K				IAML		01 00 11.9	
	comp=E,14μm,1.0s						
G23K	**Bananza Creek**	**2.87 79**		P	**Pn**	**00 59 14.2**	**-1.9**
	baz=265						
J18K	**Innoko River**	**2.87 176**			**Pn**	**00 59 14.3**	**-1.9**
J18K	**Innoko River**	**2.87 176**		P	**Pn**	**00 59 14.4**	**-1.8**
	baz=356						
I17K	**Unalakleet**	**2.88 213**			**Pn**	**00 59 14.1**	**-2.1**
I17K				IAML		01 00 08.4	
	comp=N,23μm,1.5s						
I17K	**Unalakleet**	**2.88 213**		P	**Pn**	**00 59 13.9**	**-2.2**
	baz=30						
COLD	**Coldfoot**	**2.89 68**			**Pn**	**00 59 14.7**	**-1.7**
COLD				IAML		01 00 08.1	
	comp=N,17μm,1.8s						
COLD	**Coldfoot**	**2.89 68**		P	**Pn**	**00 59 14.9**	**-1.5**
	baz=255,SNR=260						
MLY	**Manley**	**2.94 113**			**Pn**	**00 59 15.2**	**-1.9**
MLY				IAML		01 00 10.1	
	comp=N,19μm,1.3s						
MLY	**Manley**	**2.94 113**		P	**Pn**	**00 59 15.3**	**-1.9**
	baz=298,SNR=735						
C19K	**Lookout Ridge**	**2.95 343**			**Pn**	**00 59 16.6**	**-0.7**
C19K					**Pn**	**00 59 17.6**	**+0.2**
C19K	**Lookout Ridge**	**2.95 343**		IAML		01 00 14.2	
	comp=E,20μm,1.9s						
C19K				IAML		01 00 16.3	
	comp=N,13μm,1.1s						
C19K	**Lookout Ridge**	**2.95 343**		P	**Pn**	**00 59 16.5**	**-0.7**
	baz=161						
C21K	**Knifeblade Rid**	**2.98 16**			**Pn**	**00 59 16.8**	**-0.9**
C21K	**Knifeblade Rid**	**2.98 16**		P	**Pn**	**00 59 16.8**	**-0.9**
	baz=199						
J17K	**VABM Dome**	**3.05 197**			**Pn**	**00 59 16.7**	**-1.9**
J17K				IAML		01 00 09.6	
	comp=E,22μm,1.5s						
J17K				IAML		01 00 12.3	
	comp=N,15μm,1.4s						
J17K	**VABM Dome**	**3.05 197**		P	**Pn**	**00 59 16.8**	**-1.9**
	baz=14,SNR=351						
D22K	**Ayikyak River**	**3.08 31**			**Pn**	**00 59 18.7**	**-0.3**
D22K					**Pn**	**00 59 19.5**	**+0.5**
D22K	**Ayikyak River**	**3.08 31**		IAML		01 00 16.2	
	comp=E,22μm,1.6s						
D22K				IAML		01 00 17.2	
	comp=N,22μm,1.1s						
D22K	**Ayikyak River**	**3.08 31**		P	**Pn**	**00 59 18.9**	**-0.2**
	baz=216,SNR=1000						
H23K	**Yukon River**	**3.13 96**			**Pn**	**00 59 18.4**	**-1.2**
H23K					**Pn**	**00 59 19.9**	**+0.2**
H23K	**Yukon River**	**3.13 96**		P	**Pn**	**00 59 18.3**	**-1.4**
	baz=282						
F15K	**North Star Dit**	**3.14 262**			**Pn**	**00 59 16.6**	**-3.2**
F15K	**North Star Dit**	**3.14 262**		P	**Pn**	**00 59 16.5**	**-3.4**
	baz=76						
G15K	**Niukluk**	**3.16 248**			**Pn**	**00 59 16.4**	**-3.7**
G15K					**Pn**	**00 59 18.4**	**-1.7**
G15K	**Niukluk**	**3.16 248**		P	**Pn**	**00 59 16.4**	**-3.7**
	baz=62						
CHUM	**Lake Minchumin**	**3.18 138**			**Pn**	**00 59 19.4**	**-1.0**
CHUM					**Pn**	**00 59 20.0**	**-0.3**
CHUM	**Lake Minchumin**	**3.18 138**		P	**Pn**	**00 59 19.3**	**-1.0**
	baz=322,SNR=645						
C17K	**DeLong Mountai**	**3.19 316**			**Pn**	**00 59 18.8**	**-1.7**
C17K					**Pn**	**00 59 19.5**	**-1.0**
C17K	**DeLong Mountai**	**3.19 316**		P	**Pn**	**00 59 19.1**	**-1.4**
	baz=131						
K20K	**Telida**	**3.25 155**			**Pn**	**00 59 20.1**	**-1.2**
K20K	**Telida**	**3.25 155**		IAML		01 00 27.3	
	comp=E,13μm,1.2s						
K20K				IAML		01 00 28.9	
	comp=N,12μm,1.6s						
J16K	**Anvik River**	**3.39 208**			**Pn**	**00 59 21.2**	**-2.1**
J16K				IAML		01 00 21.5	
	comp=N,18μm,1.1s						
J16K	**Anvik River**	**3.39 208**		P	**Pn**	**00 59 21.5**	**-1.8**
	baz=24,SNR=52						
E23K	**Chandalar**	**3.40 56**			**Pn**	**00 59 22.8**	**-0.7**
E23K	**Chandalar**	**3.40 56**		IAML		01 00 26.6	
	comp=N,10μm,0.7s						
E23K				IAML		01 00 29.8	
	comp=E,12μm,0.7s						
E23K	**Chandalar**	**3.40 56**		P	**Pn**	**00 59 22.8**	**-0.7**
	baz=243,SNR=959						
BPAW	**Bear Paw Mtn.**	**3.41 128**			**Pn**	**00 59 22.1**	**-1.4**
BPAW				IAML		01 00 22.3	
	comp=N,12μm,0.7s						
BPAW				IAML		01 00 24.8	
	comp=E,11μm,1.2s						
BPAW	**Bear Paw Mtn.**	**3.41 128**		P	**Pn**	**00 59 23.0**	**-0.5**
	baz=313,SNR=1000						
I23K	**Minto, Yukon-K**	**3.41 107**			**Pn**	**00 59 22.1**	**-1.4**
I23K				IAML		01 00 23.9	
	comp=N,17μm,1.4s						
I23K				IAML		01 00 26.3	
	comp=E,14μm,0.8s						
I23K	**Minto, Yukon-K**	**3.41 107**		P	**Pn**	**00 59 22.0**	**-1.5**
	baz=293						
B21K	**Ikpikpuk River**	**3.45 15**			**Pn**	**00 59 22.4**	**-1.6**
B21K	**Ikpikpuk River**	**3.45 15**		IAML		01 00 29.5	
	comp=N,10μm,1.0s						
B21K				IAML		01 00 39.5	
	comp=E,17μm,1.4s						
B21K	**Ikpikpuk River**	**3.45 15**		P	**Pn**	**00 59 22.4**	**-1.6**
	baz=198						
B18K	**Kokolik River**	**3.54 332**			**Pn**	**00 59 23.8**	**-1.4**
B18K	**Kokolik River**	**3.54 332**		P	**Pn**	**00 59 24.2**	**-1.0**
	baz=149						
D23K	**Nanushuk River**	**3.62 40**			**Pn**	**00 59 26.4**	**0.0**
D23K	**Nanushuk River**	**3.62 40**		IAML		01 00 37.8	
	comp=N,11μm,1.0s						
D23K				IAML		01 00 40.2	
	comp=E,14μm,1.7s						
D23K	**Nanushuk River**	**3.62 40**		P	**Pn**	**00 59 26.2**	**-0.2**
	baz=226,SNR=1000						
K17K	**Iditarod**	**3.66 189**			**Pn**	**00 59 24.8**	**-2.1**
K17K				IAML		01 00 42.8	
	comp=E,14μm,1.2s						
K17K	**Iditarod**	**3.66 189**		P	**Pn**	**00 59 24.8**	**-2.1**
	baz=6.8						
B20K	**Meade River**	**3.71 360**			**Pn**	**00 59 26.6**	**-0.9**
B20K	**Meade River**	**3.71 360**		IAML		01 00 56.5	
	comp=N,13μm,2.0s						
B20K	**Meade River**	**3.71 360**		P	**Pn**	**00 59 26.7**	**-0.9**
	baz=180,SNR=1000						
TOLK	**Toolik Lake Re**	**3.72 48**			**Pn**	**00 59 27.4**	**-0.5**
TOLK				IAML		01 00 34.8	
	comp=E,11μm,1.6s						
TOLK				IAML		01 00 39.2	
	comp=N,10μm,1.4s						
TOLK	**Toolik Lake Re**	**3.72 48**		P	**Pn**	**00 59 27.3**	**-0.5**
	baz=235						
C16K	**Lisburne Hills**	**3.75 305**			**Pn**	**00 59 26.9**	**-1.2**
C16K	**Lisburne Hills**	**3.75 305**		P	**Pn**	**00 59 26.9**	**-1.2**
	baz=118,SNR=1000						
NEA2	**Nenana**	**3.78 114**			**Pn**	**00 59 26.9**	**-1.7**
NEA2				IAML		01 00 36.4	
	comp=N,9μm,1.1s						
NEA2				IAML		01 00 36.5	
	comp=E,9μm,1.1s						
NEA2	**Nenana**	**3.78 114**		P	**Pn**	**00 59 27.3**	**-1.3**
	baz=300,SNR=1000						
E24K	**Your Creek**	**3.79 58**			**Pn**	**00 59 27.9**	**-1.0**
E24K	**Your Creek**	**3.79 58**		IAML		01 00 42.1	
	comp=N,8μm,1.0s						
E24K	**Your Creek**	**3.79 58**		P	**Pn**	**00 59 27.7**	**-1.2**
	baz=246,SNR=1000						
H24K	**Noodor Dome**	**3.79 93**			**Pn**	**00 59 27.3**	**-1.5**
H24K	**Noodor Dome**	**3.79 93**		IAML		01 00 38.5	
	comp=N,11μm,1.5s						
H24K				IAML		01 00 45.6	
	comp=E,12μm,1.0s						
F24K	**Squaw Lake**	**3.83 67**			**Pn**	**00 59 27.7**	**-1.6**
F24K					**Pn**	**00 59 28.7**	**-0.6**
F24K	**Squaw Lake**	**3.83 67**		IAML		01 00 39.3	
	comp=N,10μm,1.0s						
F24K				IAML		01 00 46.8	
	comp=E,10μm,1.0s						
F24K	**Squaw Lake**	**3.83 67**		P	**Pn**	**00 59 27.9**	**-1.5**
	baz=256,SNR=1000						
KTH	**Kantishna Hill**	**3.83 134**			**Pn**	**00 59 28.8**	**-0.5**
KTH				IAML		01 00 36.7	
	comp=E,11μm,1.1s						
ANM	**Nome**	**3.87 247**			**Pn**	**00 59 26.4**	**-3.4**
ANM	**Nome**	**3.87 247**		P	**Pn**	**00 59 26.4**	**-3.4**
ANM	**Nome**	**3.87 247**		P	**Pn**	**00 59 26.5**	**-3.4**
	baz=59						
BWN	**Browne**	**3.87 120**			**Pn**	**00 59 29.0**	**-0.9**
F14K	**Arctic Creek**	**3.87 262**			**Pn**	**00 59 27.0**	**-2.9**
F14K	**Arctic Creek**	**3.87 262**		P	**Pn**	**00 59 27.0**	**-2.9**
	baz=73,SNR=74						
G24K	**Hadweenzic Riv**	**3.88 80**			**Pn**	**00 59 28.1**	**-1.9**
G24K					**Pn**	**00 59 29.2**	**-0.8**
G24K	**Hadweenzic Riv**	**3.88 80**		P	**Pn**	**00 59 28.3**	**-1.7**
	baz=269,SNR=840						
PPLA	**Purkeypile**	**4.04 146**			**Pn**	**00 59 31.3**	**-1.0**
PPLA				IAML		01 00 46.2	
	comp=N,8μm,1.5s						
PPLA	**Purkeypile**	**4.04 146**		P	**Pn**	**00 59 31.7**	**-0.6**
	baz=330,SNR=599						
TRF	**Thorofare Moun**	**4.09 132**			**Pn**	**00 59 31.7**	**-1.4**
TRF	**Thorofare Moun**	**4.09 132**		P	**Pn**	**00 59 32.3**	**-0.7**
	baz=317,SNR=865						
I53US	**FAIRBANKS INFR**	**4.10 106**		Pn	**Pn**	**00 59 32.0**	**-1.1**
	baz=284,slow=23						
I53US				I	I	01 20 00.0	
	baz=298,slow=322,SNR=0.5						
COLA	**College**	**4.11 106**			**Pn**	**00 59 31.9**	**-1.2**
COLA	**College**	**4.11 106**		P	**Pn**	**00 59 33.1**	**0.0**
COLA	**College**	**4.11 106**	*d*	P	**Pn**	**00 59 32.1**	**-1.0**
COLA	**College**	**4.11 106**		P	**Pn**	**00 59 32.2**	**-0.9**
	baz=294						
L18K	**Granite Mounta**	**4.12 177**			**Pn**	**00 59 31.5**	**-1.8**
L18K				IAML		01 00 40.9	
	comp=N,9μm,1.5s						
L18K				IAML		01 00 49.7	
	comp=E,7μm,1.5s						
L18K	**Granite Mounta**	**4.12 177**			**Pn**	**00 59 32.0**	**-1.3**
L18K	**Granite Mounta**	**4.12 177**		P	**Pn**	**00 59 31.8**	**-1.5**
	baz=357,SNR=105						
A19K	**Wainwright**	**4.17 341**			**Pn**	**00 59 33.1**	**-0.8**
A19K	**Wainwright**	**4.17 341**		P	**Pn**	**00 59 33.2**	**-0.8**
	baz=158						
POKR	**Poker Plat Res**	**4.18 102**			**Pn**	**00 59 32.5**	**-1.6**
POKR					**Pn**	**00 59 32.7**	**-1.4**
POKR	**Poker Plat Res**	**4.18 102**		IAML		01 00 51.1	
	comp=E,9μm,1.1s						
POKR	**Poker Plat Res**	**4.18 102**		P	**Pn**	**00 59 33.5**	**-0.6**
	baz=291,SNR=20						
WRH	**Wood River Hil**	**4.20 112**			**Pn**	**00 59 32.8**	**-1.6**
WRH				IAML		01 00 51.7	
	comp=N,5μm,0.9s						
CCB	**Clear Creek Bu**	**4.23 109**			**Pn**	**00 59 33.0**	**-1.8**
CCB				IAML		01 00 46.2	
	comp=N,5μm,0.7s						
CCB				IAML		01 00 47.0	
	comp=E,6μm,0.9s						
L17K	**Donlin**	**4.23 188

baz=269
K15K Wolf Creek Mou 4.47 207 IAML 01 01 02.4
comp=E,6µm,1.5s
K15K IAML 01 01 04.7
comp=N,7µm,1.8s
K15K Wolf Creek Mou 4.47 207 P **Pn** **00 59 36.5 -1.7**
baz=23
TNA Tin City 4.49 265 **Pn** **00 59 36.1 -2.2**
TNA Tin City 4.49 265 P **Pn** **00 59 36.2 -2.2**
baz=76,SNR=9.4
IL01 4.53 105 **Pn** **00 59 37.9 -0.9**
IL31 4.53 105 **Pn** **00 59 37.7 -1.2**
ILAR Eielson Array 4.53 105 **Pn** **00 59 37.0 -1.9**
ILAR Eielson Array 4.53 105 Pn **Pn** **00 59 37.4 -1.5**
comp=N,191nm,0.3s,baz=291,slow=13,SNR=1629
ILAR Sn **Sn** **01 00 28.2 -3.2**
comp=N,126nm,0.3s,baz=294,slow=22,SNR=6.9
ILAR Lg Lg 01 00 52.0
comp=N,293nm,0.3s,baz=302,slow=31,SNR=9.7
J14K Nanvaranak Lak 4.54 221 **Pn** **00 59 36.0 -3.0**
J14K Nanvaranak Lak 4.54 221 IAML 01 01 02.0
comp=E,7µm,1.2s
J14K Nanvaranak Lak 4.54 221 P **Pn** **00 59 35.8 -3.1**
baz=35
H25L Birch Creek 4.56 85 **Pn** **00 59 38.3 -0.9**
H25L Birch Creek 4.56 85 P **Pn** **00 59 38.4 -0.9**
baz=276
RND Reindeer 4.58 126 **Pn** **00 59 38.5 -1.2**
RND Reindeer 4.58 126 P **Pn** **00 59 38.5 -1.2**
M19K Big River Lodg 4.59 164 **Pn** **00 59 38.8 -1.0**
M19K Big River Lodg 4.59 164 IAML 01 01 04.6
comp=N,7µm,1.4s
M19K Big River Lodg 4.59 164 P **Pn** **00 59 39.2 -0.6**
baz=346
C24K Franklin Bluff 4.65 39 **Pn** **00 59 39.2 -1.4**
C24K Franklin Bluff 4.65 39 P **Pn** **00 59 39.4 -1.1**
baz=227
HDA Harding Lake 4.67 110 **Pn** **00 59 38.8 -2.0**
HDA IAML 01 01 03.4
comp=N,4µm,1.2s
HDA IAML 01 01 04.7
comp=E,4µm,1.5s
HDA Harding Lake 4.67 110 P **Pn** **00 59 39.5 -1.3**
baz=298
F25K Christian Rive 4.69 69 **Pn** **00 59 39.3 -1.8**
F25K Christian Rive 4.69 69 IAML 01 01 09.6
comp=N,5µm,0.9s
F25K IAML 01 01 17.2
comp=E,5µm,1.2s
F25K Christian Rive 4.69 69 P **Pn** **00 59 40.4 -0.7**
baz=259,SNR=1000
L16K Owhat River 4.74 194 **Pn** **00 59 39.1 -2.8**
L16K IAML 01 01 06.1
comp=E,5µm,3.1s
L16K Owhat River 4.74 194 P **Pn** **00 59 39.4 -2.5**
baz=11,SNR=22
A22K Sinclair Lake 4.77 8 **Pn** **00 59 40.6 -1.6**
A22K Sinclair Lake 4.77 8 P **Pn** **00 59 41.1 -1.1**
baz=191
FYU Fort Yukon 4.78 82 **Pn** **00 59 41.2 -1.1**
M20K Styx River 4.78 157 **Pn** **00 59 42.0 -0.5**
PRP Porcupine Dome 4.82 94 **Pn** **00 59 41.7 -1.2**
PRP IAML 01 01 15.4
comp=E,5µm,1.0s
PRP Porcupine Dome 4.82 94 P **Pn** **00 59 41.8 -1.2**
baz=285,SNR=431
E25K Arctic Village 4.84 63 **Pn** **00 59 41.8 -1.4**
E25K Arctic Village 4.84 63 IAML 01 01 11.9
comp=E,5µm,1.2s
E25K IAML 01 01 12.9
comp=N,6µm,1.3s
E25K Arctic Village 4.84 63 P **Pn** **00 59 41.6 -1.6**
baz=254,SNR=1000
M18K Stony River 4.88 173 **Pn** **00 59 42.3 -1.4**
M18K **Pn** **00 59 42.6 -1.2**
M18K Stony River 4.88 173 P **Pn** **00 59 42.3 -1.4**
baz=353
CUT Chulitna 4.93 140 **Pn** **00 59 44.4 +0.1**
CUT Chulitna 4.93 140 P **Pn** **00 59 44.4 +0.1**
baz=325,SNR=279
M17K Holitna River 4.94 182 **Pn** **00 59 42.8 -1.8**
M17K Holitna River 4.94 182 P **Pn** **00 59 43.2 -1.4**
baz=0.9,SNR=108
SKT Skwentna 4.99 148 **Pn** **00 59 44.9 -0.4**
SKT IAML 01 01 31.1
comp=N,4µm,1.5s
SKT Skwentna 4.99 148 P **Pn** **00 59 44.9 -0.4**
baz=333,SNR=882
A21K Barrow 5.03 2 **Pn** **00 59 44.0 -1.7**
A21K **Pn** **00 59 44.6 -1.1**
A21K Barrow 5.03 2 P **Pn** **00 59 44.5 -1.2**
baz=183
L15K Ungalak Mounta 5.04 204 **Pn** **00 59 43.9 -2.0**
L15K Ungalak Mounta 5.04 204 P **Pn** **00 59 44.4 -1.5**
baz=20
D25K Kavik River 5.06 49 IAML 01 01 22.3
comp=N,3µm,2.2s
D25K IAML 01 01 23.3
comp=E,4µm,1.6s
D25K Kavik River 5.06 49 P **Pn** **00 59 45.4 -0.8**
baz=239,SNR=1000
BMAR Burnt Mountain 5.07 72 **Pn** **00 59 44.6 -1.7**
WAT1 Susitna Watana 5.09 130 P **Pn** **00 59 46.1 -0.4**
baz=317
J25K Salcha River, 5.18 104 IAML 01 01 16.3
comp=N,4µm,1.1s
J25K IAML 01 01 29.1
comp=E,3µm,1.2s
J25K Salcha River, 5.18 104 P **Pn** **00 59 46.4 -1.6**
baz=294,SNR=274
F26K Sheenjek River 5.27 69 **Pn** **00 59 47.9 -1.1**
F26K **Pn** **00 59 49.3 +0.2**
F26K Sheenjek River 5.27 69 P **Pn** **00 59 48.2 -0.8**
baz=261,SNR=1000
DHY Denali Highway 5.29 123 IAML 01 01 31.9
comp=N,2µm,1.2s
DHY IAML 01 01 40.9
comp=E,2µm,1.2s
DHY Denali Highway 5.29 123 P **Pn** **00 59 48.8 -0.8**
baz=312,SNR=1000
G26K Porcupine Rive 5.34 77 **Pn** **00 59 48.4 -1.7**
G26K **Pn** **00 59 49.8 -0.2**
G26K Porcupine Rive 5.34 77 P **Pn** **00 59 48.9 -1.2**
baz=269
M16K Timber Creek 5.38 190 **Pn** **00 59 48.3 -2.3**
M16K Timber Creek 5.38 190 IAML 01 01 30.4
comp=E,3µm,1.9s
M16K IAML 01 01 37.1
comp=N,3µm,1.7s
M16K Timber Creek 5.38 190 P **Pn** **00 59 48.2 -2.4**
baz=7.5
K24K Donnelly Dome 5.42 113 **Pn** **00 59 49.9 -1.3**
K13K Kusilvak Mount 5.50 220 **Pn** **00 59 49.4 -2.8**
K13K Kusilvak Mount 5.50 220 P **Pn** **00 59 49.8 -2.4**
baz=33
M22K Willow 5.52 143 P **Pn** **00 59 51.8 -0.6**
baz=329
WAT6 Susitna Watana 5.52 128 **Pn** **00 59 51.9 -0.8**
WAT6 **Pn** **00 59 52.3 -0.4**
WAT6 Susitna Watana 5.52 128 P **Pn** **00 59 51.8 -0.8**
baz=316,SNR=619
L14K Kuka Creek 5.57 209 **Pn** **00 59 51.1 -2.1**
L14K Kuka Creek 5.57 209 P **Pn** **00 59 51.6 -1.5**
baz=23
SPCR Spurr Chakacha 5.58 155 **Pn** **00 59 53.3 -0.1**
SPCR Spurr Chakacha 5.58 155 P **Pn** **00 59 52.1 -1.3**
baz=339
N19K Bonanza Creek 5.65 167 P **Pn** **00 59 53.2 -1.2**
baz=349
N18K Kilae Creek 5.69 174 P **Pn** **00 59 53.7 -1.1**
baz=354,SNR=145
RIDG Independent Ri 5.80 111 **Pn** **00 59 56.3 -0.1**
RIDG Independent Ri 5.80 111 P **Pn** **00 59 55.5 -1.0**
baz=302,SNR=64
GHO Glory Hole Cre 5.81 138 **Pn** **00 59 55.8 -0.7**
C26K Camden Bay 5.81 46 **Pn** **00 59 56.0 -0.6**
C26K Camden Bay 5.81 46 P **Pn** **00 59 55.9 -0.6**
baz=238
N17K Nushagak Hills 5.82 180 **Pn** **00 59 55.1 -1.4**
N17K Nushagak Hills 5.82 180 P **Pn** **00 59 55.3 -1.3**
baz=360,SNR=60
I26K Coal Creek Min 5.83 94 P **Pn** **00 59 55.4 -1.3**
baz=286,SNR=670
M15K Kasigluk River 5.87 197 **Pn** **00 59 55.1 -2.1**
M15K **Pn** **00 59 55.4 -1.9**
M15K Kasigluk River 5.87 197 P **Pn** **00 59 55.4 -1.9**

baz=14
PMR Palmer 5.90 140 **Pn** **00 59 57.8 +0.1**
PMR Palmer 5.90 140 P **Pn** **00 59 57.8 +0.1**
PMR Palmer 5.90 140 P **Pn** **00 59 57.5 -0.3**
baz=326
N16K Nishlik Lake 5.92 188 **Pn** **00 59 56.0 -2.0**
N16K **Pn** **00 59 56.1 -1.8**
N16K Nishlik Lake 5.92 188 P **Pn** **00 59 55.8 -2.1**
baz=6.0,SNR=227
J26L Joseph Creek 5.94 102 P **Pn** **00 59 57.4 -1.0**
baz=294
SML Sawmill 5.94 136 **Pn** **00 59 57.6 -0.7**
SML Sawmill 5.94 136 P **Pn** **00 59 57.5 -0.9**
baz=323,SNR=175
M14K Bethel 5.99 203 **Pn** **00 59 57.2 -1.7**
M14K Bethel 5.99 203 P **Pn** **00 59 57.6 -1.4**
baz=19
SCRK Sand Creek 6.01 107 **Pn** **00 59 57.8 -1.5**
SCRK **Pn** **00 59 58.1 -1.2**
SCRK Sand Creek 6.01 107 P **Pn** **00 59 58.0 -1.4**
baz=298,SNR=97
PAX Paxson 6.02 119 P **Pn** **00 59 58.9 -0.6**
baz=309,SNR=162
FIS Fire Island 6.03 146 **Pn** **00 59 59.1 -0.3**
C27K Jago River 6.03 51 **Pn** **00 59 59.3 -0.2**
C27K Jago River 6.03 51 P **Pn** **00 59 59.4 -0.1**
baz=243,SNR=91
DFR Drift River 6.08 159 **Pn** **00 59 59.6 -0.7**
M23K Glacier View 6.13 133 **Pn** **01 00 01.1 +0.2**
M23K Glacier View 6.13 133 P **Pn** **01 00 00.3 -0.6**
baz=322
DOT Dot Lake 6.15 110 **Pn** **00 59 59.2 -1.9**
CAPN Captain Cook N 6.17 152 P **Pn** **01 00 01.7 +0.3**
baz=337,SNR=38
RC01 Rabbit Creek A 6.19 145 **Pn** **01 00 01.4 -0.3**
RC01 Rabbit Creek A 6.19 145 P **Pn** **01 00 01.6 -0.1**
baz=331,SNR=70
G27K Doyon Strip 6.19 78 **Pn** **01 00 00.5 -1.2**
G27K Doyon Strip 6.19 78 P **Pn** **01 00 01.3 -0.4**
baz=272
SCM Sheep Creek Mo 6.21 132 **Pn** **01 00 01.5 -0.6**
SCM Sheep Creek Mo 6.21 132 P **Pn** **01 00 01.5 -0.6**
SCM Sheep Creek Mo 6.21 132 P **Pn** **01 00 01.2 -0.9**
baz=320,SNR=115
KNK Knik Glacier 6.23 138 **Pn** **01 00 02.4 +0.1**
KNK Knik Glacier 6.23 138 P **Pn** **01 00 02.4 +0.1**
baz=326,SNR=404
O19K Port Alsworth 6.28 167 P **Pn** **01 00 01.6 -1.3**
baz=349
H27K Steamboat Moun 6.29 84 **Pn** **01 00 02.8 -0.3**
H27K **Pn** **01 00 03.1 0.0**
H27K Steamboat Moun 6.29 84 P **Pn** **01 00 02.8 -0.3**
baz=278
E27K Coleen River 6.30 66 **Pn** **01 00 01.4 -1.8**
E27K Coleen River 6.30 66 P **Pn** **01 00 02.5 -0.7**
baz=260
N15K Kwethluk River 6.32 194 **Pn** **01 00 01.4 -2.1**
N15K **Pn** **01 00 02.1 -1.4**
N15K Kwethluk River 6.32 194 P **Pn** **01 00 01.6 -1.9**
baz=11
M24K Tolsona, Glenn 6.37 126 **Pn** **01 00 03.6 -0.7**
M24K Tolsona, Glenn 6.37 126 P **Pn** **01 00 04.7 +0.4**
baz=316
I27K Kandik River 6.37 89 **Pn** **01 00 02.4 -1.9**
I27K Kandik River 6.37 89 P **Pn** **01 00 03.6 -0.6**
baz=283
HARP HAARP 6.51 122 P **Pn** **01 00 06.3 +0.3**
baz=312
O18K Koktuh Hills 6.55 172 P **Pn** **01 00 04.9 -1.7**
baz=353
M13K Dall Lake 6.55 208 P **Pn** **01 00 05.6 -1.0**
baz=22
O17K Koliganek Bris 6.57 180 P **Pn** **01 00 05.5 -1.4**
baz=360
O20K Slope Mountain 6.58 160 P **Pn** **01 00 06.2 -1.0**
baz=344
O22K Cooper Landing 6.73 147 **Pn** **01 00 09.0 0.0**
O22K Cooper Landing 6.73 147 P **Pn** **01 00 08.6 -0.5**
baz=333
PWL Port Wells 6.73 140 **Pn** **01 00 08.8 -0.3**
PWL Port Wells 6.73 140 P **Pn** **01 00 08.8 -0.3**
baz=328,SNR=72
K27K Chicken 6.73 103 P **Pn** **01 00 08.5 -0.6**
baz=296,SNR=64
N14K Kuskokwak Cree 6.75 200 **Pn** **01 00 08.0 -1.3**
N14K Kuskokwak Cree 6.75 200 P **Pn** **01 00 07.5 -1.8**
baz=16
L26K Log Cabin Wild 6.76 113 P **Pn** **01 00 09.2 -0.4**
baz=305
O16K Kokwok River B 6.77 184 P **Pn** **01 00 07.9 -1.6**
baz=3.0,SNR=36
D27M Malcolm River 6.78 57 **Pn** **01 00 09.7 -0.2**
D27M Malcolm River 6.78 57 P **Pn** **01 00 09.3 -0.6**
baz=252
EGAK Eagle 6.80 96 **Pn** **01 00 08.8 -1.3**
EGAK Eagle 6.80 96 P **Pn** **01 00 09.0 -1.0**
baz=290
F28M Old Crow 6.88 71 **Pn** **01 00 09.9 -1.3**
F28M Old Crow 6.88 71 P **Pn** **01 00 10.5 -0.7**
baz=267,SNR=1000
KLU Klutina 6.91 129 **Pn** **01 00 11.9 +0.3**
KLU Klutina 6.91 129 P **Pn** **01 00 10.9 -0.7**
baz=319,SNR=351
P19K Oil Pt 6.92 163 **Pn** **01 00 11.4 -0.4**
P19K Oil Pt 6.92 163 P **Pn** **01 00 11.0 -0.8**
baz=346,SNR=6.7
P18K Big Mountain, 7.01 172 **Pn** **01 00 11.4 -1.5**
P18K Big Mountain, 7.01 172 P **Pn** **01 00 11.3 -1.7**
baz=353
GLI Glacier Island 7.05 136 **Pn** **01 00 13.4 0.0**
GLI **Pn** **01 00 14.6 +1.1**
GLI Glacier Island 7.05 136 P **Pn** **01 00 12.1 -1.3**
baz=325,SNR=108
I28M Miner Creek 7.09 89 P **Pn** **01 00 13.1 -1.0**
baz=285,SNR=268
E28M Babbage River 7.13 63 **Pn** **01 00 13.1 -1.4**
E28M Babbage River 7.13 63 P **Pn** **01 00 13.7 -0.8**
baz=260,SNR=1000
SEW Seward 7.13 147 **Pn** **01 00 15.4 +0.9**
SEW Seward 7.13 147 P **Pn** **01 00 14.1 -0.4**
baz=334,SNR=41
HOM Homer 7.13 157 P **Pn** **01 00 13.5 -1.1**
baz=342
AUCH Augustine Cone 7.18 165 **Pn** **01 00 15.2 -0.2**
AGU Augustine-Summ 7.18 165 **Pn** **01 00 13.5 -1.9**
BRSE Bradley Lake S 7.21 153 **Pn** **01 00 15.4 -0.3**
BRSE Bradley Lake S 7.21 153 P **Pn** **01 00 14.5 -1.2**
baz=339,SNR=32
M11K Mekoryuk 7.22 219 **Pn** **01 00 14.3 -1.4**
M11K Mekoryuk 7.22 219 P **Pn** **01 00 13.3 -2.5**
baz=30
DIV Divide 7.24 131 **Pn** **01 00 16.1 +0.1**
N25K Chitina, Valde 7.25 125 **Pn** **01 00 16.8 +0.4**
N25K Chitina, Valde 7.25 125 P **Pn** **01 00 15.3 -1.0**
baz=316
M26K Nabesna, AK 7.27 116 **Pn** **01 00 15.4 -1.2**
M26K Nabesna, AK 7.27 116 P **Pn** **01 00 15.9 -0.6**
baz=309,SNR=45
O15K Ungalikthiuk R 7.28 191 **Pn** **01 00 14.3 -2.3**
O15K Ungalikthiuk R 7.28 191 P **Pn** **01 00 14.2 -2.3**
baz=8.3
CNPM China Poot 7.32 156 **Pn** **01 00 16.2 -1.0**
FID Port Fidalgo 7.33 135 **Pn** **01 00 15.7 -1.6**
P16K Nushagak River 7.33 184 **Pn** **01 00 15.4 -1.8**
P16K Nushagak River 7.33 184 P **Pn** **01 00 15.7 -1.6**
baz=2.4,SNR=43
BCAR Beaver Creek A 7.33 109 **Pn** **01 00 14.4 -3.0**
O14K Tigyukauivet M 7.34 197 **Pn** **01 00 16.2 -1.3**
O14K Tigyukauivet M 7.34 197 P **Pn** **01 00 16.1 -1.4**
baz=13
H29M Whitestone 7.56 82 **Pn** **01 00 19.0 -1.4**
H29M Whitestone 7.56 82 P **Pn** **01 00 19.8 -0.6**
baz=279,SNR=130
D28M Stokes Point 7.57 58 P **Pn** **01 00 19.8 -0.7**
baz=255,SNR=99
Q19K Cape Douglas, 7.59 166 **Pn** **01 00 19.3 -1.6**
Q19K Cape Douglas, 7.59 166 P **Pn** **01 00 19.6 -1.3**
baz=349
HIN Hinchinbrook I 7.61 136 **Pn** **01 00 21.0 -0.2**
G29M Pine Creek 7.61 77 P **Pn** **01 00 20.4 -0.8**
baz=274,SNR=146
Q16K King Salmon 7.67 178 P **Pn** **01 00 20.5 -1.5**
baz=358,SNR=11
E29M Blow River 7.69 66 **Pn** **01 00 21.5 -0.7**
E29M Blow River 7.69 66 P **Pn** **01 00 21.7 -0.6**

baz=263
M27K Edge Creek, AK 7.71 114 **Pn** **01 00 20.2 -2.4**
M27K Edge Creek, AK 7.71 114 P **Pn** **01 00 21.3 -1.3**
baz=307,SNR=92
P23K Montague Islan 7.71 141 Pn **Pn** **01 00 21.3 -1.2**
P23K Montague Islan 7.71 141 P **Pn** **01 00 21.7 -0.8**
baz=329,SNR=115
BMRM Bremner River 7.72 128 **Pn** **01 00 21.9 -0.9**
BMRM Bremner River 7.72 128 P **Pn** **01 00 21.4 -1.4**
baz=319,SNR=39
KAHC Katmai Hardscr 7.76 172 **Pn** **01 00 21.7 -1.7**
Q18K Katmai Hardscr 7.76 172 P **Pn** **01 00 21.2 -2.2**
baz=353
I29M Ogilvie Camp, 7.77 88 P **Pn** **01 00 23.1 -0.3**
baz=286
DAWY Dawson 7.78 99 P **Pn** **01 00 22.7 -0.9**
baz=295
VRDI Verde Repeater 7.91 124 **Pn** **01 00 24.3 -1.1**
KARR Katmai Rainbow 7.93 171 **Pn** **01 00 24.7 -0.8**
MCARA McCarthy VSAT 7.94 122 **Pn** **01 00 26.3 +0.6**
MCARA McCarthy VSAT 7.94 122 P **Pn** **01 00 25.9 +0.2**
baz=314,SNR=42
KAHG Katmai Hook Gl 7.94 170 **Pn** **01 00 24.8 -1.0**
GOAT Goat Mountain 7.98 130 **Pn** **01 00 25.9 -0.4**
Q20K Shuyak Island 8.04 162 P **Pn** **01 00 25.8 -1.2**
baz=346
SYI Shuyak Island 8.04 162 **Pn** **01 00 26.4 -0.7**
J29N Klondike Camp 8.10 95 P **Pn** **01 00 27.5 -0.5**
baz=292
CNTC Contact Creek 8.11 175 **Pn** **01 00 26.4 -1.6**
Q17K Contact Creek 8.11 175 P **Pn** **01 00 25.9 -2.1**
baz=356,SNR=23
KAKN Katmai Knife C 8.11 172 **Pn** **01 00 26.7 -1.4**
KABU Katmai Buttres 8.12 173 **Pn** **01 00 26.9 -1.4**
RAGM Ragged Mountai 8.15 131 **Pn** **01 00 28.1 -0.5**
ACHA Angle Creek He 8.18 173 **Pn** **01 00 28.0 -1.1**
EPYK Eagle Plains 8.19 80 P **Pn** **01 00 28.5 -0.7**
baz=279,SNR=68
PTPK Patty Peak 8.27 122 **Pn** **01 00 30.2 -0.2**
G30M tAoh Zraii Nji 8.31 76 P **Pn** **01 00 29.8 -1.0**
baz=275
HMT Hamilton 8.32 130 **Pn** **01 00 30.3 -0.6**
CRQE Cirque 8.38 125 P **Pn** **01 00 30.9 -0.9**
baz=318,SNR=66
BALM Baldy 8.42 122 **Pn** **01 00 32.6 +0.2**
F30M Barrier River 8.45 71 **Pn** **01 00 32.5 -0.2**
F30M Barrier River 8.45 71 P **Pn** **01 00 32.3 -0.3**
baz=271
BERG Berg Lake 8.45 128 **Pn** **01 00 32.3 -0.4**
TGL Tana Glacier 8.46 125 **Pn** **01 00 32.0 -0.9**
MID Middleton Isla 8.48 140 Pn **Pn** **01 00 30.4 -2.6**
NICHA Nichawak Mount 8.49 130 **Pn** **01 00 33.4 +0.1**
KIAG Kiagna River 8.50 123 **Pn** **01 00 33.0 -0.5**
KHIT Khitrov Hills 8.56 127 **Pn** **01 00 34.2 -0.1**
I30M Mount Dempster 8.59 88 **Pn** **01 00 33.7 -1.0**
I30M Mount Dempster 8.59 88 P **Pn** **01 00 33.9 -0.8**
baz=287,SNR=25
PLK2 Peulik 2 8.60 177 **Pn** **01 00 33.4 -1.3**
KAIM Kayak Island 8.60 132 Pn **Pn** **01 00 34.1 -0.6**
KAIM Kayak Island 8.60 132 P **Pn** **01 00 33.6 -1.1**
baz=323
K29M Barlow Dome 8.62 98 **Pn** **01 00 33.9 -1.3**
K29M Barlow Dome 8.62 98 P **Pn** **01 00 34.2 -1.0**
baz=295
BARN Barnard Glacie 8.64 120 **Pn** **01 00 35.9 +0.5**
GRIN Grindle Hills 8.66 128 **Pn** **01 00 36.2 +0.6**
SUCK Suckling Hills 8.68 130 Pn **Pn** **01 00 35.6 -0.2**
WAX Waxell Ridge 8.68 126 **Pn** **01 00 36.3 +0.4**
L29M L29M 8.73 103 P **Pn** **01 00 35.8 -0.7**
baz=300
PLK4 Peulik 4 8.73 177 **Pn** **01 00 36.2 -0.3**
R17L Mt. Peulik Vol 8.73 177 P **Pn** **01 00 35.1 -1.4**
baz=358
ISLE Juniper Island 8.74 124 **Pn** **01 00 36.6 -0.2**
BGLC Bering Glacier 8.79 128 P **Pn** **01 00 37.5 +0.2**
baz=321
J30M Hart River 8.82 92 P **Pn** **01 00 37.1 -0.7**
baz=291
CTG Chitna Glacier 8.82 120 P **Pn** **01 00 38.3 +0.5**
baz=314,SNR=56
CTGM Chitina Glacie 8.82 120 **Pn** **01 00 37.9 0.0**
KDAK Kodiak Island 8.82 164 **Pn** **01 00 38.2 +0.4**
KDAK Kodiak Island 8.82 164 Pn **Pn** **01 00 39.6 +1.9**
comp=N,12nm,0.3s,baz=6.9,slow=9.4,SNR=83
KDAK Sn **Sn** **01 02 23.6 +6.5**
comp=N,2.0nm,0.3s,baz=344,slow=22,SNR=1.4
KDAK Lg Lg 01 03 06.8
comp=N,2.8nm,0.3s,baz=196,slow=24,SNR=6.6
KDAK LR LR 01 04 13.3
comp=N,11µm,18.8s,baz=5.8,slow=38
KDAK Kodiak Island 8.82 164 ||/P **Pn** **01 00 38.7 +0.9**
KDAK Kodiak Island 8.82 164 P **Pn** **01 00 37.3 -0.5**
baz=348
BARK Barkley Ridge 8.83 125 **Pn** **01 00 37.0 -1.0**
GRNC Granite Creek 8.84 122 **Pn** **01 00 38.8 +0.6**
R18K Karluk 8.87 171 P **Pn** **01 00 37.4 -1.1**
baz=353
BAGL Bagley Icefiel 8.90 124 **Pn** **01 00 39.5 +0.6**
M29M Somme Creek 8.95 107 P **Pn** **01 00 39.3 -0.3**
baz=304,SNR=12
LOGN Logan Glacier 9.03 120 **Pn** **01 00 41.4 +0.6**
G31M Satah River 9.09 76 **Pn** **01 00 39.1 -2.2**
G31M Satah River 9.09 76 P **Pn** **01 00 40.7 -0.6**
baz=277
YAH Yahtse 9.11 124 **Pn** **01 00 41.0 -1.0**
YUK8 Steele Glacier 9.16 115 **Pn** **01 00 42.4 -0.3**
YUK8 Steele Glacier 9.16 115 P **Pn** **01 00 42.5 -0.2**
baz=311
MESA MESA 9.18 125 **Pn** **01 00 42.5 -0.4**
MESA MESA 9.18 125 P **Pn** **01 00 42.5 -0.4**
baz=318,SNR=8.7
F31M Tsiigehtchic 9.24 72 P **Pn** **01 00 43.6 +0.2**
baz=274
H31M Peel River 9.25 83 **Pn** **01 00 42.9 -0.8**
H31M Peel River 9.25 83 P **Pn** **01 00 43.7 0.0**
baz=284,SNR=16
TABL Table Mountain 9.26 122 **Pn** **01 00 43.7 -0.3**
RKAV Rock Avalanche 9.29 123 **Pn** **01 00 44.0 -0.4**
INK Inuvik 9.30 67 **Pn** **01 00 43.8 -0.5**
INK Inuvik 9.30 67 Pn **Pn** **01 00 42.8 -1.5**
comp=N,3.7nm,0.3s,baz=266,slow=20,SNR=47
INK Sn **Sn** **01 02 26.3 -2.4**
comp=N,7.2nm,0.3s,baz=349,slow=32,SNR=1.5
INK Lg Lg 01 03 21.5
comp=N,3.8nm,0.3s,baz=194,slow=12,SNR=2.2
INK LR LR 01 05 10.7
comp=N,4µm,21.1s,baz=257,slow=43
comp=N,11nm,0.6s
INK Inuvik 9.30 67 P **Pn** **01 00 43.8 -0.5**
INK Inuvik 9.30 67 P **Pn** **01 00 45.0 +0.7**
baz=269
OHAK Old Harbor 9.31 167 **Pn** **01 00 43.0 -1.4**
OHAK Old Harbor 9.31 167 P **Pn** **01 00 48.6 +4.2**
comp=N,128nm,0.9s
OHAK Old Harbor 9.31 167 S **Sn** **01 02 33.2 +4.3**
comp=N,128nm,0.9s
OHAK Old Harbor 9.31 167 P **Pn** **01 00 43.7 -0.7**
baz=350
O28M Mount Upton 9.36 119 **Pn** **01 00 46.3 +0.9**
O28M Mount Upton 9.36 119 P **Pn** **01 00 45.6 +0.3**
baz=314,SNR=121
M30M Minto, Yukon 9.53 104 P **Pn** **01 00 47.7 +0.2**
baz=302,SNR=644
YUK4 Talbot Arm 9.54 113 P **Pn** **01 00 46.6 -1.2**
baz=309
CHX Chaix Hills 9.55 124 **Pn** **01 00 47.2 -0.5**
SAMH Samovar Hills 9.61 123 **Pn** **01 00 48.8 +0.2**
PCA Pinnacle 9.81 122 **Pn** **01 00 51.2 -0.2**
PINM Pinnacle 9.82 122 P **Pn** **01 00 51.8 +0.3**
baz=316,SNR=14
SII Sitkinak Islan 9.89 171 P **Pn** **01 00 52.3 -0.2**
baz=353
YUK6 Outpost Mounta 9.90 114 **Pn** **01 00 52.0 -0.7**
YUK6 Outpost Mounta 9.90 114 P **Pn** **01 00 53.2 +0.4**
baz=311
YUK5 Granite Creek 9.97 112 **Pn** **01 00 52.8 -0.8**
N30M Aishikik Lake 10.05 110 **Pn** **01 00 53.5 -1.2**
N30M Aishikik Lake 10.05 110 P **Pn** **01 00 54.2 -0.4**
baz=307
BCPM Bancas Point 10.13 121 **Pn** **01 00 55.4 -0.3**
O29M Mount Kennedy 10.26 117 **Pn** **01 00 56.8 -0.8**
O29M Mount Kennedy 10.26 117 P **Pn** **01 00 57.8 +0.2**
baz=314,SNR=20
HYT Haines Junctio 10.30 113 **Pn** **01 00 57.6 -0.5**
HYT Haines Junctio 10.30 113 P **Pn** **01 00 59.1 +1.0**

baz=310
PNL Peninsula 10.42 121 P Pn 01 01 01.6 +1.9
comp=N,104nm,0.7s
PNL Peninsula 10.42 121 P Pn 01 00 59.4 -0.3
baz=317,SNR=6.3
N31M Braeburn, Yuko 10.54 107 P Pn 01 01 02.0 +0.7
baz=306
M31M Drury Creek, Y 10.67 102 Pn 01 01 02.9 -0.2
M31M Drury Creek, Y 10.67 102 P Pn 01 01 03.7 +0.5
baz=302,SNR=205
O30N Mendenhall 10.86 111 Pn 01 01 04.2 -1.6
O30N Mendenhall 10.86 111 P Pn 01 01 04.1 -1.6
baz=310
P30M Million Dollar 10.97 115 P Pn 01 01 08.3 +1.0
baz=313,SNR=34
P29M Windy Craggy 11.03 118 Pn 01 01 07.4 -0.6
P29M Windy Craggy 11.03 118 P Pn 01 01 07.6 -0.5
baz=315
SDPT Sand Point 11.13 190 P Pn 01 01 13.7 +4.4
comp=N,240nm,1.7s
WHY Whitehorse 11.39 109 Pn 01 01 12.0 -1.0
WHY Whitehorse 11.39 109 P Pn 01 01 12.1 -1.0
baz=309
CNBA Chernabura Isl 11.60 187 Pn Pn 01 01 13.9 -1.9
PLBC Pleasant Camp 11.65 116 P Pn 01 01 15.7 -0.7
baz=315
N32M Quiet Lake 11.79 105 Pn 01 01 17.7 -0.7
N32M Quiet Lake 11.79 105 P Pn 01 01 17.3 -1.1
baz=306
FALS False Pass 11.90 198 Pn Pn 01 01 18.3 -1.6
SKAG Skagway 12.03 115 Pn 01 01 20.6 -1.0
SKAG Skagway 12.03 115 P Pn 01 01 21.2 -0.4
baz=314
P33M Teslin, Yukon 12.47 108 Pn 01 01 27.1 -0.6
P33M Teslin, Yukon 12.47 108 P Pn 01 01 27.4 -0.3
baz=310
P32M Atlin 12.54 111 P Pn 01 01 26.9 -1.7
baz=312
A36M Sachs Harbour 12.55 49 Pn 01 01 26.3 -2.3
A36M Sachs Harbour 12.55 49 P Pn 01 01 24.8 -3.8
baz=259
C36M Paulatuk 12.73 61 Pn 01 01 30.2 -0.9
C36M Paulatuk 12.73 61 P Pn 01 01 29.5 -1.6
baz=272
BESE Bessie Mountai 12.82 117 Pn 01 01 32.0 -0.5
AKUT Akutan 12.94 203 P Pn 01 01 38.8 +4.8
comp=N,177nm,1.4s
R32K Eaglecrest 13.17 117 Pn 01 01 37.3 +0.1
R32K Eaglecrest 13.17 117 P Pn 01 01 36.3 -0.9
baz=317
UNV Unalaska Valle 13.34 205 Pn Pn 01 01 36.6 -2.9
UNV Unalaska Valle 13.34 205 P Pn 01 01 37.7 -1.8
baz=16
TGTN Hyland Airport 13.48 97 P Pn 01 01 41.0 -0.4
baz=303
Q32M Nakina River 13.51 111 Pn 01 01 42.0 0.0
Q32M Nakina River 13.51 111 P Pn 01 01 41.4 -0.6
baz=313
R33M Jennings River 13.71 108 Pn 01 01 43.7 -1.0
R33M Jennings River 13.71 108 P Pn 01 01 44.1 -0.6
baz=311
S32K Killisnoo 13.75 119 Pn Pn 01 01 44.9 -0.2
S32K Killisnoo 13.75 119 P Pn 01 01 45.3 +0.3
baz=319
SIT Sitka 13.81 122 Pn 01 01 46.6 +0.7
SIT Sitka 13.81 122 P Pn 01 01 47.2 +1.3
comp=N,78nm,1.0s
SIT Sitka 13.81 122 P Pn 01 01 46.6 +0.7
SIT Sitka 13.81 122 P Pn 01 01 45.1 -0.7
baz=321
WTLY Watson Lake, Y 14.10 103 P Pn 01 01 50.8 +1.0
baz=308
BILL Bilibino 14.17 294 Pn 01 01 49.7 -1.1
BILL Bilibino 14.17 294↓ *e*P **Pn 01 01 49.7 -1.1**
BILL pmax pmax
comp=Z,93nm,1.3s
WRGLY Wrigley 14.56 87 P Pn 01 01 54.9 -1.2
baz=297
NIKH Nikolski High 14.60 209 P Pn 01 01 58.8 +2.1
S34M Telegraph Cree 14.67 113 P Pn 01 01 57.8 +0.1
baz=316
DLBC Dease Lake 14.72 110 Pn Pn 01 02 00.1 +1.7
comp=Z,30nm,0.3s,baz=280,slow=8.6,SNR=19
DLBC Lg Lg 01 06 15.8
comp=Z,17nm,0.3s,baz=182,slow=4.7,SNR=6.0
DLBC LR LR 01 07 58.0
comp=Z,91µm,18.1s,baz=301,slow=38
DLBC Dease Lake 14.72 110 P Pn 01 01 58.5 +0.1
baz=314
WRAK Wrangell Islan 15.34 118 Pn 01 02 05.7 -1.0
WRAK Wrangell Islan 15.34 118 P Pn 01 02 05.9 -0.8
baz=320
LIRD Liard River Hi 15.60 102 P Pn 01 02 10.2 +0.1
baz=309
T35M Bob Quinn 15.68 114 Pn 01 02 09.9 -1.2
T35M Bob Quinn 15.68 114 P Pn 01 02 10.6 -0.5
baz=317
CRAG Craig 15.82 122 Pn 01 02 12.0 -0.8
CRAG IAmb IAmb 01 02 17.8
comp=Z,212nm,1.7s
CRAG Craig 15.82 122 P P 01 02 14.8 -1.9
comp=Z,180nm,1.3s
CRAG Craig 15.82 122 P Pn 01 02 12.3 -0.5
baz=323
KOTAN Kotaneelee Air 15.97 97 P Pn 01 02 13.9 -1.0
baz=307
TOAD Toad River Com 16.31 102 P Pn 01 02 18.7 -0.5
baz=310
ADK Adak 17.49 224 P P 01 02 39.0 +3.8
comp=Z,47nm,1.3s
DIB Dawson Inlet, 17.90 125 Pn 01 02 39.1 +0.1
YKAW3 Yellowknife Wh 18.44 82 P P 01 02 44.6 -0.9
YKAW3 IAmb IAmb 01 02 52.5
comp=Z,146nm,1.2s
YKA Yellowknife Ar 18.48 82 P P 01 02 45.1 -0.9
YKA Yellowknife Ar 18.48 82 P P 01 02 45.5 -0.5
comp=Z,1.3nm,0.3s,baz=302,slow=12,SNR=34
YKA S **Sn 01 06 10.8 -1.3**
comp=Z,2.3nm,0.6s,baz=86,slow=20,SNR=3.0
comp=Z,53nm,1.1s
YKA Yellowknife Ar 18.48 82 *i* P **Pn 01 02 47.5 +1.4**
YKA pmax pmax
comp=Z,56nm,1.0s
YKAW1 Yellowknife Wh 18.53 82 P P 01 02 44.8 -1.8
YKAW1 IAmb IAmb 01 02 53.6
comp=Z,89nm,1.2s
SHEM Shemya Is, Ala 19.70 240 LR LR 01 10 35.3
comp=Z,4µm,18.4s,baz=35,slow=37
BBB Bella Bella 20.22 120 P P 01 03 03.8 -1.3
BBB IAmb IAmb 01 03 14.2
comp=Z,194nm,1.2s
BBB Bella Bella 20.22 120 P P 01 03 06.0 +0.9
comp=Z,48nm,0.9s,baz=340,slow=10,SNR=5.1
BBB LR LR 01 11 12.8
comp=Z,4µm,18.1s,baz=326,slow=38
comp=Z,48nm,0.9s
RES Resolute Bay 21.26 40 P P 01 03 15.6 -0.6
RES Resolute Bay 21.26 40 P P 01 03 14.3 -1.9
comp=Z,8.5nm,0.9s,baz=261,slow=14,SNR=18
RES S **S 01 07 03.4 -8.4**
comp=Z,19nm,0.8s,baz=349,slow=17,SNR=2.2
RES LR LR 01 13 21.1
comp=Z,4µm,21.3s,baz=258,slow=42
comp=Z,8.5nm,0.9s
RES Resolute Bay 21.26 40 P P 01 03 15.6 -0.6
RES pmax pmax
comp=Z,34nm,0.8s
SEY Seymchan 21.41 285 *e*P **P 01 03 16.3 -1.6**
SEY pmax pmax
comp=Z,337nm,1.3s
CBB Campbell River 22.98 120 P P 01 03 35.0 +0.3
CBB IAmb IAmb 01 03 43.9
comp=Z,64nm,0.9s
MA2 Magadan 23.98 279 P P 01 03 42.8 -1.8
MA2 Magadan 23.98 279 *d i* P **P 01 03 44.3 -0.2**
MA2 pmax pmax
comp=Z,491nm,1.4s
BLKN Baker Lake 24.71 66 P P 01 03 50.8 -0.4
PGC Sidney 24.82 119 P P 01 03 51.2 -1.1
PGC IAmb IAmb 01 03 59.8
comp=Z,116nm,1.2s
PET Petropavlovsk 25.33 260 *e*P **P 01 03 57.8 +1.0**
PET *e*S **S 01 08 21.1 -1.4**
PET pmax pmax
comp=Z,73nm,1.5s
TIXI Tiksi 25.45 315 P **P 01 03 56.1 -1.7**

TIXI Tiksi 25.45 315↓ *e*P **P 01 03 57.0 -0.8**
TIXI pmax pmax
comp=Z,103nm,1.8s
PETK Petropavlovsk- 25.65 261 LR LR 01 14 38.3
comp=Z,3µm,18.5s,baz=37,slow=38
ILON Igloolik, Nuna 26.90 49 P P 01 04 10.4 -0.5
NEW Newport 27.45 111 P P 01 04 18.2 +2.1
comp=Z,11nm,1.0s,baz=330,slow=8.4,SNR=10
NEW LR LR 01 14 18.3
comp=Z,1µm,21.8s,baz=329,slow=34
comp=Z,11nm,1.0s
MXC Moxie City 27.71 117 P P 01 04 18.1 -0.3
MXC IAmb IAmb 01 04 39.4
comp=Z,24nm,0.9s
D08A Wollman Farm, 27.80 115 P P 01 04 18.0 -1.2
D08A IAmb IAmb 01 04 31.9
comp=Z,46nm,1.4s
SKR Severo-Kuril's 28.14 259↓ *e*P **P 01 04 20.4 -1.7**
HOOD Mount Hood Mea 28.31 120 P P 01 04 22.5 -1.4
HOOD IAmb IAmb 01 04 30.9
comp=Z,34nm,0.9s
FFC Flin Flon 28.47 87 P P 01 04 24.4 -0.7
FFC IAmb IAmb 01 04 54.8
comp=Z,33nm,1.2s
FFC Flin Flon 28.47 87 P P 01 04 24.4 -0.7
FFC pmax pmax
comp=Z,33nm,1.2s
JTMT Jette 28.96 109 P P 01 04 29.5 -0.2
I05D Terrebonne, OR 29.27 121 P P 01 04 31.2 -1.2
I05D IAmb IAmb 01 04 39.3
comp=Z,28nm,0.7s
G08A Pilot Rock 29.29 117 P P 01 04 30.0 -2.6
WIFE Three Sisters- 29.35 122 P P 01 04 30.8 -2.4
WIFE IAmb IAmb 01 04 40.0
comp=Z,25nm,0.9s
MSO Missoula 29.85 109 P P 01 04 36.9 -0.6
PINE Pine Mountain 29.89 121 P P 01 04 37.4 -0.7
PINE IAmb IAmb 01 04 45.5
comp=Z,41nm,0.9s
K02D Willamette Mer 29.94 125 P P 01 04 36.8 -1.5
K02D IAmb IAmb 01 04 45.0
comp=Z,42nm,1.0s
J04A Umpqua Nationa 29.98 123 P P 01 04 38.8 0.0
J04A IAmb IAmb 01 04 45.7
comp=Z,47nm,0.9s
J05D Fort Rock, OR 30.24 122 P P 01 04 41.1 +0.1
J05D IAmb IAmb 01 04 48.1
comp=Z,38nm,0.9s
BMO Blue Mountains 30.26 115 P P 01 04 43.1 +1.9
YAK Yakutsk 30.48 297 P P 01 04 40.6 -2.2
YAK Yakutsk 30.48 297 IAMs_20 IAMs_20 01 18 16.1
comp=Z,5µm,18.0s
YAK Yakutsk 30.48 297 *d i* P **P 01 04 44.6 +1.8**
YAK *e**PP **sP 01 04 53.9 +6.1**
YAK *e* 01 05 43.5
YAK *e*PPP PPP 01 05 54.7
YAK *e* 01 07 42.1
YAK *e*S **S 01 09 44.3 +0.9**
YAK *e*SS **SnSn 01 11 20.6 +1.7**
YAK *e*SSS SSS 01 11 37.7
YAK pmax pmax
comp=Z,113nm,1.4s
YAK pmax pmax
comp=N,50nm,1.4s
YAK pmax pmax
comp=E,65nm,1.4s
YAK pmax pmax
comp=Z,90nm,2.2s
YAK pmax pmax
comp=N,101nm,1.9s
YAK pmax pmax
comp=E,72nm,2.4s
YAK smax smax
comp=E,184nm,4.3s
YAK smax smax
comp=N,165nm,3.5s
YAK MLR MLR
comp=Z,5µm,19.0s
YAK MLR MLR
comp=N,3µm,18.0s
YAK MLR MLR
comp=E,2µm,18.0s
PLID Pearl Lake 30.54 114 P P 01 04 43.0 -0.8
NOR Nord 30.79 11 P P 01 04 47.1 +1.8
NOR pmax pmax
comp=Z,9.0nm,1.9s
KRMB Red Mountain 30.92 127 IAMs_20 IAMs_20 01 14 36.1
comp=Z,3µm,19.0s
YBH Yreka Blue Hor 31.12 125 P P 01 04 50.9 +2.2
comp=Z,1.5nm,1.0s,baz=344,slow=3.9,SNR=16
YBH LR LR 01 17 26.2
comp=Z,100nm,18.1s,baz=322,slow=36
comp=Z,1.5nm,1.0s
DLMT Dillon 31.59 109 IAMs_20 IAMs_20 01 16 09.2
comp=Z,3µm,18.0s
BOZ Bozeman (W) 31.76 108 IAMs_20 IAMs_20 01 18 21.8
comp=Z,7µm,20.0s
BOZ Bozeman (W) 31.76 108 P P 01 04 55.8 +1.3
N02D Trinity Center 31.80 126 P P 01 04 55.2 +0.4
N02D IAmb IAmb 01 04 59.7
comp=Z,31nm,0.8s
WVOR Wild Horse Val 31.89 119 IAMs_20 IAMs_20 01 18 15.0
comp=Z,3µm,19.0s
WVOR Wild Horse Val 31.89 119 P P 01 04 57.7 +2.1
WVOR pmax pmax
comp=Z,29nm,1.1s
MFID Camas Ranch 32.04 115 P P 01 04 56.2 -0.7
HLID Hailey 32.44 113 P P 01 04 59.6 -0.9
YHB Horse Butte 32.64 108 P P 01 05 01.6 -0.7
YHB IAmb IAmb 01 05 09.2
comp=Z,24nm,1.1s
YMR Madison River 32.80 108 P P 01 05 02.5 -1.1
YMR IAmb IAmb 01 05 10.5
comp=Z,33nm,1.1s
LAO LASA Array 32.97 101 P P 01 05 04.5 -0.4
YMP Mirror Lake Pl 33.05 107 P P 01 05 04.0 -1.9
YMP IAmb IAmb 01 05 13.2
comp=Z,29nm,0.9s
RLMT Red Lodge 33.07 106 P P 01 05 04.5 -1.5
RLMT IAMs_20 IAMs_20 01 19 30.5
comp=Z,4µm,21.0s
H17A Grant Village 33.18 108 P P 01 05 05.8 -1.2
TYV Tymovskoe 33.41 273 *e*P **P 01 05 11.6 +3.0**
TYV *e*S **S 01 10 35.6 +6.3**
TYV pmax pmax
comp=Z,48nm,1.4s
TYV pmax pmax
comp=Z,200nm,2.3s
TYV smax smax
comp=N,300nm,4.9s
TYV smax smax
comp=E,400nm,4.9s
TYV MLR MLR
comp=Z,3µm,16.0s
ORV Oroville 33.48 125 P P 01 05 09.7 +0.3
ORV pmax pmax
comp=Z,11nm,0.8s
BEKR Beckworth 33.58 124 P P 01 05 09.9 -0.5
FXWY Fox Creek 33.65 109 IAMs_20 IAMs_20 01 19 44.7
comp=Z,6µm,19.0s
SNOW Snow King Moun 33.90 109 IAMs_20 IAMs_20 01 17 35.4
comp=Z,3µm,18.0s
CVS Carmenet Viney 34.27 127 P P 01 05 16.4 +0.3
CVS IAmb IAmb 01 05 20.7
comp=Z,33nm,0.8s
ULM Lac du Bonnet 34.29 87 P P 01 05 16.2 -0.1
comp=Z,45nm,0.8s,baz=315,slow=8.3,SNR=12
ULM LR LR 01 20 07.2
comp=Z,2µm,19.2s,baz=322,slow=38
comp=Z,45nm,0.8s
AHID Auburn Hatcher 34.37 110 IAMs_20 IAMs_20 01 20 15.6
comp=Z,4µm,20.0s
FRB Frobisher Bay 34.53 52 LR LR 01 20 58.4
comp=Z,3µm,19.4s,baz=308,slow=39
ELK Elko 34.59 117 IAMs_20 IAMs_20 01 19 01.4
comp=Z,4µm,21.0s
ELK Elko 34.59 117 P P 01 05 20.8 +1.6
comp=Z,11nm,1.1s,baz=4.4,slow=4.4,SNR=7.0
ELK LR LR 01 20 48.6
comp=Z,4µm,19.1s,baz=342,slow=39
comp=Z,11nm,1.1s
BW06 Boulder Array 34.95 108 P P 01 05 21.0 -1.4
BW06 IAMs_20 IAMs_20 01 20 38.2
comp=Z,5µm,18.0s
PD31 Pinedale Array 34.95 108 P P 01 05 21.1 -1.3
PDAR Pinedale Array 34.95 108 P P 01 05 20.8 -1.5

PDAR Pinedale Array 34.95 108 P P 01 05 23.6 +1.2
comp=Z,12nm,0.9s,baz=336,slow=7.0,SNR=26
PDAR LR LR 01 20 49.5
comp=Z,3µm,19.9s,baz=330,slow=38
comp=Z,12nm,0.9s
UGL Uglegorsk 35.04 271 *e*P P 01 05 15.1 -7.7
UGL *e*S **S 01 10 49.3 -5.2**
UGL MLR MLR
comp=E,5µm,16.0s
UGL MLR MLR
comp=N,5µm,15.0s
UGL MLR MLR
comp=Z,3µm,15.0s
WAKR Walker 35.12 124 P P 01 05 22.4 -1.4
WAKR IAmb IAmb 01 05 30.5
comp=Z,26nm,1.0s
HWUT Hardware Ranch 35.19 112 P P 01 05 22.4 -1.9
HWUT IAMs_20 IAMs_20 01 20 00.4
comp=Z,4µm,20.0s
CMB Columbia Colle 35.22 125 P P 01 05 24.8 +0.3
CMB Columbia Colle 35.22 125 P P 01 05 24.8 +0.3
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB MLR MLR
comp=Z,2µm,19.0s
E28A Huff 35.27 96 P P 01 05 24.5 -0.3
E28A IAMs_20 IAMs_20 01 20 06.9
comp=Z,4µm,19.0s
RYN Ryan 35.31 122 P P 01 05 24.1 -1.3
ILULI Ilulissat 35.44 36 IAMs_20 IAMs_20 01 20 41.6
comp=Z,3µm,19.0s
MHC Mount Hamilton 35.44 127 P P 01 05 24.0 -2.5
MHC IAmb IAmb 01 05 34.2
comp=Z,20nm,0.8s
MHC Mount Hamilton 35.44 127 P P 01 05 24.0 -2.5
MHC pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 35.52 27 P P 01 05 27.0 -0.1
SUMG IAMs_20 IAMs_20 01 21 10.5
comp=Z,3µm,20.0s
SUMG Summit 35.52 27 P P 01 05 27.0 -0.1
SUMG pmax pmax
comp=Z,183nm,1.9s
SUMG MLR MLR
comp=Z,3µm,20.0s
SUMG Summit 35.52 27 *i* P **P 01 05 28.0 +0.9**
SUMG IAmb IAmb 01 05 32.6
comp=Z,105nm,1.5s
NVAR Mina Array Bea 35.57 122 P P 01 05 27.0 -0.7
NVAR Mina Array Bea 35.57 122 P P 01 05 28.9 +1.2
comp=Z,24nm,0.8s,baz=317,slow=7.4,SNR=53
NVAR PcP **PcP 01 07 58.1 +1.8**
comp=Z,2.4nm,0.6s,baz=337,slow=4.7,SNR=2.6
NVAR LR LR 01 20 26.6
comp=Z,3µm,18.4s,baz=337,slow=37
comp=Z,24nm,0.8s
Q09A Carvers 35.59 121 P P 01 05 26.8 -1.0
Q09A IAmb IAmb 01 05 35.3
comp=Z,39nm,0.9s
EPLO Experimental L 35.61 86 P P 01 05 27.5 -0.2
EPLO IAmb IAmb 01 05 32.7
comp=Z,32nm,0.9s
NV11 Mina Array Sit 35.62 122 IAmb IAmb 01 05 32.9
comp=Z,30nm,0.9s
LHV Little Huntoon 35.66 123 P P 01 05 27.6 -0.5
LHV IAmb IAmb 01 05 33.4
comp=Z,32nm,1.0s
SPITS Spitsbergen Ar 35.67 2 LR LR 01 19 54.0
comp=Z,1µm,18.3s,baz=352,slow=36
AGMN Agassiz Nation 35.84 89 P P 01 05 29.4 -0.3
AGMN IAmb IAmb 01 05 35.0
comp=Z,40nm,0.8s
AGMN IAMs_20 IAMs_20 01 19 59.8
comp=Z,5µm,18.0s
DUG Dugway, Tooele 35.95 114 P P 01 05 28.9 -2.0
DUG IAMs_20 IAMs_20 01 20 08.6
comp=Z,3µm,19.0s
DUG Dugway, Tooele 35.95 114 P P 01 05 28.9 -2.0
DUG pmax pmax
comp=Z,16nm,1.1s
DUG MLR MLR
comp=Z,3µm,19.0s
RSSD Black Hills 35.96 101 P P 01 05 28.3 -2.7
RSSD IAmb IAmb 01 05 37.0
comp=Z,19nm,0.8s
RSSD Black Hills 35.96 101 P P 01 05 28.3 -2.7
RSSD pmax pmax
comp=Z,19nm,0.9s
RSSD MLR MLR
comp=Z,2µm,18.0s
GRNR Gornyy 35.99 278 *e*P **P 01 05 32.0 +1.1**
GRNR MLR MLR
comp=E,970nm,14.0s
GRNR MLR MLR
comp=N,1µm,13.0s
GRNR MLR MLR
comp=Z,2µm,13.0s
MDPB Devils Postpil 36.02 124 P P 01 05 31.3 -0.3
MDPB IAmb IAmb 01 05 39.2
comp=Z,26nm,1.1s
LEGD La Grand CA 36.05 125 P P 01 05 30.2 -1.3
TPH Tonopah 36.26 121 P P 01 05 32.9 -0.7
TPH Tonopah 36.26 121 P P 01 05 32.9 -0.7
TPH pmax pmax
comp=Z,18nm,0.9s
BSUT Blindstream Ca 36.42 112 P P 01 05 35.2 +0.1
BSUT IAmb IAmb 01 05 58.0
comp=Z,50nm,1.3s
SPR3 Spring Creek 3 36.45 117 P P 01 05 35.0 -0.3
YSS Yuzhno-Sakhali 36.46 268 P P 01 05 32.6 -2.3
YSS IAmb IAmb 01 05 38.7
comp=Z,51nm,1.2s
YSS Yuzhno-Sakhali 36.46 268 *e*P **P 01 05 35.3 +0.3**
YSS *e*S **S 01 11 15.2 -1.1**
YSS *e*SS **SS 01 14 05.9 +11**
YSS 01 15 45.1
YSS pmax pmax
comp=Z,200nm,3.1s
YSS pmax pmax
comp=Z,30nm,0.7s
YSS smax smax
comp=N,400nm,8.1s
YSS smax smax
comp=E,300nm,4.3s
YSS MLR MLR
comp=N,2µm,14.0s
YSS MLR MLR
comp=E,4µm,14.0s
YSS MLR MLR
comp=Z,4µm,14.0s
MPU Maple Canyon 36.55 113 P P 01 05 35.0 -1.0
R11B Troy Canyon, C 36.58 119 P P 01 05 35.9 -0.5
R11B IAmb IAmb 01 05 42.8
comp=Z,23nm,0.9s
DSP Deep Springs 36.63 123 P P 01 05 35.3 -1.2
TIN Tinemaha, Big 36.83 123 P P 01 05 39.2 +0.8
TIN IAmb IAmb 01 05 45.7
comp=Z,55nm,0.9s
TIN Tinemaha, Big 36.83 123 P P 01 05 39.2 +0.8
TIN pmax pmax
comp=Z,55nm,0.9s
TIN MLR MLR
comp=Z,2µm,19.0s
RDMU Red Mountain 36.84 110 P P 01 05 36.8 -1.7
RDMU IAmb IAmb 01 06 00.9
comp=Z,46nm,1.4s
DBG Daneborg 36.87 18 *i* P **P 01 05 36.0 -2.1**
DBG IAmb IAmb 01 05 43.1
comp=Z,8.9nm,0.8s
GRAC Grapevine Rang 37.18 122 P P 01 05 41.0 -0.2
GRAC IAmb IAmb 01 06 03.5
comp=Z,46nm,1.4s
SFJD Kangerlussuaq 37.24 39 IAMs_20 IAMs_20 01 22 07.2
comp=Z,3µm,22.0s
SFJD Kangerlussuaq 37.24 39 LR LR 01 23 13.3
comp=Z,2µm,20.4s,baz=325,slow=40
SFJD Kangerlussuaq 37.24 39 *i* P **P 01 05 43.3 +2.0**
SFJD IAmb IAmb 01 05 46.8
comp=Z,16nm,0.8s
ZEA Zeya 37.31 288 *e*P **P 01 05 41.3 -0.8**
ZEA *e* 01 07 09.2
ZEA *e*S **S 01 11 28.7 -0.3**
ZEA *e*SS **SnSn 01 14 03.3 -1.1**
ZEA pmax pmax
comp=Z,200nm,4.1s
ZEA pmax pmax

comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA pmax pmax
comp=Z,100nm,3.2s
ZEA smax smax
comp=N,100nm,8.8s
ZEA smax smax
comp=E,200nm,7.1s
ZEA MLR MLR
comp=N,1µm,12.0s
ZEA MLR MLR
comp=E,2µm,12.0s
ZEA MLR MLR
comp=Z,3µm,14.0s
SHO Shikotan 37.36 261 P P 01 05 51.9 +9.3
SHO pmax pmax
comp=Z,46nm,1.3s
SHO MLR MLR
comp=Z,900nm,22.0s
P18A Preston Nutter 37.40 112 IAmb IAmb 01 06 18.6
comp=Z,28nm,0.9s
CWC Cottonwood Cre 37.44 123 P **P** **01 05 43.0 -0.6**
TPNV Topopah Spring 37.61 121 IAmb IAmb 01 05 51.4
comp=Z,27nm,0.8s
TPNV IAMs_20 IAMs_20 01 21 51.3
comp=Z,3µm,18.0s
PRN Pahroc Range 37.61 119 P **P** **01 05 44.2 -0.8**
PRN IAmb IAmb 01 05 52.4
comp=Z,29nm,0.9s
WCT Wildcat Mounta 37.62 121 P **P** **01 05 44.2 -0.8**
F33A 5 Mile Ranch, 37.65 92 P **P** **01 05 44.0 -1.1**
F33A IAmb IAmb 01 05 50.9
comp=Z,63nm,1.2s
VES Vestal, Richgr 37.65 125 P **P** **01 05 44.3 -0.9**
VES IAmb IAmb 01 06 06.3
comp=Z,23nm,0.6s
Q16A Castle Valley 37.68 113 P **P** **01 05 45.1 -0.6**
SUSD Miller 37.72 96 P **P** **01 05 47.5 +1.7**
SUSD IAMs_20 IAMs_20 01 19 47.6
comp=Z,5µm,22.0s
HAYD Hayden 37.76 108 P **P** **01 05 47.1 +0.7**
FURC Furnace Creek, 37.83 122 P **P** **01 05 47.0 +0.3**
FURC IAMs_20 IAMs_20 01 21 38.1
comp=Z,2µm,18.0s
EYMN Ely 37.88 86 P **P** **01 05 46.8 -0.3**
EYMN Ely 37.88 86 IAMs_20 IAMs_20 01 20 03.8
comp=Z,3µm,18.0s
MPMC Manual Prospec 37.98 123 P **P** **01 05 46.3 -1.9**
MPMC IAMs_20 IAMs_20 01 22 09.3
comp=Z,3µm,19.0s
ISA Isabella, Lake 38.01 124 P **P** **01 05 47.9 -0.4**
ISA IAMs_20 IAMs_20 01 23 15.0
comp=Z,2µm,18.0s
ISA Isabella, Lake 38.01 124 P **P** **01 05 47.9 -0.4**
ISA pmax pmax
comp=Z,19nm,1.4s
ISA MLR MLR
comp=Z,2µm,18.0s
CCUT Cedar City 38.09 117 P **P** **01 05 48.8 -0.4**
SZCU Shurtz Canyon 38.15 117 P **P** **01 05 48.7 -0.9**
GWY Greenwater Val 38.15 122 P **P** **01 05 48.0 -1.6**
TBO Thunder Bay 38.16 83 P **P** **01 05 49.1 -0.2**
TBO IAmb IAmb 01 05 56.1
comp=Z,64nm,1.4s
CLC China Lake 38.17 123 P **P** **01 05 49.1 -0.5**
CLC China Lake 38.17 123 P **P** **01 05 49.1 -0.5**
CLC pmax pmax
comp=Z,19nm,1.0s
QSM Queen of Sheba 38.28 122 P **P** **01 05 49.0 -1.6**
QSM IAmb IAmb 01 05 57.3
comp=Z,29nm,1.0s
SHPR Sheep Range 38.38 120 P **P** **01 05 51.0 -0.6**
SHOC Shoshone, Teco 38.54 122 P **P** **01 05 51.9 -0.8**
SHOC IAmb IAmb 01 06 39.7
comp=Z,46nm,1.3s
LCMT Little Creek M 38.61 117 P **P** **01 05 51.5 -1.9**
HMU Henry Mountain 38.70 114 P **P** **01 05 53.3 -1.1**
HMU IAmb IAmb 01 06 41.8
comp=Z,68nm,1.9s
DY2G Dye2 38.73 37 *i* P **P** **01 05 54.6 +0.4**
DY2G IAmb IAmb 01 05 59.0
comp=Z,13nm,0.8s
KUQ Kuujjuuaa 38.73 58 P **P** **01 05 53.5 -0.5**
KUQ IAmb IAmb 01 05 58.9
comp=Z,31nm,0.8s
KNB Kanab 38.76 117 P **P** **01 05 53.4 -1.3**
KNB Kanab 38.76 117 P **P** **01 05 53.4 -1.3**
KNB pmax pmax
comp=Z,25nm,1.1s
ASAJ Asahikawa 38.85 266 LR LR 01 22 42.0
comp=Z,3µm,18.3s,baz=48,slow=37
PV23 Carpenter Ridg 38.89 111 P **P** **01 05 55.3 -0.7**
GSC Goldstone, Bar 38.90 123 P **P** **01 05 55.8 0.0**
GSC Goldstone, Bar 38.90 123 P **P** **01 05 55.8 0.0**
GSC pmax pmax
comp=Z,21nm,0.8s
PV22 Blue Mesa, Par 38.91 111 P **P** **01 05 54.7 -1.3**
K30B Basset 38.93 98 IAMs_20 IAMs_20 01 21 42.7
comp=Z,2µm,18.0s
E38A The Farm, Brul 38.94 87 P **P** **01 05 54.7 -1.2**
E38A IAmb IAmb 01 06 00.9
comp=Z,54nm,0.8s
PV10 Paradox Valley 38.95 112 P **P** **01 05 56.3 -0.1**
PV10 IAmb IAmb 01 07 05.0
comp=Z,43nm,1.3s
PV20 West Nyswonger 39.01 111 P **P** **01 05 56.3 -0.6**
ISCO Idaho Springs 39.02 107 P **P** **01 05 56.0 -1.1**
ISCO IAMs_20 IAMs_20 01 23 13.8
comp=Z,4µm,19.0s
ISCO Idaho Springs 39.02 107 P **P** **01 05 56.0 -1.1**
ISCO pmax pmax
comp=Z,10.0nm,0.9s
ISCO MLR MLR
comp=Z,4µm,19.0s
PV19 Morning Glory 39.03 112 P **P** **01 05 56.2 -0.9**
PV07 Paradox Valley 39.04 111 P **P** **01 05 56.1 -1.0**
PV16 Nyswonger Mesa 39.05 111 P **P** **01 05 55.4 -1.8**
PV17 East Wray Mesa 39.06 112 P **P** **01 05 57.0 -0.3**
PV11 David Mesa, Pa 39.08 111 P **P** **01 05 56.6 -0.9**
PV12 Saucer Basin, 39.09 111 P **P** **01 05 57.5 -0.1**
PV18 Skein Mesa, Pa 39.11 111 P **P** **01 05 57.1 -0.6**
PV03 Paradox Valley 39.13 111 P **P** **01 05 57.0 -0.9**
NUUK Nuuk 39.15 42 *i* P **P** **01 05 58.4 +1.0**
NUUK IAmb IAmb 01 06 00.9
comp=Z,42nm,1.2s
MTPC Mountain Pass 39.17 121 P **P** **01 05 59.9 +1.7**
MTPC IAmb IAmb 01 06 05.0
comp=Z,51nm,1.1s
PV05 Paradox Valley 39.19 112 P **P** **01 05 56.3 -2.1**
V12A Nelson 39.19 120 IAmb IAmb 01 06 05.9
comp=Z,36nm,1.0s
PV02 Paradox Valley 39.21 111 P **P** **01 05 58.0 -0.6**
PV13 Radium Mtn., P 39.22 111 P **P** **01 05 58.5 -0.2**
ECSD EROS Data Cent 39.25 94 P **P** **01 05 57.9 -0.7**
OGNE Ogallala 39.44 102 P **P** **01 05 58.9 -1.3**
OGNE IAmb IAmb 01 06 06.9
comp=Z,68nm,1.1s
MWC Mount Wilson 39.46 125 P **P** **01 05 59.0 -1.7**
MWC Mount Wilson 39.46 125 P **P** **01 05 59.0 -1.7**
MWC pmax pmax
comp=Z,17nm,1.0s
SPMN Marine on St. 39.56 90 P **P** **01 06 01.1 0.0**
SPMN IAmb IAmb 01 06 06.7
comp=Z,69nm,0.9s
BFSC Mount Baldy Ra 39.58 124 P **P** **01 06 00.0 -1.6**
Q24A Divide 39.92 107 P **P** **01 06 04.3 -0.3**
HEH HeiHe 39.96 285 *eP* **P** **01 06 02.9 -1.5**
HEH pP **pP** **01 06 06.3 -1.8**
HEH S **S** **01 12 06.4 -2.7**
HEH pmax pmax
comp=Z,36nm,1.3s
HEH LR LR
comp=Z,8µm,10.5s
DANC Danby, Needles 39.99 121 P **P** **01 06 03.6 -1.3**
DANC IAmb IAmb 01 06 17.7
comp=Z,40nm,0.9s
SCO Scoresbysund 40.06 22 IAMs_20 IAMs_20 01 23 53.4
comp=Z,3µm,20.0s
W13A Hualapai Mount 40.10 119 P **P** **01 06 04.4 -1.5**
NEE2 Needles Airpor 40.14 120 P **P** **01 06 06.5 +0.4**
NEE2 IAMs_20 IAMs_20 01 23 29.4
comp=Z,3µm,20.0s
MVCO Mesa Verde 40.18 112 IAMs_20 IAMs_20 01 23 11.8
comp=Z,2µm,18.0s

ELS Elsinore Mount 40.20 124 P **P** **01 06 06.2 -0.4**
I37A Lemond, Waseca 40.32 91 P **P** **01 06 07.5 +0.1**
S22A 4UR Ranch, Cre 40.34 110 P **P** **01 06 06.9 -1.1**
BELC Belle Mtn. Jos 40.36 122 P **P** **01 06 07.4 -0.6**
BELC IAMs_20 IAMs_20 01 23 50.2
comp=Z,2µm,19.0s
JEM Erimo 40.38 263 P **P** **01 06 11.9 +4.0**
ERM Erimo 40.38 263 IAMs_20 IAMs_20 01 22 57.7
comp=Z,4µm,19.0s
ERM Erimo 40.38 263 P **P** **01 06 12.3 +4.4**
SOEG Soedalen 40.49 28 *i* P **P** **01 06 09.6 +1.0**
SOEG IAmb IAmb 01 06 14.4
comp=Z,51nm,1.1s
IRM Iron Mountain 40.51 121 P **P** **01 06 07.6 -1.6**
IRM IAMs_20 IAMs_20 01 23 12.1
comp=Z,2µm,18.0s
DNR Dunn Ranch,Anz 40.54 123 P **P** **01 06 08.2 -1.3**
DNR IAmb IAmb 01 06 13.5
comp=Z,34nm,0.9s
PMD Palm Desert 40.55 123 P **P** **01 06 08.9 -0.6**
PFO Pinyon Flats O 40.56 123 P **P** **01 06 08.0 -1.7**
PFO Pinyon Flats O 40.56 123 P **P** **01 06 10.0 +0.3**
comp=Z,4.1nm,0.7s,baz=330,slow=6.9,SNR=5.6
PFO LR LR 01 21 42.2
comp=Z,1µm,20.1s,baz=341,slow=34
comp=Z,4.1nm,0.7s
PFO Pinyon Flats O 40.56 123 P **P** **01 06 10.0 +0.3**
G40A Rib Lake 40.57 87 P **P** **01 06 08.2 -1.4**
BGNE Belgrade 40.59 98 P **P** **01 06 06.7 -3.0**
BGNE IAmb IAmb 01 06 15.7
comp=Z,60nm,0.8s
WUAZ Wupatki 40.62 116 P **P** **01 06 09.6 -0.6**
WUAZ IAmb IAmb 01 06 17.3
comp=Z,46nm,0.8s
WUAZ IAMs_20 IAMs_20 01 22 25.1
comp=Z,3µm,22.0s
L34A Svendsen Farm, 40.83 96 P **P** **01 06 11.2 -0.5**
L34A IAmb IAmb 01 06 17.3
comp=Z,62nm,0.8s
L34A IAMs_20 IAMs_20 01 21 17.8
comp=Z,4µm,19.0s
SDCO Great Sand Dun 40.85 108 P **P** **01 06 10.4 -1.8**
SDCO IAMs_20 IAMs_20 01 24 15.2
comp=Z,3µm,18.0s
BC3 Big Chuckawall 40.86 122 P **P** **01 06 11.8 -0.3**
KSCO Kaye Shedlock' 40.86 104 P **P** **01 06 11.8 -0.3**
KSCO IAmb IAmb 01 06 53.1
comp=Z,85nm,1.6s
BORC Borrego Spring 40.88 123 P **P** **01 06 12.0 -0.2**
DPP Dos Picos Cty 40.96 124 P **P** **01 06 12.3 -0.5**
CPE Camp Elliot 41.00 124 P **P** **01 06 12.7 -0.5**
F42A Maple Grove Fa 41.01 85 P **P** **01 06 13.3 +0.2**
F42A IAmb IAmb 01 06 18.8
comp=Z,57nm,0.9s
F42A IAMs_20 IAMs_20 01 21 21.5
comp=Z,4µm,18.0s
BLYC Blythe 41.09 121 P **P** **01 06 14.0 0.0**
BLYC IAmb IAmb 01 06 20.4
comp=Z,29nm,1.0s
JMIC Jan Mayen 41.30 15 LR LR 01 22 49.5
comp=Z,2µm,21.5s,baz=350,slow=36
BAR Barrett 41.34 124 P **P** **01 06 14.2 -1.7**
ANGG Ammassalik, Gr 41.43 33 P **P** **01 06 16.2 -0.1**
ANGG IAmb IAmb 01 06 20.9
comp=Z,54nm,0.9s
ANGG IAMs_20 IAMs_20 01 25 22.9
comp=Z,3µm,19.0s
ANGG Ammassalik, Gr 41.43 33 *i* P **P** **01 06 15.6 -0.7**
ANGG IAmb IAmb 01 06 20.7
comp=Z,55nm,0.9s
Y14A Wickenburg 41.45 119 P **P** **01 06 15.9 -1.0**
Y14A IAmb IAmb 01 06 24.0
comp=Z,26nm,0.8s
I40A Norwalk 41.54 89 P **P** **01 06 17.4 -0.2**
I40A IAmb IAmb 01 06 22.6
comp=Z,25nm,0.8s
W18A Petrified Fore 41.57 115 P **P** **01 06 17.6 -0.5**
X16A Lo Mia Camp, P 41.58 117 P **P** **01 06 18.2 +0.1**
X16A IAmb IAmb 01 06 25.5
comp=Z,27nm,0.8s
YUH Yuha Desert 41.62 123 P **P** **01 06 19.2 +0.9**
CBX Cerro Bola 41.68 124 P **P** **01 06 18.1 -0.8**
T25A Trinidad 41.80 107 IAMs_20 IAMs_20 01 24 04.4
comp=Z,3µm,19.0s
SCHQ Schefferville 41.84 60 P **P** **01 06 19.9 0.0**
comp=Z,375nm,0.9s,baz=323,slow=6.3,SNR=12
SCHQ LR LR 01 25 32.2
comp=Z,17µm,19.5s,baz=321,slow=39
X18A Snowflake 42.02 115 P **P** **01 06 22.1 +0.3**
X18A IAmb IAmb 01 06 28.4
comp=Z,28nm,1.0s
E46A Sault Ste Mari 42.04 81 P **P** **01 06 22.3 +0.7**
E46A IAmb IAmb 01 06 26.5
comp=Z,33nm,1.1s
E46A IAMs_20 IAMs_20 01 25 24.9
comp=Z,3µm,18.0s
N35A Tabor 42.05 96 P **P** **01 06 21.3 -0.5**
SCIA State Center 42.15 93 P **P** **01 06 21.9 -0.6**
SCIA IAmb IAmb 01 06 29.2
comp=Z,59nm,1.1s
CBKS Cedar Bluff 42.17 101 P **P** **01 06 23.4 +0.6**
CBKS IAmb IAmb 01 06 26.1
comp=Z,37nm,0.8s
CBKS IAMs_20 IAMs_20 01 23 42.3
comp=Z,3µm,21.0s
CBKS Cedar Bluff 42.17 101 P **P** **01 06 23.4 +0.6**
CBKS pmax pmax
comp=Z,37nm,0.9s
CBKS MLR MLR
comp=Z,3µm,21.0s
ESJX Sierra Juarez 42.20 124 P **P** **01 06 23.5 +0.3**
H43A Windswept, Lux 42.21 86 IAmb IAmb 01 06 28.4
comp=Z,71nm,0.9s
H43A IAMs_20 IAMs_20 01 22 17.4
comp=Z,2µm,18.0s
I42A Draeger Farm, 42.23 87 P **P** **01 06 22.9 -0.3**
I42A IAmb IAmb 01 06 29.0
comp=Z,109nm,1.6s
I42A IAMs_20 IAMs_20 01 21 59.9
comp=Z,2µm,18.0s
113A Mohawk Valley, 42.25 121 P **P** **01 06 22.7 -0.7**
JTM Tenmabayashi 42.26 264 P **P** **01 06 21.9 -1.5**
JTM IAmb IAmb 01 06 26.7
comp=Z,95nm,1.6s
JFWS Jewell Farm 42.51 89 P **P** **01 06 24.7 -0.7**
JFWS IAmb IAmb 01 06 32.8
comp=Z,28nm,0.8s
JFWS Jewell Farm 42.51 89 IAMs_20 IAMs_20 01 22 13.2
comp=Z,3µm,21.0s
JFWS Jewell Farm 42.51 89 P **P** **01 06 24.7 -0.7**
JFWS pmax pmax
comp=Z,28nm,0.8s
IVI Ivigtut 42.53 43 P **P** **01 06 25.7 +0.4**
IVI Ivigtut 42.53 43 *i* P **P** **01 06 26.2 +0.9**
IVI IAmb IAmb 01 06 28.3
comp=Z,81nm,0.9s
VTX Valle De La Tr 42.82 124 P **P** **01 06 26.7 -1.4**
L40A Anamosa 42.82 91 P **P** **01 06 27.1 -0.8**
L40A IAmb IAmb 01 06 32.6
comp=Z,32nm,0.7s
R32A Long Quarter, 42.91 101 P **P** **01 06 28.2 -0.6**
R32A IAmb IAmb 01 06 34.7
comp=Z,80nm,1.0s
R32A IAMs_20 IAMs_20 01 25 08.0
comp=Z,3µm,18.0s
ANMO Albuquerque 42.95 111 P **P** **01 06 29.0 -0.3**
ANMO IAmb IAmb 01 07 23.8
comp=Z,62nm,2.0s
ANMO Albuquerque 42.95 111 IAMs_20 IAMs_20 01 23 27.8
comp=Z,2µm,19.0s
ANMO Albuquerque 42.95 111 P **P** **01 06 30.2 +0.9**
comp=Z,4.8nm,1.0s,baz=64,slow=9.0,SNR=8.9
ANMO LR LR 01 23 40.4
comp=Z,2µm,18.8s,baz=77,slow=35
comp=Z,4.8nm,1.0s
ANMO Albuquerque 42.95 111 ⇑ *i* P **P** **01 06 30.0 +0.7**
ANMO pmax pmax
comp=Z,12nm,1.4s
RTBA Rita Blanca 43.05 106 P **P** **01 06 29.8 -0.3**
USRK Ussuriysk Ar. 43.06 275 P **P** **01 06 29.4 -0.4**
comp=Z,12nm,0.9s,baz=36,slow=6.2,SNR=13
comp=Z,12nm,0.9s
N38A Joes South For 43.08 94 P **P** **01 06 29.4 -0.7**
N38A IAmb IAmb 01 06 35.5
comp=Z,46nm,1.1s

N38A IAMs_20 IAMs_20 01 22 18.5
comp=Z,2µm,20.0s
KSU1 Kansas State U 43.17 98 P **P** **01 06 31.0 +0.2**
KSU1 IAmb IAmb 01 06 36.6
comp=Z,58nm,0.8s
I45A Fountain 43.19 85 P **P** **01 06 29.7 -1.2**
NRS Narsarsuaq 43.31 41 P **P** **01 06 31.6 0.0**
NRS IAmb IAmb 01 06 37.0
comp=Z,71nm,1.1s
NRS Narsarsuaq 43.31 41 P **P** **01 06 31.6 0.0**
NRS pmax pmax
comp=Z,71nm,1.1s
NRS Narsarsuaq 43.31 41 *i* P **P** **01 06 31.6 0.0**
NRS IAmb IAmb 01 06 36.8
comp=Z,57nm,1.0s
VLDQ Val d'Or 43.32 74 P **P** **01 06 29.9 -2.0**
VLDQ IAmb IAmb 01 06 31.9
comp=Z,46nm,1.1s
214A Organ Pipe Nat 43.32 120 P **P** **01 06 31.6 -0.5**
214A IAmb IAmb 01 06 39.0
comp=Z,26nm,0.8s
LENM Lemitar 43.45 112 P **P** **01 06 33.6 +0.2**
K43A Burlington 43.45 88 P **P** **01 06 32.9 -0.1**
K43A IAMs_20 IAMs_20 01 26 10.3
comp=Z,2µm,18.0s
PIX Pinacate 43.45 121 P **P** **01 06 31.7 -1.4**
SFX San Felipe 43.45 123 P **P** **01 06 31.1 -2.1**
HILR Hailar Array B 43.48 290 P **P** **01 06 33.0 -0.3**
comp=Z,30nm,0.7s,baz=54,slow=7.7,SNR=22
comp=Z,30nm,0.7s
L42A Oliver, Polo 43.50 89 P **P** **01 06 33.0 -0.4**
L42A IAmb IAmb 01 06 38.7
comp=Z,29nm,0.9s
SBM South Baldy 43.54 113 P **P** **01 06 33.6 -0.7**
Y22D IRIS PASSCAL I 43.55 112 IAMs_20 IAMs_20 01 26 47.7
comp=Z,2µm,19.0s
BNM Barren Site 43.59 112 P **P** **01 06 34.4 -0.1**
BNX BinXian 43.62 281 ⇓ P **P** **01 06 33.3 -1.1**
BNX pP **pP** **01 06 36.5 -1.6**
BNX S **S** **01 13 02.0 -1.3**
BNX pmax pmax
comp=Z,24nm,1.2s
BNX pmax pmax
comp=Z,150nm,4.9s
BNX LR LR
comp=Z,5µm,17.3s
BNX LR LR
comp=Z,3µm,12.9s
Y22A Socorro 43.65 112 P **P** **01 06 34.1 -0.9**
MDJ Mudanjiang 43.68 278 P **P** **01 06 32.8 -2.0**
MDJ S **S** **01 13 06.9 +2.7**
MDJ sS sS 01 13 10.8 +0.6
MDJ pmax pmax
comp=Z,11nm,1.4s
MDJ LR LR
comp=Z,5µm,15.3s
MDJ LR LR
comp=Z,5µm,13.7s
MDJ Mudanjiang 43.68 278 IAMs_20 IAMs_20 01 25 55.8
comp=Z,3µm,18.0s
HIA Hailar 43.71 290 P **P** **01 06 34.5 -0.6**
HIA Hailar 43.71 290 P **P** **01 06 34.5 -0.6**
HIA pmax pmax
comp=Z,166nm,1.4s
HIA MLR MLR
comp=Z,4µm,20.0s
TUC Tucson 43.72 118 P **P** **01 06 35.7 +0.3**
TUC Tucson 43.72 118 IAMs_20 IAMs_20 01 26 28.1
comp=Z,3µm,18.0s
TUC Tucson 43.72 118 P **P** **01 06 35.7 +0.3**
CRNM Carthage 43.73 112 P **P** **01 06 36.2 +0.6**
CIT Chita 43.77 297 *eP* **P** **01 06 39.0 +3.4**
CIT *e* 01 06 43.0
CIT *e* 01 08 20.6
CIT pmax pmax
comp=Z,172nm,1.9s
P38A Dawn 43.95 95 P **P** **01 06 36.1 -1.0**
P38A IAmb IAmb 01 06 43.0
comp=Z,36nm,0.9s
L44A Lake County Fo 44.06 88 P **P** **01 06 37.5 -0.5**
L44A IAMs_20 IAMs_20 01 23 06.4
comp=Z,2µm,18.0s
DUN6 Lazy B Ranch 44.11 116 P **P** **01 06 37.3 -1.2**
N41A Harden Midland 44.12 91 P **P** **01 06 37.8 -0.6**
N41A IAmb IAmb 01 06 43.7
comp=Z,38nm,1.0s
ARCES ARCESS Array B 44.40 359 P **P** **01 06 38.7 -1.7**
comp=Z,2.5nm,0.8s,baz=358,slow=7.3,SNR=5.4
ARCES PcP **PcP** **01 08 23.7 -0.1**
comp=Z,6.8nm,0.8s,baz=352,slow=2.7,SNR=5.1
ARCES LR LR 01 24 18.1
comp=Z,713nm,20.4s,baz=356,slow=35
comp=Z,2.5nm,0.8s
HQIL Hanson Quary C 44.41 88 IAMs_20 IAMs_20 01 22 32.5
comp=Z,2µm,21.0s
121A Cookes Peak, D 44.60 114 P **P** **01 06 42.5 -0.1**
121A IAmb IAmb 01 06 49.4
comp=Z,24nm,1.2s
I49A Point Hope 44.64 82 IAMs_20 IAMs_20 01 25 23.6
comp=Z,3µm,18.0s
BUKO Buck Lake 44.75 78 P **P** **01 06 43.4 -0.1**
AMTX Amarillo 44.83 106 P **P** **01 06 43.4 -0.9**
AMTX IAmb IAmb 01 06 50.1
comp=Z,15nm,0.8s
L46A Eue Claire 44.85 86 P **P** **01 06 44.6 +0.3**
CROK Carrier 44.86 101 P **P** **01 06 44.7 +0.3**
CROK IAmb IAmb 01 06 49.9
comp=Z,29nm,0.9s
JMM Marumori 44.86 263 P **P** **01 06 43.9 -0.5**
JMM IAmb IAmb 01 06 48.4
comp=Z,37nm,0.9s
JMM Marumori 44.86 263 P **P** **01 06 48.3 +3.9**
HDIL Hopedale 44.87 90 P **P** **01 06 44.6 +0.1**
T35A Sooner Cattle 45.09 100 P **P** **01 06 46.0 -0.3**
T35A IAmb IAmb 01 06 51.6
comp=Z,40nm,0.9s
T35A IAMs_20 IAMs_20 01 24 08.6
comp=Z,3µm,20.0s
319A Douglas 45.10 116 P **P** **01 06 47.2 +0.7**
319A IAmb IAmb 01 06 53.9
comp=Z,25nm,0.9s
BORG Borgarnes 45.40 25 LR LR 01 25 49.4
comp=Z,2µm,21.8s,baz=343,slow=36
SADO Sadowa 45.41 78 LR LR 01 25 35.3
comp=Z,17µm,18.5s,baz=352,slow=36
P43A Skaggs, Pawnee 45.56 91 IAMs_20 IAMs_20 01 26 23.0
comp=Z,2µm,18.0s
OK029 Liberty Lake 45.69 101 IAmb IAmb 01 06 53.3
comp=Z,26nm,1.0s
OK029 IAMs_20 IAMs_20 01 25 44.4
comp=Z,3µm,19.0s
K50A Casco 45.69 83 IAMs_20 IAMs_20 01 23 55.5
comp=Z,3µm,19.0s
JSD Sado 45.73 265 P **P** **01 06 50.4 -0.9**
JSD IAmb IAmb 01 06 54.7
comp=Z,18nm,1.0s
EPT El Paso 45.76 113 P **P** **01 06 55.6 +3.9**
EPT IAmb IAmb 01 06 57.7
comp=Z,18nm,0.9s
EPT IAMs_20 IAMs_20 01 26 21.3
comp=Z,2µm,21.0s
OK052 Battle Ridge R 45.77 101 IAmb IAmb 01 06 53.9
comp=Z,33nm,1.1s
LVZ Lovozero 45.80 354 IAMs_20 IAMs_20 01 26 21.3
comp=Z,2µm,19.0s
LDAQ Lac Daran 45.82 69 IAmb IAmb 01 06 53.9
comp=Z,49nm,1.2s
SFIN Lafayette 45.91 88 IAmb IAmb 01 06 57.2
comp=Z,34nm,0.9s
SFIN IAMs_20 IAMs_20 01 26 54.3
comp=Z,3µm,19.0s
CN2 Changchun 46.01 281 *eP* **P** **01 06 55.3 +1.9**
CN2 PP **PP** **01 08 42.8 +1.9**
CN2 *eS* **S** **01 13 38.4 +0.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,5µm,18.0s
CN2 LR LR
comp=Z,2µm,16.1s
DEOK Depew 46.03 100 IAmb IAmb 01 06 59.1
comp=Z,32nm,0.8s
N47A Urbana 46.05 87 IAMs_20 IAMs_20 01 24 16.1
comp=Z,2µm,20.0s

WMOK	**Wichita Mounta**	**46.09 103**	IAmb	IAmb	01 06 58.4	
	comp=Z,18nm,0.9s					
WMOK	**Wichita Mounta**	**46.09 103**	P	**P**	**01 06 54.6**	**+0.4**
WMOK			pmax	pmax		
	comp=Z,23nm,1.0s					
APA	**Apatity**	**46.18 354**⇓	*e*P	**P**	**01 06 53.6**	**-0.9**
APA			pmax	pmax		
	comp=Z,6.0nm,1.0s					
CCM	**Cathedral Cave**	**46.22 94**	P	**P**	**01 06 53.5**	**-1.6**
CCM			IAmb	IAmb	01 06 59.6	
	comp=Z,34nm,0.9s					
CCM	**Cathedral Cave**	**46.22 94**	P	**P**	**01 06 53.5**	**-1.6**
CCM			pmax	pmax		
	comp=Z,34nm,0.9s					
CCM			MLR	MLR		
	comp=Z,4μm,20.0s					
MNTX	**Cornudas Mount**	**46.24 112**	IAms_20	IAms_20	01 28 25.1	
	comp=Z,2μm,18.0s					
U38A	**Gravette**	**46.35 98**	IAmb	IAmb	01 07 01.0	
	comp=Z,18nm,0.9s					
U38A			IAms_20	IAms_20	01 24 44.0	
	comp=Z,3μm,20.0s					
Q44A	**Meyer Farm, Va**	**46.39 91**	IAmb	IAmb	01 07 01.1	
	comp=Z,28nm,0.8s					
POST	**Post**	**46.50 107**	IAmb	IAmb	01 07 00.2	
	comp=Z,14nm,0.8s					
N49A	**Columbus Grove**	**46.63 85**	IAms_20	IAms_20	01 24 21.2	
	comp=Z,3μm,19.0s					
HSIG		**46.65 120**	IAmb	IAmb	01 07 05.1	
	comp=Z,18nm,0.8s					
HHAR	**Hobbs**	**46.67 98**	IAmb	IAmb	01 07 02.9	
	comp=Z,8.7nm,0.7s					
O48B	**Farmland**	**46.80 87**	IAms_20	IAms_20	01 24 36.8	
	comp=Z,2μm,20.0s					
IRK	**Irkutsk**	**46.83 304**	*e*P	**P**	**01 07 01.2**	**+1.5**
IRK			pmax	pmax		
	comp=Z,142nm,1.9s					
ODSA	**Odessa**	**46.94 109**	IAmb	IAmb	01 07 06.3	
	comp=Z,18nm,0.9s					
MJB9	**Matsu-Tunnel**	**47.04 264**	P	**P**	**01 07 01.9**	**+0.2**
MJB9			IAmb	IAmb	01 07 06.7	
	comp=Z,34nm,1.0s					
MAJO	**Matsushiro**	**47.04 264**	P	**P**	**01 07 01.1**	**-0.5**
MAJO			IAmb	IAmb	01 07 05.7	
	comp=Z,37nm,1.1s					
MAJO	**Matsushiro**	**47.04 264**	IAms_20	IAms_20	01 27 42.0	
	comp=Z,1μm,19.0s					
MAJO	**Matsushiro**	**47.04 264**⇑	*i*P	**P**	**01 07 02.0**	**+0.4**
MAJO			pmax	pmax		
	comp=Z,42nm,1.1s					
MJAR	**Matsushiro Arr**	**47.04 264**	P	**P**	**01 07 02.5**	**+0.9**
	comp=Z,13nm,0.9s,baz=11,slow=7.6,SNR=14					
MJAR			LR	LR	01 28 03.6	
	comp=Z,2μm,18.6s,baz=24,slow=38					
	comp=Z,13nm,0.9s					
BLO	**Bloomington**	**47.17 89**	IAmb	IAmb	01 07 06.8	
	comp=Z,21nm,0.8s					
J55A	**Hilton**	**47.19 78**	IAms_20	IAms_20	01 26 21.1	
	comp=Z,2μm,20.0s					
VHRN	**Van Horn**	**47.21 112**	IAmb	IAmb	01 07 10.6	
	comp=Z,34nm,1.3s					
M52A	**Chesterland**	**47.24 82**	IAms_20	IAms_20	01 24 08.4	
	comp=Z,3μm,22.0s					
ERPA	**Erie**	**47.30 81**	IAms_20	IAms_20	01 24 37.9	
	comp=Z,2μm,18.0s					
LONY	**Lake Ozonia**	**47.32 74**	IAms_20	IAms_20	01 25 11.6	
	comp=Z,2μm,18.0s					
S44A	**Carbondale**	**47.33 92**	IAms_20	IAms_20	01 25 01.0	
	comp=Z,2μm,18.0s					
P48A	**Milroy**	**47.37 87**	IAmb	IAmb	01 07 07.6	
	comp=Z,16nm,0.9s					
P48A			IAms_20	IAms_20	01 26 15.8	
	comp=Z,2μm,19.0s					
TLY	**Talaya**	**47.51 304**	P	**P**	**01 07 06.6**	**+1.5**
TLY			IAmb	IAmb	01 07 11.6	
	comp=Z,18nm,0.9s					
TLY	**Talaya**	**47.51 304**⇑	*i*P	**P**	**01 07 06.1**	**+1.0**
TLY			pmax	pmax		
	comp=Z,31nm,1.0s					
CGM3	**Cape Girardeau**	**47.51 93**	IAmb	IAmb	01 07 10.1	
	comp=Z,56nm,1.6s					
MNHN	**Monahans**	**47.55 110**	IAmb	IAmb	01 07 10.9	
	comp=Z,22nm,1.6s					
ABTX	**Abilene, Hawle**	**47.61 106**	IAms_20	IAms_20	01 27 13.4	
	comp=Z,3μm,20.0s					
SGCY	**Sterling City**	**47.67 108**	IAmb	IAmb	01 07 44.0	
	comp=Z,19nm,1.1s					
Z35A	**Perchaven, San**	**47.93 103**	IAmb	IAmb	01 07 13.5	
	comp=Z,22nm,0.9s					
LCAR	**Lake Charles**	**47.97 95**	IAmb	IAmb	01 07 15.7	
	comp=Z,18nm,1.0s					
N53A	**Lisbon**	**48.07 82**	IAms_20	IAms_20	01 25 19.4	
	comp=Z,3μm,19.0s					
WCI	**Wyandotte Cave**	**48.07 89**	P	**P**	**01 07 09.9**	**+0.4**
WCI	**Wyandotte Cave**	**48.07 89**	IAms_20	IAms_20	01 25 08.4	
	comp=Z,3μm,18.0s					
WCI	**Wyandotte Cave**	**48.07 89**	P	**P**	**01 07 09.9**	**+0.4**
WCI			pmax	pmax		
	comp=Z,34nm,0.9s					
T45A	**Paducah**	**48.16 92**	IAms_20	IAms_20	01 24 55.9	
	comp=Z,2μm,21.0s					
WHAR	**Wooly Hollow**	**48.19 97**	IAmb	IAmb	01 08 39.2	
	comp=Z,35nm,1.4s					
JGF	**Kuroka**	**48.20 264**	P	**P**	**01 07 15.1**	**+4.4**
L56A	**Greenwood**	**48.25 79**	IAms_20	IAms_20	01 25 11.1	
	comp=Z,2μm,18.0s					
O52A	**Adamsville**	**48.25 84**	IAms_20	IAms_20	01 26 24.4	
	comp=Z,2μm,20.0s					
MIAR	**Mount Ida**	**48.32 98**	P	**P**	**01 07 11.8**	**+0.2**
MIAR			pmax	pmax		
	comp=Z,34nm,1.0s					
G62A	**West of Eustis**	**48.38 71**	IAms_20	IAms_20	01 28 04.5	
	comp=Z,3μm,18.0s					
MOY	**Mondy**	**48.40 305**	*e*P	**P**	**01 07 13.2**	**+1.1**
MOY			pmax	pmax		
	comp=Z,111nm,2.6s					
SNY	**Shenyang**	**48.41 281**	⇓P	**P**	**01 07 13.8**	**+1.7**
SNY			S	**S**	**01 14 17.9**	**+5.7**
SNY			pmax	pmax		
	comp=Z,26nm,1.1s					
SNY			pmax	pmax		
	comp=Z,120nm,3.6s					
SNY			LR	LR		
	comp=Z,2μm,14.9s					
R49A	**Shelbyville**	**48.47 88**	IAms_20	IAms_20	01 25 43.0	
	comp=Z,2μm,20.0s					
OZNA	**Ozona**	**48.55 108**	IAmb	IAmb	01 07 18.7	
	comp=Z,38nm,1.5s					
Q51A	**Peebles**	**48.58 86**	IAms_20	IAms_20	01 28 15.8	
	comp=Z,2μm,18.0s					
UALR	**University of**	**48.62 97**	IAmb	IAmb	01 07 19.1	
	comp=Z,20nm,0.8s					
X40A	**Basin Creek Fa**	**48.67 98**	IAmb	IAmb	01 07 20.5	
	comp=Z,22nm,1.0s					
FW13	**Cleburne**	**48.72 104**	IAmb	IAmb	01 07 17.7	
	comp=Z,28nm,0.7s					
ZAK	**Zakamensk**	**48.73 303**	*e*P	**P**	**01 07 15.2**	**+0.5**
ZAK			pmax	pmax		
	comp=Z,39nm,1.6s					
O54A	**Avella**	**48.78 82**	IAms_20	IAms_20	01 25 41.3	
	comp=Z,3μm,20.0s					
R50A	**Paris**	**48.82 87**	IAmb	IAmb	01 07 31.3	
	comp=Z,54nm,1.6s					
R50A			IAms_20	IAms_20	01 26 05.2	
	comp=Z,2μm,20.0s					
Z38A	**Mt. Pleasant**	**48.89 101**	IAms_20	IAms_20	01 27 15.1	
	comp=Z,2μm,19.0s					
TREL	**Terrell**	**48.91 102**	IAmb	IAmb	01 07 19.3	
	comp=Z,26nm,0.9s					
P53A	**Whipple**	**48.97 84**	IAms_20	IAms_20	01 26 00.2	
	comp=Z,3μm,22.0s					
HNH	**Hanover**	**48.98 73**	IAms_20	IAms_20	01 25 53.5	
	comp=Z,3μm,19.0s					
TX31	**Lajitas Ar. Si**	**49.01 112**	IAmb	IAmb	01 07 23.2	
	comp=Z,27nm,1.1s					
TXAR	**Lajitas Array**	**49.01 112**	P	**P**	**01 07 17.1**	**+0.1**
TXAR	**Lajitas Array**	**49.01 112**	P	**P**	**01 07 17.4**	**+0.3**
	comp=Z,19nm,1.0s,baz=332,slow=5.6,SNR=74					
TXAR			LR	LR	01 28 40.0	
	comp=Z,1μm,19.8s,baz=332,slow=37					
	comp=Z,19nm,1.0s					
WHTX	**Lake Whitney,**	**49.03 104**	IAms_20	IAms_20	01 29 39.9	
	comp=Z,2μm,20.0s					
SAND	**Sanderson**	**49.04 110**	IAmb	IAmb	01 07 28.2	
	comp=Z,17nm,0.9s					
BRDY	**Brady**	**49.05 106**	IAmb	IAmb	01 07 22.3	
	comp=Z,13nm,0.9s					
WVT	**Waverly**	**49.26 92**	P	**P**	**01 07 18.7**	**0.0**
WVT			IAmb	IAmb	01 07 21.7	
	comp=Z,34nm,1.1s					
WVT	**Waverly**	**49.26 92**	IAms_20	IAms_20	01 25 09.9	
	comp=Z,2μm,19.0s					
WVT	**Waverly**	**49.26 92**	P	**P**	**01 07 18.7**	**0.0**
WVT			pmax	pmax		
	comp=Z,34nm,1.1s					
SSPA	**Standing Stone**	**49.39 80**	P	**P**	**01 07 19.2**	**-0.5**
SSPA			IAmb	IAmb	01 07 21.8	
	comp=Z,28nm,0.9s					
JHJ	**Hachijo jima 2**	**49.40 260**	LR	LR	01 32 10.9	
	comp=Z,319nm,18.0s,baz=357,slow=41					
MCWV	**Mont Chateau**	**49.44 82**	IAms_20	IAms_20	01 29 00.7	
	comp=Z,3μm,19.0s					
JCT	**Junction City**	**49.46 107**	P	**P**	**01 07 19.8**	**-0.6**
JCT			IAmb	IAmb	01 07 29.0	
	comp=Z,24nm,0.8s					
JCT	**Junction City**	**49.46 107**	P	**P**	**01 07 19.8**	**-0.6**
JCT			pmax	pmax		
	comp=Z,24nm,0.9s					
JCT			MLR	MLR		
	comp=Z,4μm,20.0s					
ULN	**Ulaanbaatar**	**49.56 298**	P	**P**	**01 07 20.7**	**-0.3**
ULN			IAmb	IAmb	01 07 26.2	
	comp=Z,20nm,0.8s					
ULN	**Ulaanbaatar**	**49.56 298**⇑	*e*P	**P**	**01 07 21.9**	**+0.8**
ULN			pmax	pmax		
	comp=Z,23nm,0.8s					
XLT	**XiLinHaoTe**	**49.58 289**	*e*P	**P**	**01 07 23.3**	**+2.1**
XLT			S	**S**	**01 14 31.0**	**+2.2**
XLT			pmax	pmax		
	comp=Z,29nm,1.7s					
XLT			pmax	pmax		
	comp=Z,100nm,4.9s					
XLT			LR	LR		
	comp=Z,210nm,14.7s					
XLT			LR	LR		
	comp=Z,2μm,14.3s					
XLT			LR	LR		
	comp=Z,3μm,15.3s					
CCAR	**Cane Creek**	**49.59 97**	P	**P**	**01 07 21.7**	**+0.4**
S51A	**Beattyville**	**49.66 87**	IAms_20	IAms_20	01 25 43.7	
	comp=Z,2μm,18.0s					
N58A	**Sunbury**	**49.68 79**	IAms_20	IAms_20	01 25 49.0	
	comp=Z,2μm,19.0s					
T50A	**Nancy**	**49.70 89**	IAms_20	IAms_20	01 26 44.5	
	comp=Z,2μm,19.0s					
SONM	**Songino Array**	**49.82 299**	LR	LR	01 32 28.6	
	comp=Z,2μm,18.1s,baz=41,slow=41					
OXF	**Oxford**	**50.02 94**	IAms_20	IAms_20	01 28 37.2	
	comp=Z,3μm,20.0s					
DRIO	**Del Rio**	**50.09 108**	P	**P**	**01 07 24.0**	**-1.1**
DRIO			IAmb	IAmb	01 07 27.9	
	comp=Z,31nm,0.8s					
PLAL	**Pickwick Lake**	**50.15 93**	P	**P**	**01 07 24.4**	**-1.2**
HRV	**Adam Dziewonsk**	**50.28 73**	IAms_20	IAms_20	01 25 19.9	
	comp=Z,1μm,18.0s					
P57A	**Homestead Farm**	**50.32 81**	IAms_20	IAms_20	01 27 20.1	
	comp=Z,2μm,19.0s					
KSRS	**Korea Array**	**50.41 274**	P	**P**	**01 07 28.3**	**+0.9**
	comp=Z,12nm,0.9s,baz=27,slow=7.1,SNR=17					
	comp=Z,12nm,0.9s					
KSAR	**Wonju Array Be**	**50.43 274**	P	**P**	**01 07 27.8**	**+0.2**
KSAR	**Wonju Array Be**	**50.43 274**	P	**P**	**01 07 27.8**	**+0.2**
HPIG		**50.44 115**	P	**P**	**01 07 27.7**	**-0.3**
HPIG			IAmb	IAmb	01 07 34.5	
	comp=Z,32nm,0.9s					
KNGR	**Kungurtug, Tuv**	**50.45 307**⇓	*e*P	**P**	**01 07 28.2**	**+0.5**
R55A	**Marlinton**	**50.51 84**	IAms_20	IAms_20	01 26 17.0	
	comp=Z,2μm,20.0s					
MVL	**Millersville**	**50.54 79**	IAmb	IAmb	01 07 32.8	
	comp=Z,23nm,0.9s					
TZTN	**Tazewell**	**50.63 88**	IAmb	IAmb	01 07 38.8	
	comp=Z,48nm,1.2s					
TZTN			IAms_20	IAms_20	01 26 59.2	
	comp=Z,2μm,20.0s					
PAL	**Palisades**	**50.65 76**	IAms_20	IAms_20	01 31 05.6	
	comp=Z,2μm,18.0s					
WSPT	**Westport, CT**	**50.73 76**	IAms_20	IAms_20	01 29 36.8	
	comp=Z,2μm,18.0s					
143A	**Socs Landing,**	**50.80 97**	IAms_20	IAms_20	01 26 24.9	
	comp=Z,3μm,20.0s					
SWET	**Sewanee**	**50.81 91**	IAmb	IAmb	01 07 34.4	
	comp=Z,26nm,1.1s					
SDMD	**Soldier's Deli**	**50.85 80**	IAmb	IAmb	01 07 32.0	
	comp=Z,61nm,1.8s					
WUPA	**West Chester U**	**50.90 79**	IAmb	IAmb	01 07 35.7	
	comp=Z,24nm,0.7s					
INCN	**Inchon**	**50.90 275**	IAms_20	IAms_20	01 30 41.2	
	comp=Z,2μm,19.0s					
X48A	**Hartselle**	**51.03 92**	IAmb	IAmb	01 07 36.8	
	comp=Z,26nm,0.7s					
X48A			IAms_20	IAms_20	01 26 32.8	
	comp=Z,3μm,20.0s					
CPCT	**Cooper Cave**	**51.18 89**	IAmb	IAmb	01 07 40.8	
	comp=Z,68nm,1.9s					
ZALV	**Zalesovo Beam**	**51.28 318**	P	**P**	**01 07 31.9**	**-1.9**
	comp=Z,11nm,0.6s,baz=25,slow=7.2,SNR=33					
ZALV			LR	LR	01 31 58.8	
	comp=Z,1μm,18.1s,baz=16,slow=39					
	comp=Z,11nm,0.6s					
TKL	**Tuckaleechee C**	**51.30 88**	IAmb	IAmb	01 07 41.1	
	comp=Z,67nm,1.6s					
TKL	**Tuckaleechee C**	**51.30 88**	P	**P**	**01 07 34.1**	**-0.1**
	comp=Z,11nm,0.8s,baz=41,slow=2.0,SNR=12					
TKL			LR	LR	01 30 46.5	
	comp=Z,664nm,19.7s,baz=334,slow=38					
	comp=Z,11nm,0.8s					
BLA	**Blacksburg**	**51.31 84**	IAmb	IAmb	01 07 38.8	
	comp=Z,30nm,0.8s					
U54A	**Nelsons Funny**	**51.34 86**	IAms_20	IAms_20	01 28 42.1	
	comp=Z,2μm,18.0s					
LPIG	**La Paz**	**51.38 121**	LR	LR	01 28 05.5	
	comp=Z,665nm,19.0s,baz=349,slow=34					
S57A	**Dark Hollow, R**	**51.43 83**	IAmb	IAmb	01 07 40.9	
	comp=Z,42nm,1.1s					
P61A	**Hammonton**	**51.44 78**	IAms_20	IAms_20	01 30 07.6	
	comp=Z,2μm,18.0s					
HKT	**Hockley**	**51.48 103**	IAms_20	IAms_20	01 28 52.3	
	comp=Z,2μm,18.0s					
FPAL	**Fort Paine**	**51.53 91**	IAmb	IAmb	01 07 40.6	
	comp=Z,20nm,0.6s					
TJN	**Taejon**	**51.56 274**	P	**P**	**01 07 39.7**	**+3.6**
TJN	**Taejon**	**51.56 274**	P	**P**	**01 07 39.7**	**+3.6**
TJN			pmax	pmax		
	comp=Z,429nm,1.4s					
VBMS	**Vicksburg**	**51.58 97**	IAmb	IAmb	01 07 43.0	
	comp=Z,32nm,0.8s					
DL2	**Dalian**	**51.68 281**	P	**P**	**01 07 37.0**	**+0.1**
DL2			S	**S**	**01 14 58.8**	**+1.0**
DL2			pmax	pmax		
	comp=Z,46nm,1.1s					
DL2			pmax	pmax		
	comp=Z,250nm,5.5s					
DL2			LR	LR		
	comp=Z,3μm,15.2s					
735A	**Kenedy**	**51.68 106**	IAms_20	IAms_20	01 31 54.1	
	comp=Z,2μm,18.0s					
V53A	**Saluda**	**51.68 88**	IAmb	IAmb	01 07 42.0	
	comp=Z,28nm,0.9s					
V53A			IAms_20	IAms_20	01 30 24.1	
	comp=Z,3μm,18.0s					
R58B	**Mineral**	**51.68 82**	IAmb	IAmb	01 07 38.9	
	comp=Z,52nm,1.4s					
R58B			IAms_20	IAms_20	01 26 35.0	
	comp=Z,2μm,21.0s					
W52A	**Murphy**	**51.73 89**	IAmb	IAmb	01 07 42.5	
	comp=Z,29nm,0.7s					
W52A			IAms_20	IAms_20	01 27 13.4	
	comp=Z,2μm,22.0s					
Y49A	**Blount Mountai**	**51.80 92**	IAmb	IAmb	01 07 45.1	
	comp=Z,32nm,0.8s					
146A	**Union**	**51.80 95**	IAms_20	IAms_20	01 30 23.4	
	comp=Z,3μm,22.0s					
441A	**DeRidder**	**51.81 100**	IAms_20	IAms_20	01 28 36.6	
	comp=Z,3μm,19.0s					
SLBS	**Sierra La Lagu**	**51.89 121**	IAms_20	IAms_20	01 31 27.6	
	comp=Z,2μm,19.0s					
T57A	**Hurt**	**51.96 84**	IAmb	IAmb	01 07 40.9	
	comp=Z,83nm,1.7s					
U56A	**King**	**52.07 85**	IAmb	IAmb	01 07 46.0	
	comp=Z,32nm,0.7s					
V55A	**Taylorsville**	**52.17 86**	IAmb	IAmb	01 07 47.3	
	comp=Z,30nm,1.1s					
LRAL	**Lakeview Retre**	**52.28 93**	IAmb	IAmb	01 07 45.6	
	comp=Z,24nm,0.9s					
NC204	**NORSAR Array S**	**52.40 7**	P	P	01 07 47.1	+5.0
NC204			IAmb	IAmb	01 07 48.8	
	comp=Z,26nm,1.3s					
FINES	**FINESS Array B**	**52.52 358**	P	**P**	**01 07 42.0**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=23,slow=12,SNR=5.7					
FINES			PcP	**PcP**	**01 08 53.6**	**+0.5**
	comp=Z,6.4nm,0.8s,baz=339,slow=3.6,SNR=2.4					
	comp=Z,1.4nm,0.6s					
KLMR	**Klimovskoe**	**52.54 350**	*e*P	**P**	**01 07 41.9**	**-1.2**
KLMR			pmax	pmax		
	comp=Z,49nm,1.7s					
KLMR			MLR	MLR		
	comp=Z,957nm,18.0s					
NC405	**NORSAR Array S**	**52.60 7**	P	**P**	**01 07 45.1**	**+1.5**
NC405			IAmb	IAmb	01 07 46.5	
	comp=Z,58nm,1.7s					
NB201	**NORSAR Array S**	**52.65 7**	P	P	01 07 49.1	+5.2
NB201			IAmb	IAmb	01 08 51.6	
	comp=Z,61nm,1.6s					
NB2	**NORSAR Subarra**	**52.65 7**	P	**P**	**01 07 43.8**	**-0.2**
	comp=Z,36nm,1.7s,baz=354,slow=7.4					
NB2	**NORSAR Subarra**	**52.65 7**	P	**P**	**01 07 45.2**	**+1.2**
NB2	**NORSAR Subarra**	**52.65 7**	P	**P**	**01 07 43.8**	**-0.2**
	baz=354,slow=7.4					
NOA	**NORSAR Array B**	**52.65 7**	P	**P**	**01 07 43.5**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=352,slow=7.3,SNR=9.2					
	comp=Z,1.7nm,0.7s					
KMSC	**Kings Mountain**	**52.73 87**	IAmb	IAmb	01 07 46.2	
	comp=Z,28nm,1.0s					
KMSC			IAms_20	IAms_20	01 32 19.0	
	comp=Z,2μm,20.0s					
346A	**Big Creek Wild**	**52.74 96**	IAmb	IAmb	01 08 07.5	
	comp=Z,42nm,0.8s					
KVTX	**Kingsville**	**52.82 107**	IAms_20	IAms_20	01 28 57.2	
	comp=Z,2μm,18.0s					
BJI	**Beijing**	**52.84 286**	P	**P**	**01 07 45.8**	**+0.2**
BJI			pP	**sP**	**01 07 50.5**	**-0.3**
BJI			sP	**pP**	**01 07 52.8**	**+3.5**
BJI			ScP	**ScP**	**01 12 51.3**	**-0.2**
BJI			S	**S**	**01 15 12.3**	**-1.4**
BJI			SS	**SS**	**01 18 48.5**	**-3.4**
BJI			pmax	pmax		
	comp=Z,9.0nm,1.1s					
BJI			pmax	pmax		
	comp=Z,100nm,3.5s					
BJI			LR	LR		
	comp=Z,2μm,15.2s					
BJI			LR	LR		
	comp=Z,2μm,14.9s					
BJI			LR	LR		
	comp=Z,2μm,15.2s					
BJT	**Baijiatuau**	**52.87 286**	IAms_20	IAms_20	01 33 59.0	
	comp=Z,1μm,18.0s					
JNU	**Nakatsue**	**52.97 269**	LR	LR	01 29 18.2	
	comp=Z,1μm,21.3s,baz=30,slow=35					
V58A	**Windy Hill, Pi**	**53.06 84**	IAmb	IAmb	01 07 48.6	
	comp=Z,26nm,1.0s					
V58A			IAms_20	IAms_20	01 28 55.6	
	comp=Z,1μm,18.0s					
HODGE	**Hodges**	**53.15 88**	IAmb	IAmb	01 07 55.3	
	comp=Z,30nm,0.7s					
W57A	**Gilead**	**53.27 85**	IAmb	IAmb	01 07 54.3	
	comp=Z,63nm,1.6s					
W57A			IAms_20	IAms_20	01 30 18.0	
	comp=Z,2μm,18.0s					
250A	**Grady**	**53.51 93**	IAms_20	IAms_20	01 31 49.4	
	comp=Z,2μm,19.0s					
JSC	**Jenkinsville**	**53.51 87**	IAmb	IAmb	01 07 55.6	
	comp=Z,37nm,0.8s					
BIRD	**Birdtown, Kers**	**53.52 86**	IAmb	IAmb	01 07 58.5	
	comp=Z,29nm,0.9s					
152A	**Waverly Hall**	**53.52 91**	IAmb	IAmb	01 07 55.2	
	comp=Z,33nm,0.7s					
HFS	**Hagfors**	**53.67 6**	P	**P**	**01 07 51.7**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=343,slow=4.6,SNR=11					
	comp=Z,4.4nm,0.7s					
JCJ	**Chichijima**	**53.80 254**	LR	LR	01 32 16.6	
	comp=Z,196nm,19.4s,baz=40,slow=38					
HHC	**Hu-ho-hao-te**	**53.91 290**	*e*P	**P**	**01 07 49.3**	**-4.3**
HHC			S	**S**	**01 15 20.8**	**-7.8**
HHC			pmax	pmax		
	comp=Z,15nm,0.6s					
HHC			pmax	pmax		
	comp=Z,58nm,4.0s					
HHC			LR	LR		
	comp=Z,2μm,15.5s					
HHC			LR	LR		
	comp=Z,3μm,15.4s					
HHC			LR	LR		
	comp=Z,5μm,15.8s					
SVE	**Sverdlovsk**	**53.94 335**	*e*P	**P**	**01 07 53.8**	**+0.3**
SVE			*e*S	**S**	**01 15 32.7**	**+4.4**
SVE			pmax	pmax		
	comp=Z,43nm,1.4s					
SVE			MLR	MLR		
	comp=Z,789nm,20.0s					
Y57A	**Sumter**	**54.09 86**	IAms_20	IAms_20	01 30 08.9	
	comp=Z,1μm,18.0s					
352A	**Blakely**	**54.48 92**	IAms_20	IAms_20	01 32 05.4	
	comp=Z,3μm,19.0s					
BTO	**Baotou**	**54.71 291**	*e*P	**P**	**01 08 01.9**	**+2.5**
BTO			pP	**sP**	**01 08 06.8**	**+2.2**
BTO			sP	**pP**	**01 08 08.9**	**+5.8**
BTO			PP	**PP**	**01 10 05.8**	**+4.2**
BTO			S	**S**	**01 15 43.3**	**+4.0**
BTO			sS	**sS**	**01 15 46.4**	**+1.1**
BTO			SS	**SS**	**01 19 22.8**	**+1.3**
BTO			pmax	pmax		
	comp=Z,44nm,0.8s					
BTO			pmax	pmax		
	comp=Z,170nm,3.9s					
BTO			LR	LR		
	comp=Z,4μm,16.5s					
ARTI	**Arti**	**54.73 337**	P	**P**	**01 07 57.1**	**-2.1**
ARTI	**Arti**	**54.73 337**	*c i*P	**P**	**01 07 57.7**	**-1.5**
ARTI					01 08 56.0	
ARTI					01 10 02.1	
ARTI			PPP	PPP	01 11 08.9	
ARTI			S	**S**	**01 15 39.2**	**+0.3**
ARTI			pmax	pmax		
	comp=Z,29nm,0.8s					
ARTI			MLR	MLR		
	comp=Z,1μm,20.0s					
Y60A	**Bolivia**	**54.98 84**	IAms_20	IAms_20	01 33 15.4	
	comp=Z,1μm,18.0s					
TIGA	**Tifton**	**55.06 91**	IAmb	IAmb	01 08 10.9	
	comp=Z,29nm,0.8s					
ZAIG	**Zacatecas**	**55.37 114**	IAmb	IAmb	01 08 10.5	
	comp=Z,15nm,1.0s					
VSU	**Vasula**	**55.50 358**	*ce*P	**P**	**01 08 05.1**	**+0.4**
VSU			pmax	pmax		
	comp=Z,29nm,1.4s					
257A	**Skidaway Islan**	**55.62 88**	IAms_20	IAms_20	01 29 55.5	
	comp=Z,2μm,19.0s					
BORK	**Borovoye**	**55.65 327**	*d i*P	**P**	**01 08 05.1**	**-0.8**
BORK			pmax	pmax		
	comp=Z,73nm,1.7s					
BVAR	**Borovoye Array**	**55.65 327**	LR	LR	01 35 00.7	
	comp=Z,2μm,21.6s,baz=25,slow=40					
HNS	**HongShan**	**55.70 286**	⇑P	**P**	**01 08 06.9**	**+0.5**
HNS			S	**S**	**01 15 53.3**	**+0.9**
HNS			pmax	pmax		
	comp=Z,54nm,1.3s					
HNS			LR	LR		
	comp=Z,3μm,19.6s					
HNS			LR	LR		
	comp=Z,3μm,14.3s					
TIA	**Tai'an**	**55.79 283**	P	**P**	**01 08 08.4**	**+1.3**
TIA			S	**S**	**01 15 56.8**	**+3.2**
TIA			pmax	pm

comp=Z,26nm,1.1s
BORU Boraas 56.13 7 *i* P **P 01 08 09.6 +0.4**
ONAU Onsala 56.33 7 *i* P **P 01 08 11.7 +1.1**
EKA Eskdalemuir Ar 57.08 17 P **P 01 08 16.1 0.0**
comp=Z,58nm,0.9s,baz=332,slow=4.7,SNR=62
comp=Z,58nm,0.9s
ESK Eskdalemuir 57.09 17 P **P 01 08 17.7 +1.6**
ESK Eskdalemuir 57.09 17 P **P 01 08 17.7 +1.6**
ESK pmax pmax
comp=Z,70nm,1.2s
ZSN Zaisan 57.11 314 *e*P **P 01 08 16.4 0.0**
comp=Z,20nm,1.0s
ZSN Zaisan 57.11 314 *e*P **P 01 08 16.4 0.0**
ZSN pmax pmax
comp=Z,20nm,1.0s
MUD Monsted U'grnd 57.11 9 *i* P **P 01 08 18.0 +1.8**
MUD IAmb IAmb 01 08 19.2
comp=Z,29nm,1.1s
DEL Delary 57.34 6 *i* P **P 01 08 18.6 +0.8**
MOS Moscow 57.76 350 *e*P **P 01 08 20.2 -0.6**
MOS *e*S **S 01 16 18.7 -0.3**
MOS pmax pmax
comp=Z,32nm,1.1s
BRZS Berezniki 57.97 324 *e*P **P 01 08 22.6 +0.1**
BRZS Berezniki 57.97 324 *e*P **P 01 08 22.5 +0.1**
COP Copenhagen 58.06 7 *i* P **P 01 08 21.2 -1.7**
COP IAmb IAmb 01 08 23.9
comp=Z,16nm,0.5s
LUNU Lund 58.16 6 *i* P **P 01 08 24.2 +0.6**
MK31 Makanchi Array 58.44 316*c i*P **P 01 08 24.8 -0.9**
MKAR Makanchi Array 58.44 316 P **P 01 08 23.8 -2.0**
comp=Z,5.2nm,0.7s,baz=43,slow=6.5,SNR=23
MKAR LR LR 01 35 52.1
comp=Z,1μm,19.0s,baz=8.5,slow=38
comp=Z,5.2nm,0.7s
OBN Obninsk 58.45 351 *e*P **P 01 08 24.4 -1.2**
OBN pmax pmax
comp=Z,37nm,1.6s
OBN MLR MLR
comp=Z,759nm,19.0s
MAKZ Makanchi 58.51 316 P **P 01 08 24.9 -1.4**
MAKZ IAMs_20 IAMs_20 01 35 52.5
comp=Z,1μm,18.0s
MAKZ Makanchi 58.51 316 P **P 01 08 27.0 +0.7**
SSE Sheshan 58.66 276 P **P 01 08 25.0 -2.4**
SSE S **S 01 16 29.4 -2.0**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,140nm,5.5s
SSE LR LR
comp=Z,650nm,14.9s
SSE LR LR
comp=Z,1μm,15.8s
NJ2 Nanjing 58.75 279 *e*P **P 01 08 30.1 +2.1**
NJ2 pmax pmax
comp=Z,24nm,0.8s
NJ2 pmax pmax
comp=Z,260nm,3.5s
NJ2 LR LR
comp=Z,2μm,14.0s
NJ2 LR LR
comp=Z,2μm,15.0s
LYN LuoYang 59.07 286 *e*P **P 01 08 32.4 +2.2**
LYN pP sP 01 08 37.0 +1.6
LYN S **S 01 16 30.9 -5.8**
LYN pmax pmax
comp=Z,65nm,0.8s
LYN pmax pmax
comp=Z,260nm,4.3s
LYN LR LR
comp=Z,2μm,15.1s
MNK Minsk 59.44 357 *i* P **P 01 08 31.1 -1.4**
MNK *i* 01 09 18.6
MNK *i* 01 10 42.4
MNK *i* S **S 01 16 41.1 +0.1**
MNK *i* 01 18 21.4
MNK *i* SS **SS 01 20 37.5 +2.6**
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=N,392nm,16.0s
MNK MLR MLR
comp=Z,785nm,19.0s
MNK MLR MLR
comp=E,737nm,21.0s
GTA Gaotai 59.49 299 P **P 01 08 32.6 -0.7**
GTA pP pP 01 08 36.3 -0.7
GTA S **S 01 16 41.1 -1.2**
GTA pmax pmax
comp=E,14nm,1.0s
GTA pmax pmax
comp=E,230nm,9.2s
GTA LR LR
comp=E,3μm,14.7s
GTA LR LR
comp=E,5μm,15.5s
WMQ Urumqi 59.55 311 *e*P **P 01 08 36.8 +3.2**
WMQ sP sP 01 08 41.9 +3.2
WMQ ScP **ScP 01 13 24.0 +2.9**
WMQ S **S 01 16 46.8 +3.9**
WMQ pmax pmax
comp=E,38nm,1.3s
WMQ pmax pmax
comp=E,280nm,5.1s
WMQ LR LR
comp=E,3μm,14.5s
WMQ LR LR
comp=E,3μm,18.9s
WMQ LR LR
comp=E,1μm,17.9s
JOW Kunigami 59.57 268 LR LR 01 36 10.6
comp=E,699nm,18.4s,baz=45,slow=38
JOW Kunigami 59.57 268 P **P 01 08 37.5 +3.7**
SUW Suwalki 59.99 360 P **P 01 08 36.6 +0.3**
SUW Suwalki 59.99 360 P **P 01 08 36.7 +0.3**
SUW MLR MLR
comp=Z,800nm,22.0s
BELG Belogornoye 60.12 343*de*P **P 01 08 37.2 0.0**
BELG pmax pmax
comp=Z,11nm,1.1s
AKTO Aktyubinsk 60.52 335 LR LR 01 38 14.1
comp=Z,617nm,18.8s,baz=34,slow=40
AKTO Aktyubinsk 60.52 335 P **P 01 08 38.5 -1.6**
LPSR Galich'ya Gora 60.78 349 *e*P **P 01 08 41.3 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.6s
XAN Xi'an 60.89 289 ⇓P **P 01 08 44.3 +1.5**
XAN S **S 01 17 01.9 +1.7**
XAN pmax pmax
comp=Z,21nm,1.4s
LZH Lanzhou 60.98 294 *e*P **P 01 08 45.5 +1.9**
LZH pP sP 01 08 50.6 +1.8
LZH S **S 01 17 03.8 +2.1**
LZH pmax pmax
comp=Z,68nm,1.6s
LZH pmax pmax
comp=Z,210nm,4.3s
LZH LR LR
comp=Z,3μm,18.1s
TDK Taldyqorghan 61.15 318 *e*P **P 01 08 44.5 0.0**
comp=Z,25nm,1.1s
TDK Taldyqorghan 61.15 318 *e*P **P 01 08 44.4 0.0**
TDK pmax pmax
comp=Z,25nm,1.1s
LZDM Lanzhou Array 61.16 294 P **P 01 08 45.7 +0.7**
comp=Z,1.7nm,0.3s,baz=5.7,slow=6.0,SNR=8.7
LZDM LR LR 01 37 29.7
comp=Z,2μm,18.6s,baz=45,slow=38
comp=Z,1.7nm,0.3s
AB31 Akbulak array 61.32 333 *i* P **P 01 08 44.3 -1.2**
ABKAR Akbulak array 61.32 333 P **P 01 08 44.4 -1.1**
TLIG Tlapa 61.61 112 IAmb IAmb 01 09 05.9
comp=Z,41nm,1.6s
VORR Voronezh 61.68 349 *e*P **P 01 08 48.0 +0.2**
VORR pmax pmax
comp=Z,50nm,2.4s
WHN Wuhan 61.87 282 P **P 01 08 52.6 +3.2**
WHN pmax pmax
comp=Z,48nm,0.7s
WHN LR LR
comp=Z,5μm,16.5s

VRH Novokhopyorsk 61.93 347 *e*P **P 01 08 49.0 -0.5**
VRH pmax pmax
comp=Z,20nm,2.2s
ARXS Arharly 62.04 318 *e*P **P 01 08 50.1 -0.4**
VSR Storozhevoye 62.14 348 *e*P **P 01 08 49.0 -1.9**
VSR pmax pmax
comp=Z,40nm,2.1s
UCC Uccle 62.36 13 IAmb IAmb 01 08 54.2
comp=Z,19nm,0.8s
UCC Uccle 62.36 13 *d*P **P 01 08 53.3 +0.9**
comp=Z,17nm,0.9s
PDGK Podgornoye 62.40 317 P **P 01 08 52.0 -1.0**
CLL Collm 62.46 7 IAmb IAmb 01 09 02.9
comp=Z,41nm,1.7s
CLL Collm 62.46 7 *i* P **P 01 08 53.4 +0.3**
CLL *i* 01 08 58.9
CLL *e*S **S 01 17 26.0 +6.4**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL MLR MLR
comp=Z,600nm,20.5s
SHLS Shalkode 62.57 317 *e*P **P 01 08 53.4 -0.8**
comp=Z,20nm,0.9s
SHLS Shalkode 62.57 317 *e*P **P 01 08 53.3 -0.8**
SHLS pmax pmax
comp=Z,20nm,0.9s
MEM Membach 62.69 12 *d*P **P 01 08 54.8 +0.2**
comp=Z,20nm,1.0s
UZB Uzynbulak 62.70 317 *e*P **P 01 08 55.0 0.0**
comp=Z,28nm,1.6s
UZB Uzynbulak 62.70 317 *e*P **P 01 08 55.0 0.0**
UZB pmax pmax
comp=Z,28nm,1.6s
BTNL Ternell 62.72 12 *d*P **P 01 08 56.2 +1.3**
comp=Z,16nm,0.9s
BMRD Maredsous 62.88 13 *d*P **P 01 08 56.6 +0.7**
comp=Z,14nm,1.0s
BRG Berggiesshubel 62.94 6 *e*P **P 01 08 56.4 +0.1**
BRG Amp 01 09 01.2
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 62.94 6 S **S 01 17 34.0 +8.4**
SATY Saty 62.95 317 *e*P **P 01 08 56.8 +0.1**
comp=Z,25nm,1.7s
SATY Saty 62.95 317 *e*P **P 01 08 56.7 +0.1**
SATY pmax pmax
comp=Z,25nm,1.7s
SOR Soroa 62.97 95 IAmb IAmb 01 08 59.9
comp=Z,15nm,0.9s
MI28 Mi28,Pidlybu 63.02 357 P **P 01 08 57.5 +0.7**
KSP Ksiaz 63.06 5 *e*P **P 01 08 59.5 +2.4**
KSP Ksiaz 63.06 5 P **P 01 08 58.3 +1.2**
RCHB Rochefort 63.07 13 *d*P **P 01 08 55.4 -1.8**
comp=Z,13nm,1.0s
DOU Dourbes 63.07 13 *d*P **P 01 08 57.3 +0.1**
comp=Z,15nm,1.1s
AK21 Malin Array Si 63.14 356 P **P 01 08 57.8 +0.2**
AK22 Malin Array Si 63.15 356 P **P 01 08 57.8 +0.1**
TEIG Tepich 63.17 101 P **P 01 08 59.9 +1.7**
TEIG IAmb IAmb 01 09 04.0
comp=Z,26nm,0.9s
TEIG IAMs_20 IAMs_20 01 40 25.5
comp=Z,2μm,19.0s
TEIG Tepich 63.17 101 P **P 01 08 58.2 0.0**
comp=Z,0.1nm,0.4s,baz=132,slow=24,SNR=2.4
AK20 Malin Array Si 63.17 356 P **P 01 08 58.0 +0.2**
HSKC Hora Svate Kat 63.18 7 *e*P **P 01 08 58.3 +0.4**
HSKC *ep*P **sP 01 09 03.5 +0.4**
HSKC AMS AMS 01 38 40.0
comp=Z,900nm,22.0s
AK04 Malin Array Si 63.19 356 P **P 01 08 57.9 0.0**
AK18 Malin Array Si 63.19 356 P **P 01 08 58.0 0.0**
AKASG Malin Array Be 63.21 355 P **P 01 08 58.2 +0.1**
comp=Z,7.6nm,0.7s,baz=4.5,slow=6.4,SNR=25
AKASG LR LR 01 35 59.7
comp=Z,679nm,21.1s,baz=360,slow=36
comp=Z,7.6nm,0.7s
AKBB Malin Array Si 63.21 355 IAmb IAmb 01 09 03.4
comp=Z,15nm,0.8s
AKBB Malin Array Si 63.21 355⇑*e*P **P 01 08 57.5 -0.6**
AKBB pmax pmax
comp=Z,35nm,1.5s
AKBB Malin Array Si 63.21 355 P **P 01 08 58.2 +0.1**
AAA Alma-Ata 63.22 318 *e*P **P 01 08 58.2 -0.1**
AAA Alma-Ata 63.22 318 *e*P **P 01 08 58.2 -0.1**
KIEV Kiev 63.22 356 P **P 01 08 57.6 -0.5**
KIEV IAmb IAmb 01 09 03.4
comp=Z,14nm,0.8s
KIEV Kiev 63.22 356 ⇓P **P 01 08 57.9 -0.2**
KIEV Kiev 63.22 356 *i* P **P 01 08 57.2 -0.9**
SNR=15
KIEV Kiev 63.22 356 P **P 01 08 57.9 -0.2**
AK01 Malin Array Si 63.22 355 P **P 01 08 58.1 0.0**
MDOK Medeo 63.22 318 *e*P **P 01 08 58.5 -0.1**
MDOK Medeo 63.22 318 *e*P **P 01 08 58.4 -0.1**
AK17 Malin Array Si 63.23 356 P **P 01 08 58.4 +0.2**
RICC Richard 63.27 6 *e*P **P 01 09 00.7 +2.2**
CHVC Chvalec 63.31 5 *e*P **P 01 08 58.7 -0.1**
CHVC MLR MLR
comp=Z,900nm,19.4s
CHVC Chvalec 63.31 5 *e*P **P 01 08 58.7 -0.1**
CHVC AMS AMS 01 40 40.0
comp=Z,900nm,19.4s
PVCC Panska Ves 63.31 6 AMS AMS 01 36 50.0
comp=Z,600nm,20.7s
AK10 Malin Array Si 63.31 355 P **P 01 08 58.7 0.0**
OSTC Ostas 63.34 5 *e*P **P 01 08 59.6 +0.6**
OSTC MLR MLR
comp=Z,600nm,21.5s
OSTC Ostas 63.34 5 *e*P **P 01 08 59.6 +0.6**
OSTC AMS AMS 01 40 30.0
comp=Z,600nm,21.5s
TNSS Tian-Shan 63.37 318 *e*P **P 01 08 59.5 -0.4**
TNSS Tian-Shan 63.37 318 *e*P **P 01 08 59.4 -0.4**
UPC Upice 63.38 5 *e*P **P 01 09 01.0 +1.7**
UPC MLR MLR
comp=Z,900nm,20.9s
UPC Upice 63.38 5 *e*P **P 01 09 01.0 +1.7**
UPC AMS AMS 01 40 40.0
comp=Z,900nm,20.9s
CAMR Camarioca 63.39 93 IAmb IAmb 01 09 15.2
comp=Z,76nm,1.1s
CMIG Matias Romero 63.44 109 P **P 01 08 59.1 -0.9**
comp=Z,9.4nm,1.0s,baz=344,slow=5.6,SNR=7.2
CMIG LR LR 01 40 40.3
comp=Z,726nm,19.1s,baz=2.5,slow=40
comp=Z,9.4nm,1.0s
DPC Dobruska-Polom 63.55 5 *e*P **P 01 09 01.0 +0.6**
DPC MLR MLR
comp=Z,700nm,22.3s
DPC Dobruska-Polom 63.55 5 *e*P **P 01 09 01.0 +0.6**
DPC AMS AMS 01 35 50.0
comp=Z,700nm,22.3s
DPC Dobruska-Polom 63.55 5 P **P 01 09 00.6 +0.2**
comp=Z,19nm,1.0s
SGDS Sogindy 63.59 320 *e*P **P 01 09 00.8 0.0**
comp=Z,41nm,1.7s
WLF Walferdange 63.64 12 *d*P **P 01 09 01.3 +0.4**
comp=Z,13nm,1.0s
OJC Ojcow 63.77 2 *e*P **P 01 09 04.2 +2.4**
OJC Ojcow 63.77 2 P **P 01 09 03.1 +1.3**
USP Ospenovka 63.80 320 P **P 01 09 01.6 -0.5**
SNR=23
YOJ Yonaguni jima 63.81 271 P **P 01 09 06.5 +4.1**
TKM2 Tokmak 2 63.83 319 P **P 01 09 03.4 +0.8**
SNR=24
KRLC Kraliky 63.84 4 *e*P **P 01 09 04.0 +1.6**
KRLC MLR MLR
comp=Z,600nm,21.3s
KRLC Kraliky 63.84 4 *e*P **P 01 09 04.0 +1.6**
KRLC AMS AMS 01 36 00.0
comp=Z,600nm,21.3s
PRU Pruhonice 63.85 6 *e*P **P 01 09 02.8 +0.5**
PRU MLR MLR
comp=Z,700nm,22.1s
PRU Pruhonice 63.85 6 *e*P **P 01 09 02.8 +0.5**
PRU AMS AMS 01 36 10.0
comp=Z,700nm,22.1s
GRA1 Grafenberg Arr 63.98 8 IAmb IAmb 01 09 09.9
comp=Z,29nm,1.1s
GRFO Grafenberg 63.98 8 P **P 01 09 05.0 +1.8**
GRFO IAmb IAmb 01 09 09.8
comp=Z,32nm,1.2s
GRFO Grafenberg 63.98 8 P **P 01 09 05.0 +1.8**
GRFO pmax pmax
comp=Z,32nm,1.2s

GRFO MLR MLR
comp=Z,700nm,22.0s
CHMS Chumysh 63.98 320 P **P 01 09 04.2 +0.8**
SNR=16
STEB Steborice 64.01 4 *e*P **P 01 09 05.0 +1.6**
ENH Enshi 64.02 286 IAMs_20 IAMs_20 01 42 04.0
comp=Z,2μm,19.0s
LUBAR Lubar, Ukraine 64.03 356 P **P 01 09 03.1 -0.4**
PLTM Poltava 64.06 352 P **P 01 09 04.2 +0.5**
GOMU GeErMu 64.11 301 P **P 01 09 04.8 0.0**
GOMU pP pP 01 09 08.8 +0.3
GOMU sP sP 01 09 12.3 +2.3
GOMU S **S 01 17 43.3 +1.9**
GOMU SS **SS 01 21 50.1 +0.5**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU LR LR
comp=Z,2μm,15.0s
GOMU LR LR
comp=Z,500nm,14.9s
GOMU LR LR
comp=Z,3μm,14.5s
OKC Ostrava-Krasne 64.12 3 P **P 01 09 05.9 +1.8**
MORC Moravsky Berou 64.16 4 IAmb IAmb 01 09 12.9
comp=Z,49nm,1.9s
MORC Moravsky Berou 64.16 4 ⇓P **P 01 09 04.6 +0.1**
MORC Moravsky Berou 64.16 4 *e*P **P 01 09 03.8 -0.7**
MORC Moravsky Berou 64.16 4 P **P 01 09 04.5 +0.1**
KBK Karagaybulak 64.25 320 P **P 01 09 06.2 +0.9**
SNR=19
YHNB Yeheng 64.28 273 IAMs_20 IAMs_20 01 35 40.4
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 64.38 0 *e*P **P 01 09 06.0 +0.2**
KWP Kalwaria Pacla 64.38 0 P **P 01 09 06.8 +0.9**
ZVC Zvikov 64.38 6 *e*P **P 01 09 06.2 +0.4**
ZVC AMS AMS 01 37 20.0
comp=Z,700nm,21.6s
AAK Ala-Archa 64.39 320 P **P 01 09 07.0 +0.8**
AAK Ala-Archa 64.39 320 LR LR 01 40 53.9
comp=Z,2μm,18.3s,baz=18,slow=40
AAK Ala-Archa 64.39 320 P **P 01 09 07.0 +0.8**
SNR=13
AAK Ala-Archa 64.39 320 *i* P **P 01 09 06.4 +0.2**
SNR=13
AAK Ala-Archa 64.39 320*d i*P **P 01 09 06.1 -0.1**
AAK pmax pmax
comp=Z,66nm,1.7s
CNSH ChangSha 64.53 282 P **P 01 09 10.3 +3.2**
CNSH S **S 01 17 49.3 +3.4**
CNSH pmax pmax
comp=Z,46nm,1.4s
CNSH LR LR
comp=Z,3μm,15.2s
EKS2 Erkin-Say 64.55 321 P **P 01 09 08.1 +0.9**
SNR=23
NIE Niedzica 64.58 2 P **P 01 09 08.7 +1.5**
MAUC Maruska 64.58 4 *e*P **P 01 09 08.3 +1.1**
MAUC *ep*P **sP 01 09 13.3 +0.9**
STHS Stebnicka Huta 64.59 1 *e*P **P 01 09 07.9 +0.7**
VRAC Vranov 64.60 5 ⇑P **P 01 09 08.5 +1.1**
VRAC Vranov 64.60 5 *e*P **P 01 09 07.3 0.0**
VRAC Vranov 64.60 5 P **P 01 09 08.4 +1.1**
NACB Ninganchiao 64.64 272 IAMs_20 IAMs_20 01 41 18.8
comp=Z,934nm,20.0s
KHC Kasperske Hory 64.66 7*de*P **P 01 09 09.2 +1.5**
KHC pmax pmax
comp=Z,28nm,1.4s
KHC Kasperske Hory 64.66 7 *e*P **P 01 09 08.6 +0.9**
KHC AMS AMS 01 37 20.0
comp=Z,900nm,19.0s
UCH Uchtor 64.77 320 P **P 01 09 12.6 +3.6**
SNR=7.5
HORU Horodok 64.77 357 P **P 01 09 08.8 +0.4**
LANS Liptovska Anna 64.83 2 P **P 01 09 10.9 +2.0**
KRUC Moravsky 64.84 5 *e*P **P 01 09 08.7 -0.2**
CLF Chambon-Foret 64.89 15 IAMs_20 IAMs_20 01 36 28.7
comp=Z,1μm,18.0s
DZA Taraz 64.94 323 *e*P **P 01 09 09.6 -0.1**
comp=Z,16nm,1.4s
DZA Taraz 64.94 323 *e*P **P 01 09 09.6 -0.1**
DZA pmax pmax
comp=Z,16nm,1.4s
KK31 Karatay Array 64.94 323 IAmb IAmb 01 09 12.7
comp=Z,27nm,1.2s
KK31 Karatay Array 64.94 323 *i* P **P 01 09 08.6 -1.1**
KKAR Karatay Array 64.94 323 P **P 01 09 08.3 -1.3**
KKAR Karatay Array 64.94 323 P **P 01 09 08.3 -1.3**
GEC2 GERESS Array S 64.95 7 IAmb IAmb 01 09 15.6
comp=Z,22nm,1.2s
GERES GERESS Array B 64.95 7 P **P 01 09 09.0 -0.7**
comp=Z,5.2nm,0.8s,baz=358,slow=4.4,SNR=32
GERES LR LR 01 38 40.4
comp=Z,410nm,18.9s,baz=357,slow=37
comp=Z,5.2nm,0.8s
GERES GERESS Array B 64.95 7 P **P 01 09 09.0 -0.7**
GUMO Guam 65.06 245 LR LR 01 36 03.8
comp=Z,408nm,20.5s,baz=34,slow=35
JAVC Velka Javorina 65.08 4 *e*P **P 01 09 11.1 +0.6**
BFO Black Forest 65.14 11 P **P 01 09 12.2 +1.4**
BFO IAmb IAmb 01 09 17.7
comp=Z,18nm,1.0s
BFO Black Forest 65.14 11 P **P 01 09 12.2 +1.4**
BFO pmax pmax
comp=Z,18nm,1.0s
ECH Echery 65.16 12 IAmb IAmb 01 09 13.2
comp=Z,18nm,1.0s
ECH Echery 65.16 12 P **P 01 09 11.9 +0.9**
SSLB Suanglung 65.24 273 IAMs_20 IAMs_20 01 39 59.8
comp=Z,1μm,20.0s
KMPD K-Podol'skiy 65.42 357 P **pP 01 09 12.6 -3.8**
KMPD P **P 01 09 12.1 -0.5**
YULB Yu-li 65.45 272 IAMs_20 IAMs_20 01 38 34.5
comp=Z,1μm,19.0s
MODS Modra-Piesok 65.56 4 *e*P **P 01 09 15.2 +1.7**
MODS pmax pmax
comp=Z,26nm,1.1s
MODS Modra-Piesok 65.56 4 *e*P **P 01 09 15.2 +1.7**
CD2 Chengdu 65.64 291 *e*P **P 01 09 11.8 -2.5**
CD2 S **S 01 18 01.9 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,4μm,15.2s
KNMB Chin-men Tao 65.67 275 IAMs_20 IAMs_20 01 36 24.1
comp=Z,1μm,18.0s
ZST Bratislava 65.73 4 *e*P P 01 09 06.2 -8.4
ZST MLR MLR
comp=Z,700nm,21.6s
SORM Soroca 65.80 356 ⇑P **P 01 09 15.2 +0.2**
SORM Soroca 65.80 356 P **P 01 09 15.2 +0.2**
TPUB Ta-pu 65.81 273 IAMs_20 IAMs_20 01 37 36.8
comp=Z,2μm,18.0s
CONA Conrad Observa 65.96 5 *i*pP **P 01 09 16.8 +0.6**
comp=Z,14nm,0.8s,SNR=12
IUG Iuzhnay 65.96 323 *e*P **P 01 09 16.3 -0.1**
comp=Z,18nm,0.8s
IUG Iuzhnay 65.96 323 *e*P **P 01 09 16.3 -0.1**
IUG pmax pmax
comp=Z,18nm,0.8s
MOA Molln 65.97 6 *i*pP **P 01 09 15.4 -0.8**
comp=Z,11nm,0.9s,SNR=8.7
PSZ Piszkesteto 66.07 2 P **P 01 09 16.7 -0.2**
PSZ IAmb IAmb 01 09 25.8
comp=Z,32nm,1.6s
PSZ Piszkesteto 66.07 2 ⇑P **P 01 09 17.2 +0.3**
PSZ Piszkesteto 66.07 2 P **P 01 09 17.2 +0.3**
BIOA Bad Ischl, Aus 66.10 7 *ep*P **P 01 09 17.2 +0.2**
comp=Z,8.1nm,0.7s
RETA Reutte 66.14 9 *i*pP **P 01 09 17.7 +0.3**
comp=Z,4.5nm,1.4s,SNR=6.1
RONA Rosalia, Austr 66.20 5 *i*pP **P 01 09 18.3 +0.6**
comp=Z,7.5nm,0.9s,SNR=5.6
SOP Sopron 66.23 5 P **P 01 09 20.6 +2.8**
DAVA Damuels 66.29 10 *ep*P **P 01 09 18.8 +0.4**
comp=Z,4.3nm,0.8s
MOTA Moosalm 66.31 9 *ep*P **P 01 09 18.1 -0.4**
comp=Z,11nm,0.8s
LESA Schwarzleotal 66.32 8 *i*pP **P 01 09 18.0 -0.6**
comp=Z,19nm,1.0s,SNR=12
BMR Baia Mare 66.34 360 ⇓P **P 01 09 19.4 +0.9**
BMR Baia Mare 66.34 360 P **P 01 09 19.4 +0.9**
WATA Walderalm 66.34 8 *ep*P **P 01 09 18.5 -0.3**
comp=Z,17nm,1.3s
BUR08 Bucovina Ar. S 66.36 358 P **P 01 09 18.2 -0.5**
BUR08 IAmb IAmb 01 09 26.9

comp=Z,17nm,1.3s
BURAR **Bucovina Array** 66.39 358 P **P** 01 09 18.2 -0.7
BURAR **Bucovina Array** 66.39 358 ⇓P **P** 01 09 18.5 -0.5
BURAR **Bucovina Array** 66.39 358 P **P** 01 09 20.0 +1.0
WTTA **Wattenberg** 66.42 8 *i* pP **P** 01 09 18.6 -0.7
comp=Z,22nm,1.2s,SNR=10
SQTA **Sankt Quirin** 66.44 9 *i* pP **P** 01 09 20.1 +0.8
comp=Z,25nm,1.1s,SNR=10
FETA **Feichten** 66.61 9 *i* pP **P** 01 09 21.3 +0.9
comp=Z,31nm,1.1s,SNR=11
ARSA **Arzberg** 66.62 5 *i* pP **P** 01 09 20.9 +0.5
comp=Z,5.5nm,0.8s
KBA **Koelnbreinsper** 66.70 7 *i* pP **P** 01 09 22.1 +1.0
comp=Z,36nm,1.1s,SNR=18
PATS **Pohnpei** 66.80 229 P **P** 01 09 18.8 -3.1
MESR **Meseseni** 66.86 360 ⇑P **P** 01 09 22.8 +0.9
KSH **Kashi** 66.91 318 P **P** 01 09 21.0 -1.5
KSH S **S** 01 18 17.9 +2.8
KSH pmax pmax
comp=Z,23nm,1.6s
KSH pmax pmax
comp=Z,200nm,3.5s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,4μm,15.1s
KSH LR LR
comp=Z,3μm,14.1s
KIS **Kishinev** 66.92 356 *e*P **P** 01 09 22.0 -0.3
comp=Z,90nm,4.4s
KIS *e*L L 01 33 26.0
KIS LRM MLR 01 43 54.0
comp=Z,300nm,16.5s
KIS **Kishinev** 66.92 356 *e*P **P** 01 09 22.0 -0.3
KIS pmax pmax
comp=Z,90nm,4.4s
KIS MLR MLR
comp=Z,300nm,16.0s
FUORN **Ofenpass-Fuorn** 66.98 9 P **P** 01 09 22.8 -0.2
FUORN IAmb IAmb 01 09 28.1
comp=Z,42nm,1.5s
ABTA **Abfaltersbach** 66.98 8 *i* pP **P** 01 09 23.2 +0.4
comp=Z,14nm,1.5s,SNR=10
MILM **Milestii Mici** 67.00 356 *e*P **P** 01 09 20.0 -2.8
comp=Z,100nm,1.9s
MILM *e*S **S** 01 18 08.0 -7.6
MILM *e*L L 01 33 35.0
MILM LRM MLR 01 41 01.0
comp=Z,600nm,20.0s
MILM **Milestii Mici** 67.00 356 *e*P **P** 01 09 20.0 -2.8
MILM *e*S **S** 01 18 08.0 -7.6
MILM pmax pmax
comp=Z,100nm,1.9s
SENIN **Lac Senin/Sane** 67.01 12 P **P** 01 09 22.3 -0.8
SENIN IAmb IAmb 01 09 29.8
comp=Z,35nm,1.6s
APG **El Apazote** 67.04 106 P **P** 01 09 24.2 +0.5
comp=Z,1.1nm,0.9s,baz=85,slow=16,SNR=7.6
comp=Z,1.1nm,0.9s
MYKA **Terra Mystica** 67.16 7 *e*pP **P** 01 09 24.3 +0.4
comp=Z,10nm,0.8s
SOKA **Soboth** 67.17 6 *i* pP **P** 01 09 24.3 +0.3
comp=Z,4.0nm,1.1s
DRGR 67.22 0 ⇑P **P** 01 09 24.2 -0.2
DRGR 67.22 0 P **P** 01 09 24.1 -0.2
CJR **Cluj-Napoca** 67.30 359 ⇑P **P** 01 09 26.0 +1.2
CJR **Cluj-Napoca** 67.30 359 P **P** 01 09 25.9 +1.2
VASR **Vaslui** 67.31 356 ⇓P **P** 01 09 24.8 +0.1
OBKA **Obir** 67.32 6 *i* pP **P** 01 09 25.6 +0.7
comp=Z,37nm,1.1s,SNR=25
MARR **Marisel-Cluj** 67.34 360 ⇑P **P** 01 09 24.9 -0.1
PURM **Purcari** 67.36 355 ⇑P **P** 01 09 24.8 -0.2
TESR **Tescani** 67.47 357 ⇑P **P** 01 09 25.7 0.0
ERBR **Yeremizino-Bor** 67.48 347 *e*P **P** 01 09 24.9 -0.9
ERBR *e*S **S** 01 18 22.9 +1.5
ERBR *e*SS **SS** 01 22 43.0 +2.5
ERBR pmax pmax
comp=Z,31nm,1.5s
ERBR MLR MLR
comp=Z,889nm,20.0s
MOZS **Mozjanca** 67.53 6 *e*P **P** 01 09 26.1 -0.2
ONER **Baraj Valea Uz** 67.65 357 ⇑P **P** 01 09 27.4 +0.5
CRNS **Crni Vrh** 67.74 6 *i* P **P** 01 09 26.6 -0.9
SIRR **Siria** 67.74 1 ⇑P **P** 01 09 28.1 +0.5
MORH **Mrgy, Hungar** 67.75 3 ⇑P **P** 01 09 27.4 -0.1
PDKS **Podkum** 67.79 6 *e*P **P** 01 09 28.4 +0.6
SABO **M.te Sabotino** 67.81 7 P **P** 01 09 27.2 -0.7
SSB **Saint Sauveur** 67.84 14 P **P** 01 09 28.0 -0.2
SSB **Saint Sauveur** 67.84 14 IAMs_20 IAMs_20 01 41 31.7
comp=Z,1μm,19.0s
SSB **Saint Sauveur** 67.84 14 P **P** 01 09 28.0 -0.2
SSB pmax pmax
comp=Z,60nm,1.8s
SSB MLR MLR
comp=Z,1μm,19.0s
GOF **Gofitskoye** 67.88 345 *c*e*P **P** 01 09 28.7 +0.4
BOSR **Bodos** 67.92 358 ⇑P **P** 01 09 29.2 +0.6
TURR **Turia** 67.93 358 ⇓P **P** 01 09 30.1 +1.4
MTO3 **Montecristo** 68.02 105 P **P** 01 09 29.5 -0.4
MTO3 IAmb IAmb 01 09 31.0
comp=Z,34nm,1.5s
DOPR **Dopca** 68.03 358 ⇑P **P** 01 09 30.0 +0.7
DRK **Karamyk** 68.05 321 P **P** 01 09 29.1 -0.8
DRK **Karamyk** 68.05 321 P **P** 01 09 29.1 -0.8
DRK pmax pmax
comp=Z,58nm,1.3s
VLDR **Vladesti** 68.10 356 ⇓P **P** 01 09 30.3 +0.6
VRI **Vrincioaia** 68.11 357 ⇓P **P** 01 09 30.6 +0.7
VRI **Vrincioaia** 68.11 357 P **P** 01 09 30.5 +0.7
GULI **GuiLin** 68.12 283 P **P** 01 09 33.3 +3.1
GULI S **S** 01 18 33.6 +3.9
GULI pmax pmax
comp=Z,25nm,1.3s
GULI LR LR
comp=Z,2μm,18.2s
GULI LR LR
comp=Z,3μm,17.8s
GULI LR LR
comp=Z,1μm,14.1s
PLOR **Plostina** 68.13 357 ⇑P **P** 01 09 31.3 +1.3
PLOR **Plostina** 68.13 357 P **P** 01 09 31.2 +1.3
DEV **Deva** 68.13 360 ⇑P **P** 01 09 31.2 +1.2
DEV **Deva** 68.13 360 P **P** 01 09 31.1 +1.2
CHIV **Chivirico** 68.16 90 P **P** 01 09 28.9 -1.5
CHIV IAmb IAmb 01 10 14.0
comp=Z,17nm,1.1s
NMDO **Nuevo Mundo** 68.21 89 P **P** 01 09 29.8 -0.9
NMDO IAmb IAmb 01 09 33.2
comp=Z,9.5nm,0.9s
SURR **Surduc** 68.26 1 ⇑P **P** 01 09 30.9 +0.2
BNI **Bardonecchia** 68.26 12 P **P** 01 09 30.8 -0.2
BNI IAMs_20 IAMs_20 01 42 24.8
comp=Z,1μm,21.0s
BNI **Bardonecchia** 68.26 12 P **P** 01 09 30.8 -0.2
BNI pmax pmax
comp=Z,55nm,1.6s
BNI MLR MLR
comp=Z,1μm,21.0s
TIM **Timisoara** 68.27 1 ⇑P **P** 01 09 32.1 +1.3
TIM **Timisoara** 68.27 1 P **P** 01 09 32.1 +1.3
TEOL **Teolo** 68.32 8 P **P** 01 09 30.5 -0.7
BZS **Buzias** 68.39 1 ⇓P **P** 01 09 31.8 +0.3
BZS **Buzias** 68.39 1 P **P** 01 09 32.0 +0.4
BISRR **Bisoca** 68.43 357 ⇑P **P** 01 09 33.2 +1.3
MLR **Muntele Rosu** 68.50 358 P **P** 01 09 31.9 -0.5
MLR **Muntele Rosu** 68.50 358 LR LR 01 39 25.9
comp=Z,721nm,20.9s,baz=13,slow=36
MLR **Muntele Rosu** 68.50 358 ⇑P **P** 01 09 33.7 +1.2
MLR **Muntele Rosu** 68.50 358 P **P** 01 09 33.6 +1.2
GYA **Guiyang** 68.52 287 ⇓P **P** 01 09 35.4 +2.6
GYA pmax pmax
comp=Z,38nm,1.3s
LABN **Labinsk** 68.52 346 *e*P **P** 01 09 33.0 +0.6
LABN *e*S **S** 01 18 34.6 +0.7
LABN pmax pmax
comp=Z,14nm,0.8s
LABN MLR MLR
comp=Z,1μm,19.0s
LOT **Lotru** 68.56 359 ⇓P **P** 01 09 32.7 -0.1
GZR **Gura Zlata** 68.62 0 ⇑P **P** 01 09 32.5 -0.5
GZR **Gura Zlata** 68.62 0 P **P** 01 09 32.6 -0.5
ARR **Arges** 68.64 359 ⇓P **P** 01 09 34.0 +0.8
ANN **Anapa** 68.65 349 *e*P **P** 01 09 31.9 -1.2
ANN *e*S **S** 01 18 35.0 -0.3
ANN pmax pmax
comp=Z,25nm,0.9s
TLCR 68.73 356 ⇑P **P** 01 09 34.6 +0.9
TLCR 68.73 356 P **P** 01 09 34.6 +0.9
CFR **Carcaliu** 68.76 356 ⇓P **P** 01 09 33.9 0.0
CFR **Carcaliu** 68.76 356 P **P** 01 09 33.9 0.0
GAR **Garm** 68.87 322 P **P** 01 09 33.3 -1.6
GRTK **Grand Turk** 68.91 85 IAMs_20 IAMs_20 01 39 51.3
comp=Z,2μm,19.0s
KIV **Kislovodsk** 69.00 345 P **P** 01 09 34.8 -0.8
KIV IAMs_20 IAMs_20 01 41 58.6
comp=Z,1000nm,21.0s
KIV **Kislovodsk** 69.00 345 ⇑P **P** 01 09 36.1 +0.6
KIV **Kislovodsk** 69.00 345 *i* P **P** 01 09 35.3 -0.2
SNR=11
KIV **Kislovodsk** 69.00 345 *e*P **P** 01 09 35.3 -0.2
KIV *e*S **S** 01 18 40.5 +0.6
KIV *e*SS **SS** 01 23 07.3 +3.0
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,607nm,17.0s
TPGR **Topolog** 69.08 356 ⇓P **P** 01 09 36.5 +0.6
HERR **Herculane** 69.13 0 ⇓P **P** 01 09 35.9 -0.3
JURR **Jurilovca** 69.15 355 ⇓P **P** 01 09 37.3 +1.0
TGUH **Tegucigalpa,Un** 69.15 103 IAMs_20 IAMs_20 01 42 10.0
comp=Z,1μm,20.0s
BLY **Banja Luka** 69.18 4 ⇑P **P** 01 09 37.4 +0.9
KBZ **Khabaz** 69.21 345 P **P** 01 09 36.8 +0.2
comp=Z,5.1nm,0.9s,baz=302,slow=3.6,SNR=10
KBZ LR LR 01 42 09.7
comp=Z,613nm,19.3s,baz=1.0,slow=38
comp=Z,5.1nm,0.9s
SHA1 **Shidzhatmaz** 69.22 345 ⇓*e*P **P** 01 09 37.7 +0.6
MDVR **Moldovita** 69.23 1 ⇓P **P** 01 09 37.0 +0.1
HARR **Harsova** 69.26 356 ⇑P **P** 01 09 37.3 +0.3
HARR **Harsova** 69.26 356 P **P** 01 09 37.2 +0.3
HKPS **Hong Kong Po S** 69.33 278 IAMs_20 IAMs_20 01 40 15.0
comp=Z,2μm,18.0s
NCK **Nalchik** 69.36 344 ⇓*i* P **P** 01 09 38.2 +0.5
NCK pmax pmax
comp=Z,21nm,0.6s
TLBR **Topalu** 69.40 356 ⇑P **P** 01 09 38.0 +0.2
PGAV **Gavieira, Arco** 69.41 24 *e*P **P** 01 09 40.0 +1.9
PGAV *i* IAmb IAmb 01 09 52.5
comp=Z,99nm,1.7s
PGAV *e*LR LR 01 32 52.7
PGAV *i* IAMs_20 IAMs_20 01 40 35.3
comp=Z,783nm,20.0s
MAK **Makhachkala** 69.41 341 *d i* P P 01 09 31.4 -6.5
MAK *e* 01 12 07.9
MAK *e*PPP PPP 01 13 48.5
MAK *e*S S 01 18 34.7 -10
MAK pmax pmax
comp=Z,171nm,1.3s
MAK MLR MLR
comp=Z,1μm,19.0s
TIRR **Tirgusor** 69.47 356 P **P** 01 09 37.1 -1.2
TIRR IAmb IAmb 01 09 47.0
comp=Z,29nm,1.5s
TIRR **Tirgusor** 69.47 356 ⇑P **P** 01 09 38.0 -0.3
TIRR **Tirgusor** 69.47 356 P **P** 01 09 38.0 -0.3
CHGR **Chuyangaron** 69.48 323 P **P** 01 09 37.1 -1.5
CHGR **Chuyangaron** 69.48 323 P **P** 01 09 37.1 -1.5
CHGR pmax pmax
comp=Z,96nm,0.7s
SOC **Sochi** 69.67 347 *e*P **P** 01 09 38.0 -1.5
SOC *e* 01 12 13.4
SOC *e*PPP PPP 01 13 56.1
SOC *e*S **S** 01 18 46.7 -0.7
SOC *e*SS **SS** 01 23 17.8 +3.5
SOC pmax pmax
comp=Z,9.0nm,0.7s
SOC MLR MLR
comp=Z,651nm,18.0s
NEUR **Neytrino** 69.69 345 *e*P **P** 01 09 38.1 -1.8
NEUR pmax pmax
comp=Z,15nm,1.4s
PCAB **Cabril** 69.70 24 *e*P **P** 01 09 41.9 +2.1
PCAB *i* IAmb IAmb 01 09 59.8
comp=Z,64nm,1.4s
MFTR **Murfatlar** 69.75 356 ⇑P **P** 01 09 40.7 +0.7
PBRG **Braganca** 69.82 23 *e*P **P** 01 09 42.2 +1.6
PBRG *i* IAmb IAmb 01 09 50.5
comp=Z,59nm,1.6s
POLO **Lamas de Olo** 70.07 24 *e*P **P** 01 09 44.2 +2.1
POLO *i* IAmb IAmb 01 09 45.5
comp=Z,29nm,1.4s
OSSC **Osservatorio P** 70.12 9 P **P** 01 09 41.4 -0.9
OSSC IAmb IAmb 01 09 46.4
comp=Z,12nm,0.9s
CEST **Esterri de Car** 70.14 17 P **P** 01 09 42.1 -0.6
CEST IAmb IAmb 01 09 49.2
comp=Z,25nm,1.1s
PVRL **Vila Real** 70.17 24 *e*P **P** 01 09 45.1 +2.3
PVRL *i* IAmb IAmb 01 09 53.0
comp=Z,76nm,1.5s
PSN **Preselentsi** 70.30 356 P **P** 01 09 46.5 +3.1
PZH **PanZhiHua** 70.36 291 P **P** 01 09 46.6 +2.4
PZH S **S** 01 18 57.3 +1.0
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,130nm,4.7s
PZH LR LR
comp=Z,4μm,18.4s
PZH LR LR
comp=Z,3μm,15.3s
BOVS **Bovan** 70.38 1 ⇑P **P** 01 09 43.3 -0.5
MVO **Moncorvo** 70.39 24 *e*P **P** 01 09 45.6 +1.4
MVO *i* IAmb IAmb 01 09 53.2
comp=Z,50nm,1.4s
MVO *e*LR LR 01 32 31.0
MVO *i* IAMs_20 IAMs_20 01 40 56.8
comp=Z,1μm,20.0s
RAZG **Razgrad** 70.41 357 ⇓P **P** 01 09 45.1 +1.0
SIUN **Universidad Ur** 70.45 101 P **P** 01 09 44.4 -0.2
SIUN IAmb IAmb 01 09 48.5
comp=Z,27nm,1.0s
MURB **Monte Urbino** 70.46 8 P **P** 01 09 44.3 -0.1
MURB IAmb IAmb 01 09 50.7
comp=Z,30nm,1.0s
PLVB **Pleven** 70.62 359 ⇓P **P** 01 09 45.6 +0.3
PVIS **Viseu** 70.69 24 *e*P **P** 01 09 47.3 +1.4
PRD **Provadia** 70.80 356 P **P** 01 09 46.8 +0.4
AKT **Akhty** 70.84 340 *e*P **P** 01 09 45.6 -1.3
AKT *e* 01 10 05.6
AKT *e* 01 12 23.1
AKT *e*S **S** 01 19 00.2 -1.3
AKT pmax pmax
comp=Z,22nm,1.1s
AKT MLR MLR
comp=Z,1μm,19.0s
MTE **Manteigas** 71.06 24 P **P** 01 09 48.5 +0.3
MTE **Manteigas** 71.06 24 *e*P **P** 01 09 49.8 +1.7
MTE *i* IAmb IAmb 01 09 59.9
comp=Z,108nm,1.6s
MTE *e*LR LR 01 33 19.8
MTE *i* IAMs_20 IAMs_20 01 42 04.0
comp=Z,1μm,18.0s
ELND **Elena** 71.06 358 ⇓P **P** 01 09 47.9 -0.2
CESX **Cesi** 71.11 8 P **P** 01 09 47.9 -0.5
CESX IAmb IAmb 01 09 49.9
comp=Z,11nm,0.8s
SDDR **Presa de Saban** 71.12 86 P **P** 01 09 47.8 -0.9
SDDR IAmb IAmb 01 09 53.2
comp=Z,14nm,0.8s
SDDR IAMs_20 IAMs_20 01 38 52.9
comp=Z,993nm,21.0s
SEKA **Sheki** 71.18 341 P **P** 01 09 45.6 -3.3
KMI **Kunming** 71.23 290 P **P** 01 09 51.9 +2.3
KMI S **S** 01 19 07.5 +0.8
KMI SKS **SKSac** 01 19 51.5 -0.9
KMI pmax pmax
comp=Z,14nm,1.3s
KMI LR LR
comp=Z,2μm,17.4s
CAMP **Campotosto** 71.23 7 P **P** 01 09 48.8 -0.5
CAMP IAmb IAmb 01 10 00.7
comp=Z,25nm,1.1s
PCAS **Casmilo, Conde** 71.23 25 *e*P **P** 01 09 49.6 +0.5
PCAS *i* IAmb IAmb 01 10 01.7
comp=Z,136nm,1.5s
TRLG **Trialeti** 71.23 343 P **P** 01 09 51.4 +2.1
LSA **Lhasa** 71.29 301 P **P** 01 09 49.4 -0.8
LSA S **S** 01 19 07.8 +0.1
LSA LR LR
comp=Z,830nm,12.6s
LSA LR LR
comp=Z,990nm,15.8s
LSA LR LR
comp=Z,2μm,13.1s
LSA **Lhasa** 71.29 301 IAMs_20 IAMs_20 01 42 51.9
comp=Z,888nm,20.0s
LSA **Lhasa** 71.29 301 P **P** 01 09 51.7 +1.5
VTS **Vitosha** 71.40 360 P **P** 01 09 50.5 +0.2
PDG **Podgorica** 71.55 3 P **P** 01 09 50.3 -0.7
PDG IAmb IAmb 01 09 52.2
comp=Z,15nm,0.8s
PCBR **Castelo Branco** 71.61 24 *e*P **P** 01 09 53.3 +1.9
PCBR *i* IAmb IAmb 01 10 00.7
comp=Z,59nm,1.4s
MNGR **Mingechevir, A** 71.62 341 P **P** 01 09 48.4 -3.0
PSARD **Sardoal** 71.73 25 *e*P **P** 01 09 54.1 +1.9
PSARD *i* IAmb IAmb 01 10 03.5
comp=Z,60nm,1.9s
GANJ **Ganja** 71.84 341 P **P** 01 09 49.7 -3.2
PLD **Plovdiv** 71.86 359 P **P** 01 09 55.5 +2.6
DIM **Dimitrovgrad** 71.95 358 P **P** 01 09 54.3 +0.9
PMRV **Marv??o** 72.03 24 *e*P **P** 01 09 56.2 +2.2
PMRV *i* IAmb IAmb 01 10 06.1
comp=Z,49nm,1.9s
PMRV *e*LR LR 01 33 19.8
PMRV *i* IAMs_20 IAMs_20 01 42 31.1
comp=Z,848nm,18.0s
PMAFR **Mafra** 72.17 26 *e*P **P** 01 09 57.7 +2.9
PMAFR *i* IAmb IAmb 01 10 03.7
comp=Z,228nm,1.7s
KKB **Krupnik** 72.17 360 P **P** 01 09 55.0 +0.2
PMTG **Montargil** 72.24 25 *e*P **P** 01 09 56.8 +1.6
PMTG *i* IAmb IAmb 01 10 05.7
comp=Z,51nm,1.6s
RZN **Rozhen** 72.31 359 P **P** 01 09 56.6 +0.8
ESBB **Sonseca Array** 72.33 21 P **P** 01 09 55.0 -0.8
ESBB IAmb IAmb 01 09 58.2
comp=Z,19nm,0.9s
ESDC **Sonseca Array** 72.33 21 P **P** 01 09 55.7 -0.1
ESDC IAmb IAmb 01 10 04.7
comp=Z,23nm,1.1s
ESDC **Sonseca Array** 72.33 21 P **P** 01 09 55.4 -0.4
comp=Z,16nm,0.9s,baz=349,slow=5.4,SNR=66
ESDC LR LR 01 41 54.9
comp=Z,670nm,20.7s,baz=348,slow=36
comp=Z,16nm,0.9s
PARRA **Arraiolos** 72.35 26 *e*P **P** 01 09 58.8 +3.0
PARRA *i* IAmb IAmb 01 10 30.0
comp=Z,40nm,1.7s
PAB **San Pablo** 72.40 22 P **P** 01 09 55.7 -0.5
PAB IAmb IAmb 01 10 05.2
comp=Z,24nm,1.1s
PAB **San Pablo** 72.40 22 P **P** 01 09 55.7 -0.5
PAB pmax pmax
comp=Z,24nm,1.2s
MMB **Musomishta** 72.46 359 P **P** 01 09 55.3 -1.3
GNI **Garni** 72.53 343 P **P** 01 09 56.1 -1.1
GNI IAmb IAmb 01 10 06.8
comp=Z,33nm,1.3s
GNI **Garni** 72.53 343 IAMs_20 IAMs_20 01 45 40.9
comp=Z,812nm,21.0s
GNI **Garni** 72.53 343 LR LR 01 46 03.6
comp=Z,520nm,20.3s,baz=15,slow=39
GNI **Garni** 72.53 343 P **P** 01 09 57.3 +0.2
GNI **Garni** 72.53 343 ⇑*e*P **P** 01 09 58.2 +1.1
GNI pmax pmax
comp=Z,31nm,1.3s
PESTR **Estremoz** 72.54 25 P **P** 01 09 56.1 -0.9
PESTR **Estremoz** 72.54 25 *e*P **P** 01 09 58.3 +1.2
PESTR *i* IAmb IAmb 01 10 06.0
comp=Z,50nm,1.4s
ILGA **Ilgaz** 72.63 351 P **P** 01 09 57.4 -0.5
KLYT **Kilyos** 72.66 355 ⇓P **P** 01 09 56.9 -0.7
ISK **Istanbul-Kandi** 72.84 355 P **P** 01 09 58.8 +0.1
TNCH **TengChong** 72.90 293 *e*P **P** 01 10 01.8 +2.2
TNCH pmax pmax
comp=Z,210nm,2.0s
SAHE **Sakarya_HENDEK** 72.98 354 ⇑P **P** 01 10 00.2 +0.6
ALN **Alexandroupoli** 73.09 357 P **P** 01 09 59.1 -1.1
ALN IAmb IAmb 01 10 02.1
comp=Z,12nm,1.0s
ALN **Alexandroupoli** 73.09 357 P **P** 01 09 59.1 -1.1
ALN pmax pmax
comp=Z,12nm,1.0s
TSSA **Tissa** 73.12 315 *e*P **P** 01 09 57.8 -3.0
TSSA *e*S **S** 01 19 24.1 -4.0
KOPT **Kop Dagi** 73.12 346 IAmb IAmb 01 10 11.4
comp=Z,24nm,1.1s
NIL **Nilore** 73.16 318 P **P** 01 09 59.7 -1.1
NIL **Nilore** 73.16 318 IAMs_20 IAMs_20 01 44 36.2
comp=Z,933nm,19.0s
NIL **Nilore** 73.16 318 P **P** 01 09 59.7 -1.1
NIL pmax pmax
comp=Z,117nm,1.5s
NIL MLR MLR
comp=Z,900nm,19.0s
PBAR **Barrancos** 73.31 24 *e*P **P** 01 10 01.1 -0.5
PBAR *i* IAmb IAmb 01 10 11.6
comp=Z,82nm,1.4s
PBEJ **Beja** 73.32 25 *e*P **P** 01 10 00.6 -1.0
PBEJ *i* IAmb IAmb 01 10 13.3
comp=Z,28nm,1.6s
NAX **Nakhchivan** 73.40 342 P **P** 01 09 59.0 -3.2
LKRN **Lenkeran, Azer** 73.41 339 P **P** 01 09 59.1 -3.0
KBL **Kabul** 73.42 322 P **P** 01 10 01.7 -0.9
KBL IAmb IAmb 01 10 05.4
comp=Z,25nm,1.4s
KBL **Kabul** 73.42 322 P **P** 01 10 01.7 -0.9
KBL pmax pmax
comp=Z,25nm,1.4s
MESJ **Messejana** 73.44 25 *e*P **P** 01 10 03.1 +0.8
MESJ IAmb IAmb 01 10 07.6
comp=Z,21nm,1.1s
MESJ **Messejana** 73.44 25 *e*P **P** 01 10 03.1 +0.8
MESJ *i* IAmb IAmb 01 10 14.1
comp=Z,42nm,2.0s
MESJ **Messejana** 73.44 25 *e*P **P** 01 10 03.1 +0.8
JTS **Las Juntas de** 73.49 102 IAMs_20 IAMs_20 01 45 06.0
comp=Z,1μm,18.0s
JTS **Las Juntas de** 73.49 102 LR LR 01 47 31.2
comp=Z,682nm,18.1s,baz=344,slow=40
DHRM **DHARAMSHALA** 73.63 315 *e*P P 01 09 57.2 -6.6
DHRM *e*S **SKiKP** 01 19 29.4 -3.8
PTEO **Sao Teotonio** 73.64 26 *e*P **P** 01 10 05.1 +1.6
PTEO *i* IAmb IAmb 01 10 14.1
comp=Z,80nm,2.0s
PCVE **Castro Verde** 73.67 25 *e*P **P** 01 10 05.0 +1.3
PCVE *i* IAmb IAmb 01 10 16.0
comp=Z,40nm,1.9s
KLP **Kalpa** 73.73 313 *e*P **P** 01 10 01.2 -3.4
ANTO **Ankara** 73.87 352 P **P** 01 10 05.2 +0.3
ANTO IAmb IAmb 01 10 13.3
comp=Z,23nm,0.9s
ANTO **Ankara** 73.87 352 ⇑P **P** 01 10 05.7 +0.8
ANTO **Ankara** 73.87 352 P **P** 01 10 05.7 +0.8
MORF **Marmelete** 73.89 26 *e*P **P** 01 10 05.6 +0.6
MORF IAmb IAmb 01 10 13.8
comp=Z,93nm,1.5s
MORF **Marmelete** 73.89 26 *e*P **P** 01 10 05.6 +0.6
LIT **Litokhoron** 73.91 0 IAmb IAmb 01 10 06.6
comp=Z,16nm,1.1s
PVAQ **Vaqueiros** 73.95 25 *e*P **P** 01 10 07.2 +1.8
PVAQ *i* IAmb IAmb 01 10 17.2
comp=Z,51nm,1.8s
PVAQ *e*LR LR 01 34 13.3
PVAQ *i* IAMs_20 IAMs_20 01 41 55.8
comp=Z,838nm,20.0s
TGY **Tagaytay City** 73.96 268 LR LR 01 42 37.7
comp=Z,291nm,20.5s,baz=17,slow=36
BR131 **Keskin Array S** 73.96 351 ⇑*e*P **P** 01 10 05.9 +0.3
BRTR **Keskin Array B** 73.96 351 P **P** 01 10 04.7 -0.9
comp=Z,4.4nm,0.9s,baz=24,slow=3.4,SNR=24
comp=Z,4.4nm,0.9s
BRTR **Keskin Array B** 73.96 351 *i* P **P** 01 10 04.6 -1.0
BRTR pmax pmax
comp=Z,5.0nm,0.9s
QIZ **Qiongzhong** 73.97 281 P **P** 01 10 04.6 -1.1
QIZ S **S** 01 19 37.5 0.0
QIZ LR LR
comp=Z,2μm,16.9s
QIZ **Qiongzhong** 73.97 281 IAMs_20 IAMs_20 01 48 54.9

comp=Z,910nm,20.0s
SJG San Juan 73.97 82 IAMs_20 IAMs_20 01 43 03.3
comp=Z,961nm,19.0s
SJG San Juan 73.97 82 LR LR 01 43 36.8
comp=Z,745nm,21.8s,baz=314,slow=37
BORA Eskisehir 73.97 354 IAmb IAmb 01 10 14.4
comp=Z,26nm,1.6s
VSL Villasalto 74.00 11 IAmb IAmb 01 10 14.2
comp=Z,26nm,1.2s
PBDV Barranco-do-Ve 74.07 25 *e*P **P** **01 10 08.2 +2.1**
PBDV *i* IAmb IAmb 01 10 12.4
comp=Z,56nm,1.1s
HDC Heredia 74.09 102 IAMs_20 IAMs_20 01 44 01.8
comp=Z,940nm,19.0s
EVN Everest 74.36 304 IAmb IAmb 01 10 13.6
comp=Z,53nm,1.6s
GURO Guroymak-BITLI 74.42 345 IAmb IAmb 01 10 17.6
comp=Z,30nm,1.7s
SMLA Simla 74.43 314 *e*P **P** **01 10 05.3 -2.9**
SMLA *e*S **SKiKP** **01 19 37.7 +3.7**
KIRS Kirsehir-Merke 74.53 351 ⇑P **P** **01 10 10.0 +1.2**
HRA Herat 75.17 327 IAmb IAmb 01 10 17.5
comp=Z,47nm,1.6s
SABA Saba 75.57 79 IAMs_20 IAMs_20 01 48 40.6
comp=Z,1μm,18.0s
BRU2 Volcan 75.75 101 IAmb IAmb 01 10 18.3
comp=Z,23nm,0.7s
MARD Mardin 75.78 345 IAmb IAmb 01 10 18.5
comp=Z,24nm,0.8s
SEUS St. Eustatius 75.79 79 IAMs_20 IAMs_20 01 48 46.4
comp=Z,864nm,19.0s
TAOE Nuku Hiva Isla 76.00 163 *e*SS SS 01 24 52.4 -0.9
comp=Z,140nm,29.2s
TAOE *e*LQ LQ 01 30 27.1
comp=Z,2μm,27.4s
TAOE *e*LR LR 01 33 29.8
comp=Z,630nm,21.9s
ANWB Willy Bob 76.10 78 IAMs_20 IAMs_20 01 45 27.7
comp=Z,1μm,19.0s
GAZ Gaziantep 76.24 348 IAmb IAmb 01 10 23.1
comp=Z,20nm,1.3s
BCIP Isla Barro Col 76.55 98 IAMs_20 IAMs_20 01 43 08.9
comp=Z,761nm,19.0s
YER Yerkesik 76.79 356 P **P** **01 10 24.6 +2.9**
ITM Ithomi 76.83 1 IAmb IAmb 01 10 38.5
comp=Z,29nm,1.2s
ABD La Joyeuse, An 77.30 78 IAMs_20 IAMs_20 01 39 53.5
comp=Z,993nm,21.0s
GDHS Morne Mazeau, 77.37 79 IAMs_20 IAMs_20 01 39 46.0
comp=Z,1μm,21.0s
GDSD La Dsirade Is 77.61 78 IAMs_20 IAMs_20 01 39 49.8
comp=Z,1μm,22.0s
CBE Ff, Capester 77.62 78 IAMs_20 IAMs_20 01 39 42.0
comp=Z,1μm,19.0s
KEST Kesra 77.74 11 IAmb IAmb 01 10 32.4
comp=Z,23nm,1.1s
KEST Kesra 77.74 11 P **P** **01 10 27.5 +0.4**
comp=Z,16nm,1.0s,baz=318,slow=5.3,SNR=9.7
KEST LR LR 01 45 11.3
comp=Z,427nm,20.2s,baz=1.2,slow=36
comp=Z,16nm,1.0s
MAGL Barre de l'ile 77.86 78 IAMs_20 IAMs_20 01 47 56.2
comp=Z,1μm,19.0s
CHTO Chiang Mai 78.40 290 P **P** **01 10 33.7 +2.8**
CHTO IAmb IAmb 01 10 34.6
comp=Z,22nm,1.2s
CHTO Chiang Mai 78.40 290 P **P** **01 10 33.7 +2.8**
CHTO pmax pmax
comp=Z,22nm,1.3s
CHTO MLR MLR
comp=Z,2μm,18.0s
DAV Davao City (W) 78.47 261 LR LR 01 46 45.6
comp=Z,464nm,19.2s,baz=34,slow=37
CMAR Chiang Mai Arr 78.73 290 P **P** **01 10 31.5 -1.2**
CMAR Chiang Mai Arr 78.73 290 P **P** **01 10 32.3 -0.4**
comp=Z,13nm,0.9s,baz=3.4,slow=6.5,SNR=24
CMAR LR LR 01 48 17.8
comp=Z,2μm,18.2s,baz=30,slow=38
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 78.73 290 *i* P **P** **01 10 32.7 0.0**
CMAR pmax pmax
comp=Z,15nm,0.9s
MD01 Midelt array s 78.87 23 P **P** **01 10 34.3 +0.8**
SVN Savane Anatole 78.91 79 IAMs_20 IAMs_20 01 51 27.1
comp=Z,687nm,19.0s
MDT Midelt 78.95 23 LR LR 01 48 02.5
comp=Z,451nm,19.3s,baz=357,slow=38
FDF Fort de France 79.01 79 IAMs_20 IAMs_20 01 49 45.9
comp=Z,726nm,20.0s
ILAM Ilet Lapin Mar 79.08 78 IAMs_20 IAMs_20 01 46 17.7
comp=Z,1μm,22.0s
MPOM Morne Pois Mar 79.39 78 IAMs_20 IAMs_20 01 48 51.8
comp=Z,950nm,20.0s
SDV Santo Domingo 80.51 90 *e*P **P** **01 10 42.6 0.0**
MMAI Mount Meron Ar 80.51 349 P **P** **01 10 41.9 -0.5**
comp=Z,3.9nm,0.8s,baz=8.8,slow=6.0,SNR=7.4
MMAI LR LR 01 54 24.6
comp=Z,170nm,18.2s,baz=12,slow=42
comp=Z,3.9nm,0.8s
BBGH Gun Hill 81.09 78 IAMs_20 IAMs_20 01 48 03.8
comp=Z,1μm,20.0s
ASF Jabal al Asfar 81.23 348 LR LR 01 52 04.8
comp=Z,245nm,19.8s,baz=26,slow=40
JAY Jayapura 81.46 243 LR LR 01 43 05.7
comp=Z,593nm,20.5s,baz=6.0,slow=33
BAUV El Baul 81.50 87 IAmb IAmb 01 10 48.3
comp=Z,30nm,1.0s
BHPL Bhopal 81.75 311 *e*P P 01 10 42.6 -6.4
BHPL *e*S **S** **01 20 57.2 -4.4**
HNR Honiara 81.79 223 IAMs_20 IAMs_20 01 43 18.6
comp=Z,894nm,22.0s
HNR Honiara 81.79 223 LR LR 01 43 51.9
comp=Z,692nm,21.1s,baz=352,slow=33
RUSC La Rusia 82.24 93 IAmb IAmb 01 10 54.5
comp=Z,18nm,0.8s
ROSC El Rosal 82.69 95 IAmb IAmb 01 10 59.1
comp=Z,23nm,1.1s
ROSC El Rosal 82.69 95 P **P** **01 10 54.6 +0.2**
comp=Z,17nm,0.8s,baz=53,slow=6.3,SNR=6.4
comp=Z,17nm,0.8s
MYLDM Lahad Datu 83.03 267 IAMs_20 IAMs_20 01 53 10.3
comp=Z,741nm,20.0s
PPT Papeete 83.83 173 LR LR 01 41 57.6
comp=Z,717nm,19.5s,baz=354,slow=31
PPT2 Papeete2 83.85 173 *e*PKP1 P 01 10 54.5 -5.2
comp=Z,32nm,23.8s
PPT2 Papeete2 83.85 173 *e*S **SKSac** **01 21 20.5 -1.8**
comp=Z,109nm,24.2s
PPT2 *e*SS **SS** **01 26 51.6 +0.8**
comp=Z,376nm,27.5s
PPT2 *e*LQ LQ 01 33 29.1
comp=Z,2μm,37.0s
PPT2 *e*LR LR 01 37 17.4
comp=Z,724nm,21.8s
PPT2 *e*LR LR 01 37 22.8
comp=Z,758nm,20.8s
EIL Elat 83.87 349 LR LR 01 55 18.9
comp=Z,176nm,18.5s,baz=8.0,slow=41
SHME Shamm 84.51 330 P **P** **01 11 03.5 +0.4**
BANOM Banah 84.60 330 P **P** **01 11 04.0 +0.4**
MSFE Esma-Masafi 85.17 330 P **P** **01 11 06.2 -0.3**
MDH Madha 85.20 330 P **P** **01 11 07.0 +0.3**
OTAV Otavalo 85.23 100 P **P** **01 11 08.4 +1.0**
OTAV Otavalo 85.23 100 *e*P **P** **01 11 08.0 +0.6**
UOSS Minazif 85.57 330 P **P** **01 11 07.5 -0.9**
UOSS IAmb IAmb 01 11 10.7
comp=Z,12nm,0.9s
UOSS Minazif 85.57 330 P **P** **01 11 07.2 -1.3**
NAZ Nazwa, Dubai 85.63 330 *i* P **P** **01 11 08.2 -0.6**
SNR=5.7
PMG Port Moresby 85.65 235 IAMs_20 IAMs_20 01 48 25.3
comp=Z,871nm,18.0s
PMG Port Moresby 85.65 235 LR LR 01 49 14.9
comp=Z,537nm,18.8s,baz=29,slow=36
HATD Hatta, Dubai 85.70 330 P **P** **01 11 07.8 -1.3**
SANVU Saraoutou 85.74 214 IAMs_20 IAMs_20 01 41 02.4
comp=Z,1μm,21.0s
ASHO Ashiyiah 85.85 330 *i* P **P** **01 11 07.9 -2.1**
SNR=9.0
ASUD Al Ashush, Dub 86.05 331 *i* P **P** **01 11 12.0 +1.1**
SNR=6.4
ALNE Al Ain 86.52 330 *i* P **P** **01 11 11.1 -2.1**
SNR=5.3
HYB Hyderabad 86.87 308 *e*P **P** **01 11 12.9 -2.1**
HYB IVmB_BB 01 11 16.4
comp=Z,192nm,2.0s
HYB IVMs_BB IVMs_BB 01 56 18.5

comp=Z,384nm,17.0s
MZR Muzera 87.99 332 P **P** **01 11 19.5 -0.8**
SBUM Sibu 88.04 272 P **P** **01 11 22.6 +1.9**
SBUM IAmb IAmb 01 11 26.5
comp=Z,21nm,1.3s
RAYN Ar Rayn 88.81 339 P **P** **01 11 23.6 -0.7**
RAYN Ar Rayn 88.81 339 P **P** **01 11 24.0 -0.2**
RAYN Ar Rayn 88.81 339 P **P** **01 11 25.3 +1.0**
KULM Kulim 90.08 283 IAMs_20 IAMs_20 01 50 39.0
comp=Z,1μm,19.0s
TAM Tamanrasset 90.19 16 IAMs_20 IAMs_20 01 54 01.6
comp=Z,569nm,20.0s
BOAV Boa Vista 90.48 83 *e*P **P** **01 11 31.8 -0.3**
IPM Ipoh 90.67 283 IAMs_20 IAMs_20 01 59 05.6
comp=Z,873nm,20.0s
RKT Rikitea 90.73 160 *e*LR LR 01 40 19.8
comp=Z,5μm,31.5s
MDP Montagnes des 91.13 75 LR LR 01 52 14.8
comp=Z,434nm,20.5s,baz=343,slow=35
COEN Coen 91.23 237 P **P** **01 11 36.0 +0.6**
COEN IAmb IAmb 01 11 39.6
comp=Z,16nm,1.0s
LHMI Lhok Sumawe 91.58 287 IAMs_20 IAMs_20 01 52 24.7
comp=Z,990nm,19.0s
KAPI Kappang 91.80 262 LR LR 01 57 21.6
comp=Z,70nm,18.5s,baz=14,slow=38
ATAH Atahualpa 91.98 103 LR LR 01 53 54.7
comp=Z,388nm,21.7s,baz=344,slow=36
PBKI Pangkalan Bun 92.95 270 P **P** **01 11 44.7 +1.2**
PSI Prapat 93.03 284 LR LR 01 56 13.1
comp=Z,332nm,18.0s,baz=354,slow=37
BBTS Babate 94.12 38 LR LR 01 52 27.2
comp=Z,489nm,20.0s,baz=176,slow=34
BKNI Bangkinang 94.46 281 IAMs_20 IAMs_20 01 54 34.9
comp=Z,954nm,21.0s
PALK Pallekele 95.65 302 IAMs_20 IAMs_20 01 58 28.1
comp=Z,955nm,21.0s
PALK Pallekele 95.65 302 LR LR 01 58 38.8
comp=Z,731nm,20.6s,baz=9.0,slow=38
PMBI Palembang 95.93 276 IAMs_20 IAMs_20 02 03 08.2
comp=Z,660nm,20.0s
RAO Raoul Island 96.59 198 LR LR 01 49 33.9
comp=Z,166nm,21.1s,baz=20,slow=32
NNA Nana 97.01 104 LR LR 02 00 56.5
comp=Z,388nm,18.2s,baz=350,slow=39
LEM Lembang 98.33 272 LR LR 02 03 29.2
comp=Z,204nm,19.1s,baz=339,slow=40
TORD Torodi Ar. Bea 99.21 21 P **Pdif** **01 12 10.7 -1.3**
comp=Z,0.5nm,0.8s,baz=334,slow=7.2,SNR=3.5
TORD LR LR 01 59 12.9
comp=Z,511nm,19.0s,baz=356,slow=37
comp=Z,0.5nm,0.8s
WRA Warramunga Arr 99.86 243 P **Pdif** **01 12 13.7 -0.9**
comp=Z,1.2nm,0.7s,baz=26,slow=5.3,SNR=11
WRA LR LR 01 53 20.9
comp=Z,342nm,21.8s,baz=22,slow=33
comp=Z,1.2nm,0.7s
WRA Warramunga Arr 99.86 243 *i* P **Pdif** **01 12 13.6 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 103.43 242 Pdiff **Pdif** **01 12 32.8 +2.3**
comp=Z,0.3nm,0.3s,baz=225,slow=38,SNR=2.9
OUZ Omahuta 103.70 204 IAMs_20 IAMs_20 01 51 37.2
comp=Z,943nm,21.0s
LPAZ La Paz 104.36 98 *e*P **Pdif** **01 12 38.1 +2.7**
PB16 IPOC Station P 105.67 100 IAMs_20 IAMs_20 02 01 43.6
comp=Z,632nm,22.0s
RTZ Ruatahuna 106.50 201 IAMs_20 IAMs_20 01 51 39.4
comp=Z,839nm,21.0s
BKZ Black Stump Fm 107.11 201 IAMs_20 IAMs_20 01 54 49.6
comp=Z,557nm,19.0s
BDQN Bodoquena, MS 112.70 89 *e*P **Pdif** **01 13 12.1 +0.4**
AC02 Maricunga 113.46 103 IAMs_20 IAMs_20 02 10 51.1
comp=Z,629nm,20.0s
CO01 Juntas del Tor 115.89 106 IAMs_20 IAMs_20 02 06 07.3
comp=Z,566nm,18.0s
PLCA Paso Flores 125.19 112 **PKPdf** **01 17 30.1 +0.1**
PLCA Paso Flores 125.19 112 PKP **PKiKP** **01 17 30.3 -0.1**
comp=Z,3.6nm,0.7s,baz=284,slow=1.0,SNR=11
PLCA Paso Flores 125.19 112 PKIKP **PKPdf** **01 17 30.1 +0.1**
PLCA Paso Flores 125.19 112 *e*P **PKiKP** **01 17 31.5 +1.1**
GRTLG Ghanzi 135.04 2 **PKPdf** **01 17 49.7 +0.3**
BOSA Boshof 142.25 357 PKP **PKPdf** **01 18 01.4 -1.0**
comp=Z,5.0nm,0.9s,baz=344,slow=1.5,SNR=4.8
VNDA Vanda 145.75 195 **PKPab** **01 18 08.1 +0.3**
VNDA Vanda 145.75 195 PKPbc **PKPab** **01 18 08.6 +0.8**
comp=Z,14nm,1.1s,baz=348,slow=3.9,SNR=19
VNDA Vanda 145.75 195 PKP2 **PKPab** **01 18 08.1 +0.3**
PMSA Palmer Station 146.70 129 *e*P **PKPab** **01 18 12.1 +0.4**
QSPA South Pole Qui 156.14 180 PKP **PKPdf** **01 18 23.1 0.0**
comp=Z,5.2nm,1.1s,baz=279,slow=2.4,SNR=5.9
QSPA PKPab **PKPab** **01 18 51.9 +0.9**
comp=Z,12nm,0.9s,baz=38,slow=0.3,SNR=14
MAW Mawson 164.49 247 PKPab **PKPab** **01 19 27.6 +0.3**
comp=Z,12nm,1.0s,baz=45,slow=6.2,SNR=8.3
VNA3 Neumayer Olymp 167.35 127 ⇑P **PKPab** **01 19 39.5 -0.4**
comp=Z,8.2nm,0.9s
VNA1 Neumayer--Stat 167.88 125 ⇑P **PKPab** **01 19 43.0 +0.8**
comp=Z,3.2nm,1.0s
VNA2 Neumayer--Watz 168.13 126 ⇑P **PKPab** **01 19 44.9 +1.6**
comp=Z,5.8nm,0.7s,baz=314,slow=5.5
SNAA Sanae 169.40 132 ⇓P **PKPab** **01 19 49.2 +0.1**
comp=Z,65nm,0.7s
SNAA Sanae 169.40 132 **PKPab** **01 19 49.5 +0.5**
SNAA Sanae 169.40 132 PKP2 **PKPab** **01 19 49.5 +0.5**
SYO Syowa Base 173.09 239⇑*e*pPKPab pPKPab 01 20 08.2 -1.1

SDD ***18*** *01:10:05.8±1.7, 19°.21N×67°.03W, h18km±7km, MD2.8, ML1.7, MW2.4*
RSPR 18 01:10:06.8, 19°.19N×67°.22W, h46km±14km, MD2.9/11, 24C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.73**	**172**	⇓*e*P	Pn	01 10 18.7	-2.1
AGPR	**Aguadilla, PR**	**0.73**	**172**	⇑*i*P	Pn	01 10 16.4	-4.4
AGPR			⇑	*i*S	Sn	01 10 28.6	-2.3
	comp=N,46nm,0.2s						
AGPR				IAML		01 10 33.0	
	comp=N,46nm,0.2s						
AGPR	**Aguadilla, PR**	**0.73**	**172**	⇑*i*P	Pn	01 10 19.7	-1.1
AGPR			⇑	*i*S	Sn	01 10 28.6	-2.3
	comp=N,46nm,0.2s						
AGPR				IAML		01 10 33.1	
	comp=N,46nm,0.2s						
IDE	**Isla Desecheo**	**0.84**	**197**	⇑*e*P	Pn	01 10 20.3	-1.9
IDE	**Isla Desecheo**	**0.84**	**197**	*e*S	Sn	01 10 32.4	-1.1
AOPR	**Arecibo Observ**	**0.95**	**152**	⇓*e*P	Pn	01 10 22.0	-1.8
AOPR	**Arecibo Observ**	**0.95**	**152**	⇑*i*P	Pn	01 10 19.9	-3.9
AOPR				*i* S	Sn	01 10 32.8	-3.5
	comp=N,45nm,0.2s						
AOPR				IAML		01 10 48.9	
	comp=N,45nm,0.2s						
AOPR	**Arecibo Observ**	**0.95**	**152**	*i* P	Pn	01 10 21.8	-2.1
AOPR			⇑	*i*S	Sn	01 10 33.7	-2.6
AOPR				IAML		01 10 48.9	
	comp=N,45nm,0.2s						
LSP	**Las Mesas**	**1.02**	**173**	⇓*e*P	Pn	01 10 23.0	-1.8
LSP	**Las Mesas**	**1.02**	**173**	*e*S	Sn	01 10 37.3	-0.7
UUPR	**Utuado, UPR, P**	**1.05**	**153**	⇓*e*P	Pn	01 10 24.5	-0.6
CRPR	**Cabo Rojo, PR**	**1.19**	**175**	⇑*e*P	Pn	01 10 25.8	-1.1
CRPR	**Cabo Rojo, PR**	**1.19**	**175**	*e*S	Sn	01 10 40.7	-1.2
CRPR	**Cabo Rojo, PR**	**1.19**	**175**	⇑*i*P	Pn	01 10 25.9	-1.1
CRPR			⇑	*i*S	Sn	01 10 41.6	-0.3
	comp=N,16nm,0.5s						
CRPR				IAML		01 10 51.5	
	comp=N,16nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.19**	**175**	*i* P	Pn	01 10 25.7	-1.3
CRPR			⇑	*i*S	Sn	01 10 41.1	-0.9
	comp=N,20nm,1.1s						
CRPR				IAML		01 10 51.0	
	comp=N,20nm,1.1s						
ECPR	**Experimental S**	**1.19**	**137**	⇑*e*P	Pn	01 10 26.0	-1.1
ECPR	**Experimental S**	**1.19**	**137**	*e*S	Sn	01 10 41.4	-0.7
MLPR	**Magueyes Islan**	**1.23**	**172**	⇑*e*P	Pn	01 10 26.1	-1.5
MLPR	**Magueyes Islan**	**1.23**	**172**	⇑*e*Pg	Pn	01 10 26.0	-1.6
MLPR			⇑	*e*Sg	Sn	01 10 42.8	-0.2
MLPR				IAML		01 10 58.0	
	comp=N,4.3nm,1.3s						
MLPR	**Magueyes Islan**	**1.23**	**172**	⇑*i*P	Pn	01 10 25.3	-2.3
MLPR			⇑	*i*S	Sn	01 10 41.2	-1.8
	comp=N,4.3nm,1.3s						
MLPR				IAML		01 10 58.0	
	comp=N,4.3nm,1.3s						
CELP	**Cerrillos**	**1.27**	**151**	⇓*e*P	Pn	01 10 27.1	-1.1
CELP	**Cerrillos**	**1.27**	**151**	*i* P	Pn	01 10 26.7	-1.4
CELP				*i* S	Sn	01 10 41.0	-3.0
	comp=N,18nm,1.4s						
CELP				IAML		01 10 47.0	
	comp=N,18nm,1.4s						
CELP	**Cerrillos**	**1.27**	**151**	⇑*i*P	Pn	01 10 26.2	-1.9
CELP			⇑	*i*S	Sn	01 10 42.6	-1.4
CELP				IAML		01 10 47.0	
	comp=N,18nm,1.4s						
OBIP	**Obispado Ponce**	**1.28**	**153**	⇓*e*P	Pn	01 10 27.3	-1.0
OBIP	**Obispado Ponce**	**1.28**	**153**	*e*S	Sn	01 10 43.5	-0.9
PDPR	**Patillas Dam,**	**1.63**	**136**	⇑*e*P	Pn	01 10 31.9	-1.2
PDPR	**Patillas Dam,**	**1.63**	**136**	*e*S	Sn	01 10 52.3	-0.6
MIDR	**Miches**	**1.74**	**263**	⇑*e*P	Pn	01 10 34.6	+0.1
MIDR	**Miches**	**1.74**	**263**	*i* P	Pn	01 10 35.9	+1.3
MIDR				*i* S	Sn	01 10 59.6	+4.1
MIDR				IAML		01 11 05.9	
	comp=N,3.9nm,0.3s						
MIDR				IAML		01 11 42.9	
	comp=N,12nm,1.7s						
MIDR	**Miches**	**1.74**	**263**	*i* P	Pn	01 10 35.9	+1.3
MIDR			⇑	*i*S	Sn	01 10 59.1	+3.6
MIDR				IAML		01 11 04.6	
	comp=N,3.4nm,0.5s						
HATOM	**Hato Mayor del**	**2.08**	**259**	⇑*i*P	Pn	01 10 41.5	+2.2
HATOM				*i* S	Sn	01 11 09.8	+5.8

TEH ***18*** *01:16:13.8, 26°.52N×55°.26E, h9km±43km*
DSN ***18*** *01:16:14.7±1.5, 26°.89N×55°.42E, h10km, ML2.7/7, Error ellipse: s-maj=30.2km s-min=5.1km az=39.0*
OMAN ***18*** *01:16:16.8±0.1, 26°.97N×55°.41E, h35km±53km, ml2.9/11, Error ellipse: s-maj=4.1km s-min=2.1km az=22.0*
ISC 18 01:16:15.3±1.5, 26°.83N±0°.03×55°.47E±0°.05, h2km±13km, n34, σ1s24/41, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.85**	**48**	Pg	**Pn**	**01 16 37.0**	**+2.5**
GENO	**Geno**	**0.85**	**48**	Pg	**Pn**	**01 16 37.6**	**+3.1**
SHME	**Shamm**	**0.99**	**142**	P	**Pn**	**01 16 35.7**	**-0.5**
	SNR=17						
SHME				S	**Sn**	**01 16 50.6**	**-0.1**
SHME	**Shamm**	**0.99**	**142**	*e*P	**Pb**	**01 16 35.4**	**+0.3**
	SNR=12						
SHME				S	**Sb**	**01 16 50.0**	**+1.3**
IBND	**Bandar-abas**	**1.14**	**57**	Pg	Pn	01 16 42.3	+4.0
IBND				Sg	Sn	01 17 02.9	+8.4
BANOM	**Banah**	**1.17**	**140**	P	**Pb**	**01 16 38.7**	**+0.3**
BANOM				S	**Sg**	**01 16 55.1**	**+2.1**
BANOM	**Banah**	**1.17**	**140**	*e*P	**Pb**	**01 16 38.5**	**+0.1**
	SNR=77						
BANOM				S	**Sn**	**01 16 55.7**	**+0.3**
LAR1	**LAR**	**1.28**	**311**	Pg	**Pg**	**01 16 40.4**	**+0.5**
UMQ	**Umm Al-Quwin**	**1.31**	**172**	P	**Pb**	**01 16 40.7**	**0.0**
UMQ				S	**Sb**	**01 16 57.8**	**-0.2**
MASF	**Masafi**	**1.58**	**157**	P	**Pn**	**01 16 44.5**	**+0.1**
	SNR=9.0						
MASF				S	**Sn**	**01 17 05.3**	**-0.2**
MSFE	**Esma-Masafi**	**1.59**	**157**	*e*P	**Pn**	**01 16 43.9**	**-0.7**
	SNR=9.0						
MDH	**Madha**	**1.70**	**154**	P	**Pn**	**01 16 46.4**	**+0.4**
	SNR=10						
MDH				S	**Sn**	**01 17 08.3**	**-0.1**
MDH	**Madha**	**1.70**	**154**	*e*P	**Pn**	**01 16 45.7**	**-0.3**
	SNR=10.0						
NAZ	**Nazwa, Dubai**	**1.84**	**174**	P	**Pn**	**01 16 47.8**	**-0.2**
	SNR=5.3						
NAZ				S	**Sb**	**01 17 12.8**	**-0.5**
UOSS	**Minazif**	**1.99**	**160**	P	**Pn**	**01 16 50.6**	**+0.5**
UOSS				S	**Sn**	**01 17 16.7**	**+1.1**
UOSS	**Minazif**	**1.99**	**160**	Pg	**Pn**	**01 16 47.6**	**-2.4**
UOSS	**Minazif**	**1.99**	**160**	P	**Pn**	**01 16 48.9**	**-1.2**
FAQ	**Al Faqa, Dubai**	**2.08**	**177**	P	**Pn**	**01 16 50.9**	**-0.4**
HATD	**Hatta, Dubai**	**2.08**	**163**	P	**Pn**	**01 16 51.6**	**+0.3**
HATD				S	**Sb**	**01 17 19.8**	**-0.5**
HATD	**Hatta, Dubai**	**2.08**	**163**	P	**Pn**	**01 16 51.9**	**+0.5**
ASUD	**Al Ashush, Dub**	**2.20**	**183**	P	**Pn**	**01 16 52.6**	**-0.3**
ASHO	**Ashiyiah**	**2.20**	**166**	P	**Pn**	**01 16 52.4**	**-0.6**
	SNR=7.9						
ASHO				S	**Sb**	**01 17 24.2**	**+0.5**
ASHO	**Ashiyiah**	**2.20**	**166**	*e*P	**Pn**	**01 16 53.0**	**0.0**
	SNR=7.9						
KHNJ	**Kahnooj**	**2.28**	**60**	Pn	**Pg**	**01 16 58.0**	**-1.1**
SOHO	**SOHO**	**2.85**	**160**	P	**Pn**	**01 17 01.6**	**-0.3**
SOHO	**SOHO**	**2.85**	**160**	P	**Pn**	**01 17 00.6**	**-1.3**
NGRK	**Negar Kerman**	**3.02**	**21**	Pn	**Pb**	**01 17 08.9**	**-1.1**
KBAM	**BAM**	**3.50**	**48**	Pn	**Pb**	**01 17 16.0**	**-2.1**
CHMN	**Cheshme madani**	**3.53**	**31**	Pn	**Pb**	**01 17 16.4**	**-2.4**
KHGB	**Koh Gabri**	**3.64**	**14**	Pn	**Pb**	**01 17 18.0**	**-2.6**
IBAF	**Bafgh**	**4.74**	**1**	Pn	Pb	01 17 31.7	-7.7
KNJ	**Kolanjah**	**5.37**	**322**	Pn	**Pn**	**01 17 38.2**	**+1.4**
IRAM	**Ramesheh**	**5.64**	**332**	Pn	Pn	01 17 42.9	+2.4
NHDN	**Nehbandan**	**6.06**	**40**	Pn	Pn	01 17 51.1	+5.0

RSNC 18 01:43:24.8±1.2, 1°N±5°×8°0W±°, h5km±7km, M2.9, mB4.4, mb3.9, ML2.6, Mw(mB)3.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**0.95**	**112**	P	Pg	01 43 42.3	-0.8
PAC1				S	Sb	01 43 57.5	+0.7
CUSE	**Cuicocha Este**	**1.31**	**104**	P	Pg	01 43 48.5	-1.5
CUSE				S	Sb	01 44 07.7	+0.2
CMBC	**Cumbal**	**1.87**	**80**	P	Pn	01 43 56.9	-1.0
TULM	**Tulcn-Chalpat**	**1.89**	**87**	P	Pn	01 43 57.6	-0.5
PIAT	**Ana Tenorio**	**2.14**	**139**	P	Pn	01 44 01.6	0.0
BONI	**La Bonita**	**2.15**	**95**	P	Pn	01 44 01.4	-0.2
GCUF	**Volcan Galeras**	**2.40**	**76**	P	Pn	01 44 04.0	-1.2
PPLP	**Puerto Lpez**	**2.43**	**207**	P	Pn	01 44 05.7	+0.5
COHC	**Cochancay**	**3.10**	**172**	P	Pn	01 44 14.1	-0.4
POPC	**Popayan, Colom**	**3.54**	**58**	P	Pn	01 44 18.9	-1.8
YOTC	**Yotoco, Valle**	**4.70**	**45**	P	Pn	01 44 36.5	-0.1
ORTC	**Ortega, Tolima**	**5.49**	**54**	P	Pn	01 44 47.1	-0.3
	11nm,0.8s						
PRAC	**Prado**	**5.68**	**57**	P	Pn	01 44 46.9	-3.0
	8.6nm,0.9s						
URMC	**La Uribe, Meta**	**5.89**	**64**	P	Pn	01 44 52.6	-0.3
	16nm,0.8s						
MACC	**Macarena, Meta**	**6.01**	**75**	P	Pn	01 44 55.2	+0.7
	310nm12nm,0.7s						
GUY2C	**Guyana, Caldas**	**6.27**	**43**	P	Pn	01 45 00.1	+1.7

SOME ***18*** *01:46:21.5, 40°.12N×77°.00E, h5km*
NNC ***18*** *01:46:27.2±3.0, 40°.34N×76°.92E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.4km s-min=13.1km az=165.0*
KRNET ***18*** *01:46:28.5±0.1, 40°.35N×76°.95E, h18km, mb3.2*
ISC 18 01:46:26.9±2.0, 40°.35N±0°.08×76°.83E±0°.04, h0km±13km, n32, σ1s27/51, 16C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.14**	**309**	⇑*i*P	**Pn**	**01 46 51.4**	**+1.0**
JNKS			⇑	*i*S	**Sn**	**01 47 08.2**	**+1.3**
TARG	**Taragay, Kyrgy**	**1.56**	**28**	⇓*i*P	**Pg**	**01 46 57.3**	**+0.4**
TARG			⇓	*i*S	**Sg**	**01 47 18.1**	**+0.9**
KDJ	**Kajisay**	**1.80**	**8**	⇑*i*P	**Pg**	**01 47 01.7**	**+0.3**
KDJ			⇑	*i*S	**Sg**	**01 47 25.8**	**+1.1**
ULHL	**Ulahol**	**1.95**	**347**	⇑*i*P	**Pg**	**01 47 05.0**	**+0.7**
ULHL			⇑	*i*S	**Sg**	**01 47 31.4**	**+1.9**
BOOM	**Boomskoye usch**	**2.24**	**343**	⇓*i*P	**Pg**	**01 47 09.3**	**-0.6**
BOOM			⇓	*i*S	**Sg**	**01 47 38.9**	**-0.1**
SALK	**Salom-Alik**	**2.35**	**284**	⇓*i*P	**Pg**	**01 47 11.6**	**-0.4**
SALK			⇓	*i*S	**Sg**	**01 47 42.8**	**+0.2**
PRZ	**Przheval'sk**	**2.44**	**28**	⇑*e*P	**Pb**	**01 47 10.6**	**-1.2**
PRZ			⇑	*e*S	**Sb**	**01 47 41.7**	**-0.7**
UCH	**Uchtor**	**2.56**	**318**	⇓*e*P	**Pb**	**01 47 14.2**	**+0.1**
UCH			⇓	*i*S	**Sb**	**01 47 47.6**	**+1.3**
**T

2.9nm,0.4s
KST Lg Lg 01 47 57.4
16nm,0.3s
KST Kastek 2.77 347 *e*P **Pb 01 47 16.8 -0.6**
1.9nm,0.3s
KST *e*S **Sg 01 47 56.5 +0.6**
25nm,0.6s
MTBS Maitube 2.79 354 Pg **Pb 01 47 17.0 -0.8**
4.9nm,0.3s
MTBS Lg Lg 01 47 56.8
38nm,0.4s
MTBS Maitube 2.79 354 *e*P **Pb 01 47 17.0 -0.8**
3.5nm,0.2s
MTBS *e*S **Sg 01 47 56.8 +0.1**
37nm,0.4s
MDOK Medeo 2.82 3 Pg **Pb 01 47 17.5 -0.7**
6.4nm,0.5s
MDOK Lg Lg 01 47 57.7
13nm,0.6s
AAK Ala-Archa 2.88 323 ⇑Pg **Pg 01 47 22.6 +0.4**
11nm,0.9s
AAK ⇑Lg Lg 01 48 00.9
27nm,1.1s
AAK Ala-Archa 2.88 323 ⇑*i*P **Pb 01 47 18.5 -0.8**
AAK ⇑*i*S **Sb 01 47 54.8 -0.4**
SATY Saty 2.95 23 Pg **Pb 01 47 19.5 -1.0**
2.6nm,0.3s
SATY Lg Lg 01 48 01.6
17nm,0.3s
UZB Uzynbulak 3.24 30 Pg **Pb 01 47 24.4 -1.0**
8.1nm,0.6s
UZB Lg Lg 01 48 09.8
4.9nm,0.3s
UZB Uzynbulak 3.24 30 *e*P **Pb 01 47 24.4 -1.0**
8.1nm,0.6s
UZB *e*S **Sg 01 48 09.8 -1.2**
4.9nm,0.3s
EKS2 Erkin-Say 3.26 316 ⇓*e*P **Pb 01 47 23.6 -2.1**
EKS2 ⇓*i*S **Sb 01 48 03.9 -2.0**
KURS Kuram 3.29 17 Pg **Pb 01 47 25.3 -0.9**
3.8nm,0.8s
KURS Lg Lg 01 48 11.1
6.3nm,0.4s
USP Ospenovka 3.40 330 ⇑*e*P **Pb 01 47 25.2 -2.8**
USP ⇑*i*S **Sb 01 48 06.8 -3.1**
KPKS Kokpek 3.41 23 Pg **Pb 01 47 27.4 -0.8**
0.4nm,0.1s
KPKS Lg Lg 01 48 14.6
12nm,0.5s
SHLS Shalkode 3.43 34 *e*P **Pg 01 47 30.1 -2.5**
2.2nm,0.1s
SHLS *e*S **Sg 01 48 19.3 +2.3**
7.1nm,0.3s
CHKK Chushkaly 3.50 2 Pg **Pb 01 47 29.7 -0.2**
21nm,0.6s
CHKK Lg Lg 01 48 18.4
11nm,0.3s
CHKK Chushkaly 3.50 2 *e*P **Pb 01 47 29.7 -0.2**
21nm,0.6s
CHKK *e*S **Sg 01 48 18.4 -1.1**
11nm,0.3s
PDGK Podgornoye 3.58 33 ⇓Pg **Pg 01 47 38.3 +2.8**
4.1nm,0.6s
PDGK ⇑Lg Lg 01 48 20.5
9.0nm,0.7s
MRKS Merke 3.61 313 Pg **Pb 01 47 32.8 +1.0**
1.2nm,0.1s
MRKS Lg Lg 01 48 23.9
4.8nm,0.5s
MRKS Merke 3.61 313 *e*P **Pb 01 47 32.8 +1.0**
1.2nm,0.1s
MRKS *e*S **Sg 01 48 23.9 +0.9**
4.8nm,0.5s
KK31 Karatay Array 5.47 302 ⇓Pg **Pg 01 48 10.8 -1.0**
1.0nm,0.6s,baz=130,slow=16,SNR=5.4
KK31 ⇑Lg Lg 01 49 24.4
3.0nm,0.8s,baz=122,slow=30,SNR=5.3

*KRNET **18** 02:21:47.2±0.1, 41.°68N×79.°50E, h18km, mb2.9*
*SOME **18** 02:21:47.7, 41.°72N×79.°43E, h10km*
*NNC **18** 02:21:48.8±1.4, 41.°76N×79.°45E, h0km, mb3.2, mpv3.1,*
Error ellipse: s-maj=9.0km s-min=6.6km az=152.0

ISC 18 02:21:47.3±2.9, 41.°71N±0.°08×79.°60E±0.°09, h4km±15km, n20, σ0.°98/36, 12C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.18**	**311**	⇑*i*P	**Pb**	**02 22 09.2**	**-1.2**
PRZ				⇑*i*S	**Sg**	**02 22 25.3**	**+0.1**
TARG	**Taragay, Kyrgy**	**1.34**	**271**	⇑*i*P	**Pn**	**02 22 11.3**	**-1.9**
TARG				⇑*i*S	**Sb**	**02 22 28.8**	**-2.2**
SHLS	**Shalkode**	**1.45**	**356**	P	**Pb**	**02 22 15.0**	**0.0**
4.1nm,0.2s							
SHLS				S	**Sg**	**02 22 34.6**	**+0.7**
27nm,0.5s							
SHLS	**Shalkode**	**1.45**	**356**	*e*P	**Pb**	**02 22 15.0**	**0.0**
4.9nm,0.2s							
SHLS				*e*S	**Sg**	**02 22 34.6**	**+0.7**
51nm,0.4s							
UZB	**Uzynbulak**	**1.50**	**344**	P	**Pn**	**02 22 15.1**	**-0.1**
5.9nm,0.3s							
UZB				S	**Sb**	**02 22 34.6**	**-0.6**
23nm,0.4s							
UZB	**Uzynbulak**	**1.50**	**344**	*e*P	**Pn**	**02 22 14.8**	**-0.3**
2.2nm,0.1s							
UZB				*e*S	**Sn**	**02 22 34.0**	**-1.2**
6.9nm,0.2s							
SATY	**Saty**	**1.61**	**327**	P	**Pn**	**02 22 16.4**	**-0.2**
4.5nm,0.1s							
SATY				S	**Sn**	**02 22 36.9**	**-1.0**
28nm,0.2s							
KDJ	**Kajisay**	**1.85**	**284**	⇑*i*P	**Pn**	**02 22 20.1**	**+0.1**
KDJ				⇑*i*S	**Sb**	**02 22 44.3**	**-1.1**
KPKS	**Kokpek**	**1.88**	**339**	P	**Pb**	**02 22 21.8**	**-0.4**
5.5nm,0.4s							
KPKS				S	**Sb**	**02 22 46.1**	**-0.1**
48nm,0.5s							
KURS	**Kuram**	**2.06**	**330**	Pg	**Pb**	**02 22 24.6**	**-0.8**
3.4nm,0.3s							
KURS				Lg	Lg	02 22 50.8	
7.8nm,0.3s							
MDOK	**Medeo**	**2.38**	**308**	Pg	**Pb**	**02 22 30.5**	**-0.3**
2.7nm,0.2s							
MDOK				Lg	Lg	02 23 01.0	
18nm,0.4s							
ULHL	**Ulahol**	**2.56**	**283**	*i* P	**Pn**	**02 22 30.8**	**+1.0**
ULHL				*i* S	**Sn**	**02 23 02.6**	**+1.2**
MTBS	**Maitube**	**2.74**	**302**	Pg	**Pb**	**02 22 36.1**	**-0.9**
1.2nm,0.1s							
MTBS				Lg	Lg	02 23 10.8	
7.1nm,0.2s							
MTBS	**Maitube**	**2.74**	**302**	*e*P	**Pb**	**02 22 36.1**	**-0.9**
1.2nm,0.1s							
MTBS				*e*S	**Sb**	**02 23 10.8**	**-0.1**
7.1nm,0.2s							
BOOM	**Boomskoye usch**	**2.83**	**287**	⇑*e*P	**Pn**	**02 22 34.7**	**+1.2**
BOOM				⇑*i*S	**Sn**	**02 23 09.3**	**+1.2**
KST	**Kastek**	**3.00**	**298**	Pg	**Pb**	**02 22 41.2**	**-0.3**
1.5nm,0.2s							
KST				Lg	Lg	02 23 19.2	
6.3nm,0.4s							
KST	**Kastek**	**3.00**	**298**	*e*P	**Pb**	**02 22 41.2**	**-0.3**
1.5nm,0.2s							
KST				*e*S	**Sb**	**02 23 19.2**	**+0.7**
6.3nm,0.4s							
JNKS	**Jany-Kuch**	**3.04**	**259**	⇑*e*P	**Pn**	**02 22 37.4**	**+1.0**
JNKS				⇑*e*S	**Sn**	**02 23 13.8**	**+0.5**
TKM2	**Tokmak 2**	**3.20**	**294**	⇑*i*P	**Pn**	**02 22 40.0**	**+1.4**
TKM2				⇑*i*S	**Sb**	**02 23 18.5**	**+1.1**
USP	**Ospenovka**	**4.08**	**294**	⇓*i*P	**Pn**	**02 22 52.0**	**+1.5**
USP				⇓*i*S	**Sn**	**02 23 39.3**	**+0.6**

*SJA **18** 02:28:10.8±0.6, 29.°38S×69.°77W, h114km±2km, ML4.0, MW4.0*
*NEIC **18** 02:28:12.3±1.7, 29.°38S±0.°04×69.°74W±0.°07, h104km±5km, mb4.5/25, ML4.0(GUC), Error ellipse: s-maj=9.2km s-min=6.0km az=67.0*
*GUC **18** 02:28:12.2±0.5, 29.°39S×69.°88W, h117km±3km, ML4.0*
*IDC **18** 02:28:12.5±1.8, 29.°41S×69.°62W, h103km±15km, mb3.7/9, mbtmp4.0/14, Error ellipse: s-maj=20.0km s-min=13.0km az=94.0*

ISC 18 02:28:12.0±0.6, 29.°39S±0.°02×69.°77W±0.°03, h109km±5km, n137, σ1.°30/163, mb4.3/18, 12C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO01	**Juntas del Tor**	**0.65**	**206**		**Pn**	**02 28 30.4**	**+0.2**
CO01				Sn	**Sn**	**02 28 44.2**	**+0.4**
CO01	**Juntas del Tor**	**0.65**	**206**	⇓*i*P	**Pn**	**02 28 30.4**	**+0.2**
CO01				*i* S	**Sn**	**02 28 44.0**	**+0.1**
CO01				IAML		02 28 45.1	
comp=E,6μm,0.5s							
CO01	**Juntas del Tor**	**0.65**	**206**	*e*P	**Pn**	**02 28 30.4**	**+0.2**
CO01				*e*S	**Sn**	**02 28 44.5**	**+0.6**
CO01				IAML		02 28 44.8	
comp=Z,3μm,0.6s							
AROD	**Rodeo**	**0.82**	**162**	*e*P	**Pn**	**02 28 32.0**	**+0.3**
LCO	**Las Campanas**	**0.90**	**294**		**Pn**	**02 28 32.4**	**0.0**
LCO				Sn	**Sn**	**02 28 47.8**	**+0.1**
LCO	**Las Campanas**	**0.90**	**294**	*i* P	**Pn**	**02 28 32.0**	**-0.4**
LCO				*i* S	**Sn**	**02 28 46.7**	**-1.0**
LCO	**Las Campanas**	**0.90**	**294**	*e*P	**Pn**	**02 28 32.2**	**-0.2**
LCO				*e*S	**Sn**	**02 28 48.3**	**+0.7**
LCO				IAML		02 28 49.5	
comp=Z,10μm,0.3s							
ACDV	**Cuesta del Vie**	**0.96**	**144**	*e*P	**Pn**	**02 28 33.5**	**+0.6**
ACDV				*e*S	**Sn**	**02 28 49.6**	**+0.9**
ACDV				IAML		02 28 50.3	
comp=Z,3μm,0.4s							
AGUA	**GUANDACOL**	**1.12**	**96**	*e*P	Pn	02 28 19.2	-15
AGUA				IAML		02 28 53.0	
comp=Z,5μm,0.5s							
GO04	**Tololo Observa**	**1.19**	**229**		**Pn**	**02 28 35.3**	**-0.2**
GO04	**Tololo Observa**	**1.19**	**229**	⇑*i*P	**Pn**	**02 28 35.0**	**-0.4**
GO04				*i* S	**Sn**	**02 28 52.4**	**-0.7**
GO04	**Tololo Observa**	**1.19**	**229**	*e*P	**Pn**	**02 28 35.3**	**-0.2**
GO04				*e*S	**Sn**	**02 28 53.6**	**+0.5**
GO04				IAML		02 28 56.5	
comp=Z,3μm,0.6s							
ACCO	**Cerro Coronel**	**1.34**	**153**	*e*P	**Pn**	**02 28 37.9**	**+0.6**
CO05	**La Serena**	**1.39**	**247**		**Pn**	**02 28 36.7**	**-0.7**
CO05	**La Serena**	**1.39**	**247**	⇑*i*P	**Pn**	**02 28 36.7**	**-0.7**
CO05				*i* S	**Sn**	**02 28 55.3**	**-1.3**
CO05				IAML		02 28 57.1	
comp=E,3μm,0.4s							
VCA	**Vinchina**	**1.51**	**65**	⇑*i*P	**Pn**	**02 28 40.7**	**+1.6**
VCA	**Vinchina**	**1.51**	**65**	*e*P	**Pn**	**02 28 35.2**	**-3.9**
VCA				*e*P		02 28 40.6	
VCA				*e*S	**Sn**	**02 28 57.6**	**-2.0**
VCA				IAML		02 29 05.3	
comp=Z,4μm,0.6s							
AC04	**Llanos de Chal**	**1.64**	**315**		**Pn**	**02 28 40.5**	**0.0**
AC04	**Llanos de Chal**	**1.64**	**315**	⇑*e*P	**Pn**	**02 28 40.3**	**-0.2**
AC04				*i* S	**Sn**	**02 29 01.4**	**-0.7**
AC04				IAML		02 29 08.4	
comp=E,2μm,0.7s							
AC04	**Llanos de Chal**	**1.64**	**315**	*e*P	**Pn**	**02 28 40.3**	**-0.2**
AC04				*e*S	**Sn**	**02 29 00.7**	**-1.5**
AC04				IAML		02 29 06.5	
comp=Z,898nm,0.5s							
CO03	**El Pedregal**	**1.65**	**209**		**Pn**	**02 28 40.9**	**+0.1**
CO03	**El Pedregal**	**1.65**	**209**	⇑*i*P	**Pn**	**02 28 40.8**	**+0.1**
CO03				*i* S	**Sn**	**02 29 02.0**	**-0.6**
CO03				IAML		02 29 03.7	
comp=E,3μm,0.3s							
CO03	**El Pedregal**	**1.65**	**209**	*e*P	**Pn**	**02 28 40.6**	**-0.1**
CO03				*e*S	**Sn**	**02 29 03.1**	**+0.5**
CO03				IAML		02 29 05.0	
comp=Z,1μm,0.4s							
GO03	**Copiapo**	**1.83**	**347**		**Pn**	**02 28 43.1**	**+0.2**
GO03	**Copiapo**	**1.83**	**347**	⇑*i*P	**Pn**	**02 28 43.1**	**+0.2**
GO03				*i* S	**Sn**	**02 29 06.1**	**-0.4**
GO03				IAML		02 29 07.2	
comp=N,1μm,0.4s							
GO03	**Copiapo**	**1.83**	**347**	*e*P	**Pn**	**02 28 43.1**	**+0.2**
GO03				*e*S	**Sn**	**02 29 01.2**	**-5.2**
GO03				IAML		02 29 08.4	
comp=Z,797nm,0.5s							
CO06	**Fray Jorge**	**2.07**	**231**		**Pn**	**02 28 44.5**	**-1.3**
CO06	**Fray Jorge**	**2.07**	**231**	⇑*i*P	**Pn**	**02 28 44.5**	**-1.3**
CO06				*i* S	**Sn**	**02 29 09.8**	**-1.8**
CO06				IAML		02 29 23.2	
comp=N,2μm,0.2s							
AC06	**Mina Casimiro**	**2.08**	**346**		**Pn**	**02 28 46.0**	**-0.1**
AC06	**Mina Casimiro**	**2.08**	**346**	⇑*i*P	**Pn**	**02 28 46.0**	**-0.1**
AC06				*e*S	**Sn**	**02 29 11.8**	**-0.4**
AC06				IAML		02 29 13.0	
comp=N,1μm,0.7s							
CO02	**Combarbal**	**2.10**	**210**		**Pn**	**02 28 45.9**	**-0.5**
CO02	**Combarbal**	**2.10**	**210**	⇑*i*P	**Pn**	**02 28 46.0**	**-0.5**
CO02				*i* S	**Sn**	**02 29 11.6**	**-1.0**
CO02	**Combarbal**	**2.10**	**210**	*e*P	**Pn**	**02 28 45.9**	**-0.5**
CO02				*e*S	**Sn**	**02 29 12.9**	**+0.3**
CO02				IAML		02 29 15.1	
comp=Z,922nm,0.4s							
RTLL	**Cerro Villicun**	**2.24**	**150**	*e*P	**Pn**	**02 28 48.2**	**+0.2**
RTLL				*e*S	**Sn**	**02 29 15.8**	**+0.2**
RTLL				IAML		02 29 22.4	
comp=Z,808nm,0.7s							
ZON	**Zonda**	**2.35**	**157**		**Pn**	**02 28 49.5**	**0.0**
ZON	**Zonda**	**2.35**	**157**	*e*P	**Pn**	**02 28 49.6**	**0.0**
ZON				*e*S	**Sn**	**02 29 12.3**	**-5.9**
AVFE	**Valle Fertil**	**2.37**	**123**	*e*P	**Pn**	**02 28 49.7**	**-0.2**
AVFE				*e*S	**Sn**	**02 29 18.5**	**-0.4**
AVFE				IAML		02 29 19.0	
comp=Z,545nm,0.6s							
SJA	**San Juan**	**2.38**	**154**	*e*P	Pn	02 28 39.6	-10
SJA				*e*S	**Sn**	**02 29 21.1**	**+2.3**
RTLS	**Leoncito**	**2.44**	**171**	*e*P	**Pn**	**02 28 51.7**	**+0.8**
RTLS				*e*S	**Sn**	**02 29 21.5**	**+0.8**
RTLS				IAML		02 29 25.3	
comp=Z,620nm,0.6s							
ACLC	**CERRO LA CRUZ**	**2.46**	**92**	*e*P	**Pn**	**02 28 51.0**	**0.0**
ACLC				*e*S	**Sn**	**02 29 23.2**	**+2.2**
ACLC				IAML		02 29 24.2	
comp=Z,390nm,0.6s							
AANI	**Anillaco**	**2.54**	**78**	*e*P	**Pn**	**02 28 52.9**	**+0.8**
AANI				IAML		02 29 27.0	
comp=Z,1μm,0.7s							
CFA	**Coronel Fontan**	**2.58**	**150**	P	**Pn**	**02 28 52.4**	**-0.1**
comp=Z,59nm,0.3s,baz=334,slow=14,SNR=285							
CFA				S	**Sn**	**02 29 21.9**	**-1.7**
comp=Z,46nm,0.4s,baz=344,slow=8.2,SNR=4.8							
CFA	**Coronel Fontan**	**2.58**	**150**	*e*P	**Pn**	**02 28 52.4**	**-0.1**
CFA				*e*S	**Sn**	**02 29 23.5**	**0.0**
AC02	**Maricunga**	**2.60**	**13**		**Pn**	**02 28 54.5**	**+1.3**
AC02	**Maricunga**	**2.60**	**13**	*i* P	**Pn**	**02 28 53.8**	**+0.6**
AC02				*i* S	**Sn**	**02 29 25.4**	**+0.6**
AC02				IAML		02 29 28.2	
comp=E,551nm,0.5s							
AC02	**Maricunga**	**2.60**	**13**	*e*P	**Pn**	**02 28 54.6**	**+1.3**
AC02				*e*S	**Sn**	**02 29 26.4**	**+1.6**
AC02				IAML		02 29 27.4	
comp=Z,205nm,0.7s							
CO04	**Los Peladeros**	**2.85**	**201**	*i* P	**Pn**	**02 28 55.5**	**-0.7**
CO04				IAML		02 29 30.5	
comp=N,580nm,0.2s							
ACHE	**Chepes**	**3.22**	**124**	*e*P	**Pn**	**02 29 00.8**	**-0.3**
ACHE				*e*S	**Sn**	**02 29 39.0**	**+0.2**
ASAL	**Salagasta**	**3.29**	**166**	*e*P	**Pn**	**02 29 02.9**	**+0.9**
ASAL				*e*S	Sn	02 29 29.6	-11
AC01	**Pan de Azucar**	**3.31**	**347**		**Pn**	**02 29 02.0**	**-0.1**
AC01	**Pan de Azucar**	**3.31**	**347**	*i* P	**Pn**	**02 29 01.8**	**-0.3**
AC01	**Pan de Azucar**	**3.31**	**347**	*e*P	**Pn**	**02 29 01.4**	**-0.7**
AC01				*e*S	Sn	02 29 25.4	-15
AC01				IAML		02 29 31.2	
comp=Z,388nm,0.7s							
VA06	**Catapilco**	**3.43**	**202**		**Pn**	**02 29 02.5**	**-1.2**
VA03	**San Esteban**	**3.43**	**191**		**Pn**	**02 29 04.1**	**+0.2**
VA03	**San Esteban**	**3.43**	**191**	⇑*i*P	**Pn**	**02 29 03.9**	**0.0**
VA03	**San Esteban**	**3.43**	**191**	*e*P	**Pn**	**02 29 04.0**	**+0.2**
VA03				*e*S	Sn	02 29 30.9	-13
VA03				IAML		02 29 49.2	
comp=Z,211nm,1.2s							
ARCO	**CERRO ARCO**	**3.52**	**168**	*e*P	**Pn**	**02 29 06.2**	**+1.1**
ARCO				*e*S	**Sn**	**02 29 41.7**	**-4.3**
ARCO				IAML		02 29 57.1	
comp=Z,134nm,0.6s							
CYA	**Choya**	**3.60**	**76**	*e*P	**Pn**	**02 29 05.6**	**-0.5**
CYA				*e*S	**Sn**	**02 29 47.3**	**-0.6**
CYA				IAML		02 29 51.3	
comp=Z,147nm,0.9s							
ACAN	**Cantantal**	**3.63**	**143**	*e*P	**Pn**	**02 29 05.6**	**-0.9**
ACAN				IAML		02 29 50.8	
comp=Z,653nm,0.4s							
ROCH	**El Roble**	**3.73**	**196**	*e*P	**Pn**	**02 29 06.2**	**-1.8**
AAGR	**Agrelo**	**3.77**	**168**	*e*P	**Pn**	**02 29 09.7**	**+1.3**
AAGR				IAML		02 29 57.3	
comp=Z,126nm,0.7s							
PEL	**Peldehue**	**3.83**	**192**	*e*P	**Pn**	**02 29 08.5**	**-0.6**
MT10	**Hacienda Santa**	**3.93**	**189**	⇑*e*P	**Pn**	**02 29 10.1**	**-0.4**
MT04	**Ro Olivares**	**4.02**	**184**	*e*P	**Pn**	**02 29 12.3**	**+0.5**
MT04	**Ro Olivares**	**4.02**	**184**	*e*P	**Pn**	**02 29 12.9**	**+1.1**
MT04				*e*S	Sn	02 29 43.7	-14
MT04				IAML		02 30 31.4	
comp=Z,73nm,0.7s							
MT02	**Curacav**	**4.04**	**197**	*e*P	**Pn**	**02 29 09.9**	**-2.0**
MT08	**Bocatoma Ro**	**4.05**	**183**		**Pn**	**02 29 13.6**	**+1.4**
MT08	**Bocatoma Ro**	**4.05**	**183**	*e*P	**Pn**	**02 29 13.7**	**+1.4**
MT08				*e*S	Sn	02 29 46.8	-12
MT08				IAML		02 30 37.3	
comp=Z,83nm,0.9s							
MT05	**Renca**	**4.08**	**191**	*e*P	**Pn**	**02 29 11.9**	**-0.5**
MT05	**Renca**	**4.08**	**191**	*e*P	**Pn**	**02 29 12.8**	**+0.3**
MT05				*e*S	Sn	02 29 46.4	-13
MT05				IAML		02 30 37.4	
comp=Z,110nm,0.8s							
MT16	**CCHEN**	**4.08**	**189**		**Pn**	**02 29 13.4**	**+0.9**
MT03	**Universidad Ad**	**4.14**	**189**	*e*P	**Pn**	**02 29 13.5**	**+0.1**
MT03				*e*S	**Sn**	**02 29 59.5**	**-1.4**
MT03				IAML		02 30 46.9	
comp=Z,144nm,0.9s							
GO02	**Mina Guanaco**	**4.21**	**2**		**Pn**	**02 29 14.1**	**-0.5**
GO02	**Mina Guanaco**	**4.21**	**2**	*e*P	**Pn**	**02 29 14.6**	**+0.1**
GO02				*e*S	Sn	02 29 42.8	-20
GO02				IAML		02 30 23.4	
comp=Z,144nm,0.5s							
LMEL	**Las Melosas**	**4.46**	**185**	*e*P	**Pn**	**02 29 19.3**	**+1.5**
LMEL				*e*S	Sn	02 29 53.1	-16
LMEL				IAML		02 30 23.4	
comp=Z,67nm,0.8s							
MRA	**San Martin**	**4.61**	**132**	*e*P	**Pn**	**02 29 18.9**	**-0.7**
MRA				*e*S	**Sn**	**02 30 09.1**	**-3.1**
MRA				IAML		02 30 12.2	
comp=Z,147nm,0.4s							
FSA	**Cafayete**	**4.68**	**47**	*e*P	**Pn**	**02 29 21.3**	**+0.6**
PB14	**IPOC Station P**	**4.77**	**353**		**Pn**	**02 29 20.8**	**-1.4**
PB14	**IPOC Station P**	**4.77**	**353**	*e*P	**Pn**	**02 29 21.3**	**-0.8**
PB14				*e*S	**Sn**	**02 30 16.4**	**-0.2**
PB14				IAML		02 30 32.7	
comp=Z,110nm,0.6s							
TCA	**Tanti**	**4.88**	**115**	⇑*e*P	**Pn**	**02 29 21.4**	**-1.8**
TCA	**Tanti**	**4.88**	**115**	*e*P	**Pn**	**02 29 21.5**	**-1.8**
TCA				*e*P		02 29 21.7	
TCA				*e*S	Sn	02 30 28.4	+10
TCA				IAML		02 31 01.1	
comp=Z,108nm,0.7s							
PB06	**IPOC Station P**	**6.65**	**2**		**Pn**	**02 29 45.9**	**-1.6**
H03N1	**Juan Fernandez**	**8.80**	**240**	T	T	02 38 20.3	
baz=57							
H03N2	**Juan Fernandez**	**8.81**	**240**	T	T	02 38 17.6	
baz=57							
H03N3	**Juan Fernandez**	**8.81**	**240**	T	T	02 38 21.1	
baz=57							
PLCA	**Paso Flores**	**11.34**	**183**	P	**Pn**	**02 30 52.4**	**+1.7**
comp=Z,0.7nm,0.7s,baz=339,slow=12,SNR=3.2							
PLCA				S	**Sn**	**02 32 55.3**	**-0.2**
comp=Z,0.9nm,0.8s,baz=7.7,slow=20,SNR=1.7							
CPUP	**Villa Florida**	**11.42**	**78**		**Pn**	**02 30 47.6**	**-4.3**
CPUP	**Villa Florida**	**11.42**	**78**	P	**Pn**	**02 30 48.9**	**-2.9**
comp=Z,0.8nm,0.5s,baz=91,slow=8.7,SNR=7.0							
CPUP				S	**Sn**	**02 32 54.5**	**-3.0**
comp=Z,3.1nm,1.0s,baz=14,slow=6.4,SNR=3.0							
LPAZ	**La Paz**	**13.12**	**7**	P	**Pn**	**02 31 14.6**	**-0.3**
LPAZ	**La Paz**	**13.12**	**7**	P	**Pn**	**02 31 15.4**	**+0.5**
comp=Z,2.9nm,0.6s,baz=201,slow=7.9,SNR=16							
SIV	**San Ignacio**	**15.55**	**33**	P	**P**	**02 31 46.2**	**-1.2**
comp=Z,5.1nm,0.7s,baz=248,slow=7.0,SNR=32							
ITAB	**Concordia**	**15.68**	**86**	Pn	**Pn**	**02 31 46.1**	**-0.8**
PTLB	**Pontes e Lacer**	**16.98**	**38**	P	**P**	**02 32 03.3**	**+0.2**
BDFB	**Brasilia**	**24.25**	**60**	P	**P**	**02 33 20.5**	**+1.3**
comp=Z,1.5nm,0.6s,baz=331,slow=3.9,SNR=3.7							
comp=Z,1.5nm,0.6s							
BOAV	**Boa Vista**	**32.82**	**17**	P	**P**	**02 34 35.0**	**-0.3**
ROSC	**El Rosal**	**34.31**	**352**	S	**S**	**02 40 06.2**	**-2.2**
comp=Z,4.1nm,0.3s,baz=82,slow=23,SNR=1.8							
RUSC	**La Rusia**	**35.22**	**354**	P	**P**	**02 34 57.5**	**+0.9**
BAUV	**El Baul**	**38.14**	**3**	P	**P**	**02 35 20.4**	**-0.4**
CELP	**Cerrillos**	**47.28**	**4**	P	**P**	**02 36 34.6**	**+0.1**
BELA	**Belgrano 2**	**51.10**	**171**	P	P	02 37 09.7	+6.7
BELA				IAmb	IAmb	02 37 10.3	
comp=Z,4.3nm,0.6s							
TEIG	**Tepich**	**52.45**	**338**	P	**P**	**02 37 14.7**	**+1.0**
CAMR	**Camarioca**	**53.33**	**347**	P	**P**	**02 37 21.1**	**+1.0**
CAMR				IAmb	IAmb	02 37 21.5	
comp=Z,18nm,0.7s							
SOR	**Soroa**	**53.42**	**345**	P	**P**	**02 37 21.1**	**+0.3**
SOR				IAmb	IAmb	02 37 40.7	
comp=Z,9.1nm,1.2s							
SNAA	**Sanae**	**55.16**	**159**	P	**P**	**02 37 32.9**	**0.0**
SNAA				IAmb	IAmb	02 38 01.1	
comp=Z,4.9nm,1.3s							
SNAA	**Sanae**	**55.16**	**159**	P	**P**	**02 37 33.4**	**+0.5**
comp=Z,0.9nm,0.5s,baz=278,slow=9.6,SNR=18							
comp=Z,0.9nm,0.5s							
QSPA	**South Pole Qui**	**60.84**	**180**	P	**P**	**02 38 14.3**	**+1.6**
comp=Z,2.3nm,0.7s,baz=168,slow=1.9,SNR=14							
comp=Z,2.3nm,0.7s							
TXAR	**Lajitas Array**	**66.76**	**328**	P	**P**	**02 38 53.5**	**+1.7**
comp=Z,0.7nm,0.7s,baz=150,slow=8.6,SNR=10							
comp=Z,0.7nm,0.7s							
WVT	**Waverly**	**67.35**	**344**	P	**P**	**02 38 55.1**	**-0.1**
WVT				IAmb	IAmb	02 38 56.2	
comp=Z,5.3nm,0.7s							
LCAR	**Lake Charles**	**68.15**	**341**	P	**P**	**02 39 01.2**	**+0.9**
LCAR				IAmb	IAmb	02 39 01.6	
comp=Z,3.9nm,0.6s							
DBIC	**Dimbokro**	**71.87**	**71**	P	**P**	**02 39 23.9**	**+0.3**
comp=Z,2.4nm,0.5s,baz=254,slow=9.9,SNR=4.2							
comp=Z,2.4nm,0.5s							
LENM	**Lemitar**	**72.33**	**328**	P	**P**	**02 39 24.9**	**-1.3**
X16A	**Lo Mia Camp, P**	**74.68**	**325**	P	**P**	**02 39 42.0**	**+2.1**
MVCO	**Mesa Verde**	**75.55**	**329**	IAmb	IAmb	02 39 47.7	
comp=Z,4.1nm,0.8s							
PV13	**Radium Mtn., P**	**76.47**	**329**	IAmb	IAmb	02 39 52.9	
comp=Z,5.0nm,0.8s							
PV18	**Skein Mesa, Pa**	**76.58**	**329**	IAmb	IAmb	02 39 53.3	
comp=Z,6.3nm,0.8s							

MK31	**Makanchi Array**	**152.18**	**44**	PKPbc	**PKiKP**	**02 47 55.2**	**+0.2**
MKAR	**Makanchi Array**	**152.18**	**44**	PKPbc	**PKiKP**	**02 47 55.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=302,slow=2.2,SNR=17						
MKAR				PKPab	**PKPab**	**02 48 05.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=300,slow=3.7,SNR=6.4						

*AEIC **18** 02:30:21.1±0.8, 55°.14N±0°.07×162°.82W±0°.06, h115km±4km, Error ellipse: s-maj=11.2km s-min=3.8km az=158.0*

NEIC 18 02:30:19.7±0.5, **55°.16N**±0°.06×**162°.89W**±0°.09, **h118**km±6km, **ML2.7**/8, **ML2.4**(AEIC), **Error ellipse: s-maj=10.4km s-min=5.6km az=147.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.35**	**98**		Pn	02 30 36.0	-0.6
FALS	**False Pass**	**0.43**	**225**		Pn	02 30 36.6	-0.4
FALS					Sn	02 30 49.9	-0.1
PN7A	**Pavlof North-7**	**0.58**	**61**		Pn	02 30 38.3	+0.3
DOL	**Dolgoi Island**	**0.59**	**91**		Pn	02 30 38.0	-0.1
DOL					Sn	02 30 52.0	+0.1
ISNN	**Isanotski Nort**	**0.61**	**238**		Pn	02 30 38.3	+0.1
ISNN					Sn	02 30 53.0	+0.9
PS1A	**Pavlof South-1**	**0.71**	**68**		Pn	02 30 39.2	+0.3
S12K	**Black Hills**	**0.72**	**41**		Pn	02 30 38.9	-0.1
S12K				IAML		02 30 53.6	
	comp=N,144nm,1.2s						
S12K	**Black Hills**	**0.72**	**41**		Sn	02 30 53.5	-0.2
S12K	**Black Hills**	**0.72**	**41**	IAML		02 30 53.3	
	comp=E,101nm,0.8s						
SDPT	**Sand Point**	**1.40**	**81**		Pn	02 30 45.8	+0.1
SDPT					Sn	02 31 05.3	-0.2
SDPT	**Sand Point**	**1.40**	**81**	IAML		02 31 05.7	
	comp=E,98nm,0.9s						
SDPT				IAML		02 31 07.5	
	comp=N,50nm,0.9s						
UNV	**Unalaska Valle**	**2.48**	**239**	Pn	Pn	02 30 59.6	+0.5

*NEIC **18** 02:54:44.4±1.6, 66°.34N±0°.02×157°.22W±0°.06, h10km±1km, Error ellipse: s-maj=4.4km s-min=3.1km az=238.0*

AEIC 18 02:54:44.0±1.5, **66°.33N**±0°.02×**157°.27W**±0°.05, **h9**km±6km, **ML3.4, ML3.5**/160(NEIC), **Error ellipse: s-maj=3.1km s-min=2.7km az=88.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	**Shaleruckik Mo**	**0.54**	**338**		Pg	02 54 54.3	-0.1
F19K					Sg	02 55 01.9	+0.3
G18K	**Tagagawik**	**0.72**	**233**		Pg	02 54 57.9	+0.1
G18K	**Tagagawik**	**0.72**	**233**		Sb	02 55 07.9	-0.6
H19K	**Roundabout Mou**	**0.88**	**157**		Pg	02 55 00.6	-0.2
H19K				Sg	Sg	02 55 12.5	+0.4
H19K				IAML		02 55 16.5	
	comp=N,2μm,0.3s						
F20K	**Avaraart Lake**	**0.94**	**40**		Pg	02 55 01.5	-0.6
F18K	**Selawik**	**0.99**	**287**		Pg	02 55 02.6	-0.4
F18K					Sb	02 55 16.7	+0.3
E19K	**Redstone River**	**1.13**	**1**		Pb	02 55 05.2	-0.4
E19K				IAML		02 55 23.2	
	comp=E,1μm,0.5s						
E19K				IAML		02 55 23.5	
	comp=N,1μm,0.5s						
E19K	**Redstone River**	**1.13**	**1**		Sg	02 55 19.9	-0.4
H18K	**Honhosa River**	**1.27**	**201**		Pn	02 55 07.4	-0.4
H18K					Sg	02 55 24.7	0.0
H18K				IAML		02 55 29.9	
	comp=E,1μm,0.9s						
H20K	**Anotleneega Mo**	**1.29**	**130**		Pn	02 55 08.1	0.0
H20K					Sb	02 55 25.3	+0.2
IMAR	**Indian Mountai**	**1.47**	**102**		Pn	02 55 10.4	-0.2
IM01	**Indian Mountai**	**1.48**	**102**		Pn	02 55 10.8	+0.1
G21K	**Allakaket**	**1.52**	**81**		Pn	02 55 11.1	-0.2
G21K					Sn	02 55 31.1	-0.1
GCSA	**Galena City Sc**	**1.60**	**174**		Pn	02 55 12.4	+0.1
GCSA					Pb	02 55 13.0	-0.6
GCSA					Sb	02 55 34.1	+0.3
F17K	**Baldwin Pennin**	**1.61**	**276**		Pn	02 55 12.7	+0.2
G17K	**Kiwalik Mounta**	**1.62**	**241**		Pn	02 55 12.7	0.0
E18K	**Tukpahlearik C**	**1.71**	**311**		Pb	02 55 14.8	-0.7
F21K	**Alatna River**	**1.75**	**58**		Pn	02 55 14.6	+0.2
F21K				IAML		02 55 42.0	
	comp=N,613nm,0.7s						
H17K	**Granite Mounta**	**1.78**	**219**		Pn	02 55 14.8	0.0
I20K	**Naaghedeneel**	**1.93**	**142**		Pn	02 55 17.7	+0.9
H21K	**Melozitna Rive**	**1.95**	**108**		Pn	02 55 17.0	-0.1
H21K	**Melozitna Rive**	**1.95**	**108**	IAML		02 55 48.7	
	comp=N,413nm,0.4s						
E17K	**Hotham Inlet**	**1.96**	**295**		Pn	02 55 17.6	+0.3
E20K	**Nigu River**	**1.98**	**12**		Pn	02 55 18.0	+0.4
D19K	**Kuna River**	**2.20**	**352**		Pn	02 55 22.0	+1.4
D19K				IAML		02 55 56.8	
	comp=N,362nm,0.7s						
D19K				IAML		02 56 02.6	
	comp=E,245nm,0.8s						
G16K	**Koyuk River**	**2.29**	**248**		Pn	02 55 23.0	+1.2
F22K	**John River**	**2.33**	**57**		Pn	02 55 22.7	+0.4
G22K	**Bettles**	**2.37**	**73**		Pn	02 55 23.1	+0.2
D20K	**Etivluk River**	**2.41**	**6**		Pn	02 55 24.8	+1.4
D20K				IAML		02 56 04.2	
	comp=E,203nm,0.6s						
J19K	**Poorman**	**2.45**	**163**	IAML		02 56 02.2	
	comp=E,254nm,0.5s						
J19K				IAML		02 56 04.1	
	comp=N,254nm,0.6s						
I21K	**Tanana**	**2.47**	**116**		Pn	02 55 24.5	+0.3
I21K				IAML		02 56 09.0	
	comp=N,279nm,0.5s						
E21K	**Killik River**	**2.47**	**30**		Pn	02 55 25.1	+0.7
J20K	**Nowinta River**	**2.53**	**147**	IAML		02 56 12.0	
	comp=E,271nm,0.6s						
J20K				IAML		02 56 12.4	
	comp=N,303nm,0.6s						
H16K	**Elim**	**2.68**	**233**		Pn	02 55 26.4	-0.8
C18K	**Utukok River**	**2.77**	**329**		Pn	02 55 28.9	+0.3
E22K	**Anaktuvuk Pass**	**2.79**	**47**		Pn	02 55 29.7	+1.0
E22K				IAML		02 56 19.1	
	comp=N,128nm,0.9s						
RDOG	**Red Dog Mine**	**2.80**	**311**		Pn	02 55 30.5	+1.7
I17K	**Unalakleet**	**2.85**	**212**		Pn	02 55 30.8	+1.3
J18K	**Innoko River**	**2.89**	**175**		Pn	02 55 30.6	+0.5
J18K				IAML		02 56 17.2	
	comp=N,130nm,0.6s						
J18K				IAML		02 56 23.3	
	comp=E,141nm,0.8s						
C19K	**Lookout Ridge**	**2.92**	**343**		Pn	02 55 30.8	+0.3
C19K				IAML		02 56 22.9	
	comp=N,120nm,0.7s						
G23K	**Bananza Creek**	**2.92**	**79**	IAML		02 56 17.2	
	comp=N,208nm,0.8s						
G23K				IAML		02 56 19.8	
	comp=E,163nm,0.5s						
COLD	**Coldfoot**	**2.94**	**69**		Pn	02 55 31.1	+0.3
COLD				IAML		02 56 21.1	
	comp=E,130nm,0.6s						
COLD				IAML		02 56 21.8	
	comp=N,137nm,0.5s						
MLY	**Manley**	**3.00**	**113**		Pn	02 55 31.6	0.0
J17K	**VABM Dome**	**3.05**	**196**	IAML		02 56 23.3	
	comp=N,153nm,0.7s						
J17K				IAML		02 56 28.5	
	comp=E,203nm,0.8s						
F15K	**North Star Dit**	**3.08**	**262**		Pn	02 55 34.2	+1.6
D22K	**Ayikyak River**	**3.10**	**32**		Pn	02 55 33.6	+0.7
G15K	**Niukluk**	**3.11**	**248**		Pn	02 55 33.2	+0.1
C17K	**DeLong Mountai**	**3.14**	**316**		Pn	02 55 34.1	+0.7
K20K	**Telida**	**3.29**	**154**	IAML		02 56 34.1	
	comp=N,101nm,0.5s						
J16K	**Anvik River**	**3.38**	**207**		Pn	02 55 37.5	+0.8
E23K	**Chandalar**	**3.45**	**56**	IAML		02 56 39.1	
	comp=E,121nm,0.9s						
B21K	**Ikpikpuk River**	**3.45**	**16**	IAML		02 56 46.7	
	comp=N,91nm,0.6s						
B21K				IAML		02 56 48.2	
	comp=E,102nm,0.6s						
BPAW	**Bear Paw Mtn.**	**3.47**	**127**		Pn	02 55 39.4	+1.4
BPAW				IAML		02 56 37.2	
	comp=E,82nm,0.9s						
BPAW				IAML		02 56 39.4	
	comp=N,98nm,0.6s						
I23K	**Minto, Yukon-K**	**3.47**	**106**		Pn	02 55 38.6	+0.6
I23K	**Minto, Yukon-K**	**3.47**	**106**	IAML		02 56 35.4	
	comp=N,107nm,0.6s						
I23K				IAML		02 56 40.3	
	comp=E,138nm,0.9s						
B18K	**Kokolik River**	**3.50**	**333**		Pn	02 55 38.8	+0.5
D23K	**Nanushuk River**	**3.65**	**41**	IAML		02 56 47.0	
	comp=N,106nm,1.1s						
D23K				IAML		02 56 56.0	
	comp=E,119nm,0.9s						
K17K	**Iditarod**	**3.66**	**187**		Pn	02 55 41.0	+0.4
K17K				IAML		02 56 48.5	
	comp=E,77nm,1.1s						
K17K				IAML		02 56 50.0	
	comp=N,88nm,0.9s						
C16K	**Lisburne Hills**	**3.69**	**306**		Pn	02 55 42.0	+1.1
B20K	**Meade River**	**3.69**	**1**		Pn	02 55 41.6	+0.6
B20K	**Meade River**	**3.69**	**1**	IAML		02 56 48.7	
	comp=E,75nm,1.1s						
B20K				IAML		02 57 14.8	
	comp=N,71nm,1.1s						
TOLK	**Toolik Lake Re**	**3.76**	**48**		Pn	02 55 43.0	+1.0
TOLK				IAML		02 56 58.9	
	comp=N,111nm,1.0s						
ANM	**Nome**	**3.82**	**246**		Pn	02 55 42.9	+0.1
ANM	**Nome**	**3.82**	**246**	IAML		02 56 51.9	
	comp=N,60nm,0.6s						
E24K	**Your Creek**	**3.84**	**59**		Pn	02 55 43.5	+0.4
E24K	**Your Creek**	**3.84**	**59**	IAML		02 56 56.4	
	comp=E,87nm,0.8s						
E24K				IAML		02 56 58.3	
	comp=N,62nm,0.9s						
NEA2	**Nenana**	**3.84**	**113**		Pn	02 55 43.8	+0.7
NEA2				IAML		02 56 48.5	
	comp=E,52nm,0.8s						
H24K	**Noodor Dome**	**3.86**	**93**		Pn	02 55 43.8	+0.4
H24K	**Noodor Dome**	**3.86**	**93**	IAML		02 56 47.6	
	comp=E,69nm,0.5s						
H24K				IAML		02 56 51.9	
	comp=N,96nm,0.7s						
KTH	**Kantishna Hill**	**3.88**	**133**		Pn	02 55 44.7	+0.9
KTH				IAML		02 56 58.6	
	comp=N,102nm,0.9s						
KTH				IAML		02 57 08.0	
	comp=E,59nm,1.2s						
BWN	**Browne**	**3.93**	**120**		Pn	02 55 45.5	+1.2
BWN	**Browne**	**3.93**	**120**	IAML		02 56 56.8	
	comp=E,93nm,0.9s						
PPLA	**Purkeypile**	**4.08**	**145**		Pn	02 55 48.1	+1.6
PPLA				IAML		02 56 57.0	
	comp=E,61nm,1.2s						
PPLA				IAML		02 57 01.3	
	comp=N,58nm,1.1s						
A19K	**Wainwright**	**4.14**	**342**		Pn	02 55 48.1	+0.9
L18K	**Granite Mounta**	**4.14**	**176**		Pn	02 55 48.2	+1.0
L18K	**Granite Mounta**	**4.14**	**176**	IAML		02 56 58.9	
	comp=E,53nm,0.7s						
L18K				IAML		02 57 03.4	
	comp=N,64nm,1.2s						
TRF	**Thorofare Moun**	**4.15**	**131**		Pn	02 55 48.8	+1.3
TRF				IAML		02 57 01.8	
	comp=N,52nm,1.1s						
COLA	**College**	**4.17**	**106**		Pn	02 55 48.2	+0.6
L17K	**Donlin**	**4.24**	**187**		Pn	02 55 48.6	+0.1
POKR	**Poker Plat Res**	**4.24**	**102**		Pn	02 55 48.5	-0.1
POKR	**Poker Plat Res**	**4.24**	**102**	IAML		02 56 58.9	
	comp=E,63nm,0.7s						
POKR				IAML		02 56 58.9	
	comp=N,52nm,1.0s						
WRH	**Wood River Hil**	**4.27**	**112**		Pn	02 55 48.6	-0.3
WRH	**Wood River Hil**	**4.27**	**112**	IAML		02 57 01.2	
	comp=E,44nm,0.7s						
B22K	**Teshekpuk Lake**	**4.27**	**18**		Pn	02 55 48.4	-0.5
B22K					Pb	02 55 49.0	-10
B22K	**Teshekpuk Lake**	**4.27**	**18**	IAML		02 57 15.0	
	comp=N,56nm,1.0s						
B22K				IAML		02 57 16.0	
	comp=E,40nm,1.0s						
D24K	**Happy Valley**	**4.28**	**45**	IAML		02 57 20.3	
	comp=E,65nm,1.1s						
CCB	**Clear Creek Bu**	**4.29**	**109**		Pn	02 55 49.4	+0.1
CCB				IAML		02 57 02.7	
	comp=E,43nm,0.6s						
L19K	**White Mountain**	**4.30**	**165**	IAML		02 57 06.7	
	comp=E,47nm,1.0s						
L19K				IAML		02 57 07.4	
	comp=N,52nm,0.8s						
C23K	**Itkillik River**	**4.31**	**32**	IAML		02 57 09.8	
	comp=E,51nm,1.1s						
C23K				IAML		02 57 19.7	
	comp=N,64nm,0.8s						
MCK	**McKinley**	**4.39**	**123**		Pn	02 55 51.0	+0.3
K15K	**Wolf Creek Mou**	**4.46**	**207**	IAML		02 57 09.8	
	comp=N,50nm,0.8s						
K15K				IAML		02 57 15.9	
	comp=E,54nm,1.1s						
ILAR	**Eielson Array**	**4.59**	**105**		Pn	02 55 53.4	0.0
M19K	**Big River Lodg**	**4.62**	**163**		Pn	02 55 55.1	+1.2
M19K	**Big River Lodg**	**4.62**	**163**	IAML		02 57 12.0	
	comp=E,38nm,1.1s						
M19K				IAML		02 57 17.2	
	comp=N,38nm,0.8s						
RND	**Reindeer**	**4.64**	**125**		Pn	02 55 55.2	+1.1
HDA	**Harding Lake**	**4.73**	**109**		Pn	02 55 54.7	-0.6
HDA				IAML		02 57 18.4	
	comp=N,37nm,0.6s						
L16K	**Owhat River**	**4.74**	**193**		Pn	02 55 55.5	0.0
L16K	**Owhat River**	**4.74**	**193**	IAML		02 57 19.6	
	comp=N,37nm,0.7s						
PRP	**Porcupine Dome**	**4.88**	**94**		Pn	02 55 58.0	+0.5
PRP				IAML		02 57 30.9	
	comp=N,38nm,0.9s						
E25K	**Arctic Village**	**4.89**	**63**	IAML		02 57 22.4	
	comp=E,50nm,0.8s						
E25K				IAML		02 57 27.6	
	comp=N,47nm,0.7s						
M18K	**Stony River**	**4.90**	**172**		Pn	02 55 57.9	+0.2
M18K					Pb	02 55 58.2	-12
M17K	**Holitna River**	**4.95**	**181**		Pn	02 55 58.3	0.0
M17K					Pb	02 55 58.8	-12
A21K	**Barrow**	**5.02**	**2**		Pn	02 55 59.2	0.0
SKT	**Skwentna**	**5.04**	**147**	IAML		02 57 32.3	
	comp=E,29nm,0.8s						
WAT7	**Susitna Watana**	**5.05**	**130**		Pn	02 55 59.9	+0.1
WAT7					Pb	02 56 00.4	-12
D25K	**Kavik River**	**5.10**	**49**	IAML		02 57 34.2	
	comp=N,32nm,0.9s						
D25K				IAML		02 57 37.6	
	comp=E,30nm,0.9s						
BMAR	**Burnt Mountain**	**5.12**	**72**		Pn	02 56 01.7	+1.0
J25K	**Salcha River,**	**5.25**	**104**	IAML		02 57 30.1	
	comp=E,19nm,1.2s						
J25K				IAML		02 57 36.7	
	comp=N,26nm,0.8s						
F26K	**Sheenjek River**	**5.32**	**69**		Pn	02 56 03.3	-0.1
F26K	**Sheenjek River**	**5.32**	**69**	IAML		02 57 39.7	
	comp=E,32nm,0.8s						
DHY	**Denali Highway**	**5.35**	**123**		Pn	02 56 05.1	+1.1
SPNN	**North Nagishla**	**5.38**	**156**		Pn	02 56 06.0	+1.6
M16K	**Timber Creek**	**5.38**	**189**		Pn	02 56 04.3	0.0
M16K	**Timber Creek**	**5.38**	**189**	IAML		02 57 40.1	
	comp=N,25nm,1.0s						
G26K	**Porcupine Rive**	**5.40**	**77**		Pn	02 56 04.4	-0.1
K24K	**Donnelly Dome**	**5.48**	**112**		Pn	02 56 05.5	-0.2
L14K	**Kuka Creek**	**5.55**	**208**		Pn	02 56 10.1	+3.6
WAT6	**Susitna Watana**	**5.58**	**128**		Pn	02 56 08.0	+0.9
N19K	**Bonanza Creek**	**5.68**	**166**		Pn	02 56 09.4	+1.0
N18K	**Kilae Creek**	**5.71**	**173**		Pn	02 56 09.9	+1.1
N17K	**Nushagak Hills**	**5.83**	**180**		Pn	02 56 10.8	+0.3
N17K					Pb	02 56 11.4	-14
N16K	**Nishlik Lake**	**5.92**	**187**		Pn	02 56 12.0	+0.3
SML	**Sawmill**	**6.00**	**135**		Pn	02 56 12.6	-0.1
SML					Pb	02 56 13.4	-15
M24K	**Tolsona, Glenn**	**6.43**	**126**		Pn	02 56 18.2	-0.5
HARP	**HAARP**	**6.57**	**121**		Pn	02 56 20.4	-0.1
O17K	**Koliganek Bris**	**6.59**	**179**		Pn	02 56 20.7	-0.1
O16K	**Kokwok River B**	**6.78**	**184**		Pn	02 56 24.0	+0.7
DAWY	**Dawson**	**7.84**	**99**		Pn	02 56 37.7	-0.4
TABL	**Table Mountain**	**9.32**	**122**		Pn	02 56 57.3	-1.2

*ATH **18** 02:55:12.9, 37°.35N×23°.94E, h13km, ML2.5/19, Manual Solution by S.Koutrakis First location: 2019/10/18 02:56:12, This location: 2019/10/18 05:25:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*THE **18** 02:55:13.5, 37°N±2°×2°4E±°, h9km±2km, M2.4/18, MLh2.4/18*

*ISK **18** 02:55:13.7, 37°.20N×23°.85E, h6km, ML2.4/11*

ISC 18 02:55:12.7±1.1, **37°.34N**±0°.02×**23°.93E**±0°.02, **h11**km±9km, **n56**, σ0°.59/87, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MET4	**Agioi Theodoro**	**0.51**	**304**	P	**Pg**	**02 55 23.0**	**+0.4**
MET4				S	**Sb**	**02 55 30.2**	**-0.9**
MET6	**Megalochori,Me**	**0.52**	**299**	P	**Pg**	**02 55 23.2**	**+0.3**
MET6				S	**Sg**	**02 55 29.9**	**+0.1**
VLY	**Voula,Athens**	**0.53**	**348**	P	**Pg**	**02 55 23.1**	**+0.2**
VLY				S	**Sg**	**02 55 30.2**	**+0.2**
VLY	**Voula,Athens**	**0.53**	**348**	P	**Pg**	**02 55 23.3**	**+0.3**
VLY				S	**Sg**	**02 55 29.8**	**-0.2**
MET5	**Makryloggos,Me**	**0.54**	**302**	P	**Pg**	**02 55 23.7**	**+0.5**
MET5				S	**Sb**	**02 55 31.8**	**-0.2**
MET2	**Kameni Chora,**	**0.55**	**300**	P	**Pg**	**02 55 23.5**	**+0.1**
MET2				S	**Sg**	**02 55 30.4**	**-0.3**
ATHU	**Athens Univers**	**0.64**	**350**	P	**Pg**	**02 55 25.1**	**0.0**
ATHU				S	**Sg**	**02 55 33.4**	**-0.1**
ATHU	**Athens Univers**	**0.64**	**350**	P	**Pg**	**02 55 25.1**	**0.0**
ATHU				S	**Sg**	**02 55 32.8**	**-0.8**
ATH	**Athens Observa**	**0.66**	**345**	P	**Pb**	**02 55 26.2**	**0.0**
ATH				S	**Sg**	**02 55 34.7**	**+0.6**
ATH	**Athens Observa**	**0.66**	**345**	P	**Pb**	**02 55 26.6**	**+0.4**
ATH				S	**Sg**	**02 55 33.6**	**-0.5**
PTL	**Penteli**	**0.71**	**356**	P	**Pg**	**02 55 26.4**	**-0.1**
PTL				S	**Sg**	**02 55 35.9**	**0.0**
PTL	**Penteli**	**0.71**	**356**	P	**Pg**	**02 55 26.7**	**+0.2**
PTL				S	**Sg**	**02 55 35.6**	**-0.3**
DION	**Dionisos Attik**	**0.74**	**0**	P	**Pg**	**02 55 26.9**	**-0.1**
DION				S	**Sg**	**02 55 36.7**	**0.0**
DION	**Dionisos Attik**	**0.74**	**0**	P	**Pg**	**02 55 27.1**	**+0.1**
DION				S	**Sg**	**02 55 36.6**	**-0.1**
MHLO	**Agia Marina, M**	**0.75**	**150**	P	**Pb**	**02 55 27.8**	**0.0**
KARY	**Karystos**	**0.80**	**30**	P	**Pg**	**02 55 28.1**	**-0.1**
KARY				S	**Sg**	**02 55 39.2**	**+0.5**
KARY	**Karystos**	**0.80**	**30**	P	**Pg**	**02 55 28.1**	**-0.1**
KARY				S	**Sg**	**02 55 38.7**	**0.0**
MAGU	**Magoula**	**0.81**	**336**	P	**Pg**	**02 55 28.7**	**+0.3**
MAGU				S	**Sg**	**02 55 39.6**	**+0.6**
MAGU	**Magoula**	**0.81**	**336**	P	**Pb**	**02 55 29.4**	**+0.6**
MAGU				S	**Sg**	**02 55 39.2**	**+0.2**
STFN	**Stefani**	**0.89**	**340**	P	**Pb**	**02 55 30.5**	**+0.2**
STFN				S	**Sb**	**02 55 42.2**	**0.0**
STFN	**Stefani**	**0.89**	**340**	P	**Pb**	**02 55 30.6**	**+0.3**
STFN				S	**Sg**	**02 55 42.1**	**+0.5**
VILL	**Villia**	**0.96**	**330**	P	**Pg**	**02 55 31.4**	**+0.2**
VILL				S	**Sb**	**02 55 44.9**	**+0.7**
LOUT	**Loutraki**	**1.00**	**311**	P	**Pb**	**02 55 32.1**	**+0.1**
LOUT				S	**Sb**	**02 55 45.4**	**+0.2**
VLI	**Veliai**	**1.01**	**232**	P	**Pn**	**02 55 32.5**	**-0.3**
VLI				S	**Sn**	**02 55 47.3**	**+0.3**
VLI	**Veliai**	**1.01**	**232**	P	**Pb**	**02 55 32.2**	**+0.1**
VLI				S	**Sb**	**02 55 45.6**	**+0.2**
VIL2	**Platees**	**1.02**	**329**	P	**Pb**	**02 55 31.4**	**-1.0**
VIL2				S	**Sg**	**02 55 44.0**	**-1.6**
LTK	**Loutraki**	**1.03**	**312**	P	**Pb**	**02 55 32.2**	**-0.3**
LTK				S	**Sn**	**02 55 47.4**	**-0.1**
LTK	**Loutraki**	**1.03**	**312**	P	**Pb**	**02 55 32.4**	**-0.1**
LTK				S	**Sb**	**02 55 46.5**	**+0.5**
VLX	**Vlachokerasia**	**1.24**	**272**	P	**Pg**	**02 55 36.9**	**+0.4**
VLX				S	**Sn**	**02 55 53.2**	**+0.5**
KTHA	**Kythira Island**	**1.28**	**213**	Pn	**Pn**	**02 55 36.1**	**-0.5**
KTHA				Sn	**Sb**	**02 55 51.9**	**-1.5**
KTHA	**Kythira Island**	**1.28**	**213**	P	**Pn**	**02 55 36.5**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.30**	**6**	P	**Pn**	**02 55 36.5**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.30**	**6**	P	**Pn**	**02 55 36.5**	**-0.3**
KYMI				S	**Sb**	**02 55 53.1**	**-0.8**
GUR	**Goura**	**1.40**	**296**	P	**Pn**	**02 55 38.4**	**+0.2**
GUR	**Goura**	**1.40**	**296**	P	**Pn**	**02 55 38.4**	**+0.2**
LKR	**Lokris**	**1.50**	**331**	P	**Pn**	**02 55 39.4**	**-0.2**
LKR	**Lokris**	**1.50**	**331**	P	**Pn**	**02 55 39.5**	**-0.1**
ATAL	**Atalanti**	**1.53**	**332**	P	**Pn**	**02 55 39.8**	**-0.3**
ANKY	**Antikythira Is**	**1.55**	**199**	P	**Pn**	**02 55 40.0**	**-0.2**
ANKY	**Antikythira Is**	**1.55**	**199**	P	**Pn**	**02 55 39.9**	**-0.4**
KLV	**Kalavryta, Ach**	**1.58**	**297**	P	**Pn**	**02 55 40.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.58**	**297**	P	**Pn**	**02 55 40.7**	**0.0**
ITM	**Ithomi**	**1.61**	**265**	Pn	**Pb**	**02 55 42.4**	**0.0**
ITM				Sn	**Sg**	**02 56 03.3**	**-1.0**
ITM	**Ithomi**	**1.61**	**265**	P	**Pb**	**02 55 42.0**	**-0.4**
AXAR	**Agios Charalam**	**1.75**	**325**	P	**Pn**	**02 55 43.4**	**+0.4**
KALE	**Kalithea**	**1.77**	**307**	P	**Pn**	**02 55 43.7**	**+0.4**
EFP	**Efpalio**	**1.94**	**305**	P	**Pn**	**02 55 46.6**	**+1.0**
CHOS	**Chios island**	**1.98**	**57**	Pn	**Pg**	**02 55 50.4**	**-0.3**
IDI	**Anoyia**	**2.19**	**159**	Pn	**Pn**	**02 55 49.3**	**+0.2**
URLA	**Izmir**	**2.34**	**63**	Pn	**Pb**	**02 55 55.5**	**+0.5**
SIGR	**SIGRI**	**2.41**	**38**	Pn	**Pb**	**02 55 56.9**	**+0.9**
GVD	**Gavdhos**	**2.50**	**177**	Pn	**Pn**	**02 55 54.5**	**+1.2**
BODT	**Bodrum**	**2.71**	**95**	Pn	**Pb**	**02 55 59.9**	**-1.4**
ZKR	**Zakros**	**2.89**	**139**	Pn	**Pn**	**02 56 00.9**	**+2.2**
DKL	**Dikili**	**2.91**	**53**	Pn	**Pb**	**02 56 03.9**	**-0.8**
OUR	**Ouranopolis**	**2.99**	**1**	Pn	**Pb**	**02 56 04.6**	**-1.4**

*IDC **18** 03:00:10.0±0.8, 28°.97N×51°.38E, h0km, mb4.1/19, mbtmp4.1/25, ML3.8/6, MS3.4/4, Error ellipse: s-maj=19.3km s-min=14.6km az=178.0*

*MOS **18** 03:00:11.3±1.2, 28°.89N×51°.37E, h21km, mb4.5/15, Error ellipse: s-maj=8.6km s-min=4.6km az=112.7*

*TEH **18** 03:00:11.8, 29°.07N×51°.36E, h8km±33km*

*THR **18** 03:00:12.0±0.0, 29°.06N×51°.38E, h10km±5km, ML4.0*

*NEIC **18** 03:00:13.9±2.5, 29°.02N±0°.09×51°.35E±0°.09, h22km±6km, mb4.2/30, Error ellipse: s-maj=13.4km s-min=11.7

KHMZ Khomeyn 4.86 346 *e*Pn **Pn 03 01 27.5 +2.0**
KHMZ IAML 03 01 29.3
comp=Z,84nm,1.0s
SHME Shamm 5.14 124 P **Pn 03 01 30.4 +1.2**
SHME Shamm 5.14 124 P **Pn 03 01 30.3 +1.2**
KRM1 Kerman Provinc 5.30 72 Pn **Pn 03 01 34.5 +2.9**
BANOM Banah 5.33 124 P **Pn 03 01 32.8 +1.0**
BANOM S **Sn 03 02 31.6 -1.2**
BANOM Banah 5.33 124 *i* P **Pn 03 01 32.8 +1.0**
SNR=50
ISFB Sefidab 5.35 7 Pn **Pn 03 01 33.6 +1.4**
CHMN Cheshme madani 5.40 80 Pn **Pn 03 01 35.7 +2.5**
GHVR GHOM 5.44 359 *e*Pn **Pn 03 01 35.2 +1.9**
GHVR IAML 03 01 37.1
comp=Z,83nm,1.0s
AJN Ajban 5.47 144 S **Sn 03 02 37.2 +0.8**
NAZ Nazwa, Dubai 5.53 136 P **Pn 03 01 36.7 +2.2**
NAZ S **Sn 03 02 36.0 -1.7**
NAZ Nazwa, Dubai 5.53 136 *i* P **Pn 03 01 36.2 +1.7**
SNR=13
MASF Masafi 5.58 130 P **Pn 03 01 36.5 +1.2**
SNR=17
MASF S **Sn 03 02 37.4 -1.6**
MSFE Esma-Masafi 5.58 130 *i* P **Pn 03 01 36.2 +0.8**
SNR=17
ASUD Al Ashush, Dub 5.61 141 P **Pn 03 01 38.0 +2.4**
SNR=13
ASUD S **Sn 03 02 39.4 -0.3**
ASUD Al Ashush, Dub 5.61 141 *i* P **Pn 03 01 37.7 +2.1**
SNR=13
ASAO Ashtian 5.63 348 *e*Pn **Pn 03 01 38.2 +2.1**
ASAO IAML 03 01 39.2
comp=Z,130nm,1.0s
KHNJ Kahnooj 5.64 100 Pn **Pn 03 01 38.4 +2.3**
FAQ Al Faqa, Dubai 5.67 138 P **Pn 03 01 38.3 +1.9**
FAQ S **Sn 03 02 41.5 +0.4**
FAQ Al Faqa, Dubai 5.67 138 P **Pn 03 01 38.0 +1.5**
MDH Madha 5.72 129 P **Pn 03 01 38.2 +1.0**
MDH S **Sn 03 02 41.2 -1.2**
MDH Madha 5.72 129 *i* P **Pn 03 01 37.8 +0.6**
SNR=10
IQOM Qom 5.80 357 Pn **Pn 03 01 39.4 +0.9**
UOSS Minazif 5.90 132 **Pn 03 01 39.8 +0.2**
UOSS Minazif 5.90 132 P **Pn 03 01 40.4 +0.8**
UOSS S **Sn 03 02 45.0 -1.8**
UOSS Minazif 5.90 132 *i* P **Pn 03 01 40.9 +1.2**
SNR=8.1
HATD Hatta, Dubai 5.94 134 P **Pn 03 01 41.7 +1.6**
HATD S **Sn 03 02 47.5 -0.3**
HATD Hatta, Dubai 5.94 134 *i* P **Pn 03 01 41.3 +1.1**
SNR=16
IVRN Varamin 5.96 2 Pn **Pn 03 01 41.5 +1.1**
ASHO Ashiyiah 5.99 135 P **Pn 03 01 42.0 +1.1**
SNR=22
ASHO S **Sn 03 02 48.4 -0.8**
ASHO Ashiyiah 5.99 135 *i* P **Pn 03 01 41.9 +0.9**
SNR=22
ASHO S **Sn 03 02 48.6 -0.7**
TPRV Parvadeh(Tabas 6.03 47 Pn **Pn 03 01 44.2 +2.7**
HAGD Aghdareh 6.09 342 Pn **Pn 03 01 43.3 +0.9**
KBAM BAM 6.16 87 Pn **Pn 03 01 46.3 +3.0**
MZR Muzera 6.28 162 P **Pn 03 01 47.6 +2.7**
MZR S **Sn 03 02 56.2 -0.1**
MZR Muzera 6.28 162 *i* P **Pn 03 01 46.8 +1.9**
SNR=16
ALNE Al Ain 6.29 141 P **Pn 03 01 47.2 +2.2**
ALNE S **Sn 03 02 58.2 +1.6**
ALNE Al Ain 6.29 141 *i* P **Pn 03 01 46.7 +1.6**
SNR=12
KCHF Cheshme Sefid, 6.42 326 Pn **Pn 03 01 48.4 +1.4**
IALM Almabolaq 6.43 335 Pn **Pn 03 01 48.2 +1.0**
ILAS Lasjerd 6.47 11 Pn **Pn 03 01 49.2 +1.5**
IDMV Damavand 6.55 4 Pn **Pn 03 01 50.4 +1.5**
DAMV Damavand 6.60 4 *e*Pn **Pn 03 01 50.6 +1.1**
DAMV IAML 03 01 52.1
comp=Z,160nm,1.0s
TNSJ Nastanj 6.62 41 Pn **Pn 03 01 51.9 +2.3**
SNQR Sonqor, Kerman 6.64 332 Pn **Pn 03 01 51.0 +0.9**
TKDS Koohdasht(Taba 6.69 45 Pn **Pn 03 01 52.6 +2.1**
SOHO SOHO 6.69 136 P **Pn 03 01 51.3 +0.9**
SOHO S **Sn 03 06 08.8 +0.5**
SOHO SOHO 6.69 136 *i* P **Pn 03 01 51.0 +0.6**
SNR=24
IFIR Firoozkooh 6.69 9 Pn **Pn 03 01 52.1 +1.4**
TABS Tabas 6.71 45 *e*Pn **Pn 03 01 53.3 +2.5**
TABS IAML 03 04 03.9
comp=Z,51nm,1.0s
HGHA Hamedan- Ghaye 6.79 342 Pn **Pn 03 01 53.3 +1.2**
QABG Abgarm-Qazvin 6.84 347 Pn **Pn 03 01 54.5 +1.8**
CHTH Charan 6.86 358 *e*Pn **Pn 03 01 54.4 +1.3**
CHTH IAML 03 04 02.6
comp=Z,17nm,1.0s
SNGE Sanandaj 6.96 331 *e*Pn **Pn 03 01 54.8 +0.4**
SNGE IAML 03 01 57.9
comp=Z,52nm,1.0s
IDHR Dehrash 7.09 324 Pn **Pn 03 01 57.4 +1.3**
IALA Alasht 7.13 9 Pn **Pn 03 01 58.7 +1.9**
IPRN Peran 7.23 6 Pn **Pn 03 01 60.0 +1.9**
BSRN Basiran 7.27 64 Pn **Pn 03 02 00.9 +2.3**
BSRN Basiran 7.27 64 *e*Pn **Pn 03 02 00.7 +2.2**
BSRN IAML 03 04 29.5
comp=Z,21nm,1.0s
ARQ Araqi 7.29 140 P **Pn 03 01 60.0 +1.2**
SNR=39
ARQ S **Sn 03 03 20.8 -0.4**
IKOO Kooshah 7.36 61 Pn **Pn 03 02 02.5 +2.7**
ITEG Tejag 7.38 57 Pn **Pn 03 02 02.4 +2.3**
MZPU Pul - Mazandar 7.39 1 Pn **Pn 03 02 02.7 +2.4**
IGZV Ghazvin 7.41 352 Pn **Pn 03 02 01.9 +1.4**
IKIA Kiasar 7.41 14 Pn **Pn 03 02 03.0 +2.4**
HOQ Hoqain 7.58 134 P **Pn 03 02 03.2 +0.6**
HOQ S **Sn 03 03 24.8 -3.4**
RAYN Ar Rayn 7.63 225 **Pn 03 02 02.9 -0.6**
RAYN Ar Rayn 7.63 225 P **Pn 03 02 03.4 0.0**
RAYN Ar Rayn 7.63 225 P **Pn 03 02 02.9 -0.6**
IGLO Ghaloghah 7.72 15 Pn **Pn 03 02 07.2 +2.3**
JIR1 Jirandeh 7.78 350 Pn **Pn 03 02 07.0 +1.5**
SHRO Shahrood 7.95 28 *e*Pn **Pn 03 02 09.7 +1.8**
SHRO IAML 03 04 37.6
comp=Z,12nm,1.0s
ZNJK Zanjan 7.96 344 Pn **Pn 03 02 09.2 +1.1**
ZNJK Zanjan 7.96 344 *e*Pn **Pn 03 02 09.7 +1.6**
ZNJK IAML 03 02 21.5
comp=Z,10.0nm,1.0s
ZHSF Zahedan 8.19 84 Pn **Pn 03 02 13.4 +2.1**
ZHSF Zahedan 8.19 84 *e*Pn **Pn 03 02 13.9 +2.6**
SMDO Samad 8.42 133 P **Pn 03 02 15.1 +0.8**
SNR=9.2
SMDO S **Sn 03 03 46.1 -3.0**
WSAR Wadi Sarin 8.67 130 P **Pn 03 02 17.5 -0.2**
WSAR S **Sn 03 03 50.8 -4.4**
SRSL SARDASHT 8.76 326 *e*Pn **Pn 03 02 19.7 +0.7**
JMDO Jabal Madar 8.96 136 P **Pn 03 02 23.5 +1.8**
SBZV Sabzevar 9.00 34 Pn **Pn 03 02 25.5 +3.1**
SBZV Sabzevar 9.00 34 *e*Pn **Pn 03 02 25.3 +2.9**
JLN Jalan Bani Buh 9.95 132 P **Pn 03 02 35.7 +0.5**
JLN S **Sn 03 04 22.8 -3.6**
MHTO MHTO 9.97 142 P **Pn 03 02 36.7 +1.2**
MHTO S **Sn 03 04 24.7 -2.3**
DOK Doka 10.66 166 P **Pn 03 02 46.0 +1.1**
DOK S **Sn 03 04 42.0 -1.9**
DMTO DMTO 11.72 163 P **Pn 03 02 59.1 -0.4**
ABTO Aybut 11.75 171 P **Pn 03 03 02.0 +2.0**
SNR=18
RBK Rabkut 11.75 167 P **Pn 03 03 00.4 +0.4**
MARD Mardin 12.14 316 **Pn 03 03 03.2 -2.2**
GURO Guroymak-BITLI 12.28 323 **Pn 03 03 05.2 -2.0**
GNI Garni 12.38 335 Pn **Pn 03 03 09.2 +0.6**
comp=Z,1.2nm,0.3s,baz=181,slow=14,SNR=3.6
comp=Z,3.7nm,0.5s
GNI Garni 12.38 335⇑*e*P **Pn 03 03 09.7 +1.2**
ASF Jabal al Asfar 12.89 288 Pn **Pn 03 03 14.4 -1.2**
comp=Z,0.5nm,0.3s,baz=123,slow=16,SNR=5.5
comp=Z,1.1nm,0.3s
BALJ Balqa 13.93 287 **Pn 03 03 27.4 -2.3**
KOPT Kop Dagi 14.17 324 **Pn 03 03 32.9 -0.2**
MMAI Mount Meron Ar 14.29 290 Pn **Pn 03 03 32.7 -2.0**
comp=Z,0.6nm,0.3s,baz=108,slow=13,SNR=3.7
comp=Z,1.1nm,0.5s
EIL Elat 14.38 277 Pn **Pn 03 03 35.0 -0.8**
comp=Z,0.4nm,0.3s,baz=55,slow=3.5,SNR=6.6
EIL LR LR 03 10 42.1
comp=Z,50nm,20.5s,baz=353,slow=44
comp=Z,1.4nm,0.7s
ARPR Arapgir-MALATY 14.76 316 **Pn 03 03 39.5 -1.6**
BATM Batumi 14.83 330 ⇓P **Pn 03 03 44.7 +2.8**
BATM Batumi 14.83 330 P **Pn 03 03 44.7 +2.8**
NCK Nalchik 15.74 339⇑*i*P **Pn 03 03 54.9 +1.0**
NEUR Neytrino 15.84 336⇑*e*P **P 03 03 58.1 -0.9**
KBZ Khabaz 16.18 337 Pn **Pn 03 03 59.6 +0.1**
comp=Z,0.5nm,0.3s,baz=148,slow=8.4,SNR=22
comp=Z,6.6nm,0.8s
BNN Bunyan 16.20 311 Pn **Pn 03 04 00.2 +0.3**
SHA1 Shidzhatmaz 16.27 337*de*P **Pn 03 04 02.2 +1.3**
CSS Mathiatis 16.44 296 **Pn 03 04 03.1 +0.3**
CSS IAmb IAmb 03 04 03.9
comp=Z,14nm,0.9s
KIV Kislovodsk 16.45 337 **Pn 03 04 04.2 +1.2**
KIV IAmb IAmb 03 04 09.4
comp=Z,26nm,1.0s
KIV Kislovodsk 16.45 337 P **P 03 04 06.8 +1.0**
KIV Kislovodsk 16.45 337⇑P **P 03 04 05.5 -0.3**
KIV Kislovodsk 16.45 337 *e*P **P 03 04 04.9 -0.8**
KIV pmax pmax
comp=Z,19nm,1.1s
VSLR Vesyoloye 17.05 331⇑*e*P **Pn 03 04 11.4 +0.8**
VSLR pmax pmax
comp=Z,20nm,0.9s
SOC Sochi 17.29 330 *e*P **P 03 04 14.7 -0.2**
SOC *e* 03 07 28.4
SOC pmax pmax
comp=Z,24nm,0.7s
SOC MLR MLR
comp=Z,36nm,17.0s
CHGR Chuyangaron 17.57 52 **Pn 03 04 17.6 +0.5**
CHGR IAmb IAmb 03 04 24.7
comp=Z,10.0nm,0.7s
CHGR Chuyangaron 17.57 52 P **Pn 03 04 17.6 +0.5**
CHGR pmax pmax
comp=Z,10.0nm,0.7s
KIRS Kirsehir-Merke 17.63 309⇑P **P 03 04 19.7 +1.0**
BR131 Keskin Array S 18.11 311 P **Pn 03 04 23.5 -0.4**
BR131 Keskin Array S 18.11 311 *e*P **Pn 03 04 24.3 +0.4**
BRTR Keskin Array B 18.11 311 P **Pn 03 04 23.4 -0.4**
BRTR Keskin Array B 18.11 311 P **Pn 03 04 23.8 -0.1**
comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=24
comp=Z,3.9nm,0.9s
GAR Garm 18.53 53 P **P 03 04 28.7 0.0**
GAR IAmb IAmb 03 04 33.3
comp=Z,12nm,0.8s
ANTO Ankara 18.75 310 P **P 03 04 31.4 +0.3**
ANTO Ankara 18.75 310⇑P **Pn 03 04 32.7 +1.1**
ANTO Ankara 18.75 310 P **P 03 04 31.4 +0.3**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ILGA Ilgaz 18.77 314 P **P 03 04 31.8 +0.3**
ELL Elmali 19.61 299 P **Pn 03 04 41.8 -0.2**
ELL Elmali 19.61 299 P **Pn 03 04 41.8 -0.2**
ELL pmax pmax
comp=Z,6.0nm,0.8s
SAHE Sakarya_HENDEK 20.52 311 ⇓P **P 03 04 51.3 +0.9**
KK31 Karatay Array 20.80 42 *e*P Pn 03 04 59.6 +3.7
AB31 Akbulak array 21.23 16 P **P 03 04 59.1 +1.2**
AB31 Akbulak array 21.23 16 *e*P **P 03 04 58.7 +0.8**
ABKAR Akbulak array 21.23 16 P **P 03 04 58.8 +0.9**
KARP Karpathos 21.48 294 P **P 03 05 01.5 +0.7**
KARP IAmb IAmb 03 05 15.6
comp=Z,16nm,0.9s
AKTO Aktyubinsk 21.96 11 P **P 03 05 07.5 +1.8**
comp=Z,3.8nm,0.4s,baz=208,slow=6.4,SNR=11
comp=Z,3.8nm,0.4s
KSH Kashi 22.77 56 P **P 03 05 15.9 +1.3**
KSH pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 23.03 48 LR LR 03 16 16.4
comp=Z,50nm,19.8s,baz=264,slow=42
EZN Ezine 23.26 304⇑P **P 03 05 20.8 +1.3**
EZN Ezine 23.26 304 P **P 03 05 20.8 +1.3**
IDI Anoyia 23.27 292 IAmb IAmb 03 05 26.6
comp=Z,8.3nm,1.0s
VRH Novokhopyorsk 23.32 344 *e*P **P 03 05 17.4 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BELG Belogornoye 23.51 354*d*i P **P 03 05 22.3 +0.4**
BELG pmax pmax
comp=Z,3.0nm,0.7s
VORD Divnogorie 23.74 341 *e*P **P 03 05 23.2 -0.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
JURR Jurilovca 23.79 317 ⇓P **P 03 05 25.4 +0.7**
BOOM Boomskoye usch 23.91 49 P **P 03 05 27.2 +1.1**
BOOM Boomskoye usch 23.91 49 P **P 03 05 27.2 +1.1**
BOOM pmax pmax
comp=Z,33nm,1.5s
VSR Storozhevoye 24.00 341 *e*P **P 03 05 22.1 -4.5**
VSR pmax pmax
comp=Z,6.0nm,0.9s
TPGR Topolog 24.11 317⇑P **P 03 05 28.5 +0.7**
RDO Rodhopi 24.29 307 IAmb IAmb 03 05 30.9
comp=Z,5.1nm,1.0s
HARR Harsova 24.32 316 ⇓P **P 03 05 31.8 +2.2**
HARR Harsova 24.32 316 P **P 03 05 31.8 +2.2**
CFR Carcaliu 24.46 318 ⇓P **P 03 05 31.7 +0.7**
CFR Carcaliu 24.46 318 P **P 03 05 31.6 +0.7**
LOZB Loznitsa 24.50 312 ⇓P **P 03 05 32.4 +1.1**
RAZG Razgrad 24.65 313⇑P **P 03 05 34.3 +1.6**
ELND Elena 24.77 311⇑P **P 03 05 34.4 +0.6**
VLDR Vladesti 24.86 319⇑P **P 03 05 36.1 +1.5**
VARL Varlezi 25.03 319⇑P **P 03 05 37.5 +1.4**
MILM Milestii Mici 25.08 322⇓*i*P **P 03 05 35.8 -0.7**
comp=Z,120nm,2.3s
MILM Milestii Mici 25.08 322*d*i P **P 03 05 35.8 -0.7**
MILM pmax pmax
comp=Z,120nm,2.3s
LPSR Galich'ya Gora 25.30 342 *e*P **P 03 05 37.1 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.9s
GHRR 25.37 319 ⇓P **P 03 05 41.0 +1.8**
VASR Vaslui 25.48 320 ⇓P **P 03 05 41.1 +0.9**
BISRR Bisoca 25.51 317⇑P **P 03 05 41.8 +1.3**
VRI Vrincioaia 25.66 318 ⇓P **P 03 05 44.0 +2.1**
VRI Vrincioaia 25.66 318 P **P 03 05 44.0 +2.1**
NEHR Nehoiu 25.69 316 ⇓P **P 03 05 44.4 +2.2**
PLOR Plostina 25.70 318 ⇓P **P 03 05 44.0 +1.7**
PLOR Plostina 25.70 318 P **P 03 05 44.0 +1.7**
MLR Muntele Rosu 25.94 316 P **P 03 05 44.9 +0.4**
MLR IAmb IAmb 03 05 51.4
comp=Z,6.5nm,0.8s
MLR Muntele Rosu 25.94 316 ⇓P **P 03 05 46.5 +2.0**
MLR Muntele Rosu 25.94 316 P **P 03 05 44.9 +0.4**
MLR pmax pmax
comp=Z,7.0nm,0.8s
TESR Tescani 26.06 319 ⇓P **P 03 05 46.7 +1.2**
SORM Soroca 26.08 323⇑P **P 03 05 47.2 +1.6**
SORM Soroca 26.08 323 P **P 03 05 47.2 +1.6**
TURR Turia 26.19 317⇑P **P 03 05 48.7 +2.1**
DOPR Dopca 26.52 317⇑P **P 03 05 51.8 +2.2**
ARR Arges 26.68 315⇑P **P 03 05 52.6 +1.5**
AKASG Malin Array Be 27.35 328 P **P 03 05 56.8 -0.2**
comp=Z,1.5nm,0.4s,baz=119,slow=7.1,SNR=13
comp=Z,1.5nm,0.4s
AKBB Malin Array Si 27.35 328 P **P 03 05 56.3 -0.7**
AKBB IAmb IAmb 03 05 59.9
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 27.35 328 P **P 03 05 56.3 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 27.35 328 P **P 03 05 56.5 -0.5**
KIEV IAmb IAmb 03 05 59.9
comp=Z,5.7nm,0.8s
KIEV Kiev 27.35 328 P **P 03 05 56.5 -0.5**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 27.48 320 P **P 03 05 58.9 +0.5**
BURAR IAmb IAmb 03 06 21.8
comp=Z,3.3nm,0.8s
BURAR Bucovina Array 27.48 320 ⇓P **P 03 05 59.4 +0.9**
BURAR Bucovina Array 27.48 320 P **P 03 05 59.3 +0.9**
BUR08 Bucovina Ar. S 27.51 320 IAmb IAmb 03 06 29.5
comp=Z,6.3nm,1.2s
BORK Borovoye 27.74 25⇑*i*P **P 03 06 01.8 +1.3**
BORK pmax pmax
comp=Z,2.0nm,0.6s
MARR Marisel-Cluj 28.23 316⇑P **P 03 06 06.0 +0.9**
DRGR 28.53 316⇑P **P 03 06 08.9 +1.2**
DRGR 28.53 316 P **P 03 06 08.9 +1.2**
KURBB Kurchatov Arra 29.70 36 P **P 03 06 18.4 +0.6**
comp=Z,0.4nm,0.5s,baz=235,slow=9.2,SNR=5.1
comp=Z,0.4nm,0.5s
KURK Kurchatov 29.80 36⇓*e*P **P 03 06 19.3 +0.5**
KURK pmax pmax
comp=Z,4.0nm,1.3s
MK31 Makanchi Array 29.86 45⇑*i*P **P 03 06 20.5 +1.0**
MKAR Makanchi Array 29.86 45 P **P 03 06 20.6 +1.1**
comp=Z,0.9nm,0.7s,baz=251,slow=7.8,SNR=5.9
MKAR PcP **PcP 03 09 22.2 -0.1**
comp=Z,0.4nm,0.4s,baz=272,slow=1.4,SNR=5.4
comp=Z,0.9nm,0.7s
MNK Minsk 30.63 333 *i* P **P 03 06 25.1 -1.0**
comp=E,8.0nm,0.7s
MNK *i* P **P 03 06 25.1 -1.0**
comp=N,5.0nm,0.6s
MNK *i* P **P 03 06 25.1 -1.0**
comp=Z,5.0nm,0.6s,baz=137
MNK *i* PP **PP 03 07 25.1 -10**
MNK *i* PPP PPP 03 07 34.4
MNK *i* PcP **PcP 03 09 22.6 -1.5**
MNK *i* S **S 03 11 25.9 -1.6**
MNK *i* SS **ScP 03 13 05.9 0.0**
MNK *i* SSS SSS 03 13 21.7
MNK *i* LQ LQ 03 16 27.0
MNK *i* LR LR 03 18 46.9
MNK *i* LR LR 03 18 46.9
MNK *i* LRM MLR 03 20 52.7
comp=Z,26nm,13.3s
MNK Minsk 30.63 333 *i* P **P 03 06 25.1 -1.0**
MNK *i* 03 07 25.1
MNK *i* 03 09 22.5
MNK *i* S **S 03 11 25.9 -1.6**
MNK *i* SS **ScP 03 13 05.9 0.0**
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=E,8.0nm,0.7s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,26nm,13.0s
MNK MLR MLR
comp=N,16nm,14.0s
MNK MLR MLR
comp=E,31nm,14.0s
EVN Everest 31.06 83 P **P 03 06 31.9 +0.9**
EVN IAmb IAmb 03 06 32.6
comp=Z,5.3nm,0.5s
LANS Liptovska Anna 31.57 318 *e*P **P 03 06 35.9 +1.4**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 31.57 318 *e*P **P 03 06 35.9 +1.4**
WMQ Urumqi 32.42 53 *e*P **P 03 06 44.8 +2.7**
KLMR Klimovskoe 32.81 349 *e*P **P 03 06 44.4 -0.8**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 34.76 35 P **P 03 07 02.8 +0.5**
comp=Z,1.0nm,0.5s,baz=248,slow=9.6,SNR=7.5
ZALV PcP **PcP 03 09 35.6 0.0**
comp=Z,0.5nm,0.4s,baz=270,slow=4.3,SNR=1.6
comp=Z,1.0nm,0.5s
KEST Kesra 35.94 292 P **P 03 07 13.1 +0.3**
comp=Z,3.1nm,0.9s,baz=75,slow=16,SNR=3.7
comp=Z,3.1nm,0.9s
CLL Collm 36.24 319 *e*P **P 03 07 15.0 0.0**
CLL Collm 36.24 319 *e*P **P 03 07 15.0 0.0**
CLL *e*PPP PPP 03 08 52.0
FINES FINESS Array B 36.52 340 P **P 03 07 16.9 -0.3**
comp=Z,1.7nm,0.5s,baz=147,slow=8.2,SNR=14
FINES PcP **PcP 03 09 37.4 -3.1**
comp=Z,1.9nm,0.9s,baz=112,slow=1.5,SNR=2.2
comp=Z,1.7nm,0.5s
HFS Hagfors 40.12 332 P **P 03 07 47.4 -0.2**
comp=Z,2.4nm,0.5s,baz=138,slow=8.6,SNR=20
comp=Z,2.4nm,0.5s
GTA Gaotai 40.91 62 *e*P **P 03 07 56.1 +1.5**
GTA pP pP 03 08 00.3 +0.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
NB201 NORSAR Array S 41.62 332 P **P 03 07 58.8 -1.1**
NB2 NORSAR Subarra 41.65 332 P **P 03 07 59.3 -0.9**
comp=Z,0.5nm,0.5s,baz=124,slow=8.6
NOA NORSAR Array B 41.65 332 P **P 03 07 59.5 -0.7**
comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=7.9
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 43.20 347 P **P 03 08 13.2 +0.5**
comp=Z,1.4nm,0.5s,baz=148,slow=7.1,SNR=9.2
ARCES PP **PP 03 09 53.4 +0.4**
comp=Z,1.6nm,0.8s,baz=139,slow=8.1,SNR=3.7
comp=Z,1.4nm,0.5s
ESDC Sonseca Array 46.29 299 P **P 03 08 37.5 -0.3**
comp=Z,0.5nm,0.8s,baz=58,slow=7.7,SNR=5.8
comp=Z,0.5nm,0.8s
PAB San Pablo 46.60 298 P **P 03 08 39.9 -0.4**
PAB San Pablo 46.60 298 P **P 03 08 39.9 -0.4**
PAB pmax pmax
comp=Z,14nm,1.5s
EKA Eskdalemuir Ar 46.67 320 P **P 03 08 40.1 -0.3**
comp=Z,0.2nm,0.3s,baz=102,slow=7.9,SNR=5.3
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 48.65 262 P **P 03 08 53.5 -2.9**
TORD IAmb IAmb 03 08 59.5
comp=Z,1.5nm,0.8s
TORD Torodi Ar. Bea 48.65 262 P **P 03 08 56.1 -0.2**
comp=Z,4.0nm,0.7s,baz=52,slow=9.5,SNR=34
comp=Z,4.0nm,0.7s
HHC Hu-ho-hao-te 49.82 59 *e*P **P 03 09 06.1 +1.0**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,56nm,5.0s
SPITS Spitsbergen Ar 51.67 351 P **P 03 09 18.3 -0.2**
comp=Z,9.1nm,0.9s,baz=144,slow=7.2,SNR=2.1
comp=Z,9.1nm,0.9s
DBIC Dimbokro 57.40 259 P **P 03 10 01.1 +0.1**
DBIC Dimbokro 57.40 259 P **P 03 10 00.9 0.0**
comp=Z,11nm,0.7s,baz=78,slow=5.8,SNR=16
comp=Z,11nm,0.7s
DBIC Dimbokro 57.40 259 P **P 03 10 01.1 +0.1**
DBIC pmax pmax
comp=Z,11nm,0.6s
KSRS Korea Array 62.94 60 P **P 03 10 38.3 -0.3**
comp=Z,1.0nm,0.5s,baz=276,slow=6.7,SNR=2.5
comp=Z,1.0nm,0.5s
ASAJ Asahikawa 71.22 50 LR LR 03 47 35.7
comp=Z,36nm,20.2s,baz=354,slow=40
E25K Arctic Village 82.32 6 P **P 03 12 34.3 +0.9**
BMAR Burnt Mountain 83.09 6 P **P 03 12 39.5 +2.1**
G31M Satah River 84.25 2 P **P 03 12 43.4 +0.1**
ILAR Eielson Array 85.42 8 P **P 03 12 49.4 +0.1**
comp=Z,1.0nm,0.6s,baz=323,slow=4.5,SNR=15
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 88.11 354 LR LR 03 58 07.2
comp=Z,82nm,18.7s,baz=148,slow=39
WRA Warramunga Arr 93.56 111 P **P 03 13 27.7 -0.8**
comp=Z,0.5nm,0.7s,baz=315,slow=4.0,SNR=11
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 93.56 111 *e*P **P 03 13 26.4 -2.1**
ASAR Alice Springs 95.03 114 P **P 03 13 34.6 -0.6**
comp=Z,0.7nm,0.5s,baz=306,slow=4.6,SNR=14
comp=Z,0.7nm,0.5s

FCIAR ***18*** *03:13:29.0, 79.°00N×10.°02E, h10km, station ZFI2 has station magnitude of 4.10 station OMEGA has station magnitude of 4.10*
KOLA ***18*** *03:13:30.6, 78.°83N×10.°47E, h0km, ML2.7, Error ellipse: s-maj=12.6km s-min=7.9km az=100.0, Spitsbergen,Greenland sea*
NAO ***18*** *03:13:33.8±1.4, 78.°85N×10.°76E, h22km±8km, ML2.6*
BER ***18*** *03:13:33.4±2.4, 78.°82N×10.°44E, h15km±11km, ML2.6, ML2.6(NAO), Confirmed Earthquake*
ISC 18 03:13:31.3±2.4, 78.86N±0.05×10.3E±0.1, h24km±10km, n23, σ1.96/45, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.32**	**78**	Pb	**Pb**	**03 13 39.0**	**+0.4**
KBS				Sb	**Sb**	**03 13 42.9**	**-0.6**
KBS	**Kingsbay**	**0.32**	**78**	P	**Pb**	**03 13 38.4**	**-0.1**
KBS				S	**Sb**	**03 13 42.2**	**-1.2**
KBS	**Kingsbay**	**0.32**	**78**	⇓*e*P	**Pb**	**03 13 38.9**	**+0.4**
KBS				*e*S	**Sb**	**03 13 42.8**	**-0.6**
KBS				IAML		03 13 43.0	
	comp=Z,2μm,0.2s						
BRBB	**Barentsburg B**	**1.10**	**133**	Pb	**Pb**	**03 13 52.4**	**+0.8**

BRBB				Sb	Sn	03 14 05.5	0.0
BRBB	**Barentsburg B**	**1.10**	**133**	P	**Pb**	**03 13 52.1**	**+0.6**
BRBB				S	**Sn**	**03 14 05.7**	**+0.3**
BRBB	**Barentsburg B**	**1.10**	**133**	⇑*i*P	**Pb**	**03 13 52.2**	**+0.7**
BRBB				*e*S	**Sn**	**03 14 05.5**	**0.0**
BRBA	**Barentsburg A**	**1.12**	**134**	Pb	**Pb**	**03 13 52.7**	**+0.7**
BRBA				Sb	**Sn**	**03 14 06.8**	**+0.7**
BRBA	**Barentsburg A**	**1.12**	**134**	⇑*e*P	**Pb**	**03 13 52.7**	**+0.7**
BRBA				*e*S	**Sn**	**03 14 06.8**	**+0.7**
BRBA				IAML		03 14 10.2	
	comp=Z,273nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.39**	**117**	Pn	**Pb**	**03 13 57.1**	**+0.5**
	baz=299,slow=14						
SPA0				Lg	Lg	03 14 14.6	
	baz=313,slow=28						
SPA0	**Spitsbergen Ar**	**1.39**	**117**	*e*P	**Pn**	**03 13 55.4**	**+0.3**
SPA0				*e*S	**Sb**	**03 14 14.9**	**+1.1**
SPA0	**Spitsbergen Ar**	**1.39**	**117**	Pn	**Pb**	**03 13 57.1**	**+0.5**
	baz=299,slow=14						
SPA0				Sg	**Sb**	**03 14 14.6**	**+0.7**
	baz=313,slow=28						
SPA0				IAML		03 14 19.2	
	comp=Z,95nm,0.7s						
SPITS	**Spitsbergen Ar**	**1.39**	**117**	P	**Pb**	**03 13 56.8**	**+0.2**
SPITS				S	**Sb**	**03 14 15.2**	**+1.4**
HSPB	**Hornsund (broa**	**2.17**	**147**	Pn	**Pn**	**03 14 06.6**	**+0.8**
HSPB				Sn	**Sn**	**03 14 29.3**	**-2.5**
HSPB	**Hornsund (broa**	**2.17**	**147**	P	**Pn**	**03 14 06.5**	**+0.8**
HSPB				S	**Sn**	**03 14 31.1**	**-0.6**
HSPB	**Hornsund (broa**	**2.17**	**147**	*e*P	**Pn**	**03 14 05.4**	**-0.3**
HSPB				*e*S	**Sn**	**03 14 33.0**	**+1.2**
HSPB	**Hornsund (broa**	**2.17**	**147**	Pn	**Pn**	**03 14 06.6**	**+0.8**
HSPB				Sn	**Sn**	**03 14 29.3**	**-2.5**
HSPB				IAML		03 14 43.3	
	comp=Z,50nm,0.7s						
HOPEN	**Hopen**	**3.92**	**120**	Pn	**Pn**	**03 14 31.3**	**+1.4**
HOPEN				Sn	**Sn**	**03 15 14.3**	**-0.7**
HOPEN	**Hopen**	**3.92**	**120**	*e*P	**Pn**	**03 14 30.6**	**+0.7**
HOPEN				*e*S	**Sn**	**03 15 15.3**	**+0.2**
HOPEN	**Hopen**	**3.92**	**120**	*e*P	**Pn**	**03 14 31.5**	**+1.6**
HOPEN				*e*S	**Sn**	**03 15 14.0**	**-1.1**
HOPEN				IAML		03 15 42.2	
	comp=Z,32nm,0.4s						
ZFI2	**Zemlya Franca-**	**6.78**	**56**	*e*P	**Pn**	**03 15 11.5**	**+2.5**
ZFI2				*e*S	**Sn**	**03 16 22.8**	**-2.5**
	comp=Z,63nm,2.4s						
OMEGA	**Omega**	**6.79**	**56**	*e*P	**Pn**	**03 15 11.5**	**+2.3**
OMEGA				*e*S	**Sn**	**03 16 22.8**	**-2.8**
	comp=Z,57nm,1.6s						
ARA0	**ARCESS Array S**	**10.18**	**149**	Pn	**Pn**	**03 15 56.5**	**+0.8**
	baz=343,slow=14						
ARA0				Sn	**Sn**	**03 17 41.9**	**-7.0**
	baz=346,slow=22						
ARA0	**ARCESS Array S**	**10.18**	**149**	Pn	**Pn**	**03 15 56.5**	**+0.8**
	baz=343,slow=14						
ARA0				Sn	**Sn**	**03 17 41.9**	**-7.0**
	baz=346,slow=22						

*TAP **18** 03:29:11.2, 23°.79N×122°.94E, h51km±1km, ML2.7, D*
*JMA **18** 03:29:11.4±0.2, 23°.8N±0°.8×122°.9E±0°.7, h46km, MV2.2/10,*
NEAR ISHIGAKIJIMA ISLAND

ISC 18 03:29:08.9±1.3, 23°.61N±0°.05×122°.93E±0°.03, h27km±13km, n40, σ0s97/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.76**	**312**	*e*P	**Pn**	**03 29 25.1**	**+1.7**
EOS4				S	**Sn**	**03 29 34.1**	**+0.4**
JYNG	**Yonagunijimaku**	**0.83**	**1**	*e*P	**Pn**	**03 29 25.0**	**+0.1**
JYNG				*e*S	**Sb**	**03 29 34.2**	**-1.5**
YOJ	**Yonaguni jima**	**0.85**	**5**	*e*P	**Pn**	**03 29 25.2**	**+0.1**
YOJ				*e*S	**Sb**	**03 29 34.4**	**-1.7**
YOJ	**Yonaguni jima**	**0.85**	**5**	P	**Pn**	**03 29 24.9**	**-0.1**
YOJ				*e*S	**Sb**	**03 29 33.6**	**-2.5**
EOS3	**EOS3**	**0.88**	**320**	*e*P	**Pb**	**03 29 26.4**	**+1.0**
EOS3				*e*S	**Sb**	**03 29 37.0**	**+0.4**
HATJ	**Hateruma jima**	**0.91**	**61**	*e*P	**Pb**	**03 29 27.5**	**+1.4**
IRIF	**Iriomote-Funau**	**1.02**	**45**	*e*P	**Pb**	**03 29 28.6**	**+0.6**
IRIF				*e*S	**Sn**	**03 29 41.0**	**+0.1**
EOS2	**EOS2**	**1.03**	**322**	*e*P	**Pb**	**03 29 29.2**	**+1.2**
EOS2				*e*S	**Sb**	**03 29 42.1**	**+1.1**
SHUL	**Shoufeng**	**1.27**	**278**	*e*P	**Pb**	**03 29 33.8**	**+1.7**
SHUL				*e*S	**Sn**	**03 29 47.4**	**+0.5**
JIJ	**Ishigaki jima**	**1.34**	**56**	*e*P	**Pb**	**03 29 33.1**	**-0.1**
NACB	**Ninganchiao**	**1.34**	**295**	*e*P	**Pn**	**03 29 32.6**	**+0.7**
NACB				*e*S	**Sn**	**03 29 47.2**	**-1.7**
ENA	**Nanau**	**1.36**	**307**	*e*P	**Pn**	**03 29 33.1**	**+1.0**
HGSD	**Ruisui**	**1.39**	**265**	P	**Pb**	**03 29 33.6**	**-0.5**
HGSD				*e*S	**Sn**	**03 29 50.0**	**+0.1**
ECBN	**Changbin**	**1.39**	**258**	*e*P	**Pb**	**03 29 34.2**	**0.0**
ECBN				*e*S	**Sb**	**03 29 50.7**	**-0.8**
TWC	**Suao**	**1.40**	**315**	*e*P	**Pn**	**03 29 33.8**	**+1.2**
WARBT	**Fenglin Townsh**	**1.42**	**275**	*e*P	**Pn**	**03 29 33.8**	**+0.8**
WARBT				*e*S	**Sn**	**03 29 50.0**	**-0.7**
LXIB	**Xiulin Townshi**	**1.45**	**287**	P	**Pn**	**03 29 34.4**	**+0.9**
LXIB				*e*S	**Sn**	**03 29 50.8**	**-0.9**
ETLH	**Xiulin Townshi**	**1.45**	**294**	*e*P	**Pb**	**03 29 37.3**	**+2.0**
EHY	**Hungye**	**1.48**	**266**	*e*P	**Pb**	**03 29 35.5**	**-0.2**
YULB	**Yu-li'**	**1.52**	**262**	P	**Pb**	**03 29 36.0**	**-0.4**
YULB				S	**Sb**	**03 29 54.2**	**-0.9**
TWF1	**Yuli**	**1.52**	**261**	*e*P	**Pb**	**03 29 35.9**	**-0.6**
TWF1				*e*S	**Sn**	**03 29 54.0**	**+0.8**
LATG	**Datong**	**1.58**	**306**	*e*P	**Pb**	**03 29 37.1**	**-0.4**
JISG	**Ishigakijimahi**	**1.59**	**52**	*e*P	**Pb**	**03 29 36.9**	**-0.7**
JISG				*e*S	**Sn**	**03 29 55.8**	**+0.9**
ENTT	**Nioudou**	**1.61**	**310**	*e*P	**Pn**	**03 29 37.0**	**+1.5**
WHF	**Hehuan Shan**	**1.61**	**289**	*e*P	**Pn**	**03 29 37.1**	**+1.2**
WHF				*e*S	**Sn**	**03 29 55.0**	**-1.1**
NNSB	**Datong**	**1.63**	**300**	*e*P	**Pn**	**03 29 35.6**	**-0.3**
VWDT	**VWDT**	**1.65**	**275**	P	**Pb**	**03 29 37.8**	**-0.8**
VWDT				S	**Sn**	**03 29 56.6**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.68**	**313**	*e*P	**Pb**	**03 29 38.6**	**-0.5**
TIPB	**Shuangxi**	**1.69**	**324**	*e*P	**Pn**	**03 29 36.9**	**+0.3**
WUSB	**Renai**	**1.70**	**283**	*e*P	**Pb**	**03 29 38.5**	**-1.1**
NWLT	**Wulai**	**1.75**	**312**	*e*P	**Pn**	**03 29 38.2**	**+0.8**
SXI1	**Grass Mountain**	**1.76**	**327**	*e*P	**Pb**	**03 29 39.7**	**-0.9**
YHNB	**Yeheng**	**1.77**	**307**	*e*P	**Pn**	**03 29 38.9**	**+1.1**
YUS	**Yu-Shan**	**1.82**	**267**	*e*P	**Pb**	**03 29 41.1**	**-0.7**
TYC	**Yuchr**	**1.92**	**279**	*e*P	**Pb**	**03 29 43.4**	**+0.1**
ALS	**Alishan**	**1.95**	**267**	*e*P	**Pb**	**03 29 43.7**	**-0.2**
TPUB	**Ta-pu**	**2.14**	**262**	*e*P	**Pb**	**03 29 46.9**	**0.0**
TPUB				*e*S	**Sb**	**03 30 12.2**	**-0.8**
WTP	**Ta-pu**	**2.16**	**261**	*e*P	**Pb**	**03 29 46.9**	**-0.5**
CHN4	**Tsaushan**	**2.16**	**264**	*e*P	**Pb**	**03 29 46.8**	**-0.6**
CHN4				*e*S	**Sb**	**03 30 13.2**	**-0.6**
CHN1	**Nanshi**	**2.25**	**260**	*e*P	**Pb**	**03 29 48.8**	**-0.1**

TRN 18 03:45:45.8, 14°.86N×60°.30W, h56km, MD3.5, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.83**	**269**	*e*P	Pn	03 46 02.4	+0.7
SVN				*e*S	Sn	03 46 16.3	+3.0
DLPL	**La Plaine**	**1.02**	**297**	*e*S	Sn	03 46 19.9	+2.4
SLBI	**Saint Lucia, B**	**1.06**	**218**	*e*P	Pn	03 46 04.7	+0.3
SLBI				*e*S	Sn	03 46 19.2	+0.9
DWS	**Wesley**	**1.20**	**306**	*e*P	Pn	03 46 08.0	+1.6
DWS				*e*S	Sn	03 46 23.7	+2.0
DSLB	**Salisbury**	**1.22**	**298**	*e*P	Pn	03 46 07.8	+1.1
DSLB				*e*S	Sn	03 46 23.7	+1.5
DSDZ	**La Diserade, G**	**1.62**	**333**	*e*P	Pn	03 46 13.5	+1.4
SVB	**Belmont**	**1.83**	**210**	*e*P	Pn	03 46 17.4	+2.4
SVB				*e*S	Sn	03 46 39.0	+2.0
ATGZ	**Broadband at L**	**1.84**	**312**	*e*P	Pn	03 46 16.2	+1.2
ATGZ				*e*S	Sn	03 46 38.8	+1.6
DHSZ	**Broadband at M**	**1.99**	**315**	*e*P	Pn	03 46 19.2	+2.2
DHSZ				*e*S	Sn	03 46 41.4	+0.6

*IDC **18** 04:09:35.5±1.4, 26°.62N×55°.31E, h0km, mb3.9/13,*
mbtmp4.0/18, ML3.8/4, MS3.2/10, Error ellipse:
s-maj=30.5km s-min=13.5km az=171.0
*TEH **18** 04:09:36.8, 26°.59N×55°.23E, h13km±19km*
*DSN **18** 04:09:37.1±1.1, 26°.85N×55°.36E, h10km, ML3.7/13, Error*
ellipse: s-maj=14.4km s-min=3.4km az=24.0
*THR **18** 04:09:38.8±0.0, 26°.63N×55°.26E, h14km±16km, ML4.0*
*MOS **18** 04:09:39.6±1.5, 26°.53N×55°.12E, h17km, mb4.4/12, Error*
ellipse: s-maj=9.9km s-min=6.6km az=108.7
*NEIC **18** 04:09:39.1±2.4, 26°.59N±0°.06×55°.11E±0°.08, h10km±1km,*
mb4.2/19, Error ellipse: s-maj=13.0km s-min=9.5km
az=67.0
*OMAN **18** 04:09:42.1±0.1, 26°.41N×55°.22E, h10km, mb4.8/8,*
ml3.7/17, Mwp4.4/5, Error ellipse: s-maj=1.1km
s-min=0.5km az=14.0

ISC 18 04:09:38.4±1.0, 26°.61N±0°.02×55°.23E±0°.02, h16km±6km, n171, σ1s86/193, mb4.1/33, MS3.1/12, 5C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.99**	**124**	P	**Pn**	**04 09 58.4**	**+0.8**
	SNR=34						
SHME				P	**Pn**	**04 09 58.4**	**+0.8**
	SNR=34						
SHME				S	**Sn**	**04 10 13.3**	**+2.1**
SHME				S	**Sn**	**04 10 13.3**	**+2.1**
SHME	**Shamm**	**0.99**	**124**	*e*P	**Pn**	**04 09 57.7**	**+0.1**
	SNR=33						
UMQ	**Umm Al-Quwin**	**1.15**	**160**	P	**Pg**	**04 10 01.7**	**+1.1**
UMQ				S	**Sn**	**04 10 17.8**	**+2.7**
UMQ	**Umm Al-Quwin**	**1.15**	**160**	*e*P	**Pg**	**04 10 01.9**	**+1.3**
	SNR=24						
BNDS	**Bandar-Abbas**	**1.15**	**47**	Pg	**Pg**	**04 09 59.9**	**-0.9**
BNDS	**Bandar-Abbas**	**1.15**	**47**	*e*Pg	**Pg**	**04 09 59.5**	**-1.2**
BNDS				IAML		04 10 27.1	
	comp=Z,1μm,1.0s						
GENO	**Geno**	**1.15**	**47**	Pg	**Pg**	**04 09 59.7**	**-1.0**
BANOM	**Banah**	**1.18**	**125**	P	**Pg**	**04 10 01.2**	**-0.1**
BANOM				S	**Sn**	**04 10 18.1**	**+2.1**
BANOM	**Banah**	**1.18**	**125**	*e*P	**Pg**	**04 10 01.0**	**-0.2**
	SNR=390						
BANOM				S	**Sn**	**04 10 17.9**	**+1.9**
LAR1	**LAR**	**1.30**	**324**	Pg	**Pg**	**04 10 03.1**	**-0.4**
IBND	**Bandar-abas**	**1.44**	**54**	Pg	**Pg**	**04 10 05.0**	**-1.1**
IBND				Sg	**Sg**	**04 10 26.0**	**+1.1**
MASF	**Masafi**	**1.49**	**146**	P	**Pg**	**04 10 06.8**	**-0.3**
	SNR=30						
MASF				S	**Sg**	**04 10 27.7**	**+1.1**
	SNR=5.9						
MSFE	**Esma-Masafi**	**1.50**	**146**	*e*P	**Pg**	**04 10 06.1**	**-1.2**
	SNR=68						
MDH	**Madha**	**1.62**	**143**	P	**Pg**	**04 10 09.0**	**-0.7**
	SNR=17						
MDH				P	**Pg**	**04 10 09.0**	**-0.7**
	SNR=17						
MDH				S	**Sg**	**04 10 30.0**	**-0.7**
MDH				S	**Sg**	**04 10 30.0**	**-0.7**
MDH	**Madha**	**1.62**	**143**	*e*P	**Pg**	**04 10 08.0**	**-1.6**
	SNR=17						
NAZ	**Nazwa, Dubai**	**1.66**	**166**	*e*P	**Pg**	**04 10 09.6**	**-0.8**
	SNR=41						
UOSS	**Minazif**	**1.88**	**152**		**Pg**	**04 10 11.6**	**-2.9**
UOSS	**Minazif**	**1.88**	**152**	P	**Pg**	**04 10 13.0**	**-1.5**
UOSS				S	**Sg**	**04 10 37.1**	**-1.7**
UOSS	**Minazif**	**1.88**	**152**	Pn	**Pb**	**04 10 11.3**	**-1.0**
UOSS	**Minazif**	**1.88**	**152**	*e*P	**Pg**	**04 10 11.7**	**-2.8**
	SNR=45						
FAQ	**Al Faqa, Dubai**	**1.89**	**170**	P	**Pg**	**04 10 13.2**	**-1.5**
FAQ				P	**Pg**	**04 10 13.2**	**-1.5**
FAQ	**Al Faqa, Dubai**	**1.89**	**170**	*e*P	**Pg**	**04 10 13.1**	**-1.6**
	SNR=12						
HATD	**Hatta, Dubai**	**1.96**	**155**	P	**Pg**	**04 10 13.8**	**-2.2**
HATD	**Hatta, Dubai**	**1.96**	**155**	*e*P	**Pg**	**04 10 13.4**	**-2.6**
	SNR=59						
ASUD	**Al Ashush, Dub**	**1.98**	**177**	P	**Pg**	**04 10 15.4**	**-1.0**
ASUD				P	**Pg**	**04 10 15.4**	**-1.0**
ASUD	**Al Ashush, Dub**	**1.98**	**177**	*e*P	**Pg**	**04 10 15.0**	**-1.4**
	SNR=16						
LMD1	**Lamerd**	**1.98**	**292**	Pn	**Pg**	**04 10 14.8**	**-1.6**
LMD1	**Lamerd**	**1.98**	**292**	*e*Pn	**Pg**	**04 10 14.3**	**-2.2**
LMD1				IAML		04 11 06.4	
	comp=Z,2μm,1.0s						
ASHO	**Ashiyiah**	**2.06**	**158**	P	**Pg**	**04 10 15.0**	**-3.0**
	SNR=35						
ASHO	**Ashiyiah**	**2.06**	**158**	*e*P	**Pb**	**04 10 14.7**	**-0.7**
	SNR=38						
JHRM	**Jahrom**	**2.39**	**323**	Pn	**Pb**	**04 10 19.2**	**-2.0**
KHNJ	**Kahnooj**	**2.58**	**58**	Pn	**Pb**	**04 10 20.3**	**+0.8**
ALNE	**Al Ain**	**2.59**	**169**	P	**Pb**	**04 10 22.7**	**-1.7**
ALNE	**Al Ain**	**2.59**	**169**	*e*P	**Pb**	**04 10 22.2**	**-2.2**
	SNR=8.0						
SOHO	**SOHO**	**2.73**	**154**	P	**Pb**	**04 10 23.8**	**-3.1**
SOHO	**SOHO**	**2.73**	**154**	*e*P	**Pb**	**04 10 22.9**	**-4.0**
	SNR=15						
NGRK	**Negar Kerman**	**3.30**	**23**	Pn	**Pn**	**04 10 31.7**	**+2.0**
ARQ	**Araqi**	**3.46**	**160**	P	Pb	04 10 34.0	-5.4
	SNR=27						
HOQ	**Hoqain**	**3.56**	**147**	P	**Pn**	**04 10 34.3**	**+1.3**
HOQ	**Hoqain**	**3.56**	**147**	Pn	**Pn**	**04 10 34.3**	**+1.3**
KRBR	**Kerman**	**3.62**	**22**	IAML		04 12 10.5	
	comp=Z,200nm,1.0s						
KBAM	**BAM**	**3.80**	**48**	Pn	**Pn**	**04 10 38.3**	**+1.9**
CHMN	**Cheshme madani**	**3.83**	**32**	Pn	**Pn**	**04 10 39.3**	**+2.3**
UMZA	**Um Al Zommool**	**3.88**	**181**	P	**Pn**	**04 10 39.7**	**+2.3**
UMZA				P	**Pn**	**04 10 39.7**	**+2.3**
SHMA	**Al-Shehemyia**	**3.90**	**260**	P	Pb	04 10 41.5	-5.3
SHMA				S	**Sn**	**04 11 26.4**	**+3.2**
KHGB	**Koh Gabri**	**3.91**	**16**	Pn	**Pn**	**04 10 40.1**	**+2.1**
TRNA	**Turayna**	**4.08**	**244**	P	**Pn**	**04 10 43.0**	**+2.9**
	SNR=22						
TRNA				S	**Sn**	**04 11 31.3**	**+3.9**
	SNR=15						
KRM1	**Kerman Provinc**	**4.27**	**24**	Pn	**Pn**	**04 10 44.5**	**+1.5**
SMDO	**Samad**	**4.37**	**143**	P	**Sn**	**04 10 46.8**	**+2.7**
SMRA	**Abu-Samra**	**4.39**	**246**	P	Pn	04 10 48.1	+3.8
SMRA				S	**Sn**	**04 11 38.2**	**+3.1**
ZRDN	**Zarand Kerman**	**4.49**	**14**	Pn	**Pn**	**04 10 48.2**	**+2.2**
WSAR	**Wadi Sarin**	**4.56**	**137**	P	**Pn**	**04 10 49.5**	**+2.7**
WSAR				S	**Sn**	**04 11 41.0**	**+1.6**
IMEH	**Mehriz**	**4.79**	**354**	Pn	**Pn**	**04 10 52.4**	**+2.2**
CHBR	**Chabahar**	**4.83**	**101**	Pn	**Pn**	**04 10 51.9**	**+1.4**
JMDO	**Jabal Madar**	**4.97**	**148**	P	**Pn**	**04 10 55.4**	**+3.1**
IBAF	**Bafgh**	**4.97**	**3**	Pn	**Pn**	**04 10 54.2**	**+1.7**
KLNJ	**Kolanjah**	**5.42**	**325**	Pn	**Pn**	**04 11 00.9**	**+2.1**
KLNJ	**Kolanjah**	**5.42**	**325**	*e*Pn	**Pn**	**04 11 01.2**	**+2.3**
KLNJ				IAML		04 13 14.1	
	comp=Z,92nm,1.0s						
ZHSF	**Zahedan**	**5.74**	**57**	*e*Pn	**Pn**	**04 11 05.5**	**+2.4**
ZHSF				IAML		04 13 11.1	
	comp=Z,35nm,1.0s						
IRAM	**Ramesheh**	**5.75**	**335**	Pn	**Pn**	**04 11 05.4**	**+2.1**
YZKH	**Yazd**	**5.79**	**355**	*e*Pn	**Pn**	**04 11 06.0**	**+2.3**
YZKH				IAML		04 13 11.6	
	comp=Z,38nm,1.0s						
JLN	**Jalan Bani Buh**	**5.85**	**138**	P	**Pn**	**04 11 05.8**	**+1.3**
JLN				S	**Sn**	**04 12 11.6**	**+0.4**
MHTO	**MHTO**	**6.13**	**155**	P	**Pn**	**04 11 10.1**	**+1.8**
MHTO				S	**Sn**	**04 12 19.4**	**+1.2**
BSRN	**Basiran**	**6.33**	**32**	*e*Pn	**Pn**	**04 11 13.1**	**+1.9**
BSRN				IAML		04 13 42.6	
	comp=Z,32nm,1.0s						
NHDN	**Nehbandan**	**6.37**	**40**	Pn	**Pn**	**04 11 14.0**	**+2.3**
IGAR	**Gharneh**	**6.41**	**335**	Pn	**Pn**	**04 11 14.1**	**+1.8**
NASN	**Na'in**	**6.52**	**342**	*e*Pn	**Pn**	**04 11 16.8**	**+2.9**
NASN				IAML		04 13 39.6	
	comp=Z,31nm,1.0s						
TPRV	**Parvadeh(Tabas**	**6.52**	**11**	Pn	**Pn**	**04 11 16.3**	**+2.5**
IKOO	**Kooshah**	**6.66**	**29**	Pn	**Pn**	**04 11 17.6**	**+1.8**
ANAR	**Anarak**	**6.69**	**349**	Pn	**Pn**	**04 11 17.5**	**+1.4**
DQM	**DQM**	**6.98**	**162**	P	**Pn**	**04 11 20.9**	**+0.9**
DQM				S	**Sn**	**04 12 37.4**	**-1.7**
TKDS	**Koohdasht(Taba**	**7.17**	**13**	Pn	**Pn**	**04 11 25.2**	**+2.5**
TABS	**Tabas**	**7.20**	**13**	*i* P	**Pn**	**04 11 26.1**	**+3.0**
TABS				IAML		04 13 49.6	
	comp=Z,49nm,1.0s						
TNSJ	**Nastanj**	**7.42**	**9**	Pn	**Pn**	**04 11 27.7**	**+1.5**
QAMS	**Qamsar**	**7.84**	**336**	Pn	**Pn**	**04 11 33.6**	**+1.6**
DOK	**Doka**	**8.02**	**187**	P	**Pn**	**04 11 36.3**	**+2.0**
DOK				S	**Sn**	**04 13 07.8**	**+3.2**
ISFB	**Sefidab**	**8.13**	**342**	Pn	**Pn**	**04 11 37.4**	**+1.5**
SHRT	**Shahrakht**	**8.27**	**31**	*e*Pn	**Pn**	**04 11 39.9**	**+2.2**
KHMZ	**Khomeyn**	**8.44**	**329**	*e*Pn	**Pn**	**04 11 42.8**	**+2.6**
SHAO	**Shalim**	**8.55**	**177**	P	**Pn**	**04 11 42.7**	**+1.1**
SHAO				S	**Sn**	**04 13 22.1**	**+4.2**
WHFO	**Wadi Hawf**	**8.75**	**189**	P	**Pn**	**04 11 46.6**	**+2.2**
	SNR=51						
WHFO				S	**Sn**	**04 13 20.9**	**-1.9**
DMTO	**DMTO**	**8.86**	**182**	P	**Pn**	**04 11 48.5**	**+2.7**
DMTO				S	**Sn**	**04 13 24.4**	**-0.8**
ASAO	**Ashtian**	**9.09**	**332**	*e*Pn	**Pn**	**04 11 50.8**	**+1.6**
RBK	**Rabkut**	**9.11**	**186**	P	**Pn**	**04 11 51.9**	**+2.6**
RBK				S	**Sn**	**04 13 31.9**	**+0.3**
RAYN	**Ar Rayn**	**9.34**	**253**		**Pn**	**04 11 52.2**	**-0.2**
RAYN	**Ar Rayn**	**9.34**	**253**	*i* P	**Pn**	**04 11 53.5**	**+1.1**
	SNR=10						
RAYN	**Ar Rayn**	**9.34**	**253**	P	**Pn**	**04 11 52.2**	**-0.2**
ABTO	**Aybut**	**9.38**	**191**	P	**Pn**	**04 11 54.8**	**+1.7**
	SNR=20						
ABTO				S	**Sn**	**04 13 37.8**	**-0.5**
DAMV	**Damavand**	**9.41**	**344**	*e*Pn	**Pn**	**04 11 55.8**	**+2.2**
HRA	**Herat**	**9.83**	**36**	Pn	**Pn**	**04 12 02.2**	**+2.9**
KBL	**Kabul**	**14.28**	**53**	Pn	**P**	**04 13 03.4**	**-3.9**
KBL	**Kabul**	**14.28**	**53**	P	**P**	**04 13 03.4**	**-3.9**
GNI	**Garni**	**16.08**	**330**		**P**	**04 13 27.0**	**-0.3**
GNI	**Garni**	**16.08**	**330**	Pn	**Pn**	**04 13 24.2**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=293,slow=1.0,SNR=3.5						
GNI				LR	LR	04 20 36.5	
	comp=Z,116nm,19.1s,baz=144,slow=41						
	comp=Z,3.5nm,0.4s						
MARD	**Mardin**	**16.23**	**315**		**P**	**04 13 29.9**	**+1.0**
MARD				IAmb	IAmb	04 13 31.9	
	comp=Z,11nm,0.7s						
ASF	**Jabal al Asfar**	**16.90**	**293**	Pn	**P**	**04 13 34.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=3.8						
ASF				Sn	**Sn**	**04 16 33.4**	**-8.6**
	comp=Z,0.2nm,0.3s,baz=78,slow=5.7,SNR=3.1						
	comp=Z,2.5nm,0.8s						
NIL	**Nilore**	**17.09**	**61**		**P**	**04 13 39.8**	**+1.5**
NIL	**Nilore**	**17.09**	**61**	P	**P**	**04 13 39.8**	**+1.5**
NIL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
EIL	**Elat**	**18.14**	**284**	P	**P**	**04 13 49.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=6.3,slow=5.9,SNR=4.8						
EIL				S	**S**	**04 17 14.7**	**-2.6**
	comp=Z,2.1nm,0.6s,baz=324,slow=14,SNR=1.5						
	comp=Z,2.5nm,0.7s						
MMAI	**Mount Meron Ar**	**18.34**	**295**	P	**P**	**04 13 52.4**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=104,slow=19,SNR=7.5						
MMAI				LR	LR	04 23 18.0	
	comp=Z,32nm,18.3s,baz=132,slow=45						
GAZ	**Gaziantep**	**18.54**	**309**	P	**Pn**	**04 13 55.2**	**+0.6**
GAZ				IAmb	IAmb	04 14 05.1	
	comp=Z,20nm,1.3s						
ARPR	**Arapgir-MALATY**	**18.84**	**316**	P	**Pn**	**04 13 59.2**	**+0.9**
NCK	**Nalchik**	**19.32**	**334**	⇑*i*P	**Pn**	**04 14 06.0**	**+2.1**
NCK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
NEUR	**Neytrino**	**19.49**	**332**	⇓*e*P	**Pn**	**04 14 08.1**	**+1.9**
NEUR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KBZ	**Khabaz**	**19.79**	**333**	P	**Pn**	**04 14 09.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=144,slow=8.3,SNR=16						
	comp=Z,8.6nm,0.9s						
SHA1	**Shidzhatmaz**	**19.90**	**332**	*d i* P	**Pn**	**04 14 12.4**	**+1.4**
KIV	**Kislovodsk**	**20.07**	**333**		Pn	04 14 13.8	+0.9
KIV	**Kislovodsk**	**20.07**	**333**	*e*P	**P**	**04 14 10.2**	**-0.8**
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
KIV				MLR	MLR		
	comp=Z,17nm,14.0s						
BNN	**Bunyan**	**20.32**	**312**	P	**P**	**04 14 12.8**	**-1.1**
KKAR	**Karatay Array**	**20.63**	**33**	P	Pn	04 14 17.4	-2.1
KKAR	**Karatay Array**	**20.63**	**33**	P	Pn	04 14 17.4	-2.1
VSLR	**Vesyoloye**	**20.86**	**328**	⇑*e*P	Pn	04 14 20.0	-2.1
VSLR				pmax	pmax		
	comp=Z,22nm,1.1s						
SOC	**Sochi**	**21.10**	**327**	*e*P	**P**	**04 14 20.3**	**-1.9**
SOC				*e*		04 14 42.1	
SOC				*e*S	**S**	**04

MNK *i* S **S** **04 21 48.4 -2.4**
MNK *i* SS **SnSn** **04 24 00.3 -0.3**
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,5.0nm,1.0s
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK MLR MLR
comp=N,43nm,16.0s
MNK MLR MLR
comp=Z,34nm,15.0s
MNK MLR MLR
comp=E,53nm,19.0s
ZALV Zalesovo Beam 34.96 31 P **P** **04 16 28.8 -0.8**
comp=E,1.9nm,0.4s,baz=230,slow=9.9,SNR=7.4
comp=E,1.9nm,0.4s
NACGM Naroch 35.08 331 *e*P **P** **04 16 28.2 -2.3**
comp=Z,3.0nm,0.6s,baz=132
VRAC Vranov 37.39 318 LR LR 04 34 43.5
comp=Z,39nm,20.3s,baz=298,slow=40
VSU Vasula 37.57 336||*e*P **P** **04 16 52.2 +0.5**
VSU pmax pmax
comp=Z,25nm,1.4s
KHC Kasperske Hory 39.16 316||*e*P **P** **04 17 05.8 +0.4**
KHC pmax pmax
comp=Z,16nm,4.0s
WTTA Wattenberg 39.84 313 *e*P **P** **04 17 11.0 -0.2**
comp=Z,6nm,0.9s
FINES FINESS Array B 39.97 339 P **P** **04 17 11.4 -0.4**
comp=Z,1.0nm,0.4s,baz=134,slow=9.5,SNR=10.0
FINES LR LR 04 36 35.3
comp=Z,50nm,20.3s,baz=82,slow=40
comp=Z,1.0nm,0.4s
FINES FINESS Array B 39.97 339 *i* P **P** **04 17 12.0 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
SQTA Sankt Quirin 40.11 313 *i* P **P** **04 17 12.5 -0.8**
comp=Z,1.7nm,0.6s
MOTA Moosalm 40.21 313 *e*P **P** **04 17 13.6 -0.7**
comp=Z,1.4nm,0.7s
FETA Feichten 40.38 312 *i* P **P** **04 17 16.2 +0.5**
comp=Z,0.5nm,0.3s
RETA Reutte 40.47 313 *i* P **P** **04 17 16.4 +0.1**
comp=Z,0.2nm,0.1s
DAVA Damuels 41.00 312 *i* P **P** **04 17 20.7 -0.1**
comp=Z,3.2nm,0.5s
HFS Hagfors 43.85 331 P **P** **04 17 42.8 -0.8**
comp=Z,1.9nm,0.7s,baz=108,slow=9.5,SNR=6.5
comp=Z,1.9nm,0.7s
SONM Songino Array 44.97 48 P **P** **04 17 51.4 -1.5**
comp=Z,0.5nm,0.5s,baz=270,slow=8.3,SNR=3.9
comp=Z,0.5nm,0.5s
NB2 NORSAR Subarra 45.37 332 P **P** **04 17 55.1 -0.6**
comp=Z,6.2nm,1.4s,baz=118,slow=8.6
NOA NORSAR Array B 45.37 332 P **P** **04 17 55.5 -0.2**
comp=Z,1.5nm,0.8s,baz=117,slow=7.9,SNR=6.7
comp=Z,1.5nm,0.8s
HHC Hu-ho-hao-te 48.18 58 *e*P **P** **04 18 20.6 +2.4**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,54nm,3.6s
ESDC Sonseca Array 50.42 301 P **P** **04 18 35.2 0.0**
comp=Z,2.6nm,1.0s,baz=75,slow=8.4,SNR=10.0
comp=Z,2.6nm,1.0s
EKA Eskdalemuir Ar 50.67 321 P **P** **04 18 36.5 -0.2**
comp=Z,0.8nm,0.6s,baz=99,slow=7.8,SNR=4.7
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 51.76 266 **P** **04 18 44.7 -0.8**
TORD IAmb IAmb 04 18 49.8
comp=Z,2.6nm,1.1s
TORD Torodi Ar. Bea 51.76 266 P **P** **04 18 45.3 -0.2**
comp=Z,3.4nm,0.8s,baz=55,slow=9.2,SNR=15
comp=Z,3.4nm,0.8s
MD01 Midelt array s 51.87 292 P **P** **04 18 47.3 +1.0**
MD31 MD31 51.87 292 P **P** **04 18 46.7 +0.5**
MD31 IAmb IAmb 04 18 51.8
comp=Z,3.3nm,0.9s
LBTB Lobatse 58.76 212 LR LR 04 48 09.1
comp=Z,41nm,19.4s,baz=97,slow=39
DBIC Dimbokro 60.34 262 P **P** **04 19 47.4 +0.5**
DBIC Dimbokro 60.34 262 P **P** **04 19 47.8 +0.8**
comp=Z,2.8nm,0.6s,baz=77,slow=4.9,SNR=7.5
comp=Z,2.8nm,0.6s
DBIC Dimbokro 60.34 262 P **P** **04 19 47.4 +0.5**
DBIC pmax pmax
comp=Z,16nm,1.4s

SSNC 18 04:13:55.6±2.1, 22°.25N×71°.23W, h37km, MD4.4, Bahama Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**3.48**	**234**	*e*P	Pn	04 14 46.9	-0.3
QMBU	**Quimbuelo**	**3.92**	**239**	*e*P	Pn	04 14 53.4	+0.1
SABCS	**La Quijada**	**4.25**	**244**	*e*P	Pn	04 14 58.5	+0.7
GTBY	**Guantanamo Bay**	**4.30**	**238**	*e*P	Pn	04 14 58.7	+0.2
PINC	**Pinares de May**	**4.60**	**248**	*e*P	Pn	04 15 01.9	-0.7
HLGC	**Holguin**	**4.70**	**254**	*e*P	Pn	04 15 06.4	+2.4
RCC	**Rio Carpintero**	**4.74**	**242**	*e*P	Pn	04 15 04.5	0.0
MARVS	**Santiago de Cu**	**4.90**	**244**	*e*P	Pn	04 15 07.1	+0.3
YAR	**Yar**	**5.14**	**250**	*e*P	Pn	04 15 09.5	-0.5
CHIV	**Chivirico**	**5.34**	**246**	*e*P	Pn	04 15 12.8	0.0
LMGC	**Las Mercedes**	**5.81**	**249**	*e*P	Pn	04 15 19.3	0.0
CCCC	**Cccc**	**6.17**	**261**	*e*P	Pn	04 15 19.8	-4.3

*DJA **18** 04:20:56.5±1.1, 8°.S±5°.×10°.5E±°., h13km±10km, M4.2/13, mb4.5/4, MLv4.0/13*
*IDC **18** 04:20:57.3±1.7, 6°.89S×104°.38E, h0km, mb3.7/5, mbtmp3.7/6, ML3.8/1, MS2.9/2, Error ellipse: s-maj=61.8km s-min=22.0km az=31.0*
ISC 18 04:20:59.0±1.2, 7°.63S±0°.10×104°.46E±0°.08, h35km, n25, σ1§56/25, mb3.7/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.59**	**50**	P	**Pn**	**04 21 23.2**	**-1.5**
CGJI				S	**Sn**	**04 21 43.2**	**-0.8**
KASI	**Kota Agung**	**2.10**	**1**	P	**Pn**	**04 21 31.5**	**-0.1**
KASI				S	**Sn**	**04 21 57.5**	**+1.0**
SKJI	**Sukabumi**	**2.17**	**73**	P	**Pn**	**04 21 29.1**	**-3.6**
SKJI				S	**Sn**	**04 21 58.5**	**+0.1**
SBJI	**Serang**	**2.24**	**48**	P	**Pn**	**04 21 32.8**	**-0.8**
DBJI	**Dramaga**	**2.51**	**65**	P	**Pn**	**04 21 36.6**	**-0.8**
CNJI	**Cibinong**	**2.67**	**83**	P	**Pn**	**04 21 40.3**	**+0.8**
MDSI	**Maura Dua**	**3.14**	**355**	P	**Pn**	**04 21 45.8**	**-0.2**
MDSI				S	**Sn**	**04 22 23.4**	**+1.1**
LEM	**Lembang**	**3.23**	**76**	Pn	**Pn**	**04 21 49.2**	**+1.8**
	12nm,0.3s,baz=285,slow=20,SNR=5.0						
LEM				Sn	**Sn**	**04 22 27.8**	**+3.0**
	10nm,0.3s,baz=230,slow=16,SNR=7.1						
LEM				LR	LR	04 22 50.4	
	comp=Z,92nm,19.7s,baz=135,slow=35						
	32nm,0.5s						
LEM	**Lembang**	**3.23**	**76**	P	**Pn**	**04 21 48.7**	**+1.2**
MNAI	**Manna**	**3.58**	**335**	P	**Pn**	**04 21 50.8**	**-1.3**
CMJI	**Cimerak**	**3.96**	**92**	P	**Pn**	**04 21 56.2**	**-1.1**
KPJI	**Karang Pucung**	**4.44**	**86**	P	**Pn**	**04 22 02.8**	**-1.2**
UGM	**Wanagama**	**6.01**	**93**	P	**Pn**	**04 22 24.7**	**-0.9**
	0.4nm78nm,1.8s						
PCJI	**Pacitan**	**6.68**	**95**	P	**Pn**	**04 22 33.7**	**-1.0**
	27nm,0.6s						
WRA	**Warramunga Arr**	**31.43**	**116**	P	P	04 27 24.2	+7.0
	0.4nm,0.9s,baz=288,slow=11,SNR=5.9						
	0.4nm,0.9s						
H08S2	**Diego Garcia H**	**31.68**	**268**	T	T	05 00 51.9	
	baz=92,slow=74,SNR=7.0						
H08S3	**Diego Garcia H**	**31.69**	**268**	T	T	05 01 02.6	
	baz=92,slow=74,SNR=6.6						
H08S1	**Diego Carcia H**	**31.70**	**268**	T	T	05 00 40.6	
	baz=92,slow=74,SNR=5.5						
MKAR	**Makanchi Array**	**57.67**	**342**	P	**P**	**04 30 44.9**	**-1.0**
	0.4nm,0.6s,baz=160,slow=7.4,SNR=4.1						
	0.4nm,0.6s						
ASAJ	**Asahikawa**	**61.96**	**30**	LR	LR	04 58 10.1	
	comp=Z,18nm,20.1s,baz=162,slow=36						
KURBB	**Kurchatov Arra**	**62.22**	**342**	P	**P**	**04 31 15.7**	**-1.3**
	0.5nm,0.6s,baz=159,slow=5.9,SNR=5.6						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**63.55**	**347**	P	**P**	**04 31 24.5**	**-1.3**
	1.2nm,0.5s,baz=165,slow=6.0,SNR=5.5						
	1.2nm,0.5s						
BRTR	**Keskin Array B**	**80.38**	**312**	P	**P**	**04 33 06.9**	**-0.4**
	0.3nm,0.5s,baz=164,slow=5.8,SNR=2.5						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**130.79**	**45**	PKP	**PKiKP**	**04 40 11.2**	**+3.0**
	0.4nm,0.3s,baz=210,slow=5.3,SNR=5.6						
TXAR	**Lajitas Array**	**145.86**	**47**	PKPbc	**PKPab**	**04 40 36.7**	**+0.7**
	0.6nm,0.8s,baz=275,slow=2.4,SNR=7.8						

IDC 18 04:58:57.0±1.6, 2°.75S×138°.21E, h0km, mb3.3/2, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=32.6km s-min=27.5km az=160.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.50**	**85**	Pn	Pn	04 59 38.2	-0.8
	3.9nm,0.3s,baz=263,slow=8.1,SNR=9.2						
JAY				Sn	Sn	05 00 10.8	+0.6
	1.8nm,0.3s,baz=162,slow=20,SNR=2.7						
	18nm,0.8s						
WRA	**Warramunga Arr**	**17.51**	**192**	P	Pn	05 03 02.9	+0.2
	0.1nm,0.3s,baz=3.6,slow=12,SNR=4.7						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**21.21**	**191**	P	P	05 03 44.4	-0.1
	0.3nm,0.6s,baz=16,slow=12,SNR=4.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**69.51**	**323**	P	P	05 10 08.0	+0.4
	0.7nm,0.8s,baz=126,slow=7.6,SNR=3.9						
	0.7nm,0.8s						

*TEH **18** 05:09:55.7, 29°.05N×51°.34E, h8km±24km*
*DSN **18** 05:09:59.8±1.3, 28°.67N×51°.43E, h10km, ML3.4/10, Error ellipse: s-maj=18.9km s-min=6.9km az=6.0*
*OMAN **18** 05:10:01.4±0.1, 28°.78N×51°.64E, h10km, mb4.5/15, ml3.9/5, Error ellipse: s-maj=1.7km s-min=1.0km az=354.0*
*IDC **18** 05:10:01.7±5.4, 29°.01N×51°.40E, h59km±47km, mb3.7/13, mbtmp3.9/16, ML3.6/3, MS3.2/3, Error ellipse: s-maj=26.9km s-min=17.7km az=153.0*
*NAO **18** 05:10:32.8, 32°.15N×48°.04E, h33km, mb3.6*
ISC 18 05:09:57.1±0.5, 29°.03N±0°.04×51°.48E±0°.04, h17km, n97, σ1§64/115, mb3.9/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.60**	**16**	Pg	**Pg**	**05 10 08.0**	**-1.0**
DSBU	**Dashti - Bushe**	**0.69**	**196**	Pg	**Pg**	**05 10 09.4**	**-1.5**
SHI	**Shiraz**	**1.09**	**56**	Pg	**Pn**	**05 10 18.5**	**+0.7**
QIR1	**Qir**	**1.48**	**112**	Pg	**Pb**	**05 10 26.2**	**+1.9**
JHRM	**Jahrom**	**1.92**	**105**	Pn	**Pn**	**05 10 32.1**	**+2.9**
KLNJ	**Kolanjah**	**1.97**	**3**	Pn	**Pn**	**05 10 31.8**	**+1.7**
IBRJ	**Brojen**	**2.87**	**356**	Pn	**Pn**	**05 10 44.0**	**+1.6**
IRAM	**Ramesheh**	**2.88**	**16**	Pn	**Pn**	**05 10 44.8**	**+2.4**
ZNGN	**Zangian**	**3.12**	**350**	Pn	**Pn**	**05 10 47.5**	**+1.7**
SAKB	**Bahrain**	**3.16**	**196**	P	**Pn**	**05 10 48.6**	**+2.6**
SAKB				S	**Sn**	**05 11 25.6**	**+2.3**
SHMA	**Al-Shehemyia**	**3.20**	**188**	P	**Pn**	**05 10 48.5**	**+1.9**
	SNR=12						
SHMA				S	**Sn**	**05 11 25.8**	**+1.5**
JHBN	**Jahan bin**	**3.26**	**348**	Pn	**Pn**	**05 10 49.1**	**+1.2**
IGAR	**Gharneh**	**3.40**	**8**	Pn	**Pn**	**05 10 51.3**	**+1.7**
IMEH	**Mehriz**	**3.59**	**48**	Pn	**Pn**	**05 10 55.5**	**+3.2**
IPIR	**Pirpir**	**3.67**	**352**	Pn	**Pn**	**05 10 54.8**	**+1.4**
IZEF	**Zefreh**	**3.92**	**11**	Pn	**Pn**	**05 10 58.9**	**+2.0**
ICHK	**Chekchek**	**4.08**	**38**	Pn	**Pn**	**05 11 01.1**	**+2.1**
IKLH	**Kolahroud**	**4.27**	**1**	Pn	**Pn**	**05 11 03.4**	**+1.7**
TRNA	**Turayna**	**4.29**	**183**	P	**Pn**	**05 11 03.5**	**+1.9**
	SNR=10						
SMRA	**Abu-Samra**	**4.31**	**188**	P	**Pn**	**05 11 03.5**	**+1.6**
	SNR=9.6						
IBAF	**Bafgh**	**4.36**	**53**	Pn	**Pn**	**05 11 05.5**	**+2.8**
KHGB	**Koh Gabri**	**4.55**	**72**	Pn	**Pn**	**05 11 08.4**	**+2.9**
ANAR	**Anarak**	**4.57**	**24**	Pn	**Pn**	**05 11 07.3**	**+1.6**
NGRK	**Negar Kerman**	**4.63**	**81**	Pn	**Pn**	**05 11 09.9**	**+3.2**
QAMS	**Qamsar**	**4.69**	**359**	Pn	**Pn**	**05 11 08.9**	**+1.5**
ZRDN	**Zarand Kerman**	**4.79**	**65**	Pn	**Pn**	**05 11 12.1**	**+3.3**
SHME	**Shamm**	**5.10**	**125**	P	**Pn**	**05 11 14.3**	**+1.6**
SHME				S	**Sn**	**05 12 13.0**	**+1.8**
SHME	**Shamm**	**5.10**	**125**	P	**Pn**	**05 11 13.6**	**+0.8**
BANOM	**Banah**	**5.29**	**125**	P	**Pn**	**05 11 16.7**	**+1.3**
BANOM				S	**Sn**	**05 12 15.5**	**-0.5**
BANOM	**Banah**	**5.29**	**125**	*i* P	**Pn**	**05 11 16.5**	**+1.1**
	SNR=23						
ISFB	**Sefidab**	**5.34**	**7**	Pn	**Pn**	**05 11 18.2**	**+2.0**
CHMN	**Cheshme madani**	**5.35**	**80**	Pn	**Pn**	**05 11 20.1**	**+3.5**
NAZ	**Nazwa, Dubai**	**5.49**	**136**	P	**Pn**	**05 11 20.5**	**+2.3**
NAZ				S	**Sn**	**05 12 22.0**	**+1.0**
MASF	**Masafi**	**5.54**	**130**	P	**Pn**	**05 11 20.4**	**+1.5**
	SNR=11						
MASF				S	**Sn**	**05 12 22.3**	**+0.1**
MSFE	**Esma-Masafi**	**5.55**	**130**	*i* P	**Pn**	**05 11 19.7**	**+0.7**
	SNR=11						
ASUD	**Al Ashush, Dub**	**5.58**	**141**	P	**Pn**	**05 11 22.4**	**+3.0**
ASUD				S	**Sn**	**05 12 25.1**	**+2.0**
ASUD	**Al Ashush, Dub**	**5.58**	**141**	P	**Pn**	**05 11 20.8**	**+1.4**
FAQ	**Al Faqa, Dubai**	**5.63**	**138**	P	**Pn**	**05 11 20.3**	**+0.2**
MDH	**Madha**	**5.68**	**130**	P	**Pn**	**05 11 22.4**	**+1.6**
MDH				S	**Sn**	**05 12 25.5**	**-0.1**
MDH	**Madha**	**5.68**	**130**	P	**Pn**	**05 11 21.0**	**+0.2**
IQOM	**Qom**	**5.80**	**357**	Pn	**Pn**	**05 11 24.3**	**+1.6**
UOSS	**Minazif**	**5.86**	**133**	P	**Pn**	**05 11 24.4**	**+1.1**
UOSS				S	**Sn**	**05 12 28.5**	**-1.6**
UOSS	**Minazif**	**5.86**	**133**	*i* P	**Pn**	**05 11 23.9**	**+0.6**
	SNR=7.4						
HATD	**Hatta, Dubai**	**5.90**	**134**	P	**Pn**	**05 11 25.4**	**+1.6**
HATD				S	**Sn**	**05 12 30.0**	**-1.1**
IVRN	**Varamin**	**5.95**	**2**	Pn	**Pn**	**05 11 25.5**	**+1.0**
ASHO	**Ashiyiah**	**5.96**	**136**	P	**Pn**	**05 11 26.0**	**+1.3**
	SNR=20						
ASHO				S	**Sn**	**05 12 31.3**	**-1.2**
ASHO	**Ashiyiah**	**5.96**	**136**	*i* P	**Pn**	**05 11 25.7**	**+1.0**
	SNR=14						
ASHO				S	**Sn**	**05 12 31.3**	**-1.2**
TPRV	**Parvadeh(Tabas**	**5.99**	**47**	Pn	**Pn**	**05 11 28.5**	**+3.5**
HAGD	**Aghdareh**	**6.10**	**342**	Pn	**Pn**	**05 11 27.3**	**+0.5**
KBAM	**BAM**	**6.11**	**87**	Pn	**Pn**	**05 11 30.1**	**+3.4**
ALNE	**Al Ain**	**6.26**	**141**	P	**Pn**	**05 11 30.8**	**+2.0**
	SNR=12						
ALNE				S	**Sn**	**05 12 41.6**	**+1.6**
ALNE	**Al Ain**	**6.26**	**141**	*i* P	**Pn**	**05 11 29.6**	**+0.8**
	SNR=12						
MZR	**Muzera**	**6.27**	**163**	P	**Pn**	**05 11 30.9**	**+2.0**
MZR	**Muzera**	**6.27**	**163**	*i* P	**Pn**	**05 11 30.0**	**+1.1**
	SNR=16						
IALM	**Almabolaq**	**6.45**	**335**	Pn	**Pn**	**05 11 32.4**	**+0.8**
ILAS	**Lasjerd**	**6.45**	**11**	Pn	**Pn**	**05 11 33.2**	**+1.5**
IDMV	**Damavand**	**6.54**	**4**	Pn	**Pn**	**05 11 34.5**	**+1.7**
TKDS	**Koohdasht(Taba**	**6.64**	**45**	Pn	**Pn**	**05 11 36.8**	**+2.7**
SOHO	**SOHO**	**6.65**	**136**	P	**Pn**	**05 11 35.3**	**+1.1**
SOHO				S	**Sn**	**05 12 49.8**	**+0.2**
SOHO	**SOHO**	**6.65**	**136**	*i* P	**Pn**	**05 11 34.7**	**+0.5**
	SNR=20						
SNQR	**Sonqor, Kerman**	**6.67**	**332**	Pn	**Pn**	**05 11 34.9**	**+0.4**
IFIR	**Firoozkooh**	**6.68**	**9**	Pn	**Pn**	**05 11 36.2**	**+1.5**
IGHG	**Ghaleghazi**	**6.74**	**323**	Pn	**Pn**	**05 11 36.6**	**+1.1**
QABG	**Abgarm-Qazvin**	**6.85**	**347**	Pn	**Pn**	**05 11 38.6**	**+1.6**
GLG1	**Gilan-e-Gharb**	**6.94**	**318**	Pn	**Pn**	**05 11 38.8**	**+0.6**
IDHR	**Dehrash**	**7.12**	**324**	Pn	**Pn**	**05 11 41.6**	**+0.9**
ARQ	**Araqi**	**7.26**	**140**	P	**Pn**	**05 11 43.8**	**+1.3**
	SNR=18						
ARQ				S	**Sn**	**05 13 04.4**	**-0.2**
HOQ	**Hoqain**	**7.54**	**135**	P	**Pn**	**05 11 47.1**	**+0.7**
	SNR=7.7						
HOQ				S	**Sn**	**05 13 09.4**	**-2.1**
RAYN	**Ar Rayn**	**7.67**	**226**	P	**Pn**	**05 11 47.2**	**-1.0**
SMDO	**Samad**	**8.38**	**134**	P	**Pn**	**05 11 59.3**	**+1.2**
SMDO				S	**Sn**	**05 13 31.2**	**-1.1**
WSAR	**Wadi Sarin**	**8.63**	**130**	P	**Pn**	**05 12 01.5**	**+0.1**
WSAR				S	**Sn**	**05 13 34.3**	**-4.1**
JLN	**Jalan Bani Buh**	**9.91**	**132**	P	**Pn**	**05 12 18.4**	**-0.4**
MHTO	**MHTO**	**9.94**	**142**	P	**Pn**	**05 12 20.3**	**+1.1**
	SNR=11						
DOK	**Doka**	**10.65**	**166**	P	**Pn**	**05 12 29.1**	**+0.1**
WHFO	**Wadi Hawf**	**11.26**	**169**	P	**Pn**	**05 12 36.9**	**-0.5**
SHAO	**Shalim**	**11.60**	**160**	P	**Pn**	**05 12 42.6**	**+0.6**
DMTO	**DMTO**	**11.71**	**163**	P	**Pn**	**05 12 43.0**	**-0.5**
	SNR=11						
ABTO	**Aybut**	**11.74**	**171**	P	**Pn**	**05 12 43.2**	**-0.8**
ASF	**Jabal al Asfar**	**12.94**	**288**	P	**Pn**	**05 13 02.6**	**+2.2**
	0.6nm,0.3s,baz=119,slow=9.1,SNR=5.6						
ASF				S	**Sn**	**05 15 23.9**	**-0.3**
	2.0nm,0.7s,baz=284,slow=8.9,SNR=4.1						
ASF				LR	LR	05 18 28.2	
	comp=Z,39nm,19.1s,baz=153,slow=39						
	1.0nm,0.3s						
KBZ	**Khabaz**	**16.20**	**337**	P	**Pn**	**05 13 44.8**	**+0.9**
	0.2nm,0.3s,baz=148,slow=9.9,SNR=8.6						
	3.8nm,0.7s						
BRTR	**Keskin Array B**	**18.15**	**311**	P	**Pn**	**05 14 08.2**	**-0.3**
	0.1nm,0.3s,baz=128,slow=14,SNR=7.2						
	2.0nm,0.9s						
AKASG	**Malin Array Be**	**27.37**	**328**	P	**P**	**05 15 40.7**	**-0.7**
	0.9nm,0.4s,baz=123,slow=7.0,SNR=5.7						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**29.66**	**36**	P	**P**	**05 16 01.2**	**-0.6**
	0.4nm,0.5s,baz=237,slow=8.9,SNR=2.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**29.82**	**45**	P	**P**	**05 16 04.7**	**+1.4**
	0.2nm,0.3s,baz=241,slow=7.4,SNR=4.2						
MKAR				PcP	**PcP**	**05 19 04.9**	**-1.5**
	0.2nm,0.4s,baz=250,slow=4.3,SNR=4.1						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**34.73**	**35**	P	**P**	**05 16 46.5**	**+0.4**
	0.8nm,0.5s,baz=242,slow=9.0,SNR=5.8						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**36.53**	**340**	P	**P**	**05 17 00.8**	**-0.7**
	1.1nm,0.6s,baz=134,slow=11,SNR=7.2						
	1.1nm,0.6s						
HFS	**Hagfors**	**40.15**	**332**	P	**P**	**05 17 31.4**	**-0.6**
	0.8nm,0.3s,baz=131,slow=8.0,SNR=10						
	0.8nm,0.3s						
NB2	**NORSAR Subarra**	**41.67**	**332**	P	**P**	**05 17 43.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**41.67**	**332**	P	**P**	**05 17 43.8**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=122,slow=8.2,SNR=4.1						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**43.21**	**347**	P	**P**	**05 17 57.0**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=161,slow=7.7,SNR=4.6						
	comp=Z,2.0nm,0.9s						
ESDC	**Sonseca Array**	**46.34**	**299**	LR	LR	05 40 26.9	
	comp=Z,26nm,18.7s,baz=141,slow=39						
TORD	**Torodi Ar. Bea**	**48.70**	**262**	P	**P**	**05 18 40.0**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=54,slow=9.9,SNR=18						
	comp=Z,1.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**51.67**	**351**	P	**P**	**05 19 02.9**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=131,slow=10.0,SNR=1.2						
	comp=Z,1.3nm,0.5s						
DBIC	**Dimbokro**	**57.46**	**259**	P	**P**	**05 19 44.6**	**-0.9**
	comp=Z,5.3nm,0.6s,baz=70,slow=7.0,SNR=7.9						
	comp=Z,5.3nm,0.6s						
JOW	**Kunigami**	**66.70**	**71**	LR	LR	05 52 46.5	
	comp=Z,31nm,18.5s,baz=311,slow=38						
WRA	**Warramunga Arr**	**93.52**	**111**	P	**P**	**05 23 11.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=315,slow=4.1,SNR=5.5						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**94.98**	**114**	P	**P**	**05 23 17.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=306,slow=4.8,SNR=5.2						
	comp=Z,0.3nm,0.5s						

DJA 18 05:33:56.4±0.7, 1°.N±2°.×126°.6E±°., h13km±5km, M4.1/8, mB5.5/1, mb4.2/3, MLv4.1/8, Mw(mB)5.0/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.56**	**103**	P	Pn	05 34 23.3	-0.6
TNTI				S	Sn	05 34 44.5	+0.4
KMSI	**Cibinong**	**1.94**	**254**	P	Pn	05 34 29.1	+0.1
KMSI				S	Sn	05 34 54.1	+0.8
SANI	**Sanana**	**3.15**	**177**	P	Pn	05 34 44.7	-1.1
LUWI	**Luwuk**	**3.75**	**235**	P	Pn	05 34 56.1	+2.2
LUWI				S	Sn	05 35 38.6	+0.7
APSI	**Ampana**	**4.65**	**244**	P	Pn	05 35 08.9	+2.5
MSAI	**Masohi**	**5.41**	**145**	P	Pn	05 35 16.9	+0.1
	0.5nm4μm91nm,0.7s						

*IDC **18** 05:34:52.4±1.0, 35°.78N×117°.42W, h0km, mb3.3/1, mbtmp3.1/7, ML3.3/6, Error ellipse: s-maj=18.8km s-min=7.2km az=74.0*
*NEIC **18** 05:34:53.4±1.8, 35°.791N±0°.008×117°.58W±0°.01, h13km±3km, Error ellipse: s-maj=1.5km s-min=1.1km az=65.0*
*PAS **18** 05:34:54.0±1.8, 35°.778N±0°.007×117°.59W±0°.01, h9km±6km, ML3.9/341, MLv3.7/158(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=117.0*
ISC 18 05:34:54.0±0.8, 35°.78N±0°.02×117°.58W±0°.02, h14km±5km, n137, σ0§75/161, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**338**		**Pg**	**05 34 56.0**	**-0.7**
CLC				IAML		05 34 57.9	
	comp=N,76μm,0.4s						
CLC				IAML		05 34 58.0	
	comp=E,41μm,0.3s						
TOW	**Tower One**	**0.15**	**283**		**Pg**	**05 34 57.7**	**-0.2**
TOW					**Sg**	**05 35 01.0**	**+0.4**
SRTC	**Snort**	**0.16**	**239**		**Pg**	**05 34 57.8**	**-0.2**
SRTC					**Sg**	**05 35 01.2**	**+0.5**
WSHM	**Spangler Hills**	**0.19**	**158**		**Pg**	**05 34 58.1**	**-0.3**
WSHM				Sg	**Sg**	**05 35 01.2**	**-0.2**
WVPM	**Volcano Peak E**	**0.26**	**312**		**Pg**	**05 34 59.1**	**-0.6**
WVPM					**Sg**	**05 35 03.1**	**-0.5**
WNMM	**Nine Mile Cany**	**0.27**	**284**		**Pg**	**05 34 59.3**	**-0.5**
WNMM					**Sg**	**05 35 03.6**	**-0.1**
MPMC	**Manual Prospec**	**0.29**	**14**	Pg	**Pg**	**05 34 59.7**	**-0.5**
WCSM	**Coso Springs S**	**0.29**	**329**		**Pg**	**05 34 59.6**	**-0.6**
WCSM					**Sg**	**05 35 03.7**	**-0.7**
CCCA	**Chr Cany lake**	**0.30**	**145**		**Pb**	**05 35 00.5**	**-0.7**
CCCA				Sg	**Sb**	**05 35 05.1**	**-0.9**
LRMC	**Laurel Mtn Rad**	**0.31**	**196**		**Pg**	**05 35 00.

SBB	Saddle Back Bu	1.10 191		Pg	05 35 14.0	-1.2
TJR	Tejon Ranch	1.21 232		Pb	05 35 15.4	-1.2
ARVC	Arvin	1.21 238		Pg	05 35 17.1	-0.2
VES	Vestal, Richgr	1.23 274		Sg	05 35 32.7	-0.9
VES	Vestal, Richgr	1.23 274		Pn	05 35 16.1	-0.6
GRAC	Grapevine Rang	1.23 8		Pn	05 35 16.1	-0.7
GRAC			IAML		05 35 40.4	
	comp=N,2μm,0.9s					
GRAC			IAML		05 35 43.5	
	comp=E,1μm,0.5s					
ALPC	Antelope	1.24 209		Sn	05 35 33.6	+0.2
THC	Tehachapi Micr	1.24 226		Pn	05 35 16.2	-0.8
AMDNV	Amargosa	1.25 57		Pn	05 35 15.9	-1.0
WCT	Wildcat Mounta	1.27 37		Pn	05 35 16.4	-1.0
WCT			IAML		05 35 36.3	
	comp=E,914nm,0.4s					
WCT			IAML		05 35 36.5	
	comp=N,837nm,0.7s					
SGV	South Grapevin	1.28 20		Pn	05 35 17.0	-0.6
LEOC	Leona Valley	1.29 208		Pg	05 35 18.0	-0.7
LRRC	Littlerock Res	1.30 197		Pg	05 35 18.9	-0.1
LRRC				Sg	05 35 35.9	0.0
BAKC	Calstate	1.32 251		Pn	05 35 18.0	+0.1
CJV	Casa Juvan	1.33 201		Pg	05 35 19.9	+0.4
HOLC	Holcomb Ridge	1.33 190		Pn	05 35 17.4	-0.9
DSCC	Desert Studies	1.36 117		Pn	05 35 17.2	-1.3
JNH	Juniper Hills	1.36 193		Pg	05 35 19.8	-0.4
TIN	Tinemaha, Big	1.38 338		Pn	05 35 18.6	-0.3
TIN			IAML		05 35 41.9	
	comp=N,1μm,0.5s					
TIN			IAML		05 35 41.9	
	comp=E,2μm,0.6s					
HEC	Hector,Ludlow	1.39 133		Pb	05 35 19.4	-0.3
TUQ	Turquoise Moun	1.39 104		Pn	05 35 18.1	-0.9
LCH	Last Change Ra	1.46 358		Pn	05 35 19.6	-0.4
CHFC	Chilao Flat St	1.48 194		Pg	05 35 22.1	-0.4
OSI	Osito Audit: C	1.49 219		Pn	05 35 20.5	+0.1
OSI			IAML		05 35 46.4	
	comp=E,799nm,0.8s					
OSI			IAML		05 35 53.2	
	comp=N,824nm,0.7s					
BFSC	Mount Baldy Ra	1.53 182		Pn	05 35 19.9	-1.1
BFSC			IAML		05 35 43.6	
	comp=N,646nm,0.3s					
GMN	Gold Mountain	1.54 9		Pn	05 35 20.8	-0.5
SIL	Silver Peak	1.55 156		Pb	05 35 22.6	+0.1
VOG	Valley Oaks Go	1.56 291		Pb	05 35 22.2	-0.4
SSK	Sunset Peak	1.56 184		Pn	05 35 21.1	-0.4
SS2	San Sevaine	1.56 178		Pg	05 35 23.9	-0.2
TPNV	Topopah Spring	1.59 42	Pn	Pn	05 35 21.4	-0.4
TPNV			IAML		05 35 47.4	
	comp=N,758nm,0.7s					
TPNV			IAML		05 35 47.7	
	comp=N,775nm,0.7s					
MWC	Mount Wilson	1.60 194	Pn	Pn	05 35 22.0	0.0
MWC			IAML		05 35 48.5	
	comp=E,1μm,0.5s					
BBRC	Big Bear Solar	1.60 160		Pb	05 35 23.4	-0.1
DSP	Deep Springs	1.62 349	Pn	Pn	05 35 21.8	-0.3
MTPC	Mountain Pass	1.67 99	Pn	Pn	05 35 22.1	-0.8
MTPC			IAML		05 35 48.6	
	comp=E,925nm,0.2s					
MTPC			IAML		05 35 54.9	
	comp=N,753nm,0.5s					
PASC	Pasadena Art C	1.68 197	Pn	Pn	05 35 22.5	-0.3
PASC			IAML		05 35 49.9	
	comp=E,627nm,0.5s					
PSRC	Puddingstone R	1.69 186		Pg	05 35 26.2	-0.2
SVD	Seven Oaks Dam	1.71 167		Pg	05 35 26.5	-0.3
MTUM	Tungsten Hills	1.76 334		Pb	05 35 26.5	+0.3
BLCC	Black Canyon	1.77 211		Pn	05 35 24.2	0.0
GTM	Goat Mountain	1.79 145		Pn	05 35 23.8	-0.7
RVR	Riverside	1.79 175		Pb	05 35 26.9	+0.4
GMRC	Granite Mounta	1.85 122		Pn	05 35 23.9	-1.5
CARC	Carrizo Plain	1.91 257		Pb	05 35 28.4	-0.1
SMMC	Simmler	2.02 258		Pb	05 35 29.7	-0.8
EW2	E Wide Canyon	2.07 152		Pn	05 35 27.8	-0.5
TPC	Twentynine Pal	2.09 143		Pn	05 35 27.8	-0.8
SHPR	Sheep Range	2.09 69		Pn	05 35 28.2	-0.4
SHPR			IAML		05 36 00.0	
	comp=N,359nm,0.8s					
SHPR			IAML		05 36 00.6	
	comp=E,315nm,0.7s					
FRI	Friant	2.10 306		Pb	05 35 31.3	-0.5
MLAC	Mammoth, Mammo	2.11 332		Pg	05 35 33.0	-1.5
HMTC	Hemet	2.12 167		Pn	05 35 28.6	-0.4
ELS	Elsinore Mount	2.13 177		Pn	05 35 28.9	-0.3
ELS			IAML		05 36 02.7	
	comp=E,364nm,0.3s					
DGR	Domenigoni Val	2.17 167		Pn	05 35 29.5	-0.2
BELC	Belle Mtn. Jos	2.20 143		Pn	05 35 29.6	-0.6
BELC			IAML		05 36 04.7	
	comp=E,722nm,0.3s					
BELC			IAML		05 36 10.8	
	comp=N,630nm,0.6s					
BACC	Bachelor Mtn.	2.20 168		Pn	05 35 29.8	-0.3
V12A	Nelson	2.22 90		Pn	05 35 30.0	-0.4
V12A			IAML		05 36 06.1	
	comp=N,306nm,0.6s					
CRY	Cary Ranch	2.31 162		Pn	05 35 31.6	-0.1
TPH	Tonopah	2.31 7		Pn	05 35 31.6	-0.2
DNR	Dunn Ranch,Anz	2.34 160		Pn	05 35 31.8	-0.3
PMD	Palm Desert	2.34 155		Pn	05 35 31.2	-0.8
PMD			IAML		05 36 10.0	
	comp=E,284nm,0.5s					
PFO	Pinyon Flats O	2.35 157		Pn	05 35 31.4	-0.8
PFO	Pinyon Flats O	2.35 157	Pn	Pn	05 35 31.5	-0.7
	comp=E,1.8nm,0.3s,baz=344,slow=16,SNR=19					
PFO			Lg	Lg	05 36 06.4	
	comp=E,55nm,0.3s,baz=240,slow=20,SNR=12					
	comp=E,12nm,0.3s					
S11A	Rachel	2.38 38		Pn	05 35 32.3	-0.4
S11A			IAML		05 36 14.0	
	comp=E,618nm,0.6s					
S11A			IAML		05 36 19.7	
	comp=N,510nm,1.0s					
BZNA	Buzz No.'s Pla	2.40 161		Pn	05 35 32.8	-0.1
PKD	Bear Valley Ra	2.41 275		Pn	05 35 32.4	-0.6
PKD			IAML		05 36 19.5	
	comp=N,306nm,1.2s					
PKD			IAML		05 36 26.1	
	comp=E,318nm,0.9s					
PLM	Palomar	2.49 166		Pn	05 35 34.1	-0.1
LHV	Little Huntoon	2.58 344		Pn	05 35 34.9	-0.4
PRN	Pahroc Range	2.60 51		Pn	05 35 35.6	-0.2
PRN			IAML		05 36 25.3	
	comp=N,383nm,0.8s					
PRN			IAML		05 36 26.3	
	comp=E,359nm,0.5s					
PMPB	Monarch Peak	2.65 280		Pn	05 35 36.8	+0.5
BORC	Borrego Spring	2.68 159		Pn	05 35 36.0	-0.7
BORC			IAML		05 36 21.1	
	comp=E,294nm,0.7s					
BORC			IAML		05 36 28.6	
	comp=N,227nm,0.7s					
NVAR	Mina Array Bea	2.71 348	Pn	Pn	05 35 37.5	+0.2
	comp=N,4.9nm,0.3s,baz=168,slow=13,SNR=57					
NVAR			Lg	Lg	05 36 17.4	
	comp=N,12nm,0.3s,baz=104,slow=24,SNR=5.5					
	comp=N,2.6nm,0.3s					
BC3	Big Chuckawall	2.75 140		Pn	05 35 36.5	-1.2
BC3			IAML		05 36 22.3	
	comp=N,329nm,0.4s					
BC3			IAML		05 36 29.1	
	comp=E,242nm,0.6s					
DPP	Dos Picos Cty	2.82 169		Pn	05 35 37.7	-0.9
DPP			IAML		05 36 22.3	
	comp=E,244nm,0.3s					
CPE	Camp Elliot	2.91 172		Pn	05 35 39.3	-0.4
CPE			IAML		05 36 25.0	
	comp=E,241nm,0.4s					
CPE			IAML		05 36 25.6	
	comp=N,187nm,0.3s					
BBGB	Big Mountain B	2.91 287		Pn	05 35 41.1	+1.2
RYN	Ryan	2.95 345		Pn	05 35 40.8	+0.4
HULI	Fort Hunter Li	2.98 276		Pn	05 35 39.8	-1.0
HULI			IAML		05 36 34.0	
	comp=E,277nm,0.7s					
HULI			IAML		05 36 35.4	
	comp=N,242nm,0.8s					
R11B	Troy Canyon, C	3.02 31		Pn	05 35 41.1	-0.4
Q09A	Carvers	3.07 6		Pn	05 35 42.4	+0.2
Q09A			IAML		05 36 45.9	
	comp=N,220nm,0.7s					
Q09A			IAML		05 36 52.1	
	comp=E,224nm,1.0s					
W13A	Hualapai Mount	3.09 102		Pn	05 35 41.7	-0.8
WAKR	Walker	3.10 332		Pn	05 35 43.2	+0.5
BAR	Barrett	3.18 166		Pn	05 35 42.9	-0.6
BAR			IAML		05 36 33.5	
	comp=N,217nm,0.4s					
BAR			IAML		05 36 33.6	
	comp=E,245nm,0.4s					
CMB	Columbia Colle	3.19 316		Pn	05 35 44.2	+0.5
CMB			IAML		05 36 37.4	
	comp=N,187nm,0.7s					
CMB			IAML		05 36 37.8	
	comp=E,145nm,0.9s					
SAO	San Andreas Ge	3.28 289		Pn	05 35 44.7	-0.2
YUH	Yuha Desert	3.41 156		Pn	05 35 45.6	-1.1
GLA	Glamis	3.54 139		Pn	05 35 47.0	-1.5
MHC	Mount Hamilton	3.63 297		Pn	05 35 50.3	+0.5
MHC			IAML		05 36 55.4	
	comp=N,138nm,0.8s					
MHC			IAML		05 36 56.0	
	comp=E,143nm,0.8s					
WELL	Weller Preserv	3.66 318		Pn	05 35 51.3	+1.2
WELL			IAML		05 36 52.8	
	comp=E,123nm,0.5s					
WELL			IAML		05 37 00.1	
	comp=N,104nm,0.8s					
LCMT	Little Creek M	3.71 69		Pn	05 35 50.2	-0.7
ESJX	Sierra Juarez	4.00 160	Pn	Pn	05 35 55.1	+0.2
ESJX			IAML		05 37 01.0	
	comp=E,79nm,0.5s					
KNB	Kanab	4.03 71		Pn	05 35 56.0	+0.6
KNB			IAML		05 37 07.2	
	comp=N,76nm,1.2s					
KNB			IAML		05 37 09.9	
	comp=E,74nm,0.8s					
SZCU	Shurtz Canyon	4.04 62		Pn	05 35 55.7	+0.2
JRSC	Jasper Ridge	4.09 295		Pn	05 35 57.1	+1.1
JRSC			IAML		05 36 26.7	
	comp=E,81nm,2.1s					
JRSC			IAML		05 37 20.0	
	comp=N,73nm,2.0s					
SPR3	Spring Creek 3	4.13 38		Pn	05 35 55.4	-1.5
SPR3			IAML		05 37 14.9	
	comp=E,62nm,1.5s					
Y14A	Wickenburg	4.18 115		Pn	05 35 56.0	-1.4
Y14A			IAML		05 37 13.1	
	comp=E,86nm,0.9s					
Y14A			IAML		05 37 13.3	
	comp=N,109nm,0.7s					
CVS	Carmenet Viney	4.67 305		Pn	05 36 04.7	+0.7
CVS			IAML		05 37 39.0	
	comp=E,54nm,4.9s					
CVS			IAML		05 37 46.9	
	comp=N,48nm,4.9s					
ELK	Elko	5.29 20	Pn	Pn	05 36 13.5	+0.7
	comp=N,0.9nm,0.3s,baz=217,slow=11,SNR=18					
ELK			Lg	Lg	05 37 40.5	
	comp=N,5.0nm,0.3s,baz=204,slow=16,SNR=9.5					
	comp=N,1.7nm,0.3s					
ANMO	Albuquerque	9.12 92	Pn	Pn	05 37 03.5	-1.8
	comp=N,0.1nm,0.3s,baz=40,slow=19,SNR=1.4					
ANMO			Lg	Lg	05 39 36.9	
	comp=N,0.2nm,0.3s,baz=105,slow=12,SNR=2.4					
	comp=N,0.2nm,0.3s					
PDAR	Pinedale Array	9.35 39	Pn	Pn	05 37 07.8	-0.6
	comp=N,0.1nm,0.3s,baz=242,slow=25,SNR=3.6					
	comp=N,0.2nm,0.6s					
TXAR	Lajitas Array	13.37 115	Pn	Pn	05 38 04.5	+1.1
	comp=N,0.2nm,0.3s,baz=292,slow=13,SNR=9.6					
	comp=N,0.1nm,0.3s					
ILAR	Eielson Array	33.93 338	P	P	05 41 38.5	+2.2
	comp=N,0.4nm,0.8s,baz=150,slow=9.2,SNR=4.2					
	comp=N,0.4nm,0.8s					

*TAP **18** 05:36:41.5, 24.°01N×122.°82E, h17km±1km, ML2.4, D*
*JMA **18** 05:36:41.7±0.2, 24.°0N±0.°9×122.°9E±1.°0, h41km, MV2.6/10, NW OFF ISHIGAKIJIMA IS*

ISC 18 05:36:41.0±1.2, 23.°96N±0.°06×122.°88E±0.°03, h29km±12km, n35, σ0°59/43, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49	7	P	Pn	05 36 51.7	-0.4
JYNG				eS	Sn	05 36 58.8	-0.9
YOJ	Yonaguni jima	0.51	14	P	Pb	05 36 51.7	0.0
YOJ				eS	Sb	05 36 58.5	-0.4
YOJ	Yonaguni jima	0.51	14	i P	Pb	05 36 51.8	+0.2
YOJ				i S	Sb	05 36 58.5	-0.4
EOS4	EOS4	0.54	287	eP	Pb	05 36 52.1	+0.3
EOS3	EOS3	0.61	303	i P	Pb	05 36 53.6	+0.1
EOS3				S	Sn	05 37 03.1	+0.8
EOS2	EOS2	0.75	308	eP	Pn	05 36 56.3	+0.8
HATJ	Hateruma jima	0.85	83	P	Pn	05 36 57.0	0.0
HATJ				eS	Sb	05 37 08.5	+0.1
IRIF	Iriomote-Funau	0.86	64	P	Pn	05 36 56.8	-0.4
JKRS	Kuro-shima	1.07	75	P	Pn	05 37 00.5	+0.5
ENA	Nanau	1.14	294	eP	Pb	05 37 02.3	+0.2
TWC	Suao	1.14	305	eP	Pn	05 37 01.2	+0.2
TWC				eS	Sb	05 37 16.8	+0.2
TWD	Chiawan	1.18	276	eP	Pb	05 37 03.3	+0.6
NACB	Ninganchiao	1.19	281	P	Pn	05 37 02.0	+0.3
SHUL	Shoufeng	1.22	262	eP	Pn	05 37 01.0	-1.0
JIJ	Ishigaki jima	1.22	71	eP	Pn	05 37 03.1	+0.9
JIJ				eS	Sn	05 37 18.2	+0.5
ETLH	Xiulin Townshi	1.30	281	eP	Pb	05 37 04.3	-0.6
TWE	Neicheng	1.34	305	eP	Pb	05 37 05.7	+0.2
LXIB	Xiulin Townshi	1.34	273	P	Pn	05 37 04.3	+0.4
LATG	Datong	1.36	295	eP	Pb	05 37 06.4	+0.4
WARBT	Fenglin Townsh	1.39	260	eP	Pn	05 37 03.4	-1.0
TIPB	Shuangxi	1.39	317	eP	Pb	05 37 06.4	0.0
HGSD	Ruisui	1.41	251	eP	Pn	05 37 04.3	-0.5
FUSB	Fushanzhiwuyua	1.42	304	eP	Pb	05 37 07.3	+0.3
FUSB				eS	Sb	05 37 25.1	+0.4
NNSB	Datong	1.44	289	eP	Pn	05 37 06.1	+0.8
JISG	Ishigakijimahi	1.45	64	P	Pn	05 37 05.3	+0.1
SXI1	Grass Mountain	1.45	321	eP	Pb	05 37 06.7	-0.8
WHF	Hehuan Shan	1.48	277	eP	Pn	05 37 06.3	+0.2
NWLT	Wulai	1.49	303	eP	Pb	05 37 07.4	-0.7
YHNB	Yeheng	1.54	298	eP	Pb	05 37 07.9	-1.1
YULB	Yu-li	1.56	249	eP	Pn	05 37 06.7	0.0
NSK	Sanguang	1.56	298	eP	Pb	05 37 08.8	-0.5
TWF1	Yuli	1.57	248	eP	Pn	05 37 06.5	-0.4
VWDT	VWDT	1.60	263	P	Pn	05 37 07.8	+0.4
TATO	Taipei	1.62	309	eP	Pb	05 37 09.1	-1.2
FULB	Fuli	1.64	243	eP	Pn	05 37 07.6	-0.3

*AFAD **18** 05:43:51.9, 38.°67N×43.°03E, h7km±2km, ML2.0*
*ISK **18** 05:43:51.4, 38.°69N×43.°05E, h5km, ML2.6/3*

ISC 18 05:43:52.1±1.1, 38.°69N±0.°04×43.°04E±0.°03, h8km±12km, n11, σ0°51/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	BITLIS_Adilcev	0.28	295	P	Pb	05 43 59.0	-0.4
ADCV				S	Sb	05 44 04.5	+0.2
TVAN	Van	0.33	120	P	Pg	05 43 58.3	-0.3
TVAN				S	Sg	05 44 03.7	+0.8
AKDM	Akdamar-Van	0.36	188	Pg	Pg	05 43 59.0	-0.3
AKDM				Sg	Sg	05 44 04.5	+0.4
VMUR	Van-Muradiye	0.51	54	P	Pg	05 44 02.0	+0.1
VMUR				S	Sb	05 44 10.4	-0.6
VMUR				i IAML		05 44 12.0	
	comp=N,216nm,0.3s						
VMUR				i IAML		05 44 14.0	
	comp=E,133nm,0.5s						
DORK	Agr/Tutak/Do	0.72	344	P	Pg	05 44 06.1	0.0
DORK				i IAML		05 44 17.0	
	comp=E,46nm,0.6s						
DORK				S	Sb	05 44 17.1	-0.1
DORK				i IAML		05 44 23.0	
	comp=N,80nm,0.3s						
OZAP	Van, Ozalp-Mer	0.74	92	P	Pb	05 44 06.8	-0.5
OZAP				i IAML		05 44 26.0	
	comp=E,76nm,0.7s						
OZAP				i IAML		05 44 28.0	
	comp=N,58nm,1.2s						
BLIS	Bitlis-Merkez	0.78	250	P	Pb	05 44 07.2	-0.7
BLIS				i IAML		05 44 18.0	
	comp=N,179nm,0.3s						
BLIS				S	Sb	05 44 18.5	-0.2
BLIS				i IAML		05 44 19.0	
	comp=E,239nm,0.5s						
GURO	Guroymak-BITLI	0.81	260	Pg	Pg	05 44 07.4	-0.2
GURO				Sg	Sb	05 44 19.0	-0.4
AGRB	Hanur-Agry	0.88	357	Pg	Pg	05 44 08.9	-0.2
AGRB				Sg	Sb	05 44 21.8	0.0
SRTM	Siirt_Merkez	1.12	232	P	Pn	05 44 15.4	+1.2
MUSM	Mu-Merkez	1.20	272	P	Pn	05 44 15.0	-0.2
MUSM				S	Sn	05 44 32.0	+0.2
MUSM				i IAML		05 44 34.0	
	comp=N,21nm,0.4s						
MUSM				i IAML		05 44 35.0	
	comp=E,19nm,0.3s						

*AEIC **18** 05:44:02.4±1.2, 66.°32N±0.°02×157.°31W±0.°04, h10km±4km, ML3.7, ML3.9/142(NEIC), Mwr3.7/30(SLM), Error ellipse: s-maj=2.2km s-min=2.1km az=217.0*
*NEIC **18** 05:44:02.1±1.1, 66.°34N±0.°01×157.°28W±0.°02, h9km±4km, Error ellipse: s-maj=2.1km s-min=1.2km az=209.0*
*IDC **18** 05:44:03.4±2.8, 66.°08N×157.°45W, h0km, mb3.5/2, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=52.2km s-min=27.9km az=5.0*
*NEIC **18** 05:44:20, 66.°32N×157.°30W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.74; $M_{\theta\theta}$=2.63; $M_{\phi\phi}$=-0.88; $M_{r\theta}$=1.15; $M_{\theta\phi}$=-2.61; $M_{\phi r}$=1.65; Fault plane solution: M_0=4.03000×10^{14} NP1:ϕ_s=261.00000°, δ=64.00000°, λ=-146.00000°. NP2:ϕ_s=155.00000°, δ=60.00000°, λ=-30.00000°. Principal axes: T 4.0281, Plg=3.0000°, Azm=27.0000°; N -0.0021, Plg=49.0000°, Azm=294.0000°; P -4.0261, Plg=41.0000°, Azm=120.0000°;*

ISC 18 05:44:02.1±1.1, 66.°33N±0.°02×157.°26W±0.°02, h7km±9km, n136, σ0°71/143, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	Shaleruckik Mo	0.55	338		Pg	05 44 12.7	0.0
F19K					Sg	05 44 19.6	-0.2
G18K	Tagagawik	0.71	233		Pg	05 44 15.8	0.0
H19K	Roundabout Mou	0.87	157		Pg	05 44 18.5	-0.2
H19K	Roundabout Mou	0.87	157		Sg	05 44 30.4	+0.3
F20K	Avaraart Lake	0.95	39		Pg	05 44 19.9	-0.4
F20K	Avaraart Lake	0.95	39		Sb	05 44 34.3	+0.7
F20K				IAML		05 44 36.4	
	comp=E,4μm,0.6s						
F20K				IAML		05 44 36.8	
	comp=N,3μm,0.5s						
F18K	Selawik	1.00	287		Pg	05 44 21.1	-0.1
F18K					Sb	05 44 34.8	-0.1
F18K					Sg	05 44 35.0	+0.9
E19K	Redstone River	1.14	1	IAML		05 44 41.6	
	comp=E,2μm,0.5s						
E19K				IAML		05 44 41.7	
	comp=N,3μm,0.6s						
E19K	Redstone River	1.14	1		Pb	05 44 23.5	-0.5
E19K					Pg	05 44 23.8	-0.1
H18K	Honhosa River	1.26	202		Pn	05 44 25.5	-0.6
H18K				IAML		05 44 46.4	
	comp=E,2μm,0.5s						
H18K	Honhosa River	1.26	202		Sg	05 44 42.8	+0.1
H20K	Anotleneega Mo	1.29	130		Pn	05 44 26.2	-0.2
H20K					Sg	05 44 44.0	+0.6
H20K					Sn	05 44 44.2	+0.3
IM02	Indian Mountai	1.45	102		Sn	05 44 47.5	-0.3
IM02					Sb	05 44 48.1	+0.3
IMAR	Indian Mountai	1.47	102		Pn	05 44 28.4	-0.6
IM01	Indian Mountai	1.48	101		Pn	05 44 28.5	-0.5
G21K	Allakaket	1.52	81		Pn	05 44 29.5	-0.2
G21K					Pb	05 44 29.9	-0.7
GCSA	Galena City Sc	1.60	174		Pn	05 44 30.7	0.0
GCSA					Sb	05 44 52.4	+0.3
F17K	Baldwin Pennin	1.61	276		Pn	05 44 30.1	-0.7
G17K	Kiwalik Mounta	1.62	241		Pn	05 44 30.5	-0.5
G17K					Sn	05 44 51.9	-0.1
G17K					Sb	05 44 52.3	-0.5
E18K	Tukpahlearik C	1.72	311		Pn	05 44 32.3	0.0
E18K					Pb	05 44 32.5	-1.4
F21K	Alatna River	1.75	57		Pn	05 44 32.8	0.0
F21K					Pb	05 44 33.0	-1.4
F21K	Alatna River	1.75	57	IAML		05 45 00.5	
	comp=N,1μm,0.7s						
H17K	Granite Mounta	1.78	219		Pn	05 44 32.6	-0.5
H17K				IAML		05 44 59.9	
	comp=N,2μm,0.9s						
I20K	Naaghedeneel	1.93	142		Pn	05 44 35.4	+0.2
H21K	Melozitna Rive	1.94	108		Pn	05 44 35.0	-0.4
H21K				IAML		05 45 05.8	
	comp=E,1μm,0.5s						
H21K				IAML		05 45 07.2	
	comp=N,801nm,0.5s						
E17K	Hotham Inlet	1.97	295		Pn	05 44 35.8	+0.1
E20K	Nigu River	1.98	12		Pn	05 44 37.4	+1.3
D19K	Kuna River	2.20	352	Pn	Pn	05 44 38.6	-0.4
D19K				IAML		05 45 15.3	
	comp=N,734nm,0.8s						
D19K				IAML		05 45 21.1	
	comp=E,618nm,0.8s						
G16K	Koyuk River	2.29	248		Pn	05 44 39.3	-0.9
F22K	John River	2.33	57		Pn	05 44 41.1	+0.3
G22K	Bettles	2.37	73		Pn	05 44 41.3	0.0
D20K	Etivluk River	2.41	6		Pn	05 44 42.1	+0.2
D20K	Etivluk River	2.41	6	IAML		05 45 19.3	
	comp=E,444nm,0.6s						
J19K	Poorman	2.44	163		Pn	05 44 42.1	-0.2
J19K				IAML		05 45 20.6	
	comp=E,602nm,0.5s						
J19K				IAML		05 45 20.0	
	comp=N,639nm,0.6s						
I21K	Tanana	2.47	115		Pn	05 44 42.2	-0.4
I21K				IAML		05 45 27.4	
	comp=N,637nm,0.6s						
I21K				IAML		05 45 27.8	
	comp=E,767nm,0.9s						
E21K	Killik River	2.48	29		Pn	05 44 43.4	+0.6
D17K	Noatak River	2.67	304		Pn	05 44 45.4	+0.1
H16K	Elim	2.68	233		Pn	05 44 44.6	-0.9
C18K	Utukok River	2.78	329		Pn	05 44 47.3	+0.3
E22K	Anaktuvuk Pass	2.79	47		Pn	05 44 48.0	+0.8
RDOG	Red Dog Mine	2.80	311		Pn	05 44 47.2	0.0
I17K	Unalakleet	2.85	212		Pn	05 44 48.1	+0.2
J18K	Innoko River	2.88	175		Pn	05 44 48.5	+0.2
J18K				IAML		05 45 35.8	
	comp=N,309nm,0.5s						
J18K				IAML		05 45 41.0	
	comp=E,341nm,1.1s						
G23K	Bananza Creek	2.92	79		Pn	05 44 48.2	-0.8
G23K				IAML		05 45 38.2	
	comp=E,327nm,0.7s						
C19K	Lookout Ridge	2.93	343		Pn	05 44 49.5	+0.5
C19K				IAML		05 45 41.4	
	comp=N,265nm,0.8s						
COLD	Coldfoot	2.94	69		Pn	05 44 49.5	+0.3
COLD				IAML		05 45 41.3	
	comp=E,289nm,1.1s						
COLD				IAML		05 45 41.4	
	comp=N,334nm,0.7s						
C21K	Knifeblade Rid	3.00	17		Pn	05 44 50.2	+0.3
MLY	Manley	3.00	113		Pn	05 44 49.4	-0.6
J17K	VABM Dome	3.04	196		Pn	05 44 50.7	+0.1
J17K				IAML		05 45 44.8	
	comp=N,310nm,0.6s						
J17K				IAML		05 45 46.9	

B21K IAML 05 46 07.0
comp=N,226nm,0.7s
BPAW Bear Paw Mtn. 3.46 127 Pn 05 44 56.4 +0.1
BPAW IAML 05 45 55.0
comp=E,243nm,1.2s
BPAW IAML 05 46 00.0
comp=N,193nm,1.1s
I23K Minto, Yukon-K 3.47 106 Pn 05 44 55.8 -0.6
I23K IAML 05 46 00.3
comp=N,287nm,1.1s
B18K Kokolik River 3.50 333 Pn 05 44 56.9 +0.1
D23K Nanushuk River 3.65 41 Pn 05 44 59.4 +0.5
D23K Nanushuk River 3.65 41 IAML 05 46 18.4
comp=N,233nm,1.2s
K17K Iditarod 3.65 188 Pn 05 44 59.1 +0.2
K17K IAML 05 46 06.1
comp=E,204nm,1.2s
K17K IAML 05 46 08.3
comp=N,220nm,0.9s
C16K Lisburne Hills 3.69 306 Pn 05 44 59.6 +0.2
B20K Meade River 3.70 1 Pn 05 44 59.8 +0.3
B20K IAML 05 46 11.2
comp=E,181nm,1.2s
B20K IAML 05 46 33.2
comp=N,176nm,1.0s
TOLK Toolik Lake Re 3.76 48 Pn 05 45 01.4 +1.0
TOLK IAML 05 46 09.5
comp=N,229nm,1.2s
ANM Nome 3.82 246 Pn **Pn 05 45 00.6 -0.6**
NEA2 Nenana 3.84 113 Pn 05 45 01.5 0.0
NEA2 IAML 05 46 13.0
comp=N,122nm,1.0s
E24K Your Creek 3.84 59 Pn 05 45 02.0 +0.5
E24K IAML 05 46 14.3
comp=N,146nm,1.1s
E24K IAML 05 46 14.8
comp=E,194nm,0.8s
H24K Noodor Dome 3.85 93 Pn 05 45 01.9 +0.1
KTH Kantishna Hill 3.88 133 Pn 05 45 03.0 +1.0
KTH IAML 05 46 15.5
comp=E,152nm,0.9s
F24K Squaw Lake 3.88 68 Pn 05 45 02.1 +0.1
F24K IAML 05 46 11.7
comp=N,238nm,0.9s
BWN Browne 3.93 120 Pn 05 45 03.8 +1.1
G24K Hadweenzic Riv 3.94 80 Pn 05 45 01.9 -0.9
L18K Granite Mounta 4.13 176 Pn 05 45 06.1 +0.6
L18K IAML 05 46 16.8
comp=E,119nm,1.0s
L18K IAML 05 46 21.7
comp=N,167nm,1.2s
TRF Thorofare Moun 4.14 131 Pn 05 45 07.0 +1.2
TRF Thorofare Moun 4.14 131 IAML 05 46 25.7
comp=N,173nm,1.4s
COLA College 4.17 106 Pn 05 45 06.4 +0.4
L17K Donlin 4.24 187 Pn 05 45 07.4 +0.5
POKR Poker Plat Res 4.24 102 Pn 05 45 06.6 -0.4
POKR IAML 05 46 17.3
comp=E,130nm,1.5s
POKR IAML 05 46 20.4
comp=N,136nm,1.0s
WRH Wood River Hil 4.26 112 Pn 05 45 06.8 -0.5
WRH IAML 05 46 18.9
comp=E,118nm,1.2s
B22K Teshekpuk Lake 4.28 18 Pn 05 45 06.8 -0.6
B22K Teshekpuk Lake 4.28 18 IAML 05 46 33.5
comp=N,133nm,0.9s
B22K IAML 05 46 35.9
comp=E,132nm,1.4s
CCB Clear Creek Bu 4.29 109 Pn 05 45 07.0 -0.6
CCB IAML 05 46 21.1
comp=E,103nm,0.7s
L19K White Mountain 4.29 165 Pn 05 45 08.5 +0.8
L19K White Mountain 4.29 165 IAML 05 46 25.8
comp=N,114nm,0.8s
L19K IAML 05 46 26.0
comp=E,109nm,0.9s
C23K Itkillik River 4.32 32 Pn 05 45 08.1 +0.1
C23K IAML 05 46 38.2
comp=N,140nm,0.8s
C23K IAML 05 46 58.3
comp=E,115nm,1.3s
MCK McKinley 4.39 123 Pn 05 45 07.8 -1.3
K15K Wolf Creek Mou 4.46 207 Pn 05 45 11.1 +1.2
K15K IAML 05 46 28.1
comp=N,112nm,0.8s
K15K IAML 05 46 41.0
comp=E,126nm,1.4s
IL31 4.59 105 Pn 05 45 11.4 -0.3
ILAR Eielson Array 4.59 105 Pn 05 45 10.6 -1.2
ILAR Eielson Array 4.59 105 Pn **Pn 05 45 12.2 +0.5**
comp=E,5.3nm,0.3s,baz=294,slow=14,SNR=292
ILAR Sn **Sn 05 46 03.3 -1.9**
comp=E,4.7nm,0.3s,baz=294,slow=22,SNR=7.9
ILAR Lg Lg 05 46 25.2
comp=E,7.0nm,0.3s,baz=304,slow=33,SNR=11
comp=E,39nm,0.6s
HDA Harding Lake 4.73 109 Pn 05 45 12.7 -0.9
HDA IAML 05 46 33.3
comp=E,82nm,0.8s
HDA IAML 05 46 34.4
comp=N,91nm,0.7s
L16K Owhat River 4.74 193 Pn 05 45 14.1 +0.3
L16K IAML 05 46 38.0
comp=N,69nm,1.4s
L16K IAML 05 46 49.4
comp=E,65nm,1.3s
F25K Christian Rive 4.74 69 Pn 05 45 13.9 +0.1
F25K IAML 05 46 46.9
comp=N,82nm,1.1s
A22K Sinclair Lake 4.77 9 Pn 05 45 14.2 -0.1
PRP Porcupine Dome 4.88 94 Pn 05 45 15.9 +0.1
PRP IAML 05 46 36.7
comp=N,101nm,0.9s
E25K Arctic Village 4.89 63 Pn 05 45 15.2 -0.7
E25K IAML 05 46 43.3
comp=N,108nm,0.9s
M18K Stony River 4.90 172 Pn 05 45 16.2 +0.3
M17K Holitna River 4.95 181 Pn 05 45 17.2 +0.5
A21K Barrow 5.03 2 Pn 05 45 17.2 -0.5
D25K Kavik River 5.10 49 Pn 05 45 18.4 -0.5
D25K IAML 05 46 54.8
comp=N,66nm,1.2s
D25K IAML 05 47 30.3
comp=E,80nm,0.8s
J25K Salcha River, 5.25 104 Pn 05 45 21.1 +0.3
J25K IAML 05 46 55.2
comp=N,64nm,0.8s
F26K Sheenjek River 5.32 69 Pn **Pn 05 45 22.4 +0.5**
F26K IAML 05 46 58.1
comp=E,64nm,0.7s
M16K Timber Creek 5.38 189 Pn **Pn 05 45 22.9 +0.3**
M16K IAML 05 46 56.6
comp=E,45nm,1.2s
M16K IAML 05 46 58.8
comp=N,71nm,1.0s
G26K Porcupine Rive 5.40 77 Pn 05 45 23.4 +0.6
K13K Kusilvak Mount 5.47 220 Pn 05 45 22.7 -1.1
SPWE Spurr West 5.48 155 Pn 05 45 23.6 -0.5
L14K Kuka Creek 5.55 208 Pn 05 45 24.8 -0.1
N19K Bonanza Creek 5.67 166 Pn 05 45 27.3 +0.6
N18K Kilae Creek 5.70 173 Pn 05 45 28.1 +1.0
N17K Nushagak Hills 5.82 180 Pn 05 45 29.4 +0.6
C26K Camden Bay 5.85 46 Pn 05 45 30.1 +1.0
M15K Kasigluk River 5.86 197 Pn 05 45 29.6 +0.4
N16K Nishlik Lake 5.92 187 Pn 05 45 30.3 +0.3
M14K Bethel 5.98 203 Pn 05 45 31.5 +0.7
J26L Joseph Creek 6.00 101 Pn 05 45 31.4 +0.1
G27K Doyon Strip 6.24 78 Pn 05 45 34.6 +0.1
O19K Port Alsworth 6.30 166 Pn 05 45 36.0 +0.9
N15K Kwethluk River 6.31 193 Pn 05 45 36.0 +0.6
E27K Coleen River 6.35 66 Pn **Pn 05 45 35.8 -0.2**
O16K Kokwok River B 6.77 184 Pn **Pn 05 45 41.8 +0.1**
L26K Log Cabin Wild 6.82 113 Pn 05 45 42.9 +0.5
EGAK Eagle 6.86 96 Pn 05 45 42.4 -0.5
P18K Big Mountain, 7.02 171 Pn 05 45 44.4 -0.9
I28M Miner Creek 7.15 89 Pn 05 45 46.4 -0.6
M27K Edge Creek, AK 7.76 114 Pn 05 45 55.5 +0.1
DAWY Dawson 7.84 99 Pn 05 45 55.3 -1.1
I30M Mount Dempster 8.65 88 Pn 05 46 07.3 -0.2
M29M Somme Creek 9.01 107 Pn 05 46 13.0 +0.5
INK Inuvik 9.36 67 Pn **Pn 05 46 19.2 +2.2**
comp=N,0.3nm,0.3s,baz=270,slow=10,SNR=5.5
INK Sn **Sn 05 47 58.8 -3.5**
comp=N,0.1nm,0.3s,baz=294,slow=20,SNR=2.0
comp=N,1.5nm,0.4s
DLBC Dease Lake 14.78 109 Pn **Pn 05 47 32.2 +1.0**
comp=N,1.4nm,0.3s,baz=257,slow=9.8,SNR=6.3
comp=N,42nm,1.2s
NVAR Mina Array Bea 35.62 122 P **P 05 51 00.8 +0.5**
comp=N,0.5nm,0.6s,baz=329,slow=10,SNR=4.3
comp=N,0.5nm,0.6s
TXAR Lajitas Array 49.07 112 P **P 05 52 51.2 +1.6**
comp=N,0.5nm,0.8s,baz=329,slow=6.1,SNR=4.3
comp=N,0.5nm,0.8s

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*DJA **18** 05:58:12.6±0.1,8°S±4°×11°6E±°, h238km±2km, M4.5/31, mB5.1/8, mb4.5/25, MLv4.5/31, Mw(mB)4.5/8*
*NEIC **18** 05:58:12.6±2.1,7°91S±0°08×115°67E±0°08, h249km±7km, mb4.4/20, Error ellipse: s-maj=11.2km s-min=10.9km az=160.0*
*IDC **18** 05:58:12.5±1.3,7°67S×115°99E, h248km±12km, mb3.8/13, mbtmp4.4/16, Error ellipse: s-maj=17.8km s-min=7.8km az=48.0*

ISC 18 05:58:12.1±0.6,**7°91S**±0°06×**115°83E**±0°05,**h244**km±5km,
n87,σ1°39/100,**mb4.2**/21,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.64**	**254**	P	**Pn**	**05 58 45.5**	**+0.8**
SRBI				S	**S**	**05 59 11.2**	**+0.9**
DNP	**Denpasar**	**0.98**	**219**	P	**Pn**	**05 58 46.5**	**+0.1**
DNP				S	**S**	**05 59 13.0**	**-0.3**
TWSI	**Taliwang, Sumb**	**1.33**	**129**	P	**Pn**	**05 58 48.5**	**-0.1**
TWSI				S	**S**	**05 59 16.0**	**-1.3**
ABJI	**Asem Bagus**	**1.58**	**274**	P	**Pn**	**05 58 51.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**1.75**	**251**		**Pn**	**05 58 51.1**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.75**	**251**	P	**Pn**	**05 58 51.2**	**-0.8**
JAGI				S	**S**	**05 59 20.5**	**-2.7**
KMMI	**Kalianget**	**2.03**	**295**	P	**Pn**	**05 58 56.7**	**+2.3**
PLAI	**Plampang**	**2.13**	**116**	P	**Pn**	**05 58 55.2**	**-0.1**
PLAI				S	**S**	**05 59 28.1**	**-1.2**
BLJI	**Banyuglugur**	**2.22**	**274**	P	**Pn**	**05 58 57.1**	**+1.0**
GRJI	**Gresik**	**3.46**	**286**	P	**Pn**	**05 59 10.9**	**+1.5**
BWJI	**Bawean**	**3.75**	**303**	P	**Pn**	**05 59 14.0**	**+1.2**
WBSI	**Waikabubak, Su**	**3.92**	**116**	P	**Pn**	**05 59 12.3**	**-2.5**
NGJI	**Ngawi**	**4.36**	**277**	P	**Pn**	**05 59 22.7**	**+2.7**
PCJI	**Pacitan**	**4.62**	**266**	P	**Pn**	**05 59 23.4**	**+0.4**
WSI	**Waingapu**	**4.75**	**112**	P	**Pn**	**05 59 23.8**	**-0.9**
KAPI	**Kappang**	**4.84**	**54**	Pn	**Pn**	**05 59 28.6**	**+2.8**
WOJI	**Wonogiri, Jawa**	**4.86**	**270**	P	**Pn**	**05 59 26.7**	**+0.7**
BSSI	**Bau Bau, Buton**	**4.95**	**70**	P	**Pn**	**05 59 28.5**	**+1.4**
	0.3nm77nm,1.5s						
BKSI	**Bulukumba**	**4.98**	**59**	P	**Pn**	**05 59 29.7**	**+2.2**
	0.1nm24nm,0.7s						
BASI	**Baing, Sumba**	**5.22**	**116**	P	**Pn**	**05 59 29.5**	**-1.0**
UGM	**Wanagama**	**5.26**	**270**		**Pn**	**05 59 30.0**	**-1.0**
UGM	**Wanagama**	**5.26**	**270**	P	**Pn**	**05 59 30.5**	**-0.4**
	1.2nm88nm,0.8s						
SMRI	**Semarang**	**5.41**	**279**		**Pn**	**05 59 32.6**	**-0.3**
SMRI	**Semarang**	**5.41**	**279**	P	**Pn**	**05 59 34.3**	**+1.5**
YOGI	**Yogyakarta**	**5.48**	**271**	P	**Pn**	**05 59 32.6**	**-1.1**
	1.2nm131nm,1.1s						
EDFI	**Ende, Flores**	**5.86**	**99**	P	**Pn**	**05 59 37.6**	**-0.9**
	0.4nm3μm86nm,0.6s						
MMRI	**Maumere**	**6.38**	**97**	Pn	**Pn**	**05 59 45.4**	**+0.4**
MMRI	**Maumere**	**6.38**	**97**	P	**Pn**	**05 59 45.4**	**+0.4**
KPJI	**Karang Pucung**	**6.86**	**274**	P	**Pn**	**05 59 51.3**	**+0.3**
	0.4nm67nm,0.5s						
CMJI	**Cimerak**	**7.31**	**270**	P	**Pn**	**05 59 55.2**	**-1.5**
	0.5nm90nm,0.9s						
BATI	**Baumata**	**8.07**	**107**	P	**Pn**	**06 00 04.8**	**-1.6**
	50nm,0.5s,baz=226,slow=14,SNR=4.6						
BATI				S	**S**	**06 01 33.3**	**-5.0**
	48nm,0.5s,baz=66,slow=2.5,SNR=2.5						
BATI	**Baumata**	**8.07**	**107**	P	**Pn**	**06 00 05.5**	**-0.8**
	88nm,0.7s						
LEM	**Lembang**	**8.21**	**277**	P	**Pn**	**06 00 09.1**	**+0.8**
	36nm,0.6s,baz=40,slow=11,SNR=6.9						
LEM				S	**S**	**06 01 43.0**	**+1.2**
	11nm,0.4s,baz=148,slow=23,SNR=1.4						
LEM	**Lembang**	**8.21**	**277**	P	**Pn**	**06 00 08.6**	**+0.3**
	65nm,1.1s						
SOEI	**Soe**	**8.54**	**103**		**Pn**	**06 00 11.7**	**-0.7**
SOEI	**Soe**	**8.54**	**103**	P	**Pn**	**06 00 11.9**	**-0.5**
	1μm89nm,0.6s						
CNJI	**Cibinong**	**8.64**	**273**	P	**Pn**	**06 00 12.3**	**-1.3**
	1μm45nm,1.5s						
DBJI	**Dramaga**	**9.11**	**278**	P	**Pn**	**06 00 19.6**	**+0.1**
CGJI	**Cibinong**	**10.14**	**277**	P	**Pn**	**06 00 31.5**	**-1.1**
	2μm49nm,0.7s						
SBUM	**Sibu**	**10.90**	**341**		**P**	**06 00 45.2**	**-1.6**
KASI	**Kota Agung**	**11.50**	**281**	P	**Pn**	**06 00 50.7**	**+1.0**
MNAI	**Manna**	**13.27**	**285**		**Pn**	**06 01 10.5**	**-1.2**
MBWA	**Marble Bar**	**13.71**	**164**		**Pn**	**06 01 16.5**	**-0.4**
KSI	**Kapahiang**	**13.83**	**287**	P	**P**	**06 01 19.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**13.92**	**138**	P	**Pn**	**06 01 19.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**13.92**	**138**	P	**P**	**06 01 20.5**	**+0.1**
	11nm,1.0s,baz=304,slow=6.5,SNR=25						
FITZ				S	**S**	**06 03 55.8**	**+2.0**
	4.1nm,0.8s,baz=13,slow=9.5,SNR=3.3						
PSA00	**Pilbara Seismi**	**14.13**	**165**	P	**Pn**	**06 01 22.6**	**+0.5**
KNRA	**Kununurra**	**14.82**	**123**		**Pn**	**06 01 31.2**	**+0.6**
MTN	**Manton Dam**	**15.83**	**109**		**Pn**	**06 01 42.7**	**+0.1**
MTN				IAmb	IAmb	06 01 47.2	
	comp=Z,17nm,0.5s						
PPSI	**Pulau Pagai**	**16.55**	**287**	P	**P**	**06 01 49.9**	**+0.4**
	comp=Z,114nm,1.4s						
FAKI	**Fak Fak**	**17.08**	**74**	P	**P**	**06 01 54.4**	**-0.8**
GSI	**Gunungsitoli**	**20.37**	**296**	P	**P**	**06 02 28.2**	**-2.5**
GSI				IAmb	IAmb	06 02 41.6	
	comp=Z,34nm,1.2s						
MORW	**Morawa**	**21.05**	**179**	P	**P**	**06 02 39.0**	**+1.3**
MORW				IAmb	IAmb	06 02 59.1	
	comp=Z,25nm,1.2s						
WB0	**Warramunga Arr**	**21.51**	**125**		**P**	**06 02 42.1**	**-0.1**
WB0				IAmb	IAmb	06 02 44.0	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**21.56**	**126**		**P**	**06 02 42.9**	**+0.3**
WRA	**Warramunga Arr**	**21.56**	**126**	P	**P**	**06 02 42.8**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=297,slow=12,SNR=60						
WRA				S	**S**	**06 06 24.1**	**-0.6**
	comp=Z,3.2nm,1.2s,baz=292,slow=21,SNR=4.5						
WRA				ScP	**ScP**	**06 09 45.6**	**-3.2**
	comp=Z,0.6nm,0.5s,baz=315,slow=1.9,SNR=5.2						
	comp=Z,7.7nm,0.9s						
LHMI	**Lhok Sumawe**	**22.91**	**304**	P	**P**	**06 02 54.4**	**-0.7**
AS31	**Alice Springs**	**23.36**	**134**		**P**	**06 02 59.9**	**+0.7**
AS31				IAmb	IAmb	06 03 02.2	
	comp=Z,7.2nm,0.5s						
ASAR	**Alice Springs**	**23.36**	**134**		**P**	**06 02 59.8**	**+0.6**
ASAR	**Alice Springs**	**23.36**	**134**	P	**P**	**06 03 00.1**	**+0.9**
	comp=Z,16nm,0.5s,baz=307,slow=8.5,SNR=109						
ASAR				PcP	**PcP**	**06 06 39.6**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=334,slow=2.3,SNR=4.1						
ASAR				S	**S**	**06 06 55.2**	**+1.4**
	comp=Z,2.3nm,1.0s,baz=334,slow=25,SNR=9.2						
ASAR				ScP	**ScP**	**06 09 50.2**	**-3.3**
	comp=Z,0.2nm,0.4s,baz=310,slow=2.8,SNR=1.3						
	comp=Z,16nm,0.5s						
NWAO	**Narrogin (SRO)**	**24.93**	**177**	P	**P**	**06 03 13.7**	**+0.4**
COEN	**Coen**	**27.50**	**105**	P	**P**	**06 03 36.8**	**+0.3**
COEN				IAmb	IAmb	06 03 37.6	
	comp=Z,9.4nm,0.6s						
INKA	**Innaminka**	**30.73**	**133**		**P**	**06 04 05.8**	**+1.0**
INKA				IAmb	IAmb	06 04 07.0	
	comp=Z,5.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.05**	**328**	P	**P**	**06 04 07.2**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=151,slow=8.3,SNR=4.8						
	comp=Z,1.9nm,0.4s						
BBOO	**Buckleboo**	**31.08**	**146**	P	**P**	**06 04 07.9**	**+0.1**
STKA	**Stephens Creek**	**33.82**	**138**		**P**	**06 04 32.5**	**+1.0**
STKA	**Stephens Creek**	**33.82**	**138**	P	**P**	**06 04 33.0**	**+1.4**
	comp=Z,10nm,0.6s,baz=319,slow=8.9,SNR=23						
	comp=Z,10nm,0.6s						
PZH	**PanZhiHua**	**36.84**	**339**	P	**P**	**06 04 59.8**	**+2.4**
ARMA	**Armidale**	**40.28**	**129**	P	**P**	**06 05 27.9**	**+2.0**
ARMA				IAmb	IAmb	06 05 37.8	
	comp=Z,14nm,1.4s						
LZDM	**Lanzhou Array**	**45.10**	**346**	P	**P**	**06 06 03.3**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=152,slow=6.5,SNR=3.8						
	comp=Z,1.4nm,0.3s						
HHC	**Hu-ho-hao-te**	**48.67**	**356**	*e*P	**P**	**06 06 33.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,46nm,4.5s						
SONM	**Songino Array**	**56.12**	**352**	P	**P**	**06 07 26.1**	**-0.3**
SONM	**Songino Array**	**56.12**	**352**	P	**P**	**06 07 25.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=176,slow=9.5,SNR=6.6						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**62.09**	**335**	P	**P**	**06 08 05.2**	**-1.9**
MKAR	**Makanchi Array**	**62.09**	**335**	P	**P**	**06 08 06.0**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=154,slow=6.8,SNR=17						
	comp=Z,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**66.63**	**335**	P	**P**	**06 08 34.8**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=150,slow=5.9,SNR=3.9						
	comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**66.94**	**341**	P	**P**	**06 08 37.0**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=142,slow=5.8,SNR=5.7						
	comp=Z,1.5nm,0.4s						
MAW	**Mawson**	**69.22**	**199**	P	**P**	**06 08 54.1**	**+2.0**
	comp=Z,4.9nm,0.9s,baz=116,slow=4.5,SNR=5.3						
	comp=Z,4.9nm,0.9s						
VNDA	**Vanda**	**73.56**	**171**	P	**P**	**06 09 18.8**	**+0.8**
VNDA	**Vanda**	**73.56**	**171**	P	**P**	**06 09 19.1**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=314,slow=7.1,SNR=8.9						
	comp=Z,0.8nm,0.5s						
SBA	**Scott Base**	**74.59**	**170**	P	**P**	**06 09 24.9**	**+1.0**
AB31	**Akbulak array**	**74.88**	**326**	P	**P**	**06 09 24.7**	**-1.4**
ABKAR	**Akbulak array**	**74.88**	**326**	P	**P**	**06 09 24.3**	**-1.8**
QSPA	**South Pole Qui**	**82.08**	**180**	P	**P**	**06 10 06.5**	**+1.2**
	comp=Z,6.2nm,1.1s,baz=262,slow=1.8,SNR=8.4						
	comp=Z,2.6nm,1.1s						
SNAA	**Sanae**	**91.19**	**196**	P	**P**	**06 10 49.1**	**-0.1**
SNAA				IAmb	IAmb	06 10 51.6	
	comp=Z,2.4nm,1.1s						
SNAA	**Sanae**	**91.19**	**196**	P	**P**	**06 10 50.1**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=199,slow=4.3,SNR=15						
	comp=Z,1.0nm,0.5s						
BELA	**Belgrano 2**	**92.79**	**186**	P	**P**	**06 10 56.3**	**-0.1**
BELA				IAmb	IAmb	06 11 29.0	
	comp=Z,2.5nm,1.1s						

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*IDC **18** 06:32:21.2±0.6,49°76S×111°68W, h0km, mb4.2/11, mbtmp4.1/11, MS3.9/40, Error ellipse: s-maj=23.4km s-min=16.7km az=140.0*
*NEIC **18** 06:32:23.6±1.3,49°7S±0°1×111°7W±0°2, h10km±1km, mb4.8/29, Error ellipse: s-maj=25.9km s-min=20.2km az=114.0*
*GCMT **18** 06:32:25.6±0.3,50°03S±0°02×111°33W±0°03, h17km±1km, MW5.1/106, Moment Tensor Solution. s29,c32; s106,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.37±.12; $M_{\theta\theta}$3.02±.13; $M_{\phi\phi}$-2.65±.11; $M_{r\theta}$3.17±.48; $M_{\theta\phi}$-0.46±.09; $M_{r\phi}$3.46±.59; Best double couple: $M_0$5.49000×10^{16} NP1:ϕ_s135.00000°, δ32.00000°, λ-4.00000°. NP2:ϕ_s228.00000°, δ88.00000°, λ-122.00000°. Principal axes: T 5.2140, Plg35.0000°, Azm345.0000°; N 0.5540, Plg32.0000°, Azm229.0000°; P -5.7670, Plg39.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 06:32:22.5±0.5,**49°71S**±0°09×**111°78W**±0°08,**h10**km,
n131,σ0°87/88,**mb4.7**/25,**MS3.9**/41,**4D,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**22.58**	**5**	P	**P**	**06 37 22.0**	**-1.0**
RPN	**Rapa Nui**	**22.62**	**6**	P	**P**	**06 37 22.4**	**-1.0**
RPN	**Rapa Nui**	**22.62**	**6**	LR	LR	06 43 56.3	
	comp=Z,468nm,20.9s,baz=160,slow=31						
MG05	**Puerto Natales**	**24.76**	**110**	P	**P**	**06 37 43.9**	**-0.1**
MG05				IAmb	IAmb	06 37 46.2	
	comp=Z,24nm,1.1s						
LL02	**Futaleuf**	**28.02**	**92**	P	**P**	**06 38 13.1**	**-0.4**
LL03	**Petrohue**	**28.65**	**88**	P	**P**	**06 38 19.0**	**-0.1**
H03S2	**Juan Fernandez**	**28.89**	**69**	T	T	07 08 43.2	
	baz=224,slow=74,SNR=2058						
H03S1	**Juan Fernandez**	**28.90**	**69**	T	T	07 08 44.5	
	baz=224,slow=74,SNR=2165						
H03S3	**Juan Fernandez**	**28.91**	**69**	T	T	07 08 43.6	
	baz=224,slow=74,SNR=2297						
PMSA	**Palmer Station**	**29.03**	**139**	LR	LR	06 46 52.9	
	comp=Z,128nm,21.2s,baz=292,slow=30						
H03N3	**Juan Fernandez**	**29.16**	**69**	T	T	07 08 59.1	
	baz=227,slow=71,SNR=3487						
H03N2	**Juan Fernandez**	**29.16**	**69**	T	T	07 08 58.6	
	baz=227,slow=71,SNR=3449						
H03N1	**Juan Fernandez**	**29.17**	**69**	T	T	07 09 00.5	
	baz=227,slow=71,SNR=3052						
LR05	**Currie**	**29.39**	**87**	P	**P**	**06 38 25.5**	**-0.1**
LR05				IAmb	IAmb	06 38 26.9	
	comp=Z,7.4nm,0.8s						
PLCA	**Paso Flores**	**30.07**	**89**	P	**P**	**06 38 32.1**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=240,slow=8.8,SNR=13						
PLCA				LR	LR	06 47 40.7	
	comp=Z,264nm,19.2s,baz=256,slow=31						
	comp=Z,5.0nm,0.8s						
PLCA	**Paso Flores**	**30.07**	**89**	*e*P	**P**	**06 38 32.8**	**+1.0**
BI02	**San Fabin de**	**31.88**	**81**	P	**P**	**06 38 48.0**	**+0.1**
BI02				IAmb	IAmb	06 38 49.0	
	comp=Z,14nm,1.1s						
BO01	**Tunca**	**33.41**	**78**	P	**P**	**06 39 01.8**	**+0.6**
CO02	**Combarbal**	**35.57**	**74**		**P**	**06 39 21.0**	**+0.9**
ZON	**Zonda**	**36.80**	**77**	P	**P**	**06 39 31.0**	**+0.5**
ZON				IAmb	IAmb	06 39 32.1	
	comp=Z,9.6nm,0.7s						
TRQA	**Tornquist**	**37.09**	**91**	P	**P**	**06 39 33.2**	**+0.3**
TRQA				IAmb	IAmb	06 39 50.5	
	comp=Z,15nm,1.1s						
BELA	**Belgrano 2**	**39.29**	**161**		**P**	**06 39 50.7**	**-0.2**
AC02	**Maricunga**	**39.81**	**71**	P	**P**	**06 39 55.9**	**-0.5**
AC02				IAmb	IAmb	06 40 01.2	
	comp=Z,22nm,1.1s						
SBA	**Scott Base**	**40.21**	**199**		**P**	**06 39 59.4**	**+0.9**
QSPA	**South Pole Qui**	**40.50**	**180**	P	**P**	**06 40 03.2**	**+1.9**
QSPA	**South Pole Qui**	**40.50**	**180**	P	**P**	**06 40 01.7**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=136,slow=1.5,SNR=18						
QSPA				LR	LR	06 53 56.8	
	comp=Z,284nm,21.9s,baz=102,slow=32						
	comp=Z,4.2nm,0.9s						
VNDA	**Vanda**	**41.30**	**199**		**P**	**06 40 09.1**	**+1.6**
VNDA	**Vanda**	**41.30**	**199**	P	**P**	**06 40 08.2**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=102,slow=7.5,SNR=18						
VNDA				LR	LR	06 54 14.5	
	comp=Z,192nm,18.6s,baz=96,slow=32						
	comp=Z,3.4nm,0.8s						
PPT2	**Papeete2**	**44.13**	**303**	*e*S	**S**	**06 47 02.3**	**-1.8**
PPT2				*e*SS	**SS**	**06 50 22.7**	**+1.2**
	comp=Z,33nm,25.0s						
	comp=Z,510nm,35.0s						
PPT2				*e*LR	LR	06 52 33.2	
	comp=Z,269nm,25.2s						
PPT2				*e*LR	LR	06 52 36.1	
	comp=Z,253nm,29.0s						
PPT	**Papeete**	**44.15**	**303**	LR	LR	06 54 03.5	
	comp=Z,88nm,19.3s,baz=142,slow=30						
PB16	**IPOC Station P**	**46.04**	**63**	P	**P**	**06 40 47.4**	**+0.4**
PB16				IAmb	IAmb	06 41 04.2	
	comp=Z,8.3nm,1.1s						
PLTB	**Pedras Altas**	**46.36**	**90**	*e*P	**P**	**06 40 49.1**	**+0.3**
TAOE	**Nuku Hiva Isla**	**47.09**	**320**	*e*LR	LR	06 54 05.1	
	comp=Z,273nm,28.6s						
RAR	**Rarotonga**	**47.24**	**289**	LR	LR	06 55 07.8	
	comp=Z,82nm,21.2s,baz=156,slow=29						
NNA	**Nana**	**47.33**	**50**	LR	LR	06 55 05.0	
	comp=Z,124nm,21.6s,baz=198,slow=29						
CPSB	**Cacapava Do Su**	**47.36**	**89**	*e*P	**P**	**06 40 56.7**	**+0.2**
VNA3	**Neumay

SNAA Sanae 49.09 157 P **P 06 41 07.9 -1.6**
comp=Z,1.4nm,1.1s,baz=202,slow=11,SNR=4.0
SNAA LR LR 06 58 27.6
comp=Z,81nm,21.3s,baz=230,slow=32
comp=Z,1.4nm,1.1s
TROLL Troll, Antarti 50.22 158 ⇓P **P 06 41 17.3 -0.8**
comp=Z,182nm,0.8s
URZ Urewera 50.62 255 LR LR 06 58 57.5
comp=Z,97nm,19.1s,baz=143,slow=32
MURT Porto Murtinho 50.75 77 *eP* **P 06 41 22.6 -0.1**
ATAH Atahualpa 50.81 45 LR LR 06 57 37.5
comp=Z,186nm,18.7s,baz=242,slow=30
AMBA Amambai (Brazi 51.50 80 *eP* **P 06 41 28.6 +0.3**
PTGB Pitanga 52.12 84 *eP* **P 06 41 32.4 -0.5**
BDQN Bodoquena, MS 52.18 77 *eP* **P 06 41 33.4 0.0**
AQDB Aquidauana 52.83 78 *eP* **P 06 41 37.9 -0.2**
SIV San Ignacio 52.87 69 LR LR 07 00 20.2
comp=Z,90nm,20.5s,baz=287,slow=32
RAO Raoul Island 53.18 267 LR LR 06 58 13.7
comp=Z,73nm,21.6s,baz=121,slow=29
PTLB Pontes e Lacer 54.46 70 **P 06 41 50.2 +0.1**
PTLB IAmb IAmb 06 41 51.1
comp=Z,8.7nm,0.9s
PTLB Pontes e Lacer 54.46 70 *eP* **P 06 41 50.5 +0.3**
COHC Cochancay 54.59 41 **P 06 41 51.9 +0.9**
PP1B Ponte de Pedra 55.48 76 *eP* **P 06 41 57.7 +0.2**
VILB Vilhena 55.76 68 **P 06 41 59.4 -0.1**
VILB IAmb IAmb 06 42 00.3
comp=Z,12nm,0.9s
VILB Vilhena 55.76 68 *eP* **P 06 41 59.7 +0.2**
SALV Santo Antonio 56.24 74 *eP* **P 06 42 03.7 +0.7**
OTAV Otavalo 57.36 41 *eP* **P 06 42 12.9 +1.5**
ARAG Araguaiana, MT 58.83 77 *eP* **P 06 42 21.1 -0.2**
PDRB Porto dos Gac 58.90 70 *eP* **P 06 42 21.6 -0.2**
IPMB Ipameri, GO 59.44 82 *eP* **P 06 42 25.3 -0.2**
CLDB Colider 60.04 70 *eP* **P 06 42 29.1 -0.5**
PMNB Patos De Minas 60.17 84 *eP* **P 06 42 31.1 +0.4**
TEFE Tefe 60.85 57 *eP* **P 06 42 35.0 -0.2**
BDFB Brasilia 61.30 80 P **P 06 42 37.7 -0.6**
comp=Z,6.3nm,0.8s,baz=211,slow=7.3,SNR=11
BDFB LR LR 07 06 26.9
comp=Z,156nm,19.6s,baz=185,slow=33
comp=Z,6.3nm,0.8s
SNDB Serra Nova Dou 61.98 75 *eP* **P 06 42 43.0 +0.2**
DIAM Diamantina, MG 62.14 86 *eP* **P 06 42 44.1 +0.1**
MAW Mawson 62.95 178 LR LR 07 07 40.8
comp=Z,174nm,21.8s,baz=158,slow=34
ROSC El Rosal 63.27 43 **P 06 42 52.9 +1.1**
ROSC El Rosal 63.27 43 LR LR 07 05 35.9
comp=Z,102nm,19.5s,baz=92,slow=32
NPGB Novo Progresso 63.31 68 *eP* **P 06 42 51.1 -0.6**
MACA Manacapuru-AM 63.33 60 **P 06 42 50.8 -1.0**
MACA Manacapuru-AM 63.33 60 *eP* **P 06 42 51.2 -0.6**
SJMB Sao Joao De Ma 63.45 88 *eP* **P 06 42 52.2 -0.4**
JTS Las Juntas de 64.20 30 LR LR 07 04 22.3
comp=Z,83nm,18.5s,baz=174,slow=30
ITTB Itaituba 65.22 66 *eP* **P 06 43 03.2 -0.9**
SDBA SAO DESIDERIO 65.70 80 *eP* **P 06 43 07.3 -0.1**
GUA01 Guaratinga, BA 65.89 87 *eP* **P 06 43 08.2 -0.3**
SMTB Santa Maria do 66.69 76 *eP* **P 06 43 13.9 +0.2**
CMC01 Camacan, BA 66.98 87 *eP* **P 06 43 15.2 -0.3**
BOAV Boa Vista 68.01 57 **P 06 43 21.8 -0.2**
BOAV IAmb IAmb 06 43 24.9
comp=Z,12nm,1.2s
BOAV Boa Vista 68.01 57 *eP* **P 06 43 22.0 0.0**
CMIG Matias Romero 68.16 17 LR LR 07 04 07.1
comp=Z,21nm,19.0s,baz=182,slow=28
DZM Mont Dzumac 68.27 261 LR LR 07 06 28.0
comp=Z,66nm,18.9s,baz=182,slow=30
SDV Santo Domingo 68.51 44 LR LR 07 08 43.4
comp=Z,71nm,21.5s,baz=214,slow=32
LPIG La Paz 73.49 1 LR LR 07 09 17.1
comp=Z,146nm,21.4s,baz=199,slow=30
MDP Montagnes des 74.66 62 LR LR 07 13 35.9
comp=Z,34nm,20.0s,baz=246,slow=33
STKA Stephens Creek 76.02 237 LR LR 07 09 42.3
comp=Z,148nm,20.0s,baz=197,slow=30
RCBR Riachuelo 76.45 83 LR LR 07 15 18.9
comp=Z,84nm,21.3s,baz=243,slow=34
SJG San Juan 78.65 44 LR LR 07 15 25.9
comp=Z,37nm,19.5s,baz=226,slow=33
TXAR Lajitas Array 79.02 7 P **P 06 44 27.8 +1.4**
comp=Z,1.2nm,0.9s,baz=185,slow=7.7,SNR=9.2
TXAR LR LR 07 12 15.9
comp=Z,37nm,19.8s,baz=174,slow=30
comp=Z,1.2nm,0.9s
JCT Junction City 80.54 10 P **P 06 44 36.2 +1.6**
JCT IAmb IAmb 06 44 37.2
comp=Z,6.3nm,0.8s
SGCY Sterling City 81.81 9 P **P 06 44 42.9 +1.5**
SGCY IAmb IAmb 06 44 54.1
comp=Z,12nm,1.0s
PFO Pinyon Flats O 83.06 356 LR LR 07 15 02.4
comp=Z,97nm,18.1s,baz=192,slow=31
ANMO Albuquerque 84.41 4 LR LR 07 15 16.9
comp=Z,123nm,21.8s,baz=279,slow=30
H01W1 Cape Leeuwin H 86.45 216 T T 08 21 16.1
baz=152,slow=76,SNR=825
H01W2 Cape Leeuwin H 86.45 216 T T 08 21 15.0
baz=152,slow=76,SNR=834
H01W3 Cape Leeuwin H 86.47 216 T T 08 21 15.9
baz=152,slow=76,SNR=876
ASAR Alice Springs 86.65 237 P **P 06 45 05.8 -0.6**
comp=Z,0.7nm,0.9s,baz=134,slow=5.3,SNR=4.2
ASAR LR LR 07 18 27.7
comp=Z,147nm,21.9s,baz=122,slow=32
comp=Z,0.7nm,0.9s
NVAR Mina Array Bea 87.95 355 LR LR 07 16 36.3
comp=Z,123nm,19.2s,baz=108,slow=30
TKL Tuckaleechee C 88.55 22 LR LR 07 18 21.3
comp=Z,41nm,21.7s,baz=178,slow=31
WRA Warramunga Arr 89.39 239 P **P 06 45 18.0 -1.5**
comp=Z,0.5nm,0.8s,baz=143,slow=3.9,SNR=5.1
WRA LR LR 07 17 47.8
comp=Z,99nm,19.3s,baz=132,slow=30
comp=Z,0.5nm,0.8s
YBH Yreka Blue Hor 91.56 352 LR LR 07 18 05.5
comp=Z,12nm,20.1s,baz=193,slow=30
PDAR Pinedale Array 92.11 2 P **P 06 45 31.2 -0.5**
comp=Z,0.3nm,0.8s,baz=152,slow=6.7,SNR=3.5
PDAR LR LR 07 20 12.7
comp=Z,26nm,20.1s,baz=202,slow=31
comp=Z,0.3nm,0.8s
BOSA Boshof 93.17 143 LR LR 07 20 01.5
comp=Z,43nm,21.8s,baz=204,slow=31
FITZ Fitzroy Crossi 95.61 234 LR LR 07 24 34.2
comp=Z,68nm,19.5s,baz=182,slow=33
LBTB Lobatse 96.52 142 LR LR 07 20 32.2
comp=Z,44nm,21.6s,baz=202,slow=30
NEW Newport 97.70 356 LR LR 07 23 19.0
comp=Z,114nm,19.2s,baz=211,slow=31
SADO Sadowa 98.30 23 LR LR 07 25 44.7
comp=Z,576nm,19.3s,baz=286,slow=33
H11S2 WAKE ISLAND Hy 98.56 288 T T 08 35 45.6
baz=140,slow=76,SNR=1364
H11S3 WAKE ISLAND Hy 98.58 288 T T 08 35 51.3
baz=140,slow=76,SNR=599
H11S1 WAKE ISLAND Hy 98.58 288 T T 08 35 52.9
baz=140,slow=76,SNR=611
H11N3 WAKE ISLAND Hy 99.36 289 T T 08 36 46.8
baz=141,slow=75,SNR=111
H11N1 WAKE ISLAND Hy 99.37 289 T T 08 36 46.5
baz=141,slow=75,SNR=81
H11N2 WAKE ISLAND Hy 99.38 289 T T 08 36 55.0
baz=141,slow=75,SNR=102
ILAR Eielson Array 117.36 344 PKP **PKiKP 06 51 09.1 +2.3**
comp=Z,0.1nm,0.5s,baz=198,slow=3.3,SNR=4.4
GERES GERESS Array B 145.08 70 PKPbc **PKPbc 06 51 58.4 -0.5**
comp=Z,1.6nm,0.8s,baz=241,slow=1.4,SNR=10
NB2 NORSAR Subarra146.77 48 PKP **PKPbc 06 52 03.4 -0.2**
comp=Z,7.1nm,1.4s,baz=263,slow=4.0
NOA NORSAR Array B146.77 48 PKPbc **PKPbc 06 52 02.2 -1.4**
comp=Z,1.7nm,0.9s,baz=278,slow=4.6,SNR=4.8
HILR Hailar Array B 147.16 290 PKPbc **PKPab 06 52 04.9 -1.9**
comp=Z,1.3nm,0.4s,baz=90,slow=3.6,SNR=4.7
MMAI Mount Meron Ar 150.56 112 PKPbc **PKPbc 06 52 13.8 -0.4**
comp=Z,0.4nm,0.2s,baz=225,slow=1.8,SNR=4.3
BRTR Keskin Array B 153.69 99 PKP **PKPdf 06 52 12.8 -0.6**
comp=Z,0.6nm,0.8s,baz=22,slow=1.3,SNR=3.7
BRTR PKPbc **PKiKP 06 52 21.1 -0.3**
comp=Z,0.5nm,0.5s,baz=182,slow=3.2,SNR=3.8
BRTR PKPab **PKPab 06 52 34.0 -0.1**
comp=Z,4.7nm,1.0s,baz=191,slow=3.8,SNR=13
FINES FINESS Array B 153.94 47 PKPab **PKPab 06 52 32.7 -1.6**
comp=Z,1.4nm,0.8s,baz=324,slow=4.3,SNR=3.8
SONM Songino Array 154.95 280 PKPab **PKPab 06 52 40.9 +1.7**
comp=Z,1.0nm,0.7s,baz=132,slow=3.8,SNR=4.4
MKAR Makanchi Array 170.17 258 PKPab **PKPab 06 53 46.1 +0.4**
comp=Z,0.7nm,0.9s,baz=188,slow=4.4,SNR=4.0

*DSN **18** 06:48:14.5±0.6,26°.70N×55°.25E,h10km,ML2.5/5,Error ellipse: s-maj=8.8km s-min=3.1km az=27.0*
*TEH **18** 06:48:16.1,26°.69N×55°.33E,h10km*
ISC 18 06:48:15.8±1.2,26°.67N±0°.05×55°.30E±0°.06,h10km,n9,
σ0=80/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.98**	**129**	P	**Pg**	**06 48 34.5**	**-0.1**
SHME				S	**Sb**	**06 48 49.0**	**+1.2**
GENO	**Geno**	**1.07**	**47**	Pg	**Pn**	**06 48 36.5**	**-0.4**
BANOM	**Banah**	**1.17**	**129**	P	**Pb**	**06 48 37.4**	**-0.7**
BANOM				S	**Sg**	**06 48 54.4**	**+1.0**
LAR1	**LAR**	**1.29**	**321**	Pg	**Pg**	**06 48 40.9**	**+0.3**
IBND	**Bandar-abas**	**1.35**	**55**	Pg	**Pg**	**06 48 41.1**	**-0.7**
IBND				Sg	**Sg**	**06 49 00.5**	**+1.1**
MSFE	**Esma-Masafi**	**1.52**	**149**	P	**Pn**	**06 48 42.6**	**-0.5**
MSFE				S	**Sn**	**06 49 03.4**	**+0.5**
MDH	**Madha**	**1.64**	**146**	P	**Pn**	**06 48 44.5**	**-0.2**
UOSS	**Minazif**	**1.90**	**154**	P	**Pn**	**06 48 47.6**	**-0.7**
HATD	**Hatta, Dubai**	**1.98**	**158**	P	**Pn**	**06 48 48.8**	**-0.7**

*NEIC **18** 06:55:13.0±1.1,19°.279N±0°.010×155°.222W±0°.006,h5km±1km,Error ellipse: s-maj=2.8km s-min=1.7km az=350.0*
HVO 18 06:55:12.9±1.0,19°.31N±0°.01×155°.212W±0°.008,
h2km±4km,ML3.0/45,ML3.0/44(NEIC),Error ellipse:
s-maj=1.6km s-min=1.0km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**356**		Pg	06 55 15.1	+0.8
PUH				IAML		06 55 17.0	
	comp=E,13μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.08**	**29**		Pg	06 55 15.4	+0.8
HLP	**Hilina Pali**	**0.09**	**263**		Pg	06 55 15.6	+0.9
KKO	**Keanakako'i**	**0.10**	**330**		Pg	06 55 15.8	+0.8
KKO					Sg	06 55 18.1	+1.7
RIM	**Rim**	**0.10**	**326**		Pg	06 55 15.8	+0.7
RIM					Sg	06 55 18.0	+1.6
SDHHI	**Sand Hill**	**0.11**	**316**		Pg	06 55 15.8	+0.6
SDHHI					Sg	06 55 18.2	+1.5
STCH	**Steam Cracks**	**0.11**	**47**		Pg	06 55 15.9	+0.7
BYL	**Byron's Ledge**	**0.11**	**336**		Pg	06 55 15.8	+0.6
BYL				IAML		06 55 18.4	
	comp=E,6μm,0.3s						
BYL				IAML		06 55 18.4	
	comp=N,7μm,0.4s						
HATHI	**Halema'uma'u T**	**0.12**	**338**		Pg	06 55 16.0	+0.6
HATHI				IAML		06 55 18.7	
	comp=N,5μm,0.2s						
HATHI				IAML		06 55 18.9	
	comp=E,6μm,0.5s						
NPOC	**North of Pu'u**	**0.13**	**49**		Pg	06 55 16.1	+0.6
NPOC					Sg	06 55 18.8	+1.6
JCUZ	**Jacuzzi**	**0.13**	**54**		Pg	06 55 16.2	+0.7
JCUZ					Sg	06 55 18.6	+1.4
OBL	**Observatory Le**	**0.13**	**328**		Pg	06 55 16.1	+0.6
OBL					Sg	06 55 18.8	+1.5
WRMHI	**West Rim**	**0.13**	**320**		Pg	06 55 16.0	+0.5
WRMHI					Sg	06 55 18.5	+1.3
SBLHI	**Steaming Bluff**	**0.13**	**336**		Pg	06 55 16.0	+0.5
SBLHI					Sg	06 55 18.6	+1.4
UWB	**Uwekahuna Bluf**	**0.13**	**332**		Pg	06 55 16.1	+0.5
UWB					Sg	06 55 18.7	+1.4
UWE	**Uwekahuna**	**0.14**	**326**		Pg	06 55 16.1	+0.5
UWE				IAML		06 55 19.5	
	comp=E,5μm,0.6s						
RSD	**Rainshed**	**0.17**	**338**		Pg	06 55 16.5	+0.3
HTC	**Hot Caves**	**0.19**	**248**		Pg	06 55 17.4	+0.8
JOKA	**Jonika Flow**	**0.23**	**57**		Pg	06 55 17.8	+0.4
JOKA				IAML		06 55 25.2	
	comp=N,2μm,0.2s						
AIN	**Ainahou**	**0.24**	**285**		Pg	06 55 18.1	+0.5
MLH	**Mauna Loa**	**0.25**	**318**		Pg	06 55 18.1	+0.3
MLH				IAML		06 55 24.0	
	comp=N,2μm,0.2s						
KHU	**Kahuku**	**0.39**	**261**		Pg	06 55 20.3	-0.1
KHU					Sg	06 55 26.4	+1.0
HMH	**Humu'ula Sheep**	**0.39**	**319**		Pg	06 55 20.8	+0.3
HMH	**Humu'ula Sheep**	**0.39**	**319**		Sg	06 55 27.1	+1.5
HPO	**Honuapo**	**0.39**	**236**		Pg	06 55 19.7	-0.7
HPO					Sg	06 55 26.4	+0.9
MWH	**Mokuaweoweo**	**0.40**	**296**		Pg	06 55 20.9	+0.1
MWH				IAML		06 55 29.7	
	comp=N,2μm,0.3s						
MWH	**Mokuaweoweo**	**0.40**	**296**		Sg	06 55 27.9	+1.7
ALEP	**Alea Permanent**	**0.47**	**300**		Pg	06 55 21.6	-0.4
ALEP					Sg	06 55 28.9	+0.7
POHA	**Pohakuloa**	**0.54**	**326**		Pg	06 55 22.7	-0.6
POHA					Sg	06 55 30.2	-0.1
POHA	**Pohakuloa**	**0.54**	**326**	IAML		06 55 31.5	
	comp=N,3μm,0.5s						
POHA				IAML		06 55 31.9	
	comp=N,2μm,0.4s						
HUH	**Hualalai**	**0.70**	**303**		Pg	06 55 25.2	-1.1
HPAH	**Hawaii Prepara**	**0.85**	**328**		Pg	06 55 26.9	-2.4
HPAH				IAML		06 55 41.4	
	comp=E,382nm,0.2s						
MHA	**Mahukona**	**1.09**	**323**	Pg	Pg	06 55 30.5	-3.4
HLK	**Haleakala**	**1.74**	**326**	Pn	Pn	06 55 39.4	-5.0

IDC 18 06:58:43.5±4.2,51°.80N×74°.66E,h0km,mbtmp2.8/2,
ML1.8/2,2C-2D,Error ellipse: s-maj=42.7km
s-min=29.4km az=61.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.70**	**114**	Pn	Pn	06 59 27.7	-0.5
	0.1nm,0.3s,baz=298,slow=14,SNR=9.1						
KURBB				Lg	Lg	07 00 10.1	
	0.2nm,0.3s,baz=295,slow=30,SNR=16						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**2.70**	**114**	⇓Pg	Pn	06 59 29.5	+1.3
	3.5nm,0.6s,baz=302,slow=16						
KURBB				⇑Lg	Lg	07 00 09.9	
	31nm,0.8s,baz=294,slow=28						
KURK	**Kurchatov**	**2.71**	**112**	⇑Pg	Pn	06 59 27.9	-0.4
	0.8nm,0.8s						
KURK				⇓Lg	Lg	07 00 09.8	
	5.8nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.51**	**67**	I	I	07 36 50.0	
	0.1nm,1.2s,baz=254,slow=321,SNR=5.6						
ZALV	**Zalesovo Beam**	**6.51**	**67**	Pn	Pn	07 00 20.3	-0.2
	0.2nm,0.3s,baz=255,slow=13,SNR=6.3						
ZALV				Sn	Sn	07 01 35.3	-0.1
	0.1nm,0.3s,baz=254,slow=25,SNR=3.6						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**7.07**	**132**	Pg	Pb	07 00 45.9	-1.2
	0.1nm,0.3s,baz=318,slow=16,SNR=5.7						
MKAR				Lg	Lg	07 02 26.1	
	baz=317,slow=30						

IDC 18 07:17:38.1±1.7,3°.74N×128°.15E,h0km,mb3.6/5,
mbtmp3.7/5,Error ellipse: s-maj=109.0km
s-min=19.7km az=71.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.84**	**186**	P	P	07 22 33.0	+0.6
	0.8nm,0.6s,baz=15,slow=9.1,SNR=2.1						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**24.30**	**166**	P	P	07 22 57.4	-0.2
	1.8nm,0.8s,baz=345,slow=10,SNR=13						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**27.81**	**169**	P	P	07 23 29.1	-0.2
	0.4nm,0.7s,baz=355,slow=7.5,SNR=6.4						
	0.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.43**	**66**	T	T	08 08 19.1	
	baz=253,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.45**	**66**	T	T	08 08 21.9	
	baz=253,slow=74,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**40.45**	**66**	T	T	08 08 20.4	
	baz=253,slow=74,SNR=15						
MKAR	**Makanchi Array**	**58.36**	**325**	P	P	07 27 35.9	+0.5
	0.6nm,0.6s,baz=108,slow=8.9,SNR=7.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**62.50**	**327**	P	P	07 28 03.0	-0.5
	1.2nm,0.7s,baz=122,slow=6.7,SNR=9.6						
	1.2nm,0.7s						

*NEIC **18** 07:19:51.4±1.7,33°.904N±0°.006×118°.207W±0°.008,*
h10km±1km,Error ellipse: s-maj=2.5km s-min=1.1km
az=3.0
PAS 18 07:19:51.2±1.4,33°.89N±0°.02×118°.22W±0°.02,h24km±7km,
ML3.5/257,ML3.3/102(NEIC),Error ellipse: s-maj=2.7km
s-min=2.2km az=206.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTT2	**Watts, South G**	**0.07**	**332**		Pb	07 19 55.4	0.0
WTT2					Sb	07 19 58.9	+0.6
DLAC	**Del Amo**	**0.11**	**113**		Pb	07 19 56.1	+0.4
DLAC					Sb	07 20 00.3	+1.5
USC	**University of**	**0.14**	**336**		Pb	07 19 56.0	0.0
USC					Sb	07 19 59.7	+0.4
LCGC	**La Cienega, Cu**	**0.17**	**309**		Pb	07 19 56.3	-0.1
LCGC					Sb	07 19 60.0	+0.1
GVRC	**Garvey Reservo**	**0.18**	**27**		Pb	07 19 56.4	-0.1
GVRC					Sb	07 20 00.5	+0.5
FMP	**Fort Macarthur**	**0.19**	**199**		Pb	07 19 56.2	-0.3
FMP					Sb	07 19 60.0	-0.2
RHC	**Rose Hills Cem**	**0.20**	**57**		Pb	07 19 56.5	-0.2
RHC					Sb	07 20 01.1	+0.6
BREC	**Barre Substati**	**0.21**	**113**		Pb	07 19 57.2	+0.4
BREC					Sb	07 20 02.3	+1.6
RPV	**Rancho Palos V**	**0.21**	**226**		Pb	07 19 56.6	-0.2
RPV					Sb	07 20 00.5	-0.2
GR2C	**Griffith Obs.**	**0.24**	**343**		Pb	07 19 56.6	-0.6
GR2C					Sb	07 20 00.5	-0.8
FULC	**Fullerton**	**0.25**	**94**		Pb	07 19 57.4	+0.1
FULC					Sb	07 20 02.7	+1.2
CRPC	**Caltech Rob'n**	**0.26**	**17**		Pb	07 19 57.0	-0.5
CRPC					Sb	07 20 01.4	-0.4
GSA	**Caltech--GSA**	**0.26**	**17**		Pb	07 19 57.0	-0.5
GSA					Sb	07 20 01.3	-0.4
CACC	**Caltech Cellar**	**0.26**	**18**		Pb	07 19 57.0	-0.5
CACC					Sb	07 20 01.3	-0.5
PASC	**Pasadena Art C**	**0.28**	**6**		Pb	07 19 57.0	-0.9
DJJ	**Donna J Jenkin**	**0.29**	**318**		Pb	07 19 57.3	-0.7
DJJ					Sb	07 20 01.9	-0.7
HLLC	**North Hollywoo**	**0.31**	**338**		Pb	07 19 57.6	-0.7
HLLC					Sb	07 20 02.6	-0.5
SANC	**Santa Ana**	**0.33**	**124**		Pb	07 19 58.7	+0.1
SANC					Sb	07 20 04.7	+1.1
MWC	**Mount Wilson**	**0.36**	**22**		Pb	07 19 58.2	-0.9
MWC	**Mount Wilson**	**0.36**	**22**		Sb	07 20 04.0	-0.6
DECC	**Green Verdugo**	**0.37**	**345**		Pb	07 19 58.7	-0.6
DECC					Sb	07 20 04.2	-0.6
PSRC	**Puddingstone R**	**0.40**	**60**		Pb	07 19 59.1	-0.6
PSRC					Sb	07 20 05.0	-0.4
CHNC	**Chino**	**0.46**	**76**		Pb	07 19 59.8	-0.8
CHNC					Sb	07 20 07.2	+0.1
CHFC	**Chilao Flat St**	**0.47**	**20**		Pb	07 20 00.2	-0.8
CHFC					Sb	07 20 06.6	-1.0
CIAC	**Catalina I. Ai**	**0.52**	**199**		Pb	07 20 01.4	-0.2
CIAC					Sb	07 20 08.4	-0.3
BLCC	**Black Canyon**	**0.52**	**313**		Pb	07 20 01.2	-0.5
BLCC					Sb	07 20 08.5	-0.3
AGOC	**Agoura**	**0.52**	**299**		Pb	07 20 01.1	-0.7
AGOC					Sb	07 20 08.5	-0.4
SSK	**Sunset Peak**	**0.54**	**54**		Pb	07 20 01.5	-0.7
CRNC	**Corona**	**0.55**	**91**		Pb	07 20 01.5	-0.6
CRNC					Sb	07 20 09.3	-0.3
MLSC	**Mira Loma**	**0.56**	**78**		Pb	07 20 01.1	-1.2
MLSC					Sb	07 20 09.5	-0.4
OAT	**Oat Mountain**	**0.56**	**324**		Pb	07 20 02.3	-0.1
OAT					Sb	07 20 11.0	+1.0
BFSC	**Mount Baldy Ra**	**0.58**	**53**		Pb	07 20 01.9	-0.9
BFSC	**Mount Baldy Ra**	**0.58**	**53**		Sb	07 20 09.9	-0.8
JNH	**Juniper Hills**	**0.60**	**21**		Pb	07 20 02.4	-0.7
JNH					Sb	07 20 10.1	-1.1
PDE	**Pardee, Santa**	**0.63**	**331**		Pb	07 20 03.7	+0.1
PDE					Sn	07 20 13.5	-0.4
CJV	**Casa Juvan**	**0.64**	**6**		Pb	07 20 03.1	-0.7
CJV					Sb	07 20 11.6	-0.8
HOLC	**Holcomb Ridge**	**0.65**	**29**		Pb	07 20 03.2	-0.7
HOLC					Sb	07 20 11.8	-0.8
LRRC	**Littlerock Res**	**0.65**	**14**		Pb	07 20 03.4	-0.5
LRRC					Sb	07 20 12.1	-0.5
FON	**Fontana**	**0.68**	**72**		Pb	07 20 03.7	-0.7
FON					Sb	07 20 12.9	-0.5
ELS	**Elsinore Mount**	**0.70**	**110**		Pb	07 20 03.3	-1.5
ELS				IAML		07 20 14.4	
	comp=N,1μm,0.3s						
ELS				IAML		07 20 15.2	
	comp=E,1μm,0.4s						
ELS	**Elsinore Mount**	**0.70**	**110**		Sb	07 20 13.1	-1.1
RVR	**Riverside**	**0.71**	**82**		Sb	07 20 13.7	-0.6
LEOC	**Leona Valley**	**0.74**	**355**		Pb	07 20 04.7	-0.8
LEOC					Sb	07 20 14.2	-1.0
RSBC	**Riverside Bore**	**0.75**	**83**		Pb	07 20 05.0	-0.5
RSBC	**Riverside Bore**	**0.75**	**83**		Pb	07 20 04.9	-0.6
RSBC					Sb	07 20 14.7	-0.5
CLTC	**Calectric**	**0.78**	**75**		Pb	07 20 05.1	-0.9
CLTC					Sb	07 20 15.7	-0.4
SBI	**Santa Barbara**	**0.79**	**239**		Pb	07 20 05.5	-0.7
SBI					Sb	07 20 15.9	-0.6
ALPC	**Antelope**	**0.80**	**355**		Pb	07 20 05.8	-0.6
ALPC					Sb	07 20 15.6	-1.2
OSI	**Osito Audit: C**	**0.83**	**330**		Pb	07 20 06.2	-0.8
OSI				IAML		07 20 18.6	
	comp=N,896nm,0.9s						
OSI				IAML		07 20 18.6	
	comp=E,842nm,0.7s						
OSI	**Osito Audit: C**	**0.83**	**330**		Sb	07 20 18.0	+0.1
BTPC	**Burnt Peak**	**0.84**	**340**		Pb	07 20 06.6	-0.7
BTPC					Sb	07 20 17.5	-0.8
SBB	**Saddle Back Bu**	**0.86**	**22**		Pb	07 20 06.9	-0.6
SBB					Sb	07 20 17.7	-0.9
HLNC	**Highland**	**0.86**	**74**		Pb	07 20 06.9	-0.5
HLNC					Sb	07 20 18.6	0.0
PEC	**Perris**	**0.88**	**90**		Pb	07 20 06.9	-0.9
PEC					Sb	07 20 18.8	-0.4
MURC	**Murrieta**	**0.90**	**109**		Pb	07 20 07.1	-1.1
MURC					Sb	07 20 19.8	0.0
STCC	**Santa Clara**	**0.90**	**297**		Pb	07 20 07.6	-0.5
STCC					Sn	07 20 21.5	+0.8
ADO	**Adelanto Recei**	**0.93**	**44**		Sb	07 20 20.8	+0.3
CFT	**Crafton Hills**	**0.93**	**81**		Pb	07 20 07.9	-0.8
CFT					Sn	07 20 21.2	-0.3
SVD	**Seven Oaks Dam**	**0.95**	**77**		Pb	07 20 08.3	-0.8
SVD					Sb	07 20 21.4	0.0
TPO	**Tropico Hills**	**0.98**	**360**		Pn	07 20 08.8	-0.9
TPO				IAML		07 20 23.1	
	comp=N,1μm,0.5s						
TPO				IAML		07 20 23.8	
	comp=E,1μm,0.5s						
DNR	**Dunn Ranch,Anz**	**1.36**	**103**		Pn	07 20 14.3	-0.5
CPE	**Camp Elliot**	**1.37**	**137**		Pn	07 20 13.0	-1.8
DPP	**Dos Picos Cty**	**1.39**	**129**		Pn	07 20

BAR IAML 07 20 46.4
comp=E,474nm,0.2s
CCCA Chr Cany lake 1.77 23 Pn 07 20 20.0 -0.4
CCCA IAML 07 20 50.8
comp=N,432nm,0.6s
CCCA IAML 07 20 55.9
comp=E,323nm,0.6s
ISA Isabella, Lake 1.78 353 Pn 07 20 20.5 -0.1
WSHM Spangler Hills 1.81 19 Pn 07 20 20.3 -0.6
WSHM IAML 07 20 49.5
comp=E,257nm,0.4s
WSHM IAML 07 20 50.0
comp=E,352nm,0.3s
GSC Goldstone, Bar 1.83 39 Pn 07 20 20.1 -1.1
GSC IAML 07 20 50.5
comp=N,181nm,0.5s
GSC IAML 07 20 51.1
comp=E,220nm,0.4s
BELC Belle Mtn. Jos 1.85 86 Pn 07 20 20.7 -0.9
BELC IAML 07 20 49.0
comp=N,386nm,0.5s
CLC China Lake 1.99 15 Pn 07 20 23.1 -0.3
CLC IAML 07 20 56.2
comp=N,161nm,0.5s
CLC IAML 07 20 56.7
comp=E,165nm,0.5s
CBX Cerro Bola 2.04 140 Pn 07 20 23.4 -0.8
CBX IAML 07 21 01.4
comp=N,275nm,0.8s
CBX IAML 07 21 03.2
comp=E,328nm,0.6s
MPMC Manual Prospec 2.24 15 Pn 07 20 27.0 0.0
MPMC IAML 07 21 03.6
comp=E,154nm,0.6s
MPMC IAML 07 21 07.8
comp=N,148nm,0.7s
CWC Cottonwood Cre 2.54 3 Pn 07 20 29.9 -1.2
CWC IAML 07 21 13.2
comp=E,72nm,0.3s
SHOC Shoshone, Teco 2.56 38 Pn 07 20 31.0 -0.3
GWY Greenwater Val 2.62 29 Pn 07 20 32.0 -0.1
GWY IAML 07 21 16.4
comp=N,73nm,0.4s
GWY IAML 07 21 17.9
comp=E,107nm,0.5s
ESJX Sierra Juarez 2.68 134 Pn 07 20 32.9 -0.2
ESJX IAML 07 21 15.3
comp=E,71nm,0.3s
MTPC Mountain Pass 2.71 53 Pn Pn 07 20 32.1 -1.3
PMPB Monarch Peak 3.14 318 Pn Pn 07 20 38.0 -1.3
PMPB IAML 07 21 38.3
comp=E,77nm,3.5s
PMPB IAML 07 21 49.2
comp=N,69nm,4.5s
WCT Wildcat Mounta 3.17 24 Pn Pn 07 20 38.6 -1.2
VTX Valle De La Tr 3.23 140 Pn 07 20 40.4 -0.1
HULI Fort Hunter Li 3.26 311 Pn Pn 07 20 39.5 -1.4
HULI IAML 07 21 49.7
comp=N,90nm,4.1s
HULI IAML 07 22 47.5
comp=E,80nm,4.4s
V12A Nelson 3.32 56 Pn 07 20 41.2 -0.6
TPNV Topopah Spring 3.45 27 Pn 07 20 44.0 +0.4
TPNV IAML 07 21 44.6
comp=E,38nm,0.5s
TPNV IAML 07 21 45.4
comp=E,47nm,0.8s
DSP Deep Springs 3.48 3 Pn 07 20 43.5 -0.3
SHPR Sheep Range 3.62 43 Pn 07 20 46.1 +0.2
LEGD La Grand CA 3.67 335 Pn 07 20 46.4 -0.1
LEGD IAML 07 21 44.7
comp=N,45nm,0.5s
LEGD IAML 07 21 45.1
comp=E,47nm,0.5s
SAO San Andreas Ge 3.90 318 Pn Pn 07 20 49.0 -0.5
TPH Tonopah 4.25 11 Pn Pn 07 20 56.0 +1.3
LCMT Little Creek M 5.12 51 Pn 07 21 07.1 +0.6
KNB Kanab 5.40 53 Pn 07 21 11.5 +1.1
KNB IAML 07 22 55.2
comp=N,12nm,4.2s
KNB IAML 07 24 06.2
comp=E,9.0nm,4.6s

IDC 18 07:26:57.5±5.4, 6°01S×150°11E, h267km±30km, mb3.3/4, mbtmp3.9/5, Error ellipse: s-maj=64.2km s-min=52.6km az=15.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**221**	P	Pn	07 28 07.3	-0.2
	36nm,0.6s,baz=39,slow=7.3,SNR=9.9						
WRA	**Warramunga Arr**	**20.66**	**226**	P	P	07 31 18.1	+0.5
	1.8nm,0.4s,baz=51,slow=10,SNR=30						
	1.8nm,0.4s						
ASAR	**Alice Springs**	**23.48**	**220**	P	P	07 31 44.5	+0.7
	1.5nm,0.8s,baz=60,slow=8.5,SNR=13						
	1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.73**	**241**	P	P	07 32 12.1	-0.9
	0.8nm,0.4s,baz=49,slow=10,SNR=5.7						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**26.94**	**196**	P	P	07 32 13.8	-0.9
	1.0nm,0.5s,baz=3.8,slow=15,SNR=4.1						
	1.0nm,0.5s						

*IDC **18** 07:42:28.3±3.1, 26°56N×55°07E, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=60.4km s-min=35.4km az=147.0*
*DSN **18** 07:42:28.7±1.3, 26°83N×55°32E, h10km, ML3.1/12, Error ellipse: s-maj=16.0km s-min=4.1km az=16.0*
*TEH **18** 07:42:30.9, 26°65N×55°24E, h18km±26km*
*OMAN **18** 07:42:34.2±0.8, 26°51N×55°23E, h26km, mb3.1/5, ml3.2/20, Error ellipse: s-maj=7.8km s-min=4.2km az=14.0*
ISC 18 07:42:30.1±1.4, 26°60N±0°04×55°26E±0°03, h9km±10km, n58, σ1°15/81, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.96**	**124**	P	**Pn**	**07 42 49.8**	**0.0**
	SNR=16						
SHME				S	**Sn**	**07 43 03.4**	**-0.3**
	SNR=5.7						
SHME	**Shamm**	**0.96**	**124**	*e*P	**Pb**	**07 42 48.7**	**-0.3**
	SNR=16						
UMQ	**Umm Al-Quwin**	**1.13**	**161**	P	**Pg**	**07 42 51.7**	**-0.1**
	SNR=7.7						
UMQ				S	**Sg**	**07 43 06.7**	**+0.2**
UMQ	**Umm Al-Quwin**	**1.13**	**161**	*e*P	**Pn**	**07 42 53.2**	**+1.1**
	SNR=6.1						
BNDS	**Bandar-Abbas**	**1.14**	**45**	Pg	**Pn**	**07 42 52.0**	**-0.5**
GENO	**Geno**	**1.14**	**45**	Pg	**Pn**	**07 42 52.2**	**-0.3**
BANOM	**Banah**	**1.15**	**125**	P	**Pn**	**07 42 52.8**	**+0.3**
BANOM				S	**Sn**	**07 43 09.9**	**+1.5**
BANOM	**Banah**	**1.15**	**125**	*e*P	**Pn**	**07 42 52.2**	**-0.3**
	SNR=24						
BANOM				S	**Sn**	**07 43 09.9**	**+1.5**
LAR1	**LAR**	**1.32**	**324**	Pg	**Pn**	**07 42 54.9**	**0.0**
LAR1				Sg	**Sb**	**07 43 13.3**	**+1.0**
MASF	**Masafi**	**1.47**	**146**	P	**Pg**	**07 42 58.1**	**-0.2**
	SNR=34						
MASF				S	**Sg**	**07 43 17.4**	**+0.1**
	SNR=6.1						
MSFE	**Esma-Masafi**	**1.48**	**146**	*e*P	**Pb**	**07 42 58.0**	**+0.2**
	SNR=8.8						
MDH	**Madha**	**1.60**	**144**	P	**Pg**	**07 43 00.4**	**-0.4**
	SNR=20						
MDH				S	**Sg**	**07 43 20.7**	**-0.9**
MDH	**Madha**	**1.60**	**144**	*e*P	**Pb**	**07 43 00.2**	**+0.3**
	SNR=40						
NAZ	**Nazwa, Dubai**	**1.64**	**167**	P	**Pb**	**07 43 01.2**	**+0.6**
	SNR=10						
NAZ	**Nazwa, Dubai**	**1.64**	**167**	*e*P	**Pb**	**07 43 01.2**	**+0.6**
	SNR=19						
UOSS	**Minazif**	**1.85**	**152**	P	**Pb**	**07 43 04.4**	**+0.2**
UOSS				S	**Sb**	**07 43 28.3**	**+0.8**
UOSS	**Minazif**	**1.85**	**152**	*e*P	**Pb**	**07 43 03.4**	**-0.8**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**1.87**	**171**	P	**Pn**	**07 43 01.9**	**-0.4**
FAQ				S	**Sb**	**07 43 28.8**	**+0.8**
FAQ	**Al Faqa, Dubai**	**1.87**	**171**	P	**Pb**	**07 43 04.2**	**-0.2**
HATD	**Hatta, Dubai**	**1.93**	**156**	P	**Pb**	**07 43 04.8**	**-0.8**
	SNR=12						
HATD				S	**Sb**	**07 43 31.2**	**+1.3**
HATD	**Hatta, Dubai**	**1.93**	**156**	*e*P	**Pb**	**07 43 05.0**	**-0.6**
	SNR=27						
ASUD	**Al Ashush, Dub**	**1.96**	**178**	P	**Pb**	**07 43 05.5**	**-0.5**
ASUD				S	**Sn**	**07 43 28.5**	**+0.1**
ASUD	**Al Ashush, Dub**	**1.96**	**178**	P	**Pb**	**07 43 05.6**	**-0.5**
ASHO	**Ashiyiah**	**2.04**	**159**	P	**Pn**	**07 43 06.3**	**+1.6**
	SNR=20						
ASHO				S	**Sb**	**07 43 33.7**	**+0.8**
ASHO	**Ashiyiah**	**2.04**	**159**	*e*P	**Pn**	**07 43 06.2**	**+1.5**
	SNR=20						
AJN	**Ajban**	**2.04**	**187**	P	**Pb**	**07 43 06.9**	**-0.4**
AJN				S	**Sn**	**07 43 31.8**	**+1.5**
ALNE	**Al Ain**	**2.57**	**170**	P	**Pn**	**07 43 13.8**	**+1.8**
SOHO	**SOHO**	**2.71**	**154**	P	**Pn**	**07 43 14.5**	**+0.7**
SOHO	**SOHO**	**2.71**	**154**	P	**Pn**	**07 43 14.2**	**+0.3**
NGRK	**Negar Kerman**	**3.30**	**23**	Pn	**Pn**	**07 43 22.8**	**+0.4**
GHWR	**Ruwais**	**3.39**	**220**	P	**Pn**	**07 43 24.1**	**+0.8**
ARQ	**Araqi**	**3.44**	**160**	P	**Pn**	**07 43 25.6**	**+1.6**
HOQ	**Hoqain**	**3.53**	**148**	P	**Pn**	**07 43 27.3**	**+2.1**
HOQ	**Hoqain**	**3.53**	**148**	Pn	**Pn**	**07 43 27.4**	**+2.1**
KBAM	**BAM**	**3.79**	**47**	Pn	**Pn**	**07 43 30.5**	**+1.7**
CHMN	**Cheshme madani**	**3.83**	**31**	Pn	**Pn**	**07 43 30.8**	**+1.3**
KHGB	**Koh Gabri**	**3.91**	**16**	Pn	**Pn**	**07 43 31.8**	**+1.1**
SHMA	**Al-Shehemyia**	**3.92**	**260**	P	**Pn**	**07 43 33.5**	**+2.9**
MZR	**Muzera**	**3.93**	**205**	P	**Pn**	**07 43 32.0**	**+1.3**
MZR				S	**Sn**	**07 44 16.8**	**-0.1**
TRNA	**Turayna**	**4.09**	**244**	P	**Pn**	**07 43 33.9**	**+1.1**
TRNA				S	**Sn**	**07 44 21.7**	**+0.8**
SMDO	**Samad**	**4.34**	**144**	P	**Pn**	**07 43 38.0**	**+1.6**
	SNR=9.8						
SMDO				S	**Sn**	**07 44 27.8**	**+0.6**
SMRA	**Abu-Samra**	**4.40**	**246**	P	**Pn**	**07 43 38.9**	**+1.7**
SMRA				S	**Sn**	**07 44 30.6**	**+2.1**
WSAR	**Wadi Sarin**	**4.54**	**137**	P	**Pn**	**07 43 41.0**	**+2.0**
WSAR				S	**Sn**	**07 44 33.0**	**+1.1**
IMEH	**Mehriz**	**4.81**	**353**	Pn	**Pn**	**07 43 43.9**	**+0.9**
JMDO	**Jabal Madar**	**4.94**	**148**	P	**Pn**	**07 43 46.2**	**+1.6**
IBAF	**Bafgh**	**4.98**	**3**	Pn	**Pn**	**07 43 45.8**	**+0.5**
JLN	**Jalan Bani Buh**	**5.83**	**139**	P	**Pn**	**07 43 58.0**	**+1.2**
JLN				S	**Sn**	**07 45 03.2**	**-0.5**
MHTO	**MHTO**	**6.11**	**155**	P	**Pn**	**07 44 01.0**	**+0.3**
MHTO				S	**Sn**	**07 45 11.5**	**+0.7**
DOK	**Doka**	**8.01**	**188**	P	**Pn**	**07 44 27.0**	**+0.3**
WHFO	**Wadi Hawf**	**8.75**	**189**	P	**Pn**	**07 44 37.7**	**+0.8**
	SNR=8.0						
WHFO				S	**Sn**	**07 46 13.8**	**-1.9**
DMTO	**DMTO**	**8.84**	**182**	P	**Pn**	**07 44 39.8**	**+1.7**
DMTO				S	**Sn**	**07 46 17.7**	**-0.3**
RBK	**Rabkut**	**9.10**	**186**	P	**Pn**	**07 44 43.4**	**+1.6**
ABTO	**Aybut**	**9.38**	**192**	P	**Pn**	**07 44 46.0**	**+0.4**
ABTO				S	**Sn**	**07 46 28.9**	**-2.3**
KBZ	**Khabaz**	**19.82**	**333**	P	**P**	**07 47 00.3**	**-0.6**
	0.1nm,0.3s,baz=159,slow=11,SNR=4.5						
	1.9nm,0.7s						
BRTR	**Keskin Array B**	**22.26**	**311**	P	**P**	**07 47 26.9**	**-0.8**
	0.8nm,0.7s,baz=137,slow=15,SNR=5.8						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**34.96**	**31**	P	**P**	**07 49 23.2**	**+0.9**
	0.9nm,0.6s,baz=248,slow=7.4,SNR=4.0						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**39.99**	**339**	P	**P**	**07 50 03.0**	**-1.8**
	0.7nm,0.5s,baz=142,slow=9.5,SNR=5.6						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.78**	**266**	P	**P**	**07 51 36.9**	**-1.7**
	1.0nm,0.9s,baz=65,slow=9.2,SNR=5.0						
	1.0nm,0.9s						

*BJI **18** 07:45:18.7, 18°86S×172°82W, h9km, mB5.4/13, mb5.0/31, Ms4.8/9, Ms7 4.6/7*
*NEIC **18** 07:45:18.5±1.6, 18°72S±0°10×172°8W±0°1, h10km±1km, mb5.1/33, Error ellipse: s-maj=18.6km s-min=13.8km az=224.0*
*MOS **18** 07:45:18.8±2.1, 18°89S×173°05W, h10km, mb5.2/16, Error ellipse: s-maj=13.5km s-min=11.8km az=174.2*
*IDC **18** 07:45:19.8±0.5, 18°90S×173°24W, h0km, mb4.7/15, mbtmp4.8/16, ML4.7/1, MS4.0/34, Error ellipse: s-maj=19.9km s-min=14.9km az=131.0*
*NOU **18** 07:45:21.7, 18°59S×172°65W, h47km, mb5.1/43, Tonga Islands Region*
*GCMT **18** 07:45:23.5±0.3, 18°87S±0°02×172°59W±0°03, h12km±1km, MW4.9/92, Moment Tensor Solution. s21,c26; s92,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.00±.16; $M_{\theta\theta}$-1.79±.10; $M_{\phi\phi}$-0.21±.10; $M_{r\theta}$-0.02±.24; $M_{\theta\phi}$-0.99±.05; $M_{\phi r}$1.50±.37; Best double couple: $M_0$2.59100×10^{16} NP1:ϕ_s268.00000°, δ42.00000°, λ132.00000°. NP2: ϕ_s37.00000°, δ60.00000°, λ59.00000°. Principal axes: T 2.8060, Plg61.0000°, Azm257.0000°; N -0.4320, Plg27.0000°, Azm54.0000°; P -2.3750, Plg10.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 07:45:19.2±0.5, 18°73S±0°05×172°79W±0°04, h12km±3km, h12km:pP-P, n338, σ2°01/308, mb5.0/68, MS4.2/40, 31C-27D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.73**	**98**	P	**Pn**	**07 46 00.5**	**-2.5**
NIUE				S	**Sn**	**07 46 31.0**	**-5.0**
NIUE	**Niue**	**2.73**	**98**		**Pn**	**07 46 01.1**	**-1.9**
NIUE	**Niue**	**2.73**	**98**	P	**Pn**	**07 46 00.8**	**-2.2**
NIUE	**Niue**	**2.73**	**98**	S	**Sn**	**07 46 32.7**	**-3.3**
AFI	**Afiamalu**	**4.89**	**12**	Pn	**Pn**	**07 46 30.4**	**-2.4**
AFI	**Afiamalu**	**4.89**	**12**	P	**Pn**	**07 46 30.8**	**-2.0**
AFI	**Afiamalu**	**4.89**	**12**	S	**Sn**	**07 47 24.3**	**-5.1**
AFI	**Afiamalu**	**4.89**	**12**	P	**Pn**	**07 46 33.4**	**+0.6**
AFI				S	**Sn**	**07 47 27.0**	**-2.4**
AFI	**Afiamalu**	**4.89**	**12**	P	**Pn**	**07 46 30.4**	**-2.4**
MSVF	**Nonsavu**	**8.76**	**275**		**Pn**	**07 47 29.4**	**+3.5**
MSVF	**Nonsavu**	**8.76**	**275**	P	**Pn**	**07 47 28.8**	**+2.9**
MSVF	**Nonsavu**	**8.76**	**275**	P	**Pn**	**07 47 29.4**	**+3.5**
RAR	**Rarotonga**	**12.49**	**104**		**Pn**	**07 48 14.0**	**-2.9**
RAR	**Rarotonga**	**12.49**	**104**	Pn	**Pn**	**07 48 14.3**	**-2.6**
	5.4nm,0.3s,baz=260,slow=7.3,SNR=20						
RAR				LR	LR	07 52 45.2	
	comp=Z,534nm,18.4s,baz=276,slow=35						
RAR	**Rarotonga**	**12.49**	**104**	P	**Pn**	**07 48 16.3**	**-0.6**
RAR	**Rarotonga**	**12.49**	**104**	P	**Pn**	**07 48 14.0**	**-2.9**
MARNC	**Mare, Loyalty**	**18.22**	**258**	P	**P**	**07 49 32.5**	**+0.2**
PINNC	**Pines Island,**	**18.89**	**255**		**P**	**07 49 38.2**	**-1.5**
PINNC	**Pines Island,**	**18.89**	**255**	P	**P**	**07 49 39.0**	**-0.7**
YATNC	**Mamie plateau,**	**19.33**	**257**	P	**Pn**	**07 49 45.8**	**+0.1**
OUENC	**Ouen Island, N**	**19.42**	**256**	P	**P**	**07 49 45.1**	**-0.4**
DZM	**Mont Dzumac**	**19.74**	**257**	P	**P**	**07 49 47.8**	**-1.4**
	2.1nm,0.3s,baz=79,slow=18,SNR=38						
	42nm,0.8s						
ONTNC	**Ouen Toro**	**19.76**	**256**		**P**	**07 49 48.0**	**-1.2**
ONTNC	**Ouen Toro**	**19.76**	**256**	P	**Pn**	**07 49 50.7**	**-0.1**
GRZ	**Great Barrier**	**20.30**	**208**	P	**P**	**07 49 55.0**	**0.0**
MXZ	**Matakaoa Point**	**20.32**	**201**	P	**P**	**07 49 54.1**	**-1.1**
MXZ				IAmb	IAmb	07 49 57.0	
	comp=Z,65nm,1.1s						
MXZ	**Matakaoa Point**	**20.32**	**201**	P	Pn	07 49 59.7	+2.5
OUZ	**Omahuta**	**20.38**	**214**	P	**P**	**07 49 55.5**	**-0.4**
WMGZ	**Waiomatatini S**	**20.52**	**200**	P	**P**	**07 49 57.8**	**+0.4**
WCZ	**Waipu Caves**	**20.57**	**211**	P	Pn	07 49 58.9	-1.2
KUZ	**Kuaotunu**	**20.59**	**207**	P	Pn	07 49 59.6	-0.9
KUZ	**Kuaotunu**	**20.59**	**207**	P	**P**	**07 49 58.5**	**+0.3**
PKGZ	**Pakihiroa**	**20.67**	**201**	P	**Pn**	07 50 01.1	-0.3
HAZ	**Te Kaha**	**20.67**	**202**	P	Pn	07 50 00.2	-1.2
PUZ	**Puketiti**	**20.80**	**200**	P	**P**	**07 50 00.3**	**-0.1**
ABAZ	**Army Bay**	**20.87**	**209**	P	**P**	**07 50 01.6**	**+0.4**
WIAZ	**Waiheke Island**	**20.89**	**208**	P	**P**	**07 50 02.5**	**+1.0**
RUGZ	**Raukumara Rang**	**20.89**	**202**	P	**P**	**07 50 02.6**	**+0.9**
MBAZ	**Motutapu North**	**20.98**	**209**	P	**P**	**07 50 01.9**	**-0.5**
TWGZ	**Tauwhareparae**	**20.98**	**201**	P	Pn	07 50 05.2	+0.1
ETAZ	**East Tamaki Re**	**21.12**	**208**	P	**P**	**07 50 04.7**	**+0.9**
MKAZ	**Moumakai**	**21.14**	**208**	P	**P**	**07 50 03.9**	**-0.2**
TKGZ	**Te Karaka**	**21.26**	**201**	P	**P**	**07 50 05.7**	**+0.3**
MWZ	**Matawai**	**21.28**	**201**	P	**P**	**07 50 06.7**	**+1.0**
URZ	**Urewera**	**21.36**	**202**	P	**P**	**07 50 05.3**	**-1.2**
	comp=Z,27nm,0.5s,baz=27,slow=2.5,SNR=19						
URZ				S	S	07 53 51.3	-12
	comp=Z,4.1nm,0.7s,baz=353,slow=19,SNR=1.5						
	comp=Z,27nm,0.5s						
URZ	**Urewera**	**21.36**	**202**	P	**P**	**07 50 06.6**	**+0.2**
URZ	**Urewera**	**21.36**	**202**	S	**S**	**07 54 03.4**	**-0.1**
URZ	**Urewera**	**21.36**	**202**	P	**P**	**07 50 05.2**	**-1.3**
RAGZ	**Rawiri**	**21.46**	**201**	P	**P**	**07 50 12.1**	**+4.4**
TOZ	**Tahuroa Road**	**21.52**	**206**	P	**P**	**07 50 08.6**	**+0.4**
RIGZ	**Rimuhau**	**21.53**	**200**	P	**P**	**07 50 12.1**	**+3.7**
SNGZ	**Shannon Statio**	**21.74**	**201**	P	**P**	**07 50 11.2**	**+0.5**
KNZ	**Kokohu**	**21.85**	**200**	P	**P**	**07 50 13.7**	**+2.0**
MHGZ	**Mahia Peninsul**	**21.89**	**200**	P	**P**	**07 50 16.4**	**+4.2**
MTHZ	**Maungataniwha**	**21.98**	**202**	P	**P**	**07 50 14.8**	**+1.6**
TLZ	**Tolley Road**	**22.02**	**205**	P	**P**	**07 50 14.8**	**+1.2**
PPT2	**Papeete2**	**22.09**	**91**	*e*P	**P**	**07 50 15.5**	**+0.9**
	comp=Z,51nm,31.2s						
PPT2				*e*S	**S**	**07 54 17.9**	**-0.3**
	comp=Z,2μm,25.5s						
PPT2				*e*LR	LR	07 55 28.2	
	comp=Z,176nm,23.2s						
PPT2				*e*LR	LR	07 55 28.2	
	comp=Z,140nm,22.0s						
PPT	**Papeete**	**22.09**	**91**	LR	LR	07 57 12.7	
	comp=Z,233nm,18.4s,baz=258,slow=32						
NMHZ	**Naumai**	**22.21**	**202**	P	**P**	**07 50 18.6**	**+2.9**
BKZ	**Black Stump Fm**	**22.38**	**202**	P	**P**	**07 50 18.2**	**+0.6**
BKZ	**Black Stump Fm**	**22.38**	**202**	P	**P**	**07 50 11.8**	**-5.8**
HIZ	**Hauiti**	**22.45**	**206**	P	**P**	**07 50 18.7**	**+0.5**
MCHZ	**McNeill Hill**	**22.56**	**202**	P	**P**	**07 50 21.5**	**+2.1**
TMVZ	**Te Maari**	**22.63**	**204**	P	**P**	**07 50 21.5**	**+1.2**
KWHZ	**Kaweka Forest**	**22.64**	**202**	P	**P**	**07 50 20.8**	**+0.6**
OTVZ	**Oturere**	**22.69**	**204**	P	**P**	**07 50 18.8**	**-2.1**
KAHZ	**Kahuranaki**	**22.81**	**201**	P	**P**	**07 50 22.1**	**0.0**
KRHZ	**Kereru**	**22.85**	**202**	P	**P**	**07 50 21.6**	**-0.9**
VRZ	**Vera Road**	**23.01**	**205**	P	**P**	**07 50 24.8**	**+0.7**
PXZ	**Pawanui**	**23.03**	**201**	P	**P**	**07 50 25.1**	**+0.8**
PNHZ	**Pukenui**	**23.15**	**202**	P	**P**	**07 50 25.4**	**-0.2**
PRHZ	**Porangahau**	**23.32**	**201**	P	**P**	**07 50 28.4**	**+1.2**
TSZ	**Takapari Road**	**23.36**	**202**	P	**P**	**07 50 30.0**	**+2.3**
DVHZ	**Dannevirke**	**23.50**	**202**	P	**P**	**07 50 31.2**	**+2.1**
ANWZ	**Angora Road**	**23.54**	**201**	P	**P**	**07 50 32.0**	**+2.5**
BFZ	**Birch Farm**	**23.82**	**201**	P	**P**	**07 50 33.2**	**+1.1**
MRZ	**Mangatainoka R**	**24.03**	**202**	P	**P**	**07 50 32.8**	**-1.4**
MRZ				IAmb	IAmb	07 50 49.1	
	comp=Z,56nm,1.3s						
MRZ	**Mangatainoka R**	**24.03**	**202**	P	**P**	**07 50 33.9**	**-0.2**
KHZ	**Kahutara**	**26.31**	**203**	P	**P**	**07 50 56.4**	**+1.6**
HNR	**Honiara**	**27.97**	**286**	LR	LR	08 00 34.2	
	comp=Z,280nm,19.9s,baz=122,slow=33						
TAOE	**Nuku Hiva Isla**	**33.13**	**77**	*e*LR	LR	08 00 42.4	
	comp=Z,298nm,30.4s						
EIDS	**Eidsvold**	**34.05**	**252**	P	**P**	**07 52 00.1**	**-3.6**
	comp=Z,19nm,0.6s						
EIDS	**Eidsvold**	**34.05**	**252**	P	**P**	**07 52 01.1**	**-2.5**
EIDS				IAmb	IAmb	07 52 02.6	
	comp=Z,9.5nm,0.6s						
EIDS	**Eidsvold**	**34.05**	**252**	P	**P**	**07 52 02.1**	**-1.5**
ARMA	**Armidale**	**34.25**	**243**	P	**P**	**07 52 03.9**	**-1.5**
ARMA				IAmb	IAmb	07 52 04.1	
	comp=Z,15nm,0.9s						
AUNRC	**North Rockhamp**	**34.48**	**256**	P	**P**	**07 52 07.2**	**-0.1**
RKT	**Rikitea**	**35.53**	**104**	*e*LR	LR	08 01 40.7	
	comp=Z,16μm,42.5s						
AULRC	**Lightning Ridg**	**37.21**	**246**	P	**P**	**07 52 29.6**	**-1.1**
AUSIS	**Research Schoo**	**37.47**	**236**	P	**P**	**07 52 32.6**	**-0.3**
AUMHS	**Melrose High S**	**37.51**	**236**	P	**P**	**07 52 32.3**	**-0.9**
AUMTS	**Mt Stromlo**	**37.56**	**236**	P	**P**	**07 52 33.1**	**-0.6**
CAN	**Canberra**	**37.57**	**236**	P	**P**	**07 52 29.8**	**-4.0**
	comp=Z,29nm,1.3s						
CAN	**Canberra**	**37.57**	**236**	P	**P**	**07 52 31.6**	**-2.1**
CAN				IAmb	IAmb	07 52 33.8	
	comp=Z,41nm,1.3s						
CAN	**Canberra**	**37.57**	**236**	P	**P**	**07 52 31.6**	**-2.1**
CAN				pmax	pmax		
	comp=Z,41nm,1.3s						
TV1H	**Townsville Har**	**38.16**	**262**	P	**P**	**07 52 37.3**	**-1.5**
CMSA	**Cobar Meteorol**	**39.46**	**243**	P	**P**	**07 52 46.6**	**-3.0**
	comp=Z,27nm,1.0s						
CMSA	**Cobar Meteorol**	**39.46**	**243**	P	**P**	**07 52 47.3**	**-2.4**
PMG	**Port Moresby**	**39.86**	**278**	*i* P	**P**	**07 52 51.6**	**-1.5**
PMG				pmax	pmax		
	comp=Z,18nm,1.2s						
QLP	**Quilpie**	**40.27**	**251**	P	**P**	**07 52 53.8**	**-2.6**
	comp=Z,46nm,0.8s						
QLP	**Quilpie**	**40.27**	**251**	P	**P**	**07 52 55.6**	**-0.8**
MTSU	**Mount Surprise**	**40.62**	**264**	P	**P**	**07 52 57.1**	**-2.4**
	comp=Z,26nm,0.7s						
MTSU	**Mount Surprise**	**40.62**	**264**	P	**P**	**07 52 57.4**	**-2.1**
BRAT	**Ballarat**	**42.09**	**234**	P	**P**	**07 53 09.6**	**-1.6**
COEN	**Coen**	**42.44**	**270**	P	**P**	**07 53 12.6**	**-1.8**
	comp=Z,17nm,0.6s						
COEN	**Coen**	**42.44**	**270**		**P**	**07 53 12.9**	**-1.4**
COEN	**Coen**	**42.44**	**270**	P	**P**	**07 53 13.8**	**-0.6**
STKA	**Stephens Creek**	**42.97**	**243**	P	**P**	**07 53 15.4**	**-3.1**
	comp=Z,83nm,1.3s						
STKA	**Stephens Creek**	**42.97**	**243**		**P**	**07 53 16.1**	**-2.4**
STKA	**Stephens Creek**	**42.97**	**243**	P	**P**	**07 53 16.0**	**-2.4**
	comp=Z,5.1nm,0.4s,baz=95,slow=11,SNR=23						
STKA				LR	LR	08 10 15.7	
	comp=Z,414nm,18.9s,baz=40,slow=35						
	comp=Z,5.1nm,0.4s						
STKA	**Stephens Creek**	**42.97**	**243**	P	**P**	**07 53 16.4**	**-2.1**
STKA	**Stephens Creek**	**42.97**	**243**	*i* P	**P**	**07 53 16.9**	**-1.6**
INKA	**Innaminka**	**43.41**	**249**		**P**	**07 53 20.1**	**-2.0**
QIS	**Mount Isa**	**44.75**	**259**	P	**P**	**07 53 30.6**	**-2.4**
	comp=Z,11nm,1.2s						
QIS	**Mount Isa**	**44.75**	**259**	P	**P**	**07 53 31.5**	**-1.5**
HTT	**Hallett**	**45.38**	**241**	P	**P**	**07 53 35.9**	**-2.1**
	comp=Z,11nm,1.0s						
HTT	**Hallett**	**45.38**	**241**	P	**P**	**07 53 35.8**	**-2.1**
JAY	**Jayapura**	**48.27**	**284**	LR	LR	08 14 18.3	
	comp=Z,88nm,18.0s,baz=6.5,slow=36						
WR8	**Warramunga Arr**	**49.58**	**259**		**P**	**07 54 07.9**	**-2.8**
WR8				IAmb	IAmb	07 54 10.6	
	comp=Z,22nm,0.7s						
AS01	**Alice Springs**	**49.67**	**255**	P	**P**	**07

comp=Z,42nm,1.1s
PSA00 Pilbara Seismi 62.86 255 P P 07 55 43.7 -1.9
PSA00 IAmb IAmb 07 55 45.2
comp=Z,15nm,1.0s
PSA00 Pilbara Seismi 62.86 255 P P 07 55 45.1 -0.5
MBWA Marble Bar 63.04 255 P P 07 55 45.9 -0.9
JCJ Chichijima 63.09 315 LR LR 08 19 24.6
comp=Z,309nm,19.9s,baz=118,slow=32
EDFI Ende, Flores 64.12 269 P P 07 55 53.3 -0.9
comp=Z,14nm,1.0s
AUMAZ Mazenod Senior 64.64 243 P P 07 55 57.0 -0.2
DAV Davao City (W) 65.93 287 LR LR 08 24 42.5
comp=Z,44nm,18.1s,baz=180,slow=36
JHJ Hachijo jima 2 68.62 318 LR LR 08 26 26.7
comp=Z,58nm,18.0s,baz=347,slow=36
QSPA South Pole Qui 71.33 180 P P 07 56 42.1 +3.3
comp=Z,2.7nm,0.6s,baz=33,slow=0.8,SNR=32
QSPA LR LR 08 24 39.7
comp=Z,85nm,19.7s,baz=36,slow=33
comp=Z,2.7nm,0.6s
MYLDM Lahad Datu 71.69 282 P P 07 56 40.1 -1.6
MJAR Matsushiro Arr 71.85 320 P 07 56 42.7 +0.5
MJAR Matsushiro Arr 71.85 320 P P 07 56 44.2 +2.0
comp=Z,12nm,1.0s,baz=155,slow=6.7,SNR=15
MJAR LR LR 08 22 42.2
comp=Z,198nm,20.9s,baz=140,slow=31
comp=Z,12nm,1.0s
SHEM Shemya Is, Ala 72.06 352 LR LR 08 21 59.8
comp=Z,303nm,21.6s,baz=114,slow=30
JSD Sado 72.81 321 P P 07 56 48.4 +0.6
JSD IAmb IAmb 07 56 54.7
comp=Z,41nm,1.5s
PCJI Pacitan 74.24 267 P P 07 56 57.1 +0.3
WOJI Wonogiri, Jawa 74.58 267 P P 07 56 59.4 +0.6
ASAJ Asahikawa 74.66 328 LR LR 08 25 16.0
comp=Z,182nm,21.0s,baz=162,slow=32
PFO Pinyon Flats O 74.78 46 LR LR 08 24 02.8
comp=Z,130nm,19.9s,baz=250,slow=31
YBH Yreka Blue Hor 75.91 36 LR LR 08 25 42.0
comp=Z,15nm,19.3s,baz=252,slow=32
PETK Petropavlovsk- 75.96 342 LR LR 08 26 04.0
comp=Z,30nm,20.0s,baz=152,slow=32
NVAR Mina Array Bea 76.42 41 P P 07 57 13.1 +4.0
comp=Z,7.4nm,1.0s,baz=226,slow=8.1,SNR=20
NVAR LR LR 08 26 28.5
comp=Z,174nm,19.8s,baz=272,slow=32
comp=Z,7.4nm,1.0s
SBUM Sibu 76.60 277 P P 07 57 08.4 -2.0
SBUM IAmb IAmb 07 57 13.2
comp=Z,12nm,1.2s
KPJI Karang Pucung 76.62 267 P P 07 57 10.6 +0.1
comp=Z,49nm,1.4s
YSS Yuzhno-Sakhali 76.65 330 *e*P **P 07 57 09.5 -0.4**
YSS *e**SP **PcP 07 57 21.8 +0.5**
YSS *e* 08 00 01.0
YSS *e*S **S 08 06 49.4 -6.8**
YSS pmax pmax
comp=Z,100nm,3.5s
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=E,200nm,15.0s
TWG Pinlang 76.66 300 P P 07 57 08.7 -1.8
KDAK Kodiak Island 78.06 11 LR LR 08 25 55.2
comp=E,198nm,19.5s,baz=196,slow=31
KSM Kuching 78.08 276 P P 07 57 18.6 -0.1
KSRS Korea Array 78.93 316 P P 07 57 26.1 +3.2
comp=E,17nm,1.1s,baz=136,slow=5.8,SNR=21
KSRS LR LR 08 29 21.3
comp=E,45µm,19.3s,baz=120,slow=34
comp=E,17nm,1.1s
MSHR Mys Shultsa 79.88 322 *i* P **P 07 57 27.6 -0.3**
MSHR pmax pmax
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 80.38 323 P P 07 57 35.0 +4.5
comp=Z,1.8nm,0.6s,baz=126,slow=2.6,SNR=7.0
BBB Bella Bella 80.60 26 LR LR 08 28 20.7
comp=Z,164nm,18.1s,baz=301,slow=32
BELA Belgrano 2 80.64 172 P P 07 57 31.5 0.0
PMSA Palmer Station 80.92 156 LR LR 08 26 21.0
comp=Z,121nm,19.4s,baz=274,slow=30
MDSI Maura Dua 81.98 268 P P 07 57 40.2 +0.4
comp=Z,16nm,0.7s
TXAR Lajitas Array 81.99 55 P P 07 57 43.9 +4.3
comp=Z,6.0nm,1.0s,baz=218,slow=5.7,SNR=32
comp=Z,6.0nm,1.0s
MDJ Mudanjiang 82.00 322 P P 07 57 40.9 +1.7
MDJ pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 82.50 49 *i* P **P 07 57 43.0 +0.7**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
NJ2 Nanjing 82.63 307 *e*P **P 07 57 42.1 -0.6**
NJ2 pmax pmax
comp=Z,12nm,0.6s
H03S2 Juan Fernandez 82.89 123 T T 09 30 24.1
baz=250,SNR=3.9
H03S1 Juan Fernandez 82.91 123 T T 09 30 28.7
baz=250,slow=74,SNR=6.2
H03S3 Juan Fernandez 82.91 123 T T 09 30 25.8
baz=250,slow=74,SNR=7.0
NEW Newport 83.13 34 LR LR 08 29 47.1
comp=Z,271nm,18.8s,baz=193,slow=32
TRF Thorofare Moun 83.78 10 P P 07 57 49.4 +1.2
TRF IAmb IAmb 07 58 08.9
comp=Z,18nm,0.9s
BNX BinXian 83.92 323 ⇑P **P 07 57 52.0 +2.9**
BNX pmax pmax
comp=Z,14nm,1.1s
RND Reindeer 83.98 11 P P 07 57 49.4 +0.3
RND Reindeer 83.98 11 P P 07 57 49.4 +0.3
RND pmax pmax
comp=Z,30nm,1.3s
CN2 Changchun 84.00 320 *e*P **P 07 57 51.3 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,100nm,10.0s
PAX Paxson 84.22 12 P P 07 57 49.6 -0.7
PAX IAmb IAmb 07 57 55.5
comp=Z,10nm,1.3s
PAX Paxson 84.22 12 P P 07 57 49.6 -0.7
PAX pmax pmax
comp=Z,10.0nm,1.3s
PDAR Pinedale Array 84.36 41 P P 07 57 55.1 +3.4
comp=Z,3.6nm,0.9s,baz=208,slow=2.9,SNR=18
PDAR LR LR 08 31 23.9
comp=Z,49nm,20.5s,baz=284,slow=33
comp=Z,3.6nm,0.9s
DLBC Dease Lake 84.58 21 LR LR 08 30 03.2
comp=Z,998nm,18.6s,baz=197,slow=32
BCAR Beaver Creek A 85.08 14 P P 07 57 56.2 +1.5
WHN Wuhan 85.44 304 P P 07 58 00.6 +3.5
ILAR Eielson Array 85.58 11 P P 07 57 57.8 +0.7
ILAR Eielson Array 85.58 11 P P 07 57 60.0 +2.9
comp=Z,4.6nm,1.0s,baz=212,slow=4.2,SNR=25
ILAR LR LR 08 31 28.9
comp=Z,83nm,20.3s,baz=222,slow=32
comp=Z,4.6nm,1.0s
ILAR Eielson Array 85.58 11 P P 07 57 57.8 +0.7
TIA Tai'an 85.79 310 P P 07 58 02.3 +3.5
TIA pmax pmax
comp=Z,14nm,1.2s
POKR Poker Plat Res 85.81 10 P P 07 57 59.5 +1.3
SEY Seymchan 85.87 345 *e*P **P 07 58 00.8 +2.3**
SEY pmax pmax
comp=Z,20nm,1.5s
AMTX Amarillo 85.96 51 P P 07 57 58.7 -1.1
AMTX IAmb IAmb 07 58 06.0
comp=Z,17nm,0.8s
E18K Tukpahlearik C 86.37 5 P P 07 57 60.0 -0.9
E18K IAmb IAmb 07 58 18.4
comp=Z,18nm,1.1s
HEH HeiHe 86.48 326 *e*P **P 07 58 05.4 +3.6**
HEH pmax pmax
comp=Z,11nm,1.2s
ABTX Abilene, Hawle 86.53 54 P P 07 58 01.6 -0.9
PLCA Paso Flores 86.86 132 LR LR 08 31 39.8
comp=Z,94nm,18.4s,baz=242,slow=32
IPM Ipoh 87.81 275 P P 07 58 08.1 -1.1
BILL Bilibino 87.87 352 *i* P **P 07 58 07.2 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.3s
HNS HongShan 88.06 311 ⇑P **P 07 58 13.3 +3.6**
HNS pmax pmax
comp=Z,16nm,1.5s
HNS LR LR
comp=Z,170nm,14.1s
HNS LR LR
comp=Z,190nm,15.3s
BJI Beijing 88.17 313 P P 07 58 10.5 +0.3
BJI sP **pwP 07 58 17.9 -3.2**
BJI PP **PP 08 01 41.3 +3.8**
BJI SKS **SKSac 08 08 36.4 -2.4**
BJI pmax pmax
comp=Z,6.0nm,1.4s
BJI pmax pmax
comp=Z,50nm,5.9s
LYN LuoYang 88.53 307 *e*P **P 07 58 14.8 +2.7**
LYN sP pwP 07 58 22.6 -0.4
LYN pmax pmax
comp=Z,14nm,0.5s
LYN pmax pmax
comp=Z,110nm,4.3s
ZEA Zeya 88.56 329 *e*P **P 07 58 15.9 +4.2**
ZEA pmax pmax
comp=Z,20nm,1.0s
TROLL Troll, Antarti 89.44 179 ⇓P **P 07 58 20.5 +4.5**
comp=Z,88nm,0.7s
VNA3 Neumayer Olymp 89.50 175 ⇑P **P 07 58 18.5 +2.4**
comp=Z,1.7nm,0.7s
SNAA Sanae 89.57 177 ⇓P **P 07 58 17.1 +0.6**
comp=Z,24nm,0.9s
SNAA Sanae 89.57 177 P P 07 58 16.8 +0.4
comp=Z,1.5nm,1.0s,baz=217,slow=14,SNR=6.4
SNAA LR LR 08 37 15.8
comp=Z,97nm,18.2s,baz=198,slow=35
comp=Z,1.5nm,1.0s
G31M Satah River 90.06 14 P P 07 58 17.1 -1.3
G31M IAmb IAmb 07 58 24.2
comp=Z,17nm,1.1s
GSI Gunungsitoli 90.06 271 P P 07 58 19.1 -0.7
VNA1 Neumayer--Stat 90.20 175 ⇓P **P 07 58 20.4 +1.1**
comp=Z,2.3nm,0.8s
XAN Xi'an 91.04 306 ⇓P **P 07 58 27.4 +3.5**
XAN pmax pmax
comp=Z,10.0nm,1.7s
HHC Hu-ho-hao-te 91.70 313 *e*P **P 07 58 26.8 -0.1**
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,67nm,3.9s
HHC LR LR
comp=Z,83nm,9.2s
HHC LR LR
comp=Z,72nm,9.5s
HHC LR LR
comp=Z,93nm,10.9s
YAK Yakutsk 92.38 337 *e*P **P 07 58 27.9 -1.4**
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
BTO Baotou 92.69 312 *e*P **P 07 58 30.6 -0.9**
BTO pP **sP 07 58 35.6 +1.9**
BTO sP **pwP 07 58 37.6 -4.8**
BTO pmax pmax
comp=E,17nm,0.9s
BTO pmax pmax
comp=E,180nm,5.5s
YKA Yellowknife Ar 92.91 23 LR LR 08 38 09.5
comp=E,67nm,18.3s,baz=267,slow=34
KMI Kunming 92.98 295 P P 07 58 37.9 +4.6
KMI pmax pmax
comp=E,12nm,0.8s
CD2 Chengdu 94.03 301 *e*P **P 07 58 37.0 -0.8**
CMAR Chiang Mai Arr 94.20 288 P P 07 58 41.4 +2.6
comp=E,1.6nm,0.4s,baz=130,slow=3.6,SNR=6.2
CMAR LR LR 08 39 25.0
comp=E,25nm,19.6s,baz=85,slow=35
comp=E,1.6nm,0.4s
PZH PanZhiHua 94.27 296 P P 07 58 39.5 +0.4
LZH Lanzhou 95.65 306 *e*P **P 07 58 47.0 +1.7**
LZH sP pwP 07 58 54.0 -2.2
LZH pmax pmax
comp=E,14nm,1.1s
ULM Lac du Bonnet 96.14 39 LR LR 08 38 47.6
comp=E,174nm,19.1s,baz=330,slow=33
SONM Songino Array 97.70 318 LR LR 08 38 16.1
comp=E,73nm,21.1s,baz=95,slow=33
LPAZ La Paz 98.13 110 LR LR 08 36 03.6
comp=E,49nm,18.0s,baz=258,slow=31
TIXI Tiksi 98.35 344 *i* P **P 07 58 56.1 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 109.49 311 Pdif **Pdif 07 59 46.8 +0.1**
MKAR Makanchi Array 113.55 314 PKiKP **PKiKP 08 03 59.6 +2.1**
comp=Z,1.1nm,0.5s,baz=238,slow=1.5,SNR=12
KURK Kurchatov 116.00 318 *c i* PKIKP **PKiKP 08 04 02.2 +0.2**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 116.06 318 PKP **PKiKP 08 04 04.1 +2.0**
comp=Z,1.2nm,0.8s,baz=102,slow=1.7,SNR=7.0
BORK Borovoye 120.88 321 *i* PKIKP **PKpdf 08 04 10.3 -1.0**
ARTI Arti 126.56 327 *i* PKIKP **PKiKP 08 04 24.4 +1.8**
ARTI 08 06 19.3
ARTI 08 11 35.6
ARCES ARCESS Array B 127.97 352 PKP **PKiKP 08 04 27.8 +2.7**
comp=Z,2.7nm,0.8s,baz=22,slow=3.9,SNR=7.4
AKTO Aktyubinsk 128.93 320 PKP **PKiKP 08 04 30.6 +3.0**
comp=Z,0.7nm,0.4s,baz=132,slow=2.1,SNR=3.8
KLMR Klimovskoe 132.10 339 *e*PKIKP **PKPdf 08 04 30.2 -2.3**
KLMR pmax pmax
comp=Z,14nm,1.4s
BELG Belogornoye 133.98 326 *i* PKIKP **PKPdf 08 04 34.8 -1.5**
OBN Obninsk 137.37 335 *i* PKIKP **PKPdf 08 04 40.6 -1.9**
OBN pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 137.64 357 PKP **PKiKP 08 04 44.6 -0.3**
comp=Z,1.1nm,0.9s,baz=26,slow=1.8,SNR=3.1
MNK Minsk 140.93 341 *i* PKIKP **PKiKP 08 04 51.1 -0.6**
MNK *i* 08 07 49.3
MNK *i* PPP PPP 08 10 54.7
MNK *i* 08 11 58.1
MNK *i* SS SS 08 26 18.2 +2.5
MNK *i* SSS SSS 08 31 33.7
MNK pmax pmax
comp=N,11nm,0.5s
MNK pmax pmax
comp=E,24nm,0.6s
MNK pmax pmax
comp=Z,22nm,0.6s
MNK MLR MLR
comp=N,551nm,19.0s
MNK MLR MLR
comp=E,398nm,24.0s
MNK MLR MLR
comp=Z,73nm,19.0s
KIV Kislovodsk 141.09 318 *i* PKIKP **PKiKP 08 04 53.1 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 143.61 336 PKP **PKPdf 08 04 54.5 +0.6**
comp=Z,2.6nm,0.7s,baz=37,slow=3.6,SNR=13
RAYN Ar Rayn 144.03 284 ⇑PKIKP **PKPdf 08 04 57.2 +1.6**
R9F13 Warsaw-Wawer 144.83 345 *e*PKP **PKiKP 08 04 59.3 -0.5**
SIM Simferopol' 145.57 325 *e*PKIKP **PKPab 08 04 58.0 0.0**
SIM pmax pmax
comp=Z,77nm,1.5s
SORM Soroca 146.00 334 ⇓P **PKiKP 08 05 02.3 -0.1**
SORM Soroca 146.00 334 ⇓PKP2 **PKiKP 08 05 02.3 -0.1**
OJC Ojcow 147.01 345 *e*PKP **PKiKP 08 05 03.8 -0.6**
KSP Ksiaz 147.15 349 *e*PKP **PKiKP 08 05 06.0 +1.3**
CLL Collm 147.17 353⇑ *e*PKIKP **PKPdf 08 05 00.0 -0.1**
CLL *i* 08 05 05.3
CLL pmax pmax
comp=Z,36nm,1.4s
CLL Collm 147.17 353 *e*PKPbc **PKPbc 08 05 02.0 -0.2**
CLL ⇑ *i*PKIKP **sPKPab 08 05 05.3 -0.9**
comp=Z,36nm,1.4s
CLL *i* x x 08 05 09.3
CLL *i* x x 08 05 13.9
BRG Berggiesshubel 147.48 352 *e*PKP **PKPab 08 05 04.9 -0.2**
BRG Amp 08 05 08.8
comp=Z,14nm,1.1s
BRG Berggiesshubel 147.48 352 P PKiKP 08 05 14.4 +9.1
BRG Amp 08 05 15.8
comp=Z,5.8nm,0.9s
NIE Niedzica 147.62 344 *e*PKP **PKPab 08 05 07.3 +1.6**
DPC Dobruska-Polom 147.62 349 *e*PKP2 **PKPab 08 05 07.8 +2.0**
DPC Dobruska-Polom 147.62 349⇑ *e*PKP **PKPab 08 05 07.8 +2.0**
BURAR Bucovina Array 147.65 337 ⇓P **PKPab 08 05 07.5 +1.4**
BURAR Bucovina Array 147.65 337 ⇓PKP2 **PKPab 08 05 07.5 +1.4**
STEB Steborice 147.74 347⇑ *e*PKP **PKPab 08 05 07.8 +1.6**
KRLC Kraliky 147.80 348 *e*PKP2 **PKPab 08 05 08.5 +2.0**
KRLC Kraliky 147.80 348⇑ *e*PKP **PKPab 08 05 08.5 +2.0**
MORC Moravsky Berou 147.93 347 ⇑P **PKPab 08 05 07.7 +0.7**
MORC Moravsky Berou 147.93 347 *e*PKP **PKPbc 08 05 04.0 -0.5**
MORC Moravsky Berou 147.93 347 ⇑PKP2 **PKPab 08 05 07.7 +0.7**
ONER Baraj Valea Uz 148.24 334 ⇓P **PKPab 08 05 09.2 +0.8**
MAUC Maruska 148.26 347⇑ *e*PKP **PKPab 08 05 09.7 +1.4**
BCLA Clavier 148.35 2 *d*PKP **PKPdf 08 05 01.5 -0.5**
CFR Carcaliu 148.40 331 ⇑P **PKPab 08 05 09.9 +0.9**
CFR Carcaliu 148.40 331 ⇑PKP2 **PKPab 08 05 09.9 +0.9**
VRI Vrincioaia 148.48 333 ⇑P **PKPbc 08 05 06.2 +0.2**
VRI Vrincioaia 148.48 333 ⇑PKP2 **PKPbc 08 05 06.2 +0.2**
TPGR Topolog 148.51 330 ⇓P **PKPab 08 05 09.7 +0.2**
VRAC Vranov 148.57 348 *e*PKP **PKPbc 08 05 06.3 +0.2**
OZUR 148.69 335 ⇓P **PKPab 08 05 10.3 +0.2**
JAVC Velka Javorina 148.78 347 *e*PKP **PKPbc 08 05 07.1 +0.4**
TIRR Tirgusor 148.81 330 ⇑P **PKPab 08 05 10.0 -0.6**
TIRR Tirgusor 148.81 330 ⇑PKP2 **PKPab 08 05 10.0 -0.6**
KRUC Moravsky 148.84 348 *e*PKP **PKPbc 08 05 06.7 -0.1**
HARR Harsova 148.86 331 ⇓P **PKPab 08 05 10.4 -0.4**
HARR Harsova 148.86 331 ⇓PKP2 **PKPab 08 05 10.5 -0.4**
DOPR Dopca 148.95 335 ⇑P **PKPab 08 05 11.0 -0.2**
MFTR Murfatlar 149.02 330 ⇑P **PKiKP 08 05 09.0 +0.3**
BR131 Keskin Array S 149.06 318 *i* PKHKP PKPpre 08 05 01.6
BRTR Keskin Array B 149.06 318 PKP PKPdf 08 05 05.2 +1.5
comp=Z,1.7nm,1.0s,baz=124,slow=2.6,SNR=3.1
BRTR PKPbc **sPKPbc 08 05 10.2 0.0**
comp=Z,2.8nm,1.1s,baz=96,slow=2.5,SNR=6.9
PSZ Piszkesteto 149.10 343 ⇓P **PKPab 08 05 11.5 -0.3**
PSZ Piszkesteto 149.10 343 ⇓PKP2 **PKPab 08 05 11.5 -0.3**
MLR Muntele Rosu 149.11 334 ⇓P **PKPab 08 05 10.8 -1.2**
MLR Muntele Rosu 149.11 334 ⇓PKP2 **PKPab 08 05 10.8 -1.2**
MARR Marisel-Cluj 149.21 338 ⇓P **PKPab 08 05 11.1 -1.2**
MANR Mangalia 149.21 329 ⇑P **PKPab 08 05 11.4 -0.9**
KIRS Kirsehir-Merke 149.21 317 ⇓P **PKPab 08 05 11.4 -1.2**
KHC Kasperske Hory 149.24 352 *c i* PKHKP PKPpre 08 05 03.1
KHC pmax pmax
comp=Z,28nm,1.7s
KHC Kasperske Hory 149.24 352⇑ *e*PKP **PKPab 08 05 11.9 -0.4**
DRGR 149.25 339 ⇓P **PKPab 08 05 10.8 -1.6**
DRGR 149.25 339 ⇓PKP2 **PKPab 08 05 10.8 -1.6**
MODS Modra-Piesok 149.32 347 *e*PKP2 **PKPab 08 05 12.5 -0.1**
MODS Modra-Piesok 149.32 347 *e*PKP **PKPab 08 05 12.5 -0.1**
GERES GERESS Array B 149.50 352 PKPbc **PKPab 08 05 12.4 -1.0**
comp=Z,1.7nm,0.8s,baz=20,slow=3.6,SNR=4.7
SRO Srobarova 149.61 345 *e*PKP **PKiKP 08 05 10.9 +1.1**
ARR Arges 149.75 335 ⇓P **PKPbc 08 05 08.1 -1.2**
CONA Conrad Observa 150.03 348 *ep*PKiKP **PKPab 08 05 13.6 -2.0**
comp=Z,28nm,1.3s
SAHE Sakarya_HENDEK 150.06 322 ⇑P **PKiKP 08 05 12.8 +1.8**
SIRR Siria 150.06 340 ⇓P **PKPab 08 05 13.3 -2.4**
RONA Rosalia, Austr 150.17 348 *ep*PKiKP **PKPab 08 05 13.8 -2.3**
comp=Z,4.0nm,0.7s
SURR Surduc 150.35 339 ⇓P **PKiKP 08 05 13.6 +2.2**
MOA Molln 150.39 350 *ep*PKiKP **PKPab 08 05 14.7 -2.3**
comp=Z,7.0nm,1.4s
BIOA Bad Ischl, Aus 150.64 351 *i* pPKiKP **PKPab 08 05 15.1 -3.0**
comp=Z,14nm,1.4s
BZS Buzias 150.64 339 ⇑P **PKiKP 08 05 14.8 +2.8**
BZS Buzias 150.64 339 ⇑PKIKP **PKiKP 08 05 14.8 +2.8**
ARSA Arzberg 150.75 348 *ep*PKiKP **PKiKP 08 05 14.9 +2.6**
comp=Z,7.5nm,1.1s
HERR Herculane 151.00 337 ⇑P **PKiKP 08 05 14.7 +1.9**
MMAI Mount Meron Ar 151.03 305 PKPbc **PKiKP 08 05 15.2 +1.9**
comp=Z,5.4nm,0.5s,baz=56,slow=3.6,SNR=13
LESA Schwarzleotal 151.03 352 *i* pPKP pPKPdf 08 05 08.0 -0.3
comp=Z,0.2nm,0.3s
RETA Reutte 151.17 355 *i* pPKiKP **PKiKP 08 05 15.6 +2.4**
comp=Z,9.5nm,1.1s
WATA Walderalm 151.25 354 *ep*PKP pPKPdf 08 05 09.0 +0.3
comp=Z,8.8nm,0.9s
KBA Koelnbreinsper 151.28 351 *i* pPKP **PKiKP 08 05 15.4 +1.9**
comp=Z,0.1nm,0.3s
MOTA Moosalm 151.28 354 *i* pPKP pPKPdf 08 05 08.8 0.0
comp=Z,16nm,1.3s
WTTA Wattenberg 151.31 354 *i* pPKiKP **PKiKP 08 05 16.0 +2.4**
comp=Z,6.5nm,0.5s
MDVR Moldovita 151.34 338 ⇓P **PKiKP 08 05 15.8 +2.3**
PLVB Pleven 151.37 333 ⇓P **PKiKP 08 05 17.0 +3.4**
SOKA Soboth 151.39 349 *ep*PKP pPKPdf 08 05 09.0 +0.1
comp=Z,12nm,1.2s
SQTA Sankt Quirin 151.40 354 *e*PKP **PKPbc 08 05 11.4 -1.8**
comp=Z,14nm,1.2s
DAVA Damuels 151.43 356 *i* pPKiKP **PKiKP 08 05 17.1 +3.3**
comp=Z,9.8nm,1.1s
FETA Feichten 151.64 355 *ep*PKP pPKPdf 08 05 10.1 +0.8
comp=Z,16nm,1.3s
OBKA Obir 151.64 349 *i* pPKP **PKiKP 08 05 16.0 +1.8**
comp=Z,7.4nm,1.4s
MYKA Terra Mystica 151.67 351 *i* pPKP pPKPdf 08 05 09.9 +0.6
comp=Z,1.0nm,0.4s
ABTA Abfaltersbach 151.72 352 *i* pPKP pPKPdf 08 05 10.3 +0.9
comp=Z,17nm,1.5s
BAND Balkesir-Ban 151.94 325 ⇑P **PKiKP 08 05 17.0 +2.1**
BOVS Bovan 152.33 337 ⇑P **PKiKP 08 05 18.3 +2.7**
TORD Torodi Ar. Bea 172.32 136 PKP **PKPdf 08 05 29.9 +0.7**
comp=Z,1.0nm,0.9s,baz=96,slow=1.4,SNR=5.0
TORD PKPab **sPKPab 08 06 56.5 +1.0**
comp=Z,0.6nm,0.7s,baz=258,slow=4.0,SNR=2.3

EST ***18*** *07:46:44.8±0.1,59°.22N×27°.89E, h0km, ML1.6(HEL), Explosion*
LVSN ***18*** *07:46:47.3±0.7, 58°.14N×25°.35E, h0km±16km, ML1.8*
HEL 18 07:46:45.1±0.2, 59°.34N×27°.22E, h0km, ML1.6,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.34**	**83**	*e*P	Pg	07 46 47.4	-4.2
EE04				*e*S	Sg	07 46 50.1	-5.8
EE03	**Tooma soojaam,**	**0.67**	**227**	*e*P	Pb	07 47 00.5	+0.8
EE03				*e*S	Sn	07 47 12.8	-0.3
VSU	**Vasula**	**0.91**	**196**	*e*P	Pg	07 47 01.3	-1.2
VSU				*e*S	Sg	07 47 12.2	-2.1
VSU				AML	AML	07 47 17.2	
VSU	comp=E,26nm,0.5s			AML	AML	07 47 20.6	
VSU	comp=N,29nm,0.5s			AML	AML	07 47 22.3	
VSU	**Vasula**	**0.91**	**196**	*e*P	Pg	07 47 01.1	-1.5
VJF	**Virojoki**	**1.22**	**8**	*e*P	Pg	07 47 08.4	0.0
VJF				MSG		07 47 21.9	
VJF	comp=Z,3.7nm,0.2s			*e*S	Sb	07 47 25.4	+0.1
EE08	**Sarghaua, Vand**	**1.23**	**237**	*e*P	Pn	07 47 10.7	+1.1
EE08				*e*PG	Pb	07 47 11.2	+2.0
EE08				*e*S	Sn	07 47 30.5	+3.7
EE02	**Kiisa, Saku**	**1.30**	**265**	*e*P	Pn	07 47 13.8	+3.3
EE02				*e*S	Sn	07 47 34.1	+5.5
PVF	**Pernaja**	**1.39**	**331**	*e*PG	Pb	07 47 14.9	+2.9
PVF				*e*S	Sn	07 47 36.0	+5.2
HEL1	**Helsinki**	**1.46**	**307**	*e*P	Pb	07 47 16.7	+3.7
HEL1				*e*SG	Sn	07 47 40.1	+7.8
HEL1				MSG		07 47 41.6	
HEL1	comp=Z,2.7nm,0.1s						
HEL5	**Espoo, Suvisaa**	**1.48**	**303**	*e*PG	Pg	07 47 17.8	+4.3
HEL5				*e*SN	Sn	07 47 41.3	+8.3
HEL5				MSG		07 47 43.6	
HEL5	comp=Z,2.5nm,0.1s						
EE07	**Piusa Caves, O**	**1.50**	**175**	*e*P	Pn	07 47 10.0	-3.2
EE07				*e*S	Sg	07 47 27.7	-5.6
MEF	**Metsahovi**	**1.68**	**303**	*e*P	Pg	07 47 21.3	+4.0
MEF				*e*S	Sg	07 47 46.2	+7.2
MEF				AML	AML	07 47 47.8	
MEF	comp=Z,6.7nm,0.3s			AML	AML	07 47 48.2	
MEF	comp=N,17nm,0.2s			AML	AML	07 47 48.4	
MEF	comp=E,7.7nm,0.2s						
MEF	**Metsahovi**	**1.68**	**303**	*e*SB	Sg	07 47 46.7	+7.6
MEF				MSG		07 47 49.6	
MEF	comp=Z,1.7nm,0.1s						
NUR	**Nurmijarvi**	**1.75**	**313**	*e*PG	Pg	07 47 22.2	+3.6

NUR			*e*SB	Sg	07 47 47.9	+6.6
NUR			MSG		07 47 50.1	
	comp=Z,3.0nm,0.1s					
EE01	**Perakula, Nova**	**1.85 268**	*e*P	Pg	07 47 22.9	+2.3
EE01			*e*SB	Sg	07 47 51.0	+6.5
TVF	**Tvarminne**	**2.08 286**	*e*PB	Pg	07 47 27.2	+2.2
TVF			*e*SB	Sg	07 47 58.9	+7.0
TVF			MSG		07 48 00.4	
	comp=Z,2.6nm,0.2s					
FIA0	**FINESS Array S**	**2.19 345**	*e*P	Pb	07 47 25.5	-0.1
FIA0			*e*PB	Pg	07 47 26.5	-0.5
FIA0			MSG		07 47 49.9	
	comp=Z,3.0nm,0.2s					
FIA0			*e*SG	Sg	07 47 58.7	+3.3
FIA1	**FINESS Array S**	**2.19 345**	*e*P	Pb	07 47 25.5	-0.1
FIA1			*e*SG	Sg	07 47 58.7	+3.2
RUF	**Ruokolahti**	**2.27 22**	*e*P	Pn	07 47 23.7	-0.1
RUF			MSG		07 47 52.2	
	comp=Z,3.8nm,0.2s					
RUF			*e*SG	Sb	07 47 55.5	+0.2
EE06	**Soera, Palade,**	**2.28 263**	*e*SB	Sg	07 48 03.3	+5.0
KPF	**Kankaanpaa**	**3.57 317**	*e*P	Pb	07 47 46.8	-2.2
JOF	**Joensuu**	**4.11 27**	*e*P	Pn	07 47 48.5	-0.5

ASRS 18 08:00:15.0±0.7, 54°.02N×86°.60E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 18 08:00:22.0±1.1, 54°.26N×86°.17E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*JMA **18** 08:09:35.4±0.1, 24°.N±1°.×122°.7E±0°.3, h102km±1km, MV2.1/8, NW OFF ISHIGAKIJIMA IS*
*TAP **18** 08:09:35.3, 24°.64N×122°.69E, h105km, ML3.0, C*
ISC 18 08:09:35.5±1.7, 24°.59N±0°.05×122°.70E±0°.03, h104km±10km, n67, σ0°.52/109, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**114**	*e*P	**Pn**	**08 09 50.7**	**+0.1**
YOJ				*e*S	**Sn**	**08 10 01.9**	**-0.1**
EOS2	**EOS2**	**0.46**	**248**	P	**Pn**	**08 09 51.6**	**+0.3**
EOS2				S	**Sn**	**08 10 03.9**	**+0.8**
EOS3	**EOS3**	**0.46**	**229**	*i* P	**Pn**	**08 09 51.8**	**+0.5**
EOS3				*e*S	**Sn**	**08 10 04.4**	**+1.3**
EOS4	**EOS4**	**0.58**	**216**	*i* P	**Pn**	**08 09 52.2**	**+0.3**
EOS4				S	**Sn**	**08 10 04.9**	**+0.7**
EGS		**0.74**	**290**	*e*S	**Sn**	**08 10 06.7**	**-0.6**
TWB1	**Santiao Chiao**	**0.77**	**303**	P	**Pn**	**08 09 53.9**	**0.0**
TWC	**Suao**	**0.77**	**272**	P	**Pn**	**08 09 53.5**	**-0.4**
TWC				S	**Sn**	**08 10 06.5**	**-1.3**
ESAO	**Su ao**	**0.78**	**269**	*e*P	**Pn**	**08 09 53.3**	**-0.7**
EWUT	**Wuta**	**0.85**	**260**	*e*P	**Pn**	**08 09 54.6**	**-0.1**
EWUT				*e*S	**Sn**	**08 10 08.7**	**-0.4**
TIPB	**Shuangxi**	**0.88**	**296**	*i* P	**Pn**	**08 09 55.1**	**+0.1**
TIPB				*i* S	**Sn**	**08 10 08.7**	**-1.0**
ENA	**Nanau**	**0.89**	**260**	P	**Pn**	**08 09 55.2**	**+0.1**
ENA				*e*S	**Sn**	**08 10 10.0**	**+0.2**
NDS	**Dongshan**	**0.89**	**273**	*e*P	**Pn**	**08 09 55.1**	**-0.1**
SXI1	**Grass Mountain**	**0.90**	**304**	P	**Pn**	**08 09 55.5**	**+0.2**
SXI1				S	**Sn**	**08 10 10.7**	**+0.5**
EAHA	**Aohua**	**0.91**	**254**	*e*P	**Pn**	**08 09 55.3**	**0.0**
TWE	**Neicheng**	**0.94**	**278**	*e*P	**Pn**	**08 09 55.8**	**+0.2**
TWE				*e*S	**Sn**	**08 10 11.0**	**+0.1**
NWF	**Wu-fen Shan**	**0.96**	**300**	*e*P	**Pn**	**08 09 56.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.98**	**105**	*e*P	**Pn**	**08 09 55.9**	**0.0**
IRIF				*e*S	**Sn**	**08 10 11.3**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.02**	**280**	P	**Pn**	**08 09 56.7**	**+0.2**
FUSB				S	**Sn**	**08 10 12.0**	**-0.4**
ENTT	**Nioudou**	**1.03**	**273**	*e*P	**Pn**	**08 09 57.1**	**+0.5**
LATG	**Datong**	**1.07**	**267**	P	**Pn**	**08 09 57.2**	**+0.2**
LATG				S	**Sn**	**08 10 13.4**	**0.0**
ETL	**Fush Village**	**1.07**	**246**	*e*P	**Pn**	**08 09 56.6**	**-0.4**
TWA	**Mucha**	**1.08**	**291**	*e*S	**Sn**	**08 10 13.1**	**-0.4**
NACB	**Ninganchiao**	**1.09**	**248**	P	**Pn**	**08 09 56.8**	**-0.4**
NACB	**Ninganchiao**	**1.09**	**248**	*e*P	**Pn**	**08 09 56.7**	**-0.4**
NACB				*e*S	**Sn**	**08 10 13.0**	**-0.6**
NWLT	**Wulai**	**1.10**	**280**	P	**Pn**	**08 09 57.5**	**+0.1**
NWLT				S	**Sn**	**08 10 13.0**	**-0.9**
TWD	**Chiawan**	**1.12**	**243**	*e*P	**Pn**	**08 09 57.1**	**-0.5**
TWD				*e*S	**Sn**	**08 10 14.2**	**-0.1**
YM01	**YM01**	**1.16**	**299**	*e*S	**Sn**	**08 10 14.9**	**-0.3**
YM08	**YM08**	**1.17**	**301**	*e*P	**Pn**	**08 09 57.8**	**-0.3**
ETLH	**Xiulin Townshi**	**1.17**	**251**	P	**Pn**	**08 09 58.0**	**-0.2**
ETLH				*e*S	**Sn**	**08 10 15.0**	**-0.4**
ZUZH	**Zhuzihu**	**1.19**	**299**	*e*P	**Pn**	**08 09 58.5**	**+0.1**
ZUZH				*e*S	**Sn**	**08 10 15.6**	**-0.1**
YHNB	**Yeheng**	**1.20**	**274**	P	**Pn**	**08 09 59.0**	**+0.4**
YHNB	**Yeheng**	**1.20**	**274**	S	**Sn**	**08 10 16.4**	**+0.4**
YHNB	**Yeheng**	**1.20**	**274**	P	**Pn**	**08 09 58.6**	**+0.1**
YHNB				S	**Sn**	**08 10 15.8**	**-0.2**
NNSB	**Datong**	**1.21**	**263**	*i* P	**Pn**	**08 09 58.6**	**0.0**
NNSB				S	**Sn**	**08 10 15.6**	**-0.5**
NNSH	**Datong**	**1.21**	**263**	P	**Pn**	**08 09 58.5**	**-0.2**
NNSH				*e*S	**Sn**	**08 10 16.1**	**-0.1**
TWY	**Chenhua**	**1.21**	**305**	*e*S	**Sn**	**08 10 15.4**	**-0.5**
NNS	**Nan Shan**	**1.22**	**263**	*e*P	**Pn**	**08 09 58.8**	**0.0**
NNS				*e*S	**Sn**	**08 10 16.0**	**-0.3**
NSK	**Sanguang**	**1.22**	**274**	*i* P	**Pn**	**08 09 58.9**	**+0.2**
NSK				*i* S	**Sn**	**08 10 15.9**	**-0.4**
JKRS	**Kuro-shima**	**1.25**	**106**	S	**Sn**	**08 10 16.9**	**+0.2**
ETM	**Tongmen**	**1.26**	**241**	*e*P	**Pn**	**08 09 58.8**	**-0.4**
LXIB	**Xiulin Townshi**	**1.30**	**244**	*e*P	**Pn**	**08 09 59.3**	**-0.5**
LXIB				*e*S	**Sn**	**08 10 17.2**	**-1.0**
SHUL	**Shoufeng**	**1.31**	**233**	*e*P	**Pn**	**08 09 59.7**	**0.0**
SHUL				*e*S	**Sn**	**08 10 17.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.34 99**		P	**Pn**	**08 10 00.7**	**+0.1**
JIJ				S	**Sn**	**08 10 17.9**	**-0.7**
FUSS	**Fushou**	**1.37**	**256**	*e*P	**Pn**	**08 10 00.8**	**+0.2**
FUSS				*e*S	**Sn**	**08 10 20.0**	**+0.4**
TEGC	**Jichi Village**	**1.37**	**230**	*e*P	**Pn**	**08 10 00.3**	**-0.2**
WHF	**Hehuan Shan**	**1.38**	**251**	*e*P	**Pn**	**08 10 00.7**	**-0.3**
ESL	**Shilin**	**1.39**	**236**	*e*P	**Pn**	**08 10 00.3**	**-0.4**
KSHI	**Guanxi Townshi**	**1.40**	**278**	*e*P	**Pn**	**08 10 01.1**	**+0.4**
KSHI				*e*S	**Sn**	**08 10 20.4**	**+0.5**
TWT	**Tachien**	**1.43**	**257**	*e*P	**Pn**	**08 10 02.4**	**+1.1**
TWT				*e*S	**Sn**	**08 10 21.4**	**+0.6**
NFF	**Wufeng Townshi**	**1.44**	**272**	P	**Pn**	**08 10 01.8**	**+0.5**
NFF				S	**Sn**	**08 10 20.6**	**-0.2**
TDCB	**Techi**	**1.44**	**257**	P	**Pn**	**08 10 01.9**	**+0.4**
TDCB				S	**Sn**	**08 10 20.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.47 90**		*e*P	**Pn**	**08 10 01.7**	**+0.1**
EGFH	**Guangfu**	**1.48**	**232**	*e*S	**Sn**	**08 10 22.1**	**+0.5**
WARBT	**Fenglin Townsh**	**1.48**	**234**	P	**Pn**	**08 10 01.1**	**-0.6**
WARBT				*e*S	**Sn**	**08 10 20.3**	**-1.4**
OWD	**Renai**	**1.52**	**246**	*e*P	**Pn**	**08 10 02.6**	**+0.1**
OWD				*e*S	**Sn**	**08 10 22.8**	**-0.1**
LIOB	**Emei**	**1.53**	**272**	P	**Pn**	**08 10 02.8**	**+0.4**
LIOB				S	**Sn**	**08 10 22.7**	**-0.1**
NSTT	**Nanjuang**	**1.54**	**272**	*e*P	**Pn**	**08 10 02.7**	**+0.2**
NSTT				*e*S	**Sn**	**08 10 22.7**	**-0.4**
WUSB	**Renai**	**1.56**	**248**	*i* P	**Pn**	**08 10 03.2**	**+0.3**
WUSB				S	**Sn**	**08 10 23.4**	**-0.2**
HGSD	**Ruisui**	**1.60**	**227**	P	**Pn**	**08 10 03.1**	**-0.1**
HGSD				*e*S	**Sn**	**08 10 23.7**	**-0.5**
WHP	**Taichung City**	**1.63**	**259**	P	**Pn**	**08 10 04.4**	**+0.8**
WHP				*e*S	**Sn**	**08 10 25.4**	**+0.4**
VWDT	**VWDT**	**1.65**	**240**	*i* P	**Pn**	**08 10 04.1**	**+0.3**
VWDT				*e*S	**Sn**	**08 10 24.9**	**-0.4**
EHYH	**Wanrong**	**1.65**	**229**	*e*P	**Pn**	**08 10 04.0**	**+0.2**
EHYH				*e*S	**Sn**	**08 10 26.1**	**+0.7**
EHY	**Hungye**	**1.66**	**230**	*e*P	**Pn**	**08 10 03.3**	**-0.6**
EHY				*e*S	**Sn**	**08 10 24.8**	**-0.7**
YULB	**Yu-li**	**1.75**	**227**	P	**Pn**	**08 10 05.2**	**+0.1**
YULB	**Yu-li**	**1.75**	**227**	P	**Pn**	**08 10 04.7**	**-0.4**
YULB				S	**Sn**	**08 10 26.2**	**-1.5**
SSLB	**Suanglung**	**1.78**	**244**	P	**Pn**	**08 10 06.1**	**+0.6**
TPUB	**Ta-pu**	**2.29**	**236**	P	**Pn**	**08 10 13.7**	**+1.7**

ASRS 18 08:14:40.0±1.2, 53°.44N×87°.27E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 18 08:15:28.0±1.0, 53°.54N×87°.63E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*AFAD **18** 08:29:50.3, 35°.05N×27°.97E, h14km±4km, ML2.7*
*ISK **18** 08:29:50.9, 35°.04N×27°.83E, h10km, ML3.0/16*
*ATH **18** 08:29:56.6, 35°.41N×27°.72E, h4km±3km, ML2.7/6, Manual Solution by S.Koutrakis First location: 2019/10/18 08:31:53, This location: 2019/10/18 08:44:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
ISC 18 08:29:52.2±1.8, 34°.94N±0°.08×27°.64E±0°.06, h29km±14km, n34, σ2°.01/42, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.72**	**327**	Pg	**Pb**	**08 30 05.8**	**-0.4**
KARP				Sg	**Sb**	**08 30 16.6**	**+0.8**
KARP	**Karpathos**	**0.72**	**327**	P	**Pb**	**08 30 05.6**	**-0.6**
KARP				S	**Sb**	**08 30 15.0**	**-0.8**
KARP	**Karpathos**	**0.72**	**327**	P	**Pb**	**08 30 05.8**	**-0.4**
KARP				S	**Sb**	**08 30 12.1**	**-3.7**
ZKR	**Zakros**	**1.18**	**279**	P	Pb	08 30 18.8	+4.8
ZKR	**Zakros**	**1.18**	**279**	P	Pb	08 30 20.6	+6.6
ZKR				S	Sb	08 30 38.8	+9.1
ARG	**Arkhangelos**	**1.33 17**		Pn	**Pn**	**08 30 14.2**	**-0.7**
ARG	**Arkhangelos**	**1.33 17**		P	**Pn**	**08 30 14.0**	**-0.8**
ARG	**Arkhangelos**	**1.33 17**		P	**Pn**	**08 30 13.9**	**-1.0**
ARG				S	**Sn**	**08 30 24.5**	**-7.1**
NPS	**Neapolis**	**1.69**	**281**	P	Pb	08 30 28.2	+5.5
YAZI	**Mula-Dat§a-**	**1.74**	**355**	P	**Pn**	**08 30 20.8**	**+0.3**
YAZI				S	**Sb**	**08 30 47.6**	**+2.7**
YAZI				*i* IAML		08 30 49.0	
	comp=E,85nm,0.5s						
YAZI				*i* IAML		08 30 55.0	
	comp=N,70nm,0.7s						
DAT	**Datca**	**1.78**	**358**	Pn	**Pn**	**08 30 21.3**	**+0.1**
DAT				Sn	**Sn**	**08 30 43.6**	**+0.6**
DAT	**Datca**	**1.78**	**358**	P	**Pn**	**08 30 21.4**	**+0.3**
DAT				S	**Sb**	**08 30 46.9**	**+0.6**
DAT				*i* IAML		08 30 48.0	
	comp=E,108nm,0.6s						
DAT				*i* IAML		08 30 49.0	
	comp=N,120nm,0.5s						
DATC	**Datca-Mugla**	**1.81 1**		Pn	**Pn**	**08 30 21.6**	**+0.1**
TURN	**Turunc**	**1.89 15**		Pn	**Pn**	**08 30 22.6**	**0.0**
TURN	**Turunc**	**1.89 15**		P	**Pn**	**08 30 20.5**	**-2.1**
TURN				S	**Sb**	**08 30 49.6**	**+0.3**
DALY	**Dalyan (Mula)**	**2.04 23**		Pn	**Pn**	**08 30 24.2**	**-0.4**
AKAS	**Kas**	**2.06 51**		Pn	**Pn**	**08 30 23.9**	**-1.0**
BDRM	**Kayabasi**	**2.12 356**		P	**Pn**	**08 30 27.8**	**+2.0**
BDRM				S	**Sn**	**08 30 54.1**	**+2.8**
BODT	**Bodrum**	**2.13 353**		Pn	**Pn**	**08 30 26.5**	**+0.6**
SABU	**Mula-Dalaman**	**2.16 30**		P	**Pn**	**08 30 26.2**	**-0.2**
SABU				S	**Sb**	**08 31 03.3**	**+6.2**
SABU				*i* IAML		08 31 12.0	
	comp=N,69nm,1.0s						
YER	**Yerkesik**	**2.25 13**		Pn	**Pn**	**08 30 27.6**	**+0.1**
IDI	**Anoyia**	**2.28 279**		P	**Pb**	**08 30 35.6**	**+2.9**
MLSB	**Milas**	**2.35 3**		Pn	**Pn**	**08 30 27.9**	**-1.0**
CAME	**Cameli-Denizli**	**2.41 34**		Pn	**Pn**	**08 30 29.5**	**-0.3**
ELL	**Elmali**	**2.58 45**		Pn	**Pn**	**08 30 31.4**	**-0.7**
AYDN	**Tasoluk**	**2.72 4**		P	**Pn**	**08 30 34.1**	**0.0**
AYDN				*i* IAML		08 31 17.0	
	comp=E,43nm,0.5s						
AYDN				*i* IAML		08 31 23.0	
	comp=N,30nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.72 22**		P	**Pn**	**08 30 34.9**	**+0.9**
TAVA				S	**Sb**	**08 31 15.1**	**+1.9**
TAVA				*i* IAML		08 31 19.0	
	comp=E,36nm,0.6s						
TAVA				*i* IAML		08 31 27.0	
	comp=N,32nm,1.2s						
SMG	**Samos**	**2.83**	**347**	P	**Pn**	**08 30 36.7**	**+1.1**
APMY	**Acipayam-Deniz**	**2.86 28**		Pn	**Pn**	**08 30 35.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**3.00 4**		Pn	**Pn**	**08 30 38.4**	**+0.4**
KORT	**Korkueli**	**3.01 46**		Pn	**Pn**	**08 30 37.3**	**-0.7**
ANKY	**Antikythira Is**	**3.66**	**286**	P	**Pb**	**08 30 54.2**	**-2.0**
GAZI	**Gazipasa**	**4.02 70**		Pn	**Pn**	**08 30 51.8**	**-0.1**
SEYD	**Seydisehir-KON**	**4.19 53**		Pn	**Pn**	**08 30 54.3**	**0.0**

IDC 18 08:38:24.6±47.0, 15°.20S×173°.98W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=905.2km s-min=183.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.66**	**240**	P	P	08 46 31.1	-0.1
	1.2nm,0.5s,baz=85,slow=11,SNR=1.5						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	08 47 16.2	+0.1
	0.4nm,0.4s,baz=92,slow=7.2,SNR=14						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**49.64**	**252**	P	P	08 47 18.1	-0.4
	1.6nm,0.3s,baz=88,slow=8.2,SNR=41						
	1.6nm,0.3s						

*NEIC **18** 08:51:37.6±1.4, 19°.302N±0°.008×155°.216W±0°.008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=345.0*
HVO 18 08:51:36.7±1.6, 19°.304N±0°.010×155°.213W±0°.004, h1km±8km, ML2.5/33, ML2.4/42(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**358**		Pg	08 51 39.2	+1.1
PUH				IAML		08 51 41.8	
	comp=N,2μm,0.3s						
PUH				IAML		08 51 42.7	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.07**	**358**		Sg	08 51 41.2	+2.0
KNHH	**Kane Nui o Ham**	**0.09 29**			Pg	08 51 39.5	+1.1
HLP	**Hilina Pali**	**0.09**	**265**		Pg	08 51 39.8	+1.3
HLP					Sg	08 51 42.1	+2.4
HLP	**Hilina Pali**	**0.09**	**265**	IAML		08 51 42.2	
	comp=E,5μm,0.3s						
HLP				IAML		08 51 42.2	
	comp=N,6μm,0.1s						
KKO	**Keanakako'i**	**0.11**	**332**		Pg	08 51 39.9	+1.1
KKO					Sg	08 51 42.4	+2.1
RIM	**Rim**	**0.11**	**328**		Pg	08 51 39.9	+1.1
RIM					Sg	08 51 42.0	+1.7
SDHHI	**Sand Hill**	**0.11**	**318**		Pg	08 51 39.9	+0.9
SDHHI					Sg	08 51 42.5	+2.0
BYL	**Byron's Ledge**	**0.12**	**338**		Pg	08 51 39.9	+0.9
BYL	**Byron's Ledge**	**0.12**	**338**		Sg	08 51 42.6	+2.0
BYL	**Byron's Ledge**	**0.12**	**338**	IAML		08 51 42.6	
	comp=N,923nm,0.4s						
STCH	**Steam Cracks**	**0.12 46**			Pg	08 51 39.9	+0.9
STCH					Sg	08 51 42.4	+1.8
STCH	**Steam Cracks**	**0.12 46**		IAML		08 51 42.6	
	comp=N,2μm,0.3s						
STCH				IAML		08 51 42.8	
	comp=E,32nm,0.1s						
HATHI	**Halema'uma'u T**	**0.13**	**339**		Pg	08 51 40.1	+0.9
HATHI					Sg	08 51 42.9	+2.0
HATHI	**Halema'uma'u T**	**0.13**	**339**	IAML		08 51 43.0	
	comp=E,815nm,0.4s						
HATHI				IAML		08 51 44.8	
	comp=N,737nm,0.2s						
OBL	**Observatory Le**	**0.13**	**329**		Pg	08 51 40.3	+1.0
WRMHI	**West Rim**	**0.13**	**321**		Pg	08 51 40.2	+0.9
WRMHI					Sg	08 51 43.0	+1.9
JCUZ	**Jacuzzi**	**0.13 53**			Pg	08 51 40.3	+1.0
JCUZ					Sg	08 51 42.8	+1.7
NPOC	**North of Pu'u**	**0.13 48**			Pg	08 51 40.2	+0.9
NPOC					Sg	08 51 42.8	+1.8
SBLHI	**Steaming Bluff**	**0.13**	**337**		Pg	08 51 40.2	+0.8
SBLHI					Sg	08 51 42.9	+1.8
UWB	**Uwekahuna Bluf**	**0.14**	**333**		Pg	08 51 40.2	+0.8
UWB					Sg	08 51 42.9	+1.7
UWE	**Uwekahuna**	**0.14**	**327**		Pg	08 51 40.3	+0.9
UWE	**Uwekahuna**	**0.14**	**327**	IAML		08 51 45.2	
	comp=N,650nm,0.6s						
UWE				IAML		08 51 45.4	
	comp=E,736nm,0.3s						
RSD	**Rainshed**	**0.17**	**339**		Pg	08 51 40.7	+0.7
RSD					Sg	08 51 43.9	+1.6
RSD	**Rainshed**	**0.17**	**339**	IAML		08 51 45.4	
	comp=E,214nm,0.3s						
RSD				IAML		08 51 45.8	
	comp=N,239nm,0.4s						
HTC	**Hot Caves**	**0.19**	**249**		Pg	08 51 41.5	+1.2
JOKA	**Jonika Flow**	**0.24 57**			Pg	08 51 41.7	+0.4
JOKA					Sg	08 51 46.7	+2.3
JOKA	**Jonika Flow**	**0.24 57**		IAML		08 51 47.5	
	comp=E,201nm,0.7s						
JOKA				IAML		08 51 48.0	
	comp=N,304nm,0.6s						
AIN	**Ainahou**	**0.24**	**286**		Pg	08 51 42.3	+0.9
AIN					Sg	08 51 47.5	+2.9
AIN	**Ainahou**	**0.24**	**286**	IAML		08 51 47.9	
	comp=E,2μm,0.3s						
AIN				IAML		08 51 48.1	
	comp=N,4μm,0.1s						
MLH	**Mauna Loa**	**0.25**	**319**		Pg	08 51 42.3	+0.8
MLH					Sg	08 51 46.6	+1.8
MLH	**Mauna Loa**	**0.25**	**319**	IAML		08 51 48.4	
	comp=N,440nm,0.3s						
MLH				IAML		08 51 49.0	
	comp=E,498nm,0.2s						
KHU	**Kahuku**	**0.38**	**261**		Pg	08 51 44.5	+0.4
KHU					Sg	08 51 50.9	+1.8
HPO	**Honuapo**	**0.39**	**236**		Pg	08 51 45.0	+0.8
HPO					Sg	08 51 50.9	+1.7
HMH	**Humu'ula Sheep**	**0.39**	**319**		Pg	08 51 44.7	+0.4
HMH	**Humu'ula Sheep**	**0.39**	**319**	IAML		08 51 51.7	
	comp=N,2μm,0.3s						
HMH				IAML		08 51 51.9	
	comp=E,1μm,0.4s						
MWH	**Mokuaweoweo**	**0.41**	**297**		Pg	08 51 44.9	+0.4
ALEP	**Alea Permanent**	**0.47**	**300**		Pg	08 51 45.8	0.0
ALEP					Sg	08 51 53.3	+1.4
POHA	**Pohakuloa**	**0.54**	**326**		Pg	08 51 47.0	-0.2
POHA					Sg	08 51 54.7	+0.4
POHA	**Pohakuloa**	**0.54**	**326**	IAML		08 51 55.4	
	comp=E,354nm,0.7s						
POHA				IAML		08 51 55.7	
	comp=E,426nm,0.7s						
HUH	**Hualalai**	**0.70**	**303**		Pg	08 51 49.5	-0.6

HEL 18 09:01:07.0±0.1, 60°.64N×21°.49E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.41 19**		PG	Pg	09 01 14.4	-0.5
	baz=203						
RAF				SG	Sg	09 01 19.3	-0.8
AAL	**Aland**	**0.88**	**239**	PB	Pg	09 01 23.3	-0.4
	baz=53						
TVF	**Tvarminne**	**1.18**	**132**	PN	Pb	09 01 30.5	+0.2
TVF				MSG		09 01 43.0	
	comp=Z,0.4nm,0.2s						
KPF	**Kankaanpaa**	**1.23 13**		PG	Pg	09 01 29.3	-1.3
	baz=198						
KPF				MSG		09 01 44.3	
	comp=Z,1.1nm,0.2s						
KPF				SB	Sg	09 01 45.5	-1.1
KEF	**Keuruu**	**2.23 45**		MSG		09 02 13.1	
	comp=Z,0.6nm,0.2s						
KEF				SG	Sb	09 02 17.0	+0.7
FIA0	**FINESS Array S**	**2.37 68**		PG	Pb	09 01 49.7	-0.8
	baz=246						
FIA0				MSG		09 02 17.0	
	comp=Z,0.6nm,0.2s						
VAF	**Ylistaro**	**2.48 13**		MSG		09 02 20.3	
	comp=Z,0.9nm,0.2s						
VAF				SG	Sb	09 02 23.2	-0.2
HEMU	**Hemsoen**	**2.63**	**323**	SG	Sb	09 02 27.0	-0.7

*DJA **18** 09:10:14.3±0.6, 5°.S±4°.×12°.8E±°., h293km±11km, M4.1/13, mB5.0/1, mb4.2/6, MLv4.1/13, Mw(mB)4.3/1*
*IDC **18** 09:10:16.0±3.2, 5°.27S×128°.09E, h328km±67km, mb3.6/1, mbtmp4.2/5, Error ellipse: s-maj=88.3km s-min=33.1km az=119.0*
ISC 18 09:10:13.8±1.0, 5°.17S±0°.08×128°.19E±0°.07, h300km, n27, σ1°.54/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.48 0**		P	**Pn**	**09 10 57.9**	**+1.0**
BNDI	**Bandanaira**	**1.83 69**		P	Pn	09 10 48.4	-11
MSAI	**Masohi**	**1.96 22**		P	**Pn**	**09 10 59.9**	**-0.4**
NLAI	**Namlea**	**2.21 331**		P	**Pn**	**09 11 03.1**	**+0.8**
SANI	**Sanana**	**3.80 325**		P	**Pn**	**09 11 16.2**	**-1.7**
FAKI	**Fak Fak**	**4.63 61**		P	**Pn**	**09 11 27.9**	**+0.8**
FAKI				S	**S**	**09 12 24.8**	**-1.1**
SWI	**Sorong**	**5.27 36**		P	**Pn**	**09 11 34.7**	**+0.2**
	0.2nm36nm,0.6s						
KMPI	**Kaimana, Papua**	**5.70 75**		P	**Pn**	**09 11 39.9**	**+0.3**
KMPI				S	**S**	**09 12 47.3**	**-1.4**
SOEI	**Soe**	**5.99 220**		P	**Pn**	**09 11 43.8**	**+0.7**
SOEI	**Soe**	**5.99 220**		P	**Pn**	**09 11 42.9**	**-0.2**
	0.2nm23nm,0.8s						
SOEI				S	**S**	**09 12 54.6**	**-0.4**
	0.2nm23nm,0.8s						
BATI	**Baumata**	**6.71 222**		P	**Pn**	**09 11 51.9**	**+0.1**
	37nm,0.4s,baz=24,slow=2.3,SNR=3.2						
BATI				S	**S**	**09 13 13.1**	**+2.1**
	21nm,0.4s,baz=270,slow=20,SNR=1.7						
EDFI	**Ende, Flores**	**7.36 241**		P	**Pn**	**09 12 00.1**	**+0.4**
PLAI	**Plampang**	**10.95 250**		P	**Pn**	**09 12 42.3**	**-1.4**
FITZ	**Fitzroy Crossi

WRAB	**Tennant Creek**	**14.24 159**	Pn	**Pn**	**09 23 50.5**	**+0.1**
WRAB	**Tennant Creek**	**14.24 159**	P	**Pn**	**09 23 50.7**	**+0.3**
WRA	**Warramunga Arr**	**14.25 159**	P	**Pn**	**09 23 50.4**	**-0.1**
	1.6nm,0.4s,baz=339,slow=11,SNR=65					
WRA			S	**S**	**09 26 21.4**	**-7.6**
	0.6nm,0.4s,baz=330,slow=20,SNR=3.5					
WR8	**Warramunga Arr**	**14.32 159**	Pn	**Pn**	**09 23 51.2**	**-0.1**
COEN	**Coen**	**15.72 119**	P	**P**	**09 24 08.5**	**+0.1**
COEN			IAmb	IAmb	09 24 11.3	
	comp=Z,7.7nm,0.8s					
COEN	**Coen**	**15.72 119**	P	**P**	**09 24 08.4**	**+0.1**
MBWA	**Marble Bar**	**17.06 211**	P	**P**	**09 24 24.2**	**+1.2**
MBWA			IAmb	IAmb	09 24 35.8	
	comp=Z,4.3nm,0.9s					
QIS	**Mount Isa**	**17.27 145**	P	**P**	**09 24 26.4**	**+1.1**
QIS	**Mount Isa**	**17.27 145**	S	**S**	**09 27 38.3**	**+3.5**
AS31	**Alice Springs**	**17.62 165**		**Pn**	**09 24 31.1**	**+0.1**
ASAR	**Alice Springs**	**17.62 165**		**Pn**	**09 24 31.2**	**+0.2**
ASAR	**Alice Springs**	**17.62 165**	P	**Pn**	**09 24 30.9**	**-0.1**
	comp=Z,12nm,0.4s,baz=344,slow=11,SNR=280					
ASAR			S	**S**	**09 27 37.9**	**-4.0**
	comp=Z,1.3nm,0.7s,baz=347,slow=25,SNR=7.2					
AS01	**Alice Springs**	**17.63 165**	P	**P**	**09 24 30.9**	**+1.6**
INKA	**Innaminka**	**23.80 154**	P	**P**	**09 25 33.3**	**+1.3**
INKA			IAmb	IAmb	09 25 35.8	
	comp=Z,4.8nm,1.1s					
FORT	**Forrest**	**24.09 182**	P	**P**	**09 25 35.2**	**+0.5**
FORT			IAmb	IAmb	09 25 59.9	
	comp=Z,9.2nm,1.0s					
BBOO	**Buckleboo**	**26.91 167**	P	**P**	**09 25 59.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**28.42 201**	LR	LR	09 39 25.6	
	comp=Z,40nm,20.9s,baz=277,slow=39					
CAN	**Canberra**	**33.99 150**	P	**P**	**09 27 03.5**	**+1.3**
CAN			IAmb	IAmb	09 27 12.8	
	comp=Z,7.0nm,1.0s					
MKAR	**Makanchi Array**	**67.35 327**	P	**P**	**09 31 08.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=131,slow=7.6,SNR=4.2					
	comp=Z,0.2nm,0.3s					
VNDA	**Vanda**	**72.98 173**	P	**P**	**09 31 44.0**	**-0.6**
VNDA	**Vanda**	**72.98 173**	P	**P**	**09 31 43.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=319,slow=7.0,SNR=3.2					
	comp=Z,0.3nm,0.4s					
QSPA	**South Pole Qui**	**83.39 180**	P	**P**	**09 32 42.8**	**+0.7**
QSPA	**South Pole Qui**	**83.39 180**	P	**P**	**09 32 42.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=184,slow=2.0,SNR=6.3					
	comp=Z,0.6nm,0.5s					

ASRS 18 09:35:24.0±0.8, 54°.38N×86°.85E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 18 09:35:27.0±0.4, 54°.01N×86°.60E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 18 09:55:51.0±0.8, 54°.12N×87°.12E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 18 09:56:45.0±0.4, 55°.68N×86°.01E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*UPP **18** 09:59:40.3±3.5, 64°.44N×31°.73E, h0km, ML1.9, Presumed earthquake*
*HEL **18** 09:59:46.9±0.0, 64°.68N×30°.72E, h0km, ML1.8, Explosion*
*KOLA **18** 09:59:47.0, 64°.64N×30°.93E, h0km, ML2.3, Error ellipse: s-maj=19.9km s-min=8.4km az=150.0, Kostomuksha, Karelia*
*IDC **18** 09:59:47.3±2.2, 64°.67N×31°.16E, h0km, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=30.7km s-min=10.1km az=102.0*

ISC 18 09:59:46.2±0.9, 64°.71N±0°.03×30°.64E±0°.05, h0km, n34, σ1=12/49, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.58**	**212**	*e*P	**Pg**	**09 59 57.2**	**0.0**
RMF				*e*S	**Sg**	**10 00 04.7**	**0.0**
KU1	**Kurvinen**	**0.97**	**333**	*e*P	**Pg**	**10 00 05.1**	**+0.3**
KU1				*e*S	**Sg**	**10 00 18.1**	**+0.7**
KU6	**Riekki**	**1.36**	**347**	*e*P	**Pg**	**10 00 11.9**	**-0.3**
KU6				*e*S	**Sg**	**10 00 29.9**	**+0.1**
MSF	**Maaselka**	**1.38**	**332**	*e*P	**Pn**	**10 00 12.4**	**-0.3**
MSF				*e*S	**Sg**	**10 00 30.7**	**+0.2**
KU2	**Taivalkoski**	**1.43**	**316**	*e*P	**Pn**	**10 00 13.2**	**-0.1**
KU2				*e*S	**Sg**	**10 00 32.1**	**+0.1**
OLKF	**Oulanka, Finla**	**1.70**	**343**	*e*P	**Pn**	**10 00 17.7**	**+0.7**
OLKF				*e*S	**Sn**	**10 00 40.1**	**+0.6**
OLKF				MSG		10 00 41.5	
	comp=Z,3.4nm,0.1s						
NIF	**Nilsia**	**1.82**	**225**	*e*PN	**Pn**	**10 00 19.4**	**+0.8**
NIF				*e*S	**Sn**	**10 00 42.5**	**+0.2**
NIF				MSG		10 00 44.8	
	comp=Z,8.2nm,0.1s						
JOF	**Joensuu**	**1.82**	**170**	*e*P	**Pb**	**10 00 19.4**	**-0.9**
JOF	**Joensuu**	**1.82**	**170**	*e*P	**Pn**	**10 00 18.4**	**-0.3**
JOF				*e*S	**Sn**	**10 00 41.6**	**-0.8**
OUL	**Oulu**	**2.06**	**283**	*e*PB	**Pb**	**10 00 24.0**	**-0.4**
OUL				*e*SB	**Sb**	**10 00 50.6**	**+0.1**
OUL				MSG		10 00 54.2	
	comp=Z,7.8nm,0.1s						
KVDA	**Kovda**	**2.20**	**24**	P	**Pn**	**10 00 24.2**	**+0.4**
KVDA				S	**Sn**	**10 00 51.5**	**-0.2**
APA0	**Apatity Array**	**3.06**	**17**	P	**Pn**	**10 00 36.8**	**+1.0**
APA0				S	**Sn**	**10 01 14.1**	**+1.0**
APA	**Apatity**	**3.09**	**20**	S	**Sn**	**10 01 13.8**	**+0.2**
KALU	**Kalix**	**3.27**	**294**	P	**Pn**	**10 00 39.9**	**+1.3**
LVZ	**Lovozero**	**3.59**	**25**	S	**Sn**	**10 01 24.5**	**-1.6**
KEF	**Keuruu**	**3.63**	**228**	*e*P	**Pn**	**10 00 45.9**	**+2.3**
PAJU	**Pajala**	**3.87**	**310**	P	**Pn**	**10 00 47.7**	**+0.9**
FINES	**FINESS Array B**	**3.88**	**214**	Pn	**Pn**	**10 00 47.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=9.2						
FINES				Pg	**Pb**	**10 00 56.8**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=32,slow=15,SNR=12						
FINES				Lg	Lg	10 01 46.8	
	comp=Z,1.9nm,0.3s,baz=39,slow=27,SNR=11						
	comp=Z,0.6nm,0.3s						
VAF	**Ylistaro**	**3.90**	**248**	*e*P	**Pn**	**10 00 49.0**	**+1.8**
SJUU	**Sjulsmark**	**3.90**	**286**	P	**Pn**	**10 00 48.4**	**+1.2**
BURU	**Burvik**	**3.99**	**272**	P	**Pn**	**10 00 48.6**	**+0.2**
ODEU	**Stanfors**	**4.29**	**270**	P	**Pn**	**10 00 52.6**	**0.0**
UMAU	**Umeaa**	**4.42**	**264**	P	**Pn**	**10 00 54.0**	**-0.3**
SVAU	**Svanoeiden**	**4.77**	**272**	P	**Pn**	**10 00 59.6**	**+0.4**
LANU	**Lannavaara**	**4.83**	**318**	*e*P	**Pn**	**10 01 01.1**	**+1.1**
TERR	**Teriberka**	**4.84**	**19**	S	**Sn**	**10 01 55.6**	**-1.2**
ARA0	**ARCESS Array S**	**5.24**	**340**	*e*P	**Pn**	**10 01 05.7**	**0.0**
ARCES	**ARCESS Array B**	**5.24**	**340**	Pn	**Pn**	**10 01 06.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=37						
ARCES				Sn	**Sn**	**10 02 04.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=157,slow=23,SNR=1.9						
ARCES				Lg	Lg	10 02 28.4	
	comp=Z,0.6nm,0.3s,baz=145,slow=36,SNR=7.1						
	comp=Z,0.7nm,0.2s						
VADS	**Vadso**	**5.46**	**355**	S	**Sn**	**10 02 10.9**	**-1.2**
KIF	**Kilpisjarvi**	**5.80**	**322**	*e*P	**Pn**	**10 01 14.0**	**+0.7**
AAL	**Aland**	**6.71**	**232**	*e*P	**Pn**	**10 01 28.0**	**+2.3**
FAUS	**Fauske**	**6.80**	**300**	P	**Pn**	**10 01 27.9**	**+0.9**
FAUS				S	**Sn**	**10 02 43.6**	**-1.3**
HFS	**Hagfors**	**9.08**	**247**	Pn	**Pn**	**10 01 57.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=60,slow=12,SNR=6.6						
HFS				Sn	**Sn**	**10 03 37.8**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=47,slow=26,SNR=1.8						
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**Pn**	**10 02 06.6**	**+1.3**
	baz=62,slow=12,SNR=2.5						
	comp=Z,0.2nm,0.5s						

AFAD 18 10:00:25.6, 39°.56N×28°.14E, h7km±4km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKES	**Balkesir-Mer**	**0.23**	**316**	P	Pg	10 00 32.7	+2.4
BKES				*i* IAML		10 00 44.0	
	comp=E,34nm,1.2s						
BKES				*i* IAML		10 00 46.0	
	comp=N,30nm,1.0s						
BKES	**Balkesir-Mer**	**0.23**	**316**	P	Pg	10 00 33.5	+3.2
BKES				S	Sg	10 00 40.8	+7.5
BKES				*i* IAML		10 00 44.0	
	comp=E,34nm,1.2s						
BKES				*i* IAML		10 00 49.0	
	comp=N,33nm,0.9s						
DURS	**Dursunbey**	**0.26**	**82**	P	Pg	10 00 30.2	-0.6
DURS				S	Sb	10 00 36.0	-1.5
DURS				*i* IAML		10 00 36.0	
	comp=N,91nm,0.6s						
DURS				*i* IAML		10 00 39.0	
	comp=E,138nm,0.9s						
DURS	**Dursunbey**	**0.26**	**82**	P	Pg	10 00 30.2	-0.6
DURS				*i* IAML		10 00 36.0	
	comp=N,85nm,0.6s						
DURS				S	Sb	10 00 36.8	-0.7
DURS				*i* IAML		10 00 39.0	
	comp=E,138nm,0.9s						
BLKS	**Balkesir-Sus**	**0.34**	**337**	S	Sg	10 00 37.6	+0.9
BLKS	**Balkesir-Sus**	**0.34**	**337**	P	Pb	10 00 35.1	+1.2
BLKS				S	Sb	10 00 40.8	+1.3
DEMI	**Demirci**	**0.69**	**139**	P	Pn	10 00 43.3	+1.5
DEMI				S	Sn	10 00 53.1	+0.3

*SNET **18** 10:02:36.8±0.8, 13°.08N×89°.53W, h40km, ML2.8*
*CATAC **18** 10:02:36.1±0.5, 13°.N±3°.×9°.0W±°, h24km±2km, M2.7/15, MLv2.7/15, Error ellipse: s-maj=6.3km s-min=4.2km az=25.1, confirmed*

ISC 18 10:02:35.7±2.1, 13°.05N±0°.09×89°.55W±0°.05, h23km±14km, n45, σ0=32/51, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.49**	**27**	P	**Pn**	**10 02 47.4**	**0.0**
LALI	**Alcalda de L**	**0.49**	**27**	S	**Sn**	**10 02 54.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.61**	**9**	*e*P	**Pn**	**10 02 49.0**	**-0.2**
JAYA				*e*S	**Sn**	**10 02 57.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.61**	**9**	P	**Pn**	**10 02 49.0**	**-0.2**
PANCS	**Alcalda de**	**0.66**	**32**	S	**Sn**	**10 02 59.1**	**-0.5**
ITCA	**Escuela Especi**	**0.67**	**23**	S	**Sn**	**10 02 59.7**	**-0.2**
ITCA	**Escuela Especi**	**0.67**	**23**	P	**Pn**	**10 02 49.8**	**-0.2**
LOMA	**Loma Larga**	**0.70**	**32**	P	**Pn**	**10 02 50.1**	**-0.2**
LOMA	**Loma Larga**	**0.70**	**32**	S	**Sn**	**10 03 00.1**	**-0.4**
PMON	**Piamonte**	**0.70**	**19**	P	**Pn**	**10 02 50.2**	**-0.1**
PMON	**Piamonte**	**0.70**	**19**	S	**Sn**	**10 03 00.9**	**+0.4**
UEES	**Universidad Ev**	**0.73**	**24**	S	**Sn**	**10 03 01.1**	**-0.1**
UEES	**Universidad Ev**	**0.73**	**24**	P	**Pn**	**10 02 50.5**	**-0.2**
UTEC	**Universidad Te**	**0.73**	**27**	S	**Sn**	**10 03 01.1**	**-0.1**
LFRS	**El Faro**	**0.74**	**39**	*e*P	**Pn**	**10 02 50.8**	**-0.1**
LFRS				*e*S	**Sn**	**10 03 01.4**	**-0.1**
IGN	**Direccin Gen**	**0.76**	**29**	S	**Sn**	**10 03 01.8**	**0.0**
UDBS	**Universidad Do**	**0.76**	**30**	S	**Sn**	**10 03 02.0**	**-0.1**
CEVE	**Cerro Verde**	**0.78**	**354**	*e*P	**Pn**	**10 02 51.7**	**+0.1**
CEVE				*e*S	**Sn**	**10 03 03.2**	**+0.5**
CEVE	**Cerro Verde**	**0.78**	**354**	P	**Pn**	**10 02 51.6**	**+0.1**
CEVE	**Cerro Verde**	**0.78**	**354**	S	**Sn**	**10 03 02.3**	**-0.4**
NUBE	**Las Nubes**	**0.88**	**345**	*e*P	**Pb**	**10 02 52.6**	**+0.2**
NUBE				*e*S	**Sb**	**10 03 03.8**	**0.0**
NUBE	**Las Nubes**	**0.88**	**345**	P	**Pb**	**10 02 52.6**	**+0.2**
NUBE	**Las Nubes**	**0.88**	**345**	S	**Sn**	**10 03 04.5**	**-0.6**
PAVA	**Las Pavas**	**0.89**	**42**	*e*P	**Pn**	**10 02 53.0**	**0.0**
PAVA				*e*S	**Sn**	**10 03 05.4**	**+0.2**
PAVA	**Las Pavas**	**0.89**	**42**	P	**Pn**	**10 02 52.9**	**0.0**
TECO	**Alcaldia de Te**	**0.89**	**57**	*e*P	**Pb**	**10 02 52.1**	**-0.4**
TECO				*e*S	**Sb**	**10 03 04.2**	**+0.2**
TECO	**Alcaldia de Te**	**0.89**	**57**	P	**Pb**	**10 02 52.1**	**-0.4**
FAME	**Alcaldia de Sa**	**0.91**	**330**	P	**Pb**	**10 02 52.9**	**0.0**
FAME	**Alcaldia de Sa**	**0.91**	**330**	S	**Sn**	**10 03 05.2**	**-0.4**
UNIC	**Universidad Ca**	**0.93**	**360**	P	**Pb**	**10 02 53.3**	**+0.1**
UNIC	**Universidad Ca**	**0.93**	**360**	S	**Sn**	**10 03 06.2**	**0.0**
UESV	**Universidad de**	**0.94**	**52**	P	**Pb**	**10 02 53.2**	**-0.3**
UESV	**Universidad de**	**0.94**	**52**	S	**Sb**	**10 03 05.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.03**	**51**	P	**Pn**	**10 02 54.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.03**	**51**	S	**Sn**	**10 03 09.4**	**+0.9**
LLGN	**La Laguna**	**1.25**	**28**	S	**Sb**	**10 03 14.7**	**+0.1**
LLGN	**La Laguna**	**1.25**	**28**	P	**Pn**	**10 02 58.4**	**+0.4**
MTO3	**Montecristo**	**1.35**	**8**	P	**Pn**	**10 02 59.5**	**0.0**
MTO3	**Montecristo**	**1.35**	**8**	S	**Sn**	**10 03 16.6**	**-0.3**
ESQI	**Esquipulas**	**1.52**	**8**	S	**Sn**	**10 03 20.9**	**+0.2**
ESQI	**Esquipulas**	**1.52**	**8**	P	**Pn**	**10 03 02.0**	**+0.4**
LCND	**La Caada**	**1.63**	**81**	P	**Pn**	**10 03 03.1**	**0.0**
CNCH	**Conchagua**	**1.68**	**82**	P	**Pn**	**10 03 03.6**	**-0.3**
CNCH	**Conchagua**	**1.68**	**82**	S	**Sn**	**10 03 25.6**	**+0.8**
SARH	**Santa Rosa de**	**1.88**	**24**	S	**Sn**	**10 03 30.0**	**+0.4**

*NEIC **18** 10:04:21.6±1.0, 35°.907N±0°.009×98°.53W±0°.01, h5km±1km, mb_Lg2.5/32, ML2.5/23, ML2.7/46, Error ellipse: s-maj=2.6km s-min=1.6km az=272.0*

NEIC 18 10:04:21.9±1.1, 35°.910N±0°.009×98°.52W±0°.01, h7km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=64.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.30**	**207**		Pg	10 04 27.8	+0.1
CSTR					Sg	10 04 32.6	+0.9
OK038	**West end E0370**	**0.59**	**343**		Pg	10 04 33.2	-0.2
OK038					Sg	10 04 42.0	+0.8
OK038				IAML		10 04 48.8	
	586nm,0.3s						
CROK	**Carrier**	**0.74**	**36**		Pg	10 04 36.2	+0.1
ELIS	**Ellis County**	**0.74**	**282**		Pg	10 04 35.5	-0.7
ELIS				IAML		10 05 01.3	
	comp=N,291nm,0.5s						
ELIS				IAML		10 05 02.0	
	comp=E,208nm,0.4s						
BCOK	**Bluff Creek, N**	**0.79**	**108**		Pg	10 04 37.3	+0.3
BCOK					Sg	10 04 47.6	+0.4
NOKA	**Waynoka**	**0.80**	**336**		Pg	10 04 36.9	-0.3
NOKA				IAML		10 04 56.4	
	comp=N,345nm,0.3s						
OK029	**Liberty Lake**	**0.88**	**97**		Pg	10 04 38.2	-0.5
OK029					Sg	10 04 50.3	+0.2
OKCFA	**Oklahoma City**	**1.00**	**119**		Pg	10 04 40.9	-0.3
OKCFA					Sg	10 04 54.0	-0.2
GC02	**Grant County #**	**1.08**	**30**		Pg	10 04 42.1	-0.6
FNO	**Franklin**	**1.12**	**125**		Pg	10 04 42.9	-0.5
FNO				IAML		10 05 00.5	
	comp=E,184nm,0.1s						
KAN14	**Manchester OK**	**1.14**	**23**		Pg	10 04 43.4	-0.4
WMOK	**Wichita Mounta**	**1.19**	**190**		Pg	10 04 43.3	-1.4
OK048	**Pawnee Station**	**1.38**	**68**		Pn	10 04 47.0	-0.6
KAN01	**Argonia South**	**1.39**	**26**		Pn	10 04 47.2	-0.5
KAN08	**Anthony NE Sta**	**1.39**	**19**		Pn	10 04 47.5	-0.2
OK052	**Battle Ridge R**	**1.40**	**86**		Pn	10 04 47.1	-0.7
X34A	**Smith Ranch, M**	**1.42**	**156**		Pn	10 04 47.9	-0.3
OK051	**E0350 and S346**	**1.49**	**66**		Pn	10 04 49.3	+0.2
QUOK	**Quay**	**1.50**	**79**		Pn	10 04 48.7	-0.4
SMWD	**Samnorwood**	**1.62**	**241**		Pn	10 04 50.8	-0.1
DEOK	**Depew**	**1.65**	**92**		Pn	10 04 51.2	0.0
T35A	**Sooner Cattle**	**1.91**	**58**		Pn	10 04 55.6	+0.8
WTFS	**Witchita Falls**	**2.14**	**179**	IAmb_Lg		10 05 32.0	
	comp=Z,13nm,0.7s						
LOOK	**Love County**	**2.21**	**150**		Pb	10 05 00.7	-1.4
LOOK				IAmb_Lg		10 05 33.9	
	comp=Z,20nm,0.8s						
TUL3	**Leonard**	**2.22**	**89**		Pn	10 05 00.4	+1.3
TUL3				IAmb_Lg		10 05 34.2	
	comp=Z,15nm,0.8s						
R32A	**Long Quarter,**	**2.51**	**357**	Pn	Pb	10 05 06.0	-1.4
R32A				IAmb_Lg		10 05 41.7	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**2.77**	**249**	IAmb_Lg		10 05 50.4	
	comp=Z,18nm,0.7s						
Z35A	**Perchaven, San**	**2.78**	**157**	Pn	Pn	10 05 07.3	+0.5
DKNS	**Dickens**	**2.98**	**222**	IAmb_Lg		10 06 03.7	
	comp=Z,12nm,1.1s						
SN07	**Snyder 07**	**3.42**	**215**	IAmb_Lg		10 06 18.3	
	comp=Z,7.9nm,0.8s						
TREL	**Terrell**	**3.76**	**147**	IAmb_Lg		10 06 28.5	
	comp=Z,14nm,1.0s						
Z38A	**Mt. Pleasant**	**3.94**	**131**	IAmb_Lg		10 06 31.4	
	comp=Z,9.1nm,0.8s						
MIAR	**Mount Ida**	**4.27**	**107**	Pn	Pn	10 05 27.9	+0.5
MIAR				IAmb_Lg		10 06 46.6	
	comp=Z,13nm,1.1s						
SGCY	**Sterling City**	**4.53**	**209**	IAmb_Lg		10 06 51.1	
	comp=Z,12nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.20**	**88**	IAmb_Lg		10 07 12.9	
	comp=Z,6.5nm,0.7s						
P38A	**Dawn**	**5.42**	**45**	IAmb_Lg		10 07 24.7	
	comp=Z,7.0nm,0.8s						
OZNA	**Ozona**	**5.43**	**204**	IAmb_Lg		10 07 24.3	
	comp=Z,6.3nm,1.0s						
R40A	**Maddies Statio**	**5.54**	**63**	Pn	Pn	10 05 44.6	-0.1
CCM	**Cathedral Cave**	**6.21**	**68**	IAmb_Lg		10 07 38.9	
	comp=Z,7.3nm,0.8s						
PBMO	**Poplar Bluff**	**6.59**	**80**	IAmb_Lg		10 08 07.5	
	comp=Z,7.9nm,0.8s						

*SJA **18** 10:12:24.1±0.8, 32°.60S×72°.09W, h8km±3km, ML3.5, MW3.2*
*GUC **18** 10:12:30.6±0.5, 32°.61S×71°.64W, h37km±2km, ML3.4*

ISC 18 10:12:28.6±1.3, 32°.65S±0°.02×71°.80W±0°.04, h11km±9km, n43, σ1=59/70, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.39**	**161**	*e*P	**Pn**	**10 12 39.4**	**-0.7**
VA01				IAML		10 12 47.2	
	comp=E,7μm,0.1s						
VA01	**Torpederas**	**0.39**	**161**	*e*P	**Pb**	**10 12 38.8**	**+1.3**
VA06	**Catapilco**	**0.43**	**78**	||*e*P	**Pg**	**10 12 38.3**	**+1.3**
VA06				*e*S	**Sg**	**10 12 43.4**	**+0.6**
ROCH	**El Roble**	**0.73**	**116**	*e*P	**Pg**	**10 12 43.2**	**+0.4**
ROCH				IAML		10 12 54.5	
	comp=E,2μm,0.4s						
MT02	**Curacav**	**0.82**	**138**	*e*P	**Pg**	**10 12 45.0**	**+0.6**
MT02	**Curacav**	**0.82**	**138**	*e*P	**Pg**	**10 12 44.2**	**-0.2**
MT02				*e*S	**Sb**	**10 12 55.5**	**-0.4**
MT02				IAML		10 12 57.4	
	comp=Z,606nm,0.3s						
CO04	**Los Peladeros**	**0.92**	**49**	||*i*P	**Pb**	**10 12 45.6**	**-1.2**
CO04				IAML		10 13 00.2	
	comp=E,3μm,0.2s						
VA03	**San Esteban**	**1.05**	**96**	*i* P	**Pb**	**10 12 47.4**	**-1.5**
VA03				*e*S	**Sb**	**10 13 00.2**	**-2.6**
VA03				IAML		10 13 01.2	
	comp=E,3μm,0.1s						
MT05	**Renca**	**1.15**	**130**	*e*P	**Pb**	**10 12 50.3**	**-0.3**
MT05				*e*S	**Sb**	**10 13 05.5**	**-0.2**
MT05				IAML		10 13 06.0	
	comp=Z,1μm,0.3s						
MT10	**Hacienda Santa**	**1.23**	**121**	*e*P	**Pn**	**10 12 51.0**	**-0.9**
MT10				*e*S	**Sb**	**10 13 06.3**	**-1.5**
MT10				IAML		10 13 07.3	
	comp=E,3μm,0.3s						
MT01	**Popeta**	**1.29**	**159**	*e*P	**Pb**	**10 12 53.1**	**+0.2**
MT01				IAML		10 13 14.8	
	comp=N,428nm,0.2s						
MT01	**Popeta**	**1.29**	**159**	*e*P	**Pn**	**10 12 52.5**	**-0.1**
MT01				*e*S	**Sg**	**10 13 11.7**	**+1.5**
MT14	**Cerro Cal¡n**	**1.29**	**125**	*e*P	**Pn**	**10 12 52.0**	**-0.7**
MT14				IAML		10 13 11.0	
	comp=N,878nm,0.2s						
MT03	**Universidad Ad**	**1.37**	**128**	*e*P	**Pn**	**10 12 53.3**	**-0.4**
MT03				IAML		10 13 14.8	
	comp=N,3μm,0.1s						
MT03	**Universidad Ad**	**1.37**	**128**	*e*P	**Pn**	**10 12 53.5**	**-0.3**
MT03				*e*S	**Sn**	**10 13 11.8**	**-0.1**
MT03				IAML		10 13 12.8	
	comp=Z,687nm,0.1s						
MT15	**Las Vizcachas**	**1.44**	**131**	*e*P	**Pn**	**10 12 54.3**	**-0.3**
MT15				IAML		10 13 17.3	
	comp=N,1μm,0.2s						
MT04	**Ro Olivares**	**1.58**	**119**	*e*P	**Pn**	**10 12 56.2**	**-0.5**
MT04				IAML		10 13 17.5	
	comp=E,598nm,0.1s						
MT04	**Ro Olivares**	**1.58**	**119**	*e*P	**Pn**	**10 12 56.3**	**-0.5**
MT04				*e*S	**Sn**	**10 13 16.6**	**-0.8**
MT04				IAML		10 13 17.4	
	comp=Z,374nm,0.2s						
CO02	**Combarbal**	**1.60**	**25**	*e*P	**Pn**	**10 12 56.4**	**-0.5**
CO02				*e*S	**Sn**	**10 13 16.5**	**-1.1**
CO02	**Combarbal**	**1.60**	**25**	*e*P	**Pn**	**10 12 55.7**	**-1.2**
CO02				*e*S	**Sn**	**10 13 17.9**	**+0.4**
CO02				IAML		10 13 22.3	
	comp=Z,955nm,0.4s						
BO04	**La Punta**	**1.66**	**144**	*i* P	**Pn**	**10 12 58.6**	**+0.9**
BO04				*e*S	**Sb**	**10 13 19.8**	**-0.4**
BO04				IAML		10 13 25.5	
	comp=E,623nm,0.1s						
MT08	**Bocatoma Ro**	**1.69**	**118**	*e*P	**Pn**	**10 12 58.1**	**-0.2**
MT08	**Bocatoma Ro**	**1.69**	**118**	*e*P	**Pn**	**10 12 58.4**	**+0.1**
LMEL	**Las Melosas**	**1.79**	**132**	*e*P	**Pn**	**10 13 00.2**	**+0.6**
LMEL				*e*S	**Sg**	**10 13 25.4**	**-0.7**
LMEL				IAML		10 13 28.9	
	comp=Z,259nm,0.3s						
BO01	**Tunca**	**1.83**	**161**	*e*P	**Pn**	**10 13 00.2**	**+0.1**
BO01				*e*S	**Sg**	**10 13 26.4**	**-1.1**
CO06	**Fray Jorge**	**1.98**	**4**	*e*P	**Pn**	**10 13 00.8**	**-1.2**
CO06				IAML		10 13 35.8	
	comp=N,355nm,0.4s						
CO03	**El Pedregal**	**2.04**	**28**	*e*P	**Pn**	**10 13 02.8**	**-0.3**
CO03				IAML		10 13 33.3

SNR=6.6
SHME Shamm 0.99 127 *e*P Pg 10 26 07.3 +0.3
SNR=18
SHME S Sn 10 26 22.6 -0.2
BNDS Bandar-Abbas 1.09 47 Pg Pn 10 26 09.3 -0.9
GENO Geno 1.10 47 Pg Pn 10 26 09.1 -1.0
GENO Sg Sn 10 26 25.6 -0.1
BANOM Banah 1.18 128 P Pb 10 26 10.6 -0.2
BANOM S Sn 10 26 27.8 +0.1
BANOM Banah 1.18 128 *e*P Pb 10 26 09.9 -1.0
SNR=154
BANOM S Sn 10 26 27.2 -0.4
LAR1 LAR 1.28 322 Pg Pg 10 26 12.8 +0.2
IBND Bandar-abas 1.38 55 Pg Pg 10 26 14.3 -0.2
MASF Masafi 1.51 148 P Pb 10 26 16.1 -0.4
SNR=10
MASF S Sb 10 26 36.8 +0.8
MSFE Esma-Masafi 1.52 148 *e*P Pn 10 26 15.8 0.0
SNR=10
MDH Madha 1.64 145 P Pb 10 26 18.1 -0.6
MDH S Sg 10 26 40.8 +0.1
MDH Madha 1.64 145 *e*P Pb 10 26 18.0 -0.7
SNR=18
NAZ Nazwa, Dubai 1.70 168 S Sb 10 26 42.6 +1.2
NAZ Nazwa, Dubai 1.70 168 *e*P Pn 10 26 18.8 +0.5
SNR=6.1
UOSS Minazif 1.90 153 P Pn 10 26 22.0 +0.9
UOSS S Sb 10 26 47.8 +0.6
UOSS Minazif 1.90 153 Pn Pn 10 26 22.0 +0.9
UOSS Minazif 1.90 153 *e*P Pn 10 26 21.5 +0.4
SNR=7.2
FAQ Al Faqa, Dubai 1.93 171 P Pn 10 26 21.7 +0.3
HATD Hatta, Dubai 1.98 157 P Pn 10 26 23.0 +0.8
HATD S Sb 10 26 48.8 -0.8
HATD Hatta, Dubai 1.98 157 *e*P Pn 10 26 22.8 +0.6
SNR=10
ASUD Al Ashush, Dub 2.02 178 P Pb 10 26 24.3 -0.9
ASHO Ashiyiah 2.09 160 P Pn 10 26 24.1 +0.4
SNR=8.9
ASHO Ashiyiah 2.09 160 *e*P Pn 10 26 23.9 +0.2
SNR=8.9
KHNJ Kahnooj 2.52 59 Pn Pn 10 26 29.5 -0.2
ALNE Al Ain 2.63 170 P Pn 10 26 31.7 +0.6
ALNE Al Ain 2.63 170 P Pn 10 26 31.4 +0.4
SOHO SOHO 2.76 155 P Pn 10 26 32.7 -0.2
SOHO SOHO 2.76 155 P Pn 10 26 32.0 -0.9
ARQ Araqi 3.50 161 P Pn 10 26 42.7 -0.3
SNR=15
ARQ S Sn 10 27 24.9 +0.1
KBAM BAM 3.75 48 Pn Pn 10 26 47.4 +0.8
KHGB Koh Gabri 3.86 16 Pn Pn 10 26 48.9 +0.7
UMZA Um Al Zommool 3.93 181 P Pn 10 26 49.0 +0.1
TRNA Turayna 4.13 243 S Sn 10 27 40.1 -0.2
SNR=8.1
SMDO Samad 4.38 144 P Pn 10 26 56.4 +1.1
WSAR Wadi Sarin 4.57 137 P Pn 10 26 59.1 +1.2
IMEH Mehriz 4.75 353 Pn Pn 10 27 01.3 +0.8
IBAF Bafgh 4.92 3 Pn Pn 10 27 03.4 +0.6
JLN Jalan Bani Buh 5.86 139 P Pn 10 27 14.9 -0.7
MHTO MHTO 6.16 156 P Pn 10 27 19.2 -0.5
DQM DQM 7.01 162 P Pn 10 27 31.2 -0.2
WHFO Wadi Hawf 8.80 189 P Pn 10 27 55.6 -0.4
ABTO Aybut 9.44 192 P Pn 10 28 03.6 -1.0

NEIC ***18*** *10:32:21.5±0.8, 14°.10N±0°.05×144°.1E±0°.1, h177km±4km, mb4.3/9, Error ellipse: s-maj=20.2km s-min=7.5km az=93.0*
IDC ***18*** *10:32:22.3±0.6, 13°.91N×144°.51E, h183km±7km, mb3.1/5, mbtmp3.6/5, Error ellipse: s-maj=43.1km s-min=21.0km az=88.0*
ISC 18 10:32:23.0±0.7, 13°.9N±0°.1×144°.4E±0°.1, h200km, n17, σ2°.23/18, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	0.54	122	Sn	**Sn**	10 33 07.2	-4.2
GUMO	**Guam**	0.54	122	P	**Pn**	10 32 48.0	-2.3
	111nm,0.2s,baz=281,slow=5.0,SNR=38						
GUMO				S	**Sn**	10 33 07.6	-3.7
	628nm,0.3s,baz=127,slow=20,SNR=13						
PATS	**Pohnpei**	15.37	116		**P**	10 35 54.0	+3.9
FAKI	**Fak Fak**	20.59	217	P	**P**	10 36 46.3	-0.5
FAKI				IAmb	IAmb	10 37 13.2	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	33.19	208	P	**P**	10 38 41.2	+0.2
KNRA				IAmb	IAmb	10 39 03.0	
	comp=Z,9.7nm,1.1s						
WB0	**Warramunga Arr**	34.86	197	P	**P**	10 38 56.4	+1.0
WB0				IAmb	IAmb	10 39 05.7	
	comp=Z,3.5nm,1.1s						
WR8	**Warramunga Arr**	35.01	196	P	**P**	10 38 57.9	+1.2
WRA	**Warramunga Arr**	35.04	197	P	**P**	10 38 55.9	-1.1
WRA	**Warramunga Arr**	35.04	197	P	**P**	10 38 57.3	+0.4
	comp=Z,0.2nm,0.5s,baz=11,slow=8.7,SNR=7.0						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	38.70	195	P	**P**	10 39 30.1	+2.3
	comp=Z,0.2nm,0.7s,baz=8.2,slow=7.6,SNR=1.3						
	comp=Z,0.2nm,0.7s						
SMY	**Shemya**	45.39	25	P	**P**	10 40 21.8	+0.3
MORW	**Morawa**	50.73	212	P	**P**	10 41 03.5	+0.8
MKAR	**Makanchi Array**	60.96	316	P	**P**	10 42 12.5	-2.7
MKAR	**Makanchi Array**	60.96	316	P	**P**	10 42 17.0	+1.9
	comp=Z,0.4nm,0.5s,baz=100,slow=7.5,SNR=4.2						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	64.11	320	P	**P**	10 42 37.0	+1.2
	comp=Z,1.2nm,0.6s,baz=104,slow=6.8,SNR=6.5						
	comp=Z,1.2nm,0.6s						
RC01	**Rabbit Creek A**	66.34	29	P	**P**	10 42 50.4	+0.5
RC01				IAmb	IAmb	10 42 55.5	
	comp=Z,6.8nm,1.1s						
NVAR	**Mina Array Bea**	87.10	51	P	**P**	10 44 46.9	+0.1
	comp=Z,0.5nm,0.7s,baz=272,slow=5.1,SNR=4.3						
	comp=Z,0.5nm,0.7s						

BJI ***18*** *10:32:51.9, 33°.02N×73°.68E, h33km, mB5.0/5, mb4.6/13*
NEIC ***18*** *10:32:54.5±1.9, 32°.98N±0°.07×73°.6E±0°.1, h43km±6km, mb4.7/32, Error ellipse: s-maj=13.0km s-min=9.4km az=65.0*
NDI ***18*** *10:32:56.3±1.9, 32°.92N×73°.59E, h20km±12km, ML4.5, MW4.5*
IDC ***18*** *10:32:58.8±6.9, 33°.40N×73°.88E, h75km±64km, mb3.5/10, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=34.4km s-min=17.4km az=33.0*
ISC 18 10:32:54.3±0.9, 33°.11N±0°.05×73°.54E±0°.05, h43km±9km, n78, σ2°.05/90, mb4.5/26, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	0.59	336	Pn	**Pn**	10 33 05.1	-1.3
NIL				Sn	**Sn**	10 33 15.3	+0.4
JMU	**Jammu**	1.21	108	*e*P	**Pn**	10 33 14.7	-0.1
JMU				IAML		10 33 24.4	
	comp=E,4μm,0.6s						
JMU				IAML		10 33 25.1	
	comp=N,4μm,0.4s						
JMU				*e*S	**Sn**	10 33 30.0	0.0
TSSA	**Tissa**	2.21	96	*e*P	**Pn**	10 33 31.5	+2.8
TSSA				*e*S	**Sn**	10 33 57.1	+2.1
TSSA				IAML		10 33 57.2	
	comp=N,4μm,0.1s						
TSSA				IAML		10 33 57.6	
	comp=E,5μm,0.3s						
TLWR	**Talawar**	2.35	119	*e*P	**Pn**	10 33 32.6	+2.2
TLWR				*e*S	**Sn**	10 33 58.3	+0.3
TLWR				IAML		10 34 01.1	
	comp=N,4μm,0.7s						
TLWR				IAML		10 34 01.3	
	comp=E,5μm,0.2s						
DHRM	**DHARAMSHALA**	2.48	109	*e*P	**Pn**	10 33 34.6	+2.1
DHRM				*e*S	**Sn**	10 34 04.5	+2.8
DHRM				IAML		10 34 05.5	
	comp=N,2μm,0.6s						
DHRM				IAML		10 34 05.8	
	comp=E,2μm,0.5s						
BHK	**Bhakra**	2.97	124	*e*P	Pn	10 33 46.3	+7.3
BHK				IAML		10 34 18.7	
	comp=E,1μm,0.3s						
BHK				IAML		10 34 18.8	
	comp=N,1μm,0.3s						
BHK				*e*S	Sn	10 34 23.9	+11
ALCI	**Alchi Leh**	3.24	69	*e*P	**Pn**	10 33 46.6	+3.7
ALCI				*e*S	**Sn**	10 34 22.6	+2.2
ALCI				IAML		10 34 32.1	
	comp=E,3μm,0.1s						
ALCI				IAML		10 34 32.9	
	comp=N,2μm,0.8s						
SMLA	**Simla**	3.66	122	*e*P	**Pn**	10 33 50.8	+2.4
SMLA				*e*S	**Sn**	10 34 28.8	-1.5
SMLA				IAML		10 34 41.2	
	comp=E,1μm,0.6s						
SMLA				IAML		10 34 41.7	
	comp=N,1μm,1.0s						
KBL	**Kabul**	4.00	292		**Pn**	10 33 54.5	+1.1
KLP	**Kalpa**	4.29	110	*e*P	**Pn**	10 33 59.2	+1.9
KLP				*e*S	**Sn**	10 34 44.5	-1.8
KLP				IAML		10 34 46.5	
	comp=N,3μm,0.5s						
KLP				IAML		10 34 49.2	
	comp=E,4μm,0.3s						
HNLY	**HANLEY**	4.58	93	*e*P	**Pn**	10 34 04.1	+2.5
HNLY				*e*S	**Sn**	10 34 52.8	-1.0
HNLY				IAML		10 34 58.5	
	comp=E,1μm,0.3s						
HNLY				IAML		10 35 00.3	
	comp=N,2μm,0.7s						
DDI	**Dehra Dun**	4.75	125	*e*P	**Pn**	10 34 05.0	+1.6
DDI				*e*S	**Sn**	10 34 54.1	-3.1
DDI				IAML		10 35 24.4	
	comp=E,2μm,0.0s						
DDI				IAML		10 35 32.4	
	comp=N,3μm,1.2s						
KUDL	**Kundal**	5.57	152	*e*P	**Pn**	10 34 15.2	+0.6
KUDL				*e*S	**Sn**	10 35 11.8	-5.5
KUDL				IAML		10 35 16.1	
	comp=E,2μm,0.5s						
KUDL				IAML		10 35 16.7	
	comp=N,1μm,0.0s						
GAR	**Garm**	6.43	337		**Pn**	10 34 28.4	+1.8
CHGR	**Chuyangaron**	6.58	329		**Pn**	10 34 31.1	+2.5
KSH	**Kashi**	6.69	16	P	**Pn**	10 34 29.0	-1.1
KSH				S	**Sn**	10 35 38.6	-6.5
ARSB	**Arslanbob**	8.21	357		**Pn**	10 34 52.3	+1.3
TARG	**Taragay, Kyrgy**	9.25	20		**Pn**	10 35 06.7	+1.3
KDJ	**Kajisay**	9.46	17	Pn	**Pn**	10 35 09.3	+1.2
AAK	**Ala-Archa**	9.54	4	Pn	**Pn**	10 35 10.8	+1.6
AAK	**Ala-Archa**	9.54	4	P	**Pn**	10 35 11.8	+2.6
	comp=N,6.6nm,0.6s,baz=92,slow=15,SNR=6.3						
BOOM	**Boomskoye usch**	9.55	11		**Pn**	10 35 11.0	+1.6
KK31	**Karatay Array**	10.26	347		**Pn**	10 35 19.9	+1.1
KKAR	**Karatay Array**	10.26	347		**Pn**	10 35 20.0	+1.1
EVN	**Everest**	12.54	111		**Pn**	10 35 46.7	-4.0
MAKZ	**Makanchi**	15.12	23		**Pn**	10 36 23.5	-1.4
MK31	**Makanchi Array**	15.21	23	Pn	**Pn**	10 36 26.9	+0.8
MKAR	**Makanchi Array**	15.21	23	Pn	**Pn**	10 36 26.7	+0.6
MKAR	**Makanchi Array**	15.21	23	P	**Pn**	10 36 23.5	-2.6
	comp=N,0.2nm,0.3s,baz=200,slow=12,SNR=6.1						
	comp=N,0.8nm,0.5s						
WMQ	**Urumqi**	15.38	42	*e*P	**P**	10 36 31.1	-1.3
HYB	**Hyderabad**	16.27	163	*e*P	**Pn**	10 36 41.5	+1.7
HYB				IVmB_BB		10 36 43.0	
	comp=Z,70nm,0.2s						
HYB				*e*S	**S**	10 39 47.4	-3.2
HYB				IAMs_20	IAMs_20	10 43 34.2	
	comp=Z,384nm,34.1s						
KURBB	**Kurchatov Arra**	17.88	10	P	**Pn**	10 36 57.2	-2.5
	comp=Z,0.1nm,0.3s,baz=197,slow=11,SNR=15						
	comp=Z,2.6nm,0.7s						
KURK	**Kurchatov**	17.99	11	P	**Pn**	10 36 57.5	-3.4
AB31	**Akbulak array**	19.05	332	P	**P**	10 37 13.8	+1.1
ABKAR	**Akbulak array**	19.05	332	P	**P**	10 37 14.3	+1.5
AKTO	**Aktyubinsk**	20.75	331	P	**P**	10 37 31.9	+0.6
	comp=Z,4.0nm,0.4s,baz=143,slow=7.0,SNR=16						
	comp=Z,4.0nm,0.4s						
ZALV	**Zalesovo Beam**	22.32	18	P	**P**	10 37 46.7	-1.4
	comp=Z,2.7nm,0.6s,baz=214,slow=9.7,SNR=10						
	comp=Z,2.7nm,0.6s						
PZH	**PanZhiHua**	25.30	98	P	**P**	10 38 15.6	-1.4
CMAR	**Chiang Mai Arr**	27.04	116	P	**P**	10 38 33.2	+0.5
	comp=Z,0.6nm,0.3s,baz=299,slow=9.4,SNR=5.5						
	comp=Z,0.6nm,0.3s						
HHC	**Hu-ho-hao-te**	31.16	65	*e*P	**P**	10 39 10.6	+1.4
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,39nm,4.7s						
BRTR	**Keskin Array B**	32.58	293	P	**P**	10 39 25.6	+3.9
	comp=Z,0.8nm,0.7s,baz=90,slow=12,SNR=4.6						
	comp=Z,0.8nm,0.7s						
NJ2	**Nanjing**	37.98	79	*e*P	**P**	10 40 08.1	+0.1
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CN2	**Changchun**	41.42	59	*e*P	**P**	10 40 36.8	+0.2
CN2				*e*S	**S**	10 46 46.3	-2.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
ARCES	**ARCESS Array B**	45.06	338	P	**P**	10 41 06.8	+1.2
ARCES				IAmb	IAmb	10 41 28.7	
	comp=Z,14nm,1.2s						
ARCES	**ARCESS Array B**	45.06	338	P	**P**	10 41 05.4	-0.2
	comp=Z,1.1nm,0.5s,baz=113,slow=9.3,SNR=5.3						
	comp=Z,1.1nm,0.5s						
GEC2	**GERESS Array S**	46.62	308		**P**	10 41 17.8	-0.5
GEC2				IAmb	IAmb	10 41 22.3	
	comp=Z,16nm,1.2s						
HFS	**Hagfors**	47.02	324	P	**P**	10 41 22.5	+1.4
	comp=Z,2.2nm,0.6s,baz=96,slow=9.1,SNR=5.8						
	comp=Z,2.2nm,0.6s						
NC405	**NORSAR Array S**	48.11	325	P	**P**	10 41 31.2	+1.6
NC405				IAmb	IAmb	10 41 49.1	
	comp=Z,15nm,1.4s						
NB2	**NORSAR Subarra**	48.34	325	P	**P**	10 41 32.4	+1.0
	comp=Z,1.1nm,0.6s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	48.34	325	P	**P**	10 41 31.2	-0.2
	comp=Z,1.1nm,0.7s,baz=96,slow=7.6,SNR=4.9						
	comp=Z,1.1nm,0.7s						
MYLDM	**Lahad Datu**	50.19	114	P	P	10 41 40.4	-5.7
MYLDM				IAmb	IAmb	10 41 56.9	
	comp=Z,13nm,1.3s						
MJB9	**Matsu-Tunnel**	52.30	67	P	**P**	10 42 00.1	-1.6
MAJO	**Matsushiro**	52.30	67	P	**P**	10 41 59.4	-2.3
MAJO				IAmb	IAmb	10 42 17.9	
	comp=Z,18nm,1.4s						
CART	**Cartagena**	59.47	297	P	**P**	10 42 50.9	-2.0
TORD	**Torodi Ar. Bea**	67.81	272	P	**P**	10 43 49.9	+1.6
	comp=Z,0.2nm,0.4s,baz=42,slow=7.0,SNR=4.2						
	comp=Z,0.2nm,0.4s						
TOLK	**Toolik Lake Re**	73.66	15	P	**P**	10 44 24.8	+1.8
TOLK				IAmb	IAmb	10 44 50.5	
	comp=Z,15nm,1.4s						
GRTLG	**Ghanzi**	73.66	230		**P**	10 44 21.7	-2.1
J14K	**Nanvaranak Lak**	74.17	24	P	**P**	10 44 28.4	+2.4
E24K	**Your Creek**	74.35	15	P	**P**	10 44 29.0	+1.9
E24K				IAmb	IAmb	10 44 37.0	
	comp=Z,6.4nm,1.1s						
E25K	**Arctic Village**	74.93	14	P	**P**	10 44 31.8	+1.3
E25K				IAmb	IAmb	10 44 34.6	
	comp=Z,6.1nm,1.1s						
K17K	**Iditarod**	75.91	22	P	**P**	10 44 38.9	+2.8
K17K				IAmb	IAmb	10 44 52.1	
	comp=Z,13nm,1.4s						
L16K	**Owhat River**	76.26	23	P	**P**	10 44 40.8	+2.7
KTH	**Kantishna Hill**	77.42	19	P	**P**	10 44 45.9	+1.2
ILAR	**Eielson Array**	77.44	17	P	**P**	10 44 45.2	+0.5
ILAR	**Eielson Array**	77.44	17	P	**P**	10 44 43.3	-1.4
	comp=Z,0.3nm,0.8s,baz=322,slow=5.5,SNR=3.3						
	comp=Z,0.3nm,0.8s						
PPLA	**Purkeypile**	77.59	20	P	**P**	10 44 46.9	+1.2
H29M	**Whitestone**	77.99	13	P	**P**	10 44 49.5	+1.8
H29M				IAmb	IAmb	10 45 01.2	
	comp=Z,16nm,1.4s						
I28M	**Miner Creek**	78.38	14	P	**P**	10 44 51.6	+1.5
I28M				IAmb	IAmb	10 44 53.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	78.42	123	P	**P**	10 44 51.1	+0.4
	comp=Z,0.4nm,0.5s,baz=322,slow=5.1,SNR=17						
	comp=Z,0.4nm,0.5s						
SKT	**Skwentna**	78.50	20	P	**P**	10 44 52.2	+1.5
SKT				IAmb	IAmb	10 44 52.5	
	comp=Z,13nm,1.4s						
DHY	**Denali Highway**	78.74	18	P	**P**	10 44 53.2	+1.1
DHY				IAmb	IAmb	10 45 00.2	
	comp=Z,6.9nm,1.4s						
RIDG	**Independent Ri**	78.80	16	P	**P**	10 44 51.6	-0.7
DAWY	**Dawson**	79.72	14	P	**P**	10 44 58.7	+1.4
SCM	**Sheep Creek Mo**	79.78	18	P	**P**	10 44 59.2	+1.5
SCM				IAmb	IAmb	10 45 25.3	
	comp=Z,18nm,1.4s						
M24K	**Tolsona, Glenn**	79.85	18	P	**P**	10 45 00.5	+2.4
ACHA	**Angle Creek He**	80.27	24	P	**P**	10 45 00.7	+0.3
ACHA				IAmb	IAmb	10 45 23.0	
	comp=Z,8.8nm,1.3s						
K29M	**Barlow Dome**	80.29	13	P	**P**	10 45 02.0	+1.5
K29M				IAmb	IAmb	10 45 23.6	
	comp=Z,7.3nm,1.4s						
BCPM	**Bancas Point**	83.32	16	P	**P**	10 45 15.6	-0.7

IDC ***18*** *10:46:04.8±1.3, 34°.54N×33°.16E, h0km, mb3.9/7, mbtmp3.9/13, ML4.0/5, MS2.8/4, Error ellipse: s-maj=27.9km s-min=15.6km az=51.0*
AFAD ***18*** *10:46:04.8, 34°.56N×33°.52E, h3km±3km, MW3.7*
NIC ***18*** *10:46:06.8, 34°.58N×33°.33E, h15km±5km, Ml3.8/10*
GII ***18*** *10:46:07.0±0.0, 34°.51N×33°.22E, h15km, Mws3.5, confirmed*
HLW ***18*** *10:46:07.1, 34°.73N×33°.19E, h40km±5km, Ml3.9*
ISK ***18*** *10:46:07.4, 34°.60N×33°.22E, h8km, ML4.0/27*
GRAL ***18*** *10:46:08.8±0.3, 34°.45N×33°.56E, h164km±19km, MD3.9*
ISC 18 10:46:06.5±1.0, 34°.54N±0°.02×33°.25E±0°.02, h15km±6km, n159, σ1°.48/189, mb3.9/9, 3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	0.24	359	P	**Pg**	10 46 12.3	+0.4
ASGA				S	**Sg**	10 46 16.0	+0.6
ASGA				AML	AML	10 46 16.2	
	107nm,0.4s						
ASGA				AML	AML	10 46 17.9	
	49nm,0.3s						
APOL	**The Sanctuary**	0.34	292	P	**Pb**	10 46 15.0	+0.6
APOL				S	**Sb**	10 46 21.2	+1.5
APOL				AML	AML	10 46 24.1	
	48nm,0.5s						
APOL				AML	AML	10 46 24.4	
	43nm,0.5s						
CSS	**Mathiatis**	0.42	9	Pg	**Pg**	10 46 14.9	-0.2
CSS				Sg	**Sg**	10 46 21.1	+0.3
CSS	**Mathiatis**	0.42	9	P	**Pg**	10 46 14.8	-0.3
CSS				S	**Sg**	10 46 20.4	-0.4
CSS				AML	AML	10 46 24.2	
	16nm,0.6s						
CSS				AML	AML	10 46 24.5	
	10nm,0.4s						
CSS	**Mathiatis**	0.42	9	⇓P	**Pg**	10 46 14.6	-0.5
XYLS	**Xyliatos**	0.50	341	P	**Pg**	10 46 16.1	-0.3
XYLS				S	**Sb**	10 46 24.0	-0.2
XYLS				AML	AML	10 46 27.3	
	29nm,0.2s						
XYLS				AML	AML	10 46 27.4	
	27nm,0.3s						
TROD	**Troodos**	0.51	322	P	**Pg**	10 46 17.0	+0.2
TROD				S	**Sb**	10 46 26.0	+1.2
TROD				AML	AML	10 46 31.2	
	12nm,0.4s						
TROD				AML	AML	10 46 33.9	
	17nm,0.5s						
MVOU	**Mavrovouni**	0.57	34	P	**Pg**	10 46 17.1	-0.6
MVOU				S	**Sg**	10 46 24.9	-0.4
MVOU				AML	AML	10 46 29.5	
	6.3nm,0.4s						
MVOU				AML	AML	10 46 29.5	
	5.5nm,0.4s						
ATHAL	**Athalassa**	0.61	11	P	**Pb**	10 46 19.2	+0.3
ATHAL				AML	AML	10 46 35.8	
	25nm,0.7s						
ATHAL				AML	AML	10 46 39.1	
	29nm,0.8s						
NATA	**Nata**	0.61	293	P	**Pb**	10 46 19.2	+0.3
NATA				S	**Sn**	10 46 30.0	-0.3
NATA				AML	AML	10 46 33.9	
	40nm,0.7s						
NATA				AML	AML	10 46 38.0	
	34nm,0.9s						
LFK	**Lefkose**	0.77	17	Pg	**Pg**	10 46 21.7	+0.1
PAR1C	**Paralimni Civi**	0.77	51	S	**Sn**	10 46 36.8	+2.5
PARAL	**Paralimni**	0.79	55	P	**Pn**	10 46 23.7	+0.5
PARAL				S	**Sn**	10 46 36.6	+1.8
ALFC	**Alefka**	0.81	319	P	**Pg**	10 46 21.8	-0.6
ALFC				S	**Sn**	10 46 35.6	+0.2
ALFC				AML	AML	10 46 37.2	
	32nm,0.6s						
ALFC				AML	AML	10 46 38.5	
	44nm,0.7s						
AKMS	**Akamas**	0.89	302	P	**Pn**	10 46 24.4	-0.2
AKMS				S	**Sn**	10 46 38.5	+1.2
AKMS				AML	AML	10 46 40.5	
	9.6nm,0.4s						
AKMS				AML	AML	10 46 45.9	
	8.1nm,0.6s						
BOZY	**Bozyazi-Mersin**	1.58	352	Pn	**Pb**	10 46 35.4	0.0
BOZY				Sn	**Sb**	10 46 55.9	+0.7
TEKE	**Tekeli-Mersin**	1.60	356	Pn	**Pb**	10 46 35.7	-0.1
TEKE				Sn	**Sb**	10 46 56.6	+0.7
AKK2	**Akkuyu-Mersin**	1.61	9	Pn	**Pb**	10 46 36.1	+0.1
AKK2				Sn	**Sb**	10 46 56.6	+0.5
YORU	**Yoruktepe-Mers**	1.61	4	Pn	**Pb**	10 46 36.1	0.0
YORU				Sn	**Sb**	10 46 56.9	+0.7
AKK1	**Akkuyu-Mersin**	1.61	8	Pn	**Pb**	10 46 36.3	+0.2
TISA	**Tisan-Mersin**	1.65	12	Pn	**Pb**	10 46 36.6	-0.1
OREN	**Orenkoy-Mersin**	1.67	6	Pn	**Pb**	10 46 35.7	+0.4
OREN				Sn	**Sb**	10 46 58.1	+0.3
YESI	**Yesilovacik-Me**	1.68	11	Pn	**Pb**	10 46 36.1	+0.7
TEPK	**Tepekoy-MERSIN**	1.69	8	Pn	**Pb**	10 46 36.7	+1.0
KARG	**Kargicak-Mersi**	1.70	13	Pn	**Pb**	10 46 37.4	-0.1
BERE	**Bereket-Mersin**	1.80	359	Pn	**Pb**	10 46 38.7	-0.6
GAZI	**Gazipasa**	1.85	336	Pn	**Pb**	10 46 39.1	-1.0
TEVE	**Tevekalti-Mers**	1.90	5	Pn	**Pb**	10 46 40.2	-0.7
SILI	**Silifke-Mersin**	1.90	17	Pn	**Pb**	10 46 40.4	-0.6
KEBE	**Keben-Mersin**	1.94	11	Pn	**Pb**	10 46 40.8	-0.8
KIZK	**Mersin**	2.06	20	Pn	**Pb**	10 46 42.7	-1.1
BHL	**Bhannes**	2.09	107	*e*P	**Pn**	10 46 41.5	+0.3
HNTI	**Hanita**	2.17	132	P	**Pn**	10 46 42.0	-0.1
HNTI	**Hanita**	2.17	132	P	**Pn**	10 46 42.0	-0.1
HNTI	**Hanita**	2.17	132	S	**Sn**	10 47 08.2	-0.5
ALAN	**Alanya-ANTALYA**	2.24	334	Pn	**Pn**	10 46 44.9	+1.7
HWQ	**Hawqa**	2.24	96	*e*P	**Pn**	10 46 43.3	0.0
HWQ	

MMLI S Sn 10 47 23.7 -0.1
MMLI Mount Malkishu 2.77 139 P Pn 10 46 50.8 +0.3
QRNJ Al-Qirein 2.94 138 P Pn 10 46 53.7 +1.0
SALP Salfit 2.96 146 P Pn 10 46 53.3 +0.3
SALP Salfit 2.96 146 P Pn 10 46 52.8 -0.2
SALP Salfit 2.96 146 S Sn 10 47 28.8 +0.5
HMDT Nahal Hemdat 2.97 140 P Pn 10 46 53.9 +0.7
HMDT Nahal Hemdat 2.97 140 ⇓P Pn 10 46 53.6 +0.4
HMDT Nahal Hemdat 2.97 140 S Sn 10 47 28.9 +0.3
TAHT Tahtakopru-Hat 3.01 52 Pn Pn 10 46 54.9 +1.1
SEYD Seydisehir-KON 3.08 339 Pn Pn 10 46 56.9 +2.1
KARA Karaisali 3.08 28 Pn Pn 10 46 57.2 +2.5
SEDI Konya, Seydise 3.15 338 P Pn 10 46 58.5 +2.8
SEDI S Sb 10 47 40.1 -0.3
SEDI *i* IAML 10 47 43.0
comp=N,269nm,0.6s
SEDI *i* IAML 10 47 43.0
comp=E,325nm,0.6s
UJAP Al Uja 3.18 144 P Pn 10 46 56.6 +0.6
UJAP Al Uja 3.18 144 S Sn 10 47 34.0 +0.3
CEYT Ceyhan 3.19 39 Pn Pn 10 46 59.1 +2.9
AMAZ Amatzia 3.31 155 P Pn 10 46 59.4 +1.5
AMAZ S Sn 10 47 37.8 +0.8
AMAZ Amatzia 3.31 155 P Pn 10 46 58.1 +0.2
CMRD Camardi-Nigde 3.42 24 Pn Pn 10 47 02.3 +2.9
HSUJ Al Zarqa 3.46 134 P Pn 10 47 01.2 +1.2
DSI Dead Sea 3.46 148 P Pn 10 47 00.6 +0.7
DSI Dead Sea 3.46 148 ⇓P Pn 10 47 00.2 +0.2
DSI Dead Sea 3.46 148 S Sn 10 47 40.2 -0.5
BUCA Burdur, Bucak- 3.53 323 P Pn 10 46 57.6 -3.3
YTIR Yattir 3.54 153 P Pn 10 47 02.0 +0.9
YTIR Yattir 3.54 153 P Pn 10 47 01.8 +0.7
YTIR Yattir 3.54 153 S Sn 10 47 42.9 +0.2
MSBI Mazada 3.68 151 P Pn 10 47 03.5 +0.6
MSBI Mazada 3.68 151 S Sn 10 47 45.9 0.0
KZIT Kziot 3.75 165 P Pn 10 47 04.8 +0.8
KZIT Kziot 3.75 165 S Sn 10 47 47.8 -0.1
ALIN Konya, Altinte 3.76 356 P Pn 10 47 07.4 +3.3
ALIN S Sn 10 47 50.8 +2.6
GHAJ Ghor Haditha 3.77 148 P Pn 10 47 05.8 +1.6
GHAJ Ghor Haditha 3.77 148 P Pn 10 47 05.1 +0.9
DOGA KONYA_Doganhis 3.78 341 P Pn 10 47 08.3 +3.8
DOGA S Sn 10 47 47.5 -1.2
DOGA *i* IAML 10 48 11.0
comp=N,109nm,0.7s
DOGA *i* IAML 10 48 14.0
comp=E,139nm,0.8s
BSIR Belisirma, Guz 3.81 12 P Pn 10 47 06.6 +1.8
BSIR S Sb 10 47 57.3 -2.4
BSIR *i* IAML 10 48 11.0
comp=N,83nm,0.7s
BSIR *i* IAML 10 48 13.0
comp=E,96nm,0.7s
ASF Jabal al Asfar 3.86 127 Pn Pn 10 47 07.2 +1.7
11nm,0.3s,baz=335,slow=4.1,SNR=102
ASF Sn Sn 10 47 53.7 +3.0
5.8nm,0.3s,baz=167,slow=20,SNR=11
ASF LR LR 10 48 22.0
comp=Z,90nm,19.2s,baz=320,slow=35
29nm,0.3s
ASF Jabal al Asfar 3.86 127 P Pn 10 47 07.1 +1.6
BAGO Egridir - ISPA 3.97 331 P Pn 10 47 10.7 +3.7
BAGO S Sb 10 48 01.4 -2.9
BAGO *i* IAML 10 48 23.0
comp=N,44nm,1.0s
BAGO *i* IAML 10 48 27.0
comp=E,54nm,0.9s
YVAC Isparta, Yalva 4.06 337 P Pb 10 47 13.2 -4.6
YVAC S Sb 10 48 02.2 -4.5
YVAC *i* IAML 10 48 23.0
comp=E,56nm,1.0s
KDHN Kadinhani 4.07 347 P Pn 10 47 08.3 -0.2
KDHN S Sn 10 47 50.8 -5.2
IDAN Idan 4.07 155 P Pn 10 47 09.2 +0.8
IDAN Idan 4.07 155 S Sn 10 47 55.9 +0.1
RMNI Mount Ramon 4.14 162 P Pn 10 47 10.2 +0.9
RMNI Mount Ramon 4.14 162 S Sn 10 47 57.7 +0.2
CBEY Konya-Cihanbey 4.16 355 P Pn 10 47 13.2 +3.6
CBEY S Sb 10 48 03.8 -5.7
CBEY *i* IAML 10 48 25.0
comp=N,80nm,0.9s
CBEY *i* IAML 10 48 36.0
comp=E,79nm,0.8s
ZFRI Zfri 4.30 157 P Pn 10 47 12.4 +1.0
ZFRI Zfri 4.30 157 P Pn 10 47 12.1 +0.7
ZFRI Zfri 4.30 157 S Sn 10 48 01.3 0.0
PRNI Paran 4.43 160 P Pn 10 47 14.3 +1.0
PRNI Paran 4.43 160 P Pn 10 47 13.8 +0.4
PRNI Paran 4.43 160 S Sn 10 48 05.3 +0.5
KRMI Paran Flat 4.59 164 P Pn 10 47 16.7 +1.3
KRMI Paran Flat 4.59 164 P Pn 10 47 15.8 +0.4
KRMI Paran Flat 4.59 164 S Sn 10 48 08.6 +0.1
HHAG Hagoal 4.68 192 P Pn 10 47 18.3 +1.6
HRFI Mount Harif 4.74 161 P Pn 10 47 18.7 +1.1
HRFI Mount Harif 4.74 161 P Pn 10 47 18.2 +0.7
HRFI Mount Harif 4.74 161 S Sn 10 48 12.2 -0.2
BYAT Afyon-Bayat 4.76 338 P Pn 10 47 19.7 +1.9
BYAT *i* IAML 10 48 45.0
comp=E,40nm,1.2s
KOT Kottamia 4.76 195 P Pn 10 47 18.9 +1.1
KOT S Sn 10 48 11.7 -1.1
BNAZ Uak-Banaz 4.94 328 P Pn 10 47 21.3 +1.0
BNAZ S Sn 10 48 17.7 +0.5
AKPI Kirsehir/Akpin 4.99 7 P Pn 10 47 25.4 +4.4
EIL Elat 5.07 163 Pn Pn 10 47 23.0 +0.9
5.1nm,0.3s,baz=315,slow=3.9,SNR=27
EIL Sn Sn 10 48 20.4 +0.1
14nm,0.3s,baz=282,slow=9.5,SNR=10.0
15nm,0.4s
EIL Elat 5.07 163 P Pn 10 47 22.9 +0.9
EIL Elat 5.07 163 S Sn 10 48 20.9 +0.6
BRTR Keskin Array B 5.18 3 Pn Pn 10 47 26.8 +3.1
1.2nm,0.3s,baz=180,slow=15,SNR=23
4.9nm,0.5s
NUB Nuweibaa 5.63 167 P Pn 10 47 31.4 +1.7
HDHB Dhahab 5.92 168 P Pn 10 47 34.9 +1.2
RYAN Fayoum 6.00 206 P Pn 10 47 35.9 +1.0
HKAT Jabal Katrina 6.04 174 P Pn 10 47 36.5 +1.0
TR2 Tor 2 6.15 176 P Pn 10 47 37.9 +0.9
IDI Anoyia 6.91 279 Pn Pn 10 47 47.2 -0.2
5.7nm,0.3s,baz=49,slow=5.1,SNR=18
IDI Sn Sn 10 49 02.2 -3.5
7.5nm,0.3s,baz=295,slow=21,SNR=8.7
TAMRE El Minia 7.13 197 P Pn 10 47 52.3 +2.0
SLUM Salum 7.41 248 P Pn 10 47 54.4 +0.3
HFRF Wahat Farafira 8.51 211 P Pn 10 48 09.7 +0.5
GNI Garni 10.72 55 LR LR 10 53 30.7
comp=Z,20nm,18.4s,baz=238,slow=41
AKASG Malin Array Be 16.41 351 Pn Pn 10 49 56.3 +0.1
0.7nm,0.3s,baz=172,slow=11,SNR=7.9
0.3nm,0.3s
MYKA Terra Mystica 19.11 315 *e*pP pP 10 50 32.6 -0.3
3.2nm,0.6s
GERES GERESS Array B 20.34 321 P P 10 50 42.4 0.0
2.0nm,0.4s,baz=124,slow=7.1,SNR=20
2.0nm,0.4s
WTTA Wattenberg 20.61 315 *e*Pn Pn 10 50 46.8 -0.9
0.3nm,0.3s
NACGM Naroch 20.85 349 *e*P Pn 10 50 51.4 +1.2
comp=Z,11nm,0.7s,baz=164
MOTA Moosalm 20.97 314 *e*Pn Pn 10 50 51.6 -0.2
comp=Z,9.4nm,1.4s
FETA Feichten 21.04 313 *e*P P 10 50 50.9 +0.9
comp=Z,1.2nm,0.7s
RETA Reutte 21.24 314 *e*P P 10 50 52.5 +0.5
comp=Z,1.5nm,0.5s
DAVA Damuels 21.67 313 *i*P P 10 50 55.7 -1.1
comp=Z,6.9nm,0.9s
FINES FINESS Array B 27.31 352 P P 10 51 50.0 -0.3
comp=Z,2.9nm,0.8s,baz=161,slow=12,SNR=6.7
comp=Z,2.9nm,0.8s
NOA NORSAR Array B 30.06 339 LR LR 11 06 25.8
comp=Z,31nm,19.1s,baz=200,slow=41
ARCES ARCESS Array B 35.31 355 P P 10 52 59.8 -0.9
comp=Z,14nm,0.8s,baz=162,slow=8.4,SNR=6.0
ARCES LR LR 11 08 42.1
comp=Z,32nm,20.3s,baz=240,slow=38
comp=Z,1.4nm,0.8s
KURBB Kurchatov Arra 36.38 50 P P 10 53 11.0 +1.0
comp=Z,1.4nm,0.8s,baz=268,slow=9.1,SNR=7.9
comp=Z,1.4nm,0.8s
MKAR Makanchi Array 38.56 56 P P 10 53 30.5 +1.8
comp=Z,1.7nm,0.7s,baz=269,slow=7.0,SNR=14
comp=Z,1.7nm,0.7s

ZALV Zalesovo Beam 40.66 45 P P 10 53 46.0 +0.1
comp=Z,0.9nm,0.5s,baz=256,slow=6.9,SNR=4.2
comp=Z,0.9nm,0.5s
ILAR Eielson Array 81.01 0 P P 10 58 20.8 +0.4
comp=Z,0.6nm,0.9s,baz=343,slow=2.8,SNR=4.1
comp=Z,0.6nm,0.9s

*UCR **18** 10:46:21.6±1.3,5˚.91N×82˚.67W,h23km±999km,MW4.3*
*UPA **18** 10:46:23.8±1.2,6˚.12N×82˚.60W,h20km±13km,MW4.2*
*CATAC **18** 10:46:25.7±0.7,6˚N±7˚×8˚3W±˚,h19km±10km,M4.6/20,*
mb4.8/12,mB5.1/6,MLv4.6/20,Mw(mB)4.4/6,Error ellipse:
s-maj=14.7km s-min=3.7km az=12.9,Moment Tensor
Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.59;
$M_{\theta\theta}$=0.58; $M_{\phi\phi}$2.17; $M_{r\theta}$=0.73; $M_{\theta\phi}$=-6.42; $M_{\phi r}$=1.63; Fault
plane solution: $M_0$6.94036×10^{15} NP1:ϕ_s95.49472°,
δ77.87996°,λ177.07447°. NP2:ϕ_s186.10948°,δ87.13973°,
λ12.13539°. Principal axes: T 7.6804, Plg10.5882°,
Azm51.4187°; N -1.8585, Plg77.5370°, Azm199.1746°; P
-5.8219, Plg6.4986°, Azm320.1986°; confirmed
*GCMT **18** 10:46:29.0±0.3,6˚.00N±0˚.01×82˚.48W±0˚.03,h19km±1km,*
MW4.7/74,Moment Tensor Solution. s9,c9; s74,c97;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.01±.08;
$M_{\theta\theta}$0.09±.06; $M_{\phi\phi}$-0.08±.08; $M_{r\theta}$-0.01±.17; $M_{\theta\phi}$1.42±.06;
$M_{\phi r}$-0.06±.13; Best double couple: $M_0$1.42400×10^{16}
NP1:ϕ_s272.00000°,δ88.00000°,λ0.00000°. NP2:
ϕ_s182.00000°,δ90.00000°,λ178.00000°. Principal axes:
T 1.4300, Plg2.0000°, Azm137.0000°; N -0.0120,
Plg88.0000°, Azm358.0000°; P -1.4180, Plg2.0000°,
Azm227.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Surface-wave
location Triangular moment-rate function
*RSNC **18** 10:46:29.3±0.9,5˚N±4˚×8˚2W±˚,h0km,M3.8,mb4.5,mB4.8,*
mBc5.8,Mjma4.1,ML3.2,ML4.5,MLh4.0,MLv4.1,Ms(BB)4.1,
Mw(mB)4.1,MwMwp4.3,Mwp4.8

ISC 18 10:46:21.0±1.5,6˚.00N±0˚.08×82˚.63W±0˚.06,h14km,n123,
σ1§52/149,1C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**2.21**	**53**	*i* P	**Pn**	**10 46 57.0**	**-0.3**
CACAO				*e*S	**Sn**	**10 47 22.8**	**-1.6**
MAPC	**Malpelo**	**2.23**	**153**	P	Pn	10 46 55.1	-2.4
MAPC				S	Sn	10 47 18.2	-6.6
GMAL	**Guarumal, Vera**	**2.24**	**38**	⇓*i*P	**Pn**	**10 46 57.5**	**-0.2**
GMAL				*e*S	**Sn**	**10 47 24.2**	**-0.9**
MARI3	**Mariato, Verag**	**2.31**	**45**	*e*P	**Pn**	**10 46 58.7**	**0.0**
MARI3				*e*S	**Sn**	**10 47 25.2**	**-1.8**
REME3	**Remedios, Chir**	**2.35**	**20**	*e*P	**Pn**	**10 46 59.2**	**0.0**
PEDE3	**Pedregal, Chir**	**2.38**	**5**	*e*P	**Pn**	**10 46 59.1**	**-0.5**
PEDE3				*e*S	**Sn**	**10 47 26.8**	**-1.8**
LESP3	**La Esperanza,**	**2.40**	**356**	*e*P	**Pn**	**10 46 59.4**	**-0.4**
LESP3				*e*S	**Sn**	**10 47 26.6**	**-2.5**
CHIR3	**Chiriqui UPA,**	**2.40**	**7**	*e*P	**Pn**	**10 47 00.1**	**+0.2**
CHIR3				*e*S	**Sn**	**10 47 26.8**	**-2.4**
LOCO3	**Loma Colorada,**	**2.41**	**5**	*e*P	**Pn**	**10 47 00.2**	**+0.2**
LOCO3				*e*S	**Sn**	**10 47 27.6**	**-1.7**
DVD	**David**	**2.43**	**4**	*e*P	**Pn**	**10 47 00.2**	**-0.1**
DVD				*e*S	**Sn**	**10 47 28.2**	**-1.6**
LOMA3	**Las Lomas, Chi**	**2.43**	**6**	*e*P	**Pn**	**10 47 00.4**	**+0.1**
LOMA3				*e*S	**Sn**	**10 47 29.1**	**-0.7**
RSUS3	**Rio de Jesus,**	**2.46**	**36**	*e*P	**Pn**	**10 47 00.7**	**+0.1**
RSUS3				*e*S	**Sn**	**10 47 28.7**	**-1.8**
BAGA3	**Bagala, Chiriq**	**2.46**	**2**	*e*P	**Pn**	**10 47 00.9**	**+0.2**
BAGA3				*e*S	**Sn**	**10 47 28.4**	**-2.1**
PIRO	**Carate, Puerto**	**2.49**	**344**	P	**Pn**	**10 47 00.0**	**-1.1**
PIRO	**Carate, Puerto**	**2.49**	**344**	S	**Sn**	**10 47 29.2**	**-2.2**
CDITO	**Canoas**	**2.57**	**355**	S	**Sn**	**10 47 31.7**	**-1.7**
CDITO	**Canoas**	**2.57**	**355**	P	**Pn**	**10 47 01.5**	**-0.7**
MESA3	**La Mesa, Verag**	**2.58**	**34**	*e*P	**Pn**	**10 47 02.5**	**+0.2**
TOSI3	**Tonosi**	**2.59**	**57**	*e*P	**Pn**	**10 47 02.5**	**+0.1**
TOSI3				*e*S	**Sn**	**10 47 32.1**	**-1.7**
PTJ1	**Puerto Jimnez**	**2.61**	**345**	S	**Sn**	**10 47 33.4**	**-0.9**
PTJ1	**Puerto Jimnez**	**2.61**	**345**	P	**Pn**	**10 47 02.1**	**-0.7**
PSOM3	**Paja de Sombre**	**2.69**	**7**	*e*P	**Pn**	**10 47 04.3**	**+0.4**
PSOM3				*e*S	**Sn**	**10 47 34.5**	**-1.8**
BQSF3	**Alto Boquete,**	**2.74**	**4**	*e*P	**Pn**	**10 47 04.6**	**0.0**
BQSF3				*e*S	**Sn**	**10 47 35.3**	**-2.3**
BRU2	**Volcan**	**2.78**	**359**	⇑*i*P	**Pn**	**10 47 05.2**	**0.0**
BRU2				*e*S	**Sn**	**10 47 37.7**	**-1.0**
BRU2	**Volcan**	**2.78**	**359**	P	**Pn**	**10 47 05.1**	**-0.2**
BRU2	**Volcan**	**2.78**	**359**	S	**Sn**	**10 47 36.6**	**-2.2**
BC3P	**Paso Ancho**	**2.80**	**0**	*e*P	**Pn**	**10 47 05.9**	**+0.3**
BC3P				*e*S	**Sn**	**10 47 38.0**	**-1.4**
CALO3	**Calobre, Verag**	**2.92**	**37**	*e*P	**Pn**	**10 47 07.6**	**+0.6**
CHIT3	**Chitre**	**2.94**	**48**	*e*P	**Pn**	**10 47 07.5**	**+0.3**
CHIT3				*e*S	**Sn**	**10 47 41.7**	**-0.6**
AZU	**Azuero**	**2.94**	**53**	*e*P	**Pn**	**10 47 07.8**	**+0.4**
AZU				*e*S	**Sn**	**10 47 41.9**	**-0.6**
CHGR2	**Aguacate**	**2.96**	**9**	*e*P	**Pn**	**10 47 07.8**	**+0.1**
CHGR2				*e*S	**Sn**	**10 47 40.7**	**-2.4**
OCHAL	**Ojochal**	**3.24**	**342**	S	**Sn**	**10 47 48.8**	**-1.1**
OCHAL	**Ojochal**	**3.24**	**342**	P	**Pn**	**10 47 11.1**	**-0.3**
LCR2	**La Lucha 2**	**3.96**	**340**	S	**Sn**	**10 48 05.2**	**-2.8**
CHOR3	**La Chorrera**	**4.05**	**44**	*e*P	**Pn**	**10 47 25.1**	**+2.5**
CHOR3				*e*S	**Sn**	**10 48 08.8**	**-1.0**
PCAYA	**Pacayas**	**4.07**	**343**	*e*P	**Pn**	**10 47 24.0**	**+1.0**
ABRB	**Las Abras (San**	**4.13**	**345**	*e*P	**Pn**	**10 47 24.9**	**+1.1**
CVTV	**Tajo**	**4.13**	**345**	*e*P	**Pn**	**10 47 24.9**	**+0.9**
CVTQ	**Turrialba Volc**	**4.14**	**344**	*e*P	**Pn**	**10 47 25.0**	**+0.9**
VICA	**Volcano Irazu**	**4.14**	**343**	*e*P	**Pn**	**10 47 24.9**	**+0.7**
VTR0	**Volcan Turrial**	**4.15**	**344**	*e*P	**Pn**	**10 47 25.4**	**+1.1**
CVTR	**Volcan Turrial**	**4.15**	**344**	*e*P	**Pn**	**10 47 25.2**	**+0.8**
LUJA	**Lujan**	**4.16**	**340**	*e*P	**Pn**	**10 47 25.1**	**+1.0**
ECI	**Escuela Centro**	**4.16**	**340**	*e*P	**Pn**	**10 47 25.2**	**+1.0**
IRES	**Siquirres**	**4.16**	**348**	*e*P	**Pn**	**10 47 25.9**	**+1.7**
ARRA3	**Arraijan, Pana**	**4.17**	**45**	*e*P	**Pn**	**10 47 24.4**	**+0.1**
CORON	**Coronado**	**4.18**	**341**	*e*P	**Pn**	**10 47 25.6**	**+1.1**
BCIP	**Isla Barro Col**	**4.20**	**41**	*e*P	**Pn**	**10 47 25.8**	**+1.2**
BCIP				*e*S	**Sn**	**10 48 10.2**	**-3.2**
BCIP	**Isla Barro Col**	**4.20**	**41**	P	**Pn**	**10 47 25.6**	**+1.1**
BCIP				S	**Sn**	**10 48 13.4**	**-0.1**
BCIP	**Isla Barro Col**	**4.20**	**41**	*e*P	**Pn**	**10 47 25.9**	**+1.2**
CVIMO	**Finca Echandi**	**4.21**	**342**	*e*P	**Pn**	**10 47 25.9**	**+0.9**
HDC	**Heredia**	**4.24**	**340**	*e*P	**Pn**	**10 47 26.0**	**+0.7**
BELE	**Belen**	**4.24**	**339**	*e*P	**Pn**	**10 47 25.9**	**+0.6**
HEME	**Heredia, Merce**	**4.24**	**340**	*e*P	**Pn**	**10 47 27.6**	**+2.2**
UPA	**Univ. de Panam**	**4.27**	**46**	*e*P	**Pn**	**10 47 26.9**	**+1.3**
ATEO	**Atenas**	**4.32**	**336**	*e*P	**Pn**	**10 47 26.5**	**+0.1**
CBL1	**Cabuya**	**4.32**	**326**	*e*P	**Pn**	**10 47 26.1**	**-0.3**
PILE	**Guapiles**	**4.35**	**345**	*e*P	**Pn**	**10 47 28.3**	**+1.6**
PALD	**Palmares**	**4.41**	**336**	*e*P	**Pn**	**10 47 28.1**	**+0.5**
VPS8	**V Poas**	**4.45**	**339**	*e*P	**Pn**	**10 47 29.7**	**+1.3**
CAZU	**Cerro Azul, Pa**	**4.54**	**45**	*e*P	**Pn**	**10 47 30.5**	**+1.1**
JCR1	**Jicaral**	**4.55**	**327**	*e*P	**Pn**	**10 47 29.3**	**-0.2**
VPL1	**V. Platanar**	**4.57**	**338**	*e*P	**Pn**	**10 47 30.4**	**+0.5**
VPL2	**V. Platanar**	**4.62**	**338**	*e*P	**Pn**	**10 47 32.4**	**+1.8**
TRT2	**Tortugero**	**4.66**	**347**	S	**Sn**	**10 48 26.1**	**+1.1**
TRT2	**Tortugero**	**4.66**	**347**	P	**Pn**	**10 47 31.8**	**+0.7**
TRT2	**Tortugero**	**4.66**	**347**	*e*P	**Pn**	**10 47 31.7**	**+0.7**
NYURE	**Nandayure**	**4.75**	**327**	*e*P	**Pn**	**10 47 32.9**	**+0.8**
SOCE	**Pocosol**	**4.78**	**336**	P	**Pn**	**10 47 33.4**	**+0.7**
SOCE	**Pocosol**	**4.78**	**336**	S	**Sn**	**10 48 27.0**	**-0.9**
SOCE	**Pocosol**	**4.78**	**336**	*e*P	**Pn**	**10 47 33.8**	**+1.1**
MTEVE	**Monteverde**	**4.81**	**333**	*e*P	**Pn**	**10 47 33.7**	**+0.4**
JUNT	**Juntas**	**4.84**	**332**	*e*P	**Pn**	**10 47 33.9**	**+0.5**
JTS	**Las Juntas de**	**4.85**	**332**	*e*P	**Pn**	**10 47 33.8**	**+0.2**
JTS				*e*S	**Sn**	**10 48 27.5**	**-2.1**
JTS	**Las Juntas de**	**4.85**	**332**	P	**Pn**	**10 47 33.3**	**-0.2**
JTS	**Las Juntas de**	**4.85**	**332**	*e*P	**Pn**	**10 47 33.7**	**+0.2**
CASO	**Castillo**	**4.88**	**335**	*e*P	**Pn**	**10 47 35.2**	**+1.2**
FORC	**Fortuna**	**4.88**	**336**	*e*P	**Pn**	**10 47 35.1**	**+1.1**
VACR	**Volcan Arenal**	**4.89**	**336**	*e*P	**Pn**	**10 47 35.3**	**+1.2**
ARE1	**Arenal 1**	**4.89**	**335**	*e*P	**Pn**	**10 47 35.5**	**+1.2**
VARE2	**V. Arenal**	**4.89**	**335**	*e*P	**Pn**	**10 47 35.2**	**+1.0**
CEDE	**Laguna Cedeo**	**4.91**	**335**	*e*P	**Pn**	**10 47 35.5**	**+1.0**
TABAC	**Tabacon**	**4.95**	**335**	*e*P	**Pn**	**10 47 36.3**	**+1.3**
COVE	**Coope Vega, Sa**	**5.01**	**340**	P	**Pn**	**10 47 36.4**	**+0.6**
JUD3	**Juan Diaz 3**	**5.04**	**325**	*e*P	**Pn**	**10 47 36.3**	**0.0**
INVE	**Universidad In**	**5.06**	**332**	*e*P	**Pn**	**10 47 37.9**	**+1.4**
QUEB	**Quebradon, Cot**	**5.11**	**334**	*e*P	**Pn**	**10 47 38.2**	**+0.9**
TIMP	**Tierras Morena**	**5.13**	**333**	*e*P	**Pn**	**10 47 38.0**	**+0.5**
TOTI	**Torti**	**5.18**	**56**	*e*P	**Pn**	**10 47 40.1**	**+1.9**
SOLC	**Bahia Solano**	**5.20**	**87**	P	**Pn**	**10 47 40.5**	**+2.1**
TENO	**El Achiote**	**5.22**	**334**	*e*P	**Pn**	**10 47 39.4**	**+0.7**
UPD2	**Meteti**	**5.24**	**61**	*e*P	**Pn**	**10 47 38.7**	**-0.2**
MOTZ	**Rio Naranjo**	**5.25**	**333**	*e*P	**Pn**	**10 47 40.8**	**+1.7**
CUI	**Cuipilapa**	**5.27**	**332**	*e*P	**Pn**	**10 47 40.1**	**+0.7**
MESS	**Mesas**	**5.35**	**332**	*e*P	**Pn**	**10 47 42.2**	**+1.7**
GR1C	**Gorgona, Isla**	**5.35**	**124**	P	**Pn**	**10 47 41.1**	**+0.6**
GR1C				S	**Sn**	**10 48 37.6**	**-4.4**
ALIBA	**Liberia Airpor**	**5.40**	**328**	*e*P	**Pn**	**10 47 42.7**	**+1.5**
ELI1	**Hacienda Flor**	**5.45**	**328**	P	**Pn**	**10 47 43.7**	**+1.9**
ELI1	**Hacienda Flor**	**5.45**	**328**	S	**Sn**	**10 48 43.2**	**-1.2**
VRLE	**La Escondida,**	**5.48**	**331**	*e*P	**Pn**	**10 47 43.7**	**+1.4**
LAPC	**Finca la Perla**	**5.49**	**330**	*e*P	**Pn**	**10 47 43.8**	**+1.4**
VORI	**VORI**	**5.49**	**331**	*e*P	**Pn**	**10 47 45.0**	**+2.4**
PEJA	**Penjamo Buenos**	**5.54**	**332**	*e*P	**Pn**	**10 47 45.6**	**+2.5**
CARN	**Rivas**	**5.90**	**331**	P	**Pn**	**10 47 50.5**	**+2.5**
OMEN	**AI SSO del Vol**	**6.23**	**332**	P	**Pn**	**10 47 53.9**	**+1.4**
YOTC	**Yotoco, Valle**	**6.58**	**107**	P	**Pn**	**10 47 59.6**	**+2.2**
YOTC	0.1nm378nm29nm,0.9s			S	**Sn**	**10 49 11.4**	**-0.9**
POPC	**Popayan, Colom**	**6.86**	**120**	P	**Pn**	**10 48 03.1**	**+1.7**
PAC1	**Pacto, Paraso**	**6.86**	**146**	P	**Pn**	**10 48 01.5**	**+0.1**
PAC1				S	**Sn**	**10 49 16.2**	**-3.3**
OTAV	**Otavalo**	**7.08**	**144**	P	**Pn**	**10 48 06.4**	**+1.7**
GCUF	**Volcan Galeras**	**7.09**	**132**	P	**Pn**	**10 48 07.9**	**+3.0**
CRUC	**La Cruz**	**7.17**	**128**	P	**Pn**	**10 48 09.7**	**+3.8**
COPN	**Copaltepe**	**7.28**	**328**	P	**Pn**	**10 48 08.9**	**+1.9**
MOM2	**El Cardon**	**7.44**	**330**	P	**Pn**	**10 48 11.2**	**+2.0**
MOM2				S	**Sn**	**10 49 32.6**	**-1.0**
CNGN	**Cerro Negro**	**7.61**	**328**	P	**Pn**	**10 48 12.9**	**+1.4**
MATN	**Matagalpa**	**7.62**	**335**	P	**Pn**	**10 48 12.3**	**+0.6**
LIMN	**Finca el Limon**	**7.93**	**333**	P	**Pn**	**10 48 17.9**	**+1.9**
PRAC	**Prado**	**8.04**	**106**	P	**Pn**	**10 48 21.5**	**+3.9**
RCVN	**Varillal2**	**8.32**	**335**	P	**Pn**	**10 48 23.2**	**+1.9**
SJCC	**San Jacinto, C**	**8.34**	**62**	P	**Pn**	**10 48 23.9**	**+2.3**
CSGN	**Cosiguina Volc**	**8.47**	**325**	P	**Pn**	**10 48 27.2**	**+3.8**
OCON	**Estacion meteo**	**8.48**	**334**	P	**Pn**	**10 48 25.8**	**+2.3**
CNCH	**Conchagua**	**8.87**	**325**	P	**Pn**	**10 48 31.0**	**+2.1**
LCND	**La Caada**	**8.93**	**325**	P	**Pn**	**10 48 32.4**	**+2.8**

*IDC **18** 10:54:08.8±1.0,15˚.36S×172˚.76W,h0km,mb3.9/5,*
mbtmp4.0/6,ML3.2/1,MS4.0/33,Error ellipse:
s-maj=43.8km s-min=31.3km az=106.0
*NEIC **18** 10:54:12.5±2.4,15˚.31S±0˚.07×172˚.33W±0˚.09,h10km±1km,*
mb4.9/35,Error ellipse: s-maj=15.5km s-min=10.5km
az=288.0
*GCMT **18** 10:54:16.6±0.4,15˚.45S±0˚.03×172˚.55W±0˚.03,h48km±2km,*
MW4.9/78,Moment Tensor Solution. s26,c28; s78,c99;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.81±.17;
$M_{\theta\theta}$1.97±.12; $M_{\phi\phi}$-0.16±.13; $M_{r\theta}$-1.38±.09; $M_{\theta\phi}$-0.67±.08;
$M_{\phi r}$0.58±.07; Best double couple: $M_0$2.48900×10^{16}
NP1:ϕ_s280.00000°,δ27.00000°,λ-99.00000°. NP2:
ϕ_s111.00000°,δ64.00000°,λ-85.00000°. Principal axes:
T 2.6600, Plg18.0000°, Azm197.0000°; N -0.3420,
Plg4.0000°, Azm289.0000°; P -2.3190, Plg71.0000°,
Azm31.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function

ISC 18 10:54:15.9±0.5,15˚.36S±0˚.07×172˚.30W±0˚.08,h35km,n78,
σ1§26/43,mb4.8/25,MS4.1/33,1D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.52**	**19**		**Pn**	**10 54 40.2**	**-0.6**
NIUE	**Niue**	**4.34**	**149**		**Pn**	**10 55 19.0**	**-0.4**
MSVF	**Nonsavu**	**9.56**	**254**		**Pn**	**10 56 31.4**	**+0.3**
RAR	**Rarotonga**	**13.24**	**118**	Pn	**Pn**	**10 57 19.9**	**-1.6**
RAR	**Rarotonga**	**13.24**	**118**	Pn	**Pn**	**10 57 23.6**	**+2.2**
	1.1nm,0.3s,baz=233,slow=20,SNR=2.0						
	17nm,0.8s						
PINNC	**Pines Island,**	**20.46**	**246**	P	**P**	**10 58 50.1**	**-0.5**
PINNC				IAmb	IAmb	10 59 03.5	
	comp=Z,38nm,1.1s						
DZM	**Mont Dzumac**	**21.20**	**248**	LR	LR	11 05 48.4	
	comp=Z,466nm,21.2s,baz=40,slow=34						
PPT	**Papeete**	**21.90**	**99**	LR	LR	11 05 38.7	
	comp=Z,116nm,21.1s,baz=254,slow=31						
PPT2	**Papeete2**	**21.90**	**99**	*e*P	**P**	**10 59 08.8**	**+2.6**
	comp=Z,65nm,25.8s						
PPT2				*e*S	**S**	**11 03 03.5**	**-2.9**
	comp=Z,468nm,27.5s						
PPT2				*e*LR	LR	11 04 13.5	
	comp=Z,337nm,24.5s						
PPT2				*e*LR	LR	11 04 19.9	
	comp=Z,242nm,25.5s						
HNR	**Honiara**	**27.73**	**279**	LR	LR	11 09 26.4	
	comp=Z,247nm,18.4s,baz=79,slow=34						
TAOE	**Nuku Hiva Isla**	**32.06**	**82**	*e*LR	LR	11 09 01.1	

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J20K                                IAmb  IAmb   11 06 24.6
     comp=Z,17nm,1.3s
MCMT McKenzie Canyo  80.56  38  P     P    11 06 25.8 +0.8
NJ2  Nanjing         80.99 307  eP    P    11 06 29.4 +2.1
NJ2                                 pmax  pmax
     comp=Z,8.0nm,0.5s
PDAR Pinedale Array  81.53  41  P     P    11 06 29.6 -0.6
     comp=Z,0.5nm,0.6s,baz=210,slow=3.1,SNR=10
PDAR                                LR    LR   11 36 49.4
     comp=Z,115nm,19.7s,baz=263,slow=31
     comp=Z,0.5nm,0.6s
RIDG Independent Ri  81.65  12  P     P    11 06 29.5 -0.7
RIDG                                IAmb  IAmb   11 06 31.0
     comp=Z,16nm,1.4s
WRH  Wood River Hil  81.71  10  IAmb  IAmb   11 06 31.0
     comp=Z,13nm,1.0s
DOT  Dot Lake        81.73  12  IAmb  IAmb   11 06 30.9
     comp=Z,7.6nm,1.0s
HDA  Harding Lake    81.86  11      P     11 06 30.5 -0.6
HDA                                 IAmb  IAmb   11 06 30.7
     comp=Z,5.6nm,0.8s
CCB  Clear Creek Bu  81.92  10      P     11 06 30.8 -0.6
CCB                                 IAmb  IAmb   11 06 31.8
     comp=Z,7.8nm,1.0s
COLA College         82.13  10  P     P    11 06 31.7 -0.7
COLA                                IAmb  IAmb   11 06 32.3
     comp=Z,18nm,1.1s
ILAR Eielson Array   82.20  11  P     P    11 06 31.9 -1.1
     comp=Z,1.2nm,0.8s,baz=227,slow=6.4,SNR=14
ILAR                                LR    LR   11 34 47.0
     comp=Z,117nm,21.7s,baz=196,slow=30
     comp=Z,1.2nm,0.8s
J25K Salcha River,   82.34  11  IAmb  IAmb   11 06 33.5
     comp=Z,5.1nm,0.9s
J26L Joseph Creek    82.59  12      P     11 06 35.8 +0.7
J26L                                IAmb  IAmb   11 06 54.6
     comp=Z,13nm,1.5s
L29M L29M            82.61  15      P     11 06 35.1 -0.1
L29M                                IAmb  IAmb   11 06 36.1
     comp=Z,7.3nm,0.8s
CMIG Matias Romero   82.86  70  LR    LR   11 35 01.6
     comp=Z,84nm,19.8s,baz=208,slow=29
PRP  Porcupine Dome  83.12  11      P     11 06 37.4 -0.5
PRP                                 IAmb  IAmb   11 06 39.0
     comp=Z,10nm,1.1s
PMSA Palmer Station  83.78 156  LR    LR   11 37 46.3
     comp=Z,33nm,18.5s,baz=230,slow=31
I30M Mount Dempster  84.80  14      P     11 06 46.2 -0.3
I30M                                IAmb  IAmb   11 07 05.8
     comp=Z,8.5nm,1.2s
G30M tAoh Zraii Nji  86.29  13  IAmb  IAmb   11 06 54.6
     comp=Z,9.3nm,0.8s
INK  Inuvik          87.97  13  LR    LR   11 39 47.2
     comp=Z,101nm,19.9s,baz=191,slow=31
PLCA Paso Flores     88.75 132  LR    LR   11 36 49.0
     comp=Z,44nm,20.1s,baz=248,slow=29
HERN Volcan Telica   89.00  77  P     P    11 07 06.5 -1.5
HERN                                IAmb  IAmb   11 07 10.4
     comp=Z,195nm,0.9s
YKA  Yellowknife Ar  89.64  23  LR    LR   11 40 55.1
     comp=Z,130nm,18.6s,baz=265,slow=31
HHC  Hu-ho-hao-te    89.78 313  eP    P    11 07 11.4 +0.3
HHC                                 pmax  pmax
     comp=Z,5.0nm,0.6s
HHC                                 pmax  pmax
     comp=Z,75nm,4.8s
JTS  Las Juntas de   90.15  79  LR    LR   11 37 51.3
     comp=Z,51nm,20.5s,baz=276,slow=29
ATAH Atahualpa       91.87  98  LR    LR   11 40 05.0
     comp=Z,70nm,20.1s,baz=289,slow=30
SYO  Syowa Base      92.85 191‖ eP    P    11 07 24.6  0.0
ULM  Lac du Bonnet   93.23  39  LR    LR   11 41 38.8
     comp=Z,180nm,21.6s,baz=312,slow=30
CMAR Chiang Mai Arr  93.61 288  LR    LR   11 44 33.2
     comp=Z,16nm,21.6s,baz=130,slow=32
SONM Songino Array   95.52 318  LR    LR   11 43 45.3
     comp=Z,59nm,21.9s,baz=80,slow=31
TKL  Tuckaleechee C  97.61  55  LR    LR   11 44 50.2
     comp=Z,82nm,19.7s,baz=302,slow=31
ARCES ARCESS Array B 124.71 352  PKP   PKPdf 11 13 08.2 -3.1
     comp=Z,2.2nm,0.9s,baz=43,slow=4.1,SNR=1.2
GERES GERESS Array B 146.24 353  PKPbc PKPdf 11 13 50.3 -1.5
     comp=Z,0.4nm,0.5s,baz=5.2,slow=4.4,SNR=5.3
BRTR Keskin Array B  146.79 322  PKPbc PKPdf 11 13 52.5 -0.5
     comp=Z,3.0nm,1.2s,baz=116,slow=2.9,SNR=7.4
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IDC ***18*** *10:56:17.8±0.6, 6°.70N×124°.86E, h0km, mb4.2/16, mbtmp4.2/16, MS3.9/34, Error ellipse: s-maj=13.3km s-min=9.4km az=155.0*

BJI ***18*** *10:56:19.8, 6°.75N×125°.31E, h19km, mB4.8/15, mb4.6/45, Ms4.4/35, Ms7 4.1/33*

NEIC ***18*** *10:56:20.6±1.1, 6°.82N±0°.08×124°.96E±0°.05, h10km±1km, mb4.9/46, Error ellipse: s-maj=14.7km s-min=8.3km az=161.0*

GCMT ***18*** *10:56:21.6±0.3, 6°.80N±0°.02×124°.97E±0°.02, h24km±1km, MW4.9/94, Moment Tensor Solution. s19,c21; s94,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.27±.17; Mθθ 1.84±.12; Mφφ-1.57±.12; Mrθ-0.03±.15; Mrφ 1.72±.09; Mθφ-0.62±.18; Best double couple: M=2.50700×10^16 NP1:φs292.00000°, δ76.00000°, λ-7.00000°. NP2: φs23.00000°, δ84.00000°, λ-166.00000°. Principal axes: T 2.5820, Plg5.0000°, Azm157.0000°; N -0.1530, Plg74.0000°, Azm47.0000°; P -2.4320, Plg15.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***18*** *10:56:22.4±0.5, 7°N±6°×12°5E±°, h11km±8km, M5.0/17, mb5.1/17, mB5.4/13, MLv5.2/8, Mw(mB)4.8/13, MwMwp4.7/2, Mwp5.0/2*

ISC 18 10:56:21.1±0.3, 6°.84N±0°.04×124°.98E±0°.05, h13km, n153, σ2º09/128, mb4.7/53, MS3.9/42, 1D, Mindanao

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
DAV  Davao City (W)   0.64  69        Pg    Pg    10 56 33.2 -0.4
DAV  Davao City (W)   0.64  69  Pg    Pg    10 56 33.4 -0.2
     2μm,0.3s,baz=258,slow=8.3,SNR=209
DAV                                 Lg    Lg    10 56 44.4
     3μm,0.3s,baz=323,slow=20,SNR=14
DAV                                 LR    LR    10 57 04.2
     comp=Z,15μm,21.2s,baz=344,slow=58
DAV  Davao City (W)   0.64  69  P     Pg    10 56 33.4 -0.2
DAV  Davao City (W)   0.64  69  S     Sb    10 56 44.3 +1.3
DAV  Davao City (W)   0.64  69  P     Pg    10 56 27.0 -6.6
SGSI Sangihe          3.18 170  P     Pn    10 57 11.8 +0.8
SGSI                            S     Sn    10 57 50.1 +1.3
KMSI Cibinong         6.31 189  P     Pn    10 57 53.8 -0.1
KMSI                            S     Sn    10 59 07.8 +1.9
TNTI Ternate          6.48 158        Pn    10 57 56.1 -0.3
TNTI Ternate          6.48 158  P     Pn    10 58 00.3 +4.0
TNTI Ternate          6.48 158  P     Pn    10 57 57.7 +1.4
     1μm71nm,0.8s
TNTI                            S     Sn    10 59 11.6 +1.4
     1μm71nm,0.8s
MYLDM Lahad Datu      6.65 256        Pn    10 58 00.7 +2.0
MYLDM Lahad Datu      6.65 256  P     Pn    10 58 02.2 +3.5
MRSI Marisa           7.01 206  P     Pn    10 58 02.7 -0.9
TOLI2 Tolitoli        7.07 217        Pn    10 58 01.9 -2.5
LUWI Luwuk            8.14 196        Pn    10 58 22.8 +3.8
LUWI Luwuk            8.14 196  P     Pn    10 58 24.3 +5.2
LUWI Luwuk            8.14 196  S     Sn    10 59 56.1 +5.1
LUWI Luwuk            8.14 196  P     Pn    10 58 22.4 +3.3
     3μm303nm,1.2s
TGY  Tagaytay City    8.24 331  LR    LR    11 02 35.8
     comp=Z,627nm,19.1s,baz=106,slow=46
APSI Ampana           8.39 203  P     Pn    10 58 26.3 +3.8
     2μm180nm,1.0s
SANI Sanana           8.89 173  P     Pn    10 58 29.6 +0.2
     726nm49nm,0.9s
I39PW PALAU INFRASON 9.52  85  I     I     11 50 00.0
     baz=267,slow=303,SNR=1.9
SWI  Sorong           9.89 140  P     Pn    10 58 44.3 +1.1
     41nm,0.8s
NLAI Namlea          10.24 168  P     Pn    10 58 47.5 -0.4
     1μm95nm,0.9s
AAI  Ambon           10.94 163  P     Pn    10 59 00.0 +2.5
     52nm,0.8s
SPSI Sidrap Palu     11.93 206  P     Pn    10 59 14.0 +2.9
FAKI Fak Fak         12.11 143        Pn    10 59 14.8 +1.2
FAKI Fak Fak         12.11 143  P     Pn    10 59 16.9 +3.3
FAKI Fak Fak         12.11 143  P     Pn    10 59 15.4 +1.8
     71nm,1.1s
BNSI Bone            12.18 204  P     Pn    10 59 17.8 +3.3
SBUM Sibu            13.44 252        Pn    10 59 35.4 +3.7
SBUM Sibu            13.44 252  P     P     10 59 36.8 -4.3
KSM  Kuching         15.57 251  Pn    Pn    11 00 00.1 -0.5
SAUI Saumlaki        16.02 157  Pn    Pn    11 00 05.5 -0.8
SOEI Soe             16.50 182  Pn    Pn    11 00 10.0 -2.6
SOEI Soe             16.50 182  P     P     11 00 17.3 +2.0
BATI Baumata         16.99 184  Pn    P     11 00 20.6  0.0
     8.4nm,0.3s,baz=31,slow=9.8,SNR=7.3
PLAI Plampang        17.14 205  P     P     11 00 25.4 +3.2
JAY  Jayapura        18.24 120  LR    LR    11 06 19.0
     comp=Z,267nm,19.7s,baz=304,slow=33
QIZ  Qiongzhong      19.07 311  P     Pn    11 00 45.6 +1.3
QIZ                             S     S     11 04 19.6 -0.1
QIZ                             LR    LR
     comp=N,520nm,18.0s
QIZ                             LR    LR
     comp=E,480nm,17.7s
QIZ                             LR    LR
     comp=Z,630nm,15.1s
AUDHS Darwin High Sc 20.02 163  P     Pn    11 00 58.3 +2.7
DRS  Darwin Rock St  20.03 163  P     Pn    11 00 57.5 +1.7
JOW  Kunigami        20.13  9  LR    LR    11 09 07.9
     comp=Z,355nm,19.9s,baz=180,slow=38
MTN  Manton Dam      20.49 163        P     11 00 57.9 -1.1
GUMO Guam            20.68  70  LR    LR    11 10 44.9
     comp=Z,152nm,18.1s,baz=231,slow=42
LEM  Lembang         22.01 232  LR    LR    11 12 15.1
     comp=Z,168nm,18.8s,baz=334,slow=44
KNRA Kununurra       22.69 171        P     11 01 20.7 -1.9
KNRA                            IAmb  IAmb   11 01 23.9
     comp=Z,36nm,0.8s
IPM  Ipoh            23.95 266  P     P     11 01 34.2 -1.3
IPM  Ipoh            23.95 266  P     P     11 01 40.2 +4.8
KULM Kulim           24.24 268        P     11 01 36.7 -1.4
KULM                            IAmb  IAmb   11 01 49.1
     comp=Z,48nm,1.5s
FITZ Fitzroy Crossi  24.79 179        P     11 01 41.8 -1.1
FITZ Fitzroy Crossi  24.79 179  P     P     11 01 48.0 +5.0
NJ2  Nanjing         25.73 348  eP    P     11 01 53.5 +2.2
NJ2                             pP    pP    11 01 55.8 +0.5
NJ2                             pmax  pmax
     comp=Z,11nm,0.5s
PSI  Prapat          26.27 262  LR    LR    11 13 05.4
     comp=Z,155nm,18.8s,baz=340,slow=38
PMG  Port Moresby    27.37 126  P     P     11 02 05.2 -1.2
PMG                             IAmb  IAmb   11 02 10.0
     comp=Z,36nm,1.1s
PMG  Port Moresby    27.37 126  LR    LR    11 15 04.8
     comp=Z,96nm,18.2s,baz=298,slow=41
COEN Coen            27.44 139  P     P     11 02 05.6 -1.5
COEN                            IAmb  IAmb   11 02 15.7
     comp=Z,28nm,1.1s
COEN Coen            27.44 139  P     P     11 02 10.6 +3.5
CMAR Chiang Mai Arr  27.86 297  P     P     11 02 08.8 -2.0
CMAR Chiang Mai Arr  27.86 297  P     P     11 02 09.8 -1.0
     comp=Z,0.6nm,0.4s,baz=118,slow=6.6,SNR=7.8
CMAR                            LR    LR    11 14 10.1
     comp=Z,158nm,18.3s,baz=105,slow=38
     comp=Z,0.6nm,0.4s
GSI  Gunungsitoli    27.87 260  P     P     11 02 09.2 -1.8
KMI  Kunming         27.98 313  P     P     11 02 19.4 +7.4
KMI                             S     S     11 07 05.5 +9.3
KMI                             pmax  pmax
     comp=Z,10.0nm,1.0s
KMI                             LR    LR
     comp=Z,300nm,14.4s
KMI                             LR    LR
     comp=Z,310nm,18.2s
KMI                             LR    LR
     comp=Z,280nm,23.5s
WB0  Warramunga Arr  28.02 161  P     P     11 02 10.1 -2.0
WB0                             IAmb  IAmb   11 02 48.5
     comp=Z,16nm,0.9s
WRAB Tennant Creek   28.16 161  P     P     11 02 11.5 -1.9
WRAB                            IAmb  IAmb   11 02 25.9
     comp=Z,30nm,1.2s
WRA  Warramunga Arr  28.16 161  P     P     11 02 11.2 -2.3
WRA  Warramunga Arr  28.16 161  P     P     11 02 11.1 -2.3
     comp=Z,4.0nm,0.8s,baz=336,slow=10.0,SNR=34
     comp=Z,4.0nm,0.8s
WR8  Warramunga Arr  28.23 161  P     P     11 02 12.1 -1.9
WR8                             IAmb  IAmb   11 02 45.8
     comp=Z,25nm,1.3s
PSA00 Pilbara Seismi 28.68 190        P     11 02 16.6 -1.5
PZH  PanZhiHua       29.52 314  P     P     11 02 32.0 +6.3
PZH                             S     S     11 07 21.0 +0.7
PZH                             pmax  pmax
     comp=Z,10.0nm,1.1s
PZH                             pmax  pmax
     comp=Z,70nm,5.2s
PZH                             LR    LR
     comp=Z,310nm,22.6s
PZH                             LR    LR
     comp=Z,260nm,21.0s
PZH                             LR    LR
     comp=Z,200nm,18.6s
JHJ  Hachijo jima 2  29.54  26  LR    LR    11 13 35.0
     comp=Z,362nm,21.5s,baz=314,slow=35
TIA  Tai'an          30.10 347  P     P     11 02 33.0 +2.5
TIA                             pmax  pmax
     comp=Z,5.0nm,0.7s
CD2  Chengdu         31.12 323  P     P     11 02 39.9 +0.2
CD2                             S     S     11 07 48.0 +2.9
CD2                             pmax  pmax
     comp=Z,20nm,0.4s
CD2                             LR    LR
     comp=Z,900nm,20.0s
CD2                             LR    LR
     comp=Z,810nm,20.0s
CD2                             LR    LR
     comp=Z,310nm,12.2s
MTSU Mount Surprise  31.31 143  P     P     11 02 45.3 +3.9
AS31 Alice Springs   31.55 164        P     11 02 41.8 -1.7
ASAR Alice Springs   31.55 164        P     11 02 42.1 -1.4
ASAR Alice Springs   31.55 164  P     P     11 02 41.8 -1.7
     comp=Z,3.2nm,0.5s,baz=343,slow=7.0,SNR=58
     comp=Z,3.2nm,0.5s
AS01 Alice Springs   31.56 164  P     P     11 02 47.0 +3.4
HNS  HongShan        31.82 344 ‖P     P     11 02 48.3 +2.7
HNS                             pmax  pmax
     comp=Z,16nm,1.1s
HNS                             LR    LR
     comp=Z,220nm,23.5s
HNS                             LR    LR
     comp=Z,250nm,19.8s
HNS                             LR    LR
     comp=Z,250nm,23.3s
MJAR Matsushiro Arr  31.94  20  P     P     11 02 48.0 +1.3
     comp=Z,3.4nm,0.9s,baz=191,slow=9.8,SNR=4.8
MJAR                            LR    LR    11 15 02.7
     comp=Z,246nm,20.1s,baz=202,slow=35
     comp=Z,3.4nm,0.9s
BJI  Beijing         33.99 348  P     P     11 03 04.5  0.0
BJI                             pP    sP    11 03 09.6 -0.6
BJI                             PP    PnPn  11 04 18.9 +1.1
BJI                             S     S     11 08 30.5 +1.2
BJI                             pmax  pmax
     comp=Z,4.0nm,0.9s
BJI                             LR    LR
     comp=Z,60nm,16.6s
BJI                             LR    LR
     comp=Z,95nm,23.3s
LZDM Lanzhou Array   34.93 329  LR    LR    11 17 45.6
     comp=Z,203nm,21.9s,baz=130,slow=37
LZH  Lanzhou         34.95 329  eP    P     11 03 14.8 +1.6
LZH                             sP    sP    11 03 21.5 +2.6
LZH                             pmax  pmax
     comp=Z,15nm,1.3s
LZH                             LR    LR
     comp=Z,370nm,16.2s
LZH                             LR    LR
     comp=Z,330nm,17.1s
LZH                             LR    LR
     comp=Z,370nm,18.4s
BRDH Bariadhala      35.75 300  LR    LR    11 20 30.0
     comp=Z,149nm,18.1s,baz=120,slow=41
HHC  Hu-ho-hao-te    35.92 343  eP    P     11 03 21.8 +0.4
HHC                             S     S     11 08 58.8 -0.6
HHC                             SS    SnSn  11 11 21.3 -1.9
HHC                             pmax  pmax
     comp=Z,9.0nm,0.6s
HHC                             pmax  pmax
     comp=Z,50nm,4.4s
HHC                             LR    LR
     comp=Z,170nm,15.0s
HHC                             LR    LR
     comp=Z,210nm,15.5s
HHC                             LR    LR
     comp=Z,270nm,15.9s
SHL  Shillong        36.66 304  P     P     11 03 26.7 -1.3
SHL                             IAmb  IAmb   11 03 34.2
     comp=Z,15nm,0.9s
INKA Innaminka       37.61 157  P     P     11 03 34.8 -0.9
USRK Ussuriysk Ar.   37.71  8   P     P     11 03 36.6 +0.1
     comp=Z,4.9nm,0.7s,baz=126,slow=4.9,SNR=8.4
     comp=Z,4.9nm,0.7s
MDJ  Mudanjiang      37.84  5   P     P     11 03 37.5  0.0
MDJ                             pmax  pmax
     comp=Z,7.0nm,1.1s
GTA  Gaotai          39.55 329  eP    P     11 03 54.3 +2.2
GTA                             pP    sP    11 03 59.5 +1.7
GTA                             pmax  pmax
     comp=Z,13nm,0.9s
GTA                             LR    LR
     comp=Z,240nm,19.1s
GTA                             LR    LR
     comp=Z,180nm,15.9s
GTA                             LR    LR
     comp=Z,230nm,21.9s
ASAJ Asahikawa       40.20  20  LR    LR    11 20 03.1
     comp=Z,175nm,20.5s,baz=172,slow=35
BBOO Buckleboo       40.82 166  P     P     11 04 01.8 -0.7
STKA Stephens Creek  41.64 159  P     P     11 04 08.4 -0.9
STKA Stephens Creek  41.64 159  P     P     11 04 08.4 -0.9
     comp=Z,5.0nm,0.6s,baz=337,slow=10,SNR=6.7
     comp=Z,5.0nm,0.6s
EVN  Everest         41.77 305        P     11 04 10.1 -1.2
EVN                             IAmb  IAmb   11 04 25.6
     comp=Z,21nm,1.4s
HILR Hailar Array B  42.80 355  P     P     11 04 18.7 +0.1
     comp=Z,3.2nm,0.6s,baz=161,slow=11,SNR=4.1
     comp=Z,3.2nm,0.6s
HEH  HeiHe           43.31  2  eP    P     11 04 22.4 -0.3
HEH                             pmax  pmax
     comp=Z,12nm,1.0s
HEH                             LR    LR
     comp=Z,110nm,13.3s
HEH                             LR    LR
     comp=Z,170nm,13.2s
HEH                             LR    LR
     comp=Z,240nm,14.7s
SONM Songino Array   43.81 342  P     P     11 04 26.9 -0.1
SONM Songino Array   43.81 342  P     P     11 04 27.2 +0.3
     comp=Z,0.9nm,0.7s,baz=177,slow=5.5,SNR=2.5
SONM                            LR    LR    11 24 26.9
     comp=Z,159nm,18.8s,baz=151,slow=38
     comp=Z,0.9nm,0.7s
PALK Pallekele       43.93 273  LR    LR    11 23 20.4
     comp=Z,92nm,21.7s,baz=85,slow=37
CAN  Canberra        47.66 153  P     P     11 04 57.6 +0.2
TOO  Toolangi        48.16 158  P     P     11 05 00.8 -0.3
WMQ  Urumqi          49.19 325  eP    P     11 05 11.4 +2.2
WMQ                             LR    LR
     comp=Z,360nm,20.1s
WMQ                             LR    LR
     comp=Z,330nm,18.3s
WMQ                             LR    LR
     comp=Z,210nm,21.1s
DZM  Mont Dzumac     49.76 126  P     P     11 05 11.9 -1.9
     comp=Z,1.8nm,0.7s,baz=162,slow=20,SNR=1.4
     comp=Z,1.8nm,0.7s
MKAR Makanchi Array  54.02 325        P     11 05 45.3 +0.1
MKAR Makanchi Array  54.02 325  P     P     11 05 45.6 +0.3
     comp=Z,2.3nm,0.6s,baz=127,slow=8.2,SNR=23
MKAR                            LR    LR    11 29 30.1
     comp=Z,109nm,20.0s,baz=124,slow=37
     comp=Z,2.3nm,0.6s
MAKZ Makanchi        54.21 325  P     P     11 05 46.8 +0.2
MAKZ                            IAmb  IAmb   11 05 56.5
     comp=Z,11nm,1.2s
NIL  Nilore          54.67 307  P     P     11 05 49.3 -0.9
NIL                             IAmb  IAmb   11 05 57.8
     comp=Z,19nm,1.1s
KDJ  Kajisay         54.88 318  P     P     11 05 51.0 -0.8
KDJ                             IAmb  IAmb   11 05 59.1
     comp=Z,23nm,1.4s
AAK  Ala-Archa       56.90 317  P     P     11 06 05.0 -1.2
AAK                             IAmb  IAmb   11 06 18.8
     comp=Z,7.9nm,1.1s
AAK  Ala-Archa       56.90 317  LR    LR    11 32 00.6
     comp=Z,153nm,21.6s,baz=106,slow=38
ZALV Zalesovo Beam   57.04 333  P     P     11 06 09.1 +2.4
     comp=Z,0.5nm,0.3s,baz=96,slow=10,SNR=2.6
ZALV                            LR    LR    11 31 42.7
     comp=Z,74nm,21.2s,baz=140,slow=37
ARSB Arslanbob       57.43 315  P     P     11 06 08.8 -1.1
ARSB                            IAmb  IAmb   11 06 30.0
     comp=Z,21nm,1.6s
KURBB Kurchatov Arra 58.20 327  P     P     11 06 14.4 -0.5
     comp=Z,1.8nm,0.7s,baz=126,slow=6.0,SNR=20
KURBB                           LR    LR    11 33 42.6
     comp=Z,80nm,18.4s,baz=172,slow=38
     comp=Z,1.8nm,0.7s
KURK Kurchatov       58.20 327        P     11 06 14.8 -0.1
KURK                            IAmb  IAmb   11 06 22.3
     comp=Z,8.6nm,0.9s
GAR  Garm            58.55 312  P     P     11 06 17.9 +0.1
KK31 Karatay Array   59.79 316  P     P     11 06 25.9 -0.3
KKAR Karatay Array   59.79 316  P     P     11 06 25.7 -0.5
BVAR Borovoye Array  63.78 327  LR    LR    11 35 48.0
     comp=Z,88nm,18.9s,baz=108,slow=37
URZ  Urewera         65.99 137  LR    LR    11 34 37.7
     comp=Z,74nm,21.9s,baz=316,slow=35
AB31 Akbulak array   68.66 320        P     11 07 23.5 -0.8
AB31                            IAmb  IAmb   11 07 30.8
     comp=Z,15nm,1.4s
ABKAR Akbulak array  68.66 320        P     11 07 23.3 -0.9
AKTO Aktyubinsk      70.16 321  LR    LR    11 40 23.3
     comp=Z,138nm,21.1s,baz=45,slow=38
RAYN Ar Rayn         77.68 293        P     11 08 18.1 -0.1
GNI  Garni           78.17 309  LR    LR    11 46 58.9
     comp=Z,51nm,21.9s,baz=83,slow=39
H19K Roundabout Mou  79.07  25  P     P     11 08 24.8 -0.1
H19K                            IAmb  IAmb   11 08 31.3
     comp=Z,7.8nm,0.8s
KBZ  Khabaz          79.59 313  P     P     11 08 25.5 -2.7
     comp=Z,1.8nm,0.9s,baz=109,slow=4.4,SNR=4.3
KBZ                             LR    LR    11 47 47.2
     comp=Z,82nm,19.7s,baz=86,slow=39
     comp=Z,1.8nm,0.9s
BPAW Bear Paw Mtn.   81.28  26  IAmb  IAmb   11 08 42.4
     comp=Z,14nm,1.0s
I23K Minto, Yukon-K  82.01  25  IAmb  IAmb   11 08 47.5
     comp=Z,5.1nm,0.6s
NEA2 Nenana          82.12  26  P     P     11 08 41.3 -0.1
NEA2                            IAmb  IAmb   11 08 46.8
     comp=Z,5.5nm,0.8s
MCK  McKinley        82.17  27  P     P     11 08 40.8 -0.9
SML  Sawmill         82.45  29  P     P     11 08 43.0 -0.2
WRH  Wood River Hil  82.55  26  P     P     11 08 43.3 -0.3
WRH                             IAmb  IAmb   11 08 57.0
     comp=Z,12nm,1.3s
F24K Squaw Lake      82.62  23  P     P     11 08 43.5 -0.5
F24K                            IAmb  IAmb   11 08 43.5
     comp=Z,22nm,1.8s
H24K Noodor Dome     82.63  24  P     P     11 08 43.8 -0.2
H24K                            IAmb  IAmb   11 09 16.3
     comp=Z,17nm,1.5s
ILAR Eielson Array   83.06  26  P     P     11 08 44.4 -1.9
     comp=Z,0.4nm,0.6s,baz=233,slow=6.2,SNR=11
     comp=Z,0.4nm,0.6s
RIDG Independent Ri  83.99  27  P     P     11 08 50.6 -0.5
I28M Miner Creek     85.94  25  P     P     11 09 01.5 +0.6
I28M                            IAmb  IAmb   11 09 10.6
     comp=Z,9.8nm,0.9s
MAW  Mawson          86.06 200  LR    LR    11 42 39.2
     comp=Z,107nm,21.4s,baz=86,slow=32
EIL  Elat            86.68 299  LR    LR    11 54 34.0
     comp=Z,59nm,18.5s,baz=149,slow=40
BRTR Keskin Array B  86.71 309  P     P     11 09 02.6 -2.7
     comp=Z,0.3nm,0.3s,baz=69,slow=7.9,SNR=1.9
     comp=Z,0.3nm,0.3s
VNDA Vanda           86.72 172  P     P     11 09 02.2 -2.1
     comp=Z,1.2nm,0.8s,baz=306,slow=5.5,SNR=5.6
VNDA                            LR    LR    11 49 16.5
     comp=Z,25nm,18.2s,baz=330,slow=37
     comp=Z,1.2nm,0.8s
ARCES ARCESS Array B 86.94 340  LR    LR    11 51 42.5
     comp=Z,54nm,20.3s,baz=53,slow=38
SPITS Spitsbergen Ar 87.11 349  LR    LR    11 52 33.8
     comp=Z,59nm,20.1s,baz=35,slow=39
PPT  Papeete         87.72 108  LR    LR    11 47 57.2
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comp=Z,28nm,18.3s,baz=326,slow=35
PPT2 Papeete2 87.72 108 eLR LR 11 37 01.3
comp=Z,69nm,25.5s
FINES FINESS Array B 88.28 332 P **P 11 09 09.7 -2.5**
comp=Z,1.5nm,0.9s,baz=63,slow=5.6,SNR=3.6
comp=Z,1.5nm,0.9s
HFS Hagfors 94.47 332 LR LR 11 53 57.1
comp=Z,110nm,21.2s,baz=54,slow=37
NOA NORSAR Array B 95.24 333 LR LR 11 56 02.6
comp=Z,64nm,19.1s,baz=15,slow=38
TAOE Nuku Hiva Isla 95.82 98 eLR LR 11 40 47.6
comp=Z,226nm,26.1s
JMIC Jan Mayen 96.44 346 LR LR 11 57 40.8
comp=Z,70nm,21.6s,baz=76,slow=38
LSZ Lusaka 98.30 256 LR LR 11 51 56.3
comp=Z,96nm,18.6s,baz=160,slow=34
PLCA Paso Flores 143.51 160 PKP PKPbc 11 15 53.9 +0.6
comp=Z,1.3nm,0.8s,baz=340,slow=1.0,SNR=3.8
LPAZ La Paz 164.10 127 PKP **PKPdf 11 16 25.8 -0.4**
comp=Z,1.6nm,1.0s,baz=180,slow=3.7,SNR=4.5

GCG 18 11:07:53.7±0.3, 13°.70N×91°.90W, h24km±9km, MD3.6, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**1.24**	**56**	*i* P	Pn	11 08 15.6	0.0
ESSG				*i* S	Sb	11 08 32.6	+0.4
ESSG				IAML		11 08 36.4	
comp=N,247nm,0.2s							
FG8	**Yepocapa, Chim**	**1.42**	**66**	*i* P	Pn	11 08 15.1	-2.9
FG16	**Alotenango, Sa**	**1.47**	**67**	*i* P	Pn	11 08 16.4	-2.4
FG16				IAML		11 08 39.0	
comp=N,3μm,0.5s							
APG	**El Apazote**	**1.90**	**47**	*i* S	Sb	11 08 50.6	-0.8

*IDC **18** 11:12:52.3±2.9, 60°.81N×29°.88E, h0km, mbtmp3.5/1, ML2.3/1, Error ellipse: s-maj=35.6km s-min=14.3km az=3.0*
*HEL **18** 11:12:55.1±0.3, 61°.10N×29°.95E, h0km, ML1.6, Suspected explosion*
ISC 18 11:12:55.1±1.4, 61°.15N±0°.05×29°.81E±0°.06, h0km, n18, σ1§04/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.50**	**304**	PG	**Pb**	**11 13 06.0**	**-0.8**
RUF				SG	**Sb**	**11 13 13.0**	**-1.6**
RUF				MSG		11 13 13.8	
comp=Z,7.1nm,0.2s							
VJF	**Virojoki**	**1.26**	**242**	PG	**Pg**	**11 13 18.7**	**-0.5**
VJF				MSG		11 13 34.5	
comp=Z,9.8nm,0.2s							
VJF				SG	**Sg**	**11 13 36.0**	**+0.5**
FIA0	**FINESS Array S**	**1.83**	**281**	PG	**Pb**	**11 13 28.8**	**-0.6**
FIA0				MSG		11 13 51.9	
comp=Z,3.2nm,0.2s							
FIA0				SG	**Sg**	**11 13 54.0**	**+0.3**
FINES	**FINESS Array B**	**1.83**	**281**	Pn	**Pb**	**11 13 29.0**	**-0.4**
comp=Z,0.7nm,0.3s,baz=103,slow=17,SNR=22							
FINES				Lg	Lg	11 13 53.6	
comp=Z,1.9nm,0.3s,baz=98,slow=26,SNR=32							
JOF	**Joensuu**	**1.91**	**21**	*eP*	**Pn**	**11 13 29.9**	**+1.0**
JOF	**Joensuu**	**1.91**	**21**	PG	**Pn**	**11 13 29.7**	**+0.8**
baz=200							
JOF				SG	**Sn**	**11 13 54.6**	**+0.9**
KAF	**Kangasniemi**	**1.93**	**302**	PG	**Pb**	**11 13 31.2**	**0.0**
KAF				MSG		11 13 55.0	
comp=Z,4.4nm,0.2s							
KAF				SG	**Sg**	**11 13 57.3**	**+0.1**
PVF	**Pernaja**	**2.02**	**254**	PG	**Pb**	**11 13 32.1**	**-0.7**
PVF				MSG		11 13 56.8	
comp=Z,5.0nm,0.2s							
PVF				SG	**Sb**	**11 13 58.6**	**+0.2**
SUF	**Sumiainen**	**2.34**	**314**	PG	**Pb**	**11 13 38.4**	**+0.2**
SUF				MSG		11 14 06.6	
comp=Z,1.5nm,0.2s							
SUF				SG	**Sg**	**11 14 09.8**	**-0.4**
NIF	**Nilsia**	**2.44**	**338**	PG	**Pb**	**11 13 39.0**	**-0.8**
baz=154							
NIF				MSG		11 14 09.2	
comp=Z,1.6nm,0.2s							
NIF				SG	**Sb**	**11 14 10.7**	**+0.4**
KEF	**Keuruu**	**2.57**	**296**	*eP*	**Pb**	**11 13 41.0**	**-1.0**
KEF	**Keuruu**	**2.57**	**296**	PB	**Pb**	**11 13 41.0**	**-1.0**
KEF				MSG		11 14 13.3	
comp=Z,1.6nm,0.2s							
KEF				SG	**Sb**	**11 14 14.8**	**+0.6**
MEF	**Metsahovi**	**2.82**	**253**	MSG		11 14 19.6	
comp=Z,2.0nm,0.2s							
MEF				SG	**Sg**	**11 14 23.9**	**-1.8**
RMF	**Romuvaara**	**3.08**	**1**	MSG		11 14 27.1	
comp=Z,0.8nm,0.2s							
RMF				SB	**Sb**	**11 14 28.4**	**-0.5**
VAF	**Ylistaro**	**3.86**	**303**	*eP*	**Pn**	**11 13 58.7**	**+3.1**
VAF	**Ylistaro**	**3.86**	**303**	SG	**Sg**	**11 14 58.0**	**-0.9**
I43RU	**DUBNA INFRASON**	**5.86**	**136**	I	I	11 46 00.0	
baz=327,slow=318,SNR=2.9							
ARCES	**ARCESS Array B**	**8.61**	**350**	Pn	**Pn**	**11 15 00.3**	**-0.5**
baz=162,slow=12,SNR=1.8							
comp=Z,2.6nm,0.9s							

*IDC **18** 11:36:19.9±1.7, 3°.53S×128°.85E, h0km, mb4.2/3, mbtmp4.1/5, ML3.5/2, MS3.0/2, Error ellipse: s-maj=96.7km s-min=23.3km az=72.0*
*DJA **18** 11:36:23.5±0.2, 4°.5±2°×12°.8E±°, h10km, M4.2/15, mB5.5/2, mb4.4/7, MLv4.1/15, Mw(mB)5.0/2*
ISC 18 11:36:22.9±1.2, 3°.66S±0°.07×128°.37E±0°.04, h13km±9km, n28, σ1§26/30, mb4.1/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.17**	**262**	P	**Pg**	**11 36 27.4**	**+0.4**
MSAI	**Masohi**	**0.64**	**61**	P	**Pg**	**11 36 35.1**	**-0.4**
NLAI	**Namlea**	**1.33**	**288**	P	**Pn**	**11 36 46.9**	**-0.5**
NLAI				S	**Sb**	**11 37 04.8**	**-0.1**
BNDI	**Bandanaira**	**1.75**	**119**	P	**Pb**	**11 36 55.3**	**+0.3**
BNDI	**Bandanaira**	**1.75**	**119**	P	**Pb**	**11 36 54.5**	**-0.5**
SANI	**Sanana**	**2.87**	**304**	P	**Pn**	**11 37 10.2**	**+1.7**
SANI	**Sanana**	**2.87**	**304**	S	**Sb**	**11 37 46.7**	**-2.4**
SANI	**Sanana**	**2.87**	**304**	P	**Pn**	**11 37 09.8**	**+1.3**
SANI				S	**Sn**	**11 37 43.4**	**+0.5**
FAKI	**Fak Fak**	**3.94**	**79**	P	**Pn**	**11 37 24.4**	**+1.1**
FAKI	**Fak Fak**	**3.94**	**79**	P	**Pn**	**11 37 23.5**	**+0.2**
FAKI				S	**Sn**	**11 38 11.9**	**+2.4**
SWI	**Sorong**	**4.01**	**46**	P	**Pn**	**11 37 25.3**	**+1.1**
KMPI	**Kaimana, Papua**	**5.33**	**90**	P	**Pn**	**11 37 43.1**	**+0.8**
LUWI	**Luwuk**	**6.17**	**295**	P	**Pn**	**11 37 54.4**	**+0.5**
0.2nm1μm71nm,0.9s							
RKPI	**Ransiki, Papua**	**6.18**	**70**	P	**Pn**	**11 37 53.9**	**-0.2**
9μm126nm,0.9s							
SOEI	**Soe**	**7.29**	**214**	P	**Pn**	**11 38 11.1**	**+1.6**
0.1nm17nm,0.8s							
BSSI	**Bau Bau, Buton**	**8.23**	**252**	P	**Pn**	**11 38 23.1**	**+0.9**
45nm,1.1s							
BKSI	**Bulukumba**	**8.38**	**258**	P	**Pn**	**11 38 25.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**14.59**	**190**	Pn	**Pn**	**11 39 49.1**	**-0.3**
0.1nm,0.3s,baz=16,slow=15,SNR=2.2							
1.3nm,0.6s							
WRA	**Warramunga Arr**	**17.20**	**161**	P	**Pn**	**11 40 19.7**	**-3.5**
0.2nm,0.3s,baz=342,slow=11,SNR=14							
WRA				LR	LR	11 47 55.4	
comp=Z,94nm,19.3s,baz=254,slow=40							
4.9nm,1.0s							
COEN	**Coen**	**17.84**	**126**	P	**Pn**	**11 40 30.3**	**-0.8**
QIS	**Mount Isa**	**20.04**	**148**	P	**P**	**11 40 56.1**	**+0.1**
ASAR	**Alice Springs**	**20.59**	**165**	P	**P**	**11 41 02.2**	**+0.2**
29nm,0.7s,baz=347,slow=11,SNR=441							
29nm,0.7s							
AS01	**Alice Springs**	**20.60**	**165**	P	**P**	**11 41 02.8**	**+0.7**
MTSU	**Mount Surprise**	**21.23**	**134**	P	**P**	**11 41 09.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.38**	**308**	LR	LR	11 59 56.1	
comp=Z,12nm,20.3s,baz=170,slow=39							
KSH	**Kashi**	**64.48**	**317**	P	**P**	**11 47 00.1**	**+0.4**
KSH				pmax	pmax		
comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**11 47 00.6**	**+0.5**
comp=Z,1.0nm,0.7s,baz=134,slow=6.3,SNR=6.7							
comp=Z,1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**68.83**	**329**	P	**P**	**11 47 26.2**	**-0.9**
comp=Z,1.4nm,1.1s,baz=130,slow=5.6,SNR=6.8							
comp=Z,1.4nm,1.1s							

*RSPR **18** 11:42:13.5, 19°.21N×67°.32W, h37km±8km, MD3.0/9*
SDD 18 11:42:15.7±1.6, 19°.01N×67°.18W, h49km±22km, MD2.8, ML1.8, MW2.4, 20C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.54**	**173**	⇑*eP*	Pn	11 42 25.7	-1.7
AGPR	**Aguadilla, PR**	**0.54**	**173**	*eS*	Sn	11 42 36.2	+0.4
AGPR	**Aguadilla, PR**	**0.54**	**173**	*ePg*	Pn	11 42 25.0	-2.4
AGPR				⇑*eSg*	Sn	11 42 36.5	+0.7
AGPR				IAML		11 42 38.0	
comp=N,67nm,0.2s							
AGPR	**Aguadilla, PR**	**0.54**	**173**	*ePg*	Pn	11 42 26.3	-1.1
AGPR				⇓*eSg*	Sn	11 42 34.7	-1.1
AGPR				IAML		11 42 38.0	
comp=N,67nm,0.2s							
AOPR	**Arecibo Observ**	**0.77**	**148**	⇑*eP*	Pn	11 42 29.6	-0.8
AOPR	**Arecibo Observ**	**0.77**	**148**	*eS*	Sn	11 42 41.6	+0.5
AOPR	**Arecibo Observ**	**0.77**	**148**	⇑*ePg*	Pn	11 42 29.0	-1.4
AOPR				⇑*eSg*	Sn	11 42 39.2	-1.9
AOPR				IAML		11 42 47.2	
comp=N,51nm,0.2s							
AOPR	**Arecibo Observ**	**0.77**	**148**	⇓*ePg*	Pn	11 42 30.7	+0.3
AOPR				⇑*eSg*	Sn	11 42 39.5	-1.5
AOPR				IAML		11 42 47.2	
comp=N,51nm,0.2s							
EMPR	**Esperanza - Ma**	**0.81**	**130**	⇑*eP*	Pn	11 42 30.3	-0.6
EMPR	**Esperanza - Ma**	**0.81**	**130**	*eS*	Sn	11 42 43.9	+1.9
LSP	**Las Mesas**	**0.83**	**174**	⇓*eP*	Pn	11 42 30.6	-0.6
LSP	**Las Mesas**	**0.83**	**174**	*eS*	Sn	11 42 43.9	+1.4
CRPR	**Cabo Rojo, PR**	**1.00**	**176**	⇑*eP*	Pn	11 42 32.9	-0.5
CRPR	**Cabo Rojo, PR**	**1.00**	**176**	*eS*	Sn	11 42 47.8	+1.5
CRPR	**Cabo Rojo, PR**	**1.00**	**176**	⇑*ePg*	Pn	11 42 32.9	-0.4
CRPR				⇑*eSg*	Sn	11 42 47.8	+1.5
CRPR				IAML		11 42 58.1	
comp=N,21nm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.00**	**176**	*ePg*	Pn	11 42 31.7	-1.6
CRPR				*eSg*	Sn	11 42 45.7	-0.7
CRPR				IAML		11 42 58.1	
comp=N,21nm,0.6s							
ECPR	**Experimental S**	**1.03**	**131**	⇓*eP*	Pn	11 42 33.8	-0.1
ECPR	**Experimental S**	**1.03**	**131**	*eS*	Sn	11 42 49.4	+2.1
MLPR	**Magueyes Islan**	**1.04**	**173**	⇓*eP*	Pn	11 42 33.5	-0.5
MLPR	**Magueyes Islan**	**1.04**	**173**	*eS*	Sn	11 42 49.0	+1.7
MLPR	**Magueyes Islan**	**1.04**	**173**	⇓*ePg*	Pn	11 42 33.5	-0.5
MLPR				⇑*eSg*	Sn	11 42 49.2	+1.9
MLPR				IAML		11 42 57.3	
comp=N,5.1nm,1.2s							
MLPR	**Magueyes Islan**	**1.04**	**173**	*ePg*	Pn	11 42 32.2	-1.7
MLPR				⇑*eSg*	Sn	11 42 46.5	-0.9
MLPR				IAML		11 43 00.9	
comp=N,6.1nm,0.8s							
CELP	**Cerrillos**	**1.09**	**148**	⇓*eP*	Pn	11 42 34.5	-0.2
CELP	**Cerrillos**	**1.09**	**148**	*eS*	Sn	11 42 50.3	+1.7
CELP	**Cerrillos**	**1.09**	**148**	⇓*ePg*	Pn	11 42 34.4	-0.2
CELP				⇑*eSg*	Sn	11 42 51.0	+2.3
CELP				IAML		11 42 55.1	
comp=N,22nm,0.3s							
CELP	**Cerrillos**	**1.09**	**148**	*ePg*	Pn	11 42 33.7	-0.9
CELP				⇓*eSg*	Sn	11 42 46.6	-2.0
CELP				IAML		11 42 55.1	
comp=N,22nm,0.3s							
OBIP	**Obispado Ponce**	**1.10**	**150**	⇑*eP*	Pn	11 42 34.5	-0.3
OBIP	**Obispado Ponce**	**1.10**	**150**	*eS*	Sn	11 42 51.3	+2.4
PCDR	**Punta Cana, DR**	**1.24**	**247**	⇑*eSg*	Sn	11 42 54.1	+1.9
PCDR				IAML		11 42 60.0	
comp=N,78nm,2.1s							
PDPR	**Patillas Dam,**	**1.48**	**132**	⇓*eP*	Pn	11 42 40.1	+0.3
PDPR	**Patillas Dam,**	**1.48**	**132**	*eS*	Sn	11 43 00.2	+2.2
HIDR	**Higuey Centro**	**1.51**	**254**	*ePg*	Pn	11 42 39.5	-0.8
HIDR				⇓*eSg*	Sn	11 42 56.3	-2.6
HIDR				IAML		11 43 05.3	
comp=N,19nm,0.2s							
MIDR	**Miches**	**1.77**	**270**	⇑*ePg*	Pn	11 42 43.9	+0.1
MIDR				IAML		11 43 20.7	
comp=N,10nm,1.2s							
SMDR	**Samana, DR**	**1.92**	**279**	⇑*ePg*	Pn	11 42 44.6	-1.3
SMDR				IAML		11 43 13.4	
comp=N,23nm,0.8s							
HATOM	**Hato Mayor del**	**2.09**	**264**	⇑*ePg*	Pn	11 42 48.7	+0.3
HATOM				IAML		11 43 22.2	
comp=N,8.4nm,1.9s							
HATOM	**Hato Mayor del**	**2.09**	**264**	⇑*ePg*	Pn	11 42 48.1	-0.3
HATOM				*eSg*	Sn	11 43 11.4	-1.9
HATOM				IAML		11 43 22.2	
comp=N,8.4nm,1.9s							

*SJA **18** 11:42:54.9±0.8, 20°.85S×69°.23W, h90km±4km, ML3.7, MW3.7*
*GUC **18** 11:42:56.7±0.6, 20°.87S×69°.20W, h85km±3km, ML3.6*
ISC 18 11:42:57.7±1.3, 20°.84S±0°.02×69°.31W±0°.05, h78km±8km, n33, σ1§22/55, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.26**	**220**	⇓*iP*	**Pn**	**11 43 09.2**	**-0.5**
PB01				*i* S	**Sn**	**11 43 19.1**	**+0.5**
PB01	**IPOC Station P**	**0.26**	**220**	*eP*	**Pn**	**11 43 08.5**	**-1.3**
PB01				*eS*	**Sn**	**11 43 19.7**	**+1.1**
PB01				IAML		11 43 19.9	
comp=Z,8μm,0.1s							
PX03	**IPOC Station P**	**0.53**	**325**	*i* P	**Pn**	**11 43 10.6**	**-1.1**
PX03				*i* S	**Sn**	**11 43 22.7**	**+0.7**
PB08	**IPOC Station P**	**0.71**	**12**	⇓*iP*	**Pn**	**11 43 13.1**	**-0.7**
PB08				*i* S	**Sn**	**11 43 25.7**	**+0.1**
PB08				IAML		11 43 26.3	
comp=N,3μm,0.3s							
PB08	**IPOC Station P**	**0.71**	**12**	*eP*	**Pn**	**11 43 12.9**	**-0.9**
PB08				*eS*	**Sn**	**11 43 26.1**	**+0.4**
PB08				IAML		11 43 26.5	
comp=Z,1μm,0.3s							
PB02	**IPOC Station P**	**0.73**	**229**	⇓*iP*	**Pn**	**11 43 13.3**	**-0.3**
PB02				*i* S	**Sn**	**11 43 26.3**	**+0.8**
PB02				IAML		11 43 28.2	
comp=E,6μm,0.2s							
PB02	**IPOC Station P**	**0.73**	**229**	*eP*	Pn	11 43 08.1	-5.6
PB02				*eS*	**Sn**	**11 43 26.9**	**+1.4**
PB02				IAML		11 43 34.0	
comp=Z,2μm,0.2s							
TA01	**Diego Aracena**	**0.86**	**288**	⇓*iP*	**Pn**	**11 43 14.7**	**-0.4**
TA01				*i* S	**Sn**	**11 43 29.0**	**+1.0**
TA01				IAML		11 43 31.0	
comp=E,2μm,0.2s							
TA01	**Diego Aracena**	**0.86**	**288**	*eP*	**Pn**	**11 43 14.5**	**-0.5**
TA01				*eS*	**Sn**	**11 43 29.6**	**+1.7**
PB09	**IPOC Station P**	**0.95**	**176**	⇑*iP*	**Pn**	**11 43 15.4**	**-0.9**
PB09				*i* S	**Sn**	**11 43 30.0**	**-0.1**
PB09				IAML		11 43 31.8	
comp=E,2μm,0.2s							
PB09	**IPOC Station P**	**0.95**	**176**	*eP*	**Pn**	**11 43 15.4**	**-0.9**
PB09				IAML		11 43 31.6	
comp=Z,3μm,0.5s							
TA02	**Huaiquique**	**0.96**	**306**	*i* P	**Pn**	**11 43 15.8**	**-0.4**
TA02	**Huaiquique**	**0.96**	**306**	*eP*	**Pn**	**11 43 17.0**	**+0.8**
TA02				*eS*	**Sn**	**11 43 32.0**	**+2.1**
TA02				IAML		11 43 38.0	
comp=Z,1μm,0.1s							
PB11	**IPOC Station P**	**1.12**	**343**	⇑*iP*	**Pn**	**11 43 17.7**	**-0.7**
PB11				*i* S	**Sn**	**11 43 34.3**	**+0.5**
PB11				IAML		11 43 36.0	
comp=E,3μm,0.2s							
PB11	**IPOC Station P**	**1.12**	**343**	*eP*	**Pn**	**11 43 17.6**	**-0.7**
PB11				*eS*	**Sn**	**11 43 34.5**	**+0.7**
PB11				IAML		11 43 37.7	
comp=Z,1μm,0.2s							
GO01	**Chusmiza**	**1.17**	**5**	⇑*iP*	**Pn**	**11 43 18.6**	**-0.7**
GO01				*i* S	**Sn**	**11 43 35.7**	**+0.3**
GO01	**Chusmiza**	**1.17**	**5**	*eP*	**Pn**	**11 43 18.0**	**-1.3**
GO01				*eS*	**Sn**	**11 43 36.4**	**+1.0**
GO01				IAML		11 43 37.5	
comp=Z,957nm,0.1s							
PB03	**IPOC Station P**	**1.27**	**199**	⇑*iP*	**Pn**	**11 43 19.3**	**-0.9**
PB03				*i* S	**Sn**	**11 43 36.5**	**-0.6**
PB03				IAML		11 43 41.5	
comp=E,2μm,0.2s							
PB03	**IPOC Station P**	**1.27**	**199**	*eP*	**Pn**	**11 43 19.3**	**-0.9**
PB03				*eS*	**Sn**	**11 43 37.0**	**-0.1**
PB03				IAML		11 43 41.6	
comp=Z,1μm,0.5s							
PB06	**IPOC Station P**	**1.87**	**188**	⇑*iP*	**Pn**	**11 43 26.7**	**-1.3**
PB06				*i* S	**Sn**	**11 43 50.1**	**-0.9**
PB06				IAML		11 43 56.6	
comp=E,660nm,0.3s							
PB06	**IPOC Station P**	**1.87**	**188**	*eP*	**Pn**	**11 43 26.9**	**-1.2**
PB06				*eS*	**Sn**	**11 43 52.0**	**+1.0**
PB06				IAML		11 43 56.3	
comp=Z,562nm,0.5s							
PX02	**IPOC Station P**	**2.05**	**336**	*eP*	**Pn**	**11 43 29.9**	**-0.4**
PX02				*eS*	**Sn**	**11 43 54.6**	**-0.5**
AF01	**San Pedro de A**	**2.35**	**154**	*eP*	**Pn**	**11 43 36.2**	**+1.7**
AF01				*eS*	**Sn**	**11 44 04.7**	**+2.1**
AF01				IAML		11 44 22.7	
comp=Z,401nm,0.8s							
PB12	**IPOC Station P**	**2.42**	**336**	*i* P	**Pn**	**11 43 34.0**	**-1.2**
PB12				*i* S	**Sn**	**11 44 03.6**	**-0.4**
PB12				IAML		11 44 14.6	
comp=E,458nm,0.3s							
PB12	**IPOC Station P**	**2.42**	**336**	*eP*	**Pn**	**11 43 34.3**	**-0.9**
PB12				*eS*	**Sn**	**11 44 01.1**	**-2.9**
PB12				IAML		11 44 11.2	
comp=Z,284nm,0.4s							
PB16	**IPOC Station P**	**2.50**	**356**	⇑*iP*	**Pn**	**11 43 36.9**	**0.0**
PB16				*i* S	**Sn**	**11 44 10.4**	**+3.7**
PB16	**IPOC Station P**	**2.50**	**356**	*eP*	**Pn**	**11 43 37.4**	**+0.5**
PB16				*eS*	**Sn**	**11 44 07.0**	**+0.3**
PB16				IAML		11 44 16.7	
comp=Z,124nm,0.7s							
AP01	**Chacalluta**	**2.65**	**338**	*eP*	Pn	11 43 21.2	-17
AP01				*eS*	Sn	11 43 51.6	-18
AP01				IAML		11 44 22.3	
comp=Z,372nm,0.2s							
PB10	**IPOC Station P**	**2.90**	**203**	IAML		11 44 26.9	
comp=E,186nm,0.3s							
PB10	**IPOC Station P**	**2.90**	**203**	*eP*	**Pn**	**11 43 41.4**	**-0.3**
PB10				*eS*	**Sn**	**11 44 18.0**	**+2.4**
PB10				IAML		11 44 26.4	
comp=Z,100nm,0.4s							
PB18	**Visviri**	**3.24**	**357**	*i* P	Pn	11 43 50.2	+3.4
PB14	**IPOC Station P**	**3.90**	**195**	*eP*	**Pn**	**11 43 55.2**	**-0.4**
PB14				*eS*	Sn	11 44 51.0	+11
PB14				IAML		11 45 10.9	
comp=Z,64nm,0.8s							
GO02	**Mina Guanaco**	**4.31**	**183**	*eP*	**Pn**	**11 43 58.8**	**-2.3**
GO02				IAML		11 45 13.4	
comp=Z,137nm,0.6s							

*DJA **18** 11:48:43.1±0.4, 6°.N±3°×12°.7E±°, h124km±6km, M4.5/12, mB5.1/6, mb4.4/8, MLv4.6/12, Mw(mB)4.5/6*
*NEIC **18** 11:48:45.8±2.1, 5°.65N±0°.08×126°.6E±0°.1, h105km±10km, mb4.3/18, Error ellipse: s-maj=19.3km s-min=10.0km az=67.0*
*IDC **18** 11:48:47.6±1.4, 5°.64N×126°.46E, h124km±11km, mb3.7/13, mbtmp4.1/15, MS2.7/2, Error ellipse: s-maj=37.6km s-min=9.9km az=75.0*
ISC 18 11:48:45.2±0.5, 5°.56N±0°.04×126°.62E±0°.07, h100km, n68, σ1§51/73, mb4.2/21, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.82**	**326**	Pn	**Pn**	**11 49 15.7**	**+0.1**
DAV	**Davao City (W)**	**1.82**	**326**	P	**Pn**	**11 49 19.0**	**+3.5**
311nm,0.4s,baz=43,slow=9.8,SNR=3.6							
DAV				S	**Sn**	**11 49 39.7**	**+1.0**
376nm,0.3s,baz=264,slow=22,SNR=4.2							
SGSI	**Sangihe**	**2.15**	**210**	P	**Pn**	**11 49 18.0**	**-1.8**
SGSI				S	**Sn**	**11 49 47.2**	**+1.0**
TNTI	**Ternate**	**4.81**	**171**		**Pn**	**11 49 55.3**	**-0.2**
TNTI	**Ternate**	**4.81**	**171**	P	**Pn**	**11 49 55.2**	**-0.2**
TNTI				S	**Sn**	**11 50 50.9**	**+0.9**
KMSI	**Cibinong**	**5.61**	**208**	P	**Pn**	**11 50 04.9**	**-1.3**
MRSI	**Marisa**	**6.88**	**223**	P	**Pn**	**11 50 23.3**	**-0.1**
MRSI				S	**Sn**	**11 51 38.4**	**-1.8**
TOLI2	**Tolitoli**	**7.31**	**233**		**Pn**	**11 50 27.5**	**-1.8**
TOLI2	**Tolitoli**	**7.31**	**233**	P	**Pn**	**11 50 27.4**	**-2.0**
SANI	**Sanana**	**7.58**	**185**	P	Pn	11 50 29.7	-3.4
SANI	**Sanana**	**7.58**	**185**	P	**Pn**	**11 50 30.3**	**-2.8**
2μm41nm,0.7s							
LUWI	**Luwuk**	**7.60**	**210**		**Pn**	**11 50 33.7**	**+0.4**
LUWI	**Luwuk**	**7.60**	**210**	P	**Pn**	**11 50 32.4**	**-0.9**
LUWI	**Luwuk**	**7.60**	**210**	P	**Pn**	**11 50 31.7**	**-1.6**
2μm75nm,0.5s							
LUWI				S	**Sn**	**11 51 56.9**	**-0.9**
2μm75nm,0.5s							
SWI	**Sorong**	**7.88**	**144**	P	**Pn**	**11 50 35.4**	**-1.7**
0.1nm1μm7.4nm,0.4s							
SWI				S	**Sn**	**11 52 04.9**	**+0.1**
0.1nm1μm7.4nm,0.4s							
MYLDM	**Lahad Datu**	**8.09**	**268**		**Pn**	**11 50 39.1**	**-0.9**
NLAI	**Namlea**	**8.75**	**177**	P	**Pn**	**11 50 47.1**	**-1.8**
3μm74nm,0.6s							
AAI	**Ambon**	**9.32**	**170**	P	Pn	11 50 51.4	-5.3
FAKI	**Fak Fak**	**10.12**	**146**	Pn	**Pn**	**11 51 09.1**	**+1.5**
KAPI	**Kappang**	**12.54**	**213**	P	**Pn**	**11 51 40.5**	**+0.4**
8.5nm,0.6s,baz=353,slow=9.4,SNR=6.0							
KAPI				LR	LR	11 57 26.1	
comp=Z,40nm,18.3s,baz=44,slow=41							
SBUM	**Sibu**	**14.69**	**258**	P	**P**	**11 52 13.3**	**+1.8**
SBUM	**Sibu**	**14.69**	**258**	P	**P**	**11 52 13.4**	**+1.8**
GENI	**Genyem**	**15.77**	**121**	P	**Pn**	**11 52 18.2**	**-3.5**
BATI	**Baumata**	**15.93**	**191**	P	**P**	**11 52 27.6**	**+2.2**
24nm,0.5s,baz=17,slow=5.6,SNR=3.8							
PLAI	**Plampang**	**16.79**	**212**	P	**Pn**	**11 52 35.1**	**+0.8**
TWGBT	**Beinan**	**17.98**	**343**	P	**Pn**

MKAR PcP **PcP** **11 59 09.6 -1.1**
comp=Z,0.7nm,0.7s,baz=112,slow=4.9,SNR=2.2
comp=Z,1.1nm,0.4s
MAKZ Makanchi 56.20 324 P **P** **11 58 13.4 -1.4**
MAKZ IAmb IAmb 11 58 17.1
comp=Z,1.4nm,0.5s
ZAA0 Zalesovo Array 58.92 333 P **P** **11 58 33.4 -0.4**
ZAA0 IAmb IAmb 11 58 34.9
comp=Z,1.6nm,0.8s
ZALV Zalesovo Beam 58.92 333 P **P** **11 58 31.7 -2.0**
comp=Z,1.1nm,0.3s,baz=123,slow=6.6,SNR=6.9
comp=Z,1.1nm,0.3s
KURBB Kurchatov Arra 60.16 327 P **P** **11 58 41.0 -1.3**
comp=Z,1.2nm,0.5s,baz=128,slow=6.7,SNR=12
comp=Z,1.2nm,0.5s
KURK Kurchatov 60.16 327 P **P** **11 58 41.2 -1.1**
KURK IAmb IAmb 11 58 46.3
comp=Z,2.5nm,0.8s
KKAR Karatay Array 61.84 316 P **P** **11 58 52.6 -1.3**
ILAR Eielson Array 83.51 26 P **P** **12 01 00.6 -1.2**
comp=Z,0.3nm,0.5s,baz=246,slow=5.5,SNR=5.5
comp=Z,0.3nm,0.5s
VNDA Vanda 85.24 173 P **P** **12 01 11.3 +1.2**
comp=Z,0.4nm,0.6s,baz=311,slow=7.5,SNR=2.7
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 88.71 340 P **P** **12 01 26.2 -0.9**
comp=Z,3.3nm,0.8s,baz=82,slow=5.8,SNR=12
comp=Z,3.3nm,0.8s
FINES FINESS Array B 90.18 332 P **P** **12 01 33.1 -1.1**
comp=Z,0.8nm,0.5s,baz=73,slow=2.9,SNR=14
comp=Z,0.8nm,0.5s
QSPA South Pole Qui 95.45 180 P **P** **12 01 56.6 -1.8**

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*NEIC **18** 12:01:30.2±0.9, 35°.896N±0°.007×98°.53W±0°.01, h5km±1km, mb_Lg2.9/71, ML2.6/37, ML2.9/48, Error ellipse: s-maj=2.7km s-min=1.8km az=221.0*

NEIC 18 12:01:30.4±0.9, 35°.908N±0°.008×98°.52W±0°.01, h7km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=197.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.29**	**207**		Pg	12 01 36.5	+0.3
CSTR					Sg	12 01 41.1	+0.9
OK038	**West end E0370**	**0.60**	**343**		Pg	12 01 41.9	-0.1
OK038					Sg	12 01 50.8	+1.0
OK038				IAML		12 02 01.1	
994nm,0.3s							
CROK	**Carrier**	**0.74**	**36**		Pg	12 01 44.6	0.0
ELIS	**Ellis County**	**0.74**	**282**		Pg	12 01 44.4	-0.3
ELIS				IAML		12 02 10.7	
comp=E,604nm,0.6s							
NOKA	**Waynoka**	**0.80**	**336**		Pg	12 01 45.4	-0.3
NOKA					Sg	12 01 56.6	+0.5
NOKA				IAML		12 02 02.6	
comp=N,593nm,0.4s							
OK029	**Liberty Lake**	**0.87**	**97**		Pg	12 01 46.8	-0.5
OK029					Sg	12 01 58.9	+0.3
ADOK	**Arcadia Dam**	**0.97**	**105**		Pg	12 01 47.8	-1.3
OKCFA	**Oklahoma City**	**1.00**	**119**		Pg	12 01 49.4	-0.2
OKCFA					Sg	12 02 02.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.01**	**119**	Pg	Pg	12 01 49.4	-0.5
OKCSW				IAML		12 02 14.2	
comp=E,309nm,0.4s							
OKCSW				IAML		12 02 26.9	
comp=N,354nm,1.0s							
GC02	**Grant County #**	**1.08**	**29**		Pg	12 01 50.6	-0.6
GC02					Sg	12 02 05.5	+0.2
FNO	**Franklin**	**1.12**	**125**		Pg	12 01 51.3	-0.6
FNO				IAML		12 02 07.3	
comp=E,360nm,0.2s							
KAN14	**Manchester OK**	**1.14**	**23**		Pg	12 01 51.6	-0.6
KAN14					Sb	12 02 07.4	-0.1
KAN14				IAML		12 02 10.8	
comp=N,292nm,0.3s							
WMOK	**Wichita Mounta**	**1.19**	**190**		Pg	12 01 51.7	-1.5
WMOK					Sg	12 02 07.1	-1.4
BLOK	**Blackwell**	**1.36**	**51**		Pn	12 01 55.4	-0.3
OK048	**Pawnee Station**	**1.37**	**68**		Pn	12 01 55.7	-0.3
KAN01	**Argonia South**	**1.39**	**26**		Pn	12 01 55.9	-0.4
KAN08	**Anthony NE Sta**	**1.39**	**18**		Pn	12 01 56.1	-0.2
OK052	**Battle Ridge R**	**1.40**	**86**		Pn	12 01 55.8	-0.6
X34A	**Smith Ranch, M**	**1.42**	**156**		Pn	12 01 56.6	-0.1
OK051	**E0350 and S346**	**1.49**	**66**		Pn	12 01 57.7	+0.1
QUOK	**Quay**	**1.49**	**79**		Pn	12 01 57.4	-0.3
SMWD	**Samnorwood**	**1.62**	**241**		Pn	12 01 59.1	-0.2
DEOK	**Depew**	**1.65**	**92**		Pn	12 01 59.6	-0.1
T35A	**Sooner Cattle**	**1.91**	**58**		Pn	12 02 04.1	+0.7
WTFS	**Witchita Falls**	**2.14**	**179**		Pn	12 02 07.8	+1.3
LOOK	**Love County**	**2.21**	**150**		Pb	12 02 09.1	-1.6
LOOK				IAmb_Lg		12 02 42.4	
comp=Z,44nm,0.7s							
TUL3	**Leonard**	**2.22**	**89**		Pn	12 02 08.8	+1.2
R32A	**Long Quarter,**	**2.51**	**357**	Pn	Pn	12 02 10.2	-1.5
AMTX	**Amarillo**	**2.77**	**249**		Pn	12 02 14.4	-1.0
AMTX				IAmb_Lg		12 03 00.5	
comp=Z,64nm,0.8s							
Z35A	**Perchaven, San**	**2.78**	**157**	Pn	Pn	12 02 14.5	-0.8
RLO	**Rose Lookout**	**2.85**	**84**	Pn	Pn	12 02 15.1	-1.2
APMT	**Aspermont**	**2.90**	**208**		Pn	12 02 14.8	-2.2
DKNS	**Dickens**	**2.98**	**222**		Pn	12 02 15.8	-2.4
DKNS				IAmb_Lg		12 03 02.5	
comp=Z,26nm,0.7s							
FW06	**Azle**	**3.04**	**164**		Pn	12 02 15.1	-3.7
CBKS	**Cedar Bluff**	**3.06**	**342**	Pn	Pn	12 02 15.9	-3.3
CBKS				IAmb_Lg		12 03 11.6	
comp=Z,24nm,0.9s							
PLPT	**Palo Pinto**	**3.09**	**177**		Pn	12 02 16.7	-2.9
U38A	**Gravette**	**3.39**	**80**		Pn	12 02 21.3	-2.4
U38A				IAmb_Lg		12 03 25.4	
comp=Z,24nm,0.8s							
ABTX	**Abilene, Hawle**	**3.41**	**196**		Pn	12 02 21.8	-2.1
SN07	**Snyder 07**	**3.42**	**216**	Pn	Pn	12 02 21.6	-2.6
SN07				IAmb_Lg		12 03 26.0	
comp=Z,33nm,1.0s							
RTBA	**Rita Blanca**	**3.45**	**280**		Pn	12 02 22.6	-2.1
HHAR	**Hobbs**	**3.73**	**83**	Pn	Pn	12 02 25.4	-3.0
HHAR				IAmb_Lg		12 03 34.4	
comp=Z,23nm,0.9s							
POST	**Post**	**3.75**	**222**	Pn	Pn	12 02 26.1	-2.8
POST				IAmb_Lg		12 03 36.3	
comp=Z,27nm,0.7s							
TREL	**Terrell**	**3.75**	**147**	Pn	Pn	12 02 25.6	-3.2
TREL				IAmb_Lg		12 03 36.6	
comp=Z,36nm,1.0s							
Z38A	**Mt. Pleasant**	**3.94**	**131**	Pn	Pn	12 02 26.9	-4.3
Z38A				IAmb_Lg		12 03 44.3	
comp=Z,36nm,0.8s							
MSTX	**Muleshoe**	**3.99**	**242**	Pn	Pn	12 02 28.9	-3.3
MSTX				IAmb_Lg		12 03 45.2	
comp=Z,21nm,0.7s							
WHTX	**Lake Whitney,**	**4.01**	**167**	Pn	Pn	12 02 28.9	-3.3
MIAR	**Mount Ida**	**4.27**	**107**	Pn	Pn	12 02 32.5	-3.3
MIAR				IAmb_Lg		12 03 54.8	
comp=Z,30nm,1.0s							
SGCY	**Sterling City**	**4.53**	**209**	IAmb_Lg		12 03 59.6	
comp=Z,36nm,0.8s							
BRDY	**Brady**	**4.63**	**185**	Pn	Pn	12 02 37.6	-3.2
BRDY				IAmb_Lg		12 03 56.4	
comp=Z,14nm,0.9s							
X40A	**Basin Creek Fa**	**4.87**	**105**	Pn	Pn	12 02 40.7	-3.4
X40A				IAmb_Lg		12 04 08.7	
comp=Z,31nm,1.1s							
T25A	**Trinidad**	**4.90**	**286**	Pn	Pn	12 02 41.9	-2.8
WLAR	**White Oak Lake**	**4.97**	**115**	Pn	Pn	12 02 42.9	-2.6
WLAR				IAmb_Lg		12 04 18.1	
comp=Z,23nm,0.9s							
WHAR	**Wooly Hollow**	**5.12**	**95**	Pn	Pn	12 02 45.2	-2.3
WHAR				IAmb_Lg		12 04 22.0	
comp=Z,12nm,0.9s							
435B	**Jarrell**	**5.17**	**171**	IAmb_Lg		12 04 16.9	
comp=Z,22nm,0.8s							
UALR	**University of**	**5.18**	**101**	Pn	Pn	12 02 45.6	-2.7
UALR				IAmb_Lg		12 04 18.5	
comp=Z,19nm,0.9s							
FCAR	**Ozark Folk Cen**	**5.19**	**88**	Pn	Pn	12 02 46.0	-2.5
FCAR				IAmb_Lg		12 04 18.3	
comp=Z,18nm,0.9s							
Z41A	**Richland Creek**	**5.41**	**118**	Pn	Pn	12 02 51.0	-0.4
Z41A				IAmb_Lg		12 04 31.6	
comp=Z,31nm,0.9s							
P38A	**Dawn**	**5.42**	**45**	Pn	Pn	12 02 50.3	-1.4
P38A				IAmb_Lg		12 04 33.3	
comp=Z,12nm,0.8s							
OZNA	**Ozona**	**5.43**	**204**	Pn	Pn	12 02 50.6	-1.3
OZNA				IAmb_Lg		12 04 32.2	
comp=Z,17nm,0.9s							
BGNE	**Belgrade**	**5.50**	**3**	IAmb_Lg		12 04 32.6	
comp=Z,23nm,0.8s							
R40A	**Maddies Statio**	**5.54**	**63**	Pn	Pn	12 02 52.7	-0.5
R40A				IAmb_Lg		12 04 27.4	
comp=Z,17nm,0.8s							
OGNE	**Ogallala**	**5.73**	**332**	Pn	Pn	12 02 57.6	+1.6
OGNE				IAmb_Lg		12 04 37.8	
comp=Z,20nm,0.8s							
CLNB	**Carlsbad**	**5.74**	**232**	Pn	Pn	12 02 56.3	+0.1
MNHN	**Monahans**	**5.77**	**219**	Pn	Pn	12 02 55.9	-0.6
SDCO	**Great Sand Dun**	**5.89**	**290**		Pn	12 02 60.0	+1.6
Q24A	**Divide**	**6.09**	**302**	IAmb_Lg		12 04 59.4	
comp=Z,11nm,0.8s							
PBMO	**Poplar Bluff**	**6.59**	**80**	IAmb_Lg		12 04 58.4	
comp=Z,16nm,0.7s							
FVM	**French Village**	**6.81**	**70**	IAmb_Lg		12 05 16.8	
comp=Z,11nm,0.8s							
K30B	**Basset**	**6.81**	**353**	IAmb_Lg		12 05 23.8	
comp=Z,23nm,0.8s							
833A	**Chaparral WMA,**	**7.60**	**186**	IAmb_Lg		12 05 36.6	
comp=Z,10nm,1.1s							
S44A	**Carbondale**	**7.64**	**74**	IAmb_Lg		12 05 38.0	
comp=Z,19nm,0.7s							
SIUC	**Southern Illin**	**7.68**	**74**	IAmb_Lg		12 05 35.8	
comp=Z,15nm,0.8s							
L40A	**Anamosa**	**8.37**	**41**	IAmb_Lg		12 06 12.6	
comp=Z,16nm,0.9s							

IDC 18 12:18:00.0±107.0, 12°.96S×168°.51E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1816.0km s-min=135.2km az=62.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.06**	**228**	P	P	12 24 20.3	+0.4
1.8nm,0.5s,baz=56,slow=7.3,SNR=4.8							
1.8nm,0.5s							
WRA	**Warramunga Arr**	**33.45**	**253**	P	P	12 24 41.3	+0.3
0.7nm,0.8s,baz=78,slow=6.9,SNR=3.1							
0.7nm,0.8s							
ASAR	**Alice Springs**	**34.45**	**247**	P	P	12 24 49.1	-0.6
0.6nm,0.6s,baz=77,slow=9.1,SNR=13							
0.6nm,0.6s							

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*IDC **18** 12:25:16.6±2.4, 8°.53S×107°.12E, h0km, mb3.4/4, mbtmp3.4/4, MS2.8/1, Error ellipse: s-maj=63.8km s-min=23.3km az=61.0*
*DJA **18** 12:25:25.3±0.6, 8°S±3°×10°8E±°, h15km±4km, M4.0/16, mb4.2/2, MLv3.9/16*

ISC 18 12:25:27.6±1.4, 8°.1S±0°.1×107°.90E±0°.05, h66km±17km, n25, σ1°10/25, mb3.0/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.06**	**314**	P	**Pn**	**12 25 45.2**	**-1.5**
KPJI	**Karang Pucung**	**1.24**	**55**	P	**Pn**	**12 25 47.4**	**-1.6**
KPJI				S	**Sn**	**12 26 06.2**	**+1.1**
LEM	**Lembang**	**1.25**	**347**	Pn	**Pn**	**12 25 49.3**	**0.0**
34nm,0.3s,baz=97,slow=7.4,SNR=69							
LEM				Sn	**Sn**	**12 26 05.5**	**0.0**
56nm,0.3s,baz=206,slow=4.9,SNR=9.8							
LEM				LR	LR	12 26 36.5	
comp=Z,208nm,21.4s,baz=301,slow=45							
LEM	**Lembang**	**1.25**	**347**	P	**Pn**	**12 25 49.1**	**-0.2**
LEM				S	**Sn**	**12 26 06.5**	**+1.0**
SKJI	**Sukabumi**	**1.69**	**308**	P	**Pn**	**12 25 55.1**	**+0.1**
SKJI				S	**Sn**	**12 26 16.7**	**+0.9**
DBJI	**Dramaga**	**1.88**	**322**	P	**Pn**	**12 25 56.9**	**-0.6**
DBJI				S	**Sn**	**12 26 21.6**	**+1.4**
UGM	**Wanagama**	**2.60**	**87**	P	**Pn**	**12 26 06.7**	**-0.6**
UGM				S	**Sn**	**12 26 39.0**	**+1.2**
CGJI	**Cibinong**	**2.62**	**303**	P	**Pn**	**12 26 07.4**	**-0.1**
SMRI	**Semarang**	**2.71**	**69**	P	**Pn**	**12 26 08.8**	**0.0**
SMRI				S	**Sn**	**12 26 42.7**	**+2.3**
WOJI	**Wonogiri, Jawa**	**3.00**	**86**	P	**Pn**	**12 26 11.9**	**-0.8**
PCJI	**Pacitan**	**3.25**	**93**	P	**Pn**	**12 26 16.6**	**+0.5**
NGJI	**Ngawi**	**3.59**	**79**	P	**Pn**	**12 26 20.4**	**-0.4**
KASI	**Kota Agung**	**4.21**	**306**	P	**Pn**	**12 26 29.6**	**+0.3**
MDSI	**Maura Dua**	**5.12**	**313**	P	**Pn**	**12 26 42.4**	**+0.6**
0.1nm13nm,1.0s							
FITZ	**Fitzroy Crossi**	**19.94**	**122**	P	**Pn**	**12 29 55.2**	**-1.2**
2.7nm,0.8s,baz=292,slow=11,SNR=3.7							
2.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.78**	**342**	LR	LR	12 41 50.5	
comp=Z,20nm,19.7s,baz=115,slow=36							
WRA	**Warramunga Arr**	**28.19**	**118**	P	**P**	**12 31 14.1**	**-0.1**
0.2nm,0.6s,baz=290,slow=11,SNR=6.5							
0.2nm,0.6s							
ASAR	**Alice Springs**	**29.36**	**125**	P	**P**	**12 31 26.3**	**+1.8**
0.3nm,0.8s,baz=299,slow=9.0,SNR=1.7							
0.3nm,0.8s							
H08S2	**Diego Garcia H**	**35.07**	**268**	T	T	13 09 15.3	
baz=93,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**35.09**	**268**	T	T	13 09 16.3	
baz=93,slow=75,SNR=18							
H08S1	**Diego Carcia H**	**35.09**	**268**	T	T	13 09 15.7	
baz=93,slow=75,SNR=10.0							
MKAR	**Makanchi Array**	**59.17**	**340**	P	**P**	**12 35 20.2**	**-1.4**
0.4nm,0.6s,baz=144,slow=7.0,SNR=4.1							
0.4nm,0.6s							
H04N2	**CROZET ISLANDS**	**61.06**	**221**	T	T	13 42 22.3	
baz=69,slow=76,SNR=7.9							
H04N1	**CROZET ISLANDS**	**61.08**	**221**	T	T	13 42 21.5	
baz=69,slow=76,SNR=9.4							
H04N3	**CROZET ISLANDS**	**61.08**	**221**	T	T	13 42 21.0	
baz=69,slow=76,SNR=8.7							

IDC 18 12:35:37.3±9.0, 5°.91S×151°.29E, h84km±62km, mb3.4/3, mbtmp3.8/4, ML1.7/1, Error ellipse: s-maj=104.4km s-min=59.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**229**	P	Pn	12 36 55.2	+0.2
1.6nm,0.3s,baz=270,slow=9.1,SNR=1.9							
PMG				S	Sn	12 37 56.7	+1.3
3.8nm,0.4s,baz=19,slow=18,SNR=0.9							
6.5nm,0.4s							
WRA	**Warramunga Arr**	**21.59**	**228**	P	P	12 40 18.8	-1.6
1.2nm,0.6s,baz=54,slow=9.9,SNR=6.3							
1.2nm,0.6s							
ASAR	**Alice Springs**	**24.32**	**222**	P	P	12 40 48.1	+0.7
0.8nm,0.6s,baz=55,slow=9.0,SNR=18							
0.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.81**	**242**	P	P	12 41 18.7	-0.2
2.0nm,0.7s,baz=58,slow=7.5,SNR=8.5							
2.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.19**	**286**	PKPbc	PKPbc	12 55 17.0	-0.2
0.2nm,0.5s,baz=62,slow=4.9,SNR=1.7							

IDC 18 12:49:58.9±1.2, 18°.00S×172°.37W, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/3, Error ellipse: s-maj=48.3km s-min=30.6km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.29**	**107**	LR	LR	12 56 04.8	
comp=Z,69nm,21.9s,baz=278,slow=30							
DZM	**Mont Dzumac**	**20.31**	**255**	LR	LR	13 01 44.2	
comp=Z,41nm,20.4s,baz=215,slow=35							
PPT2	**Papeete2**	**21.70**	**92**	eLR	LR	12 59 44.6	
72nm,24.0s							
PPT2				eLR	LR	13 00 08.9	
120nm,29.8s							
PPT	**Papeete**	**21.71**	**92**	LR	LR	13 02 23.5	
comp=Z,36nm,18.1s,baz=209,slow=34							
WRA	**Warramunga Arr**	**50.26**	**259**	P	P	12 58 57.0	-0.5
0.8nm,0.6s,baz=98,slow=6.0,SNR=22							
0.8nm,0.6s							
ASAR	**Alice Springs**	**50.30**	**254**	P	P	12 58 57.7	0.0
1.5nm,0.6s,baz=92,slow=7.8,SNR=28							
1.5nm,0.6s							
QSPA	**South Pole Qui**	**72.06**	**180**	P	P	13 01 25.2	+0.4
1.2nm,0.8s,baz=53,slow=2.8,SNR=4.4							
1.2nm,0.8s							
PDAR	**Pinedale Array**	**83.54**	**41**	P	P	13 02 28.6	-0.6
0.2nm,0.5s,baz=235,slow=4.2,SNR=1.6							
0.2nm,0.5s							
ILAR	**Eielson Array**	**84.79**	**11**	P	P	13 02 35.4	+0.6
0.1nm,0.5s,baz=206,slow=5.0,SNR=1.4							
0.1nm,0.5s							

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*SSNC **18** 12:59:11.6±1.3, 19°.67N×71°.34W, h5km±6km, MD3.6, ML3.2*
*SDD **18** 12:59:11.9±4.5, 19°.72N×71°.46W, h18km±29km, MD3.5, ML3.2, MW3.4*
*OSPL **18** 12:59:12.5±1.4, 19°.69N×71°.46W, h0km±10km, ML2.9*

ISC 18 12:59:11.1±1.1, 19°.67N±0°.02×71°.40W±0°.02, h11km±9km, n47, σ1°48/81, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.26**	**47**	*i* P	**Pb**	**12 59 18.1**	**+0.3**
LOPP1				IAML		12 59 24.9	
comp=Z,2μm,0.3s							
MCDR	**Montecristi**	**0.33**	**312**	*e*Pg	**Pb**	**12 59 20.0**	**+1.1**
MCDR				*e*Sg	**Sb**	**12 59 25.9**	**+1.8**
MCDR				IAML		12 59 29.5	
comp=N,2μm,0.2s							
SC01	**Santiago de lo**	**0.68**	**111**	*e*Pg	**Pn**	**12 59 25.6**	**-1.1**
SC01				*e*Sg	**Sn**	**12 59 36.4**	**-0.9**
SC01				IAML		12 59 39.0	
comp=N,631nm,0.3s							
SC01	**Santiago de lo**	**0.68**	**111**	*i* P	**Pb**	**12 59 25.3**	**+0.3**
SC01				*e*S	**Sn**	**12 59 36.1**	**-1.2**
SDDR	**Presa de Saban**	**0.70**	**171**	*e*Pg	**Pb**	**12 59 25.1**	**-0.2**
SDDR				*e*Sg	**Sn**	**12 59 35.1**	**-2.6**
SDDR				IAML		12 59 35.2	
comp=N,721nm,0.2s							
SDDR	**Presa de Saban**	**0.70**	**171**	*i* P	**Pb**	**12 59 24.9**	**-0.4**
SDDR				*e*S	**Sg**	**12 59 33.3**	**-0.5**
SDDR				IAML		12 59 35.1	
comp=N,1μm,0.2s							
SDDR				IAML		12 59 35.3	
comp=N,799nm,0.1s							
SDDR	**Presa de Saban**	**0.70**	**171**	*i* P	**Pb**	**12 59 24.9**	**-0.4**
SDDR				*e*S	**Sb**	**12 59 34.7**	**-0.3**
SDDR				IAML		12 59 36.1	
comp=Z,806nm,0.3s							
SODR	**Sosua Marina B**	**0.78**	**84**	*e*Pg	**Pg**	**12 59 23.6**	**-2.6**
SODR				*e*Sg	**Sn**	**12 59 41.5**	**+1.8**
SODR				IAML		12 59 48.3	
comp=N,1μm,0.7s							
LONE3	**El Aguacate, B**	**1.06**	**183**	*i* P	**Pg**	**12 59 31.5**	**-0.1**
LONE3				IAML		12 59 48.6	
comp=Z,306nm,0.5s							
SFDR	**San Fco. de Ma**	**1.16**	**109**	*e*Pg	**Pg**	**12 59 34.6**	**+1.2**
SFDR				*e*Sg	**Sn**	**12 59 49.4**	**+0.3**
SFDR				IAML		12 59 54.2	
comp=N,924nm,0.3s							
NEDR	**Neiba UASD**	**1.18**	**181**	*e*Pg	**Pg**	**12 59 34.7**	**+0.9**
NEDR				*e*Sg	**Sn**	**12 59 50.1**	**+0.4**
NEDR				IAML		12 59 50.1	
comp=N,347nm,0.3s							
LODU1	**El Espartillar**	**1.32**	**183**	*i* P	**Pg**	**12 59 36.2**	**-0.1**
LODU1				IAML		13 00 01.6	
comp=Z,260nm,0.5s							
CADR	**Cabrera**	**1.38**	**90**	*e*Pg	**Pb**	**12 59 36.8**	**0.0**
CADR				*e*Sg	**Sg**	**12 59 56.8**	**+1.4**
CADR				IAML		12 59 57.8	
comp=N,486nm,0.2s							
PAPH	**Port-au-Prince**	**1.43**	**217**	*e*P	**Pb**	**12 59 37.8**	**+0.1**
PAPH				*e*S	**Sg**	**12 59 57.5**	**+0.5**
PAPH				IAML		12 59 59.6	
comp=E,148nm,0.4s							
PAPH				IAML		13 00 03.8	
comp=N,124nm,0.1s							
PAPH	**Port-au-Prince**	**1.43**	**217**	*i* P	**Pb**	**12 59 37.8**	**+0.1**
DR08	**Loma La Naviza**	**1.48**	**118**	*e*Pg	**Pb**	**12 59 38.5**	**-0.2**
DR08				*e*Sg	**Sb**	**12 59 56.9**	**-0.7**
DR08				IAML		13 00 00.3	
comp=N,4μm,0.2s							
NADR	**Nagua**	**1.49**	**102**	*e*Pg	**Pn**	**12 59 38.0**	**+0.2**
NADR				*e*Sg	**Sg**	**13 00 00.8**	**+1.8**
NADR				IAML		13 00 05.1	
comp=N,1μm,0.3s							
PODR	**Polo**	**1.50**	**176**	*e*Pg	**Pg**	**12 59 39.6**	**-0.4**
PODR				*e*Sg	**Sg**	**13 00 00.4**	**+0.9**
PODR				IAML		13 00 07.5	
comp=N,147nm,0.7s							
PODR	**Polo**	**1.50**	**176**	*i* P	**Pb**	**12 59 39.0**	**-0.2**
BANI	**BANI**	**1.61**	**142**	*e*Pg	**Pb**	**12 59 40.4**	**-0.5**
BANI				*e*Sg	**Sg**	**13 00 04.6**	**+1.6**
BANI				IAML		13 00 10.8	
comp=N,336nm,0.2s							
LOBH	**Bahia de las A**	**1.82**	**187**	*i* P	**Pb**	**12 59 44.3**	**0.0**
LOBH				IAML		13 00 11.0	
comp=Z,35nm,0.3s							
GRTK	**Grand Turk**	**1.84**	**8**	*e*Pg	**Pn**	**12 59 42.1**	**-0.6**
GRTK				*e*Sg	**Sn**	**13 00 06.1**	**0.0**
GRTK				IAML		13 00 12.6	
comp=N,151nm,0.2s							
GRTK	**Grand Turk**	**1.84**	**8**	*e*P	**Pn**	**12 59 41.7**	**-1.0**
GRTK				*e*S	**Sn**	**13 00 04.8**	**-1.3**
GRTK				IAML		13 00 12.3	
comp=N,151nm,0.3s							
GRTK				IAML		13 00 12.7	
comp=N,153nm,0.2s							
GRTK	**Grand Turk**	**1.84**	**8**	*i* P	**Pn**	**12 59 43.3**	**+0.6**
GRTK				*e*S	**Sn**	**13 00 06.0**	**0.0**
GRTK				IAML		13 00 11.7	
comp=Z,80nm,0.8s							
LOVI	**El Cajuil, Ovi**	**1.87**	**179**	*i* P	**Pb**	**12 59 44.5**	**-0.6**
LOVI				IAML		13 00 18.3	
comp=Z,53nm,0.7s							
HATOM	**Hato Mayor del**	**2.10**	**114**	*e*Pg	**Pb**	**12 59 48.4**	**-0.8**
HATOM				*e*Sg	**Sb**	**13 00 14.6**	**-0.8**
HATOM				*e*Sg	**Sn**	**13 00 14.8**	**+2.3**
HATOM				IAML		13 00 19.1	
comp=N,101nm,0.4s							
SMDR	**Samana, DR**	**2.12**	**100**	*e*Pg	**Pn**	**12 59 47.2**	**+0.7**
SMDR				*e*Sg	**Sg**	**13 00 17.3**	**-2.0**
SMDR				IAML		13 00 19.7	
comp=N,78nm,0.3s							
MIDR	**Miches**	**2.32**	**107**	*e*Pg	**Pn**	**12 59 49.9**	**+0.6**
MIDR				*e*Sg	**Sb**	**13 00 22.2**	**+0.5**
MIDR				IAML		13 00 28.6	
comp=N,57nm,0.4s							
MASC	**Masc**	**2.71**	**281**	*e*Pg	**Pn**	**12 59 57.5**	**+2.9**
MASC				*e*Sg	**Sn**	**13 00 30.0**	**+2.6**
MASC				IAML		13 00 39

GTBY			IAML		13 00 54.7	
	comp=N,13nm,0.5s					
GTBY			IAML		13 00 54.9	
	comp=N,17nm,0.3s					
GTBY	**Guantanamo Bay**	**3.50 275**	*i* P	**Pn**	**13 00 06.3**	**+0.8**
GTBY			IAML		13 01 04.6	
	comp=Z,14nm,1.8s					
SABCS	**La Quijada**	**3.74 281**	*e*P	**Pn**	**13 00 11.6**	**+2.7**
RCC	**Rio Carpintero**	**4.06 275**	*e*P	**Pn**	**13 00 12.8**	**-0.4**
RCC			*e*S	**Sn**	**13 00 59.3**	**-1.4**
RCC			IAML		13 01 06.9	
	comp=N,8.1nm,0.2s					
RCC			IAML		13 01 08.5	
	comp=E,8.4nm,0.2s					
PINC	**Pinares de May**	**4.21 282**	*e*P	**Pn**	**13 00 14.2**	**-0.9**
PINC			*e*S	**Sn**	**13 01 01.7**	**-2.6**
PINC			IAML		13 01 18.2	
	comp=N,11nm,0.7s					
PINC			IAML		13 01 20.9	
	comp=E,8.7nm,0.3s					
MARVS	**Santiago de Cu**	**4.25 275**	*e*P	**Pn**	**13 00 16.0**	**+0.3**
MARVS			*e*S	**Sn**	**13 01 04.1**	**-1.3**
MARVS			IAML		13 01 14.0	
	comp=E,15nm,0.7s					
MARVS			IAML		13 01 14.2	
	comp=N,16nm,0.5s					
CRPR	**Cabo Rojo, PR**	**4.39 112**	*e*Pg	**Pb**	**13 00 26.1**	**-2.2**
CRPR			IAML		13 02 09.2	
	comp=N,31nm,1.9s					
AOPR	**Arecibo Observ**	**4.59 106**	*e*Pg	**Pb**	**13 00 31.2**	**-0.5**
AOPR			*e*Sg	**Sb**	**13 01 29.2**	**+2.2**
AOPR			IAML		13 01 32.5	
	comp=N,46nm,0.8s					
CELP	**Cerrillos**	**4.83 108**	*e*Pg	**Pb**	**13 00 34.9**	**-1.0**
CELP			*e*Sg	**Sb**	**13 01 36.8**	**+2.8**
CELP			IAML		13 01 40.9	
	comp=N,12nm,0.6s					

*IDC **18** 13:01:12.1±0.8, 55.°47S×26.°23W, h0km, mb4.3/8, mbtmp4.3/9, ML4.1/1, MS3.6/8, Error ellipse: s-maj=24.8km s-min=18.6km az=81.0*

*NEIC **18** 13:01:13.3±1.3, 55.°6S±0.°1×26.°7W±0.°2, h10km±1km, mb4.6/16, Error ellipse: s-maj=24.2km s-min=17.6km az=42.0*

ISC 18 13:01:16.6±0.6, 55.°52S±0.°09×26.°6W±0.°1, h38km, n41, σ1§59/32, mb4.5/11, MS3.5/7, 1C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.82**	**278**	Pn	**Pn**	**13 02 39.5**	**-0.6**
VNA1	**Neumayer--Stat**	**17.18**	**159**	⇓P	**P**	**13 05 18.7**	**+4.2**
	comp=Z,8.1nm,0.8s						
VNA3	**Neumayer Olymp**	**17.40**	**162**	⇑P	**P**	**13 05 18.4**	**+1.5**
	comp=Z,1.1nm,0.2s						
VNA2	**Neumayer--Watz**	**17.58**	**159**	⇓P	**P**	**13 05 19.3**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=317,slow=16						
SNAA	**Sanae**	**19.11**	**157**	P	**P**	**13 05 35.2**	**-0.6**
SNAA	**Sanae**	**19.11**	**157**	P	**P**	**13 05 34.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=324,slow=12,SNR=7.6						
SNAA				LR	LR	13 11 25.9	
	comp=Z,137nm,21.5s,baz=346,slow=32						
	comp=Z,9.9nm,1.2s						
PMSA	**Palmer Station**	**20.49**	**228**	P	**P**	**13 05 48.7**	**-2.0**
PMSA	**Palmer Station**	**20.49**	**228**	P	Pn	13 05 54.0	+0.9
	comp=Z,14nm,0.6s,baz=63,slow=4.6,SNR=9.5						
PMSA				LR	LR	13 12 29.0	
	comp=Z,196nm,19.5s,baz=49,slow=33						
	comp=Z,14nm,0.6s						
TROLL	**Troll, Antarti**	**20.59**	**154**	⇓P	**P**	**13 05 51.9**	**-0.1**
	comp=Z,112nm,0.5s						
BELA	**Belgrano 2**	**22.64**	**184**	P	**P**	**13 06 12.4**	**-1.3**
BELA				IAmb	IAmb	13 06 47.8	
	comp=Z,8.7nm,0.6s						
GO09	**Cerro Castillo**	**27.19**	**260**	P	**P**	**13 06 56.1**	**-0.1**
PLCA	**Paso Flores**	**32.22**	**279**	LR	LR	13 20 37.8	
	comp=Z,56nm,18.2s,baz=141,slow=36						
QSPA	**South Pole Qui**	**34.74**	**180**	P	**P**	**13 08 02.4**	**-0.4**
QSPA				IAmb	IAmb	13 08 15.2	
	comp=Z,4.4nm,0.7s						
QSPA	**South Pole Qui**	**34.74**	**180**	P	**P**	**13 08 05.3**	**+2.6**
	comp=Z,3.3nm,0.7s,baz=195,slow=2.3,SNR=36						
	comp=Z,3.3nm,0.7s						
CPUP	**Villa Florida**	**36.70**	**310**	P	**P**	**13 08 20.9**	**+1.2**
CPUP	**Villa Florida**	**36.70**	**310**	P	**P**	**13 08 20.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=23,slow=10,SNR=5.3						
CPUP				LR	LR	13 23 46.5	
	comp=Z,38nm,18.5s,baz=22,slow=37						
	comp=Z,0.9nm,0.8s						
MT02	**Curacav**	**37.92**	**287**	P	**P**	**13 08 29.8**	**-0.2**
BDFB	**Brasilia**	**43.06**	**329**	P	**P**	**13 09 10.9**	**-1.8**
	comp=Z,1.7nm,0.4s,baz=141,slow=6.5,SNR=3.2						
BDFB				LR	LR	13 26 14.0	
	comp=Z,90nm,18.1s,baz=144,slow=35						
BOSA	**Boshof**	**45.54**	**76**	P	**P**	**13 09 29.9**	**-2.6**
	comp=Z,3.7nm,0.9s,baz=194,slow=6.6,SNR=4.2						
BOSA				LR	LR	13 25 17.8	
	comp=Z,215nm,18.2s,baz=206,slow=32						
	comp=Z,3.7nm,0.9s						
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**13 09 45.0**	**+0.9**
VNDA				IAmb	IAmb	13 09 46.8	
	comp=Z,3.8nm,0.6s						
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**13 09 44.9**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=186,slow=6.7,SNR=36						
	comp=Z,3.4nm,0.6s						
PTLB	**Pontes e Lacer**	**47.13**	**315**	P	**P**	**13 09 45.7**	**+0.8**
PTLB				IAmb	IAmb	13 09 47.2	
	comp=Z,3.9nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.40**	**16**	T	T	14 01 22.8	
	baz=31,slow=74,SNR=5.9						
H10S3	**ASCENSION HYDR**	**47.40**	**16**	T	T	14 01 21.4	
	baz=189,slow=74,SNR=4.8						
SIV	**San Ignacio**	**47.44**	**312**	LR	LR	13 29 35.4	
	comp=Z,56nm,20.5s,baz=110,slow=36						
GO01	**Chusmiza**	**47.93**	**301**	P	**P**	**13 09 52.0**	**+0.3**
GO01				IAmb	IAmb	13 09 54.3	
	comp=Z,6.9nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.52**	**16**	T	T	14 02 44.9	
	baz=188						
H10N3	**ASCENSION HYDR**	**48.52**	**16**	T	T	14 02 39.5	
	baz=188,slow=74,SNR=4.0						
H10N2	**ASCENSION HYDR**	**48.53**	**16**	T	T	14 02 43.0	
	baz=188,slow=74,SNR=3.5						
LPAZ	**La Paz**	**50.33**	**304**	P	**P**	**13 10 11.6**	**+1.5**
LPAZ				IAmb	IAmb	13 10 13.2	
	comp=Z,6.0nm,0.7s						
LPAZ	**La Paz**	**50.33**	**304**	P	**P**	**13 10 12.2**	**+2.1**
	comp=Z,6.0nm,0.7s,baz=151,slow=3.5,SNR=26						
	comp=Z,6.0nm,0.7s						
LSZ	**Lusaka**	**57.89**	**69**	LR	LR	13 32 46.2	
	comp=Z,60nm,21.3s,baz=168,slow=33						
BOAV	**Boa Vista**	**64.05**	**322**	P	**P**	**13 11 47.2**	**+0.9**
BOAV				IAmb	IAmb	13 11 48.1	
	comp=Z,7.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.44**	**29**	P	**P**	**13 12 40.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**72.44**	**29**	P	**P**	**13 12 40.6**	**+1.8**
	comp=Z,2.9nm,0.6s,baz=198,slow=5.5,SNR=26						
	comp=Z,2.9nm,0.6s						
ESQI	**Esquipulas**	**87.30**	**301**	P	**P**	**13 13 57.6**	**-1.6**
ASAR	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**13 14 53.2**	**-1.8**
ASAR	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**13 14 55.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=189,slow=4.9,SNR=4.1						
	comp=Z,0.3nm,0.6s						
AS31	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**13 14 53.0**	**-2.0**
AS31				IAmb	IAmb	13 15 34.1	
	comp=Z,0.9nm,0.6s						
NIUE	**Niue**	**99.44**	**215**	P	**Pdif**	**13 14 53.9**	**-1.3**
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	**PKiKP**	**13 21 03.0**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=121,slow=2.9,SNR=6.8						

*BJI **18** 13:08:58.8, 66.°42N×157.°57W, h8km, mB5.4/44, mb5.0/80, Ms5.5/78, Ms7 5.3/78*

*NEIC **18** 13:08:59.9, 66.°37N×157.°47W, h0km*

*ANF **18** 13:08:59.5±0.2, 66.°35N×157.°32W, h1km±1km, ML5.9/100, Error ellipse: s-maj=0.8km s-min=0.7km az=108.0*

*AEIC **18** 13:08:59.9±1.4, 66.°34N±0.°02×157.°29W±0.°06, h6km±5km, ML5.3, mb5.2/468(NEIC), ML5.6/152(NEIC), Mwr5.2/42(NEIC), Mww5.2/143(NEIC), Error ellipse: s-maj=3.7km s-min=2.4km az=98.0*

*MOS **18** 13:09:00.7±1.0, 66.°36N×157.°28W, h19km, mb5.3/63, MS4.7/24, Error ellipse: s-maj=11.4km s-min=4.2km az=98.4*

*NEIC **18** 13:09:00.1±1.5, 66.°34N±0.°02×157.°26W±0.°05, h8km±4km, Error ellipse: s-maj=3.0km s-min=2.7km az=110.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49; $M_{\theta\theta}$4.36; $M_{\phi\phi}$-2.88; $M_{r\theta}$2.81; $M_{\theta\phi}$-4.37; $M_{\phi r}$3.01; Fault plane solution: $M_0$7.13000×10^{16} NP1: ϕ_s154.80000°, δ58.73000°, λ-17.75000°. NP2: ϕ_s254.23000°, δ74.90000°, λ-147.48000°. Principal axes: T 6.6498, Plg11.0000°, Azm22.0000°; N 0.8722, Plg54.0000°, Azm276.0000°; P -7.5220, Plg33.0000°, Azm119.0000°;*

*IDC **18** 13:09:00.4±0.4, 66.°46N×157.°40W, h0km, mb4.9/30, mbtmp4.9/34, ML4.9/4, MS4.6/65 Error ellipse: s-maj=13.6km s-min=8.6km az=18.0*

*NEIC **18** 13:09:01.5, 66.°32N×157.°32W, h12km*

*GCMT **18** 13:09:01.8±0.1, 66.°42N±0.°01×157.°24W±0.°02, h14km, MW5.2/140, Moment Tensor Solution. s97, c146; s140, c276; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.37±.01; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$-0.28±.01; $M_{r\theta}$0.26±.03; $M_{\theta\phi}$-0.67±.01; $M_{\phi r}$0.23±.03; Best double couple: $M_0$0.93200×10^{17} NP1:ϕ_s158.00000°, δ62.00000°, λ-22.00000°. NP2:ϕ_s258.00000°, δ71.00000°, λ-150.00000°. Principal axes: T 1.0130, Plg6.0000°, Azm27.0000°; N -0.1620, Plg55.0000°, Azm288.0000°; P -0.8510, Plg34.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **18** 13:09:01.5, 66.°42N×157.°32W, h12km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.90; $M_{\theta\theta}$5.57; $M_{\phi\phi}$-2.66; $M_{r\theta}$1.58; $M_{\theta\phi}$-6.37; $M_{\phi r}$1.85; Fault plane solution: $M_0$8.35000×10^{16} NP1: ϕ_s160.24000°, δ68.75000°, λ-18.83000°. NP2: ϕ_s257.28000°, δ72.49000°, λ-157.67000°. Principal axes: T 9.0572, Plg2.0000°, Azm28.0000°; N -1.6598, Plg62.0000°, Azm294.0000°; P -7.3974, Plg28.0000°, Azm120.0000°;*

ISC 18 13:09:01.5±0.3, 66.°35N±0.°02×157.°26W±0.°02, h13km±1km, h13km:pP-P, n1298, σ1§32/1182, mb5.2/393, MS4.7/111, 48C-29D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	**Shaleruckik Mo**	**0.53**	**337**		**Pg**	**13 09 09.9**	**-1.9**
F19K	**Shaleruckik Mo**	**0.53**	**337**		**Sg**	**13 09 17.3**	**-1.5**
F19K				IAML		13 09 21.8	
	comp=E,118μm,1.2s						
F19K				IAML		13 09 22.8	
	comp=N,133μm,0.8s						
F19K	**Shaleruckik Mo**	**0.53**	**337**	P	**Pg**	**13 09 09.8**	**-2.1**
	baz=158						
F19K				S	**Sg**	**13 09 17.2**	**-1.6**
	baz=158						
G18K	**Tagagawik**	**0.73**	**232**		**Pg**	**13 09 13.7**	**-2.0**
G18K					**Sg**	**13 09 24.2**	**-1.1**
G18K	**Tagagawik**	**0.73**	**232**	P	**Pg**	**13 09 13.7**	**-2.0**
	baz=50						
G18K				S	**Sg**	**13 09 24.0**	**-1.3**
	baz=50						
H19K	**Roundabout Mou**	**0.89**	**158**		**Sg**	**13 09 28.6**	**-1.7**
H19K	**Roundabout Mou**	**0.89**	**158**		**Pg**	**13 09 16.9**	**-1.8**
H19K				IAML		13 09 32.8	
	comp=E,187μm,0.3s						
H19K				IAML		13 09 33.3	
	comp=N,143μm,0.5s						
H19K	**Roundabout Mou**	**0.89**	**158**	P	**Pg**	**13 09 16.8**	**-1.8**
	baz=338						
H19K				S	**Sg**	**13 09 28.9**	**-1.4**
	baz=338						
F20K	**Avaraart Lake**	**0.93**	**40**		**Pg**	**13 09 17.1**	**-2.3**
F20K	**Avaraart Lake**	**0.93**	**40**		**Sg**	**13 09 30.1**	**-1.4**
F20K				IAML		13 09 34.3	
	comp=E,207μm,0.7s						
F20K				IAML		13 09 34.5	
	comp=N,137μm,1.0s						
F20K	**Avaraart Lake**	**0.93**	**40**	P	**Pg**	**13 09 17.1**	**-2.3**
	baz=222						
F20K				S	**Sg**	**13 09 30.3**	**-1.2**
	baz=222						
F18K	**Selawik**	**0.99**	**286**		**Pg**	**13 09 18.2**	**-2.4**
F18K					**Pb**	**13 09 18.4**	**-2.1**
F18K					**Sg**	**13 09 32.7**	**-0.9**
F18K	**Selawik**	**0.99**	**286**	P	**Pg**	**13 09 18.2**	**-2.4**
	baz=104						
F18K				S	**Sg**	**13 09 32.4**	**-1.1**
	baz=104						
E19K	**Redstone River**	**1.11**	**1**		**Sg**	**13 09 35.8**	**-1.5**
E19K	**Redstone River**	**1.11**	**1**		**Pb**	**13 09 20.5**	**-2.0**
E19K				IAML		13 09 39.5	
	comp=N,118μm,0.6s						
E19K	**Redstone River**	**1.11**	**1**	P	**Pb**	**13 09 20.5**	**-2.0**
	baz=181						
E19K				S	**Sg**	**13 09 35.4**	**-1.9**
	baz=181						
H18K	**Honhosa River**	**1.29**	**201**		**Pn**	**13 09 23.4**	**-1.8**
H18K					**Sb**	**13 09 40.7**	**-1.3**
H18K	**Honhosa River**	**1.29**	**201**	P	**Pn**	**13 09 23.3**	**-1.8**
	baz=20						
H18K				S	**Sb**	**13 09 40.7**	**-1.3**
	baz=20						
H20K	**Anotleneega Mo**	**1.30**	**130**		**Pn**	**13 09 23.9**	**-1.3**
H20K					**Pb**	**13 09 24.2**	**-1.6**
H20K					**Sb**	**13 09 41.8**	**-0.5**
H20K					**Sn**	**13 09 42.3**	**-0.3**
H20K	**Anotleneega Mo**	**1.30**	**130**	P	**Pn**	**13 09 24.0**	**-1.3**
	baz=312						
H20K				S	**Sb**	**13 09 42.0**	**-0.4**
	baz=312						
IM02	**Indian Mountai**	**1.45**	**102**		**Sb**	**13 09 46.9**	**+0.2**
IM01	**Indian Mountai**	**1.48**	**102**		**Pn**	**13 09 26.9**	**-0.8**
G21K	**Allakaket**	**1.52**	**82**		**Pn**	**13 09 27.1**	**-1.2**
G21K					**Sb**	**13 09 48.6**	**+0.1**
G21K	**Allakaket**	**1.52**	**82**	IAML		13 09 49.9	
	comp=N,80μm,1.0s						
G21K				IAML		13 09 50.4	
	comp=E,96μm,1.1s						
G21K	**Allakaket**	**1.52**	**82**	P	**Pn**	**13 09 27.0**	**-1.2**
	baz=265						
G21K				S	**Sn**	**13 09 47.7**	**-0.2**
	baz=265						
F17K	**Baldwin Pennin**	**1.61**	**275**		**Pn**	**13 09 28.2**	**-1.3**
F17K					**Sn**	**13 09 50.1**	**+0.1**
F17K	**Baldwin Pennin**	**1.61**	**275**	IAML		13 09 54.1	
	comp=E,52μm,0.7s						
F17K	**Baldwin Pennin**	**1.61**	**275**	P	**Pn**	**13 09 28.6**	**-0.9**
	baz=92						
F17K				S	**Sn**	**13 09 50.2**	**+0.1**
	baz=92						
GCSA	**Galena City Sc**	**1.62**	**174**		**Pn**	**13 09 28.7**	**-0.9**
GCSA					**Sn**	**13 09 50.8**	**+0.5**
GCSA	**Galena City Sc**	**1.62**	**174**	P	**Pn**	**13 09 28.8**	**-0.9**
	baz=354						
GCSA				S	**Sn**	**13 09 49.9**	**-0.4**
	baz=354						
G17K	**Kiwalik Mounta**	**1.63**	**240**		**Pn**	**13 09 28.2**	**-1.6**
G17K	**Kiwalik Mounta**	**1.63**	**240**	P	**Pn**	**13 09 27.8**	**-2.1**
	baz=57						
G17K				S	**Sn**	**13 09 50.0**	**-0.7**
	baz=57						
E18K	**Tukpahlearik C**	**1.70**	**311**		**Sn**	**13 09 52.6**	**+0.2**
E18K	**Tukpahlearik C**	**1.70**	**311**		**Pn**	**13 09 31.1**	**+0.3**
E18K				IAML		13 09 55.0	
	comp=N,57μm,0.8s						
E18K	**Tukpahlearik C**	**1.70**	**311**	P	**Pn**	**13 09 30.4**	**-0.4**
	baz=128						
E18K				S	**Sn**	**13 09 52.4**	**0.0**
	baz=128						
F21K	**Alatna River**	**1.73**	**58**		**Pn**	**13 09 30.4**	**-0.9**
F21K	**Alatna River**	**1.73**	**58**	IAML		13 09 59.8	
	comp=E,62μm,0.8s						
F21K	**Alatna River**	**1.73**	**58**	P	**Pn**	**13 09 31.0**	**-0.3**
	baz=241						
F21K				S	**Sb**	**13 09 55.2**	**+0.5**
	baz=241						
H17K	**Granite Mounta**	**1.80**	**219**		**Pn**	**13 09 30.7**	**-1.4**
H17K					**Sn**	**13 09 54.7**	**0.0**
H17K	**Granite Mounta**	**1.80**	**219**	P	**Pn**	**13 09 30.6**	**-1.5**
	baz=36						
H17K				S	**Sn**	**13 09 54.5**	**-0.2**
	baz=36						
I20K	**Naaghedeneel**	**1.94**	**142**		**Pn**	**13 09 33.7**	**-0.4**
I20K	**Naaghedeneel**	**1.94**	**142**	P	**Pn**	**13 09 33.7**	**-0.4**
	baz=324						
I20K				Sb	**Sb**	**13 10 02.3**	**+1.6**
	baz=324						
H21K	**Melozitna Rive**	**1.95**	**109**	P	**Pn**	**13 09 33.0**	**-1.3**
	baz=293						
H21K				S	**Sb**	**13 10 00.9**	**-0.1**
	baz=293						
E17K	**Hotham Inlet**	**1.96**	**294**		**Pn**	**13 09 33.6**	**-0.7**
E17K	**Hotham Inlet**	**1.96**	**294**	P	**Pn**	**13 09 33.2**	**-1.1**
	baz=110						
E17K				S	**Sn**	**13 09 58.5**	**-0.2**
	baz=110						
E20K	**Nigu River**	**1.96**	**12**		**Pn**	**13 09 34.3**	**-0.1**
E20K					**Pb**	**13 09 35.2**	**-1.8**
E20K	**Nigu River**	**1.96**	**12**	P	**Pn**	**13 09 34.8**	**+0.4**
	baz=193						
E20K				S	**Sb**	**13 10 00.4**	**-1.0**
	baz=193						
D19K	**Kuna River**	**2.18**	**352**		**Pn**	**13 09 36.7**	**-0.7**
D19K				IAML		13 10 13.4	
	comp=E,49μm,0.8s						
D19K				IAML		13 10 13.6	
	comp=N,44μm,1.1s						
D19K	**Kuna River**	**2.18**	**352**	P	**Pn**	**13 09 37.5**	**+0.1**
	baz=171						
D19K				Sb	**Sb**	**13 10 08.6**	**+1.0**
	baz=171						
G16K	**Koyuk River**	**2.31**	**248**		**Pn**	**13 09 37.5**	**-1.6**
G16K	**Koyuk River**	**2.31**	**248**	IAML		13 10 17.4	
	comp=N,34μm,1.0s						
G16K	**Koyuk River**	**2.31**	**248**	P	**Pn**	**13 09 37.1**	**-2.0**
	baz=63						
G16K				Sb	**Sb**	**13 10 11.1**	**-0.1**
	baz=63						
F22K	**John River**	**2.31**	**58**		**Pn**	**13 09 38.7**	**-0.5**
F22K					**Pb**	**13 09 39.3**	**-3.7**
F22K	**John River**	**2.31**	**58**	P	**Pn**	**13 09 39.0**	**-0.2**
	baz=242						
F22K				Sb	**Sg**	**13 10 13.4**	**-2.3**
	baz=242						
G22K	**Bettles**	**2.36**	**73**		**Pn**	**13 09 39.1**	**-0.8**
G22K					**Pb**	**13 09 39.4**	**-4.4**
G22K	**Bettles**	**2.36**	**73**	P	**Pn**	**13 09 39.3**	**-0.6**
	baz=258						
D20K	**Etivluk River**	**2.39**	**6**		**Pn**	**13 09 40.2**	**-0.1**
D20K	**Etivluk River**	**2.39**	**6**	IAML		13 10 18.4	
	comp=N,25μm,1.0s						
D20K				IAML		13 10 20.5	
	comp=E,30μm,0.8s						
D20K	**Etivluk River**	**2.39**	**6**	P	**Pn**	**13 09 40.7**	**+0.4**
	baz=186						
H22K	**Ishtalitna Cre**	**2.44**	**98**	P	**Pn**	**13 09 40.2**	**-0.7**
	baz=283						
H22K				Sb	**Sb**	**13 10 15.7**	**+0.7**
	baz=283						
E21K	**Killik River**	**2.45**	**30**		**Pn**	**13 09 41.0**	**-0.1**
E21K	**Killik River**	**2.45**	**30**	P	**Pn**	**13 09 41.0**	**-0.1**
	baz=213						
J19K	**Poorman**	**2.47**	**163**	P	**Pn**	**13 09 40.7**	**-0.6**
	baz=344						
J19K				Sb	**Sb**	**13 10 16.4**	**+0.6**
	baz=344						
I21K	**Tanana**	**2.47**	**116**		**Pn**	**13 09 40.8**	**-0.6**
I21K	**Tanana**	**2.47**	**116**	P	**Pn**	**13 09 40.2**	**-1.2**
	baz=300						
I21K				Sb	**Sb**	**13 10 18.0**	**+2.0**
	baz=300						
J20K	**Nowinta River**	**2.54**	**148**	P	**Pn**	**13 09 41.7**	**-0.7**
	baz=330						
J20K				Sb	**Sb**	**13 10 19.8**	**+1.7**
	baz=330						
D17K	**Noatak River**	**2.66**	**303**		**Pn**	**13 09 43.2**	**-0.7**
D17K	**Noatak River**	**2.66**	**303**	P	**Pn**	**13 09 43.2**	**-0.7**
	baz=118						
H16K	**Elim**	**2.70**	**233**		**Pn**	**13 09 42.2**	**-2.3**
H16K					Pb	13 09 42.6	-6.9
H16K	**Elim**	**2.70**	**233**	P	**Pn**	**13 09 42.5**	**-2.0**
	baz=48						
H16K				Sb	**Sb**	**13 10 23.2**	**+0.8**
	baz=48						
C18K	**Utukok River**	**2.76**	**329**		**Pn**	**13 09 45.2**	**-0.2**
C18K	**Utukok River**	**2.76**	**329**	P	**Pn**	**13 09 44.7**	**-0.8**
	baz=145						
E22K	**Anaktuvuk Pass**	**2.77**	**47**		**Pn**	**13 09 46.4**	**+0.8**
E22K	**Anaktuvuk Pass**	**2.77**	**47**	IAML		13 10 35.7	
	comp=N,16μm,1.1s						
E22K				IAML		13 10 39.7	
	comp=E,17μm,1.2s						
E22K	**Anaktuvuk Pass**	**2.77**	**47**	P	**Pn**	**13 09 46.4**	**+0.8**
	baz=232						
E22K				S	**Sn**	**13 10 21.2**	**+2.3**
	baz=232						
RDOG	**Red Dog Mine**	**2.79**	**310**		**Pn**	**13 09 45.6**	**-0.1**
RDOG	**Red Dog Mine**	**2.79**	**310**	P	**Pn**	**13 09 45.6**	**-0.1**
	baz=126						
I17K	**Unalakleet**	**2.87**	**212**		**Pn**	**13 09 46.4**	**-0.5**
I17K	**Unalakleet**	**2.87**	**212**	IAML		13 10 33.1	
	comp=N,24μm,1.1s						
I17K	**Unalakleet**	**2.87**	**212**	P	**Pn**	**13 09 45.7**	**-1.1**
	baz=29						
I17K				Sb	**Sb**	**13 10 27.6**	**+0.2**
	baz=29						
C19K	**Lookout Ridge**	**2.91**	**343**		**Pn**	**13 09 47.4**	**0.0**
C19K	**Lookout Ridge**	**2.91**	**343**	IAML		13 10 42.0	
	comp=E,18μm,1.2s						
C19K	**Lookout Ridge**	**2.91**	**343**	P	**Pn**	**13 09 47.3**	**-0.1**
	baz=161						
J18K	**Innoko River**	**2.91**	**175**		**Pn**	**13 09 46.9**	**-0.5**
J18K	**Innoko River**	**2.91**	**175**	IAML		13 10 37.6	
	comp=E,19μm,1.4s						
J18K	**Innoko River**	**2.91**	**175**	P	**Pn**	**13 09 46.8**	**-0.5**
	baz=355						
G23K	**Bananza Creek**	**2.92**	**80**		**Pn**	**13 09 47.7**	**+0.2**
G23K	**Bananza Creek**	**2.92**	**80**	IAML		13 10 42.7	
	comp=E,15μm,0.9s						
G23K	**Bananza Creek**	**2.92**	**80**	Pb	**Pb**	**13 09 53.2**	**-0.1**
	baz=266						
G23K				Sb	**Sb**	**13 10 31.0**	**+2.1**
	baz=266						
COLD	**Coldfoot**	**2.93**	**69**	P	**Pn**	**13 09 47.5**	**-0.2**
	baz=256						
COLD				Sb	**Sb**	**13 10 32.2**	**+3.0**
	baz=256						
C21K	**Knifeblade Rid**	**2.97**	**17**		**Pn**	**13 09 48.1**	**-0.1**
C21K	**Knifeblade Rid**	**2.97**	**17**	P	**Pn**	**13 09 47.9**	**-0.4**
	baz=200						
MLY	**Manley**	**3.00**	**113**		**Pn**	**13 09 47.8**	**-1.0**
MLY	**Manley**	**3.00**	**113**	P	**Pn**	**13 09 48.0**	**-0.8**
	baz=299						
MLY				Sb	**Sb**	**13 10 34.0**	**+2.7**
	baz=299						
J17K	**VABM Dome**	**3.07**	**196**	P	**Pn**	**13 09 48.7**	**-0.9**
	baz=14						
D22K	**Ayikyak River**	**3.08**	**32**		**Pn**	**13 09 49.7**	**-0.1**
D22K	**Ayikyak River**	**3.08**	**32**	I

J16K	Anvik River	3.40	206	P	Pn	13 09 52.0	-2.0
	baz=23,SNR=19						
J16K				Sb	Sb	13 10 43.0	+0.5
	baz=23						
B21K	Ikpikpuk River	3.43	16		Pn	13 09 54.3	-0.2
B21K	Ikpikpuk River	3.43	16	IAML		13 11 00.8	
	comp=N,15µm,1.1s						
B21K				IAML		13 11 06.7	
	comp=E,16µm,1.0s						
B21K	Ikpikpuk River	3.43	16	P	Pn	13 09 53.5	-1.1
	baz=198						
E23K	Chandalar	3.43	57		Pn	13 09 54.5	-0.2
E23K	Chandalar	3.43	57	IAML		13 10 54.2	
	comp=E,13µm,1.3s						
E23K				IAML		13 10 54.5	
	comp=N,12µm,1.1s						
E23K	Chandalar	3.43	57	P	Pn	13 09 53.5	-1.1
	baz=244						
E23K				Sb	Sb	13 10 47.1	+3.4
	baz=244						
BPAW	Bear Paw Mtn.	3.48	128		Pn	13 09 55.0	-0.2
BPAW	Bear Paw Mtn.	3.48	128	IAML		13 11 00.1	
	comp=E,10µm,1.1s						
BPAW	Bear Paw Mtn.	3.48	128	P	Pn	13 09 54.6	-0.6
	baz=313						
BPAW				S	Sn	13 10 37.0	+0.8
	baz=313						
I23K	Minto, Yukon-K	3.48	107	IAML		13 10 56.3	
	comp=N,12µm,1.3s						
I23K	Minto, Yukon-K	3.48	107	P	Pn	13 09 54.2	-0.9
	baz=294						
I23K				Sb	Sb	13 10 48.6	+3.8
	baz=294						
B18K	Kokolik River	3.48	332		Pn	13 09 55.3	+0.1
B18K	Kokolik River	3.48	332	P	Pn	13 09 54.9	-0.3
	baz=148						
D23K	Nanushuk River	3.63	41		Pn	13 09 57.4	0.0
D23K	Nanushuk River	3.63	41	IAML		13 11 01.3	
	comp=N,11µm,1.1s						
D23K				IAML		13 11 07.1	
	comp=E,12µm,1.1s						
D23K	Nanushuk River	3.63	41	P	Pn	13 09 57.5	+0.1
	baz=227						
B20K	Meade River	3.67	1	IAML		13 11 19.6	
	comp=N,11µm,1.4s						
B20K	Meade River	3.67	1	P	Pn	13 09 57.6	-0.3
	baz=181						
K17K	Iditarod	3.68	188	Pn	Pn	13 09 56.6	-1.4
K17K				IAML		13 11 02.2	
	comp=N,12µm,1.4s						
K17K				IAML		13 11 12.2	
	comp=E,9µm,1.2s						
K17K	Iditarod	3.68	188	P	Pn	13 09 56.8	-1.1
	baz=6.4						
C16K	Lisburne Hills	3.68	305		Pn	13 09 57.8	-0.1
C16K	Lisburne Hills	3.68	305	P	Pn	13 09 57.7	-0.3
	baz=118						
TOLK	Toolik Lake Re	3.74	49	Pn	Pn	13 09 58.8	-0.1
TOLK	Toolik Lake Re	3.74	49	P	Pn	13 09 58.9	0.0
	baz=236						
F14K	Arctic Creek	3.82	261		Pn	13 09 58.5	-1.4
F14K	Arctic Creek	3.82	261	P	Pn	13 09 58.0	-1.9
	baz=73						
E24K	Your Creek	3.83	59	Pn	Pn	13 09 59.8	-0.2
E24K				IAML		13 11 12.8	
	comp=E,8µm,1.2s						
E24K				IAML		13 11 13.4	
	comp=N,9µm,1.3s						
E24K	Your Creek	3.83	59	P	Pn	13 09 59.8	-0.2
	baz=247						
ANM	Nome	3.83	246	Pn	Pn	13 10 00.2	+0.2
ANM				IAML		13 11 03.9	
	comp=N,10µm,0.8s						
ANM				IAML		13 11 05.8	
	comp=E,8µm,1.3s						
ANM	Nome	3.83	246	P	Pn	13 10 00.2	+0.2
ANM	Nome	3.83	246	P	Pn	13 09 58.3	-1.7
	baz=58						
NEA2	Nenana	3.84	114	Pn	Pn	13 09 58.3	-1.9
NEA2	Nenana	3.84	114	P	Pn	13 09 59.4	-0.8
	baz=301						
H24K	Noodor Dome	3.85	93		Pn	13 10 00.5	+0.1
H24K	Noodor Dome	3.85	93	IAML		13 11 06.8	
	comp=E,8µm,0.9s						
H24K				IAML		13 11 16.2	
	comp=N,7µm,1.1s						
F24K	Squaw Lake	3.87	68		Pn	13 10 00.4	-0.2
F24K	Squaw Lake	3.87	68	IAML		13 11 12.4	
	comp=E,7µm,1.1s						
F24K	Squaw Lake	3.87	68	P	Pn	13 10 00.0	-0.6
	baz=257						
KTH	Kantishna Hill	3.89	133	Pn	Pn	13 09 59.9	-1.1
KTH				IAML		13 11 13.9	
	comp=E,6µm,1.0s						
G24K	Hadweenzic Riv	3.93	80		Pn	13 10 00.6	-0.9
G24K	Hadweenzic Riv	3.93	80	P	Pn	13 10 00.5	-0.9
	baz=269						
BWN	Browne	3.94	120	Pn	Pn	13 10 01.6	0.0
PPLA	Purkeypile	4.10	146		Pn	13 10 03.9	+0.1
PPLA	Purkeypile	4.10	146	P	Pn	13 10 04.0	+0.2
	baz=330						
A19K	Wainwright	4.12	342	P	Pn	13 10 03.6	-0.4
	baz=158						
L18K	Granite Mounta	4.16	176		Pn	13 10 04.2	-0.4
L18K	Granite Mounta	4.16	176	IAML		13 11 15.3	
	comp=E,6µm,1.1s						
L18K				IAML		13 11 21.6	
	comp=N,9µm,1.2s						
L18K	Granite Mounta	4.16	176	P	Pn	13 10 04.1	-0.4
	baz=357						
TRF	Thorofare Moun	4.16	131	Pn	Pn	13 10 03.9	-0.8
TRF				IAML		13 11 30.9	
	comp=N,8µm,1.4s						
TRF	Thorofare Moun	4.16	131	P	Pn	13 10 04.4	-0.3
	baz=317						
I53US	FAIRBANKS INFR	4.17	106	Pn	Pn	13 10 04.3	-0.3
	baz=285,slow=13						
I53US				Lg	Lg	13 11 10.9	
	baz=291,slow=26						
I53US				I	I	13 29 07.8	
	baz=293,slow=326,SNR=0.5						
COLA	College	4.17	106		Pn	13 10 04.3	-0.4
COLA	College	4.17	106	P	Pn	13 10 04.3	-0.4
COLA	College	4.17	106*d*	*i*P	Pn	13 10 03.8	-0.9
COLA	College	4.17	106	P	Pn	13 10 04.0	-0.7
	baz=295						
POKR	Poker Plat Res	4.24	102	Pn	Pn	13 10 04.3	-1.4
POKR				IAML		13 11 14.8	
	comp=E,6µm,1.0s						
POKR				IAML		13 11 19.2	
	comp=N,5µm,1.4s						
POKR	Poker Plat Res	4.24	102	P	Pn	13 10 04.8	-0.9
	baz=291,SNR=23						
B22K	Teshekpuk Lake	4.25	18		Pn	13 10 04.3	-1.5
B22K	Teshekpuk Lake	4.25	18	IAML		13 11 31.4	
	comp=N,8µm,0.9s						
B22K				IAML		13 11 36.4	
	comp=E,6µm,1.0s						
B22K	Teshekpuk Lake	4.25	18	P	Pn	13 10 05.2	-0.6
	baz=202						
L17K	Donlin	4.26	187		Pn	13 10 05.2	-0.7
L17K	Donlin	4.26	187	P	Pn	13 10 05.2	-0.7
	baz=5.5,SNR=28						
D24K	Happy Valley	4.26	45		Pn	13 10 05.9	-0.1
D24K	Happy Valley	4.26	45	P	Pn	13 10 05.9	-0.1
	baz=233						
WRH	Wood River Hil	4.27	112	Pn	Pn	13 10 04.9	-1.2
WRH				IAML		13 11 23.2	
	comp=N,5µm,1.5s						
CCB	Clear Creek Bu	4.29	109	Pn	Pn	13 10 04.7	-1.6
CCB				IAML		13 11 16.7	
	comp=N,6µm,1.0s						
C23K	Itkillik River	4.29	32	Pn	Pn	13 10 05.9	-0.5
C23K				IAML		13 11 30.1	
	comp=N,8µm,1.3s						
C23K				IAML		13 11 34.2	
	comp=E,5µm,1.2s						
C23K	Itkillik River	4.29	32	P	Pn	13 10 06.1	-0.3
	baz=219,SNR=8.3						
L19K	White Mountain	4.32	165		Pn	13 10 06.6	-0.2
L19K	White Mountain	4.32	165	IAML		13 11 18.9	
	comp=E,5µm,1.1s						
L19K				IAML		13 11 27.4	
	comp=N,5µm,1.3s						
L19K	White Mountain	4.32	165	P	Pn	13 10 06.3	-0.4
	baz=347						
MCK	McKinley	4.40	123		Pn	13 10 07.4	-0.4
MCK	McKinley	4.40	123	IAML		13 11 36.4	
	comp=N,5µm,1.4s						
MCK	McKinley	4.40	123	P	Pn	13 10 07.4	-0.4
MCK	McKinley	4.40	123	P	Pn	13 10 07.3	-0.6
	baz=310						
TNA	Tin City	4.44	265		Pn	13 10 07.0	-1.3
TNA				IAML		13 11 27.4	
	comp=E,7µm,1.2s						
TNA	Tin City	4.44	265	P	Pn	13 10 07.0	-1.3
	baz=75						
G25K	Bearman Lake	4.48	80	P	Pn	13 10 08.3	-0.6
	baz=270						
K15K	Wolf Creek Mou	4.48	207	Pn	Pn	13 10 07.7	-1.3
K15K				IAML		13 11 26.5	
	comp=N,6µm,0.9s						
K15K				IAML		13 11 32.1	
	comp=E,6µm,1.3s						
K15K	Wolf Creek Mou	4.48	207	P	Pn	13 10 08.2	-0.7
	baz=22						
J14K	Nanvaranak Lak	4.52	220		Pn	13 10 09.1	-0.4
J14K	Nanvaranak Lak	4.52	220	IAML		13 11 32.7	
	comp=N,8µm,1.0s						
J14K	Nanvaranak Lak	4.52	220	P	Pn	13 10 07.9	-1.6
	baz=34						
IL31		4.59	105	Pn	Pn	13 10 09.9	-0.6
ILAR	Eielson Array	4.59	105	Pn	Pn	13 10 09.4	-1.0
ILAR	Eielson Array	4.59	105	Pn	Pn	13 10 10.1	-0.4
	comp=N,141nm,0.3s,baz=294,slow=14,SNR=36						
ILAR				Sn	Sn	13 11 01.1	-2.5
	comp=N,57nm,0.3s,baz=294,slow=20,SNR=6.9						
ILAR				Lg	Lg	13 11 24.0	
	comp=N,275nm,0.3s,baz=288,slow=27,SNR=17						
	comp=N,825nm,0.7s						
H25L	Birch Creek	4.62	86	P	Pn	13 10 10.6	-0.2
	baz=276						
RND	Reindeer	4.64	126		Pn	13 10 11.1	-0.2
RND	Reindeer	4.64	126	P	Pn	13 10 11.1	-0.2
C24K	Franklin Bluff	4.66	40		Pn	13 10 10.7	-0.7
C24K	Franklin Bluff	4.66	40	IAML		13 11 48.5	
	comp=N,7µm,1.4s						
C24K	Franklin Bluff	4.66	40	P	Pn	13 10 10.5	-0.9
	baz=228						
F25K	Christian Rive	4.73	69		Pn	13 10 12.7	+0.2
F25K	Christian Rive	4.73	69	IAML		13 11 42.4	
	comp=N,6µm,1.4s						
F25K	Christian Rive	4.73	69	P	Pn	13 10 11.5	-0.9
	baz=260						
HDA	Harding Lake	4.73	110		Pn	13 10 11.8	-0.7
HDA	Harding Lake	4.73	110	P	Pn	13 10 10.9	-1.5
	baz=299						
A22K	Sinclair Lake	4.75	9		Pn	13 10 12.3	-0.3
A22K					Pn	13 10 12.4	-0.2
A22K	Sinclair Lake	4.75	9	P	Pn	13 10 12.1	-0.5
	baz=191						
L22K	Petersville	4.76	141		Pn	13 10 13.4	+0.6
L16K	Owhat River	4.76	193	Pn	Pn	13 10 11.6	-1.2
L16K				IAML		13 11 43.1	
	comp=N,4µm,1.4s						
L16K	Owhat River	4.76	193	P	Pn	13 10 11.5	-1.2
	baz=11,SNR=27						
FYU	Fort Yukon	4.83	82		Pn	13 10 13.4	-0.2
M20K	Styx River	4.84	156		Pn	13 10 13.7	-0.2
E25K	Arctic Village	4.88	63	Pn	Pn	13 10 13.1	-1.3
E25K				IAML		13 11 54.7	
	comp=E,4µm,1.4s						
E25K				IAML		13 11 59.9	
	comp=N,5µm,1.1s						
E25K	Arctic Village	4.88	63	P	Pn	13 10 13.8	-0.6
	baz=254						
PRP	Porcupine Dome	4.88	94		Pn	13 10 14.2	-0.4
PRP	Porcupine Dome	4.88	94	IAML		13 11 35.7	
	comp=E,5µm,1.1s						
PRP				IAML		13 11 36.4	
	comp=N,5µm,1.1s						
PRP	Porcupine Dome	4.88	94	P	Pn	13 10 13.3	-1.2
	baz=285,SNR=14						
M18K	Stony River	4.92	172		Pn	13 10 14.4	-0.6
M18K					Pb	13 10 14.7	-13
M18K	Stony River	4.92	172	P	Pn	13 10 14.1	-0.9
	baz=353						
M17K	Holitna River	4.97	181		Pn	13 10 15.3	-0.4
M17K	Holitna River	4.97	181	P	Pn	13 10 15.1	-0.6
	baz=0.7						
CUT	Chulitna	4.99	139	Pn	Pn	13 10 15.8	-0.1
CUT	Chulitna	4.99	139	P	Pn	13 10 16.0	+0.1
	baz=326,SNR=46						
A21K	Barrow	5.00	2		Pn	13 10 14.8	-1.3
A21K					Pn	13 10 15.2	-0.9
A21K	Barrow	5.00	2	P	Pn	13 10 15.3	-0.8
	baz=183,SNR=20						
L15K	Ungalak Mounta	5.05	204		Pn	13 10 15.9	-0.8
L15K					Pn	13 10 16.5	-0.2
L15K	Ungalak Mounta	5.05	204	P	Pn	13 10 15.1	-1.6
	baz=20,SNR=29						
SKT	Skwentna	5.05	148		Pn	13 10 17.2	+0.4
SKT	Skwentna	5.05	148	IAML		13 11 48.4	
	comp=E,3µm,1.3s						
SKT	Skwentna	5.05	148	P	Pn	13 10 16.6	-0.2
	baz=333,SNR=368						
D25K	Kavik River	5.08	49	IAML		13 11 53.7	
	comp=N,5µm,1.5s						
D25K				IAML		13 11 54.2	
	comp=E,4µm,1.2s						
D25K	Kavik River	5.08	49	P	Pn	13 10 16.5	-0.8
	baz=239						
BMAR	Burnt Mountain	5.11	72	Pn	Pn	13 10 16.3	-1.4
WAT1	Susitna Watana	5.15	129	P	Pn	13 10 17.9	-0.4
	baz=317						
J25K	Salcha River,	5.25	104	P	Pn	13 10 18.6	-1.0
	baz=295						
F26K	Sheenjek River	5.31	69		Pn	13 10 20.5	+0.1
F26K	Sheenjek River	5.31	69	IAML		13 12 10.7	
	comp=E,2µm,1.1s						
F26K	Sheenjek River	5.31	69	P	Pn	13 10 19.9	-0.5
	baz=261						
DHY	Denali Highway	5.36	123		Pn	13 10 21.1	-0.1
DHY	Denali Highway	5.36	123	IAML		13 12 00.5	
	comp=N,3µm,1.0s						
DHY	Denali Highway	5.36	123	P	Pn	13 10 20.7	-0.5
	baz=312,SNR=114						
G26K	Porcupine Rive	5.39	77	Pn	Pn	13 10 20.9	-0.5
G26K	Porcupine Rive	5.39	77	P	Pn	13 10 21.2	-0.3
	baz=270						
SPNN	North Nagishla	5.39	156		Pn	13 10 21.4	-0.3
M16K	Timber Creek	5.40	189	IAML		13 12 00.7	
	comp=E,2µm,0.8s						
M16K				IAML		13 12 10.6	
	comp=N,3µm,1.2s						
M16K	Timber Creek	5.40	189	P	Pn	13 10 20.3	-1.3
	baz=7.2						
STLK	Strandline Lak	5.42	151	Pn	Pn	13 10 21.6	-0.5
K24K	Donnelly Dome	5.48	112		Pn	13 10 21.9	-0.9
K13K	Kusilvak Mount	5.49	220	Pn	Pn	13 10 20.6	-2.2
K13K	Kusilvak Mount	5.49	220	P	Pn	13 10 21.0	-1.8
	baz=33						
L14K	Kuka Creek	5.57	208	Pn	Pn	13 10 23.5	-0.4
L14K	Kuka Creek	5.57	208	P	Pn	13 10 22.0	-1.9
	baz=23						
M22K	Willow	5.58	143	Pn	Pn	13 10 23.0	-1.0
M22K	Willow	5.58	143	P	Pn	13 10 23.8	-0.2
	baz=329						
WAT6	Susitna Watana	5.59	128		Pn	13 10 24.0	-0.3
WAT6	Susitna Watana	5.59	128	P	Pn	13 10 23.9	-0.5
	baz=317,SNR=98						
CKL	Chakachamna La	5.61	155		Pn	13 10 24.7	+0.1
SPCR	Spurr Chakacha	5.63	154	P	Pn	13 10 25.0	+0.2
	baz=339						
SPU	Mount Spurr	5.68	154		Pn	13 10 25.1	-0.3
SUA	Susitna One	5.68	147		Pn	13 10 25.4	-0.2
SUA	Susitna One	5.68	147	P	Pn	13 10 24.9	-0.7
	baz=332						
N19K	Bonanza Creek	5.70	166	P	Pn	13 10 25.4	-0.4
	baz=348,SNR=59						
N18K	Kilae Creek	5.73	173	P	Pn	13 10 25.6	-0.5
	baz=354,SNR=118						
C26K	Camden Bay	5.83	47		Pn	13 10 27.7	+0.2
C26K	Camden Bay	5.83	47	P	Pn	13 10 27.5	0.0
	baz=238,SNR=29						
N17K	Nushagak Hills	5.85	180	Pn	Pn	13 10 27.0	-0.7
N17K	Nushagak Hills	5.85	180	P	Pn	13 10 27.1	-0.7
	baz=360						
RIDG	Independent Ri	5.87	111		Pn	13 10 26.9	-1.1
RIDG	Independent Ri	5.87	111	P	Pn	13 10 27.0	-1.1
	baz=302,SNR=30						
GHO	Glory Hole Cre	5.87	138		Pn	13 10 28.1	0.0
M15K	Kasigluk River	5.88	197	P	Pn	13 10 27.0	-1.2
	baz=14						
I26K	Coal Creek Min	5.89	94	P	Pn	13 10 26.8	-1.5
	baz=287						
N16K	Nishlik Lake	5.94	187	P	Pn	13 10 27.7	-1.3
	baz=5.8,SNR=60						
PMR	Palmer	5.96	139	P	Pn	13 10 30.4	+1.1
PMR	Palmer	5.96	139	P	Pn	13 10 29.1	-0.2
	baz=327						
M14K	Bethel	6.00	203		Pn	13 10 29.4	-0.3
M14K	Bethel	6.00	203	P	Pn	13 10 28.8	-0.9
	baz=18						
J26L	Joseph Creek	6.01	102	P	Pn	13 10 28.8	-1.1
	baz=294						
SML	Sawmill	6.01	135		Pn	13 10 29.4	-0.5
SML	Sawmill	6.01	135	P	Pn	13 10 29.5	-0.5
	baz=323,SNR=83						
C27K	Jago River	6.05	51		Pn	13 10 30.5	0.0
C27K	Jago River	6.05	51	P	Pn	13 10 31.0	+0.5
	baz=244,SNR=49						
SCRK	Sand Creek	6.08	107		Pn	13 10 30.1	-0.8
SCRK	Sand Creek	6.08	107	P	Pn	13 10 29.7	-1.3
	baz=299,SNR=19						
FIS	Fire Island	6.08	146		Pn	13 10 30.6	-0.4
PAX	Paxson	6.09	118		Pn	13 10 30.6	-0.5
PAX	Paxson	6.09	118	P	Pn	13 10 30.6	-0.5
PAX	Paxson	6.09	118	P	Pn	13 10 30.7	-0.4
	baz=309,SNR=81						
RDJH	Redoubt Jeurge	6.12	159		Pn	13 10 31.1	-0.4
DFR	Drift River	6.13	158		Pn	13 10 31.4	-0.3
M23K	Glacier View	6.19	133	P	Pn	13 10 31.8	-0.7
	baz=322						
CAPN	Captain Cook N	6.23	151	P	Pn	13 10 32.9	0.0
	baz=337,SNR=12						
G27K	Doyon Strip	6.24	79	P	Pn	13 10 32.8	-0.3
	baz=273,SNR=9.7						
RC01	Rabbit Creek A	6.25	144		Pn	13 10 32.8	-0.4
RC01	Rabbit Creek A	6.25	144	P	Pn	13 10 33.2	0.0
	baz=331,SNR=32						
SCM	Sheep Creek Mo	6.28	132		Pn	13 10 32.9	-0.9
SCM	Sheep Creek Mo	6.28	132	P	Pn	13 10 32.9	-0.9
SCM	Sheep Creek Mo	6.28	132	P	Pn	13 10 33.6	-0.1
	baz=320,SNR=85						
KNK	Knik Glacier	6.29	138		Pn	13 10 33.7	-0.2
KNK	Knik Glacier	6.29	138	P	Pn	13 10 33.9	+0.1
	baz=326,SNR=98						
O19K	Port Alsworth	6.32	167		Pn	13 10 33.1	-1.1
O19K	Port Alsworth	6.32	167	P	Pn	13 10 33.9	-0.3
	baz=349						
N15K	Kwethluk River	6.34	193		Pn	13 10 32.5	-2.0
N15K	Kwethluk River	6.34	193	P	Pn	13 10 33.5	-0.9
	baz=10						
E27K	Coleen River	6.34	66		Pn	13 10 33.3	-1.2
E27K	Coleen River	6.34	66	P	Pn	13 10 33.5	-1.0
	baz=260						
H27K	Steamboat Moun	6.34	84		Pn	13 10 33.0	-1.6
H27K	Steamboat Moun	6.34	84	P	Pn	13 10 34.4	-0.2
	baz=278,SNR=21						
I27K	Kandik River	6.43	90		Pn	13 10 34.8	-1.0
I27K	Kandik River	6.43	90	P	Pn	13 10 35.0	-0.7
	baz=284,SNR=14						
M24K	Tolsona, Glenn	6.44	126		Pn	13 10 36.3	+0.4
M24K	Tolsona, Glenn	6.44	126	P	Pn	13 10 36.2	+0.4
	baz=316,SNR=8.3						
M13K	Dall Lake	6.56	207		Pn	13 10 38.0	+0.6
M13K	Dall Lake	6.56	207	P	Pn	13 10 37.8	+0.3
	baz=22						
HARP	HAARP	6.57	121		Pn	13 10 38.3	+0.6
HARP	HAARP	6.57	121	P	Pn	13 10 37.8	+0.1
	baz=312						
O18K	Koktuh Hills	6.59	171	P	Pn	13 10 37.0	-0.9
	baz=353						
O17K	Koliganek Bris	6.60	179	P	Pn	13 10 37.8	-0.3
	baz=359,SNR=24						
GAMB	Gambell	6.63	254	P	Pn	13 10 37.6	-0.8
	baz=61,SNR=11						
O20K	Slope Mountain	6.63	159		Pn	13 10 38.3	-0.2
O20K	Slope Mountain	6.63	159	P	Pn	13 10 38.9	+0.3
	baz=344						
SLKM	Skilak Lake	6.66	148		Pn	13 10 38.5	-0.4
ILSW	Iliamna Southw	6.66	162		Pn	13 10 38.8	-0.2
MENT	Mentasta	6.74	114		Pn	13 10 39.6	-0.4
N14K	Kuskokwak Cree	6.75	199		Pn	13 10 39.3	-0.8
N14K	Kuskokwak Cree	6.75	199	P	Pn	13 10 39.6	-0.6
	baz=15						
O22K	Cooper Landing	6.79	147		Pn	13 10 39.9	-0.7
O22K	Cooper Landing	6.79	147	P	Pn	13 10 40.2	-0.4
	baz=333						
PWL	Port Wells	6.79	140		Pn	13 10 40.6	-0.1
PWL	Port Wells	6.79	140	P	Pn	13 10 40.5	-0.2
	baz=328,SNR=44						
O16K	Kokwok River B	6.79	184		Pn	13 10 39.5	-1.2
O16K	Kokwok River B	6.79	184	P	Pn	13 10 39.9	-0.8
	baz=2.8,SNR=19						
K27K	Chicken	6.80	103	P	Pn	13 10 40.4	-0.3
	baz=297						
D27M	Malcolm River	6.81	57		Pn	13 10 41.1	+0.1
D27M	Malcolm River	6.81	57	P	Pn	13 10 40.8	-0.2
	baz=252						
L26K	Log Cabin Wild	6.83	113	P	Pn	13 10 40.5	-0.7
	baz=305						
EGAK	Eagle	6.86	96	P	Pn	13 10 41.2	-0.4
	baz=290						
F28M	Old Crow	6.93	72		Pn	13 10 42.2	-0.4
F28M	Old Crow	6.93	72	P	Pn	13 10 41.7	-0.9
	baz=268						
P19K	Oil Pt	6.97	163		Pn	13 10 42.9	-0.2
P19K	Oil Pt	6.97	163	P	Pn	13 10 42.7	-0.5
	baz=346						
KLU	Klutina	6.97	129		Pn	13 10 43.9	+0.7
KLU	Klutina	6.97	129	P	Pn	13 10 43.0	-0.2
	baz=319,SNR=74						
P18K	Big Mountain,	7.05	172		Pn	13 10 43.1	-1.1
P18K	Big Mountain,	7.05	172	P	Pn	13 10 43.5	-0.7
	baz=353						
GLI	Glacier Island	7.11	136		Pn	13 10 44.3	-0.8
GLI	Glacier Island	7.11	136	P	Pn	13 10 44.7	-0.4
	baz=325,SNR=24						
WACK	Wrangell Chich	7.14	122		Pn	13 10 46.1	+0.4
I28M	Miner Creek	7.15	89		Pn	13 10 45.0	-0.6
I28M	Miner Creek	7.15	89	P	Pn	13 10 45.0	-0.6
	baz=285						
E28M	Babbage River	7.16	64		Pn	13 10 44.7	-1.1
E28M	Babbage River	7.16	64	P	Pn	13 10 45.5	-0.3
	baz=260						
HOM	Homer	7.18	157		Pn	13 10 45.6	-0.5
HOM	Homer	7.18	157	P	Pn	13 10 45.3	-0.7
	baz=342,SNR=18						
SEW	Seward	7.19	147		Pn	13 10 44.9	-1.2
SEW	Seward	7.19	147	P	Pn	13 10 45.5	-0.6
	baz=334,SNR=24						
P17K	Kvichak River	7.19	177	P	Pn	13 10 45.6	-0.5
	baz=357						
M11K	Mekoryuk	7.21	218		Pn	13 10 46.4	+0.1
M11K	Mekoryuk	7.21	218	P	Pn	13 10 45.1	-1.2
	baz=30						
BRLK	Bradley Lake	7.21	153		Pn	13 10 46.6	+0.1
AUCH	Augustine Cone	7.23	164		Pn	13 10 46.7	0.0
AGU	Augustine-Summ	7.23	164		Pn	13 10 47.0	+0.2

H29M	Whitestone	7.61	82		Pn	13 10 51.4	-0.6
H29M	Whitestone	7.61	82	P	Pn	13 10 52.0	+0.1
	baz=280,SNR=18						
Q19K	Cape Douglas,	7.63	166		Pn	13 10 52.1	-0.2
Q19K	Cape Douglas,	7.63	166	P	Pn	13 10 51.6	-0.7
	baz=349,SNR=12						
G29M	Pine Creek	7.66	77		Pn	13 10 52.2	-0.4
G29M	Pine Creek	7.66	77	P	Pn	13 10 52.3	-0.3
	baz=275,SNR=51						
HIN	Hinchinbrook I	7.67	136		Pn	13 10 52.4	-0.5
GLB	Gilahina Butte	7.70	123		Pn	13 10 53.0	-0.1
Q16K	King Salmon	7.71	178	P	Pn	13 10 52.6	-0.6
	baz=358,SNR=8.1						
E29M	Blow River	7.73	66		Pn	13 10 52.9	-0.6
E29M	Blow River	7.73	66	P	Pn	13 10 53.1	-0.5
	baz=264						
P23K	Montague Islan	7.77	140		Pn	13 10 55.8	+1.7
P23K	Montague Islan	7.77	140	P	Pn	13 10 53.4	-0.7
	baz=329						
M27K	Edge Creek, AK	7.77	114	P	Pn	13 10 53.3	-1.0
	baz=308,SNR=76						
BMRM	Bremner River	7.79	128		Pn	13 10 53.4	-1.0
BMRM	Bremner River	7.79	128	P	Pn	13 10 52.9	-1.5
	baz=319,SNR=31						
KAHC	Katmai Hardscr	7.80	171		Pn	13 10 54.2	-0.4
Q18K	Katmai Hardscr	7.80	171	P	Pn	13 10 53.5	-1.1
	baz=353						
I29M	Ogilvie Camp,	7.83	89	Pn	Pn	13 10 53.8	-1.1
I29M	Ogilvie Camp,	7.83	89	P	Pn	13 10 54.5	-0.4
	baz=286						
DAWY	Dawson	7.84	99	P	Pn	13 10 54.2	-1.0
	baz=295						
KARR	Katmai Rainbow	7.97	170		Pn	13 10 56.8	-0.1
VRDI	Verde Repeater	7.97	124		Pn	13 10 56.9	-0.1
KAHG	Katmai Hook Gl	7.99	170		Pn	13 10 57.0	-0.1
MCARA	McCarthy VSAT	8.01	122		Pn	13 10 58.2	+0.9
MCARA	McCarthy VSAT	8.01	122	P	Pn	13 10 57.6	+0.3
	baz=314,SNR=56						
GOAT	Goat Mountain	8.05	130		Pn	13 10 58.1	+0.1
Q20K	Shuyak Island	8.09	162	P	Pn	13 10 58.4	0.0
	baz=346						
SYI	Shuyak Island	8.09	162		Pn	13 10 58.8	+0.4
CNTC	Contact Creek	8.14	175		Pn	13 10 58.6	-0.7
Q17K	Contact Creek	8.14	175	P	Pn	13 10 58.3	-1.0
	baz=356						
J29N	Klondike Camp	8.16	95		Pn	13 10 59.3	-0.2
J29N	Klondike Camp	8.16	95	P	Pn	13 10 59.1	-0.4
	baz=292						
KABU	Katmai Buttres	8.16	173		Pn	13 10 59.0	-0.5
EPYK	Eagle Plains	8.24	80		Pn	13 10 59.8	-0.8
EPYK	Eagle Plains	8.24	80	P	Pn	13 10 59.8	-0.8
	baz=279						
PTPK	Patty Peak	8.34	121		Pn	13 11 02.0	0.0
G30M	tAoh Zraii Nji	8.36	76		Pn	13 11 00.9	-1.3
G30M	tAoh Zraii Nji	8.36	76	P	Pn	13 11 01.4	-0.9
	baz=275						
CRQM	Cirque	8.42	125		Pn	13 11 02.6	-0.6
CRQE	Cirque	8.44	125	P	Pn	13 11 02.3	-1.1
	baz=318,SNR=59						
BALM	Baldy	8.49	122		Pn	13 11 03.1	-0.9
F30M	Barrier River	8.49	72	P	Pn	13 11 04.2	+0.2
	baz=271						
BERG	Berg Lake	8.52	128		Pn	13 11 03.6	-0.7
TGL	Tana Glacier	8.53	124		Pn	13 11 04.0	-0.6
Q23K	Middleton Isla	8.53	139	P	Pn	13 11 03.8	-0.7
	baz=329						
KIAG	Kiagna River	8.56	122		Pn	13 11 04.3	-0.8
PLK1	Peulik 1	8.59	178		Pn	13 11 04.9	-0.4
KHIT	Khitrov Hills	8.62	127		Pn	13 11 05.5	-0.3
I30M	Mount Dempster	8.64	88		Pn	13 11 06.0	-0.2
I30M	Mount Dempster	8.64	88	P	Pn	13 11 05.5	-0.6
	baz=287						
KAIM	Kayak Island	8.66	132	P	Pn	13 11 05.8	-0.5
	baz=323						
K29M	Barlow Dome	8.69	98		Pn	13 11 05.9	-0.9
K29M	Barlow Dome	8.69	98	P	Pn	13 11 06.2	-0.6
	baz=296,SNR=7.4						
BARN	Barnard Glacie	8.71	120		Pn	13 11 07.9	+0.8
PLK3	Peulik 3	8.71	176		Pn	13 11 06.3	-0.7
GRIN	Grindle Hills	8.72	128		Pn	13 11 07.0	-0.2
WAX	Waxell Ridge	8.75	126		Pn	13 11 06.8	-0.7
PLK4	Peulik 4	8.76	177		Pn	13 11 07.2	-0.6
R17L	Mt. Peulik Vol	8.76	177	P	Pn	13 11 07.0	-0.7
	baz=358						
L29M	L29M	8.79	103		Pn	13 11 07.5	-0.6
L29M	L29M	8.79	103	P	Pn	13 11 07.5	-0.6
	baz=300						
ISLE	Juniper Island	8.80	124		Pn	13 11 07.9	-0.5
KDAK	Kodiak Island	8.87	164		Pn	13 11 09.2	0.0
KDAK	Kodiak Island	8.87	164	Pn	Pn	13 11 10.2	+1.1
	comp=N,11nm,0.3s,baz=36,slow=8.4,SNR=84						
KDAK				Lg	Lg	13 13 43.9	
	baz=299,slow=19						
KDAK				LR	LR	13 15 00.0	
	comp=N,8μm,19.5s,baz=357,slow=40						
KDAK	Kodiak Island	8.87	164	*i* P	Pn	13 11 11.3	+2.1
KDAK				pmax	pmax		
	comp=Z,32nm,0.3s						
KDAK	Kodiak Island	8.87	164	P	Pn	13 11 08.6	-0.6
	baz=348						
J30M	Hart River	8.87	92	P	Pn	13 11 09.0	-0.3
	baz=291						
CTG	Chitna Glacier	8.88	120	P	Pn	13 11 09.0	-0.5
	baz=314,SNR=24						
CTGM	Chitina Glacie	8.89	120		Pn	13 11 10.3	+0.8
BARK	Barkley Ridge	8.90	125		Pn	13 11 09.3	-0.3
GRNC	Granite Creek	8.91	122		Pn	13 11 09.3	-0.6
R18K	Karluk	8.91	170	P	Pn	13 11 08.7	-1.0
	baz=353						
SNH	Sunshine Point	8.96	127		Pn	13 11 10.5	+0.1
BAGL	Bagley Icefiel	8.97	124		Pn	13 11 10.4	-0.1
M29M	Somme Creek	9.01	107	P	Pn	13 11 10.5	-0.7
	baz=304						
LOGN	Logan Glacier	9.10	120		Pn	13 11 13.8	+1.4
G31M	Satah River	9.13	76		Pn	13 11 11.1	-1.6
G31M	Satah River	9.13	76	P	Pn	13 11 11.2	-1.5
	baz=277						
YUK8	Steele Glacier	9.23	115		Pn	13 11 14.7	+0.4
YUK8	Steele Glacier	9.23	115	P	Pn	13 11 13.3	-1.0
	baz=311						
MESA	MESA	9.25	125		Pn	13 11 14.4	-0.1
MESA	MESA	9.25	125	P	Pn	13 11 13.7	-0.8
	baz=318,SNR=9.6						
F31M	Tsiigehtchic	9.29	73		Pn	13 11 14.3	-0.5
F31M	Tsiigehtchic	9.29	73	P	Pn	13 11 14.2	-0.6
	baz=274						
H31M	Peel River	9.31	83	P	Pn	13 11 14.5	-0.7
	baz=284						
TABL	Table Mountain	9.33	122		Pn	13 11 15.3	-0.3
INK	Inuvik	9.34	67		Pn	13 11 14.2	-1.4
INK	Inuvik	9.34	67	Pn	Pn	13 11 15.6	0.0
	comp=Z,4.8nm,0.3s,baz=280,slow=16,SNR=24						
INK				Sn	Sn	13 12 53.7	-6.6
	comp=Z,0.9nm,0.3s,baz=201,slow=24,SNR=1.6						
INK				Lg	Lg	13 13 48.1	
	comp=Z,3.9nm,0.3s,baz=342,slow=5.5,SNR=4.0						
INK				LR	LR	13 15 41.5	
	comp=Z,1μm,20.0s,baz=255,slow=43						
	comp=Z,50nm,0.7s						
INK	Inuvik	9.34	67	P	Pn	13 11 14.8	-0.8
	baz=269						
OHAK	Old Harbor	9.35	167		Pn	13 11 16.2	+0.5
OHAK	Old Harbor	9.35	167	P	Pn	13 11 15.5	-0.2
	baz=350						
O28M	Mount Upton	9.42	118	P	Pn	13 11 16.1	-0.9
	baz=314,SNR=72						
MAYO	Mayo, Yukon	9.45	97	P	Pn	13 11 17.4	+0.4
	baz=296						
M30M	Minto, Yukon	9.59	104		Pn	13 11 17.9	-1.2
M30M	Minto, Yukon	9.59	104	P	Pn	13 11 18.7	-0.4
	baz=302						
YUK4	Talbot Arm	9.60	113	P	Pn	13 11 18.4	-1.0
	baz=309						
PINM	Pinnacle	9.88	121	P	Pn	13 11 22.8	-0.3
	baz=316						
SII	Sitkinak Islan	9.93	170	P	Pn	13 11 28.7	+4.9
SII	Sitkinak Islan	9.93	170	P	Pn	13 11 23.9	+0.1
	baz=353						
YUK6	Outpost Mounta	9.97	114		Pn	13 11 24.0	-0.4
YUK6	Outpost Mounta	9.97	114	P	Pn	13 11 24.2	-0.2
	baz=311						
YUK5	Granite Creek	10.03	112		Pn	13 11 24.4	-0.8
N30M	Aishikik Lake	10.12	110	P	Pn	13 11 25.5	-0.8
	baz=308						
O29M	Mount Kennedy	10.32	117	P	Pn	13 11 28.5	-0.7
	baz=314,SNR=9.0						
HYT	Haines Junctio	10.36	113		Pn	13 11 29.1	-0.7
HYT	Haines Junctio	10.36	113	P	Pn	13 11 28.9	-0.8
	baz=311						
PNL	Peninsula	10.49	121	P	Pn	13 11 32.3	+0.9
PNL	Peninsula	10.49	121	P	Pn	13 11 30.3	-1.1
	baz=317						
CHIR	Chirikof Islan	10.60	175	P	Pn	13 11 31.6	-1.2
	baz=356						
N31M	Braeburn, Yuko	10.60	107	P	Pn	13 11 31.8	-1.1
	baz=307						
M31M	Drury Creek, Y	10.74	102	P	Pn	13 11 33.6	-1.1
	baz=303						
O30N	Mendenhall	10.93	111	P	Pn	13 11 36.9	-0.4
	baz=310						
P30M	Million Dollar	11.04	115	P	Pn	13 11 38.5	-0.3
	baz=313						
SPIA	Saint Paul Isl	11.04	220	P	Pn	13 11 37.5	-1.4
	baz=28						
P29M	Windy Craggy	11.10	118	P	Pn	13 11 38.9	-0.8
	baz=316,SNR=19						
SDPT	Sand Point	11.15	190		Pn	13 11 40.9	+0.6
SDPT	Sand Point	11.15	190	P	Pn	13 11 44.9	+4.6
WHY	Whitehorse	11.46	109	P	Pn	13 11 43.1	-1.5
	baz=309						
CHNA	Chernabura Isl	11.62	187	P	Pn	13 11 44.4	-2.3
	baz=4.6						
CNBA	Chernabura Isl	11.63	187		Pn	13 11 46.4	-0.4
PLBC	Pleasant Camp	11.72	116	P	Pn	13 11 46.4	-1.7
	baz=315						
N32M	Quiet Lake	11.85	105	P	Pn	13 11 48.8	-1.1
	baz=306						
FALS	False Pass	11.91	197		Pn	13 11 50.9	+0.1
FALS	False Pass	11.91	197	P	Pn	13 11 48.9	-1.9
	baz=12,SNR=5.9						
SKAG	Skagway	12.09	114	P	Pn	13 11 52.2	-1.0
	baz=314						
P33M	Teslin, Yukon	12.53	108		Pn	13 11 59.0	-0.3
P33M	Teslin, Yukon	12.53	108	P	Pn	13 11 58.4	-0.9
	baz=310						
A36M	Sachs Harbour	12.57	49		Pn	13 11 56.4	-3.3
A36M	Sachs Harbour	12.57	49	P	Pn	13 11 57.3	-2.3
	baz=259						
P32M	Atlin	12.60	111		Pn	13 11 59.0	-1.3
P32M	Atlin	12.60	111	P	Pn	13 11 58.5	-1.8
	baz=312						
C36M	Paulatuk	12.77	61		Pn	13 12 00.3	-2.1
C36M	Paulatuk	12.77	61	P	Pn	13 12 00.0	-2.3
	baz=272						
AKUT	Akutan	12.94	203	P	P	13 12 11.6	-3.9
R32K	Eaglecrest	13.23	117		Pn	13 12 07.3	-1.5
R32K	Eaglecrest	13.23	117	P	Pn	13 12 07.7	-1.2
	baz=317						
UNV	Unalaska Valle	13.34	204	P	P	13 12 15.7	-4.2
UNV	Unalaska Valle	13.34	204	P	Pn	13 12 09.0	-1.2
	baz=16						
TGTN	Hyland Airport	13.54	97	P	Pn	13 12 12.2	-0.8
	baz=303						
Q32M	Nakina River	13.58	111	P	Pn	13 12 12.6	-1.0
	baz=313						
R33M	Jennings River	13.78	108	P	Pn	13 12 15.4	-0.9
	baz=311						
S32K	Killisnoo	13.82	119	P	Pn	13 12 15.9	-0.8
	baz=319						
SIT	Sitka	13.87	122	P	Pn	13 12 18.5	+1.0
SIT	Sitka	13.87	122	P	Pn	13 12 17.2	-0.3
	baz=321						
BILL	Bilibino	14.11	293		Pn	13 12 18.6	-2.1
BILL	Bilibino	14.11	293	*ce*P	Pn	13 12 20.2	-0.4
BILL				pmax	pmax		
	comp=Z,50nm,0.8s						
BILL				MLR	MLR		
	comp=Z,9μm,13.0s						
WTLY	Watson Lake, Y	14.16	103	P	Pn	13 12 22.1	+0.7
	baz=308						
NIKH	Nikolski High	14.60	209		Pn	13 12 26.1	-1.4
NIKH	Nikolski High	14.60	209	P	Pn	13 12 26.8	-0.7
	baz=19						
WRGLY	Wrigley	14.62	87	P	Pn	13 12 27.1	-0.6
	baz=297						
S34M	Telegraph Cree	14.74	113	P	Pn	13 12 28.9	-0.4
	baz=316						
DLBC	Dease Lake	14.79	109	Pn	Pn	13 12 31.0	+1.0
	comp=Z,8.5nm,0.3s,baz=282,slow=13,SNR=22						
DLBC				Lg	Lg	13 16 40.3	
	comp=Z,2.3nm,0.3s,baz=36,slow=22,SNR=5.2						
DLBC				LR	LR	13 19 13.4	
	comp=Z,14μm,18.4s,baz=303,slow=41						
	comp=Z,194nm,0.9s						
DLBC	Dease Lake	14.79	109	P	Pn	13 12 29.6	-0.4
	baz=314						
WRAK	Wrangell Islan	15.41	118	IAmb	IAmb	13 12 39.5	
	comp=Z,148nm,1.7s						
WRAK	Wrangell Islan	15.41	118	P	Pn	13 12 38.4	+0.1
	baz=320						
LIRD	Liard River Hi	15.67	101	P	Pn	13 12 40.8	-0.8
	baz=309						
T35M	Bob Quinn	15.75	114	IAmb	IAmb	13 12 49.8	
	comp=Z,276nm,1.7s						
T35M	Bob Quinn	15.75	114	P	Pn	13 12 42.5	-0.2
	baz=318						
CRAG	Craig	15.88	122		Pn	13 12 41.9	-2.5
CRAG				IAmb	IAmb	13 12 50.7	
	comp=Z,486nm,2.0s						
CRAG	Craig	15.88	122	P	Pn	13 12 44.4	0.0
CRAG	Craig	15.88	122	P	Pn	13 12 43.6	-0.8
	baz=323						
KOTAN	Kotaneelee Air	16.03	97	P	Pn	13 12 45.5	-0.8
	baz=307						
TOAD	Toad River Com	16.37	102	P	Pn	13 12 50.6	0.0
	baz=311						
U35K	Hyder	16.63	116	P	Pn	13 12 53.6	-0.3
	baz=320						
ADK	Adak	17.47	223	P	P	13 13 11.3	+5.6
DIB	Dawson Inlet,	17.96	125		Pn	13 13 10.7	+0.2
YKAW3	Yellowknife Wh	18.49	82	IAmb	IAmb	13 13 23.9	
	comp=Z,59nm,1.0s						
YKA	Yellowknife Ar	18.53	82	P	P	13 13 14.1	-3.1
YKA	Yellowknife Ar	18.53	82	P	P	13 13 16.5	-0.7
	comp=Z,1.1nm,0.3s,baz=264,slow=12,SNR=15						
	comp=Z,11nm,0.8s						
YKAW1	Yellowknife Wh	18.58	82	IAmb	IAmb	13 13 27.4	
	comp=Z,32nm,0.9s						
SHEM	Shemya Is, Ala	19.67	240	LR	LR	13 20 48.2	
	comp=Z,1μm,18.4s,baz=36,slow=36						
BBB	Bella Bella	20.29	120	P	P	13 13 36.9	+0.4
	comp=Z,36nm,0.9s,baz=313,slow=12,SNR=4.0						
BBB				LR	LR	13 21 08.7	
	comp=Z,2μm,21.6s,baz=322,slow=36						
	comp=Z,36nm,0.9s						
RES	Resolute Bay	21.27	40		P	13 13 45.3	-1.7
RES	Resolute Bay	21.27	40	P	P	13 13 46.4	-0.6
	comp=Z,14nm,0.8s,baz=265,slow=13,SNR=12						
RES				LR	LR	13 23 50.7	
	comp=Z,1μm,20.6s,baz=256,slow=42						
	comp=Z,14nm,0.8s						
SEY	Seymchan	21.35	285	*ce*P	P	13 13 47.8	-0.1
SEY				pmax	pmax		
	comp=Z,87nm,0.9s						
SEY				MLR	MLR		
	comp=Z,3μm,14.0s						
CBB	Campbell River	23.04	119	P	P	13 14 07.1	+1.1
CBB				IAmb	IAmb	13 14 15.9	
	comp=Z,79nm,1.2s						
MA2	Magadan	23.92	279	P	P	13 14 13.7	-1.0
MA2	Magadan	23.92	279	P	P	13 14 16.6	+2.0
MA2	Magadan	23.92	279	S	S	13 18 33.4	+3.1
MA2	Magadan	23.92	279	*ce*P	P	13 14 14.6	0.0
MA2				pmax	pmax		
	comp=Z,586nm,1.7s						
MA2				MLR	MLR		
	comp=Z,2μm,14.0s						
BLKN	Baker Lake	24.75	66	P	P	13 14 22.1	-0.1
BLKN				IAmb	IAmb	13 14 27.1	
	comp=Z,62nm,0.8s						
PET	Petropavlovsk	25.28	260	P	P	13 14 26.5	-0.5
PET	Petropavlovsk	25.28	260	P	P	13 14 31.5	+4.5
PET	Petropavlovsk	25.28	260	*e*P	P	13 14 27.2	+0.2
PET				*e*S	S	13 18 45.5	-6.6
PET				pmax	pmax		
	comp=Z,50nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,13.0s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
B04A	Port Angeles	25.37	120	IAmb	IAmb	13 14 32.9	
	comp=Z,78nm,1.1s						
TIXI	Tiksi	25.39	315	P	P	13 14 27.1	-0.8
TIXI				IAmb	IAmb	13 14 31.5	
	comp=Z,30nm,0.8s						
TIXI	Tiksi	25.39	315	*ce*P	P	13 14 27.8	-0.1
TIXI				pmax	pmax		
	comp=Z,43nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,1μm,17.0s						
PETK	Petropavlovsk-	25.59	261	LR	LR	13 24 33.1	
	comp=Z,1μm,18.7s,baz=37,slow=36						
NLWA	Neilton Lookou	25.81	121	IAmb	IAmb	13 14 37.4	
	comp=Z,121nm,1.4s						
GNW	Green Mountain	26.03	119	IAmb	IAmb	13 14 39.7	
	comp=Z,48nm,1.2s						
TULEG	Thule	26.86	31	P	P	13 14 41.9	+0.8
TULEG	Thule	26.86	31	*i* P	P	13 14 44.5	+3.4
TULEG				IAmb	IAmb	13 14 44.8	
	comp=Z,84nm,1.0s						
ILON	Igloolik, Nuna	26.93	49	P	P	13 14 40.9	-0.9
ILON				IAmb	IAmb	13 15 18.0	
	comp=Z,57nm,0.9s						
NEW	Newport	27.52	111	LR	LR	13 25 25.8	
	comp=Z,841nm,18.1s,baz=324,slow=36						
NEW	Newport	27.52	111	P	P	13 14 49.9	+2.5
NEW				pmax	pmax		
	comp=Z,17nm,1.3s						
MXC	Moxie City	27.77	117	IAmb	IAmb	13 15 18.2	
	comp=Z,64nm,1.7s						
D08A	Wollman Farm,	27.86	115	IAmb	IAmb	13 15 21.2	
	comp=Z,86nm,1.8s						
E08A	Dider Farm, El	28.29	116	IAmb	IAmb	13 15 22.7	
	comp=Z,46nm,1.5s						
FFC	Flin Flon	28.52	87	P	P	13 14 55.3	-0.9
FFC	Flin Flon	28.52	87	P	P	13 14 55.3	-0.9
FFC				pmax	pmax		
	comp=Z,18nm,1.1s						
NEEM	North Greenlan	29.74	25	*i* P	P	13 15 07.6	+0.4
NEEM				IAmb	IAmb	13 15 14.2	
	comp=Z,75nm,1.0s						
PINE	Pine Mountain	29.96	121	P	P	13 15 09.3	0.0
PINE				IAmb	IAmb	13 15 12.4	
	comp=Z,55nm,1.2s						
K02D	Willamette Mer	30.01	125	IAmb	IAmb	13 15 12.8	
	comp=Z,47nm,1.1s						
J04A	Umpqua Nationa	30.04	123	IAmb	IAmb	13 15 13.1	
	comp=Z,54nm,1.0s						
J05D	Fort Rock, OR	30.30	122	IAmb	IAmb	13 15 15.4	
	comp=Z,40nm,1.1s						
BMO	Blue Mountains	30.33	115	IAmb	IAmb	13 15 59.8	
	comp=Z,55nm,2.0s						
YAK	Yakutsk	30.42	297	P	P	13 15 11.8	-1.1
YAK	Yakutsk	30.42	297	*e*P	P	13 15 12.5	-0.4
YAK				*e**PP	sP	13 15 18.6	-0.2
YAK				*e*		13 16 10.8	
YAK				*e*		13 18 11.6	
YAK				*e*S	S	13 20 13.8	+0.9
YAK				*e**SS	sS	13 20 21.2	+1.5
YAK				*e*SS	ScP	13 21 51.3	-2.2
YAK				pmax	pmax		
	comp=Z,73nm,1.6s						
YAK				pmax	pmax		
	comp=N,25nm,1.4s						
YAK				pmax	pmax		
	comp=E,49nm,1.5s						
YAK				pmax	pmax		
	comp=Z,108nm,2.7s						
YAK				pmax	pmax		
	comp=N,71nm,2.0s						
YAK				pmax	pmax		
	comp=E,72nm,2.3s						
YAK				smax	smax		
	comp=E,155nm,4.0s						
YAK				smax	smax		
	comp=N,65nm,3.0s						
YAK				MLR	MLR		
	comp=Z,3μm,18.0s						
YAK				MLR	MLR		
	comp=N,1μm,17.0s						
YAK				MLR	MLR		
	comp=E,1μm,17.0s						
PLID	Pearl Lake	30.61	113	IAmb	IAmb	13 16 22.5	
	comp=Z,65nm,2.0s						
K04D	Chiloquin, OR	30.71	123	IAmb	IAmb	13 15 18.8	
	comp=Z,59nm,1.2s						
NOR	Nord	30.77	11	*i* P	P	13 15 16.5	+0.7
NOR				IAmb	IAmb	13 15 17.2	
	comp=Z,47nm,1.8s						
K05A	Summer Lake	30.91	122	IAmb	IAmb	13 15 21.1	
	comp=Z,53nm,1.1s						
YBH	Yreka Blue Hor	31.18	125	P	P	13 15 19.9	-0.1
YBH				IAmb	IAmb	13 15 30.4	
	comp=Z,29nm,1.1s						
YBH	Yreka Blue Hor	31.18	125	P	P	13 15 19.9	-0.1
YBH				pmax	pmax		
	comp=Z,29nm,1.1s						
M02C	Callahan	31.44	125	P	P	13 15 23.0	+0.8
M02C				IAmb	IAmb	13 15 26.0	
	comp=Z,83nm,1.7s						
N02D	Trinity Center	31.87	126	IAmb	IAmb	13 15 29.5	
	comp=Z,32nm,0.9s						
WVOR	Wild Horse Val	31.95	119	IAmb	IAmb	13 15 29.9	
	comp=Z,33nm,1.2s						
WVOR	Wild Horse Val	31.95	119	P	P	13 15 29.2	+2.4
WVOR				pmax	pmax		
	comp=Z,23nm,2.3s						
DGMT	Dagmar	32.40	97	IAmb	IAmb	13 15 33.2	
	comp=Z,68nm,1.4s						
YHL	Hebgen Lake	32.63	108	P	P	13 15 32.9	0.0
YHL				IAmb	IAmb	13 16 29.6	
	comp=Z,24nm,1.1s						
YHB	Horse Butte	32.70	108	IAmb	IAmb	13 15 52.6	
	comp=Z,24nm,1.1s						
O03E	Paynes Creek	32.78	125	IAmb	IAmb	13 15 36.2	
	comp=Z,53nm,1.1s						
YMR	Madison River	32.86	108	IAmb	IAmb	13 16 05.7	
	comp=Z,33nm,1.2s						
YNR	Norris Junctio	32.93	108	IAmb	IAmb	13 16 25.0	
	comp=Z,39nm,1.5s						
LAO	LASA Array	33.04	101	IAmb	IAmb	13 15 38.7	
	comp=Z,54nm,1.1s						
YMP	Mirror Lake Pl	33.11	107	IAmb	IAmb	13 16 04.9	
	comp=Z,24nm,0.9s						
TYV	Tymovskoe	33.35	272	*e*P	P	13 15 38.9	+0.1
TYV				*e*S	S	13 21 02.1	+3.3
TYV				pmax	pmax		
	comp=Z,39nm,0.9s						
TYV				pmax	pmax		
	comp=Z,300nm,4.9s						
TYV				smax	smax		
	comp=N,300nm,8.0s						
TYV				smax	smax		
	comp=E,300nm,8.0s						
GDXM	Geysers	33.80	127	P	P	13 15 42.1	-0.8
GDXM				IAmb	IAmb	13 16 26.9	
	comp=Z,31nm,1.4s						
MNRC	McLaughlin Min	33.85	127	IAmb	IAmb	13 15 54.2	
	comp=Z,77nm,1.6s						
TPAW	Teton Pass	33.87	109	IAmb	IAmb	13 16 01.4	
	comp=Z,24nm,1.2s						
PAHR	Pah Rah Range	34.12	122	IAmb	IAmb	13 15 48.3	
	comp=Z,26nm,1.1s	

PDAR LR LR 13 31 20.8
comp=Z,2µm,19.8s,baz=328,slow=38
comp=Z,8.5nm,1.0s
WAKR Walker 35.18 123 IAmb IAmb 13 15 57.8
comp=Z,36nm,1.1s
E28A Huff 35.34 96 IAmb IAmb 13 15 58.7
comp=Z,64nm,1.3s
MHC Mount Hamilton 35.51 127 IAmb IAmb 13 16 00.2
comp=Z,29nm,1.1s
SUMG Summit 35.52 27 P **P 13 15 56.7 -1.1**
SUMG IAmb IAmb 13 16 00.2
comp=Z,38nm,1.1s
SUMG Summit 35.52 27 P **P 13 15 56.7 -1.1**
SUMG pmax pmax
comp=Z,38nm,1.1s
SUMG Summit 35.52 27 *i* P **P 13 15 58.8 +1.0**
SUMG IAmb IAmb 13 16 00.5
comp=Z,36nm,1.1s
NVAR Mina Array Bea 35.63 122 P **P 13 15 59.5 +0.6**
NVAR Mina Array Bea 35.63 122 P **P 13 16 00.2 +1.3**
comp=Z,19nm,0.8s,baz=310,slow=7.5,SNR=117
NVAR LR LR 13 31 31.2
comp=Z,1µm,18.3s,baz=346,slow=38
comp=Z,19nm,0.8s
SPITS Spitsbergen Ar 35.64 2 LR LR 13 30 24.3
comp=Z,602nm,18.1s,baz=352,slow=36
Q09A Carvers 35.66 120 IAmb IAmb 13 16 02.2
comp=Z,42nm,1.0s
EPLO Experimental L 35.67 86 IAmb IAmb 13 16 00.6
comp=Z,23nm,1.1s
LHV Little Huntoon 35.72 122 IAmb IAmb 13 16 02.6
comp=Z,43nm,1.1s
AGMN Agassiz Nation 35.89 89 IAmb IAmb 13 16 02.8
comp=Z,42nm,1.1s
GRNR Gornyy 35.93 278⇑ *i* P **P 13 16 00.9 -0.2**
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=N,820nm,12.0s
GRNR MLR MLR
comp=E,630nm,12.0s
GRNR MLR MLR
comp=Z,1µm,12.0s
DUG Dugway, Tooele 36.02 114 P **P 13 16 04.0 +1.9**
DUG pmax pmax
comp=Z,11nm,1.9s
RSSD Black Hills 36.02 101 P **P 13 16 02.3 +0.1**
RSSD IAmb IAmb 13 16 04.3
comp=Z,49nm,1.4s
RSSD Black Hills 36.02 101 P **P 13 16 02.3 +0.1**
RSSD pmax pmax
comp=Z,49nm,1.4s
MDPB Devils Postpil 36.09 124 IAmb IAmb 13 16 05.9
comp=Z,35nm,1.2s
TPH Tonopah 36.32 121 IAmb IAmb 13 16 07.4
comp=Z,34nm,1.2s
YSS Yuzhno-Sakhali 36.41 268 P **P 13 16 05.2 +0.1**
YSS IAmb IAmb 13 16 57.1
comp=Z,28nm,1.0s
YSS Yuzhno-Sakhali 36.41 268 *e*P **P 13 16 04.9 -0.2**
YSS *e* 13 17 26.3
YSS *e*S **S 13 21 43.6 -2.3**
YSS *e* 13 24 40.0
YSS pmax pmax
comp=Z,20nm,1.3s
YSS pmax pmax
comp=Z,100nm,3.9s
YSS pmax pmax
comp=N,100nm,3.3s
YSS pmax pmax
comp=E,100nm,3.1s
YSS MLR MLR
comp=N,700nm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
YSS MLR MLR
comp=E,2µm,14.0s
SPR3 Spring Creek 3 36.52 117 IAmb IAmb 13 16 10.3
comp=Z,64nm,2.0s
R11B Troy Canyon, C 36.65 119 IAmb IAmb 13 16 10.1
comp=Z,42nm,1.2s
DBG Daneborg 36.86 18 *i* P **P 13 16 08.8 +0.1**
DBG IAmb IAmb 13 16 15.3
comp=Z,25nm,1.0s
TIN Tinemaha, Big 36.90 123 IAmb IAmb 13 16 13.0
comp=Z,86nm,1.3s
RDMU Red Mountain 36.90 110 IAmb IAmb 13 16 55.9
comp=Z,50nm,1.6s
GMN Gold Mountain 37.01 122 P **P 13 16 10.6 0.0**
S11A Rachel 37.22 120 IAmb IAmb 13 16 52.4
comp=Z,27nm,1.0s
ZEA Zeya 37.24 288 *e*P **P 13 16 12.1 -0.1**
ZEA *e* 13 17 42.0
ZEA *e*S **S 13 21 58.1 -0.4**
ZEA pmax pmax
comp=E,20nm,1.3s
ZEA pmax pmax
comp=N,10.0nm,1.6s
ZEA pmax pmax
comp=Z,40nm,1.9s
ZEA pmax pmax
comp=E,100nm,3.5s
ZEA pmax pmax
comp=Z,200nm,3.7s
ZEA pmax pmax
comp=Z,100nm,4.0s
ZEA smax smax
comp=N,100nm,5.8s
ZEA MLR MLR
comp=E,1µm,13.0s
ZEA MLR MLR
comp=N,1µm,11.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
GRAC Grapevine Rang 37.24 122 IAmb IAmb 13 16 15.8
comp=Z,76nm,1.6s
SFJD Kangerlussuaq 37.25 38 LR LR 13 33 43.8
comp=Z,764nm,20.5s,baz=325,slow=40
TPNV Topopah Spring 37.67 121 IAmb IAmb 13 16 18.7
comp=Z,30nm,1.1s
PRN Pahroc Range 37.68 119 IAmb IAmb 13 16 19.1
comp=Z,31nm,1.1s
F33A 5 Mile Ranch, 37.71 92 P **P 13 16 16.3 +0.1**
F33A IAmb IAmb 13 16 22.6
comp=Z,46nm,1.2s
VES Vestal, Richgr 37.71 125 IAmb IAmb 13 16 18.4
comp=Z,50nm,1.3s
FURC Furnace Creek, 37.89 122 IAmb IAmb 13 16 20.8
comp=Z,50nm,1.3s
EYMN Ely 37.94 86 IAmb IAmb 13 16 21.0
comp=Z,63nm,0.9s
CCUT Cedar City 38.15 117 P **P 13 16 19.9 -0.4**
SZCU Shurtz Canyon 38.21 117 IAmb IAmb 13 16 23.6
comp=Z,46nm,1.3s
DY2G Dye2 38.73 37 *i* P **P 13 16 25.7 +0.8**
DY2G IAmb IAmb 13 16 33.7
comp=Z,73nm,1.6s
KUQ Kuujjuuaa 38.76 58 IAmb IAmb 13 16 29.8
comp=Z,34nm,0.9s
ASAJ Asahikawa 38.80 266 LR LR 13 33 12.2
comp=Z,1µm,18.4s,baz=51,slow=38
KNB Kanab 38.82 117 IAmb IAmb 13 16 29.0
comp=Z,54nm,1.4s
E38A The Farm, Brul 38.99 87 IAmb IAmb 13 16 28.8
comp=Z,33nm,0.8s
ISCO Idaho Springs 39.08 107 P **P 13 16 30.0 +1.8**
ISCO pmax pmax
comp=Z,11nm,1.1s
PV11 David Mesa, Pa 39.15 111 P **P 13 16 28.5 -0.2**
MTPC Mountain Pass 39.23 121 IAmb IAmb 13 16 32.3
comp=Z,38nm,1.1s
V12A Nelson 39.26 120 IAmb IAmb 13 16 32.7
comp=Z,42nm,1.1s
PV13 Radium Mtn., P 39.29 111 P **P 13 16 29.8 -0.1**
OGNE Ogallala 39.50 102 IAmb IAmb 13 16 33.6
comp=Z,135nm,1.5s
SPMN Marine on St. 39.62 89 IAmb IAmb 13 16 34.5
comp=Z,47nm,1.1s
BFSC Mount Baldy Ra 39.65 124 IAmb IAmb 13 16 35.4
comp=Z,44nm,1.2s
HEH HeiHe 39.90 284 *e*P **P 13 16 33.9 -0.6**
HEH pP **pP 13 16 37.0 -1.7**
HEH S **S 13 22 38.6 0.0**
HEH sS **sS 13 22 43.9 -1.7**
HEH pmax pmax
comp=Z,32nm,1.6s
HEH pmax pmax
comp=Z,330nm,3.7s
HEH LR LR
comp=Z,3µm,10.7s
HEH LR LR
comp=Z,3µm,11.1s
HEH LR LR
comp=Z,6µm,11.2s
ERM Erimo 40.33 263 P **P 13 16 38.5 +0.4**
ERM IAmb IAmb 13 16 42.7
comp=Z,88nm,1.4s
ERM Erimo 40.33 263 P **P 13 16 39.5 +1.3**
ERM Erimo 40.33 263 P **P 13 16 38.5 +0.4**
ERM pmax pmax
comp=Z,88nm,1.4s
JEM Erimo 40.33 263 P **P 13 16 39.6 +1.4**
I37A Lemond, Waseca 40.37 91 IAmb IAmb 13 16 41.1
comp=Z,96nm,1.1s
BELC Belle Mtn. Jos 40.42 122 P **P 13 16 39.6 +0.3**
SOEG Soedalen 40.49 28 *i* P **P 13 16 40.8 +1.6**
SOEG IAmb IAmb 13 16 47.7
comp=Z,50nm,0.9s
DNR Dunn Ranch,Anz 40.61 123 P **P 13 16 41.0 +0.2**
PFO Pinyon Flats O 40.62 123 P **P 13 16 41.4 +0.5**
PFO Pinyon Flats O 40.62 123 P **P 13 16 41.4 +0.5**
PFO pmax pmax
comp=Z,17nm,1.3s
WUAZ Wupatki 40.69 116 IAmb IAmb 13 16 44.2
comp=Z,65nm,1.1s
F42A Maple Grove Fa 41.06 85 IAmb IAmb 13 16 46.6
comp=Z,48nm,1.1s
JMIC Jan Mayen 41.28 15 LR LR 13 33 19.7
comp=Z,764nm,21.6s,baz=349,slow=35
ANGG Ammassalik, Gr 41.44 33 P **P 13 16 47.0 -0.1**
ANGG Ammassalik, Gr 41.44 33 *i* P **P 13 16 46.9 -0.1**
ANGG IAmb IAmb 13 16 47.9
comp=Z,42nm,1.0s
W18A Petrified Fore 41.64 115 IAmb IAmb 13 16 52.1
comp=Z,42nm,1.2s
SCHQ Schefferville 41.88 60 P **P 13 16 51.8 +1.0**
comp=Z,332nm,1.0s,baz=334,slow=8.4,SNR=10
SCHQ LR LR 13 35 25.7
comp=Z,6µm,19.2s,baz=322,slow=38
X18A Snowflake 42.09 115 IAmb IAmb 13 16 55.8
comp=Z,46nm,1.2s
SCIA State Center 42.21 93 IAmb IAmb 13 16 55.9
comp=Z,40nm,0.9s
IVI Ivigtut 42.54 43 IAmb IAmb 13 17 03.8
comp=Z,59nm,0.9s
IVI Ivigtut 42.54 43 *i* P **P 13 16 57.4 +1.3**
IVI IAmb IAmb 13 17 03.6
comp=Z,58nm,0.9s
L40A Anamosa 42.88 91 IAmb IAmb 13 17 00.5
comp=Z,34nm,1.1s
USRK Ussuriysk Ar. 43.00 275 P **P 13 16 59.4 -0.7**
comp=Z,13nm,0.8s,baz=30,slow=8.8,SNR=15
comp=Z,13nm,0.8s
ANMO Albuquerque 43.01 111 P **P 13 17 00.8 +0.3**
ANMO Albuquerque 43.01 111 LR LR 13 34 39.6
comp=Z,835nm,18.3s,baz=76,slow=36
ANMO Albuquerque 43.01 111 *ce*P **P 13 16 59.3 -1.2**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
RTBA Rita Blanca 43.12 106 IAmb IAmb 13 17 03.3
comp=Z,62nm,1.6s
NRS Narsarsuaq 43.32 41 *i* P **P 13 17 04.1 +1.7**
NRS IAmb IAmb 13 17 06.9
comp=Z,63nm,1.4s
VLDQ Val d'Or 43.36 74 IAmb IAmb 13 17 08.8
comp=Z,26nm,0.9s
214A Organ Pipe Nat 43.38 120 IAmb IAmb 13 17 05.8
comp=Z,40nm,1.1s
HILR Hailar Array B 43.41 290 P **P 13 17 03.9 +0.5**
comp=Z,18nm,0.7s,baz=65,slow=8.5,SNR=17
HILR LR LR 13 36 08.8
comp=Z,2µm,18.9s,baz=70,slow=38
comp=Z,18nm,0.7s
K43A Burlington 43.51 87 IAmb IAmb 13 17 05.9
comp=Z,60nm,1.0s
BNX BinXian 43.56 281⇓ P **P 13 17 03.9 -0.6**
BNX pP **pP 13 17 06.8 -2.0**
BNX S **S 13 23 34.3 +1.4**
BNX sS **sS 13 23 41.0 +1.2**
BNX pmax pmax
comp=Z,18nm,1.0s
BNX pmax pmax
comp=Z,180nm,2.8s
BNX LR LR
comp=Z,2µm,17.3s
BNX LR LR
comp=Z,3µm,16.3s
BNX LR LR
comp=Z,2µm,13.1s
MDJ Mudanjiang 43.62 278 P **P 13 17 04.5 -0.5**
MDJ S **S 13 23 34.8 +1.1**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ LR LR
comp=Z,2µm,15.0s
MDJ LR LR
comp=Z,2µm,12.6s
MDJ LR LR
comp=Z,2µm,14.8s
CIT Chita 43.70 297 *e*P **P 13 17 07.0 +1.3**
CIT *e* 13 17 16.0
CIT *e* 13 18 50.2
CIT *e* 13 19 19.4
CIT pmax pmax
comp=Z,152nm,1.8s
TUC Tucson 43.78 117 P **P 13 17 07.0 +0.4**
TUC Tucson 43.78 117 P **P 13 17 07.0 +0.4**
TUC pmax pmax
comp=Z,15nm,1.1s
P38A Dawn 44.02 95 IAmb IAmb 13 17 09.8
comp=Z,53nm,1.3s
ARCES ARCESS Array B 44.37 359 P **P 13 17 10.1 -0.7**
comp=Z,3.1nm,0.7s,baz=2.7,slow=8.0,SNR=9.2
ARCES PcP **PcP 13 18 54.8 +0.5**
comp=Z,4.3nm,0.6s,baz=0.0,slow=3.6,SNR=6.9
comp=Z,3.1nm,0.7s
KAN01 Argonia South 44.45 101 IAmb IAmb 13 17 12.9
comp=Z,47nm,0.8s
121A Cookes Peak, D 44.67 114 IAmb IAmb 13 17 16.8
comp=Z,31nm,1.2s
M44A Midewin, Midew 44.73 88 IAmb IAmb 13 17 15.7
comp=Z,44nm,1.1s
BUKO Buck Lake 44.80 78 IAmb IAmb 13 17 34.7
comp=Z,90nm,1.8s
AMTX Amarillo 44.89 106 IAmb IAmb 13 17 16.9
comp=Z,18nm,0.9s
KIP Kipapa 44.92 181 *ce*P **P 13 17 17.2 +1.6**
KIP pmax pmax
comp=Z,302nm,2.2s
HDIL Hopedale 44.93 90 IAmb IAmb 13 17 17.0
comp=Z,54nm,1.1s
319A Douglas 45.17 116 IAmb IAmb 13 17 20.4
comp=Z,30nm,1.1s
MSTX Muleshoe 45.28 108 IAmb IAmb 13 17 20.2
comp=Z,25nm,1.0s
BORG Borgarnes 45.39 25 LR LR 13 36 30.3
comp=Z,656nm,21.5s,baz=338,slow=36
OK048 Pawnee Station 45.41 100 P **P 13 17 18.7 -0.7**
OK048 IAmb IAmb 13 17 20.5
comp=Z,34nm,1.1s
R40A Maddies Statio 45.66 94 IAmb IAmb 13 17 22.5
comp=Z,34nm,1.3s
QUOK Quay 45.72 100 IAmb IAmb 13 17 22.8
comp=Z,64nm,1.7s
LDAQ Lac Daran 45.86 69 IAmb IAmb 13 17 37.0
comp=Z,42nm,1.2s
CN2 Changchun 45.94 281 *e*P **P 13 17 22.5 -1.1**
CN2 PP **PP 13 19 13.5 +2.5**
CN2 *e*S **S 13 24 10.1 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,14.6s
SFIN Lafayette 45.97 88 IAmb IAmb 13 17 25.5
comp=Z,41nm,1.3s
DEOK Depew 46.09 100 IAmb IAmb 13 17 25.9
comp=Z,36nm,1.0s
APA Apatity 46.15 354⇓ *e*P **P 13 17 24.1 -0.7**
APA *e* 13 18 58.6
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,745nm,17.9s
WMOK Wichita Mounta 46.15 103 IAmb IAmb 13 17 26.8
comp=Z,19nm,1.0s
DELO Deloro Mine 46.27 77 IAmb IAmb 13 17 31.0
comp=Z,27nm,0.9s
CCM Cathedral Cave 46.28 94 P **P 13 17 26.0 -0.3**
CCM Cathedral Cave 46.28 94 P **P 13 17 26.0 -0.3**
CCM pmax pmax
comp=Z,46nm,1.1s
MNTX Cornudas Mount 46.31 112 IAmb IAmb 13 17 29.3
comp=Z,27nm,1.4s
RLO Rose Lookout 46.40 99 IAmb IAmb 13 17 27.9
comp=Z,46nm,1.2s
U38A Gravette 46.41 98 IAmb IAmb 13 17 27.7
comp=Z,19nm,0.9s
Q44A Meyer Farm, Va 46.45 91 IAmb IAmb 13 17 28.9
comp=Z,29nm,0.9s
SGF Sodankyl 46.46 358 P **P 13 17 27.9 +0.6**
SGF pmax pmax
comp=Z,24nm,1.1s
MGMO Mountain Grove 46.64 95 P **P 13 17 28.3 -0.9**
HSIG 46.71 120 IAmb IAmb 13 17 31.9
comp=Z,17nm,0.9s
HHAR Hobbs 46.73 97 IAmb IAmb 13 18 08.5
comp=Z,18nm,1.2s
IRK Irkutsk 46.76 303 *e*P **P 13 17 28.2 -1.7**
IRK pmax pmax
comp=Z,134nm,2.2s
WBO Williamsburg 46.78 75 IAmb IAmb 13 17 37.1
comp=Z,27nm,0.9s
MJB9 Matsu-Tunnel 46.99 264 P **P 13 17 31.8 -0.1**
MAJO Matsushiro 46.99 264 P **P 13 17 31.7 -0.2**
MAJO Matsushiro 46.99 264 P **P 13 17 35.6 +3.7**
MAJO Matsushiro 46.99 264 P **P 13 17 32.4 +0.5**
MJAR Matsushiro Arr 46.99 264 IAmb IAmb 13 17 36.4
comp=Z,51nm,1.6s
MJAR Matsushiro Arr 46.99 264 P **P 13 17 32.8 +0.9**
comp=Z,13nm,1.0s,baz=14,slow=7.6,SNR=19
MJAR LR LR 13 38 24.8
comp=Z,566nm,18.9s,baz=24,slow=38
comp=Z,13nm,1.0s
LONY Lake Ozonia 47.37 74 IAmb IAmb 13 17 42.1
comp=Z,34nm,1.1s
D62A Allapoint, All 47.42 68 IAmb IAmb 13 17 43.0
comp=Z,27nm,0.9s
TLY Talaya 47.44 303 IAmb IAmb 13 17 40.5
comp=Z,18nm,1.0s
TLY Talaya 47.44 303 P **P 13 17 33.9 -1.3**
TLY Talaya 47.44 303 *ce*P **P 13 17 35.6 +0.4**
TLY pmax pmax
comp=Z,10.0nm,0.9s
CGM3 Cape Girardeau 47.57 93 IAmb IAmb 13 17 37.3
comp=Z,32nm,1.3s
FRNY Flat Rock 47.58 73 IAmb IAmb 13 17 50.4
comp=Z,22nm,1.0s
MNHN Monahans 47.62 109 IAmb IAmb 13 17 38.3
comp=Z,28nm,1.5s
E62A Clayton Lake 47.63 69 P **P 13 17 36.9 +0.2**
SGCY Sterling City 47.73 107 IAmb IAmb 13 17 39.0
comp=Z,28nm,1.2s
ACSO Alum Creek Sta 47.75 85 IAmb IAmb 13 17 44.2
comp=Z,34nm,1.0s
FCAR Ozark Folk Cen 47.79 96 IAmb IAmb 13 17 38.5
comp=Z,30nm,1.0s
PAOC Oil Creek Stat 47.98 81 IAmb IAmb 13 17 46.9
comp=Z,32nm,1.0s
LCAR Lake Charles 48.03 95 P **P 13 17 38.7 -1.2**
LCAR IAmb IAmb 13 17 47.5
comp=Z,12nm,0.9s
PLPT Palo Pinto 48.03 104 IAmb IAmb 13 17 41.1
comp=Z,29nm,1.0s
WCI Wyandotte Cave 48.13 89 P **P 13 17 40.0 -0.7**
WCI IAmb IAmb 13 17 41.5
comp=Z,31nm,1.0s
WCI Wyandotte Cave 48.13 89 P **P 13 17 40.0 -0.7**
WCI pmax pmax
comp=Z,31nm,1.0s
JGF Kuroka 48.15 264 P **P 13 17 43.6 +2.7**
WHAR Wooly Hollow 48.25 97 IAmb IAmb 13 18 10.0
comp=Z,24nm,1.3s
MOY Mondy 48.34 305 *e*P **P 13 17 42.6 +0.3**
MOY pmax pmax
comp=Z,109nm,2.4s
SNY Shenyang 48.35 281⇓ P **P 13 17 44.6 +2.3**
SNY S **S 13 24 36.5 -5.2**
SNY pmax pmax
comp=Z,24nm,1.4s
SNY pmax pmax
comp=Z,110nm,3.8s
SNY LR LR
comp=Z,1µm,14.1s
SNY LR LR
comp=Z,3µm,12.6s
SNY LR LR
comp=Z,2µm,13.9s
MIAR Mount Ida 48.38 98 P **P 13 17 43.4 +0.7**
MIAR pmax pmax
comp=Z,43nm,1.3s
O53A New Philadelph 48.44 83 IAmb IAmb 13 17 53.2
comp=Z,29nm,0.8s
OZNA Ozona 48.62 108 IAmb IAmb 13 17 46.0
comp=Z,31nm,1.3s
ZAK Zakamensk 48.66 303 *e*P **P 13 17 43.6 -1.2**
ZAK pmax pmax
comp=Z,37nm,1.9s
UALR University of 48.68 97 P **P 13 17 44.7 -0.3**
UALR IAmb IAmb 13 17 52.1
comp=Z,25nm,0.9s
X40A Basin Creek Fa 48.73 98 IAmb IAmb 13 17 53.0
comp=Z,22nm,1.1s
PKME Peaks-Kenny Pk 48.86 70 P **P 13 17 46.3 +0.1**
P53A Whipple 49.02 84 IAmb IAmb 13 17 57.6
comp=Z,19nm,0.8s
TX31 Lajitas Ar. Si 49.08 112 IAmb IAmb 13 17 50.5
comp=Z,37nm,1.2s
TXAR Lajitas Array 49.08 112 P **P 13 17 49.3 +1.1**
comp=Z,13nm,0.9s,baz=328,slow=5.6,SNR=75
TXAR LR LR 13 40 26.0
comp=Z,506nm,19.5s,baz=332,slow=38
comp=Z,13nm,0.9s
WHTX Lake Whitney, 49.09 104 IAmb IAmb 13 17 49.2
comp=Z,19nm,1.0s
SAND Sanderson 49.10 110 IAmb IAmb 13 17 50.0
comp=Z,31nm,1.1s
M57A Sunshine Farm, 49.15 79 IAmb IAmb 13 17 51.8
comp=Z,26nm,0.9s
WVT Waverly 49.31 92 IAmb IAmb 13 17 51.5
comp=Z,26nm,1.0s
WVT Waverly 49.31 92 P **P 13 17 50.6 +0.8**
WVT pmax pmax
comp=Z,26nm,1.0s
SSPA Standing Stone 49.44 80 IAmb IAmb 13 17 57.5
comp=Z,17nm,0.9s
ULN Ulaanbaatar 49.49 298 P **P 13 17 51.6 +0.3**
ULN IAmb IAmb 13 17 56.4
comp=Z,14nm,0.8s
ULN Ulaanbaatar 49.49 298 P **P 13 17 51.5 +0.3**
ULN Ulaanbaatar 49.49 298 *ce*P **P 13 17 51.7 +0.5**
ULN pmax pmax
comp=Z,11nm,0.9s
XLT XiLinHaoTe 49.52 288 *e*P **P 13 17 54.3 +2.9**
XLT S **S 13 25 03.8 +5.4**
XLT pmax pmax
comp=Z,28nm,1.7s
XLT pmax pmax
comp=Z,230nm,3.6s
XLT LR LR
comp=Z,190nm,14.2s
XLT LR LR
comp=Z,1µm,14.6s
XLT LR LR
comp=Z,2µm,15.0s
JCT Junction City 49.52 107 P **P 13 17 52.3 +0.8**
Q54A Coxs Mills 49.68 84 IAmb IAmb 13 18 02.2
comp=Z,22nm,0.9s
S51A Beattyville 49.72 87 IAmb IAmb 13 17 59.2
comp=Z,20nm,0.9s
N58A Sunbury 49.73 79 P **P 13 17 52.4 -0.6**
N58A IAmb IAmb 13 17 59.5
comp=Z,43nm,0.9s
SONM Songino Array 49.75 299 P **P 13 17 54.4 +1.2**
comp=Z,17nm,0.8s,baz=33,slow=7.1,SNR=49
SONM LR LR 13 40 46.1

comp=Z,2μm,19.0s,baz=24,slow=38
comp=Z,17nm,0.8s
T50A Nancy 49.75 88 IAmb IAmb 13 17 55.0
comp=Z,48nm,1.2s
U49A Red Boiling Sp 49.81 90 IAmb IAmb 13 17 55.1
comp=Z,29nm,0.9s
V48A Smith Brothers 50.06 91 IAmb IAmb 13 17 57.1
comp=Z,17nm,1.0s
PLAL Pickwick Lake 50.21 93 P **P** **13 17 56.1 -0.5**
PLAL IAmb IAmb 13 17 58.2
comp=Z,46nm,1.0s
Q56A Snyder Ridge, 50.29 82 IAmb IAmb 13 18 07.6
comp=Z,27nm,0.8s
KSRS Korea Array 50.35 274 P **P** **13 17 58.0 +0.4**
comp=Z,6.3nm,0.8s,baz=23,slow=7.4,SNR=12
comp=Z,6.3nm,0.8s
P57A Homestead Farm 50.38 81 IAmb IAmb 13 18 13.9
comp=Z,42nm,1.4s
HPIG 50.51 115 IAmb IAmb 13 18 01.3
comp=Z,31nm,1.0s
R55A Marlinton 50.56 83 IAmb IAmb 13 18 20.4
comp=Z,19nm,0.8s
HNDO Hondo 50.57 107 IAmb IAmb 13 18 00.8
comp=Z,49nm,1.5s
TZTN Tazewell 50.68 88 IAmb IAmb 13 18 02.2
comp=Z,54nm,1.4s
SWET Sewanee 50.87 91 IAmb IAmb 13 18 02.7
comp=Z,27nm,1.2s
X48A Hartselle 51.09 92 IAmb IAmb 13 18 04.7
comp=Z,58nm,1.4s
ZALV Zalesovo Beam 51.22 318 P **P** **13 18 03.4 -0.5**
comp=Z,31nm,0.7s,baz=24,slow=7.1,SNR=125
comp=Z,31nm,0.7s
TKL Tuckaleechee C 51.36 88 LR LR 13 43 13.6
comp=Z,294nm,19.8s,baz=336,slow=40
BLA Blacksburg 51.37 84 IAmb IAmb 13 18 13.8
comp=Z,38nm,1.1s
LPIG La Paz 51.45 121 LR LR 13 41 14.4
comp=Z,350nm,19.6s,baz=343,slow=38
S57A Dark Hollow, R 51.48 83 IAmb IAmb 13 18 16.7
comp=Z,26nm,1.0s
DL2 Dalian 51.61 280 P **P** **13 18 06.4 -0.7**
DL2 S **S** **13 25 29.5 +2.1**
DL2 pmax pmax
comp=Z,48nm,0.9s
DL2 pmax pmax
comp=Z,310nm,4.3s
DL2 LR LR
comp=Z,2μm,14.7s
DL2 LR LR
comp=Z,3μm,15.8s
DL2 LR LR
comp=Z,1μm,12.9s
V53A Saluda 51.74 87 IAmb IAmb 13 18 14.7
comp=Z,28nm,1.0s
W52A Murphy 51.79 89 IAmb IAmb 13 18 10.3
comp=Z,33nm,1.0s
U56A King 52.13 85 IAmb IAmb 13 18 17.1
comp=Z,34nm,0.9s
V55A Taylorsville 52.22 86 IAmb IAmb 13 18 18.1
comp=Z,28nm,1.1s
LRAL Lakeview Retre 52.34 93 IAmb IAmb 13 18 13.9
comp=Z,26nm,1.2s
NC303 NORSAR Array S 52.45 7 IAmb IAmb 13 18 15.6
comp=Z,54nm,1.6s
FINES FINESS Array B 52.48 358 P **P** **13 18 13.6 +0.3**
comp=Z,8.3nm,0.9s,baz=0.0,slow=10,SNR=9.9
comp=Z,8.3nm,0.9s
FINES FINESS Array B 52.48 358 *i* P **P** **13 18 15.3 +2.0**
FINES pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 52.50 350 *e*P **P** **13 18 10.6 -2.8**
KLMR pmax pmax
comp=Z,70nm,1.6s
KLMR MLR MLR
comp=Z,444nm,17.0s
LRW Lerwick 52.58 15 *e*P **P** **13 18 14.3 +0.3**
LRW IAmb IAmb 13 18 15.6
comp=Z,59nm,1.0s
NC405 NORSAR Array S 52.58 7 IAmb IAmb 13 18 16.3
comp=Z,66nm,1.6s
NB201 NORSAR Array S 52.62 7 IAmb IAmb 13 18 58.7
comp=Z,40nm,1.4s
NB2 NORSAR Subarra 52.63 7 P **P** **13 18 14.2 -0.3**
comp=Z,82nm,2.0s,baz=353,slow=7.4
NB2 NORSAR Subarra 52.63 7 P **P** **13 18 14.2 -0.3**
baz=353,slow=7.4
NOA NORSAR Array B 52.63 7 P **P** **13 18 14.4 -0.1**
comp=Z,3.5nm,0.8s,baz=353,slow=7.2,SNR=18
comp=Z,3.5nm,0.8s
BJI Beijing 52.78 286 P **P** **13 18 14.4 -1.4**
BJI pP **pP** **13 18 18.8 -1.3**
BJI PP **PP** **13 20 15.3 +0.5**
BJI S **S** **13 25 40.4 -2.9**
BJI SS **SS** **13 29 16.8 -4.5**
BJI pmax pmax
comp=Z,11nm,1.5s
BJI pmax pmax
comp=Z,140nm,3.5s
BJI LR LR
comp=Z,830nm,15.3s
BJI LR LR
comp=Z,890nm,15.4s
BJI LR LR
comp=Z,960nm,14.0s
KMSC Kings Mountain 52.79 86 IAmb IAmb 13 18 22.0
comp=Z,27nm,1.0s
Y52A Lilburn 52.80 90 IAmb IAmb 13 18 18.0
comp=Z,47nm,1.1s
PAULI Pauline 52.88 87 IAmb IAmb 13 18 22.8
comp=Z,39nm,1.1s
JNU Nakatsue 52.91 269 LR LR 13 39 48.0
comp=Z,608nm,21.5s,baz=32,slow=35
NORES NORESS Array B 52.95 7 P **P** **13 18 17.8 +1.0**
NORES pmax pmax
comp=Z,1.0nm,0.5s
HBVL Hebbronville 53.02 108 IAmb IAmb 13 18 25.2
comp=Z,36nm,1.1s
V58A Windy Hill, Pi 53.12 84 IAmb IAmb 13 18 26.2
comp=Z,24nm,0.9s
HODGE Hodges 53.21 88 IAmb IAmb 13 18 20.9
comp=Z,44nm,1.2s
W57A Gilead 53.32 85 IAmb IAmb 13 18 25.7
comp=Z,21nm,0.9s
250A Grady 53.56 93 IAmb IAmb 13 18 28.0
comp=Z,35nm,1.0s
JSC Jenkinsville 53.57 87 IAmb IAmb 13 18 27.9
comp=Z,31nm,0.9s
BIRD Birdtown, Kers 53.57 86 IAmb IAmb 13 18 27.9
comp=Z,22nm,0.9s
152A Waverly Hall 53.58 91 IAmb IAmb 13 18 23.0
comp=Z,36nm,1.1s
HFS Hagfors 53.65 6 P **P** **13 18 21.8 -0.1**
comp=Z,8.6nm,0.7s,baz=18,slow=5.2,SNR=19
comp=Z,8.6nm,0.7s
HHC Hu-ho-hao-te 53.85 290 *e*P **P** **13 18 23.8 0.0**
HHC S **S** **13 25 53.6 -4.5**
HHC sS sS 13 26 03.8 -1.5
HHC ScS **ScS** **13 28 09.4 -3.1**
HHC SS **SKiKP** **13 29 34.3 -2.0**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,190nm,3.8s
HHC LR LR
comp=Z,1μm,13.8s
HHC LR LR
comp=Z,1μm,13.4s
HHC LR LR
comp=Z,2μm,13.1s
LEWI Lewis, Hebride 53.86 19 *e*P **P** **13 18 24.2 +0.7**
SVE Sverdlovsk 53.89 335 *e*P **P** **13 18 24.0 +0.3**
SVE pmax pmax
comp=Z,46nm,1.2s
SVE MLR MLR
comp=Z,737nm,23.0s
KONO Kongsberg 53.93 8 *ce*P **P** **13 18 26.1 +2.1**
KONO pmax pmax
comp=Z,27nm,1.7s
BTO Baotou 54.65 291 *e*P **P** **13 18 31.4 +1.8**
BTO pP **sP** **13 18 36.3 +0.7**
BTO sP **pP** **13 18 38.4 +4.5**
BTO S **S** **13 26 10.3 +1.5**
BTO sS **sS** **13 26 15.0 -1.0**
BTO SS **SS** **13 29 51.0 0.0**
BTO pmax pmax
comp=Z,40nm,1.4s
BTO pmax pmax
comp=Z,390nm,5.5s
BTO LR LR
comp=Z,3μm,14.9s
BTO LR LR
comp=Z,4μm,13.3s
BTO LR LR
comp=Z,2μm,22.9s
ARTI Arti 54.68 337 *c i*P **P** **13 18 29.4 -0.1**
ARTI S **S** **13 26 11.8 +3.1**
ARTI SS **SS** **13 29 52.7 +2.1**
ARTI pmax pmax
comp=Z,40nm,0.7s
ARTI MLR MLR
comp=Z,494nm,20.0s
KPL Plockton 54.80 18 *e*P **P** **13 18 31.0 +0.7**
KPL IAmb IAmb 13 18 32.0
comp=Z,39nm,0.8s
MCD Coleburn Disti 54.86 17 *e*P **P** **13 18 31.6 +0.9**
MCD IAmb IAmb 13 18 32.5
comp=Z,79nm,0.8s
ZAIG Zacatecas 55.44 114 IAmb IAmb 13 18 37.8
comp=Z,31nm,1.4s
VSU Vasula 55.47 357 *ce*P **P** **13 18 34.4 -0.7**
VSU pmax pmax
comp=Z,54nm,1.7s
BORK Borovoye 55.59 327 *ce*P **P** **13 18 35.5 -0.6**
BORK pmax pmax
comp=Z,60nm,1.5s
BVAR Borovoye Array 55.59 327 LR LR 13 46 01.6
comp=Z,909nm,19.6s,baz=24,slow=40
DRUM Mains of Drumt 55.60 16 *e*P **P** **13 18 36.7 +0.6**
HNS HongShan 55.64 285 ⇑P **P** **13 18 37.4 +0.8**
HNS S **S** **13 26 24.3 +2.3**
HNS pmax pmax
comp=Z,60nm,1.4s
HNS LR LR
comp=Z,1μm,14.7s
HNS LR LR
comp=Z,2μm,16.1s
HNS LR LR
comp=Z,2μm,15.5s
TIA Tai'an 55.73 283 P **P** **13 18 39.9 +2.6**
TIA S **S** **13 26 24.1 +0.9**
TIA pmax pmax
comp=Z,26nm,1.4s
TIA LR LR
comp=Z,1μm,15.8s
TIA LR LR
comp=Z,2μm,17.9s
TIA LR LR
comp=Z,2μm,13.7s
KURK Kurchatov 55.77 320 P **P** **13 18 37.1 -0.4**
KURK Kurchatov 55.77 320 *ce*P **P** **13 18 37.0 -0.4**
KURK pmax pmax
comp=Z,158nm,2.5s
KURBB Kurchatov Arra 55.88 320 P **P** **13 18 38.0 -0.3**
comp=Z,21nm,0.8s,baz=27,slow=6.5,SNR=86
KURBB LR LR 13 44 23.7
comp=Z,780nm,20.1s,baz=350,slow=38
comp=Z,21nm,0.8s
KURBB Kurchatov Arra 55.88 320 P **P** **13 18 37.1 -1.1**
LAWE Loch Awe, Argy 55.89 19 *e*P **P** **13 18 38.8 +0.7**
LAWE IAmb IAmb 13 18 39.7
comp=Z,39nm,0.9s
INVG Invergeldie, C 55.89 18 *e*P **P** **13 18 38.7 +0.5**
INVG IAmb IAmb 13 18 39.6
comp=Z,40nm,1.0s
EDI Edinburgh 56.49 17 *e*P **P** **13 18 43.0 +0.6**
EDI IAmb IAmb 13 18 43.9
comp=Z,35nm,0.9s
ESY Stoneypath 56.56 17 *e*P **P** **13 18 43.7 +0.6**
IDGL Inch Island, C 56.76 20 *e*P **P** **13 18 45.2 +0.8**
ZSN Zaisan 57.04 314 ⇑*i*P **P** **13 18 46.6 0.0**
comp=Z,15nm,0.8s
ZSN *e*S **S** **13 26 40.8 +0.4**
ZSN Zaisan 57.04 314 *c i*P **P** **13 18 46.6 0.0**
ZSN *e*S **S** **13 26 40.8 +0.4**
ZSN pmax pmax
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 57.07 17 P **P** **13 18 47.5 +0.9**
comp=Z,84nm,0.9s,baz=333,slow=4.9,SNR=121
comp=Z,84nm,0.9s
ESK Eskdalemuir 57.08 17 *e*P **P** **13 18 47.4 +0.7**
ESK IAmb IAmb 13 18 48.5
comp=Z,180nm,1.3s
ESK Eskdalemuir 57.08 17 P **P** **13 18 47.8 +1.1**
ESK pmax pmax
comp=Z,166nm,1.3s
NEWG New Galloway 57.15 18 *e*P **P** **13 18 47.8 +0.6**
NEWG IAmb IAmb 13 18 48.5
comp=Z,76nm,1.3s
GAL1 Galloway 57.34 18 *e*P **P** **13 18 49.1 +0.6**
GAL1 IAmb IAmb 13 18 49.5
comp=Z,57nm,0.7s
EDMD Edmundbyers 57.70 17 *e*P **P** **13 18 51.9 +0.8**
EDMD IAmb IAmb 13 18 52.9
comp=Z,85nm,1.0s
MOS Moscow 57.71 350 *e*P **P** **13 18 49.2 -1.9**
KESW Keswick, Cumbr 57.81 17 *e*P **P** **13 18 52.1 +0.2**
KESW IAmb IAmb 13 18 53.4
comp=Z,86nm,1.2s
ILTH Belurgan, Co L 57.94 20 *e*P **P** **13 18 53.2 +0.5**
ILTH IAmb IAmb 13 18 54.0
comp=Z,28nm,0.7s
IGLA Glengowla, Co 58.09 22 *e*P **P** **13 18 54.3 +0.5**
IGLA IAmb IAmb 13 18 55.3
comp=Z,222nm,1.5s
MK31 Makanchi Array 58.37 316 *ce*P **P** **13 18 54.9 -1.1**
MKAR Makanchi Array 58.37 316 P **P** **13 18 55.0 -0.9**
comp=Z,12nm,0.7s,baz=40,slow=5.8,SNR=52
MKAR LR LR 13 45 43.6
comp=Z,490nm,21.1s,baz=9.5,slow=38
comp=Z,12nm,0.7s
OBN Obninsk 58.41 351 *ce*P **P** **13 18 56.2 +0.2**
OBN *i* SSS SSS 13 33 18.4
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,479nm,23.0s
MAKZ Makanchi 58.45 316 IAmb IAmb 13 18 59.1
comp=Z,41nm,1.4s
SSE Sheshan 58.60 276 P **P** **13 18 55.8 -1.8**
SSE S **S** **13 26 59.5 -1.6**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE pmax pmax
comp=Z,210nm,3.8s
SSE LR LR
comp=Z,460nm,12.4s
SSE LR LR
comp=Z,370nm,12.4s
HPK Haverah Park 58.60 17 *e*P **P** **13 18 58.2 +0.9**
HPK IAmb IAmb 13 18 59.1
comp=Z,87nm,1.0s
NJ2 Nanjing 58.69 279 *e*P **P** **13 18 58.3 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.9s
NJ2 pmax pmax
comp=Z,280nm,3.6s
NJ2 LR LR
comp=Z,750nm,12.6s
NJ2 LR LR
comp=Z,2μm,14.0s
NJ2 LR LR
comp=Z,1μm,16.9s
WME Myndd Eilian 58.83 19 *e*P **P** **13 18 59.2 +0.3**
WLF1 Llynfaes 58.92 19 *e*P **P** **13 19 00.0 +0.5**
WLF1 IAmb IAmb 13 19 00.8
comp=Z,98nm,0.8s
LYN LuoYang 59.00 286 P **P** **13 19 00.9 +0.5**
LYN pP sP 13 19 06.0 -0.5
LYN S **S** **13 27 07.8 +1.5**
LYN SS **SS** **13 31 01.8 +2.3**
LYN pmax pmax
comp=Z,72nm,1.6s
LYN pmax pmax
comp=Z,200nm,4.1s
LYN LR LR
comp=Z,1μm,14.4s
LYN LR LR
comp=Z,2μm,15.9s
LYN LR LR
comp=Z,2μm,14.8s
MNK Minsk 59.41 357 *i* P **P** **13 19 01.6 -1.4**
MNK *i* 13 19 49.5
MNK *i* 13 21 12.6
MNK *i* S **S** **13 27 10.7 -0.3**
MNK *i* 13 28 51.8
MNK *i* SS **SS** **13 31 06.7 +1.8**
MNK pmax pmax
comp=Z,28nm,0.7s
MNK pmax pmax
comp=N,21nm,0.8s
MNK pmax pmax
comp=E,67nm,0.9s
GTA Gaotai 59.42 299 P **P** **13 19 03.8 +0.3**
GTA sP sP 13 19 12.6 +3.1
GTA sS sS 13 27 17.3 -1.8
GTA pmax pmax
comp=E,32nm,1.0s
GTA pmax pmax
comp=E,320nm,4.8s
LLW Llanuwychllyn 59.44 18 *e*P **P** **13 19 03.6 +0.4**
FOEL Foel Wylfa 59.46 18 *e*P **P** **13 19 04.0 +0.6**
FOEL IAmb IAmb 13 19 04.9
comp=Z,63nm,1.1s
WMQ Urumqi 59.49 310 *e*P **P** **13 19 04.8 +1.0**
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,300nm,5.1s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,940nm,17.9s
JOW Kunigami 59.51 267 P **P** **13 19 05.3 +1.2**
comp=Z,32nm,0.9s,baz=330,slow=15,SNR=3.8
JOW LR LR 13 45 34.2
comp=Z,289nm,18.0s,baz=58,slow=37
comp=Z,32nm,0.9s
JOW Kunigami 59.51 267 P **P** **13 19 06.7 +2.6**
HLM1 Long Mynd 59.87 18 *e*P **P** **13 19 07.0 +0.8**
HLM1 IAmb IAmb 13 19 07.9
comp=Z,63nm,1.1s
SUW Suwalki 59.96 360 *e*P **P** **13 19 06.8 0.0**
BELG Belogornoye 60.08 343 *i* P **P** **13 19 07.4 -0.2**
BELG pmax pmax
comp=Z,9.0nm,0.8s
RSBS Rosebush, Pemb 60.18 19 *e*P **P** **13 19 08.8 +0.5**
RSBS IAmb IAmb 13 19 09.4
comp=Z,45nm,0.8s
MCH1 Michaelchurch 60.36 18 *e*P **P** **13 19 10.3 +0.8**
MCH1 IAmb IAmb 13 19 11.1
comp=Z,69nm,0.9s
AKTO Aktyubinsk 60.47 335 LR LR 13 48 43.2
comp=Z,474nm,19.3s,baz=47,slow=40
MONM Monmouth 60.54 18 *e*P **P** **13 19 11.6 +0.9**
MONM IAmb IAmb 13 19 12.5
comp=Z,91nm,0.9s
STRD Stroud 60.68 17 *e*P **P** **13 19 12.5 +0.8**
STRD IAmb IAmb 13 19 13.6
comp=Z,87nm,0.8s
LPSR Galich'ya Gora 60.74 349 *e*P **P** **13 19 10.2 -1.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
XAN Xi'an 60.82 288 ⇓P **P** **13 19 14.8 +1.8**
XAN pmax pmax
comp=Z,20nm,1.7s
XAN LR LR
comp=Z,1μm,19.9s
LZH Lanzhou 60.92 294 *e*P **P** **13 19 14.3 +0.5**
LZH sP sP 13 19 20.6 +0.8
LZH PP **PP** **13 21 32.4 +4.8**
LZH S **S** **13 27 24.1 -7.2**
LZH SS **SS** **13 31 33.4 +3.6**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,250nm,4.3s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,19.7s
LZH LR LR
comp=Z,2μm,14.9s
LZDM Lanzhou Array 61.09 294 P **P** **13 19 14.4 -0.7**
comp=Z,3.3nm,0.5s,baz=174,slow=1.5,SNR=4.2
LZDM LR LR 13 47 57.3
comp=Z,1μm,18.0s,baz=15,slow=38
comp=Z,3.3nm,0.5s
TDK Taldyqorghan 61.09 318 *e*P **P** **13 19 14.6 -0.1**
comp=Z,13nm,1.0s
TDK LR LR 13 48 17.5
comp=Z,555nm,14.3s
TDK Taldyqorghan 61.09 318 *e*P **P** **13 19 14.5 -0.1**
TDK pmax pmax
comp=Z,13nm,1.0s
TDK MLR MLR
comp=Z,555nm,14.0s
WOL Wolverton 61.25 17 *e*P **P** **13 19 16.8 +1.2**
AB31 Akbulak array 61.27 333 *i* P **P** **13 19 15.6 -0.1**
WHN Wuhan 61.81 282 P **P** **13 19 21.8 +2.2**
WHN LR LR
comp=Z,2μm,11.9s
WHN LR LR
comp=Z,3μm,14.1s
WHN LR LR
comp=Z,3μm,14.8s
VRH Novokhopyorsk 61.88 347 *e*P **P** **13 19 16.4 -3.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 62.09 348 *e*P **P** **13 19 18.8 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BEL Belsk 62.13 1 *e*P **P** **13 19 22.6 +1.1**
VORD Divnogorie 62.33 348 *e*P **P** **13 19 21.1 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
UCC Uccle 62.34 13 *d*P **P** **13 19 23.7 +0.8**
comp=Z,24nm,1.0s
CLL Collm 62.44 7 IAmb IAmb 13 19 25.2
comp=Z,22nm,1.1s
CLL Collm 62.44 7 *i* P **P** **13 19 24.5 +0.9**
CLL *e*S **S** **13 27 53.0 +3.3**
CLL pmax pmax
comp=Z,29nm,1.2s
CLL MLR MLR
comp=Z,400nm,21.7s
SHLS Shalkode 62.51 316 *e*P **P** **13 19 23.6 -0.8**
comp=Z,11nm,0.9s
SHLS Shalkode 62.51 316 *e*P **P** **13 19 23.5 -0.8**
SHLS pmax pmax
comp=Z,11nm,0.9s
UZB Uzynbulak 62.64 317 ⇑*i*P **P** **13 19 25.2 -0.1**
comp=Z,9.1nm,0.9s
UZB *e*S **S** **13 27 53.2 +0.3**
UZB Uzynbulak 62.64 317 *c i*P **P** **13 19 25.2 -0.1**
UZB *e*S **S** **13 27 53.1 +0.3**
UZB pmax pmax
comp=Z,9.0nm,0.9s
BSTI Sart Tilman 62.66 12 *d*P **P** **13 19 26.4 +1.3**
comp=Z,8.2nm,1.1s
MEM Membach 62.67 12 *d*P **P** **13 19 25.9 +0.8**
comp=Z,29nm,1.1s
BTNL Ternell 62.70 12 *d*P **P** **13 19 26.1 +0.7**
comp=Z,27nm,0.9s
BCLA Clavier 62.80 12 *d*P **P** **13 19 26.9 +0.9**
comp=Z,12nm,1.1s
BMRD Maredsous 62.87 13 *d*P **P** **13 19 27.2 +0.7**
comp=Z,15nm,1.0s
SATY Saty 62.89 317 *e*P **P** **13 19 27.0 0.0**
comp=Z,9.0nm,1.3s
SATY Saty 62.89 317 *e*P **P** **13 19 26.9 0.0**
SATY pmax pmax
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 62.91 6 *i* P **P** **13 19 27.8 +1.0**
BRG Amp 13 19 29.3
comp=Z,26nm,1.1s
BRG Berggiesshubel 62.91 6 P **P** **13 19 31.4 +4.6**
BRG Amp 13 19 33.0
comp=Z,18nm,0.9s
BHOU Houvegnez 62.92 12 *d*P **P** **13 19 28.8 +1.9**
KSP Ksiaz 63.03 5 *e*P **P** **13 19 28.2 +0.6**
KSP Ksiaz 63.03 5 P **P** **13 19 28.7 +1.1**
RCHB Rochefort 63.05 13 *d*P **P** **13 19 26.3 -1.4**
comp=Z,14nm,1.1s
DOU Dourbes 63.06 13 *d*P **P** **13 19 27.5 -0.2**
comp=Z,21nm,1.1s
AAA Alma-Ata 63.15 318 *e*P **P** **13 19 28.6 0.0**

AAA LR LR 13 49 41.4
AAA Alma-Ata 63.15 318 *e*P **P 13 19 28.6 0.0**
HSKC Hora Svate Kat 63.16 7 *e*P **P 13 19 29.4 +1.0**
HSKC *ep*P **sP 13 19 32.7 -1.8**
MDOK Medeo 63.16 318 *e*P **P 13 19 28.5 -0.2**
MDOK *e*S **S 13 27 59.4 0.0**
MDOK LR LR 13 49 44.7
MDOK Medeo 63.16 318 *e*P **P 13 19 28.5 -0.2**
MDOK *e*S **S 13 27 59.4 0.0**
AKASG Malin Array Be 63.17 355 P **P 13 19 28.6 +0.1**
comp=Z,12nm,0.6s,baz=3.6,slow=6.5,SNR=53
AKASG LR LR 13 46 30.5
comp=Z,296nm,20.6s,baz=3.0,slow=36
comp=Z,12nm,0.6s
AKBB Malin Array Si 63.17 355 *ce*P **P 13 19 27.6 -0.9**
AKBB pmax pmax
comp=Z,81nm,1.5s
KIEV Kiev 63.18 355 *i* P **P 13 19 28.3 -0.2**
SNR=23
KIEV Kiev 63.18 355 P **P 13 19 28.6 +0.1**
CHVC Chvalec 63.28 5 *e*P **P 13 19 30.8 +1.5**
CHVC MLR MLR
comp=Z,300nm,19.3s
CHVC Chvalec 63.28 5 *e*P **P 13 19 30.8 +1.5**
CHVC AMS AMS 13 51 40.0
comp=Z,300nm,19.3s
PVCC Panska Ves 63.28 6 P **P 13 19 27.5 -1.7**
TNSS Tian-Shan 63.30 318 *e*P **P 13 19 29.5 -0.6**
TNSS Tian-Shan 63.30 318 *e*P **P 13 19 29.4 -0.6**
OSTC Ostas 63.32 5 *e*P **P 13 19 31.0 +1.5**
OSTC Ostas 63.32 5 *e*P **P 13 19 31.0 +1.5**
UPC Upice 63.36 5 *e*P **P 13 19 31.0 +1.2**
UPC MLR MLR
comp=Z,400nm,19.8s
UPC Upice 63.36 5 *e*P **P 13 19 31.0 +1.2**
UPC AMS AMS 13 51 20.0
comp=Z,400nm,19.8s
CMIG Matias Romero 63.50 109 LR LR 13 51 11.8
comp=Z,374nm,19.1s,baz=360,slow=40
DPC Dobruska-Polom 63.53 5 *e*P **P 13 19 32.0 +1.1**
DPC *e**PP **sP 13 19 37.1 +0.1**
DPC MLR MLR
comp=Z,300nm,18.6s
DPC Dobruska-Polom 63.53 5 *e*P **P 13 19 32.0 +1.1**
DPC *ep*P **sP 13 19 37.1 +0.1**
DPC AMS AMS 13 49 10.0
comp=Z,300nm,18.6s
SGDS Sogindy 63.53 320 ⇑*i*P **P 13 19 31.2 +0.1**
comp=Z,9.6nm,1.2s
WLF Walferdange 63.62 12 *d*P **P 13 19 32.9 +1.4**
comp=Z,23nm,1.0s
USP Ospenovka 63.73 320 P **P 13 19 32.8 +0.4**
SNR=15
OJC Ojcow 63.74 2 *e*P **P 13 19 32.8 +0.5**
OJC Ojcow 63.74 2 P **P 13 19 34.0 +1.7**
TKM2 Tokmak 2 63.77 319 P **P 13 19 33.4 +0.5**
SNR=24
KRLC Kraliky 63.81 4 *e*P **P 13 19 33.9 +1.1**
KRLC Kraliky 63.81 4 *e*P **P 13 19 33.9 +1.1**
PRU Pruhonice 63.82 6 *e*P **P 13 19 34.1 +1.3**
PRU MLR MLR
comp=Z,400nm,23.5s
PRU Pruhonice 63.82 6 *e*P **P 13 19 34.1 +1.3**
PRU AMS AMS 13 46 30.0
comp=Z,400nm,23.5s
CHMS Chumysh 63.92 320 P **P 13 19 34.4 +0.7**
SNR=9.0
STEB Steborice 63.98 4 *e*P **P 13 19 34.4 +0.5**
STEB *ep*P **sP 13 19 39.2 -0.7**
GOMU GeErMu 64.05 301 P **P 13 19 35.1 +0.1**
GOMU pP sP 13 19 39.1 -1.9
GOMU sP pP 13 19 42.0 +2.6
GOMU S **S 13 28 10.1 -1.0**
GOMU pmax pmax
comp=Z,18nm,1.0s
GOMU LR LR
comp=Z,1μm,15.3s
GOMU LR LR
comp=Z,440nm,15.4s
GOMU LR LR
comp=Z,2μm,15.2s
OKC Ostrava-Krasne 64.09 3 P **P 13 19 36.4 +1.8**
MORC Moravsky Berou 64.14 4 IAmb IAmb 13 19 36.9
comp=Z,22nm,1.1s
MORC Moravsky Berou 64.14 4 ⇓P **P 13 19 35.6 +0.6**
MORC Moravsky Berou 64.14 4 *e*P **P 13 19 35.7 +0.8**
MORC Moravsky Berou 64.14 4 P **P 13 19 35.9 +1.0**
KBK Karagaybulak 64.19 320 P **P 13 19 36.1 +0.6**
SNR=17
AAK Ala-Archa 64.33 320 LR LR 13 51 31.1
comp=Z,1μm,18.1s,baz=18,slow=40
AAK Ala-Archa 64.33 320 P **P 13 19 36.9 +0.5**
AAK Ala-Archa 64.33 320 P **P 13 19 37.0 +0.5**
SNR=22
AAK Ala-Archa 64.33 320 *i* P **P 13 19 36.6 +0.2**
SNR=24
AAK Ala-Archa 64.33 320 *ce*P **P 13 19 37.2 +0.8**
AAK pmax pmax
comp=Z,45nm,1.3s
ZVC Zvikov 64.36 6 *e*P **P 13 19 37.2 +0.9**
CNSH ChangSha 64.47 282 P **P 13 19 39.5 +2.2**
CNSH pmax pmax
comp=Z,41nm,1.5s
EKS2 Erkin-Say 64.49 321 P **P 13 19 38.0 +0.6**
SNR=24
NIE Niedzica 64.55 2 *e*P **P 13 19 38.7 +1.1**
NIE Niedzica 64.55 2 P **P 13 19 39.1 +1.5**
MAUC Maruska 64.55 4 *e*P **P 13 19 38.9 +1.2**
MAUC *ep*P **sP 13 19 44.1 +0.4**
STHS Stebnicka Huta 64.56 1 *e*P **P 13 19 38.0 +0.3**
VRAC Vranov 64.58 4 ⇑P **P 13 19 38.9 +1.1**
VRAC Vranov 64.58 4 *e*P **P 13 19 38.7 +0.9**
VRAC Vranov 64.58 4 P **P 13 19 38.8 +1.1**
KHC Kasperske Hory 64.64 7 *ce*P **P 13 19 40.0 +1.8**
KHC pmax pmax
comp=Z,29nm,1.0s
KHC Kasperske Hory 64.64 7 *e*P **P 13 19 39.8 +1.6**
KHC AMS AMS 13 50 20.0
comp=Z,500nm,19.8s
UCH Uchtor 64.70 320 P **P 13 19 39.8 +0.5**
SNR=8.2
LANS Liptovska Anna 64.80 2 *e*P **P 13 19 40.8 +1.5**
LANS pmax pmax
comp=Z,16nm,1.2s
LANS Liptovska Anna 64.80 2 *e*P **P 13 19 40.8 +1.5**
KRUC Moravsky 64.82 5 *e*P **P 13 19 40.1 +0.8**
DZA Taraz 64.89 323 *e*P **P 13 19 39.9 0.0**
comp=Z,9.3nm,0.8s
DZA Taraz 64.89 323 *e*P **P 13 19 39.9 0.0**
DZA pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 64.93 7 P **P 13 19 41.1 +0.9**
comp=Z,11nm,1.0s,baz=352,slow=5.4,SNR=38
comp=Z,11nm,1.0s
GUMO Guam 65.03 245 LR LR 13 46 34.1
comp=Z,191nm,20.3s,baz=22,slow=35
JAVC Velka Javorina 65.06 4 *e*P **P 13 19 42.5 +1.5**
BFO Black Forest 65.12 11 P **P 13 19 41.9 +0.6**
BFO pmax pmax
comp=Z,31nm,1.1s
ECH Echery 65.14 11 P **P 13 19 42.5 +1.0**
KECS Kecovo 65.48 2 *e*P **P 13 19 44.5 +0.8**
MODS Modra-Piesok 65.53 4 *e*P **P 13 19 45.7 +1.7**
MODS pmax pmax
comp=Z,72nm,1.3s
MODS Modra-Piesok 65.53 4 *e*P **P 13 19 45.7 +1.7**
CD2 Chengdu 65.57 291 *e*P **P 13 19 44.0 -0.6**
ZST Bratislava 65.70 4 *e*P P 13 19 37.2 -7.9
CHM Chimkent 65.84 324 *e*P **P 13 19 46.1 -0.1**
CHM Chimkent 65.84 324 *e*P **P 13 19 46.0 -0.1**
IUG Iuzhnay 65.91 323 ⇑*i*P **P 13 19 46.6 0.0**
comp=Z,9.6nm,1.0s
IUG Iuzhnay 65.91 323 *c i*P **P 13 19 46.6 0.0**
IUG pmax pmax
comp=Z,10.0nm,1.0s
CONA Conrad Observa 65.93 5 *ep*P **P 13 19 47.7 +1.0**
comp=Z,25nm,0.8s,SNR=17
MOA Molln 65.95 6 *i* pP **P 13 19 47.8 +1.1**
comp=Z,38nm,1.4s,SNR=15
PSZ Piszkesteto 66.04 2 IAmb IAmb 13 19 49.9
comp=Z,27nm,1.1s
PSZ Piszkesteto 66.04 2 ⇓P **P 13 19 48.6 +1.2**
PSZ Piszkesteto 66.04 2 P **P 13 19 48.6 +1.2**
BIOA Bad Ischl, Aus 66.08 7 *i* pP **P 13 19 48.6 +1.0**
comp=Z,1.8nm,0.4s
RETA Reutte 66.12 9 *ep*P **P 13 19 48.7 +0.8**
comp=Z,27nm,1.2s,SNR=7.5
RONA Rosalia, Austr 66.17 5 *ep*P **P 13 19 49.2 +1.0**
comp=Z,16nm,0.8s,SNR=9.5
SOP Sopron 66.20 5 P **P 13 19 50.1 +1.8**
DAVA Damuels 66.27 10 *i* P **P 13 19 49.3 +0.4**
comp=Z,0.9nm,0.5s
MOTA Moosalm 66.28 9 *ep*P **P 13 19 50.1 +1.0**
comp=Z,28nm,1.5s,SNR=6.8
LESA Schwarzleotal 66.30 7 *i* pP **P 13 19 50.2 +1.2**
comp=Z,32nm,0.9s,SNR=14
WATA Walderalm 66.32 8 *e*P **P 13 19 49.9 +0.6**
comp=Z,34nm,1.2s,SNR=7.3
BUR08 Bucovina Ar. S 66.32 358 IAmb IAmb 13 19 51.1
comp=Z,26nm,1.4s
BURAR Bucovina Array 66.35 358 IAmb IAmb 13 19 56.7
comp=Z,11nm,0.8s
BURAR Bucovina Array 66.35 358 ⇑P **P 13 19 49.9 +0.5**
BURAR Bucovina Array 66.35 358 P **P 13 19 50.0 +0.5**
WTTA Wattenberg 66.40 8 *ep*P **P 13 19 51.0 +1.2**
comp=Z,39nm,1.2s,SNR=15
SQTA Sankt Quirin 66.42 9 *i* pP **P 13 19 51.2 +1.4**
comp=Z,61nm,1.6s,SNR=11
FETA Feichten 66.58 9 *ep*P **P 13 19 52.6 +1.6**
comp=Z,47nm,1.2s,SNR=17
ARSA Arzberg 66.60 5 IAmb IAmb 13 19 53.4
comp=Z,28nm,1.4s
ARSA Arzberg 66.60 5 *ep*P **P 13 19 52.0 +1.1**
comp=Z,3.5nm,0.6s,SNR=8.5
KBA Koelnbreinsper 66.67 7 *ep*P pP 13 19 53.3 -2.7
comp=Z,45nm,0.8s,SNR=31
KSH Kashi 66.85 318 P **P 13 19 55.9 +3.1**
KSH pP sP 13 19 59.9 +1.1
KSH pmax pmax
comp=Z,13nm,0.9s
KSH pmax pmax
comp=Z,260nm,3.8s
KSH LR LR
comp=Z,800nm,16.5s
KSH LR LR
comp=Z,1μm,14.6s
KSH LR LR
comp=Z,2μm,12.8s
KIS Kishinev 66.89 355 *e*P **P 13 19 52.0 -0.7**
comp=Z,90nm,3.2s
KIS Kishinev 66.89 355 *e*P **P 13 19 52.0 -0.7**
KIS pmax pmax
comp=Z,90nm,3.2s
ABTA Abfaltersbach 66.96 8 *i* pP **P 13 19 54.4 +1.1**
comp=Z,15nm,0.7s,SNR=8.7
MILM Milestii Mici 66.97 355 *e*P **P 13 19 52.0 -1.2**
MILM *e*S **S 13 28 43.0 -2.6**
comp=Z,3μm,9.8s
MILM *e*L L 13 44 33.0
MILM LQM 13 51 34.0
comp=Z,400nm,21.0s
MILM LRM MLR 13 56 22.0
comp=Z,300nm,18.0s
MILM Milestii Mici 66.97 355 *e*P **P 13 19 52.0 -1.2**
MILM *e*S **S 13 28 43.0 -2.6**
MILM pmax pmax
comp=Z,90nm,1.2s
MILM smax smax
comp=N,3μm,9.8s
MYKA Terra Mystica 67.14 7 *i* pP **P 13 19 55.4 +1.0**
comp=N,12nm,0.7s,SNR=10.0
SOKA Soboth 67.15 6 *ep*P **P 13 19 55.3 +0.8**
comp=N,9.7nm,1.3s
DRGR 67.19 0 ⇓P **P 13 19 54.7 0.0**
DRGR 67.19 0 P **P 13 19 55.1 +0.4**
OBKA Obir 67.30 6 *ep*P **P 13 19 56.8 +1.4**
comp=N,84nm,0.8s,SNR=28
STAL STALIGIAL 67.46 8 IAmb IAmb 13 20 03.0
comp=Z,13nm,1.0s
GORS Gorjuse 67.46 7 *i* P **P 13 19 57.0 +0.5**
MOZS Mozjanca 67.51 6 *e*P **P 13 19 57.5 +0.8**
CADS Cadrg 67.54 7 *i* P **P 13 19 57.2 +0.3**
CTI Castel Tesino 67.61 8 IAmb IAmb 13 20 03.4
comp=Z,25nm,1.2s
CRNS Crni Vrh 67.71 6 *e*P **P 13 19 58.3 +0.3**
SIRR Siria 67.71 1 ⇑P **P 13 19 58.8 +0.8**
MORH Mrgy, Hungar 67.72 3 *e*P **P 13 19 58.4 +0.4**
MORH Mrgy, Hungar 67.72 3 ⇓P **P 13 19 57.9 0.0**
SSB Saint Sauveur 67.83 14 P **P 13 20 00.0 +1.3**
GOF Gofitskoye 67.83 345 *ce*P **P 13 19 58.6 -0.1**
DOPR Dopca 68.00 358 ⇓P **P 13 20 01.0 +1.3**
GULI GuiLin 68.06 283 P **P 13 20 02.1 +1.7**
GULI S **S 13 29 06.6 +7.3**
GULI pmax pmax
comp=Z,29nm,1.6s
GULI pmax pmax
comp=Z,320nm,3.3s
GULI LR LR
comp=Z,680nm,17.7s
GULI LR LR
comp=Z,1μm,16.9s
GULI LR LR
comp=Z,720nm,12.7s
VRI Vrincioaia 68.08 357 ⇑P **P 13 20 00.5 +0.2**
VRI Vrincioaia 68.08 357 P **P 13 20 00.4 +0.2**
PLOR Plostina 68.09 357 ⇓P **P 13 20 00.4 0.0**
PLOR Plostina 68.09 357 P **P 13 20 01.5 +1.2**
PLOR Plostina 68.09 357 ⇑P **P 13 20 01.6 +1.2**
CHIV Chivirico 68.21 90 IAmb IAmb 13 20 19.2
comp=Z,12nm,1.0s
OZLJ Ozalj 68.23 5 *e*P **P 13 20 01.4 +0.3**
SURR Surduc 68.23 0 ⇓P **P 13 20 01.7 +0.5**
BNI Bardonecchia 68.24 12 P **P 13 20 03.6 +2.1**
MOSL Moslavina 68.27 5 *e*P **P 13 20 02.1 +0.6**
BZS Buzias 68.36 1 ⇑P **P 13 20 02.7 +0.7**
BZS Buzias 68.36 1 P **P 13 20 02.7 +0.7**
GYA Guiyang 68.46 287 ⇓P **P 13 20 03.6 +0.6**
GYA S **S 13 29 03.3 -1.0**
GYA pmax pmax
comp=Z,21nm,0.9s
GYA pmax pmax
comp=Z,190nm,3.1s
GYA LR LR
comp=Z,820nm,12.1s
GYA LR LR
comp=Z,700nm,11.2s
GYA LR LR
comp=Z,390nm,14.7s
MLR Muntele Rosu 68.47 358 IAmb IAmb 13 20 06.3
comp=Z,27nm,1.4s
MLR Muntele Rosu 68.47 358 LR LR 13 49 55.5
comp=Z,329nm,20.9s,baz=12,slow=36
MLR Muntele Rosu 68.47 358 P **P 13 20 05.9 +3.1**
LOT Lotru 68.53 359 ⇓P **P 13 20 03.4 +0.2**
GZR Gura Zlata 68.59 360 ⇑P **P 13 20 04.2 +0.6**
GZR Gura Zlata 68.59 360 P **P 13 20 04.1 +0.6**
ARR Arges 68.61 359 ⇓P **P 13 20 04.0 +0.3**
CFR Carcaliu 68.73 356 ⇑P **P 13 20 04.5 +0.2**
CFR Carcaliu 68.73 356 P **P 13 20 04.5 +0.2**
BRJN Brijuni 68.86 7 *e*P **P 13 20 04.8 -0.3**
KIV Kislovodsk 68.96 345 P **P 13 20 06.1 +0.2**
KIV P **P 13 20 06.1 +0.2**
KIV Kislovodsk 68.96 345 P **P 13 20 05.5 -0.4**
KIV Kislovodsk 68.96 345 *e*P **P 13 20 05.9 0.0**
KIV *e*S **S 13 29 10.0 +0.2**
KIV pmax pmax
comp=Z,20nm,4.0s
KIV pmax pmax
comp=Z,44nm,1.0s
KIV MLR MLR
comp=Z,279nm,17.0s
TPGR Topolog 69.04 356 ⇓P **P 13 20 06.6 +0.3**
BLY Banja Luka 69.15 4 *e*P **P 13 20 08.5 +1.5**
KBZ Khabaz 69.16 344 P **P 13 20 07.3 +0.3**
comp=Z,7.7nm,0.8s,baz=334,slow=5.7,SNR=18
KBZ LR LR 13 52 20.8
comp=Z,245nm,18.9s,baz=4.5,slow=38
comp=Z,7.7nm,0.8s
SHA1 Shidzhatmaz 69.18 345 *i* P **P 13 20 07.9 +0.5**
MDVR Moldovita 69.20 1 ⇓P **P 13 20 07.5 +0.1**
HARR Harsova 69.22 356 ⇑P **P 13 20 08.0 +0.6**
HARR Harsova 69.22 356 P **P 13 20 08.0 +0.6**
MAK Makhachkala 69.36 341 *c i*P P 13 20 01.9 -6.4
MAK *e*S **S 13 29 05.8 -8.5**
MAK *e*SS **SS 13 33 39.3 -0.8**
MAK pmax pmax
comp=Z,72nm,0.6s
MAK MLR MLR
comp=Z,460nm,17.0s
PGAV Gavieira, Arco 69.41 24 *e*P **P 13 20 10.4 +1.7**
PGAV *i* IAmb IAmb 13 20 13.9
comp=Z,131nm,1.7s
CHGR Chuyangaron 69.42 323 P **P 13 20 08.8 -0.1**
TIRR Tirgusor 69.44 356 IAmb IAmb 13 20 13.9
comp=Z,28nm,1.2s
TIRR Tirgusor 69.44 356 ⇑P **P 13 20 09.9 +1.2**
TIRR Tirgusor 69.44 356 P **P 13 20 09.9 +1.2**
PCAB Cabril 69.69 24 *e*P **P 13 20 12.5 +2.1**
PCAB *i* IAmb IAmb 13 20 15.6
comp=Z,86nm,1.8s
PBRG Braganca 69.81 23 *e*P **P 13 20 12.7 +1.6**
PBRG *i* IAmb IAmb 13 20 20.2
comp=Z,39nm,1.5s
KIJV Kijevo 69.87 5 *e*P **P 13 20 11.6 +0.2**
POLO Lamas de Olo 70.06 24 *e*P **P 13 20 14.3 +1.6**
POLO *i* IAmb IAmb 13 20 21.7
comp=Z,33nm,1.6s
OSSC Osservatorio P 70.10 9 IAmb IAmb 13 20 23.9
comp=Z,19nm,1.0s
CEST Esterri de Car 70.13 17 IAmb IAmb 13 20 35.6
comp=Z,40nm,1.4s
PVRL Vila Real 70.17 24 *e*P **P 13 20 15.5 +2.1**
PVRL *i* IAmb IAmb 13 20 23.1
comp=Z,92nm,1.5s
PZH PanZhiHua 70.30 291 P **P 13 20 14.4 0.0**
PZH S **S 13 29 21.3 -4.7**
PZH pmax pmax
comp=Z,30nm,1.5s
PZH pmax pmax
comp=Z,140nm,5.4s
PZH LR LR
comp=Z,970nm,16.9s
PZH LR LR
comp=Z,2μm,16.8s
PZH LR LR
comp=Z,1μm,14.7s
RUDO Rudo 70.33 3 *e*P **P 13 20 14.5 +0.2**
MVO Moncorvo 70.39 23 *e*P **P 13 20 16.2 +1.5**
MVO *i* IAmb IAmb 13 20 18.9
comp=Z,55nm,1.7s
SIUN Universidad Ur 70.51 101 IAmb IAmb 13 20 17.7
comp=Z,24nm,1.0s
MPEP Malo Peshtene 70.62 359 *e*P **P 13 20 16.2 +0.2**
NEF NEVSHA 70.66 356 *e*P **P 13 20 17.2 +0.9**
PVIS Viseu 70.69 24 *e*P **P 13 20 18.2 +1.7**
PRD Provadia 70.76 356 *e*P **P 13 20 17.9 +1.0**
AKT Akhty 70.79 340 *e*P **P 13 20 14.4 -2.8**
AKT *e* 13 20 36.0
AKT *e*S **S 13 29 27.5 -3.8**
AKT pmax pmax
comp=Z,54nm,1.6s
AKT MLR MLR
comp=Z,625nm,20.0s
STON Ston 71.04 4 *e*P **P 13 20 18.2 -0.3**
MTE Manteigas 71.05 24 *e*P **P 13 20 20.4 +1.6**
MTE *i* IAmb IAmb 13 20 24.7
comp=Z,97nm,1.1s
CESX Cesi 71.09 8 IAmb IAmb 13 20 20.3
comp=Z,26nm,1.1s
BLSH Balsha 71.12 360 *e*P **P 13 20 19.9 +0.7**
KMI Kunming 71.17 289 ⇑P **P 13 20 21.9 +2.0**
KMI pmax pmax
comp=Z,18nm,1.9s
KMI LR LR
comp=Z,2μm,17.3s
KMI LR LR
comp=Z,3μm,16.8s
KMI LR LR
comp=Z,1μm,14.2s
LSA Lhasa 71.22 301 P **P 13 20 22.6 +2.1**
PCAS Casmilo, Conde 71.23 25 *e*P **P 13 20 21.7 +1.9**
PCAS *i* IAmb IAmb 13 20 26.3
comp=Z,137nm,1.3s
VTS Vitosha 71.36 360 *e*P **P 13 20 21.1 +0.4**
AQU L'Aquila 71.39 7 *e*P **P 13 20 21.2 +0.4**
AQU L'Aquila 71.39 7 P **P 13 20 22.0 +1.2**
PLNA Plana 71.50 359 *e*P **P 13 20 22.4 +0.9**
PCBR Castelo Branco 71.61 24 *e*P **P 13 20 23.7 +1.7**
PCBR *i* IAmb IAmb 13 20 33.0
comp=Z,63nm,1.6s
PSARD Sardoal 71.73 25 *e*P **P 13 20 24.0 +1.2**
PSARD *i* IAmb IAmb 13 20 33.7
comp=Z,72nm,1.8s
DIM Dimitrovgrad 71.91 358 *e*P **P 13 20 25.2 +1.4**
PMRV Marv??o 72.03 24 *e*P **P 13 20 25.7 +1.1**
PMRV *i* IAmb IAmb 13 20 30.7
comp=Z,32nm,1.5s
KKB Krupnik 72.14 360 *e*P **P 13 20 26.0 +0.8**
PMAFR Mafra 72.16 26 *e*P **P 13 20 26.9 +1.5**
PMAFR *i* IAmb IAmb 13 20 34.7
comp=Z,226nm,1.6s
PMTG Montargil 72.24 25 *e*P **P 13 20 27.0 +1.2**
PMTG *i* IAmb IAmb 13 20 35.8
comp=Z,58nm,1.5s
RZN Rozhen 72.28 358 *e*P **P 13 20 27.3 +1.0**
ESDC Sonseca Array 72.32 21 P **P 13 20 27.8 +1.4**
comp=Z,33nm,1.0s,baz=350,slow=6.1,SNR=112
ESDC LR LR 13 54 15.7
comp=Z,217nm,18.8s,baz=350,slow=38
comp=Z,33nm,1.0s
KDZ Kurdzhali 72.33 358 *e*P **P 13 20 27.5 +1.1**
PARRA Arraiolos 72.34 26 *e*P **P 13 20 29.0 +2.5**
PARRA *i* IAmb IAmb 13 20 38.6
comp=Z,37nm,1.9s
PAB San Pablo 72.39 22 IAmb IAmb 13 20 29.2
comp=Z,31nm,1.1s
MMB Musomishta 72.43 359 *e*P **P 13 20 27.9 +0.9**
GNI Garni 72.48 342 LR LR 13 58 13.9
comp=Z,236nm,18.5s,baz=22,slow=41
GNI Garni 72.48 342 P **P 13 20 26.7 -0.8**
GNI P **P 13 20 26.7 -0.8**
GNI Garni 72.48 342 P **P 13 20 27.6 +0.1**
GNI pmax pmax
comp=Z,59nm,1.3s
PESTR Estremoz 72.54 24 *e*P **P 13 20 29.0 +1.3**
PESTR *i* IAmb IAmb 13 20 33.8
comp=Z,54nm,1.1s
KLYT Kilyos 72.62 355 ⇑P **P 13 20 28.6 +0.6**
VAY Valandovo 72.66 0 *i* P **P 13 20 28.5 +0.2**
PAOL Paolisi 72.76 6 IAmb IAmb 13 20 34.3
comp=Z,31nm,1.2s
ISK Istanbul-Kandi 72.81 355 P **P 13 20 29.5 +0.3**
RDO Rodhopi 72.81 358 IAmb IAmb 13 20 31.4
comp=Z,30nm,1.4s
TNCH TengChong 72.84 293 ⇑P **P 13 20 29.9 +0.1**
TNCH pP pP 13 20 32.4 -1.9
TNCH S **S 13 29 50.3 -5.2**
TNCH pmax pmax
comp=Z,50nm,1.7s
TNCH pmax pmax
comp=Z,270nm,2.9s
TNCH LR LR
comp=Z,870nm,20.2s
TNCH LR LR
comp=Z,1μm,20.4s
TNCH LR LR
comp=Z,510nm,14.3s
OHR Ohrid 72.86 2 *i* P **P 13 20 30.6 +1.0**
SAHE Sakarya_HENDEK 72.94 354 ⇓P **P 13 20 29.8 -0.3**
NIL Nilore 73.10 318 P **P 13 20 31.4 +0.3**
NIL P **P 13 20 31.4 +0.3**
PBAR Barrancos 73.31 24 *e*P **P 13 20 33.6 +1.4**
PBAR *i* IAmb IAmb 13 20 35.6
comp=Z,65nm,1.3s
PBEJ Beja 73.31 25 *e*P **P 13 20 33.6 +1.4**
PBEJ *i* IAmb IAmb 13 20 41.6
comp=Z,33nm,1.6s
KBL Kabul 73.36 321 P **P 13 20 32.2 -0.6**
SNR=10.0
KBL Kabul 73.36 321 P **P 13 20 32.0 -0.8**
KBL pmax pmax
comp=Z,66nm,2.0s
BAND Balkesir-Ban 73.55 356 ⇑P **P 13 20 34.3 +0.7**
JTS Las Juntas de 73.56 102 LR LR 13 58 45.8
comp=Z,384nm,18.5s,baz=341,slow=40
PTEO Sao Teotonio 73.63 26 *e*P **P 13 20 36.1 +2.0**
PTEO *i* IAmb IAmb 13 20 46.0
comp=Z,73nm,1.7s
ANTO Ankara 73.83 352 IAmb IAmb 13 20 42.5
comp=Z,33nm,0.9s
ANTO Ankara 73.83 352 P **P 13 20 36.1 +0.8**
ANTO P **P 13 20 36.1 +0.8**
ANTO Ankara 73.83 352 ⇑P **P 13 20 36.2 +0.8**
ANTO Ankara 73.83 352 P **P 13 20 36.1 +0.8**

CUC	Castrocucco	73.85	6	IAmb	IAmb	13 20 36.4	
	comp=Z,15nm,1.0s						
LIT	Litokhoron	73.88	0	IAmb	IAmb	13 20 44.6	
	comp=Z,30nm,1.0s						
MORF	Marmelete	73.88	26	*e*P	P	13 20 36.9	+1.2
MORF				IAmb	IAmb	13 20 37.9	
	comp=Z,68nm,1.2s						
MORF	Marmelete	73.88	26	*e*P	P	13 20 37.2	+1.5
MORF				*i* IAmb	IAmb	13 20 45.2	
	comp=Z,60nm,1.3s						
MORF	Marmelete	73.88	26	*e*P	P	13 20 36.9	+1.2
QIZ	Qiongzhong	73.90	280	P	P	13 20 35.3	-0.6
QIZ				S	S	13 30 08.3	+1.0
QIZ				LR	LR		
	comp=Z,750nm,14.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,800nm,13.7s						
BR131	Keskin Array S	73.92	351	IAmb	IAmb	13 20 43.5	
	comp=Z,17nm,0.9s						
BR131	Keskin Array S	73.92	351	P	P	13 20 36.2	+0.2
	SNR=13						
BRTR	Keskin Array B	73.92	351	P	P	13 20 36.1	+0.2
	comp=Z,6.3nm,0.8s,baz=25,slow=3.3,SNR=33						
	comp=Z,6.3nm,0.8s						
BORA	Eskisehir	73.93	354	IAmb	IAmb	13 20 41.3	
	comp=Z,30nm,1.4s						
PVAQ	Vaqueiros	73.94	25	*e*P	P	13 20 38.4	+2.4
PVAQ				*i* IAmb	IAmb	13 20 45.7	
	comp=Z,56nm,1.3s						
VSL	Villasalto	73.98	11	IAmb	IAmb	13 20 38.3	
	comp=Z,31nm,1.3s						
PFVI	Vila Bisbo	74.02	26	*e*P	P	13 20 38.9	+2.6
PFVI				*i* IAmb	IAmb	13 20 39.7	
	comp=Z,85nm,1.4s						
SJG	San Juan	74.02	82	LR	LR	13 53 57.5	
	comp=Z,327nm,21.9s,baz=334,slow=36						
PBDV	Barranco-do-Ve	74.07	25	*e*P	P	13 20 38.8	+2.1
PBDV				*i* IAmb	IAmb	13 20 40.5	
	comp=Z,72nm,1.4s						
SLVN	Son La	74.15	287	IAmb	IAmb	13 20 42.4	
	comp=Z,45nm,1.2s						
HDC	Heredia	74.15	101	*e*P	P	13 20 37.9	+0.3
EVN	Everest	74.29	304	IAmb	IAmb	13 20 44.2	
	comp=Z,39nm,1.3s						
BNN	Bunyan	74.64	349	IAmb	IAmb	13 20 45.6	
	comp=Z,34nm,1.4s						
SHL	Shillong	74.75	299	IAmb	IAmb	13 20 45.1	
	comp=Z,36nm,1.1s						
SHL	Shillong	74.75	299	P	P	13 20 40.4	-0.6
	SNR=13						
CEL	Celeste	75.58	6	IAmb	IAmb	13 20 46.0	
	comp=Z,13nm,0.9s						
YER	Yerkesik	76.75	355	P	P	13 20 53.8	+1.6
KEST	Kesra	77.72	11	IAmb	IAmb	13 21 00.0	
	comp=Z,28nm,1.0s						
KEST	Kesra	77.72	11	P	P	13 20 58.8	+1.1
	comp=Z,19nm,0.9s,baz=357,slow=3.1,SNR=16						
KEST				LR	LR	13 54 51.7	
	comp=Z,166nm,20.9s,baz=337,slow=35						
	comp=Z,19nm,0.9s						
KEST	Kesra	77.72	11	P	P	13 21 00.0	+2.4
	SNR=6.7						
KEST				P	P	13 21 00.0	+2.4
	SNR=6.7						
CHTO	Chiang Mai	78.34	290	IAmb	IAmb	13 21 05.2	
	comp=Z,45nm,1.6s						
CHTO	Chiang Mai	78.34	290	P	P	13 21 03.0	+1.9
CHTO	Chiang Mai	78.34	290	P	P	13 21 01.0	-0.2
CM31	Chiang Mai Arr	78.66	290	IAmb	IAmb	13 21 07.5	
	comp=Z,44nm,1.2s						
CM31	Chiang Mai Arr	78.66	290	P	P	13 21 03.7	+0.7
	SNR=12						
CMAR	Chiang Mai Arr	78.66	290	P	P	13 21 03.5	+0.5
	comp=Z,8.9nm,0.9s,baz=4.9,slow=6.2,SNR=28						
CMAR				LR	LR	13 56 59.7	
	comp=Z,364nm,21.4s,baz=25,slow=37						
	comp=Z,8.9nm,0.9s						
CMAR	Chiang Mai Arr	78.66	290	*i* P	P	13 21 03.2	+0.2
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MD31	MD31	78.87	23	IAmb	IAmb	13 21 10.7	
	comp=Z,19nm,1.2s						
MDT	Midelt	78.94	23	LR	LR	13 58 32.7	
	comp=Z,159nm,19.4s,baz=356,slow=38						
MMAI	Mount Meron Ar	80.47	349	P	P	13 21 13.5	+0.7
	comp=Z,7.1nm,0.9s,baz=289,slow=7.8,SNR=6.4						
MMAI				LR	LR	14 04 36.4	
	comp=Z,139nm,18.2s,baz=12,slow=42						
	comp=Z,7.1nm,0.9s						
SDV	Santo Domingo	80.57	89	*e*P	P	13 21 14.0	+0.4
ASF	Jabal al Asfar	81.19	348	LR	LR	14 02 34.2	
	comp=Z,184nm,18.9s,baz=23,slow=40						
JAY	Jayapura	81.43	243	LR	LR	13 53 36.7	
	comp=Z,208nm,19.9s,baz=5.5,slow=33						
HNR	Honiara	81.77	223	LR	LR	13 54 22.1	
	comp=Z,231nm,21.2s,baz=350,slow=33						
RUSC	La Rusia	82.30	93	IAmb	IAmb	13 21 24.0	
	comp=Z,20nm,1.1s						
RKPI	Ransiki, Papua	82.91	250	P	P	13 21 23.4	-2.3
	comp=Z,112nm,0.9s						
EIL	Elat	83.83	349	LR	LR	14 05 58.3	
	comp=Z,99nm,18.6s,baz=346,slow=41						
PPT2	Papeete2	83.89	173	*e*LR	LR	13 47 39.8	
	comp=Z,346nm,21.8s						
PPT2				*e*LR	LR	13 47 56.8	
	comp=Z,348nm,20.8s						
SHME	Shamm	84.45	330	P	P	13 21 33.3	-0.2
SHME				P	P	13 21 33.3	-0.2
SHME	Shamm	84.45	330	*i* P	P	13 21 33.1	-0.4
	SNR=5.2						
BANOM	Banah	84.54	330	P	P	13 21 36.0	+2.0
BANOM				P	P	13 21 36.0	+2.0
BANOM	Banah	84.54	330	*i* P	P	13 21 33.3	-0.7
	SNR=5.2						
UMQ	Umm Al-Quwin	85.06	330	P	P	13 21 39.9	+3.3
MASF	Masafi	85.11	330	P	P	13 21 37.2	+0.3
MASF				P	P	13 21 37.2	+0.3
MDH	Madha	85.15	330	P	P	13 21 37.6	+0.6
MDH				P	P	13 21 37.6	+0.6
OTAV	Otavalo	85.29	100	IAmb	IAmb	13 21 60.0	
	comp=Z,13nm,1.2s						
OTAV	Otavalo	85.29	100	P	P	13 21 40.2	+1.8
OTAV	Otavalo	85.29	100	*e*P	P	13 21 38.4	+0.1
UOSS	Minazif	85.51	330	P	P	13 21 39.6	+0.8
UOSS				P	P	13 21 39.6	+0.8
UOSS	Minazif	85.51	330	P	P	13 21 37.2	-1.7
SAKB	Bahrain	85.56	335	P	P	13 21 38.3	-0.7
NAZ	Nazwa, Dubai	85.58	330	P	P	13 21 38.9	-0.2
NAZ	Nazwa, Dubai	85.58	330	P	P	13 21 38.3	-0.9
PMG	Port Moresby	85.62	235	LR	LR	14 00 50.8	
	comp=Z,145nm,18.1s,baz=17,slow=36						
HATD	Hatta, Dubai	85.64	330	P	P	13 21 38.4	-1.1
	SNR=8.3						
HATD				P	P	13 21 38.4	-1.1
	SNR=8.3						
HATD	Hatta, Dubai	85.64	330	P	P	13 21 38.9	-0.6
ASHO	Ashiyiah	85.79	330	P	P	13 21 39.2	-1.1
	SNR=9.4						
ASHO	Ashiyiah	85.79	330	*i* P	P	13 21 39.2	-1.1
	SNR=5.9						
FAQ	Al Faqa, Dubai	85.83	330	P	P	13 21 42.1	+1.7
ASUD	Al Ashush, Dub	86.00	331	P	P	13 21 41.0	-0.2
ASUD				P	P	13 21 41.0	-0.2
ASUD	Al Ashush, Dub	86.00	331	P	P	13 21 40.9	-0.3
AJN	Ajban	86.12	331	P	P	13 21 40.7	-1.2
AJN				P	P	13 21 40.7	-1.2
JRN	Qarnain Island	86.16	333	P	P	13 21 43.3	+1.2
SOHO	SOHO	86.23	329	P	P	13 21 41.6	-0.8
SOHO				P	P	13 21 41.6	-0.8
SOHO	SOHO	86.23	329	*i* P	P	13 21 40.7	-1.7
	SNR=6.4						
ALNE	Al Ain	86.47	330	P	P	13 21 42.9	-0.7
	SNR=8.3						
ALNE				P	P	13 21 42.9	-0.7
	SNR=8.3						
ALNE	Al Ain	86.47	330	*i* P	P	13 21 42.6	-1.0
	SNR=7.2						
BIDO	Bidbid	86.49	328	P	P	13 21 44.2	+0.5
	SNR=6.2						
BIDO				P	P	13 21 44.2	+0.5
	SNR=6.2						
HOQ	Hoqain	86.60	329	P	P	13 21 43.8	-0.5
HOQ				P	P	13 21 43.8	-0.5
WSAR	Wadi Sarin	86.65	327	P	P	13 21 44.5	-0.1
	SNR=10.0						
TRNA	Turayna	86.66	334	P	P	13 21 44.1	-0.4
SMRA	Abu-Samra	86.72	335	P	P	13 21 44.4	-0.4
HYB	Hyderabad	86.80	308	*e*P	P	13 21 44.7	-0.7
HYB				*e*PcP	PcP	13 21 47.0	-0.6
HYB				*e*PP	PP	13 25 07.2	-0.1
HYB				IVMs_BB	IVMs_BB	14 06 50.1	
	comp=Z,302nm,11.8s						
SMDO	Samad	86.95	328	P	P	13 21 46.0	-0.2
SMDO				P	P	13 21 46.0	-0.2
ARQ	Araqi	87.01	329	P	P	13 21 45.7	-0.6
	SNR=11						
ARQ				P	P	13 21 45.7	-0.6
	SNR=11						
APSI	Ampana	87.25	261	P	P	13 21 45.6	-1.8
RAR	Rarotonga	87.31	182	LR	LR	13 56 50.9	
	comp=Z,295nm,18.2s,baz=357,slow=33						
JLN	Jalan Bani Buh	87.53	326	P	P	13 21 49.1	+0.4
	SNR=11						
JLN				P	P	13 21 49.1	+0.4
	SNR=11						
JMDO	Jabal Madar	87.61	328	P	P	13 21 48.9	-0.3
	SNR=7.8						
JMDO				P	P	13 21 48.9	-0.3
	SNR=7.8						
RAYN	Ar Rayn	88.76	339	P	P	13 21 54.9	+0.2
RAYN	Ar Rayn	88.76	339	*i* P	P	13 21 54.9	+0.2
	SNR=5.9						
RAYN	Ar Rayn	88.76	339	P	P	13 21 55.1	+0.4
MHTO	MHTO	88.98	327	P	P	13 21 55.7	+0.1
	SNR=6.2						
MHTO				P	P	13 21 55.7	+0.1
	SNR=6.2						
BOAV	Boa Vista	90.53	83	*e*P	P	13 22 02.8	-0.2
MDP	Montagnes des	91.18	75	LR	LR	14 03 32.6	
	comp=Z,164nm,19.4s,baz=296,slow=36						
KAPI	Kappang	91.74	262	LR	LR	14 05 09.3	
	comp=Z,34nm,19.9s,baz=22,slow=37						
ATAH	Atahualpa	92.04	103	LR	LR	14 05 07.4	
	comp=Z,222nm,20.8s,baz=344,slow=37						
BBKI	Banjar Baru	92.30	267	P	P	13 22 14.2	+3.1
DZM	Mont Dzumac	92.31	213	LR	LR	13 58 51.7	
	comp=Z,395nm,19.9s,baz=32,slow=32						
WHFO	Wadi Hawf	92.83	331	P	P	13 22 12.7	-0.9
PSI	Prapat	92.97	284	LR	LR	14 07 58.7	
	comp=Z,166nm,18.2s,baz=344,slow=38						
BBTS	Babate	94.13	38	LR	LR	14 02 57.4	
	comp=Z,170nm,19.0s,baz=350,slow=34						
PALK	Pallekele	95.58	302	LR	LR	14 09 07.7	
	comp=Z,410nm,20.7s,baz=11,slow=38						
TWSI	Taliwang, Sumb	96.28	263	P	P	13 22 28.5	-0.8
RAO	Raoul Island	96.60	198	LR	LR	13 59 53.1	
	comp=Z,81nm,21.6s,baz=40,slow=32						
NNA	Nana	97.07	104	LR	LR	14 11 28.0	
	comp=Z,168nm,18.4s,baz=340,slow=39						
LEM	Lembang	98.27	272	LR	LR	14 10 07.4	
	comp=Z,108nm,18.9s,baz=334,slow=37						
TORD	Torodi Ar. Bea	99.20	21	LR	LR	14 09 34.3	
	comp=Z,176nm,19.5s,baz=348,slow=37						
WRA	Warramunga Arr	99.82	243	P	Pdif	13 22 47.2	+2.1
	comp=Z,1.5nm,0.8s,baz=27,slow=5.3,SNR=7.5						
WRA				LR	LR	14 04 15.2	
	comp=Z,168nm,21.2s,baz=38,slow=33						
	comp=Z,1.5nm,0.8s						
WRA	Warramunga Arr	99.82	243	*i* P	Pdif	13 22 48.5	+3.4
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNDB	Serra Nova Dou	107.29	80	*e*P	Pdif	13 23 18.9	+0.4
RCBR	Riachuelo	107.53	63	*e*P	Pdif	13 23 20.0	+0.4
SALV	Santo Antonio	109.08	86	*e*P	Pdif	13 23 26.8	+0.4
PLCA	Paso Flores	125.25	112	PKP	PKPdf	13 28 00.1	-0.7
	comp=Z,2.4nm,0.8s,baz=290,slow=4.4,SNR=5.2						
BOSA	Boshof	142.21	356	PKhKP	PKPpre	13 28 28.2	
	comp=Z,3.0nm,0.9s,baz=50,slow=3.2,SNR=5.0						
VNDA	Vanda	145.77	195	PKPbc	PKPab	13 28 39.4	+0.9
	comp=Z,10nm,1.0s,baz=350,slow=4.3,SNR=27						
QSPA	South Pole Qui	156.17	180	PKP	PKPdf	13 28 54.5	+0.7
	comp=Z,3.7nm,1.0s,baz=118,slow=0.7,SNR=6.8						
QSPA				PKPbc	sPKPdf	13 29 05.9	+5.9
	comp=Z,6.2nm,0.8s,baz=259,slow=0.5,SNR=8.5						
QSPA				PKPab	PKPab	13 29 23.5	+1.7
	comp=Z,8.3nm,0.6s,baz=326,slow=0.6,SNR=11						
MAW	Mawson	164.44	247	PKPab	PKPab	13 29 58.3	+0.6
	comp=Z,15nm,1.2s,baz=27,slow=6.8,SNR=4.6						
VNA3	Neumayer Olymp	167.42	127	PKPab	PKPab	13 30 11.6	+0.8
VNA3	Neumayer Olymp	167.42	127	⇑PKPab	PKPab	13 30 11.6	+0.8
	comp=Z,12nm,0.9s						
VNA1	Neumayer--Stat	167.94	125	PKPab	PKPab	13 30 14.2	+1.1
VNA1	Neumayer--Stat	167.94	125	⇑PKPab	PKPab	13 30 14.2	+1.1
	comp=Z,6.8nm,0.8s						
VNA2	Neumayer--Watz	168.20	126	PKPab	PKPab	13 30 15.1	+0.9
	baz=278,slow=4.6						
VNA2	Neumayer--Watz	168.20	126	⇑PKPab	PKPab	13 30 15.1	+0.9
	comp=Z,8.8nm,0.8s,baz=278,slow=4.6						
TROLL	Troll, Antarti	170.88	137	PKPab	PKPab	13 30 24.9	-1.5
TROLL	Troll, Antarti	170.88	137	⇑PKPab	PKPab	13 30 24.9	-1.5
	comp=Z,136nm,0.9s						
SYO	Syowa Base	173.06	240	⇓*e*PKPdf	PKPdf	13 29 09.0	+0.7

*IDC **18** 13:09:26.3±1.5, 24°.12N×141°.27E, h167km±12km, mb3.8/12, mbtmp4.3/15, MS4.0/2, Error ellipse: s-maj=21.4km s-min=12.7km az=99.0*
*NEIC **18** 13:09:28.9±0.8, 24°.1N±0°.1×141°.4E±0°.2, h178km±8km, mb4.8/27, Error ellipse: s-maj=26.5km s-min=14.8km az=99.0*
*JMA **18** 13:09:29.5±0.1, 24°.4N±0°.7×14°1E±°, h180km, MV5.1/15, IOTO ISLANDS REGION*
ISC 18 13:09:27.8±0.7, 24°.12N±0°.08×141°.4E±0°.1, h178km, n59, σ1$25/59, mb4.5/22, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	2.60	16	*e*P	Pn	13 10 12.2	+0.7
JHH2				*e*S	Sn	13 10 44.9	-0.9
CBIJ	Chichi jima	3.05	14	*e*P	Pn	13 10 17.4	+0.4
CBIJ				*e*S	Sn	13 10 54.7	-0.7
JCJ	Chichijima	3.05	14		Pn	13 10 17.9	+1.0
JCJ	Chichijima	3.05	14	P	Pn	13 10 16.9	0.0
	335nm,0.5s,baz=289,slow=22,SNR=284						
JCJ				S	Sn	13 10 53.1	-2.3
	462nm,0.3s,baz=243,slow=22,SNR=21						
BSO3	Boso 3	10.67	356	*e*P	Pn	13 11 53.1	-2.6
BSO3				*e*S	Sn	13 13 46.7	-7.4
JYT	Yasato	12.11	355	*e*P	Pn	13 12 12.0	-2.6
JYT				*e*S	Sn	13 14 18.3	-11
JAG	Ashikaga	12.37	353	*e*P	Pn	13 12 14.7	-3.3
JHO	Hitachi	12.47	357	*e*P	Pn	13 12 14.7	-4.5
MJAR	Matsushiro Arr	12.67	348	Pn	Pn	13 12 23.2	+1.4
MJAR	Matsushiro Arr	12.67	348	P	Pn	13 12 20.9	-0.9
	1.8nm,1.0s,baz=165,slow=11,SNR=2.8						
JMM	Marumori	13.71	358	Pn	Pn	13 12 33.0	-1.8
JTM	Tenmabayashi	16.62	359	P	P	13 13 11.3	+1.5
JTM				IAmb	IAmb	13 13 31.6	
	comp=Z,99nm,1.5s						
KSRS	Korea Array	17.58	322	P	Pn	13 13 24.3	+2.4
	comp=Z,2.3nm,0.6s,baz=134,slow=11,SNR=9.1						
ERM	Erimo	17.91	4	P	P	13 13 25.0	+1.1
ERM				IAmb	IAmb	13 13 55.0	
	comp=Z,18nm,0.8s						
ASAJ	Asahikawa	19.97	3	P	P	13 13 46.8	+0.6
	comp=Z,3.7nm,0.5s,baz=171,slow=13,SNR=9.7						
JKA	Kamikawa-asahi	19.97	3	P	P	13 13 47.9	+1.6
JKA				IAmb	IAmb	13 14 06.5	
	comp=Z,35nm,1.4s						
WB0	Warramunga Arr	44.15	189	P	P	13 17 18.2	-0.6
WR8	Warramunga Arr	44.32	189	P	P	13 17 19.6	-0.6
WRA	Warramunga Arr	44.33	189	P	P	13 17 19.4	-0.9
WRA	Warramunga Arr	44.33	189	P	P	13 17 19.5	-0.8
	comp=Z,3.4nm,0.6s,baz=6.8,slow=8.7,SNR=64						
WRA				LR	LR	13 37 12.3	
	comp=Z,108nm,18.9s,baz=50,slow=38						
	comp=Z,3.4nm,0.6s						
AS31	Alice Springs	48.05	189	P	P	13 17 48.2	-1.1
ASAR	Alice Springs	48.05	189	P	P	13 17 47.9	-1.4
ASAR	Alice Springs	48.05	189	P	P	13 17 48.3	-1.0
	comp=Z,0.2nm,0.4s,baz=16,slow=14,SNR=14						
	comp=Z,0.2nm,0.4s						
AKUT	Akutan	49.22	38	P	P	13 17 59.0	+1.2
MKAR	Makanchi Array	51.84	311		P	13 18 18.4	+0.8
MKAR	Makanchi Array	51.84	311	P	P	13 18 18.2	+0.5
	comp=Z,3.9nm,0.4s,baz=87,slow=9.4,SNR=83						
	comp=Z,3.9nm,0.4s						
MAKZ	Makanchi	52.05	311		P	13 18 20.1	+0.8
O15K	Ungalikthiuk R	53.70	33	P	P	13 18 32.4	+1.3
O15K				IAmb	IAmb	13 18 52.0	
	comp=Z,59nm,1.5s						
K15K	Wolf Creek Mou	53.76	29	P	P	13 18 33.2	+1.8
FORT	Forrest	56.06	194	P	P	13 18 48.1	-0.1
FORT				IAmb	IAmb	13 18 52.1	
	comp=Z,8.3nm,0.9s						
C18K	Utukok River	56.06	22	P	P	13 18 49.0	+1.0
C19K	Lookout Ridge	56.77	22	P	P	13 18 54.6	+1.7
C19K				IAmb	IAmb	13 18 56.4	
	comp=Z,47nm,1.4s						
KDAK	Kodiak Island	57.19	36	P	P	13 18 56.5	+0.5
KDAK				IAmb	IAmb	13 19 25.4	
	comp=Z,50nm,1.5s						
KDAK	Kodiak Island	57.19	36	P	P	13 18 56.3	+0.4
	comp=Z,3.7nm,0.4s,baz=328,slow=0.3,SNR=11						
	comp=Z,3.7nm,0.4s						
K20K	Telida	57.34	29	P	P	13 18 59.0	+2.0
K20K				IAmb	IAmb	13 19 22.0	
	comp=Z,10nm,1.2s						
D20K	Etivluk River	57.67	22	P	P	13 19 00.8	+1.6
B20K	Meade River	57.88	21	P	P	13 19 02.1	+1.6
B21K	Ikpikpuk River	58.61	22	P	P	13 19 07.3	+1.7
B21K				IAmb	IAmb	13 19 22.1	
	comp=Z,54nm,1.4s						
KK31	Karatay Array	60.25	307	P	P	13 19 18.3	+0.9
KK31				IAmb	IAmb	13 19 47.5	
	comp=Z,18nm,1.1s						
KKAR	Karatay Array	60.25	307		P	13 19 18.6	+1.3
IL31		60.67	28	P	P	13 19 19.6	-0.1
IL31				IAmb	IAmb	13 19 20.4	
	comp=Z,11nm,1.0s						
ILAR	Eielson Array	60.67	28	P	P	13 19 19.8	0.0
ILAR	Eielson Array	60.67	28	P	P	13 19 19.4	-0.5
	comp=Z,3.9nm,0.7s,baz=252,slow=5.2,SNR=5.1						
	comp=Z,3.9nm,0.7s						
YKA	Yellowknife Ar	75.10	28	P	P	13 20 49.7	-0.2
	comp=Z,1.9nm,0.7s,baz=334,slow=11,SNR=7.5						
	comp=Z,1.9nm,0.7s						
ARCES	ARCESS Array B	76.10	341	P	P	13 20 54.5	-0.9
	comp=Z,0.9nm,0.5s,baz=69,slow=7.8,SNR=5.5						
	comp=Z,0.9nm,0.5s						
FIA1	FINESS Array S	80.28	334	P	P	13 21 17.5	-1.0
FIA1				IAmb	IAmb	13 21 40.0	
	comp=Z,35nm,1.4s						
FINES	FINESS Array B	80.28	334	P	P	13 21 17.4	-1.1
FINES	FINESS Array B	80.28	334	P	P	13 21 17.2	-1.3
	comp=Z,1.4nm,0.3s,baz=61,slow=5.1,SNR=17						
	comp=Z,1.4nm,0.3s						
NVAR	Mina Array Bea	82.94	51	P	P	13 21 34.1	+0.9
	comp=Z,1.7nm,0.6s,baz=296,slow=5.7,SNR=10						
	comp=Z,1.7nm,0.6s						
ELK	Elko	84.06	48	LR	LR	13 55 51.9	
	comp=Z,130nm,19.8s,baz=168,slow=33						
AKASG	Malin Array Be	84.57	324	P	P	13 21 39.9	-1.0
	comp=Z,0.6nm,0.3s,baz=53,slow=5.2,SNR=2.5						
	comp=Z,0.6nm,0.3s						
TPNV	Topopah Spring	85.05	52		P	13 21 44.7	+0.9
GWY	Greenwater Val	85.09	53		P	13 21 44.5	+0.5
GWY				IAmb	IAmb	13 21 45.3	
	comp=Z,6.0nm,0.6s						
RLMT	Red Lodge	85.84	42	P	P	13 21 48.8	+1.1
RLMT				IAmb	IAmb	13 21 49.6	
	comp=Z,7.7nm,0.5s						
HFS	Hagfors	85.85	337	P	P	13 21 45.0	-2.1
	comp=Z,2.3nm,0.6s,baz=106,slow=4.8,SNR=6.9						
	comp=Z,2.3nm,0.6s						
PDAR	Pinedale Array	86.84	44	P	P	13 21 53.2	+0.5
PDAR	Pinedale Array	86.84	44	P	P	13 21 52.4	-0.3
	comp=Z,0.5nm,0.4s,baz=30,slow=2.1,SNR=6.9						
	comp=Z,0.5nm,0.4s						
PLCA	Paso Flores	148.60	130	PKPbc	PKPbc	13 28 54.1	+0.2
	comp=Z,2.0nm,0.7s,baz=271,slow=4.7,SNR=5.1						
LPAZ	La Paz	151.29	80	PKPbc	PKPbc	13 29 02.0	+0.3
	comp=Z,1.1nm,0.4s,baz=304,slow=5.0,SNR=3.8						

*IDC **18** 13:11:17.5±4.5, 19°.13S×177°.55W, h503km±48km, mb3.4/11, mbtmp4.3/12, Error ellipse: s-maj=22.8km s-min=15.7km az=57.0*
*NEIC **18** 13:11:22.7±1.4, 19°.2S±0°.1×177°.6W±0°.1, h552km±9km, mb4.2/17, Error ellipse: s-maj=21.4km s-min=17.5km az=181.0*
ISC 18 13:11:22.9±0.5, 19°.17S±0°.09×177°.52W±0°.09, h570km, n47, σ1$21/48, mb3.9/19, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.44	288	P	P	13 12 50.8	+1.2
FUTU	Fugatoga	4.87	353	P	P	13 12 52.7	-0.3
NIUE	Niue	7.18	90	P	P	13 13 11.4	-2.0
AFI	Afiamalu	7.60	47	P	P	13 13 15.0	-2.6
SANVU	Saraoutou	15.05	282	P	P	13 14 32.8	+0.4
DZM	Mont Dzumac	15.29	256	P	P	13 14 34.5	-0.3
	4.2nm,0.7s,baz=243,slow=20,SNR=7.1						
URZ	Urewera	19.59	193	P	P	13 15 10.4	-3.6
	9.9nm,0.3s,baz=257,slow=2.0,SNR=20						
WHZ	Wether Hill Ro	29.23	201	P	P	13 16 39.6	+0.3
COEN	Coen	37.97	272	P	P	13 17 53.7	+0.6
COEN				IAmb	IAmb	13 17 54.0	
	comp=Z,8.1nm,0.7s						
STKA	Stephens Creek	38.78	243	P	P	13 17 57.7	-1.8
	comp=Z,6.6nm,1.2s,baz=80,slow=12,SNR=2.9						
	comp=Z,6.6nm,1.2s						
BBOO	Buckleboo	43.55	242	P	P	13 18 36.9	-0.3
JAY	Jayapura	44.07	287	P	P	13 18 41.6	+0.1
	comp=Z,15nm,0.7s,baz=148,slow=5.3,SNR=5.5						
	comp=Z,15nm,0.7s						
WR8	Warramunga Arr	45.09	261	P	P	13 18 49.2	-0.1
WR8				IAmb	IAm

PLCA IAmb IAmb 13 23 44.4
comp=Z,7.7nm,1.5s
VNA2 Neumayer--Watz 89.88 177 P P 13 23 20.7 -0.5
baz=170,slow=4.7
VNA1 Neumayer--Stat 90.10 176 P **P 13 23 22.1 -0.1**
ARCES ARCESS Array B 127.70 350 PKP **PKPdf 13 29 22.7 -0.6**
comp=Z,0.7nm,0.5s,baz=29,slow=2.8,SNR=7.6
BRTR Keskin Array B 146.26 314 PKPbc **PKPbc 13 30 00.3 -0.2**
comp=Z,0.7nm,0.7s,baz=123,slow=5.3,SNR=2.7
MMAI Mount Meron Ar 147.53 302 PKPbc **PKiKP 13 30 04.8 -0.8**
comp=Z,1.4nm,0.4s,baz=70,slow=7.2,SNR=4.4
BCLA Clavier 148.74 357 *d*PKP **PKPdf 13 30 01.9 +0.1**
RCHB Rochefort 149.01 357 *d*PKP **PKPdf 13 30 04.1 +1.8**
GERES GERESS Array B 149.04 346 PKPbc **PKPbc 13 30 07.4 +0.1**
comp=Z,0.2nm,0.4s,baz=42,slow=2.2,SNR=6.0
DOU Dourbes 149.10 357 *d*PKP **PKPdf 13 30 01.7 -0.6**
TORD Torodi Ar. Bea 173.96 173 PKPab **PKPab 13 32 02.5 -0.6**
comp=Z,0.5nm,0.7s,baz=267,slow=1.3,SNR=2.9

*NEIC **18** 13:12:01.1±1.1, 66°.34N±0°.02×157°.25W±0°.04, h5km±9km, Error ellipse: s-maj=3.3km s-min=1.5km az=131.0*
AEIC 18 13:12:01.2±0.7, 66°.34N±0°.02×157°.30W±0°.04, h4km±2km, ML3.3, ML3.5/28(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=127.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
F19K	**Shaleruckik Mo**	**0.53**	**339**			Pg	13 12 11.4	0.0
G18K	**Tagagawik**	**0.71**	**232**			Pg	13 12 14.7	0.0
G18K						Sb	13 12 25.1	-1.0
H19K	**Roundabout Mou**	**0.89**	**156**			Pg	13 12 17.8	-0.3
H19K	**Roundabout Mou**	**0.89**	**156**	IAML			13 12 33.3	
comp=N,1μm,1.0s
H19K IAML 13 12 34.5
comp=E,1μm,0.7s
F20K Avaraart Lake 0.95 41 Pg 13 12 18.6 -0.7
F20K IAML 13 12 34.8
comp=E,1μm,0.5s
F20K Avaraart Lake 0.95 41 Sg 13 12 31.1 -0.5
F18K Selawik 0.98 287 Pg 13 12 19.8 -0.1
F18K Sb 13 12 33.8 -0.1
E19K Redstone River 1.12 1 Pg Pg 13 12 22.6 -0.1
E19K IAML 13 12 30.9
comp=N,1μm,0.9s
E19K Sg 13 12 37.0 -0.2
E19K IAML 13 12 39.5
comp=E,1μm,0.9s
H18K Honhosa River 1.27 201 Pg 13 12 24.8 -0.6
H18K Honhosa River 1.27 201 IAML 13 12 30.3
comp=E,982nm,1.2s
H18K IAML 13 12 42.2
comp=N,816nm,1.1s
H20K Anotleneega Mo 1.31 130 Pn 13 12 25.4 -0.8
IM05 Indian Mountai 1.50 103 Pn 13 12 28.1 -0.7
G21K Allakaket 1.54 82 Pn 13 12 29.4 +0.2
G21K IAML 13 12 43.4
comp=N,570nm,1.0s
G21K Sn 13 12 49.7 +0.1
G21K IAML 13 12 52.0
comp=E,651nm,0.9s
H17K Granite Mounta 1.78 219 Pn Pn 13 12 32.6 0.0
H17K IAML 13 12 43.0
comp=N,760nm,1.1s
H17K IAML 13 13 06.8
comp=E,517nm,1.2s
H21K Melozitna Rive 1.96 108 Pn Pn 13 12 35.2 0.0
BPAW Bear Paw Mtn. 3.48 127 Pn Pn 13 12 56.8 +0.8
POKR Poker Plat Res 4.25 102 Pn Pn 13 13 06.2 -0.4
MCK McKinley 4.41 123 Pn Pn 13 13 08.6 -0.1
J25K Salcha River, 5.26 104 Pn Pn 13 13 20.5 0.0

*GCMT **18** 13:18:42.4±0.4, 4°.85N±0°.03×125°.12E±0°.03, h32km±1km, MW5.0/54, Moment Tensor Solution. s31,c33; s54,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.30±.26; $M_{\theta\theta}$-0.31±.15; $M_{\phi\phi}$-2.99±.17; $M_{r\theta}$0.66±.25; $M_{\theta\phi}$-1.10±.12; $M_{r\phi}$0.54±.20; Best double couple: $M_0$3.45000×10^{16} NP1:ϕ_s192.00000°, δ39.00000°, λ78.00000°. NP2: ϕ_s27.00000°, δ52.00000°, λ99.00000°. Principal axes: T 3.4360, Plg80.0000°, Azm340.0000°; N 0.0260, Plg7.0000°, Azm201.0000°; P -3.4640, Plg6.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 13:18:43.3±1.8, 4°.87N±0°.06×125°.26E±0°.07, h53km±5km, mb5.1/92, Mww4.8/8 Error ellipse: s-maj=10.7km s-min=8.1km az=89.0*
*NEIC **18** 13:18:43.4, 4°.86N×125°.27E, h36km*
*NEIC **18** 13:18:43.4, 4°.96N×125°.37E, h36km, Moment Tensor Solution. Duration: 1ŝ1 Moment tensor: Scale 10^{16}Nm; M_{rr}1.67; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-1.75; $M_{r\theta}$0.05; $M_{\theta\phi}$-0.16; $M_{r\phi}$0.73; Fault plane solution: $M_0$1.87000×10^{16} NP1: ϕ_s185.38000°, δ33.50000°, λ90.68000°. NP2:ϕ_s4.56000°, δ56.50000°, λ89.55000°. Principal axes: T 1.8186, Plg78.0000°, Azm273.0000°; N 0.0946, Plg0.0000°, Azm5.0000°; P -1.9132, Plg12.0000°, Azm95.0000°;*
*DJA **18** 13:18:43.5±0.3, 5°N±2°×12°5E±°, h49km±3km, M4.8/76, mb5.0/76, mB5.3/31, MLv5.2/14, Mw(mB)4.7/31, MwMwp4.5/4, Mwp4.9/4*
*IDC **18** 13:18:47.8±1.1, 4°.94N×125°.39E, h104km±10km, mb4.5/28, mbtmp4.8/32, MS3.9/18, Error ellipse: s-maj=16.5km s-min=8.3km az=79.0*
ISC 18 13:18:43.5±0.5, 4°.83N±0°.04×125°.28E±0°.05, h60km±4km, h60km:pP-P, n564, σ1ŝ11/532, mb5.0/122, 1C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.17**	**168**	P		**Pn**	**13 19 02.2**	**-1.6**
DAV	**Davao City (W)**	**2.24**	**8**	Pn		**Pn**	**13 19 18.0**	**-0.3**
DAV	**Davao City (W)**	**2.24**	**8**	P		**Pn**	**13 19 22.6**	**+4.2**
404nm,0.4s,baz=208,slow=4.9,SNR=7.5
DAV S **Sn 13 19 48.8 +3.9**
1μm,0.5s,baz=59,slow=18,SNR=12
DAV LR LR 13 20 26.2
comp=Z,3μm,19.6s,baz=246,slow=46
DAV Davao City (W) 2.24 8 Pn 13 19 23.0 +4.7
KMSI Cibinong 4.42 197 P **Pn 13 19 48.2 +0.1**
TNTI Ternate 4.54 153 **Pn 13 19 49.9 +0.1**
TNTI Ternate 4.54 153 P **Pn 13 19 49.9 +0.1**
TNTI Ternate 4.54 153 P **Pn 13 19 49.7 -0.1**
MRSI Marisa 5.46 218 P **Pn 13 20 01.9 -0.5**
TOLI2 Tolitoli 5.81 231 **Pn 13 20 04.6 -2.6**
TOLI2 Tolitoli 5.81 231 P **Pn 13 20 04.6 -2.6**
LUWI Luwuk 6.35 203 **Pn 13 20 16.1 +1.6**
LUWI Luwuk 6.35 203 P **Pn 13 20 16.0 +1.5**
5μm373nm,0.8s
APSI Ampana 6.76 213 P **Pn 13 20 18.9 -1.3**
MYLDM Lahad Datu 6.76 273 **Pn 13 20 20.7 +0.5**
SANI Sanana 6.87 174 P **Pn 13 20 20.2 -1.5**
SANI Sanana 6.87 174 P **Pn 13 20 19.8 -1.9**
0.5nm2μm152nm,0.7s
MPSI Mapaga 6.99 230 P **Pn 13 20 21.3 -2.0**
NLAI Namlea 8.22 167 P **Pn 13 20 39.5 -0.7**
3μm143nm,0.8s
SWI Sorong 8.23 133 P **Pn 13 20 40.1 -0.2**
1μm1μm84nm,0.8s
MSAI Masohi 8.91 156 P **Pn 13 20 47.9 -1.7**
2μm82nm,0.5s
AAI Ambon 8.95 161 P **Pn 13 20 50.0 -0.2**
2μm75nm,0.5s
KDI Kendari 9.12 197 P **Pn 13 20 51.9 -0.7**
TGY Tagaytay City 10.16 335 LR LR 13 25 32.5
comp=Z,936nm,18.4s,baz=212,slow=40
SPSI Sidrap Palu 10.33 212 P **PKiKP 13 35 11.2 -0.6**
43nm,0.7s
SPSI Sidrap Palu 10.33 212 P **Pn 13 21 08.9 -0.1**
616nm21nm,0.5s
BKB Balikpapan 10.33 234 Pn **Pn 13 21 06.2 -2.9**
BKB Balikpapan 10.33 234 P **Pn 13 21 06.6 -2.5**
FAKI Fak Fak 10.38 138 **Pn 13 21 09.8 0.0**
FAKI Fak Fak 10.38 138 P **Pn 13 21 10.8 +1.0**
FAKI Fak Fak 10.38 138 P **Pn 13 21 09.0 -0.8**
927nm99nm,0.9s
BNSI Bone 10.53 209 P **Pn 13 21 10.2 -1.5**
33nm,1.1s
RKPI Ransiki, Papua 10.90 125 P **Pn 13 21 17.7 +0.9**
112nm,0.9s
KAPI Kappang 11.23 210 P Pn 13 21 27.4 +6.0
36nm,0.9s,baz=14,slow=6.4,SNR=8.0
MTKI Muara Teweh, K 11.85 241 P **Pn 13 21 30.0 +0.2**
75nm,0.5s
BAKI Biak 12.37 119 P **Pn 13 21 38.7 +1.8**
2μm171nm,1.1s
EDFI Ende, Flores 13.96 195 P **Pn 13 21 59.6 +1.0**
SOEI Soe 14.53 184 P **Pn 13 22 03.5 -2.6**
BATI Baumata 15.03 186 P **P 13 22 17.9 +1.4**
122nm,0.6s,baz=350,slow=1.9,SNR=23
BATI LR LR 13 28 10.8
comp=Z,540nm,21.7s,baz=346,slow=37
BATI Baumata 15.03 186 P **P 13 22 14.8 -1.8**
2μm123nm,0.9s
PLAI Plampang 15.49 209 P **Pn 13 22 15.3 -3.1**
PLAI Plampang 15.49 209 P **P 13 22 20.7 -1.0**
769nm73nm,0.9s
WBSI Waikabubak, Su 15.53 202 P **Pn 13 22 19.2 +0.3**
55nm,0.8s
TWSI Taliwang, Sumb 15.87 212 P **P 13 22 27.3 +1.4**
1μm130nm,1.1s
KMMI Kalianget 16.33 224 P **P 13 22 31.1 +0.1**
92nm,1.2s
GENI Genyem 16.61 116 P **Pn 13 22 33.0 +0.5**
2μm104nm,1.0s
JAY Jayapura 17.05 115 P **P 13 22 40.8 +1.7**
29nm,0.8s,baz=178,slow=7.3,SNR=5.8
JAY LR LR 13 28 56.0
comp=Z,334nm,19.8s,baz=357,slow=36
JAY Jayapura 17.05 115 P **P 13 22 39.8 +0.7**
41nm,0.8s
DRS Darwin Rock St 18.04 162 P **P 13 22 48.9 -1.0**
MTN Manton Dam 18.50 162 **P 13 22 52.8 -2.1**
KDU Kakadu 18.82 158 P **P 13 22 56.1 -2.3**
TPUB Ta-pu 18.90 347 P **P 13 22 58.0 -1.4**
TPI Tanjungpandan 19.15 247 P **Pn 13 23 05.6 +2.0**
870nm76nm,1.1s
SSLB Suanglung 19.30 348 P **P 13 23 03.3 -0.4**
KPJI Karang Pucung 20.30 234 P Pn 13 23 18.6 +1.5
49nm,1.0s
PPBI Pangkal Pinang 20.34 250 P Pn 13 23 18.2 +0.5
QIZ Qiongzhong 20.64 314 P **P 13 23 18.6 +0.4**
QIZ S **S 13 27 06.4 +0.7**
QIZ LR LR
comp=N,300nm,12.6s
QIZ LR LR
comp=E,360nm,15.5s
QIZ LR LR
comp=Z,510nm,16.1s
KNRA Kununurra 20.67 170 P **P 13 23 18.4 -0.1**
comp=Z,66nm,0.8s
KNRA Kununurra 20.67 170 **P 13 23 16.4 -2.1**
LEM Lembang 21.09 237 P **P 13 23 25.1 +1.8**
comp=Z,23nm,0.7s,baz=99,slow=17,SNR=6.5
LEM LR LR 13 32 19.5
comp=Z,417nm,21.7s,baz=348,slow=38
comp=Z,23nm,0.7s
LEM Lembang 21.09 237 P **P 13 23 27.1 +3.8**
comp=Z,35nm,1.0s
GUMO Guam 21.19 64 LR LR 13 30 36.1
comp=Z,256nm,21.4s,baz=219,slow=34
DSRI Dabo 21.34 256 P **P 13 23 29.8 +4.0**
comp=Z,2μmcomp=Z,111nm,1.3s
CNJI Cibinong 21.76 236 P **P 13 23 33.9 +3.6**
JOW Kunigami 22.06 7 P **P 13 23 32.8 -0.7**
JOW IAmb IAmb 13 23 35.9
comp=Z,112nm,0.9s
JOW Kunigami 22.06 7 P **P 13 23 33.1 -0.4**
comp=Z,84nm,0.8s,baz=214,slow=7.6,SNR=16
JOW LR LR 13 31 33.3
comp=Z,199nm,21.1s,baz=114,slow=35
comp=Z,84nm,0.8s
CGJI Cibinong 22.61 240 P **P 13 23 40.8 +1.3**
comp=Z,1μmcomp=Z,58nm,0.9s
FITZ Fitzroy Crossi 22.79 179 P **P 13 23 40.6 -0.7**
FITZ Fitzroy Crossi 22.79 179 P **P 13 23 40.4 -0.8**
MDSI Maura Dua 23.02 247 P **P 13 23 46.0 +2.3**
comp=Z,80nm,1.2s
KASI Kota Agung 23.16 244 P **P 13 23 46.7 +1.6**
comp=Z,83nm,1.1s
LWLI Liwa 23.34 246 P **P 13 23 50.0 +3.1**
LHSI Lahat 23.37 249 P **P 13 23 50.7 +3.6**
comp=Z,102nm,1.0s
IPM Ipoh 24.17 270 P **P 13 23 55.3 +0.8**
IPM Ipoh 24.17 270 P **P 13 23 56.0 +1.5**
MASI Maura Aman, Be 24.34 251 P **P 13 23 59.7 +3.7**
KULM Kulim 24.53 272 P **P 13 23 59.6 +1.9**
PDSI Padang 25.44 258 P **P 13 24 08.0 +2.0**
comp=Z,993nmcomp=Z,86nm,0.9s
COEN Coen 25.77 137 P **P 13 24 07.9 -1.0**
MNSI Mandailing Nat 25.97 262 P **P 13 24 12.3 +1.5**
comp=Z,42nm,0.7s
PMG Port Moresby 26.00 123 LR LR 13 34 51.0
comp=Z,159nm,21.7s,baz=296,slow=37
WB0 Warramunga Arr 26.04 160 P **P 13 24 11.3 0.0**
WB0 IAmb IAmb 13 24 26.6
comp=Z,34nm,0.8s
WRAB Tennant Creek 26.18 160 P **P 13 24 11.7 -0.8**
WRAB Tennant Creek 26.18 160 P **P 13 24 13.1 +0.5**
WRA Warramunga Arr 26.18 160 P **P 13 24 12.3 -0.3**
WRA Warramunga Arr 26.18 160 P **P 13 24 12.3 -0.3**
comp=Z,8.8nm,0.9s,baz=336,slow=10,SNR=40
WRA S **S 13 28 44.8 +4.3**
comp=Z,2.0nm,0.9s,baz=338,slow=14,SNR=3.3
comp=Z,8.8nm,0.9s
WR8 Warramunga Arr 26.25 160 P **P 13 24 13.4 +0.1**
MBWA Marble Bar 26.40 192 P **P 13 24 14.7 +0.2**
comp=Z,63nm,1.3s
MBWA Marble Bar 26.40 192 P **P 13 24 14.6 +0.1**
MBWA IAmb IAmb 13 24 15.5
comp=Z,40nm,0.8s
MBWA Marble Bar 26.40 192 P **P 13 24 15.1 +0.6**
SSE Sheshan 26.41 352 P **P 13 24 13.8 -0.7**
SSE S **S 13 28 45.4 +1.7**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,240nm,3.7s
SSE LR LR
comp=N,360nm,18.2s
SSE LR LR
comp=E,500nm,18.5s
PSAC1 Pilbara Seismi 26.75 191 P **P 13 24 17.6 0.0**
comp=Z,134nm,0.9s
PSAC2 Pilbara Seismi 26.75 191 P **P 13 24 17.8 0.0**
comp=Z,140nm,0.8s
PSA00 Pilbara Seismi 26.78 191 P **P 13 24 17.8 -0.1**
comp=Z,140nm,0.9s
PSA00 Pilbara Seismi 26.78 191 P **P 13 24 17.6 -0.3**
PSA00 Pilbara Seismi 26.78 191 P **P 13 24 16.8 -1.2**
PSA00 IAmb IAmb 13 24 19.4
comp=Z,42nm,0.8s
PSA00 Pilbara Seismi 26.78 191 P **P 13 24 18.4 +0.5**
PSAB3 Pilbara Seismi 26.79 191 P **P 13 24 18.0 -0.1**
comp=Z,145nm,0.8s
SISI Saibi 26.87 257 P **P 13 24 20.8 +1.9**
KCSI Kotacane, Aceh 27.46 268 P **P 13 24 25.2 +1.0**
comp=Z,300nmcomp=Z,22nm,0.8s
NJ2 Nanjing 27.74 348 *e*P **P 13 24 27.8 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
GSI Gunungsitoli 27.88 264 P **P 13 24 26.4 -1.5**
GSI Gunungsitoli 27.88 264 P **P 13 24 30.9 +3.0**
GSI Gunungsitoli 27.88 264 P **P 13 24 29.2 +1.3**
JNU Nakatsue 28.63 10 P **P 13 24 33.2 -1.2**
JNU IAmb IAmb 13 24 39.2
comp=Z,34nm,1.0s
QIS Mount Isa 28.89 151 P **P 13 24 36.8 -0.1**
comp=Z,11nm,1.1s
QIS Mount Isa 28.89 151 P **P 13 24 37.8 +0.9**
CMAR Chiang Mai Arr 29.07 300 P **P 13 24 39.0 +0.6**
CMAR Chiang Mai Arr 29.07 300 P **P 13 24 40.8 +2.3**
comp=Z,15nm,0.8s,baz=124,slow=6.4,SNR=37
CMAR LR LR 13 38 04.6
comp=Z,114nm,18.6s,baz=110,slow=40
comp=Z,15nm,0.8s
CHTO Chiang Mai 29.22 301 P **P 13 24 40.1 +0.3**
CHTO IAmb IAmb 13 24 44.6
comp=Z,25nm,0.6s
CHTO Chiang Mai 29.22 301 P **P 13 24 44.0 +4.2**
AS15 Alice Springs 29.52 164 P **P 13 24 42.3 -0.2**
comp=Z,11nm,0.6s
ASAR Alice Springs 29.55 164 P **P 13 24 42.8 +0.1**
ASAR Alice Springs 29.55 164 P **P 13 24 42.5 -0.1**
comp=Z,3.1nm,0.6s,baz=338,slow=7.4,SNR=37
ASAR PcP **PcP 13 27 47.2 +0.5**
comp=Z,2.3nm,0.7s,baz=344,slow=4.0,SNR=5.1
ASAR LR LR 13 38 10.8
comp=Z,106nm,20.2s,baz=16,slow=39
comp=Z,3.1nm,0.6s
MTSU Mount Surprise 29.56 141 P **P 13 24 44.8 +2.0**
AS01 Alice Springs 29.56 164 P **P 13 24 43.5 +0.7**
AS17 Alice Springs 29.57 164 P **P 13 24 42.8 -0.1**
comp=Z,8.2nm,0.7s
KMI Kunming 29.58 315 P **P 13 24 46.4 +3.2**
KMI sP pwP 13 25 06.3 +3.3
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=N,170nm,19.2s
KMI LR LR
comp=E,200nm,22.7s
KMI LR LR
comp=Z,290nm,23.4s
AS09 Alice Springs 29.59 164 P **P 13 24 42.9 -0.2**
comp=Z,13nm,0.6s
WRKA Warakurna 29.84 174 P **P 13 24 45.5 +0.3**
comp=Z,4.7nm,0.6s
JMN Monobe 29.84 15 P **P 13 24 44.9 -0.3**
JMN IAmb IAmb 13 24 56.8
comp=Z,42nm,1.0s
PZH PanZhiHua 31.15 316 P **P 13 24 58.8 +1.9**
MEEK Meekatharra 31.94 191 P **P 13 25 03.0 -0.8**
comp=Z,53nm,1.2s
MEEK Meekatharra 31.94 191 P **P 13 25 04.3 +0.6**
TIA Tai'an 32.12 348 P **P 13 25 02.5 -2.7**
TIA pmax pmax
comp=Z,5.0nm,1.1s
KSRS Korea Array 32.56 4 P **P 13 25 08.1 -0.9**
comp=Z,5.8nm,0.7s,baz=182,slow=10,SNR=20
comp=Z,5.8nm,0.7s
XAN Xi'an 32.79 334 ⇓P **P 13 25 11.3 +0.1**
XAN pP pP 13 25 25.9 +1.3
XAN pmax pmax
comp=Z,34nm,1.0s
XAN LR LR
comp=N,2μm,17.2s
XAN LR LR
comp=E,2μm,14.4s
XAN LR LR
comp=Z,2μm,15.1s
XAN Xi'an 32.79 334 P **P 13 25 10.7 -0.5**
XAN x x 13 25 25.5
CD2 Chengdu 32.91 325 P **P 13 25 12.6 +0.4**
CD2 S **S 13 30 30.6 +4.7**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=N,2μm,16.0s
CD2 LR LR
comp=E,2μm,17.5s
CD2 LR LR
comp=Z,3μm,15.5s
MJAR Matsushiro Arr 33.72 19 P **P 13 25 17.3 -1.9**
comp=Z,6.1nm,0.8s,baz=194,slow=9.1,SNR=12
comp=Z,6.1nm,0.8s
HNS HongShan 33.83 345 ⇑P **P 13 25 20.1 +0.1**
HNS pmax pmax
comp=Z,8.0nm,0.7s
MORW Morawa 34.85 194 P **P 13 25 25.6 -3.5**
MORW Morawa 34.85 194 P **P 13 25 29.4 +0.4**
FORT Forrest 35.51 176 P **P 13 25 34.3 -0.3**
comp=Z,19nm,1.1s
JMM Marumori 35.80 21 P **P 13 25 36.5 -0.6**
BJI Beijing 36.00 348 P **P 13 25 39.3 +0.6**
BJI sP **sP 13 26 01.5 +2.5**
BJI pmax pmax
comp=Z,5.0nm,1.1s
KMBL Kambalda 36.14 185 P **P 13 25 39.6 -0.5**
comp=Z,29nm,0.8s
BLDU Ballidu 36.19 193 P **P 13 25 40.0 -0.5**
comp=Z,44nm,0.8s
BLDU Ballidu 36.19 193 P **P 13 25 39.8 -0.7**
LZDM Lanzhou Array 36.80 330 P **P 13 25 47.1 +1.1**
comp=Z,2.1nm,0.3s,baz=138,slow=14,SNR=4.7
comp=Z,2.1nm,0.3s
LZH Lanzhou 36.83 330 *e*P **P 13 25 47.3 +1.2**
LZH pP pP 13 26 01.6 +1.8
LZH sP pwP 13 26 06.1 +0.1
LZH pmax pmax
comp=Z,51nm,1.3s
LZH LR LR
comp=N,2μm,14.3s
LZH LR LR
comp=E,2μm,15.6s
LZH LR LR
comp=Z,2μm,15.5s
MUN Mundaring 37.61 193 P **P 13 25 52.3 -0.3**
comp=Z,59nm,0.9s
MUN Mundaring 37.61 193 P **P 13 25 52.0 -0.5**
HHC Hu-ho-hao-te 37.92 343 *e*P **P 13 25 55.3 +0.1**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,66nm,6.0s
SHL Shillong 38.06 306 P **P 13 25 57.5 +0.9**
NWAO Narrogin (SRO) 38.32 191 P **P 13 25 58.9 +0.4**
comp=Z,43nm,0.9s
NWAO Narrogin (SRO) 38.32 191 P **P 13 25 58.4 -0.1**
NWAO Narrogin (SRO) 38.32 191 P **P 13 25 58.2 -0.3**
BBOO Buckleboo 38.81 165 IAmb IAmb 13 26 04.6
comp=Z,20nm,0.8s
BBOO Buckleboo 38.81 165 P **P 13 26 02.9 +0.3**
EIDS Eidsvold 39.11 141 P **P 13 26 04.6 -0.6**
comp=Z,22nm,1.0s
EIDS Eidsvold 39.11 141 P **P 13 26 03.0 -2.3**
USRK Ussuriysk Ar. 39.65 8 P **P 13 26 09.7 +0.2**
comp=Z,28nm,0.7s,baz=189,slow=7.4,SNR=43
comp=Z,28nm,0.7s
STKA Stephens Creek 39.68 158 P **P 13 26 10.4 +0.5**
comp=Z,143nm,0.9s
STKA Stephens Creek 39.68 158 P **P 13 26 10.1 +0.2**
STKA Stephens Creek 39.68 158 P **P 13 26 10.3 +0.5**
comp=Z,22nm,0.9s,baz=336,slow=9.4,SNR=24
STKA LR LR 13 44 10.0
comp=Z,138nm,18.1s,baz=314,slow=38
comp=Z,22nm,0.9s
STKA Stephens Creek 39.68 158 P **P 13 26 10.8 +0.9**
MDJ Mudanjiang 39.80 5 P **P 13 26 10.4 -0.4**
MDJ pmax pmax
comp=Z,26nm,1.0s
HTT Hallett 40.19 162 P **P 13 26 14.9 +0.7**
ERM Erimo 40.31 21 P P 13 26 23.1 +8.1
LSA Lhasa 40.63 311 P **P 13 26 17.1 -1.3**
BNX BinXian 40.79 2 ⇓P **P 13 26 17.8 -1.1**
BNX pmax pmax
comp=Z,11nm,1.2s
CMSA Cobar Meteorol 41.07 153 P **P 13 26 22.1 +0.7**
comp=Z,15nm,2.5s
CMSA Cobar Meteorol 41.07 153 P **P 13 26 22.6 +1.2**
GTA Gaotai 41.42 330 P **P 13 26 25.5 +1.2**
GTA pP pP 13 26 41.1 +2.8
GTA PcP **PcP 13 28 22.0 +0.6**
GTA pmax pmax
comp=Z,23nm,1.0s
GTA LR LR
comp=N,2μm,13.9s
GTA LR LR
comp=E,2μm,15.1s
GTA LR LR
comp=Z,3μm,15.5s
JKA Kamikawa-asahi 41.99 19 P **P 13 26 28.9 +0.2**
H11S3 WAKE ISLAND Hy 42.64 68 T T 14 11 51.3
baz=257,slow=75,SNR=8.3
H11S1 WAKE ISLAND Hy 42.66 68 T T 14 11 46.3
baz=257,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 42.66 68 T T 14 11 48.0
baz=257,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 43.12 66 T T 14 12 26.5
baz=255,slow=74,SNR=162
H11N2 WAKE ISLAND Hy 43.13 66 T T 14 12 26.9
baz=255,slow=74,SNR=130
H11N3 WAKE ISLAND Hy 43.14 66 T T 14 12 27.9
baz=255,slow=74,SNR=134
EVN Everest 43.17 306 P **P 13 26 40.5 +1.2**
ARMA Armidale 43.18 146 P **P 13 26 40.2 +1.5**
HILR Hailar Array B 44.81 355 P **P 13 26 50.6 -0.9**
comp=Z,5.0nm,0.6s,baz=178,slow=10,SNR=5.1
comp=Z,5.0nm,0.6s
HEH HeiHe 45.30 2 *e*P **P 13 26 53.9 -1.3**
HEH pmax pmax
comp=Z,21nm,0.8s
ULN Ulaanbaatar 45.64 343 P **P 13 26 57.5 -0.6**

ULN				pP	pP	13 27 11.0	-1.4
ULN				sP	pwP	13 27 17.6	-0.5
CAN	Canberra	45.74	153	P	P	13 26 59.2	+0.1
	comp=Z,34nm,1.6s						
CAN	Canberra	45.74	153	P	P	13 27 00.2	+1.2
SONM	Songino Array	45.81	342	P	P	13 26 59.3	-0.2
SONM	Songino Array	45.81	342	P	P	13 26 58.8	-0.7
	comp=Z,3.1nm,0.7s,baz=158,slow=8.7,SNR=11						
SONM				PcP	PcP	13 28 36.0	-0.1
	comp=Z,4.0nm,1.0s,baz=163,slow=5.4,SNR=5.5						
	comp=Z,3.1nm,0.7s						
CNB	Canberra Magne	45.91	152	P	P	13 27 01.8	+1.5
DZM	Mont Dzumac	48.35	125	P	P	13 27 19.5	-0.1
	comp=Z,5.3nm,0.8s,baz=207,slow=11,SNR=6.5						
	comp=Z,5.3nm,0.8s						
YATNC	Mamie plateau,	48.71	125	P	P	13 27 25.0	+2.7
WMQ	Urumqi	51.00	325	eP	P	13 27 40.3	+0.9
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
WMQ				LR	LR		
	comp=N,2μm,12.1s						
WMQ				LR	LR		
	comp=E,2μm,15.7s						
WMQ				LR	LR		
	comp=Z,940nm,15.7s						
DGAR	Diego Garcia	54.09	257	P	P	13 28 08.0	+5.3
ZSN	Zaisan	54.80	327	eP	P	13 28 06.4	-0.9
	comp=Z,9.9nm,1.4s						
PEA0B	Petropavlovsk-	54.98	23	P	P	13 28 08.0	-0.5
PEA0B				IAmb	IAmb	13 28 15.7	
	comp=Z,31nm,1.1s						
PETK	Petropavlovsk-	54.98	23	LR	LR	13 50 22.2	
	comp=Z,62nm,21.4s,baz=358,slow=34						
PET	Petropavlovsk	55.30	24	P	P	13 28 10.4	-0.3
SHLS	Shalkode	55.58	320	eP	P	13 28 10.2	-3.0
	comp=Z,10nm,0.8s						
MKAR	Makanchi Array	55.83	326	P	P	13 28 14.1	-0.7
MKAR	Makanchi Array	55.83	326	P	P	13 28 14.4	-0.3
	comp=Z,20nm,0.7s,baz=126,slow=8.0,SNR=116						
MKAR				PcP	PcP	13 29 12.3	-0.8
	comp=Z,7.4nm,0.8s,baz=126,slow=3.4,SNR=6.2						
	comp=Z,20nm,0.7s						
UZB	Uzynbulak	55.85	320	eP	P	13 28 14.2	-1.0
	comp=Z,12nm,1.3s						
MAKZ	Makanchi	56.02	325	P	P	13 28 14.4	-1.7
MAKZ	Makanchi	56.02	325	P	P	13 28 15.8	-0.2
MAKZ				PcP	PcP	13 29 12.4	-1.4
SATY	Saty	56.20	320	eP	P	13 28 16.6	-1.0
	comp=Z,14nm,1.1s						
MDOK	Medeo	57.13	319	eP	P	13 28 23.1	-1.1
TNSS	Tian-Shan	57.13	319	eP	P	13 28 23.1	-1.5
TDK	Taldygorghan	57.16	322	eP	P	13 28 23.3	-0.9
	comp=Z,12nm,0.8s						
YAK	Yakutsk	57.17	2	P	P	13 28 22.6	-1.3
YAK	Yakutsk	57.17	2	P	P	13 28 23.1	-0.8
AAA	Alma-Ata	57.24	319	eP	P	13 28 23.9	-1.0
CHKK	Chushkaly	57.49	320	eP	P	13 28 25.4	-1.1
TKM2	Tokmak 2	57.97	319	P	P	13 28 31.6	+1.4
	SNR=8.4						
KBK	Karagaybulak	58.28	318	P	P	13 28 34.1	+1.8
	SNR=6.0						
UCH	Uchtor	58.39	318	P	P	13 28 35.5	+2.0
	SNR=12						
SGDS	Sogindy	58.83	319	eP	P	13 28 34.1	-2.0
	comp=Z,6.0nm,1.3s						
USP	Ospenovka	58.84	319	P	P	13 28 36.6	+0.5
	SNR=12						
ZALV	Zalesovo Beam	58.96	333	P	P	13 28 34.4	-2.2
	comp=Z,4.4nm,0.5s,baz=124,slow=6.6,SNR=19						
	comp=Z,4.4nm,0.5s						
EKS2	Erkin-Say	59.06	318	P	P	13 28 39.5	+1.8
	SNR=7.9						
ARSB	Arslanbob	59.06	316	P	P	13 28 36.9	-0.9
ARSB				IAmb	IAmb	13 28 39.5	
	comp=Z,14nm,0.8s						
KBL	Kabul	59.70	307	P	P	13 28 42.8	+0.4
KURBB	Kurchatov Arra	60.04	328	P	P	13 28 43.5	-0.6
	comp=Z,37nm,0.9s,baz=125,slow=6.1,SNR=106						
	comp=Z,37nm,0.9s						
KURK	Kurchatov	60.04	328	P	P	13 28 43.3	-0.8
KURK	Kurchatov	60.04	328	P	P	13 28 43.4	-0.7
KURK	Kurchatov	60.04	328	P	P	13 28 43.2	-0.8
KURK				pP	pP	13 28 57.4	-1.2
GAR	Garm	60.12	313	P	P	13 28 44.8	-0.2
DZA	Taraz	60.81	317	eP	P	13 28 48.5	-1.0
	comp=Z,15nm,1.3s						
IUG	Iuzhnay	61.42	316	eP	P	13 28 52.7	-1.1
	comp=Z,7.1nm,0.8s						
KKAR	Karatay Array	61.44	317		P	13 28 53.6	-0.3
CHM	Chimkent	61.78	316	eP	P	13 28 55.1	-1.0
BRLS	Borolday	61.88	317	eP	P	13 28 55.7	-1.1
	comp=Z,11nm,1.1s						
BRZS	Berezniki	62.96	325	eP	P	13 29 03.0	-0.8
BORK	Borovoye	65.66	327	P	P	13 29 20.4	-1.1
BORK				pP	pP	13 29 35.1	-1.0
JLN	Jalan Bani Buh	65.85	292	P	P	13 29 23.2	0.0
WSAR	Wadi Sarin	66.66	293	P	P	13 29 28.8	+0.3
	SNR=5.1						
TIXI	Tiksi	66.77	1		P	13 29 26.8	-1.4
TIXI				IAmb	IAmb	13 29 27.5	
	comp=Z,28nm,0.9s						
TIXI	Tiksi	66.77	1	P	P	13 29 26.9	-1.3
JMDO	Jabal Madar	67.08	292	P	P	13 29 31.6	+0.5
	SNR=5.6						
MHTO	MHTO	67.11	291	P	P	13 29 32.0	+0.7
	SNR=5.3						
BIDO	Bidbid	67.14	293	P	P	13 29 32.0	+0.5
	SNR=6.3						
SMDO	Samad	67.18	293	P	P	13 29 32.2	+0.3
DQM	DQM	67.45	289	P	P	13 29 34.6	+1.1
HOQ	Hoqain	67.90	293	P	P	13 29 36.8	+0.5
ARQ	Araqi	68.60	293	P	P	13 29 41.2	+0.5
SOHO	SOHO	68.65	294	P	P	13 29 40.9	0.0
BANOM	Banah	69.00	296	P	P	13 29 44.1	+0.9
HATD	Hatta, Dubai	69.06	295	P	P	13 29 43.5	-0.1
MASF	Masafi	69.08	295	P	P	13 29 43.6	-0.1
ASHO	Ashiyiah	69.12	294	P	P	13 29 44.7	+0.7
SHAO	Shalim	69.18	287	P	P	13 29 45.7	+1.3
ALNE	Al Ain	69.36	294	P	P	13 29 45.9	+0.5
	SNR=5.8						
DMTO	DMTO	69.81	287	P	P	13 29 49.3	+1.0
AB31	Akbulak array	70.39	321	P	P	13 29 50.6	-0.5
AB31				IAmb	IAmb	13 29 52.1	
	comp=Z,20nm,0.9s						
ABKAR	Akbulak array	70.39	321		P	13 29 50.5	-0.7
RBK	Rabkut	70.52	287	P	P	13 29 53.6	+1.0
DOK	Doka	70.61	288	P	P	13 29 53.8	+0.7
WHFO	Wadi Hawf	70.94	287	P	P	13 29 55.0	-0.2
MZWR	Madinat Zayed	71.05	293	P	P	13 29 56.2	+0.5
MZR	Muzera	71.38	293	P	P	13 29 58.9	+1.2
	SNR=9.2						
CASY	Casey	71.74	186	P	P	13 29 59.2	+0.3
CASY				IAmb	IAmb	13 30 00.3	
	comp=Z,40nm,1.5s						
NIKH	Nikolski High	71.76	36	P	P	13 29 58.6	-0.7
	baz=253						
AKTO	Aktyubinsk	71.90	322	P	P	13 29 59.9	-0.4
	comp=Z,21nm,0.9s,baz=100,slow=6.1,SNR=31						
	comp=Z,21nm,0.9s						
GHWR	Ruwais	71.97	294	P	P	13 30 02.4	+1.2
JRN	Qarnain Island	72.05	295	P	P	13 30 02.5	+0.8
SPIA	Saint Paul Isl	72.30	31	P	P	13 30 02.3	-0.2
	baz=251						
P08K	Saint George I	72.48	32	P	P	13 30 02.8	-0.7
	baz=252						
ARTI	Arti	73.32	328		P	13 30 07.0	-1.6
ARTI				IAmb	IAmb	13 30 08.5	
	comp=Z,14nm,0.8s						
UNV	Unalaska Valle	73.35	35	P	P	13 30 08.7	-0.2
	baz=255						
TRNA	Turayna	73.52	294	P	P	13 30 11.5	+1.0
SMRA	Abu-Samra	73.88	294	P	P	13 30 13.2	+0.7
GAMB	Gambell	73.99	24	P	P	13 30 12.0	-0.3
	baz=248						
M11K	Mekoryuk	75.30	29	P	P	13 30 19.9	0.0
	baz=253						
FALS	False Pass	75.35	34	P	P	13 30 20.2	-0.2
	baz=257						
TNA	Tin City	76.15	23	P	P	13 30 23.9	-0.8
	baz=251						
S12K	Black Hills	76.29	34	P	P	13 30 25.0	-0.8
	baz=258						
K13K	Kusilvak Mount	76.44	27	P	P	13 30 26.2	-0.3
	baz=254						
M13K	Dall Lake	76.67	29	P	P	13 30 27.6	-0.2
	baz=256						
F14K	Arctic Creek	76.75	23	P	P	13 30 27.0	-1.2
	baz=252						
KBD	Kabd	76.82	299	P	P	13 30 29.4	+0.1
ANM	Nome	76.87	25	P	P	13 30 28.3	-0.6
	baz=253						
SDPT	Sand Point	77.10	34	P	P	13 30 29.9	-0.4
	baz=260						
J14K	Nanvaranak Lak	77.15	27	P	P	13 30 30.0	-0.5
	baz=255						
L14K	Kuka Creek	77.21	28	P	P	13 30 30.9	+0.1
	baz=256						
N14K	Kuskokwak Cree	77.37	30	P	P	13 30 31.4	-0.3
	baz=258						
M14K	Bethel	77.41	29	P	P	13 30 32.2	+0.3
	baz=257						
O14K	Tigyukauivet M	77.44	30	P	P	13 30 32.5	+0.3
	baz=258						
F15K	North Star Dit	77.49	23	P	P	13 30 31.0	-1.4
	baz=254						
CHNA	Chernabura Isl	77.52	35	P	P	13 30 30.9	-1.7
	baz=260						
G15K	Niukluk	77.54	24	P	P	13 30 31.9	-0.7
	baz=254						
L15K	Ungalak Mounta	77.84	28	P	P	13 30 33.1	-1.2
	baz=257						
K15K	Wolf Creek Mou	77.96	27	P	P	13 30 34.1	-0.9
	baz=257						
C16K	Lisburne Hills	77.98	21	P	P	13 30 34.4	-0.6
	baz=252						
M15K	Kasigluk River	78.01	29	P	P	13 30 34.7	-0.6
	baz=258						
O15K	Ungalikthiuk R	78.15	31	P	P	13 30 35.7	-0.4
	baz=259						
H16K	Elim	78.19	25	P	P	13 30 35.2	-1.1
	baz=256						
N15K	Kwethluk River	78.20	30	P	P	13 30 35.5	-0.9
	baz=259						
G16K	Koyuk River	78.33	24	P	P	13 30 36.8	-0.1
	baz=256						
J16K	Anvik River	78.59	26	P	P	13 30 37.7	-0.8
	baz=258						
D17K	Noatak River	78.63	22	P	P	13 30 37.8	-0.8
	baz=255						
I17K	Unalakleet	78.67	26	P	P	13 30 38.2	-0.7
	baz=258						
RAYN	Ar Rayn	78.72	293	P	P	13 30 40.4	+0.3
RAYN	Ar Rayn	78.72	293	P	P	13 30 40.2	+0.1
RAYN				pP	pP	13 30 54.8	-0.5
L16K	Owhat River	78.79	28	P	P	13 30 39.4	-0.1
	baz=259						
C17K	DeLong Mountai	78.80	21	P	P	13 30 39.0	-0.6
	baz=254						
N16K	Nishlik Lake	78.90	29	P	P	13 30 40.0	-0.3
	baz=260						
M16K	Timber Creek	78.91	29	P	P	13 30 40.0	-0.3
	baz=260						
E17K	Hotham Inlet	78.94	22	P	P	13 30 40.0	-0.4
	baz=256						
F17K	Baldwin Pennin	79.02	23	P	P	13 30 40.0	-0.7
	baz=257						
G17K	Kiwalik Mounta	79.04	24	P	P	13 30 40.3	-0.6
	baz=257						
R16K	Pilot Point	79.05	32	P	P	13 30 41.1	0.0
	baz=262						
P16K	Nushagak River	79.06	31	P	P	13 30 40.8	-0.3
	baz=261						
O16K	Kokwok River B	79.09	30	P	P	13 30 40.7	-0.5
	baz=261						
H17K	Granite Mounta	79.23	25	P	P	13 30 42.4	+0.5
	baz=258						
J17K	VABM Dome	79.28	26	P	P	13 30 42.3	0.0
	baz=259						
L17K	Donlin	79.41	28	P	P	13 30 43.0	0.0
	baz=260						
E18K	Tukpahlearik C	79.49	22	P	P	13 30 42.7	-0.6
	baz=257						
K17K	Iditarod	79.51	27	P	P	13 30 43.7	+0.2
	baz=260						
B18K	Kokolik River	79.52	20	P	P	13 30 43.3	-0.1
	baz=256						
C18K	Utukok River	79.55	21	P	P	13 30 43.5	-0.2
	baz=256						
O17K	Koliganek Bris	79.62	30	P	P	13 30 44.1	-0.1
	baz=262						
F18K	Selawik	79.67	23	P	P	13 30 44.3	0.0
	baz=258						
N17K	Nushagak Hills	79.68	29	P	P	13 30 44.4	-0.1
	baz=262						
Q16K	King Salmon	79.69	31	P	P	13 30 44.0	-0.5
	baz=262						
M17K	Holitna River	79.70	28	P	P	13 30 44.4	-0.2
	baz=261						
R17L	Mt. Peulik Vol	79.71	32	P	P	13 30 43.9	-0.9
	baz=263						
P17K	Kvichak River	79.87	31	P	P	13 30 45.0	-0.5
	baz=262						
H18K	Honhosa River	79.91	25	P	P	13 30 45.3	-0.4
	baz=260						
L18K	Granite Mounta	80.17	28	P	P	13 30 46.7	-0.4
	baz=262,SNR=6.0						
C19K	Lookout Ridge	80.22	21	P	P	13 30 46.9	-0.4
	baz=258						
N18K	Kilae Creek	80.34	29	P	P	13 30 47.2	-0.8
	baz=263						
J18K	Innoko River	80.34	26	P	P	13 30 47.6	-0.4
	baz=261						
GCSA	Galena City Sc	80.47	25	P	P	13 30 48.3	-0.3
	baz=261						
M18K	Stony River	80.48	29	P	P	13 30 48.7	-0.1
	baz=262						
P18K	Big Mountain,	80.51	31	P	P	13 30 48.7	-0.3
	baz=263						
Q18K	Katmai Hardscr	80.54	31	P	P	13 30 49.1	-0.2
	baz=264						
O18K	Koktuh Hills	80.58	30	P	P	13 30 49.4	+0.1
	baz=263						
D19K	Kuna River	80.63	21	P	P	13 30 49.4	-0.1
	baz=259						
R18K	Karluk	80.72	33	P	P	13 30 50.1	0.0
	baz=264						
E19K	Redstone River	80.77	22	P	P	13 30 50.9	+0.7
	baz=260						
SII	Sitkinak Islan	80.77	34	P	P	13 30 50.4	0.0
	baz=265						
J19K	Poorman	80.90	26	P	P	13 30 50.8	-0.2
	baz=262						
L19K	White Mountain	81.02	28	IAmb	IAmb	13 30 53.4	
	comp=Z,18nm,1.0s						
L19K	White Mountain	81.02	28	P	P	13 30 51.4	-0.3
	baz=263						
N19K	Bonanza Creek	81.04	29	IAmb	IAmb	13 30 53.2	
	comp=Z,46nm,1.5s						
N19K	Bonanza Creek	81.04	29	P	P	13 30 51.6	-0.3
	baz=264						
O19K	Port Alsworth	81.06	30	P	P	13 30 51.6	-0.2
	baz=264						
KBZ	Khabaz	81.17	313	P	P	13 30 52.0	-0.8
	comp=Z,3.0nm,1.0s,baz=263,slow=1.6,SNR=8.0						
	comp=Z,3.0nm,1.0s						
D20K	Etivluk River	81.21	21	P	P	13 30 52.2	-0.4
	baz=261						
B20K	Meade River	81.23	20	P	P	13 30 52.9	+0.3
	baz=260						
Q19K	Cape Douglas,	81.28	31	P	P	13 30 53.1	0.0
	baz=265						
E20K	Nagu River	81.29	22	P	P	13 30 53.2	+0.2
	baz=261						
OHAK	Old Harbor	81.32	33	P	P	13 30 53.1	-0.2
	baz=265						
KVAR	Kislovodsk Arr	81.33	314	LR	LR	14 11 32.6	
	comp=Z,121nm,19.0s,slow=39						
H20K	Anotleneega Mo	81.41	25	P	P	13 30 54.0	+0.3
	baz=263						
J20K	Nowinta River	81.57	26	P	P	13 30 54.4	-0.1
	baz=264,SNR=11						
GURO	Guroymak-BITLI	81.73	308	IAmb	IAmb	13 30 57.5	
	comp=Z,16nm,0.8s						
KDAK	Kodiak Island	81.74	32	LR	LR	14 01 02.5	
	comp=Z,141nm,21.4s,baz=259,slow=31						
KDAK	Kodiak Island	81.74	32	P	P	13 30 55.1	-0.4
	baz=266						
KDAK	Kodiak Island	81.74	32	P	P	13 30 55.8	+0.3
KDAK				pP	pP	13 31 11.1	-0.2
O20K	Slope Mountain	81.89	30	P	P	13 30 55.3	-1.1
	baz=266						
Q20K	Shuyak Island	81.90	32	P	P	13 30 55.1	-1.2
	baz=266						
IMAR	Indian Mountai	81.93	24	P	P	13 30 56.9	+0.5
B21K	Ikpikpuk River	82.05	20	P	P	13 30 56.7	-0.2
	baz=262						
G21K	Allakaket	82.09	24	P	P	13 30 57.7	+0.5
	baz=264						
E21K	Killik River	82.13	22	P	P	13 30 57.1	-0.3
	baz=263						
F21K	Alatna River	82.17	23	P	P	13 30 57.4	-0.3
	baz=264						
SPCR	Spurr Chakacha	82.18	29	P	P	13 30 57.0	-0.8
	baz=266						
H21K	Melozitna Rive	82.29	24	P	P	13 30 57.7	-0.6
	baz=265						
PPLA	Purkeypile	82.32	27	P	P	13 30 57.8	-0.9
	baz=266						
CHUM	Lake Minchumin	82.34	26	P	P	13 30 58.8	+0.2
	baz=265						
HOM	Homer	82.36	31	P	P	13 30 57.8	-0.9
	baz=266						
CNPM	China Poot	82.55	31	IAmb	IAmb	13 31 00.2	
	comp=Z,22nm,0.8s						
SKT	Skwentna	82.56	28	IAmb	IAmb	13 31 00.6	
	comp=Z,20nm,1.0s						
SKT	Skwentna	82.56	28	P	P	13 30 59.1	-0.7
	baz=266,SNR=6.5						
I21K	Tanana	82.59	25	P	P	13 30 59.5	-0.3
	baz=265						
D22K	Ayikyak River	82.65	21	P	P	13 30 59.7	-0.4
	baz=264						
CAPN	Captain Cook N	82.67	29	P	P	13 30 59.3	-0.9
	baz=267						
F22K	John River	82.70	23	P	P	13 31 00.5	0.0
	baz=265						
BRSE	Bradley Lake S	82.82	31	P	P	13 31 00.6	-0.6
	baz=267						
H22K	Ishtalitna Cre	82.89	24	P	P	13 31 01.2	-0.2
	baz=266						
E22K	Anaktuvuk Pass	82.90	22	P	P	13 31 01.0	-0.5
	baz=265						
SUA	Susitna One	82.90	29	IAmb	IAmb	13 31 02.5	
	comp=Z,25nm,0.8s						
SUA	Susitna One	82.90	29	P	P	13 31 01.0	-0.7
	baz=267						
G22K	Bettles	82.92	23	P	P	13 31 01.7	+0.2
	baz=266						
KTH	Kantishna Hill	82.94	27	IAmb	IAmb	13 31 03.4	
	comp=Z,25nm,1.3s						
BPAW	Bear Paw Mtn.	82.94	26	IAmb	IAmb	13 31 12.7	
	comp=Z,38nm,1.4s						
BPAW	Bear Paw Mtn.	82.94	26	P	P	13 31 01.3	-0.4
	baz=266,SNR=11						
MLY	Manley	83.10	25	IAmb	IAmb	13 31 04.0	
	comp=Z,12nm,0.8s						
MLY	Manley	83.10	25	P	P	13 31 02.6	0.0
	baz=267,SNR=9.8						
CUT	Chulitna	83.17	28	P	P	13 31 03.0	+0.1
	baz=267						
M22K	Willow	83.21	28	P	P	13 31 02.8	-0.3
	baz=268						
TRF	Thorofare Moun	83.21	27	IAmb	IAmb	13 31 04.0	
	comp=Z,21nm,1.1s						
TRF	Thorofare Moun	83.21	27	P	P	13 31 03.4	0.0
	baz=267,SNR=5.3						
O22K	Cooper Landing	83.36	30	P	P	13 31 03.8	-0.1
	baz=268						
RC01	Rabbit Creek A	83.37	29	IAmb	IAmb	13 31 04.4	
	comp=Z,22nm,0.8s						
RC01	Rabbit Creek A	83.37	29	P	P	13 31 03.9	-0.1
	baz=268,SNR=8.1						
D23K	Nanushuk River	83.38	21	P	P	13 31 04.8	+1.0
	baz=266						
COLD	Coldfoot	83.45	23	P	P	13 31 04.7	+0.5
	baz=267						
C23K	Itkillik River	83.46	20	P	P	13 31 04.6	+0.3
	baz=266						
SEW	Seward	83.48	30	P	P	13 31 03.7	-0.8
SEW	Seward	83.48	30	P	P	13 31 04.5	0.0
	baz=268						
G23K	Bananza Creek	83.49	23	P	P	13 31 04.1	-0.4
	baz=267						
H23K	Yukon River	83.64	24	IAmb	IAmb	13 31 07.2	
	comp=Z,18nm,1.0s						
H23K	Yukon River	83.64	24	P	P	13 31 05.5	+0.2
	baz=268						
PMR	Palmer	83.68	29	IAmb	IAmb	13 31 05.9	
	comp=Z,22nm,1.0s						
PMR	Palmer	83.68	29	P	P	13 31 05.1	-0.4
	baz=268						
I23K	Minto, Yukon-K	83.69	25	P	P	13 31 05.3	-0.2
	baz=268						
E23K	Chandalar	83.72	22	IAmb	IAmb	13 31 08.8	
	comp=Z,19nm,1.1s						
E23K	Chandalar	83.72	22	P	P	13 31 06.3	+0.6
	baz=267						
TOLK	Toolik Lake Re	83.76	22	P	P	13 31 06.4	+0.5
	baz=267						
NEA2	Nenana	83.80	26	IAmb	IAmb	13 31 07.8	
	comp=Z,15nm,0.9s						
NEA2	Nenana	83.80	26	P	P	13 31 05.9	-0.2
	baz=268,SNR=10						
MCK	McKinley	83.83	27	P	P	13 31 06.3	0.0
	baz=268,SNR=13						
RND	Reindeer	83.86	27	P	P	13 31 06.0	-0.6
RND				IAmb	IAmb	13 31 06.7	
	comp=Z,18nm,0.6s						
WAT1	Susitna Watana	83.98	27	P	P	13 31 07.0	-0.2
	baz=269						
KNK	Knik Glacier	84.00	29	IAmb	IAmb	13 31 08.2	
	comp=Z,26nm,0.8s						
KNK	Knik Glacier	84.00	29	P	P	13 31 07.0	-0.2
	baz=269,SNR=6.7						
PWL	Port Wells	84.05	29	P	P	13 31 07.0	-0.5
	baz=269,SNR=10						
D24K	Happy Valley	84.05	21	P	P	13 31 07.2	-0.1
	baz=268						
SML	Sawmill	84.06	28	IAmb	IAmb	13 31 08.4	
	comp=Z,30nm,1.0s						
SML	Sawmill	84.06	28	P	P	13 31 07.2	-0.4
	baz=269,SNR=6.0						
E24K	Your Creek	84.14	22	P	P	13 31 07.5	-0.3
	baz=268						
WRH	Wood River Hil	84.22	26	IAmb	IAmb	13 31 09.1	
	comp=Z,14nm,1.0s						
MAW	Mawson	84.28	200	P	P	13 31 08.9	+0.6
	comp=Z,3.4nm,0.7s,baz=63,slow=11,SNR=2.2						
	comp=Z,3.4nm,0.7s						
COLA	College	84.33	25	P	P	13 31 08.7	0.0
	baz=269						
COLA	College	84.33	25	P	P	13 31 07.9	-0.8
CCB	Clear Creek Bu	84.34	26	IAmb	IAmb	13 31 09.0	
	comp=Z,16nm,1.1s						
WAT6	Susitna Watana	84.35	28	P	P	13 31 08.3	-0.9
	baz=270,SNR=8.6						
M23K	Glacier View	84.35	28	P	P	13 31 08.4	-0.6
	baz=270						
F24K	Squaw Lake	84.35	23	P	P	13 31 08.4	-0.5
	baz=269						
G24K	Hadweenzic Riv	84.50	24	IAmb	IAmb	13 31 11.5	
	comp=Z,20nm,0.9s						
G24K	Hadweenzic Riv	84.50	24	P	P	13 31 08.8	-0.9
	baz=269						
P23K	Montague Islan	84.51	30	P	P	13 31 09.5	-0.3
	baz=270						
POKR	Poker Plat Res	84.51	25	P	P	13 31 10.0	+0.3
	baz=270						
DHY	Denali Highway	84.52	27	P	P	13 31 09.5	-0.5
	baz=270						
SCM	Sheep Creek Mo	84.54	28	P	P	13 31 09.8	-0.2
	baz=270						
GLI	Glacier Island	84.66	29	P	P	13 31 09.9	-0.6
	baz=270,SNR=5.4						
VNDA	Vanda	84.70	173	P	P	13 31 11.0	+0.7
HDA	Harding Lake	84.71	26	P	P	13 31 09.0	-1.7
HDA				IAmb	IAmb	13 31 10.8	
	comp=Z,12nm,0.8s						
HDA	Harding Lake	84.71	26	P	P	13 31 09.8	-0.9
	baz=270						
ILAR	Eielson Array	84.74	25		P	13 31 09

	baz=271							
H25L	Birch Creek	85.17	24	P	P	13 31 12.4	-0.6	
	baz=271							
F25K	Christian Rive	85.22	23	P	P	13 31 12.8	-0.5	
	baz=271							
KLU	Klutina	85.22	29	P	P	13 31 12.9	-0.5	
	baz=271							
E25K	Arctic Village	85.23	22	P	P	13 31 13.2	-0.1	
	baz=271							
DIV	Divide	85.30	29	IAmb	IAmb	13 31 15.2		
	comp=Z,18nm,0.9s							
PRP	Porcupine Dome	85.30	25	P	P	13 31 13.5	-0.4	
	baz=271							
PAX	Paxson	85.39	27	P	P	13 31 14.1	-0.2	
	baz=272							
J25K	Salcha River,	85.39	26	P	P	13 31 14.0	-0.2	
	baz=272							
C26K	Camden Bay	85.43	20	P	P	13 31 14.1	-0.1	
	baz=272							
HARP	HAARP	85.55	28	P	P	13 31 14.7	-0.3	
	baz=272							
RIDG	Independent Ri	85.65	26	P	P	13 31 15.3	-0.2	
	baz=272							
F26K	Sheenjek River	85.78	23	P	P	13 31 15.3	-0.8	
	baz=272							
N25K	Chitina, Valde	85.84	29	P	P	13 31 16.6	0.0	
	baz=272							
C27K	Jago River	85.86	21	P	P	13 31 16.3	0.0	
	baz=273							
BMRM	Bremner River	85.87	29	P	P	13 31 16.5	-0.2	
	baz=272							
G26K	Porcupine Rive	85.96	23	P	P	13 31 17.2	+0.3	
	baz=273							
KAIM	Kayak Island	86.01	30	P	P	13 31 17.2	-0.1	
	baz=273							
SCRK	Sand Creek	86.02	26	P	P	13 31 17.1	-0.3	
	baz=273							
J26L	Joseph Creek	86.18	26	P	P	13 31 17.3	-0.8	
	baz=273							
I26K	Coal Creek Min	86.30	25	P	P	13 31 18.2	-0.5	
	baz=273							
L26K	Log Cabin Wild	86.36	27	P	P	13 31 18.5	-0.4	
	baz=274							
MCARA	McCarthy VSAT	86.61	29	P	P	13 31 20.3	+0.1	
	baz=274							
CRQE	Cirque	86.62	29	P	P	13 31 20.0	-0.4	
	baz=274							
E27K	Coleen River	86.72	22	P	P	13 31 20.4	-0.2	
	baz=275							
G27K	Doyon Strip	86.81	23	P	P	13 31 20.4	-0.7	
	baz=275							
K27K	Chicken	86.86	26	P	P	13 31 21.6	+0.3	
	baz=274							
H27K	Steamboat Moun	86.91	24	P	P	13 31 21.9	+0.3	
	baz=275							
I27K	Kandik River	86.92	25	P	P	13 31 22.0	+0.2	
	baz=275							
L27K	Beaver Creek,	87.05	27	P	P	13 31 22.1	-0.3	
	baz=275							
M27K	Edge Creek, AK	87.08	28	P	P	13 31 22.3	-0.4	
	baz=275							
EGAK	Eagle	87.19	25	P	P	13 31 23.1	+0.2	
	baz=275							
GHAJ	Ghor Haditha	87.27	301	IAmb	IAmb	13 31 25.1		
	comp=Z,18nm,1.1s							
F28M	Old Crow	87.42	22	P	P	13 31 23.3	-0.7	
	baz=276							
E28M	Babbage River	87.43	21	P	P	13 31 23.7	-0.4	
	baz=277							
CTG	Chitna Glacier	87.46	29	P	P	13 31 23.8	-0.7	
	baz=275							
CTGM	Chitina Glacie	87.46	29	IAmb	IAmb	13 31 25.8		
	comp=Z,12nm,0.8s							
I28M	Miner Creek	87.64	25	IAmb	IAmb	13 31 27.2		
	comp=Z,8.3nm,0.7s							
I28M	Miner Creek	87.64	25	P	P	13 31 25.1	-0.1	
	baz=276							
DAWY	Dawson	88.03	26	P	P	13 31 26.6	-0.4	
	baz=277							
O28M	Mount Upton	88.04	29	P	P	13 31 26.4	-1.1	
	baz=276							
E29M	Blow River	88.06	22	P	P	13 31 27.3	+0.2	
	baz=278							
PINM	Pinnacle	88.08	30	P	P	13 31 26.9	-0.5	
	baz=276							
H29M	Whitestone	88.18	24	P	P	13 31 27.5	-0.2	
	baz=278							
YUK8	Steele Glacier	88.19	29	P	P	13 31 27.4	-0.7	
	baz=277							
BRTR	Keskin Array B	88.21	310		P	13 31 26.9	-1.6	
BRTR	Keskin Array B	88.21	310	P	P	13 31 27.2	-1.3	
	comp=Z,3.5nm,0.9s,baz=111,slow=5.4,SNR=16							
	comp=Z,3.5nm,0.9s							
G29M	Pine Creek	88.22	23	IAmb	IAmb	13 31 28.6		
	comp=Z,13nm,0.9s							
G29M	Pine Creek	88.22	23	P	P	13 31 27.9	0.0	
	baz=278							
I29M	Ogilvie Camp,	88.32	25	P	P	13 31 28.0	-0.4	
	baz=278							
J29N	Klondike Camp	88.49	26	P	P	13 31 29.1	-0.1	
	baz=278							
M29M	Somme Creek	88.65	28	IAmb	IAmb	13 31 33.6		
	comp=Z,12nm,1.2s							
M29M	Somme Creek	88.65	28	P	P	13 31 29.9	-0.2	
	baz=278							
L29M	L29M	88.71	27	P	P	13 31 30.1	-0.2	
	baz=278							
YUK4	Talbot Arm	88.71	29	P	P	13 31 30.4	-0.2	
	baz=278							
EPYK	Eagle Plains	88.82	24	P	P	13 31 29.9	-0.8	
	baz=279							
K29M	Barlow Dome	88.88	26	P	P	13 31 30.2	-1.0	
	baz=279							
O29M	Mount Kennedy	88.89	30	P	P	13 31 30.7	-0.6	
	baz=278							
G30M	tAoh Zraii Nji	88.91	23	P	P	13 31 30.5	-0.7	
	baz=280							
ARCES	ARCESS Array B	88.92	340	P	P	13 31 29.4	-1.8	
	comp=Z,8.9nm,0.8s,baz=76,slow=5.8,SNR=21							
	comp=Z,8.9nm,0.8s							
F30M	Barrier River	88.97	22	P	P	13 31 30.8	-0.5	
	baz=280							
SPITS	Spitsbergen Ar	89.12	349	P	P	13 31 30.6	-1.4	
	comp=Z,11nm,0.8s,baz=96,slow=6.8,SNR=14							
SPITS				LR	LR	14 15 34.7		
	comp=Z,109nm,20.3s,baz=47,slow=38							
	comp=Z,11nm,0.8s							
I30M	Mount Dempster	89.14	25	P	P	13 31 31.4	-1.0	
	baz=280							
J30M	Hart River	89.27	25	P	P	13 31 32.6	-0.4	
	baz=280							
HYT	Haines Junctio	89.34	29	P	P	13 31 33.0	-0.4	
	baz=279							
M30M	Minto, Yukon	89.40	27	P	P	13 31 33.3	-0.2	
	baz=279							
P29M	Windy Craggy	89.40	30	P	P	13 31 32.7	-0.9	
	baz=278							
N30M	Aishikik Lake	89.44	28	IAmb	IAmb	13 31 35.5		
	comp=Z,9.1nm,1.1s							
N30M	Aishikik Lake	89.44	28	P	P	13 31 33.6	-0.2	
	baz=279							
INK	Inuvik	89.67	21	P	P	13 31 34.1	-0.5	
	baz=282							
G31M	Satah River	89.68	23	P	P	13 31 34.0	-0.6	
	baz=282							
P30M	Million Dollar	89.71	30	P	P	13 31 34.6	-0.4	
	baz=279							
F31M	Tsiigehtchic	89.77	22	P	P	13 31 34.0	-1.1	
	baz=282							
H31M	Peel River	89.87	24	P	P	13 31 34.8	-0.9	
	baz=281							
O30N	Mendenhall	90.03	29	P	P	13 31 36.3	-0.2	
	baz=280							
N31M	Braebuun, Yuko	90.05	28	P	P	13 31 35.5	-1.1	
	baz=280							
PLBC	Pleasant Camp	90.12	30	P	P	13 31 36.1	-0.8	
	baz=280							
AKASG	Malin Array Be	90.13	321	P	P	13 31 35.2	-1.9	
	comp=Z,1.6nm,0.6s,baz=68,slow=4.9,SNR=5.5							
	comp=Z,1.6nm,0.6s							
FINES	FINESS Array B	90.18	332	P	P	13 31 35.2	-1.9	
	comp=Z,8.1nm,0.8s,baz=94,slow=5.7,SNR=13							
	comp=Z,8.1nm,0.8s							
M31M	Drury Creek, Y	90.57	27	P	P	13 31 38.0	-0.9	
	baz=281							
WHY	Whitehorse	90.64	29	P	P	13 31 39.4	-0.1	
	baz=281							
SKAG	Skagway	90.64	30	P	P	13 31 38.9	-0.3	
	baz=280							
SIT	Sitka	91.08	33	P	P	13 31 40.9	-0.5	
	baz=280							
N32M	Quiet Lake	91.39	28	P	P	13 31 43.1	+0.2	
	baz=282							
P33M	Teslin, Yukon	91.73	29	P	P	13 31 44.9	+0.4	
	baz=283							
NOR	Nord	91.87	355	*i* P	P	13 31 43.8	-0.8	
CRAG	Craig	92.60	34	P	P	13 31 47.9	-0.5	
	baz=282							
C36M	Paulatuk	92.66	19	P	P	13 31 48.1	-0.3	
	baz=291							
WRAK	Wrangell Islan	92.82	33	P	P	13 31 48.8	-0.6	
	baz=283							
R33M	Jennings River	92.83	30	P	P	13 31 49.1	-0.5	
	baz=284							
SYO	Syowa Base	92.92	201	⇓*e*P	P	13 31 50.4	+0.8	
MLR	Muntele Rosu	93.11	316	P	P	13 31 49.7	-1.6	
	comp=Z,1.9nm,0.4s,baz=355,slow=3.4,SNR=4.7							
	comp=Z,1.9nm,0.4s							
S34M	Telegraph Cree	93.11	31	P	P	13 31 50.4	-0.4	
	baz=284							
BURAR	Bucovina Array	93.22	318		P	13 31 51.0	-0.7	
BURAR				IAmb	IAmb	13 31 52.3		
	comp=Z,3.8nm,0.7s							
BUR08	Bucovina Ar. S	93.22	318	IAmb	IAmb	13 31 52.1		
	comp=Z,4.0nm,0.8s							
TGTN	Hyland Airport	93.54	27	P	P	13 31 52.6	-0.2	
	baz=287							
DLBC	Dease Lake	93.54	31	LR	LR	14 15 06.8		
	comp=Z,707nm,18.8s,baz=194,slow=36							
DLBC	Dease Lake	93.54	31	P	P	13 31 52.5	-0.4	
	baz=285							
WTLY	Watson Lake, Y	93.70	29	P	P	13 31 53.3	-0.2	
	baz=286							
T35M	Bob Quinn	93.80	32	P	P	13 31 54.0	0.0	
	baz=285							
U35K	Hyder	94.20	33	P	P	13 31 55.1	-0.6	
	baz=285							
QSPA	South Pole Qui	94.73	180	P	P	13 31 58.9	+0.7	
QSPA				IAmb	IAmb	13 32 03.4		
	comp=Z,5.9nm,0.9s							
QSPA	South Pole Qui	94.73	180	P	P	13 32 00.7	+2.6	
	comp=Z,5.8nm,1.0s,baz=291,slow=3.2,SNR=3.9							
WRGLY	Wrigley	95.11	25	P	P	13 31 59.5	-0.3	
	baz=291							
TOAD	Toad River Com	95.82	30	P	P	13 32 02.8	-0.4	
	baz=289							
KOTAN	Kotaneelee Air	95.95	28	P	P	13 32 04.0	+0.2	
	baz=290							
HFS	Hagfors	96.37	332	P	P	13 32 03.4	-2.2	
	comp=Z,2.2nm,0.7s,baz=86,slow=10,SNR=3.4							
HFS				LR	LR	14 19 45.7		
	comp=Z,97nm,18.7s,baz=45,slow=38							
	comp=Z,2.2nm,0.7s							
NB2	NORSAR Subarra	97.16	333	P	P	13 32 06.5	-2.8	
	comp=Z,3.7nm,0.9s,baz=68,slow=4.6							
NB2	NORSAR Subarra	97.16	333	P	P	13 32 06.5	-2.8	
	baz=68,slow=4.6							
NOA	NORSAR Array B	97.16	333	P	P	13 32 06.5	-2.8	
	comp=Z,2.9nm,0.8s,baz=66,slow=4.5,SNR=11							
NOA				LR	LR	14 21 00.7		
	comp=Z,90nm,18.8s,baz=50,slow=38							
	comp=Z,2.9nm,0.8s							
JMIC	Jan Mayen	98.45	346	LR	LR	14 23 47.7		
	comp=Z,60nm,18.0s,baz=60,slow=40							
GERES	GERESS Array B	100.33	321	P	Pdif	13 32 22.6	-1.2	
	comp=Z,0.8nm,0.6s,baz=51,slow=6.9,SNR=4.4							
NVAR	Mina Array Bea	107.24	47	Pdiff	Pdif	13 32 56.9	+2.0	
	comp=Z,0.2nm,0.5s,baz=305,slow=7.9,SNR=3.6							
PDAR	Pinedale Array	111.47	40	PKKPab	PKKPab	13 48 15.2	-1.9	
	comp=Z,0.7nm,0.9s,baz=115,slow=6.7,SNR=4.2							
LENM	Lemitar	117.33	48	PKPdf	PKPdf	13 37 22.3	-0.7	
TORD	Torodi Ar. Bea	121.20	288		PKPdf	13 37 30.0	-0.7	
TORD	Torodi Ar. Bea	121.20	288	PKP	PKPdf	13 37 30.3	-0.4	
	comp=Z,2.1nm,0.7s,baz=43,slow=3.6,SNR=15							
TORD				PKKPab	PKKPbc	13 47 32.9	+0.4	
	comp=Z,1.0nm,0.7s,baz=297,slow=2.9,SNR=5.1							
DRIO	Del Rio	124.34	49		PKiKP	13 37 36.7	0.0	
JCT	Junction City	124.42	48		PKiKP	13 37 36.9	0.0	
JCT	Junction City	124.42	48	P	PKiKP	13 37 36.9	0.0	
ML02	Panimavida	145.59	156		PKPdf	13 38 15.3	-0.2	
MT02	Curacav	147.84	154		PKPbc	13 38 22.9	+0.5	
NMDO	Nuevo Mundo	147.87	38		PKPdf	13 38 20.7	+0.9	
GTBY	Guantanamo Bay	148.26	39		PKiKP	13 38 24.9	-0.6	
VA03	San Esteban	148.52	154		PKiKP	13 38 25.5	-0.4	
LPAZ	La Paz	162.60	132	PKP	PKPdf	13 38 40.6	+0.1	
	comp=Z,1.8nm,0.8s,baz=146,slow=3.6,SNR=5.7							
LPAZ	La Paz	162.60	132	P	PKPdf	13 38 40.6	+0.1	

KRNET ***18*** *13:24:47.5±0.1, 41°.97N×78°.58E, h13km, mb2.5*
SOME ***18*** *13:24:47.2, 41°.97N×78°.62E, h5km*
NNC ***18*** *13:24:50.6±0.6, 42°.09N×78°.58E, h0km, mb2.7, mpv2.6,*
Error ellipse: s-maj=4.3km s-min=2.2km az=164.0,
Suspected Mining explosion.

ISC 18 13:24:47.2±1.4, 41°.91N±0°.05×78°.51E±0°.04, h0km, n28, σ1§54/48, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	Taragay, Kyrgy	0.56	251	⇑*i*P	Pb	13 24 59.8	-0.2
TARG				⇑*i*S	Sb	13 25 09.0	+0.3
PRZ	Przheval'sk	0.58	352	⇑*i*P	Pg	13 24 58.1	-0.2
PRZ				⇑*i*S	Sg	13 25 06.2	+0.4
KDJ	Kajisay	1.01	283	⇑*i*P	Pb	13 25 07.4	-0.3
KDJ				⇑*i*S	Sb	13 25 22.0	+0.3
SATY	Saty	1.15	356	P	Pb	13 25 09.1	-0.9
	1.4nm,0.1s						
SATY				S	Sg	13 25 23.0	-1.2
	6.3nm,0.1s						
UZB	Uzynbulak	1.29	17	P	Pb	13 25 11.3	-1.2
	2.2nm,0.2s						
UZB				S	Sg	13 25 26.8	-2.0
	10nm,0.5s						
UZB	Uzynbulak	1.29	17	*e*P	Pg	13 25 10.1	-1.9
	2.2nm,0.1s						
UZB				*e*S	Sg	13 25 26.7	-2.0
	2.1nm,0.2s						
SHLS	Shalkode	1.43	29	P	Pb	13 25 17.4	+2.5
	3.3nm,0.2s						
SHLS				S	Sn	13 25 37.6	+3.4
	4.4nm,0.3s						
SHLS	Shalkode	1.43	29	*e*P	Pb	13 25 16.5	+1.6
	3.3nm,0.2s						
SHLS				*e*S	Sn	13 25 37.6	+3.4
	3.0nm,0.1s						
KPKS	Kokpek	1.56	5	P	Pb	13 25 16.2	-0.8
	0.2nm,0.2s						
KPKS				S	Sn	13 25 35.6	-1.7
	3.8nm,0.3s						
TNSS	Tian-Shan	1.61	315	P	Pg	13 25 19.5	+1.4
	0.7nm,0.3s						
TNSS				S	Sg	13 25 40.8	+1.7
	3.2nm,0.2s						
TNSS	Tian-Shan	1.61	315	*e*P	Pb	13 25 17.9	-0.2
	0.4nm,0.1s						
TNSS				*e*S	Sg	13 25 40.4	+1.3
	3.2nm,0.2s						
MDOK	Medeo	1.66	320	Pg	Pg	13 25 19.4	+0.5
	0.9nm,0.2s						
MDOK				Lg	Lg	13 25 40.6	
	4.2nm,0.5s						
ULHL	Ulahol	1.72	282	⇑*i*P	Pg	13 25 20.4	+0.2
ULHL				⇑*i*S	Sg	13 25 44.6	+2.1
MTBS	Maitube	1.96	309	Pg	Pg	13 25 25.7	+0.9
	1.6nm,0.1s						
MTBS				Lg	Lg	13 25 51.4	
	5.0nm,0.3s						
MTBS	Maitube	1.96	309	*e*P	Pg	13 25 24.5	-0.2
	2.2nm,0.1s						
MTBS				*e*S	Sg	13 25 51.5	+1.2
	5.8nm,0.2s						
BOOM	Boomskoye usch	2.00	288	⇓*e*P	Pg	13 25 25.0	-0.4
BOOM				⇓*i*S	Sg	13 25 52.4	+1.1
KST	Kastek	2.20	302	Pg	Pg	13 25 30.0	+0.7
	2.0nm,0.3s						
KST				Lg	Lg	13 25 58.9	
	5.4nm,0.5s						
KST	Kastek	2.20	302	*e*P	Pg	13 25 28.9	-0.4
	2.0nm,0.3s						
KST				*e*S	Sg	13 25 58.4	+0.6
	5.4nm,0.5s						
CHKK	Chushkaly	2.24	331	Pg	Pg	13 25 29.2	-0.9
	5.2nm,0.2s						
CHKK				Lg	Lg	13 25 57.9	
	14nm,0.2s						
CHKK	Chushkaly	2.24	331	*e*P	Pb	13 25 28.5	-0.1
	5.2nm,0.2s						
CHKK				*e*S	Sb	13 25 58.4	+1.5
	14nm,0.3s						
KTBS	Karatobe	2.25	324	Pg	Pg	13 25 29.7	-0.5
	1.4nm,0.3s						
KTBS				Lg	Lg	13 25 58.9	
	7.8nm,0.2s						
JNKS	Jany-Kuch	2.31	249	⇓*e*P	Pb	13 25 29.8	0.0
JNKS				⇓*e*S	Sg	13 26 00.6	-0.7
ARXS	Arharly	2.36	348	Pg	Pg	13 25 31.4	-0.9
	0.9nm,0.3s						
ARXS				Lg	Lg	13 26 01.2	
	9.4nm,0.4s						
ARXS	Arharly	2.36	348	*e*P	Pb	13 25 30.3	-0.3
	0.9nm,0.3s						
ARXS				*e*S	Sb	13 26 01.2	+1.0
	9.4nm,0.4s						
TKM2	Tokmak 2	2.38	296	⇑*i*P	Pb	13 25 30.3	-0.8
TKM2				⇑*i*S	Sb	13 26 01.5	+0.4
DGS	Degeres	2.42	304	Pg	Pg	13 25 33.4	-0.1
	1.0nm,0.4s						
DGS				Lg	Lg	13 26 04.8	
	4.3nm,0.4s						
KRBS	Karabastau	2.75	312	Pg	Pg	13 25 39.0	-0.8
	0.9nm,0.2s						
KRBS				Lg	Lg	13 26 14.3	
	1.5nm,0.4s						
KK31	Karatay Array	6.03	284	⇑P	Pb	13 26 30.2	-2.9
	1.4nm,0.3s,baz=181,slow=12,SNR=16						
KK31				⇑S	Sb	13 27 41.1	-4.8
	2.2nm,0.4s,baz=191,slow=26,SNR=6.6						

BJI ***18*** *13:25:47.6, 18°.01S×177°.52W, h642km, mB5.1/8, mb4.7/43*
NEIC ***18*** *13:25:49.4, 18°.22S×178°.06W, h630km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17Nm; Mrr=0.53; Mθθ0.99; Mφφ=-0.46; Mrθ=0.20; Mθφ0.16; Mφr=0.73; Fault plane solution: M0 1.15000×10^17 NP1: φs=297.39000°, δ=48.57000°, λ=-28.86000°. NP2:φs=47.43000°, δ=68.79000°, λ=-134.78000°. Principal axes: T 1.0684, Plg12.0000°, Azm168.0000°; N 0.1541, Plg41.0000°, Azm67.0000°; P -1.2226, Plg46.0000°, Azm271.0000°;*
NEIC ***18*** *13:25:49.4, 18°.12S×178°.06W, h630km*
MOS ***18*** *13:25:49.1±1.8, 18°.22S×178°.17W, h637km, mb5.0/10, Error ellipse: s-maj=11.3km s-min=9.9km az=162.9*
NOU ***18*** *13:25:49.0, 18°.17S×177°.99W, h636km, mb5.3/86, Fiji Islands Region*
NEIC ***18*** *13:25:49.1±2.5, 18°.1S±0°.1×178°.1W±0°.1, h621km±5km, mb4.6/187, Mww5.3/12, Error ellipse: s-maj=15.3km s-min=15.0km az=182.0*
IDC ***18*** *13:25:49.6±0.5, 18°.27S×178°.12W, h638km±6km, mb4.1/25, mbtmp5.1/28, Error ellipse: s-maj=10.6km s-min=8.3km az=156.0*
GCMT ***18*** *13:25:51.1±0.3, 18°.19S±0°.02×178°.08W±0°.03, h654km±2km, MW5.4/92, Moment Tensor Solution. s92,c130; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr=0.95±.04; Mθθ0.97±.06; Mφφ=-0.01±.06; Mrθ=-0.05±.06; Mθφ0.66±.05; Mφr=-1.01±.06; Best double couple: M0 1.53100×10^17 NP1:φs=271.00000°, δ=41.00000°, λ=-38.00000°. NP2:φs=32.00000°, δ=66.00000°, λ=-125.00000°. Principal axes: T 1.4260, Plg14.0000°, Azm146.0000°; N 0.2110, Plg31.0000°, Azm47.0000°; P -1.6370, Plg55.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 18 13:25:49.0±0.4, 18°.23S±0°.04×178°.02W±0°.05, h633km±4km, h635km:pP-P, n679, σ1§16/592, mb4.7/193, 54C-57D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.77	277		P	13 27 16.7	+1.2
MSVF	Nonsavu	3.77	277	*i* P	P	13 27 16.3	+0.8
FUTU	Fugatoga	3.90	359		P	13 27 16.0	-0.3
FUTU	Fugatoga	3.90	359	P	P	13 27 16.1	-0.3
FUTU	Fugatoga	3.90	359	S	S	13 28 27.6	+0.2
AFI	Afiamalu	7.38	55	P	P	13 27 42.8	-1.3
AFI	Afiamalu	7.38	55	P	P	13 27 43.4	-0.6
AFI	Afiamalu	7.38	55	S	S	13 29 17.7	-0.4
AFI	Afiamalu	7.38	55	P	P	13 27 43.1	-0.9
AFI	Afiamalu	7.38	55	P	P	13 27 42.8	-1.3
NIUE	Niue	7.72	98	P	P	13 27 47.4	+0.4
	comp=Z,480nm,0.7s						
NIUE	Niue	7.72	98	P	P	13 27 47.0	0.0
NIUE	Niue	7.72	98	P	P	13 27 47.9	+0.9
NIUE	Niue	7.72	98	P	P	13 27 47.7	+0.8
FUNA	Funafuti	10.01	344	P	P	13 28 06.9	-1.8
FUNA	Funafuti	10.01	344	P	P	13 28 07.4	-1.3
RAO	Raoul Island	10.98	180	P	P	13 28 16.2	-1.6
	comp=Z,224nm,0.3s,baz=137,slow=13,SNR=7.0						
RAO				S	S	13 30 17.6	-2.2
	comp=Z,107nm,0.4s,baz=73,slow=19,SNR=1.8						
GLKZ	Green Lake	10.99	180	P	P	13 28 16.1	-1.8
GLKZ				S	S	13 30 15.6	-4.4
MARNC	Mare, Loyalty	13.52	254	P	P	13 28 41.3	-0.8
PINNC	Pines Island,	14.30	250	P	P	13 28 50.0	+0.5
SANVU	Saraoutou	14.41	279	P	P	13 28 50.8	+0.2
DZM	Mont Dzumac	15.08	253	P	P	13 28 56.8	+0.2
	comp=Z,59nm,0.5s,baz=81,slow=7.9,SNR=69						
ONTNC	Ouen Toro	15.12	252		P	13 28 57.8	+0.9
ONTNC				IAmb	IAmb	13 29 00.1	
	comp=Z,44nm,0.6s						
RAR	Rarotonga	17.44	103	P	P	13 29 19.5	+1.5
	comp=Z,42nm,0.7s,baz=228,slow=8.0,SNR=8.1						
RAR	Rarotonga	17.44	103	P	P	13 29 19.1	+1.0
RAR	Rarotonga	17.44	103	P	P	13 29 19.1	+1.0
OUZ	Omahuta	18.49	202	P	P	13 29 30.3	+2.8
WCZ	Waipu Caves	18.89	199	P	P	13 29 34.4	+3.3
KUZ	Kuaotunu	19.26	195	P	P	13 29 37.0	+2.6
ETAZ	East Tamaki Re	19.66	197	P	P	13 29 40.5	+2.5
MKAZ	Moumakai	19.74	196	P	P	13 29 40.9	+2.2
WTAZ	Waiatarua	19.74	198	P	P	13 29 41.0	+2.3
WMGZ	Waiomatatini S	19.77	188	P	P	13 29 39.4	+0.5
HAZ	Te Kaha	19.80	190	P	P	13 29 39.5	+0.2
AWAZ	Awhitu Peninsu	19.84	198	P	P	13 29 42.1	+2.4
PUZ	Puketiti	20.04	189	P	P	13 29 42.5	+1.1
TWGZ	Tauwhareparae	20.18	189	P	P	13 29 44.6	+1.9
MWZ	Matawai	20.41	190	P	P	13 29 44.8	0.0
URZ	Urewera	20.41	191	P	P	13 29 43.2	-1.5
	comp=Z,9.3nm,0.5s,baz=270,slow=3.1,SNR=18						
URZ				S	S	13 32 46.7	-7.8
	comp=Z,5.4nm,0.6s,baz=168,slow=19,SNR=1.8						
	comp=Z,9.3nm,0.5s						
URZ	Urewera	20.41	191	P	P	13 29 44.4	-0.3
URZ	Urewera	20.41	191	P	P	13 29 43.8	-0.9
RIGZ	Rimuhau	20.73	189	P	P	13 29 48.5	+0.9
PRGZ	Paritu Road	20.93	189	P	P	13 29 51.6	+2.3
TARA	Tarawa	21.40	334	P	P	13 29 52.9	-1.0
TARA	Tarawa	21.

comp=Z,64nm,1.7s
PPT2 **Papeete2** 27.07 93 *e*P P 13 30 41.6 -2.3
comp=Z,38nm,25.0s
PPT2 *e*S S 13 34 31.7 -8.0
comp=Z,230nm,26.8s
PPT2 *es*S sS 13 37 41.3 +0.6
comp=Z,219nm,24.5s
PPT **Papeete** 27.07 93 P P 13 30 45.6 +1.7
comp=Z,51nm,0.6s,baz=107,slow=2.3,SNR=23
comp=Z,51nm,0.6s
PPTF **Pamatai, Papee** 27.08 93 P P 13 30 44.7 +0.7
FOZ **Fox Glacier** 27.24 200 P 13 30 44.9 0.0
FOZ **Fox Glacier** 27.24 200 P P 13 30 45.0 0.0
TIAR **Tiarei** 27.29 93 *e*P P 13 30 45.2 -0.6
comp=Z,92nm,0.7s
TVO **Taravao** 27.36 94 *e*P P 13 30 47.5 +1.1
comp=Z,23nm,0.7s
TMZ **Timaru** 27.66 197 P P 13 30 47.9 -0.7
LBZ **Lake Benmore** 27.90 198 P P 13 30 49.5 -1.2
GC1S **Gold Coast 1 S** 27.91 244 P P 13 30 52.3 +1.3
JCZ **Jackson Bay** 28.06 200 P P 13 30 52.6 +0.4
JCZ **Jackson Bay** 28.06 200 P P 13 30 52.3 +0.2
AUWSH **Wavell State H** 28.14 246 P P 13 30 53.9 +0.9
WKZ **Wanaka** 28.66 199 P P 13 30 56.2 -1.0
MSZ **Milford Sound** 28.88 201 P P 13 31 01.4 +2.3
TW1H **Toowoomba 1 Ha** 29.09 246 P P 13 31 02.8 +1.5
MLZ **Mavora Lakes** 29.42 200 P 13 31 04.8 +0.9
MLZ **Mavora Lakes** 29.42 200 P P 13 31 04.7 +0.9
EIDS **Eidsvold** 29.51 251 P P 13 31 04.5 -0.3
comp=Z,71nm,0.7s
EIDS **Eidsvold** 29.51 251 P 13 31 04.8 0.0
EIDS **Eidsvold** 29.51 251 P P 13 31 04.8 0.0
AUNRC **North Rockhamp** 29.80 255 P P 13 31 07.2 -0.2
WHZ **Wether Hill Ro** 29.95 200 P 13 31 08.7 +0.5
WHZ **Wether Hill Ro** 29.95 200 P P 13 31 09.1 +0.8
ARMA **Armidale** 30.10 240 P P 13 31 10.5 +0.5
comp=Z,110nm,0.6s
ARMA **Armidale** 30.10 240 P 13 31 10.8 +0.8
ARMA **Armidale** 30.10 240 P P 13 31 11.0 +1.0
AUPHS **Peel High Scho** 30.91 240 P P 13 31 17.6 +0.9
AUKHS **Kincumber High** 31.29 235 P P 13 31 21.2 +1.3
MGCD **Mangrove Creek** 31.42 236 P P 13 31 21.7 +0.8
comp=Z,144nm,0.8s
MGCD **Mangrove Creek** 31.42 236 P P 13 31 22.7 +1.7
RIV **Riverview** 31.60 234 P P 13 31 23.1 +0.6
comp=Z,138nm,1.2s
RIV **Riverview** 31.60 234 P P 13 31 19.5 -3.0
RMQ **Roma** 31.73 249 P P 13 31 25.4 +1.6
comp=Z,30nm,0.7s
SYDH **Sydney Hard Ro** 31.90 235 P P 13 31 26.2 +1.2
AUUHS **Ulladulla High** 32.71 232 P P 13 31 32.8 +1.0
AULRC **Lightning Ridg** 32.92 244 P P 13 31 34.0 +0.3
CNB **Canberra Magne** 33.53 233 P P 13 31 39.7 +1.0
comp=Z,313nm,0.6s
CNB **Canberra Magne** 33.53 233 P P 13 31 40.1 +1.3
AUDAR **Daramalan Coll** 33.67 233 P P 13 31 40.9 +0.9
AUSIS **Research Schoo** 33.71 233 P P 13 31 41.4 +1.2
AUMHS **Melrose High S** 33.75 233 P P 13 31 41.6 +1.0
AUMTS **Mt Stromlo** 33.80 233 P P 13 31 42.0 +0.9
CAN **Canberra** 33.81 233 P P 13 31 41.7 +0.6
comp=Z,153nm,0.6s
CAN **Canberra** 33.81 233 P 13 31 42.0 +0.9
CAN **Canberra** 33.81 233 P P 13 31 42.0 +0.9
CAN **Canberra** 33.81 233 P P 13 31 42.0 +0.9
CAN pmax pmax
comp=Z,111nm,0.7s
CAN **Canberra** 33.81 233 P P 13 31 42.0 +0.9
YNG **Young** 33.91 235 P P 13 31 42.1 +0.2
comp=Z,45nm,1.5s
MILA **Mila** 34.36 230 P P 13 31 45.6 -0.1
comp=Z,20nm,1.4s
AUSMG **Snowy Mountain** 34.51 232 P P 13 31 48.0 +1.0
PMG **Port Moresby** 34.87 280 P P 13 31 51.0 +0.8
PMG **Port Moresby** 34.87 280 P P 13 31 51.4 +1.2
PMG **Port Moresby** 34.87 280 *ce*P P 13 31 51.2 +1.0
PMG pmax pmax
comp=Z,75nm,0.7s
PMG **Port Moresby** 34.87 280 P P 13 31 50.4 +0.3
PMG PcP PcP 13 34 03.3 -1.0
CMSA **Cobar Meteorol** 35.32 241 P P 13 31 53.6 0.0
comp=Z,215nm,0.7s
CMSA **Cobar Meteorol** 35.32 241 P P 13 31 54.2 +0.6
MTSU **Mount Surprise** 35.74 264 P P 13 31 57.0 -0.3
comp=Z,44nm,0.6s
MTSU **Mount Surprise** 35.74 264 P P 13 31 57.4 +0.1
QLP **Quilpie** 35.77 250 P P 13 31 57.1 -0.2
comp=Z,378nm,0.6s
GLAD **Gladstone** 36.88 225 P P 13 32 06.9 +0.7
TOO **Toolangi** 37.26 231 P P 13 32 10.0 +0.6
comp=Z,39nm,1.1s
TOO **Toolangi** 37.26 231 P P 13 32 10.0 +0.6
TOO IAmb IAmb 13 32 11.3
comp=Z,27nm,0.8s
TOO **Toolangi** 37.26 231 P P 13 32 10.0 +0.6
TOO pmax pmax
comp=Z,27nm,0.9s
AUMAG **Moama Anglican** 37.32 234 P P 13 32 11.3 +1.4
COEN **Coen** 37.48 271 P P 13 32 11.8 +0.4
comp=Z,258nm,0.7s
COEN **Coen** 37.48 271 P P 13 32 12.1 +0.7
MANU **Manus Island** 37.55 291 P 13 32 12.8 +0.7
BRAT **Ballarat** 38.41 232 P P 13 32 20.1 +1.5
AUMTC **Mt Clear Colle** 38.47 232 P P 13 32 20.5 +1.4
STKA **Stephens Creek** 38.80 242 P P 13 32 22.7 +0.8
comp=Z,558nm,0.9s
STKA **Stephens Creek** 38.80 242 P P 13 32 23.0 +1.1
comp=Z,71nm,0.7s,baz=92,slow=9.3,SNR=93
comp=Z,71nm,0.7s
STKA **Stephens Creek** 38.80 242 P P 13 32 22.9 +1.0
STKA **Stephens Creek** 38.80 242 *i*P P 13 32 22.4 +0.5
QIS **Mount Isa** 39.96 260 P P 13 32 30.5 -0.8
comp=Z,23nm,0.6s
QIS **Mount Isa** 39.96 260 P P 13 32 31.2 -0.1
HTT **Hallett** 41.30 240 P P 13 32 42.0 +0.2
comp=Z,43nm,0.9s
HTT **Hallett** 41.30 240 P P 13 32 42.5 +0.7
HTT **Hallett** 41.30 240 P P 13 32 42.4 +0.7
AUMBR **Murray Bridge** 41.35 237 P P 13 32 42.5 +0.5
AUJCS **Jamestown Cent** 41.52 240 P P 13 32 43.7 +0.3
AUMAR **Marden Senior** 41.82 238 P P 13 32 46.7 +1.0
WHYH **Whyalla** 42.35 241 P P 13 32 50.3 +0.5
JAY **Jayapura** 43.35 286 P P 13 32 58.4 +0.5
comp=Z,101nm,0.6s,baz=132,slow=3.9,SNR=54
comp=Z,101nm,0.6s
JAY **Jayapura** 43.35 286 P P 13 32 57.8 -0.1
comp=Z,2μmcomp=Z,109nm,0.7s
BBOO **Buckleboo** 43.58 241 P P 13 32 59.6 +0.2
GENI **Genyem** 43.81 286 P P 13 33 02.8 +1.4
GENI **Genyem** 43.81 286 P P 13 33 01.7 +0.3
comp=Z,3μmcomp=Z,175nm,0.5s
AUCAS **Cummins Area S** 44.07 239 P P 13 33 04.1 +1.0
WR8 **Warramunga Arr** 44.78 260 IAmb IAmb 13 33 08.6
comp=Z,39nm,1.1s
WRAB **Tennant Creek** 44.93 260 P P 13 33 09.0 -0.9
WRAB **Tennant Creek** 44.93 260 P P 13 33 09.2 -0.7
WRAB **Tennant Creek** 44.93 260 *ce*P P 13 33 09.2 -0.7
WRAB pmax pmax
comp=Z,168nm,1.7s
WRAB **Tennant Creek** 44.93 260 P P 13 33 09.0 -0.9
WRAB PcP PcP 13 34 37.5 +0.2
WRA **Warramunga Arr** 44.94 260 P P 13 33 08.2 -1.8
WRA **Warramunga Arr** 44.94 260 P P 13 33 08.9 -1.1
comp=Z,52nm,0.4s,baz=96,slow=7.6,SNR=1146
WRA PcP PcP 13 34 37.5 +0.2
comp=Z,10nm,0.5s,baz=90,slow=3.6,SNR=6.3
comp=Z,52nm,0.4s
WRA **Warramunga Arr** 44.94 260 P P 13 33 08.2 -1.8
AS01 **Alice Springs** 45.02 255 P P 13 33 10.6 0.0
ASAR **Alice Springs** 45.06 255 P P 13 33 10.6 -0.4
comp=Z,156nm,0.6s,baz=90,slow=7.9,SNR=1136
ASAR PcP PcP 13 34 37.7 0.0
comp=Z,21nm,0.6s,baz=104,slow=4.0,SNR=11
ASAR S S 13 39 03.0 -2.7
comp=Z,4.6nm,0.8s,baz=91,slow=16,SNR=12
comp=Z,156nm,0.6s
AUALC **St Philip's Co** 45.08 254 P P 13 33 10.8 -0.2
SMPI **Sarmi** 45.38 286 P P 13 33 12.5 -0.9
comp=Z,74nm,0.8s
GUMO **Guam** 48.36 308 P P 13 33 35.8 +0.2
comp=Z,66nm,0.6s,baz=156,slow=12,SNR=8.6
comp=Z,66nm,0.6s
DRS **Darwin Rock St** 49.47 269 P P 13 33 43.6 -0.2
AUDHS **Darwin High Sc** 49.54 269 P P 13 33 44.0 -0.3
RKPI **Ransiki, Papua** 49.73 284 P P 13 33 45.0 -0.7
comp=Z,80nm,0.7s
FORT **Forrest** 50.20 245 P P 13 33 48.3 -0.6
FAKI **Fak Fak** 51.00 281 P P 13 33 54.2 -0.8
FAKI IAmb IAmb 13 34 07.0
comp=Z,24nm,0.9s
SWI **Sorong** 52.67 283 P P 13 34 06.4 -0.5
MSAI **Masohi** 53.96 279 P P 13 34 15.7 -0.2
comp=Z,180nm,0.6s
AAI **Ambon** 54.53 279 P P 13 34 19.8 -0.1
comp=Z,89nm,0.5s
DRV **Dumont d'Urvil** 55.48 199 P P 13 34 26.4 +0.8
DRV PcP PcP 13 35 15.8 0.0
NLAI **Namlea** 55.71 279 P P 13 34 28.1 +0.1
comp=Z,2μmcomp=Z,101nm,0.6s
SOEI **Soe** 56.44 270 P P 13 34 34.2 +1.0
SOEI **Soe** 56.44 270 P P 13 34 34.0 +0.8
TNTI **Ternate** 56.89 283 P P 13 34 35.9 -0.2
TNTI **Ternate** 56.89 283 P P 13 34 35.8 -0.3
comp=Z,1μmcomp=Z,90nm,0.8s
BATI **Baumata** 56.90 270 P P 13 34 36.5 +0.3
comp=Z,119nm,0.7s
SANI **Sanana** 57.16 280 P P 13 34 37.7 -0.2
SANI **Sanana** 57.16 280 P P 13 34 36.9 -1.0
comp=Z,742nmcomp=Z,78nm,0.7s
PSA00 **Pilbara Seismi** 58.19 256 P P 13 34 43.5 -1.2
PSA00 IAmb IAmb 13 34 45.2
comp=Z,22nm,0.8s
PSA00 **Pilbara Seismi** 58.19 256 IAmb IAmb 13 34 45.1
comp=Z,65nm,0.7s
PSA00 **Pilbara Seismi** 58.19 256 P P 13 34 44.3 -0.5
MBWA **Marble Bar** 58.35 256 P P 13 34 45.2 -0.7
MBWA IAmb IAmb 13 34 46.2
comp=Z,42nm,0.7s
MBWA **Marble Bar** 58.35 256 P P 13 34 45.3 -0.7
MBWA **Marble Bar** 58.35 256 P P 13 34 45.2 -0.7
MEEK **Meekatharra** 58.67 250 P P 13 34 47.2 -0.8
MMRI **Maumere** 58.67 271 P P 13 34 48.0 -0.1
MMRI **Maumere** 58.67 271 P P 13 34 46.9 -1.2
comp=Z,2μmcomp=Z,151nm,0.7s
EDFI **Ende, Flores** 59.16 271 P P 13 34 49.4 -2.1
comp=Z,1μmcomp=Z,91nm,0.7s
NWAO **Narrogin (SRO)** 59.39 242 P P 13 34 52.4 -0.2
NWAO IAmb IAmb 13 34 53.4
comp=Z,26nm,0.7s
NWAO **Narrogin (SRO)** 59.39 242 P P 13 34 52.4 -0.2
NWAO pmax pmax
comp=Z,26nm,0.7s
NWAO **Narrogin (SRO)** 59.39 242 P P 13 34 52.6 0.0
NWAO pP pP 13 36 51.0 -0.8
BASI **Baing, Sumba** 59.83 269 P P 13 34 55.9 +0.1
comp=Z,3μmcomp=Z,198nm,1.2s
KMSI **Cibinong** 59.96 282 P P 13 34 56.0 -0.7
BLDU **Ballidu** 59.98 245 P P 13 34 56.3 -0.3
SBA **Scott Base** 60.13 184 P P 13 34 59.4 +2.8
SBA **Scott Base** 60.13 184 P P 13 34 59.4 +2.8
SBA **Scott Base** 60.13 184 P P 13 34 59.3 +2.7
VNDA **Vanda** 60.16 185 P P 13 34 58.9 +1.9
VNDA **Vanda** 60.16 185 P P 13 34 59.0 +2.1
comp=Z,2.5nm,0.6s,baz=348,slow=6.4,SNR=15
VNDA **Vanda** 60.16 185 P P 13 34 58.8 +1.9
VNDA pP pP 13 36 57.5 +0.5
WSI **Waingapu** 60.23 269 P P 13 34 58.1 -0.4
MUN **Mundaring** 60.31 243 P P 13 34 58.9 +0.2
AUMAZ **Mazenod Senior** 60.45 243 P P 13 35 00.0 +0.4
LUWI **Luwuk** 60.52 279 P P 13 34 59.6 -0.7
comp=Z,136nm,1.0s
BSSI **Bau Bau, Buton** 61.04 273 P P 13 35 03.4 -0.4
comp=Z,61nm,1.6s
WBSI **Waikabubak, Su** 61.10 269 P P 13 35 03.9 -0.3
comp=Z,1μmcomp=Z,107nm,0.9s
APSI **Ampana** 61.62 279 P P 13 35 08.4 +0.9
comp=Z,900nmcomp=Z,100nm,1.0s
BKSI **Bulukumba** 61.64 274 P P 13 35 06.8 -0.8
MRSI **Marisa** 61.83 281 P P 13 35 08.8 -0.1
comp=Z,860nmcomp=Z,54nm,0.6s
BNSI **Bone** 61.93 275 P P 13 35 09.3 -0.2
comp=Z,938nmcomp=Z,51nm,0.9s
PLAI **Plampang** 62.86 269 P P 13 35 15.1 -0.4
PLAI **Plampang** 62.86 269 P P 13 35 14.7 -0.8
comp=Z,1μmcomp=Z,120nm,0.9s
TOLI2 **Tolitoli** 63.14 281 P P 13 35 16.6 -0.7
TOLI2 IAmb IAmb 13 35 18.4
comp=Z,29nm,0.7s
TOLI2 **Tolitoli** 63.14 281 P P 13 35 17.3 0.0
GIRL **Giralia** 63.16 253 P P 13 35 18.2 +1.0
GIRL IAmb IAmb 13 35 19.1
comp=Z,51nm,0.8s
TWSI **Taliwang, Sumb** 63.73 269 P P 13 35 20.7 -0.3
comp=Z,1μmcomp=Z,125nm,0.7s
CCD **Concordia, Ant** 64.65 194 P P 13 35 27.3 +1.1
CCD PcP PcP 13 35 53.8 +0.4
DNP **Denpasar** 65.34 269 P P 13 35 30.3 -0.8
SRBI **Singaraja** 65.50 269 P P 13 35 32.1 0.0
comp=Z,82nm,0.9s
CASY **Casey** 66.00 205 P P 13 35 35.0 +0.8
CASY IAmb IAmb 13 35 35.3
comp=Z,18nm,0.8s
CASY **Casey** 66.00 205 P P 13 35 34.8 +0.5
CASY pP pP 13 37 35.5 -2.1
JAGI **Jajag, Banyuwa** 66.40 269 P P 13 35 36.3 -1.4
JAGI **Jajag, Banyuwa** 66.40 269 P P 13 35 36.5 -1.2
JAGI **Jajag, Banyuwa** 66.40 269 P P 13 35 36.9 -0.8
comp=Z,155nm,0.7s
MYLDM **Lahad Datu** 66.74 284 IAmb IAmb 13 35 42.8
comp=Z,23nm,1.0s
MYLDM **Lahad Datu** 66.74 284 P P 13 35 39.6 -0.2
BLJI **Banyuglugur** 67.13 269 P P 13 35 41.7 -0.5
comp=Z,130nm,0.6s
BBKI **Banjar Baru** 67.22 274 P P 13 35 42.8 +0.1
comp=Z,118nm,1.8s
MJAR **Matsushiro Arr** 68.38 323 P P 13 35 48.7 -0.6
MJAR **Matsushiro Arr** 68.38 323 P P 13 35 48.9 -0.3
comp=Z,11nm,0.7s,baz=161,slow=6.0,SNR=29
comp=Z,11nm,0.7s
MJAR **Matsushiro Arr** 68.38 323 P P 13 35 48.7 -0.6
MAJO **Matsushiro** 68.38 323 P P 13 35 48.8 -0.4
MAJO IAmb IAmb 13 35 50.4
comp=Z,14nm,0.9s
MAJO **Matsushiro** 68.38 323 *i*P P 13 35 48.9 -0.4
MAJO pmax pmax
comp=Z,9.0nm,0.6s
MAJO **Matsushiro** 68.38 323 P P 13 35 49.1 -0.1
MAJO PcP PcP 13 36 10.2 +1.1
MJB9 **Matsu-Tunnel** 68.39 323 P P 13 35 49.2 -0.1
MJB9 IAmb IAmb 13 35 50.9
comp=Z,12nm,0.6s
JOW **Kunigami** 68.70 309 P P 13 35 51.3 -0.1
comp=Z,14nm,0.6s,baz=141,slow=4.2,SNR=5.5
comp=Z,14nm,0.6s
NGJI **Ngawi** 69.27 269 P P 13 35 55.5 +0.5
comp=Z,72nm,0.6s
PCJI **Pacitan** 69.30 268 P P 13 35 55.5 +0.3
WOJI **Wonogiri, Jawa** 69.64 268 P P 13 35 57.2 -0.1
comp=Z,3μmcomp=Z,138nm,0.7s
UGM **Wanagama** 70.00 268 P P 13 35 59.0 -0.4
UGM **Wanagama** 70.00 268 P P 13 35 59.2 -0.2
UGM **Wanagama** 70.00 268 P P 13 35 59.4 0.0
comp=Z,128nm,0.6s
SBUM **Sibu** 71.62 279 IAmb IAmb 13 36 10.3
comp=Z,7.4nm,0.7s
SBUM **Sibu** 71.62 279 P P 13 36 09.4 +0.6
KPJI **Karang Pucung** 71.68 268 P P 13 36 09.1 -0.1
comp=Z,46nm,0.6s
QSPA **South Pole Qui** 71.83 180 P P 13 36 11.1 +1.9
QSPA IAmb IAmb 13 36 13.8
comp=Z,17nm,0.8s
QSPA **South Pole Qui** 71.83 180 P P 13 36 12.8 +3.6
comp=Z,12nm,0.6s,baz=32,slow=0.7,SNR=68
QSPA **South Pole Qui** 71.83 180 P P 13 36 13.3 +4.1
TWGBT **Beinan** 72.14 302 P P 13 36 10.9 -0.7
YULB **Yu-li** 72.25 303 IAmb IAmb 13 36 12.8
comp=Z,22nm,0.7s
TPUB **Ta-pu** 72.74 302 P P 13 36 14.1 -1.0
BBJI **Bungbulang** 72.86 268 P P 13 36 15.3 -0.8
LEM **Lembang** 73.07 268 P P 13 36 17.6 +0.3
comp=Z,118nm,0.7s,baz=144,slow=22,SNR=25
comp=Z,118nm,0.7s
LEM **Lembang** 73.07 268 P P 13 36 17.3 -0.1
comp=Z,2μmcomp=Z,138nm,0.9s
KSM **Kuching** 73.09 277 P P 13 36 18.4 +1.1
PET **Petropavlovsk** 73.77 346 *i*P P 13 36 19.9 -0.3
YSS **Yuzhno-Sakhali** 73.86 333 *e*P P 13 36 21.7 +0.8
YSS pmax pmax
comp=Z,10.0nm,0.8s
DBJI **Dramaga** 73.98 268 P P 13 36 22.1 -0.2
comp=Z,132nm,0.9s
SKJI **Sukabumi** 74.03 268 P P 13 36 21.3 -1.3
TPI **Tanjungpandan** 74.25 272 P P 13 36 23.7 -0.1
comp=Z,43nm,0.7s
CGJI **Cibinong** 74.96 268 P P 13 36 26.8 -1.0
KSRS **Korea Array** 75.18 318 P P 13 36 28.9 +0.5
comp=Z,2.6nm,0.6s,baz=130,slow=5.9,SNR=14
comp=Z,2.6nm,0.6s
KASI **Kota Agung** 76.42 269 P P 13 36 34.7 -1.1
comp=Z,108nm,0.8s
LWLI **Liwa** 76.99 269 P P 13 36 37.8 -1.2
MDSI **Maura Dua** 77.03 270 P P 13 36 37.6 -1.5
comp=Z,41nm,0.7s
USRK **Ussuriysk Ar.** 77.08 326 P P 13 36 40.6 +2.0
comp=Z,2.3nm,0.6s,baz=116,slow=3.4,SNR=4.8
comp=Z,2.3nm,0.6s
DSRI **Dabo** 77.88 274 P P 13 36 43.6 -0.1
comp=Z,42nm,1.0s
TPRI **Tanjung Pinang** 78.37 275 P P 13 36 46.5 +0.2
comp=Z,49nm,0.8s
NJ2 **Nanjing** 78.42 309 *e*P P 13 36 46.8 +0.6
NJ2 pmax pmax
comp=Z,15nm,0.7s
KDAK **Kodiak Island** 78.62 14 P P 13 36 47.2 +0.6
comp=Z,5.4nm,0.7s,baz=226,slow=0.3,SNR=8.3
comp=Z,5.4nm,0.7s
MDJ **Mudanjiang** 78.66 325 P P 13 36 48.3 +1.1
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ **Mudanjiang** 78.66 325 IAmb IAmb 13 36 49.7
comp=Z,16nm,0.8s
MDJ **Mudanjiang** 78.66 325 P P 13 36 48.2 +1.1
MDJ **Mudanjiang** 78.66 325 P P 13 36 48.2 +1.1
BTDF **Bukit Timah Da** 79.23 275 P P 13 36 51.5 +0.7
MYKOM **Kota Tinggi** 79.29 275 IAmb IAmb 13 36 52.0
comp=Z,16nm,0.9s
MYKOM **Kota Tinggi** 79.29 275 P P 13 36 51.5 +0.3
NVAR **Mina Array Bea** 79.40 44 P P 13 36 52.8 +1.3
comp=Z,3.0nm,0.7s,baz=225,slow=9.2,SNR=27
NVAR pP pwP 13 39 03.5 -1.2
comp=Z,1.8nm,0.9s,baz=230,slow=9.8,SNR=6.3
comp=Z,3.0nm,0.7s
J05D **Fort Rock, OR** 80.34 38 IAmb IAmb 13 36 58.9
comp=Z,17nm,0.8s
M16K **Timber Creek** 80.45 9 IAmb IAmb 13 36 58.2
comp=Z,12nm,0.7s
O19K **Port Alsworth** 80.48 12 IAmb IAmb 13 36 57.2
comp=Z,25nm,0.6s
CN2 **Changchun** 80.50 322 *e*P P 13 36 57.0 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ILSW **Iliamna Southw** 80.52 12 IAmb IAmb 13 36 57.4
comp=Z,16nm,0.6s
BNX **BinXian** 80.56 325 ⇑P P 13 36 57.3 +0.3
BNX pmax pmax
comp=Z,16nm,0.7s
PINE **Pine Mountain** 80.81 38 IAmb IAmb 13 37 01.1
comp=Z,13nm,0.9s
L16K **Owhat River** 81.03 9 IAmb IAmb 13 37 02.0
comp=Z,14nm,1.0s
PRN **Pahroc Range** 81.03 46 IAmb IAmb 13 37 02.4
comp=Z,8.2nm,0.8s
M17K **Holitna River** 81.05 10 IAmb IAmb 13 37 01.6
comp=Z,16nm,0.7s
WHN **Wuhan** 81.09 306 P P 13 37 01.5 +1.4
SLKM **Skilak Lake** 81.61 13 IAmb IAmb 13 37 02.6
comp=Z,15nm,0.7s
TIA **Tai'an** 81.73 312 P P 13 37 03.8 +0.5
TIA pmax pmax
comp=Z,8.0nm,1.0s
BELA **Belgrano 2** 81.81 173 P 13 37 03.3 +0.4
BELA IAmb IAmb 13 37 04.3
comp=Z,25nm,0.9s
L18K **Granite Mounta** 81.94 10 IAmb IAmb 13 37 05.6
comp=Z,14nm,0.6s
L19K **White Mountain** 82.22 11 IAmb IAmb 13 37 06.9
comp=Z,6.1nm,0.6s
319A **Douglas** 82.32 54 IAmb IAmb 13 37 10.0
comp=Z,11nm,0.8s
SUA **Susitna One** 82.36 13 IAmb IAmb 13 37 06.9
comp=Z,13nm,0.7s
J16K **Anvik River** 82.38 8 IAmb IAmb 13 37 07.4
comp=Z,9.5nm,0.8s
J17K **VABM Dome** 82.69 8 IAmb IAmb 13 37 09.4
comp=Z,7.8nm,0.7s
M22K **Willow** 82.75 13 IAmb IAmb 13 37 08.5
comp=Z,21nm,0.8s
KNK **Knik Glacier** 82.81 14 IAmb IAmb 13 37 08.7
comp=Z,12nm,0.9s
PMR **Palmer** 82.82 13 IAmb IAmb 13 37 08.5
comp=Z,6.3nm,0.6s
IPM **Ipoh** 82.83 277 P P 13 37 09.7 +0.4
MNSI **Mandailing Nat** 83.03 273 P P 13 37 09.4 -0.8
comp=Z,27nm,0.8s
E07A **Sunnyside** 83.06 36 IAmb IAmb 13 37 12.0
comp=Z,6.5nm,0.7s
J18K **Innoko River** 83.11 9 IAmb IAmb 13 37 11.0
comp=Z,14nm,0.7s
DIV **Divide** 83.21 15 IAmb IAmb 13 37 11.1
comp=Z,13nm,0.7s
CUT **Chulitna** 83.31 13 IAmb IAmb 13 37 12.0
comp=Z,35nm,1.1s
HEH **HeiHe** 83.38 328 *e*P P 13 37 11.0 -0.1
HEH pmax pmax
comp=Z,6.0nm,0.6s
KULM **Kulim** 83.44 278 IAmb IAmb 13 37 16.3
comp=Z,12nm,0.8s
K20K **Telida** 83.45 11 IAmb IAmb 13 37 12.7
comp=Z,13nm,0.6s
CRQM **Cirque** 83.57 16 IAmb IAmb 13 37 14.7
comp=Z,14nm,0.9s
YAH **Yahtse** 83.62 17 IAmb IAmb 13 37 14.0
comp=Z,21nm,0.7s
MAW **Mawson** 83.69 200 P P 13 37 13.1 +0.7
comp=Z,9.0nm,0.7s,baz=123,slow=6.3,SNR=10.0
comp=Z,9.0nm,0.7s
D08A **Wollman Farm,** 83.87 36 IAmb IAmb 13 37 16.6
comp=Z,6.6nm,0.6s
VRDI **Verde Repeater** 83.88 16 IAmb IAmb 13 37 14.6
comp=Z,6.7nm,0.7s
N25K **Chitina, Valde** 83.91 15 IAmb IAmb 13 37 14.9
comp=Z,16nm,0.6s
GLB **Gilahina Butte** 83.97 16 IAmb IAmb 13 37 14.9
comp=Z,12nm,0.6s
HNS **HongShan** 84.00 312 ⇑P P 13 37 15.4 +0.9
HNS pmax pmax
comp=Z,13nm,0.9s
SEY **Seymchan** 84.17 347 *e*P P 13 37 13.1 -1.6
SEY pmax pmax
comp=Z,13nm,0.8s
J20K **Nowinta River** 84.19 10 IAmb IAmb 13 37 16.4
comp=Z,8.8nm,0.7s
KTH **Kantishna Hill** 84.21 12 IAmb IAmb 13 37 15.3
comp=Z,16nm,0.9s
BARN **Barnard Glacie** 84.22 17 IAmb IAmb 13 37 16.7
comp=Z,11nm,0.8s
F10A **Beach Ranch, E** 84.22 38 IAmb IAmb 13 37 16.9
comp=Z,9.4nm,0.9s
BJT **Baijiatuau** 84.26 315 P P 13 37 16.7 +1.0
BJI **Beijing** 84.27 315 P P 13 37 16.3 +0.6
BJI pmax pmax
comp=Z,6.0nm,0.7s
LYN **LuoYang** 84.31 309 *e*P P 13 37 17.3 +1.2
LYN pmax pmax
comp=Z,57nm,0.6s
B08A **Colville Reser** 84.39 35 IAmb IAmb 13 37 17.3
comp=Z,6.9nm,0.8s
O28M **Mount Upton** 84.40 18 IAmb IAmb 13 37 17.6
comp=Z,11nm,0.6s
RND **Reindeer** 84.50 13 IAmb IAmb 13 37 17.6
comp=Z,16nm,0.6s
DHY **Denali Highway** 84.52 13 IAmb IAmb 13 37 18.5
comp=Z,4.5nm,0.6s
ENH **Enshi** 84.75 304 IAmb IAmb 13 37 20.1
comp=Z,28nm,0.8s
ENH **Enshi** 84.75 304 P P 13 37 18.8 +0.4
MCK **McKinley** 84.77 13 IAmb IAmb 13 37 19.3
comp=Z,12nm,0.6s
M26K **Nabesna, AK** 84.99 16 IAmb IAmb 13 37 21.6
comp=Z,5.7nm,0.8s
GSI **Gunungsitoli** 85.09 273 P P 13 37 21.2 +0.9
GSI **Gunungsitoli** 85.09 273 P P 13 37 20.6 +0.3
comp=Z,77nm,1.0s
M27K **Edge Creek, AK** 85.24 16 IAmb IAmb 13 37 22.8
comp=Z,8.1nm,0.9s
GYA **Guiyang** 85.51 300 ⇑P P 13 37 22.9 +0.7
GYA pmax pmax

WRH Wood River Hil 85.60 13 IAmb IAmb 13 37 21.9
comp=Z,8.3nm,0.8s
ZEA Zeya 85.64 331 *e*P **P 13 37 22.8 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HDA Harding Lake 85.78 13 IAmb IAmb 13 37 23.3
comp=Z,12nm,0.7s
TX31 Lajitas Ar. Si 85.85 57 IAmb IAmb 13 37 26.9
comp=Z,9.5nm,0.8s
TXAR Lajitas Array 85.86 57 **P 13 37 25.6 +1.8**
TXAR Lajitas Array 85.86 57 P **P 13 37 25.8 +2.0**
comp=Z,6.3nm,0.8s,baz=220,slow=6.3,SNR=70
TXAR pP **pwP 13 39 40.8 +0.5**
comp=Z,1.9nm,1.1s,baz=242,slow=4.8,SNR=4.9
TXAR PKPPKP **P'P'df 14 03 31.8 +5.0**
comp=Z,0.4nm,0.9s,baz=47,slow=4.4,SNR=3.6
comp=Z,6.3nm,0.8s
TXAR Lajitas Array 85.86 57 P **P 13 37 25.6 +1.8**
IMAR Indian Mountai 85.93 10 P **P 13 37 23.3 +0.2**
DLBC Dease Lake 85.98 23 P **P 13 37 24.2 +0.6**
comp=Z,14nm,0.7s,baz=210,slow=8.1,SNR=2.4
comp=Z,14nm,0.7s
COLA College 86.00 12 P **P 13 37 23.0 -0.4**
COLA IAmb IAmb 13 37 23.8
comp=Z,18nm,0.7s
COLA College 86.00 12 P **P 13 37 22.8 -0.6**
COLA College 86.00 12 P **P 13 37 23.0 -0.4**
COLA pmax pmax
comp=Z,19nm,0.7s
COLA College 86.00 12 P **P 13 37 22.9 -0.6**
ANMO Albuquerque 86.01 51 **P 13 37 25.6 +1.1**
ANMO Albuquerque 86.01 51 P **P 13 37 25.6 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
IL31 86.11 13 IAmb IAmb 13 37 24.9
comp=Z,7.2nm,0.6s
ILAR Eielson Array 86.11 13 **P 13 37 22.9 -1.1**
ILAR Eielson Array 86.11 13 P **P 13 37 23.2 -0.8**
comp=Z,4.4nm,0.5s,baz=223,slow=4.9,SNR=34
ILAR pP **pP 13 39 38.3 +0.5**
comp=Z,0.9nm,0.9s,baz=208,slow=5.5,SNR=4.0
ILAR PP **PP 13 40 58.0 +0.8**
comp=Z,0.6nm,0.8s,baz=205,slow=5.4,SNR=4.6
comp=Z,4.4nm,0.5s
ILAR Eielson Array 86.11 13 P **P 13 37 22.9 -1.1**
F19K Shaleruckik Mo 86.14 8 IAmb IAmb 13 37 26.1
comp=Z,7.1nm,0.7s
ALPN Alpine 86.29 57 IAmb IAmb 13 37 28.5
comp=Z,6.6nm,0.9s
POKR Poker Plat Res 86.30 12 IAmb IAmb 13 37 25.5
comp=Z,11nm,0.8s
J25K Salcha River, 86.30 13 IAmb IAmb 13 37 26.1
comp=Z,9.4nm,0.6s
E18K Tukpahlearik C 86.36 7 IAmb IAmb 13 37 26.5
comp=Z,10nm,0.9s
G21K Allakaket 86.46 10 IAmb IAmb 13 37 26.7
comp=Z,8.3nm,0.6s
J26L Joseph Creek 86.62 14 IAmb IAmb 13 37 29.2
comp=Z,7.6nm,0.7s
RDOG Red Dog Mine 86.74 6 IAmb IAmb 13 37 30.8
comp=Z,13nm,0.7s
XAN Xi'an 86.74 307 ⇑P **P 13 37 28.8 +1.0**
XAN pmax pmax
comp=Z,32nm,1.0s
BILL Bilibino 86.78 354 *i* P **P 13 37 27.0 -0.1**
BILL pmax pmax
comp=Z,5.0nm,0.8s
M30M Minto, Yukon 86.82 18 IAmb IAmb 13 37 28.9
comp=Z,11nm,0.6s
L29M L29M 86.86 17 IAmb IAmb 13 37 30.5
comp=Z,9.3nm,0.7s
HILR Hailar Array B 86.99 325 P **P 13 37 29.0 +0.5**
comp=Z,1.4nm,0.4s,baz=141,slow=7.6,SNR=3.8
comp=Z,1.4nm,0.4s
MLSI Meulaboh, Aceh 87.12 275 P **P 13 37 29.8 -0.1**
YHB Horse Butte 87.23 41 IAmb IAmb 13 37 32.7
comp=Z,8.1nm,1.0s
YHL Hebgen Lake 87.28 41 IAmb IAmb 13 37 33.1
comp=Z,8.5nm,0.9s
PDAR Pinedale Array 87.33 43 P **P 13 37 30.7 +0.2**
PDAR Pinedale Array 87.33 43 P **P 13 37 31.1 +0.6**
comp=Z,3.3nm,0.7s,baz=213,slow=2.9,SNR=25
PDAR pP **pP 13 39 45.0 +0.6**
comp=Z,1.0nm,0.7s,baz=218,slow=2.9,SNR=7.6
comp=Z,3.3nm,0.7s
I26K Coal Creek Min 87.39 14 IAmb IAmb 13 37 31.7
comp=Z,5.2nm,0.8s
EGAK Eagle 87.42 15 IAmb IAmb 13 37 32.3
comp=Z,11nm,1.1s
COLD Coldfoot 87.66 10 IAmb IAmb 13 37 32.8
comp=Z,8.7nm,0.6s
HHC Hu-ho-hao-te 87.76 314 *e*P **P 13 37 35.4 +3.0**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,83nm,5.0s
J29N Klondike Camp 87.91 16 IAmb IAmb 13 37 34.6
comp=Z,11nm,0.8s
I28M Miner Creek 88.27 15 IAmb IAmb 13 37 35.6
comp=Z,7.1nm,0.8s
KMI Kunming 88.30 297 ⇓P **P 13 37 36.5 +1.0**
KMI pmax pmax
comp=Z,12nm,1.8s
F24K Squaw Lake 88.33 11 IAmb IAmb 13 37 36.1
comp=Z,9.4nm,0.8s
RLMT Red Lodge 88.61 41 IAmb IAmb 13 37 38.6
comp=Z,5.7nm,1.0s
G26K Porcupine Rive 88.64 13 IAmb IAmb 13 37 39.4
comp=Z,6.6nm,0.9s
BMAR Burnt Mountain 88.89 12 **P 13 37 37.7 +0.7**
SYO Syowa Base 88.93 193⇓*e*P **P 13 37 37.0 -0.2**
SYO Syowa Base 88.93 193⇑*e*PcP **PcP 13 37 39.0 +0.8**
I30M Mount Dempster 89.00 16 IAmb IAmb 13 37 38.8
comp=Z,7.4nm,0.9s
H29M Whitestone 89.28 15 IAmb IAmb 13 37 39.7
comp=Z,11nm,0.9s
CM31 Chiang Mai Arr 89.34 290 IAmb IAmb 13 37 42.2
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 89.34 290 **P 13 37 40.9 +0.7**
CMAR Chiang Mai Arr 89.34 290 P **P 13 37 41.2 +1.1**
comp=Z,9.3nm,0.8s,baz=114,slow=2.6,SNR=63
CMAR PKKPbc **PKKPbc 13 55 12.6 +0.7**
comp=Z,0.6nm,0.7s,baz=293,slow=4.5,SNR=5.3
comp=Z,9.3nm,0.8s
CMAR Chiang Mai Arr 89.34 290c*e*P **P 13 37 41.5 +1.4**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 89.45 290 **P 13 37 41.0 +0.3**
CHTO Chiang Mai 89.45 290 P **P 13 37 41.2 +0.5**
CHTO Chiang Mai 89.45 290 P **P 13 37 41.0 +0.3**
CHTO pmax pmax
comp=Z,15nm,0.6s
CHTO Chiang Mai 89.45 290 P **P 13 37 41.3 +0.7**
PZH PanZhiHua 89.63 298 P **P 13 37 42.3 +0.8**
EPYK Eagle Plains 89.81 15 IAmb IAmb 13 37 42.0
comp=Z,7.1nm,0.8s
TROLL Troll, Antarti 89.99 180 ⇓P **P 13 37 42.5 +0.2**
comp=Z,788nm,0.8s
SNAA Sanae 90.27 178 ⇑P **P 13 37 43.7 +0.1**
comp=Z,116nm,0.6s
SNAA Sanae 90.27 178 IAmb IAmb 13 37 44.5
comp=Z,6.7nm,0.8s
SNAA Sanae 90.27 178 P **P 13 37 43.8 +0.2**
comp=Z,4.7nm,0.7s,baz=200,slow=4.0,SNR=19
comp=Z,4.7nm,0.7s
SNAA Sanae 90.27 178 *i* P **P 13 37 43.6 +0.1**
SNAA pmax pmax
comp=Z,16nm,1.5s
VNA3 Neumayer Olymp 90.40 176 ⇑P **P 13 37 44.6 +0.5**
comp=Z,26nm,0.7s
G30M tAoh Zraii Nji 90.41 15 IAmb IAmb 13 37 44.7
comp=Z,11nm,0.8s
VNA2 Neumayer--Watz 90.84 177 ⇑P **P 13 37 46.5 +0.4**
comp=Z,16nm,0.7s,baz=176,slow=3.9
PLCA Paso Flores 90.85 134 P **P 13 37 49.2 +2.3**
comp=Z,0.9nm,0.8s,baz=215,slow=16,SNR=1.7
comp=Z,0.9nm,0.8s
VNA1 Neumayer--Stat 91.07 177 ⇑P **P 13 37 47.9 +0.8**
comp=Z,22nm,0.9s
LZH Lanzhou 91.38 308 *e*P **P 13 37 50.3 +0.9**
LZH sP sP 13 41 05.8 -1.9
LZH pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 92.09 15 P **P 13 37 51.2 -0.4**
comp=Z,4.5nm,0.7s,baz=279,slow=4.3,SNR=7.2
comp=Z,4.5nm,0.7s

ULN Ulaanbaatar 93.63 319c*e*P **P 13 37 59.0 -0.4**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 94.03 319 P **P 13 38 00.8 -0.4**
SONM Songino Array 94.03 319 P **P 13 38 00.8 -0.4**
comp=Z,0.7nm,0.5s,baz=132,slow=3.5,SNR=4.5
comp=Z,0.7nm,0.5s
HERN Volcan Telica 94.97 78 IAmb IAmb 13 38 22.7
comp=Z,428nm,0.4s
TIXI Tiksi 96.56 345 *i* P **P 13 38 11.3 -0.5**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
SIUN Universidad Ur 97.22 78 IAmb IAmb 13 38 16.4
comp=Z,33nm,1.1s
WMQ Urumqi 105.42 312 Pdif **Pdif 13 38 53.4 +1.4**
ZALV Zalesovo Beam 108.71 322 PKiKP **PKiKP 13 43 05.8 -1.5**
comp=Z,2.1nm,0.7s,baz=125,slow=0.9,SNR=9.7
MKAR Makanchi Array 109.62 314 PKiKP **PKiKP 13 43 08.1 -1.1**
comp=Z,1.6nm,0.5s,baz=164,slow=0.8,SNR=21
KURK Kurchatov 112.31 318c *i*PKIKP **PKiKP 13 43 12.6 -1.5**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 112.36 318 PKiKP **PKiKP 13 43 12.9 -1.3**
comp=Z,3.4nm,0.6s,baz=93,slow=1.8,SNR=28
AAK Ala-Archa 114.87 309 PKPdf 13 43 19.4 -0.2
AAK Ala-Archa 114.87 309c *i*PKIKP PKPdf 13 43 18.3 -1.3
AAK pmax pmax
comp=Z,4.0nm,1.3s
BORK Borovoye 117.36 321c *i*PKIKP **PKPdf 13 43 22.6 -1.2**
BORK pmax pmax
comp=Z,10.0nm,1.7s
KKAR Karatay Array 117.80 310 **PKPdf 13 43 23.9 -1.1**
KKAR Karatay Array 117.80 310 PKIKP **PKPdf 13 43 23.9 -1.1**
KBL Kabul 118.76 300 **PKPdf 13 43 27.3 -0.1**
KBL Kabul 118.76 300 PKIKP **PKPdf 13 43 27.3 -0.1**
SPA0 Spitsbergen Ar 119.61 357 *e*P **PKiKP 13 43 27.9 +0.3**
SPITS Spitsbergen Ar 119.61 357 PKP **PKPdf 13 43 27.4 -0.1**
comp=Z,10nm,0.8s,baz=63,slow=6.6,SNR=4.8
SVE Sverdlovsk 122.10 326 *e*PKIKP **PKPdf 13 43 32.5 -0.3**
SVE pmax pmax
comp=Z,9.0nm,0.6s
ARTI Arti 123.42 326 **PKPdf 13 43 34.8 -0.6**
ARTI Arti 123.42 326 *i* PKIKP **PKPdf 13 43 34.3 -1.0**
ARTI 13 45 27.2
ARTI 13 49 47.5
ARTI SS SS 14 01 24.0 -3.1
ABKAR Akbulak array 124.41 318 **PKPdf 13 43 36.8 -0.7**
AKTO Aktyubinsk 125.35 319 PKP **PKPdf 13 43 38.9 -0.4**
comp=Z,6.1nm,0.8s,baz=352,slow=1.2,SNR=15
ARA0 ARCESS Array S 126.69 350 *e*P **PKiKP 13 43 41.8 0.0**
ARCES ARCESS Array B 126.69 350 **PKPdf 13 43 40.8 -0.4**
ARCES ARCESS Array B 126.69 350 PKP **PKPdf 13 43 40.5 -0.7**
comp=Z,3.4nm,0.4s,baz=46,slow=1.3,SNR=46
ARCES ARCESS Array B 126.69 350 PKIKP **PKPdf 13 43 40.8 -0.4**
APA Apatity 126.75 346⇓*e*PKIKP **PKPdf 13 43 40.6 -0.8**
APA *e* 13 45 48.1
APA pmax pmax
comp=Z,9.0nm,0.9s
JETT Jettan, Norway 127.44 352 *e*P **PKiKP 13 43 43.2 -0.2**
KTK1 Kautokeino 127.53 351 *e*P **PKPdf 13 43 42.4 -0.4**
BOSA Boshof 128.28 206 PKP **PKiKP 13 43 46.7 +0.2**
comp=Z,4.7nm,0.8s,baz=114,slow=3.1,SNR=7.2
KLMR Klimovskoe 129.79 337 *e*PKIKP **PKPdf 13 43 45.6 -1.7**
KLMR *e* 13 46 06.9
KLMR pmax pmax
comp=Z,8.0nm,0.8s
RAUS Rausandaksla 131.17 354 *e*P **PKPdf 13 43 49.0 -0.8**
FINES FINESS Array B 133.59 344 PKhKP PKPpre 13 43 50.1
comp=Z,3.4nm,0.6s,baz=56,slow=3.6,SNR=7.3
FINES PKP **PKiKP 13 43 55.7 -0.2**
comp=Z,7.7nm,0.7s,baz=59,slow=4.9,SNR=10
FINES SKP 13 46 29.9
comp=Z,3.4nm,0.8s,baz=55,slow=5.3,SNR=5.9
OBN Obninsk 134.75 333 *i* PKIKP **PKPdf 13 43 56.1 -0.7**
OBN pmax pmax
comp=Z,4.0nm,0.9s
AKN Aaknes 135.95 357 *e*P **PKiKP 13 43 59.9 -0.9**
NB2 NORSAR Subarra136.73 353 PKP **PKPdf 13 43 53.2 -7.2**
comp=Z,2.9nm,0.9s,baz=17,slow=2.6
NB2 NORSAR Subarra136.73 353 PKP **PKPdf 13 43 53.2 -7.2**
baz=17,slow=2.6
NOA NORSAR Array B 136.73 353 PKhKP PKPpre 13 43 48.3
comp=Z,1.2nm,0.8s,baz=12,slow=4.4,SNR=9.3
NOA PKP **PKPdf 13 44 00.1 -0.4**
comp=Z,1.8nm,0.7s,baz=28,slow=2.0,SNR=12
KBZ Khabaz 137.29 316 PKP **PKPdf 13 44 01.1 -0.8**
comp=Z,2.1nm,0.7s,baz=325,slow=1.9,SNR=5.4
HFS Hagfors 137.30 351 PKhKP PKPpre 13 43 48.6
comp=Z,2.2nm,0.5s,baz=72,slow=4.8,SNR=10.0
HFS PKP **PKPdf 13 44 01.1 -0.3**
comp=Z,2.4nm,0.6s,baz=219,slow=1.8,SNR=5.9
KIV Kislovodsk 137.34 316 *e*PKIKP **PKPdf 13 44 00.2 -1.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
MNK Minsk 138.69 337 *i* PKIKP **PKPdf 13 44 02.0 -2.1**
MNK *i* 13 46 24.4
MNK *i* 13 47 02.6
MNK *i* PPP PPP 13 50 12.0
MNK *i* 13 50 14.3
MNK *i* SS SS 14 04 31.0 +1.3
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.6s
MNK pmax pmax
comp=E,15nm,0.7s
MNK MLR MLR
comp=Z,48nm,16.0s
MNK MLR MLR
comp=N,78nm,20.0s
MNK MLR MLR
comp=E,103nm,18.0s
AKASG Malin Array Be 141.01 332 PKhKP PKPpre 13 44 02.4
comp=E,4.9nm,0.3s,baz=45,slow=4.2,SNR=41
KIEV Kiev 141.02 332 ⇑P PKPpre 13 44 02.8
KIEV Kiev 141.02 332 ⇑PKHKP PKPpre 13 44 02.8
LAWE Loch Awe, Argy 141.62 7 *e*P PKPpre 13 44 05.0
SIM Simferopol' 142.22 322 *e*PKIKP **PKPdf 13 44 08.5 -2.3**
SIM pmax pmax
comp=Z,33nm,0.9s
ARPR Arapgir-MALATY 142.27 311 **PKPdf 13 44 09.2 -2.1**
IDGL Inch Island, C 142.51 9 PKPdf **PKPdf 13 44 10.8 -0.2**
EKA Eskdalemuir Ar 142.75 5 PKhKP PKPpre 13 44 08.3
comp=Z,2.5nm,0.4s,baz=327,slow=2.7,SNR=26
NEWG New Galloway 142.87 6 *e*P **PKPdf 13 44 08.7 -2.9**
GAL1 Galloway 143.07 6 *e*P PKPab 13 44 09.3 -0.7
SORM Soroca 143.25 330 ⇓P PKPab 13 44 10.0 -0.9
SORM Soroca 143.25 330 ⇓PKHKP PKPab 13 44 10.0 -0.9
BEL Belsk 143.32 340 *e*PKP PKPbc 13 44 11.3 +0.1
EDMD Edmundbyers 143.34 4 *e*P PKPab 13 44 10.6 -0.5
PURM Purcari 143.60 327 ⇑P PKPbc 13 44 11.8 -0.5
IOMK Kirk Michael 143.68 6 *e*P PKPbc 13 44 11.5 -0.8
ILTH Belurgan, Co L 143.69 8 PKPdf PKPbc 13 44 12.1 -0.2
ILTH Belurgan, Co L 143.69 8 *e*P PKPbc 13 44 11.9 -0.4
IGLA Glengowla, Co 143.78 12 PKPdf PKPbc 13 44 12.5 -0.1
KIS Kishinev 143.81 328⇑*i*PKP PKPbc 13 44 12.0 -0.9
comp=Z,140nm,2.1s
KIS Kishinev 143.81 328 *i* PKIKP PKPbc 13 44 12.0 -0.9
KIS pmax pmax
comp=Z,140nm,2.1s
MILM Milestii Mici 143.87 328 ⇓P PKPbc 13 44 11.7 -1.4
MILM Milestii Mici 143.87 328⇓*i*PKP PKPbc 13 44 11.0 -2.1
MILM Milestii Mici 143.87 328 PKPM1 13 44 12.0
comp=Z,100nm,0.8s
MILM Milestii Mici 143.87 328 PKP2 PKPbc 13 44 13.0 -0.1
comp=Z,250nm,4.0s
MILM Milestii Mici 143.87 328 ⇓PKIKP PKPbc 13 44 11.7 -1.4
BZK Bozkurt 143.91 318 ⇓P PKPab 13 44 13.6 0.0
BNN Bunyan 144.14 312 **PKPdf 13 44 14.6 +0.1**
LODK Lodwar 144.16 250 PKPbc 13 44 14.5 -0.6
HPK Haverah Park 144.23 4 *e*P PKPbc 13 44 14.0 0.0
DSB Dublin 144.45 9 PKPdf PKPbc 13 44 14.9 +0.2
VASR Vaslui 144.57 329 ⇓P **PKPab 13 44 16.3 +0.2**
CIDE Kastamonu/Cide 144.62 318 ⇑P **PKPdf 13 44 15.1 0.0**
WLF1 Llynfaes 144.66 7 *e*P **PKPdf 13 44 14.9 +0.2**
VLDR Vladesti 144.98 328 ⇑P PKPbc 13 44 16.8 +0.3
OJC Ojcow 145.03 340 *e*PKP **PKPbc 13 44 16.3 -0.3**
TLCR 145.04 326 ⇑P **PKPdf 13 44 16.2 +0.5**
TLCR 145.04 326 ⇑PKIKP **PKPdf 13 44 16.2 +0.5**
BURAR Bucovina Array 145.06 332 **PKPbc 13 44 17.1 +0.2**
BURAR Bucovina Array 145.06 332 ⇓P **PKPab 13 44 17.6 -0.5**
BURAR Bucovina Array 145.06 332 ⇓PKIKP **PKPab 13 44 17.6 -0.5**
SCTR Scanteiesti 145.14 327 ⇓P **PKPbc 13 44 17.6 +0.6**
GHRR 145.17 328 ⇓P **PKPab 13 44 18.4 0.0**

FOEL Foel Wylfa 145.17 5 *e*P **PKPbc 13 44 16.8 -0.1**
TESR Tescani 145.22 330 ⇓P **PKPbc 13 44 17.1 -0.1**
IWEX Carrickbyrne, 145.24 9 PKPdf **PKPbc 13 44 17.5 +0.5**
BRTR Keskin Array B 145.27 315 **PKPdf 13 44 15.7 -0.8**
BRTR Keskin Array B 145.27 315 PKPbc **PKPdf 13 44 16.4 0.0**
comp=Z,16nm,0.7s,baz=137,slow=3.8,SNR=81
BRTR pPKPbc **pPKPdf 13 46 41.5 -0.3**
comp=Z,1.6nm,0.9s,baz=180,slow=2.0,SNR=4.4
BRTR Keskin Array B 145.27 315 PKIKP **PKPdf 13 44 15.7 -0.8**
JURR Jurilovca 145.28 326 ⇓P **PKPbc 13 44 18.0 +0.6**
KIRS Kirsehir-Merke 145.36 314 ⇑P **PKPdf 13 44 17.9 0.0**
CFR Carcaliu 145.40 327 ⇓P **PKPbc 13 44 17.6 -0.1**
CFR Carcaliu 145.40 327 ⇓PKIKP **PKPbc 13 44 17.6 -0.1**
ONER Baraj Valea Uz 145.47 330 ⇓P **PKPbc 13 44 18.5 +0.5**
TPGR Topolog 145.47 326 ⇑P **PKPbc 13 44 17.7 -0.3**
KSP Ksiaz 145.52 344 *e*PKP **PKPbc 13 44 18.3 +0.4**
NIE Niedzica 145.55 339 *e*PKP **PKPbc 13 44 18.6 +0.5**
WACR West Acre 145.56 1 *e*P **PKPbc 13 44 17.5 -0.4**
HLM1 Long Mynd 145.57 5 *e*P **PKPbc 13 44 17.8 -0.3**
VRI Vrincioaia 145.64 329 ⇓P **PKPbc 13 44 18.4 -0.1**
VRI Vrincioaia 145.64 329 ⇓PKIKP **PKPbc 13 44 18.4 -0.1**
PLOR Plostina 145.69 329 ⇑P **PKPbc 13 44 18.7 +0.1**
PLOR Plostina 145.69 329 ⇑PKIKP **PKPbc 13 44 18.7 +0.1**
TIRR Tirgusor 145.74 326 ⇓P **PKPbc 13 44 19.2 +0.5**
TIRR Tirgusor 145.74 326 ⇓PKP2 **PKPbc 13 44 19.2 +0.5**
ANTO Ankara 145.76 316 **PKPdf 13 44 17.3 +0.1**
ANTO Ankara 145.76 316 ⇑P **PKPbc 13 44 19.0 -0.1**
ANTO Ankara 145.76 316 PKIKP **PKPdf 13 44 17.3 +0.1**
OSTC Ostas 145.80 344 *e*PKP2 **PKPbc 13 44 19.7 +0.9**
OSTC Ostas 145.80 344 *e*PKP **PKPbc 13 44 19.7 +0.9**
CHVC Chvalec 145.81 344 *e*PKP2 **PKPbc 13 44 19.2 +0.4**
CHVC Chvalec 145.81 344 *e*PKP **PKPbc 13 44 19.2 +0.4**
HARR Harsova 145.84 326 ⇑P **PKPbc 13 44 19.4 +0.4**
HARR Harsova 145.84 326 ⇑PKP2 **PKPbc 13 44 19.4 +0.4**
CLL Collm 145.85 348⇓*e*PKIKP **PKPdf 13 44 17.0 +0.1**
CLL pmax pmax
comp=Z,75nm,0.6s
CLL Collm 145.85 348 *e*PKPdf **PKPdf 13 44 17.0 +0.1**
CLL ⇓*i*PKPbc **PKPbc 13 44 18.9 +0.1**
comp=Z,75nm,0.6s
TLBR Topalu 145.87 326 ⇓P **PKPbc 13 44 19.5 +0.4**
OKC Ostrava-Krasne 145.89 341 *e*PKP2 **PKPbc 13 44 19.9 +0.9**
OKC Ostrava-Krasne 145.89 341 *e*PKP **PKPbc 13 44 19.9 +0.9**
UPC Upice 145.90 344 *e*PKP2 **PKPbc 13 44 19.5 +0.5**
UPC Upice 145.90 344 *e*PKP **PKPbc 13 44 19.5 +0.5**
MFTR Murfatlar 145.91 325 ⇓P **PKPbc 13 44 18.9 -0.3**
STEB Steborice 145.92 342 *e*PKP **PKPbc 13 44 18.1 -1.0**
OZUR 145.93 330 ⇑P **PKPbc 13 44 19.8 +0.5**
DPC Dobruska-Polom 145.96 344 *e*PKP2 **PKPbc 13 44 19.9 +0.7**
DPC Dobruska-Polom 145.96 344 *e*PKP **PKPbc 13 44 19.9 +0.7**
MANR Mangalia 146.06 324 ⇓P **PKPbc 13 44 19.8 +0.2**
BRG Berggiesshubel 146.06 346 *e*PKP **PKPdf 13 44 17.6 +0.3**
BRG Amp 13 44 18.3
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 146.06 346 P **PKPbc 13 44 19.8 +0.4**
BRG Amp 13 44 20.7
comp=Z,24nm,0.6s
LANS Liptovska Anna 146.06 339 *e*PKP2 **PKPbc 13 44 20.7 +1.1**
LANS Liptovska Anna 146.06 339 *e*PKP **PKPbc 13 44 20.7 +1.1**
MCH1 Michaelchurch 146.07 6 *e*P **PKPbc 13 44 19.0 -0.5**
KRLC Kraliky 146.08 343 *e*PKIKP **PKPbc 13 44 19.7 +0.1**
KRLC Kraliky 146.08 343 *e*PKP **PKPbc 13 44 19.7 +0.1**
MBAR Mbarara 146.09 240 **PKPbc 13 44 21.4 +0.5**
MBAR Mbarara 146.09 240c *i*PKP2 **PKPbc 13 44 21.6 +0.7**
MBAR pmax pmax
comp=Z,21nm,0.7s
MORC Moravsky Berou 146.13 342 ⇑P **PKPbc 13 44 19.4 -0.3**
MORC Moravsky Berou 146.13 342 *e*PKP **PKPbc 13 44 19.6 -0.1**
MORC Moravsky Berou 146.13 342 ⇑PKIKP **PKPbc 13 44 19.5 -0.3**
DOPR Dopca 146.21 330 ⇓P **PKPbc 13 44 20.7 +0.6**
PVCC Panska Ves 146.24 346 *e*PKP2 **PKPbc 13 44 20.6 +0.7**
PVCC Panska Ves 146.24 346 *e*PKP **PKPbc 13 44 20.6 +0.7**
MONM Monmouth 146.25 5 *e*P **PKPbc 13 44 19.6 -0.3**
ISR Istrita 146.26 328 ⇑P **PKPbc 13 44 20.7 +0.4**
ISR Istrita 146.26 328 ⇑PKP2 **PKPbc 13 44 20.7 +0.4**
KECS Kecovo 146.28 338 *e*PKP **PKPbc 13 44 20.9 +0.8**
MLR Muntele Rosu 146.29 329 ⇑P **PKPbc 13 44 20.1 -0.3**
MLR Muntele Rosu 146.29 329 ⇑PKIKP **PKPbc 13 44 20.2 -0.3**
STRD Stroud 146.36 5 *e*P **PKPbc 13 44 19.6 -0.6**
MAUC Maruska 146.41 341 *e*PKP **PKPbc 13 44 21.1 +0.6**
HSKC Hora Svate Kat 146.42 347 *e*PKP **PKPbc 13 44 20.6 +0.1**
CJR Cluj-Napoca 146.47 333 ⇓P **PKPbc 13 44 21.7 +0.9**
CJR Cluj-Napoca 146.47 333 ⇓PKP2 **PKPbc 13 44 21.7 +0.9**
SAHE Sakarya_HENDEK 146.50 318 ⇑P **PKPbc 13 44 20.8 -0.2**
MMAI Mount Meron Ar 146.62 303 PKPbc **PKPbc 13 44 22.2 +0.6**
comp=Z,22nm,0.6s,baz=66,slow=4.9,SNR=26
PRU Pruhonice 146.75 345 *e*PKP2 **PKPbc 13 44 21.9 +0.6**
PRU Pruhonice 146.75 345 *e*PKP **PKPbc 13 44 21.9 +0.6**
VRAC Vranov 146.82 345 *e*PKP **PKPbc 13 44 21.4 -0.2**
JAVC Velka Javorina 146.90 341 *e*PKP **PKPbc 13 44 22.5 +0.6**
PSZ Piszkesteto 146.97 338 ⇑P **PKPbc 13 44 20.8 -1.3**
PSZ Piszkesteto 146.97 338 ⇑PKIKP **PKPbc 13 44 20.8 -1.3**
ARR Arges 147.01 330 ⇑P **PKPdf 13 44 19.6 +0.5**
SILT Sile 147.08 320 ⇓P **PKPbc 13 44 22.1 -0.3**
KRUC Moravsky 147.10 342 *e*PKP **PKPbc 13 44 21.8 -0.5**
PRD Provadia 147.14 325 *e*P **PKPbc 13 44 22.5 0.0**
ZVC Zvikov 147.34 345 *e*PKP **PKPbc 13 44 23.2 +0.3**
RAZG Razgrad 147.35 326 ⇑P **PKiKP 13 44 24.2 -0.5**
LOZB Loznitsa 147.44 326 ⇓P **PKPbc 13 44 23.3 -0.1**
UCC Uccle 147.45 357 *d*PKP **PKPbc 13 44 23.5 +0.4**
MODS Modra-Piesok 147.45 341 *e*PKP2 **PKiKP 13 44 24.3 -0.5**
MODS Modra-Piesok 147.45 341 *e*PKP **PKiKP 13 44 24.3 -0.5**
MEM Membach 147.53 355 *d*PKP **PKPbc 13 44 23.7 +0.4**
BTNL Ternell 147.54 355 *d*PKP **PKPbc 13 44 23.5 +0.1**
BSTI Sart Tilman 147.59 356 *d*PKP **PKPbc 13 44 23.7 +0.2**
SIRR Siria 147.64 334 ⇑P **PKPbc 13 44 23.8 0.0**
ZST Bratislava 147.66 341 *e*PKIKP **PKPbc 13 44 23.2 -0.5**
BCLA Clavier 147.77 356 *d*PKP **PKPbc 13 44 23.8 -0.1**
KHC Kasperske Hory 147.77 346 *e*PKP2 **PKPbc 13 44 24.4 +0.3**
KHC Kasperske Hory 147.77 346 *e*PKP **PKPbc 13 44 24.4 +0.3**
GZR Gura Zlata 147.85 332 ⇓P **PKPbc 13 44 24.1 -0.4**
GZR Gura Zlata 147.85 332 ⇓PKHKP PKPpre 13 44 24.1
BMRD Maredsous 147.92 357 *d*PKP **PKPbc 13 44 23.2 -1.1**
GERES GERESS Array B 148.01 345 PKPbc **PKPbc 13 44 24.9 +0.2**
comp=Z,14nm,0.6s,baz=34,slow=5.2,SNR=4.0
RCHB Rochefort 148.04 356 *d*PKP **PKPbc 13 44 24.8 +0.1**
JMB Yambol 148.06 324 *e*P **PKiKP 13 44 26.6 +0.4**
ELND Elena 148.12 326 ⇓P **PKPbc 13 44 24.9 -0.2**
BZS Buzias 148.18 333 ⇓P **PKPdf 13 44 21.5 +0.6**
BZS Buzias 148.18 333 ⇓PKHKP PKPpre 13 44 21.5
CONA Conrad Observa 148.28 342 *i* PKP **PKPbc 13 44 25.7 +0.2**
comp=Z,26nm,0.9s,SNR=12
RONA Rosalia, Austr 148.35 341 *e*PKP **PKPbc 13 44 25.6 +0.1**
comp=Z,26nm,0.9s,SNR=11
HERR Herculane 148.41 332 ⇓P **PKPbc 13 44 25.2 -0.5**
WLF Walferdange 148.46 355 *d*PKP **PKPbc 13 44 25.0 -0.7**
PLVB Pleven 148.46 328 ⇓P **PKPbc 13 44 25.0 -0.8**
BAND Balkesir-Ban 148.50 320 ⇑P **PKPbc 13 44 25.5 -0.6**
MOA Molln 148.79 344 *i* PKP **PKPbc 13 44 26.4 -0.2**
comp=Z,12nm,1.0s
MDVR Moldovita 148.80 332 ⇑P **PKPbc 13 44 26.9 +0.2**
MORH Mrgy, Hungar 148.87 337⇑*i*P **PKPbc 13 44 25.2 -1.6**
MORH Mrgy, Hungar 148.87 337 ⇓P **PKiKP 13 44 27.4 -0.3**
MPEP Malo Peshtene 148.93 328 *e*P **PKPbc 13 44 27.1 +0.1**
ARSA Arzberg 148.99 342 *i* PKP **PKPbc 13 44 26.3 -0.8**
comp=Z,8.6nm,1.0s
BIOA Bad Ischl, Aus 149.10 345 *i* PKP **PKPbc 13 44 27.0 -0.4**
comp=Z,8.3nm,0.7s
BEHE Becsehely 149.29 340⇑*i*P **PKiKP 13 44 29.0 +0.4**
KDZ Kurdzhali 149.30 324 *e*P **PKPbc 13 44 27.1 -0.9**
BLSH Balsha 149.52 328 *e*P **PKiKP 13 44 29.2 0.0**
BFO Black Forest 149.53 352 **PKPbc 13 44 28.6 +0.2**
BFO Black Forest 149.53 352 PKHKP PKPpre 13 44 28.6
LESA Schwarzleotal 149.58 346 *e*PKP **PKPbc 13 44 27.9 -0.7**
comp=Z,11nm,0.8s,SNR=8.0
SOKA Soboth 149.65 342 *e*PKP **PKPbc 13 44 27.8 -1.0**
comp=Z,16nm,0.8s,SNR=9.6
BOVS Bovan 149.69 331 ⇓P **PKPbc 13 44 27.9 -0.9**
VTS Vitosha 149.72 328 *e*P **PKPbc 13 44 28.4 -0.8**
KBA Koelnbreinsper 149.74 344 *i* PKP **PKPbc 13 44 27.9 -1.2**
comp=Z,8.1nm,0.5s,SNR=14
EZN Ezine 149.90 321 ⇓P **PKPbc 13 44 28.9 -0.6**
EZN Ezine 149.90 321 ⇓PKHKP PKPpre 13 44 28.9
WATA Walderalm 149.92 347 *i* PKP **PKPbc 13 44 29.0 -0.4**
comp=Z,22nm,0.7s,SNR=6.6
**R

MOTA	Moosalm	150.01	348	*i* PKP	PKPbc	13 44 28.9	-0.8
	comp=Z,24nm,0.8s,SNR=7.1						
MOSL	Moslavina	150.05	339	‖ *i*P	PKPbc	13 44 29.2	-0.5
MYKA	Terra Mystica	150.08	344	*i* PKP	PKPbc	13 44 28.8	-1.0
	comp=Z,16nm,0.6s,SNR=11						
SQTA	Sankt Quirin	150.10	347	*i* PKP	PKPbc	13 44 29.5	-0.4
	comp=Z,23nm,0.6s,SNR=11						
MMB	Musomishta	150.22	326	*e*P	PKPbc	13 44 29.2	-1.0
ABTA	Abfaltersbach	150.26	345	*e*PKP	PKPbc	13 44 28.9	-1.3
	comp=Z,38nm,0.6s,SNR=17						
DAVA	Damuels	150.30	349	*i* PKP	PKPbc	13 44 29.5	-0.9
	comp=Z,11nm,0.5s,SNR=6.2						
KKB	Krupnik	150.34	327	*e*P	PKPbc	13 44 30.4	0.0
LJU	Ljubljana	150.37	342	*i* PKPbc	PKPbc	13 44 30.0	-0.4
FETA	Feichten	150.39	348	*i* PKP	PKPbc	13 44 29.9	-0.7
	comp=Z,25nm,0.7s,SNR=6.6						
CRNS	Crni Vrh	150.41	343	*i* PKPbc	PKPbc	13 44 29.6	-0.9
OZLJ	Ozalj	150.47	341	‖ *i*P	PKPbc	13 44 30.2	-0.3
VISS	Visnje	150.50	342	*i* PKPbc	PKPbc	13 44 29.9	-0.7
BLY	Banja Luka	150.65	338	‖ *i*P	PKPbc	13 44 30.7	-0.3
BLY	Banja Luka	150.65	338	⇑ P	PKPbc	13 44 30.8	-0.3
RUDO	Rudo	150.74	334	⇑ *i*P	PKPbc	13 44 30.7	-0.6
GBRS	Gornja Briga	150.75	341	*i* PKPbc	PKPbc	13 44 30.9	-0.4
FUORN	Ofenpass-Fuorn	150.87	348		PKiKP	13 44 32.1	-0.1
VAY	Valandovo	151.00	327	*i* P	PKPbc	13 44 30.8	-1.1
KIJV	Kijevo	151.57	338	‖ *i*P	PKPbc	13 44 32.3	-0.9
BRJN	Brijuni	151.63	342	⇑ *i*P	PKiKP	13 44 33.5	+0.1
TREB	Trebinje	151.91	334	⇑ *i*P	PKPbc	13 44 33.6	-0.3
STON	Ston	152.05	335	⇑ *i*P	PKPbc	13 44 33.2	-1.0
OHR	Ohrid	152.06	329	*i* P	PKPbc	13 44 34.1	-0.3
ESDC	Sonseca Array	158.01	12	PKPab	PKPab	13 45 12.4	-0.3
	comp=Z,0.8nm,0.7s,baz=341,slow=4.0,SNR=7.3						
KEST	Kesra	161.38	341	PKPab	PKPab	13 45 27.6	0.0
	comp=Z,4.3nm,0.5s,baz=45,slow=4.6,SNR=5.3						
MD01	Midelt array s	164.21	21		PKPdf	13 44 42.5	+0.7
DBIC	Dimbokro	166.72	149	PKP	PKPdf	13 44 43.2	-1.0
	comp=Z,3.8nm,0.7s,baz=305,slow=3.9,SNR=4.8						
TORD	Torodi Ar. Bea	174.94	177	PKPab	PKPab	13 46 28.9	+1.1
TORD	Torodi Ar. Bea	174.94	177	PKP	PKPdf	13 44 47.1	-1.2
	comp=Z,1.8nm,0.8s,baz=43,slow=3.0,SNR=12						
TORD				PKPab	PKPab	13 46 28.5	+0.7
	comp=Z,0.9nm,0.7s,baz=144,slow=1.6,SNR=6.6						
TORD				PP	PP	13 50 20.7	+1.3
	comp=Z,0.9nm,1.0s,baz=125,slow=2.1,SNR=4.0						

*NEIC **18** 13:26:29.3±1.3, 66°.36N±0°.02×157°.25W±0°.05, h10km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=260.0*
*NEIC **18** 13:27:27.4±0.7, 66°.337N±0°.009×157°.26W±0°.04, h9km±5km, Error ellipse: s-maj=2.4km s-min=0.8km az=117.0*

AEIC 18 13:26:28.6±1.1, 66°.34N±0°.02×157°.26W±0°.05, h5km±6km, ML2.8, ML3.1/140(NEIC), Error ellipse: s-maj=3.0km s-min=2.6km az=92.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	Shaleruckik Mo	0.54	338		Pg	13 26 38.8	-0.2
F19K				Sg	Sg	13 26 46.1	+0.2
G18K	Tagagawik	0.72	233		Pg	13 26 42.4	0.0
G18K				Sg	Sg	13 26 52.5	+0.8
H19K	Roundabout Mou	0.88	157		Pg	13 26 45.5	+0.1
H19K				IAML		13 27 00.5	
	comp=N,695nm,0.2s						
H19K	Roundabout Mou	0.88	157		Sg	13 26 57.5	+0.7
F20K	Avaraart Lake	0.94	40	Pg	Pg	13 26 46.0	-0.5
F20K				Sg	Sg	13 26 58.7	-0.1
F18K	Selawik	1.00	287		Pg	13 26 47.0	-0.6
F18K					Sb	13 27 01.2	-0.4
E19K	Redstone River	1.13	1		Pg	13 26 49.6	-0.5
E19K				Sg	Sg	13 27 03.9	-0.8
E19K				IAML		13 27 06.8	
	comp=N,534nm,0.5s						
H18K	Honhosa River	1.27	201		Pg	13 26 52.2	-0.7
H18K				IAML		13 27 12.5	
	comp=E,376nm,0.3s						
H20K	Anotleneega Mo	1.29	130		Pn	13 26 53.1	-0.1
H20K					Sn	13 27 11.1	+0.2
IMAR	Indian Mountai	1.47	102		Pn	13 26 55.1	-0.5
G21K	Allakaket	1.52	81		Pn	13 26 55.8	-0.6
G21K					Sg	13 27 17.5	+0.2
G21K	Allakaket	1.52	81	IAML		13 27 20.2	
	comp=E,332nm,0.2s						
GCSA	Galena City Sc	1.60	174		Pn	13 26 57.5	+0.1
F17K	Baldwin Pennin	1.61	276		Pn	13 26 56.7	-0.9
F17K				IAML		13 27 20.5	
	comp=E,202nm,0.7s						
G17K	Kiwalik Mounta	1.62	240		Pn	13 26 57.7	0.0
G17K					Sb	13 27 19.9	+0.2
E18K	Tukpahlearik C	1.71	311		Pn	13 26 59.3	+0.3
F21K	Alatna River	1.74	58		Pn	13 26 59.0	-0.4
H17K	Granite Mounta	1.78	219		Pn	13 27 00.0	0.0
H17K	Granite Mounta	1.78	219		Sb	13 27 23.9	-0.4
I20K	Naaghedeneel	1.93	142		Pn	13 27 02.6	+0.7
H21K	Melozitna Rive	1.95	108	Pn	Pb	13 27 04.2	-0.2
H21K				IAML		13 27 33.8	
	comp=N,184nm,0.6s						
E17K	Hotham Inlet	1.96	295		Pn	13 27 02.3	-0.2
D19K	Kuna River	2.19	352		Pn	13 27 06.0	+0.4
D19K				IAML		13 27 43.1	
	comp=E,111nm,0.6s						
D19K				IAML		13 27 43.1	
	comp=N,129nm,0.7s						
G16K	Koyuk River	2.30	248		Pn	13 27 05.7	-1.3
G16K				IAML		13 27 43.1	
	comp=E,107nm,0.3s						
G16K				IAML		13 27 43.5	
	comp=N,108nm,0.4s						
F22K	John River	2.32	57		Pn	13 27 07.3	-0.1
D20K	Etivluk River	2.40	6		Pn	13 27 07.7	-0.8
D20K				IAML		13 27 46.3	
	comp=E,106nm,0.8s						
D20K				IAML		13 27 52.0	
	comp=N,81nm,0.5s						
J19K	Poorman	2.45	163		Pn	13 27 09.5	+0.4
E21K	Killik River	2.47	30		Pn	13 27 09.2	-0.2
E21K				IAML		13 27 53.7	
	comp=N,80nm,0.8s						
I21K	Tanana	2.47	116		Pn	13 27 09.7	+0.3
D17K	Noatak River	2.66	304		Pn	13 27 11.8	-0.2
H16K	Elim	2.69	233		Pn	13 27 11.0	-1.3
C18K	Utukok River	2.77	329		Pn	13 27 13.4	-0.1
E22K	Anaktuvuk Pass	2.78	47		Pn	13 27 13.9	+0.2
RDOG	Red Dog Mine	2.80	311		Pn	13 27 13.9	0.0
I17K	Unalakleet	2.86	212		Pn	13 27 13.4	-1.3
I17K				IAML		13 28 01.4	
	comp=N,81nm,0.8s						
J18K	Innoko River	2.89	175		Pn	13 27 14.5	-0.7
C19K	Lookout Ridge	2.92	343		Pn	13 27 16.2	+0.6
COLD	Coldfoot	2.94	69	IAML		13 28 08.0	
	comp=N,56nm,0.5s						
MLY	Manley	3.00	113		Pn	13 27 17.2	+0.5
MLY				IAML		13 28 05.0	
	comp=E,69nm,0.7s						
J17K	VABM Dome	3.05	196		Pn	13 27 17.4	+0.1
J17K				IAML		13 28 12.2	
	comp=E,52nm,0.9s						
J17K				IAML		13 28 12.2	
	comp=N,49nm,0.7s						
F15K	North Star Dit	3.08	262		Pn	13 27 17.3	-0.5
F15K				IAML		13 28 11.6	
	comp=E,54nm,0.5s						
F15K				IAML		13 28 12.3	
	comp=N,68nm,0.7s						
D22K	Ayikyak River	3.10	32		Pn	13 27 18.6	+0.6
D22K				IAML		13 28 11.8	
	comp=N,43nm,1.1s						
D22K				IAML		13 28 18.6	
	comp=E,47nm,0.8s						
H23K	Yukon River	3.19	96	IAML		13 28 12.4	
	comp=N,57nm,0.8s						
J16K	Anvik River	3.38	207		Pn	13 27 22.6	+0.7
J16K				IAML		13 28 24.4	
	comp=N,42nm,0.8s						
E23K	Chandalar	3.44	56		Pn	13 27 23.4	+0.5
E23K				IAML		13 28 28.9	
	comp=N,32nm,0.7s						
B21K	Ikpikpuk River	3.45	16	Pn	Pn	13 27 23.1	+0.3
B21K				IAML		13 28 26.9	
	comp=N,53nm,0.8s						
BPAW	Bear Paw Mtn.	3.47	127		Pn	13 27 24.1	+1.0
BPAW				IAML		13 28 24.5	
	comp=E,33nm,1.0s						
I23K	Minto, Yukon-K	3.47	106		Pn	13 27 24.3	+1.1
D23K	Nanushuk River	3.65	41	Pn	Pn	13 27 25.9	+0.4
D23K				IAML		13 28 33.0	
	comp=N,31nm,1.9s						
D23K				IAML		13 28 37.3	
	comp=E,29nm,1.8s						
K17K	Iditarod	3.66	188		Pn	13 27 25.9	+0.2
K17K				IAML		13 28 29.9	
	comp=N,26nm,0.9s						
K17K				IAML		13 29 28.6	
	comp=E,31nm,3.7s						
C16K	Lisburne Hills	3.69	306	Pn	Pn	13 27 26.6	+0.5
C16K				IAML		13 27 52.4	
	comp=E,36nm,2.5s						
C16K				IAML		13 28 52.5	
	comp=N,35nm,2.2s						
B20K	Meade River	3.69	1	Pn	Pn	13 27 26.4	+0.3
B20K				IAML		13 28 35.2	
	comp=E,45nm,1.6s						
B20K				IAML		13 28 50.4	
	comp=N,41nm,2.8s						
TOLK	Toolik Lake Re	3.75	48		Pn	13 27 27.6	+0.6
TOLK				IAML		13 28 37.9	
	comp=N,34nm,2.7s						
TOLK				IAML		13 28 44.0	
	comp=E,28nm,1.4s						
NEA2	Nenana	3.84	113		Pn	13 27 28.4	+0.2
NEA2				IAML		13 28 34.6	
	comp=N,28nm,1.5s						
NEA2				IAML		13 28 37.3	
	comp=E,25nm,1.1s						
H24K	Noodor Dome	3.85	93	IAML		13 28 33.3	
	comp=N,36nm,1.4s						
H24K				IAML		13 28 35.4	
	comp=E,35nm,0.8s						
F24K	Squaw Lake	3.88	68	Pn	Pn	13 27 28.3	-0.5
F24K				IAML		13 28 34.2	
	comp=E,37nm,0.5s						
F24K				IAML		13 28 34.6	
	comp=N,33nm,0.6s						
KTH	Kantishna Hill	3.88	133		Pn	13 27 29.7	+0.8
KTH				IAML		13 28 43.0	
	comp=N,27nm,1.1s						
G24K	Hadweenzic Riv	3.93	80	Pn	Pn	13 27 29.5	0.0
G24K				IAML		13 28 34.2	
	comp=E,37nm,0.6s						
PPLA	Purkeypile	4.08	145		Pn	13 27 32.8	+1.1
PPLA				IAML		13 28 18.8	
	comp=N,24nm,3.6s						
PPLA				IAML		13 29 14.9	
	comp=E,30nm,4.8s						
L18K	Granite Mounta	4.14	176	Pn	Pn	13 27 33.1	+0.7
L18K				IAML		13 28 41.0	
	comp=N,21nm,2.1s						
L18K				IAML		13 29 23.0	
	comp=E,20nm,3.6s						
TRF	Thorofare Moun	4.15	131		Pn	13 27 33.8	+1.2
TRF				IAML		13 28 56.0	
	comp=N,28nm,3.6s						
COLA	College	4.17	106		Pn	13 27 33.0	+0.3
POKR	Poker Plat Res	4.24	102	Pn	Pn	13 27 34.6	+0.9
POKR				IAML		13 28 45.9	
	comp=N,23nm,0.8s						
POKR				IAML		13 28 46.6	
	comp=E,26nm,1.2s						
WRH	Wood River Hil	4.27	112	IAML		13 28 48.0	
	comp=E,18nm,0.9s						
WRH				IAML		13 28 51.4	
	comp=N,21nm,3.3s						
CCB	Clear Creek Bu	4.29	109	IAML		13 28 44.4	
	comp=N,17nm,1.0s						
CCB				IAML		13 28 46.1	
	comp=E,17nm,0.9s						
L19K	White Mountain	4.30	165		Pn	13 27 35.8	+1.2
L19K				IAML		13 28 51.4	
	comp=N,24nm,4.2s						
L19K				IAML		13 29 09.7	
	comp=E,20nm,4.8s						
C23K	Itkillik River	4.31	32	Pn	Pn	13 27 34.9	+0.3
MCK	McKinley	4.39	123	Pn	Pn	13 27 36.2	+0.4
MCK				IAML		13 28 13.0	
	comp=E,16nm,4.4s						
MCK				IAML		13 28 15.9	
	comp=N,24nm,4.2s						
K15K	Wolf Creek Mou	4.46	207	Pn	Pn	13 27 36.9	+0.1
K15K				IAML		13 29 34.7	
	comp=N,23nm,3.3s						
C24K	Franklin Bluff	4.68	40	Pn	Pn	13 27 39.8	+0.2
HDA	Harding Lake	4.73	109	Pn	Pn	13 27 41.0	+0.6
HDA				IAML		13 28 59.1	
	comp=E,15nm,0.4s						
HDA				IAML		13 29 04.0	
	comp=N,18nm,1.5s						
F25K	Christian Rive	4.74	69	Pn	Pn	13 27 40.2	-0.4
F25K				IAML		13 29 09.4	
	comp=E,17nm,2.6s						
F25K				IAML		13 29 20.0	
	comp=N,20nm,4.4s						
PRP	Porcupine Dome	4.88	94	Pn	Pn	13 27 43.0	+0.4
PRP				IAML		13 29 05.8	
	comp=N,17nm,1.1s						
E25K	Arctic Village	4.88	63	Pn	Pn	13 27 42.2	-0.3
E25K				IAML		13 29 09.1	
	comp=N,15nm,2.4s						
M17K	Holitna River	4.96	181	Pn	Pn	13 27 44.2	+0.7
SKT	Skwentna	5.04	148	IAML		13 29 24.6	
	comp=N,15nm,2.3s						
BMAR	Burnt Mountain	5.12	72	Pn	Pn	13 27 46.0	+0.2
J25K	Salcha River,	5.25	104	Pn	Pn	13 27 48.0	+0.4
J25K				IAML		13 30 23.9	
	comp=E,11nm,4.4s						
F26K	Sheenjek River	5.32	69	Pn	Pn	13 27 48.8	+0.2
F26K				IAML		13 29 24.9	
	comp=E,11nm,1.9s						
M16K	Timber Creek	5.39	189	Pn	Pn	13 27 47.9	-1.6
SUA	Susitna One	5.67	147	Pn	Pn	13 27 54.5	+1.1
N18K	Kilae Creek	5.71	173	Pn	Pn	13 27 54.7	+0.8
N17K	Nushagak Hills	5.83	180	Pn	Pn	13 27 56.6	+1.1
I26K	Coal Creek Min	5.89	94	Pn	Pn	13 27 56.0	-0.3
E27K	Coleen River	6.35	66	Pn	Pn	13 28 01.6	-1.0
M24K	Tolsona, Glenn	6.43	126	Pn	Pn	13 28 04.5	+0.7
ILSW	Iliamna Southw	6.64	162	Pn	Pn	13 28 07.7	+0.9
PWL	Port Wells	6.78	140	Pn	Pn	13 28 08.9	+0.4
K27K	Chicken	6.79	103	Pn	Pn	13 28 09.3	+0.5
EGAK	Eagle	6.86	96	Pn	Pn	13 28 10.1	+0.5
I28M	Miner Creek	7.15	89	Pn	Pn	13 28 13.1	-0.6
L27K	Beaver Creek,	7.38	109	Pn	Pn	13 28 16.0	-0.7
BCAR	Beaver Creek A	7.39	109	Pn	Pn	13 28 16.9	-0.1
H29M	Whitestone	7.62	82	Pn	Pn	13 28 20.4	+0.5
G29M	Pine Creek	7.67	77	Pn	Pn	13 28 21.3	+0.5
I30M	Mount Dempster	8.65	88	Pn	Pn	13 28 34.1	-0.1

AEIC 18 13:27:27.6±0.8, 66°.33N±0°.01×157°.29W±0°.04, h7km±5km, ML2.4, ML2.7/18(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=62.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	Shaleruckik Mo	0.54	339		Pg	13 27 37.9	0.0
F19K					Sg	13 27 45.4	+0.4
G18K	Tagagawik	0.71	232		Pg	13 27 41.2	-0.1
G18K	Tagagawik	0.71	232		Sg	13 27 51.0	+0.5
G18K				IAML		13 27 53.7	
	comp=E,166nm,0.6s						
G18K				IAML		13 27 53.7	
	comp=N,188nm,0.6s						
H19K	Roundabout Mou	0.88	157		Pg	13 27 44.4	-0.1
H19K				IAML		13 28 00.0	
	comp=N,382nm,0.4s						
H19K	Roundabout Mou	0.88	157		Sg	13 27 55.9	0.0
F20K	Avaraart Lake	0.95	40		Pg	13 27 45.1	-0.7
F20K	Avaraart Lake	0.95	40	IAML		13 28 01.3	
	comp=N,166nm,0.3s						
F20K				IAML		13 28 01.4	
	comp=E,290nm,0.6s						
F18K	Selawik	0.99	287		Pg	13 27 46.1	-0.4
F18K					Sb	13 28 00.0	-0.1
E19K	Redstone River	1.13	1		Pg	13 27 48.9	-0.4
E19K				IAML		13 28 05.9	
	comp=N,193nm,0.6s						
E19K				IAML		13 28 06.3	
	comp=E,219nm,0.5s						
H18K	Honhosa River	1.27	201		Pn	13 27 50.8	-0.9
H18K	Honhosa River	1.27	201		Sb	13 28 08.0	-0.3
H18K				IAML		13 28 10.2	
	comp=E,136nm,0.7s						
H20K	Anotleneega Mo	1.30	129		Pn	13 27 51.6	-0.6
H20K					Sg	13 28 09.3	0.0
IMAR	Indian Mountai	1.48	102	Pn	Pn	13 27 54.6	-0.1
G21K	Allakaket	1.53	81		Pn	13 27 55.0	-0.4
G21K	Allakaket	1.53	81		Sb	13 28 15.8	-0.1
F17K	Baldwin Pennin	1.60	276		Pn	13 27 55.9	-0.4
F17K	Baldwin Pennin	1.60	276	IAML		13 28 20.0	
	comp=E,92nm,0.8s						
F17K				IAML		13 28 20.4	
	comp=N,81nm,1.1s						
GCSA	Galena City Sc	1.60	174		Sb	13 28 17.9	0.0
G17K	Kiwalik Mounta	1.61	240		Pn	13 27 56.4	-0.1
H17K	Granite Mounta	1.78	219		Pn	13 27 59.0	+0.3
H17K				IAML		13 28 24.8	
	comp=E,103nm,0.4s						
H17K				IAML		13 28 25.0	
	comp=N,76nm,0.3s						
N19K	Bonanza Creek	5.68	166	Pn	Pn	13 28 53.0	+0.6

*NEIC **18** 13:30:08.0±1.3, 18°.2S±0°.2×178°.0W±0°.1, h631km±9km, mb4.2/25, Error ellipse: s-maj=22.2km s-min=16.4km az=177.0*
*IDC **18** 13:30:09.9±12.0, 17°.97S×178°.34W, h650km±165km, mb3.4/4, mbtmp4.5/5, Error ellipse: s-maj=131.1km s-min=55.0km az=164.0*

ISC 18 13:30:09.1±0.7, 18°.1S±0°.1×178°.1W±0°.1, h650km, n38, σ0°90/37, mb4.2/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.67	275	P	P	13 31 34.5	-1.9
FUTU	Fugatoga	3.78	360	P	P	13 31 34.9	-2.1
AFI	Afiamalu	7.38	56	P	P	13 32 02.2	-2.7
RAO	Raoul Island	11.10	179	P	P	13 32 35.1	-4.2
DZM	Mont Dzumac	15.03	252	P	P	13 33 16.0	+0.2
	7.4nm,0.6s,baz=87,slow=19,SNR=3.7						
EIDS	Eidsvold	29.46	250	P	P	13 35 23.4	-0.5
EIDS				IAmb	IAmb	13 36 03.7	
	comp=Z,15nm,1.5s						
ARMA	Armidale	30.09	240	P	P	13 35 29.6	+0.4
ARMA				IAmb	IAmb	13 35 30.3	
	comp=Z,8.6nm,0.8s						
CAN	Canberra	33.81	233	P	P	13 35 59.4	-1.0
TOO	Toolangi	37.26	231	P	P	13 36 28.3	-0.4
TOO				IAmb	IAmb	13 36 38.3	
	comp=Z,9.6nm,1.4s						
COEN	Coen	37.39	271	P	P	13 36 30.4	+0.4
STKA	Stephens Creek	38.78	241	P	P	13 36 41.0	+0.1
STKA	Stephens Creek	38.78	241	P	P	13 36 41.0	+0.1
	comp=Z,4.4nm,0.8s,baz=82,slow=7.1,SNR=3.8						
	comp=Z,4.4nm,0.8s						
INKA	Innaminka	38.93	248	P	P	13 36 42.7	+0.5
INKA				IAmb	IAmb	13 36 43.6	
	comp=Z,4.0nm,0.8s						
BBOO	Buckleboo	43.56	241	P	P	13 37 18.3	0.0
BBOO				IAmb	IAmb	13 37 39.7	
	comp=Z,27nm,1.3s						
WB0	Warramunga Arr	44.84	260	P	P	13 37 28.2	-0.2
WB0				IAmb	IAmb	13 37 33.0	
	comp=Z,4.2nm,1.0s						
WRA	Warramunga Arr	44.87	260	P	P	13 37 28.2	-0.4
WRA	Warramunga Arr	44.87	260	P	P	13 37 27.9	-0.7
	comp=Z,4.2nm,0.4s,baz=96,slow=7.5,SNR=18						
	comp=Z,4.2nm,0.4s						
AS31	Alice Springs	45.01	254	P	P	13 37 29.5	-0.1
AS31				IAmb	IAmb	13 37 30.3	
	comp=Z,4.2nm,1.0s						
ASAR	Alice Springs	45.01	254	P	P	13 37 29.6	0.0
ASAR	Alice Springs	45.01	254	P	P	13 37 29.1	-0.5
	comp=Z,13nm,0.6s,baz=91,slow=8.0,SNR=21						
	comp=Z,13nm,0.6s						
MTN	Manton Dam	49.07	269	P	P	13 37 59.3	-0.7
MTN				IAmb	IAmb	13 37 59.6	
	comp=Z,6.6nm,0.7s						
FORT	Forrest	50.18	245	P	P	13 38 07.2	-0.6
FORT				IAmb	IAmb	13 38 32.5	
	comp=Z,15nm,1.3s						
KNRA	Kununurra	50.75	264	P	P	13 38 11.7	-0.3
KNRA				IAmb	IAmb	13 38 19.3	
	comp=Z,18nm,1.4s						
FAKI	Fak Fak	50.89	281	P	P	13 38 13.2	+0.1
FITZ	Fitzroy Crossi	53.27	261	P	P	13 38 30.0	0.0
PSA00	Pilbara Seismi	58.13	255	P	P	13 39 02.6	-0.7
PSA00	Pilbara Seismi	58.13	255	P	P	13 39 02.7	-0.7
PSA00				IAmb	IAmb	13 39 15.9	
	comp=Z,11nm,1.3s						
MBWA	Marble Bar	58.30	256	P	P	13 39 04.0	-0.5
JMM	Marumori	67.76	326	P	P	13 40 05.8	+1.5
UGM	Wanagama	69.92	268	P	P	13 40 17.7	-0.1
QSPA	South Pole Qui	71.95	180	P	P	13 40 29.8	+1.0
K15K	Wolf Creek Mou	81.20	8	P	P	13 41 19.6	+0.9
K15K				IAmb	IAmb	13 41 58.7	
	comp=Z,22nm,1.5s						
L18K	Granite Mounta	81.84	10	P	P	13 41 22.8	+0.9
L18K				IAmb	IAmb	13 41 52.2	
	comp=Z,8.7nm,1.4s						
BELA	Belgrano 2	81.93	173	P	P	13 41 21.9	-0.5
TXAR	Lajitas Array	85.86	58	P	P	13 41 43.8	+1.3
	comp=Z,0.5nm,0.7s,baz=235,slow=4.1,SNR=3.9						
	comp=Z,0.5nm,0.7s						
BURAR	Bucovina Array	144.92	332	PKPdf	PKPdf	13 48 34.5	+0.5
BR131	Keskin Array S	145.12	315	PKPdf	PKPdf	13 48 34.9	+0.2
BRTR	Keskin Array B	145.12	315	PKPdf	PKPdf	13 48 35.2	+0.4

IDC 18 13:43:08.0±1.6, 6°.66N×124°.94E, h0km, mb3.3/3, mbtmp3.3/3, ML4.7/1, Error ellipse: s-maj=30.5km s-min=11.2km az=138.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.75	57	Pg	Pg	13 43 22.0	-0.5
	155nm,0.3s,baz=61,slow=4.1,SNR=3.8						
DAV				Lg	Lg	13 43 33.2	
	267nm,0.3s,baz=335,slow=23,SNR=15						
BATI	Baumata	16.80	184	Pn	Pn	13 47 03.5	-1.5
	3.0nm,0.3s,baz=338,slow=11,SNR=7.0						
WRA	Warramunga Arr	28.00	161	P	P	13 49 01.8	+0.9
	0.3nm,0.6s,baz=333,slow=9.9,SNR=1.8						
	0.3nm,0.6s						
ASAR	Alice Springs	31.39	164	P	P	13 49 30.6	-0.3
	0.3nm,0.7s,baz=341,slow=8.3,SNR=1.6						
	0.3nm,0.7s						
MKAR	Makanchi Array	54.15	325	P	P	13 52 35.2	+0.1
	0.2nm,0.5s,baz=124,slow=7.8,SNR=2.1						
	0.2nm,0.5s						

*IDC **18** 13:44:58.4±1.4, 6°.63N×124°.92E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=28.8km s-min=9.7km az=133.0*
*NEIC **18** 13:44:59.2±0.8, 6°.73N±0°.09×124°.94E±0°.06, h10km±2km, mb4.3/12,

51nm,0.6s
SANI Sanana 8.73 173 P Pn 13 47 07.4 +1.5
23nm,1.1s
FAKI Fak Fak 12.01 142 Pn **Pn 13 47 52.9 +2.1**
SOEI Soe 16.34 182 Pn **Pn 13 48 49.0 -0.2**
SOEI IAmb IAmb 13 49 18.3
comp=Z,14nm,0.8s
BATI Baumata 16.82 184 Pn **P 13 48 59.4 +2.0**
comp=Z,2.8nm,0.3s,baz=248,slow=19,SNR=2.9
MTN Manton Dam 20.35 162 P **P 13 49 34.9 -1.2**
MTN IAmb IAmb 13 49 41.5
comp=Z,8.8nm,0.7s
KNRA Kununurra 22.53 170 P **P 13 49 58.8 -0.9**
FITZ Fitzroy Crossi 24.63 178 P **P 13 50 19.3 -0.9**
FITZ Fitzroy Crossi 24.63 178 P **P 13 50 20.6 +0.4**
comp=Z,7.0nm,0.8s,baz=9.5,slow=8.5,SNR=15
comp=Z,7.0nm,0.8s
COEN Coen 27.35 139 P **P 13 50 43.6 -1.4**
COEN IAmb IAmb 13 50 44.3
comp=Z,10nm,1.1s
WB0 Warramunga Arr 27.88 161 P **P 13 50 48.5 -1.2**
WB0 IAmb IAmb 13 51 19.1
comp=Z,7.3nm,1.2s
WRA Warramunga Arr 28.02 161 P P 13 50 45.4 -5.5
WRA Warramunga Arr 28.02 161 P **P 13 50 50.4 -0.5**
comp=Z,1.0nm,0.7s,baz=332,slow=10,SNR=8.3
comp=Z,1.0nm,0.7s
WB2 Warramunga Arr 28.03 161 P **P 13 50 50.3 -0.6**
WB2 IAmb IAmb 13 51 16.1
comp=Z,5.7nm,1.0s
WR8 Warramunga Arr 28.09 161 P **P 13 50 50.8 -0.7**
WR8 IAmb IAmb 13 51 19.0
comp=Z,3.8nm,0.8s
AS31 Alice Springs 31.41 164 P **P 13 51 20.3 -0.6**
ASAR Alice Springs 31.41 164 P **P 13 51 20.5 -0.4**
ASAR Alice Springs 31.41 164 P **P 13 51 20.8 -0.1**
comp=Z,0.7nm,0.5s,baz=338,slow=7.1,SNR=20
comp=Z,0.7nm,0.5s
FORT Forrest 37.36 176 P **P 13 52 11.2 -1.1**
BBOO Buckleboo 40.67 166 P **P 13 52 39.8 -0.3**
STKA Stephens Creek 41.51 158 P **P 13 52 47.6 +0.7**
comp=Z,2.7nm,0.8s,baz=348,slow=9.8,SNR=5.0
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 54.13 325 P **P 13 54 24.4 -0.3**
MKAR Makanchi Array 54.13 325 P **P 13 54 25.6 +0.8**
comp=Z,0.3nm,0.5s,baz=131,slow=6.6,SNR=2.7
comp=Z,0.3nm,0.5s

IDC 18 13:59:46.2±950.0, 6°.32N×26°.40W, h0km, Error ellipse: s-maj=462.1km s-min=187.4km az=94.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I50GB	**ASCENSION ISLA**	**18.56**	**140**	I	I	15 47 30.0	
baz=321,slow=320,SNR=1.2							
I17CI	**DIMBOKRO INFRA**	**21.40**	**88**	I	I	16 04 00.0	
208nm,1.1s,baz=271,slow=311,SNR=0.7							
I48TN	**KESRA INFRASON**	**43.97**	**43**	I	I	18 29 40.0	
baz=238,slow=322,SNR=2.6							
I35NA	**TSUMEB INFRASO**	**50.18**	**121**	I	I	19 10 00.0	
baz=295,slow=324,SNR=2.6							

GII 18 14:12:23.2±0.0, 33°.026N±0°.001×35°.621E±0°.001, h10km, Mws1.3, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDNS	**Had-Ness**	**0.10**	**170**	P	Pg	14 12 26.1	+0.3
HDNS	**Had-Ness**	**0.10**	**170**	S	Sg	14 12 28.4	+0.8
AMID	**Amiad**	**0.12**	**215**	P	Pg	14 12 26.5	+0.3
AMID	**Amiad**	**0.12**	**215**	S	Sg	14 12 29.0	+0.8
KNHM	**Kefar Nahum**	**0.15**	**194**	P	Pg	14 12 27.0	+0.5
KNHM	**Kefar Nahum**	**0.15**	**194**	S	Sg	14 12 29.7	+0.9
KSHT	**Keshet**	**0.17**	**105**	P	Pg	14 12 27.4	+0.5
KSHT	**Keshet**	**0.17**	**105**	S	Sg	14 12 30.6	+1.2
RMOT	**Ramot**	**0.18**	**168**	P	Pg	14 12 27.4	+0.4
RMOT	**Ramot**	**0.18**	**168**	S	Sg	14 12 30.7	+1.0
MMA0B	**Mount Meron ar**	**0.18**	**267**	P	Pg	14 12 27.6	+0.4
MMA0B	**Mount Meron ar**	**0.18**	**267**	S	Sg	14 12 31.2	+1.3
GEM	**Giv'at Ha'Em**	**0.19**	**11**	P	Pg	14 12 27.7	+0.4
GEM	**Giv'at Ha'Em**	**0.19**	**11**	S	Sg	14 12 31.1	+1.1
MMC7	**Mount Meron ar**	**0.19**	**269**	P	Pg	14 12 27.8	+0.4
MGDL	**Migdal**	**0.21**	**207**	P	Pg	14 12 28.0	+0.4
MGDL	**Migdal**	**0.21**	**207**	S	Sg	14 12 31.7	+1.2
NATI	**Neve Ativ**	**0.26**	**22**	P	Pg	14 12 28.9	+0.5
NATI	**Neve Ativ**	**0.26**	**22**	S	Sb	14 12 33.6	-0.8
GOLA	**Golan Heights**	**0.31**	**175**	P	Pg	14 12 29.9	+0.4
GOLA	**Golan Heights**	**0.31**	**175**	S	Sb	14 12 35.0	-1.1
HNTI	**Hanita**	**0.38**	**279**	P	Pg	14 12 31.2	+0.4
HNTI	**Hanita**	**0.38**	**279**	S	Sb	14 12 37.1	-1.0

*IDC **18** 14:21:55.5±4.8, 30°.20S×177°.52W, h35km±32km, mb4.0/3, mbtmp4.2/4, ML3.3/1, Error ellipse: s-maj=47.8km s-min=23.1km az=106.0*
ISC 18 14:21:50.5±1.3, 30°.33S±0°.08×177°.2W±0°.2, h24km, n20, σ2§52/12, mb4.1/4, 3C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**328**	Pn	**Pn**	**14 22 13.6**	**+1.1**
496nm,0.3s,baz=82,slow=8.3,SNR=70							
RAO				Sn	**Sn**	**14 22 25.3**	**-3.4**
922nm,0.3s,baz=180,slow=21,SNR=10							
RAO				LR	LR	14 22 45.4	
comp=Z,176nm,18.2s,baz=300,slow=50							
URZ	**Urewera**	**9.22**	**209**	Pn	**Pn**	**14 24 04.2**	**+2.4**
0.3nm,0.3s,baz=14,slow=8.3,SNR=1.0							
URZ				Sn	**Sn**	**14 25 40.5**	**-4.3**
1.7nm,0.3s,baz=202,slow=23,SNR=7.3							
4.1nm,0.7s							
STKA	**Stephens Creek**	**35.20**	**257**	P	**P**	**14 28 45.3**	**+2.5**
2.9nm,0.7s,baz=108,slow=11,SNR=6.9							
2.9nm,0.7s							
ASAR	**Alice Springs**	**43.83**	**266**	P	**P**	**14 29 55.5**	**+0.6**
1.1nm,0.5s,baz=106,slow=7.5,SNR=21							
1.1nm,0.5s							
WRA	**Warramunga Arr**	**44.82**	**272**	P	**P**	**14 30 03.2**	**+0.4**
2.8nm,0.4s,baz=110,slow=8.1,SNR=16							
2.8nm,0.4s							
TROLL	**Troll, Antarti**	**77.94**	**180**	⇓P	**P**	**14 33 45.5**	**-0.7**
comp=Z,53nm,0.6s							
SNAA	**Sanae**	**78.20**	**178**	⇑P	**P**	**14 33 47.6**	**-0.1**
comp=Z,14nm,0.9s							
VNA3	**Neumayer Olymp**	**78.33**	**176**	⇑P	P	14 33 53.9	+5.7
comp=Z,0.0nm,0.2s							
VNA2	**Neumayer--Watz**	**78.77**	**177**	⇑P	**P**	**14 33 47.3**	**-3.4**
comp=Z,0.7nm,0.6s,baz=68,slow=5.5							
H03S2	**Juan Fernandez**	**79.90**	**123**	T	T	16 03 17.1	
baz=238,slow=74							
H03S1	**Juan Fernandez**	**79.91**	**123**	T	T	16 03 18.3	
baz=238,slow=74							
H03S3	**Juan Fernandez**	**79.92**	**123**	T	T	16 03 17.2	
baz=238,slow=74							
H03N3	**Juan Fernandez**	**80.09**	**123**	T	T	16 03 33.2	
baz=242,slow=72							
H03N2	**Juan Fernandez**	**80.09**	**123**	T	T	16 03 27.0	
baz=242,slow=72							
H03N1	**Juan Fernandez**	**80.11**	**123**	T	T	16 03 31.4	
baz=242,slow=72							
H10N3	**ASCENSION HYDR**	**138.56**	**154**	T	T	17 17 08.2	
baz=203,slow=75							
H10N1	**ASCENSION HYDR**	**138.56**	**154**	T	T	17 17 03.8	
baz=203,slow=75							
H10N2	**ASCENSION HYDR**	**138.58**	**154**	T	T	17 17 06.9	
baz=203,slow=75							
FINES	**FINESS Array B**	**145.32**	**341**	PKPbc	**PKiKP**	**14 41 28.2**	**-1.2**
comp=Z,2.8nm,0.6s,baz=52,slow=3.7,SNR=22							
AKASG	**Malin Array Be**	**151.68**	**323**	PKPbc	**PKiKP**	**14 41 43.4**	**+0.6**
comp=Z,0.3nm,0.3s,baz=63,slow=2.1,SNR=4.7							

*NEIC **18** 14:33:12.9±2.4, 5°.54S±0°.09×128°.80E±0°.10, h301km±11km, mb4.0/11, Error ellipse: s-maj=16.0km s-min=10.5km az=132.0*
*DJA **18** 14:33:13.3±0.2, 6°.S±3°.×12°.9E±°, h292km±5km, M4.4/18, mb4.3/18, mB5.0/7, MLv4.5/15, Mw(mB)4.2/7, MwMwp4.9/1, Mwp5.2/1*
*IDC **18** 14:33:17.0±3.4, 5°.85S×128°.69E, h329km±32km, mb3.0/3, mbtmp4.0/6, Error ellipse: s-maj=41.3km s-min=11.0km az=67.0*
ISC 18 14:33:13.0±0.6, 5°.69S±0°.06×128°.92E±0°.06, h300km, n56, σ1§33/60, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.51**	**40**	P	**Pn**	**14 33 55.5**	**-0.8**
BNDI	**Bandanaira**	**1.51**	**40**	Pn	**Pn**	**14 33 55.4**	**-0.8**
AAI	**Ambon**	**2.11**	**340**	P	**Pn**	**14 34 00.0**	**-0.7**
MSAI	**Masohi**	**2.32**	**0**	P	**Pn**	**14 34 00.2**	**-2.3**
NLAI	**Namlea**	**3.03**	**323**	P	**Pn**	**14 34 11.0**	**+1.9**
SAUI	**Saumlaki**	**3.28**	**134**		**Pn**	**14 34 12.3**	**+0.7**
SAUI	**Saumlaki**	**3.28**	**134**	P	**Pn**	**14 34 12.6**	**+1.0**
FAKI	**Fak Fak**	**4.31**	**51**		**Pn**	**14 34 21.4**	**-1.3**
FAKI	**Fak Fak**	**4.31**	**51**	P	**Pn**	**14 34 21.1**	**-1.6**
FAKI	**Fak Fak**	**4.31**	**51**	P	**Pn**	**14 34 20.9**	**-1.8**
SANI	**Sanana**	**4.65**	**321**	P	**Pn**	**14 34 25.6**	**-1.0**
SANI	**Sanana**	**4.65**	**321**	P	**Pn**	**14 34 25.5**	**-1.0**
KMPI	**Kaimana, Papua**	**5.17**	**67**	P	**Pn**	**14 34 31.4**	**-1.2**
1.3nm4μm129nm,0.6s							
SWI	**Sorong**	**5.33**	**26**	P	**Pn**	**14 34 32.2**	**-2.2**
0.7nm4μm66nm,0.6s							
SOEI	**Soe**	**6.13**	**228**		**Pn**	**14 34 44.8**	**+0.7**
SOEI	**Soe**	**6.13**	**228**	P	**Pn**	**14 34 45.4**	**+1.3**
SOEI	**Soe**	**6.13**	**228**	S	**S**	**14 35 57.3**	**-0.2**
SOEI	**Soe**	**6.13**	**228**	P	**Pn**	**14 34 45.1**	**+1.0**
0.2nm2μm52nm,0.7s							
RKPI	**Ransiki, Papua**	**6.69**	**52**	P	**Pn**	**14 34 50.8**	**+0.2**
BATI	**Baumata**	**6.88**	**229**	P	**Pn**	**14 34 53.9**	**+1.0**
119nm,0.4s,baz=49,slow=1.2,SNR=22							
BATI				S	**S**	**14 36 12.4**	**-1.3**
45nm,0.8s,baz=296,slow=17,SNR=6.0							
BATI	**Baumata**	**6.88**	**229**	P	**Pn**	**14 34 53.5**	**+0.5**
AUDHS	**Darwin High Sc**	**6.97**	**164**	P	**Pn**	**14 34 54.9**	**+0.9**
AUDHS	**Darwin High Sc**	**6.97**	**164**	S	**S**	**14 36 13.4**	**-2.3**
DRS	**Darwin Rock St**	**6.98**	**164**	P	**Pn**	**14 34 55.2**	**+1.0**
DRS	**Darwin Rock St**	**6.98**	**164**	S	**S**	**14 36 13.6**	**-2.4**
MTN	**Manton Dam**	**7.44**	**163**		**Pn**	**14 34 60.0**	**+0.2**
EDFI	**Ende, Flores**	**7.79**	**247**	P	**Pn**	**14 35 04.9**	**+0.7**
0.1nm23nm,0.8s							
KMSI	**Cibinong**	**7.94**	**321**	P	**Pn**	**14 35 05.4**	**-0.5**
BAKI	**Biak**	**8.45**	**58**	P	**Pn**	**14 35 13.6**	**+1.4**
111nm,0.9s							
MRSI	**Marisa**	**9.28**	**311**	P	**Pn**	**14 35 22.5**	**+0.2**
35nm,0.8s							
KNRA	**Kununurra**	**9.93**	**181**		**Pn**	**14 35 30.9**	**+0.6**
WBSI	**Waikabubak, Su**	**10.23**	**247**	P	**Pn**	**14 35 32.2**	**-1.9**
36nm,0.9s							
TOLI2	**Tolitoli**	**10.57**	**309**	Pn	**Pn**	**14 35 34.4**	**-3.8**
PLAI	**Plampang**	**11.49**	**254**	P	**Pn**	**14 35 48.9**	**-0.5**
25nm,0.7s							
TWSI	**Taliwang, Sumb**	**12.32**	**255**	P	**Pn**	**14 35 59.8**	**+0.2**
15nm,0.9s							
FITZ	**Fitzroy Crossi**	**12.75**	**194**		**Pn**	**14 36 04.6**	**0.0**
FITZ	**Fitzroy Crossi**	**12.75**	**194**	P	**Pn**	**14 36 04.4**	**-0.2**
4.8nm,0.5s,baz=24,slow=10,SNR=28							
FITZ				S	**S**	**14 38 22.8**	**-3.2**
1.2nm,0.4s,baz=352,slow=15,SNR=1.9							
WB0	**Warramunga Arr**	**14.98**	**160**		**Pn**	**14 36 31.9**	**+0.7**
WB0				IAmb	IAmb	14 36 33.3	
comp=Z,7.4nm,0.9s							
WRAB	**Tennant Creek**	**15.12**	**160**	P	**Pn**	**14 36 33.7**	**+0.8**
WRA	**Warramunga Arr**	**15.12**	**160**		**Pn**	**14 36 32.3**	**-0.6**
WRA	**Warramunga Arr**	**15.12**	**160**	P	**Pn**	**14 36 33.6**	**+0.7**
comp=Z,4.6nm,0.6s,baz=341,slow=11,SNR=38							
WRA				S	**S**	**14 39 14.9**	**-1.3**
comp=Z,5.0nm,0.6s,baz=345,slow=21,SNR=11							
WR8	**Warramunga Arr**	**15.19**	**160**		**Pn**	**14 36 34.3**	**+0.6**
WR8				IAmb	IAmb	14 36 36.8	
comp=Z,6.8nm,0.6s							
COEN	**Coen**	**16.26**	**121**		**Pn**	**14 36 46.5**	**+0.2**
COEN	**Coen**	**16.26**	**121**	P	**Pn**	**14 36 46.6**	**+0.2**
MBWA	**Marble Bar**	**17.78**	**209**	P	**P**	**14 37 01.5**	**+1.1**
MBWA				IAmb	IAmb	14 37 01.7	
comp=Z,11nm,1.1s							
PSA00	**Pilbara Seismi**	**18.07**	**208**	P	**P**	**14 37 03.9**	**+0.3**
PSA00				IAmb	IAmb	14 37 05.9	
comp=Z,4.6nm,0.9s							
PSA00	**Pilbara Seismi**	**18.07**	**208**	P	**P**	**14 37 04.0**	**+0.5**
PSA00				IAmb	IAmb	14 37 05.9	
comp=Z,13nm,1.1s							
AS31	**Alice Springs**	**18.51**	**165**		**P**	**14 37 09.4**	**+1.1**
AS31				IAmb	IAmb	14 37 11.9	
comp=Z,3.8nm,1.1s							
ASAR	**Alice Springs**	**18.51**	**165**	P	**P**	**14 37 09.5**	**+1.2**
ASAR	**Alice Springs**	**18.51**	**165**	P	**P**	**14 37 10.9**	**+2.7**
comp=Z,4.0nm,0.4s,baz=346,slow=12,SNR=84							
ASAR				S	**S**	**14 40 22.8**	**-0.7**
comp=Z,6.2nm,0.9s,baz=344,slow=19,SNR=29							
CMAR	**Chiang Mai Arr**	**38.07**	**310**	P	**P**	**14 40 04.7**	**+0.9**
comp=Z,0.4nm,0.4s,baz=137,slow=6.8,SNR=4.2							
comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**66.55**	**327**	P	**P**	**14 43 32.6**	**+1.4**
comp=Z,0.7nm,0.5s,baz=123,slow=7.9,SNR=9.3							
comp=Z,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**70.84**	**329**	P	**P**	**14 43 58.2**	**+0.7**
comp=Z,0.2nm,0.3s,baz=128,slow=5.2,SNR=5.3							
comp=Z,0.2nm,0.3s							
VNDA	**Vanda**	**73.87**	**173**	P	**P**	**14 44 15.8**	**+0.9**
QSPA	**South Pole Qui**	**84.28**	**180**	P	**P**	**14 45 11.2**	**-0.1**
QSPA				IAmb	IAmb	14 45 17.6	
comp=Z,2.8nm,1.2s							
N19K	**Bonanza Creek**	**88.44**	**28**	P	**P**	**14 45 30.8**	**-0.5**

*KRNET **18** 14:39:45.3±0.1, 42°.39N×76°.09E, h19km, mb2.1*
*SOME **18** 14:39:45.6, 42°.38N×76°.05E, h10km*
*NNC **18** 14:39:46.7±0.8, 42°.43N×76°.08E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=5.1km s-min=2.9km az=29.0*
ISC 18 14:39:45.6±0.9, 42°.38N±0°.02×76°.05E±0°.02, h11km±7km, n30, σ1§23/56, 14C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.13**	**323**	⇑*iP*	**Pg**	**14 39 49.2**	**+0.2**
BOOM				⇑*iS*	**Sg**	**14 39 51.7**	**+0.3**
ULHL	**Ulahol**	**0.20**	**134**	⇑*iP*	**Pg**	**14 39 49.8**	**-0.3**
ULHL				⇑*iS*	**Sg**	**14 39 52.8**	**-0.3**
TKM2	**Tokmak 2**	**0.63**	**328**	⇑*iP*	**Pg**	**14 39 57.7**	**-0.3**
TKM2				⇑*iS*	**Sg**	**14 40 06.6**	**+0.3**
KST	**Kastek**	**0.66**	**355**	P	**Pg**	**14 39 58.5**	**0.0**
2.6nm,0.1s							
KST				S	**Sb**	**14 40 07.9**	**-0.6**
14nm,0.1s							
KST	**Kastek**	**0.66**	**355**	*eP*	**Pg**	**14 39 58.5**	**0.0**
2.6nm,0.1s							
KST				*eS*	**Sb**	**14 40 07.9**	**-0.6**
14nm,0.1s							
MTBS	**Maitube**	**0.80**	**21**	P	**Pg**	**14 40 01.0**	**-0.1**
1.5nm,0.1s							
MTBS				S	**Sb**	**14 40 11.8**	**-0.6**
15nm,0.2s							
MTBS	**Maitube**	**0.80**	**21**	*eP*	**Pg**	**14 40 01.0**	**-0.1**
1.5nm,0.1s							
MTBS				*eS*	**Sb**	**14 40 11.8**	**-0.6**
15nm,0.2s							
KBK	**Karagaybulak**	**0.86**	**289**	⇓*iP*	**Pg**	**14 40 02.1**	**-0.1**
KBK				⇓*iS*	**Sg**	**14 40 14.1**	**+0.7**
KDJ	**Kajisay**	**0.88**	**106**	⇑*iP*	**Pg**	**14 40 01.6**	**-1.0**
KDJ				⇑*iS*	**Sg**	**14 40 13.3**	**-0.8**
DGS	**Degeres**	**0.88**	**347**	P	**Pg**	**14 40 02.7**	**0.0**
2.7nm,0.1s							
DGS				S	**Sb**	**14 40 14.6**	**-0.3**
4.1nm,0.3s							
TNSS	**Tian-Shan**	**0.93**	**45**	P	**Pg**	**14 40 03.1**	**-0.6**
0.8nm,0.2s							
TNSS				S	**Sg**	**14 40 15.4**	**-0.5**
2.9nm,0.4s							
TNSS	**Tian-Shan**	**0.93**	**45**	*eP*	**Pg**	**14 40 03.1**	**-0.6**
0.8nm,0.2s							
TNSS				*eS*	**Sg**	**14 40 15.4**	**-0.5**
2.9nm,0.4s							
MDOK	**Medeo**	**1.07**	**43**	Pg	**Pg**	**14 40 05.8**	**-0.5**
2.3nm,0.3s							
MDOK				Lg	Lg	14 40 20.0	
2.0nm,0.2s							
UCH	**Uchtor**	**1.15**	**263**	⇓*iP*	**Pg**	**14 40 07.3**	**-0.5**
UCH				⇓*iS*	**Sg**	**14 40 23.3**	**+0.5**
AAK	**Ala-Archa**	**1.18**	**283**	⇓*iP*	**Pb**	**14 40 07.5**	**-0.6**
AAK				⇓*iS*	**Sb**	**14 40 23.6**	**+0.2**
KRBS	**Karabastau**	**1.34**	**348**	P	**Pb**	**14 40 10.8**	**0.0**
1.2nm,0.1s							
KRBS				S	**Sg**	**14 40 28.8**	**0.0**
0.7nm,0.2s							
JNKS	**Jany-Kuch**	**1.36**	**193**	⇓*eP*	**Pn**	**14 40 10.4**	**-0.4**
JNKS				⇓*eS*	**Sb**	**14 40 28.7**	**0.0**
KTBS	**Karatobe**	**1.41**	**19**	P	**Pb**	**14 40 12.0**	**+0.1**
0.9nm,0.1s							
KTBS				S	**Sg**	**14 40 30.7**	**-0.2**
5.3nm,0.2s							
USP	**Ospenovka**	**1.44**	**308**	⇑*iP*	**Pn**	**14 40 12.0**	**+0.3**
USP				⇑*iS*	**Sb**	**14 40 31.5**	**+0.6**
TARG	**Taragay, Kyrgy**	**1.46**	**116**	⇑*eP*	**Pn**	**14 40 11.9**	**-0.5**
TARG				⇑*iS*	**Sn**	**14 40 31.0**	**-0.7**
CHKK	**Chushkaly**	**1.62**	**25**	P	**Pb**	**14 40 15.9**	**+0.3**
8.0nm,0.3s							
CHKK				S	**Sg**	**14 40 37.5**	**-0.3**
5.6nm,0.2s							
CHKK	**Chushkaly**	**1.62**	**25**	*eP*	**Pb**	**14 40 15.9**	**+0.3**
8.0nm,0.3s							
CHKK				*eS*	**Sg**	**14 40 37.5**	**-0.3**
5.6nm,0.2s							
EKS2	**Erkin-Say**	**1.70**	**280**	⇑*iP*	**Pb**	**14 40 16.8**	**-0.2**
EKS2				⇑*iS*	**Sb**	**14 40 39.9**	**+1.5**
SATY	**Saty**	**1.86**	**68**	P	**Pb**	**14 40 20.2**	**+0.4**
1.5nm,0.2s							
SATY				S	**Sg**	**14 40 44.9**	**-0.7**
6.0nm,0.3s							
KPKS	**Kokpek**	**2.22**	**60**	Pg	**Pb**	**14 40 26.3**	**+0.5**
0.4nm,0.3s							
KPKS				Lg	Lg	14 40 55.2	
4.7nm,0.4s							
ARXS	**Arharly**	**2.24**	**35**	Pg	**Pb**	**14 40 26.6**	**+0.3**
1.6nm,0.4s							
ARXS				Lg	Lg	14 40 55.9	
6.1nm,0.4s							
ARXS	**Arharly**	**2.24**	**35**	*eP*	**Pb**	**14 40 26.6**	**+0.3**
1.6nm,0.4s							
ARXS				*eS*	**Sg**	**14 40 56.0**	**-1.8**
6.1nm,0.4s							
UZB	**Uzynbulak**	**2.32**	**70**	Pg	**Pb**	**14 40 28.4**	**+0.8**
UZB				Lg	Lg	14 40 58.8	
UZB	**Uzynbulak**	**2.32**	**70**	*eP*	**Pb**	**14 40 27.7**	**+0.2**
2.1nm,0.2s							
UZB				*eS*	**Sg**	**14 40 57.6**	**-2.6**
7.2nm,0.4s							
SHLS	**Shalkode**	**2.63**	**72**	*eP*	**Pg**	**14 40 39.1**	**+3.0**
2.8nm,0.2s							
SHLS				*eS*	**Sg**	**14 41 17.0**	**+6.9**
1.4nm,0.2s							

*NEIC **18** 14:46:26.5±0.9, 18°.90N±0°.04×99°.25E±0°.03, h10km±1km, ML3.8/8, Error ellipse: s-maj=7.5km s-min=3.5km az=139.0*
BKK 18 14:46:26.3±0.3, 19°N±2°.×9°9E±°, h4km±5km, M4.0/21, Mjma3.6/21, ML4.4/19, MLv4.0/21, Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**0.30**	**254**		Pg	14 46 32.6	+0.4
CHTO					Sg	14 46 36.6	+0.5
CHTO				IAML		14 46 36.9	
21μm,0.3s							
CHTO	**Chiang Mai**	**0.30**	**254**	P	Pg	14 46 32.5	+0.3
CM09	**Chiang Mai Arr**	**0.52**	**208**	P	Pg	14 46 36.6	+0.4
LAMP	**Lampang**	**0.52**	**136**	P	Pg	14 46 36.5	+0.2
CM31	**Chiang Mai Arr**	**0.53**	**214**		Pg	14 46 36.7	+0.2
CM31					Sg	14 46 43.9	+0.6
CM31	**Chiang Mai Arr**	**0.53**	**214**	P	Pg	14 46 36.7	+0.2
CMAR	**Chiang Mai Arr**	**0.53**	**214**		Pg	14 46 36.5	+0.1
CM15	**Chiang Mai Arr**	**0.54**	**215**	P	Pg	14 46 36.8	+0.1
CM01	**Chiang Mai Arr**	**0.55**	**210**	P	Pg	14 46 37.2	+0.3
CM13	**Chiang Mai Arr**	**0.58**	**214**	P	Pg	14 46 37.5	+0.1
CMAI	**Chiengmai2**	**1.04**	**349**	P	Pg	14 46 46.3	-0.1
UTHA	**Uthaitani**	**3.33**	**177**	P	Pb	14 47 28.0	+2.1

IDC 18 14:53:43.5±50.0, 15°.38S×168°.65W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=999.3km s-min=217.0km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**48.03**	**241**	P	P	15 02 25.6	+0.8
2.2nm,1.0s,baz=90,slow=20,SNR=2.9							
2.2nm,1.0s							
WRA	**Warramunga Arr**	**54.30**	**256**	P	P	15 03 11.8	-0.3
0.2nm,0.4s,baz=96,slow=6.6,SNR=6.4							
0.2nm,0.4s							
ASAR	**Alice Springs**	**54.47**	**252**	P	P	15 03 12.9	-0.4
0.4nm,0.4s,baz=91,slow=8.2,SNR=17							
0.4nm,0.4s							

*DJA **18** 15:00:47.7±1.1, 7°N±9°.×12°.5E±°, h10km, M4.5/7, mB5.3/3, mb4.7/6, MLv4.4/7, Mw(mB)4.7/3*
*IDC **18** 15:00:49.0±2.3, 6°.16N×124°.72E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=155.9km s-min=27.7km az=67.0*
ISC 18 15:00:53.5±1.6, 6°.5N±0°.2×125°.2E±0°.2, h35km, n7, σ1§40/7, mb3.3/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.77**	**173**	P	**Pn**	**15 01 37.0**	**+1.6**
MRSI	**Marisa**	**6.75**	**209**	P	**Pn**	**15 02 30.2**	**0.0**
APSI	**Ampana**	**8.11**	**206**	P	**Pn**	**15 02 50.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.39**	**179**	P	**P**	**15 06 08.2**	**-0.6**
1.2nm,0.6s,baz=5.0,slow=7.9,SNR=7.5							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**27.73**	**161**	P	**P**	**15 06 37.6**	**-1.3**
0.4nm,0.7s,baz=331,slow=9.9,SNR=8.0							
0.4nm,0.7s							
ASAR	**Alice Springs**	**31.12**	**164**	P	**P**	**15 07 07.7**	**-1.3**
0.2nm,0.5s,baz=342,slow=7.0,SNR=9.0							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**54.45**	**325**	P	**P

4.9nm,0.2s
TKM2 Tokmak 2 4.77 318 ⇓*e*P **Pn 15 48 38.9 +0.1**
TKM2 ⇓*e*S **Sn 15 49 33.2 +0.3**
SALK Salom-Alik 4.90 289 ⇑*e*P **Pn 15 48 40.6 0.0**
SALK ⇑*e*S **Sn 15 49 36.0 -0.2**
KBK Karagaybulak 4.95 312 ⇑*e*P **Pn 15 48 41.3 +0.1**
KBK ⇑*e*S **Sn 15 49 37.3 0.0**
UCH Uchtor 4.96 306 ⇑*e*P **Pn 15 48 41.6 -0.1**
UCH ⇑*e*S **Sn 15 49 37.9 -0.1**
ARXS Arharly 5.00 342 *e*P **Pn 15 48 45.8 +3.9**
ARXS *e*S **Sn 15 49 42.2 +3.6**
AAK Ala-Archa 5.20 309 ⇓*e*P **Pn 15 48 44.7 0.0**
AAK ⇓*e*S **Sn 15 49 43.4 -0.2**
FRU1 Bishkek 5.22 312 ⇑*e*P **Pn 15 48 45.3 +0.3**
FRU1 ⇑*e*S **Sn 15 49 44.3 +0.3**
CHMS Chumysh 5.28 314 ⇑*e*P **Pn 15 48 45.6 0.0**
CHMS ⇑*e*S **Sn 15 49 45.0 -0.2**
USP Ospenovka 5.59 315 ⇑*e*P **Pn 15 48 50.0 +0.1**
USP ⇑*e*S **Sn 15 49 52.5 -0.4**
EKS2 Erkin-Say 5.65 306 ⇓*e*P **Pn 15 48 50.9 0.0**
EKS2 ⇓*e*S **Sn 15 49 53.9 -0.7**
MAKZ Makanchi 7.49 11 ⇓Pn **Pn 15 49 17.0 +1.0**
0.7nm,0.3s
MAKZ ⇑Sn **Sn 15 50 36.2 -3.4**
3.9nm,0.6s
MK31 Makanchi Array 7.53 12 ⇑Pn **Pn 15 49 17.8 +1.3**
0.3nm,0.3s,baz=205,slow=11,SNR=33
MK31 ⇓Sn **Sn 15 50 38.3 -2.2**
3.0nm,0.3s,baz=202,slow=24,SNR=19

NNC ***18*** *15:53:24.8±0.5, 42°.80N×77°.57E, h3km±2km, mpv2.4, Error ellipse: s-maj=5.4km s-min=3.1km az=153.0*
KRNET ***18*** *15:53:29.7±0.1, 42°.97N×77°.76E, h19km, mb2.6*
SOME ***18*** *15:53:30.1, 42°.93N×77°.68E, h1km*
ISC 18 15:53:28.7±1.3, 42°.99N±0°.05×77°.75E±0°.03, h6km±11km, n10, σ0°.56/20, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.49**	**81**	P	**Pg**	**15 53 38.0**	**-0.1**
1.8nm,0.1s							
SATY				S	**Sb**	**15 53 47.6**	**+0.3**
12nm,0.1s							
PRZ	**Przheval'sk**	**0.70**	**136**	⇑*e*P	**Pg**	**15 53 42.3**	**+0.2**
PRZ				⇑*e*S	**Sg**	**15 53 51.5**	**+0.3**
KPKS	**Kokpek**	**0.84**	**55**	P	**Pg**	**15 53 44.6**	**-0.2**
0.3nm,0.1s							
KPKS				S	**Sn**	**15 53 59.0**	**-0.8**
7.0nm,0.4s							
UZB	**Uzynbulak**	**0.95**	**80**	P	**Pg**	**15 53 46.2**	**-0.7**
0.9nm,0.1s							
UZB				S	**Sb**	**15 54 01.7**	**+1.1**
2.3nm,0.2s							
UZB	**Uzynbulak**	**0.95**	**80**	*e*P	**Pn**	**15 53 48.4**	**-0.3**
1.6nm,0.2s							
UZB				*e*S	**Sb**	**15 54 01.7**	**+1.1**
2.3nm,0.2s							
KDJ	**Kajisay**	**0.95**	**206**	⇑*e*P	**Pb**	**15 53 47.6**	**-0.2**
KDJ				⇑*e*S	**Sb**	**15 54 00.1**	**-0.6**
TARG	**Taragay, Kyrgy**	**1.26**	**178**	⇓*i*P	**Pn**	**15 53 53.3**	**+0.1**
TARG				⇓*i*S	**Sb**	**15 54 09.4**	**-0.3**
ULHL	**Ulahol**	**1.33**	**237**	⇑*e*P	**Pn**	**15 53 54.4**	**+0.3**
ULHL				⇑*e*S	**Sn**	**15 54 12.2**	**-0.1**
BOOM	**Boomskoye usch**	**1.42**	**250**	⇑*i*P	**Pb**	**15 53 55.8**	**+0.1**
BOOM				⇑*i*S	**Sn**	**15 54 14.7**	**+0.3**
TKM2	**Tokmak 2**	**1.58**	**268**	⇓*i*P	**Pg**	**15 53 58.8**	**-0.2**
TKM2				⇓*i*S	**Sg**	**15 54 19.7**	**+0.2**

IDC ***18*** *15:54:10.4±0.9, 35°.42N×1°.25W, h0km, mb3.8/11, mbtmp3.9/15, ML4.2/5, MS3.5/33, Error ellipse: s-maj=22.2km s-min=14.3km az=151.0*
NEIC ***18*** *15:54:11.3±2.4, 35°.52N±0°.05×1°.11W±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=10.6km s-min=5.7km az=231.0*
CRAAG ***18*** *15:54:11.5, 35°.39N×1°.11W, Ml3.8, Algerie 01km SW El-Malah*
IGIL ***18*** *15:54:11.4, 35°.31N×1°.12W, h2km*
MDD ***18*** *15:54:12.2±0.4, 35°.31N×1°.12W, h17km±4km, mb_Lg4.2/95, Error ellipse: s-maj=4.5km s-min=1.6km az=158.0*
INMG ***18*** *15:54:13.0±1.4, 35°.41N×1°.17W, h20km, ML3.9, Error ellipse: s-maj=4.2km s-min=2.6km az=139.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Argelia (ALG)*
CNRM ***18*** *15:54:13.5, 35°.56N×1°.20W, h70km, ML4.6*
ISC 18 15:54:11.7±1.2, 35°.53N±0°.03×1°.19W±0°.03, h13km±8km, n268, σ1°.85/343, mb4.1/19, MS3.6/28, 8D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.34**	**214**	P	**Pg**	**15 54 19.8**	**+1.1**
USTO	**Oran**	**0.56**	**69**	P	**Pg**	**15 54 22.7**	**+0.1**
OBBL	**Beni Bahdel**	**0.86**	**198**	P	**Pb**	**15 54 27.5**	**-1.1**
ODJA	**Bouhanifia**	**0.87**	**103**	P	**Pb**	**15 54 27.9**	**-0.8**
OFRG	**Douar Fergoug**	**1.00**	**91**	P	**Pb**	**15 54 30.9**	**0.0**
TAF	**Taforalt**	**1.24**	**235**	P	**Pn**	**15 54 34.6**	**-0.2**
TAF	**Taforalt**	**1.24**	**235**	S	**Sn**	**15 54 52.3**	**+0.9**
OJBR	**Djebel Berber**	**1.25**	**87**	P	**Pn**	**15 54 33.0**	**-1.9**
ESMB	**Sidi M'hamed B**	**1.44**	**88**	P	**Pn**	**15 54 37.7**	**+0.2**
WMELI	**Melilla**	**1.46**	**262**	Pn	**Pn**	**15 54 37.2**	**-0.5**
WMELI				Sn	**Sn**	**15 54 55.2**	**-1.5**
EMLI	**Melilla**	**1.46**	**261**	Pn	**Pn**	**15 54 37.3**	**-0.4**
EMLI				Sn	**Sn**	**15 54 55.7**	**-1.0**
EMEL	**Melilla**	**1.47**	**261**	Pn	**Pn**	**15 54 36.9**	**-0.9**
EMEL				Sn	**Sn**	**15 54 55.3**	**-1.5**
EMEL				*i* IVmb_Lg		15 55 04.5	
GOG	**Mont Gurugu**	**1.51**	**259**	P	**Pn**	**15 54 37.7**	**-0.9**
GOG	**Mont Gurugu**	**1.51**	**259**	S	**Sn**	**15 54 58.0**	**-0.1**
EALB	**Alboran**	**1.56**	**286**	Pn	**Pn**	**15 54 38.9**	**-0.2**
EALB				Sn	**Sn**	**15 54 57.9**	**-1.2**
EALB	**Alboran**	**1.56**	**286**	Pn	**Pn**	**15 54 39.1**	**+0.1**
EALB				Sn	**Sb**	**15 54 59.5**	**-0.5**
EALB				*i* IVmb_Lg		15 55 06.4	
OKGL	**Djebel Kef Gue**	**1.57**	**71**	P	Pn	15 54 34.0	-5.3
JBK	**JBK**	**1.65**	**224**	P	**Pn**	**15 54 42.0**	**+1.4**
JBK	**JBK**	**1.65**	**224**	S	**Sb**	**15 55 04.9**	**+2.1**
ENIJ	**Nijar**	**1.66**	**330**	Pn	**Pn**	**15 54 41.1**	**+0.7**
ENIJ				Sn	**Sb**	**15 55 01.9**	**-0.9**
ENIJ	**Nijar**	**1.66**	**330**	Pn	**Pn**	**15 54 40.8**	**+0.3**
ENIJ				Sn	**Sb**	**15 55 01.9**	**-0.9**
ENIJ				*i* IVmb_Lg		15 55 04.7	
EKMS	**Oued Kramis**	**1.68**	**62**	P	**Pn**	**15 54 40.1**	**-0.6**
EANR	**'Ain N'Sour**	**1.91**	**77**	P	**Pn**	**15 54 43.1**	**-0.9**
CART	**Cartagena**	**2.05**	**4**	Pn	**Pn**	**15 54 45.4**	**-0.5**
CART				Sn	**Sn**	**15 55 09.9**	**-1.5**
CART	**Cartagena**	**2.05**	**4**		**Pn**	**15 54 45.4**	**-0.5**
CART				Sn	**Sn**	**15 55 10.2**	**-1.2**
CART	**Cartagena**	**2.05**	**4**	P	**Pn**	**15 54 45.4**	**-0.5**
CART	**Cartagena**	**2.05**	**4**	S	**Sn**	**15 55 10.7**	**-0.7**
ELOR	**Lorca, Murcia**	**2.15**	**348**	Pn	**Pn**	**15 54 48.3**	**+1.1**
ELOR				Sn	**Sn**	**15 55 14.6**	**+0.8**
ELOR				*i* IVmb_Lg		15 55 16.2	
TLOR	**Lorca, Murcia**	**2.16**	**349**	Pn	**Pn**	**15 54 48.6**	**+1.3**
TLOR				Sn	**Sn**	**15 55 13.9**	**-0.1**
PALE	**Palemas**	**2.27**	**263**	P	**Pn**	**15 54 48.7**	**-0.3**
PALE	**Palemas**	**2.27**	**263**	S	**Sn**	**15 55 16.4**	**-0.5**
EMUR	**La Murta**	**2.30**	**359**	Pn	**Pn**	**15 54 49.5**	**+0.2**
EMUR				Sn	**Sn**	**15 55 16.9**	**-0.7**
EMUR	**La Murta**	**2.30**	**359**	Pn	**Pn**	**15 54 49.6**	**+0.2**
EMUR				Sn	**Sn**	**15 55 16.7**	**-1.0**
EMUR				*i* IVmb_Lg		15 55 19.6	
ELGU	**Los Guajares,**	**2.38**	**305**	Pn	**Pn**	**15 54 50.1**	**-0.4**
ELGU				Sn	**Sn**	**15 55 20.1**	**+0.5**
ELGU	**Los Guajares,**	**2.38**	**305**	Pn	**Pn**	**15 54 50.0**	**-0.5**
ELGU				Sn	**Sn**	**15 55 18.6**	**-1.0**
ELGU				*i* IVmb_Lg		15 55 22.8	
AKLM	**AKL**	**2.42**	**246**	P	**Pn**	**15 54 51.7**	**+0.6**
AKLM	**AKL**	**2.42**	**246**	S	**Sn**	**15 55 21.3**	**+0.6**
EQUE	**Quentar**	**2.47**	**313**	Pn	**Pn**	**15 54 53.5**	**+1.8**
EQUE				Sn	**Sn**	**15 55 23.0**	**+1.2**
EQUE				*i* IVmb_Lg		15 55 26.5	
EQTA	**Presa de Quent**	**2.47**	**313**	Pn	**Pn**	**15 54 53.7**	**+2.0**
EQTA				Sn	**Sn**	**15 55 23.4**	**+1.5**
ETRV	**Los Montesinos**	**2.50**	**8**	Pn	**Pn**	**15 54 52.3**	**+0.2**
ETRV				Sn	**Sn**	**15 55 22.3**	**-0.2**
ETRV				*i* IVmb_Lg		15 55 33.0	
EQES	**Quesada**	**2.72**	**327**	Pn	**Pn**	**15 54 58.3**	**+3.0**
EQES				Sn	**Sb**	**15 55 30.6**	**-3.1**
EQES				*i* IVmb_Lg		15 55 34.9	
EGOR	**Sierra Gorda,**	**2.84**	**305**	Pn	**Pn**	**15 54 57.2**	**+0.4**
EGOR	**Sierra Gorda,**	**2.84**	**305**	Pn	**Pn**	**15 54 59.2**	**+2.3**
EGOR				Sn	**Sn**	**15 55 32.5**	**+1.6**
EGOR				*i* IVmb_Lg		15 55 43.1	
EMAL	**Malaga-Limoner**	**2.90**	**296**	Pn	**Pn**	**15 54 57.7**	**+0.1**
EMAL				Sn	**Sn**	**15 55 30.2**	**-2.0**
E0803	**Jimena (Jaen)**	**2.94**	**322**	Pn	**Pn**	**15 55 01.1**	**+2.9**
E0803				Sn	**Sb**	**15 55 37.0**	**-2.9**
E0802	**Ubeda,Jaen**	**3.04**	**325**	Pn	**Pn**	**15 55 02.4**	**+2.7**
E0802				Sn	**Sb**	**15 55 39.6**	**-3.3**
ETOB	**Tobarra**	**3.12**	**355**	Pn	**Pn**	**15 55 02.6**	**+2.0**
ETOB	**Tobarra**	**3.12**	**355**	Pn	**Pn**	**15 55 02.4**	**+1.7**
ETOB				Sn	**Sn**	**15 55 39.2**	**+1.4**
ETOB				*i* IVmb_Lg		15 55 42.6	
AFON	**Font Roja**	**3.17**	**9**	Pn	**Pn**	**15 55 03.1**	**+1.8**
AFON				Sn	**Sn**	**15 55 39.8**	**+0.7**
AFON				*i* IVmb_Lg		15 55 53.4	
EBEN2	**Beniarda presa**	**3.24**	**14**	Pn	**Pn**	**15 55 03.2**	**+1.0**
EBEN2				Sn	**Sn**	**15 55 39.2**	**-1.4**
EBEN2				*i* IVmb_Lg		15 55 45.2	
FIGM	**Figuig**	**3.39**	**181**	P	**Pn**	**15 55 04.6**	**+0.1**
FIGM	**Figuig**	**3.39**	**181**	S	**Sn**	**15 55 44.9**	**+0.3**
SMIR	**Smir Dam**	**3.42**	**274**	P	**Pn**	**15 55 03.8**	**-0.9**
SMIR	**Smir Dam**	**3.42**	**274**	S	**Sn**	**15 55 44.9**	**-0.3**
ECEU	**Ceuta**	**3.43**	**277**	Pn	**Pn**	**15 55 03.6**	**-1.2**
ECEU				Sn	**Sn**	**15 55 43.0**	**-2.4**
ECEU				*i* IVmb_Lg		15 55 58.6	
LCRM	**LCR**	**3.54**	**240**	P	**Pn**	**15 55 07.6**	**+1.0**
LCRM	**LCR**	**3.54**	**240**	S	**Sn**	**15 55 49.9**	**+1.4**
UMV12	**Villanueva de**	**3.56**	**296**	Pn	**Pn**	**15 55 10.6**	**+3.9**
UMV12				Sn	**Sn**	**15 55 49.1**	**+0.5**
EJIF	**Jimena Fronter**	**3.59**	**286**	Pn	**Pn**	**15 55 07.0**	**-0.1**
E1302	**La Puebla de C**	**3.64**	**297**	Pn	**Pn**	**15 55 10.3**	**+2.5**
E1302				Sn	**Sn**	**15 55 51.5**	**+0.8**
E1302				*i* IVmb_Lg		15 56 03.9	
EVIV	**Cofrentes, Val**	**3.73**	**1**	Pn	**Pn**	**15 55 10.6**	**+1.6**
EVIV				Sn	**Sn**	**15 55 53.4**	**+0.6**
EVIV				*i* IVmb_Lg		15 55 59.5	
EADA	**Adamuz**	**3.78**	**315**	Pn	**Pn**	**15 55 11.3**	**+1.6**
EADA				Sn	**Sn**	**15 55 54.8**	**+0.7**
EADA	**Adamuz**	**3.78**	**315**	Pn	**Pn**	**15 55 11.3**	**+1.6**
EADA				Sn	**Sn**	**15 55 54.9**	**+0.7**
EADA				*i* IVmb_Lg		15 56 02.2	
IFR	**Ifrane**	**3.83**	**239**	Pn	**Pn**	**15 55 10.9**	**+0.4**
IFR				Sn	**Sn**	**15 55 53.6**	**-1.8**
RSA	**Sarsar**	**3.85**	**262**	P	**Pn**	**15 55 10.3**	**-0.4**
RSA	**Sarsar**	**3.85**	**262**	S	**Sn**	**15 55 55.1**	**-0.7**
PSIM	**Granatula de C**	**3.87**	**329**	Pn	**Pn**	**15 55 12.5**	**+1.5**
PSIM				Sn	**Sn**	**15 55 55.6**	**-0.7**
MDT	**Midelt**	**3.92**	**227**	Pn	**Pn**	**15 55 12.3**	**+0.5**
8.9nm,0.3s,baz=50,slow=13,SNR=65							
MDT				Pg	**Pb**	**15 55 22.6**	**+1.8**
10nm,0.3s,baz=51,slow=14,SNR=12							
MDT				Sn	**Sn**	**15 55 57.2**	**-0.5**
29nm,0.3s,baz=34,slow=16,SNR=3.7							
MDT				Lg	Lg	15 56 11.5	
38nm,0.3s,baz=48,slow=16,SNR=3.7							
MDT				LR	LR	15 56 37.1	
comp=Z,377nm,19.4s,baz=34,slow=38							
22nm,0.2s							
MDT	**Midelt**	**3.92**	**227**	P	**Pn**	**15 55 12.0**	**+0.2**
MDT	**Midelt**	**3.92**	**227**	S	**Sn**	**15 55 57.1**	**-0.6**
MD01	**Midelt array s**	**3.98**	**229**		**Pn**	**15 55 12.7**	**+0.1**
MD31	**MD31**	**3.98**	**229**		**Pn**	**15 55 12.9**	**+0.4**
MD31	**MD31**	**3.98**	**229**	P	**Pn**	**15 55 12.6**	**+0.1**
MD31	**MD31**	**3.98**	**229**	S	**Sn**	**15 55 58.6**	**-0.5**
ESPR	**Espera**	**4.00**	**291**	Pn	**Pn**	**15 55 14.6**	**+1.8**
ESPR	**Espera**	**4.00**	**291**	Pn	**Pn**	**15 55 14.0**	**+1.2**
ESPR				Sn	**Sn**	**15 56 00.5**	**+1.0**
ESPR				*i* IVmb_Lg		15 56 12.1	
EIBI	**Ibiza**	**4.03**	**29**	Pn	**Pn**	**15 55 13.7**	**+0.7**
EIBI				Sn	**Sn**	**15 55 58.3**	**-1.8**
EIBI	**Ibiza**	**4.03**	**29**	Pn	**Pn**	**15 55 13.5**	**+0.5**
EIBI				Sn	**Sn**	**15 55 58.8**	**-1.4**
EIBI				*i* IVmb_Lg		15 56 00.4	
CZD	**Col de Zad**	**4.05**	**233**	P	**Pn**	**15 55 13.8**	**+0.1**
CZD	**Col de Zad**	**4.05**	**233**	S	**Sn**	**15 56 00.2**	**-0.9**
ECHE	**Chera**	**4.05**	**2**	Pn	**Pn**	**15 55 15.6**	**+2.1**
ECHE	**Chera**	**4.05**	**2**	Pn	**Pn**	**15 55 15.4**	**+1.9**
ECHE				Sn	**Sn**	**15 56 02.7**	**+1.9**
ECHE				*i* IVmb_Lg		15 56 12.7	
ECAB	**El Cabril**	**4.24**	**308**	Pn	**Pn**	**15 55 16.9**	**+0.8**
ECAB				Sn	**Sn**	**15 56 05.3**	**0.0**
ECAB	**El Cabril**	**4.24**	**308**	Pn	**Pn**	**15 55 16.7**	**+0.7**
ECAB				Sn	**Sn**	**15 56 04.9**	**-0.5**
ECAB				*i* IVmb_Lg		15 56 22.1	
ECOL	**Islas Columbre**	**4.60**	**18**	Pn	**Pn**	**15 55 21.5**	**+0.6**
ECOL				Sn	**Sn**	**15 56 12.0**	**-2.3**
ESBB	**Sonseca Array**	**4.68**	**333**	Pn	**Pn**	**15 55 24.1**	**+2.0**
ESBB				Sn	**Sn**	**15 56 16.1**	**-0.3**
ESBB	**Sonseca Array**	**4.68**	**333**		**Pn**	**15 55 24.1**	**+2.0**
ESDC	**Sonseca Array**	**4.68**	**333**	Pn	**Pn**	**15 55 24.6**	**+2.5**
ESDC				Sn	**Sn**	**15 56 16.9**	**+0.5**
ESDC				*i* IVmb_Lg		15 56 34.4	
ESDC	**Sonseca Array**	**4.68**	**333**		**Pn**	**15 55 23.9**	**+1.8**
ESDC	**Sonseca Array**	**4.68**	**333**	Pn	**Pn**	**15 55 23.6**	**+1.5**
23nm,0.3s,baz=146,slow=13,SNR=615							
ESDC				Pg	**Pb**	**15 55 37.5**	**+3.8**
25nm,0.3s,baz=153,slow=14,SNR=25							
ESDC				Sn	**Sn**	**15 56 15.3**	**-1.1**
22nm,0.3s,baz=152,slow=21,SNR=9.3							
ESDC				Lg	Lg	15 56 30.9	
35nm,0.3s,baz=150,slow=29,SNR=11							
ESDC				LR	LR	15 57 23.3	
comp=Z,855nm,18.4s,baz=142,slow=40							
PAB	**San Pablo**	**4.73**	**329**	Pn	**Pn**	**15 55 24.4**	**+1.6**
PAB				Sn	**Sn**	**15 56 17.8**	**+0.3**
PAB				*i* IVmb_Lg		15 56 42.6	
PAB	**San Pablo**	**4.73**	**329**		**Pn**	**15 55 24.4**	**+1.6**
ARF	**Arif**	**4.81**	**213**	P	**Pn**	**15 55 24.3**	**+0.3**
ARF	**Arif**	**4.81**	**213**	S	**Sn**	**15 56 19.1**	**-0.5**
EMOS	**Mosqueruela**	**4.86**	**6**	Pn	**Pn**	**15 55 27.1**	**+2.5**
EMOS				Sn	**Sn**	**15 56 20.5**	**-0.3**
EMOS				*i* IVmb_Lg		15 56 25.4	
E0901	**Celadas (Terue**	**4.94**	**1**	Pn	**Pn**	**15 55 28.6**	**+2.9**
E0901				Sn	**Sn**	**15 56 22.9**	**+0.2**
E0901				*i* IVmb_Lg		15 56 45.5	
EMIN	**Mina Concepcio**	**4.94**	**298**	Pn	**Pn**	**15 55 25.5**	**-0.1**
EMIN				Sn	**Sn**	**15 56 20.4**	**-2.2**
EMIN	**Mina Concepcio**	**4.94**	**298**	Pn	**Pn**	**15 55 25.5**	**-0.1**
EMIN				Sn	**Sn**	**15 56 21.5**	**-1.1**
EMIN				*i* IVmb_Lg		15 56 24.8	
GOLM	**Goulmima**	**4.95**	**220**	P	**Pn**	**15 55 26.7**	**+0.9**
GOLM	**Goulmima**	**4.95**	**220**	S	**Sn**	**15 56 24.7**	**+1.8**
ZHG	**ZHG**	**4.96**	**247**	P	**Pn**	**15 55 27.0**	**+1.0**
ZHG	**ZHG**	**4.96**	**247**	S	**Sn**	**15 56 25.3**	**+2.0**
UCM	**Universidad Co**	**5.04**	**342**	Pn	**Pn**	**15 55 30.0**	**+3.1**
UCM				Sn	**Sn**	**15 56 23.7**	**-1.3**
YEBES	**Yebes (Guadala**	**5.20**	**344**	Pn	**Pn**	**15 55 32.2**	**+2.9**
YEBES				*i* IVmb_Lg		15 57 14.2	
ETOS	**Mallorca**	**5.29**	**36**	Pn	**Pn**	**15 55 31.0**	**+0.7**
ETOS				Sn	**Sn**	**15 56 28.9**	**-2.2**
ETOS	**Mallorca**	**5.29**	**36**	Pn	**Pn**	**15 55 31.1**	**+0.7**
ETOS				Sn	**Sn**	**15 56 29.8**	**-1.4**
ETOS				*i* IVmb_Lg		15 56 34.9	
ETOR	**Torete**	**5.32**	**353**	Pn	**Pn**	**15 55 33.2**	**+2.3**
ETOR				Sn	**Sn**	**15 56 31.4**	**-0.8**
ETOR				*i* IVmb_Lg		15 57 03.7	
PBAR	**Barrancos**	**5.38**	**301**	*e*Pn	**Pn**	**15 55 32.8**	**+1.1**
PBAR				*e*Sn	**Sn**	**15 56 31.9**	**-1.6**
PBAR				*i* IAML		15 56 59.4	
PBAR				*i* IAML		15 56 59.5	
PBAR				*i* IAML		15 57 01.0	
SET	**Setif**	**5.39**	**81**	P	**Pn**	**15 55 32.0**	**+0.1**
EBR	**Ebro Roquetas**	**5.44**	**14**		**Pn**	**15 55 34.1**	**+1.6**
EGRO	**El Granado**	**5.45**	**293**	Pn	**Pn**	**15 55 32.5**	**-0.1**
EGRO				Sn	**Sn**	**15 56 33.0**	**-2.1**
EGRO	**El Granado**	**5.45**	**293**	Pn	**Pn**	**15 55 32.6**	**0.0**
EGRO				Sn	**Sn**	**15 56 33.0**	**-2.1**
EGRO				*i* IVmb_Lg		15 56 35.1	
ERTA	**Horta de San J**	**5.54**	**12**	Pn	**Pn**	**15 55 36.0**	**+2.0**
ERTA				Sn	**Sn**	**15 56 36.2**	**-1.4**
PVAQ	**Vaqueiros**	**5.58**	**291**		**Pn**	**15 55 34.8**	**+0.4**
PVAQ	**Vaqueiros**	**5.58**	**291**	*e*Pn	**Pn**	**15 55 35.0**	**+0.6**
PVAQ				*e*Sn	**Sn**	**15 56 37.2**	**-1.3**
PVAQ				*i* IAML		15 56 39.0	
PVAQ				*i* IAML		15 56 41.0	
PVAQ				*i* IAML		15 56 42.8	
PVAQ	**Vaqueiros**	**5.58**	**291**	P	**Pn**	**15 55 34.4**	**-0.1**
PVAQ	**Vaqueiros**	**5.58**	**291**	S	**Sn**	**15 56 36.5**	**-2.0**
GUD	**Guadarrama**	**5.61**	**336**	Pn	**Pn**	**15 55 36.9**	**+1.9**
GUD				Sn	**Sn**	**15 56 38.8**	**-0.6**
GUD				*i* IVmb_Lg		15 57 08.4	
EBAD	**Badajoz**	**5.66**	**306**	Sn	**Sn**	**15 56 39.0**	**-1.2**
EBAD				Pn	**Pn**	**15 55 36.0**	**+0.5**
EBAD	**Badajoz**	**5.66**	**306**	Pn	**Pn**	**15 55 36.1**	**+0.6**
EBAD				Sn	**Sn**	**15 56 39.0**	**-1.2**
EBAD				*i* IVmb_Lg		15 56 43.2	
PBDV	**Barranco-do-Ve**	**5.70**	**289**	*e*Pn	**Pn**	**15 55 36.7**	**+0.6**
PBDV				*e*Sn	**Sn**	**15 56 39.4**	**-2.1**
PBDV				*i* IAML		15 56 43.1	
PBDV				*i* IAML		15 56 47.6	
PBDV				*i* IAML		15 56 47.8	
PCVE	**Castro Verde**	**5.90**	**293**	*e*Pn	**Pn**	**15 55 39.6**	**+0.8**
PCVE				*e*Sn	**Sn**	**15 56 45.3**	**-1.0**
PCVE				*i* IAML		15 56 50.9	
PCVE				*i* IAML		15 56 56.5	
PCVE				*i* IAML		15 56 59.4	
PBEJ	**Beja**	**5.91**	**297**	*e*Pn	**Pn**	**15 55 39.7**	**+0.7**
PBEJ				*e*Sn	**Sn**	**15 56 44.5**	**-2.0**
PBEJ				*i* IAML		15 56 47.0	
PBEJ				*i* IAML		15 56 47.2	
PBEJ				*i* IAML		15 56 49.6	
EPLA	**Plasencia**	**5.95**	**321**	Pn	**Pn**	**15 55 41.5**	**+1.9**
EPLA				Sn	**Sn**	**15 56 46.7**	**-0.9**
EPLA				*i* IVmb_Lg		15 57 21.6	
EPOB	**Poblet**	**6.08**	**16**	Pn	**Pn**	**15 55 42.6**	**+1.4**
EPOB				Sn	**Sn**	**15 56 47.8**	**-2.8**
EPOB				*i* IVmb_Lg		15 56 52.3	
PESTR	**Estremoz**	**6.10**	**305**		**Pn**	**15 55 42.1**	**+0.5**
PESTR	**Estremoz**	**6.10**	**305**	*e*Pn	**Pn**	**15 55 42.5**	**+0.9**
PESTR				*e*Sn	**Sn**	**15 56 48.9**	**-2.3**
PESTR				*i* IAML		15 57 17.9	
PESTR				*i* IAML		15 57 22.2	
PESTR				*i* IAML		15 57 43.6	
MESJ	**Messejana**	**6.10**	**294**	*e*P	**Pn**	**15 55 42.1**	**+0.6**
MESJ	**Messejana**	**6.10**	**294**		**Pn**	**15 55 41.8**	**+0.2**
MESJ	**Messejana**	**6.10**	**294**	*e*Pn	**Pn**	**15 55 42.1**	**+0.6**
MESJ				*e*Sn	**Sn**	**15 56 50.3**	**-1.0**
MESJ				*i* IAML		15 56 53.7	
MESJ				*i* IAML		15 56 57.7	
MESJ				*i* IAML		15 56 58.8	
MAHO	**Mahon**	**6.13**	**43**	Sn	**Sn**	**15 56 48.5**	**-3.5**
MAHO				Pn	**Pn**	**15 55 43.4**	**+1.4**
ESAC	**San Caprasio**	**6.20**	**5**	Pn	**Pn**	**15 55 46.1**	**+3.0**
ESAC				*i* IVmb_Lg		15 57 14.1	
MORF	**Marmelete**	**6.27**	**289**	*e*P	**Pn**	**15 55 44.2**	**+0.2**
MORF	**Marmelete**	**6.27**	**289**		**Pn**	**15 55 44.3**	**+0.3**
MORF	**Marmelete**	**6.27**	**289**	*e*Pn	**Pn**	**15 55 44.3**	**+0.3**
MORF				*e*Sn	**Sn**	**15 56 54.0**	**-1.5**
MORF				*i* IAML		15 56 58.0	
MORF				*i* IAML		15 56 59.5	
MORF				*i* IAML		15 57 00.2	
PMRV	**Marv??o**	**6.28**	**310**	*e*Pn	**Pn**	**15 55 45.1**	**+1.1**
PMRV				*e*Sn	**Sn**	**15 56 54.3**	**-1.4**
PMRV				*i* IAML		15 57 08.3	
PMRV				*i* IAML		15 57 19.5	
PMRV				*i* IAML		15 57 21.8	
PFVI	**Vila Bisbo**	**6.37**	**287**	Sn	**Sn**	**15 56 53.5**	**-4.4**
PFVI				Pn	**Pn**	**15 55 45.7**	**+0.5**
PFVI	**Vila Bisbo**	**6.37**	**287**		**Pn**	**15 55 45.6**	**+0.3**
PFVI	**Vila Bisbo**	**6.37**	**287**	*e*Pn	**Pn**	**15 55 45.6**	**+0.3**
PFVI				*e*Sn	**Sn**	**15 56 54.7**	**-3.2**
PFVI				*i* IAML		15 57 01.0	
PFVI				*i* IAML		15 57 05.7	
PFVI				*i* IAML		15 57 11.8	
**PFVI

5.6nm,0.3s,baz=256,slow=3.9,SNR=21
KEST LR LR 16 00 05.0
comp=Z,576nm,18.6s,baz=334,slow=41
22nm,0.5s
EZAM Zamans 8.82 321 Pn **Pn 15 56 21.5 +2.6**
EZAM Sn **Sn 15 57 55.2 -3.1**
EAGO Agolada(Pontev 9.02 326 Pn **Pn 15 56 23.9 +2.3**
EAGO Sn **Sn 15 58 01.6 -1.4**
EPON Pontenova 9.04 331 Pn **Pn 15 56 24.1 +2.2**
EPON Sn **Sn 15 58 00.4 -3.2**
VSL Villasalto 9.28 62 Pn **Pn 15 56 24.9 -0.3**
VSL Sn **Sn 15 58 03.8 -5.5**
VSL Villasalto 9.28 62 Pn 15 56 25.3 +0.2
EMAZ Mazaricos 9.55 323 Pn **Pn 15 56 31.7 +2.8**
DGI Dorgali Grotta 9.77 58 Pn **Pn 15 56 32.5 +0.6**
DGI Sn **Sn 15 58 16.7 -4.8**
SSB Saint Sauveur 10.66 22 Pn 15 56 46.4 +2.2
VAE Valguarnera 12.70 77 LR LR 16 01 21.4
comp=Z,218nm,20.5s,baz=313,slow=34
TAM Tamanrasset 13.98 153 Pn Pn 15 57 25.9 -3.7
FUORN Ofenpass-Fuorn 14.03 34 Pn **Pn 15 57 33.0 +2.8**
DAVA Damuels 14.36 32 *e*Pn **Pn 15 57 38.7 +3.9**
0.6nm,0.4s
FETA Feichten 14.54 34 *e*Pn **Pn 15 57 39.4 +2.2**
0.4nm,0.4s
TIP Timpagrande 14.73 70 Pn 15 57 43.1 +3.4
RETA Reutte 14.90 33 *e*Pn **Pn 15 57 45.4 +3.4**
1.3nm,0.5s
SQTA Sankt Quirin 14.91 35 *e*Pn **Pn 15 57 45.3 +3.1**
0.7nm,0.3s
MOTA Moosalm 14.95 34 *e*Pn **Pn 15 57 46.3 +3.5**
2.6nm,0.6s
WLF Walferdange 15.11 19 *d*P **P 15 57 49.6 -0.3**
WTTA Wattenberg 15.14 35 *e*Pn **Pn 15 57 48.2 +2.8**
8.2nm,0.8s
DOU Dourbes 15.15 14 *d*P **Pn 15 57 45.3 0.0**
WATA Walderalm 15.16 35 Pn **Pn 15 57 47.7 +2.1**
9.2nm,1.1s
ABTA Abfaltersbach 15.21 38 Pn **P 15 57 50.8 -0.4**
8.1nm,1.1s
RCHB Rochefort 15.34 16 *d*P **P 15 57 55.4 +2.8**
BMRD Maredsous 15.38 15 *d*P **P 15 57 55.6 +2.6**
BGES Gesves 15.53 15 *d*P **Pn 15 57 51.6 +1.3**
BCLA Clavier 15.61 16 *d*P **P 15 57 56.1 +0.6**
BHOU Houvegnez 15.71 17 *d*P **P 15 57 57.0 +0.4**
LESA Schwarzleotal 15.75 37 *e*Pn **P 15 57 58.3 +1.1**
0.6nm,0.4s
UCC Uccle 15.78 13 Pn **Pn 15 57 50.5 -2.9**
BTNL Ternell 15.95 17 *d*P **P 15 58 00.3 +1.0**
OBKA Obir 16.13 42 *e*P **P 15 58 04.8 +3.4**
8.0nm,1.0s
SOKA Soboth 16.50 43 *e*Pn **Pn 15 58 05.6 +2.8**
0.2nm,0.4s
GRA1 Grafenberg Arr 16.81 29 Pn **Pn 15 58 03.9 -2.7**
ARSA Arzberg 17.11 42 *e*P P 15 58 25.4 +13
1.0nm,0.7s
GERES GERESS Array B 17.24 35 P **P 15 58 14.7 +1.1**
baz=219,slow=12,SNR=13
GERES LR LR 16 03 36.8
comp=Z,102nm,20.1s,baz=244,slow=33
1.8nm,0.6s
CONA Conrad Observa 17.71 40 *e*P P 15 58 31.3 +12
0.1nm,0.5s
RONA Rosalia, Austr 17.80 42 P **P 15 58 23.8 +4.0**
0.2nm,0.4s
VRAC Vranov 18.95 38 LR LR 16 06 07.4
comp=Z,146nm,18.2s,baz=240,slow=38
CMLA Cha da Macela 19.64 284 P **P 15 58 35.8 -4.3**
CMLA IAmb IAmb 15 58 59.6
comp=Z,70nm,0.8s
EKA Eskdalemuir Ar 19.85 357 P **Pn 15 58 45.5 +1.7**
baz=175,slow=13
comp=Z,1.8nm,0.5s
IDI Anoyia 21.24 83 P **P 15 59 00.5 +3.0**
comp=Z,7.0nm,0.9s,baz=320,slow=11,SNR=6.2
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 22.44 173 LR LR 16 07 49.8
comp=Z,246nm,18.4s,baz=346,slow=37
MLR Muntele Rosu 22.80 56 LR LR 16 08 25.3
comp=Z,106nm,18.7s,baz=256,slow=37
BUR08 Bucovina Ar. S 23.03 50 P **P 15 59 15.4 -1.1**
BUR08 IAmb IAmb 15 59 25.2
comp=Z,15nm,1.4s
BURAR Bucovina Array 23.03 50 P **P 15 59 16.6 +0.1**
MANT Manisa 23.89 74 P **P 15 59 23.7 -1.6**
MANT IAmb IAmb 15 59 41.4
comp=Z,9.0nm,1.1s
PABE Paberze 26.38 33 P **P 15 59 48.0 +0.5**
HFS Hagfors 26.43 17 P **P 15 59 50.1 +2.1**
comp=Z,1.0nm,0.5s,baz=195,slow=10,SNR=5.1
HFS LR LR 16 10 30.5
comp=Z,45nm,19.3s,baz=219,slow=37
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 26.64 46 P **P 15 59 50.7 +0.8**
comp=Z,1.3nm,0.7s,baz=245,slow=10,SNR=2.3
comp=Z,1.3nm,0.7s
NOA NORSAR Array B 26.73 13 LR LR 16 10 17.8
comp=Z,39nm,19.0s,baz=200,slow=36
NACGM Naroch 27.33 36 *e*P **P 15 59 59.8 +3.8**
comp=Z,7.0nm,0.8s,baz=236
BRTR Keskin Array B 27.79 71 P **P 15 59 58.3 -2.2**
BRTR Keskin Array B 27.79 71 P **P 16 00 03.7 +3.2**
comp=Z,0.5nm,0.6s,baz=263,slow=8.3,SNR=4.0
comp=Z,0.5nm,0.6s
DBIC Dimbokro 28.92 188 LR LR 16 12 15.0
comp=Z,199nm,19.7s,baz=32,slow=38
MMAI Mount Meron Ar 30.23 84 LR LR 16 15 33.2
comp=Z,46nm,18.1s,baz=282,slow=42
FINES FINESS Array B 31.15 25 P **P 16 00 28.2 -1.7**
FINES FINESS Array B 31.15 25 P **P 16 00 32.4 +2.5**
comp=Z,1.1nm,0.6s,baz=224,slow=5.3,SNR=5.1
comp=Z,1.1nm,0.6s
BORG Borgarnes 31.66 344 LR LR 16 13 15.3
comp=Z,86nm,18.4s,baz=163,slow=36
OBN Obninsk 32.43 41 LR LR 16 14 14.8
comp=Z,67nm,19.3s,baz=157,slow=37
JMIC Jan Mayen 35.73 356 LR LR 16 15 55.1
comp=Z,64nm,18.6s,baz=66,slow=36
GNI Garni 36.25 69 P **P 16 01 14.1 -0.6**
GNI IAmb IAmb 16 01 19.3
comp=Z,15nm,1.1s
ARCES ARCESS Array B 37.07 15 P **P 16 01 20.6 -0.6**
ARCES IAmb IAmb 16 01 54.2
comp=Z,26nm,1.5s
ARCES ARCESS Array B 37.07 15 LR LR 16 18 58.3
comp=Z,58nm,18.8s,baz=228,slow=40
SFJD Kangerlussuaq 42.23 334 LR LR 16 16 33.3
comp=Z,69nm,20.6s,baz=147,slow=32
SPITS Spitsbergen Ar 43.41 5 LR LR 16 21 29.7
comp=Z,78nm,18.2s,baz=200,slow=38
FURI Furi 44.97 116 LR LR 16 23 04.3
comp=Z,93nm,20.0s,baz=194,slow=39
MDP Montagnes des 56.13 250 LR LR 16 23 19.4
comp=Z,50nm,20.9s,baz=134,slow=31
TSUM Tsumeb 57.27 159 LR LR 16 29 46.7
comp=Z,99nm,18.7s,baz=117,slow=37
AAK Ala-Archa 57.36 58 LR LR 16 30 43.0
comp=Z,37nm,19.5s,baz=306,slow=38
KURBB Kurchatov Arra 57.40 48 P **P 16 04 00.7 +0.9**
comp=Z,0.9nm,0.5s,baz=290,slow=7.7,SNR=9.5
comp=Z,0.9nm,0.5s
KURK Kurchatov 57.42 48 P **P 16 03 59.7 -0.2**
KURK IAmb IAmb 16 04 07.4
comp=Z,2.4nm,0.8s
SJG San Juan 59.53 271 LR LR 16 24 27.1
comp=Z,24nm,21.6s,baz=156,slow=30
ZAA0 Zalesovo Array 59.98 43 P **P 16 04 16.4 -1.3**
ZAA0 IAmb IAmb 16 04 41.7
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 59.98 43 P **P 16 04 18.0 +0.3**
ZALV Zalesovo Beam 59.98 43 P **P 16 04 18.6 +0.9**
comp=Z,0.7nm,0.4s,baz=294,slow=7.5,SNR=5.6
comp=Z,0.7nm,0.4s
N53A Lisbon 60.80 301 P **P 16 04 23.4 0.0**
MKAR Makanchi Array 61.05 51 P **P 16 04 25.5 +0.4**
MKAR Makanchi Array 61.05 51 P **P 16 04 26.1 +1.0**
comp=Z,1.0nm,0.7s,baz=283,slow=6.4,SNR=12
comp=Z,1.0nm,0.7s
LBTB Lobatse 65.34 153 LR LR 16 32 09.5
comp=Z,115nm,20.8s,baz=26,slow=35
TIXI Tiksi 67.51 15 LR LR 16 39 16.1
comp=Z,39nm,18.1s,baz=16,slow=40
BOSA Boshof 68.50 155 LR LR 16 36 21.3
comp=Z,149nm,19.9s,baz=14,slow=37
ILAR Eielson Array 76.47 346 P **P 16 06 02.2 +1.4**
comp=Z,0.2nm,0.5s,baz=23,slow=7.5,SNR=2.9
ILAR LR LR 16 42 18.1
comp=Z,30nm,19.5s,baz=78,slow=38
comp=Z,0.2nm,0.5s
DLBC Dease Lake 77.11 335 LR LR 16 37 35.4
comp=Z,419nm,21.2s,baz=177,slow=34
PDAR Pinedale Array 78.34 314 P **P 16 06 13.2 +1.3**
comp=Z,0.8nm,0.5s,baz=61,slow=6.2,SNR=7.5
comp=Z,0.8nm,0.5s
NEW Newport 78.92 322 LR LR 16 37 28.2
comp=Z,83nm,19.4s,baz=296,slow=33
ANMO Albuquerque 81.17 307 LR LR 16 40 21.2
comp=Z,64nm,18.8s,baz=126,slow=34
CPUP Villa Florida 81.23 229 LR LR 16 38 45.5
comp=Z,8.5nm,21.4s,baz=294,slow=33
LPAZ La Paz 81.64 243 LR LR 16 39 43.0
comp=Z,13nm,21.9s,baz=98,slow=34
HHC Hu-ho-hao-te 82.08 45 *e*P **P 16 06 30.1 -2.0**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,82nm,4.5s
TXAR Lajitas Array 82.64 301 P **P 16 06 35.1 0.0**
comp=Z,0.4nm,0.6s,baz=44,slow=6.5,SNR=6.3
TXAR LR LR 16 42 24.8
comp=Z,22nm,19.2s,baz=39,slow=35
comp=Z,0.4nm,0.6s
ASAJ Asahikawa 94.16 25 LR LR 16 53 49.9
comp=Z,22nm,19.3s,baz=10.0,slow=38
ASAR Alice Springs 139.51 86 PKP **PKPdf 16 13 38.2 -1.2**
comp=Z,0.3nm,0.8s,baz=318,slow=2.6,SNR=2.9

NEIC ***18*** *15:59:27.4±1.1,67°.42N±0°.04×166°.9W±0°.2,h10km±2km, Error ellipse: s-maj=12.1km s-min=5.0km az=293.0*
AEIC ***18*** *15:59:28.6±1.2,67°.40N±0°.04×166°.9W±0°.2,h23km±7km, ML3.3,mb_Lg3.0/18(NEIC), Error ellipse: s-maj=9.8km s-min=4.0km az=122.0*
IDC ***18*** *15:59:29.3±1.4,68°.18N×167°.39W,h0km,mb3.7/6, mbtmp3.7/7,ML3.5/1, Error ellipse: s-maj=56.2km s-min=18.4km az=26.0*
ISC 18 15:59:26.6±0.8,67°.47N±0°.04×167°.10W±0°.06,h10km,n65,
σ0s86/64,mb3.6/6,Bering Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
C16K	**Lisburne Hills**	**1.05**	**39**	Pn		**Pg**	**15 59 46.4**	**-0.3**
C16K	**Lisburne Hills**	**1.05**	**39**			**Sn**	**16 00 02.1**	**+0.1**
D17K	**Noatak River**	**1.56**	**80**			**Pn**	**15 59 54.1**	**-0.2**
D17K						**Sn**	**16 00 13.5**	**-1.1**
RDOG	**Red Dog Mine**	**1.70**	**68**			**Pn**	**15 59 55.9**	**-0.5**
RDOG						**Sn**	**16 00 17.1**	**-1.0**
C17K	**DeLong Mountai**	**1.79**	**54**			**Pn**	**15 59 58.1**	**+0.5**
TNA	**Tin City**	**1.94**	**190**			**Pn**	**15 59 58.8**	**-0.8**
TNA	**Tin City**	**1.94**	**190**			**Sn**	**16 00 23.1**	**-1.0**
TNA	**Tin City**	**1.94**	**190**		IAmb_Lg		16 00 28.9	
comp=Z,69nm,0.8s								
F15K	**North Star Dit**	**2.02**	**150**			**Pn**	**16 00 00.4**	**-0.3**
F15K					IAmb_Lg		16 00 33.3	
comp=Z,107nm,0.8s								
F14K	**Arctic Creek**	**2.03**	**171**			**Pn**	**16 00 00.4**	**-0.4**
F14K						**Sn**	**16 00 25.0**	**-1.2**
E17K	**Hotham Inlet**	**2.08**	**98**			**Pn**	**16 00 01.1**	**-0.5**
E18K	**Tukpahlearik C**	**2.51**	**88**			**Pn**	**16 00 07.8**	**+0.4**
E18K					IAmb_Lg		16 00 47.2	
comp=Z,92nm,0.7s								
C18K	**Utukok River**	**2.52**	**59**			**Pn**	**16 00 07.8**	**+0.3**
C18K					IAmb_Lg		16 00 52.2	
comp=Z,62nm,0.8s								
F17K	**Baldwin Pennin**	**2.52**	**111**			**Pn**	**16 00 08.6**	**+1.0**
F17K					IAmb_Lg		16 00 46.6	
comp=Z,44nm,1.0s								
B18K	**Kokolik River**	**2.73**	**43**			**Pn**	**16 00 10.8**	**+0.3**
G15K	**Niukluk**	**2.78**	**152**			**Pn**	**16 00 10.7**	**-0.4**
G16K	**Koyuk River**	**2.82**	**135**			**Pn**	**16 00 11.9**	**+0.2**
G16K					IAmb_Lg		16 00 58.5	
comp=Z,40nm,0.8s								
ANM	**Nome**	**3.00**	**166**			**Pn**	**16 00 14.3**	**+0.2**
F18K	**Selawik**	**3.05**	**103**			**Pn**	**16 00 14.7**	**-0.1**
C19K	**Lookout Ridge**	**3.24**	**56**			**Pn**	**16 00 17.6**	**0.0**
C19K					IAmb_Lg		16 01 11.6	
comp=Z,45nm,1.1s								
H16K	**Elim**	**3.46**	**143**			**Pn**	**16 00 20.4**	**-0.2**
A19K	**Wainwright**	**3.51**	**36**			**Pn**	**16 00 21.8**	**+0.6**
D19K	**Kuna River**	**3.54**	**69**			**Pn**	**16 00 21.2**	**-0.4**
F19K	**Chaleruckik Mo**	**3.69**	**96**			**Pn**	**16 00 23.6**	**0.0**
G18K	**Tagagawik**	**3.71**	**111**			**Pn**	**16 00 24.6**	**+0.6**
E19K	**Redstone River**	**3.80**	**86**			**Pn**	**16 00 25.0**	**-0.2**
H17K	**Granite Mounta**	**3.87**	**128**			**Pn**	**16 00 26.9**	**+0.9**
H17K					IAmb_Lg		16 01 37.5	
comp=Z,28nm,0.8s								
D20K	**Etivluk River**	**4.12**	**68**			**Pn**	**16 00 30.6**	**+1.0**
GAMB	**Gambell**	**4.17**	**209**		IAmb_Lg		16 01 44.5	
comp=Z,42nm,1.0s								
E20K	**Nigu River**	**4.21**	**74**			**Pn**	**16 00 31.1**	**+0.3**
H18K	**Honhosa River**	**4.22**	**119**			**Pn**	**16 00 31.6**	**+0.7**
B20K	**Meade River**	**4.43**	**50**			**Pn**	**16 00 34.1**	**+0.4**
F20K	**Avaraart Lake**	**4.44**	**90**			**Pn**	**16 00 34.3**	**+0.5**
I17K	**Unalakleet**	**4.46**	**141**		IAmb_Lg		16 01 57.3	
comp=Z,18nm,0.8s								
H19K	**Roundabout Mou**	**4.69**	**110**			**Pn**	**16 00 38.2**	**+0.9**
C21K	**Knifeblade Rid**	**4.87**	**64**			**Pn**	**16 00 39.6**	**-0.3**
J14K	**Nanvaranak Lak**	**4.97**	**161**	Pn		**Pn**	**16 00 41.6**	**+0.4**
J16K	**Anvik River**	**5.00**	**144**			**Pn**	**16 00 42.3**	**+0.7**
E21K	**Killik River**	**5.04**	**73**			**Pn**	**16 00 43.1**	**+0.9**
B21K	**Ikpikpuk River**	**5.07**	**59**	Pn		**Pn**	**16 00 42.4**	**-0.1**
J17K	**VABM Dome**	**5.28**	**137**			**Pn**	**16 00 47.2**	**+1.7**
A21K	**Barrow**	**5.35**	**39**			**Pn**	**16 00 45.9**	**-0.4**
D22K	**Ayikyak River**	**5.56**	**69**			**Pn**	**16 00 49.9**	**+0.5**
A22K	**Sinclair Lake**	**5.58**	**45**			**Pn**	**16 00 49.0**	**-0.5**
K13K	**Kusilvak Mount**	**5.66**	**168**	Pn		**Pn**	**16 00 50.9**	**+0.3**
K15K	**Wolf Creek Mou**	**5.71**	**153**	Pn		**Pn**	**16 00 52.6**	**+1.2**
B22K	**Teshekpuk Lake**	**5.71**	**54**	Pn		**Pn**	**16 00 51.1**	**-0.2**
I20K	**Naaghedeneel**	**5.78**	**112**			**Pn**	**16 00 53.0**	**+0.7**
E22K	**Anaktuvuk Pass**	**5.83**	**76**			**Pn**	**16 00 53.8**	**+0.7**
D23K	**Nanushuk River**	**6.29**	**69**	Pn		**Pn**	**16 00 59.9**	**+0.6**
L14K	**Kuka Creek**	**6.44**	**161**	Pn		**Pn**	**16 01 02.3**	**+1.0**
C23K	**Itkillik River**	**6.46**	**61**	Pn		**Pn**	**16 01 01.1**	**-0.6**
TOLK	**Toolik Lake Re**	**6.67**	**72**	Pn		**Pn**	**16 01 05.3**	**+0.8**
E24K	**Your Creek**	**7.08**	**77**			**Pn**	**16 01 10.5**	**+0.3**
F24K	**Squaw Lake**	**7.37**	**81**			**Pn**	**16 01 14.5**	**+0.4**
CCB	**Clear Creek Bu**	**8.33**	**101**			**Pn**	**16 01 28.5**	**+1.3**
ILAR	**Eielson Array**	**8.62**	**99**	Pn		**Pn**	**16 01 32.3**	**+1.1**
ILAR	**Eielson Array**	**8.62**	**99**	Pn		**Pn**	**16 01 31.9**	**+0.7**
comp=Z,0.5nm,0.3s,baz=298,slow=14,SNR=19								
ILAR					Sn	**Sn**	**16 03 07.1**	**-1.3**
comp=Z,0.1nm,0.3s,baz=320,slow=35,SNR=2.1								
comp=Z,1.0nm,0.4s								
BMAR	**Burnt Mountain**	**8.64**	**80**	Pn		**Pn**	**16 01 32.3**	**+0.7**
PDAR	**Pinedale Array**	**39.05**	**99**	P		P	16 07 00.3	+6.8
comp=Z,1.1nm,0.8s,baz=320,slow=9.0,SNR=5.8								
comp=Z,1.1nm,0.8s								
FINES	**FINESS Array B**	**51.03**	**352**	P		**P**	**16 08 27.3**	**-0.8**
comp=Z,0.9nm,0.6s,baz=26,slow=9.1,SNR=6.9								
comp=Z,0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**52.41**	**313**	P		**P**	**16 08 37.0**	**-1.5**
comp=Z,0.6nm,0.9s,baz=28,slow=6.8,SNR=5.7								
comp=Z,0.6nm,0.9s								
TXAR	**Lajitas Array**	**53.11**	**102**	P		P	16 08 49.9	+5.7
comp=Z,0.6nm,0.8s,baz=348,slow=6.8,SNR=5.7								
comp=Z,0.6nm,0.8s								
AKASG	**Malin Array Be**	**61.51**	**348**	P		**P**	**16 09 42.4**	**-0.6**
comp=Z,0.5nm,0.4s,baz=14,slow=6.6,SNR=3.2								
comp=Z,0.5nm,0.4s								
CMAR	**Chiang Mai Arr**	**74.62**	**281**	P		**P**	**16 11 09.5**	**+3.6**
comp=Z,0.3nm,0.5s,baz=20,slow=4.7,SNR=2.0								
comp=Z,0.3nm,0.5s								

NEIC ***18*** *16:44:02.0±1.5,24°.50S±0°.02×27°.13E±0°.08,h5km±2km, mb_Lg3.6/16, Error ellipse: s-maj=11.7km s-min=3.1km az=79.0*
PRE ***18*** *16:44:01.1±0.9,24°.66S×27°.08E,h2km,ML3.4*
ISC 18 16:44:00.9±0.8,24°.64S±0°.04×27°.09E±0°.05,h10km,n42,
σ2s26/63,South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LEPH	**Lephalale, Lim**	**1.01**	**40**	*e*P		**Pg**	**16 44 20.0**	**-0.3**
LEPH				*e*S		**Sb**	**16 44 35.2**	**+1.3**
LEPH					IAML		16 44 36.7	
comp=Z,2μm,0.3s								
HRAO	**HartRAO**	**1.36**	**157**	*e*P		**Pn**	**16 44 27.5**	**+1.4**
HRAO				*e*S		**Sb**	**16 44 45.7**	**+1.6**
HRAO					IAML		16 44 49.9	
comp=Z,737nm,0.3s								
LBTB	**Lobatse**	**1.41**	**254**			**Pn**	**16 44 30.5**	**+3.8**
LBTB	**Lobatse**	**1.41**	**254**	*e*P		**Pn**	**16 44 28.0**	**+1.2**
LBTB				*e*S		**Sn**	**16 44 47.5**	**+2.1**
LBTB					IAML		16 44 51.2	
comp=Z,1μm,0.3s								
LPHEP	**Lephephe**	**1.70**	**318**			**Pn**	**16 44 31.8**	**+1.1**
LPHEP					Sn	**Sn**	**16 44 54.9**	**+2.3**
MREMI	**Moremi**	**2.08**	**9**			**Pn**	**16 44 36.1**	**+0.1**
KDWAN	**Kaudwane**	**2.55**	**299**			**Pn**	**16 44 43.6**	**+1.2**
KHWEE	**KHWEE**	**3.08**	**330**			**Pn**	**16 44 49.9**	**+0.2**
MUSN	**Musina, Limpop**	**3.45**	**48**	*i* P		**Pn**	**16 44 53.7**	**-1.1**
MUSN				*i* S		**Sn**	**16 45 30.9**	**-4.9**
HOED	**Hoedspruit, Li**	**3.50**	**87**	*e*P		**Pn**	**16 44 56.8**	**+1.3**
HOED				*e*S		**Sn**	**16 45 39.3**	**+2.1**
HOED					IAML		16 45 50.0	
comp=Z,254nm,0.3s								
PHPEN	**Phepeng**	**3.93**	**257**			**Pn**	**16 45 03.1**	**+1.7**
PHPEN					IAmb_Lg		16 46 07.2	
comp=Z,122nm,0.7s								
BOSA	**Boshof**	**4.29**	**202**			**Pn**	**16 45 08.0**	**+1.6**
BOSA	**Boshof**	**4.29**	**202**	*e*P		**Pn**	**16 45 08.3**	**+1.9**
BOSA				*e*S		**Sn**	**16 45 56.4**	**-0.2**
BOSA					IAML		16 46 27.3	
comp=Z,94nm,0.6s								
KGCAE	**Kacgae**	**4.81**	**291**			**Pn**	**16 45 15.3**	**+1.7**
KGCAE					IAmb_Lg		16 46 46.5	
comp=Z,123nm,0.7s								
POGA	**Pongola**	**4.95**	**124**	Pn		**Pn**	**16 45 17.4**	**+2.0**
POGA					IAmb_Lg		16 46 37.6	
comp=Z,124nm,0.8s								
PHDHD	**Phuduhudu**	**5.01**	**331**		IAmb_Lg		16 46 38.6	
comp=Z,114nm,0.7s								
HVD	**Gariep Dam**	**6.11**	**193**	*e*P		**Pn**	**16 45 34.2**	**+2.8**
HVD				*e*S		**Sn**	**16 46 40.3**	**-1.2**
KSTD	**Kokstad**	**6.27**	**162**	*e*P		**Pn**	**16 45 36.3**	**+2.6**
KSTD				*e*S		**Sn**	**16 46 45.3**	**-0.2**
KSTD					IAML		16 47 32.0	
comp=Z,25nm,0.4s								
GRTLG	**Ghanzi**	**6.32**	**300**			**Pn**	**16 45 35.2**	**+0.9**
KOOLE	**Kule**	**6.52**	**283**			**Pn**	**16 45 38.3**	**+1.2**
KOOLE					IAmb_Lg		16 47 42.4	
comp=Z,103nm,1.0s								
KEIM	**Keimoes**	**6.81**	**232**	*e*P		**Pn**	**16 45 43.7**	**+2.7**
KEIM				*e*S		**Sn**	**16 46 57.5**	**-1.2**
KEIM					IAML		16 47 44.9	
comp=Z,70nm,0.3s								
ALKP	**Alkanpan, Nort**	**6.82**	**218**	*e*P		**Pn**	**16 45 43.6**	**+2.5**
ALKP				*e*S		**Sn**	**16 46 57.2**	**-1.6**
ALKP					IAML		16 47 46.6	
comp=Z,80nm,0.4s								
GMARE	**Gumare**	**6.94**	**318**		IAmb_Lg		16 47 50.5	
comp=Z,57nm,1.0s								
KSANE	**Kasane**	**7.04**	**345**			**Pn**	**16 45 43.9**	**-0.2**
KSANE					IAmb_Lg		16 47 52.0	
comp=Z,52nm,0.8s								
AUGR	**Augrabies**	**7.21**	**235**	*e*P		**Pn**	**16 45 49.0**	**+2.4**
AUGR				*e*S		**Sn**	**16 47 07.4**	**-1.2**
AUGR					IAML		16 47 52.2	
comp=Z,61nm,0.7s								
ARMS	**Ukamas**	**7.41**	**241**	*e*P		**Pn**	**16 45 51.3**	**+2.0**
ARMS				*e*S		**Sn**	**16 47 11.8**	**-1.7**
BFON	**Badsfontein, M**	**7.74**	**202**	*e*P		**Pn**	**16 45 55.9**	**+2.1**
BFON				*e*S		**Sn**	**16 47 19.3**	**-2.3**
BFON					IAML		16 47 38.8	
comp=Z,22nm,0.5s								
GRAF	**Camdeboo Natio**	**7.95**	**196**	*e*P		**Pn**	**16 45 59.3**	**+2.6**
GRAF				*e*S		**Sn**	**16 47 24.1**	**-2.6**
GRAF					IAML		16 47 37.4	
comp=Z,12nm,0.3s								
BRAK	**Brakfontein**	**8.02**	**207**	*e*P		**Pn**	**16 46 00.2**	**+2.6**
BRAK				*e*S		**Sn**	**16 47 25.6**	**-2.8**
BRAK					IAML		16 47 36.2	
comp=Z,25nm,0.2s								
XAUDM	**Khaudum**	**8.09**	**317**			**Pn**	**16 45 58.9**	**+0.2**
GRHM	**Grahamstown, E**	**8.63**	**184**	Pn		**Pn**	**16 46 09.4**	**+3.5**
GRHM	**Grahamstown, E**	**8.63**	**184**	*e*P		**Pn**	**16 46 08.3**	**+2.3**
GRHM				*e*S		**Sn**	**16 47 40.2**	**-3.2**
GRHM					IAML		16 48 10.3	
comp=Z,5.5nm,0.5s								
GRAN	**Grantham**	**8.78**	**208**	*e*P		**Pn**	**16 46 10.4**	**+2.5**
GRAN				*e*S		**Sn**	**16 47 43.5**	**-3.6**
GRAN					IAML		16 48 49.9	
comp=Z,55nm,0.6s								
FRAZ	**Fraserburg**	**8.82**	**213**	*e*P		**Pn**	**16 46 11.6**	**+2.9**
FRAZ				*e*S		**Sn**	**16 47 45.4**	**-2.9**
FRAZ					IAML		16 48 48.7	
comp=Z,31nm,0.6s								
LSZ	**Lusaka**	**9.37**	**7**			**Pn**	**16 46 14.4**	**-1.8**
WIN	**Windhoek**	**9.39**	**281**	Pn		**Pn**	**16 46 17.3**	**+0.7**
CVNA	**Calvinia**	**9.40**	**222**	*e*P		**Pn**	**16 46 18.7**	**+2.1**
CVNA				*e*S		**Sn**	**16 47 58.4**	**-4.0**
CVNA					IAML		16 48 30.1	
comp=Z,12nm,0.4s								
SUR	**Sutherland**	**9.48**	**214**	Pn		**Pn**	**16 46 19.4**	**+1.6**
SUR					IAmb_Lg		16 49 06.7	
comp=Z,60nm,0.8s								
BUFB	**Buffelsbos**	**9.70**	**192**	*e*P		**Pn**	**16 46 22.3**	**+1.8**
BUFB				*e*S		**Sn**	**16 48 06.0**	**-3.5**
BUFB					IAML		16 48 35.8	
comp=Z,7.6nm,0.4s								
KOMG	**Komaggas**	**9.97**	**237**	*e*P		**Pn**	**16 46 26.7**	**+2.3**
KOMG				*e*S		**Sn**	**16 48 12.9**	**-3.5**
KOMG					IAML		16 48 48.1	
comp=Z,8.0nm,0.4s								
AUSN	**Aus**	**9.98**	**256**	*e*P		**Pn**	**16 46 26.4**	**+1.8**
AUSN				*e*S		**Sn**	**16 48 13.9**	**-2.8**
TSUM	**Tsumeb**	**10.35**	**300**	Pn		**Pn**	**16 46 28.2**	**-1.4**

NDI ***18*** *16:48:05.6±2.2,23°.15N×94°.27E,h29km±22km,ML4.8, MW4.8*
BJI ***18*** *16:48:07.9,23°.15N×94°.09E,h70km,mb4.7/45,mB4.4/12, Ms3.7/4,Ms7 3.5/1*
IDC ***18*** *16:48:09.7±0.6,23°.11N×94°.25E,h79km±6km,mb4.0/25, mbtmp4.3/27,MS3.2/12, Error ellipse: s-maj=11.7km s-min=7.8km az=5.0*
BKK ***18*** *16:48:09.6±0.5,23°N±4°×9°4E±°,h72km±17km,M5.9/20, mB6.6/6,mb7.2/7,Mjma5.8/12,ML6.2/10,MLv4.9/20, Mw(mB)6.4/6*
NEIC ***18*** *16:48:10.2±2.2,23°.16N±0°.05×94°.22E±0°.07,h76km±7km, mb4.9/42, Error ellipse: s-maj=9.7km s-min=7.5km az=96.0*
ISC 18 16:48:09.5±0.4,23°.17N±0°.04×94°.13E±0°.04,h75km±3km,
h75km:pP-P,n237,σ2s05/263,mb4.7/80,12C-7D,
Myanmar-India border region

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

comp=N,7μm,0.3s
JORH JORHAT 3.56 2 *e*P **Pn 16 48 59.0 -3.3**
JORH *e*S **Sn 16 49 38.8 -4.4**
JORH IAML 16 49 59.1
comp=N,8μm,0.1s
JORH IAML 16 50 00.5
comp=E,8μm,0.9s
TEZP TEZPUR 3.63 341 *e*P **Pn 16 48 59.5 -3.9**
TEZP *e*S **Sn 16 49 40.5 -4.6**
TEZP IAML 16 49 47.6
comp=E,9μm,0.2s
TEZP IAML 16 49 47.8
comp=N,6μm,0.3s
ZIRO ZIRO 4.34 357 *e*P **Pn 16 49 10.0 -3.3**
ZIRO *e*S **Sn 16 49 57.1 -5.5**
ZIRO IAML 16 50 04.4
comp=E,2μm,0.6s
ZIRO IAML 16 50 09.9
comp=N,3μm,0.3s
TNCH TengChong 4.42 64 ⇑P **Pn 16 49 15.0 +0.7**
TNCH S **Sn 16 50 05.5 +0.9**
CMAI Chiengmai2 5.60 124 P **Pn 16 49 29.0 -1.4**
CHTO Chiang Mai 6.25 133 **Pn 16 49 37.4 -1.7**
CHTO Chiang Mai 6.25 133 P **Pn 16 49 37.7 -1.4**
CHTO Chiang Mai 6.25 133 S **Sn 16 50 48.2 -1.0**
CHTO Chiang Mai 6.25 133 P **Pn 16 49 37.8 -1.4**
comp=N,0.4nmcomp=N,0.5nmcomp=N,0.7nmcomp=N,565nm
comp=N,48nm,0.5s
CM15 Chiang Mai Arr 6.50 135 P **Pn 16 49 41.4 -1.1**
CM31 Chiang Mai Arr 6.50 135 **Pn 16 49 41.4 -1.2**
CMAR Chiang Mai Arr 6.50 135 **Pn 16 49 40.8 -1.8**
CMAR Chiang Mai Arr 6.50 135 P **Pn 16 49 41.1 -1.5**
comp=N,16nm,0.3s,baz=313,slow=14,SNR=144
CMAR S **Sn 16 50 50.7 -4.7**
comp=N,9.3nm,0.4s,baz=296,slow=14,SNR=4.7
CMAR LR LR 16 52 09.4
comp=N,83nm,21.7s,baz=315,slow=38
CM13 Chiang Mai Arr 6.51 136 P **Pn 16 49 41.0 -1.7**
CM02 Chiang Mai Arr 6.52 135 P **Pn 16 49 41.5 -1.4**
CM01 Chiang Mai Arr 6.54 135 P **Pn 16 49 41.5 -1.6**
CM09 Chiang Mai Arr 6.54 135 P **Pn 16 49 42.2 -1.0**
CM05 Chiang Mai Arr 6.54 136 P **Pn 16 49 41.3 -1.9**
CM04 Chiang Mai Arr 6.57 135 P **Pn 16 49 41.7 -1.8**
LAMP Lampang 6.92 131 P **Pn 16 49 46.9 -1.4**
LSA Lhasa 7.03 338 P **Pn 16 49 49.3 -0.8**
LSA S **Sn 16 51 01.1 -7.7**
LSA smax smax
comp=N,71nm,0.7s
LSA smax smax
comp=N,75nm,0.7s
LSA Lhasa 7.03 338 **Pn 16 49 52.0 +1.8**
ODAN Odare 7.13 302 Pn **Pn 16 49 51.4 +0.1**
baz=314,slow=0.0
ODAN Sn **Sn 16 51 06.8 -4.2**
comp=N,939nm,0.4s,baz=314,slow=0.0
NANT Nan 7.53 124 P **Pn 16 49 54.0 -2.6**
PZH PanZhiHua 7.67 63 P **Pn 16 50 02.3 +3.7**
PZH S **Sn 16 51 25.8 +1.7**
PZH LR LR
comp=N,240nm,6.2s
PZH LR LR
comp=N,220nm,8.3s
RAMN Ramite 7.79 300 Pn **Pn 16 50 00.4 0.0**
baz=310,slow=0.0
RAMN Sn **Sn 16 51 20.0 -7.2**
comp=N,300nm,0.3s,baz=310,slow=0.0
KMI Kunming 8.10 74 ⇑P **Pn 16 50 08.3 +3.7**
KMI pmax pmax
comp=N,55nm,0.9s
KMI LR LR
comp=N,230nm,7.4s
KMI LR LR
comp=N,200nm,6.1s
KMI LR LR
comp=N,220nm,7.6s
EVN Everest 8.14 307 **Pn 16 50 05.1 -0.4**
PHIT Phitsanulok 8.38 134 P **Pn 16 50 07.7 -0.6**
GUN Gumba 8.81 304 Pn **Pn 16 50 15.3 +0.8**
baz=313,slow=0.0
GUN Sn **Sn 16 51 46.3 -6.1**
comp=N,510nm,0.4s,baz=313,slow=0.0
PKI Pulchoki 9.02 301 Pn **Pn 16 50 16.6 -0.6**
baz=310,slow=0.0
PKI Sn **Sn 16 51 49.8 -7.5**
comp=N,316nm,0.5s,baz=310,slow=0.0
PKIN Phulchoki 9.03 301 Pn **Pn 16 50 16.6 -0.7**
baz=310,slow=0.0
PKIN Sn **Sn 16 51 49.9 -7.6**
comp=N,308nm,0.4s,baz=310,slow=0.0
UTHA Uthaitani 9.08 146 P **Pn 16 50 17.7 -0.2**
KKN Kakani 9.22 302 Pn **Pn 16 50 19.3 -0.6**
baz=310,slow=0.0
KKN Sn **Sn 16 51 55.6 -6.5**
comp=N,232nm,0.3s,baz=310,slow=0.0
SLVN Son La 9.24 100 **Pn 16 50 18.5 -1.5**
SLVN Son La 9.24 100 P **Pn 16 50 18.8 -1.2**
DMN Daman 9.27 300 Pn **Pn 16 50 19.7 -1.0**
baz=309,slow=0.0
DMN Sn **Sn 16 51 56.5 -7.0**
comp=N,252nm,0.4s,baz=309,slow=0.0
GKN Gorkha 9.82 301 Pn **Pn 16 50 27.9 -0.1**
baz=309,slow=0.0
GKN Sn **Sn 16 52 08.8 -7.9**
comp=N,352nm,0.3s,baz=309,slow=0.0
DANN Dangsing 10.67 301 Pn **Pn 16 50 37.4 -2.3**
baz=308,slow=0.0
DANN Sn **Sn 16 52 29.3 -8.3**
comp=N,287nm,0.5s,baz=308,slow=0.0
GYA Guiyang 11.85 71 ⇓P **Pn 16 50 56.1 +0.5**
GYA pmax pmax
comp=N,10.0nm,1.2s
GOMU GeErMu 12.99 2 P **Pn 16 51 09.6 -1.8**
GOMU pmax pmax
comp=N,11nm,1.0s
GULI GuiLin 14.96 79 P **P 16 51 40.5 -0.2**
GULI pmax pmax
comp=N,39nm,0.8s
XAN Xi'an 16.89 47 ⇑P **P 16 52 03.0 +1.0**
XAN pmax pmax
comp=N,24nm,0.9s
GTA Gaotai 16.89 15 *e*P **P 16 52 05.1 +3.0**
GTA sP sP 16 52 29.3 +2.5
GTA pmax pmax
comp=N,6.0nm,1.0s
WHN Wuhan 19.46 64 P **Pn 16 52 32.3 +0.2**
KCSI Kotacane, Aceh 19.85 169 P **P 16 52 33.5 -1.0**
PALK Pallekele 20.41 221 P Pn 16 52 42.9 -0.5
comp=N,6.1nm,0.9s,baz=42,slow=11,SNR=2.4
PALK S S 16 56 13.6 -12
comp=N,2.9nm,0.6s,baz=119,slow=19,SNR=1.0
PALK LR LR 17 02 26.5
comp=N,28nm,18.2s,baz=46,slow=42
comp=N,6.1nm,0.9s
SNSI Sinabang, Aceh 20.75 174 P **P 16 52 42.0 -2.2**
comp=N,141nm,1.2s
PSI Prapat 20.78 166 P **P 16 52 45.7 +1.0**
comp=N,6.9nm,0.4s,baz=337,slow=7.4,SNR=4.2
comp=N,6.9nm,0.4s
RPSI Rantau Prapat 20.88 166 P **P 16 52 45.7 +0.1**
NIL Nilore 21.08 304 P **P 16 52 46.8 -1.0**
WMQ Urumqi 21.27 347 *e*P **P 16 52 52.0 +2.3**
WMQ pmax pmax
comp=N,32nm,0.9s
WMQ pmax pmax
comp=N,98nm,5.9s
BTO Baotou 21.94 34 *e*P **P 16 52 57.8 +0.8**
BTO pP **pP 16 53 14.5 +1.9**
BTO sP **sP 16 53 24.0 +2.0**
BTO pmax pmax
comp=N,27nm,0.7s
BTO pmax pmax
comp=N,92nm,7.7s
GSI Gunungsitoli 22.00 171 P **P 16 52 55.6 -2.0**
comp=N,15nm,0.7s
KSH Kashi 22.42 321 P **P 16 53 03.3 +1.1**
KSH pmax pmax
comp=N,51nm,1.0s
HNS HongShan 22.67 47 ⇑P **P 16 53 03.9 -0.7**
HNS pmax pmax
comp=N,12nm,0.6s
HHC Hu-ho-hao-te 22.93 36 *e*P **P 16 53 08.1 +0.7**
HHC pmax pmax
comp=N,8.0nm,0.6s
HHC pmax pmax
comp=N,50nm,4.8s
TARG Taragay, Kyrgy 23.00 327 P **P 16 53 10.5 +2.1**

NJ2 Nanjing 23.59 63 *e*P **P 16 53 13.0 -0.5**
NJ2 pmax pmax
comp=N,13nm,0.5s
TIA Tai'an 23.76 52 P **P 16 53 13.8 -1.3**
TIA pmax pmax
comp=N,7.0nm,0.5s
ULHL Ulahol 24.16 326 P **P 16 53 22.0 +3.1**
SNR=13
BOOM Boomskoye usch 24.50 326 **P 16 53 24.0 +2.2**
BOOM IAmb IAmb 16 53 26.3
comp=Z,32nm,0.8s
KBL Kabul 24.65 303 **P 16 53 25.5 +2.1**
TKM2 Tokmak 2 24.98 326 P **P 16 53 28.9 +2.6**
SNR=30
UCH Uchtor 25.06 324 P **P 16 53 30.0 +2.7**
SNR=13
BJI Beijing 25.10 43 P **P 16 53 27.1 0.0**
BJI pP **pP 16 53 44.0 -0.7**
BJI pmax pmax
comp=Z,4.0nm,0.6s
KBK Karagaybulak 25.13 325 P **P 16 53 30.7 +3.1**
SNR=50
AAK Ala-Archa 25.36 325 **P 16 53 32.6 +2.9**
AAK IAmb IAmb 16 53 33.5
comp=Z,29nm,0.6s
AAK Ala-Archa 25.36 325 LR LR 17 05 21.6
comp=Z,44nm,20.8s,baz=101,slow=40
AAK Ala-Archa 25.36 325 P **P 16 53 32.8 +3.2**
SNR=31
MKAR Makanchi Array 25.43 341 **P 16 53 31.7 +1.6**
MKAR Makanchi Array 25.43 341 P **P 16 53 31.9 +1.8**
comp=Z,33nm,0.6s,baz=148,slow=9.5,SNR=383
MKAR ScP **ScP 17 00 32.6 -0.5**
comp=Z,0.3nm,0.6s,baz=101,slow=5.1,SNR=3.5
MKAR LR LR 17 06 18.8
comp=Z,24nm,21.7s,baz=134,slow=43
comp=Z,33nm,0.6s
CHMS Chumysh 25.47 326 P **P 16 53 32.8 +2.3**
SNR=6.0
MAKZ Makanchi 25.53 340 **P 16 53 32.6 +1.6**
MAKZ IAmb IAmb 16 53 34.2
comp=Z,32nm,1.2s
GAR Garm 25.67 313 **P 16 53 34.4 +1.8**
EKS2 Erkin-Say 25.76 324 P **P 16 53 36.6 +3.4**
SNR=11
CHGR Chuyangaron 26.29 312 IAmb IAmb 16 53 40.2
comp=Z,24nm,0.6s
SONM Songino Array 26.49 19 P **P 16 53 40.3 +0.5**
comp=Z,1.3nm,0.5s,baz=214,slow=8.0,SNR=5.4
comp=Z,1.3nm,0.5s
KKAR Karatay Array 27.87 321 **P 16 53 53.1 +1.0**
LHSI Lahat 28.36 160 P **P 16 54 02.3 +5.7**
KURBB Kurchatov Arra 29.98 340 P **P 16 54 12.0 +1.4**
comp=Z,7.9nm,0.7s,baz=152,slow=8.4,SNR=48
KURBB PcP **PcP 16 57 11.4 +0.1**
comp=Z,0.6nm,0.6s,baz=169,slow=2.4,SNR=4.2
KURBB ScP **ScP 17 00 46.1 -0.8**
comp=Z,1.7nm,0.2s,baz=150,slow=2.6,SNR=7.6
comp=Z,7.9nm,0.7s
KURK Kurchatov 30.03 340 **P 16 54 12.3 +1.2**
KURK IAmb IAmb 16 54 13.2
comp=Z,10.0nm,0.7s
KURK Kurchatov 30.03 340 P **P 16 54 12.2 +1.1**
KURK sP **sP 16 54 38.2 +0.3**
ZALV Zalesovo Beam 31.52 349 **P 16 54 25.2 +1.0**
ZALV Zalesovo Beam 31.52 349 P **P 16 54 25.4 +1.2**
comp=Z,1.8nm,0.4s,baz=169,slow=8.8,SNR=12
comp=Z,1.8nm,0.4s
KSRS Korea Array 32.27 56 P **P 16 54 28.9 -2.1**
comp=Z,0.8nm,0.6s,baz=251,slow=7.9,SNR=4.7
comp=Z,0.8nm,0.6s
HILR Hailar Array B 33.14 31 P **P 16 54 39.9 +1.3**
comp=Z,0.8nm,0.3s,baz=195,slow=11,SNR=3.6
comp=Z,0.8nm,0.3s
USRK Ussuriysk Ar. 37.40 47 P **P 16 55 12.5 -2.6**
comp=Z,0.8nm,0.4s,baz=255,slow=8.2,SNR=6.0
comp=Z,0.8nm,0.4s
AB31 Akbulak array 37.40 323 IAmb IAmb 16 55 17.6
comp=Z,15nm,0.6s
ABKAR Akbulak array 37.40 323 **P 16 55 17.0 +1.9**
HEH HeiHe 37.45 35 *e*P **P 16 55 17.8 +2.3**
HEH pmax pmax
comp=Z,4.0nm,0.6s
MJAR Matsushiro Arr 40.15 60 P **P 16 55 37.3 -0.9**
comp=Z,1.2nm,0.6s,baz=269,slow=9.9,SNR=3.2
MJAR LR LR 17 12 32.1
comp=Z,25nm,19.4s,baz=247,slow=36
comp=Z,1.2nm,0.6s
ARTI Arti 42.22 331 **P 16 55 55.8 +0.9**
ARTI Arti 42.22 331 P **P 16 55 56.0 +1.1**
ARTI sP **sP 16 56 23.1 +0.6**
ARTI PcP **PcP 16 57 47.8 +0.2**
RAYN Ar Rayn 44.47 281 **P 16 56 14.9 +1.3**
RAYN Ar Rayn 44.47 281 P **P 16 56 15.1 +1.5**
RAYN PcP **PcP 16 57 55.9 -0.1**
GNI Garni 44.73 304 LR LR 17 20 35.0
comp=Z,20nm,18.5s,baz=228,slow=43
KBZ Khabaz 46.59 309 P **P 16 56 31.4 +1.5**
comp=Z,1.5nm,0.5s,baz=193,slow=2.3,SNR=8.0
comp=Z,1.5nm,0.5s
GURO Guroymak-BITLI 46.67 302 IAmb IAmb 16 56 34.5
comp=Z,6.7nm,0.6s
KVAR Kislovodsk Arr 46.77 309 LR LR 17 23 04.3
comp=Z,21nm,19.2s,baz=214,slow=45
KIV Kislovodsk 46.77 309 **P 16 56 33.7 +2.2**
KIV IAmb IAmb 16 56 34.9
comp=Z,18nm,0.6s
KIV Kislovodsk 46.77 309 P **P 16 56 33.4 +1.9**
comp=Z,18nm,0.8s
KIV Kislovodsk 46.77 309 P **P 16 56 33.9 +2.4**
KIV pP **pP 16 56 51.8 +1.2**
ARPR Arapgir-MALATY 49.58 302 IAmb IAmb 16 56 57.0
comp=Z,10nm,1.3s
MMAI Mount Meron Ar 52.15 295 P **P 16 57 14.3 +1.7**
comp=Z,3.6nm,0.8s,baz=69,slow=7.9,SNR=4.6
comp=Z,3.6nm,0.8s
TIXI Tiksi 52.36 13 P **P 16 57 13.0 -0.4**
TIXI PcP **PcP 16 58 23.6 +0.2**
ANTO Ankara 53.87 303 **P 16 57 24.0 -1.1**
ANTO IAmb IAmb 16 57 27.5
comp=Z,10nm,0.7s
AK09 Malin Array Si 56.58 316 P **P 16 57 44.6 +0.3**
AK08 Malin Array Si 56.60 316 P **P 16 57 44.8 +0.4**
AK10 Malin Array Si 56.60 316 P **P 16 57 44.8 +0.4**
AKASG Malin Array Be 56.62 316 P **P 16 57 44.8 +0.2**
comp=Z,9.0nm,0.6s,baz=84,slow=6.2,SNR=37
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 56.62 316 IAmb IAmb 16 57 45.5
comp=Z,14nm,0.7s
AKBB Malin Array Si 56.62 316 P **P 16 57 44.7 +0.1**
AK03 Malin Array Si 56.62 316 P **P 16 57 44.6 0.0**
AK07 Malin Array Si 56.62 316 P **P 16 57 44.9 +0.3**
AK01 Malin Array Si 56.63 316 P **P 16 57 44.7 +0.1**
AK05 Malin Array Si 56.63 316 P **P 16 57 44.8 +0.1**
AK02 Malin Array Si 56.63 316 P **P 16 57 44.8 +0.1**
AK06 Malin Array Si 56.63 316 P **P 16 57 44.8 +0.1**
KIEV Kiev 56.63 316 **P 16 57 44.1 -0.6**
KIEV IAmb IAmb 16 57 45.5
comp=Z,12nm,0.7s
KIEV Kiev 56.63 316 P **P 16 57 44.7 +0.1**
comp=Z,80nm,0.7s
KIEV Kiev 56.63 316 P **P 16 57 44.8 +0.1**
KIEV x x 16 58 06.2
KIEV PcP **PcP 16 58 39.9 -0.2**
AK11 Malin Array Si 56.65 316 P **P 16 57 45.0 +0.2**
AK04 Malin Array Si 56.66 316 P **P 16 57 45.0 +0.1**
AK12 Malin Array Si 56.66 316 P **P 16 57 45.0 +0.1**
AK15 Malin Array Si 56.68 316 P **P 16 57 45.1 +0.1**
AK23 Malin Array Si 56.69 316 P **P 16 57 45.0 -0.1**
AK14 Malin Array Si 56.69 316 P **P 16 57 45.1 0.0**
AK16 Malin Array Si 56.69 316 P **P 16 57 45.3 +0.2**
AK13 Malin Array Si 56.72 316 P **P 16 57 45.4 +0.1**
AK18 Malin Array Si 56.72 316 P **P 16 57 45.2 -0.1**
AK22 Malin Array Si 56.72 316 P **P 16 57 45.2 -0.1**
AK17 Malin Array Si 56.73 316 P **P 16 57 45.5 +0.2**
TLCR 56.74 310 ⇑P **P 16 57 46.5 +1.0**
AK21 Malin Array Si 56.74 316 P **P 16 57 45.3 -0.1**
AK19 Malin Array Si 56.76 316 P **P 16 57 45.5 -0.1**
AK20 Malin Array Si 56.76 316 P **P 16 57 45.6 0.0**
TPGR Topolog 57.02 309 ⇑P **P 16 57 48.5 +0.9**
TIRR Tirgusor 57.03 309 P **P 16 57 48.2 +0.6**
comp=Z,6.9nm,1.0s
MI29 MI29, Kamyanyy 57.48 316 P **P 16 57 50.8 +0.1**
comp=Z,119nm,0.6s
LUBAR Lubar, Ukraine 57.52 315 P **P 16 57 51.3 +0.3**

MI28 Mi28,Pidlybu 57.62 317 P **P 16 57 51.6 0.0**
NDNU Novodnistrovsk 57.75 314 P **P 16 57 52.9 +0.3**
WB0 Warramunga Arr 58.01 134 **P 16 57 53.9 -0.9**
WB0 IAmb IAmb 16 58 14.5
comp=Z,5.7nm,0.7s
WRA Warramunga Arr 58.10 134 P **P 16 57 54.2 -1.2**
comp=Z,0.9nm,0.4s,baz=320,slow=7.5,SNR=41
WRA pP **pP 16 58 14.1 -0.6**
comp=Z,4.4nm,0.7s,baz=322,slow=7.5,SNR=9.7
comp=Z,0.9nm,0.4s
WRAB Tennant Creek 58.10 134 P **P 16 57 55.1 -0.3**
WRAB sP **sP 16 58 22.5 -0.6**
VRI Vrincioaia 58.20 311 ⇓P **P 16 57 57.3 +1.5**
VRI Vrincioaia 58.20 311 P **P 16 57 57.7 +1.9**
comp=Z,19nm,1.3s
TESR Tescani 58.24 311 P **P 16 57 56.9 +0.8**
comp=Z,9.9nm,0.7s
PLOR5 Plostina Array 58.24 311 P **P 16 57 58.1 +1.9**
comp=Z,581nmcomp=Z,53nm,0.9s
PLOR Plostina 58.25 311 ⇓P **P 16 57 58.1 +1.9**
KMPD K-Podol'skiy 58.35 314 P **P 16 57 56.7 -0.1**
TURR Turia 58.69 311 ⇓P **P 16 58 01.0 +1.8**
RNPP9 Sopachiv 58.75 317 P **P 16 57 59.8 +0.3**
MLR Muntele Rosu 58.76 310 LR LR 17 27 32.1
comp=Z,33nm,18.2s,baz=152,slow=40
MLR Muntele Rosu 58.76 310 ⇑P **P 16 58 01.5 +1.6**
MLR Muntele Rosu 58.76 310 P **P 16 58 01.5 +1.6**
comp=Z,27nm,1.0s
RNPP8 Varash 58.77 317 P **P 16 57 59.7 0.0**
ALN Alexandroupoli 58.96 305 IAmb IAmb 16 58 03.3
comp=Z,5.0nm,0.7s
DOPR Dopca 59.13 311 ⇓P **P 16 58 03.5 +1.2**
BURAR Bucovina Array 59.19 313 **P 16 58 03.5 +0.7**
BURAR Bucovina Array 59.19 313 ⇑P **P 16 58 03.7 +0.9**
BUR08 Bucovina Ar. S 59.20 313 IAmb IAmb 17 00 13.0
comp=Z,16nm,1.7s
RDO Rodhopi 59.32 305 IAmb IAmb 16 58 05.8
comp=Z,8.0nm,1.3s
FINES FINESS Array B 59.44 329 P **P 16 58 04.7 +0.6**
comp=Z,4.2nm,0.6s,baz=97,slow=7.0,SNR=28
comp=Z,4.2nm,0.6s
ARR Arges 59.68 310 ⇑P **P 16 58 07.1 +0.9**
PABE Paberze 60.03 322 **P 16 58 08.9 +0.6**
AS31 Alice Springs 60.51 138 **P 16 58 12.1 +0.1**
ASAR Alice Springs 60.51 138 P **P 16 58 11.8 -0.2**
comp=Z,2.1nm,0.5s,baz=320,slow=6.8,SNR=63
ASAR pP **pP 16 58 30.7 -0.7**
comp=Z,2.8nm,0.6s,baz=319,slow=6.7,SNR=6.7
comp=Z,2.1nm,0.5s
BRIU Brid 60.64 314 P **P 16 58 13.6 +1.0**
KWP Kalwaria Pacla 60.80 315 P **P 16 58 14.7 +1.1**
comp=Z,35nm,0.8s
MUKU Mukachevo 60.86 314 P **P 16 58 14.5 +0.5**
DRGR 60.94 312 ⇑P **P 16 58 16.4 +1.6**
GZR Gura Zlata 60.99 310 ⇓P **P 16 58 16.1 +1.0**
ARCES ARCESS Array B 61.04 338 P **P 16 58 15.9 +1.0**
comp=Z,4.5nm,0.7s,baz=113,slow=7.5,SNR=15
comp=Z,4.5nm,0.7s
HOLU Holmets 61.06 314 P **P 16 58 16.3 +0.9**
HERR Herculane 61.28 310 ⇑P **P 16 58 18.2 +1.2**
SURR Surduc 61.42 311 ⇓P **P 16 58 19.7 +1.8**
LIT Litokhoron 61.74 304 P **P 16 58 20.5 +0.3**
LIT IAmb IAmb 16 58 21.3
comp=Z,8.0nm,0.9s
MDVR Moldovita 61.79 310 ⇑P **P 16 58 22.4 +1.9**
ABPO Ambohimpanom 62.09 231 P **P 16 58 21.3 -1.5**
NIE Niedzica 62.37 315 P **P 16 58 25.5 +1.2**
comp=Z,6.6nm,0.9s
AIS Amsterdam Isla 62.61 195 P **P 16 58 24.7 -1.0**
MORH Mrgy, Hungar 63.78 311 P **P 16 58 34.1 +0.5**
comp=Z,4.6nm,1.1s
PDG Podgorica 63.84 307 **P 16 58 34.3 +0.2**
STEB Steborice 63.97 316 *e*P **P 16 58 36.0 +1.2**
KRLC Kraliky 64.59 316 *e*P **P 16 58 39.8 +0.9**
VRAC Vranov 64.80 315 LR LR 17 30 47.6
comp=Z,38nm,19.2s,baz=236,slow=39
KSP Ksiaz 64.81 317 P **P 16 58 41.0 +0.7**
comp=Z,11nm,0.9s
DPC Dobruska-Polom 64.85 316 *e*P **P 16 58 42.1 +1.5**
DPC Dobruska-Polom 64.85 316 P **P 16 58 41.6 +1.0**
RONA Rosalia, Austr 65.19 313 *e*P **P 16 58 43.0 +0.1**
comp=Z,0.3nm,0.3s
CONA Conrad Observa 65.45 314 *e*P **P 16 58 45.5 +0.9**
comp=Z,1.5nm,0.6s
HFS Hagfors 65.46 327 P **P 16 58 44.7 +0.4**
comp=Z,8.6nm,0.5s,baz=111,slow=6.5,SNR=58
comp=Z,8.6nm,0.5s
SOKA Soboth 66.19 312 *i* P **P 16 58 49.7 +0.3**
comp=Z,0.5nm,0.4s
BRG Berggiesshubel 66.29 317 *i* P **P 16 58 51.0 +1.2**
BRG Amp 16 58 51.7
comp=Z,4.1nm,0.9s
ZVC Zvikov 66.33 315 *e*P **P 16 58 51.4 +1.3**
NC405 NORSAR Array S 66.36 328 P **P 16 58 49.9 -0.2**
NC405 IAmb IAmb 16 58 53.8
comp=Z,50nm,1.8s
MOA Molln 66.53 314 *e*P **P 16 58 51.8 +0.4**
comp=Z,0.6nm,0.4s
NB2 NORSAR Subarra 66.61 328 P **P 16 58 51.8 +0.1**
comp=Z,2.7nm,0.6s,baz=84,slow=6.5
NOA NORSAR Array B 66.61 328 P **P 16 58 51.6 0.0**
comp=Z,3.7nm,0.6s,baz=85,slow=6.4,SNR=24
NOA LR LR 17 29 14.9
comp=Z,16nm,18.5s,baz=140,slow=37
comp=Z,3.7nm,0.6s
GEC2 GERESS Array S 66.74 315 P **P 16 58 53.2 +0.3**
GERES GERESS Array B 66.74 315 P **P 16 58 53.8 +1.0**
comp=Z,3.1nm,0.5s,baz=79,slow=6.3,SNR=31
GERES pP **pP 16 59 15.2 +2.3**
comp=Z,1.1nm,0.6s,baz=69,slow=5.6,SNR=2.8
GERES LR LR 17 32 58.3
comp=Z,37nm,20.2s,baz=195,slow=40
comp=Z,3.1nm,0.5s
KHC Kasperske Hory 66.78 315 *e*P **P 16 58 53.4 +0.4**
NC204 NORSAR Array S 66.80 329 P **P 16 58 53.0 +0.1**
NC204 IAmb IAmb 16 58 53.9
comp=Z,9.0nm,0.6s
CLL Collm 66.81 318 *i* P **P 16 58 53.0 -0.1**
comp=Z,6.0nm,1.1s
BIOA Bad Ischl, Aus 66.97 314 *e*P **P 16 58 54.3 0.0**
comp=Z,0.6nm,0.4s
CEL Celeste 67.11 303 P **P 16 58 56.0 +0.7**
KBA Koelnbreinsper 67.27 313 *i* P **P 16 58 56.1 -0.2**
comp=Z,1.9nm,0.4s
LESA Schwarzleotal 67.66 313 *i* P **P 16 58 59.1 +0.5**
comp=Z,4.4nm,0.4s,SNR=7.6
ABTA Abfaltersbach 67.89 313 *e*P **P 16 59 00.1 0.0**
comp=Z,3.8nm,1.3s
FDMO Fiordimonte 68.21 309 IAmb IAmb 16 59 03.9
comp=Z,15nm,1.1s
NRCA Norcia 68.23 309 IAmb IAmb 16 59 04.0
comp=Z,33nm,1.7s
WTTA Wattenberg 68.38 313 *i* P **P 16 59 04.4 +1.0**
comp=Z,1.0nm,0.2s
SQTA Sankt Quirin 68.68 313 *i* P **P 16 59 04.8 -0.3**
comp=Z,3.4nm,0.6s
MOTA Moosalm 68.72 314 *i* P **P 16 59 05.6 +0.2**
comp=Z,1.6nm,0.5s
RETA Reutte 68.92 314 *i* P **P 16 59 06.5 -0.1**
comp=Z,3.3nm,0.6s
FETA Feichten 69.04 313 *e*P **P 16 59 06.6 -0.8**
comp=Z,0.9nm,0.5s
DAVA Damuels 69.55 314 *e*P **P 16 59 10.5 -0.1**
comp=Z,2.2nm,0.6s
KEST Kesra 72.81 302 P **P 16 59 30.6 +0.2**
comp=Z,5.1nm,0.8s,baz=282,slow=17,SNR=5.4
comp=Z,5.1nm,0.8s
LSZ Lusaka 74.95 246 P **P 16 59 43.9 +0.8**
LSZ IAmb IAmb 16 59 44.9
comp=Z,6.6nm,0.7s
LSZ Lusaka 74.95 246 P **P 16 59 44.1 +1.0**
LSZ PcP **PcP 16 59 57.2 +0.5**
LSZ pP **pP 17 00 03.8 +0.3**
EKA Eskdalemuir Ar 75.26 324 P **P 16 59 43.8 -0.4**
comp=Z,1.1nm,0.6s,baz=80,slow=5.6,SNR=6.0
comp=Z,1.1nm,0.6s
ILAR Eielson Array 80.65 22 P **P 17 00 12.3 -1.5**
comp=Z,0.3nm,0.6s,baz=277,slow=5.0,SNR=5.7
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 81.44 309 P **P 17 00 18.2 -0.4**
comp=Z,1.2nm,0.9s,baz=47,slow=4.3,SNR=5.0
comp=Z,1.2nm,0.9s
LBTB Lobatse 81.89 239 P **P 17 00 22.0 +0.8**
LBTB PcP **PcP 17 00 26.8 +0.2**
LBTB pP **pP 17 00 42.2 +0.3**
INK Inuvik 82.37 16 LR LR 17 41 39.7

comp=Z,24nm,20.4s,baz=1.5,slow=39
BOSA Boshof 83.96 236 P **P 17 00 31.3 -0.5**
comp=Z,1.9nm,0.6s,baz=56,slow=3.2,SNR=7.3
comp=Z,1.9nm,0.6s
BOSA Boshof 83.96 236 P **P 17 00 31.9 +0.1**
BOSA sP **sP 17 01 01.0 0.0**
TXAR Lajitas Array 125.06 19 PKP **PKPdf 17 07 02.0 +0.2**
comp=Z,0.6nm,0.7s,baz=247,slow=2.7,SNR=6.5

*IDC **18** 16:48:33.1±2.6, 60.°97N×29.°86E, h0km, mbtmp3.4/1, ML2.5/1, Error ellipse: s-maj=22.7km s-min=13.4km az=160.0*
*HEL **18** 16:48:35.4±0.2, 61.°12N×29.°88E, h0km, ML2.0, Explosion*
ISC 18 16:48:32.6±1.0, 61.°08N±0.°03×29.°79E±0.°04, h0km, n28, σ1§69/43, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti** baz=119	**0.53**	**311**	PG	**Pb**	**16 48 45.5**	**+0.7**
RUF				SG	**Sb**	**16 48 52.0**	**-1.0**
RUF	comp=Z,22nm,0.2s			MSG		16 48 52.8	
VJF	**Virojoki**	**1.22**	**245**	PG	**Pn**	**16 48 58.4**	**+1.5**
VJF	comp=Z,21nm,0.2s			MSG		16 49 14.0	
VJF				SB	**Sn**	**16 49 15.4**	**+1.4**
FIA0	**FINESS Array S** baz=96	**1.83**	**283**	PG	**Pg**	**16 49 08.3**	**+0.7**
FIA0	comp=Z,10nm,0.2s			MSG		16 49 30.9	
FIA0				SG	**Sg**	**16 49 32.3**	**+1.0**
FINES	**FINESS Array B** comp=Z,1.2nm,0.3s,baz=103,slow=16,SNR=65	**1.83**	**283**	Pn	**Pg**	**16 49 08.6**	**+1.0**
FINES				Lg	Lg	16 49 32.9	
KAF	**Kangasniemi** comp=Z,0.6nm,0.3s,baz=98,slow=26,SNR=6.2	**1.96**	**303**	PG	**Pg**	**16 49 10.9**	**+0.8**
KAF	comp=Z,8.7nm,0.2s			MSG		16 49 34.0	
KAF				SG	**Sg**	**16 49 36.1**	**+0.6**
JOF	**Joensuu**	**1.98**	**21**	*eP*	**Pg**	**16 49 10.7**	**+0.1**
JOF	**Joensuu** baz=200	**1.98**	**21**	PG	**Pb**	**16 49 10.0**	**+0.5**
JOF				SG	**Sb**	**16 49 35.4**	**+0.6**
PVF	**Pernaja**	**2.00**	**256**	PG	**Pg**	**16 49 12.1**	**+1.2**
PVF	comp=Z,22nm,0.2s			MSG		16 49 36.3	
PVF				SG	**Sg**	**16 49 38.8**	**+2.1**
SUF	**Sumiainen** baz=126	**2.38**	**315**	PG	**Pb**	**16 49 17.8**	**+1.5**
SUF	comp=Z,3.6nm,0.2s			MSG		16 49 45.9	
SUF				SG	**Sg**	**16 49 48.8**	**-0.2**
NIF	**Nilsia**	**2.50**	**339**	PG	**Pb**	**16 49 19.1**	**+0.8**
NIF	comp=Z,3.2nm,0.2s			MSG		16 49 48.5	
NIF				SG	**Sb**	**16 49 50.6**	**+1.1**
NUR	**Nurmijarvi**	**2.58**	**259**	PG	**Pg**	**16 49 22.2**	**+0.1**
NUR	comp=Z,5.9nm,0.2s			MSG		16 49 53.1	
NUR				SG	**Sg**	**16 49 56.6**	**+1.1**
KEF	**Keuruu**	**2.59**	**297**	*eP*	**Pb**	**16 49 20.2**	**+0.4**
KEF	**Keuruu** baz=109	**2.59**	**297**	PB	**Pb**	**16 49 20.4**	**+0.6**
KEF	comp=Z,4.3nm,0.2s			MSG		16 49 52.4	
KEF				SG	**Sb**	**16 49 53.2**	**+1.1**
HEL5	**Espoo, Suvisaa** comp=Z,5.8nm,0.2s	**2.67**	**251**	MSG		16 49 55.7	
HEL5				SG	**Sg**	**16 49 59.5**	**+1.3**
MEF	**Metsahovi**	**2.79**	**254**	*eP*	**Pg**	**16 49 25.7**	**-0.4**
MEF	**Metsahovi**	**2.79**	**254**	PB	**Pb**	**16 49 25.2**	**+2.0**
MEF				SN	**Sb**	**16 49 57.1**	**-0.9**
MEF	comp=Z,7.0nm,0.2s			MSG		16 49 59.1	
VSU	**Vasula**	**3.04**	**212**	PB	**Pb**	**16 49 27.3**	**-0.3**
VSU				SN	**Sb**	**16 50 04.0**	**-1.2**
RMF	**Romuvaara**	**3.15**	**1**	PB	**Pb**	**16 49 27.9**	**-1.5**
RMF	comp=Z,1.9nm,0.2s			MSG		16 50 06.6	
RMF				SB	**Sb**	**16 50 07.6**	**-0.8**
TVF	**Tvarminne**	**3.47**	**252**	SG	**Sg**	**16 50 22.7**	**-1.2**
VAF	**Ylistaro**	**3.88**	**304**	*eP*	**Pb**	**16 49 38.8**	**-3.1**
VAF	**Ylistaro** baz=116	**3.88**	**304**	PG	**Pg**	**16 49 46.2**	**-0.8**
VAF				SG	**Sg**	**16 50 36.8**	**-0.5**
RAF	**Rauma**	**3.90**	**273**	*eP*	**Pb**	**16 49 38.9**	**-3.2**
RAF	**Rauma**	**3.90**	**273**	SG	**Sg**	**16 50 37.2**	**-0.6**
OUF	**Merijarvi**	**4.04**	**327**	PG	**Pb**	**16 49 47.2**	**+2.7**
OUF				SG	**Sg**	**16 50 41.0**	**-1.2**
OBF4	**Vikkela, Lumij**	**4.32**	**332**	PN	**Pn**	**16 49 43.7**	**+4.3**
I43RU	**DUBNA INFRASON** baz=326,slow=315,SNR=4.8	**5.82**	**135**	I	I	17 22 00.0	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=1.7	**8.68**	**350**	Pn	**Pn**	**16 50 40.2**	**+1.0**
ARCES				Sn	**Sn**	**16 52 13.4**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=167,slow=24,SNR=1.3						
	comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B** baz=76,slow=19,SNR=1.0	**9.00**	**278**	Sn	**Sn**	**16 52 22.2**	**-3.5**
NOA				Lg	Lg	16 53 11.9	
	baz=70,slow=20,SNR=3.9						

*GUC **18** 17:00:27.9±0.6, 22.°68S×68.°73W, h100km±3km, ML3.7*
*SJA **18** 17:00:27.0±2.0, 22.°62S×68.°89W, h124km±13km, ML3.4, MW3.7*
ISC 18 17:00:29.3±1.5, 22.°65S±0.°04×68.°83W±0.°04, h101km±11km, n26, σ1§16/36, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.67**	**117**	⇓*iP*	**Pn**	**17 00 45.1**	**-1.7**
AF01				*eS*	**Sn**	**17 00 57.8**	**-2.1**
AF01	comp=E,6μm,0.3s			IAML		17 00 59.2	
PB06	**IPOC Station P**	**0.69**	**265**	⇑*iP*	**Pn**	**17 00 46.7**	**-0.1**
PB06				*eS*	**Sn**	**17 01 01.1**	**+1.1**
PB06	comp=E,2μm,0.2s			IAML		17 01 05.1	
PB06	**IPOC Station P**	**0.69**	**265**	*iP*	**Pn**	**17 00 46.1**	**-0.8**
PB06				*eS*	**Sn**	**17 01 01.4**	**+1.4**
PB06	comp=Z,2μm,0.2s			IAML		17 01 03.5	
PB09	**IPOC Station P**	**0.93**	**336**	⇑*iP*	**Pn**	**17 00 49.7**	**+0.4**
PB09				*eS*	**Sn**	**17 01 05.2**	**+0.9**
PB09	comp=N,1μm,0.6s			IAML		17 01 06.8	
PB09	**IPOC Station P**	**0.93**	**336**	*iP*	**Pn**	**17 00 49.0**	**-0.3**
PB09	comp=Z,1μm,0.5s			IAML		17 01 06.1	
PB03	**IPOC Station P**	**1.05**	**305**	⇑*iP*	**Pn**	**17 00 50.6**	**+0.1**
PB03				*eS*	**Sn**	**17 01 07.3**	**+0.9**
PB03	comp=E,2μm,0.3s			IAML		17 01 08.4	
PB03	**IPOC Station P**	**1.05**	**305**	*iP*	**Pn**	**17 00 49.9**	**-0.6**
PB03				*eS*	**Sn**	**17 01 07.5**	**+1.1**
PB03	comp=Z,1μm,0.4s			IAML		17 01 07.8	
PB05	**IPOC Station P**	**1.29**	**261**	⇑*iP*	**Pn**	**17 00 53.2**	**0.0**
PB05				*eS*	**Sn**	**17 01 12.3**	**+1.2**
PB05	**IPOC Station P**	**1.29**	**261**	*iP*	**Pn**	**17 00 52.5**	**-0.7**
PB05				*eS*	**Sn**	**17 01 12.8**	**+1.7**
PB05	comp=Z,411nm,0.4s			IAML		17 01 13.5	
PB02	**IPOC Station P**	**1.66**	**323**	*eP*	**Pn**	**17 00 57.8**	**+0.2**
PB02				*eS*	**Sn**	**17 01 19.6**	**+0.4**
PB02	comp=E,2μm,0.2s			IAML		17 01 26.5	
PB02	**IPOC Station P**	**1.66**	**323**	*iP*	**Pn**	**17 00 57.2**	**-0.5**
PB02	comp=Z,1μm,0.2s			IAML		17 01 28.4	
PB01	**IPOC Station P**	**1.71**	**339**	*eP*	**Pn**	**17 00 58.3**	**-0.1**
PB01				*eS*	**Sn**	**17 01 21.4**	**+0.9**
PB01	comp=N,1μm,0.2s			IAML		17 01 23.1	
PB01	**IPOC Station P**	**1.71**	**339**	*iP*	**Pn**	**17 00 57.7**	**-0.6**
PB01	comp=Z,570nm,0.2s			IAML		17 01 22.6	
PB10	**IPOC Station P**	**1.81**	**241**	*eP*	**Pn**	**17 00 59.4**	**-0.1**
PB10				*eS*	**Sn**	**17 01 21.0**	**-1.4**
PB10	**IPOC Station P**	**1.81**	**241**	*iP*	**Pn**	**17 00 59.0**	**-0.4**
PB10				IAML		17 01 23.5	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,257nm,0.7s						
TA01	**Diego Aracena** comp=N,232nm,0.3s	**2.43**	**328**	IAML		17 01 41.7	
TA01	**Diego Aracena**	**2.43**	**328**	*iP*	**Pn**	**17 01 05.8**	**-1.7**
TA01	comp=Z,204nm,0.8s			IAML		17 01 43.3	
PB14	**IPOC Station P**	**2.44**	**216**	*iP*	**Pn**	**17 01 07.5**	**-0.5**
PB14	comp=Z,210nm,0.4s			IAML		17 01 48.8	
HMBC	**Humberstone**	**2.56**	**337**	*iP*	**Pn**	**17 01 07.7**	**-1.7**
HMBC	comp=Z,237nm,0.3s			IAML		17 01 52.1	
GO02	**Mina Guanaco**	**2.60**	**195**	*iP*	**Pn**	**17 01 08.5**	**-1.5**
GO02	comp=Z,206nm,0.5s			IAML		17 02 06.4	
SALTA		**2.77**	**125**	*iP*	**Pn**	**17 01 13.9**	**+1.5**
SALTA	comp=Z,46nm,0.1s			IAML		17 02 29.7	
PB11	**IPOC Station P**	**2.98**	**345**	*iP*	**Pn**	**17 01 13.3**	**-1.7**
PB11	comp=Z,103nm,1.1s			IAML		17 02 20.0	
HJA	**Humahuaca**	**3.20**	**101**	*iP*	**Pn**	**17 01 18.2**	**+0.2**
HJA	comp=Z,5.4nm,0.5s			IAML		17 02 04.1	
SLA	**San Lorenzo**	**3.68**	**125**	*iP*	**Pn**	**17 01 25.6**	**+1.3**
SLA	comp=Z,3.9nm,3.0s			IAML		17 02 13.9	
PB12	**IPOC Station P**	**4.26**	**340**	*iP*	**Pn**	**17 01 30.0**	**-2.1**
PB12	comp=Z,58nm,1.1s			IAML		17 02 41.5	
PB16	**IPOC Station P**	**4.34**	**351**	*iP*	**Pn**	**17 01 34.4**	**+0.7**
PB16	comp=Z,33nm,0.8s			IAML		17 03 05.9	

*NNC **18** 17:08:45.1±4.9, 36.°68N×71.°47E, h218km±46km, mb2.9, mpv4.1, Error ellipse: s-maj=49.2km s-min=36.9km az=59.0*
ISC 18 17:08:45.4±3.4, 36.°7N±0.°2×71.°3E±0.°1, h200km, n10, σ1§22/14, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor** SNR=12	**6.08**	**23**	P	**Pn**	**17 10 13.5**	**-0.5**
EKS2	**Erkin-Say** SNR=7.2	**6.27**	**17**	P	**Pn**	**17 10 17.5**	**+1.3**
KK31	**Karatay Array** 18nm,0.4s,baz=181,slow=13,SNR=150	**6.44**	**355**	P	**Pn**	**17 10 17.4**	**-0.8**
KK31	4.6nm,0.3s,baz=186,slow=23,SNR=3.4			⇓S	**Sn**	**17 11 34.2**	**+2.3**
AAK	**Ala-Archa** SNR=9.1	**6.44**	**22**	P	**Pn**	**17 10 18.3**	**-0.2**
AAK	**Ala-Archa** 2.6nm,0.4s	**6.44**	**22**	⇑P	**Pn**	**17 10 17.9**	**-0.5**
AAK	5.4nm,0.5s			⇑S	**Sn**	**17 11 31.3**	**-0.9**
CHMS	**Chumysh** SNR=8.4	**6.85**	**22**	P	**Pn**	**17 10 23.3**	**-0.3**
USP	**Ospenovka** SNR=10	**7.03**	**20**	P	**Pn**	**17 10 26.1**	**+0.2**
TKM2	**Tokmak 2** SNR=6.0	**7.06**	**27**	P	**Pn**	**17 10 26.5**	**-0.1**
AB31	**Akbulak array** 0.7nm,0.3s,baz=140,slow=13,SNR=39	**15.03**	**330**	⇓P	**P**	**17 12 09.1**	**+0.7**
AB31	1.4nm,0.6s,baz=156,slow=22,SNR=6.3			⇑S	**S**	**17 14 51.9**	**-2.6**
AKTO	**Aktyubinsk** 1.5nm,0.6s	**16.73**	**329**	⇑P	**P**	**17 12 27.3**	**+0.2**
AKTO	1.9nm,1.0s			⇓S	**S**	**17 15 31.8**	**+0.3**

*TAP **18** 17:25:55.3, 24.°71N×121.°92E, h83km, ML3.3, B*
*JMA **18** 17:25:55.1±0.2, 24.°7N±0.°5×121.°9E±0.°5, h84km±2km, MV2.5/12, TAIWAN REGION*
ISC 18 17:25:55.5±1.4, 24.°73N±0.°03×121.°95E±0.°03, h83km±6km, n107, σ0§72/183, 4C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.15**	**217**	⇓*iP*	**Pn**	**17 26 07.7**	**+0.2**
TWC				*iS*	**Sn**	**17 26 16.4**	**0.0**
ESAO	**Su ao**	**0.18**	**212**	P	**Pn**	**17 26 08.2**	**+0.6**
ESAO				S	**Sn**	**17 26 16.9**	**+0.3**
ILA	**Ilan**	**0.18**	**282**	*eP*	**Pn**	**17 26 08.1**	**+0.4**
ILA				*eS*	**Sn**	**17 26 18.0**	**+1.4**
NDS	**Dongshan**	**0.23**	**246**	P	**Pn**	**17 26 07.9**	**0.0**
NDS				S	**Sn**	**17 26 17.9**	**+1.0**
TWE	**Neicheng**	**0.26**	**269**	*iP*	**Pn**	**17 26 08.2**	**+0.2**
TWE				*iS*	**Sn**	**17 26 18.1**	**+1.0**
TIPB	**Shuangxi**	**0.27**	**336**	*iP*	**Pn**	**17 26 07.5**	**-0.6**
TIPB				*iS*	**Sn**	**17 26 16.8**	**-0.6**
TWB1	**Santiao Chiao**	**0.28**	**8**	*iP*	**Pn**	**17 26 08.0**	**-0.1**
TWB1				*iS*	**Sn**	**17 26 17.1**	**-0.3**
EWUT	**Wuta**	**0.32**	**209**	P	**Pn**	**17 26 08.7**	**+0.4**
EWUT				S	**Sn**	**17 26 17.6**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.33**	**276**	⇑*iP*	**Pn**	**17 26 08.6**	**+0.1**
FUSB				*iS*	**Sn**	**17 26 18.0**	**-0.1**
ENA	**Nanau**	**0.35**	**212**	*iP*	**Pn**	**17 26 08.8**	**+0.3**
ENA				*iS*	**Sn**	**17 26 18.6**	**+0.5**
ENTT	**Nioudou**	**0.36**	**256**	⇑*iP*	**Pn**	**17 26 09.0**	**+0.4**
ENTT				*iS*	**Sn**	**17 26 18.9**	**+0.7**
SXI1	**Grass Mountain**	**0.37**	**350**	P	**Pn**	**17 26 08.8**	**0.0**
SXI1				S	**Sn**	**17 26 19.1**	**+0.6**
NWF	**Wu-fen Shan**	**0.37**	**336**	*iP*	**Pn**	**17 26 08.7**	**0.0**
NWF				*iS*	**Sn**	**17 26 18.0**	**-0.6**
WFSB	**Wu-fen Shan**	**0.37**	**336**	*eP*	**Pn**	**17 26 08.7**	**0.0**
WFSB				*eS*	**Sn**	**17 26 18.2**	**-0.2**
NWLT	**Wulai**	**0.41**	**277**	*iP*	**Pn**	**17 26 08.9**	**0.0**
NWLT				*eS*	**Sn**	**17 26 18.5**	**-0.3**
TWA	**Mucha**	**0.41**	**307**	P	**Pn**	**17 26 08.9**	**-0.1**
TWA				S	**Sn**	**17 26 18.8**	**-0.2**
LATG	**Datong**	**0.43**	**243**	⇑*iP*	**Pn**	**17 26 09.5**	**+0.3**
LATG				S	**Sn**	**17 26 19.3**	**0.0**
EAHA	**Aohua**	**0.44**	**206**	*eP*	**Pn**	**17 26 09.3**	**+0.2**
EAHA				*eS*	**Sn**	**17 26 20.1**	**+0.9**
NHDH	**Xindian Distri**	**0.45**	**302**	*iP*	**Pn**	**17 26 09.3**	**+0.1**
NHDH				*eS*	**Sn**	**17 26 19.3**	**0.0**
TNOU	**National Taiwa**	**0.45**	**339**	*eP*	**Pn**	**17 26 09.0**	**-0.2**
TNOU				S	**Sn**	**17 26 18.7**	**-0.7**
NHY	**Taipei**	**0.46**	**312**	P	**Pn**	**17 26 09.9**	**+0.6**
NHY				*eS*	**Sn**	**17 26 19.5**	**0.0**
TATO	**Taipei**	**0.48**	**301**	P	**Pn**	**17 26 09.5**	**0.0**
TATO	**Taipei**	**0.48**	**301**	S	**Sn**	**17 26 19.6**	**-0.2**
TAP	**Taipei**	**0.51**	**308**	*iP*	**Pn**	**17 26 09.6**	**0.0**
TAP				*iS*	**Sn**	**17 26 20.1**	**0.0**
YHNB	**Yeheng**	**0.52**	**264**	P	**Pn**	**17 26 09.7**	**-0.2**
YHNB	**Yeheng**	**0.52**	**264**	S	**Sn**	**17 26 20.0**	**-0.6**
YHNB	**Yeheng**	**0.52**	**264**	P	**Pn**	**17 26 09.5**	**-0.4**
YHNB				S	**Sn**	**17 26 19.7**	**-0.9**
NSK	**Sanguang**	**0.54**	**265**	*iP*	**Pn**	**17 26 09.7**	**-0.3**
NSK				*iS*	**Sn**	**17 26 19.9**	**-0.9**
YM01	**YM01**	**0.54**	**321**	P	**Pn**	**17 26 09.8**	**-0.2**
YM01				S	**Sn**	**17 26 20.7**	**-0.1**
YM08	**YM08**	**0.56**	**325**	P	**Pn**	**17 26 09.8**	**-0.4**
YM08				*iS*	**Sn**	**17 26 20.0**	**-1.1**
ZUZH	**Zhuzihu**	**0.57**	**320**	*iP*	**Pn**	**17 26 10.2**	**-0.1**
ZUZH				*iS*	**Sn**	**17 26 19.8**	**-1.4**
NNSB	**Datong**	**0.59**	**240**	P	**Pn**	**17 26 10.8**	**+0.2**
NNSB				S	**Sn**	**17 26 21.8**	**0.0**
NNS	**Nan Shan**	**0.60**	**241**	P	**Pn**	**17 26 11.0**	**+0.4**
NNS				*iS*	**Sn**	**17 26 21.9**	**+0.1**
ANP	**Anpu**	**0.60**	**320**	*eP*	**Pn**	**17 26 10.6**	**0.0**
ANP				*eS*	**Sn**	**17 26 21.1**	**-0.7**
TWS1	**Kuangyinshan**	**0.61**	**308**	⇑*iP*	**Pn**	**17 26 10.8**	**+0.2**
TWS1				*iS*	**Sn**	**17 26 22.1**	**+0.4**
NTST	**Danshui**	**0.63**	**314**	*iP*	**Pn**	**17 26 11.1**	**+0.3**
NTST				*iS*	**Sn**	**17 26 22.4**	**+0.3**
NACB	**Ninganchiao**	**0.64**	**210**	P	**Pn**	**17 26 10.2**	**-0.7**
NACB	**Ninganchiao**	**0.64**	**210**	*iP*	**Pn**	**17 26 10.3**	**-0.5**
NACB				*iS*	**Sn**	**17 26 21.7**	**-0.6**
ETL	**Fush Village**	**0.64**	**208**	*eP*	**Pn**	**17 26 10.4**	**-0.5**
ETL				*eS*	**Sn**	**17 26 22.0**	**-0.4**
ETLH	**Xiulin Townshi**	**0.67**	**219**	*iP*	**Pn**	**17 26 10.9**	**-0.4**
ETLH				*iS*	**Sn**	**17 26 22.3**	**-0.7**
KSHI	**Guanxi Townshi**	**0.70**	**274**	*eP*	**Pn**	**17 26 11.6**	**+0.1**
KSHI				*eS*	**Sn**	**17 26 23.9**	**+0.6**
TWD	**Chiawan**	**0.72**	**206**	*eP*	**Pn**	**17 26 11.1**	**-0.6**
TWD				*iS*	**Sn**	**17 26 22.7**	**-1.0**
NCUH	**Zhongli**	**0.73**	**289**	P	**Pn**	**17 26 11.9**	**+0.1**
NCUH				*iS*	**Sn**	**17 26 24.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NFF	**Wufeng Townshi**	**0.76**	**263**	P	**Pn**	**17 26 11.6**	**-0.5**
NFF				*iS*	**Sn**	**17 26 23.9**	**-0.7**
FUSS	**Fushou**	**0.80**	**233**	P	**Pn**	**17 26 13.3**	**+0.5**
FUSS				*iS*	**Sn**	**17 26 25.9**	**+0.2**
TWT	**Tachien**	**0.85**	**236**	*eP*	**Pn**	**17 26 14.1**	**+0.9**
TWT				*iS*	**Sn**	**17 26 26.8**	**+0.4**
WHF	**Hehuan Shan**	**0.85**	**227**	*iP*	**Pn**	**17 26 13.6**	**+0.1**
WHF				S	**Sn**	**17 26 26.7**	**-0.2**
LIOB	**Emei**	**0.85**	**265**	*eP*	**Pn**	**17 26 13.0**	**-0.1**
LIOB				*iS*	**Sn**	**17 26 25.8**	**-0.5**
LXIB	**Xiulin Townshi**	**0.86**	**215**	*eP*	**Pn**	**17 26 12.6**	**-0.7**
LXIB				*eS*	**Sn**	**17 26 26.9**	**+0.4**
TDCB	**Techi**	**0.86**	**237**	*eP*	**Pn**	**17 26 14.1**	**+0.8**
TDCB				S	**Sn**	**17 26 26.9**	**+0.3**
ETM	**Tongmen**	**0.86**	**209**	*eP*	**Pn**	**17 26 12.4**	**-0.9**
ETM				*eS*	**Sn**	**17 26 25.4**	**-1.1**
NSTT	**Nanjuang**	**0.87**	**264**	*eP*	**Pn**	**17 26 13.1**	**-0.2**
NSTT				*iS*	**Sn**	**17 26 25.4**	**-1.1**
SBCB	**Hsinchu**	**0.88**	**274**	*eS*	**Sn**	**17 26 26.6**	**-0.1**
HSN	**Hsinchu**	**0.89**	**275**	*eP*	**Pn**	**17 26 13.2**	**-0.3**
HSN				*iS*	**Sn**	**17 26 25.9**	**-1.0**
TEYL	**Yanliau Villag**	**0.91**	**200**	*eP*	**Pn**	**17 26 13.6**	**-0.2**
TEYL				S	**Sn**	**17 26 27.7**	**+0.3**
JYNG	**Yonagunijimaku**	**0.95**	**107**	P	**Pn**	**17 26 14.2**	**0.0**
JYNG				*eS*	**Sn**	**17 26 27.9**	**-0.3**
SHUL	**Shoufeng**	**1.00**	**201**	*eP*	**Pn**	**17 26 14.8**	**0.0**
YOJ	**Yonaguni jima**	**1.00**	**105**	P	**Pn**	**17 26 14.6**	**-0.2**
YOJ	**Yonaguni jima**	**1.00**	**105**	S	**Sn**	**17 26 29.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.00**	**105**	*eP*	**Pn**	**17 26 14.8**	**0.0**
YOJ				*eS*	**Sn**	**17 26 29.1**	**-0.2**
YOJ	**Yonaguni jima**	**1.00**	**105**	P	**Pn**	**17 26 14.9**	**+0.1**
YOJ				S	**Sn**	**17 26 29.9**	**+0.7**
WHP	**Taichung City**	**1.02**	**244**	*eP*	**Pn**	**17 26 15.7**	**+0.7**
WHP				S	**Sn**	**17 26 30.0**	**+0.3**
ESL	**Shilin**	**1.02**	**207**	P	**Pn**	**17 26 13.9**	**-1.2**
ESL				*eS*	**Sn**	**17 26 28.2**	**-1.5**
OWD	**Renai**	**1.04**	**223**	*eP*	**Pn**	**17 26 15.6**	**+0.2**
OWD				*iS*	**Sn**	**17 26 30.3**	**0.0**
WUSB	**Renai**	**1.05**	**226**	*iP*	**Pn**	**17 26 16.0**	**+0.4**
WUSB				*eS*	**Sn**	**17 26 30.1**	**-0.4**
NMLH	**Miaoli**	**1.07**	**260**	*eP*	**Pn**	**17 26 14.5**	**-1.1**
NMLH				*eS*	**Sn**	**17 26 30.2**	**-0.5**
NSY	**Sanyi**	**1.12**	**254**	*eP*	**Pn**	**17 26 17.0**	**+0.7**
WARBT	**Fenglin Townsh**	**1.13**	**207**	*eP*	**Pn**	**17 26 14.9**	**-1.5**
WARBT				*iS*	**Sn**	**17 26 30.0**	**-2.0**
TWQ1	**Liyutan**	**1.13**	**251**	*eP*	**Pn**	**17 26 16.9**	**+0.5**
EGFH	**Guangfu**	**1.16**	**204**	*eP*	**Pn**	**17 26 16.0**	**-0.7**
EGFH				*eS*	**Sn**	**17 26 31.1**	**-1.5**
WCS	**Beigang Elemen**	**1.16**	**235**	*eP*	**Pn**	**17 26 16.6**	**-0.1**
VWDT	**VWDT**	**1.22**	**217**	*eP*	**Pn**	**17 26 17.8**	**+0.4**
VWDT				S	**Sn**	**17 26 33.7**	**-0.1**
WDJ	**Dajia District**	**1.25**	**253**	*eP*	**Pn**	**17 26 18.4**	**+0.6**
WDJ				*iS*	**Sn**	**17 26 34.7**	**+0.2**
SMLT	**Sun Moon Lake**	**1.27**	**229**	*eP*	**Pn**	**17 26 19.1**	**+0.9**
SMLT				S	**Sn**	**17 26 37.5**	**+2.2**
TCU	**Taichung**	**1.29**	**244**	*eP*	**Pn**	**17 26 18.9**	**+0.5**
SSLB	**Suanglung**	**1.30**	**224**	P	**Pn**	**17 26 19.3**	**+0.7**
SSLB	**Suanglung**	**1.30**	**224**	S	**Sn**	**17 26 36.9**	**+1.1**
SSLB	**Suanglung**	**1.30**	**224**	P	**Pn**	**17 26 19.2**	**+0.7**
SSLB				*iS*	**Sn**	**17 26 36.8**	**+0.9**
HGSD	**Ruisui**	**1.32**	**201**	*eP*	**Pn**	**17 26 18.9**	**+0.2**
HGSD				*eS*	**Sn**	**17 26 36.6**	**+0.5**
EHY	**Hungye**	**1.34**	**205**	*eP*	**Pn**	**17 26 19.1**	**+0.1**
WHYT	**Xinyi Township**	**1.43**	**224**	*eP*	**Pn**	**17 26 21.3**	**+1.1**
YULB	**Yu-li**	**1.46**	**204**	P	**Pn**	**17 26 19.7**	**-0.8**
YULB	**Yu-li**	**1.46**	**204**	S	**Sn**	**17 26 37.5**	**-1.8**
YULB	**Yu-li**	**1.46**	**204**	*eP*	**Pn**	**17 26 18.8**	**-1.7**
TWF1	**Yuli**	**1.49**	**204**	*eP*	**Pn**	**17 26 20.6**	**-0.4**
ALS	**Alishan**	**1.60**	**221**	*eP*	**Pn**	**17 26 23.7**	**+1.2**
ALS				S	**Sn**	**17 26 44.4**	**+1.4**
FULB	**Fuli**	**1.64**	**202**	*eP*	**Pn**	**17 26 22.3**	**-0.5**
WGK	**Gukeng**	**1.64**	**231**	*eP*	**Pn**	**17 26 23.4**	**+0.7**
WGK				*eS*	**Sn**	**17 26 44.0**	**+0.7**
WDLH	**Douliu**	**1.65**	**231**	*eP*	**Pn**	**17 26 23.6**	**+0.7**
WDLH				S	**Sn**	**17 26 43.1**	**-0.6**
IRIF	**Iriomote-Funau**	**1.67**	**103**	P	**Pn**	**17 26 23.1**	**-0.1**
IRIF				S	**Sn**	**17 26 44.0**	**-0.2**
CHKT	**Chengkung**	**1.71**	**198**	*iP*	**Pn**	**17 26 22.9**	**-0.8**
CHKT				S	**Sn**	**17 26 42.7**	**-2.3**
ELDTW	**Lidau**	**1.75**	**209**	*eP*	**Pn**	**17 26 24.8**	**+0.4**
WCKO	**Fanlu**	**1.78**	**224**	*eS*	**Sn**	**17 26 47.8**	**+1.1**
CHY	**Chiayi**	**1.85**	**229**	*eP*	**Pn**	**17 26 26.1**	**+0.5**
CHY				S	**Sn**	**17 26 48.8**	**+0.4**
TPUB	**Ta-pu**	**1.86**	**221**	P	**Pn**	**17 26 26.6**	**+0.8**
TPUB	**Ta-pu**	**1.86**	**221**	S	**Sn**	**17 26 48.9**	**+0.2**
TPUB	**Ta-pu**	**1.86**	**221**	*eP*	**Pn**	**17 26 26.3**	**+0.6**
WSF	**Szhu**	**1.91**	**236**	*eS*	**Sn**	**17 26 49.9**	**0.0**
WTP	**Ta-pu**	**1.91**	**220**	*eP*	**Pn**	**17 26 27.6**	**+1.2**
JKRS	**Kuro-shima**	**1.94**	**104**	*eP*	**Pn**	**17 26 27.4**	**+0.6**
JKRS				*eS*	**Sn**	**17 26 51.0**

H04N3	CROZET ISLANDS	66.47	210	T	T	19 09 49.1	
	baz=37,slow=75,SNR=9.7						

*OSPL **18** 18:26:22.4±2.6, 18°.43N×73°.06W, h0km±11km, ML3.1*
*SDD **18** 18:26:22.6±1.9, 18°.47N×73°.04W, h23km±67km, MD3.9, ML3.3, MW3.8*
*SSNC **18** 18:26:23.9±2.1, 18°.51N×73°.00W, h3km±14km, MD3.6, ML3.3*

ISC 18 18:26:20.0±1.4, 18°.61N±0°.06×73°.05W±0°.03, h7km±11km, n29, σ1§19/53, 3C-4D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	Port-au-Prince	0.72	97	eP	Pb	18 26 34.9	0.0
PAPH			⇑	eSg	Sb	18 26 44.8	-0.1
PAPH				IAML		18 26 45.4	
	comp=N,2μm,0.2s						
PAPH				IAML		18 26 45.4	
	comp=E,2μm,0.6s						
PAPH	Port-au-Prince	0.72	97	eP	Pb	18 26 34.8	0.0
PAPH				eS	Sb	18 26 44.8	-0.1
PAPH				IAML		18 26 45.3	
	comp=E,661nm,0.2s						
PAPH				IAML		18 26 45.3	
	comp=N,948nm,0.2s						
PAPH	Port-au-Prince	0.72	97	i P	Pb	18 26 35.0	+0.2
PAPH				eS	Sb	18 26 44.8	-0.1
LONE3	El Aguacate, B	1.51	90	i P	Pb	18 26 48.1	-0.3
LONE3				IAML		18 27 14.3	
	comp=Z,149nm,0.4s						
LODU1	El Espartillar	1.52	100	i P	Pn	18 26 48.1	+0.6
LODU1				IAML		18 27 13.8	
	comp=Z,665nm,0.6s						
LOBH	Bahia de las A	1.53	119	i P	Pn	18 26 47.5	-0.3
LOBH				eS	Sn	18 27 07.0	-1.0
LOBH				IAML		18 27 09.5	
	comp=Z,114nm,0.7s						
REDR	Restauracion	1.66	70	ePg	Pn	18 26 48.0	-1.5
REDR			⇑	eSg	Sn	18 27 08.8	-2.3
REDR				IAML		18 27 11.1	
	comp=N,619nm,0.5s						
SDDR	Presa de Saban	1.71	77	ePg	Pg	18 26 52.9	+0.2
SDDR			⇓	eSg	Sg	18 27 15.1	+0.2
SDDR				IAML		18 27 16.2	
	comp=E,277nm,0.6s						
SDDR				IAML		18 27 16.3	
	comp=N,280nm,1.1s						
SDDR	Presa de Saban	1.71	77	eP	Pg	18 26 52.6	-0.1
SDDR				eS	Sg	18 27 15.4	+0.5
SDDR				IAML		18 27 16.6	
	comp=N,281nm,0.6s						
SDDR				IAML		18 27 17.4	
	comp=N,284nm,0.7s						
SDDR	Presa de Saban	1.71	77	i P	Pg	18 26 52.9	+0.2
SDDR				eS	Sg	18 27 14.5	-0.4
SDDR				IAML		18 27 20.7	
	comp=Z,259nm,0.8s						
PODR	Polo	1.74	105	⇓ePg	Pb	18 26 52.5	+0.2
PODR				IAML		18 27 20.8	
	comp=E,320nm,0.5s						
PODR				IAML		18 27 21.9	
	comp=N,293nm,0.7s						
PODR	Polo	1.74	105	i P	Pb	18 26 52.5	+0.2
PODR				eS	Sg	18 27 16.8	+0.9
LOVI	El Cajuil, Ovi	1.79	117	i P	Pn	18 26 51.7	+0.3
LOVI				eS	Sn	18 27 14.8	+0.4
LOVI				IAML		18 27 25.6	
	comp=Z,438nm,0.6s						
MCDR	Montecristi	1.83	46	⇓ePg	Pg	18 26 55.5	+0.4
MCDR			⇓	eSg	Sg	18 27 20.1	+1.2
MCDR				IAML		18 27 24.2	
	comp=N,475nm,0.8s						
MCDR				IAML		18 27 28.2	
	comp=E,331nm,0.5s						
MASC	Masc	1.91	324	⇑ePg	Pg	18 26 56.0	-0.7
MASC				IAML		18 27 21.5	
	comp=E,114nm,0.9s						
MASC				IAML		18 27 27.6	
	comp=N,67nm,0.6s						
MASC	Masc	1.91	324	eP	Pb	18 26 55.6	+0.4
MASC				eS	Sg	18 27 21.3	-0.2
MASC	Masc	1.91	324	i P	Pg	18 26 56.0	-0.7
MASC				eS	Sg	18 27 20.8	-0.7
MASC				IAML		18 27 24.5	
	comp=Z,49nm,0.4s						
LOPP1	Punta Rusia, P	2.14	54	i P	Pg	18 27 00.8	-0.2
LOPP1				IAML		18 27 32.4	
	comp=Z,340nm,0.8s						
QMBU	Quimbuelo	2.29	314	eP	Pn	18 27 00.0	+1.7
QMBU				eS	Sn	18 27 28.2	+1.4
QMBU				IAML		18 27 33.3	
	comp=E,98nm,0.4s						
QMBU				IAML		18 27 36.7	
	comp=N,96nm,0.4s						
GTBY	Guantanamo Bay	2.35	304	ePg	Pg	18 27 04.4	-0.5
GTBY				eSg	Sg	18 27 36.4	+1.0
GTBY				IAML		18 27 45.7	
	comp=E,133nm,0.6s						
GTBY				IAML		18 27 46.5	
	comp=N,143nm,0.8s						
GTBY	Guantanamo Bay	2.35	304	eP	Pb	18 27 02.0	-0.6
GTBY				eS	Sb	18 27 31.0	-0.8
GTBY				IAML		18 27 46.0	
	comp=N,132nm,0.7s						
GTBY				IAML		18 27 46.9	
	comp=N,149nm,0.7s						
GTBY	Guantanamo Bay	2.35	304	i P	Pb	18 27 01.8	-0.9
GTBY				eS	Sb	18 27 31.2	-0.6
GTBY				IAML		18 27 42.8	
	comp=Z,50nm,0.8s						
NMDO	Nuevo Mundo	2.66	317	eP	Pb	18 27 07.2	-0.7
NMDO				eS	Sb	18 27 40.9	+0.1
NMDO				IAML		18 27 43.9	
	comp=E,60nm,0.7s						
NMDO				IAML		18 27 45.6	
	comp=N,54nm,0.5s						
MOAC	Moa	2.72	319	eP	Pb	18 27 08.3	-0.7
MOAC				eS	Sn	18 27 39.3	+2.0
MOAC				IAML		18 27 46.1	
	comp=E,130nm,0.5s						
MOAC				IAML		18 28 00.1	
	comp=N,73nm,1.1s						
SABCS	La Quijada	2.76	310	eP	Pn	18 27 06.3	+1.6
SABCS				eS	Sb	18 27 41.9	-1.8
SABCS				IAML		18 27 49.9	
	comp=E,116nm,0.6s						
SABCS				IAML		18 27 51.7	
	comp=N,94nm,0.7s						
RCC	Rio Carpintero	2.85	299	eP	Pn	18 27 08.3	+2.3
RCC				eS	Sn	18 27 42.2	+1.6
RCC				IAML		18 27 52.1	
	comp=E,49nm,0.7s						
RCC				IAML		18 27 57.0	
	comp=N,46nm,0.4s						
MARVS	Santiago de Cu	3.03	298	eP	Pb	18 27 13.0	-1.2
MARVS				eS	Sb	18 27 49.6	-1.8
MARVS				IAML		18 28 02.8	
	comp=E,85nm,0.7s						
MARVS				IAML		18 28 02.9	
	comp=N,48nm,0.4s						
PINC	Pinares de May	3.19	306	eP	Pn	18 27 12.5	+1.9
PINC				eS	Sn	18 27 51.6	+2.7
PINC				IAML		18 28 03.4	
	comp=E,45nm,0.5s						
PINC				IAML		18 28 09.2	
	comp=N,40nm,1.1s						
CCCC	Cccc	5.13	301	eP	Pn	18 27 37.7	+0.4
CCCC				eS	Sn	18 28 33.3	-3.5

GII 18 18:31:43.8±0.0, 33°.123N±0°.002×35°.621E±0°.001, h14km, Mws1.4, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	Giv'at Ha'Em	0.09	22	P	Pg	18 31 47.2	+0.2
GEM	Giv'at Ha'Em	0.09	22	S	Sg	18 31 49.8	+0.8
NATI	Neve Ativ	0.17	35	P	Pg	18 31 48.3	+0.4
NATI	Neve Ativ	0.17	35	S	Sb	18 31 51.7	-0.3
HDNS	Had-Ness	0.20	175	P	Pg	18 31 48.6	+0.3
HDNS	Had-Ness	0.20	175	S	Sg	18 31 52.0	+0.7
AMID	Amiad	0.21	199	P	Pg	18 31 48.2	-0.3
AMID	Amiad	0.21	199	S	Sb	18 31 52.7	-0.4
MMA0B	Mount Meron ar	0.21	240	P	Pg	18 31 49.0	+0.4
MMA0B	Mount Meron ar	0.21	240	S	Sb	18 31 52.9	-0.4
KSHT	Keshet	0.21	131	P	Pg	18 31 48.9	+0.3
KSHT	Keshet	0.21	131	S	Sb	18 31 53.0	-0.3
MMC7	Mount Meron ar	0.22	242	P	Pg	18 31 49.0	+0.3
KNHM	Kefar Nahum	0.24	188	P	Pg	18 31 49.2	+0.1
KNHM	Kefar Nahum	0.24	188	S	Sg	18 31 53.2	+0.6
RMOT	Ramot	0.27	172	P	Pg	18 31 49.8	+0.2
RMOT	Ramot	0.27	172	S	Sb	18 31 54.7	-0.3
HNTI	Hanita	0.38	264	P	Pg	18 31 51.8	+0.3
HNTI	Hanita	0.38	264	S	Sb	18 31 57.8	-0.3
GOLA	Golan Heights	0.41	177	P	Pg	18 31 52.3	+0.2
GOLA	Golan Heights	0.41	177	S	Sb	18 31 58.7	-0.3
MMLI	Mount Malkishu	0.70	194	P	Pg	18 31 57.0	-0.5
MMLI	Mount Malkishu	0.70	194	S	Sb	18 32 07.6	+0.1
HMDT	Nahal Hemdat	0.87	185	P	Pg	18 32 00.5	-0.3
HMDT	Nahal Hemdat	0.87	185	S	Sb	18 32 12.6	+0.4

*SKHL **18** 19:03:23.0±0.4, 45°.90N×153°.00E, h46km±5km, mb4.7/3*
*IDC **18** 19:03:26.5±2.9, 46°.78N×152°.57E, h80km±25km, mb3.3/11, mbtmp3.7/15, MS3.1/3, Error ellipse: s-maj=29.0km s-min=18.8km az=129.0*

ISC 18 19:03:23.3±1.0, 46°.7N±0°.1×152°.5E±0°.1, h52km, n31, σ1§15/21, mb3.6/10, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.55	248	eP	Pn	19 04 17.5	+1.7
KUR				AMB	AMB	19 04 18.2	
	90nm,0.4s						
KUR				i S	Sn	19 04 58.2	+1.8
KUR				A	A	19 05 17.6	
	90nm,0.5s						
KUR				A	A	19 05 17.6	
	220nm,0.5s						
YUK	Yuzh-Kuril'sk	5.38	243	eP	Pn	19 04 42.0	+1.1
YUK				AMB	AMB	19 04 45.4	
	70nm,0.4s						
YUK				eS	Sn	19 05 41.3	-0.1
YUK				A	A	19 05 50.5	
	190nm,0.6s						
YUK				A	A	19 05 50.5	
	130nm,0.6s						
GLVR	Golovnino	5.74	242	eP	Pn	19 04 47.3	+1.4
NMR	Nemuro--Hokkai	5.83	238	eP	Pn	19 04 46.9	-0.2
NMR				eS	Sn	19 05 50.2	-2.3
AKK	Akkeshi	6.56	239	eP	Pn	19 04 57.0	-0.1
PETK	Petropavlovsk-	7.28	25	P	Pn	19 05 07.4	+0.5
	2.3nm,0.9s,baz=186,slow=12,SNR=7.5						
ASAJ	Asahikawa	7.44	254	P	Pn	19 05 13.2	+4.1
	10nm,1.0s,baz=96,slow=16,SNR=6.0						
USRK	Ussuriysk Ar.	14.63	268	P	P	19 06 51.1	-1.0
	1.5nm,0.5s,baz=95,slow=7.6,SNR=4.6						
MJAR	Matsushiro Arr	14.70	232	P	P	19 06 53.1	0.0
	1.4nm,0.8s,baz=50,slow=11,SNR=2.9						
KSRS	Korea Array	20.38	252	P	Pn	19 07 58.2	+0.2
	1.2nm,1.0s,baz=54,slow=8.0,SNR=2.2						
	1.2nm,1.0s						
JOW	Kunigami	27.54	233	LR	LR	19 21 37.0	
	comp=Z,26nm,19.6s,baz=138,slow=40						
H11N2	WAKE ISLAND Hy 29.32	151		T	T	19 40 46.4	
	baz=340,slow=76,SNR=43						
H11N1	WAKE ISLAND Hy 29.33	152		T	T	19 40 36.2	
	baz=340,slow=76,SNR=46						
H11N3	WAKE ISLAND Hy 29.34	151		T	T	19 40 48.2	
	baz=340,slow=76,SNR=33						
H11S1	WAKE ISLAND Hy 30.40	153		T	T	19 42 02.9	
	baz=341,slow=76,SNR=78						
H11S3	WAKE ISLAND Hy 30.41	153		T	T	19 42 10.7	
	baz=341,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy 30.42	153		T	T	19 42 04.3	
	baz=341,slow=76,SNR=57						
GUMO	Guam	33.58	194	LR	LR	19 20 32.9	
	comp=Z,49nm,20.9s,baz=140,slow=30						
ZALV	Zalesovo Beam	42.34	306	P	P	19 11 10.1	-1.7
	0.3nm,0.3s,baz=99,slow=7.9,SNR=2.1						
	0.3nm,0.3s						
MKAR	Makanchi Array	46.63	297	P	P	19 11 45.3	-0.9
	0.3nm,0.5s,baz=52,slow=5.7,SNR=1.9						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	47.17	303	P	P	19 11 49.3	-1.0
	0.3nm,0.2s,baz=72,slow=8.2,SNR=3.2						
	0.3nm,0.2s						
CMAR	Chiang Mai Arr	51.95	256	P	P	19 12 28.7	+1.6
	0.4nm,0.8s,baz=42,slow=6.5,SNR=4.5						
CMAR				LR	LR	19 35 20.2	
	comp=Z,20nm,18.4s,baz=155,slow=37						
	0.4nm,0.8s						
FINES	FINESS Array B	63.96	335	P	P	19 13 50.5	0.0
	1.7nm,0.8s,baz=38,slow=9.6,SNR=6.7						
	1.7nm,0.8s						
NOA	NORSAR Array B	68.19	341	P	P	19 14 17.6	-0.2
	0.5nm,0.7s,baz=29,slow=6.4,SNR=2.1						
	0.5nm,0.7s						
HFS	Hagfors	68.41	339	P	P	19 14 19.0	0.0
	0.9nm,0.5s,baz=45,slow=4.4,SNR=7.4						
	0.9nm,0.5s						
AKASG	Malin Array Be	71.40	326	P	P	19 14 37.3	-0.2
	0.8nm,0.4s,baz=37,slow=6.1,SNR=4.0						
	0.8nm,0.4s						
ASAR	Alice Springs	71.99	198	P	P	19 14 41.1	-0.2
	0.3nm,0.7s,baz=16,slow=4.6,SNR=4.5						
	0.3nm,0.7s						
TXAR	Lajitas Array	77.89	60	P	P	19 15 15.9	+0.2
	0.1nm,0.6s,baz=304,slow=5.1,SNR=1.4						
	0.1nm,0.6s						
H03N2	Juan Fernandez	139.16	90	T	T	21 58 05.4	
	baz=308,slow=77,SNR=7.3						
H03N1	Juan Fernandez	139.17	90	T	T	21 58 08.3	
	baz=308,slow=77,SNR=9.0						
H03N3	Juan Fernandez	139.17	90	T	T	21 58 05.4	
	baz=308,slow=77,SNR=6.3						

IDC 18 19:06:02.4±3.5, 6°.39S×147°.33E, h0km, mb3.5/1, mbtmp3.7/3, ML1.1/1, Error ellipse: s-maj=54.8km s-min=33.6km az=127.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.00	183	Pn	Pn	19 06 53.3	+2.0
	2.3nm,0.3s,baz=354,slow=10,SNR=13						
PMG				Sn	Sb	19 07 31.0	-2.9
	6.8nm,0.3s,baz=127,slow=1.3,SNR=4.9						
	9.0nm,0.3s						
WRA	Warramunga Arr	18.46	222	P	Pn	19 10 19.9	0.0
	1.4nm,0.4s,baz=50,slow=11,SNR=15						
ASAR	Alice Springs	21.49	216	P	P	19 10 52.5	-0.5
	1.2nm,0.5s,baz=51,slow=9.0,SNR=20						
ASAR				S	S	19 14 52.2	-0.1
	0.5nm,0.8s,baz=37,slow=22,SNR=4.2						
	1.2nm,0.5s						
LPAZ	La Paz	138.30	123	PKP	PKPdf	19 25 32.6	+1.0
	2.8nm,0.3s,baz=177,slow=2.8,SNR=5.3						

IDC 18 19:06:31.0±60.0, 15°.13S×172°.59W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1162.0km s-min=192.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.84	240	P	P	19 14 47.1	-0.1
	1.0nm,0.4s,baz=53,slow=9.0,SNR=6.1						
	1.0nm,0.4s						
WRA	Warramunga Arr	50.66	256	P	P	19 15 32.4	-0.2
	0.4nm,0.6s,baz=84,slow=7.7,SNR=11						
	0.4nm,0.6s						
ASAR	Alice Springs	50.93	252	P	P	19 15 34.5	-0.1
	3.8nm,0.5s,baz=88,slow=8.1,SNR=62						
	3.8nm,0.5s						
INU	Inuyama	69.28	318	P	P	19 17 30.5	-10

JMA 18 19:12:33.1±0.3, 35°.8N±0°.6×14°1E±°, h10km±2km, MV1.5/9, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	Itakohorinouch	0.33	305	eP	Pg	19 12 40.2	+0.6

*JMA **18** 19:12:35.8±0.3, 37°N±1°×13°6E±°, h357km±2km, MV3.1/24, NW OFF HOKURIKU DISTRICT*

*IDC **18** 19:12:36.1±1.0, 36°.82N×135°.47E, h356km±12km, mb2.9/10, mbtmp3.6/14, Error ellipse: s-maj=17.5km s-min=14.3km az=144.0*

ISC 18 19:12:35.7±0.7, 36°.85N±0°.08×135°.49E±0°.08, h350km, n38, σ0§80/40, mb3.0/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	Kaga	0.88	130	eP	Pn	19 13 21.9	+0.9
JJH	Hakui	1.04	85	eP	Pn	19 13 22.6	+1.1
JWT	Wachi	1.56	183	i P	Pn	19 13 25.1	+0.8
JWT				S	S	19 14 03.1	-0.1
JYTA	Yamagatataniai	1.60	141	P	Pn	19 13 25.3	+0.8
JYTA				eS	S	19 14 03.8	+0.2
JOI	OKI	1.89	254	P	Pn	19 13 27.3	+1.0
INU	Inuyama	1.94	140	P	Pn	19 13 27.5	+0.9
JGF	Kuroka	1.95	129	P	Pn	19 13 27.7	+0.9
JGF	Kuroka	1.95	129	S	S	19 14 08.2	+0.4
MAJO	Matsushiro	2.20	97	P	Pn	19 13 29.5	+1.0
MAT	Matsushiro	2.20	97	P	Pn	19 13 29.4	+0.9
MJAR	Matsushiro Arr	2.20	97	P	Pn	19 13 29.7	+1.2
	21nm,0.6s,baz=278,slow=9.7,SNR=74						
JSD	Sado	2.50	61	P	Pn	19 13 31.5	+0.8
JSD	Sado	2.50	61	P	Pn	19 13 31.5	+0.8
JWY	Kouya	2.62	178	eP	Pn	19 13 32.8	+0.8
JHS	Saijyo	2.67	227	P	Pn	19 13 32.8	+0.6
JTNC	Tanabenakahech	3.02	178	eP	Pn	19 13 36.0	+0.6
JMN	Monobe	3.38	203	P	Pn	19 13 39.4	+0.7
JMM	Marumori	4.34	75	P	Pn	19 13 48.5	+0.3
JTO	Tosashimizu	4.55	210	eP	Pn	19 13 51.4	+0.9
BSO1	Boso 1	4.97	115	eP	Pn	19 13 54.3	-0.1
JMK	Ichinoseki	4.99	63	eP	Pn	19 13 55.2	+0.1
JNU	Nakatsue	5.31	227	P	Pn	19 13 59.4	+0.6
	3.9nm,0.5s,baz=66,slow=10.0,SNR=9.2						
JNU	Nakatsue	5.31	227	P	Pn	19 13 59.6	+0.8
JTM	Tenmabayashi	5.87	46	P	Pn	19 14 05.1	+0.2
KSRS	Korea Array	6.08	278	P	Pn	19 14 08.6	+1.3
	5.9nm,0.7s,baz=97,slow=12,SNR=18						
ERM	Erimo	7.86	47	P	Pn	19 14 27.1	-0.9
JEM	Erimo	7.86	47	P	Pn	19 14 27.1	-0.9
ASAJ	Asahikawa	9.05	34	P	Pn	19 14 42.0	-0.2
	5.9nm,0.5s,baz=233,slow=14,SNR=19						
SONM	Songino Array	24.01	306	P	P	19 17 20.8	+0.7
	0.5nm,0.6s,baz=104,slow=11,SNR=2.1						
	0.5nm,0.6s						
SEY	Seymchan	28.10	16	P	P	19 17 56.5	+0.4
	1.2nm,0.7s,baz=204,slow=10.0,SNR=2.2						
	1.2nm,0.7s						
CMAR	Chiang Mai Arr	36.91	250	P	P	19 19 11.5	-1.0
	0.2nm,0.4s,baz=48,slow=7.5,SNR=4.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	40.18	301	P	P	19 19 38.4	-0.7
	0.4nm,0.4s,baz=86,slow=12,SNR=11						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	42.37	308	P	P	19 19 57.4	+0.8
	0.6nm,0.7s,baz=90,slow=8.9,SNR=6.5						
	0.6nm,0.7s						
ILAR	Eielson Array	52.18	32	P	P	19 21 11.6	+0.3
	0.3nm,0.5s,baz=267,slow=6.7,SNR=8.7						
	0.3nm,0.5s						
WRA	Warramunga Arr	56.49	181	P	P	19 21 42.0	-0.5
	0.2nm,0.3s,baz=357,slow=7.5,SNR=7.0						
	0.2nm,0.3s						
FINES	FINESS Array B	66.70	330	P	P	19 22 48.0	-1.5
	0.7nm,0.6s,baz=50,slow=6.8,SNR=6.5						
	0.7nm,0.6s						
EKA	Eskdalemuir Ar	81.61	338	P	P	19 24 14.5	-0.5
	0.3nm,0.4s,baz=27,slow=5.6,SNR=3.8						
	0.3nm,0.4s						
TXAR	Lajitas Array	93.90	49	P	P	19 25 15.2	+0.7
	0.3nm,0.7s,baz=304,slow=5.1,SNR=3.2						
	0.3nm,0.7s						

*BJI **18** 19:14:09.2, 28°.05N×139°.92E, h446km, mB4.5/23, mb4.8/68*
*MOS **18** 19:14:09.8±0.8, 28°.16N×139°.77E, h439km, mb4.8/66, Error ellipse: s-maj=8.0km s-min=4.3km az=109.0*
*IDC **18** 19:14:09.5±0.4, 28°.09N×139°.84E, h420km±4km, mb4.1/31, mbtmp4.9/38, Error ellipse: s-maj=9.4km s-min=6.0km az=75.0*
*NEIC **18** 19:14:10.4±1.4, 28°.19N±0°.08×139°.9E±0°.1, h427km±6km, mb4.6/272, Error ellipse: s-maj=13.0km s-min=11.2km az=89.0*
*JMA **18** 19:14:11.1±0.3, 28°N±1°×14°0E±°, h422km±4km, MD5.4/33, MV4.5/33, W OFF OGASAWARA*
JMA Felt I J1 at W OFF OGASAWARA .
*NIED **18** 19:14:11.1, 28°.30N×140°.14E, h422km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-9.77; $M_{\theta\theta}$5.65; $M_{\phi\phi}$4.12; $M_{r\theta}$-0.15; $M_{\theta\phi}$-2.56; $M_{\phi r}$-5.01; Fault plane solution: $M_0$9.78000×10^{15} NP1: ϕ_s116.00000°, δ37.00000°, λ-116.00000°. NP2: ϕ_s327.00000°, δ57.00000°, λ-72.00000°.*

ISC 18 19:14:10.1±0.3, 28°.17N±0°.03×139°.90E±0°.04, h430km±3km, h430km:pP-P, n958, σ1§13/1010, mb4.7/244, 46C-38D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.29	117	P	P	19 15 10.1	-0.6
CBIJ				S	S	19 15 56.8	-2.8
CBIJ	Chichi jima	2.29	117	A	A	19 15 10.1	
	comp=N,12nm,1.6s,comp=E,13nm,0.9s						
JCJ	Chichijima	2.29	117	P	P	19 15 09.6	-1.0
JCJ				S	S	19 15 56.4	-3.2
JCJ	Chichijima	2.29	117	P	P	19 15 09.4	-1.3
	comp=E,2μm,0.3s,baz=60,slow=1.9,SNR=691						
JCJ				S	S	19 15 56.6	-3.0
	comp=E,4μm,0.3s,baz=289,slow=22,SNR=17						
JCJ	Chichijima	2.29	117	P	P	19 15 10.3	-0.3
JCJ	Chichijima	2.29	117	S	S	19 15 57.4	-2.2
JHH2	Haha-jima-NKT2	2.54	126	P	P	19 15 12.2	-0.1
JHH2				S	S	19 16 00.6	-2.0
JHH2	Haha-jima-NKT2	2.54	126	A	A	19 15 12.2	
	comp=N,36nm,0.3s,comp=E,36nm,0.4s						
JHCJ	Hachijojimakas	4.89	359	eP	P	19 15 33.0	+0.8
JHCJ				eS	S	19 16 35.2	-4.1
JHJ2	Mitsune	4.93	359		P	19 15 32.7	+0.1
JHJ2				S	S	19 16 35.6	-4.4
JHJ2	Mitsune	4.93	359	P	P	19 15 33.1	+0.5
JHJ2				S	S	19 16 36.4	-3.6
JHJ	Hachijo jima 2	4.94	359	P	P	19 15 33.0	+0.3
	comp=E,296nm,0.3s,baz=96,slow=22,SNR=16						
JHJ				S	S	19 16 36.7	-3.5
	comp=E,756nm,0.4s,baz=335,slow=22,SNR=8.8						
BSO1	Boso 1	6.53	8	eP	P	19 15 49.2	+0.4
BSO1				eS	S	19 17 07.0	-2.4
JTNC	Tanabenakahech	6.73	328	P	P	19 15 53.4	+1.8
JIE	Ise	6.78	337	P	P	19 15 53.8	+1.7
JOD2	Odawara 2	7.11	355	eP	P	19 15 56.5	+0.8
JOD2				eS	S	19 17 20.2	-1.6
INU	Inuyama	7.57	342		P	19 16 01.8	+1.2
INU	Inuyama	7.57	342	P	P	19 16 01.9	+1.3
JMN	Monobe	7.58	319		P	19 16 03.4	+2.6
JMN	Monobe	7.58	319	P	P	19 16 02.4	+1.6
JTO	Tosashimizu	7.70	309	P	P	19 16 04.7	+2.5
JGF	Kuroka	7.72	344		P	19 16 03.1	+0.8
JGF	Kuroka	7.72	344	P	P	19 16 03.5	+1.2
JRY	Ryogami san	7.87	354	P	P	19 16 03.7	-0.2
JRY				S	S	19 17 31.7	-5.5
JMZ	Minamidaito 2	8.08	255		P	19 16 06.4	+0.1

JOW	**Kunigami**	**10.40 265**	P	**P**	**19 16 34.2 +2.4**
	comp=E,332nm,0.7s,baz=105,slow=16,SNR=118				
JOW	**Kunigami**	**10.40 265**	P	**P**	**19 16 33.1 +1.3**
JOW	**Kunigami**	**10.40 265**	P	**P**	**19 16 34.5 +2.7**
JMK	**Ichinoseki**	**10.81 6**	P	**P**	**19 16 37.1 +1.1**
JKE	**Kume jima 2**	**11.81 264**	P	**P**	**19 16 49.3 +2.1**
JTM	**Tenmabayashi**	**12.63 4**		**P**	**19 16 57.7 +1.8**
JOT	**Ohata**	**13.22 4**	*eP*	**P**	**19 17 03.7 +1.4**
KSRS	**Korea Array**	**13.67 316**	P	**P**	**19 17 08.2 +1.0**
	comp=E,6.6nm,0.7s,baz=125,slow=10,SNR=19				
KSRS			PcP	**PcP**	**19 21 58.4 -0.1**
	comp=E,2.1nm,0.9s,baz=141,slow=1.7,SNR=4.3				
KSAR	**Wonju Array Be**	**13.69 316**	P	**P**	**19 17 07.2 -0.2**
KSAR	**Wonju Array Be**	**13.69 316**	P	**P**	**19 17 07.2 -0.2**
KS19	**Wonju Array Si**	**13.73 316**	P	**P**	**19 17 08.1 +0.1**
JOSM	**Okushiri--Mats**	**13.89 359**	*eP*	**P**	**19 17 11.1 +1.5**
ERM	**Erimo**	**14.07 10**		**P**	**19 17 12.7 +1.2**
ERM	**Erimo**	**14.07 10**	P	**P**	**19 17 13.1 +1.6**
ERM	**Erimo**	**14.07 10**	S	**S**	**19 19 43.2 +1.7**
ERM	**Erimo**	**14.07 10**	P	**P**	**19 17 12.7 +1.2**
JEM	**Erimo**	**14.07 10**	P	**P**	**19 17 13.0 +1.5**
JEM	**Erimo**	**14.07 10**	S	**S**	**19 19 43.3 +1.8**
INCN	**Inchon**	**14.50 313**	P	**P**	**19 17 17.1 +0.8**
INCN	**Inchon**	**14.50 313**	S	**S**	**19 19 51.8 +1.6**
JCH	**Churui**	**14.69 10**	*eP*	**P**	**19 17 20.3 +2.1**
GUMO	**Guam**	**15.23 161**	P	**P**	**19 17 25.1 +0.8**
GUMO	**Guam**	**15.23 161**	P	**P**	**19 17 24.9 +0.5**
	comp=E,23nm,0.4s,baz=331,slow=4.4,SNR=4.9				
GUMO	**Guam**	**15.23 161**	P	**P**	**19 17 25.2 +0.8**
GUMO			pmax	pmax	
	comp=Z,167nm,1.2s				
YOJ	**Yonaguni jima**	**15.58 260**	P	**P**	**19 17 28.1 0.0**
YOJ	**Yonaguni jima**	**15.58 260**	P	**P**	**19 17 28.1 0.0**
YOJ			pmax	pmax	
	comp=Z,152nm,1.1s				
JHR	**Hokuryu**	**15.61 5**	*eP*	**P**	**19 17 30.3 +2.2**
NEM2	**Nemuro 2**	**15.88 16**	*eP*	**P**	**19 17 32.1 +1.1**
NMR	**Nemuro--Hokkai**	**15.88 16**	*eP*	**P**	**19 17 32.1 +1.1**
MSHR	**Mys Shultsa**	**16.04 336**	*i P*	**P**	**19 17 34.2 +1.6**
MSHR			pmax	pmax	
	comp=Z,33nm,0.8s				
ASAJ	**Asahikawa**	**16.06 7**	P	**P**	**19 17 34.8 +1.9**
	comp=Z,13nm,0.5s,baz=198,slow=15,SNR=9.3				
ASAJ			ScP	**ScP**	**19 24 55.1 +0.1**
	comp=Z,6.2nm,0.8s,baz=334,slow=3.9,SNR=5.3				
ASAJ	**Asahikawa**	**16.06 7**	P	**P**	**19 17 33.8 +0.9**
ASAJ			pmax	pmax	
	comp=Z,38nm,1.1s				
JKA	**Kamikawa-asahi**	**16.06 7**		**P**	**19 17 33.8 +0.9**
JKA			IAmb	IAmb	19 17 41.2
	comp=Z,38nm,1.1s				
JTKR	**Abashiri--Toko**	**16.10 10**	*eP*	**P**	**19 17 35.2 +1.9**
RUSJ	**Misakicho**	**16.48 14**	*eP*	**P**	**19 17 39.5 +2.3**
YUK	**Yuzh-Kuril'sk**	**16.54 15**	*eP*	**P**	**19 17 39.1 +1.1**
YUK			pmax	pmax	
	comp=Z,120nm,0.5s				
TATO	**Taipei**	**16.77 263**	P	**P**	**19 17 39.5 -1.1**
NACB	**Ninganchiao**	**16.90 261**	P	**P**	**19 17 40.3 -1.7**
NACB			IAmb	IAmb	19 17 49.3
	comp=Z,32nm,1.0s				
YHNB	**Yeheng**	**16.95 262**	P	**P**	**19 17 41.3 -1.4**
USRK	**Ussuriysk Ar.**	**17.21 340**	P	**P**	**19 17 46.3 +1.3**
	comp=Z,18nm,0.4s,baz=137,slow=10,SNR=46				
USRK			S	**S**	**19 20 43.6 +0.9**
	comp=Z,3.3nm,0.9s,baz=155,slow=15,SNR=5.9				
YULB	**Yu-li**	**17.41 258**	P	**P**	**19 17 46.6 -0.9**
YULB	**Yu-li**	**17.41 258**	P	**P**	**19 17 48.6 +1.1**
YULB	**Yu-li**	**17.41 258**	S	**S**	**19 20 48.5 +1.4**
SSLB	**Suanglung**	**17.58 260**		**P**	**19 17 48.3 -1.0**
SSLB	**Suanglung**	**17.58 260**	P	**P**	**19 17 50.4 +1.1**
TWGBT	**Beinan**	**17.80 257**	P	**P**	**19 17 51.9 +0.3**
TWG	**Pinlang**	**17.80 257**	P	**P**	**19 17 49.2 -2.5**
TPUB	**Ta-pu**	**18.02 259**	P	**P**	**19 17 53.0 -0.9**
KUR	**Kuril'sk**	**18.18 18**	*eP*	**P**	**19 17 54.0 -1.2**
MDJ	**Mudanjiang**	**18.37 336**	P	**P**	**19 17 57.8 +0.7**
MDJ			S	**S**	**19 21 05.3 +1.7**
MDJ			pmax	pmax	
	comp=Z,38nm,1.1s				
MDJ	**Mudanjiang**	**18.37 336**		**P**	**19 17 57.0 -0.2**
MDJ			IAmb	IAmb	19 17 60.0
	comp=Z,23nm,0.7s				
MDJ	**Mudanjiang**	**18.37 336**	P	**P**	**19 17 58.7 +1.6**
NJ2	**Nanjing**	**18.61 287**	*eP*	**P**	**19 17 57.1 -2.6**
NJ2			S	**S**	**19 21 05.3 -2.6**
NJ2			pmax	pmax	
	comp=Z,25nm,0.8s				
NJ2			pmax	pmax	
	comp=Z,180nm,4.0s				
YSS	**Yuzhno-Sakhali**	**18.89 6**		**P**	**19 18 02.1 -0.1**
YSS	**Yuzhno-Sakhali**	**18.89 6**	P	**P**	**19 18 02.9 +0.7**
YSS	**Yuzhno-Sakhali**	**18.89 6**	*αeP*	**P**	**19 18 02.6 +0.4**
YSS			*eS*	**S**	**19 21 11.0 -1.1**
YSS			pmax	pmax	
	comp=Z,40nm,0.8s				
YSS			pmax	pmax	
	comp=Z,100nm,2.5s				
YSS			smax	smax	
	comp=N,200nm,6.5s				
YSS			smax	smax	
	comp=E,100nm,5.5s				
SNY	**Shenyang**	**19.05 320**	⇓P	**P**	**19 18 04.0 +0.2**
SNY			pmax	pmax	
	comp=E,220nm,0.7s				
CN2	**Changchun**	**19.45 327**	*eP*	**P**	**19 18 08.8 +1.3**
CN2			*eS*	**S**	**19 21 23.3 +2.0**
CN2			pmax	pmax	
	comp=E,50nm,0.9s				
KNMB	**Chin-men Tao**	**19.63 264**		**P**	**19 18 09.0 -0.4**
BNX	**BinXian**	**20.14 334**	⇓P	**P**	**19 18 14.5 +0.7**
BNX			sP	**sP**	**19 20 13.8 +5.1**
BNX			S	**S**	**19 21 33.8 +1.3**
BNX			pmax	pmax	
	comp=E,90nm,0.8s				
TIA	**Tai'an**	**20.84 298**	P	**P**	**19 18 20.1 -0.3**
TIA			pmax	pmax	
	comp=E,150nm,0.6s				
WHN	**Wuhan**	**22.38 282**	⇓P	**P**	**19 18 34.9 +0.5**
WHN			pmax	pmax	
	comp=E,130nm,0.7s				
BJT	**Baijiatuau**	**22.86 307**	P	**P**	**19 18 38.2 -0.4**
BJI	**Beijing**	**22.86 307**	P	**P**	**19 18 38.0 -0.6**
BJI			S	**S**	**19 22 15.9 -0.2**
BJI			pmax	pmax	
	comp=E,4.0nm,1.3s				
BJI			pmax	pmax	
	comp=E,32nm,6.9s				
HNS	**HongShan**	**23.04 300**	⇓P	**P**	**19 18 39.9 -0.3**
HNS			pmax	pmax	
	comp=E,25nm,0.8s				
HEH	**HeiHe**	**24.02 340**	*eP*	**P**	**19 18 48.9 +0.1**
HEH			PcP	**PcP**	**19 22 16.4 -0.2**
HEH			S	**S**	**19 22 32.8 -1.3**
HEH			ScP	**ScP**	**19 25 12.8 -0.9**
HEH			pmax	pmax	
	comp=E,41nm,1.0s				
HEH			pmax	pmax	
	comp=E,66nm,5.3s				
LYN	**LuoYang**	**24.23 292**	*eP*	**P**	**19 18 50.5 -0.4**
LYN			PcP	**PcP**	**19 22 18.3 +0.9**
LYN			S	**S**	**19 22 36.0 -1.8**
LYN			pmax	pmax	
	comp=E,47nm,0.7s				
LYN			pmax	pmax	
	comp=E,200nm,4.1s				
HIA	**Hailar**	**26.14 329**		**P**	**19 19 07.6 -0.1**
HIA	**Hailar**	**26.14 329**	P	**P**	**19 19 08.9 +1.2**
HIA	**Hailar**	**26.14 329**	P	**P**	**19 19 07.6 -0.1**
HIA			pmax	pmax	
	comp=Z,33nm,0.7s				
HILR	**Hailar Array B**	**26.34 330**	P	**P**	**19 19 10.4 +0.9**
	comp=Z,21nm,0.5s,baz=136,slow=10,SNR=26				
	comp=Z,21nm,0.5s				
HHC	**Hu-ho-hao-te**	**26.43 306**	*eP*	**P**	**19 19 11.0 +0.5**
HHC			pmax	pmax	
	comp=Z,12nm,0.5s				
HHC			pmax	pmax	
	comp=Z,62nm,5.1s				
ENH	**Enshi**	**26.59 282**		**P**	**19 19 11.2 -0.8**
ENH	**Enshi**	**26.59 282**	P	**P**	**19 19 12.0 0.0**
XAN	**Xi'an**	**27.10 290**	⇓P	**P**	**19 19 16.6 +0.1**
XAN			pmax	pmax	
	comp=Z,32nm,0.6s				
ZEA	**Zeya**	**27.19 343**	*eP*	**P**	**19 19 18.1 +1.2**
ZEA			*e*		19 23 23.4
ZEA			pmax	pmax	
	comp=N,10.0nm,0.8s				
ZEA			pmax	pmax	
	comp=Z,20nm,0.6s				
BTO	**Baotou**	**27.46 305**	*eP*	**P**	**19 19 21.4 +1.7**
BTO			pmax	pmax	
	comp=Z,25nm,1.1s				
BTO			pmax	pmax	
	comp=Z,160nm,7.4s				
PEA0B	**Petropavlovsk-**	**28.18 23**	P	**P**	**19 19 25.8 +0.1**
PEA0B			IAmb	IAmb	19 19 34.6
	comp=Z,29nm,1.2s				
PEA0B	**Petropavlovsk-**	**28.18 23**	P	**P**	**19 19 25.8 +0.1**
PEA0B			pmax	pmax	
	comp=Z,29nm,1.2s				
PETK	**Petropavlovsk-**	**28.18 23**	P	**P**	**19 19 26.1 +0.4**
PETK	**Petropavlovsk-**	**28.18 23**	P	**P**	**19 19 27.0 +1.3**
	comp=Z,2.2nm,0.4s,baz=212,slow=10,SNR=26				
	comp=Z,2.2nm,0.4s				
PETK	**Petropavlovsk-**	**28.18 23**	P	**P**	**19 19 27.0 +1.3**
PET	**Petropavlovsk**	**28.45 24**	P	**P**	**19 19 28.3 +0.3**
PET			IAmb	IAmb	19 19 30.3
	comp=Z,33nm,1.2s				
PET	**Petropavlovsk**	**28.45 24**	*i* P	**P**	**19 19 29.3 +1.3**
PET			pmax	pmax	
	comp=Z,14nm,0.9s				
TNTI	**Ternate**	**29.77 206**		**P**	**19 19 39.8 -0.2**
TNTI			IAmb	IAmb	19 19 41.2
	comp=Z,22nm,1.0s				
TNTI	**Ternate**	**29.77 206**	P	**P**	**19 19 40.3 +0.3**
TNTI	**Ternate**	**29.77 206**	P	**P**	**19 19 40.3 +0.3**
	comp=Z,28nm,1.0s				
SWI	**Sorong**	**30.03 197**	P	**P**	**19 19 42.5 +0.2**
	comp=Z,26nm,0.8s				
GENI	**Genyem**	**30.58 179**	P	**P**	**19 19 47.7 +0.6**
MYLDM	**Lahad Datu**	**30.59 226**		**P**	**19 19 48.5 +1.4**
MYLDM			IAmb	IAmb	19 19 50.5
	comp=Z,30nm,0.8s				
MYLDM	**Lahad Datu**	**30.59 226**	P	**P**	**19 19 48.2 +1.0**
KMSI	**Cibinong**	**31.39 212**	P	**P**	**19 19 54.4 +0.3**
LZH	**Lanzhou**	**31.40 294**	*eP*	**P**	**19 19 54.8 +0.6**
LZH			S	**S**	**19 24 30.5 +0.3**
LZH			pmax	pmax	
	comp=Z,52nm,0.8s				
LZDM	**Lanzhou Array**	**31.51 294**	P	**P**	**19 19 55.6 +0.2**
	comp=Z,27nm,0.7s,baz=121,slow=5.7,SNR=10				
	comp=Z,27nm,0.7s				
FAKI	**Fak Fak**	**31.77 195**	P	**P**	**19 19 57.0 -0.3**
FAKI			IAmb	IAmb	19 19 58.5
	comp=Z,28nm,0.9s				
FAKI	**Fak Fak**	**31.77 195**	P	**P**	**19 19 57.5 +0.1**
	comp=Z,43nm,1.4s				
ULN	**Ulaanbaatar**	**32.15 317**		**P**	**19 20 00.5 0.0**
ULN	**Ulaanbaatar**	**32.15 317**	P	**P**	**19 20 01.3 +0.8**
ULN	**Ulaanbaatar**	**32.15 317**	*ceP*	**P**	**19 20 00.7 +0.2**
ULN			pmax	pmax	
	comp=Z,57nm,1.0s				
MA2	**Magadan**	**32.28 10**	P	**P**	**19 20 01.4 +0.2**
MA2			IAmb	IAmb	19 20 03.1
	comp=Z,32nm,0.9s				
MA2	**Magadan**	**32.28 10**	*ceP*	**P**	**19 20 01.8 +0.6**
MA2			pmax	pmax	
	comp=Z,33nm,1.0s				
MRSI	**Marisa**	**32.46 215**	P	**P**	**19 20 04.2 +0.9**
	comp=Z,803nmcomp=Z,64nm,1.0s				
TOLI2	**Tolitoli**	**32.53 218**		**P**	**19 20 03.3 -0.6**
TOLI2			IAmb	IAmb	19 20 04.8
	comp=Z,16nm,0.9s				
SONM	**Songino Array**	**32.54 316**		**P**	**19 20 03.8 0.0**
SONM			IAmb	IAmb	19 20 05.3
	comp=Z,34nm,1.1s				
SONM	**Songino Array**	**32.54 316**	P	**P**	**19 20 04.3 +0.5**
	comp=Z,16nm,0.5s,baz=126,slow=8.4,SNR=72				
SONM			PcP	**PcP**	**19 22 38.7 +0.4**
	comp=Z,1.7nm,0.4s,baz=135,slow=2.7,SNR=6.2				
SONM			ScP	**ScP**	**19 25 40.5 -0.3**
	comp=Z,1.5nm,0.6s,baz=116,slow=1.5,SNR=4.4				
	comp=Z,16nm,0.5s				
SANI	**Sanana**	**32.88 206**	P	**P**	**19 20 06.3 -0.6**
SANI	**Sanana**	**32.88 206**	P	**P**	**19 20 05.5 -1.4**
	comp=Z,599nmcomp=Z,74nm,0.7s				
MSAI	**Masohi**	**33.06 200**	P	**P**	**19 20 10.9 +2.5**
	comp=Z,80nm,0.9s				
SLVN	**Son La**	**33.30 266**		**P**	**19 20 10.6 +0.1**
SLVN			IAmb	IAmb	19 20 12.3
	comp=Z,26nm,0.9s				
SLVN	**Son La**	**33.30 266**	P	**P**	**19 20 11.5 +1.0**
LUWI	**Luwuk**	**33.37 212**	P	**P**	**19 20 09.6 -1.5**
LUWI			IAmb	IAmb	19 20 33.8
	comp=Z,30nm,0.8s				
LUWI	**Luwuk**	**33.37 212**	P	**P**	**19 20 10.1 -1.0**
	comp=Z,27nm,0.6s				
DLV	**Lat**	**33.49 248**	P	**P**	**19 20 12.1 -0.2**
DLV			IAmb	IAmb	19 20 17.9
	comp=Z,32nm,1.2s				
NLAI	**Namlea**	**33.57 204**	P	**P**	**19 20 13.7 +1.0**
	comp=Z,25nm,0.8s				
AAI	**Ambon**	**33.61 201**	P	**P**	**19 20 13.7 +0.6**
	comp=Z,47nm,0.6s				
APSI	**Ampana**	**33.80 214**	P	**P**	**19 20 14.2 -0.5**
	comp=Z,55nm,1.2s				
PZH	**PanZhiHua**	**33.84 276**	P	**P**	**19 20 15.5 +0.3**
YAK	**Yakutsk**	**34.54 352**		**P**	**19 20 19.6 -0.7**
YAK	**Yakutsk**	**34.54 352**	P	**P**	**19 20 19.7 -0.7**
	comp=Z,6.8nm,0.7s,baz=43,slow=21,SNR=4.5				
	comp=Z,6.8nm,0.7s				
YAK	**Yakutsk**	**34.54 352**	*eP*	**P**	**19 20 17.2 -3.1**
YAK			*e**PP	**pP**	**19 21 33.8 -4.3**
YAK			*e*		19 21 47.2
YAK			*e*		19 22 38.3
YAK			*e*S	**S**	**19 25 14.9 -2.1**
YAK			*e**SS	**sS**	**19 27 39.8 +0.5**
YAK			*e*SS	**SS**	**19 28 09.8 -0.4**
YAK			*e*		19 29 45.6
YAK			pmax	pmax	
	comp=Z,11nm,1.3s				
YAK			pmax	pmax	
	comp=Z,93nm,5.2s				
YAK			pmax	pmax	
	comp=N,93nm,5.6s				
YAK			pmax	pmax	
	comp=E,85nm,4.3s				
YAK			smax	smax	
	comp=E,64nm,2.5s				
YAK			smax	smax	
	comp=N,69nm,2.0s				
GTA	**Gaotai**	**34.89 299**	⇓P	**P**	**19 20 24.3 +0.4**
GTA			PcP	**PcP**	**19 22 46.0 +0.7**
GTA			pmax	pmax	
	comp=N,36nm,0.9s				
GTA			pmax	pmax	
	comp=N,79nm,8.0s				
SHEM	**Shemya Is, Ala**	**35.23 36**	P	**P**	**19 20 26.1 -0.2**
ZAK	**Zakamensk**	**35.47 319**	*eP*	**P**	**19 20 27.4 -1.1**
ZAK			pmax	pmax	
	comp=Z,38nm,1.2s				
SEY	**Seymchan**	**35.72 10**	*eP*	**P**	**19 20 30.3 0.0**
SEY			pmax	pmax	
	comp=Z,15nm,1.2s				
TLY	**Talaya**	**35.83 321**		**P**	**19 20 30.5 -1.0**
TLY			IAmb	IAmb	19 20 33.4
	comp=Z,24nm,1.0s				
TLY	**Talaya**	**35.83 321**	P	**P**	**19 20 32.5 +1.0**
TLY	**Talaya**	**35.83 321**	*ceP*	**P**	**19 20 31.8 +0.4**
TLY			pmax	pmax	
	comp=Z,34nm,1.3s				
SBUM	**Sibu**	**36.76 231**		**P**	**19 20 39.6 -0.1**
SBUM	**Sibu**	**36.76 231**	P	**P**	**19 20 40.5 +0.9**
SPSI	**Sidrap Palu**	**37.37 214**	P	**P**	**19 20 43.9 -0.7**
	comp=Z,36nm,0.7s				
AMKA	**Amchitka**	**37.49 41**	P	**P**	**19 20 45.2 +0.1**
BNSI	**Bone**	**37.58 214**	P	**P**	**19 20 47.0 +0.7**
	comp=Z,24nm,0.7s				
MTKI	**Muara Teweh, K**	**37.59 224**	P	**P**	**19 20 47.1 +0.6**
	comp=Z,100nm,0.9s				
PMG	**Port Moresby**	**38.01 168**	P	**P**	**19 20 49.9 +0.1**
PMG			IAmb	IAmb	19 20 51.1
	comp=Z,15nm,0.5s				
PMG	**Port Moresby**	**38.01 168**	P	**P**	**19 20 49.9 +0.1**
PMG			pmax	pmax	
	comp=Z,15nm,0.5s				
KAPI	**Kappang**	**38.28 214**	P	**P**	**19 20 51.9 -0.2**
KAPI			IAmb	IAmb	19 21 02.2
	comp=Z,20nm,1.1s				
KAPI	**Kappang**	**38.28 214**	P	**P**	**19 20 51.9 -0.2**
KAPI			pmax	pmax	
	comp=Z,20nm,1.1s				
BKSI	**Bulukumba**	**38.37 213**	P	**P**	**19 20 52.7 -0.1**
CHTO	**Chiang Mai**	**38.54 265**		**P**	**19 20 53.7 -0.6**
CHTO			IAmb	IAmb	19 20 55.4
	comp=Z,26nm,0.8s				
CHTO				**PcP**	**19 22 57.8 +1.1**
CHTO	**Chiang Mai**	**38.54 265**	P	**P**	**19 20 54.4 +0.1**
CHTO	**Chiang Mai**	**38.54 265**	P	**P**	**19 20 54.6 +0.3**
CHTO	**Chiang Mai**	**38.54 265**	P	**P**	**19 20 53.7 -0.6**
CHTO					19 22 57.8
CHTO			pmax	pmax	
	comp=Z,26nm,0.8s				
CM31	**Chiang Mai Arr**	**38.68 265**	P	**P**	**19 20 54.6 -0.8**
CM31			IAmb	IAmb	19 20 56.7
	comp=Z,14nm,0.7s				
CM31	**Chiang Mai Arr**	**38.68 265**	P	**P**	**19 20 55.8 +0.4**
	SNR=5.4				
CMAR	**Chiang Mai Arr**	**38.68 265**		**P**	**19 20 54.8 -0.6**
CMAR				**PcP**	**19 22 58.2 +1.1**
CMAR	**Chiang Mai Arr**	**38.68 265**	P	**P**	**19 20 55.7 +0.3**
	comp=Z,6.8nm,0.7s,baz=70,slow=5.6,SNR=81				
CMAR			PcP	**PcP**	**19 22 58.3 +1.2**
	comp=Z,4.9nm,0.8s,baz=41,slow=0.7,SNR=17				
CMAR			ScP	**ScP**	**19 26 04.6 +0.9**
	comp=Z,1.1nm,1.0s,baz=50,slow=2.4,SNR=5.5				
	comp=Z,6.8nm,0.7s				
GOMU	**GeErMu**	**38.71 294**	P	**P**	**19 20 56.3 +0.4**
GOMU			pmax	pmax	
	comp=Z,36nm,1.0s				
KSM	**Kuching**	**38.78 232**		**P**	**19 20 55.8 -0.5**
KSM			IAmb	IAmb	19 20 58.1
	comp=Z,11nm,0.6s				
KIWB	**Kanaga Island**	**39.72 41**		**P**	**19 21 04.0 +0.5**
ADK	**Adak**	**40.01 42**		**P**	**19 21 05.3 -0.4**
ADK	**Adak**	**40.01 42**	P	**P**	**19 21 06.7 +1.0**
ADK	**Adak**	**40.01 42**	P	**P**	**19 21 05.3 -0.4**
ADK			pmax	pmax	
	comp=Z,87nm,1.0s				
MMRI	**Maumere**	**40.37 208**	P	**P**	**19 21 08.1 -1.0**
MMRI			IAmb	IAmb	19 21 10.2
	comp=Z,32nm,0.8s				
MMRI	**Maumere**	**40.37 208**	P	**P**	**19 21 09.6 +0.5**
MMRI	**Maumere**	**40.37 208**	P	**P**	**19 21 09.1 0.0**
	comp=Z,45nm,0.9s				
GSTR	**Great Sitkin T**	**40.44 41**	P	**P**	**19 21 08.2 -1.1**
SOEI	**Soe**	**40.62 204**		**P**	**19 21 10.1 -1.1**
SOEI			IAmb	IAmb	19 21 25.2
	comp=Z,39nm,1.0s				
SOEI	**Soe**	**40.62 204**	P	**P**	**19 21 11.4 +0.2**
SOEI	**Soe**	**40.62 204**	P	**P**	**19 21 11.2 0.0**
	comp=Z,35nm,0.7s				
EDFI	**Ende, Flores**	**40.70 208**	P	**P**	**19 21 11.5 -0.4**
	comp=Z,49nm,0.8s				
BATI	**Baumata**	**41.26 205**	P	**P**	**19 21 15.9 -0.3**
MTN	**Manton Dam**	**41.64 193**	P	**P**	**19 21 18.4 -0.8**
COEN	**Coen**	**41.99 175**	P	**P**	**19 21 22.7 +0.6**
COEN			IAmb	IAmb	19 21 23.7
	comp=Z,10nm,0.6s				
LSA	**Lhasa**	**42.44 284**	P	**P**	**19 21 24.0 -2.1**
LSA	**Lhasa**	**42.44 284**		**P**	**19 21 25.4 -0.7**
LSA				**PcP**	**19 23 10.3 +0.4**
LSA	**Lhasa**	**42.44 284**	P	**P**	**19 21 25.4 -0.7**
LSA					19 23 10.3
LSA			pmax	pmax	
	comp=Z,6.0nm,0.7s				
PLAI	**Plampang**	**42.54 213**	P	**P**	**19 21 25.4 -1.1**
	comp=Z,48nm,0.9s				
SHL	**Shillong**	**42.69 278**		**P**	**19 21 27.1 -0.8**
SHL			IAmb	IAmb	19 21 28.6
	comp=Z,32nm,1.0s				
SHL				**PcP**	**19 23 10.3 -0.1**
SHL	**Shillong**	**42.69 278**	P	**P**	**19 21 27.6 -0.2**
	SNR=10.0				
BILL	**Bilibino**	**42.89 14**	P	**P**	**19 21 28.6 0.0**
BILL			IAmb	IAmb	19 21 30.6
	comp=Z,30nm,0.9s				
BILL	**Bilibino**	**42.89 14**	*deP*	**P**	**19 21 29.9 +1.4**
BILL			pmax	pmax	
	comp=Z,22nm,0.7s				
TWSI	**Taliwang, Sumb**	**42.91 215**	P	**P**	**19 21 28.8 -0.6**
	comp=Z,43nm,1.1s				
SRBI	**Singaraja**	**43.22 217**	P	**P**	**19 21 32.4 +0.6**
	comp=Z,40nm,0.8s				
MYKOM	**Kota Tinggi**	**43.27 239**	IAmb	IAmb	19 21 34.5
	comp=Z,29nm,1.1s				
MYKOM	**Kota Tinggi**	**43.27 239**	P	**P**	**19 21 33.4 +1.1**
KULM	**Kulim**	**43.62 246**		**P**	**19 21 35.6 +0.5**
KULM			PcP	**PcP**	**19 23 13.7 +0.2**
KULM	**Kulim**	**43.62 246**	P	**P**	**19 21 35.9 +0.8**
TPI	**Tanjungpandan**	**43.66 231**	P	**P**	**19 21 35.9 +0.6**
IPM	**Ipoh**	**43.80 245**		**P**	**19 21 36.0 -0.4**
IPM			IAmb	IAmb	19 21 37.6
	comp=Z,18nm,0.7s				
IPM				**PcP**	**19 23 13.6 -0.6**
IPM	**Ipoh**	**43.80 245**	P	**P**	**19 21 37.0 +0.5**
TIXI	**Tiksi**	**43.95 355**		**P**	**19 21 36.3 -0.5**
TIXI			PcP	**PcP**	**19 23 12.0 -1.5**
TIXI	**Tiksi**	**43.95 355**	*ceP*	**P**	**19 21 37.0 +0.2**
TIXI			pmax	pmax	
	comp=Z,4.0nm,0.8s				
JAGI	**Jajag, Banyuwa**	**44.11 218**	P	**P**	**19 21 37.7 -1.1**
JAGI			IAmb	IAmb	19 21 39.3
	comp=Z,35nm,1.0s				
JAGI	**Jajag, Banyuwa**	**44.11 218**	P	**P**	**19 21 38.7 -0.1**
JAGI	**Jajag, Banyuwa**	**44.11 218**	P	**P**	**19 21 38.3 -0.5**
	comp=Z,40nm,1.5s				
DSRI	**Dabo**	**44.24 236**	P	**P**	**19 21 40.6 +0.8**
WMQ	**Urumqi**	**44.30 305**	⇓P	**P**	**19 21 40.4 +0.3**
WMQ			PcP	**PcP**	**19 23 15.6 +0.1**
WMQ			PP	**PP**	**19 23 33.8 +2.1**
WMQ			pmax	pmax	
	comp=Z,36nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,100nm,4.7s				
KNRA	**Kununurra**	**44.90 195**	P	**P**	**19 21 44.4 -0.5**
NIKH	**Nikolski High**	**44.91 42**	P	**P**	**19 21 44.9 +0.3**
NIKH	**Nikolski High**	**44.91 42**	P	**P**	**19 21 44.8 +0.3**
	baz=257				
SPIA	**Saint Paul Isl**	**45.27 36**	P	**P**	**19 21 47.5 +0.3**
	baz=252				
P08K	**Saint George I**	**45.46 37**	P	**P**	**19 21 49.5 +0.9**
	baz=253				
UGM	**Wanagama**	**45.74 223**	P	**P**	**19 21 50.6 -0.9**
MTSU	**Mount Surprise**	**46.23 174**	P	**P**	**19 21 56.0 +0.9**
KPJI	**Karang Pucung**	**46.26 225**	P	**P**	**19 21 55.3 -0.1**
	comp=Z,53nm,0.9s				
UNV	**Unalaska Valle**	**46.47 41**	P	**P**	**19 21 56.6 +0.1**
UNV			IAmb	IAmb	19 22 02.9
	comp=Z,27nm,0.6s				
UNV	**Unalaska Valle**	**46.47 41**	P	**P**	**19 21 57.4 +0.9**
	baz=259				
EVN	**Everest**	**46.52 283**		**P**	**19 21 58.6 +0.5**
EVN			IAmb	IAmb	19 21 59.4
	comp=Z,12nm,0.6s				
EVN			PcP	**PcP**	**19 23 24.6 +0.4**
LHMI	**Lhok Sumawe**	**46.68 249**	P	**P**	**19 22 00.1 +1.4**
LEM	**Lembang**	**46.70 227**	P	**P**	**19 21 59.2 +0.2**
	comp=Z,61nm,0.9s				
AKUT	**Akutan**	**46.95 41**	P	**P**	**19 22 00.1 0.0**
PBA	**Port Blair**	**46.97 259**	P	**P**	**19

KRJI	Kerinci	47.62 237	P	P	19 22 07.2 +1.3	
TV1H	Townsville Har	47.62 171	P	P	19 22 06.3 +0.7	
MASI	Maura Aman, Be	47.75 235	P	P	19 22 07.3 +0.5	
LWLI	Liwa	47.76 232	P	P	19 22 06.0 -1.0	
	comp=Z,2µmcomp=Z,69nm,0.9s					
WB0	Warramunga Arr	47.95 187		P	19 22 07.7 -0.4	
WB0			IAmb	IAmb	19 22 08.8	
	comp=Z,34nm,0.8s					
WB0			PcP	PcP	19 23 28.8 +0.3	
FITZ	Fitzroy Crossi	48.02 198		P	19 22 08.8 +0.1	
FITZ			PcP	PcP	19 23 28.7 -0.1	
MNAI	Manna	48.07 234	P	P	19 22 08.6 -0.7	
WRAB	Tennant Creek	48.12 187	P	P	19 22 09.0 -0.4	
WRAB			IAmb	IAmb	19 22 10.1	
	comp=Z,19nm,0.7s					
WRAB			PcP	PcP	19 23 30.1 +1.0	
WRAB	Tennant Creek	48.12 187	P	P	19 22 09.3 -0.2	
WRAB	Tennant Creek	48.12 187 *ce*	P	P	19 22 09.2 -0.2	
WRAB			pmax	pmax		
	comp=Z,21nm,0.8s					
WR8	Warramunga Arr	48.12 187		P	19 22 09.0 -0.4	
WR8			IAmb	IAmb	19 22 10.2	
	comp=Z,37nm,0.9s					
WR8			PcP	PcP	19 23 30.1 +0.9	
WRA	Warramunga Arr	48.13 187		P	19 22 08.1 -1.4	
WRA				PcP	19 23 29.2 0.0	
WRA	Warramunga Arr	48.13 187	P	P	19 22 09.2 -0.3	
	comp=Z,17nm,0.4s,baz=5.4,slow=7.6,SNR=193					
WRA			PcP	PcP	19 23 30.0 +0.8	
	comp=Z,9.4nm,0.7s,baz=357,slow=3.7,SNR=15					
WRA			ScP	ScP	19 26 41.1 -0.9	
	comp=Z,1.4nm,0.8s,baz=359,slow=4.7,SNR=3.0					
WRA			S	S	19 28 31.8 -3.7	
	comp=Z,3.1nm,0.7s,baz=8.5,slow=14,SNR=7.1					
WRA			P4KPbc		19 59 43.6	
	comp=Z,0.3nm,0.5s,baz=9.1,slow=4.8,SNR=12					
	comp=Z,17nm,0.4s					
MK31	Makanchi Array	48.23 309 *ce*	P	P	19 22 10.3 +0.3	
MKAR	Makanchi Array	48.23 309	P	P	19 22 10.3 +0.2	
	comp=Z,14nm,0.7s,baz=92,slow=9.0,SNR=115					
MKAR			PcP	PcP	19 23 29.1 -0.2	
	comp=Z,13nm,0.8s,baz=79,slow=6.3,SNR=15					
MKAR			ScP	ScP	19 26 41.1 -1.1	
	comp=Z,4.0nm,0.6s,baz=85,slow=4.6,SNR=12					
	comp=Z,14nm,0.7s					
FALS	False Pass	48.43 40	P	P	19 22 12.1 +0.8	
	baz=260					
QIS	Mount Isa	48.44 180	P	P	19 22 12.3 +0.5	
MAKZ	Makanchi	48.44 309		P	19 22 11.3 -0.3	
MAKZ			IAmb	IAmb	19 22 13.7	
	comp=Z,15nm,0.8s					
MAKZ			PcP	PcP	19 23 30.0 -0.1	
GSI	Gunungsitoli	48.45 244		P	19 22 12.0 -0.1	
GSI			PcP	PcP	19 23 30.8 +0.2	
GSI	Gunungsitoli	48.45 244	P	P	19 22 12.5 +0.4	
GSI	Gunungsitoli	48.45 244	P	P	19 22 12.3 +0.2	
	comp=Z,84nm,1.1s					
TNA	Tin City	49.29 26	P	P	19 22 18.6 +1.0	
	baz=247					
S12K	Black Hills	49.34 39	P	P	19 22 19.2 +1.0	
	baz=261					
K13K	Kusilvak Mount	49.42 31		P	19 22 20.1 +1.6	
K13K			IAmb	IAmb	19 22 21.5	
	comp=Z,19nm,0.9s					
K13K	Kusilvak Mount	49.42 31	P	P	19 22 20.3 +1.7	
	baz=253					
M13K	Dall Lake	49.62 33	P	P	19 22 21.7 +1.6	
	baz=256					
F14K	Arctic Creek	49.87 26	P	P	19 22 22.8 +0.8	
	baz=249					
ANM	Nome	49.93 27	P	P	19 22 24.0 +1.6	
	baz=250					
J14K	Nanvaranak Lak	50.14 30	P	P	19 22 25.1 +1.2	
J14K			IAmb	IAmb	19 22 26.7	
	comp=Z,19nm,0.9s					
J14K	Nanvaranak Lak	50.14 30	P	P	19 22 25.6 +1.7	
	baz=254,SNR=5.4					
L14K	Kuka Creek	50.16 32	P	P	19 22 25.4 +1.3	
	baz=256					
SDPT	Sand Point	50.18 40	P	P	19 22 25.5 +1.2	
	baz=263					
N14K	Kuskokwak Cree	50.32 34	P	P	19 22 26.9 +1.7	
	baz=258					
M14K	Bethel	50.37 33		P	19 22 27.3 +1.7	
M14K			IAmb	IAmb	19 22 28.4	
	comp=Z,21nm,0.8s					
M14K	Bethel	50.37 33	P	P	19 22 27.3 +1.7	
	baz=257					
O14K	Tigyukauivet M	50.39 35	P	P	19 22 26.9 +1.1	
	baz=259					
F15K	North Star Dit	50.61 26	P	P	19 22 29.0 +1.6	
	baz=250					
G15K	Niukluk	50.61 27	P	P	19 22 28.4 +1.0	
	baz=251					
CHNA	Chernabura Isl	50.62 41	P	P	19 22 28.6 +1.0	
	baz=264					
SANVU	Saraoutou	50.78 145	P	P	19 22 29.8 +0.5	
SANVU			IAmb	IAmb	19 22 31.7	
	comp=Z,28nm,1.1s					
KURK	Kurchatov	50.79 314		P	19 22 28.5 -0.4	
KURK	Kurchatov	50.79 314	P	P	19 22 29.1 +0.2	
KURK	Kurchatov	50.79 314 *ce*	P	P	19 22 28.8 -0.1	
KURK			pmax	pmax		
	comp=Z,96nm,1.0s					
L15K	Ungalak Mounta	50.80 32	P	P	19 22 30.2 +1.3	
	baz=257					
KURBB	Kurchatov Arra	50.84 314	P	P	19 22 29.3 0.0	
	comp=Z,27nm,0.4s,baz=92,slow=7.3,SNR=341					
KURBB			PcP	PcP	19 23 38.2 -0.6	
	comp=Z,3.8nm,0.7s,baz=98,slow=3.6,SNR=4.3					
KURBB			ScP	ScP	19 26 51.7 -1.6	
	comp=Z,0.7nm,0.5s,baz=69,slow=5.1,SNR=1.9					
	comp=Z,27nm,0.4s					
K15K	Wolf Creek Mou	50.93 31	IAmb	IAmb	19 22 32.6	
	comp=Z,24nm,0.7s					
K15K	Wolf Creek Mou	50.93 31	P	P	19 22 31.4 +1.7	
	baz=256,SNR=10					
M15K	Kasigluk River	50.96 33	P	P	19 22 31.2 +1.1	
	baz=258					
O15K	Ungalikthiuk R	51.10 35	P	P	19 22 32.3 +1.2	
	baz=260					
PRZ	Przheval'sk	51.12 303	P	P	19 22 32.5 +0.7	
PRZ	Przheval'sk	51.12 303	P	P	19 22 32.5 +0.7	
PRZ			pmax	pmax		
	comp=Z,81nm,1.0s					
N15K	Kwethluk River	51.15 34	P	P	19 22 32.7 +1.3	
	baz=259					
H16K	Elim	51.24 28	P	P	19 22 33.3 +1.3	
	baz=254					
C16K	Lisburne Hills	51.28 23	P	P	19 22 33.6 +1.4	
	baz=248					
J16K	Anvik River	51.58 30	P	P	19 22 36.2 +1.7	
	baz=256					
I17K	Unalakleet	51.69 29	P	P	19 22 36.9 +1.7	
	baz=256					
L16K	Owhat River	51.74 32	P	P	19 22 37.0 +1.3	
	baz=258					
AS01	Alice Springs	51.85 187	P	P	19 22 37.6 +0.6	
N16K	Nishlik Lake	51.85 34	P	P	19 22 38.3 +1.7	
	baz=260,SNR=5.0					
AS31	Alice Springs	51.85 187		P	19 22 36.7 -0.3	
AS31			IAmb	IAmb	19 22 39.3	
	comp=Z,11nm,0.4s					
ASAR	Alice Springs	51.85 187		P	19 22 37.0 -0.1	
ASAR				PcP	19 23 44.1 +1.1	
ASAR	Alice Springs	51.85 187	P	P	19 22 36.8 -0.3	
	comp=Z,8.9nm,0.6s,baz=17,slow=13,SNR=181					
ASAR			PcP	PcP	19 23 44.3 +1.3	
	comp=Z,9.0nm,0.8s,baz=9.2,slow=3.8,SNR=20					
ASAR			ScP	ScP	19 26 58.1 +0.1	
	comp=Z,0.7nm,0.6s,baz=6.1,slow=5.2,SNR=2.9					
ASAR			S	S	19 29 23.8 -2.5	
	comp=Z,1.5nm,0.8s,baz=16,slow=19,SNR=7.7					
ASAR			P4KPbc		20 00 00.1	
	comp=Z,1.3nm,0.5s,baz=5.6,slow=5.3,SNR=30					
	comp=Z,8.9nm,0.6s					
ASAR	Alice Springs	51.85 187	P	P	19 22 37.0 -0.1	
ASAR					19 23 44.1	
M16K	Timber Creek	51.86 33	P	P	19 22 38.0 +1.4	
	baz=260,SNR=5.6					
D17K	Noatak River	51.87 24	P	P	19 22 38.2 +1.7	
	baz=250					
AUALC	St Philip's Co	51.88 187	P	P	19 22 37.8 +0.6	
P16K	Nushagak River	52.02 35	P	P	19 22 39.3 +1.6	
	baz=262					
O16K	Kokwok River B	52.04 35	P	P	19 22 39.1 +1.2	
	baz=261					
RDOG	Red Dog Mine	52.05 24	P	P	19 22 39.4 +1.5	
	baz=250					
KDJ	Kajisay	52.06 303	P	P	19 22 38.8 +0.2	
KDJ			IAmb	IAmb	19 22 47.3	
	comp=Z,38nm,1.1s					
KDJ	Kajisay	52.06 303	P	P	19 22 38.8 +0.2	
KDJ			pmax	pmax		
	comp=Z,39nm,1.1s					
C17K	DeLong Mountai	52.10 23	P	P	19 22 39.6 +1.4	
	baz=250					
G17K	Kiwalik Mounta	52.13 27	P	P	19 22 40.1 +1.6	
	baz=254					
F17K	Baldwin Pennin	52.16 26	P	P	19 22 40.2 +1.6	
	baz=253					
AUNRC	North Rockhamp	52.23 168	P	P	19 22 40.4 +0.7	
J17K	VABM Dome	52.28 30	P	P	19 22 41.6 +2.0	
	baz=258					
H17K	Granite Mounta	52.28 28	P	P	19 22 41.3 +1.7	
	baz=256					
L17K	Donlin	52.37 32	P	P	19 22 42.1 +1.9	
	baz=259,SNR=7.9					
K17K	Iditarod	52.48 31	P	P	19 22 43.1 +2.0	
	baz=259,SNR=10					
O17K	Koliganek Bris	52.57 35	P	P	19 22 43.1 +1.4	
	baz=262					
N17K	Nushagak Hills	52.63 34	P	P	19 22 44.1 +1.9	
	baz=262					
M17K	Holitna River	52.65 33		P	19 22 44.0 +1.7	
M17K			IAmb	IAmb	19 22 45.4	
	comp=Z,36nm,1.2s					
M17K	Holitna River	52.65 33	P	P	19 22 44.1 +1.8	
	baz=261,SNR=7.5					
E18K	Tukpahlearik C	52.69 25	P	P	19 22 44.2 +1.8	
	baz=253					
R17L	Mt. Peulik Vol	52.70 37	P	P	19 22 44.2 +1.4	
	baz=264					
MBWA	Marble Bar	52.77 204		P	19 22 43.5 -0.2	
MBWA			PcP	PcP	19 23 45.9 -0.5	
MBWA	Marble Bar	52.77 204	P	P	19 22 43.8 +0.2	
F18K	Selawik	52.81 26	P	P	19 22 44.9 +1.6	
	baz=255					
P17K	Kvichak River	52.83 35	P	P	19 22 44.7 +1.1	
	baz=263					
C18K	Utukok River	52.85 23	P	P	19 22 44.8 +1.1	
	baz=252					
B18K	Kokolik River	52.88 22	P	P	19 22 45.4 +1.6	
	baz=250					
BOOM	Boomskoye usch	52.93 304	P	P	19 22 45.5 +0.6	
BOOM			IAmb	IAmb	19 22 46.7	
	comp=Z,29nm,0.8s					
BOOM			PcP	PcP	19 23 47.4 +0.2	
BOOM	Boomskoye usch	52.93 304	P	P	19 22 45.5 +0.6	
BOOM			PCP	PcP	19 23 47.4 +0.2	
BOOM			pmax	pmax		
	comp=Z,29nm,0.8s					
CHIR	Chirikof Islan	52.97 40	P	P	19 22 44.3 -0.4	
	baz=266					
H18K	Honhosa River	52.97 28	P	P	19 22 45.9 +1.3	
	baz=257					
Q17K	Contact Creek	53.02 37	P	P	19 22 45.3 +0.2	
	baz=264					
G18K	Tagagawik	53.03 27	P	P	19 22 46.2 +1.2	
	baz=256					
PSA00	Pilbara Seismi	53.11 204		P	19 22 45.8 -0.3	
PSA00			PcP	PcP	19 23 46.6 -1.2	
PSA00	Pilbara Seismi	53.11 204	IAmb	IAmb	19 22 47.0	
	comp=Z,14nm,0.9s					
PSA00	Pilbara Seismi	53.11 204	P	P	19 22 46.2 +0.1	
L18K	Granite Mounta	53.13 32	P	P	19 22 47.5 +1.7	
	baz=261					
TKM2	Tokmak 2	53.14 304	P	P	19 22 47.5 +1.1	
	SNR=11					
KSH	Kashi	53.29 300	P	P	19 22 51.1 +3.7	
KSH			pmax	pmax		
	comp=Z,41nm,0.8s					
N18K	Kilae Creek	53.29 34	P	P	19 22 48.6 +1.7	
	baz=263					
M18K	Stony River	53.43 33	P	P	19 22 49.5 +1.6	
	baz=262					
P18K	Big Mountain,	53.47 35	P	P	19 22 49.7 +1.4	
	baz=264					
Q18K	Katmai Hardscr	53.51 36	P	P	19 22 49.6 +0.9	
	baz=265					
O18K	Koktuh Hills	53.53 35	P	P	19 22 50.1 +1.5	
	baz=264					
C19K	Lookout Ridge	53.54 23	P	P	19 22 50.1 +1.5	
	baz=253					
F19K	Shaleruckik Mo	53.60 26	P	P	19 22 50.1 +1.2	
	baz=256					
KBK	Karagaybulak	53.64 304	P	P	19 22 51.0 +1.0	
	SNR=25					
R18K	Karluk	53.72 38	P	P	19 22 49.8 -0.2	
	baz=266					
CHMS	Chumysh	53.75 304	P	P	19 22 51.1 +0.5	
	SNR=13					
H19K	Roundabout Mou	53.84 28	P	P	19 22 52.3 +1.6	
	baz=259					
FRU1	Bishkek	53.86 304	IAmb	IAmb	19 22 53.1	
	comp=Z,43nm,1.0s					
D19K	Kuna River	53.89 24	P	P	19 22 52.2 +1.1	
	baz=255					
USP	Ospenovka	53.90 305	P	P	19 22 52.2 +0.6	
	SNR=13					
E19K	Redstone River	53.95 25	P	P	19 22 52.9 +1.4	
	baz=256					
L19K	White Mountain	53.98 32	P	P	19 22 53.2 +1.3	
	baz=262					
AAK	Ala-Archa	53.98 304		P	19 22 51.3 -1.0	
AAK			PcP	PcP	19 23 50.9 -0.2	
AAK	Ala-Archa	53.98 304	P	P	19 22 53.0 +0.6	
AAK	Ala-Archa	53.98 304	P	P	19 22 52.9 +0.6	
	SNR=12					
AAK	Ala-Archa	53.98 304 *i*	P	P	19 22 52.9 +0.6	
	SNR=12					
AAK	Ala-Archa	53.98 304 *de*	P	P	19 22 52.8 +0.4	
AAK			pmax	pmax		
	comp=Z,16nm,0.8s					
N19K	Bonanza Creek	53.99 33	P	P	19 22 53.4 +1.4	
	baz=264					
O19K	Port Alsworth	54.01 34	IAmb	IAmb	19 22 54.4	
	comp=Z,28nm,0.8s					
O19K	Port Alsworth	54.01 34	P	P	19 22 53.4 +1.4	
	baz=264					
UCH	Uchtor	54.02 303	P	P	19 22 54.2 +1.3	
	SNR=28					
M19K	Big River Lodg	54.16 32	P	P	19 22 54.3 +1.2	
	baz=263					
EIDS	Eidsvold	54.30 168	IAmb	IAmb	19 22 56.2	
	comp=Z,18nm,0.7s					
EIDS	Eidsvold	54.30 168	P	P	19 22 55.5 +0.9	
OHAK	Old Harbor	54.33 38	P	P	19 22 55.3 +1.0	
	baz=268					
F20K	Avaraart Lake	54.43 26	P	P	19 22 56.2 +1.3	
	baz=258					
H20K	Anotleneega Mo	54.47 28	P	P	19 22 56.6 +1.3	
	baz=260					
D20K	Etivluk River	54.48 24	IAmb	IAmb	19 22 57.5	
	comp=Z,26nm,0.6s					
D20K	Etivluk River	54.48 24	P	P	19 22 56.7 +1.5	
	baz=256					
EKS2	Erkin-Say	54.50 304	P	P	19 22 56.8 +0.8	
	SNR=10					
P19K	Oil Pt	54.51 35	P	P	19 22 56.4 +0.8	
	baz=266					
E20K	Nigu River	54.52 24	P	P	19 22 56.8 +1.2	
	baz=257					
J20K	Nowinta River	54.57 29	P	P	19 22 57.4 +1.4	
	baz=262					
QLP	Quilpie	54.59 175	P	P	19 22 57.0 +0.4	
B20K	Meade River	54.62 22	P	P	19 22 57.6 +1.4	
	baz=255					
KDAK	Kodiak Island	54.73 37	P	P	19 22 57.6 +0.4	
KDAK			IAmb	IAmb	19 22 58.6	
	comp=Z,26nm,0.9s					
KDAK	Kodiak Island	54.73 37 *i*	P	P	19 22 58.2 +1.0	
KDAK			pmax	pmax		
	comp=Z,28nm,1.0s					
KDAK	Kodiak Island	54.73 37	P	P	19 22 57.8 +0.6	
	baz=268					
O20K	Slope Mountain	54.84 34	P	P	19 22 58.7 +0.6	
	baz=266					
Q20K	Shuyak Island	54.87 36	P	P	19 22 58.4 +0.3	
	baz=267					
SPCR	Spurr Chakacha	55.13 33	P	P	19 23 00.9 +0.9	
G21K	Allakaket	55.20 27	P	P	19 23 01.8 +1.4	
	baz=261					
C21K	Knifeblade Rid	55.22 23	P	P	19 23 00.7 +0.2	
	baz=258					
ARSB	Arslanbob	55.27 303		P	19 23 02.1 +0.6	
ARSB			IAmb	IAmb	19 23 03.5	
	comp=Z,62nm,1.1s					
ARSB			PcP	PcP	19 23 56.0 -0.2	
ARSB	Arslanbob	55.27 303	P	P	19 23 02.1 +0.6	
ARSB					19 23 56.1	
ARSB			pmax	pmax		
	comp=Z,62nm,1.1s					
PPLA	Purkeypile	55.29 31	P	P	19 23 02.5 +1.3	
	baz=264					
F21K	Alatna River	55.32 26	P	P	19 23 02.3 +1.1	
	baz=260					
CHUM	Lake Minchumin	55.33 30	P	P	19 23 02.8 +1.5	
	baz=264					
H21K	Melozitna Rive	55.35 28	P	P	19 23 03.3 +1.8	
	baz=262					
E21K	Killik River	55.36 24	P	P	19 23 02.5 +0.9	
	baz=259					
B21K	Ikpikpuk River	55.38 23	P	P	19 23 03.2 +1.7	
	baz=258					
SKT	Skwentna	55.51 32	P	P	19 23 03.2 +0.5	
	baz=266,SNR=5.9					
INKA	Innaminka	55.59 179		P	19 23 03.4 -0.2	
I21K	Tanana	55.63 28	P	P	19 23 05.3 +1.9	
	baz=263					
BRSE	Bradley Lake S	55.77 35	P	P	19 23 05.9 +1.4	
	baz=268					
SUA	Susitna One	55.85 33	P	P	19 23 05.3 +0.2	
	baz=267					
F22K	John River	55.87 26	P	P	19 23 06.4 +1.4	
	baz=261					
D22K	Ayikyak River	55.91 24	P	P	19 23 07.1 +1.8	
	baz=260					
BORK	Borovoye	55.92 317 *ce*	P	P	19 23 05.9 +0.3	
BORK			pmax	pmax		
	comp=Z,114nm,0.9s					
BPAW	Bear Paw Mtn.	55.94 30	P	P	19 23 07.1 +1.4	
	baz=265					
G22K	Bettles	56.04 26	P	P	19 23 07.4 +1.2	
	baz=262					
E22K	Anaktuvuk Pass	56.10 25	P	P	19 23 08.3 +1.6	
	baz=261					
MLY	Manley	56.13 29	P	P	19 23 08.4 +1.4	
	baz=264					
TRF	Thorofare Moun	56.19 31	P	P	19 23 08.4 +0.8	
	baz=266					
RC01	Rabbit Creek A	56.32 33	P	P	19 23 08.7 +0.5	
	baz=268					
SEW	Seward	56.43 35	P	P	19 23 09.8 +0.7	
	baz=269					
DRK	Karamyk	56.48 301	P	P	19 23 10.3 +0.2	
DRK			IAmb	IAmb	19 23 11.9	
	comp=Z,31nm,0.7s					
DRK	Karamyk	56.48 301	P	P	19 23 10.3 +0.2	
DRK			pmax	pmax		
	comp=Z,31nm,0.7s					
NIL	Nilore	56.57 293		P	19 23 10.9 +0.3	
NIL			IAmb	IAmb	19 23 13.1	
	comp=Z,28nm,0.8s					
NIL			PcP	PcP	19 23 59.6 -1.7	
NIL	Nilore	56.57 293	P	P	19 23 11.4 +0.9	
NIL	Nilore	56.57 293	P	P	19 23 10.9 +0.3	
NIL			PCP	PcP	19 23 59.6 -1.7	
NIL			pmax	pmax		
	comp=Z,28nm,0.8s					
COLD	Coldfoot	56.59 26	P	P	19 23 11.4 +1.4	
	baz=263					
G23K	Bananza Creek	56.60 27	P	P	19 23 11.7 +1.5	
	baz=264					
PMR	Palmer	56.63 33	P	P	19 23 11.3 +0.9	
	baz=268					
D23K	Nanushuk River	56.64 24	P	P	19 23 11.9 +1.5	
	baz=262					
I23K	Minto, Yukon-K	56.73 29	P	P	19 23 12.8 +1.8	
	baz=266					
GHO	Glory Hole Cre	56.73 33	IAmb	IAmb	19 23 14.1	
	comp=Z,11nm,0.6s					
C23K	Itkillik River	56.79 23	P	P	19 23 12.7 +1.4	
	baz=261					
NEA2	Nenana	56.81 29	IAmb	IAmb	19 23 13.7	
	comp=Z,14nm,0.8s					
NEA2	Nenana	56.81 29	P	P	19 23 12.7 +1.0	
	baz=266,SNR=6.0					
KK31	Karatay Array	56.81 305		P	19 23 12.4 +0.4	
KK31	Karatay Array	56.81 305	P	P	19 23 12.4 +0.4	
KK31			pmax	pmax		
	comp=Z,90nm,0.8s					
KKAR	Karatay Array	56.81 305		P	19 23 12.0 -0.1	
KKAR	Karatay Array	56.81 305	P	P	19 23 12.0 -0.1	
MCK	McKinley	56.82 30		P	19 23 12.5 +0.8	
MCK			IAmb	IAmb	19 23 13.8	
	comp=Z,19nm,0.8s					
MCK	McKinley	56.82 30	P	P	19 23 12.5 +0.8	
MCK			pmax	pmax		
	comp=Z,19nm,0.8s					
MCK	McKinley	56.82 30	P	P	19 23 12.4 +0.6	
	baz=267,SNR=9.8					
WAT1	Susitna Watana	56.95 31	P	P	19 23 13.0 +0.4	
	baz=268					
KNK	Knik Glacier	56.95 33	P	P	19 23 12.9 +0.2	
KNK	Knik Glacier	56.95 33	P	P	19 23 13.4 +0.7	
	baz=269,SNR=7.0					
TOLK	Toolik Lake Re	56.99 24	P	P	19 23 13.8 +0.9	
	baz=263					
PWL	Port Wells	57.00 34	IAmb	IAmb	19 23 14.3	
	comp=Z,23nm,0.6s					
PWL	Port Wells	57.00 34	P	P	19 23 13.5 +0.4	
	baz=269,SNR=7.8					
SML	Sawmill	57.02 33		P	19 23 13.7 +0.5	
SML			IAmb	IAmb	19 23 16.0	
	comp=Z,18nm,0.7s					
SML	Sawmill	57.02 33	P	P	19 23 13.7 +0.5	
SML			pmax	pmax		
	comp=Z,18nm,0.7s					
SML	Sawmill	57.02 33	P	P	19 23 13.8 +0.6	
	baz=269,SNR=6.8					
M23K	Glacier View	57.30 33	P	P	19 23 15.8 +0.7	
	baz=269,SNR=5.5					
WAT6	Susitna Watana	57.31 32	P	P	19 23 16.0 +0.7	
	baz=269,SNR=7.9					
D24K	Happy Valley	57.32 24	P	P	19 23 16.5 +1.4	
	baz=264					
E24K	Your Creek	57.33 25	P	P	19 23 16.4 +1.2	
	baz=264					
C24K	Franklin Bluff	57.43 23	P	P	19 23 17.1 +1.3	
	baz=263					
P23K	Montague Islan	57.46 35	P	P	19 23 17.2 +1.0	
	baz=271					
DHY	Denali Highway	57.49 31	P	P	19 23 17.4 +0.9	
	baz=269					
SCM	Sheep Creek Mo	57.49 33	P	P	19 23 17.2 +0.7	
SCM			IAmb	IAmb	19 23 18.3	
	comp=Z,24nm,0.8s					
SCM	Sheep Creek Mo	57.49 33	P	P	19 23 17.2 +0.7	
SCM			pmax	pmax		
	comp=Z,24nm,0.8s					
SCM	Sheep Creek Mo	57.49 33	P	P	19 23 17.5 +1.0	
	baz=270					
F24K	Squaw Lake	57.51 26	P	P	19 23 18.0 +1.5	
	baz=265					
POKR	Poker Plat Res	57.54 29	P	P	19 23 18.1 +1.4	
	baz=267					
GLI	Glacier Island	57.60 34	P	P	19 23 17.7 +0.5	
	baz=270					
G24K	Hadweenzic Riv	57.61 27	P	P	19 23 18.8 +1.6	
	baz=266					
GAR	Garm	57.70 300		P	19 23 18.6 +0.3	
HDA	Harding Lake	57.72 29	P	P	19 23 17.9 0.0	
	baz=268,SNR=8.5					
ILAR	Eielson Array	57.76 29	P	P	19 23 18.1 0.0	
	comp=Z,5.2nm,0.8s,baz=256,slow=4.8,SNR=13					
ILAR			pP	pP	19 24 46.0 +0.5	
	comp=Z,0.8nm,0.9s,baz=259,slow=5.6,SNR=1.8					
	comp=Z,5.2nm,0.8s					
AULRC	Lightning Ridg	57.79 172	P	P	19 23 19.6 +0.8	
FID	Port Fidalgo	57.91 34	P	P	19 23 19.5 +0.3	
FID			IAmb	IAmb	19 23 23.4	
	comp=Z,58nm,1.4s					
M24K	Tolsona, Glenn	58.04 32	P	P	19 23 21.6 +1.4	
	baz=270					
G25K	Bearman Lake	58.16 27	P	P	19 23 22.8 +2.0	
	baz=268					
KLU	Klutina	58.16 33	P	P	19 23 22.1 +1.0	
	baz=271					

D25K	Kavik River	58.21	24	P	P	19 23 22.7 +1.5
	baz=266					
H25L	Birch Creek	58.25	27	P	P	19 23 23.0 +1.5
	baz=268					
PRP	Porcupine Dome	58.35	28	P	P	19 23 23.4 +1.0
	baz=269					
PAX	Paxson	58.36	31	P	P	19 23 23.6 +1.1
	baz=270,SNR=5.6					
F25K	Christian Rive	58.37	26	P	P	19 23 23.8 +1.4
	baz=268					
J25K	Salcha River,	58.41	29	P	P	19 23 23.8 +1.2
	baz=270					
E25K	Arctic Village	58.43	25	P	P	19 23 24.1 +1.4
	baz=267					
HARP	HAARP	58.51	32	P	P	19 23 24.5 +1.1
	baz=271,SNR=5.6					
RIDG	Independent Ri	58.63	30	P	P	19 23 25.0 +0.7
	baz=271					
CHGR	Chuyangaron	58.66	300		P	19 23 25.2 +0.3
CHGR	Chuyangaron	58.66	300	P	P	19 23 25.2 +0.3
CHGR				pmax	pmax	
	comp=Z,176nm,0.8s					
BMAR	Burnt Mountain	58.78	26		P	19 23 26.8 +1.6
N25K	Chitina, Valde	58.80	33	P	P	19 23 26.5 +1.1
	baz=272					
BMRM	Bremner River	58.82	34	IAmb	IAmb	19 23 30.2
	comp=Z,39nm,1.0s					
BMRM	Bremner River	58.82	34	P	P	19 23 26.7 +1.2
	baz=272,SNR=8.2					
F26K	Sheenjek River	58.95	26	IAmb	IAmb	19 23 29.4
	comp=Z,19nm,1.1s					
F26K	Sheenjek River	58.95	26	P	P	19 23 28.3 +2.0
	baz=269					
DOT	Dot Lake	58.98	30	IAmb	IAmb	19 23 28.1
	comp=Z,17nm,0.8s					
SCRK	Sand Creek	59.01	30	IAmb	IAmb	19 23 28.4
	comp=Z,16nm,0.8s					
SCRK	Sand Creek	59.01	30	P	P	19 23 27.4 +0.5
	baz=271,SNR=13					
G26K	Porcupine Rive	59.08	26	P	P	19 23 28.7 +1.6
	baz=270					
HMH	Humu'ula Sheep	59.11	83	P	P	19 23 28.1 -0.4
MENT	Mentasta	59.16	31	P	P	19 23 29.2 +1.4
C27K	Jago River	59.16	23	P	P	19 23 29.3 +1.7
	baz=268					
GLB	Gilahina Butte	59.18	33	IAmb	IAmb	19 23 30.1
	comp=Z,16nm,1.0s					
J26L	Joseph Creek	59.19	29	P	P	19 23 28.4 +0.4
	baz=271					
BERG	Berg Lake	59.29	34	P	P	19 23 29.6 +0.9
ARMA	Armidale	59.33	168		P	19 23 30.1 +0.8
ARMA				IAmb	IAmb	19 23 31.2
	comp=Z,18nm,0.7s					
ARMA	Armidale	59.33	168	P	P	19 23 30.0 +0.7
L26K	Log Cabin Wild	59.33	31	P	P	19 23 30.1 +1.2
	baz=272					
I26K	Coal Creek Min	59.34	28	P	P	19 23 29.2 +0.3
	baz=271					
VRDI	Verde Repeater	59.36	33	P	P	19 23 30.2 +0.8
PALK	Pallekele	59.49	261	P	P	19 23 30.6 -0.2
PALK	Pallekele	59.49	261	P	P	19 23 31.3 +0.5
PALK	Pallekele	59.49	261	P	P	19 23 30.6 -0.2
PALK				pmax	pmax	
	comp=Z,12nm,0.8s					
M26K	Nabesna, AK	59.52	32	P	P	19 23 31.2 +1.0
	baz=273					
CRQM	Cirque	59.55	34	IAmb	IAmb	19 23 32.6
	comp=Z,22nm,0.9s					
MCARA	McCarthy VSAT	59.56	33	P	P	19 23 31.2 +0.8
MCARA				IAmb	IAmb	19 23 32.6
	comp=Z,20nm,0.8s					
MCARA	McCarthy VSAT	59.56	33	P	P	19 23 31.4 +0.9
	baz=274,SNR=6.0					
CRQE	Cirque	59.57	34	P	P	19 23 31.6 +1.0
	baz=274					
JOKA	Jonika Flow	59.59	83	P	P	19 23 32.8 +1.4
CMSA	Cobar Meteorol	59.63	174	P	P	19 23 32.2 +1.0
FORT	Forrest	59.70	192	IAmb	IAmb	19 23 33.5
	comp=Z,38nm,1.4s					
KBL	Kabul	59.73	295		P	19 23 31.5 -0.8
KBL				IAmb	IAmb	19 23 34.1
	comp=Z,29nm,0.9s					
KBL	Kabul	59.73	295	P	P	19 23 32.6 +0.3
	SNR=19					
KBL	Kabul	59.73	295	P	P	19 23 31.5 -0.8
KBL				pmax	pmax	
	comp=Z,29nm,0.9s					
STKA	Stephens Creek	59.73	178		P	19 23 32.1 +0.2
STKA	Stephens Creek	59.73	178	P	P	19 23 32.2 +0.2
	comp=Z,21nm,0.5s,baz=2.9,slow=6.9,SNR=67					
	comp=Z,21nm,0.5s					
STKA	Stephens Creek	59.73	178	P	P	19 23 32.5 +0.6
K27K	Chicken	59.85	30	P	P	19 23 33.4 +1.1
	baz=273					
E27K	Coleen River	59.91	25	P	P	19 23 34.0 +1.3
	baz=271					
G27K	Doyon Strip	59.92	27	P	P	19 23 33.7 +0.9
	baz=272					
I27K	Kandik River	59.98	28	P	P	19 23 34.6 +1.3
	baz=272					
H27K	Steamboat Moun	59.99	27	IAmb	IAmb	19 23 35.6
	comp=Z,9.3nm,0.6s					
H27K	Steamboat Moun	59.99	27	P	P	19 23 34.9 +1.6
	baz=272,SNR=7.3					
L27K	Beaver Creek,	60.02	31	P	P	19 23 34.7 +1.2
	baz=274					
BCAR	Beaver Creek A	60.04	31		P	19 23 34.8 +1.2
M27K	Edge Creek, AK	60.04	32	P	P	19 23 34.9 +1.1
	baz=274					
D27M	Malcolm River	60.13	24	P	P	19 23 35.6 +1.4
	baz=271					
EGAK	Eagle	60.21	29	P	P	19 23 34.9 +0.1
EGAK	Eagle	60.21	29	P	P	19 23 35.8 +1.0
	baz=273					
GRNC	Granite Creek	60.23	34	P	P	19 23 36.1 +0.9
GRNC				IAmb	IAmb	19 23 37.0
	comp=Z,15nm,0.9s					
F28M	Old Crow	60.59	26	IAmb	IAmb	19 23 39.8
	comp=Z,12nm,0.8s					
F28M	Old Crow	60.59	26	P	P	19 23 38.9 +1.6
	baz=273,SNR=6.2					
E28M	Babbage River	60.67	25	IAmb	IAmb	19 23 40.5
	comp=Z,18nm,1.1s					
E28M	Babbage River	60.67	25	P	P	19 23 39.3 +1.6
	baz=272					
I28M	Miner Creek	60.69	28	IAmb	IAmb	19 23 40.1
	comp=Z,12nm,0.8s					
I28M	Miner Creek	60.69	28	P	P	19 23 39.4 +1.4
	baz=274,SNR=11					
BBOO	Buckleboo	60.75	184	P	P	19 23 39.0 +0.3
BBOO				IAmb	IAmb	19 23 39.9
	comp=Z,37nm,1.1s					
WHYH	Whyalla	60.90	182	P	P	19 23 40.6 +0.9
O28M	Mount Upton	60.99	34	IAmb	IAmb	19 23 42.6
	comp=Z,15nm,1.1s					
O28M	Mount Upton	60.99	34	P	P	19 23 41.1 +0.8
	baz=276					
DAWY	Dawson	61.03	30		P	19 23 41.4 +1.1
DAWY	Dawson	61.03	30	P	P	19 23 41.3 +1.1
	baz=275					
PINM	Pinnacle	61.03	34	P	P	19 23 41.3 +0.9
	baz=277					
YUK8	Steele Glacier	61.14	33	P	P	19 23 42.3 +1.0
	baz=276					
SVE	Sverdlovsk	61.14	322	*ce*P	P	19 23 41.6 +0.6
SVE				pmax	pmax	
	comp=Z,69nm,0.8s					
H29M	Whitestone	61.27	27	P	P	19 23 43.2 +1.5
	baz=275					
E29M	Blow River	61.28	25	P	P	19 23 43.2 +1.5
	baz=274					
MORW	Morawa	61.32	204	P	P	19 23 42.2 -0.4
MORW				IAmb	IAmb	19 24 09.1
	comp=Z,33nm,1.4s					
G29M	Pine Creek	61.35	26	P	P	19 23 44.1 +1.9
	baz=275					
I29M	Ogilvie Camp,	61.37	28	P	P	19 23 43.6 +1.1
	baz=275					
PNL	Peninsula	61.51	35	P	P	19 23 44.7 +1.2
	baz=278					
M29M	Somme Creek	61.62	32	P	P	19 23 46.0 +1.8
	baz=277,SNR=6.6					
YUK4	Talbot Arm	61.66	33	P	P	19 23 46.4 +1.7
	baz=277					
L29M	L29M	61.69	31	IAmb	IAmb	19 23 48.2
	comp=Z,27nm,1.1s					
L29M	L29M	61.69	31	P	P	19 23 46.5 +1.9
	baz=277,SNR=10					
O29M	Mount Kennedy	61.84	34	P	P	19 23 46.7 +0.9
	baz=278					
K29M	Barlow Dome	61.87	30	P	P	19 23 47.4 +1.5
	baz=277,SNR=5.9					
EPYK	Eagle Plains	61.92	27	P	P	19 23 47.4 +1.3
	baz=276,SNR=15					
G30M	tAoh Zraii Nji	62.05	26	IAmb	IAmb	19 23 49.4
	comp=Z,36nm,1.4s					
G30M	tAoh Zraii Nji	62.05	26	P	P	19 23 48.2 +1.3
	baz=276					
F30M	Barrier River	62.15	26	IAmb	IAmb	19 23 49.9
	comp=Z,23nm,1.1s					
F30M	Barrier River	62.15	26	P	P	19 23 49.1 +1.6
	baz=276					
I30M	Mount Dempster	62.19	28	IAmb	IAmb	19 23 50.0
	comp=Z,9.3nm,0.7s					
I30M	Mount Dempster	62.19	28	P	P	19 23 49.0 +1.0
	baz=277,SNR=13					
HYT	Haines Junctio	62.29	33	P	P	19 23 49.8 +1.2
	baz=279					
J30M	Hart River	62.30	29	P	P	19 23 50.0 +1.3
	baz=278,SNR=5.4					
P29M	Windy Craggy	62.35	35	P	P	19 23 50.1 +1.1
	baz=279					
M30M	Minto, Yukon	62.37	31	P	P	19 23 50.2 +1.1
	baz=278					
N30M	Aishikik Lake	62.39	33	P	P	19 23 50.7 +1.4
	baz=279					
ARTI	Arti	62.44	322		P	19 23 48.7 -0.8
ARTI				PcP	PcP	19 24 22.5 -1.9
ARTI	Arti	62.44	322	*d i*P	P	19 23 49.4 -0.2
ARTI						19 24 21.9
ARTI				*PP	pP	19 25 18.0 -0.3
ARTI						19 26 10.7
ARTI				S	S	19 31 44.7 +2.8
ARTI				pmax	pmax	
	comp=Z,68nm,0.8s					
SYDH	Sydney Hard Ro	62.44	170	P	P	19 23 50.8 +1.0
P30M	Million Dollar	62.66	34	P	P	19 23 52.1 +1.0
	baz=279					
G31M	Satah River	62.82	26	IAmb	IAmb	19 23 53.5
	comp=Z,15nm,0.9s					
G31M	Satah River	62.82	26	P	P	19 23 52.8 +1.0
	baz=278					
AB31	Akbulak array	62.89	314		P	19 23 52.6 0.0
ABKAR	Akbulak array	62.89	314		P	19 23 52.7 0.0
H31M	Peel River	62.95	27	IAmb	IAmb	19 23 54.8
	comp=Z,17nm,0.7s					
H31M	Peel River	62.95	27	P	P	19 23 53.9 +1.1
	baz=279,SNR=8.4					
O30N	Mendenhall	62.98	33	P	P	19 23 54.5 +1.4
	baz=280					
N31M	Braeburn, Yuko	63.01	32	IAmb	IAmb	19 23 55.9
	comp=Z,31nm,1.1s					
N31M	Braeburn, Yuko	63.01	32	P	P	19 23 54.5 +1.2
	baz=280					
PLBC	Pleasant Camp	63.07	35	P	P	19 23 54.8 +1.1
	baz=280					
M31M	Drury Creek, Y	63.53	31	P	P	19 23 57.8 +1.2
	baz=280					
WHY	Whitehorse	63.58	33	P	P	19 23 58.1 +1.1
	baz=281					
SKAG	Skagway	63.59	35	P	P	19 23 58.2 +1.3
	baz=281					
CAN	Canberra	63.73	172	P	P	19 23 57.8 -0.4
CAN				IAmb	IAmb	19 24 32.4
	comp=Z,15nm,1.1s					
CAN	Canberra	63.73	172	P	P	19 23 57.8 -0.4
CAN				pmax	pmax	
	comp=Z,15nm,1.1s					
P32M	Atlin	64.37	34	P	P	19 24 03.2 +1.1
	baz=282					
NWAO	Narrogin (SRO)	64.46	201	P	P	19 24 02.9 +0.1
NWAO				PcP	PcP	19 24 30.5 -2.4
NWAO	Narrogin (SRO)	64.46	201	P	P	19 24 02.9 +0.1
NWAO				pmax	pmax	
	comp=Z,49nm,0.9s					
P33M	Teslin, Yukon	64.68	33	P	P	19 24 05.5 +1.5
	baz=283					
A36M	Sachs Harbour	64.97	20	P	P	19 24 06.6 +1.0
HRA	Herat	65.16	297		P	19 24 08.2 +0.5
BRAT	Ballarat	65.48	176	P	P	19 24 10.2 +1.0
MGBR	Mount Gambier	65.55	179	P	P	19 24 09.9 +0.2
TOO	Toolangi	65.60	175	P	P	19 24 11.1 +1.1
TOO				IAmb	IAmb	19 24 12.2
	comp=Z,9.2nm,0.7s					
TOO	Toolangi	65.60	175	P	P	19 24 11.1 +1.1
TOO				pmax	pmax	
	comp=Z,9.0nm,0.7s					
CRAG	Craig	65.64	39	P	P	19 24 11.3 +1.3
	baz=285					
R33M	Jennings River	65.78	34	P	P	19 24 12.2 +1.1
	baz=285					
WRAK	Wrangell Islan	65.82	37	P	P	19 24 11.8 +0.6
	baz=285					
C36M	Paulatuk	66.04	23	P	P	19 24 13.4 +1.0
	baz=286					
S34M	Telegraph Cree	66.08	36	P	P	19 24 13.4 +0.6
	baz=285					
HMDM	Haniimaadhoo	66.32	265	P	P	19 24 16.4 +1.3
TGTN	Hyland Airport	66.51	31	P	P	19 24 17.1 +1.6
	baz=286,SNR=8.0					
DIB	Dawson Inlet,	66.60	41	P	P	19 24 17.0 +0.9
KIRV	Kirov	66.66	325	*ce*P	P	19 24 16.9 +0.5
T35M	Bob Quinn	66.78	37	P	P	19 24 18.0 +0.6
	baz=286					
WRGLY	Wrigley	68.14	29	P	P	19 24 26.8 +1.4
	baz=289					
LIRD	Liard River Hi	68.16	33	P	P	19 24 27.4 +1.6
	baz=288					
SPB2	Spitsbergen Ar	68.97	349	P	P	19 24 30.2 -0.1
SPITS	Spitsbergen Ar	68.97	349	P	P	19 24 31.1 +0.8
	comp=Z,5.4nm,0.6s,baz=86,slow=11,SNR=7.5					
	comp=Z,5.4nm,0.6s					
NGCH	Negor - Chabah	69.16	288	P	P	19 24 34.0 +1.6
BELG	Belogornoye	69.54	319	*d i*P	P	19 24 34.1 0.0
BELG				pmax	pmax	
	comp=Z,13nm,0.9s					
VADS	Vadso	70.41	340	*e*P	P	19 24 38.9 -0.1
KLMR	Klimovskoe	70.63	329	*e*P	P	19 24 39.7 -0.9
KLMR				*e*PP	pP	19 26 11.6 -1.0
KLMR				pmax	pmax	
	comp=Z,36nm,1.2s					
TAU	Tasmania Unive	71.05	174	P	P	19 24 43.6 +0.5
TAU	Tasmania Unive	71.05	174	P	P	19 24 43.7 +0.5
TAU				pmax	pmax	
	comp=Z,98nm,1.4s					
KEV	Kevo	71.30	340	P	P	19 24 44.5 +0.2
KEV				IAmb	IAmb	19 24 45.7
	comp=Z,14nm,0.7s					
KEV	Kevo	71.30	340	P	P	19 24 44.5 +0.2
KEV				pmax	pmax	
	comp=Z,14nm,0.7s					
ARA0	ARCESS Array S	71.86	340	*e*P	P	19 24 48.5 +0.8
ARCES	ARCESS Array B	71.86	340		P	19 24 48.0 +0.3
ARCES				IAmb	IAmb	19 24 49.2
	comp=Z,15nm,0.7s					
ARCES	ARCESS Array B	71.86	340	P	P	19 24 48.4 +0.7
	comp=Z,13nm,0.5s,baz=69,slow=8.4,SNR=102					
	comp=Z,13nm,0.5s					
JLN	Jalan Bani Buh	71.86	286	P	P	19 24 48.9 +0.3
WSAR	Wadi Sarin	72.09	287	P	P	19 24 50.6 +0.7
YKA	Yellowknife Ar	72.16	28	P	P	19 24 50.2 +0.7
	comp=Z,4.7nm,0.8s,baz=261,slow=5.6,SNR=13					
	comp=Z,4.7nm,0.8s					
BIDO	Bidbid	72.40	288	P	P	19 24 53.0 +1.3
	SNR=9.3					
SMDO	Samad	72.65	287	P	P	19 24 53.8 +0.5
KTK1	Kautokeino	72.82	340	*e*P	P	19 24 53.8 +0.5
JMDO	Jabal Madar	72.88	287	P	P	19 24 54.7 +0.2
BANOM	Banah	72.97	291	P	P	19 24 56.1 +1.0
BANOM	Banah	72.97	291	P	P	19 24 55.7 +0.6
SHME	Shamm	73.05	291	P	P	19 24 56.5 +1.1
SHME	Shamm	73.05	291	*i* P	P	19 24 56.2 +0.8
	SNR=9.4					
HOQ	Hoqain	73.06	288	P	P	19 24 56.0 +0.5
	SNR=12					
JOF	Joensuu	73.22	333	*e*P	P	19 24 55.8 +0.1
MASF	Masafi	73.31	290	P	P	19 24 57.9 +0.9
	SNR=5.6					
MSFE	Esma-Masafi	73.31	290	*i* P	P	19 24 57.6 +0.6
	SNR=8.9					
JETT	Jettan, Norway	73.33	341	*e*P	P	19 24 57.0 +0.8
VRH	Novokhopyorsk	73.38	319	*e*P	P	19 24 54.3 -2.5
VRH				pmax	pmax	
	comp=Z,30nm,0.8s					
UOSS	Minazif	73.44	290		P	19 24 56.9 -0.8
UOSS				IAmb	IAmb	19 24 59.1
	comp=Z,16nm,0.8s					
UOSS	Minazif	73.44	290	P	P	19 24 58.1 +0.4
UOSS	Minazif	73.44	290	*i* P	P	19 24 57.4 -0.3
	SNR=11					
AKT	Akhty	73.45	308	*e*P	P	19 24 55.9 -1.7
AKT				*e*		19 25 08.4
AKT				*e*PP	pP	19 26 30.2 +0.2
AKT				*e*S	S	19 33 49.9 -1.7
AKT				pmax	pmax	
	comp=Z,140nm,0.6s					
SOHO	SOHO	73.49	289	P	P	19 24 58.5 +0.5
SOHO	SOHO	73.49	289	*i* P	P	19 24 58.1 +0.1
	SNR=56					
HATD	Hatta, Dubai	73.55	290	P	P	19 24 59.0 +0.7
	SNR=9.4					
HATD	Hatta, Dubai	73.55	290	*i* P	P	19 24 58.7 +0.4
	SNR=13					
MHTO	MHTO	73.56	285	P	P	19 24 58.6 +0.2
	SNR=9.2					
ASHO	Ashiyiah	73.67	290	P	P	19 24 59.5 +0.5
	SNR=9.9					
ASHO	Ashiyiah	73.67	290	*i* P	P	19 24 59.4 +0.4
	SNR=15					
MOS	Moscow	73.67	325	*e*P	P	19 24 56.6 -1.8
MOS				*e*PP	pP	19 26 28.5 -2.4
MOS				*e*		19 27 45.7
MOS				*e*S	S	19 33 49.1 -4.1
MOS				pmax	pmax	
	comp=Z,56nm,0.8s					
TRO	Tromso	73.69	342	*e*P	P	19 24 58.5 +0.3
LANU	Lannavaara	73.75	340	*e*P	P	19 24 59.0 +0.3
LKRN	Lenkeran, Azer	73.80	305	P	P	19 24 58.6 -0.9
ARQ	Araqi	73.82	288	P	P	19 25 00.6 +0.7
	SNR=10					
SEKA	Sheki	73.93	308	P	P	19 24 58.9 -1.4
ALNE	Al Ain	74.18	289	P	P	19 25 02.4 +0.5
	SNR=11					
ALNE	Al Ain	74.18	289	*i* P	P	19 25 02.4 +0.5
	SNR=18					
MNGR	Mingechevir, A	74.18	308	P	P	19 25 00.4 -1.2
ASUD	Al Ashush, Dub	74.30	290	P	P	19 25 03.3 +0.7
ASUD	Al Ashush, Dub	74.30	290	P	P	19 25 02.7 +0.2
LPSR	Galich'ya Gora	74.36	322	*e*P	P	19 25 00.3 -2.1
LPSR				pmax	pmax	
	comp=Z,30nm,1.0s					
DQM	DQM	74.36	284	P	P	19 25 03.1 +0.1
OBN	Obninsk	74.49	325		P	19 25 02.3 -0.7
OBN	Obninsk	74.49	325	*d i*P	P	19 25 02.9 -0.2
OBN				*i*		19 25 11.2
OBN				pmax	pmax	
	comp=Z,49nm,1.0s					
AJN	Ajban	74.61	290	P	P	19 25 04.9 +0.6
AJN	Ajban	74.61	290	P	P	19 25 04.0 -0.3
GANJ	Ganja	74.76	308	P	P	19 25 04.0 -1.0
VSR	Storozhevoye	74.83	320	*e*P	P	19 25 02.8 -2.3
VSR				pmax	pmax	
	comp=Z,30nm,0.9s					
VORD	Divnogorie	74.87	320	*e*P	P	19 25 03.1 -2.2
VORD				pmax	pmax	
	comp=Z,10.0nm,0.9s					
UMZA	Um Al Zommool	75.22	288	P	P	19 25 07.8 -0.1
SJUU	Sjulsmark	75.38	338	*e*P	P	19 25 08.1 +0.2
NCK	Nalchik	75.43	312	*i* P	P	19 25 08.7 0.0
NCK				pmax	pmax	
	comp=Z,18nm,0.9s					
KBZ	Khabaz	75.79	312	P	P	19 25 11.4 +0.8
	comp=Z,84nm,0.8s,baz=96,slow=3.4,SNR=273					
KBZ	Khabaz	75.79	312	*ce*P	P	19 25 11.1 +0.5
STEI	Steigen	75.82	341	*e*P	P	19 25 10.7 +0.4
KIV	Kislovodsk	75.83	312		P	19 25 11.1 0.0
KIV	Kislovodsk	75.83	312	⇓P	P	19 25 11.5 +0.4
KIV	Kislovodsk	75.83	312	*i* P	P	19 25 11.6 +0.6
	SNR=25					
KIV	Kislovodsk	75.83	312	*e*P	P	19 25 11.3 +0.3
KIV				pmax	pmax	
	comp=Z,59nm,1.0s					
MZWR	Madinat Zayed	75.86	290	P	P	19 25 11.1 -0.3
SHA1	Shidzhatmaz	75.94	312	*e*P	P	19 25 11.3 -0.5
NAX	Nakhchivan	75.95	307	P	P	19 25 10.6 -1.2
GNI	Garni	76.07	308		P	19 25 12.4 -0.1
GNI	Garni	76.07	308	P	P	19 25 13.9 +1.4
GNI	Garni	76.07	308	P	P	19 25 13.8 +1.4
GNI	Garni	76.07	308	*ce*P	P	19 25 13.3 +0.8
GNI				pmax	pmax	
	comp=Z,42nm,1.2s					
FINES	FINESS Array B	76.08	333		P	19 25 11.4 -0.5
FINES	FINESS Array B	76.08	333	P	P	19 25 11.9 0.0
	comp=Z,21nm,0.4s,baz=68,slow=5.2,SNR=270					
	comp=Z,21nm,0.4s					
FINES	FINESS Array B	76.08	333	*i* P	P	19 25 11.8 -0.1
FINES				pmax	pmax	
	comp=Z,21nm,0.4s					
B08A	Colville Reser	76.12	42	IAmb	IAmb	19 25 14.5
	comp=Z,9.7nm,0.8s					
KEF	Keuruu	76.15	334	*e*P	P	19 25 12.0 -0.3
FAUS	Fauske	76.17	341	*e*P	P	19 25 12.6 +0.3
JRN	Qarnain Island	76.22	291	P	P	19 25 13.3 -0.1
ERBR	Yeremizino-Bor	76.47	315	*e*P	P	19 25 14.9 +0.5
ERBR				pmax	pmax	
	comp=Z,123nm,0.9s					
VAF	Ylistaro	76.47	335	*e*P	P	19 25 14.2 +0.2
MZR	Muzera	76.51	289	P	P	19 25 15.2 +0.2
	SNR=5.4					
MZR	Muzera	76.51	289	*i* P	P	19 25 14.8 -0.2
	SNR=17					
GHWR	Ruwais	76.61	290	P	P	19 25 15.5 -0.1
LABN	Labinsk	76.80	314	*e*P	P	19 25 14.9 -1.3
LABN				*e*PP	pP	19 26 49.1 -0.5
LABN				*e*S	S	19 34 28.0 +0.4
LABN				pmax	pmax	
	comp=Z,28nm,0.8s					
SHAO	Shalim	76.81	283	P	P	19 25 17.1 +0.4
SHAO				P	PcP	19 25 17.2 -8.8
YBH	Yreka Blue Hor	76.92	50	P	P	19 25 18.3 +1.2
	comp=Z,0.3nm,0.7s,baz=356,slow=4.9,SNR=5.0					
C09A	Chrisman Ranch	77.01	43	IAmb	IAmb	19 25 19.4
	comp=Z,9.0nm,0.8s					
RAUS	Rausandaksla	77.17	340	*e*P	P	19 25 17.8 -0.1
PINE	Pine Mountain	77.17	47	IAmb	IAmb	19 25 21.4
	comp=Z,19nm,0.9s					
J05D	Fort Rock, OR	77.21	48	IAmb	IAmb	19 25 21.3
	comp=Z,7.2nm,0.8s					
MOR8	Moi Rana	77.23	340	*e*P	P	19 25 17.4 -0.8
SHMA	Al-Shehemyia	77.38	293	P	P	19 25 19.4 -0.3
MEF	Metsahovi	77.46	333	*e*P	P	19 25 19.6 +0.1
VSU	Vasula	77.47	330	*ce*P	P	19 25 19.0 -0.6
VSU				pmax	pmax	
	comp=Z,52nm,1.3s					
NEW	Newport	77.48	42	IAmb	IAmb	19 25 22.5
	comp=Z,16nm,1.4s					
NEW	Newport	77.48	42	P	P	19 25 21.1 +1.2
	comp=Z,5.4nm,0.8s,baz=318,slow=7.7,SNR=5.7					
	comp=Z,5.4nm,0.8s					
BATM	Batumi	77.52	311	⇑P	P	19 25 20.2 -0.1
DMTO	DMTO	77.52	283	P	P	19 25 21.0 +0.4
LEIR	Leirfjorden	77.67	340	*e*P	P	19 25 21.0 +0.4
SAKB	Bahrain	77.67	293	P	P	19 25 21.2 -0.2
VSLR	Vesyoloye	77.78	313	*i* P	P	19 25 21.7 +0.1
VSLR				pmax	pmax	
	comp=Z,114nm,0.7s					
DOK	Doka	77.83	285	P	P	19 25 22.1 -0.3
SOC	Sochi	77.92	313	*e*P	P	19 25 21.5 -0.9
SOC				*e*		19 28 24.6
SOC				*e*PPP	PPP	19 30 16.6
SOC				*e*S	S	19 34 39.3 -0.3
SOC				*e*SS	SS	19 39 54.8 +3.9
SOC				*e*SSS	SSS	19 43 20.6
SOC				pmax	pmax	
	comp=Z,46nm,0.7s					
SMRA	Abu-Samra	77.97	292	P	P	19 25 22.7 -0.3
RAF	Rauma	78.03	334	*e*P	P	19 25 22.4 -0.2
O03E	Paynes Creek	78.17	51	IAmb	IAmb	19

ANN *e*S **S** **19 34 47.7 -1.1**
ANN pmax pmax
comp=Z,80nm,0.9s
J08A Circle Bar Ran 78.96 47 P 19 25 28.6 +0.4
ABTO Aybut 79.09 284 P **P 19 25 29.0 -0.2**
NSS Namsos 79.12 340 *e*P **P 19 25 28.2 -0.2**
MNK Minsk 79.14 327 *i* P **P 19 25 29.1 +0.4**
MNK *i* *PP **pP** 19 27 04.4 +1.1
MNK *i* 19 28 35.9
MNK *i* PPP PPP 19 30 27.5
MNK *i* S **S** **19 34 53.8 +1.9**
MNK *i* SS **SS** **19 40 12.8 +4.5**
MNK *i* SSS SSS 19 43 42.0
MNK pmax pmax
comp=Z,47nm,1.0s
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,23nm,1.0s
AAL Aland 79.24 334 *e*P **P 19 25 28.2 -0.9**
BEKR Beckworth 79.35 51 P 19 25 30.7 +0.3
BEKR IAmb IAmb 19 25 32.2
comp=Z,13nm,0.7s
ISAL Salakas 79.38 328 *e*P **P 19 25 29.9 0.0**
SLIT Slitere, Latvi 79.88 331 *e*P **P 19 25 31.6 -0.9**
UPP Uppsala 80.36 334 *e*P **P 19 25 34.4 -0.6**
PABE Paberze 80.41 329 *e*P **P 19 25 35.5 +0.1**
AKASG Malin Array Be 80.55 323 P **P 19 25 35.5 -0.7**
AKASG IAmb IAmb 19 25 37.1
comp=Z,12nm,0.9s
AKASG Malin Array Be 80.55 323 P **P 19 25 35.8 -0.4**
comp=Z,3.0nm,0.3s,baz=49,slow=5.8,SNR=52
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 80.55 323 *ce*P **P 19 25 35.6 -0.6**
AKBB pmax pmax
comp=Z,29nm,0.9s
KIEV Kiev 80.56 323 **P 19 25 35.5 -0.8**
KIEV Kiev 80.56 323 ⇑P **P 19 25 35.2 -1.1**
KIEV Kiev 80.56 323 *i* P **P 19 25 35.8 -0.5**
SNR=18
KIEV Kiev 80.56 323 P **P 19 25 35.5 -0.8**
KIEV pmax pmax
comp=Z,37nm,1.1s
MFID Camas Ranch 80.62 46 **P 19 25 37.4 +0.4**
SIM Simferopol' 80.79 316 *e*P **P 19 25 38.1 +0.5**
SIM pmax pmax
comp=Z,65nm,0.7s
PBUR Paburge 81.02 330 *e*P **P 19 25 38.5 0.0**
RYN Ryan 81.19 51 IAmb IAmb 19 25 42.1
comp=Z,7.5nm,0.8s
NVAR Mina Array Bea 81.44 51 P **P 19 25 42.4 +0.9**
NVAR Mina Array Bea 81.44 51 P **P 19 25 43.0 +1.5**
comp=Z,4.7nm,0.6s,baz=288,slow=5.5,SNR=36
NVAR pP **pP** **19 27 16.3 +0.2**
comp=Z,1.0nm,0.8s,baz=301,slow=6.0,SNR=2.3
comp=Z,4.7nm,0.6s
DLMT Dillon 81.62 43 IAmb IAmb 19 25 44.3
comp=Z,10nm,1.0s
HFS Hagfors 81.63 336 P **P 19 25 41.1 -0.5**
comp=Z,15nm,0.4s,baz=100,slow=3.5,SNR=158
comp=Z,15nm,0.4s
NC303 NORSAR Array S 81.67 338 P **P 19 25 41.2 -0.7**
SUW Suwalki 81.67 328 *e*P **P 19 25 42.2 +0.2**
DOMB Dombas 81.83 339 *e*P **P 19 25 42.6 -0.1**
NC204 NORSAR Array S 81.84 338 **P 19 25 42.0 -0.8**
NB2 NORSAR Subarra 81.86 337 P **P 19 25 42.0 -0.9**
comp=Z,14nm,0.7s,baz=48,slow=4.8
NB2 NORSAR Subarra 81.86 337 P **P 19 25 42.0 -0.9**
baz=48,slow=4.8
NOA NORSAR Array B 81.86 337 P **P 19 25 42.2 -0.7**
comp=Z,14nm,0.7s,baz=46,slow=5.0,SNR=71
comp=Z,14nm,0.7s
MOL Molde 81.91 340 *e*P **P 19 25 43.0 0.0**
NORES NORESS Array B 81.96 337 P **P 19 25 42.5 -0.9**
NBO00 NORSAR Array S 82.01 338 IAmb IAmb 19 25 44.0
comp=Z,18nm,0.8s
NAO01 NORSAR Array S 82.11 337 IAmb IAmb 19 25 44.2
comp=Z,13nm,0.7s
ELK Elko 82.34 48 **P 19 25 46.4 +0.3**
ELK Elko 82.34 48 P **P 19 25 47.5 +1.4**
comp=Z,2.4nm,0.7s,baz=314,slow=4.9,SNR=11
comp=Z,2.4nm,0.7s
ELK Elko 82.34 48 P **P 19 25 46.4 +0.3**
ELK pmax pmax
comp=Z,3.0nm,0.9s
AKN Aaknes 82.37 340 *e*P **P 19 25 45.9 +0.4**
BZK Bozkurt 82.39 314 P **P 19 25 45.1 -0.8**
BZK Bozkurt 82.39 314 ⇑P **P 19 25 46.8 +0.9**
SORM Soroca 82.45 321 ⇓P **P 19 25 45.4 -0.6**
PURM Purcari 82.47 319 ⇓P **P 19 25 46.5 +0.3**
KIS Kishinev 82.82 320 *e*P **P 19 25 47.0 -1.0**
comp=Z,40nm,1.1s
KIS Kishinev 82.82 320 *e*P **P 19 25 47.0 -1.0**
KIS pmax pmax
comp=Z,40nm,1.1s
RAYN Ar Rayn 82.86 293 **P 19 25 48.5 -0.3**
RAYN Ar Rayn 82.86 293 P **P 19 25 49.5 +0.7**
RAYN Ar Rayn 82.86 293 *i* P **P 19 25 49.2 +0.5**
SNR=112
RAYN Ar Rayn 82.86 293 P **P 19 25 48.5 -0.3**
RAYN pmax pmax
comp=Z,65nm,0.8s
MILM Milestii Mici 82.87 320 ⇑P **P 19 25 46.6 -1.7**
MILM Milestii Mici 82.87 320 ⇓*i* P **P 19 25 46.0 -2.2**
comp=Z,70nm,1.5s
MILM Milestii Mici 82.87 320 *d i* P **P 19 25 46.0 -2.2**
MILM pmax pmax
comp=Z,70nm,1.5s
HORU Horodok 82.88 323 P **P 19 25 47.4 -0.9**
ILGA Ilgaz 83.04 313 IAmb IAmb 19 25 52.2
comp=Z,16nm,0.9s
SKAR Skarslia 83.09 338 *e*P **P 19 25 49.3 +0.1**
STRU Stroemstad 83.31 336 *i* P **P 19 25 49.2 -1.0**
LRMC Laurel Mtn Rad 83.32 53 P **P 19 25 51.1 +0.1**
HYA Hoyanger 83.40 339 *e*P **P 19 25 50.9 +0.3**
TPNV Topopah Spring 83.59 52 **P 19 25 52.2 -0.1**
TPNV IAmb IAmb 19 25 54.2
comp=Z,6.8nm,0.8s
TPNV **pP** **19 27 26.8 -0.8**
QSM Queen of Sheba 83.65 53 IAmb IAmb 19 25 54.4
comp=Z,6.9nm,0.9s
GWY Greenwater Val 83.68 52 **P 19 25 52.8 0.0**
GWY IAmb IAmb 19 25 54.6
comp=Z,7.9nm,0.9s
GWY **pP** **19 27 28.2 -0.1**
BORU Boraas 83.73 334 *i* P **P 19 25 51.6 -0.7**
BR131 Keskin Array S 83.78 312 P **P 19 25 53.1 -0.1**
SNR=9.6
BRTR Keskin Array B 83.78 312 **P 19 25 52.1 -1.1**
BRTR Keskin Array B 83.78 312 P **P 19 25 52.8 -0.5**
comp=Z,11nm,0.7s,baz=98,slow=3.8,SNR=83
comp=Z,11nm,0.7s
BRTR Keskin Array B 83.78 312 *i* P **P 19 25 52.7 -0.5**
BRTR pmax pmax
comp=Z,12nm,0.7s
LVV L'vov 83.78 324 P **P 19 25 50.5 -2.3**
TJOU Tjoern 83.88 335 *i* P **P 19 25 52.2 -0.9**
KIRS Kirsehir-Merke 83.91 311 ⇑P **P 19 25 52.8 -0.9**
JURR Jurilovca 84.03 318 ⇓P **P 19 25 53.4 -0.7**
DEL Delary 84.12 333 *i* P **P 19 25 53.4 -1.0**
KSV Kosov 84.14 322 P **P 19 25 53.6 -1.0**
DUG Dugway, Tooele 84.21 47 **P 19 25 55.5 +0.2**
DUG pP **pP** **19 27 29.4 -1.3**
DUG Dugway, Tooele 84.21 47 P **P 19 25 55.5 +0.2**
DUG pmax pmax
comp=Z,4.0nm,0.8s
ONAU Onsala 84.22 335 *i* P **P 19 25 53.9 -0.9**
CFR Carcaliu 84.23 319 ⇑P **P 19 25 54.9 -0.2**
TPGR Topolog 84.25 318 ⇓P **P 19 25 54.7 -0.6**
HWUT Hardware Ranch 84.25 46 IAmb IAmb 19 25 58.1
comp=Z,6.9nm,0.8s
ANTO Ankara 84.26 312 **P 19 25 54.9 -0.6**
ANTO IAmb IAmb 19 25 56.1
comp=Z,10nm,0.6s
ANTO Ankara 84.26 312 P **P 19 25 55.6 0.0**
ANTO Ankara 84.26 312 ⇓P **P 19 25 55.2 -0.3**
ANTO Ankara 84.26 312 P **P 19 25 54.9 -0.6**
ANTO pmax pmax
comp=Z,10.0nm,0.6s
TESR Tescani 84.32 320 ⇑P **P 19 25 55.2 -0.3**
BIZ Bicaz 84.38 321 ⇓P **P 19 25 55.6 -0.3**
BURAR Bucovina Array 84.47 322 **P 19 25 55.5 -0.9**
BURAR Bucovina Array 84.47 322 ⇓P **P 19 25 57.0 +0.6**
BURAR Bucovina Array 84.47 322 P **P 19 25 55.5 -0.9**

BURAR pmax pmax
comp=Z,5.0nm,0.7s
TIRR Tirgusor 84.48 318 IAmb IAmb 19 25 57.9
comp=Z,6.2nm,0.8s
TIRR Tirgusor 84.48 318 ⇓P **P 19 25 55.7 -0.6**
SHPR Sheep Range 84.57 51 P **P 19 25 57.1 -0.1**
HARR Harsova 84.63 318 ⇑P **P 19 25 58.1 +1.0**
TLBR Topalu 84.65 318 ⇑P **P 19 25 56.8 -0.4**
BLS5 Blasjo 84.65 338 *e*P **P 19 25 56.6 -0.3**
VRI Vrincioaia 84.65 320 ⇑P **P 19 25 58.1 +0.8**
PLOR Plostina 84.70 320 ⇑P **P 19 25 57.8 +0.3**
BJUU Bjuv 84.73 333 *i* P **P 19 25 57.0 -0.4**
MANR Mangalia 84.74 317 ⇓P **P 19 25 57.5 -0.1**
HOMB Homborsund 84.83 337 *i* P **P 19 25 57.1 -0.7**
BISRR Bisoca 84.85 320 ⇑P **P 19 25 59.1 +0.8**
PDAR Pinedale Array 84.86 44 P **P 19 25 59.0 +0.4**
comp=Z,2.4nm,1.1s,baz=270,slow=2.8,SNR=6.0
PDAR pP **pP** **19 27 35.6 +1.4**
comp=Z,0.4nm,0.7s,baz=316,slow=8.4,SNR=2.4
comp=Z,2.4nm,1.1s
LUNU Lund 84.88 333 *i* P **P 19 25 57.3 -0.7**
TURR Turia 84.95 320 ⇓P **P 19 25 58.9 +0.2**
PFO Pinyon Flats O 85.13 54 P **P 19 26 01.2 +1.2**
comp=Z,4.0nm,0.6s,baz=303,slow=5.8,SNR=5.4
comp=Z,4.0nm,0.6s
SNART Snartemo 85.23 337 *i* P **P 19 25 59.6 -0.2**
DOPR Dopca 85.35 320 ⇓P **P 19 26 01.6 +0.9**
BORA Eskisehir 85.77 313 IAmb IAmb 19 26 05.2
comp=Z,9.9nm,0.7s
MMAI Mount Meron Ar 86.04 305 P **P 19 26 04.4 +0.1**
comp=Z,26nm,0.9s,baz=58,slow=6.2,SNR=28
comp=Z,26nm,0.9s
RAZG Razgrad 86.12 318 ⇑P **P 19 25 59.9 -4.5**
ARR Arges 86.13 320 ⇓P **P 19 26 04.0 -0.5**
LOZB Loznitsa 86.18 318 ⇑P **P 19 26 03.6 -1.1**
DRGR 86.33 322 ⇓P **P 19 26 05.1 -0.3**
DRGR 86.33 322 ⇓P **P 19 26 05.1 -0.3**
COPA Copaceanca 86.54 319 ⇑P **P 19 26 05.4 -0.9**
LOT Lotru 86.57 321 ⇑P P 19 25 59.7 -7.0
PHSR Pinarhisar 86.63 316 ⇓P P 19 26 00.9 -6.0
STEB Steborice 86.85 327 *e*P **P 19 26 07.1 -0.6**
ELND Elena 86.86 318 ⇓P **P 19 26 08.2 +0.3**
MORC Moravsky Berou 87.06 327 ⇑P **P 19 26 08.0 -0.8**
MORC Moravsky Berou 87.06 327 *e*P **P 19 26 08.2 -0.6**
MORC Moravsky Berou 87.06 327 ⇑P **P 19 26 08.0 -0.8**
PSZ Piszkesteto 87.11 324 **P 19 26 07.7 -1.4**
PSZ IAmb IAmb 19 26 09.8
comp=Z,11nm,1.1s
PSZ Piszkesteto 87.11 324 P **P 19 26 07.7 -1.4**
PSZ pmax pmax
comp=Z,11nm,1.1s
CHVC Chvalec 87.23 328 *e*P **P 19 26 09.1 -0.4**
CHVC Chvalec 87.23 328 *e*P **P 19 26 09.1 -0.4**
KRLC Kraliky 87.23 327 *e*P **P 19 26 09.2 -0.4**
KRLC Kraliky 87.23 327 *e*P **P 19 26 09.2 -0.4**
DPC Dobruska-Polom 87.26 328 *e*P **P 19 26 09.5 -0.2**
DPC Dobruska-Polom 87.26 328 *e*P **P 19 26 09.5 -0.2**
SURR Surduc 87.29 322 ⇑P **P 19 26 09.0 -0.9**
UPC Upice 87.30 328 *e*P **P 19 26 09.6 -0.3**
UPC Upice 87.30 328 *e*P **P 19 26 09.6 -0.3**
JAVC Velka Javorina 87.61 326 *e*P **P 19 26 11.3 -0.1**
BZS Buzias 87.66 322 ⇑P **P 19 26 11.0 -0.6**
BZS Buzias 87.66 322 ⇑P **P 19 26 11.0 -0.6**
HERR Herculane 87.67 321 ⇑P P 19 26 00.9 -11
MANT Manisa 87.77 313 IAmb IAmb 19 26 12.4
comp=Z,7.4nm,0.8s
VRAC Vranov 87.84 327 *e*P **P 19 26 12.0 -0.4**
ELL Elmali 87.86 311 IAmb IAmb 19 26 14.1
comp=Z,11nm,0.8s
PVCC Panska Ves 87.96 329 *e*P **P 19 26 12.8 -0.1**
PVCC Panska Ves 87.96 329 *e*P **P 19 26 12.8 -0.1**
ALN Alexandroupoli 87.96 316 IAmb IAmb 19 26 13.0
comp=Z,9.5nm,0.8s
BRG Berggiesshubel 88.00 329 *i* P **P 19 26 12.8 -0.4**
BRG Amp 19 26 13.4
comp=Z,5.2nm,0.7s
CAVK Edirne/Enez-Ca 88.00 316 ⇓P **P 19 26 13.8 +0.5**
KRUC Moravsky 88.10 327 *e*P **P 19 26 13.2 -0.4**
CLL Collm 88.12 330 *i* P **P 19 26 12.6 -1.0**
CLL pmax pmax
comp=Z,17nm,1.5s
CLL Collm 88.12 330 *i* P **P 19 26 12.6 -1.0**
comp=Z,17nm,1.5s
CLL *e*PP **PP** **19 29 47.0 0.0**
RDO Rodhopi 88.12 316 **P 19 26 12.3 -1.6**
RDO IAmb IAmb 19 26 14.0
comp=Z,13nm,0.9s
MDVR Moldovita 88.13 321 ⇓P **P 19 26 13.2 -0.7**
MODS Modra-Piesok 88.13 326 *e*P **P 19 26 14.2 +0.4**
MODS pmax pmax
comp=Z,29nm,1.3s
MODS Modra-Piesok 88.13 326 *e*P **P 19 26 14.2 +0.4**
ZST Bratislava 88.33 326 *e*P **P 19 26 17.2 +2.5**
PRU Pruhonice 88.34 328 *e*P **P 19 26 14.2 -0.5**
PRU Pruhonice 88.34 328 *e*P **P 19 26 14.2 -0.5**
TREC Trest 88.38 327 *e*P **P 19 26 14.3 -0.7**
TREC Trest 88.38 327 *e*P **P 19 26 14.3 -0.7**
EZN Ezine 88.42 315 ⇑P **P 19 26 14.2 -1.1**
EZN Ezine 88.42 315 ⇑P **P 19 26 14.2 -1.1**
MORH Mrgy, Hungar 88.86 324 ⇑P **P 19 26 16.1 -1.1**
ZVC Zvikov 88.89 328 *e*P **P 19 26 17.2 -0.1**
RONA Rosalia, Austr 89.07 326 *i* PcP **P 19 26 17.9 -0.3**
comp=Z,0.6nm,0.4s
CONA Conrad Observa 89.13 326 *i* PcP **P 19 26 17.9 -0.6**
comp=Z,0.1nm,0.3s
KHC Kasperske Hory 89.39 328 *e*P **P 19 26 19.2 -0.5**
KHC Kasperske Hory 89.39 328 *e*P **P 19 26 19.2 -0.5**
GERES GERESS Array B 89.53 328 P **P 19 26 19.7 -0.8**
comp=Z,2.9nm,0.6s,baz=46,slow=5.8,SNR=28
comp=Z,2.9nm,0.6s
ARSA Arzberg 89.76 326 IAmb IAmb 19 26 22.1
comp=Z,9.2nm,1.2s
ARSA Arzberg 89.76 326 *i* PcP **P 19 26 20.8 -0.7**
comp=Z,6.9nm,1.1s
TUC Tucson 89.86 53 P **P 19 26 21.1 -1.2**
TUC IAmb IAmb 19 26 25.2
comp=Z,8.1nm,1.1s
TUC Tucson 89.86 53 P **P 19 26 21.1 -1.2**
TUC pmax pmax
comp=Z,8.0nm,1.1s
BIOA Bad Ischl, Aus 90.38 327 *i* PcP **P 19 26 24.0 -0.3**
comp=Z,12nm,1.5s
SOKA Soboth 90.40 326 *i* PcP **P 19 26 24.0 -0.5**
comp=Z,14nm,1.3s,SNR=6.3
GOLS Golise 90.56 325 *i* P **P 19 26 24.3 -0.9**
GCIS Gornji Cirnik 90.66 325 *i* P **P 19 26 24.7 -0.9**
OBKA Obir 90.76 326 *i* P **P 19 26 25.1 -1.1**
comp=Z,3.6nm,0.8s
KBA Koelnbreinsper 90.95 327 *e*P **P 19 26 25.2 -2.0**
comp=Z,1.5nm,0.5s
PDG Podgorica 91.00 320 IAmb IAmb 19 26 31.1
comp=Z,5.5nm,0.8s
EKA Eskdalemuir Ar 91.02 340 P **P 19 26 26.6 -0.4**
comp=Z,0.9nm,0.4s,baz=62,slow=3.1,SNR=16
comp=Z,0.9nm,0.4s
LESA Schwarzleotal 91.03 327 *e*P **P 19 26 26.3 -1.1**
comp=Z,9.0nm,0.8s
MYKA Terra Mystica 91.12 326 *i* P **P 19 26 26.4 -1.4**
comp=Z,4.5nm,0.6s
GBRS Gornja Briga 91.30 325 *e*P **P 19 26 27.8 -0.9**
ANMO Albuquerque 91.33 49 P **P 19 26 27.9 -1.3**
ANMO Albuquerque 91.33 49 P **P 19 26 30.2 +1.0**
comp=Z,3.2nm,0.9s,baz=50,slow=6.1,SNR=4.9
comp=Z,3.2nm,0.9s
ABTA Abfaltersbach 91.59 327 *i* P **P 19 26 27.6 -2.4**
comp=Z,6.3nm,0.7s,SNR=6.6
WATA Walderalm 91.61 328 *i* PcP **P 19 26 29.4 -0.8**
comp=Z,4.9nm,1.0s
WTTA Wattenberg 91.64 328 *i* P **P 19 26 28.8 -1.5**
comp=Z,3.9nm,0.7s
MOTA Moosalm 91.83 328 *i* P **P 19 26 29.9 -1.3**
comp=Z,3.1nm,0.8s
STAL STALIGIAL 91.84 326 IAmb IAmb 19 26 29.9
comp=Z,7.2nm,0.8s
SQTA Sankt Quirin 91.87 328 *i* P **P 19 26 29.9 -1.4**
comp=Z,3.0nm,0.7s
RETA Reutte 91.88 328 *e*PcP **P 19 26 30.4 -0.9**
comp=Z,0.1nm,0.3s
FETA Feichten 92.24 328 *e*P **P 19 26 31.2 -1.9**
comp=Z,6.8nm,1.1s,SNR=5.1
BFO Black Forest 92.36 330 **P 19 26 32.2 -1.2**
BFO IAmb IAmb 19 26 33.3
comp=Z,9.0nm,0.8s
BFO Black Forest 92.36 330 P **P 19 26 32.2 -1.2**

BFO pmax pmax
comp=Z,9.0nm,0.8s
DAVA Damuels 92.44 329 *i* PcP **P 19 26 32.8 -1.2**
comp=Z,12nm,1.3s,SNR=5.9
FDMO Fiordimonte 93.93 324 IAmb IAmb 19 26 48.1
comp=Z,5.5nm,0.8s
NRCA Norcia 94.06 324 IAmb IAmb 19 26 41.8
comp=Z,3.8nm,0.8s
TIP Timpagrande 94.57 319 P **P 19 26 42.9 -0.9**
TXAR Lajitas Array 96.57 52 P **P 19 26 54.5 +1.5**
comp=Z,0.6nm,0.6s,baz=272,slow=2.8,SNR=6.7
TXAR pP **pP** **19 28 31.4 +1.2**
comp=Z,0.7nm,0.8s,baz=270,slow=1.3,SNR=2.9
TXAR PP **PP** **19 30 52.9 -0.6**
comp=Z,0.7nm,0.9s,baz=303,slow=6.9,SNR=4.1
comp=Z,0.6nm,0.6s
ESDC Sonseca Array 104.58 332 PP **PP 19 31 51.7 -0.9**
comp=Z,1.2nm,1.0s,baz=32,slow=7.9,SNR=5.0
QSPA South Pole Qui 117.93 180 PKP **PKiKP 19 32 07.9 +1.8**
comp=Z,2.4nm,0.6s,baz=303,slow=1.2,SNR=23
LBTB Lobatse 121.81 257 **PKPdf 19 32 14.9 0.0**
LBTB Lobatse 121.81 257 PKIKP **PKPdf 19 32 14.9 0.0**
KDWAN Kaudwane 122.08 259 **PKPdf 19 32 15.4 0.0**
BOSA Boshof 123.19 253 PKP **PKiKP 19 32 17.8 +0.1**
comp=Z,2.6nm,0.6s,baz=54,slow=2.6,SNR=6.8
BELA Belgrano 2 130.15 182 PKPpre 19 32 18.6
TROLL Troll, Antarti 130.40 196 ⇑PKPdf **PKPdf 19 32 30.2 +0.3**
comp=Z,127nm,0.5s
TROLL ⇓SKPbc **SKPbc** **19 35 11.6 -0.9**
comp=Z,267nm,0.8s
DBIC Dimbokro 131.46 310 PKP **PKiKP 19 32 34.2 -0.3**
comp=Z,3.1nm,0.6s,baz=342,slow=4.6,SNR=4.6
DBIC SKPbc **SKPbc** **19 35 17.1 -0.9**
comp=Z,5.6nm,0.5s,baz=59,slow=3.9,SNR=16
SNAA Sanae 131.89 195 ⇑PKPdf **PKPdf 19 32 32.4 -0.3**
comp=Z,20nm,0.5s
SNAA ⇓SKPbc **SKPbc** **19 35 16.4 -1.4**
comp=Z,37nm,0.7s
SNAA Sanae 131.89 195 PKP **PKPdf 19 32 32.3 -0.3**
comp=Z,0.7nm,0.5s,baz=274,slow=2.7,SNR=6.7
SNAA SKPbc **SKPbc** **19 35 16.4 -1.4**
comp=Z,1.8nm,0.9s,baz=223,slow=4.9,SNR=9.1
VNA2 Neumayer--Watz 133.45 194 ⇑PKPdf **PKPdf 19 32 35.4 -0.2**
comp=Z,6.8nm,0.6s,baz=103,slow=2.0
VNA2 ⇓SKPbc **SKPbc** **19 35 22.0 -1.0**
comp=Z,3.8nm,0.7s,baz=0.6,slow=22
VNA3 Neumayer Olymp 133.68 193 ⇑PKPdf **PKiKP 19 32 37.1 -0.2**
comp=Z,4.4nm,0.6s
VNA3 ⇓SKPbc **SKPbc** **19 35 23.9 +0.2**
comp=Z,1.8nm,0.7s
VNA1 Neumayer--Stat 133.85 194 ⇑PKPdf **PKPdf 19 32 36.5 +0.3**
comp=Z,5.8nm,1.1s
VNA1 ⇓SKPbc **SKPbc** **19 35 24.9 +0.7**
comp=Z,2.6nm,0.9s
PMSA Palmer Station 140.36 164 PKPpre 19 32 39.3
BOAV Boa Vista 143.82 36 PKPab 19 32 53.6 -1.1
LL02 Futaleuf 150.38 129 **PKPbc** **19 33 10.2 -1.7**
LPAZ La Paz 151.56 71 **PKPbc** **19 33 15.4 -0.6**
LPAZ La Paz 151.56 71 PKPbc **PKiKP 19 33 17.2 +0.8**
comp=Z,5.2nm,0.7s,baz=305,slow=2.6,SNR=20
LPAZ pPKPbc **pPKPbc** **19 34 57.5 -1.1**
comp=Z,1.9nm,0.6s,baz=270,slow=2.7,SNR=2.2
LPAZ La Paz 151.56 71 PKIKP **PKPbc** **19 33 15.4 -0.6**
PLCA Paso Flores 152.08 125 PKPbc **PKiKP 19 33 16.6 +0.6**
comp=Z,3.1nm,0.5s,baz=241,slow=3.1,SNR=19
PLCA pPKPbc **pPKPbc** **19 34 56.4 -1.9**
comp=Z,2.0nm,1.0s,baz=295,slow=2.4,SNR=3.1

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*NEIC **18** 19:25:39.7±0.9, 34°.20S±0°.03×55°.3E±0°.1, h10km±1km, mb4.6/24, Error ellipse: s-maj=20.7km s-min=4.9km az=90.0*
*IDC **18** 19:25:39.5±0.7, 34°.36S×55°.42E, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/25, Error ellipse: s-maj=26.5km s-min=19.3km az=82.0*
ISC 18 19:25:40.0±0.6, 34°.2S±0°.1×55°.3E±0°.1, h10km, n70, σ1.9 17/41, mb4.5/18, MS3.7/24, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.69**	**320**	Pn	**Pn**	**19 28 24.9**	**-1.9**
H04N2	**CROZET ISLANDS**	**12.21**	**191**	T	T	19 41 19.8	
	baz=13,slow=75,SNR=317						
H04N1	**CROZET ISLANDS**	**12.21**	**191**	T	T	19 41 19.1	
	baz=13,slow=75,SNR=437						
H04N3	**CROZET ISLANDS**	**12.22**	**191**	T	T	19 41 19.9	
	baz=13,slow=75,SNR=306						
VOI	**Vohitsoka**	**14.36**	**327**	Pn	**Pn**	**19 29 04.3**	**+0.8**
ABPO	**Ambohimpanom**	**16.75**	**333**		**Pn**	**19 29 35.4**	**+0.5**
OPO	**Ambohidratompo**	**17.17**	**333**	LR	LR	19 34 33.7	
	comp=Z,145nm,21.8s,baz=27,slow=31						
POGA	**Pongola**	**21.33**	**282**	P	**P**	**19 30 26.4**	**-0.8**
POGA				IAmb	IAmb	19 30 38.5	
	comp=Z,45nm,1.2s						
BOSA	**Boshof**	**26.15**	**274**	P	**P**	**19 31 13.3**	**-1.3**
BOSA				IAmb	IAmb	19 31 23.9	
	comp=Z,14nm,1.4s						
BOSA	**Boshof**	**26.15**	**274**	LR	LR	19 39 31.5	
	comp=Z,79nm,20.6s,baz=150,slow=32						
LBTB	**Lobatse**	**27.29**	**282**	LR	LR	19 40 24.9	
	comp=Z,80nm,19.9s,baz=130,slow=32						
MATP	**Matopo**	**27.36**	**293**	LR	LR	19 40 59.1	
	comp=Z,112nm,18.3s,baz=156,slow=33						
LSZ	**Lusaka**	**30.83**	**301**	P	**P**	**19 31 57.0**	**+0.6**
LSZ	**Lusaka**	**30.83**	**301**	LR	LR	19 42 02.2	
	comp=Z,86nm,21.6s,baz=154,slow=32						
H08S1	**Diego Carcia H**	**30.86**	**35**	T	T	20 04 09.2	
	baz=207,slow=76,SNR=56						
H08S2	**Diego Garcia H**	**30.86**	**35**	T	T	20 04 14.2	
	baz=207,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**30.88**	**35**	T	T	20 04 10.7	
	baz=207,slow=76,SNR=104						
GRTLG	**Ghanzi**	**32.57**	**284**		**P**	**19 32 11.0**	**-0.6**
GRTLG				IAmb	IAmb	19 32 21.7	
	comp=Z,11nm,1.1s						
KOOLE	**Kule**	**32.60**	**281**		**P**	**19 32 11.0**	**-1.0**
MAW	**Mawson**	**33.71**	**175**	LR	LR	19 43 19.1	
	comp=Z,181nm,18.6s,baz=64,slow=32						
TSUM	**Tsumeb**	**36.59**	**284**	LR	LR	19 47 31.2	
	comp=Z,83nm,18.0s,baz=155,slow=36						
KMBO	**Kilima Mbogo**	**36.98**	**329**	LR	LR	19 47 22.8	
	comp=Z,107nm,19.4s,baz=144,slow=35						
FURI	**Furi**	**45.68**	**337**	LR	LR	19 50 14.5	
	comp=Z,97nm,21.1s,baz=162,slow=32						
PALK	**Pallekele**	**47.80**	**35**	LR	LR	19 50 54.0	
	comp=Z,37nm,19.1s,baz=166,slow=32						
H01W2	**Cape Leeuwin H**	**47.87**	**108**	T	T	20 25 24.2	
	baz=253,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**47.87**	**108**	T	T	20 25 23.7	
	baz=253,slow=75,SNR=8.5						
H01W1	**Cape Leeuwin H**	**47.88**	**108**	T	T	20 25 24.3	
	baz=253,slow=75,SNR=9.4						
SNAA	**Sanae**	**47.95**	**201**	P	**P**	**19 34 18.4**	**0.0**
SNAA				IAmb	IAmb	19 34 22.1	
	comp=Z,3.6nm,1.1s						
SNAA	**Sanae**	**47.95**	**201**	P	**P**	**19 34 18.1**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=104,slow=1.4,SNR=6.3						
SNAA				LR	LR	19 51 12.4	
	comp=Z,51nm,18.6s,baz=120,slow=32						
	comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**19 35 18.3**	**+0.1**
QSPA				IAmb	IAmb	19 35 55.3	
	comp=Z,7.0nm,1.2s						
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**19 35 18.8**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=264,slow=3.8,SNR=6.8						
QSPA				LR	LR	19 56 49.4	
	comp=Z,58nm,20.4s,baz=299,slow=34						
	comp=Z,3.3nm,0.9s						
VNDA	**Vanda**	**60.33**	**166**	P	**P**	**19 35 48.6**	**+0.1**
VNDA	**Vanda**	**60.33**	**166**	P	**P**	**19 35 49.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=257,slow=14,SNR=1.5						
VNDA				LR	LR	19 59 39.3	
	comp=Z,151nm,19.0s,baz=262,slow=34						
	comp=Z,0.2nm,0.3s						
CM31	**Chiang Mai Arr**	**66.89**	**45**	P	**P**	**19 36 32.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**66.89**	**45**	P	**P**	**19 36 31.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**66.89**	**45**	P	**P**	**19 36 33.9**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=231,slow=7.1,SNR=25						
CMAR				LR	LR	20 00 24.2	
	comp=Z,37nm,20.9s,baz=210,slow=31						
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**68.10**	**104**	P	**P**	**19 36 39.0**	**-1.3**
ASAR	**Alice Springs**	**68.10**	**104**	P	**P**	**19 36 40.0**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=231,slow=6.1,SNR=12						
	comp=Z,1.3nm,0.9s						
AS31	**Alice Springs**	**68.10**	**104**	P	**P**	**19 36 39.3**	**-1.1**

ASF Jabal al Asfar 68.27 343 LR LR 20 04 15.1
comp=Z,45nm,18.1s,baz=165,slow=34
ASCN Ascension 68.73 275 P **P** **19 36 44.3 -0.1**
TORD Torodi Ar. Bea 69.33 303 P **P** **19 36 50.1 +2.1**
comp=Z,42nm,0.4s,baz=109,slow=6.3,SNR=3.6
MMAI Mount Meron Ar 69.44 342 LR LR 20 04 06.9
comp=Z,48nm,20.8s,baz=172,slow=33
WRA Warramunga Arr 70.28 101 P **P** **19 36 53.7 -0.1**
comp=Z,4.0nm,0.9s,baz=239,slow=5.0,SNR=20
comp=Z,4.0nm,0.9s
WB2 Warramunga Arr 70.29 101 P **P** **19 36 52.4 -1.6**
WB2 IAmb IAmb 19 37 01.9
comp=Z,8.3nm,1.0s
WR8 Warramunga Arr 70.41 101 P **P** **19 36 52.7 -1.9**
WR8 IAmb IAmb 19 37 02.5
comp=Z,7.0nm,1.1s
WB0 Warramunga Arr 70.41 101 P **P** **19 36 53.3 -1.3**
CHGR Chuyangaron 73.66 11 P **P** **19 37 12.7 -0.9**
ARPR Arapgir-MALATY 74.62 346 P **P** **19 37 18.8 -0.6**
GNI Garni 74.64 352 LR LR 20 07 34.5
comp=Z,61nm,21.1s,baz=178,slow=34
DRK Karamyk 74.92 13 P **P** **19 37 20.7 -0.6**
DRK IAmb IAmb 19 37 29.9
comp=Z,5.9nm,0.9s
BRTR Keskin Array B 76.25 343 **P** **19 37 28.0 -0.7**
BRTR Keskin Array B 76.25 343 P **P** **19 37 30.4 +1.7**
comp=Z,0.9nm,0.8s,baz=152,slow=5.6,SNR=12
comp=Z,0.9nm,0.8s
KK31 Karatay Array 78.22 11 P **P** **19 37 38.4 -1.1**
KK31 IAmb IAmb 19 37 44.6
comp=Z,5.1nm,1.2s
KKAR Karatay Array 78.22 11 **P** **19 37 38.7 -0.7**
KBZ Khabaz 78.40 351 P **P** **19 37 43.0 +2.6**
comp=Z,1.3nm,0.9s,baz=156,slow=8.3,SNR=4.1
KBZ LR LR 20 10 02.6
comp=Z,36nm,20.7s,baz=159,slow=34
comp=Z,1.3nm,0.9s
AAK Ala-Archa 78.50 14 LR LR 20 09 49.0
comp=Z,46nm,18.7s,baz=192,slow=34
ABKAR Akbulak array 83.22 3 P **P** **19 38 05.0 -1.1**
MAKZ Makanchi 84.18 18 P **P** **19 38 10.1 -1.0**
MAKZ IAmb IAmb 19 38 15.1
comp=Z,5.1nm,1.1s
MKAR Makanchi Array 84.25 18 **P** **19 38 10.8 -0.6**
MKAR Makanchi Array 84.25 18 P **P** **19 38 13.3 +1.8**
comp=Z,0.9nm,1.0s,baz=218,slow=7.4,SNR=5.4
comp=Z,0.9nm,1.0s
AKTO Aktyubinsk 84.33 2 LR LR 20 15 22.6
comp=Z,28nm,18.4s,baz=237,slow=35
KURBB Kurchatov Arra 86.95 15 P **P** **19 38 26.6 +1.9**
comp=Z,0.8nm,0.9s,baz=204,slow=5.7,SNR=5.3
comp=Z,0.8nm,0.9s
MDT Midelt 87.23 313 LR LR 20 18 02.1
comp=Z,39nm,18.8s,baz=193,slow=36
BVAR Borovoye Array 87.89 9 LR LR 20 15 58.8
comp=Z,24nm,18.4s,baz=189,slow=34
VRAC Vranov 89.99 336 LR LR 20 19 44.9
comp=Z,20nm,20.5s,baz=208,slow=36
ESDC Sonseca Array 91.65 318 LR LR 20 22 25.0
comp=Z,60nm,18.2s,baz=148,slow=37
DZM Mont Dzumac 93.94 120 LR LR 20 16 41.3
comp=Z,86nm,18.4s,baz=195,slow=33
ILAR Eielson Array 146.59 17 PKPbc **PKPab** **19 45 21.2 -0.7**
comp=Z,1.1nm,0.9s,baz=315,slow=2.3,SNR=8.7
PDAR Pinedale Array 165.38 310 PKP **PKPdf** **19 45 45.9 +1.1**
comp=Z,0.2nm,0.6s,baz=295,slow=1.4,SNR=3.7

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*IDC **18** 19:44:22.1±1.2, 3°.61S×128°.50E, h0km, mb3.9/6, mbtmp3.9/10, ML3.9/4, MS2.6/3, Error ellipse: s-maj=38.4km s-min=19.5km az=81.0*
*DJA **18** 19:44:25.1±0.3, 4°.5±3°×12°.8E±°, h10km, M4.3/13, mB5.2/1, mb4.6/4, MLv4.2/13, Mw(mB)4.6/1*
*NEIC **18** 19:44:28.5±1.1, 3°.65±0°.07×128°.28E±0°.08, h46km±11km, mb4.1/10, Error ellipse: s-maj=11.7km s-min=9.8km az=66.0*
ISC 18 19:44:24.6±1.1, 3°.66S±0°.06×128°.27E±0°.05, h11km±8km, n53, σ1§61/51, mb4.0/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.08**	**251**	P	**Pg**	**19 44 26.7**	**-0.4**
MSAI	**Masohi**	**0.73**	**65**	P	**Pg**	**19 44 38.6**	**-0.2**
NLAI	**Namlea**	**1.24**	**290**	P	**Pn**	**19 44 45.9**	**-2.0**
BNDI	**Bandanaira**	**1.84**	**118**	P	**Pn**	**19 44 57.2**	**+1.0**
SANI	**Sanana**	**2.78**	**305**	P	**Pn**	**19 45 09.0**	**-0.1**
SANI	**Sanana**	**2.78**	**305**	P	**Pn**	**19 45 08.5**	**-0.6**
FAKI	**Fak Fak**	**4.04**	**80**	Pn	**Pn**	**19 45 27.5**	**+1.0**
FAKI	**Fak Fak**	**4.04**	**80**	P	**Pn**	**19 45 27.9**	**+1.4**
FAKI	**Fak Fak**	**4.04**	**80**	P	**Pn**	**19 45 27.3**	**+0.8**
SWI	**Sorong**	**4.08**	**47**	P	**Pn**	**19 45 27.6**	**+0.6**
TNTI	**Ternate**	**4.50**	**348**		**Pn**	**19 45 33.6**	**+0.9**
TNTI	**Ternate**	**4.50**	**348**	P	Pn	19 45 19.9	-13
TNTI				P	**Pb**	**19 45 42.7**	**-0.9**
BBSI	**Bau Bau**	**5.96**	**252**	P	**Pn**	**19 45 55.9**	**+3.0**
	0.1nm36nm,0.7s						
LUWI	**Luwuk**	**6.08**	**295**		**Pn**	**19 45 55.3**	**+0.9**
LUWI	**Luwuk**	**6.08**	**295**	P	**Pn**	**19 45 56.6**	**+2.2**
RKPI	**Ransiki, Papua**	**6.28**	**70**	P	**Pn**	**19 45 56.4**	**-0.8**
SOEI	**Soe**	**7.24**	**213**	Pn	**Pn**	**19 46 10.7**	**+0.1**
BATI	**Baumata**	**7.95**	**215**	Pn	**Pn**	**19 46 21.8**	**+1.6**
	2.4nm,0.3s,baz=125,slow=2.2,SNR=4.6						
	6.3nm,0.6s						
KAPI	**Kappang**	**8.60**	**261**	Pn	**Pn**	**19 46 32.5**	**+3.4**
	6.4nm,0.3s,baz=104,slow=5.3,SNR=6.3						
KAPI				LR	LR	19 50 40.4	
	comp=Z,36nm,20.4s,baz=73,slow=43						
	16nm,0.3s						
TOLI2	**Tolitoli**	**8.86**	**302**	Pn	**Pn**	**19 46 34.2**	**+1.6**
TOLI2	**Tolitoli**	**8.86**	**302**	P	**Pn**	**19 46 35.1**	**+2.4**
MTN	**Manton Dam**	**9.55**	**163**	Pn	**Pn**	**19 46 43.1**	**+0.9**
DAV	**Davao City (W)**	**10.99**	**346**	LR	LR	19 52 12.3	
	comp=Z,81nm,19.9s,baz=72,slow=43						
PLAI	**Plampang**	**11.62**	**243**	P	**Pn**	**19 47 13.1**	**+2.6**
KNRA	**Kununurra**	**11.95**	**178**	Pn	**Pn**	**19 47 15.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**14.58**	**190**	Pn	**Pn**	**19 47 48.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.58**	**190**	Pn	**Pn**	**19 47 49.5**	**-1.5**
	0.1nm,0.3s,baz=14,slow=16,SNR=2.4						
	1.8nm,0.7s						
WB0	**Warramunga Arr**	**17.09**	**160**	P	**Pn**	**19 48 22.4**	**-1.2**
WB0				IAmb	IAmb	19 48 28.3	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**17.23**	**160**	P	**Pn**	**19 48 24.1**	**-1.3**
WRAB				IAmb	IAmb	19 48 30.6	
	comp=Z,11nm,1.0s						
WRAB	**Tennant Creek**	**17.23**	**160**	P	**Pn**	**19 48 25.6**	**+0.2**
WRA	**Warramunga Arr**	**17.23**	**160**	P	**Pn**	**19 48 22.8**	**-2.6**
WRA	**Warramunga Arr**	**17.23**	**160**	P	**Pn**	**19 48 22.1**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=346,slow=12,SNR=14						
	comp=Z,0.9nm,0.8s						
WR8	**Warramunga Arr**	**17.30**	**160**	P	**Pn**	**19 48 23.8**	**-2.5**
WR8				IAmb	IAmb	19 48 30.9	
	comp=Z,13nm,1.1s						
COEN	**Coen**	**17.92**	**126**	P	**Pn**	**19 48 31.0**	**-3.0**
COEN	**Coen**	**17.92**	**126**	P	**Pn**	**19 48 35.1**	**+1.1**
PMG	**Port Moresby**	**19.61**	**108**	P	**P**	**19 48 52.9**	**-0.3**
QIS	**Mount Isa**	**20.10**	**148**	P	**P**	**19 48 59.3**	**+0.8**
AS31	**Alice Springs**	**20.62**	**165**		**P**	**19 49 04.2**	**+0.1**
AS31				IAmb	IAmb	19 49 06.4	
	comp=Z,9.3nm,0.8s						
ASAR	**Alice Springs**	**20.62**	**165**		**P**	**19 49 04.6**	**+0.5**
ASAR	**Alice Springs**	**20.62**	**165**	P	**P**	**19 49 04.4**	**+0.2**
	comp=Z,25nm,0.8s,baz=348,slow=12,SNR=181						
	comp=Z,25nm,0.8s						
AS01	**Alice Springs**	**20.63**	**165**	P	**P**	**19 49 05.5**	**+1.2**
BBJI	**Bungbulang**	**20.86**	**259**	P	**P**	**19 49 05.9**	**-1.0**
GUMO	**Guam**	**23.77**	**44**	LR	LR	19 59 39.3	
	comp=Z,7.9nm,19.0s,baz=209,slow=39						
MEEK	**Meekatharra**	**24.65**	**201**	P	**P**	**19 49 46.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**36.30**	**308**	P	**P**	**19 51 29.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=137,slow=7.5,SNR=4.8						
	comp=Z,0.3nm,0.7s						
KSRS	**Korea Array**	**40.91**	**360**	P	**P**	**19 52 07.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=180,slow=7.3,SNR=4.1						
	comp=Z,1.2nm,0.8s						
EVN	**Everest**	**50.80**	**311**	P	**P**	**19 53 24.5**	**-1.6**
MKAR	**Makanchi Array**	**64.51**	**327**	P	**P**	**19 54 59.9**	**-1.6**
MKAR	**Makanchi Array**	**64.51**	**327**	P	**P**	**19 55 00.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=122,slow=7.9,SNR=7.7						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**64.69**	**327**	P	**P**	**19 55 00.1**	**-2.6**
ZALV	**Zalesovo Beam**	**67.85**	**334**	P	**P**	**19 55 22.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=120,slow=5.8,SNR=3.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**68.78**	**329**	P	**P**	**19 55 28.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=131,slow=5.7,SNR=9.6						
	comp=Z,1.1nm,0.8s						
KURK	**Kurchatov**	**68.79**	**329**	**P**	**P**	**19 55 27.3**	**-1.4**
KURK				IAmb	IAmb	19 55 33.2	
	comp=Z,2.1nm,0.8s						

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*BJI **18** 21:18:46.0, 18°.30S×174°.40W, h10km, mB5.4/15, mb5.3/47, Ms4.8/14, Ms7 4.6/15*
*MOS **18** 21:18:47.7±1.2, 18°.01S×174°.59W, h10km, mb5.4/45, Error ellipse: s-maj=9.3km s-min=8.5km az=166.7*
*IDC **18** 21:18:47.4±0.5, 18°.04S×174°.65W, h0km, mb4.9/21, mbtmp4.9/22, ML3.7/1, MS4.1/47, Error ellipse: s-maj=17.2km s-min=15.0km az=123.0*
*NEIC **18** 21:18:49.9, 17°.88S×174°.40W, h14km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^16^Nm; M_{rr}=3.48; $M_{\theta\theta}$0.72; $M_{\phi\phi}$2.76; $M_{r\theta}$0.91; $M_{\theta\phi}$1.46; $M_{\phi r}$3.55; Fault plane solution: $M_0$5.07000×10^16^ NP1:ϕ_s36.50000°, δ22.73000°, λ-72.98000°. NP2:ϕ_s198.14000°, δ68.32000°, λ-96.99000°. Principal axes: T 5.0429, Plg23.0000°, Azm294.0000°; N 0.0565, Plg6.0000°, Azm201.0000°; P -5.0993, Plg66.0000°, Azm96.0000°;*
*NEIC **18** 21:18:49.7±1.5, 18°.07S±0°.05×174°.44W±0°.07, h10km±1km, mb5.3/320, Mww5.1/13 Error ellipse: s-maj=13.8km s-min=4.7km az=55.0*
*NEIC **18** 21:18:49.9, 17°.98S×174°.50W, h14km*
*GCMT **18** 21:18:52.5±0.2, 18°.16S±0°.02×174°.43W±0°.01, h13km, MW5.0/113, Moment Tensor Solution. s57, c75; s113, c180; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.05±.15; $M_{\theta\theta}$0.26±.11; $M_{\phi\phi}$3.79±.11; $M_{r\theta}$-1.23±.28; $M_{\theta\phi}$1.91±.07; $M_{\phi r}$0.35±.24; Best double couple: $M_0$4.54800×10^16^ NP1:ϕ_s186.00000°, δ47.00000°, λ-115.00000°. NP2:ϕ_s41.00000°, δ49.00000°, λ-66.00000°. Principal axes: T 4.6290, Plg1.0000°, Azm114.0000°; N -0.1650, Plg18.0000°, Azm204.0000°; P -4.4660, Plg72.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 21:18:48.6±0.3, 18°.04S±0°.06×174°.47W±0°.05, h10km, n620, σ1§18/564, mb5.3/208, MS4.2/57, 59C-35D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.43**	**104**	Pn	**Pn**	**21 19 52.5**	**-3.4**
AFI	**Afiamalu**	**4.85**	**33**		**Pn**	**21 19 58.6**	**-3.2**
AFI	**Afiamalu**	**4.85**	**33**	P	**Pn**	**21 19 58.6**	**-3.2**
FUTU	**Fugatoga**	**5.10**	**316**	Pn	**Pn**	**21 20 03.9**	**-1.3**
MSVF	**Nonsavu**	**7.13**	**271**		**Pn**	**21 20 32.0**	**-1.1**
MSVF	**Nonsavu**	**7.13**	**271**	P	**Pn**	**21 20 32.0**	**-1.1**
RAO	**Raoul Island**	**11.60**	**195**	LR	LR	21 25 19.5	
	comp=Z,448nm,21.4s,baz=43,slow=34						
RAR	**Rarotonga**	**14.20**	**105**		**Pn**	**21 22 09.4**	**-0.5**
RAR	**Rarotonga**	**14.20**	**105**	Pn	**Pn**	**21 22 11.4**	**+1.5**
	3.4nm,0.3s,baz=252,slow=5.9,SNR=7.2						
RAR				LR	LR	21 26 24.0	
	comp=Z,816nm,21.4s,baz=267,slow=32						
	56nm,0.8s						
PINNC	**Pines Island,**	**17.56**	**252**		**Pn**	**21 22 53.0**	**-0.6**
SANVU	**Saraoutou**	**17.74**	**276**		**Pn**	**21 22 57.3**	**+1.5**
DZM	**Mont Dzumac**	**18.37**	**254**	P	**Pn**	**21 23 05.0**	**+1.3**
	30nm,1.0s,baz=86,slow=16,SNR=15						
ONTNC	**Ouen Toro**	**18.40**	**253**		**P**	**21 23 03.2**	**-0.7**
URZ	**Urewera**	**21.45**	**198**	P	**P**	**21 23 35.6**	**-1.4**
	40nm,1.1s,baz=28,slow=7.7,SNR=3.8						
	40nm,1.1s						
PPT2	**Papeete2**	**23.70**	**93**	*e*P	P	21 23 51.4	-10
	127nm,27.0s						
PPT2				*e*S	**S**	**21 28 09.3**	**-6.9**
	2μm,26.5s						
PPT2				*e*LR	LR	21 29 42.9	
	2μm,24.5s						
PPT2				*e*LR	LR	21 29 50.2	
	2μm,26.8s						
PPT	**Papeete**	**23.70**	**93**	P	**P**	**21 24 02.0**	**+1.2**
	15nm,0.3s,baz=33,slow=5.9,SNR=4.5						
PPT				LR	LR	21 30 45.1	
	comp=Z,498nm,19.2s,baz=250,slow=30						
	15nm,0.3s						
HNR	**Honiara**	**26.25**	**286**	LR	LR	21 33 06.8	
	comp=Z,1μm,20.1s,baz=170,slow=33						
LTZ	**Lake Taylor**	**27.12**	**202**	P	**P**	**21 24 31.9**	**+0.1**
LTZ				IAmb	IAmb	21 24 45.2	
	comp=Z,80nm,1.3s						
EIDS	**Eidsvold**	**32.76**	**251**		**P**	**21 25 20.8**	**-1.1**
ARMA	**Armidale**	**33.15**	**242**	P	**P**	**21 25 25.4**	**-0.1**
TAOE	**Nuku Hiva Isla**	**34.55**	**79**	*e*LR	LR	21 34 36.3	
	comp=Z,710nm,25.2s						
CAN	**Canberra**	**36.65**	**235**	P	**P**	**21 25 52.6**	**-2.9**
CAN				pmax	pmax		
	comp=Z,31nm,1.7s						
RKT	**Rikitea**	**37.24**	**105**	*e*LR	LR	21 35 53.6	
	comp=Z,9μm,28.2s						
PMG	**Port Moresby**	**38.18**	**278**	LR	LR	21 40 28.7	
	comp=Z,386nm,18.4s,baz=122,slow=34						
PMG	**Port Moresby**	**38.18**	**278**	*ce*P	**P**	**21 26 08.1**	**-0.6**
PMG				pmax	pmax		
	comp=Z,36nm,1.7s						
H11S2	**WAKE ISLAND Hy**	**40.74**	**332**	T	T	22 10 35.3	
	baz=149,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**40.76**	**332**	T	T	22 10 36.4	
	baz=149,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**40.76**	**332**	T	T	22 10 34.4	
	baz=149,slow=75,SNR=9.1						
COEN	**Coen**	**40.85**	**269**		**P**	**21 26 29.9**	**-1.1**
H11N3	**WAKE ISLAND Hy**	**41.73**	**333**	T	T	22 11 14.8	
	baz=151,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**41.74**	**333**	T	T	22 11 15.3	
	baz=151,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy**	**41.75**	**333**	T	T	22 11 16.3	
	baz=151,slow=76,SNR=28						
STKA	**Stephens Creek**	**41.87**	**242**	P	**P**	**21 26 38.0**	**-1.2**
STKA				IAmb	IAmb	21 26 47.3	
	comp=Z,76nm,1.1s						
STKA	**Stephens Creek**	**41.87**	**242**	P	**P**	**21 26 37.3**	**-1.8**
	comp=Z,12nm,1.0s,baz=94,slow=7.1,SNR=8.8						
STKA				LR	LR	21 44 10.0	
	comp=Z,341nm,18.2s,baz=78,slow=36						
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**41.87**	**242**	*i* P	**P**	**21 26 38.4**	**-0.8**
INKA	**Innaminka**	**42.18**	**248**		**P**	**21 26 39.9**	**-1.8**
JAY	**Jayapura**	**46.56**	**284**	LR	LR	21 45 29.4	
	comp=Z,301nm,21.9s,baz=172,slow=34						
JAY	**Jayapura**	**46.56**	**284**	P	P	21 27 11.5	-5.5
WR8	**Warramunga Arr**	**48.14**	**259**	P	**P**	**21 27 26.1**	**-3.2**
WB0	**Warramunga Arr**	**48.26**	**259**	P	**P**	**21 27 28.1**	**-2.1**
WB0				IAmb	IAmb	21 27 39.6	
	comp=Z,30nm,1.4s						
WRAB	**Tennant Creek**	**48.28**	**259**	*ce*P	**P**	**21 27 28.2**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,25nm,1.7s						
WRA	**Warramunga Arr**	**48.29**	**259**	P	P	21 27 26.7	-3.7
WRA	**Warramunga Arr**	**48.29**	**259**	P	**P**	**21 27 28.2**	**-2.2**
	comp=Z,5.6nm,0.8s,baz=96,slow=8.3,SNR=49						
WRA				LR	LR	21 46 38.4	
	comp=Z,449nm,20.2s,baz=95,slow=35						
	comp=Z,5.6nm,0.8s						
AS31	**Alice Springs**	**48.36**	**254**	P	**P**	**21 27 29.7**	**-1.3**
ASAR	**Alice Springs**	**48.36**	**254**	P	**P**	**21 27 29.7**	**-1.3**
ASAR	**Alice Springs**	**48.36**	**254**	P	**P**	**21 27 29.2**	**-1.8**
	comp=Z,56nm,0.8s,baz=86,slow=8.4,SNR=457						
	comp=Z,56nm,0.8s						
ASAR	**Alice Springs**	**48.36**	**254**	P	**P**	**21 27 29.7**	**-1.3**
GUMO	**Guam**	**50.95**	**305**	LR	LR	21 47 54.7	
	comp=Z,118nm,19.5s,baz=110,slow=34						
KNRA	**Kununurra**	**54.20**	**263**	P	**P**	**21 28 13.1**	**-1.7**
KNRA				IAmb	IAmb	21 28 57.9	
	comp=Z,36nm,1.4s						
FITZ	**Fitzroy Crossi**	**56.70**	**260**	P	**P**	**21 28 31.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**56.70**	**260**	LR	LR	21 50 42.5	
	comp=Z,300nm,20.6s,baz=106,slow=34						
SOEI	**Soe**	**59.82**	**269**	P	**P**	**21 28 54.9**	**+0.1**
SOEI	**Soe**	**59.82**	**269**	P	**P**	**21 28 57.0**	**+2.2**
RPN	**Rapa Nui**	**60.26**	**111**	LR	LR	21 48 14.2	
	comp=Z,409nm,21.5s,baz=322,slow=29						
BATI	**Baumata**	**60.28**	**268**	LR	LR	21 52 32.7	
	comp=Z,184nm,21.9s,baz=119,slow=34						
SBA	**Scott Base**	**60.56**	**184**	P	**P**	**21 28 59.6**	**+0.9**
SBA	**Scott Base**	**60.56**	**184**	P	**P**	**21 28 59.6**	**+0.9**
SBA				pmax	pmax		
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**60.66**	**186**	P	**P**	**21 29 00.0**	**+0.5**
VNDA	**Vanda**	**60.66**	**186**	P	**P**	**21 28 60.0**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=348,slow=6.0,SNR=8.2						
VNDA				LR	LR	21 56 08.6	
	comp=Z,43nm,18.1s,baz=350,slow=37						
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**60.66**	**186**	P	**P**	**21 29 00.0**	**+0.5**
JCJ	**Chichijima**	**61.48**	**316**	LR	LR	21 51 11.4	
	comp=Z,299nm,20.3s,baz=94,slow=32						
PSA00	**Pilbara Seismi**	**61.50**	**255**	P	**P**	**21 29 04.2**	**-1.9**
PSA00				IAmb	IAmb	21 29 05.2	
	comp=Z,20nm,1.1s						
MBWA	**Marble Bar**	**61.67**	**255**	P	**P**	**21 29 05.2**	**-2.0**
MBWA				IAmb	IAmb	21 29 06.3	
	comp=Z,30nm,1.1s						
MMRI	**Maumere**	**62.05**	**270**	P	**P**	**21 29 10.9**	**+1.1**
MMRI				IAmb	IAmb	21 30 03.9	
	comp=Z,27nm,0.9s						
EDFI	**Ende, Flores**	**62.54**	**269**	P	**P**	**21 29 11.5**	**-1.8**
	comp=Z,13nm,1.0s						
MORW	**Morawa**	**63.86**	**246**	P	**P**	**21 29 20.8**	**-1.0**
DAV	**Davao City (W)**	**64.20**	**287**	LR	LR	21 52 30.3	
	comp=Z,97nm,22.0s,baz=125,slow=32						
KAPI	**Kappang**	**65.44**	**273**	P	**P**	**21 29 32.8**	**+0.5**
KAPI				IAmb	IAmb	21 31 37.9	
	comp=Z,31nm,1.4s						
KAPI	**Kappang**	**65.44**	**273**	P	**P**	**21 29 32.8**	**+0.5**
KAPI				pmax	pmax		
	comp=Z,31nm,1.5s						
PLAI	**Plampang**	**66.24**	**268**	P	**P**	**21 29 38.5**	**+1.1**
	comp=Z,31nm,1.0s						
TWSI	**Taliwang, Sumb**	**67.11**	**268**	P	**P**	**21 29 43.1**	**+0.1**
	comp=Z,38nm,1.0s						
CASY	**Casey**	**67.60**	**205**	P	**P**	**21 29 45.9**	**+0.8**
KIWB	**Kanaga Island**	**69.63**	**358**	P	**P**	**21 29 57.6**	**-0.2**
MYLDM	**Lahad Datu**	**69.99**	**283**	P	**P**	**21 30 00.4**	**-0.5**
MJAR	**Matsushiro Arr**	**70.31**	**321**	P	**P**	**21 30 02.3**	**-0.1**
MJAR	**Matsushiro Arr**	**70.31**	**321**	P	**P**	**21 30 02.2**	**-0.3**
	comp=Z,13nm,1.2s,baz=163,slow=5.0,SNR=6.6						
MJAR				LR	LR	21 55 11.6	
	comp=Z,107nm,21.0s,baz=130,slow=31						
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Arr**	**70.31**	**321**	P	**P**	**21 30 02.3**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,18nm,1.4s						
MAJO	**Matsushiro**	**70.31**	**321**	*i* P	**P**	**21 30 01.5**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,11nm,1.2s						
SHEM	**Shemya Is, Ala**	**71.16**	**353**	LR	LR	21 54 04.9	
	comp=Z,110nm,21.9s,baz=142,slow=30						
TGY	**Tagaytay City**	**71.24**	**292**	LR	LR	21 56 25.6	
	comp=Z,244nm,21.8s,baz=174,slow=32						
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**21 30 13.5**	**+0.9**
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**21 30 14.7**	**+2.1**
	comp=Z,6.9nm,1.0s,baz=43,slow=3.2,SNR=16						
QSPA				LR	LR	21 58 04.5	
	comp=Z,96nm,19.8s,baz=28,slow=33						
	comp=Z,6.9nm,1.0s						
JNU	**Nakatsue**	**72.87**	**314**	LR	LR	21 57 02.9	
	comp=Z,135nm,19.6s,baz=112,slow=32						
JKA	**Kamikawa-asahi**	**73.24**	**329**	P	**P**	**21 30 21.4**	**+1.5**
JKA				IAmb	IAmb	21 30 22.2	
	comp=Z,39nm,1.0s						
ASAJ	**Asahikawa**	**73.25**	**329**	LR	LR	21 59 14.5	
	comp=Z,93nm,18.5s,baz=164,slow=33						
ASAJ	**Asahikawa**	**73.25**	**329**	P	**P**	**21 30 21.4**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,39nm,1.0s						
MHC	**Mount Hamilton**	**74.20**	**41**	P	**P**	**21 30 26.6**	**+0.8**
MHC				IAmb	IAmb	21 30 28.7	
	comp=Z,52nm,1.4s						
MHC	**Mount Hamilton**	**74.20**	**41**	P	**P**	**21 30 26.6**	**+0.8**
MHC				pmax	pmax		
	comp=Z,52nm,1.5s						
PET	**Petropavlovsk**	**74.49**	**344**	*i* P	**P**	**21 30 28.1**	**+1.1**
PET				pmax	pmax		
	comp=Z,14nm,1.1s						
KMPM	**Mount Pierce**	**74.64**	**38**	P	**P**	**21 30 29.5**	**+1.1**
MNRC	**McLaughlin Min**	**74.66**	**40**		**P**	**21 30 29.4**	**+1.0**
MNRC				IAmb	IAmb	21 30 31.4	
	comp=Z,65nm,1.2s						
KMRM	**Mail Ridge**	**74.76**	**38**		**P**	**21 30 30.0**	**+1.0**
DPP	**Dos Picos Cty**	**74.78**	**47**	P	**P**	**21 30 28.2**	**-1.0**
ELS	**Elsinore Mount**	**74.81**	**46**	P	**P**	**21 30 28.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**74.83**	**343**	P	**P**	**21 30 28.4**	**-0.6**
PEA0B				IAmb	IAmb	21 30 29.6	
	comp=Z,52nm,1.1s						
PEA0B	**Petropavlovsk-**	**74.83**	**343**	*ce*P	**P**	**21 30 27.9**	**-1.1**
PETK	**Petropavlovsk-**	**74.83**	**343**	P	**P**	**21 30 28.3**	**-0.7**
	comp=Z,16nm,0.8s,baz=163,slow=6.0,SNR=13						
PETK				LR	LR	21 56 34.5	
	comp=Z,95nm,21.5s,baz=163,slow=30						
	comp=Z,16nm,0.8s						
VES	**Vestal, Richgr**	**74.94**	**44**	P	**P**	**21 30 30.6**	**+0.6**
TPO	**Tropico Hills**	**74.96**	**45**	P	**P**	**21 30 30.1**	**-0.2**
TPO				IAmb	IAmb	21 30 32.8	
	comp=Z,49nm,1.4s						
BFSC	**Mount Baldy Ra**	**74.98**	**46**	P	**P**	**21 30 30.2**	**-0.3**
KHMM	**Horse Mountain**	**75.17**	**37**	P	**P**	**21 30

comp=Z,47nm,1.8s
MDPB Devils Postpil 76.00 42 P **P 21 30 36.9 +0.4**
MDPB IAmb IAmb 21 30 38.8
comp=Z,24nm,1.1s
M02C Callahan 76.01 37 P **P 21 30 37.2 +1.1**
M02C IAmb IAmb 21 30 39.1
comp=Z,43nm,1.4s
MPMC Manual Prospec 76.13 44 P **P 21 30 38.0 +0.9**
MPMC IAmb IAmb 21 30 39.7
comp=Z,30nm,1.1s
GSC Goldstone, Bar 76.16 45 P **P 21 30 37.6 +0.4**
GSC Goldstone, Bar 76.16 45 P **P 21 30 37.6 +0.4**
GSC pmax pmax
comp=Z,19nm,1.2s
BC3 Big Chuckawall 76.18 47 **P 21 30 38.3 +0.9**
BC3 IAmb IAmb 21 30 40.3
comp=Z,52nm,1.9s
TIN Tinemaha, Big 76.21 43 P **P 21 30 37.9 +0.5**
TIN Tinemaha, Big 76.21 43 P **P 21 30 37.9 +0.5**
TIN pmax pmax
comp=Z,48nm,1.0s
WAKR Walker 76.29 41 **P 21 30 38.4 +0.4**
WAKR IAmb IAmb 21 30 40.5
comp=Z,33nm,1.3s
GLA Glamis 76.30 48 P **P 21 30 38.0 0.0**
GLA IAmb IAmb 21 30 40.8
comp=Z,64nm,2.0s
GLA Glamis 76.30 48 P **P 21 30 38.0 0.0**
GLA pmax pmax
comp=Z,64nm,2.0s
YBH Yreka Blue Hor 76.31 37 P **P 21 30 37.7 -0.2**
YBH IAmb IAmb 21 30 46.4
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 76.31 37 LR LR 21 58 14.0
comp=Z,8.3nm,19.1s,baz=252,slow=31
YBH Yreka Blue Hor 76.31 37 P **P 21 30 37.7 -0.2**
YBH pmax pmax
comp=Z,23nm,1.1s
M03C McCloud 76.36 38 **P 21 30 38.4 +0.2**
M03C IAmb IAmb 21 30 40.5
comp=Z,56nm,1.3s
KSM Kuching 76.42 276 P **P 21 30 38.1 -0.9**
KSM IAmb IAmb 21 30 52.5
comp=Z,40nm,1.3s
LEM Lembang 76.46 267 LR LR 22 05 15.7
comp=Z,66nm,19.2s,baz=98,slow=37
HATC Hat Creek Radi 76.46 39 P **P 21 30 39.8 +1.0**
QSM Queen of Sheba 76.49 45 P **P 21 30 39.9 +1.0**
QSM IAmb IAmb 21 30 41.2
comp=Z,41nm,1.4s
PIX Pinacate 76.50 50 P **P 21 30 39.4 +0.4**
BEKR Beckworth 76.54 40 **P 21 30 39.9 +0.6**
BEKR IAmb IAmb 21 30 41.6
comp=Z,26nm,1.1s
DSP Deep Springs 76.56 43 **P 21 30 40.3 +1.1**
DSP IAmb IAmb 21 30 42.1
comp=Z,34nm,1.2s
IRM Iron Mountain 76.67 47 **P 21 30 40.9 +0.9**
IRM IAmb IAmb 21 30 42.7
comp=Z,41nm,1.5s
LHV Little Huntoon 76.73 42 P **P 21 30 40.7 +0.6**
LHV IAmb IAmb 21 30 43.0
comp=Z,35nm,1.2s
GRAC Grapevine Rang 76.74 44 P **P 21 30 40.6 +0.3**
GRAC IAmb IAmb 21 30 43.3
comp=Z,59nm,1.3s
GWY Greenwater Val 76.75 45 **P 21 30 41.1 +0.5**
GWY IAmb IAmb 21 30 42.8
comp=Z,57nm,1.8s
DANC Danby, Needles 76.77 47 P **P 21 30 41.7 +1.2**
DANC IAmb IAmb 21 30 43.1
comp=Z,28nm,1.0s
FURC Furnace Creek, 76.77 44 P **P 21 30 41.2 +0.8**
L04D Klamath Falls 76.85 37 **P 21 30 41.3 +0.3**
L04D IAmb IAmb 21 30 49.6
comp=Z,51nm,1.3s
SHOC Shoshone, Teco 76.85 45 P **P 21 30 42.0 +1.0**
SHOC IAmb IAmb 21 30 43.4
comp=Z,53nm,1.4s
BLYC Blythe 76.89 48 P **P 21 30 42.7 +1.5**
113A Mohawk Valley, 76.91 49 **P 21 30 41.7 +0.4**
113A IAmb IAmb 21 30 43.8
comp=Z,47nm,2.0s
RYN Ryan 76.94 42 P **P 21 30 42.2 +0.6**
RYN IAmb IAmb 21 30 44.0
comp=Z,26nm,1.2s
NVAR Mina Array Bea 76.96 42 P **P 21 30 42.8 +1.0**
NVAR Mina Array Bea 76.96 42 P **P 21 30 43.0 +1.1**
comp=Z,14nm,0.9s,baz=226,slow=8.9,SNR=63
NVAR LR LR 21 59 55.9
comp=Z,118nm,20.1s,baz=256,slow=32
comp=Z,14nm,0.9s
GMN Gold Mountain 76.98 43 P **P 21 30 42.6 +0.6**
GMN IAmb IAmb 21 30 44.3
comp=Z,21nm,1.0s
PAHR Pah Rah Range 77.04 40 **P 21 30 42.6 +0.5**
NV11 Mina Array Sit 77.06 42 P **P 21 30 42.6 +0.3**
NV11 IAmb IAmb 21 30 44.7
comp=Z,41nm,1.2s
MTPC Mountain Pass 77.11 46 P **P 21 30 43.4 +0.8**
MTPC IAmb IAmb 21 30 45.3
comp=Z,44nm,1.6s
HSIG 77.11 54 P **P 21 30 41.3 -1.3**
WCT Wildcat Mounta 77.12 44 P **P 21 30 43.3 +0.8**
WCT IAmb IAmb 21 30 45.0
comp=Z,38nm,1.5s
KSRS Korea Array 77.33 316 P **P 21 30 44.3 +0.7**
comp=Z,8.6nm,1.1s,baz=136,slow=5.6,SNR=14
KSRS LR LR 22 01 19.1
comp=Z,63um,19.5s,baz=125,slow=33
comp=Z,8.6nm,1.1s
KSAR Wonju Array Be 77.35 316 P **P 21 30 43.2 -0.5**
KSAR Wonju Array Be 77.35 316 P **P 21 30 43.2 -0.5**
NEE2 Needles Airpor 77.37 47 P **P 21 30 44.7 +0.8**
TPH Tonopah 77.45 43 P **P 21 30 45.2 +0.7**
TPH IAmb IAmb 21 30 46.9
comp=Z,41nm,1.1s
TPH Tonopah 77.45 43 P **P 21 30 45.2 +0.7**
TPH pmax pmax
comp=Z,41nm,1.1s
TPNV Topopah Spring 77.45 44 **P 21 30 44.9 +0.4**
TPNV IAmb IAmb 21 30 47.0
comp=Z,20nm,0.9s
TPNV Topopah Spring 77.45 44 P **P 21 30 44.9 +0.4**
TPNV pmax pmax
comp=Z,20nm,1.0s
J04A Umpqua Nationa 77.61 36 P **P 21 30 46.1 +0.8**
J04A IAmb IAmb 21 30 47.7
comp=Z,40nm,1.0s
KDAK Kodiak Island 77.70 12 LR LR 21 57 20.0
comp=Z,103nm,21.5s,baz=193,slow=30
KDAK Kodiak Island 77.70 12 *i* P **P 21 30 45.5 +0.4**
KDAK pmax pmax
comp=Z,35nm,1.0s
V12A Nelson 77.72 46 **P 21 30 47.2 +1.3**
SHPR Sheep Range 77.94 45 **P 21 30 47.8 +0.5**
K05A Summer Lake 77.98 37 **P 21 30 48.5 +1.1**
W13A Hualapai Mount 78.05 47 **P 21 30 48.5 +0.5**
Y14A Wickenburg 78.06 48 **P 21 30 47.7 -0.1**
J05D Fort Rock, OR 78.13 37 **P 21 30 48.9 +0.7**
J05D IAmb IAmb 21 30 50.6
comp=Z,45nm,1.2s
TYV Tymovskoe 78.24 334 *e*P **P 21 30 48.5 +0.2**
TYV pmax pmax
comp=Z,27nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.1s
MSHR Mys Shultsa 78.35 322 *i* P **P 21 30 50.1 +1.0**
MSHR pmax pmax
comp=Z,34nm,1.0s
PRN Pahroc Range 78.50 44 **P 21 30 51.6 +1.2**
PRN IAmb IAmb 21 30 53.2
comp=Z,44nm,1.2s
PINE Pine Mountain 78.62 36 **P 21 30 52.0 +1.1**
PINE IAmb IAmb 21 30 53.5
comp=Z,58nm,1.2s
R11B Troy Canyon, C 78.67 43 **P 21 30 51.5 +0.3**
P18K Big Mountain, 78.74 10 IAmb IAmb 21 30 51.6
comp=Z,37nm,0.9s
USRK Ussuriysk Ar. 78.88 324 P **P 21 30 51.9 -0.1**
comp=Z,7.5nm,1.0s,baz=110,slow=4.5,SNR=8.8
comp=Z,7.5nm,1.0s
E03A Lebam 78.96 33 P **P 21 30 52.8 +0.4**
WVOR Wild Horse Val 79.12 39 IAmb IAmb 21 31 02.2
comp=Z,40nm,1.1s
WVOR Wild Horse Val 79.12 39 P **P 21 30 54.5 +0.9**
HOOD Mount Hood Mea 79.19 35 P **P 21 30 54.4 +0.5**
X16A Lo Mia Camp, P 79.42 49 **P 21 30 56.1 +0.7**
LCMT Little Creek M 79.50 46 P **P 21 30 56.1 +0.3**
I07A Izee 79.61 37 P **P 21 30 56.7 +0.5**
ILSW Iliamna Southw 79.65 11 P **P 21 30 55.2 -0.9**
SMAI San Martin Ant 79.69 159 P **P 21 30 56.0 -0.1**
CCUT Cedar City 79.71 45 **P 21 30 57.9 +0.8**
J08A Circle Bar Ran 79.77 38 **P 21 30 58.0 +0.9**
J08A IAmb IAmb 21 31 05.7
comp=Z,29nm,1.1s
KNB Kanab 79.80 46 **P 21 30 58.1 +0.6**
KNB IAmb IAmb 21 31 00.3
comp=Z,80nm,1.8s
KNB Kanab 79.80 46 P **P 21 30 58.1 +0.6**
KNB pmax pmax
comp=Z,80nm,1.8s
SPR3 Spring Creek 3 79.85 43 **P 21 30 57.5 -0.3**
SPR3 IAmb IAmb 21 30 59.7
comp=Z,52nm,1.9s
BRLK Bradley Lake 79.87 12 IAmb IAmb 21 30 58.1
comp=Z,37nm,1.0s
SZCU Shurtz Canyon 79.92 45 P **P 21 30 59.3 +1.1**
WUAZ Wupatki 80.02 48 **P 21 30 59.3 +0.6**
DUN6 Lazy B Ranch 80.22 51 P **P 21 31 00.3 +0.6**
ELK Elko 80.23 41 **P 21 31 00.7 +0.9**
ELK Elko 80.23 41 P **P 21 31 00.7 +0.9**
ELK pmax pmax
comp=Z,13nm,0.9s
SEW Seward 80.47 12 **P 21 30 59.9 -0.4**
SEW IAmb IAmb 21 31 00.6
comp=Z,34nm,1.0s
F07A Phinny Hill Vi 80.49 35 P **P 21 30 59.5 -1.2**
F07A IAmb IAmb 21 31 02.0
comp=Z,64nm,1.7s
MDJ Mudanjiang 80.49 323 P **P 21 31 02.1 +1.3**
MDJ pmax pmax
comp=Z,25nm,1.2s
MDJ Mudanjiang 80.49 323 P **P 21 31 01.7 +0.9**
MDJ IAmb IAmb 21 31 02.9
comp=Z,36nm,1.3s
X18A Snowflake 80.54 49 P **P 21 31 00.3 -1.3**
G08A Pilot Rock 80.66 36 **P 21 31 02.6 +0.8**
G08A IAmb IAmb 21 31 10.8
comp=Z,29nm,1.0s
SLKM Skilak Lake 80.69 12 IAmb IAmb 21 31 02.5
comp=Z,46nm,0.9s
K15K Wolf Creek Mou 80.71 6 P **P 21 31 02.2 +0.7**
E07A Sunnyside 80.94 35 **P 21 31 03.9 +0.7**
NJ2 Nanjing 80.95 308 *e*P **P 21 31 05.6 +2.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
J14K Nanvaranak Lak 80.97 5 P **P 21 31 03.7 +0.8**
W18A Petrified Fore 80.98 49 P **P 21 31 02.7 -1.2**
HAWA Hanford 81.01 35 **P 21 31 03.7 +0.2**
HAWA IAmb IAmb 21 31 05.7
comp=Z,41nm,1.4s
ZAIG Zacatecas 81.12 63 **P 21 31 05.1 +0.1**
121A Cookes Peak, D 81.18 52 **P 21 31 05.2 +0.2**
WAH2 Wahluke Slope 81.22 35 P **P 21 31 05.1 +0.5**
E08A Dider Farm, El 81.33 35 P **P 21 31 06.2 +1.0**
E08A IAmb IAmb 21 31 07.3
comp=Z,37nm,1.4s
BMO Blue Mountains 81.33 37 **P 21 31 05.4 0.0**
BMO Blue Mountains 81.33 37 P **P 21 31 05.4 0.0**
BMO pmax pmax
comp=Z,28nm,1.4s
MFID Camas Ranch 81.37 39 **P 21 31 05.9 +0.2**
DUG Dugway, Tooele 81.48 43 **P 21 31 06.3 -0.1**
DUG Dugway, Tooele 81.48 43 P **P 21 31 06.3 -0.1**
DUG pmax pmax
comp=Z,34nm,1.7s
BELA Belgrano 2 81.54 172 P **P 21 31 05.0 -1.0**
MNAI Manna 81.61 268 P **P 21 31 04.7 -2.8**
D08A Wollman Farm, 81.75 35 **P 21 31 07.9 +0.5**
D08A IAmb IAmb 21 31 09.5
comp=Z,30nm,1.2s
EPT El Paso 81.79 53 P **P 21 31 08.7 +0.5**
E09A Wood Farm, Sta 81.85 35 P **P 21 31 08.4 +0.4**
E09A IAmb IAmb 21 31 09.7
comp=Z,33nm,1.3s
Q16A Castle Valley 81.89 45 P **P 21 31 09.4 +0.8**
F10A Beach Ranch, E 82.04 36 **P 21 31 09.4 +0.3**
F10A IAmb IAmb 21 31 10.6
comp=Z,31nm,1.1s
TMUT Trail Mountain 82.06 44 **P 21 31 10.5 +0.8**
TMUT IAmb IAmb 21 31 12.6
comp=Z,18nm,0.8s
MPU Maple Canyon 82.15 44 P **P 21 31 10.3 +0.2**
DIV Divide 82.19 14 P **P 21 31 09.1 -0.4**
DIV IAmb IAmb 21 31 10.4
comp=Z,36nm,0.9s
PMSA Palmer Station 82.20 156 P **P 21 31 10.1 +0.5**
PMSA IAmb IAmb 21 31 16.2
comp=Z,30nm,1.3s
PMSA Palmer Station 82.20 156 LR LR 21 59 06.3
comp=Z,85nm,20.5s,baz=244,slow=29
PLID Pearl Lake 82.22 38 **P 21 31 10.7 +0.4**
DL2 Dalian 82.29 315 P **P 21 31 11.3 +0.8**
DL2 pmax pmax
comp=Z,25nm,0.7s
DL2 LR LR
comp=Z,180nm,16.8s
DL2 LR LR
comp=Z,170nm,15.4s
DL2 LR LR
comp=Z,280nm,16.1s
SBM South Baldy 82.29 51 P **P 21 31 12.9 +1.8**
HLID Hailey 82.30 39 **P 21 31 10.9 +0.2**
HLID IAmb IAmb 21 31 13.1
comp=Z,23nm,1.1s
MA2 Magadan 82.36 343 LR LR 22 01 42.2
comp=Z,72nm,21.6s,baz=154,slow=31
BNX BinXian 82.40 323 ⇓P **P 21 31 10.6 -0.3**
BNX pmax pmax
comp=Z,22nm,1.0s
SRU San Rafael Swe 82.43 45 P **P 21 31 12.5 +1.1**
SRU IAmb IAmb 21 31 13.8
comp=Z,24nm,1.1s
SRU San Rafael Swe 82.43 45 P **P 21 31 12.5 +1.1**
SRU pmax pmax
comp=Z,24nm,1.1s
CTU Camp Tracy 82.43 43 P **P 21 31 12.0 +0.6**
Y22A Socorro 82.44 51 **P 21 31 12.2 +0.6**
CN2 Changchun 82.45 321 *e*P **P 21 31 11.3 +0.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
P17A Butcher Ranch, 82.47 44 P **P 21 31 12.6 +0.9**
P17A IAmb IAmb 21 31 14.4
comp=Z,27nm,1.2s
VHRN Van Horn 82.52 54 **P 21 31 12.8 +0.7**
VHRN IAmb IAmb 21 31 15.2
comp=Z,54nm,1.8s
LENM Lemitar 82.53 51 P **P 21 31 13.2 +1.1**
SNY Shenyang 82.54 318 ⇑P **P 21 31 12.8 +1.1**
SNY pmax pmax
comp=Z,20nm,1.0s
TGL Tana Glacier 82.55 15 P **P 21 31 11.8 +0.3**
TGL IAmb IAmb 21 31 12.7
comp=Z,24nm,1.0s
C09A Chrisman Ranch 82.55 34 **P 21 31 12.2 +0.6**
C09A IAmb IAmb 21 31 13.5
comp=Z,57nm,1.8s
JLU Jordanelle 82.58 43 P **P 21 31 13.4 +1.2**
CRNM Carthage 82.61 51 P **P 21 31 13.0 +0.5**
MNTX Cornudas Mount 82.61 53 **P 21 31 13.0 +0.7**
MNTX IAmb IAmb 21 31 15.4
comp=Z,28nm,1.6s
BNM Barren Site 82.78 51 **P 21 31 14.7 +1.3**
GRNC Granite Creek 82.80 16 P **P 21 31 13.5 +0.6**
N25K Chitina, Valde 82.87 14 P **P 21 31 13.1 0.0**
N25K IAmb IAmb 21 31 14.3
comp=Z,22nm,0.8s
TCUT Toone Canyon 82.87 43 P **P 21 31 14.8 +1.0**
P18A Preston Nutter 82.87 44 P **P 21 31 14.7 +0.8**
P18A IAmb IAmb 21 31 21.6
comp=Z,21nm,1.2s
MVCO Mesa Verde 82.88 47 **P 21 31 14.4 +0.5**
PV05 Paradox Valley 82.88 46 P **P 21 31 15.5 +1.6**
TX31 Lajitas Ar. Si 82.92 56 P **P 21 31 15.3 +1.2**
TX31 IAmb IAmb 21 31 17.6
comp=Z,27nm,1.5s
TXAR Lajitas Array 82.92 56 P **P 21 31 15.7 +1.6**
TXAR Lajitas Array 82.92 56 P **P 21 31 16.3 +2.2**
comp=Z,4.1nm,0.9s,baz=224,slow=3.5,SNR=26
comp=Z,4.1nm,0.9s
BSUT Blindstream Ca 82.99 44 **P 21 31 15.6 +1.0**
BSUT IAmb IAmb 21 31 16.9
comp=Z,22nm,1.2s
HWUT Hardware Ranch 83.03 42 **P 21 31 15.2 +0.7**
PV19 Morning Glory 83.07 46 P **P 21 31 15.6 +0.7**
PV17 East Wray Mesa 83.08 46 P **P 21 31 16.0 +1.1**
PV17 IAmb IAmb 21 31 17.2
comp=Z,40nm,1.3s
PV14 Lion Creek, Pa 83.08 46 P **P 21 31 15.7 +0.8**
PV14 IAmb IAmb 21 31 17.2
comp=Z,34nm,1.0s
PV18 Skein Mesa, Pa 83.09 46 **P 21 31 16.1 +1.1**
BARN Barnard Glacie 83.10 15 P **P 21 31 14.9 +0.5**
BARN IAmb IAmb 21 31 25.0
comp=Z,31nm,1.2s
PV13 Radium Mtn., P 83.11 46 IAmb IAmb 21 31 17.5
comp=Z,31nm,1.1s
PV16 Nyswonger Mesa 83.12 46 IAmb IAmb 21 31 17.6
comp=Z,39nm,1.3s
PV03 Paradox Valley 83.14 46 IAmb IAmb 21 31 17.6
comp=Z,33nm,1.2s
PV04 Paradox Valley 83.17 46 P **P 21 31 16.5 +1.2**
PV04 IAmb IAmb 21 31 17.8
comp=Z,28nm,0.9s
PV12 Saucer Basin, 83.20 46 P **P 21 31 16.7 +1.1**
PV21 Cone Mtn., Par 83.20 46 P **P 21 31 16.7 +1.1**
ANMO Albuquerque 83.27 50 P **P 21 31 16.9 +1.0**
ANMO IAmb IAmb 21 31 18.8
comp=Z,31nm,1.2s
ANMO Albuquerque 83.27 50 LR LR 21 59 19.5
comp=Z,134nm,21.0s,baz=337,slow=29
ANMO Albuquerque 83.27 50 P **P 21 31 16.9 +1.0**
ANMO pmax pmax
comp=Z,31nm,1.3s
PV01 Paradox Valley 83.27 46 P **P 21 31 17.0 +1.1**
PV01 IAmb IAmb 21 31 18.2
comp=Z,26nm,0.9s
PV22 Blue Mesa, Par 83.32 46 **P 21 31 17.1 +1.0**
PV22 IAmb IAmb 21 31 18.5
comp=Z,21nm,1.0s
PV07 Paradox Valley 83.37 46 P **P 21 31 17.4 +1.0**
PV07 IAmb IAmb 21 31 25.0
comp=Z,25nm,1.0s
ALPN Alpine 83.39 55 **P 21 31 18.1 +1.6**
ALPN IAmb IAmb 21 31 26.2
comp=Z,25nm,1.4s
PV15 Paradox Valley 83.44 46 IAmb IAmb 21 31 19.0
comp=Z,27nm,1.0s
NEW Newport 83.45 34 LR LR 22 01 27.4
comp=Z,91nm,19.8s,baz=213,slow=31
RDMU Red Mountain 83.80 44 IAmb IAmb 21 31 20.4
comp=Z,20nm,0.9s
M26K Nabesna, AK 83.94 14 IAmb IAmb 21 31 20.0
comp=Z,32nm,1.2s
CLNB Carlsbad 84.01 53 P **P 21 31 20.2 +0.6**
HYT Haines Junctio 84.02 17 P **P 21 31 19.9 +0.8**
HYT IAmb IAmb 21 34 20.9
comp=Z,19nm,1.1s
TIA Tai'an 84.14 311 P **P 21 31 20.1 0.0**
TIA pmax pmax
comp=Z,18nm,1.0s
M27K Edge Creek, AK 84.17 15 P **P 21 31 20.0 +0.2**
S22A 4UR Ranch, Cre 84.30 47 **P 21 31 22.3 +1.0**
S22A IAmb IAmb 21 31 24.1
comp=Z,28nm,1.0s
DLMT Dillon 84.38 39 IAmb IAmb 21 31 23.5
comp=Z,31nm,1.0s
O30N Mendenhall 84.38 18 P **P 21 31 20.6 -0.2**
O30N IAmb IAmb 21 34 36.1
comp=Z,18nm,1.0s
TPAW Teton Pass 84.39 41 IAmb IAmb 21 31 23.8
comp=Z,28nm,0.9s
MSO Missoula 84.39 37 IAmb IAmb 21 31 22.6
comp=Z,30nm,1.4s
SAND Sanderson 84.40 56 **P 21 31 22.3 +0.7**
FXWY Fox Creek 84.42 41 **P 21 31 22.2 +0.6**
FXWY IAmb IAmb 21 31 23.9
comp=Z,43nm,1.5s
O20A White River Ci 84.47 45 **P 21 31 22.3 +0.4**
O20A IAmb IAmb 21 31 24.0
comp=Z,22nm,0.9s
MNHN Monahans 84.48 55 P **P 21 31 23.1 +1.1**
SNOW Snow King Moun 84.50 41 P **P 21 31 22.9 +0.8**
DLBC Dease Lake 84.52 22 P **P 21 31 22.2 +0.6**
comp=Z,26nm,0.8s,baz=197,slow=5.2,SNR=3.4
comp=Z,26nm,0.8s
H03S2 Juan Fernandez 84.60 124 T T 23 04 48.8
baz=250,slow=75,SNR=215
H03S1 Juan Fernandez 84.62 124 T T 23 04 35.9
baz=250,slow=75,SNR=227
H03S3 Juan Fernandez 84.62 124 T T 23 04 35.4
baz=250,slow=75,SNR=252
LOHW Long Hollow 84.67 41 P **P 21 31 23.5 +0.6**
LOHW IAmb IAmb 21 31 24.9
comp=Z,24nm,1.1s
H03N2 Juan Fernandez 84.72 123 T T 23 04 51.1
baz=257,slow=73,SNR=32
H03N3 Juan Fernandez 84.72 123 T T 23 04 57.4
baz=257,slow=73,SNR=28
H03N1 Juan Fernandez 84.74 123 T T 23 04 52.0
baz=257,slow=73,SNR=18
SEY Seymchan 84.79 345 P **P 21 31 22.6 -0.2**
comp=Z,24nm,1.0s,baz=142,slow=5.5,SNR=34
SEY LR LR 22 04 28.2
comp=Z,85nm,20.1s,baz=138,slow=32
comp=Z,24nm,1.0s
SEY Seymchan 84.79 345 *e*P **P 21 31 21.4 -1.3**
SEY pmax pmax
comp=Z,33nm,1.1s
QLMT Earthquake Lak 84.80 40 P **P 21 31 24.7 +1.2**
YPP Pitchstone Pla 84.89 40 P **P 21 31 24.9 +0.8**
YPP IAmb IAmb 21 31 26.9
comp=Z,43nm,1.9s
YHB Horse Butte 84.90 40 P **P 21 31 25.0 +1.0**
BW06 Boulder Array 84.90 42 P **P 21 31 24.0 -0.2**
BW06 IAmb IAmb 21 31 25.6
comp=Z,19nm,0.9s
PD31 Pinedale Array 84.90 42 IAmb IAmb 21 31 25.6
comp=Z,17nm,0.8s
PDAR Pinedale Array 84.90 42 P **P 21 31 24.6 +0.5**
PDAR Pinedale Array 84.90 42 P **P 21 31 24.3 +0.2**
comp=Z,12nm,0.8s,baz=215,slow=3.2,SNR=106
PDAR LR LR 22 05 07.4
comp=Z,52nm,19.6s,baz=235,slow=33
comp=Z,12nm,0.8s
R33M Jennings River 84.91 21 IAmb IAmb 21 31 25.6
comp=Z,49nm,1.6s
YFT Old Faithful 84.96 40 P **P 21 31 25.5 +1.1**
YFT IAmb IAmb 21 31 34.1
comp=Z,20nm,1.0s
ODSA Odessa 84.97 54 **P 21 31 25.3 +0.8**
ODSA IAmb IAmb 21 31 27.1
comp=Z,39nm,1.2s
YMR Madison River 84.99 40 P **P 21 31 25.7 +1.2**
YMR IAmb IAmb 21 31 27.3
comp=Z,23nm,1.0s
HEH HeiHe 85.03 327 *e*P **P 21 31 23.6 -0.6**
HEH pP **sP 21 31 34.0 +5.7**
HEH S **SKSac 21 41 50.5 +1.7**
HEH pmax pmax
comp=Z,12nm,1.4s
HEH pmax pmax
comp=Z,140nm,6.1s
HEH LR LR
comp=Z,100nm,19.7s
HEH LR LR
comp=Z,170nm,21.3s
HEH LR LR
comp=Z,310nm,21.6s
N31M Braeburn, Yuko 85.05 18 **P 21 31 24.7 +0.5**
N31M IAmb IAmb 21 34 41.5
comp=Z,29nm,0.9s
BOZ Bozeman (W) 85.08 39 IAmb IAmb 21 31 27.0
comp=Z,26nm,1.1s
H17A Grant Village 85.09 40 P **P 21 31 26.2 +1.1**
H17A IAmb IAmb 21 31 28.3
comp=Z,17nm,0.9s
YHH Holmes Hill 85.12 40 **P 21 31 26.3 +1.1**
YNM Yellowstone No 85.18 40 P **P 21 31 27.2 +1.7**
YNR Norris Junctio 85.19 40 P **P 21 31 26.3 +0.7**
YNR IAmb IAmb 21 31 42.5
comp=Z,32nm,1.3s
SDCO Great Sand Dun 85.23 48 **P 21 31 25.9 -0.1**
HAYD Hayden 85.31 45 P **P 21 31 27.1 +0.9**

HAYD IAmb IAmb 21 31 34.3
comp=Z,19nm,1.1s
J25K Salcha River, 85.37 12 P **P 21 31 26.2 +0.4**
DRIO Del Rio 85.38 57 **P 21 31 27.7 +1.1**
MSTX Muleshoe 85.57 52 P **P 21 31 28.5 +1.0**
N32M Quiet Lake 85.58 19 P **P 21 31 28.0 +1.2**
OZNA Ozona 85.58 56 **P 21 31 28.7 +1.1**
OZNA IAmb IAmb 21 31 30.2
comp=Z,27nm,1.2s
M30M Minto, Yukon 85.65 16 P **P 21 31 26.1 -1.0**
CMIG Matias Romero 85.72 71 LR LR 22 00 13.2
comp=Z,138nm,21.1s,baz=181,slow=29
L29M L29M 85.73 16 P **P 21 31 28.2 +0.6**
T25A Trinidad 85.74 49 P **P 21 31 30.0 +1.6**
YNE Yellowstone No 85.75 40 P **P 21 31 30.0 +1.6**
YNE IAmb IAmb 21 31 40.2
comp=Z,30nm,0.8s
833A Chaparral WMA, 85.94 59 P **P 21 31 29.9 +0.6**
833A IAmb IAmb 21 31 32.1
comp=Z,32nm,1.1s
SGCY Sterling City 85.98 55 P **P 21 31 30.5 +1.0**
HBVL Hebbronville 86.05 60 P **P 21 31 30.7 +0.8**
ISCO Idaho Springs 86.09 46 P **P 21 31 31.1 +0.9**
ISCO Idaho Springs 86.09 46 P **P 21 31 31.1 +0.9**
ISCO pmax pmax
comp=Z,9.0nm,1.5s
IPM Ipoh 86.16 276 P **P 21 31 31.5 +0.7**
IPM IAmb IAmb 21 31 41.1
comp=Z,24nm,1.1s
POST Post 86.16 54 **P 21 31 31.4 +1.0**
RLMT Red Lodge 86.26 40 **P 21 31 31.7 +0.9**
HNS HongShan 86.40 311 ⇓P **P 21 31 32.3 +0.9**
HNS pmax pmax
comp=Z,37nm,1.3s
HNS LR LR
comp=Z,150nm,13.3s
HNS LR LR
comp=Z,210nm,17.8s
HNDO Hondo 86.50 58 **P 21 31 33.0 +1.0**
BJT Baijiatuau 86.53 314 IAmb IAmb 21 31 35.1
comp=Z,53nm,1.9s
BJT Baijiatuau 86.53 314 P **P 21 31 32.8 +0.8**
BJT pmax pmax
comp=Z,17nm,2.1s
BJI Beijing 86.54 314 P **P 21 31 32.8 +0.8**
BJI SKS **SKSac 21 41 54.4 -4.3**
BJI pmax pmax
comp=Z,97nm,6.0s
BJI LR LR
comp=Z,48nm,19.4s
BJI LR LR
comp=Z,56nm,24.7s
BJI LR LR
comp=Z,110nm,20.6s
LL02 Futaleuf 86.69 134 P **P 21 31 34.1 +1.2**
AMTX Amarillo 86.78 52 P **P 21 31 34.4 +1.0**
AMTX IAmb IAmb 21 31 35.6
comp=Z,28nm,1.4s
LYN LuoYang 86.84 308 ⇓P **P 21 31 34.1 +0.5**
LYN pmax pmax
comp=Z,58nm,0.9s
LYN pmax pmax
comp=Z,270nm,4.3s
DKNS Dickens 86.85 53 P **P 21 31 34.5 +0.7**
BILL Biiibino 86.98 353 P **P 21 31 33.1 -0.4**
BILL Biiibino 86.98 353 *ceP* **P 21 31 33.3 -0.2**
BILL pmax pmax
comp=Z,61nm,1.7s
ZEA Zeya 87.16 330 *eP* **P 21 31 35.1 +0.4**
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,20nm,1.2s
APMT Aspermont 87.33 54 **P 21 31 36.8 +0.8**
J30M Hart River 87.39 15 P **P 21 31 35.5 -0.2**
J30M IAmb IAmb 21 33 44.1
comp=Z,15nm,0.9s
BRDY Brady 87.40 56 **P 21 31 36.8 +0.3**
BRDY IAmb IAmb 21 31 38.8
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 87.42 55 P **P 21 31 37.1 +0.6**
735A Kenedy 87.43 59 P **P 21 31 37.9 +1.3**
EF04 Eagle Ford 04 87.58 58 P **P 21 31 38.9 +1.6**
PSI Prapat 87.63 274 LR LR 22 10 08.6
comp=Z,78nm,19.9s,baz=134,slow=35
I30M Mount Dempster 87.91 15 P **P 21 31 38.6 +0.4**
CCIG Comitan 87.93 72 P **P 21 31 39.9 +0.5**
CCIG IAmb IAmb 21 31 49.1
comp=Z,30nm,1.5s
TIY Taiyuan 88.17 311 P **P 21 31 41.4 +1.4**
GYA Guiyang 88.38 298 ⇑P **P 21 31 42.6 +1.3**
GYA pmax pmax
comp=Z,11nm,1.1s
PLCA Paso Flores 88.50 132 LR LR 22 06 11.6
comp=Z,80nm,18.6s,baz=234,slow=32
PLPT Palo Pinto 88.52 55 **P 21 31 42.8 +1.1**
HIA Hailar 88.68 323 P **P 21 31 42.0 -0.1**
HIA IAmb IAmb 21 31 43.6
comp=Z,21nm,1.2s
HIA Hailar 88.68 323 P **P 21 31 42.0 -0.1**
HIA pmax pmax
comp=Z,21nm,1.2s
WTFS Witchita Falls 88.77 54 P **P 21 31 43.3 +0.4**
WTFS IAmb IAmb 21 31 46.4
comp=Z,23nm,1.1s
HILR Hailar Array B 88.82 324 P **P 21 31 43.4 +0.7**
comp=Z,14nm,1.0s,baz=133,slow=10,SNR=10.0
HILR LR LR 22 05 05.1
comp=Z,122nm,21.7s,baz=175,slow=31
comp=Z,14nm,1.0s
WHTX Lake Whitney, 88.89 56 P **P 21 31 44.0 +0.5**
SLVN Son La 88.97 293 P **P 21 31 45.1 +0.9**
SLVN IAmb IAmb 21 31 51.5
comp=Z,22nm,1.5s
FW13 Cleburne 89.04 56 P **P 21 31 45.5 +1.3**
FW13 IAmb IAmb 21 31 46.9
comp=Z,37nm,1.3s
FW06 Azle 89.17 55 P **P 21 31 45.2 +0.4**
FW06 IAmb IAmb 21 31 48.3
comp=Z,23nm,1.1s
XAN Xi'an 89.34 306 ⇓P **P 21 31 46.3 +0.7**
XAN pmax pmax
comp=Z,45nm,1.3s
G30M tAoh Zraii Nji 89.37 14 P **P 21 31 45.6 +0.6**
HKT Hockley 89.44 58 P **P 21 31 47.1 +1.1**
HKT Hockley 89.44 58 P **P 21 31 47.1 +1.1**
HKT pmax pmax
comp=Z,65nm,2.0s
Z35A Perchaven, San 89.54 55 P **P 21 31 47.9 +1.4**
G31M Satah River 89.79 15 P **P 21 31 47.0 +0.1**
SYO Syowa Base 89.83 192⇑*eP* **P 21 31 46.4 -0.8**
SYO Syowa Base 89.83 192⇑*ep*P pP 21 31 52.0 +1.8
HNVL Huntsville, TX 90.02 58 P **P 21 31 50.4 +1.6**
HHC Hu-ho-hao-te 90.07 313 *eP* **P 21 31 49.9 +1.0**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=Z,89nm,15.7s
HHC LR LR
comp=Z,130nm,15.9s
HHC LR LR
comp=Z,160nm,15.8s
C27K Jago River 90.11 10 P **P 21 31 50.9 +2.5**
TROLL Troll, Antarti 90.16 179 ⇑P **P 21 31 48.5 -0.4**
comp=Z,276nm,0.8s
VNA3 Neumayer Olymp 90.33 175 ⇑P **P 21 31 49.2 -0.4**
comp=Z,12nm,0.8s
SNAA Sanae 90.34 177 ⇑P **P 21 31 48.8 -0.9**
comp=Z,80nm,0.8s
SNAA Sanae 90.34 177 P **P 21 31 48.8 -0.9**
SNAA IAmb IAmb 21 31 55.0
comp=Z,24nm,1.6s
SNAA Sanae 90.34 177 P **P 21 31 49.0 -0.7**
comp=Z,4.9nm,0.9s,baz=191,slow=3.5,SNR=17
SNAA LR LR 22 12 37.1
comp=Z,46nm,18.4s,baz=156,slow=36
comp=Z,4.9nm,0.9s
SNAA Sanae 90.34 177 *ceP* **P 21 31 48.5 -1.2**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
VNA2 Neumayer--Watz 90.82 176 ⇑P **P 21 31 51.7 -0.1**
comp=Z,16nm,0.8s,baz=170,slow=3.5
VNA1 Neumayer--Stat 91.02 175 ⇑P **P 21 31 52.8 +0.1**
comp=Z,16nm,0.9s
BTO Baotou 91.05 313 *eP* **P 21 31 55.5 +2.0**
BTO pP **sP 21 32 00.4 +2.8**
BTO sP **pP 21 32 02.6 +6.1**
BTO pmax pmax
comp=Z,51nm,1.0s
BTO pmax pmax
comp=Z,310nm,6.2s
YAK Yakutsk 91.12 337 LR LR 22 14 46.6
comp=Z,27nm,18.1s,baz=124,slow=37
YAK Yakutsk 91.12 337 *eP* **P 21 31 51.4 -1.7**
YAK *e* 21 35 28.4
YAK *e*S **SKSac 21 42 20.5 -4.5**
YAK *e*SS **SS 21 48 51.5 -3.9**
YAK *e*SSS SSS 21 52 32.0
YAK pmax pmax
comp=Z,15nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,94nm,4.2s
YAK pmax pmax
comp=N,21nm,2.8s
YAK pmax pmax
comp=E,83nm,4.3s
YAK smax smax
comp=E,53nm,3.3s
YAK smax smax
comp=N,31nm,3.3s
KMI Kunming 91.24 296 ⇓P **P 21 31 56.4 +1.5**
KMI pmax pmax
comp=N,15nm,1.3s
KMI LR LR
comp=N,170nm,17.4s
KMI LR LR
comp=N,160nm,20.9s
KMI LR LR
comp=N,220nm,25.5s
CD2 Chengdu 92.31 302 *eP* **P 21 32 00.0 +0.5**
CM31 Chiang Mai Arr 92.47 288 P **P 21 32 01.4 +1.0**
CM31 IAmb IAmb 21 32 02.6
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 92.47 288 **P 21 32 01.0 +0.5**
CMAR Chiang Mai Arr 92.47 288 P **P 21 32 01.6 +1.2**
comp=Z,7.2nm,0.9s,baz=106,slow=2.8,SNR=51
CMAR LR LR 22 12 18.1
comp=Z,61nm,19.0s,baz=90,slow=35
comp=Z,7.2nm,0.9s
PZH PanZhiHua 92.54 297 P **P 21 32 02.8 +2.0**
CHTO Chiang Mai 92.58 289 P **P 21 32 01.7 +0.8**
CHTO IAmb IAmb 21 32 02.7
comp=Z,12nm,0.9s
CHTO Chiang Mai 92.58 289 P **P 21 32 01.7 +0.8**
CHTO pmax pmax
comp=Z,12nm,0.9s
JTS Las Juntas de 92.68 80 LR LR 22 06 34.7
comp=Z,73nm,18.7s,baz=198,slow=31
MIAR Mount Ida 92.83 55 **P 21 32 02.8 +1.0**
MIAR Mount Ida 92.83 55 P **P 21 32 02.8 +1.0**
MIAR pmax pmax
comp=Z,47nm,1.9s
WLAR White Oak Lake 92.91 56 P **P 21 32 04.2 +2.1**
YKA Yellowknife Ar 92.91 24 LR LR 22 08 39.2
comp=Z,81nm,18.9s,baz=229,slow=32
CIT Chita 93.44 324 *eP* **P 21 32 05.0 +0.8**
CIT *e* 21 32 13.6
CIT pmax pmax
comp=Z,37nm,2.3s
NNA Nana 93.44 104 LR LR 22 04 40.9
comp=Z,141nm,20.5s,baz=236,slow=29
ATAH Atahualpa 93.55 99 LR LR 22 03 52.4
comp=Z,92nm,19.6s,baz=266,slow=29
LZH Lanzhou 93.96 307 *eP* **P 21 32 08.4 +1.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZDM Lanzhou Array 94.03 306 P **P 21 32 08.4 +0.8**
comp=Z,1.2nm,0.3s,baz=252,slow=0.9,SNR=5.2
comp=Z,1.2nm,0.3s
WHAR Wooly Hollow 94.08 54 **P 21 32 07.8 +0.3**
WHAR IAmb IAmb 21 32 09.8
comp=Z,17nm,1.0s
FCAR Ozark Folk Cen 94.40 54 P **P 21 32 09.2 +0.3**
MGMO Mountain Grove 94.70 53 **P 21 32 10.2 -0.1**
MGMO IAmb IAmb 21 32 12.3
comp=Z,17nm,0.8s
TNCH TengChong 94.84 295⇓*eP* **P 21 32 12.4 +0.9**
TNCH pmax pmax
comp=Z,13nm,0.7s
R40A Maddies Statio 95.07 52 **P 21 32 12.3 +0.4**
LCAR Lake Charles 95.20 54 **P 21 32 12.6 0.0**
LCAR IAmb IAmb 21 32 14.5
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 95.71 318 P **P 21 32 14.6 -0.2**
ULN Ulaanbaatar 95.71 318 *ceP* **P 21 32 14.4 -0.5**
ULN pmax pmax
comp=Z,3.0nm,0.9s
AGMN Agassiz Nation 95.94 41 P **P 21 32 14.8 -0.9**
AGMN IAmb IAmb 21 32 23.7
comp=Z,10nm,1.1s
SONM Songino Array 96.12 318 P **P 21 32 17.4 +0.7**
comp=Z,0.5nm,0.5s,baz=84,slow=4.6,SNR=4.0
SONM LR LR 22 11 06.9
comp=Z,62nm,20.7s,baz=100,slow=33
comp=Z,0.5nm,0.5s
ULM Lac du Bonnet 96.61 39 LR LR 22 11 19.2
comp=Z,95nm,19.3s,baz=212,slow=33
TIXI Tiksi 97.25 345 LR LR 22 11 17.0
comp=Z,63nm,21.9s,baz=192,slow=32
TIXI Tiksi 97.25 345 *ceP* **P 21 32 20.5 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 98.02 309 *eP* **P 21 32 26.1 +0.6**
GTA pP sP 21 32 37.0 +7.4
GTA pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 107.83 311 Pdif **Pdif 21 33 11.1 +2.1**
WMQ LR LR
comp=Z,120nm,22.9s
MKAR Makanchi Array 111.92 314 PKiKP **PKiKP 21 37 22.7 -1.4**
comp=Z,0.8nm,0.8s,baz=64,slow=2.8,SNR=5.5
KURK Kurchatov 114.42 318 PKiKP PKPdf 21 37 27.2 -1.4
KURBB Kurchatov Arra 114.48 318 PKP PKPdf 21 37 27.1 -1.6
comp=Z,0.4nm,0.6s,baz=76,slow=1.7,SNR=4.9
BORK Borovoye 119.34 321 *c i*PKIKP **PKPdf 21 37 37.9 -0.1**
BORK pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 121.60 300 **PKPdf 21 37 43.2 -0.1**
KBL Kabul 121.60 300 PKiKP **PKPdf 21 37 43.2 -0.1**
ARTI Arti 125.12 327 *i* PKiKP **PKPdf 21 37 50.1 +1.1**
ARTI 21 39 40.3
ARTI 21 44 58.7
ARTI SP SP 21 49 33.7 -2.9
ABKAR Akbulak array 126.53 318 PKPdf **PKPdf 21 37 51.3 -0.6**
KLMR Klimovskoe 130.88 339 *e*PKiKP **PKPdf 21 37 57.5 -2.4**
KLMR pmax pmax
comp=Z,16nm,1.3s
BELG Belogornoye 132.52 326 *i* PKiKP **PKPdf 21 38 03.6 +0.4**
OBN Obninsk 136.08 335 *i* PKiKP **PKPdf 21 38 09.6 -0.2**
OBN pmax pmax
comp=Z,7.0nm,1.1s
NCK Nalchik 139.13 317 *i* PKiKP **PKPdf 21 38 15.8 -0.1**
KIV Kislovodsk 139.51 318 *i* PKiKP **PKPdf 21 38 16.4 -0.2**
KIV pmax pmax
comp=Z,2.0nm,1.1s
KIV MLR MLR
comp=Z,48nm,24.0s
SHA1 Shidzhatmaz 139.63 318 *e*PKiKP **PKPdf 21 38 15.7 -1.4**
GNI Garni 139.71 311 *c i*PKiKP **PKiKP 21 38 20.3 +0.7**
GNI pmax pmax
comp=Z,11nm,1.7s
MNK Minsk 139.75 340 *i* PKiKP **PKPdf 21 38 18.0 +1.4**
MNK *i* 21 41 11.7
MNK *i* PPP PPP 21 44 15.4
MNK *i* 21 45 22.7
MNK *i* SS SS 21 59 31.7 0.0
MNK *i* SSS SSS 22 04 44.7
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK MLR MLR
comp=Z,64nm,18.0s
MNK MLR MLR
comp=E,111nm,24.0s
MNK MLR MLR
comp=N,43nm,15.0s
AKASG Malin Array Be 142.33 335 PKhKP PKPpre 21 38 15.9
comp=N,1.6nm,0.8s,baz=45,slow=3.3,SNR=6.1
AKASG Malin Array Be 142.33 335 *c i*PKIKP **PKiKP 21 38 26.0 +1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
SORM Soroca 144.68 333 ⇑P **PKPab 21 38 22.7 -1.5**
SORM Soroca 144.68 333 ⇑PKIKP **PKPab 21 38 22.7 -1.5**
MILM Milestii Mici 145.40 331 ⇓P **PKPbc 21 38 25.4 -1.3**
MILM Milestii Mici 145.40 331 ⇓PKP2 **PKPbc 21 38 25.4 -1.3**
KWP Kalwaria Pacla 145.58 340 *e*PKP **PKPdf 21 38 27.0 -0.1**
OJC Ojcow 145.91 344 *e*PKP **PKPdf 21 38 28.1 +0.5**
BZK Bozkurt 145.97 321 ⇓P **PKPdf 21 38 29.0 +1.0**
VASR Vaslui 146.07 332 ⇓P **PKPdf 21 38 28.8 +0.7**
KSP Ksiaz 146.16 348 *e*PKP **PKPdf 21 38 29.3 +1.2**
CLL Collm 146.28 352 *i* PKP2 **PKPdf 21 38 29.1 +0.9**
CLL pmax pmax
comp=Z,61nm,1.4s
CLL Collm 146.28 352 *i* PKPbc **PKPdf 21 38 29.1 +0.9**
comp=Z,61nm,1.4s
CLL *i* PKiKP pPKPab 21 38 34.3 +1.2
CLL Lm MLR 23 55 00.0
comp=N,100nm,18.9s
CLL Lm MLR 23 55 00.0
comp=E,100nm,21.6s
CLL Lm MLR 23 55 00.0
comp=Z,100nm,21.7s
BURAR Bucovina Array 146.38 336 **PKPdf 21 38 29.6 +1.0**
BURAR Bucovina Array 146.38 336 ⇓P **PKPbc 21 38 30.9 +1.0**
BURAR Bucovina Array 146.38 336 ⇓PKP2 **PKPbc 21 38 30.9 +1.0**
OSTC Ostas 146.45 348 *e*PKP2 **PKPdf 21 38 30.3 +1.7**
OSTC Ostas 146.45 348 *e*PKP **PKPdf 21 38 30.3 +1.7**
BNN Bunyan 146.47 314 **PKPdf 21 38 30.0 +0.8**
NIE Niedzica 146.50 342 *e*PKP **PKPdf 21 38 30.6 +1.9**
UPC Upice 146.54 348 *e*PKP2 **PKPdf 21 38 30.4 +1.7**
UPC Upice 146.54 348 *e*PKP **PKPdf 21 38 30.4 +1.7**
VLDR Vladesti 146.54 331 ⇓P **PKPdf 21 38 30.0 +1.2**
BRG Berggiesshubel 146.56 350 *e*PKP **PKPdf 21 38 29.8 +1.1**
BRG Amp 21 38 31.0
comp=Z,16nm,1.1s
BRG Berggiesshubel 146.56 350 P **PKiKP 21 38 35.4 +2.3**
BRG Amp 21 38 37.2
comp=Z,20nm,1.4s
DPC Dobruska-Polom 146.62 347 *e*PKP2 **PKPdf 21 38 30.9 +2.0**
DPC Dobruska-Polom 146.62 347 *e*PKP **PKPdf 21 38 30.9 +2.0**
CIDE Kastamonu/Cide 146.66 321 ⇓P **PKPdf 21 38 30.4 +1.2**
TESR Tescani 146.67 333 ⇓P **PKPdf 21 38 29.6 +0.5**
TLCR 146.68 329 ⇓P **PKPdf 21 38 28.9 -0.2**
TLCR 146.68 329 ⇓PKIKP **PKPdf 21 38 28.9 -0.2**
GHRR 146.69 332 ⇓P **PKPbc 21 38 31.5 +0.8**
STEB Steborice 146.69 346 *e*PKP **PKPdf 21 38 30.9 +1.9**
SCTR Scanteiesti 146.71 331 ⇓P **PKPdf 21 38 30.7 +1.5**
KRLC Kraliky 146.78 347 *e*PKP2 **PKPbc 21 38 31.4 +0.5**
KRLC Kraliky 146.78 347 *e*PKP **PKPbc 21 38 31.4 +0.5**
PVCC Panska Ves 146.79 349 *e*PKP2 **PKPbc 21 38 31.5 +0.6**
PVCC Panska Ves 146.79 349 *e*PKP **PKPbc 21 38 31.5 +0.6**
NEGRR Negrea 146.87 331 ⇑P **PKPbc 21 38 32.0 +0.7**
MORC Moravsky Berou 146.89 346 ⇑P **PKPdf 21 38 31.2 +1.8**
MORC Moravsky Berou 146.89 346 *e*PKP **PKPdf 21 38 30.9 +1.5**
MORC Moravsky Berou 146.89 346 ⇑PKP2 **PKPdf 21 38 31.2 +1.8**
ONER Baraj Valea Uz 146.92 333 ⇑P **PKPbc 21 38 31.8 +0.4**
JURR Jurilovca 146.96 329 ⇑P **PKPbc 21 38 31.9 +0.4**
LANS Liptovska Anna 146.98 343 *e*PKP2 **PKPbc 21 38 32.5 +1.0**
LANS Liptovska Anna 146.98 343 *e*PKP **PKPbc 21 38 32.5 +1.0**
CFR Carcaliu 147.01 330 ⇑P **PKPdf 21 38 30.7 +1.1**
CFR Carcaliu 147.01 330 ⇑PKP2 **PKPdf 21 38 30.7 +1.1**
TPGR Topolog 147.12 329 ⇓P **PKPbc 21 38 32.4 +0.4**
VRI Vrincioaia 147.14 332 ⇑P **PKPdf 21 38 31.2 +1.3**
VRI Vrincioaia 147.14 332 ⇑PKP2 **PKPdf 21 38 31.2 +1.3**
PLOR Plostina 147.19 332 ⇑P **PKPdf 21 38 31.7 +1.7**
PLOR Plostina 147.19 332 ⇑PKP2 **PKPdf 21 38 31.7 +1.7**
MAUC Maruska 147.21 345 *e*PKP **PKPbc 21 38 32.6 +0.5**
TURR Turia 147.30 333 ⇑P **PKPbc 21 38 34.4 +1.9**
PRU Pruhonice 147.31 349 *e*PKP2 **PKPbc 21 38 32.8 +0.4**
PRU Pruhonice 147.31 349 *e*PKP **PKPbc 21 38 32.8 +0.4**
OZUR 147.37 333 ⇓P **PKPbc 21 38 33.1 +0.4**
LODK Lodwar 147.37 247 **PKPdf 21 38 32.9 +1.6**
BISRR Bisoca 147.39 332 ⇓P **PKPbc 21 38 33.1 +0.3**
TIRR Tirgusor 147.41 329 **PKPdf 21 38 31.3 +1.0**
TIRR Tirgusor 147.41 329 ⇑P **PKPdf 21 38 32.1 +1.8**
TIRR Tirgusor 147.41 329 ⇑PKP2 **PKPdf 21 38 32.1 +1.8**
HARR Harsova 147.47 330 ⇑P **PKPbc 21 38 33.4 +0.5**
HARR Harsova 147.47 330 ⇑PKP2 **PKPbc 21 38 33.4 +0.5**
BRTR Keskin Array B 147.47 317 **PKPdf 21 38 30.1 -0.7**
BRTR Keskin Array B 147.47 317 PKPbc **PKPbc 21 38 33.5 +0.1**
comp=Z,16nm,1.1s,baz=128,slow=2.0,SNR=45
BRTR Keskin Array B 147.47 317 PKIKP **PKPdf 21 38 30.1 -0.7**
TLBR Topalu 147.53 329 ⇑P **PKPdf 21 38 33.0 +2.5**
VRAC Vranov 147.55 346 ⇓P **PKPbc 21 38 33.4 +0.3**
VRAC Vranov 147.55 346 *e*PKP **PKPdf 21 38 32.9 +2.4**
VRAC Vranov 147.55 346 ⇓PKP2 **PKPbc 21 38 33.4 +0.3**
KIRS Kirsehir-Merke 147.62 316 ⇑P **PKPbc 21 38 33.9 +0.2**
DOPR Dopca 147.64 334 ⇓P **PKPbc 21 38 34.1 +0.6**
JAVC Velka Javorina 147.71 345 *e*PKP **PKPbc 21 38 34.6 +1.0**
CJR Cluj-Napoca 147.75 336 ⇑P **PKPbc 21 38 34.3 +0.5**
CJR Cluj-Napoca 147.75 336 ⇑PKP2 **PKPbc 21 38 34.3 +0.5**
MLR Muntele Rosu 147.78 333 **PKPdf 21 38 31.0 -0.1**
MLR Muntele Rosu 147.78 333 ⇓P **PKPbc 21 38 34.6 +0.6**
MLR Muntele Rosu 147.78 333 PKIKP **PKPdf 21 38 31.0 -0.1**
MANR Mangalia 147.78 328 ⇑P **PKPbc 21 38 34.6 +0.7**
TREC Trest 147.79 348 *e*PKP2 **PKPbc 21 38 34.3 +0.6**
TREC Trest 147.79 348 *e*PKP **PKPbc 21 38 34.3 +0.6**
KRUC Moravsky 147.82 347 *e*PKP **PKPbc 21 38 33.6 -0.2**
ANTO Ankara 147.93 318 **PKPdf 21 38 31.8 +0.3**
ANTO Ankara 147.93 318 ⇑P **PKPdf 21 38 33.4 +1.9**
ANTO Ankara 147.93 318 PKIKP **PKPdf 21 38 31.8 +0.3**
DRGR 148.01 337 ⇓P **PKPbc 21 38 34.5 0.0**
DRGR 148.01 337 ⇓PKP2 **PKPbc 21 38 34.5 0.0**
PSN Preselentsi 148.14 328 *i* P **PKPbc 21 38 34.9 +0.1**
MODS Modra-Piesok 148.26 345 *e*PKP2 **PKPbc 21 38 35.6 +0.5**
MODS Modra-Piesok 148.26 345 *e*PKP **PKPbc 21 38 35.5 +0.5**
KHC Kasperske Hory 148.31 350 *i* PKIKP **PKPdf 21 38 31.6 -0.2**
KHC Kasperske Hory 148.31 350 *e*PKP **PKPbc 21 38 35.5 +0.4**
ARR Arges 148.44 334 ⇑P **PKPbc 21 38 36.7 +1.1**
SAHE Sakarya_HENDEK 148.53 322 ⇓P **PKPbc 21 38 35.7 -0.3**
GERES GERESS Array B 148.56 350 PKPbc **PKPbc 21 38 36.0 +0.1**
comp=Z,3.4nm,0.9s,baz=5.2,slow=2.9,SNR=24
DEV Deva 148.71 336 ⇑P **PKPbc 21 38 36.8 +0.6**
DEV Deva 148.71 336 ⇑PKP2 **PKPbc 21 38 36.8 +0.6**
SIRR Siria 148.84 338 ⇑P **PKPbc 21 38 36.5 -0.1**
CONA Conrad Observa 149.01 346 *e*PKP **PKPdf 21 38 33.1 +0.1**
comp=Z,28nm,1.9s,SNR=7.7
MBAR Mbarara 149.05 236 **PKiKP 21 38 40.1 +0.5**
MBAR Mbarara 149.05 236 PKP2 **PKiKP 21 38 40.1 +0.5**
LOZB Loznitsa 149.10 329 ⇑P **PKPbc 21 38 37.5 +0.2**
SURR Surduc 149.11 337 ⇑P **PKPbc 21 38 36.8 -0.4**
RONA Rosalia, Austr 149.13 346 *e*PKP **PKPbc 21 38 38.1 +0.8**
comp=Z,25nm,1.1s,SNR=12
GZR Gura Zlata 149.16 336 ⇓P **PKPbc 21 38 37.0 -0.5**
GZR Gura Zlata 149.16 336 ⇓PKP2 **PKPbc 21 38 37.0 -0.5**
MMAI Mount Meron Ar 149.33 305 PKPbc **PKPbc 21 38 39.0 +0.7**
comp=Z,13nm,0.8s,baz=65,slow=4.7,SNR=22
BZS Buzias 149.41 338 ⇑P **PKPbc 21 38 38.1 +0.1**
BZS Buzias 149.41 338 ⇑PKP2 **PKPbc 21 38 38.1 +0.1**
MOA Molln 149.42 348 *e*PKP **PKPbc 21 38 38.5 +0.5**
comp=Z,11nm,1.4s
BIOA Bad Ischl, Aus 149.69 349 *e*PKP **PKPab 21 38 44.1 +0.3**
comp=Z,7.9nm,1.2s
ARSA Arzberg 149.73 346 *i* PKP **PKPdf 21 38 37.4 +3.3**
comp=Z,0.2nm,0.3s
HERR Herculane 149.73 336 ⇓P **PKPbc 21 38 38.7 -0.1**
ELND Elena 149.78 330 ⇑P **PKPbc 21 38 39.1 +0.1**
MORH Mrgy, Hungar 149.87 342 ⇑P **PKPdf 21 38 34.1 -0.2**
PLVB Pleven 150.01 332 ⇓P **PKPbc 21 38 39.7 +0.1**
MDVR Moldovita 150.09 337 ⇑P **PKPbc 21 38 39.8 +0.1**
LESA Schwarzleotal 150.11 350 *e*PKP **PKPbc 21 38 39.7 -0.1**
comp=Z,11nm,1.5s
VALD Valchedram 150.30 333 *i* P **PKPbc 21 38 40.5 +0.3**
RETA Reutte 150.31 353 *i* PKiKP **PKPbc 21 38 41.1 +0.8**
comp=Z,12nm,1.5s
KBA Koelnbreinsper 150.33 349 *i* PKP **PKPbc 21 38 39.7 -0.7**
comp=Z,2.7nm,1.0s
WATA Walderalm 150.36 352 *i* PKP **PKPbc 21 38 40.5 0.0**
comp=Z,18nm,1.4s,SNR=5.1
SOKA Soboth 150.38 347 *i* PKP **PKPbc 21 38 40.2 -0.3**
comp=Z,14nm,1.5s,SNR=7.8
MOTA Moosalm 150.41 352 *i* PKP **PKPbc 21 38 40.4 -0.2**
comp=Z,25nm,1.7s,SNR=7.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA	Wattenberg	150.42	352	*i* PKP	PKPbc	21 38 40.4	-0.3
	comp=Z,8.6nm,0.9s,SNR=6.5						
BAND	Balkesir-Ban	150.45	324	⇓P	PKPbc	21 38 40.6	-0.1
SQTA	Sankt Quirin	150.52	352	*i* PKP	PKPbc	21 38 39.8	-1.1
	comp=Z,12nm,1.1s,SNR=5.4						
DIM	Dimitrovgrad	150.59	329	*i* P	PKPbc	21 38 41.3	+0.4
DAVA	Damuels	150.61	354	*i* PKP	PKPbc	21 38 40.8	-0.2
	comp=Z,24nm,1.1s						
OBKA	Obir	150.64	347	*i* PKP	PKPdf	21 38 39.5	+3.9
	comp=Z,4.6nm,1.1s						
MYKA	Terra Mystica	150.71	349	*i* PKP	PKPbc	21 38 40.0	-1.2
	comp=Z,12nm,1.8s						
FETA	Feichten	150.78	353	*i* PKP	PKPbc	21 38 41.4	-0.1
	comp=Z,10nm,1.2s						
ABTA	Abfaltersbach	150.79	350	*e*PKP	PKPbc	21 38 40.8	-0.6
	comp=Z,17nm,1.1s,SNR=7.6						
BOVS	Bovan	151.06	335	⇑P	PKPbc	21 38 41.5	-0.5
VTS	Vitosha	151.24	332	*i* P	PKPbc	21 38 42.5	-0.2
PLNA	Plana	151.27	332	*i* P	PKPbc	21 38 42.9	+0.2
CAVK	Edirne/Enez-Ca	151.27	326	⇓P	PKPbc	21 38 42.0	-0.6
BLY	Banja Luka	151.63	342	⇑P	PKPbc	21 38 43.7	+0.4
EZN	Ezine	151.80	325	⇑P	PKPbc	21 38 43.2	-0.6
EZN	Ezine	151.80	325	⇑PKIKP	PKPbc	21 38 43.2	-0.6
MMB	Musomishta	151.85	330	*i* P	PKiKP	21 38 46.3	+1.9
KKB	Krupnik	151.91	331	*i* P	PKiKP	21 38 46.3	+1.9
BNI	Bardonecchia	153.05	358	PKPdf	PKPdf	21 38 39.4	0.0
BNI					PKPab	21 38 59.4	+1.5
MURB	Monte Urbino	154.16	348	PKPdf	PKPdf	21 38 40.4	-0.5
MURB					PKPab	21 39 03.5	+0.9
FDMO	Fiordimonte	154.27	347	PKPdf	PKPdf	21 38 41.1	0.0
NRCA	Norcia	154.46	347	PKPdf	PKPdf	21 38 41.9	+0.5
NRCA					PKPab	21 39 04.0	+0.1
ITM	Ithomi	156.09	326	PKPdf	PKPdf	21 38 43.8	+0.2
ITM					PKPab	21 39 11.0	0.0
TIP	Timpagrande	156.78	337	PKPdf	PKPdf	21 38 44.4	-0.2
TIP					PKPab	21 39 14.3	+0.3
ESDC	Sonseca Array	156.92	19	PKPdf	PKPdf	21 38 43.7	-1.0
ESDC				PKPab	PKPab	21 39 14.4	-0.1
ESDC	Sonseca Array	156.92	19	PKPab	PKPab	21 39 13.3	-1.2
	comp=Z,3.2nm,1.1s,baz=345,slow=3.3,SNR=9.8						

*MDD **18** 21:20:50.0±0.7, 36°.83N×10°.85W, h29km, mb_Lg3.1/23, Error ellipse: s-maj=5.4km s-min=3.9km az=82.0*
*IGIL **18** 21:20:53.4, 36°.86N×10°.68W, h30km, ML1.9*
*INMG **18** 21:20:53.6±1.2, 36°.86N×10°.70W, h33km, ML2.2, Error ellipse: s-maj=4.6km s-min=2.8km az=78.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe
*CNRM **18** 21:20:55.5, 36°.43N×10°.20W, h31km, ML2.5*

ISC 18 21:20:48.3±1.9, 36°.77N±0°.05×10.79W±0°.09, h35km, n78, σ2°.19/123, 4C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.62	76	Pn	Pn	21 21 17.0	+2.7
PFVI				Sn	Sn	21 21 33.9	0.0
PFVI	Vila Bisbo	1.62	76	⇑*i*P	Pn	21 21 16.9	+2.7
PFVI				*e*S	Sn	21 21 34.6	+0.7
PFVI				*i* IAML		21 21 35.4	
PFVI				*i* IAML		21 21 35.8	
PFVI				*i* IAML		21 21 36.1	
PFVI	Vila Bisbo	1.62	76	P	Pn	21 21 17.0	+2.7
MORF	Marmelete	1.79	72	*e*P	Pn	21 21 19.4	+2.6
MORF				*e*S	Sn	21 21 38.6	+0.3
MORF				IAML		21 21 39.7	
	comp=E,27nm,0.2s						
MORF	Marmelete	1.79	72	⇑*i*P	Pn	21 21 19.4	+2.6
MORF				*e*S	Sn	21 21 38.9	+0.6
MORF				*i* IAML		21 21 40.5	
MORF				*i* IAML		21 21 41.7	
MORF				*i* IAML		21 21 42.3	
PTEO	Sao Teotonio	1.82	64	*e*P	Pn	21 21 19.9	+2.7
PTEO				*e*S	Sn	21 21 39.8	+0.7
PTEO				*i* IAML		21 21 40.5	
PTEO				*i* IAML		21 21 40.9	
PTEO				*i* IAML		21 21 41.3	
MESJ	Messejana	2.31	62	*e*P	Pn	21 21 26.4	+2.5
MESJ				*e*S	Sn	21 21 50.8	-0.3
MESJ				IAML		21 21 53.6	
	comp=N,3.4nm,0.2s						
MESJ	Messejana	2.31	62	*e*P	Pn	21 21 26.5	+2.6
MESJ				*e*S	Sn	21 21 51.5	+0.3
MESJ				*i* IAML		21 21 53.2	
MESJ				*i* IAML		21 21 57.0	
MESJ				*i* IAML		21 21 58.2	
PBDV	Barranco-do-Ve	2.34	77	Pn	Pn	21 21 27.2	+3.0
PBDV				Sn	Sn	21 21 52.5	+0.6
PBDV	Barranco-do-Ve	2.34	77	*e*P	Pn	21 21 27.2	+3.0
PBDV				*e*S	Sn	21 21 52.4	+0.6
PBDV				*i* IAML		21 21 53.4	
PBDV				*i* IAML		21 21 56.3	
PBDV				*i* IAML		21 22 07.7	
PCVE	Castro Verde	2.36	68	Pn	Pn	21 21 27.2	+2.7
PCVE				Sn	Sn	21 21 51.7	-0.6
PCVE	Castro Verde	2.36	68	⇑*e*P	Pn	21 21 27.2	+2.7
PCVE				*e*S	Sn	21 21 52.1	-0.2
PCVE				*i* IAML		21 21 53.0	
PCVE				*i* IAML		21 21 53.2	
PCVE				*i* IAML		21 21 55.7	
PARRA	Arraiolos	2.47	34	*e*P	Pn	21 21 35.6	+10
PARRA				*e*S	Sn	21 22 07.5	+13
PARRA				*i* IAML		21 22 08.7	
PARRA				*i* IAML		21 22 10.7	
PARRA				*i* IAML		21 22 10.8	
PMAFR	Mafra	2.49	28	Pn	Pn	21 21 28.0	+1.7
PMAFR				Sn	Sn	21 21 55.1	-0.5
PMAFR	Mafra	2.49	28	*e*P	Pn	21 21 28.5	+2.2
PMAFR				*e*S	Sn	21 21 55.0	-0.5
PMAFR				*i* IAML		21 21 56.8	
PMAFR				*i* IAML		21 21 57.3	
PMAFR				*i* IAML		21 21 58.9	
PVAQ	Vaqueiros	2.54	75	⇑*e*P	Pn	21 21 29.9	+2.9
PVAQ				*e*S	Sn	21 21 56.9	+0.2
PVAQ				*i* IAML		21 21 58.3	
PVAQ				*i* IAML		21 21 58.8	
PVAQ				*i* IAML		21 21 59.6	
PVAQ	Vaqueiros	2.54	75	P	Pn	21 21 29.9	+2.9
PVAQ	Vaqueiros	2.54	75	S	Sn	21 21 57.8	+1.1
PBEJ	Beja	2.65	61	*e*P	Pn	21 21 31.2	+2.7
PBEJ				*e*S	Sn	21 21 58.9	-0.5
PBEJ				*i* IAML		21 22 01.0	
PBEJ				*i* IAML		21 22 02.2	
PBEJ				*i* IAML		21 22 10.6	
EGRO	El Granado	2.75	73	Pn	Pn	21 21 32.6	+2.6
EGRO				Sn	Sn	21 22 01.4	-0.6
EGRO	El Granado	2.75	73	P	Pn	21 21 32.5	+2.6
EGRO				S	Sn	21 22 01.5	-0.4
EGRO				*i* IVmb_Lg		21 22 05.2	
PMTG	Montargil	3.06	41	*e*P	Pn	21 21 36.3	+2.1
PMTG				*e*S	Sn	21 22 08.5	-1.1
PMTG				*i* IAML		21 22 10.8	
PMTG				*i* IAML		21 22 12.4	
PMTG				*i* IAML		21 22 12.8	
PSBE	So Bento	3.16	29	*e*S	Sn	21 22 12.3	+0.2
PSBE				*i* IAML		21 22 12.6	
PSBE				*i* IAML		21 22 14.7	
PSBE				*i* IAML		21 22 16.4	
PESTR	Estremoz	3.29	49	Pn	Pn	21 21 39.9	+2.6
PESTR				Sn	Sn	21 22 14.3	-0.9
PESTR	Estremoz	3.29	49	*e*P	Pn	21 21 39.9	+2.6
PESTR				*e*S	Sn	21 22 14.8	-0.5
PESTR				*i* IAML		21 22 15.3	
PESTR				*i* IAML		21 22 16.5	
PESTR				*i* IAML		21 22 18.3	
PBAR	Barrancos	3.30	64	Pn	Pn	21 21 40.2	+2.8
PBAR				Sn	Sn	21 22 14.3	-1.1
PBAR	Barrancos	3.30	64	*e*P	Pn	21 21 40.4	+2.9
PBAR				*e*S	Sn	21 22 14.7	-0.8
PBAR				*i* IAML		21 22 16.6	
PBAR				*i* IAML		21 22 16.6	
PBAR				*i* IAML		21 22 17.7	
EMIN	Mina Concepcio	3.43	72	Pn	Pn	21 21 41.6	+2.2
EMIN				Sn	Sn	21 22 17.7	-1.1
EMIN	Mina Concepcio	3.43	72	P	Pn	21 21 41.5	+2.2
EMIN				S	Sn	21 22 18.0	-0.8
EMIN				*i* IVmb_Lg		21 22 20.5	
PSARD	Sardoal	3.50	35	*e*P	Pn	21 21 43.0	+2.7
PSARD				*e*S	Sn	21 22 19.2	-1.3
PSARD				*i* IAML		21 22 21.6	
PSARD				*i* IAML		21 22 21.7	
PSARD				*i* IAML		21 22 21.8	
EBAD	Badajoz	3.59	55	Pn	Pn	21 21 43.8	+2.3
EBAD				Sn	Sn	21 22 21.2	-1.4
EBAD	Badajoz	3.59	55	P	Pn	21 21 43.5	+2.0
EBAD				S	Sn	21 22 21.2	-1.4
EBAD				*i* IVmb_Lg		21 22 23.7	
PCAS	Casmilo, Conde	3.74	28	*e*S	Sn	21 22 25.9	-0.5
PCAS				*i* IAML		21 22 27.0	
PCAS				*i* IAML		21 22 27.2	
PCAS				*i* IAML		21 22 28.7	
PMRV	Marv??o	3.77	44	*e*P	Pn	21 21 45.9	+1.9
PMRV				*e*S	Sn	21 22 25.3	-1.9
PMRV				*i* IAML		21 22 27.1	
PMRV				*i* IAML		21 22 27.2	
PMRV				*i* IAML		21 22 28.5	
ESPR	Espera	3.96	87	Pn	Pn	21 21 49.7	+3.1
ESPR				Sn	Sn	21 22 31.6	-0.2
ESPR	Espera	3.96	87	P	Pn	21 21 49.7	+3.1
ESPR				S	Sn	21 22 31.4	-0.4
ESPR				*i* IVmb_Lg		21 22 34.4	
PCBR	Castelo Branco	4.03	39	*e*P	Pn	21 21 49.9	+2.5
PCBR				*e*S	Sn	21 22 32.1	-1.2
PCBR				*i* IAML		21 22 42.2	
PCBR				*i* IAML		21 22 48.5	
PCBR				*i* IAML		21 22 50.7	
MTE	Manteigas	4.43	34	*e*P	Pn	21 21 55.2	+2.1
MTE				*e*S	Sn	21 22 41.7	-1.7
MTE				*i* IAML		21 22 44.0	
MTE				*i* IAML		21 22 44.1	
MTE				*i* IAML		21 22 44.7	
E1302	La Puebla de C	4.46	84	P	Pn	21 21 56.6	+3.2
E1302				S	Sn	21 22 44.4	+0.3
E1302				*i* IVmb_Lg		21 22 48.5	
ECAB	El Cabril	4.47	71	Pn	Pn	21 21 56.0	+2.4
ECAB				Sn	Sn	21 22 42.5	-1.9
ECAB	El Cabril	4.47	71	P	Pn	21 21 56.0	+2.4
ECAB				S	Sn	21 22 42.8	-1.6
ECAB				*i* IVmb_Lg		21 22 45.3	
PVIS	Viseu	4.54	29	*e*S	Sn	21 22 44.0	-2.2
ZHG	ZHG	4.75	133	P	Pn	21 21 57.6	+0.2
ZHG	ZHG	4.75	133	S	Sn	21 22 45.6	-5.7
EPLA	Plasencia	4.95	47	P	Pn	21 22 01.0	+0.8
EPLA				S	Sn	21 22 52.9	-3.4
EPLA				*i* IVmb_Lg		21 22 53.5	
PVRL	Vila Real	5.10	27	*e*S	Sn	21 22 57.3	-2.6
PVRL				*i* IAML		21 22 59.4	
PVRL				*i* IAML		21 22 59.6	
PVRL				*i* IAML		21 23 01.2	
EADA	Adamuz	5.14	72	Pn	Pn	21 22 05.0	+2.2
EADA				Sn	Sn	21 22 59.8	-1.0
EADA	Adamuz	5.14	72	P	Pn	21 22 04.9	+2.2
EADA				S	Sn	21 22 59.4	-1.5
EADA				*i* IVmb_Lg		21 23 01.8	
POLO	Lamas de Olo	5.16	26	*e*P	Pn	21 22 05.7	+2.6
POLO				*e*S	Sn	21 22 58.5	-2.9
POLO				*i* IAML		21 22 59.8	
POLO				*i* IAML		21 23 01.4	
POLO				*i* IAML		21 23 01.8	
MVO	Moncorvo	5.28	33	*e*P	Pn	21 22 06.6	+1.9
MVO				*e*S	Sn	21 23 01.3	-3.1
MVO				*i* IAML		21 23 02.5	
MVO				*i* IAML		21 23 03.0	
MVO				*i* IAML		21 23 03.7	
EGOR	Sierra Gorda,	5.36	84	P	Pn	21 22 06.7	+0.7
EGOR				S	Sn	21 23 07.2	+0.6
EGOR				*i* IVmb_Lg		21 23 14.9	
PCAB	Cabril	5.38	23	*e*S	Sn	21 23 04.6	-2.2
ELOB	Lobios	5.51	22	P	Pn	21 22 08.0	0.0
ELOB				S	Sn	21 23 06.9	-3.3
ELOB				*i* IVmb_Lg		21 23 15.1	
PGAV	Gavieira, Arco	5.54	20	*e*P	Pn	21 22 10.6	+2.1
PGAV				*e*S	Sn	21 23 08.0	-2.9
PGAV				*i* IAML		21 23 13.2	
PGAV				*i* IAML		21 23 16.7	
PGAV				*i* IAML		21 23 19.7	
ELGU	Los Guajares,	5.75	87	P	Pn	21 22 13.4	+2.2
ELGU				*i* IVmb_Lg		21 23 23.6	
PAB	San Pablo	5.79	59	P	Pn	21 22 12.2	+0.5
PAB				S	Sn	21 23 12.8	-4.1
PAB				*i* IVmb_Lg		21 23 16.0	
PBRG	Braganca	5.93	31	*e*S	Sn	21 23 17.0	-3.3
PBRG				*i* IAML		21 23 19.6	
PBRG				*i* IAML		21 23 19.6	
PBRG				*i* IAML		21 23 20.8	
PSIM	Granatula de C	5.94	68	P	Pn	21 22 14.5	+0.7
PSIM				S	Sn	21 23 18.0	-2.6
ECAL	Calabor	6.04	30	P	Pn	21 22 13.6	-1.6
ECAL				S	Sn	21 23 20.1	-3.1
ECAL				*i* IVmb_Lg		21 23 24.1	
OUK	Oukaimeden	6.06	156	P	Pn	21 22 16.7	+1.0
OUK	Oukaimeden	6.06	156	S	Sn	21 23 20.1	-3.8
AKLM	AKL	6.08	110	P	Pn	21 22 14.0	-1.7
AKLM	AKL	6.08	110	S	Sn	21 23 15.4	-8.6
EQES	Quesada	6.24	78	P	Pn	21 22 19.6	+1.6
EQES				S	Sn	21 23 25.3	-2.9
EQES				*i* IVmb_Lg		21 23 42.3	
MD31	MD31	6.31	126	P	Pn	21 22 18.5	-0.3
MD31	MD31	6.31	126	S	Sn	21 23 23.8	-5.9
EAGO	Agolada(Pontev	6.38	18	P	Pn	21 22 18.3	-1.5
EAGO				S	Sn	21 23 26.7	-4.6
EAGO				*i* IVmb_Lg		21 23 35.8	
MDT	Midelt	6.44	126	P	Pn	21 22 20.2	-0.5
MDT	Midelt	6.44	126	S	Sn	21 23 27.3	-5.7
GUD	Guadarrama	6.47	51	S	Sn	21 23 30.9	-3.0
TTIG	Tnine Tigouga,	6.51	162	P	Pn	21 22 23.1	+1.4
TTIG	Tnine Tigouga,	6.51	162	S	Sn	21 23 32.8	-2.0
OUZM	OUZ	6.74	149	P	Pn	21 22 25.9	+1.0
OUZM	OUZ	6.74	149	S	Sn	21 23 37.2	-3.2
UCM	Universidad Co	6.89	57	Pn	Pn	21 22 29.5	+2.7
EPON	Pontenova	7.12	22	S	Sn	21 23 45.8	-3.8
EPON				*i* IVmb_Lg		21 24 12.6	
ETOB	Tobarra	7.56	73	Pn	Pn	21 22 38.1	+2.0
ETOB	Tobarra	7.56	73	P	Pn	21 22 36.2	+0.1
ETOB				S	Sn	21 23 57.6	-3.1
ETOB				*i* IVmb_Lg		21 24 20.9	

IDC 18 21:28:08.9±1.1, 16°.79S×175°.07W, h0km, mb3.8/5, mbtmp3.8/5, MS3.1/1, Error ellipse: s-maj=54.4km s-min=27.3km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.12	109	LR	LR	21 35 44.3	
	comp=Z,65nm,18.3s,baz=295,slow=30						
WRA	Warramunga Arr	47.98	258	P	P	21 36 49.8	-0.1
	0.4nm,0.7s,baz=95,slow=8.0,SNR=5.9						
	0.4nm,0.7s						
ASAR	Alice Springs	48.17	253	P	P	21 36 50.8	-0.6
	4.1nm,0.7s,baz=90,slow=8.3,SNR=49						
	4.1nm,0.7s						
QSPA	South Pole Qui	73.26	180	P	P	21 39 42.3	+0.4
	0.8nm,0.8s,baz=99,slow=1.0,SNR=2.0						
	0.8nm,0.8s						
NVAR	Mina Array Bea	76.43	43	P	P	21 40 00.1	-0.7
	0.2nm,0.3s,baz=288,slow=1.9,SNR=2.1						
	0.2nm,0.3s						
PDAR	Pinedale Array	84.36	42	P	P	21 40 43.5	+0.1
	0.4nm,0.6s,baz=174,slow=4.0,SNR=4.2						
	0.4nm,0.6s						
H03S2	Juan Fernandez	85.77	124	T	T	23 14 08.1	
	baz=250,slow=75,SNR=17						
H03S1	Juan Fernandez	85.78	124	T	T	23 14 10.1	
	baz=250,slow=75,SNR=18						
H03S3	Juan Fernandez	85.78	124	T	T	23 14 07.3	
	baz=250,slow=75,SNR=17						
H03N2	Juan Fernandez	85.88	124	T	T	23 14 11.3	
	baz=257,slow=73,SNR=9.3						
H03N3	Juan Fernandez	85.88	124	T	T	23 14 14.3	
	baz=257,slow=73,SNR=6.8						
H03N1	Juan Fernandez	85.90	124	T	T	23 14 16.2	
	baz=257,slow=73,SNR=4.7						
BRTR	Keskin Array B	146.17	318	PKPbc	PKPab	21 47 52.0	-0.3
	0.6nm,0.9s,baz=207,slow=1.0,SNR=3.8						

*IDC **18** 21:28:42.5±0.8, 66°.29N×157°.62W, h0km, mb3.8/8, mbtmp3.9/13, ML3.4/4, MS3.1/4, Error ellipse: s-maj=23.3km s-min=11.8km az=29.0*
*AEIC **18** 21:28:42.7±1.4, 66°.31N±0°.01×157°.19W±0°.05, h7km±5km, ML3.8, ML4.0/166(NEIC), Mwr3.8/74(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=77.0*
*NEIC **18** 21:28:43.3±1.6, 66°.30N±0°.02×157°.23W±0°.02, h10km±1km, Error ellipse: s-maj=3.4km s-min=2.7km az=359.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.85; $M_{\theta\theta}$=5.63; $M_{\phi\phi}$=-0.79; $M_{r\theta}$=2.50; $M_{\theta\phi}$=-3.92; $M_{r\phi}$=1.98; Fault plane solution: M_0=7.31000×10^{14} NP1: ϕ_s=145.18000°, δ=47.95000°, λ=-42.39000°. NP2: ϕ_s=266.62000°, δ=59.96000°, λ=-129.31000°. Principal axes: T 7.6616, Plg7.0000°, Azm23.0000°; N -0.7577, Plg33.0000°, Azm289.0000°; P -6.9039, Plg56.0000°, Azm124.0000°;*
*NEIC **18** 21:28:44, 66°.27N×157°.23W, h18km*

ISC 18 21:28:42.4±1.2, 66°.30N±0°.02×157°.24W±0°.02, h2km±8km, n174, σ0°.89/150, mb3.7/8, MS3.1/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F19K	Shaleruckik Mo	0.58	339		Sg	21 29 02.3	+1.3
F19K	Shaleruckik Mo	0.58	339		Pg	21 28 53.8	+0.3
F19K				IAML		21 29 05.5	
	comp=E,3μm,0.8s						
F19K				IAML		21 29 08.2	
	comp=N,3μm,0.8s						
G18K	Tagagawik	0.70	236		Sb	21 29 06.8	-0.7
G18K	Tagagawik	0.70	236		Pg	21 28 56.6	+0.7
H19K	Roundabout Mou	0.84	157		Pb	21 28 59.0	-0.6
H19K					Sb	21 29 10.7	-0.7
H19K				IAML		21 29 14.5	
	comp=E,6μm,0.2s						
F20K	Avaraart Lake	0.97	38		Pg	21 29 00.8	-0.2
F20K					Sg	21 29 13.8	+0.4
F18K	Selawik	1.02	289		Pg	21 29 02.0	+0.1
F18K					Sb	21 29 15.9	-0.6
E19K	Redstone River	1.17	0		Sg	21 29 19.5	-0.4
E19K	Redstone River	1.17	0		Pg	21 29 04.4	-0.4
E19K				IAML		21 29 22.7	
	comp=N,2μm,0.5s						
E19K				IAML		21 29 26.2	
	comp=E,2μm,0.5s						
H18K	Honhosa River	1.24	203		Pg	21 29 06.1	-0.1
H18K					Sg	21 29 22.5	+0.3
H18K					Sb	21 29 22.9	0.0
H20K	Anotleneega Mo	1.26	129		Pg	21 29 06.3	-0.3
H20K					Sb	21 29 23.8	+0.2
H20K					Sn	21 29 23.9	-0.7
IM01	Indian Mountai	1.46	100		Pn	21 29 08.8	-1.1
G21K	Allakaket	1.52	80		Pn	21 29 10.0	-0.6
G21K	Allakaket	1.52	80		Sn	21 29 30.3	-0.6
GCSA	Galena City Sc	1.56	174		Pn	21 29 11.4	+0.2
GCSA					Sb	21 29 32.4	+0.2
GCSA					Sn	21 29 32.0	0.0
G17K	Kiwalik Mounta	1.61	242		Pn	21 29 11.0	-0.9
G17K					Pb	21 29 11.3	-1.6
F17K	Baldwin Pennin	1.62	277		Pn	21 29 11.5	-0.6
E18K	Tukpahlearik C	1.75	312		Pn	21 29 14.0	+0.3
E18K	Tukpahlearik C	1.75	312	IAML		21 29 39.0	
	comp=N,1μm,0.6s						
F21K	Alatna River	1.76	56		Pn	21 29 13.4	-0.5
F21K				IAML		21 29 41.0	
	comp=E,2μm,0.7s						
F21K				IAML		21 29 43.8	
	comp=N,1μm,1.0s						
H17K	Granite Mounta	1.76	220		Pn	21 29 13.4	-0.5
H17K					Pb	21 29 13.6	-1.8
H17K					Sn	21 29 36.7	-0.2
H17K	Granite Mounta	1.76	220	IAML		21 29 39.2	
	comp=N,2μm,0.5s						
I20K	Naaghedeneel	1.89	141		Pn	21 29 16.2	+0.5
H21K	Melozitna Rive	1.92	107		Pn	21 29 15.7	-0.5
H21K				IAML		21 29 47.1	
	comp=E,1μm,0.5s						
E17K	Hotham Inlet	1.99	295		Pn	21 29 16.8	-0.3
E17K					Pb	21 29 17.2	-2.1
E20K	Nigu River	2.01	11		Pn	21 29 18.2	+0.7
D19K	Kuna River	2.24	352		Pn	21 29 21.1	+0.6
D19K	Kuna River	2.24	352	IAML		21 30 07.4	
	comp=N,624nm,1.0s						
G16K	Koyuk River	2.29	249		Pn	21 29 20.0	-1.2
G16K				IAML		21 29 59.9	
	comp=N,745nm,0.9s						
G16K				IAML		21 30 02.5	
	comp=E,635nm,0.9s						
F22K	John River	2.34	56		Pn	21 29 20.9	-1.0
G22K	Bettles	2.37	72		Pn	21 29 21.5	-0.8
J19K	Poorman	2.41	163	IAML		21 30 09.3	
	comp=N,684nm,1.0s						
D20K	Etivluk River	2.44	5		Pn	21 29 23.9	+0.6
I21K	Tanana	2.44	115	IAML		21 30 02.4	
	comp=N,789nm,0.8s						
J20K	Nowinta River	2.49	147	IAML		21 30 10.0	
	comp=E,828nm,0.7s						
J20K				IAML		21 30 10.6	
	comp=N,709nm,0.7s						
E21K	Killik River	2.50	29		Pn	21 29 24.2	+0.1
D17K	Noatak River	2.69	304		Pn	21 29 26.8	+0.1
E22K	Anaktuvuk Pass	2.81	46		Pn	21 29 29.4	+1.1
C18K	Utukok River	2.81	329		Pn	21 29 28.0	-0.4
I17K	Unalakleet	2.83	213		Pn	21 29 28.7	+0.1
RDOG	Red Dog Mine	2.83	311		Pn	21 29 29.3	+0.7
J18K	Innoko River	2.85	175		Pn	21 29 29.0	+0.1
J18K				IAML		21 30 18.4	
	comp=N,394nm,0.8s						
J18K				IAML		21 30 21.0	
	comp=E,489nm,1.0s						
C19K	Lookout Ridge	2.96	343	IAML		21 30 25.6	
	comp=N,428nm,1.1s						
C19K	Lookout Ridge	2.96	343		Pn	21 29 30.6	+0.1
C19K					Pn	21 29 30.8	+0.4
MLY	Manley	2.98	112		Pn	21 29 29.8	-0.8
MLY				IAML		21 30 23.2	
	comp=N,350nm,1.0s						
MLY				IAML		21 30 23.9	
	comp=E,368nm,0.8s						
J17K	VABM Dome	3.02	196	IAML		21 30 24.9	
	comp=N,458nm,0.8s						
J17K				IAML		21 30 25.4	
	comp=E,485nm,1.1s						
C21K	Knifeblade Rid	3.02	17		Pn	21 29 31.1	-0.2
F15K	North Star Dit	3.09	262		Pn	21 29 31.1	-1.0
F15K					Pn

TOLK Pn 21 29 41.8 +0.2
TOLK Toolik Lake Re 3.77 48 IAML 21 30 48.7
comp=N,266nm,0.9s
NEA2 Nenana 3.81 113 Pn 21 29 42.0 -0.1
NEA2 Nenana 3.81 113 IAML 21 30 51.6
comp=N,203nm,1.1s
ANM Nome 3.82 247 Pb 21 29 50.8 +0.4
ANM IAML 21 30 51.5
comp=N,162nm,1.1s
F14K Arctic Creek 3.82 262 Pn 21 29 41.5 -0.7
H24K Noodor Dome 3.84 93 Pn 21 29 42.0 -0.5
H24K Noodor Dome 3.84 93 IAML 21 30 47.8
H24K IAML 21 30 58.8
comp=E,196nm,1.1s
KTH Kantishna Hill 3.85 133 Pn 21 29 43.3 +0.6
KTH Kantishna Hill 3.85 133 IAML 21 30 55.1
comp=E,227nm,0.9s
KTH IAML 21 30 55.6
comp=N,263nm,1.0s
E24K Your Creek 3.85 58 Pn 21 29 42.5 -0.1
E24K Your Creek 3.85 58 IAML 21 30 48.5
comp=E,181nm,0.8s
E24K IAML 21 30 52.5
comp=N,225nm,0.9s
F24K Squaw Lake 3.88 67 Pn 21 29 42.2 -0.9
F24K Squaw Lake 3.88 67 IAML 21 30 48.9
comp=N,189nm,0.7s
F24K IAML 21 30 58.9
comp=E,294nm,0.8s
BWN Browne 3.90 120 Pn 21 29 44.4 +1.1
G24K Hadweenzic Riv 3.93 80 Pn 21 29 43.0 -0.8
G24K Hadweenzic Riv 3.93 80 IAML 21 30 51.1
comp=E,290nm,1.1s
G24K IAML 21 30 51.3
comp=N,281nm,0.8s
PPLA Purkeypile 4.05 145 Pn 21 29 46.2 +0.7
PPLA Purkeypile 4.05 145 IAML 21 30 55.3
comp=E,204nm,1.0s
PPLA IAML 21 31 03.1
comp=N,222nm,1.1s
L18K Granite Mounta 4.10 176 Pn 21 29 46.6 +0.6
L18K Granite Mounta 4.10 176 IAML 21 30 56.9
comp=N,201nm,1.0s
L18K IAML 21 31 03.4
comp=E,199nm,0.9s
TRF Thorofare Moun 4.11 131 Pn 21 29 47.4 +1.0
TRF IAML 21 30 57.1
comp=E,205nm,1.0s
TRF IAML 21 31 00.2
comp=N,205nm,1.1s
COLA College 4.15 106 Pn 21 29 47.1 +0.4
A19K Wainwright 4.18 342 Pn 21 29 47.4 +0.3
L17K Donlin 4.20 187 Pn 21 29 47.3 -0.2
POKR Poker Plat Res 4.22 102 Pn 21 29 47.1 -0.6
POKR Poker Plat Res 4.22 102 IAML 21 30 57.5
comp=E,175nm,1.0s
POKR IAML 21 30 58.2
comp=N,169nm,1.1s
WRH Wood River Hil 4.24 111 Pn 21 29 47.1 -0.9
WRH Wood River Hil 4.24 111 IAML 21 30 58.6
comp=E,150nm,0.9s
L19K White Mountain 4.26 165 Pn 21 29 48.7 +0.4
L19K White Mountain 4.26 165 IAML 21 31 00.1
comp=E,147nm,1.0s
L19K IAML 21 31 06.0
comp=N,148nm,0.8s
CCB Clear Creek Bu 4.27 108 IAML 21 31 01.7
comp=E,153nm,0.9s
CCB IAML 21 31 03.7
comp=N,116nm,0.8s
D24K Happy Valley 4.30 44 IAML 21 31 21.3
comp=N,216nm,1.0s
B22K Teshekpuk Lake 4.30 17 Pn 21 29 47.5 -1.3
B22K Teshekpuk Lake 4.30 17 IAML 21 31 16.8
comp=N,177nm,0.8s
B22K IAML 21 31 17.9
comp=E,125nm,0.9s
C23K Itkillik River 4.34 32 Pn 21 29 49.0 -0.2
C23K Itkillik River 4.34 32 IAML 21 31 13.9
comp=N,188nm,1.0s
C23K IAML 21 31 19.4
comp=E,161nm,1.1s
MCK McKinley 4.36 122 Pn 21 29 49.8 +0.1
K15K Wolf Creek Mou 4.43 207 Pn 21 29 50.9 +0.3
K15K Wolf Creek Mou 4.43 207 IAML 21 31 08.3
comp=N,144nm,1.0s
K15K IAML 21 31 14.0
comp=E,186nm,1.1s
TNA Tin City 4.44 265 Pn 21 29 50.6 -0.1
TNA Tin City 4.44 265 IAML 21 31 22.1
comp=N,177nm,1.1s
J14K Nanvaranak Lak 4.48 220 Pn 21 29 50.7 -0.6
IL31 4.57 105 Pn 21 29 51.7 -0.8
ILAR Eielson Array 4.57 105 Pn 21 29 51.7 -0.8
ILAR Eielson Array 4.57 105 Pn **Pn 21 29 52.0 -0.5**
comp=N,5.2nm,0.3s,baz=293,slow=13,SNR=342
ILAR Sn **Sn 21 30 43.1 -3.0**
comp=N,2.3nm,0.3s,baz=307,slow=21,SNR=4.4
ILAR Lg Lg 21 31 05.7
comp=N,6.7nm,0.3s,baz=303,slow=31,SNR=12
comp=N,45nm,0.7s
HDA Harding Lake 4.71 109 IAML 21 31 19.5
comp=N,105nm,0.8s
HDA Harding Lake 4.71 109 Pn 21 29 53.3 -1.0
HDA **Pn 21 29 54.4 0.0**
L16K Owhat River 4.71 193 Pn 21 29 54.0 -0.4
L16K Owhat River 4.71 193 IAML 21 31 24.6
comp=N,82nm,0.9s
F25K Christian Rive 4.74 69 Pn 21 29 52.4 -2.5
F25K Christian Rive 4.74 69 IAML 21 31 19.4
comp=E,129nm,0.9s
M20K Styx River 4.78 156 Pn 21 29 56.6 +1.1
A22K Sinclair Lake 4.80 9 Pn 21 29 55.2 -0.4
M18K Stony River 4.86 172 Pn 21 29 57.1 +0.6
PRP Porcupine Dome 4.86 94 Pn 21 29 56.1 -0.6
PRP Porcupine Dome 4.86 94 IAML 21 31 19.9
comp=E,114nm,0.9s
PRP IAML 21 31 25.6
comp=N,139nm,0.9s
E25K Arctic Village 4.89 63 Pn 21 29 56.8 -0.2
E25K IAML 21 31 26.1
comp=E,142nm,1.1s
E25K IAML 21 31 26.4
comp=N,125nm,1.1s
M17K Holitna River 4.92 181 Pn 21 29 57.8 +0.5
L15K Ungalak Mounta 5.00 204 Pn 21 29 58.6 +0.3
SKT Skwentna 5.00 147 IAML 21 31 30.2
comp=N,67nm,1.2s
SKT IAML 21 31 30.5
comp=E,105nm,0.9s
A21K Barrow 5.06 2 Pn 21 29 58.2 -0.9
BM05 Burnt Mountain 5.12 71 Pn 21 29 57.2 -2.9
J25K Salcha River, 5.23 103 IAML 21 31 31.8
comp=E,74nm,1.0s
J25K IAML 21 31 34.5
comp=N,76nm,0.8s
F26K Sheenjek River 5.32 69 IAML 21 31 45.4
comp=E,77nm,1.0s
M16K Timber Creek 5.35 189 Pn 21 30 03.0 -0.2
M16K Timber Creek 5.35 189 IAML 21 31 38.9
comp=N,87nm,1.0s
M16K IAML 21 31 39.3
comp=E,60nm,1.1s
K13K Kusilvak Mount 5.45 220 Pn 21 30 03.6 -0.9
SPBG Spurr Blockage 5.50 155 Pn 21 30 06.8 +1.5
L14K Kuka Creek 5.53 208 Pn 21 30 05.5 0.0
WAT6 Susitna Watana 5.55 128 Pn 21 30 06.6 +0.5
CKL Chakachamna La 5.56 155 Pn 21 30 07.5 +1.3
SPU Mount Spurr 5.62 153 Pn 21 30 08.0 +1.0
N18K Kilae Creek 5.67 173 Pn 21 30 08.3 +0.7
N17K Nushagak Hills 5.79 180 Pn 21 30 09.8 +0.6
GHO Glory Hole Cre 5.82 137 Pn 21 30 11.1 +1.3
M15K Kasigluk River 5.83 197 Pn 21 30 09.9 +0.1
N16K Nishlik Lake 5.88 187 Pn 21 30 10.6 0.0
M14K Bethel 5.95 203 Pn 21 30 11.8 +0.4
SML Sawmill 5.96 135 Pn 21 30 11.9 +0.2
SCRK Sand Creek 6.05 106 Pn 21 30 12.6 -0.4
PAX Paxson 6.06 118 Pn 21 30 12.6 -0.4
PAX Pn 21 30 13.4 +0.4
DFR Drift River 6.08 158 Pn 21 30 14.1 +0.8
KNK Knik Glacier 6.25 138 Pn 21 30 16.7 +1.2
N15K Kwethluk River 6.28 193 Pn 21 30 16.4 +0.4
M24K Tolsona, Glenn 6.40 126 Pn 21 30 18.1 +0.5
O16K Kokwok River B 6.74 184 Pn 21 30 22.6 +0.4

KLU Klutina 6.93 129 Pn 21 30 25.5 +0.5
N25K Chitina, Valde 7.28 124 Pn 21 30 29.9 +0.1
L29M L29M 8.77 102 Pn 21 30 48.8 -1.4
KDAK Kodiak Island 8.81 164 Pn **Pn 21 30 47.0 -3.7**
comp=E,0.2nm,0.3s,baz=146,slow=3.2,SNR=4.5
KDAK LR LR 21 34 33.6
comp=E,100nm,20.8s,baz=21,slow=40
comp=E,19nm,1.1s
INK Inuvik 9.36 67 Pn **Pn 21 30 57.0 -1.0**
comp=E,0.3nm,0.3s,baz=216,slow=24,SNR=8.7
INK Sn **Sn 21 32 42.6 -1.1**
comp=E,0.1nm,0.3s,baz=115,slow=12,SNR=1.9
INK Lg Lg 21 33 32.5
comp=E,0.1nm,0.3s,baz=160,slow=11,SNR=2.6
comp=E,1.5nm,0.6s
DLBC Dease Lake 14.76 109 Pn **Pn 21 32 13.5 +1.5**
comp=E,10nm,0.4s,baz=269,slow=14,SNR=5.2
DLBC Lg Lg 21 36 27.2
comp=E,0.4nm,0.3s,baz=214,slow=19,SNR=3.2
YKA Yellowknife Ar 18.53 82 P **Pn 21 33 01.9 +2.0**
comp=E,0.1nm,0.3s,baz=306,slow=11,SNR=2.6
comp=E,2.1nm,0.9s
RES Resolute Bay 21.31 40 LR LR 21 44 37.0
comp=E,31nm,18.4s,baz=24,slow=45
FRB Frobisher Bay 34.58 52 LR LR 21 50 57.4
comp=E,66nm,18.5s,baz=128,slow=38
NVAR Mina Array Bea 35.60 122 P **P 21 35 43.1 +1.8**
comp=E,0.6nm,0.6s,baz=335,slow=6.6,SNR=4.1
comp=E,0.6nm,0.6s
BORG Borgarnes 45.44 25 LR LR 21 57 08.9
comp=E,20nm,18.2s,baz=251,slow=38
TXAR Lajitas Array 49.05 112 P **P 21 37 30.8 +0.1**
comp=E,0.5nm,0.7s,baz=327,slow=6.0,SNR=5.7
comp=E,0.5nm,0.7s
ZALV Zalesovo Beam 51.26 318 P **P 21 37 46.4 -0.7**
comp=E,0.8nm,0.8s,baz=22,slow=5.0,SNR=2.3
comp=E,0.8nm,0.8s
KURBB Kurchatov Arra 55.93 321 P **P 21 38 21.9 +0.6**
comp=E,0.6nm,0.7s,baz=35,slow=7.3,SNR=4.9
comp=E,0.6nm,0.7s
EKA Eskdalemuir Ar 57.12 17 P **P 21 38 30.7 +1.0**
comp=E,0.9nm,0.7s,baz=344,slow=6.2,SNR=3.4
comp=E,0.9nm,0.7s
MKAR Makanchi Array 58.42 316 P **P 21 38 37.9 -1.2**
comp=E,0.4nm,0.7s,baz=28,slow=6.5,SNR=2.4
comp=E,0.4nm,0.7s
ESDC Sonseca Array 72.37 21 P **P 21 40 10.0 +0.5**
comp=E,1.5nm,1.0s,baz=353,slow=5.1,SNR=4.3
comp=E,1.5nm,1.0s
CMAR Chiang Mai Arr 78.69 290 P **P 21 40 45.2 -0.8**
comp=E,0.7nm,0.3s,baz=33,slow=7.4,SNR=7.0
comp=E,0.7nm,0.3s

BUL 18 21:39:27.4±2.0, 19°.83S×27°.14E, h10km, MD2.7, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**1.41**	**115**	*i* P	Pn	21 39 53.5	+0.2
MATP				*i* S	Sn	21 40 11.2	-0.8
BLWY	**Bulawayo**	**1.42**	**103**	*i* P	Pn	21 39 44.8	-8.6
BLWY				*i* S	Sn	21 40 05.4	-6.8
BLWY	**Bulawayo**	**1.42**	**103**	*i* P	Pn	21 39 48.4	-5.0
BLWY				*i* S	Sn	21 40 05.5	-6.7
MUSN	**Musina, Limpop**	**3.53**	**134**	*i* P	Pn	21 40 15.7	-6.7
MUSN				*i* S	Sn	21 40 57.8	-6.4
MUSN	**Musina, Limpop**	**3.53**	**134**	*i* P	Pn	21 40 22.9	+0.5
MUSN				*i* S	Sn	21 41 01.7	-2.5
MOPA	**Mopani**	**5.40**	**134**	*i* P	Pn	21 40 40.8	-7.3
MOPA	**Mopani**	**5.40**	**134**	*i* P	Pn	21 40 46.8	-1.2
MOPA				*i* S	Sn	21 41 44.2	-6.2

*IDC **18** 22:02:19.9±1.4, 7°.14S×129°.08E, h178km±12km, mb4.0/15, mbtmp4.6/20, MS3.2/2, Error ellipse: s-maj=13.5km s-min=10.1km az=75.0*
*NEIC **18** 22:02:19.0±2.0, 7°.12S±0°.06×129°.13E±0°.06, h166km±7km, mb4.8/37, Error ellipse: s-maj=9.4km s-min=8.5km az=166.0*
*DJA **18** 22:02:19.5±0.2, 7°S±2°×12°9E±°, h184km±3km, M4.6/62, mb4.8/62, mB5.2/31, MLv5.2/19, Mw(mB)4.5/31*
ISC 18 22:02:18.4±0.3, 7°21S±0°.04×129°.11E±0°.04, h166km, n206, σ1°71/212, mb4.6/42, 5C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.31**	**110**		**Pn**	**22 02 59.8**	**+1.7**
SAUI				Sn	**Sn**	**22 03 30.2**	**+1.5**
SAUI	**Saumlaki**	**2.31**	**110**	P	**Pn**	**22 02 59.5**	**+1.5**
SAUI	**Saumlaki**	**2.31**	**110**	P	**Pn**	**22 03 00.0**	**+2.0**
BNDI	**Bandanaira**	**2.78**	**17**	P	**Pn**	**22 03 06.6**	**+2.9**
BNDI	**Bandanaira**	**2.78**	**17**	S	**Sn**	**22 03 42.7**	**+3.7**
BNDI	**Bandanaira**	**2.78**	**17**	P	**Pn**	**22 03 06.2**	**+2.5**
AAI	**Ambon**	**3.61**	**345**	P	**Pn**	**22 03 16.7**	**+2.6**
MSAI	**Masohi**	**3.84**	**357**	P	**Pn**	**22 03 19.7**	**+2.7**
NLAI	**Namlea**	**4.42**	**333**	P	**Pn**	**22 03 28.2**	**+3.7**
FAKI	**Fak Fak**	**5.28**	**36**		**Pn**	**22 03 33.5**	**-2.3**
FAKI				Sn	**Sn**	**22 04 30.7**	**-5.8**
FAKI	**Fak Fak**	**5.28**	**36**	P	**Pn**	**22 03 36.6**	**+0.7**
FAKI	**Fak Fak**	**5.28**	**36**	P	**Pn**	**22 03 33.8**	**-2.1**
2.7nm6μm230nm,0.6s							
SOEI	**Soe**	**5.42**	**242**		**Pn**	**22 03 39.6**	**+1.9**
SOEI				Sn	**Sn**	**22 04 39.3**	**-0.6**
SOEI	**Soe**	**5.42**	**242**	P	**Pn**	**22 03 39.8**	**+2.1**
SOEI	**Soe**	**5.42**	**242**	S	**Sn**	**22 04 40.0**	**+0.2**
SOEI	**Soe**	**5.42**	**242**	P	**Pn**	**22 03 39.9**	**+2.2**
DRS	**Darwin Rock St**	**5.49**	**161**	P	**Pn**	**22 03 39.6**	**+1.1**
KMPI	**Kaimana, Papua**	**5.77**	**53**	P	**Pn**	**22 03 42.2**	**-0.1**
MTN	**Manton Dam**	**5.95**	**161**		**Pn**	**22 03 45.0**	**+0.4**
SANI	**Sanana**	**5.99**	**329**	P	**Pn**	**22 03 48.3**	**+3.1**
SANI	**Sanana**	**5.99**	**329**	P	**Pn**	**22 03 48.1**	**+2.9**
71nm,1.1s							
BATI	**Baumata**	**6.15**	**241**	P	**Pn**	**22 03 49.5**	**+2.2**
434nm,0.5s,baz=120,slow=2.0,SNR=128							
BATI				S	**Sn**	**22 04 57.9**	**+0.7**
310nm,0.4s,baz=96,slow=22,SNR=16							
BATI	**Baumata**	**6.15**	**241**	P	**Pn**	**22 03 49.1**	**+1.8**
3.1nm8μm680nm,0.9s							
SWI	**Sorong**	**6.66**	**19**	P	**Pn**	**22 03 54.4**	**+0.4**
1.2nm2μm34nm,0.6s							
BBSI	**Bau Bau**	**6.72**	**284**	P	**Pn**	**22 03 58.8**	**+4.0**
1.1nm4μm360nm,1.2s							
MMRI	**Maumere**	**6.95**	**258**		**Pn**	**22 03 59.5**	**+1.6**
MMRI	**Maumere**	**6.95**	**258**	P	**Pn**	**22 03 59.6**	**+1.7**
MMRI	**Maumere**	**6.95**	**258**	P	**Pn**	**22 03 59.9**	**+2.0**
0.5nm3μm94nm,0.9s							
EDFI	**Ende, Flores**	**7.50**	**258**	P	**Pn**	**22 04 07.2**	**+1.9**
0.3nm120nm,1.1s							
RKPI	**Ransiki, Papua**	**7.58**	**42**	P	**Pn**	**22 04 05.2**	**-1.1**
TNTI	**Ternate**	**8.11**	**348**	Pn	**Pn**	**22 04 13.0**	**-0.3**
TNTI	**Ternate**	**8.11**	**348**	P	**Pn**	**22 04 15.2**	**+1.9**
KNRA	**Kununurra**	**8.43**	**182**		**Pn**	**22 04 17.1**	**-0.3**
BSSI	**Bau Bau, Buton**	**8.62**	**277**	P	**Pn**	**22 04 21.5**	**+1.4**
83nm,2.0s							
LUWI	**Luwuk**	**8.80**	**314**	Pn	**Pn**	**22 04 23.8**	**+1.4**
LUWI	**Luwuk**	**8.80**	**314**	P	**Pn**	**22 04 23.0**	**+0.6**
2μm47nm,0.7s							
BASI	**Baing, Sumba**	**8.95**	**250**	P	**Pn**	**22 04 25.6**	**+1.3**
WSI	**Waingapu**	**9.05**	**254**	P	**Pn**	**22 04 25.4**	**-0.3**
BKSI	**Bulukumba**	**9.13**	**281**	P	**Pn**	**22 04 28.9**	**+2.2**
61nm,0.9s							
BAKI	**Biak**	**9.19**	**50**	P	**Pn**	**22 04 28.7**	**+1.2**
4μm388nm,1.0s							
BNSI	**Bone**	**9.38**	**287**	P	**Pn**	**22 04 30.4**	**+0.4**
38nm,0.8s							
KAPI	**Kappang**	**9.55**	**283**		**Pn**	**22 04 34.8**	**+2.4**
KAPI	**Kappang**	**9.55**	**283**	P	**Pn**	**22 04 35.2**	**+2.9**
7.4nm,0.2s,baz=80,slow=5.4,SNR=7.4							
SPSI	**Sidrap Palu**	**9.84**	**289**	P	**Pn**	**22 04 37.6**	**+1.5**
1μm24nm,0.8s							
WBSI	**Waikabubak, Su**	**9.91**	**255**	P	**Pn**	**22 04 36.6**	**-0.5**
3μm197nm,0.8s							
MRSI	**Marisa**	**10.46**	**317**	P	**Pn**	**22 04 44.6**	**+0.4**
864nm67nm,1.3s							
SMPI	**Sarmi**	**10.88**	**62**	P	**Pn**	**22 04 49.1**	**-0.7**
54nm,0.9s							
PLAI	**Plampang**	**11.34**	**261**	P	**Pn**	**22 04 53.8**	**-1.9**
2μm131nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.34**	**197**		**Pn**	**22 04 53.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.34**	**197**	P	**Pn**	**22 04 54.5**	**-1.3**
23nm,0.6s,baz=11,slow=9.5,SNR=73							
FITZ				S	Sn	22 06 53.2	-8.3
12nm,0.3s,baz=65,slow=17,SNR=5.8							
FITZ				LR	LR	22 09 18.1	
comp=Z,107nm,21.1s,baz=340,slow=37							
FITZ Fitzroy Crossi 11.34 197 P **Pn 22 04 54.7 -1.0**							
SGSI Sangihe 11.39 342 P **Pn 22 04 57.2 +0.7**							
134nm,0.5s							
TOLI2 Tolitoli 11.72 315 Pn 22 05 01.0 +0.4							
TOLI2 Tolitoli 11.72 315 P **Pn 22 05 02.1 +1.5**							
TOLI2 Tolitoli 11.72 315 S **Sn 22 07 12.1 +1.5**							
GENI Genyem 11.93 68 P **Pn 22 05 02.9 -0.5**							
71nm,0.7s							
TWSI Taliwang, Sumb 12.20 262 P **Pn 22 05 06.5 -0.4**							
946nm49nm,0.8s							
JAY Jayapura 12.46 69 P **Pn 22 05 09.5 -0.7**							
5.7nm,0.3s,baz=150,slow=10,SNR=11							
JAY Jayapura 12.46 69 P **Pn 22 05 09.7 -0.5**							
WB0 Warramunga Arr 13.50 158 Pn 22 05 20.7 -2.7							
BKB Balikpapan 13.53 295 Pn **Pn 22 05 24.4 +0.6**							
WRAB Tennant Creek 13.64 159 Pn 22 05 22.9 -2.3							
WRAB Tennant Creek 13.64 159 P **Pn 22 05 24.1 -1.1**							
WRA Warramunga Arr 13.64 159 Pn 22 05 21.7 -3.5							
WRA Warramunga Arr 13.64 159 P **Pn 22 05 23.3 -1.9**							
15nm,0.6s,baz=345,slow=13,SNR=94							
WRA S Sn 22 07 50.0 -6.7							
10nm,0.5s,baz=336,slow=22,SNR=12							
WRA LR LR 22 10 48.2							
comp=Z,151nm,20.7s,baz=79,slow=37							
WRA ScP **ScP 22 13 53.1 -2.6**							
5.9nm,0.6s,baz=314,slow=2.2,SNR=12							
WR8 Warramunga Arr 13.71 158 Pn 22 05 24.7 -1.5							
BBKI Banjar Baru 14.68 284 P **P 22 05 41.4 +1.3**							
3μm299nm,0.8s							
JAGI Jajag, Banyuwa 14.87 264 Pn 22 05 38.7 -1.9							
JAGI Jajag, Banyuwa 14.87 264 P **Pn 22 05 41.3 +0.7**							
JAGI Jajag, Banyuwa 14.87 264 P **Pn 22 05 38.8 -1.8**							
1μm32nm,0.6s							
COEN Coen 15.36 117 Pn 22 05 46.7 0.0							
COEN Coen 15.36 117 P **P 22 05 48.3 +0.6**							
BLJI Banyuglugur 15.39 267 P **Pn 22 05 47.8 +0.8**							
2μm102nm,0.5s							
MBWA Marble Bar 16.57 212 P 22 06 00.2 -0.7							
MBWA Marble Bar 16.57 212 P **P 22 06 02.1 +1.2**							
QIS Mount Isa 16.72 144 P **P 22 06 03.7 +1.1**							
PSA00 Pilbara Seismi 16.85 211 P 22 06 04.9 +0.9							
PSA00 Pilbara Seismi 16.85 211 P **Pn 22 06 06.2 +1.5**							
AS31 Alice Springs 17.00 165 P 22 06 06.9 +1.2							
ASAR Alice Springs 17.00 165 P 22 06 06.8 +1.1							
ASAR Alice Springs 17.00 165 P **P 22 06 07.5 +1.8**							
47nm,0.5s,baz=340,slow=10.0,SNR=774							
ASAR S **S 22 09 09.8 -4.8**							
17nm,0.9s,baz=349,slow=24,SNR=12							
ASAR ScP **ScP 22 13 58.7 -3.2**							
4.7nm,0.6s,baz=355,slow=2.0,SNR=9.8							
ASAR ScS **ScS 22 17 36.3 -5.6**							
0.2nm,0.5s,baz=339,slow=3.1,SNR=1.5							
AS01 Alice Springs 17.01 165 P **P 22 06 07.3 +1.5**							
PCJI Pacitan 17.80 266 P **P 22 06 12.2 -2.3**							
113nm,1.3s							
PMG Port Moresby 18.00 98 P 22 06 17.4 +0.8							
PMG Port Moresby 18.00 98 P **Pn 22 06 18.7 +0.4**							
41nm,0.7s,baz=275,slow=5.2,SNR=12							
PMG S **S 22 09 26.7 -7.9**							
4.7nm,0.3s,baz=208,slow=20,SNR=1.5							
MTSU Mount Surprise 18.37 128 P **P 22 06 22.4 +1.7**							
UGM Wanagama 18.44 267 P **P 22 06 18.6 -2.9**							
UGM Wanagama 18.44 267 P **P 22 06 23.0 +1.5**							
UGM Wanagama 18.44 267 P **P 22 06 20.5 -1.0**							
76nm,2.0s							
SBUM Sibu 19.39 299 P 22 06 33.0 +1.2							
SBUM Sibu 19.39 299 P **Pn 22 06 35.0 +0.2**							
KPJI Karang Pucung 20.02 268 P **P 22 06 37.9 -0.6**							
44nm,1.0s							
KSM Kuching 20.64 294 P 22 06 44.4 -0.8							
TV1H Townsville Har 20.95 127 P **P 22 06 49.9 +1.5**							
GIRL Giralia 20.99 221 P **P 22 06 50.6 +1.7**							
BBJI Bungbulang 21.28 268 P **P 22 06 51.5 -0.7**							
LEM Lembang 21.33 270 P **P 22 06 53.6 +0.8**							
31nm,0.6s,baz=75,slow=12,SNR=6.4							
31nm,0.6s							
LEM Lembang 21.33 270 P P 22 06 52.0 -0.8							
33nm,0.8s							
MEEK Meekatharra 21.75 206 P **P 22 06 59.4 +2.5**							
CNJI Cibinong 21.80 268 P **P 22 06 55.8 -1.7**							
44nm,0.8s							
TPI Tanjungpandan 21.82 281 P **P 22 06 57.5 -0.2**							
48nm,0.9s							
INKA Innaminka 23.21 153 P 22 07 11.4 +0.7							
INKA IAmb IAmb 22 07 13.7							
comp=Z,56nm,1.2s							
CGJI Cibinong 23.25 270 P **P 22 07 08.7 -2.5**							
comp=Z,30nm,0.6s							
FORT Forrest 23.47 182 P 22 07 13.0 0.0							
FORT IAmb IAmb 22 07 15.9							
comp=Z,32nm,0.7s							
QLP Quilpie 24.05 145 P **P 22 07 19.8 +1.4**							
MORW Morawa 25.00 208 P **P 22 07 27.4 +0.5**							
MORW Morawa 25.00 208 P **P 22 07 28.1 +1.2**							
BBOO Buckleboo 26.28 167 P **P 22 07 38.6 +0.2**							
BBOO IAmb IAmb 22 07 43.2							
comp=Z,26nm,0.8s							
BBOO Buckleboo 26.28 167 P **P 22 07 37.9 -0.6**							
MYKOM Kota Tinggi 26.74 289 P **P 22 07 43.1 +0.3**							
MYKOM IAmb IAmb 22 07 47.6							
comp=Z,16nm,0.9s							
STKA Stephens Creek 27.17 156 P 22 07 46.8 +0.4							
STKA Stephens Creek 27.17 156 P **P 22 07 46.9 +0.5**							
comp=Z,28nm,0.9s,baz=326,slow=9.4,SNR=24							
STKA ScP **ScP 22 14 24.5 -3.0**							
comp=Z,3.9nm,0.4s,baz=346,slow=3.1,SNR=8.2							
comp=Z,28nm,0.9s							
STKA Stephens Creek 27.17 156 P **P 22 07 47.0 +0.5**							
HTT Hallett 27.64 162 P **P 22 07 51.2 +0.6**							
EIDS Eidsvold 27.69 133 P **P 22 07 50.7 -0.4**							
EIDS IAmb IAmb 22 07 51.7							
comp=Z,32nm,1.6s							
CMSA Cobar Meteorol 28.74 150 P **P 22 08 01.4 +1.0**							
IPM Ipoh 30.34 292 P **P 22 08 14.9 +0.2**							
IPM IAmb IAmb 22 08 17.2							
comp=Z,16nm,1.1s							
HNR Honiara 30.59 96 P **P 22 08 19.3 +2.4**							
KULM Kulim 30.99 293 P 22 08 20.0 -0.5							
KULM IAmb IAmb 22 08 22.9							
comp=Z,12nm,0.8s							
KULM Kulim 30.99 293 P 22 08 21.5 +1.0							
ARMA Armidale 31.30 140 P **P 22 08 23.7 +0.7**							
ARMA IAmb IAmb 22 08 25.8							
comp=Z,11nm,0.7s							
ARMA Armidale 31.30 140 P P 22 08 23.5 +0.4							
GSI Gunungsitoli 32.58 284 P **P 22 08 33.4 -1.0**							
GSI IAmb IAmb 22 08 35.7							
comp=Z,40nm,1.1s							
KCSI Kotacane, Aceh 33.04 288 P **P 22 08 37.7 -0.7**							
comp=Z,5.2nm,0.7s							
CAN Canberra 33.42 150 P P 22 08 42.4 +1.0							
CAN Canberra 33.42 150 P **P 22 08 43.3 +1.9**							
TOO Toolangi 33.69 156 P **P 22 08 45.6 +1.9**							
TOO IAmb IAmb 22 08 46.7							
comp=Z,6.4nm,0.6s							
MLSI Meulaboh, Aceh 34.57 288 P **P 22 08 51.2 -0.4**							
comp=Z,58nm,0.6s							
SANVU Saraoutou 38.19 106 P 22 09 22.0 -0.2							
SANVU Saraoutou 38.19 106 P **P 22 09 23.5 +1.3**							
NOUC Port Laguerre 38.78 116 P **P 22 09 27.3 +0.2**							
CM31 Chiang Mai Arr 39.19 311 P **P 22 09 29.8 -0.7**							
CMAR Chiang Mai Arr 39.19 311 P 22 09 29.3 -1.3							
CMAR Chiang Mai Arr 39.19 311 P **P 22 09 30.9 +0.4**							
comp=Z,5.9nm,0.9s,baz=143,slow=7.4,SNR=34							
CMAR ScP **ScP 22 15 09.6 0.0**							
comp=Z,1.3nm,0.7s,baz=145,slow=3.5,SNR=6.5							
comp=Z,5.9nm,0.9s							
YATNC Mamie plateau, 39.29 116 P **P 22 09 33.3 +2.0**							
OUENC Ouen Island, N 39.34 117 P **P 22 09 33.0 +1.2**							
**CHTO Chiang Mai

SHL	**Shillong**	**48.69 313**		**P**	**22 10 45.2**	**-1.2**
SHL			IAmb	IAmb	22 10 46.7	
comp=Z,14nm,0.9s						
DCZ	**Deep Cove**	**50.33 146**	P	**P**	**22 10 59.0**	**+0.8**
PALK	**Pallekele**	**50.37 286**	P	**P**	**22 10 59.0**	**-0.1**
PALK			IAmb	IAmb	22 12 13.6	
comp=Z,20nm,1.3s						
JCZ	**Jackson Bay**	**50.45 143**	P	**P**	**22 11 00.5**	**+1.2**
HHC	**Hu-ho-hao-te**	**50.47 343**	*e*P	**P**	**22 11 00.6**	**+1.2**
HHC			pmax	pmax		
comp=Z,5.0nm,0.6s						
HHC			pmax	pmax		
comp=Z,58nm,7.0s						
FOZ	**Fox Glacier**	**50.76 142**	P	**P**	**22 11 01.9**	**+0.4**
QRZ	**Quartz Range**	**51.09 138**	P	**P**	**22 11 05.4**	**+1.3**
RPZ	**Rata Peaks**	**51.62 142**		**P**	**22 11 08.9**	**+1.0**
RPZ	**Rata Peaks**	**51.62 142**	P	**P**	**22 11 09.2**	**+1.3**
LSA	**Lhasa**	**51.74 317**	P	**P**	**22 11 10.4**	**+0.9**
GTA	**Gaotai**	**53.73 332**	*e*P	**P**	**22 11 23.6**	**0.0**
GTA			pP	pwP	22 12 11.3	+4.9
GTA			ScP	**ScP**	**22 16 09.4**	**-0.4**
GTA			pmax	pmax		
comp=Z,4.0nm,0.9s						
EVN	**Everest**	**53.76 312**	P	**P**	**22 11 23.8**	**-0.8**
EVN			IAmb	IAmb	22 11 25.6	
comp=Z,17nm,0.5s						
SONM	**Songino Array**	**58.36 342**	P	**P**	**22 11 54.2**	**-2.1**
comp=Z,0.6nm,0.4s,baz=156,slow=6.5,SNR=2.6						
comp=Z,0.6nm,0.4s						
CASY	**Casey**	**60.37 189**	P	**P**	**22 12 10.1**	**+0.5**
PETK	**Petropavlovsk-**	**64.80 19**	P	**P**	**22 12 39.0**	**-0.2**
comp=Z,4.7nm,0.6s,baz=137,slow=2.2,SNR=7.3						
comp=Z,4.7nm,0.6s						
KSH	**Kashi**	**67.57 318**	P	**P**	**22 12 57.6**	**+0.3**
KSH			pmax	pmax		
comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**67.92 327**	P	**P**	**22 12 58.8**	**-0.4**
comp=Z,2.3nm,0.4s,baz=117,slow=8.2,SNR=61						
comp=Z,2.3nm,0.4s						
CCD	**Concordia, Ant**	**67.93 182**	P	**P**	**22 13 00.2**	**+0.9**
GAR	**Garm**	**71.19 315**		**P**	**22 13 18.6**	**-0.9**
ZAA0	**Zalesovo Array**	**71.38 334**	P	**P**	**22 13 18.4**	**-1.7**
ZALV	**Zalesovo Beam**	**71.38 334**		**P**	**22 13 18.4**	**-1.7**
ZALV	**Zalesovo Beam**	**71.38 334**	P	**P**	**22 13 19.0**	**-1.1**
comp=Z,0.9nm,0.3s,baz=131,slow=5.9,SNR=6.7						
comp=Z,0.9nm,0.3s						
CHGR	**Chuyangaron**	**71.85 315**		**P**	**22 13 23.8**	**+0.3**
CHGR			IAmb	IAmb	22 13 37.3	
comp=Z,15nm,0.8s						
KURBB	**Kurchatov Arra**	**72.22 329**	P	**P**	**22 13 24.5**	**-0.7**
comp=Z,1.6nm,0.6s,baz=126,slow=5.0,SNR=20						
comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**72.23 329**		**P**	**22 13 24.7**	**-0.6**
VNDA	**Vanda**	**72.35 173**		**P**	**22 13 25.8**	**+0.2**
VNDA	**Vanda**	**72.35 173**	P	**P**	**22 13 25.9**	**+0.2**
comp=Z,3.3nm,0.7s,baz=321,slow=6.7,SNR=29						
comp=Z,3.3nm,0.7s						
VNDA	**Vanda**	**72.35 173**	P	**P**	**22 13 25.8**	**+0.2**
VNDA			pP	**pP**	**22 14 05.1**	**0.0**
KK31	**Karatay Array**	**72.91 319**		**P**	**22 13 30.3**	**+0.7**
KKAR	**Karatay Array**	**72.91 319**	P	**P**	**22 13 29.9**	**+0.3**
MAW	**Mawson**	**74.44 201**	P	**P**	**22 13 38.0**	**+0.1**
comp=Z,4.0nm,0.5s,baz=67,slow=3.2,SNR=5.0						
comp=Z,4.0nm,0.5s						
HRA	**Herat**	**75.38 308**		**P**	**22 13 44.8**	**+0.5**
ABKAR	**Akbulak array**	**82.12 322**	P	**P**	**22 14 19.4**	**-1.0**
QSPA	**South Pole Qui**	**82.77 180**		**P**	**22 14 26.1**	**+2.4**
QSPA			IAmb	IAmb	22 14 26.3	
comp=Z,6.3nm,0.7s						
QSPA	**South Pole Qui**	**82.77 180**	P	**P**	**22 14 25.3**	**+1.6**
comp=Z,5.4nm,0.5s,baz=286,slow=1.1,SNR=82						
comp=Z,5.4nm,0.5s						
QSPA	**South Pole Qui**	**82.77 180**	P	**P**	**22 14 26.4**	**+2.7**
SYO	**Syowa Base**	**83.15 201⇑**	*e*P	**P**	**22 14 26.2**	**+0.8**
RAYN	**Ar Rayn**	**87.02 294**	P	**P**	**22 14 45.5**	**-0.1**
RAYN	**Ar Rayn**	**87.02 294**	P	**P**	**22 14 45.1**	**-0.6**
GURO	**Guroymak-BITLI**	**92.16 308**	P	**P**	**22 15 09.1**	**-0.4**
TROLL	**Troll, Antarti**	**93.75 194**	⇑P	**P**	**22 15 16.4**	**+0.2**
comp=Z,73nm,0.5s						
ILAR	**Eielson Array**	**93.91 25**	P	**P**	**22 15 17.1**	**+0.3**
comp=Z,0.3nm,0.5s,baz=261,slow=5.0,SNR=1.7						
comp=Z,0.3nm,0.5s						
BELA	**Belgrano 2**	**94.56 183**		**P**	**22 15 19.4**	**-0.3**
BELA			IAmb	IAmb	22 15 20.1	
comp=Z,3.6nm,0.6s						
SNAA	**Sanae**	**95.26 194**	⇑P	**P**	**22 15 22.6**	**-0.4**
comp=Z,22nm,0.6s						
SNAA	**Sanae**	**95.26 194**	P	**P**	**22 15 23.7**	**+0.7**
comp=Z,1.5nm,1.0s,baz=189,slow=5.1,SNR=23						
comp=Z,1.5nm,1.0s						
VNA2	**Neumayer--Watz**	**96.83 193**	⇑P	**P**	**22 15 28.8**	**-1.2**
comp=Z,0.9nm,0.6s,baz=124,slow=5.2						
VNA3	**Neumayer Olymp**	**97.09 192**	⇑P	**P**	**22 15 31.1**	**-0.2**
comp=Z,0.9nm,0.9s						
TXAR	**Lajitas Array**	**125.79 59**	PKP	**PKPdf**	**22 21 01.1**	**-0.1**
comp=Z,0.2nm,0.6s,baz=85,slow=2.6,SNR=3.4						
ESDC	**Sonseca Array**	**127.03 315**	PKP	**PKPdf**	**22 21 02.6**	**-0.5**
comp=Z,0.6nm,1.0s,baz=330,slow=1.8,SNR=1.9						
PCBR	**Castelo Branco**	**129.38 317**	*e*SKP	SKPab	22 24 12.2	-1.1
PMRV	**Marv??o**	**129.51 316**	*e*SKP	SKPab	22 24 12.2	-1.7
PBAR	**Barrancos**	**129.84 315**	*e*SKP	SKPab	22 24 13.8	-1.5
PESTR	**Estremoz**	**129.91 316**	*e*SKP	SKPab	22 24 14.2	-1.3
PSARD	**Sardoal**	**129.96 317**	*e*SKP	SKPab	22 24 14.7	-1.1
PCAS	**Casmilo, Conde**	**129.97 318**	*e*SKP	SKPab	22 24 15.4	-0.4
PBEJ	**Beja**	**130.49 315**	*e*SKP	**SKPab**	**22 24 16.3**	**-1.7**
PVAQ	**Vaqueiros**	**130.66 314**	*e*SKP	**SKPab**	**22 24 16.5**	**-2.2**
PCVE	**Castro Verde**	**130.79 315**	*e*SKP	**SKPab**	**22 24 17.0**	**-2.3**
MESJ	**Messejana**	**130.82 315**	*e*SKP	**SKPab**	**22 24 17.7**	**-1.8**
PBDV	**Barranco-do-Ve**	**130.88 314**	*e*SKP	**SKPab**	**22 24 17.2**	**-2.5**
PMAFR	**Mafra**	**131.03 317**	*e*SKP	**SKPab**	**22 24 14.2**	**-6.1**
CPUP	**Villa Florida**	**146.08 170**	PKPbc	**PKPdf**	**22 21 39.4**	**+0.9**
comp=Z,0.9nm,0.5s,baz=78,slow=6.6,SNR=6.4						
LPAZ	**La Paz**	**151.09 144**	PKPbc	**PKPbc**	**22 21 54.1**	**+0.5**
comp=Z,1.8nm,0.3s,baz=168,slow=0.9,SNR=15						

*OSPL **18** 22:09:26.4±3.0, 18°.38N×73°.12W, h0km±13km, ML2.4*
*SSNC **18** 22:09:27.4±1.4, 18°.36N×73°.04W, h7km±10km, MD3.2, ML2.4*

ISC 18 22:09:27.5±1.4, 18°.53N±0°.09×73°.00W±0°.06, h22km±6km, n14, σ1°.24/26, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.66**	**91**	*e*P	**Pb**	**22 09 39.4**	**-1.1**
PAPH				*e*S	**Sb**	**22 09 49.0**	**-0.2**
PAPH				IAML		22 09 51.1	
comp=E,106nm,0.0s							
PAPH				IAML		22 09 56.2	
comp=N,112nm,0.1s							
PAPH	**Port-au-Prince**	**0.66**	**91**	*i* P	**Pn**	**22 09 41.4**	**-0.2**
PAPH				*e*S	**Sn**	**22 09 49.8**	**-1.6**
LOBH	**Bahia de las A**	**1.45**	**117**	*i* P	**Pn**	**22 09 52.4**	**-0.1**
LOBH				*e*S	**Sb**	**22 10 11.8**	**-0.1**
LOBH				IAML		22 10 15.5	
comp=Z,56nm,1.2s							
LODU1	**El Espartillar**	**1.46**	**97**	*i* P	**Pn**	**22 09 52.0**	**-0.6**
LODU1				IAML		22 10 18.4	
comp=Z,93nm,0.5s							
LONE3	**El Aguacate, B**	**1.46**	**87**	*i* P	**Pb**	**22 09 53.4**	**-0.7**
LONE3				IAML		22 10 21.9	
comp=Z,22nm,0.4s							
PODR	**Polo**	**1.67**	**102**	*i* P	**Pb**	**22 09 57.2**	**-0.5**
PODR				*e*S	**Sb**	**22 10 22.2**	**+3.8**
SDDR	**Presa de Saban**	**1.68**	**74**	*i* P	**Pb**	**22 09 57.6**	**-0.2**
SDDR				*e*S	**Sb**	**22 10 21.0**	**+2.4**
SDDR				IAML		22 10 25.5	
comp=Z,32nm,0.8s							
LOVI	**El Cajuil, Ovi**	**1.71**	**115**	*i* P	**Pn**	**22 09 56.5**	**+0.5**
LOVI				*e*S	**Sb**	**22 10 19.5**	**+0.1**
LOVI				IAML		22 10 26.2	
comp=Z,43nm,1.2s							
MASC	**Masc**	**2.01**	**325**	*e*P	**Pn**	**22 10 00.5**	**+0.3**
MASC				*e*S	**Sn**	**22 10 25.4**	**+0.8**
MASC				IAML		22 10 26.4	
comp=E,15nm,0.5s							
MASC				IAML		22 10 28.6	
comp=N,14nm,0.4s							
MASC	**Masc**	**2.01**	**325**	*i* P	**Pn**	**22 10 01.0**	**+0.8**
MASC				*e*S	**Sb**	**22 10 25.9**	**-2.0**
MASC				IAML		22 10 30.2	
comp=Z,10nm,0.3s							
QMBU	**Quimbuelo**	**2.38**	**314**	*e*P	**Pn**	**22 10 05.1**	**-0.2**
QMBU				*e*S	**Sn**	**22 10 33.9**	**0.0**
QMBU				*e*Sg	**Sb**	**22 10 38.4**	**-0.4**
QMBU				IAML		22 10 40.5	
comp=E,22nm,0.3s							
QMBU				IAML		22 10 41.9	
comp=N,19nm,0.2s							
GTBY	**Guantanamo Bay**	**2.43**	**305**	*e*P	**Pn**	**22 10 06.3**	**+0.3**
GTBY				*e*S	**Sn**	**22 10 36.0**	**+0.9**
SABCS	**La Quijada**	**2.84**	**310**	*e*S	**Sn**	**22 10 46.2**	**+0.8**
SABCS				IAML		22 10 52.7	
comp=E,13nm,0.4s							
SABCS				IAML		22 10 54.5	
comp=N,12nm,0.4s							
RCC	**Rio Carpintero**	**2.94**	**300**	*e*P	**Pn**	**22 10 13.5**	**+0.6**
RCC				*e*S	**Sn**	**22 10 48.1**	**+0.6**
RCC				IAML		22 10 50.5	
comp=E,6.5nm,0.3s							
RCC				IAML		22 10 57.3	
comp=N,8.3nm,0.3s							

RSNC 18 22:21:23.3±0.0, 10°.N±1°.×74°.W±°, h98km±2km, M3.0, mb3.8, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**0.75**	**254**	P	Pn	22 21 41.5	+0.5
ARGC				S	Sn	22 21 54.7	+0.5
CRJC	**Cerrejon, Guaj**	**1.13**	**34**	P	Pn	22 21 44.9	-0.3
CRJC				S	Sn	22 22 01.4	-0.3
SMRC	**Santa Marta, M**	**1.29**	**328**	P	Pn	22 21 46.8	-0.1
SMRC				S	Sn	22 22 03.9	-0.8
SJCC	**San Jacinto, C**	**1.64**	**264**	P	Pn	22 21 50.9	-0.4
SJCC				S	Sn	22 22 12.2	-0.4
OCAC	**Ocana**	**1.83**	**174**	P	Pn	22 21 52.9	-0.9
OCAC				S	Sn	22 22 15.6	-1.4
URIC	**Uribia, Colomb**	**2.21**	**43**	P	Pn	22 21 58.1	-0.4
URIC				S	Sn	22 22 24.7	-0.8
PAMC	**Pamplona, Colo**	**2.83**	**163**	P	Pn	22 22 07.2	0.0
PAMC				S	Sn	22 22 40.2	-0.7
ZARC	**Zaragoza, Cauc**	**2.88**	**207**	P	Pn	22 22 09.3	+1.8
ZARC				S	Sn	22 22 44.6	+3.1
UREC	**San Jos de Ur**	**3.04**	**221**	P	Pn	22 22 08.2	-1.4
UREC				S	Sn	22 22 41.4	-3.9
SDV	**Santo Domingo**	**3.08**	**112**	P	Pn	22 22 10.5	+0.2
SDV				S	Sn	22 22 45.3	-1.2
BRJC	**Barrancabermej**	**3.08**	**184**	P	Pn	22 22 09.2	-1.0
BRJC				S	Sn	22 22 46.7	+0.4
BARC	**Barichara**	**3.47**	**174**	P	Pn	22 22 15.1	-0.5
BARC				S	Sn	22 22 55.0	-1.0
PTBC	**PUERTO BERRIO,**	**3.63**	**195**	P	Pn	22 22 17.1	-0.4
PTBC				S	Sn	22 22 57.6	-1.8
GUY2C	**Guyana, Caldas**	**5.15**	**201**	P	Pn	22 22 38.8	+0.3
9.5nm,0.5s							
GUY2C				S	Sn	22 23 36.1	-0.9
9.5nm,0.5s							
BCIP	**Isla Barro Col**	**6.29**	**262**	P	Pn	22 22 51.7	-1.9
9.6nm,1.1s							
BCIP				S	Sn	22 23 58.4	-5.8
9.6nm,1.1s							
YOTC	**Yotoco, Valle**	**6.67**	**205**	P	Pn	22 22 57.9	-0.9

*IDC **18** 22:25:35.0±2.8, 26°.72N×143°.25E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=116.1km s-min=27.9km az=76.0*
*NEIC **18** 22:25:37.6±2.0, 26°.54N±0°.06×142°.98E±0°.04, h10km±1km, mb4.6/10, Error ellipse: s-maj=10.4km s-min=5.3km az=153.0*

ISC 18 22:25:41.2±1.0, 26°.6N±0°.1×142°.9E±0°.1, h35km, n28, σ0°.95/23, mb4.2/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.80**	**309**		**Pn**	**22 25 57.1**	**+1.2**
JCJ					**Sn**	**22 26 06.1**	**-0.4**
JMM	**Marumori**	**11.38**	**352**	Pn	**Pn**	**22 28 20.9**	**-0.3**
YOJ	**Yonaguni jima**	**18.05**	**268**	Pn	**Pn**	**22 29 47.4**	**-1.9**
YOJ				IAmb	IAmb	22 29 52.5	
comp=Z,69nm,0.9s							
YHNB	**Yeheng**	**19.48**	**269**	P	**P**	**22 30 04.6**	**-0.7**
SSLB	**Suanglung**	**20.03**	**267**	P	**P**	**22 30 11.6**	**+0.4**
SSLB				IAmb	IAmb	22 30 14.5	
comp=Z,26nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**23.09**	**102**	T	T	22 54 28.8	
baz=291,slow=75,SNR=2.8							
H11N1	**WAKE ISLAND Hy**	**23.10**	**102**	T	T	22 54 30.1	
baz=291,slow=75,SNR=2.1							
H11N3	**WAKE ISLAND Hy**	**23.11**	**102**	T	T	22 54 30.1	
baz=291,slow=75,SNR=3.5							
H11S3	**WAKE ISLAND Hy**	**23.39**	**105**	T	T	22 54 50.0	
baz=294,slow=74,SNR=10							
H11S1	**WAKE ISLAND Hy**	**23.40**	**105**	T	T	22 54 50.0	
baz=294,slow=74,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**23.41**	**105**	T	T	22 54 51.5	
baz=294,SNR=8.2							
WRA	**Warramunga Arr**	**46.99**	**191**	P	**P**	**22 34 09.5**	**+0.5**
comp=Z,1.2nm,0.5s,baz=10,slow=8.1,SNR=9.2							
comp=Z,1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**50.27**	**319**	P	**P**	**22 34 34.3**	**+0.4**
comp=Z,0.4nm,0.4s,baz=79,slow=7.5,SNR=2.7							
comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**51.27**	**310**	P	**P**	**22 34 41.9**	**+0.3**
comp=Z,0.5nm,0.6s,baz=95,slow=7.6,SNR=7.1							
comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**53.83**	**315**	P	**P**	**22 35 01.0**	**+0.6**
comp=Z,1.0nm,0.5s,baz=91,slow=7.9,SNR=15							
comp=Z,1.0nm,0.5s							
KK31	**Karatay Array**	**59.88**	**306**	P	**P**	**22 35 43.3**	**-0.2**
KK31				IAmb	IAmb	22 35 45.9	
comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**59.88**	**306**	P	**P**	**22 35 44.4**	**+0.9**
MESA	**MESA**	**59.99**	**34**	P	**P**	**22 35 44.8**	**+0.7**
L27K	**Beaver Creek,**	**60.01**	**31**	P	**P**	**22 35 42.1**	**-1.9**
BCAR	**Beaver Creek A**	**60.03**	**31**	P	**P**	**22 35 44.1**	**-0.2**
R32K	**Eaglecrest**	**63.97**	**36**	P	**P**	**22 36 11.5**	**+0.9**
P32M	**Atlin**	**64.18**	**34**	P	**P**	**22 36 11.2**	**-0.9**
P32M				IAmb	IAmb	22 36 13.7	
comp=Z,6.6nm,1.1s							
Q32M	**Nakina River**	**65.01**	**35**	P	**P**	**22 36 16.0**	**-1.8**
Q32M				IAmb	IAmb	22 36 35.5	
comp=Z,3.5nm,1.0s							
ARTI	**Arti**	**65.30**	**322**	P	**P**	**22 36 20.1**	**+0.7**
ARTI				IAmb	IAmb	22 36 21.4	
comp=Z,4.5nm,0.9s							
AB31	**Akbulak array**	**65.89**	**315**	P	**P**	**22 36 24.2**	**+0.9**
ABKAR	**Akbulak array**	**65.89**	**315**	P	**P**	**22 36 23.8**	**+0.5**
FINES	**FINESS Array B**	**78.67**	**334**	P	**P**	**22 37 38.8**	**-0.6**
comp=Z,0.4nm,0.4s,baz=56,slow=6.1,SNR=7.3							
comp=Z,0.4nm,0.4s							
KBZ	**Khabaz**	**78.80**	**313**	P	**P**	**22 37 40.1**	**-0.3**
comp=Z,0.9nm,0.7s,baz=31,slow=5.9,SNR=3.2							
comp=Z,0.9nm,0.7s							

*MEX **18** 22:26:57.9±1.1, 15°.68N×93°.67W, h86km±8km, MD4.0*
*GCG **18** 22:26:57.0±1.5, 15°.69N×93°.67W, h70km±70km, MD3.9, ML3.4*

ISC 18 22:26:55.6±1.4, 15°.64N±0°.05×93°.70W±0°.03, h92km±12km, n20, σ1°.25/37, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.47**	**82**	*e*P	**Pn**	**22 27 10.0**	**-0.3**
PCIG				*e*S	**Sn**	**22 27 20.1**	**-1.1**
TGIG		**1.27**	**26**	*e*P	**Pn**	**22 27 18.8**	**+0.1**
TGIG				*e*S	**Sn**	**22 27 34.4**	**-1.5**
TGIG		**1.27**	**26**	*i* P	**Pn**	**22 27 18.5**	**-0.2**
TGIG				*i* S	**Sn**	**22 27 34.2**	**-1.8**
TGIG				IAML		22 27 35.7	
comp=E,389nm,0.9s							
NILT	**Santiago Nilte**	**1.28**	**317**	*e*P	**Pn**	**22 27 20.2**	**+1.5**
NILT				*e*S	**Sn**	**22 27 38.2**	**+2.1**
TGBT	**Tuxtla Gutierr**	**1.28**	**27**	*e*P	**Pn**	**22 27 18.2**	**-0.5**
TGBT				*e*S	**Sn**	**22 27 35.1**	**-1.0**
PATR	**El Naranjo**	**1.51**	**110**	*e*P	**Pn**	**22 27 22.0**	**+0.2**
PATR				*e*S	**Sn**	**22 27 41.6**	**+0.1**
PAVE	**Pavencul**	**1.54**	**106**	*e*P	**Pn**	**22 27 23.0**	**+0.9**
PAVE				*e*S	**Sn**	**22 27 43.1**	**+0.9**
CHUJ	**Union Juarez**	**1.63**	**109**	*e*P	**Pn**	**22 27 24.0**	**+0.6**
CHUJ				*e*S	**Sn**	**22 27 44.6**	**+0.3**
CCIG	**Comitan**	**1.64**	**67**	*e*P	**Pn**	**22 27 24.1**	**+0.7**
CCIG				*e*S	**Sn**	**22 27 43.6**	**-0.8**
CCIG	**Comitan**	**1.64**	**67**	*i* P	**Pn**	**22 27 25.0**	**+1.6**
CCIG				*i* S	**Sn**	**22 27 45.1**	**+0.7**
CCIG				IAML		22 27 48.9	
comp=N,484nm,0.9s							
UXUV	**UXUV**	**1.73**	**346**	*e*P	**Pn**	**22 27 26.1**	**+1.7**
UXUV				*e*S	**Sn**	**22 27 46.2**	**0.0**
CMIG	**Matias Romero**	**1.84**	**322**	*e*P	**Pn**	**22 27 27.0**	**+1.1**
CMIG				*e*S	**Sn**	**22 27 49.6**	**+0.8**
RTAL	**Retalhuleu**	**2.23**	**119**	*e*P	**Pn**	**22 27 31.5**	**+0.5**
RTAL				*e*S	**Sn**	**22 27 58.1**	**+0.2**
HUIG	**Huatulco**	**2.32**	**274**	*e*P	**Pn**	**22 27 32.9**	**+0.8**
HUIG				*e*S	**Sn**	**22 27 57.9**	**-2.3**
HUIG	**Huatulco**	**2.32**	**274**	*i* P	**Pn**	**22 27 33.6**	**+1.5**
HUIG				IAML		22 28 06.0	
comp=N,37nm,0.8s							
NEUV	**Arroyo Zacate**	**2.88**	**316**	*e*P	**Pn**	**22 27 39.3**	**-0.4**
NEUV				*e*S	**Sn**	**22 28 14.1**	**+0.6**
APG	**El Apazote**	**3.19**	**101**	*i* P	**Pn**	**22 27 44.8**	**+0.9**
PEIG	**Puerto Escondi**	**3.34**	**277**	*e*P	**Pn**	**22 27 45.0**	**-0.8**
PEIG				*e*S	**Sn**	**22 28 21.8**	**-2.7**
PETF	**Flores**	**3.90**	**70**	*e*P	**Pn**	**22 27 53.4**	**+0.1**
PETF				*e*S	**Sn**	**22 28 35.2**	**-2.8**
PETF	**Flores**	**3.90**	**70**	*i* P	**Pn**	**22 27 54.0**	**+0.7**
PETF				IAML		22 28 39.6	
comp=N,302nm,1.1s							

*NEIC **18** 22:28:26.6±1.0, 38°.65N±0°.02×118°.85W±0°.01, h10km±1km, Error ellipse: s-maj=2.3km s-min=1.7km az=190.0*

REN 18 22:28:26.5±0.9, 38°.66N±0°.02×118°.87W±0°.01, h10km±7km, ML2.5/2, ML2.4/91(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=188.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.22**	**159**		Pg	22 28 31.3	+0.1
TVH1					Sg	22 28 34.7	+0.4
RYN	**Ryan**	**0.27**	**97**		Pg	22 28 32.2	+0.2
RYN				IAML		22 28 36.6	
comp=E,804nm,0.3s							
RYN				IAML		22 28 37.0	
comp=N,500nm,0.2s							
RYN	**Ryan**	**0.27**	**97**		Sg	22 28 36.4	+0.6
WAKR	**Walker**	**0.47**	**251**		Pg	22 28 35.9	+0.1
WAKR	**Walker**	**0.47**	**251**		Sg	22 28 42.5	+0.4
WAKR				IAML		22 28 43.0	
comp=N,284nm,0.5s							
WAKR				IAML		22 28 43.6	
comp=E,148nm,0.5s							
NV09	**Mina Array Sit**	**0.47**	**118**		Pg	22 28 35.7	-0.1
LHV	**Little Huntoon**	**0.50**	**145**		Pg	22 28 36.5	+0.3
LHV	**Little Huntoon**	**0.50**	**145**		Sg	22 28 43.5	+0.7
NVAR	**Mina Array Bea**	**0.50**	**117**		Pg	22 28 36.1	-0.1
NV08	**Mina Array Sit**	**0.50**	**121**		Pg	22 28 36.1	-0.2
NV11	**Mina Array Sit**	**0.60**	**112**		Pg	22 28 38.1	-0.1
NV11					Sg	22 28 46.4	+0.2
EBP	**Ebbets Pass**	**0.74**	**264**		Pg	22 28 40.7	-0.1
EBP					Sg	22 28 50.7	+0.2
MDPB	**Devils Postpil**	**1.04**	**189**		Pg	22 28 46.0	-0.6
PAHR	**Pah Rah Range**	**1.12**	**339**		Pg	22 28 47.7	-0.4
PAHR				IAML		22 29 05.2	
comp=E,44nm,0.8s							
PAHR				IAML		22 29 05.5	
comp=N,50nm,0.3s							
PEAR	**Peavine Mounta**	**1.27**	**318**		Pg	22 28 50.9	0.0
DONR	**Donner Summit**	**1.32**	**302**		Pn	22 28 51.3	-0.1
Q09A	**Carvers**	**1.33**	**82**	Pn	Pn	22 28 51.3	-0.1
Q09A					Sg	22 29 09.5	+0.2
CMB	**Columbia Colle**	**1.35**	**243**	Pn	Pn	22 28 51.4	-0.1
CMB				IAML		22 29 11.8	
comp=N,51nm,0.8s							
CMB				IAML		22 29 12.8	
comp=E,44nm,0.6s							
TPH	**Tonopah**	**1.42**	**114**		Pn	22 28 52.6	-0.1
TPH				IAML		22 29 14.1	
comp=N,55nm,0.5s							
TPH				IAML		22 29 14.4	
comp=E,55nm,0.7s							
DSP	**Deep Springs**	**1.47**	**151**		Pb	22 28 54.1	+0.1
WELL	**Weller Preserv**	**1.47**	**262**		Pn	22 28 53.4	+0.2
WELL				IAML		22 29 14.9	
comp=N,46nm,0.4s							
WELL				IAML		22 29 18.0	
comp=E,65nm,0.3s							
BEKR	**Beckworth**	**1.67**	**317**		Pn	22 28 56.7	+0.6
LCH	**Last Change Ra**	**1.72**	**145**		Pb	22 28 58.4	0.0
GMN	**Gold Mountain**	**1.86**	**136**		Pb	22 29 00.0	-0.8
GMN				IAML		22 29 27.1	
comp=N,19nm,0.5s							
GRAC	**Grapevine Rang**	**2.04**	**144**		Pb	22 29 03.6	-0.2
GRAC				IAML		22 29 35.2	
comp=N,22nm,0.7s							
GRAC				IAML		22 29 38.5	
comp=E,25nm,1.8s							
SGV	**South Grapevin**	**2.22**	**139**		Pb	22 29 07.0	+0.1
ORV	**Oroville**	**2.23**	**294**		Pb	22 29 06.2	-0.8
CWC	**Cottonwood Cre**	**2.30**	**164**	Pn	Pn	22 29 06.5	+1.7
CWC	

comp=N,5.2nm,4.8s

BJI ***18*** *22:52:13.7, 6˚.46N×125˚.33E, h32km, mB5.0/33, mb4.7/73, Ms4.5/72, Ms7 4.3/70*
IDC ***18*** *22:52:13.2±0.5, 6˚.67N×124˚.96E, h0km, mb4.5/25, mbtmp4.5/28, ML4.9/4, MS4.1/52, Error ellipse: s-maj=12.6km s-min=9.8km az=85.0*
MAN ***18*** *22:52:15.8, 6˚.76N×125˚.06E, h21km, mb5.6, ML4.7, MS5.0*
MAN INTENSITY IV - KIDAPAWAN CITY; MAKILALA M"LANG AND TULUNAN COTABATO; SANTA CRUZ DAVAO DEL SUR; INTENSITY III - DAVAO CITY; KORONADAL CITY; TAMPAKAN AND TUPI SOUTH COTABATO; MATALAM COTABATO; INTENSITY II - GENERAL SANTOS CITY; MAPET COTABATO; ; INTENSITY I - DAMULOG AND KALILANGAN BUKIDNON.
MOS ***18*** *22:52:15.1±0.9, 6˚.78N×125˚.06E, h14km, mb5.0/44, Error ellipse: s-maj=10.5km s-min=5.0km az=120.3*
NEIC ***18*** *22:52:16, 6˚.72N×125˚.25E, h26km, Moment Tensor Solution. Duration: 1ŝ5 Moment tensor: Scale 10^{16}Nm; M_{rr}0.00; $M_{\theta\theta}$4.12; $M_{\phi\phi}$-4.12; $M_{r\theta}$0.85; $M_{\theta\phi}$-0.17; $M_{\phi r}$-0.93; Fault plane solution: $M_0$4.31000×10^{16} NP1:ϕ_s46.23000°, δ73.07000°, λ-179.66000°. NP2:ϕ_s316.13000°, δ89.68000°, λ-16.93000°. Principal axes: T 4.3021, Plg12.0000°, Azm2.0000°; N 0.0167, Plg73.0000°, Azm135.0000°; P -4.3189, Plg12.0000°, Azm270.0000°;*
NEIC ***18*** *22:52:16, 6˚.72N×125˚.05E, h26km*
NEIC ***18*** *22:52:18.0±1.5, 6˚.76N±0˚.05×125˚.09E±0˚.06, h25km±4km, mb5.1/181, Mww5.0/18, Error ellipse: s-maj=9.0km s-min=6.8km az=132.0*
GCMT ***18*** *22:52:17.4±0.2, 6˚.80N±0˚.01×125˚.08E±0˚.01, h25km, MW5.1/123, Moment Tensor Solution. s52,c65; s123,c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.45±.15; $M_{\theta\theta}$4.75±.11; $M_{\phi\phi}$-4.30±.12; $M_{r\theta}$0.60±.23; $M_{\theta\phi}$1.09±.10; $M_{\phi r}$1.42±.29; Best double couple: $M_0$4.91600×10^{16} NP1:ϕ_s127.00000°, δ72.00000°, λ-7.00000°. NP2:ϕ_s219.00000°, δ84.00000°, λ-162.00000°. Principal axes: T 4.9890, Plg8.0000°, Azm352.0000°; N -0.1470, Plg71.0000°, Azm237.0000°; P -4.8440, Plg17.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***18*** *22:52:17.5±0.5, 7˚N±3˚×12˚5E±˚, h13km±5km, M5.1/54, mB5.5/37, mb5.1/54, MLv5.8/10, Mw(mB)5.0/37, MwMwp4.7/7, Mwp5.1/7*
ISC 18 22:52:18.2±0.5,**6.74N**±0.03×**125.11E**±0.04,**h30**km±2km, **h30**km:**pP-P, n492,** σ1$**58**/488,**mb5.0**/169,**MS4.2**/80, **14C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**55**	Pn	**Pb**	**22 52 27.9**	**-1.9**
DAV					**Sb**	**22 52 37.6**	**0.0**
DAV	**Davao City (W)**	**0.57**	**55**	Pg	**Pb**	**22 52 28.1**	**-1.6**
	9μm,0.3s,baz=248,slow=1.9,SNR=1419						
DAV				LR	LR	22 52 44.0	
	comp=Z,12μm,18.3s,baz=43,slow=42						
DAV	**Davao City (W)**	**0.57**	**55**	P	**Pb**	**22 52 28.0**	**-1.7**
DAV	**Davao City (W)**	**0.57**	**55**	S	**Sn**	**22 52 38.6**	**0.0**
DAV	**Davao City (W)**	**0.57**	**55**	P	Pb	22 52 23.0	-6.7
SGSI	**Sangihe**	**3.06**	**172**	P	**Pn**	**22 53 05.3**	**+0.7**
KMSI	**Cibinong**	**6.23**	**190**	P	**Pn**	**22 53 48.8**	**+0.6**
TNTI	**Ternate**	**6.34**	**159**		**Pn**	**22 53 49.5**	**-0.3**
TNTI	**Ternate**	**6.34**	**159**	P	**Pn**	**22 53 51.7**	**+2.0**
TNTI	**Ternate**	**6.34**	**159**	P	**Pn**	**22 53 51.2**	**+1.5**
	1.4nm4μm221nm,0.8s						
MRSI	**Marisa**	**6.98**	**207**	P	**Pn**	**22 53 58.0**	**-0.5**
TOLI2	**Tolitoli**	**7.07**	**218**		**Pn**	**22 53 57.3**	**-2.3**
TOLI2				Sn	**Sn**	**22 55 14.7**	**-4.4**
LUWI	**Luwuk**	**8.08**	**197**		**Pn**	**22 54 13.3**	**-0.3**
LUWI	**Luwuk**	**8.08**	**197**	P	**Pn**	**22 54 17.9**	**+4.3**
LUWI	**Luwuk**	**8.08**	**197**	P	**Pn**	**22 54 17.8**	**+4.2**
APSI	**Ampana**	**8.35**	**205**	P	**Pn**	**22 54 21.3**	**+4.0**
	5μm326nm,1.0s						
TGY	**Tagaytay City**	**8.39**	**331**	Pn	**Pn**	**22 54 17.4**	**-0.5**
	45nm,0.3s,baz=188,slow=14,SNR=1.4						
SANI	**Sanana**	**8.78**	**174**	P	**Pn**	**22 54 23.0**	**-0.2**
SANI	**Sanana**	**8.78**	**174**	P	**Pn**	**22 54 21.9**	**-1.3**
	2μm3μm253nm,1.0s						
SWI	**Sorong**	**9.73**	**141**	P	**Pn**	**22 54 37.5**	**+1.2**
	75nm,0.7s						
NLAI	**Namlea**	**10.11**	**169**	P	**Pn**	**22 54 41.2**	**-0.3**
MSAI	**Masohi**	**10.72**	**159**	P	**Pn**	**22 54 51.3**	**+1.5**
	100nm,0.6s						
AAI	**Ambon**	**10.81**	**163**	P	**Pn**	**22 54 51.6**	**+0.6**
	2μm248nm,1.2s						
SPSI	**Sidrap Palu**	**11.90**	**207**	P	**Pn**	**22 55 07.0**	**+1.1**
	995nm47nm,1.2s						
FAKI	**Fak Fak**	**11.95**	**143**		**Pn**	**22 55 07.6**	**+0.9**
FAKI	**Fak Fak**	**11.95**	**143**	P	**Pn**	**22 55 08.2**	**+1.5**
FAKI	**Fak Fak**	**11.95**	**143**	P	**Pn**	**22 55 07.8**	**+1.1**
	1μm121nm,1.1s						
BNSI	**Bone**	**12.14**	**204**	P	**Pn**	**22 55 11.7**	**+2.4**
	1μm96nm,1.9s						
BNDI	**Bandanaira**	**12.17**	**157**	P	**Pn**	**22 55 13.2**	**+3.5**
	208nm,1.4s						
RKPI	**Ransiki, Papua**	**12.21**	**132**	P	**Pn**	**22 55 11.9**	**+1.7**
	8μm151nm,1.4s						
BBSI	**Bau Bau**	**12.41**	**192**	P	**Pn**	**22 55 16.0**	**+3.0**
	2μm117nm,1.0s						
MTKI	**Muara Teweh, K**	**12.74**	**234**	P	**Pn**	**22 55 19.7**	**+2.3**
KAPI	**Kappang**	**12.85**	**205**		**Pn**	**22 55 20.8**	**+1.9**
KAPI	**Kappang**	**12.85**	**205**	Pn	**Pn**	**22 55 17.3**	**-1.6**
	1.3nm,0.3s,baz=10.0,slow=12,SNR=8.5						
	4.1nm,0.3s						
KAPI	**Kappang**	**12.85**	**205**	P	**Pn**	**22 55 23.3**	**+4.4**
KAPI	**Kappang**	**12.85**	**205**	P	**Pn**	**22 55 20.8**	**+1.9**
BKSI	**Bulukumba**	**12.98**	**203**	P	**Pn**	**22 55 24.2**	**+3.5**
BAKI	**Biak**	**13.51**	**125**	P	**Pn**	**22 55 30.0**	**+2.0**
	2μm93nm,1.0s						
SBUM	**Sibu**	**13.54**	**252**		**Pn**	**22 55 29.3**	**+0.9**
SBUM	**Sibu**	**13.54**	**252**	P	**Pn**	**22 55 31.9**	**+3.6**
BBKI	**Banjar Baru**	**14.42**	**226**	P	**Pn**	**22 55 41.2**	**+0.8**
	106nm,0.9s						
MMRI	**Maumere**	**15.54**	**191**		**Pn**	**22 55 56.0**	**+0.6**
MMRI				IAmb	IAmb	22 56 02.6	
	comp=Z,200nm,1.4s						
MMRI	**Maumere**	**15.54**	**191**	P	**P**	**22 55 58.3**	**-1.1**
MMRI	**Maumere**	**15.54**	**191**	P	**P**	**22 55 58.0**	**-1.4**
	comp=Z,2μmcomp=Z,116nm,1.3s						
KSM	**Kuching**	**15.66**	**251**		**Pn**	**22 55 56.7**	**-0.2**
KSM	**Kuching**	**15.66**	**251**	P	**P**	**22 55 59.6**	**-1.1**
EDFI	**Ende, Flores**	**15.76**	**193**	P	**Pn**	**22 55 59.2**	**+0.9**
	comp=Z,38nm,0.8s						
SMPI	**Sarmi**	**16.11**	**122**	P	**Pn**	**22 56 03.8**	**+1.1**
	comp=Z,64nm,1.0s						
SOEI	**Soe**	**16.41**	**183**		**Pn**	**22 56 06.9**	**+0.3**
SOEI	**Soe**	**16.41**	**183**	P	**P**	**22 56 08.8**	**-0.4**
SOEI	**Soe**	**16.41**	**183**	P	**P**	**22 56 08.0**	**-1.2**
	comp=Z,2μmcomp=Z,192nm,1.0s						
BATI	**Baumata**	**16.90**	**185**	Pn	**Pn**	**22 56 12.0**	**-0.7**
	comp=Z,12nm,0.3s,baz=178,slow=7.7,SNR=7.7						
BATI				LR	LR	23 04 18.8	
	comp=Z,565nm,19.8s,baz=30,slow=43						
	comp=Z,16nm,0.3s						
BATI	**Baumata**	**16.90**	**185**	P	**P**	**22 56 14.0**	**-0.5**
	comp=Z,2μmcomp=Z,154nm,0.9s						
WSI	**Waingapu**	**16.99**	**196**	P	**P**	**22 56 15.1**	**-0.4**
PLAI	**Plampang**	**17.11**	**205**	P	**P**	**22 56 18.2**	**+1.4**
PLAI	**Plampang**	**17.11**	**205**	P	**P**	**22 56 16.8**	**0.0**
	comp=Z,2μmcomp=Z,154nm,1.0s						
DLV	**Lat**	**17.19**	**289**	P	**P**	**22 56 20.2**	**+2.2**
WBSI	**Waikabubak, Su**	**17.24**	**199**	P	**P**	**22 56 18.4**	**+0.1**
	comp=Z,1μmcomp=Z,72nm,0.9s						
SSLB	**Suanglung**	**17.41**	**347**	Pn	**Pn**	**22 56 18.2**	**-0.9**
TWSI	**Taliwang, Sumb**	**17.43**	**208**	P	**P**	**22 56 20.6**	**+0.3**
	comp=Z,2μmcomp=Z,79nm,0.9s						
KMMI	**Kalianget**	**17.64**	**219**	P	**P**	**22 56 22.8**	**+0.1**
	comp=Z,72nm,0.9s						
GENI	**Genyem**	**17.66**	**121**	P	**Pn**	**22 56 22.3**	**+0.1**
GENI	**Genyem**	**17.66**	**121**	P	**P**	**22 56 23.2**	**+0.3**
	comp=Z,101nm,0.8s						
SRBI	**Singaraja**	**17.73**	**214**	P	**P**	**22 56 23.4**	**-0.3**
	comp=Z,90nm,1.5s						
JAY	**Jayapura**	**18.08**	**120**	P	**P**	**22 56 27.7**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=244,slow=13,SNR=5.9						
JAY				LR	LR	23 03 36.3	
	comp=Z,372nm,18.9s,baz=0.5,slow=38						
	comp=Z,12nm,0.7s						
JAY	**Jayapura**	**18.08**	**120**	P	**P**	**22 56 29.5**	**+1.9**
JAGI	**Jajag, Banyuwa**	**18.65**	**216**	P	**P**	**22 56 33.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**18.65**	**216**	P	**Pn**	**22 56 37.5**	**+3.2**
JAGI	**Jajag, Banyuwa**	**18.65**	**216**	P	**Pn**	**22 56 36.4**	**+2.1**
	comp=Z,874nmcomp=Z,58nm,1.0s						
QZH	**Quanzhou**	**19.14**	**342**	P	**Pn**	**22 56 39.6**	**-0.6**
QZH				S	**S**	**23 00 14.9**	**+0.3**
QZH				LR	LR		
	comp=Z,2μm,23.4s						
QZH				LR	LR		
	comp=Z,1μm,16.5s						
QIZ	**Qiongzhong**	**19.23**	**311**	P	**P**	**22 56 40.4**	**+0.2**
QIZ				S	**S**	**23 00 17.0**	**+0.6**
QIZ				LR	LR		
	comp=Z,700nm,17.8s						
QIZ				LR	LR		
	comp=Z,520nm,15.3s						
QIZ				LR	LR		
	comp=Z,930nm,21.2s						
NGJI	**Ngawi**	**19.54**	**224**	P	**Pn**	**22 56 46.6**	**+1.6**
	comp=Z,123nm,1.1s						
GZH	**Guangzhou**	**19.81**	**326**	P	**Pn**	**22 56 51.0**	**+2.9**
GZH				S	**Sn**	**23 00 36.6**	**+6.6**
GZH				LR	LR		
	comp=Z,2μm,19.6s						
GZH				LR	LR		
	comp=Z,1μm,15.8s						
GZH				LR	LR		
	comp=Z,1μm,19.4s						
TPI	**Tanjungpandan**	**19.82**	**242**	P	**Pn**	**22 56 48.0**	**-0.3**
AUDHS	**Darwin High Sc**	**19.89**	**163**	P	**P**	**22 56 47.3**	**0.0**
DRS	**Darwin Rock St**	**19.90**	**163**	P	**P**	**22 56 47.8**	**+0.4**
SMRI	**Semarang**	**20.05**	**227**	P	**P**	**22 56 49.7**	**+0.5**
SMRI				IAmb	IAmb	22 57 03.7	
	comp=Z,120nm,1.2s						
SMRI	**Semarang**	**20.05**	**227**	P	Pn	22 56 52.8	+1.8
SMRI	**Semarang**	**20.05**	**227**	P	Pn	22 56 50.7	-0.3
	comp=Z,10μmcomp=Z,111nm,1.7s						
JOW	**Kunigami**	**20.20**	**8**	P	**P**	**22 56 51.1**	**+0.3**
	comp=Z,39nm,0.9s,baz=182,slow=21,SNR=4.5						
JOW				LR	LR	23 04 34.7	
	comp=Z,558nm,20.8s,baz=151,slow=36						
	comp=Z,39nm,0.9s						
JOW	**Kunigami**	**20.20**	**8**	P	Pn	22 56 52.3	-0.5
PCJI	**Pacitan**	**20.33**	**223**	P	Pn	22 56 54.6	+0.3
	comp=Z,97nm,1.2s						
MTN	**Manton Dam**	**20.36**	**163**	P	**P**	**22 56 52.0**	**-0.4**
	comp=Z,109nm,0.8s						
MTN	**Manton Dam**	**20.36**	**163**	P	**P**	**22 56 51.8**	**-0.6**
MTN				IAmb	IAmb	22 56 58.5	
	comp=Z,70nm,0.6s						
GUMO	**Guam**	**20.59**	**69**	LR	LR	23 03 34.5	
	comp=Z,240nm,21.3s,baz=240,slow=33						
KDU	**Kakadu**	**20.64**	**159**	P	**P**	**22 56 54.2**	**-1.3**
	comp=Z,54nm,1.0s						
KPJI	**Karang Pucung**	**21.35**	**229**	P	**P**	**22 57 05.2**	**+2.0**
	comp=Z,81nm,1.4s						
DSRI	**Dabo**	**21.71**	**251**	P	**P**	**22 57 07.3**	**+0.2**
MYKOM	**Kota Tinggi**	**21.76**	**258**	P	**P**	**22 57 07.9**	**+0.3**
MYKOM	**Kota Tinggi**	**21.76**	**258**	P	**P**	**22 57 10.7**	**+3.1**
BTDF	**Bukit Timah Da**	**21.94**	**257**	P	**P**	**22 57 12.8**	**+3.2**
LEM	**Lembang**	**22.05**	**233**	P	**P**	**22 57 10.1**	**-0.8**
	comp=Z,9.8nm,0.4s,baz=89,slow=10.0,SNR=8.4						
	comp=Z,9.8nm,0.4s						
LEM	**Lembang**	**22.05**	**233**	P	**P**	**22 57 14.5**	**+3.6**
	comp=Z,88nm,0.9s						
BBJI	**Bungbulang**	**22.42**	**231**	P	**P**	**22 57 17.2**	**+2.5**
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**22 57 14.2**	**-2.0**
	comp=Z,106nm,0.6s						
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**22 57 14.6**	**-1.6**
KNRA				IAmb	IAmb	22 57 38.7	
	comp=Z,98nm,0.9s						
DBJI	**Dramaga**	**22.59**	**235**	P	**P**	**22 57 20.9**	**+4.4**
	comp=Z,54nm,0.7s						
SBJI	**Serang**	**22.85**	**236**	P	**P**	**22 57 22.2**	**+3.0**
GULI	**GuiLin**	**23.22**	**324**	P	**P**	**22 57 22.3**	**-0.6**
GULI				S	**S**	**23 01 33.3**	**+0.2**
GULI				pmax	pmax		
	comp=Z,18nm,1.1s						
GULI				LR	LR		
	comp=Z,950nm,23.3s						
GULI				LR	LR		
	comp=Z,870nm,20.0s						
GULI				LR	LR		
	comp=Z,1μm,20.1s						
IPM	**Ipoh**	**24.07**	**266**	P	**P**	**22 57 30.2**	**-1.1**
IPM	**Ipoh**	**24.07**	**266**	P	**P**	**22 57 32.1**	**+0.8**
KULM	**Kulim**	**24.37**	**268**	P	**P**	**22 57 34.1**	**+0.1**
KULM				IAmb	IAmb	22 57 45.5	
	comp=Z,54nm,1.3s						
KULM	**Kulim**	**24.37**	**268**	P	**P**	**22 57 35.6**	**+1.6**
SSE	**Sheshan**	**24.50**	**352**	P	**P**	**22 57 34.4**	**-0.6**
SSE				S	**S**	**23 01 55.1**	**+1.4**
SSE				pmax	pmax		
	comp=Z,17nm,0.7s						
SSE				pmax	pmax		
	comp=Z,180nm,3.7s						
SSE				LR	LR		
	comp=Z,210nm,21.8s						
SSE				LR	LR		
	comp=Z,360nm,22.5s						
FITZ	**Fitzroy Crossi**	**24.69**	**179**	P	**P**	**22 57 35.3**	**-1.5**
	comp=Z,8.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.69**	**179**		**P**	**22 57 36.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.69**	**179**	P	**P**	**22 57 35.7**	**-1.1**
	comp=Z,21nm,0.5s,baz=1.8,slow=7.9,SNR=70						
	comp=Z,21nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.69**	**179**	P	**P**	**22 57 36.4**	**-0.4**
WHN	**Wuhan**	**25.74**	**338**	P	**P**	**22 57 49.9**	**+3.7**
NJ2	**Nanjing**	**25.85**	**348**	⇓P	**P**	**22 57 48.3**	**+1.1**
NJ2				pP	**pP**	**22 57 53.8**	**-2.1**
NJ2				S	**S**	**23 02 17.5**	**+2.4**
NJ2				sS	**sS**	**23 02 27.4**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,35nm,1.9s						
NJ2				pmax	pmax		
	comp=Z,340nm,3.7s						
NJ2				LR	LR		
	comp=Z,300nm,24.3s						
NJ2				LR	LR		
	comp=Z,760nm,23.4s						
NJ2				LR	LR		
	comp=Z,770nm,20.6s						
JCJ	**Chichijima**	**25.94**	**37**	LR	LR	23 06 14.8	
	comp=Z,297nm,21.9s,baz=164,slow=32						
GYA	**Guiyang**	**26.33**	**320**	⇓P	**P**	**22 57 53.9**	**+2.1**
GYA				S	**S**	**23 02 28.3**	**+5.2**
GYA				pmax	pmax		
	comp=Z,11nm,1.2s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,1μm,16.9s						
GYA				LR	LR		
	comp=Z,1μm,17.3s						
GYA				LR	LR		
	comp=Z,2μm,20.1s						
PSI	**Prapat**	**26.38**	**263**	LR	LR	23 10 15.7	
	comp=Z,258nm,18.1s,baz=159,slow=41						
JNU	**Nakatsue**	**26.79**	**11**	LR	LR	23 08 21.7	
	comp=Z,225nm,20.9s,baz=196,slow=36						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**22 57 57.7**	**-1.9**
PMG				IAmb	IAmb	22 58 06.2	
	comp=Z,57nm,0.9s						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**22 57 59.1**	**-0.6**
	comp=Z,39nm,0.8s,baz=308,slow=7.4,SNR=11						
	comp=Z,39nm,0.8s						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**22 57 59.5**	**-0.1**
PMG	**Port Moresby**	**27.20**	**126**	*ceP*	**P**	**22 57 59.0**	**-0.6**
PMG				pmax	pmax		
	comp=Z,36nm,0.9s						
COEN	**Coen**	**27.28**	**139**	P	**P**	**22 58 00.4**	**+0.1**
	comp=Z,103nm,1.2s						
COEN	**Coen**	**27.28**	**139**	P	**P**	**22 58 00.0**	**-0.3**
COEN	**Coen**	**27.28**	**139**	P	**P**	**22 58 02.6**	**+2.3**
ENH	**Enshi**	**27.63**	**330**	P	**P**	**22 58 05.5**	**+2.2**
WB0	**Warramunga Arr**	**27.88**	**161**		**P**	**22 58 04.6**	**-1.1**
WB0				IAmb	IAmb	22 58 26.4	
	comp=Z,60nm,1.1s						
GSI	**Gunungsitoli**	**27.98**	**260**	P	**P**	**22 58 05.0**	**-1.7**
GSI				IAmb	IAmb	22 58 22.7	
	comp=Z,38nm,0.9s						
CM31	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**22 58 06.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.02**	**297**		**P**	**22 58 05.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**22 58 05.8**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=118,slow=7.6,SNR=18						
CMAR				LR	LR	23 09 57.5	
	comp=Z,370nm,18.4s,baz=115,slow=38						
	comp=Z,1.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.02**	**297**	*ceP*	**P**	**22 58 07.4**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**28.02**	**161**	P	**P**	**22 58 05.8**	**-1.1**
WRAB				IAmb	IAmb	22 58 52.8	
	comp=Z,39nm,0.9s						
WRAB	**Tennant Creek**	**28.02**	**161**	P	**P**	**22 58 06.4**	**-0.5**
WRAB	**Tennant Creek**	**28.02**	**161**	*ceP*	**P**	**22 58 07.3**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**22 58 05.2**	**-1.7**
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**22 58 04.9**	**-2.0**
	comp=Z,12nm,0.9s,baz=338,slow=9.9,SNR=42						
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**22 58 05.2**	**-1.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KMI	**Kunming**	**28.14**	**313**	P	**P**	**22 58 09.5**	**+1.3**
KMI				S	**S**	**23 03 00.3**	**+8.4**
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				pmax	pmax		
	comp=Z,81nm,4.4s						
KMI				LR	LR		
	comp=Z,590nm,16.9s						
KMI				LR	LR		
	comp=Z,630nm,20.6s						
KMI				LR	LR		
	comp=Z,930nm,20.0s						
CHTO	**Chiang Mai**	**28.15**	**298**	P	**P**	**22 58 07.1**	**-1.0**
CHTO	**Chiang Mai**	**28.15**	**298**	P	**P**	**22 58 08.1**	**0.0**
CHTO	**Chiang Mai**	**28.15**	**298**	P	**P**	**22 58 07.1**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,19nm,1.5s						
MBWA	**Marble Bar**	**28.23**	**191**	P	**P**	**22 58 09.3**	**+0.7**
	comp=Z,23nm,1.5s						
MBWA	**Marble Bar**	**28.23**	**191**	P	**P**	**22 58 07.9**	**-0.7**
MBWA				IAmb	IAmb	22 58 47.3	
	comp=Z,25nm,1.0s						
MBWA	**Marble Bar**	**28.23**	**191**	P	**P**	**22 58 11.2**	**+2.5**
PSAC1	**Pilbara Seismi**	**28.58**	**190**	P	**P**	**22 58 11.8**	**0.0**
	comp=Z,28nm,1.1s						
PSA00	**Pilbara Seismi**	**28.61**	**190**	P	**P**	**22 58 12.1**	**+0.1**
	comp=Z,29nm,0.7s						
PSA00	**Pilbara Seismi**	**28.61**	**190**	P	**P**	**22 58 11.7**	**-0.3**
PSA00				IAmb	IAmb	22 58 20.3	
	comp=Z,59nm,1.4s						
PSA00	**Pilbara Seismi**	**28.61**	**190**	P	**P**	**22 58 10.9**	**-1.2**
PSA00				IAmb	IAmb	22 58 33.6	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**28.61**	**190**	P	**P**	**22 58 13.4**	**+1.3**
PZH	**PanZhiHua**	**29.69**	**314**	P	**P**	**22 58 24.1**	**+2.3**
LYN	**LuoYang**	**30.03**	**339**	⇓P	**P**	**22 58 24.9**	**+0.3**
LYN				S	**S**	**23 03 22.6**	**+1.6**
LYN				sS	sS	23 03 34.3	-1.1
LYN				pmax	pmax		
	comp=Z,23nm,1.5s						
LYN				pmax	pmax		
	comp=Z,150nm,4.1s						
LYN				LR	LR		
	comp=Z,830nm,24.7s						
LYN				LR	LR		
	comp=Z,1μm,23.0s						
LYN				LR	LR		
	comp=Z,640nm,30.6s						
TIA	**Tai'an**	**30.23**	**347**	P	**P**	**22 58 27.4**	**+1.1**
TIA				pmax	pmax		
	comp=Z,17nm,1.2s						
TIA				LR	LR		
	comp=Z,200nm,22.7s						
TIA				LR	LR		
	comp=Z,860nm,24.7s						
TIA				LR	LR		
	comp=Z,350nm,20.6s						
QIS	**Mount Isa**	**30.64**	**153**	P	**P**	**22 58 31.3**	**+1.2**
KSAR	**Wonju Array Be**	**30.66**	**4**	P	**P**	**22 58 29.5**	**-0.6**
KSAR	**Wonju Array Be**	**30.66**	**4**	P	**P**	**22 58 29.5**	**-0.6**
KSRS	**Korea Array**	**30.68**	**4**	P	**P**	**22 58 30.2**	**0.0**
	comp=Z,3.7nm,0.9s,baz=177,slow=9.1,SNR=10						
	comp=Z,3.7nm,0.9s						
XAN	**Xi'an**	**31.02**	**333**	⇓P	**P**	**22 58 32.8**	**-0.6**
XAN				pmax	pmax		
	comp=Z,17nm,1.9s						
XAN				LR	LR		
	comp=Z,360nm,17.2s						
XAN				LR	LR		
	comp=Z,540nm,17.9s						
XAN				LR	LR		
	comp=Z,480nm,15.8s						
MTSU	**Mount Surprise**	**31.15**	**143**	P	**P**	**22 58 36.2**	**+1.5**
TNCH	**TengChong**	**31.27**	**309**	⇓P	**P**	**22 58 36.5**	**+0.6**
TNCH				S	**S**	**23 03 39.3**	**-1.7**
TNCH				pmax	pmax		
	comp=Z,19nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,89nm,3.8s						
TNCH				LR	LR		
	comp=Z,230nm,10.7s						
TNCH				LR	LR		
	comp=Z,360nm,14.5s						
TNCH				LR	LR		
	comp=Z,500nm,15.8s						
CD2	**Chengdu**	**31.28**	**323**	P	**P**	**22 58 36.1**	**+0.4**
CD2				S	**S**	**23 03 40.0**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,1μm,17.6s						
CD2				LR	LR		
	comp=Z,1μm,22.6s						
CD2				LR	LR		
	comp=Z,1μm,17.2s						
AS31	**Alice Springs**	**31.42**	**164**	P	**P**	**22 58 36.3**	**-0.7**
	comp=Z,5.3nm,0.6s						
AS31	**Alice Springs**	**31.42**	**164**	P	**P**	**22 58 35.6**	**-1.4**
ASAR	**Alice Springs**	**31.42**	**164**	P	**P**	**22 58 35.5**	**-1.5**
ASAR	**Alice Springs**	**31.42**	**164**	P	**P**	**22 58 36.9**	**-0.1**
	comp=Z,7.9nm,0.6s,baz=346,slow=7.4,SNR=59						
	comp=Z,7.9nm,0.6

comp=Z,110nm,28.2s
BJI LR LR
comp=Z,290nm,24.1s
BJI LR LR
comp=Z,170nm,15.7s
SNY Shenyang 34.97 358 ⇓P **P 22 59 07.6 0.0**
SNY pmax pmax
comp=Z,33nm,1.8s
LZDM Lanzhou Array 35.08 329 P **P 22 59 09.5 +0.3**
comp=Z,2.0nm,0.5s,baz=165,slow=12,SNR=7.3
LZDM LR LR 23 14 52.0
comp=Z,146nm,19.1s,baz=45,slow=39
comp=Z,2.0nm,0.5s
LZH Lanzhou 35.11 329 *e*P **P 22 59 09.8 +0.6**
LZH sP pP 22 59 18.5 +0.5
LZH S **S 23 04 41.6 +1.3**
LZH pmax pmax
comp=Z,45nm,1.8s
LZH pmax pmax
comp=Z,140nm,4.0s
LZH LR LR
comp=Z,540nm,16.2s
LZH LR LR
comp=Z,430nm,16.8s
LZH LR LR
comp=Z,610nm,17.8s
HHC Hu-ho-hao-te 36.05 342 *e*P **P 22 59 20.0 +2.8**
HHC S **S 23 04 56.6 +2.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,4.5s
HHC LR LR
comp=Z,290nm,16.6s
HHC LR LR
comp=Z,400nm,16.4s
HHC LR LR
comp=Z,330nm,16.9s
BTO Baotou 36.32 340 *e*P **P 22 59 22.4 +2.9**
BTO pP **sP 22 59 32.3 +0.3**
BTO sP pP 22 59 36.3 +8.0
BTO S **S 23 05 03.1 +4.4**
BTO sS **sS 23 05 19.6 +6.4**
BTO SS **SnSn 23 07 29.6 +2.4**
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,210nm,7.3s
BTO LR LR
comp=Z,910nm,22.5s
BTO LR LR
comp=Z,2μm,22.2s
BTO LR LR
comp=Z,950nm,24.9s
MORW Morawa 36.66 193 P **P 22 59 21.4 -0.9**
MORW IAmb IAmb 22 59 42.0
comp=Z,60nm,1.5s
SHL Shillong 36.83 304 P **P 22 59 22.9 -1.2**
SHL IAmb IAmb 22 59 31.9
comp=Z,56nm,1.2s
SHL Shillong 36.83 304 P **P 22 59 22.9 -1.2**
SHL pmax pmax
comp=Z,56nm,1.2s
CN2 Changchun 36.91 0 *e*P **P 22 59 23.9 -0.4**
CN2 *e*S **S 23 05 05.1 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,300nm,13.0s
FORT Forrest 37.41 176 P **P 22 59 28.9 +0.2**
FORT IAmb IAmb 22 59 32.6
comp=Z,23nm,0.7s
INKA Innaminka 37.47 157 P **P 22 59 28.8 -0.4**
USRK Ussuriysk Ar. 37.79 8 P **P 22 59 31.8 0.0**
comp=Z,15nm,0.8s,baz=191,slow=9.1,SNR=21
comp=Z,15nm,0.8s
XLT XiLinHaoTe 37.85 349 *e*P **P 22 59 34.5 +2.1**
XLT S **S 23 05 25.6 +3.8**
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,140nm,5.7s
XLT LR LR
comp=Z,380nm,20.6s
XLT LR LR
comp=Z,220nm,21.9s
MDJ Mudanjiang 37.93 5 P **P 22 59 33.1 +0.2**
MDJ S **S 23 05 26.8 +4.0**
MDJ PcS **PcS 23 05 37.1 -0.1**
MDJ pmax pmax
comp=Z,40nm,1.3s
MDJ pmax pmax
comp=Z,200nm,3.8s
MDJ LR LR
comp=Z,260nm,19.6s
MDJ LR LR
comp=Z,180nm,14.6s
MDJ LR LR
comp=Z,510nm,20.6s
MDJ Mudanjiang 37.93 5 P **P 22 59 32.9 0.0**
MDJ IAmb IAmb 22 59 35.7
comp=Z,35nm,1.0s
MDJ Mudanjiang 37.93 5 P **P 22 59 33.6 +0.7**
QLP Quilpie 37.97 152 P **P 22 59 33.1 -0.3**
HNR Honiara 38.25 114 LR LR 23 14 11.7
comp=Z,89nm,21.4s,baz=350,slow=34
AUNRC North Rockhamp 38.88 141 P **P 22 59 42.8 +1.6**
BNX BinXian 38.90 3 ⇓P **P 22 59 40.3 -0.8**
BNX S **S 23 05 40.4 +3.0**
BNX pmax pmax
comp=Z,17nm,1.5s
BNX LR LR
comp=Z,140nm,17.3s
BNX LR LR
comp=Z,180nm,14.6s
BNX LR LR
comp=Z,290nm,18.4s
LSA Lhasa 39.27 310 P **P 22 59 42.6 -2.4**
LSA pmax pmax
comp=Z,12nm,1.1s
LSA LR LR
comp=Z,200nm,30.2s
LSA LR LR
comp=Z,210nm,24.7s
LSA Lhasa 39.27 310 P **P 22 59 45.0 0.0**
LSA Lhasa 39.27 310 P **P 22 59 45.0 0.0**
LSA pmax pmax
comp=Z,26nm,1.2s
GTA Gaotai 39.70 329 P **P 22 59 49.1 +1.0**
GTA S **S 23 05 48.4 -1.6**
GTA pmax pmax
comp=Z,25nm,1.4s
GTA pmax pmax
comp=Z,170nm,8.8s
GTA LR LR
comp=Z,300nm,21.1s
GTA LR LR
comp=Z,470nm,18.3s
GTA LR LR
comp=Z,580nm,18.3s
ASAJ Asahikawa 40.25 20 LR LR 23 15 59.2
comp=Z,298nm,20.4s,baz=196,slow=35
GOMU GeErMu 40.34 321 P **P 22 59 53.5 -0.2**
GOMU S **S 23 06 02.5 +2.4**
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU LR LR
comp=Z,340nm,19.4s
GOMU LR LR
comp=Z,400nm,19.3s
GOMU LR LR
comp=Z,770nm,19.0s
BBOO Buckleboo 40.69 166 **P 22 59 54.6 -1.5**
BBOO Buckleboo 40.69 166 P **P 22 59 57.4 +1.3**
EIDS Eidsvold 40.70 143 P **P 22 59 55.5 -0.9**
EIDS IAmb IAmb 23 00 11.0
comp=Z,77nm,1.8s
EIDS Eidsvold 40.70 143 P **P 22 59 56.6 +0.2**
WHYH Whyalla 41.29 164 P **P 23 00 03.6 +2.6**
STKA Stephens Creek 41.50 159 P **P 23 00 02.7 -0.1**
comp=Z,196nm,0.8s
STKA Stephens Creek 41.50 159 **P 23 00 01.3 -1.5**
STKA Stephens Creek 41.50 159 P **P 23 00 01.6 -1.2**
comp=Z,18nm,0.7s,baz=335,slow=7.9,SNR=21
STKA LR LR 23 18 20.9
comp=Z,192nm,21.5s,baz=330,slow=38
comp=Z,18nm,0.7s
STKA Stephens Creek 41.50 159 P **P 23 00 04.4 +1.6**
STKA Stephens Creek 41.50 159 *i* P **P 23 00 02.5 -0.3**
AUJCS Jamestown Cent 41.74 163 P **P 23 00 07.0 +2.2**
EVN Everest 41.93 305 P **P 23 00 06.4 -0.8**
EVN IAmb IAmb 23 00 21.3
comp=Z,36nm,1.2s
HTT Hallett 42.05 163 P **P 23 00 09.2 +1.9**
AULRC Lightning Ridg 42.16 150 P **P 23 00 08.3 +0.1**
HIA Hailar 42.62 355 P **P 23 00 10.6 -1.2**
HIA Hailar 42.62 355 P **P 23 00 10.6 -1.2**
HIA pmax pmax
comp=Z,12nm,0.9s
YSS Yuzhno-Sakhali 42.84 18 P **P 23 00 12.7 -0.8**
YSS IAmb IAmb 23 00 48.8
comp=Z,39nm,1.3s
YSS Yuzhno-Sakhali 42.84 18 *e*P **P 23 00 13.7 +0.2**
YSS *e*S **S 23 06 34.6 -1.3**
YSS pmax pmax
comp=Z,20nm,1.2s
CMSA Cobar Meteorol 42.84 154 P **P 23 00 15.7 +1.9**
TW1H Toowoomba 1 Ha 42.86 144 P **P 23 00 16.2 +2.2**
HILR Hailar Array B 42.91 355 P **P 23 00 12.9 -1.2**
comp=Z,3.3nm,0.6s,baz=161,slow=9.4,SNR=5.0
comp=Z,3.3nm,0.6s
AUMAR Marden Senior 43.33 164 P **P 23 00 18.9 +1.2**
HEH HeiHe 43.41 2 *e*P **P 23 00 17.3 -0.8**
HEH PP **PP 23 01 58.0 -1.4**
HEH S **S 23 06 43.4 -0.9**
HEH pmax pmax
comp=Z,23nm,1.1s
HEH pmax pmax
comp=Z,140nm,6.4s
HEH LR LR
comp=Z,230nm,22.0s
HEH LR LR
comp=Z,270nm,19.6s
HEH LR LR
comp=Z,300nm,20.3s
ULN Ulaanbaatar 43.78 342 P **P 23 00 20.3 -1.0**
ULN Ulaanbaatar 43.78 342 *ce*P **P 23 00 21.3 0.0**
ULN pmax pmax
comp=Z,15nm,1.7s
SONM Songino Array 43.95 342 P **P 23 00 21.7 -0.9**
SONM Songino Array 43.95 342 P **P 23 00 22.8 +0.1**
comp=Z,1.4nm,0.7s,baz=162,slow=6.1,SNR=7.2
SONM LR LR 23 20 17.0
comp=Z,360nm,19.7s,baz=156,slow=38
comp=Z,1.4nm,0.7s
PALK Pallekele 44.07 273 LR LR 23 19 30.8
comp=Z,170nm,20.4s,baz=82,slow=37
ARMA Armidale 44.85 147 P **P 23 00 29.7 -0.4**
ARMA IAmb IAmb 23 00 32.4
comp=Z,18nm,0.8s
ARMA Armidale 44.85 147 P **P 23 00 31.9 +1.8**
HYB Hyderabad 46.63 288 *e*P **P 23 00 43.3 -1.0**
HYB IVmB_BB 23 00 51.6
comp=Z,236nm,1.7s
HYB *e*S **S 23 07 32.3 +0.3**
HYB IVMs_BB IVMs_BB 23 09 43.1
comp=Z,152nm,6.6s
HYB *e*ScS **ScS 23 10 36.4 -1.4**
ZEA Zeya 46.89 2 *e*P **P 23 00 45.0 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
SANVU Saraoutou 47.17 118 P **P 23 00 46.9 -1.5**
CAN Canberra 47.51 153 P **P 23 00 51.1 +0.3**
CAN Canberra 47.51 153 P **P 23 00 51.1 +0.3**
CAN pmax pmax
comp=Z,33nm,0.9s
TARA Tarawa 47.97 94 P **P 23 00 54.4 -0.3**
TOO Toolangi 48.02 158 P **P 23 00 54.1 -0.6**
TOO IAmb IAmb 23 01 05.3
comp=Z,11nm,0.9s
TOO Toolangi 48.02 158 P **P 23 00 54.1 -0.6**
TOO pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 48.19 342 P **P 23 00 56.8 +1.0**
TLY IAmb IAmb 23 01 11.9
comp=Z,7.0nm,0.5s
WMQ Urumqi 49.35 325 *e*P **P 23 01 03.4 -1.6**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,490nm,20.1s
WMQ LR LR
comp=Z,390nm,22.7s
WMQ LR LR
comp=Z,260nm,20.1s
DZM Mont Dzumac 49.59 126 LR LR 23 23 20.5
comp=Z,137nm,18.5s,baz=321,slow=38
ONTNC Ouen Toro 49.72 127 P **P 23 01 07.6 -0.4**
ONTNC IAmb IAmb 23 01 21.8
comp=Z,16nm,0.8s
YATNC Mamie plateau, 49.95 126 P **P 23 01 11.1 +1.4**
ZSN Zaisan 53.12 327 *e*P **P 23 01 32.8 -0.3**
ZSN Zaisan 53.12 327 *e*P **P 23 01 32.8 -0.3**
PETK Petropavlovsk- 53.30 24 P **P 23 01 34.3 -0.1**
PETK Petropavlovsk- 53.30 24 P **P 23 01 34.9 +0.5**
comp=Z,8.4nm,0.9s,baz=202,slow=4.4,SNR=7.4
comp=Z,8.4nm,0.9s
PET Petropavlovsk 53.63 24 P **P 23 01 37.2 +0.5**
SHLS Shalkode 54.02 320 *e*P **P 23 01 37.3 -2.7**
comp=Z,13nm,1.3s
SHLS Shalkode 54.02 320 *e*P **P 23 01 37.2 -2.7**
SHLS pmax pmax
comp=Z,13nm,1.3s
MK31 Makanchi Array 54.18 325 *ce*P **P 23 01 39.4 -1.5**
MKAR Makanchi Array 54.18 325 **P 23 01 40.0 -1.0**
MKAR Makanchi Array 54.18 325 P **P 23 01 40.6 -0.3**
comp=Z,1.6nm,0.6s,baz=123,slow=7.7,SNR=19
MKAR LR LR 23 26 00.9
comp=Z,279nm,18.2s,baz=124,slow=37
comp=Z,1.6nm,0.6s
UZB Uzynbulak 54.30 320 *e*P **P 23 01 41.1 -0.9**
comp=Z,14nm,1.2s
UZB Uzynbulak 54.30 320 *e*P **P 23 01 41.1 -0.9**
UZB pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 54.37 325 **P 23 01 41.2 -1.1**
MAKZ Makanchi 54.37 325 P **P 23 01 41.2 -1.1**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
TARG Taragay, Kyrgy 54.45 317 P **P 23 01 42.9 -0.6**
TARG IAmb IAmb 23 02 03.0
comp=Z,42nm,1.8s
TARG Taragay, Kyrgy 54.45 317 P **P 23 01 42.9 -0.6**
TARG pmax pmax
comp=Z,42nm,1.8s
SATY Saty 54.65 319 *e*P **P 23 01 44.3 -0.3**
comp=Z,13nm,1.1s
SATY Saty 54.65 319 *e*P **P 23 01 44.2 -0.3**
SATY pmax pmax
comp=Z,13nm,1.1s
KSH Kashi 54.79 314 P **P 23 01 47.3 +1.6**
KSH pmax pmax
comp=Z,12nm,1.2s
KSH LR LR
comp=Z,350nm,17.9s
KSH LR LR
comp=Z,280nm,20.6s
KSH LR LR
comp=Z,360nm,18.5s
NIL Nilore 54.83 307 **P 23 01 45.6 -0.3**
NIL IAmb IAmb 23 02 15.1
comp=Z,23nm,0.9s
NIL Nilore 54.83 307 P **P 23 01 45.6 -0.3**
NIL pmax pmax
comp=Z,23nm,1.0s
YAK Yakutsk 55.28 3 P **P 23 01 48.1 -0.4**
YAK IAmb IAmb 23 02 15.5
comp=Z,29nm,0.8s
YAK Yakutsk 55.28 3 LR LR 23 26 07.3
comp=Z,210nm,21.1s,baz=194,slow=37
YAK Yakutsk 55.28 3 *e*P **P 23 01 47.2 -1.3**
YAK *e**PP **pP 23 01 56.2 -1.6**
YAK *e* 23 02 44.8
YAK *e* 23 03 49.4
YAK *e*PPP PPP 23 05 02.9
YAK *e*S **S 23 09 28.9 -1.3**
YAK *e**SS **sS 23 09 45.5 0.0**
YAK *e*SS **SS 23 13 13.6 -1.2**
YAK *e*SSS SSS 23 15 21.8
YAK pmax pmax
comp=Z,31nm,1.2s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,51nm,2.2s
YAK pmax pmax
comp=N,32nm,2.5s
YAK pmax pmax
comp=E,37nm,3.0s
YAK smax smax
comp=N,49nm,4.0s
YAK smax smax
comp=E,30nm,3.2s
TDK Taldyqorghan 55.57 321 *e*P **P 23 01 50.7 -0.4**
comp=E,14nm,1.2s
TDK Taldyqorghan 55.57 321 *e*P **P 23 01 50.6 -0.4**
TDK pmax pmax
comp=Z,14nm,1.2s
MDOK Medeo 55.59 319 *e*P **P 23 01 50.6 -0.7**
MDOK Medeo 55.59 319 *e*P **P 23 01 50.6 -0.7**
TNSS Tian-Shan 55.60 319 *e*P **P 23 01 51.0 -0.8**
TNSS Tian-Shan 55.60 319 *e*P **P 23 01 50.9 -0.8**
AAA Alma-Ata 55.69 319 *e*P **P 23 01 51.2 -0.8**
comp=Z,11nm,1.2s
AAA Alma-Ata 55.69 319 *e*P **P 23 01 51.2 -0.8**
AAA pmax pmax
comp=Z,11nm,1.2s
CHKK Chushkaly 55.94 319 *e*P **P 23 01 53.4 -0.3**
CHKK Chushkaly 55.94 319 *e*P **P 23 01 53.3 -0.3**
FUNA Funafuti 56.01 105 P **P 23 01 54.4 -0.2**
FRU1 Bishkek 57.04 317 P **P 23 02 01.3 -0.3**
FRU1 Bishkek 57.04 317 P **P 23 02 01.3 -0.3**
FRU1 pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 57.06 317 **P 23 02 01.3 -0.6**
AAK IAmb IAmb 23 02 11.0
comp=Z,36nm,1.8s
AAK Ala-Archa 57.06 317 LR LR 23 29 24.5
comp=Z,294nm,22.0s,baz=105,slow=39
AAK Ala-Archa 57.06 317 *ce*P **P 23 02 02.2 +0.3**
AAK pmax pmax
comp=Z,17nm,1.7s
ZAA0 Zalesovo Array 57.19 333 P **P 23 02 00.7 -1.7**
ZALV Zalesovo Beam 57.19 333 **P 23 01 60.0 -2.4**
ZALV Zalesovo Beam 57.19 333 P **P 23 02 00.6 -1.7**
comp=Z,0.9nm,0.7s,baz=126,slow=7.5,SNR=5.1
ZALV LR LR 23 28 19.0
comp=Z,208nm,19.3s,baz=138,slow=38
comp=Z,0.9nm,0.7s
SGDS Sogindy 57.30 318 *e*P **P 23 02 02.7 -0.8**
comp=Z,9.1nm,1.3s
ARSB Arslanbob 57.59 315 **P 23 02 05.3 -0.3**
ARSB Arslanbob 57.59 315 P **P 23 02 05.4 -0.3**
ARSB pmax pmax
comp=Z,61nm,1.7s
MSVF Nonsavu 57.65 116 P **P 23 02 05.7 -0.6**
MSVF IAmb IAmb 23 02 09.2
comp=Z,28nm,0.9s
MSVF Nonsavu 57.65 116 P **P 23 02 07.8 +1.5**
MSVF Nonsavu 57.65 116 P **P 23 02 05.7 -0.6**
MSVF pmax pmax
comp=Z,28nm,0.9s
DRK Karamyk 57.78 313 P **P 23 02 06.5 -0.7**
DRK Karamyk 57.78 313 P **P 23 02 06.5 -0.7**
KURBB Kurchatov Arra 58.35 327 P **P 23 02 09.7 -0.9**
comp=Z,2.2nm,0.2s,baz=125,slow=6.2,SNR=13
KURBB LR LR 23 28 55.8
comp=Z,192nm,18.4s,baz=170,slow=38
comp=Z,2.2nm,0.2s
KURK Kurchatov 58.35 327 **P 23 02 09.1 -1.5**
KURK IAmb IAmb 23 02 42.1
comp=Z,11nm,0.9s
KURK Kurchatov 58.35 327 *ce*P **P 23 02 09.2 -1.4**
KURK pmax pmax
comp=Z,17nm,1.7s
KBL Kabul 58.43 306 P **P 23 02 11.1 -0.7**
KBL IAmb IAmb 23 02 20.9
comp=Z,15nm,1.3s
KBL Kabul 58.43 306 P **P 23 02 11.1 -0.7**
KBL pmax pmax
comp=Z,15nm,1.3s
ARK Arkit 58.48 315 P **P 23 02 12.1 +0.3**
ARK pmax pmax
comp=Z,18nm,1.7s
GAR Garm 58.72 312 P **P 23 02 12.7 -0.9**
DZA Taraz 59.31 316 *e*P **P 23 02 16.8 -0.7**
comp=Z,6.5nm,0.9s
DZA Taraz 59.31 316 *e*P **P 23 02 16.8 -0.7**
DZA pmax pmax
comp=Z,7.0nm,0.9s
CHGR Chuyangaron 59.48 311 P **P 23 02 18.0 -0.8**
CHGR Chuyangaron 59.48 311 P **P 23 02 18.0 -0.8**
CHGR pmax pmax
comp=Z,69nm,1.7s
SEY Seymchan 59.50 14 LR LR 23 26 51.1
comp=Z,91nm,21.7s,baz=211,slow=35
SEY Seymchan 59.50 14 *e*P **P 23 02 17.2 -1.1**
SEY pmax pmax
comp=Z,14nm,1.5s
KK31 Karatay Array 59.95 316 **P 23 02 20.6 -1.2**
KK31 IAmb IAmb 23 02 33.1
comp=Z,15nm,1.1s
KK31 Karatay Array 59.95 316 P **P 23 02 20.6 -1.2**
KK31 pmax pmax
comp=Z,15nm,1.2s
KKAR Karatay Array 59.95 316 P **P 23 02 20.8 -1.0**
KKAR Karatay Array 59.95 316 P **P 23 02 20.8 -1.0**
IUG Iuzhnay 59.95 315 *e*P **P 23 02 21.4 -0.6**
comp=Z,11nm,1.0s
IUG Iuzhnay 59.95 315 *e*P **P 23 02 21.4 -0.6**
IUG pmax pmax
comp=Z,11nm,1.0s
BRLS Boroloday 60.39 316 *e*P **P 23 02 24.2 -0.6**
comp=Z,6.2nm,1.2s
BRLS Boroloday 60.39 316 *e*P **P 23 02 24.2 -0.6**
BRLS pmax pmax
comp=Z,6.0nm,1.2s
SHEM Shemya Is, Ala 60.73 32 LR LR 23 23 21.7
comp=Z,72nm,21.9s,baz=266,slow=31
BRZS Berezniki 61.32 324 *e*P **P 23 02 30.6 -0.5**
BRZS Berezniki 61.32 324 *e*P **P 23 02 30.5 -0.5**
HRA Herat 63.89 305 P **P 23 02 47.8 -0.9**
HRA IAmb IAmb 23 03 01.0
comp=Z,34nm,2.0s
BVAR Borovoye Array 63.93 327 LR LR 23 32 48.2
comp=Z,176nm,18.6s,baz=113,slow=38
BORK Borovoye 63.98 327 *ce*P **P 23 02 47.6 -1.1**
BORK pmax pmax
comp=Z,11nm,1.7s
DCZ Deep Cove 64.14 148 P **P 23 02 49.4 -0.4**
TOZ Tahuroa Road 64.47 137 P **P 23 02 52.4 +0.3**
TIXI Tiksi 64.88 1 P **P 23 02 53.7 -0.5**
TIXI IAmb IAmb 23 03 08.6
comp=Z,8.5nm,0.8s
TIXI Tiksi 64.88 1 LR LR 23 32 55.9
comp=Z,249nm,20.8s,baz=200,slow=38
TIXI Tiksi 64.88 1 *i* P **P 23 02 55.2 +1.0**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
URZ Urewera 65.83 137 LR LR 23 32 40.2
comp=Z,127nm,19.0s,baz=310,slow=37
BKZ Black Stump Fm 65.89 138 P **P 23 03 01.4 0.0**
BKZ Black Stump Fm 65.89 138 P **P 23 03 03.1 +1.7**
RTZ Ruatahuna 65.93 138 P **P 23 03 00.7 -1.0**
PLWZ Palliser 66.39 141 P **P 23 03 03.8 -0.8**
BILL Bilibino 67.09 16 *i* P **P 23 03 10.5 +2.0**
BILL pmax pmax
comp=Z,10.0nm,1.3s
AB31 Akbulak array 68.81 320 **P 23 03 18.2 -1.6**
AB31 Akbulak array 68.81 320⇑ *e*P **P 23 03 18.1 -1.6**
AB31 pmax pmax
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 68.81 320 **P 23 03 18.0 -1.7**
AKTO Aktyubinsk 70.31 321 LR LR 23 36 55.1
comp=Z,316nm,19.2s,baz=134,slow=38
ARTI Arti 71.63 327 P **P 23 03 36.7 -0.1**
ARTI Arti 71.63 327 LR LR 23 36 58.6
comp=Z,174nm,20.3s,baz=61,slow=38

ARTI	Arti	71.63	327	*i* P		P	23 03 36.8	0.0
ARTI				pmax		pmax		
comp=Z,5.0nm,1.0s								
GAMB	Gambell	72.33	25	P		P	23 03 41.7	+0.9
CASY	Casey	73.61	186			P	23 03 47.9	-0.4
CASY				IAmb		IAmb	23 03 51.7	
comp=Z,8.9nm,0.7s								
K13K	Kusilvak Mount	74.83	27	P		P	23 03 55.8	+0.1
K13K				IAmb		IAmb	23 04 24.7	
comp=Z,48nm,1.9s								
HON	Honolulu	75.39	70	P		P	23 03 59.2	-0.4
HON	Honolulu	75.39	70	P		P	23 03 59.2	-0.4
HON				pmax		pmax		
comp=Z,160nm,0.9s								
J14K	Nanvaranak Lak	75.53	27	P		P	23 03 59.1	-0.5
J14K				IAmb		IAmb	23 05 42.8	
comp=Z,44nm,1.7s								
O14K	Tigyukauivet M	75.88	31	P		P	23 04 03.0	+1.4
MAK	Makhachkala	76.37	312	*c i* P		P	23 03 58.4	-6.4
MAK				*e*S		S	23 13 42.0	-6.1
MAK				pmax		pmax		
comp=Z,89nm,1.3s								
MAK				MLR		MLR		
comp=Z,262nm,18.0s								
KIRV	Kirov	76.83	329	LR		LR	23 40 22.6	
comp=Z,176nm,19.9s,baz=101,slow=38								
BELG	Belogornoye	77.05	322	*i* P		P	23 04 09.1	+0.7
BELG				pmax		pmax		
comp=Z,2.0nm,0.9s								
L16K	Owhat River	77.19	28	P		P	23 04 10.0	+1.0
L16K				IAmb		IAmb	23 04 18.7	
comp=Z,27nm,1.6s								
O16K	Kokwok River B	77.54	30	P		P	23 04 11.0	0.0
O16K				IAmb		IAmb	23 04 50.5	
comp=Z,31nm,1.6s								
H17K	Granite Mounta	77.57	25			P	23 04 11.9	+0.7
J17K	VABM Dome	77.66	27			P	23 04 13.2	+1.5
E18K	Tukpahlearik C	77.79	22	P		P	23 04 12.2	-0.1
RAYN	Ar Rayn	77.83	293			P	23 04 13.8	+0.3
RAYN	Ar Rayn	77.83	293	P		P	23 04 13.8	+0.3
RAYN				pmax		pmax		
comp=Z,6.0nm,0.9s								
K17K	Iditarod	77.90	27			P	23 04 13.1	+0.1
K17K				IAmb		IAmb	23 04 28.9	
comp=Z,19nm,1.2s								
GNI	Garni	78.33	309			P	23 04 16.1	0.0
GNI				IAmb		IAmb	23 05 15.5	
comp=Z,20nm,1.2s								
GNI	Garni	78.33	309	*ce*P		P	23 04 16.5	+0.4
GNI				pmax		pmax		
comp=Z,17nm,1.7s								
RAR	Rarotonga	78.69	113	LR		LR	23 35 02.9	
comp=Z,44nm,19.9s,baz=259,slow=33								
E19K	Redstone River	79.08	23			P	23 04 20.4	+1.0
E19K				IAmb		IAmb	23 04 32.6	
comp=Z,11nm,0.9s								
H19K	Roundabout Mou	79.11	25			P	23 04 19.8	+0.2
H19K				IAmb		IAmb	23 04 23.7	
comp=Z,16nm,1.1s								
J19K	Poorman	79.27	26			P	23 04 20.4	-0.1
L19K	White Mountain	79.42	28	P		P	23 04 22.3	+0.9
L19K				IAmb		IAmb	23 04 37.0	
comp=Z,34nm,1.8s								
N19K	Bonanza Creek	79.47	29	P		P	23 04 23.0	+1.2
N19K				IAmb		IAmb	23 04 38.6	
comp=Z,37nm,1.6s								
F20K	Avaraart Lake	79.60	23	P		P	23 04 23.4	+1.2
KBZ	Khabaz	79.75	313	P		P	23 04 21.9	-1.7
comp=Z,1.1nm,0.9s,baz=90,slow=8.5,SNR=3.7								
KBZ				LR		LR	23 44 02.2	
comp=Z,131nm,19.8s,baz=78,slow=39								
comp=Z,1.1nm,0.9s								
K20K	Telida	79.89	27	P		P	23 04 24.7	+0.8
KIV	Kislovodsk	79.91	313	*e*P		P	23 04 24.8	+0.2
KIV				pmax		pmax		
comp=Z,5.0nm,1.1s								
KIV				MLR		MLR		
comp=Z,74nm,19.0s								
J20K	Nowinta River	79.93	26			P	23 04 24.1	0.0
KDAK	Kodiak Island	80.23	33	LR		LR	23 34 56.0	
comp=Z,110nm,21.0s,baz=251,slow=32								
IMAR	Indian Mountai	80.27	24	P		P	23 04 26.2	+0.3
B21K	Ikpikpuk River	80.33	21	P		P	23 04 26.6	+0.4
G21K	Allakaket	80.42	24	P		P	23 04 27.4	+0.7
G21K				IAmb		IAmb	23 04 43.0	
comp=Z,12nm,0.9s								
E21K	Killik River	80.43	22	P		P	23 04 27.8	+1.0
GURO	Guroymak-BITLI	80.43	308			P	23 04 26.9	-0.6
GURO				IAmb		IAmb	23 04 41.6	
comp=Z,54nm,1.9s								
H21K	Melozitna Rive	80.63	25	P		P	23 04 28.4	+0.6
H21K				IAmb		IAmb	23 04 44.3	
comp=Z,14nm,1.1s								
SPU	Mount Spurr	80.67	29	P		P	23 04 28.0	-0.2
PPLA	Purkeypile	80.71	27	P		P	23 04 29.2	+0.6
STLK	Strandline Lak	80.80	29	P		P	23 04 28.5	-0.4
I21K	Tanana	80.94	25	P		P	23 04 30.5	+1.0
I21K				IAmb		IAmb	23 04 46.0	
comp=Z,29nm,1.3s								
SKT	Skwentna	80.96	28			P	23 04 29.3	-0.5
CNPM	China Poot	81.01	31	P		P	23 04 30.1	0.0
ATD	Arta Tunnel	81.13	281	P		P	23 04 30.5	-1.1
BRLK	Bradley Lake	81.19	31	P		P	23 04 32.0	+1.0
E22K	Anaktuvuk Pass	81.20	22	P		P	23 04 31.6	+0.7
E22K				IAmb		IAmb	23 04 42.6	
comp=Z,40nm,1.6s								
BPAW	Bear Paw Mtn.	81.31	26	P		P	23 04 31.6	+0.1
BPAW				IAmb		IAmb	23 04 48.1	
comp=Z,34nm,1.4s								
KTH	Kantishna Hill	81.31	27	P		P	23 04 32.8	+1.1
KTH				IAmb		IAmb	23 04 47.9	
comp=Z,16nm,1.2s								
SUA	Susitna One	81.32	29	IAmb		IAmb	23 04 34.5	
comp=Z,18nm,0.9s								
MARD	Mardin	81.45	307	P		P	23 04 32.0	-1.0
MLY	Manley	81.46	25	P		P	23 04 32.7	+0.4
MLY				IAmb		IAmb	23 04 45.6	
comp=Z,14nm,1.2s								
SLKM	Skilak Lake	81.55	30	P		P	23 04 33.8	+0.9
SLKM				IAmb		IAmb	23 04 44.6	
comp=Z,34nm,1.3s								
KOPT	Kop Dagi	81.59	309	P		P	23 04 32.9	-1.0
TRF	Thorofare Moun	81.59	27	P		P	23 04 33.6	+0.4
TRF				IAmb		IAmb	23 04 50.3	
comp=Z,40nm,1.5s								
M22K	Willow	81.62	29	P		P	23 04 33.1	-0.1
COLD	Coldfoot	81.77	23	P		P	23 04 33.6	-0.2
BWN	Browne	81.98	26	P		P	23 04 36.3	+1.2
BWN				IAmb		IAmb	23 04 44.6	
comp=Z,20nm,0.8s								
H23K	Yukon River	81.98	24	P		P	23 04 36.5	+1.4
KLMR	Klimovskoe	82.01	330	*e*P		P	23 04 34.3	-0.9
KLMR				pmax		pmax		
comp=Z,18nm,1.5s								
E23K	Chandalar	82.02	22	P		P	23 04 35.4	+0.1
E23K				IAmb		IAmb	23 04 52.0	
comp=Z,37nm,1.6s								
I23K	Minto, Yukon-K	82.04	25	P		P	23 04 35.7	+0.3
I23K				IAmb		IAmb	23 05 40.6	
comp=Z,34nm,1.6s								
TOLK	Toolik Lake Re	82.05	22	P		P	23 04 36.0	+0.6
TOLK				IAmb		IAmb	23 04 52.0	
comp=Z,23nm,1.1s								
PMR	Palmer	82.09	29	P		P	23 04 35.7	0.0
PMR				IAmb		IAmb	23 04 53.3	
comp=Z,30nm,1.4s								
PMR	Palmer	82.09	29	P		P	23 04 35.7	0.0
PMR				pmax		pmax		
comp=Z,30nm,1.4s								
NEA2	Nenana	82.16	26	P		P	23 04 37.0	+1.0
KNK	Knik Glacier	82.42	29	IAmb		IAmb	23 05 01.9	
comp=Z,45nm,1.5s								
PWL	Port Wells	82.48	30	P		P	23 04 37.9	+0.2
PWL				IAmb		IAmb	23 04 45.2	
comp=Z,26nm,1.0s								
WRH	Wood River Hil	82.58	26	P		P	23 04 38.6	+0.4
F24K	Squaw Lake	82.67	23	P		P	23 04 39.8	+1.1
F24K				IAmb		IAmb	23 04 54.8	
comp=Z,22nm,1.5s								
H24K	Noodor Dome	82.67	24	P		P	23 04 39.2	+0.5
CCB	Clear Creek Bu	82.70	26	IAmb		IAmb	23 04 54.6	
comp=Z,37nm,1.7s								
G24K	Hadweenzic Riv	82.83	24	P		P	23 04 40.5	+1.0
G24K				IAmb		IAmb	23 06 04.9	
comp=Z,12nm,0.9s								
POKR	Poker Plat Res	82.86	25	P		P	23 04 40.2	+0.6
POKR				IAmb		IAmb	23 04 58.6	
comp=Z,55nm,2.0s								
DHY	Denali Highway	82.91	27	P		P	23 04 40.6	+0.5
DHY				IAmb		IAmb	23 04 45.0	
comp=Z,47nm,2.0s								
HDA	Harding Lake	83.08	26	P		P	23 04 40.6	-0.1
HDA				IAmb		IAmb	23 04 52.1	
comp=Z,11nm,0.8s								
IL31		83.09	26	IAmb		IAmb	23 04 55.3	
comp=Z,20nm,1.5s								
ILAR	Eielson Array	83.09	26	P		P	23 04 40.6	-0.3
ILAR	Eielson Array	83.09	26	P		P	23 04 40.5	-0.4
comp=Z,1.9nm,0.8s,baz=235,slow=5.2,SNR=21								
ILAR				LR		LR	23 43 26.3	
comp=Z,36nm,19.0s,baz=268,slow=37								
comp=Z,1.9nm,0.8s								
ILAR	Eielson Array	83.09	26	P		P	23 04 40.6	-0.3
F25K	Christian Rive	83.53	23	P		P	23 04 43.7	+0.5
F25K				IAmb		IAmb	23 05 06.4	
comp=Z,26nm,1.7s								
E25K	Arctic Village	83.54	22	P		P	23 04 43.3	+0.2
E25K				IAmb		IAmb	23 05 00.0	
comp=Z,25nm,1.4s								
OBN	Obninsk	83.69	325	LR		LR	23 44 16.1	
comp=Z,168nm,18.5s,baz=328,slow=37								
OBN	Obninsk	83.69	325	*i* P		P	23 04 43.9	-0.1
OBN				pmax		pmax		
comp=Z,5.0nm,0.7s								
DIV	Divide	83.72	29	P		P	23 04 44.2	0.0
PAX	Paxson	83.78	27			P	23 04 45.4	+0.8
PAX				IAmb		IAmb	23 05 00.6	
comp=Z,23nm,1.4s								
PAX	Paxson	83.78	27	P		P	23 04 45.4	+0.8
PAX				pmax		pmax		
comp=Z,23nm,1.4s								
BMAR	Burnt Mountain	83.94	23	P		P	23 04 46.8	+1.5
RIDG	Independent Ri	84.02	27	P		P	23 04 45.9	+0.1
G26K	Porcupine Rive	84.28	23			P	23 04 48.7	+1.8
BMRM	Bremner River	84.30	29	P		P	23 04 49.0	+1.8
DOT	Dot Lake	84.38	27	IAmb		IAmb	23 04 58.3	
comp=Z,16nm,1.1s								
SCRK	Sand Creek	84.39	26			P	23 04 48.9	+1.2
J26L	Joseph Creek	84.54	26	P		P	23 04 48.4	0.0
J26L				IAmb		IAmb	23 05 11.3	
comp=Z,8.3nm,0.9s								
MENT	Mentasta	84.58	27	P		P	23 04 50.7	+2.2
SUCK	Suckling Hills	84.77	30	P		P	23 04 49.8	+0.4
ASF	Jabal al Asfar	84.95	302	LR		LR	23 47 34.0	
comp=Z,73nm,20.6s,baz=136,slow=39								
M26K	Nabesna, AK	84.95	28	P		P	23 04 51.1	+0.6
M26K				IAmb		IAmb	23 05 08.8	
comp=Z,24nm,1.5s								
E27K	Coleen River	85.02	22	P		P	23 04 51.2	+0.6
E27K				IAmb		IAmb	23 05 08.1	
comp=Z,19nm,1.2s								
G27K	Doyon Strip	85.13	23	P		P	23 04 51.9	+0.7
G27K				IAmb		IAmb	23 05 00.8	
comp=Z,10.0nm,1.1s								
K27K	Chicken	85.22	26	P		P	23 04 52.7	+1.0
H27K	Steamboat Moun	85.24	24	P		P	23 04 52.5	+0.7
H27K				IAmb		IAmb	23 05 03.4	
comp=Z,25nm,1.4s								
BNN	Bunyan	85.25	308	P		P	23 04 51.5	-1.1
BNN				IAmb		IAmb	23 05 00.3	
comp=Z,20nm,1.6s								
BCAR	Beaver Creek A	85.45	27	P		P	23 04 53.5	+0.6
FURI	Furi	85.47	278	LR		LR	23 39 48.2	
comp=Z,76nm,22.0s,baz=59,slow=34								
EGAK	Eagle	85.54	25	P		P	23 04 54.4	+1.1
EGAK				IAmb		IAmb	23 05 17.1	
comp=Z,13nm,1.0s								
BARN	Barnard Glacie	85.72	29	P		P	23 04 55.1	+0.7
E28M	Babbage River	85.73	21	P		P	23 04 55.3	+1.2
E28M				IAmb		IAmb	23 05 07.2	
comp=Z,9.0nm,0.9s								
F28M	Old Crow	85.73	22	P		P	23 04 55.5	+1.3
F28M				IAmb		IAmb	23 05 06.5	
comp=Z,12nm,0.9s								
CTGM	Chitina Glacie	85.89	29	P		P	23 04 56.4	+1.1
I28M	Miner Creek	85.98	25	P		P	23 04 57.0	+1.4
MMAI	Mount Meron Ar	86.13	303	P		P	23 04 55.1	-1.9
comp=Z,1.4nm,0.9s,baz=94,slow=4.8,SNR=1.5								
MMAI				LR		LR	23 49 36.4	
comp=Z,70nm,18.6s,baz=87,slow=40								
comp=Z,1.4nm,0.9s								
H29M	Whitestone	86.51	24	P		P	23 04 58.8	+0.8
H29M				IAmb		IAmb	23 05 18.6	
comp=Z,27nm,1.4s								
G29M	Pine Creek	86.54	23			P	23 04 58.6	+0.4
VNDA	Vanda	86.60	173	P		P	23 04 58.0	-0.2
VNDA	Vanda	86.60	173	P		P	23 04 57.1	-1.0
comp=Z,1.9nm,0.9s,baz=306,slow=5.9,SNR=12								
VNDA				LR		LR	23 42 50.8	
comp=Z,62nm,21.4s,baz=308,slow=35								
comp=Z,1.9nm,0.9s								
VNDA	Vanda	86.60	173	P		P	23 04 58.0	-0.2
VNDA				pmax		pmax		
comp=Z,4.0nm,1.1s								
I29M	Ogilvie Camp,	86.67	25	P		P	23 04 59.0	+0.1
I29M				IAmb		IAmb	23 05 23.0	
comp=Z,8.5nm,0.9s								
EIL	Elat	86.85	299	LR		LR	23 49 49.6	
comp=Z,97nm,19.5s,baz=358,slow=40								
BRTR	Keskin Array B	86.87	309	P		P	23 04 59.3	-1.3
BRTR	Keskin Array B	86.87	309	P		P	23 04 59.1	-1.5
comp=Z,0.6nm,0.8s,baz=90,slow=4.9,SNR=5.8								
comp=Z,0.6nm,0.8s								
BRTR	Keskin Array B	86.87	309	*ce*P		P	23 04 59.5	-1.1
BRTR				pmax		pmax		
comp=Z,1.0nm,0.8s								
ARCES	ARCESS Array B	87.08	340	LR		LR	23 48 45.9	
comp=Z,237nm,19.2s,baz=82,slow=39								
L29M	L29M	87.09	27	P		P	23 05 01.6	+0.6
L29M				IAmb		IAmb	23 05 21.3	
comp=Z,19nm,1.4s								
SPITS	Spitsbergen Ar	87.23	349	LR		LR	23 50 13.5	
comp=Z,109nm,18.0s,baz=67,slow=40								
KIBK	Kibwezi	87.36	267	P		P	23 05 03.6	+0.2
KIBK				IAmb		IAmb	23 05 16.8	
comp=Z,18nm,1.3s								
PPT	Papeete	87.57	108	LR		LR	23 39 55.9	
comp=Z,30nm,18.2s,baz=352,slow=33								
PPT2	Papeete2	87.57	108	*e*S		S	23 15 42.3	-2.1
comp=Z,39nm,22.8s								
PPT2				*e*SS		SS	23 21 40.0	+9.2
comp=Z,58nm,25.0s								
PPT2	Papeete2	87.57	108	*e*LR		LR	23 32 46.2	
comp=Z,145nm,25.2s								
PPT2				*e*LR		LR	23 32 52.0	
comp=Z,117nm,29.0s								
INK	Inuvik	87.97	21	LR		LR	23 47 30.9	
comp=Z,38nm,20.2s,baz=4.5,slow=38								
G31M	Satah River	87.99	23	P		P	23 05 06.0	+0.8
FINES	FINESS Array B	88.43	332	P		P	23 05 07.7	+0.3
comp=Z,1.6nm,0.8s,baz=28,slow=4.5,SNR=3.5								
FINES				LR		LR	23 48 16.2	
comp=Z,155nm,20.4s,baz=81,slow=38								
comp=Z,1.6nm,0.8s								
FINES	FINESS Array B	88.43	332	*ce*P		P	23 05 09.8	+2.5
FINES				pmax		pmax		
comp=Z,1.0nm,0.8s								
N31M	Braeburn, Yuko	88.46	28	P		P	23 05 06.5	-1.0
AKASG	Malin Array Be	88.55	321	P		P	23 05 08.6	+0.4
comp=Z,1.3nm,0.7s,baz=78,slow=3.6,SNR=2.5								
AKASG				LR		LR	23 49 05.5	
comp=Z,117nm,19.5s,baz=72,slow=39								
comp=Z,1.3nm,0.7s								
MNK	Minsk	88.75	325	*i* P		P	23 05 06.2	-2.8
MNK				*i*			23 08 34.8	
MNK				*i* PPP		PPP	23 10 30.8	
MNK				*i* S		SKSac	23 15 35.0	-1.3
MNK				*i* PS		PnS	23 16 57.8	-2.6
MNK				*i* SS		SS	23 21 46.4	+0.7
MNK				*i* SSS		SSS	23 25 21.1	
MNK				pmax		pmax		
comp=E,12nm,0.8s								
MNK				pmax		pmax		
comp=N,9.0nm,0.7s								
MNK				pmax		pmax		
comp=Z,5.0nm,0.7s								
MNK				MLR		MLR		
comp=E,112nm,20.0s								
MNK				MLR		MLR		
comp=N,115nm,19.0s								
MNK				MLR		MLR		
comp=Z,147nm,17.0s								
BORA	Eskisehir	89.29	310	P		P	23 05 09.7	-2.3
LODK	Lodwar	89.36	273	P		P	23 05 11.2	-1.6
C36M	Paulatuk	90.93	19	P		P	23 05 19.4	+0.6
MLR	Muntele Rosu	91.63	316	LR		LR	23 50 17.8	
comp=Z,143nm,21.4s,baz=72,slow=38								
MLR	Muntele Rosu	91.63	316	P		P	23 05 22.9	+0.1
MLR				pmax		pmax		
comp=Z,6.0nm,1.8s								
DLBC	Dease Lake	91.99	31	LR		LR	23 43 16.4	
comp=Z,1um,19.8s,baz=252,slow=33								
HFS	Hagfors	94.62	332	LR		LR	23 49 55.2	
comp=Z,182nm,21.3s,baz=63,slow=37								
RES	Resolute Bay	95.15	10	LR		LR	23 53 06.3	
comp=Z,45nm,18.9s,baz=360,slow=38								
NOA	NORSAR Array B	95.39	333	LR		LR	23 52 24.4	
comp=Z,121nm,20.9s,baz=65,slow=38								
TAOE	Nuku Hiva Isla	95.68	98	*e*LR		LR	23 36 39.1	
comp=Z,197nm,24.2s								
JMIC	Jan Mayen	96.57	346	LR		LR	23 55 27.3	
comp=Z,44nm,18.4s,baz=64,slow=39								
QSPA	South Pole Qui	96.63	180	P		P	23 05 45.8	+0.6
comp=Z,0.9nm,1.0s,baz=100,slow=1.9,SNR=3.8								
comp=Z,0.9nm,1.0s								
VRAC	Vranov	96.79	321	LR		LR	23 52 25.5	
comp=Z,81nm,20.0s,baz=70,slow=37								
LSZ	Lusaka	98.40	256	LR		LR	23 49 57.5	
comp=Z,97nm,18.1s,baz=122,slow=35								
GERES	GERESS Array B	98.74	322	LR		LR	23 53 55.3	
comp=Z,129nm,19.4s,baz=68,slow=38								
TXAR	Lajitas Array	120.97	50	PKP		PKiKP	23 11 09.6	+0.8
comp=Z,0.4nm,0.7s,baz=274,slow=4.1,SNR=3.9								
PLCA	Paso Flores	143.37	160	PKP		PKPdf	23 11 50.5	+0.2
comp=Z,1.0nm,0.6s,baz=248,slow=0.7,SNR=4.9								
BO02	Sierra Bellavi	148.47	154			PKiKP	23 12 04.6	+0.3

NAO ***18*** *22:52:32.9±0.5, 78°.77N×4°.34E, h15km, ML2.9*
BER ***18*** *22:52:33.7±3.0, 78°.86N×4°.43E, h10km, Mw3.6,*
ML2.9(NAO), Confirmed Earthquake
DNK ***18*** *22:52:34.3±2.4, 78°.75N×4°.58E, h31km±22km, ML1.9*
ISC 18 22:52:32.8±1.7,**78°.84N**±0°.06×**4°.36E**±0°.04,**h31**km±17km,
n23,σ2s52/43,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.47	83	Pb	Pb	22 52 58.3	-1.2
KBS				Sb	Sn	22 53 14.8	-0.4
KBS	Kingsbay	1.47	83	*i* P	Pn	22 52 58.1	+1.0
KBS				*e*S	Sn	22 53 14.2	-1.1
KBS				IAML		22 53 15.1	
comp=Z,42nm,0.3s							
KBS	Kingsbay	1.47	83	*i* P	Pb	22 52 58.3	-1.2
KBS				*i* S	Sn	22 53 15.4	+0.2
BRBB	Barentsburg B	2.12	106	Pn	Pn	22 53 07.5	+1.6
BRBB				Sn	Sn	22 53 32.8	+1.7
BRBB	Barentsburg B	2.12	106	Pn	Pn	22 53 07.5	+1.6
BRBB				Sn	Sn	22 53 32.8	+1.7
BRBA	Barentsburg A	2.13	107	Pn	Pn	22 53 08.3	+2.2
BRBA				Sn	Sn	22 53 32.0	+0.6
BRBA	Barentsburg A	2.13	107	Pn	Pn	22 53 08.3	+2.2
BRBA				Sn	Sn	22 53 32.0	+0.6
SPA0	Spitsbergen Ar	2.49	99	Pn	Pn	22 53 13.2	+2.1
baz=296,slow=12							
SPA0				Sn	Sn	22 53 40.5	+0.1
baz=281,slow=22							
SPA0	Spitsbergen Ar	2.49	99	*e*P	Pn	22 53 11.1	0.0
SPA0				*e*S	Sn	22 53 39.6	-0.7
SPA0	Spitsbergen Ar	2.49	99	Pn	Pn	22 53 13.2	+2.1
baz=296,slow=12							
SPA0				Sn	Sn	22 53 40.5	+0.1
baz=281,slow=22							
HSPB	Hornsund (broa	2.98	123	*e*S	Sn	22 53 51.9	-0.5
HSPB				IAML		22 53 53.6	
comp=Z,8.7nm,0.4s							
NOR	Nord	4.50	318	Pn	Pn	22 53 39.9	+1.2
NOR				Sn	Sn	22 54 29.4	-0.4
NOR	Nord	4.50	318	*e*P	Pn	22 53 40.0	+1.4
NOR				*e*S	Sn	22 54 29.5	-0.4
NOR	Nord	4.50	318	*i* P	Pn	22 53 40.0	+1.3
NOR				*i* S	Sn	22 54 30.9	+1.1
NOR				IAML		22 54 31.5	
comp=Z,6.0nm,0.5s							
HOPEN	Hopen	4.98	107	*e*S	Sn	22 54 40.1	-1.4
HOPEN				IAML		22 55 03.1	
comp=Z,22nm,0.9s							
DAG	Danmarks Havn	5.27	259	*e*P	Pn	22 53 50.1	+1.0
DAG				*e*S	Sn	22 54 45.4	-3.3
DAG	Danmarks Havn	5.27	259	*i* P	Pn	22 53 50.2	+1.0
DAG				*i* S	Sn	22 54 44.7	-4.0
DAG				IAML		22 54 52.6	
comp=Z,4.4nm,0.3s							
DBG	Daneborg	7.24	244	Pn	Pn	22 54 16.8	+0.7
DBG				Sn	Sn	22 55 31.1	-5.9
DBG	Daneborg	7.24	244	*e*P	Pn	22 54 16.9	+0.7
DBG				*e*S	Sn	22 55 31.3	-5.7
DBG	Daneborg	7.24	244	*i* P	Pn	22 54 17.0	+0.9
DBG				*i* S	Sn	22 55 32.5	-4.5
DBG				IAML		22 55 37.6	
comp=Z,3.2nm,0.4s							
ZFI2	Zemlya Franca-	7.75	55	*e*P	Pn	22 54 23.4	+0.2
ZFI2				*e*S	Sn	22 55 43.7	-5.9
comp=Z,75nm,1.4s							
OMEGA	Omega	7.76	55	*e*P	Pn	22 54 23.4	0.0
OMEGA				*e*S	Sn	22 55 43.7	-6.3
comp=Z,82nm,1.9s							
JNW	Jan Mayen West	8.49	209	*e*P	Pn	22 54 36.3	+3.0

TAP ***18*** *23:07:12.3, 24°.89N×122°.45E, h15km, ML3.7, C*
JMA ***18*** *23:07:12.3±0.3, 25°.N±1°.×122°.5E±0°.5, h2km±4km, MV3.0/7,*
NW OFF ISHIGAKIJIMA IS
ISC 18 23:07:12.5±1.1,**24°.88N**±0°.02×**122°.45E**±0°.02,**h11**km±9km,
n88,σ0s43/146,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.44	288	*i* P	Pb	23 07 21.6	-0.7
TWB1				*i* S	Sb	23 07 28.3	-0.7
EGS		0.47	266	*i* P	Pb	23

PCYT	Pengchaiyu	0.83 336	eP	Pb	23 07 28.9	0.0
PCYT			eS	Sb	23 07 41.1	+1.0
ENTT	Nioudou	0.84 254	i P	Pb	23 07 29.0	-0.1
ENTT			eS	Sb	23 07 41.2	+0.8
YM08	YM08	0.84 292	eP	Pg	23 07 28.5	-0.2
YM08			eS	Sb	23 07 40.7	+0.2
YM01	YM01	0.84 289	eP	Pg	23 07 28.8	+0.1
YM01			eS	Sb	23 07 41.0	+0.4
NHDH	Xindian Distri	0.84 276	eP	Pb	23 07 29.2	0.0
EAHA	Aohua	0.84 230	eP	Pb	23 07 29.0	-0.2
EAHA			S	Sb	23 07 40.4	-0.2
NWLT	Wulai	0.87 264	i P	Sb	23 07 29.4	-0.2
NWLT			S	Sb	23 07 41.5	+0.2
TWY	Chenhua	0.87 298	eP	Pb	23 07 29.7	+0.1
TWY			eS	Sb	23 07 42.4	+1.1
ZUZH	Zhuzihu	0.87 289	eP	Pb	23 07 29.5	-0.1
TAP	Taipei	0.87 281	eP	Pn	23 07 30.7	-0.1
TAP			eS	Sb	23 07 41.8	+0.4
TATO	Taipei	0.88 277	P	Pg	23 07 29.4	-0.1
TATO	Taipei	0.88 277	eP	Pb	23 07 29.7	-0.1
TATO			eS	Sb	23 07 42.2	+0.6
NSM	Shimen	0.88 298	eP	Pn	23 07 30.7	-0.2
NSM			eS	Sn	23 07 43.2	-0.6
ANP	Anpu	0.90 290	eP	Pg	23 07 29.2	-0.7
LATG	Datong	0.91 248	i P	Pb	23 07 30.2	-0.1
LATG			i S	Sb	23 07 42.6	+0.1
NTST	Danshui	0.95 288	eP	Pn	23 07 32.2	+0.3
TWS1	Kuangyinshan	0.96 284	eP	Pb	23 07 31.1	-0.2
YHNB	Yeheng	1.00 258	P	Pb	23 07 32.0	+0.1
YHNB	Yeheng	1.00 258	eP	Pg	23 07 31.7	0.0
YHNB			S	Sb	23 07 45.1	0.0
NSK	Sanguang	1.01 259	eP	Pg	23 07 31.9	-0.1
NSK			eS	Sg	23 07 45.3	+0.1
ETL	Fush Village	1.04 227	eP	Pb	23 07 32.6	0.0
ETL			eS	Sn	23 07 47.2	-0.4
NACB	Ninganchiao	1.05 228	P	Pb	23 07 32.6	-0.1
NACB	Ninganchiao	1.05 228	S	Sb	23 07 46.7	+0.3
NACB	Ninganchiao	1.05 228	eP	Pg	23 07 32.2	-0.4
NACB			S	Sg	23 07 46.3	0.0
NNSB	Datong	1.07 246	eP	Pg	23 07 33.0	-0.1
NNSB			eS	Sg	23 07 46.8	-0.2
NNSH	Datong	1.07 246	eP	Pg	23 07 33.0	-0.1
NNSH			eS	Sn	23 07 48.1	-0.4
NNS	Nan Shan	1.07 246	eP	Pg	23 07 32.9	-0.2
NNS			S	Sb	23 07 47.3	0.0
ETLH	Xiulin Townshi	1.10 233	P	Pg	23 07 33.6	-0.2
ETLH			eS	Sb	23 07 48.6	+0.4
TWD	Chiawan	1.11 225	P	Pg	23 07 33.4	-0.4
TWD			S	Sb	23 07 49.0	+0.7
NCUH	Zhongli	1.15 275	eS	Sn	23 07 50.9	+0.4
KSHI	Guanxi Townshi	1.16 265	eP	Pb	23 07 34.6	0.0
NFF	Wufeng Townshi	1.23 259	eP	Pn	23 07 35.4	-0.5
NFF			eS	Sn	23 07 53.3	+0.7
ETM	Tongmen	1.26 224	eP	Pb	23 07 36.3	+0.1
FUSS	Fushou	1.26 241	eP	Pg	23 07 37.2	+0.4
FUSS			eS	Sg	23 07 53.4	+0.1
LXIB	Xiulin Townshi	1.27 228	P	Pg	23 07 36.8	-0.2
LXIB			S	Sn	23 07 54.5	+0.9
IRIF	Iriomote-Funau	1.28 115	eP	Pg	23 07 36.9	-0.3
WHF	Hehuan Shan	1.30 236	P	Pn	23 07 37.2	+0.1
WHF			eS	Sg	23 07 54.5	0.0
TWT	Tachien	1.31 242	P	Pg	23 07 37.5	-0.3
TWT			S	Sn	23 07 55.0	+0.3
LIOB	Emei	1.32 260	eP	Pn	23 07 36.6	-0.4
TDCB	Techi	1.33 242	eP	Pb	23 07 37.6	0.0
TDCB			eS	Sg	23 07 55.2	-0.2
NSTT	Nanjuang	1.34 260	eP	Pb	23 07 37.7	0.0
NSTT			eS	Sn	23 07 55.3	+0.2
ESL	Shilin	1.41 221	eP	Pn	23 07 38.4	+0.2
OWD	Renai	1.48 232	eP	Pb	23 07 40.1	-0.1
WHP	Taichung City	1.49 247	eP	Pg	23 07 40.9	-0.3
WHP			eS	Sg	23 08 00.8	+0.3
WUSB	Renai	1.50 234	eP	Pb	23 07 40.6	+0.1
WUSB			eS	Sg	23 08 01.1	+0.3
WARBT	Fenglin Townsh	1.51 220	eP	Pb	23 07 40.3	-0.3
WARBT			eS	Sb	23 07 59.9	+0.2
NMLH	Miaoli	1.55 258	eP	Pb	23 07 40.9	-0.3
NMLH			eS	Sg	23 08 02.4	+0.1
NSY	Sanyi	1.60 254	eP	Pb	23 07 42.5	+0.3
NSY			eS	Sb	23 08 03.3	+0.8
TWQ1	Liyutan	1.61 251	eP	Pb	23 07 42.1	-0.3
TWQ1			eS	Sb	23 08 03.3	+0.5
WCS	Beigang Elemen	1.62 240	eP	Pg	23 07 43.1	-0.5
WCS			eS	Sg	23 08 04.0	-0.7
DPDB	Guoxing	1.62 239	eP	Pn	23 07 41.6	+0.5
VWDT	VWDT	1.64 227	eP	Pn	23 07 41.8	+0.6
VWDT			eS	Sb	23 08 03.3	-0.1
HGSD	Ruisui	1.67 214	eP	Pn	23 07 41.5	-0.2
EHY	Hungye	1.71 217	eP	Pn	23 07 41.3	-1.0
SMLT	Sun Moon Lake	1.72 235	eP	Pb	23 07 44.2	-0.1
SSLB	Suanglung	1.74 232	P	Pb	23 07 44.8	+0.2
SSLB	Suanglung	1.74 232	eP	Pb	23 07 45.0	+0.4
SSLB			eS	Sb	23 08 06.7	+0.2
TYC	Yuchr	1.75 237	eP	Pb	23 07 44.4	-0.2
TYC			eS	Sb	23 08 07.6	+1.0
YULB	Yu-li	1.81 216	P	Pg	23 07 47.5	+0.2
TWF1	Yuli	1.85 215	eP	Pn	23 07 44.6	+0.4
CHN5	Tsauling	2.06 232	eP	Pb	23 07 49.4	-0.6
TPUB	Ta-pu	2.29 227	P	Pb	23 07 52.7	-1.1
TWGBT	Beinan	2.40 212	P	Pb	23 07 55.7	-0.1

IDC 18 23:08:24.4±7.8, 3°27S×126°58E, h186km±77km, mb3.2/3, mbtmp3.7/5, Error ellipse: s-maj=100.4km s-min=31.3km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.76 184		P	Pn	23 11 43.9	-0.5
	2.4nm,0.9s,baz=9.3,slow=12,SNR=3.2						
WRA	Warramunga Arr	18.22 156		P	P	23 12 23.4	-0.2
	1.1nm,0.5s,baz=335,slow=12,SNR=27						
ASAR	Alice Springs	21.48 161		P	P	23 12 59.0	+0.5
	2.1nm,0.5s,baz=343,slow=11,SNR=31						
	2.1nm,0.5s						
MKAR	Makanchi Array	63.27 328		P	P	23 18 33.3	+0.1
	0.3nm,0.7s,baz=147,slow=6.4,SNR=3.7						
	0.3nm,0.7s						
QSPA	South Pole Qui	86.68 180		P	P	23 20 46.5	-0.4
	0.3nm,0.5s,baz=4.1,slow=3.9,SNR=1.9						
	0.3nm,0.5s						

*NOU **18** 23:08:38.8, 41°48S×173°85E, h65km, MLv4.0/18, South Island, New Zealand*
*WEL **18** 23:08:39.7±0.9, 41°S±4°×17°4E±°, h52km±9km, M3.5/7, ML3.8/7, MLv3.5/7, Error ellipse: s-maj=5.8km s-min=5.3km az=176.2, confirmed*

ISC 18 23:08:39.0±1.3, 41°44S±0°04×173°81E±0°03, h72km±7km, n39, σ0°68/47, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWRS	Waikakaho Road	0.07	87	P	Pn	23 08 49.3	-0.1
BWRS				S	Sn	23 08 56.0	-1.1
MGCS	Blenheim Marlb	0.12	123	P	Pn	23 08 49.6	+0.1
HAVS	Havelock	0.17	353	P	Pn	23 08 49.2	-0.5
QCCS	Picton Queen C	0.23	44	P	Pn	23 08 50.0	0.0
QCCS				S	Sn	23 08 57.4	-0.6
BSWZ	Blackbirch Sta	0.28	170	P	Pn	23 08 50.4	+0.1
BSWZ				S	Sn	23 08 58.0	-0.6
SEDS	Seddon Fire St	0.30	139	S	Sn	23 08 59.5	+0.7
SDNS	Seddon	0.33	132	P	Pn	23 08 51.4	+0.8
SDNS				S	Sn	23 09 00.5	+1.3
WVFS	Wairau Valley	0.39	243	P	Pn	23 08 51.0	-0.1
NNZ	Nelson	0.40	304	P	Pn	23 08 50.9	-0.2
GLOS	29 km south-we	0.41	179	P	Pn	23 08 51.6	+0.2
TCW	Tory Channel	0.42	57	P	Pn	23 08 51.4	+0.1
CMWZ	Cape Campbell	0.43	136	P	Pn	23 08 53.0	+1.6
WDFS	Ward Fire Stat	0.46	148	P	Pn	23 08 52.0	+0.5
BTWS	Nelson Brightw	0.52	276	P	Pn	23 08 52.2	+0.1
LOKS	Mount Lookout	0.62	203	P	Pn	23 08 53.9	+0.5
LOKS				S	Sn	23 09 04.1	+0.1
DUWZ	D'Urville Isla	0.65	7	P	Pn	23 08 53.5	0.0
SNZO	South Karori	0.68	79	P	Pn	23 08 53.7	-0.1
SNZO	South Karori	0.68	79	P	Sn	23 09 05.6	+0.8
WEL	Wellington	0.74	78	P	Pn	23 08 54.5	0.0
KLDS	Kikiwa Line De	0.74	252	P	Pn	23 08 54.9	+0.4
THZ	Tophouse	0.75	245	P	Pn	23 08 55.2	+0.4
THZ				S	Sn	23 09 05.8	-0.5
TKNZ	Takaka Hill	0.76	302	P	Pn	23 08 54.9	+0.2
TKNZ				S	Sn	23 09 06.1	-0.3
MRNZ	Matariki Terra	0.80	273	P	Pn	23 08 55.4	+0.2
MRNZ				S	Sn	23 09 07.1	0.0
KHZ	Kahutara	0.99	192	P	Pn	23 08 57.8	+0.3
KHZ	Kahutara	0.99	192	P	Sn	23 09 11.0	-0.3
QRZ	Quartz Range	1.15	302	P	Pn	23 08 59.6	+0.1
QRZ	Quartz Range	1.15	302	S	Sn	23 09 14.4	-0.4
BFZ	Birch Farm	1.99	68	P	Pn	23 09 09.2	-1.4
BFZ	Birch Farm	1.99	68	S	Sn	23 09 33.7	-0.9
KHEZ	Kahui Hut	2.15	4	P	Pn	23 09 14.1	+1.3
KHEZ	Kahui Hut	2.15	4	S	Sn	23 09 39.4	+0.8
HIZ	Hauiti	3.03	16	P	Pn	23 09 25.1	+0.4
HIZ	Hauiti	3.03	16	S	Sn	23 10 00.6	+0.7
RPZ	Rata Peaks	3.05	221	P	Pn	23 09 25.2	+0.3
URZ	Urewera	4.07	40	P	Pn	23 09 38.6	-0.2
ODZ	Otahua Downs	4.28	212	P	Pn	23 09 40.2	-1.4
JCZ	Jackson Bay	4.54	233	P	Pn	23 09 44.2	-1.1
KUZ	Kuaotunu	4.92	18	P	Pn	23 09 50.6	+0.2
CTZ	Chatham Island	7.42	111	P	Pn	23 10 23.6	-1.0

*NNC **18** 23:10:25.2±4.5, 37°60N×71°37E, h172km±61km, mb3.0, mpv4.0, Error ellipse: s-maj=44.1km s-min=27.1km az=32.0*

ISC 18 23:10:22.5±3.2, 37°5N±0°2×71°2E±0°1, h150km, n10, σ1°19/14, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	Erkin-Say	5.55	20	P	Pn	23 11 44.0	+0.7
	SNR=30						
KK31	Karatay Array	5.67	355	⇑P	Pn	23 11 45.6	+0.9
	4.6nm,0.2s,baz=183,slow=14,SNR=170						
KK31				⇓S	Sn	23 12 50.6	+1.6
	4.9nm,0.3s,baz=185,slow=26,SNR=6.5						
AAK	Ala-Archa	5.75	25	P	Pn	23 11 46.3	+0.4
	SNR=58						
AAK	Ala-Archa	5.75	25	⇓P	Pn	23 11 46.3	+0.4
	7.6nm,0.4s						
AAK				⇓S	Sn	23 12 50.7	-0.4
	3.6nm,0.5s						
KBK	Karagaybulak	5.92	28	P	Pn	23 11 48.7	+0.4
	SNR=7.7						
CHMS	Chumysh	6.16	25	P	Pn	23 11 51.4	+0.2
	SNR=32						
USP	Ospenovka	6.32	22	P	Pn	23 11 53.3	-0.1
	SNR=51						
TKM2	Tokmak 2	6.40	30	P	Pn	23 11 54.3	-0.3
	SNR=24						
AB31	Akbulak array	14.36 329		⇑P	P	23 13 39.9	-1.4
	0.6nm,0.5s,baz=138,slow=13,SNR=21						
AB31				⇑S	Sn	23 16 16.3	-1.4
	3.4nm,0.6s,baz=150,slow=22,SNR=11						
AKTO	Aktyubinsk	16.06 328		⇓P	P	23 14 02.8	+2.6
	1.9nm,0.8s						
AKTO				⇓S	S	23 16 57.8	-0.6
	2.3nm,0.8s						

*NOU **18** 23:19:13.0, 41°29S×172°62E, h117km, MLv3.6/15, South Island, New Zealand*
*WEL **18** 23:19:15.0±1.0, 41°S±5°×17°3E±°, h111km±6km, M2.6/8, MLv2.6/8, Error ellipse: s-maj=6.7km s-min=5.8km az=12.2, confirmed*

ISC 18 23:19:12.0±1.5, 41°27S±0°04×172°62E±0°05, h141km±8km, n32, σ1°11/47, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	Matariki Terra	0.17	141	P	Pn	23 19 31.7	+0.7
MRNZ				S	Sn	23 19 44.6	-1.1
MATW	Matariki Wadsw	0.17	158	P	Pn	23 19 31.6	+0.5
MATW				S	Sn	23 19 44.8	-0.9
TKNZ	Takaka Hill	0.35	48	P	Pn	23 19 31.9	+0.3
TKNZ				S	Sn	23 19 45.0	-1.5
KASC	Karamea School	0.38	273	P	Pn	23 19 32.8	+1.2
KASC				S	Sn	23 19 46.5	-0.1
BTWS	Nelson Brightw	0.40	108	P	Pn	23 19 32.8	+1.0
BTWS				S	Sn	23 19 46.7	0.0
QRZ	Quartz Range	0.45	351	P	Pn	23 19 32.4	+0.4
QRZ	Quartz Range	0.45	351	S	Sn	23 19 45.9	-1.3
QRZ	Quartz Range	0.45	351	P	Pn	23 19 32.5	+0.5
QRZ				S	Sn	23 19 45.6	-1.6
THZ	Tophouse	0.54	157	P	Pn	23 19 33.6	+1.0
THZ				S	Sn	23 19 48.2	-0.1
NNZ	Nelson	0.58	85	P	Pn	23 19 33.2	+0.6
NNZ				S	Sn	23 19 47.5	-0.9
KHLK	Kaihoka Lakes	0.71	360	P	Pn	23 19 34.0	+0.5
KHLK				S	Sn	23 19 48.6	-1.3
DSZ	Denniston Nort	0.78	232	P	Pn	23 19 35.2	+1.1
DSZ				S	Sn	23 19 50.1	-0.8
HAVS	Havelock	0.88	91	P	Pn	23 19 35.9	+1.1
HAVS				S	Sn	23 19 52.4	+0.2
MOLW	Molesworth Sta	0.95	150	P	Pn	23 19 37.2	+1.8
MOLW				S	Sn	23 19 54.1	+0.6
BWRS	Waikakaho Road	0.98	100	P	Pn	23 19 36.5	+0.8
BWRS				S	Sn	23 19 53.4	-0.3
TUWZ	Tuamarina	1.01	100	P	Pn	23 19 37.5	+1.6
TUWZ				S	Sn	23 19 54.6	+0.4
BSWZ	Blackbirch Sta	1.04	116	P	Pn	23 19 37.0	+0.8
DUWZ	D'Urville Isla	1.09	65	P	Pn	23 19 37.4	+0.7
DUWZ				S	Sn	23 19 55.0	-0.5
TCW	Tory Channel	1.25	88	P	Pn	23 19 38.9	+0.7
KHZ	Kahutara	1.34	149	P	Pn	23 19 35.9	-3.1
KHZ	Kahutara	1.34	149	P	Sn	23 19 59.0	-0.8
SNZO	South Karori	1.57	92	P	Pn	23 19 42.7	+1.1
SNZO	South Karori	1.57	92	P	Sn	23 20 02.2	-2.0
KHEZ	Kahui Hut	2.24	29	P	Pn	23 19 50.9	+1.4
RPZ	Rata Peaks	2.71	205	P	Pn	23 19 56.1	+0.9
RPZ	Rata Peaks	2.71	205	S	Sn	23 20 27.6	-1.0
HIZ	Hauiti	3.25	33	P	Pn	23 20 02.5	+0.4
HIZ	Hauiti	3.25	33	S	Sn	23 20 39.8	-1.1
JCZ	Jackson Bay	3.98	224	P	Pn	23 20 12.8	+1.1
JCZ	Jackson Bay	3.98	224	S	Sn	23 20 56.9	-1.3
ODZ	Otahua Downs	4.04	200	P	Pn	23 20 13.2	+0.8
ODZ	Otahua Downs	4.04	200	S	Sn	23 20 58.7	-0.7

UPP 18 23:24:42.2±0.3, 67°84N×20°21E, h1km±2km, ML2.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	22	P	Pg	23 24 44.8	+0.2
KUA				S	Sg	23 24 46.5	+0.4
RATU	Laukkuluspa	0.24	266	P	Pg	23 24 46.9	+0.2
RATU				S	Sg	23 24 50.3	+0.5
KOVU	Salmi	0.38	357	P	Pg	23 24 49.6	+0.1
NIKU	Nikkaluokta	0.45	274	P	Pg	23 24 50.7	0.0
LANU	Lannavaara	0.70	72	P	Pg	23 24 55.5	-0.1
DUNU	Dundret	0.74	169	P	Pg	23 24 56.0	-0.3
SALU	Saltoluokta	0.80	235	P	Pg	23 24 57.2	-0.3
SALU	Saltoluokta	0.80	235	eP	Pg	23 24 57.3	-0.2
KIF	Kilpisjarvi	1.19	10	eP	Pg	23 25 05.0	+0.1
PAJU	Pajala	1.39	125	P	Pn	23 25 07.7	-1.0
ERTU	Ertsjaerv	1.50	148	P	Pn	23 25 09.9	-0.4

*IDC **18** 23:24:47.1±1.2, 67°89N×21°16E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=19.1km s-min=7.3km az=117.0*
*UPP **18** 23:24:47.8±0.1, 67°85N×20°42E, h0km, ML1.9, Suspected explosion*

ISC 18 23:24:46.0±0.8, 67°89N±0°04×20°25E±0°05, h0km, n11, σ2°77/16, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.07	26	P	Pg	23 24 50.2	+2.8
	baz=150						
KUA				S	Sg	23 24 51.8	+3.4
RATU	Laukkuluspa	0.26	256	P	Pg	23 24 54.0	+3.0
RATU				S	Sg	23 24 58.5	+4.2
KOVU	Salmi	0.34	354	P	Sg	23 24 55.2	-1.7
KOVU				S	Sb	23 25 00.6	-0.3
KOVU	Salmi	0.34	354	S	Sg	23 24 54.9	-2.0
NIKU	Nikkaluokta	0.46	268	P	Sg	23 24 57.6	-3.1
NIKU				S	Sb	23 25 04.8	+0.5
NIKU	Nikkaluokta	0.46	268	S	Sg	23 24 57.1	-3.6
DUNU	Dundret	0.78	171	P	Pb	23 25 01.6	-0.9
ARCES	ARCESS Array B	2.53	47	Pn	Pn	23 25 26.5	-1.9
	0.3nm,0.3s,baz=224,slow=15,SNR=7.3						
ARCES				Lg	Lg	23 25 59.0	
	1.4nm,0.3s,baz=226,slow=25,SNR=11						
	0.7nm,0.3s						
FINES	FINESS Array B	6.93 156		Pn	Pn	23 26 29.6	+0.9
	0.2nm,0.3s,baz=346,slow=10,SNR=4.2						
FINES				Sn	Sn	23 27 44.7	-3.4
	0.1nm,0.3s,baz=342,slow=23,SNR=1.5						
FINES				Lg	Lg	23 28 18.8	
	0.4nm,0.3s,baz=351,slow=24,SNR=7.0						
	0.6nm,0.4s						
NOA	NORSAR Array B	7.90 214		Pn	Pn	23 26 44.4	+2.4
	baz=30,slow=15,SNR=2.0						
NOA				Lg	Lg	23 28 51.3	
	baz=83,slow=19,SNR=5.8						
	0.9nm,0.9s						
HFS	Hagfors	8.29 203		Pn	Pn	23 26 47.3	-0.1
	0.1nm,0.3s,baz=16,slow=11,SNR=0.8						
	0.9nm,0.7s						

*IDC **18** 23:26:56.5±1.0, 6°01S×131°00E, h0km, mb4.3/7, mbtmp4.5/11, ML4.9/4, Error ellipse: s-maj=42.3km s-min=17.3km az=71.0*
*NEIC **18** 23:27:06.2±1.7, 6°16S±0°06×130°68E±0°09, h71km±6km, mb4.5/9, Error ellipse: s-maj=13.0km s-min=8.1km az=93.0.*
*DJA **18** 23:27:07.8±0.2, 6°S±3°×13°1E±°, h132km±7km, M4.6/12, mb4.4/10, mB5.4/4, MLv4.7/12, Mw(mB)4.8/4*

ISC 18 23:27:07.5±0.5, 6°23S±0°04×130°79E±0°06, h100km, n57, σ2°45/61, mb4.2/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.82 164			Pn	23 27 39.9	+2.2
SAUI				Sn	Sn	23 28 02.9	+2.1
SAUI	Saumlaki	1.82 164		P	Pn	23 27 40.0	+2.2
SAUI	Saumlaki	1.82 164		P	Pn	23 27 40.3	+2.5
BNDI	Bandanaira	1.91 333		P	Pn	23 27 37.9	-1.0
BNDI	Bandanaira	1.91 333		P	Pn	23 27 38.2	-0.7
MSAI	Masohi	3.41 327		P	Pn	23 27 58.7	-0.1
FAKI	Fak Fak	3.60 24		Pn	Pn	23 28 00.3	-1.1
FAKI					Sn	23 28 39.1	-3.8
FAKI	Fak Fak	3.60 24		P	Pn	23 28 00.2	-1.1
FAKI	Fak Fak	3.60 24		S	Sn	23 28 39.7	-3.2
FAKI	Fak Fak	3.60 24		P	Pn	23 28 00.4	-0.9
KMPI	Kaimana, Papua	3.87 49		P	Pn	23 28 05.5	+0.6
NLAI	Namlea	4.72 309		P	Pn	23 28 21.0	+4.5
SWI	Sorong	5.35 5		P	Pn	23 28 23.3	-1.7
RKPI	Ransiki, Papua	5.78 36		P	Pn	23 28 31.4	+0.5
DRS	Darwin Rock St	6.17 179		P	Pn	23 28 36.9	+0.8
AUDHS	Darwin High Sc	6.17 180		P	Pn	23 28 35.6	-0.6
AUDHS	Darwin High Sc	6.17 180		S	Sn	23 29 45.0	-0.4
SANI	Sanana	6.33 311		P	Pn	23 28 39.7	+1.3
	13nm,0.5s						
MTN	Manton Dam	6.58 177		Pn	Pn	23 28 41.8	+0.1
BAKI	Biak	7.29 47		P	Pn	23 28 52.5	+1.0
SOEI	Soe	7.34 241		Pn	Pn	23 28 53.1	+0.8
SOEI	Soe	7.34 241		P	Pn	23 28 53.7	+1.5
	0.3nm32nm,0.7s						
BATI	Baumata	8.08 240		Pn	Pn	23 29 00.3	-1.9
	12nm,0.3s,baz=90,slow=7.4,SNR=6.6						
BATI				Sn	Sn	23 30 28.5	-3.5
	13nm,0.3s,baz=312,slow=19,SNR=8.8						
	31nm,0.4s						
BATI	Baumata	8.08 240		P	Pn	23 29 02.6	+0.4
	34nm,0.5s						
BBSI	Bau Bau	8.21 275		P	Pn	23 29 06.9	+3.0
	85nm,1.0s						
EDFI	Ende, Flores	9.36 254		P	Pn	23 29 19.4	-0.3
KNRA	Kununurra	9.60 192			Pn	23 29 21.5	-1.2
FITZ	Fitzroy Crossi	12.82 203		Pn	Pn	23 30 02.4	-3.7
	6.8nm,0.3s,baz=21,slow=9.3,SNR=107						
FITZ				Sn	Sn	23 32 16.1	-11
	6.0nm,0.3s,baz=174,slow=20,SNR=8.5						
	14nm,0.3s						
WB0	Warramunga Arr	13.91 166			Pn	23 30 16.8	-3.6
WRA	Warramunga Arr	14.06 166			Pn	23 30 19.2	-3.2
WRA	Warramunga Arr	14.06 166		Pn	Pn	23 30 18.6	-3.7
	5.6nm,0.3s,baz=350,slow=13,SNR=58						
WRA				Sn	Sn	23 32 48.5	-8.9
	4.6nm,0.3s,baz=344,slow=21,SNR=9.5						
	15nm,0.5s						
COEN	Coen	14.41 123			Pn	23 30 26.6	-0.3
QIS	Mount Isa	16.62 150		P	Pn	23 30 54.1	-0.4
AS31	Alice Springs	17.59 170		P	Pn	23 31 05.8	-0.6
AS31				IAmb	IAmb	23 31 09.8	
	comp=Z,12nm,0.4s						
ASAR	Alice Springs	17.60 171		P	Pn	23 31 06.1	-0.4
ASAR	Alice Springs	17.60 171		P	P	23 31 05.4	-0.6
	comp=Z,4.6nm,0.3s,baz=339,slow=9.0,SNR=110						
ASAR				S	Sn	23 34 13.4	-9.2
	comp=Z,4.8nm,0.8s,baz=349,slow=26,SNR=10.0						
	comp=Z,11nm,0.6s						
AS01	Alice Springs	17.60 170		P	Pn	23 31 06.2	-0.4
AUALC	St Philip's Co	17.62 171		P	Pn	23 31 07.2	+0.5
MBWA	Marble Bar	18.30 215		P	P	23 31 12.9	-0.9
FORT	Forrest	24.56 186		P	P	23 32 19.1	+1.1
FORT				IAmb	IAmb	23 32 31.5	
	comp=Z,8.3nm,0.9s						
STKA	Stephens Creek	27.45 160		P	P	23 32 45.7	+1.6
	comp=Z,3.1nm,0.9s,baz=337,slow=11,SNR=1.7						
	comp=Z,3.1nm,0.9s						
CMAR	Chiang Mai Arr	39.85 309		P	P	23 34 32.1	+0.6
	comp=Z,2.0nm,0.5s,baz=133,slow=7.2,SNR=16						
	comp=Z,2.0nm,0.5s						
CHTO	Chiang Mai	40.05 309		P	P	23 34 33.1	-0.1
CHTO				IAmb	IAmb	23 34 34.5	
	comp=Z,3.9nm,0.6s						
HHC	Hu-ho-hao-te	50.06 341	eP	P	P	23 35 55.3	+3.0
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EVN	Everest	54.36 311		P	P	23 36 25.3	+0.3
MKAR	Makanchi Array	68.02 326			P	23 37 57.3	+1.1
MKAR	Makanchi Array	68.02 326

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.81**	**299**	Pn	Pn	23 49 24.4	+0.2
	2.9nm,0.3s,baz=122,slow=19,SNR=14						
PETK				Sn	Sn	23 49 37.3	+0.3
	5.0nm,0.3s,baz=88,slow=20,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**33.51**	**166**	H	H	00 30 57.1	
	baz=352,slow=76,SNR=1967						
H11N3	**WAKE ISLAND Hy**	**33.53**	**166**	H	H	00 31 04.0	
	baz=352,slow=76,SNR=2052						
H11N1	**WAKE ISLAND Hy**	**33.53**	**166**	H	H	00 31 13.0	
	baz=352,slow=76,SNR=2143						
H11S1	**WAKE ISLAND Hy**	**34.69**	**167**	H	H	00 32 31.1	
	baz=352,slow=76,SNR=1733						
H11S3	**WAKE ISLAND Hy**	**34.70**	**167**	H	H	00 32 32.4	
	baz=352,slow=76,SNR=2785						
H11S2	**WAKE ISLAND Hy**	**34.71**	**167**	H	H	00 32 32.9	
	baz=352,slow=76,SNR=1555						
H03N2	**Juan Fernandez**	**134.93**	**88**	H	H	02 38 01.1	
	baz=314,slow=78,SNR=55						
H03N1	**Juan Fernandez**	**134.94**	**88**	H	H	02 38 00.9	
	baz=314,slow=78,SNR=64						
H03N3	**Juan Fernandez**	**134.95**	**88**	H	H	02 38 00.4	
	baz=314,slow=78,SNR=50						

*BER **18** 23:49:58.2±3.6, 78°.88N×4°.60E, h10km, Mw3.5, ML1.7(DNK), Confirmed Earthquake*
*DNK **18** 23:49:59.2±2.2, 78°.79N×4°.65E, h36km±19km, ML1.7*
*KOLA **18** 23:50:03.2, 78°.57N×6°.87E, h0km, ML2.1, Error ellipse: s-maj=17.6km s-min=12.5km az=130.0, Greenland sea, Knipovich ridge, middle*

ISC 18 23:49:55.0±1.7, 78°.79N±0°.07×4°.24E±0°.03, h15km±13km, n18, σ2s49/34, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.50**	**81**	P	**Pb**	**23 50 22.3**	**-0.2**
KBS				S	**Sn**	**23 50 38.6**	**-2.0**
KBS	**Kingsbay**	**1.50**	**81**	⇑iP	**Pg**	**23 50 22.7**	**-1.1**
KBS				*e*S	**Sn**	**23 50 39.0**	**-1.7**
KBS				IAML		23 50 41.2	
	comp=Z,40nm,0.1s						
KBS	**Kingsbay**	**1.50**	**81**	*i* P	**Pg**	**23 50 22.8**	**-1.1**
KBS				*i* S	**Sn**	**23 50 38.7**	**-2.0**
BRBB	**Barentsburg B**	**2.13**	**104**	P	**Pn**	**23 50 31.5**	**+1.6**
BRBB				S	**Sn**	**23 50 52.3**	**-3.7**
BRBB	**Barentsburg B**	**2.13**	**104**	*e*P	**Pn**	**23 50 31.7**	**+1.8**
BRBB				*e*S	**Sn**	**23 50 54.4**	**-1.6**
BRBA	**Barentsburg A**	**2.14**	**105**	*e*P	**Pn**	**23 50 32.0**	**+1.9**
BRBA				*e*S	**Sn**	**23 50 55.2**	**-1.1**
BRBA				IAML		23 50 58.6	
	comp=Z,28nm,0.4s						
SPA0	**Spitsbergen Ar**	**2.51**	**98**	⇑*i*P	**Pb**	**23 50 37.9**	**-1.8**
SPA0				*e*S	**Sn**	**23 51 04.8**	**-0.7**
SPA0				IAML		23 51 09.4	
	comp=Z,22nm,0.4s						
SPITS	**Spitsbergen Ar**	**2.51**	**98**	P	**Pn**	**23 50 37.5**	**+2.3**
SPITS				S	**Sn**	**23 51 04.7**	**-0.7**
HSPB	**Hornsund (broa**	**2.98**	**121**	P	**Pn**	**23 50 44.7**	**+3.1**
HSPB				S	**Sn**	**23 51 15.4**	**-1.4**
HSPB	**Hornsund (broa**	**2.98**	**121**	*e*P	**Pn**	**23 50 44.9**	**+3.3**
HSPB				*e*S	**Sn**	**23 51 15.5**	**-1.4**
HSPB				IAML		23 51 18.3	
	comp=Z,11nm,0.4s						
NOR	**Nord**	**4.52**	**318**	*i* P	**Pn**	**23 51 04.5**	**+1.7**
NOR				*e*S	**Sn**	**23 51 54.2**	**-0.7**
NOR				IAML		23 52 01.7	
	comp=Z,4.2nm,0.6s						
NOR	**Nord**	**4.52**	**318**	*i* P	**Pn**	**23 51 04.5**	**+1.7**
NOR				*i* S	**Sn**	**23 51 54.4**	**-0.6**
NOR				IAML		23 52 01.7	
	comp=Z,4.2nm,0.6s						
DAG	**Danmarks Havn**	**5.24**	**259**	*i* P	**Pn**	**23 51 14.7**	**+2.1**
DAG				*i* S	**Sn**	**23 52 09.4**	**-3.2**
DAG				IAML		23 52 16.3	
	comp=Z,2.7nm,0.3s						
DAG	**Danmarks Havn**	**5.24**	**259**	*i* P	**Pn**	**23 51 14.7**	**+2.1**
DAG				*i* S	**Sn**	**23 52 09.4**	**-3.2**
DAG				IAML		23 52 16.3	
	comp=Z,2.7nm,0.3s						
DBG	**Daneborg**	**7.20**	**244**	*i* P	**Pn**	**23 51 41.5**	**+2.1**
DBG				*i* S	**Sn**	**23 52 57.1**	**-3.6**
DBG				IAML		23 53 00.2	
	comp=Z,1.7nm,0.3s						
DBG	**Daneborg**	**7.20**	**244**	*i* P	**Pn**	**23 51 41.5**	**+2.1**
DBG				*i* S	**Sn**	**23 52 57.1**	**-3.6**
DBG				IAML		23 53 00.2	
	comp=Z,1.7nm,0.3s						
JNW	**Jan Mayen West**	**8.44**	**209**	*e*P	**Pn**	**23 52 01.1**	**+4.7**
JNE	**Jan Mayen East**	**8.46**	**209**	*e*P	**Pn**	**23 52 01.1**	**+4.3**

*IDC **19** 00:01:13.8±1.2, 69°.73N×144°.91W, h0km, mb3.9/4, mbtmp3.7/6, ML3.3/2, MS3.2/2, Error ellipse: s-maj=29.6km s-min=15.9km az=92.0*
*AEIC **19** 00:01:13.2±1.7, 69°.58N±0°.04×144°.74W±0°.06, h10km±4km, ML3.2, ML3.3/128(NEIC), Error ellipse: s-maj=5.9km s-min=3.0km az=187.0*
*NEIC **19** 00:01:15.0±0.8, 69°.64N±0°.05×144°.77W±0°.09, h10km±2km, Error ellipse: s-maj=8.8km s-min=4.9km az=11.0*

ISC 19 00:01:13.7±1.2, 69°.62N±0°.03×144°.77W±0°.02, h3km±9km, n134, σ0s82/137, mb4.0/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C26K	**Camden Bay**	**0.30**	**350**		**Pg**	**00 01 20.7**	**+1.2**
C26K					**Sb**	**00 01 26.0**	**-1.1**
C26K				IAML		00 01 26.9	
	comp=N,3μm,0.5s						
C26K				IAML		00 01 27.6	
	comp=E,4μm,0.5s						
C27K	**Jago River**	**0.37**	**89**		**Pg**	**00 01 21.0**	**+0.2**
C27K				Sg	**Sg**	**00 01 26.5**	**+0.9**
C27K				IAML		00 01 28.6	
	comp=N,5μm,0.4s						
D25K	**Kavik River**	**0.64**	**243**	Pg	**Pg**	**00 01 25.1**	**-1.0**
D25K				Sg	**Sg**	**00 01 34.0**	**-0.3**
C24K	**Franklin Bluff**	**1.38**	**276**		**Pn**	**00 01 39.9**	**0.0**
C24K				Sg	**Sb**	**00 01 58.2**	**+0.2**
C24K				IAML		00 02 02.7	
	comp=N,454nm,0.5s						
D27M	**Malcolm River**	**1.40**	**104**		**Pn**	**00 01 39.4**	**-0.7**
D27M				Sg	**Sg**	**00 02 00.1**	**+1.6**
D27M				IAML		00 02 02.0	
	comp=E,464nm,0.5s						
D24K	**Happy Valley**	**1.51**	**254**		**Pn**	**00 01 41.9**	**+0.2**
D24K	**Happy Valley**	**1.51**	**254**		**Sg**	**00 02 03.2**	**+1.0**
E25K	**Arctic Village**	**1.54**	**191**		**Pn**	**00 01 41.8**	**-0.3**
E25K				Sn	**Sn**	**00 02 02.8**	**+0.3**
E25K				IAML		00 02 06.3	
	comp=N,462nm,0.8s						
E25K				IAML		00 02 08.6	
	comp=E,508nm,0.8s						
E27K	**Coleen River**	**1.84**	**140**		**Pn**	**00 01 46.4**	**+0.2**
E27K					**Sn**	**00 02 11.3**	**+1.2**
E27K					**Sb**	**00 02 12.0**	**+0.5**
E27K	**Coleen River**	**1.84**	**140**	IAML		00 02 18.6	
	comp=E,280nm,0.7s						
F26K	**Sheenjek River**	**1.95**	**173**		**Pn**	**00 01 48.3**	**+0.5**
F26K					**Sn**	**00 02 13.6**	**+0.9**
F26K					**Sb**	**00 02 13.9**	**-0.6**
F26K	**Sheenjek River**	**1.95**	**173**	IAML		00 02 17.6	
	comp=E,266nm,0.6s						
F26K				IAML		00 02 18.2	
	comp=N,217nm,0.5s						
TOLK	**Toolik Lake Re**	**1.98**	**242**		**Pn**	**00 01 48.7**	**+0.5**
TOLK				IAML		00 02 22.2	
	comp=N,225nm,0.7s						
TOLK				IAML		00 02 26.3	
	comp=E,314nm,0.7s						
TOLK	**Toolik Lake Re**	**1.98**	**242**		**Sb**	**00 02 15.8**	**+0.2**
C23K	**Itkillik River**	**2.05**	**279**		**Pn**	**00 01 49.5**	**+0.5**
C23K	**Itkillik River**	**2.05**	**279**		**Sb**	**00 02 18.9**	**+1.5**
E24K	**Your Creek**	**2.06**	**223**		**Pn**	**00 01 49.6**	**+0.4**
E24K	**Your Creek**	**2.06**	**223**		**Sb**	**00 02 17.2**	**-0.5**
F25K	**Christian Rive**	**2.06**	**189**		**Pn**	**00 01 49.8**	**+0.5**
F25K				IAML		00 02 24.0	
	comp=N,185nm,0.7s						
F25K				IAML		00 02 26.8	
	comp=E,192nm,0.9s						
F25K	**Christian Rive**	**2.06**	**189**		**Sn**	**00 02 17.2**	**+1.6**
E28M	**Babbage River**	**2.14**	**116**		**Pn**	**00 01 51.1**	**+0.8**
E28M				IAML		00 02 23.3	
	comp=N,239nm,0.5s						
E28M	**Babbage River**	**2.14**	**116**		**Sb**	**00 02 19.2**	**-0.6**
D28M	**Stokes Point**	**2.15**	**95**		**Pn**	**00 01 51.2**	**+0.9**
D28M					**Pb**	**00 01 51.5**	**-1.7**
BM01	**Burnt Mountain**	**2.19**	**178**		**Pn**	**00 01 51.5**	**+0.6**
D23K	**Nanushuk River**	**2.20**	**255**		**Pn**	**00 01 51.8**	**+0.7**
D23K				IAML		00 02 30.4	
	comp=N,188nm,0.9s						
D23K				IAML		00 02 32.8	
	comp=E,178nm,1.1s						
BMAR	**Burnt Mountain**	**2.21**	**178**		**Pn**	**00 01 52.0**	**+0.7**
E23K	**Chandalar**	**2.36**	**231**		**Pn**	**00 01 54.2**	**+0.9**
F24K	**Squaw Lake**	**2.41**	**210**		**Pn**	**00 01 54.4**	**+0.4**
F28M	**Old Crow**	**2.70**	**136**		**Pn**	**00 01 58.5**	**+0.5**
F28M				IAML		00 02 40.8	
	comp=N,140nm,0.5s						
F28M				IAML		00 02 49.2	
	comp=E,138nm,0.6s						
G26K	**Porcupine Rive**	**2.71**	**172**		**Pn**	**00 01 58.9**	**+0.8**
G26K	**Porcupine Rive**	**2.71**	**172**	IAML		00 02 48.9	
	comp=E,174nm,1.0s						
E29M	**Blow River**	**2.77**	**113**		**Pn**	**00 01 59.6**	**+0.7**
E29M				IAML		00 02 49.0	
	comp=N,139nm,0.9s						
D22K	**Ayikyak River**	**2.92**	**259**		**Pn**	**00 02 01.3**	**+0.4**
E22K	**Anaktuvuk Pass**	**2.96**	**243**		**Pn**	**00 02 01.5**	**0.0**
G27K	**Doyon Strip**	**3.06**	**156**		**Pn**	**00 02 03.1**	**+0.2**
B22K	**Teshekpuk Lake**	**3.06**	**288**		**Pn**	**00 02 03.6**	**+0.7**
FYU	**Fort Yukon**	**3.08**	**183**		**Pn**	**00 02 04.0**	**+0.9**
FYU				IAML		00 02 59.2	
	comp=E,107nm,0.8s						
FYU				IAML		00 03 04.3	
	comp=N,120nm,1.1s						
G24K	**Hadweenzic Riv**	**3.11**	**200**		**Pn**	**00 02 02.8**	**-0.7**
G24K					**Pn**	**00 02 03.7**	**+0.2**
G24K	**Hadweenzic Riv**	**3.11**	**200**	IAML		00 03 00.7	
	comp=E,83nm,1.0s						
COLD	**Coldfoot**	**3.13**	**222**		**Pn**	**00 02 04.5**	**+0.6**
H25L	**Birch Creek**	**3.40**	**187**		**Pn**	**00 02 08.0**	**+0.5**
B21K	**Ikpikpuk River**	**3.45**	**275**		**Pn**	**00 02 08.7**	**+0.5**
B21K					**Pn**	**00 02 09.2**	**+1.0**
B21K	**Ikpikpuk River**	**3.45**	**275**	IAML		00 03 19.1	
	comp=N,67nm,0.9s						
B21K				IAML		00 03 19.3	
	comp=E,87nm,1.1s						
E21K	**Killik River**	**3.52**	**255**	Pn	**Pn**	**00 02 09.8**	**+0.6**
E21K				IAML		00 03 17.9	
	comp=E,58nm,0.8s						
E21K				IAML		00 03 19.9	
	comp=N,64nm,1.0s						
G23K	**Bananza Creek**	**3.52**	**216**		**Pn**	**00 02 10.2**	**+0.9**
G23K				IAML		00 03 12.3	
	comp=E,55nm,0.8s						
C21K	**Knifeblade Rid**	**3.57**	**267**		**Pn**	**00 02 10.8**	**+0.9**
H27K	**Steamboat Moun**	**3.62**	**159**		**Pn**	**00 02 11.6**	**+1.0**
H27K				IAML		00 03 13.1	
	comp=E,78nm,1.1s						
H27K				IAML		00 03 14.2	
	comp=N,49nm,0.7s						
G29M	**Pine Creek**	**3.70**	**134**		**Pn**	**00 02 12.5**	**+0.7**
F30M	**Barrier River**	**3.86**	**117**		**Pn**	**00 02 14.2**	**+0.3**
F30M				IAML		00 03 21.1	
	comp=N,50nm,0.8s						
F30M				IAML		00 03 24.7	
	comp=E,63nm,0.8s						
H24K	**Noodor Dome**	**3.98**	**199**		**Pn**	**00 02 15.6**	**0.0**
F21K	**Alatna River**	**4.02**	**237**	IAML		00 03 28.6	
	comp=E,42nm,0.8s						
F21K	**Alatna River**	**4.02**	**237**		**Pn**	**00 02 16.5**	**+0.3**
F21K					**Pn**	**00 02 16.9**	**+0.8**
G30M	**tAoh Zraii Nji**	**4.13**	**126**		**Pn**	**00 02 17.4**	**-0.3**
G30M				IAML		00 03 34.1	
	comp=N,39nm,0.8s						
G30M				IAML		00 03 44.3	
	comp=E,35nm,0.8s						
PRP	**Porcupine Dome**	**4.14**	**184**		**Pn**	**00 02 18.3**	**+0.5**
PRP				IAML		00 03 31.1	
	comp=N,40nm,0.9s						
H29M	**Whitestone**	**4.18**	**142**		**Pn**	**00 02 19.2**	**+0.9**
I27K	**Kandik River**	**4.21**	**162**		**Pn**	**00 02 19.4**	**+0.6**
H23K	**Yukon River**	**4.23**	**208**		**Pn**	**00 02 19.0**	**+0.1**
H23K					**Pn**	**00 02 19.3**	**+0.3**
H23K	**Yukon River**	**4.23**	**208**	IAML		00 03 48.0	
	comp=E,31nm,1.0s						
INK	**Inuvik**	**4.26**	**103**		**Pn**	**00 02 20.2**	**+0.9**
B20K	**Meade River**	**4.31**	**281**	Pn	**Pn**	**00 02 21.1**	**+1.0**
B20K				IAML		00 03 11.3	
	comp=N,43nm,0.5s						
B20K				IAML		00 03 45.2	
	comp=E,42nm,1.2s						
D20K	**Etivluk River**	**4.33**	**263**		**Pn**	**00 02 21.5**	**+1.1**
D20K	**Etivluk River**	**4.33**	**263**	IAML		00 03 50.2	
	comp=E,30nm,1.0s						
D20K				IAML		00 03 58.6	
	comp=N,41nm,1.0s						
E20K	**Nigu River**	**4.34**	**257**		**Pn**	**00 02 21.6**	**+1.0**
I26K	**Coal Creek Min**	**4.38**	**171**		**Pn**	**00 02 21.3**	**+0.3**
EPYK	**Eagle Plains**	**4.45**	**133**		**Pn**	**00 02 22.7**	**+0.6**
G21K	**Allakaket**	**4.52**	**231**		**Pn**	**00 02 23.3**	**+0.3**
G21K				IAML		00 03 50.6	
	comp=E,28nm,0.9s						
I28M	**Miner Creek**	**4.58**	**154**		**Pn**	**00 02 25.2**	**+1.2**
I28M				IAML		00 03 22.5	
	comp=N,33nm,0.5s						
I28M				IAML		00 03 45.0	
	comp=E,34nm,1.1s						
F31M	**Tsiigehtchic**	**4.60**	**113**	Pn	**Pn**	**00 02 24.3**	**+0.3**
F31M				IAML		00 03 46.1	
	comp=E,26nm,0.9s						
F31M				IAML		00 03 51.8	
	comp=N,23nm,1.0s						
POKR	**Poker Plat Res**	**4.64**	**194**	Pn	**Pn**	**00 02 25.3**	**+0.6**
POKR				IAML		00 03 50.6	
	comp=N,25nm,0.8s						
POKR				IAML		00 03 53.4	
	comp=E,29nm,1.1s						
G31M	**Satah River**	**4.75**	**120**		**Pn**	**00 02 27.2**	**+1.2**
G31M				IAML		00 03 52.9	
	comp=E,32nm,0.8s						
F20K	**Avaraart Lake**	**4.81**	**243**		**Pn**	**00 02 28.0**	**+1.1**
I23K	**Minto, Yukon-K**	**4.83**	**204**		**Pn**	**00 02 27.7**	**+0.5**
I23K				IAML		00 03 58.4	
	comp=E,21nm,1.1s						
I23K				IAML		00 04 07.8	
	comp=N,18nm,1.0s						
D19K	**Kuna River**	**4.92**	**263**	IAML		00 04 21.2	
	comp=N,25nm,1.0s						
IL31		**4.94**	**191**		**Pn**	**00 02 29.7**	**+1.0**
ILAR	**Eielson Array**	**4.94**	**191**		**Pn**	**00 02 29.2**	**+0.4**
ILAR	**Eielson Array**	**4.94**	**191**	Pn	**Pn**	**00 02 29.1**	**+0.3**
	comp=N,0.7nm,0.3s,baz=6.6,slow=15,SNR=26						
ILAR				Sn	**Sn**	**00 03 27.4**	**+1.0**
	comp=N,1.7nm,0.3s,baz=5.5,slow=20,SNR=7.0						
ILAR				Lg	Lg	00 03 52.8	
	comp=N,1.1nm,0.3s,baz=9.6,slow=27,SNR=6.1						
	comp=N,2.1nm,0.8s						
IMAR	**Indian Mountai**	**4.99**	**227**	Pn	Pn	00 02 24.4	-5.1
J25K	**Salcha River,**	**5.04**	**183**		**Pn**	**00 02 30.9**	**+0.8**
J25K				IAML		00 04 02.7	
	comp=N,18nm,0.8s						
J25K				IAML		00 04 03.6	
	comp=E,15nm,0.7s						
E19K	**Redstone River**	**5.07**	**251**		**Pn**	**00 02 31.3**	**+0.8**
E19K				IAML		00 04 09.5	
	comp=N,26nm,0.7s						
E19K				IAML		00 04 16.9	
	comp=E,19nm,0.8s						
EGAK	**Eagle**	**5.07**	**162**		**Pn**	**00 02 31.0**	**+0.5**
CCB	**Clear Creek Bu**	**5.14**	**195**		**Pn**	**00 02 31.3**	**-0.1**
MLY	**Manley**	**5.16**	**209**		**Pn**	**00 02 31.7**	**-0.1**
J26L	**Joseph Creek**	**5.17**	**174**		**Pn**	**00 02 32.3**	**+0.4**
J26L	**Joseph Creek**	**5.17**	**174**	IAML		00 03 39.9	
	comp=N,22nm,0.6s						
J26L				IAML		00 03 55.9	
	comp=E,25nm,0.9s						
I21K	**Tanana**	**5.26**	**215**		**Pn**	**00 02 33.7**	**+0.7**
I21K				IAML		00 04 14.4	
	comp=E,22nm,1.0s						
C19K	**Lookout Ridge**	**5.27**	**271**		**Pn**	**00 02 33.7**	**+0.5**
C19K	**Lookout Ridge**	**5.27**	**271**	IAML		00 03 42.6	
	comp=N,16nm,1.2s						
HDA	**Harding Lake**	**5.31**	**190**		**Pn**	**00 02 34.4**	**+0.6**
HDA				IAML		00 04 11.5	
	comp=N,16nm,0.7s						
WRH	**Wood River Hil**	**5.34**	**196**		**Pn**	**00 02 34.7**	**+0.6**
WRH				IAML		00 04 03.2	
	comp=N,13nm,0.6s						
WRH				IAML		00 04 13.3	
	comp=E,14nm,1.1s						
I30M	**Mount Dempster**	**5.47**	**140**		**Pn**	**00 02 36.6**	**+0.5**
H31M	**Peel River**	**5.51**	**129**		**Pn**	**00 02 36.7**	**+0.1**
A19K	**Wainwright**	**5.65**	**284**		**Pn**	**00 02 38.8**	**+0.4**
H20K	**Anotleneega Mo**	**5.67**	**228**		**Pn**	**00 02 39.3**	**+0.6**
SCRK	**Sand Creek**	**5.68**	**177**		**Pn**	**00 02 40.0**	**+0.9**
BWN	**Browne**	**5.78**	**201**		**Pn**	**00 02 40.9**	**+0.7**
RIDG	**Independent Ri**	**5.91**	**180**		**Pn**	**00 02 43.0**	**+0.9**
C18K	**Utukok River**	**5.95**	**268**		**Pn**	**00 02 42.3**	**-0.3**
DAWY	**Dawson**	**5.97**	**157**		**Pn**	**00 02 42.5**	**-0.4**
DOT	**Dot Lake**	**6.01**	**177**		**Pn**	**00 02 44.5**	**+1.0**
J30M	**Hart River**	**6.04**	**143**		**Pn**	**00 02 44.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**6.06**	**207**		**Pn**	**00 02 44.5**	**+0.4**
H19K	**Roundabout Mou**	**6.07**	**233**	Pn	**Pn**	**00 02 44.9**	**+0.7**
MCK	**McKinley**	**6.14**	**198**		**Pn**	**00 02 45.6**	**+0.4**
E18K	**Tukpahlearik C**	**6.22**	**257**		**Pn**	**00 02 46.4**	**+0.2**
F18K	**Selawik**	**6.33**	**248**		**Pn**	**00 02 47.8**	**0.0**
F18K					**Pn**	**00 02 48.1**	**+0.4**
RND	**Reindeer**	**6.45**	**197**		**Pn**	**00 02 49.9**	**+0.3**
G18K	**Tagagawik**	**6.46**	**241**		**Pn**	**00 02 50.5**	**+0.9**
K29M	**Barlow Dome**	**6.47**	**150**		**Pn**	**00 02 51.3**	**+1.5**
KTH	**Kantishna Hill**	**6.57**	**205**		**Pn**	**00 02 51.5**	**+0.3**
L26K	**Log Cabin Wild**	**6.65**	**174**		**Pn**	**00 02 53.0**	**+0.7**
DHY	**Denali Highway**	**6.66**	**190**		**Pn**	**00 02 53.8**	**+1.3**
PAX	**Paxson**	**6.69**	**183**		**Pn**	**00 02 54.4**	**+1.6**
BCAR	**Beaver Creek A**	**6.70**	**168**		**Pn**	**00 02 53.5**	**+0.7**
C17K	**DeLong Mountai**	**6.70**	**269**		**Pn**	**00 02 51.7**	**-1.1**
MENT	**Mentasta**	**6.73**	**176**		**Pn**	**00 02 53.9**	**+0.6**
E17K	**Hotham Inlet**	**6.80**	**256**		**Pn**	**00 02 53.8**	**-0.4**
A36M	**Sachs Harbour**	**6.84**	**61**	Pn	**Pn**	**00 02 54.0**	**-0.7**
D17K	**Noatak River**	**6.95**	**263**		**Pn**	**00 02 55.4**	**-0.9**
F17K	**Baldwin Pennin**	**6.95**	**251**		**Pn**	**00 02 56.2**	**0.0**
WAT7	**Susitna Watana**	**7.01**	**196**		**Pn**	**00 02 58.5**	**+1.2**
L29M	**L29M**	**7.06**	**155**		**Pn**	**00 02 59.0**	**+1.1**
C36M	**Paulatuk**	**7.27**	**82**	Pn	**Pn**	**00 03 00.5**	**-0.1**
M29M	**Somme Creek**	**7.65**	**157**		**Pn**	**00 03 07.5**	**+1.6**
M30M	**Minto, Yukon**	**7.77**	**152**		**Pn**	**00 03 08.2**	**+0.6**
I17K	**Unalakleet**	**8.51**	**235**	Pn	**Pn**	**00 03 18.3**	**+0.6**
N30M	**Aishikik Lake**	**8.79**	**155**		**Pn**	**00 03 22.5**	**+1.0**
CTGM	**Chitina Glacie**	**8.81**	**169**	Pn	**Pn**	**00 03 24.4**	**+2.4**
YKA	**Yellowknife Ar**	**14.03**	**106**	Pn	**Pn**	**00 04 30.5**	**-2.5**
	comp=E,0.2nm,0.3s,baz=317,slow=25,SNR=5.0						
YKA				Sn	Sn	00 06 56.7	-12
	comp=E,0.2nm,0.3s,baz=307,slow=19,SNR=1.8						
	comp=E,0.9nm,0.7s						
PDAR	**Pinedale Array**	**32.39**	**128**	P	**P**	**00 07 46.1**	**+1.6**
	comp=E,0.3nm,0.6s,baz=347,slow=6.2,SNR=3.9						
	comp=E,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**40.94**	**5**	P	**P**	**00 08 56.1**	**-0.7**
	comp=E,2.6nm,0.9s,baz=4.1,slow=7.3,SNR=1.5						
	comp=E,2.6nm,0.9s						
FINES	**FINESS Array B**	**49.06**	**6**	P	**P**	**00 10 01.0**	**-0.3**
	comp=E,1.4nm,0.9s,baz=353,slow=9.8,SNR=1.6						
	comp=E,1.4nm,0.9s						
HFS	**Hagfors**	**49.62**	**14**	P	**P**	**00 10 05.4**	**-0.2**
	comp=E,3.9nm,1.0s,baz=349,slow=5.9,SNR=9.1						
	comp=E,3.9nm,1.0s						
SONM	**Songino Array**	**51.98**	**306**	LR	LR	00 37 10.9	
	comp=E,26nm,18.8s,baz=258,slow=42						
AKASG	**Malin Array Be**	**59.91**	**4**	LR	LR	00 38 03.0	
	comp=E,18nm,18.3s,baz=276,slow=37						

*JMA **19** 00:12:11.9±0.3, 35°.2N±0°.5×14°.1E±°, h37km, MV2.8/15, E OFF BOSO PENINSULA*
*IDC **19** 00:12:22.8±4.0, 34°.59N×139°.43E, h65km±63km, mb3.1/5, mbtmp3.3/6, ML1.8/1, Error ellipse: s-maj=292.5km s-min=23.8km az=65.0*

ISC 19 00:12:14.1±1.5, 35°.1N±0°.1×141°.1E±0°.1, h35km, n16, σ0s72/11, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.46**	**197**	P	**Pn**	**00 12 23.4**	**-0.3**
BSO3	**Boso 3**	**0.60**	**241**	P	**Pn**	**00 12 25.5**	**-0.3**
BSO4	**Boso 4**	**0.67**	**261**	P	**Pn**	**00 12 27.4**	**+0.4**
JKUC	**kamogawauchiur**	**0.78**	**275**	*e*P	**Pn**	**00 12 27.8**	**-0.7**
JKUC				*e*S	**Sn**	**00 12 39.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.79**	**302**	P	**Pn**	**00 12 56.5**	**+0.3**
	0.3nm,0.3s,baz=16,slow=7.3,SNR=8.5						
	1.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.40**	**117**	T	T	00 46 56.4	
	baz=309,slow=76						
H11N1	**WAKE ISLAND Hy**	**27.41**	**117**	T	T	00 46 57.4	
	baz=309,slow=76						
H11N3	**WAKE ISLAND Hy**	**27.42**	**117**	T	T	00 46 55.7	
	baz=309,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	00 47 45.7	
	baz=312,slow=75,SNR=597						
H11S3	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	00 47 46.9	
	baz=312,slow=75,SNR=854						
H11S2	**WAKE ISLAND Hy**	**28.06**	**119**	T	T	00 47 47.1	
	baz=312,slow=75,SNR=558						
ZALV	**Zalesovo Beam**	**43.08**	**314**	P	**P**	**00 20 10.7**	**+0.3**
	0.2nm,0.4s,baz=97,slow=7.4,SNR=1.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**44.99**	**304**	P	**P**	**00 20 24.8**	**-1.1**
	0.2nm,0

BELC				IAML		00 56 57.0	
	comp=E,706nm,0.2s						
BELC				IAML		00 56 57.1	
	comp=N,616nm,0.3s						
HLNC	**Highland**	**0.54 295**			Sg	00 56 54.8	+0.3
MURC	**Murrieta**	**0.55 238**			Pg	00 56 46.7	-0.8
MURC					Sg	00 56 54.2	-0.7
PLM	**Palomar**	**0.57 200**			Sg	00 56 55.0	-0.5
CFSC	**Central Fire S**	**0.58 292**			Pn	00 56 56.4	+6.0
CTCC	**Cactus City**	**0.58 114**			Pg	00 56 47.6	-0.5
CTCC					Sg	00 56 55.8	-0.1
RSBC	**Riverside Bore**	**0.58 278**			Pg	00 56 47.6	-0.5
RSBC					Sg	00 56 55.0	-0.8
RSBC	**Riverside Bore**	**0.58 278**			Pg	00 56 47.6	-0.5
RSBC					Sg	00 56 55.2	-0.7
CLTC	**Calectric**	**0.60 289**			Sb	00 56 57.6	+0.4
RVR	**Riverside**	**0.63 279**			Pg	00 56 48.0	-0.9
RVR					Sg	00 56 56.5	-0.7
BORC	**Borrego Spring**	**0.65 164**			Pg	00 56 48.7	-0.6
BORC	**Borrego Spring**	**0.65 164**	Sg		Sg	00 56 57.0	-0.9
BORC				IAML		00 56 57.7	
	comp=N,2μm,0.3s						
BORC				IAML		00 56 57.7	
	comp=E,2μm,0.2s						
CTW	**Cottonwood Mou**	**0.67 109**			Pg	00 56 48.9	-0.7
CTW					Sg	00 56 58.1	-0.4
MATG	**Mataguay Scout**	**0.69 181**			Pg	00 56 49.6	-0.5
MATG					Sg	00 56 58.6	-0.7
FON	**Fontana**	**0.70 287**			Pg	00 56 49.5	-0.8
FON					Sg	00 56 59.2	-0.4
ELS	**Elsinore Mount**	**0.71 250**			Pg	00 56 49.3	-1.1
ELS	**Elsinore Mount**	**0.71 250**	Sg		Sg	00 56 58.8	-1.0
ELS				IAML		00 56 59.4	
	comp=E,262nm,0.2s						
ELS				IAML		00 57 00.1	
	comp=N,190nm,0.2s						
SLH	**Sleepy Hollow**	**0.77 156**			Pg	00 56 50.9	-0.5
SLH					Sg	00 57 01.2	-0.3
CRNC	**Corona**	**0.77 269**			Sg	00 57 00.8	-1.1
MLSC	**Mira Loma**	**0.78 278**			Sg	00 57 00.8	-1.3
HAY	**Hayfield**	**0.81 103**			Pg	00 56 52.0	-0.3
HAY					Sb	00 57 03.2	+0.1
JUEM	**Julian Eagle M**	**0.81 178**			Sg	00 57 01.9	-1.1
SALN	**Salton City**	**0.81 138**			Pg	00 56 52.3	-0.1
SALN			Sg		Sg	00 57 02.5	-0.6
CHNC	**Chino**	**0.88 277**			Sb	00 57 04.5	-0.6
VTV	**Victorville**	**0.88 319**			Pb	00 56 52.7	-1.0
VTV					Sb	00 57 04.0	-1.3
GORC	**Green Oak Ranc**	**0.89 214**			Sb	00 57 03.6	-1.8
BOMB	**Bombay Beach**	**0.92 125**			Pb	00 56 53.7	-0.5
BOMB					Sg	00 57 06.7	+0.4
BFSC	**Mount Baldy Ra**	**0.92 292**			Pb	00 56 53.4	-1.0
BFSC			Sg		Sb	00 57 05.3	-1.1
BFSC				IAML		00 57 05.9	
	comp=E,232nm,0.2s						
DPP	**Dos Picos Cty**	**0.93 196**			Pb	00 56 53.2	-1.2
DPP				IAML		00 57 05.6	
	comp=N,459nm,0.1s						
BC3	**Big Chuckawall**	**1.01 103**	IAML			00 57 11.2	
	comp=N,192nm,0.4s						
CPE	**Camp Elliot**	**1.08 202**			Pb	00 56 55.4	-1.5
CPE			Sg		Sb	00 57 09.1	-1.7
BAR	**Barrett**	**1.21 182**			Pn	00 56 57.6	-1.4
BAR			Sg		Sb	00 57 13.3	-1.3
BAR				IAML		00 57 16.4	
	comp=N,380nm,0.2s						
MWC	**Mount Wilson**	**1.23 286**			Pn	00 56 58.6	-0.9
MWC				IAML		00 57 16.9	
	comp=E,203nm,0.6s						
MWC				IAML		00 57 18.3	
	comp=N,198nm,0.3s						
IRM	**Iron Mountain**	**1.26 78**			Pb	00 57 00.0	-0.1
DANC	**Danby, Needles**	**1.27 54**			Pn	00 56 58.3	-1.6
DANC				IAML		00 57 18.4	
	comp=N,166nm,0.3s						
DANC				IAML		00 57 24.9	
	comp=E,187nm,0.5s						
PASC	**Pasadena Art C**	**1.32 283**			Pn	00 56 59.6	-0.9
YUH	**Yuha Desert**	**1.38 154**			Pn	00 56 59.3	-1.9
YUH				IAML		00 57 20.7	
	comp=N,164nm,0.2s						
YUH				IAML		00 57 21.2	
	comp=E,144nm,0.1s						
GSC	**Goldstone, Bar**	**1.41 354**			Pn	00 57 00.1	-1.8
GSC				IAML		00 57 22.2	
	comp=E,187nm,0.3s						
CBX	**Cerro Bola**	**1.58 181**			Pn	00 57 03.3	-0.9
TPO	**Tropico Hills**	**1.65 307**			Pn	00 57 04.2	-0.9
TPO				IAML		00 57 30.6	
	comp=N,209nm,0.6s						
TPO				IAML		00 57 31.4	
	comp=E,146nm,0.8s						
GLA	**Glamis**	**1.73 119**			Pn	00 57 04.0	-2.1
GLA				IAML		00 57 32.6	
	comp=E,111nm,0.6s						
GLA				IAML		00 57 35.2	
	comp=N,90nm,0.5s						
CCCA	**Chr Cany lake**	**1.74 340**	IAML			00 57 32.7	
	comp=N,216nm,0.5s						
BLYC	**Blythe**	**1.76 94**			Pn	00 57 04.8	-1.7
LRMC	**Laurel Mtn Rad**	**1.81 332**			Pn	00 57 06.5	-0.8
LRMC				IAML		00 57 35.4	
	comp=E,83nm,0.5s						
LRMC				IAML		00 57 35.9	
	comp=N,153nm,0.9s						
MTPC	**Mountain Pass**	**1.82 29**			Pn	00 57 06.4	-1.2
MTPC				IAML		00 57 35.0	
	comp=N,80nm,0.4s						
CPBX	**Cerro Prieto**	**1.84 143**	Pn		Pn	00 57 06.8	-0.9
CPBX				IAML		00 57 41.2	
	comp=N,166nm,0.4s						
CPBX				IAML		00 57 45.3	
	comp=E,199nm,0.3s						
WSHM	**Spangler Hills**	**1.84 338**	IAML			00 57 36.2	
	comp=E,150nm,0.5s						
WSHM				IAML		00 57 37.0	
	comp=E,97nm,0.4s						
OSI	**Osito Audit: C**	**1.88 293**			Pn	00 57 07.1	-1.1
OSI				IAML		00 57 37.0	
	comp=E,90nm,0.7s						
OSI				IAML		00 57 40.0	
	comp=N,96nm,1.0s						
NEE2	**Needles Airpor**	**1.88 62**	Pn		Pn	00 57 07.8	-0.4
NEE2				IAML		00 57 36.5	
	comp=E,110nm,0.5s						
NEE2				IAML		00 57 43.8	
	comp=N,120nm,0.5s						
ESJX	**Sierra Juarez**	**1.97 163**	IAML			00 57 38.7	
	comp=N,150nm,0.2s						
SHOC	**Shoshone, Teco**	**2.02 8**			Pn	00 57 09.3	-0.9
CLC	**China Lake**	**2.08 338**	IAML			00 57 43.7	
	comp=E,49nm,0.4s						
QSM	**Queen of Sheba**	**2.08 355**			Pn	00 57 10.1	-0.8
QSM				IAML		00 57 43.9	
	comp=E,99nm,0.7s						
QSM				IAML		00 57 44.0	
	comp=N,94nm,0.6s						
MPMC	**Manual Prospec**	**2.27 342**			Pn	00 57 13.0	-0.8
MPMC				IAML		00 57 49.5	
	comp=N,54nm,0.6s						
MPMC				IAML		00 57 50.3	
	comp=E,75nm,0.6s						
GWY	**Greenwater Val**	**2.29 359**			Pn	00 57 12.3	-1.6
GWY				IAML		00 57 49.9	
	comp=N,98nm,0.4s						
ISA	**Isabella, Lake**	**2.33 320**			Pn	00 57 13.6	-0.9
V12A	**Nelson**	**2.34 38**			Pn	00 57 13.7	-0.9
W13A	**Hualapai Mount**	**2.57 61**			Pn	00 57 16.0	-1.8
VTX	**Valle De La Tr**	**2.59 164**			Pn	00 57 17.5	-0.5
VTX				IAML		00 57 56.7	
	comp=E,64nm,0.4s						
VTX				IAML		00 57 58.3	
	comp=N,51nm,0.5s						
113A	**Mohawk Valley,**	**2.65 114**	Pn		Pn	00 57 17.1	-1.6
VES	**Vestal, Richgr**	**2.80 315**			Pn	00 57 20.1	-0.8
VES				IAML		00 58 02.2	
	comp=E,54nm,4.6s						
VES				IAML		00 58 10.3	
	comp=N,49nm,1.0s						
CWC	**Cottonwood Cre**	**2.81 335**			Pn	00 57 20.6	-0.4
SHPR	**Sheep Range**	**2.87 24**			Pn	00 57 21.4	-0.6
WCT	**Wildcat Mounta**	**2.89 0**	IAML			00 58 09.0	
	comp=E,36nm,0.5s						
WCT				IAML		00 58 09.2	
	comp=N,23nm,0.8s						
TPNV	**Topopah Spring**	**3.06 6**	IAML			00 58 13.9	
	comp=N,31nm,0.5s						
TPNV				IAML		00 58 14.1	
	comp=N,32nm,0.4s						
LEGD	**La Grand CA**	**4.38 320**	IAML			00 58 52.4	
	comp=E,24nm,0.5s						
LEGD				IAML		01 00 30.4	
	comp=N,24nm,0.5s						

*IDC **19** 01:01:37.8±2.6, 31°.67N×49°.48E, h0km, mb4.0/4, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=54.9km s-min=34.0km az=155.0*
*TEH **19** 01:01:41.0, 31°.83N×49°.47E, h8km±21km*
*OMAN **19** 01:01:47.8±1.2, 31°.31N×49°.79E, h10km, mb4.3/21, Error ellipse: s-maj=12.0km s-min=7.8km az=13.0*
*DSN **19** 01:01:50.2±2.3, 30°.85N×49°.57E, h10km, ML3.1/8, Error ellipse: s-maj=31.0km s-min=10.5km az=0.0*
ISC 19 01:01:41.7±0.7, 31°.67N±0°.05×49°.45E±0°.04, h25km, n81, σ2°.00/96, mb3.9/3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.77**	**244**	Pg	**Pn**	**01 01 58.0**	**+1.1**
JHBN	**Jahan bin**	**1.18**	**61**	Pg	**Pn**	**01 02 02.1**	**-0.8**
ZNGN	**Zangian**	**1.28**	**69**	Pg	**Pn**	**01 02 04.4**	**+0.2**
IBRJ	**Brojen**	**1.56**	**81**	Pg	**Pn**	**01 02 09.8**	**+1.7**
IPIR	**Pirpir**	**1.59**	**50**	Pg	**Pn**	**01 02 09.3**	**+0.8**
KLNJ	**Kolanjah**	**1.95**	**109**	Pn	**Pb**	**01 02 17.2**	**+0.4**
IGAR	**Gharneh**	**2.32**	**71**	Pn	**Pn**	**01 02 21.3**	**+2.8**
BDRS	**Dareh Seyedi**	**2.33**	**348**	Pn	**Pn**	**01 02 19.6**	**+0.9**
IDOB	**Doab**	**2.37**	**333**	Pn	**Pn**	**01 02 20.6**	**+1.4**
IKLH	**Kolahrood**	**2.44**	**47**	Pn	**Pn**	**01 02 22.2**	**+2.0**
IRAM	**Ramesheh**	**2.50**	**86**	Pn	**Pn**	**01 02 23.9**	**+2.9**
IZEF	**Zefreh**	**2.73**	**63**	Pn	**Pn**	**01 02 26.5**	**+2.3**
KAZ2	**Kazeron-Fars-I**	**2.80**	**137**	Pn	**Pb**	**01 02 29.9**	**-1.2**
KBD	**Kabd**	**2.91**	**212**	P	**Pb**	**01 02 31.3**	**-1.7**
KBD				S	**Sb**	**01 03 08.4**	**+0.2**
HAGD	**Aghdareh**	**3.15**	**355**	Pn	**Pn**	**01 02 30.5**	**+0.5**
IALM	**Almabolaq**	**3.36**	**342**	Pn	**Pn**	**01 02 33.9**	**+1.1**
IQOM	**Qom**	**3.44**	**23**	Pn	**Pn**	**01 02 35.3**	**+1.3**
SNQR	**Sonqor, Kerman**	**3.52**	**335**	Pn	**Pn**	**01 02 36.6**	**+1.4**
ISFB	**Sefidab**	**3.56**	**41**	Pn	**Pn**	**01 02 36.9**	**+1.5**
DSBU	**Dashti - Bushe**	**3.65**	**154**	Pn	**Pn**	**01 02 41.5**	**+4.8**
IVRN	**Varamin**	**3.83**	**29**	Pn	**Pn**	**01 02 40.4**	**+1.3**
HGHA	**Hamedan- Ghaye**	**3.84**	**353**	Pn	**Pn**	**01 02 40.6**	**+1.2**
GLG1	**Gilan-e-Gharb**	**3.85**	**310**	Pn	**Pn**	**01 02 41.1**	**+1.7**
ANAR	**Anarak**	**3.92**	**66**	Pn	**Pn**	**01 02 43.0**	**+2.5**
IDHR	**Dehrash**	**3.96**	**320**	Pn	**Pn**	**01 02 42.7**	**+1.6**
QABG	**Abgarm-Qazvin**	**4.03**	**2**	Pn	**Pn**	**01 02 43.5**	**+1.5**
ICHK	**Chekchek**	**4.25**	**81**	Pn	**Pn**	**01 02 47.5**	**+2.3**
IMEH	**Mehriz**	**4.42**	**92**	Pn	**Pn**	**01 02 50.6**	**+3.2**
IDMV	**Damavand**	**4.45**	**28**	Pn	**Pn**	**01 02 49.3**	**+1.4**
ILAS	**Lasjerd**	**4.72**	**37**	Pn	**Pn**	**01 02 52.9**	**+1.3**
IGZV	**Ghazvin**	**4.75**	**8**	Pn	**Pn**	**01 02 53.2**	**+1.3**
IFIR	**Firoozkooh**	**4.83**	**34**	Pn	**Pn**	**01 02 54.1**	**+1.1**
MZPU	**Pul - Mazandar**	**5.07**	**20**	Pn	**Pn**	**01 02 58.1**	**+1.8**
IPRN	**Peran**	**5.15**	**27**	Pn	**Pn**	**01 02 59.0**	**+1.6**
IBAF	**Bafgh**	**5.22**	**89**	Pn	**Pn**	**01 03 01.2**	**+2.9**
SHMA	**Al-Shehemyia** SNR=17	**5.94**	**167**	P	**Pn**	**01 03 11.6**	**+3.4**
SHMA				S	**Sn**	**01 04 17.7**	**+2.3**
IGLO	**Ghaloghah**	**6.04**	**36**	Pn	**Pn**	**01 03 11.7**	**+2.1**
SMRA	**Abu-Samra**	**7.00**	**170**	P	**Pn**	**01 03 25.0**	**+2.3**
JRN	**Qarnain Island**	**7.34**	**155**	P	**Pn**	**01 03 28.9**	**+1.6**
JRN				S	**Sn**	**01 04 51.5**	**+1.6**
SHME	**Shamm**	**8.11**	**132**	P	**Pn**	**01 03 41.5**	**+3.6**
SHME	**Shamm**	**8.11**	**132**	P	**Pn**	**01 03 40.2**	**+2.3**
GHWR	**Ruwais**	**8.26**	**158**	P	**Pn**	**01 03 39.9**	**0.0**
BANOM	**Banah**	**8.30**	**132**	P	**Pn**	**01 03 42.5**	**+1.9**
BANOM				S	**Sn**	**01 05 10.9**	**-2.7**
BANOM	**Banah**	**8.30**	**132**	P	**Pn**	**01 03 41.9**	**+1.3**
BANOM				S	**Sn**	**01 05 10.3**	**-3.2**
AJN	**Ajban**	**8.60**	**144**	P	**Pn**	**01 03 47.4**	**+2.7**
MASF	**Masafi**	**8.61**	**135**	P	**Pn**	**01 03 46.8**	**+2.0**
MASF				S	**Sn**	**01 05 19.1**	**-2.2**
NAZ	**Nazwa, Dubai**	**8.62**	**139**	P	**Pn**	**01 03 48.7**	**+3.8**
ASUD	**Al Ashush, Dub** SNR=12	**8.73**	**142**	P	**Pn**	**01 03 49.7**	**+3.3**
ASUD				S	**Sn**	**01 05 23.5**	**-0.5**
MDH	**Madha**	**8.75**	**135**	P	**Pn**	**01 03 49.5**	**+2.8**
MDH				S	**Sn**	**01 05 22.3**	**-2.3**
MDH	**Madha**	**8.75**	**135**	P	**Pn**	**01 03 48.3**	**+1.6**
FAQ	**Al Faqa, Dubai**	**8.77**	**140**	P	**Pn**	**01 03 50.8**	**+3.8**
FAQ				S	**Sn**	**01 05 25.1**	**0.0**
FAQ	**Al Faqa, Dubai**	**8.77**	**140**	P	**Pn**	**01 03 49.2**	**+2.2**
MZWR	**Madinat Zayed**	**8.80**	**152**	P	**Pn**	**01 03 47.1**	**-0.3**
MZWR				S	**Sn**	**01 05 24.9**	**-0.9**
RAYN	**Ar Rayn**	**8.84**	**204**	P	**Pn**	**01 03 48.3**	**+0.4**
UOSS	**Minazif**	**8.96**	**137**	P	**Pn**	**01 03 51.1**	**+1.5**
UOSS				S	**Sn**	**01 05 26.1**	**-3.7**
UOSS	**Minazif**	**8.96**	**137**	P	**Pn**	**01 03 49.3**	**-0.3**
HATD	**Hatta, Dubai**	**9.01**	**138**	P	**Pn**	**01 03 52.1**	**+1.8**
HATD				S	**Sn**	**01 05 28.7**	**-2.2**
HATD	**Hatta, Dubai**	**9.01**	**138**	P	**Pn**	**01 03 52.1**	**+1.8**
ASHO	**Ashiyiah**	**9.08**	**138**	P	**Pn**	**01 03 53.6**	**+2.4**
ASHO	**Ashiyiah**	**9.08**	**138**	P	**Pn**	**01 03 52.8**	**+1.6**
MZR	**Muzera**	**9.35**	**156**	P	**Pn**	**01 03 57.3**	**+2.4**
MZR				S	**Sn**	**01 05 38.5**	**-0.8**
MZR	**Muzera**	**9.35**	**156**	P	**Pn**	**01 03 55.4**	**+0.5**
ALNE	**Al Ain**	**9.41**	**142**	P	**Pn**	**01 03 57.1**	**+1.3**
ALNE				S	**Sn**	**01 05 40.2**	**-0.7**
ALNE	**Al Ain**	**9.41**	**142**	P	**Pn**	**01 03 56.5**	**+0.8**
SOHO	**SOHO**	**9.78**	**138**	P	**Pn**	**01 04 01.9**	**+1.2**
SOHO				S	**Sn**	**01 05 45.7**	**-4.1**
SOHO	**SOHO**	**9.78**	**138**	P	**Pn**	**01 04 00.0**	**-0.7**
ARQ	**Araqi** SNR=11	**10.40**	**141**	P	**Pn**	**01 04 13.0**	**+3.6**
HOQ	**Hoqain**	**10.65**	**137**	P	**Pn**	**01 04 14.9**	**+2.2**
SMDO	**Samad**	**11.48**	**136**	P	**Pn**	**01 04 26.2**	**+2.0**
WSAR	**Wadi Sarin**	**11.70**	**134**	P	**Pn**	**01 04 29.0**	**+1.9**
JMDO	**Jabal Madar**	**12.05**	**138**	P	**Pn**	**01 04 34.6**	**+2.7**
DOK	**Doka**	**13.67**	**161**	P	**Pn**	**01 04 54.8**	**+0.9**
DQM	**DQM**	**13.77**	**146**	P	**Pn**	**01 04 56.8**	**+1.4**
WHFO	**Wadi Hawf** SNR=21	**14.24**	**163**	P	**Pn**	**01 05 02.0**	**+0.1**
ABTO	**Aybut**	**14.68**	**165**	P	**Pn**	**01 05 07.1**	**-0.8**
DMTO	**DMTO**	**14.76**	**159**	P	**Pn**	**01 05 08.5**	**-0.4**
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=120,slow=14,SNR=4.5 0.3nm,0.5s	**15.14**	**306**	**Pn**	**P**	**01 05 18.1**	**-0.9**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=237,slow=9.6,SNR=2.6 0.2nm,0.6s	**29.33**	**50**	**P**	**P**	**01 07 42.5**	**+0.1**
FINES	**FINESS Array B** 0.8nm,0.4s,baz=137,slow=7.5,SNR=12 0.8nm,0.4s	**33.46**	**340**	**P**	**P**	**01 08 17.7**	**-0.7**
ARCES	**ARCESS Array B** 2.2nm,0.8s,baz=149,slow=8.3,SNR=2.2 2.2nm,0.8s	**40.26**	**347**	**P**	**P**	**01 09 15.8**	**-0.4**
TORD	**Torodi Ar. Bea** 3.7nm,0.4s,baz=59,slow=8.3,SNR=2.8 3.7nm,0.4s	**47.43**	**258**	**P**	**P**	**01 10 14.4**	**-0.1**

*SJA **19** 01:05:37.2±2.2, 25°.89S×71°.16W, h43km±70km, ML3.5, MW3.3*
*GUC **19** 01:05:40.1±0.8, 25°.91S×70°.87W, h48km±4km, ML3.7*
*IDC **19** 01:05:41.9±5.9, 25°.95S×70°.53W, h30km±40km, mb3.8/6, mbtmp3.8/9, ML3.4/3, Error ellipse: s-maj=37.4km s-min=19.8km az=95.0*
ISC 19 01:05:38.9±1.8, 25°.90S±0°.05×71°.01W±0°.06, h19km±7km, n53, σ1°.52/50, mb3.9/5, 2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.45**	**124**	*e*P	**Pn**	**01 05 49.2**	**-1.1**
AC01				*e*S	**Sb**	**01 05 55.1**	**+0.5**
AC01				IAML		01 05 55.6	
	comp=E,9μm,0.1s						
PB14	**IPOC Station P**	**1.38**	**24**	*e*P	**Pn**	**01 06 03.5**	**+0.1**
PB14	**IPOC Station P**	**1.38**	**24**	*i* P	**Pn**	**01 06 02.9**	**-0.5**
PB14				IAML		01 06 26.5	
	comp=Z,431nm,0.5s						
GO02	**Mina Guanaco**	**1.48**	**61**	*e*P	**Pn**	**01 06 04.7**	**0.0**
GO02				IAML		01 06 29.6	
	comp=N,1μm,0.3s						
GO02	**Mina Guanaco**	**1.48**	**61**	*i* P	**Pn**	**01 06 04.5**	**-0.3**
GO02				⇓*e*S	**Sg**	**01 06 26.9**	**+0.1**
GO02				IAML		01 06 27.3	
	comp=Z,886nm,0.6s						
AC06	**Mina Casimiro**	**1.57**	**158**	*e*P	**Pn**	**01 06 05.9**	**+0.1**
AC06				*e*S	**Sn**	**01 06 25.0**	**-0.6**
AC06				IAML		01 06 27.0	
	comp=E,2μm,0.1s						
GO03	**Copiapo**	**1.83**	**158**	*e*P	**Pn**	**01 06 09.8**	**+0.4**
GO03				*e*S	**Sn**	**01 06 31.8**	**-0.2**
GO03	**Copiapo**	**1.83**	**158**	*i* P	**Pn**	**01 06 09.6**	**+0.3**
GO03				⇓*e*S	**Sn**	**01 06 32.2**	**+0.2**
GO03				IAML		01 06 33.1	
	comp=Z,881nm,0.5s						
AC02	**Maricunga**	**1.93**	**119**	*e*P	**Pn**	**01 06 12.2**	**+1.0**
AC02				IAML		01 06 36.3	
	comp=N,2μm,0.2s						
AC02	**Maricunga**	**1.93**	**119**	*i* P	**Pn**	**01 06 11.5**	**+0.4**
AC02				*e*S	**Sn**	**01 06 35.2**	**+0.1**
AC02				IAML		01 06 38.2	
	comp=Z,598nm,0.3s						
AC04	**Llanos de Chal**	**2.30**	**181**	*i* P	**Pn**	**01 06 14.8**	**-1.0**
AC04				IAML		01 06 42.8	
	comp=E,1μm,0.1s						
AC04	**Llanos de Chal**	**2.30**	**181**	*i* P	**Pn**	**01 06 14.1**	**-1.7**
AC04				IAML		01 06 57.0	
	comp=Z,111nm,0.3s						
PB10	**IPOC Station P**	**2.41**	**10**	*e*P	**Pn**	**01 06 17.1**	**-0.2**
PB10	**IPOC Station P**	**2.41**	**10**	*i* P	**Pn**	**01 06 16.8**	**-0.5**
PB10				IAML		01 07 02.6	
	comp=Z,80nm,0.4s						
LCO	**Las Campanas**	**3.11**	**175**	*e*P	**Pn**	**01 06 26.9**	**-0.3**
LCO	**Las Campanas**	**3.11**	**175**	*i* P	**Pn**	**01 06 27.0**	**-0.2**
LCO				IAML		01 07 21.5	
	comp=Z,193nm,0.8s						
PB05	**IPOC Station P**	**3.12**	**14**	*e*P	**Pn**	**01 06 26.7**	**-0.5**
PB05				IAML		01 07 31.4	
	comp=E,101nm,0.4s						
PB05	**IPOC Station P**	**3.12**	**14**	*i* P	**Pn**	**01 06 26.2**	**-1.0**
PB05				IAML		01 07 31.4	
	comp=Z,75nm,0.4s						
PB06	**IPOC Station P**	**3.44**	**23**	*e*P	**Pn**	**01 06 31.6**	**0.0**
PB06				IAML		01 07 30.9	
	comp=E,171nm,0.3s						
PB06	**IPOC Station P**	**3.44**	**23**	*i* P	**Pn**	**01 06 31.3**	**-0.3**
PB06				IAML		01 07 31.9	
	comp=Z,112nm,0.8s						
PB03	**IPOC Station P**	**4.00**	**17**	*e*P	**Pn**	**01 06 38.6**	**-0.7**
PB03	**IPOC Station P**	**4.00**	**17**	*i* P	**Pn**	**01 06 38.2**	**-1.1**
PB03				IAML		01 07 54.7	
	comp=Z,99nm,0.4s						
CO01	**Juntas del Tor**	**4.14**	**169**	*i* P	**Pn**	**01 06 42.2**	**+0.8**
CO01				IAML		01 07 51.2	
	comp=Z,36nm,0.5s						
GO04	**Tololo Observa**	**4.26**	**178**	*i* P	**Pn**	**01 06 42.6**	**-0.4**
GO04				IAML		01 08 12.0	
	comp=Z,62nm,0.6s						
PB09	**IPOC Station P**	**4.39**	**22**	*i* P	**Pn**	**01 06 44.6**	**-0.1**
PB09				IAML		01 08 01.4	
	comp=Z,96nm,0.6s						
AROD	**Rodeo**	**4.47**	**163**	*i* P	**Pn**	**01 06 48.9**	**+3.0**
CO03	**El Pedregal**	**4.93**	**177**	*i* P	**Pn**	**01 06 52.1**	**0.0**
CO03				IAML		01 08 21.6	
	comp=Z,36nm,0.8s						
ACCO	**Cerro Coronel**	**4.98**	**160**	*i* P	**Pn**	**01 06 56.2**	**+3.3**
ACLC	**CERRO LA CRUZ**	**5.03**	**135**	*i* P	**Pn**	**01 06 57.2**	**+3.7**
ACLC				IAML		01 08 18.4	
	comp=Z,8.0nm,0.4s						
CFA	**Coronel Fontan**	**6.19**	**157**	Pn	**Pn**	**01 07 08.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=345,slow=13,SNR=17						
CFA				Sn	**Sn**	**01 08 15.6**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=239,slow=23,SNR=1.9						
CFA				Lg	Lg	01 08 51.6	
	comp=Z,1.1nm,0.3s,baz=266,slow=19,SNR=2.7						
	comp=Z,0.9nm,0.3s						
LPAZ	**La Paz**	**9.93**	**16**	Pn	**Pn**	**01 08 01.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=190,slow=6.0,SNR=1.9						
	comp=Z,0.4nm,0.3s						
H03N1	**Juan Fernandez**	**10.18**	**221**	T	T	01 18 38.3	
	baz=48,slow=72,SNR=224						
H03N2	**Juan Fernandez**	**10.19**	**221**	T	T	01 18 32.5	
	baz=48,slow=72,SNR=180						
H03N3	**Juan Fernandez**	**10.20**	**221**	T	T	01 18 34.0	
	baz=48,slow=72,SNR=248						
SIV	**San Ignacio**	**13.53**	**45**	Pn	**Pn**	**01 08 45.8**	**-4.2**
	baz=231,slow=6.7,SNR=7.9						
PLCA	**Paso Flores**	**14.80**	**179**	Pn	**Pn**	**01 09 07.8**	**+0.6**
	baz=8.1,slow=14,SNR=1.5						
	comp=Z,0.9nm,0.9s						
BDFB	**Brasilia**	**23.77**	**69**	P	**P**	**01 10 47.7**	**-2.8**
	comp=Z,1.7nm,0.5s,baz=241,slow=9.5,SNR=3.2						
	comp=Z,1.7nm,0.5s						
SNAA	**Sanae**	**58.80**	**160**	P	**P**	**01 15 34.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=273,slow=14,SNR=5.6						
	comp=Z,0.5nm,0.7s						
H06E1	**SOCORRO T-PHAS** SNR=7.2	**58.97**	**315**	T	T	02 19 41.4	
QSPA	**South Pole Qui**	**64.31**	**180**	P	**P**	**01 16 15.4**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=129,slow=8.2,SNR=2.4						
	comp=Z,0.8nm,0.5s						
DBIC	**Dimbokro**	**71.85**	**73**	P	**P**	**01 17 00.2**	**-0.7**

SCLT Jiali 0.35 292 *eP* Pg 01 29 20.4 +0.8
WCKO Fanlu 0.40 7 P Pg 01 29 20.2 -0.3
WCKO S Sg 01 29 27.2 +1.4
ICHU Yijhu 0.40 322 P Pg 01 29 21.2 +0.6
ICHU S Sb 01 29 28.8 +1.1
CHN8 Yiju 0.43 314 P Pg 01 29 21.6 +0.4
CHN8 S Sb 01 29 29.0 +0.5
MASBT Mashibuluo 0.44 170⇓ *iP* Pg 01 29 21.2 +0.1
MASBT S Sg 01 29 27.9 +0.9
TSCK Chigu Township 0.44 284 ⇓P Pg 01 29 21.7 +0.5
TSCK S Sb 01 29 30.4 +1.7
ELDTW Lidau 0.45 71⇓ *iP* Pg 01 29 21.4 -0.2
CHY Chiayi 0.47 346 P Pg 01 29 22.1 +0.4
CHY *eS* Sb 01 29 30.1 +0.7
WSSB Gushan 0.48 214 P Pb 01 29 23.8 +0.9
CHN2 Minshiung 0.49 352 P Pg 01 29 22.7 +0.5
CHN2 S Sb 01 29 30.8 +0.6
ALS Alishan 0.52 27⇑ *iP* Pg 01 29 22.5 -0.4
ALS S Sg 01 29 30.9 +1.1
TWG Pinlang 0.53 115⇓ *iP* Pg 01 29 22.9 0.0
TWG *eS* Sg 01 29 31.0 +1.0
TWGBT Beinan 0.54 115 P Pg 01 29 23.0 -0.1
TWGBT Beinan 0.54 115⇓ *iP* Pg 01 29 22.9 -0.1
TWGBT *eS* Sg 01 29 31.0 +0.7
LONT Longtian 0.55 104 P Pg 01 29 23.3 -0.1
LONT S Sg 01 29 31.5 +0.8
WSL Shuilin Townsh 0.56 328 P Pg 01 29 23.8 +0.3
WSL S Sb 01 29 33.3 +1.1
CHN5 Tsauling 0.56 12⇑ *iP* Pg 01 29 23.1 -0.5
CHN5 S Sg 01 29 32.3 +1.2
ECL Taimali 0.58 140 *eP* Pg 01 29 23.6 -0.3
ECL *eS* Sg 01 29 32.5 +0.9
ECS Chishang 0.62 85 ⇓P Pg 01 29 24.9 +0.2
ECS *eS* Sb 01 29 34.3 +0.4
TTN Taitung 0.62 117 *eP* Pg 01 29 25.5 +0.9
WGK Gukeng 0.64 1 *eP* Pg 01 29 25.4 +0.4
WGK *eS* Sb 01 29 35.9 +1.4
WDLH Douliu 0.64 359 *eP* Pg 01 29 25.2 +0.2
WDLH *eS* Sb 01 29 35.9 +1.3
WTK Tuku 0.66 347 *eP* Pb 01 29 25.7 -0.3
WTK *eS* Sb 01 29 36.5 +1.5
WSF Szhu 0.66 333 P Pb 01 29 25.4 -0.6
WSF *eS* Sb 01 29 36.0 +0.8
WDL Douliou City 0.67 359 *eP* Pb 01 29 25.7 -0.4
WDL *eS* Sb 01 29 36.6 +1.3
SCZT Fangliau 0.67 174 *eP* Pg 01 29 25.6 0.0
EDH Donghe 0.70 96 *eP* Pb 01 29 26.5 -0.1
EDH *eS* Sn 01 29 38.0 -0.9
FULB Fuli 0.70 77 *eP* Pb 01 29 26.5 -0.2
FULB *eS* Sn 01 29 38.8 -0.2
WHYT Xinyi Township 0.71 23 *eP* Pb 01 29 25.7 -1.1
WHYT *eS* Sb 01 29 36.8 +0.3
EAST Anshuo 0.71 157 *eP* Pb 01 29 26.3 -0.6
TWP Hsiaoliuchiu 0.71 194 *eP* Pn 01 29 28.6 +0.2
CHKT Chengkung 0.75 86 *eP* Pb 01 29 27.6 +0.1
CHKT *eS* Sn 01 29 40.1 -0.1
TAW Tawu 0.75 155 *eP* Pb 01 29 27.0 -0.6
TAW *eS* Sn 01 29 39.2 -1.0
TWF1 Yuli 0.75 66⇓ *eP* Pb 01 29 26.6 -0.9
TAWH Dawu Township 0.77 156 *eP* Pb 01 29 27.2 -0.5
YULB Yu-li 0.77 63 P Pb 01 29 27.0 -0.9
YULB Yu-li 0.77 63 ⇓P Pb 01 29 26.7 -1.1
WJS Zhushan 0.79 12 *eP* Pb 01 29 27.8 -0.4
WJS *eS* Sg 01 29 39.9 +1.6
CHKH Chenggong 0.79 79 *eP* Pb 01 29 28.4 +0.1
SSLB Suanglung 0.83 27 P Pb 01 29 27.8 -1.1
SSLB Suanglung 0.83 27⇑ *iP* Pb 01 29 27.6 -1.2
SSLB *eS* Sb 01 29 39.7 -0.2
WNT Mingjian 0.84 8 ⇑P Pb 01 29 28.6 -0.4
WNT *eS* Sg 01 29 41.2 +1.4
WDGT Dungji 0.85 285 *eP* Pb 01 29 28.3 -0.8
WDGT *eS* Sg 01 29 40.8 +0.8
EHY Hungye 0.85 57 *eP* Pb 01 29 28.6 -0.5
WTCT Ta-ch'eng 0.85 343 *eS* Sb 01 29 41.1 +0.5
SLIU Shizi 0.85 164 *eP* Pb 01 29 29.2 0.0
EHYH Wanrong 0.86 58 *eP* Pb 01 29 29.1 -0.3
VWDT VWDT 0.89 37⇑ *iP* Pb 01 29 29.1 -0.8
SMLT Sun Moon Lake 0.90 21⇑ *iP* Pb 01 29 29.3 -0.7
SMLT *eS* Sg 01 29 43.4 +1.8
HGSD Ruisui 0.92 61 *eP* Pb 01 29 30.0 -0.3
HGSD *eS* Sn 01 29 44.4 +0.1
LDUT Ludao 0.93 113 *eP* Pb 01 29 30.1 -0.4
PHUB P'eng-hu 1.01 298 *eP* Pb 01 29 30.4 -1.5
PHUB *eS* Sb 01 29 44.3 -0.9
EGFH Guangfu 1.02 52 *eP* Pb 01 29 31.8 -0.3
EGFH *eS* Sb 01 29 45.6 +0.2
WARBT Fenglin Townsh 1.02 49 P Pb 01 29 31.4 -0.8
WARBT *eS* Sb 01 29 45.3 -0.2
WCH1 Changhua City 1.02 360 *eP* Pb 01 29 32.5 +0.4
WCH1 *eS* Sb 01 29 45.4 -0.2
WCHH Zhanghua 1.03 0 *eP* Pb 01 29 31.5 -0.8
WCHH *eS* Sb 01 29 46.5 +0.8
VCHM Qimei 1.04 279 ⇓P Pb 01 29 31.3 -1.2
VCHM *eS* Sb 01 29 45.7 -0.4
PNG Penghu 1.05 300 *eP* Pb 01 29 31.2 -1.4
PNG *eS* Sb 01 29 45.8 -0.6
WCS Beigang Elemen 1.06 18 *eP* Pb 01 29 32.3 -0.5
WCS *eS* Sb 01 29 47.3 +0.6
OWD Renai 1.07 32 *eP* Pb 01 29 32.6 -0.5
WUSB Renai 1.08 29⇑ *iP* Pb 01 29 32.1 -1.1
WUSB *eS* Sb 01 29 47.6 +0.4
TCU Taichung 1.10 6 *eP* Pn 01 29 33.1 -0.6
TCU *eS* Sb 01 29 48.5 +0.6
ESL Shilin 1.12 46 *eP* Pn 01 29 33.5 -0.4
ESL *eS* Sb 01 29 48.7 +0.4
TWK1 Hengchun 1.12 168 *eP* Pn 01 29 33.9 -0.1
TWKBT Hengchun 1.12 167⇑ *iP* Pn 01 29 33.9 -0.1
TSEB Hengchuen, Pin 1.18 164 *eP* Pn 01 29 34.4 -0.5
SHUL Shoufeng 1.19 51 *eP* Pn 01 29 35.1 +0.2
SHUL *eS* Sg 01 29 51.9 +1.0
LXIB Xiulin Townshi 1.25 39 ⇑P Pn 01 29 35.6 -0.4
LXIB *eS* Sn 01 29 53.2 +0.4
ETM Tongmen 1.26 43 *eP* Pn 01 29 35.9 -0.1
ETM *eS* Sb 01 29 52.8 +0.4
TEYL Yanliau Villag 1.27 49 *eP* Pb 01 29 37.1 +0.8
TEYL *eS* Sg 01 29 54.9 +1.5
WHF Hehuan Shan 1.28 31 *eP* Pn 01 29 36.2 -0.4
WHF *eS* Sb 01 29 53.8 +0.5
WHP Taichung City 1.28 16 *eP* Pn 01 29 35.8 -0.5
WHP *eS* Sn 01 29 54.0 +0.6
WDJ Dajia District 1.30 4 *eP* Pn 01 29 35.5 +0.1
WDJ *eS* Sg 01 29 55.2 +0.7
TWQ1 Liyutan 1.31 9 *eP* Pn 01 29 36.3 -0.4
TWQ1 *eS* Sb 01 29 55.2 +1.3
TDCB Techi 1.33 25 *eP* Pn 01 29 36.6 -0.4
TDCB *eS* Sb 01 29 55.5 +1.1
TWT Tachien 1.33 25 *eP* Pn 01 29 36.8 -0.3
HWA Hwalien 1.34 46 *eP* Pn 01 29 37.8 +0.8
FUSS Fushou 1.36 28 *eP* Pn 01 29 37.6 +0.1
NSY Sanyi 1.38 8 *eP* Pn 01 29 37.7 +0.2
NSY *eS* Sb 01 29 57.4 +1.5
TWD Chiawan 1.41 43 *eP* Pn 01 29 38.4 +0.4
TWD *eS* Sb 01 29 57.0 +0.4
LYUB Lan-yu 1.41 137 *eP* Pn 01 29 36.1 -1.8
LYUB *eS* Sn 01 29 55.6 -0.8
ETLH Xiulin Townshi 1.44 36 *eP* Pn 01 29 38.9 +0.4
ETLH *eS* Sg 01 29 59.6 +0.6
NACB Ninganchiao 1.48 40 P Pn 01 29 39.2 +0.3
NACB Ninganchiao 1.48 40 ⇓P Pn 01 29 39.2 +0.3
NACB *eS* Sb 01 29 59.2 +0.6
ETL Fush Village 1.48 41 *eP* Pn 01 29 39.1 +0.1
NMLH Miaoli 1.50 8 *eP* Pn 01 29 39.3 +0.1
NMLH *eS* Sb 01 30 00.5 +1.1
NNSB Datong 1.58 29 *eP* Pn 01 29 40.6 +0.2
NNSB *eS* Sb 01 30 03.3 +1.8
NNS Nan Shan 1.58 28 *eP* Pn 01 29 40.9 +0.5
NSTT Nanjuang 1.63 15 *eP* Pn 01 29 40.4 -0.7
LIOB Emei 1.65 15 *eP* Pn 01 29 41.1 -0.2
LIOB *eS* Sb 01 30 03.9 +0.2
NFF Wufeng Townshi 1.67 18 *eP* Pn 01 29 41.5 0.0
NFF *eS* Sb 01 30 04.1 0.0
LATG Datong 1.73 31 *eP* Pn 01 29 43.1 +0.6
ENA Nanau 1.76 38 *eP* Pn 01 29 44.1 +1.4
NSK Sanguang 1.79 24 *eP* Pn 01 29 43.2 0.0
NSK *eS* Sb 01 30 07.9 +0.3
YHNB Yeheng 1.79 25 P Pn 01 29 43.3 0.0
YHNB Yeheng 1.79 25 *eP* Pn 01 29 43.2 0.0
EWUT Wuta 1.79 39 *eP* Pb 01 29 44.9 -0.4
EWUT *eS* Sb 01 30 08.0 +0.3

KSHI Guanxi Townshi 1.82 18 *eP* Pn 01 29 43.6 0.0
KSHI *eS* Sb 01 30 08.9 +0.4
ENTT Nioudou 1.84 30 *eP* Pn 01 29 45.5 +1.6
NWLT Wulai 1.93 27 *eP* Pn 01 29 46.0 +0.8
FUSB Fushanzhiwuyua 1.96 29 *eP* Pn 01 29 46.6 +1.1
TWE Neicheng 1.96 31 *eP* Pb 01 29 47.9 -0.2
TWC Suao 1.96 37 *eP* Pb 01 29 47.6 -0.5
EOS3 EOS3 2.04 52 *eP* Pn 01 29 47.6 +1.1
TATO Taipei 2.11 24 P Pb 01 29 49.9 -0.7
TIPB Shuangxi 2.25 31 *eP* Pn 01 29 51.4 +1.9
SXI1 Grass Mountain 2.37 30 *eP* Pb 01 29 54.5 -0.7
PTMZ Houxiangcun 2.38 327 *eP* Pn 01 29 51.0 -0.3
YOJ Yonaguni jima 2.66 57 P Pn 01 29 54.9 -0.3
YOJ Yonaguni jima 2.66 57 *eP* Pn 01 29 56.2 +1.0
YOJ *eS* Sb 01 30 30.7 -2.0
HATJ Hateruma jima 3.15 71 *eS* Sn 01 30 41.2 +1.8
IRIF Iriomote-Funau 3.19 66 *eP* Pn 01 30 03.9 +1.6
MHZQ Yeshan 3.34 336 *eP* Pn 01 30 04.2 -0.3
MHZQ *eS* Sn 01 30 42.4 -1.7
JKRS Kuro-shima 3.39 69 *eP* Pn 01 30 06.4 +1.2
JIJ Ishigaki jima 3.55 68 P Pn 01 30 08.5 +1.2
JIJ *eS* Sn 01 30 51.0 +1.8
JISG Ishigakijimahi 3.77 65 P Pn 01 30 11.2 +0.8
JISG *eS* Sn 01 30 56.0 +1.3
CMAR Chiang Mai Arr 20.71 261 LR LR 01 42 03.1
comp=Z,26nm,18.7s,baz=185,slow=36
ASAJ Asahikawa 27.75 35 LR LR 01 46 46.9
comp=Z,36nm,19.4s,baz=204,slow=39
MKAR Makanchi Array 38.76 317 P **P** **01 36 36.3 -0.5**
0.5nm,0.9s,baz=120,slow=8.5,SNR=1.5
0.5nm,0.9s
YAK Yakutsk 39.47 7 LR LR 01 55 25.4
comp=Z,39nm,18.1s,baz=234,slow=40
ZALV Zalesovo Beam 40.89 328 P **P** **01 36 53.7 -0.6**
0.6nm,0.5s,baz=115,slow=9.6,SNR=2.5
0.6nm,0.5s
KURBB Kurchatov Arra 42.61 321 P **P** **01 37 10.3 +1.9**
0.1nm,0.3s,baz=103,slow=10.0,SNR=1.5
0.1nm,0.3s
H11N1 WAKE ISLAND Hy 43.15 85 T T 02 22 30.7
baz=282
H11N2 WAKE ISLAND Hy 43.15 85 T T 02 22 26.2
baz=282
H11N3 WAKE ISLAND Hy 43.16 85 T T 02 22 36.3
baz=282
H11S3 WAKE ISLAND Hy 43.24 87 T T 02 22 44.2
baz=284
H11S1 WAKE ISLAND Hy 43.25 87 T T 02 22 39.2
baz=284
H11S2 WAKE ISLAND Hy 43.26 87 T T 02 22 59.6
baz=284
WRA Warramunga Arr 44.79 161 P **P** **01 37 24.1 -2.2**
0.6nm,0.5s,baz=343,slow=7.6,SNR=6.4
0.6nm,0.5s
ASAR Alice Springs 48.21 163 P **P** **01 37 51.7 -1.4**
0.3nm,0.4s,baz=348,slow=7.7,SNR=9.5
0.3nm,0.4s
ILAR Eielson Array 70.49 27 P P 01 40 21.4 -5.2
0.4nm,0.8s,baz=285,slow=7.2,SNR=1.9
0.4nm,0.8s
HFS Hagfors 78.27 331 LR LR 02 16 40.0
comp=Z,102nm,20.3s,baz=301,slow=36

NEIC ***19*** *01:32:55.9±1.2, 3°.08N±0°.09×126°.5E±0°.2, h35km±2km, mb4.4/9, Error ellipse: s-maj=28.1km s-min=12.4km az=66.0*
IDC ***19*** *01:33:06.6±5.1, 2°.71N×125°.70E, h145km±59km, mb3.6/5, mbtmp4.2/6, Error ellipse: s-maj=155.4km s-min=14.2km az=67.0*
ISC 19 01:33:06.6±0.9, 2°.73N±0°.08×125°.8E±0°.1, h150km, n19, σ1ˢ12/18, mb4.2/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.98**	**345**	P	**Pn**	**01 33 28.5**	**-2.8**
TNTI	**Ternate**	**2.50**	**141**	Sn	Sn	01 34 01.9	-18
DAV	**Davao City (W)**	**4.31**	**357**	P	**Pn**	**01 34 11.3**	**+0.3**
	148nm,0.3s,baz=74,slow=20,SNR=1.2						
TOLI2	**Tolitoli**	**5.26**	**252**		**Pn**	**01 34 22.9**	**-0.6**
MTN	**Manton Dam**	**16.36**	**161**	P	**Pn**	**01 36 45.9**	**-1.9**
KNRA	**Kununurra**	**18.53**	**171**	P	**P**	**01 37 12.4**	**+0.7**
KNRA				IAmb	IAmb	01 37 13.8	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.70**	**180**	P	**P**	**01 37 34.7**	**-0.4**
WB0	**Warramunga Arr**	**23.90**	**160**		**P**	**01 38 06.9**	**+0.2**
WB0				IAmb	IAmb	01 38 08.3	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**24.05**	**160**	P	**P**	**01 38 08.2**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=339,slow=10,SNR=30						
	comp=Z,6.2nm,0.8s						
WR8	**Warramunga Arr**	**24.11**	**160**		**P**	**01 38 08.9**	**+0.2**
WR8				IAmb	IAmb	01 38 10.4	
	comp=Z,5.4nm,0.7s						
ASAR	**Alice Springs**	**27.40**	**164**	P	**P**	**01 38 38.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=341,slow=7.2,SNR=8.4						
	comp=Z,0.6nm,0.5s						
FORT	**Forrest**	**33.40**	**176**	P	**P**	**01 39 31.1**	**+0.3**
FORT				IAmb	IAmb	01 40 11.8	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**36.66**	**165**	P	**P**	**01 39 59.6**	**+0.7**
STKA	**Stephens Creek**	**37.55**	**158**	P	**P**	**01 40 07.6**	**+1.2**
STKA	**Stephens Creek**	**37.55**	**158**	P	**P**	**01 40 07.5**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=343,slow=11,SNR=4.0						
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**57.84**	**326**	P	**P**	**01 42 43.3**	**+0.8**
MKAR	**Makanchi Array**	**57.84**	**326**	P	**P**	**01 42 43.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=122,slow=7.0,SNR=13						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**62.08**	**328**	P	**P**	**01 43 11.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=126,slow=5.5,SNR=9.5						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**62.08**	**328**	P	**P**	**01 43 12.7**	**+1.4**
KURK				IAmb	IAmb	01 43 13.5	
	comp=Z,2.0nm,0.5s						

BGR ***19*** *02:00:58.2±0.5, 48°.17N×6°.77E, h11km±6km, ML1.7/9, Error ellipse: s-maj=4.4km s-min=1.1km az=57.0*
ZUR ***19*** *02:00:58.0, 48°.14N×6°.78E, h8km±2km, MLh1.9/11, Error ellipse: s-maj=5566.7km s-min=948.1km az=115.0*
LDG ***19*** *02:00:58.0±0.1, 48°.14N×6°.75E, h9km, Md1.9/3, Ml2.2/17, Error ellipse: s-maj=0.9km s-min=0.8km az=161.0*
BUG ***19*** *02:01:02.2±0.8, 48°.25N×6°.93E, h0km, MD2.7/7, ML2.4/7*
STR 19 02:00:58.0±0.2, 48°N±1°×±°, h16km, MLv2.1/35, 3C-2D, LOCSAT earthModelID haslach_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.28**	**74**	⇑Pg	Pg	02 01 03.8	-0.2
ECH				Sg	Sg	02 01 07.4	-0.7
ECH	**Echery**	**0.28**	**74**	*e*Pg	Pg	02 01 03.2	-0.8
ECH				*e*Sg	Sg	02 01 07.4	-0.7
ECH	**Echery**	**0.28**	**74**	Pg	Pg	02 01 03.8	-0.2
ECH				Sg	Sg	02 01 07.4	-0.6
XAFF	**Xaffevillers**	**0.28**	**340**	Pg	Pg	02 01 04.0	-0.1
XAFF				Sg	Sg	02 01 08.1	-0.1
HAU	**Haudompre**	**0.31**	**244**	*e*Pg	Pg	02 01 04.3	-0.3
HAU				*e*Sg	Sg	02 01 08.4	-0.6
	66nm,0.2s						
HINF	**Hinteralfeld**	**0.33**	**169**	*e*Pg	Pg	02 01 04.4	-0.5
HINF				*e*Sg	Sg	02 01 09.0	-0.7
	24nm,0.2s						
WALT	**Westhalten**	**0.39**	**117**	Pg	Pg	02 01 06.0	0.0
WALT				Sg	Sg	02 01 11.3	0.0
CDF	**Champ du Feu**	**0.44**	**52**	*e*Pg	Pg	02 01 06.3	-0.6
CDF				*e*Sg	Sg	02 01 12.1	-0.8
	18nm,0.2s						
RONF	**Ronchamp**	**0.44**	**190**	⇓Pg	Pg	02 01 06.6	-0.2
RONF				Sg	Sg	02 01 12.5	-0.3
RONF	**Ronchamp**	**0.44**	**190**	Pg	Pg	02 01 06.6	-0.2
RONF				Sg	Sg	02 01 12.5	-0.3
WLS	**Welschbruch**	**0.48**	**55**	Pg	Pg	02 01 07.3	-0.3
WLS				Sg	Sg	02 01 14.1	0.0
ETNF	**Estrennes**	**0.50**	**284**	Pg	Pg	02 01 07.8	-0.1
ETNF				Sg	Sg	02 01 14.4	-0.2
ILLF	**Illfurth**	**0.57**	**144**	Pg	Pg	02 01 09.3	+0.1
ILLF	**Illfurth**	**0.57**	**144**	Pg	Pg	02 01 09.3	+0.1
ILLF				Sg	Sg	02 01 17.0	+0.2
ZELS	**Zelsheim**	**0.60**	**74**	Pg	Pb	02 01 10.4	+0.2
ZELS				Sg	Sb	02 01 18.7	+0.2
VOGT	**Vogtsburg - To**	**0.61**	**95**	Pg	Pg	02 01 10.2	+0.1

VOGT Vogtsburg - To 0.61 95 Pg Pg 02 01 09.8 -0.3
VOGT Sg Sb 02 01 18.7 -0.1
STUF Presbytere Uff 0.67 137 Sg Sb 02 01 20.4 -0.1
STUF Presbytere Uff 0.67 137 Pn Pb 02 01 11.7 +0.3
STUF Sg Sb 02 01 20.5 0.0
HOHE HOHENGOEFT 0.71 43 Pn Pg 02 01 11.6 -0.3
HOHE Sg Sb 02 01 21.6 +0.1
A121B Sulzburg 0.72 115 ⇓Pg Pg 02 01 12.1 0.0
STHE Hesingue, 6813 0.77 136 Pg Pg 02 01 12.9 -0.1
STHE Sg Sb 02 01 23.8 +0.6
ENDD Endenburg 0.78 123 ⇑Pg Pg 02 01 13.2 -0.1
ENDD Sg Sg 02 01 23.4 -0.3
ENDD Endenburg 0.78 123 Pg Pg 02 01 13.2 -0.1
ENDD Sg Sg 02 01 23.4 -0.3
KIZ Kirchzarten 0.80 103 ⇑Pg Pb 02 01 13.3 -0.3
KIZ Kirchzarten 0.80 103 Pg Pb 02 01 13.3 -0.2
KIZ Sg Sg 02 01 23.7 -0.4
CIEL Dossenheim-sur 0.80 30 Pg Pb 02 01 13.4 -0.2
CIEL Sg Sg 02 01 23.9 -0.2
OTER2 Otterbach 2 (B 0.80 134 Sg Sg 02 01 23.3 -0.8
PAGF Fort de Pagny 0.81 301 *e*Pg Pb 02 01 13.6 -0.1
PAGF *e*Sg Sg 02 01 23.5 -0.8
28nm,0.2s
BOURR Bourrignon 0.81 157 Sg Sb 02 01 25.0 +0.4
BOURR Bourrignon 0.81 157 Pg Pg 02 01 14.0 +0.2
BOURR Sg Sb 02 01 24.8 +0.2
VOEL Voellerdingen 0.86 16 Pg Pb 02 01 14.1 -0.5
VOEL Sg Sb 02 01 25.7 -0.2
FELD Feldberg im Sc 0.88 107 Pg Pb 02 01 14.9 -0.1
FELD Sg Sg 02 01 26.8 +0.2
MANO Manonville 0.88 321 Pg Pg 02 01 15.5 +0.3
MANO Sg Sg 02 01 27.3 +0.5
CHMF Charmoille 0.90 185 Pg Pb 02 01 15.2 -0.1
CHMF Sg Sb 02 01 27.1 +0.1
BOUC Bouclans 0.96 201 Pg Pb 02 01 15.8 -0.4
BOUC Bouclans 0.96 201 Pg Pb 02 01 15.8 -0.5
BOUC Sg Sb 02 01 28.9 +0.1
BERGE Lenzkirch (DE) 0.99 105 Pg Pb 02 01 16.4 -0.4
BERGE Lenzkirch (DE) 0.99 105 *e*Pg Pb 02 01 16.6 -0.2
BERGE *e*Sg Sb 02 01 29.7 0.0
OPP Oppenau 1.01 69 Pn Pb 02 01 16.6 -0.7
OPP Sg Sg 02 01 30.9 -0.1
BALST Balsthal 1.02 142 *e*Sg Sb 02 01 30.6 -0.1
BALST Balsthal 1.02 142 Pg Pb 02 01 17.4 0.0
BALST Sg Sg 02 01 31.2 -0.1
BFO Black Forest 1.06 79 *e*Pg Pn 02 01 18.3 0.0
BFO *e*Sg Sb 02 01 30.9 -0.9
BFO Black Forest 1.06 79 Pg Pb 02 01 18.2 +0.1
BFO Sg Sg 02 01 32.5 -0.1
SZBH soultz borehol 1.08 42 Pg Pb 02 01 17.0 -1.3
SZBH Sg Sn 02 01 33.5 +0.4
METMA Mettma DE 1.09 113 *e*Pg Pb 02 01 18.5 0.0
METMA *e*Sg Sb 02 01 32.7 +0.1
SULZ Cheisacher 1.10 124 *e*Pg Pg 02 01 19.1 -0.2
SULZ *e*Sg Sg 02 01 33.4 -0.2
SULZ Cheisacher 1.10 124 Pg Pb 02 01 18.0 -0.7
SULZ Sg Sg 02 01 33.4 -0.2
LEMB Lembach 1.11 36 Pg Pb 02 01 17.5 -1.4
LEMB Sg Sb 02 01 33.0 -0.2
BABA Baden-Baden-Ne 1.11 58 Pg Pb 02 01 18.1 -0.9
BABA Sg Sg 02 01 34.2 +0.1
SFTF Sexfontaines 1.16 274 *e*Pg Pn 02 01 19.1 -0.5
SFTF *e*Sg Sb 02 01 34.7 +0.3
7.2nm,0.2s
SAVF Savonnieres en 1.19 294 *e*Pg Pb 02 01 20.4 +0.2
SAVF *e*Sg Sn 02 01 35.7 -0.2
7.8nm,0.2s
SAVF *e*Sg Sg 02 01 36.0 -0.5
6.2nm,0.2s
SAVF Savonnieres en 1.19 294 Pg Pg 02 01 20.6 -0.4
MEZF Maizieres J'vi 1.20 288 *e*Pg Pn 02 01 20.1 0.0
MEZF *e*Sg Sn 02 01 36.0 -0.1
5.9nm,0.2s
A101B Rottweil, Deis 1.20 90 Pg Pg 02 01 21.1 -0.1
A101B Sg Sg 02 01 36.7 -0.1
NEEW Neewiller pres 1.21 47 Pg Pn 02 01 19.2 -1.1
NEEW Sg Sg 02 01 38.0 +0.9
SLE Schleitheim 1.22 107 *e*Pn Pn 02 01 20.3 -0.2
SLE *e*Pg Pg 02 01 21.6 0.0
SLE *e*Sg Sn 02 01 37.1 +0.3
SLE Schleitheim 1.22 107 Pn Pn 02 01 19.8 -0.7
SLE Sg Sg 02 01 37.3 -0.2
TORNY Torny/Romont 1.38 174 Sg Sg 02 01 42.7 +0.2
EMING Emmingen-Lipti 1.42 99 *e*Pg Pg 02 01 25.3 -0.1
EMING *e*Sg Sg 02 01 43.9 +0.1
A100A Rottenburg, We 1.48 77 Pg Pg 02 01 26.1 -0.3
A100A Sg Sg 02 01 44.9 -0.8
RIVEL MONT RIVEL 1.50 203 Sg Sg 02 01 45.8 -0.4
RIVT Riveris 1.57 0 *e*Pg Pb 02 01 27.3 +0.6
RIVT *e*Sg Sb 02 01 47.2 +0.9
WLF Walferdange 1.58 345 *e*Pg Pg 02 01 27.7 -0.7
WLF *e*Sg Sg 02 01 47.7 -1.1
WLF Walferdange 1.58 345 Pg Pb 02 01 27.4 +0.6
GUT Gutenstein 1.58 92 Pg Pg 02 01 28.2 -0.2
GUT Sg Sg 02 01 48.7 -0.2
CABF La Chapelle 1.60 197 *e*Pg Pb 02 01 27.9 +0.6
CABF *e*Sg Sg 02 01 49.1 -0.4
2.3nm,0.2s
WILA Wila 1.62 116 *e*Pg Pg 02 01 29.2 +0.1
WILA *e*Sg Sg 02 01 50.3 +0.1
A102A Sigmaringen, J 1.63 89 Pg Pg 02 01 29.1 -0.3
A102A Sg Sg 02 01 50.5 -0.1
WALHA Wallhausen, DE 1.64 103 *e*Pg Pg 02 01 29.2 -0.2
WALHA *e*Sg Sg 02 01 50.6 -0.1
PLYF Puligny Montra 1.81 230 Pn Pn 02 01 26.2 -2.4
PLYF Sg Sg 02 01 55.9 -0.4
ABH Alteburg 1.81 16 *e*Pg Pb 02 01 31.9 +1.0
ABH *e*Sg Sg 02 01 55.4 -1.0
A109A Bad Urach, See 1.83 79 Pg Pg 02 01 32.9 -0.2
A109A Sg Sg 02 01 56.7 -0.1
A104C Biberach, Ahle 1.94 89 Pg Pg 02 01 35.1 -0.1
A108A Ulm, Ringingen 2.06 83 Pg Pg 02 01 37.2 -0.4
LOR Lormes 2.15 247 *e*Pn Pn 02 01 31.9 -1.3
LOR Lormes 2.15 247 *e*Pg Pg 02 01 38.2 -1.0
LOR *e*Sg Sg 02 02 05.0 -2.0
4.5nm,0.2s
UBR Ueberruh 2.30 100 *e*Pg Pg 02 01 42.2 +0.1
UBR *e*Sg Sg 02 02 11.6 -0.3
GIVF Givet 2.34 328 *e*Sg Sb 02 02 10.3 +1.9
3.8nm,0.3s
TNS Taunus Mts 2.36 27 *e*Sg Sg 02 02 11.8 -2.0
SSF Saint Saulge 2.45 245 *e*Pn Pn 02 01 35.9 -1.5
SSF Saint Saulge 2.45 245 *e*Pg Pg 02 01 44.2 -0.9
SSF *e*Sg Sg 02 02 14.4 -2.5
3.0nm,0.2s
SMF Signal de Mont 2.49 234 *e*Pg Pg 02 01 44.8 -0.9
SMF *e*Sg Sg 02 02 15.7 -2.2
6.2nm,0.3s
BAIF Baives 2.55 320 *e*Pn Pn 02 01 38.2 -0.5
BAIF *e*Sg Sg 02 02 17.3 -2.6
0.4nm,0.2s
LPL La Plagne 2.63 180 *e*Pg Pb 02 01 46.5 +1.6
LPL *e*Sg Sg 02 02 20.7 -1.7
0.4nm,0.3s
LPG La Plagne 2.65 180 *e*Pg Pb 02 01 46.7 +1.5
LPG *e*Sg Sg 02 02 20.9 -2.2
0.5nm,0.3s
AVF Avril sur Loir 2.68 241 *e*Pg Pb 02 01 47.1 +1.5
AVF *e*Sg Sg 02 02 21.7 -2.4
1.3nm,0.3s
BGF Bois d'Agland 3.10 241 *e*Pg Pg 02 01 55.7 -1.7
BGF *e*Sg Sg 02 02 34.5 -3.0
3.7nm,0.3s
ORIF Oris-en-Rattie 3.28 191 *e*Pg Pg 02 01 59.4 -1.5
ORIF *e*Sg Sg 02 02 39.9 -3.5
0.2nm,0.2s
VIVF Saint-Julien-l 3.59 204 *e*Sg Sg 02 02 50.6 -2.7
1.6nm,0.4s
TCF Toulx Ste Croi 3.61 241 *e*Pn Pn 02 01 51.9 -1.5
TCF *e*Sg Sg 02 02 50.2 -3.8
0.8nm,0.2s

IDC ***19*** *02:55:06.4±6.0, 26°.62N×96°.29E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=759.6km s-min=24.6km az=58.0*
NDI ***19*** *02:55:08.2±1.9, 26°.72N×95°.16E, h24km±9km, ML3.7, MW3.7*
ISC 19 02:55:10.5±2.0, 26°.64N±0°.06×95°.1E±0°.1, h54km±21km, n11, σ2ˢ07/17, mb3.2/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JORH	**JORHAT**	**0.75**	**278**	*e*P	**Pn**	**02 55 25.1**	**+0.1**
JORH				*e*S	**Sn**	**02 55 33.8**	**-1.8**
JORH				IAML		02 55 37.5	
	comp=E,1μm,0.3s						
JORH				IAML		02 55 37.5	
	comp=N,2μm,0.1s						
KOHI	**KOHIMA**	**1.27**	**224**	*e*P	**Pn**	**02 55 31.8**	**-0.3**
KOHI				*e*S	**Sn**	**02 55 51.0**	**+2.9**
KOHI				IAML		02 55 54.0	
	comp=E,2μm,0.6s						
KOHI				IAML		02 55 54.5	
	comp=N,2μm,0.3s						
ITAN	**ITANAGAR**	**1.31**	**293**	*e*P	**Pn**	**02 55 32.1**	**-0.5**
ITAN				*e*S	**Sn**	**02 55 49.0**	**-0.1**
ITAN				IAML		02 55 50.6	
	comp=N,1μm,0.4s						
ITAN				IAML		02 55 51.4	
	comp=E,2μm,0.2s						
ZIRO	**ZIRO**	**1.41**	**309**	*e*P	**Pn**	**02 55 33.1**	**-0.9**
ZIRO				*e*S	**Sn**	**02 55 50.8**	**-0.8**
ZIRO				IAML		02 55 52.1	
	comp=N,969nm,0.6s						
ZIRO				IAML		02 55 53.9	
	comp=E,881nm,0.3s						
TEZP	**TEZPUR**	**2.04**	**270**	*e*P	**Pn**	**02 55 43.0**	**+0.5**
TEZP				*e*S	**Sn**	**02 56 08.0**	**+1.2**
TEZP				IAML		02 56 12.0	
	comp=N,720nm,0.3s						
TEZP				IAML		02 56 12.4	
	comp=E,866nm,0.0s						
IMP	**Imphal**	**2.07**	**210**	*e*P	**Pn**	**02 55 42.6**	**-0.3**
IMP				*e*S	**Sn**	**02 56 08.3**	**+0.7**
IMP				IAML		02 56 13.8	
	comp=E,839nm,0.5s						
IMP				IAML		02 56 14.0	
	comp=N,778nm,0.2s						
SHL	**Shillong**	**3.07**	**250**	*e*P	**Pn**	**02 55 54.7**	**-2.0**
SHL				*e*S	**Sn**	**02 56 29.9**	**-2.4**
SHL				IAML		02 56 30.9	
	comp=N,592nm,0.0s						
SHL				IAML		02 56 31.4	
	comp=E,483nm,0.3s						
MKAR	**Makanchi Array**	**22.52**	**337**	P	**P**	**03 00 10.6**	**+4.9**
	comp=E,0.3nm,0.6s,baz=134,slow=12,SNR=2.8						
	comp=E,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**27.09**	**337**	P	P	03 00 56.5	+8.5
	comp=E,0.2nm,0.6s,baz=154,slow=8.8,SNR=1.7						
	comp=E,0.2nm,0.6s						
WRA	**Warramunga Arr**	**59.95**	**137**	P	**P**	**03 05 09.6**	**-1.9**
	comp=E,0.2nm,0.5s,baz=317,slow=7.1,SNR=4.7						
	comp=E,0.2nm,0.5s						
ASAR	**Alice Springs**	**62.53**	**140**	P	**P**	**03 05 27.1**	**-1.8**
	comp=E,0.2nm,0.3s,baz=321,slow=6.4,SNR=1.5						
	comp=E,0.2nm,0.3s						

*ISN **19** 03:04:49.7±0.9, 34°.27N×45°.70E, h10km±999km, ML3.3*
*TEH **19** 03:04:50.1, 34°.27N×45°.65E, h11km±29km*
ISC 19 03:04:51.8±0.9, 34°.27N±0°.05×45°.68E±0°.04, h18km, n14, σ1°39/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.24**	**129**	Pg	**Pg**	**03 04 56.0**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**0.25**	**342**	Pg	**Pg**	**03 04 55.3**	**-2.2**
IDHR	**Dehrash**	**0.72**	**53**	Pg	**Pb**	**03 05 04.4**	**-1.6**
IDHR				Sg	**Sb**	**03 05 16.0**	**+0.3**
IGHG	**Ghaleghazi**	**0.74**	**85**	Pg	**Pb**	**03 05 05.4**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.78**	**146**	Pg	Pb	03 05 01.6	-5.2
KCHF	**Cheshme Sefid,**	**1.13**	**89**	Pg	**Pn**	**03 05 11.7**	**-1.1**
BHD	**Baghdad**	**1.47**	**228**	*e*Pn	**Pn**	**03 05 18.0**	**+0.6**
BHD				*e*Sn	**Sg**	**03 05 39.0**	**-0.3**
BHD				AML	AML	03 05 41.5	
	comp=E,384nm,0.4s						
IKRK	**Kirkuk**	**1.58**	**316**	*e*Pn	**Pn**	**03 05 19.5**	**+0.6**
IKRK				*e*Sn	**Sb**	**03 05 41.0**	**+0.9**
IKRK				AML	AML	03 05 43.0	
	comp=N,419nm,0.4s						
IKRK				AML	AML	03 05 43.0	
	comp=E,477nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.71**	**69**	Pg	**Pn**	**03 05 22.9**	**+2.0**
IBZA	**Bozab**	**1.81**	**83**	Pn	**Pb**	**03 05 26.4**	**+1.8**
IDOB	**Doab**	**2.13**	**102**	Pn	**Pn**	**03 05 27.9**	**+1.3**
MAHB	**Mahabad**	**2.49**	**0**	Pn	**Pn**	**03 05 32.9**	**+1.3**
HAGD	**Aghdareh**	**2.91**	**78**	Pn	**Pn**	**03 05 38.4**	**+1.1**
MSL	**Mosul**	**2.99**	**316**	*e*Pn	**Pn**	**03 05 39.0**	**+0.7**
MSL				*e*Sn	**Sn**	**03 06 15.0**	**+1.3**

*NEIC **19** 03:15:30.7±1.5, 4°.65S±0°.09×153°.11E±0°.09, h57km±10km, mb4.2/8, Error ellipse: s-maj=14.0km s-min=13.0km az=221.0*
*IDC **19** 03:15:37.2±7.9, 4°.84S×152°.59E, h102km±60km, mb3.6/7, mbtmp3.9/8, MS3.0/2, Error ellipse: s-maj=65.2km s-min=24.9km az=89.0*
ISC 19 03:15:29.9±0.7, 4.79S±0°.07×153°.15E±0°.09, h50km, n24, σ1°52/24, mb4.0/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.15**	**301**		**Pn**	**03 15 49.2**	**-0.5**
RABL				Sn	**Sn**	**03 16 07.4**	**+3.0**
PMG	**Port Moresby**	**7.50**	**232**	Pn	**Pn**	**03 17 17.9**	**+1.0**
PMG	**Port Moresby**	**7.50**	**232**	P	**Pn**	**03 17 17.5**	**+0.7**
	8.9nm,0.5s,baz=31,slow=11,SNR=2.1						
PMG				S	**Sn**	**03 18 37.0**	**-3.7**
	20nm,0.4s,baz=117,slow=20,SNR=6.0						
PATS	**Pohnpei**	**12.65**	**24**	Pn	**Pn**	**03 18 25.8**	**-1.5**
GUMO	**Guam**	**20.03**	**336**	LR	LR	03 28 12.1	
	comp=Z,32nm,18.4s,baz=49,slow=38						
ONTNC	**Ouen Toro**	**21.66**	**145**	P	**P**	**03 20 17.2**	**+0.8**
MTN	**Manton Dam**	**23.16**	**248**	P	**P**	**03 20 32.2**	**-0.2**
MTN				IAmb	IAmb	03 20 47.3	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	**23.57**	**229**		**P**	**03 20 35.2**	**-1.0**
WR8	**Warramunga Arr**	**23.60**	**229**	P	**P**	**03 20 35.8**	**-0.7**
WR8				IAmb	IAmb	03 20 53.1	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**23.71**	**229**	P	**P**	**03 20 36.1**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=52,slow=9.6,SNR=17						
	comp=Z,0.8nm,0.5s						
KNRA	**Kununurra**	**26.29**	**244**	P	**P**	**03 21 01.0**	**0.0**
KNRA				IAmb	IAmb	03 21 04.3	
	comp=Z,6.6nm,0.7s						
ASAR	**Alice Springs**	**26.39**	**223**	P	**P**	**03 21 00.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=59,slow=9.1,SNR=7.3						
	comp=Z,0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**29.97**	**242**	P	**P**	**03 21 32.7**	**-1.1**
BBOO	**Buckleboo**	**32.12**	**208**	P	**P**	**03 21 55.1**	**+2.5**
TUWZ	**Tuamarina**	**40.95**	**156**	P	**P**	**03 23 07.8**	**+0.1**
MJAR	**Matsushiro Arr**	**43.43**	**342**	LR	LR	03 39 23.8	
	comp=Z,23nm,21.2s,baz=175,slow=33						
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**03 26 15.2**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=146,slow=6.2,SNR=4.0						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**03 27 35.9**	**-1.2**
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**03 27 36.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=101,slow=6.5,SNR=9.1						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**81.34**	**326**	P	**P**	**03 27 40.3**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=111,slow=5.9,SNR=5.7						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**84.01**	**322**	P	**P**	**03 27 54.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=109,slow=4.6,SNR=6.8						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**85.17**	**180**	P	**P**	**03 28 02.2**	**+1.4**
QSPA				IAmb	IAmb	03 28 24.4	
	comp=Z,1.9nm,0.9s						
QSPA	**South Pole Qui**	**85.17**	**180**	P	**P**	**03 28 02.0**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=301,slow=0.8,SNR=6.9						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.63**	**288**	PKPbc	**PKPbc**	**03 35 16.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=71,slow=2.8,SNR=4.2						

*IDC **19** 03:27:57.1±0.9, 52°.36S×27°.86E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/1, Error ellipse: s-maj=42.0km s-min=19.1km az=85.0*
ISC 19 03:27:58.7±0.9, 52°.4S±0°.1×27°.9E±0°.3, h10km, n19, σ0°73/13, mb3.8/7, 1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**16.48**	**80**	T	T	03 49 00.9	
	baz=241,slow=74,SNR=5.1						
H04S3	**CROZET ISLANDS**	**16.49**	**80**	T	T	03 49 05.9	
	baz=241,slow=74,SNR=4.8						
H04S1	**CROZET ISLANDS**	**16.50**	**80**	T	T	03 49 09.7	
	baz=241,slow=74,SNR=5.8						
TROLL	**Troll, Antarti**	**22.62**	**200**	⇓P	**P**	**03 33 00.2**	**+0.8**
	comp=Z,56nm,0.7s						
SNAA	**Sanae**	**23.63**	**204**	P	**P**	**03 33 09.5**	**-0.1**
SNAA	**Sanae**	**23.63**	**204**	P	**P**	**03 33 09.4**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=63,slow=8.4,SNR=5.9						
	comp=Z,1.3nm,0.8s						
BOSA	**Boshof**	**23.81**	**354**	P	**P**	**03 33 11.3**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=174,slow=19,SNR=1.8						
	comp=Z,1.3nm,0.7s						
VNA2	**Neumayer--Watz**	**24.41**	**207**	P	**P**	**03 33 17.0**	**+0.2**
	baz=54,slow=9.2						
VNA1	**Neumayer--Stat**	**24.51**	**208**	P	**P**	**03 33 18.6**	**+0.8**
VNA3	**Neumayer Olymp**	**25.21**	**208**	P	**P**	**03 33 23.2**	**-0.9**
LBTB	**Lobatse**	**27.37**	**356**	LR	LR	03 43 59.7	
	comp=Z,56nm,18.1s,baz=176,slow=35						
MATP	**Matopo**	**31.89**	**1**	P	**P**	**03 34 25.1**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=194,slow=8.7,SNR=1.9						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**37.85**	**180**	P	**P**	**03 35 16.0**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=240,slow=1.7,SNR=15						
	comp=Z,1.3nm,0.6s						
VNDA	**Vanda**	**47.28**	**168**	P	**P**	**03 36 30.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=245,slow=7.7,SNR=2.4						
	comp=Z,0.5nm,0.6s						
H10S2	**ASCENSION HYDR**	**55.34**	**306**	T	T	04 38 04.1	
	baz=149						
H10S3	**ASCENSION HYDR**	**55.35**	**306**	T	T	04 37 36.8	
	baz=71						
TORD	**Torodi Ar. Bea**	**69.05**	**333**	P	**P**	**03 39 04.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=149,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	**80.79**	**117**	P	**P**	**03 40 13.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=213,slow=4.9,SNR=9.4						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**84.01**	**115**	P	**P**	**03 40 28.7**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=204,slow=6.4,SNR=4.6						
	comp=Z,0.6nm,0.9s						

*IDC **19** 03:34:09.6±4.0, 44°.86S×169°.55E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=158.8km s-min=26.9km az=57.0*
*WEL **19** 03:34:29.7±1.0, 46°.5±4°.5×16°.7E±°, h84km±7km, M4.4/8, ML4.7/8, MLv4.4/8, Error ellipse: s-maj=6.1km s-min=5.0km az=79.8, confirmed*
*NOU **19** 03:34:30.4, 45°.73S×167°.10E, h59km, MLv4.8/19, South Island, New Zealand*
ISC 19 03:34:29.3±0.8, 45°.94S±0°.04×167°.07E±0°.05, h107km±5km, n110, σ1°20/119, mb4.0/6, 4D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRKS	**Rarakau**	**0.35**	**127**	P	**Pn**	**03 34 44.3**	**-0.6**
RRKS				S	**Sn**	**03 34 56.0**	**-0.6**
PYZ	**Puysegur Point**	**0.35**	**230**	P	**Pn**	**03 34 43.3**	**-1.6**
PYZ	**Puysegur Point**	**0.35**	**230**	P	**Sn**	**03 34 54.0**	**-2.6**
PYZ	**Puysegur Point**	**0.35**	**230**	P	**Pn**	**03 34 43.1**	**-1.8**
PYZ				S	**Sn**	**03 34 53.6**	**-3.0**
RLNS	**Resolution Isl**	**0.37**	**313**	P	**Pn**	**03 34 43.7**	**-1.4**
RLNS				S	**Sn**	**03 34 54.9**	**-2.1**
DCZ	**Deep Cove**	**0.48**	**7**	P	**Pn**	**03 34 44.9**	**-0.7**
DCZ				S	**Sn**	**03 34 57.8**	**-0.1**
ORPS	**Orepuki**	**0.60**	**126**	P	**Pn**	**03 34 45.9**	**-0.6**
ORPS				S	**Sn**	**03 34 58.3**	**-1.1**
WHZ	**Wether Hill Ro**	**0.61**	**86**	P	**Pn**	**03 34 46.6**	**0.0**
WHZ				S	**Sn**	**03 34 59.4**	**-0.3**
TAFS	**Te Anau Fire S**	**0.69**	**41**	P	**Pn**	**03 34 47.5**	**+0.3**
TAFS				S	**Sn**	**03 35 01.6**	**+0.9**
MOSS	**Mossburn Schoo**	**0.86**	**72**	P	**Pn**	**03 34 49.6**	**+0.8**
MOSS				S	**Sn**	**03 35 04.4**	**+0.9**
MLZ	**Mavora Lakes**	**0.93**	**52**	P	**Pn**	**03 34 50.2**	**+0.7**
MLZ				S	**Sn**	**03 35 06.2**	**+1.4**
APZ	**The Paps**	**1.10**	**145**	P	**Pn**	**03 34 50.8**	**-0.5**
APZ				S	**Sn**	**03 35 06.4**	**-1.5**
MSZ	**Milford Sound**	**1.40**	**26**	P	**Pn**	**03 34 55.2**	**+0.5**
MSZ				S	**Sn**	**03 35 14.1**	**+0.2**
SYZ	**Scrubby Hill**	**1.56**	**113**	P	**Pn**	**03 34 56.8**	**+0.3**
SYZ	**Scrubby Hill**	**1.56**	**113**	S	**Sn**	**03 35 17.2**	**0.0**
SYZ	**Scrubby Hill**	**1.56**	**113**	P	**Pn**	**03 34 56.6**	**+0.1**
SYZ				S	**Sn**	**03 35 16.7**	**-0.5**
EAZ	**Earnscleugh**	**1.72**	**67**	P	**Pn**	**03 34 59.3**	**+0.7**
EAZ				S	**Sn**	**03 35 21.1**	**+0.1**
WKZ	**Wanaka**	**1.77**	**52**	P	**Pn**	**03 35 00.5**	**+1.3**
TUZ	**Tuapeka**	**1.79**	**91**	P	**Pn**	**03 34 59.9**	**+0.5**
TUZ				S	**Sn**	**03 35 21.4**	**-1.0**
JCZ	**Jackson Bay**	**2.23**	**34**	P	**Pn**	**03 35 05.7**	**+0.6**
JCZ				S	**Sn**	**03 35 34.1**	**+1.5**
HHSZ	**Highcliff Hill**	**2.46**	**90**	P	**Pn**	**03 35 08.2**	**+0.1**
ODZ	**Otahua Downs**	**2.67**	**72**	P	**Pn**	**03 35 10.3**	**-0.5**
ODZ	**Otahua Downs**	**2.67**	**72**	S	**Sn**	**03 35 41.6**	**-1.1**
ODZ	**Otahua Downs**	**2.67**	**72**	P	**Pn**	**03 35 10.1**	**-0.7**
LBZ	**Lake Benmore**	**2.70**	**56**	P	**Pn**	**03 35 10.4**	**-0.7**
FOZ	**Fox Glacier**	**3.10**	**40**	P	**Pn**	**03 35 16.2**	**-0.3**
TMZ	**Timaru**	**3.19**	**62**	P	**Pn**	**03 35 16.4**	**-1.3**
ARCZ	**Arundel**	**3.53**	**57**	P	**Pn**	**03 35 20.7**	**-1.5**
RPZ	**Rata Peaks**	**3.60**	**53**	P	**Pn**	**03 35 22.1**	**-1.1**
RPZ	**Rata Peaks**	**3.60**	**53**	S	**Sn**	**03 36 03.9**	**-1.0**
RPZ	**Rata Peaks**	**3.60**	**53**	P	**Pn**	**03 35 21.9**	**-1.3**
WVZ	**Waitaha Valley**	**3.88**	**44**	P	**Pn**	**03 35 26.3**	**-0.7**
WACZ	**Wakanui South**	**3.93**	**61**	P	**Pn**	**03 35 26.5**	**-1.1**
MHCZ	**Mount Hutt**	**4.01**	**55**	P	**Pn**	**03 35 27.1**	**-1.6**
RACZ	**Rakaia**	**4.23**	**60**	P	**Pn**	**03 35 30.6**	**-1.0**
OXZ	**Oxford**	**4.41**	**55**	P	**Pn**	**03 35 32.2**	**-1.8**
INZ	**Inchbonnie**	**4.49**	**46**	P	**Pn**	**03 35 34.1**	**-1.0**
MQZ	**McQueen's Vall**	**4.56**	**63**	P	**Pn**	**03 35 34.6**	**-1.3**
AKCZ	**Akaroa Harbour**	**4.63**	**66**	P	**Pn**	**03 35 36.1**	**-1.0**
OKCZ	**Okains Bay**	**4.80**	**65**	P	**Pn**	**03 35 38.8**	**-0.5**
AMCZ	**Amberley**	**4.85**	**57**	P	**Pn**	**03 35 39.2**	**-0.8**
LTZ	**Lake Taylor**	**4.89**	**52**	P	**Pn**	**03 35 39.0**	**-1.5**
GVZ	**Greta Valley S**	**5.20**	**57**	P	**Pn**	**03 35 43.6**	**-1.1**
DSZ	**Denniston Nort**	**5.41**	**41**	P	**Pn**	**03 35 46.8**	**-0.9**
KHZ	**Kahutara**	**5.83**	**55**	P	**Pn**	**03 35 52.1**	**-1.2**
KHZ	**Kahutara**	**5.83**	**55**	S	**Sn**	**03 36 57.2**	**-1.6**
KHZ	**Kahutara**	**5.83**	**55**	P	**Pn**	**03 35 52.0**	**-1.2**
THZ	**Tophouse**	**5.94**	**47**	P	**Pn**	**03 35 53.3**	**-1.4**
MRNZ	**Matariki Terra**	**6.13**	**44**	P	**Pn**	**03 35 56.9**	**-0.4**
QRZ	**Quartz Range**	**6.47**	**40**	P	**Pn**	**03 36 01.7**	**-0.3**
QRZ	**Quartz Range**	**6.47**	**40**	S	**Sn**	**03 37 11.2**	**-3.2**
QRZ	**Quartz Range**	**6.47**	**40**	P	**Pn**	**03 36 01.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**6.48**	**52**	P	**Pn**	**03 36 02.9**	**+0.8**
TKNZ	**Takaka Hill**	**6.51**	**43**	P	**Pn**	**03 36 02.4**	**-0.1**
NNZ	**Nelson**	**6.58**	**46**	P	**Pn**	**03 36 02.7**	**-0.7**
TUWZ	**Tuamarina**	**6.72**	**50**	P	**Pn**	**03 36 06.5**	**+1.3**
TCW	**Tory Channel**	**7.05**	**50**	P	**Pn**	**03 36 09.3**	**-0.4**
DUWZ	**D'Urville Isla**	**7.16**	**47**	P	**Pn**	**03 36 11.6**	**+0.3**
SNZO	**South Karori**	**7.22**	**53**	P	**Pn**	**03 36 11.6**	**-0.4**
SNZO	**South Karori**	**7.22**	**53**	S	**Sn**	**03 37 29.5**	**-2.9**
BHW	**Baring Head**	**7.24**	**54**	P	**Pn**	**03 36 11.8**	**-0.6**
PLWZ	**Palliser**	**7.36**	**57**	P	**Pn**	**03 36 13.1**	**-0.9**
MSWZ	**Moikau Station**	**7.46**	**56**	P	**Pn**	**03 36 14.7**	**-0.6**
CAW	**Cannon Point**	**7.55**	**53**	P	**Pn**	**03 36 14.4**	**-2.2**
PAWZ	**Paruwai Farm**	**7.58**	**56**	P	**Pn**	**03 36 16.2**	**-0.8**
KIW	**Kapiti Island**	**7.64**	**51**	P	**Pn**	**03 36 17.0**	**-0.8**
TRWZ	**Traveller**	**7.72**	**57**	P	**Pn**	**03 36 18.9**	**0.0**
MTW	**Mount Morrison**	**7.77**	**55**	P	**Pn**	**03 36 18.6**	**-0.9**
OGWZ	**Otaki Gorge**	**7.81**	**52**	P	**Pn**	**03 36 18.8**	**-1.3**
HOWZ	**Holdsworth Sta**	**7.95**	**54**	P	**Pn**	**03 36 21.5**	**-0.5**
TMWZ	**Te Maipa**	**8.02**	**56**	P	**Pn**	**03 36 22.1**	**-0.9**
MRZ	**Mangatainoka R**	**8.14**	**53**	P	**Pn**	**03 36 22.7**	**-1.9**
NMEZ	**Namu Road**	**8.22**	**40**	P	**Pn**	**03 36 26.4**	**+0.7**
NBEZ	**Newall Road No**	**8.34**	**39**	P	**Pn**	**03 36 27.7**	**+0.4**
KHEZ	**Kahui Hut**	**8.38**	**40**	P	**Pn**	**03 36 27.9**	**-0.1**
KHEZ	**Kahui Hut**	**8.38**	**40**	P	**Pn**	**03 36 28.5**	**+0.5**
PREZ	**Palmer Road**	**8.41**	**41**	P	**Pn**	**03 36 28.6**	**+0.3**
NEZ	**North Egmont**	**8.44**	**40**	P	**Pn**	**03 36 29.3**	**+0.6**
PKE	**Pukeiti**	**8.45**	**40**	P	**Pn**	**03 36 29.4**	**+0.5**
WAZ	**Wanganui**	**8.48**	**46**	P	**Pn**	**03 36 30.5**	**+1.2**
BFZ	**Birch Farm**	**8.51**	**55**	P	**Pn**	**03 36 28.2**	**-1.3**
BFZ	**Birch Farm**	**8.51**	**55**	S	**Sn**	**03 38 00.5**	**-3.2**
BFZ	**Birch Farm**	**8.51**	**55**	P	**Pn**	**03 36 28.3**	**-1.2**
DVHZ	**Dannevirke**	**8.72**	**53**	P	**Pn**	**03 36 31.8**	**-0.7**
VRZ	**Vera Road**	**8.86**	**42**	P	**Pn**	**03 36 33.6**	**-0.8**
WNVZ	**Wahianoa**	**9.12**	**47**	P	**Pn**	**03 36 39.4**	**+1.4**
MOVZ	**Moawhango**	**9.13**	**47**	P	**Pn**	**03 36 37.3**	**-0.8**
FWVZ	**Far West T-bar**	**9.15**	**46**	P	**Pn**	**03 36 38.5**	**+0.1**
TWVZ	**Taurewa**	**9.23**	**45**	P	**Pn**	**03 36 36.1**	**-3.4**
WTVZ	**West Tongariro**	**9.27**	**46**	P	**Pn**	**03 36 39.5**	**-0.6**
HIZ	**Hauiti**	**9.40**	**41**	P	**Pn**	**03 36 40.3**	**-1.4**
KAHZ	**Kahuranaki**	**9.46**	**53**	P	**Pn**	**03 36 41.5**	**-1.0**
BKZ	**Black Stump Fm**	**9.70**	**49**	P	**Pn**	**03 36 45.2**	**-0.6**
URZ	**Urewera**	**10.70**	**48**	P	**Pn**	**03 36 58.8**	**-0.4**
ASAR	**Alice Springs**	**34.77**	**298**	P	**P**	**03 41 10.9**	**+1.5**
	0.2nm,0.8s,baz=134,slow=5.3,SNR=1.5						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**37.33**	**303**	P	**P**	**03 41 31.4**	**+0.1**
	0.3nm,0.6s,baz=137,slow=7.9,SNR=1.5						
	0.3nm,0.6s						
H01W1	**Cape Leeuwin H**	**41.08**	**266**	T	T	04 25 49.0	
	baz=121,slow=75,SNR=104						
H01W2	**Cape Leeuwin H**	**41.09**	**266**	T	T	04 25 45.9	
	baz=121,slow=75,SNR=68						
H01W3	**Cape Leeuwin H**	**41.10**	**266**	T	T	04 25 45.9	
	baz=121,slow=75,SNR=78						
QSPA	**South Pole Qui**	**44.19**	**180**	P	**P**	**03 42 29.9**	**+2.7**
	2.3nm,0.7s,baz=353,slow=2.8,SNR=13						
	2.3nm,0.7s						
TROLL	**Troll, Antarti**	**61.85**	**185**	⇓P	**P**	**03 44 36.5**	**-0.1**
	comp=Z,81nm,0.6s						
SNAA	**Sanae**	**62.48**	**184**	⇓P	**P**	**03 44 40.4**	**-0.3**
	comp=Z,29nm,1.0s						
SNAA	**Sanae**	**62.48**	**184**	P	**P**	**03 44 40.0**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=180,slow=3.9,SNR=4.2						
	comp=Z,1.3nm,1.0s						
VNA2	**Neumayer--Watz**	**63.38**	**182**	⇓P	**P**	**03 44 46.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=171,slow=5.8						
VNA1	**Neumayer--Stat**	**63.67**	**182**	⇓P	**P**	**03 44 48.4**	**-0.1**
	comp=Z,2.4nm,1.0s						
H03S2	**Juan Fernandez**	**80.75**	**130**	T	T	05 14 42.2	
	baz=218						
H03S1	**Juan Fernandez**	**80.76**	**130**	T	T	05 14 39.1	
	baz=218						
H03S3	**Juan Fernandez**	**80.77**	**130**	T	T	05 14 40.2	
	baz=218						
TORD	**Torodi Ar. Bea**	**145.05**	**205**	PKPbc	**PKPbc**	**03 53 52.5**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=163,slow=2.4,SNR=14						
BRTR	**Keskin Array B**	**145.68**	**277**	PKPbc	**PKPdf**	**03 53 55.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=125,slow=5.1,SNR=4.0						

*NEIC **19** 03:38:58.9±0.9, 35°.715N±0°.004×98°.84W±0°.01, h5km±1km, mb_Lg2.4/26, ML2.5/34, ML2.2/13, Error ellipse: s-maj=2.5km s-min=1.9km az=127.0*
NEIC 19 03:38:59.4±1.0, 35°.724N±0°.010×98°.82W±0°.01, h7km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.13**	**126**		Pg	03 39 02.3	+0.1
CSTR					Sg	03 39 04.9	+0.8
OK038	**West end E0370**	**0.76**	**5**		Pg	03 39 13.6	-0.3
OK038					Sg	03 39 23.9	+0.1
NOKA	**Waynoka**	**0.91**	**354**		Pg	03 39 16.4	-0.6
NOKA					Sg	03 39 29.2	+0.4
NOKA				IAML		03 39 37.5	
	comp=E,258nm,0.2s						
WMOK	**Wichita Mounta**	**0.98**	**178**		Pg	03 39 16.1	-2.1
WMOK					Pb	03 39 16.4	-2.3
WMOK					Sg	03 39 29.5	-1.5
CROK	**Carrier**	**1.03**	**41**		Pg	03 39 18.5	-0.7
CROK					Sg	03 39 33.0	+0.3
OK029	**Liberty Lake**	**1.11**	**86**		Pg	03 39 20.1	-0.6
OK029					Sg	03 39 35.0	-0.1
OK029				IAML		03 39 41.6	
	comp=E,66nm,0.2s						
OK029				IAML		03 39 42.3	
	comp=E,82nm,0.2s

FINES FINESS Array B 64.08 341 P **P 04 00 57.3 -0.4**
2.1nm,0.9s,baz=169,slow=1.4,SNR=1.9
2.1nm,0.9s
HFS Hagfors 67.89 335 P **P 04 01 20.9 -1.4**
1.2nm,0.7s,baz=108,slow=9.3,SNR=1.2
1.2nm,0.7s
WRA Warramunga Arr 72.63 112 P **P 04 01 52.9 +0.7**
0.9nm,0.8s,baz=292,slow=5.2,SNR=9.0
0.9nm,0.8s
ASAR Alice Springs 72.98 116 P **P 04 01 53.8 -0.5**
0.6nm,0.6s,baz=288,slow=5.8,SNR=11
0.6nm,0.6s
MJAR Matsushiro Arr 74.60 53 LR LR 04 38 30.4
comp=Z,16nm,18.2s,baz=135,slow=39
TXAR Lajitas Array 144.91 342 PKPbc **PKPdf 04 10 01.9 -0.3**
0.6nm,0.7s,baz=70,slow=2.7,SNR=8.0

IDC 19 04:06:21.7±3.2, 6°.37S×147°.40E, h0km, mb3.5/2, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=66.3km s-min=34.6km az=89.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.03**	**185**	Pn	Pn	04 07 11.7	+0.7
PMG	3.0nm,0.3s,baz=92,slow=10.0,SNR=9.7			Sn	Sn	04 07 47.7	-0.2
WRA	**Warramunga Arr**	**18.52**	**222**	P	P	04 10 39.8	-0.1
	0.1nm,0.3s,baz=48,slow=11,SNR=4.8 0.2nm,0.4s						
ASAR	**Alice Springs**	**21.55**	**216**	P	P	04 11 12.6	-0.3
	0.4nm,0.3s,baz=43,slow=9.3,SNR=8.8 0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	P	04 11 40.5	+0.1
	0.8nm,0.4s,baz=54,slow=11,SNR=1.6 0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.57**	**284**	PKPbc	PKPdf	04 26 02.3	-0.8
	0.3nm,0.7s,baz=63,slow=5.7,SNR=2.2						

*IDC **19** 04:08:17.5±1.5, 55°.02N×164°.68E, h0km, mb3.6/4, mbtmp3.5/5, ML2.2/1, MS2.9/1, Error ellipse: s-maj=51.3km s-min=25.6km az=165.0*
*KRSC **19** 04:08:18.1±1.0, 54°.84N×164°.71E, h44km±26km, Ml3.9*
ISC 19 04:08:20.4±0.8, 54°.90N±0°.07×164°.72E±0°.06, h27km, n39, σ1§16/34, mb3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.79**	**67**	*eP*	**Pb**	**04 08 34.5**	**-1.0**
BKI				*eS*	**Sb**	**04 08 45.3**	**-0.4**
KBTR	**Krutoberegovo**	**1.70**	**321**	*eP*	**Pn**	**04 08 45.9**	**-2.4**
MKZ	**Mys Kozlova**	**1.77**	**260**	*eP*	**Pn**	**04 08 48.4**	**-0.8**
SMKR	**Semkarok**	**2.49**	**314**	*eP*	**Pn**	**04 09 00.0**	**+0.8**
ZLN	**Zelenaya**	**2.49**	**298**	*eP*	**Pn**	**04 09 00.2**	**+0.9**
TUMD	**Tumrok D**	**2.50**	**279**	*eP*	**Pn**	**04 08 59.4**	**0.0**
TUMD				*eS*	**Sn**	**04 09 27.2**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**2.52**	**296**	*eP*	**Pn**	**04 08 60.0**	**+0.4**
KZV	**Kizimen**	**2.56**	**277**	*eP*	**Pn**	**04 09 00.2**	**0.0**
CIRR	**Tsirk**	**2.56**	**300**	*eP*	**Pn**	**04 09 00.4**	**+0.1**
BZMR	**Bezymyannaya**	**2.62**	**295**	*eP*	**Pn**	**04 09 01.6**	**+0.5**
BZWR	**Bezymyannyi-We**	**2.63**	**296**	*eP*	**Pn**	**04 09 01.8**	**+0.5**
KMNR	**Kamenistaya**	**2.70**	**290**	*eS*	**Sn**	**04 09 35.6**	**+1.7**
KLY	**Klyuchi**	**2.71**	**303**	*eS*	**Sn**	**04 09 32.9**	**-1.1**
KIRR	**Kirishev**	**2.71**	**295**	*eP*	**Pn**	**04 09 03.4**	**+1.1**
KPT	**Kopyto**	**2.77**	**295**	*eP*	**Pn**	**04 09 03.8**	**+0.7**
SRDR	**Sredinnyy**	**3.17**	**299**	*eP*	**Pn**	**04 09 08.9**	**+0.3**
SPN	**Mys Shipunski**	**3.31**	**239**	*eP*	**Pn**	**04 09 10.3**	**0.0**
NLC	**Nalytchevo**	**3.61**	**244**	*eS*	**Sn**	**04 09 56.0**	**-0.2**
SDLR	**Sedlovina**	**3.80**	**247**	*eP*	**Pn**	**04 09 17.7**	**+0.5**
SMAR	**Somma**	**3.85**	**247**	*eP*	**Pn**	**04 09 19.0**	**+1.0**
KRER	**Koryakskii**	**3.86**	**248**	*eP*	**Pn**	**04 09 19.2**	**+1.0**
AVH	**Avacha**	**3.88**	**247**	*eP*	**Pn**	**04 09 19.5**	**+1.2**
KRX	**Arik**	**3.89**	**249**	*eP*	**Pn**	**04 09 19.2**	**+0.7**
GNL	**Ganaly**	**4.15**	**256**	*eP*	**Pn**	**04 09 22.8**	**+0.8**
KRMR	**Karymshinskiy**	**4.42**	**245**	*eS*	**Sn**	**04 10 13.4**	**-2.6**
PETK	**Petropavlovsk-**	**4.51**	**249**	Pn	**Pn**	**04 09 27.3**	**+0.4**
	0.6nm,0.3s,baz=63,slow=9.4,SNR=12						
PETK				Sn	**Sn**	**04 10 15.5**	**-3.0**
	0.8nm,0.3s,baz=357,slow=15,SNR=5.5 1.4nm,0.5s						
MTVR	**Mutnovka**	**4.58**	**241**	*eP*	**Pn**	**04 09 28.1**	**+0.1**
YAK	**Yakutsk**	**19.46**	**306**	LR	LR	04 20 25.4	
	comp=Z,35nm,19.8s,baz=48,slow=38						
ILAR	**Eielson Array**	**25.59**	**48**	P	**P**	**04 13 46.9**	**0.0**
	1.0nm,0.7s,baz=258,slow=8.5,SNR=16 1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.15**	**176**	T	T	04 53 38.2	
	baz=359,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	04 53 39.2	
	baz=359,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	04 53 39.5	
	baz=359,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**36.36**	**177**	T	T	04 55 05.6	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**36.37**	**177**	T	T	04 55 09.5	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**36.38**	**177**	T	T	04 55 07.8	
	baz=359						
KURBB	**Kurchatov Arra**	**49.17**	**303**	P	**P**	**04 17 06.0**	**+0.4**
	0.2nm,0.3s,baz=54,slow=7.8,SNR=3.3 0.2nm,0.3s						
NOA	**NORSAR Array B**	**62.51**	**346**	P	**P**	**04 18 41.6**	**+0.5**
	0.6nm,0.7s,baz=13,slow=3.4,SNR=0.8 0.6nm,0.7s						
TXAR	**Lajitas Array**	**67.44**	**71**	P	**P**	**04 19 15.2**	**+1.6**
	0.3nm,0.6s,baz=294,slow=3.8,SNR=6.1 0.3nm,0.6s						
QSPA	**South Pole Qui**	**144.65**	**180**	PKP	PKPbc	04 27 53.7	+1.8
	0.6nm,0.6s,baz=325,slow=2.1,SNR=5.4						

*SJA **19** 04:40:34.9±1.8, 36°.24S×72°.65W, h15km, ML3.0, MW3.5*
*GUC **19** 04:40:38.6±0.6, 36°.36S×72°.68W, h32km±3km, ML2.7*
ISC 19 04:40:35.4±1.2, 36°.25S±0°.06×72°.79W±0°.07, h25km, n11, σ1§04/14, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.59**	**213**	*eP*	**Pn**	**04 40 48.9**	**+0.6**
BI05				*eS*	**Sn**	**04 40 57.5**	**+0.5**
BI05	**Punta Hualpn**	**0.59**	**213**	*eP*	**Pn**	**04 40 49.0**	**+0.7**
BI05				*eS*	**Sn**	**04 40 57.8**	**+0.7**
BI05				IAML		04 40 58.5	
	comp=Z,1μm,0.1s						
ML02	**Panimavida**	**1.21**	**67**	*eP*	**Pb**	**04 40 58.7**	**+1.0**
ML02				IAML		04 41 17.4	
	comp=N,574nm,0.4s						
BI02	**San Fabin de**	**1.29**	**109**	*eP*	**Pb**	**04 40 58.5**	**-0.5**
BI02				*eS*	**Sb**	**04 41 14.1**	**-1.0**
BI02				IAML		04 41 15.3	
	comp=N,308nm,0.2s						
BI02	**San Fabin de**	**1.29**	**109**	*eP*	**Pb**	**04 40 58.5**	**-0.5**
BI02				*eS*	**Sb**	**04 41 14.4**	**-0.8**
BI02				IAML		04 41 14.6	
	comp=Z,171nm,0.4s						
BO02	**Sierra Bellavi**	**2.19**	**49**	*eP*	**Pb**	**04 41 13.7**	**-0.7**
BO01	**Tunca**	**2.32**	**37**	*eP*	**Pb**	**04 41 16.1**	**-0.4**
BO01				IAML		04 41 56.9	
	comp=N,25nm,0.2s						
BO04	**La Punta**	**2.88**	**39**	*eP*	**Pb**	**04 41 24.1**	**-2.0**
BO04				IAML		04 42 10.9	
	comp=N,25nm,0.2s						
GO06	**Curarrehue**	**3.48**	**163**	*eP*	Pb	04 41 29.7	-6.7
LR04	**Corral**	**3.66**	**188**	*eP*	**Pn**	**04 41 30.2**	**-0.1**
RFA	**San Rafael**	**3.82**	**68**	*eP*	**Pn**	**04 41 34.3**	**+1.6**

*DJA **19** 04:53:11.8±0.4, 3°.N±4°.×12°.7E±°, h10km, M4.1/7, mB4.8/1, mb4.6/1, MLv3.9/7, Mw(mB)4.1/1*
*IDC **19** 04:53:19.8±17.0, 2°.97N×125°.80E, h98km±160km, mb3.4/6, mbtmp3.7/6, ML5.4/1, Error ellipse: s-maj=151.4km s-min=22.2km az=59.0*
ISC 19 04:53:15.9±1.4, 3°.1N±0°.2×126°.6E±0°.2, h63km, n8, σ1§87/8, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.17**	**298**	P	**Pn**	**04 53 38.2**	**+1.8**
SGSI				S	Sn	04 53 58.7	+7.1
BATI	**Baumata**	**13.56**	**192**	P	**Pn**	**04 56 23.8**	**-1.8**
	18nm,0.3s,baz=16,slow=9.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**21.12**	**182**	P	**P**	**04 57 55.9**	**+0.3**
	0.6nm,0.6s,baz=12,slow=10,SNR=4.1 0.6nm,0.6s						
WRA	**Warramunga Arr**	**24.17**	**162**	P	**P**	**04 58 27.5**	**+1.0**
	1.2nm,0.5s,baz=337,slow=11,SNR=26 1.2nm,0.5s						
ASAR	**Alice Springs**	**27.58**	**165**	P	**P**	**04 58 58.6**	**+1.3**
	0.3nm,0.4s,baz=355,slow=7.6,SNR=5.9 0.3nm,0.4s						
STKA	**Stephens Creek**	**37.63**	**159**	P	**P**	**05 00 26.1**	**+1.2**
	2.6nm,0.7s,baz=347,slow=9.0,SNR=3.9 2.6nm,0.7s						
MKAR	**Makanchi Array**	**57.95**	**326**	P	**P**	**05 02 59.8**	**-2.1**
	0.3nm,0.4s,baz=114,slow=7.4,SNR=4.2 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.15**	**328**	P	**P**	**05 03 29.0**	**-1.6**
	0.8nm,0.5s,baz=126,slow=6.5,SNR=9.5 0.8nm,0.5s						

*IDC **19** 04:56:53.6±1.1, 28°.32N×57°.37E, h0km, mb3.8/12, mbtmp3.8/13, ML3.6/1, MS3.3/3, Error ellipse: s-maj=26.9km s-min=20.7km az=7.0*
*TEH **19** 04:56:54.7, 28°.34N×57°.47E, h8km±37km*
*OMAN **19** 04:57:00.8±1.6, 27°.92N×57°.18E, h10km, mb4.4/5, ml3.2/13, Error ellipse: s-maj=13.1km s-min=10.5km az=32.0*
ISC 19 04:56:54.7±0.5, 28°.29N±0°.03×57°.43E±0°.04, h10km, n55, σ1§88/65, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.42**	**144**	Pg	**Pg**	**04 57 03.1**	**+0.2**
IBND	**Bandar-abas**	**1.15**	**224**	Pg	**Pg**	**04 57 18.1**	**+1.4**
IBND				Sg	**Sn**	**04 57 35.6**	**+3.0**
KBAM	**BAM**	**1.23**	**46**	Pg	**Pg**	**04 57 17.6**	**-0.7**
GENO	**Geno**	**1.42**	**232**	Pg	**Pg**	**04 57 22.8**	**+0.8**
BNDS	**Bandar-Abbas**	**1.43**	**232**	Pg	**Pg**	**04 57 22.8**	**+0.7**
CHMN	**Cheshme madani**	**1.57**	**3**	Pg	**Pb**	**04 57 22.9**	**-1.1**
KRM1	**Kerman Provinc**	**2.21**	**356**	Pn	**Pb**	**04 57 33.8**	**-1.1**
SHME	**Shamm**	**2.51**	**208**	P	**Pn**	**04 57 37.1**	**+1.5**
	SNR=9.0						
SHME				S	**Sn**	**04 58 04.8**	**-1.4**
BANOM	**Banah**	**2.56**	**203**	P	**Pb**	**04 57 39.8**	**-1.0**
BANOM				S	**Sn**	**04 58 08.2**	**+0.6**
MASF	**Masafi**	**3.12**	**202**	P	**Pb**	**04 57 48.3**	**-2.0**
	SNR=8.1						
MASF				S	**Sn**	**04 58 18.1**	**-3.3**
MDH	**Madha**	**3.15**	**199**	P	**Pn**	**04 57 45.3**	**+1.0**
ZHSF	**Zahedan**	**3.21**	**65**	Pn	**Pn**	**04 57 47.8**	**+2.4**
UOSS	**Minazif**	**3.51**	**199**	P	**Pn**	**04 57 49.9**	**+0.6**
HATD	**Hatta, Dubai**	**3.64**	**199**	P	**Pn**	**04 57 52.2**	**+1.0**
ASHO	**Ashiyiah**	**3.79**	**199**	P	**Pn**	**04 57 57.0**	**+3.7**
	SNR=11						
NHDN	**Nehbandan**	**3.84**	**36**	Pn	**Pn**	**04 57 55.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**4.11**	**208**	P	**Pn**	**04 57 59.9**	**+2.4**
SOHO	**SOHO**	**4.21**	**191**	P	**Pn**	**04 57 59.1**	**+0.1**
IKOO	**Kooshah**	**4.34**	**18**	Pn	**Pn**	**04 58 02.9**	**+1.9**
NGCH	**Negor - Chabah**	**4.41**	**131**	Pn	**Pn**	**04 58 04.4**	**+2.7**
HOQ	**Hoqain**	**4.69**	**181**	P	**Pn**	**04 58 06.2**	**+0.6**
HOQ				S	**Sn**	**04 59 00.2**	**+0.2**
ITEG	**Tejag**	**4.73**	**14**	Pn	**Pn**	**04 58 08.3**	**+2.0**
TPRV	**Parvadeh(Tabas**	**4.77**	**352**	Pn	**Pn**	**04 58 08.4**	**+1.7**
BIDO	**Bidbid**	**4.79**	**172**	P	**Pn**	**04 58 07.7**	**+0.8**
ARQ	**Araqi**	**5.00**	**190**	P	**Pn**	**04 58 13.1**	**+3.3**
WSAR	**Wadi Sarin**	**5.14**	**168**	P	**Pn**	**04 58 13.7**	**+1.9**
	SNR=5.4						
WSAR				S	**Sn**	**04 59 10.5**	**-0.7**
SMDO	**Samad**	**5.24**	**174**	P	**Pn**	**04 58 14.6**	**+1.5**
SMDO				S	**Sn**	**04 59 14.2**	**+0.5**
IRAM	**Ramesheh**	**5.61**	**310**	Pn	**Pn**	**04 58 20.9**	**+2.5**
KLNJ	**Kolanjah**	**5.76**	**299**	Pn	**Pn**	**04 58 23.0**	**+2.4**
SHMA	**Al-Shehemyia**	**6.25**	**249**	P	**Pn**	**04 58 27.6**	**+0.6**
JLN	**Jalan Bani Buh**	**6.37**	**163**	P	**Pn**	**04 58 30.1**	**+1.5**
JLN				S	**Sn**	**04 59 42.7**	**+1.2**
SMRA	**Abu-Samra**	**6.89**	**241**	P	**Pn**	**04 58 36.8**	**+1.0**
	SNR=5.7						
SMRA				S	**Sn**	**04 59 51.4**	**-2.8**
MHTO	**MHTO**	**7.29**	**176**	P	**Pn**	**04 58 43.6**	**+2.3**
	SNR=5.8						
DOK	**Doka**	**10.09**	**198**	P	**Pn**	**04 59 20.5**	**+0.7**
DOK				S	**Sn**	**05 01 09.1**	**-3.9**
SHAO	**Shalim**	**10.35**	**190**	P	**Pn**	**04 59 23.2**	**-0.1**
DMTO	**DMTO**	**10.77**	**193**	P	**Pn**	**04 59 28.7**	**-0.3**
DMTO				S	**Sn**	**05 01 26.2**	**-3.5**
WHFO	**Wadi Hawf**	**10.86**	**199**	P	**Pn**	**04 59 29.9**	**-0.4**
WHFO				S	**Sn**	**05 01 27.3**	**-4.6**
ABTO	**Aybut**	**11.53**	**200**	P	**Pn**	**04 59 38.9**	**-0.6**
ABTO				S	**Sn**	**05 01 43.0**	**-5.4**
MMAI	**Mount Meron Ar**	**19.52**	**289**	LR	LR	05 09 47.9	
	comp=Z,21nm,18.4s,baz=54,slow=40						
AAK	**Ala-Archa**	**19.90**	**40**	P	**Pn**	**05 01 26.8**	**-1.3**
	0.2nm,0.3s,baz=206,slow=20,SNR=1.5 0.6nm,0.4s						
BRTR	**Keskin Array B**	**22.71**	**306**	P	**P**	**05 01 56.9**	**+0.1**
	0.7nm,0.8s,baz=125,slow=12,SNR=15 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**27.44**	**30**	P	**P**	**05 02 39.9**	**-0.7**
	0.2nm,0.5s,baz=230,slow=8.8,SNR=5.1 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**32.53**	**30**	P	**P**	**05 03 26.0**	**+0.4**
	0.8nm,0.3s,baz=266,slow=9.7,SNR=5.3 0.8nm,0.3s						
FINES	**FINESS Array B**	**39.17**	**337**	P	**P**	**05 04 23.0**	**+0.7**
	1.8nm,0.8s,baz=150,slow=5.7,SNR=4.3 1.8nm,0.8s						
GERES	**GERESS Array B**	**39.20**	**314**	P	**P**	**05 04 23.2**	**+0.2**
	0.5nm,0.6s,baz=106,slow=8.8,SNR=4.6 0.5nm,0.6s						
HFS	**Hagfors**	**43.36**	**330**	P	**P**	**05 04 57.2**	**+0.3**
	3.9nm,0.9s,baz=110,slow=13,SNR=2.5 3.9nm,0.9s						
ARCES	**ARCESS Array B**	**45.20**	**345**	P	**P**	**05 05 11.8**	**+0.2**
	2.6nm,0.9s,baz=139,slow=10,SNR=2.4 2.6nm,0.9s						
PSI	**Prapat**	**46.95**	**115**	LR	LR	05 25 29.0	
	comp=Z,33nm,18.8s,baz=179,slow=36						
EKA	**Eskdalemuir Ar**	**50.63**	**320**	P	**P**	**05 05 53.2**	**-0.5**
	0.6nm,0.6s,baz=87,slow=8.2,SNR=1.8 0.6nm,0.6s						
ESDC	**Sonseca Array**	**51.27**	**300**	P	**P**	**05 05 59.2**	**+0.3**
	0.2nm,0.6s,baz=78,slow=8.3,SNR=4.3 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.83**	**266**	P	**P**	**05 06 17.2**	**-0.9**
	3.5nm,0.3s,baz=58,slow=8.5,SNR=8.3 3.5nm,0.3s						
WRA	**Warramunga Arr**	**88.39**	**114**	P	**P**	**05 09 48.5**	**+1.2**
	1.2nm,0.9s,baz=322,slow=4.1,SNR=6.8 1.2nm,0.9s						
ASAR	**Alice Springs**	**89.94**	**117**	P	**P**	**05 09 56.2**	**+1.6**
	0.2nm,0.3s,baz=311,slow=5.7,SNR=1.8 0.2nm,0.3s						
PMG	**Port Moresby**	**94.15**	**98**	LR	LR	05 59 34.7	
	comp=Z,64nm,18.4s,baz=165,slow=40						
LPAZ	**La Paz**	**128.61**	**271**	PKP	**PKPdf**	**05 16 03.5**	**+0.1**
	0.9nm,0.8s,baz=355,slow=7.0,SNR=2.9						

*IDC **19** 04:58:04.2±0.9, 3°.48N×126°.93E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=59.7km s-min=17.7km az=76.0*
*DJA **19** 04:58:09.6±0.6, 4°.N±14°.×12°.7E±°, h36km±17km, M4.0/6, mb4.2/2, MLv3.9/6*
ISC 19 04:58:10.7±0.9, 3°.5N±0°.1×127°.0E±0°.1, h48km, n9, σ0§47/10, mb3.8/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.47**	**279**	P	**Pn**	**04 58 34.5**	**-0.3**
SGSI				S	**Sn**	**04 58 53.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.45**	**183**	P	**P**	**05 02 54.6**	**-0.5**
	2.5nm,0.6s,baz=354,slow=10,SNR=6.2 2.5nm,0.6s						
WRA	**Warramunga Arr**	**24.34**	**163**	P	**P**	**05 03 24.5**	**+0.2**
	1.7nm,0.5s,baz=340,slow=11,SNR=31 1.7nm,0.5s						
ASAR	**Alice Springs**	**27.78**	**166**	P	**P**	**05 03 55.5**	**+0.1**
	0.8nm,0.6s,baz=346,slow=6.7,SNR=13 0.8nm,0.6s						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**05 05 22.6**	**+0.2**
	1.7nm,0.4s,baz=355,slow=9.1,SNR=6.0 1.7nm,0.4s						
PETK	**Petropavlovsk-**	**55.60**	**22**	P	**P**	**05 07 41.4**	**0.0**
	4.5nm,1.0s,baz=238,slow=8.4,SNR=3.7 4.5nm,1.0s						
MKAR	**Makanchi Array**	**57.93**	**325**	P	**P**	**05 07 58.4**	**+0.2**
	0.2nm,0.4s,baz=128,slow=7.9,SNR=4.1 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**62.11**	**327**	P	**P**	**05 08 26.1**	**-0.7**
	0.4nm,0.4s,baz=124,slow=6.7,SNR=4.6 0.4nm,0.4s						
SCHQ	**Schefferville**	**120.81**	**9**	PKP	**PKiKP**	**05 16 58.3**	**+0.6**
	34nm,0.7s,baz=120,slow=12,SNR=2.0						

WEL 19 05:08:15.3±0.5, 34°S±8°.×18°.0W±2°.1, h33km, M4.2/8, mB4.9/2, ML4.3/11, MLv4.2/8, Mw(mB)4.2/2, Error ellipse: s-maj=28.8km s-min=3.3km az=111.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.10**	**202**	P	Pn	05 09 18.3	+2.7
MXZ				S	Sn	05 10 04.8	+2.4
WMGZ	**Waiomatatini S**	**4.30**	**200**	P	Pn	05 09 22.0	+3.5
WMGZ				S	Sn	05 10 10.0	+2.5
PKGZ	**Pakihiroa**	**4.45**	**203**	P	Pn	05 09 23.3	+2.8
PKGZ				S	Sn	05 10 12.6	+1.4
HAZ	**Te Kaha**	**4.46**	**206**	P	Pn	05 09 22.0	+1.5
HAZ				S	Sn	05 10 12.2	+1.0
PUZ	**Puketiti**	**4.58**	**200**	P	Pn	05 09 23.1	+0.8
PUZ				S	Sn	05 10 13.9	-0.6
RUGZ	**Raukumara Rang**	**4.68**	**206**	P	Pn	05 09 25.3	+1.6
RUGZ				S	Sn	05 10 13.4	-3.5
KUZ	**Kuaotunu**	**4.76**	**230**	P	Pn	05 09 29.9	+5.3
GLKZ	**Green Lake**	**4.76**	**19**	P	Pn	05 09 22.5	-2.3
GLKZ				S	Sn	05 10 18.7	-0.1
TWGZ	**Tauwhareparae**	**4.76**	**202**	P	Pn	05 09 28.7	+3.8
TWGZ				S	Sn	05 10 19.9	+1.0
RIZ	**Raoul Island**	**4.78**	**19**	S	Sn	05 10 18.2	-0.9
CNGZ	**Carnagh Statio**	**4.98**	**199**	P	Pn	05 09 28.9	+1.1
CNGZ				S	Sn	05 10 26.7	+2.5
OPRZ	**Ohinepanea**	**5.06**	**216**	P	Pn	05 09 31.0	+2.2
MWZ	**Matawai**	**5.06**	**205**	P	Pn	05 09 29.3	+0.4
MWZ				S	Sn	05 10 24.6	-1.6
URZ	**Urewera**	**5.15**	**209**	P	Pn	05 09 30.4	+0.3
URZ				S	Sn	05 10 25.9	-2.5
MUGZ	**Murupara**	**5.48**	**210**	P	Pn	05 09 35.7	+1.1
MUGZ				S	Sn	05 10 34.3	-2.2
SNGZ	**Shannon Statio**	**5.53**	**205**	P	Pn	05 09 36.1	+0.9
SNGZ				S	Sn	05 10 34.8	-2.9
RAHZ	**Arahi**	**5.74**	**206**	P	Pn	05 09 38.9	+0.8
RAHZ				S	Sn	05 10 40.4	-2.4

*NEIC **19** 05:10:04.5±1.8, 20°.0S±0°.1×177°.5W±0°.1, h526km±5km, mb4.2/19, Error ellipse: s-maj=17.4km s-min=15.7km az=159.0*
*IDC **19** 05:10:08.0±2.0, 19°.74S×177°.81W, h553km±22km, mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=20.4km s-min=11.7km az=156.0*
ISC 19 05:10:06.3±0.5, 19°.92S±0°.09×177°.59W±0°.08, h550km, n50, σ1§49/51, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.66**	**297**	P	**P**	**05 11 33.2**	**-0.3**
FUTU	**Fugatoga**	**5.60**	**355**	P	**P**	**05 11 39.6**	**-1.8**
NIUE	**Niue**	**7.28**	**85**	P	**P**	**05 11 53.4**	**-3.6**
AFI	**Afiamalu**	**8.17**	**44**	P	**P**	**05 12 01.7**	**-4.1**
FUNA	**Funafuti**	**11.74**	**344**	P	**P**	**05 12 42.0**	**-0.2**
MARNC	**Mare, Loyalty**	**13.54**	**261**	P	**P**	**05 12 59.7**	**-1.1**
PINNC	**Pines Island,**	**14.20**	**256**	P	**P**	**05 13 06.5**	**-1.0**
DZM	**Mont Dzumac**	**15.06**	**259**	P	**P**	**05 13 15.8**	**-0.7**
	5.3nm,0.5s,baz=104,slow=20,SNR=14						
URZ	**Urewera**	**18.84**	**193**	P	**P**	**05 13 47.5**	**-4.2**
	13nm,0.3s,baz=347,slow=8.9,SNR=30						
RTZ	**Ruatahuna**	**19.21**	**193**	P	**P**	**05 13 51.6**	**-3.5**
COEN	**Coen**	**37.93**	**273**	P	**P**	**05 16 37.9**	**+0.4**
COEN				IAmb	IAmb	05 16 39.3	
	comp=Z,9.9nm,0.9s						
STKA	**Stephens Creek**	**38.38**	**244**	P	**P**	**05 16 41.2**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=68,slow=12,SNR=5.8 comp=Z,2.1nm,0.6s						
WR8	**Warramunga Arr**	**44.91**	**261**		**P**	**05 17 32.2**	**-0.4**
AS31	**Alice Springs**	**45.02**	**256**		**P**	**05 17 33.4**	**-0.1**
AS31				IAmb	IAmb	05 17 34.4	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**45.02**	**256**		**P**	**05 17 32.6**	**-0.8**
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**05 17 33.8**	**+0.3**
	comp=Z,13nm,0.7s,baz=92,slow=7.7,SNR=180						
ASAR				PcP	**PcP**	**05 19 02.9**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=102,slow=3.8,SNR=3.8						
ASAR				S	**S**	**05 23 32.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=93,slow=16,SNR=10 comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**45.06**	**261**		**P**	**05 17 33.1**	**-0.6**
WRA	**Warramunga Arr**	**45.06**	**261**	P	**P**	**05 17 33.6**	**-0.1**
	comp=Z,7.6nm,0.4s,baz=98,slow=8.1,SNR=226						
WRA				ScP	**ScP**	**05 22 03.5**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=96,slow=4.4,SNR=1.8						
WRA				S	**S**	**05 23 31.8**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=96,slow=14,SNR=4.6 comp=Z,7.6nm,0.4s						
MTN	**Manton Dam**	**49.54**	**270**	P	**P**	**05 18 07.5**	**+0.1**
MTN				IAmb	IAmb	05 18 08.5	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	**P**	**05 18 36.2**	**+0.4**

comp=Z,3.8nm,0.6s,baz=46,slow=4.2,SNR=14
EKA Eskdalemuir Ar 144.39 5 PKP PKPab 05 28 40.2 +0.1
comp=Z,0.9nm,0.6s,baz=326,slow=3.0,SNR=5.2
BRTR Keskin Array B 146.73 313 PKPbc PKPbc 05 28 47.3 +0.1
comp=Z,1.3nm,0.5s,baz=146,slow=2.8,SNR=8.3
MMAI Mount Meron Ar 147.85 301 PKPbc PKiKP 05 28 51.2 -0.4
comp=Z,1.9nm,0.5s,baz=69,slow=3.0,SNR=5.4
GERES GERESS Array B 149.74 345 PKPbc PKiKP 05 28 55.3 +0.3
comp=Z,1.3nm,0.8s,baz=31,slow=3.1,SNR=9.6

*IDC **19** 05:32:57.0±1.5, 3°.45S×128°.48E, h0km, mb3.4/3, mbtmp3.4/4, ML3.3/1, MS3.4/2, Error ellipse: s-maj=133.8km s-min=25.3km az=68.0*
*DJA **19** 05:32:59.4±0.3, 3°.5±3°×12°.8E±°, h10km, M3.5/8, MLv3.5/8*
ISC 19 05:32:59.3±0.9, 3°.47S±0°.08×128°.37E±0°.05, h10km, n12, σ1§15/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.28**	**218**	P	**Pg**	**05 33 05.6**	**+0.7**
AAI				S	**Sg**	**05 33 10.1**	**+1.4**
MSAI	**Masohi**	**0.57**	**78**	P	**Pg**	**05 33 10.7**	**+0.2**
MSAI				S	**Sg**	**05 33 18.1**	**+0.1**
NLAI	**Namlea**	**1.28**	**280**	P	**Pn**	**05 33 23.3**	**0.0**
SANI	**Sanana**	**2.76**	**301**	P	**Pn**	**05 33 44.4**	**+0.8**
SWI	**Sorong**	**3.88**	**48**	P	**Pn**	**05 34 00.9**	**+1.9**
FAKI	**Fak Fak**	**3.92**	**82**	P	**Pn**	**05 34 00.4**	**+0.9**
WRA	**Warramunga Arr**	**17.38**	**161**	P	**Pn**	**05 37 00.5**	**-1.6**
	0.1nm,0.3s,baz=340,slow=12,SNR=4.7 0.5nm,0.7s						
ASAR	**Alice Springs**	**20.78**	**166**	P	**P**	**05 37 40.6**	**-0.1**
	1.3nm,0.7s,baz=347,slow=11,SNR=14						
ASAR				PcP	**PcP**	**05 41 48.4**	**-1.7**
	0.1nm,0.3s,baz=341,slow=1.7,SNR=5.2 1.3nm,0.7s						
JHJ	**Hachijo jima 2**	**37.96**	**16**	LR	LR	05 52 37.4	
	comp=Z,110nm,21.1s,baz=90,slow=31						
MKAR	**Makanchi Array**	**64.40**	**327**	P	**P**	**05 43 35.5**	**-0.2**
	0.2nm,0.5s,baz=122,slow=7.5,SNR=2.1 0.2nm,0.5s						
SHEM	**Shemya Is, Ala**	**67.91**	**28**	LR	LR	06 14 07.8	
	comp=Z,11nm,18.3s,baz=318,slow=36						
KURBB	**Kurchatov Arra**	**68.67**	**328**	P	**P**	**05 44 02.5**	**-0.3**
	0.5nm,0.7s,baz=116,slow=6.0,SNR=4.6 0.5nm,0.7s						

*CATAC **19** 05:54:26.6±0.9, 14°.N±4°×9°.3W±°, h24km±4km, M3.2/7, MLv3.2/7, Error ellipse: s-maj=10.9km s-min=5.7km az=48.5, confirmed*
*GCG **19** 05:54:26.6±0.8, 14°.44N×92°.85W, h26km±5km, MD4.1*
*MEX **19** 05:54:27.3±0.9, 14°.62N×92°.92W, h70km±27km, MD4.0*
ISC 19 05:54:21.7±1.9, 14°.53N±0°.07×93°.02W±0°.05, h5km±12km, n22, σ1§23/36, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.82**	**63**	*eP*	**Pn**	**05 54 40.5**	**+0.5**
THIG				*i* S	**Sn**	**05 54 52.0**	**-0.5**
PATR	**El Naranjo**	**0.96**	**52**	*eP*	**Pn**	**05 54 42.2**	**+0.1**
PATR				*eS*	**Sb**	**05 54 54.4**	**+0.2**
SMCA	**Catarina**	**0.97**	**70**	*eP*	**Pn**	**05 54 42.4**	**+0.3**
SMCA				*eS*	**Sb**	**05 54 54.6**	**+0.3**
CHUJ	**Union Juarez**	**1.05**	**57**	*eP*	**Pn**	**05 54 43.3**	**0.0**
CHUJ				*eS*	**Sg**	**05 54 56.3**	**+0.8**
PAVE	**Pavencul**	**1.05**	**51**	*eP*	**Pn**	**05 54 43.7**	**+0.3**
PAVE				*eS*	**Sg**	**05 54 56.4**	**+0.7**
PCIG		**1.19**	**351**	*eP*	**Pn**	**05 54 46.1**	**+1.1**
RTAL	**Retalhuleu**	**1.29**	**90**	*eP*	**Pb**	**05 54 46.8**	**+0.4**
RTAL				*i* S	**Sg**	**05 55 01.7**	**-1.4**
RTAL	**Retalhuleu**	**1.29**	**90**	P	**Pb**	**05 54 46.8**	**+0.4**
RTAL	**Retalhuleu**	**1.29**	**90**	S	**Sg**	**05 55 02.4**	**-0.7**
QUEO	**Labor Ovalle**	**1.50**	**77**	*eP*	**Pn**	**05 54 50.3**	**+0.7**
HUEH	**Huehuetenango**	**1.67**	**62**	*eP*	**Pb**	**05 54 53.3**	**+0.2**
HUEH				*i* S	**Sb**	**05 55 15.1**	**+0.7**
CCIG	**Comitan**	**1.94**	**26**	*eP*	**Pg**	**05 54 58.9**	**-0.2**
CCIG				*i* S	**Sb**	**05 55 22.7**	**+0.3**
CCIG	**Comitan**	**1.94**	**26**	*eP*	**Pg**	**05 54 59.0**	**0.0**
CCIG				*eS*	**Sg**	**05 55 23.7**	**-0.6**
CCIG	**Comitan**	**1.94**	**26**	P	**Pg**	**05 54 59.0**	**0.0**
TGIG		**2.24**	**358**	*eP*	**Pb**	**05 55 02.4**	**-0.3**
TGIG				*i* S	**Sn**	**05 55 29.3**	**+1.7**
NILT	**Santiago Nilte**	**2.54**	**323**	*eP*	**Pn**	**05 55 05.9**	**+2.2**
NILT				*i* S	**Sn**	**05 55 34.1**	**-1.0**
UXUV	**UXUV**	**2.98**	**339**	*eP*	**Pb**	**05 55 13.4**	**-1.9**
UXUV				*eS*	**Sb**	**05 55 50.7**	**-1.4**
CMIG	**Matias Romero**	**3.12**	**325**	*eP*	**Pn**	**05 55 14.1**	**+2.5**
CMIG				*i* S	**Sn**	**05 55 49.9**	**+0.7**
NUBE	**Las Nubes**	**3.21**	**101**	P	**Pn**	**05 55 14.4**	**+1.5**
JAYA	**Jayaque - finc**	**3.57**	**104**	P	**Pn**	**05 55 18.9**	**+0.9**
JAYA	**Jayaque - finc**	**3.57**	**104**	S	**Sn**	**05 55 58.7**	**-2.0**
NEUV	**Arroyo Zacate**	**4.14**	**320**	*eP*	**Pn**	**05 55 27.1**	**+1.4**
NEUV				*eS*	**Sn**	**05 56 11.2**	**-3.3**

*IDC **19** 06:04:25.1±44.0, 22°.75S×179°.91E, h642km±468km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=335.0km s-min=51.2km az=56.0*
ISC 19 06:04:25.1±2.1, 22°.6S±0°.4×179°.9E±0°.3, h650km, n6, σ1§38/6, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.13**	**246**	P	**P**	**06 10 26.4**	**-1.0**
	1.1nm,0.5s,baz=90,slow=13,SNR=4.0 1.1nm,0.5s						
ASAR	**Alice Springs**	**42.17**	**259**	P	**P**	**06 11 24.6**	**+0.7**
	2.0nm,0.7s,baz=102,slow=7.6,SNR=22 2.0nm,0.7s						
WRA	**Warramunga Arr**	**42.42**	**265**	P	**P**	**06 11 26.4**	**+0.6**
	1.8nm,0.6s,baz=97,slow=8.2,SNR=18 1.8nm,0.6s						
QSPA	**South Pole Qui**	**67.45**	**180**	P	**P**	**06 14 19.5**	**+1.4**
	1.3nm,1.1s,baz=53,slow=5.1,SNR=2.0 1.3nm,1.1s						
SNAA	**Sanae**	**85.94**	**179**	P	**P**	**06 15 56.6**	**-1.4**
	1.4nm,1.2s,baz=204,slow=12,SNR=2.6 1.4nm,1.2s						
HFS	**Hagfors**	**141.28**	**349**	PKP	**PKPdf**	**06 22 43.1**	**0.0**
	4.0nm,1.0s,baz=35,slow=3.5,SNR=7.6						

TRN 19 06:05:33.2, 15°.71N×61°.00W, h39km, MD4.1, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.33**	**246**	*eP*	Pn	06 05 43.2	+1.5
DWS				*eS*	Sn	06 05 50.6	+2.4
DLPL	**La Plaine**	**0.44**	**213**	*eP*	Pn	06 05 44.7	+1.6
DLPL				*eS*	Sn	06 05 52.9	+2.8
DSLB	**Salisbury**	**0.49**	**237**	*eP*	Pn	06 05 45.6	+1.8
DSLB				*eS*	Sn	06 05 54.0	+2.9
DSDZ	**La Diserade, G**	**0.61**	**354**	*eP*	Pn	06 05 44.8	-0.7
DSDZ				*eS*	Sn	06 05 52.4	-1.7
TBG	**Guadaloupe-3**	**0.64**	**283**	*eP*	Pn	06 05 47.4	+1.4
TBG				*eS*	Sn	06 05 57.3	+2.4
MMLZ	**Guadeloupe Bro**	**0.73**	**298**	*eP*	Pn	06 05 48.4	+1.4
MMLZ				*eS*	Sn	06 05 59.8	+2.8
ATGZ	**Broadband at L**	**0.80**	**299**	*eP*	Pn	06 05 49.6	+1.6
ATGZ				*eS*	Sn	06 06 00.8	+2.0
SVN	**Savane Anatole**	**0.88**	**191**	*eP*	Pn	06 05 50.3	+1.2
SVN				*eS*	Sn	06 06 02.7	+2.0
DHSZ	**Broadband at M**	**0.93**	**307**	*eP*	Pn	06 05 50.9	+1.2
DHSZ				*eS*	Sn	06 06 04.1	+2.2
ILAM	**Ilet Lapin Mar**	**0.93**	**173**	*eP*	Pn	06 05 50.8	+1.0
ILAM				*eS*	Sn	06 06 03.5	+1.5
BIM	**Bigot**	**1.18**	**184**	*eP*	Pn	06 05 54.6	+1.3
BIM				*eS*	Sn	06 06 10.6	+2.4
MBWH	**Windy Hill**	**1.54**	**312**	*eP*	Pn	06 06 00.3	+2.1
MBWH				*eS*	Sn	06 06 19.6	+2.5
MBFL	**Flemmings, Mon**	**1.56**	**312**	*eP*	Pn	06 06 00.3	+1.8
MBFL				*eS*	Sn	06 06 19.8	+2.3
SLBI	**Saint Lucia, B**	**1.67**	**179**	*eP*	Pn	06 06 01.3	+1.3
SLBI				*eS*	Sn	06 06 22.2	+2.0
ANWB	**Willy Bob**	**2.09**	**339**	*eP*	Pn	06 06 06.4	+0.6
ANWB				*eS*	Sn	06 06 30.6	0.0
SKI	**Saint Kitts**	**2.33**	**314**	*eP*	Pn	06 06 11.4	+2.4
SKI				*eS*	Sn	06 06 39.7	+3.3
SVB	**Belmont**	**2.43**	**186**	*eP*	Pn	06 06 12.2	+1.7
SVB				*eS*	Sn	06 06 41.1	+2.1
BBGH	**Gun Hill**	**2.90**	**151**	*eP*	Pn	06 06 20.3	+3.4
GCMP	**Grenada, Carri**	**3.23**	**187**	*eP*	Pn	06 06 23.5	+2.1
GCMP				*eS*	Sn	06 06 59.9	+1.3
GRSS	**Sisters**	**3.44**	**190**	*eP*	Pn	06 06 26.3	+2.0
GRHS	**Sauteurs**	**3.52**	**190**	*eP*	Pn	06 06 27.7	+2.3
GRW	**Mount Saint Ca**	**3.58**	**190**	*eP*	Pn	06 06 29.8	+3.5
GRGR	**Grenville**	**3.61**	**190**	*eP*	Pn	06 06 29.1	+2.4
GRGR				*eS*	Sn	06 07 11.0	+3.0
GRFF	**Grenada Fort F**	**3.71**	**191**	*eP*	Pn	06 06 30.4	+2.4
TRN	**Trinidad (W)**	**5.04**	**185**	*eP*	Pn	06 06 49.3	+2.9
AOPR	**Arecibo Observ**	**6.10**	**296**	*eP*	Pn	06 07 03.8	+2.9
BAUV	**El Baul**	**9.62**	**226**	*eP*	Pn	06 07 51.6	+2.4

*JMA **19** 06:13:45.8±0.2, 34°.N±1°.1×137°.9E±0°.9, h289km±1km, MV2.9/34, ENSYUNADA*
*IDC **19** 06:13:46.5±0.6, 34°.37N×137°.98E, h292km±9km, mb3.2/9, mbtmp3.8/12, Error ellipse: s-maj=30.5km s-min=9.6km az=69.0*
ISC 19 06:13:46.3±0.8, 34°.39N±0°.08×137°.90E±0°.08, h286km±6km, n24, σ0§87/30, mb3.3/9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	**Hamakita**	**0.44**	**345**	*eP*	**Pn**	**06 14 23.1**	**+0.1**
JHMK				*eS*	**S**	**06 14 51.6**	**-0.5**
TK02	**Tokai 2**	**0.46**	**195**	*eP*	**Pn**	**06 14 23.5**	**+0.5**
HMMJ	**Hamamatsu 2**	**0.49**	**343**	P	**Pn**	**06 14 23.3**	**0.0**
HMMJ				*eS*	**S**	**06 14 52.0**	**-0.6**
JNY	**Yasuok**	**0.97**	**358**	P	**Pn**	**06 14 25.4**	**+0.3**
JNY				*eS*	**S**	**06 14 56.1**	**+0.2**
JIE	**Ise**	**0.98**	**271**	P	**Pn**	**06 14 25.1**	**0.0**
JRY	**Ryogami san**	**1.82**	**27**	*eP*	**Pn**	**06 14 31.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.02**	**128**	P	**Pn**	**06 14 31.6**	**-0.5**
	44nm,0.3s,baz=339,slow=14,SNR=11						
JHJ				S	**S**	**06 15 10.8**	**+2.5**
	49nm,0.4s,baz=21,slow=16,SNR=1.4						
JHJ2	**Mitsune**	**2.04**	**128**	*eP*	**Pn**	**06 14 31.8**	**-0.5**
BSO4	**Boso 4**	**2.10**	**73**	*eP*	**Pn**	**06 14 32.5**	**0.0**
BSO4				*eS*	**S**	**06 15 07.8**	**-1.4**
MJAR	**Matsushiro Arr**	**2.16**	**7**	P	**Pn**	**06 14 33.3**	**+0.1**
	40nm,0.5s,baz=186,slow=9.5,SNR=141						
MJAR				S	**S**	**06 15 11.4**	**+0.9**
	2.0nm,0.6s,baz=196,slow=22,SNR=1.4						
MAT	**Matsushiro**	**2.17**	**7**	*eP*	**Pn**	**06 14 33.4**	**+0.2**
JWT	**Wachi**	**2.24**	**294**	*eP*	**Pn**	**06 14 33.9**	**+0.1**
JWT				*eS*	**S**	**06 15 10.3**	**-1.4**
JCJ	**Chichijima**	**8.15**	**152**	P	Pn	06 15 34.7	-7.0
	56nm,1.0s,baz=346,slow=19,SNR=1.3						
JCJ				S	S	06 17 01.2	-14
	29nm,0.3s,baz=297,slow=22,SNR=9.5						
KSRS	**Korea Array**	**8.65**	**294**	P	**Pn**	**06 15 49.1**	**+1.5**
	2.0nm,0.6s,baz=104,slow=13,SNR=5.9						
ASAJ	**Asahikawa**	**10.37**	**19**	P	**Pn**	**06 16 07.9**	**-1.0**
	1.9nm,0.3s,baz=212,slow=21,SNR=2.7						
SONM	**Songino Array**	**27.06**	**309**	P	**P**	**06 19 02.3**	**-0.6**
	1.7nm,0.6s,baz=90,slow=8.6,SNR=2.1 1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**41.66**	**315**	P	**P**	**06 21 07.5**	**+0.6**
	0.5nm,0.4s,baz=116,slow=9.8,SNR=2.8 0.5nm,0.4s						
MKAR	**Makanchi Array**	**43.16**	**304**	P	**P**	**06 21 20.0**	**+0.9**
	1.1nm,0.6s,baz=88,slow=10,SNR=10 1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**45.43**	**310**	P	**P**	**06 21 37.1**	**+0.2**
	0.5nm,0.3s,baz=90,slow=7.3,SNR=10 0.5nm,0.3s						
WRA	**Warramunga Arr**	**54.13**	**184**	P	**P**	**06 22 41.2**	**-1.1**
	0.4nm,0.3s,baz=359,slow=7.6,SNR=17 0.4nm,0.3s						
ASAR	**Alice Springs**	**57.86**	**184**	P	**P**	**06 23 07.8**	**-0.7**
	0.4nm,0.6s,baz=20,slow=12,SNR=8.7 0.4nm,0.6s						
ARCES	**ARCESS Array B**	**65.45**	**339**	P	**P**	**06 23 59.0**	**+0.6**
	3.6nm,1.0s,baz=61,slow=6.3,SNR=1.6 3.6nm,1.0s						
FINES	**FINESS Array B**	**69.80**	**332**	P	**P**	**06 24 25.8**	**+0.3**
	0.5nm,0.3s,baz=46,slow=8.2,SNR=11 0.5nm,0.3s						
NOA	**NORSAR Array B**	**75.48**	**336**	P	**P**	**06 24 58.9**	**0.0**
	0.2nm,0.5s,baz=27,slow=2.8,SNR=1.7 0.2nm,0.5s						

*IDC **19** 06:19:27.5±0.7, 13°.79N×144°.59E, h150km±9km, mb3.0/5, mbtmp3.4/5, Error ellipse: s-maj=49.3km s-min=22.6km az=98.0*
*NEIC **19** 06:19:28.5±0.7, 13°.9N±0°.1×144°.5E±0°.2, h150km±6km, mb3.8/4, Error ellipse: s-maj=27.8km s-min=12.7km az=107.0*
ISC 19 06:19:27.4±0.9, 13°.9N±0°.2×144°.4E±0°.2, h144km, n16, σ1§42/11, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.53**	**120**	P	**Pn**	**06 19 50.2**	**+1.9**
	1μm,0.3s,baz=335,slow=3.7,SNR=269						
GUMO				S	**Sn**	**06 20 05.1**	**+1.1**
	963nm,0.3s,baz=24,slow=22,SNR=40						
PATS	**Pohnpei**	**15.36**	**116**		**P**	**06 22 56.4**	**-1.7**
H11S3	**WAKE ISLAND Hy**	**21.89**	**75**	T	T	06 46 26.0	
	baz=264						
H11S1	**WAKE ISLAND Hy**	**21.91**	**75**	T	T	06 46 17.0	
	baz=264						
H11S2	**WAKE ISLAND Hy**	**21.91**	**75**	T	T	06 46 28.0	
	baz=264						
H11N1	**WAKE ISLAND Hy**	**22.30**	**72**	T	T	06 47 26.1	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**22.31**	**72**	T	T	06 47 23.7	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**22.32**	**72**	T	T	06 47 16.3	
	baz=257						
WR8	**Warramunga Arr**	**34.99**	**196**	P	**P**	**06 26 06.9**	**+0.8**
WR8				IAmb	IAmb	06 26 33.1	
	comp=Z,1.9nm,1.0s						
WRA	**Warramunga Arr**	**35.02**	**197**	P	**P**	**06 26 05.9**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=18,slow=8.5,SNR=1.7 comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**38.68**	**195**	P	**P**	**06 26 35.8**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=19,slow=12,SNR=1.9 comp=Z,0.3nm,0.9s						
MKAR	**Makanchi Array**	**60.98**	**316**	P	**P**	**06 29 24.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=89,slow=7.2,SNR=2.3 comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.12**	**320**	P	**P**	**06 29 47.8**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=102,slow=7.6,SNR=1.5 comp=Z,0.4nm,0.4s						
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**06 30 12.8**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=261,slow=6.6,SNR=5.2 comp=Z,0.2nm,0.6s						
H27K	**Steamboat Moun**	**71.00**	**24**	P	**P**	**06 30 28.8**	**-0.5**
H27K				IAmb	IAmb	06 30 46.4	
	comp=Z,1.9nm,1.0s						
L29M	**L29M**	**72.07**	**28**	P	**P**	**06 30 35.5**	**-0.2**

*IDC **19** 06:30:57.1±3.4, 17°.82S×178°.16W, h584km±39km, mb3.0/7, mbtmp4.0/7, Error ellipse: s-maj=25.8km s-min=22.8km az=168.0*
ISC 19 06:30:57.4±0.8, 17°.9S±0°.1×178°.2W±0°.2, h590km, n11, σ0§75/13, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.33**	**179**	P	**P**	**06 33 28.6**	**-0.6**
	133nm,0.3s,baz=24,slow=20,SNR=4.6						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**06 37 33.9**	**+0.5**
	1.7nm,0.7s,baz=108,slow=6.4,SNR=2.8 1.7nm,0.7s						
WRA	**Warramunga Arr**	**44.87**	**259**	P	**P**	**06 38 20.9**	**+0.1**
	1.4nm,0.5s,baz=95,slow=7.1,SNR=32						
WRA				PcP	**PcP**	**06 39 48.5**	**-1.0**
	0.2nm,0.4s,baz=101,slow=3.2,SNR=1.9 1.4nm,0.5s						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**06 38 22.1**	**+0.1**
	2.3nm,0.4s,baz=90,slow=7.8,SNR=44						
ASAR				PcP	**PcP**	**06 39 49.3**	**-0.8**
	0.4nm,0.4s,baz=102,slow=4.1,SNR=5.6 2.3nm,0.4s						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**06 41 24.2**	**+1.0**
	0.7nm,0.6s,baz=338,slow=4.1,SNR=8.6 0.7nm,0.6s						
PETK	**Petropavlovsk-**	**73.70**	**345**	P	**P**	**06 41 32.6**	**+0.8**
	1.5nm,0.7s,baz=107,slow=5.0,SNR=2.1 1.5nm,0.7s						
TXAR	**Lajitas Array**	**85.77**	**58**	P	**P**	**06 42 36.3**	**+0.7**
	0.2nm,0.7s,baz=241,slow=4.9,SNR=3.6 0.2nm,0.7s						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**06 42 33.9**	**-0.9**
	0.3nm,0.5s,baz=221,slow=4.8,SNR=7.7 0.3nm,0.5s						
BRTR	**Keskin Array B**	**144.92**	**315**	PKP	**PKPdf**	**06 49 28.1**	**-0.5**
	0.6nm,0.6s,baz=106,slow=3.1,SNR=2.7						
MMAI	**Mount Meron Ar**	**146.32**	**303**	PKPbc	**PKPbc**	**06 49 33.3**	**-0.1**
	0.7nm,0.4s,baz=83,slow=4.5,SNR=2.6						
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**06 49 36.0**	**-0.5**
	0.5nm,0.6s,baz=347,slow=4.7,SNR=3.7						

*IDC **19** 06:50:28.8±1.6, 30°.76S×177°.17W, h0km, mb4.0/4, mbtmp4.1/7, ML3.8/3, MS3.5/2, Error ellipse: s-maj=38.7km s-min=25.8km az=110.0*
ISC 19 06:50:36.3±1.0, 30°.68S±0°.07×177°.7W±0°.2, h35km, n14, σ1§55/18, mb4.1/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.44**	**352**	Pn	**Pn**	**06 50 59.3**	**-0.5**
	495nm,0.3s,baz=116,slow=4.9,SNR=31						
RAO				Sn	**Sn**	**06 51 17.0**	**-0.4**
	588nm,0.3s,baz=90,slow=20,SNR=14						
URZ	**Urewera**	**8.69**	**208**	Pn	**Pn**	**06 52 38.6**	**-0.8**
	1.9nm,0.3s,baz=54,slow=14,SNR=1.4						
URZ				Sn	**Sn**	**06 54 13.2**	**-3.0**
	1.1nm,0.3s,baz=13,slow=3.7,SNR=3.3 4.9nm,0.4s						
RPZ	**Rata Peaks**	**15.78**	**211**	Pn	**Pn**	**06 54 16.1**	**+0.3**
	0.4nm,0.3s,baz=321,slow=22,SNR=1.3 5.0nm,0.7s						
DZM	**Mont Dzumac**	**16.59**	**297**	Pn	**P**	**06 54 29.3**	**+0.8**
	0.2nm,0.3s,baz=103,slow=16,SNR=3.2						
DZM				LR	LR	06 59 48.4	
	comp=Z,105nm,18.4s,baz=183,slow=33 3.7nm,1.0s						
STKA	**Stephens Creek**	**34.67**	**257**	P	**P**	**06 57 24.0**	**+1.4**
	2.5nm,0.7s,baz=88,slow=12,SNR=3.9 2.5nm,0.7s						
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**06 58 36.4**	**+1.0**
	0.6nm,0.6s,baz=103,slow=7.0,SNR=9.4						
ASAR				PcP	**PcP**	**07 00 24.1**	**+0.4**
	0.3nm,0.6s,baz=130,slow=4.0,SNR=2.3 0.6nm,0.6s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	**P**	**06 58 44.4**	**+0.8**
	1.7nm,0.5s,baz=113,slow=7.7,SNR=22						
WRA				PcP	**PcP**	**07 00 24.7**	**-2.5**
	0.4nm,0.5s,baz=105,slow=4.2,SNR=3.7 1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.62**	**270**	P	**P**	**06 59 47.9**	**+0.8**
	2.5nm,1.1s,baz=107,slow=11,SNR=2.7						
FITZ				LR	LR	07 21 45.9	
	comp=Z,54nm,19.3s,baz=170,slow=35 2.5nm,1.1s						
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**07 00 37.0**	**+1.8**
	1.8nm,1.1s,baz=323,slow=4.4,SNR=2.9						
SNAA	**Sanae**	**77.87**	**178**	P	**P**	**07 02 31.6**	**+1.7**
	0.7nm,0.9s,baz=197,slow=14,SNR=2.5						
FINES	**FINESS Array B**	**145.50**	**340**	PKPbc	**PKPdf**	**07 10 08.8**	**-1.1**
	2.3nm,0.6s,baz=65,slow=4.0,SNR=18						
HFS	**Hagfors**	**149.57**	**349**	PKPbc	**PKPbc**	**07 10 19.9**	**-1.4**
	1.8nm,0.7s,baz=48,slow=2.1,SNR=1.4						
AKASG	**Malin Array Be**	**151.68**	**323**	PKPbc	**PKPbc**	**07 10 24.5**	**-2.1**
	0.4nm,0.5s,baz=50,slow=2.1,SNR=1.9						
BRTR	**Keskin Array B**	**152.97**	**298**	PKPab	**PKPab**	**07 10 40.4**	**-1.1**
	0.3nm,0.4s,baz=92,slow=4.9,SNR=1.5						

IDC 19 06:53:30.2±8.0, 18°.92S×178°.07W, h0km, mb3.9/4, mbtmp3.9/4, MS3.4/2, Error ellipse: s-maj=202.9km s-min=47.3km az=29.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.44**	**242**	P	P	07 00 53.8	-0.1
	2.0nm,0.8s,baz=80,slow=11,SNR=3.0 2.0nm,0.8s						
WRA	**Warramunga Arr**	**44.77**	**260**	P	P	07 01 45.8	-0.2
	0.9nm,0.4s,baz=97,slow=8.0,SNR=13 0.9nm,0.4s						
ASAR	**Alice Springs**	**44.83**	**255**	P	P	07 01 46.4	-0.1
	1.2nm,0.4s,baz=87,slow=8.0,SNR=24 1.2nm,0.4s						
BATI	**Baumata**	**56.84**	**270**	LR	LR	07 26 00.7	
	comp=Z,113nm,18.3s,baz=291,slow=34						
QSPA	**South Pole Qui**	**71.14**	**180**	P	P	07 04 50.6	0.0
	0.4nm,0.8s,baz=32,slow=0.9,SNR=1.5 0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	LR	LR	07 48 17.0	
	comp=Z,4.8nm,18.0s,baz=180,slow=37						

*TAP **19** 07:04:19.1, 25°.51N×122°.53E, h218km±1km, ML3.4, D*
*JMA **19** 07:04:20.9±0.3, 26°.N±3°.×12°.3E±°, h190km, NW OFF ISHIGAKIJIMA IS*
ISC 19 07:04:19.4±3.0, 25°.3N±0°.1×122°.56E±0°.05, h216km±17km, n46, σ0§74/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SXI1	**Grass Mountain**	**0.66**	**251**	*i* P	**Pn**	**07 04 49.4**	**+0.3**
SXI1				*eS*	**S**	**07 05 12.0**	**-0.2**
TIPB	**Shuangxi**	**0.74**	**243**	*i* P	**Pn**	**07 04 49.8**	**+0.3**
TIPB				*eS*	**S**	**07 05 11.8**	**-1.0**
ILA	**Ilan**	**0.91**	**234**	*eP*	**Pn**	**07 04 51.7**	**+1.3**
ILA				*eS*	**S**	**07 05 14.2**	**-0.1**
EOS2	**EOS

HATJ	Hateruma jima	1.69	138	eP	Pn	07 04 56.9	+0.6
HATJ				eS	S	07 05 24.6	-0.1
JKRS	Kuro-shima	1.70	129	eP	Pn	07 04 56.9	+0.5
JKRS				eS	S	07 05 24.5	-0.4
JIJ	Ishigaki jima	1.72	123	eP	Pn	07 04 56.5	0.0
JIJ				eS	S	07 05 23.8	-1.4
SHUL	Shoufeng	1.77	211	i P	Pn	07 04 57.0	0.0
SHUL				i S	S	07 05 26.4	+0.4
WHP	Taichung City	1.79	235	i P	Pn	07 04 57.8	+0.5
WHP				i S	S	07 05 25.7	-0.8
WUSB	Renai	1.86	225	i P	Pn	07 04 58.9	+1.0
WUSB				S	S	07 05 28.3	+0.6
WARBT	Fenglin Townsh	1.91	214	i P	Pn	07 04 57.9	-0.5
WARBT				S	S	07 05 27.0	-1.5
VWDT	VWDT	2.02	220	i P	Pn	07 05 00.5	+1.1
VWDT				i S	S	07 05 31.6	+1.4
JTJ	Tarama	2.06	109	eS	S	07 05 30.6	-0.3
SMLT	Sun Moon Lake	2.07	227	eP	Pn	07 05 01.1	+1.1
SMLT				eS	S	07 05 32.6	+1.2
HGSD	Ruisui	2.09	210	P	Pn	07 05 00.4	+0.3
HGSD				eS	S	07 05 31.3	-0.2
TYC	Yuchr	2.09	228	P	Pn	07 05 00.6	+0.5
TYC				S	S	07 05 31.2	-0.2
SSLB	Suanglung	2.11	224	i P	Pn	07 05 01.0	+0.7
SSLB				S	S	07 05 32.0	+0.1
ALS	Alishan	2.40	222	eP	Pn	07 05 03.0	-0.7
ALS				S	S	07 05 37.1	-0.8

SCB 19 07:11:57.0±1.4, 21°.48S×67°.29W, h179km±11km, MB5.8, ML3.4/3, Error ellipse: s-maj=5.4km s-min=3.0km az=0.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.55	82	Pg	Pn	07 12 30.9	+1.0
MOCB				Sg	Sn	07 12 55.0	-0.2
MOCB				IAML		07 12 57.1	
	62nm,0.6s						
YJA	Yavi	1.79	113	Pg	Pn	07 12 33.6	+1.4
PB09	IPOC Station P	1.85	260	Pg	Pn	07 12 33.8	+1.3
PB01	IPOC Station P	2.10	282	Pg	Pn	07 12 36.0	+0.8
PB01				Sg	Sn	07 13 05.8	+1.0
PB01				IAML		07 13 06.6	
	236nm,0.2s						
PB08	IPOC Station P	2.20	307	Pg	Pn	07 12 37.7	+1.1
AOVT	TarijaAcel	2.40	92	Pg	Pn	07 12 39.2	+0.5
PB02	IPOC Station P	2.44	273	Pg	Pn	07 12 39.7	+0.7
PB02				Sg	Sn	07 13 11.0	-0.6
PB02				IAML		07 13 12.0	
	331nm,0.4s						
PB06	IPOC Station P	2.45	240	Pg	Pn	07 12 38.9	-0.3
GO01	Chusmiza	2.54	315	Pg	Pn	07 12 41.1	+0.5
PB11	IPOC Station P	2.80	307	Pg	Pn	07 12 43.1	-0.3
SOEO	Opoqueri	2.96	349	Pg	Pn	07 12 46.6	+1.0
SOET	ToroToro	3.62	23	Pg	Pn	07 12 53.7	0.0
PB16	IPOC Station P	3.76	326	Pg	Pn	07 12 56.3	+0.6
GO02	Mina Guanaco	4.23	210	Pg	Pn	07 13 02.0	+0.6
BBOJ	La Paz, Jacaqu	4.56	349	Pg	Pn	07 13 06.4	+0.6
BBOE	La Paz, Chanca	4.69	352	Pg	Pn	07 13 08.5	+1.0
BBOD	La Paz, Gloria	4.97	345	Pg	Pn	07 13 11.9	+0.7
LPAZ	La Paz	5.22	351	Pg	Pn	07 13 14.5	0.0
BBOB	La Paz, Bander	5.37	351	Pg	Pn	07 13 16.2	-0.1

IDC 19 07:23:01.0±1.2, 6°.67N×124°.95E, h0km, mb3.4/4, mbtmp3.4/4, MS2.7/2, Error ellipse: s-maj=23.2km s-min=17.1km az=138.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.73	58	Pg	Pg	07 23 14.8	-0.3
	232nm,0.3s,baz=298,slow=1.3,SNR=14						
DAV	Davao City (W)	0.73	58	P	Pg	07 23 15.0	-0.1
JNU	Nakatsue	26.89	11	LR	LR	07 38 41.5	
	comp=Z,27nm,20.9s,baz=333,slow=35						
CMAR	Chiang Mai Arr	27.91	297	LR	LR	07 38 55.5	
	comp=Z,10nm,21.3s,baz=160,slow=34						
WRA	Warramunga Arr	28.02	161	P	P	07 28 53.6	-0.4
	0.3nm,0.4s,baz=332,slow=11,SNR=5.7						
	0.3nm,0.4s						
ASAR	Alice Springs	31.40	164	P	P	07 29 24.4	+0.4
	0.2nm,0.5s,baz=341,slow=7.0,SNR=5.8						
	0.2nm,0.5s						
MKAR	Makanchi Array	54.14	325	P	P	07 32 28.3	+0.3
	0.2nm,0.6s,baz=110,slow=8.4,SNR=4.8						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	58.32	327	P	P	07 32 57.5	-0.2
	0.2nm,0.4s,baz=128,slow=7.7,SNR=5.4						
	0.2nm,0.4s						

*NEIC **19** 07:57:09.7±2.5, 17°.57S±0°.05×69°.38W±0°.08, h162km±4km, mb4.3/22, ML4.2(GUC), Error ellipse: s-maj=11.0km s-min=7.7km az=103.0*
*IDC **19** 07:57:10.1±0.9, 17°.50S×69°.19W, h161km±7km, mb3.9/14, mbtmp4.4/16, Error ellipse: s-maj=14.8km s-min=11.2km az=82.0*
*GUC **19** 07:57:10.4±0.8, 17°.64S×69°.60W, h162km±4km, ML4.3*
*VAO **19** 07:57:10.4±0.7, 17°.48S×69°.18W, h167km±5km, mb4.6*
ISC 19 07:57:08.6±0.6, 17°.66S±0°.04×69°.25W±0°.05, h153km±5km, n121, σ1§58/140, mb4.1/22, 7C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	0.23	287		Pn	07 57 32.2	+2.3
PB18				Sn	Sn	07 57 50.1	+3.9
PB18	Visviri	0.23	287	⇓iP	Pn	07 57 32.4	+2.4
PB18				i S	Sn	07 57 49.4	+3.3
PB16	IPOC Station P	0.72	200		Pn	07 57 34.5	+2.3
PB16				Sn	Sn	07 57 53.5	+3.2
PB16	IPOC Station P	0.72	200	⇓iP	Pn	07 57 34.6	+2.3
PB16				i S	Sn	07 57 51.9	+1.6
AP01	Chacalluta	1.26	236		Pn	07 57 36.0	+0.1
AP01				Sn	Sn	07 57 56.6	-0.3
AP01	Chacalluta	1.26	236	i P	Pn	07 57 35.6	-0.4
AP01				i S	Sn	07 57 55.5	-1.4
AP01				IAML		07 57 58.6	
	comp=E,6μm,0.6s						
PB12	IPOC Station P	1.40	227		Pn	07 57 37.6	+0.1
PB12				Sn	Sn	07 57 59.3	-0.3
PB12	IPOC Station P	1.40	227	⇑iP	Pn	07 57 37.5	+0.1
PB12				i S	Sn	07 57 58.8	-0.9
PB12				IAML		07 58 00.2	
	comp=E,5μm,0.5s						
PX02	IPOC Station P	1.58	215	i P	Pn	07 57 38.6	-0.7
PX02				i S	Sn	07 58 01.6	-1.4
I08BO	LAS PENAS INFR	1.62	28	P	Pn	07 57 40.0	-0.3
	baz=234,slow=12,SNR=8.1						
LPAZ	La Paz	1.73	38		Pn	07 57 43.5	+2.0
LPAZ	La Paz	1.73	38	P	Pn	07 57 43.6	+2.1
	comp=E,1μm,0.3s,baz=239,slow=5.5						
LPAZ				LR	LR	07 57 59.6	
	comp=E,86nm,18.6s,baz=172,slow=32						
LPAZ				S	Sn	07 58 07.0	+0.2
	comp=E,416nm,0.7s,baz=29,slow=9.3,SNR=6.9						
LPAZ	La Paz	1.73	38	eP	Pn	07 57 43.7	+2.1
GO01	Chusmiza	2.00	179		Pn	07 57 47.2	+2.8
GO01	Chusmiza	2.00	179	eP	Pn	07 57 46.6	+2.2
GO01				IAML		07 58 23.5	
	comp=N,1μm,0.1s						
PB11	IPOC Station P	2.13	190		Pn	07 57 47.0	+1.4
PB11	IPOC Station P	2.13	190	⇑iP	Pn	07 57 47.0	+1.4
PB11				i S	Sn	07 58 15.0	+0.9
PB11				IAML		07 58 17.0	
	comp=E,971nm,0.6s						
PB08	IPOC Station P	2.47	178		Pn	07 57 52.8	+2.9
PB08	IPOC Station P	2.47	178	i P	Pn	07 57 52.5	+2.7
PB08				i S	Sn	07 58 24.4	+2.6
TA02	Huaiquique	2.73	198	eP	Pn	07 57 52.8	+0.1
TA02				IAML		07 58 29.3	
	comp=N,1μm,0.1s						
PX03	IPOC Station P	2.75	188	eP	Pn	07 57 53.8	+0.7
PX03				i S	Sn	07 58 27.1	-0.4
PX03				IAML		07 58 30.1	
	comp=N,915nm,0.7s						
PATCX	Punta Patache	3.26	195		Pn	07 58 00.7	+1.3
PATCX	Punta Patache	3.26	195	i P	Pn	07 58 00.1	+0.7
PATCX				i S	Sn	07 58 35.8	-3.1
PATCX				IAML		07 58 47.3	
	comp=E,293nm,0.7s						
PB01	IPOC Station P	3.37	184		Pn	07 58 02.2	+1.3
PB01	IPOC Station P	3.37	184	i P	Pn	07 58 02.1	+1.2
PB01				i S	Sn	07 58 39.2	-2.4
PB01				IAML		07 58 42.4	
	comp=E,433nm,0.5s						
PB02	IPOC Station P	3.69	189		Pn	07 58 06.9	+1.8
PB02	IPOC Station P	3.69	189	i P	Pn	07 58 06.5	+1.5
PB02				i S	Sn	07 58 46.5	-2.5
PB02				IAML		07 58 55.4	
	comp=E,414nm,0.6s						
PB09	IPOC Station P	4.12	180		Pn	07 58 12.7	+2.1
PB03	IPOC Station P	4.39	186		Pn	07 58 15.1	+0.8
PB06	IPOC Station P	5.03	183		Pn	07 58 23.1	+0.5
PB05	IPOC Station P	5.25	190		Pn	07 58 25.1	-0.3
PB10	IPOC Station P	5.95	192		Pn	07 58 34.0	-0.7
GO02	Mina Guanaco	7.47	182		Pn	07 58 55.2	0.0
SIV	San Ignacio	8.00	79	P	Pn	07 59 01.2	-0.9
	comp=E,64nm,0.4s,baz=244,slow=10,SNR=119						
SIV				S	Sn	08 00 28.3	-3.1
	comp=E,29nm,0.7s,baz=327,slow=18,SNR=7.9						
AC01	Pan de Azucar	8.54	188	Pn	Pn	07 59 06.8	-2.4
AC02	Maricunga	9.13	179		Pn	07 59 17.6	0.0
NNA	Nana	9.26	306		Pn	07 59 16.0	-2.8
NNA	Nana	9.26	306	P	Pn	07 59 16.2	-2.6
	comp=E,19nm,0.2s,baz=127,slow=12,SNR=22						
NNA				S	Sn	08 00 51.0	-11
	comp=E,19nm,0.4s,baz=244,slow=23,SNR=5.8						
AC06	Mina Casimiro	9.71	186	Pn	Pn	07 59 23.4	-1.3
VILB	Vilhena	9.90	63		Pn	07 59 26.6	-0.8
PTLB	Pontes e Lacer	9.94	79		Pn	07 59 27.1	-0.8
PTLB	Pontes e Lacer	9.94	79	eP	Pn	07 59 26.7	-1.1
CO01	Juntas del Tor	12.29	183	Pn	Pn	07 59 58.0	-0.7
GO04	Tololo Observa	12.54	186	Pn	Pn	07 59 59.2	-2.8
AQDB	Aquidauana	13.11	104	eP	Pn	08 00 09.2	+0.1
CO06	Fray Jorge	13.14	189	Pn	Pn	08 00 08.0	-1.4
PP1B	Ponte de Pedra	13.70	92	eP	Pn	08 00 15.6	-1.1
CFA	Coronel Fontan	13.91	176	P	Pn	08 00 21.4	+2.0
	comp=E,3.7nm,0.6s,baz=355,slow=13,SNR=13						
CFA				S	Sn	08 02 45.3	-8.3
	comp=E,1.7nm,0.7s,baz=234,slow=22,SNR=6.8						
CPUP	Villa Florida	14.01	130	Pn	Pn	08 00 20.5	-0.1
CPUP	Villa Florida	14.01	130	P	Pn	08 00 19.9	-0.6
	comp=E,0.9nm,0.7s,baz=160,slow=12,SNR=5.7						
AMBA	Amambai (Brazi	14.36	114	eP	P	08 00 26.5	-1.1
CLDB	Colider	14.67	64	eP	Pn	08 00 29.4	+0.5
TEFE	Tefe	14.77	18	eP	Pn	08 00 29.5	-0.7
MACA	Manacapuru-AM	16.68	31	P	P	08 00 52.2	-1.1
MACA				IAmb	IAmb	08 00 55.7	
	comp=Z,15nm,0.8s						
MACA	Manacapuru-AM	16.68	31	eP	P	08 00 52.1	-1.1
ARAG	Araguaiana, MT	16.82	86	eP	Pn	08 00 55.4	+0.2
NPGB	Novo Progresso	17.17	54	eP	P	08 00 58.2	-0.5
PTGB	Pitanga	17.48	117	eP	Pn	08 01 03.8	+0.5
ITRB	Iturama	18.01	99	eP	Pn	08 01 09.0	-0.5
SNDB	Serra Nova Dou	18.25	74	eP	P	08 01 10.4	-0.1
ITTB	Itaituba	18.70	47	eP	P	08 01 14.5	-0.9
CPSB	Cacapava Do Su	19.19	134	eP	P	08 01 21.8	+1.2
FRTB	Fartura	19.28	110	eP	P	08 01 22.0	+0.3
PLTB	Pedras Altas	19.94	138	P	P	08 01 29.2	+0.4
PLTB	Pedras Altas	19.94	138	eP	P	08 01 29.3	+0.6
IPMB	Ipameri, GO	20.03	94	eP	P	08 01 29.7	-0.1
BDFB	Brasilia	20.44	87	P	P	08 01 34.4	0.0
BDFB	Brasilia	20.44	87	P	P	08 01 33.6	-0.7
	comp=Z,14nm,0.5s,baz=265,slow=12,SNR=16						
	comp=Z,14nm,0.5s						
CNLB	Canela	20.44	128	eP	Pn	08 01 36.7	-1.4
RCLB	Rio Claro- Sao	20.94	107	eP	P	08 01 39.4	-0.1
SPB	Sao Paulo	21.24	110	P	P	08 01 42.5	-0.2
SPB				IAmb	IAmb	08 01 46.0	
	comp=Z,19nm,1.0s						
TRQA	Tornquist	21.30	164	P	P	08 01 44.1	+0.9
TRQA				IAmb	IAmb	08 01 55.7	
	comp=Z,7.3nm,1.1s						
BOAV	Boa Vista	21.70	24		P	08 01 46.5	-1.2
BOAV				IAmb	IAmb	08 01 48.9	
	comp=Z,11nm,0.8s						
BOAV	Boa Vista	21.70	24	eP	P	08 01 46.4	-1.2
PRPB	Parauapebas	22.15	61	eP	P	08 01 50.0	-2.2
LR04	Corral	22.44	188	P	P	08 01 56.6	+1.8
LR05	Currie	22.62	185	P	P	08 01 57.5	+1.0
LR05				IAmb	IAmb	08 01 58.8	
	comp=Z,16nm,0.8s						
SMTB	Santa Maria do	22.80	70	eP	P	08 01 58.4	-0.1
PLCA	Paso Flores	23.02	183	P	P	08 02 01.3	+1.0
PLCA				IAmb	IAmb	08 02 04.7	
	comp=Z,6.2nm,0.9s						
PLCA	Paso Flores	23.02	183	P	P	08 02 01.2	+1.0
	comp=Z,8.5nm,1.0s,baz=1.5,slow=11,SNR=16						
	comp=Z,8.5nm,1.0s						
PLCA	Paso Flores	23.02	183	eP	P	08 02 02.1	+1.8
SDBA	SAO DESIDERIO	24.07	81	eP	P	08 02 10.4	+0.3
DIAM	Diamantina, MG	24.33	95	eP	P	08 02 13.8	+1.3
BAUV	El Baul	26.46	3	P	P	08 02 29.9	-1.7
BAUV				IAmb	IAmb	08 02 41.5	
	comp=Z,7.0nm,0.9s						
RIB01	Linhares ES	27.40	98	eP	P	08 02 40.6	+0.6
GUA01	Guaratinga, BA	28.14	92	eP	P	08 02 47.4	+0.8
NBAN	Anadia - AL	32.97	80	eP	P	08 03 28.3	-0.8
RCBR	Riachuelo	34.63	74	P	P	08 03 43.0	-0.5
RCBR				IAmb	IAmb	08 03 56.7	
	comp=Z,8.7nm,0.9s						
TXAR	Lajitas Array	57.33	324	P	P	08 06 39.7	-1.1
	comp=Z,0.4nm,0.5s,baz=150,slow=6.7,SNR=13						
	comp=Z,0.4nm,0.5s						
VNA3	Neumayer Olymp	63.80	162	⇑P	P	08 07 24.0	0.0
	comp=Z,1.9nm,0.8s						
VNA1	Neumayer--Stat	64.00	161	⇑P	P	08 07 25.7	+0.5
	comp=Z,2.1nm,0.9s						
VNA2	Neumayer--Watz	64.37	161	⇑P	P	08 07 29.0	+1.3
	comp=Z,1.6nm,0.6s,baz=300,slow=7.6						
SNAA	Sanae	66.00	161	⇑P	P	08 07 39.5	+1.2
	comp=Z,38nm,0.6s						
SNAA	Sanae	66.00	161	P	P	08 07 39.2	+0.9
SNAA				IAmb	IAmb	08 07 40.6	
	comp=Z,2.1nm,0.8s						
SNAA	Sanae	66.00	161	P	P	08 07 39.5	+1.2
	comp=Z,1.7nm,0.7s,baz=282,slow=7.2,SNR=22						
	comp=Z,1.7nm,0.7s						
TROLL	Troll, Antarti	67.71	161	⇑P	P	08 07 50.3	+1.1
	comp=Z,131nm,0.7s						
DBIC	Dimbokro	68.00	75	P	P	08 07 51.5	-0.3
DBIC	Dimbokro	68.00	75	P	P	08 07 51.6	-0.2
	comp=Z,22nm,0.6s,baz=263,slow=6.2,SNR=23						
	comp=Z,22nm,0.6s						
P18A	Preston Nutter	68.64	327	P	P	08 07 55.8	+0.1
CCUT	Cedar City	68.83	324	P	P	08 07 57.0	+0.3
TMUT	Trail Mountain	68.90	326	P	P	08 07 56.4	-0.8
SHPR	Sheep Range	69.15	322	P	P	08 07 59.1	+0.4
BSUT	Blindstream Ca	69.58	327	P	P	08 08 01.4	-0.1
PDAR	Pinedale Array	70.64	330	P	P	08 08 07.2	-0.6
	comp=Z,0.7nm,0.6s,baz=120,slow=8.7,SNR=8.8						
	comp=Z,0.7nm,0.6s						
ULM	Lac du Bonnet	71.58	342	P	P	08 08 11.7	-1.2
	comp=Z,4.0nm,0.4s,baz=145,slow=6.2,SNR=3.3						
	comp=Z,4.0nm,0.4s						
NVAR	Mina Array Bea	72.30	321	P	P	08 08 18.3	+0.6
	comp=Z,0.6nm,0.7s,baz=142,slow=6.7,SNR=5.0						
	comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	72.51	180	P	P	08 08 21.5	+3.0
QSPA				IAmb	IAmb	08 08 23.4	
	comp=Z,12nm,1.5s						
QSPA	South Pole Qui	72.51	180	P	P	08 08 21.7	+3.2
	comp=Z,2.7nm,0.9s,baz=157,slow=1.7,SNR=16						
	comp=Z,2.7nm,0.9s						
YHL	Hebgen Lake	72.99	330	P	P	08 08 21.6	-0.2
YHL				IAmb	IAmb	08 08 23.2	
	comp=Z,2.7nm,0.8s						
TORD	Torodi Ar. Bea	76.40	71	P	P	08 08 41.6	-0.1
	comp=Z,10.0nm,0.5s,baz=260,slow=4.8,SNR=3.9						
	comp=Z,10.0nm,0.5s						
VNDA	Vanda	80.56	190	P	P	08 09 05.6	+2.2
	comp=Z,1.4nm,0.9s,baz=135,slow=5.6,SNR=7.5						
	comp=Z,1.4nm,0.9s						
ESDC	Sonseca Array	83.34	45	P	P	08 09 18.9	+0.4
	comp=Z,0.7nm,0.8s,baz=249,slow=3.7,SNR=5.2						
	comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	87.48	341	P	P	08 09 38.1	-0.3
	comp=Z,2.1nm,0.6s,baz=136,slow=5.0,SNR=14						
	comp=Z,2.1nm,0.6s						
MAW	Mawson	88.08	163	P	P	08 09 42.1	+0.8
	comp=Z,4.3nm,0.7s,baz=249,slow=8.6,SNR=5.2						
	comp=Z,4.3nm,0.7s						
ASAR	Alice Springs	133.12	210	PKP	PKPdf	08 16 06.3	-0.6
	comp=Z,0.4nm,0.6s,baz=132,slow=2.2,SNR=7.1						
ASAR				SKPbc	SKPbc	08 19 21.2	+0.5
	comp=Z,0.3nm,0.7s,baz=153,slow=3.9,SNR=4.5						
WRA	Warramunga Arr	136.04	213	PKP	PKPdf	08 16 12.9	+0.5
	comp=Z,1.0nm,0.6s,baz=154,slow=1.9,SNR=8.7						
WRA				SKPbc	SKPbc	08 19 29.3	-0.9
	comp=Z,0.6nm,0.9s,baz=137,slow=2.8,SNR=4.8						
ZALV	Zalesovo Beam	138.59	23	PKP	PKPdf	08 16 16.6	+0.6
	comp=Z,0.9nm,0.6s,baz=284,slow=3.8,SNR=4.3						
ZALV				SKPbc	SKPbc	08 19 36.2	-0.3
	comp=Z,3.0nm,0.8s,baz=319,slow=4.3,SNR=10						
MKAR	Makanchi Array	142.65	33	PKP	PKPdf	08 16 23.4	-0.2
	comp=Z,0.3nm,0.6s,baz=318,slow=1.9,SNR=2.3						
MKAR				SKPbc	SKPbc	08 19 47.1	-0.3
	comp=Z,1.0nm,0.8s,baz=329,slow=2.1,SNR=5.3						
HILR	Hailar Array B	147.36	349	PKPbc	PKPbc	08 16 34.7	+0.4
	comp=Z,2.5nm,0.5s,baz=57,slow=1.8,SNR=6.1						
USRK	Ussuriysk Ar.	148.07	330	PKPbc	PKPdf	08 16 35.4	+2.5
	comp=Z,2.5nm,0.6s,baz=70,slow=1.7,SNR=2.9						
MJAR	Matsushiro Arr	149.33	313	PKPbc	PKPbc	08 16 39.2	-0.5
	comp=Z,1.7nm,0.6s,baz=95,slow=1.5,SNR=5.6						

*UCR **19** 08:10:20.5±0.7, 10°.35N×86°.33W, h10km±22km, MW3.5*
*CATAC **19** 08:10:30.6±0.8, 11°.N±5°.×8°.6W±°., h40km, M2.5/6, MLv2.5/6, Error ellipse: s-maj=13.1km s-min=8.9km az=42.5, confirmed*
ISC 19 08:10:25.7±1.6, 10°.50N±0°.06×85°.97W±0°.08, h33km, n30, σ1§45/31, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	Filadelfia	0.41	98	eP	Pb	08 10 35.6	+0.7
ALIBA	Liberia Airpor	0.42	78	eP	Pn	08 10 37.0	+1.5
ELI1	Hacienda Flor	0.43	71	eP	Pn	08 10 37.1	+1.5
SACU	Santa Cruz	0.44	122	eP	Pb	08 10 35.0	-0.4
JUD3	Juan Diaz 3	0.54	129	eP	Pb	08 10 36.0	-0.9
LAPC	Finca la Perla	0.58	63	eP	Pn	08 10 38.7	+1.1
VRLE	La Escondida,	0.65	64	eP	Pn	08 10 39.9	+1.2
LCRUZ	La Cruz	0.66	30	eP	Pb	08 10 39.4	+0.7
BAGA	Bagaces	0.69	88	eP	Pb	08 10 40.6	+1.2
BUAI	Buenos Aires	0.72	59	eP	Pb	08 10 41.6	+1.6
PEJA	Penjamo Buenos	0.75	59	eP	Pb	08 10 41.8	+1.4
MESS	Mesas	0.79	73	eP	Pb	08 10 42.1	+1.0
HORNC	Hornillas	0.80	75	eP	Pb	08 10 42.1	+0.9
CUI	Cuipilapa	0.80	79	eP	Pb	08 10 42.2	+0.9
CARN	Rivas	0.81	33	P	Pb	08 10 41.9	+0.6
CARN				S	Sn	08 10 46.0	-5.6
CARN	Rivas	0.81	33	eP	Pb	08 10 41.6	+0.3
VMAR	Armenia, Volca	0.89	70	eP	Pb	08 10 43.6	+0.9
TIMP	Tierras Morena	0.93	85	eP	Pb	08 10 43.8	+0.3
TENO	El Achiote	0.99	78	eP	Pb	08 10 44.4	0.0
JUNT	Juntas	1.01	102	eP	Pn	08 10 44.5	+0.9
JTS	Las Juntas de	1.02	102	eP	Pn	08 10 44.3	+0.7
OMEN	Al SSO del Vol	1.05	18	P	Pb	08 10 44.5	-0.9
MORN	Al O del Volca	1.08	17	P	Pb	08 10 45.8	-0.2
CONN	Concepcion	1.11	17	P	Pb	08 10 45.6	-0.7
MTEVE	Monteverde	1.13	99	eP	Pn	08 10 46.6	+1.2
ARE1	Arenal 1	1.23	92	eP	Pb	08 10 49.0	+0.7
VARE2	V. Arenal	1.23	92	eP	Pb	08 10 48.9	+0.5
SOCE	Pocosol	1.33	95	P	Pb	08 10 50.5	+0.4
NANN	Nandasmo	1.44	354	S	Sb	08 11 10.8	+0.9
COPN	Copaltepe	1.78	340	P	Pb	08 10 59.3	+1.7

*NEIC **19** 08:40:13.1, 18°.64S×171°.92W, h16km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.02; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$1.23; $M_{r\theta}$0.20; $M_{\theta\phi}$0.06; $M_{\phi r}$0.92; Fault plane solution: $M_0$1.48000×10^{17} NP1: ϕ_s353.06000°, δ25.74000°, λ-104.86000°. NP2: ϕ_s189.47000°, δ65.18000°, λ-82.95000°. Principal axes: T 1.5663, Plg20.0000°, Azm274.0000°; N -0.1959, Plg6.0000°, Azm6.0000°; P -1.3704, Plg69.0000°, Azm113.0000°;*
*NEIC **19** 08:40:13.1, 18°.34S×171°.82W, h16km*
*NEIC **19** 08:40:14.5±1.4, 18°.26S±0°.09×172°.09W±0°.10, h10km±1km, mb5.4/48, Ms_20 5.0/124, Mwws5.4/19, Error ellipse: s-maj=17.8km s-min=12.1km az=231.0*
*NOU **19** 08:40:14.8, 18°.45S×172°.19W, h0km, mb5.4/85, Tonga Islands Region*
*MOS **19** 08:40:15.5±1.3, 18°.43S×172°.58W, h8km, mb5.3/35, MS4.8/8, Error ellipse: s-maj=10.1km s-min=8.9km az=51.9*
*IDC **19** 08:40:16.4±0.5, 18°.38S×172°.84W, h0km, mb4.8/18, mbtmp4.8/20, ML5.3/2, MS4.7/56, Error ellipse: s-maj=17.5km s-min=11.9km az=138.0*
*GCMT **19** 08:40:20.6±0.1, 18°.59S±0°.01×172°.14W, h12km, MW5.3/127, Moment Tensor Solution. s96,c149; s127,c229; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.87±.01; $M_{\theta\theta}$-0.22±.01; $M_{\phi\phi}$1.09±.01; $M_{r\theta}$-0.59±.03; $M_{\theta\phi}$0.07±.01; $M_{\phi r}$-0.46±.03; Best double couple: $M_

CNGZ **Carnagh Statio** 21.54 201 P **P** 08 45 10.4 +5.0
PPT2 **Papeete2** 21.57 91 *e*PKP2 P 08 44 55.7 -10
comp=Z,961nm,27.5s
PPT2 *e*S S 08 48 50.8 -14
comp=Z,6µm,24.5s
PPT2 *e*LR LR 08 49 57.7
comp=Z,10µm,25.5s
PPT2 *e*LR LR 08 49 58.8
comp=Z,8µm,28.2s
PPT **Papeete** 21.57 91 P **P** 08 45 09.5 +3.6
comp=Z,83nm,1.0s,baz=272,slow=8.0,SNR=6.4
PPT LR LR 08 51 03.7
comp=Z,3µm,21.6s,baz=251,slow=29
PPTF **Pamatai, Papee** 21.58 91 IAMs_20 IAMs_20 08 50 42.5
comp=Z,5µm,18.0s
PPTF **Pamatai, Papee** 21.58 91 P **P** 08 45 06.5 +0.4
TKGZ **Te Karaka** 21.62 202 P **P** 08 45 12.1 +5.8
TKGZ S **S** 08 49 00.5 -4.5
MWZ **Matawai** 21.64 202 P **P** 08 45 12.4 +5.8
URZ **Urewera** 21.73 203 P **P** 08 45 08.5 +1.1
comp=Z,19nm,0.6s,baz=339,slow=7.7,SNR=20
URZ S **S** 08 48 57.3 -10
comp=Z,14nm,1.1s,baz=336,slow=13,SNR=1.7
comp=Z,19nm,0.6s
URZ **Urewera** 21.73 203 P **P** 08 45 09.8 +2.4
URZ **Urewera** 21.73 203 P **P** 08 45 10.8 +3.4
URZ S **S** 08 49 01.0 -6.1
EDRZ **Edgecumbe** 21.74 204 P P 08 45 16.9 +9.3
RAGZ **Rawiri** 21.83 202 P **P** 08 45 10.7 +2.1
RRRZ **Republican Roa** 22.03 204 P **P** 08 45 16.3 +5.7
MUGZ **Murupara** 22.05 203 P **P** 08 45 14.9 +4.1
MUGZ S **S** 08 49 06.4 -7.0
SNGZ **Shannon Statio** 22.11 202 P **P** 08 45 18.5 +7.0
HRRZ **Handcock Road** 22.16 204 P **P** 08 45 18.1 +6.0
KNZ **Kokohu** 22.21 201 P **P** 08 45 17.8 +5.3
KNZ S **S** 08 49 14.0 -2.2
PRRZ **Plateau Road** 22.21 204 P **P** 08 45 17.7 +5.0
RAHZ **Arahi** 22.32 202 P **P** 08 45 18.2 +4.4
RAHZ S **S** 08 49 11.3 -7.2
BKZ **Black Stump Fm** 22.76 203 P **P** 08 45 20.6 +2.1
BFZ **Birch Farm** 24.18 202 P **P** 08 45 34.6 +2.1
XMAS **Kiritimati** 25.11 37 P **P** 08 45 41.3 +0.2
SNZO **South Karori** 25.29 203 P **P** 08 45 44.6 +2.1
QRZ **Quartz Range** 25.77 207 P **P** 08 48 48.7 +1.8
HNR **Honiara** 28.43 285 IAMs_20 IAMs_20 08 56 05.7
comp=Z,3µm,18.0s
HNR **Honiara** 28.43 285 LR LR 08 55 59.5
comp=Z,3µm,18.4s,baz=120,slow=34
LBZ **Lake Benmore** 29.68 206 IAMs_20 IAMs_20 08 57 15.9
comp=Z,2µm,18.0s
JCZ **Jackson Bay** 30.03 208 P **P** 08 46 27.2 +2.1
TAOE **Nuku Hiva Isla** 32.58 77 *e*S S 08 51 52.3 -11
comp=Z,242nm,25.6s
TAOE *e*LR LR 08 55 11.2
comp=Z,5µm,26.2s
AUWSH **Wavell State H** 33.07 248 P **P** 08 46 51.2 -0.7
TW1H **Toowoomba 1 Ha** 34.03 248 P **P** 08 47 00.4 0.0
EIDS **Eidsvold** 34.61 252 P **P** 08 47 03.8 -1.6
comp=Z,42nm,1.6s
EIDS **Eidsvold** 34.61 252 P **P** 08 47 03.9 -1.4
EIDS IAmb IAmb 08 47 07.9
comp=Z,72nm,1.4s
EIDS **Eidsvold** 34.61 252 P **P** 08 47 04.7 -0.6
ARMA **Armidale** 34.80 243 P **P** 08 47 06.2 -0.8
comp=Z,48nm,1.2s
ARMA **Armidale** 34.80 243 **P** 08 47 06.6 -0.4
ARMA IAmb IAmb 08 47 16.9
comp=Z,62nm,1.2s
ARMA **Armidale** 34.80 243 P **P** 08 47 06.3 -0.8
AUNRC **North Rockhamp** 35.03 256 P **P** 08 47 08.1 -0.9
RKT **Rikitea** 35.06 104 *e*SS SS 08 54 47.8 -26
comp=Z,10µm,47.8s
RKT *e*LR LR 08 56 24.0
comp=Z,14µm,23.2s
AUPHS **Peel High Scho** 35.56 242 P **P** 08 47 13.2 -0.3
AUKHS **Kincumber High** 35.71 238 P **P** 08 47 16.7 +2.0
MGCD **Mangrove Creek** 35.86 239 P **P** 08 47 15.2 -0.9
comp=Z,52nm,0.9s
SYDH **Sydney Hard Ro** 36.30 238 P **P** 08 47 21.0 +1.2
AULRC **Lightning Ridg** 37.76 246 P **P** 08 47 30.9 -1.3
CNB **Canberra Magne** 37.81 236 P **P** 08 47 33.5 +0.8
comp=Z,71nm,1.4s
CNB **Canberra Magne** 37.81 236 P **P** 08 47 34.1 +1.4
AUDAR **Daramalan Coll** 37.97 236 P **P** 08 47 35.5 +1.5
AUSIS **Research Schoo** 38.00 236 P **P** 08 47 36.0 +1.7
AUMHS **Melrose High S** 38.04 236 P **P** 08 47 36.3 +1.7
AUMTS **Mt Stromlo** 38.10 236 P **P** 08 47 37.0 +1.9
CAN **Canberra** 38.10 236 P **P** 08 47 36.4 +1.3
comp=Z,51nm,1.4s
CAN **Canberra** 38.10 236 P **P** 08 47 35.2 0.0
CAN IAmb IAmb 08 47 39.1
comp=Z,82nm,1.3s
CAN **Canberra** 38.10 236 P **P** 08 47 36.6 +1.5
CAN **Canberra** 38.10 236 P **P** 08 47 35.2 0.0
CAN pmax pmax
comp=Z,83nm,1.3s
YNG **Young** 38.32 238 P **P** 08 47 37.7 +0.7
comp=Z,25nm,1.7s
TV1H **Townsville Har** 38.70 262 P **P** 08 47 39.6 -0.6
CTA **Charters Tower** 39.13 261 LR LR 09 02 14.6
comp=Z,75nm,19.6s,baz=87,slow=34
CMSA **Cobar Meteorol** 40.01 243 P **P** 08 47 50.0 -1.1
comp=Z,63nm,1.5s
CMSA **Cobar Meteorol** 40.01 243 P **P** 08 47 50.0 -1.1
PMG **Port Moresby** 40.35 277 P **P** 08 47 51.8 -2.3
PMG **Port Moresby** 40.35 277 LR LR 09 02 55.6
comp=Z,2µm,18.2s,baz=101,slow=34
PMG **Port Moresby** 40.35 277 P **P** 08 47 54.0 -0.1
PMG **Port Moresby** 40.35 277 P **P** 08 47 53.9 -0.1
PMG **Port Moresby** 40.35 277 *i* P **P** 08 47 51.6 -2.5
PMG pmax pmax
comp=Z,50nm,1.1s
QLP **Quilpie** 40.83 251 P **P** 08 47 56.1 -1.8
comp=Z,155nm,1.1s
QLP **Quilpie** 40.83 251 P **P** 08 47 57.5 -0.4
MTSU **Mount Surprise** 41.16 263 P **P** 08 47 59.2 -1.6
comp=Z,26nm,0.6s
MTSU **Mount Surprise** 41.16 263 P **P** 08 47 59.2 -1.6
TOO **Toolangi** 41.43 234 P **P** 08 48 02.7 -0.1
comp=Z,19nm,0.9s
TOO **Toolangi** 41.43 234 P **P** 08 48 03.0 +0.2
TOO **Toolangi** 41.43 234 P **P** 08 48 03.0 +0.2
TOO pmax pmax
comp=Z,22nm,1.0s
TAU **Tasmania Unive** 41.84 226 P **P** 08 48 06.0 0.0
TAU IAmb IAmb 08 49 43.3
comp=Z,183nm,1.6s
TAU **Tasmania Unive** 41.84 226 P **P** 08 48 06.0 0.0
TAU pmax pmax
comp=Z,183nm,1.7s
H11S2 **WAKE ISLAND Hy** 42.22 330 T T 09 33 52.4
baz=147,slow=75,SNR=97
H11S3 **WAKE ISLAND Hy** 42.23 329 T T 09 33 53.5
baz=147,slow=75,SNR=88
H11S1 **WAKE ISLAND Hy** 42.23 330 T T 09 33 53.7
baz=147,slow=75,SNR=56
BRAT **Ballarat** 42.62 234 P **P** 08 48 14.1 +1.7
AUMTC **Mt Clear Colle** 42.68 234 P **P** 08 48 14.4 +1.5
COEN **Coen** 42.97 269 P **P** 08 48 13.5 -2.0
comp=Z,43nm,0.8s
COEN **Coen** 42.97 269 P **P** 08 48 14.0 -1.5
COEN **Coen** 42.97 269 P **P** 08 48 14.7 -0.8
H11N3 **WAKE ISLAND Hy** 43.18 331 T T 09 34 30.5
baz=150,slow=76,SNR=89
H11N1 **WAKE ISLAND Hy** 43.18 331 T T 09 34 27.2
baz=150,slow=76,SNR=70
H11N2 **WAKE ISLAND Hy** 43.20 331 T T 09 34 33.2
baz=150,slow=76,SNR=88
STKA **Stephens Creek** 43.52 243 P **P** 08 48 18.8 -1.0
comp=Z,273nm,1.4s
STKA **Stephens Creek** 43.52 243 P **P** 08 48 19.6 -0.2
STKA **Stephens Creek** 43.52 243 P **P** 08 48 17.9 -1.9
comp=Z,24nm,0.8s,baz=90,slow=11,SNR=23
STKA LR LR 09 04 45.2
comp=Z,2µm,18.8s,baz=77,slow=34
comp=Z,24nm,0.8s
STKA **Stephens Creek** 43.52 243 P **P** 08 48 19.7 -0.1
STKA **Stephens Creek** 43.52 243 *i* P **P** 08 48 19.4 -0.4
INKA **Innaminka** 43.97 249 P **P** 08 48 23.6 +0.1
INKA IAmb IAmb 08 48 33.9
comp=Z,59nm,1.2s
ARPS **Mount Arapiles** 44.08 236 P **P** 08 48 23.3 -1.0
comp=Z,31nm,1.0s
QIS **Mount Isa** 45.30 259 P **P** 08 48 32.3 -1.9
comp=Z,26nm,0.7s

AUMBR **Murray Bridge** 45.84 239 P **P** 08 48 38.6 +0.3
HTT **Hallett** 45.93 241 P **P** 08 48 38.2 -0.9
comp=Z,16nm,1.6s
HTT **Hallett** 45.93 241 P **P** 08 48 38.8 -0.3
AUJCS **Jamestown Cent** 46.17 242 P **P** 08 48 41.9 +1.0
WHYH **Whyalla** 47.02 242 P **P** 08 48 49.1 +1.6
BBOO **Buckleboo** 48.27 242 P **P** 08 48 57.7 +0.4
comp=Z,58nm,1.3s
BBOO **Buckleboo** 48.27 242 P **P** 08 48 57.1 -0.2
BBOO IAmb IAmb 08 49 00.2
comp=Z,43nm,1.0s
BBOO **Buckleboo** 48.27 242 P **P** 08 48 58.3 +1.0
JAY **Jayapura** 48.74 283 LR LR 09 09 28.4
comp=Z,1µm,18.1s,baz=81,slow=36
GENI **Genyem** 49.20 283 P **P** 08 49 05.3 +0.6
WR8 **Warramunga Arr** 50.12 259 P **P** 08 49 10.4 -1.3
AS01 **Alice Springs** 50.22 254 P **P** 08 49 11.4 -1.0
AS09 **Alice Springs** 50.23 254 P **P** 08 49 11.3 -1.2
comp=Z,170nm,1.1s
WB0 **Warramunga Arr** 50.25 259 P **P** 08 49 11.3 -1.3
AS31 **Alice Springs** 50.26 254 P **P** 08 49 11.6 -1.1
comp=Z,50nm,1.1s
AS31 **Alice Springs** 50.26 254 P **P** 08 49 12.3 -0.4
AS31 IAmb IAmb 08 49 23.5
comp=Z,42nm,0.9s
ASAR **Alice Springs** 50.26 254 P **P** 08 49 12.4 -0.3
ASAR **Alice Springs** 50.26 254 P **P** 08 49 11.2 -1.6
comp=Z,58nm,0.7s,baz=92,slow=7.7,SNR=20
ASAR S **S** 08 56 20.6 -4.0
comp=Z,1.8nm,0.8s,baz=92,slow=16,SNR=6.4
ASAR LR LR 09 09 38.2
comp=Z,2µm,19.6s,baz=92,slow=35
comp=Z,58nm,0.7s
ASAR **Alice Springs** 50.26 254 P **P** 08 49 12.5 -0.3
WRAB **Tennant Creek** 50.27 259 P **P** 08 49 11.7 -1.1
WRAB **Tennant Creek** 50.27 259 *ce*P **P** 08 49 11.1 -1.7
WRAB pmax pmax
comp=Z,175nm,1.7s
WRA **Warramunga Arr** 50.28 259 P **P** 08 49 11.6 -1.3
WRA **Warramunga Arr** 50.28 259 P **P** 08 49 10.4 -2.5
comp=Z,33nm,0.7s,baz=95,slow=8.7,SNR=63
WRA S **S** 08 56 20.1 -4.7
comp=Z,1.2nm,1.0s,baz=101,slow=12,SNR=5.3
WRA LR LR 09 09 30.4
comp=Z,2µm,18.9s,baz=100,slow=35
comp=Z,33nm,0.7s
WRA **Warramunga Arr** 50.28 259 P **P** 08 49 11.6 -1.3
WRA pmax pmax
comp=Z,19nm,1.5s
AUALC **St Philip's Co** 50.28 254 P **P** 08 49 11.8 -1.1
GUMO **Guam** 52.98 304 LR LR 09 09 54.7
comp=Z,588nm,19.1s,baz=119,slow=34
KDU **Kakadu** 53.40 268 P **P** 08 49 34.9 -1.3
comp=Z,36nm,0.7s
MTN **Manton Dam** 54.63 267 P **P** 08 49 43.8 -1.4
comp=Z,62nm,0.8s
MTN **Manton Dam** 54.63 267 P **P** 08 49 44.1 -1.1
MTN IAmb IAmb 08 49 46.3
comp=Z,48nm,0.8s
AUDHS **Darwin High Sc** 55.02 268 P **P** 08 49 47.8 -0.2
FORT **Forrest** 55.05 245 P **P** 08 49 47.4 -0.6
comp=Z,50nm,1.0s
FORT **Forrest** 55.05 245 P **P** 08 49 47.9 -0.1
FORT IAmb IAmb 08 49 57.6
comp=Z,31nm,0.8s
WRKA **Warakurna** 55.23 252 P **P** 08 49 48.9 -0.6
comp=Z,30nm,0.9s
KNRA **Kununurra** 56.25 263 P **P** 08 49 56.1 -0.7
comp=Z,70nm,1.0s
KNRA **Kununurra** 56.25 263 P **P** 08 49 55.7 -1.1
KNRA IAmb IAmb 08 49 58.8
comp=Z,55nm,0.9s
FAKI **Fak Fak** 56.46 279 P **P** 08 49 57.6 -0.7
FAKI IAmb IAmb 08 51 58.3
comp=Z,42nm,1.2s
RPN **Rapa Nui** 58.10 111 LR LR 09 09 11.4
comp=Z,1µm,18.5s,baz=250,slow=30
SWI **Sorong** 58.11 281 P **P** 08 50 10.3 +0.3
comp=Z,2µmcomp=Z,2µmcomp=Z,85nm,0.8s
FITZ **Fitzroy Crossi** 58.70 260 LR LR 09 14 11.3
comp=Z,2µm,19.9s,baz=102,slow=35
SBA **Scott Base** 60.23 185 P **P** 08 50 23.1 -0.6
SBA **Scott Base** 60.23 185 P **P** 08 50 23.1 -0.6
SBA pmax pmax
comp=Z,12nm,0.9s
VNDA **Vanda** 60.38 186 P **P** 08 50 23.7 -1.1
VNDA **Vanda** 60.38 186 P **P** 08 50 27.7 +3.0
comp=Z,2.8nm,0.8s,baz=13,slow=6.2,SNR=14
VNDA LR LR 09 13 01.1
comp=Z,150nm,19.9s,baz=37,slow=32
comp=Z,2.8nm,0.8s
SOEI **Soe** 61.93 269 P **P** 08 50 35.7 -0.7
SOEI **Soe** 61.93 269 P **P** 08 50 37.7 +1.3
SOEI **Soe** 61.93 269 P **P** 08 50 37.9 +1.5
TNTI **Ternate** 62.33 281 P **P** 08 50 40.8 +1.9
TNTI **Ternate** 62.33 281 P **P** 08 50 40.4 +1.5
comp=Z,70nm,1.4s
BATI **Baumata** 62.38 268 LR LR 09 18 46.2
comp=Z,1µm,18.9s,baz=146,slow=37
SANI **Sanana** 62.63 277 P **P** 08 50 42.7 +1.7
SANI **Sanana** 62.63 277 P **P** 08 50 42.4 +1.4
comp=Z,2µmcomp=Z,2µmcomp=Z,48nm,1.6s
JCJ **Chichijima** 63.33 315 LR LR 09 14 29.7
comp=Z,584nm,19.5s,baz=116,slow=33
PSA00 **Pilbara Seismi** 63.41 255 P **P** 08 50 45.2 -0.9
PSA00 **Pilbara Seismi** 63.41 255 **P** 08 50 45.7 -0.4
PSA00 IAmb IAmb 08 50 49.7
comp=Z,112nm,1.6s
PSA00 **Pilbara Seismi** 63.41 255 P **P** 08 50 47.3 +1.2
MBWA **Marble Bar** 63.59 255 P **P** 08 50 47.6 +0.3
MBWA **Marble Bar** 63.59 255 P **P** 08 50 47.7 +0.4
MEEK **Meekatharra** 63.69 249 P **P** 08 50 48.6 +0.7
NWAO **Narrogin (SRO)** 64.08 242 LR LR 09 17 22.5
comp=Z,1µm,19.0s,baz=92,slow=35
NWAO **Narrogin (SRO)** 64.08 242 P **P** 08 50 52.3 +1.9
NWAO **Narrogin (SRO)** 64.08 242 P **P** 08 50 50.9 +0.5
NWAO pmax pmax
comp=Z,42nm,2.2s
EDFI **Ende, Flores** 64.65 269 P **P** 08 50 54.0 -0.4
comp=Z,2µmcomp=Z,56nm,0.9s
BLDU **Ballidu** 64.80 244 P **P** 08 50 55.9 +0.8
MUN **Mundaring** 65.06 243 P **P** 08 50 57.9 +1.2
AUMAZ **Mazenod Senior** 65.19 243 P **P** 08 50 58.7 +1.1
BASI **Baing, Sumba** 65.30 267 P **P** 08 51 00.8 +2.3
comp=Z,3µmcomp=Z,142nm,1.5s
MORW **Morawa** 65.59 246 P **P** 08 51 00.5 +0.3
MORW IAmb IAmb 08 51 11.0
comp=Z,36nm,0.8s
MORW **Morawa** 65.59 246 P **P** 08 51 01.5 +1.3
DAV **Davao City (W)** 66.37 287 LR LR 09 18 27.7
comp=Z,296nm,18.3s,baz=140,slow=35
WBSI **Waikabubak, Su** 66.58 267 P **P** 08 51 07.6 +0.8
comp=Z,2µmcomp=Z,80nm,1.6s
APSI **Ampana** 67.10 277 P **P** 08 51 12.1 +2.0
comp=Z,2µmcomp=Z,120nm,1.5s
MRSI **Marisa** 67.29 279 P **P** 08 51 11.1 -0.2
comp=Z,2µmcomp=Z,49nm,1.4s
BNSI **Bone** 67.43 273 P **P** 08 51 14.7 +2.5
comp=Z,2µmcomp=Z,67nm,1.3s
KAPI **Kappang** 67.58 272 LR LR 09 18 35.7
comp=Z,235nm,21.5s,baz=103,slow=34
KAPI **Kappang** 67.58 272 P **P** 08 51 15.2 +2.0
KAPI **Kappang** 67.58 272 *i* P **P** 08 51 13.4 +0.2
KAPI pmax pmax
comp=Z,72nm,1.6s
SPSI **Sidrap Palu** 67.89 273 P **P** 08 51 14.7 -0.4
comp=Z,1µmcomp=Z,31nm,1.0s
CASY **Casey** 68.04 205 P **P** 08 51 15.8 +0.6
CASY IAmb IAmb 08 51 30.2
comp=Z,36nm,1.4s
PLAI **Plampang** 68.34 268 P **P** 08 51 18.4 +0.5
PLAI **Plampang** 68.34 268 P **P** 08 51 17.0 -0.9
TOLI2 **Tolitoli** 68.60 279 P **P** 08 51 18.7 -0.8
TOLI2 **Tolitoli** 68.60 279 P **P** 08 51 20.5 +0.9
TWSI **Taliwang, Sumb** 69.21 267 P **P** 08 51 23.5 +0.1
comp=Z,3µmcomp=Z,117nm,0.9s
NIKH **Nikolski High** 71.28 2 IAMs_20 IAMs_20 09 18 54.3
comp=Z,934nm,18.0s
NIKH **Nikolski High** 71.28 2 P **P** 08 51 30.4 -4.7
baz=183
QSPA **South Pole Qui** 71.52 180 IAMs_20 IAMs_20 09 27 24.3
comp=Z,582nm,19.0s
QSPA **South Pole Qui** 71.52 180 P P 08 51 41.7 +5.0
comp=Z,5.0nm,0.7s,baz=121,slow=1.4,SNR=24
QSPA LR LR 09 18 35.6
comp=Z,331nm,20.0s,baz=58,slow=32

comp=Z,5.0nm,0.7s
JAGI **Jajag, Banyuwa** 71.87 267 P **P** 08 51 38.5 -1.1
JAGI **Jajag, Banyuwa** 71.87 267 P **P** 08 51 39.4 -0.2
JAGI **Jajag, Banyuwa** 71.87 267 P **P** 08 51 39.2 -0.4
comp=Z,2µmcomp=Z,75nm,0.8s
SHEM **Shemya Is, Ala** 71.96 351 LR LR 09 18 25.2
comp=Z,550nm,20.7s,baz=121,slow=32
INU **Inuyama** 72.02 318 P **P** 08 51 39.8 -0.2
INU IAmb IAmb 08 53 03.6
comp=Z,66nm,1.7s
MJAR **Matsushiro Arr** 72.04 320 P **P** 08 51 39.1 -1.1
MJAR **Matsushiro Arr** 72.04 320 P **P** 08 51 39.9 -0.2
comp=Z,5.2nm,0.8s,baz=156,slow=5.2,SNR=10.0
comp=Z,5.2nm,0.8s
MAJO **Matsushiro** 72.05 320 *i* P **P** 08 51 39.7 -0.5
MAJO pmax pmax
comp=Z,43nm,1.8s
MYLDM **Lahad Datu** 72.17 282 P **P** 08 51 41.1 -0.2
MYLDM **Lahad Datu** 72.17 282 P **P** 08 51 44.0 +2.7
BBKI **Banjar Baru** 72.71 272 P **P** 08 51 46.7 +2.0
comp=Z,142nm,1.4s
JOW **Kunigami** 73.23 306 LR LR 09 18 35.4
comp=Z,426nm,21.0s,baz=120,slow=32
TGY **Tagaytay City** 73.40 291 LR LR 09 21 02.8
comp=Z,343nm,19.6s,baz=185,slow=34
MNRC **McLaughlin Min** 73.72 38 P **P** 08 51 45.3 -4.8
MNRC IAmb IAmb 08 52 14.5
comp=Z,46nm,1.2s
LPIG **La Paz** 73.77 57 LR LR 09 15 43.9
comp=Z,936nm,21.8s,baz=228,slow=29
KMRM **Mail Ridge** 73.88 37 P **P** 08 51 48.0 -3.0
KMRM IAmb IAmb 08 52 04.1
comp=Z,39nm,0.9s
PFO **Pinyon Flats O** 74.27 46 LR LR 09 16 20.6
comp=Z,568nm,20.6s,baz=238,slow=29
PFO **Pinyon Flats O** 74.27 46 *i* P **P** 08 51 53.9 +0.3
PFO pmax pmax
comp=Z,26nm,1.7s
SKR **Severo-Kuril's** 74.34 340 *e*P **P** 08 51 53.1 -0.2
SKR *e*S **S** 09 01 34.7 +8.2
SKR pmax pmax
comp=Z,400nm,11.0s
NGJI **Ngawi** 74.74 267 P **P** 08 52 00.3 +3.7
comp=Z,65nm,1.2s
PCJI **Pacitan** 74.77 266 P **P** 08 51 58.3 +1.6
CLC **China Lake** 74.81 43 P **P** 08 51 52.3 -4.2
CLC **China Lake** 74.81 43 P **P** 08 51 52.3 -4.2
CLC pmax pmax
comp=Z,27nm,1.4s
BELC **Belle Mtn. Jos** 74.81 46 IAMs_20 IAMs_20 09 20 27.1
comp=Z,619nm,18.0s
BC3 **Big Chuckawall** 74.98 46 P **P** 08 51 53.8 -3.8
WOJI **Wonogiri, Jawa** 75.11 267 P **P** 08 52 01.9 +3.2
comp=Z,96nm,1.5s
YBH **Yreka Blue Hor** 75.45 36 LR LR 09 16 49.1
comp=Z,42nm,21.6s,baz=246,slow=29
HATC **Hat Creek Radi** 75.55 37 P **P** 08 51 57.5 -3.2
HATC IAmb IAmb 08 52 49.4
comp=Z,87nm,1.6s
PET **Petropavlovsk** 75.59 342 *e*P **P** 08 51 59.8 -0.7
PET *e*S **S** 09 01 40.4 +0.1
PET *e*PS 09 02 20.8
PET pmax pmax
comp=Z,500nm,12.2s
PET pmax pmax
comp=Z,300nm,14.7s
PET MLR MLR
comp=Z,300nm,19.0s
NVAR **Mina Array Bea** 75.94 41 P **P** 08 52 05.9 +2.7
comp=Z,2.1nm,0.6s,baz=226,slow=9.6,SNR=25
NVAR LR LR 09 22 21.1
comp=Z,784nm,18.2s,baz=234,slow=33
comp=Z,2.1nm,0.6s
PEA0B **Petropavlovsk-** 75.95 342 *i* P **P** 08 52 01.7 -0.9
PETK **Petropavlovsk-** 75.95 342 P **P** 08 52 02.5 -0.1
comp=Z,14nm,1.0s,baz=114,slow=6.8,SNR=10
PETK LR LR 09 23 24.2
comp=Z,165nm,18.8s,baz=160,slow=34
comp=Z,14nm,1.0s
SII **Sitkinak Islan** 76.34 10 P **P** 08 52 00.8 -4.0
baz=197
YSS **Yuzhno-Sakhali** 76.75 330 P **P** 08 52 08.9 +1.7
YSS **Yuzhno-Sakhali** 76.75 330 *ke*P **P** 08 52 07.2 0.0
YSS *e* 08 54 56.3
YSS *e*S **S** 09 01 53.2 -0.1
YSS *e*SS **SS** 09 06 52.9 +3.0
YSS pmax pmax
comp=Z,500nm,9.5s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS smax smax
comp=N,300nm,9.9s
YSS smax smax
comp=E,300nm,13.9s
STKI **Sintang** 77.02 274 P **P** 08 52 11.0 +1.4
comp=E,94nm,1.8s
R17L **Mt. Peulik Vol** 77.03 9 P **P** 08 52 05.3 -3.4
baz=195
SBUM **Sibu** 77.10 277 P **P** 08 52 09.8 -0.2
SBUM IAmb IAmb 08 52 16.0
comp=Z,40nm,1.6s
SBUM **Sibu** 77.10 277 P **P** 08 52 12.1 +2.1
OHAK **Old Harbor** 77.12 10 P **P** 08 52 06.2 -2.9
baz=198
KPJI **Karang Pucung** 77.15 266 P **P** 08 52 12.6 +2.3
comp=Z,2µmcomp=Z,50nm,1.6s
NACB **Ninganchiao** 77.21 301 P **P** 08 52 12.2 +1.8
R18K **Karluk** 77.26 10 P **P** 08 52 07.4 -2.4
baz=197
TUC **Tucson** 77.54 50 P **P** 08 52 15.3 +3.1
TUC pmax pmax
comp=Z,18nm,1.7s
Q17K **Contact Creek** 77.71 9 P **P** 08 52 09.4 -3.1
baz=196
KDAK **Kodiak Island** 77.78 11 *i* P **P** 08 52 14.3 +1.5
KDAK pmax pmax
comp=Z,110nm,1.6s
KDAK **Kodiak Island** 77.78 11 P **P** 08 52 09.5 -3.3
baz=199
Q16K **King Salmon** 78.00 8 P **P** 08 52 10.5 -3.5
baz=195
O14K **Tigyukauivet M** 78.03 6 P **P** 08 52 11.1 -3.0
baz=190
O15K **Ungalikthiuk R** 78.11 6 P **P** 08 52 11.1 -3.4
baz=192
P16K **Nushagak River** 78.17 7 P **P** 08 52 11.6 -3.4
baz=193
Q18K **Katmai Hardscr** 78.21 9 P **P** 08 52 12.3 -3.0
baz=196
WVOR **Wild Horse Val** 78.22 37 P **P** 08 52 18.6 +2.8
WVOR pmax pmax
comp=Z,14nm,1.1s
BBJI **Bungbulang** 78.32 266 P **P** 08 52 18.8 +1.9
TEY **Ternei** 78.52 326 *de*P **P** 08 52 18.1 +0.9
TEY pmax pmax
comp=N,20nm,7.8s
TEY pmax pmax
comp=Z,50nm,7.8s
LEM **Lembang** 78.54 267 LR LR 09 26 25.1
comp=Z,451nm,20.7s,baz=140,slow=36
KSM **Kuching** 78.58 275 P **P** 08 52 19.9 +1.6
Q20K **Shuyak Island** 78.60 10 P **P** 08 52 14.4 -2.9
baz=199
N14K **Kuskokwak Cree** 78.66 5 P **P** 08 52 14.9 -2.6
baz=190
Q19K **Cape Douglas,** 78.69 10 P **P** 08 52 14.6 -3.3
baz=198
O16K **Kokwok River B** 78.71 7 P **P** 08 52 15.4 -2.4
baz=193
M11K **Mekoryuk** 78.80 3 P **P** 08 52 16.0 -2.3
baz=185
P18K **Big Mountain,** 78.89 9 P **P** 08 52 16.7 -2.2
baz=196
M13K **Dall Lake** 79.01 4 P **P** 08 52 16.7 -2.8
baz=188
O17K **Koliganek Bris** 79.01 8 P **P** 08 52 16.8 -2.7
baz=194,SNR=5.5
N15K **Kwethluk River** 79.05 6 IAMs_20 IAMs_20 09 21 50.2
comp=Z,896nm,19.0s
N15K **Kwethluk River** 79.05 6 P **P** 08 52 17.2 -2.5
baz=191
KSRS **Korea Array** 79.17 316 P **P** 08 52 22.5 +1.6
comp=Z,4.4nm,0.8s,baz=128,slow=6.0,SNR=13
comp=Z,4.4nm,0.8s
KSAR **Wonju Array Be** 79.19 316 P **P** 08 52 19.2 -1.8
KSAR **Wonju Array Be** 79.19 316 P **P** 08 52 19.2 -1.8
ELK **Elko** 79.22 40 LR LR 09 25 16.7

comp=Z,913nm,18.1s,baz=240,slow=34
O18K Koktuh Hills 79.34 9 P P 08 52 19.1 -2.3
baz=196
DBJI Dramaga 79.45 267 P P 08 52 24.2 +1.1
P19K Oil Pt 79.45 10 P P 08 52 18.5 -3.5
P19K IAmb IAmb 08 52 53.3
comp=Z,37nm,1.0s
P19K Oil Pt 79.45 10 P P 08 52 18.7 -3.3
baz=198
M14K Bethel 79.45 5 P P 08 52 18.9 -3.0
M14K IAmb IAmb 08 52 26.6
comp=Z,70nm,1.4s
M14K Bethel 79.45 5 P P 08 52 19.3 -2.6
baz=190
N16K Nishlik Lake 79.49 7 P P 08 52 18.8 -3.4
baz=193
M15K Kasigluk River 79.51 6 P P 08 52 19.5 -2.7
baz=191
TYV Tymovskoe 79.64 333 *e*P **P 08 52 25.0 +1.8**
TYV *e*S **S 09 02 26.2 +1.9**
TYV pmax pmax
comp=Z,200nm,2.9s
TYV pmax pmax
comp=Z,16nm,1.4s
TYV smax smax
comp=N,500nm,6.6s
TYV smax smax
comp=E,400nm,6.6s
HOM Homer 79.72 10 P P 08 52 20.6 -2.8
baz=199
N17K Nushagak Hills 79.73 8 P P 08 52 20.6 -2.8
baz=194
TPI Tanjungpandan 79.75 271 P P 08 52 26.3 +1.6
comp=E,2µmcomp=E,2µmcomp=E,41nm,1.8s
O19K Port Alsworth 79.80 9 P P 08 52 21.2 -2.6
baz=197
BRSE Bradley Lake S 79.95 11 P P 08 52 21.6 -3.1
baz=200
O20K Slope Mountain 79.95 10 P P 08 52 20.4 -4.4
baz=198
L14K Kuka Creek 79.98 5 P P 08 52 22.1 -2.7
baz=189
M16K Timber Creek 80.01 7 P P 08 52 22.1 -2.9
baz=192,SNR=6.7
N18K Kilae Creek 80.04 8 P P 08 52 22.4 -2.8
baz=195
BBB Bella Bella 80.20 26 LR LR 09 21 26.3
comp=E,284nm,18.8s,baz=234,slow=31
N19K Bonanza Creek 80.37 9 P P 08 52 24.3 -2.8
baz=197,SNR=5.3
L15K Ungalak Mounta 80.41 5 P P 08 52 25.3 -1.8
baz=190
DUG Dugway, Tooele 80.42 42 IAMs_20 IAMs_20 09 27 19.4
comp=Z,806nm,18.0s
DUG Dugway, Tooele 80.42 42 P P 08 52 30.7 +2.8
DUG pmax pmax
comp=Z,11nm,1.4s
CGJI Cibinong 80.43 266 P P 08 52 29.9 +1.6
K13K Kusilvak Mount 80.43 4 P P 08 52 25.1 -2.1
baz=187
SEW Seward 80.53 11 P P 08 52 25.5 -2.3
baz=202
Q23K Middleton Isla 80.53 13 P P 08 52 24.4 -3.3
baz=204
M17K Holitna River 80.55 7 P P 08 52 24.5 -3.4
baz=194
L16K Owhat River 80.63 6 P P 08 52 24.5 -3.8
baz=192
O22K Cooper Landing 80.83 11 P P 08 52 25.8 -3.5
baz=201
P23K Montague Islan 80.83 12 P P 08 52 25.8 -3.6
baz=203
CRAG Craig 80.83 21 P P 08 52 25.0 -4.5
baz=217
M18K Stony River 80.84 8 P P 08 52 26.3 -3.1
baz=195
CAPN Captain Cook N 80.85 10 P P 08 52 26.2 -3.2
baz=200
UNM Universidad Na 80.97 66 IAMs_20 IAMs_20 09 22 38.5
comp=Z,835nm,19.0s
D08A Wollman Farm, 80.98 34 P P 08 52 26.3 -4.2
K15K Wolf Creek Mou 81.01 5 P P 08 52 27.5 -2.8
baz=190
SPCR Spurr Chakacha 81.08 10 P P 08 52 28.4 -2.5
baz=199
L17K Donlin 81.17 7 P P 08 52 28.0 -3.1
baz=193,SNR=8.0
J14K Nanvaranak Lak 81.31 4 IAMs_20 IAMs_20 09 26 07.3
comp=Z,725nm,19.0s
J14K Nanvaranak Lak 81.31 4 P P 08 52 29.8 -2.1
baz=188
RC01 Rabbit Creek A 81.39 11 P P 08 52 30.0 -2.4
baz=201
KAIM Kayak Island 81.40 14 P P 08 52 29.5 -3.0
baz=206
M19K Big River Lodg 81.43 8 P P 08 52 30.4 -2.2
baz=197
L18K Granite Mounta 81.43 7 P P 08 52 30.2 -2.4
baz=194
PWL Port Wells 81.44 12 P P 08 52 29.8 -2.8
baz=202
TXAR Lajitas Array 81.46 55 P P 08 52 37.1 +3.5
comp=Z,6.1nm,1.0s,baz=223,slow=5.1,SNR=39
TXAR LR LR 09 25 40.2
comp=Z,250nm,18.6s,baz=236,slow=33
comp=Z,6.1nm,1.0s
L19K White Mountain 81.63 8 P P 08 52 31.7 -2.0
baz=196
GLI Glacier Island 81.70 12 P P 08 52 31.9 -2.1
baz=204
K17K Iditarod 81.73 6 P P 08 52 32.0 -2.1
baz=193
KASI Kota Agung 81.89 267 P P 08 52 37.4 +1.3
comp=Z,1µmcomp=Z,111nm,1.2s
SKT Skwentna 81.93 10 P P 08 52 32.8 -2.4
baz=199
KNK Knik Glacier 81.93 11 P P 08 52 32.8 -2.5
baz=202
M22K Willow 81.95 10 P P 08 52 32.0 -3.2
baz=201
S32K Kilisnoo 81.96 19 P P 08 52 33.0 -2.4
baz=216
T33K Petersburg 81.97 21 P P 08 52 33.2 -2.2
baz=217
PMR Palmer 81.97 11 P P 08 52 32.2 -3.2
baz=202
ANMO Albuquerque 81.98 49 LR LR 09 24 06.0
comp=Z,538nm,18.1s,baz=332,slow=32
ANMO Albuquerque 81.98 49 *ce*P **P 08 52 37.0 +0.6**
ANMO pmax pmax
comp=Z,11nm,1.7s
GAMB Gambell 82.05 0 P P 08 52 33.5 -2.3
baz=180
J16K Anvik River 82.07 5 IAMs_20 IAMs_20 09 26 55.1
comp=Z,583nm,20.0s
J16K Anvik River 82.07 5 P P 08 52 33.3 -2.6
baz=191,SNR=8.2
MESA MESA 82.20 15 P P 08 52 33.6 -3.3
baz=208
BMRM Bremner River 82.30 13 P P 08 52 34.2 -3.0
baz=206
SML Sawmill 82.32 11 P P 08 52 34.5 -2.9
baz=202
J17K VABM Dome 82.32 6 P P 08 52 34.9 -2.3
baz=192
GRNR Gornyy 82.41 330 *e*P **P 08 52 39.9 +1.9**
M23K Glacier View 82.42 11 P P 08 52 35.0 -2.8
baz=203
PMBI Palembang 82.43 269 IAMs_20 IAMs_20 09 28 10.7
comp=Z,516nm,20.0s
CRQE Cirque 82.44 14 P P 08 52 34.9 -3.2
baz=207
LWLI Liwa 82.46 267 P P 08 52 41.0 +1.7
KLU Klutina 82.50 12 P P 08 52 35.3 -2.9
baz=205
MDSI Maura Dua 82.51 268 P P 08 52 39.2 -0.2
comp=Z,2µmcomp=Z,35nm,0.8s
SCM Sheep Creek Mo 82.53 12 P P 08 52 35.7 -2.8
baz=203
CUT Chulitna 82.53 10 P P 08 52 35.9 -2.5
baz=201
PINM Pinnacle 82.55 16 P P 08 52 35.2 -3.4
baz=210
H03S2 Juan Fernandez 82.56 123 T T 10 23 33.5
baz=250,slow=75,SNR=19
H03S1 Juan Fernandez 82.57 123 T T 10 23 37.5
baz=250,slow=75,SNR=16
H03S3 Juan Fernandez 82.57 123 T T 10 23 38.7
baz=250,slow=75,SNR=17
R32K Eaglecrest 82.64 19 P P 08 52 35.8 -3.2
baz=216
J18K Innoko River 82.64 7 P P 08 52 36.5 -2.4
baz=194,SNR=8.8
I17K Unalakleet 82.65 5 P P 08 52 36.6 -2.3
I17K IAmb IAmb 08 53 31.3
comp=Z,30nm,1.4s
I17K Unalakleet 82.65 5 P P 08 52 36.6 -2.3
baz=191
H03N2 Juan Fernandez 82.67 123 T T 10 23 40.2
baz=258,slow=72,SNR=31
H03N3 Juan Fernandez 82.67 123 T T 10 23 41.2
baz=258,slow=72,SNR=24
NEW Newport 82.68 34 LR LR 09 23 09.5
comp=Z,963nm,19.6s,baz=230,slow=31
H03N1 Juan Fernandez 82.69 123 T T 10 23 36.2
baz=258,slow=72,SNR=22
PPLA Purkeypile 82.69 9 P P 08 52 36.4 -2.9
baz=199
USHA Ushuaia 82.71 145 LR LR 09 21 28.3
comp=Z,360nm,21.3s,baz=252,slow=30
VRDI Verde Repeater 82.78 14 P P 08 52 36.0 -4.0
VRDI IAmb IAmb 08 52 50.6
comp=Z,62nm,1.4s
P29M Windy Craggy 82.82 17 P P 08 52 36.3 -3.7
baz=212
N25K Chitina, Valde 82.87 13 P P 08 52 37.1 -3.2
baz=206
NJ2 Nanjing 82.93 307 *e*P **P 08 52 40.3 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
M24K Tolsona, Glenn 83.00 12 P P 08 52 37.2 -3.7
baz=204
ANM Nome 83.01 3 P P 08 52 38.8 -2.0
baz=186
MCARA McCarthy VSAT 83.02 14 P P 08 52 38.0 -2.9
baz=207
T35M Bob Quinn 83.02 22 P P 08 52 37.5 -3.5
baz=219
CTG Chitna Glacier 83.04 15 P P 08 52 38.7 -2.5
baz=209
CTGM Chitina Glacie 83.04 15 IAMs_20 IAMs_20 09 30 27.4
comp=Z,788nm,18.0s
PLBC Pleasant Camp 83.06 18 P P 08 52 38.3 -2.8
baz=214
WAT6 Susitna Watana 83.14 11 P P 08 52 39.3 -2.4
baz=203,SNR=9.0
O28M Mount Upton 83.15 15 P P 08 52 38.5 -3.4
baz=210
O29M Mount Kennedy 83.16 16 P P 08 52 38.6 -3.3
baz=212
WAT1 Susitna Watana 83.22 11 P P 08 52 39.2 -2.8
baz=202
H16K Elim 83.28 4 P P 08 52 39.4 -2.8
baz=189
J19K Poorman 83.28 7 IAMs_20 IAMs_20 09 25 29.8
comp=Z,651nm,19.0s
J19K Poorman 83.28 7 P P 08 52 40.0 -2.2
baz=196
LHSI Lahat 83.34 268 P P 08 52 46.1 +2.4
comp=Z,66nm,1.3s
SKAG Skagway 83.36 18 P P 08 52 39.9 -2.8
baz=215
DSRI Dabo 83.38 272 P P 08 52 45.5 +1.6
comp=Z,87nm,1.3s
S34M Telegraph Cree 83.44 21 P P 08 52 39.1 -4.0
baz=219
P30M Million Dollar 83.45 17 P P 08 52 40.1 -3.1
baz=213
HARP HAARP 83.47 12 P P 08 52 40.3 -3.0
baz=205
MA2 Magadan 83.48 342 LR LR 09 25 37.7
comp=Z,179nm,20.8s,baz=151,slow=33
TRF Thorofare Moun 83.51 10 P P 08 52 39.9 -3.7
baz=200,SNR=5.8
G15K Niukluk 83.51 3 P P 08 52 40.9 -2.4
baz=187
CHUM Lake Minchumin 83.61 9 P P 08 52 41.0 -2.9
baz=199
J20K Nowinta River 83.64 8 P P 08 52 41.1 -2.9
baz=197
DHY Denali Highway 83.66 11 P P 08 52 40.6 -3.8
baz=203
YUK8 Steele Glacier 83.70 15 P P 08 52 41.3 -3.4
baz=210
H17K Granite Mounta 83.75 5 P P 08 52 42.3 -2.3
baz=191
YUK6 Outpost Mounta 83.76 16 P P 08 52 41.4 -3.6
baz=212
GCSA Galena City Sc 83.86 7 P P 08 52 42.8 -2.3
baz=194
PDAR Pinedale Array 83.87 41 P P 08 52 48.1 +2.0
comp=Z,4.7nm,0.7s,baz=210,slow=3.2,SNR=35
PDAR LR LR 09 27 05.8
comp=Z,290nm,18.0s,baz=230,slow=33
comp=Z,4.7nm,0.7s
F14K Arctic Creek 83.88 2 P P 08 52 43.4 -1.9
baz=185
HYT Haines Junctio 83.89 16 P P 08 52 42.1 -3.5
baz=213
Q32M Nakina River 83.89 20 P P 08 52 42.2 -3.5
baz=218
CMIG Matias Romero 83.90 70 LR LR 09 23 24.7
comp=Z,961nm,18.1s,baz=216,slow=31
TNA Tin City 83.91 2 P P 08 52 43.2 -2.2
baz=184
PAX Paxson 83.93 12 P P 08 52 42.1 -3.5
baz=205
M26K Nabesna, AK 83.93 13 P P 08 52 42.6 -3.0
baz=207,SNR=9.2
P32M Atlin 83.95 19 P P 08 52 42.4 -3.4
baz=216
MCK McKinley 84.00 10 P P 08 52 43.8 -2.1
baz=202,SNR=8.2
BPAW Bear Paw Mtn. 84.01 9 P P 08 52 44.2 -1.8
baz=200
G16K Koyuk River 84.02 4 IAMs_20 IAMs_20 09 27 59.8
comp=Z,679nm,19.0s
G16K Koyuk River 84.02 4 P P 08 52 43.1 -2.8
baz=189
YUK4 Talbot Arm 84.03 16 P P 08 52 43.0 -3.4
baz=212
BNX BinXian 84.09 322 ⇓P **P 08 52 48.3 +1.5**
BNX pP **pP 08 52 51.8 -0.5**
BNX PP **PP 08 55 58.3 -2.9**
BNX S **S 09 03 12.3 +1.9**
BNX sS **pS 09 03 17.6 +0.7**
BNX SS **SS 09 08 41.8 +2.0**
BNX pmax pmax
comp=Z,12nm,1.1s
BNX pmax pmax
comp=Z,720nm,6.5s
BNX LR LR
comp=Z,140nm,13.6s
BNX LR LR
comp=Z,180nm,15.7s
BNX LR LR
comp=Z,360nm,19.5s
H18K Honhosa River 84.11 6 IAMs_20 IAMs_20 09 27 12.0
comp=Z,719nm,21.0s
H18K Honhosa River 84.11 6 P P 08 52 43.9 -2.6
baz=193
M27K Edge Creek, AK 84.14 14 P P 08 52 43.8 -3.0
baz=208,SNR=10
DL2 Dalian 84.16 314 P P 08 52 49.5 +2.2
DL2 S **S 09 03 15.6 +4.3**
DL2 pmax pmax
comp=Z,19nm,0.9s
DL2 LR LR
comp=Z,230nm,19.7s
DL2 LR LR
comp=Z,280nm,15.8s
DL2 LR LR
comp=Z,420nm,18.0s
F15K North Star Dit 84.19 3 IAMs_20 IAMs_20 09 27 35.6
comp=Z,657nm,20.0s
F15K North Star Dit 84.19 3 P P 08 52 44.0 -2.8
baz=187
I20K Naghedeneel 84.19 8 P P 08 52 44.7 -2.1
baz=196
CN2 Changchun 84.19 320 *e*P **P 08 52 48.9 +1.6**
CN2 *e*S **S 09 03 11.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,800nm,6.5s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,15.6s
DLBC Dease Lake 84.22 21 LR LR 09 30 04.5
comp=Z,2µm,18.1s,baz=210,slow=36
DLBC Dease Lake 84.22 21 P P 08 52 43.1 -4.1
baz=220
MSTX Muleshoe 84.22 51 IAMs_20 IAMs_20 09 25 50.5
comp=Z,637nm,19.0s
O30N Mendenhall 84.23 17 P P 08 52 44.1 -3.1
baz=214
G17K Kiwalik Mounta 84.25 5 P P 08 52 44.3 -2.9
baz=191
SNY Shenyang 84.33 317 ⇓P **P 08 52 50.4 +2.3**
SNY pmax pmax
comp=Z,11nm,1.0s
L26K Log Cabin Wild 84.41 13 P P 08 52 44.2 -3.8
baz=207,SNR=6.3
WHY Whitehorse 84.48 17 P P 08 52 45.3 -3.2
baz=215
N30M Aishikik Lake 84.53 16 P P 08 52 45.3 -3.4
baz=213
R33M Jennings River 84.65 20 P P 08 52 45.8 -3.7
baz=219
H19K Roundabout Mou 84.67 7 IAMs_20 IAMs_20 09 27 45.7
comp=Z,578nm,20.0s
H19K Roundabout Mou 84.67 7 P P 08 52 47.0 -2.2
baz=195
P33M Teslin, Yukon 84.72 19 P P 08 52 46.4 -3.3
baz=217
BTDF Bukit Timah Da 84.73 273 P P 08 52 51.4 +0.6
RIDG Independent Ri 84.75 12 P P 08 52 46.1 -3.7
baz=206,SNR=6.6
L27K Beaver Creek, 84.77 13 P P 08 52 46.9 -3.0
baz=208
MASI Maura Aman, Be 84.77 268 P P 08 52 52.9 +1.9
NEA2 Nenana 84.77 10 IAMs_20 IAMs_20 09 34 41.9
comp=Z,786nm,18.0s
NEA2 Nenana 84.77 10 P P 08 52 46.5 -3.3
baz=202
MYKOM Kota Tinggi 84.79 274 P P 08 52 53.1 +2.0
G18K Tagagawik 84.81 6 P P 08 52 47.8 -2.1
baz=193
I21K Tanana 84.89 8 P P 08 52 48.4 -2.0
baz=199
N31M Braeburn, Yuko 84.91 17 P P 08 52 47.9 -2.7
baz=214
MLY Manley 84.92 9 P P 08 52 47.8 -2.8
baz=200
ISCO Idaho Springs 84.93 45 P P 08 52 52.9 +1.3
ISCO pmax pmax
comp=Z,9.0nm,0.9s
HDA Harding Lake 84.96 11 IAMs_20 IAMs_20 09 35 02.8
comp=Z,830nm,19.0s
HDA Harding Lake 84.96 11 P P 08 52 48.0 -2.8
baz=204,SNR=6.6
JCT Junction City 84.98 56 IAMs_20 IAMs_20 09 23 03.8
comp=Z,564nm,20.0s
M29M Somme Creek 85.02 15 P P 08 52 47.9 -3.3
baz=212,SNR=5.8
QIZ Qiongzhong 85.10 292 P P 08 52 54.0 +1.5
QIZ S **S 09 03 22.9 +1.3**
QIZ LR LR
comp=Z,250nm,23.3s
QIZ LR LR
comp=Z,380nm,24.9s
QIZ LR LR
comp=Z,490nm,26.9s
SCRK Sand Creek 85.13 12 P P 08 52 48.4 -3.3
baz=206,SNR=5.6
F17K Baldwin Pennin 85.13 4 P P 08 52 49.2 -2.3
baz=190
MAW Mawson 85.18 198 P P 08 52 53.3 +1.3
comp=Z,3.0nm,0.7s,baz=119,slow=8.4,SNR=7.1
MAW LR LR 09 29 25.6
comp=Z,217nm,20.2s,baz=112,slow=35
comp=Z,3.0nm,0.7s
H21K Melozitna Rive 85.23 8 IAMs_20 IAMs_20 09 27 55.3
comp=Z,520nm,19.0s
H21K Melozitna Rive 85.23 8 P P 08 52 49.6 -2.5
baz=198
COLA College 85.23 10 P P 08 52 53.0 +0.9
COLA College 85.23 10 *i* P **P 08 52 52.0 -0.1**
COLA pmax pmax
comp=Z,75nm,1.5s
COLA College 85.23 10 P P 08 52 49.1 -2.9
baz=203
I23K Minto, Yukon-K 85.25 9 P P 08 52 50.0 -2.1
baz=201
ILAR Eielson Array 85.31 11 P P 08 52 53.2 +0.8
comp=Z,4.6nm,0.9s,baz=221,slow=4.7,SNR=41
ILAR LR LR 09 31 46.0
comp=Z,184nm,18.1s,baz=188,slow=36
comp=Z,4.6nm,0.9s
N32M Quiet Lake 85.39 18 P P 08 52 49.8 -3.3
baz=217
F18K Selawik 85.41 5 P P 08 52 50.2 -2.7
baz=192
J25K Salcha River, 85.44 11 P P 08 52 50.7 -2.6
baz=205
POKR Poker Plat Res 85.53 10 P P 08 52 51.0 -2.6
baz=203
M30M Minto, Yukon 85.55 16 P P 08 52 50.9 -2.8
baz=213,SNR=5.9
K27K Chicken 85.56 13 P P 08 52 50.9 -2.9
baz=208
H22K Ishtalitna Cre 85.65 8 P P 08 52 51.4 -2.8
baz=199
L29M L29M 85.66 15 P P 08 52 51.4 -2.9
baz=212,SNR=15
J26L Joseph Creek 85.68 12 P P 08 52 51.7 -2.7
baz=207,SNR=18
E17K Hotham Inlet 85.72 4 P P 08 52 51.7 -2.8
baz=190
WHN Wuhan 85.76 304 ⇓P **P 08 52 56.1 +0.6**
WHN S **S 09 03 29.6 +1.9**
WHN LR LR
comp=Z,2µm,23.5s
F19K Shaleruckik Mo 85.81 6 P P 08 52 52.2 -2.7
baz=193
SEY Seymchan 85.83 345 LR LR 09 26 15.9
comp=Z,181nm,21.2s,baz=153,slow=32
SEY Seymchan 85.83 345 *e*P **P 08 52 54.4 -0.7**
SEY pmax pmax
comp=Z,24nm,1.3s
H23K Yukon River 85.85 9 P P 08 52 52.3 -2.9
baz=201
M31M Drury Creek, Y 85.87 17 P P 08 52 51.4 -4.0
baz=215
CNSH ChangSha 85.95 301 P P 08 52 59.5 +3.0
G21K Allakaket 85.96 7 P P 08 52 52.7 -3.0
baz=197
TIA Tai'an 86.07 310 P P 08 53 00.8 +3.8
TIA S **S 09 03 29.1 -1.4**
TIA pmax pmax
comp=Z,19nm,1.7s
TIA LR LR
comp=Z,180nm,17.3s
TIA LR LR
comp=Z,380nm,18.0s
TIA LR LR
comp=Z,600nm,19.4s
H24K Noodor Dome 86.12 10 IAMs_20 IAMs_20 09 25 16.5
comp=Z,710nm,19.0s
E18K Tukpahlearik C 86.14 4 IAMs_20 IAMs_20 09 29 07.0
comp=Z,561nm,19.0s
E18K Tukpahlearik C 86.14 4 P P 08 52 53.7 -2.8
baz=191
DAWY Dawson 86.18 14 P P 08 52 53.4 -3.6
baz=211,SNR=19
TOAD Toad River Com 86.20 22 P P 08 52 53.7 -3.4
baz=224,SNR=10.0
F20K Avaraart Lake 86.22 6 IAMs_20 IAMs_20 09 28 46.7
comp=Z,606nm,19.0s
F20K Avaraart Lake 86.22 6 P P 08 52 53.8 -3.1
baz=195
PRP Porcupine Dome 86.23 11 P P 08 52 54.5 -2.8
baz=205
D17K Noatak River 86.26 3 P P 08 52 54.3 -2.8
baz=188
EGAK Eagle 86.42 13 P P 08 52 55.4 -2.5
baz=209,SNR=9.0
K29M Barlow Dome 86.43 15 P P 08 52 55.1 -3.1
baz=212,SNR=12
E19K Redstone River 86.47 6 IAMs_20 IAMs_20 09 28 36.3
comp=Z,616nm,20.0s

E19K	**Redstone River**	86.47	6	P	P	08 52 55.8	-2.4	
	baz=194							
I26K	**Coal Creek Min**	86.48	12	P	P	08 52 55.9	-2.4	
	baz=207,SNR=15							
PLCA	**Paso Flores**	86.59	132	LR	LR	09 23 54.9		
	comp=Z,350nm,20.5s,baz=256,slow=30							
G22K	**Bettles**	86.60	8	P	P	08 52 56.3	-2.5	
	baz=199							
G23K	**Bananza Creek**	86.61	9	P	P	08 52 56.3	-2.7	
	baz=201							
RDOG	**Red Dog Mine**	86.62	4	IAMs_20	IAMs_20	09 28 33.8		
	comp=Z,570nm,20.0s							
RDOG	**Red Dog Mine**	86.62	4	P	P	08 52 55.8	-3.1	
	baz=188							
HEH	**HeiHe**	86.62	326	*e*P	P	08 53 00.4	+1.1	
HEH				pP	pP	08 53 03.6	-1.2	
HEH				PP	PP	08 56 20.4	-1.3	
HEH				S	S	09 03 32.8	-2.4	
HEH				pmax	pmax			
	comp=Z,21nm,1.5s							
HEH				pmax	pmax			
	comp=Z,700nm,6.5s							
HEH				LR	LR			
	comp=Z,330nm,15.4s							
HEH				LR	LR			
	comp=Z,220nm,17.0s							
HEH				LR	LR			
	comp=Z,410nm,17.9s							
MAYO	**Mayo, Yukon**	86.62	15	P	P	08 52 56.3	-2.8	
	baz=214							
F21K	**Alatna River**	86.64	7	P	P	08 52 55.8	-3.2	
	baz=197							
C16K	**Lisburne Hills**	86.72	3	P	P	08 52 56.8	-2.6	
	baz=186							
J29N	**Klondike Camp**	86.78	14	P	P	08 52 56.6	-3.3	
	baz=212							
H25L	**Birch Creek**	86.86	10	P	P	08 52 57.0	-3.0	
	baz=205							
GULI	**GuiLin**	86.95	298	P	P	08 53 04.3	+2.8	
GULI				pmax	pmax			
	comp=Z,32nm,1.5s							
G24K	**Hadweenzic Riv**	86.98	10	IAMs_20	IAMs_20	09 36 30.3		
	comp=Z,742nm,18.0s							
G24K	**Hadweenzic Riv**	86.98	10	P	P	08 52 57.7	-3.0	
	baz=203							
I27K	**Kandik River**	87.05	12	P	P	08 52 58.4	-2.7	
	baz=209							
COLD	**Coldfoot**	87.07	8	P	P	08 52 58.3	-2.8	
	baz=200							
F22K	**John River**	87.07	8	P	P	08 52 58.3	-2.8	
	baz=199							
APG	**El Apazote**	87.14	73	LR	LR	09 24 11.8		
	comp=Z,43nm,19.2s,baz=270,slow=30							
TGTN	**Hyland Airport**	87.15	19	P	P	08 52 58.5	-3.1	
	baz=221							
PDSI	**Padang**	87.15	270	P	P	08 53 01.9	-0.9	
	comp=Z,56nm,0.9s							
I28M	**Miner Creek**	87.26	13	P	P	08 52 59.0	-3.3	
	baz=210,SNR=8.5							
G25K	**Bearman Lake**	87.26	10	P	P	08 52 59.0	-3.0	
	baz=204							
C18K	**Utukok River**	87.31	4	P	P	08 52 58.7	-3.7	
	baz=190							
J30M	**Hart River**	87.33	15	P	P	08 52 59.2	-3.4	
	baz=214							
E20K	**Nigu River**	87.34	6	P	P	08 52 59.0	-3.5	
	baz=195							
D19K	**Kuna River**	87.40	5	P	P	08 53 00.1	-2.7	
	baz=193							
WMOK	**Wichita Mounta**	87.53	52	P	P	08 53 05.7	+1.6	
WMOK				pmax	pmax			
	comp=Z,12nm,2.0s							
I29M	**Ogilvie Camp,**	87.54	14	P	P	08 53 00.3	-3.2	
	baz=212,SNR=8.5							
KOTAN	**Kotaneelee Air**	87.54	22	P	P	08 52 59.9	-3.6	
	baz=225							
H27K	**Steamboat Moun**	87.61	12	P	P	08 53 00.9	-2.9	
	baz=209							
F24K	**Squaw Lake**	87.67	9	P	P	08 53 00.7	-3.4	
	baz=203							
E22K	**Anaktuvuk Pass**	87.71	8	IAMs_20	IAMs_20	09 37 06.9		
	comp=Z,642nm,18.0s							
E22K	**Anaktuvuk Pass**	87.71	8	P	P	08 53 01.2	-3.1	
	baz=199							
D20K	**Etivluk River**	87.75	6	P	P	08 53 02.4	-1.9	
	baz=194							
E21K	**Killik River**	87.75	7	IAMs_20	IAMs_20	09 27 12.1		
	comp=Z,631nm,19.0s							
E21K	**Killik River**	87.75	7	P	P	08 53 01.6	-2.8	
	baz=197							
BILL	**Bilibino**	87.76	352	IAMs_20	IAMs_20	09 27 30.0		
	comp=Z,457nm,20.0s							
G26K	**Porcupine Rive**	87.83	11	P	P	08 53 02.7	-2.1	
	baz=206							
I30M	**Mount Dempster**	87.86	14	P	P	08 53 01.9	-3.2	
	baz=213							
C19K	**Lookout Ridge**	87.88	5	P	P	08 53 03.1	-1.9	
	baz=192							
HKT	**Hockley**	87.91	58	IAMs_20	IAMs_20	09 29 49.7		
	comp=Z,756nm,19.0s							
HKT	**Hockley**	87.91	58	P	P	08 53 07.9	+2.0	
HKT				pmax	pmax			
	comp=Z,55nm,1.6s							
E23K	**Chandalar**	87.93	8	P	P	08 53 03.0	-2.4	
	baz=201							
F25K	**Christian Rive**	88.09	10	P	P	08 53 03.4	-2.8	
	baz=205							
G27K	**Doyon Strip**	88.10	12	P	P	08 53 03.8	-2.3	
	baz=208							
E24K	**Your Creek**	88.10	9	IAMs_20	IAMs_20	09 39 34.0		
	comp=Z,608nm,18.0s							
E24K	**Your Creek**	88.10	9	P	P	08 53 03.8	-2.4	
	baz=202							
H29M	**Whitestone**	88.25	13	P	P	08 53 04.4	-2.5	
	baz=212							
OK038	**West end E0370**	88.28	51	IAMs_20	IAMs_20	09 25 59.8		
	comp=Z,893nm,22.0s							
D22K	**Ayikyak River**	88.32	7	P	P	08 53 05.3	-1.7	
	baz=198							
IPM	**Ipoh**	88.32	275	P	P	08 53 09.8	+1.4	
HNS	**HongShan**	88.33	310	⇑P	P	08 53 08.9	+1.1	
HNS				S	S	09 03 44.9	-7.3	
HNS				pmax	pmax			
	comp=Z,14nm,0.8s							
HNS				LR	LR			
	comp=Z,360nm,16.5s							
HNS				LR	LR			
	comp=Z,250nm,17.1s							
HNS				LR	LR			
	comp=Z,370nm,18.2s							
C21K	**Knifeblade Rid**	88.35	6	P	P	08 53 04.7	-2.5	
	baz=196							
BJT	**Baijiatuau**	88.42	313	P	P	08 53 10.6	+2.4	
BJT				pmax	pmax			
	comp=Z,25nm,1.6s							
BJI	**Beijing**	88.42	313	P	P	08 53 05.3	-2.9	
BJI				PP	PP	08 56 35.0	-1.4	
BJI				SKS	SKSac	09 03 31.3	-5.0	
BJI				sS	ScS	09 03 58.5	-0.2	
BJI				pmax	pmax			
	comp=Z,7.0nm,1.4s							
BJI				pmax	pmax			
	comp=Z,360nm,4.3s							
BJI				LR	LR			
	comp=Z,100nm,17.9s							
BJI				LR	LR			
	comp=Z,130nm,18.4s							
BJI				LR	LR			
	comp=Z,180nm,17.4s							
F26K	**Sheenjek River**	88.44	10	P	P	08 53 05.2	-2.5	
	baz=206							
TOLK	**Toolik Lake Re**	88.48	8	P	P	08 53 05.3	-2.6	
	baz=201							
CBKS	**Cedar Bluff**	88.54	48	IAMs_20	IAMs_20	09 28 56.6		
	comp=Z,718nm,20.0s							
E25K	**Arctic Village**	88.58	10	P	P	08 53 06.1	-2.3	
	baz=205							
D23K	**Nanushuk River**	88.64	8	P	P	08 53 05.8	-2.8	
	baz=200							
ZEA	**Zeya**	88.67	329	*e*P	P	08 53 10.9	+1.8	
ZEA				*e*S	S	09 04 01.4	+6.7	
ZEA				pmax	pmax			
	comp=N,100nm,5.4s							
ZEA				pmax	pmax			
	comp=Z,300nm,9.3s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.1s							
ZEA				smax	smax			
	comp=N,200nm,9.5s							
EPYK	**Eagle Plains**	88.74	14	P	P	08 53 06.4	-2.8	
	baz=213,SNR=7.1							
B21K	**Ikpikpuk River**	88.82	6	P	P	08 53 06.7	-2.7	
	baz=196							
H31M	**Peel River**	88.82	15	P	P	08 53 07.1	-2.5	
	baz=215							
LYN	**LuoYang**	88.83	307	P	P	08 53 15.8	+5.5	
LYN				pP	pwP	08 53 21.6	+2.3	
LYN				S	S	09 03 47.3	-10	
LYN				sS	sS	09 04 11.6	+4.9	
LYN				pmax	pmax			
	comp=N,32nm,1.2s							
LYN				LR	LR			
	comp=N,450nm,18.6s							
LYN				LR	LR			
	comp=N,270nm,19.2s							
LYN				LR	LR			
	comp=N,700nm,20.6s							
G29M	**Pine Creek**	88.92	13	P	P	08 53 07.0	-2.9	
	baz=212							
KULM	**Kulim**	88.93	276	P	P	08 53 12.6	+1.4	
D24K	**Happy Valley**	89.06	8	P	P	08 53 08.0	-2.5	
	baz=202							
F28M	**Old Crow**	89.14	12	IAMs_20	IAMs_20	09 37 14.1		
	comp=Z,659nm,20.0s							
F28M	**Old Crow**	89.14	12	P	P	08 53 08.0	-3.0	
	baz=210							
PEL	**Peldehue**	89.28	125	P	P	08 53 16.9	+4.2	
PEL				pmax	pmax			
	comp=Z,35nm,2.7s							
E27K	**Coleen River**	89.32	11	P	P	08 53 08.7	-3.1	
	baz=209							
G30M	**tAoh Zraii Nji**	89.36	13	P	P	08 53 08.9	-3.2	
	baz=214							
C23K	**Itkillik River**	89.47	7	P	P	08 53 10.2	-2.2	
	baz=200							
D25K	**Kavik River**	89.56	9	IAMs_20	IAMs_20	09 27 59.5		
	comp=Z,740nm,20.0s							
D25K	**Kavik River**	89.56	9	P	P	08 53 10.1	-2.9	
	baz=204							
C24K	**Franklin Bluff**	89.60	8	P	P	08 53 10.1	-2.9	
	baz=202							
TROLL	**Troll, Antarti**	89.61	178	⇓P	P	08 53 16.1	+2.5	
	comp=Z,362nm,1.1s							
B22K	**Teshekpuk Lake**	89.63	6	P	P	08 53 10.0	-3.2	
	baz=197							
VNA3	**Neumayer Olymp**	89.64	174	⇓P	P	08 53 16.1	+2.6	
	comp=Z,4.4nm,0.8s							
SNAA	**Sanae**	89.72	177	⇓P	P	08 53 13.2	-0.8	
	comp=Z,124nm,1.0s							
SNAA	**Sanae**	89.72	177	P	P	08 53 16.2	+2.3	
	comp=Z,2.6nm,0.8s,baz=183,slow=1.6,SNR=20							
SNAA				LR	LR	09 30 07.0		
	comp=Z,367nm,19.1s,baz=196,slow=33							
	comp=Z,2.6nm,0.8s							
SYO	**Syowa Base**	89.75	191	⇓*es*P	P	08 53 17.8	+3.8	
TGUH	**Tegucigalpa,Un**	89.75	75	IAMs_20	IAMs_20	09 26 06.2		
	comp=Z,577nm,18.0s							
G31M	**Satah River**	89.75	14	P	P	08 53 10.8	-3.0	
	baz=215,SNR=7.0							
PSI	**Prapat**	89.78	273	LR	LR	09 34 55.0		
	comp=Z,250nm,19.1s,baz=158,slow=37							
WRGLY	**Wrigley**	89.93	20	P	P	08 53 11.2	-3.5	
	baz=225							
F30M	**Barrier River**	89.98	13	P	P	08 53 11.4	-3.5	
	baz=214							
E28M	**Babbage River**	90.06	11	IAMs_20	IAMs_20	09 39 43.5		
	comp=Z,739nm,19.0s							
E28M	**Babbage River**	90.06	11	P	P	08 53 12.2	-3.1	
	baz=210							
TIY	**Taiyuan**	90.11	310	P	P	08 53 20.6	+4.3	
TIY				S	S	09 04 09.1	+0.1	
TIY				pmax	pmax			
	comp=Z,520nm,5.5s							
TIY				LR	LR			
	comp=Z,160nm,14.9s							
TIY				LR	LR			
	comp=Z,320nm,20.4s							
TIY				LR	LR			
	comp=Z,410nm,19.4s							
VNA2	**Neumayer--Watz**	90.14	175	⇑P	P	08 53 19.0	+3.1	
	comp=Z,9.5nm,0.6s,baz=183,slow=4.5							
XLT	**XiLinHaoTe**	90.16	317	*e*P	P	08 53 18.8	+2.4	
XLT				sP	pwP	08 53 25.5	0.0	
XLT				pmax	pmax			
	comp=Z,8.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,420nm,6.6s							
XLT				LR	LR			
	comp=Z,240nm,22.7s							
XLT				LR	LR			
	comp=Z,190nm,17.9s							
E29M	**Blow River**	90.20	12	P	P	08 53 13.1	-2.8	
	baz=212							
C27K	**Jago River**	90.24	10	P	P	08 53 13.2	-2.9	
	baz=207							
F31M	**Tsiigehtchic**	90.30	14	P	P	08 53 13.5	-2.8	
	baz=216,SNR=9.2							
C26K	**Camden Bay**	90.32	9	P	P	08 53 12.6	-3.8	
	baz=206							
VNA1	**Neumayer--Stat**	90.34	175	⇓P	P	08 53 19.7	+2.9	
	comp=Z,7.5nm,0.9s							
D27M	**Malcolm River**	90.36	11	P	P	08 53 12.7	-4.0	
	baz=209							
GYA	**Guiyang**	90.48	298	⇓P	P	08 53 17.4	-1.0	
GYA				SKS	SKSac	09 03 48.8	-0.5	
GYA				S	S	09 04 08.5	-4.5	
GYA				pmax	pmax			
	comp=Z,12nm,1.1s							
GYA				pmax	pmax			
	comp=Z,860nm,6.4s							
GYA				LR	LR			
	comp=Z,330nm,8.2s							
GYA				LR	LR			
	comp=Z,260nm,4.1s							
GYA				LR	LR			
	comp=Z,91nm,4.7s							
HILR	**Hailar Array B**	90.49	323	P	P	08 53 17.9	+0.1	
	comp=Z,4.2nm,0.8s,baz=126,slow=9.9,SNR=5.0							
	comp=Z,4.2nm,0.8s							
GSI	**Gunungsitoli**	90.58	271	P	P	08 53 20.0	+1.0	
GSI	**Gunungsitoli**	90.58	271	P	P	08 53 21.6	+2.6	
TEIG	**Tepich**	90.86	69	IAMs_20	IAMs_20	09 29 04.7		
	comp=Z,675nm,18.0s							
INK	**Inuvik**	91.05	13	LR	LR	09 36 19.3		
	comp=Z,448nm,18.1s,baz=171,slow=37							
INK	**Inuvik**	91.05	13	P	P	08 53 21.4	+1.6	
INK				pmax	pmax			
	comp=Z,16nm,1.7s							
INK	**Inuvik**	91.05	13	P	P	08 53 16.2	-3.6	
	baz=216							
KCSI	**Kotacane, Aceh**	91.09	273	P	P	08 53 22.6	+1.2	
	comp=Z,745nmcomp=Z,21nm,2.1s							
SLVN	**Son La**	91.12	292	P	P	08 53 22.7	+1.3	
XAN	**Xi'an**	91.35	305	⇑P	P	08 53 24.1	+1.9	
XAN				pP	pP	08 53 28.9	+1.2	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.2s							
XAN				pmax	pmax			
	comp=Z,700nm,11.0s							
XAN				LR	LR			
	comp=Z,280nm,19.2s							
XAN				LR	LR			
	comp=Z,190nm,19.2s							
XAN				LR	LR			
	comp=Z,340nm,21.3s							
HDC	**Heredia**	91.38	80	IAMs_20	IAMs_20	09 24 15.1		
	comp=Z,708nm,20.0s							
ATAH	**Atahualpa**	91.38	98	LR	LR	09 26 33.3		
	comp=Z,781nm,18.1s,baz=266,slow=30							
ZON	**Zonda**	91.45	124	P	P	08 53 25.4	+2.6	
ZON				pmax	pmax			
	comp=Z,7.0nm,0.4s							
HHC	**Hu-ho-hao-te**	91.96	313	*e*P	P	08 53 23.4	-1.5	
HHC				SKS	SKSac	09 03 53.3	-3.8	
HHC				S	S	09 04 22.5	-3.4	
HHC				sS	sS	09 04 38.0	+2.5	
HHC				pmax	pmax			
	comp=Z,4.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,310nm,5.1s							
HHC				LR	LR			
	comp=Z,150nm,17.1s							
HHC				LR	LR			
	comp=Z,160nm,17.5s							
HHC				LR	LR			
	comp=Z,230nm,17.7s							
YAK	**Yakutsk**	92.42	336	LR	LR	09 32 50.0		
	comp=Z,102nm,19.9s,baz=136,slow=34							
YAK	**Yakutsk**	92.42	336	*e*P	P	08 53 26.3	0.0	
YAK				*e**PP	pP	08 53 29.8	-2.0	
YAK				*e*		08 57 03.0		
YAK				*e*S	SKSac	09 03 59.0	+0.6	
YAK				*e*		09 04 30.6		
YAK				*e*SS	SS	09 10 38.2	-2.3	
YAK				*e*SSS	SSS	09 14 15.1		
YAK				pmax	pmax			
	comp=Z,13nm,1.1s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,404nm,7.3s							
YAK				pmax	pmax			
	comp=N,231nm,10.4s							
YAK				pmax	pmax			
	comp=E,173nm,5.1s							
YAK				smax	smax			
	comp=N,146nm,8.7s							
YAK				smax	smax			
	comp=E,126nm,7.8s							
YAK				MLR	MLR			
	comp=N,256nm,24.0s							
YAK				MLR	MLR			
	comp=E,74nm,18.0s							
YKA	**Yellowknife Ar**	92.53	23	P	P	08 53 30.7	+3.9	
	comp=E,0.8nm,0.7s,baz=248,slow=4.5,SNR=4.1							
YKA				LR	LR	09 34 01.7		
	comp=E,217nm,18.7s,baz=236,slow=35							
	comp=E,0.8nm,0.7s							
BTO	**Baotou**	92.95	312	*e*P	P	08 53 31.6	+2.1	
BTO				pP	sP	08 53 36.4	-0.9	
BTO				sP	pwP	08 53 38.6	+0.1	
BTO				SKS	SKSac	09 04 05.5	+2.9	
BTO				S	S	09 04 33.8	-0.9	
BTO				sS	sS	09 04 44.0	-0.4	
BTO				SS	SS	09 10 52.9	+3.5	
BTO				pmax	pmax			
	comp=E,16nm,0.8s							
BTO				pmax	pmax			
	comp=E,910nm,4.6s							
BTO				LR	LR			
	comp=E,460nm,16.2s							
BTO				LR	LR			
	comp=E,660nm,14.6s							
BTO				LR	LR			
	comp=E,650nm,14.8s							
KMI	**Kunming**	93.37	295	P	P	08 53 35.1	+3.2	
KMI				pmax	pmax			
	comp=E,19nm,1.4s							
KMI				pmax	pmax			
	comp=E,470nm,7.1s							
KMI				LR	LR			
	comp=E,230nm,15.7s							
KMI				LR	LR			
	comp=E,370nm,18.1s							
KMI				LR	LR			
	comp=E,290nm,21.2s							
OTAV	**Otavalo**	93.67	91	IAMs_20	IAMs_20	09 25 43.9		
	comp=Z,737nm,22.0s							
R40A	**Maddies Statio**	93.73	51	IAMs_20	IAMs_20	09 31 06.3		
	comp=Z,626nm,20.0s							
CD2	**Chengdu**	94.38	301	*e*P	P	08 53 35.0	-1.2	
OXF	**Oxford**	94.62	55	IAMs_20	IAMs_20	09 39 11.1		
	comp=Z,401nm,21.0s							
CMAR	**Chiang Mai Arr**	94.64	288	P	P	08 53 38.4	+0.8	
	comp=Z,2.6nm,0.3s,baz=99,slow=4.4,SNR=20							
CMAR				LR	LR	09 31 42.0		
	comp=Z,214nm,21.9s,baz=100,slow=33							
	comp=Z,2.6nm,0.3s							
PZH	**PanZhiHua**	94.66	296	P	P	08 53 37.3	-0.4	
CHTO	**Chiang Mai**	94.75	288	P	P	08 53 39.6	+1.5	
CHTO	**Chiang Mai**	94.75	288	P	P	08 53 38.8	+0.7	
CHTO				pmax	pmax			
	comp=Z,14nm,1.7s							
ULM	**Lac du Bonnet**	95.67	39	LR	LR	09 34 12.4		
	comp=Z,451nm,18.1s,baz=244,slow=34							
LZDM	**Lanzhou Array**	96.04	306	LR	LR	09 35 14.1		
	comp=Z,98nm,19.9s,baz=195,slow=34							
TNCH	**TengChong**	96.98	294	P	P	08 53 50.9	+2.5	
TNCH				pmax	pmax			
	comp=Z,330nm,4.5s							
LPAZ	**La Paz**	97.70	110	LR	LR	09 29 05.7		
	comp=Z,583nm,19.2s,baz=263,slow=30							
SONM	**Songino Array**	97.91	318	LR	LR	09 34 46.4		
	comp=Z,126nm,18.8s,baz=88,slow=34							
TIXI	**Tiksi**	98.31	344	*ce*P	Pdif	08 53 53.9	+0.9	
TIXI				pmax	pmax			
	comp=Z,11nm,1.8s							
ROSC	**El Rosal**	99.02	88	LR	LR	09 29 13.0		
	comp=Z,255nm,19.9s,baz=245,slow=30							
TKL	**Tuckaleechee C**	99.37	56	LR	LR	09 35 27.9		
	comp=Z,488nm,18.1s,baz=237,slow=33							
MTDJ	**Mount Denham**	99.92	74	IAMs_20	IAMs_20	09 28 31.7		
	comp=Z,388nm,20.0s							
U56A	**King**	102.20	56	IAMs_20	IAMs_20	09 32 11.9		
	comp=Z,668nm,22.0s							
PALK	**Pallekele**	108.41	272	IAMs_20	IAMs_20	09 40 59.0		
	comp=Z,498nm,20.0s							
SJG	**San Juan**	110.35	77	IAMs_20	IAMs_20	09 34 11.4		
	comp=Z,319nm,21.0s							
ZALV	**Zalesovo Beam**	112.37	321	PP	PP	08 59 34.7	-2.9	
	comp=Z,1.2nm,0.7s,baz=98,slow=4.4,SNR=4.0							
MK31	**Makanchi Array**	113.80	314	*c i*PKIKP	PKiKP	08 58 54.7	0.0	
MKAR	**Makanchi Array**	113.80	314	PKiKP	PKiKP	08 58 55.8	+1.0	
	comp=Z,1.2nm,0.7s,baz=86,slow=1.7,SNR=11							
MKAR				PKKPbc	PKKPab	09 09 41.0	-2.2	
	comp=Z,0.6nm,0.8s,baz=259,slow=2.9,SNR=3.7							
KURK	**Kurchatov**	116.22	318	*c i*PKIKP	PKiKP	08 59 00.9	+1.7	
KURK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KURBB	**Kurchatov Arra**	116.28	318	PKP	PKiKP	08 58 59.9	+0.6	
	comp=Z,1.2nm,0.7s,baz=89,slow=1.9,SNR=14							
KURBB				PP	PP	09 00 02.8	-2.5	
	comp=Z,0.5nm,0.8s,baz=91,slow=6.2,SNR=9.8							
KURBB				PKKPbc	PKKPab	09 09 32.2	+0.1	
	comp=Z,0.4nm,0.7s,baz=260,slow=4.4,SNR=4.6							
SPITS	**Spitsbergen Ar**	120.18	358	PKP	PKiKP	08 59 07.8	+1.6	
	comp=Z,6.8nm,0.7s,baz=36,slow=5.4,SNR=8.4							
BORK	**Borovoye**	121.06	321	*i* PKIKP	PKPdf	08 59 07.4	-1.1	
ARTI	**Arti**	126.69	328	*i* PKIKP	PKPdf	08 59 18.4	-0.7	
ARTI						09 01 13.4		
ARTI						09 06 29.5		
ARTI				SS	SS	09 18 14.9	-5.6	
ARCES	**ARCESS Array B**	127.86	352	PKP	PKiKP	08 59 22.2	+0.6	
	comp=Z,5.0nm,0.7s,baz=47,slow=1.6,SNR=7.9							
APA	**Apatity**	128.32	348	⇓*i*PKIKP	PKPdf	08 59 18.7	-3.2	
APA				*e*		09 01 28.3		
APA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
APA				MLR	MLR			
	comp=Z,1μm,4.0s							
BOSA	**Boshof**	130.16	200	PKP	PKiKP	08 59 29.2	+1.5	
	comp=Z,4.4nm,1.0s,baz=174,slow=2.6,SNR=4.9							
KLMR	**Klimovskoe**	132.11	340	*e*PKIKP	PKPdf	08 59 27.4	-1.9	
KLMR				pmax	pmax			
	comp=Z,29nm,1.6s							
FINES	**FINESS Array B**	135.23	348	PKP	PKPdf	08 59 35.7	+0.6	
	comp=Z,2.3nm,0.7s,baz=112,slow=3.1,SNR=7.5							
MOS	**Moscow**	136.55	336	*e*PKIKP	PKiKP	08 59 46.8	+7.3	
MOS				pmax	pmax			
	comp=Z,46nm,0.7s							
OBN	**Obninsk**	137.42	336	*e*PKIKP	PKPdf	08 59 36.6	-2.8	
OBN				*e*		09 02 27.0		
OBN				*e*SS	SS	09 20 34.6	+4.0	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.4s							
NOA	**NORSAR Array B**	137.48	358	PKP	PKPdf	08 59 40.1	+0.7	
	comp=Z,1.2nm,0.8s,baz=350,slow=3.7,SNR=3.7							
MAK	**Makhachkala**	138.60	315	*e*P	Pdif	08 56 37.7	-15	
MAK				*e*PPP	PPP	09 05 31.1		
MAK				*e*		09 06 54.4		
MAK				*e*SS	SS	09 20 44.2	-1.8	
MAK				pmax	pmax			
	comp=Z,24nm,

AKT MLR MLR
comp=Z,264nm,22.0s
PABE Paberze 141.10 345 IAMs_20 IAMs_20 09 43 16.6
comp=Z,254nm,20.0s
KIV Kislovodsk 141.30 319 *i* PKIKP **PKiKP 08 59 48.9 -0.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s
ERBR Yeremizino-Bor 141.70 322 *i* PKIKP **PKiKP 08 59 49.4 -1.0**
EKA Eskdalemuir Ar 142.34 10 PKP **PKPdf 08 59 48.5 +0.2**
comp=Z,1.6nm,0.8s,baz=356,slow=2.2,SNR=3.9
SOC Sochi 143.33 320 *e*PKHKP PKPpre 08 59 29.5
AKASG Malin Array Be 143.65 337 PKP **PKPdf 08 59 50.9 0.0**
comp=Z,1.6nm,0.5s,baz=35,slow=3.5,SNR=10
AKBB Malin Array Si 143.65 337 *i* PKIKP PKPbc 08 59 49.4 +1.2
ANN Anapa 143.98 323 *i* PKIKP PKPbc 08 59 50.3 +0.9
ANN pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 144.49 285 IAMs_20 IAMs_20 10 04 35.2
comp=Z,224nm,18.0s
RAYN Ar Rayn 144.49 285 ⇑PKIKP **PKPdf 08 59 54.5 +1.3**
BEL Belsk 145.23 346 *e*PKP **PKiKP 08 59 57.2 -0.2**
SIM Simferopol' 145.71 326 *e*PKIKP **PKPab 08 59 55.2 -0.1**
SIM pmax pmax
comp=Z,115nm,1.3s
SORM Soroca 146.06 335 ⇑P **PKPab 08 59 56.5 +0.1**
SORM Soroca 146.06 335 ⇑PKP2 **PKPab 08 59 56.5 +0.1**
OJC Ojcow 146.96 346 *e*PKP **PKiKP 09 00 02.1 +1.0**
CLL Collm 147.04 354 ⇓*i*PKP2 **PKiKP 09 00 00.6 -0.6**
CLL pmax pmax
comp=Z,42nm,1.1s
CLL MLR MLR
comp=Z,300nm,19.5s
CLL Collm 147.04 354 ⇓*i*PKIKP **PKiKP 09 00 00.6 -0.6**
comp=Z,42nm,1.1s
CLL *i* x x 09 00 02.8
comp=Z,102nm,1.5s
CLL *e*PKPIp 09 00 05.0
comp=Z,700nm,13.3s
CLL *i* x x 09 00 08.5
CLL *i* x x 09 00 11.1
comp=Z,81nm,1.4s
CLL *e*PP **PP 09 03 23.0 +0.5**
CLL *e*PKSdf **PKSdf 09 03 31.0 -0.7**
CLL *e*PPP PPP 09 06 36.0
CLL *e*PSKS 09 13 42.0
CLL *e*PPS PPS 09 15 56.0
CLL *e*x x 09 23 36.0
CLL Lm MLR 10 11 00.0
comp=N,200nm,19.6s
CLL Lm MLR 10 11 00.0
comp=E,200nm,21.3s
CLL Lm MLR 10 11 00.0
comp=Z,300nm,19.5s
KSP Ksiaz 147.06 350 *e*PKP **PKiKP 09 00 03.3 +2.1**
STHS Stebnicka Huta 147.34 344 *e*PKP **PKPab 09 00 01.0 -0.4**
OSTC Ostas 147.35 350 *e*PKP2 **PKiKP 09 00 02.1 +0.2**
OSTC Ostas 147.35 350 *e*PKP **PKiKP 09 00 02.1 +0.2**
BRG Berggiesshubel 147.37 353 *e*PKP **PKiKP 09 00 01.9 0.0**
BRG Amp 09 00 04.4
comp=Z,14nm,0.8s
BRG Berggiesshubel 147.37 353 P PKiKP 09 00 10.2 +8.3
BRG Amp 09 00 12.9
comp=Z,18nm,0.9s
UPC Upice 147.44 350 *e*PKP2 **PKiKP 09 00 02.2 +0.2**
UPC MLR MLR
comp=Z,300nm,20.4s
UPC Upice 147.44 350 *e*PKP **PKiKP 09 00 02.2 +0.2**
UPC AMS AMS 10 13 00.0
comp=Z,300nm,20.4s
DPC Dobruska-Polom 147.54 350 *e*PKP2 **PKiKP 09 00 02.8 +0.5**
DPC MLR MLR
comp=Z,300nm,17.1s
DPC Dobruska-Polom 147.54 350 *e*PKP **PKiKP 09 00 02.8 +0.5**
DPC *ex* x 09 00 11.0
DPC AMS AMS 10 14 20.0
comp=Z,300nm,17.1s
NIE Niedzica 147.58 345 *e*PKP **PKPab 09 00 05.0 +2.5**
PVCC Panska Ves 147.63 352 *e*PKP2 **PKPab 09 00 03.0 +0.5**
PVCC MLR MLR
comp=Z,300nm,22.5s
PVCC Panska Ves 147.63 352 *e*PKP **PKPab 09 00 03.0 +0.5**
PVCC AMS AMS 10 12 20.0
comp=Z,300nm,22.5s
STEB Steborice 147.67 348 *e*PKP **PKPab 09 00 02.9 +0.2**
STEB *ex* x 09 00 11.2
BURAR Bucovina Array 147.68 338 ⇑P **PKPab 09 00 03.1 +0.2**
BURAR Bucovina Array 147.68 338 PKP2 **PKPab 09 00 03.1 +0.2**
OKC Ostrava-Krasne 147.68 347 AMS AMS 10 12 30.0
comp=Z,300nm,16.1s
BZK Bozkurt 147.70 322 ⇑P **PKPab 09 00 03.0 0.0**
UCC Uccle 147.70 4 *d*PKP **PKPab 09 00 02.7 -0.1**
KRLC Kraliky 147.72 349 *e*PKP2 **PKiKP 09 00 02.6 -0.1**
KRLC Kraliky 147.72 349 *e*PKP **PKiKP 09 00 02.6 -0.1**
BEBN Eben Emael 147.78 2 *d*PKP **PKPab 09 00 04.8 +1.7**
MORC Moravsky Berou 147.86 348 ⇑P **PKPab 09 00 03.9 +0.4**
MORC Moravsky Berou 147.86 348 *e*PKP **PKPbc 09 00 00.0 -1.1**
MORC Moravsky Berou 147.86 348 ⇑PKP2 **PKPab 09 00 03.9 +0.4**
MEM Membach 147.98 2 *d*PKP **PKiKP 09 00 03.0 -0.1**
BSTI Sart Tilman 147.99 3 *d*PKP **PKPbc 09 00 01.5 +0.2**
BTNL Ternell 148.00 2 *d*PKP **PKPab 09 00 03.7 -0.3**
TESR Tescani 148.05 335 ⇓P **PKiKP 09 00 03.8 +0.4**
BCLA Clavier 148.14 3 *d*PKP **PKPdf 08 59 57.4 -1.1**
BGES Gesves 148.16 3 *d*PKP **PKPdf 08 59 59.3 +0.8**
PRU Pruhonice 148.16 352 *e*PKP2 **PKiKP 09 00 04.0 +0.5**
PRU MLR MLR
comp=Z,300nm,22.4s
PRU Pruhonice 148.16 352 *e*PKP **PKiKP 09 00 04.0 +0.5**
PRU AMS AMS 10 14 20.0
comp=Z,300nm,22.4s
BMRD Maredsous 148.22 4 *d*PKP **PKPab 09 00 04.3 -0.6**
BHOU Houvegnez 148.23 2 *d*PKP **PKiKP 09 00 03.1 -0.6**
CIDE Kastamonu/Cide 148.36 323 ⇓P **PKiKP 09 00 03.7 -0.5**
RCHB Rochefort 148.40 3 *d*PKPdf **PKPdf 08 59 53.9 -5.0**
DOU Dourbes 148.42 4 *d*PKP **PKPab 09 00 05.0 -0.6**
VRAC Vranov 148.49 349 ⇑P **PKPbc 09 00 03.1 +0.4**
VRAC Vranov 148.49 349 *e*PKP **PKPbc 09 00 01.6 -1.1**
VRAC Vranov 148.49 349 ⇑PKP2 **PKPbc 09 00 03.1 +0.4**
PLOR Plostina 148.59 334 ⇓P **PKiKP 09 00 05.1 +0.5**
PLOR Plostina 148.59 334 ⇓PKP2 **PKiKP 09 00 05.1 +0.5**
TPGR Topolog 148.60 331 ⇓P **PKiKP 09 00 04.9 +0.3**
TURR Turia 148.68 335 ⇑P **PKPab 09 00 05.9 -1.0**
TREC Trest 148.70 350 AMS AMS 10 12 30.0
comp=Z,400nm,17.7s
JAVC Velka Javorina 148.71 347 *e*PKP **PKPbc 09 00 03.5 +0.2**
OZUR 148.74 335 ⇑P **PKPab 09 00 06.1 -1.1**
ZVC Zvikov 148.75 352 *e*PKP **PKiKP 09 00 05.8 +1.0**
KRUC Moravsky 148.77 349 *e*PKP **PKPbc 09 00 02.1 -1.3**
TIRR Tirgusor 148.91 331 IAMs_20 IAMs_20 10 12 04.1
comp=Z,306nm,20.0s
TIRR Tirgusor 148.91 331 ⇑P **PKiKP 09 00 05.5 +0.3**
TIRR Tirgusor 148.91 331 ⇑PKP2 **PKiKP 09 00 05.5 +0.3**
WLF Walferdange 148.93 2 *d*PKP **PKiKP 09 00 05.8 +0.6**
HARR Harsova 148.95 332 ⇑P **PKiKP 09 00 04.8 -0.5**
HARR Harsova 148.95 332 ⇑PKP2 **PKiKP 09 00 04.8 -0.5**
PSZ Piszkesteto 149.07 344 ⇑P **PKiKP 09 00 06.7 +1.1**
PSZ Piszkesteto 149.07 344 ⇑PKP2 **PKiKP 09 00 06.7 +1.1**
LODK Lodwar 149.09 244 IAMs_20 IAMs_20 10 00 16.1
comp=Z,274nm,19.0s
KHC Kasperske Hory 149.13 353 *ce*PKHKP PKPpre 08 59 58.6
KHC pmax pmax
comp=Z,34nm,1.7s
KHC Kasperske Hory 149.13 353 *e*PKP **PKiKP 09 00 06.0 +0.4**
KHC *ex* x 09 00 14.8
MLR Muntele Rosu 149.17 335 ⇓P **PKiKP 09 00 06.5 +0.5**
MLR Muntele Rosu 149.17 335 ⇓PKP2 **PKiKP 09 00 06.5 +0.5**
MARR Marisel-Cluj 149.22 339 ⇑P **PKiKP 09 00 07.0 +1.0**
MODS Modra-Piesok 149.25 348 *e*PKP2 **PKiKP 09 00 07.2 +1.3**
MODS Modra-Piesok 149.25 348 *e*PKP **PKiKP 09 00 07.2 +1.3**
DRGR 149.26 340 ⇑P **PKiKP 09 00 06.8 +0.8**
DRGR 149.26 340 ⇑PKP2 **PKiKP 09 00 06.8 +0.8**
BRTR Keskin Array B 149.26 319 PKP **PKPdf 09 00 02.1 +1.2**
comp=Z,3.8nm,0.9s,baz=151,slow=3.3,SNR=4.6
BRTR PKPbc **pPKPdf 09 00 07.3 +0.3**
comp=Z,14nm,0.7s,baz=142,slow=2.1,SNR=57
MANR Mangalia 149.31 330 ⇓P **PKiKP 09 00 07.3 +1.3**
GERES GERESS Array B 149.39 352 PKPbc **PKiKP 09 00 06.9 +0.6**
comp=Z,6.9nm,0.9s,baz=25,slow=3.5,SNR=33
KIRS Kirsehir-Merke 149.43 318 ⇑P **PKiKP 09 00 07.9 +1.3**
ZST Bratislava 149.46 348 *e*PKP2 **PKiKP 09 00 05.8 -0.5**
ANTO Ankara 149.70 320 ⇓P **PKiKP 09 00 08.4 +1.2**
ANTO Ankara 149.70 320 ⇓PKP2 **PKiKP 09 00 08.4 +1.2**
ARR Arges 149.79 336 ⇓P **PKiKP 09 00 08.6 +1.4**
CONA Conrad Observa 149.95 349 *i* PKP **PKiKP 09 00 08.8 +1.3**
comp=Z,39nm,1.2s,SNR=12
CONA *e*PKKP **PKKPdf 09 08 50.1 -0.9**
comp=Z,8.0nm,1.2s
SIRR Siria 150.06 340 ⇑P **PKiKP 09 00 08.5 +0.9**
RONA Rosalia, Austr 150.09 348 *i* PKP **PKiKP 09 00 09.1 +1.5**
comp=Z,28nm,1.1s,SNR=10
RONA *e*PKKP **PKKPdf 09 08 50.3 -0.4**
comp=Z,9.5nm,1.4s
SAHE Sakarya_HENDEK 150.22 323 ⇓P **PKiKP 09 00 08.4 +0.2**
MOA Molln 150.29 351 *i* PKP **PKiKP 09 00 09.2 +1.2**
comp=Z,17nm,0.9s
MOA *i* PKKP **PKKPdf 09 08 52.8 +2.5**
comp=Z,7.1nm,1.4s
SURR Surduc 150.36 339 ⇓P **PKiKP 09 00 08.6 +0.4**
PRD Provadia 150.37 330 *i* P **PKiKP 09 00 09.9 +1.6**
GZR Gura Zlata 150.46 338 ⇓P **PKiKP 09 00 09.2 +0.7**
RAZG Razgrad 150.47 332 ⇑P **PKiKP 09 00 09.8 +1.3**
BZS Buzias 150.65 340 ⇓P **PKiKP 09 00 09.9 +1.1**
ARSA Arzberg 150.67 349 *e*pPKiKP **PKiKP 09 00 09.9 +1.1**
comp=Z,6.8nm,1.0s
SILT Sile 150.69 325 ⇑P **PKiKP 09 00 10.0 +1.0**
LESA Schwarzleotal 150.91 353 *i* pPKiKP **PKiKP 09 00 10.5 +1.1**
comp=Z,14nm,1.0s
LESA *i* PKKP **PKKPdf 09 08 50.3 +1.1**
comp=Z,5.3nm,1.2s
SZH Strazhitsa 150.95 332 *i* P **PKiKP 09 00 10.0 +0.5**
MORH Mrgy, Hungar 150.97 344 ⇑P **PKiKP 09 00 10.7 +1.3**
HERR Herculane 151.03 338 ⇑P **PKiKP 09 00 11.0 +1.4**
RETA Reutte 151.03 356 *i* PKP **PKiKP 09 00 11.1 +1.4**
comp=Z,26nm,1.2s,SNR=6.8
WATA Walderalm 151.11 355 *i* pPKiKP **PKiKP 09 00 11.1 +1.2**
comp=Z,32nm,1.2s,SNR=8.1
MOTA Moosalm 151.14 355 *i* pPKiKP **PKiKP 09 00 11.1 +1.1**
comp=Z,42nm,1.1s,SNR=11
KBA Koelnbreinsper 151.17 352 *i* pPKiKP **PKiKP 09 00 10.7 +0.7**
comp=Z,16nm,1.0s
WTTA Wattenberg 151.18 355 *i* pPKiKP **PKiKP 09 00 11.4 +1.3**
comp=Z,16nm,0.7s,SNR=12
ELND Elena 151.26 332 ⇑P **PKiKP 09 00 11.9 +1.7**
SQTA Sankt Quirin 151.26 355 *i* pPKiKP **PKiKP 09 00 11.6 +1.4**
comp=Z,29nm,1.2s,SNR=7.5
DAVA Damuels 151.28 357 *i* PKP **PKiKP 09 00 11.9 +1.6**
comp=Z,27nm,1.0s
JMB Yambol 151.30 330 *i* P **PKPdf 09 00 06.5 +2.8**
SOKA Soboth 151.31 350 *e*pPKiKP **PKiKP 09 00 11.1 +0.9**
comp=Z,20nm,1.1s,SNR=8.2
PERS Pernice 151.33 349 *i* PKPbc **PKiKP 09 00 11.2 +0.9**
MMAI Mount Meron Ar 151.35 306 PKPbc **PKiKP 09 00 13.2 +2.4**
comp=Z,16nm,0.9s,baz=35,slow=5.3,SNR=21
MDVR Moldovita 151.36 339 ⇑P **PKiKP 09 00 11.4 +1.0**
PVL Pavlikeni 151.41 333 *i* P **PKiKP 09 00 12.4 +1.9**
PLVB Pleven 151.44 334 ⇑P **PKiKP 09 00 12.2 +1.7**
FETA Feichten 151.49 356 *i* pPKiKP **PKiKP 09 00 12.4 +1.7**
comp=Z,29nm,1.2s,SNR=6.4
OBKA Obir 151.55 350 *i* pPKiKP **PKiKP 09 00 11.6 +0.8**
comp=Z,7.0nm,0.7s
MYKA Terra Mystica 151.57 351 *e*pPKiKP **PKiKP 09 00 11.2 +0.4**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 151.60 353 *i* pPKiKP **PKiKP 09 00 11.7 +0.8**
comp=Z,36nm,1.0s,SNR=13
GHAJ Ghor Haditha 151.85 302 IAMs_20 IAMs_20 10 10 31.2
comp=Z,300nm,21.0s
BAND Balkesir-Ban 152.09 325 ⇓P **PKiKP 09 00 12.8 +0.8**
ISP Isparta 152.35 319 IAMs_20 IAMs_20 10 17 16.0
comp=Z,302nm,20.0s
BOVS Bovan 152.36 338 ⇓P **PKiKP 09 00 12.8 +0.4**
BOJS Bojanci 152.40 349 *i* PKPbc **PKiKP 09 00 14.2 +1.8**
VTS Vitosha 152.64 335 *i* P **PKPab 09 00 25.0 +1.5**
KKB Krupnik 153.33 334 *i* P **PKiKP 09 00 20.0 +5.5**
EZN Ezine 153.41 327 ⇑P **PKiKP 09 00 16.0 +1.3**
PDG Podgorica 154.26 340 IAMs_20 IAMs_20 10 20 44.6
comp=Z,272nm,19.0s
ESDC Sonseca Array 156.63 23 PKP **PKPdf 09 00 12.8 +1.3**
comp=Z,0.9nm,1.0s,baz=299,slow=2.8,SNR=4.5
CEL Celeste 159.11 342 IAMs_20 IAMs_20 10 22 18.7
comp=Z,229nm,21.0s
CART Cartagena 159.53 20 IAMs_20 IAMs_20 10 17 18.0
comp=Z,264nm,21.0s

IDC 19 08:46:24.8±4.2, 18°.77S×172°.55W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=277.7km s-min=32.5km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.92**	**255**	P	P	08 55 21.0	+0.2
	2.8nm,0.7s,baz=88,slow=7.6,SNR=15						
	2.8nm,0.7s						
WRA	**Warramunga Arr**	**49.95**	**259**	P	P	08 55 20.1	-0.8
	2.2nm,0.5s,baz=97,slow=8.5,SNR=20						
	2.2nm,0.5s						
PDAR	**Pinedale Array**	**84.23**	**41**	P	P	08 58 58.0	-0.7
	0.6nm,0.7s,baz=243,slow=4.2,SNR=5.3						
	0.6nm,0.7s						
BRTR	**Keskin Array B**	**149.24**	**318**	PKPbc	PKiKP	09 06 16.6	-0.6
	1.5nm,0.8s,baz=125,slow=3.0,SNR=5.9						

*NEIC **19** 08:48:55.9±1.6, 18°.5S±0°.1×172°.26W±0°.08, h10km±1km, mb4.6/15, Error ellipse: s-maj=22.4km s-min=11.7km az=20.0*
*IDC **19** 08:48:55.8±0.8, 18°.81S×172°.43W, h0km, mb4.2/13, mbtmp4.2/13, Error ellipse: s-maj=33.5km s-min=17.0km az=142.0*
ISC 19 08:48:56.2±0.5, 18°.6S±0°.1×172°.25W±0°.07, h10km, n46, σ1°.78/46, mb4.4/18, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.26**	**103**	Pn	**Pn**	08 49 32.6	-1.0
FUTU	**Fugatoga**	**7.06**	**306**	Pn	**Pn**	08 50 37.3	-2.4
MSVF	**Nonsavu**	**9.26**	**274**	Pn	**Pn**	08 51 13.7	+3.7
RAR	**Rarotonga**	**12.03**	**105**	Pn	**Pn**	08 51 45.2	-2.6
PINNC	**Pines Island,**	**19.42**	**255**	P	**P**	08 53 22.0	-0.7
SANVU	**Saraoutou**	**19.89**	**276**	P	**P**	08 53 26.5	-1.5
SANVU				IAmb	IAmb	08 53 40.7	
	comp=Z,22nm,1.0s						
DZM	**Mont Dzumac**	**20.27**	**257**	P	**P**	08 53 32.6	+0.4
	comp=Z,11nm,0.8s,baz=89,slow=18,SNR=9.2						
	comp=Z,11nm,0.8s						
URZ	**Urewera**	**21.68**	**203**	P	**P**	08 53 45.6	-1.6
	comp=Z,11nm,1.1s,baz=51,slow=10,SNR=9.0						
	comp=Z,11nm,1.1s						
BKZ	**Black Stump Fm**	**22.71**	**203**	P	**P**	08 53 57.5	-0.7
BKZ				IAmb	IAmb	08 54 31.1	
	comp=Z,26nm,1.2s						
COEN	**Coen**	**42.95**	**269**	P	**P**	08 56 53.9	-1.9
STKA	**Stephens Creek**	**43.49**	**243**	P	**P**	08 56 57.6	-2.4
	comp=Z,8.2nm,1.2s,baz=136,slow=9.7,SNR=3.6						
	comp=Z,8.2nm,1.2s						
WB0	**Warramunga Arr**	**50.23**	**259**	P	**P**	08 57 51.4	-1.5
WB0				IAmb	IAmb	08 57 52.9	
	comp=Z,8.8nm,0.7s						
AS31	**Alice Springs**	**50.24**	**254**		**P**	08 57 52.6	-0.4
AS31				IAmb	IAmb	08 57 54.7	
	comp=Z,3.3nm,0.8s						
ASAR	**Alice Springs**	**50.24**	**254**		**P**	08 57 52.0	-1.0
ASAR	**Alice Springs**	**50.24**	**254**	P	**P**	08 57 52.2	-0.8
	comp=Z,8.9nm,0.6s,baz=90,slow=7.6,SNR=45						
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**50.26**	**259**		**P**	08 57 51.4	-1.8
WRA	**Warramunga Arr**	**50.26**	**259**	P	**P**	08 57 51.4	-1.8
	comp=Z,4.8nm,0.5s,baz=98,slow=5.7,SNR=49						
	comp=Z,4.8nm,0.5s						
MTN	**Manton Dam**	**54.62**	**267**	P	**P**	08 58 24.6	-1.0
FITZ	**Fitzroy Crossi**	**58.68**	**260**	P	**P**	08 58 54.2	-0.2
	comp=Z,1.9nm,0.7s,baz=68,slow=5.5,SNR=8.2						
	comp=Z,1.9nm,0.7s						
VNDA	**Vanda**	**60.34**	**186**	P	**P**	08 59 04.6	-0.3
VNDA				IAmb	IAmb	08 59 12.4	
	comp=Z,4.9nm,1.4s						
VNDA	**Vanda**	**60.34**	**186**	P	**P**	08 59 03.9	-1.1
	comp=Z,0.4nm,0.7s,baz=103,slow=7.9,SNR=1.9						
	comp=Z,0.4nm,0.7s						
PSA00	**Pilbara Seismi**	**63.39**	**255**	P	**P**	08 59 25.8	-0.5
PSA00				IAmb	IAmb	08 59 30.6	
	comp=Z,6.1nm,1.2s						
QSPA	**South Pole Qui**	**71.47**	**180**	P	**P**	09 00 21.3	+4.3
QSPA				IAmb	IAmb	09 00 31.4	
	comp=Z,6.5nm,1.2s						
SHOC	**Shoshone, Teco**	**75.77**	**44**	P	**P**	09 00 41.5	-1.0
SHOC				IAmb	IAmb	09 01 08.6	
	comp=Z,5.1nm,1.0s						
NVAR	**Mina Array Bea**	**75.98**	**41**	P	**P**	09 00 43.0	-0.9
NVAR	**Mina Array Bea**	**75.98**	**41**	P	**P**	09 00 46.3	+2.4
	comp=Z,1.0nm,1.0s,baz=232,slow=7.3,SNR=4.5						
	comp=Z,1.0nm,1.0s						
SBUM	**Sibu**	**77.09**	**277**	P	**P**	09 00 50.3	-0.2
KSM	**Kuching**	**78.57**	**275**	P	**P**	09 00 56.3	-2.4
KSRS	**Korea Array**	**79.19**	**316**	P	**P**	09 01 01.9	+0.3
	comp=Z,0.4nm,0.4s,baz=125,slow=6.7,SNR=4.6						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**81.49**	**55**	P	**P**	09 01 13.6	-0.7
TXAR	**Lajitas Array**	**81.49**	**55**	P	**P**	09 01 17.0	+2.7
	comp=Z,0.5nm,0.9s,baz=223,slow=9.9,SNR=5.2						
	comp=Z,0.5nm,0.9s						
PDAR	**Pinedale Array**	**83.91**	**41**	P	**P**	09 01 29.2	+2.4
	comp=Z,1.1nm,0.7s,baz=211,slow=3.2,SNR=12						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**85.35**	**11**	P	**P**	09 01 34.6	+1.5
	comp=Z,0.6nm,0.8s,baz=211,slow=5.7,SNR=5.7						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.64**	**288**	P	**P**	09 02 19.8	+1.7
	comp=Z,0.9nm,0.3s,baz=67,slow=3.4,SNR=7.2						
	comp=Z,0.9nm,0.3s						
BRTR	**Keskin Array B**	**149.29**	**319**	PKPbc	**PKiKP**	09 08 47.9	+1.0
	comp=Z,3.5nm,0.8s,baz=130,slow=1.9,SNR=17						
GERES	**GERESS Array B**	**149.44**	**352**	PKPbc	**PKiKP**	09 08 47.8	+1.0
	comp=Z,1.6nm,0.8s,baz=349,slow=1.4,SNR=8.2						
RETA	**Reutte**	**151.07**	**356**	*e*PKKP	**PKiKP**	09 08 52.2	+2.0
	comp=Z,4.9nm,1.1s						
WATA	**Walderalm**	**151.16**	**355**	*i* PKKP	**PKiKP**	09 08 52.3	+1.8
	comp=Z,3.6nm,0.6s						
MOTA	**Moosalm**	**151.19**	**355**	*e*PKKP	**PKiKP**	09 08 51.3	+0.7
	comp=Z,6.3nm,1.2s						
KBA	**Koelnbreinsper**	**151.22**	**352**	*i* PKKP	**PKiKP**	09 08 52.0	+1.2
	comp=Z,2.2nm,0.6s						
WTTA	**Wattenberg**	**151.22**	**354**	*e*PKKP	**PKiKP**	09 08 52.1	+1.4
	comp=Z,5.8nm,0.5s						
SQTA	**Sankt Quirin**	**151.30**	**355**	*i* PKKP	**PKiKP**	09 08 52.8	+1.9
	comp=Z,3.3nm,0.7s						
SOKA	**Soboth**	**151.35**	**350**	*i* PKKP	**PKiKP**	09 08 52.4	+1.5
	comp=Z,5.0nm,1.0s						
MMAI	**Mount Meron Ar**	**151.36**	**306**	PKPbc	**PKiKP**	09 08 53.1	+1.8
	comp=Z,0.4nm,0.2s,baz=73,slow=4.8,SNR=5.0						
FETA	**Feichten**	**151.54**	**356**	*e*PKKP	**PKiKP**	09 08 53.6	+2.3
	comp=Z,4.4nm,0.8s						
ABTA	**Abfaltersbach**	**151.64**	**353**	*i* PKKP	**PKiKP**	09 08 53.0	+1.6
	comp=Z,7.3nm,0.7s						

*UCR **19** 08:53:44.5±0.8, 10°.36N×86°.39W, h20km±7km, MW3.7*
*CATAC **19** 08:53:52.7±0.9, 11°.N±7°.×8°.6W±°., h30km, M3.1/4, MLv3.1/4, Error ellipse: s-maj=21.2km s-min=8.7km az=49.8, confirmed*
ISC 19 08:53:44.7±2.3, 10°.30N±0°.09×86°.4W±0°.1, h23km, n44, σ0°.65/44, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.81**	**92**	*e*P	**Pb**	08 53 59.3	-0.7
DELF	**Filadelfia**	**0.85**	**80**	*e*P	**Pb**	08 54 00.3	-0.4
JUD3	**Juan Diaz 3**	**0.86**	**99**	*e*P	**Pb**	08 54 00.4	-0.6
ALIBA	**Liberia Airpor**	**0.89**	**71**	*e*P	**Pn**	08 54 01.4	-0.4
ELI1	**Hacienda Flor**	**0.90**	**67**	P	**Pn**	08 54 01.9	0.0
ELI1	**Hacienda Flor**	**0.90**	**67**	*e*P	**Pn**	08 54 01.9	0.0
ERIA	**Liberia**	**1.00**	**70**	*e*P	**Pn**	08 54 03.0	-0.3
LAPC	**Finca la Perla**	**1.06**	**64**	*e*P	**Pn**	08 54 03.1	-1.0
LCRUZ	**La Cruz**	**1.08**	**44**	*e*P	**Pn**	08 54 03.8	-0.6
GPS3	**Bodega del ICE**	**1.11**	**66**	*e*P	**Pb**	08 54 05.7	+0.4
GPS2	**Hotel Rincn d**	**1.13**	**66**	*e*P	**Pn**	08 54 04.4	-0.7
VRLE	**La Escondida,**	**1.13**	**64**	*e*P	**Pn**	08 54 04.3	-0.8
BAGA	**Bagaces**	**1.14**	**78**	*e*P	**Pn**	08 54 04.8	-0.4
VORI	**VORI**	**1.16**	**63**	*e*P	**Pn**	08 54 04.8	-0.8
BUAI	**Buenos Aires**	**1.20**	**61**	*e*P	**Pn**	08 54 05.8	-0.3
PEJA	**Penjamo Buenos**	**1.22**	**61**	*e*P	**Pn**	08 54 06.2	-0.2
CARN	**Rivas**	**1.23**	**44**	P	**Pn**	08 54 05.6	-0.9
CARN				S	**Sb**	08 54 24.8	+1.9
CARN	**Rivas**	**1.23**	**44**	*e*P	**Pb**	08 54 06.3	-1.1
MESS	**Mesas**	**1.27**	**70**	*e*P	**Pb**	08 54 06.5	-0.5
CUI	**Cuipilapa**	**1.27**	**74**	*e*P	**Pn**	08 54 06.6	-0.4
HORNC	**Hornillas**	**1.27**	**71**	*e*P	**Pn**	08 54 06.6	-0.5
CNAS	**Canas**	**1.29**	**84**	*e*P	**Pb**	08 54 08.2	-0.2
INVE	**Universidad In**	**1.33**	**82**	*e*P	**Pn**	08 54 07.7	-0.2
MOTZ	**Rio Naranjo**	**1.36**	**73**	*e*P	**Pn**	08 54 08.2	-0.1
VMAR	**Armenia, Volca**	**1.36**	**68**	*e*P	**Pn**	08 54 08.2	-0.2
TIMP	**Tierras Morena**	**1.39**	**78**	*e*P	**Pn**	08 54 08.3	-0.4
TILA	**Tilaran**	**1.42**	**83**	*e*P	**Pn**	08 54 08.9	-0.2
JUNT	**Juntas**	**1.42**	**91**	*e*P	**Pn**	08 54 08.8	-0.3
OMEN	**AI SSO del Vol**	**1.42**	**32**	P	**Pn**	08 54 09.0	-0.2
JTS	**Las Juntas de**	**1.43**	**90**	P	Pn	08 54 03.0	-6.2
JTS	**Las Juntas de**	**1.43**	**90**	*e*P	**Pn**	08 54 08.8	-0.3
TENO	**El Achiote**	**1.46**	**74**	*e*P	**Pn**	08 54 08.8	-0.9
CHIK	**Chiripa**	**1.48**	**84**	*e*P	**Pn**	08 54 09.8	-0.1
QUEB	**Quebradon, Cot**	**1.52**	**78**	*e*P	**Pn**	08 54 10.5	+0.1
MTEVE	**Monteverde**	**1.55**	**89**	*e*P	**Pn**	08 54 10.9	-0.1
TABAC	**Tabacon**	**1.62**	**83**	*e*P	**Pn**	08 54 12.5	+0.6
NANN	**Nandasmo**	**1.65**	**10**	P	**Pb**	08 54 13.8	-0.7
ARE1	**Arenal 1**	**1.66**	**84**	*e*P	**Pn**	08 54 13.2	+0.8
VARE2	**V. Arenal**	**1.66**	**84**	*e*P	**Pn**	08 54 13.3	+0.8
CEDE	**Laguna Cedeo**	**1.68**	**83**	*e*P	**Pn**	08 54 13.5	+0.7
SOCE	**Pocosol**	**1.76**	**87**	P	**Pb**	08 54 15.1	-1.1
COPN	**Copaltepe**	**1.88**	**354**	P	**Pn**	08 54 15.7	+0.3
QUEU	**Ciudad Quesada**	**1.94**	**89**	*e*P	**Pn**	08 54 17.1	+0.9
MOM2	**El Cardon**	**2.13**	**358**	P	**Pn**	08 54 19.2	+0.4

*ISK **19** 08:54:19.7, 38°.27N×41°.02E, h9km, ML2.1/4*
*AFAD **19** 08:54:19.9, 38°.30N×41°.05E, h7km±2km, ML2.5*
ISC 19 08:54:19.8±1.3, 38°.29N±0°.03×41°.02E±0°.03, h7km±12km, n12, σ0°.63/18, Turkey

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

VA02	Isla de Pascua	8.83	340	Pn	Pn	09 00 03.4	+0.3
RPN	Rapa Nui	8.84	341	Pn	Pn	09 00 03.5	+0.3
RPN	Rapa Nui	8.84	341	Pn	Pn	09 00 03.1	-0.1
	2.4nm,0.3s,baz=160,slow=12,SNR=3.8						
	89nm,1.0s						
LR04	Corral	26.12	109	P	P	09 03 28.1	-1.1
PLCA	Paso Flores	28.30	111	P	P	09 03 48.4	-0.6
PLCA	Paso Flores	28.30	111	P	P	09 03 49.0	0.0
	1.9nm,0.8s,baz=264,slow=10,SNR=6.4						
	1.9nm,0.8s						
MT01	Popeta	28.61	97	P	P	09 03 53.0	+1.3
MT01				IAmb	IAmb	09 04 01.8	
	comp=Z,23nm,1.4s						
BO01	Tunca	28.62	98	P	P	09 03 52.3	+0.5
BO01				IAmb	IAmb	09 04 28.3	
	comp=Z,14nm,1.4s						
MT09	Talagante	28.84	97	P	P	09 03 52.1	-1.8
MT09				IAmb	IAmb	09 04 28.5	
	comp=Z,19nm,1.4s						
VA06	Catapilco	28.89	94	P	P	09 03 54.9	+0.7
CO06	Fray Jorge	29.18	90	P	P	09 03 57.5	+0.7
LMEL	Las Melosas	29.46	97	P	P	09 03 59.7	+0.3
LMEL				IAmb	IAmb	09 04 05.6	
	comp=Z,15nm,1.1s						
GO04	Tololo Observa	30.02	90	P	P	09 04 04.8	+0.3
AC02	Maricunga	32.64	85	P	P	09 04 28.4	+0.5
AC02				IAmb	IAmb	09 05 07.7	
	comp=Z,8.0nm,1.2s						
NNA	Nana	35.35	56	LR	LR	09 15 26.6	
	comp=Z,515nm,19.5s,baz=258,slow=30						
LPAZ	La Paz	38.85	70	P	P	09 05 19.6	-1.8
LPAZ	La Paz	38.85	70	P	P	09 05 20.5	-0.9
	comp=Z,1.8nm,1.0s,baz=216,slow=6.8,SNR=5.7						
	comp=Z,1.8nm,1.0s						
PLTB	Pedras Altas	43.43	101	P	P	09 05 57.4	-0.9
PLTB				IAmb	IAmb	09 06 39.3	
	comp=Z,18nm,1.5s						
AQDB	Aquidauana	46.47	85		P	09 06 21.5	-1.1
AQDB				IAmb	IAmb	09 06 30.1	
	comp=Z,5.3nm,0.8s						
PIRO	Carate, Puerto	48.70	31	P	P	09 06 42.6	+2.8
RAR	Rarotonga	48.79	272	LR	LR	09 22 36.5	
	comp=Z,116nm,18.2s,baz=36,slow=30						
ROSC	El Rosal	50.03	43	P	P	09 06 50.2	-0.3
ROSC				IAmb	IAmb	09 07 08.1	
	comp=Z,9.3nm,1.0s						
RUSC	La Rusia	51.59	44	P	P	09 07 02.3	0.0
RUSC				IAmb	IAmb	09 07 05.9	
	comp=Z,9.2nm,1.2s						
CTZ	Chatham Island	53.43	238	P	P	09 07 14.3	-0.9
PRVC	Isla de Provid	54.00	30	P	P	09 07 20.0	+0.5
QSPA	South Pole Qui	54.66	180	P	P	09 07 24.5	+0.5
QSPA				IAmb	IAmb	09 07 50.6	
	comp=Z,6.3nm,1.1s						
QSPA	South Pole Qui	54.66	180	P	P	09 07 25.3	+1.3
	comp=Z,1.4nm,0.7s,baz=99,slow=1.3,SNR=11						
	comp=Z,1.4nm,0.7s						
VNDA	Vanda	56.05	195	P	P	09 07 36.1	+2.4
	comp=Z,0.4nm,0.8s,baz=124,slow=3.6,SNR=1.7						
	comp=Z,0.4nm,0.8s						
VNA3	Neumayer Olymp	58.79	158	⇑P	P	09 07 53.6	+0.5
	comp=Z,9.7nm,0.7s						
VNA1	Neumayer--Stat	59.43	157	⇑P	P	09 07 59.0	+1.6
	comp=Z,4.2nm,0.8s						
VNA2	Neumayer--Watz	59.60	158	⇑P	P	09 07 58.7	0.0
	comp=Z,7.5nm,0.6s,baz=271,slow=5.9						
URZ	Urewera	59.77	243	LR	LR	09 27 38.4	
	comp=Z,173nm,20.7s,baz=80,slow=30						
SNAA	Sanae	60.67	159	⇓P	P	09 08 07.0	+0.9
	comp=Z,53nm,0.8s						
SNAA	Sanae	60.67	159	P	P	09 08 06.3	+0.2
SNAA				IAmb	IAmb	09 08 28.3	
	comp=Z,8.5nm,1.4s						
SNAA	Sanae	60.67	159	P	P	09 08 06.7	+0.6
	comp=Z,1.7nm,0.9s,baz=253,slow=6.4,SNR=12						
	comp=Z,1.7nm,0.9s						
TROLL	Troll, Antarti	62.02	161	⇑P	P	09 08 16.0	+0.7
	comp=Z,127nm,0.6s						
AFI	Afiamalu	62.34	272	P	P	09 08 17.0	-1.2
TXAR	Lajitas Array	64.57	2	P	P	09 08 32.9	+0.3
	comp=Z,0.9nm,0.8s,baz=184,slow=9.3,SNR=8.8						
	comp=Z,0.9nm,0.8s						
TX31	Lajitas Ar. Si	64.58	2	P	P	09 08 32.3	-0.3
SAND	Sanderson	65.26	4	P	P	09 08 37.7	+0.7
MVCO	Mesa Verde	72.42	358		P	09 09 21.3	-0.4
MVCO				IAmb	IAmb	09 09 30.2	
	comp=Z,4.5nm,1.1s						
GMN	Gold Mountain	73.22	351	P	P	09 09 26.6	+0.2
TPH	Tonopah	73.97	351	P	P	09 09 32.2	+1.4
TPH				IAmb	IAmb	09 09 40.0	
	comp=Z,5.1nm,1.0s						
NV11	Mina Array Sit	74.45	350	P	P	09 09 34.4	+0.9
NV11				IAmb	IAmb	09 09 42.1	
	comp=Z,6.7nm,1.2s						
NVAR	Mina Array Bea	74.47	350	P	P	09 09 34.4	+0.7
	comp=Z,1.0nm,0.8s,baz=179,slow=8.3,SNR=9.3						
	comp=Z,1.0nm,0.8s						
BSUT	Blindstream Ca	75.83	356		P	09 09 42.5	+0.9
BSUT				IAmb	IAmb	09 09 45.0	
	comp=Z,5.6nm,1.1s						
BW06	Boulder Array	78.00	357	P	P	09 09 55.1	+1.4
BW06				IAmb	IAmb	09 10 10.4	
	comp=Z,11nm,1.5s						
PD31	Pinedale Array	78.00	357	P	P	09 09 55.4	+1.7
PDAR	Pinedale Array	78.00	357	P	P	09 09 55.2	+1.5
PDAR	Pinedale Array	78.00	357	P	P	09 09 52.9	-0.8
	comp=Z,1.3nm,0.8s,baz=152,slow=6.7,SNR=11						
	comp=Z,1.3nm,0.8s						
STKA	Stephens Creek	87.66	232	LR	LR	09 42 14.4	
	comp=Z,198nm,19.8s,baz=162,slow=30						
AS31	Alice Springs	98.22	233	P	P	09 11 31.8	-1.2
ASAR	Alice Springs	98.22	233	P	P	09 11 30.4	-2.6
ASAR	Alice Springs	98.22	233	LR	LR	09 52 35.8	
	comp=Z,140nm,18.7s,baz=112,slow=33						
H01W1	Cape Leeuwin H	100.49	213	T	T	11 04 49.8	
	baz=146,slow=76,SNR=13						
H01W2	Cape Leeuwin H	100.50	213	T	T	11 04 50.7	
	baz=146,slow=76,SNR=13						
H01W3	Cape Leeuwin H	100.51	213	T	T	11 04 51.4	
	baz=146,slow=76,SNR=15						
BRTR	Keskin Array B	148.03	70	PKPbc	PKPbc	09 17 40.5	-0.5
	comp=Z,0.8nm,0.5s,baz=267,slow=3.3,SNR=6.2						
MMAI	Mount Meron Ar	148.22	83	PKPbc	PKPbc	09 17 41.5	0.0
	comp=Z,1.7nm,0.5s,baz=0.0,slow=0.3,SNR=6.6						
CMAR	Chiang Mai Arr	152.06	239	PKPbc	PKPbc	09 17 50.5	-0.7
	comp=Z,0.7nm,0.3s,baz=118,slow=2.9,SNR=1.5						
SONM	Songino Array	153.02	307	PKPbc	PKiKP	09 17 53.0	+0.3
	comp=Z,1.1nm,0.7s,baz=48,slow=2.1,SNR=2.1						

AFAD 19 08:58:17.7, 39°.25N×27°.69E, h7km±3km, ML1.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	BALIKESIR_Sava	0.13	9	P	Pg	08 58 20.1	-0.4
AKHS	Akhisar	0.38	166	P	Pg	08 58 25.6	+0.6
AKHS				S	Sb	08 58 33.7	+0.9
AKHS				*i* IAML		08 58 34.0	
	comp=E,95nm,0.6s						
BALY	Balya	0.50	353	P	Pg	08 58 27.6	+0.3
BKES	Balkesir-Mer	0.52	21	P	Pg	08 58 27.1	-0.6
BKES				S	Sg	08 58 35.7	+1.2
BKES				*i* IAML		08 58 36.0	
	comp=N,45nm,0.5s						
BUHA	Balikesir, Bur	0.54	298	P	Pg	08 58 28.6	+0.4
DURS	Dursunbey	0.70	59	P	Pg	08 58 31.7	+0.5
DURS				S	Sg	08 58 40.5	+0.1
DURS				*i* IAML		08 58 42.0	
	comp=N,26nm,0.5s						
DEMI	Demirci	0.82	104	P	Pn	08 58 35.1	-0.6
DEMI				S	Sb	08 58 45.0	-0.6
MANT	Manisa	1.01	138	P	Pb	08 58 38.0	+0.3
BAYC	CANAKKALE_Bayr	1.01	300	P	Pn	08 58 38.0	-0.3
BAYC				S	Sn	08 58 53.4	+0.5
BAYC				*i* IAML		08 58 58.0	
	comp=N,17nm,0.4s						
BAND	Balkesir-Ban	1.15	16	P	Pg	08 58 39.7	-0.1
BAND				S	Sb	08 58 55.3	+0.2
BAND				*i* IAML		08 58 58.0	
	comp=E,22nm,0.5s						

CATAC ***19*** *09:03:40.0±0.9, 8°.N±6°.×8°.3W±°, h21km±2km, M2.7/6, MLv2.7/6, Error ellipse: s-maj=13.1km s-min=4.8km az=162.0, confirmed*

UPA ***19*** *09:03:41.8±1.0, 8°.47N×83°.00W, h24km±5km, MW2.8, Fault plane solution: NP1:ϕs71.00000°, δ48.00000°, λ-42.00000°.*

ISC 19 09:03:41.0±1.0, 8°.42N±0°.04×83°.01W±0°.03, h32km±8km, n22, σ0°81/28, 1C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.21	41	S	Sb	09 03 52.6	+0.6
CDITO	Canoas	0.21	41	P	Pn	09 03 47.5	-0.5
PTJ1	Puerto Jimnez	0.31	292	S	Sn	09 03 55.1	+0.3
PTJ1	Puerto Jimnez	0.31	292	P	Pn	09 03 48.8	-0.6
PIRO	Carate, Puerto	0.32	268	P	Pb	09 03 48.7	-0.3
PIRO	Carate, Puerto	0.32	268	S	Sn	09 03 54.9	-0.3
LMNES	Limones	0.35	155	⇑*i*P	Pn	09 03 50.5	+0.5
LMNES				*e*S	Sn	09 03 56.1	+0.3
SCLRA	Santa Clara, W	0.47	29	⇓*i*P	Pb	09 03 51.2	0.0
SCLRA				*e*S	Sb	09 03 58.3	+0.1
BRU2	Volcan	0.49	40	⇓*i*P	Pb	09 03 51.4	-0.2
BRU2				*e*S	Sb	09 03 58.6	-0.2
BRU2	Volcan	0.49	40	P	Pb	09 03 51.3	-0.2
BRU2	Volcan	0.49	40	S	Sn	09 03 59.5	0.0
CLLRA	Cordillera,	0.51	50	⇓*i*P	Pb	09 03 51.8	0.0
DVD	David	0.56	88	*e*S	Sn	09 04 00.4	-0.5
BQTLY	Boquete Panama	0.64	58	⇓*i*P	Pb	09 03 53.7	-0.3
BQTLY				*e*S	Sn	09 04 03.1	-0.2
OCHAL	Ojochal	0.92	317	P	Pn	09 03 57.1	-0.7
OCHAL	Ojochal	0.92	317	S	Sb	09 04 11.1	+0.6
RBALA	Bur	0.96	62	⇓*i*P	Pn	09 03 58.3	-0.1
RBALA				*e*S	Sn	09 04 11.0	0.0
KKNTU	Kakinº	1.26	70	⇓*i*P	Pn	09 04 02.7	+0.2
KKNTU				*e*S	Sn	09 04 18.6	+0.2
QUEP	Quepos	1.52	312	S	Sb	09 04 26.6	-0.9
LCR2	La Lucha 2	1.64	323	S	Sb	09 04 30.4	-0.8
TRT2	Tortugero	2.24	341	S	Sn	09 04 44.7	+2.0
SOCE	Pocosol	2.52	321	S	Sn	09 04 52.0	+2.6

BJI ***19*** *09:08:45.1, 38°.71N×142°.46E, h47km, mB4.5/7, mb4.5/27, Ms4.2/14, Ms7 4.0/14*

MOS ***19*** *09:08:45.5±1.3, 38°.76N×142°.29E, h39km, mb4.8/22, Error ellipse: s-maj=9.2km s-min=5.6km az=94.9*

NEIC ***19*** *09:08:46.8±1.1, 38°.64N±0°.03×142°.21E±0°.09, h40km±7km, mb4.7/25, Error ellipse: s-maj=10.6km s-min=4.5km az=76.0*

NIED ***19*** *09:08:51.4, 38°.70N×142°.25E, h36km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.58; Mθθ-0.06; Mϕϕ-4.52; Mrθ1.15; Mθϕ-0.84; Mϕr3.80; Fault plane solution: M0 6.09000×10¹⁵ NP1: ϕs186.00000°, δ25.00000°, λ82.00000°. NP2:ϕs15.00000°, δ65.00000°, λ94.00000°.*

JMA ***19*** *09:08:51.4±0.1, 38°.7N±0°.3×142°.3E±0°.8, h36km±2km, MD4.5/29, MV4.6/29, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

IDC ***19*** *09:08:52.3±2.3, 39°.01N×142°.11E, h75km±19km, mb3.9/20, mbtmp4.2/24, MS3.8/4, Error ellipse: s-maj=16.4km s-min=12.4km az=108.0*

ISC 19 09:08:46.6±0.6, 38°.69N±0°.05×142°.44E±0°.06, h37km±1km, h37km: pP-P, n211, σ2°11/191, mb4.6/63, MS4.1/8, 8C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.72	303	*e*P	Pn	09 09 03.4	+3.2
OFUJ				S	Sn	09 09 11.6	+1.5
OFUJ	Ofunato	0.72	303	A	A	09 09 03.4	
	comp=N,35nm,1.6s,comp=E,30nm,0.6s						
JKMT	Kesennumamotoy	0.77	280	*e*P	Pn	09 09 03.6	+2.7
JKMT				*e*S	Sn	09 09 12.1	+0.9
JIKH	Ishinomakikobu	0.85	244	*e*P	Pn	09 09 05.2	+3.2
JIKH				S	Sn	09 09 14.7	+1.4
JIKH	Ishinomakikobu	0.85	244	A	A	09 09 05.2	
	comp=N,21nm,0.4s,comp=E,31nm,0.3s						
JIO	Ouri	0.89	255	*e*P	Pn	09 09 05.3	+2.8
JIO				*e*S	Sn	09 09 15.3	+1.1
JMK	Ichinoseki	0.99	286	*e*P	Pn	09 09 07.0	+3.1
MIYJ	Miyakonagasawa	1.01	332	A	A	09 09 08.4	
	comp=N,33nm,0.4s,comp=E,14nm,1.1s						
JOM	Ohasama	1.19	312	*e*S	Sn	09 09 24.1	+2.5
JOM	Ohasama	1.19	312	A	A	09 09 24.1	
	comp=N,34nm,0.4s,comp=E,23nm,0.5s						
JTH	Tanohata	1.33	340	A	A	09 09 13.5	
	comp=N,6.0nm,0.6s,comp=E,8.0nm,0.8s						
JOU	Okura	1.43	258	A	A	09 09 13.6	
	comp=N,12nm,1.7s,comp=E,11nm,2.3s						
JMM	Marumori	1.53	238		Pn	09 09 09.2	-2.2
JMM	Marumori	1.53	238	*e*P	Pn	09 09 15.6	+4.2
JKZ	Kuzumaki	1.56	327	A	A	09 09 16.3	
	comp=N,10.0nm,2.8s,comp=E,11nm,0.6s						
JMST	Minamisoumatoc	1.56	232	A	A	09 09 15.9	
	comp=N,5.0nm,3.8s,comp=E,5.0nm,1.7s						
JSZI	Iwateshizukiis	1.56	313	A	A	09 09 15.9	
	comp=N,16nm,1.3s,comp=E,16nm,2.3s						
JRG	Rokugo	1.57	297	A	A	09 09 15.8	
	comp=N,9.0nm,0.7s,comp=E,9.0nm,1.7s						
JKEN	Kujiedanarisaw	1.62	340	A	A	09 09 17.6	
	comp=N,21nm,0.9s,comp=E,18nm,0.7s						
JYK	Kaneyama	1.64	279	A	A	09 09 16.6	
	comp=N,3.0nm,2.4s,comp=E,4.0nm,4.2s						
JANG	Nango	1.83	337	A	A	09 09 20.6	
	comp=N,7.0nm,0.5s,comp=E,4.0nm,0.4s						
JYS	Shiratake	1.92	257	A	A	09 09 20.7	
	comp=N,7.0nm,1.5s,comp=E,11nm,1.2s						
JYW	Yuwa	1.93	297	A	A	09 09 21.0	
	comp=N,17nm,1.4s,comp=E,26nm,1.0s						
JYAR	Yonezawaarcadi	1.97	248	A	A	09 09 21.5	
	comp=N,26nm,1.1s,comp=E,23nm,1.1s						
JYYZ	Yamagatayuza	1.99	280	A	A	09 09 21.6	
	comp=N,10.0nm,2.7s,comp=E,10.0nm,1.9s						
JOTO	OTAMA OYAMA	2.01	237	A	A	09 09 22.3	
	comp=N,11nm,1.8s,comp=E,9.0nm,1.5s						
ONAJ	Iwakimizuishiy	2.05	220	A	A	09 09 23.3	
	comp=N,5.0nm,0.3s,comp=E,5.0nm,0.2s						
JAH	Hinai	2.05	318	A	A	09 09 23.2	
	comp=N,6.0nm,0.7s,comp=E,7.0nm,1.0s						
JYA	Atsumi	2.14	268	A	A	09 09 23.8	
	comp=N,6.0nm,1.0s,comp=E,7.0nm,0.8s						
JTM	Tenmabayashi	2.35	334	Pn	Pn	09 09 22.5	-0.1
JTM	Tenmabayashi	2.35	334	A	A	09 09 28.0	
	comp=N,4.0nm,3.2s,comp=E,5.0nm,3.9s						
JNTW	Noshirotokiwa	2.37	313	A	A	09 09 27.6	
	comp=N,26nm,1.9s,comp=E,21nm,1.9s						
JHHS	Hirosakihyakuz	2.54	321	A	A	09 09 30.2	
	comp=N,18nm,2.6s,comp=E,15nm,3.2s						
JIW	Iwasaki	2.67	316	A	A	09 09 32.1	
	comp=N,8.0nm,1.6s,comp=E,5.0nm,1.6s						
JAHD	Aomorihigashid	2.71	342	A	A	09 09 33.4	
	comp=N,10.0nm,1.0s,comp=E,11nm,1.4s						
JSI2	Shiura 2	2.84	327	A	A	09 09 34.7	
	comp=N,8.0nm,2.1s,comp=E,7.0nm,0.9s						
JOG3	Oga3	2.88	296	A	A	09 09 27.6	
	comp=N,5.0nm,5.4s,comp=E,7.0nm,1.5s						
JSD	Sado	3.35	260		Pn	09 09 34.1	-2.3
ERM	Erimo	3.37	9		Pn	09 09 37.1	+0.5
ERM	Erimo	3.37	9	P	Pn	09 09 37.1	+0.5
JNBK	Urakawa-nobuka	3.60	4	A	A	09 09 46.8	
	comp=N,5.0nm,3.7s,comp=E,4.0nm,2.8s						
MJAR	Matsushiro Arr	3.98	239		Pn	09 09 42.4	-2.7
MJAR	Matsushiro Arr	3.98	239	P	Pn	09 09 46.3	+1.2
	comp=E,11nm,0.4s,baz=36,slow=13,SNR=33						
MJAR				S	Sn	09 10 40.1	+10
	comp=E,19nm,0.8s,baz=188,slow=17,SNR=5.7						
MJAR				LR	LR	09 11 40.6	
	comp=E,830nm,19.6s,baz=106,slow=43						
MJAR	Matsushiro Arr	3.98	239	P	Pn	09 09 42.4	-2.7
MAJO	Matsushiro	3.98	239		Pn	09 09 42.6	-2.5
MAJO	Matsushiro	3.98	239	*i* P	Pn	09 09 46.4	+1.3
NMR	Nemuro--Hokkai	5.30	27	⇓*i*P	Pn	09 10 02.1	-1.0
NMR				*e*S	Sn	09 10 58.6	-4.2
ASAJ	Asahikawa	5.43	1	P	Pn	09 10 05.2	+0.3
	comp=E,13nm,0.5s,baz=221,slow=8.3,SNR=35						
ASAJ				S	Sn	09 11 06.7	+0.7
	comp=E,30nm,0.4s,baz=250,slow=9.6,SNR=3.9						
ASAJ	Asahikawa	5.43	1	P	Pn	09 10 05.4	+0.5
JKA	Kamikawa-asahi	5.43	1	Pn	Pn	09 10 05.4	+0.5
INU	Inuyama	5.47	234	Pn	Pn	09 10 03.0	-2.5
RUSJ	Misakicho	5.81	20	*e*P	Pn	09 10 10.6	+0.5
RUSJ				*e*S	Sn	09 11 13.1	-2.3
YUK	Yuzh-Kuril'sk	5.93	25	*e*P	Pn	09 10 11.1	-0.7
YUK				*e*S	Sn	09 11 14.9	-3.5
YUK				pmax	pmax		
	comp=Z,176nm,0.3s						
YUK				pmax	pmax		
	comp=N,42nm,0.2s						
YUK				pmax	pmax		
	comp=E,67nm,0.2s						
YUK				smax	smax		
	comp=E,386nm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
JHJ	Hachijo jima 2	5.96	202		Pn	09 10 12.3	+0.1
JHJ	Hachijo jima 2	5.96	202	P	Pn	09 10 12.3	+0.1
	comp=N,38nm,0.3s,baz=107,slow=22,SNR=6.6						
JHJ				S	Sn	09 11 14.9	-4.3
	comp=N,48nm,0.3s,baz=230,slow=21,SNR=1.3						
KUR	Kuril'sk	7.69	30	*e*P	Pn	09 10 37.3	+1.4
KUR				*e*S	Sn	09 11 59.0	-2.6
KUR				pmax	pmax		
	comp=Z,61nm,0.6s						
KUR				smax	smax		
	comp=N,181nm,0.6s						
KUR				smax	smax		
	comp=E,142nm,0.6s						
TEY	Ternei	7.69	327	⇑*e*P	Pn	09 10 39.6	+3.6
TEY				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
YSS	Yuzhno-Sakhali	8.27	1	*e*P	Pn	09 10 44.2	+0.4
MSHR	Mys Shultsa	9.42	298	*i* P	Pn	09 10 59.0	-0.6
USRK	Ussuriysk Ar.	9.58	308	P	Pn	09 11 04.0	+2.1
	comp=E,16nm,0.7s,baz=118,slow=13,SNR=16						
JNU	Nakatsue	10.89	243	P	Pn	09 11 24.4	+4.5
	comp=E,5.9nm,0.6s,baz=69,slow=9.4,SNR=4.5						
MDJ	Mudanjiang	11.29	306	P	Pn	09 11 29.5	+4.3
MDJ				pmax	pmax		
	comp=E,11nm,1.0s						
KSRS	Korea Array	11.51	268	P	Pn	09 11 31.4	+3.2
	comp=E,2.2nm,0.6s,baz=81,slow=13,SNR=7.8						
KSRS	Korea Array	11.51	268	P	Pn	09 11 31.5	+3.2
TYV	Tymovskoe	12.18	1	*e*P	Pn	09 11 39.8	+2.5
TYV				*e*S	Sn	09 13 57.4	+5.8
TYV				pmax	pmax		
	comp=Z,100nm,4.2s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV				smax	smax		
	comp=N,100nm,2.7s						
TYV				smax	smax		
	comp=E,100nm,2.7s						
TYV				smax	smax		
	comp=N,7.0nm,1.6s						
TYV				smax	smax		
	comp=E,8.0nm,1.6s						
BNX	BinXian	13.18	307	⇑P	P	09 11 57.9	-2.5
BNX				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OKH	Okha	14.87	1	*de*P	Pn	09 12 10.6	-3.3
OKH				pmax	pmax		
	comp=Z,100nm,12.7s						
OKH				MLR	MLR		
	comp=N,400nm,16.0s						
HEH	HeiHe	15.74	322	*e*P	Pn	09 12 26.6	+1.3
HEH				pmax	pmax		
	comp=N,4.0nm,0.7s						
HEH				LR	LR		
	comp=N,340nm,17.0s						
HEH				LR	LR		
	comp=N,210nm,16.8s						
HEH				LR	LR		
	comp=N,420nm,17.2s						
ZEA	Zeya	18.30	330	*e*P	P	09 12 56.1	-1.0
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
HILR	Hailar Array B	19.50	311	P	P	09 13 07.2	-3.3
HILR	Hailar Array B	19.50	311	P	P	09 13 07.2	-3.3
	comp=Z,2.7nm,0.4s,baz=121,slow=10,SNR=6.0						
TIA	Tai'an	20.23	271	P	Pn	09 13 23.9	+3.3
TIA				pmax	pmax		
	comp=Z,16nm,1.0s						
NJ2	Nanjing	20.31	258	*e*P	P	09 13 17.4	-1.9
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	Baijiatuau	20.34	282	P	P	09 13 17.5	-2.1
BJT	Baijiatuau	20.34	282	P	P	09 13 17.5	-2.1
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MA2	Magadan	21.57	12	P	P	09 13 31.0	-1.6
	comp=Z,3.0nm,0.4s,baz=193,slow=13,SNR=6.0						
	comp=Z,3.0nm,0.4s						
MA2	Magadan	21.57	12	*ce*P	P	09 13 32.6	0.0
MA2				pmax	pmax		
	comp=Z,16nm,1.3s						
MA2	Magadan	21.57	12	P	P	09 13 33.3	+0.7
	comp=Z,21nm,0.8s						
HHC	Hu-ho-hao-te	23.77	285	*e*P	P	09 13 54.3	-1.4
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,5.9s						
HHC				LR	LR		
	comp=Z,100nm,9.4s						
HHC				LR	LR		
	comp=Z,210nm,10.3s						
HHC				LR	LR		
	comp=Z,280nm,10.4s						
LYN	LuoYang	24.35	270	P	P	09 14 03.6	+2.6
LYN				S	S	09 18 22.3	+4.5
LYN				pmax	pmax		
	comp=Z,22nm,0.6s						
LYN				LR	LR		
	comp=Z,500nm,17.2s						
LYN				LR	LR		
	comp=Z,330nm,18.6s						
LYN				LR	LR		
	comp=Z,700nm,21.3s						
WHN	Wuhan	24.43	259	P	P	09 14 04.6	+2.9
WHN				sP	sP	09 14 15.0	-1.8
YAK	Yakutsk	24.66	346	*e*P	P	09 14 03.8	+0.4
YAK				*e**PP	pP	09 14 12.4	-1.2
YAK				*e*		09 14 34.5	
YAK				*e*PPP	PPP	09 14 45.2	
YAK				*e*		09 17 38.2	
YAK	

SONM Songino Array 27.58 301 P **P 09 14 27.5 -2.7**
SONM Songino Array 27.58 301 P **P 09 14 29.0 -1.2**
comp=Z,0.6nm,0.4s,baz=99,slow=8.9,SNR=2.1
comp=Z,0.6nm,0.4s
SONM Songino Array 27.58 301 P **P 09 14 29.0 -1.2**
H11N2 WAKE ISLAND Hy 28.36 125 T T 09 45 09.8
baz=317,slow=75,SNR=872
H11N1 WAKE ISLAND Hy 28.37 125 T T 09 45 10.5
baz=317,slow=75,SNR=831
H11N3 WAKE ISLAND Hy 28.38 125 T T 09 45 12.3
baz=317,slow=75,SNR=199
H11S1 WAKE ISLAND Hy 29.14 127 T T 09 46 08.3
baz=319,slow=76,SNR=28
H11S3 WAKE ISLAND Hy 29.14 127 T T 09 46 08.1
baz=319,slow=76,SNR=42
H11S2 WAKE ISLAND Hy 29.15 127 T T 09 46 09.6
baz=319,slow=76,SNR=27
ZAK Zakamensk 29.92 306 *e*P P 09 14 45.4 -5.5
ZAK pmax pmax
comp=Z,8.0nm,1.3s
LZDM Lanzhou Array 30.78 277 P **P 09 14 58.7 -0.2**
LZDM Lanzhou Array 30.78 277 P **P 09 14 58.7 -0.2**
comp=Z,1.2nm,0.3s,baz=81,slow=8.9,SNR=1.7
comp=Z,1.2nm,0.3s
KMI Kunming 36.03 260 P **P 09 15 41.0 -3.6**
KMI pmax pmax
comp=Z,21nm,0.7s
PZH PanZhiHua 36.10 263 P **P 09 15 44.6 -0.5**
WMQ Urumqi 40.84 295 *e*P **P 09 16 24.9 +0.2**
WMQ LR LR
comp=Z,260nm,18.9s
WMQ LR LR
comp=Z,2μm,24.1s
ZALV Zalesovo Beam 41.42 311 P **P 09 16 27.8 -1.4**
ZALV Zalesovo Beam 41.42 311 P **P 09 16 27.9 -1.4**
comp=Z,3.9nm,0.5s,baz=90,slow=7.4,SNR=17
comp=Z,3.9nm,0.5s
ZALV Zalesovo Beam 41.42 311 *i* P **P 09 16 28.2 -1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
F17K Baldwin Pennin 41.88 30 P **P 09 16 34.1 +1.3**
F17K IAmb IAmb 09 16 40.6
comp=Z,9.3nm,1.0s
C18K Utukok River 42.44 27 P **P 09 16 39.4 +2.0**
C18K IAmb IAmb 09 16 51.6
comp=Z,25nm,1.4s
MK31 Makanchi Array 43.95 301 *ce*P **P 09 16 49.2 -0.6**
MKAR Makanchi Array 43.95 301 P **P 09 16 48.2 -1.7**
MKAR Makanchi Array 43.95 301 P **P 09 16 48.3 -1.5**
comp=Z,1.4nm,0.6s,baz=86,slow=9.8,SNR=12
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 43.95 301 P **P 09 16 48.3 -1.5**
MAKZ Makanchi 44.16 301 P **P 09 16 49.1 -2.4**
MAKZ Makanchi 44.16 301 P **P 09 16 49.1 -2.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
B21K Ikpikpuk River 44.95 26 P **P 09 16 58.7 +1.3**
B21K IAmb IAmb 09 17 17.7
comp=Z,14nm,0.8s
D22K Ayikyak River 45.52 27 P **P 09 17 03.4 +1.3**
KURK Kurchatov 45.57 307 P **P 09 17 01.2 -1.4**
KURK Kurchatov 45.57 307 *ce*P **P 09 17 01.5 -1.1**
KURK pmax pmax
comp=Z,19nm,1.0s
KURBB Kurchatov Arra 45.64 307 P **P 09 17 01.9 -1.3**
comp=Z,9.0nm,0.7s,baz=82,slow=8.3,SNR=72
comp=Z,9.0nm,0.7s
BRDH Bariadhala 45.93 265 LR LR 09 38 35.7
comp=Z,267nm,19.0s,baz=146,slow=39
IL31 47.67 33 P **P 09 17 20.4 +1.6**
IL31 IAmb IAmb 09 17 38.3
comp=Z,6.1nm,0.8s
ILAR Eielson Array 47.67 33 P **P 09 17 19.9 +1.0**
ILAR Eielson Array 47.67 33 P **P 09 17 19.6 +0.7**
comp=Z,1.1nm,1.0s,baz=262,slow=6.2,SNR=12
comp=Z,1.1nm,1.0s
ILAR Eielson Array 47.67 33 P **P 09 17 19.9 +1.0**
F26K Sheenjek River 48.65 29 P **P 09 17 28.5 +2.0**
BORK Borovoye 50.11 312 *ce*P **P 09 17 37.9 +0.1**
BORK pmax pmax
comp=Z,4.0nm,1.0s
I28M Miner Creek 50.53 32 P **P 09 17 42.6 +1.7**
I28M IAmb IAmb 09 18 00.9
comp=Z,5.9nm,0.8s
I29M Ogilvie Camp, 51.22 32 P **P 09 17 46.8 +0.8**
I29M IAmb IAmb 09 18 05.8
comp=Z,6.3nm,0.8s
G30M tAoh Zraii Nji 51.78 30 P **P 09 17 52.0 +1.8**
F30M Barrier River 51.84 29 P **P 09 17 52.8 +2.2**
F30M IAmb IAmb 09 18 11.2
comp=Z,14nm,1.1s
I30M Mount Dempster 52.04 32 P **P 09 17 52.8 +0.6**
I30M IAmb IAmb 09 18 12.8
comp=Z,14nm,0.9s
G31M Satah River 52.54 30 P **P 09 17 54.7 -1.0**
G31M IAmb IAmb 09 18 15.2
comp=Z,6.2nm,0.6s
H31M Peel River 52.75 31 P **P 09 17 59.0 +1.7**
KKAR Karatay Array 53.01 299 P **P 09 17 58.7 -0.9**
KKAR Karatay Array 53.01 299 P **P 09 17 58.7 -0.9**
SVE Sverdlovsk 54.45 318 *e*P **P 09 18 09.8 -0.1**
SVE pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 54.88 288 P **P 09 18 13.2 -0.2**
NIL pmax pmax
comp=Z,16nm,0.8s
KNRA Kununurra 55.58 196 P **P 09 18 16.1 -2.3**
KNRA IAmb IAmb 09 18 43.8
comp=Z,8.1nm,1.1s
CHGR Chuyangaron 55.70 295 P **P 09 18 18.3 -1.0**
CHGR pmax pmax
comp=Z,10.0nm,0.7s
ARTI Arti 55.78 318 **P 09 18 18.5 -1.0**
ARTI Arti 55.78 318 *i* P **P 09 18 20.4 +0.9**
ARTI pmax pmax
comp=Z,9.0nm,1.0s
AB31 Akbulak array 57.51 310 **P 09 18 30.3 -1.6**
AB31 IAmb IAmb 09 18 52.3
comp=Z,5.3nm,0.6s
ABKAR Akbulak array 57.51 310 P **P 09 18 30.3 -1.6**
WB0 Warramunga Arr 58.63 189 **P 09 18 38.0 -2.0**
WB0 IAmb IAmb 09 18 44.4
comp=Z,6.8nm,0.8s
WRAB Tennant Creek 58.80 189 *i* P **P 09 18 40.5 -0.6**
WR8 Warramunga Arr 58.81 189 P **P 09 18 40.7 -0.5**
WR8 IAmb IAmb 09 18 45.7
comp=Z,5.5nm,0.7s
WRA Warramunga Arr 58.81 189 P **P 09 18 38.7 -2.5**
WRA Warramunga Arr 58.81 189 P **P 09 18 44.9 +3.7**
comp=Z,5.4nm,0.8s,baz=7.1,slow=7.0,SNR=16
comp=Z,5.4nm,0.8s
WRA Warramunga Arr 58.81 189 P **P 09 18 44.9 +3.7**
AS31 Alice Springs 62.54 189 P **P 09 19 05.5 -1.1**
ASAR Alice Springs 62.54 189 P **P 09 19 05.8 -0.7**
ASAR Alice Springs 62.54 189 P **P 09 19 09.9 +3.3**
comp=Z,2.3nm,0.7s,baz=10,slow=5.3,SNR=28
comp=Z,2.3nm,0.7s
ASAR Alice Springs 62.54 189 P **P 09 19 09.9 +3.3**
ARCES ARCESS Array B 62.74 339 P **P 09 19 05.9 -1.5**
comp=Z,3.2nm,0.9s,baz=33,slow=7.3,SNR=6.3
comp=Z,3.2nm,0.9s
ARCES ARCESS Array B 62.74 339 P **P 09 19 05.9 -1.5**
OBN Obninsk 67.26 323 ||*e*P **P 09 19 38.5 +1.6**
OBN *e* 09 22 05.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,69nm,16.0s
FINES FINESS Array B 67.73 332 P **P 09 19 38.8 -1.0**
FINES FINESS Array B 67.73 332 P **P 09 19 38.0 -1.8**
comp=Z,2.4nm,0.8s,baz=68,slow=6.7,SNR=10
comp=Z,2.4nm,0.8s
FINES FINESS Array B 67.73 332 *i* P **P 09 19 42.2 +2.4**
FINES pmax pmax
comp=Z,5.0nm,0.7s
AKT Akhty 68.75 307 *e*P **P 09 19 44.2 -2.5**
AKT pmax pmax
comp=Z,10.0nm,1.2s
KIV Kislovodsk 70.44 311 *e*P **P 09 19 58.6 +1.5**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 70.44 311 P **P 09 19 56.2 -0.9**
comp=Z,10nm,1.3s
KBZ Khabaz 70.44 311 P **P 09 19 56.8 -0.2**
KBZ Khabaz 70.44 311 P **P 09 19 56.8 -0.2**
comp=Z,5.7nm,1.0s,baz=60,slow=2.4,SNR=6.2
comp=Z,5.7nm,1.0s
KBZ Khabaz 70.44 311 *ce*P **P 09 19 56.7 -0.2**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 72.92 336 P **P 09 20 10.9 -0.7**
HFS Hagfors 72.92 336 P **P 09 20 10.9 -0.7**
comp=Z,2.4nm,0.7s,baz=46,slow=10,SNR=6.0
comp=Z,2.4nm,0.7s
HFS Hagfors 72.92 336 P **P 09 20 10.9 -0.7**
NB2 NORSAR Subarra 72.97 337 P **P 09 20 11.2 -0.7**
comp=Z,4.4nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.97 337 P **P 09 20 11.4 -0.5**
NOA NORSAR Array B 72.97 337 P **P 09 20 11.4 -0.5**
comp=Z,2.0nm,0.7s,baz=39,slow=6.0,SNR=7.9
NOA LR LR 09 54 51.9
comp=Z,113nm,21.6s,baz=10.0,slow=38
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 72.97 337 P **P 09 20 11.4 -0.5**
NVAR Mina Array Bea 73.35 54 P **P 09 20 17.1 +2.3**
comp=Z,1.2nm,1.0s,baz=281,slow=6.4,SNR=4.0
comp=Z,1.2nm,1.0s
AK03 Malin Array Si 73.47 322 P **P 09 20 13.4 -1.6**
AKASG Malin Array Be 73.49 322 P **P 09 20 13.9 -1.1**
comp=Z,2.2nm,0.7s,baz=47,slow=6.2,SNR=9.6
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 73.49 322 P **P 09 20 14.0 -1.1**
AKBB Malin Array Si 73.49 322 *ce*P **P 09 20 14.5 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 73.49 322 P **P 09 20 13.5 -1.6**
AK01 Malin Array Si 73.50 322 P **P 09 20 14.0 -1.1**
KIEV Kiev 73.50 322 P **P 09 20 13.8 -1.3**
AK04 Malin Array Si 73.50 322 P **P 09 20 14.0 -1.1**
AK09 Malin Array Si 73.52 322 P **P 09 20 14.1 -1.1**
AK08 Malin Array Si 73.52 322 P **P 09 20 14.1 -1.1**
AK22 Malin Array Si 73.52 323 P **P 09 20 14.1 -1.1**
LUBAR Lubar, Ukraine 74.71 322 P **P 09 20 21.0 -1.2**
PDAR Pinedale Array 75.93 46 P **P 09 20 30.9 +1.1**
comp=Z,0.8nm,0.6s,baz=263,slow=2.5,SNR=4.0
comp=Z,0.8nm,0.6s
BUR08 Bucovina Ar. S 77.50 322 P **P 09 20 37.7 -0.6**
BRTR Keskin Array B 78.36 312 P **P 09 20 43.2 -0.1**
comp=Z,0.9nm,0.6s,baz=100,slow=3.6,SNR=4.5
comp=Z,0.9nm,0.6s
BRTR Keskin Array B 78.36 312 P **P 09 20 43.2 -0.1**
STEB Steborice 79.20 327 *e*P P 09 20 52.2 +4.7
CLL Collm 80.06 331 *i* P **P 09 20 51.5 -0.6**
CLL *i* 09 20 56.3
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 80.06 331 *i* P **P 09 20 51.5 -0.6**
comp=Z,5.0nm,1.0s
CLL *i* x x 09 20 56.3
comp=Z,8.0nm,1.0s
CLL *e*PcP **PcP 09 20 59.0 -0.5**
CLL *e*(pP) **sP 09 21 06.0 -1.9**
CLL *es*P **pP 09 21 10.0 +6.6**
RONA Rosalia, Austr 81.53 327 *e*P **P 09 21 00.2 0.0**
comp=Z,4.1nm,0.7s
CONA Conrad Observa 81.55 327 *e*P **P 09 20 59.4 -0.8**
comp=Z,2.5nm,0.7s
KHC Kasperske Hory 81.56 329 *e*P P 09 21 04.9 +4.7
KHC Kasperske Hory 81.56 329 *e*P P 09 21 04.9 +4.7
GERES GERESS Array B 81.73 329 P **P 09 21 01.0 -0.2**
comp=Z,1.0nm,0.7s,baz=23,slow=5.1,SNR=6.0
comp=Z,1.0nm,0.7s
GERES GERESS Array B 81.73 329 P **P 09 21 01.0 -0.2**
SOKA Soboth 82.87 327 *i* P **P 09 21 06.9 -0.3**
comp=Z,5.0nm,0.7s
OBKA Obir 83.21 327 *i* P **P 09 21 08.6 -0.4**
comp=Z,3.0nm,1.0s
KBA Koelnbreinsper 83.27 328 *i* P **P 09 21 08.3 -1.1**
comp=Z,6.5nm,1.6s
ABTA Abfaltersbach 83.88 328 *i* P **P 09 21 11.6 -0.8**
comp=Z,5.6nm,1.4s
MOTA Moosalm 83.98 329 *i* PcP **P 09 21 13.3 +0.3**
comp=Z,6.2nm,1.3s
RETA Reutte 84.00 329 *i* PcP **P 09 21 13.6 +0.6**
comp=Z,3.5nm,0.8s
LIT Litokhoron 84.28 318 P **P 09 21 15.6 +1.1**
LIT pmax pmax
comp=Z,10.0nm,0.9s
DAVA Damuels 84.51 330 *e*PcP **P 09 21 15.8 +0.1**
comp=Z,4.4nm,0.7s
TXAR Lajitas Array 88.47 53 P **P 09 21 36.8 +1.5**
comp=Z,0.6nm,0.7s,baz=254,slow=1.9,SNR=4.4
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 88.47 53 P **P 09 21 36.8 +1.5**
QSPA South Pole Qui 128.43 180 PKP **PKiKP 09 27 50.3 +1.4**
comp=Z,0.8nm,0.5s,baz=281,slow=0.6,SNR=7.7
TROLL Troll, Antarti 141.06 199 ||P **Pdif 09 25 37.7 +8.2**
comp=Z,46nm,0.8s
SNAA Sanae 142.56 197 ||P **Pdif 09 25 28.1 -8.1**
comp=Z,23nm,0.8s
SNAA Sanae 142.56 197 PKP **PKPdf 09 28 13.9 -0.5**
comp=Z,0.6nm,0.6s,baz=177,slow=4.0,SNR=11
SNAA Sanae 142.56 197 PKIKP **PKPdf 09 28 13.9 -0.5**

IDC 19 09:12:13.1±2.0, 30°.39S×178°.46W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=58.8km s-min=35.4km az=45.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.71	267	P	P	09 20 12.4	+0.3
	0.3nm,0.5s,baz=105,slow=7.2,SNR=6.6						
	0.3nm,0.5s						
WRA	Warramunga Arr	43.70	272	P	P	09 20 19.9	-0.2
	0.5nm,0.3s,baz=111,slow=8.1,SNR=13						
	0.5nm,0.3s						
QSPA	South Pole Qui	59.72	180	P	P	09 22 19.5	+0.1
	0.9nm,0.5s,baz=64,slow=2.1,SNR=9.6						
	0.9nm,0.5s						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	09 31 49.4	-1.5
	2.2nm,0.9s,baz=36,slow=6.3,SNR=7.6						

*SKHL **19** 09:46:05.1±0.0, 45°.90N×143°.40E, h345km±1km, mb3.8/1, msha4.5/1*
*JMA **19** 09:46:05.8±0.3, 46°N±2°×14°3E±°, h348km±2km, MV3.4/32, NE OFF HOKKAIDO*
*IDC **19** 09:46:06.4±1.1, 45°.96N×142°.99E, h343km±13km, mb2.7/8, mbtmp3.5/12, Error ellipse: s-maj=20.2km s-min=15.6km az=139.0*

ISC 19 09:46:05.6±0.7, 45°.78N±0°.06×143°.14E±0°.07, h341km±6km, n32, σ1°29/41, mb3.0/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.91	206	P	Pn	09 46 50.8	+0.8
JWK2	Keihoku	0.99	243	P	Pn	09 46 51.4	+1.1
JWK2				*es*S	S	09 47 26.6	+0.5
YSS	Yuzhno-Sakhali	1.21	347	*e*P	Pn	09 46 51.2	+0.1
YSS				AMB	AMB	09 46 52.4	
	20nm,0.4s						
YSS				*es*S	S	09 47 27.2	-0.5
YSS				A	A	09 47 27.6	
	60nm,0.8s						
YSS				A	A	09 47 27.6	
	40nm,0.8s						
JRR	Rishiri	1.44	244	*e*P	Pn	09 46 53.3	+0.9
JRBN	Rebuntou	1.50	257	*e*P	Pn	09 46 53.0	+0.3
JRBN				*es*S	S	09 47 28.9	-1.6
ASAJ	Asahikawa	1.70	193	P	Pn	09 46 55.8	+1.6
	18nm,0.4s,baz=15,slow=6.7,SNR=44						
ASAJ	Asahikawa	1.70	193	*e*P	Pn	09 46 55.5	+1.4
JMP	Maruseppu	1.77	175	*e*P	Pn	09 46 55.8	+1.2
JTKR	Abashiri--Toko	1.89	163	*e*P	Pn	09 46 56.7	+1.4
JTKR				*es*S	S	09 47 36.7	+1.6
JKK2	Kamakawa 2	1.92	189	*e*P	Pn	09 46 57.0	+1.5
JAR	Ashorobuto	2.52	170	*e*P	Pn	09 47 01.9	+1.8
JAK	Akkeshi	2.99	158	*e*P	Pn	09 47 04.7	+0.5
JAK				*es*S	S	09 47 50.2	-1.1
AKK	Akkeshi	3.02	156	*e*P	Pn	09 47 04.6	+0.2
NMR	Nemuro--Hokkai	3.03	142	*e*P	Pn	09 47 04.3	-0.3
NMR				*es*S	S	09 47 50.3	-1.7
NEM2	Nemuro 2	3.04	141	*e*P	Pn	09 47 03.8	-0.9
NEM2				*es*S	S	09 47 49.9	-2.3
JCH	Churui	3.17	177	*e*P	Pn	09 47 06.1	+0.3
JCH				*es*S	S	09 47 51.4	-2.8
JNBK	Urakawa-nobuka	3.51	185	*e*P	Pn	09 47 09.9	+0.8
JOSM	Okushiri--Mats	4.54	217	*e*P	Pn	09 47 20.7	+0.9
JOT	Ohata	4.65	200	*e*P	Pn	09 47 21.3	+0.3
JOT				*es*S	S	09 48 19.1	-2.7
JOMM	Oshimamatsumae	4.82	209	*e*P	Pn	09 47 23.8	+1.0
USRK	Ussuriysk Ar.	8.06	263	P	Pn	09 48 01.4	+1.1
	3.5nm,0.7s,baz=67,slow=12,SNR=4.2						
MJAR	Matsushiro Arr	9.94	204	P	P	09 48 25.2	+0.4
	0.9nm,0.4s,baz=24,slow=8.6,SNR=6.5						
PETK	Petropavlovsk-	11.97	47	P	Pn	09 48 47.4	+0.5
	0.9nm,0.6s,baz=232,slow=9.9,SNR=4.6						
SEY	Seymchan	17.98	14	P	P	09 49 51.8	-0.6
	2.4nm,0.4s,baz=202,slow=10,SNR=15						
MKAR	Makanchi Array	41.13	294	P	P	09 53 16.4	-0.9
	0.2nm,0.5s,baz=88,slow=10,SNR=1.6						
	0.2nm,0.5s						
ILAR	Eielson Array	41.58	37	P	P	09 53 19.2	-1.4
	0.3nm,0.6s,baz=281,slow=10,SNR=5.1						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	42.12	301	P	P	09 53 24.1	-1.1
	0.3nm,0.3s,baz=74,slow=8.8,SNR=4.9						
	0.3nm,0.3s						
FINES	FINESS Array B	61.74	331	P	P	09 55 47.2	-1.0
	0.6nm,0.4s,baz=62,slow=5.5,SNR=5.9						
	0.6nm,0.4s						
NVAR	Mina Array Bea	68.88	56	P	P	09 56 35.8	+1.5
	0.2nm,0.4s,baz=340,slow=5.4,SNR=2.0						
	0.2nm,0.4s						
ASAR	Alice Springs	69.62	189	P	P	09 56 40.1	+1.5
	0.1nm,0.5s,baz=2.0,slow=5.3,SNR=4.9						
	0.1nm,0.5s						
PDAR	Pinedale Array	70.73	48	P	P	09 56 46.2	+0.7
	0.3nm,0.7s,baz=236,slow=2.6,SNR=4.4						
	0.3nm,0.7s						
TXAR	Lajitas Array	83.83	54	P	P	09 57 58.3	+0.6
	0.1nm,0.4s,baz=313,slow=4.6,SNR=4.1						
	0.1nm,0.4s						

*IDC **19** 09:51:36.8±0.6, 18°.39S×172°.58W, h0km, mb4.2/13, mbtmp4.2/13, MS3.9/32, Error ellipse: s-maj=24.1km s-min=17.1km az=129.0*
*NEIC **19** 09:51:40.0±0.9, 18°.8S±0°.2×171°.9W±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=28.6km s-min=16.5km az=8.0*
*GCMT **19** 09:51:42.0±0.4, 18°.58S±0°.05×172°.29W±0°.04, h16km±1km, MW4.9/74, Moment Tensor Solution. s13,c14; s74,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.27±.22; $M_{\theta\theta}$0.79±.14; $M_{\phi\phi}$1.48±.14; $M_{r\theta}$0.27±.47; $M_{\theta\phi}$0.71±.08; $M_{\phi r}$1.40±.42; Best double couple: $M_0$2.52800×10^{16} NP1:ϕ_s39.00000°, δ29.00000°, λ-74.00000°. NP2: ϕ_s201.00000°, δ62.00000°, λ-99.00000°. Principal axes: T 2.3200, Plg17.0000°, Azm298.0000°; N 0.4150, Plg8.0000°, Azm205.0000°; P -2.7350, Plg72.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 09:51:42.2±0.4, 18°.66S±0°.09×172°.04W±0°.06, h35km, n105, σ1°91/82, mb4.6/26, MS4.0/32, 5C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.05	102		Pn	09 52 12.2	-1.9
FUTU	Fugatoga	7.26	306	Pn	Pn	09 53 25.9	+0.1
MSVF	Nonsavu	9.46	274	Pn	Pn	09 53 56.0	-0.1
RAR	Rarotonga	11.82	104	Pn	Pn	09 54 26.2	-2.1
RAR	Rarotonga	11.82	104	LR	LR	09 57 48.3	
	comp=Z,864nm,21.8s,baz=257,slow=30						
DZM	Mont Dzumac	20.45	257	P	P	09 56 10.4	-6.5
	4.8nm,0.6s,baz=84,slow=19,SNR=6.2						
	4.8nm,0.6s						
PPT2	Papeete2	21.38	91	*e*P	P	09 56 25.8	-1.1
	138nm,32.2s						
PPT2				*e*S	S	10 00 22.1	-0.5
	670nm,25.0s						
PPT2				*e*LR	LR	10 01 18.8	
	843nm,28.2s						
PPT2				*e*LR	LR	10 01 30.9	
	1μm,25.2s						
PPT	Papeete	21.38	91	LR	LR	10 02 21.8	
	comp=Z,367nm,20.2s,baz=258,slow=30						
URZ	Urewera	21.70	204	P	P	09 56 29.7	-0.4
	16nm,0.9s,baz=258,slow=5.0,SNR=7.0						
URZ				LR	LR	10 06 51.5	
	comp=Z,78nm,18.7s,baz=18,slow=42						
	16nm,0.9s						
HNR	Honiara	28.64	285	LR	LR	10 06 59.8	
	comp=Z,375nm,21.4s,baz=90,slow=33						
TAOE	Nuku Hiva Isla	32.42	77	*e*LR	LR	10 06 35.6	
	278nm,23.0s						
EIDS	Eidsvold	34.75	252	P	P	09 58 30.3	+0.9
EIDS				IAmb	IAmb	09 58 33.3	
	comp=Z,14nm,1.2s						
RKT	Rikitea	34.85	104	*e*LR	LR	10 07 45.1	
	comp=Z,3μm,28.0s						
ARMA	Armidale	34.91	243	P	P	09 58 31.7	+0.8
ARMA				IAmb	IAmb	09 58 42.9	
	comp=Z,22nm,1.4s						
CTA	Charters Tower	39.30	261	LR	LR	10 13 12.6	
	comp=Z,6.5nm,19.9s,baz=50,slow=33						
PMG	Port Moresby	40.55	277	LR	LR	10 13 57.3	
	comp=Z,286nm,18.4s,baz=105,slow=34						
TOO	Toolangi	41.52	234	P	P	09 59 27.1	+0.9
TOO				IAmb	IAmb	09 59 42.0	
	comp=Z,17nm,1.5s						
H11S2	WAKE ISLAND Hy	42.41	329	T	T	10 45 08.9	
	baz=147,slow=75,SNR=31						
H11S3	WAKE ISLAND Hy	42.42	329	T	T	10 45 08.9	
	baz=147,slow=75,SNR=19						
H11S1	WAKE ISLAND Hy	42.43	329	T	T	10 45 10.9	
	baz=147,slow=75,SNR=25						
COEN	Coen	43.15	269	P	P	09 59 40.9	+1.1
H11N3	WAKE ISLAND Hy	43.37	330	T	T	10 45 55.4	
	baz=150,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	43.37	330	T	T	10 45 42.9	
	baz=150,slow=76,SNR=13						
H11N2	WAKE ISLAND Hy	43.38	330	T	T	10 45 50.5	
	baz=150,slow=76,SNR=12						
STKA	Stephens Creek	43.63	243	LR	LR	10 15 34.9	
	comp=Z,175nm,18.8s,baz=44,slow=33						
INKA	Innaminka	44.10	249	P	P	09 59 47.0	-0.3
JAY	Jayapura	48.94	283	LR	LR	10 19 44.0	
	comp=Z,160nm,21.5s,baz=116,slow=35						
WR0	Warramunga Arr	50.25	259	P	P	10 00 31.7	-3.6
WR8	Warramunga Arr	50.29	259		P	10 00 31.8	-3.9
WR8				IAmb	IAmb	10 00 40.8	
	comp=Z,17nm,1.4s						
AS31	Alice Springs	50.41	254		P	10 00 33.6	-2.9
AS31				IAmb	IAmb	10 00 42.1	
	comp=Z,6.2nm,0.9s						
ASAR	Alice Springs	50.41	254		P	10 00 33.5	-3.1
ASAR	Alice Springs	50.41	254	P	P	10 00 32.9	-3.7
	comp=Z,4.7nm,0.8s,baz=87,slow=9.0,SNR=32						
ASAR				LR	LR	10 21 18.1	
	comp=Z,173nm,18.4s,baz=106,slow=36						
	comp=Z,4.7nm,0.8s						
WB0	Warramunga Arr	50.41	259		P	10 00 32.5	-4.2
WB2	Warramunga Arr	50.43	259	P	P	10 00 33.1	-3.7
WB2				IAmb	IAmb	10 00 42.9	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	50.44	259		P	10 00 32.8	-4.0
WRA	Warramunga Arr	50.44	259	P	P	10 00 32.0	-4.8
	comp=Z,2.7nm,0.7s,baz=97,slow=8.6,SNR=32						
WRA				LR	LR	10 19 26.5	
	comp=Z,193nm,21.9s,baz=63,slow=33						
	comp=Z,2.7nm,0.7s						
GUMO	Guam	53.20	304	LR	LR	10 20 11.3	
	comp=Z,61nm,21.7s,baz=136,slow=33						
MTN	Manton Dam	54.81	267	P	P	10 01 07.8	-1.4
RPN	Rapa Nui	57.88	111	LR	LR	10 20 20.1	
	comp=Z,164nm,19.7s,baz=302,slow=30						
FITZ	Fitzroy Crossi	58.86	260	P	P	10 01 36.8	-1.0
FITZ	Fitzroy Crossi	58.86	260	LR	LR	10 25 21.1	
	comp=Z,236nm,19.6s,baz=108,slow=35						
SBA	Scott Base	60.13	185	P	P	10 01 47.2	+1.5
SBA				IAmb	IAmb	10 01 51.5	
	comp=Z,8.3nm,1.3s						
VNDA	Vanda	60.29	186	P	P	10 01 48.1	+1.3
VNDA				IAmb	IAmb	10 01 57.3	
	comp=Z,4.1nm,1.2s						
VNDA	Vanda	60.29	186	P	P	10 01 48.4	+1.6
	comp=Z,0.9nm,0.9s,baz=355,slow=6.3,SNR=4.6						
	comp=Z,0.9nm,0.9s						
BATI	Baumata	62.56	268	LR	LR	10 28 32.1	
	comp=Z,145nm,19.3s,baz=140,slow=36						
JCJ	Chichijima	63.55	314	LR	LR	10 24 52.6	
	comp=Z,94nm,20.9s,baz=172,slow=32						
NWAO	Narrogin (SRO)	64.20	242	LR	LR	10 27 54.3	

comp=Z,82nm,18.6s,baz=276,slow=34
DAV Davao City (W) 66.58 287 LR LR 10 29 21.7
comp=Z,37nm,18.7s,baz=142,slow=34
H06S1 SOCORRO T 70.55 62 T T 11 20 02.8
SNR=26
QSPA South Pole Qui 71.41 180 P **P** **10 03 00.3 +1.7**
QSPA South Pole Qui 71.41 180 P **P** **10 03 02.0 +3.3**
comp=Z,4.1nm,1.0s,baz=166,slow=1.0,SNR=12
QSPA LR LR 10 31 37.3
comp=Z,45nm,18.7s,baz=44,slow=34
comp=Z,4.1nm,1.0s
SHEM Shemya Is, Ala 72.10 351 LR LR 10 26 34.9
comp=Z,70nm,21.5s,baz=62,slow=29
MJAR Matsushiro Arr 72.25 320 P **P** **10 03 02.1 -1.9**
comp=Z,1.0nm,0.8s,baz=161,slow=6.4,SNR=4.4
MJAR LR LR 10 29 18.4
comp=Z,93nm,21.4s,baz=113,slow=32
comp=Z,1.0nm,0.8s
JOW Kunigami 73.45 306 LR LR 10 29 05.6
comp=Z,156nm,21.8s,baz=268,slow=31
LPIG La Paz 73.67 57 LR LR 10 28 43.5
comp=Z,106nm,19.0s,baz=202,slow=30
PFO Pinyon Flats O 74.22 46 LR LR 10 29 57.5
comp=Z,145nm,21.1s,baz=244,slow=31
JNU Nakatsue 74.96 313 LR LR 10 30 01.9
comp=Z,58nm,21.9s,baz=106,slow=31
ASAJ Asahikawa 74.97 328 LR LR 10 31 00.7
comp=Z,63nm,21.4s,baz=154,slow=32
NVAR Mina Array Bea 75.90 41 P **P** **10 03 26.3 +0.8**
comp=Z,0.8nm,0.7s,baz=226,slow=9.4,SNR=6.8
NVAR LR LR 10 30 06.9
comp=Z,94nm,20.8s,baz=199,slow=30
comp=Z,0.8nm,0.7s
KDAK Kodiak Island 77.86 11 LR LR 10 31 09.5
comp=Z,114nm,19.2s,baz=152,slow=30
BELA Belgrano 2 80.61 172 **P** **10 03 52.0 +1.3**
BELA IAmb IAmb 10 03 59.9
comp=Z,11nm,1.3s
PMSA Palmer Station 80.69 156 LR LR 10 31 13.0
comp=Z,97nm,20.9s,baz=266,slow=29
MNTX Cornudas Mount 81.15 52 **P** **10 03 55.0 +0.6**
MNTX IAmb IAmb 10 04 05.5
comp=Z,13nm,1.4s
TXAR Lajitas Array 81.37 55 P **P** **10 03 57.2 +1.5**
comp=Z,2.7nm,1.0s,baz=217,slow=6.0,SNR=16
comp=Z,2.7nm,1.0s
NJ2 Nanjing 83.15 307 *e*P **P** **10 04 08.0 +3.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 83.64 342 LR LR 10 33 30.9
comp=Z,28nm,21.7s,baz=84,slow=30
PDAR Pinedale Array 83.83 41 P **P** **10 04 08.4 0.0**
comp=Z,1.6nm,0.8s,baz=209,slow=3.8,SNR=13
comp=Z,1.6nm,0.8s
ILAR Eielson Array 85.38 11 P **P** **10 04 13.6 -1.8**
comp=Z,0.6nm,0.6s,baz=223,slow=6.1,SNR=11
comp=Z,0.6nm,0.6s
PLCA Paso Flores 86.38 132 P **P** **10 04 23.4 +2.2**
comp=Z,1.8nm,1.0s,baz=266,slow=4.9,SNR=2.9
comp=Z,1.8nm,1.0s
TROLL Troll, Antarti 89.49 178 ⇓P **P** **10 04 33.8 -1.7**
comp=Z,112nm,0.8s
VNA3 Neumayer Olymp 89.51 174 ⇑P **P** **10 04 35.8 +0.4**
comp=Z,2.2nm,1.0s
SNAA Sanae 89.60 177 ⇑P **P** **10 04 35.2 -0.7**
comp=Z,43nm,0.9s
SNAA Sanae 89.60 177 P **P** **10 04 36.0 +0.1**
SNAA IAmb IAmb 10 04 36.9
comp=Z,3.4nm,1.1s
SNAA Sanae 89.60 177 P **P** **10 04 35.7 -0.3**
comp=Z,1.9nm,0.9s,baz=181,slow=6.1,SNR=7.1
SNAA LR LR 10 44 49.0
comp=Z,45nm,18.5s,baz=200,slow=36
comp=Z,1.9nm,0.9s
SYO Syowa Base 89.67 191⇑*e*P **P** **10 04 35.8 -0.4**
VNA2 Neumayer--Watz 90.02 175 ⇑P **P** **10 04 38.3 +0.5**
comp=Z,2.1nm,0.6s,baz=178,slow=3.7
VNA1 Neumayer--Stat 90.21 175 ⇑P **P** **10 04 39.2 +0.5**
comp=Z,3.1nm,0.8s
ATAH Atahualpa 91.18 98 LR LR 10 37 42.9
comp=Z,115nm,18.7s,baz=305,slow=30
HHC Hu-ho-hao-te 92.18 312 *e*P **P** **10 04 51.6 +3.2**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,50nm,4.0s
CMAR Chiang Mai Arr 94.85 288 LR LR 10 43 03.8
comp=Z,39nm,21.9s,baz=280,slow=33
PZH PanZhiHua 94.88 296 P P 10 05 04.6 +3.4
LPAZ La Paz 97.49 110 LR LR 10 39 23.7
comp=Z,108nm,20.3s,baz=280,slow=29
ILGA Ilgaz 148.63 321 PKPdf **PKPdf** **10 11 20.6 -1.7**
ILGA PKPbc **PKPbc** **10 11 26.3 +0.2**
BRTR Keskin Array B 149.47 319 **PKPdf** **10 11 23.8 +0.2**
BRTR PKPbc **PKiKP** **10 11 27.9 -1.4**
BRTR Keskin Array B 149.47 319 PKPbc **PKiKP** **10 11 27.7 -1.5**
comp=Z,3.6nm,0.9s,baz=146,slow=2.4,SNR=14
GERES GERESS Array B 149.53 353 PKPbc **PKiKP** **10 11 28.1 -0.9**
comp=Z,0.9nm,0.6s,baz=345,slow=4.6,SNR=8.4
ANTO Ankara 149.91 320 PKPbc **PKiKP** **10 11 29.8 -0.3**
CONA Conrad Observa 150.10 349 *i* PKP **PKiKP** **10 11 29.9 -0.3**
comp=Z,15nm,1.4s
CONA *i* PKP **PKPab** **10 11 37.7 +2.5**
comp=Z,15nm,1.4s
RONA Rosalia, Austr 150.24 349 *i* pPKP **PKiKP** **10 11 30.0 -0.5**
comp=Z,5.6nm,0.8s
MOA Molln 150.43 351 *i* pPKP **PKiKP** **10 11 30.0 -0.8**
comp=Z,5.4nm,1.4s
MDUB Mudurnu 150.48 322 PKPbc **PKiKP** **10 11 31.6 +0.4**
MDUB PKPab **PKPab** **10 11 39.7 +2.6**
LESA Schwarzleotal 151.05 353 *e*pPKP **PKiKP** **10 11 31.3 -0.8**
comp=Z,5.7nm,1.4s
WATA Walderalm 151.24 355 *e*PKP **PKiKP** **10 11 32.3 -0.4**
comp=Z,4.4nm,0.7s
WATA *i* PKP **PKPab** **10 11 41.1 +1.1**
comp=Z,11nm,1.2s
MOTA Moosalm 151.27 356 *e*PKP **PKiKP** **10 11 32.2 -0.5**
comp=Z,11nm,1.2s
MOTA *i* PKP **PKPab** **10 11 41.1 +0.9**
comp=Z,14nm,1.5s
BORA Eskisehir 151.30 322 PKPdf **PKPdf** **10 11 25.8 -0.6**
BORA PKPbc **PKiKP** **10 11 32.4 -0.5**
BORA PKPab **PKPab** **10 11 40.9 +0.5**
WTTA Wattenberg 151.31 355 *i* PKP **PKiKP** **10 11 32.4 -0.4**
comp=Z,6.2nm,0.6s
WTTA *i* PKP **PKPab** **10 11 41.7 +1.3**
comp=Z,8.1nm,0.6s
KBA Koelnbreinsper 151.31 352 *e*pPKP **PKiKP** **10 11 32.0 -0.8**
comp=Z,5.1nm,0.9s
KBA *i* PKP **PKPab** **10 11 40.7 +0.4**
comp=Z,4.6nm,1.1s
SQTA Sankt Quirin 151.39 355 *i* PKP **PKiKP** **10 11 32.6 -0.3**
comp=Z,8.5nm,1.1s
DAVA Damuels 151.40 357 *e*PKP **PKiKP** **10 11 33.0 0.0**
comp=Z,7.2nm,1.5s
DAVA *i* PKP **PKPab** **10 11 41.6 +0.9**
comp=Z,16nm,1.8s
SOKA Soboth 151.45 350 *i* pPKP **PKiKP** **10 11 31.9 -1.1**
comp=Z,4.2nm,1.1s
MMAI Mount Meron Ar 151.56 306 PKPbc **PKiKP** **10 11 32.6 -1.1**
comp=Z,5.5nm,1.0s,baz=162,slow=3.9,SNR=4.6
OBKA Obir 151.69 350 *e*pPKP **PKiKP** **10 11 32.0 -1.5**
comp=Z,5.0nm,1.1s
MYKA Terra Mystica 151.71 352 *i* pPKP **PKiKP** **10 11 32.4 -1.2**
comp=Z,1.3nm,0.5s
ABTA Abfaltersbach 151.73 353 *i* pPKP **PKiKP** **10 11 32.7 -0.9**
comp=Z,13nm,1.4s
ABTA *i* PKP **PKPab** **10 11 41.5 -0.5**
comp=Z,16nm,1.4s
GHAJ Ghor Haditha 152.07 302 PKPab **PKPab** **10 11 43.2 -0.6**

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*NEIC **19** 10:04:19.6±0.7, 19°.223N±0°.010×155°.47W±0°.02, h42km±2km, Error ellipse: s-maj=2.8km s-min=1.4km az=101.0*
HVO 19 10:04:21.3±0.8, 19°.21N±0°.05×155°.45W±0°.03, h34km±7km, ML2.5/40, ML2.6/44(NEIC), Error ellipse: s-maj=7.8km s-min=1.7km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**60**		Pb	10 04 26.7	-0.4
HPO	**Honuapo**	**0.15**	**219**		Pb	10 04 27.0	-0.6
HPO					Sb	10 04 31.3	-0.6
KHU	**Kahuku**	**0.16**	**284**		Pb	10 04 27.1	-0.9
KHU					Sb	10 04 31.2	-1.3
HLP	**Hilina Pali**	**0.16**	**57**		Pb	10 04 27.2	-0.6
HLP					Sg	10 04 31.7	-0.5
HLP					Sb	10 04 31.9	
	comp=N,814nm,0.1s						
HLP				IAML		10 04 32.0	
	comp=E,945nm,0.2s						
AIN	**Ainahou**	**0.16**	**358**		Pb	10 04 27.3	-0.6
AIN					Sb	10 04 31.8	-0.7
SDHHI	**Sand Hill**	**0.23**	**39**		Pn	10 04 27.6	-0.2
SDHHI					Sb	10 04 32.4	-1.1
WRMHI	**West Rim**	**0.24**	**36**		Pn	10 04 27.6	-0.4
WRMHI					Sb	10 04 32.8	-0.8
RIM	**Rim**	**0.25**	**42**		Pn	10 04 27.7	-0.5
RIM					Sb	10 04 32.8	-1.0
KKO	**Keanakako'i**	**0.26**	**43**		Pn	10 04 27.8	-0.6
KKO					Sn	10 04 32.5	+0.4
UWE	**Uwekahuna**	**0.26**	**35**		Pn	10 04 27.8	-0.6
UWE					Sb	10 04 33.1	-0.8
UWE	**Uwekahuna**	**0.26**	**35**	IAML		10 04 33.2	
	comp=N,915nm,0.4s						
UWE				IAML		10 04 35.2	
	comp=E,1μm,0.3s						
OBL	**Observatory Le**	**0.26**	**37**		Pn	10 04 27.8	-0.7
OBL					Sn	10 04 32.6	+0.3
UWB	**Uwekahuna Bluf**	**0.27**	**37**		Pn	10 04 27.8	-0.9
UWB					Sn	10 04 32.6	-0.1
BYL	**Byron's Ledge**	**0.27**	**42**		Pn	10 04 27.9	-0.8
BYL					Sn	10 04 33.0	+0.2
BYL	**Byron's Ledge**	**0.27**	**42**	IAML		10 04 33.4	
	comp=E,432nm,0.2s						
BYL				IAML		10 04 36.7	
	comp=N,334nm,0.3s						
PUH	**Pauahi**	**0.28**	**53**		Pn	10 04 27.9	-0.8
PUH					Sn	10 04 32.8	-0.2
PUH	**Pauahi**	**0.28**	**53**	IAML		10 04 33.0	
	comp=E,583nm,0.3s						
PUH				IAML		10 04 33.0	
	comp=N,592nm,0.4s						
SBLHI	**Steaming Bluff**	**0.28**	**38**		Pn	10 04 24.9	-3.9
SBLHI					Sn	10 04 32.8	-0.2
HATHI	**Halema'uma'u T**	**0.28**	**40**		Pn	10 04 27.9	-0.9
HATHI				IAML		10 04 33.2	
	comp=E,703nm,0.4s						
HATHI	**Halema'uma'u T**	**0.28**	**40**		Sn	10 04 33.0	0.0
HATHI	**Halema'uma'u T**	**0.28**	**40**	IAML		10 04 33.0	
	comp=N,458nm,0.3s						
MLH	**Mauna Loa**	**0.29**	**12**	Pg	Pn	10 04 28.3	-0.8
MLH				IAML		10 04 38.9	
	comp=N,441nm,0.2s						
RSD	**Rainshed**	**0.30**	**33**		Pn	10 04 28.1	-1.1
RSD					Sn	10 04 33.2	-0.8
RSD	**Rainshed**	**0.30**	**33**	IAML		10 04 33.8	
	comp=E,475nm,0.2s						
RSD				IAML		10 04 35.0	
	comp=N,400nm,0.8s						
MWH	**Mokuaweoweo**	**0.31**	**333**		Pn	10 04 28.4	-1.0
MWH					Sn	10 04 34.0	-0.7
MWH	**Mokuaweoweo**	**0.31**	**333**	IAML		10 04 34.1	
	comp=N,751nm,0.3s						
MWH				IAML		10 04 34.1	
	comp=E,750nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.32**	**57**		Pb	10 04 28.4	-1.1
STCH	**Steam Cracks**	**0.35**	**60**		Pb	10 04 28.8	-1.2
STCH					Sn	10 04 34.4	-1.2
STCH	**Steam Cracks**	**0.35**	**60**	IAML		10 04 34.6	
	comp=E,22nm,0.1s						
STCH				IAML		10 04 34.9	
	comp=N,822nm,0.1s						
NPOC	**North of Pu'u**	**0.37**	**60**		Pb	10 04 26.7	-3.5
NPOC					Sn	10 04 34.7	-1.4
JCUZ	**Jacuzzi**	**0.37**	**62**		Pb	10 04 29.1	-1.1
JCUZ					Sn	10 04 34.8	-1.4
ALEP	**Alea Permanent**	**0.38**	**331**		Pb	10 04 28.9	-1.6
ALEP					Sn	10 04 34.5	-1.9
HMH	**Humu'ula Sheep**	**0.39**	**356**		Pb	10 04 29.7	-1.0
HMH					Sn	10 04 36.0	-1.0
HMH	**Humu'ula Sheep**	**0.39**	**356**	IAML		10 04 36.1	
	comp=N,306nm,0.2s						
HMH				IAML		10 04 36.5	
	comp=E,356nm,0.5s						
JOKA	**Jonika Flow**	**0.48**	**62**		Pb	10 04 30.1	-1.5
JOKA					Pn	10 04 36.7	+4.9
JOKA	**Jonika Flow**	**0.48**	**62**	IAML		10 04 37.1	
	comp=E,398nm,0.4s						
JOKA				IAML		10 04 40.4	
	comp=N,576nm,0.3s						
POHA	**Pohakuloa**	**0.55**	**352**		Sb	10 04 38.2	-2.8
POHA	**Pohakuloa**	**0.55**	**352**		Pn	10 04 31.1	-1.8
POHA				IAML		10 04 44.5	
	comp=N,147nm,0.6s						
POHA				IAML		10 04 52.8	
	comp=N,143nm,1.1s						
HUH	**Hualalai**	**0.60**	**323**		Pn	10 04 31.9	-1.6
HPAH	**Hawaii Prepara**	**0.85**	**344**		Pn	10 04 34.8	-2.2
HPAH	**Hawaii Prepara**	**0.85**	**344**	IAML		10 04 45.1	
	comp=E,151nm,0.3s						

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*IDC **19** 10:05:52.2±0.9, 19°.69N×109°.20W, h0km, mb3.9/8, mbtmp4.0/12, ML3.5/4, MS3.9/33, Error ellipse: s-maj=39.5km s-min=16.0km az=66.0*
*NEIC **19** 10:05:53.5±1.2, 19°.51N±0°.03×109°.30W±0°.05, h10km±1km, mb4.2/231, Error ellipse: s-maj=8.3km s-min=5.3km az=108.0*
*GCMT **19** 10:05:55.5±0.3, 19°.84N±0°.02×109°.11W±0°.02, h20km±1km, MW4.9/92, Moment Tensor Solution. s18,c20; s92,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.41±.12; $M_{\theta\theta}$-2.16±.09; $M_{\phi\phi}$2.57±.11; $M_{r\theta}$-0.21±.17; $M_{\theta\phi}$-0.60±.08; $M_{\phi r}$0.56±.17; Best double couple: $M_0$2.50000×10^{16} NP1:ϕ_s308.00000°, δ86.00000°, λ169.00000°. Principal axes: T 2.7530, Plg10.0000°, Azm263.0000°; N -0.5080, Plg79.0000°, Azm107.0000°; P -2.2470, Plg5.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MEX **19** 10:05:55.0±0.9, 19°.11N×109°.10W, h10km, MD4.9*
ISC 19 10:05:55.3±0.5, 19°.53N±0°.06×109°.22W±0°.04, h26km, n224, σ2§36/129, mb4.2/33, MS3.9/30, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**1.77**	**245**		**Pn**	**10 06 22.7**	**-1.6**
H06E					**Sn**	**10 06 42.9**	**-3.1**
H06E		**1.77**	**245**	*e*P	**Pn**	**10 06 22.7**	**-1.6**
H06E				*e*S	**Sn**	**10 06 42.9**	**-3.1**
H06E1	**SOCORRO T-PHAS**	**1.78**	**246**	T	T	10 06 45.7	
	SNR=1138						
H06N	**Isla Socorro**	**1.80**	**249**		**Pn**	**10 06 22.7**	**-2.0**
H06N					**Sn**	**10 06 43.2**	**-3.5**
H06N	**Isla Socorro**	**1.80**	**249**	*e*P	**Pn**	**10 06 22.7**	**-2.0**
H06N				*e*S	**Sn**	**10 06 43.2**	**-3.5**
H06S		**1.83**	**245**		**Pn**	**10 06 22.1**	**-2.9**
H06S					**Sn**	**10 06 43.8**	**-3.6**
H06S		**1.83**	**245**	*e*P	**Pn**	**10 06 22.1**	**-2.9**
H06S				*e*S	**Sn**	**10 06 43.8**	**-3.6**
CJM	**Chamela**	**3.94**	**90**	*e*P	Pn	10 06 48.9	-5.1
CJM				*i* S	**Sn**	**10 07 31.0**	**-8.4**
SLBS	**Sierra La Lagu**	**4.19**	**351**		**Pn**	**10 06 54.5**	**-3.2**
LPIG	**La Paz**	**4.66**	**348**	Pn	**Pn**	**10 07 01.5**	**-2.5**
	3.0nm,0.3s,baz=240,slow=3.8,SNR=6.3						
LPIG				LR	LR	10 08 26.9	
	comp=Z,3μm,18.7s,baz=144,slow=34						
	69nm,0.9s						
CDAR	**Ciudad de Arme**	**4.95**	**96**	*e*P	**Pn**	**10 07 07.1**	**-0.9**
CDAR				*e*S	Sn	10 07 52.2	-12
CEGR	**Campo Tres**	**5.06**	**91**	*e*P	**Pn**	**10 07 06.7**	**-3.0**
CEGR				*e*S	**Sn**	**10 08 00.5**	**-6.8**
SOMAC	**Volcano de Col**	**5.27**	**89**	*e*P	**Pn**	**10 07 10.8**	**-1.9**
SOMAC				*e*S	**Sn**	**10 08 11.2**	**-1.6**
MNGA	**Volcan de Coli**	**5.28**	**90**	*e*P	**Pn**	**10 07 11.5**	**-1.3**
MNGA				*e*S	**Sn**	**10 08 12.2**	**-0.8**
INCO	**Volcan de Coli**	**5.29**	**89**	*e*P	**Pn**	**10 07 11.8**	**-1.3**
INCO				*e*S	**Sn**	**10 08 08.9**	**-4.6**
EZ5V		**5.30**	**90**		**Pn**	**10 07 11.5**	**-1.5**
EZ5V		**5.30**	**90**	*e*P	**Pn**	**10 07 11.5**	**-1.5**
EZ5V				*e*S	**Sn**	**10 08 09.4**	**-4.0**
AAIG	**Aguscalientes**	**6.84**	**68**		**Pn**	**10 07 36.4**	**+2.1**
AAIG					**Sn**	**10 08 51.2**	**-0.3**
AAIG	**Aguscalientes**	**6.84**	**68**	*e*P	**Pn**	**10 07 36.4**	**+2.1**
AAIG				*e*S	**Sn**	**10 08 51.2**	**-0.3**
ZAIG	**Zacatecas**	**6.99**	**61**		**Pn**	**10 07 34.8**	**-1.6**
MOIG	**Morelia**	**7.57**	**88**		**Sn**	**10 09 05.2**	**-4.1**
MOIG	**Morelia**	**7.57**	**88**	Pn	**Pn**	**10 07 44.2**	**0.0**
MOIG	**Morelia**	**7.57**	**88**	*e*S	**Sn**	**10 09 05.2**	**-4.1**
HPIG		**8.06**	**23**		**Pn**	**10 07 49.9**	**-1.0**
SRIG	**Santa Rosalia**	**8.24**	**341**	Pn	**Pn**	**10 07 53.5**	**+0.4**
JRQG	**Juriquilla Cam**	**8.32**	**80**	Pn	**Pn**	**10 07 56.2**	**+1.6**
ARIG	**Puente Sto Nin**	**8.49**	**97**		Sn	10 09 22.6	-9.0
ARIG	**Puente Sto Nin**	**8.49**	**97**	*e*P	Pn	10 07 48.8	-7.8
ARIG				*e*S	Sn	10 09 22.6	-9.0
MEIG	**Mezcala**	**9.23**	**98**		Pn	10 08 02.2	-4.7
MEIG					**Sn**	**10 09 55.7**	**+5.6**
MEIG	**Mezcala**	**9.23**	**98**	*e*P	Pn	10 08 02.2	-4.7
MEIG				*e*S	**Sn**	**10 09 55.7**	**+5.6**
PLIG	**Platanillo**	**9.26**	**95**		**Pn**	**10 08 09.8**	**+2.5**
PLIG					**Sn**	**10 09 43.6**	**-7.2**
PLIG	**Platanillo**	**9.26**	**95**	*e*P	**Pn**	**10 08 09.8**	**+2.5**
PLIG				*e*S	**Sn**	**10 09 43.6**	**-7.2**
DAIG	**Los Arroyos**	**9.42**	**104**		**Pn**	**10 08 10.1**	**+0.7**
DAIG	**Los Arroyos**	**9.42**	**104**	*e*P	**Pn**	**10 08 10.1**	**+0.7**
HSIG		**9.58**	**351**		**Pn**	**10 08 11.4**	**-0.2**
YAIG	**Yautepec**	**9.61**	**92**		**Pn**	**10 08 11.3**	**-0.9**
YAIG					**Sn**	**10 09 53.2**	**-6.3**
YAIG	**Yautepec**	**9.61**	**92**	*e*P	**Pn**	**10 08 11.3**	**-0.9**
YAIG				*e*S	**Sn**	**10 09 53.2**	**-6.3**
TLIG	**Tlapa**	**10.29**	**99**		**Pn**	**10 08 23.1**	**+1.7**
TX31	**Lajitas Ar. Si**	**10.99**	**26**		**Pn**	**10 08 31.2**	**+0.3**
TXAR	**Lajitas Array**	**10.99**	**26**		**Pn**	**10 08 31.2**	**+0.3**
TXAR	**Lajitas Array**	**10.99**	**26**	Pn	**Pn**	**10 08 30.3**	**-0.6**
	0.1nm,0.3s,baz=196,slow=13,SNR=30						
TXAR				LR	LR	10 12 12.8	
	comp=Z,473nm,18.9s,baz=206,slow=35						
	6.9nm,1.0s						
319A	**Douglas**	**11.80**	**360**		**Pn**	**10 08 41.9**	**-0.1**
VHRN	**Van Horn**	**11.84**	**18**		**Pn**	**10 08 43.2**	**+0.5**
ALPN	**Alpine**	**11.92**	**24**		**Pn**	**10 08 44.1**	**+0.3**
SAND	**Sanderson**	**12.21**	**30**		**Pn**	**10 08 49.0**	**+1.3**
EPT	**El Paso**	**12.43**	**11**		**Pn**	**10 08 50.8**	**+0.1**
833A	**Chaparral WMA,**	**12.54**	**44**		**Pn**	**10 08 51.4**	**-0.7**
SFX	**San Felipe**	**12.54**	**337**		**Pn**	**10 08 51.4**	**-0.6**
MNTX	**Cornudas Mount**	**12.60**	**15**		**Pn**	**10 08 52.9**	**0.0**
PECS	**Pecos**	**12.74**	**21**		**Pn**	**10 08 55.5**	**+0.6**
214A	**Organ Pipe Nat**	**12.79**	**346**		**Pn**	**10 08 54.4**	**-1.1**
TUC	**Tucson**	**12.81**	**354**		**Pn**	**10 08 55.5**	**-0.3**
DUN6	**Lazy B Ranch**	**12.97**	**0**		**Pn**	**10 08 58.8**	**+0.7**
121A	**Cookes Peak, D**	**13.01**	**5**		**Pn**	**10 08 59.6**	**+0.9**
MNHN	**Monahans**	**13.12**	**25**		**Pn**	**10 09 00.2**	**+0.1**
VTX	**Valle De La Tr**	**13.21**	**335**		**Pn**	**10 09 00.8**	**-0.5**
HNDO	**Hondo**	**13.44**	**40**		**Pn**	**10 09 04.5**	**+0.1**
OZNA	**Ozona**	**13.49**	**31**		**Pn**	**10 09 05.6**	**+0.4**
CLNB	**Carlsbad**	**13.56**	**20**	Pn	**Pn**	**10 09 05.9**	**-0.1**
113A	**Mohawk Valley,**	**13.80**	**344**		**Pn**	**10 09 09.3**	**0.0**
ESJX	**Sierra Juarez**	**13.82**	**335**	Pn	**Pn**	**10 09 09.7**	**0.0**
CMIG	**Matias Romero**	**13.83**	**98**	LR	LR	10 14 10.2	
	comp=Z,1μm,18.2s,baz=272,slow=36						
HTMS	**Hat Mesa**	**13.83**	**20**	Pn	**Pn**	**10 09 10.2**	**+0.4**
JCT	**Junction City**	**13.84**	**36**		**Pn**	**10 09 10.3**	**+0.5**
ODSA	**Odessa**	**13.90**	**24**		**Pn**	**10 09 10.9**	**+0.3**
CPBX	**Cerro Prieto**	**13.95**	**338**		**Pn**	**10 09 11.4**	**0.0**
BAR	**Barrett**	**14.70**	**334**		**Pn**	**10 09 20.6**	**-1.1**
Y14A	**Wickenburg**	**14.74**	**348**		**Pn**	**10 09 21.6**	**-0.5**
BNM	**Barren Site**	**14.74**	**8**		**Pn**	**10 09 22.0**	**-0.3**
DPP	**Dos Picos Cty**	**15.09**	**334**	IAmb	IAmb	10 09 32.5	
	comp=Z,16nm,1.2s						
BORC	**Borrego Spring**	**15.12**	**336**	IAmb	IAmb	10 09 42.3	
	comp=Z,16nm,1.2s						
435B	**Jarrell**	**15.36**	**41**	Pn	**Pn**	**10 09 30.9**	**+0.5**
435B				IAmb	IAmb	10 09 42.6	
	comp=Z,15nm,0.9s						
SN07	**Snyder 07**	**15.42**	**27**	IAmb	IAmb	10 09 46.1	
	comp=Z,12nm,1.1s						
PFO	**Pinyon Flats O**	**15.44**	**337**		**Pn**	**10 09 30.4**	**-1.2**
PFO				IAmb	IAmb	10 09 45.4	
	comp=Z,13nm,1.1s						
PFO	**Pinyon Flats O**	**15.44**	**337**	Pn	**Pn**	**10 09 30.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=4.8						
PFO				LR	LR	10 15 11.9	
	comp=Z,749nm,18.7s,baz=152,slow=37						
	comp=Z,6.3nm,1.1s						
PMD	**Palm Desert**	**15.44**	**337**		**Pn**	**10 09 30.6**	**-0.9**
PMD				IAmb	IAmb	10 09 50.0	
	comp=Z,15nm,1.1s						
DNR	**Dunn Ranch,Anz**	**15.47**	**336**	IAmb	IAmb	10 09 59.7	
	comp=Z,25nm,1.2s						
MSTX	**Muleshoe**	**15.48**	**20**	IAmb	IAmb	10 09 46.8	
	comp=Z,24nm,1.2s						
IRM	**Iron Mountain**	**15.49**	**341**	IAmb	IAmb	10 09 42.8	
	comp=Z,21nm,1.1s						
W18A	**Petrified Fore**	**15.54**	**358**	IAmb	IAmb	10 09 46.8	
	comp=Z,22nm,1.1s						
ANMO	**Albuquerque**	**15.55**	**8**		**Pn**	**10 09 32.8**	**-0.2**
ANMO	**Albuquerque**	**15.55**	**8**	Pn	**Pn**	**10 09 31.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=274,slow=13,SNR=8.8						
	comp=Z,1.8nm,0.9s						
ABTX	**Abilene, Hawle**	**15.61**	**31**	IAmb	IAmb	10 09 44.9	
	comp=Z,23nm,1.0s						
BELC	**Belle Mtn. Jos**	**15.63**	**339**	IAmb	IAmb	10 09 46.9	
	comp=Z,31nm,1.2s						
ELS	**Elsinore Mount**	**15.85**	**334**	IAmb	IAmb	10 09 54.7	
	comp=Z,22nm,1.1s						
HKT	**Hockley**	**15.97**	**47**		**Pn**	**10 09 36.4**	**-1.7**
WUAZ	**Wupatki**	**16.04**	**354**	IAmb	IAmb	10 10 01.7	
	comp=Z,19nm,1.1s						
WHTX	**Lake Whitney,**	**16.30**	**38**	IAmb	IAmb	10 09 53.6	
	comp=Z,20nm,1.1s						
PLPT	**Palo Pinto**	**16.44**	**34**	IAmb	IAmb	10 10 01.2	
	comp=Z,17nm,1.1s						
BFSC	**Mount Baldy Ra**	**16.46**	**335**	IAmb	IAmb	10 09 59.7	
	comp=Z,16nm,1.2s						
FW13	**Cleburne**	**16.58**	**37**	IAmb	IAmb	10 10 08.3	
	comp=Z,15nm,1.0s						
AMTX	**Amarillo**	**16.69**	**22**	IAmb	IAmb	10 10 00.6	
	comp=Z,12nm,0.9s						
V12A	**Nelson**	**16.88**	**344**	IAmb	IAmb	10 09 59.1	
	comp=Z,15nm,1.1s						
WTFS	**Witchita Falls**	**17.11**	**32**	IAmb	IAmb	10 10 09.2	
	comp=Z,20nm,1.0s						
SMWD	**Samnorwood**	**17.43**	**25**	IAmb	IAmb	10 10 14.5	
	comp=Z,21nm,1.1s						
CCCA	**Chr Cany lake**	**17.48**	**337**	IAmb	IAmb	10 10 22.3	
	comp=Z,15nm,1.0s						
LRMC	**Laurel Mtn Rad**	**17.56**	**337**	IAmb	IAmb	10 10 00.6	
	comp=Z,26nm,1.2s						
KNB	**Kanab

comp=Z,14nm,1.1s
PKD Bear Valley Ra 19.16 331 IAmb IAmb 10 10 23.4
comp=Z,14nm,0.8s
DSP Deep Springs 19.35 339 IAmb IAmb 10 10 38.3
comp=Z,11nm,1.2s
Q16A Castle Valley 19.40 355 IAmb IAmb 10 10 43.4
comp=Z,13nm,1.2s
MTO3 Montecristo 19.66 102 P **Pn 10 10 26.3 +2.2**
DEOK Depew 19.74 32 IAmb IAmb 10 10 31.8
comp=Z,22nm,1.1s
QUOK Quay 19.90 31 IAmb IAmb 10 10 35.3
comp=Z,17nm,1.0s
SPR3 Spring Creek 3 19.90 348 **P 10 10 24.3 -0.9**
SPR3 IAmb IAmb 10 10 36.1
comp=Z,17nm,1.2s
BBGB Big Mountain B 19.90 331 P **Pn 10 10 28.9 +2.2**
MDPB Devils Postpil 19.98 337 P **P 10 10 26.0 -0.1**
MDPB IAmb IAmb 10 10 31.1
comp=Z,18nm,1.2s
Z41A Richland Creek 20.04 44 IAmb IAmb 10 10 45.9
comp=Z,18nm,0.9s
LEGD La Grand CA 20.05 334 P **P 10 10 25.9 -0.5**
LEGD IAmb IAmb 10 10 56.3
comp=Z,9.3nm,1.1s
P18A Preston Nutter 20.05 358 IAmb IAmb 10 10 44.9
comp=Z,21nm,1.1s
OK051 E0350 and S346 20.10 30 IAmb IAmb 10 10 46.6
comp=Z,23nm,1.1s
TUL3 Leonard 20.15 33 **P 10 10 28.3 +0.7**
KSCO Kaye Shedlock' 20.23 15 P **P 10 10 28.9 +0.3**
KSCO IAmb IAmb 10 10 42.0
comp=Z,19nm,1.0s
LHV Little Huntoon 20.33 339 IAmb IAmb 10 10 43.1
comp=Z,20nm,1.1s
NV11 Mina Array Sit 20.37 339 IAmb IAmb 10 10 45.6
comp=Z,9.4nm,1.1s
NVAR Mina Array Bea 20.42 339 P **P 10 10 30.7 0.0**
NVAR Mina Array Bea 20.42 339 P **P 10 10 29.9 -0.8**
comp=Z,4.6nm,0.9s,baz=166,slow=14,SNR=25
NVAR LR LR 10 17 28.4
comp=Z,469nm,19.2s,baz=149,slow=34
comp=Z,4.6nm,0.9s
ISCO Idaho Springs 20.44 8 **P 10 10 30.5 -0.5**
ISCO IAmb IAmb 10 10 44.6
comp=Z,8.8nm,1.1s
O20A White River Ci 20.55 2 **P 10 10 32.3 +0.2**
O20A IAmb IAmb 10 10 47.3
comp=Z,20nm,1.1s
RYN Ryan 20.67 339 IAmb IAmb 10 10 43.8
comp=Z,15nm,1.2s
X40A Basin Creek Fa 20.81 41 P **P 10 10 34.8 +0.1**
DUG Dugway, Tooele 20.83 352 **P 10 10 34.8 -0.3**
CMB Columbia Colle 20.84 335 **P 10 10 34.7 -0.4**
CMB IAmb IAmb 10 10 52.5
comp=Z,9.3nm,1.1s
WAKR Walker 20.89 337 **P 10 10 35.3 -0.4**
WAKR IAmb IAmb 10 10 45.9
comp=Z,19nm,1.1s
R32A Long Quarter, 20.92 24 IAmb IAmb 10 10 53.0
comp=Z,14nm,1.0s
RDMU Red Mountain 20.98 359 IAmb IAmb 10 10 55.1
comp=Z,19nm,1.1s
BSUT Blindstream Ca 20.98 357 IAmb IAmb 10 10 56.0
comp=Z,13nm,1.2s
HAYD Hayden 20.99 4 IAmb IAmb 10 11 02.1
comp=Z,12nm,1.1s
CTU Camp Tracy 21.21 355 IAmb IAmb 10 10 48.0
comp=Z,18nm,1.1s
U38A Gravette 21.29 35 IAmb IAmb 10 10 49.1
comp=Z,21nm,1.2s
HHAR Hobbs 21.42 36 P **P 10 10 41.8 +0.5**
HHAR IAmb IAmb 10 10 50.5
comp=Z,19nm,1.1s
ELK Elko 21.77 348 P **P 10 10 43.9 -1.3**
comp=Z,2.2nm,1.1s,baz=148,slow=7.5,SNR=11
ELK LR LR 10 18 46.8
comp=Z,308nm,19.2s,baz=166,slow=36
comp=Z,2.2nm,1.1s
RUSS Russell Ranch 21.90 333 IAmb IAmb 10 11 10.1
comp=Z,14nm,0.8s
PAHR Pah Rah Range 21.93 339 IAmb IAmb 10 11 16.2
comp=Z,13nm,1.2s
BEKR Beckworth 22.42 337 IAmb IAmb 10 10 59.8
comp=Z,6.6nm,1.0s
ORV Oroville 22.59 335 IAmb IAmb 10 11 05.8
comp=Z,12nm,1.1s
PDAR Pinedale Array 23.17 359 **P 10 10 58.6 -1.5**
PDAR Pinedale Array 23.17 359 P **P 10 10 58.3 -1.8**
comp=Z,0.9nm,0.7s,baz=153,slow=6.9,SNR=9.2
PDAR LR LR 10 19 11.4
comp=Z,205nm,19.2s,baz=150,slow=35
comp=Z,0.9nm,0.7s
O03E Paynes Creek 23.35 335 IAmb IAmb 10 11 23.1
comp=Z,9.6nm,1.0s
PBMO Poplar Bluff 23.79 40 IAmb IAmb 10 11 13.6
comp=Z,4.4nm,0.8s
SNOW Snow King Moun 23.90 357 IAmb IAmb 10 11 22.2
comp=Z,7.9nm,1.0s
TPAW Teton Pass 23.93 357 IAmb IAmb 10 11 27.6
comp=Z,8.4nm,1.1s
LOHW Long Hollow 24.04 358 IAmb IAmb 10 11 21.9
comp=Z,6.1nm,1.1s
FXWY Fox Creek 24.09 357 IAmb IAmb 10 11 19.3
comp=Z,7.2nm,1.1s
WVOR Wild Horse Val 24.19 343 IAmb IAmb 10 11 19.6
comp=Z,13nm,1.1s
HLID Hailey 24.36 351 IAmb IAmb 10 11 18.8
comp=Z,7.6nm,1.1s
MFID Camas Ranch 24.46 348 IAmb IAmb 10 11 16.9
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 24.93 336 LR LR 10 19 33.7
comp=Z,16nm,19.0s,baz=147,slow=33
J08A Circle Bar Ran 25.00 344 IAmb IAmb 10 11 31.8
comp=Z,11nm,1.1s
YMR Madison River 25.11 357 IAmb IAmb 10 11 46.8
comp=Z,7.1nm,1.1s
JTS Las Juntas de 25.15 108 LR LR 10 19 45.4
comp=Z,95nm,18.2s,baz=288,slow=33
YHL Hebgen Lake 25.30 357 IAmb IAmb 10 11 41.0
comp=Z,6.3nm,1.2s
SOCE Pocosol 25.42 107 P **P 10 11 19.5 -1.5**
RLMT Red Lodge 25.52 360 IAmb IAmb 10 11 53.7
comp=Z,6.1nm,1.1s
T47A Sharon Grove 26.01 43 P **P 10 11 31.8 +5.6**
PLID Pearl Lake 26.10 349 IAmb IAmb 10 11 29.6
comp=Z,8.5nm,1.1s
W50A Signal Mountai 26.25 49 P **P 10 11 28.0 -0.5**
NEW Newport 29.37 349 LR LR 10 24 09.7
comp=Z,190nm,18.9s,baz=179,slow=38
ULM Lac du Bonnet 32.44 16 LR LR 10 23 51.1
comp=Z,135nm,18.4s,baz=200,slow=33
OTAV Otavalo 35.73 119 P **P 10 12 53.7 +1.0**
BBB Bella Bella 35.78 340 LR LR 10 27 26.2
comp=Z,151nm,18.2s,baz=166,slow=36
SDV Santo Domingo 38.78 100 LR LR 10 30 13.1
comp=Z,160nm,18.5s,baz=282,slow=38
SJG San Juan 40.71 85 LR LR 10 31 34.8
comp=Z,102nm,18.6s,baz=274,slow=38
YKA Yellowknife Ar 43.09 356 LR LR 10 32 04.0
comp=Z,336nm,18.1s,baz=179,slow=37
NNA Nana 44.70 132 LR LR 10 29 07.8
comp=Z,116nm,20.5s,baz=320,slow=31
RPN Rapa Nui 46.38 180 LR LR 10 29 03.0
comp=Z,203nm,21.9s,baz=352,slow=30
I28M Miner Creek 50.16 344 P **P 10 14 48.2 -0.2**
SCRK Sand Creek 50.21 341 P **P 10 14 49.2 +0.4**
J25K Salcha River, 51.09 341 IAmb IAmb 10 15 07.3
comp=Z,4.3nm,1.0s
G27K Doyon Strip 51.66 344 IAmb IAmb 10 15 05.7
comp=Z,4.1nm,1.0s
ILAR Eielson Array 51.67 340 P **P 10 14 59.4 -0.3**
ILAR Eielson Array 51.67 340 P **P 10 14 59.0 -0.7**
comp=Z,2.5nm,0.8s,baz=146,slow=6.1,SNR=40
comp=Z,2.5nm,0.8s
CCB Clear Creek Bu 51.88 340 IAmb IAmb 10 15 07.1
comp=Z,3.4nm,0.9s
FRB Frobisher Bay 51.99 22 LR LR 10 35 24.4
comp=Z,75nm,18.9s,baz=144,slow=34
H24K Noodor Dome 52.70 341 IAmb IAmb 10 15 17.5
comp=Z,6.3nm,1.0s
LPAZ La Paz 53.84 129 **P 10 15 18.2 +1.2**
LPAZ IAmb IAmb 10 15 19.3
comp=Z,5.3nm,1.1s
LPAZ La Paz 53.84 129 P **P 10 15 17.6 +0.5**
comp=Z,3.2nm,0.9s,baz=328,slow=6.5,SNR=8.7
comp=Z,3.2nm,0.9s
M16K Timber Creek 54.05 333 P **P 10 15 17.5 +0.2**

PPT Papeete 54.13 230 LR LR 10 33 49.1
comp=Z,72nm,18.4s,baz=38,slow=31
PPT2 Papeete2 54.15 230 *e*S **S 10 22 53.6 -0.6**
comp=Z,74nm,29.8s
PPT2 *e*LR LR 10 30 49.0
comp=Z,234nm,34.0s
PPT2 *e*LR LR 10 30 53.4
comp=Z,282nm,27.8s
H21K Melozitna Rive 54.16 339 P **P 10 15 17.8 -0.3**
RES Resolute Bay 55.72 5 LR LR 10 39 51.3
comp=Z,282nm,19.7s,baz=204,slow=37
MDP Montagnes des 56.85 97 LR LR 10 40 24.5
comp=Z,102nm,21.3s,baz=302,slow=36
H03N2 Juan Fernandez 60.08 151 T T 11 21 28.2
baz=329,slow=78,SNR=22
H03N1 Juan Fernandez 60.09 151 T T 11 21 31.1
baz=329,slow=78,SNR=26
H03N3 Juan Fernandez 60.10 151 T T 11 21 27.6
baz=329,slow=78,SNR=29
PTLB Pontes e Lacer 60.28 122 **P 10 16 02.5 +0.5**
PTLB IAmb IAmb 10 16 22.9
comp=Z,3.8nm,1.1s
RAR Rarotonga 63.92 233 LR LR 10 36 59.7
comp=Z,90nm,21.0s,baz=66,slow=29
CPUP Villa Florida 67.92 130 P **P 10 16 53.7 +1.7**
comp=Z,1.2nm,1.1s,baz=260,slow=1.3,SNR=3.9
CPUP LR LR 10 44 46.0
comp=Z,26nm,19.1s,baz=161,slow=34
comp=Z,1.2nm,1.1s
BDFB Brasilia 69.59 116 P **P 10 17 04.4 +1.6**
comp=Z,1.9nm,0.4s,baz=293,slow=7.7,SNR=4.8
comp=Z,1.9nm,0.4s
PLCA Paso Flores 69.90 150 LR LR 10 40 41.8
comp=Z,154nm,20.2s,baz=299,slow=30
SPITS Spitsbergen Ar 77.76 10 LR LR 10 53 05.2
comp=Z,152nm,18.0s,baz=322,slow=36
RAO Raoul Island 82.08 235 LR LR 10 45 21.9
comp=Z,36nm,20.5s,baz=80,slow=29
ARCES ARCESS Array B 85.55 15 P **P 10 18 32.6 +1.7**
comp=Z,1.0nm,0.6s,baz=324,slow=5.6,SNR=4.7
ARCES LR LR 10 55 53.7
comp=Z,72nm,21.1s,baz=304,slow=35
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 86.69 25 LR LR 10 56 49.6
comp=Z,21nm,18.2s,baz=300,slow=35
URZ Urewera 89.78 229 LR LR 10 50 16.6
comp=Z,90nm,20.3s,baz=28,slow=30
MDT Midelt 91.21 55 LR LR 10 57 50.9
comp=Z,76nm,18.6s,baz=252,slow=34
HNR Honiara 93.88 261 LR LR 10 52 21.3
comp=Z,96nm,20.5s,baz=44,slow=30
MJAR Matsushiro Arr 95.43 312 LR LR 10 56 05.6
comp=Z,37nm,19.6s,baz=59,slow=32
VRAC Vranov 96.31 32 LR LR 11 02 56.2
comp=Z,72nm,18.2s,baz=324,slow=36
JCJ Chichijima 96.75 302 LR LR 10 53 48.2
comp=Z,82nm,21.1s,baz=104,slow=30
WRA Warramunga Arr 120.52 258 PKP **PKiKP 10 24 46.6 +1.1**
comp=Z,0.6nm,0.7s,baz=76,slow=2.2,SNR=8.0
ASAR Alice Springs 121.58 254 PKP **PKiKP 10 24 48.5 +1.0**
comp=Z,0.4nm,0.7s,baz=72,slow=2.3,SNR=6.2
CMAR Chiang Mai Arr 133.21 322 PKP **PKiKP 10 25 11.3 +0.4**
comp=Z,0.7nm,0.4s,baz=339,slow=1.8,SNR=4.9

IDC 19 10:32:06.4±7.5, 0°.10N×98°.62E, h0km, mb3.4/3, mbtmp3.4/3, MS3.6/3, Error ellipse: s-maj=381.5km s-min=31.0km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**23.45**	**344**	LR	LR	10 49 05.6	
	comp=Z,114nm,18.2s,baz=150,slow=44						
WRA	**Warramunga Arr**	**40.25**	**122**	P	P	10 39 46.2	+0.8
	0.4nm,0.8s,baz=302,slow=9.0,SNR=5.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**41.60**	**127**	P	P	10 39 55.1	-1.4
	0.3nm,0.7s,baz=299,slow=8.6,SNR=2.4						
	0.3nm,0.7s						
JAY	**Jayapura**	**42.15**	**94**	LR	LR	10 59 38.3	
	comp=Z,105nm,18.5s,baz=12,slow=39						
MKAR	**Makanchi Array**	**48.65**	**345**	P	P	10 40 52.1	-0.1
	0.3nm,0.5s,baz=164,slow=8.4,SNR=4.0						
	0.3nm,0.5s						
GNI	**Garni**	**63.07**	**316**	LR	LR	11 13 42.1	
	comp=Z,32nm,18.1s,baz=343,slow=40						

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*SOME **19** 10:51:52.3, 43°.73N×69°.73E*
*NNC **19** 10:51:53.1±2.5, 43°.74N×69°.78E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=14.1km s-min=9.5km az=152.0, Suspected Mining explosion.*
*KRNET **19** 10:52:02.1±0.1, 42°.80N×69°.47E, mb2.9*
ISC 19 10:51:51.6±2.8, 43°.8N±0°.1×69°.7E±0°.1, h0km, n9, σ1§39/16, 5C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.76**	**175**	P	**Pn**	**10 52 09.7**	**0.0**
	3.2nm,0.4s						
BRLS				S	**Sn**	**10 52 22.5**	**+0.5**
	44nm,0.4s						
KK31	**Karatay Array**	**0.89**	**141**	⇓P	**Pb**	**10 52 09.3**	**-0.6**
	4.5nm,0.4s,baz=325,slow=14,SNR=129						
KK31				S	**Sg**	**10 52 20.6**	**+0.6**
	44nm,0.6s,baz=324,slow=28,SNR=79						
IUG	**Iuzhnay**	**1.66**	**173**	P	**Pg**	**10 52 23.5**	**+0.1**
	42nm,0.3s						
IUG				S	**Sg**	**10 52 45.7**	**+0.8**
	79nm,0.4s						
ARK	**Arkit**	**2.58**	**140**	⇓*e*P	**Pg**	**10 52 40.0**	**-1.0**
ARK				⇓*e*S	**Sn**	**10 53 08.1**	**+1.3**
MRKS	**Merke**	**2.75**	**111**	Pg	**Pg**	**10 52 43.7**	**-0.6**
	5.7nm,0.5s						
MRKS				Lg	Lg	10 53 21.1	
	12nm,0.6s						
ARSB	**Arslanbob**	**3.44**	**135**	⇑*e*P	**Pb**	**10 52 52.9**	**-0.5**
ARSB				⇑*e*S	**Sn**	**10 53 29.3**	**+1.3**
AAK	**Ala-Archa**	**3.66**	**107**	⇑Pg	**Pg**	**10 52 60.0**	**-1.8**
	2.3nm,0.5s						
AAK				⇓Lg	Lg	10 53 49.8	
	3.7nm,0.6s						
SALK	**Salom-Alik**	**4.19**	**132**	⇑*e*P	**Pb**	**10 53 03.5**	**-2.8**
SALK				⇑*e*S	**Sn**	**10 53 48.2**	**+1.5**
BOOM	**Boomskoye usch**	**4.72**	**104**	⇓*e*P	**Pb**	**10 53 17.5**	**+2.2**
BOOM				⇓*e*S	**Sb**	**10 54 12.5**	**-0.2**

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*OSPL **19** 11:06:05.6±1.8, 19°.67N×71°.43W, h0km±13km, ML2.5*
*SSNC **19** 11:06:05.0±1.5, 19°.63N×71°.41W, h2km±7km, MD3.4, ML2.6*
*SDD **19** 11:06:06.5±2.3, 19°.58N×71°.44W, h31km±26km, MD3.2, ML2.5, MW3.2*
ISC 19 11:06:04.0±1.2, 19°.65N±0°.03×71°.40W±0°.03, h18km±8km, n26, σ0§85/44, 16C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.28**	**42**	*i* P	**Pb**	**11 06 10.7**	**+0.2**
LOPP1				*e*S	**Sb**	**11 06 15.0**	**+0.2**
LOPP1				IAML		11 06 19.5	
	comp=Z,570nm,0.2s						
MCDR	**Montecristi**	**0.35**	**315**	⇑*e*Pg	**Pn**	**11 06 13.6**	**-0.5**
MCDR				⇑*e*Sg	**Sn**	**11 06 20.9**	**+0.3**
MCDR				IAML		11 06 22.0	
	comp=N,601nm,0.2s						
SC01	**Santiago de lo**	**0.67**	**109**	⇑*e*Pg	**Pb**	**11 06 17.1**	**0.0**
SC01				⇑*e*Sg	**Sn**	**11 06 28.2**	**-0.4**
SC01				IAML		11 06 29.6	
	comp=N,153nm,0.2s						
SC01	**Santiago de lo**	**0.67**	**109**	*i* P	**Pb**	**11 06 17.8**	**+0.7**
SC01				*e*S	**Sn**	**11 06 28.6**	**0.0**
SDDR	**Presa de Saban**	**0.67**	**171**	⇓*e*Pg	**Pb**	**11 06 17.4**	**+0.3**
SDDR				⇑*e*Sg	**Sb**	**11 06 27.6**	**+1.5**
SDDR				IAML		11 06 27.8	
	comp=N,240nm,0.2s						
SDDR	**Presa de Saban**	**0.67**	**171**	*e*P	**Pb**	**11 06 17.3**	**+0.1**
SDDR				*e*S	**Sg**	**11 06 25.6**	**-0.5**
SDDR				IAML		11 06 28.1	
	comp=N,334nm,0.1s						
SDDR				IAML		11 06 28.8	
	comp=N,237nm,0.2s						
SDDR	**Presa de Saban**	**0.67**	**171**	*i* P	**Pb**	**11 06 17.5**	**+0.3**
SDDR				*e*S	**Sb**	**11 06 26.9**	**+0.8**
SDDR				IAML		11 06 28.6	
	comp=Z,255nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**1.04**	**183**	*i* P	**Pn**	**11 06 24.1**	**+0.3**
LONE3				*e*S	**Sn**	**11 06 38.2**	**+0.3**
LONE3				IAML		11 06 41.1	
	comp=Z,97nm,0.5s						
ABDR	**Alto Bandera**	**1.10**	**139**	⇑*e*Pg	**Pg**	**11 06 25.7**	**+0.2**
ABDR				⇑*e*Sg	**Sb**	**11 06 38.7**	**-0.3**
ABDR				IAML		11 07 09.5	
	comp=N,0.3nm,0.8s						
LODU1	**El Espartillar**	**1.29**	**183**	*i* P	**Pg**	**11 06 28.9**	**0.0**
LODU1				IAML		11 06 54.1	
	comp=Z,87nm,0.5s						
CADR	**Cabrera**	**1.37**	**89**	⇑*e*Pg	**Pg**	**11 06 30.7**	**+0.2**
CADR				⇑*e*Sg	**Sg**	**11 06 48.7**	**+0.2**
CADR				IAML		11 06 49.2	
	comp=N,183nm,0.4s						
PAPH	**Port-au-Prince**	**1.41**	**217**	*e*P	**Pn**	**11 06 29.3**	**+0.5**
PAPH				*e*S	**Sn**	**11 06 44.8**	**-2.1**
PAPH				IAML		11 06 53.0	
	comp=E,42nm,0.2s						
PAPH				IAML		11 06 53.1	
	comp=N,41nm,0.2s						
PAPH	**Port-au-Prince**	**1.41**	**217**	*i* P	**Pg**	**11 06 30.8**	**-0.3**
DR08	**Loma La Naviza**	**1.47**	**117**	⇑*e*Pg	**Pb**	**11 06 30.8**	**0.0**
DR08				⇑*e*Sg	**Sg**	**11 06 50.6**	**-0.8**
DR08				IAML		11 06 52.9	
	comp=N,2μm,0.2s						
NADR	**Nagua**	**1.48**	**101**	⇑*e*Pg	**Pg**	**11 06 33.0**	**+0.5**
NADR				IAML		11 06 57.6	
	comp=N,362nm,0.3s						
LOBH	**Bahia de las A**	**1.79**	**187**	*i* P	**Pb**	**11 06 36.9**	**+0.6**
LOBH				IAML		11 07 01.6	
	comp=Z,36nm,1.0s						
GRTK	**Grand Turk**	**1.87**	**8**	*e*P	**Pn**	**11 06 35.3**	**+0.1**
GRTK				*e*S	**Sn**	**11 06 58.6**	**+0.2**
GRTK				IAML		11 07 02.8	
	comp=Z,33nm,0.2s						
GRTK				IAML		11 07 02.9	
	comp=Z,41nm,0.2s						
GRTK	**Grand Turk**	**1.87**	**8**	*i* P	**Pn**	**11 06 35.8**	**+0.6**
GRTK				*e*S	**Sn**	**11 06 59.0**	**+0.6**
GRTK				IAML		11 07 05.6	
	comp=Z,48nm,1.4s						
HATOM	**Hato Mayor del**	**2.09**	**114**	⇑*e*Pg	**Pb**	**11 06 40.4**	**-0.9**
HATOM				⇑*e*Sg	**Sb**	**11 07 06.9**	**-0.2**
HATOM				IAML		11 07 11.7	
	comp=N,39nm,0.5s						
MIDR	**Miches**	**2.31**	**106**	⇑*e*Pg	**Pb**	**11 06 43.6**	**-1.6**
MIDR				⇑*e*Sg	**Sb**	**11 07 12.8**	**-0.7**
MIDR				IAML		11 07 23.5	
	comp=N,18nm,0.6s						
MASC	**Masc**	**2.72**	**282**	*e*P	**Pn**	**11 06 46.2**	**-0.5**
MASC	**Masc**	**2.72**	**282**	*i* P	**Pn**	**11 06 49.5**	**+2.7**
MASC				IAML		11 07 28.6	
	comp=Z,29nm,1.0s						
QMBU	**Quimbuelo**	**3.26**	**280**	*e*P	**Pn**	**11 06 54.0**	**-0.3**
QMBU				*e*S	**Sn**	**11 07 31.6**	**-1.0**
QMBU				IAML		11 07 43.8	
	comp=N,30nm,0.2s						
QMBU				IAML		11 07 44.9	
	comp=E,25nm,0.2s						
SABCS	**La Quijada**	**3.75**	**282**	*e*S	**Sn**	**11 07 43.8**	**-1.1**
RCC	**Rio Carpintero**	**4.06**	**276**	*e*P	**Pn**	**11 07 06.5**	**+1.2**
RCC				*e*S	**Sn**	**11 07 51.0**	**-1.4**
PINC	**Pinares de May**	**4.21**	**282**	*e*P	**Pn**	**11 07 08.0**	**+0.6**

IDC 19 11:10:03.1±1.7, 27°.95N×104°.36E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=502.5km s-min=28.0km az=55.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.58**	**323**	P	P	11 15 33.8	0.0
	0.4nm,0.6s,baz=124,slow=10,SNR=4.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**55.74**	**145**	P	P	11 19 41.5	-0.3
	0.5nm,0.6s,baz=336,slow=7.5,SNR=10.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**58.69**	**148**	P	P	11 20 02.9	+0.2
	0.3nm,0.4s,baz=325,slow=6.5,SNR=7.1						
	0.3nm,0.4s						

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*IDC **19** 11:11:57.9±0.6, 3°.54N×92°.69E, h0km, mb4.3/17, mbtmp4.4/21, ML4.6/3, MS3.7/17, Error ellipse: s-maj=20.0km s-min=13.1km az=49.0*
*BJI **19** 11:11:58.3, 3°.17N×92°.41E, h28km, mB5.0/10, mb4.5/34, Ms4.3/16, Ms7 3.9/13*
*DJA **19** 11:11:59.7±0.2, 3°N±3°×9°3E±°, h10km, M5.4/34, mb5.4/34, mB5.8/23, MLv5.8/10, Mw(mB)5.3/23*
*BKK **19** 11:12:00.5±1.2, 4°N±15°×9°3E±°, h10km, M5.3/15, mb5.0/10, Mjma5.2/15, ML5.6/2, MLv5.4/3*
*NEIC **19** 11:12:00.2±0.9, 3°.52N±0°.07×92°.71E±0°.07, h10km±1km, mb4.9/48, Error ellipse: s-maj=12.3km s-min=11.3km az=139.0*
*GCMT **19** 11:12:02.2±0.5, 3°.57N±0°.03×92°.89E±0°.03, h30km±1km, MW4.8/61, Moment Tensor Solution. s23,c28; s61,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.33±.15; Mθθ-0.20±.10; Mφφ-0.13±.12; Mrθ0.50±.15; Mrφ-1.93±.09; Mθφ-0.10±.15; Best double couple: M=2.00500×10^16 NP1:φs181.00000°, δ74.00000°, λ6.00000°. NP2: φs89.00000°, δ84.00000°, λ164.00000°. Principal axes: T 1.8800, Plg15.0000°, Azm44.0000°; N 0.2500, Plg73.0000°, Azm249.0000°; P -2.1310, Plg7.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 11:12:01.5±0.4, 3°.50N±0°.05×92°.58E±0°.05, h24km, n176, σ1§97/160, mb4.7/62, MS3.8/22, 1C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**3.73**	**21**	*e*P	**Pn**	**11 12 55.6**	**-2.1**
CMBY				IAML		11 13 36.6	
	comp=N,2μm,0.5s						
CMBY				IAML		11 13 36.7	
	comp=E,3μm,0.4s						
CMBY				*e*S	**Sn**	**11 13 38.1**	**-2.8**
MLSI	**Meulaboh, Aceh**	**3.89**	**79**	P	**Pn**	**11 12 58.1**	**-1.7**
SNSI	**Sinabang, Aceh**	**3.89**	**106**	P	**Pn**	**11 12 57.7**	**-2.2**
LHMI	**Lhok Sumawe**	**4.68**	**68**	P	**Pn**	**11 13 10.4**	**-0.3**
LHMI	**Lhok Sumawe**	**4.68**	**68**	P	**Pn**	**11 13 10.6**	**-0.1**
LHMI	**Lhok Sumawe**	**4.68**	**68**	P	**Pn**	**11 13 10.0**	**-0.7**
KCSI	**Kotacane, Aceh**	**5.18**	**90**	P	**Pn**	**11 13 17.5**	**-0.1**
	comp=E,3.5nmcomp=E,8μmcomp=E,367nm,0.9s						
GSI	**Gunungsitoli**	**5.44**	**114**		**Pn**	**11 13 19.6**	**-1.7**
GSI	**Gunungsitoli**	**5.44**	**114**	P	**Pn**	**11 13 19.5**	**-1.7**
GSI	**Gunungsitoli**	**5.44**	**114**	P	**Pn**	**11 13 19.6**	**-1.7**
GSI	**Gunungsitoli**	**5.44**	**114**	P	**Pn**	**11 13 19.2**	**-2.0**
	comp=E,3.4nmcomp=E,13μmcomp=E,771nm,0.5s						
PSI	**Prapat**	**6.37**	**96**	Pn	**Pn**	**11 13 33.2**	**-0.9**
	comp=E,19nm,0.3s,baz=286,slow=8.1,SNR=37						
PSI				Sn	**Sn**	**11 14 42.0**	**-4.1**
	comp=E,12nm,0.3s,baz=280,slow=10,SNR=3.9						
	comp=E,48nm,0.3s						
RPSI	**Rantau Prapat**	**6.38**	**97**		**Pn**	**11 13 33.2**	**-0.9**
RPSI					**Sn**	**11 14 42.0**	**-4.2**
PBSI	**Pulau Batu**	**6.70**	**122**	P	**Pn**	**11 13 36.3**	**-2.2**
PKDT	**Phuket**	**7.20**	**52**	P	**Pn**	**11 13 44.5**	**-0.8**
MNSI	**Mandailing Nat**	**7.49**	**111**	P	**Pn**	**11 13 47.3**	**-2.0**
SISI	**Saibi**	**8.08**	**126**	P	**Pn**	**11 13 55.5**	**-1.9**
	comp=E,2.2nmcomp=E,5μmcomp=E,668nm,0.7s						
PBA	**Port Blair**	**8.10**	**1**	*e*P	**Pn**	**11 13 53.6**	**-4.1**
PBA				*e*S	Sn	11 15 17.4	-11
PBA				IAML		11 15 31.8	
	comp=N,741nm,0.6s						
PBA				IAML		11 15 33.4	
	comp=E,673nm,1.9s						
KULM	**Kulim**	**8.24**	**77**		**Pn**	**11 13 58.1**	**-1.5**
KULM	**Kulim**	**8.24**	**77**	P	**Pn**	**11 13 58.6**	**-1.0**
RNTT	**Ranong**	**8.28**	**45**	P	**Pn**	**11 14 00.1**	**-0.1**
	comp=E,0.7nmcomp=E,0.6nmcomp=E,155nm,1.1s						
IPM	**Ipoh**	**8.48**	**83**		**Pn**	**11 14 01.6**	**-1.4**
IPM	**Ipoh**	**8.48**	**83**	P	**Pn**	**11 14 02.0**	**-0.9**
PPI	**Padang Panjang**	**8.74**	**117**	P	**Pn**	**11 14 05.3**	**-1.2**
	comp=E,6μmcomp=E,457nm,0.7s						
PDSI	**Padang**	**9.01**	**119**	P	**Pn**	**11 14 09.1**	**-1.2**
	comp=E,144nm,0.5s						
DGPR	**DIGLIPUR**	**9.62**	**2**	*e*P	**Pn**	**11 14 14.7**	**-3.9**
DGPR				*e*S	Sn	11 15 54.2	-12

DGPR IAML 11 16 01.2
comp=N,300nm,0.2s
DGPR IAML 11 16 03.4
comp=E,368nm,0.7s
PPSI Pulau Pagai 9.69 130 P Pn 11 14 17.3 -2.2
comp=E,4µmcomp=E,375nm,0.5s
KRJI Kerinci 10.47 122 P **Pn 11 14 28.9 -1.4**
MYKOM Kota Tinggi 11.38 98 Pn 11 14 40.6 -2.1
MYKOM Kota Tinggi 11.38 98 P **Pn 11 14 43.1 +0.4**
KSI Kapahiang 12.27 125 P **Pn 11 14 53.9 -1.0**
comp=E,355nm,0.5s
PALK Pallekele 12.41 288 Pn 11 14 57.9 +1.0
PALK Pallekele 12.41 288 Pn **Pn 11 14 57.5 +0.7**
comp=E,4.8nm,0.3s,baz=98,slow=11,SNR=10
PALK Sn **Sn 11 17 06.8 -7.6**
comp=E,13nm,0.3s,baz=32,slow=6.3,SNR=16
PALK LR LR 11 18 52.4
comp=E,159nm,21.4s,baz=104,slow=33
comp=E,9.9nm,0.5s
MNAI Manna 12.98 127 Pn 11 15 02.4 -2.2
MNAI Manna 12.98 127 P **Pn 11 15 02.4 -2.2**
MNAI Manna 12.98 127 P **Pn 11 15 03.1 -1.5**
MNAI Manna 12.98 127 P **Pn 11 15 02.4 -2.2**
comp=E,10µmcomp=E,751nm,0.8s
LHSI Lahat 13.13 124 P **Pn 11 15 05.1 -1.6**
comp=E,2µmcomp=E,179nm,0.8s
UTHA Uthaitani 13.75 29 P **Pn 11 15 15.2 0.0**
MDSI Maura Dua 14.04 124 P **Pn 11 15 17.6 -1.5**
comp=E,1µmcomp=E,69nm,0.4s
LWLI Liwa 14.25 126 P **Pn 11 15 19.8 -2.3**
KASI Kota Agung 14.90 127 P **Pn 11 15 27.6 -3.2**
comp=E,2µmcomp=E,129nm,0.5s
CM31 Chiang Mai Arr 16.11 22 Pn 11 15 45.5 -1.1
CMAR Chiang Mai Arr 16.11 22 Pn 11 15 44.8 -1.9
CMAR Chiang Mai Arr 16.11 22 Pn **Pn 11 15 45.3 -1.4**
comp=E,0.4nm,0.3s,baz=217,slow=14,SNR=79
CMAR LR LR 11 23 10.1
comp=E,106nm,18.0s,baz=215,slow=42
comp=E,12nm,0.9s
TPI Tanjungpandan 16.29 112 P **Pn 11 15 47.6 -1.4**
CHTO Chiang Mai 16.44 22 Pn **Pn 11 15 49.5 -1.3**
CHTO Chiang Mai 16.44 22 P **Pn 11 15 50.7 -0.1**
LAMP Lampang 16.45 24 P **Pn 11 15 50.4 -0.5**
comp=E,0.3nmcomp=E,50nm,0.7s
CGJI Cibinong 16.50 128 P **Pn 11 15 49.4 -2.2**
comp=E,63nm,0.6s
DBJI Dramaga 17.31 125 P **Pn 11 16 00.8 -1.0**
comp=E,123nm,0.8s
LEM Lembang 18.18 124 P **P 11 16 12.8 0.0**
comp=E,30nm,0.8s,baz=315,slow=8.6,SNR=4.7
BBJI Bungbulang 18.56 126 P **P 11 16 16.3 -0.7**
BBJI Bungbulang 18.56 126 P **P 11 16 16.4 -0.6**
HYB Hyderabad 19.51 316 *e*P **P 11 16 28.2 +0.9**
HYB IVmB_BB 11 16 30.5
comp=Z,489nm,2.1s
HYB *e*S Sn 11 20 20.1 +13
HYB IVMs_BB IVMs_BB 11 21 40.3
comp=Z,113nm,6.8s
KPJI Karang Pucung 19.54 123 P **P 11 16 27.8 +0.2**
comp=Z,49nm,0.6s
SLVN Son La 20.87 31 P **P 11 16 43.0 +1.0**
IMP Imphal 21.25 3 *e*P **P 11 16 41.2 -4.9**
IMP IAmb IAmb 11 16 59.8
comp=Z,24nm,0.5s
IMP *e*S **S 11 20 37.0 -4.3**
SHL Shillong 21.95 358 P **P 11 16 52.3 -1.5**
KOHI KOHIMA 22.14 4 *e*P **P 11 16 52.2 -3.5**
KOHI IAmb IAmb 11 17 13.6
comp=Z,16nm,0.9s
TNCH TengChong 22.15 14 ⇑P **P 11 16 57.9 +1.9**
TNCH pP pP 11 17 00.8 -0.7
TNCH pmax pmax
comp=Z,47nm,2.7s
GUWA GUWAHATI 22.58 358 *e*P **P 11 16 56.7 -3.6**
GUWA IAmb IAmb 11 17 17.1
comp=Z,15nm,0.5s
GUWA *e*S **S 11 21 05.0 -1.6**
QIZ Qiongzhong 22.86 46 P **P 11 17 03.1 -0.3**
QIZ S **S 11 21 12.8 +1.0**
QIZ LR LR
comp=Z,270nm,12.0s
QIZ LR LR
comp=Z,390nm,17.1s
QIZ LR LR
comp=Z,160nm,8.2s
H08S2 Diego Garcia H 22.90 241 T T 11 42 24.4
baz=61,slow=74,SNR=137
H08S3 Diego Garcia H 22.90 241 T T 11 42 26.2
baz=61,SNR=19
H08S1 Diego Carcia H 22.92 241 T T 11 42 26.7
baz=61,slow=74,SNR=127
TEZP TEZPUR 22.99 0 *e*P **P 11 16 59.3 -5.3**
TEZP IAmb IAmb 11 17 21.0
comp=Z,38nm,1.1s
TEZP *e*S **S 11 21 10.4 -3.3**
KMI Kunming 23.62 24 P **P 11 17 13.0 +1.9**
KMI S **S 11 21 27.5 +2.9**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI LR LR
comp=Z,180nm,23.7s
KMI LR LR
comp=Z,320nm,21.1s
PZH PanZhiHua 24.50 20 P **P 11 17 21.3 +2.0**
EVN Everest 24.93 348 P **P 11 17 23.7 -0.1**
EVN IAmb IAmb 11 17 52.7
comp=Z,24nm,0.6s
MYLDM Lahad Datu 25.89 85 P **P 11 17 38.1 +6.2**
LSA Lhasa 26.09 357 P **P 11 17 32.8 -1.3**
LSA LR LR
comp=Z,210nm,16.5s
LSA LR LR
comp=Z,160nm,18.5s
KAPI Kappang 28.43 107 LR LR 11 28 47.7
comp=Z,97nm,19.6s,baz=286,slow=36
GOMU GeErMu 32.60 3 P **P 11 18 32.3 +0.6**
GOMU pmax pmax
comp=Z,3.0nm,0.6s
WHN Wuhan 33.86 35 P **P 11 18 42.3 0.0**
XAN Xi'an 33.98 25 ⇓P **P 11 18 42.5 -1.0**
XAN pP pP 11 18 49.1 -0.3
XAN sP pwP 11 18 54.4 -0.6
XAN pmax pmax
comp=Z,11nm,1.0s
XAN LR LR
comp=Z,290nm,16.5s
XAN LR LR
comp=Z,410nm,17.9s
XAN LR LR
comp=Z,160nm,14.4s
NIL Nilore 35.00 331 P 11 18 53.2 +0.9
GTA Gaotai 36.34 9 *e*P **P 11 19 05.1 +1.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 37.62 38 *e*P **P 11 19 15.8 +1.2**
NJ2 pmax pmax
comp=Z,16nm,0.5s
KSH Kashi 38.89 339 P **P 11 19 23.6 -1.8**
KSH pmax pmax
comp=Z,11nm,0.5s
FITZ Fitzroy Crossi 39.01 124 P **P 11 19 24.5 -2.0**
comp=Z,2.0nm,0.8s
FITZ Fitzroy Crossi 39.01 124 P **P 11 19 25.0 -1.5**
HNS HongShan 39.37 28 ⇓P P 11 19 36.5 +7.3
HNS pmax pmax
comp=Z,15nm,0.9s
HNS LR LR
comp=E,230nm,16.3s
HNS LR LR
comp=Z,160nm,16.1s
TIA Tai'an 39.65 32 P **P 11 19 34.3 +2.7**
TIA pmax pmax
comp=Z,6.0nm,1.4s
BTO Baotou 40.15 21 *e*P **P 11 19 39.4 +3.6**
BTO pP **sP 11 19 43.9 -0.3**
BTO sP **pwP 11 19 46.4 -1.1**
BTO S **S 11 25 48.3 +7.1**
BTO sS **sS 11 25 55.5 +4.5**
BTO SS **SS 11 28 39.4 -0.1**
BTO pmax pmax
comp=Z,17nm,1.2s
BTO pmax pmax
comp=Z,160nm,6.7s
BTO LR LR
comp=Z,230nm,11.3s
BTO LR LR
comp=Z,310nm,10.4s
BTO LR LR
comp=Z,250nm,13.5s
FAKI Fak Fak 40.15 99 P **P 11 19 34.6 -1.5**
FAKI IAmb IAmb 11 19 57.5
comp=Z,39nm,1.3s
WMQ Urumqi 40.38 355 *e*P **P 11 19 39.9 +2.2**
KNRA Kununurra 40.55 119 P **P 11 19 37.7 -1.7**
GAR Garm 40.73 333 IAmb IAmb 11 19 41.7
comp=Z,37nm,0.9s
KDJ Kajisay 40.86 342 IAmb IAmb 11 19 43.8
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 40.93 22 *e*P **P 11 19 44.3 +2.1**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,100nm,3.6s
HHC LR LR
comp=Z,130nm,12.2s
HHC LR LR
comp=Z,210nm,12.4s
HHC LR LR
comp=Z,100nm,12.7s
BOOM Boomskoye usch 41.57 341 IAmb IAmb 11 19 49.2
comp=Z,12nm,0.7s
ARSB Arslanbob 41.57 338 IAmb IAmb 11 19 49.7
comp=Z,19nm,0.7s
AAK Ala-Archa 42.18 340 LR LR 11 39 49.2
comp=Z,117nm,20.9s,baz=154,slow=40
H01W3 Cape Leeuwin H 43.22 154 T T 12 06 08.0
baz=330,slow=76,SNR=44
H01W2 Cape Leeuwin H 43.23 154 T T 12 06 06.8
baz=330,slow=76,SNR=39
H01W1 Cape Leeuwin H 43.24 154 T T 12 06 01.2
baz=330,slow=76,SNR=67
MKAR Makanchi Array 44.04 350 P **P 11 20 07.5 +0.1**
MKAR Makanchi Array 44.04 350 P **P 11 20 08.0 +0.5**
comp=Z,12nm,0.6s,baz=168,slow=8.6,SNR=133
MKAR LR LR 11 41 53.1
comp=Z,39nm,20.8s,baz=148,slow=41
comp=Z,12nm,0.6s
KK31 Karatay Array 44.05 337 IAmb IAmb 11 20 09.0
comp=Z,15nm,0.8s
KKAR Karatay Array 44.05 337 P 11 20 07.9 +0.4
MAKZ Makanchi 44.11 350 P **P 11 20 08.2 +0.3**
MAKZ IAmb IAmb 11 20 09.3
comp=Z,8.5nm,0.8s
SONM Songino Array 45.74 13 P **P 11 20 21.4 +0.4**
SONM Songino Array 45.74 13 P **P 11 20 20.8 -0.2**
comp=Z,1.0nm,0.8s,baz=194,slow=9.0,SNR=6.4
SONM LR LR 11 41 12.3
comp=Z,50nm,18.1s,baz=218,slow=38
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 45.92 14 P **P 11 20 21.9 -0.6**
KSRS Korea Array 46.79 39 P **P 11 20 28.4 -0.8**
comp=Z,0.6nm,0.6s,baz=210,slow=7.1,SNR=1.9
comp=Z,0.6nm,0.6s
WB0 Warramunga Arr 47.13 121 P **P 11 20 31.1 -1.2**
WB0 IAmb IAmb 11 20 45.9
comp=Z,6.9nm,0.8s
WRA Warramunga Arr 47.16 121 P **P 11 20 31.2 -1.3**
WRA Warramunga Arr 47.16 121 P **P 11 20 31.3 -1.3**
comp=Z,5.7nm,0.8s,baz=297,slow=9.0,SNR=43
comp=Z,5.7nm,0.8s
WRAB Tennant Creek 47.16 121 P **P 11 20 31.4 -1.1**
WRAB IAmb IAmb 11 20 32.3
comp=Z,14nm,1.2s
WR8 Warramunga Arr 47.30 121 P **P 11 20 32.5 -1.1**
WR8 IAmb IAmb 11 21 13.8
comp=Z,6.4nm,0.8s
KURBB Kurchatov Arra 48.43 348 P **P 11 20 42.3 +0.5**
comp=Z,4.1nm,0.4s,baz=170,slow=7.2,SNR=33
KURBB LR LR 11 44 10.9
comp=Z,69nm,21.8s,baz=177,slow=40
comp=Z,4.1nm,0.4s
AS15 Alice Springs 48.45 126 P **P 11 20 41.2 -1.3**
comp=Z,3.7nm,0.9s
ASAR Alice Springs 48.46 126 P **P 11 20 41.5 -1.1**
comp=Z,2.1nm,0.7s,baz=305,slow=7.6,SNR=23
comp=Z,2.1nm,0.7s
KURK Kurchatov 48.50 348 P **P 11 20 42.6 +0.3**
KURK IAmb IAmb 11 20 43.8
comp=Z,14nm,1.2s
ZAA0 Zalesovo Array 50.69 354 P **P 11 20 59.4 +0.4**
ZAA0 IAmb IAmb 11 21 00.0
comp=Z,7.5nm,0.6s
ZALV Zalesovo Beam 50.69 354 P **P 11 20 59.4 +0.4**
comp=Z,9.3nm,0.6s,baz=177,slow=6.9,SNR=42
ZALV LR LR 11 48 44.7
comp=Z,46nm,19.0s,baz=201,slow=44
comp=Z,9.3nm,0.6s
MJAR Matsushiro Arr 53.26 46 P **P 11 21 18.0 -0.5**
comp=Z,0.7nm,0.5s,baz=235,slow=6.5,SNR=2.2
comp=Z,0.7nm,0.5s
AB31 Akbulak array 53.38 334 P 11 21 19.3 +0.2
ABKAR Akbulak array 53.38 334 P 11 21 19.2 +0.1
HEH HeiHe 55.08 27 *e*P **P 11 21 32.8 +1.4**
HEH pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 58.32 131 P **P 11 21 54.9 0.0**
STKA Stephens Creek 58.32 131 P **P 11 21 54.3 -0.6**
comp=Z,4.9nm,0.6s,baz=311,slow=3.9,SNR=8.1
comp=Z,4.9nm,0.6s
KBZ Khabaz 59.34 320 P **P 11 22 02.2 +0.5**
comp=Z,4.7nm,0.9s,baz=136,slow=5.5,SNR=12
comp=Z,4.7nm,0.9s
ARTI Arti 59.37 339 LR LR 11 50 40.2
comp=Z,50nm,18.3s,baz=174,slow=39
ASF Jabal al Asfar 59.38 306 LR LR 11 46 21.5
comp=Z,36nm,21.9s,baz=161,slow=35
MMAI Mount Meron Ar 60.83 306 LR LR 11 49 55.3
comp=Z,45nm,18.9s,baz=127,slow=37
H04N2 CROZET ISLANDS 61.20 211 T T 12 30 12.9
baz=49,slow=75,SNR=92
H04N1 CROZET ISLANDS 61.21 211 T T 12 29 56.8
baz=49,slow=75,SNR=247
H04N3 CROZET ISLANDS 61.22 211 T T 12 29 55.5
baz=49,slow=75,SNR=258
CMSA Cobar Meteorol 61.31 129 P **P 11 22 15.6 +0.2**
comp=Z,29nm,0.8s
H04S1 CROZET ISLANDS 61.60 211 T T 12 30 29.7
baz=49,slow=76,SNR=52
H04S3 CROZET ISLANDS 61.61 211 T T 12 30 28.9
baz=49,slow=76,SNR=49
H04S2 CROZET ISLANDS 61.62 211 T T 12 30 30.1
baz=49,slow=76,SNR=46
CSS Mathiatis 63.02 308 P **P 11 22 27.5 +0.6**
comp=Z,11nm,1.0s
BR104 Keskin Array S 64.16 313 P **P 11 22 34.0 -0.5**
comp=Z,2.9nm,0.9s
BR104 pP **pP 11 22 37.3 -3.4**
comp=Z,2.9nm,0.9s
BR131 Keskin Array S 64.17 313 P **P 11 22 35.2 +0.6**
BRTR Keskin Array B 64.17 313 P **P 11 22 35.1 +0.6**
BRTR Keskin Array B 64.17 313 P **P 11 22 34.8 +0.2**
comp=Z,1.1nm,0.6s,baz=133,slow=7.3,SNR=7.8
comp=Z,1.1nm,0.6s
BR105 Keskin Array S 64.18 313 P **P 11 22 34.5 -0.1**
comp=Z,2.5nm,1.4s
BR106 Keskin Array S 64.19 313 P **P 11 22 34.5 -0.2**
comp=Z,2.7nm,0.8s
LSZ Lusaka 66.40 252 LR LR 11 49 29.5
comp=Z,65nm,18.1s,baz=148,slow=34
MATP Matopo 67.16 246 LR LR 11 47 45.8
comp=Z,78nm,21.1s,baz=77,slow=32
KARP Karpathos 68.06 307 P **P 11 22 59.9 +0.4**
comp=Z,36nm,0.9s
TIRR Tirgusor 69.28 316 P **P 11 23 07.2 +0.3**
AK09 Malin Array Si 70.58 323 P **P 11 23 14.1 -0.6**
AK10 Malin Array Si 70.60 323 P **P 11 23 14.4 -0.4**
AK07 Malin Array Si 70.61 323 P **P 11 23 14.3 -0.6**
AK06 Malin Array Si 70.62 323 P **P 11 23 14.4 -0.6**
AKASG Malin Array Be 70.64 323 P **P 11 23 14.4 -0.7**
comp=Z,0.3nm,0.4s,baz=88,slow=5.1,SNR=4.0
comp=Z,0.3nm,0.4s
LBTB Lobatse 70.82 242 P **P 11 23 18.9 +2.0**
LBTB IAmb IAmb 11 23 19.4
comp=Z,7.9nm,0.8s
LBTB Lobatse 70.82 242 LR LR 11 52 08.2
comp=Z,80nm,18.1s,baz=90,slow=34
MLR Muntele Rosu 71.25 317 IAmb IAmb 11 23 36.6
comp=Z,5.9nm,0.7s
KDWAN Kaudwane 71.29 244 P **P 11 23 20.9 +1.2**
KDWAN IAmb IAmb 11 23 22.2
comp=Z,10.0nm,0.8s
LUBAR Lubar, Ukraine 71.29 322 P **P 11 23 19.0 -0.1**
TIXI Tiksi 71.80 11 **P 11 23 21.3 -0.4**
TIXI IAmb IAmb 11 23 34.7
comp=Z,8.6nm,0.5s
BOSA Boshof 71.98 239 P **P 11 23 24.8 +1.0**
BOSA IAmb IAmb 11 23 26.0
comp=Z,6.5nm,0.8s
BOSA Boshof 71.98 239 P **P 11 23 25.1 +1.3**
comp=Z,4.2nm,0.7s,baz=79,slow=5.1,SNR=11
BOSA LR LR 11 50 42.9
comp=Z,51nm,19.4s,baz=26,slow=32
comp=Z,4.2nm,0.7s
BURAR Bucovina Array 72.27 319 P **P 11 23 25.8 +0.6**
BUR08 Bucovina Ar. S 72.29 319 P **P 11 23 25.8 +0.5**
BUR08 IAmb IAmb 11 23 35.9
comp=Z,8.7nm,1.2s
RNPP5 Staryi Chortor 72.82 323 P **P 11 23 28.2 0.0**
KGCAE Kacgae 73.39 245 IAmb IAmb 11 23 34.9
comp=Z,16nm,0.9s
MAW Mawson 73.97 191 P **P 11 23 36.7 +2.2**
comp=Z,4.4nm,0.9s,baz=336,slow=10,SNR=4.0
comp=Z,4.4nm,0.9s
KOOLE Kule 75.24 245 **P 11 23 44.3 +1.2**
KOOLE IAmb IAmb 11 23 45.6
comp=Z,12nm,0.9s
FIA1 FINESS Array S 75.85 333 P **P 11 23 45.5 -0.2**
FINES FINESS Array B 75.85 333 P **P 11 23 45.6 0.0**
FINES FINESS Array B 75.85 333 P **P 11 23 44.7 -0.9**
comp=Z,4.4nm,1.0s,baz=94,slow=2.7,SNR=6.8
comp=Z,4.4nm,1.0s
ARCES ARCESS Array B 78.84 341 LR LR 12 02 36.1
comp=Z,70nm,18.5s,baz=128,slow=38
GEC2 GERESS Array S 80.06 319 IAmb IAmb 11 24 24.7
comp=Z,7.7nm,0.9s
GERES GERESS Array B 80.06 319 P **P 11 24 10.3 +0.9**
comp=Z,2.8nm,0.7s,baz=96,slow=5.4,SNR=24
comp=Z,2.8nm,0.7s
CLL Collm 80.76 321 *e*P **P 11 24 13.0 0.0**
SYO Syowa Base 80.80 197 ⇓*e*P **P 11 24 16.6 +3.8**
HFS Hagfors 81.44 330 P **P 11 24 16.1 -0.3**
comp=Z,0.7nm,0.5s,baz=134,slow=4.3,SNR=5.0
comp=Z,0.7nm,0.5s
VNDA Vanda 88.99 168 P **P 11 24 54.7 +0.8**
VNDA IAmb IAmb 11 25 29.4
comp=Z,12nm,1.9s
RAO Raoul Island 91.25 119 LR LR 12 10 16.6
comp=Z,212nm,18.3s,baz=68,slow=38
QSPA South Pole Qui 93.43 180 P **P 11 25 15.3 +0.5**

*NEIC **19** 11:13:56.9±0.9, 19°.40N±0°.02×154°.98W±0°.02, h5km±1km, Error ellipse: s-maj=5.2km s-min=2.9km az=313.0*
HVO 19 11:13:56.0±1.0, **19°.37N**±0°.02×**154°.95W**±0°.03, **h6**km±5km, **ML2.5**/29, **ML2.6**/40(NEIC), **Error ellipse: s-maj=4.8km s-min=1.1km az=130.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.08**	**319**		Pg	11 13 58.4	+0.4
JOKA				Sg	Sg	11 13 59.9	+0.6
JOKA				IAML		11 14 00.3	
	comp=E,3µm,0.5s						
JCUZ	**Jacuzzi**	**0.15**	**275**		Pg	11 13 59.4	+0.4
JCUZ					Sg	11 14 02.0	+0.9
NPOC	**North of Pu'u**	**0.15**	**278**		Pg	11 13 59.5	+0.3
NPOC					Sg	11 14 02.1	+0.7
STCH	**Steam Cracks**	**0.17**	**275**		Pg	11 13 59.8	+0.4
STCH				Sg	Sg	11 14 02.5	+0.8
KNHH	**Kane Nui o Ham**	**0.21**	**272**		Pg	11 14 00.5	+0.3
PUH	**Pauahi**	**0.25**	**271**		Pg	11 14 01.2	+0.1
BYL	**Byron's Ledge**	**0.30**	**278**		Pg	11 14 02.0	+0.1
BYL				IAML		11 14 08.9	
	comp=E,717nm,0.4s						
HATHI	**Halema'uma'u T**	**0.30**	**280**		Pg	11 14 02.0	+0.1
HATHI				IAML		11 14 07.2	
	comp=N,1µm,0.2s						
HATHI				IAML		11 14 07.4	
	comp=E,935nm,0.1s						
KKO	**Keanakako'i**	**0.30**	**275**		Pg	11 14 02.0	+0.1
KKO					Sg	11 14 06.8	+0.8
SBLHI	**Steaming Bluff**	**0.31**	**280**		Pg	11 14 02.0	0.0
SBLHI					Sg	11 14 06.6	+0.4
RIM	**Rim**	**0.31**	**274**		Pg	11 14 02.1	-0.1
RIM					Sg	11 14 07.3	+1.1
UWB	**Uwekahuna Bluf**	**0.32**	**280**		Pg	11 14 02.5	+0.2
UWB					Sg	11 14 07.1	+0.6
OBL	**Observatory Le**	**0.32**	**278**		Pg	11 14 02.6	+0.3
OBL					Sg	11 14 07.4	+0.8
RSD	**Rainshed**	**0.33**	**286**		Pg	11 14 02.5	+0.1
RSD					Sg	11 14 06.9	+0.1
RSD				IAML		11 14 08.4	
	comp=E,796nm,0.2s						
RSD				IAML		11 14 09.4	
	comp=N,863nm,0.1s						
SDHHI	**Sand Hill**	**0.33**	**273**		Pg	11 14 02.8	+0.3
SDHHI					Sg	11 14 07.6	+0.8
UWE	**Uwekahuna**	**0.33**	**279**		Sg	11 14 07.4	+0.5
UWE	**Uwekahuna**	**0.33**	**279**	Pg	Pg	11 14 02.8	+0.3
UWE				IAML		11 14 09.3	
	comp=N,920nm,0.3s						
UWE				IAML		11 14 11.7	
	comp=E,935nm,0.4s						
WRMHI	**West Rim**	**0.34**	**276**		Pg	11 14 02.5	-0.1
WRMHI					Sg	11 14 08.1	+1.0
HLP	**Hilina Pali**	**0.35**	**258**		Pg	11 14 03.1	+0.2
HLP					Sg	11 14 08.2	+0.7
MLH	**Mauna Loa**	**0.43**	**286**		Pg	11 14 04.7	+0.2
MLH				IAML		11 14 12.9	
	comp=N,656nm,0.1s						
MLH				IAML		11 14 13.3	
	comp=E,550nm,0.3s						
MLH	**Mauna Loa**	**0.43**	**286**		Sg	11 14 10.8	+0.6
HTC	**Hot Caves**	**0.45**	**253**		Pg	11 14 05.0	+0.3
AIN	**Ainahou**	**0.48**	**270**		Pg	11 14 05.5	+0.1
AIN					Sg	11 14 11.1	-0.6
HMH	**Humu'ula Sheep**	**0.56**	**295**		Pg	11 14 06.8	0.0
HMH	**Humu'ula Sheep**	**0.56**	**295**		Sg	11 14 14.5	+0.4
MWH	**Mokuaweoweo**	**0.62**	**281**		Pg	11 14 07.4	-0.7
MWH				IAML		11 14 25.8	
	comp=E,373nm,0.6s						
MWH				IAML		11 14 26.5	
	comp=N,377nm,0.6s						
MWH	**Mokuaweoweo**	**0.62**	**281**		Sg	11 14 16.0	-0.3
KHU	**Kahuku**	**0.64**	**259**		Pg	11 14 07.2	-1.3
KHU					Sg	11 14 16.0	-0.8
POHA	**Pohakuloa**	**0.67**	**305**		Pg	11 14 08.0	-1.0
POHA				IAML		11 14 27.2	
	comp=N,228nm,1.4s						
POHA				IAML		11 14 32.4	
	comp=N,203nm,0.5s						
POHA	**Pohakuloa**	**0.67**	**305**		Sg	11 14 16.6	-1.2
ALEP	**Alea Permanent**	**0.68**	**285**		Pg	11 14 08.1	-1.0
ALEP					Sg	11 14 17.4	-0.6
HUH	**Hualalai**	**0.89**	**291**	Pg	Pg	11 14 12.8	-0.4

*LDO **19** 11:23:50±0.8, 40°.195N±0°.009×76°.23W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.2km az=170.0*
NEIC 19 11:23:50.6±0.6, **40°.187N**±0°.009×**76°.23W**±0°.02, **h5**km±1km, **ML1.7**/20, **ML1.3**(LDO), **Error ellipse: s-maj=2.7km s-min=2.2km az=174.0, Pennsylvania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVL	**Millersville**	**0.21**	**206**		Pg	11 23 54.4	-0.2
MVL				Sg	Sg	11 23 57.3	-0.1
PAGS	**Pennsylvania G**	**0.38**	**276**		Pg	11 23 57.4	-0.5
PAGS				Sg	Sg	11 24 02.6	-0.3
PAGS				IAML		11 24 03.3	
	comp=N,67nm,0.1s						
PSUB	**Penn St. - Bra**	**0.65**	**113**	Pg	Pg	11 24 02.7	-0.4
PSUB				IAML		11 24 13.9	
	comp=N,47nm,0.1s						
PSUB				IAML		11 24 16.4	
	comp=E,37nm,0.1s						
N58A	**Sunbury**	**0.75**	**331**	Pg	Pg	11 24 04.4	-0.6
N58A				IAML		11 24 10.3	
	comp=E,22nm,4.1s						
N58A				Sg	Sg	11 24 14.7	0.0
SDMD	**Soldier's Deli**	**0.91**	**211**	Pg	Pg	11 24 07.2	-0.8
M57A	**Sunshine Farm,**	**1.34**	**330**		Pn	11 24 14.8	-1.2
M57A				IAML		11 24 39.1	
	comp=E,15nm,3.2s						
SSPA	**Standing Stone**	**1.34**	**290**		Pn	11 24 14.6	-1.4
SSPA				IAML		11 24 34.1	

comp=E,14nm,4.1s
SSPA IAML 11 25 00.7
comp=E,10nm,4.0s
BINY Binghamton 2.02 5 Pn Pn 11 24 24.2 -1.1
L56A Greenwood 2.19 333 Pn Pn 11 24 27.8 +0.1

*IDC **19** 11:44:26.1±0.5,6.59N×125.18E,h0km,mb4.5/23, mbtmp4.5/26,ML4.4/3,MS4.1/36,Error ellipse: s-maj=13.7km s-min=9.7km az=97.0*
*GCMT **19** 11:44:27.6±0.2,6.81N±0.01×125.12E±0.02,h16km±1km, MW5.0/101,Moment Tensor Solution. s30,c37; s101,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.87±.15; Mθθ3.49±.12; Mφφ-2.62±.10; Mrθ-0.86±.29; Mθφ1.07±.09; Mφr-0.34±.34; Best double couple: M0:3.33400×10^16 NP1:φs306.00000°,δ78.00000°, λ4.00000°. NP2:φs215.00000°,δ87.00000°,λ168.00000°. Principal axes: T 3.8460, Plg11.0000°, Azm170.0000°; N -1.0220, Plg78.0000°, Azm19.0000°; P -2.8220, Plg6.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **19** 11:44:27.6±1.5,6.63N×125.10E,h14km,mb5.2/31, MS4.2/6 Error ellipse: s-maj=10.1km s-min=5.7km az=109.9*
*NEIC **19** 11:44:28.6±1.8,6.71N±0.06×125.19E±0.06,h10km±1km, mb5.2/165,Mww4.9/14,Error ellipse: s-maj=12.4km s-min=7.4km az=133.0*
*NEIC **19** 11:44:29.1,6.71N×125.30E,h14km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr-0.01; Mθθ1.97; Mφφ-1.96; Mrθ-0.37; Mθφ0.99; Mφr-1.00; Fault plane solution: M0 2.45000×10^16 NP1: φs300.59000°,δ64.84000°,λ-3.67000°. NP2:φs32.15000°, δ86.68000°,λ-154.80000°. Principal axes: T 2.3640, Plg15.0000°, Azm164.0000°; N 0.1572, Plg65.0000°, Azm39.0000°; P -2.5212, Plg20.0000°, Azm259.0000°;*
*NEIC **19** 11:44:29.1,6.71N×125.20E,h14km*
*DJA **19** 11:44:29.7±0.6,7.7N±2.2×12.5E±.,h17km±5km,M4.9/59, mB5.4/34,mb4.9/59,MLv5.5/11,Mw(mB)4.9/34, MwMwp4.6/7,Mwp5.0/7*
ISC 19 11:44:28.9±0.3,6.65N±0.03×125.19E±0.05,h10km,n592, σ1968/529,mb5.0/178,MS4.2/59,14C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
DAV	**Davao City (W)**	**0.56**	**43**		**Pg**	**11 44 38.6**	**-1.3**
DAV	**Davao City (W)**	**0.56**	**43**	Pg	**Pg**	**11 44 38.5**	**-1.4**
	3μm,0.3s,baz=248,slow=1.9,SNR=171						
DAV				LR	LR	11 45 06.9	
	comp=Z,27μm,20.5s,baz=351,slow=66						
DAV	**Davao City (W)**	**0.56**	**43**	P	**Pg**	**11 44 38.8**	**-1.1**
DAV	**Davao City (W)**	**0.56**	**43**	P	**Pg**	**11 44 36.0**	**-3.9**
SGSI	**Sangihe**	**2.96**	**174**	P	**Pn**	**11 45 17.4**	**+1.4**
KMSI	**Cibinong**	**6.16**	**191**	P	**Pn**	**11 46 01.2**	**+1.3**
TNTI	**Ternate**	**6.23**	**160**		**Pn**	**11 46 02.2**	**+1.3**
TNTI	**Ternate**	**6.23**	**160**	P	**Pn**	**11 46 00.2**	**-0.7**
TNTI	**Ternate**	**6.23**	**160**	P	**Pn**	**11 46 02.3**	**+1.4**
	0.9nm3μm258nm,1.0s						
MYLDM	**Lahad Datu**	**6.82**	**258**		**Pn**	**11 46 08.7**	**-0.3**
MRSI	**Marisa**	**6.94**	**208**	P	**Pn**	**11 46 10.8**	**+0.1**
TOLI2	**Tolitoli**	**7.05**	**219**	Pn	**Pn**	**11 46 09.5**	**-2.6**
LUWI	**Luwuk**	**8.02**	**198**		**Pn**	**11 46 24.9**	**-0.6**
LUWI	**Luwuk**	**8.02**	**198**	P	Pn	11 46 30.8	+5.3
LUWI	**Luwuk**	**8.02**	**198**	P	**Pn**	**11 46 29.8**	**+4.3**
APSI	**Ampana**	**8.30**	**205**	P	**Pn**	**11 46 33.6**	**+4.2**
	2μm202nm,1.0s						
TGY	**Tagaytay City**	**8.51**	**331**	LR	LR	11 50 10.4	
	comp=Z,2μm,19.4s,baz=121,slow=40						
SANI	**Sanana**	**8.68**	**175**	P	**Pn**	**11 46 35.2**	**+0.6**
SANI	**Sanana**	**8.68**	**175**	P	**Pn**	**11 46 34.1**	**-0.5**
	2μm2μm170nm,1.1s						
I39PW	**PALAU INFRASON**	**9.32**	**84**	I	I	12 40 20.0	
	baz=267,slow=304,SNR=4.2						
SWI	**Sorong**	**9.61**	**141**	P	**Pn**	**11 46 48.2**	**+0.8**
	55nm,1.1s						
SWI	**Sorong**	**9.61**	**141**	P	**Pn**	**11 46 50.7**	**+3.3**
NLAI	**Namlea**	**10.01**	**169**	P	**Pn**	**11 46 53.1**	**+0.3**
	2μm145nm,1.1s						
FAKI	**Fak Fak**	**11.83**	**143**		**Pn**	**11 47 19.5**	**+1.7**
FAKI	**Fak Fak**	**11.83**	**143**	P	**Pn**	**11 47 19.7**	**+1.9**
	879nm65nm,1.1s						
SPSI	**Sidrap Palu**	**11.85**	**207**	P	Pn	11 47 24.4	+6.3
	811nm39nm,1.0s						
BNSI	**Bone**	**12.10**	**205**	P	**Pn**	**11 47 23.6**	**+2.2**
	991nm61nm,2.0s						
KAPI	**Kappang**	**12.80**	**205**	Pn	**Pn**	**11 47 30.1**	**-0.9**
	0.6nm,0.3s,baz=33,slow=16,SNR=4.4						
	2.4nm,0.3s						
KAPI	**Kappang**	**12.80**	**205**	*i* P	**Pn**	**11 47 32.6**	**+1.6**
BKSI	**Bulukumba**	**12.93**	**203**	P	**Pn**	**11 47 37.3**	**+4.5**
	1μm552nm32nm,1.4s						
BAKI	**Biak**	**13.39**	**125**	P	**Pn**	**11 47 41.7**	**+2.6**
	2μm72nm,1.1s						
SBUM	**Sibu**	**13.59**	**253**		**Pn**	**11 47 42.5**	**+0.7**
BBKI	**Banjar Baru**	**14.41**	**226**	P	**P**	**11 48 00.2**	**+0.1**
	124nm,1.2s						
MMRI	**Maumere**	**15.47**	**191**	P	**Pn**	**11 48 07.7**	**+0.4**
EDFI	**Ende, Flores**	**15.69**	**193**	P	**Pn**	**11 48 12.2**	**+1.9**
SOEI	**Soe**	**16.32**	**183**		**Pn**	**11 48 18.7**	**+0.3**
BATI	**Baumata**	**16.82**	**185**	Pn	**Pn**	**11 48 24.3**	**-0.3**
	6.6nm,0.3s,baz=50,slow=6.0,SNR=5.2						
BATI				LR	LR	11 55 09.5	
	comp=Z,803nm,22.0s,baz=19,slow=38						
	30nm,0.7s						
BATI	**Baumata**	**16.82**	**185**	P	**P**	**11 48 26.5**	**-0.3**
	1μm102nm,1.0s						
PLAI	**Plampang**	**17.06**	**206**	P	**P**	**11 48 32.1**	**+2.6**
PLAI	**Plampang**	**17.06**	**206**	P	**P**	**11 48 30.2**	**+0.7**
	901nm69nm,1.6s						
WBSI	**Waikabubak, Su**	**17.19**	**200**	P	**Pn**	**11 48 30.1**	**+0.8**
	1μm77nm,1.5s						
TWSI	**Taliwang, Sumb**	**17.39**	**209**	P	**P**	**11 48 33.4**	**+0.3**
	1μm88nm,1.0s						
GENI	**Genyem**	**17.54**	**121**	P	**P**	**11 48 36.9**	**+2.1**
	2μm51nm,1.0s						
KMMI	**Kalianget**	**17.63**	**220**	P	**P**	**11 48 41.9**	**+6.2**
	88nm,1.3s						
JAY	**Jayapura**	**17.96**	**120**	P	**Pn**	**11 48 36.5**	**-2.5**
	0.9nm,0.3s,baz=17,slow=12,SNR=3.6						
JAY				LR	LR	11 54 22.2	
	comp=Z,492nm,21.0s,baz=298,slow=33						
	20nm,1.0s						
JAGI	**Jajag, Banyuwa**	**18.62**	**216**		**P**	**11 48 43.0**	**-3.7**
JAGI	**Jajag, Banyuwa**	**18.62**	**216**	P	**Pn**	**11 48 51.1**	**+4.1**
	56nm,1.2s						
QZH	**Quanzhou**	**19.26**	**342**	P	**Pn**	**11 48 58.8**	**+4.2**
QZH				S	**S**	**11 52 33.5**	**+1.7**
QZH				pmax	pmax		
	comp=Z,880nm,4.2s						
QZH				LR	LR		
	comp=N,1μm,24.8s						
QZH				LR	LR		
	comp=E,870nm,21.9s						
QZH				LR	LR		
	comp=Z,1μm,24.8s						
QIZ	**Qiongzhong**	**19.35**	**311**	P	**Pn**	**11 48 55.9**	**+0.1**
QIZ				S	**S**	**11 52 32.9**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,57nm,1.4s						
QIZ				LR	LR		
	comp=N,480nm,14.7s						
QIZ				LR	LR		
	comp=E,660nm,12.4s						
QIZ				LR	LR		
	comp=Z,890nm,16.5s						
NGJI	**Ngawi**	**19.53**	**225**	P	**Pn**	**11 49 01.1**	**+3.1**
	67nm,1.0s						
DRS	**Darwin Rock St**	**19.79**	**163**	P	**P**	**11 48 59.4**	**-0.1**
JMZ	**Minamidaito 2**	**19.91**	**16**	P	**Pn**	**11 49 02.4**	**0.0**
MTN	**Manton Dam**	**20.25**	**163**	P	**P**	**11 49 03.1**	**-1.4**
MTN	**Manton Dam**	**20.25**	**163**	P	**P**	**11 49 01.5**	**-3.0**
JOW	**Kunigami**	**20.28**	**8**	P	Pn	11 49 05.9	-0.9
	31nm,1.0s,baz=148,slow=9.7,SNR=3.6						
JOW				LR	LR	11 56 55.7	
	comp=Z,740nm,20.3s,baz=154,slow=37						
	31nm,1.0s						
KDU	**Kakadu**	**20.53**	**159**	P	**P**	**11 49 06.3**	**-1.2**
GUMO	**Guam**	**20.55**	**69**	LR	LR	11 55 39.8	
	comp=Z,328nm,20.8s,baz=254,slow=33						
KPJI	**Karang Pucung**	**21.36**	**230**	P	**P**	**11 49 18.3**	**+1.8**
	59nm,0.9s						
DSRI	**Dabo**	**21.76**	**252**	P	**P**	**11 49 22.0**	**+1.1**
	42nm,1.4s						
MYKOM	**Kota Tinggi**	**21.82**	**258**	P	**P**	**11 49 19.3**	**-2.2**
LEM	**Lembang**	**22.06**	**233**	P	**P**	**11 49 23.7**	**-0.6**
	14nm,0.3s,baz=11,slow=8.5,SNR=7.8						
	14nm,0.3s						
KNRA	**Kununurra**	**22.46**	**171**	P	**P**	**11 49 27.7**	**-0.7**
	comp=Z,77nm,0.7s						
KNRA	**Kununurra**	**22.46**	**171**		**P**	**11 49 27.7**	**-0.7**
KNRA				IAmb	IAmb	11 49 33.1	
	comp=Z,69nm,0.8s						
DBJI	**Dramaga**	**22.60**	**235**	P	**P**	**11 49 35.4**	**+5.5**
	comp=Z,60nm,0.6s						
CGJI	**Cibinong**	**23.50**	**236**	P	**P**	**11 49 40.0**	**+0.8**
	comp=Z,1μmcomp=Z,53nm,1.0s						
MDSI	**Maura Dua**	**23.72**	**243**	P	**P**	**11 49 41.7**	**+0.4**
LHSI	**Lahat**	**24.01**	**245**	P	**P**	**11 49 45.0**	**+0.9**
	comp=Z,2μmcomp=Z,36nm,1.1s						
LWLI	**Liwa**	**24.07**	**242**	P	**P**	**11 49 44.9**	**+0.1**
	comp=Z,100nm,0.6s						
IPM	**Ipoh**	**24.15**	**266**		**P**	**11 49 44.3**	**-1.2**
IPM				IAmb	IAmb	11 49 56.7	
	comp=Z,155nm,2.0s						
KULM	**Kulim**	**24.45**	**268**	P	**P**	**11 49 47.1**	**-1.1**
KULM				IAmb	IAmb	11 50 12.9	
	comp=Z,68nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.60**	**179**	P	**P**	**11 49 47.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**24.60**	**179**	P	**P**	**11 49 48.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**24.60**	**179**	P	**P**	**11 49 49.5**	**+0.1**
SSE	**Sheshan**	**24.61**	**352**	P	**P**	**11 49 50.9**	**+1.5**
SSE				S	**S**	**11 54 12.9**	**+2.3**
SSE				pmax	pmax		
	comp=Z,14nm,0.7s						
SSE				pmax	pmax		
	comp=Z,110nm,3.5s						
SSE				LR	LR		
	comp=Z,200nm,19.3s						
SSE				LR	LR		
	comp=Z,310nm,19.4s						
MASI	**Maura Aman, Be**	**24.89**	**248**	P	**P**	**11 49 54.6**	**+2.3**
	comp=Z,104nm,0.9s						
SLVN	**Son La**	**25.24**	**307**	P	**P**	**11 49 54.7**	**-0.6**
PPI	**Padang Panjang**	**25.73**	**255**	P	**P**	**11 49 59.6**	**-0.2**
	comp=Z,29nm,1.4s						
WHN	**Wuhan**	**25.86**	**338**	P	**P**	**11 50 04.0**	**+3.3**
WHN				S	**S**	**11 54 37.6**	**+7.0**
WHN				pmax	pmax		
	comp=Z,52nm,1.0s						
WHN				LR	LR		
	comp=Z,3μm,21.7s						
NJ2	**Nanjing**	**25.96**	**348**	*e*P	**P**	**11 50 03.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.7s						
NJ2				LR	LR		
	comp=Z,460nm,15.9s						
NJ2				LR	LR		
	comp=Z,380nm,14.5s						
NJ2				LR	LR		
	comp=Z,770nm,16.9s						
JCJ	**Chichijima**	**25.97**	**37**	LR	LR	11 58 24.1	
	comp=Z,289nm,21.3s,baz=229,slow=32						
PSI	**Prapat**	**26.45**	**263**	LR	LR	12 02 22.0	
	comp=Z,321nm,18.5s,baz=68,slow=41						
JNU	**Nakatsue**	**26.86**	**11**	LR	LR	12 00 22.0	
	comp=Z,322nm,21.6s,baz=202,slow=36						
PMG	**Port Moresby**	**27.08**	**126**	P	**P**	**11 50 11.0**	**-1.0**
PMG				IAmb	IAmb	11 50 15.2	
	comp=Z,54nm,0.9s						
PMG	**Port Moresby**	**27.08**	**126**	*ce*P	**P**	**11 50 11.9**	**-0.1**
PMG				pmax	pmax		
	comp=Z,61nm,1.0s						
COEN	**Coen**	**27.16**	**139**	P	**P**	**11 50 14.6**	**+1.9**
	comp=Z,54nm,1.6s						
COEN	**Coen**	**27.16**	**139**	P	**P**	**11 50 10.9**	**-1.8**
COEN				IAmb	IAmb	11 50 16.6	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**27.16**	**139**	P	**P**	**11 50 11.6**	**-1.1**
KCSI	**Kotacane, Aceh**	**27.49**	**265**	P	**P**	**11 50 13.5**	**-2.2**
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**27.77**	**161**	IAmb	IAmb	11 50 30.0	
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**27.91**	**161**	P	**P**	**11 50 19.2**	**-0.1**
WRAB	**Tennant Creek**	**27.91**	**161**	P	**P**	**11 50 19.3**	**-0.1**
WRAB	**Tennant Creek**	**27.91**	**161**	*ce*P	**P**	**11 50 20.3**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**27.92**	**161**	P	**P**	**11 50 17.1**	**-2.3**
WRA	**Warramunga Arr**	**27.92**	**161**	P	**P**	**11 50 16.3**	**-3.1**
	comp=Z,10.0nm,0.8s,baz=339,slow=9.7,SNR=31						
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**27.92**	**161**	P	**P**	**11 50 17.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**28.13**	**297**	P	**P**	**11 50 20.4**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=118,slow=7.1,SNR=24						
CMAR				LR	LR	12 01 32.8	
	comp=Z,196nm,19.3s,baz=145,slow=36						
	comp=Z,2.9nm,0.7s						
MBWA	**Marble Bar**	**28.15**	**191**	P	**P**	**11 50 23.0**	**+1.5**
	comp=Z,18nm,1.0s						
MBWA	**Marble Bar**	**28.15**	**191**	P	**P**	**11 50 21.8**	**+0.3**
CHTO	**Chiang Mai**	**28.26**	**298**	P	**P**	**11 50 21.1**	**-1.5**
CHTO	**Chiang Mai**	**28.26**	**298**	P	**P**	**11 50 21.1**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,28nm,1.6s						
KMI	**Kunming**	**28.26**	**313**	P	**P**	**11 50 22.8**	**0.0**
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				LR	LR		
	comp=Z,680nm,17.2s						
KMI				LR	LR		
	comp=Z,500nm,17.2s						
KMI				LR	LR		
	comp=Z,590nm,21.7s						
PSAC1	**Pilbara Seismi**	**28.50**	**191**	P	**P**	**11 50 25.9**	**+1.3**
	comp=Z,28nm,1.2s						
PSAC2	**Pilbara Seismi**	**28.52**	**190**	P	**P**	**11 50 26.5**	**+1.8**
	comp=Z,17nm,1.4s						
PSA00	**Pilbara Seismi**	**28.54**	**190**	P	**P**	**11 50 26.6**	**+1.8**
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**28.54**	**190**	P	**P**	**11 50 24.7**	**-0.1**
PSA00				IAmb	IAmb	11 50 28.6	
	comp=Z,38nm,1.3s						
PSA00	**Pilbara Seismi**	**28.54**	**190**	P	**P**	**11 50 24.8**	**-0.1**
PSA00				IAmb	IAmb	11 50 28.6	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**28.54**	**190**	P	**P**	**11 50 28.0**	**+3.1**
PSAB3	**Pilbara Seismi**	**28.55**	**190**	P	**P**	**11 50 26.9**	**+1.8**
	comp=Z,35nm,1.2s						
JHJ	**Hachijo jima 2**	**29.62**	**25**	LR	LR	12 01 51.9	
	comp=Z,448nm,20.2s,baz=112,slow=35						
PZH	**PanZhiHua**	**29.81**	**314**	P	**P**	**11 50 37.4**	**+1.0**
TIA	**Tai'an**	**30.34**	**347**	P	**P**	**11 50 41.0**	**+0.2**
TIA				S	**S**	**11 55 44.5**	**+3.4**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIA				LR	LR		
	comp=Z,290nm,16.0s						
TIA				LR	LR		
	comp=Z,590nm,20.5s						
TIA				LR	LR		
	comp=Z,270nm,22.3s						
QIS	**Mount Isa**	**30.52**	**153**	P	**P**	**11 50 41.7**	**-0.9**
	comp=Z,21nm,0.9s						
QIS	**Mount Isa**	**30.52**	**153**	P	**P**	**11 50 43.0**	**+0.4**
INU	**Inuyama**	**30.56**	**19**	P	**P**	**11 50 41.9**	**-0.8**
KSAR	**Wonju Array Be**	**30.75**	**4**	P	**P**	**11 50 44.2**	**-0.1**
KSAR	**Wonju Array Be**	**30.75**	**4**	P	**P**	**11 50 44.2**	**-0.1**
KSRS	**Korea Array**	**30.76**	**4**	P	**P**	**11 50 44.3**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=186,slow=10.0,SNR=8.4						
	comp=Z,3.1nm,1.0s						
KS19	**Wonju Array Si**	**30.81**	**4**	P	**P**	**11 50 44.6**	**-0.3**
MTSU	**Mount Surprise**	**31.03**	**143**	P	**P**	**11 50 46.8**	**-0.2**
	comp=Z,9.0nm,1.0s						
XAN	**Xi'an**	**31.14**	**333**	⇑P	**P**	**11 50 48.8**	**+0.9**
XAN				sP	sP	11 50 55.5	+3.2
XAN				S	**S**	**11 55 54.6**	**+0.8**
XAN				pmax	pmax		
	comp=Z,17nm,1.0s						
XAN				LR	LR		
	comp=Z,280nm,15.1s						
XAN				LR	LR		
	comp=Z,840nm,19.2s						
XAN				LR	LR		
	comp=Z,640nm,22.0s						
AS15	**Alice Springs**	**31.28**	**164**	P	**P**	**11 50 47.9**	**-1.4**
AS31	**Alice Springs**	**31.31**	**164**	P	**P**	**11 50 49.0**	**-0.5**
	comp=Z,3.0nm,0.5s						
AS31	**Alice Springs**	**31.31**	**164**		**P**	**11 50 48.0**	**-1.5**
ASAR	**Alice Springs**	**31.31**	**165**		**P**	**11 50 48.5**	**-1.0**
ASAR	**Alice Springs**	**31.31**	**165**	P	**P**	**11 50 47.4**	**-2.1**
	comp=Z,3.1nm,0.6s,baz=342,slow=6.8,SNR=48						
ASAR				LR	LR	12 04 26.5	
	comp=Z,163nm,18.8s,baz=320,slow=38						
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**31.31**	**165**	P	**P**	**11 50 48.5**	**-1.0**
AS01	**Alice Springs**	**31.32**	**164**	P	**P**	**11 50 48.4**	**-1.2**
AS17	**Alice Springs**	**31.33**	**164**	P	**P**	**11 50 48.6**	**-1.1**
	comp=Z,11nm,0.9s						
AS09	**Alice Springs**	**31.35**	**164**	P	**P**	**11 50 49.7**	**-0.2**
	comp=Z,17nm,1.0s						
TNCH	**TengChong**	**31.39**	**309**	P	**P**	**11 50 51.1**	**+0.7**
TNCH				sP	sP	11 50 57.5	+2.6
TNCH				pmax	pmax		
	comp=Z,180nm,3.9s						
CD2	**Chengdu**	**31.40**	**323**	P	**P**	**11 50 52.0**	**+1.7**
CD2				S	**S**	**11 56 03.3**	**+5.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=Z,2μm,17.6s						
CD2				LR	LR		
	comp=Z,1μm,22.6s						
CD2				LR	LR		
	comp=Z,760nm,16.2s						
WRKA	**Warakurna**	**31.64**	**175**	P	**P**	**11 50 53.6**	**+1.2**
	comp=Z,7.9nm,1.0s						
MJAR	**Matsushiro Arr**	**32.04**	**20**	P	**P**	**11 50 54.3**	**-1.6**
MJAR	**Matsushiro Arr**	**32.04**	**20**	P	**P**	**11 50 54.6**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=193,slow=9.4,SNR=12						
	comp=Z,5.7nm,0.8s						
HNS	**HongShan**	**32.06**	**344**	⇑P	**P**	**11 50 57.3**	**+1.4**
HNS				S	**S**	**11 56 14.8**	**+6.8**
HNS				pmax	pmax		
	comp=Z,27nm,1.3s						
HNS				LR	LR		
	comp=Z,290nm,18.6s						
HNS				LR	LR		
	comp=Z,250nm,13.3s						
HNS				LR	LR		
	comp=Z,510nm,19.8s						
DL2	**Dalian**	**32.27**	**355**	P	**P**	**11 50 56.6**	**-1.1**
DL2				S	**S**	**11 56 11.3**	**+0.1**
DL2				pmax	pmax		
	comp=Z,20nm,1.0s						
DL2				pmax	pmax		
	comp=Z,160nm,8.0s						
DL2				LR	LR		
	comp=Z,290nm,17.0s						
DL2				LR	LR		
	comp=Z,430nm,20.8s						
DL2				LR	LR		
	comp=Z,650nm,16.9s						
MEEK	**Meekatharra**	**33.70**	**191**	P	**P**	**11 51 12.8**	**+2.4**
JMM	**Marumori**	**34.15**	**22**	P	**P**	**11 51 14.1**	**-0.1**
BJT	**Baijiatuau**	**34.20**	**348**	P	**P**	**11 51 13.5**	**-1.1**
BJT				IAmb	IAmb	11 51 18.9	
	comp=Z,30nm,1.0s						
BJT	**Baijiatuau**	**34.20**	**348**	P	**P**	**11 51 13.5**	**-1.1**
BJT				pmax	pmax		
	comp=Z,30nm,1.0s						
BJI	**Beijing**	**34.22**	**348**	P	**P**	**11 51 14.6**	**-0.1**
BJI				PP	**PnPn**	**11 52 29.1**	**+0.3**
BJI				S	**S**	**11 56 41.6**	**+0.2**
BJI				pmax	pmax		
	comp=Z,15nm,1.1s						
BJI				pmax	pmax		
	comp=Z,47nm,3.5s						
BJI				LR	LR		
	comp=Z,110nm,20.9s						
BJI				LR	LR		
	comp=Z,200nm,21.8s						
BJI				LR	LR		
	comp=Z,220nm,18.7s						
LZDM	**Lanzhou Array**	**35.20**	**329**	P	**P**	**11 51 24.1**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=138,slow=11,SNR=6.9						
LZDM				LR	LR	12 06 38.6	
	comp=Z,381nm,20.6s,baz=240,slow=38						
	comp=Z,1.6nm,0.3s						
LZH	**Lanzhou**	**35.23**	**329**	*e*P	**P**	**11 51 26.1**	**+2.4**
LZH				pP	sP	11 51 30.6	+2.5
LZH				sP	pP	11 51 32.4	+5.6
LZH				S	**S**	**11 57 05.5**	**+8.0**
LZH				pmax	pmax		
	comp=Z,44nm,1.4s						
LZH				pmax	pmax		
	comp=Z,220nm,4.2s						
LZH				LR	LR		
	comp=Z,620nm,15.5s						
LZH				LR	LR		
	comp=Z,670nm,17.8s						
LZH				LR	LR		
	comp=Z,700nm,17.8s						
BRDH	**Bariadhala**	**36.03**	**300**	LR	LR	12 07 18.9	
	comp=Z,298nm,20.5s,baz=122,slow=38						
HHC	**Hu-ho-hao-te**	**36.17**	**342**	*e*P	**P**	**11 51 32.9**	**+1.2**
HHC				PP	**PP**	**11 52 55.8**	**+1.8**
HHC				S	**S**	**11 57 12.3**	**+0.6**
HHC				sS	sS	11 57 19.1	+2.2
HHC				SS	**SnSn**	**11 59 35.8**	**-1.6**
HHC				ScS	**ScS**	**12 01 46.6**	**-3.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=Z,320nm,12.7s						
HHC				LR	LR		
	comp=Z,230nm,12.4s						
HHC				LR	LR		
	comp=Z,480nm,12.7s						
MSHR	**Mys Shultsa**	**36.17**	**7**	*ce*P	**P**	**11 51 32.4**	**+0.9**
MSHR				pmax	pmax		
	comp=Z,13nm,1.0s						
SHL	**Shillong**	**36.95**	**304**	IAmb	IAmb	11 51 42.9	
	comp=Z,65nm,1.2s						
SHL	**Shillong**	**36.95**	**304**	P	**P**	**11 51 37.1**	**-1.6**
SHL				pmax	pmax		
	comp=Z,44nm,1.2s						
CN2	**Changchun**	**37.00**	**0**	*e*P	**P**	**11 51 41.0**	**+2.4**
CN2				*e*S	**S**	**11 57 26.3**	**+2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,15.6s						
FORT	**Forrest**	**37.32**	**176**	P	**P**	**11 51 41.1**	**-0.4**
	comp=Z,13nm,0.7s						
INKA	**Innaminka**	**37.35**	**157**		**P**	**11 51 40.8**	**-0.9**
QLP	**Quilpie**	**37.85**	**152**	P	**P**	**11 51 47.1**	**+1.1**
	comp=Z,18nm,1.2s						
USRK	**Ussuriysk Ar.**	**37.87**	**8**	P	**P**	**11 51 45.1**	**-0.9**
	comp=Z,14nm,0.8s,baz=181,slow=6.9,SNR=14						
	comp=Z,14nm,0.8s						
KMBL	**Kambalda**	**37.94**	**185**	P	**P**	**11 51 48.5**	**+1.8**

MDJ LR LR
comp=Z,440nm,21.0s
MDJ Mudanjiang 38.01 5 P **P 11 51 46.2 -1.0**
BNX BinXian 38.99 2 ⇑P **P 11 51 55.8 +0.5**
BNX pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 39.39 310 P **P 11 51 56.0 -3.5**
TEY Ternei 39.51 13 *e*P **P 11 51 57.6 -2.1**
GTA Gaotai 39.82 329 *e*P **P 11 52 02.5 -0.1**
GTA pP sP 11 52 05.9 -1.1
GTA ScP **ScP 11 58 02.0 +4.1**
GTA S S 11 58 15.8 +8.6
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,200nm,9.6s
GTA LR LR
comp=Z,440nm,19.5s
GTA LR LR
comp=Z,390nm,18.3s
GTA LR LR
comp=Z,650nm,21.5s
NWAO Narrogin (SRO) 40.08 190 LR LR 12 09 46.9
comp=Z,170nm,21.8s,baz=241,slow=38
ASAJ Asahikawa 40.31 19 LR LR 12 08 10.2
comp=Z,330nm,20.3s,baz=217,slow=35
GOMU GeErMu 40.46 321 P **P 11 52 08.3 0.0**
GOMU pP sP 11 52 11.8 -0.8
GOMU sP pP 11 52 15.5 +4.1
GOMU S **S 11 58 18.4 +1.1**
GOMU pmax pmax
comp=Z,4.0nm,0.4s
GOMU LR LR
comp=Z,600nm,19.3s
GOMU LR LR
comp=Z,380nm,19.4s
GOMU LR LR
comp=Z,430nm,19.4s
BBOO Buckleboo 40.58 166 P **P 11 52 07.6 -1.2**
comp=Z,34nm,1.1s
BBOO Buckleboo 40.58 166 P **P 11 52 07.6 -1.2**
BBOO IAmb IAmb 11 52 20.2
comp=Z,35nm,0.9s
EIDS Eidsvold 40.58 143 P **P 11 52 09.2 +0.3**
comp=Z,15nm,0.9s
STKA Stephens Creek 41.39 159 P **P 11 52 14.4 -1.1**
comp=Z,136nm,0.9s
STKA Stephens Creek 41.39 159 **P 11 52 14.3 -1.1**
STKA Stephens Creek 41.39 159 P **P 11 52 13.9 -1.5**
comp=Z,25nm,0.9s,baz=335,slow=8.1,SNR=25
comp=Z,25nm,0.9s
STKA Stephens Creek 41.39 159 P **P 11 52 14.3 -1.1**
STKA pmax pmax
comp=Z,113nm,0.9s
HTT Hallett 41.94 163 P **P 11 52 20.4 +0.4**
comp=Z,9.5nm,2.7s
HTT Hallett 41.94 163 P **P 11 52 21.3 +1.3**
EVN Everest 42.05 305 P **P 11 52 20.3 -1.4**
CMSA Cobar Meteorol 42.73 154 P **P 11 52 25.1 -1.2**
comp=Z,18nm,1.3s
YSS Yuzhno-Sakhali 42.90 18 *e*P **P 11 52 29.0 +1.5**
YSS *e*S **S 11 58 54.1 +1.8**
YSS *e*SS **SS 12 01 55.9 -7.9**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=N,200nm,14.0s
HILR Hailar Array B 43.01 355 P **P 11 52 27.2 -1.2**
comp=N,6.9nm,0.6s,baz=165,slow=12,SNR=9.7
comp=N,6.9nm,0.6s
HEH HeiHe 43.50 2 *e*P **P 11 52 30.3 -2.1**
HEH S **S 11 59 03.3 +2.3**
HEH pmax pmax
comp=N,12nm,1.2s
HEH pmax pmax
comp=N,190nm,4.5s
HEH LR LR
comp=N,240nm,18.1s
HEH LR LR
comp=N,360nm,18.4s
HEH LR LR
comp=N,470nm,18.4s
ULN Ulaanbaatar 43.89 342*ce*P **P 11 52 37.4 +1.6**
ULN pmax pmax
comp=Z,12nm,1.7s
SONM Songino Array 44.06 342 P **P 11 52 36.0 -1.1**
SONM Songino Array 44.06 342 P **P 11 52 37.8 +0.7**
comp=Z,1.6nm,0.9s,baz=172,slow=12,SNR=6.5
SONM LR LR 12 12 26.6
comp=Z,514nm,20.2s,baz=157,slow=38
comp=Z,1.6nm,0.9s
PALK Pallekele 44.16 274 LR LR 12 11 37.8
comp=Z,162nm,20.8s,baz=86,slow=37
ARMA Armidale 44.73 147 P **P 11 52 47.2 +4.6**
ARMA Armidale 44.73 147 P **P 11 52 42.6 0.0**
ARMA IAmb IAmb 11 52 56.4
comp=Z,78nm,1.9s
TYV Tymovskoe 46.41 15 *e*P **P 11 52 58.4 +2.9**
TYV *e*S **S 11 59 46.9 +3.7**
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,4.5s
TYV smax smax
comp=N,200nm,4.3s
TYV smax smax
comp=E,100nm,4.3s
ZEA Zeya 46.98 2 *e*P **P 11 53 02.8 +2.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=N,100nm,15.0s
WMQ Urumqi 49.47 325 *e*P **P 11 53 20.0 +0.5**
WMQ pmax pmax
comp=N,13nm,1.1s
WMQ pmax pmax
comp=N,150nm,4.5s
WMQ LR LR
comp=N,520nm,16.7s
WMQ LR LR
comp=N,550nm,19.1s
WMQ LR LR
comp=N,350nm,19.1s
DZM Mont Dzumac 49.48 126 P **P 11 53 18.7 -1.1**
comp=N,28nm,1.0s,baz=356,slow=8.3,SNR=8.6
comp=N,28nm,1.0s
PETK Petropavlovsk- 53.35 24 P **P 11 53 48.2 -0.2**
comp=N,8.5nm,0.7s,baz=129,slow=2.1,SNR=12
comp=N,8.5nm,0.7s
PET Petropavlovsk 53.68 24 *e*P **P 11 53 52.0 +1.3**
PET *e*S **S 12 01 20.9 -3.6**
PET MLR MLR
comp=Z,200nm,17.0s
MK31 Makanchi Array 54.30 325*ce*P **P 11 53 58.2 +2.8**
MKAR Makanchi Array 54.30 325 **P 11 53 53.6 -1.8**
MKAR Makanchi Array 54.30 325 P **P 11 53 54.1 -1.3**
comp=Z,3.9nm,0.8s,baz=123,slow=7.7,SNR=20
MKAR LR LR 12 18 57.0
comp=Z,196nm,18.2s,baz=116,slow=38
comp=Z,3.9nm,0.8s
MAKZ Makanchi 54.49 325 **P 11 53 55.6 -1.2**
MAKZ Makanchi 54.49 325 P **P 11 53 55.6 -1.2**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
KSH Kashi 54.91 314 P **P 11 54 00.5 +0.3**
KSH pmax pmax
comp=Z,12nm,1.2s
KSH LR LR
comp=Z,230nm,13.1s
KSH LR LR
comp=Z,160nm,15.1s
KSH LR LR
comp=Z,180nm,13.4s
NIL Nilore 54.95 307 **P 11 54 00.1 -0.3**
NIL IAmb IAmb 11 54 05.3
comp=Z,18nm,0.8s
NIL Nilore 54.95 307 P **P 11 54 00.1 -0.3**
NIL pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 55.37 3 *e*P **P 11 54 03.0 +0.2**
YAK *e**PP **sP 11 54 07.8 +0.6**
YAK *e* 11 55 02.0
YAK *e* 11 56 06.2
YAK *e*PPP PPP 11 57 19.0
YAK *e*S **S 12 01 49.7 +2.7**
YAK *e**SS sS 12 02 00.1 +7.8
YAK *e* 12 03 53.0
YAK *e*SS **SS 12 05 35.7 +4.2**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,140nm,6.8s
YAK pmax pmax
comp=N,128nm,6.9s
YAK pmax pmax
comp=E,93nm,6.8s
YAK smax smax
comp=E,112nm,4.4s
YAK smax smax
comp=N,107nm,5.0s
YAK MLR MLR
comp=Z,269nm,25.0s
YAK MLR MLR
comp=N,152nm,27.0s
YAK MLR MLR
comp=E,56nm,14.0s
AAK Ala-Archa 57.19 317 LR LR 12 21 34.9
comp=E,306nm,21.8s,baz=104,slow=39
AAK Ala-Archa 57.19 317*ce*P **P 11 54 16.7 +0.3**
AAK pmax pmax
comp=Z,10.0nm,1.7s
ZALV Zalesovo Beam 57.31 333 P **P 11 54 16.8 0.0**
ZALV Zalesovo Beam 57.31 333 P **P 11 54 14.7 -2.1**
comp=Z,0.6nm,0.4s,baz=99,slow=6.5,SNR=5.4
ZALV LR LR 12 20 24.9
comp=Z,134nm,19.6s,baz=140,slow=38
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 57.31 333 P **P 11 54 16.8 0.0**
MSVF Nonsavu 57.53 116 *i* P **P 11 54 20.2 +1.1**
MSVF pmax pmax
comp=Z,43nm,1.0s
KURBB Kurchatov Arra 58.47 327 P **P 11 54 23.0 -2.0**
comp=Z,2.5nm,0.7s,baz=128,slow=5.8,SNR=14
KURBB LR LR 12 20 56.3
comp=Z,147nm,18.7s,baz=159,slow=37
comp=Z,2.5nm,0.7s
KURK Kurchatov 58.47 327*ce*P **P 11 54 27.4 +2.3**
KURK pmax pmax
comp=Z,17nm,1.3s
GAR Garm 58.84 312 **P 11 54 26.6 -1.5**
SEY Seymchan 59.57 14 *e*P **P 11 54 32.8 +0.4**
SEY pmax pmax
comp=Z,13nm,1.4s
CHGR Chuyangaron 59.60 311 **P 11 54 31.6 -1.6**
CHGR IAmb IAmb 11 54 48.9
comp=Z,23nm,1.1s
CHGR Chuyangaron 59.60 311 P **P 11 54 31.6 -1.6**
CHGR pmax pmax
comp=Z,23nm,1.1s
KK31 Karatay Array 60.07 316 **P 11 54 34.6 -1.8**
KK31 Karatay Array 60.07 316 P **P 11 54 34.6 -1.8**
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 60.07 316 **P 11 54 34.5 -1.8**
KKAR Karatay Array 60.07 316 P **P 11 54 34.5 -1.8**
BVAR Borovoye Array 64.05 327 LR LR 12 24 04.9
comp=Z,151nm,18.9s,baz=109,slow=37
BORK Borovoye 64.10 327*ce*P **P 11 55 05.4 +2.2**
BORK pmax pmax
comp=Z,15nm,1.3s
TIXI Tiksi 64.97 1 **P 11 55 08.4 -0.1**
TIXI IAmb IAmb 11 55 18.3
comp=Z,27nm,1.8s
TIXI Tiksi 64.97 1*ce*P **P 11 55 11.3 +2.8**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
ADK Adak 65.45 35 P **P 11 55 13.7 +1.7**
AB31 Akbulak array 68.94 320 **P 11 55 32.5 -1.6**
ABKAR Akbulak array 68.94 320 P **P 11 55 32.1 -2.0**
NIKH Nikolski High 70.34 36 P **P 11 55 41.9 -0.8**
baz=254
AKTO Aktyubinsk 70.44 321 LR LR 12 28 53.4
comp=Z,284nm,21.2s,baz=56,slow=38
SVE Sverdlovsk 70.69 328 *e*P **P 11 55 45.4 +0.6**
SVE pmax pmax
comp=Z,19nm,1.4s
SPIA Saint Paul Isl 70.80 31 P **P 11 55 45.2 -0.3**
baz=252
P08K Saint George I 70.99 32 P **P 11 55 46.3 -0.3**
baz=253
ARTI Arti 71.75 327 LR LR 12 30 18.2
comp=Z,94nm,19.3s,baz=72,slow=38
ARTI Arti 71.75 327*d i*P **P 11 55 53.4 +2.1**
ARTI 11 58 27.5
ARTI S **S 12 05 14.9 +3.5**
ARTI SS **SS 12 09 45.7 -1.4**
ARTI pmax pmax
comp=Z,5.0nm,0.9s
UNV Unalaska Valle 71.92 35 P **P 11 55 51.8 -0.5**
baz=256
GAMB Gambell 72.38 25 P **P 11 55 53.9 -1.0**
baz=248
CASY Casey 73.53 186 P **P 11 56 02.1 +0.6**
CASY IAmb IAmb 11 56 39.2
comp=Z,52nm,1.8s
FALS False Pass 73.91 35 P **P 11 56 03.4 -0.6**
baz=258
TNA Tin City 74.52 23 P **P 11 56 07.1 -0.3**
baz=251
S12K Black Hills 74.83 34 P **P 11 56 08.8 -0.7**
baz=259
K13K Kusilvak Mount 74.88 27 P **P 11 56 09.1 -0.5**
baz=255
F14K Arctic Creek 75.13 24 P **P 11 56 10.8 -0.1**
baz=253
M13K Dall Lake 75.13 29 P **P 11 56 10.8 -0.2**
baz=257
ANM Nome 75.26 25 P **P 11 56 11.5 -0.3**
baz=254
J14K Nanvaranak Lak 75.58 27 P **P 11 56 13.3 -0.3**
baz=256
L14K Kuka Creek 75.65 28 P **P 11 56 14.0 -0.1**
baz=257
SDPT Sand Point 75.66 35 P **P 11 56 13.8 -0.4**
baz=261
N14K Kuskokwak Cree 75.84 30 P **P 11 56 15.1 0.0**
baz=259
F15K North Star Dit 75.86 24 P **P 11 56 15.4 +0.2**
baz=254
M14K Bethel 75.87 29 IAmb IAmb 11 56 19.0
comp=Z,35nm,1.2s
M14K Bethel 75.87 29 P **P 11 56 15.6 +0.3**
baz=258
O14K Tigyukauivet M 75.92 31 P **P 11 56 15.8 +0.2**
baz=259
CHNA Chernabura Isl 76.08 35 P **P 11 56 17.1 +0.5**
baz=262
AKT Akhty 76.24 311 *e*P **P 11 56 16.1 -1.9**
AKT *e* 11 56 27.2
AKT pmax pmax
comp=Z,21nm,1.1s
L15K Ungalak Mounta 76.28 28 P **P 11 56 17.9 +0.2**
baz=258
C16K Lisburne Hills 76.32 21 P **P 11 56 18.0 +0.2**
baz=253
K15K Wolf Creek Mou 76.39 27 P **P 11 56 18.4 +0.1**
baz=258
M15K Kasigluk River 76.47 29 P **P 11 56 18.5 -0.2**
baz=259
MAK Makhachkala 76.49 312 *e*P P 11 56 14.2 -5.0
MAK *e* 11 59 06.0
MAK *e*PPP PPP 12 00 53.0
MAK *e*S **S 12 05 56.5 -8.6**
MAK *e*SS **SS 12 10 52.5 -7.4**
MAK pmax pmax
comp=Z,40nm,0.3s
MAK MLR MLR
comp=Z,198nm,19.0s
H16K Elim 76.58 25 P **P 11 56 19.1 -0.2**
baz=257
O15K Ungalikthiuk R 76.63 31 P **P 11 56 19.8 0.0**
baz=260
N15K Kwethluk River 76.67 30 P **P 11 56 19.6 -0.3**
baz=260
G16K Koyuk River 76.71 24 P **P 11 56 19.7 -0.3**
baz=257
KIRV Kirov 76.95 329 LR LR 12 33 40.9
comp=Z,203nm,19.6s,baz=100,slow=38
KIRV Kirov 76.95 329*ce*P **P 11 56 22.0 +0.6**
D17K Noatak River 76.98 22 P **P 11 56 20.5 -1.0**
baz=256,SNR=7.4
J16K Anvik River 77.01 27 P **P 11 56 20.9 -0.8**
baz=259
I17K Unalakleet 77.08 26 P **P 11 56 21.5 -0.6**
baz=259
RDOG Red Dog Mine 77.14 21 P **P 11 56 22.1 -0.3**
baz=256
C17K DeLong Mountai 77.15 21 P **P 11 56 21.8 -0.6**
baz=255
BELG Belogornoye 77.18 322 *i* P **P 11 56 23.1 +0.2**
BELG pmax pmax
comp=Z,5.0nm,1.3s
L16K Owhat River 77.23 28 IAmb IAmb 11 56 33.9
comp=Z,33nm,1.5s
L16K Owhat River 77.23 28 P **P 11 56 22.9 -0.1**
baz=260
E17K Hotham Inlet 77.31 23 P **P 11 56 22.7 -0.6**
baz=257
M16K Timber Creek 77.36 29 P **P 11 56 23.2 -0.6**
baz=261
N16K Nishlik Lake 77.37 30 P **P 11 56 23.2 -0.7**
baz=261
F17K Baldwin Pennin 77.39 23 P **P 11 56 22.9 -0.8**
baz=258
G17K Kiwalik Mounta 77.43 24 P **P 11 56 23.3 -0.8**
baz=258
P16K Nushagak River 77.55 31 P **P 11 56 23.9 -1.0**
baz=262
R16K Pilot Point 77.57 33 P **P 11 56 24.0 -1.0**
baz=263
O16K Kokwok River B 77.57 30 IAmb IAmb 11 56 31.6
comp=Z,39nm,1.4s
O16K Kokwok River B 77.57 30 P **P 11 56 23.9 -1.1**
baz=262
H17K Granite Mounta 77.62 25 IAmb IAmb 11 56 36.2
comp=Z,25nm,1.6s
H17K Granite Mounta 77.62 25 P **P 11 56 24.6 -0.6**
baz=259
J17K VABM Dome 77.70 27 **P 11 56 25.6 0.0**
J17K IAmb IAmb 11 56 33.4
comp=Z,32nm,1.5s
J17K VABM Dome 77.70 27 P **P 11 56 24.7 -0.9**
baz=260
E18K Tukpahlearik C 77.84 22 IAmb IAmb 11 56 33.2
comp=Z,18nm,1.1s
E18K Tukpahlearik C 77.84 22 P **P 11 56 26.0 -0.4**
baz=258
B18K Kokolik River 77.85 20 P **P 11 56 25.6 -0.8**
baz=256
L17K Donlin 77.85 28 P **P 11 56 25.2 -1.3**
baz=261
C18K Utukok River 77.89 21 P **P 11 56 25.0 -1.7**
baz=257
K17K Iditarod 77.94 27 P **P 11 56 25.5 -1.5**
baz=261
RAYN Ar Rayn 77.95 293 P **P 11 56 25.9 -2.0**
RAYN IAmb IAmb 11 56 30.6
comp=Z,13nm,0.8s
RAYN Ar Rayn 77.95 293 P **P 11 56 25.9 -2.0**
RAYN pmax pmax
comp=Z,13nm,0.9s
F18K Selawik 78.05 23 P **P 11 56 26.3 -1.2**
baz=259
O17K Koliganek Bris 78.10 30 P **P 11 56 26.4 -1.5**
baz=263
M17K Holitna River 78.15 29 P **P 11 56 26.5 -1.7**
baz=262
N17K Nushagak Hills 78.15 30 IAmb IAmb 11 56 33.8
comp=Z,23nm,1.4s
N17K Nushagak Hills 78.15 30 P **P 11 56 26.5 -1.7**
baz=262
Q16K King Salmon 78.19 31 P **P 11 56 26.7 -1.7**
baz=263
R17L Mt. Peulik Vol 78.23 33 P **P 11 56 27.2 -1.5**
baz=264
PLK4 Peulik 4 78.23 33 IAmb IAmb 11 56 31.1
comp=Z,36nm,1.2s
H18K Honhosa River 78.31 25 IAmb IAmb 11 56 33.3
comp=Z,45nm,1.9s
H18K Honhosa River 78.31 25 P **P 11 56 27.5 -1.5**
baz=260
G18K Tagagawik 78.31 24 P **P 11 56 28.2 -0.8**
baz=260
CHIR Chirikof Islan 78.45 34 P **P 11 56 29.0 -0.9**
baz=265
GNI Garni 78.45 310 LR LR 12 35 46.2
comp=Z,85nm,19.3s,baz=100,slow=39
GNI Garni 78.45 310*ce*P **P 11 56 29.8 -0.7**
GNI pmax pmax
comp=Z,30nm,1.7s
GNI Garni 78.45 310 P **P 11 56 29.8 -0.7**
comp=Z,19nm,1.0s
Q17K Contact Creek 78.55 32 P **P 11 56 29.4 -1.2**
baz=264
C19K Lookout Ridge 78.56 21 IAmb IAmb 11 56 33.5
comp=Z,26nm,0.9s
C19K Lookout Ridge 78.56 21 P **P 11 56 29.5 -0.8**
baz=258
L18K Granite Mounta 78.61 28 P **P 11 56 30.2 -0.5**
baz=263
J18K Innoko River 78.76 27 P **P 11 56 31.5 -0.1**
baz=262
N18K Kilae Creek 78.81 29 P **P 11 56 31.5 -0.4**
baz=264
F19K Shaleruckik Mo 78.82 23 P **P 11 56 31.4 -0.3**
baz=261
GCSA Galena City Sc 78.87 25 P **P 11 56 31.8 -0.2**
baz=262
M18K Stony River 78.93 29 P **P 11 56 32.4 -0.1**
baz=264
D19K Kuna River 78.97 21 IAmb IAmb 11 56 34.7
comp=Z,21nm,1.1s
D19K Kuna River 78.97 21 P **P 11 56 32.8 +0.2**
baz=260
P18K Big Mountain, 79.00 31 P **P 11 56 32.7 -0.3**
baz=264
Q18K Katmai Hardscr 79.04 32 P **P 11 56 33.1 -0.2**
baz=265
O18K Koktuh Hills 79.06 30 P **P 11 56 33.1 -0.2**
baz=264
E19K Redstone River 79.13 23 IAmb IAmb 11 56 39.7
comp=Z,18nm,1.0s
E19K Redstone River 79.13 23 P **P 11 56 33.5 0.0**
baz=261
H19K Roundabout Mou 79.16 25 IAmb IAmb 11 56 37.6
comp=Z,16nm,0.9s
H19K Roundabout Mou 79.16 25 P **P 11 56 33.6 0.0**
baz=262,SNR=8.1
R18K Karluk 79.25 33 P **P 11 56 34.7 +0.4**
baz=266
J19K Poorman 79.31 26 P **P 11 56 35.2 +0.7**
baz=263
SII Sitkinak Islan 79.31 34 P **P 11 56 34.8 +0.1**
baz=266
L19K White Mountain 79.46 28 IAmb IAmb 11 56 41.6
comp=Z,41nm,1.6s
L19K White Mountain 79.46 28 P **P 11 56 35.7 +0.3**
baz=264
N19K Bonanza Creek 79.51 29 IAmb IAmb 11 56 40.6
comp=Z,29nm,1.2s
N19K Bonanza Creek 79.51 29 P **P 11 56 35.1 -0.7**
baz=265
O19K Port Alsworth 79.53 30 P **P 11 56 35.4 -0.3**
baz=265
D20K Etivluk River 79.55 21 IAmb IAmb 11 56 38.4
comp=Z,16nm,0.8s
D20K Etivluk River 79.55 21 P **P 11 56 35.5 -0.3**
baz=261
B20K Meade River 79.56 20 P **P 11 56 35.9 +0.2**
baz=261
E20K Nigu River 79.64 22 P **P 11 56 36.2 -0.1**
baz=262
M19K Big River Lodg 79.65 28 IAmb IAmb 11 56 39.6
comp=Z,55nm,1.8s
M19K Big River Lodg 79.65 28 P **P 11 56 36.0 -0.5**
baz=265
F20K Avaraart Lake 79.65 23 P **P 11 56 36.1 -0.2**
baz=262
Q19K Cape Douglas, 79.77 31 P **P 11 56 36.7 -0.4**
baz=266
H20K Anotleneega Mo 79.80 25 P **P 11 56 37.0 -0.2**
baz=264
OHAK Old Harbor 79.85 33 P **P 11 56 37.5 0.0**
baz=266
KBZ Khabaz 79.88 313 P **P 11 56 36.2 -1.7**
comp=Z,3.6nm,0.9s,baz=206,slow=8.2,SNR=5.1
KBZ LR LR 12 36 04.4

comp=Z,162nm,18.8s,baz=83,slow=39
comp=Z,3.6nm,0.9s
KBZ **Khabaz** **79.88 313** *i* P **P** **11 56 37.4 -0.6**
KBZ pmax pmax
comp=Z,8.0nm,1.3s
I20K **Naaghedeneel** **79.90 25** IAmb IAmb 11 56 43.2
comp=Z,46nm,1.4s
I20K **Naaghedeneel** **79.90 25** P **P** **11 56 37.8 +0.2**
baz=264
J20K **Nowinta River** **79.98 26** IAmb IAmb 11 56 42.9
comp=Z,28nm,1.4s
J20K **Nowinta River** **79.98 26** P **P** **11 56 37.8 -0.3**
baz=264
KIV **Kislovodsk** **80.03 313** *e*P **P** **11 56 37.3 -1.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,90nm,19.0s
P19K **Oil Pt** **80.04 31** P **P** **11 56 38.5 0.0**
baz=266
KDAK **Kodiak Island** **80.26 33** P **P** **11 56 38.6 -1.2**
comp=Z,7.3nm,0.7s,baz=234,slow=14,SNR=4.0
comp=Z,7.3nm,0.7s
KDAK **Kodiak Island** **80.26 33** P **P** **11 56 39.8 +0.1**
baz=267
C21K **Knifeblade Rid** **80.27 21** P **P** **11 56 39.9 +0.3**
baz=263
IMAR **Indian Mountai** **80.32 24** P **P** **11 56 40.1 +0.1**
O20K **Slope Mountain** **80.37 30** P **P** **11 56 40.7 +0.3**
baz=267
B21K **Ikpikpuk River** **80.39 20** IAmb IAmb 11 56 43.4
comp=Z,29nm,0.8s
B21K **Ikpikpuk River** **80.39 20** P **P** **11 56 40.8 +0.6**
baz=263
G21K **Allakaket** **80.47 24** P **P** **11 56 41.0 +0.3**
baz=265,SNR=10
E21K **Killik River** **80.48 22** IAmb IAmb 11 56 43.7
comp=Z,18nm,1.0s
E21K **Killik River** **80.48 22** P **P** **11 56 41.0 +0.1**
baz=264
F21K **Alatna River** **80.54 23** P **P** **11 56 40.8 -0.3**
baz=265
SPCR **Spurr Chakacha** **80.64 29** P **P** **11 56 41.5 -0.4**
baz=267
H21K **Melozitna Rive** **80.68 25** P **P** **11 56 41.9 0.0**
baz=266,SNR=7.6
SPU **Mount Spurr** **80.71 29** IAmb IAmb 11 56 47.3
comp=Z,26nm,1.4s
PPLA **Purkeypile** **80.75 27** P **P** **11 56 42.3 -0.2**
baz=266
CHUM **Lake Minchumin** **80.76 26** P **P** **11 56 42.2 -0.1**
baz=266
HOM **Homer** **80.84 31** P **P** **11 56 42.8 -0.1**
baz=268
B22K **Teshekpuk Lake** **80.87 20** P **P** **11 56 42.8 0.0**
baz=264
I21K **Tanana** **80.99 25** IAmb IAmb 11 56 47.4
comp=Z,17nm,0.9s
I21K **Tanana** **80.99 25** P **P** **11 56 43.4 -0.1**
baz=266,SNR=12
D22K **Ayikyak River** **80.99 21** P **P** **11 56 43.2 -0.3**
baz=265
SKT **Skwentna** **81.00 28** IAmb IAmb 11 56 46.9
comp=Z,42nm,1.6s
SKT **Skwentna** **81.00 28** P **P** **11 56 43.4 -0.3**
baz=267
F22K **John River** **81.07 23** P **P** **11 56 44.3 +0.4**
baz=266
CAPN **Captain Cook N** **81.13 30** P **P** **11 56 44.3 0.0**
baz=268
E22K **Anaktuvuk Pass** **81.25 22** IAmb IAmb 11 56 48.3
comp=Z,16nm,1.0s
E22K **Anaktuvuk Pass** **81.25 22** P **P** **11 56 44.8 -0.1**
baz=266,SNR=5.5
H22K **Ishtalitna Cre** **81.28 24** P **P** **11 56 44.8 -0.4**
baz=267,SNR=9.9
G22K **Bettles** **81.29 23** P **P** **11 56 45.0 -0.1**
baz=266
BRSE **Bradley Lake S** **81.30 31** P **P** **11 56 44.7 -0.7**
baz=268
BPAW **Bear Paw Mtn.** **81.35 26** P **P** **11 56 45.0 -0.5**
baz=267,SNR=21
LABN **Labinsk** **81.44 314** *e*P **P** **11 56 42.0 -4.4**
LABN pmax pmax
comp=Z,16nm,0.5s
MLY **Manley** **81.50 25** IAmb IAmb 11 56 52.2
comp=Z,30nm,1.2s
MLY **Manley** **81.50 25** P **P** **11 56 46.0 -0.3**
baz=268,SNR=17
ERBR **Yeremizino-Bor** **81.59 315** *e*P **P** **11 56 45.1 -2.0**
ERBR pmax pmax
comp=Z,14nm,0.7s
CUT **Chulitna** **81.61 28** P **P** **11 56 46.0 -0.9**
baz=268
TRF **Thorofare Moun** **81.64 27** IAmb IAmb 11 56 50.8
comp=Z,23nm,1.0s
TRF **Thorofare Moun** **81.64 27** P **P** **11 56 46.5 -0.7**
baz=268,SNR=6.4
M22K **Willow** **81.66 29** P **P** **11 56 46.2 -0.9**
baz=268
D23K **Nanushuk River** **81.72 21** P **P** **11 56 46.7 -0.7**
baz=267
C23K **Itkillik River** **81.79 20** P **P** **11 56 46.6 -1.1**
baz=267
COLD **Coldfoot** **81.82 23** IAmb IAmb 11 56 52.2
comp=Z,21nm,0.9s
COLD **Coldfoot** **81.82 23** P **P** **11 56 47.2 -0.7**
baz=268,SNR=12
O22K **Cooper Landing** **81.83 30** P **P** **11 56 47.5 -0.6**
baz=269
RC01 **Rabbit Creek A** **81.83 29** P **P** **11 56 47.5 -0.6**
baz=269
G23K **Bananza Creek** **81.87 24** IAmb IAmb 11 56 52.8
comp=Z,39nm,1.4s
G23K **Bananza Creek** **81.87 24** P **P** **11 56 47.6 -0.6**
baz=268
SEW **Seward** **81.96 30** P **P** **11 56 48.0 -0.7**
baz=269
H23K **Yukon River** **82.03 24** IAmb IAmb 11 56 52.9
comp=Z,15nm,0.9s
H23K **Yukon River** **82.03 24** P **P** **11 56 48.3 -0.8**
baz=268
E23K **Chandalar** **82.07 22** P **P** **11 56 48.5 -0.8**
baz=268
I23K **Minto, Yukon-K** **82.09 25** P **P** **11 56 48.8 -0.6**
baz=269,SNR=17
TOLK **Toolik Lake Re** **82.11 22** IAmb IAmb 11 56 52.4
comp=Z,17nm,0.9s
TOLK **Toolik Lake Re** **82.11 22** P **P** **11 56 49.1 -0.4**
baz=268
KLMR **Klimovskoe** **82.13 330** *e*P **P** **11 56 47.9 -1.7**
KLMR pmax pmax
comp=Z,22nm,1.8s
PMR **Palmer** **82.13 29** IAmb IAmb 11 56 52.3
comp=Z,20nm,1.2s
PMR **Palmer** **82.13 29** P **P** **11 56 48.9 -0.7**
baz=269
NEA2 **Nenana** **82.20 26** IAmb IAmb 11 56 54.2
comp=Z,24nm,1.0s
NEA2 **Nenana** **82.20 26** P **P** **11 56 50.0 0.0**
baz=269,SNR=19
MCK **McKinley** **82.25 27** P **P** **11 56 49.7 -0.5**
baz=269,SNR=12
D24K **Happy Valley** **82.39 21** P **P** **11 56 50.0 -0.9**
baz=269
WAT1 **Susitna Watana** **82.42 28** P **P** **11 56 50.7 -0.5**
baz=270
C24K **Franklin Bluff** **82.45 21** P **P** **11 56 50.3 -0.9**
baz=269
KNK **Knik Glacier** **82.45 29** P **P** **11 56 51.1 -0.3**
baz=270
E24K **Your Creek** **82.50 22** P **P** **11 56 50.7 -0.9**
baz=269
SML **Sawmill** **82.52 29** **P** **11 56 50.9 -0.8**
SML **Sawmill** **82.52 29** P **P** **11 56 50.8 -1.0**
baz=270
PWL **Port Wells** **82.52 30** P **P** **11 56 51.1 -0.7**
baz=270
WRH **Wood River Hil** **82.63 26** IAmb IAmb 11 56 55.7
comp=Z,24nm,1.2s
H24K **Noodor Dome** **82.72 24** IAmb IAmb 11 56 56.8
comp=Z,16nm,1.0s
F24K **Squaw Lake** **82.72 23** IAmb IAmb 11 56 56.2
comp=Z,10nm,0.8s
F24K **Squaw Lake** **82.72 23** P **P** **11 56 52.0 -0.6**
baz=270,SNR=5.5
COLA **College** **82.73 25** P **P** **11 56 54.3 +1.6**
COLA pmax pmax
comp=Z,13nm,0.2s
COLA **College** **82.73 25** P **P** **11 56 52.3 -0.4**
baz=270
CCB **Clear Creek Bu** **82.75 26** IAmb IAmb 11 56 57.6
comp=Z,18nm,1.2s
WAT6 **Susitna Watana** **82.79 28** P **P** **11 56 53.0 -0.3**
baz=270,SNR=8.6
M23K **Glacier View** **82.80 29** P **P** **11 56 52.5 -0.7**
baz=271
G24K **Hadweenzic Riv** **82.88 24** IAmb IAmb 11 56 58.4
comp=Z,19nm,1.2s
G24K **Hadweenzic Riv** **82.88 24** P **P** **11 56 52.9 -0.6**
baz=270,SNR=5.5
POKR **Poker Plat Res** **82.91 25** P **P** **11 56 53.4 -0.2**
baz=270
DHY **Denali Highway** **82.95 27** IAmb IAmb 11 56 59.1
comp=Z,40nm,1.8s
DHY **Denali Highway** **82.95 27** P **P** **11 56 53.3 -0.8**
baz=271
P23K **Montague Islan** **82.99 30** P **P** **11 56 53.6 -0.6**
baz=271
SCM **Sheep Creek Mo** **82.99 29** P **P** **11 56 54.1 -0.2**
baz=271
GLI **Glacier Island** **83.12 29** P **P** **11 56 53.9 -0.9**
baz=271
HDA **Harding Lake** **83.12 26** IAmb IAmb 11 56 58.5
comp=Z,14nm,0.9s
HDA **Harding Lake** **83.12 26** P **P** **11 56 54.4 -0.4**
baz=271,SNR=10.0
ILAR **Eielson Array** **83.14 26** P **P** **11 56 54.2 -0.7**
ILAR **Eielson Array** **83.14 26** P **P** **11 56 53.8 -1.1**
comp=Z,4.7nm,0.8s,baz=269,slow=5.1,SNR=32
comp=Z,4.7nm,0.8s
ILAR **Eielson Array** **83.14 26** P **P** **11 56 54.2 -0.7**
D25K **Kavik River** **83.27 21** P **P** **11 56 54.0 -1.5**
baz=271
G25K **Bearman Lake** **83.42 24** P **P** **11 56 55.5 -0.7**
baz=272
M24K **Tolsona, Glenn** **83.53 28** P **P** **11 56 56.1 -0.9**
baz=272
Q23K **Middleton Isla** **83.54 31** P **P** **11 56 55.9 -1.0**
baz=272
H25L **Birch Creek** **83.55 24** P **P** **11 56 55.8 -1.2**
baz=272
F25K **Christian Rive** **83.58 23** IAmb IAmb 11 57 00.5
comp=Z,17nm,1.1s
F25K **Christian Rive** **83.58 23** P **P** **11 56 56.0 -1.1**
baz=272,SNR=7.9
E25K **Arctic Village** **83.59 22** IAmb IAmb 11 57 00.5
comp=Z,19nm,1.1s
E25K **Arctic Village** **83.59 22** P **P** **11 56 55.8 -1.4**
baz=272
KLU **Klutina** **83.67 29** IAmb IAmb 11 57 02.1
comp=Z,24nm,1.2s
KLU **Klutina** **83.67 29** P **P** **11 56 57.0 -0.8**
baz=272
PRP **Porcupine Dome** **83.70 25** P **P** **11 56 55.9 -2.0**
baz=272
C26K **Camden Bay** **83.77 20** P **P** **11 56 56.5 -1.4**
baz=272
ANN **Anapa** **83.78 314** *e*P **P** **11 56 56.9 -1.6**
ANN *e*S **S** **12 07 18.8 -3.0**
ANN pmax pmax
comp=Z,24nm,1.0s
J25K **Salcha River,** **83.80 26** P **P** **11 56 57.0 -1.3**
baz=272,SNR=8.2
OBN **Obninsk** **83.81 325** *e*P P 11 57 02.9 +4.5
OBN pmax pmax
comp=Z,13nm,1.8s
PAX **Paxson** **83.82 27** IAmb IAmb 11 57 00.9
comp=Z,14nm,1.0s
PAX **Paxson** **83.82 27** P **P** **11 56 57.7 -0.8**
baz=272,SNR=7.3
HARP **HAARP** **83.99 28** P **P** **11 56 58.4 -0.9**
baz=273
BMAR **Burnt Mountain** **83.99 23** **P** **11 56 58.9 -0.3**
RIDG **Independent Ri** **84.07 27** P **P** **11 56 58.7 -1.0**
baz=273,SNR=20
F26K **Sheenjek River** **84.15 23** IAmb IAmb 11 57 03.4
comp=Z,11nm,1.0s
F26K **Sheenjek River** **84.15 23** P **P** **11 56 58.7 -1.4**
baz=273,SNR=5.3
C27K **Jago River** **84.20 21** P **P** **11 56 58.3 -1.9**
baz=273
N25K **Chitina, Valde** **84.30 29** P **P** **11 56 58.4 -2.5**
baz=273,SNR=6.8
G26K **Porcupine Rive** **84.33 23** P **P** **11 56 59.4 -1.5**
baz=274,SNR=8.4
BMRM **Bremner River** **84.33 29** P **P** **11 56 58.7 -2.4**
baz=273
DOT **Dot Lake** **84.42 27** IAmb IAmb 11 57 04.0
comp=Z,16nm,1.0s
SCRK **Sand Creek** **84.44 26** P **P** **11 57 00.6 -1.0**
baz=274
KAIM **Kayak Island** **84.49 30** P **P** **11 57 00.8 -1.1**
baz=274
J26L **Joseph Creek** **84.58 26** IAmb IAmb 11 57 04.4
comp=Z,14nm,0.9s
J26L **Joseph Creek** **84.58 26** P **P** **11 57 01.1 -1.3**
baz=274,SNR=16
I26K **Coal Creek Min** **84.70 25** P **P** **11 57 01.6 -1.2**
baz=274
L26K **Log Cabin Wild** **84.79 27** IAmb IAmb 11 57 07.4
comp=Z,13nm,1.0s
L26K **Log Cabin Wild** **84.79 27** P **P** **11 57 02.0 -1.3**
baz=274,SNR=8.1
VRDI **Verde Repeater** **84.87 29** IAmb IAmb 11 57 09.0
comp=Z,21nm,1.1s
M26K **Nabesna, AK** **85.00 28** IAmb IAmb 11 57 11.1
comp=Z,28nm,1.4s
M26K **Nabesna, AK** **85.00 28** P **P** **11 57 02.9 -1.6**
baz=275
BGLC **Bering Glacier** **85.04 30** P **P** **11 57 03.5 -1.1**
baz=275
ASF **Jabal al Asfar** **85.07 302** LR LR 12 40 50.9
comp=Z,62nm,19.2s,baz=130,slow=40
MCARA **McCarthy VSAT** **85.07 29** P **P** **11 57 03.2 -1.5**
baz=275
E27K **Coleen River** **85.07 22** P **P** **11 57 03.4 -1.3**
baz=276
CRQE **Cirque** **85.09 30** P **P** **11 57 03.5 -1.5**
baz=275
G27K **Doyon Strip** **85.18 23** IAmb IAmb 11 57 08.9
comp=Z,13nm,1.1s
G27K **Doyon Strip** **85.18 23** P **P** **11 57 04.2 -1.1**
baz=276,SNR=11
D27M **Malcolm River** **85.19 21** P **P** **11 57 04.4 -0.9**
baz=276
K27K **Chicken** **85.27 26** P **P** **11 57 04.8 -0.9**
baz=275
H27K **Steamboat Moun** **85.29 24** IAmb IAmb 11 57 09.6
comp=Z,19nm,1.0s
H27K **Steamboat Moun** **85.29 24** P **P** **11 57 04.6 -1.2**
baz=276,SNR=14
I27K **Kandik River** **85.31 25** P **P** **11 57 05.0 -1.0**
baz=276,SNR=42
BNN **Bunyan** **85.37 308** **P** **11 57 04.7 -2.2**
L27K **Beaver Creek,** **85.47 27** IAmb IAmb 11 57 11.8
comp=Z,24nm,1.2s
L27K **Beaver Creek,** **85.47 27** P **P** **11 57 04.5 -2.3**
baz=276
BCAR **Beaver Creek A** **85.49 27** **P** **11 57 05.4 -1.5**
M27K **Edge Creek, AK** **85.52 28** IAmb IAmb 11 57 12.4
comp=Z,20nm,1.4s
M27K **Edge Creek, AK** **85.52 28** P **P** **11 57 05.2 -1.9**
baz=276
EGAK **Eagle** **85.59 25** IAmb IAmb 11 57 11.0
comp=Z,22nm,1.1s
EGAK **Eagle** **85.59 25** P **P** **11 57 06.0 -1.3**
baz=276,SNR=12
MESA **MESA** **85.70 30** P **P** **11 57 06.6 -1.6**
baz=276
F28M **Old Crow** **85.78 22** IAmb IAmb 11 57 11.6
comp=Z,13nm,0.9s
F28M **Old Crow** **85.78 22** P **P** **11 57 06.4 -1.9**
baz=277
E28M **Babbage River** **85.78 21** IAmb IAmb 11 57 12.2
comp=Z,25nm,1.4s
E28M **Babbage River** **85.78 21** P **P** **11 57 06.9 -1.2**
baz=277
CTG **Chitna Glacier** **85.92 29** P **P** **11 57 08.7 -0.5**
baz=276,SNR=6.8
D28M **Stokes Point** **85.97 21** P **P** **11 57 07.5 -1.6**
baz=278
I28M **Miner Creek** **86.03 25** P **P** **11 57 08.7 -0.8**
baz=277,SNR=17
MMAI **Mount Meron Ar** **86.25 303** P **P** **11 57 11.1 -0.3**
comp=Z,0.4nm,0.3s,baz=78,slow=12,SNR=5.7
MMAI LR LR 12 40 12.6
comp=Z,53nm,21.9s,baz=90,slow=39
comp=Z,0.4nm,0.3s
E29M **Blow River** **86.41 22** P **P** **11 57 09.8 -1.5**
baz=279
DAWY **Dawson** **86.44 26** IAmb IAmb 11 57 17.2
comp=Z,16nm,1.4s
DAWY **Dawson** **86.44 26** P **P** **11 57 10.5 -1.0**
baz=278,SNR=7.6
VNDA **Vanda** **86.50 173** **P** **11 57 11.9 +0.4**
VNDA IAmb IAmb 11 59 19.0
comp=Z,8.5nm,0.6s
VNDA **Vanda** **86.50 173** P **P** **11 57 11.0 -0.5**
comp=Z,3.1nm,0.8s,baz=314,slow=6.2,SNR=16
comp=Z,3.1nm,0.8s
VNDA **Vanda** **86.50 173** P **P** **11 57 11.9 +0.4**
VNDA pmax pmax
comp=Z,8.0nm,0.6s
O28M **Mount Upton** **86.50 29** P **P** **11 57 10.9 -1.4**
baz=277
PINM **Pinnacle** **86.56 30** P **P** **11 57 10.0 -2.3**
baz=277
H29M **Whitestone** **86.56 24** P **P** **11 57 11.8 -0.3**
baz=279
G29M **Pine Creek** **86.59 23** P **P** **11 57 09.7 -2.5**
baz=279
YUK8 **Steele Glacier** **86.64 29** P **P** **11 57 10.0 -2.9**
baz=278
I29M **Ogilvie Camp,** **86.71 25** IAmb IAmb 11 57 19.0
comp=Z,24nm,1.2s
I29M **Ogilvie Camp,** **86.71 25** P **P** **11 57 11.5 -1.3**
baz=279,SNR=12
J29N **Klondike Camp** **86.89 26** P **P** **11 57 12.0 -1.8**
baz=279
BRTR **Keskin Array B** **86.99 309** P **P** **11 57 14.4 -0.5**
comp=Z,0.6nm,0.5s,baz=112,slow=5.5,SNR=3.8
comp=Z,0.6nm,0.5s
BR105 **Keskin Array S** **87.01 309** P **P** **11 57 14.1 -0.9**
PNL **Peninsula** **87.04 30** P **P** **11 57 13.1 -1.4**
baz=278
M29M **Somme Creek** **87.09 28** P **P** **11 57 13.8 -1.1**
baz=279
L29M **L29M** **87.14 27** IAmb IAmb 11 57 19.8
comp=Z,13nm,1.1s
L29M **L29M** **87.14 27** P **P** **11 57 13.4 -1.6**
baz=279
YUK4 **Talbot Arm** **87.17 29** P **P** **11 57 14.1 -1.3**
baz=279
EPYK **Eagle Plains** **87.19 24** IAmb IAmb 11 57 17.2
comp=Z,10nm,0.9s
EPYK **Eagle Plains** **87.19 24** P **P** **11 57 14.8 -0.4**
baz=280
ARCES **ARCESS Array B** **87.20 340** LR LR 12 40 44.8
comp=Z,141nm,19.9s,baz=55,slow=39
G30M **tAoh Zraii Nji** **87.28 23** P **P** **11 57 14.7 -1.0**
baz=280
K29M **Barlow Dome** **87.29 26** P **P** **11 57 14.7 -1.1**
baz=280
F30M **Barrier River** **87.33 22** IAmb IAmb 11 57 18.1
comp=Z,14nm,1.1s
F30M **Barrier River** **87.33 22** P **P** **11 57 14.3 -1.5**
baz=281
SPITS **Spitsbergen Ar** **87.33 349** LR LR 12 42 04.1
comp=Z,150nm,18.8s,baz=54,slow=40
O29M **Mount Kennedy** **87.36 30** P **P** **11 57 14.1 -2.2**
baz=279
SBA **Scott Base** **87.42 172** P **P** **11 57 16.8 +0.9**
SBA IAmb IAmb 11 59 26.2
comp=Z,15nm,1.6s
SBA **Scott Base** **87.42 172** P **P** **11 57 16.8 +0.9**
SBA pmax pmax
comp=Z,15nm,1.6s
PPT2 **Papeete2** **87.47 108** *e*LR LR 12 24 57.6
comp=Z,145nm,24.5s
PPT2 *e*LR LR 12 24 59.6
comp=Z,194nm,27.2s
I30M **Mount Dempster** **87.54 25** P **P** **11 57 15.7 -1.3**
baz=280
J30M **Hart River** **87.67 25** P **P** **11 57 16.6 -1.1**
baz=280
HYT **Haines Junctio** **87.80 29** P **P** **11 57 17.4 -1.0**
baz=280
M30M **Minto, Yukon** **87.83 27** P **P** **11 57 17.5 -0.8**
baz=280
P29M **Windy Craggy** **87.88 30** P **P** **11 57 17.4 -1.3**
baz=280
N30M **Aishikik Lake** **87.89 28** IAmb IAmb 11 57 24.7
comp=Z,25nm,1.6s
N30M **Aishikik Lake** **87.89 28** P **P** **11 57 17.0 -1.7**
baz=280
INK **Inuvik** **88.02 21** P **P** **11 57 19.4 +0.4**
INK **Inuvik** **88.02 21** P **P** **11 57 17.5 -1.5**
baz=283
G31M **Satah River** **88.04 23** P **P** **11 57 18.2 -0.9**
baz=282
MAYO **Mayo, Yukon** **88.05 26** P **P** **11 57 18.0 -1.3**
baz=281
F31M **Tsiigehtchic** **88.13 22** P **P** **11 57 18.3 -1.3**
baz=283
P30M **Million Dollar** **88.18 30** P **P** **11 57 18.4 -1.7**
baz=280
H31M **Peel River** **88.25 24** P **P** **11 57 18.7 -1.6**
baz=282
O30N **Mendenhall** **88.49 29** P **P** **11 57 20.3 -1.3**
baz=281
N31M **Braeburn, Yuko** **88.50 28** IAmb IAmb 11 57 24.8
comp=Z,16nm,1.1s
N31M **Braeburn, Yuko** **88.50 28** P **P** **11 57 21.0 -0.5**
baz=281
PLBC **Pleasant Camp** **88.60 30** P **P** **11 57 21.4 -0.6**
baz=281
AKASG **Malin Array Be** **88.68 321** LR LR 12 39 59.4
comp=Z,107nm,21.6s,baz=74,slow=38
AK06 **Malin Array Si** **88.71 321** P **P** **11 57 21.1 -1.6**
AK07 **Malin Array Si** **88.71 321** P **P** **11 57 21.4 -1.3**
AK12 **Malin Array Si** **88.73 321** P **P** **11 57 21.5 -1.3**
AK21 **Malin Array Si** **88.78 321** P **P** **11 57 20.7 -2.3**
M31M **Drury Creek, Y** **89.00 27** P **P** **11 57 23.2 -0.7**
baz=282
WHY **Whitehorse** **89.09 29** P **P** **11 57 23.3 -1.1**
baz=282
SKAG **Skagway** **89.12 30** P **P** **11 57 23.6 -0.8**
baz=282
SIT **Sitka** **89.60 33** P **P** **11 57 25.4 -1.3**
baz=282
A36M **Sachs Harbour** **89.66 17** P **P** **11 57 26.2 -0.5**
baz=291
R32K **Eaglecrest** **89.78 31** P **P** **11 57 27.2 -0.3**
baz=282
N32M **Quiet Lake** **89.84 28** P **P** **11 57 27.6 -0.3**
baz=284
P32M **Atlin** **89.89 30** P **P** **11 57 27.8 -0.3**
baz=283
S32K **Killisnoo** **89.92 32** P **P** **11 57 27.9 -0.2**
baz=282
P33M **Teslin, Yukon** **90.19 29** P **P** **11 57 28.7 -0.9**
baz=284
Q32M **Nakina River** **90.76 30** P **P** **11 57 32.0 -0.4**
baz=284
C36M **Paulatuk** **90.99 19** P **P** **11 57 32.5 -0.4**
baz=292
CRAG **Craig** **91.14 34** P **P** **11 57 33.0 -0.9**
baz=283
R33M **Jennings River** **91.30 30** P **P** **11 57 34.2 -0.6**
baz=285
WRAK **Wrangell Islan** **91.34 33** P **P** **11 57 34.7 -0.1**
baz=284
S34M **Telegraph Cree** **91.61 31** P **P** **11 57 35.9 -0.1**
baz=285
MLR **Muntele Rosu** **91.75 316** LR LR 12 44 22.7
comp=Z,109nm,21.0s,baz=68,slow=39
TGTN **Hyland Airport** **91.98 27** P **P** **11 57 37.1 -0.7**
baz=288
T35M **Bob Quinn** **92.32 32** P **P** **11 57 39.0 -0.4**
baz=286
WRGLY **Wrigley** **93.51 25** P **P** **11 57 44.7 0.0**
baz=292
TOAD **Toad River Com** **94.28 29** P **P** **11 57 48.0 -0.4**
baz=290
KOTAN **Kotaneelee Air** **94.39 28** P **P** **11 57 49.1 +0.2**
baz=291
HFS **Hagfors** **94.74 332** LR LR 12 43 28.3
comp=Z,185nm,21.8s,baz=58,slow=37
BBB **Bella Bella** **94.88 36** LR LR 12 48 19.5
comp=Z,64nm,18.5s,baz=228,slow=40
NOA **NORSAR Array B** **95.51 333** LR LR 12 47 36.1
comp=Z,68nm,18.2s,baz=25,slow=40
TAOE **Nuku Hiva Isla** **95.58 98** *e*LR LR 12 28 44.2

comp=Z,201nm,25.1s
QSPA South Pole Qui 96.54 180 P **P 11 57 59.0 +0.4**
QSPA IAmb IAmb 11 58 28.1
comp=Z,9.6nm,1.4s
TORD Torodi Ar. Bea 120.53 289 PKP **PKPdf 12 03 20.3 -1.6**
comp=Z,0.7nm,0.7s,baz=40,slow=3.3,SNR=4.0
TXAR Lajitas Array 120.97 50 PKP **PKPdf 12 03 22.2 -0.3**
comp=Z,0.7nm,1.1s,baz=10,slow=1.4,SNR=4.5
PLCA Paso Flores 143.26 160 PKP **PKPdf 12 04 02.6 -1.3**
comp=Z,1.3nm,0.9s,baz=73,slow=1.3,SNR=3.6
LPAZ La Paz 163.82 127 PKP **PKPdf 12 04 33.5 -0.6**
comp=Z,3.5nm,1.2s,baz=207,slow=4.0,SNR=5.3
LPAZ PKPab **PKPab 12 05 24.0 -2.4**
comp=Z,1.1nm,0.6s,baz=214,slow=4.7,SNR=4.3

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*NEIC **19** 11:47:23.5±0.6, 19°.22N±0°.02×155°.41W±0°.02, h40km±2km, Error ellipse: s-maj=3.4km s-min=2.4km az=151.0*

HVO 19 11:47:25.1±0.8, 19°.21N±0°.04×155°.39W±0°.05, h33km±7km, ML2.4/34, ML2.5/44(NEIC), Error ellipse: s-maj=7.1km s-min=4.8km az=108.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**346**		Pb	11 47 30.3	-0.3
HLP	**Hilina Pali**	**0.11**	**44**		Pb	11 47 30.6	-0.4
HLP				Sg	Sb	11 47 34.8	-0.3
AIN	**Ainahou**	**0.17**	**338**		Pn	11 47 31.1	+0.3
AIN				Sg	Sb	11 47 35.6	-0.4
HPO	**Honuapo**	**0.20**	**231**		Pn	11 47 31.0	-0.3
HPO					Sb	11 47 35.3	-0.8
SDHHI	**Sand Hill**	**0.20**	**28**		Pn	11 47 31.0	-0.4
SDHHI					Sb	11 47 35.4	-1.0
WRMHI	**West Rim**	**0.21**	**24**		Pn	11 47 31.0	-0.5
WRMHI					Sn	11 47 35.7	+0.8
RIM	**Rim**	**0.21**	**31**		Pn	11 47 31.1	-0.5
RIM					Sb	11 47 35.9	-0.7
KHU	**Kahuku**	**0.21**	**279**		Pn	11 47 31.1	-0.5
KHU					Sn	11 47 35.5	+0.3
KKO	**Keanakako'i**	**0.22**	**33**		Pn	11 47 31.2	-0.6
KKO					Sn	11 47 35.5	+0.3
OBL	**Observatory Le**	**0.23**	**27**		Pn	11 47 31.2	-0.8
OBL					Sn	11 47 35.7	+0.1
UWE	**Uwekahuna**	**0.23**	**24**		Pn	11 47 31.1	-0.8
UWE				IAML		11 47 36.2	
	comp=E,696nm,0.8s						
UWE				IAML		11 47 36.7	
	comp=N,726nm,0.3s						
PUH	**Pauahi**	**0.23**	**46**		Pn	11 47 31.3	-0.7
PUH				IAML		11 47 35.9	
	comp=E,558nm,0.5s						
PUH				IAML		11 47 42.1	
	comp=N,468nm,0.5s						
BYL	**Byron's Ledge**	**0.23**	**32**		Pn	11 47 31.4	-0.7
BYL				IAML		11 47 36.1	
	comp=N,371nm,0.4s						
UWB	**Uwekahuna Bluf**	**0.24**	**27**		Pn	11 47 31.1	-1.0
UWB					Sn	11 47 35.6	-0.3
HATHI	**Halema'uma'u T**	**0.24**	**31**		Pn	11 47 31.4	-0.8
HATHI				IAML		11 47 36.3	
	comp=E,396nm,0.6s						
SBLHI	**Steaming Bluff**	**0.24**	**29**		Pn	11 47 31.2	-1.0
SBLHI					Sn	11 47 35.9	-0.3
KNHH	**Kane Nui o Ham**	**0.27**	**52**		Pb	11 47 31.7	-0.8
RSD	**Rainshed**	**0.27**	**23**		Pb	11 47 31.6	-1.0
RSD					Sn	11 47 36.6	-0.7
MLH	**Mauna Loa**	**0.28**	**1**		Pb	11 47 32.0	-0.8
MLH					Sn	11 47 37.0	-0.5
MLH				IAML		11 47 37.6	
	comp=N,530nm,0.1s						
MLH				IAML		11 47 42.9	
	comp=E,442nm,0.3s						
STCH	**Steam Cracks**	**0.30**	**56**		Pb	11 47 31.9	-1.0
STCH				IAML		11 47 37.8	
	comp=N,507nm,0.2s						
STCH	**Steam Cracks**	**0.30**	**56**		Sb	11 47 37.2	-1.1
NPOC	**North of Pu'u**	**0.32**	**56**		Pb	11 47 32.2	-1.0
NPOC					Sb	11 47 37.5	-1.2
JCUZ	**Jacuzzi**	**0.32**	**58**		Pb	11 47 32.3	-0.9
JCUZ					Sb	11 47 37.7	-1.0
MWH	**Mokuaweoweo**	**0.33**	**324**		Pb	11 47 32.4	-1.3
MWH				IAML		11 47 38.2	
	comp=E,527nm,0.5s						
MWH				IAML		11 47 44.8	
	comp=N,352nm,0.5s						
MWH	**Mokuaweoweo**	**0.33**	**324**		Sn	11 47 38.0	-1.6
HMH	**Humu'ula Sheep**	**0.40**	**347**		Pb	11 47 33.4	-1.0
HMH					Sb	11 47 39.5	-1.3
HMH				IAML		11 47 40.1	
	comp=E,351nm,0.2s						
HMH				IAML		11 47 40.2	
	comp=N,377nm,0.2s						
ALEP	**Alea Permanent**	**0.40**	**324**		Pb	11 47 33.0	-1.6
JOKA	**Jonika Flow**	**0.43**	**59**		Pb	11 47 33.2	-1.4
JOKA				IAML		11 47 43.7	
	comp=N,255nm,0.3s						
JOKA	**Jonika Flow**	**0.43**	**59**		Sb	11 47 39.5	-1.6
POHA	**Pohakuloa**	**0.56**	**346**		Pb	11 47 34.9	-1.8
POHA					Sb	11 47 42.2	-2.6
POHA	**Pohakuloa**	**0.56**	**346**	IAML		11 47 42.4	
	comp=N,161nm,2.0s						
POHA				IAML		11 47 49.5	
	comp=N,158nm,1.2s						
HUH	**Hualalai**	**0.63**	**318**		Pn	11 47 36.2	-1.8
HUH				IAML		11 47 53.4	
	comp=E,247nm,0.4s						
HUH				IAML		11 47 53.4	
	comp=N,291nm,0.2s						
HPAH	**Hawaii Prepara**	**0.86**	**341**		Pn	11 47 38.8	-2.2
HPAH					Sn	11 47 48.4	-4.1

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*IDC **19** 11:53:10.8±0.5, 18°.43S×172°.49W, h0km, mb4.5/20, mbtmp4.5/20, MS4.6/54, Error ellipse: s-maj=18.4km s-min=14.7km az=116.0*

*BJI **19** 11:53:10.1, 18°.72S×172°.39W, h7km, mB5.5/4, mb4.8/15, Ms5.0/10, Ms7 4.8/10*

*NEIC **19** 11:53:11.3±0.8, 19°.0S±0°.1×172°.09W±0°.03, h10km±1km, mb5.0/168, Mww5.3/17, Error ellipse: s-maj=25.0km s-min=4.1km az=182.0*

*NEIC **19** 11:53:12.7, 18°.70S×172°.44W, h18km*

*NEIC **19** 11:53:12.7, 18°.40S×172°.34W, h18km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.90; $M_{\theta\theta}$0.30; $M_{\phi\phi}$0.59; $M_{r\theta}$0.13; $M_{\theta\phi}$0.27; $M_{r\phi}$0.98; Fault plane solution: $M_0$1.29000×10^{17} NP1:ϕ_s38.50000°, δ21.43000°, λ-66.89000°. NP2:ϕ_s193.87000°, δ70.37000°, λ-98.76000°. Principal axes: T 1.1789, Plg25.0000°, Azm291.0000°; N 0.2046, Plg8.0000°, Azm197.0000°; P -1.3836, Plg64.0000°, Azm90.0000°;*

*MOS **19** 11:53:12.8±3.0, 18°.71S×172°.49W, h10km, mb5.1/17 Error ellipse: s-maj=12.7km s-min=11.0km az=142.6*

*GCMT **19** 11:53:15.3±0.1, 18°.52S±0°.01×172°.19W±0°.01, h12km, MW5.2/142, Moment Tensor Solution. s65,c86; s142,c242; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.82±.01; $M_{\theta\theta}$0.23±.01; $M_{\phi\phi}$0.58±.01; $M_{r\theta}$-0.03±.03; $M_{\theta\phi}$0.31±.01; $M_{r\phi}$0.12±.03; Best double couple: $M_0$0.80000×10^{17} NP1:ϕ_s35.00000°, δ42.00000°, λ-82.00000°. NP2:ϕ_s205.00000°, δ48.00000°, λ-97.00000°. Principal axes: T 0.7700, Plg3.0000°, Azm300.0000°; N 0.0600, Plg5.0000°, Azm209.0000°; P -0.8310, Plg84.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 11:53:15.4±0.3, 18°.68S±0°.07×172°.22W±0°.05, h35km, n358, σ1s75/262, mb4.9/111, MS4.7/62, 29C-12D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.21**	**101**	Pn	**Pn**	**11 53 45.5**	**-4.0**
MSVF	**Nonsavu**	**9.30**	**274**	Pn	**Pn**	**11 55 27.0**	**-0.1**
MSVF	**Nonsavu**	**9.30**	**274**	*i* P	**Pn**	**11 55 28.4**	**+1.3**
RAR	**Rarotonga**	**11.97**	**104**	Pn	**Pn**	**11 56 00.2**	**-3.5**
	9.2nm,0.3s,baz=314,slow=4.3,SNR=4.9						
RAR				LR	LR	11 59 33.6	
	comp=Z,4μm,20.4s,baz=280,slow=31						
PINNC	**Pines Island,**	**19.42**	**255**	P	**P**	**11 57 37.7**	**-1.1**
DZM	**Mont Dzumac**	**20.28**	**257**	P	**P**	**11 57 45.6**	**-2.7**
	13nm,0.6s,baz=79,slow=18,SNR=17						
DZM				LR	LR	12 04 13.8	
	comp=Z,3μm,21.2s,baz=94,slow=33 13nm,0.6s						
ONTNC	**Quen Toro**	**20.30**	**256**	P	**P**	**11 57 47.0**	**-1.4**
GRZ	**Great Barrier**	**20.60**	**209**	P	Pn	11 57 53.9	0.0
OUZ	**Omahuta**	**20.72**	**215**	P	Pn	11 57 54.9	-0.5
WMGZ	**Waiomatatini S**	**20.75**	**201**	P	Pn	11 57 58.2	+2.5
KUZ	**Kuaotunu**	**20.89**	**208**	P	**P**	**11 57 54.7**	**+0.1**
WCZ	**Waipu Caves**	**20.89**	**212**	P	Pn	11 57 56.4	-0.9
HAZ	**Te Kaha**	**20.92**	**203**	P	Pn	11 57 58.1	+0.5
PUZ	**Puketiti**	**21.03**	**201**	P	**P**	**11 58 00.3**	**+4.1**
RUGZ	**Raukurara Rang**	**21.14**	**203**	P	**P**	**11 58 01.4**	**+3.9**
WIAZ	**Waiheke Island**	**21.19**	**209**	P	**P**	**11 58 00.2**	**+2.3**
ETAZ	**East Tamaki Re**	**21.42**	**209**	P	**P**	**11 58 02.4**	**+2.1**
MKAZ	**Moumakai**	**21.43**	**209**	P	**P**	**11 58 03.3**	**+2.8**
MWZ	**Matawai**	**21.52**	**202**	P	**P**	**11 58 05.3**	**+3.8**
PPT2	**Papeete2**	**21.55**	**91**	*e*P	**P**	**11 58 00.8**	**-1.1**
	576nm,28.5s						
PPT2				*e*S	**S**	**12 02 00.4**	**+1.3**
	4μm,25.2s						
PPT2				*e*LR	LR	12 03 05.2	
	7μm,25.5s						
PPT2				*e*LR	LR	12 03 13.1	
	2μm,19.2s						
PPT	**Papeete**	**21.55**	**91**	LR	LR	12 03 56.6	
	comp=Z,2μm,20.8s,baz=258,slow=30						
URZ	**Urewera**	**21.61**	**203**	P	**P**	**11 58 04.4**	**+2.0**
	39nm,1.1s,baz=1.2,slow=8.8,SNR=5.7						
URZ				LR	LR	12 08 37.2	
	comp=Z,384nm,18.8s,baz=28,slow=43 39nm,1.1s						
URZ	**Urewera**	**21.61**	**203**	P	**P**	**11 58 04.2**	**+1.8**
TOZ	**Tahuroa Road**	**21.80**	**207**	P	**P**	**11 58 08.0**	**+3.6**
MUGZ	**Murupara**	**21.93**	**204**	P	**P**	**11 58 10.5**	**+4.7**
SNGZ	**Shannon Statio**	**21.99**	**202**	P	**P**	**11 58 10.7**	**+4.2**
RAHZ	**Arahi**	**22.20**	**203**	P	**P**	**11 58 12.5**	**+3.8**
BKZ	**Black Stump Fm**	**22.64**	**203**	P	**P**	**11 58 16.5**	**+3.1**
HIZ	**Hauiti**	**22.74**	**207**	P	**P**	**11 58 20.4**	**+6.0**
ETVZ	**East Tongariro**	**22.91**	**205**	P	**P**	**11 58 20.4**	**+4.0**
PXZ	**Pawanui**	**23.27**	**202**	P	**P**	**11 58 25.8**	**+6.0**
VRZ	**Vera Road**	**23.29**	**206**	P	**P**	**11 58 25.5**	**+5.4**
TSZ	**Takapari Road**	**23.62**	**203**	P	**P**	**11 58 26.1**	**+2.8**
BFZ	**Birch Farm**	**24.06**	**202**	P	**P**	**11 58 30.2**	**+2.8**
MRZ	**Mangatainoka R**	**24.28**	**203**	P	**P**	**11 58 34.7**	**+5.3**
NNZ	**Nelson**	**25.62**	**206**	P	**P**	**11 58 47.9**	**+6.4**
QRZ	**Quartz Range**	**25.66**	**207**	P	**P**	**11 58 47.6**	**+5.7**
HNR	**Honiara**	**28.48**	**285**	LR	LR	12 08 35.0	
	comp=Z,2μm,21.3s,baz=127,slow=33						
TAOE	**Nuku Hiva Isla**	**32.59**	**77**	*e*LR	LR	12 08 05.3	
	2μm,23.6s						
EIDS	**Eidsvold**	**34.59**	**252**	P	**P**	**11 59 59.6**	**-1.5**
EIDS				IAmb	IAmb	12 00 10.4	
	comp=Z,24nm,1.4s						
ARMA	**Armidale**	**34.75**	**243**	P	**P**	**12 00 01.1**	**-1.6**
ARMA				IAmb	IAmb	12 00 23.5	
	comp=Z,16nm,1.2s						
RKT	**Rikitea**	**35.01**	**104**	*e*LR	LR	12 09 22.8	
	comp=Z,12μm,40.8s						
CAN	**Canberra**	**38.04**	**236**	P	**P**	**12 00 29.0**	**-1.6**
CAN				IAmb	IAmb	12 00 46.0	
	comp=Z,15nm,1.0s						
CAN	**Canberra**	**38.04**	**236**	P	**P**	**12 00 29.0**	**-1.6**
CAN				pmax	pmax		
	comp=Z,15nm,1.0s						
CTA	**Charters Tower**	**39.13**	**261**	LR	LR	12 15 08.0	
	comp=Z,38nm,19.4s,baz=87,slow=34						
PMG	**Port Moresby**	**40.39**	**277**	LR	LR	12 15 41.3	
	comp=Z,1μm,18.3s,baz=102,slow=34						
TOO	**Toolangi**	**41.36**	**234**	P	**P**	**12 00 56.8**	**-1.4**
TOO	**Toolangi**	**41.36**	**234**	P	**P**	**12 00 56.8**	**-1.4**
TOO				pmax	pmax		
	comp=Z,11nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**42.35**	**330**	T	T	12 46 45.2	
	baz=147,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**42.36**	**330**	T	T	12 46 46.2	
	baz=147,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**42.37**	**330**	T	T	12 46 45.5	
	baz=147,slow=76,SNR=27						
COEN	**Coen**	**42.98**	**269**	P	**P**	**12 01 09.3**	**-2.4**
H11N3	**WAKE ISLAND Hy**	**43.31**	**331**	T	T	12 47 22.1	
	baz=150,slow=76,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**43.31**	**331**	T	T	12 47 20.7	
	baz=150,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy**	**43.33**	**331**	T	T	12 47 23.4	
	baz=150,slow=76,SNR=6.9						
STKA	**Stephens Creek**	**43.47**	**243**	P	**P**	**12 01 14.8**	**-0.6**
STKA	**Stephens Creek**	**43.47**	**243**	P	**P**	**12 01 14.2**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=95,slow=11,SNR=5.0						
STKA				LR	LR	12 16 16.6	
	comp=Z,787nm,20.9s,baz=61,slow=32 comp=Z,2.8nm,0.6s						
STKA	**Stephens Creek**	**43.47**	**243**	*i* P	**P**	**12 01 15.7**	**+0.3**
INKA	**Innaminka**	**43.94**	**249**		**P**	**12 01 18.6**	**-0.6**
INKA				IAmb	IAmb	12 01 28.9	
	comp=Z,26nm,1.4s						
BBOO	**Buckleboo**	**48.22**	**242**	P	**P**	**12 01 52.2**	**-0.7**
JAY	**Jayapura**	**48.79**	**283**	LR	LR	12 21 08.0	
	comp=Z,1μm,21.9s,baz=100,slow=35						
WR8	**Warramunga Arr**	**50.12**	**259**	P	**P**	**12 02 05.7**	**-1.9**
WR8				IAmb	IAmb	12 02 15.7	
	comp=Z,22nm,1.1s						
AS31	**Alice Springs**	**50.24**	**254**		**P**	**12 02 07.5**	**-1.1**
AS31				IAmb	IAmb	12 02 17.1	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**50.24**	**260**	P	**P**	**12 02 06.2**	**-2.4**
ASAR	**Alice Springs**	**50.25**	**254**		**P**	**12 02 07.1**	**-1.4**
ASAR	**Alice Springs**	**50.25**	**254**	P	**P**	**12 02 06.8**	**-1.8**
	comp=Z,26nm,0.8s,baz=85,slow=8.6,SNR=145						
ASAR				LR	LR	12 22 02.1	
	comp=Z,806nm,20.8s,baz=82,slow=35 comp=Z,26nm,0.8s						
ASAR	**Alice Springs**	**50.25**	**254**	P	**P**	**12 02 07.1**	**-1.4**
WRAB	**Tennant Creek**	**50.26**	**259**	P	**P**	**12 02 06.1**	**-2.6**
WRAB				IAmb	IAmb	12 02 16.8	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**50.26**	**259**	*i* P	**P**	**12 02 05.8**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s						
WRA	**Warramunga Arr**	**50.27**	**259**		**P**	**12 02 06.0**	**-2.8**
WRA	**Warramunga Arr**	**50.27**	**259**	P	**P**	**12 02 06.0**	**-2.8**
	comp=Z,9.7nm,0.7s,baz=94,slow=8.2,SNR=74						
WRA				LR	LR	12 22 14.4	
	comp=Z,802nm,19.9s,baz=130,slow=35 comp=Z,9.7nm,0.7s						
MTN	**Manton Dam**	**54.65**	**267**	P	**P**	**12 02 39.2**	**-2.0**
MTN				IAmb	IAmb	12 02 40.7	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**55.01**	**245**	P	**P**	**12 02 42.3**	**-1.3**
FORT				IAmb	IAmb	12 02 50.7	
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**56.25**	**263**	P	**P**	**12 02 51.4**	**-1.3**
KNRA				IAmb	IAmb	12 02 53.0	
	comp=Z,15nm,0.8s						
RPN	**Rapa Nui**	**58.03**	**111**	LR	LR	12 21 24.6	
	comp=Z,1μm,20.2s,baz=278,slow=29						
SWI	**Sorong**	**58.15**	**281**	P	**P**	**12 03 04.9**	**-1.3**
	comp=Z,27nm,1.0s						
FITZ	**Fitzroy Crossi**	**58.69**	**260**	LR	LR	12 27 06.4	
	comp=Z,988nm,20.3s,baz=100,slow=35						
SBA	**Scott Base**	**60.09**	**185**	P	**P**	**12 03 18.1**	**-0.5**
SBA				IAmb	IAmb	12 03 32.7	
	comp=Z,12nm,1.1s						
SBA	**Scott Base**	**60.09**	**185**	P	**P**	**12 03 18.1**	**-0.5**
SBA				pmax	pmax		
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**60.25**	**186**	P	**P**	**12 03 19.9**	**+0.2**
VNDA	**Vanda**	**60.25**	**186**	P	**P**	**12 03 22.4**	**+2.6**
	comp=Z,3.0nm,0.8s,baz=12,slow=6.1,SNR=11 comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**60.25**	**186**	P	**P**	**12 03 19.9**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SOEI	**Soe**	**61.94**	**269**	P	**P**	**12 03 31.8**	**-0.6**
SOEI	**Soe**	**61.94**	**269**	P	**P**	**12 03 31.3**	**-1.1**
BATI	**Baumata**	**62.39**	**268**	LR	LR	12 30 06.8	
	comp=Z,749nm,19.4s,baz=130,slow=36						
PSA00	**Pilbara Seismi**	**63.39**	**255**	P	**P**	**12 03 41.2**	**-0.6**
PSA00				IAmb	IAmb	12 03 53.9	
	comp=Z,21nm,1.4s						
PSA00	**Pilbara Seismi**	**63.39**	**255**	P	**P**	**12 03 39.6**	**-2.2**
PSA00				IAmb	IAmb	12 03 53.9	
	comp=Z,40nm,1.4s						
JCJ	**Chichijima**	**63.44**	**315**	LR	LR	12 26 16.7	
	comp=Z,578nm,20.9s,baz=118,slow=32						
MBWA	**Marble Bar**	**63.58**	**255**	P	**P**	**12 03 41.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**64.04**	**242**	LR	LR	12 32 43.7	
	comp=Z,136nm,18.1s,baz=104,slow=37						
EDFI	**Ende, Flores**	**64.66**	**269**	P	**P**	**12 03 50.3**	**-0.1**
DAV	**Davao City (W)**	**66.43**	**287**	LR	LR	12 30 37.1	
	comp=Z,279nm,20.6s,baz=106,slow=34						
WBSI	**Waikabubak, Su**	**66.59**	**267**	P	**P**	**12 04 01.0**	**-1.8**
	comp=Z,32nm,1.4s						
KAPI	**Kappang**	**67.61**	**272**	LR	LR	12 31 31.5	
	comp=Z,221nm,21.6s,baz=92,slow=34						
TOLI2	**Tolitoli**	**68.64**	**279**	P	**P**	**12 04 15.2**	**-0.4**
JHJ	**Hachijo jima 2**	**68.95**	**318**	LR	LR	12 28 18.0	
	comp=Z,179nm,21.4s,baz=119,slow=31						
H06S1	**SOCORRO T**	**70.72**	**62**	T	T	13 21 39.3	
	SNR=29						
JYT	**Yasato**	**70.75**	**321**	P	**P**	**12 04 29.1**	**+1.0**
QSPA	**South Pole Qui**	**71.38**	**180**	P	**P**	**12 04 29.1**	**-2.7**
QSPA				IAmb	IAmb	12 04 41.5	
	comp=Z,22nm,1.3s						
QSPA	**South Pole Qui**	**71.38**	**180**	P	**P**	**12 04 35.2**	**+3.4**
	comp=Z,6.6nm,0.9s,baz=39,slow=1.0,SNR=29 comp=Z,6.6nm,0.9s						
SHEM	**Shemya Is, Ala**	**72.10**	**351**	LR	LR	12 29 42.1	
	comp=Z,373nm,21.8s,baz=132,slow=30						
MJAR	**Matsushiro Arr**	**72.16**	**320**	P	**P**	**12 04 35.3**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=153,slow=6.6,SNR=5.1						
MJAR				LR	LR	12 31 04.3	
	comp=Z,526nm,21.9s,baz=126,slow=32 comp=Z,1.3nm,0.7s						
JOW	**Kunigami**	**73.33**	**307**	LR	LR	12 31 13.4	
	comp=Z,711nm,21.0s,baz=119,slow=31						
LPIG	**La Paz**	**73.83**	**57**	LR	LR	12 30 18.4	
	comp=Z,449nm,19.6s,baz=222,slow=30						
VES	**Vestal, Richgr**	**73.95**	**43**	IAmb	IAmb	12 04 59.9	
	comp=Z,21nm,1.2s						
PFO	**Pinyon Flats O**	**74.36**	**46**	LR	LR	12 31 41.1	
	comp=Z,462nm,18.0s,baz=249,slow=31						
PFO	**Pinyon Flats O**	**74.36**	**46**	P	**P**	**12 04 49.2**	**-0.7**
JNU	**Nakatsue**	**74.86**	**313**	P	**P**	**12 04 52.3**	**-0.4**
	comp=Z,9.6nm,0.9s,baz=9.8,slow=4.5,SNR=4.0						
JNU				LR	LR	12 31 35.8	
	comp=Z,361nm,21.8s,baz=140,slow=31 comp=Z,9.6nm,0.9s						
CCCA	**Chr Cany lake**	**74.88**	**44**	IAmb	IAmb	12 05 05.4	
	comp=Z,18nm,1.3s						
ASAJ	**Asahikawa**	**74.91**	**328**	LR	LR	12 32 13.4	
	comp=Z,386nm,21.8s,baz=164,slow=31						
WAKR	**Walker**	**75.38**	**40**	IAmb	IAmb	12 05 11.5	
	comp=Z,14nm,1.4s						
YBH	**Yreka Blue Hor**	**75.55**	**36**	LR	LR	12 33 10.7	
	comp=Z,36nm,18.5s,baz=256,slow=32						
IRM	**Iron Mountain**	**75.56**	**46**	IAmb	IAmb	12 05 00.0	
	comp=Z,13nm,1.5s						
DANC	**Danby, Needles**	**75.68**	**45**	IAmb	IAmb	12 05 02.3	
	comp=Z,14nm,1.1s						
PET	**Petropavlovsk**	**75.73**	**342**	*e*P	**P**	**12 04 58.0**	**+0.9**
PET				*e*S	**S**	**12 14 38.6**	**+2.4**
PET				pmax	pmax		
	comp=Z,200nm,13.1s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
NVAR	**Mina Array Bea**	**76.03**	**41**	P	**P**	**12 05 00.7**	**+1.2**
NVAR	**Mina Array Bea**	**76.03**	**41**	P	**P**	**12 05 00.1**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=224,slow=9.6,SNR=18						
NVAR				LR	LR	12 33 21.3	
	comp=Z,555nm,18.6s,baz=247,slow=32 comp=Z,3.6nm,0.9s						
PETK	**Petropavlovsk-**	**76.08**	**342**	P	**P**	**12 04 58.1**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=113,slow=8.8,SNR=7.7						
PETK				LR	LR	12 35 16.4	
	comp=Z,100nm,19.9s,baz=157,slow=33 comp=Z,4.4nm,0.9s						
TPH	**Tonopah**	**76.49**	**42**	IAmb	IAmb	12 05 04.5	
	comp=Z,8.5nm,1.0s						
PRN	**Pahroc Range**	**77.49**	**43**	IAmb	IAmb	12 05 21.9	
	comp=Z,11nm,1.2s						
TUC	**Tucson**	**77.62**	**50**		**P**	**12 05 09.1**	**+0.7**
TUC	**Tucson**	**77.62**	**50**	P	**P**	**12 05 09.1**	**+0.7**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KDAK	**Kodiak Island**	**77.91**	**11**	LR	LR	12 32 55.7	
	comp=Z,325nm,19.6s,baz=214,slow=31						
SMAI	**San Martin Ant**	**78.31**	**158**	P	**P**	**12 05 14.2**	**+2.6**
SMAI				IAmb	IAmb	12 05 16.2	
	comp=Z,10nm,0.9s						
LEM	**Lembang**	**78.56**	**267**	LR	LR	12 39 20.4	
	comp=Z,234nm,21.4s,baz=150,slow=35						
TEY	**Ternei**	**78.65**	**326**	*e*P	**P**	**12 05 14.3**	**+0.6**
KNB	**Kanab**	**78.73**	**45**	IAmb	IAmb	12 05 26.0	
	comp=Z,16nm,1.5s						
KSRS	**Korea Array**	**79.28**	**316**	P	**P**	**12 05 17.6**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=135,slow=5.8,SNR=4.5 comp=Z,1.7nm,0.9s						
KSAR	**Wonju Array Be**	**79.30**	**316**	P	**P**	**12 05 17.9**	**+0.4**
KSAR	**Wonju Array Be**	**79.30**	**316**	P	**P**	**12 05 17.9**	**+0.4**
TYV	**Tymovskoe**	**79.77**	**333**	*e*P	**P**	**12 05 22.3**	**+2.6**
TYV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,4.5s						
G08A	**Pilot Rock**	**79.94**	**35**	IAmb	IAmb	12 05 31.4	
	comp=Z,15nm,1.3s						
BBB	**Bella Bella**	**80.32**	**26**	LR	LR	12 35 57.8	
	comp=Z,148nm,18.3s,baz=228,slow=32						
DUG	**Dugway, Tooele**	**80.51**	**42**	P	**P**	**12 05 25.5**	**+1.3**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BELA	**Belgrano 2**	**80.61**	**172**	P	**P**	**12 05 21.5**	**-

baz=250,slow=75,SNR=29
H03S3 Juan Fernandez 82.48 123 T T 13 36 22.0
baz=250,slow=75,SNR=25
MDSI Maura Dua 82.53 268 P **P** **12 05 32.0 -3.3**
comp=Z,28nm,1.1s
USHA Ushuaia 82.59 145 LR LR 12 33 16.6
comp=Z,743nm,21.9s,baz=234,slow=29
TABL Table Mountain 82.76 15 P **P** **12 05 36.5 +0.8**
NEW Newport 82.79 34 LR LR 12 36 46.0
comp=Z,579nm,19.2s,baz=230,slow=32
RDMU Red Mountain 82.79 43 IAmb IAmb 12 05 41.0
comp=Z,7.3nm,1.2s
GRNC Granite Creek 82.87 15 P **P** **12 05 36.6 +0.4**
GRNC Granite Creek 82.87 15 IAmb IAmb 12 05 38.7
comp=Z,18nm,0.5s
SAND Sanderson 83.00 55 IAmb IAmb 12 05 48.5
comp=Z,15nm,1.3s
NJ2 Nanjing 83.03 307 *e*P **P** **12 05 38.1 +0.7**
NJ2 pmax pmax
comp=Z,2.0nm,0.5s
MNHN Monahans 83.12 54 IAmb IAmb 12 05 49.1
comp=Z,14nm,1.4s
M24K Tolsona, Glenn 83.14 12 P **P** **12 05 39.5 +2.1**
MCARA McCarthy VSAT 83.15 14 P **P** **12 05 38.8 +1.4**
MCARA IAmb IAmb 12 05 41.9
comp=Z,12nm,0.8s
BARN Barnard Glacie 83.18 14 P **P** **12 05 39.5 +1.7**
S22A 4UR Ranch, Cre 83.18 47 IAmb IAmb 12 05 50.1
comp=Z,19nm,1.5s
O20A White River Ci 83.43 44 IAmb IAmb 12 05 41.9
comp=Z,6.2nm,0.8s
TPAW Teton Pass 83.50 40 IAmb IAmb 12 05 58.6
comp=Z,12nm,1.4s
FXWY Fox Creek 83.53 40 IAmb IAmb 12 05 53.1
comp=Z,9.5nm,1.4s
DLMT Dillon 83.56 38 IAmb IAmb 12 05 50.8
comp=Z,20nm,1.4s
SNOW Snow King Moun 83.60 40 IAmb IAmb 12 05 43.3
comp=Z,19nm,1.4s
LOHW Long Hollow 83.77 40 IAmb IAmb 12 05 53.8
comp=Z,5.7nm,1.1s
CMIG Matias Romero 83.93 70 LR LR 12 36 56.3
comp=Z,488nm,18.1s,baz=202,slow=31
BW06 Boulder Array 83.96 41 IAmb IAmb 12 05 44.0
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 83.96 41 P **P** **12 05 41.9 -0.4**
PD31 IAmb IAmb 12 05 44.0
comp=Z,5.2nm,0.8s
PDAR Pinedale Array 83.96 41 **P** **12 05 42.1 -0.2**
PDAR Pinedale Array 83.96 41 P **P** **12 05 41.5 -0.9**
comp=Z,4.3nm,0.7s,baz=213,slow=2.8,SNR=42
PDAR LR LR 12 38 33.0
comp=Z,221nm,18.5s,baz=253,slow=32
comp=Z,4.3nm,0.7s
YHB Horse Butte 84.04 39 IAmb IAmb 12 05 53.8
comp=Z,17nm,1.2s
YMR Madison River 84.13 39 IAmb IAmb 12 05 54.5
comp=Z,12nm,1.2s
BOZ Bozeman (W) 84.26 38 IAmb IAmb 12 05 55.6
comp=Z,11nm,1.2s
HAYD Hayden 84.27 44 IAmb IAmb 12 05 56.8
comp=Z,6.9nm,0.9s
YNE Yellowstone No 84.89 39 IAmb IAmb 12 05 52.0
comp=Z,8.2nm,1.0s
I21K Tanana 85.02 8 IAmb IAmb 12 05 51.5
comp=Z,9.3nm,1.0s
MAW Mawson 85.05 198 P **P** **12 05 48.8 +1.6**
comp=Z,5.8nm,0.7s,baz=147,slow=8.6,SNR=9.0
comp=Z,5.8nm,0.7s
CCB Clear Creek Bu 85.17 10 **P** **12 05 47.4 -0.2**
QIZ Qiongzhong 85.17 292 P **P** **12 05 47.8 -0.8**
QIZ S **SKSac** **12 16 16.8 +5.6**
QIZ LR LR
comp=Z,290nm,14.9s
QIZ LR LR
comp=Z,370nm,16.8s
QIZ LR LR
comp=Z,480nm,22.4s
SN07 Snyder 07 85.31 53 P **P** **12 05 48.6 -0.5**
SN07 IAmb IAmb 12 05 53.0
comp=Z,9.5nm,1.0s
COLA College 85.37 10 P **P** **12 05 48.7 +0.2**
COLA College 85.37 10 *i* P **P** **12 05 47.7 -0.8**
COLA pmax pmax
comp=Z,60nm,3.8s
I23K Minto, Yukon-K 85.38 9 IAmb IAmb 12 06 08.9
comp=Z,10nm,1.2s
IL31 85.44 11 IAmb IAmb 12 06 00.5
comp=Z,18nm,1.5s
ILAR Eielson Array 85.44 11 P **P** **12 05 49.9 +1.0**
ILAR Eielson Array 85.44 11 P **P** **12 05 47.5 -1.4**
comp=Z,1.1nm,0.8s,baz=232,slow=5.6,SNR=12
ILAR LR LR 12 36 41.6
comp=Z,132nm,20.9s,baz=230,slow=31
comp=Z,1.1nm,0.8s
ILAR Eielson Array 85.44 11 P **P** **12 05 49.9 +1.0**
J25K Salcha River, 85.57 11 IAmb IAmb 12 06 02.4
comp=Z,18nm,1.5s
K27K Chicken 85.70 13 IAmb IAmb 12 06 02.8
comp=Z,7.6nm,1.2s
J26L Joseph Creek 85.81 12 IAmb IAmb 12 05 53.6
comp=Z,18nm,1.3s
F19K Shaleruckik Mo 85.94 6 IAmb IAmb 12 06 05.2
comp=Z,14nm,1.2s
SEY Seymchan 85.97 345 LR LR 12 39 30.5
comp=Z,150nm,20.8s,baz=163,slow=32
SEY Seymchan 85.97 345 *e*P **P** **12 05 50.8 -0.7**
SEY pmax pmax
comp=Z,32nm,3.3s
BRDY Brady 86.00 55 IAmb IAmb 12 06 03.5
comp=Z,12nm,1.2s
TIA Tai'an 86.18 310 P P 12 05 58.3 +5.0
TIA pmax pmax
comp=Z,6.0nm,0.9s
DAWY Dawson 86.31 14 IAmb IAmb 12 06 05.0
comp=Z,14nm,1.2s
PRP Porcupine Dome 86.36 11 IAmb IAmb 12 06 05.6
comp=Z,19nm,1.4s
PLCA Paso Flores 86.49 132 P **P** **12 05 57.7 +2.7**
comp=Z,3.0nm,1.0s,baz=252,slow=1.2,SNR=4.4
PLCA LR LR 12 36 36.2
comp=Z,546nm,20.6s,baz=233,slow=30
comp=Z,3.0nm,1.0s
EGAK Eagle 86.55 13 IAmb IAmb 12 06 06.7
comp=Z,12nm,1.3s
K29M Barlow Dome 86.56 15 IAmb IAmb 12 06 06.0
comp=Z,19nm,1.4s
HEH HeiHe 86.75 326 *e*P **P** **12 05 56.6 +0.9**
HEH pmax pmax
comp=Z,3.0nm,0.9s
APG El Apazote 87.17 73 LR LR 12 38 48.9
comp=Z,24nm,18.3s,baz=232,slow=31
WTFS Witchita Falls 87.44 53 P **P** **12 05 58.6 -0.8**
WMOK Wichita Mounta 87.60 52 P **P** **12 06 01.1 +0.8**
WMOK pmax pmax
comp=Z,4.0nm,1.2s
I29M Ogilvie Camp, 87.67 14 IAmb IAmb 12 06 10.6
comp=Z,14nm,1.4s
HKT Hockley 87.97 58 *i* P **P** **12 06 01.5 -0.5**
HKT pmax pmax
comp=Z,17nm,1.6s
RSSD Black Hills 88.12 42 **P** **12 06 02.2 -0.6**
RSSD IAmb IAmb 12 06 04.6
comp=Z,6.4nm,1.1s
RSSD Black Hills 88.12 42 P **P** **12 06 02.2 -0.6**
RSSD pmax pmax
comp=Z,6.0nm,1.1s
Z35A Perchaven, San 88.18 54 P **P** **12 06 02.6 -0.4**
HNS HongShan 88.44 310 ⇓P **P** **12 06 06.3 +2.2**
HNS pmax pmax
comp=Z,5.0nm,1.1s
HNS LR LR
comp=Z,250nm,19.6s
HNS LR LR
comp=Z,280nm,21.4s
HNS LR LR
comp=Z,470nm,22.1s
ZEA Zeya 88.80 329 *e*P **P** **12 06 07.1 +1.7**
TROLL Troll, Antarti 89.47 178 ⇑P **P** **12 06 09.8 +1.1**
comp=Z,388nm,0.7s
VNA3 Neumayer Olymp 89.50 174 ⇓P **P** **12 06 10.1 +1.4**
comp=Z,9.6nm,0.8s
SNAA Sanae 89.58 177 ⇑P **P** **12 06 10.0 +0.9**
comp=Z,132nm,0.7s
SNAA Sanae 89.58 177 P **P** **12 06 07.2 -1.8**
SNAA IAmb IAmb 12 06 12.2
comp=Z,7.1nm,0.9s
SNAA Sanae 89.58 177 P **P** **12 06 10.2 +1.1**
comp=Z,5.8nm,0.8s,baz=206,slow=3.9,SNR=28
comp=Z,5.8nm,0.8s
SNAA Sanae 89.58 177 *i* P **P** **12 06 09.8 +0.7**
SNAA pmax pmax
comp=Z,6.0nm,0.8s
SYO Syowa Base 89.61 191 ⇓*e*P **P** **12 06 09.2 +0.1**
SYO Syowa Base 89.61 191 ⇑*e*sP **P** **12 06 11.4 +2.3**
PSI Prapat 89.80 273 LR LR 12 48 56.0
comp=Z,159nm,18.1s,baz=156,slow=37
VNA2 Neumayer--Watz 90.00 175 ⇑P **P** **12 06 12.9 +1.9**
comp=Z,16nm,0.6s,baz=175,slow=3.6
VNA1 Neumayer--Stat 90.20 175 ⇑P **P** **12 06 14.0 +2.1**
comp=Z,13nm,0.8s
GYA Guiyang 90.56 298 ⇑P **P** **12 06 16.6 +2.1**
GYA pmax pmax
comp=Z,25nm,0.7s
HILR Hailar Array B 90.61 323 P **P** **12 06 15.1 +1.0**
comp=Z,0.7nm,0.4s,baz=108,slow=9.3,SNR=1.7
comp=Z,0.7nm,0.4s
JTS Las Juntas de 90.69 79 LR LR 12 39 31.1
comp=Z,606nm,18.1s,baz=219,slow=31
NNA Nana 91.22 103 LR LR 12 39 17.7
comp=Z,321nm,20.1s,baz=251,slow=30
ATAH Atahualpa 91.34 98 LR LR 12 39 17.4
comp=Z,423nm,18.0s,baz=253,slow=30
CFA Coronel Fontan 91.68 124 LR LR 12 38 09.1
comp=Z,340nm,21.0s,baz=234,slow=29
HHC Hu-ho-hao-te 92.07 313 *e*P **P** **12 06 21.4 +0.2**
HHC LR LR
comp=Z,170nm,13.9s
HHC LR LR
comp=Z,120nm,12.7s
HHC LR LR
comp=Z,130nm,12.8s
ECSD EROS Data Cent 92.78 45 IAmb IAmb 12 06 35.9
comp=Z,13nm,1.4s
CD2 Chengdu 94.47 301 *e*P **P** **12 06 32.0 -0.4**
CMAR Chiang Mai Arr 94.70 288 P **P** **12 06 32.3 -1.3**
CMAR Chiang Mai Arr 94.70 288 P **P** **12 06 34.5 +0.9**
comp=Z,1.2nm,0.7s,baz=98,slow=2.7,SNR=7.1
CMAR LR LR 12 44 38.7
comp=Z,214nm,21.9s,baz=125,slow=33
comp=Z,1.2nm,0.7s
PZH PanZhiHua 94.74 296 P **P** **12 06 34.4 +0.6**
ULM Lac du Bonnet 95.77 39 LR LR 12 45 58.2
comp=Z,553nm,18.4s,baz=250,slow=33
LZDM Lanzhou Array 96.14 306 LR LR 12 45 21.3
comp=Z,207nm,22.0s,baz=65,slow=33
TNCH TengChong 97.06 294 *e*P Pdif 12 06 44.5 -0.1
TNCH pP PcP 12 06 48.1 +3.5
LPAZ La Paz 97.64 110 LR LR 12 40 59.3
comp=Z,582nm,20.9s,baz=256,slow=29
SONM Songino Array 98.03 318 LR LR 12 48 12.5
comp=Z,62nm,19.4s,baz=140,slow=34
TIXI Tiksi 98.45 344 LR LR 12 47 09.1
comp=Z,196nm,20.9s,baz=183,slow=33
ROSC El Rosal 99.00 88 LR LR 12 43 06.0
comp=Z,143nm,19.3s,baz=239,slow=30
TKL Tuckaleechee C 99.43 56 LR LR 12 45 52.9
comp=Z,245nm,19.2s,baz=274,slow=32
WMQ Urumqi 109.87 311 Pdif **Pdif** **12 07 42.6 +1.6**
WMQ LR LR
comp=Z,190nm,24.0s
WMQ LR LR
comp=Z,200nm,22.5s
WMQ LR LR
comp=Z,130nm,24.1s
KURK Kurchatov 116.33 318 **PKPdf** **12 11 55.0 -0.2**
KURK Kurchatov 116.33 318 PKIKP **PKiKP** **12 11 55.1 0.0**
KURBB Kurchatov Arra 116.39 318 PKP **PKPdf** **12 11 55.1 -0.1**
comp=Z,0.9nm,0.7s,baz=97,slow=1.9,SNR=8.8
KURBB PKKPbc **PKKPab** **12 22 26.9 -0.4**
comp=Z,0.6nm,0.8s,baz=258,slow=4.4,SNR=5.3
ARTI Arti 126.81 328 *i* PKIKP **PKiKP** **12 12 15.4 -0.2**
ARTI 12 19 26.6
ARCES ARCESS Array B 128.00 352 PKP **PKiKP** **12 12 17.7 +0.1**
comp=Z,3.0nm,0.8s,baz=34,slow=7.3,SNR=3.6
BOSA Boshof 130.04 200 PKP **PKiKP** **12 12 23.4 +0.2**
comp=Z,3.4nm,1.0s,baz=184,slow=4.9,SNR=4.6
FINES FINESS Array B 135.37 348 PKP **PKiKP** **12 12 32.8 +0.1**
comp=Z,7.7nm,1.2s,baz=187,slow=14,SNR=4.2
MAK Makhachkala 138.72 315 *e*P **Pdif** **12 09 42.7 -6.4**
MAK *i* 12 12 35.2
MAK *e* 12 19 46.3
MAK MLR MLR
comp=Z,362nm,20.0s
KIV Kislovodsk 141.41 318 *i* PKIKP **PKPdf** **12 12 43.0 +0.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,178nm,24.0s
AKASG Malin Array Be 143.79 337 PKhKP PKPpre 12 12 44.1
comp=Z,0.3nm,0.3s,baz=129,slow=32,SNR=1.5
AKASG PKP **PKPdf** **12 12 48.2 +1.4**
comp=Z,0.5nm,0.4s,baz=34,slow=4.3,SNR=7.0
AK18 Malin Array Si 143.83 337 PKP **PKPdf** **12 12 45.8 -1.0**
AK12 Malin Array Si 143.86 337 PKP **PKPdf** **12 12 46.2 -0.7**
AK05 Malin Array Si 143.86 337 PKP **PKPdf** **12 12 46.2 -0.7**
AK17 Malin Array Si 143.86 337 PKP **PKPdf** **12 12 46.2 -0.7**
RAYN Ar Rayn 144.55 284 ⇑PKIKP **PKPdf** **12 12 50.7 +1.7**
OJC Ojcow 147.10 346 PKIKP **PKPbc** **12 12 54.8 +0.2**
CLL Collm 147.19 354 *i* PKIKP **PKPbc** **12 12 54.7 -0.1**
CLL *i* 12 12 59.6
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 147.19 354 *i* PKPbc **PKPbc** **12 12 54.7 -0.1**
comp=Z,15nm,1.1s
CLL *i* PKiKP **PKiKP** **12 12 59.6 +2.4**
CLL *i* x x 12 13 01.8
CLL *i* x x 12 13 04.3
comp=Z,18nm,1.0s
CLL LmV 12 47 00.0
comp=Z,200nm,21.3s
CLL LmV 13 22 00.0
comp=Z,200nm,20.4s
OSTC Ostas 147.50 350 *e*PKP2 **PKPab** **12 12 57.6 -0.2**
OSTC Ostas 147.50 350 *e*PKP **PKPab** **12 12 57.6 -0.2**
BRG Berggiesshubel 147.51 353 PKP2 **PKPab** **12 12 56.7 -1.1**
BRG Berggiesshubel 147.51 353 *e*PKP **PKPab** **12 12 56.9 -0.9**
BRG Amp 12 12 58.2
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 147.51 353 P PKiKP 12 13 06.2 +8.3
BRG Amp 12 13 08.7
comp=Z,13nm,1.1s
UPC Upice 147.58 350 PKP2 **PKiKP** **12 12 57.6 -0.4**
DPC Dobruska-Polom 147.68 350 *e*PKP2 **PKiKP** **12 12 57.9 -0.4**
DPC Dobruska-Polom 147.68 350 *e*PKP **PKiKP** **12 12 57.9 -0.4**
PVCC Panska Ves 147.77 352 PKP2 **PKiKP** **12 12 58.1 -0.3**
STEB Steborice 147.81 348 *e*PKP **PKiKP** **12 12 58.2 -0.3**
BZK Bozkurt 147.82 322 ⇓P **PKiKP** **12 12 58.3 -0.5**
BURAR Bucovina Array 147.82 338 ⇑P **PKPab** **12 12 59.0 -0.3**
BURAR Bucovina Array 147.82 338 ⇑PKP2 **PKPab** **12 12 59.0 -0.3**
OKC Ostrava-Krasne 147.82 347 PKP2 **PKiKP** **12 12 58.3 -0.2**
KRLC Kraliky 147.86 349 *e*PKP2 **PKiKP** **12 12 58.1 -0.6**
KRLC Kraliky 147.86 349 *e*PKP **PKiKP** **12 12 58.1 -0.6**
MORC Moravsky Berou 148.00 348 ⇑P **PKiKP** **12 12 58.2 -0.8**
MORC Moravsky Berou 148.00 348 *e*PKP **PKPbc** **12 12 57.2 +0.1**
MORC Moravsky Berou 148.00 348 ⇑PKP2 **PKiKP** **12 12 58.2 -0.8**
BTNL Ternell 148.14 2 *d*PKP **PKiKP** **12 12 59.4 +0.2**
BCLA Clavier 148.27 3 *d*PKP **PKiKP** **12 12 59.4 0.0**
MAUC Mauska 148.34 347 *e*PKP **PKPbc** **12 12 57.4 -0.6**
RCHB Rochefort 148.53 3 *d*PKP **PKPab** **12 13 02.3 +0.5**
DOU Dourbes 148.56 4 *d*PKP **PKiKP** **12 12 59.7 -0.4**
VRAC Vranov 148.63 349 ⇑P **PKiKP** **12 12 59.9 -0.4**
VRAC Vranov 148.63 349 ⇑PKP2 **PKiKP** **12 12 59.9 -0.4**
TPGR Topolog 148.74 331 ⇓P **PKiKP** **12 13 00.0 -0.6**
JAVC Velka Javorina 148.85 347 *e*PKP **PKiKP** **12 13 01.1 +0.3**
ZVC Zvikov 148.89 352 *e*PKP **PKiKP** **12 13 01.1 +0.3**
KRUC Moravsky 148.91 349 *e*PKP **PKPbc** **12 12 59.5 +0.1**
KRUC Moravsky 148.91 349 PKIKP **PKPbc** **12 12 58.3 -1.1**
WLF Walferdange 149.06 2 *d*PKP **PKiKP** **12 13 02.0 +0.9**
KHC Kasperske Hory 149.27 353 *e*PKP2 **PKiKP** **12 13 01.7 +0.1**
KHC Kasperske Hory 149.27 353 *e*PKP **PKiKP** **12 13 01.7 +0.1**
MLR Muntele Rosu 149.30 335 **PKiKP** **12 13 02.2 +0.3**
MLR Muntele Rosu 149.30 335 ⇑P **PKiKP** **12 13 02.5 +0.6**
MLR Muntele Rosu 149.30 335 ⇑PKP2 **PKiKP** **12 13 02.5 +0.6**
MARR Marisel-Clup 149.36 339 ⇑P **PKiKP** **12 13 01.9 0.0**
BRTR Keskin Array B 149.38 319 **PKPbc** **12 13 01.0 -0.1**
BRTR Keskin Array B 149.38 319 PKPbc **PKPbc** **12 13 01.3 +0.2**
comp=Z,9.4nm,0.9s,baz=134,slow=2.3,SNR=40
DRGR 149.39 340 ⇑P **PKiKP** **12 13 01.5 -0.5**
DRGR 149.39 340 ⇑PKIKP **PKiKP** **12 13 01.5 -0.5**
MODS Modra-Piesok 149.40 348 *e*PKP2 **PKiKP** **12 13 02.1 +0.2**
MODS Modra-Piesok 149.40 348 *e*PKP **PKiKP** **12 13 02.1 +0.2**
comp=Z,2.8nm,0.8s,baz=354,slow=2.7,SNR=14
KIRS Kirsehir-Merke 149.54 317 ⇓P **PKiKP** **12 13 02.5 0.0**
ZST Bratislava 149.60 348 *e*PKHKP **PKiKP** **12 13 01.1 -1.1**
ANTO Ankara 149.82 320 ⇑P **PKiKP** **12 13 03.8 +0.7**
ANTO Ankara 149.82 320 ⇑PKP2 **PKiKP** **12 13 03.8 +0.7**
ARR Arges 149.93 336 ⇓P **PKiKP** **12 13 03.8 +0.7**
CONA Conrad Observa 150.09 349 *e*PKP **PKPdf** **12 12 58.8 +1.3**
comp=Z,1.3nm,0.8s
CONA *i* PKiKP **PKiKP** **12 13 04.1 +0.7**
comp=Z,10.0nm,1.0s
SIRR Siria 150.20 340 ⇑P **PKiKP** **12 13 04.0 +0.4**
RONA Rosalia, Austr 150.23 348 *e*PKP **PKPdf** **12 12 58.5 +0.8**
comp=Z,0.9nm,0.4s,SNR=5.3
RONA *i* PKiKP **PKiKP** **12 13 04.3 +0.7**
comp=Z,8.1nm,0.8s
MOA Molln 150.43 351 *i* PKP **PKPdf** **12 12 57.2 -0.8**
comp=Z,0.9nm,0.4s
MOA *i* PKiKP **PKiKP** **12 13 04.4 +0.4**
comp=Z,8.0nm,1.4s
SURR Surduc 150.50 339 ⇑P **PKiKP** **12 13 04.5 +0.3**
GZR Gura Zlata 150.59 338 ⇑P **PKPbc** **12 13 03.7 -0.1**
GZR Gura Zlata 150.59 338 ⇑PKIKP **PKPbc** **12 13 03.7 -0.1**
BIOA Bad Ischl, Aus 150.67 352 *e*PKP **PKPdf** **12 12 57.2 -1.1**
comp=Z,1.6nm,0.7s
BIOA *i* PKP **PKiKP** **12 13 04.7 +0.2**
comp=Z,6.4nm,1.1s
BZS Buzias 150.79 340 ⇑P **PKiKP** **12 13 05.1 +0.3**
BZS Buzias 150.79 340 ⇑PKIKP **PKiKP** **12 13 05.1 +0.3**
ARSA Arzberg 150.81 349 *i* PKP **PKPdf** **12 12 59.1 +0.6**
comp=Z,1.1nm,0.4s
ARSA *i* PKP **PKPbc** **12 13 04.2 0.0**
comp=Z,7.9nm,1.2s
LESA Schwarzleotal 151.06 353 *i* PKP **PKiKP** **12 13 05.7 +0.3**
comp=Z,4.2nm,1.1s
MORH Mrgy, Hungar 151.11 344 ⇑P **PKiKP** **12 13 05.6 +0.2**
RETA Reutte 151.17 356 *e*PKP **PKPdf** **12 12 59.7 +0.6**
comp=Z,0.5nm,0.3s
RETA *i* PKiKP **PKiKP** **12 13 06.3 +0.6**
comp=Z,7.3nm,1.0s
WATA Walderalm 151.25 355 *e*PKP **PKPdf** **12 13 00.5 +1.1**
comp=Z,2.4nm,0.8s
WATA *i* PKiKP **PKiKP** **12 13 06.5 +0.6**
comp=Z,3.6nm,0.5s
MOTA Moosalm 151.28 355 *e*PKP **PKPdf** **12 13 00.1 +0.6**
comp=Z,1.9nm,0.9s
MOTA *i* PKiKP **PKiKP** **12 13 06.5 +0.5**
comp=Z,14nm,1.1s
KBA Koelnbreinsper 151.31 352 *i* PKP **PKPdf** **12 12 59.7 +0.2**
comp=Z,2.5nm,1.1s
KBA *i* PKP **PKiKP** **12 13 06.2 +0.1**
comp=Z,7.8nm,1.1s
WTTA Wattenberg 151.32 355 *i* PKP **PKPdf** **12 13 00.8 +1.3**
comp=Z,2.2nm,0.6s,SNR=5.3
WTTA *i* PKiKP **PKiKP** **12 13 06.9 +0.8**
comp=Z,8.4nm,0.6s
SQTA Sankt Quirin 151.40 355 *e*PKP **PKPdf** **12 13 00.4 +0.8**
comp=Z,1.9nm,0.7s
SQTA *i* PKiKP **PKiKP** **12 13 06.8 +0.7**
comp=Z,6.1nm,0.9s
DAVA Damuels 151.42 357 *i* PKP **PKPdf** **12 12 59.9 +0.2**
comp=Z,3.9nm,1.2s
DAVA *i* PKiKP **PKiKP** **12 13 06.9 +0.6**
comp=Z,14nm,1.1s
MMAI Mount Meron Ar 151.44 305 PKPbc **PKiKP** **12 13 07.1 +0.5**
comp=Z,5.9nm,0.8s,baz=269,slow=3.3,SNR=6.9
SOKA Soboth 151.45 350 *i* PKP **PKPdf** **12 12 59.5 -0.1**
comp=Z,1.5nm,0.7s,SNR=4.7
SOKA *i* PKP **PKiKP** **12 13 06.4 +0.2**
comp=Z,6.3nm,1.0s
MDVR Moldovita 151.49 339 ⇑P **PKiKP** **12 13 06.1 -0.2**
FETA Feichten 151.63 356 *e*PKP **PKPdf** **12 13 00.8 +0.8**
comp=Z,6.9nm,1.5s
FETA *i* PKiKP **PKiKP** **12 13 07.6 +0.8**
comp=Z,6.6nm,0.8s
ABTA Abfaltersbach 151.74 353 *i* PKP **PKPdf** **12 13 01.5 +1.4**
comp=Z,2.0nm,0.6s,SNR=6.2
ABTA *i* PKP **PKiKP** **12 13 07.0 +0.2**
comp=Z,13nm,0.9s
BAND Balkesir-Ban 152.22 325 ⇑P **PKiKP** **12 13 08.0 +0.1**
CTI Castel Tesino 152.52 354 **PKiKP** **12 13 09.1 +0.6**
CTI PKPab **PKPab** **12 13 18.0 -0.5**
CTI Castel Tesino 152.52 354 PKIKP **PKiKP** **12 13 09.1 +0.6**
TORD Torodi Ar. Bea 171.97 132 PKP **PKPdf** **12 13 21.4 +0.1**
comp=Z,2.3nm,1.1s,baz=45,slow=1.0,SNR=6.6
TORD PKPab **PKPab** **12 14 46.3 +2.2**
comp=Z,0.9nm,0.9s,baz=256,slow=4.0,SNR=5.9

NOU ***19*** *11:54:00.3, 38°.78S×175°.81E, h158km, MLv4.0/22, North Island, New Zealand*
WEL ***19*** *11:54:03.1±0.6, 39°S±3°×17°6E±°, h138km±5km, M3.5/38, ML2.6/8, MLv3.5/38, Error ellipse: s-maj=4.4km s-min=4.3km az=21.6, confirmed*
ISC 19 11:53:57.9±1.5, 38°.66S±0°.04×175°.71E±0°.04, h179km±8km, n168, σ1$63/182, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	0.05	159	P	Pn	11 54 22.7	+1.2
KUTZ	**Kaahu Road**	0.19	27	P	Pn	11 54 22.8	+1.1
WHTZ	**Whakaora**	0.19	92	P	Pn	11 54 22.4	+0.7
RATZ	**Rangitukua**	0.21	167	P	Pn	11 54 22.7	+1.0
KATZ	**Kakaramea**	0.31	182	P	Pn	11 54 23.2	+1.2
RITZ	**Rihia Road**	0.34	160	P	Pn	11 54 23.3	+1.4
TLZ	**Tolley Road**	0.36	338	P	Pn	11 54 23.2	+1.1
WPRZ	**Whakapapatarin**	0.38	68	P	Pn	11 54 23.0	+0.9
KRVZ	**Karewarewa**	0.44	187	P	Pn	11 54 23.8	+1.4
NTVZ	**North Tongarir**	0.44	183	P	Pn	11 54 23.2	+0.7
GRRZ	**Galatos Road**	0.44	45	P	Pn	11 54 23.4	+1.0
TMVZ	**Te Maari**	0.45	181	P	Pn	11 54 23.8	+1.3
TWVZ	**Taurewa**	0.46	207	P	Pn	11 54 23.8	+1.3
WTVZ	**West Tongariro**	0.46	192	P	Pn	11 54 23.9	+1.4
ETVZ	**East Tongariro**	0.47	180	P	Pn	11 54 23.9	+1.3
NNVZ	**North Ngauruho**	0.48	189	P	Pn	11 54 23.9	+1.3
OTVZ	**Oturere**	0.50	184	P	Pn	11 54 24.3	+1.6
ALRZ	**Allen Road**	0.51	79	P	Pn	11 54 23.4	+0.8
ALRZ				S	Sn	11 54 40.1	-1.5
NGZ	**Ngauruhoe**	0.52	189	P	Pn	11 54 24.0	+1.2
HRRZ	**Handcock Road**	0.53	59	P	Pn	11 54 23.7	+1.0
SNVZ	**South Ngauruho**	0.53	186	P	Pn	11 54 24.2	+1.4
HSRZ	**Hossack Road**	0.55	50	P	Pn	11 54 23.8	+1.1
COVZ	**Chateau Observ**	0.55	194	P	Pn	11 54 24.2	+1.3
PRRZ	**Plateau Road**	0.56	73	P	Pn	11 54 23.5	+0.7
MRHZ	**Matea Rd**	0.58	108	P	Pn	11 54 23.8	+0.9
MRHZ				S	Sn	11 54 39.1	-3.1
FWVZ	**Far West T-bar**	0.61	192	P	Pn	11 54 24.5	+1.3
TUVZ	**Tukino**	0.61	184	P	Pn	11 54 24.7	+1.5
UTU	**Utuhina**	0.61	38	P	Pn	11 54 24.3	+1.2
MAVZ	**Matarangi**	0.62	191	P	Pn	11 54 24.7	+1.3
WHVZ	**Whangaehu Hut**	0.63	189	P	Pn	11 54 24.7	+1.3
HLRZ	**Highlands Stat**	0.65	51	P	Pn	11 54 24.8	+1.5
TRVZ	**Turoa**	0.65	191	P	Pn	11 54 25.1	+1.6
WNVZ	**Wahianoa**	0.67	187	P	Pn	11 54 25.1	+1.6
HIZ	**Hauiti**	0.69	282	P	Pn	11 54 24.9	+1.5
HIZ	**Hauiti**	0.69	282	P	Pn	11 54 24.8	+1.4
PKVZ	**Pokaka**	0.69	204	P	Pn	11 54 25.1	+1.6
RRRZ	**Republican Roa**	0.71	63	P	Pn	11 54 24.5	+0.9
MOVZ	**Moawhango**	0.75	177	P	Pn	11 54 25.2	+1.4
MTVZ	**Mangateitei**	0.75	194	P	Pn	11 54 25.5	+1.7
TARZ	**Mount Tarawera**	0.76	56	P	Pn	11 54 25.1	+1.2
OMRZ	**Omania**	0.76	43	P	Pn	11 54 24.9	+1.0
KARZ	**Kaharoa**	0.77	33	P	Pn	11 54 25.0	+1.1
MKRZ	**Makatiti**	0.79	49	P	Pn	11 54 25.8	+1.6
BKZ	**Black Stump Fm**	0.79	130	P	Pn	11 54 25.9	+1.8
BKZ	**Black Stump Fm**	0.79	130	S	Sn	11 54 42.7	-1.7
BKZ	**Black Stump Fm**	0.79	130	P	Pn	11 54 25.5	+1.5
BKZ				S	Sn	11 54 42.2	-2.2
KMRZ	**Kaimai**	0.83	13	P	Pn	11 54 25.6	+1.2
LIRZ	**Lichensteins R**	0.84	39	P	Pn	11 54 25.6	+1.2
MUGZ	**Murupara**	0.85	78	P	Pn	11 54 25.1	+0.7
VRZ	**Vera Road**	0.88	238	P	Pn	11 54 26.3	+1.7
MTHZ	**Maungataniwha**	0.91	103	P	Pn	11 54 26.2	+1.4
MTHZ				S	Sn	11 54 44.1	-1.5
KWHZ	**Kaweka Forest**	0.94	144	P	Pn	11 54 26.9	+1.9
TOZ	**Tahuroa Road**	0.94	350	P	Pn	11 54 26.5	+1.5
TOZ				S	Sn	11 54 44.2	-1.8
NMHZ	**Naumai**	0.96	117	P	Pn	11 54 27.6	+2.3
EDRZ	**Edgecumbe**	0.98	56	P	Pn	11 54 26.3	+0.9
RTZ	**Ruatahuna**	1.00	88	P	Pn	11 54 26.7	+1.2
RTZ				S	Sn	11 54 44.8	-2.0
MARZ	**Manawahe**	1.01	49	P	Pn	11 54 26.9	+1.3

TGRZ	Tauranga	1.03	25	P	Pn	11 54 26.9	+1.2
OPRZ	Ohinepanea	1.05	39	P	Pn	11 54 27.0	+1.1
MCHZ	McNeill Hill	1.10	136	P	Pn	11 54 28.8	+2.7
RAHZ	Arahi	1.10	104	P	Pn	11 54 28.3	+2.0
RAHZ				S	Sn	11 54 47.5	-0.8
KRHZ	Kereru	1.11	153	P	Pn	11 54 28.3	+2.0
KRHZ				S	Sn	11 54 47.1	-1.3
MHEZ	Mangahewa	1.16	249	P	Pn	11 54 29.1	+2.5
ARHZ	Aropaoanui	1.17	121	P	Pn	11 54 29.1	+2.3
ARHZ				S	Sn	11 54 48.7	-0.4
URZ	Urewera	1.17	70	P	Pn	11 54 27.5	+0.7
URZ	Urewera	1.17	70	P	Sn	11 54 46.8	-2.2
URZ	Urewera	1.17	70	P	Pn	11 54 27.6	+0.8
URZ				S	Sn	11 54 46.2	-2.8
WAZ	Wanganui	1.23	207	P	Pn	11 54 29.4	+2.1
WHHZ	Waihua	1.26	110	P	Pn	11 54 29.7	+2.2
WHHZ				S	Sn	11 54 50.0	-0.5
SNGZ	Shannon Statio	1.28	96	P	Pn	11 54 29.7	+2.0
SNGZ				S	Sn	11 54 49.9	-0.9
DREZ	Durham Road	1.29	245	P	Pn	11 54 30.1	+2.4
LREZ	Lake Rotokare	1.29	231	P	Pn	11 54 30.4	+2.6
PNHZ	Pukenui	1.31	163	P	Pn	11 54 30.0	+2.0
PNHZ				S	Sn	11 54 50.1	-1.4
RAGZ	Rawiri	1.35	83	P	Pn	11 54 29.9	+1.5
RAGZ				S	Sn	11 54 50.5	-1.4
PREZ	Palmer Road	1.39	240	P	Pn	11 54 31.2	+2.5
NEZ	North Egmont	1.40	244	P	Pn	11 54 31.3	+2.5
TSZ	Takapari Road	1.41	172	P	Pn	11 54 31.0	+2.1
MYRZ	Mayor Island	1.44	17	P	Pn	11 54 31.2	+1.9
PKE	Pukeiti	1.45	248	P	Pn	11 54 31.5	+2.3
KAHZ	Kahuranaki	1.45	142	P	Pn	11 54 32.0	+2.7
CKHZ	Cape Kidnapper	1.46	134	P	Pn	11 54 31.9	+2.6
MWZ	Matawai	1.46	78	P	Pn	11 54 30.7	+1.3
KHEZ	Kahui Hut	1.47	244	P	Pn	11 54 32.0	+2.5
KHEZ	Kahui Hut	1.47	244	P	Sn	11 54 55.2	+1.3
KHEZ	Kahui Hut	1.47	244	P	Pn	11 54 31.8	+2.4
WPHZ	Waipukurau	1.51	158	P	Pn	11 54 32.0	+2.2
NBEZ	Newall Road No	1.56	247	P	Pn	11 54 32.6	+2.4
OHWZ	Ohakea	1.57	191	P	Pn	11 54 33.0	+2.6
KNZ	Kokohu	1.57	104	P	Pn	11 54 32.3	+1.9
RIGZ	Rimuhau	1.61	92	P	Pn	11 54 32.7	+2.0
NMEZ	Namu Road	1.61	242	P	Pn	11 54 33.3	+2.5
MKAZ	Moumakai	1.61	344	P	Pn	11 54 32.7	+1.9
PXZ	Pawanui	1.63	147	P	Pn	11 54 33.3	+2.4
DVHZ	Dannevirke	1.67	168	P	Pn	11 54 33.3	+1.9
TKGZ	Te Karaka	1.69	83	P	Pn	11 54 33.7	+2.1
RUGZ	Raukumara Rang	1.70	66	P	Pn	11 54 32.3	+0.5
PRGZ	Paritu Road	1.72	99	P	Pn	11 54 33.8	+1.9
POWZ	Post Office Ro	1.73	179	P	Pn	11 54 33.9	+1.9
PRHZ	Porangahau	1.76	156	P	Pn	11 54 34.5	+2.3
MHGZ	Mahia Peninsul	1.78	107	P	Pn	11 54 34.8	+2.3
AWAZ	Awhitu Peninsu	1.80	332	P	Pn	11 54 35.0	+2.2
ETAZ	East Tamaki Re	1.81	340	P	Pn	11 54 34.8	+1.9
TWGZ	Tauwhareparae	1.85	76	P	Pn	11 54 35.3	+2.0
HAZ	Te Kaha	1.87	62	P	Pn	11 54 34.2	+0.8
ANWZ	Angora Road	1.89	162	P	Pn	11 54 36.0	+2.3
PRWZ	Pori Road	1.90	174	P	Pn	11 54 35.9	+2.2
KUZ	Kuaotunu	1.91	0	P	Pn	11 54 35.6	+1.7
KUZ	Kuaotunu	1.91	0	P	Pn	11 54 35.7	+1.8
WIAZ	Waiheke Island	1.92	346	P	Pn	11 54 36.0	+2.0
CNGZ	Carnagh Statio	1.96	86	P	Pn	11 54 36.7	+2.3
MBAZ	Motutapu North	2.00	341	P	Pn	11 54 36.4	+1.6
MRZ	Mangatainoka R	2.00	183	P	Pn	11 54 36.5	+1.7
PKGZ	Pakihiroa	2.03	68	P	Pn	11 54 36.7	+1.6
BFZ	Birch Farm	2.06	169	P	Pn	11 54 37.2	+1.7
BFZ	Birch Farm	2.06	169	P	Sn	11 55 03.2	-1.6
BFZ	Birch Farm	2.06	169	P	Pn	11 54 37.3	+1.9
PUZ	Pukeiti	2.09	74	P	Pn	11 54 37.3	+1.5
TIWZ	Tintock	2.12	176	P	Pn	11 54 38.0	+1.9
OGWZ	Otaki Gorge	2.19	191	P	Pn	11 54 38.7	+1.8
HOWZ	Holdsworth Sta	2.24	184	P	Pn	11 54 39.0	+1.5
CPWZ	Castlepoint	2.28	171	P	Pn	11 54 40.3	+2.4
KIW	Kapiti Island	2.28	195	P	Pn	11 54 39.4	+1.4
WMGZ	Waiomatatini S	2.29	69	P	Pn	11 54 39.5	+1.5
MXZ	Matakaoa Point	2.32	63	P	Pn	11 54 40.0	+1.6
MXZ	Matakaoa Point	2.32	63	P	Sn	11 55 09.4	-0.5
MXZ	Matakaoa Point	2.32	63	P	Pn	11 54 40.3	+1.9
GRZ	Great Barrier	2.42	355	P	Pn	11 54 41.8	+2.3
TMWZ	Te Maipa	2.45	177	P	Pn	11 54 41.4	+1.5
CAW	Cannon Point	2.49	191	P	Pn	11 54 41.8	+1.4
MTW	Mount Morrison	2.50	184	P	Pn	11 54 41.7	+1.3
DUWZ	D'Urville Isla	2.54	212	P	Pn	11 54 42.4	+1.4
WEL	Wellington	2.72	195	P	Pn	11 54 44.3	+1.3
PAWZ	Paruwai Farm	2.73	184	P	Pn	11 54 44.3	+1.1
TRWZ	Traveller	2.73	180	P	Pn	11 54 44.6	+1.4
SNZO	South Karori	2.76	196	P	Pn	11 54 44.3	+0.9
SNZO	South Karori	2.76	196	P	Sn	11 55 16.4	-2.7
MSWZ	Moikau Station	2.77	187	P	Pn	11 54 44.8	+1.1
TCW	Tory Channel	2.77	203	P	Pn	11 54 44.9	+1.2
BHW	Baring Head	2.82	193	P	Pn	11 54 45.3	+1.1
PLWZ	Palliser	2.93	187	P	Pn	11 54 46.5	+0.9
TUWZ	Tuamarina	3.08	206	P	Pn	11 54 49.3	+1.9
NNZ	Nelson	3.12	214	P	Pn	11 54 48.9	+1.1
TKNZ	Takaka Hill	3.18	221	P	Pn	11 54 49.5	+0.9
QRZ	Quartz Range	3.27	228	P	Pn	11 54 50.5	+0.8
QRZ	Quartz Range	3.27	228	P	Sn	11 55 28.7	-1.5
QRZ	Quartz Range	3.27	228	P	Pn	11 54 50.5	+0.8
CMWZ	Cape Campbell	3.29	200	P	Pn	11 54 51.8	+1.8
BSWZ	Blackbirch Sta	3.36	204	P	Pn	11 54 52.1	+1.3
MRNZ	Matariki Terra	3.55	219	P	Pn	11 54 54.0	+0.8
THZ	Tophouse	3.77	214	P	Pn	11 54 56.7	+0.7
KHZ	Kahutara	4.10	203	P	Pn	11 55 01.0	+0.9
KHZ	Kahutara	4.10	203	S	Sn	11 55 47.7	-1.2
KHZ	Kahutara	4.10	203	P	Pn	11 55 01.3	+1.2
DSZ	Denniston Nort	4.29	223	P	Pn	11 55 03.1	+0.4
GVZ	Greta Valley S	4.76	204	P	Pn	11 55 09.2	+0.7
LTZ	Lake Taylor	4.88	211	P	Pn	11 55 10.5	+0.4
AMCZ	Amberley	5.07	206	P	Pn	11 55 13.2	+0.6
INZ	Inchbonnie	5.20	217	P	Pn	11 55 15.0	+0.7
OXZ	Oxford	5.42	210	P	Pn	11 55 17.1	-0.1
AKCZ	Akaroa Harbour	5.62	201	P	Pn	11 55 19.8	+0.1
MHCZ	Mount Hutt	5.79	211	P	Pn	11 55 22.1	+0.2
WACZ	Wakanui South	6.03	208	P	Pn	11 55 25.3	+0.2
ARCZ	Arundel	6.29	211	P	Pn	11 55 28.9	+0.3
TMZ	Timaru	6.72	210	P	Pn	11 55 34.0	-0.2
ODZ	Otahua Downs	7.41	209	P	Pn	11 55 44.0	+0.7
JCZ	Jackson Bay	7.50	222	P	Pn	11 55 46.9	+2.3
CTZ	Chatham Island	7.69	134	P	Pn	11 55 48.2	+1.3
CTZ	Chatham Island	7.69	134	S	Sn	11 57 12.0	-1.3

IDC 19 12:02:53.5±7.4, 12°.93N×124°.34E, h133km±67km, mb3.2/5, mbtmp3.7/6, Error ellipse: s-maj=128.8km s-min=16.1km az=67.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	3.52	290	P	Pn	12 03 47.0	0.0
	213nm,0.5s,baz=208,slow=3.0,SNR=4.5						
WRA	Warramunga Arr	34.11	163	P	P	12 09 24.9	-0.8
	0.3nm,0.7s,baz=342,slow=8.3,SNR=7.0						
	0.3nm,0.7s						
ASAR	Alice Springs	37.55	166	P	P	12 09 55.5	+0.4
	0.5nm,0.5s,baz=345,slow=7.7,SNR=8.0						
	0.5nm,0.5s						
SONM	Songino Array	37.89	340	P	P	12 09 57.8	0.0
	0.5nm,0.5s,baz=142,slow=7.5,SNR=5.1						
	0.5nm,0.5s						
H11S3	WAKE ISLAND Hy	41.07	77	T	T	12 54 18.6	
	baz=269,slow=75,SNR=57						
H11S1	WAKE ISLAND Hy	41.08	77	T	T	12 54 32.3	
	baz=269,slow=75,SNR=35						
H11S2	WAKE ISLAND Hy	41.08	77	T	T	12 54 22.6	
	baz=269,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	41.30	75	T	T	12 54 36.4	
	baz=267,slow=75,SNR=158						
H11N2	WAKE ISLAND Hy	41.31	75	T	T	12 54 32.0	
	baz=267,slow=75,SNR=123						
H11N3	WAKE ISLAND Hy	41.32	75	T	T	12 54 37.5	
	baz=267,slow=75,SNR=138						
MKAR	Makanchi Array	48.78	322	P	P	12 11 25.4	+0.3
	0.8nm,0.7s,baz=125,slow=8.7,SNR=9.9						
	0.8nm,0.7s						
ZALV	Zalesovo Beam	51.41	331	P	P	12 11 43.7	-0.9
	0.7nm,0.7s,baz=137,slow=7.7,SNR=2.7						
	0.7nm,0.7s						

*AEIC **19** 12:04:17.7±2.1, 56°.55N±0°.07×148°.9W±0°.1, h11km±7km, Error ellipse: s-maj=11.9km s-min=5.4km az=139.0*

NEIC 19 12:04:13.5±1.3, 56°.58N±0°.05×149°.1W±0°.1, h10km±2km, ML3.7/96, ML3.5(AEIC), Error ellipse: s-maj=12.2km s-min=5.5km az=134.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.26	304		Pn	12 04 50.9	-0.1
KDAK					Sn	12 05 16.8	-2.0
OHAK	Old Harbor	2.40	287		Pn	12 04 52.4	-0.5
OHAK	Old Harbor	2.40	287		Sn	12 05 19.2	-3.1
SYI	Shuyak Island	2.71	320		Pn	12 04 57.3	+0.2
SYI				IAML		12 05 30.6	
	comp=N,219nm,0.6s						
SYI				IAML		12 05 30.8	
	comp=E,187nm,0.5s						
SYI	Shuyak Island	2.71	320		Sn	12 05 29.0	-0.9
SII	Sitkinak Islan	2.83	272		Pn	12 04 57.9	-0.8
SII	Sitkinak Islan	2.83	272		Sn	12 05 30.0	-2.9
CNPM	China Poot	3.17	340		Pn	12 05 03.3	-0.2
MID	Middleton Isla	3.21	26		Pn	12 05 03.0	-0.8
MID				IAML		12 05 28.1	
	comp=E,133nm,1.0s						
MID				IAML		12 06 56.7	
	comp=N,122nm,1.1s						
BRSE	Bradley Lake S	3.29	345		Pn	12 05 04.5	-0.6
BRSE					Sn	12 05 42.5	-1.9
BRLK	Bradley Lake	3.34	344		Pn	12 05 05.1	-0.6
HOM	Homer	3.38	337		Pn	12 05 06.0	-0.2
HOM	Homer	3.38	337	IAML		12 05 49.3	
	comp=N,169nm,0.3s						
Q19K	Cape Douglas,	3.40	316		Pn	12 05 07.3	+0.7
KAPH	Katmai Pasha	3.49	308		Pn	12 05 08.0	+0.1
KAPH					Sn	12 05 47.9	-1.3
KAHG	Katmai Hook Gl	3.52	305		Pn	12 05 08.9	+0.6
KAHG					Sn	12 05 49.1	-1.0
P23K	Montague Islan	3.54	14		Pn	12 05 07.9	-0.6
P23K				IAML		12 05 48.0	
	comp=E,141nm,1.2s						
P23K				IAML		12 05 53.7	
	comp=N,121nm,1.0s						
SEW	Seward	3.54	357		Pn	12 05 07.7	-0.8
SEW	Seward	3.54	357		Sn	12 05 47.1	-3.2
KAWH	Katmai	3.58	303		Pn	12 05 09.2	0.0
KAWH					Pn	12 05 10.2	+1.0
KARR	Katmai Rainbow	3.59	305		Pn	12 05 08.7	-0.6
KARR					Pn	12 05 09.9	+0.6
AUJK	Augustine Jueg	3.62	322		Pn	12 05 09.9	+0.4
AUJK					Sn	12 05 51.2	-1.0
AGU	Augustine-Summ	3.63	322		Sn	12 05 51.5	-1.2
KAKN	Katmai Knife C	3.67	301		Pn	12 05 10.4	+0.1
KAKN					Pn	12 05 11.0	+0.6
KAKN					Sn	12 05 52.5	-1.2
CHIR	Chirikof Islan	3.74	261	Pn	Pn	12 05 10.4	-0.8
CHIR				IAML		12 05 51.6	
	comp=N,71nm,1.1s						
CHIR	Chirikof Islan	3.74	261		Sn	12 05 51.2	-4.0
ACHA	Angle Creek He	3.76	298	Pn	Pn	12 05 12.8	+1.3
KABU	Katmai Buttres	3.76	299		Pn	12 05 11.9	+0.3
KABU					Pn	12 05 13.0	+1.3
KABU					Sn	12 05 54.3	-1.7
P19K	Oil Pt	3.79	326		Pn	12 05 12.5	+0.5
KAHC	Katmai Hardscr	3.81	305		Pn	12 05 12.3	0.0
KAHC					Pn	12 05 12.9	+0.6
O22K	Cooper Landing	3.93	355		Pn	12 05 13.0	-0.8
SLKM	Skilak Lake	3.99	352	IAML		12 06 02.4	
	comp=N,99nm,0.2s						
SLKM				IAML		12 06 03.4	
	comp=E,143nm,0.3s						
ILS	Iliamna Low So	3.99	330		Pn	12 05 14.6	-0.2
ILSW	Iliamna Southw	4.04	329		Pn	12 05 14.9	-0.5
ILSW	Iliamna Southw	4.04	329	IAML		12 06 05.0	
	comp=N,90nm,0.4s						
ILSW				IAML		12 06 06.1	
	comp=E,104nm,0.6s						
HIN	Hinchinbrook I	4.06	18		Pn	12 05 15.0	-0.6
PLK3	Peulik 3	4.08	289		Pn	12 05 16.4	+0.5
PLK4	Peulik 4	4.11	288	Pn	Pn	12 05 16.9	+0.5
PLK4				IAML		12 06 06.5	
	comp=N,77nm,0.3s						
PLK4				IAML		12 06 07.4	
	comp=E,98nm,0.6s						
PLK2	Peulik 2	4.12	290		Pn	12 05 17.1	+0.6
KAIM	Kayak Island	4.16	34		Pn	12 05 16.6	-0.4
PWL	Port Wells	4.31	5		Pn	12 05 18.2	-0.9
PWL	Port Wells	4.31	5	IAML		12 06 07.8	
	comp=N,108nm,0.5s						
PWL				IAML		12 06 08.2	
	comp=E,89nm,0.6s						
FID	Port Fidalgo	4.40	17		Pn	12 05 19.2	-1.0
FID	Port Fidalgo	4.40	17	IAML		12 06 09.2	
	comp=E,59nm,0.4s						
FID				IAML		12 06 13.3	
	comp=N,48nm,0.4s						
GLI	Glacier Island	4.43	13		Pn	12 05 19.9	-0.9
GLI	Glacier Island	4.43	13	IAML		12 06 11.2	
	comp=E,70nm,0.5s						
DFR	Drift River	4.45	336		Pn	12 05 20.1	-0.9
RAGM	Ragged Mountai	4.46	29		Pn	12 05 19.8	-1.4
RDJH	Redoubt Jeurge	4.47	336		Pn	12 05 20.9	-0.6
SUCK	Suckling Hills	4.48	36		Pn	12 05 20.1	-1.3
SUCK	Suckling Hills	4.48	36	IAML		12 06 15.6	
	comp=E,86nm,1.1s						
SUCK				IAML		12 06 18.9	
	comp=N,89nm,1.1s						
HMT	Hamilton	4.54	32		Pn	12 05 20.8	-1.4
RC01	Rabbit Creek A	4.54	356	IAML		12 06 13.3	
	comp=N,63nm,0.5s						
RC01				IAML		12 06 14.4	
	comp=E,87nm,0.5s						
NICHA	Nichawak Mount	4.54	34		Pn	12 05 20.9	-1.3
NICHA					Pn	12 05 22.0	-0.2
Q16K	King Salmon	4.59	300		Pn	12 05 22.3	-0.5
Q16K					Pn	12 05 23.4	+0.5
GOAT	Goat Mountain	4.61	28		Pn	12 05 21.8	-1.4
GOAT					Pn	12 05 23.0	-0.3
FIS	Fire Island	4.62	353	Pn	Pn	12 05 23.7	+0.5
GRIN	Grindle Hills	4.79	37		Pn	12 05 24.1	-1.5
GRIN					Pn	12 05 25.4	-0.2
KNK	Knik Glacier	4.86	3		Pn	12 05 26.4	-0.2
KNK				IAML		12 06 28.1	
	comp=E,39nm,0.4s						
DIV	Divide	4.88	19	Pn	Pn	12 05 26.8	-0.1
SNH	Sunshine Point	4.88	40	Pn	Pn	12 05 26.7	-0.1
SNH				IAML		12 06 19.7	
	comp=E,51nm,1.0s						
SNH				IAML		12 06 59.5	
	comp=N,52nm,1.1s						
SPCG	Spurr Capps Gl	4.97	343		Pn	12 05 27.6	-0.6
BMRM	Bremner River	4.98	26		Pn	12 05 27.9	-0.4
BMRM	Bremner River	4.98	26	IAML		12 06 23.5	
	comp=N,52nm,0.8s						
BMRM				IAML		12 06 25.4	
	comp=E,39nm,0.5s						
SPBG	Spurr Blockage	5.00	341		Pn	12 05 28.3	-0.3
PMR	Palmer	5.03	360		Pn	12 05 28.2	-0.7
PMR	Palmer	5.03	360	IAML		12 06 24.3	
	comp=N,31nm,0.8s						
PMR				IAML		12 06 24.5	
	comp=E,62nm,0.7s						
SPWE	Spurr West	5.04	340		Pn	12 05 28.4	-0.8
N19K	Bonanza Creek	5.10	329		Pn	12 05 29.6	-0.4
STLK	Strandline Lak	5.14	345		Pn	12 05 30.5	0.0
STLK				IAML		12 06 31.6	
	comp=N,40nm,1.1s						
SPNN	North Nagishla	5.16	340		Pn	12 05 30.6	-0.2
KLU	Klutina	5.19	17		Pn	12 05 30.6	-0.6
KLU	Klutina	5.19	17	IAML		12 06 28.4	
	comp=N,59nm,0.3s						
KLU				IAML		12 06 30.9	
	comp=E,33nm,0.4s						
MESA	MESA	5.20	43		Pn	12 05 30.8	-0.6
MESA	MESA	5.20	43	IAML		12 06 47.4	
	comp=N,58nm,0.7s						
CRQM	Cirque	5.21	34		Pn	12 05 30.0	-1.5
CRQM	Cirque	5.21	34	IAML		12 06 29.3	
	comp=E,56nm,0.7s						
CRQM				IAML		12 06 35.1	
	comp=N,56nm,1.2s						
M22K	Willow	5.22	354	IAML		12 06 39.8	
	comp=E,46nm,0.9s						
M22K				IAML		12 06 43.7	
	comp=N,46nm,0.6s						
SML	Sawmill	5.26	4	IAML		12 06 35.5	
	comp=E,39nm,1.0s						
SML				IAML		12 06 36.1	
	comp=N,48nm,1.2s						
M23K	Glacier View	5.28	7		Pn	12 05 32.4	+0.1
TGL	Tana Glacier	5.30	35		Pn	12 05 31.1	-1.7
TGL	Tana Glacier	5.30	35	IAML		12 06 30.9	
	comp=E,55nm,0.7s						
TGL				IAML		12 06 34.2	
	comp=N,44nm,1.0s						
SCM	Sheep Creek Mo	5.35	9		Pn	12 05 32.6	-0.7
SCM	Sheep Creek Mo	5.35	9	IAML		12 06 35.0	
	comp=E,55nm,0.8s						
SCM				IAML		12 06 35.1	
	comp=N,43nm,0.9s						
ISLE	Juniper Island	5.35	38	IAML		12 06 30.9	
	comp=E,32nm,0.4s						
ISLE				IAML		12 06 34.9	
	comp=N,37nm,1.0s						
BAGL	Bagley Icefiel	5.36	40		Pn	12 05 32.0	-1.4
BAGL					Pn	12 05 33.1	-0.4
YAH	Yahtse	5.40	42		Pn	12 05 33.7	-0.6
YAH	Yahtse	5.40	42	IAML		12 06 34.6	
	comp=N,37nm,0.5s						
YAH				IAML		12 06 36.2	
	comp=E,30nm,0.6s						
N18K	Kilae Creek	5.44	322		Pn	12 05 34.2	-0.4
VRDI	Verde Repeater	5.50	30		Pn	12 05 34.3	-1.2
RKAV	Rock Avalanche	5.51	44		Pn	12 05 35.5	-0.2
N25K	Chitina, Valde	5.54	23		Pn	12 05 35.3	-0.7
SKT	Skwentna	5.56	348		Pn	12 05 36.3	0.0
GLB	Gilahina Butte	5.58	27		Pn	12 05 36.1	-0.5
KIAG	Kiagna River	5.58	36		Pn	12 05 35.1	-1.6
KIAG					Pn	12 05 36.2	-0.5
SAMH	Samovar Hills	5.63	47		Pn	12 05 37.5	+0.2
O16K	Kokwok River B	5.66	306		Pn	12 05 38.0	+0.4
BALM	Baldy	5.67	35		Pn	12 05 36.1	-1.7
BALM					Pn	12 05 37.5	-0.4
PTPK	Patty Peak	5.75	34		Pn	12 05 37.6	-1.4
PTPK					Pn	12 05 38.9	-0.1
N17K	Nushagak Hills	5.81	316		Pn	12 05 39.6	0.0
CTGM	Chitina Glacie	5.96	39		Pn	12 05 41.5	-0.3
LOGN	Logan Glacier	5.98	41		Pn	12 05 41.8	-0.3
PNL	Peninsula	5.99	55		Pn	12 05 40.2	-1.9
M19K	Big River Lodg	6.00	335		Pn	12 05 41.3	-0.9
BCPM	Bancas Point	6.02	52		Pn	12 05 42.4	-0.1
WAT6	Susitna Watana	6.06	6		Pn	12 05 42.3	-0.9
WAT6					Pn	12 05 43.0	-0.2
HARP	HAARP	6.17	17		Pn	12 05 44.4	-0.2
HARP					Pn	12 05 45.0	+0.4
CNBA	Chernabura Isl	6.20	258		Pn	12 05 44.5	-0.6
O28M	Mount Upton	6.25	44	Pn	Pn	12 05 45.6	-0.3
WAT7	Susitna Watana	6.28	1		Pn	12 05 46.5	+0.4
WAT1	Susitna Watana	6.28	2		Pn	12 05 46.4	+0.3
O15K	Ungalikthiuk R	6.30	299		Pn	12 05 47.5	+1.2
N16K	Nishlik Lake	6.41	312		Pn	12 05 48.1	+0.2
DHY	Denali Highway	6.57	7		Pn	12 05 49.4	-0.9
O29M	Mount Kennedy	6.65	52		Pn	12 05 51.6	+0.3
PAX	Paxson	6.66	14		Pn	12 05 50.6	-0.8
P29M	Windy Craggy	6.74	58		Pn	12 05 52.0	-0.4
YUK8	Steele Glacier	6.74	42		Pn	12 05 51.2	-1.5
M16K	Timber Creek	6.80	315	Pn	Pn	12 05 53.7	+0.5
RND	Reindeer	6.85	1	Pn	Pn	12 05 54.6	+0.7
TRF	Thorofare Moun	6.92	355		Pn	12 05 55.2	+0.2
YUK6	Outpost Mounta	7.08	47		Pn	12 05 55.9	-1.4
K20K	Telida	7.25	342	Pn	Pn	12 05 58.7	-0.7
S12K	Black Hills	7.31	269		Pn	12 05 59.9	-0.4
HYT	Haines Junctio	7.37	50	Pn	Pn	12 06 01.4	+0.2
YUK5	Granite Creek	7.39	47		Pn	12 06 00.3	-1.1
L16K	Owhat River	7.42	318	Pn	Pn	12 06 01.9	+0.3
N14K	Kuskokwak Cree	7.45	302	Pn	Pn	12 06 03.2	+1.1
DT1	Dutton Round H	7.58	264		Pn	12 06 03.5	-0.4
BPAW	Bear Paw Mtn.	7.61	354		Pn	12 06 03.4	-0.9
K17K	Iditarod	7.72	327	Pn	Pn	12 06 05.6	-0.2
N30M	Aishikik Lake	7.88	47	Pn	Pn	12 06 08.1	+0.1
BESE	Bessie Mountai	7.90	69	Pn	Pn	12 06 07.8	-0.6
O30N	Mendenhall	7.96	53	Pn	Pn	12 06 09.3	+0.1
M29M	Somme Creek	7.97	38		Pn	12 06 08.0	-1.4
IL31		8.29	6	Pn	Pn	12 06 13.2	-0.3
N31M	Braeburn, Yuko	8.43	49	Pn	Pn	12 06 16.1	+0.5
WHY	Whitehorse	8.45	55	Pn	Pn	12 06 16.6	+0.6
J17K	VABM Dome	8.47	328	Pn	Pn	12 06 15.7	-0.4
K15K	Wolf Creek Mou	8.54	317	Pn	Pn	12 06 18.2	+1.1
L29M	L29M	8.55	35	Pn	Pn	12 06 17.9	+0.6
I23K	Minto, Yukon-K	8.60	359	Pn	Pn	12 06 18.5	+0.7
M30M	Minto, Yukon	8.65	41	Pn	Pn	12 06 18.2	-0.4
J16K	Anvik River	8.86	324	Pn	Pn	12 06 21.1	-0.3
K29M	Barlow Dome	9.27	33	Pn	Pn	12 06 27.5	+0.4

TPB10 Southeast of T 0.58 129 P Pb 12 13 14.9 -0.5
TPB10 S Sb 12 13 22.8 -1.2
LWM1 Layne Water Mi 0.70 127 P Pb 12 13 17.0 -0.3
LWM1 S Sb 12 13 26.8 -0.5
CLNB Carlsbad 0.70 29 Pg 12 13 16.4 +0.3
CLNB Carlsbad 0.70 29 P Pg 12 13 16.5 +0.3
CLNB S Sb 12 13 26.7 -0.8
CLNB Carlsbad 0.70 29 P Pg 12 13 16.5 +0.4
PCOS Crockett Middl 0.70 110 S Sb 12 13 27.7 +0.2
LWM2 Layne Water Mi 0.71 122 P Pb 12 13 17.3 -0.2
LWM2 S Sb 12 13 27.3 -0.3
TPB01 Permian Basin 0.83 148 P Pg 12 13 18.5 0.0
TPB01 S Sg 12 13 29.3 +0.1
TPB03 Saragosa 0.87 130 P Pb 12 13 20.0 -0.2
TPB03 S Sb 12 13 31.7 -0.5
TPB06 Permian Basin 0.91 90 S Sb 12 13 33.4 0.0
MNTX Cornudas Mount 0.94 273 Pg 12 13 20.4 -0.2
MNTX Sg Sg 12 13 32.1 -0.6
MNTX IAML 12 13 32.9
91nm,0.1s
MNTX Cornudas Mount 0.94 273 P Pg 12 13 20.5 -0.1
MNTX S Sg 12 13 32.8 0.0
TPB04 Verhalen 0.98 118 P Pb 12 13 21.9 -0.3
TPB04 S Sb 12 13 35.7 +0.2
TPB27 North of Pyote 0.99 94 S Sb 12 13 35.8 +0.2
HTMS Hat Mesa 0.99 34 Pg 12 13 21.6 0.0
HTMS Hat Mesa 0.99 34 P Pg 12 13 21.7 +0.1
HTMS S Sb 12 13 35.6 -0.2
HTMS Hat Mesa 0.99 34 P Pg 12 13 21.7 +0.1
TPB16 Coyonosa 1.03 120 P Pb 12 13 22.8 -0.1
TPB16 S Sb 12 13 36.8 +0.1
NM01 Eunice 1.03 47 P Pg 12 13 22.5 +0.1
NM01 S Sb 12 13 36.5 -0.4
VHRN Van Horn 1.05 215 Pg 12 13 22.5 -0.3
VHRN IAML 12 13 42.1
103nm,0.6s
VHRN IAML 12 13 42.7
86nm,0.2s
VHRN Van Horn 1.05 215 P Pg 12 13 22.5 -0.3
VHRN S Sb 12 13 37.2 -0.3
TPB19 West of Imperi 1.07 109 P Pb 12 13 23.7 0.0
TPB19 S Sb 12 13 38.4 +0.4
TPB05 Hovey Rd 1.10 131 P Pg 12 13 23.8 +0.1
TPB05 S Sb 12 13 38.5 -0.3
TPB15 Southwest of C 1.12 113 P Pg 12 13 24.2 +0.2
TPB15 S Sn 12 13 40.2 -0.5
MNHN Monahans 1.34 103 Pn 12 13 27.6 -0.5
MNHN Monahans 1.34 103 P Pn 12 13 27.6 -0.4
MNHN S Sg 12 13 45.6 0.0
ALPN Alpine 1.39 156 Pn 12 13 28.0 -0.8
ALPN Alpine 1.39 156 P Pn 12 13 28.0 -0.8
ALPN S Sb 12 13 46.1 -1.1
TPB08 Permian Basin 1.40 122 S Sn 12 13 49.0 +1.2
CPRX Cap Rock 1.42 14 Pn 12 13 29.2 -0.1
CPRX Cap Rock 1.42 14 P Pb 12 13 29.6 -0.1
ODSA Odessa 1.55 72 Pn 12 13 31.3 +0.3
ODSA Odessa 1.55 72 P Pb 12 13 31.6 -0.3
ODSA S Sb 12 13 51.7 -0.1
TMB04 Seminole 1.81 57 P Pb 12 13 35.9 -0.4
TMB04 S Sg 12 14 00.4 -0.4
TMB01 Midkiff 1.88 89 P Pb 12 13 37.2 -0.2
TMB01 S Sg 12 14 02.3 -0.7
EPT El Paso 1.90 274 S Sg 12 14 03.8 +0.2
TMB02 Rankin 1.97 103 P Pb 12 13 38.5 -0.5
TMB02 S Sg 12 14 05.5 -0.5
TMB06 Greenwood 2.14 81 S Sb 12 14 08.9 +0.1
TMB05 Klondike 2.28 64 P Pb 12 13 43.3 -0.9
TMB05 S Sb 12 14 13.5 +0.8
TX31 Lajitas Ar. Si 2.37 167 Pn 12 13 43.6 +1.4
TX31 Lajitas Ar. Si 2.37 167 P Pn 12 13 43.6 +1.4
TXAR Lajitas Array 2.37 167 Pn 12 13 43.2 +1.0
SAND Sanderson 2.51 132 Pb 12 13 46.5 -1.8
SAND IAmb_Lg 12 14 26.8
comp=Z,23nm,0.7s
MSTX Muleshoe 2.64 28 Pn 12 13 46.9 +0.9
SGCY Sterling City 2.70 84 Pn 12 13 47.4 +0.5
POST Post 2.75 58 Pn 12 13 48.4 +1.0
POST IAmb_Lg 12 14 35.6
comp=Z,20nm,0.8s
OZNA Ozona 2.80 104 Pn 12 13 48.5 +0.4
OZNA IAmb_Lg 12 14 36.4
comp=Z,13nm,0.8s
121A Cookes Peak, D 3.10 287 Pn 12 13 50.5 -1.9
121A IAML 12 14 52.7
comp=E,16nm,0.8s
Y22A Socorro 3.21 316 Pn 12 13 56.1 +2.3
Y22A IAML 12 14 49.6
comp=N,17nm,0.5s
SN07 Snyder 07 3.21 63 IAmb_Lg 12 14 48.3
comp=Z,17nm,0.7s
DKNS Dickens 3.48 54 IAmb_Lg 12 14 52.4
comp=Z,14nm,0.7s
AMTX Amarillo 3.89 33 IAmb_Lg 12 15 07.0
comp=Z,6.1nm,0.8s
JCT Junction City 4.02 106 IAmb_Lg 12 15 15.2
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 4.05 75 Pn Pn 12 14 07.0 +1.6
ABTX IAmb_Lg 12 15 21.5
comp=Z,13nm,0.9s
BRDY Brady 4.53 93 IAmb_Lg 12 15 35.4
comp=Z,9.8nm,0.8s
HNDO Hondo 4.80 115 IAmb_Lg 12 15 46.4
comp=Z,12nm,0.8s
RTBA Rita Blanca 4.95 15 Pn 12 14 19.7 +2.0
WMOK Wichita Mounta 5.55 55 IAmb_Lg 12 16 05.7
comp=Z,8.3nm,0.8s

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*NEIC **19** 12:28:26.8±1.0, 18°.30S±0°.04×172°.14W±0°.06, h10^{km}±1^{km}, mb4.6/14, Error ellipse: s-maj=10.5km s-min=6.2km az=301.0*
*IDC **19** 12:28:28.9±0.6, 18°.38S×172°.65W, h0^{km}, mb4.2/15, mbtmp4.3/16, ML3.9/1, MS3.9/12, Error ellipse: s-maj=22.3km s-min=16.1km az=128.0*
ISC 19 12:28:27.3±0.5,**18°.27S**±0°.07×**172°.07W**±0°.07,**h10**^{km},**n69,** σ2**S61**/59,**mb4.4**/20,**MS4.1**/10,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.18**	**112**	Pn	**Pn**	**12 29 04.1**	**+0.4**
NIUE				Sn	**Sn**	**12 29 30.7**	**0.0**
AFI	**Afiamalu**	**4.34**	**4**		**Pn**	**12 29 33.3**	**-0.2**
AFI				Sn	**Sn**	**12 30 23.4**	**-0.8**
RAR	**Rarotonga**	**11.94**	**106**	LR	LR	12 35 19.1	
	comp=Z,299nm,18.1s,baz=246,slow=33						
RAO	**Raoul Island**	**12.17**	**205**	LR	LR	12 36 16.9	
	comp=Z,100nm,18.3s,baz=336,slow=40						
DZM	**Mont Dzumac**	**20.52**	**256**	P	**P**	**12 33 04.6**	**-1.4**
	0.3nm,0.3s,baz=75,slow=20,SNR=3.9						
DZM				LR	LR	12 39 50.6	
	comp=Z,568nm,19.6s,baz=94,slow=34						
	19nm,1.1s						
PPT2	**Papeete2**	**21.41**	**92**	*e*P	**P**	**12 33 10.9**	**-4.7**
	56nm,23.0s						
PPT2				*e*S	**S**	**12 37 08.2**	**-5.2**
	710nm,25.2s						
PPT2				*e*LR	LR	12 38 16.2	
	692nm,28.5s						
PPT2				*e*LR	LR	12 38 22.9	
	860nm,25.2s						
PPT	**Papeete**	**21.41**	**92**	LR	LR	12 39 15.2	
	comp=Z,323nm,20.9s,baz=252,slow=29						
URZ	**Urewera**	**22.05**	**203**	P	**P**	**12 33 22.3**	**+0.2**
	21nm,0.9s,baz=258,slow=3.6,SNR=8.5						
	21nm,0.9s						
HNR	**Honiara**	**28.52**	**284**	LR	LR	12 44 11.7	
	comp=Z,213nm,19.2s,baz=152,slow=34						
TAOE	**Nuku Hiva Isla**	**32.36**	**77**	*e*LR	LR	12 43 22.4	
	589nm,24.1s						
ARMA	**Armidale**	**35.07**	**243**	P	**P**	**12 35 18.8**	**-2.1**
STKA	**Stephens Creek**	**43.79**	**243**	P	**P**	**12 36 30.8**	**-2.7**
	2.7nm,0.8s,baz=310,slow=19,SNR=3.7						
	2.7nm,0.8s						
INKA	**Innaminka**	**44.22**	**249**	P	**P**	**12 36 34.9**	**-2.1**
INKA				IAmb	IAmb	12 36 37.4	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**50.30**	**259**	P	**P**	**12 37 21.7**	**-2.8**
WR0				IAmb	IAmb	12 37 30.8	
	comp=Z,9.5nm,1.2s						
WB2	**Warramunga Arr**	**50.48**	**259**	P	**P**	**12 37 23.1**	**-2.8**
WRAB	**Tennant Creek**	**50.48**	**259**	P	**P**	**12 37 23.8**	**-2.2**
WRA	**Warramunga Arr**	**50.49**	**259**		**P**	**12 37 23.2**	**-2.7**
WRA	**Warramunga Arr**	**50.49**	**259**	P	**P**	**12 37 23.1**	**-2.9**
	comp=Z,5.2nm,0.4s,baz=97,slow=7.4,SNR=76						
WRA				PcP	**PcP**	**12 38 46.3**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=96,slow=3.3,SNR=2.4						
	comp=Z,5.2nm,0.4s						
AS31	**Alice Springs**	**50.50**	**254**		**P**	**12 37 24.1**	**-1.9**
AS31				IAmb	IAmb	12 37 26.4	
	comp=Z,7.5nm,1.1s						
ASAR	**Alice Springs**	**50.50**	**254**		**P**	**12 37 23.6**	**-2.4**
ASAR	**Alice Springs**	**50.50**	**254**	P	**P**	**12 37 23.7**	**-2.3**
	comp=Z,21nm,1.0s,baz=86,slow=8.5,SNR=91						
ASAR				PcP	**PcP**	**12 38 46.2**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=90,slow=3.6,SNR=1.9						
	comp=Z,21nm,1.0s						
RPN	**Rapa Nui**	**58.04**	**111**	LR	LR	12 58 43.0	
	comp=Z,85nm,18.5s,baz=342,slow=31						
FITZ	**Fitzroy Crossi**	**58.91**	**260**	P	**P**	**12 38 24.4**	**-2.7**
SBA	**Scott Base**	**60.52**	**185**	P	**P**	**12 38 38.1**	**+0.9**
VNDA	**Vanda**	**60.67**	**186**	P	**P**	**12 38 40.2**	**+1.9**
	comp=Z,0.8nm,0.9s,baz=9.5,slow=7.6,SNR=4.2						
	comp=Z,0.8nm,0.9s						
BATI	**Baumata**	**62.55**	**268**	LR	LR	13 05 44.6	
	comp=Z,198nm,18.3s,baz=137,slow=36						
PSA00	**Pilbara Seismi**	**63.64**	**255**	P	**P**	**12 38 57.2**	**-1.9**
PSA00				IAmb	IAmb	12 39 00.5	
	comp=Z,6.0nm,1.1s						
PSA00	**Pilbara Seismi**	**63.64**	**255**	P	**P**	**12 38 57.7**	**-1.5**
PSA00				IAmb	IAmb	12 39 00.5	
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**71.79**	**180**	P	**P**	**12 39 49.5**	**-0.5**
QSPA				IAmb	IAmb	12 39 57.4	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**71.79**	**180**	P	**P**	**12 39 53.4**	**+3.5**
	comp=Z,4.0nm,1.0s,baz=13,slow=2.5,SNR=7.4						
	comp=Z,4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**71.94**	**320**	P	**P**	**12 39 51.7**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=163,slow=7.2,SNR=4.8						
	comp=Z,2.1nm,0.9s						
LPIG	**La Paz**	**73.48**	**57**	LR	LR	13 03 44.1	
	comp=Z,144nm,20.7s,baz=219,slow=29						
NVAR	**Mina Array Bea**	**75.62**	**41**	P	P	12 40 18.5	+5.6
	comp=Z,1.3nm,0.8s,baz=224,slow=10.0,SNR=9.8						
	comp=Z,1.3nm,0.8s						
PETK	**Petropavlovsk-**	**75.74**	**342**	P	**P**	**12 40 16.4**	**+3.4**
	comp=Z,1.2nm,0.6s,baz=112,slow=10,SNR=6.1						
	comp=Z,1.2nm,0.6s						
SMAI	**San Martin Ant**	**78.64**	**158**	P	**P**	**12 40 28.5**	**-0.6**
SMAI				IAmb	IAmb	12 40 38.3	
	comp=Z,12nm,1.4s						
ELK	**Elko**	**78.90**	**40**	LR	LR	13 09 36.7	
	comp=Z,135nm,20.5s,baz=288,slow=31						
KSRS	**Korea Array**	**79.09**	**315**	P	**P**	**12 40 35.7**	**+3.7**
	comp=Z,1.3nm,0.8s,baz=142,slow=5.7,SNR=4.2						
	comp=Z,1.3nm,0.8s						
KSAR	**Wonju Array Be**	**79.11**	**315**	P	**P**	**12 40 31.5**	**-0.7**
TXAR	**Lajitas Array**	**81.16**	**55**	P	P	12 40 50.2	+6.6
	comp=Z,1.4nm,1.0s,baz=207,slow=7.9,SNR=7.3						
	comp=Z,1.4nm,1.0s						
PDAR	**Pinedale Array**	**83.56**	**41**	P	P	12 41 00.8	+4.8
	comp=Z,1.8nm,0.7s,baz=193,slow=2.6,SNR=21						
	comp=Z,1.8nm,0.7s						
CMIG	**Matias Romero**	**83.65**	**70**	LR	LR	13 12 02.7	
	comp=Z,103nm,18.1s,baz=178,slow=31						
ILAR	**Eielson Array**	**85.01**	**11**	P	**P**	**12 41 05.6**	**+3.0**
	comp=Z,0.9nm,0.9s,baz=227,slow=4.5,SNR=6.5						
	comp=Z,0.9nm,0.9s						
APG	**El Apazote**	**86.91**	**73**	LR	LR	13 12 32.7	
	comp=Z,7.1nm,21.5s,baz=246,slow=30						
SNAA	**Sanae**	**89.99**	**177**	P	**P**	**12 41 25.7**	**-1.1**
SNAA				IAmb	IAmb	12 41 35.9	
	comp=Z,2.9nm,1.1s						
SNAA	**Sanae**	**89.99**	**177**	P	**P**	**12 41 28.1**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=202,slow=5.4,SNR=4.5						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.71**	**288**	P	**P**	**12 41 52.2**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=100,slow=2.5,SNR=8.2						
	comp=Z,0.5nm,0.3s						
ULM	**Lac du Bonnet**	**95.35**	**39**	LR	LR	13 20 16.1	
	comp=Z,101nm,18.8s,baz=250,slow=32						
KURBB	**Kurchatov Arra**	**116.19**	**318**	PKP	**PKiKP**	**12 47 12.7**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=50,slow=1.4,SNR=4.5						
OSTC	**Ostas**	**147.11**	**350**	*e*PKP	**PKiKP**	**12 48 15.6**	**+2.6**
DPC	**Dobruska-Polom**	**147.30**	**350**	*e*PKP	**PKiKP**	**12 48 16.1**	**+2.7**
KHC	**Kasperske Hory**	**148.88**	**353**	*e*PKP	**PKPab**	**12 48 19.8**	**+0.6**
GERES	**GERESS Array B**	**149.14**	**353**	PKPbc	**PKPab**	**12 48 18.5**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=29,slow=3.0,SNR=12						
BRTR	**Keskin Array B**	**149.17**	**319**	PKPbc	**PKPab**	**12 48 18.9**	**-1.9**
	comp=Z,3.8nm,0.8s,baz=108,slow=1.6,SNR=19						
CONA	**Conrad Observa**	**149.72**	**349**	*i* PKiKP	**PKPab**	**12 48 22.6**	**-0.1**
	comp=Z,6.2nm,0.9s						
MOA	**Molln**	**150.04**	**351**	*i* PKP	**PKPab**	**12 48 23.0**	**-1.0**
	comp=Z,1.3nm,0.7s						
BIOA	**Bad Ischl, Aus**	**150.28**	**352**	*i* PKP	**PKPab**	**12 48 23.2**	**-1.7**
	comp=Z,1.9nm,0.6s						
RETA	**Reutte**	**150.77**	**356**	*i* PKP	**PKPab**	**12 48 24.8**	**-2.2**
	comp=Z,0.8nm,0.3s						
WATA	**Walderalm**	**150.86**	**355**	*i* PKP	**PKPab**	**12 48 24.7**	**-2.7**
	comp=Z,6.0nm,1.0s						
MOTA	**Moosalm**	**150.88**	**356**	*i* PKP	**PKPab**	**12 48 24.7**	**-2.9**
	comp=Z,4.0nm,0.9s						
WTTA	**Wattenberg**	**150.92**	**355**	*i* PKP	**PKPab**	**12 48 25.2**	**-2.6**
	comp=Z,6.8nm,0.7s						
KBA	**Koelnbreinsper**	**150.93**	**352**	*i* PKP	**PKPab**	**12 48 24.7**	**-3.1**
	comp=Z,1.0nm,0.5s						
SQTA	**Sankt Quirin**	**151.00**	**355**	*e*PKP	**PKPab**	**12 48 25.4**	**-2.7**
	comp=Z,0.5nm,0.3s						
SOKA	**Soboth**	**151.07**	**350**	*e*PKP	**PKPab**	**12 48 24.7**	**-3.6**
	comp=Z,2.1nm,0.9s						
FETA	**Feichten**	**151.23**	**356**	*e*PKiKP	**PKPab**	**12 48 26.2**	**-2.8**
	comp=Z,4.4nm,1.0s						
OBKA	**Obir**	**151.31**	**350**	*e*PKP	**PKPab**	**12 48 25.9**	**-3.5**
	comp=Z,5.3nm,1.2s						
MMAI	**Mount Meron Ar**	**151.32**	**306**	PKPbc	**PKPab**	**12 48 25.7**	**-4.2**
	comp=Z,4.9nm,0.9s,baz=66,slow=1.7,SNR=4.3						
MYKA	**Terra Mystica**	**151.33**	**352**	*e*PKP	**PKPab**	**12 48 25.9**	**-3.5**
	comp=Z,1.9nm,0.6s						
ABTA	**Abfaltersbach**	**151.35**	**353**	*e*PKP	**PKPab**	**12 48 25.6**	**-3.8**
	comp=Z,1.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**172.12**	**129**	PKPab	**PKPab**	**12 50 05.8**	**+5.2**
	comp=Z,0.1nm,0.4s,baz=243,slow=7.9,SNR=2.9						

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*IDC **19** 12:37:34.4±0.9, 62°.62S×168°.79E, h0^{km}, mb4.1/10, mbtmp4.2/11, ML3.7/1, MS4.2/26, Error ellipse: s-maj=38.0km s-min=17.9km az=62.0*
*NEIC **19** 12:37:36.0±1.0, 62°.85±0°.1×168°.8E±0°.4, h10^{km}±1^{km}, mb4.5/12, Error ellipse: s-maj=29.2km s-min=18.3km az=78.0*
*GCMT **19** 12:37:39.0±0.2, 62°.80S±0°.01×168°.12E±0°.05, h12^{km}, MW5.0/117, Moment Tensor Solution. s40,c43; s117,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.92±.09; $M_{\theta\theta}$3.64±.07; $M_{\phi\phi}$0.27±.10; $M_{r\theta}$-1.12±.31; $M_{\theta\phi}$0.01±.07; $M_{\phi r}$-0.21±.36; Best double couple: $M_0$3.94800×10^{16} NP1:ϕ_s272.00000°, δ37.00000°, λ-86.00000°. NP2:ϕ_θ87.00000°, δ53.00000°, λ-93.00000°. Principal axes: T 3.8030, Plg8.0000°, Azm179.0000°; N 0.2870, Plg3.0000°, Azm89.0000°; P -4.0930, Plg81.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 12:37:36.3±0.5,**62°.79S**±0°.08×**168°.5E**±0°.1,**h10**^{km},**n74,** σ0**S94**/43,**mb4.4**/14,**MS4.2**/24,**4C-2D,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.95**	**186**		**Pn**	**12 41 06.8**	**-0.5**
VNDA	**Vanda**	**14.95**	**186**	Pn	**Pn**	**12 41 07.9**	**+0.5**
	0.3nm,0.3s,baz=18,slow=14,SNR=59						
VNDA				LR	LR	12 45 36.6	
	comp=Z,2μm,21.2s,baz=9.0,slow=32						
	11nm,0.9s						
SBA	**Scott Base**	**15.15**	**181**		**Pn**	**12 41 09.6**	**-0.3**
SBA				IAmb	IAmb	12 41 24.3	
	comp=Z,28nm,1.2s						
WHZ	**Wether Hill Ro**	**16.94**	**359**		**Pn**	**12 41 33.6**	**+0.5**
WHZ				IAmb	IAmb	12 41 34.6	
	comp=Z,34nm,1.3s						
RPZ	**Rata Peaks**	**19.17**	**6**	P	**Pn**	**12 42 04.2**	**+3.6**
	comp=Z,11nm,0.6s,baz=335,slow=1.0,SNR=9.4						
RPZ				LR	LR	12 48 09.2	
	comp=Z,2μm,21.5s,baz=196,slow=33						
CASY	**Casey**	**24.39**	**236**	P	**P**	**12 42 54.6**	**+0.3**
CASY				IAmb	IAmb	12 42 58.0	
	comp=Z,30nm,1.4s						
URZ	**Urewera**	**25.11**	**16**	LR	LR	12 51 26.4	
	comp=Z,720nm,21.5s,baz=172,slow=33						
QSPA	**South Pole Qui**	**27.30**	**180**	P	**P**	**12 43 20.5**	**-0.3**
QSPA	**South Pole Qui**	**27.30**	**180**	P	**P**	**12 43 23.9**	**+3.1**
	comp=Z,8.9nm,1.1s,baz=29,slow=5.7,SNR=10						
QSPA				LR	LR	12 52 58.4	
	comp=Z,594nm,19.3s,baz=30,slow=34						
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**35.37**	**318**	P	**P**	**12 44 31.2**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=346,slow=16,SNR=2.2						
STKA				LR	LR	12 57 05.8	
	comp=Z,583nm,18.0s,baz=153,slow=33						
	comp=Z,2.6nm,0.9s						
MAW	**Mawson**	**39.40**	**216**	P	**P**	**12 45 06.5**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=159,slow=12,SNR=2.3						
MAW				LR	LR	13 01 11.2	
	comp=Z,811nm,18.8s,baz=122,slow=36						
	comp=Z,3.3nm,0.8s						
H01W1	**Cape Leeuwin H**	**43.46**	**284**	T	T	13 32 16.8	
	baz=147,slow=76,SNR=1186						
H01W2	**Cape Leeuwin H**	**43.47**	**284**	T	T	13 32 17.6	
	baz=147,slow=76,SNR=1168						
H01W3	**Cape Leeuwin H**	**43.48**	**284**	T	T	13 32 18.0	
	baz=147,slow=76,SNR=934						
SYO	**Syowa Base**	**43.59**	**204**⇓*e*pP		pP	12 45 41.4	-0.8
SYO	**Syowa Base**	**43.59**	**204**⇓*e*sP		sP	12 45 42.4	-0.8
NWAO	**Narrogin (SRO)**	**43.76**	**288**	LR	LR	12 59 26.1	
	comp=Z,398nm,21.8s,baz=112,slow=30						
TROLL	**Troll, Antarti**	**45.13**	**186**	⇑P	**P**	**12 45 52.5**	**+0.1**
	comp=Z,200nm,1.1s						
ASAR	**Alice Springs**	**45.47**	**313**	P	**P**	**12 45 55.0**	**-0.5**
ASAR	**Alice Springs**	**45.47**	**313**	P	**P**	**12 45 55.6**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=158,slow=7.6,SNR=12						
ASAR				LR	LR	13 04 36.4	
	comp=Z,368nm,18.0s,baz=117,slow=36						
	comp=Z,1.7nm,0.9s						
AS31	**Alice Springs**	**45.47**	**313**	P	**P**	**12 45 55.5**	**+0.1**
SNAA	**Sanae**	**45.68**	**184**	⇑P	**P**	**12 45 57.9**	**+1.3**
	comp=Z,84nm,0.9s						
SNAA	**Sanae**	**45.68**	**184**	P	**P**	**12 45 56.5**	**-0.1**
SNAA				IAmb	IAmb	12 45 59.8	
	comp=Z,7.7nm,1.2s						
SNAA	**Sanae**	**45.68**	**184**	P	**P**	**12 45 57.3**	**+0.7**
	comp=Z,4.1nm,1.1s,baz=180,slow=6.9,SNR=8.9						
SNAA				LR	LR	13 04 02.2	
	comp=Z,559nm,19.4s,baz=191,slow=35						
	comp=Z,4.1nm,1.1s						
VNA2	**Neumayer--Watz**	**46.53**	**182**	⇑P	**P**	**12 46 03.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=171,slow=8.4						
RAR	**Rarotonga**	**46.81**	**42**	LR	LR	13 00 39.9	
	comp=Z,331nm,21.5s,baz=212,slow=30						
VNA1	**Neumayer--Stat**	**46.82**	**181**	⇑P	**P**	**12 46 05.6**	**+0.1**
	comp=Z,3.2nm,0.3s						
PMSA	**Palmer Station**	**46.95**	**152**	LR	LR	13 02 32.0	
	comp=Z,140nm,21.9s,baz=230,slow=32						
SANVU	**Saraoutou**	**47.30**	**358**	P	**P**	**12 46 09.2**	**-0.5**
WRA	**Warramunga Arr**	**48.79**	**315**	P	**P**	**12 46 21.3**	**0.0**
WRA	**Warramunga Arr**	**48.79**	**315**	P	**P**	**12 46 20.5**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=162,slow=6.7,SNR=4.6						
	comp=Z,0.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.52**	**306**	P	**P**	**12 46 56.8**	**-0.1**
FITZ				IAmb	IAmb	12 47 04.2	
	comp=Z,2.2nm,1.2s						
PPT2	**Papeete2**	**53.62**	**52**	*e*S	**S**	**12 54 31.3**	**+0.2**
	comp=Z,146nm,24.5s						
PPT2				*e*LQ	LQ	12 59 44.3	
	comp=Z,213nm,23.5s						
PPT2				*e*LR	LR	13 01 53.3	
	comp=Z,353nm,23.0s						
PPT2				*e*LR	LR	13 01 56.8	
	comp=Z,301nm,31.2s						
HNR	**Honiara**	**53.63**	**349**	LR	LR	13 06 35.1	
	comp=Z,180nm,19.2s,baz=221,slow=33						
PPT	**Papeete**	**53.64**	**52**	LR	LR	13 06 59.3	
	comp=Z,56nm,18.6s,baz=225,slow=33						
PMG	**Port Moresby**	**55.49**	**334**	LR	LR	13 07 46.3	
	comp=Z,248nm,19.7s,baz=164,slow=33						
JAY	**Jayapura**	**63.59**	**329**	LR	LR	13 16 02.7	
	comp=Z,89nm,18.3s,baz=177,slow=36						
TAOE	**Nuku Hiva Isla**	**65.19**	**58**	*e*LR	LR	13 07 17.2	
	comp=Z,233nm,26.8s						
PLCA	**Paso Flores**	**66.56**	**135**	P	**P**	**12 48 25.5**	**-0.8**
PLCA				IAmb	IAmb	12 48 35.1	
	comp=Z,6.7nm,1.4s						
PLCA	**Paso Flores**	**66.56**	**135**	P	**P**	**12 48 26.6**	**+0.4**
	comp=Z,3.8nm,1.1s,baz=204,slow=8.5,SNR=4.7						
	comp=Z,3.8nm,1.1s						
KAPI	**Kappang**	**67.73**	**306**	LR	LR	13 15 23.1	
	comp=Z,68nm,20.1s,baz=134,slow=34						
H03S2	**Juan Fernandez**	**69.79**	**125**	T	T	14 05 42.1	
	baz=205,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**69.79**	**125**	T	T	14 05 58.4	
	baz=205,slow=74,SNR=20						
H03S3	**Juan Fernandez**	**69.80**	**125**	T	T	14 05 55.4	
	baz=205,slow=74,SNR=21						
LMEL	**Las Melosas**	**72.92**	**132**	P	**P**	**12 49 05.1**	**-0.5**
DAV	**Davao City (W)**	**76.98**	**316**	LR	LR	13 25 57.0	
	comp=Z,57nm,18.2s,baz=144,slow=38						
PSI	**Prapat**	**83.29**	**289**	LR	LR	13 23 45.6	
	comp=Z,57nm,18.4s,baz=104,slow=33						
CPUP	**Villa Florida**	**84.00**	**140**	P	**P**	**12 50 05.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=113,slow=3.8,SNR=4.6						
	comp=Z,0.7nm,0.7s						
BOSA	**Boshof**	**84.31**	**212**	P	**P**	**12 50 08.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=137,slow=11,SNR=3.5						
BOSA				LR	LR	13 26 13.7	
	comp=Z,161nm,18.8s,baz=192,slow=34						
	comp=Z,1.8nm,0.8s						
H08S2	**Diego Garcia H**	**86.02**	**261**	T	T	14 25 32.7	
	baz=152,slow=76,SNR=194						
H08S1	**Diego Garcia H**	**86.02**	**261**	T	T	14 25 37.5	
	baz=152,slow=76,SNR=102						
H08S3	**Diego Garcia H**	**86.03**	**261**	T	T	14 25 34.2	
	baz=152,slow=76,SNR=366						
LBTB	**L

s13,c13; s76,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.40±.12; $M_{\theta\theta}$1.32±.15; $M_{\phi\phi}$0.07±.16; $M_{r\theta}$-0.57±.09; $M_{\theta\phi}$-1.48±.12; $M_{\phi r}$1.36±.08; Best double couple: $M_0$2.46300×10^{16} NP1:ϕ_s272.00000°,δ37.00000°, λ-141.00000°. NP2:ϕ_s150.00000°,δ68.00000°, λ-59.00000°. Principal axes: T 2.6900, Plg17.0000°, Azm218.0000°; N -0.4620, Plg28.0000°, Azm317.0000°; P -2.2350, Plg56.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **19** 12:42:07.7±1.7, 13°.99N±0°.06×145°.43E±0°.09, h91km±4km, mb5.2/425, Mww5.0/9 Error ellipse: s-maj=13.8km s-min=5.9km az=120.0*

*NEIC **19** 12:42:08.3, 13°.99N×145°.41E, h80km*

*NEIC **19** 12:42:08.3, 13°.69N×145°.72E, h80km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}0.43; $M_{\theta\theta}$-4.57; $M_{\phi\phi}$4.13; $M_{r\theta}$-0.08; $M_{\theta\phi}$-0.74; $M_{\phi r}$1.20; Fault plane solution: $M_0$4.59000×10^{16} NP1: ϕ_s308.99000°,δ78.39000°,λ168.52000°. NP2: ϕ_s41.33000°,δ78.76000°,λ11.84000°. Principal axes: T 4.5450, Plg16.0000°, Azm265.0000°; N 0.0839, Plg74.0000°, Azm84.0000°; P -4.6288, Plg0.0000°, Azm175.0000°;*

ISC 19 12:42:07.4±0.4,**14°.00N**±0°.04×**145°.45E**±0°.05,**h96**km±2km, **h96**km:**pP-P,n767,**σ0s**98/605,mb5.1**/290,**17C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.69**	**234**	Sn	**Sn**	**12 42 36.4**	**-0.7**
GUMO	**Guam**	**0.69**	**234**	P	**Pn**	**12 42 24.2**	**-0.2**
10μm,0.3s,baz=113,slow=23,SNR=1641							
GUMO				LR	LR	12 42 55.1	
comp=Z,22μm,20.6s,baz=223,slow=60							
GUMO	**Guam**	**0.69**	**234**	P	**Pn**	**12 42 24.2**	**-0.2**
GUMO	**Guam**	**0.69**	**234**	S	**Sn**	**12 42 36.6**	**-0.5**
JCJ	**Chichijima**	**13.38**	**347**	P	**Pn**	**12 45 14.2**	**+0.7**
105nm,1.1s,baz=301,slow=21,SNR=5.4							
PATS	**Pohnpei**	**14.51**	**118**	P	**Pn**	**12 45 25.9**	**-2.3**
comp=Z,185nm,0.7s							
PATS	**Pohnpei**	**14.51**	**118**		**Pn**	**12 45 26.0**	**-2.1**
PATS	**Pohnpei**	**14.51**	**118**	P	**Pn**	**12 45 29.7**	**+1.5**
JAY	**Jayapura**	**17.07**	**196**	P	**P**	**12 46 01.3**	**+0.9**
comp=Z,65nm,0.8s,baz=36,slow=10,SNR=11							
JAY	**Jayapura**	**17.07**	**196**	P	**Pn**	**12 46 00.4**	**+0.2**
comp=Z,98nm,1.0s							
SMPI	**Sarmi**	**17.23**	**203**	P	**P**	**12 46 03.2**	**+1.0**
comp=Z,2μmcomp=Z,102nm,1.2s							
GENI	**Genyem**	**17.30**	**198**	P	**P**	**12 46 04.6**	**+1.7**
GENI	**Genyem**	**17.30**	**198**	P	**P**	**12 46 04.2**	**+1.3**
comp=Z,3μmcomp=Z,86nm,1.2s							
BAKI	**Biak**	**17.70**	**212**	P	**Pn**	**12 46 09.7**	**+1.8**
comp=Z,2μmcomp=Z,57nm,0.8s							
JMZ	**Minamidaito 2**	**17.79**	**314**	P	**Pn**	**12 46 10.1**	**+1.3**
WAMI	**Wamena**	**18.98**	**201**	P	**Pn**	**12 46 25.9**	**+2.7**
comp=Z,3μmcomp=Z,104nm,0.6s							
RKPI	**Ransiki, Papua**	**19.03**	**217**	P	**Pn**	**12 46 24.6**	**+0.8**
comp=Z,5μmcomp=Z,84nm,1.3s							
SWI	**Sorong**	**20.39**	**225**	P	**P**	**12 46 37.5**	**+0.8**
comp=Z,2μmcomp=Z,164nm,1.2s							
SWI	**Sorong**	**20.39**	**225**	P	Pn	12 46 38.9	-0.7
JOW	**Kunigami**	**20.51**	**311**	P	Pn	12 46 40.2	-0.8
JOW	**Kunigami**	**20.51**	**311**	P	**P**	**12 46 39.9**	**+1.9**
comp=Z,52nm,0.5s,baz=128,slow=12,SNR=10							
comp=Z,52nm,0.5s							
JOW	**Kunigami**	**20.51**	**311**	P	**P**	**12 46 39.0**	**+1.0**
DAV	**Davao City (W)**	**20.70**	**253**	LR	LR	12 53 50.3	
comp=Z,74nm,21.5s,baz=64,slow=34							
H11S3	**WAKE ISLAND Hy 20.87**	**75**		T	T	13 08 16.3	
baz=262,slow=74,SNR=106							
H11S1	**WAKE ISLAND Hy 20.88**	**75**		T	T	13 08 44.5	
baz=262,slow=74,SNR=122							
H11S2	**WAKE ISLAND Hy 20.89**	**75**		T	T	13 08 21.7	
baz=262,slow=74,SNR=38							
H11N1	**WAKE ISLAND Hy 21.29**	**72**		T	T	13 09 20.9	
baz=257,slow=75,SNR=100							
H11N2	**WAKE ISLAND Hy 21.29**	**72**		T	T	13 09 20.9	
baz=257,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy 21.30**	**72**		T	T	13 09 20.9	
baz=257,slow=75,SNR=133							
FAKI	**Fak Fak**	**21.30**	**219**		**P**	**12 46 46.8**	**+0.2**
FAKI	**Fak Fak**	**21.30**	**219**	P	**P**	**12 46 47.8**	**+1.2**
FAKI	**Fak Fak**	**21.30**	**219**	P	**P**	**12 46 48.0**	**+1.4**
comp=Z,2μmcomp=Z,193nm,0.9s							
TNTI	**Ternate**	**22.20**	**235**		**P**	**12 46 54.9**	**-1.2**
TNTI	**Ternate**	**22.20**	**235**	P	**P**	**12 46 55.8**	**-0.3**
TNTI	**Ternate**	**22.20**	**235**	S	**S**	**12 50 55.7**	**+1.1**
TNTI	**Ternate**	**22.20**	**235**	P	**P**	**12 46 56.9**	**+0.8**
JMN	**Monobe**	**22.28**	**334**	P	**P**	**12 46 58.4**	**+1.7**
INU	**Inuyama**	**22.58**	**342**		**P**	**12 47 00.8**	**+1.0**
INU	**Inuyama**	**22.58**	**342**	P	**P**	**12 47 01.4**	**+1.6**
JGF	**Kuroka**	**22.71**	**343**		**P**	**12 47 01.3**	**+0.1**
JGF	**Kuroka**	**22.71**	**343**	P	**P**	**12 47 01.8**	**+0.6**
JNU	**Nakatsue**	**23.20**	**328**	P	**P**	**12 47 06.8**	**+0.7**
JNU	**Nakatsue**	**23.20**	**328**	LR	LR	12 55 48.5	
comp=Z,89nm,18.2s,baz=118,slow=35							
PMG	**Port Moresby**	**23.31**	**176**	P	**P**	**12 47 04.8**	**-2.4**
PMG	**Port Moresby**	**23.31**	**176**	P	**P**	**12 47 04.8**	**-2.4**
MJAR	**Matsushiro Arr**	**23.37**	**345**	P	**P**	**12 47 06.6**	**-0.9**
MJAR	**Matsushiro Arr**	**23.37**	**345**	P	**P**	**12 47 05.8**	**-1.7**
comp=Z,7.6nm,0.6s,baz=171,slow=9.8,SNR=29							
MJAR				PcP	**PcP**	**12 50 51.3**	**-0.2**
comp=Z,1.2nm,0.6s,baz=174,slow=3.7,SNR=4.2							
MJAR				LR	LR	12 55 25.5	
comp=Z,123nm,19.0s,baz=142,slow=34							
comp=Z,7.6nm,0.6s							
MJAR	**Matsushiro Arr**	**23.37**	**345**	P	**P**	**12 47 06.6**	**-0.9**
MAJO	**Matsushiro**	**23.37**	**345**	P	**P**	**12 47 06.7**	**-0.8**
MAJO	**Matsushiro**	**23.37**	**345**	P	**P**	**12 47 07.4**	**-0.1**
MAJO	**Matsushiro**	**23.37**	**345**	*i* P	**P**	**12 47 06.6**	**-0.9**
MAJO				pmax	pmax		
comp=Z,18nm,0.6s							
MJB9	**Matsu-Tunnel**	**23.37**	**345**		**P**	**12 47 08.2**	**+0.6**
MSAI	**Masohi**	**23.78**	**225**	P	**P**	**12 47 11.7**	**+0.3**
comp=Z,2μmcomp=Z,184nm,0.7s							
AAI	**Ambon**	**24.53**	**225**	P	**P**	**12 47 17.8**	**-0.4**
comp=Z,2μmcomp=Z,238nm,1.0s							
YULB	**Yu-li**	**24.68**	**296**	P	**P**	**12 47 20.1**	**+0.5**
SANI	**Sanana**	**25.03**	**232**	P	**P**	**12 47 23.0**	**+0.3**
SANI	**Sanana**	**25.03**	**232**	P	**P**	**12 47 22.5**	**-0.2**
comp=Z,27nm,0.5s							
KMSI	**Cibinong**	**25.08**	**240**	P	**P**	**12 47 23.5**	**+0.2**
SSLB	**Suanglung**	**25.10**	**296**		**P**	**12 47 23.4**	**0.0**
SSLB	**Suanglung**	**25.10**	**296**	P	**P**	**12 47 24.8**	**+1.4**
MRSI	**Marisa**	**26.86**	**242**	P	**P**	**12 47 38.6**	**-0.7**
LUWI	**Luwuk**	**26.98**	**238**		**P**	**12 47 39.0**	**-1.4**
LUWI	**Luwuk**	**26.98**	**238**	P	**P**	**12 47 39.2**	**-1.2**
LUWI	**Luwuk**	**26.98**	**238**	P	**P**	**12 47 39.2**	**-1.2**
COEN	**Coen**	**27.87**	**185**	P	**P**	**12 47 48.2**	**0.0**
comp=Z,18nm,1.2s							
MYLDM	**Lahad Datu**	**27.95**	**254**		**P**	**12 47 50.3**	**+1.2**
MYLDM	**Lahad Datu**	**27.95**	**254**	P	**P**	**12 47 49.8**	**+0.7**
KSRS	**Korea Array**	**28.09**	**329**	P	**P**	**12 47 50.1**	**0.0**
comp=Z,5.5nm,0.5s,baz=148,slow=8.9,SNR=20							
KSRS				PcP	**PcP**	**12 51 02.3**	**+0.1**
comp=Z,1.5nm,0.9s,baz=156,slow=2.3,SNR=4.5							
comp=Z,5.5nm,0.5s							
KSAR	**Wonju Array Be**	**28.10**	**329**	P	**P**	**12 47 50.1**	**0.0**
KSAR	**Wonju Array Be**	**28.10**	**329**	P	**P**	**12 47 50.1**	**0.0**
KS19	**Wonju Array Si**	**28.16**	**329**	P	**P**	**12 47 50.2**	**-0.4**
KDU	**Kakadu**	**29.47**	**206**	P	**P**	**12 48 01.7**	**-0.7**
comp=Z,25nm,0.8s							
ASAJ	**Asahikawa**	**30.11**	**356**	LR	LR	13 01 31.1	
comp=Z,55nm,18.6s,baz=182,slow=39							
MTN	**Manton Dam**	**30.21**	**209**	P	**P**	**12 48 08.3**	**-0.6**
comp=Z,52nm,0.8s							
MTN	**Manton Dam**	**30.21**	**209**	P	**P**	**12 48 08.4**	**-0.6**
MTN				IAmb	IAmb	12 48 09.4	
comp=Z,44nm,0.9s							
NJ2	**Nanjing**	**30.23**	**311**	*e*P	**P**	**12 48 10.4**	**+1.3**
NJ2				pmax	pmax		
comp=Z,11nm,0.6s							
SOEI	**Soe**	**31.60**	**223**	P	**P**	**12 48 19.6**	**-1.8**
SOEI	**Soe**	**31.60**	**223**	P	**P**	**12 48 19.6**	**-1.8**
SOEI	**Soe**	**31.60**	**223**	P	**P**	**12 48 18.9**	**-2.5**
comp=Z,1μmcomp=Z,39nm,0.5s							
KAPI	**Kappang**	**31.73**	**235**	*i* P	**P**	**12 48 19.8**	**-2.7**
KAPI				pmax	pmax		
comp=Z,12nm,0.6s							
USRK	**Ussuriysk Ar.**	**32.22**	**342**	P	**P**	**12 48 26.6**	**+0.2**
comp=Z,7.0nm,0.6s,baz=157,slow=8.6,SNR=13							
comp=Z,7.0nm,0.6s							
DL2	**Dalian**	**32.52**	**324**	P	**P**	**12 48 30.5**	**+1.4**
DL2				pmax	pmax		
comp=Z,44nm,0.8s							
EDFI	**Ende, Flores**	**32.66**	**228**	P	**P**	**12 48 28.8**	**-1.9**
comp=Z,13nm,0.8s							
YSS	**Yuzhno-Sakhali**	**32.93**	**357**	*e*P	**P**	**12 48 31.9**	**-0.7**
YSS				*e*		12 58 52.3	
YSS				MLR	MLR		
comp=Z,200nm,16.0s							
WHN	**Wuhan**	**33.01**	**305**	P	**P**	**12 48 34.8**	**+1.3**
MDJ	**Mudanjiang**	**33.37**	**339**	P	**P**	**12 48 36.8**	**+0.3**
MDJ				pmax	pmax		
comp=Z,12nm,1.0s							
TIA	**Tai'an**	**33.65**	**316**	P	**P**	**12 48 38.9**	**-0.2**
TIA				pmax	pmax		
comp=Z,6.0nm,0.7s							
KNRA	**Kununurra**	**33.79**	**210**	P	**P**	**12 48 40.1**	**-0.3**
comp=Z,63nm,0.9s							
KNRA	**Kununurra**	**33.79**	**210**	IAmb	IAmb	12 48 41.2	
comp=Z,42nm,0.8s							
CN2	**Changchun**	**34.29**	**334**	*e*P	**P**	**12 48 45.0**	**+0.6**
CN2				*e*S	**S**	**12 54 00.1**	**-4.4**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
CN2				pmax	pmax		
comp=Z,100nm,3.0s							
CN2				LR	LR		
comp=Z,200nm,10.0s							
CN2				LR	LR		
comp=Z,300nm,10.0s							
CN2				LR	LR		
comp=Z,100nm,11.0s							
SBUM	**Sibu**	**34.77**	**254**	P	**P**	**12 48 49.1**	**+0.2**
SBUM	**Sibu**	**34.77**	**254**	P	**P**	**12 48 49.5**	**+0.5**
QIS	**Mount Isa**	**34.82**	**190**	P	**P**	**12 48 49.4**	**+0.2**
comp=Z,23nm,0.8s							
QIS	**Mount Isa**	**34.82**	**190**	P	**P**	**12 48 50.0**	**+0.8**
BNX	**BinXian**	**35.12**	**338**	⇑P	**P**	**12 48 51.8**	**+0.2**
BNX				pmax	pmax		
comp=Z,26nm,0.7s							
WB0	**Warramunga Arr**	**35.27**	**198**	P	**P**	**12 48 53.0**	**-0.2**
WB0				IAmb	IAmb	12 48 53.5	
comp=Z,24nm,1.0s							
WR8	**Warramunga Arr**	**35.42**	**198**	P	**P**	**12 48 54.2**	**-0.2**
WR8				IAmb	IAmb	12 48 54.9	
comp=Z,24nm,1.1s							
WRAB	**Tennant Creek**	**35.44**	**198**	P	**P**	**12 48 54.5**	**-0.1**
WRAB	**Tennant Creek**	**35.44**	**198**	*ce*P	**P**	**12 48 54.4**	**-0.1**
WRAB				pmax	pmax		
comp=Z,29nm,0.8s							
WRAB	**Tennant Creek**	**35.44**	**198**	P	**P**	**12 48 54.1**	**-0.4**
WRA	**Warramunga Arr**	**35.45**	**198**	P	**P**	**12 48 53.0**	**-1.7**
WRA	**Warramunga Arr**	**35.45**	**198**	P	**P**	**12 48 54.4**	**-0.3**
comp=Z,25nm,0.9s,baz=21,slow=9.7,SNR=135							
WRA				ScP	**ScP**	**12 54 58.9**	**-0.9**
comp=Z,3.1nm,1.0s,baz=12,slow=3.7,SNR=7.3							
comp=Z,25nm,0.9s							
HNS	**HongShan**	**35.92**	**316**	⇑P	**P**	**12 48 59.3**	**+0.7**
HNS				pmax	pmax		
comp=Z,25nm,0.8s							
LYN	**LuoYang**	**36.12**	**310**	P	**P**	**12 49 01.8**	**+1.5**
LYN				pP	pP	12 49 22.8	+1.0
LYN				pmax	pmax		
comp=Z,51nm,0.6s							
BJT	**Baijiatuau**	**36.47**	**321**	P	**P**	**12 49 04.3**	**+1.1**
BJI	**Beijing**	**36.48**	**321**	P	**P**	**12 49 03.3**	**+0.1**
BJI				pP	**pP**	**12 49 25.3**	**+0.6**
BJI				sP	**sP**	**12 49 37.5**	**+2.0**
BJI				PcP	**PcP**	**12 51 25.8**	**+0.6**
BJI				S	**S**	**12 54 36.8**	**-1.4**
BJI				pmax	pmax		
comp=Z,4.0nm,0.8s							
BJI				pmax	pmax		
comp=Z,49nm,4.6s							
BJI				LR	LR		
comp=Z,62nm,17.9s							
BJI				LR	LR		
comp=Z,47nm,15.2s							
BJI				LR	LR		
comp=Z,93nm,18.6s							
TYV	**Tymovskoe**	**36.84**	**357**	*e*P	**P**	**12 49 05.2**	**-0.9**
TYV				pmax	pmax		
comp=Z,14nm,0.8s							
TYV				pmax	pmax		
comp=Z,100nm,2.4s							
ENH	**Enshi**	**36.84**	**302**	P	**P**	**12 49 07.4**	**+0.8**
KSM	**Kuching**	**36.90**	**253**	P	**P**	**12 49 06.4**	**-0.8**
KSM	**Kuching**	**36.90**	**253**	P	**P**	**12 49 06.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**37.40**	**212**	P	**P**	**12 49 11.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**38.25**	**236**	P	**P**	**12 49 16.9**	**-1.6**
JAGI				IAmb	IAmb	12 49 17.9	
comp=Z,31nm,0.7s							
GYA	**Guiyang**	**38.30**	**295**	⇓P	**P**	**12 49 20.6**	**+1.6**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**38.59**	**308**	⇑P	**P**	**12 49 21.4**	**+0.2**
XAN				pP	pP	12 49 43.5	+0.6
XAN				pmax	pmax		
comp=Z,11nm,0.5s							
HEH	**HeiHe**	**39.03**	**342**	*e*P	**P**	**12 49 23.9**	**-0.7**
HEH				pmax	pmax		
comp=Z,21nm,0.6s							
AS15	**Alice Springs**	**39.07**	**197**	P	**P**	**12 49 25.2**	**-0.1**
comp=Z,17nm,0.6s							
AS17	**Alice Springs**	**39.07**	**197**	P	**P**	**12 49 25.0**	**-0.3**
comp=Z,12nm,0.9s							
AS01	**Alice Springs**	**39.08**	**197**	P	**P**	**12 49 25.6**	**+0.2**
AS31	**Alice Springs**	**39.10**	**197**	P	**P**	**12 49 25.2**	**-0.3**
comp=Z,7.9nm,0.6s							
AS31	**Alice Springs**	**39.10**	**197**	P	**P**	**12 49 25.5**	**0.0**
ASAR	**Alice Springs**	**39.10**	**197**	P	**P**	**12 49 25.3**	**-0.2**
comp=Z,7.2nm,0.7s,baz=21,slow=11,SNR=125							
ASAR				ScP	**ScP**	**12 55 13.0**	**-0.4**
comp=Z,1.5nm,0.9s,baz=17,slow=3.9,SNR=7.2							
comp=Z,7.2nm,0.7s							
AS09	**Alice Springs**	**39.12**	**197**	P	**P**	**12 49 25.5**	**-0.2**
comp=Z,12nm,0.8s							
AUALC	**St Philip's Co**	**39.13**	**197**	P	**P**	**12 49 26.8**	**+1.1**
HHC	**Hu-ho-hao-te**	**39.83**	**319**	*e*P	**P**	**12 49 32.9**	**+1.3**
HHC				pmax	pmax		
comp=Z,14nm,0.5s							
HHC				pmax	pmax		
comp=Z,77nm,4.0s							
HHC				LR	LR		
comp=Z,89nm,9.6s							
HHC				LR	LR		
comp=Z,69nm,9.4s							
HHC				LR	LR		
comp=Z,96nm,9.2s							
SLVN	**Son La**	**40.16**	**287**	P	**P**	**12 49 34.4**	**-0.1**
SLVN	**Son La**	**40.16**	**287**	P	**P**	**12 49 35.1**	**+0.6**
PETK	**Petropavlovsk-**	**40.21**	**11**	P	**P**	**12 49 33.7**	**-0.7**
comp=Z,7.5nm,0.7s,baz=161,slow=7.1,SNR=25							
PETK				PcP	**PcP**	**12 51 36.4**	**-0.2**
comp=Z,2.8nm,0.6s,baz=147,slow=2.5,SNR=4.1							
comp=Z,7.5nm,0.7s							
PET	**Petropavlovsk**	**40.32**	**12**	P	**P**	**12 49 35.4**	**+0.2**
PET				IAmb	IAmb	12 50 38.2	
comp=Z,25nm,1.0s							
PET	**Petropavlovsk**	**40.32**	**12**	P	**P**	**12 49 34.8**	**-0.4**
comp=Z,20nm,0.8s							
QLP	**Quilpie**	**40.35**	**182**	P	**P**	**12 49 36.7**	**+0.9**
RMQ	**Roma**	**40.37**	**175**	P	**P**	**12 49 34.0**	**-1.9**
comp=Z,82nm,0.9s							
RMQ	**Roma**	**40.37**	**175**	P	**P**	**12 49 35.5**	**-0.5**
PCJI	**Pacitan**	**40.53**	**239**	P	**P**	**12 49 36.6**	**-0.9**
comp=Z,104nm,1.2s							
BTO	**Baotou**	**40.71**	**317**	*e*P	**P**	**12 49 43.0**	**+4.2**
BTO				pP	**pwP**	**12 50 05.6**	**+2.3**
BTO				sP	**sP**	**12 50 17.8**	**+6.6**
BTO				pmax	pmax		
comp=Z,35nm,1.0s							
BTO				pmax	pmax		
comp=Z,210nm,6.9s							
TPI	**Tanjungpandan**	**41.00**	**249**	P	**P**	**12 49 40.5**	**-0.9**
comp=Z,789nmcomp=Z,71nm,0.8s							
HIA	**Hailar**	**41.02**	**334**	P	**P**	**12 49 42.2**	**+1.1**
HIA	**Hailar**	**41.02**	**334**	P	**P**	**12 49 41.6**	**+0.6**
HIA				sP	**sP**	**12 50 13.1**	**-0.6**
HILR	**Hailar Array B**	**41.23**	**335**	P	**P**	**12 49 43.3**	**+0.4**
comp=Z,13nm,0.5s,baz=137,slow=10,SNR=18							
HILR				PcP	**PcP**	**12 51 41.1**	**+1.0**
comp=Z,0.7nm,0.3s,baz=145,slow=3.5,SNR=2.0							
comp=Z,13nm,0.5s							
INKA	**Innaminka**	**41.74**	**186**	P	**P**	**12 49 47.0**	**-0.1**
KPJI	**Karang Pucung**	**41.98**	**242**	P	**P**	**12 49 48.2**	**-1.2**
comp=Z,54nm,1.1s							
ZEA	**Zeya**	**42.17**	**344**	*e*P	**P**	**12 49 49.8**	**-0.6**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
WRKA	**Warakurna**	**42.25**	**203**	P	**P**	**12 49 51.3**	**-0.1**
comp=Z,26nm,0.8s							
PZH	**PanZhiHua**	**42.65**	**294**	P	**P**	**12 49 56.4**	**+1.5**
MYKOM	**Kota Tinggi**	**42.86**	**257**	P	**P**	**12 49 56.5**	**-0.1**
MYKOM				IAmb	IAmb	12 49 57.1	
comp=Z,29nm,0.8s							
DSRI	**Dabo**	**42.95**	**254**	P	**P**	**12 49 56.1**	**-1.1**
comp=Z,70nm,0.8s							
BBJI	**Bungbulang**	**43.15**	**243**	P	**P**	**12 49 56.8**	**-2.1**
LZH	**Lanzhou**	**43.21**	**308**	*e*P	**P**	**12 50 01.3**	**+2.0**
LZH				pP	pP	12 50 23.1	+1.7
LZH				sP	sP	12 50 34.4	+2.3
LZH				pmax	pmax		
comp=Z,24nm,1.4s							
AULRC	**Lightning Ridg**	**43.24**	**177**	P	**P**	**12 49 59.6**	**+0.3**
LZDM	**Lanzhou Array**	**43.28**	**308**	P	**P**	**12 50 00.4**	**+0.4**
comp=Z,3.6nm,0.3s,baz=127,slow=9.5,SNR=4.2							
comp=Z,3.6nm,0.3s							
PSAC2	**Pilbara Seismi**	**43.33**	**216**	P	**P**	**12 49 59.8**	**-0.4**
comp=Z,28nm,0.8s							
PSAC1	**Pilbara Seismi**	**43.36**	**216**	P	**P**	**12 49 59.9**	**-0.5**
comp=Z,23nm,1.4s							
PSA00	**Pilbara Seismi**	**43.37**	**216**	P	**P**	**12 50 00.1**	**-0.4**
comp=Z,21nm,1.1s							
PSA00	**Pilbara Seismi**	**43.37**	**216**		**P**	**12 50 00.3**	**-0.2**
PSA00				IAmb	IAmb	12 50 41.9	
comp=Z,61nm,1.8s							
PSA00	**Pilbara Seismi**	**43.37**	**216**		**P**	**12 50 00.3**	**-0.2**
PSA00				IAmb	IAmb	12 50 22.5	
comp=Z,7.9nm,0.8s							
PSA00	**Pilbara Seismi**	**43.37**	**216**	P	**P**	**12 50 01.1**	**+0.6**
PSAB3	**Pilbara Seismi**	**43.38**	**216**	P	**P**	**12 50 00.2**	**-0.3**
comp=Z,20nm,0.9s							
CGJI	**Cibinong**	**44.45**	**245**	P	**P**	**12 50 05.6**	**-3.7**
CHTO	**Chiang Mai**	**44.77**	**283**	P	**P**	**12 50 11.7**	**-0.1**
CHTO	**Chiang Mai**	**44.77**	**283**	P	**P**	**12 50 12.2**	**+0.4**
CHTO				pmax	pmax		
comp=Z,6.0nm,1.7s							
CHTO	**Chiang Mai**	**44.77**	**283**	P	**P**	**12 50 11.9**	**0.0**
CHTO				pP	**pP**	**12 50 33.4**	**-0.7**
CHTO				sP	**sP**	**12 50 43.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**44.78**	**282**	P	**P**	**12 50 12.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.78**	**282**	P	**P**	**12 50 12.5**	**+0.6**
comp=Z,6.2nm,0.6s,baz=85,slow=6.0,SNR=60							
CMAR				PcP	**PcP**	**12 51 54.2**	**+1.6**
comp=Z,1.8nm,0.7s,baz=88,slow=3.2,SNR=4.4							
CMAR				ScP	**ScP**	**12 55 36.0**	**-0.3**
comp=Z,1.1nm,0.8s,baz=110,slow=2.4,SNR=6.4							
CMAR				LR	LR	13 08 02.8	
comp=Z,18nm,20.9s,baz=110,slow=35							
comp=Z,6.2nm,0.6s							
SHEM	**Shemya Is, Ala**	**44.86**	**24**	LR	LR	13 04 46.5	
comp=Z,82nm,21.3s,baz=306,slow=30							
SMY	**Shemya**	**44.86**	**24**	P	**P**	**12 50 13.5**	**+1.6**
SMY	**Shemya**	**44.86**	**24**	P	**P**	**12 50 14.5**	**+2.6**
SMY	**Shemya**	**44.86**	**24**	P	**P**	**12 50 13.5**	**+1.6**
SMY				pmax	pmax		
comp=Z,128nm,0.6s							
MDSI	**Maura Dua**	**44.87**	**249**	P	**P**	**12 50 10.8**	**-1.8**
comp=Z,879nmcomp=Z,104nm,1.0s							
KULM	**Kulim**	**44.94**	**263**	P	**P**	**12 50 13.5**	**+0.3**
MSVF	**Nonsavu**	**45.04**	**133**	*e*P	**P**	**12 50 11.0**	**-3.0**
MSVF				pmax	pmax		
comp=Z,36nm,1.2s							
MSVF	**Nonsavu**	**45.04**	**133**	P	**P**	**12 50 15.3**	**+1.3**
LWLI	**Liwa**	**45.20**	**248**	P	**P**	**12 50 13.2**	**-2.2**
TNCH	**TengChong**	**45.37**	**291**	P	**P**	**12 50 15.8**	**-0.9**
TNCH				pmax	pmax		
comp=Z,97nm,2.8s							
STKA	**Stephens Creek**	**45.76**	**185**	P	**P**	**12 50 19.1**	**-0.2**
comp=Z,89nm,1.2s							
STKA	**Stephens Creek**	**45.76**	**185**		**P**	**12 50 19.7**	**+0.4**
STKA	**Stephens Creek**	**45.76**	**185**	P	**P**	**12 50 19.7**	**+0.4**
comp=Z,7.1nm,0.6s,baz=350,slow=7.7,SNR=12							
STKA				LR	LR	13 09 40.1	
comp=Z,94nm,18.3s,baz=12,slow=36							
comp=Z,7.1nm,0.6s							
MASI	**Maura Aman, Be**	**46.10**	**252**	P	**P**	**12 50 20.4**	**-2.0**
ULN	**Ulaanbaatar**	**46.37**	**325**	P	**P**	**12 50 25.3**	**+1.1**
ULN	**Ulaanbaatar**	**46.37**	**325**	*ce*P	**P**	**12 50 21.7**	**-2.5**
ULN				pmax	pmax		
comp=Z,8.0nm,0.7s							
SONM	**Songino Array**	**46.73**	**324**	P	**P**	**12 50 27.7**	**+0.8**
SONM	**Songino Array**	**46.73**	**324**	P	**P**	**12 50 27.8**	**+0.8**
comp=Z,6.6nm,0.8s,baz=141,slow=8.4,SNR=23							
SONM				ScP

LSA	Lhasa	52.31	297	P	P	12 51 08.3	-1.8
NIKH	Nikolski High baz=240	53.03	33	P	P	12 51 14.4	+0.1
KNGR	Kungurtug, Tuv	53.15	324	*i* P	P	12 51 14.1	-1.4
KNGR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SPIA	Saint Paul Isl baz=236	54.55	28	P	P	12 51 26.0	+0.6
P08K	Saint George I baz=237	54.56	29	P	P	12 51 25.7	+0.2
UNV	Unalaska Valle baz=242	54.68	33	P	P	12 51 26.3	0.0
BILL	Bilibino	55.67	9	P	P	12 51 32.8	-0.5
BILL				IAmb	IAmb	12 51 33.4	
	comp=Z,28nm,0.9s						
BILL	Bilibino	55.67	9	*ce*P	P	12 51 33.0	-0.3
BILL				pmax	pmax		
	comp=Z,34nm,1.0s						
BILL	Bilibino	55.67	9	P	P	12 51 32.6	-0.6
BILL				pP	pP	12 51 54.8	-1.3
FALS	False Pass	56.75	33	P	P	12 51 43.1	+2.0
FALS	False Pass baz=245	56.75	33	P	P	12 51 41.7	+0.5
WMQ	Urumqi	57.27	313	*e*P	P	12 51 44.3	-0.9
S12K	Black Hills baz=246	57.81	32	P	P	12 51 48.4	-0.2
GAMB	Gambell baz=231	57.89	21	P	P	12 51 49.1	+0.1
M11K	Mekoryuk baz=239	58.06	26	P	P	12 51 50.8	+0.6
TIXI	Tiksi	58.49	354	*ce*P	P	12 51 52.5	-0.6
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	Tiksi	58.49	354	P	P	12 51 51.7	-1.4
SDPT	Sand Point	58.49	33	P	P	12 51 53.8	+0.4
SDPT	Sand Point baz=247,SNR=5.1	58.49	33	P	P	12 51 53.5	+0.1
CHNA	Chernabura Isl baz=248	58.77	34	P	P	12 51 55.4	+0.1
M13K	Dall Lake baz=242,SNR=9.0	59.30	27	P	P	12 52 00.1	+1.3
K13K	Kusilvak Mount baz=240,SNR=22	59.50	25	P	P	12 52 01.0	+0.8
O14K	Tigyukauivet M baz=244	59.71	28	P	P	12 52 02.2	+0.5
N14K	Kuskokwak Cree baz=244,SNR=10	59.81	28	P	P	12 52 03.1	+0.7
ZSN	Zaisan	59.99	317	*e*P	P	12 52 03.8	-0.2
ZSN	Zaisan	59.99	317	*e*P	P	12 52 03.7	-0.2
L14K	Kuka Creek baz=242,SNR=18	60.03	26	P	P	12 52 04.6	+0.7
M14K	Bethel baz=243,SNR=14	60.07	27	P	P	12 52 04.9	+0.8
TNA	Tin City baz=234	60.27	20	P	P	12 52 05.2	-0.3
O15K	Ungalikthiuk R baz=246,SNR=14	60.35	29	P	P	12 52 06.7	+0.6
J14K	Nanvaranak Lak comp=Z,25nm,0.9s	60.36	24	IAmb	IAmb	12 52 07.7	
J14K	Nanvaranak Lak baz=240,SNR=5.3	60.36	24	P	P	12 52 06.7	+0.7
M15K	Kasigluk River baz=244,SNR=13	60.60	27	P	P	12 52 08.0	+0.2
N15K	Kwethluk River	60.64	28		P	12 52 08.9	+0.8
N15K	Kwethluk River baz=245,SNR=15	60.64	28	P	P	12 52 08.8	+0.8
L15K	Ungalak Mounta baz=243,SNR=13	60.70	26	P	P	12 52 08.5	+0.1
F14K	Arctic Creek baz=236	60.77	21	P	P	12 52 09.1	+0.3
K15K	Wolf Creek Mou baz=242,SNR=11	60.96	25	P	P	12 52 10.8	+0.6
P16K	Nushagak River baz=248,SNR=8.6	61.16	30	P	P	12 52 12.5	+0.9
CHIR	Chirikof Islan baz=252	61.24	33	P	P	12 52 12.8	+0.6
G15K	Niukluk baz=239	61.32	22	P	P	12 52 12.5	-0.1
O16K	Kokwok River B baz=247,SNR=15	61.33	29	P	P	12 52 13.3	+0.6
N16K	Nishlik Lake baz=246,SNR=14	61.37	28	P	P	12 52 14.0	+1.0
R17L	Mt. Peulik Vol baz=250,SNR=10	61.45	31	P	P	12 52 13.4	-0.2
F15K	North Star Dit baz=238	61.48	21	P	P	12 52 13.8	+0.1
M16K	Timber Creek baz=246,SNR=11	61.51	27	P	P	12 52 14.5	+0.6
L16K	Owhat River comp=Z,20nm,0.6s	61.57	26	IAmb	IAmb	12 52 15.0	
L16K	Owhat River baz=245,SNR=8.4	61.57	26	P	P	12 52 14.5	+0.2
MK31	Makanchi Array	61.59	316	*ce*P	P	12 52 15.8	+1.0
MKAR	Makanchi Array	61.59	316	P	P	12 52 14.4	-0.4
MKAR	Makanchi Array	61.59	316	P	P	12 52 15.1	+0.3
	comp=Z,3.7nm,0.4s,baz=90,slow=8.9,SNR=52						
	comp=Z,3.7nm,0.4s						
ZAA0	Zalesovo Array	61.62	324	P	P	12 52 14.4	-0.4
ZALV	Zalesovo Beam	61.62	324	P	P	12 52 14.6	-0.2
ZALV	Zalesovo Beam	61.62	324	P	P	12 52 14.2	-0.6
	comp=Z,2.9nm,0.3s,baz=106,slow=7.9,SNR=24						
	comp=Z,2.9nm,0.3s						
ZALV	Zalesovo Beam	61.62	324	P	P	12 52 14.6	-0.2
Q16K	King Salmon baz=249	61.68	30	P	P	12 52 14.5	-0.6
J16K	Anvik River comp=Z,28nm,0.9s	61.80	24	IAmb	IAmb	12 52 17.5	
J16K	Anvik River baz=243,SNR=11	61.80	24	P	P	12 52 16.5	+0.7
H16K	Elim baz=241	61.80	23	P	P	12 52 15.4	-0.4
MAKZ	Makanchi	61.80	316	P	P	12 52 16.3	+0.1
MAKZ	Makanchi	61.80	316	P	P	12 52 16.3	+0.1
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAKZ	Makanchi	61.80	316	P	P	12 52 16.6	+0.4
MAKZ				pP	pP	12 52 39.3	-0.5
O17K	Koliganek Bris baz=248,SNR=25	61.87	29	P	P	12 52 16.7	+0.3
Q17K	Contact Creek baz=250	61.91	31	P	P	12 52 15.9	-0.9
I17K	Unalakleet comp=Z,29nm,0.8s	62.04	24	IAmb	IAmb	12 52 19.1	
I17K	Unalakleet baz=243,SNR=7.9	62.04	24	P	P	12 52 18.1	+0.7
N17K	Nushagak Hills baz=248,SNR=21	62.11	28	P	P	12 52 18.8	+0.9
G16K	Koyuk River baz=240	62.13	22	P	P	12 52 18.0	0.0
ACHA	Angle Creek He comp=Z,12nm,0.8s	62.17	31	IAmb	IAmb	12 52 18.7	
SII	Sitkinak Islan	62.23	33	P	P	12 52 20.0	+1.1
SII	Sitkinak Islan baz=252,SNR=6.8	62.23	33	P	P	12 52 19.8	+0.9
L17K	Donlin baz=246,SNR=11	62.26	26	P	P	12 52 19.9	+1.0
M17K	Holitna River baz=247,SNR=21	62.33	27	P	P	12 52 20.3	+0.9
R18K	Karluk baz=252	62.40	32	P	P	12 52 20.4	+0.4
J17K	VABM Dome comp=Z,34nm,0.8s	62.46	25	IAmb	IAmb	12 52 22.1	
J17K	VABM Dome baz=244,SNR=17	62.46	25	P	P	12 52 21.0	+0.7
Q18K	Katmai Hardscr baz=251,SNR=11	62.47	31	P	P	12 52 19.7	-0.9
K17K	Iditarod baz=246,SNR=39	62.49	26	P	P	12 52 21.3	+0.8
P18K	Big Mountain, baz=250	62.62	30	P	P	12 52 21.5	+0.1
C16K	Lisburne Hills comp=Z,23nm,0.9s	62.66	18	IAmb	IAmb	12 52 23.8	
C16K	Lisburne Hills baz=236	62.66	18	P	P	12 52 21.1	-0.4
N18K	Kilae Creek comp=Z,43nm,1.0s	62.76	28	IAmb	IAmb	12 52 24.1	
N18K	Kilae Creek baz=249,SNR=11	62.76	28	P	P	12 52 23.3	+1.0
O18K	Koktuh Hills baz=250,SNR=13	62.79	29	P	P	12 52 23.3	+0.8
G17K	Kiwalik Mounta baz=242,SNR=8.6	62.81	22	P	P	12 52 22.7	+0.2
H17K	Granite Mounta comp=Z,16nm,0.7s	62.82	23	IAmb	IAmb	12 52 24.0	
H17K	Granite Mounta baz=243,SNR=12	62.82	23	P	P	12 52 22.8	+0.2
OHAK	Old Harbor	62.90	32	P	P	12 52 24.1	+0.9
OHAK	Old Harbor baz=253,SNR=8.2	62.90	32	P	P	12 52 23.5	+0.3
L18K	Granite Mounta	62.98	26	IAmb	IAmb	12 52 25.7	
	comp=Z,44nm,1.1s						
L18K	Granite Mounta baz=247,SNR=15	62.98	26	P	P	12 52 24.5	+0.7
F17K	Baldwin Pennin	63.05	21	IAmb	IAmb	12 52 25.2	
	comp=Z,41nm,1.0s						
F17K	Baldwin Pennin baz=241,SNR=9.7	63.05	21	P	P	12 52 24.1	+0.1
D17K	Noatak River baz=238,SNR=14	63.07	20	P	P	12 52 24.3	+0.1
SHLS	Shalkode	63.07	311	*e*P	P	12 52 22.5	-2.4
SHLS	Shalkode	63.07	311	*e*P	P	12 52 22.4	-2.4
M18K	Stony River baz=248,SNR=15	63.09	27	P	P	12 52 25.5	+1.1
E17K	Hotham Inlet baz=240,SNR=9.3	63.17	20	P	P	12 52 25.1	+0.2
Q19K	Cape Douglas, baz=252,SNR=7.4	63.24	31	P	P	12 52 24.9	-0.7
RDOG	Red Dog Mine baz=238	63.31	19	P	P	12 52 25.9	+0.1
O19K	Port Alsworth comp=Z,46nm,1.1s	63.32	29	IAmb	IAmb	12 52 27.7	
O19K	Port Alsworth baz=251,SNR=7.6	63.32	29	P	P	12 52 26.6	+0.6
UZB	Uzynbulak	63.39	311	*e*P	P	12 52 26.7	-0.4
UZB	Uzynbulak	63.39	311	*e*P	P	12 52 26.6	-0.4
KDAK	Kodiak Island	63.43	32	P	P	12 52 27.4	+0.7
KDAK				IAmb	IAmb	12 52 28.7	
	comp=Z,40nm,0.8s						
KDAK	Kodiak Island	63.43	32	P	P	12 52 27.4	+0.7
KDAK				pmax	pmax		
	comp=Z,40nm,0.8s						
KDAK	Kodiak Island baz=253	63.43	32	P	P	12 52 27.4	+0.7
KDAK	Kodiak Island	63.43	32	P	P	12 52 27.5	+0.8
C17K	DeLong Mountai baz=236	63.45	19	P	P	12 52 27.1	+0.3
N19K	Bonanza Creek baz=250,SNR=28	63.45	28	P	P	12 52 27.9	+0.8
J18K	Innoko River	63.46	25	P	P	12 52 27.1	+0.2
J18K	Innoko River baz=247,SNR=6.8	63.46	25	P	P	12 52 26.8	-0.1
H18K	Honhosa River comp=Z,20nm,0.7s	63.51	23	IAmb	IAmb	12 52 28.0	
H18K	Honhosa River baz=244,SNR=9.5	63.51	23	P	P	12 52 27.1	-0.1
P19K	Oil Pt baz=252,SNR=13	63.66	30	P	P	12 52 28.1	-0.3
F18K	Selawik baz=242	63.69	21	P	P	12 52 28.0	-0.3
G18K	Tagagawik comp=Z,27nm,0.9s	63.73	22	IAmb	IAmb	12 52 29.5	
G18K	Tagagawik baz=244,SNR=13	63.73	22	P	P	12 52 28.6	0.0
E18K	Tukpahlearik C comp=Z,22nm,0.8s	63.75	20	IAmb	IAmb	12 52 29.9	
E18K	Tukpahlearik C baz=241	63.75	20	P	P	12 52 28.9	+0.2
Q20K	Shuyak Island baz=253,SNR=8.4	63.76	31	P	P	12 52 29.2	+0.3
L19K	White Mountain comp=Z,37nm,0.9s	63.77	27	IAmb	IAmb	12 52 30.5	
L19K	White Mountain baz=249,SNR=28	63.77	27	P	P	12 52 29.6	+0.6
ILSW	Iliamna Southw	63.81	29		P	12 52 28.6	-0.8
ILSW				IAmb	IAmb	12 52 31.3	
	comp=Z,24nm,0.8s						
SATY	Saty	63.83	311	*e*P	P	12 52 29.6	-0.3
SATY	Saty	63.83	311	*e*P	P	12 52 29.6	-0.3
M19K	Big River Lodg comp=Z,22nm,0.9s	63.87	27	IAmb	IAmb	12 52 31.4	
M19K	Big River Lodg baz=250	63.87	27	P	P	12 52 30.2	+0.5
GCSA	Galena City Sc baz=246,SNR=7.8	63.91	24	P	P	12 52 29.8	0.0
TDK	Taldyqorghan comp=Z,9.1nm,0.6s	64.02	313	*e*P	P	12 52 30.9	-0.1
TDK	Taldyqorghan	64.02	313	*e*P	P	12 52 30.8	-0.1
TDK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
O20K	Slope Mountain baz=252	64.09	29	P	P	12 52 31.5	+0.3
J19K	Poorman comp=Z,30nm,0.7s	64.11	25	IAmb	IAmb	12 52 32.5	
J19K	Poorman baz=248,SNR=26	64.11	25	P	P	12 52 31.6	+0.4
C18K	Utukok River baz=240	64.16	19	P	P	12 52 31.2	-0.2
HYB	Hyderabad	64.20	283	*e*P	P	12 52 32.4	-0.3
HYB				*es*P	sP	12 53 05.8	-1.0
HYB				*e*S	S	13 01 02.9	-0.1
B18K	Kokolik River baz=239	64.34	18	P	P	12 52 32.6	+0.1
H19K	Roundabout Mou comp=Z,27nm,0.9s	64.39	23	IAmb	IAmb	12 52 34.3	
H19K	Roundabout Mou baz=246,SNR=19	64.39	23	P	P	12 52 33.4	+0.5
HOM	Homer baz=253	64.44	30	P	P	12 52 33.0	-0.3
F19K	Shaleruckik Mo baz=244	64.46	22	P	P	12 52 33.2	-0.2
SPCR	Spurr Chakacha baz=252	64.63	28	P	P	12 52 34.8	+0.2
KURK	Kurchatov	64.64	320		P	12 52 34.4	-0.3
KURK				IAmb	IAmb	12 53 00.5	
	comp=Z,17nm,0.8s						
KURK	Kurchatov	64.64	320	*ce*P	P	12 52 34.9	+0.1
KURK				pmax	pmax		
	comp=Z,23nm,1.3s						
KURK	Kurchatov	64.64	320	P	P	12 52 34.5	-0.3
KURK				x	x	12 52 59.4	
KURBB	Kurchatov Arra	64.68	320	P	P	12 52 34.8	-0.3
	comp=Z,11nm,0.6s,baz=100,slow=6.8,SNR=44						
	comp=Z,11nm,0.6s						
J20K	Nowinta River baz=249,SNR=36	64.78	25	P	P	12 52 36.4	+0.9
MDOK	Medeo	64.83	311	*e*P	P	12 52 36.2	-0.2
MDOK	Medeo	64.83	311	*e*P	P	12 52 36.2	-0.2
I20K	Naaghedeneel baz=248,SNR=12	64.88	24	P	P	12 52 36.8	+0.7
C19K	Lookout Ridge comp=Z,35nm,1.0s	64.89	19	IAmb	IAmb	12 52 38.0	
C19K	Lookout Ridge baz=241	64.89	19	P	P	12 52 37.0	+0.8
TNSS	Tian-Shan	64.89	311	*e*P	P	12 52 36.5	-0.7
TNSS	Tian-Shan	64.89	311	*e*P	P	12 52 36.5	-0.7
BRSE	Bradley Lake S baz=254,SNR=7.5	64.90	30	P	P	12 52 36.3	-0.1
E19K	Redstone River comp=Z,21nm,0.8s	64.92	21	IAmb	IAmb	12 52 38.3	
E19K	Redstone River baz=244,SNR=8.8	64.92	21	P	P	12 52 36.6	+0.3
H20K	Anotleneega Mo baz=248,SNR=11	64.98	23	P	P	12 52 37.2	+0.4
A19K	Wainwright baz=239	64.99	18	P	P	12 52 37.0	+0.3
CAPN	Captain Cook N baz=253	64.99	29	P	P	12 52 37.0	+0.1
D19K	Kuna River comp=Z,14nm,0.7s	65.08	20	IAmb	IAmb	12 52 37.9	
D19K	Kuna River baz=243	65.08	20	P	P	12 52 37.4	-0.1
PPLA	Purkeypile baz=251,SNR=31	65.17	27	P	P	12 52 38.6	+0.3
SKT	Skwentna baz=252,SNR=22	65.17	28	P	P	12 52 37.6	-0.6
F20K	Avaraart Lake baz=246,SNR=12	65.28	22	P	P	12 52 38.9	+0.2
CHUM	Lake Minchumin baz=251,SNR=18	65.44	26	P	P	12 52 40.2	+0.5
O22K	Cooper Landing baz=255,SNR=22	65.59	29	P	P	12 52 40.7	-0.1
IMAR	Indian Mountai	65.60	23	P	P	12 52 40.8	0.0
E20K	Nigu River baz=245,SNR=11	65.62	20	P	P	12 52 41.2	+0.2
SEW	Seward baz=255,SNR=10	65.62	30	P	P	12 52 41.0	0.0
D20K	Etivluk River comp=Z,51nm,1.1s	65.67	20	IAmb	IAmb	12 52 42.3	
D20K	Etivluk River baz=245,SNR=9.7	65.67	20	P	P	12 52 41.2	0.0
RC01	Rabbit Creek A baz=254,SNR=35	65.74	29	P	P	12 52 41.6	-0.2
M22K	Willow baz=254,SNR=22	65.75	28	P	P	12 52 41.1	-0.7
H21K	Melozitna Rive comp=Z,24nm,0.8s	65.84	24	IAmb	IAmb	12 52 43.8	
H21K	Melozitna Rive baz=250,SNR=22	65.84	24	P	P	12 52 42.8	+0.4
CUT	Chulitna baz=253,SNR=23	65.87	27	P	P	12 52 41.7	-0.8
G21K	Allakaket baz=248	65.89	23	P	P	12 52 42.8	+0.2
I21K	Tanana comp=Z,25nm,0.8s	66.00	24	IAmb	IAmb	12 52 44.9	
I21K	Tanana baz=251,SNR=17	66.00	24	P	P	12 52 44.0	+0.6
BPAW	Bear Paw Mtn. comp=Z,40nm,0.8s	66.06	25	IAmb	IAmb	12 52 44.9	
BPAW	Bear Paw Mtn. baz=252,SNR=40	66.06	25	P	P	12 52 44.0	+0.2
B20K	Meade River comp=Z,34nm,0.8s	66.07	18	IAmb	IAmb	12 52 44.7	
B20K	Meade River baz=244	66.07	18	P	P	12 52 43.9	+0.2
F21K	Alatna River baz=248,SNR=5.2	66.16	22	P	P	12 52 45.1	+0.7
PMR	Palmer	66.16	28	P	P	12 52 44.1	-0.3
PMR	Palmer baz=255,SNR=26	66.16	28	P	P	12 52 43.8	-0.6
TRF	Thorofare Moun comp=Z,42nm,1.0s	66.16	26	IAmb	IAmb	12 52 44.9	
TRF	Thorofare Moun baz=253,SNR=22	66.16	26	P	P	12 52 44.0	-0.6
PWL	Port Wells baz=256,SNR=56	66.35	29	P	P	12 52 45.9	+0.2
KNK	Knik Glacier baz=256,SNR=23	66.42	29	P	P	12 52 46.2	0.0
E21K	Killik River baz=247	66.45	21	P	P	12 52 46.4	+0.2
MLY	Manley comp=Z,37nm,0.7s	66.45	25	IAmb	IAmb	12 52 47.5	
MLY	Manley baz=252,SNR=32	66.45	25	P	P	12 52 46.4	+0.1
C21K	Knifeblade Rid baz=246	66.46	20	P	P	12 52 46.6	+0.4
H22K	Ishtalitna Cre baz=251	66.48	24	P	P	12 52 46.8	+0.4
SML	Sawmill baz=256,SNR=35	66.58	28	P	P	12 52 47.3	+0.1
P23K	Montague Islan baz=257	66.59	30	P	P	12 52 47.8	+0.6
SGDS	Sogindy	66.61	311	*e*P	P	12 52 47.6	-0.2
B21K	Ikpikpuk River baz=246	66.70	19	P	P	12 52 48.0	+0.2
F22K	John River baz=249,SNR=12	66.73	22	P	P	12 52 48.7	+0.7
WAT1	Susitna Watana baz=255	66.75	27	P	P	12 52 47.8	-0.4
RND	Reindeer comp=Z,44nm,1.0s	66.77	27	IAmb	IAmb	12 52 49.1	
G22K	Bettles baz=250	66.77	22	P	P	12 52 48.3	0.0
MCK	McKinley baz=254,SNR=8.9	66.82	26	P	P	12 52 47.9	-0.7
M23K	Glacier View baz=256,SNR=17	66.86	28	P	P	12 52 48.9	-0.1
GLI	Glacier Island baz=257,SNR=7.3	66.94	29	P	P	12 52 49.6	+0.2
Q23K	Middleton Isla baz=258	66.99	31	P	P	12 52 49.2	-0.5
NEA2	Nenana baz=254,SNR=16	67.01	25	P	P	12 52 49.1	-0.7
WAT6	Susitna Watana baz=256,SNR=31	67.05	28	P	P	12 52 50.2	-0.1
I23K	Minto, Yukon-K comp=Z,31nm,0.7s	67.05	25	IAmb	IAmb	12 52 51.3	
I23K	Minto, Yukon-K baz=253,SNR=27	67.05	25	P	P	12 52 50.2	+0.2
D22K	Ayikyak River comp=Z,25nm,0.9s	67.05	20	IAmb	IAmb	12 52 51.4	
D22K	Ayikyak River baz=248	67.05	20	P	P	12 52 50.4	+0.3
SCM	Sheep Creek Mo baz=256,SNR=21	67.05	28	P	P	12 52 50.6	+0.4
E22K	Anaktuvuk Pass comp=Z,21nm,0.8s	67.08	21	IAmb	IAmb	12 52 52.0	
E22K	Anaktuvuk Pass baz=250,SNR=11	67.08	21	P	P	12 52 50.3	+0.1
H23K	Yukon River comp=Z,20nm,0.8s	67.17	24	IAmb	IAmb	12 52 52.2	
H23K	Yukon River baz=253,SNR=17	67.17	24	P	P	12 52 51.3	+0.4
G23K	Bananza Creek comp=Z,22nm,0.8s	67.26	23	IAmb	IAmb	12 52 52.8	
G23K	Bananza Creek baz=252,SNR=11	67.26	23	P	P	12 52 51.8	+0.4
DHY	Denali Highway comp=Z,27nm,0.7s	67.33	27	IAmb	IAmb	12 52 53.5	
DHY	Denali Highway baz=256,SNR=26	67.33	27	P	P	12 52 51.7	-0.3
COLD	Coldfoot comp=Z,26nm,0.7s	67.36	22	IAmb	IAmb	12 52 53.9	
COLD	Coldfoot baz=252,SNR=6.6	67.36	22	P	P	12 52 52.4	+0.5
B22K	Teshekpuk Lake baz=247	67.37	19	P	P	12 52 51.7	-0.3
CCB	Clear Creek Bu comp=Z,46nm,1.4s	67.55	25	IAmb	IAmb	12 52 53.0	
COLA	College	67.59	25	P	P	12 52 53.4	0.0
COLA	College	67.59	25	P	P	12 52 53.1	-0.3
COLA	College	67.59	25	*i* P	P	12 52 52.4	-1.0
COLA				pmax	pmax		
	comp=Z,22nm,0.6s						
COLA	College baz=255	67.59	25	P	P	12 52 52.8	-0.5
COLA	College	67.59	25	P	P	12 52 52.9	-0.5
COLA				sP	sP	12 53 25.7	-1.2
KLU	Klutina baz=258,SNR=16	67.63	29	P	P	12 52 54.5	+0.6
M24K	Tolsona, Glenn baz=257,SNR=13	67.64	28	P	P	12 52 54.6	+0.6
D23K	Nanushuk River comp=Z,25nm,0.9s	67.76	20	IAmb	IAmb	12 52 56.2	
D23K	Nanushuk River baz=250,SNR=6.1	67.76	20	P	P	12 52 54.8	+0.3
POKR	Poker Plat Res comp=Z,11nm,0.6s	67.82	25	IAmb	IAmb	12 52 57.7	
POKR	Poker Plat Res baz=255	67.82	25	P	P	12 52 54.1	-0.9
E23K	Chandalar comp=Z,40nm,0.8s	67.83	22	IAmb	IAmb	12 52 57.3	
E23K	Chandalar baz=252	67.83	22	P	P	12 52 55.8	+0.8
H24K	Noodoo Dome comp=Z,24nm,1.0s	67.83	24	IAmb	IAmb	12 52 56.4	
HDA	Harding Lake comp=Z,29nm,0.6s	67.84	26	IAmb	IAmb	12 52 54.7	
HDA	Harding Lake baz=256,SNR=27	67.84	26	P	P	12 52 54.0	-1.1
ILAR	Eielson Array	67.96	25	P	P	12 52 54.2	-1.5
	comp=Z,27nm,0.6s,baz=249,slow=6.0,SNR=325						
	comp=Z,27nm,0.6s						
RAGM	Ragged Mountai comp=Z,36nm,0.7s	68.01	30	IAmb	IAmb	12 52 59.0	
TOLK	Toolik Lake Re comp=Z,52nm,1.4s	68.03	21	IAmb	IAmb	12 52 57.8	
TOLK	Toolik Lake Re baz=252,SNR=5.1	68.03	21	P	P	12 52 56.4	+0.2
KAIM	Kayak Island baz=260	68.05	31	P	P	12 52 57.5	+1.1
C23K	Itkillik River baz=250	68.08	20	P	P	12 52 56.6	+0.2
BMRM	Bremner River baz=259,SNR=9.3	68.15	30	P	P	12 52 57.6	+0.5
PAX	Paxson baz=258,SNR=39	68.15	27	P	P	12 52 57.2	0.0
HARP	HAARP baz=258,SNR=19	68.17	28	P	P	12 52 57.8	+0.6
G24K	Hadweenzic Riv comp=Z,19nm,0.8s	68.23	23	IAmb	IAmb	12 52 58.8	
G24K	Hadweenzic Riv baz=254	68.23	23	P	P	12 52 57.8	+0.4
E24K	Your Creek comp=Z,29nm,1.2s	68.24	22	IAmb	IAmb	12 52 58.8	
E24K	Your Creek baz=253,SNR=8.5	68.24	22	P	P	12 52 57.9	+0.3
N25K	Chitina, Valde comp=Z,27nm,0.8s	68.27	29	IAmb	IAmb	12 52 59.4	
N25K	Chitina, Valde baz=259,SNR=11	68.27	29	P	P	12 52 58.5	+0.6
F24K	Squaw Lake baz=254,SNR=12	68.30	22	P	P	12 52 58.6	+0.7

D24K	**Happy Valley**	68.45	21	IAmb	IAmb	12 53 00.3
	comp=Z,46nm,0.8s					
D24K	**Happy Valley**	68.45	21	P	P	**12 52 59.4 +0.6**
	baz=252					
J25K	**Salcha River,**	68.56	26	P	P	**12 52 58.6 -1.0**
	baz=257					
RIDG	**Independent Ri**	68.59	27	IAmb	IAmb	12 53 00.6
	comp=Z,44nm,1.0s					
RIDG	**Independent Ri**	68.59	27	P	P	**12 52 59.6 -0.2**
	baz=258,SNR=22					
C24K	**Franklin Bluff**	68.67	20	P	P	**12 53 00.2 +0.1**
	baz=252					
PRP	**Porcupine Dome**	68.70	25	P	P	**12 52 59.1 -1.4**
	baz=257,SNR=6.7					
VRDI	**Verde Repeater**	68.75	29	IAmb	IAmb	12 53 02.1
	comp=Z,46nm,0.8s					
H25L	**Birch Creek**	68.76	24	P	P	**12 53 01.2 +0.5**
	baz=256,SNR=11					
G25K	**Bearman Lake**	68.77	23	P	P	**12 53 01.3 +0.5**
	baz=256					
CRQE	**Cirque**	68.84	30	P	P	**12 53 01.9 +0.3**
	baz=261,SNR=11					
WAX	**Waxell Ridge**	68.91	30	IAmb	IAmb	12 53 03.5
	comp=Z,45nm,0.9s					
TGL	**Tana Glacier**	68.97	30	IAmb	IAmb	12 53 03.7
	comp=Z,36nm,0.9s					
MCARA	**McCarthy VSAT**	68.98	29	P	P	**12 53 02.6 +0.4**
	baz=260,SNR=14					
SCRK	**Sand Creek**	69.01	26	IAmb	IAmb	12 53 03.2
	comp=Z,22nm,0.7s					
SCRK	**Sand Creek**	69.01	26	P	P	**12 53 02.3 -0.2**
	baz=259,SNR=25					
FYU	**Fort Yukon**	69.06	24	IAmb	IAmb	12 53 04.2
	comp=Z,70nm,1.2s					
L26K	**Log Cabin Wild**	69.11	28	IAmb	IAmb	12 53 04.2
	comp=Z,35nm,0.7s					
L26K	**Log Cabin Wild**	69.11	28	P	P	**12 53 03.5 +0.5**
	baz=260,SNR=31					
F25K	**Christian Rive**	69.15	23	IAmb	IAmb	12 53 05.0
	comp=Z,27nm,1.1s					
F25K	**Christian Rive**	69.15	23	P	P	**12 53 03.9 +0.6**
	baz=256					
M26K	**Nabesna, AK**	69.16	28	P	P	**12 53 03.6 +0.2**
	baz=260					
J26L	**Joseph Creek**	69.30	26	IAmb	IAmb	12 53 06.0
	comp=Z,36nm,0.8s					
J26L	**Joseph Creek**	69.30	26	P	P	**12 53 04.0 -0.3**
	baz=259,SNR=69					
E25K	**Arctic Village**	69.31	22	P	P	**12 53 04.7 +0.6**
	baz=256					
MESA	**MESA**	69.31	31	P	P	**12 53 05.5 +1.0**
	baz=262,SNR=7.2					
D25K	**Kavik River**	69.34	21	IAmb	IAmb	12 53 05.5
	comp=Z,44nm,1.3s					
D25K	**Kavik River**	69.34	21	P	P	**12 53 04.4 +0.1**
	baz=254					
BMAR	**Burnt Mountain**	69.51	23		P	**12 53 06.4 +1.0**
BARN	**Barnard Glacie**	69.58	30	IAmb	IAmb	12 53 07.6
	comp=Z,30nm,0.9s					
KKAR	**Karatay Array**	69.61	311		P	**12 53 06.7 +0.2**
KKAR	**Karatay Array**	69.61	311	P	P	**12 53 06.7 +0.2**
I26K	**Coal Creek Min**	69.62	25	P	P	**12 53 05.3 -0.8**
	baz=259					
M27K	**Edge Creek, AK**	69.67	28	IAmb	IAmb	12 53 07.9
	comp=Z,35nm,0.9s					
M27K	**Edge Creek, AK**	69.67	28	P	P	**12 53 07.0 +0.4**
	baz=261,SNR=20					
G26K	**Porcupine Rive**	69.70	23	IAmb	IAmb	12 53 09.9
	comp=Z,23nm,0.8s					
G26K	**Porcupine Rive**	69.70	23	P	P	**12 53 07.3 +0.8**
	baz=258,SNR=16					
CTG	**Chitna Glacier**	69.72	30	P	P	**12 53 07.5 +0.5**
	baz=262,SNR=22					
F26K	**Sheenjek River**	69.73	23	IAmb	IAmb	12 53 08.5
	comp=Z,24nm,0.9s					
F26K	**Sheenjek River**	69.73	23	P	P	**12 53 07.5 +0.8**
	baz=257					
L27K	**Beaver Creek,**	69.80	28	IAmb	IAmb	12 53 08.6
	comp=Z,24nm,0.8s					
L27K	**Beaver Creek,**	69.80	28	P	P	**12 53 07.6 +0.3**
	baz=261					
BCAR	**Beaver Creek A**	69.82	28		P	**12 53 07.8 +0.3**
K27K	**Chicken**	69.85	27	IAmb	IAmb	12 53 09.2
	comp=Z,31nm,1.0s					
K27K	**Chicken**	69.85	27	P	P	**12 53 08.1 +0.6**
	baz=260					
IUG	**Iuzhnay**	69.97	310	*e*P	P	**12 53 08.5 -0.4**
IUG	**Iuzhnay**	69.97	310	*e*P	P	**12 53 08.4 -0.4**
C26K	**Camden Bay**	69.99	20	P	P	**12 53 09.2 +0.9**
	baz=256					
BORK	**Borovoye**	70.00	322	*ce*P	P	**12 53 09.3 +0.7**
BORK				pmax	pmax	
	comp=Z,7.0nm,0.6s					
BORK	**Borovoye**	70.00	322	P	P	**12 53 08.4 -0.3**
BRLS	**Borolday**	70.11	311	*e*P	P	**12 53 10.0 +0.4**
BRLS	**Borolday**	70.11	311	*e*P	P	**12 53 09.9 +0.4**
PINM	**Pinnacle**	70.14	31	P	P	**12 53 10.0 +0.5**
	baz=264					
O28M	**Mount Upton**	70.25	30	P	P	**12 53 11.3 +0.9**
	baz=263,SNR=30					
I27K	**Kandik River**	70.31	25	P	P	**12 53 10.3 0.0**
	baz=260,SNR=11					
C27K	**Jago River**	70.32	21	IAmb	IAmb	12 53 11.6
	comp=Z,15nm,0.6s					
C27K	**Jago River**	70.32	21	P	P	**12 53 10.8 +0.5**
	baz=257					
EGAK	**Eagle**	70.36	26	IAmb	IAmb	12 53 12.4
	comp=Z,20nm,0.8s					
EGAK	**Eagle**	70.36	26	P	P	**12 53 10.6 0.0**
	baz=261,SNR=20					
H27K	**Steamboat Moun**	70.45	24	IAmb	IAmb	12 53 12.7
	comp=Z,39nm,0.7s					
H27K	**Steamboat Moun**	70.45	24	P	P	**12 53 11.8 +0.6**
	baz=260,SNR=27					
G27K	**Doyon Strip**	70.50	24	P	P	**12 53 11.9 +0.4**
	baz=260					
YUK8	**Steele Glacier**	70.52	30	P	P	**12 53 13.0 +1.0**
	baz=264,SNR=26					
PNL	**Peninsula**	70.53	31	P	P	**12 53 12.4 +0.6**
	baz=264					
E27K	**Coleen River**	70.78	22	P	P	**12 53 13.6 +0.5**
	baz=259					
I28M	**Miner Creek**	70.97	25	IAmb	IAmb	12 53 15.5
	comp=Z,21nm,0.7s					
I28M	**Miner Creek**	70.97	25	P	P	**12 53 14.7 +0.2**
	baz=262,SNR=20					
O29M	**Mount Kennedy**	71.00	31	P	P	**12 53 15.9 +1.2**
	baz=265,SNR=19					
DAWY	**Dawson**	71.02	27	IAmb	IAmb	12 53 16.2
	comp=Z,31nm,1.0s					
DAWY	**Dawson**	71.02	27	P	P	**12 53 15.2 +0.5**
	baz=263,SNR=31					
YUK4	**Talbot Arm**	71.06	30	P	P	**12 53 16.4 +1.2**
	baz=265,SNR=35					
YUK6	**Outpost Mounta**	71.16	30	P	P	**12 53 16.8 +1.0**
	baz=265,SNR=9.9					
D27M	**Malcolm River**	71.19	21	IAmb	IAmb	12 53 17.2
	comp=Z,15nm,0.7s					
D27M	**Malcolm River**	71.19	21	P	P	**12 53 16.9 +1.2**
	baz=260					
M29M	**Somme Creek**	71.26	28	P	P	**12 53 17.1 +0.9**
	baz=264,SNR=38					
F28M	**Old Crow**	71.32	23	IAmb	IAmb	12 53 17.9
	comp=Z,19nm,0.8s					
F28M	**Old Crow**	71.32	23	P	P	**12 53 16.8 +0.4**
	baz=261,SNR=14					
P29M	**Windy Craggy**	71.36	31	P	P	**12 53 18.0 +1.2**
	baz=266,SNR=12					
PPT2	**Papeete2**	71.37	114	*e*LR	LR	13 15 02.8
	comp=Z,69nm,24.0s					
L29M	**L29M**	71.48	28	P	P	**12 53 18.5 +1.0**
	baz=264,SNR=45					
HYT	**Haines Junctio**	71.57	30	P	P	**12 53 19.1 +1.0**
	baz=266,SNR=34					
J29N	**Klondike Camp**	71.58	26	IAmb	IAmb	12 53 20.6
	comp=Z,30nm,0.9s					
J29N	**Klondike Camp**	71.58	26	P	P	**12 53 18.8 +0.7**
	baz=264					
E28M	**Babbage River**	71.60	22	P	P	**12 53 18.8 +0.8**
	baz=261					
I29M	**Ogilvie Camp,**	71.64	25	IAmb	IAmb	12 53 19.5
	comp=Z,25nm,0.9s					
I29M	**Ogilvie Camp,**	71.64	25	P	P	**12 53 18.6 +0.2**
	baz=263,SNR=20					
H29M	**Whitestone**	71.72	25	IAmb	IAmb	12 53 20.1
	comp=Z,23nm,0.8s					
H29M	**Whitestone**	71.72	25	P	P	**12 53 19.3 +0.5**
	baz=263,SNR=9.6					
P30M	**Million Dollar**	71.79	31	P	P	**12 53 20.5 +1.1**
	baz=266					
N30M	**Aishikik Lake**	71.82	30	IAmb	IAmb	12 53 21.4
	comp=Z,37nm,0.8s					
N30M	**Aishikik Lake**	71.82	30	P	P	**12 53 20.5 +0.9**
	baz=266,SNR=16					
K29M	**Barlow Dome**	71.82	27	IAmb	IAmb	12 53 21.4
	comp=Z,42nm,0.8s					
K29M	**Barlow Dome**	71.82	27	P	P	**12 53 20.3 +0.6**
	baz=265,SNR=43					
G29M	**Pine Creek**	71.94	24	IAmb	IAmb	12 53 21.8
	comp=Z,27nm,0.9s					
G29M	**Pine Creek**	71.94	24	P	P	**12 53 20.6 +0.4**
	baz=263,SNR=10					
D28M	**Stokes Point**	71.99	21	P	P	**12 53 20.8 +0.4**
	baz=262					
M30M	**Minto, Yukon**	72.04	28	IAmb	IAmb	12 53 22.6
	comp=Z,30nm,0.9s					
M30M	**Minto, Yukon**	72.04	28	P	P	**12 53 21.7 +0.9**
	baz=266,SNR=14					
PLBC	**Pleasant Camp**	72.05	32	P	P	**12 53 22.0 +1.1**
	baz=267,SNR=20					
E29M	**Blow River**	72.17	22	P	P	**12 53 21.7 +0.3**
	baz=263					
O30N	**Mendenhall**	72.26	30	P	P	**12 53 22.8 +0.6**
	baz=267,SNR=5.3					
R31K	**City Hall, Gus**	72.33	33	P	P	**12 53 22.6 +0.1**
	baz=268					
EPYK	**Eagle Plains**	72.39	24	IAmb	IAmb	12 53 23.9
	comp=Z,22nm,0.5s					
EPYK	**Eagle Plains**	72.39	24	P	P	**12 53 23.1 +0.2**
	baz=265,SNR=10					
J30M	**Hart River**	72.40	26	IAmb	IAmb	12 53 24.6
	comp=Z,21nm,0.8s					
J30M	**Hart River**	72.40	26	P	P	**12 53 23.6 +0.5**
	baz=266,SNR=19					
I30M	**Mount Dempster**	72.43	26	P	P	**12 53 23.4 +0.1**
	baz=265,SNR=12					
N31M	**Braeburn, Yuko**	72.45	30	IAmb	IAmb	12 53 25.2
	comp=Z,58nm,1.1s					
N31M	**Braeburn, Yuko**	72.45	30	P	P	**12 53 24.2 +0.9**
	baz=267,SNR=14					
MAYO	**Mayo, Yukon**	72.52	27	P	P	**12 53 24.7 +1.1**
	baz=266,SNR=20					
SKAG	**Skagway**	72.58	32	IAmb	IAmb	12 53 26.0
	comp=Z,29nm,0.9s					
SKAG	**Skagway**	72.58	32	P	P	**12 53 25.5 +1.5**
SKAG	**Skagway**	72.58	32	P	P	**12 53 25.2 +1.1**
	baz=268,SNR=9.5					
G30M	**tAoh Zraii Nji**	72.65	24	IAmb	IAmb	12 53 25.9
	comp=Z,42nm,1.3s					
G30M	**tAoh Zraii Nji**	72.65	24	P	P	**12 53 24.4 0.0**
	baz=265					
BESE	**Bessie Mountai**	72.80	33	IAmb	IAmb	12 53 28.1
	comp=Z,83nm,1.4s					
WHY	**Whitehorse**	72.85	30	P	P	**12 53 26.7 +0.9**
	baz=268,SNR=16					
F30M	**Barrier River**	72.87	23	IAmb	IAmb	12 53 27.0
	comp=Z,33nm,1.0s					
F30M	**Barrier River**	72.87	23	P	P	**12 53 26.1 +0.5**
	baz=265					
S32K	**Killisnoo**	72.93	34	P	P	**12 53 26.9 +0.8**
	baz=269					
R32K	**Eaglecrest**	72.97	33	IAmb	IAmb	12 53 28.4
	comp=Z,32nm,0.8s					
R32K	**Eaglecrest**	72.97	33	P	P	**12 53 27.2 +0.8**
	baz=269,SNR=6.4					
JIS	**Juneau Island**	73.04	33	P	P	**12 53 28.1 +1.3**
M31M	**Drury Creek, Y**	73.14	29	IAmb	IAmb	12 53 28.7
	comp=Z,23nm,0.8s					
M31M	**Drury Creek, Y**	73.14	29	P	P	**12 53 27.8 +0.4**
	baz=268,SNR=16					
H31M	**Peel River**	73.32	25	IAmb	IAmb	12 53 29.7
	comp=Z,28nm,0.8s					
H31M	**Peel River**	73.32	25	P	P	**12 53 28.4 +0.1**
	baz=267,SNR=17					
P32M	**Atlin**	73.41	32	IAmb	IAmb	12 53 30.8
	comp=Z,36nm,0.9s					
P32M	**Atlin**	73.41	32	P	P	**12 53 29.9 +0.9**
	baz=269,SNR=12					
G31M	**Satah River**	73.41	24	IAmb	IAmb	12 53 29.7
	comp=Z,36nm,0.8s					
G31M	**Satah River**	73.41	24	P	P	**12 53 28.8 0.0**
	baz=267,SNR=15					
F31M	**Tsiigehtchic**	73.65	23	P	P	**12 53 29.7 -0.4**
	baz=267					
N32M	**Quiet Lake**	73.74	30	IAmb	IAmb	12 53 32.6
	comp=Z,46nm,0.9s					
N32M	**Quiet Lake**	73.74	30	P	P	**12 53 31.7 +0.8**
	baz=270,SNR=5.4					
CRAG	**Craig**	73.74	36	P	P	**12 53 31.7 +0.8**
	baz=271					
INK	**Inuvik**	73.77	22	P	P	**12 53 30.6 -0.3**
	baz=267,SNR=8.8					
T33K	**Petersburg**	73.81	35	P	P	**12 53 32.4 +1.0**
	baz=271					
P33M	**Teslin, Yukon**	73.86	31	P	P	**12 53 32.2 +0.5**
	baz=270,SNR=14					
Q32M	**Nakina River**	74.15	32	IAmb	IAmb	12 53 36.0
	comp=Z,57nm,1.4s					
Q32M	**Nakina River**	74.15	32	P	P	**12 53 34.6 +1.0**
	baz=271,SNR=7.6					
WRAK	**Wrangell Islan**	74.16	35	IAmb	IAmb	12 53 35.4
	comp=Z,31nm,0.8s					
WRAK	**Wrangell Islan**	74.16	35	P	P	**12 53 34.5 +1.2**
	baz=272					
S34M	**Telegraph Cree**	74.77	33	IAmb	IAmb	12 53 39.1
	comp=Z,47nm,0.8s					
S34M	**Telegraph Cree**	74.77	33	P	P	**12 53 38.3 +1.4**
	baz=272,SNR=22					
R33M	**Jennings River**	74.81	32	IAmb	IAmb	12 53 39.4
	comp=Z,40nm,0.9s					
R33M	**Jennings River**	74.81	32	P	P	**12 53 38.6 +1.4**
	baz=272,SNR=19					
T35M	**Bob Quinn**	75.29	34	IAmb	IAmb	12 53 42.2
	comp=Z,42nm,0.8s					
T35M	**Bob Quinn**	75.29	34	P	P	**12 53 41.3 +1.3**
	baz=273,SNR=13					
DLBC	**Dease Lake**	75.34	33	P	P	**12 53 41.4 +1.2**
	baz=273,SNR=28					
SVE	**Sverdlovsk**	75.58	326	*e*P	P	**12 53 43.7 +2.2**
WTLY	**Watson Lake, Y**	75.88	31	P	P	**12 53 44.3 +1.1**
	baz=274,SNR=18					
TGTN	**Hyland Airport**	76.05	30	P	P	**12 53 45.3 +1.1**
	baz=274,SNR=36					
ABKAR	**Akbulak array**	76.62	318		P	**12 53 47.1 -0.5**
ARTI	**Arti**	76.86	325	*c i*P	P	**12 53 49.4 +0.6**
ARTI				*PP	pP	**12 54 10.2 -3.1**
ARTI						12 56 38.6
ARTI				S	S	**13 03 31.1 +2.5**
ARTI				SS	SS	**13 08 27.3 +0.9**
ARTI				pmax	pmax	
	comp=Z,6.0nm,1.1s					
C36M	**Paulatuk**	77.18	21	P	P	**12 53 49.8 -0.5**
	baz=276					
LIRD	**Liard River Hi**	77.29	32	P	P	**12 53 52.1 +0.9**
	baz=276,SNR=14					
TOAD	**Toad River Com**	77.80	32	P	P	**12 53 54.4 +0.3**
	baz=277,SNR=7.2					
WRGLY	**Wrigley**	78.12	28	IAmb	IAmb	12 53 57.1
	comp=Z,44nm,0.9s					
WRGLY	**Wrigley**	78.12	28	P	P	**12 53 56.2 +0.6**
	baz=277,SNR=11					
KOTAN	**Kotaneelee Air**	78.24	31	P	P	**12 53 57.1 +0.7**
	baz=278,SNR=19					
B04A	**Port Angeles**	80.42	43	IAmb	IAmb	12 54 10.9
	comp=Z,31nm,0.9s					
GNW	**Green Mountain**	80.96	43	IAmb	IAmb	12 54 13.8
	comp=Z,20nm,0.8s					
KIRV	**Kirov**	81.30	328	*e*P	P	**12 54 12.0 -0.9**
KCPM	**Cabto Peak**	81.94	51	IAmb	IAmb	12 54 19.4
	comp=Z,31nm,0.8s					
YBH	**Yreka Blue Hor**	82.18	49	IAmb	IAmb	12 54 20.4
	comp=Z,21nm,0.8s					
YKAW3	**Yellowknife Wh**	82.22	27	IAmb	IAmb	12 54 18.6
	comp=Z,22nm,0.9s					
YKA	**Yellowknife Ar**	82.24	27		P	**12 54 17.2 -0.7**
YKA	**Yellowknife Ar**	82.24	27	P	P	**12 54 16.0 -1.8**
	comp=Z,12nm,0.8s,baz=342,slow=16,SNR=24					
	comp=Z,12nm,0.8s					
YKA	**Yellowknife Ar**	82.24	27	*ce*P	P	**12 54 17.0 -0.8**
YKA				pmax	pmax	
	comp=Z,7.0nm,0.7s					
YKAW1	**Yellowknife Wh**	82.30	27	IAmb	IAmb	12 54 19.0
	comp=Z,30nm,1.0s					
M03C	**McCloud**	82.71	49	IAmb	IAmb	12 54 22.9
	comp=Z,32nm,0.8s					
ALE	**Alert**	82.79	4	P	P	**12 54 20.0 -0.4**
ALE				PcP	PcP	**12 54 25.8 +0.7**
MXC	**Moxie City**	82.86	44	IAmb	IAmb	12 54 40.7
	comp=Z,36nm,1.6s					
J05D	**Fort Rock, OR**	82.92	47	IAmb	IAmb	12 54 24.1
	comp=Z,35nm,0.7s					
B08A	**Colville Reser**	83.09	42	IAmb	IAmb	12 54 23.7
	comp=Z,17nm,0.7s					
O03E	**Paynes Creek**	83.15	50	IAmb	IAmb	12 54 24.9
	comp=Z,27nm,1.1s					
K05A	**Summer Lake**	83.29	48	IAmb	IAmb	12 54 26.3
	comp=Z,29nm,0.9s					
WAH2	**Wahluke Slope**	83.31	44	IAmb	IAmb	12 54 25.4
	comp=Z,20nm,0.7s					
D08A	**Wollman Farm,**	83.67	43	IAmb	IAmb	12 54 27.2
	comp=Z,24nm,1.2s					
E08A	**Dider Farm, El**	83.71	44	IAmb	IAmb	12 54 30.6
	comp=Z,39nm,1.8s					
SPITS	**Spitsbergen Ar**	83.74	351	P	P	**12 54 23.9 -1.5**
	comp=Z,3.5nm,0.6s,baz=81,slow=5.3,SNR=6.7					
	comp=Z,3.5nm,0.6s					
C09A	**Chrisman Ranch**	83.92	42	IAmb	IAmb	12 54 27.9
	comp=Z,12nm,0.6s					
MHC	**Mount Hamilton**	83.92	53	IAmb	IAmb	12 54 29.4
	comp=Z,21nm,1.1s					
E09A	**Wood Farm, Sta**	84.32	44	IAmb	IAmb	12 54 30.6
	comp=Z,15nm,0.6s					
BEKR	**Beckworth**	84.33	50	IAmb	IAmb	12 54 30.9
	comp=Z,16nm,0.8s					
NEW	**Newport**	84.55	42	IAmb	IAmb	12 54 33.1
	comp=Z,19nm,0.8s					
NEW	**Newport**	84.55	42	P	P	**12 54 30.7 +0.6**
PAHR	**Pah Rah Range**	85.09	50	P	P	**12 54 33.9 +0.8**
PKD	**Bear Valley Ra**	85.10	54	IAmb	IAmb	12 54 35.3
	comp=Z,40nm,1.2s					
BMO	**Blue Mountains**	85.30	45	IAmb	IAmb	12 54 37.2
	comp=Z,15nm,0.8s					
WAKR	**Walker**	85.35	52	IAmb	IAmb	12 54 36.8
	comp=Z,30nm,1.7s					
PLID	**Pearl Lake**	86.14	45	IAmb	IAmb	12 54 39.2
	comp=Z,19nm,0.7s					
NVAR	**Mina Array Bea**	86.23	51	P	P	**12 54 39.9 +1.0**
	comp=Z,6.0nm,0.6s,baz=268,slow=5.8,SNR=69					
	comp=Z,6.0nm,0.6s					
ARCES	**ARCESS Array B**	86.87	342	P	P	**12 54 40.0 -1.0**
	comp=Z,5.8nm,0.6s,baz=67,slow=6.1,SNR=18					
	comp=Z,5.8nm,0.6s					
MSO	**Missoula**	87.02	43	IAmb	IAmb	12 54 44.3
	comp=Z,24nm,1.5s					
TPH	**Tonopah**	87.14	52	IAmb	IAmb	12 54 45.2
	comp=Z,20nm,1.3s					
TPO	**Tropico Hills**	87.19	55	IAmb	IAmb	12 54 45.8
	comp=Z,24nm,1.1s					
CLC	**China Lake**	87.45	54	IAmb	IAmb	12 54 47.3
	comp=Z,34nm,1.8s					
HLID	**Hailey**	87.66	46	IAmb	IAmb	12 54 47.5
	comp=Z,18nm,0.8s					
ELK	**Elko**	87.88	49	IAmb	IAmb	12 54 48.8
	comp=Z,20nm,0.7s					
ELK	**Elko**	87.88	49	P	P	**12 54 47.8 +1.0**
ELS	**Elsinore Mount**	88.16	56	IAmb	IAmb	12 54 50.7
	comp=Z,46nm,1.9s					
TPNV	**Topopah Spring**	88.19	52	P	P	**12 54 49.2 +0.9**
R11B	**Troy Canyon, C**	88.31	51	IAmb	IAmb	12 54 51.0
	comp=Z,21nm,1.5s					
DLMT	**Dillon**	88.35	44	IAmb	IAmb	12 54 51.1
	comp=Z,10nm,0.8s					
S11A	**Rachel**	88.38	52	IAmb	IAmb	12 54 51.4
	comp=Z,13nm,0.9s					
SHOC	**Shoshone, Teco**	88.46	53	IAmb	IAmb	12 54 51.4
	comp=Z,15nm,1.0s					
CPE	**Camp Elliot**	88.62	57	IAmb	IAmb	12 54 52.1
	comp=Z,14nm,0.7s					
DPP	**Dos Picos Cty**	88.72	56	IAmb	IAmb	12 54 52.5
	comp=Z,13nm,0.9s					
PFO	**Pinyon Flats O**	88.94	56	P	P	**12 54 52.4 +0.6**
PFO				IAmb	IAmb	12 54 54.4
	comp=Z,19nm,1.4s					
PFO	**Pinyon Flats O**	88.94	56	*i* P	P	**12 54 50.9 -0.9**
PFO				pmax	pmax	
	comp=Z,26nm,1.4s					
PRN	**Pahroc Range**	88.98	52	IAmb	IAmb	12 54 54.3
	comp=Z,16nm,1.3s					
SPR3	**Spring Creek 3**	89.06	50	IAmb	IAmb	12 54 54.8
	comp=Z,28nm,1.3s					
OBN	**Obninsk**	89.07	327	*e*P	P	**12 54 49.7 -2.0**
OBN				pmax	pmax	
	comp=Z,4.0nm,0.8s					
KBZ	**Khabaz**	89.28	315	P	P	**12 54 52.9 0.0**
	comp=Z,1.4nm,0.8s,baz=76,slow=4.2,SNR=3.9					
	comp=Z,1.4nm,0.8s					
KBZ	**Khabaz**	89.28	315	*i* P	P	**12 54 52.0 -0.9**
KBZ				pmax	pmax	
	comp=Z,2.0nm,0.9s					
YHL	**Hebgen Lake**	89.47	44	IAmb	IAmb	12 54 56.9
	comp=Z,25nm,1.0s					
YHB	**Horse Butte**	89.49	44	IAmb	IAmb	12 54 56.8
	comp=Z,20nm,0.9s					
V12A	**Nelson**	89.62	53	IAmb	IAmb	12 54 57.3
	comp=Z,18nm,1.0s					
YUH	**Yuha Desert**	89.64	57	P	P	**12 54 55.8 +0.9**
YUH				IAmb	IAmb	12 54 57.0
	comp=Z,20nm,1.1s					
YMR	**Madison River**	89.67	44	IAmb	IAmb	12 54 57.8
	comp=Z,20nm,1.0s					
ESJX	**Sierra Juarez**	89.81	57	IAmb	IAmb	12 54 58.3
	comp=Z,19nm,1.2s					
DUG	**Dugway, Tooele**	89.81	49		P	**12 54 56.7 +0.9**
DUG				IAmb	IAmb	12 54 57.7
	comp=Z,17nm,0.8s					
DUG	**Dugway, Tooele**	89.81	49	P	P	**12 54 56.7 +0.9**
DUG				pmax	pmax	
	comp=Z,17nm,0.8s					
YFT	**Old Faithful**	89.83	44	IAmb	IAmb	12 54 59.7
	comp=Z,20nm,1.1s					
IRM	**Iron Mountain**	89.84	55	IAmb	IAmb	12 54 58.1
	comp=Z,14nm,1.1s					
CCD	**Concordia, Ant**	89.98	186	P	P	**12 54 56.9 +1.0**
H17A	**Grant Village**	90.03	44	IAmb	IAmb	12 55 01.2
	comp=Z,28nm,1.3s					
SNOW	**Snow King Moun**	90.22	45	IAmb	IAmb	12 55 02.2
	comp=Z,22nm,1.5s					
CCUT	**Cedar City**	90.22	51	IAmb	IAmb	12 55 00.3
	comp=Z,26nm,1.6s					
HWUT	**Hardware Ranch**	90.26	47	IAmb	IAmb	12 54 59.6
	comp=Z,14nm,0.8s					
LOHW	**Long Hollow**	90.27	45	IAmb	IAmb	12 55 00.2
	comp=Z,21nm,1.7s					
GLA	**Glamis**	90.41	56	IAmb	IAmb	12 55 01.0
	comp=Z,25nm,1.2s					
CTU	**Camp Tracy**	90.42	48	IAmb	IAmb	12 55 00.3
	comp=Z,9.3nm,0.8s					
BLYC	**Blythe**	90.45	55	IAmb	IAmb	12 55 01.0
	comp=Z,16nm,1.1s					
LCMT	**Little Creek M**	90.47	52	IAmb	IAmb	12 55 01.3
	comp=Z,17nm,1.5s					
TCUT	**Toone Canyon**	90.53	47	IAmb	IAmb	12 55 00.8
	comp=Z,14nm,0.7s					
RLMT	**Red Lodge**	90.65	43	IAmb	IAmb	12 55 02.3
	comp=

comp=Z,1.3nm,0.8s,baz=313,slow=6.5,SNR=9.6
VNDA LR LR 13 35 36.0
comp=Z,59nm,18.1s,baz=274,slow=35
comp=Z,1.3nm,0.8s
VNDA Vanda 91.84 176 P P 12 55 05.0 +0.9
RDMU Red Mountain 92.03 47 IAmb IAmb 12 55 07.8
comp=Z,13nm,0.8s
214A Organ Pipe Nat 92.37 56 IAmb IAmb 12 55 10.1
comp=Z,11nm,1.0s
WUAZ Wupatki 92.38 53 IAmb IAmb 12 55 10.3
comp=Z,11nm,0.8s
DGMT Dagmar 92.60 39 IAmb IAmb 12 55 09.1
comp=Z,14nm,0.9s
O20A White River Ci 93.13 47 IAmb IAmb 12 55 12.4
comp=Z,10nm,1.0s
PV21 Cone Mtn., Par 93.16 49 IAmb IAmb 12 55 12.9
comp=Z,8.7nm,0.7s
PV14 Lion Creek, Pa 93.19 49 IAmb IAmb 12 55 13.1
comp=Z,10nm,0.7s
PV05 Paradox Valley 93.24 50 IAmb IAmb 12 55 13.2
comp=Z,24nm,1.6s
PV04 Paradox Valley 93.27 49 IAmb IAmb 12 55 13.4
comp=Z,12nm,1.0s
PV17 East Wray Mesa 93.27 49 IAmb IAmb 12 55 13.3
comp=Z,8.8nm,0.9s
PV16 Nyswonger Mesa 93.29 49 IAmb IAmb 12 55 13.4
comp=Z,9.5nm,0.8s
PV22 Blue Mesa, Par 93.31 49 IAmb IAmb 12 55 14.0
comp=Z,8.5nm,1.2s
PV18 Skein Mesa, Pa 93.32 49 IAmb IAmb 12 55 13.4
comp=Z,14nm,0.8s
PV03 Paradox Valley 93.36 49 IAmb IAmb 12 55 13.6
comp=Z,11nm,1.1s
PV13 Radium Mtn., P 93.42 49 IAmb IAmb 12 55 13.9
comp=Z,6.3nm,0.8s
PV02 Paradox Valley 93.46 49 IAmb IAmb 12 55 14.0
comp=Z,13nm,0.7s
PV01 Paradox Valley 93.61 49 IAmb IAmb 12 55 14.7
comp=Z,6.9nm,0.8s
TUC Tucson 93.88 56 P **P 12 55 16.2 +1.5**
TUC Tucson 93.88 56 P **P 12 55 16.2 +1.5**
TUC pmax pmax
comp=Z,6.0nm,1.1s
RSSD Black Hills 94.49 43 **P 12 55 17.6 +0.2**
RSSD IAmb IAmb 12 55 18.3
comp=Z,9.2nm,0.7s
RSSD Black Hills 94.49 43 P **P 12 55 17.6 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
ULM Lac du Bonnet 96.59 35 P **P 12 55 25.8 -0.7**
comp=Z,7.8nm,0.7s,baz=306,slow=1.4,SNR=4.6
comp=Z,7.8nm,0.7s
HFS Hagfors 96.63 338 P **P 12 55 24.6 -1.9**
comp=Z,2.9nm,0.8s,baz=72,slow=5.2,SNR=6.4
comp=Z,2.9nm,0.8s
NB2 NORSAR Subarra 96.87 339 P **P 12 55 25.2 -2.4**
comp=Z,1.4nm,0.8s,baz=46,slow=4.8
NOA NORSAR Array B 96.87 339 P **P 12 55 25.4 -2.2**
comp=Z,1.9nm,0.8s,baz=47,slow=4.6,SNR=5.8
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 97.19 314 P **P 12 55 28.6 -1.1**
comp=Z,0.4nm,0.4s,baz=40,slow=2.5,SNR=2.2
comp=Z,0.4nm,0.4s
QSPA South Pole Qui 103.84 180 PP **PP 13 00 17.1 +0.6**
comp=Z,1.2nm,1.0s,baz=59,slow=3.2,SNR=5.6
SYO Syowa Base 108.65 201⇑ *e*Pdiff **Pdif 12 56 21.5 +1.8**
TROLL Troll, Antarti 117.98 192 ⇑PKPdf **PKPdf 13 00 42.0 -0.5**
comp=Z,109nm,1.1s
SNAA Sanae 119.29 191 ⇑PKPdf **PKPdf 13 00 44.6 -0.3**
comp=Z,27nm,0.6s
SNAA Sanae 119.29 191 PKP **PKPdf 13 00 44.4 -0.5**
comp=Z,1.3nm,0.8s,baz=210,slow=9.6,SNR=8.4
ESDC Sonseca Array 119.48 333 PKP **PKPdf 13 00 46.0 -0.3**
comp=Z,0.5nm,0.6s,baz=32,slow=2.4,SNR=4.3
ESDC PP **PP 13 02 07.8 -0.4**
comp=Z,1.7nm,0.8s,baz=20,slow=6.5,SNR=7.4
VNA2 Neumayer--Watz 120.73 190 ⇑PKPdf **PKPdf 13 00 47.6 0.0**
comp=Z,3.1nm,0.6s,baz=249,slow=0.9
VNA3 Neumayer Olymp 120.82 189 ⇑PKPdf **PKPdf 13 00 46.9 -0.9**
comp=Z,2.2nm,0.7s
GRHM Grahamstown, E 121.76 239 **PKPdf 13 00 49.4 -1.3**
BOSA Boshof 122.94 245 PKP **PKPdf 13 00 53.6 +0.3**
comp=Z,2.0nm,0.8s,baz=295,slow=2.7,SNR=4.7
TORD Torodi Ar. Bea 135.09 305 PKP **PKPdf 13 01 17.4 +0.9**
comp=Z,1.3nm,1.0s,baz=42,slow=3.6,SNR=5.0
SDV Santo Domingo 137.59 60 **PKPdf 13 01 22.0 +0.5**
PLCA Paso Flores 138.85 137 PKP **PKPdf 13 01 23.8 +0.9**
comp=Z,3.4nm,1.0s,baz=269,slow=3.0,SNR=6.8
DBIC Dimbokro 144.08 303 PKP **PKPab 13 01 30.4 -0.1**
comp=Z,7.3nm,0.8s,baz=63,slow=2.6,SNR=9.0
GO03 Copiapo 144.15 118 PKPbc 13 01 31.8 +0.8
ZON Zonda 144.21 125 PKPbc 13 01 32.1 +0.9
ZON Zonda 144.21 125 PKIKP PKPbc 13 01 32.1 +1.0
AGUA GUANDACOL 145.07 122 *i* P **PKPab 13 01 35.1 +1.1**
VCA Vinchina 145.54 121 *i* P **PKPbc 13 01 36.6 +1.0**
TRQA Tornquist 145.86 140 **PKPdf 13 01 36.5 +1.2**
TRQA Tornquist 145.86 140 PKP2 **PKPdf 13 01 36.5 +1.2**
ACLC CERRO LA CRUZ 146.35 122 *i* P **PKPdf 13 01 37.7 +1.0**
GO01 Chusmiza 146.41 104 **PKPdf 13 01 39.0 +1.6**
AANI Anillaco 146.57 121 *i* P **PKPdf 13 01 38.6 +1.6**
LPAZ La Paz 147.53 98 PKPbc **PKPdf 13 01 40.5 +1.1**
comp=Z,10nm,0.8s,baz=340,slow=3.2,SNR=24
CYA Choya 147.64 121 *i* P **PKPbc 13 01 41.9 +0.4**
FSA Cafayete 148.20 117 *i* P **PKPbc 13 01 44.2 +1.0**
BOAV Boa Vista 149.53 60 **PKPdf 13 01 43.4 +1.3**
CPUP Villa Florida 155.40 123 PKP **PKPdf 13 01 51.4 +1.1**
comp=Z,0.5nm,0.8s,baz=22,slow=5.4,SNR=2.3

*IDC **19** 12:51:35.3±0.8, 18°.29S×172°.69W, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=37.0km s-min=22.2km az=138.0*
ISC 19 12:51:36.7±0.8, 18°.3S±0°.2×172°.7W±0°.2, h10km, n12, σ0s52/9, mb3.7/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**41.74**	**330**	T	T	13 44 35.7	
baz=149,slow=76,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**41.75**	**330**	T	T	13 44 35.9	
baz=149,slow=76,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**41.76**	**330**	T	T	13 44 36.6	
baz=149,slow=76,SNR=5.7							
WRA	**Warramunga Arr**	**49.87**	**259**	P	**P**	**13 00 30.8**	**+0.1**
0.7nm,0.4s,baz=97,slow=7.4,SNR=26							
0.7nm,0.4s							
ASAR	**Alice Springs**	**49.88**	**254**	P	**P**	**13 00 31.1**	**+0.3**
2.7nm,0.8s,baz=94,slow=7.9,SNR=34							
2.7nm,0.8s							
VNDA	**Vanda**	**60.61**	**186**	P	**P**	**13 01 46.5**	**-0.8**
0.5nm,0.8s,baz=12,slow=7.1,SNR=2.6							
0.5nm,0.8s							
QSPA	**South Pole Qui**	**71.79**	**180**	P	**P**	**13 03 00.1**	**+0.7**
0.7nm,0.7s,baz=119,slow=1.6,SNR=5.2							
0.7nm,0.7s							
NVAR	**Mina Array Bea**	**76.04**	**41**	P	**P**	**13 03 24.8**	**+0.1**
0.3nm,0.6s,baz=251,slow=7.5,SNR=2.7							
0.3nm,0.6s							
TXAR	**Lajitas Array**	**81.69**	**56**	P	**P**	**13 03 56.1**	**+0.3**
0.3nm,0.6s,baz=223,slow=8.3,SNR=3.8							
0.3nm,0.6s							
PDAR	**Pinedale Array**	**83.98**	**41**	P	**P**	**13 04 07.2**	**-0.3**
0.3nm,0.6s,baz=205,slow=3.2,SNR=4.1							
0.3nm,0.6s							
ILAR	**Eielson Array**	**85.12**	**11**	P	**P**	**13 04 12.5**	**-0.1**
0.2nm,0.7s,baz=221,slow=5.2,SNR=5.7							
0.2nm,0.7s							
BRTR	**Keskin Array B**	**148.75**	**319**	PKPbc	**PKiKP**	**13 11 25.9**	**-0.4**
0.6nm,0.6s,baz=51,slow=2.6,SNR=4.9							

*TXNET **19** 12:53:34.6, 31°.7N±0°.7×10°4W±°, h3km±1km, ML2.9/17, Error ellipse: s-maj=1.6km s-min=0.9km az=67.2, final*
NEIC 19 12:53:35.3±0.6, 31°.647N±0°.004×104°.30W±0°.01, h5km±1km, mb_Lg2.8/33, ML2.6/36, 1C, Error ellipse: s-maj=2.6km s-min=2.1km az=278.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.13**	**360**	⇑P	Pg	12 53 37.4	-0.6
TPB09				S	Sg	12 53 39.3	-0.4
PECS	**Pecos**	**0.46**	**127**		Pg	12 53 44.7	+0.5
PECS					Sg	12 53 50.4	+0.1
PECS	**Pecos**	**0.46**	**127**	P	Pg	12 53 44.7	+0.5
PECS				S	Sg	12 53 51.1	+0.8
TPB12	**Southwest of T**	**0.52**	**146**	P	Pg	12 53 45.8	+0.4
TPB12				S	Sg	12 53 53.0	+0.8
TPB07	**Mentone**	**0.54**	**97**	P	Pb	12 53 46.7	-0.7
TPB07				S	Sb	12 53 54.8	-0.8
TPB10	**Southeast of T**	**0.59**	**128**	P	Pg	12 53 47.2	+0.5
TPB10				S	Sg	12 53 55.5	+1.1
LWM1	**Layne Water Mi**	**0.71**	**126**	P	Pb	12 53 49.6	-0.6
LWM1				S	Sb	12 53 59.4	-0.9
CLNB	**Carlsbad**	**0.71**	**30**		Pg	12 53 49.0	-0.1
CLNB	**Carlsbad**	**0.71**	**30**	P	Pg	12 53 49.0	0.0
CLNB				S	Sg	12 53 59.2	+0.9
PCOS	**Crockett Middl**	**0.72**	**109**	S	Sb	12 53 59.9	-0.6
LWM2	**Layne Water Mi**	**0.72**	**121**	P	Pb	12 53 49.9	-0.5
LWM2				S	Sb	12 53 59.8	-0.7
CBET	**Carlsbad E Tow**	**0.81**	**19**	P	Pg	12 53 51.4	+0.4
TPB01	**Permian Basin**	**0.83**	**147**	P	Pg	12 53 51.0	-0.3
TPB01				S	Sg	12 54 01.9	-0.2
TPB03	**Saragosa**	**0.88**	**130**	P	Pg	12 53 52.3	+0.2
TPB03				S	Sg	12 54 04.2	+0.7
MNTX	**Cornudas Mount**	**0.92**	**273**		Pg	12 53 53.0	-0.1
MNTX					Sg	12 54 05.5	+0.4
MNTX	**Cornudas Mount**	**0.92**	**273**	P	Pg	12 53 53.0	0.0
MNTX				S	Sg	12 54 05.2	+0.2
TPB06	**Permian Basin**	**0.92**	**90**	P	Pb	12 53 53.8	-0.1
TPB06				S	Sg	12 54 05.7	+0.7
TPB04	**Verhalen**	**0.99**	**117**	P	Pg	12 53 54.5	+0.1
TPB04				S	Sb	12 54 08.4	-0.1
HTMS	**Hat Mesa**	**1.00**	**34**		Pg	12 53 54.4	-0.1
HTMS	**Hat Mesa**	**1.00**	**34**	P	Pg	12 53 54.2	-0.3
HTMS				S	Sb	12 54 08.1	-0.6
TPB27	**North of Pyote**	**1.00**	**94**	S	Sb	12 54 08.3	-0.4
TPB16	**Coyonosa**	**1.04**	**120**	P	Pg	12 53 55.4	+0.2
TPB16				S	Sb	12 54 09.3	-0.4
VHRN	**Van Horn**	**1.04**	**215**	P	Pg	12 53 55.1	-0.2
VHRN				Sg	Sg	12 54 08.5	-0.2
VHRN				IAML		12 54 10.4	
156nm,0.3s							
VHRN				IAML		12 54 18.0	
140nm,0.3s							
VHRN	**Van Horn**	**1.04**	**215**	P	Pg	12 53 55.0	-0.3
VHRN				S	Sg	12 54 09.3	+0.5
NM01	**Eunice**	**1.04**	**47**	P	Pg	12 53 55.1	-0.2
NM01				S	Sg	12 54 09.3	+0.4
TPB19	**West of Imperi**	**1.08**	**108**	P	Pg	12 53 56.3	+0.2
TPB19				S	Sb	12 54 11.0	0.0
TPB05	**Hovey Rd**	**1.11**	**131**	P	Pg	12 53 56.3	-0.3
TPB05				S	Sg	12 54 11.0	+0.1
TPB15	**Southwest of C**	**1.13**	**112**	P	Pg	12 53 57.0	0.0
TPB15				S	Sb	12 54 12.6	+0.3
MNHN	**Monahans**	**1.35**	**103**		Pn	12 54 00.6	-0.3
MNHN	**Monahans**	**1.35**	**103**	P	Pn	12 54 00.5	-0.4
MNHN				S	Sg	12 54 18.1	-0.6
ALPN	**Alpine**	**1.39**	**156**		Pn	12 54 00.8	-0.7
ALPN	**Alpine**	**1.39**	**156**	P	Pn	12 54 00.6	-1.0
ALPN				S	Sb	12 54 18.6	-1.3
TPB08	**Permian Basin**	**1.41**	**122**	P	Pg	12 54 02.3	-0.1
TPB08				S	Sn	12 54 21.5	+0.7
CPRX	**Cap Rock**	**1.43**	**15**		Pn	12 54 01.9	-0.1
CPRX	**Cap Rock**	**1.43**	**15**	P	Pn	12 54 01.9	-0.1
ODSA	**Odessa**	**1.56**	**72**		Pn	12 54 04.1	+0.2
ODSA	**Odessa**	**1.56**	**72**	P	Pn	12 54 04.1	+0.2
ODSA				S	Sn	12 54 24.2	-0.4
TMB04	**Seminole**	**1.82**	**57**	P	Pn	12 54 08.3	+0.9
TMB04				S	Sb	12 54 32.9	+0.6
TMB01	**Midkiff**	**1.89**	**89**	P	Pb	12 54 09.7	-0.7
TMB01				S	Sb	12 54 34.8	+0.4
TMB02	**Rankin**	**1.99**	**102**	P	Pb	12 54 10.9	-1.1
TMB02				S	Sb	12 54 37.4	+0.3
TMB06	**Greenwood**	**2.15**	**81**	P	Pn	12 54 13.2	+1.2
TMB06				S	Sb	12 54 41.3	-0.7
TMB05	**Klondike**	**2.29**	**64**	P	Pn	12 54 15.3	+1.5
TX31	**Lajitas Ar. Si**	**2.37**	**167**	Pn	Pn	12 54 16.2	+1.3
TX31	**Lajitas Ar. Si**	**2.37**	**167**	P	Pn	12 54 16.0	+1.1
TXAR	**Lajitas Array**	**2.37**	**166**	Pn	Pn	12 54 15.0	0.0
SAND	**Sanderson**	**2.52**	**131**		Pn	12 54 15.8	-1.3
SAND	**Sanderson**	**2.52**	**131**	P	Pn	12 54 18.8	+1.8
SGCY	**Sterling City**	**2.72**	**84**	IAmb_Lg		12 55 02.3	
comp=Z,38nm,0.7s							
OZNA	**Ozona**	**2.81**	**104**		Pn	12 54 18.8	-2.2
CRNM	**Carthage**	**3.08**	**319**		Pn	12 54 25.0	+0.2
Y22A	**Socorro**	**3.20**	**316**	Pn	Pn	12 54 25.9	-0.5
Y22A				IAML		12 55 19.5	
comp=N,22nm,0.4s							
Y22A				IAML		12 55 29.0	
comp=E,32nm,0.6s							
SN07	**Snyder 07**	**3.22**	**63**	IAmb_Lg		12 55 20.9	
comp=Z,31nm,0.7s							
LENM	**Lemitar**	**3.37**	**319**	Pn	Pn	12 54 28.0	-0.9
DKNS	**Dickens**	**3.49**	**54**	IAmb_Lg		12 55 25.8	
comp=Z,26nm,0.7s							
ANMO	**Albuquerque**	**3.75**	**332**	IAmb_Lg		12 55 34.9	
comp=Z,12nm,0.7s							
AMTX	**Amarillo**	**3.90**	**34**	IAmb_Lg		12 55 49.6	
comp=Z,23nm,0.8s							
APMT	**Aspermont**	**3.91**	**64**		Pn	12 54 36.1	0.0
JCT	**Junction City**	**4.03**	**106**	Pn	Pn	12 54 37.0	-0.8
JCT				IAmb_Lg		12 55 49.2	
comp=Z,26nm,0.7s							
ABTX	**Abilene, Hawle**	**4.07**	**75**	IAmb_Lg		12 55 47.1	
comp=Z,20nm,0.8s							
319A	**Douglas**	**4.26**	**268**		Pn	12 54 40.8	-0.2
BRDY	**Brady**	**4.54**	**93**		Pn	12 54 43.3	-1.5
BRDY				IAmb_Lg		12 56 00.1	
comp=Z,17nm,0.7s							
HNDO	**Hondo**	**4.82**	**115**	IAmb_Lg		12 56 18.6	
comp=Z,21nm,0.7s							
SMWD	**Samnorwood**	**4.84**	**43**	Pn	Pn	12 54 49.0	+0.1
RTBA	**Rita Blanca**	**4.95**	**15**		Pn	12 54 50.5	0.0
WMOK	**Wichita Mounta**	**5.56**	**55**	IAmb_Lg		12 56 37.8	
comp=Z,16nm,0.7s							
WHTX	**Lake Whitney,**	**5.84**	**85**	IAmb_Lg		12 56 53.7	
comp=Z,13nm,0.9s							
ELIS	**Ellis County**	**5.99**	**41**	IAmb_Lg		12 56 43.5	
comp=Z,14nm,0.8s							

*IDC **19** 12:56:19.0±0.9, 11°.85N×142°.31E, h0km, mb3.7/8, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=25.5km s-min=19.6km az=112.0*
ISC 19 12:56:24.9±0.9, 11°.8N±0°.2×142°.3E±0°.1, h42km, n9, σ1s25/10, mb3.7/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.07**	**54**	Pn	**Pn**	**12 57 09.8**	**-1.1**
17nm,0.3s,baz=19,slow=18,SNR=8.4							
GUMO				Sn	**Sn**	**12 57 48.5**	**+2.1**
13nm,0.3s,baz=35,slow=22,SNR=6.8							
47nm,0.4s							
WRA	**Warramunga Arr**	**32.49**	**194**	P	**P**	**13 02 51.1**	**-0.6**
0.7nm,0.7s,baz=9.1,slow=9.5,SNR=6.5							
0.7nm,0.7s							
ASAR	**Alice Springs**	**36.18**	**193**	P	**P**	**13 03 24.4**	**+0.7**
0.5nm,0.7s,baz=16,slow=9.2,SNR=12							
0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.31**	**284**	P	**P**	**13 04 16.4**	**+1.4**
0.4nm,0.5s,baz=89,slow=7.0,SNR=4.2							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**61.08**	**317**	P	**P**	**13 06 34.8**	**+0.1**
0.8nm,0.6s,baz=98,slow=7.6,SNR=8.9							
0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**61.66**	**326**	P	**P**	**13 06 37.5**	**-0.9**
0.3nm,0.3s,baz=106,slow=7.7,SNR=1.8							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**64.41**	**321**	P	**P**	**13 06 56.0**	**-0.7**
1.5nm,0.6s,baz=106,slow=6.8,SNR=16							
1.5nm,0.6s							
ILAR	**Eielson Array**	**71.25**	**25**	P	**P**	**13 07 38.5**	**-1.1**
0.3nm,0.7s,baz=248,slow=6.0,SNR=1.8							
0.3nm,0.7s							
NVAR	**Mina Array Bea**	**89.99**	**51**	P	**P**	**13 09 21.0**	**+0.5**
0.2nm,0.5s,baz=261,slow=5.9,SNR=4.7							
0.2nm,0.5s							

*NEIC **19** 13:35:36.9±1.8, 22°.57N±0°.08×93°.31E±0°.06, h45km±7km, mb4.3/4, Error ellipse: s-maj=11.9km s-min=7.6km az=196.0*
*IDC **19** 13:35:37.3±2.4, 22°.43N×93°.49E, h45km±30km, mb3.3/6, mbtmp3.6/7, ML4.0/1, MS3.2/1, Error ellipse: s-maj=27.1km s-min=14.6km az=41.0*
*NDI **19** 13:35:40.4±2.6, 22°.62N×93°.36E, h45km, ML4.1, MW4.1*
ISC 19 13:35:36.0±0.7, 22°.55N±0°.06×93°.22E±0°.05, h35km, n38, σ2s82/52, mb3.8/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.46**	**275**	P	**Pn**	**13 36 02.7**	**+2.8**
230nm,0.3s,baz=74,slow=12,SNR=14							
BRDH				S	**Sn**	**13 36 26.0**	**+8.1**
797nm,0.3s,baz=60,slow=20,SNR=7.7							
SILR	**SILCHAR**	**2.25**	**350**	*e*P	Pn	13 36 17.4	+6.6
SILR				*e*S	**Sn**	**13 36 40.4**	**+3.0**
SILR				IAML		13 36 54.7	
comp=E,2μm,0.3s							
SILR				IAML		13 36 56.4	
comp=N,2μm,0.1s							
IMP	**Imphal**	**2.36**	**16**	*e*P	**Pn**	**13 36 15.4**	**+3.0**
IMP				IAML		13 36 26.9	
comp=N,966nm,1.1s							
IMP				IAML		13 36 30.9	
comp=E,931nm,0.1s							
IMP				*e*S	**Sn**	**13 36 40.2**	**-0.1**
SHL	**Shillong**	**3.24**	**338**		**Pn**	**13 36 27.5**	**+2.9**
SHL	**Shillong**	**3.24**	**338**	*e*P	**Pn**	**13 36 27.4**	**+2.9**
SHL				*e*S	**Sn**	**13 37 03.2**	**+1.1**
SHL				IAML		13 37 08.1	
comp=N,2μm,0.3s							
SHL				IAML		13 37 10.7	
comp=E,1μm,0.2s							
GUWA	**GUWAHATI**	**3.88**	**339**	*e*P	**Pn**	**13 36 35.7**	**+2.4**
GUWA				*e*S	**Sn**	**13 37 17.3**	**-0.4**
GUWA				IAML		13 37 20.0	
comp=N,865nm,0.4s							
GUWA				IAML		13 37 21.6	
comp=E,879nm,0.2s							
TEZP	**TEZPUR**	**4.07**	**355**	*e*P	**Pn**	**13 36 38.1**	**+2.3**
TEZP				*e*S	**Sn**	**13 37 21.7**	**-0.4**
TEZP				IAML		13 37 25.6	
comp=N,851nm,0.2s							
TEZP				IAML		13 37 25.9	
comp=E,884nm,0.2s							
ITAN	**ITANAGAR**	**4.59**	**6**	*e*S	**Sn**	**13 37 33.9**	**-1.3**
ITAN				IAML		13 37 40.3	
comp=E,688nm,0.2s							
CHTO	**Chiang Mai**	**6.52**	**124**		**Pn**	**13 37 09.7**	**+0.1**
CM31	**Chiang Mai Arr**	**6.73**	**126**	Pn	**Pn**	**13 37 13.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**6.73**	**126**	Pn	**Pn**	**13 37 14.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**6.73**	**126**	P	**Pn**	**13 37 11.2**	**-1.2**
comp=E,0.8nm,0.3s,baz=303,slow=14,SNR=21							
comp=E,2.5nm,0.4s							
ODAN	**Odare**	**6.82**	**310**	Pn	**Pn**	**13 37 16.1**	**+2.3**
baz=318,slow=0.0							
ODAN				Sn	**Sn**	**13 38 28.8**	**-1.6**
comp=E,104nm,0.3s,baz=318,slow=0.0							
LSA	**Lhasa**	**7.36**	**346**	Pn	**Pn**	**13 37 21.4**	**0.0**
RAMN	**Ramite**	**7.44**	**307**	Pn	**Pn**	**13 37 24.4**	**+2.0**
baz=314,slow=0.0							
RAMN				Sn	**Sn**	**13 38 42.4**	**-3.3**
comp=E,74nm,0.5s,baz=314,slow=0.0							
EVN	**Everest**	**7.91**	**314**		**Pn**	**13 37 30.4**	**+1.2**
GUN	**Gumba**	**8.52**	**310**	Pn	**Pn**	**13 37 38.7**	**+1.4**
baz=316,slow=0.0							
GUN				Sn	**Sn**	**13 39 09.1**	**-3.3**
comp=E,38nm,0.3s,baz=316,slow=0.0							
PKI	**Pulchoki**	**8.67**	**307**	Pn	**Pn**	**13 37 40.6**	**+1.3**
baz=313,slow=0.0							
PKI				Sn	**Sn**	**13 39 10.5**	**-5.5**
comp=E,31nm,0.4s,baz=313,slow=0.0							
PKIN	**Phulchoki**	**8.68**	**307**	Pn	**Pn**	**13 37 40.7**	**+1.3**
baz=313,slow=0.0							
PKIN				Sn	**Sn**	**13 39 12.3**	**-3.9**
comp=E,40nm,0.4s,baz=313,slow=0.0							
KKN	**Kakani**	**8.88**	**308**	Pn	**Pn**	**13 37 43.9**	**+1.8**
baz=313,slow=0.0							
KKN				Sn	**Sn**	**13 39 16.2**	**-4.9**
comp=E,29nm,0.3s,baz=313,slow=0.0							
DMN	**Daman**	**8.91**	**306**	Pn	**Pn**	**13 37 43.9**	**+1.3**
baz=312,slow=0.0							
DMN				Sn	**Sn**	**13 39 17.6**	**-4.3**
comp=E,39nm,0.5s,baz=312,slow=0.0							
GKN	**Gorkha**	**9.47**	**307**	Pn	**Pn**	**13 37 51.7**	**+1.5**
baz=312,slow=0.0							
GKN				Sn	**Sn**	**13 39 30.1**	**-5.5**
comp=E,62nm,0.4s,baz=312,slow=0.0							
DANN	**Dangsing**	**10.31**	**306**	Pn	**Pn**	**13 38 02.4**	**+0.6**
baz=311,slow=0.0							
DANN				Sn	**Sn**	**13 39 49.7**	**-6.7**
comp=E,45nm,0.5s,baz=311,slow=0.0							
HYB	**Hyderabad**	**14.70**	**252**	*e*P	**P**	**13 39 07.9**	**+0.6**
HYB				IVmB_BB		13 39 11.8	
comp=Z,84nm,1.6s							
HYB				*e*S	**S**	**13 42 02.7**	**+1.4**
PSI	**Prapat**	**20.40**	**163**	LR	LR	13 49 42.0	
comp=Z,68nm,19.2s,baz=234,slow=42							
MKAR	**Makanchi Array**	**25.75**	**343**	P	**P**	**13 41 01.2**	**-2.1**
MKAR	**Makanchi Array**	**25.75**	**343**	P	**P**	**13 41 04.2**	**+0.9**
comp=Z,0.7nm,0.6s,baz=157,slow=11,SNR=6.7							
comp=Z,0.7nm,0.6s							
SONM	**Songino Array**	**27.35**	**20**	P	**P**	**13 41 17.8**	**-0.1**
comp=Z,0.3nm,0.5s,baz=201,slow=7.7,SNR=2.3							
comp=Z,0.3nm,0.5s							
YOJ	**Yonaguni jima**	**27.36**	**80**	P	**P**	**13 41 15.9**	**-2.2**
KURBB	**Kurchatov Arra**	**30.28**	**341**	P	**P**	**13 41 46.9**	**+3.2**
comp=Z,0.1nm,0.3s,baz=159,slow=8.0,SNR=1.8							
comp=Z,0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**31.99**	**351**	P	**P**	**13 42 01.5**	**+2.8**
comp=Z,0.3nm,0.3s,baz=167,slow=8.9,SNR=2.2							
comp=Z,0.3nm,0.3s							
WB0	**Warramunga Arr**	**58.19**	**133**	P	**P**	**13 45 25.4**	**-1.5**
WB0				IAmb	IAmb	13 45 45.0	
comp=Z,2.6nm,1.0s							
WRA	**Warramunga Arr**	**58.27**	**133**	P	**P**	**13 45 25.7**	**-1.8**
WRA	**Warramunga Arr**	**58.27**	**133**	P	**P**	**13 45 25.5**	**-2.0**
comp=Z,0.6nm,0.4s,baz=321,slow=7.4,SNR=35							
comp=Z,0.6nm,0.4s							
WR8	**Warramunga Arr**	**58.39**	**133**	P	**P**	**13 45 26.4**	**-1.9**
WR8				IAmb	IAmb	13 45 30.3	
comp=Z,1.8nm,0.8s							
AS31	**Alice Springs**	**60.62**	**137**	P	**P**	**13 45 41.3**	**-2.4**
ASAR	**Alice Springs**	**60.62**	**137**	P	**P**	**13

WR8 IAmb IAmb 14 14 18.5
comp=Z,16nm,0.7s
WRAB Tennant Creek 22.18 229 P **P** **14 14 17.7 +1.5**
WRAB Tennant Creek 22.18 229 S **S** **14 18 10.8 -7.2**
WRA Warramunga Arr 22.19 229 **P** **14 14 16.2 -0.1**
WRA Warramunga Arr 22.19 229 P **P** **14 14 16.3 -0.1**
comp=Z,12nm,0.5s,baz=53,slow=9.9,SNR=148
WRA PcP **PcP** **14 18 12.0 0.0**
comp=Z,7.8nm,1.3s,baz=46,slow=2.2,SNR=7.2
WRA ScP **ScP** **14 21 48.8 +2.8**
comp=Z,1.3nm,0.8s,baz=47,slow=2.8,SNR=9.7
WRA LR LR 14 23 47.9
comp=Z,156nm,18.3s,baz=58,slow=39
comp=Z,12nm,0.5s
INKA Innaminka 24.40 204 **P** **14 14 38.8 +0.9**
INKA IAmb IAmb 14 14 41.0
comp=Z,14nm,0.7s
KNRA Kununurra 24.76 244 **P** **14 14 40.9 -0.5**
AS01 Alice Springs 24.88 222 P **P** **14 14 44.9 +2.5**
AS31 Alice Springs 24.91 222 **P** **14 14 42.9 +0.2**
ASAR Alice Springs 24.91 222 **P** **14 14 42.7 0.0**
ASAR Alice Springs 24.91 222 P **P** **14 14 43.3 +0.6**
comp=Z,14nm,0.8s,baz=59,slow=8.2,SNR=110
ASAR PcP **PcP** **14 18 17.0 -0.7**
comp=Z,0.5nm,0.6s,baz=37,slow=2.6,SNR=2.0
ASAR ScP **ScP** **14 21 56.5 +3.3**
comp=Z,1.2nm,0.9s,baz=31,slow=2.9,SNR=6.8
comp=Z,14nm,0.8s
AUALC St Philip's Co 24.94 222 P **P** **14 14 45.5 +2.5**
SOEI Soe 27.63 260 P **P** **14 15 13.2 +5.7**
STKA Stephens Creek 27.83 199 P **P** **14 15 09.7 +0.8**
STKA IAmb IAmb 14 15 24.4
comp=Z,26nm,0.9s
STKA Stephens Creek 27.83 199 P **P** **14 15 08.9 +0.1**
comp=Z,1.9nm,0.7s,baz=2.1,slow=13,SNR=3.4
STKA LR LR 14 25 07.5
comp=Z,158nm,19.2s,baz=36,slow=34
comp=Z,1.9nm,0.7s
FITZ Fitzroy Crossi 28.43 242 P **P** **14 15 13.8 -0.7**
FORT Forrest 33.56 219 P **P** **14 15 57.8 -1.6**
JCJ Chichijima 33.84 344 LR LR 14 28 26.9
comp=Z,62nm,19.7s,baz=160,slow=34
MBWA Marble Bar 34.74 241 P **P** **14 16 09.3 -0.6**
MBWA Marble Bar 34.74 241 P **P** **14 16 13.1 +3.2**
PSA00 Pilbara Seismi 34.80 240 **P** **14 16 08.2 -2.2**
PSA00 Pilbara Seismi 34.80 240 P **P** **14 16 13.8 +3.4**
RAO Raoul Island 36.99 133 LR LR 14 29 21.5
comp=Z,102nm,20.0s,baz=311,slow=32
MORW Morawa 41.09 231 P **P** **14 17 02.5 -0.9**
MORW IAmb IAmb 14 17 38.3
comp=Z,12nm,1.1s
YULB Yu-li 41.49 315 P **P** **14 17 04.1 -2.6**
TPUB Ta-pu 41.90 314 P **P** **14 17 07.1 -3.0**
MJAR Matsushiro Arr 43.84 344 P **P** **14 17 24.9 -0.6**
comp=Z,0.8nm,0.7s,baz=199,slow=6.2,SNR=4.2
comp=Z,0.8nm,0.7s
KSRS Korea Array 48.31 334 P **P** **14 17 59.9 -0.7**
comp=Z,0.7nm,0.7s,baz=159,slow=7.8,SNR=3.4
comp=Z,0.7nm,0.7s
NJ2 Nanjing 48.89 322 *e*P **P** **14 18 07.0 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 57.37 296 P **P** **14 19 08.0 +0.1**
comp=Z,1.0nm,0.5s,baz=118,slow=6.1,SNR=9.8
comp=Z,1.0nm,0.5s
PZH PanZhiHua 58.07 306 P **P** **14 19 15.6 +2.7**
HHC Hu-ho-hao-te 59.16 325 *e*P **P** **14 19 22.8 +2.6**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,100nm,4.7s
HHC LR LR
comp=N,110nm,12.9s
HHC LR LR
comp=E,130nm,12.8s
HHC LR LR
comp=Z,100nm,13.0s
HEH HeiHe 59.53 342 *e*P **P** **14 19 20.4 -2.0**
HEH pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 66.52 328 **P** **14 20 08.7 -0.3**
SONM IAmb IAmb 14 20 09.6
comp=Z,8.7nm,1.4s
SONM Songino Array 66.52 328 P **P** **14 20 08.8 -0.3**
comp=Z,2.6nm,0.6s,baz=143,slow=4.9,SNR=16
comp=Z,2.6nm,0.6s
VNDA Vanda 72.05 178 P **P** **14 20 42.1 -0.5**
VNDA Vanda 72.05 178 P **P** **14 20 43.6 +1.0**
comp=Z,1.2nm,0.8s,baz=343,slow=5.8,SNR=4.9
comp=Z,1.2nm,0.8s
WMQ Urumqi 75.70 318 *e*P **P** **14 21 06.4 +1.8**
WMQ LR LR
comp=Z,130nm,20.9s
MKAR Makanchi Array 80.32 319 **P** **14 21 29.0 -1.1**
MKAR Makanchi Array 80.32 319 P **P** **14 21 29.4 -0.7**
comp=Z,2.3nm,0.7s,baz=98,slow=7.5,SNR=17
comp=Z,2.3nm,0.7s
ZALV Zalesovo Beam 81.31 327 P **P** **14 21 32.9 -2.3**
comp=Z,3.2nm,0.5s,baz=108,slow=6.1,SNR=15
comp=Z,3.2nm,0.5s
KDJ Kajisay 82.49 314 **P** **14 21 41.7 -0.2**
KDJ IAmb IAmb 14 21 42.8
comp=Z,8.3nm,1.0s
IL31 83.27 22 P **P** **14 21 44.0 -1.2**
IL31 IAmb IAmb 14 21 49.5
comp=Z,12nm,1.5s
ILAR Eielson Array 83.27 22 P **P** **14 21 43.5 -1.7**
comp=Z,1.7nm,0.7s,baz=245,slow=5.0,SNR=26
comp=Z,1.7nm,0.7s
BOOM Boomskoye usch 83.47 314 **P** **14 21 46.6 -0.4**
BOOM IAmb IAmb 14 21 47.4
comp=Z,4.4nm,0.6s
J25K Salcha River, 83.78 23 **P** **14 21 47.2 -0.7**
KURK Kurchatov 83.83 322 **P** **14 21 46.8 -1.6**
KURK IAmb IAmb 14 21 48.4
comp=Z,3.9nm,0.8s
KURBB Kurchatov Arra 83.86 322 P **P** **14 21 47.0 -1.5**
comp=Z,2.2nm,0.8s,baz=110,slow=4.3,SNR=14
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 84.34 180 P **P** **14 21 50.4 -0.5**
QSPA IAmb IAmb 14 22 13.1
comp=Z,6.8nm,1.1s
QSPA South Pole Qui 84.34 180 P **P** **14 21 53.5 +2.6**
comp=Z,3.2nm,0.9s,baz=11,slow=3.4,SNR=12
comp=Z,3.2nm,0.9s
L27K Beaver Creek, 84.53 25 P **P** **14 21 49.9 -1.8**
L27K IAmb IAmb 14 22 30.4
comp=Z,5.5nm,1.4s
BCAR Beaver Creek A 84.55 25 P **P** **14 21 51.2 -0.6**
NVAR Mina Array Bea 93.33 52 P **P** **14 22 35.9 +1.4**
comp=Z,5.4nm,0.8s,baz=259,slow=6.1,SNR=23
comp=Z,5.4nm,0.8s
PDAR Pinedale Array 100.10 48 P **Pdif** **14 23 05.5 +0.5**
comp=Z,2.1nm,0.8s,baz=236,slow=2.2,SNR=14
AKASG Malin Array Be 114.60 324 PKiKP **PKiKP** **14 27 58.2 -0.8**
comp=Z,1.4nm,0.6s,baz=67,slow=1.9,SNR=4.7
BRTR Keskin Array B 115.13 311 PKP **PKiKP** **14 27 59.5 -1.1**
comp=Z,0.6nm,0.6s,baz=85,slow=4.9,SNR=2.9
HFS Hagfors 117.08 338 PKP **PKPdf** **14 28 01.9 -1.6**
comp=Z,2.4nm,0.9s,baz=79,slow=16,SNR=1.7
NB2 NORSAR Subarra117.35 340 PKPdf **PKPdf** **14 28 03.7 -0.4**
comp=Z,0.6nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B 117.35 340 PKP **PKPdf** **14 28 03.6 -0.4**
comp=Z,0.8nm,0.6s,baz=48,slow=1.8,SNR=4.6
RONA Rosalia, Austr 123.48 325 *e*PKiKP **PKPdf** **14 28 15.7 -0.6**
comp=Z,1.4nm,0.7s
CONA Conrad Observa 123.60 326 *e*PKiKP **PKPdf** **14 28 15.5 -1.1**
comp=Z,0.4nm,0.6s
GERES GERESS Array B 124.25 328 PKP **PKPdf** **14 28 17.7 -0.1**
comp=Z,2.7nm,0.6s,baz=79,slow=1.8,SNR=19
KBA Koelnbreinsper 125.48 326 *i* PKiKP **PKPdf** **14 28 19.7 -0.6**
comp=Z,0.9nm,0.6s
LESA Schwarzleotal 125.65 327 *e*PKiKP **PKPdf** **14 28 19.9 -0.6**
comp=Z,1.8nm,0.5s
WATA Walderalm 126.29 327 *i* PKiKP **PKPdf** **14 28 21.8 -0.1**
comp=Z,1.1nm,0.6s
WTTA Wattenberg 126.31 327 *i* PKiKP **PKPdf** **14 28 21.2 -0.7**
comp=Z,2.5nm,0.8s
EKA Eskdalemuir Ar 126.53 343 PKP **PKPdf** **14 28 21.1 -0.8**
comp=Z,0.8nm,0.4s,baz=13,slow=2.1,SNR=6.7
MOTA Moosalm 126.54 328 *e*PKiKP **PKPdf** **14 28 21.5 -0.8**
comp=Z,1.7nm,0.6s
SQTA Sankt Quirin 126.56 327 *e*PKiKP **PKPdf** **14 28 22.1 -0.2**
comp=Z,0.7nm,0.6s
FETA Feichten 126.94 327 *i* PKiKP **PKPdf** **14 28 23.1 0.0**
comp=Z,1.3nm,0.7s
DAVA Damuels 127.22 328 *e*PKiKP **PKPdf** **14 28 23.1 -0.5**
comp=Z,2.4nm,0.6s
KEST Kesra 134.35 316 PKP **PKiKP** **14 28 38.4 -0.3**
comp=Z,2.1nm,0.6s,baz=53,slow=11,SNR=3.0
LPAZ La Paz 134.85 119 PKP **PKiKP** **14 28 40.8 -0.1**
comp=Z,0.8nm,0.6s,baz=294,slow=2.0,SNR=2.2
ESDC Sonseca Array 139.69 331 PKP **PKiKP** **14 28 48.5 -1.0**
comp=Z,0.3nm,0.4s,baz=38,slow=3.0,SNR=2.5
TORD Torodi Ar. Bea 149.64 286 PKP **PKPdf** **14 29 04.5 -0.3**
comp=Z,3.7nm,0.6s,baz=24,slow=1.7,SNR=37
TORD PKPbc **PKPbc** **14 29 09.1 -0.4**
comp=Z,7.1nm,0.6s,baz=79,slow=4.0,SNR=36
BDFB Brasilia 151.13 137 PKPbc **PKPbc** **14 29 13.3 +0.2**
comp=Z,3.8nm,0.7s,baz=174,slow=9.2,SNR=5.7

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*MOS **19** 14:29:16.9± 1.2, 8°.75S× 127°.40E, h10km, mb5.3/27, Error ellipse: s-maj=14.0km s-min=6.9km az=108.9*
*IDC **19** 14:29:18.5± 0.5, 8°.66S× 127°.39E, h0km, mb4.7/20, mbtmp4.7/22, ML5.0/2, MS4.6/30, Error ellipse: s-maj=20.3km s-min=11.7km az=84.0*
*NEIC **19** 14:29:19.1± 2.2, 8°.72S± 0°.09× 127°.51E± 0°.07, h10km± 1km, mb5.2/50, Mww5.1/17, Error ellipse: s-maj=17.1km s-min=8.0km az=216.0*
*NEIC **19** 14:29:20.1, 8°.78S× 127°.40E, h26km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}3.05; $M_{\theta\theta}$-2.18; $M_{\phi\phi}$-0.87; $M_{r\theta}$-3.93; $M_{\theta\phi}$-1.54; $M_{\phi r}$-1.69; Fault plane solution: $M_0$5.30000×10^{16} NP1: ϕ_s47.71000°, δ18.71000°, λ73.72000°. NP2: ϕ_s244.85000°, δ72.07000°, λ95.42000°. Principal axes: T 5.2600, Plg63.0000°, Azm163.0000°; N 0.0821, Plg5.0000°, Azm63.0000°; P -5.3422, Plg27.0000°, Azm331.0000°;*
*NEIC **19** 14:29:20.1, 8°.68S× 127°.50E, h26km*
*GCMT **19** 14:29:24.1± 0.2, 9°.13S± 0°.01× 127°.46E± 0°.02, h18km, MW5.0/95, Moment Tensor Solution. s60,c86; s95,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.80± .14; $M_{\theta\theta}$-2.52± .10; $M_{\phi\phi}$-1.28± .11; $M_{r\theta}$2.36± .24; $M_{\theta\phi}$-2.01± .06; $M_{\phi r}$0.36± .28; Best double couple: $M_0$4.57700×10^{16} NP1: ϕ_s220.00000°, δ32.00000°, λ66.00000°. NP2: ϕ_s68.00000°, δ61.00000°, λ104.00000°. Principal axes: T 4.6000, Plg71.0000°, Azm10.0000°; N -0.0470, Plg13.0000°, Azm240.0000°; P -4.5540, Plg15.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **19** 14:29:24.2± 0.2, 9°.S± 2°.× 12°.7E± °, h46km± 2km, M5.0/106, mb5.2/106, mB5.5/54, MLv5.3/18, Mw(mB)4.9/54, MwMwp4.9/24, Mwp5.2/24*

ISC 19 14:29:22.2± 0.3, 8°.96S± 0°.04× 127°.42E± 0°.04, h35km, n276, σ2 219/274, mb5.0/93, MS4.5/42, 13C-6D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SOEI	**Soe**	**3.21**	**255**	Op	**Pn**	**14 30 12.6**	**+2.3**
SOEI	**Soe**	**3.21**	**255**	P	**Pn**	**14 30 12.6**	**+2.3**
BATI	**Baumata**	**3.91**	**251**	Pn	**Pn**	**14 30 22.3**	**+2.6**
43nm,0.3s,baz=134,slow=2.5,SNR=32							
BATI				Sn	**Sn**	**14 31 10.7**	**+6.2**
280nm,0.3s,baz=334,slow=18,SNR=6.4							
420nm,0.6s							
BATI	**Baumata**	**3.91**	**251**	P	**Pn**	**14 30 21.7**	**+1.9**
SAUI	**Saumlaki**	**3.96**	**76**	P	**Pn**	**14 30 23.6**	**+3.1**
BNDI	**Bandanaira**	**5.05**	**29**	P	**Pn**	**14 30 38.5**	**+3.0**
1.7nm5μm6μm374nm,0.9s							
MMRI	**Maumere**	**5.13**	**273**		**Pn**	**14 30 37.4**	**+0.8**
MMRI	**Maumere**	**5.13**	**273**	P	**Pn**	**14 30 38.4**	**+1.8**
2.7nm7μm6μm658nm,1.1s							
AAI	**Ambon**	**5.29**	**8**	P	**Pn**	**14 30 41.4**	**+2.6**
3μm243nm,0.7s							
MTN	**Manton Dam**	**5.31**	**137**	P	**Pn**	**14 30 41.7**	**+2.7**
comp=Z,0.0nmcomp=Z,560nm,0.6s							
MTN				S	**Sn**	**14 31 40.9**	**+1.9**
MTN	**Manton Dam**	**5.31**	**137**		**Pn**	**14 30 40.0**	**+0.9**
EDFI	**Ende, Flores**	**5.67**	**272**	P	**Pn**	**14 30 45.3**	**+1.3**
comp=Z,0.9nmcomp=Z,8μmcomp=Z,2μmcomp=Z,165nm,1.0s							
NLAI	**Namlea**	**5.69**	**357**	P	**Pn**	**14 30 48.6**	**+4.3**
comp=Z,1.1nmcomp=Z,3μmcomp=Z,353nm,0.6s							
MSAI	**Masohi**	**5.77**	**15**	P	**Pn**	**14 30 48.5**	**+3.1**
comp=Z,0.7nmcomp=Z,6μmcomp=Z,184nm,0.7s							
BBSI	**Bau Bau**	**5.92**	**305**	P	**Pn**	**14 30 50.6**	**+3.2**
KDU	**Kakadu**	**6.19**	**127**	P	**Pn**	**14 30 52.5**	**+1.3**
comp=Z,62nm,0.6s							
KDU				S	**Sn**	**14 32 01.4**	**+0.6**
KNRA	**Kununurra**	**6.81**	**169**	P	**Pn**	**14 31 00.2**	**+0.6**
comp=Z,0.0nmcomp=Z,425nm,0.7s							
KNRA				S	**Sn**	**14 32 12.9**	**-3.0**
KNRA	**Kununurra**	**6.81**	**169**		**Pn**	**14 31 00.3**	**+0.7**
BASI	**Baing, Sumba**	**6.86**	**259**	P	**Pn**	**14 31 02.1**	**+1.7**
KDI	**Kendari**	**6.89**	**316**	P	**Pn**	**14 31 02.8**	**+2.1**
SANI	**Sanana**	**7.01**	**348**	P	**Pn**	**14 31 06.3**	**+3.9**
comp=Z,1.1nmcomp=Z,5μmcomp=Z,4μmcomp=Z,327nm,1.4s							
WSI	**Waingapu**	**7.07**	**264**	P	**Pn**	**14 31 03.5**	**+0.3**
BSSI	**Bau Bau, Buton**	**7.42**	**292**	P	**Pn**	**14 31 10.9**	**+2.9**
comp=Z,1.4nmcomp=Z,4μmcomp=Z,4μmcomp=Z,437nm,1.0s							
FAKI	**Fak Fak**	**7.68**	**39**		**Pn**	**14 31 12.6**	**+0.9**
FAKI	**Fak Fak**	**7.68**	**39**	P	**Pn**	**14 31 12.3**	**+0.6**
comp=Z,0.4nmcomp=Z,4μmcomp=Z,105nm,0.8s							
WBSI	**Waikabubak, Su**	**7.95**	**264**	P	**Pn**	**14 31 15.8**	**+0.4**
BKSI	**Bulukumba**	**8.09**	**296**	P	**Pn**	**14 31 18.6**	**+1.3**
comp=Z,4μmcomp=Z,2μmcomp=Z,179nm,1.0s							
BNSI	**Bone**	**8.56**	**301**	P	**Pn**	**14 31 26.3**	**+2.6**
KAPI	**Kappang**	**8.56**	**297**	Pn	**Pn**	**14 31 26.3**	**+2.6**
comp=Z,2.7nm,0.3s,baz=100,slow=15,SNR=8.6							
KAPI				LR	LR	14 35 11.3	
comp=Z,3μm,19.3s,baz=127,slow=42							
SWI	**Sorong**	**8.90**	**26**	P	**Pn**	**14 31 31.3**	**+2.9**
comp=Z,1μmcomp=Z,107nm,0.8s							
SPSI	**Sidrap Palu**	**9.07**	**303**	P	**Pn**	**14 31 31.6**	**+0.8**
comp=Z,5μmcomp=Z,1μmcomp=Z,98nm,1.3s							
LUWI	**Luwuk**	**9.12**	**329**	P	**Pn**	**14 31 34.8**	**+3.4**
comp=Z,6μmcomp=Z,5μmcomp=Z,269nm,1.1s							
FITZ	**Fitzroy Crossi**	**9.25**	**191**	P	**Pn**	**14 31 32.6**	**-0.5**
comp=Z,47nm,0.8s							
FITZ	**Fitzroy Crossi**	**9.25**	**191**	Pn	**Pn**	**14 31 32.6**	**-0.5**
comp=Z,14nm,0.3s,baz=14,slow=9.9,SNR=266							
FITZ				Sn	**Sn**	**14 33 11.4**	**-4.7**
comp=Z,26nm,0.3s,baz=53,slow=14,SNR=13							
FITZ				LR	LR	14 35 55.3	
comp=Z,3μm,21.3s,baz=14,slow=42							
PLAI	**Plampang**	**9.53**	**270**	P	**Pn**	**14 31 37.9**	**+0.9**
TNTI	**Ternate**	**9.66**	**360**	P	**Pn**	**14 31 42.4**	**+3.5**
APSI	**Ampana**	**9.84**	**324**	P	**Pn**	**14 31 45.5**	**+4.2**
RKPI	**Ransiki, Papua**	**10.00**	**43**	P	**Pn**	**14 31 43.1**	**-0.3**
comp=Z,185nm,0.7s							
KMSI	**Cibinong**	**10.07**	**340**	P	**Pn**	**14 31 48.5**	**+4.1**
TWSI	**Taliwang, Sumb**	**10.42**	**270**	P	**Pn**	**14 31 50.9**	**+1.7**
comp=Z,938nmcomp=Z,83nm,0.8s							
MRSI	**Marisa**	**10.85**	**330**	P	**Pn**	**14 31 58.9**	**+3.9**
comp=Z,4μmcomp=Z,2μmcomp=Z,160nm,1.4s							
BAKI	**Biak**	**11.59**	**49**	P	**Pn**	**14 32 07.0**	**+1.8**
comp=Z,1μmcomp=Z,110nm,1.4s							
TOLI2	**Tolitoli**	**11.99**	**326**		**Pn**	**14 32 14.3**	**+3.6**
WAMI	**Wamena**	**12.30**	**67**	P	Pn	14 32 20.2	+5.3
comp=Z,3μmcomp=Z,190nm,0.7s							
WB0	**Warramunga Arr**	**12.69**	**149**		**Pn**	**14 32 17.7**	**-2.5**
SGSI	**Sangihe**	**12.70**	**351**	P	**Pn**	**14 32 24.4**	**+4.0**
WRAB	**Tennant Creek**	**12.81**	**149**	*i* P	**Pn**	**14 32 19.6**	**-2.3**
WRA	**Warramunga Arr**	**12.81**	**149**		**Pn**	**14 32 18.8**	**-3.1**
WRA	**Warramunga Arr**	**12.81**	**149**	Pn	**Pn**	**14 32 20.0**	**-1.8**
comp=Z,3.3nm,0.3s,baz=319,slow=13,SNR=156							
WRA				Sn	**Sn**	**14 34 37.4**	**-5.9**
comp=Z,11nm,0.3s,baz=320,slow=23,SNR=16							
WRA				LR	LR	14 37 46.5	
comp=Z,3μm,20.3s,baz=334,slow=39							
WRA	**Warramunga Arr**	**12.81**	**149**	P	**Pn**	**14 32 18.8**	**-3.1**
WR8	**Warramunga Arr**	**12.90**	**149**		**Pn**	**14 32 20.5**	**-2.6**
JAGI	**Jajag, Banyuwa**	**13.12**	**271**	P	**Pn**	**14 32 27.7**	**+1.5**
comp=Z,2μmcomp=Z,50nm,0.8s							
BBKI	**Banjar Baru**	**13.64**	**293**	P	**Pn**	**14 32 37.4**	**+4.1**
comp=Z,134nm,1.2s							
BLJI	**Banyuglugur**	**13.73**	**274**	P	**Pn**	**14 32 36.4**	**+1.9**
comp=Z,68nm,1.0s							
MBWA	**Marble Bar**	**14.22**	**211**	P	**Pn**	**14 32 38.9**	**-2.2**
comp=Z,72nm,0.8s							
MBWA	**Marble Bar**	**14.22**	**211**	Pn	**Pn**	**14 32 39.0**	**-2.1**
PSAC2	**Pilbara Seismi**	**14.47**	**209**	P	**Pn**	**14 32 42.6**	**-2.0**
comp=Z,180nm,0.9s							
PSAC1	**Pilbara Seismi**	**14.49**	**210**	P	**Pn**	**14 32 42.7**	**-2.2**
comp=Z,169nm,0.9s							
PSA00	**Pilbara Seismi**	**14.51**	**209**	P	**Pn**	**14 32 42.2**	**-2.9**
comp=Z,168nm,0.9s							
PSA00	**Pilbara Seismi**	**14.51**	**209**	Pn	**Pn**	**14 32 42.3**	**-2.8**
PSAB3	**Pilbara Seismi**	**14.52**	**209**	P	**Pn**	**14 32 42.7**	**-2.6**
comp=Z,192nm,0.9s							
AS15	**Alice Springs**	**15.86**	**158**	P	**Pn**	**14 32 60.0**	**-3.0**
NGJI	**Ngawi**	**15.88**	**275**	P	**P**	**14 33 05.6**	**-0.9**
comp=Z,104nm,0.8s							
AS31	**Alice Springs**	**15.89**	**158**	P	**Pn**	**14 33 00.3**	**-3.0**
AS31	**Alice Springs**	**15.89**	**158**	Pn	**Pn**	**14 33 00.8**	**-2.5**
ASAR	**Alice Springs**	**15.89**	**158**	Pn	**Pn**	**14 33 00.1**	**-3.2**
ASAR	**Alice Springs**	**15.89**	**158**	Pn	**Pn**	**14 33 01.9**	**-1.4**
comp=Z,1.9nm,0.3s,baz=327,slow=9.2,SNR=159							
ASAR				Sn	**Sn**	**14 35 52.7**	**-5.7**
comp=Z,4.6nm,0.3s,baz=312,slow=14,SNR=5.9							
ASAR				LR	LR	14 39 55.6	
comp=Z,5μm,20.1s,baz=335,slow=39							
ASAR	**Alice Springs**	**15.89**	**158**	P	**Pn**	**14 33 00.1**	**-3.2**
AS17	**Alice Springs**	**15.92**	**158**	P	**Pn**	**14 33 00.0**	**-3.7**
AS09	**Alice Springs**	**15.93**	**158**	P	**Pn**	**14 33 00.6**	**-3.3**
WRKA	**Warakurna**	**16.01**	**177**	P	**Pn**	**14 33 02.4**	**-2.5**
comp=Z,68nm,0.7s							
PCJI	**Pacitan**	**16.08**	**271**	P	**Pn**	**14 33 05.1**	**-0.6**
comp=Z,128nm,0.9s							
COEN	**Coen**	**16.22**	**109**	P	**Pn**	**14 33 06.4**	**-1.1**
COEN	**Coen**	**16.22**	**109**		**Pn**	**14 33 06.4**	**-1.1**
QIS	**Mount Isa**	**16.47**	**136**	P	**Pn**	**14 33 08.5**	**-2.2**
UGM	**Wanagama**	**16.75**	**272**	P	**P**	**14 33 16.9**	**+0.7**
comp=Z,103nm,1.2s							
SMRI	**Semarang**	**16.92**	**275**	P	**P**	**14 33 18.4**	**+0.3**
comp=Z,177nm,1.1s							
YOGI	**Yogyakarta**	**16.98**	**273**	P	**P**	**14 33 18.4**	**-0.4**
comp=Z,166nm,1.1s							
KPJI	**Karang Pucung**	**18.37**	**274**	P	**P**	**14 33 33.8**	**-0.3**
comp=Z,75nm,1.0s							
SBUM	**Sibu**	**18.92**	**306**	P	**P**	**14 33 38.9**	**-1.2**
MEEK	**Meekatharra**	**19.46**	**204**	P	**Pn**	**14 33 49.0**	**+1.5**
PMG	**Port Moresby**	**19.49**	**93**	P	**Pn**	**14 33 50.6**	**+2.8**
comp=Z,40nm,0.8s,baz=284,slow=8.9,SNR=15							
PMG				LR	LR	14 43 04.6	
comp=Z,4μm,19.4s,baz=243,slow=42							
PMG	**Port Moresby**	**19.49**	**93**	*i* P	**Pn**	**14 33 51.3**	**+3.5**
PMG				pmax	pmax		
comp=Z,108nm,1.1s							
LEM	**Lembang**	**19.73**	**275**	P	**P**	**14 33 48.7**	**-0.5**
comp=Z,9.3nm,0.3s,baz=51,slow=9.1,SNR=14							
LEM				LR	LR	14 43 31.0	
comp=Z,3μm,18.7s,baz=90,slow=43							
comp=Z,42nm,0.5s							
LEM	**Lembang**	**19.73**	**275**	P	**P**	**14 33 48.9**	**-0.3**
comp=Z,1μmcomp=Z,109nm,1.0s							
KSM	**Kuching**	**19.95**	**300**	P	**P**	**14 33 50.3**	**-1.1**
CNJI	**Cibinong**	**20.15**	**273**	P	**P**	**14 33 53.0**	**-0.6**
comp=Z,974nmcomp=Z,124nm,1.0s							
TPI	**Tanjungpandan**	**20.60**	**286**	P	**P**	**14 33 59.2**	**+0.7**
DBJI	**Dramaga**	**20.62**	**275**	P	**P**	**14 33 58.9**	**+0.2**
comp=Z,177nm,1.1s							
SKJI	**Sukabumi**	**20.75**	**274**	P	**P**	**14 33 59.5**	**-0.6**
comp=Z,3μmcomp=Z,247nm,1.1s							
CTA	**Charters Tower**	**21.30**	**123**	LR	LR	14 42 52.5	
comp=Z,69nm,21.0s,baz=296,slow=38							
CGJI	**Cibinong**	**21.65**	**275**	P	**P**	**14 34 10.3**	**+0.5**
comp=Z,1μmcomp=Z,128nm,1.3s							
FORT	**Forrest**	**21.72**	**179**	P	**P**	**14 34 12.7**	**+2.3**
comp=Z,89nm,0.7s							
FORT	**Forrest**	**21.72**	**179**	P	**P**	**14 34 12.2**	**+1.9**
FORT				IAmb	IAmb	14 34 23.7	
comp=Z,63nm,0.8s							
INKA	**Innaminka**	**22.52**	**148**	P	**P**	**14 34 21.0**	**+1.9**
MORW	**Morawa**	**22.68**	**207**	P	**P**	**14 34 21.3**	**+0.5**
comp=Z,90nm,1.4s							
MORW	**Morawa**	**22.68**	**207**	P	**P**	**14 34 21.7**	**+1.0**
MORW				IAmb	IAmb	14 34 30.5	
comp=Z,67nm,0.9s							
KMBL	**Kambalda**	**22.89**	**192**	P	**P**	**14 34 24.0**	**+1.2**
comp=Z,29nm,1.7s							
KASI	**Kota Agung**	**22.99**	**277**	P	**P**	**14 34 22.9**	**-1.2**
comp=Z,62nm,0.9s							
MDSI	**Maura Dua**	**23.50**	**279**	P	**P**	**14 34 26.9**	**-2.2**
QLP	**Quilpie**	**23.69**	**140**	P	**P**	**14 34 33.8**	**+2.9**
comp=Z,271nm,1.1s							
BLDU	**Ballidu**	**23.76**	**203**	P	**P**	**14 34 32.4**	**+0.9**
comp=Z,86nm,1.0s							
TGY	**Tagaytay City**	**23.80**	**344**	P	**P**	**14 34 31.5**	**-0.5**
comp=Z,178nm,0.3s,baz=217,slow=7.1,SNR=3.8							
DSRI	**Dabo**	**24.25**	**289**	P	**P**	**14 34 36.2**	**0.0**
comp=Z,1μmcomp=Z,60nm,1.1s							
LHSI	**Lahat**	**24.28**	**281**	P	**P**	**14 34 35.1**	**-1.4**
TPRI	**Tanjung Pinang**	**24.83**	**292**	P	**P**	**14 34 42.9**	**+1.5**
BBOO	**Buckleboo**	**25.05**	**163**	P	**P**	**14 34 42.5**	**-0.7**
BBOO				IAmb	IAmb	14 34 56.5	
comp=Z,60nm,0.8s							
KSI	**Kapahiang**	**25.22**	**280**	P	**P**	**14 34 45.3**	**+0.2**
comp=Z,49nm,0.6s							
NWAO	**Narrogin (SRO)**	**25.65**	**200**	P	**P**	**14 34 50.6**	**+1.9**
NWAO				IAmb	IAmb	14 35 21.7	
comp=Z,74nm,1.1s							
NWAO	**Narrogin (SRO)**	**25.65**	**200**	LR	LR	14 46 24.4	
comp=Z,1μm,21.7s,baz=3.5,slow=40							
NWAO	**Narrogin (SRO)**	**25.65**	**200**	P	**P**	**14 34 50.6**	**+1.9**
NWAO				pmax	pmax		
comp=Z,74nm,1.1s							
MASI	**Maura Aman, Be**	**25.69**	**281**	P	**P**	**14 34 49.4**	**+0.1**
comp=Z,73nm,1.1s							
STKA	**Stephens Creek**	**26.33**	**152**	P	**P**	**14 34 57.2**	**+2.3**
STKA	**Stephens Creek**	**26.33**	**152**	P	**P**	**14 34 57.7**	**+2.8**
comp=Z,24nm,0.8s,baz=322,slow=9.2,SNR=26							
STKA				LR	LR	14 46 23.4	
comp=Z,2μm,19.1s,baz=319,slow=38

comp=Z,2μm,19.6s,baz=293,slow=37
GYA Guiyang 40.57 331 ⇓P **P 14 37 00.1 +1.5**
GYA S **S 14 43 09.0 +3.1**
GYA pmax pmax
comp=Z,22nm,1.0s
GYA pmax pmax
comp=Z,150nm,6.0s
GYA LR LR
comp=Z,350nm,29.9s
GYA LR LR
comp=Z,350nm,21.2s
GYA LR LR
comp=Z,250nm,19.9s
WHN Wuhan 41.23 343 P **P 14 37 03.9 +0.1**
KMI Kunming 41.54 325 P **P 14 37 07.6 +0.8**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI LR LR
comp=Z,300nm,15.6s
KMI LR LR
comp=Z,260nm,15.0s
KMI LR LR
comp=Z,290nm,17.9s
NJ2 Nanjing 41.59 349 *e*P **P 14 37 07.5 +0.7**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
JNU Nakatsue 41.97 4 LR LR 14 53 23.6
comp=Z,197nm,20.7s,baz=180,slow=35
PZH PanZhiHua 43.18 325 P **P 14 37 22.3 +2.3**
TNCH TengChong 43.98 321 P **P 14 37 26.3 -0.2**
TNCH sP pP 14 37 34.1 -2.4
TNCH S **S 14 44 00.8 +4.3**
TNCH sS sS 14 44 05.8 -6.7
TNCH SS **SS 14 47 13.6 -0.7**
TNCH pmax pmax
comp=Z,50nm,1.5s
TNCH pmax pmax
comp=Z,150nm,3.0s
TNCH LR LR
comp=Z,350nm,17.2s
TNCH LR LR
comp=Z,380nm,15.6s
TNCH LR LR
comp=Z,590nm,20.2s
CD2 Chengdu 45.68 331 P **P 14 37 39.3 -0.5**
CD2 pmax pmax
comp=Z,20nm,0.4s
KSAR Wonju Array Be 46.16 1 P **P 14 37 42.0 -1.4**
KSAR Wonju Array Be 46.16 1 P **P 14 37 42.0 -1.4**
KSRS Korea Array 46.17 1 P **P 14 37 43.1 -0.3**
comp=Z,2.0nm,0.6s,baz=179,slow=9.2,SNR=18
KSRS PcP **PcP 14 39 19.9 +0.9**
comp=Z,2.7nm,0.8s,baz=190,slow=4.1,SNR=7.9
KSRS LR LR 14 55 58.1
comp=Z,77μm,20.9s,baz=190,slow=35
comp=Z,2.0nm,0.6s
XAN Xi'an 46.23 339 ⇑P **P 14 37 42.5 -1.6**
XAN pP pP 14 37 52.8 -1.2
XAN pmax pmax
comp=Z,15nm,1.2s
XAN LR LR
comp=Z,520nm,22.0s
XAN LR LR
comp=Z,240nm,20.6s
XAN LR LR
comp=Z,570nm,18.5s
MJAR Matsushiro Arr 46.38 12 P **P 14 37 42.6 -2.6**
comp=Z,2.9nm,0.8s,baz=182,slow=9.2,SNR=7.2
comp=Z,2.9nm,0.8s
HNS HongShan 47.63 346 ⇑P **P 14 37 53.6 -1.2**
HNS pmax pmax
comp=Z,9.0nm,1.1s
HNS LR LR
comp=Z,290nm,17.1s
HNS LR LR
comp=Z,170nm,17.1s
HNS LR LR
comp=Z,270nm,19.6s
PALK Pallekele 49.27 288 *i*P **P 14 38 06.6 -1.4**
PALK pmax pmax
comp=Z,39nm,1.3s
LZDM Lanzhou Array 49.95 335 P **P 14 38 11.9 -1.3**
comp=Z,2.2nm,0.3s,baz=182,slow=7.9,SNR=1.6
comp=Z,2.2nm,0.3s
LZH Lanzhou 50.00 335 *e*P **P 14 38 12.8 -0.6**
LZH sP pP 14 38 20.3 -3.1
LZH S **S 14 45 24.6 +2.6**
LZH pmax pmax
comp=Z,28nm,1.6s
LZH LR LR
comp=Z,390nm,17.8s
LZH LR LR
comp=Z,320nm,17.5s
LZH LR LR
comp=Z,260nm,15.2s
RPZ Rata Peaks 51.32 140 LR LR 15 02 35.2
comp=Z,2μm,18.1s,baz=308,slow=39
HHC Hu-ho-hao-te 51.67 345 *e*P **P 14 38 28.3 +2.5**
HHC S **S 14 45 48.6 +3.7**
HHC sS pS 14 45 54.5 -2.7
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,80nm,4.9s
HHC LR LR
comp=Z,200nm,15.7s
HHC LR LR
comp=Z,170nm,15.1s
HHC LR LR
comp=Z,180nm,15.1s
TUWZ Tuamarina 52.18 136 P **P 14 38 31.5 +2.0**
USRK Ussuriysk Ar. 53.07 4 P **P 14 38 36.8 +0.9**
comp=Z,2.7nm,0.6s,baz=192,slow=8.5,SNR=4.7
comp=Z,2.7nm,0.6s
URZ Urewera 53.24 131 LR LR 15 00 53.8
comp=Z,789nm,21.1s,baz=308,slow=36
XLT XiLinHaoTe 53.60 350 *e*P **P 14 38 39.8 -0.2**
XLT sS sS 14 46 25.3 -2.9
XLT SS **SKiKP 14 49 57.8 +5.0**
XLT pmax pmax
comp=Z,9.0nm,1.5s
XLT pmax pmax
comp=Z,67nm,3.9s
XLT LR LR
comp=Z,320nm,20.3s
XLT LR LR
comp=Z,160nm,16.2s
EVN Everest 53.74 314 P **P 14 38 41.7 -0.3**
EVN IAmb IAmb 14 38 44.4
comp=Z,19nm,0.9s
GTA Gaotai 54.52 334 *e*P **P 14 38 47.3 +0.5**
GTA pmax pmax
comp=Z,26nm,1.4s
GTA pmax pmax
comp=Z,56nm,6.8s
GTA LR LR
comp=Z,250nm,16.3s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,200nm,16.3s
RAO Raoul Island 54.93 119 LR LR 15 01 12.0
comp=Z,825nm,21.2s,baz=281,slow=35
HYB Hyderabad 54.94 299 *e*P **P 14 38 49.1 -1.1**
HYB IVmB_BB 14 38 50.6
comp=Z,261nm,1.5s
HYB *e*PP **PP 14 40 52.8 -0.7**
YSS Yuzhno-Sakhali 57.32 12 *e*P **P 14 39 05.8 -0.7**
YSS *e*S **S 14 46 58.5 -1.9**
YSS *e*SS **SS 14 50 49.8 -0.6**
YSS MLR MLR
comp=E,100nm,16.0s
HILR Hailar Array B 58.65 354 P **P 14 39 17.0 +1.1**
comp=E,2.0nm,0.5s,baz=160,slow=13,SNR=2.4
comp=E,2.0nm,0.5s
HEH HeiHe 58.96 360 *e*P **P 14 39 18.0 0.0**
HEH pmax pmax
comp=E,10.0nm,1.4s
HEH LR LR
comp=E,160nm,18.3s
HEH LR LR
comp=E,120nm,16.4s
HEH LR LR
comp=E,330nm,20.5s
ULN Ulaanbaatar 59.38 344 P **P 14 39 20.5 -0.7**
ULN IAmb IAmb 14 39 23.1
comp=Z,28nm,1.6s
ULN Ulaanbaatar 59.38 344 *ce*P **P 14 39 21.4 +0.2**
ULN pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 59.53 344 P **P 14 39 20.9 -1.2**
SONM Songino Array 59.53 344 P **P 14 39 21.9 -0.2**
comp=Z,4.5nm,0.9s,baz=164,slow=8.3,SNR=16
comp=Z,4.5nm,0.9s
ZEA Zeya 62.45 360 *e*P **P 14 39 42.0 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZAK Zakamensk 62.72 343 *e*P **P 14 39 42.7 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,2.0s
WMQ Urumqi 63.69 329 *e*P **P 14 39 50.0 -0.2**
WMQ PP **PP 14 42 13.8 +3.1**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,250nm,14.9s
WMQ LR LR
comp=Z,200nm,24.2s
WMQ LR LR
comp=Z,130nm,23.8s
MOY Mondy 64.53 342 *e*P **P 14 39 55.8 +0.2**
MOY pmax pmax
comp=Z,28nm,1.6s
KNGR Kungurtug, Tuv 64.75 339 *i*P **P 14 39 56.8 -0.3**
KNGR pmax pmax
comp=Z,8.0nm,1.2s
NIL Nilore 66.60 313 P **P 14 40 07.9 -1.4**
NIL IAmb IAmb 14 40 25.4
comp=Z,9.1nm,0.7s
NIL Nilore 66.60 313 P **P 14 40 07.9 -1.4**
NIL pmax pmax
comp=Z,9.0nm,0.7s
PETK Petropavlovsk- 66.99 19 P **P 14 40 11.5 +0.2**
comp=Z,4.1nm,0.8s,baz=195,slow=2.3,SNR=12
comp=Z,4.1nm,0.8s
PET Petropavlovsk 67.23 20 *e*P **P 14 40 10.6 -2.2**
PET *e*S **S 14 49 01.1 -3.9**
BOD Bodaibo 67.44 352 *e*P **P 14 40 13.6 -0.4**
BOD pmax pmax
comp=Z,29nm,1.5s
KSH Kashi 67.77 319 P **P 14 40 17.1 +0.4**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH LR LR
comp=Z,230nm,18.9s
KSH LR LR
comp=Z,190nm,18.2s
KSH LR LR
comp=Z,270nm,17.9s
UZB Uzynbulak 68.00 324 *i*P **P 14 40 17.7 -0.4**
UZB pmax pmax
comp=Z,17nm,1.4s
MK31 Makanchi Array 68.50 328 *ce*P **P 14 40 20.9 -0.1**
MKAR Makanchi Array 68.50 328 **P 14 40 20.4 -0.5**
MKAR Makanchi Array 68.50 328 P **P 14 40 21.0 0.0**
comp=Z,11nm,0.7s,baz=130,slow=8.0,SNR=95
comp=Z,11nm,0.7s
MAKZ Makanchi 68.67 328 P **P 14 40 20.4 -1.7**
MAKZ IAmb IAmb 14 40 22.8
comp=Z,18nm,1.1s
MAKZ Makanchi 68.67 328 P **P 14 40 20.4 -1.7**
MAKZ pmax pmax
comp=Z,18nm,1.1s
BOOM Boomskoye usch 69.45 322 IAmb IAmb 14 40 28.3
comp=Z,14nm,0.8s
AAK Ala-Archa 70.42 321 P **P 14 40 31.8 -1.3**
AAK IAmb IAmb 14 40 34.5
comp=Z,11nm,0.8s
AAK Ala-Archa 70.42 321 *ce*P **P 14 40 33.8 +0.7**
AAK pmax pmax
comp=Z,25nm,1.7s
YAK Yakutsk 70.79 1 P **P 14 40 33.4 -1.3**
YAK Yakutsk 70.79 1 P **P 14 40 34.6 -0.1**
comp=Z,37nm,0.8s,baz=151,slow=0.4,SNR=24
comp=Z,37nm,0.8s
YAK Yakutsk 70.79 1 *e*P **P 14 40 33.7 -1.0**
YAK *e* 14 40 54.5
YAK *e* 14 43 09.2
YAK *e*PPP PPP 14 44 54.3
YAK *e*S **S 14 49 45.2 -1.6**
YAK *e* 14 50 32.7
YAK *e*SS **SS 14 54 16.7 -3.2**
YAK pmax pmax
comp=Z,55nm,1.1s
YAK pmax pmax
comp=N,32nm,2.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,113nm,5.1s
YAK pmax pmax
comp=N,67nm,6.3s
YAK pmax pmax
comp=E,62nm,6.8s
YAK smax smax
comp=E,129nm,6.0s
YAK smax smax
comp=N,87nm,6.3s
VNDA Vanda 70.84 173 **P 14 40 37.8 +2.9**
VNDA Vanda 70.84 173 P **P 14 40 37.6 +2.7**
comp=N,2.0nm,0.7s,baz=316,slow=6.0,SNR=16
VNDA LR LR 15 12 11.9
comp=N,871nm,18.7s,baz=348,slow=36
comp=N,2.0nm,0.7s
VNDA Vanda 70.84 173 P **P 14 40 37.8 +2.9**
VNDA pmax pmax
comp=Z,12nm,1.3s
RAR Rarotonga 70.84 109 LR LR 15 10 02.6
comp=Z,173nm,20.8s,baz=262,slow=34
SBA Scott Base 71.76 172 P **P 14 40 41.9 +1.4**
SBA Scott Base 71.76 172 P **P 14 40 41.9 +1.4**
SBA pmax pmax
comp=Z,7.0nm,1.0s
CHGR Chuyangaron 71.90 316 **P 14 40 41.9 -0.2**
CHGR IAmb IAmb 14 40 43.4
comp=Z,27nm,1.2s
CHGR Chuyangaron 71.90 316 P **P 14 40 41.9 -0.2**
CHGR pmax pmax
comp=Z,27nm,1.2s
MAW Mawson 72.21 201 P **P 14 40 46.2 +3.0**
comp=Z,6.3nm,0.8s,baz=68,slow=9.5,SNR=8.7
comp=Z,6.3nm,0.8s
ZALV Zalesovo Beam 72.24 335 **P 14 40 42.2 -1.4**
ZALV Zalesovo Beam 72.24 335 P **P 14 40 42.4 -1.2**
comp=Z,27nm,0.8s,baz=125,slow=4.4,SNR=118
comp=Z,27nm,0.8s
KURBB Kurchatov Arra 72.87 330 P **P 14 40 47.0 -0.4**
comp=Z,16nm,0.9s,baz=132,slow=5.2,SNR=125
comp=Z,16nm,0.9s
KURK Kurchatov 72.88 330 **P 14 40 45.9 -1.7**
KURK Kurchatov 72.88 330 *ce*P **P 14 40 47.1 -0.4**
KURK pmax pmax
comp=Z,73nm,1.3s
IUG Iuzhnay 72.99 319 *e*P **P 14 40 48.2 -0.3**
BRLS Borolday 73.55 320 *e*P **P 14 40 50.9 -0.8**
BRLS pmax pmax
comp=Z,8.0nm,1.4s
SEY Seymchan 74.20 12 *e*P **P 14 40 54.3 -0.7**
SEY pmax pmax
comp=Z,27nm,1.4s
BORK Borovoye 78.42 329 *ce*P **P 14 41 19.2 0.0**
BORK pmax pmax
comp=Z,50nm,1.7s
TIXI Tiksi 80.44 0 **P 14 41 29.4 -0.3**
TIXI IAmb IAmb 14 41 30.9
comp=Z,54nm,1.4s
TIXI Tiksi 80.44 0 LR LR 15 19 12.3
comp=Z,100nm,20.6s,baz=202,slow=37
TIXI Tiksi 80.44 0 *ce*P **P 14 41 29.0 -0.8**
TIXI pmax pmax
comp=Z,56nm,1.7s
PPT2 Papeete2 80.72 106 *e*PKIKP **P 14 41 29.5 -3.1**
comp=Z,30nm,21.5s
PPT2 Papeete2 80.72 106 *e*S **S 14 51 39.6 +1.1**
comp=Z,79nm,23.5s
PPT2 *e*SS **SS 14 56 52.4 +0.3**
comp=Z,91nm,24.0s
PPT2 *e*LQ LQ 15 03 16.3
comp=Z,711nm,35.0s
PPT2 *e*LR LR 15 06 37.5
comp=Z,258nm,33.8s
PPT2 *e*LR LR 15 06 44.4
comp=Z,484nm,31.8s
PPT Papeete 80.72 106 LR LR 15 14 49.7
comp=Z,81nm,21.5s,baz=257,slow=34
SYO Syowa Base 80.92 201 ⇑*i*P **P 14 41 35.4 +2.9**
SYO Syowa Base 80.92 201 ⇓*ep*P pP 14 41 38.4 -4.5
QSPA South Pole Qui 81.03 180 P P 14 41 38.1 +4.7
QSPA IAmb IAmb 14 41 47.4
comp=Z,16nm,0.9s
QSPA South Pole Qui 81.03 180 P P 14 41 38.5 +5.2
comp=Z,7.6nm,0.8s,baz=320,slow=1.9,SNR=30
QSPA LR LR 15 19 19.0
comp=Z,972nm,18.1s,baz=358,slow=37
comp=Z,7.6nm,0.8s
AB31 Akbulak array 82.47 322 IAmb IAmb 14 41 43.4
comp=Z,23nm,1.8s
ABKAR Akbulak array 82.47 322 **P 14 41 39.6 -1.4**
SVE Sverdlovsk 85.13 330 *e*P **P 14 41 54.2 -0.3**
SVE pmax pmax
comp=Z,26nm,1.6s
ARTI Arti 86.10 329 *d i*P **P 14 41 59.3 0.0**
ARTI 14 45 17.2
ARTI S **SKSac 14 52 25.5 +3.0**
ARTI SS **SS 14 58 13.7 +3.5**
ARTI pmax pmax
comp=Z,22nm,1.5s
ATD Arta Tunnel 86.51 282 LR LR 15 20 42.2
comp=Z,5.8nm,19.0s,baz=98,slow=36
MAK Makhachkala 88.74 314 *e*P **P 14 42 09.2 -3.1**
MAK *e* 14 45 40.7
MAK *e* 14 52 31.2
MAK *e*SS **S 14 52 53.1 -3.9**
MAK *e*SS **SS 14 58 44.9 -4.5**
MAK pmax pmax
comp=Z,77nm,0.9s
GNI Garni 90.16 311 LR LR 15 30 42.6
comp=Z,73nm,20.8s,baz=106,slow=41
TAOE Nuku Hiva Isla 91.02 99 *e*LR LR 15 11 27.4
comp=Z,267nm,21.8s
L18K Granite Mounta 91.36 27 P **P 14 42 24.1 0.0**
TROLL Troll, Antarti 91.64 195 ⇑P **P 14 42 28.9 +3.4**
comp=Z,330nm,0.9s
KVAR Kislovodsk Arr 92.37 314 LR LR 15 31 39.1
comp=Z,60nm,18.7s,baz=224,slow=41
KIV Kislovodsk 92.38 314 *e*P **P 14 42 27.2 -2.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 93.17 194 ⇑P **P 14 42 35.9 +3.3**
comp=Z,119nm,0.9s
SNAA Sanae 93.17 194 **P 14 42 33.0 +0.5**
SNAA IAmb IAmb 14 42 46.2
comp=Z,15nm,1.0s
SNAA Sanae 93.17 194 P **P 14 42 35.7 +3.2**
comp=Z,4.6nm,0.8s,baz=161,slow=4.5,SNR=24
SNAA LR LR 15 26 05.7
comp=Z,348nm,18.1s,baz=106,slow=36
comp=Z,4.6nm,0.8s
SNAA Sanae 93.17 194 *i*P **P 14 42 34.4 +1.9**
SNAA pmax pmax
comp=Z,9.0nm,1.0s
RKT Rikitea 93.44 114 *e*LR LR 15 12 29.7
comp=Z,12μm,35.2s
SOC Sochi 94.44 313 *e*P **P 14 42 35.7 -3.1**
SOC *e* 14 46 23.4
SOC *e*S **SKSac 14 53 10.4 -1.1**
SOC *e*SS **SS 15 00 09.7 -1.9**
SOC *e*SSS SSS 15 03 57.7
SOC MLR MLR
comp=Z,407nm,21.0s
VNA2 Neumayer--Watz 94.75 194 ⇓P **P 14 42 43.3 +3.5**
comp=Z,2.9nm,0.8s,baz=99,slow=4.4
VNA3 Neumayer Olymp 95.03 193 ⇑P **P 14 42 44.7 +3.6**
comp=Z,1.9nm,0.8s
RND Reindeer 95.14 27 **P 14 42 40.5 -1.1**
RND IAmb IAmb 14 42 42.1
comp=Z,9.7nm,1.0s
RND Reindeer 95.14 27 P **P 14 42 40.5 -1.1**
RND pmax pmax
comp=Z,10.0nm,1.0s
ASF Jabal al Asfar 95.14 302 LR LR 15 30 57.0
comp=Z,231nm,19.8s,baz=147,slow=39
VNA1 Neumayer--Stat 95.15 194 ⇓P **P 14 42 45.1 +3.6**
comp=Z,3.7nm,0.9s
MATP Matopo 95.16 248 LR LR 15 21 08.9
comp=Z,222nm,21.2s,baz=99,slow=33
DHY Denali Highway 95.75 27 P **P 14 42 43.9 -0.6**
DHY IAmb IAmb 14 43 03.5
comp=Z,13nm,1.3s
COLA College 95.80 25 *i*P **P 14 42 43.4 -1.1**
COLA pmax pmax
comp=Z,11nm,1.8s
ILAR Eielson Array 96.20 25 P **P 14 42 45.6 -0.7**
comp=Z,0.5nm,0.7s,baz=264,slow=5.4,SNR=6.5
ILAR LR LR 15 25 06.7
comp=Z,74nm,18.5s,baz=270,slow=35
comp=Z,0.5nm,0.7s
BOSA Boshof 96.28 240 P **P 14 42 49.6 +1.8**
comp=Z,3.4nm,0.8s,baz=93,slow=2.5,SNR=5.6
comp=Z,3.4nm,0.8s
LSZ Lusaka 96.46 253 LR LR 15 22 29.6
comp=Z,143nm,20.1s,baz=119,slow=33
MMAI Mount Meron Ar 96.49 302 LR LR 15 32 06.0
comp=Z,151nm,19.0s,baz=104,slow=39
EIL Elat 96.50 299 LR LR 15 31 10.9
comp=Z,245nm,20.9s,baz=157,slow=38
LBTB Lobatse 96.81 243 LR LR 15 21 26.3
comp=Z,363nm,21.8s,baz=107,slow=32
OBN Obninsk 97.76 325 *e*P **P 14 42 50.7 -2.8**
OBN *e* 14 46 52.3
OBN pmax pmax
comp=Z,6.0nm,1.3s
BR104 Keskin Array S 98.55 309 P **P 14 42 56.2 -1.5**
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 98.55 309 P **P 14 42 57.1 -0.6**
comp=Z,0.3nm,0.4s,baz=80,slow=1.4,SNR=5.1
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 98.55 309 *ce*P **P 14 42 55.5 -2.2**
BR105 Keskin Array S 98.57 309 P **P 14 42 56.3 -1.5**
APA Apatity 99.75 337 ⇓*ep*P **Pdif 14 42 54.8 -7.4**
APA *e* 14 47 02.5
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,1μm,3.9s
AK22 Malin Array Si 102.16 320 P **Pdif 14 43 11.8 -1.5**
STHS Stebnicka Huta 107.27 319 *e*PDIFF **Pdif 14 43 37.2 +1.1**
CLL Collm 112.13 322 *i*PKIKP **PKiKP 14 47 58.9 +4.9**
CLL Collm 112.13 322 *e*PS PS 14 58 16.0 +3.6
CLL *e*PPS PPS 14 59 25.0
GERES GERESS Array B 112.25 319 PKiKP **PKiKP 14 47 55.6 +1.2**
comp=Z,0.6nm,0.6s,baz=64,slow=3.1,SNR=6.4
PDAR Pinedale Array 120.08 46 PKP **PKiKP 14 48 11.9 +2.0**
comp=Z,0.6nm,0.7s,baz=336,slow=3.3,SNR=5.2
ESDC Sonseca Array 127.05 313 PKP **PKiKP 14 48 24.3 +0.7**
comp=Z,3.2nm,1.1s,baz=33,slow=3.5,SNR=7.6
PLCA Paso Flores 127.85 163 PKP **PKiKP 14 48 27.3 +2.0**
comp=Z,3.8nm,0.9s,baz=202,slow=4.6,SNR=12
TXAR Lajitas Array 128.12 60 PKP **PKiKP 14 48 27.7 +1.6**
comp=Z,0.8nm,0.8s,baz=243,slow=1.1,SNR=9.0
CPUP Villa Florida 144.62 173 PKP **PKPdf 14 48 57.5 +1.5**
comp=Z,3.4nm,0.9s,baz=256,slow=2.0,SNR=15
PB16 IPOC Station P 148.15 148 **PKPab 14 49 09.6 +0.7**
LPAZ La Paz 150.57 148 PKPbc **PKiKP 14 49 15.4 +2.5**
comp=Z,16nm,0.9s,baz=208,slow=1.5,SNR=46

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*IDC **19** 14:37:18.1±1.4, 11.00S×164.68E, h0km, mb3.9/6, mbtmp3.8/6, Error ellipse: s-maj=47.0km s-min=31.4km az=129.0*

ISC 19 14:37:22.5±1.3, 11.1S±0.2×164.7E±0.2, h29km, n15, σ1.9 01/7, mb3.8/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.98**	**289**	P	**Pn**	**14 38 35.8**	**+0.5**
SANVU	**Saraoutou**	**4.98**	**151**	P	Pn	14 38 41.9	+6.5
PINNC	**Pines Island,**	**11.78**	**168**	P	Pn	14 40 17.6	+9.0
H11S2	**WAKE ISLAND Hy**	**29.43**	**4**	T	T	15 13 38.3	
	baz=184,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**29.43**	**4**	T	T	15 13 36.6	
	baz=184,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.45**	**4**	T	T	15 13 39.1	
	baz=184,slow=76,SNR=30						
WRA	**Warramunga Arr**	**30.54**	**249**	P	**P**	**14 43 33.4**	**-0.3**
	1.2nm,0.9s,baz=78,slow=8.8,SNR=1.7						
	1.2nm,0.9s						

H11N1 WAKE ISLAND Hy 30.65 4 T T 15 15 10.4
baz=184,slow=76,SNR=56
H11N3 WAKE ISLAND Hy 30.66 4 T T 15 15 18.0
baz=184,slow=76,SNR=41
H11N2 WAKE ISLAND Hy 30.67 4 T T 15 15 06.4
baz=184,slow=76,SNR=43
ASAR Alice Springs 31.90 243 P **P** **14 43 44.8 -0.8**
0.5nm,0.7s,baz=69,slow=8.9,SNR=0.9
0.5nm,0.7s
CMAR Chiang Mai Arr 71.21 294 P **P** **14 48 40.1 +0.8**
0.3nm,0.4s,baz=133,slow=4.6,SNR=5.3
0.3nm,0.4s
QSPA South Pole Qui 78.94 180 P **P** **14 49 23.9 +0.7**
1.0nm,1.0s,baz=45,slow=14,SNR=1.5
1.0nm,1.0s
ILAR Eielson Array 83.85 19 P **P** **14 49 49.2 +0.2**
1.5nm,0.7s,baz=226,slow=5.0,SNR=23
1.5nm,0.7s
MKAR Makanchi Array 92.85 317 P **P** **14 50 31.2 -1.4**
0.4nm,0.6s,baz=108,slow=4.0,SNR=4.2
0.4nm,0.6s

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*IDC **19** 14:44:50.4±5.9,23°.70S×178°.62E,h574km±56km,mb3.1/4, mbtmp4.1/5,Error ellipse: s-maj=61.2km s-min=39.7km az=42.0*

ISC 19 14:44:47.6±2.2,23°.7S±0°.4×178°.8E±0°.3,h550km,n6, σ1§03/6,mb3.8/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.52**	**275**	P	**P**	**14 47 22.5**	**+1.1**
6.2nm,0.6s,baz=83,slow=17,SNR=6.7							
STKA	**Stephens Creek**	**33.81**	**248**	P	**P**	**14 50 43.6**	**-0.9**
1.6nm,0.5s,baz=96,slow=14,SNR=4.0							
1.6nm,0.5s							
ASAR	**Alice Springs**	**41.01**	**261**	P	**P**	**14 51 43.4**	**-0.1**
1.4nm,0.5s,baz=99,slow=7.7,SNR=40							
1.4nm,0.5s							
WRA	**Warramunga Arr**	**41.34**	**266**	P	**P**	**14 51 45.4**	**-0.7**
2.5nm,0.5s,baz=105,slow=7.8,SNR=34							
2.5nm,0.5s							
QSPA	**South Pole Qui**	**66.43**	**180**	P	**P**	**14 54 43.0**	**+0.6**
0.8nm,1.0s,baz=14,slow=1.8,SNR=1.5							
0.8nm,1.0s							
HFS	**Hagfors**	**142.09**	**348**	PKP	**PKPdf**	**15 03 16.5**	**-0.4**
1.7nm,0.6s,baz=45,slow=10,SNR=5.6							

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*IDC **19** 14:46:44.5±1.7,22°.25N×142°.96E,h200km±15km, mb3.5/22,mbtmp4.1/25,Error ellipse: s-maj=16.4km s-min=9.8km az=93.0*
*NEIC **19** 14:46:45.0±2.4,22°.28N±0°.09×143°.0E±0°.2,h208km±8km, mb4.4/28,Error ellipse: s-maj=20.8km s-min=13.5km az=89.0*
*JMA **19** 14:46:45.6±0.3,22°.N±1°.×14°.3E±°.,h213km,MV4.9/15, IOTO ISLANDS REGION*

ISC 19 14:46:44.1±0.6,22°.23N±0°.07×143°.0E±0°.1,h200km,n79, σ1§00/83,mb4.1/36,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.45**	**351**	*eP*	**Pn**	**14 47 52.2**	**+0.7**
JHH2				*eS*	**Sn**	**14 48 43.9**	**-0.7**
CBIJ	**Chichi jima**	**4.90**	**352**	*eP*	**Pn**	**14 47 57.5**	**+0.3**
CBIJ				*eS*	**Sn**	**14 48 54.8**	**-0.1**
JCJ	**Chichijima**	**4.90**	**352**		**Pn**	**14 47 57.3**	**0.0**
JCJ	**Chichijima**	**4.90**	**352**	P	**Pn**	**14 47 56.7**	**-0.5**
149nm,0.3s,baz=240,slow=14,SNR=144							
JCJ				S	**Sn**	**14 48 54.3**	**-0.7**
41nm,0.4s,baz=107,slow=19,SNR=1.5							
JHJ	**Hachijo jima 2**	**11.21**	**346**	P	**Pn**	**14 49 19.3**	**+0.5**
170nm,1.0s,baz=73,slow=19,SNR=2.6							
BSO1	**Boso 1**	**12.50**	**352**	*eP*	**Pn**	**14 49 35.3**	**+0.5**
TATJ	**Tateyama 2**	**13.04**	**349**	*eP*	**Pn**	**14 49 42.4**	**+0.4**
JKUC	**kamogawauchiur**	**13.11**	**350**	*eP*	**Pn**	**14 49 42.2**	**-0.7**
JHTM	**Izuhatsuma**	**13.15**	**346**	*eP*	**Pn**	**14 49 43.8**	**+0.4**
JYO	**Yokosk**	**13.27**	**348**	*eP*	**Pn**	**14 49 45.5**	**+0.6**
JOD2	**Odawara 2**	**13.42**	**346**	*eP*	**Pn**	**14 49 47.2**	**+0.3**
SHZ3	**Shizuoka 3**	**13.45**	**343**	*eP*	**Pn**	**14 49 47.6**	**+0.4**
JYN	**Shimob**	**13.77**	**345**	*eP*	**Pn**	**14 49 51.7**	**+0.4**
JNY	**Yasuok**	**13.82**	**342**	*eP*	**Pn**	**14 49 51.7**	**-0.2**
JAO	**Obara**	**13.91**	**340**	*eP*	**Pn**	**14 49 53.5**	**+0.5**
INU	**Inuyama**	**14.07**	**340**	Pn	**Pn**	**14 49 53.9**	**-0.9**
JRY	**Ryogami san**	**14.19**	**346**	*eP*	**Pn**	**14 49 56.4**	**+0.1**
JGF	**Kuroka**	**14.19**	**341**	P	**Pn**	**14 49 57.0**	**+0.6**
MJAR	**Matsushiro Arr**	**14.85**	**345**	Pn	**Pn**	**14 50 02.8**	**-1.7**
MJAR	**Matsushiro Arr**	**14.85**	**345**	P	**Pn**	**14 50 04.3**	**-0.2**
1.0nm,0.5s,baz=164,slow=12,SNR=6.7							
MAJO	**Matsushiro**	**14.85**	**345**	Pn	**Pn**	**14 50 00.9**	**-3.5**
MJB9	**Matsu-Tunnel**	**14.85**	**345**	P	**P**	**14 50 07.3**	**+1.9**
JMM	**Marumori**	**15.70**	**354**	P	**P**	**14 50 15.2**	**+0.6**
KSRS	**Korea Array**	**19.96**	**323**	P	**Pn**	**14 51 04.2**	**-1.3**
3.2nm,0.7s,baz=145,slow=8.7,SNR=22							
SSLB	**Suanglung**	**20.31**	**279**	P	**P**	**14 51 07.1**	**+2.2**
JKA	**Kamikawa-asahi**	**21.84**	**359**	P	**P**	**14 51 22.0**	**+1.4**
ASAJ	**Asahikawa**	**21.84**	**359**	P	**P**	**14 51 22.4**	**+1.8**
4.1nm,0.5s,baz=207,slow=2.3,SNR=9.6							
4.1nm,0.5s							
PETK	**Petropavlovsk-**	**32.83**	**16**	P	**P**	**14 52 58.9**	**+0.2**
1.3nm,0.8s,baz=224,slow=11,SNR=2.1							
1.3nm,0.8s							
HILR	**Hailar Array B**	**32.86**	**332**	P	**P**	**14 52 58.9**	**-0.1**
1.7nm,0.5s,baz=128,slow=11,SNR=2.1							
1.7nm,0.5s							
SONM	**Songino Array**	**38.80**	**320**	P	**P**	**14 53 50.4**	**+0.9**
0.5nm,0.4s,baz=144,slow=9.3,SNR=3.4							
0.5nm,0.4s							
KNRA	**Kununurra**	**40.15**	**201**	P	**P**	**14 53 59.8**	**-1.0**
KNRA				IAmb	IAmb	14 54 04.7	
comp=Z,23nm,1.5s							
SEY	**Seymchan**	**41.19**	**7**	P	**P**	**14 54 09.9**	**+1.1**
comp=Z,1.6nm,0.4s,baz=170,slow=11,SNR=4.7							
comp=Z,1.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**41.33**	**273**	P	**P**	**14 54 11.9**	**+1.3**
comp=Z,0.2nm,0.4s,baz=78,slow=8.2,SNR=1.7							
comp=Z,0.2nm,0.4s							
WR8	**Warramunga Arr**	**42.73**	**192**	P	**P**	**14 54 21.7**	**-0.1**
WRA	**Warramunga Arr**	**42.75**	**192**	P	**P**	**14 54 21.9**	**0.0**
WRA	**Warramunga Arr**	**42.75**	**192**	P	**P**	**14 54 22.1**	**+0.2**
comp=Z,0.6nm,0.4s,baz=16,slow=9.3,SNR=13							
comp=Z,0.6nm,0.4s							
ADK	**Adak**	**42.89**	**36**	P	**P**	**14 54 22.6**	**0.0**
FITZ	**Fitzroy Crossi**	**43.51**	**204**	P	**P**	**14 54 28.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**43.51**	**204**	P	**P**	**14 54 28.4**	**+0.4**
comp=Z,0.9nm,0.4s,baz=2.5,slow=5.6,SNR=6.7							
comp=Z,0.9nm,0.4s							
AS31	**Alice Springs**	**46.45**	**191**	P	**P**	**14 54 51.1**	**-0.1**
ASAR	**Alice Springs**	**46.46**	**191**	P	**P**	**14 54 50.4**	**-0.8**
ASAR	**Alice Springs**	**46.46**	**191**	P	**P**	**14 54 51.0**	**-0.2**
comp=Z,0.4nm,0.7s,baz=16,slow=8.9,SNR=6.3							
comp=Z,0.4nm,0.7s							
INKA	**Innaminka**	**49.72**	**183**	P	**P**	**14 55 15.2**	**-0.9**
EVN	**Everest**	**50.79**	**289**	P	**P**	**14 55 24.3**	**-0.8**
ZALV	**Zalesovo Beam**	**53.66**	**321**	P	**P**	**14 55 45.2**	**+0.2**
comp=Z,1.5nm,0.5s,baz=112,slow=8.0,SNR=8.4							
comp=Z,1.5nm,0.5s							
STKA	**Stephens Creek**	**53.81**	**181**	P	**P**	**14 55 47.1**	**+0.9**
comp=Z,1.0nm,0.4s,baz=5.3,slow=7.5,SNR=4.5							
comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**54.18**	**312**	P	**P**	**14 55 47.5**	**-1.5**
MKAR	**Makanchi Array**	**54.18**	**312**	P	**P**	**14 55 50.1**	**+1.1**
comp=Z,0.8nm,0.5s,baz=87,slow=9.2,SNR=11							
MKAR				PcP	**PcP**	**14 56 50.5**	**-0.3**
comp=Z,0.6nm,0.6s,baz=85,slow=4.0,SNR=5.1							
comp=Z,0.8nm,0.5s							
O15K	**Ungalikthiuk R**	**54.50**	**32**	P	**P**	**14 55 50.2**	**-0.8**
KURBB	**Kurchatov Arra**	**56.99**	**317**	P	**P**	**14 56 09.3**	**+0.5**
comp=Z,3.6nm,0.6s,baz=94,slow=7.7,SNR=39							
comp=Z,3.6nm,0.6s							
H18K	**Honhosa River**	**57.02**	**25**	P	**P**	**14 56 08.9**	**+0.1**
H18K				IAmb	IAmb	14 56 33.8	
comp=Z,13nm,1.4s							
OHAK	**Old Harbor**	**57.43**	**35**	P	**P**	**14 56 12.1**	**+0.4**
OHAK				IAmb	IAmb	14 56 22.5	
comp=Z,20nm,1.4s							
N19K	**Bonanza Creek**	**57.52**	**31**	P	**P**	**14 56 12.6**	**+0.2**
N19K				IAmb	IAmb	14 56 27.7	
comp=Z,11nm,1.4s							
P19K	**Oil Pt**	**57.89**	**33**	P	**P**	**14 56 15.1**	**+0.1**
BOOM	**Boomskoye usch**	**58.62**	**307**	P	**P**	**14 56 20.8**	**+0.3**
BOOM				IAmb	IAmb	14 56 22.8	
comp=Z,3.0nm,0.6s							
CNPM	**China Poot**	**58.87**	**33**	P	**P**	**14 56 20.9**	**-0.8**
I21K	**Tanana**	**59.62**	**26**	P	**P**	**14 56 27.2**	**+0.5**
I21K				IAmb	IAmb	14 56 29.3	
comp=Z,5.7nm,0.8s							
BPAW	**Bear Paw Mtn.**	**59.80**	**28**	P	**P**	**14 56 29.3**	**+1.2**
BPAW				IAmb	IAmb	14 56 30.0	
comp=Z,4.5nm,0.8s							
IL31		**61.67**	**27**	P	**P**	**14 56 40.0**	**-0.5**
IL31				IAmb	IAmb	14 56 41.0	
comp=Z,3.7nm,0.7s							
ILAR	**Eielson Array**	**61.67**	**27**	P	**P**	**14 56 40.2**	**-0.4**
comp=Z,2.2nm,0.6s,baz=261,slow=5.4,SNR=42							
comp=Z,2.2nm,0.6s							
KKAR	**Karatay Array**	**62.56**	**308**	P	**P**	**14 56 46.0**	**-0.9**
DOT	**Dot Lake**	**62.77**	**29**	P	**P**	**14 56 47.1**	**-0.8**
DOT				IAmb	IAmb	14 56 48.9	
comp=Z,11nm,1.4s							
SCRK	**Sand Creek**	**62.83**	**28**	P	**P**	**14 56 48.2**	**-0.2**
SCRK				IAmb	IAmb	14 56 49.8	
comp=Z,6.0nm,0.7s							
J26L	**Joseph Creek**	**63.06**	**28**	P	**P**	**14 56 48.5**	**-1.5**
J26L				IAmb	IAmb	14 56 50.8	
comp=Z,4.9nm,0.8s							
H27K	**Steamboat Moun**	**64.04**	**26**	P	**P**	**14 56 56.8**	**+0.5**
H27K				IAmb	IAmb	14 56 58.7	
comp=Z,6.8nm,0.8s							
EGAK	**Eagle**	**64.11**	**28**	P	**P**	**14 56 55.6**	**-1.0**
EGAK				IAmb	IAmb	14 57 10.8	
comp=Z,5.0nm,1.1s							
M29M	**Somme Creek**	**65.28**	**30**	P	**P**	**14 57 03.1**	**-1.3**
M29M				IAmb	IAmb	14 57 07.2	
comp=Z,6.1nm,0.9s							
AB31	**Akbulak array**	**69.02**	**316**	P	**P**	**14 57 26.5**	**-1.5**
YKA	**Yellowknife Ar**	**76.09**	**28**	P	**P**	**14 58 09.4**	**0.0**
comp=Z,1.1nm,0.4s,baz=234,slow=6.1,SNR=12							
comp=Z,1.1nm,0.4s							
ARCES	**ARCESS Array B**	**78.36**	**341**	P	**P**	**14 58 21.7**	**-0.2**
comp=Z,2.4nm,0.8s,baz=67,slow=7.7,SNR=16							
comp=Z,2.4nm,0.8s							
SALU	**Saltoluokta**	**81.72**	**341**	*eP*	**P**	**14 58 37.5**	**-2.5**
KBZ	**Khabaz**	**81.85**	**314**	P	**P**	**14 58 42.0**	**+0.9**
comp=Z,3.3nm,0.7s,baz=50,slow=4.5,SNR=9.1							
comp=Z,3.3nm,0.7s							
FINES	**FINESS Array B**	**82.61**	**334**	P	**P**	**14 58 44.0**	**-0.7**
comp=Z,0.8nm,0.3s,baz=59,slow=5.0,SNR=18							
comp=Z,0.8nm,0.3s							
NVAR	**Mina Array Bea**	**82.98**	**51**	P	**P**	**14 58 48.6**	**+1.3**
comp=Z,1.3nm,0.7s,baz=268,slow=5.5,SNR=6.6							
comp=Z,1.3nm,0.7s							
AKASG	**Malin Array Be**	**86.95**	**324**	P	**P**	**14 59 05.1**	**-1.4**
comp=Z,0.4nm,0.4s,baz=50,slow=5.0,SNR=2.2							
comp=Z,0.4nm,0.4s							
HFS	**Hagfors**	**88.16**	**337**	P	**P**	**14 59 10.3**	**-1.8**
comp=Z,0.9nm,0.5s,baz=101,slow=3.0,SNR=6.0							
comp=Z,0.9nm,0.5s							
BRTR	**Keskin Array B**	**89.82**	**313**	P	**P**	**14 59 19.1**	**-1.4**
comp=Z,0.5nm,0.8s,baz=90,slow=1.4,SNR=3.7							
comp=Z,0.5nm,0.8s							
PLCA	**Paso Flores**	**146.26**	**131**	PKPbc	**PKPbc**	**15 06 02.6**	**+1.3**
comp=Z,0.8nm,0.4s,baz=231,slow=4.7,SNR=8.0							
LPAZ	**La Paz**	**150.10**	**84**	PKPbc	**PKPbc**	**15 06 12.7**	**-0.1**
comp=Z,1.0nm,0.5s,baz=329,slow=4.2,SNR=4.6							

IDC 19 14:54:58.4±2.0,2°.28N×127°.96E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=159.7km s-min=22.8km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**164**	P	P	15 00 03.8	-0.7
0.3nm,0.8s,baz=344,slow=11,SNR=5.0							
0.3nm,0.8s							
ASAR	**Alice Springs**	**26.43**	**168**	P	P	15 00 37.4	+0.3
0.2nm,0.6s,baz=350,slow=7.5,SNR=5.7							
0.2nm,0.6s							
H11S3	**WAKE ISLAND Hy 41.22**	**64**		T	T	15 45 49.6	
baz=251							
H11S2	**WAKE ISLAND Hy 41.23**	**64**		T	T	15 45 49.3	
baz=251							
H11S1	**WAKE ISLAND Hy 41.23**	**64**		T	T	15 45 49.6	
baz=251							
H11N1	**WAKE ISLAND Hy 41.79**	**63**		T	T	15 46 41.8	
baz=250,slow=74							
H11N2	**WAKE ISLAND Hy 41.80**	**63**		T	T	15 46 40.6	
baz=250							
H11N3	**WAKE ISLAND Hy 41.81**	**63**		T	T	15 46 43.3	
baz=250,slow=74							
MKAR	**Makanchi Array**	**59.44**	**325**	P	P	15 05 03.7	+0.6
0.5nm,0.7s,baz=120,slow=7.6,SNR=4.2							
0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	P	15 05 30.7	-0.4
0.6nm,0.6s,baz=125,slow=6.7,SNR=5.3							
0.6nm,0.6s							

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*IDC **19** 14:55:53.8±1.0,55°.26N×166°.84E,h0km,mb3.4/6, mbtmp3.5/8,ML3.4/2,Error ellipse: s-maj=32.8km s-min=19.8km az=169.0*
*KRSC **19** 14:55:56.5±1.5,55°.23N×166°.66E,h48km±9km,Ml3.9*

ISC 19 14:55:56.7±0.9,55°.22N±0°.09×166°.87E±0°.06,h19km,n39, σ1§30/38,mb3.4/6,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.51**	**268**	*eP*	**Pg**	**14 56 06.5**	**-0.5**
BKI				*eS*	**Sb**	**14 56 14.5**	**+0.4**
KBTR	**Krutoberegovo**	**2.50**	**295**	*eP*	**Pn**	**14 56 34.3**	**-1.8**
MKZ	**Mys Kozlova**	**3.04**	**259**	*eP*	**Pn**	**14 56 43.7**	**+0.1**
KLY	**Klyuchi**	**3.68**	**290**	*eP*	**Pn**	**14 56 50.9**	**-1.5**
TUMD	**Tumrok D**	**3.71**	**272**	*eP*	**Pn**	**14 56 54.6**	**+1.7**
TUMD				*eS*	**Sn**	**14 57 36.3**	**+0.3**
KZV	**Kizimen**	**3.77**	**271**	*eP*	**Pn**	**14 56 54.8**	**+0.9**
KPT	**Kopyto**	**3.84**	**284**	*eP*	**Pn**	**14 56 56.4**	**+1.6**
KOZ	**Kozyrevsk**	**4.05**	**285**	*eP*	**Pn**	**14 56 59.6**	**+2.0**
SPN	**Mys Shipunski**	**4.55**	**245**	*eP*	**Pn**	**14 57 04.0**	**-0.4**
SPN				*eS*	**Sn**	**14 57 55.1**	**-1.6**
ESO	**Esso**	**4.69**	**282**	*eP*	**Pn**	**14 57 06.7**	**+0.3**
NLC	**Nalytchevo**	**4.87**	**248**	*eS*	**Sn**	**14 58 03.6**	**-1.0**
SHEM	**Shemya Is, Ala**	**4.95**	**117**	Pn	**Pn**	**14 57 08.8**	**-1.0**
8.9nm,0.3s,baz=315,slow=7.1,SNR=6.4							
68nm,0.8s							
SDLR	**Sedlovina**	**5.07**	**251**	*eP*	**Pn**	**14 57 13.2**	**+1.5**
SMAR	**Somma**	**5.12**	**251**	*eP*	**Pn**	**14 57 14.1**	**+1.6**
KRER	**Koryakskii**	**5.13**	**251**	*eP*	**Pn**	**14 57 13.5**	**+0.9**
AVH	**Avacha**	**5.16**	**251**	*eP*	**Pn**	**14 57 14.0**	**+1.2**
KRX	**Arik**	**5.16**	**252**	*eP*	**Pn**	**14 57 14.2**	**+1.2**
KOK	**Koryaka**	**5.20**	**252**	*eP*	**Pn**	**14 57 14.7**	**+1.3**
DALK	**Dalny**	**5.25**	**249**	*eP*	**Pn**	**14 57 14.6**	**+0.5**
DALK				*eS*	**Sn**	**14 58 12.1**	**-1.9**
TILK	**Tilichiki**	**5.25**	**356**	*eP*	**Pn**	**14 57 15.7**	**+1.7**
PET	**Petropavlovsk**	**5.31**	**249**	*eS*	**Sn**	**14 58 13.5**	**-1.9**
GNL	**Ganaly**	**5.43**	**257**	*eP*	**Pn**	**14 57 18.5**	**+1.9**
KRMR	**Karymshinskiy**	**5.68**	**249**	*eP*	**Pn**	**14 57 22.7**	**+2.7**
RUS	**Russkaya**	**5.68**	**244**	*eP*	**Pn**	**14 57 20.4**	**+0.5**
PETK	**Petropavlovsk-**	**5.79**	**252**	Pn	**Pn**	**14 57 22.0**	**+0.6**
0.7nm,0.3s,baz=76,slow=18,SNR=46							
PETK				Sn	**Sn**	**14 58 28.0**	**+0.8**
0.8nm,0.3s,baz=79,slow=24,SNR=6.0							
1.6nm,0.5s							
MTVR	**Mutnovka**	**5.83**	**245**	*eP*	**Pn**	**14 57 23.2**	**+1.1**
GRL	**Gorelyy**	**5.85**	**246**	*eP*	**Pn**	**14 57 23.7**	**+1.3**
ILAR	**Eielson Array**	**24.45**	**48**	P	**P**	**15 01 13.8**	**-0.1**
0.4nm,0.7s,baz=253,slow=8.7,SNR=9.0							
0.4nm,0.7s							
H11N2	**WAKE ISLAND Hy 35.43**	**180**		T	T	15 39 57.2	
baz=0.6,slow=76,SNR=46							
H11N3	**WAKE ISLAND Hy 35.45**	**180**		T	T	15 39 58.2	
baz=0.6,slow=76,SNR=35							
H11N1	**WAKE ISLAND Hy 35.45**	**180**		T	T	15 39 58.5	
baz=0.6,slow=76,SNR=34							
H11S1	**WAKE ISLAND Hy 36.65**	**180**		T	T	15 41 30.2	
baz=352							
H11S3	**WAKE ISLAND Hy 36.66**	**180**		T	T	15 41 36.8	
baz=352							
H11S2	**WAKE ISLAND Hy 36.67**	**180**		T	T	15 41 31.3	
baz=352							
KURBB	**Kurchatov Arra**	**50.03**	**304**	P	**P**	**15 04 49.4**	**-0.1**
0.4nm,0.7s,baz=51,slow=7.7,SNR=4.9							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**50.75**	**298**	P	**P**	**15 04 54.1**	**-0.9**
0.2nm,0.4s,baz=46,slow=7.9,SNR=4.2							
0.2nm,0.4s							
TXAR	**Lajitas Array**	**66.16**	**73**	P	**P**	**15 06 43.5**	**+0.6**
0.3nm,0.7s,baz=296,slow=4.2,SNR=4.5							
0.3nm,0.7s							
WRA	**Warramunga Arr**	**79.83**	**211**	P	**P**	**15 08 03.6**	**+0.1**
0.5nm,1.1s,baz=19,slow=5.7,SNR=1.7							
0.5nm,1.1s							
ASAR	**Alice Springs**	**83.47**	**210**	P	**P**	**15 08 23.5**	**+0.8**
0.2nm,0.8s,baz=16,slow=5.4,SNR=2.0							
0.2nm,0.8s							

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*NIED **19** 15:21:30.5,39°.39N×143°.54E,h39km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.89; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.91; $M_{r\theta}$1.72; $M_{\theta\phi}$-1.30; $M_{\phi r}$1.87; Fault plane solution: $M_0$2.90000×10^{14} NP1: ϕ_s193.00000°,δ16.00000°,λ60.00000°. NP2:ϕ_s45.00000°, δ76.00000°,λ98.00000°.*
*JMA **19** 15:21:30.5±0.2,39°.4N±0°.6×14°.4E±°.,h39km,MV3.6/30, FAR E OFF SANRIKU*
*IDC **19** 15:21:35.4±2.5,39°.32N×143°.22E,h47km±25km,mb3.3/7, mbtmp3.7/11,ML3.3/3,Error ellipse: s-maj=25.5km s-min=19.7km az=89.0*

ISC 19 15:21:29.8±0.9,39°.39N±0°.05×143°.45E±0°.07,h11km,n26, σ1§74/31,mb3.5/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.27**	**279**	P	**Pn**	**15 21 53.5**	**-0.1**
MIYJ				*eS*	**Sb**	**15 22 10.1**	**-0.2**
JTH	**Tanohata**	**1.34**	**294**	P	**Pn**	**15 21 54.4**	**-0.1**
JTH				*eS*	**Sb**	**15 22 11.9**	**-0.2**
OFUJ	**Ofunato**	**1.42**	**258**	P	**Pn**	**15 21 55.5**	**-0.1**
OFUJ				*eS*	**Sn**	**15 22 13.7**	**-0.5**
JOM	**Ohasama**	**1.67**	**273**	P	**Pn**	**15 21 59.6**	**+0.5**
JANG	**Nango**	**1.78**	**304**	P	**Pn**	**15 22 00.2**	**-0.3**
JMK	**Ichinoseki**	**1.79**	**256**	P	**Pn**	**15 22 01.0**	**+0.4**
JIO	**Ouri**	**1.89**	**241**	P	**Pn**	**15 22 01.8**	**-0.2**
JIO				*eS*	**Sn**	**15 22 24.1**	**-1.7**
JYK	**Kaneyama**	**2.45**	**260**	P	**Pn**	**15 22 10.7**	**+1.0**
JOTO	**OTAMA OYAMA**	**3.05**	**234**	P	**Pn**	**15 22 18.7**	**+0.6**
JCH	**Churui**	**3.22**	**359**	P	**Pn**	**15 22 20.0**	**-0.3**
JCH				*eS*	**Sn**	**15 22 56.5**	**-2.1**
JAW	**Awa shima**	**3.41**	**255**	*eP*	**Pn**	**15 22 24.8**	**+1.9**
JAK	**Akkeshi**	**3.72**	**14**	P	**Pn**	**15 22 26.2**	**-1.0**
JAK				S	**Sn**	**15 23 08.6**	**-2.4**
ASAJ	**Asahikawa**	**4.76**	**353**	P	**Pn**	**15 22 43.5**	**+2.0**
0.8nm,0.3s,baz=206,slow=19,SNR=7.7							
ASAJ				S	**Sn**	**15 23 36.5**	**-0.2**
4.2nm,0.5s,baz=221,slow=20,SNR=1.8							
1.9nm,0.3s							
MJAR	**Matsushiro Arr**	**5.02**	**237**	P	**Pn**	**15 22 47.4**	**+2.2**
0.4nm,0.3s,baz=33,slow=14,SNR=47							
3.4nm,0.4s							
JHJ	**Hachijo jima 2**	**6.92**	**206**	P	**Pn**	**15 23 12.5**	**+1.3**
13nm,0.3s,baz=102,slow=19,SNR=2.0							
JHJ				S	**Sn**	**15 24 23.8**	**-6.3**
75nm,0.8s,baz=114,slow=20,SNR=1.6							
112nm,0.8s							
HILR	**Hailar Array B**	**19.65**	**309**	P	**P**	**15 25 57.4**	**-1.1**
2.4nm,0.5s,baz=118,slow=14,SNR=4.7							
SONM	**Songino Array**	**27.90**	**300**	P	**P**	**15 27 19.9**	**0.0**
0.3nm,0.4s,baz=104,slow=9.1,SNR=2.2							
0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy 28.14**	**127**		T	T	15 56 45.5	
baz=320,slow=74,SNR=14							
H11N1	**WAKE ISLAND Hy 28.15**	**127**		T	T	15 56 52.4	
baz=320,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy 28.16**	**127**		T	T	15 57 02.3	
baz=320,slow=74,SNR=11							
ZALV	**Zalesovo Beam**	**41.56**	**310**	P	**P**	**15 29 17.6**	**+0.4**
0.4nm,0.4s,baz=89,slow=9.0,SNR=4.0							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**44.27**	**300**	P	**P**	**15 29 39.4**	**+0.1**
0.3nm,0.5s,baz=84,slow=9.8,SNR=4.8							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**45.85**	**306**	P	**P**	**15 29 51.9**	**+0.1**
0.9nm,0.6s,baz=81,slow=8.6,SNR=13							
0.9nm,0.6s							
ILAR	**Eielson Array**	**46.65**	**34**	P	**P**	**15 30 00.5**	**+2.6**
0.2nm,0.7s,baz=269,slow=7.5,SNR=1.5							
0.2nm,0.7s							
WRA	**Warramunga Arr**	**59.64**	**190**	P	**P**	**15 31 32.9**	**-1.1**
0.3nm,0.6s,baz=11,slow=7.1,SNR=8.0							
0.3nm,0.6s							
NVAR	**Mina Array Bea**	**72.30**	**55**	P	**P**	**15 32 58.0**	**+2.3**
0

ENIJ	**Nijar**	**1.75 331**	P	**Pn**	**16 10 46.2**	**-0.3**
ENIJ			S	**Sn**	**16 11 06.2**	**-2.5**
ENIJ	**Nijar**	**1.75 331**	Pn	**Pn**	**16 10 46.1**	**-0.4**
ENIJ			Sn	**Sn**	**16 11 06.7**	**-2.0**
ENIJ			*i* IVmb_Lg		16 11 08.2	
CART	**Cartagena**	**2.14 3**	P	**Pn**	**16 10 50.4**	**-1.5**
CART			S	**Sn**	**16 11 14.3**	**-4.0**
CART	**Cartagena**	**2.14 3**	P	**Pn**	**16 10 52.0**	**+0.1**
CART	**Cartagena**	**2.14 3**	S	**Sn**	**16 11 15.7**	**-2.6**
ELOR	**Lorca, Murcia**	**2.24 348**	Pn	**Pn**	**16 10 53.3**	**0.0**
ELOR			Sn	**Sn**	**16 11 19.1**	**-1.7**
ELOR			*i* IVmb_Lg		16 11 22.9	
TLOR	**Lorca, Murcia**	**2.25 349**	P	**Pn**	**16 10 53.5**	**+0.1**
TLOR			S	**Sn**	**16 11 18.9**	**-2.0**
TLOR	**Lorca, Murcia**	**2.25 349**	Pn	**Pn**	**16 10 53.3**	**-0.1**
TLOR			Sn	**Sn**	**16 11 20.9**	**-0.1**
PALE	**Palemas**	**2.29 265**	P	**Pn**	**16 10 53.8**	**-0.2**
PALE	**Palemas**	**2.29 265**	S	**Sn**	**16 11 19.5**	**-2.6**
EMUR	**La Murta**	**2.39 358**	P	**Pn**	**16 10 54.8**	**-0.6**
EMUR			S	**Sn**	**16 11 21.7**	**-2.9**
EMUR	**La Murta**	**2.39 358**	Pn	**Pn**	**16 10 54.7**	**-0.8**
EMUR			Sn	**Sn**	**16 11 21.6**	**-2.9**
EMUR			*i* IVmb_Lg		16 11 25.9	
AKLM	**AKL**	**2.42 248**	P	**Pn**	**16 10 56.4**	**+0.6**
AKLM	**AKL**	**2.42 248**	S	**Sn**	**16 11 25.6**	**+0.4**
ELGU	**Los Guajares,**	**2.46 306**	P	**Pn**	**16 10 55.2**	**-1.1**
ELGU			S	**Sn**	**16 11 24.0**	**-2.2**
ELGU	**Los Guajares,**	**2.46 306**	Pn	**Pn**	**16 10 55.2**	**-1.1**
ELGU			Sn	**Sn**	**16 11 23.6**	**-2.6**
ELGU			*i* IVmb_Lg		16 11 29.0	
EQUE	**Quentar**	**2.55 314**	Pn	**Pn**	**16 10 58.5**	**+0.9**
EQUE			Sn	**Sn**	**16 11 28.1**	**-0.5**
EQUE			*i* IVmb_Lg		16 11 31.4	
EQTA	**Presa de Quent**	**2.55 314**	P	**Pn**	**16 10 58.9**	**+1.2**
EQTA			S	**Sn**	**16 11 28.9**	**+0.3**
EQES	**Quesada**	**2.81 327**	Pn	**Pn**	**16 11 03.6**	**+2.3**
EQES			Sn	**Sn**	**16 11 36.8**	**+1.7**
EQES			*i* IVmb_Lg		16 11 40.5	
EGOR	**Sierra Gorda,**	**2.91 306**	P	**Pn**	**16 11 03.3**	**+0.6**
EGOR			S	**Sn**	**16 11 38.8**	**+1.2**
EGOR	**Sierra Gorda,**	**2.91 306**	Pn	**Pn**	**16 11 03.8**	**+1.2**
EGOR			Sn	**Sn**	**16 11 36.7**	**-0.9**
EGOR			*i* IVmb_Lg		16 11 45.8	
EMAL	**Malaga-Limoner**	**2.96 297**	P	**Pn**	**16 11 02.2**	**-1.0**
E0803	**Jimena (Jaen)**	**3.03 323**	Pn	**Pn**	**16 11 06.3**	**+2.1**
E0803			Sn	**Sn**	**16 11 41.3**	**+0.9**
E0802	**Ubeda,Jaen**	**3.13 326**	Pn	**Pn**	**16 11 08.0**	**+2.4**
E0802			Sn	**Sn**	**16 11 44.0**	**+1.1**
EMIJ	**Mijas**	**3.14 292**	P	**Pn**	**16 11 04.3**	**-1.4**
EMIJ	**Mijas**	**3.14 292**	Pn	**Pn**	**16 11 04.4**	**-1.4**
EMIJ			Sn	**Sn**	**16 11 40.7**	**-2.4**
ETOB	**Tobarra**	**3.21 354**	P	**Pn**	**16 11 07.7**	**+1.0**
ETOB			S	**Sn**	**16 11 43.2**	**-1.5**
ETOB	**Tobarra**	**3.21 354**	Pn	**Pn**	**16 11 07.6**	**+1.0**
ETOB			Sn	**Sn**	**16 11 44.0**	**-0.8**
ETOB			*i* IVmb_Lg		16 11 47.7	
AFON	**Font Roja**	**3.25 8**	Pn	**Pn**	**16 11 08.3**	**+1.0**
AFON			Sn	**Sn**	**16 11 45.1**	**-0.8**
AFON			*i* IVmb_Lg		16 11 51.6	
FIGM	**Figuig**	**3.31 182**	P	**Pb**	**16 11 14.1**	**-1.1**
FIGM	**Figuig**	**3.31 182**	S	**Sb**	**16 11 56.4**	**+1.1**
EBEN2	**Beniarda presa**	**3.31 13**	Pn	**Pn**	**16 11 08.5**	**+0.5**
EBEN2			Sn	**Sn**	**16 11 44.2**	**-3.1**
EBEN2			*i* IVmb_Lg		16 11 50.1	
SMIR	**Smir Dam**	**3.46 275**	P	**Pn**	**16 11 08.7**	**-1.4**
SMIR	**Smir Dam**	**3.46 275**	S	**Sn**	**16 11 47.7**	**-3.1**
CEU	**Ceuta**	**3.47 279**	P	**Pn**	**16 11 07.3**	**-2.9**
E1302	**La Puebla de C**	**3.71 298**	Pn	**Pn**	**16 11 14.7**	**+1.3**
E1302			Sn	**Sn**	**16 11 54.5**	**-2.6**
E1302			*i* IVmb_Lg		16 12 08.8	
IFR	**Ifrane**	**3.81 241**	P	**Pn**	**16 11 16.7**	**+1.7**
EVIV	**Cofrentes, Val**	**3.81 0**	Pn	**Pn**	**16 11 15.3**	**+0.3**
EVIV			Sn	**Sn**	**16 11 59.5**	**-0.2**
EVIV			*i* IVmb_Lg		16 12 04.0	
EADA	**Adamuz**	**3.87 316**	P	**Pn**	**16 11 16.9**	**+1.2**
EADA			S	**Sn**	**16 12 01.4**	**+0.4**
EADA	**Adamuz**	**3.87 316**	Pn	**Pn**	**16 11 16.6**	**+0.9**
EADA			Sn	**Sn**	**16 12 01.1**	**+0.2**
EADA			*i* IVmb_Lg		16 12 11.3	
MDT	**Midelt**	**3.89 229**	P	**Pn**	**16 11 17.4**	**+1.3**
MDT	**Midelt**	**3.89 229**	S	**Sn**	**16 12 03.7**	**+2.1**
MD31	**MD31**	**3.95 230**	P	**Pn**	**16 11 18.5**	**+1.6**
MD31	**MD31**	**3.95 230**	S	**Sn**	**16 12 04.7**	**+1.7**
PSIM	**Granatula de C**	**3.96 329**	Pn	**Pn**	**16 11 17.8**	**+0.8**
PSIM			Sn	**Sn**	**16 12 03.0**	**-0.3**
CNIL	**Conil**	**4.09 284**	P	**Pn**	**16 11 19.4**	**+0.9**
EIBI	**Ibiza**	**4.09 28**	P	**Pn**	**16 11 18.8**	**+0.1**
EIBI			S	**Sn**	**16 12 04.8**	**-1.6**
EIBI	**Ibiza**	**4.09 28**	Pn	**Pn**	**16 11 18.7**	**0.0**
EIBI			Sn	**Sn**	**16 12 03.7**	**-2.7**
EIBI			*i* IVmb_Lg		16 12 05.3	
ECHE	**Chera**	**4.14 2**	P	**Pn**	**16 11 20.6**	**+1.1**
ECHE			S	**Sn**	**16 12 08.3**	**+0.6**
ECHE	**Chera**	**4.14 2**	Pn	**Pn**	**16 11 20.5**	**+1.1**
ECHE			Sn	**Sn**	**16 12 07.1**	**-0.6**
ECHE			*i* IVmb_Lg		16 12 16.0	
ECAB	**El Cabril**	**4.32 309**	P	**Pn**	**16 11 21.7**	**-0.1**
ECAB			S	**Sn**	**16 12 12.0**	**0.0**
ECAB	**El Cabril**	**4.32 309**	Pn	**Pn**	**16 11 21.6**	**-0.3**
ECAB			Sn	**Sn**	**16 12 11.4**	**-0.7**
ECAB			*i* IVmb_Lg		16 12 26.2	
ESDC	**Sonseca Array**	**4.78 333**	Pn	**Pn**	**16 11 29.7**	**+1.5**
ESDC			Sn	**Sn**	**16 12 21.5**	**-1.9**
ESDC			*i* IVmb_Lg		16 12 43.0	
ESDC	**Sonseca Array**	**4.78 333**	Pn	**Pn**	**16 11 29.5**	**+1.3**
	2.8nm,0.3s,baz=146,slow=13,SNR=114					
ESDC			Pg	**Pb**	**16 11 41.1**	**+1.0**
	1.7nm,0.3s,baz=146,slow=18,SNR=8.8					
ESDC			Sn	**Sn**	**16 12 21.5**	**-1.9**
	2.2nm,0.3s,baz=149,slow=22,SNR=7.6					
ESDC			Lg	Lg	16 12 35.4	
	4.5nm,0.3s,baz=149,slow=27,SNR=8.2					
	8.0nm,0.3s					
PAB	**San Pablo**	**4.82 329**	Pn	**Pn**	**16 11 29.6**	**+0.8**
PAB			Sn	**Sn**	**16 12 23.2**	**-1.3**
PAB			*i* IVmb_Lg		16 12 25.2	
EMOS	**Mosqueruela**	**4.94 6**	Pn	**Pn**	**16 11 32.2**	**+1.6**
EMOS			Sn	**Sn**	**16 12 26.0**	**-1.5**
EMOS			*i* IVmb_Lg		16 12 35.9	
EMIN	**Mina Concepcio**	**5.01 299**	P	**Pn**	**16 11 31.0**	**-0.4**
EMIN			S	**Sn**	**16 12 27.1**	**-2.0**
EMIN	**Mina Concepcio**	**5.01 299**	Pn	**Pn**	**16 11 31.4**	**0.0**
EMIN			Sn	**Sn**	**16 12 27.2**	**-2.0**
EMIN			*i* IVmb_Lg		16 12 56.8	
UCM	**Universidad Co**	**5.13 342**	P	**Pn**	**16 11 35.0**	**+2.0**
YEBES	**Yebes (Guadala**	**5.29 344**	Pn	**Pn**	**16 11 37.2**	**+1.8**
YEBES			Sn	**Sn**	**16 12 34.0**	**-2.3**
ETOS	**Mallorca**	**5.34 35**	P	**Pn**	**16 11 35.9**	**0.0**
ETOS			S	**Sn**	**16 12 35.2**	**-2.0**
ETOS	**Mallorca**	**5.34 35**	Pn	**Pn**	**16 11 36.2**	**+0.3**
ETOS			Sn	**Sn**	**16 12 34.8**	**-2.4**
ETOS			*i* IVmb_Lg		16 12 38.9	
ETOR	**Torete**	**5.41 353**	Pn	**Pn**	**16 11 38.3**	**+1.3**
ETOR			Sn	**Sn**	**16 12 37.5**	**-1.6**
ETOR			*i* IVmb_Lg		16 13 09.1	
PBAR	**Barrancos**	**5.45 302**	P	**Pn**	**16 11 37.5**	**0.0**
PBAR			S	**Sn**	**16 12 37.3**	**-2.8**
PBAR	**Barrancos**	**5.45 302**	*e*P	**Pn**	**16 11 37.8**	**+0.4**
PBAR			*e*S	**Sn**	**16 12 36.8**	**-3.2**
PBAR			*i* IAML		16 13 02.8	
PBAR			*i* IAML		16 13 05.5	
PBAR			*i* IAML		16 13 07.9	
EGRO	**El Granado**	**5.51 294**	P	**Pn**	**16 11 38.3**	**+0.1**
EGRO			S	**Sn**	**16 12 39.4**	**-2.0**
EGRO	**El Granado**	**5.51 294**	Pn	**Pn**	**16 11 38.1**	**-0.1**
EGRO			Sn	**Sn**	**16 12 38.0**	**-3.4**
EGRO			*i* IVmb_Lg		16 13 03.5	
ERTA	**Horta de San J**	**5.62 12**	Pn	**Pn**	**16 11 40.9**	**+1.0**
ERTA			Sn	**Sn**	**16 12 42.5**	**-1.8**
ERTA			*i* IVmb_Lg		16 12 45.8	
PVAQ	**Vaqueiros**	**5.64 292**	*e*P	**Pn**	**16 11 40.1**	**0.0**
PVAQ			*e*S	**Sn**	**16 12 41.8**	**-2.9**
PVAQ			*i* IAML		16 12 45.5	
PVAQ			*i* IAML		16 12 48.0	
PVAQ			*i* IAML		16 12 48.5	
PVAQ	**Vaqueiros**	**5.64 292**	P	**Pn**	**16 11 40.1**	**0.0**
PVAQ	**Vaqueiros**	**5.64 292**	S	**Sn**	**16 12 38.2**	**-6.5**
PBDV	**Barranco-do-Ve**	**5.76 290**	*e*P	**Pn**	**16 11 41.8**	**+0.1**
PBDV			*e*S	**Sn**	**16 12 45.4**	**-2.2**
PBDV			*i* IAML		16 12 48.7	
PBDV			*i* IAML		16 12 49.1	
PBDV			*i* IAML		16 12 52.7	
PCVE	**Castro Verde**	**5.96 293**	P	**Pn**	**16 11 44.4**	**-0.1**
PCVE			S	**Sn**	**16 12 51.3**	**-1.2**
PCVE	**Castro Verde**	**5.96 293**	*e*P	**Pn**	**16 11 44.8**	**+0.3**
PCVE			*e*S	**Sn**	**16 12 49.9**	**-2.6**
PCVE			*i* IAML		16 12 53.3	
PCVE			*i* IAML		16 13 09.8	
PCVE			*i* IAML		16 13 37.8	
PBEJ	**Beja**	**5.98 297**	*e*P	**Pn**	**16 11 46.0**	**+1.3**
PBEJ			*e*S	**Sn**	**16 12 50.5**	**-2.4**
PBEJ			*i* IAML		16 12 52.0	
PBEJ			*i* IAML		16 12 53.1	
PBEJ			*i* IAML		16 12 55.0	
EPOB	**Poblet**	**6.15 16**	Pn	**Pn**	**16 11 47.6**	**+0.5**
EPOB			Sn	**Sn**	**16 12 52.7**	**-4.5**
EPOB			*i* IVmb_Lg		16 13 01.5	
MESJ	**Messejana**	**6.17 295**	*e*P	**Pn**	**16 11 47.2**	**0.0**
MESJ	**Messejana**	**6.17 295**	*e*P	**Pn**	**16 11 47.6**	**+0.3**
MESJ			*e*S	**Sn**	**16 12 55.1**	**-2.5**
MESJ			*i* IAML		16 12 58.5	
MESJ			*i* IAML		16 13 00.5	
MESJ			*i* IAML		16 13 02.5	
PESTR	**Estremoz**	**6.17 305**	*e*P	**Pn**	**16 11 48.2**	**+0.8**
PESTR			*e*S	**Sn**	**16 12 55.3**	**-2.5**
PESTR			*i* IAML		16 13 21.7	
PESTR			*i* IAML		16 13 23.0	
PESTR			*i* IAML		16 13 31.9	
MORF	**Marmelete**	**6.33 289**	*e*P	**Pn**	**16 11 49.0**	**-0.6**
MORF	**Marmelete**	**6.33 289**	*e*P	**Pn**	**16 11 49.2**	**-0.4**
MORF			*e*S	**Sn**	**16 12 59.2**	**-2.5**
MORF			*i* IAML		16 13 03.6	
MORF			*i* IAML		16 13 03.9	
MORF			*i* IAML		16 13 04.2	
PMRV	**Marv??o**	**6.36 311**	*e*P	**Pn**	**16 11 50.9**	**+1.0**
PMRV			*e*S	**Sn**	**16 12 60.0**	**-2.4**
PMRV			*i* IAML		16 13 26.6	
PMRV			*i* IAML		16 13 29.7	
PMRV			*i* IAML		16 13 44.9	
PFVI	**Vila Bisbo**	**6.42 287**	*e*P	**Pn**	**16 11 52.5**	**+1.7**
PTEO	**Sao Teotonio**	**6.45 291**	*e*P	**Pn**	**16 11 51.9**	**+0.7**
PCBR	**Castelo Branco**	**6.67 313**	*e*P	**Pn**	**16 11 55.4**	**+1.3**
PCBR			*e*S	**Sn**	**16 13 07.5**	**-2.3**
PCBR			*i* IAML		16 13 10.4	
PCBR			*i* IAML		16 13 10.8	
PCBR			*i* IAML		16 13 44.8	
PMTG	**Montargil**	**6.70 305**	*e*P	**Pn**	**16 11 54.7**	**+0.1**
PMTG			*e*S	**Sn**	**16 13 07.9**	**-2.8**
PMTG			*i* IAML		16 13 10.4	
PMTG			*i* IAML		16 13 12.6	
PMTG			*i* IAML		16 14 01.6	
PSARD	**Sardoal**	**6.95 309**	*e*P	**Pn**	**16 11 58.0**	**0.0**
PSARD			*e*S	**Sn**	**16 13 12.6**	**-4.2**
PSARD			*i* IAML		16 13 16.1	
PSARD			*i* IAML		16 13 17.2	
PSARD			*i* IAML		16 13 56.3	
MTE	**Manteigas**	**7.07 316**	*e*S	**Sn**	**16 13 16.7**	**-3.2**
MTE			*i* IAML		16 13 21.0	
MTE			*i* IAML		16 13 21.5	
MTE			*i* IAML		16 13 21.8	
PSBE	**So Bento**	**7.31 306**	*e*P	**Pn**	**16 12 03.8**	**+0.8**
MVO	**Moncorvo**	**7.34 323**	*e*P	**Pn**	**16 12 04.9**	**+1.4**
MVO			*e*S	**Sn**	**16 13 24.0**	**-2.7**
MVO			*i* IAML		16 14 07.2	
MVO			*i* IAML		16 14 09.9	
MVO			*i* IAML		16 14 11.7	
PMAFR	**Mafra**	**7.37 301**	*e*P	**Pn**	**16 12 04.8**	**+0.9**
PCAS	**Casmilo, Conde**	**7.42 310**	*e*P	**Pn**	**16 12 05.6**	**+1.2**
PCAS			*e*S	**Sn**	**16 13 24.4**	**-3.9**
PCAS			*i* IAML		16 14 05.5	
PCAS			*i* IAML		16 14 21.9	
PCAS			*i* IAML		16 14 22.1	
PVIS	**Viseu**	**7.48 317**	*e*P	**Pn**	**16 12 06.7**	**+1.3**
PVIS			*e*S	**Sn**	**16 13 24.4**	**-5.6**
PBRG	**Braganca**	**7.71 327**	*e*P	**Pn**	**16 12 10.0**	**+1.6**
PBRG			*e*S	**Sn**	**16 13 33.6**	**-2.0**
PBRG			*i* IAML		16 14 12.1	
PBRG			*i* IAML		16 14 15.7	
PBRG			*i* IAML		16 14 16.7	
PVRL	**Vila Real**	**7.78 320**	*e*P	**Pn**	**16 12 11.1**	**+1.7**
PVRL			*e*S	**Sn**	**16 13 34.3**	**-2.9**
ECAL	**Calabor**	**7.82 328**	P	**Pn**	**16 12 11.4**	**+1.4**
ECAL			S	**Sn**	**16 13 34.8**	**-3.5**
ECAL	**Calabor**	**7.82 328**	Pn	**Pn**	**16 12 11.1**	**+1.1**
ECAL			Sn	**Sn**	**16 13 34.4**	**-3.9**
ECAL			*i* IVmb_Lg		16 14 18.6	
POLO	**Lamas de Olo**	**7.89 321**	*e*P	**Pn**	**16 12 12.4**	**+1.5**
POLO			*e*S	**Sn**	**16 13 36.0**	**-4.1**
POLO			*i* IAML		16 14 28.4	
POLO			*i* IAML		16 14 29.2	
POLO			*i* IAML		16 14 30.6	
ELAN	**Lanestosa**	**7.97 348**	Pn	**Pn**	**16 12 13.6**	**+1.5**
ELAN			Sn	**Sn**	**16 13 37.2**	**-4.9**
ELAN			*i* IVmb_Lg		16 14 01.7	
PCAB	**Cabril**	**8.25 321**	*e*P	**Pn**	**16 12 18.4**	**+2.5**
PCAB			*e*S	**Sn**	**16 13 44.7**	**-4.2**
PCAB			*i* IAML		16 14 36.5	
PCAB			*i* IAML		16 14 38.4	
PCAB			*i* IAML		16 14 41.0	
EARI	**Arriondas**	**8.45 339**	Pn	**Pn**	**16 12 20.0**	**+1.4**
EARI			Sn	**Sn**	**16 13 49.0**	**-4.8**
EARI			*i* IVmb_Lg		16 14 28.1	
KEST	**Kesra**	**8.55 85**	Pn	**Pn**	**16 12 21.1**	**+0.9**
	1.1nm,0.3s,baz=284,slow=5.0,SNR=9.4					
KEST			Sn	**Sn**	**16 13 56.1**	**-0.4**
	0.1nm,0.3s,baz=302,slow=16,SNR=1.4					
	4.8nm,0.5s					
PGAV	**Gavieira, Arco**	**8.56 322**	*e*P	**Pn**	**16 12 22.5**	**+2.2**
PGAV			*e*S	**Sn**	**16 13 52.0**	**-4.6**
PGAV			*i* IAML		16 13 56.4	
PGAV			*i* IAML		16 13 56.8	
PGAV			*i* IAML		16 13 57.4	
EPON	**Pontenova**	**9.13 331**	Pn	**Pn**	**16 12 29.3**	**+1.3**
GERES	**GERESS Array B**	**17.29 35**	Pn	**Pn**	**16 14 17.5**	**-0.2**
	baz=218,slow=12,SNR=1.8					
	0.1nm,0.2s					

*IDC **19** 16:22:47.9±1.0, 18°.28S×172°.78W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=41.3km s-min=23.8km az=138.0*

ISC 19 16:22:50.8±0.9, 18°.3S±0°.2×172°.8W±0°.2, h19km, n17, σ0s51/8, mb3.9/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.78 202**		P	**P**	**16 27 41.1**	**-0.4**
	3.5nm,0.6s,baz=37,slow=10,SNR=1.1						
	3.5nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**42.65 331**		T	T	17 16 56.5	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**42.66 331**		T	T	17 17 02.4	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**42.67 331**		T	T	17 16 57.8	
	baz=150						
WRA	**Warramunga Arr**	**49.78 259**		P	**P**	**16 31 42.6**	**-0.1**
	1.1nm,0.5s,baz=97,slow=7.6,SNR=23						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**49.80 254**		P	**P**	**16 31 43.1**	**+0.3**
	3.0nm,0.8s,baz=92,slow=7.9,SNR=33						
	3.0nm,0.8s						
QSPA	**South Pole Qui**	**71.81 180**		P	**P**	**16 34 12.4**	**+0.3**
	1.9nm,1.1s,baz=0.0,slow=4.0,SNR=3.2						
	1.9nm,1.1s						
TXAR	**Lajitas Array**	**81.76 56**		P	**P**	**16 35 09.2**	**+0.4**
	0.9nm,1.2s,baz=260,slow=6.8,SNR=2.6						
	0.9nm,1.2s						
H03S2	**Juan Fernandez**	**83.19 123**		T	T	18 06 42.8	
	baz=250,slow=75						
H03S1	**Juan Fernandez**	**83.20 123**		T	T	18 06 43.9	
	baz=250,slow=75						
H03S3	**Juan Fernandez**	**83.20 123**		T	T	18 06 41.9	
	baz=250,slow=75						
H03N2	**Juan Fernandez**	**83.30 123**		T	T	18 06 46.5	
	baz=248,slow=74						
H03N3	**Juan Fernandez**	**83.30 123**		T	T	18 06 45.1	
	baz=248						
H03N1	**Juan Fernandez**	**83.31 123**		T	T	18 06 47.1	
	baz=248,slow=74						
PDAR	**Pinedale Array**	**84.03 41**		P	**P**	**16 35 19.7**	**-0.7**
	0.5nm,0.7s,baz=235,slow=5.2,SNR=4.7						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**85.13 11**		P	**P**	**16 35 25.4**	**+0.3**
	0.4nm,0.9s,baz=208,slow=4.9,SNR=1.9						
	0.4nm,0.9s						
BRTR	**Keskin Array B**	**148.67 319**		PKPbc	**PKiKP**	**16 42 38.4**	**-0.3**
	0.9nm,0.8s,baz=46,slow=4.2,SNR=6.7						

*NEIC **19** 16:23:18.6±1.1, 18°.14S±0°.05×172°.17W±0°.06, h10km±1km, mb4.3/9, Error ellipse: s-maj=11.6km s-min=6.1km az=313.0*

*IDC **19** 16:23:21.7±0.9, 18°.10S×172°.83W, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=40.1km s-min=21.1km az=136.0*

ISC 19 16:23:18.5±0.8, 18°.1S±0°.1×172°.1W±0°.1, h10km, n27, σ2s17/18, mb4.1/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.27 117**		Pn	**Pn**	**16 23 56.8**	**+0.6**
NIUE				Sn	**Sn**	**16 24 21.0**	**-3.2**
AFI	**Afiamalu**	**4.13 4**		Pn	**Pn**	**16 24 22.9**	**+1.1**
URZ	**Urewera**	**22.24 203**		P	**P**	**16 28 17.7**	**+2.4**
	2.2nm,0.3s,baz=336,slow=2.5,SNR=14						
	2.2nm,0.3s						
CAN	**Canberra**	**38.51 236**		P	**P**	**16 30 38.6**	**-2.5**
H11S2	**WAKE ISLAND Hy**	**41.88 329**		T	T	17 16 20.5	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**41.90 329**		T	T	17 16 21.4	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**41.90 329**		T	T	17 16 21.8	
	baz=148,slow=74						
H11N3	**WAKE ISLAND Hy**	**42.84 330**		T	T	17 17 30.8	
	baz=150,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.84 330**		T	T	17 17 31.9	
	baz=150,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**42.85 330**		T	T	17 17 35.1	
	baz=150,slow=76,SNR=12						
WR8	**Warramunga Arr**	**50.38 259**		P	**P**	**16 32 14.1**	**-2.1**
WR8				IAmb	IAmb	16 32 18.6	
	comp=Z,7.0nm,1.2s						
WB0	**Warramunga Arr**	**50.50 259**		P	**P**	**16 32 15.5**	**-1.7**
WB0				IAmb	IAmb	16 32 17.6	
	comp=Z,4.8nm,0.9s						
WRA	**Warramunga Arr**	**50.53 259**		P	**P**	**16 32 16.0**	**-1.4**
WRA	**Warramunga Arr**	**50.53 259**		P	**P**	**16 32 16.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=96,slow=5.8,SNR=14						
	comp=Z,1.1nm,0.5s						
AS31	**Alice Springs**	**50.55 254**		P	**P**	**16 32 16.4**	**-1.2**
AS31				IAmb	IAmb	16 32 18.0	
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**50.55 254**		P	**P**	**16 32 15.3**	**-2.3**
ASAR	**Alice Springs**	**50.55 254**		P	**P**	**16 32 16.8**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=92,slow=8.2,SNR=14						
	comp=Z,4.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.94 259**		P	**P**	**16 33 16.4**	**-2.0**
JGF	**Kuroka**	**71.71 318**		P	**P**	**16 34 40.3**	**-0.5**
QSPA	**South Pole Qui**	**72.00 180**		P	**P**	**16 34 45.5**	**+3.2**
QSPA				IAmb	IAmb	16 34 49.7	
	comp=Z,4.5nm,1.4s						
QSPA	**South Pole Qui**	**72.00 180**		P	**P**	**16 34 46.1**	**+3.8**
	comp=Z,0.7nm,0.7s,baz=336,slow=5.1,SNR=1.8						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**75.47 41**		P	P	16 35 11.5	+8.4
	comp=Z,1.1nm,0.9s,baz=255,slow=5.2,SNR=2.7						
	comp=Z,1.1nm,0.9s						
TXAR	**Lajitas Array**	**81.05 55**		P	P	16 35 42.3	+8.2
	comp=Z,0.2nm,0.6s,baz=243,slow=5.3,SNR=2.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**83.40 41**		P	P	16 35 53.4	+7.0
	comp=Z,0.6nm,0.7s,baz=196,slow=3.0,SNR=5.5						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**84.80 11**		P	P	16 35 58.4	+5.7
	comp=Z,0.3nm,0.7s,baz=209,slow=5.4,SNR=2.2						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**90.20 177**		P	**P**	**16 36 19.9**	**+0.9**
SNAA				IAmb	IAmb	16 36 52.6	
	comp=Z,3.7nm,1.5s						
BRTR	**Keskin Array B**	**149.00 319**		PKPbc	**PKPab**	**16 43 10.9**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=95,slow=1.9,SNR=6.6						

*NEIC **19** 16:25:39.3±2.7, 18°.2S±0°.1×172°.0W±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.2km s-min=13.1km az=48.0*

*IDC **19** 16:25:41.8±0.6, 18°.39S×172°.62W, h0km, mb4.2/13, mbtmp4.2/14, ML3.9/1, Error ellipse: s-maj=26.6km s-min=16.5km az=137.0*

ISC 19 16:25:47.7±0.6, 18°.4S±0°.1×172°.7W±0°.1, h41km, n62, σ0s97/49, mb4.3/20, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.73 105**		Pn	Pn	16 26 15.9	-13
AFI	**Afiamalu**	**4.53 12**			Pn	16 26 44.4	-9.4
PINNC	**Pines Island,**	**19.06 254**		P	**Pn**	**16 30 07.2**	**-0.5**
PINNC				IAmb	IAmb	16 30 14.1	
	comp=Z,35nm,1.0s						
SANVU	**Saraoutou**	**19.43

baz=251,slow=74,SNR=16
H03N2 Juan Fernandez 83.14 123 T T 18 09 07.0
baz=257,slow=72,SNR=12
H03N3 Juan Fernandez 83.14 123 T T 18 09 01.0
baz=257,slow=72,SNR=0.6
H03N1 Juan Fernandez 83.15 123 T T 18 09 00.7
baz=257,slow=72,SNR=9.6
PDAR Pinedale Array 84.04 41 P **P** **16 38 14.1 -0.2**
comp=Z,2.1nm,0.8s,baz=209,slow=3.0,SNR=15
comp=Z,2.1nm,0.8s
ILAR Eielson Array 85.22 11 P **P** **16 38 19.7 +0.2**
comp=Z,0.7nm,0.6s,baz=235,slow=5.5,SNR=9.4
comp=Z,0.7nm,0.6s
TROLL Troll, Antarti 89.79 179 ⇑P **P** **16 38 40.5 -1.2**
comp=Z,47nm,0.7s
VNA3 Neumayer Olymp 89.85 175 ⇑P **P** **16 38 40.2 -1.7**
comp=Z,1.4nm,0.7s
SNAA Sanae 89.92 177 ⇑P **P** **16 38 40.6 -1.6**
comp=Z,22nm,0.8s
SNAA Sanae 89.92 177 P **P** **16 38 40.0 -2.2**
SNAA IAmb IAmb 16 38 59.9
comp=Z,6.9nm,1.5s
SNAA Sanae 89.92 177 P **P** **16 38 40.7 -1.6**
comp=Z,1.3nm,0.9s,baz=205,slow=8.4,SNR=6.3
comp=Z,1.3nm,0.9s
VNA2 Neumayer--Watz 90.36 175 ⇑P **P** **16 38 42.8 -1.3**
comp=Z,1.8nm,0.6s,baz=179,slow=4.5
VNA1 Neumayer--Stat 90.55 175 ⇑P **P** **16 38 43.9 -1.1**
comp=Z,2.7nm,0.9s
CMAR Chiang Mai Arr 94.16 288 P **P** **16 39 05.2 +2.5**
comp=Z,0.4nm,0.8s,baz=103,slow=5.6,SNR=2.9
comp=Z,0.4nm,0.8s
BRTR Keskin Array B 148.84 319 PKPbc **PKiKP** **16 45 32.7 0.0**
comp=Z,3.0nm,0.7s,baz=110,slow=2.1,SNR=17
GERES GERESS Array B 149.16 352 PKPbc **PKiKP** **16 45 33.1 +0.1**
comp=Z,1.5nm,0.8s,baz=0.0,slow=1.3,SNR=9.5
CONA Conrad Observa 149.70 349 *e*PKiKP **PKiKP** **16 45 34.8 +0.7**
comp=Z,3.9nm,0.9s
RONA Rosalia, Austr 149.83 348 *i* PKiKP **PKiKP** **16 45 34.9 +0.5**
comp=Z,3.4nm,0.7s
RETA Reutte 150.82 355 *i* PKiKP **PKiKP** **16 45 36.8 +0.3**
comp=Z,2.3nm,0.8s
WATA Walderalm 150.90 354 *i* PKiKP **PKiKP** **16 45 36.8 +0.1**
comp=Z,3.7nm,0.9s
MOTA Moosalm 150.93 355 *i* PKiKP **PKiKP** **16 45 37.0 +0.2**
comp=Z,5.5nm,1.1s
WTTA Wattenberg 150.96 354 *i* PKiKP **PKiKP** **16 45 37.3 +0.4**
comp=Z,6.9nm,0.6s
SQTA Sankt Quirin 151.05 354 *i* PKiKP **PKiKP** **16 45 37.0 0.0**
comp=Z,8.3nm,1.5s
SOKA Soboth 151.06 349 *e*PKiKP **PKiKP** **16 45 37.0 0.0**
comp=Z,4.1nm,0.8s
DAVA Damuels 151.08 356 *e*PKiKP **PKiKP** **16 45 37.8 +0.7**
comp=Z,4.9nm,1.0s
FETA Feichten 151.29 355 *i* PKiKP **PKiKP** **16 45 38.1 +0.5**
comp=Z,4.6nm,0.9s
OBKA Obir 151.30 350 *e*PKiKP **PKiKP** **16 45 37.6 +0.1**
comp=Z,0.5nm,0.6s
MYKA Terra Mystica 151.33 351 *i* PKP **PKiKP** **16 45 37.0 -0.5**
comp=Z,2.2nm,0.6s
ABTA Abfaltersbach 151.37 352 *i* PKP **PKiKP** **16 45 37.5 -0.2**
comp=Z,7.4nm,0.7s
TORD Torodi Ar. Bea 172.52 133 PKP **PKPdf** **16 45 53.6 +0.4**
comp=Z,0.3nm,0.4s,baz=2.9,slow=2.9,SNR=4.9

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*BJI **19** 16:32:44.7, 18°.89S×172°.32W, h10km, mB5.3/9, mb4.9/24, Ms4.8/7, Ms7 4.6/8*
*NEIC **19** 16:32:47.2±2.5, 18°.48S±0°.07×172°.25W±0°.08, h10km±1km, mb5.1/28, Error ellipse: s-maj=17.7km s-min=3.0km az=226.0*
*IDC **19** 16:32:47.0±0.5, 18°.48S×172°.60W, h0km, mb4.7/20, mbtmp4.7/21, ML4.3/1, MS4.2/50, Error ellipse: s-maj=18.8km s-min=13.9km az=134.0*
*GCMT **19** 16:32:50.2±0.2, 18°.66S±0°.02×172°.23W±0°.02, h12km, MW4.9/103, Moment Tensor Solution. s31,c32; s103,c145; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.73±.07; Mθθ0.70±.08; Mφφ2.03±.06; Mrθ-0.44±.28; Mθφ1.06±.05; Mφr0.63±.26; Best double couple: M0=2.77400×10^16^ NP1:φs=41.00000°, δ=43.00000°, λ=-71.00000°. NP2:φs=196.00000°, δ=50.00000°, λ=-107.00000°. Principal axes: T 2.6380, Plg=4.0000°, Azm=298.0000°; N 0.2690, Plg=13.0000°, Azm=207.0000°; P -2.9100, Plg=77.0000°, Azm=44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **19** 16:32:50.4±1.1, 18°.31S×172°.55W, h20km, mb5.2/24 Error ellipse: s-maj=11.6km s-min=9.6km az=53.1*
*NOU **19** 16:33:15.1, 19°.61S×174°.06W, h92km, mb4.7/10, Tonga Islands*

ISC 19 16:32:46.9±0.3, 18°.54S±0°.06×172°.26W±0°.05, h10km, n571, σ1$45/516, mb5.0/61, MS4.3/54, 53C-18D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.28**	**104**		**Pn**	**16 33 22.4**	**-2.1**
NIUE				Sn	**Sn**	16 33 47.2	-5.4
AFI	**Afiamalu**	**4.62**	**6**		**Pn**	**16 33 52.8**	**-4.0**
AFI	**Afiamalu**	**4.62**	**6**	P	**Pn**	**16 33 52.9**	**-4.0**
MSVF	**Nonsavu**	**9.24**	**273**	P	**Pn**	**16 35 05.1**	**+4.7**
MSVF	**Nonsavu**	**9.24**	**273**	*i* P	**Pn**	**16 35 02.5**	**+2.1**
RAO	**Raoul Island**	**11.85**	**205**	LR	LR	16 40 20.8	
	comp=Z,157nm,20.5s,baz=60,slow=39						
GLKZ	**Green Lake**	**11.86**	**205**	P	Pn	16 35 30.9	-5.2
RAR	**Rarotonga**	**12.05**	**105**	Pn	**Pn**	**16 35 35.4**	**-3.3**
RAR	**Rarotonga**	**12.05**	**105**	Pn	**Pn**	**16 35 36.0**	**-2.7**
	3.5nm,0.3s,baz=265,slow=3.0,SNR=6.8						
RAR				LR	LR	16 39 08.2	
	comp=Z,2μm,19.2s,baz=272,slow=31						
RAR	**Rarotonga**	**12.05**	**105**	P	**Pn**	**16 35 35.4**	**-3.3**
MARNC	**Mare, Loyalty**	**18.75**	**258**	P	**P**	**16 37 03.6**	**-2.4**
MARNC				IAmb	IAmb	16 37 10.5	
	comp=Z,327nm,1.5s						
MARNC	**Mare, Loyalty**	**18.75**	**258**	P	**P**	**16 37 04.6**	**-1.4**
MARNC	**Mare, Loyalty**	**18.75**	**258**	S	Sn	16 40 15.0	-21
PINNC	**Pines Island,**	**19.42**	**255**		**P**	**16 37 12.6**	**-0.8**
PINNC	**Pines Island,**	**19.42**	**255**	P	**P**	**16 37 13.0**	**-0.4**
PINNC	**Pines Island,**	**19.42**	**255**	S	Sn	16 40 28.2	-24
SANVU	**Saraoutou**	**19.88**	**276**	P	**P**	**16 37 17.9**	**-0.5**
SANVU				IAmb	IAmb	16 37 23.1	
	comp=Z,98nm,1.3s						
DZM	**Mont Dzumac**	**20.27**	**256**	P	**P**	**16 37 21.6**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=80,slow=19,SNR=13						
DZM				LR	LR	16 43 48.2	
	comp=Z,1μm,21.1s,baz=116,slow=33						
	comp=Z,28nm,0.9s						
GRZ	**Great Barrier**	**20.71**	**209**	P	**P**	**16 37 28.5**	**+1.2**
OUZ	**Omahuta**	**20.82**	**214**	P	**P**	**16 37 27.3**	**-1.3**
OUZ	**Omahuta**	**20.82**	**214**	P	**P**	**16 37 29.8**	**+1.3**
WCZ	**Waipu Caves**	**20.99**	**212**	P	**P**	**16 37 30.7**	**+0.3**
HAZ	**Te Kaha**	**21.04**	**202**	P	**P**	**16 37 32.9**	**+2.1**
PUZ	**Puketiti**	**21.15**	**201**	P	**P**	**16 37 35.8**	**+3.7**
TWGZ	**Tauwhareparae**	**21.34**	**202**	P	**P**	**16 37 37.3**	**+3.1**
PPT2	**Papeete2**	**21.59**	**91**	*e*P	P	16 37 29.2	-7.9
	comp=Z,212nm,30.5s						
PPT2				*e*S	S	16 41 25.8	-11
	comp=Z,1μm,25.0s						
PPT2				*e*LR	LR	16 42 34.6	
	comp=Z,1μm,24.0s						
PPT2				*e*LR	LR	16 42 40.9	
	comp=Z,2μm,25.2s						
PPT	**Papeete**	**21.59**	**91**	P	**P**	**16 37 41.1**	**+4.0**
	comp=Z,75nm,1.1s,baz=252,slow=6.4,SNR=3.8						
PPT				LR	LR	16 43 32.3	
	comp=Z,848nm,20.6s,baz=256,slow=30						
	comp=Z,75nm,1.1s						
MWZ	**Matawai**	**21.64**	**202**	P	**P**	**16 37 36.2**	**-1.3**
URZ	**Urewera**	**21.73**	**203**	P	**P**	**16 37 38.5**	**+0.2**
	comp=Z,33nm,0.9s,baz=28,slow=3.8,SNR=7.3						
URZ				S	**S**	**16 41 34.5**	**-4.3**
	comp=Z,6.0nm,0.8s,baz=32,slow=19,SNR=1.4						
URZ				LR	LR	16 48 20.1	
	comp=Z,156nm,18.5s,baz=24,slow=43						
	comp=Z,33nm,0.9s						
URZ	**Urewera**	**21.73**	**203**	P	**P**	**16 37 40.4**	**+2.1**
URZ	**Urewera**	**21.73**	**203**	P	**P**	**16 37 38.4**	**+0.1**
RAGZ	**Rawiri**	**21.83**	**202**	P	**P**	**16 37 40.0**	**+0.6**
TOZ	**Tahuroa Road**	**21.92**	**207**	P	**P**	**16 37 42.9**	**+2.6**
RTZ	**Ruatahuna**	**22.09**	**203**	P	**P**	**16 37 39.5**	**-2.8**
RTZ	**Ruatahuna**	**22.09**	**203**	P	**P**	**16 37 44.2**	**+1.9**
SNGZ	**Shannon Statio**	**22.11**	**202**	P	**P**	**16 37 43.6**	**+1.2**
KNZ	**Kokohu**	**22.21**	**201**	P	**P**	**16 37 43.9**	**+0.5**
RAHZ	**Arahi**	**22.32**	**202**	P	**P**	**16 37 48.6**	**+4.0**
BKZ	**Black Stump Fm**	**22.75**	**203**	P	**P**	**16 37 46.6**	**-2.7**
BKZ				IAmb	IAmb	16 38 07.8	
	comp=Z,52nm,1.5s						
BKZ	**Black Stump Fm**	**22.75**	**203**	P	**P**	**16 37 53.2**	**+3.8**
BKZ	**Black Stump Fm**	**22.75**	**203**	P	**P**	**16 37 48.4**	**-1.0**
HIZ	**Hauiti**	**22.85**	**207**	P	**P**	**16 37 54.3**	**+4.0**
HIZ	**Hauiti**	**22.85**	**207**	P	**P**	**16 37 50.8**	**+0.6**
TMVZ	**Te Maari**	**23.01**	**205**	P	**P**	**16 37 53.9**	**+1.7**
PXZ	**Pawanui**	**23.39**	**201**	P	**P**	**16 37 56.5**	**+0.8**
VRZ	**Vera Road**	**23.40**	**206**	P	**P**	**16 37 59.7**	**+3.8**
BFZ	**Birch Farm**	**24.18**	**202**	P	**P**	**16 38 03.7**	**+0.3**
MRZ	**Mangatainoka R**	**24.40**	**203**	P	**P**	**16 38 07.2**	**+1.8**
NNZ	**Nelson**	**25.73**	**206**	P	**P**	**16 38 20.9**	**+3.4**
QRZ	**Quartz Range**	**25.77**	**207**	P	**P**	**16 38 23.1**	**+5.3**
QRZ	**Quartz Range**	**25.77**	**207**	P	**P**	**16 38 22.4**	**+4.5**
THZ	**Tophouse**	**26.39**	**206**	P	P	16 38 32.0	+8.5
KHZ	**Kahutara**	**26.69**	**204**	P	**P**	**16 38 30.3**	**+4.2**
DSZ	**Denniston Nort**	**26.83**	**207**	P	**P**	**16 38 33.4**	**+5.9**
HNR	**Honiara**	**28.41**	**285**	LR	LR	16 48 29.6	
	comp=Z,820nm,19.1s,baz=100,slow=34						
TAOE	**Nuku Hiva Isla**	**32.60**	**77**	*e*LR	LR	16 47 41.9	
	comp=Z,720nm,25.2s						
ARMA	**Armidale**	**34.78**	**243**	P	**P**	**16 39 36.3**	**-1.6**
ARMA				IAmb	IAmb	16 39 37.7	
	comp=Z,48nm,1.4s						
CTA	**Charters Tower**	**39.11**	**261**	LR	LR	16 54 43.1	
	comp=Z,15nm,20.1s,baz=88,slow=34						
PMG	**Port Moresby**	**40.33**	**277**	LR	LR	16 55 07.2	
	comp=Z,655nm,18.9s,baz=105,slow=34						
TOO	**Toolangi**	**41.42**	**234**	P	**P**	**16 40 32.1**	**-1.6**
TOO	**Toolangi**	**41.42**	**234**	P	**P**	**16 40 32.1**	**-1.6**
TOO				pmax	pmax		
	comp=Z,22nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**42.20**	**330**	T	T	17 26 17.9	
	baz=147,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**42.21**	**330**	T	T	17 26 22.4	
	baz=147,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**42.22**	**330**	T	T	17 26 19.0	
	baz=147,slow=76,SNR=28						
COEN	**Coen**	**42.94**	**269**	P	**P**	**16 40 44.0**	**-2.4**
H11N3	**WAKE ISLAND Hy**	**43.16**	**331**	T	T	17 27 00.1	
	baz=150,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**43.17**	**331**	T	T	17 26 56.3	
	baz=150,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**43.18**	**331**	T	T	17 26 59.3	
	baz=150,slow=76,SNR=30						
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**16 40 49.6**	**-1.1**
	comp=Z,12nm,1.0s,baz=93,slow=8.0,SNR=6.8						
STKA				LR	LR	16 55 51.2	
	comp=Z,293nm,21.0s,baz=41,slow=32						
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**43.50**	**243**	*i* P	**P**	**16 40 49.2**	**-1.5**
INKA	**Innaminka**	**43.95**	**249**	P	**P**	**16 40 53.1**	**-1.3**
INKA				IAmb	IAmb	16 40 57.3	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**48.25**	**242**	P	**P**	**16 41 27.2**	**-1.1**
BBOO				IAmb	IAmb	16 41 32.8	
	comp=Z,24nm,1.1s						
JAY	**Jayapura**	**48.71**	**283**	LR	LR	17 00 43.2	
	comp=Z,376nm,21.8s,baz=96,slow=35						
WB0	**Warramunga Arr**	**50.23**	**259**		**P**	**16 41 41.6**	**-2.0**
ASAR	**Alice Springs**	**50.25**	**254**	P	**P**	**16 41 42.1**	**-1.5**
ASAR	**Alice Springs**	**50.25**	**254**	P	**P**	**16 41 42.3**	**-1.4**
	comp=Z,38nm,0.9s,baz=86,slow=8.4,SNR=184						
ASAR				S	**S**	**16 48 50.1**	**-6.2**
	comp=Z,2.1nm,1.0s,baz=94,slow=15,SNR=13						
ASAR				LR	LR	17 02 45.9	
	comp=Z,288nm,18.2s,baz=92,slow=36						
	comp=Z,38nm,0.9s						
WRAB	**Tennant Creek**	**50.25**	**259**	*i* P	**P**	**16 41 42.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,50nm,1.5s						
WRA	**Warramunga Arr**	**50.26**	**259**	P	**P**	**16 41 41.8**	**-1.9**
WRA	**Warramunga Arr**	**50.26**	**259**	P	**P**	**16 41 42.1**	**-1.7**
	comp=Z,9.2nm,0.7s,baz=96,slow=8.8,SNR=101						
WRA				PcP	**PcP**	**16 43 02.8**	**0.0**
	comp=Z,2.7nm,1.0s,baz=94,slow=3.8,SNR=2.2						
WRA				S	**S**	**16 48 49.9**	**-6.6**
	comp=Z,1.1nm,1.2s,baz=98,slow=15,SNR=3.4						
WRA				LR	LR	17 01 49.3	
	comp=Z,339nm,20.0s,baz=93,slow=35						
	comp=Z,9.2nm,0.7s						
GUMO	**Guam**	**52.96**	**304**	LR	LR	17 01 21.9	
	comp=Z,150nm,21.6s,baz=113,slow=33						
FORT	**Forrest**	**55.03**	**245**	P	**P**	**16 42 17.8**	**-1.1**
FORT				IAmb	IAmb	16 42 19.1	
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**56.23**	**263**	P	**P**	**16 42 26.7**	**-1.0**
KNRA				IAmb	IAmb	16 42 30.1	
	comp=Z,12nm,0.8s						
SWI	**Sorong**	**58.09**	**281**	P	**P**	**16 42 41.3**	**+0.4**
	comp=Z,24nm,0.9s						
RPN	**Rapa Nui**	**58.12**	**111**	LR	LR	17 01 38.8	
	comp=Z,368nm,18.2s,baz=329,slow=30						
FITZ	**Fitzroy Crossi**	**58.68**	**260**		**P**	**16 42 44.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**58.68**	**260**	P	**P**	**16 42 44.4**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=112,slow=4.5,SNR=11						
FITZ				LR	LR	17 06 30.6	
	comp=Z,466nm,20.6s,baz=105,slow=35						
	comp=Z,2.1nm,0.6s						
SBA	**Scott Base**	**60.23**	**185**	P	**P**	**16 42 56.7**	**+1.9**
SBA				IAmb	IAmb	16 42 59.1	
	comp=Z,14nm,1.1s						
SBA	**Scott Base**	**60.23**	**185**	P	**P**	**16 42 57.9**	**+3.1**
VNDA	**Vanda**	**60.39**	**186**	P	**P**	**16 42 56.4**	**+0.5**
VNDA	**Vanda**	**60.39**	**186**	P	**P**	**16 42 57.8**	**+2.0**
	comp=Z,3.7nm,1.0s,baz=8.7,slow=6.0,SNR=17						
	comp=Z,3.7nm,1.0s						
SOEI	**Soe**	**61.91**	**269**	P	**P**	**16 43 06.9**	**-0.4**
TNTI	**Ternate**	**62.30**	**281**	P	**P**	**16 43 10.7**	**+0.9**
BATI	**Baumata**	**62.36**	**268**	LR	LR	17 09 42.4	
	comp=Z,268nm,20.2s,baz=136,slow=36						
SANI	**Sanana**	**62.61**	**277**	P	**P**	**16 43 12.7**	**+0.8**
	comp=Z,25nm,1.1s						
JCJ	**Chichijima**	**63.31**	**315**	LR	LR	17 06 14.0	
	comp=Z,234nm,20.7s,baz=138,slow=32						
NWAO	**Narrogin (SRO)**	**64.07**	**242**	LR	LR	17 09 04.2	
	comp=Z,114nm,21.4s,baz=109,slow=34						
EDFI	**Ende, Flores**	**64.63**	**269**	P	**P**	**16 43 24.7**	**-0.7**
	comp=Z,18nm,1.0s						
DAV	**Davao City (W)**	**66.35**	**287**	LR	LR	17 10 12.7	
	comp=Z,113nm,20.4s,baz=122,slow=34						
APSI	**Ampana**	**67.08**	**277**	P	**P**	**16 43 42.4**	**+1.4**
	comp=Z,588nmcomp=Z,25nm,1.3s						
KAPI	**Kappang**	**67.56**	**272**	LR	LR	17 11 05.9	
	comp=Z,78nm,21.1s,baz=96,slow=34						
TOLI2	**Tolitoli**	**68.58**	**279**	P	**P**	**16 43 50.8**	**+0.3**
TOLI2				IAmb	IAmb	16 43 55.5	
	comp=Z,18nm,1.1s						
NIKH	**Nikolski High**	**71.27**	**2**	P	**P**	**16 44 05.5**	**-0.6**
	baz=183						
QSPA	**South Pole Qui**	**71.53**	**180**	P	**P**	**16 44 09.8**	**+1.9**
QSPA				IAmb	IAmb	16 44 13.0	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**71.53**	**180**	P	**P**	**16 44 11.3**	**+3.4**
	comp=Z,14nm,1.1s,baz=32,slow=3.7,SNR=19						
	comp=Z,14nm,1.1s						
SHEM	**Shemya Is, Ala**	**71.95**	**351**	LR	LR	17 09 18.5	
	comp=Z,157nm,21.8s,baz=260,slow=30						
MJAR	**Matsushiro Arr**	**72.02**	**320**	P	**P**	**16 44 11.3**	**+0.2**
MJAR	**Matsushiro Arr**	**72.02**	**320**	P	**P**	**16 44 12.5**	**+1.3**
	comp=Z,4.3nm,1.0s,baz=142,slow=7.7,SNR=7.4						
	comp=Z,4.3nm,1.0s						
MYLDM	**Lahad Datu**	**72.14**	**282**		**P**	**16 44 12.1**	**-0.2**
UNV	**Unalaska Valle**	**72.25**	**4**	P	**P**	**16 44 11.4**	**-0.6**
	baz=186						
JOW	**Kunigami**	**73.21**	**306**	LR	LR	17 10 27.5	
	comp=Z,318nm,21.2s,baz=116,slow=31						
TGY	**Tagaytay City**	**73.37**	**291**	LR	LR	17 11 36.9	
	comp=Z,156nm,21.6s,baz=122,slow=32						
LPIG	**La Paz**	**73.78**	**57**	LR	LR	17 10 05.4	
	comp=Z,210nm,20.4s,baz=206,slow=30						
CHNA	**Chernabura Isl**	**73.87**	**8**	P	**P**	**16 44 20.6**	**-1.0**
	baz=192						
SDPT	**Sand Point**	**74.27**	**7**	P	**P**	**16 44 23.0**	**-0.9**
	baz=191						
PFO	**Pinyon Flats O**	**74.28**	**46**	LR	LR	17 11 36.1	
	comp=Z,184nm,18.7s,baz=223,slow=31						
PFO	**Pinyon Flats O**	**74.28**	**46**	*i* P	**P**	**16 44 21.6**	**-3.1**
PFO				pmax	pmax		
	comp=Z,28nm,1.3s						
S12K	**Black Hills**	**74.45**	**6**	P	**P**	**16 44 23.9**	**-1.1**
	baz=190						
JNU	**Nakatsue**	**74.73**	**313**	LR	LR	17 11 33.3	
	comp=Z,120nm,20.3s,baz=146,slow=31						
ASAJ	**Asahikawa**	**74.76**	**328**	LR	LR	17 12 11.7	
	comp=Z,143nm,21.6s,baz=156,slow=32						
P08K	**Saint George I**	**74.88**	**2**	P	**P**	**16 44 26.4**	**-1.0**
	baz=182						
SPIA	**Saint Paul Isl**	**75.44**	**1**	P	**P**	**16 44 29.7**	**-0.9**
	baz=182						
YBH	**Yreka Blue Hor**	**75.45**	**36**	LR	LR	17 12 08.2	
	comp=Z,16nm,19.1s,baz=243,slow=31						
PETK	**Petropavlovsk-**	**75.93**	**342**	P	**P**	**16 44 34.8**	**+1.2**
	comp=Z,9.9nm,1.0s,baz=124,slow=8.0,SNR=5.2						
PETK				LR	LR	17 15 33.0	
	comp=Z,48nm,18.8s,baz=146,slow=34						
	comp=Z,9.9nm,1.0s						
NVAR	**Mina Array Bea**	**75.95**	**41**	P	**P**	**16 44 37.1**	**+2.8**
	comp=Z,9.4nm,1.0s,baz=225,slow=9.4,SNR=26						
NVAR				LR	LR	17 13 36.0	
	comp=Z,244nm,19.1s,baz=254,slow=32						
	comp=Z,9.4nm,1.0s						
YSS	**Yuzhno-Sakhali**	**76.73**	**330**	*e*P	**P**	**16 44 39.3**	**+1.1**
YSS				*e*S	**S**	**16 54 25.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				pmax	pmax		
	comp=Z,100nm,11.6s						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s						
YSS				MLR	MLR		
	comp=E,100nm,13.0s						
R17L	**Mt. Peulik Vol**	**77.03**	**9**	P	**P**	**16 44 39.0**	**-0.7**
	baz=195						
OHAK	**Old Harbor**	**77.12**	**10**	P	**P**	**16 44 39.7**	**-0.5**
	baz=198						
TUC	**Tucson**	**77.55**	**50**	P	**P**	**16 44 46.6**	**+3.3**
TUC				pmax	pmax		
	comp=Z,14nm,1.4s						
Q17K	**Contact Creek**	**77.71**	**9**	P	**P**	**16 44 42.7**	**-0.9**
	baz=196						
KDAK	**Kodiak Island**	**77.78**	**11**	LR	LR	17 12 31.3	
	comp=Z,118nm,19.4s,baz=196,slow=31						
KDAK	**Kodiak Island**	**77.78**	**11**	P	**P**	**16 44 42.8**	**-1.0**
	baz=199						
Q16K	**King Salmon**	**78.00**	**8**	P	**P**	**16 44 44.3**	**-0.7**
	baz=195						
O14K	**Tigyukauivet M**	**78.03**	**6**	P	**P**	**16 44 44.0**	**-1.3**
	baz=190						
O15K	**Ungalikthiuk R**	**78.10**	**7**	P	**P**	**16 44 44.4**	**-1.2**
	baz=192						
P16K	**Nushagak River**	**78.17**	**7**	P	**P**	**16 44 45.2**	**-0.8**
	baz=194						
Q18K	**Katmai Hardscr**	**78.21**	**9**	P	**P**	**16 44 45.2**	**-1.2**
	baz=196						
WVOR	**Wild Horse Val**	**78.22**	**38**	P	**P**	**16 44 49.8**	**+2.9**
WVOR				pmax	pmax		
	comp=Z,18nm,1.4s						
LEM	**Lembang**	**78.52**	**267**	LR	LR	17 18 54.5	
	comp=Z,94nm,21.3s,baz=186,slow=35						
P17K	**Kvichak River**	**78.53**	**8**	P	**P**	**16 44 47.1**	**-0.9**
	baz=195						
Q20K	**Shuyak Island**	**78.59**	**10**	P	**P**	**16 44 47.4**	**-0.9**
	baz=199						
Q19K	**Cape Douglas,**	**78.69**	**10**	P	**P**	**16 44 48.0**	**-1.0**
	baz=198						
O16K	**Kokwok River B**	**78.70**	**7**	P	**P**	**16 44 48.4**	**-0.5**
	baz=194						
M11K	**Mekoryuk**	**78.79**	**3**	P	**P**	**16 44 48.9**	**-0.5**
	baz=186						
P18K	**Big Mountain,**	**78.89**	**9**	P	**P**	**16 44 50.0**	**-0.1**
	baz=196						
M13K	**Dall Lake**	**79.00**	**4**	P	**P**	**16 44 49.4**	**-1.1**
	baz=188						
O17K	**Koliganek Bris**	**79.00**	**8**	P	**P**	**16 44 50.4**	**-0.2**
	baz=194						
N15K	**Kwethluk River**	**79.05**	**6**	P	**P**	**16 44 49.7**	**-1.1**
	baz=192						
KSRS	**Korea Array**	**79.15**	**316**	P	**P**	**16 44 51.6**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=123,slow=6.0,SNR=8.4						
	comp=Z,2.6nm,1.0s						
ELK	**Elko**	**79.23**	**40**	P	**P**	**16 44 54.9**	**+2.3**
O18K	**Koktuh Hills**	**79.34**	**9**	P	**P**	**16 44 51.2**	**-1.3**
	baz=196						
P19K	**Oil Pt**	**79.44**	**10**	P	**P**	**16 44 51.7**	**-1.4**
	baz=198						
M14K	**Bethel**	**79.45**	**5**	P	**P**	**16 44 53.0**	**0.0**
	baz=190						
N16K	**Nishlik Lake**	**79.49**	**7**	P	**P**	**16 44 52.5**	**-0.8**
	baz=193						
M15K	**Kasigluk River**	**79.50**	**6**	P	**P**	**16 44 53.0**	**-0.3**
	baz=191						
TYV	**Tymovskoe**	**79.62**	**333**	*e*P	P	16 45 02.8	+8.6
TYV				pmax	pmax		
	comp=Z,100nm,3.6s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
HOM	**Homer**	**79.71**	**10**	P	**P**	**16 44 54.6**	**+0.2**
	baz=200						
N17K	**Nushagak Hills**	**79.72**	**8**	P	**P**	**16 44 55.1**	**+0.6**
	baz=194						
O19K	**Port Alsworth**	**79.79**	**9**	P	**P**	**16 44 54.8**	**-0.1**
	baz=197						
O20K	**Slope Mountain**	**79.95**	**10**	P	**P**	**16 44 55.9**	**+0.1**
	baz=199						
BRSE	**Bradley Lake S**	**79.95**	**11**	P	**P**	**16 44 55.8**	**0.0**
	baz=200						
L14K	**Kuka Creek**	**79.97**	**5**	P	**P**	**16 44 55.3**	**-0.5**
	baz=189						
M16K	**Timber Creek**	**80.00**	**7**	P	**P**	**16 44 56.4**	**+0.4**
	baz=193						
N18K	**Kilae Creek**	**80.04**	**8**	P	**P**	**16 44 56.1**	**-0.2**
	baz=196			

KNK	Knik Glacier	81.92	11	P	P	16 45 05.9	-0.4
	baz=203						
M22K	Willow	81.94	10	P	P	16 45 06.4	+0.1
	baz=201						
S32K	Killisnoo	81.96	19	P	P	16 45 06.2	-0.3
	baz=216						
PMR	Palmer	81.97	11	P	P	16 45 06.3	-0.2
	baz=202						
ANMO	Albuquerque	82.00	49	LR	LR	17 16 14.2	
	comp=Z,174nm,18.8s,baz=316,slow=32						
ANMO	Albuquerque	82.00	49	*i* P	P	16 45 06.4	-1.2
ANMO				pmax	pmax		
	comp=Z,13nm,1.0s						
GAMB	Gambell	82.05	0	P	P	16 45 06.9	0.0
	baz=180						
J16K	Anvik River	82.06	5	P	P	16 45 06.7	-0.2
	baz=191						
MESA	MESA	82.20	15	P	P	16 45 07.9	-0.2
	baz=209						
BMRM	Bremner River	82.30	13	P	P	16 45 07.6	-0.7
	baz=206						
SML	Sawmill	82.31	11	P	P	16 45 08.1	-0.3
	baz=203						
J17K	VABM Dome	82.31	6	P	P	16 45 07.0	-1.3
	baz=192						
PNL	Peninsula	82.40	16	P	P	16 45 07.3	-1.6
	baz=211						
M23K	Glacier View	82.41	11	P	P	16 45 08.8	-0.1
	baz=203						
CRQE	Cirque	82.44	14	P	P	16 45 07.4	-1.8
	baz=208						
KLU	Klutina	82.49	12	P	P	16 45 08.7	-0.6
	baz=205						
MDSI	Maura Dua	82.49	268	P	P	16 45 09.8	-0.6
	comp=Z,20nm,1.1s						
SCM	Sheep Creek Mo	82.53	12	P	P	16 45 08.2	-1.3
	baz=204						
CUT	Chulitna	82.53	10	P	P	16 45 09.2	-0.2
	baz=201,SNR=6.3						
PINM	Pinnacle	82.55	16	P	P	16 45 08.6	-1.0
	baz=210						
H03S2	Juan Fernandez	82.58	123	T	T	18 16 06.2	
	baz=251,slow=75,SNR=79						
H03S1	Juan Fernandez	82.59	123	T	T	18 16 08.9	
	baz=251,slow=75,SNR=73						
H03S3	Juan Fernandez	82.59	123	T	T	18 16 08.1	
	baz=251,slow=75,SNR=60						
J18K	Innoko River	82.63	7	P	P	16 45 09.8	-0.2
	baz=195,SNR=6.4						
R32K	Eaglecrest	82.64	19	P	P	16 45 09.9	-0.2
	baz=216						
I17K	Unalakleet	82.65	5	P	P	16 45 09.4	-0.5
	baz=191						
PPLA	Purkeypile	82.69	9	P	P	16 45 09.1	-1.3
	baz=199						
NEW	Newport	82.69	34	LR	LR	17 17 02.0	
	comp=Z,259nm,18.5s,baz=208,slow=32						
H03N2	Juan Fernandez	82.69	123	T	T	18 16 12.7	
	baz=257,slow=72,SNR=30						
H03N3	Juan Fernandez	82.69	123	T	T	18 16 12.6	
	baz=257,slow=72,SNR=24						
H03N1	Juan Fernandez	82.71	123	T	T	18 16 13.3	
	baz=257,slow=72,SNR=35						
USHA	Ushuaia	82.73	146	LR	LR	17 13 00.4	
	comp=Z,231nm,20.1s,baz=244,slow=29						
P29M	Windy Craggy	82.82	17	P	P	16 45 10.6	-0.5
	baz=213						
N25K	Chitina, Valde	82.87	13	P	P	16 45 10.0	-1.3
	baz=206						
NJ2	Nanjing	82.91	307	*e*P	P	16 45 11.3	-0.8
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
M24K	Tolsona, Glenn	83.00	12	P	P	16 45 11.1	-0.8
	baz=205						
MCARA	McCarthy VSAT	83.02	14	P	P	16 45 11.8	-0.2
	baz=208						
T35M	Bob Quinn	83.02	22	P	P	16 45 11.0	-1.2
	baz=220						
CTG	Chitna Glacier	83.04	15	P	P	16 45 12.2	-0.1
	baz=209						
PLBC	Pleasant Camp	83.06	18	P	P	16 45 12.1	-0.1
	baz=214						
WAT6	Susitna Watana	83.14	11	P	P	16 45 12.9	+0.1
	baz=203,SNR=5.4						
O28M	Mount Upton	83.15	15	P	P	16 45 12.3	-0.8
	baz=210						
O29M	Mount Kennedy	83.16	16	P	P	16 45 11.7	-1.3
	baz=212						
WAT1	Susitna Watana	83.22	11	P	P	16 45 12.8	-0.3
	baz=202						
H16K	Elim	83.27	4	P	P	16 45 13.0	-0.2
	baz=189						
J19K	Poorman	83.27	7	P	P	16 45 12.3	-1.0
	baz=196						
SKAG	Skagway	83.36	18	P	P	16 45 13.7	-0.1
	baz=215,SNR=5.2						
S34M	Telegraph Cree	83.44	21	P	P	16 45 14.4	+0.1
	baz=219,SNR=7.4						
P30M	Million Dollar	83.45	17	P	P	16 45 13.9	-0.4
	baz=213						
HARP	HAARP	83.47	12	P	P	16 45 13.8	-0.6
	baz=206						
G15K	Niukluk	83.51	4	P	P	16 45 14.9	+0.5
	baz=188						
TRF	Thorofare Moun	83.51	10	P	P	16 45 15.3	+0.6
TRF				IAmb	IAmb	16 45 21.3	
	comp=Z,15nm,1.0s						
TRF	Thorofare Moun	83.51	10	P	P	16 45 14.2	-0.5
	baz=201						
CHUM	Lake Minchumin	83.61	9	P	P	16 45 14.3	-0.6
	baz=199						
J20K	Nowinta River	83.64	8	P	P	16 45 15.3	+0.2
	baz=197						
DHY	Denali Highway	83.66	11	P	P	16 45 14.0	-1.5
	baz=204						
LOHW	Long Hollow	83.69	40	P	P	16 45 16.9	+0.8
LOHW				IAmb	IAmb	16 45 19.6	
	comp=Z,18nm,1.2s						
YUK8	Steele Glacier	83.70	15	P	P	16 45 15.0	-0.8
	baz=211						
H17K	Granite Mounta	83.75	5	P	P	16 45 15.3	-0.4
	baz=192						
YUK6	Outpost Mounta	83.76	16	P	P	16 45 15.2	-0.9
	baz=212						
GCSA	Galena City Sc	83.86	7	P	P	16 45 16.4	+0.2
	baz=194						
F14K	Arctic Creek	83.87	2	P	P	16 45 16.1	-0.2
	baz=186						
PD31	Pinedale Array	83.88	41	P	P	16 45 18.2	+1.0
PD31				IAmb	IAmb	16 45 20.2	
	comp=Z,16nm,0.9s						
PDAR	Pinedale Array	83.88	41	P	P	16 45 17.9	+0.7
PDAR	Pinedale Array	83.88	41	P	P	16 45 19.3	+2.1
	comp=Z,11nm,0.8s,baz=216,slow=3.4,SNR=83						
PDAR				LR	LR	17 18 28.4	
	comp=Z,97nm,18.7s,baz=239,slow=33						
	comp=Z,11nm,0.8s						
HYT	Haines Junctio	83.89	16	P	P	16 45 16.1	-0.6
	baz=213,SNR=5.3						
Q32M	Nakina River	83.89	20	P	P	16 45 15.6	-1.2
	baz=218						
CMIG	Matias Romero	83.92	70	LR	LR	17 16 42.2	
	comp=Z,168nm,18.1s,baz=180,slow=31						
PAX	Paxson	83.92	12	P	P	16 45 15.7	-1.0
	baz=205,SNR=5.8						
M26K	Nabesna, AK	83.92	13	P	P	16 45 16.1	-0.7
	baz=208						
P32M	Atlin	83.95	19	P	P	16 45 16.3	-0.6
	baz=216						
MCK	McKinley	83.99	10	P	P	16 45 16.2	-0.8
	baz=202,SNR=5.6						
BPAW	Bear Paw Mtn.	84.01	9	P	P	16 45 16.0	-1.1
	baz=200						
YUK4	Talbot Arm	84.03	16	P	P	16 45 16.9	-0.6
	baz=212						
BNX	BinXian	84.07	322	⇑P	P	16 45 19.9	+2.1
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
H18K	Honhosa River	84.10	6	P	P	16 45 16.4	-1.1
	baz=193						
M27K	Edge Creek, AK	84.13	14	P	P	16 45 16.9	-1.0
	baz=209						
CN2	Changchun	84.17	320	*e*P	P	16 45 20.6	+2.3
CN2				*e*S	S	16 55 45.1	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,300nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
YHH	Holmes Hill	84.18	39	P	P	16 45 18.9	+0.1
F15K	North Star Dit	84.18	3	P	P	16 45 16.3	-1.6
	baz=187						
I20K	Naaghedeneel	84.19	8	P	P	16 45 17.0	-0.8
	baz=197						
DLBC	Dease Lake	84.22	21	LR	LR	17 18 08.3	
	comp=Z,472nm,18.2s,baz=188,slow=32						
DLBC	Dease Lake	84.22	21	P	P	16 45 17.1	-1.3
	baz=220						
O30N	Mendenhall	84.23	17	P	P	16 45 17.9	-0.4
	baz=214,SNR=6.6						
G17K	Kiwalik Mounta	84.24	5	P	P	16 45 17.9	-0.3
	baz=191						
KSI	Kapahiang	84.25	268	P	P	16 45 19.9	+0.3
WHY	Whitehorse	84.47	17	P	P	16 45 19.1	-0.5
	baz=215,SNR=5.3						
N30M	Aishikik Lake	84.53	16	P	P	16 45 18.4	-1.4
	baz=213						
R33M	Jennings River	84.65	20	P	P	16 45 18.8	-1.8
	baz=219,SNR=6.8						
H19K	Roundabout Mou	84.66	7	P	P	16 45 19.5	-0.8
	baz=195						
P33M	Teslin, Yukon	84.72	19	P	P	16 45 19.6	-1.2
	baz=217						
RIDG	Independent Ri	84.74	12	P	P	16 45 20.6	-0.3
	baz=206,SNR=6.3						
L27K	Beaver Creek,	84.76	13	P	P	16 45 20.6	-0.3
	baz=209						
NEA2	Nenana	84.77	10	P	P	16 45 19.9	-1.0
	baz=202						
BCAR	Beaver Creek A	84.78	13	P	P	16 45 21.6	+0.6
G18K	Tagagawik	84.80	6	P	P	16 45 19.5	-1.6
	baz=193						
H20K	Anotleneega Mo	84.81	7	P	P	16 45 20.1	-1.0
	baz=196						
DOT	Dot Lake	84.81	12	P	P	16 45 22.0	+0.8
WRH	Wood River Hil	84.82	10	P	P	16 45 21.2	+0.1
I21K	Tanana	84.88	8	P	P	16 45 21.5	+0.1
	baz=199						
N31M	Braeburn, Yuko	84.91	17	P	P	16 45 20.0	-1.7
	baz=214,SNR=6.7						
MLY	Manley	84.92	9	P	P	16 45 21.3	-0.4
	baz=200,SNR=6.3						
ISCO	Idaho Springs	84.94	45	P	P	16 45 25.8	+3.1
ISCO				pmax	pmax		
	comp=Z,7.0nm,2.7s						
HDA	Harding Lake	84.96	11	P	P	16 45 21.1	-0.8
	baz=204,SNR=10						
M29M	Somme Creek	85.01	15	P	P	16 45 22.3	0.0
	baz=212,SNR=11						
F17K	Baldwin Pennin	85.12	4	P	P	16 45 22.8	+0.2
	baz=190						
SCRK	Sand Creek	85.12	12	P	P	16 45 22.7	-0.2
	baz=207,SNR=11						
MAW	Mawson	85.18	198	P	P	16 45 24.9	+1.9
	comp=Z,7.7nm,1.1s,baz=195,slow=7.7,SNR=5.6						
	comp=Z,7.7nm,1.1s						
MAW	Mawson	85.18	198	P	P	16 45 25.0	+1.9
H21K	Melozitna Rive	85.22	8	P	P	16 45 22.2	-0.9
	baz=198						
COLA	College	85.23	10	*i* P	P	16 45 22.5	-0.7
COLA				pmax	pmax		
	comp=Z,35nm,1.1s						
COLA	College	85.23	10	P	P	16 45 22.3	-0.8
	baz=203						
I23K	Minto, Yukon-K	85.24	9	P	P	16 45 22.1	-1.1
	baz=202,SNR=6.4						
ILAR	Eielson Array	85.30	11	P	P	16 45 24.6	+1.1
	comp=Z,3.3nm,0.8s,baz=208,slow=5.5,SNR=26						
	comp=Z,3.3nm,0.8s						
N32M	Quiet Lake	85.39	18	P	P	16 45 24.4	+0.2
	baz=217						
F18K	Selawik	85.41	5	P	P	16 45 23.6	-0.4
	baz=192						
J25K	Salcha River,	85.43	11	P	P	16 45 23.1	-1.2
	baz=205						
POKR	Poker Plat Res	85.53	10	P	P	16 45 24.6	-0.1
	baz=203,SNR=5.8						
M30M	Minto, Yukon	85.54	16	P	P	16 45 25.3	+0.4
	baz=213,SNR=6.3						
K27K	Chicken	85.56	13	P	P	16 45 24.6	-0.3
	baz=208						
H22K	Ishtalitna Cre	85.64	8	P	P	16 45 26.0	+0.7
	baz=200						
L29M	L29M	85.66	15	P	P	16 45 26.2	+0.8
	baz=212,SNR=27						
J26L	Joseph Creek	85.68	12	P	P	16 45 26.1	+0.5
	baz=207						
E17K	Hotham Inlet	85.72	4	P	P	16 45 25.6	+0.1
	baz=190						
F19K	Shaleruckik Mo	85.80	6	P	P	16 45 25.5	-0.5
	baz=194						
SEY	Seymchan	85.81	345	LR	LR	17 19 07.6	
	comp=Z,53nm,20.6s,baz=116,slow=32						
SEY	Seymchan	85.81	345	*e*P	P	16 45 26.3	+0.2
SEY				pmax	pmax		
	comp=Z,16nm,1.0s						
H23K	Yukon River	85.84	9	P	P	16 45 25.8	-0.4
	baz=201						
M31M	Drury Creek, Y	85.87	17	P	P	16 45 25.5	-1.0
	baz=216,SNR=5.3						
WTLY	Watson Lake, Y	85.91	20	P	P	16 45 26.1	-0.6
	baz=221						
G21K	Allakaket	85.96	7	P	P	16 45 26.0	-0.8
	baz=198						
E18K	Tukpahlearik C	86.14	4	P	P	16 45 26.5	-1.2
	baz=191						
DAWY	Dawson	86.18	14	P	P	16 45 28.3	+0.3
	baz=211,SNR=20						
TOAD	Toad River Com	86.20	22	P	P	16 45 27.6	-0.6
	baz=224						
F20K	Avaraart Lake	86.22	6	P	P	16 45 27.5	-0.5
	baz=196						
PRP	Porcupine Dome	86.22	11	P	P	16 45 28.5	+0.2
	baz=205,SNR=13						
D17K	Noatak River	86.25	3	P	P	16 45 28.8	+0.7
	baz=189						
EGAK	Eagle	86.41	13	P	P	16 45 29.4	+0.3
	baz=209,SNR=8.2						
K29M	Barlow Dome	86.43	15	P	P	16 45 29.9	+0.5
	baz=213,SNR=16						
E19K	Redstone River	86.46	6	P	P	16 45 29.4	+0.1
	baz=194						
I26K	Coal Creek Min	86.48	12	P	P	16 45 29.9	+0.6
	baz=207						
G22K	Bettles	86.60	8	P	P	16 45 29.9	0.0
	baz=200						
G23K	Bananza Creek	86.60	9	P	P	16 45 29.8	-0.2
	baz=201						
HEH	HeiHe	86.60	326	*e*P	P	16 45 32.0	+1.7
HEH				pmax	pmax		
	comp=Z,6.0nm,1.4s						
RDOG	Red Dog Mine	86.61	4	P	P	16 45 29.7	-0.3
	baz=189						
PLCA	Paso Flores	86.61	132	LR	LR	17 16 10.6	
	comp=Z,221nm,20.4s,baz=234,slow=30						
MAYO	Mayo, Yukon	86.62	15	P	P	16 45 30.7	+0.5
	baz=214						
F21K	Alatna River	86.63	7	P	P	16 45 30.3	+0.2
	baz=198						
C16K	Lisburne Hills	86.71	3	P	P	16 45 29.3	-1.1
	baz=186						
J29N	Klondike Camp	86.78	14	P	P	16 45 29.2	-1.8
	baz=212						
H25L	Birch Creek	86.85	10	P	P	16 45 30.5	-0.6
	baz=205						
G24K	Hadweenzic Riv	86.98	10	P	P	16 45 31.2	-0.6
	baz=203						
C17K	DeLong Mountai	87.02	3	P	P	16 45 30.6	-1.4
	baz=188						
I27K	Kandik River	87.04	12	P	P	16 45 31.3	-0.9
	baz=209						
COLD	Coldfoot	87.06	8	P	P	16 45 31.7	-0.5
	baz=201						
F22K	John River	87.07	8	P	P	16 45 31.2	-1.0
	baz=199						
TGTN	Hyland Airport	87.15	19	P	P	16 45 32.5	-0.3
	baz=221						
I28M	Miner Creek	87.25	13	P	P	16 45 32.6	-0.7
	baz=210,SNR=8.7						
G25K	Bearman Lake	87.26	10	P	P	16 45 32.8	-0.3
	baz=205						
J30M	Hart River	87.33	15	P	P	16 45 33.0	-0.7
	baz=214,SNR=6.8						
E20K	Nigu River	87.34	6	P	P	16 45 33.4	-0.2
	baz=195						
D19K	Kuna River	87.39	5	P	P	16 45 32.7	-1.1
	baz=193						
I29M	Ogilvie Camp,	87.53	14	P	P	16 45 34.2	-0.4
	baz=212,SNR=9.9						
KOTAN	Kotaneelee Air	87.54	22	P	P	16 45 34.1	-0.6
	baz=225						
WMOK	Wichita Mounta	87.54	52	P	P	16 45 37.3	+2.0
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
H27K	Steamboat Moun	87.61	12	P	P	16 45 34.2	-0.7
	baz=209,SNR=7.8						
F24K	Squaw Lake	87.67	9	P	P	16 45 34.4	-0.7
	baz=203						
E22K	Anaktuvuk Pass	87.71	8	P	P	16 45 34.1	-1.3
	baz=199						
D20K	Etivluk River	87.74	6	P	P	16 45 34.7	-0.8
	baz=195						
BILL	Bilibino	87.75	352	*i* P	P	16 45 33.3	-2.2
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
E21K	Killik River	87.75	7	P	P	16 45 33.6	-1.9
	baz=197						
G26K	Porcupine Rive	87.83	11	P	P	16 45 35.0	-0.8
	baz=207						
I30M	Mount Dempster	87.86	14	P	P	16 45 35.8	-0.4
	baz=214						
C19K	Lookout Ridge	87.87	5	P	P	16 45 35.6	-0.5
	baz=192						
E23K	Chandalar	87.92	8	P	P	16 45 36.2	-0.2
	baz=201						
HKT	Hockley	87.92	58	*i* P	P	16 45 36.6	-0.5
HKT				pmax	pmax		
	comp=Z,27nm,1.6s						
RSSD	Black Hills	88.04	42	P	P	16 45 39.0	+1.3
RSSD				pmax	pmax		
	comp=Z,12nm,0.9s						
F25K	Christian Rive	88.09	10	P	P	16 45 37.2	0.0
	baz=205						
G27K	Doyon Strip	88.09	12	P	P	16 45 37.0	-0.2
	baz=209						
E24K	Your Creek	88.10	9	P	P	16 45 36.6	-0.7
	baz=202						
BMAR	Burnt Mountain	88.12	10	P	P	16 45 38.4	+1.1
H29M	Whitestone	88.25	13	P	P	16 45 36.8	-1.1
	baz=212						
D22K	Ayikyak River	88.31	7	P	P	16 45 37.3	-0.9
	baz=198						
HNS	HongShan	88.31	310	⇑P	P	16 45 42.0	+3.1
HNS				S	S	16 56 18.9	-5.2
HNS				pmax	pmax		
	comp=Z,9.0nm,1.8s						
HNS				LR	LR		
	comp=Z,140nm,18.4s						
HNS				LR	LR		
	comp=Z,230nm,21.1s						
C21K	Knifeblade Rid	88.35	6	P	P	16 45 38.0	-0.3
	baz=196						
F26K	Sheenjek River	88.43	10	P	P	16 45 37.6	-1.2
	baz=206						
TOLK	Toolik Lake Re	88.47	8	P	P	16 45 38.6	-0.4
	baz=201						
E25K	Arctic Village	88.58	10	P	P	16 45 39.2	-0.3
	baz=205						
D23K	Nanushuk River	88.63	8	P	P	16 45 39.5	-0.2
	baz=200						
ZEA	Zeya	88.66	329	*e*P	P	16 45 42.5	+2.4
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EPYK	Eagle Plains	88.74	14	P	P	16 45 40.2	-0.1
	baz=213						
B21K	Ikpikpuk River	88.81	6	P	P	16 45 39.7	-0.7
	baz=197						
H31M	Peel River	88.82	15	P	P	16 45 39.8	-0.9
	baz=216						
A19K	Wainwright	88.85	4	P	P	16 45 41.1	+0.5
	baz=190						
G29M	Pine Creek	88.91	13	P	P	16 45 41.1	+0.1
	baz=212						
D24K	Happy Valley	89.05	8	P	P	16 45 41.6	0.0
	baz=202						
F28M	Old Crow	89.14	12	P	P	16 45 41.8	-0.3
	baz=210						
E27K	Coleen River	89.32	11	P	P	16 45 42.6	-0.3
	baz=209						
G30M	tAoh Zraii Nji	89.36	13	P	P	16 45 43.1	-0.1
	baz=214						
C23K	Itkillik River	89.46	7	P	P	16 45 43.7	+0.1
	baz=200						
D25K	Kavik River	89.55	9	P	P	16 45 43.6	-0.5
	baz=204						
C24K	Franklin Bluff	89.60	8	P	P	16 45 43.1	-1.0
	baz=202						
B22K	Teshekpuk Lake	89.62	6	P	P	16 45 43.5	-0.7
	baz=198						
SNAA	Sanae	89.73	177	LR	LR	17 22 40.6	
	comp=Z,91nm,19.8s,baz=193,slow=33						
SNAA	Sanae	89.73	177	*i* P	P	16 45 42.7	-2.4
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SYO	Syowa Base	89.75	191	⇑*i*P	P	16 45 45.8	+0.7
SYO	Syowa Base	89.75	191	⇓*i*pP	pP	16 45 47.9	+0.6
G31M	Satah River	89.75	14	P	P	16 45 44.2	-0.7
	baz=216						
WRGLY	Wrigley	89.93	20	P	P	16 45 44.7	-1.1
	baz=225						
F30M	Barrier River	89.98	13	P	P	16 45 44.5	-1.5
	baz=214						
E28M	Babbage River	90.06	11	P	P	16 45 45.0	-1.4
	baz=211						
E29M	Blow River	90.19	12	P	P	16 45 46.9	-0.1
	baz=212						
C27K	Jago River	90.24	10	P	P	16 45 45.7	-1.4
	baz=207						
F31M	Tsiigehtchic	90.29	14	P	P	16 45 46.6	-0.8
	baz=216						
C26K	Camden Bay	90.31	9	P	P	16 45 46.5	-1.0
	baz=206						
D27M	Malcolm River	90.36	11	P	P	16 45 46.4	-1.4
	baz=209						
GYA	Guiyang	90.46	298	⇓P	P	16 45 49.1	-0.3
GYA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HILR	Hailar Array B	90.47	323	P	P	16 45 51.5	+2.7
	comp=Z,1.4nm,0.4s,baz=120,slow=8.9,SNR=5.3						
	comp=Z,1.4nm,0.4s						
JTS	Las Juntas de	90.70	79	LR	LR	17 19 07.0	
	comp=Z,177nm,18.1s,baz=250,slow=30						
JTS	Las Juntas de	90.70	79	*i* P	P	16 45 50.3	-0.3
JTS				pmax	pmax		
	comp=Z,30nm,1.5s						
INK	Inuvik	91.04	13	P	P	16 45 49.5	-1.4
	baz=216						
ATAH	Atahualpa	91.41	98	LR	LR	17 18 53.2	
	comp=Z,201nm,19.1s,baz=250,slow=30						
HHC	Hu-ho-hao-te	91.94	313	*e*P	P	16 45 54.3	-1.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,3.8s						
YAK	Yakutsk	92.41	336	LR	LR	17 22 37.4	
	comp=Z,34nm,21.4s,baz=109,slow=32						
YAK	Yakutsk	92.41	336	*e*P	P	16 45 56.8	-0.6
YAK				pmax	pmax		
	comp=Z,14nm,1.6s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YKA	Yellowknife Ar	92.53	23	P	P	16 45 59.7	+1.7
	comp=E,2.6nm,1.0s,baz=250,slow=4.4,SNR=3.9						
	comp=E,2.6nm,1.0s						
KMI	Kunming	93.35	295	P	P	16 46 01.8	-1.1
KMI				pmax	pmax		
	comp=E,16nm,0.9s						
KMI				LR	LR		
	comp=E,150nm,18.4s						
KMI				LR	LR		
	comp=E,140nm,23.8s						
KMI				LR	LR		
	comp=E,190nm,21.8s						
C36M	Paulatuk	94.07	15	P	P	16 46 01.8	-3.1
	baz=225						
CD2	Chengdu	94.36	301	*e*P	P	16 46 05.0	-2.2
CCM	Cathedral Cave	94.42	51	P	P	16 46 09.2	+1.9

CMAR Chiang Mai Arr 94.62 288 P **P** **16 46 10.4 +1.8**
comp=E,3.2nm,1.0s,baz=98,slow=2.8,SNR=5.7
CMAR LR LR 17 24 14.0
comp=E,82nm,21.8s,baz=110,slow=33
comp=E,3.2nm,1.0s
PZH PanZhiHua 94.64 296 P **P** **16 46 07.4 -1.3**
ULM Lac du Bonnet 95.68 39 LR LR 17 24 27.2
comp=E,224nm,19.6s,baz=205,slow=32
A36M Sachs Harbour 95.69 13 P **P** **16 46 10.6 -1.6**
baz=224
LPAZ La Paz 97.72 110 LR LR 17 20 33.8
comp=E,231nm,21.2s,baz=242,slow=29
SONM Songino Array 97.89 318 LR LR 17 27 17.2
comp=E,33nm,19.3s,baz=164,slow=34
TIXI Tiksi 98.30 344 LR LR 17 26 02.6
comp=E,70nm,20.4s,baz=194,slow=33
TIXI Tiksi 98.30 344 *i* P Pdif 16 46 25.6 +1.5
TIXI pmax pmax
comp=Z,6.0nm,1.4s
TKL Tuckaleechee C 99.38 56 LR LR 17 25 29.5
comp=Z,121nm,18.0s,baz=229,slow=32
WMQ Urumqi 109.74 311 Pdif **Pdif** **16 47 15.1 -0.7**
WMQ LR LR
comp=Z,94nm,24.0s
ZALV Zalesovo Beam 112.35 321 PKiKP **PKiKP** **16 51 22.5 -0.3**
comp=Z,0.5nm,0.5s,baz=110,slow=3.4,SNR=2.4
MKAR Makanchi Array 113.78 314 PKiKP **PKiKP** **16 51 25.1 -0.7**
comp=Z,1.1nm,0.8s,baz=72,slow=4.7,SNR=6.4
KURK Kurchatov 116.20 318 PKIKP **PKiKP** **16 51 31.2 +0.9**
KURBB Kurchatov Arra 116.26 318 PKP **PKiKP** **16 51 31.2 +0.8**
comp=Z,0.7nm,0.2s,baz=93,slow=1.6,SNR=5.9
ARTI Arti 126.67 328 *i* PKIKP **PKiKP** **16 51 52.4 +1.7**
ARTI 16 53 48.9
ARTI 16 59 03.6
BOSA Boshof 130.16 200 PKP **PKiKP** **16 51 59.4 +0.5**
comp=Z,3.3nm,1.0s,baz=70,slow=2.0,SNR=3.5
FINES FINESS Array B 135.22 348 PKP **PKiKP** **16 52 09.0 +1.2**
comp=Z,3.6nm,0.8s,baz=96,slow=2.8,SNR=4.6
FINES FINESS Array B 135.22 348 *ce*PKIKP **PKiKP** **16 52 09.3 +1.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 137.41 336 *e*PKIKP **PKPdf** **16 52 06.2 -4.3**
OBN pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 137.47 357 PKP **PKPdf** **16 52 11.5 +0.9**
comp=Z,2.7nm,1.2s,baz=15,slow=1.5,SNR=3.0
AKT Akhty 139.00 313 *e*PKIKP **PKPdf** **16 52 13.3 -0.8**
AKT pmax pmax
comp=Z,8.0nm,1.2s
KIV Kislovodsk 141.28 319 *i* PKIKP **PKPdf** **16 52 19.2 +1.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 143.64 337 PKP **PKPdf** **16 52 20.9 -1.0**
comp=Z,3.1nm,0.8s,baz=36,slow=3,3,SNR=7.8
KIEV Kiev 143.65 337 ⇑P PKPbc 16 52 20.1 +0.8
KIEV Kiev 143.65 337 ⇑PKHKP PKPpre 16 52 20.1
GURO Guroymak-BITLI 144.16 311 PKPdf **PKPdf** **16 52 23.7 +0.2**
RAYN Ar Rayn 144.47 285 ⇑PKIKP **PKPdf** **16 52 24.1 -0.2**
KOPT Kop Dagi 144.60 314 PKPdf **PKPdf** **16 52 25.8 +1.4**
BEL Belsk 145.21 346 *e*PKP **PKPdf** **16 52 26.3 +1.6**
SIM Simferopol' 145.70 326 *e*PKIKP **PKPab** **16 52 27.4 +1.0**
SIM *e* 16 52 35.0
SIM pmax pmax
comp=Z,109nm,1.0s
SORM Soroca 146.04 335 ⇑P **PKPab** **16 52 28.4 +0.9**
SORM Soroca 146.04 335 ⇑PKP2 **PKPab** **16 52 28.4 +0.9**
ARPR Arapgir-MALATY 146.51 314 PKPdf **PKPbc** **16 52 28.6 -0.3**
OJC Ojcow 146.95 346 *e*PKP **PKPab** **16 52 31.5 +0.6**
CLL Collm 147.03 354 **PKPab** **16 52 31.7 +0.4**
CLL Collm 147.03 354 ⇓*i*PKP2 **PKPab** **16 52 31.8 +0.6**
CLL pmax pmax
comp=Z,44nm,1.0s
CLL Collm 147.03 354 ⇓*i*PKPbc **PKPab** **16 52 31.8 +0.6**
comp=Z,44nm,1.0s
CLL *i* PKPab sPKPab 16 52 34.1 -0.4
comp=Z,43nm,0.9s
CLL *i* (PKiKP) pPKPab 16 52 36.6 +2.9
CLL LmV 18 02 00.0
comp=Z,100nm,20.7s
KSP Ksiaz 147.05 350 *e*PKP **PKiKP** **16 52 32.4 0.0**
STHS Stebnicka Huta 147.33 344 *e*PKP **PKPab** **16 52 32.6 +0.1**
CHVC Chvalec 147.34 350 *e*PKP2 **PKiKP** **16 52 33.3 +0.3**
CHVC Chvalec 147.34 350 *e*PKP **PKiKP** **16 52 33.3 +0.3**
OSTC Ostas 147.34 350 *e*PKP2 **PKiKP** **16 52 33.3 +0.3**
OSTC Ostas 147.34 350 *e*PKP **PKiKP** **16 52 33.3 +0.3**
BRG Berggiesshubel 147.36 353 *i* PKP **PKiKP** **16 52 33.2 +0.3**
BRG Amp 16 52 34.1
comp=Z,20nm,0.9s
UPC Upice 147.43 350 *e*PKP2 **PKiKP** **16 52 33.4 +0.2**
UPC Upice 147.43 350 *e*PKP **PKiKP** **16 52 33.4 +0.2**
DPC Dobruska-Polom 147.53 350 *e*PKP2 **PKiKP** **16 52 33.8 +0.4**
DPC Dobruska-Polom 147.53 350 *e*PKP **PKiKP** **16 52 33.8 +0.4**
PVCC Panska Ves 147.62 352 *e*PKP2 **PKiKP** **16 52 34.4 +0.9**
PVCC Panska Ves 147.62 352 *e*PKP **PKiKP** **16 52 34.4 +0.9**
STEB Steborice 147.66 348 *e*PKP **PKiKP** **16 52 33.9 +0.2**
BURAR Bucovina Array 147.67 338 ⇑P **PKiKP** **16 52 33.5 -0.4**
BURAR Bucovina Array 147.67 338 ⇑PKP2 **PKiKP** **16 52 33.5 -0.4**
BZK Bozkurt 147.68 322 ⇑P **PKiKP** **16 52 34.0 +0.1**
HSKC Hora Svate Kat 147.68 353 *e*PKP **PKPbc** **16 52 32.7 +1.0**
UCC Uccle 147.70 4 *d*PKP **PKPbc** **16 52 32.7 +1.1**
KRLC Kraliky 147.71 349 *e*PKP2 **PKPab** **16 52 34.3 +0.3**
KRLC Kraliky 147.71 349 *e*PKP **PKPab** **16 52 34.3 +0.3**
MORC Moravsky Berou 147.85 348 ⇑P **PKPab** **16 52 34.8 +0.2**
MORC Moravsky Berou 147.85 348 *e*PKP **PKPdf** **16 52 30.5 +1.2**
MORC Moravsky Berou 147.85 348 ⇑PKP2 **PKPab** **16 52 34.8 +0.2**
MEM Membach 147.97 2 *d*PKP **PKiKP** **16 52 34.2 -0.1**
VLDR Vladesti 147.97 333 ⇑P **PKiKP** **16 52 34.9 +0.5**
BSTI Sart Tilman 147.98 3 *d*PKP **PKPbc** **16 52 33.2 +0.8**
BTNL Ternell 148.00 2 *d*PKP **PKiKP** **16 52 34.3 -0.1**
TESR Tescani 148.04 335 ⇓P **PKiKP** **16 52 33.9 -0.6**
GHRR 148.09 334 ⇑P **PKPbc** **16 52 34.0 +1.1**
BCLA Clavier 148.13 3 *d*PKP **PKiKP** **16 52 34.4 -0.2**
SCTR Scanteiesti 148.14 333 ⇑P **PKPab** **16 52 35.9 0.0**
PRU Pruhonice 148.15 352 *e*PKP2 **PKiKP** **16 52 35.3 +0.6**
PRU Pruhonice 148.15 352 *e*PKP **PKiKP** **16 52 35.3 +0.6**
MAUC Maruska 148.19 347 *e*PKP **PKPab** **16 52 35.6 -0.3**
BMRD Maredsous 148.22 4 *d*PKP **PKiKP** **16 52 35.5 +0.8**
ONER Baraj Valea Uz 148.28 335 ⇑P **PKPab** **16 52 36.3 -0.1**
DOU Dourbes 148.41 4 *d*PKP **PKiKP** **16 52 35.4 +0.2**
JURR Jurilovca 148.44 331 ⇑P **PKiKP** **16 52 36.0 +0.6**
VRAC Vranov 148.48 349 ⇑P **PKiKP** **16 52 36.3 +0.9**
VRAC Vranov 148.48 349 *e*PKP **PKPbc** **16 52 32.3 -1.5**
VRAC Vranov 148.48 349 ⇑PKP2 **PKiKP** **16 52 36.3 +0.9**
VRI Vrincioaia 148.53 334 ⇑P **PKPbc** **16 52 35.0 +0.9**
VRI Vrincioaia 148.53 334 ⇑PKP2 **PKPbc** **16 52 35.0 +0.9**
PLOR Plostina 148.57 334 ⇑P **PKiKP** **16 52 36.1 +0.4**
PLOR Plostina 148.57 334 ⇑PKP2 **PKiKP** **16 52 36.1 +0.4**
TPGR Topolog 148.59 331 ⇑P **PKiKP** **16 52 36.2 +0.4**
TURR Turia 148.66 335 ⇑P **PKiKP** **16 52 37.0 +1.1**
TREC Trest 148.69 350 *e*PKP2 **PKiKP** **16 52 36.5 +0.7**
TREC Trest 148.69 350 *e*PKP **PKiKP** **16 52 36.5 +0.7**
JAVC Velka Javorina 148.70 347 *e*PKP **PKPbc** **16 52 33.9 -0.6**
ZVC Zvikov 148.74 352 *e*PKP **PKiKP** **16 52 37.1 +1.2**
KRUC Moravsky 148.75 349 *e*PKP **PKPdf** **16 52 32.7 +2.0**
WLF Walferdange 148.92 2 *d*PKP **PKPbc** **16 52 35.6 +0.8**
HARR Harsova 148.94 331 ⇑P **PKiKP** **16 52 36.9 +0.5**
HARR Harsova 148.94 331 ⇑PKP2 **PKiKP** **16 52 36.9 +0.5**
DOPR Dopca 148.98 336 ⇑P **PKiKP** **16 52 36.9 +0.3**
TLBR Topalu 149.00 331 ⇓P **PKiKP** **16 52 37.6 +1.1**
PSZ Piszkesteto 149.06 344 ⇑P **PKPbc** **16 52 36.1 +0.7**
PSZ Piszkesteto 149.06 344 ⇑PKP2 **PKPbc** **16 52 36.1 +0.7**
KHC Kasperske Hory 149.12 353 *ce*PKHKP PKPpre 16 52 29.3
KHC pmax pmax
comp=Z,40nm,1.7s
KHC Kasperske Hory 149.12 353 *e*PKP **PKiKP** **16 52 37.5 +0.8**
MLR Muntele Rosu 149.16 335 ⇑P **PKiKP** **16 52 37.6 +0.6**
MLR Muntele Rosu 149.16 335 ⇑PKP2 **PKiKP** **16 52 37.6 +0.6**
ISR Istrita 149.21 334 ⇑P **PKiKP** **16 52 37.0 -0.1**
ISR Istrita 149.21 334 ⇑PKP2 **PKiKP** **16 52 37.0 -0.1**
MARR Marisel-Cluj 149.21 339 ⇑P **PKiKP** **16 52 37.7 +0.6**
DRGR 149.24 340 ⇑P **PKiKP** **16 52 37.7 +0.6**
DRGR 149.24 340 ⇑PKP2 **PKiKP** **16 52 37.7 +0.6**
MODS Modra-Piesok 149.24 348 *e*PKP2 **PKiKP** **16 52 38.4 +1.4**
MODS Modra-Piesok 149.24 348 *e*PKP **PKiKP** **16 52 38.4 +1.4**
BRTR Keskin Array B 149.24 319 **PKiKP** **16 52 37.7 +0.3**
BRTR Keskin Array B 149.24 319 PKPbc **PKiKP** **16 52 37.9 +0.4**
comp=Z,16nm,0.9s,baz=129,slow=2.0,SNR=12
GERES GERESS Array B 149.38 352 PKPbc **PKiKP** **16 52 37.8 +0.5**
comp=Z,6.8nm,0.9s,baz=333,slow=1.5,SNR=33
KIRS Kirsehir-Merke 149.41 318 ⇑P **PKiKP** **16 52 38.9 +1.1**
ZST Bratislava 149.45 348 *e*PKP2 **PKiKP** **16 52 37.1 -0.3**
ANTO Ankara 149.68 320 ⇑P **PKiKP** **16 52 39.8 +1.6**
ANTO Ankara 149.68 320 ⇑PKP2 **PKiKP** **16 52 39.8 +1.6**

ARR Arges 149.78 336 ⇓P **PKPbc** **16 52 35.8 -1.4**
CONA Conrad Observa 149.94 349 *i* PKP **PKiKP** **16 52 40.1 +1.6**
comp=Z,21nm,1.0s,SNR=20
SIRR Siria 150.05 340 ⇑P **PKiKP** **16 52 39.7 +1.0**
RONA Rosalia, Austr 150.08 348 *i* PKP **PKiKP** **16 52 40.2 +1.4**
comp=Z,18nm,0.9s,SNR=9.9
SAHE Sakarya_HENDEK 150.21 323 ⇑P **PKiKP** **16 52 40.4 +1.1**
MOA Molln 150.28 351 *e*pPKiKP **PKiKP** **16 52 40.3 +1.1**
comp=Z,14nm,1.5s
SURR Surdue 150.35 339 ⇑P **PKiKP** **16 52 39.5 +0.2**
GZR Gura Zlata 150.44 338 ⇓P **PKiKP** **16 52 40.5 +0.9**
GZR Gura Zlata 150.44 338 ⇓PKIKP **PKiKP** **16 52 40.5 +0.9**
RAZG Razgrad 150.46 332 ⇑P **PKiKP** **16 52 40.9 +1.3**
BIOA Bad Ischl, Aus 150.52 352 *e*pPKiKP **PKiKP** **16 52 40.6 +0.9**
comp=Z,8.7nm,0.9s,SNR=5.9
BZS Buzias 150.64 340 ⇑P **PKiKP** **16 52 41.3 +1.4**
BZS Buzias 150.64 340 ⇑PKIKP **PKiKP** **16 52 41.3 +1.4**
ARSA Arzberg 150.66 349 *i* pPKiKP **PKiKP** **16 52 41.0 +1.0**
comp=Z,7.4nm,1.1s
LESA Schwarzleotal 150.91 353 *e*pPKiKP **PKiKP** **16 52 41.7 +1.1**
comp=Z,0.6nm,0.4s
HERR Herculane 151.01 338 ⇑P **PKiKP** **16 52 42.1 +1.3**
RETA Reutte 151.02 356 *e*pPKiKP **PKiKP** **16 52 42.0 +1.3**
comp=Z,21nm,1.3s,SNR=5.5
WATA Walderalm 151.10 355 *e*pPKiKP **PKiKP** **16 52 42.1 +1.1**
comp=Z,27nm,1.2s,SNR=9.9
MOTA Moosalm 151.13 355 *i* pPKiKP **PKiKP** **16 52 42.2 +1.1**
comp=Z,22nm,1.0s,SNR=12
KBA Koelnbreinsper 151.16 352 *i* pPKiKP **PKiKP** **16 52 42.1 +0.9**
comp=Z,3.5nm,0.8s
WTTA Wattenberg 151.17 354 *e*pPKiKP **PKiKP** **16 52 42.5 +1.3**
comp=Z,26nm,0.8s,SNR=12
ELND Elena 151.24 332 ⇑P **PKiKP** **16 52 41.5 +0.2**
SQTA Sankt Quirin 151.25 355 *i* pPKiKP **PKiKP** **16 52 42.7 +1.4**
comp=Z,25nm,1.4s,SNR=7.0
DAVA Damuels 151.27 357 *e*pPKiKP **PKiKP** **16 52 42.9 +1.5**
comp=Z,26nm,1.0s,SNR=9.9
SOKA Soboth 151.30 350 *e*pPKiKP **PKiKP** **16 52 42.1 +0.8**
comp=Z,15nm,1.0s,SNR=5.7
MMAI Mount Meron Ar 151.33 306 PKPbc **PKiKP** **16 52 43.6 +1.7**
comp=Z,14nm,1.0s,baz=62,slow=10,SNR=11
PLVB Pleven 151.42 334 ⇑P **PKiKP** **16 52 43.5 +1.9**
FETA Feichten 151.49 356 *e*pPKiKP **PKiKP** **16 52 43.4 +1.5**
comp=Z,28nm,1.4s,SNR=6.0
OBKA Obir 151.54 350 *e*pPKiKP **PKiKP** **16 52 42.4 +0.5**
comp=Z,0.1nm,0.2s
MYKA Terra Mystica 151.56 351 *e*pPKiKP **PKiKP** **16 52 42.5 +0.6**
comp=Z,11nm,0.9s
ABTA Abfaltersbach 151.59 353 *e*pPKiKP **PKiKP** **16 52 42.8 +0.8**
comp=Z,31nm,0.9s,SNR=14
BAND Balkesir-Ban 152.07 325 ⇓P **PKiKP** **16 52 44.1 +1.0**
BOVS Bovan 152.35 338 ⇑P **PKiKP** **16 52 44.2 +0.7**
BOJS Bojanci 152.39 349 *i* PKPbc **PKiKP** **16 52 45.2 +1.7**

*IDC **19** 16:38:56.7±0.7, 61.7°77S×53.7°75W, h0km, mb4.1/8, mbtmp4.0/10, ML3.7/2, MS4.1/21, Error ellipse: s-maj=27.6km s-min=17.4km az=64.0*
*NEIC **19** 16:38:57.9±1.6, 61.67°S±0.05°×54.1°W±0.1°, h10km±1km, mb4.6/23, Error ellipse: s-maj=14.3km s-min=2.9km az=303.0*
*GCMT **19** 16:38:59.9±0.3, 61.59°S±0.02°×54.04°W±0.04°, h21km±1km, MW4.9/83, Moment Tensor Solution. s21,c21; s83,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.37±.16; Mθθ=0.85±.10; Mφφ=1.23±.12; Mrθ=0.57±.21; Mrφ=2.35±.10; Mθφ=-1.54±.26; Best double couple: M=3.06800×10^16 NP1:φs=256.00000°, δ58.00000°, λ-8.00000°. NP2: φs=350.00000°, δ83.00000°, λ-147.00000°. Principal axes: T 3.0660, Plg17.0000°, Azm119.0000°; N 0.0070, Plg57.0000°, Azm0.0000°; P -3.0700, Plg27.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 16:38:58.4±0.4, 61.59S±0.05°×53.80W±0.06°, h10km, n76, σ2s25/58, mb4.5/21, MS4.1/19, 7C-2D, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESPZ	**Base Esperanza**	**2.34**	**218**			**Pn**	**16 39 34.3**	**-2.6**
PMSA	**Palmer Station**	**5.63**	**231**	Pn		**Pn**	**16 40 18.0**	**-3.9**
PMSA	**Palmer Station**	**5.63**	**231**	Pn		**Pn**	**16 40 20.0**	**-2.0**
PMSA	3.3nm,0.3s,baz=55,slow=12,SNR=8.4			Sn		**Sn**	**16 41 31.6**	**+5.0**
PMSA	10nm,0.3s,baz=325,slow=4.7,SNR=3.5			LR		LR	16 42 31.9	
USHA	comp=Z,2μm,18.8s,baz=64,slow=39 17nm,0.9s			Sn		**Sn**	**16 43 17.2**	**-2.9**
USHA	0.3nm,0.3s,baz=219,slow=23,SNR=1.2			LR		LR	16 44 36.4	
HOPE	**Hope Point**	**11.73**	**59**	Pn		**Pn**	**16 41 46.0**	**+0.5**
MG02	**Cerro Sombrero**	**12.13**	**310**	Pn		**Pn**	**16 41 51.2**	**+0.2**
BELA	**Belgrano 2**	**17.47**	**167**			**Pn**	**16 43 02.1**	**+0.5**
COYC	**Coyhaique**	**19.25**	**318**			**Pn**	**16 43 25.4**	**+1.8**
COYC	comp=Z,24nm,1.0s			IAmb		IAmb	16 43 38.1	
VNA3	**Neumayer Olymp**	**19.60**	**138**	⇓P		**Pn**	**16 43 28.7**	**+1.0**
VNA3	comp=Z,33nm,0.6s			⇓pP		**sP**	**16 43 33.4**	**+3.2**
VNA1	**Neumayer--Stat**	**20.01**	**136**	⇑P		Pn	16 43 33.5	+1.1
VNA1	comp=Z,29nm,0.9s			⇑sP		sP	16 43 39.9	+5.3
VNA2	**Neumayer--Watz**	**20.31**	**137**	⇑P		Pn	16 43 36.3	+0.3
VNA2	comp=Z,18nm,0.7s,baz=279,slow=12 baz=272,slow=13			⇑pP		sP	16 43 39.9	+1.9
SNAA	**Sanae**	**21.81**	**139**	⇑P		**P**	**16 43 52.3**	**+2.1**
SNAA	comp=Z,745nm,0.7s			⇑sP		**sP**	**16 44 01.6**	**+7.4**
SNAA	**Sanae**	**21.81**	**139**			**P**	**16 43 51.6**	**+1.3**
SNAA	**Sanae**	**21.81**	**139**	P		**P**	**16 43 52.1**	**+1.8**
SNAA	comp=Z,22nm,0.7s,baz=280,slow=9.4,SNR=35			S		**S**	**16 47 43.5**	**-7.5**
SNAA	comp=Z,0.8nm,0.6s,baz=303,slow=18,SNR=1.6			LR		LR	16 50 46.1	
PLCA	**Paso Flores**	**23.24**	**326**	P		**P**	**16 44 06.3**	**+0.7**
PLCA	**Paso Flores**	**23.24**	**326**	P		**P**	**16 44 07.1**	**+1.6**
PLCA	comp=Z,3.1nm,0.7s,baz=158,slow=4.3,SNR=8.0			LR		LR	16 52 37.1	
TROLL	**Troll, Antarti**	**23.49**	**140**	⇑P		**P**	**16 44 04.6**	**-3.3**
TRQA	**Tornquist**	**24.10**	**344**			**P**	**16 44 13.8**	**-0.1**
QSPA	**South Pole Qui**	**28.64**	**180**	P		**P**	**16 44 53.3**	**-1.5**
QSPA	comp=Z,11nm,0.8s			IAmb		IAmb	16 45 12.5	
QSPA	**South Pole Qui**	**28.64**	**180**	P		**P**	**16 44 57.7**	**+2.9**
QSPA	comp=Z,9.2nm,0.7s,baz=191,slow=1.2,SNR=24			LR		LR	16 57 58.2	
MT09	**Talagante**	**29.94**	**330**	P		**P**	**16 45 05.1**	**-1.4**
MT09	comp=Z,512nm,20.2s,baz=160,slow=40			IAmb		IAmb	16 45 22.4	
MT02	**Curacav**	**30.47**	**331**	P		**P**	**16 45 12.1**	**+1.0**
MT02	comp=Z,7.8nm,0.9s			IAmb		IAmb	16 45 21.4	
GO04	**Tololo Observa**	**33.36**	**333**	P		**P**	**16 45 35.7**	**-1.0**
CPUP	**Villa Florida**	**35.33**	**355**	P		**P**	**16 45 52.0**	**-1.5**
CPUP	**Villa Florida**	**35.33**	**355**	P		**P**	**16 45 55.0**	**+1.5**
AC01	**Pan de Azucar**	**37.21**	**335**	P		**P**	**16 46 08.0**	**-1.6**
AC01	comp=Z,1.2nm,1.0s			IAmb		IAmb	16 46 16.1	
SBA	**Scott Base**	**38.62**	**193**			**P**	**16 46 19.5**	**-1.5**
SBA	comp=Z,19nm,1.0s			IAmb		IAmb	16 46 29.0	
VNDA	**Vanda**	**39.41**	**192**	P		**P**	**16 46 25.7**	**-1.9**
VNDA	**Vanda**	**39.41**	**192**	P		**P**	**16 46 29.9**	**+2.3**
VNDA	comp=Z,1.4nm,0.7s,baz=145,slow=7.9,SNR=7.8			LR		LR	17 02 25.0	
PB05	**IPOC Station P**	**40.33**	**336**	P		**P**	**16 46 35.3**	**-0.6**
PB05	comp=Z,266nm,19.2s,baz=155,slow=36			IAmb		IAmb	16 46 55.2	
PB03	comp=Z,13nm,1.0s							
PB03	**IPOC Station P**	**41.03**	**337**	P		**P**	**16 46 41.1**	**-0.6**
PB03	comp=Z,8.3nm,0.7s			IAmb		IAmb	16 46 50.3	
PB01	**IPOC Station P**	**41.96**	**338**	P		**P**	**16 46 49.0**	**-0.3**
MAW	**Mawson**	**43.20**	**150**	P		**P**	**16 46 59.0**	**+0.2**
MAW	comp=Z,2.2nm,0.9s,baz=256,slow=9.0,SNR=6.0 comp=Z,612nm,21.8s,baz=222,slow=35 comp=Z,2.2nm,0.9s			LR		LR	17 03 59.1	
PB16	**IPOC Station P**	**44.61**	**339**	P		**P**	**16 47 10.4**	**-0.9**
PB16	comp=Z,5.7nm,0.8s			IAmb		IAmb	16 47 31.9	
BDFB	**Brasilia**	**46.07**	**8**	P		**P**	**16 47 24.1**	**+1.7**
BDFB	comp=Z,2.1nm,0.6s,baz=200,slow=7.5,SNR=3.8 comp=Z,64nm,19.1s,baz=158,slow=38 comp=Z,2.1nm,0.6s			LR		LR	17 07 56.9	
LPAZ	**La Paz**	**46.38**	**341**			**P**	**16 47 26.3**	**+0.9**
LPAZ	comp=Z,2.2nm,0.7s			IAmb		IAmb	16 47 34.0	
LPAZ	**La Paz**	**46.38**	**341**	P		**P**	**16 47 27.2**	**+1.8**
SUR	**Sutherland**	**54.87**	**94**	P		**P**	**16 48 30.2**	**+1.3**
SUR	comp=Z,6.2nm,0.9s			IAmb		IAmb	16 48 42.7	
H04S2	**CROZET ISLANDS**	**56.64**	**128**	T		T	17 50 50.8	
H04S3	**CROZET ISLANDS**	**56.65**	**128**	T		T	17 50 45.1	
H04S1	**CROZET ISLANDS**	**56.66**	**128**	T		T	17 50 51.0	
H10S2	**ASCENSION HYDR**	**59.85**	**46**	T		T	17 54 28.7	
H10S3	**ASCENSION HYDR**	**59.85**	**46**	T		T	17 54 26.7	
BOSA	**Boshof**	**60.12**	**95**	P		**P**	**16 49 04.9**	**-0.9**
BOSA	**Boshof**	**60.12**	**95**	P		**P**	**16 49 05.9**	**+0.1**
BOSA	comp=Z,2.3nm,0.6s,baz=215,slow=7.2,SNR=9.2 comp=Z,106nm,21.8s,baz=202,slow=30 comp=Z,2.3nm,0.6s			LR		LR	17 09 06.1	
H10N3	**ASCENSION HYDR**	**60.94**	**46**	T		T	17 55 48.7	
H10N1	**ASCENSION HYDR**	**60.94**	**46**	T		T	17 55 48.8	
H10N2	**ASCENSION HYDR**	**60.96**	**46**	T		T	17 55 50.1	
LBTB	**Lobatse**	**63.31**	**93**			**P**	**16 49 28.2**	**+0.9**
LBTB	**Lobatse**	**63.31**	**93**	LR		LR	17 11 44.8	
BOAV	**Boa Vista**	**64.02**	**353**			**P**	**16 49 31.6**	**-0.3**
BOAV	comp=Z,6.6nm,0.8s			IAmb		IAmb	16 49 56.1	
QNGWA	**Qangwa**	**65.87**	**86**	P		**P**	**16 49 44.5**	**+0.4**
QNGWA	comp=Z,5.9nm,0.9s			IAmb		IAmb	16 49 59.9	
MATP	**Matopo**	**68.61**	**93**	LR		LR	17 14 52.0	
SDV	**Santo Domingo**	**71.48**	**342**	LR		LR	17 22 59.4	
LSZ	**Lusaka**	**72.89**	**90**	LR		LR	17 18 56.4	
PPT2	**Papeete2**	**77.42**	**256**	eLR		LR	17 14 42.5	
PPT2	comp=Z,158nm,28.0s			eLR		LR	17 14 42.8	
PPT	**Papeete**	**77.43**	**257**	LR		LR	17 16 24.8	
DBIC	**Dimbokro**	**77.84**	**50**	LR		LR	17 20 20.6	
RAO	**Raoul Island**	**78.90**	**228**	LR		LR	17 22 11.5	
SJG	**San Juan**	**80.04**	**348**	LR		LR	17 29 08.2	
TAOE	**Nuku Hiva Isla**	**80.54**	**269**	eLR		LR	17 16 06.2	
NWAO	**Narrogin (SRO)**	**85.54**	**172**	LR		LR	17 30 25.1	
STKA	**Stephens Creek**	**86.03**	**193**	LR		LR	17 25 25.9	
ASAR	**Alice Springs**	**94.82**	**187**	P		**P**	**16 52 19.0**	**-1.2**
ASAR	comp=Z,0.3nm,0.6s,baz=176,slow=4.6,SNR=8.2			LR		LR	17 36 12.4	
WRA	**Warramunga Arr**	**98.49**	**188**	P		**P**	**16 52 35.6**	**-1.3**
WRA	comp=Z,0.6nm,0.5s,baz=180,slow=4.1,SNR=17 comp=Z,135nm,18.1s,baz=178,slow=37 comp=Z,0.6nm,0.5s			LR		LR	17 39 25.6	
CMAR	**Chiang Mai Arr**	**132.84**	**144**	PKP		**PKPdf**	**16 58 13.2**	**-0.1**
ARCES	**ARCESS Array B**	**142.27**	**34**	PKhKP		PKPpre	16 58 20.6	
ARCES	comp=Z,2.2nm,0.6s,baz=180,slow=2.6,SNR=9.3			PKP		**PKPdf**	**16 58 27.9**	**-1.2**
ILAR	**Eielson Array**	**143.56**	**314**	PKP		PKPbc	16 58 30.8	+1.8
SPITS	**Spitsbergen Ar**	**145.68**	**20**	PKPbc		**PKPdf**	**16 58 34.8**	**-0.1**
BVAR	**Borovoye Array**	**149.57**	**81**	PKPbc		**PKPbc**	**16 58 45.5**	**-1.0**
MKAR	**Makanchi Array**	**151.03**	**100**	PKPbc		**PKPbc**	**16 58 49.1**	**-1.2**
KURBB	**Kurchatov Arra**	**151.90**	**91**	PKPbc		**PKPbc**	**16 58 51.0**	**-1.1**
ZALV	**Zalesovo Beam**	**157.00**	**91**	PKPab		**PKPab**	**16 59 21.8**	**-1.3**
SONM	**Songino Array**	**162.20**	**132**	PKPab		**PKPab**	**16 59 45.0**	**-1.1**

comp=Z,2.0nm,0.4s,baz=193,slow=1.9,SNR=1.5
comp=Z,0.9nm,0.7s,baz=195,slow=4.6,SNR=5.1

RSNC 19 16:49:15.0±0.0, 7.7°N±1.1°×7.3°W±.1°, h146km±2km, M3.2, mB4.4, mb3.6, ML3.0, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**192**	P		Pn	16 49 34.9	-0.3
BARC				S		Sn	16 49 49.1	-1.4
BRJC	**Barrancabermej**	**0.62**	**286**	P		Pn	16 49 36.3	-0.3
BRJC				S		Sn	16 49 52.8	-0.2
PAMC	**Pamplona, Colo**	**0.69**	**39**	P		Pn	16 49 37.4	-0.2
PAMC				S		Sn	16 49 54.7	-0.1
RUSC	**La Rusia**	**0.90**	**176**	P		Pn	16 49 38.8	-0.4
RUSC				S		Sn	16 49 57.1	-0.5
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P		Pn	16 49 41.6	-0.9
PTBC				S		Sn	16 50 02.1	-1.5
OCAC	**Ocana**	**1.44**	**353**	P		Pn	16 49 42.8	-1.0
OCAC				S		Sn	16 50 04.8	-1.1
SPBC	**San Pablo de B**	**1.47**	**219**	P		Pn	16 49 43.7	-0.4
SPBC				S		Sn	16 50 05.2	-1.1
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P		Pn	16 49 47.3	-0.7
ZARC				S		Sn	16 50 12.9	-0.4
ROSC	**El Rosal**	**2.27**	**211**	P		Pn	16 49 54.4	+0.8
ROSC				S		Sn	16 50 23.4	+0.2
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P		Pn	16 49 56.3	+0.5
CVER				S		Sn	16 50 29.0	+1.9
HELC	**Santa Helena**	**2.45**	**256**	P		Pn	16 49 55.3	-0.4
HELC				S		Sn	16 50 25.7	-1.2
UREC	**San Jos de Ur**	**2.56**	**292**	P		Pn	16 49 55.2	-1.4
UREC				S		Sn	16 50 25.8	-2.9
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P		Pn	16 49 59.5	+0.5
GUY2C				S		Sn

ISC 19 17:01:01.6±1.0, 50°.3N±0°.2×154°.4E±0°.1, h300km, n32, σ1§94/30, mb3.4/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.17**	**72**	*e*P	**Pn**	**17 01 41.7**	**-1.0**
SKR				*e*S	**S**	**17 02 12.0**	**-3.3**
PAU	**Pauzhetka**	**1.92**	**53**	*e*P	**Pn**	**17 01 47.3**	**-0.2**
GRL	**Gorelyy**	**3.21**	**45**	*e*P	**Pn**	**17 02 00.9**	**+1.5**
MTVR	**Mutnovka**	**3.21**	**47**	*e*P	**Pn**	**17 02 00.4**	**+0.9**
RUS	**Russkaya**	**3.34**	**49**	*e*P	**Pn**	**17 02 01.3**	**+0.7**
RUS				*e*S	**S**	**17 02 46.3**	**-1.4**
PETK	**Petropavlovsk-** 0.9nm,0.4s,baz=164,slow=10,SNR=11	**3.46**	**35**	P	**Pn**	**17 02 01.4**	**-0.5**
PETK	2.3nm,0.7s,baz=182,slow=2.0,SNR=6.5			S	**S**	**17 02 45.5**	**-4.6**
PET	**Petropavlovsk**	**3.79**	**43**	*e*P	**Pn**	**17 02 06.6**	**+1.3**
PET				*e*S	**S**	**17 02 55.7**	**-0.7**
DALK	**Dalny**	**3.84**	**44**	*e*P	**Pn**	**17 02 07.1**	**+1.2**
KOK	**Koryaka**	**3.97**	**40**	*e*P	**Pn**	**17 02 09.3**	**+1.9**
AVH	**Avacha**	**3.99**	**41**	*e*P	**Pn**	**17 02 09.8**	**+2.1**
SMAR	**Somma**	**4.02**	**41**	*e*P	**Pn**	**17 02 09.8**	**+1.7**
GNL	**Ganaly**	**4.02**	**32**	*e*P	**Pn**	**17 02 08.4**	**+0.4**
KRX	**Arik**	**4.03**	**40**	*e*P	**Pn**	**17 02 08.8**	**+0.7**
KRER	**Koryakskii**	**4.03**	**41**	*e*P	**Pn**	**17 02 09.7**	**+1.5**
SDLR	**Sedlovina**	**4.07**	**42**	*e*P	**Pn**	**17 02 09.5**	**+1.0**
SPN	**Mys Shipunski**	**4.47**	**50**	*e*P	**Pn**	**17 02 13.0**	**+0.1**
SPN				*e*S	**S**	**17 03 06.5**	**-3.6**
KII	**Karymskiy**	**4.85**	**38**	*e*P	**Pn**	**17 02 20.1**	**+2.9**
MKZ	**Mys Kozlova**	**6.17**	**44**	*e*P	**Pn**	**17 02 32.8**	**+0.1**
KBTR	**Krutoberegovo**	**7.76**	**37**	*e*P	**Pn**	**17 02 53.2**	**+1.2**
ASAJ	**Asahikawa** 1.5nm,0.4s,baz=356,slow=13,SNR=8.0	**10.13**	**237**	P	Pn	17 03 16.5	-4.8
YAK	**Yakutsk** 4.9nm,0.4s,baz=135,slow=16,SNR=5.4	**17.91**	**320**	P	P	17 04 45.6	-4.3
MJAR	**Matsushiro Arr** 0.9nm,0.4s,baz=23,slow=11,SNR=8.4	**18.05**	**226**	P	**P**	**17 04 53.4**	**+1.7**
HILR	**Hailar Array B** 1.1nm,0.4s,baz=69,slow=9.9,SNR=3.6 1.1nm,0.4s	**22.18**	**281**	P	P	17 05 29.3	-3.6
ILAR	**Eielson Array** 0.5nm,0.9s,baz=263,slow=5.8,SNR=5.5 0.5nm,0.9s	**33.27**	**42**	P	**P**	**17 07 14.7**	**+3.8**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=64,slow=7.5,SNR=4.0 0.8nm,0.4s	**41.27**	**303**	P	P	17 08 14.4	-3.3
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=47,slow=7.5,SNR=6.4 0.9nm,0.7s	**46.11**	**295**	P	P	17 08 53.2	-2.9
KURBB	**Kurchatov Arra** 1.8nm,0.6s,baz=69,slow=8.3,SNR=3.5	**46.24**	**301**	P	P	17 08 54.8	-2.2
KURBB	0.4nm,0.6s,baz=62,slow=3.6,SNR=1.4 1.8nm,0.6s			PcP	**PcP**	**17 10 27.0**	**0.0**
FINES	**FINESS Array B** 3.7nm,1.0s,baz=35,slow=7.0,SNR=7.6 3.7nm,1.0s	**61.15**	**334**	P	**P**	**17 10 42.5**	**-1.7**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=329,slow=1.3,SNR=4.9 0.3nm,0.5s	**62.00**	**56**	P	P	17 10 55.5	+5.1
KBZ	**Khabaz** 1.1nm,0.6s,baz=68,slow=5.4,SNR=4.4 1.1nm,0.6s	**68.97**	**314**	P	**P**	**17 11 33.5**	**-0.9**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=302,slow=5.1,SNR=4.5 0.3nm,0.5s	**75.04**	**62**	P	P	17 12 15.7	+5.1
MMAI	**Mount Meron Ar** 0.6nm,0.4s,baz=47,slow=3.7,SNR=4.3 0.6nm,0.4s	**81.05**	**312**	P	**P**	**17 12 43.4**	**0.0**

*IDC **19** 17:06:36.1±0.8, 2°.60S×138°.28E, h0km, mb3.6/9, mbtmp3.6/12, ML3.6/3, MS2.7/1, Error ellipse: s-maj=22.9km s-min=18.2km az=72.0*

ISC 19 17:06:37.5±0.7, 2°.72S±0°.08×138°.26E±0°.09, h10km, n13, σ1§68/15, mb3.7/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 11nm,0.3s,baz=234,slow=10,SNR=22	**2.45**	**85**	Pn	**Pn**	**17 07 17.1**	**-0.5**
JAY	6.7nm,0.3s,baz=311,slow=20,SNR=4.2 36nm,0.4s			Sn	**Sn**	**17 07 47.6**	**-0.1**
GUMO	**Guam** comp=Z,24nm,18.2s,baz=360,slow=38	**17.48**	**22**	LR	LR	17 17 37.0	
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=4.6,slow=12,SNR=18	**17.54**	**192**	P	**Pn**	**17 10 43.0**	**+0.7**
WRA	1.3nm,1.1s,baz=12,slow=22,SNR=3.2 0.7nm,0.3s			S	**Sn**	**17 13 53.2**	**-4.7**
FITZ	**Fitzroy Crossi** baz=35,slow=15,SNR=2.0	**19.67**	**218**	P	**P**	**17 11 07.8**	**+1.0**
FITZ	1.9nm,0.8s,baz=89,slow=1.4,SNR=3.7 2.3nm,0.9s			S	S	17 14 39.4	-9.3
ASAR	**Alice Springs** 1.7nm,0.7s,baz=9.9,slow=7.9,SNR=28	**21.25**	**191**	P	**P**	**17 11 24.6**	**+0.6**
ASAR	0.5nm,0.7s,baz=13,slow=25,SNR=3.3 1.7nm,0.7s			S	**S**	**17 15 20.4**	**+0.1**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=123,slow=5.8,SNR=7.5 0.1nm,0.3s	**44.05**	**300**	P	**P**	**17 14 45.1**	**-0.8**
SONM	**Songino Array** 0.3nm,0.5s,baz=122,slow=7.0,SNR=1.4 0.3nm,0.5s	**57.54**	**335**	P	**P**	**17 16 27.0**	**-0.3**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=119,slow=7.9,SNR=4.1 0.5nm,0.6s	**69.52**	**323**	P	**P**	**17 17 47.5**	**+1.0**
ZALV	**Zalesovo Beam** 0.3nm,0.5s,baz=142,slow=5.4,SNR=1.6 0.3nm,0.5s	**71.72**	**330**	P	**P**	**17 17 59.1**	**-0.6**
KURBB	**Kurchatov Arra** 0.7nm,1.0s,baz=117,slow=5.4,SNR=3.4 0.7nm,1.0s	**73.48**	**325**	P	**P**	**17 18 09.6**	**-0.6**
VNDA	**Vanda** 0.6nm,0.9s,baz=331,slow=7.0,SNR=7.8 0.6nm,0.9s	**75.81**	**175**	P	**P**	**17 18 24.4**	**+1.1**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=283,slow=6.6,SNR=1.9 0.2nm,0.6s	**86.03**	**24**	P	**P**	**17 19 16.8**	**-1.2**
QSPA	**South Pole Qui** 1.9nm,1.1s,baz=304,slow=1.5,SNR=7.2 1.9nm,1.1s	**87.23**	**180**	P	**P**	**17 19 26.3**	**+2.2**

*SOME **19** 17:07:53.3, 40°.38N×77°.63E, h5km*
*NNC **19** 17:07:54.8±1.2, 40°.38N×77°.63E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=8.2km s-min=5.8km az=171.0*
*KRNET **19** 17:07:54.2±0.1, 40°.38N×77°.55E, h19km, mb3.4*

ISC 19 17:07:55.3±2.1, 40°.46N±0°.08×77°.63E±0°.04, h2km±11km, n44, σ1§37/68, 25C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.28**	**6**	⇓*e*P	**Pg**	**17 08 19.5**	**-0.3**
TARG				⇓*e*S	**Sn**	**17 08 38.2**	**-0.2**
JNKS	**Jany-Kuch**	**1.62**	**292**	⇑*e*P	**Pn**	**17 08 23.6**	**-1.4**
JNKS				⇑*e*S	**Sn**	**17 08 45.0**	**-1.5**
KDJ	**Kajisay**	**1.71**	**349**	⇓*e*P	**Pb**	**17 08 26.7**	**-0.8**
KDJ				⇓*e*S	**Sg**	**17 08 50.3**	**+0.2**
ULHL	**Ulahol** SNR=21	**2.07**	**330**	P	**Pb**	**17 08 33.9**	**+0.2**
ULHL	**Ulahol**	**2.07**	**330**	⇑*e*P	**Pn**	**17 08 31.9**	**+0.7**
ULHL				⇑*e*S	**Sb**	**17 08 59.4**	**-0.5**
PRZ	**Przheval'sk**	**2.11**	**16**	⇑*e*P	**Pb**	**17 08 33.3**	**-1.0**
PRZ				⇑*e*S	**Sg**	**17 09 01.9**	**-1.1**
BOOM	**Boomskoye usch**	**2.40**	**329**	⇓*e*P	**Pn**	**17 08 36.3**	**+0.6**
BOOM				⇓*e*S	**Sb**	**17 09 07.1**	**-2.1**
TNSS	**Tian-Shan** 7.5nm,0.3s	**2.63**	**349**	Pg	**Pg**	**17 08 44.7**	**-0.9**
TNSS	9.8nm,0.8s			Lg	Lg	17 09 22.0	
TNSS	**Tian-Shan** 8.5nm,0.2s	**2.63**	**349**	*e*P	**Pg**	**17 08 44.7**	**-0.9**
TNSS	9.6nm,0.3s			*e*S	**Sg**	**17 09 21.7**	**+1.9**
SATY	**Saty** 34nm,0.5s	**2.66**	**12**	Pg	**Pg**	**17 08 44.7**	**-1.6**
SATY	46nm,0.6s			Lg	Lg	17 09 21.6	
MDOK	**Medeo** 24nm,0.3s	**2.74**	**351**	Pg	**Pg**	**17 08 46.6**	**-1.2**
MDOK	29nm,0.6s			Lg	Lg	17 09 25.0	
KNDC	**Almaty** 31nm,0.5s	**2.80**	**350**	⇑Pg	**Pg**	**17 08 47.4**	**-1.6**
KNDC	58nm,0.6s			⇓Lg	Lg	17 09 27.2	
MTBS	**Maitube** 46nm,0.3s	**2.82**	**342**	Pg	**Pg**	**17 08 47.9**	**-1.4**
MTBS	18nm,0.3s			Lg	Lg	17 09 27.2	
MTBS	**Maitube** 46nm,0.4s	**2.82**	**342**	*e*P	**Pg**	**17 08 47.9**	**-1.4**
MTBS	24nm,0.3s			*e*S	**Sg**	**17 09 27.2**	**+1.4**
KST	**Kastek** 7.8nm,0.3s	**2.87**	**335**	Pg	**Pg**	**17 08 48.7**	**-1.6**
KST	27nm,0.6s			Lg	Lg	17 09 28.7	
KST	**Kastek** 7.0nm,0.2s	**2.87**	**335**	*e*P	**Pg**	**17 08 48.7**	**-1.6**
KST	27nm,0.6s			*e*S	**Sg**	**17 09 28.7**	**+1.2**
UZB	**Uzynbulak** 12nm,0.3s	**2.88**	**21**	Pg	**Pb**	**17 08 48.1**	**+0.6**
UZB	30nm,0.6s			Lg	Lg	17 09 27.7	
UZB	**Uzynbulak** 6.2nm,0.2s	**2.88**	**21**	*e*P	**Pb**	**17 08 48.1**	**+0.6**
UZB	29nm,0.5s			*e*S	**Sg**	**17 09 27.3**	**-0.6**
TKM2	**Tokmak 2** SNR=12	**2.89**	**329**	P	**Pg**	**17 08 49.2**	**-1.6**
TKM2	**Tokmak 2**	**2.89**	**329**	⇓*e*P	**Pn**	**17 08 43.3**	**+0.7**
TKM2				⇓*e*S	**Sn**	**17 09 19.2**	**+1.2**
SALK	**Salom-Alik**	**2.93**	**280**	⇑*e*P	**Pn**	**17 08 42.6**	**-0.4**
SALK				⇑*e*S	**Sn**	**17 09 17.9**	**-0.9**
KBK	**Karagaybulak** SNR=12	**2.98**	**318**	P	**Pg**	**17 08 50.8**	**-1.6**
KBK	**Karagaybulak**	**2.98**	**318**	⇑*e*P	**Pn**	**17 08 44.3**	**+0.6**
KBK				⇑*e*S	**Sn**	**17 09 20.8**	**+0.7**
SHLS	**Shalkode** 13nm,0.4s	**3.03**	**26**	Pg	**Pg**	**17 08 53.3**	**0.0**
SHLS	58nm,0.5s			Lg	Lg	17 09 36.5	
SHLS	**Shalkode** 13nm,0.4s	**3.03**	**26**	*e*P	**Pg**	**17 08 53.3**	**0.0**
SHLS	58nm,0.5s			*e*S	**Sg**	**17 09 36.5**	**+4.0**
KURS	**Kuram** 11nm,0.6s	**3.06**	**7**	Pg	**Pb**	**17 08 50.4**	**+0.1**
KURS	20nm,0.6s			Lg	Lg	17 09 31.5	
KPKS	**Kokpek** 0.4nm,0.3s	**3.11**	**14**	Pg	**Pb**	**17 08 52.5**	**+1.2**
KPKS	28nm,0.4s			Lg	Lg	17 09 35.1	
PDGK	**Podgornoye** 3.4nm,0.6s	**3.19**	**25**	⇑Pn	**Pn**	**17 08 47.6**	**+1.1**
PDGK	7.1nm,0.5s			⇓Pg	**Pb**	**17 08 53.1**	**+0.4**
PDGK	23nm,0.8s			⇑Sn	**Sb**	**17 09 29.4**	**-2.6**
PDGK	29nm,0.6s			⇓Lg	Lg	17 09 35.8	
AAK	**Ala-Archa** SNR=6.1	**3.21**	**314**	P	**Pb**	**17 08 54.2**	**+1.2**
AAK	**Ala-Archa** 2.2nm,0.5s	**3.21**	**314**	⇓Pg	**Pb**	**17 08 53.9**	**+0.8**
AAK	11nm,0.8s			⇑Lg	Lg	17 09 38.1	
AAK	**Ala-Archa**	**3.21**	**314**	⇑*e*P	**Pn**	**17 08 47.2**	**+0.4**
AAK				⇑*e*S	**Sn**	**17 09 26.1**	**+0.5**
FRU1	**Bishkek**	**3.25**	**317**	⇑*e*P	**Pn**	**17 08 48.2**	**+0.9**
FRU1				⇑*e*S	**Sn**	**17 09 27.6**	**+1.0**
KTBS	**Karatobe** 10nm,0.4s	**3.33**	**348**	Pg	**Pb**	**17 08 56.1**	**+1.1**
KTBS	22nm,0.6s			Lg	Lg	17 09 41.6	
CHMS	**Chumysh**	**3.33**	**321**	⇑*e*P	**Pn**	**17 08 49.1**	**+0.7**
CHMS				⇑*e*S	**Sn**	**17 09 29.1**	**+0.6**
CHKK	**Chushkaly** 13nm,0.4s	**3.43**	**352**	Pg	**Pg**	**17 08 58.9**	**-2.1**
CHKK	23nm,0.3s			Lg	Lg	17 09 46.1	
CHKK	**Chushkaly** 1.7nm,0.1s	**3.43**	**352**	*e*P	**Pg**	**17 08 58.9**	**-2.1**
CHKK	23nm,0.3s			*e*S	**Sg**	**17 09 46.1**	**+0.8**
KRBS	**Karabastau** 9.7nm,0.5s	**3.55**	**336**	Pg	**Pb**	**17 09 00.2**	**+1.4**
KRBS	11nm,0.5s			Lg	Lg	17 09 48.4	
ARSB	**Arslanbob**	**3.63**	**285**	⇑*e*P	**Pn**	**17 08 52.4**	**-0.2**
ARSB				⇑*e*S	**Sn**	**17 09 34.9**	**-1.1**
EKS2	**Erkin-Say**	**3.63**	**309**	⇑*e*P	**Pn**	**17 08 53.1**	**+0.5**
EKS2				⇑*e*S	**Sn**	**17 09 36.0**	**-0.1**
USP	**Ospenovka** SNR=32	**3.65**	**321**	P	**Pb**	**17 09 02.3**	**+1.8**
USP	**Ospenovka**	**3.65**	**321**	⇓*e*P	**Pn**	**17 08 53.5**	**+0.7**
USP				⇓*e*S	**Sn**	**17 09 36.9**	**+0.4**
ARXS	**Arharly** 5.9nm,0.6s	**3.76**	**2**	Pg	**Pb**	**17 09 04.0**	**+1.6**
ARXS	19nm,0.6s			Lg	Lg	17 09 54.9	
ARXS	**Arharly**	**3.76**	**2**	*e*P	**Pb**	**17 09 04.0**	**+1.6**
ARXS				*e*S	**Sg**	**17 09 54.9**	**-1.0**
KK31	**Karatay Array** 0.4nm,0.5s,baz=122,slow=15,SNR=4.3	**5.94**	**299**	⇑Pg	**Pb**	**17 09 43.9**	**+4.4**
KK31	1.0nm,0.6s,baz=125,slow=27,SNR=4.9			⇓Lg	Lg	17 11 05.4	

*NEIC **19** 17:11:36.4±1.3, 0°.07S±0°.06×123°.35E±0°.04, h118km±8km, mb4.2/19, Error ellipse: s-maj=9.6km s-min=5.5km az=169.0*
*IDC **19** 17:11:37.1±2.7, 0°.04S×123°.37E, h114km±26km, mb3.3/8, mbtmp3.8/10, Error ellipse: s-maj=27.2km s-min=14.1km az=72.0*
*DJA **19** 17:11:37.6±0.2, 0°.S±2°.×12°.3E±°, h102km±5km, M4.4/25, mB4.8/6, mb4.5/15, MLv4.6/25, Mw(mB)4.1/6*

ISC 19 17:11:36.4±0.7, 0°.08S±0°.05×123°.35E±0°.05, h117km±6km, n56, σ1§12/65, mb4.0/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.90**	**44**	P	**Pn**	**17 11 58.2**	**+0.9**
KMSI				S	**Sn**	**17 12 14.7**	**+1.7**
LUWI	**Luwuk**	**1.12**	**211**		**Pn**	**17 11 59.5**	**0.0**
LUWI				Sn	**Sn**	**17 12 16.2**	**-0.7**
LUWI	**Luwuk**	**1.12**	**211**	P	**Pn**	**17 11 59.5**	**0.0**
LUWI				S	**Sn**	**17 12 16.4**	**-0.5**
MRSI	**Marisa**	**1.51**	**291**	P	**Pn**	**17 12 03.2**	**-0.6**
MRSI				S	**Sn**	**17 12 22.5**	**-2.1**
APSI	**Ampana**	**1.89**	**244**	P	**Pn**	**17 12 09.3**	**+0.9**
TOLI2	**Tolitoli**	**2.83**	**295**		**Pn**	**17 12 20.2**	**-0.2**
TOLI2				Sn	**Sn**	**17 12 51.9**	**-2.3**
SANI	**Sanana**	**3.29**	**127**	P	**Pn**	**17 12 24.9**	**-1.5**
MPSI	**Mapaga**	**3.48**	**277**	P	**Pn**	**17 12 30.6**	**+1.7**
KDI	**Kendari**	**3.92**	**191**	P	**Pn**	**17 12 35.5**	**+0.6**
TNTI	**Ternate**	**4.11**	**78**		**Pn**	**17 12 37.2**	**-0.1**
TNTI				Sn	**Sn**	**17 13 22.7**	**-1.8**
TNTI	**Ternate**	**4.11**	**78**	P	**Pn**	**17 12 37.8**	**+0.5**
NLAI	**Namlea**	**4.89**	**130**	P	**Pn**	**17 12 48.5**	**+0.6**
SPSI	**Sidrap Palu** 0.4nm912nm58nm,0.6s	**5.26**	**223**	P	**Pn**	**17 12 54.4**	**+1.5**
BNSI	**Bone** 0.5nm54nm,0.6s	**5.38**	**217**	P	**Pn**	**17 12 56.7**	**+2.2**
BBSI	**Bau Bau** 0.3nm64nm,0.5s	**5.43**	**188**	P	**Pn**	**17 12 56.0**	**+0.8**
AAI	**Ambon**	**6.03**	**127**	P	**Pn**	**17 13 03.4**	**+0.2**
KAPI	**Kappang**	**6.08**	**216**	Pn	**Pn**	**17 13 02.2**	**-1.7**
KAPI				Sn	**Sn**	**17 14 10.8**	**-1.4**
KAPI	**Kappang** 19nm,0.4s,baz=14,slow=3.7,SNR=6.8	**6.08**	**216**	P	**Pn**	**17 13 05.7**	**+1.8**
KAPI	23nm,0.3s,baz=176,slow=19,SNR=6.8			S	**Sn**	**17 14 12.3**	**0.0**
BKSI	**Bulukumba** 0.1nm26nm,0.7s	**6.13**	**212**	P	**Pn**	**17 13 04.9**	**+0.3**
MSAI	**Masohi** 76nm,0.8s	**6.45**	**120**	P	**Pn**	**17 13 10.4**	**+1.4**
BSSI	**Bau Bau, Buton** 0.3nm84nm,0.7s	**6.67**	**205**	P	**Pn**	**17 13 13.0**	**+1.1**
MYLDM	**Lahad Datu**	**7.12**	**317**		**Pn**	**17 13 17.1**	**-0.9**
SWI	**Sorong**	**7.95**	**96**	P	**Pn**	**17 13 29.9**	**+0.7**
EDFI	**Ende, Flores** 678nm24nm,0.6s	**8.77**	**191**	P	**Pn**	**17 13 40.7**	**+0.2**
FAKI	**Fak Fak**	**9.33**	**108**	Pn	**Pn**	**17 13 47.6**	**-0.4**
FAKI	**Fak Fak**	**9.33**	**108**	P	**Pn**	**17 13 47.6**	**-0.4**
MTN	**Manton Dam**	**14.85**	**149**	Pn	Pn	17 14 54.8	-5.8
KNRA	**Kununurra**	**16.40**	**161**		**P**	**17 15 20.7**	**+0.2**
KNRA	comp=Z,20nm,1.3s			IAmb	IAmb	17 15 56.1	
FITZ	**Fitzroy Crossi**	**18.05**	**173**	P	**Pn**	**17 15 39.1**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,7.1nm,1.0s,baz=7.1,slow=6.6,SNR=6.8	**18.05**	**173**	P	**Pn**	**17 15 39.9**	**+0.1**
MBWA	**Marble Bar**	**21.25**	**189**	P	**P**	**17 16 13.2**	**-0.1**
MBWA	comp=Z,12nm,1.1s			IAmb	IAmb	17 16 16.1	
PSA00	**Pilbara Seismi**	**21.64**	**189**	P	**P**	**17 16 16.1**	**-1.3**
PSA00	comp=Z,10nm,1.2s			IAmb	IAmb	17 16 40.8	
WB0	**Warramunga Arr**	**22.36**	**152**	P	**P**	**17 16 24.4**	**-0.7**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.5s,baz=332,slow=10,SNR=7.7 comp=Z,1.0nm,0.5s	**22.49**	**152**	P	**P**	**17 16 27.2**	**+0.9**
WR8	**Warramunga Arr**	**22.57**	**152**	P	**P**	**17 16 26.4**	**-0.7**
WR8	comp=Z,20nm,1.5s			IAmb	IAmb	17 16 40.6	
TPUB	**Ta-pu**	**23.39**	**354**	P	**P**	**17 16 34.7**	**-0.2**
YULB	**Yu-li**	**23.41**	**355**	P	**P**	**17 16 34.6**	**-0.5**
COEN	**Coen**	**23.99**	**126**	P	**P**	**17 16 39.7**	**-0.7**
COEN	comp=Z,11nm,1.2s			IAmb	IAmb	17 17 08.5	
GUMO	**Guam**	**25.27**	**57**	P	**P**	**17 16 51.0**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=345,slow=15,SNR=4.6	**25.59**	**157**	P	**P**	**17 16 57.4**	**+2.5**
ASAR	comp=Z,0.3nm,0.8s,baz=332,slow=2.1,SNR=2.4			PcP	**PcP**	**17 20 23.6**	**+0.5**
ASAR	comp=Z,0.3nm,0.8s,baz=350,slow=3.9,SNR=2.2 comp=Z,0.3nm,0.6s			ScP	**ScP**	**17 23 51.8**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.7s,baz=131,slow=7.5,SNR=6.7 comp=Z,0.5nm,0.7s	**30.24**	**309**	P	**P**	**17 17 38.9**	**+2.6**
STKA	**Stephens Creek** comp=Z,2.1nm,0.8s,baz=285,slow=13,SNR=1.9 comp=Z,2.1nm,0.8s	**36.03**	**153**	P	**P**	**17 18 26.3**	**-0.2**
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**17 18 27.8**	**+1.3**
MJAR	**Matsushiro Arr**	**38.96**	**19**	P	**P**	**17 18 50.5**	**-0.7**
MJAR	comp=Z,4.8nm,1.3s			IAmb	IAmb	17 19 14.1	
MJAR	**Matsushiro Arr** comp=Z,1.5nm,0.8s,baz=180,slow=9.8,SNR=5.4 comp=Z,1.5nm,0.8s	**38.96**	**19**	P	**P**	**17 18 50.4**	**-0.7**
JYT	**Yasato**	**39.37**	**22**	P	**P**	**17 18 53.7**	**-0.8**
ARMA	**Armidale**	**40.41**	**141**	P	**P**	**17 19 02.4**	**-1.0**
JMM	**Marumori**	**41.04**	**21**	P	**P**	**17 19 08.3**	**0.0**
EVN	**Everest**	**44.75**	**312**	P	**P**	**17 19 38.6**	**-0.6**
EVN	comp=Z,3.1nm,0.7s			IAmb	IAmb	17 19 42.0	
JKA	**Kamikawa-asahi**	**47.23**	**19**	P	**P**	**17 19 57.7**	**+0.2**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=167,slow=11,SNR=2.8 comp=Z,0.4nm,0.5s	**49.95**	**345**	P	**P**	**17 20 19.8**	**+1.4**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.4s,baz=120,slow=7.3,SNR=2.9 comp=Z,0.4nm,0.4s	**58.86**	**328**	P	**P**	**17 21 24.5**	**+1.7**
PETK	**Petropavlovsk-**	**60.22**	**23**	P	**P**	**17 21 31.8**	**-0.2**
RTZ	**Ruatahuna**	**62.27**	**135**	P	**P**	**17 21 45.2**	**-1.0**
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.6s,baz=131,slow=5.3,SNR=5.7 comp=Z,0.3nm,0.6s	**63.20**	**330**	P	**P**	**17 21 51.4**	**-0.7**
KURK	**Kurchatov**	**63.22**	**330**	P	**P**	**17 21 51.1**	**-1.0**
KURK	comp=Z,2.7nm,1.2s			IAmb	IAmb	17 22 28.5	

*UPP **19** 17:12:32.2±0.1, 67°.20N×20°.70E, h0km, ML2.5, Confirmed Induced event*
*IDC **19** 17:12:33.0±0.9, 67°.11N×20°.97E, h0km, mbtmp3.2/4, ML2.1/4, Error ellipse: s-maj=15.2km s-min=7.5km az=114.0*
*HEL **19** 17:12:33.0±0.1, 67°.19N×20°.69E, h1km, ML2.2, ML2.5(UPP), ML2.2(BER), Confirmed Induced event*
*BER **19** 17:12:34.3±1.8, 67°.08N×21°.05E, h0km±20km, ML2.2, Confirmed Induced event*

ISC 19 17:12:31.5±0.7, 67°.17N±0°.02×20°.76E±0°.02, h0km, n44, σ1§03/63, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**236**	P	**Pg**	**17 12 34.3**	**+1.0**
DUNU				S	**Sg**	**17 12 35.5**	**+1.2**
DUNU	**Dundret**	**0.09**	**236**	*i* P	**Pg**	**17 12 34.3**	**+1.0**
DUNU				*i* S	**Sg**	**17 12 35.5**	**+1.2**
RATU	**Laukkuluspa**	**0.80**	**326**	P	**Pg**	**17 12 46.5**	**-0.2**
RATU				S	**Sg**	**17 12 56.9**	**-0.2**
RATU	**Laukkuluspa**	**0.80**	**326**	*i* P	**Pg**	**17 12 46.5**	**-0.2**
RATU				*i* S	**Sg**	**17 12 56.9**	**-0.2**
ERTU	**Ertsjaerv**	**0.84**	**137**	P	**Pb**	**17 12 48.5**	**-0.5**
ERTU				S	**Sb**	**17 13 00.2**	**-0.5**
ERTU	**Ertsjaerv**	**0.84**	**137**	*e*P	**Pb**	**17 12 48.5**	**-0.5**
ERTU				*e*S	**Sb**	**17 13 00.2**	**-0.5**
SALU	**Saltoluokta**	**0.90**	**285**	P	**Pg**	**17 12 48.5**	**-0.2**
SALU				S	**Sg**	**17 13 00.1**	**-0.3**
SALU	**Saltoluokta**	**0.90**	**285**	*i* P	**Pg**	**17 12 48.5**	**-0.2**
SALU				*i* S	**Sg**	**17 13 00.1**	**-0.3**
PAJU	**Pajala**	**0.93**	**98**	P	**Pb**	**17 12 50.2**	**-0.4**
PAJU	**Pajala**	**0.93**	**98**	*e*P	**Pb**	**17 12 50.2**	**-0.4**
PAJU				*e*S	**Sb**	**17 13 03.3**	**-0.2**
NIKU	**Nikkaluokta**	**0.96**	**317**	P	**Pg**	**17 12 49.6**	**-0.4**
NIKU	**Nikkaluokta**	**0.96**	**317**	*e*P	**Pg**	**17 12 49.6**	**-0.4**
LANU	**Lannavaara**	**1.00**	**28**	P	**Pg**	**17 12 50.7**	**+0.1**
LANU	**Lannavaara**	**1.00**	**28**	*e*P	**Pg**	**17 12 50.8**	**+0.1**
LANU				*e*S	**Sg**	**17 13 03.6**	**0.0**
HARU	**Harads**	**1.02**	**175**	P	**Pb**	**17 12 51.4**	**-0.5**
HARU	**Harads**	**1.02**	**175**	*e*P	**Pb**	**17 12 51.4**	**-0.5**
HEF	**Hetta**	**1.66**	**40**	*e*P	**Pb**	**17 13 02.4**	**-0.6**
HEF				*e*S	**Sb**	**17 13 24.0**	**-0.4**
HEF	**Hetta**	**1.66**	**40**	*e*P	**Pb**	**17 13 02.4**	**-0.6**
HEF				*e*S	**Sb**	**17 13 23.8**	**-0.6**
HEF	comp=Z,22nm,0.2s			MSG		17 13 27.6	
KALU	**Kalix**	**1.68**	**140**	P	**Pg**	**17 13 03.3**	**-0.4**
KALU	**Kalix**	**1.68**	**140**	*e*P	**Pg**	**17 13 03.3**	**-0.4**
SJUU	**Sjulsmark**	**1.71**	**168**	P	**Pb**	**17 13 03.6**	**-0.1**
SJUU	**Sjulsmark**	**1.71**	**168**	*e*P	**Pb**	**17 13 03.6**	**-0.1**
TOF	**Tornio**	**1.80**	**126**	*e*PN	**Pg**	**17 13 05.5**	**-0.4**
TOF				*e*S

comp=Z,8.7nm,0.3s
ARA0 ARCESS Array S 2.96 34 *e*P **Pn 17 13 21.0 +1.3**
ARA0 IAML 17 14 02.7
comp=Z,8.7nm,0.3s
ARCES ARCESS Array B 2.96 34 Pn **Pn 17 13 21.1 +1.4**
comp=Z,0.6nm,0.3s,baz=217,slow=13,SNR=46
ARCES Sn **Sn 17 13 58.0 +2.2**
comp=Z,1.6nm,0.3s,baz=220,slow=23,SNR=8.7
comp=Z,1.5nm,0.3s
KEV Kevo 3.47 39 *e*P **Pn 17 13 27.6 +0.9**
KEV Kevo 3.47 39 *e*P **Pn 17 13 27.6 +0.9**
FINES FINESS Array B 6.20 156 Pn **Pn 17 14 06.0 +1.9**
comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=7.0
FINES Sn **Sn 17 15 14.3 -1.2**
comp=Z,0.4nm,0.3s,baz=345,slow=21,SNR=6.8
FINES Lg Lg 17 15 42.0
comp=Z,0.9nm,0.3s,baz=335,slow=26,SNR=7.9
comp=Z,2.4nm,0.8s
NOA NORSAR Array B 7.43 219 Pn **Pn 17 14 20.9 -0.2**
baz=27,slow=11,SNR=3.4
NOA Sn **Sn 17 15 45.4 -0.6**
baz=43,slow=21,SNR=1.9
comp=Z,1.5nm,1.1s
HFS Hagfors 7.73 207 Pn **Pn 17 14 24.9 -0.3**
comp=Z,0.1nm,0.3s,baz=22,slow=13,SNR=6.3
HFS Sn **Sn 17 15 48.4 -4.8**
comp=Z,0.3nm,0.3s,baz=21,slow=20,SNR=7.2
HFS Lg Lg 17 16 31.2
comp=Z,0.5nm,0.3s,baz=26,slow=21,SNR=5.2
comp=Z,5.2nm,1.1s

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*IDC **19** 17:13:11.3±8.0, 20°.05S×177°.96W, h430km±84km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=38.6km s-min=19.5km az=62.0*
ISC 19 17:13:12.8±1.1, 20°.1S±0°.2×178°.0W±0°.2, h450km, n8, σ1§20/9, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.58**	**192**	P	**P**	**17 16 59.7**	**-1.2**
	3.6nm,0.4s,baz=333,slow=11,SNR=1.7						
JAY	**Jayapura**	**43.97**	**288**	P	**P**	**17 20 40.1**	**+1.1**
	7.4nm,0.9s,baz=170,slow=20,SNR=1.6						
	7.4nm,0.9s						
ASAR	**Alice Springs**	**44.66**	**256**	P	**P**	**17 20 44.1**	**-0.1**
	1.0nm,0.6s,baz=99,slow=7.5,SNR=15						
ASAR				PcP	**PcP**	**17 22 16.0**	**-1.7**
	1.1nm,1.3s,baz=92,slow=4.1,SNR=1.7						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.70**	**262**	P	**P**	**17 20 44.1**	**-0.5**
	0.2nm,0.3s,baz=98,slow=7.4,SNR=5.0						
	0.2nm,0.3s						
VNDA	**Vanda**	**58.29**	**185**	P	**P**	**17 22 22.6**	**0.0**
	0.4nm,0.6s,baz=5.0,slow=5.6,SNR=3.9						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**69.94**	**180**	P	**P**	**17 23 39.1**	**+1.6**
	1.9nm,0.6s,baz=113,slow=0.7,SNR=21						
	1.9nm,0.6s						
PETK	**Petropavlovsk-**	**75.92**	**345**	P	**P**	**17 24 11.8**	**0.0**
	1.4nm,0.8s,baz=104,slow=11,SNR=1.8						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**87.94**	**13**	P	**P**	**17 25 12.7**	**-0.4**
	0.3nm,0.4s,baz=208,slow=5.2,SNR=4.9						
	0.3nm,0.4s						

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*IDC **19** 17:18:40.5±6.0, 35°.30N×22°.20E, h0km, mb3.9/7, mbtmp3.8/8, ML2.6/1, Error ellipse: s-maj=116.4km s-min=30.1km az=18.0*
*THE **19** 17:18:47.0, 36°N±3°×2°3E±°, h0km±2km, M3.0/10, MLh3.0/10*
*ATH **19** 17:18:52.3, 36°.12N×23°.09E, h7km±2km, ML3.1/29, Manual Solution by D.Makaris First location: 2019/10/19 17:20:12, This location: 2020/10/06 13:29:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
ISC 19 17:18:46.3±1.3, 36°.04N±0°.03×22°.63E±0°.04, h2km±9km, n59, σ1§37/78, mb3.8/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**0.41**	**58**	P	**Pb**	**17 18 56.9**	**+0.5**
ANKY	**Antikythira Is**	**0.57**	**107**	P	**Pb**	**17 18 58.5**	**-0.4**
ANKY				S	**Sb**	**17 19 07.5**	**0.0**
ANKY	**Antikythira Is**	**0.57**	**107**	P	**Pg**	**17 18 58.3**	**+1.2**
ANKY				S	**Sg**	**17 19 02.2**	**-2.3**
VLI	**Veliai**	**0.72**	**20**	P	**Pn**	**17 19 02.7**	**-0.8**
VLI				S	**Sn**	**17 19 14.1**	**-1.1**
VLI	**Veliai**	**0.72**	**20**	P	**Pn**	**17 19 04.3**	**+0.7**
VLI				S	**Sb**	**17 19 11.2**	**-0.8**
PYL	**PYLOS**	**1.12**	**320**	P	**Pg**	**17 19 07.6**	**-0.1**
PYL				S	**Sn**	**17 19 24.1**	**-0.9**
CHAN	**Chania**	**1.26**	**114**	P	**Pg**	**17 19 10.6**	**+0.2**
CHAN				S	**Sn**	**17 19 30.6**	**+2.2**
CHAN	**Chania**	**1.26**	**114**	P	**Pn**	**17 19 11.5**	**+0.6**
CHAN				S	**Sg**	**17 19 23.1**	**-3.5**
ITM	**Ithomi**	**1.27**	**334**	P	**Pn**	**17 19 11.8**	**+0.7**
ITM				S	**Sn**	**17 19 30.2**	**+1.3**
VLX	**Vlachokerasia**	**1.35**	**351**	P	**Pn**	**17 19 13.2**	**+1.0**
MHLO	**Agia Marina, M**	**1.57**	**65**	P	**Pn**	**17 19 15.3**	**+0.2**
MHLO				S	**Sn**	**17 19 32.5**	**-3.6**
PRNS	**Prines Rethymn**	**1.66**	**113**	P	**Pn**	**17 19 16.8**	**+0.4**
PRNS				S	**Sg**	**17 19 40.0**	**+0.3**
PRNS	**Prines Rethymn**	**1.66**	**113**	P	**Pn**	**17 19 17.1**	**+0.7**
PRNS				S	**Sn**	**17 19 34.4**	**-3.9**
GVD	**Gavdhos**	**1.69**	**135**	P	**Pb**	**17 19 18.0**	**0.0**
MET5	**Makryloggos,Me**	**1.69**	**20**	P	**Pg**	**17 19 19.9**	**+1.3**
MET5				S	**Sg**	**17 19 40.5**	**+0.1**
MET4	**Agioi Theodoro**	**1.70**	**21**	P	**Pg**	**17 19 20.4**	**+1.6**
MET4				S	**Sg**	**17 19 39.8**	**-1.1**
GUR	**Goura**	**1.91**	**353**	P	**Pg**	**17 19 23.0**	**+0.1**
GUR	**Goura**	**1.91**	**353**	P	**Pg**	**17 19 25.3**	**+2.4**
GUR				S	**Sg**	**17 19 50.2**	**+2.5**
LOUT	**Loutraki**	**1.97**	**8**	P	**Pg**	**17 19 25.2**	**+1.2**
LOUT				S	**Sg**	**17 19 48.9**	**-0.6**
IDI	**Anoyia**	**1.98**	**111**	P	**Pb**	**17 19 23.9**	**+0.7**
IDI				S	**Sg**	**17 19 50.3**	**+0.3**
IDI	**Anoyia**	**1.98**	**111**	P	**Pb**	**17 19 23.7**	**+0.5**
LTK	**Loutraki**	**2.00**	**8**	P	**Pg**	**17 19 25.7**	**+1.1**
LTK				S	**Sg**	**17 19 50.0**	**-0.6**
VLY	**Voula,Athens**	**2.04**	**27**	P	**Pb**	**17 19 23.8**	**-0.2**
VLY				S	**Sg**	**17 19 50.9**	**-0.8**
VLY	**Voula,Athens**	**2.04**	**27**	P	**Pb**	**17 19 23.9**	**-0.2**
VLY				S	**Sn**	**17 19 47.3**	**-0.3**
KLV	**Kalavryta, Ach**	**2.04**	**349**	P	**Pg**	**17 19 26.7**	**+1.3**
ATHU	**Athens Univers**	**2.13**	**25**	P	**Pb**	**17 19 25.2**	**-0.5**
ATHU				S	**Sn**	**17 19 50.4**	**+0.3**
MAGU	**Magoula**	**2.16**	**19**	P	**Pb**	**17 19 26.1**	**+0.1**
VIL2	**Platees**	**2.23**	**13**	P	**Pb**	**17 19 27.0**	**-0.3**
PTL	**Penteli**	**2.24**	**26**	P	**Pb**	**17 19 26.7**	**-0.8**
STFN	**Stefani**	**2.26**	**19**	P	**Pb**	**17 19 27.9**	**+0.1**
DION	**Dionisos Attik**	**2.29**	**27**	P	**Pb**	**17 19 27.9**	**-0.4**
DION	**Dionisos Attik**	**2.29**	**27**	P	**Pb**	**17 19 27.7**	**-0.7**
THERA	**Ancient Thera,**	**2.32**	**81**	P	**Pn**	**17 19 26.1**	**+0.5**
AXS	**Araxos**	**2.38**	**335**	P	**Pg**	**17 19 33.3**	**+1.4**
KALE	**Kalithea**	**2.38**	**351**	P	**Pg**	**17 19 32.1**	**+0.2**
EFP	**Efpalio**	**2.46**	**347**	P	**Pg**	**17 19 33.5**	**+0.2**
KARY	**Karystos**	**2.46**	**35**	P	**Pb**	**17 19 29.5**	**-1.7**
NPS	**Neapolis**	**2.55**	**107**	P	**Pn**	**17 19 30.3**	**+1.6**
ANX	**Ano Chora**	**2.61**	**348**	P	**Pg**	**17 19 35.4**	**-1.0**
LKR	**Lokris**	**2.62**	**6**	P	**Pb**	**17 19 34.1**	**+0.1**
ATAL	**Atalanti**	**2.67**	**7**	P	**Pb**	**17 19 34.1**	**-0.7**
PVO	**Paravola**	**2.72**	**341**	P	**Pg**	**17 19 37.4**	**-1.0**
AXAR	**Agios Charalam**	**2.73**	**0**	P	**Pb**	**17 19 35.6**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.84**	**24**	P	**Pb**	**17 19 35.1**	**-2.7**
EVR	**Evrytania**	**2.95**	**347**	P	**Pb**	**17 19 40.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**3.00**	**353**	P	**Pb**	**17 19 40.1**	**-0.3**
ZKR	**Zakros**	**3.06**	**106**	P	**Pn**	**17 19 37.4**	**+1.7**
SKY	**Skiros Island**	**3.22**	**28**	P	**Pn**	**17 19 40.2**	**+2.3**
NEO	**Neokhori**	**3.30**	**8**	P	**Pb**	**17 19 42.5**	**-3.0**
KARP	**Karpathos**	**3.71**	**96**	P	**Pn**	**17 19 45.9**	**+1.2**
KEK	**Kerkira**	**4.30**	**329**	P	**Pb**	**17 19 59.7**	**-2.9**
BRTR	**Keskin Array B**	**9.45**	**64**	Pn	Pn	17 21 10.4	+6.8
	0.1nm,0.3s,baz=247,slow=14,SNR=2.3						
	0.3nm,0.4s						
HFS	**Hagfors**	**24.80**	**349**	P	**P**	**17 24 08.3**	**-1.1**
	3.8nm,1.0s,baz=185,slow=10,SNR=1.8						
	3.8nm,1.0s						
FINES	**FINESS Array B**	**25.52**	**4**	P	**P**	**17 24 17.4**	**+1.5**
	2.2nm,0.8s,baz=190,slow=9.6,SNR=3.4						
	2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**26.15**	**326**	P	**P**	**17 24 21.1**	**-0.6**
	1.7nm,0.8s,baz=128,slow=8.8,SNR=1.7						
	1.7nm,0.8s						
ARCES	**ARCESS Array B**	**33.59**	**2**	P	**P**	**17 25 29.0**	**+1.5**
	2.1nm,0.8s,baz=197,slow=9.4,SNR=5.1						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**42.18**	**52**	P	**P**	**17 26 40.3**	**0.0**
	0.7nm,0.7s,baz=277,slow=8.5,SNR=6.4						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**45.02**	**57**	P	**P**	**17 27 03.1**	**-0.1**
	0.6nm,0.5s,baz=268,slow=6.6,SNR=9.7						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**45.89**	**47**	P	**P**	**17 27 10.4**	**+0.4**
	0.5nm,0.5s,baz=282,slow=8.7,SNR=2.5						
	0.5nm,0.5s						

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*IDC **19** 17:27:38.8±1.6, 2°.16N×127°.70E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=157.5km s-min=20.1km az=69.0*
*DJA **19** 17:27:40.4±0.5, 3°N±5°×12°9E±°, h10km, M3.8/7, mb4.2/3, MLv3.6/7*
ISC 19 17:27:42.6±1.1, 2°.5N±0°.1×128°.9E±0°.1, h35km, n8, σ0§51/8, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.29**	**220**	P	**Pn**	**17 28 17.9**	**-0.1**
SWI	**Sorong**	**4.15**	**144**	P	**Pn**	**17 28 43.8**	**+0.3**
KMSI	**Cibinong**	**5.24**	**248**	P	**Pn**	**17 28 59.0**	**+0.5**
	54nm,0.9s						
WRA	**Warramunga Arr**	**22.98**	**167**	P	**P**	**17 32 43.9**	**-0.5**
	0.5nm,0.6s,baz=341,slow=10,SNR=6.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.50**	**170**	P	**P**	**17 33 17.4**	**+0.3**
	0.5nm,0.7s,baz=350,slow=8.2,SNR=10						
	0.5nm,0.7s						
SONM	**Songino Array**	**49.12**	**340**	P	**P**	**17 36 27.3**	**+0.4**
	0.3nm,0.4s,baz=141,slow=7.1,SNR=1.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**17 37 43.4**	**-0.6**
	0.9nm,0.6s,baz=116,slow=8.4,SNR=6.4						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**63.88**	**327**	P	**P**	**17 38 11.5**	**-0.3**
	1.2nm,0.2s,baz=124,slow=6.4,SNR=7.3						
	1.2nm,0.2s						

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*NOU **19** 17:28:28.7, 37°.99S×176°.45E, h192km, MLv4.4/24, North Island, New Zealand*
*IDC **19** 17:28:30.2±1.6, 37°.40S×176°.37E, h145km±10km, mb3.9/4, mbtmp4.3/4, Error ellipse: s-maj=59.5km s-min=21.5km az=46.0*
*NEIC **19** 17:28:31.3±1.7, 37°.92S±0°.07×176°.42E±0°.06, h170km±5km, mb4.3/16, Error ellipse: s-maj=9.5km s-min=7.4km az=182.0*
*WEL **19** 17:28:32.2±0.9, 38°S±5°×17°6E±°, h159km±7km, M3.0/24, ML3.0/9, MLv3.0/24, Error ellipse: s-maj=8.0km s-min=7.0km az=77.5, confirmed*
ISC 19 17:28:31.5±0.7, 37°.99S±0°.04×176°.40E±0°.04, h180km±5km, n222, σ1§61/240, mb4.1/16, 5D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIRZ	**Lichensteins R**	**0.02**	**222**	P	**Pn**	**17 28 54.4**	**-0.9**
OMRZ	**Omania**	**0.12**	**191**	P	**Pn**	**17 28 54.6**	**-0.8**
OMRZ				S	**Sn**	**17 29 12.5**	**-1.4**
KARZ	**Kaharoa**	**0.13**	**256**	P	**Pn**	**17 28 54.4**	**-0.9**
MKRZ	**Makatiti**	**0.16**	**160**	P	**Pn**	**17 28 55.8**	**+0.3**
OPRZ	**Ohinepanea**	**0.19**	**40**	P	**Pn**	**17 28 53.9**	**-1.5**
OPRZ				S	**Sn**	**17 29 11.3**	**-2.5**
NGRZ	**Ngongotaha**	**0.20**	**236**	P	**Pn**	**17 28 54.9**	**-0.6**
MARZ	**Manawahe**	**0.22**	**89**	P	**Pn**	**17 28 54.5**	**-1.0**
UTU	**Utuhina**	**0.25**	**221**	P	**Pn**	**17 28 55.4**	**-0.1**
MWFS	**Matata Watchor**	**0.25**	**59**	P	**Pn**	**17 28 54.2**	**-1.3**
TARZ	**Mount Tarawera**	**0.26**	**161**	P	**Pn**	**17 28 55.3**	**-0.4**
HLRZ	**Highlands Stat**	**0.26**	**188**	P	**Pn**	**17 28 55.5**	**-0.1**
TGRZ	**Tauranga**	**0.28**	**337**	P	**Pn**	**17 28 54.1**	**-1.6**
EDRZ	**Edgecumbe**	**0.29**	**113**	P	**Pn**	**17 28 54.7**	**-1.0**
HSRZ	**Hossack Road**	**0.34**	**201**	P	**Pn**	**17 28 55.3**	**-0.4**
TBCS	**Tauranga Boys**	**0.34**	**326**	P	**Pn**	**17 28 54.5**	**-1.3**
RRRZ	**Republican Roa**	**0.36**	**165**	P	**Pn**	**17 28 55.5**	**-0.3**
RRRZ				S	**Sn**	**17 29 13.3**	**-1.4**
KMRZ	**Kaimai**	**0.39**	**292**	P	**Pn**	**17 28 54.9**	**-1.0**
HRRZ	**Handcock Road**	**0.41**	**193**	P	**Pn**	**17 28 55.8**	**-0.2**
GRRZ	**Galatos Road**	**0.42**	**212**	P	**Pn**	**17 28 55.8**	**-0.3**
WHRZ	**Whale Island**	**0.47**	**74**	P	**Pn**	**17 28 55.5**	**-0.8**
PRRZ	**Plateau Road**	**0.51**	**181**	P	**Pn**	**17 28 56.1**	**-0.3**
PRRZ				S	**Sn**	**17 29 14.3**	**-1.3**
WPRZ	**Whakapapatarin**	**0.56**	**199**	P	**Pn**	**17 28 56.4**	**-0.1**
MUGZ	**Murupara**	**0.57**	**149**	P	**Pn**	**17 28 56.0**	**-0.6**
MUGZ				S	**Sn**	**17 29 14.3**	**-1.8**
ALRZ	**Allen Road**	**0.57**	**184**	P	**Pn**	**17 28 56.5**	**-0.1**
URZ	**Urewera**	**0.62**	**116**	P	**Pn**	**17 28 55.9**	**-0.9**
	390nm,0.3s,baz=253,slow=5.1,SNR=759						
URZ				S	**Sn**	**17 29 13.8**	**-2.6**
	1μm,0.3s,baz=0.3,slow=24,SNR=18						
URZ	**Urewera**	**0.62**	**116**	P	**Pn**	**17 28 55.7**	**-1.1**
URZ	**Urewera**	**0.62**	**116**	P	**Pn**	**17 28 55.7**	**-1.1**
URZ				S	**Sn**	**17 29 13.6**	**-2.8**
KUTZ	**Kaahu Road**	**0.67**	**222**	P	**Pn**	**17 28 57.1**	**-0.1**
OPCS	**Opotiki Colleg**	**0.70**	**92**	P	**Pn**	**17 28 56.1**	**-1.2**
MYRZ	**Mayor Island**	**0.72**	**350**	P	**Pn**	**17 28 55.9**	**-1.5**
TOZ	**Tahuroa Road**	**0.76**	**290**	P	**Pn**	**17 28 56.5**	**-1.1**
TOZ				Sn	**Sn**	**17 29 14.5**	**-3.1**
TOZ	**Tahuroa Road**	**0.76**	**290**	P	**Pn**	**17 28 56.5**	**-1.1**
TOZ				S	**Sn**	**17 29 15.7**	**-1.9**
TLZ	**Tolley Road**	**0.76**	**243**	P	**Pn**	**17 28 57.4**	**-0.3**
TLZ				S	**Sn**	**17 29 17.5**	**-0.4**
WHTZ	**Whakaora**	**0.76**	**207**	P	**Pn**	**17 28 58.1**	**+0.5**
RTZ	**Ruatahuna**	**0.77**	**144**	P	**Pn**	**17 28 57.4**	**-0.4**
RTZ				Sn	**Sn**	**17 29 16.3**	**-1.9**
RTZ	**Ruatahuna**	**0.77**	**144**	P	**Pn**	**17 28 57.5**	**-0.3**
RTZ				S	**Sn**	**17 29 16.7**	**-1.5**
WIZ	**White Island**	**0.78**	**54**	P	**Pn**	**17 28 56.0**	**-1.7**
MRHZ	**Matea Rd**	**0.84**	**179**	P	**Pn**	**17 28 58.3**	**+0.1**
WATZ	**Wairara**	**0.89**	**216**	P	**Pn**	**17 28 58.7**	**+0.2**
MTHZ	**Maungataniwha**	**0.93**	**158**	P	**Pn**	**17 28 58.8**	**+0.1**
HATZ	**Hinemaiaia**	**0.93**	**195**	P	**Pn**	**17 28 59.1**	**+0.3**
RAGZ	**Rawiri**	**0.95**	**123**	P	**Pn**	**17 28 58.7**	**-0.2**
MWZ	**Matawai**	**0.95**	**111**	P	**Pn**	**17 28 58.1**	**-0.8**
RATZ	**Rangitukua**	**1.00**	**209**	P	**Pn**	**17 28 59.6**	**+0.3**
RUGZ	**Raukumara Rang**	**1.01**	**89**	P	**Pn**	**17 28 57.3**	**-2.1**
RAHZ	**Arahi**	**1.07**	**150**	P	**Pn**	**17 29 00.5**	**+0.7**
RITZ	**Rihia Road**	**1.07**	**203**	P	**Pn**	**17 29 00.6**	**+0.8**
SNGZ	**Shannon Statio**	**1.08**	**137**	P	**Pn**	**17 29 00.3**	**+0.4**
HAZ	**Te Kaha**	**1.12**	**78**	P	**Pn**	**17 28 58.3**	**-1.8**
KATZ	**Kakaramea**	**1.13**	**209**	P	**Pn**	**17 29 00.8**	**+0.5**
NMHZ	**Naumai**	**1.15**	**164**	P	**Pn**	**17 29 01.5**	**+1.0**
BKZ	**Black Stump Fm**	**1.18**	**176**		**Pn**	**17 29 00.7**	**+0.1**
BKZ				Sn	**Sn**	**17 29 21.6**	**-1.7**
BKZ	**Black Stump Fm**	**1.18**	**176**	P	**Pn**	**17 29 00.5**	**-0.1**
BKZ	**Black Stump Fm**	**1.18**	**176**	S	**Sn**	**17 29 22.1**	**-1.2**
BKZ	**Black Stump Fm**	**1.18**	**176**	P	**Pn**	**17 29 00.8**	**+0.1**
TKGZ	**Te Karaka**	**1.23**	**112**	P	**Pn**	**17 29 01.0**	**0.0**
NTVZ	**North Tongarir**	**1.24**	**207**	P	**Pn**	**17 29 01.7**	**+0.4**
TMVZ	**Te Maari**	**1.25**	**206**	P	**Pn**	**17 29 01.7**	**+0.4**
KRVZ	**Karewarewa**	**1.25**	**208**	P	**Pn**	**17 29 01.8**	**+0.4**
TWGZ	**Tauwhareparae**	**1.26**	**99**	P	**Pn**	**17 29 00.9**	**-0.4**
ETVZ	**East Tongariro**	**1.27**	**205**	P	**Pn**	**17 29 01.9**	**+0.4**
WHHZ	**Waihua**	**1.27**	**149**	P	**Pn**	**17 29 02.1**	**+0.7**
RIGZ	**Rimuhau**	**1.29**	**124**	P	**Pn**	**17 29 02.0**	**+0.4**
WTVZ	**West Tongariro**	**1.29**	**209**	P	**Pn**	**17 29 02.1**	**+0.4**
NNVZ	**North Ngauruho**	**1.29**	**208**	P	**Pn**	**17 29 02.2**	**+0.5**
OTVZ	**Oturere**	**1.30**	**206**	P	**Pn**	**17 29 02.3**	**+0.5**
TWVZ	**Taurewa**	**1.32**	**215**	P	**Pn**	**17 29 02.3**	**+0.4**
HIZ	**Hauiti**	**1.32**	**246**		**Pn**	**17 29 01.9**	**+0.1**
HIZ				Sn	**Sn**	**17 29 25.2**	**-0.1**
HIZ	**Hauiti**	**1.32**	**246**	P	**Pn**	**17 29 01.9**	**+0.1**
HIZ	**Hauiti**	**1.32**	**246**	S	**Sn**	**17 29 26.0**	**+0.7**
HIZ	**Hauiti**	**1.32**	**246**	P	**Pn**	**17 29 02.0**	**+0.1**
MKAZ	**Moumakai**	**1.32**	**312**	P	**Pn**	**17 29 00.4**	**-1.5**
SNVZ	**South Ngauruho**	**1.33**	**206**	P	**Pn**	**17 29 02.6**	**+0.5**
PKGZ	**Pakihiroa**	**1.33**	**85**	P	**Pn**	**17 29 01.1**	**-0.9**
NGZ	**Ngauruhoe**	**1.34**	**208**	P	**Pn**	**17 29 02.5**	**+0.3**
ARHZ	**Aropaoanui**	**1.35**	**160**	P	**Pn**	**17 29 03.0**	**+0.9**
KUZ	**Kuaotunu**	**1.35**	**336**	P	**Pn**	**17 28 59.7**	**-2.5**
KUZ	**Kuaotunu**	**1.35**	**336**	P	**Pn**	**17 28 60.0**	**-2.2**
COVZ	**Chateau Observ**	**1.38**	**209**	P	**Pn**	**17 29 02.8**	**+0.3**
TUVZ	**Tukino**	**1.40**	**204**	P	**Pn**	**17 29 03.3**	**+0.6**
FWVZ	**Far West T-bar**	**1.43**	**207**	P	**Pn**	**17 29 03.3**	**+0.3**
KWHZ	**Kaweka Forest**	**1.43**	**179**	P	**Pn**	**17 29 03.5**	**+0.6**
KNZ	**Kokohu**	**1.44**	**136**	P	**Pn**	**17 29 03.2**	**+0.4**
MAVZ	**Matarangi**	**1.44**	**207**	P	**Pn**	**17 29 03.5**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.44**	**206**	P	**Pn**	**17 29 03.4**	**+0.3**
TRVZ	**Turoa**	**1.47**	**207**	P	**Pn**	**17 29 03.9**	**+0.5**
PUZ	**Puketiti**	**1.47**	**94**	P	**Pn**	**17 29 02.3**	**-0.9**
MCHZ	**McNeill Hill**	**1.47**	**171**	P	**Pn**	**17 29 04.3**	**+1.1**
WNVZ	**Wahianoa**	**1.48**	**205**	P	**Pn**	**17 29 03.9**	**+0.5**
PRGZ	**Paritu Road**	**1.49**	**129**	P	**Pn**	**17 29 03.8**	**+0.4**
MOVZ	**Moawhango**	**1.50**	**199**	P	**Pn**	**17 29 03.6**	**+0.1**
MOVZ				S	**Sn**	**17 29 28.5**	**0.0**
CNGZ	**Carnagh Statio**	**1.51**	**110**	P	**Pn**	**17 29 04.0**	**+0.5**
PKVZ	**Pokaka**	**1.54**	**212**	P	**Pn**	**17 29 04.3**	**+0.5**
PKVZ				S	**Sn**	**17 29 29.9**	**+0.9**
ETAZ	**East Tamaki Re**	**1.56**	**311**	P	**Pn**	**17 29 02.7**	**-1.4**
WIAZ	**Waiheke Island**	**1.56**	**319**	P	**Pn**	**17 29 02.5**	**-1.6**
MTVZ	**Mangateitei**	**1.57**	**207**	P	**Pn**	**17 29 04.8**	**+0.6**
MXZ	**Matakaoa Point**	**1.57**	**75**		**Pn**	**17 29 03.0**	**-1.1**
MXZ				Sn	**Sn**	**17 29 26.1**	**-3.3**
MXZ	**Matakaoa Point**	**1.57**	**75**	P	**Pn**	**17 29 03.0**	**-1.1**
MXZ	**Matakaoa Point**	**1.57**	**75**	P	**Sn**	**17 29 27.0**	**-2.3**
MXZ	**Matakaoa Point**	**1.57**	**75**	P	**Pn**	**17 29 03.1**	**-1.0**
WMGZ	**Waiomatatini S**	**1.60**	**85**	P	**Pn**	**17 29 03.5**	**-0.9**
KRHZ	**Kereru**	**1.65**	**181**	P	**Pn**	**17 29 05.4**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.66**	**135**	P	**Pn**	**17 29 05.7**	**+0.8**
AWAZ	**Awhitu Peninsu**	**1.68**	**303**	P	**Pn**	**17 29 03.8**	**-1.4**
MBAZ	**Motutapu North**	**1.71**	**315**	P	**Pn**	**17 29 04.1**	**-1.4**
MBAZ				S	**Sn**	**17 29 30.0**	**-1.8**
VRZ	**Vera Road**	**1.71**	**228**	P	**Pn**	**17 29 06.5**	**+1.0**
EPAZ	**Eden Park BICE**	**1.73**	**310**	P	**Pn**	**17 29 05.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.75**	**163**	P	**Pn**	**17 29 06.8**	**+0.9**
KAHZ	**Kahuranaki**	**1.84**	**168**	P	**Pn**	**17 29 07.8**	**+0.9**
ABAZ	**Army Bay**	**1.87**	**318**	P	**Pn**	**17 29 05.9**	**-1.3**
GRZ	**Great Barrier**	**1.89**	**336**	P	**Pn**	**17 29 05.3**	**-2.1**
PNHZ	**Pukenui**	**1.93**	**185**	P	**Pn**	**17 29 07.9**	**+0.1**
PXZ	**Pawanui**	**2.07**	**170**	P	**Pn**	**17 29 09.8**	**+0.6**
WPHZ	**Waipukurau**	**2.07**	**179**	P	**Pn**	**17 29 09.7**	**+0.3**
WAZ	**Wanganui**	**2.08**	**212**	P	**Pn**	**17 29 09.9**	**+0.5**
TSZ	**Takapari Road**	**2.09**	**189**	P	**Pn**	**17 29 09.7**	**+0.1**
DREZ	**Durham Road**	**2.10**	**235**	P	**Pn**	**17 29 11.0**	**+1.4**
LREZ	**Lake Rotokare**	**2.14**	**226**	P	**Pn**	**17 29 11.4**	**+1.3**
NEZ	**North Egmont**	**2.21**	**234**	P	**Pn**	**17 29 12.3**	**+1.4**
PREZ	**Palmer Road**	**2.21**	**232**	P	**Pn**	**17 29 12.6**	**+1.7**
PKE	**Pukeiti**	**2.24**	**237**	P	**Pn**	**17 29 12.5**	**+1.3**
KHEZ	**Kahui Hut**	**2.28**	**234**	P	**Pn**	**17 29 12.8**	**+1.2**
KHEZ	**Kahui Hut**	**2.28**	**234**	P	**Pn**	**17 29 12.9**	**+1.2**
PRHZ	**Porangahau**	**2.28**	**175**	P	**Pn**	**17 29 12.1**	**+0.4**
DVHZ	**Dannevirke**	**2.31**	**184**	P	**Pn**	**17 29 11.9**	**-0.1**
NBEZ	**Newall Road No**	**2.36**	**236**	P	**Pn**	**17 29 13.8**	**+1.3**
OHWZ	**Ohakea**	**2.37**	**201**	P	**Pn**	**17 29 13.2**	**+0.7**
NMEZ	**Namu Road**	**2.43**	**233**	P	**Pn**	**17 29 14.6**	**+1.2**
POWZ	**Post Office Ro**	**2.45**	**191**	P	**Pn**	**17 29 13.4**	**-0.2**
ANWZ	**Angora Road**	**2.47**	**179**	P	**Pn**	**17 29 14.2**	**+0.5**
**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA				IAmb	IAmb	17 37 32.4	
	comp=Z,7.5nm,1.0s						
QSPA	**South Pole Qui**	**52.13**	**180**	P	P	17 37 29.7	+6.7
	comp=Z,5.7nm,0.5s,baz=30,slow=20,SNR=76						
	comp=Z,5.7nm,0.5s						
BELA	**Belgrano 2**	**62.87**	**173**	P	**P**	**17 38 40.1**	**+2.5**
BELA				IAmb	IAmb	17 38 43.0	
	comp=Z,2.9nm,0.8s						
TROLL	**Troll, Antarti**	**70.22**	**182**	⇓P	**P**	**17 39 27.1**	**+2.7**
	comp=Z,82nm,0.7s						
SNAA	**Sanae**	**70.64**	**180**	⇓P	**P**	**17 39 28.9**	**+2.0**
	comp=Z,12nm,0.4s						
SNAA	**Sanae**	**70.64**	**180**	P	**P**	**17 39 28.6**	**+1.7**
VNA3	**Neumayer Olymp**	**70.98**	**178**	⇓P	**P**	**17 39 30.5**	**+1.6**
	comp=Z,1.3nm,0.7s						
VNA2	**Neumayer--Watz**	**71.36**	**179**	⇓P	**P**	**17 39 33.2**	**+2.0**
	comp=Z,1.8nm,0.6s,baz=171,slow=5.2						
VNA1	**Neumayer--Stat**	**71.61**	**178**	⇓P	**P**	**17 39 36.2**	**+3.5**
	comp=Z,2.3nm,1.0s						
HHC	**Hu-ho-hao-te**	**98.31**	**316**	*e*P	Pdif	17 41 50.4	+2.0
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,27nm,4.4s						
FINES	**FINESS Array B**	**150.16**	**331**	PKPbc	**PKiKP**	**17 48 00.7**	**0.0**
	comp=Z,3.8nm,1.0s,baz=63,slow=0.6,SNR=2.4						

*NEIC **19** 17:32:16.7±1.5, 18°.28S±0°.09×172°.1W±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=19.5km s-min=10.4km az=50.0*

*IDC **19** 17:32:19.4±0.8, 18°.15S×172°.65W, h0km, mb3.9/10, mbtmp4.0/10, MS2.9/3, Error ellipse: s-maj=37.7km s-min=19.0km az=142.0*

ISC 19 17:32:16.7±0.7, 18°.25S±0°.07×172°.18W±0°.08, h10km, n33, σ2§29/27, mb4.2/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.29**	**111**		**Pn**	**17 32 54.7**	**+0.2**
NIUE				Sn	**Sn**	**17 33 19.1**	**-3.7**
AFI	**Afiamalu**	**4.33**	**5**		**Pn**	**17 33 22.0**	**-0.6**
AFI				Sn	**Sn**	**17 34 10.7**	**-2.6**
RAR	**Rarotonga**	**12.05**	**106**	LR	LR	17 39 15.6	
	comp=Z,36nm,20.2s,baz=290,slow=33						
PINNC	**Pines Island,**	**19.58**	**254**	P	**P**	**17 36 39.5**	**-5.4**
DZM	**Mont Dzumac**	**20.42**	**256**	P	**P**	**17 36 55.1**	**+0.8**
	5.4nm,0.8s,baz=76,slow=18,SNR=5.3						
	5.4nm,0.8s						
PPT	**Papeete**	**21.52**	**92**	LR	LR	17 43 22.9	
	comp=Z,32nm,18.1s,baz=246,slow=30						
URZ	**Urewera**	**22.02**	**203**	P	**P**	**17 37 15.4**	**+4.1**
	4.7nm,0.4s,baz=14,slow=8.3,SNR=5.9						
URZ				S	**S**	**17 41 13.6**	**-0.7**
	12nm,1.0s,baz=69,slow=18,SNR=2.5						
	4.7nm,0.4s						
TOZ	**Tahuroa Road**	**22.21**	**207**	P	**P**	**17 37 11.4**	**-1.9**
TOZ				IAmb	IAmb	17 37 33.8	
	comp=Z,25nm,1.2s						
BKZ	**Black Stump Fm**	**23.05**	**203**		**P**	**17 37 21.3**	**-1.0**
BKZ				IAmb	IAmb	17 37 42.8	
	comp=Z,14nm,1.2s						
TCW	**Tory Channel**	**25.66**	**204**	P	**P**	**17 37 46.0**	**-0.7**
GVZ	**Greta Valley S**	**27.65**	**204**	P	**P**	**17 38 04.2**	**-0.3**
HNR	**Honiara**	**28.41**	**284**	LR	LR	17 48 03.6	
	comp=Z,30nm,20.5s,baz=186,slow=34						
WR8	**Warramunga Arr**	**50.24**	**259**	P	**P**	**17 41 12.3**	**-1.1**
WR8				IAmb	IAmb	17 41 23.5	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**50.36**	**259**	P	**P**	**17 41 13.7**	**-0.7**
WB0				IAmb	IAmb	17 41 23.7	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**50.39**	**259**	P	**P**	**17 41 14.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=97,slow=7.8,SNR=13						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**50.40**	**254**	P	**P**	**17 41 14.4**	**-0.2**
ASAR	**Alice Springs**	**50.40**	**254**	P	**P**	**17 41 13.9**	**-0.7**
ASAR	**Alice Springs**	**50.40**	**254**	P	**P**	**17 41 15.3**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=97,slow=7.7,SNR=25						
	comp=Z,2.4nm,0.7s						
MTN	**Manton Dam**	**54.70**	**267**	P	**P**	**17 41 46.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**58.80**	**260**	P	**P**	**17 42 14.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**58.80**	**260**	P	**P**	**17 42 17.4**	**+1.7**
	comp=Z,2.6nm,1.1s,baz=108,slow=3.2,SNR=2.6						
	comp=Z,2.6nm,1.1s						
SBA	**Scott Base**	**60.53**	**185**	P	**P**	**17 42 25.3**	**-1.3**
SBA				IAmb	IAmb	17 42 56.3	
	comp=Z,3.0nm,1.4s						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**17 43 39.7**	**+0.3**
QSPA				IAmb	IAmb	17 43 53.9	
	comp=Z,3.5nm,1.4s						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**17 43 44.1**	**+4.6**
	comp=Z,1.6nm,1.0s,baz=338,slow=14,SNR=3.2						
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**75.68**	**41**	P	P	17 44 08.3	+5.8
	comp=Z,0.7nm,0.7s,baz=243,slow=9.8,SNR=3.6						
	comp=Z,0.7nm,0.7s						
TXAR	**Lajitas Array**	**81.24**	**55**	P	P	17 44 39.3	+5.9
	comp=Z,0.4nm,0.7s,baz=230,slow=9.7,SNR=3.5						
	comp=Z,0.4nm,0.7s						
H03S2	**Juan Fernandez**	**82.67**	**123**	T	T	19 15 29.6	
	baz=251,slow=75,SNR=13						
H03S1	**Juan Fernandez**	**82.68**	**123**	T	T	19 15 31.8	
	baz=251,slow=75,SNR=14						
H03S3	**Juan Fernandez**	**82.69**	**123**	T	T	19 15 30.7	
	baz=251,slow=75,SNR=16						
PDAR	**Pinedale Array**	**83.61**	**41**	P	P	17 44 50.7	+5.0
	comp=Z,0.5nm,0.6s,baz=222,slow=2.0,SNR=6.2						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**85.01**	**11**	P	**P**	**17 44 56.6**	**+4.7**
	comp=Z,0.2nm,0.5s,baz=213,slow=8.0,SNR=1.8						
	comp=Z,0.2nm,0.5s						
BRTR	**Keskin Array B**	**149.08**	**319**	PKPbc	**PKPab**	**17 52 08.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=57,slow=0.8,SNR=8.6						
GERES	**GERESS Array B**	**149.11**	**352**	PKPbc	**PKPab**	**17 52 09.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=12,slow=7.0,SNR=3.9						

*JMA **19** 18:06:13.6±0.2, 25°.N±2°.×122°.6E±0°.5, h122km±2km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*

*TAP **19** 18:06:14.1, 24°.86N×122°.56E, h119km, ML3.0, D*

ISC 19 18:06:14.6±1.6, 24°.83N±0°.05×122°.60E±0°.03, h113km±8km, n97, σ0§80/165, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.49**	**140**	*e*P	**Pn**	**18 06 31.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.53**	**134**	P	Pn	18 06 22.2	-10
YOJ	**Yonaguni jima**	**0.53**	**134**	*e*P	**Pn**	**18 06 31.9**	**-0.1**
YOJ				*e*S	**Sn**	**18 06 46.1**	**+1.1**
EOS2	**EOS2**	**0.53**	**219**	*e*P	**Pn**	**18 06 32.5**	**+0.6**
EOS2				S	**Sn**	**18 06 46.5**	**+1.6**
TWB1	**Santiao Chiao**	**0.58**	**288**	*e*P	**Pn**	**18 06 32.0**	**-0.4**
TWB1				*e*S	**Sn**	**18 06 46.2**	**+0.4**
EOS3	**EOS3**	**0.60**	**205**	*e*P	**Pn**	**18 06 33.1**	**+0.7**
EOS3				S	**Sn**	**18 06 47.3**	**+1.6**
SXI1	**Grass Mountain**	**0.71**	**292**	*e*P	**Pn**	**18 06 33.0**	**-0.4**
TIPB	**Shuangxi**	**0.71**	**281**	*i*P	**Pn**	**18 06 33.6**	**+0.1**
TIPB				*i*S	**Sn**	**18 06 47.6**	**-0.1**
TWC	**Suao**	**0.72**	**252**	*e*P	**Pn**	**18 06 33.1**	**-0.3**
TWC				*e*S	**Sn**	**18 06 47.3**	**-0.3**
ESAO	**Su ao**	**0.73**	**250**	*e*S	**Sn**	**18 06 47.2**	**-0.6**
EOS4	**EOS4**	**0.75**	**200**	*e*P	**Pn**	**18 06 33.7**	**+0.4**
EOS4				*e*S	**Sn**	**18 06 47.5**	**+0.1**
NDS	**Dongshan**	**0.83**	**256**	*e*P	**Pn**	**18 06 34.5**	**+0.1**
EWUT	**Wuta**	**0.84**	**243**	P	**Pn**	**18 06 34.8**	**+0.2**
EWUT				S	**Sn**	**18 06 49.4**	**-0.2**
TWE	**Neicheng**	**0.85**	**263**	P	**Pn**	**18 06 34.5**	**-0.1**
TWE				*e*S	**Sn**	**18 06 49.0**	**-0.7**
ENA	**Nanau**	**0.88**	**243**	P	**Pn**	**18 06 35.1**	**+0.2**
ENA				*e*S	**Sn**	**18 06 50.0**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.92**	**266**	P	**Pn**	**18 06 35.3**	**-0.1**
FUSB				*e*S	**Sn**	**18 06 49.9**	**-1.1**
EAHA	**Aohua**	**0.93**	**238**	*e*P	**Pn**	**18 06 35.4**	**0.0**
EAHA				S	**Sn**	**18 06 50.7**	**-0.3**
TWA	**Mucha**	**0.93**	**279**	*e*P	**Pn**	**18 06 35.3**	**-0.1**
ENTT	**Nioudou**	**0.96**	**259**	P	**Pn**	**18 06 36.0**	**+0.4**
ENTT				S	**Sn**	**18 06 52.9**	**+1.3**
YM01	**YM01**	**0.98**	**289**	*i*P	**Pn**	**18 06 35.9**	**0.0**
YM01				S	**Sn**	**18 06 52.2**	**+0.1**
NWLT	**Wulai**	**1.00**	**267**	P	**Pn**	**18 06 35.6**	**-0.4**
NWLT				*e*S	**Sn**	**18 06 52.4**	**+0.1**
ZUZH	**Zhuzihu**	**1.01**	**289**	*e*P	**Pn**	**18 06 36.3**	**+0.1**
ZUZH				*e*S	**Sn**	**18 06 51.9**	**-0.7**
TATO	**Taipei**	**1.02**	**278**	P	**Pn**	**18 06 35.8**	**-0.4**
LATG	**Datong**	**1.02**	**253**	P	**Pn**	**18 06 36.6**	**+0.2**
LATG				S	**Sn**	**18 06 53.2**	**+0.4**
NTST	**Danshui**	**1.09**	**288**	P	**Pn**	**18 06 37.2**	**+0.1**
TWS1	**Kuangyinshan**	**1.10**	**284**	*e*P	**Pn**	**18 06 37.3**	**+0.2**
TWS1				*e*S	**Sn**	**18 06 52.7**	**-1.5**
ETL	**Fush Village**	**1.11**	**233**	*e*P	**Pn**	**18 06 36.9**	**-0.4**
ETL				*e*S	**Sn**	**18 06 54.3**	**-0.1**
YHNB	**Yeheng**	**1.12**	**262**	P	**Pn**	**18 06 37.3**	**-0.1**
YHNB	**Yeheng**	**1.12**	**262**	S	**Sn**	**18 06 54.9**	**+0.2**
YHNB	**Yeheng**	**1.12**	**262**	*i*P	**Pn**	**18 06 37.4**	**-0.1**
YHNB				S	**Sn**	**18 06 54.7**	**0.0**
NACB	**Ninganchiao**	**1.12**	**235**	P	**Pn**	**18 06 36.9**	**-0.5**
NACB	**Ninganchiao**	**1.12**	**235**	S	**Sn**	**18 06 54.3**	**-0.3**
NACB	**Ninganchiao**	**1.12**	**235**	P	**Pn**	**18 06 37.0**	**-0.5**
NACB				S	**Sn**	**18 06 53.7**	**-1.0**
NSK	**Sanguang**	**1.14**	**262**	*i*P	**Pn**	**18 06 37.5**	**-0.1**
NSK				*e*S	**Sn**	**18 06 54.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.14**	**115**	P	**Pn**	**18 06 37.5**	**-0.1**
IRIF				*e*S	**Sn**	**18 06 54.8**	**-0.1**
NNSB	**Datong**	**1.18**	**250**	*i*P	**Pn**	**18 06 38.1**	**+0.1**
NNSB				*e*S	**Sn**	**18 06 55.1**	**-0.8**
TWD	**Chiawan**	**1.18**	**231**	*e*P	**Pn**	**18 06 37.7**	**-0.3**
TWD				*i*S	**Sn**	**18 06 55.2**	**-0.5**
NNS	**Nan Shan**	**1.18**	**251**	*e*P	**Pn**	**18 06 38.2**	**0.0**
NNS				S	**Sn**	**18 06 55.6**	**-0.3**
ETLH	**Xiulin Townshi**	**1.19**	**239**	P	**Pn**	**18 06 37.7**	**-0.5**
ETLH				*e*S	**Sn**	**18 06 55.0**	**-1.1**
HWA	**Hwalien**	**1.24**	**227**	*e*P	**Pn**	**18 06 39.4**	**+0.7**
HWA				*e*S	**Sn**	**18 06 56.9**	**0.0**
KSHI	**Guanxi Townshi**	**1.29**	**268**	*e*P	**Pn**	**18 06 39.5**	**+0.2**
KSHI				*i*S	**Sn**	**18 06 58.3**	**+0.4**
TEYL	**Yanliau Villag**	**1.32**	**224**	*e*P	**Pn**	**18 06 39.4**	**-0.2**
ETM	**Tongmen**	**1.33**	**230**	*e*P	**Pn**	**18 06 39.0**	**-0.6**
ETM				*e*S	**Sn**	**18 06 57.2**	**-1.4**
NFF	**Wufeng Townshi**	**1.36**	**262**	*i*P	**Pn**	**18 06 39.8**	**-0.2**
NFF				*i*S	**Sn**	**18 06 58.6**	**-0.7**
FUSS	**Fushou**	**1.36**	**245**	*e*P	**Pn**	**18 06 40.7**	**+0.3**
FUSS				*e*S	**Sn**	**18 06 59.2**	**-0.5**
WHF	**Hehuan Shan**	**1.39**	**241**	*i*P	**Pn**	**18 06 40.3**	**-0.6**
WHF				S	**Sn**	**18 07 00.1**	**-0.6**
SHUL	**Shoufeng**	**1.41**	**222**	*e*P	**Pn**	**18 06 41.2**	**+0.7**
SHUL				*i*S	**Sn**	**18 06 59.5**	**-0.7**
JKRS	**Kuro-shima**	**1.42**	**114**	*e*P	**Pn**	**18 06 41.0**	**+0.3**
JKRS				*e*S	**Sn**	**18 07 01.1**	**+0.8**
TWT	**Tachien**	**1.42**	**246**	*e*P	**Pn**	**18 06 41.5**	**+0.7**
TWT				*i*S	**Sn**	**18 07 00.9**	**+0.2**
TDCB	**Techi**	**1.43**	**247**	*e*P	**Pn**	**18 06 41.5**	**+0.6**
TDCB				*e*S	**Sn**	**18 07 00.3**	**-0.7**
LIOB	**Emei**	**1.45**	**263**	*i*P	**Pn**	**18 06 40.9**	**-0.2**
LIOB				*i*S	**Sn**	**18 07 00.7**	**-0.5**
NSTT	**Nanjuang**	**1.47**	**262**	*i*P	**Pn**	**18 06 41.0**	**-0.2**
NSTT				*e*S	**Sn**	**18 07 00.4**	**-1.1**
ESL	**Shilin**	**1.47**	**227**	P	**Pn**	**18 06 40.4**	**-0.9**
ESL				S	**Sn**	**18 06 59.8**	**-1.7**
JIJ	**Ishigaki jima**	**1.48**	**108**	*e*P	**Pn**	**18 06 41.3**	**-0.1**
JIJ				*e*S	**Sn**	**18 07 01.3**	**-0.4**
OWD	**Renai**	**1.56**	**236**	*e*P	**Pn**	**18 06 42.6**	**0.0**
OWD				*e*S	**Sn**	**18 07 02.8**	**-1.0**
WARBT	**Fenglin Townsh**	**1.57**	**225**	*i*P	**Pn**	**18 06 41.4**	**-1.1**
WARBT				S	**Sn**	**18 07 01.6**	**-2.1**
EGFH	**Guangfu**	**1.58**	**223**	*e*P	**Pn**	**18 06 41.9**	**-0.6**
EGFH				S	**Sn**	**18 07 02.2**	**-1.6**
JISG	**Ishigakijimahi**	**1.58**	**99**	*e*P	**Pn**	**18 06 42.5**	**0.0**
JISG				*e*S	**Sn**	**18 07 02.8**	**-0.9**
WUSB	**Renai**	**1.59**	**239**	*i*P	**Pn**	**18 06 43.1**	**+0.3**
WUSB				*i*S	**Sn**	**18 07 03.7**	**-0.5**
WHP	**Taichung City**	**1.60**	**250**	*i*P	**Pn**	**18 06 43.5**	**+0.6**
WHP				*i*S	**Sn**	**18 07 05.0**	**+0.5**
NMLH	**Miaoli**	**1.67**	**260**	*e*P	**Pn**	**18 06 43.3**	**-0.3**
VWDT	**VWDT**	**1.71**	**231**	P	**Pn**	**18 06 44.3**	**+0.2**
VWDT				*e*S	**Sn**	**18 07 06.3**	**-0.3**
HGSD	**Ruisui**	**1.71**	**219**	*e*P	**Pn**	**18 06 44.0**	**-0.2**
HGSD				*i*S	**Sn**	**18 07 06.0**	**-0.7**
WCS	**Beigang Elemen**	**1.72**	**244**	P	**Pn**	**18 06 44.7**	**+0.4**
WCS				S	**Sn**	**18 07 07.6**	**+0.7**
TWQ1	**Liyutan**	**1.73**	**254**	P	**Pn**	**18 06 44.3**	**-0.1**
TWQ1				*e*S	**Sn**	**18 07 06.9**	**-0.3**
EHYH	**Wanrong**	**1.76**	**221**	*e*P	**Pn**	**18 06 44.5**	**-0.2**
EHY	**Hungye**	**1.76**	**222**	*e*P	**Pn**	**18 06 44.2**	**-0.6**
EHY				*e*S	**Sn**	**18 07 06.4**	**-1.5**
SMLT	**Sun Moon Lake**	**1.81**	**239**	*i*P	**Pn**	**18 06 46.7**	**+1.1**
SMLT				*e*S	**Sn**	**18 07 10.8**	**+1.6**
SSLB	**Suanglung**	**1.83**	**236**	P	**Pn**	**18 06 45.8**	**+0.2**
SSLB	**Suanglung**	**1.83**	**236**	S	**Sn**	**18 07 10.8**	**+1.5**
SSLB	**Suanglung**	**1.83**	**236**	*i*P	**Pn**	**18 06 46.4**	**+0.7**
SSLB				S	**Sn**	**18 07 10.4**	**+1.2**
TYC	**Yuchr**	**1.84**	**240**	*e*P	**Pn**	**18 06 46.7**	**+1.0**
TYC				*e*S	**Sn**	**18 07 11.3**	**+1.9**
YULB	**Yu-li**	**1.86**	**220**	P	**Pn**	**18 06 45.2**	**-0.9**
YULB	**Yu-li**	**1.86**	**220**	S	**Sn**	**18 07 08.1**	**-2.0**
YULB	**Yu-li**	**1.86**	**220**	*e*P	**Pn**	**18 06 45.3**	**-0.7**
TWF1	**Yuli**	**1.89**	**219**	*e*P	**Pn**	**18 06 45.5**	**-0.9**
TWF1				*e*S	**Sn**	**18 07 08.9**	**-1.8**
JTJ	**Tarama**	**1.92**	**95**	*e*P	**Pn**	**18 06 47.1**	**+0.4**
JTJ				*e*S	**Sn**	**18 07 10.9**	**-0.4**
WHYT	**Xinyi Township**	**1.95**	**235**	*e*P	**Pn**	**18 06 47.7**	**+0.5**
WHYT				*e*S	**Sn**	**18 07 13.7**	**+1.6**
WNT	**Mingjian**	**1.99**	**242**	*e*P	**Pn**	**18 06 48.1**	**+0.5**
WNT				*e*S	**Sn**	**18 07 13.1**	**+0.2**
FULB	**Fuli**	**2.02**	**217**	*e*P	**Pn**	**18 06 47.9**	**-0.2**
FULB				*e*S	**Sn**	**18 07 13.3**	**-0.2**
ALS	**Alishan**	**2.10**	**232**	*e*P	**Pn**	**18 06 50.4**	**+1.1**
ALS				*e*S	**Sn**	**18 07 18.0**	**+2.5**
ECS	**Chishang**	**2.14**	**216**	*e*P	**Pn**	**18 06 49.7**	**+0.1**
CHN5	**Tsauling**	**2.14**	**235**	P	**Pn**	**18 06 49.6**	**0.0**
CHN5				*e*S	**Sn**	**18 07 17.4**	**+1.0**
ELDTW	**Lidau**	**2.18**	**222**	P	**Pn**	**18 06 49.4**	**-0.9**
ELDTW				*e*S	**Sn**	**18 07 15.6**	**-1.9**
EDH	**Donghe**	**2.20**	**213**	*e*P	**Pn**	**18 06 49.7**	**-0.6**
EDH				*e*S	**Sn**	**18 07 15.8**	**-1.8**
WCKO	**Fanlu**	**2.29**	**233**	P	**Pn**	**18 06 52.4**	**+0.9**
WCKO				*e*S	**Sn**	**18 07 21.6**	**+1.9**
WTK	**Tuku**	**2.32**	**241**	*e*P	**Pn**	**18 06 51.4**	**-0.4**
STYH	**Taoyuan**	**2.35**	**226**	P	**Pn**	**18 06 53.1**	**+0.9**
STYH				*e*S	**Sn**	**18 07 22.4**	**+1.3**
TPUB	**Ta-pu**	**2.36**	**230**	P	**Pn**	**18 06 52.7**	**+0.3**
TPUB	**Ta-pu**	**2.36**	**230**	P	**Pn**	**18 06 52.6**	**+0.3**
TPUB				*e*S	**Sn**	**18 07 22.9**	**+1.6**
CHY	**Chiayi**	**2.39**	**237**	*e*P	**Pn**	**18 06 52.5**	**-0.2**
TWK	**Hsinying**	**2.48**	**231**	*e*P	**Pn**	**18 06 53.8**	**-0.2**
CHN1	**Nanshi**	**2.50**	**230**	*e*P	**Pn**	**18 06 54.5**	**+0.2**
WSL	**Shuilin Townsh**	**2.53**	**239**	P	**Pn**	**18 06 54.0**	**-0.6**
WSL				*e*S	**Sn**	**18 07 27.1**	**+1.9**
SCST	**Cishan**	**2.73**	**225**	*e*P	**Pn**	**18 06 57.2**	**-0.1**
SSD	**Sandimen**	**2.75**	**221**	P	**Pn**	**18 06 57.9**	**+0.4**
MASBT	**Mashibuluo**	**2.85**	**220**	P	**Pn**	**18 06 59.1**	**+0.4**
MASBT				*e*S	**Sn**	**18 07 33.1**	**+0.3**

*IDC **19** 18:07:56.0±0.9, 2°.81S×138°.32E, h0km, mb3.6/7, mbtmp3.7/10, ML3.8/3, MS3.0/2, Error ellipse: s-maj=22.6km s-min=12.2km az=96.0*

ISC 19 18:08:03.5±0.7, 2°.84S±0°.08×138°.43E±0°.09, h62km, n12, σ2§04/15, mb3.6/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.30**	**82**	Pn	**Pn**	**18 08 37.8**	**-1.4**
	6.2nm,0.3s,baz=236,slow=11,SNR=33						
JAY				Sn	**Sn**	**18 09 06.9**	**+0.5**
	8.0nm,0.3s,baz=240,slow=20,SNR=4.1						
	28nm,0.5s						
BATI	**Baumata**	**16.38**	**243**	Pn	**P**	**18 11 52.3**	**+0.7**
	3.4nm,0.3s,baz=44,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**17.46**	**193**	P	**Pn**	**18 12 02.4**	**-0.6**
	0.7nm,0.3s,baz=13,slow=12,SNR=23						
WRA				S	**Sn**	**18 15 14.2**	**-2.5**
	0.6nm,0.7s,baz=6.3,slow=23,SNR=2.7						
WRA				LR	LR	18 19 12.5	
	comp=Z,109nm,20.6s,baz=92,slow=39						
	1.2nm,0.4s						
GUMO	**Guam**	**17.53**	**21**	LR	LR	18 18 30.2	
	comp=Z,21nm,18.3s,baz=187,slow=36						
FITZ	**Fitzroy Crossi**	**19.67**	**219**	P	**P**	**18 12 27.7**	**0.0**
	0.2nm,0.3s,baz=31,slow=12,SNR=5.6						
FITZ				S	**S**	**18 16 02.8**	**-3.7**
	1.8nm,0.8s,baz=123,slow=9.0,SNR=2.3						
	2.4nm,1.0s						
ASAR	**Alice Springs**	**21.16**	**192**	P	**P**	**18 12 44.2**	**+0.5**
	1.1nm,0.4s,baz=8.9,slow=12,SNR=38						
ASAR				S	**S**	**18 16 40.6**	**+4.8**
	2.0nm,1.0s,baz=14,slow=21,SNR=7.3						
	1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.26**	**300**	P	**P**	**18 16 07.2**	**-0.1**
	0.5nm,0.8s,baz=112,slow=8.0,SNR=4.9						
	0.5nm,0.8s						
SONM	**Songino Array**	**57.72**	**335**	P	**P**	**18 17 48.9**	**+0.8**
	0.3nm,0.6s,baz=140,slow=7.0,SNR=3.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**18 19 07.1**	**+0.1**
	1.5nm,0.8s,baz=126,slow=7.3,SNR=6.4						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.91**	**330**	P	**P**	**18 19 19.3**	**-0.7**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=1.6						
	0.4nm,0.4s						
VNDA	**Vanda**	**75.67**	**175**	P	**P**	**18 19 43.3**	**+1.6**
	0.2nm,0.5s,baz=344,slow=6.8,SNR=5.4						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**86.07**	**24**	P	**P**	**18 20 36.8**	**-0.5**
	0.3nm,0.6s,baz=275,slow=4.0,SNR=2.0						
	0.3nm,0.6s						

JMA 19 18:19:28.4±0.0, 34°.6N±0°.1×132°.4E±0°.1, h23km, MV0.4/25, WESTERN HIROSHIMA PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHT	**Toyohira**	**0.08**	**25**	P	Pb	18 19 32.7	-0.1
JHT				*e*S	Sb	18 19 35.5	-0.3
JHIK	**Hikimi**	**0.37**	**262**	*e*P	Pb	18 19 36.3	-0.2
JHIK				*e*S	Sb	18 19 41.8	-0.2
JGT2	**ShimaneMisato**	**0.49**	**13**	P	Pb	18 19 38.0	-0.4
JGT2				S	Sb	18 19 44.8	-0.4
JJG	**Jouge**	**0.64**	**85**	*e*S	Sb	18 19 49.9	+0.2
JHS	**Saijyo**	**0.73**	**56**	*e*P	Pb	18 19 42.1	-0.5

*NIED **19** 18:19:38.9, 31°.18N×142°.60E, h47km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=2.85; Mθθ=4.80; Mφφ7.66; Mrθ=2.19; Mθφ2.10; Mφr7.13; Fault plane solution: Mo9.98000×10^14^ NP1:φs52.00000°, δ36.00000°, λ-18.00000°. NP2:φs157.00000°, δ80.00000°, λ-125.00000°.*

*JMA **19** 18:19:38.9±0.3, 31°.2N±0°.9×14°.3E±°, h47km, MV4.5/37, FAR E OFF IZU ISLANDS*

*IDC **19** 18:19:38.3±0.6, 31°.16N×142°.43E, h0km, mb4.0/18, mbtmp4.0/23, ML3.8/5, MS2.8/1, Error ellipse: s-maj=18.5km s-min=13.5km az=74.0*

*NEIC **19** 18:19:41.8±1.2, 31°.15N±0°.06×142°.31E±0°.09, h22km±3km, mb4.5/42, Error ellipse: s-maj=13.3km s-min=6.4km az=57.0*

ISC 19 18:19:43.1±0.5, 31°.12N±0°.04×142°.34E±0°.08, h37km, n113, σ1§54/117, mb4.4/34, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.57**	**302**	P	**Pn**	**18 20 21.6**	**-0.6**
JHJ2	**Mitsune**	**2.92**	**313**	Pn	**Pn**	**18 20 26.0**	**-0.9**
JHJ2	**Mitsune**	**2.92**	**313**	P	**Pn**	**18 20 26.3**	**-0.6**
JHJ2	**Mitsune**	**2.92**	**313**	*e*P	**Pn**	**18 20 26.1**	**-0.8**
JHJ2				*e*S	**Sn**	**18 21 00.8**	**+0.1**
JHJ	**Hachijo jima 2**	**2.94**	**313**	Pn	**Pn**	**18 20 26.1**	**-1.2**
	29nm,0.3s,baz=87,slow=23,SN

comp=Z,0.6nm,0.4s
MAKZ Makanchi 48.31 307 P **P** **18 28 21.9 +1.1**
MAKZ IAmb IAmb 18 29 01.4
comp=Z,4.3nm,1.1s
KNRA Kununurra 48.33 198 P **P** **18 28 22.2 +1.1**
J17K VABM Dome 48.66 31 P **P** **18 28 24.5 +1.3**
KURK Kurchatov 50.33 312 **P** **18 28 36.8 +0.8**
KURK IAmb IAmb 18 28 50.6
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 50.39 312 P **P** **18 28 38.1 +1.6**
comp=Z,1.5nm,0.5s,baz=89,slow=7.1,SNR=14
comp=Z,1.5nm,0.5s
KDAK Kodiak Island 51.10 39 P **P** **18 28 41.7 -0.1**
KDAK IAmb IAmb 18 29 17.6
comp=Z,9.6nm,1.0s
WB0 Warramunga Arr 51.17 190 **P** **18 28 42.7 0.0**
WR8 Warramunga Arr 51.34 189 **P** **18 28 44.3 +0.4**
WR8 IAmb IAmb 18 28 46.1
comp=Z,5.8nm,0.8s
WRA Warramunga Arr 51.35 190 **P** **18 28 42.7 -1.4**
WRA Warramunga Arr 51.35 190 P **P** **18 28 44.7 +0.7**
comp=Z,4.7nm,0.8s,baz=7.0,slow=7.7,SNR=32
comp=Z,4.7nm,0.8s
FITZ Fitzroy Crossi 51.50 200 P **P** **18 28 46.4 +1.3**
FITZ Fitzroy Crossi 51.50 200 P **P** **18 28 46.5 +1.3**
comp=Z,1.9nm,0.6s,baz=24,slow=8.2,SNR=5.6
comp=Z,1.9nm,0.6s
PPLA Purkeypile 51.66 32 P **P** **18 28 47.1 +1.0**
PPLA IAmb IAmb 18 29 16.0
comp=Z,16nm,1.4s
SKT Skwentna 51.88 33 P **P** **18 28 47.5 -0.1**
SKT IAmb IAmb 18 29 24.9
comp=Z,6.4nm,1.2s
TARG Taragay, Kyrgy 51.90 301 P **P** **18 28 48.4 -0.1**
SANVU Saraoutou 52.11 149 P **P** **18 28 49.5 -0.2**
D22K Ayikyak River 52.35 25 P **P** **18 28 50.6 -0.3**
RND Reindeer 53.21 32 P **P** **18 28 57.2 -0.3**
RND IAmb IAmb 18 29 11.6
comp=Z,6.6nm,1.4s
ILAR Eielson Array 54.14 30 P **P** **18 29 04.0 -0.2**
comp=Z,1.4nm,0.8s,baz=259,slow=6.6,SNR=15
comp=Z,1.4nm,0.8s
AS31 Alice Springs 55.07 189 **P** **18 29 11.8 +0.4**
ASAR Alice Springs 55.08 189 P **P** **18 29 11.6 +0.2**
ASAR Alice Springs 55.08 189 P **P** **18 29 12.0 +0.6**
comp=Z,1.3nm,0.6s,baz=5.3,slow=6.7,SNR=29
comp=Z,1.3nm,0.6s
SCRK Sand Creek 55.39 31 P **P** **18 29 13.7 +0.3**
SCRK IAmb IAmb 18 29 37.2
comp=Z,6.2nm,1.4s
H27K Steamboat Moun 56.39 28 P **P** **18 29 21.5 +1.1**
BCAR Beaver Creek A 56.41 32 P **P** **18 29 21.1 +0.5**
KK31 Karatay Array 56.90 304 **P** **18 29 24.6 +0.2**
KK31 IAmb IAmb 18 29 29.1
comp=Z,3.9nm,0.8s
KKAR Karatay Array 56.90 304 **P** **18 29 24.4 0.0**
M29M Somme Creek 57.99 33 P **P** **18 29 32.3 +0.4**
L29M L29M 58.07 32 P **P** **18 29 33.0 +0.7**
L29M IAmb IAmb 18 29 35.0
comp=Z,8.0nm,0.9s
GAR Garm 58.09 299 **P** **18 29 32.9 0.0**
GAR IAmb IAmb 18 29 42.8
comp=Z,8.6nm,1.2s
K29M Barlow Dome 58.25 31 P **P** **18 29 34.2 +0.5**
K29M IAmb IAmb 18 29 36.5
comp=Z,4.4nm,0.8s
J30M Hart River 58.68 30 P **P** **18 29 37.2 +0.5**
J30M IAmb IAmb 18 30 03.1
comp=Z,4.3nm,1.1s
CHGR Chuyangaron 59.05 299 **P** **18 29 40.2 +0.6**
G31M Satah River 59.23 27 P **P** **18 29 40.8 +0.6**
AB31 Abkulak array 62.42 313 **P** **18 30 02.5 +0.2**
ABKAR Abkulak array 62.42 313 P **P** **18 30 02.4 +0.1**
STKA Stephens Creek 62.66 181 P **P** **18 30 04.4 +0.5**
FORT Forrest 63.04 194 P **P** **18 30 06.9 +0.5**
FINES FINESS Array B 74.41 333 P **P** **18 31 16.9 0.0**
comp=Z,2.0nm,0.8s,baz=104,slow=3.9,SNR=4.0
comp=Z,2.0nm,0.8s
KBZ Khabaz 75.39 312 P **P** **18 31 24.3 +1.4**
comp=Z,1.3nm,0.8s,baz=44,slow=4.7,SNR=4.3
comp=Z,1.3nm,0.8s
NVAR Mina Array Bea 77.94 52 P **P** **18 31 38.0 +0.2**
comp=Z,1.1nm,0.6s,baz=294,slow=6.3,SNR=7.3
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 79.46 323 P **P** **18 31 46.1 +0.6**
comp=Z,0.3nm,0.4s,baz=48,slow=5.9,SNR=4.2
comp=Z,0.3nm,0.4s
NB2 NORSAR Subarra 79.93 338 P **P** **18 31 48.7 +0.7**
comp=Z,1.7nm,0.7s,baz=40,slow=5.3
NOA NORSAR Array B 79.93 338 P **P** **18 31 48.5 +0.4**
comp=Z,0.9nm,0.8s,baz=40,slow=5.2,SNR=3.4
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 81.27 45 P **P** **18 31 56.0 +0.2**
comp=Z,0.5nm,0.6s,baz=254,slow=2.4,SNR=6.5
comp=Z,0.5nm,0.6s
SRU San Rafael Swe 82.73 49 P **P** **18 32 03.4 -0.1**
SRU IAmb IAmb 18 32 04.9
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 83.38 313 P **P** **18 32 07.9 +1.2**
comp=Z,0.9nm,0.8s,baz=90,slow=3.7,SNR=6.1
comp=Z,0.9nm,0.8s
TXAR Lajitas Array 93.08 53 P **P** **18 32 54.2 +0.7**
comp=Z,1.8nm,0.9s,baz=293,slow=3.3,SNR=12
comp=Z,1.8nm,0.9s
MAW Mawson 114.52 204 PKP **PKiKP** **18 38 21.1 +2.9**
comp=Z,1.0nm,0.5s,baz=24,slow=3.1,SNR=1.3
QSPA South Pole Qui 120.88 180 PKP **PKiKP** **18 38 33.4 +2.7**
comp=Z,0.5nm,0.6s,baz=345,slow=0.7,SNR=8.1
LPAZ La Paz 148.56 69 PKPbc **PKiKP** **18 39 28.9 -0.1**
comp=Z,1.3nm,0.8s,baz=273,slow=3.7,SNR=4.5

*UPA **19** 18:29:06.0±2.0, 7°.35N×80°.41W, h5km±3km, MW4.2, Fault plane solution: NP1:φs124.00000°, δ60.00000°, λ-22.00000°.*
*CATAC **19** 18:29:06.3±0.3, 7°N±2°×8°0W±°, h1km, M4.7/13, MLv4.7/13, Error ellipse: s-maj=5.3km s-min=3.6km az=163.8, confirmed*
*UCR **19** 18:29:06.8±1.2, 7°.27N×80°.36W, h17km, MW4.7*
*NEIC **19** 18:29:06.8±1.6, 7°.32N±0°.07×80°.36W±0°.06, h17km±2km, mb4.2/2, Error ellipse: s-maj=9.5km s-min=8.0km az=178.0*
*IDC **19** 18:29:07.8±1.1, 7°.29N×80°.35W, h0km, mb3.9/7, mbtmp4.0/10, ML3.2/3, MS3.3/14, Error ellipse: s-maj=38.9km s-min=16.9km az=34.0*
*RSNC **19** 18:29:09.2±0.6, 7°N±2°×8°0W±°, h18km±4km, M4.0, mB4.9, mb4.7, ML3.3, Mw(mB)4.2*
ISC 19 18:29:05.6±0.6, 7°.29N±0°.03×80°.40W±0°.02, h10km, n159, σ1°96/203, **mb3.8/7, MS3.4/11, 19C-9D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSI3	**Tonosi**	**0.12**	**341**	⇑iP	**Pg**	**18 29 08.3**	**-0.3**
TOSI3				eS	**Sg**	**18 29 10.7**	**0.0**
ACHO3	**Achotines, Los**	**0.26**	**61**	⇓iP	**Pg**	**18 29 11.3**	**+0.4**
ACHO3				i S	**Sg**	**18 29 15.7**	**+1.3**
PEDA3	**Pedasi**	**0.44**	**58**	⇓iP	**Pg**	**18 29 14.2**	**-0.1**
PEDA3				eS	**Sb**	**18 29 20.8**	**-1.4**
CACAO	**El Cacao, Vera**	**0.46**	**277**	⇓iP	**Pg**	**18 29 13.4**	**-1.3**
CACAO				i S	**Sg**	**18 29 19.2**	**-1.5**
PCRI3	**Pocri, Los San**	**0.46**	**37**	⇓iP	**Pg**	**18 29 14.5**	**-0.2**
PCRI3				i S	**Sb**	**18 29 21.5**	**-1.3**
AZU	**Azuero**	**0.52**	**14**	⇑iP	**Pg**	**18 29 15.1**	**-0.6**
AZU				i S	**Sg**	**18 29 22.2**	**-0.3**
PESE3	**Pese, Herrera**	**0.65**	**341**	⇑iP	**Pg**	**18 29 17.0**	**-1.3**
PESE3				i S	**Sg**	**18 29 25.5**	**-1.3**
CHIT3	**Chitre**	**0.66**	**358**	⇑iP	**Pg**	**18 29 17.2**	**-1.2**
CHIT3				i S	**Sg**	**18 29 25.8**	**-1.4**
MARI3	**Mariato, Verag**	**0.69**	**301**	⇑iP	**Pg**	**18 29 17.3**	**-1.6**
MARI3				i S	**Sg**	**18 29 27.9**	**0.0**
GMAL	**Guarumal, Vera**	**0.95**	**300**	⇑eP	**Pg**	**18 29 22.2**	**-1.7**
GMAL				eS	**Sb**	**18 29 37.5**	**+0.6**
CRIS3	**El Cristo, Coc**	**0.98**	**347**	⇑iP	**Pg**	**18 29 22.4**	**-2.1**
STIA3	**Santiago, Vera**	**0.98**	**325**	⇑iP	**Pg**	**18 29 22.4**	**-2.2**
STIA3				eS	**Sg**	**18 29 34.7**	**-2.7**
SFRA3	**San Francisco,**	**1.11**	**329**	⇑iP	**Pb**	**18 29 24.4**	**-2.5**
SFRA3				eS	**Sg**	**18 29 39.5**	**-1.9**
CALO3	**Calobre, Verag**	**1.11**	**337**	⇑iP	**Pb**	**18 29 24.7**	**-2.3**
CALO3				⇑eS	**Sg**	**18 29 39.3**	**-2.3**
MESA3	**La Mesa, Verag**	**1.16**	**318**	⇑iP	**Pb**	**18 29 25.2**	**-2.5**
MESA3				eS	**Sb**	**18 29 40.3**	**-2.5**
PNME	**Penonome**	**1.19**	**3**	⇑eP	**Pb**	**18 29 26.1**	**-2.2**
PVID3	**Puerto Vidal,**	**1.42**	**302**	eP	**Pn**	**18 29 29.4**	**-2.1**
NANC3	**Nancito, Chiri**	**1.62**	**306**	eP	**Pn**	**18 29 32.9**	**-1.5**
REME3	**Remedios, Chir**	**1.70**	**303**	eP	**Pn**	**18 29 34.6**	**-0.8**
TABO3	**Taboga, Panama**	**1.71**	**29**	⇓eP	**Pn**	**18 29 35.6**	**+0.1**
CHOR3	**La Chorrera**	**1.72**	**211**	⇑eP	**Pb**	**18 29 36.2**	**-1.2**
CHOR3				eS	**Sb**	**18 29 57.9**	**-1.1**
UPA	**Univ. de Panam**	**1.89**	**27**	⇓iP	**Pn**	**18 29 37.8**	**-0.1**
UPA				i S	**Sn**	**18 30 01.8**	**-0.1**
UPA				eS	**Sb**	**18 30 04.3**	**+0.4**
BCIP	**Isla Barro Col**	**1.95**	**17**		**Pn**	**18 29 38.4**	**-0.4**
BCIP				Sn	**Sn**	**18 30 02.2**	**-1.1**
BCIP	**Isla Barro Col**	**1.95**	**17**	⇑eP	**Pn**	**18 29 38.5**	**-0.4**
BCIP				eS	**Sn**	**18 30 03.9**	**+0.6**
BCIP	**Isla Barro Col**	**1.95**	**17**	P	**Pn**	**18 29 38.9**	**+0.1**
BCIP				S	**Sb**	**18 30 04.9**	**-0.6**
BCIP	**Isla Barro Col**	**1.95**	**17**	eP	**Pn**	**18 29 38.4**	**-0.4**
BCIP	**Isla Barro Col**	**1.95**	**17**	P	**Pn**	**18 29 38.7**	**-0.1**
BCIP				S	**Sn**	**18 30 03.2**	**-0.1**
KKNTU	**Kakintº**	**2.08**	**318**	eP	**Pn**	**18 29 39.5**	**-1.1**
KKNTU				eS	**Sn**	**18 30 05.2**	**-1.3**
KKNTU	**Kakintº**	**2.08**	**318**	eP	**Pn**	**18 29 39.5**	**-1.1**
CAZU	**Cerro Azul, Pa**	**2.17**	**27**	eP	**Pn**	**18 29 42.4**	**+0.4**
CAZU				eS	**Sn**	**18 30 09.7**	**+0.7**
CHIR3	**Chiriqui UPA,**	**2.21**	**300**	⇑eP	**Pn**	**18 29 42.3**	**0.0**
GUAL3	**Gualaca, Chiri**	**2.25**	**303**	eP	**Pn**	**18 29 43.4**	**+0.5**
CHPO	**Chepo, Panama**	**2.26**	**34**	eP	**Pn**	**18 29 44.3**	**+1.2**
CHPO				eS	**Sb**	**18 30 13.2**	**-1.4**
LOMA3	**Las Lomas, Chi**	**2.28**	**300**	eP	**Pn**	**18 29 43.7**	**+0.4**
LOMA3				eS	**Sn**	**18 30 11.0**	**-0.4**
PEDE3	**Pedregal, Chir**	**2.28**	**299**	eP	**Pn**	**18 29 44.0**	**+0.6**
LOCO3	**Loma Colorada,**	**2.29**	**299**	eP	**Pn**	**18 29 44.1**	**+0.6**
DVD	**David**	**2.33**	**299**	⇑eP	**Pn**	**18 29 45.1**	**+1.1**
DVD				eS	**Sn**	**18 30 12.5**	**-0.2**
RBALA	**Bur**	**2.35**	**312**	eP	**Pn**	**18 29 44.1**	**-0.2**
RBALA				eS	**Sb**	**18 30 15.3**	**-1.8**
RBALA	**Bur**	**2.35**	**312**	eP	**Pn**	**18 29 44.2**	**0.0**
PSOM3	**Paja de Sombre**	**2.35**	**306**	⇓iP	**Pn**	**18 29 44.5**	**0.0**
PSOM3				i S	**Sn**	**18 30 14.3**	**+0.8**
CHGR2	**Aguacate**	**2.38**	**314**	eP	**Pn**	**18 29 45.5**	**+0.8**
CHGR2				eS	**Sn**	**18 30 14.7**	**+0.6**
PBNVO	**Pueblo Nuevo,**	**2.38**	**312**	eP	**Pn**	**18 29 44.5**	**-0.3**
BAGA3	**Bagala, Chiriq**	**2.41**	**299**	eP	**Pn**	**18 29 46.9**	**+1.8**
BAGA3				eS	**Sn**	**18 30 16.8**	**+2.0**
CNTA3	**Canitas, Panam**	**2.43**	**38**	⇓eP	**Pn**	**18 29 46.7**	**+1.2**
BQSF3	**Alto Boquete,**	**2.48**	**306**	eP	**Pn**	**18 29 46.6**	**+0.4**
BQSF3				i S	**Sb**	**18 30 20.9**	**-0.1**
WILLF	**Boquete**	**2.48**	**306**	eP	**Pn**	**18 29 46.5**	**+0.2**
DAP26	**falda E V. Bar**	**2.50**	**307**	eP	**Pn**	**18 29 46.5**	**0.0**
PTAR3	**Potrerillos Ar**	**2.50**	**304**	eP	**Pn**	**18 29 47.5**	**+1.0**
BQTLY	**Boquete Panama**	**2.51**	**306**	eP	**Pn**	**18 29 45.5**	**-1.2**
BQTLY	**Boquete Panama**	**2.51**	**306**	eP	**Pn**	**18 29 45.0**	**-1.6**
JEFFS	**S de V. Baru**	**2.52**	**303**	eP	**Pn**	**18 29 47.4**	**+0.6**
BANCO	**falda S V. Bar**	**2.54**	**304**	eP	**Pn**	**18 29 47.8**	**+0.7**
PTAC	**Punta Ardita,**	**2.58**	**93**	P	**Pn**	**18 29 45.6**	**-1.8**
PTAC				S	**Sn**	**18 30 13.4**	**-5.4**
CLLRA	**Cordillera,**	**2.63**	**304**	eP	**Pn**	**18 29 48.9**	**+0.6**
TOTI	**Torti**	**2.63**	**52**	eP	**Pn**	**18 29 49.4**	**+1.2**
BC3P	**Paso Ancho**	**2.66**	**305**	⇑eP	**Pn**	**18 29 49.6**	**+0.8**
BC3P				eS	**Sn**	**18 30 22.9**	**+1.6**
UPD2	**Meteti**	**2.67**	**62**	⇓eP	**Pn**	**18 29 50.1**	**+1.4**
UPD2				eS	**Sg**	**18 30 28.9**	**-2.7**
TBS2		**2.69**	**304**	eP	**Pn**	**18 29 49.8**	**+0.6**
BRU2	**Volcan**	**2.72**	**304**		**Pn**	**18 29 49.9**	**+0.3**
BRU2				Sn	**Sn**	**18 30 24.3**	**+1.8**
BRU2	**Volcan**	**2.72**	**304**	⇑iP	**Pn**	**18 29 50.9**	**+1.4**
BRU2				eP	**Pn**	**18 29 50.9**	**+1.4**
BRU2				eS	**Sb**	**18 30 26.2**	**-1.8**
BRU2				eS	**Sn**	**18 30 27.5**	**+5.0**
BRU2	**Volcan**	**2.72**	**304**	P	**Pn**	**18 29 50.9**	**+1.4**
BRU2	**Volcan**	**2.72**	**304**	S	**Sb**	**18 30 25.4**	**-2.5**
BRU2	**Volcan**	**2.72**	**304**	eP	**Pn**	**18 29 50.7**	**+1.2**
CDITO	**Canoas**	**2.76**	**298**	P	**Pn**	**18 29 51.4**	**+1.4**
CDITO	**Canoas**	**2.76**	**298**	S	**Sb**	**18 30 26.3**	**-2.8**
MLIR3	**Monte Lirio, C**	**2.83**	**302**	eP	**Pn**	**18 29 49.0**	**-2.0**
ALCO	**Alturas Coton,**	**2.92**	**305**	eP	**Pn**	**18 29 53.2**	**+0.9**
PIRO	**Carate, Puerto**	**3.11**	**291**		**Pn**	**18 29 54.1**	**-0.8**
PIRO	**Carate, Puerto**	**3.11**	**291**	S	**Sb**	**18 30 36.5**	**-2.7**
PIRO	**Carate, Puerto**	**3.11**	**291**	eP	**Pn**	**18 29 53.9**	**-0.9**
SOLC	**Bahia Solano**	**3.15**	**109**	P	**Pn**	**18 29 53.4**	**-2.0**
SOLC				S	**Sn**	**18 30 26.9**	**-6.2**
EDP2	**Potrero Grande**	**3.24**	**302**	eP	**Pn**	**18 29 59.4**	**+2.8**
FIMO	**Fila Mora**	**3.38**	**300**	eP	**Pn**	**18 30 00.1**	**+1.5**
CEUA	**Cerro Uatsi, L**	**3.42**	**313**	eP	**Pn**	**18 30 01.1**	**+2.0**
DRK0	**Durika**	**3.43**	**305**	P	**Pn**	**18 30 01.1**	**+1.7**
DRK0	**Durika**	**3.43**	**305**	eP	**Pn**	**18 30 00.2**	**+0.9**
LAES	**El Progreso Va**	**3.59**	**313**	eP	**Pn**	**18 30 02.5**	**+1.0**
OCHAL	**Ojochal**	**3.68**	**299**	P	**Pn**	**18 29 04.0**	**+1.3**
VERH	**Veragua Rainfo**	**3.81**	**314**	eP	**Pn**	**18 30 04.6**	**+0.2**
APAC	**Apartado, Choc**	**3.83**	**81**	P	**Pn**	**18 30 07.5**	**+2.7**
APAC				S	**Sn**	**18 30 49.5**	**-0.4**
BUS1	**Rivas**	**4.00**	**304**	eP	**Pn**	**18 30 09.4**	**+2.0**
DBBC	**Dabeiba**	**4.17**	**93**	P	**Pn**	**18 30 09.3**	**-0.1**
DBBC				S	**Sn**	**18 30 49.9**	**-8.4**
PIEC	**Cerro El Cedra**	**4.21**	**304**	eP	**Pn**	**18 30 12.2**	**+1.9**
ABRB	**Las Abras (San**	**4.25**	**310**	eP	**Pn**	**18 30 13.1**	**+2.4**
CVTV	**Tajo**	**4.27**	**309**	eP	**Pn**	**18 30 13.0**	**+1.9**
CVTQ	**Turrialba Volc**	**4.29**	**309**	eP	**Pn**	**18 30 13.4**	**+2.2**
VTR0	**Volcan Turrial**	**4.29**	**309**	eP	**Pn**	**18 30 13.7**	**+2.4**
CVTR	**Volcan Turrial**	**4.29**	**309**	eP	**Pn**	**18 30 13.6**	**+2.2**
PICV	**PH. Pirrs**	**4.41**	**302**	eP	**Pn**	**18 30 14.3**	**+1.5**
HDC	**Heredia**	**4.55**	**307**		**Pn**	**18 30 15.0**	**+0.2**
CBOC	**Ciudad Bolivar**	**4.58**	**108**	P	**Pn**	**18 30 14.1**	**-1.1**
CBOC				S	**Sn**	**18 31 01.8**	**-6.9**
TRT2	**Tortugero**	**4.63**	**315**	P	**Pn**	**18 30 16.4**	**+0.7**
GR1C	**Gorgona, Isla**	**4.80**	**152**	P	**Pn**	**18 30 15.3**	**-2.8**
UREC	**San Jos de Ur**	**4.85**	**84**	P	**Pn**	**18 30 19.6**	**+0.9**
UREC				S	**Sn**	**18 31 12.0**	**-3.0**
HELC	**Santa Helena**	**4.96**	**102**	P	**Pn**	**18 30 21.5**	**+0.9**
HELC				S	**Sn**	**18 31 19.4**	**+1.2**
HELC	**Santa Helena**	**4.96**	**102**	P	**Pn**	**18 30 21.0**	**+0.4**
HELC				S	**Sn**	**18 31 16.1**	**-2.1**
SOCE	**Pocosol**	**5.18**	**307**		**Pn**	**18 30 23.8**	**+0.5**
YOTC	**Yotoco, Valle**	**5.20**	**129**	P	**Pn**	**18 30 21.3**	**-2.4**
	470nm21nm,0.5s						
YOTC				S	**Sn**	**18 31 23.0**	**-0.9**
	470nm21nm,0.5s						
SAIC	**Isla e San And**	**5.37**	**346**	P	**Pn**	**18 30 23.1**	**-2.8**
	1µm106nm,0.7s						
SAIC				S	**Sn**	**18 31 25.8**	**-2.1**
	1µm106nm,0.7s						
JTS	**Las Juntas de**	**5.40**	**304**		**Pn**	**18 30 26.8**	**+0.5**
JTS	**Las Juntas de**	**5.40**	**304**	Pn	**Pn**	**18 30 29.6**	**+3.3**
	2.2nm,0.3s,baz=107,slow=12,SNR=16						
JTS				Sn	**Sn**	**18 31 36.2**	**+7.6**
	baz=189,slow=19						
JTS				LR	LR	18 32 35.2	
	comp=Z,187nm,20.9s,baz=117,slow=38						
	15nm,0.7s						
JTS	**Las Juntas de**	**5.40**	**304**	eP	**Pn**	**18 30 28.6**	**+2.4**
JTS				eS	**Sn**	**18 31 29.6**	**+1.1**
JTS	**Las Juntas de**	**5.40**	**304**	P	**Pn**	**18 30 28.0**	**+1.7**
	720nm73nm,0.7s						
JTS				S	**Sb**	**18 31 46.8**	**+1.8**
	720nm73nm,0.7s						
GUY2C	**Guyana, Caldas**	**5.41**	**112**	P	**Pn**	**18 30 27.6**	**+0.8**
	572nm35nm,0.6s						
GUY2C				S	**Sn**	**18 31 27.6**	**-1.9**
	572nm35nm,0.6s						
ZARC	**Zaragoza, Cauc**	**5.50**	**88**	P	**Pn**	**18 30 28.9**	**+1.2**
	84nm,0.6s						
ZARC				S	**Sn**	**18 31 27.4**	**-3.7**
	84nm,0.6s						
VMAR	**Armenia, Volca**	**5.83**	**307**	eP	**Pn**	**18 30 34.4**	**+2.2**
JUD3	**Juan Diaz 3**	**5.83**	**300**		**Pn**	**18 30 31.9**	**-0.3**
PTBC	**PUERTO BERRIO,**	**5.95**	**97**	P	**Pn**	**18 30 34.5**	**+0.7**
	463nm20nm,0.6s						
PTBC				S	**Sn**	**18 31 40.8**	**-1.3**
	463nm20nm,0.6s						
POPC	**Popayan, Colom**	**6.00**	**142**	P	**Pn**	**18 30 33.4**	**-1.4**
	4µm26nm,0.8s						
POPC				S	**Sn**	**18 31 43.6**	**-0.1**
	4µm26nm,0.8s						
PRVC	**Isla de Provid**	**6.12**	**351**		**Pn**	**18 30 34.1**	**-2.1**
PRVC	**Isla de Provid**	**6.12**	**351**	P	**Pn**	**18 30 33.2**	**-3.0**
	3µm185nm,0.6s						
PRVC				S	**Sn**	**18 31 43.6**	**-2.8**
	3µm185nm,0.6s						
ORTC	**Ortega, Tolima**	**6.13**	**123**	P	**Pn**	**18 30 37.3**	**+0.9**
	820nm49nm,0.7s						
ORTC				S	**Sn**	**18 31 46.9**	**+0.2**
	820nm49nm,0.7s						
SPBC	**San Pablo de B**	**6.50**	**104**	P	**Pn**	**18 30 43.7**	**+2.3**
	18nm,0.8s						
ROSC	**El Rosal**	**6.52**	**112**	Pn	**Pn**	**18 30 42.7**	**+0.7**
ROSC	**El Rosal**	**6.52**	**112**	Pn	**Pn**	**18 30 44.5**	**+2.5**
	4.0nm,0.3s,baz=292,slow=19,SNR=4.8						
ROSC				Sn	**Sn**	**18 31 59.2**	**+2.6**
	1.9nm,0.3s,baz=315,slow=18,SNR=1.1						
	9.2nm,0.3s						
PRAC	**Prado**	**6.54**	**123**	P	**Pn**	**18 30 42.5**	**+0.5**
PRAC				S	**Sn**	**18 31 57.6**	**+0.9**
ARGC	**Ariguani, Magd**	**6.60**	**67**	P	**Pn**	**18 30 43.8**	**+1.0**
	88nm,0.6s						
BETC	**Betania**	**6.73**	**133**	P	**Pn**	**18 30 46.3**	**+1.6**
BETC				S	**Sn**	**18 32 02.5**	**+0.9**
BARC	**Barichara**	**7.20**	**95**	P	**Pn**	**18 30 52.6**	**+1.4**
SMRC	**Santa Marta, M**	**7.21**	**57**	Pn	**Pn**	**18 30 51.6**	**+0.5**
URMC	**La Uribe, Meta**	**7.21**	**124**	P	**Pn**	**18 30 51.5**	**+0.2**
	21nm,0.8s						
OTAV	**Otavalo**	**7.27**	**164**		**Pn**	**18 30 52.0**	**-0.4**
BILN	**Bilwi Airport**	**7.33**	**337**	Pn	**Pn**	**18 30 52.5**	**-0.3**
FLOC	**Florencia**	**7.38**	**140**		**Pn**	**18 30 54.7**	**+1.1**
RUSC	**La Rusia**	**7.40**	**100**		**Pn**	**18 30 54.2**	**0.0**
RUSC	**La Rusia**	**7.40**	**100**	P	**Pn**	**18 30 55.9**	**+1.7**
	21nm,1.0s						
PAMC	**Pamplona, Colo**	**7.64**	**89**	P	**Pn**	**18 30 59.1**	**+1.6**
SIUN	**Universidad Ur**	**7.70**	**326**		**Pn**	**18 30 57.9**	**0.0**
SLOR	**San Lorenzo -**	**8.19**	**167**		**Pn**	**18 31 05.2**	**+0.2**
MACC	**Macarena, Meta**	**8.29**	**128**	P	**Pn**	**18 31 06.6**	**+0.6**
SDV	**Santo Domingo**	**9.80**	**80**		**Pn**	**18 31 26.6**	**-0.3**
SDV	**Santo Domingo**	**9.80**	**80**	Pn	**Pn**	**18 31 28.6**	**+1.7**
	2.7nm,0.3s,baz=262,slow=8.0,SNR=13						
SDV				Sn	**Sn**	**18 33 13.7**	**-3.5**
	1.2nm,0.3s,baz=274,slow=19,SNR=2.6						
SDV				LR	LR	18 36 26.3	
	comp=Z,91nm,18.4s,baz=239,slow=45						
	7.1nm,0.4s						
NMDO	**Nuevo Mundo**	**14.20**	**21**	Pn	**Pn**	**18 32 23.7**	**-3.2**
ATAH	**Atahualpa**	**14.47**	**172**	LR	LR	18 37 29.5	
	comp=Z,144nm,20.7s,baz=358,slow=35						
SDDR	**Presa de Saban**	**14.61**	**36**		**Pn**	**18 32 31.4**	**-1.3**
BANI	**BANI**	**14.74**	**41**	Pn	**Pn**	**18 32 32.6**	**-1.9**
BOAV	**Boa Vista**	**20.39**	**103**	P	**P**	**18 33 40.5**	**-2.3**
BOAV				IAmb	IAmb	18 34 01.4	
	comp=Z,4.1nm,1.0s						
MACA	**Manacapuru-AM**	**22.25**	**117**	P	**P**	**18 34 00.3**	**-2.6**
MACA				IAmb	IAmb	18 34 08.4	
	comp=Z,23nm,0.8s						
LPAZ	**La Paz**	**26.39**	**153**	P	**P**	**18 34 46.7**	**+3.6**
	comp=Z,1.1nm,0.6s,baz=348,slow=13,SNR=4.6						
	comp=Z,1.1nm,0.6s						
MDP	**Montagnes des**	**27.68**	**93**	LR	LR	18 46 11.3	
	comp=Z,108nm,18.3s,baz=301,slow=37						
TKL	**Tuckaleechee C**	**28.40**	**354**	LR	LR	18 47 59.1	
	comp=Z,54nm,18.0s,baz=234,slow=40						
ANMO	**Albuquerque**	**36.49**	**323**	LR	LR	18 52 54.8	
	comp=Z,34nm,19.9s,baz=260,slow=39						
SADO	**Sadowa**	**37.35**	**1**	LR	LR	18 52 36.0	
	comp=Z,369nm,18.7s,baz=226,slow=38						
PFO	**Pinyon Flats O**	**42.38**	**313**	LR	LR	18 55 29.9	
	comp=Z,46nm,18.6s,baz=152,slow=37						
PDAR	**Pinedale Array**	**43.68**	**329**	P	**P**	**18 37 14.5**	**+3.5**
	comp=Z,0.5nm,0.9s,baz=139,slow=9.3,SNR=2.7						
	comp=Z,0.5nm,0.9s						
ELK	**Elko**	**45.53**	**323**	LR	LR	18 59 07.8	
	comp=Z,20nm,18.8s,baz=152,slow=40						
NVAR	**Mina Array Bea**	**46.15**	**318**	P	P	18 37 36.4	+5.6
	comp=Z,0.9nm,0.7s,baz=104,slow=7.8,SNR=4.2						
NVAR				LR	LR	18 59 47.9	
	comp=Z,75nm,18.4s,baz=112,slow=40						
	comp=Z,0.9nm,0.7s						
YBH	**Yreka Blue Hor**	**50.75**	**319**	LR	LR	19 06 11.6	
	comp=Z,7.0nm,18.2s,baz=174,slow=44						
YKA	**Yellowknife Ar**	**60.49**	**343**	P	**P**	**18 39 18.1**	**+2.6**
	comp=Z,1.2nm,0.6s,baz=139,slow=5.6,SNR=3.2						
	comp=Z,1.2nm,0.6s						
ILAR	**Eielson Array**	**73.53**	**336**	P	**P**	**18 40 41.6**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=108,slow=6.5,SNR=5.8						
ILAR				LR	LR	19 16 01.7	
	comp=Z

ESSG eS Sn 18 34 40.6 +0.5
ESSG IAML 18 34 41.5
comp=N,942nm,0.5s
ESQI Esquipulas 0.79 62 Pn 18 34 21.0 +0.9
ESQI Sn Sn 18 34 40.0 -0.4
ESQI Esquipulas 0.79 62 ⇓*i*P Pn 18 34 21.0 +0.9
ESQI eS Sn 18 34 40.7 +0.3
ESQI Esquipulas 0.79 62 S Sn 18 34 41.4 +1.0
ESQI Esquipulas 0.79 62 P Pn 18 34 21.1 +0.9
JAYA Jayaque - finc 0.80 132 *e*P Pn 18 34 20.4 +0.1
JAYA Jayaque - finc 0.80 132 *e*P Pn 18 34 20.4 +0.1
JAYA eS Sn 18 34 41.0 +0.3
BOQS Boqueron 0.89 121 *e*P Pn 18 34 21.2 +0.2
APG El Apazote 0.89 334 P Pn 18 34 21.9 +0.9
comp=N,13nm,0.3s,baz=139,slow=10.0,SNR=206
APG S Sn 18 34 42.0 -0.1
comp=N,61nm,0.8s,baz=74,slow=19,SNR=54
APG El Apazote 0.89 334⇓*e*P Pn 18 34 21.9 +0.9
APG eS Sn 18 34 41.6 -0.4
LALI Alcalda de L 1.01 134 *e*P Pn 18 34 22.0 +0.5
LALI eS Sn 18 34 42.1 -0.8
LALI Alcalda de L 1.01 134 *e*P Pn 18 34 22.0 +0.5
LALI Alcalda de L 1.01 134 P Pn 18 34 22.0 +0.5
LOMA Loma Larga 1.02 122 *e*P Pn 18 34 23.0 +1.2
LLGN La Laguna 1.08 92 S Sn 18 34 41.9 -2.1
LLGN La Laguna 1.08 92 P Pn 18 34 22.8 +0.5
LBRS Las Brisas 1.09 115 *e*P Pn 18 34 22.9 +0.6
LFRS El Faro 1.12 120 *e*P Pn 18 34 23.3 +0.7
STG2 El Palmar, Qui 1.30 281 *i*P Pn 18 34 27.6 +3.5
SCLA Alcaldia de Sa 1.38 111 *i*P Pn 18 34 25.6 +0.8
SCLA eS Sn 18 34 49.3 +0.8
SCLA Alcaldia de Sa 1.38 111 P Pn 18 34 25.6 +0.8
SCLA Alcaldia de Sa 1.38 111 S Sn 18 34 48.6 0.0
SARH Santa Rosa de 1.39 65 *i*P Pn 18 34 26.0 +1.1
SOKI Kika Raxquin 1.44 296 *e*P Pn 18 34 26.8 +1.1
RTAL Retalhuleu 1.62 282 Pn 18 34 26.7 -0.2
RTAL Sn Sn 18 34 52.7 +0.3
RTAL Retalhuleu 1.62 282 *e*P Pn 18 34 27.6 +0.7
RTAL eS Sn 18 34 52.8 +0.3
RTAL Retalhuleu 1.62 282 P Pn 18 34 27.6 +0.7
HUEH Huehuetenango 1.79 309 Pn Pn 18 34 28.3 -0.6
SMCA Catarina 2.06 289 *e*P Pn 18 34 32.2 +0.7
SMCA IAML 18 35 02.7
comp=N,1μm,0.2s
THIG 2.25 289 *i*P Pn 18 34 34.8 +1.1
THIG eS Sn 18 35 05.5 +1.1
THIG IAML 18 35 11.0
comp=E,881nm,0.4s
CNCH Conchagua 2.35 113 S Sn 18 35 07.6 +0.8
CNCH Conchagua 2.35 113 P Pn 18 34 35.5 +0.5
TGUH Tegucigalpa,Un 2.71 93 Pn 18 34 39.3 +0.1
PETF Flores 2.71 4 Pn 18 34 39.6 +0.6
PETF Flores 2.71 4 *e*P Pn 18 34 40.1 +1.1
CSGN Cosiguina Volc 2.72 116 P Pn 18 34 42.0 +2.8
CSGN S Sn 18 35 15.6 +1.2
CCIG Comitan 2.88 316 Pn 18 34 42.0 +0.7
CRIN San Cristobal 3.29 117 Pn 18 34 46.7 +0.6
PKGN Cerro Pekin 3.36 116 P Pn 18 34 49.0 +2.0
PKGN S Sn 18 35 28.8 +0.4
HERN Volcan Telica 3.52 116 Pn 18 34 49.2 +0.2
CNGN Cerro Negro 3.68 117 Pn 18 34 50.5 -0.6
MOM2 El Cardon 3.90 116 P Pn 18 34 55.7 +1.9
MOM2 S Sn 18 35 41.5 +1.1
COPN Copaltepe 3.93 120 P Pn 18 34 55.6 +1.4
COPN S Sn 18 35 39.3 -1.9
MGAN Managua 4.24 118 Pn Pn 18 34 58.9 +0.8
SIUN Universidad Ur 5.16 95 Pn Pn 18 35 10.4 +0.4
CMIG Matias Romero 5.46 302 P Pn 18 35 14.9 +1.0
comp=E,1.1nm,0.3s,baz=139,slow=6.2,SNR=12
CMIG S Sn 18 36 12.8 -4.1
comp=E,4.9nm,0.3s,baz=118,slow=8.5,SNR=4.5
JUD3 Juan Diaz 3 5.96 132 Pn 18 35 21.6 +0.9
TEIG Tepich 6.24 16 Pn Pn 18 35 24.6 +0.6
JTS Las Juntas de 6.32 127 Pn 18 35 25.6 +0.3
JTS Las Juntas de 6.32 127 P Pn 18 35 27.0 +1.7
comp=E,9.4nm,0.3s,baz=317,slow=17,SNR=10.0
JTS S Sn 18 36 35.1 -2.2
comp=E,25nm,0.4s,baz=292,slow=18,SNR=11
SOR Soroa 10.85 37 Pn Pn 18 36 26.2 +1.5
MTDJ Mount Denham 12.68 70 P P 18 36 52.4 -0.3
PAYG Puerto Ayora 14.78 181 P P 18 37 15.8 -0.1
HBVL Hebbronville 15.12 329 P Pn 18 37 18.9 +0.3
RUSC La Rusia 18.63 115 P P 18 37 58.1 -0.7
BRDY Brady 18.89 336 P 18 38 01.3 +0.4
BRDY IAmb IAmb 18 38 03.5
comp=Z,12nm,0.8s
WHTX Lake Whitney, 18.96 340 P P 18 38 01.8 +0.1
Z47A Carrollton 19.00 5 P P 18 38 03.0 +0.9
SAND Sanderson 19.23 327 P P 18 38 04.8 +0.1
FW13 Cleburne 19.29 341 P P 18 38 05.2 0.0
FW13 IAmb IAmb 18 38 07.3
comp=Z,20nm,1.0s
OZNA Ozona 19.51 330 P 18 38 08.3 +0.6
Y45A Yeager Farm, C 19.59 1 P P 18 38 08.6 +0.2
TX31 Lajitas Ar. Si 19.63 322 P 18 38 09.0 -0.1
TXAR Lajitas Array 19.63 322 P P 18 38 08.9 -0.1
TXAR Lajitas Array 19.63 322 P Pn 18 38 11.4 -1.1
comp=Z,1.0nm,0.3s,baz=134,slow=10.0,SNR=38
SDV Santo Domingo 19.75 103 P 18 38 10.2 -0.4
SDV Santo Domingo 19.75 103 P P 18 38 10.6 +0.1
comp=Z,3.2nm,0.4s,baz=283,slow=8.2,SNR=5.2
Y49A Blount Mountai 19.85 9 P P 18 38 11.5 +0.3
Y49A IAmb IAmb 18 38 14.8
comp=Z,8.2nm,0.7s
PLPT Palo Pinto 20.00 339 P 18 38 12.8 0.0
GOGA Godfrey 20.05 16 P P 18 38 13.5 +0.1
ABTX Abilene, Hawle 20.32 336 P P 18 38 15.9 -0.4
ABTX IAmb IAmb 18 38 19.8
comp=Z,5.9nm,0.6s
Y52A Lilburn 20.32 14 P P 18 38 15.9 -0.4
Y52A IAmb IAmb 18 38 18.8
comp=Z,11nm,0.8s
SGCY Sterling City 20.34 332 P P 18 38 16.1 -0.5
X48A Hartselle 20.35 7 P P 18 38 17.1 +0.5
X48A IAmb IAmb 18 38 20.9
comp=Z,12nm,0.6s
MIAR Mount Ida 20.51 352 P P 18 38 18.8 +0.6
MIAR IAmb IAmb 18 38 23.0
comp=Z,7.1nm,0.8s
LOOK Love County 20.74 343 P P 18 38 20.9 +0.2
PLAL Pickwick Lake 20.77 5 P 18 38 21.5 +0.4
PLAL IAmb IAmb 18 38 24.6
comp=Z,8.2nm,0.7s
WTFS Witchita Falls 20.92 340 P P 18 38 22.7 0.0
WHAR Wooly Hollow 21.10 355 P P 18 38 25.8 +1.3
APMT Aspermont 21.13 336 P 18 38 24.8 -0.1
APMT IAmb IAmb 18 38 26.1
comp=Z,9.3nm,0.7s
HODGE Hodges 21.16 18 P P 18 38 25.1 -0.1
SN07 Snyder 07 21.24 334 P P 18 38 25.8 -0.3
SN07 IAmb IAmb 18 38 28.2
comp=Z,5.7nm,0.6s
SWET Sewanee 21.26 9 P P 18 38 26.9 +0.6
W50A Signal Mountai 21.35 11 P P 18 38 27.4 +0.2
W50A IAmb IAmb 18 38 29.4
comp=Z,9.3nm,0.7s
POST Post 21.48 333 P 18 38 27.9 -0.7
POST IAmb IAmb 18 38 29.9
comp=Z,6.9nm,0.8s
FCAR Ozark Falk Cen 21.68 355 P P 18 38 31.7 +1.1
BG3 Lake Jocassee 21.68 16 P P 18 38 31.1 +0.4
BG3 IAmb IAmb 18 38 32.9
comp=Z,7.1nm,0.7s
LCAR Lake Charles 21.80 358 P P 18 38 32.3 +0.4
LCAR IAmb IAmb 18 38 34.1
comp=Z,9.5nm,1.2s
WMOK Wichita Mounta 21.92 340 P 18 38 32.4 -0.7
WMOK IAmb IAmb 18 38 34.1
comp=Z,14nm,1.3s
WVT Waverly 21.93 5 P 18 38 32.9 -0.3
WVT IAmb IAmb 18 38 35.7
comp=Z,6.8nm,0.8s
CLTN Cedars of Leba 22.06 8 P 18 38 34.9 +0.4
CLTN IAmb IAmb 18 38 36.8
comp=Z,8.6nm,1.0s
TKL Tuckaleechee C 22.11 14 P P 18 38 35.4 +0.5
TKL IAmb IAmb 18 38 36.7
comp=Z,12nm,0.8s
PBMO Poplar Bluff 22.49 359 P P 18 38 38.2 -0.3
PBMO IAmb IAmb 18 38 40.5
comp=Z,5.5nm,0.6s
U49A Red Boiling Sp 22.55 9 P P 18 38 38.7 -0.4
U49A IAmb IAmb 18 38 41.6
comp=Z,22nm,1.1s
SMWD Samnorwood 22.75 338 P P 18 38 41.2 +0.2
SMWD IAmb IAmb 18 38 42.5
comp=Z,14nm,0.8s
MGMO Mountain Grove 22.95 355 P P 18 38 43.6 +0.9
MGMO IAmb IAmb 18 39 22.1
comp=Z,12nm,1.3s
T50A Nancy 23.20 11 P P 18 38 45.7 +0.7
T50A IAmb IAmb 18 38 47.7
comp=Z,9.0nm,0.7s
S44A Carbondale 23.41 2 P P 18 38 47.8 +0.9
U54A Nelsons Funny 23.42 17 P P 18 38 47.7 +0.6
SIUC Southern Illin 23.44 2 P P 18 38 47.9 +0.8
V58A Windy Hill, Pi 23.65 23 P P 18 38 49.7 +0.7
CCM Cathedral Cave 23.79 358 P P 18 38 50.8 +0.5
CCM IAmb IAmb 18 38 52.6
comp=Z,8.5nm,0.8s
WCI Wyandotte Cave 24.17 7 P 18 38 54.8 +1.0
PDAR Pinedale Array 33.06 333 P P 18 40 13.5 +0.6
comp=Z,0.2nm,0.4s,baz=114,slow=6.5,SNR=2.7
comp=Z,0.2nm,0.4s
AGMN Agassiz Nation 34.34 353 P 18 40 23.4 -0.2
ULM Lac du Bonnet 36.27 354 P P 18 40 39.8 -0.1
comp=Z,4.1nm,0.5s,baz=173,slow=8.5,SNR=5.7
comp=Z,4.1nm,0.5s
SCHQ Schefferville 44.41 19 P P 18 41 47.0 +0.2
comp=Z,37nm,0.5s,baz=207,slow=4.4,SNR=12
RPN Rapa Nui 45.14 205 LR LR 18 57 16.3
comp=Z,146nm,20.9s,baz=351,slow=31
YKA Yellowknife Ar 51.28 346 P P 18 42 39.8 +0.5
comp=Z,0.8nm,0.8s,baz=126,slow=6.0,SNR=9.6
comp=Z,0.8nm,0.8s
ILAR Eielson Array 63.41 336 P P 18 44 03.2 -1.0
comp=Z,0.2nm,0.5s,baz=100,slow=7.7,SNR=1.9
comp=Z,0.2nm,0.5s
ARCES ARCESS Array B 85.36 19 P P 18 46 10.6 -0.1
comp=Z,5.2nm,1.1s,baz=282,slow=4.5,SNR=1.4
comp=Z,5.2nm,1.1s
YAK Yakutsk 97.86 342 LR LR 19 41 51.8
comp=Z,9.8nm,19.2s,baz=354,slow=42
WRA Warramunga Arr 137.27 256 PKP **PKiKP 18 52 58.3 -0.5**
comp=Z,0.4nm,0.5s,baz=89,slow=2.1,SNR=6.5
ASAR Alice Springs 137.50 250 PKP **PKiKP 18 52 58.9 -0.4**
comp=Z,0.3nm,0.6s,baz=103,slow=2.2,SNR=2.3
FITZ Fitzroy Crossi 145.52 259 PKPbc **PKiKP 18 53 14.2 -1.6**
comp=Z,3.5nm,0.4s,baz=2,9,slow=2.1,SNR=43
CMAR Chiang Mai Arr 146.36 344 PKPbc **PKPdf 18 53 13.3 +0.1**
comp=Z,0.2nm,0.3s,baz=17,slow=2.5,SNR=2.0

GCG ***19*** *19:31:52.7±1.1, 15°.69N×93°.41W, h75km±26km, MD4.2*
MEX ***19*** *19:31:53.9±1.2, 15°.70N×93°.38W, h92km±9km, MD4.2*
ISC 19 19:31:50.5±1.3, 15°.61N±0°.04×93°.41W±0°.03,
h106km±10km, n29, σ2°.16/53, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.21**	**64**	*e*P	**Pn**	**19 32 05.0**	**-0.4**
PCIG				*e*S	**Sn**	**19 32 14.7**	**-1.8**
TGIG		**1.19**	**14**	*e*P	**Pn**	**19 32 13.8**	**+0.3**
TGIG				*e*S	**Sn**	**19 32 28.6**	**-2.3**
TGIG		**1.19**	**14**	*e*P	**Pn**	**19 32 13.4**	**-0.1**
TGIG				*e*S	**Sn**	**19 32 28.6**	**-2.3**
TGBT	**Tuxtla Gutierr**	**1.20**	**15**	*e*S	**Sn**	**19 32 29.0**	**-1.9**
PATR	**El Naranjo**	**1.24**	**113**	*e*P	**Pn**	**19 32 14.9**	**+0.7**
PATR				*e*S	**Sn**	**19 32 32.7**	**+0.5**
PAVE	**Pavencul**	**1.26**	**109**	*e*P	**Pn**	**19 32 15.9**	**+1.5**
PAVE				*e*S	**Sn**	**19 32 34.3**	**+1.7**
THIG		**1.31**	**122**	*e*P	**Pn**	**19 32 14.1**	**-0.7**
THIG				*e*S	**Sn**	**19 32 34.4**	**+1.3**
CHUJ	**Union Juarez**	**1.36**	**112**	*e*P	**Pn**	**19 32 16.5**	**+0.9**
CHUJ				*e*S	**Sn**	**19 32 35.4**	**+0.8**
CCIG	**Comitan**	**1.40**	**61**	*e*P	**Pn**	**19 32 17.1**	**+1.2**
CCIG				*e*S	**Sn**	**19 32 35.3**	**0.0**
CCIG	**Comitan**	**1.40**	**61**	*e*P	**Pn**	**19 32 17.4**	**+1.4**
CCIG				*e*S	**Sn**	**19 32 35.7**	**+0.5**
NILT	**Santiago Nilte**	**1.50**	**310**	*e*P	**Pn**	**19 32 18.2**	**+1.2**
NILT				*e*S	**Sn**	**19 32 38.5**	**+1.4**
SMCA	**Catarina**	**1.50**	**120**	*e*P	**Pn**	**19 32 18.5**	**+1.6**
SMCA				*e*S	**Sn**	**19 32 38.1**	**+1.1**
UXUV	**UXUV**	**1.84**	**338**	*e*P	**Pn**	**19 32 22.7**	**+1.5**
UXUV				*e*S	**Sn**	**19 32 45.1**	**+0.5**
RTAL	**Retalhuleu**	**1.98**	**123**	*e*S	**Sn**	**19 32 48.7**	**+0.8**
CMIG	**Matias Romero**	**2.04**	**316**	*e*P	**Pn**	**19 32 24.6**	**+0.9**
CMIG				*e*S	**Sn**	**19 32 50.5**	**+1.3**
STG2	**El Palmar, Qui**	**2.29**	**120**	*e*P	**Pn**	**19 32 24.9**	**-2.3**
STG2				*e*S	**Sn**	**19 32 50.2**	**-5.1**
HUIG	**Huatulco**	**2.60**	**274**	*e*P	**Pn**	**19 32 30.6**	**-0.4**
HUIG				*e*S	**Sn**	**19 32 59.0**	**-3.2**
APG	**El Apazote**	**2.91**	**102**	*e*P	**Pn**	**19 32 37.3**	**+2.0**
NEUV	**Arroyo Zacate**	**3.10**	**313**	*e*P	**Pn**	**19 32 39.0**	**+1.3**
NEUV				*e*S	**Sn**	**19 33 15.2**	**+1.1**
PMUV	**Sontecomapan**	**3.34**	**331**	*e*S	**Sn**	**19 33 17.3**	**-2.7**
PEIG	**Puerto Escondi**	**3.62**	**277**	*e*P	**Pn**	**19 32 44.1**	**-0.4**
PEIG				*e*S	**Sn**	**19 33 24.5**	**-1.9**
SCIG	**Sabancuy**	**3.96**	**32**	*e*S	**Sn**	**19 33 29.9**	**-4.7**
YOIG	**Yosondua**	**4.16**	**288**	*e*P	**Pn**	**19 32 55.5**	**+3.4**
YOIG				*e*S	**Sn**	**19 33 39.7**	**-0.2**
TOIG	**Toxpalan**	**4.28**	**306**	*e*P	**Pn**	**19 32 55.5**	**+1.9**
TOIG				*e*S	**Sn**	**19 33 44.9**	**+2.2**
TXIG	**Tlaxiaco**	**4.49**	**292**	*e*P	**Pn**	**19 32 59.3**	**+2.8**
TXIG				*e*S	**Sn**	**19 33 42.4**	**-5.5**
PNIG	**Pinotepa**	**4.60**	**280**	*e*P	**Pn**	**19 32 58.6**	**+0.8**
PNIG				*e*S	**Sn**	**19 33 47.1**	**-3.1**
HLIG	**Huajuapan de L**	**4.75**	**298**	*e*P	**Pn**	**19 33 03.4**	**+3.3**
HLIG				*e*S	**Sn**	**19 33 55.7**	**+1.5**
JAUV	**Jalcomulco**	**4.94**	**320**	*e*P	**Pn**	**19 33 02.4**	**-0.1**
JAUV				*e*S	**Sn**	**19 33 56.4**	**-2.2**
FTIG	**Fresnillo de T**	**5.06**	**297**	*e*P	**Pn**	**19 33 07.5**	**+3.2**
FTIG				*e*S	**Sn**	**19 33 58.9**	**-2.7**

IDC ***19*** *19:32:38.1±0.5, 55°.37S×25°.70W, h0km, mb4.6/10, mbtmp4.6/11, ML4.2/1, MS3.9/22, Error ellipse: s-maj=19.7km s-min=11.0km az=76.0*
NEIC ***19*** *19:32:39.3±0.9, 55°.47S±0°.09×25°.8W±0°.1, h10km±1km, mb4.9/60, Error ellipse: s-maj=18.5km s-min=4.7km az=213.0*
GCMT ***19*** *19:32:42.3±0.4, 55°.51S±0°.03×25°.72W±0°.05, h23km±1km, MW4.9/71, Moment Tensor Solution. s27,c31; s71,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.56±.25; Mθθ 1.65±.17; Mφφ 0.91±.14; Mrθ 0.51±.22; Mφφ-1.33±.07; Mφr 1.09±.19; Best double couple: M0 2.85800×10^16 NP1:φ287.00000°, δ46.00000°, λ-121.00000°. NP2: φ148.00000°, δ52.00000°, λ-62.00000°. Principal axes: T 2.6750, Plg3.0000°, Azm219.0000°; N 0.3690, Plg22.0000°, Azm310.0000°; P -3.0410, Plg68.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***19*** *19:32:43.0, 55°.50S×25°.70W, h40km, mB5.6/1, Ms5.2/3, Ms7 5.1/4*
ISC 19 19:32:39.0±0.3, 55°.48S±0°.06×25°.78W±0°.07, h10km, n141, σ1°.47/121, mb4.9/35, MS3.9/22, 4C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.30**	**277**	**P**	**Pn**	**19 34 12.5**	**+0.7**
VNA1	**Neumayer--Stat**	**17.05**	**160**	⇓P	**P**	**19 36 38.9**	**+0.1**
	comp=Z,29nm,0.9s						
VNA3	**Neumayer Olymp**	**17.28**	**162**	⇑P	**P**	**19 36 41.3**	**-0.2**
	comp=Z,21nm,0.6s						
VNA3				⇑S	Sn	19 39 36.1	-16
VNA2	**Neumayer--Watz**	**17.44**	**160**	⇓P	**P**	**19 36 43.7**	**+0.5**
	comp=Z,8.5nm,0.5s,baz=321,slow=16						
VNA2				⇓S	Sn	19 39 40.2	-16
	baz=351,slow=27						
SNAA	**Sanae**	**18.96**	**158**	⇓P	**Pn**	**19 37 00.6**	**0.0**
	comp=Z,204nm,0.6s						
SNAA				⇓S	Sn	19 40 16.9	-16
SNAA	**Sanae**	**18.96**	**158**	**P**	**19**	**19 36 59.9**	**-0.1**
SNAA	**Sanae**	**18.96**	**158**	P	**Pn**	**19 37 01.2**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=313,slow=12,SNR=72						
SNAA				S	**S**	**19 40 40.6**	**+5.6**
	comp=Z,1.8nm,0.8s,baz=320,slow=17,SNR=3.7						
SNAA				LR	LR	19 44 02.7	
	comp=Z,180nm,19.4s,baz=330,slow=36						
	comp=Z,7.7nm,0.6s						
TROLL	**Troll, Antarti**	**20.42**	**155**	⇑P	**P**	**19 37 16.5**	**+0.5**
	comp=Z,884nm,0.8s						
TROLL				⇑S	**S**	**19 40 54.8**	**-10**
H09N1	**TRISTAN DA CUN**	**20.57**	**32**	T	T	19 58 00.0	
	SNR=36						
PMSA	**Palmer Station**	**20.88**	**228**	P	**P**	**19 37 22.0**	**+1.2**
PMSA				IAmb	IAmb	19 37 26.7	
	comp=Z,119nm,1.4s						
PMSA	**Palmer Station**	**20.88**	**228**	P	Pn	19 37 23.3	0.0
	comp=Z,36nm,0.7s,baz=75,slow=8.1,SNR=11						
PMSA				LR	LR	19 44 45.0	
	comp=Z,456nm,18.5s,baz=78,slow=35						
	comp=Z,36nm,0.7s						
BELA	**Belgrano 2**	**22.71**	**185**		**P**	**19 37 38.8**	**-1.6**
SMAI	**San Martin Ant**	**22.72**	**220**	P	**P**	**19 37 39.7**	**-0.8**
USHA	**Ushuaia**	**24.11**	**254**	LR	LR	19 46 20.1	
	comp=Z,394nm,19.1s,baz=77,slow=34						
MG02	**Cerro Sombrero**	**25.29**	**258**	P	**P**	**19 38 03.9**	**-1.4**
TRQA	**Tornquist**	**29.85**	**290**		**P**	**19 38 46.1**	**-0.2**
PLCA	**Paso Flores**	**32.70**	**278**	LR	LR	19 52 54.9	
	comp=Z,156nm,20.3s,baz=127,slow=37						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**19 39 32.1**	**+2.8**
QSPA				IAmb	IAmb	19 39 34.0	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**19 39 32.4**	**+3.1**
	comp=Z,9.6nm,0.7s,baz=195,slow=3.2,SNR=97						
QSPA				S	**S**	**19 44 58.8**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=234,slow=19,SNR=1.7						
QSPA				LR	LR	19 54 17.3	
	comp=Z,224nm,19.9s,baz=194,slow=37						
	comp=Z,9.6nm,0.7s						
CPUP	**Villa Florida**	**37.05**	**309**	P	**P**	**19 39 49.0**	**+0.1**
CPUP	**Villa Florida**	**37.05**	**309**	P	**P**	**19 39 49.7**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=184,slow=1.0,SNR=6.9						
CPUP				LR	LR	19 54 57.2	
	comp=Z,50nm,19.6s,baz=19,slow=36						
	comp=Z,1.7nm,0.9s						
MT08	**Bocatoma Ro**	**37.63**	**287**	P	**P**	**19 39 54.7**	**+0.6**
MT09	**Talagante**	**37.91**	**286**	P	**P**	**19 39 56.5**	**+0.2**
MT09				IAmb	IAmb	19 40 03.7	
	comp=Z,43nm,1.7s						
MT01	**Popeta**	**37.98**	**285**	P	**P**	**19 39 56.4**	**-0.4**
MT01				IAmb	IAmb	19 41 07.8	
	comp=Z,39nm,1.7s						
ZON	**Zonda**	**38.36**	**291**		**P**	**19 40 00.2**	**+0.1**
MT02	**Curacav**	**38.38**	**286**	P	**P**	**19 40 00.8**	**+0.7**
VA03	**San Esteban**	**38.43**	**287**	P	**P**	**19 40 01.4**	**+0.7**
VA06	**Catapilco**	**38.99**	**287**		**P**	**19 40 06.0**	**+0.7**
VA06				IAmb	IAmb	19 40 10.7	
	comp=Z,38nm,1.1s						
SUR	**Sutherland**	**39.72**	**74**	P	**P**	**19 40 11.9**	**+0.3**
SUR				IAmb	IAmb	19 41 03.8	
	comp=Z,44nm,1.6s						
MAW	**Mawson**	**40.14**	**144**	P	**P**	**19 40 14.5**	**+0.1**
	comp=Z,9.9nm,0.9s,baz=237,slow=7.0,SNR=13						
MAW				LR	LR	19 54 19.9	
	comp=Z,181nm,21.4s,baz=269,slow=32						
	comp=Z,9.9nm,0.9s						
CO01	**Juntas del Tor**	**40.35**	**291**		**P**	**19 40 16.5**	**-0.4**
GO04	**Tololo Observa**	**40.57**	**290**	P	**P**	**19 40 18.7**	**-0.1**
GO04				IAmb	IAmb	19 40 23.7	
	comp=Z,43nm,1.4s						
AC04	**Llanos de Chal**	**42.27**	**291**	P	**P**	**19 40 31.7**	**-0.8**
AC04				IAmb	IAmb	19 40 50.8	
	comp=Z,40nm,1.1s						
GO03	**Copiapo**	**42.31**	**293**	P	**P**	**19 40 32.0**	**-0.8**
GO03				IAmb	IAmb	19 40 50.9	
	comp=Z,36nm,1.4s						
AC06	**Mina Casimiro**	**42.57**	**293**	P	**P**	**19 40 34.8**	**-0.1**
GO02	**Mina Guanaco**	**43.95**	**295**		**P**	**19 40 46.0**	**-0.4**
GO02				IAmb	IAmb	19 40 52.6	
	comp=Z,44nm,1.4s						
BOSA	**Boshof**	**45.05**	**75**	P	**P**	**19 40 53.4**	**-1.6**
	comp=Z,2.5nm,0.8s,baz=225,slow=7.1,SNR=5.6						
BOSA				LR	LR	19 55 55.0	
	comp=Z,285nm,19.0s,baz=213,slow=31						
	comp=Z,2.5nm,0.8s						
WIN	**Windhoek**	**45.63**	**62**	P	**P**	**19 40 59.6**	**-0.1**
WIN				IAmb	IAmb	19 41 27.6	
	comp=Z,15nm,1.3s						
LKGWB	**Lokgwabe**	**46.47**	**67**		**P**	**19 41 07.5**	**+1.4**
SBA	**Scott Base**	**46.70**	**184**	P	**P**	**19 41 07.8**	**+0.5**
KOOLE	**Kule**	**46.85**	**65**		**P**	**19 41 08.8**	**-0.5**
H04S2	**CROZET ISLANDS**	**47.05**	**114**	T	T	20 32 25.2	
	baz=230						
H04S3	**CROZET ISLANDS**	**47.06**	**114**	T	T	20 32 21.6	
	baz=230						
H04S1	**CROZET ISLANDS**	**47.07**	**114**	T	T	20 32 33.5	
	baz=230,SNR=4.1						
VNDA	**Vanda**	**47.18**	**182**		**P**	**19 41 11.9**	**+0.9**
VNDA	**Vanda**	**47.18**	**182**	P	**P**	**19 41 12.1**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=176,slow=6.6,SNR=38						
VNDA				LR	LR	20 01 46.7	
	comp=Z,37nm,19.4s,baz=166,slow=37						
	comp=Z,3.8nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.23**	**15**	T	T	20 32 10.7	
	baz=32,slow=74,SNR=25						
H10S3	**ASCENSION HYDR**	**47.23**	**15**	T	T	20 32 09.5	
	baz=188,slow=74,SNR=18						
PB01	**IPOC Station P**	**47.32**	**299**	P	**P**	**19 41 13.3**	**+0.5**
PTLB	**Pontes e Lacer**	**47.45**	**314**		**P**	**19 41 14.1**	**+0.4**
PTLB				IAmb	IAmb	19 41 15.8	
	comp=Z,13nm,1.0s						
KGCAE	**Kacgae**	**48.01**	**67**		**P**	**19 41 18.0**	**-0.2**
LBTB	**Lobatse**	**48.08**	**72**		**P**	**19 41 18.5**	**-0.2**
LBTB				IAmb	IAmb	19 41 47.0	
	comp=Z,12nm,1.2s						
LBTB	**Lobatse**	**48.08**	**72**	LR	LR	19 59 48.9	
	comp=Z,68nm,18.3s,baz=211,slow=34						
H10N1	**ASCENSION HYDR**	**48.35**	**15**	T	T	20 33 33.2	
	baz=189,slow=75,SNR=11						
H10N3	**ASCENSION HYDR**	**48.35**	**15**	T	T	20 33 34.7	
	baz=189,slow=75,SNR=20						
H10N2	**ASCENSION HYDR**	**48.37**	**15**	T	T	20 33 35.8	
	baz=189,slow=75,SNR=20						
PB11	**IPOC Station P**	**48.49**	**299**		**P**	**19 41 21.2**	**-0.8**
TSUM	**Tsumeb**	**48.70**	**60**		**P**	**19 41 23.5**	**-0.1**
TSUM				IAmb	IAmb	19 41 25.1	
	comp=Z,9.4nm,0.9s						
TSUM	**Tsumeb**	**48.70**	**60**	LR	LR	19 59 23.5	
	comp=Z,101nm,18.1s,baz=199,slow=33						
GRTLG	**Ghanzi**	**48.73**	**65**		**P**	**19 41 23.4**	**-0.4**
GRTLG				IAmb	IAmb	19 41 24.9	
	comp=Z,17nm,1.2s						
LPHEP	**Lephephe**	**49.54**	**71**	P	**P**	**19 41 29.2**	**-0.7**
VILB	**Vilhena**	**50.14**	**314**	P	**P**	**19 41 33.7**	**-0.8**
VILB				IAmb	IAmb	19 41 51.7	
	comp=Z,16nm,1.1s						
QNGWA	**Qangwa**	**50.23**	**64**	P	**P**	**19 41 35.1**	**-0.2**
KHWEE	**KHWEE**	**50.47**	**70**	P	**P**	**19 41 36.4**	**-0.7**
KHWEE				IAmb	IAmb	19 41 39.5	
	comp=Z,18nm,1.1s						
LPAZ	**La Paz**	**50.71**	**303**		**P**	**19 41 38.9**	**-0.6**
LPAZ				IAmb	IAmb	19 41 42.2	
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**50.71**	**303**	P	**P**	**19 41 41.4**	**+1.9**
	comp=Z,8.5nm,0.8s,baz=142,slow=4.7,SNR=26						
LPAZ				LR	LR	20 03 29.9	
	comp=Z,78nm,21.6s,baz=210,slow=36						
	comp=Z,8.5nm,0.8s						
GMARE	**

comp=Z,117nm,18.2s,baz=188,slow=31
comp=Z,6.1nm,0.8s
BOAV Boa Vista 64.33 321 P P 19 43 14.6 -0.1
BOAV IAmb IAmb 19 43 15.9
comp=Z,9.2nm,0.9s
COHC Cochancay 68.06 300 P **P 19 43 38.6 -0.1**
OTAV Otavalo 70.01 302 P **P 19 43 49.9 -1.5**
ROSC El Rosal 72.14 308 LR LR 20 16 21.9
comp=Z,108nm,20.5s,baz=61,slow=36
TORD Torodi Ar. Bea 72.17 28 P **P 19 44 03.1 -0.6**
TORD IAmb IAmb 19 44 05.3
comp=Z,9.3nm,0.9s
TORD Torodi Ar. Bea 72.17 28 P **P 19 44 04.4 +0.7**
comp=Z,9.0nm,0.6s,baz=197,slow=5.2,SNR=4.0
comp=Z,9.0nm,0.6s
RUSC La Rusia 72.53 310 P 19 44 05.8 -0.8
RUSC IAmb IAmb 19 44 11.4
comp=Z,18nm,1.4s
BAUV El Baul 73.18 316 P **P 19 44 09.5 -0.3**
BAUV IAmb IAmb 19 44 14.9
comp=Z,21nm,1.2s
KMBO Kilima Mbogo 74.09 68 P **P 19 44 17.6 +2.1**
comp=Z,8.3nm,0.3s,baz=209,slow=16,SNR=2.5
comp=Z,8.3nm,0.3s
SDV Santo Domingo 74.18 314 P **P 19 44 15.5 -0.4**
SDV IAmb IAmb 19 44 25.8
comp=Z,14nm,1.4s
SDV Santo Domingo 74.18 314 LR LR 20 21 13.4
comp=Z,150nm,18.0s,baz=182,slow=39
JTS Las Juntas de 81.88 301 LR LR 20 23 57.4
comp=Z,30nm,19.8s,baz=120,slow=38
TAM Tamanrasset 82.40 29 P 19 45 00.9 -0.2
FURI Furi 83.33 64 LR LR 20 20 01.1
comp=Z,100nm,19.2s,baz=140,slow=34
MTO3 Montecristo 87.58 300 P **P 19 45 27.3 -0.1**
MTO3 IAmb IAmb 19 45 35.2
comp=Z,14nm,1.5s
MDT Midelt 89.79 18 LR LR 20 22 28.7
comp=Z,83nm,19.1s,baz=232,slow=33
MD31 MD31 89.82 18 P **P 19 45 38.3 +0.9**
MD31 IAmb IAmb 19 45 41.5
comp=Z,8.7nm,1.2s
MD01 Midelt array s 89.82 18 P 19 45 38.2 +0.7
KEST Kesra 95.69 28 LR LR 20 25 42.2
comp=Z,60nm,20.0s,baz=312,slow=33
EIL Elat 99.36 50 LR LR 20 27 29.7
comp=Z,66nm,19.7s,baz=189,slow=33
NE56 Odesa 112.39 38 P **Pdif 19 47 18.6 +0.1**
FINES FINESS Array B 123.51 27 PKP **PKPdf 19 51 34.9 -0.1**
comp=Z,4.1nm,1.0s,baz=237,slow=4.6,SNR=7.3
CMAR Chiang Mai Arr 124.51 109 PKPdf 19 51 37.3 -1.0
CMAR Chiang Mai Arr 124.51 109 PKP **PKiKP 19 51 38.4 -0.3**
comp=Z,2.4nm,0.9s,baz=215,slow=3.3,SNR=18
EVN Everest 125.23 91 PKPdf 19 51 39.6 -0.6
ABKAR Akbulak array 126.39 54 PKPdf **PKPdf 19 51 41.0 +0.1**
KK31 Karatay Array 127.26 66 PKPdf 19 51 42.2 -0.7
KKAR Karatay Array 127.26 66 PKPdf 19 51 42.1 -0.7
KSH Kashi 127.64 73 PKP **PKiKP 19 51 44.3 -0.1**
J01E Myrtle Point 128.28 293 PKPdf **PKiKP 19 51 47.1 +1.8**
LSA Lhasa 129.02 93 PKPdf 19 51 47.1 -0.1
ARCES ARCESS Array B 130.12 21 PKP **PKPdf 19 51 47.3 -0.1**
comp=Z,2.9nm,0.7s,baz=282,slow=4.5,SNR=7.0
PZH PanZhiHua 132.50 105 PKP **PKPdf 19 51 53.3 -0.2**
MK31 Makanchi Array 135.94 70 PKPdf **PKPdf 19 51 58.9 -0.2**
MKAR Makanchi Array 135.94 70 PKPdf **PKPdf 19 51 58.7 -0.5**
MKAR Makanchi Array 135.94 70 PKP **PKPdf 19 51 59.3 +0.2**
comp=Z,1.0nm,0.7s,baz=241,slow=3.0,SNR=5.6
KURBB Kurchatov Arra 136.34 63 PKP **PKPdf 19 51 58.6 -1.0**
comp=Z,1.0nm,0.9s,baz=229,slow=2.7,SNR=7.3
WMQ Urumqi 137.00 77 *e*PKP **PKiKP 19 52 02.4 -0.7**
WMQ LR LR
comp=Z,190nm,23.1s
CD2 Chengdu 137.03 103 PKP **PKPdf 19 52 01.0 -0.7**
ZALV Zalesovo Beam 141.40 62 PKPdf **PKiKP 19 52 10.1 -1.5**
ZALV Zalesovo Beam 141.40 62 PKhKP PKPpre 19 52 05.7
comp=Z,0.3nm,0.3s,baz=245,slow=3.0,SNR=1.9
ZALV PKP sPKPdf 19 52 10.8 +0.6
comp=Z,1.4nm,0.6s,baz=226,slow=5.8,SNR=5.8
LYN LuoYang 144.56 109 PKP **PKPdf 19 52 14.8 -0.3**
M30M Minto, Yukon 145.41 310 PKPab 19 52 16.1 +0.1
H31M Peel River 145.46 316 PKPab 19 52 16.3 +0.3
NJ2 Nanjing 145.94 119 *e*PKPbc **PKPab 19 52 18.6 -0.1**
M29M Somme Creek 146.09 310 PKPbc 19 52 17.5 -0.5
K29M Barlow Dome 146.14 312 PKPdf 19 52 17.1 0.0
F30M Barrier River 146.51 319 PKPbc 19 52 18.8 -0.1
G29M Pine Creek 147.19 318 PKPbc 19 52 20.9 0.0
BTO Baotou 147.54 99 *e*PKPbc **PKPbc 19 52 23.3 +0.6**
BTO AMB AMB
comp=Z,270nm,7.4s
BCAR Beaver Creek A 147.74 310 PKPbc 19 52 21.7 -0.8
HNS HongShan 147.88 108 ⇓PKPbc **PKPbc 19 52 24.0 +0.4**
TIA Tai'an 148.30 112 PKPbc **PKPdf 19 52 13.6 -7.8**
H27K Steamboat Moun 148.41 316 PKPbc 19 52 24.2 +0.1
HHC Hu-ho-hao-te 148.57 100 *e*PKPbc **PKPdf 19 52 21.6 -0.2**
SONM Songino Array 149.89 84 PKPbc **PKPbc 19 52 28.3 -0.2**
comp=Z,5.1nm,0.7s,baz=230,slow=3.0,SNR=22
IL31 150.33 312 PKPbc 19 52 28.6 -0.3
ILAR Eielson Array 150.33 312 PKPbc **PKPbc 19 52 29.0 +0.1**
comp=Z,7.2nm,0.9s,baz=114,slow=1.4,SNR=37
WRH Wood River Hil 150.78 311 PKPbc 19 52 29.7 -0.2
KSRS Korea Array 154.69 124 PKPbc **PKiKP 19 52 40.1 +0.6**
comp=Z,0.5nm,0.6s,baz=221,slow=2.4,SNR=4.8
KSRS PKPab **PKPab 19 52 53.3 -1.1**
comp=Z,1.9nm,0.8s,baz=204,slow=5.2,SNR=6.2
MJAR Matsushiro Arr 158.14 143 PKPab **PKPab 19 53 09.8 +0.6**
comp=Z,2.8nm,0.7s,baz=182,slow=4.5,SNR=8.8
HILR Hailar Array B 158.37 91 PKPab **PKPab 19 53 11.8 +1.7**
comp=Z,0.5nm,0.3s,baz=162,slow=7.0,SNR=1.5

AUST 19 19:32:53.7±0.7, 18°S±6°×12°0E±°, h10km, mb4.0/3, ML2.4/2, Error ellipse: s-maj=12.8km s-min=8.1km az=159.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.63**	**131**	P	Pb	19 33 23.2	-0.7
CAAN				S	Sn	19 33 43.7	+0.2
AUBRM	**Broome Senior**	**1.94**	**83**	P	Pn	19 33 27.0	+0.3
MBWA	**Marble Bar**	**2.98**	**189**	P	Pn	19 33 41.3	+0.2
PSAD1	**Pilbara Seismi**	**3.26**	**186**	P	Pn	19 33 44.0	-1.0
FITZ	**Fitzroy Crossi**	**5.16**	**90**	P	Pn	19 34 09.2	-1.9
GIRL	**Giralia**	**7.14**	**231**	P	Pn	19 34 38.8	+0.6
	comp=Z,0.1nmcomp=Z,42nm,1.4s						
MEEK	**Meekatharra**	**8.53**	**190**	P	Pn	19 34 57.0	-0.5
	comp=Z,0.1nmcomp=Z,25nm,2.5s						
KNRA	**Kununurra**	**8.56**	**74**	P	Pn	19 34 57.0	-0.7
	comp=Z,0.0nmcomp=Z,6.7nm,1.8s						

*IDC **19** 19:36:37.6±0.5, 1°.33S×150°.44E, h0km, mb4.4/19, mbtmp4.4/22, ML2.6/2, MS3.5/18, Error ellipse: s-maj=20.1km s-min=11.6km az=82.0*
*NEIC **19** 19:36:39.8±1.6, 1°.31S±0°.05×150°.40E±0°.06, h10km±1km, mb4.8/52, Error ellipse: s-maj=11.3km s-min=5.8km az=50.0*
*DJA **19** 19:36:45.2±0.5, 1°S±4°×15°1E±°, h97km±7km, M4.4/18, mb4.6/18, mB4.9/5, Mw(mB)4.2/5*
ISC 19 19:36:43.2±0.3, 1°.42S±0°.05×150°.33E±0°.06, h35km, n136, σ1§34/122, mb4.7/54, MS3.5/16, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.02**	**258**		**Pn**	**19 37 27.2**	**-1.5**
MANU				Sn	**Sn**	**19 38 02.2**	**-1.4**
RABL	**Rabaul**	**3.31**	**146**		**Pn**	**19 37 32.5**	**-0.1**
PMG	**Port Moresby**	**8.54**	**202**	Pn	**Pn**	**19 38 45.2**	**+0.8**
PMG	**Port Moresby**	**8.54**	**202**	Pn	**Pn**	**19 38 46.5**	**+2.0**
	1.5nm,0.3s,baz=22,slow=11,SNR=5.6						
PMG				LR	LR	19 42 15.8	
	comp=Z,522nm,18.4s,baz=348,slow=39						
	11nm,1.0s						
PMG	**Port Moresby**	**8.54**	**202**	P	Pn	19 38 53.5	+9.1
JAY	**Jayapura**	**9.68**	**263**	Pn	**Pn**	**19 39 01.2**	**+1.1**
	0.2nm,0.3s,baz=115,slow=14,SNR=2.7						
	9.3nm,0.8s						
GENI	**Genyem**	**10.22**	**263**	P	Pn	19 39 16.5	+9.0
	26nm,1.2s						
PATS	**Pohnpei**	**11.43**	**44**	Pn	Pn	19 39 18.9	-5.1
SMPI	**Sarmi**	**11.63**	**267**	P	Pn	19 39 31.4	+4.7
	21nm,1.3s						
HNR	**Honiara**	**12.45**	**130**	Pn	**Pn**	**19 39 36.4**	**-1.6**
HNR	**Honiara**	**12.45**	**130**	Pn	**Pn**	**19 39 37.1**	**-0.8**
	16nm,0.5s,baz=343,slow=17,SNR=2.2						
HNR				Sn	**Sn**	**19 41 56.2**	**+0.7**
	3.7nm,0.3s,baz=273,slow=19,SNR=1.5						
HNR				LR	LR	19 44 11.1	
	comp=Z,125nm,19.3s,baz=10.0,slow=36						
COEN	**Coen**	**14.33**	**209**		**Pn**	**19 40 03.9**	**+0.2**
COEN	**Coen**	**14.33**	**209**	P	**P**	**19 40 07.9**	**-2.4**
GUMO	**Guam**	**15.86**	**340**	LR	LR	19 46 58.4	
	comp=Z,59nm,18.1s,baz=146,slow=39						
MTSU	**Mount Surprise**	**17.63**	**199**	P	**P**	**19 40 50.1**	**+3.1**
TV1H	**Townsville Har**	**18.07**	**191**	P	**P**	**19 40 54.5**	**+2.8**
SWI	**Sorong**	**19.07**	**271**	P	**Pn**	**19 41 05.7**	**+1.9**
	29nm,0.9s						
SANVU	**Saraoutou**	**21.72**	**131**	P	**P**	**19 41 29.8**	**-1.7**
QIS	**Mount Isa**	**21.72**	**208**	P	**P**	**19 41 34.2**	**+2.7**
AUNRC	**North Rockhamp**	**21.80**	**180**	P	**P**	**19 41 35.6**	**+3.3**
MTN	**Manton Dam**	**22.15**	**238**	P	**P**	**19 41 35.0**	**-1.1**
MTN				IAmb	IAmb	19 41 42.9	
	comp=Z,21nm,0.5s						
TNTI	**Ternate**	**23.06**	**275**		**P**	**19 41 44.0**	**-1.8**
TNTI				IAmb	IAmb	19 41 57.6	
	comp=Z,25nm,1.2s						
TNTI	**Ternate**	**23.06**	**275**	P	**P**	**19 41 42.0**	**-3.8**
TNTI	**Ternate**	**23.06**	**275**	P	**P**	**19 41 44.3**	**-1.5**
	comp=Z,431nmcomp=Z,16nm,0.9s						
NLAI	**Namlea**	**23.28**	**265**	P	**P**	**19 41 47.8**	**-0.2**
	comp=Z,34nm,0.6s						
EIDS	**Eidsvold**	**23.83**	**178**		**P**	**19 41 52.1**	**-1.0**
EIDS	**Eidsvold**	**23.83**	**178**	P	**P**	**19 41 55.3**	**+2.2**
WB0	**Warramunga Arr**	**24.00**	**219**		**P**	**19 41 54.6**	**-0.2**
WB0				IAmb	IAmb	19 41 56.2	
	comp=Z,37nm,1.1s						
WRAB	**Tennant Creek**	**24.14**	**219**	P	**P**	**19 41 56.2**	**0.0**
WRA	**Warramunga Arr**	**24.16**	**219**		**P**	**19 41 54.7**	**-1.6**
WRA	**Warramunga Arr**	**24.16**	**219**	P	**P**	**19 41 56.6**	**+0.3**
	comp=Z,15nm,0.6s,baz=41,slow=9.7,SNR=92						
WRA				PcP	**PcP**	**19 45 37.4**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=40,slow=2.1,SNR=5.5						
WRA				LR	LR	19 52 37.9	
	comp=Z,143nm,18.6s,baz=52,slow=40						
	comp=Z,15nm,0.6s						
SANI	**Sanana**	**24.34**	**268**	P	**P**	**19 41 54.3**	**-3.7**
SANI	**Sanana**	**24.34**	**268**	P	**P**	**19 41 57.5**	**-0.5**
	comp=Z,358nmcomp=Z,24nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**25.50**	**38**	T	T	20 09 18.1	
	baz=222,slow=76,SNR=1196						
H11S2	**WAKE ISLAND Hy**	**25.51**	**38**	T	T	20 09 33.2	
	baz=222,slow=76,SNR=499						
H11S1	**WAKE ISLAND Hy**	**25.52**	**38**	T	T	20 09 28.0	
	baz=222,slow=76,SNR=543						
KNRA	**Kununurra**	**25.56**	**235**		**P**	**19 42 08.5**	**-0.5**
KNRA				IAmb	IAmb	19 42 16.8	
	comp=Z,58nm,1.6s						
QLP	**Quilpie**	**25.70**	**193**	P	**P**	**19 42 11.3**	**+1.1**
DZM	**Mont Dzumac**	**25.84**	**144**	P	**P**	**19 42 12.1**	**+0.5**
	comp=Z,25nm,0.5s,baz=325,slow=3.4,SNR=46						
	comp=Z,25nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**26.55**	**37**	T	T	20 10 40.2	
	baz=220,slow=76,SNR=92						
H11N3	**WAKE ISLAND Hy**	**26.57**	**37**	T	T	20 10 41.3	
	baz=220,slow=76,SNR=168						
H11N2	**WAKE ISLAND Hy**	**26.57**	**37**	T	T	20 10 41.5	
	baz=220,slow=76,SNR=182						
SOEI	**Soe**	**27.20**	**251**		**P**	**19 42 22.9**	**-1.2**
AS31	**Alice Springs**	**27.25**	**214**	P	**P**	**19 42 24.2**	**-0.1**
ASAR	**Alice Springs**	**27.25**	**214**		**P**	**19 42 24.0**	**-0.4**
ASAR	**Alice Springs**	**27.25**	**214**	P	**P**	**19 42 24.4**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=39,slow=9.4,SNR=47						
ASAR				PcP	**PcP**	**19 45 44.7**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=24,slow=3.4,SNR=7.0						
ASAR				LR	LR	19 52 32.2	
	comp=Z,196nm,18.7s,baz=348,slow=35						
	comp=Z,4.2nm,0.6s						
BATI	**Baumata**	**27.90**	**251**	P	**P**	**19 42 32.6**	**+2.4**
ARMA	**Armidale**	**28.87**	**178**	P	**P**	**19 42 38.0**	**-0.7**
ARMA				IAmb	IAmb	19 42 41.3	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.36**	**234**		**P**	**19 42 42.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.36**	**234**	LR	LR	19 53 46.3	
	comp=Z,102nm,20.3s,baz=37,slow=35						
TOLI2	**Tolitoli**	**29.65**	**275**	P	**P**	**19 42 44.9**	**-0.9**
STKA	**Stephens Creek**	**31.40**	**194**	P	**P**	**19 43 00.3**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=19,slow=13,SNR=16						
STKA				LR	LR	19 55 57.1	
	comp=Z,148nm,18.4s,baz=25,slow=37						
	comp=Z,3.3nm,0.5s						
MYLDM	**Lahad Datu**	**32.46**	**282**	P	**P**	**19 43 10.6**	**0.0**
MYLDM				IAmb	IAmb	19 43 30.2	
	comp=Z,9.9nm,1.0s						
CAN	**Canberra**	**33.76**	**182**	P	**P**	**19 43 21.5**	**-0.1**
BBOO	**Buckleboo**	**33.99**	**202**	P	**P**	**19 43 22.7**	**-1.0**
MBWA	**Marble Bar**	**35.71**	**234**	P	**P**	**19 43 38.4**	**-0.2**
MBWA				IAmb	IAmb	19 44 33.6	
	comp=Z,44nm,1.8s						
JHJ	**Hachijo jima 2**	**35.76**	**345**	LR	LR	19 58 01.7	
	comp=Z,43nm,18.1s,baz=92,slow=36						
TOO	**Toolangi**	**36.25**	**187**	P	**P**	**19 43 44.0**	**+0.9**
TOO				IAmb	IAmb	19 43 55.3	
	comp=Z,18nm,1.4s						
TPUB	**Ta-pu**	**37.93**	**312**	P	**P**	**19 43 56.5**	**-1.1**
SBUM	**Sibu**	**38.29**	**276**	P	**P**	**19 44 00.1**	**-0.6**
JNU	**Nakatsue**	**38.95**	**334**	LR	LR	19 57 57.7	
	comp=Z,50nm,19.9s,baz=128,slow=33						
MJAR	**Matsushiro Arr**	**39.41**	**345**	P	**P**	**19 44 09.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=177,slow=8.5,SNR=4.0						
	comp=Z,1.2nm,0.8s						
KSM	**Kuching**	**40.12**	**274**	P	**P**	**19 44 15.7**	**-0.3**
KSRS	**Korea Array**	**43.89**	**334**	P	**P**	**19 44 46.6**	**+0.2**
	comp=Z,4.6nm,1.1s,baz=150,slow=8.5,SNR=9.3						
	comp=Z,4.6nm,1.1s						
KSAR	**Wonju Array Be**	**43.90**	**334**	P	**P**	**19 44 46.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**44.14**	**221**	LR	LR	20 04 58.2	
	comp=Z,172nm,20.9s,baz=204,slow=38						
TKNZ	**Takaka Hill**	**44.43**	**155**	P	**P**	**19 44 51.3**	**+0.5**
NJ2	**Nanjing**	**44.68**	**321**	*e*P	**P**	**19 44 55.4**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GVZ	**Greta Valley S**	**46.09**	**157**	P	**P**	**19 45 03.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**48.28**	**342**	P	**P**	**19 45 19.4**	**-1.5**
	comp=Z,3.2nm,0.8s,baz=147,slow=8.1,SNR=5.8						
	comp=Z,3.2nm,0.8s						
CN2	**Changchun**	**50.23**	**337**	*e*P	**P**	**19 45 37.4**	**+1.6**
CN2				*e*S	S	19 52 32.3	-13
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,11.0s						
CN2				LR	LR		
	comp=E,100nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
HNS	**HongShan**	**50.78**	**323**	⇑P	**P**	**19 45 43.3**	**+3.3**
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
BNX	**BinXian**	**51.15**	**339**	⇑P	**P**	**19 45 42.3**	**-0.4**
BNX				pmax	pmax		
	comp=Z,29nm,0.8s						
CM31	**Chiang Mai Arr**	**54.23**	**294**	P	**P**	**19 46 06.5**	**+0.5**
CM31				IAmb	IAmb	19 46 16.7	
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.23**	**294**		**P**	**19 46 06.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**54.23**	**294**	P	**P**	**19 46 07.3**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=110,slow=7.4,SNR=26						
	comp=Z,3.5nm,0.8s						
CHTO	**Chiang Mai**	**54.33**	**294**	P	**P**	**19 46 05.9**	**-0.8**
PZH	**PanZhiHua**	**54.43**	**304**	P	**P**	**19 46 09.8**	**+2.3**
PEA0B	**Petropavlovsk-**	**54.68**	**5**	P	**P**	**19 46 08.3**	**-0.3**
PETK	**Petropavlovsk-**	**54.68**	**5**	P	**P**	**19 46 08.2**	**-0.5**
PETK	**Petropavlovsk-**	**54.68**	**5**	P	**P**	**19 46 07.6**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=179,slow=7.3,SNR=13						
PETK				LR	LR	20 04 37.0	
	comp=Z,47nm,21.1s,baz=164,slow=31						
	comp=Z,3.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**54.88**	**324**	*e*P	**P**	**19 46 13.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,55nm,4.5s						
HEH	**HeiHe**	**55.09**	**342**	*e*P	**P**	**19 46 10.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,16nm,0.7s						
HILR	**Hailar Array B**	**57.19**	**337**	P	**P**	**19 46 26.1**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=148,slow=8.4,SNR=1.3						
	comp=Z,0.8nm,0.4s						
PPT2	**Papeete2**	**61.13**	**109**	*e*LR	LR	20 04 57.3	
	comp=Z,54nm,24.0s						
GTA	**Gaotai**	**61.51**	**317**	*e*P	**P**	**19 46 58.6**	**+1.7**
GTA				sP	pP	19 47 07.3	+0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**61.84**	**328**		**P**	**19 46 59.8**	**+0.8**
ULN				IAmb	IAmb	19 47 03.9	
	comp=Z,5.8nm,1.0s						
SONM	**Songino Array**	**62.16**	**328**	P	**P**	**19 47 01.8**	**+0.6**
SONM	**Songino Array**	**62.16**	**328**	P	**P**	**19 47 00.7**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=133,slow=6.3,SNR=15						
SONM				LR	LR	20 14 36.1	
	comp=Z,32nm,19.5s,baz=127,slow=37						
	comp=Z,1.8nm,0.7s						
SHL	**Shillong**	**62.48**	**300**		**P**	**19 47 03.2**	**-0.6**
SHL				IAmb	IAmb	19 47 13.7	
	comp=Z,8.5nm,0.7s						
SEY	**Seymchan**	**64.20**	**1**	LR	LR	20 14 25.4	
	comp=Z,20nm,20.1s,baz=172,slow=35						
YAK	**Yakutsk**	**65.20**	**349**		**P**	**19 47 21.5**	**+0.8**
YAK				IAmb	IAmb	19 47 24.4	
	comp=Z,13nm,1.1s						
YAK	**Yakutsk**	**65.20**	**349**	LR	LR	20 16 08.7	
	comp=Z,8.7nm,20.7s,baz=142,slow=36						
EVN	**Everest**	**67.48**	**301**		**P**	**19 47 36.7**	**-0.1**
EVN				IAmb	IAmb	19 47 52.1	
	comp=Z,17nm,1.4s						
CASY	**Casey**	**70.54**	**196**	P	**P**	**19 47 53.6**	**-0.6**
WMQ	**Urumqi**	**71.60**	**317**	*e*P	**P**	**19 48 00.1**	**-1.1**
WMQ				PcP	**PcP**	**19 48 24.1**	**+3.7**
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
M14K	**Bethel**	**72.00**	**22**	P	**P**	**19 48 03.4**	**+0.3**
K15K	**Wolf Creek Mou**	**73.14**	**21**	P	**P**	**19 48 10.0**	**+0.1**
TIXI	**Tiksi**	**74.25**	**353**		**P**	**19 48 16.8**	**+0.5**
TIXI	**Tiksi**	**74.25**	**353**	LR	LR	20 20 58.4	
	comp=Z,14nm,19.6s,baz=22,slow=36						
KDAK	**Kodiak Island**	**74.32**	**28**	LR	LR	20 13 05.2	
	comp=Z,69nm,22.0s,baz=254,slow=30						
H17K	**Granite Mounta**	**75.35**	**20**		**P**	**19 48 23.0**	**+0.3**
H17K				IAmb	IAmb	19 48 27.5	
	comp=Z,7.4nm,0.8s						
MKAR	**Makanchi Array**	**76.17**	**319**		**P**	**19 48 28.0**	**+0.1**
MKAR	**Makanchi Array**	**76.17**	**319**	P	**P**	**19 48 27.4**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=97,slow=8.0,SNR=15						
	comp=Z,3.3nm,0.7s						
VNDA	**Vanda**	**76.29**	**177**	P	**P**	**19 48 27.8**	**-0.1**
VNDA	**Vanda**	**76.29**	**177**	P	**P**	**19 48 28.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=355,slow=8.0,SNR=7.2						
	comp=Z,1.1nm,0.8s						
J19K	**Poorman**	**76.31**	**22**		**P**	**19 48 27.9**	**-0.3**
J19K				IAmb	IAmb	19 48 32.9	
	comp=Z,15nm,1.3s						
ZAA0	**Zalesovo Array**	**76.99**	**326**		**P**	**19 48 32.2**	**0.0**
ZAA0				IAmb	IAmb	19 48 35.7	
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**76.99**	**326**		**P**	**19 48 31.7**	**-0.6**
ZALV	**Zalesovo Beam**	**76.99**	**326**	P	**P**	**19 48 31.8**	**-0.4**
	comp=Z,6.2nm,0.8s,baz=107,slow=5.9,SNR=21						
ZALV				LR	LR	20 22 45.8	
	comp=Z,22nm,21.4s,baz=238,slow=36						
	comp=Z,6.2nm,0.8s						
PPLA	**Purkeypile**	**77.04**	**23**	P	**P**	**19 48 32.4**	**-0.1**
IMAR	**Indian Mountai**	**78.06**	**20**	P	**P**	**19 48 37.4**	**-0.7**
SML	**Sawmill**	**78.11**	**25**	P	**P**	**19 48 37.5**	**-1.0**
SML				IAmb	IAmb	19 48 42.3	
	comp=Z,15nm,1.0s						
KDJ	**Kajisay**	**78.51**	**313**		**P**	**19 48 40.9**	**-0.4**
KDJ				IAmb	IAmb	19 48 46.4	
	comp=Z,7.8nm,0.9s						
MLY	**Manley**	**78.65**	**22**		**P**	**19 48 41.3**	**-0.1**
MLY				IAmb	IAmb	19 48 45.8	
	comp=Z,8.4nm,0.8s						
KSH	**Kashi**	**78.87**	**311**	P	**P**	**19 48 46.3**	**+3.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOOM	**Boomskoye usch**	**79.48**	**314**		**P**	**19 48 45.9**	**-0.7**
CCB	**Clear Creek Bu**	**79.58**	**23**		**P**	**19 48 45.2**	**-1.2**
CCB				IAmb	IAmb	19 48 49.2	
	comp=Z,8.1nm,0.9s						
KURK	**Kurchatov**	**79.60**	**322**		**P**	**19 48 46.6**	**-0.2**
KURK				IAmb	IAmb	19 48 51.4	
	comp=Z,17nm,1.1s						
KURBB	**Kurchatov Arra**	**79.63**	**322**	P	**P**	**19 48 46.4**	**-0.5**
	comp=Z,5.7nm,0.8s,baz=108,slow=4.6,SNR=33						
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**79.99**	**23**	P	**P**	**19 48 47.1**	**-1.5**
ILAR	**Eielson Array**	**79.99**	**23**	P	**P**	**19 48 47.4**	**-1.2**
	comp=Z,4.4nm,0.8s,baz=254,slow=5.9,SNR=24						
ILAR				LR	LR	20 21 35.2	
	comp=Z,28nm,19.3s,baz=150,slow=34						
	comp=Z,4.4nm,0.8s						
NIL	**Nilore**	**80.04**	**304**		**P**	**19 48 48.4**	**-1.2**
NIL				IAmb	IAmb	19 48 54.7	
	comp=Z,10nm,0.9s						
BCAR	**Beaver Creek A**	**81.40**	**25**		**P**	**19 48 56.8**	**+0.5**
EGAK	**Eagle**	**82.26**	**24**		**P**	**19 49 01.4**	**+0.8**
EGAK				IAmb	IAmb	19 49 05.4	
	comp=Z,6.0nm,0.8s						
KK31	**Karatay Array**	**83.53**	**313**		**P**	**19 49 07.5**	**-0.3**
KK31				IAmb	IAmb	19 49 12.7	
	comp=Z,4.7nm,0.9s						
KKAR	**Karatay Array**	**83.53**	**313**		**P**	**19 49 07.4**	**-0.4**
MAW	**Mawson**	**87.73**	**203**	P	**P**	**19 49 27.8**	**-0.2**
	comp=Z,7.5nm,0.8s,baz=102,slow=9.1,SNR=11

H03S2	**Juan Fernandez**	**83.46 123**	T	T	21 22 29.3	
	baz=250,slow=75,SNR=14					
H03S1	**Juan Fernandez**	**83.47 123**	T	T	21 22 31.9	
	baz=250,slow=75,SNR=12					
H03S3	**Juan Fernandez**	**83.47 123**	T	T	21 22 35.0	
	baz=250,slow=75,SNR=15					
H03N2	**Juan Fernandez**	**83.57 123**	T	T	21 22 35.4	
	baz=255					
H03N3	**Juan Fernandez**	**83.57 123**	T	T	21 22 36.7	
	baz=255					
H03N1	**Juan Fernandez**	**83.58 123**	T	T	21 22 36.4	
	baz=255					
PDAR	**Pinedale Array**	**83.88 41**	P	**P**	**19 51 50.4**	**-0.4**
	0.5nm,0.7s,baz=223,slow=4.2,SNR=4.9					
	0.5nm,0.7s					
ILAR	**Eielson Array**	**84.85 11**	P	**P**	**19 51 55.5**	**+0.6**
	0.2nm,0.6s,baz=212,slow=6.4,SNR=1.8					
	0.2nm,0.6s					
ULM	**Lac du Bonnet**	**95.64 39**	LR	LR	20 29 42.4	
	comp=Z,63nm,20.3s,baz=272,slow=32					
BRTR	**Keskin Array B**	**148.36 319**	PKPbc	**PKiKP**	**19 59 09.4**	**+0.2**
	0.6nm,0.7s,baz=71,slow=3.5,SNR=5.1					
GERES	**GERESS Array B**	**148.71 352**	PKPbc	**PKiKP**	**19 59 09.1**	**-0.5**
	0.3nm,0.8s,baz=355,slow=6.5,SNR=2.4					

DJA 19 20:03:49.1±0.6, 8°S±3°×10°7E±°, h18km±5km, M3.9/17, mb4.4/4, MLv3.7/17, Jawa

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.77 352**	P	Pg	20 04 04.7	+0.4
CNJI			S	Sg	20 04 15.2	+0.6
SKJI	**Sukabumi**	**1.27 328**	P	Pn	20 04 12.0	+0.1
LEM	**Lembang**	**1.30 17**	P	Pb	20 04 13.1	0.0
DBJI	**Dramaga**	**1.59 342**	P	Pn	20 04 17.1	+0.7
DBJI			S	Sb	20 04 37.5	-0.3
KPJI	**Karang Pucung**	**1.83 66**	P	Pn	20 04 19.2	-0.5
CGJI	**Cibinong**	**2.12 313**	P	Pn	20 04 23.5	-0.1
CGJI			S	Sn	20 04 47.7	-1.8
UGM	**Wanagama**	**3.26 87**	P	Pn	20 04 38.2	-1.1
KASI	**Kota Agung**	**3.72 313**	P	Pn	20 04 46.0	+0.3
PCJI	**Pacitan**	**3.90 92**	P	Pn	20 04 47.3	-0.9
LWLI	**Liwa**	**4.39 314**	P	Pn	20 04 56.0	+1.0
MDSI	**Maura Dua**	**4.69 319**	P	Pn	20 04 59.5	+0.4
MNAI	**Manna**	**5.64 311**	P	Pn	20 05 13.0	+0.9
	110nm,1.4s					
JAGI	**Jajag, Banyuwa**	**6.85 94**	P	Pn	20 05 29.0	+0.2
	0.1nm19nm,1.5s					
SRBI	**Singaraja**	**7.89 91**	P	Pn	20 05 45.5	+2.4

IDC 19 20:15:52.2±18.0, 28°70N×84°40E, h0km, mb3.4/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=307.7km s-min=67.5km az=26.0, Nepal

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.14 355**	P	Pn	20 20 04.3	-1.2
	baz=174,slow=11,SNR=4.4					
	0.6nm,0.7s					
KURBB	**Kurchatov Arra**	**22.34 350**	P	P	20 20 52.5	+1.0
	0.6nm,0.8s,baz=156,slow=10,SNR=6.0					
	0.6nm,0.8s					
ZALV	**Zalesovo Beam**	**25.23 1**	P	P	20 21 18.9	-0.6
	1.0nm,0.6s,baz=171,slow=10,SNR=6.0					
	1.0nm,0.6s					
SONM	**Songino Array**	**25.60 36**	P	P	20 21 23.5	+0.3
	0.8nm,1.0s,baz=224,slow=7.8,SNR=4.3					
	0.8nm,1.0s					

*IDC **19** 20:17:08.3±1.6, 13°17S×74°92W, h87km±17km, mb3.6/5, mbtmp3.9/9, Error ellipse: s-maj=26.3km s-min=13.9km az=44.0*

*NEIC **19** 20:17:08.3±2.3, 13°33S±0°09×74°97W±0°10, h75km±10km, mb4.0/9, Error ellipse: s-maj=15.8km s-min=10.8km az=52.0.*

ISC 19 20:17:09.1±0.6, 13°26S±0°07×74°97W±0°08, h101km, n32, σ1§66/32, mb3.8/6, Central Peru

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.22 304**		**Pn**	**20 17 44.0**	**-0.7**
NNA			Sn	**Sn**	**20 18 11.2**	**-0.7**
NNA	**Nana**	**2.22 304**	P	**Pn**	**20 17 43.8**	**-0.9**
	87nm,0.2s,baz=132,slow=13,SNR=42					
NNA			S	**Sn**	**20 18 10.6**	**-1.2**
	375nm,0.4s,baz=210,slow=14,SNR=8.6					
CZSB	**Cruzeiro do Su**	**5.93 22**		**Pn**	**20 18 32.6**	**-2.0**
PB12	**IPOC Station P**	**6.95 141**	Pn	**Pn**	**20 18 46.7**	**-1.7**
ATAH	**Atahualpa**	**6.96 331**	P	**Pn**	**20 18 49.0**	**+0.2**
	1.7nm,0.3s,baz=158,slow=5.5,SNR=6.2					
ATAH			S	**Sn**	**20 20 02.7**	**-4.0**
	6.8nm,0.6s,baz=78,slow=20,SNR=1.4					
LPAZ	**La Paz**	**7.27 115**		**Pn**	**20 18 53.0**	**-0.3**
LPAZ	**La Paz**	**7.27 115**	P	**Pn**	**20 18 53.4**	**+0.1**
	2.8nm,0.3s,baz=283,slow=6.8,SNR=19					
PB16	**IPOC Station P**	**7.29 135**		**Pn**	**20 18 51.6**	**-1.8**
PB11	**IPOC Station P**	**8.23 142**	Pn	**Pn**	**20 19 02.5**	**-3.4**
GO01	**Chusmiza**	**8.45 140**	Pn	**Pn**	**20 19 07.2**	**-1.9**
HMBC	**Humberstone**	**8.51 146**		**Pn**	**20 19 06.6**	**-3.1**
COHC	**Cochancay**	**11.53 338**	Pn	**Pn**	**20 19 51.2**	**+0.6**
SIV	**San Ignacio**	**13.72 103**	P	**Pn**	**20 20 17.7**	**-1.9**
	0.6nm,0.5s,baz=282,slow=20,SNR=2.4					
RUSC	**La Rusia**	**19.12 6**	P	**Pn**	**20 21 27.2**	**+0.5**
RUSC			IAmb	IAmb	20 21 47.3	
	comp=Z,7.8nm,1.2s					
H03N1	**Juan Fernandez**	**20.41 189**	T	T	20 41 06.4	
	baz=12,slow=74,SNR=82					
H03N2	**Juan Fernandez**	**20.41 190**	T	T	20 41 05.6	
	baz=12,slow=74,SNR=118					
H03N3	**Juan Fernandez**	**20.43 190**	T	T	20 41 05.0	
	baz=12,slow=74,SNR=104					
MT09	**Talagante**	**20.75 171**	P	**P**	**20 21 42.0**	**+0.2**
BOAV	**Boa Vista**	**21.15 44**	P	**P**	**20 21 46.4**	**+0.1**
BO02	**Sierra Bellavi**	**21.77 171**	P	**P**	**20 21 52.1**	**-0.7**
BO02			IAmb	IAmb	20 22 10.9	
	comp=Z,7.8nm,1.2s					
SDV	**Santo Domingo**	**22.42 11**	P	**P**	**20 22 01.8**	**+1.9**
SDV			IAmb	IAmb	20 22 24.7	
	comp=Z,6.0nm,1.0s					
BAUV	**El Baul**	**23.11 18**	P	**P**	**20 22 07.6**	**+1.1**
PLCA	**Paso Flores**	**27.64 173**	P	**P**	**20 22 46.9**	**-0.4**
PLCA			IAmb	IAmb	20 22 48.3	
	comp=Z,6.6nm,1.4s					
PLCA	**Paso Flores**	**27.64 173**	P	**P**	**20 22 47.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=340,slow=10,SNR=5.8					
	comp=Z,1.1nm,0.6s					
TXAR	**Lajitas Array**	**50.60 327**	P	**P**	**20 25 58.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=141,slow=8.1,SNR=4.0					
	comp=Z,0.2nm,0.6s					
SNAA	**Sanae**	**71.90 162**	P	**P**	**20 28 21.2**	**+0.2**
SNAA			IAmb	IAmb	20 28 31.7	
	comp=Z,2.4nm,1.3s					
SNAA	**Sanae**	**71.90 162**	P	**P**	**20 28 21.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=274,slow=11,SNR=8.9					
	comp=Z,0.7nm,0.7s					
QSPA	**South Pole Qui**	**76.88 180**	P	**P**	**20 28 52.8**	**+2.8**
QSPA	**South Pole Qui**	**76.88 180**	P	**P**	**20 28 52.9**	**+2.8**
	comp=Z,1.0nm,0.8s,baz=141,slow=3.3,SNR=7.7					
	comp=Z,1.0nm,0.8s					
TORD	**Torodi Ar. Bea**	**80.37 74**	P	**P**	**20 29 10.4**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=242,slow=6.1,SNR=2.6					
	comp=Z,2.9nm,0.3s					
WRA	**Warramunga Arr**	**136.18 222**	PKP	**PKPdf**	**20 36 19.9**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=133,slow=2.1,SNR=2.4					
SONM	**Songino Array**	**145.51 358**	PKPbc	**PKPab**	**20 36 36.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=334,slow=4.4,SNR=4.7					

*MOS **19** 20:31:53.9±1.3, 19°05S×177°86E, h10km, mb5.4/41, MS5.1/23, Error ellipse: s-maj=8.8km s-min=7.2km az=104.2*

*NEIC **19** 20:31:55.9, 19°09S×178°11E, h24km, Moment Tensor Solution. Duration: 3§8 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.89; $M_{\theta\theta}$=2.96; $M_{\phi\phi}$=3.84; $M_{r\theta}$=0.79; $M_{\phi\theta}$=0.67; $M_{\phi r}$=1.85; Fault plane solution: M_0=4.08000×10^{17} NP1: ϕ_s=318.64000°, δ=62.67000°, λ=179.19000°. NP2: ϕ_s=49.01000°, δ=89.28000°, λ=27.33000°. Principal axes: T 4.5855, Plg19.0000°, Azm277.0000°; N -1.3603, Plg63.0000°, Azm50.0000°; P -3.2252, Plg18.0000°, Azm180.0000°;*

*NEIC **19** 20:31:55.9, 18°89S×178°11E, h24km*

*NEIC **19** 20:31:55.5±1.7, 18°92S±0°05×178°06E±0°07, h17km±3km, mb5.5/118, Ms_20 5.3/339, Mwb5.6/47, Mww5.7/27, Error ellipse: s-maj=9.8km s-min=7.5km az=95.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.27; $M_{\theta\theta}$=-2.86; $M_{\phi\phi}$=2.59; $M_{r\theta}$=-0.29; $M_{\phi\theta}$=0.89; $M_{\phi r}$=0.45; Fault plane solution: M_0=2.92000×10^{17} NP1: ϕ_s=54.22000°, δ=79.28000°, λ=1.97000°. NP2: ϕ_s=323.85000°, δ=88.07000°, λ=169.28000°. Principal axes: T 2.7955, Plg9.0000°, Azm279.0000°; N 0.2414, Plg79.0000°, Azm134.0000°; P -3.0370, Plg6.0000°, Azm10.0000°;*

*BJI **19** 20:31:57.5, 18°72S×177°97E, h27km, mB5.6/38, mb4.9/60, Ms5.2/61, Ms7 5.1/60*

*NEIC **19** 20:31:57.6, 18°88S×178°09E, h47km*

*GCMT **19** 20:31:58.5±0.1, 19°10S±0°01×177°99E, h12km, MW5.6/163, Moment Tensor Solution. s134,c230; s163,c348; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.60±.02; $M_{\theta\theta}$=2.33±.03; $M_{\phi\phi}$=2.93±.03; $M_{r\theta}$=0.24±.06; $M_{\phi\theta}$=0.84±.02; $M_{\phi r}$=0.54±.07; Best double couple: M_0=2.82200×10^{17} NP1: ϕ_s=54.00000°, δ=78.00000°, λ=-2.00000°. NP2: ϕ_s=144.00000°, δ=88.00000°, λ=-168.00000°. Principal axes: T 3.1280, Plg8.0000°, Azm278.0000°; N -0.6130, Plg78.0000°, Azm151.0000°; P -2.5170, Plg10.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **19** 20:31:59.0, 18°89S×178°03E, h28km, mb5.2/88, Fiji Islands*

*IDC **19** 20:31:59.3±1.3, 19°10S×177°90E, h36km±9km, mb4.6/26, mbtmp4.8/30, ML4.6/4, MS4.9/60, Error ellipse: s-maj=8.5km s-min=7.8km az=46.0*

ISC 19 20:31:58.5±0.2, 18°98S±0°03×178°10E±0°04, h35km, n890, σ1§80/719, mb5.3/149, MS5.2/273, 39C-65D, Fiji Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.24 358**		**Pn**	**20 32 16.6**	**-2.9**
MSVF			Sn	**Sn**	**20 32 33.0**	**-2.1**
MSVF	**Nonsavu**	**1.24 358**	P	**Pn**	**20 32 17.2**	**-2.3**
MSVF	**Nonsavu**	**1.24 358**	S	**Sn**	**20 32 34.0**	**-1.1**
MSVF	**Nonsavu**	**1.24 358**	*i* P	**Pn**	**20 32 15.9**	**-3.6**
FUTU	**Fugatoga**	**5.89 38**	Pn	**Pn**	**20 33 21.7**	**-1.6**
FUTU	**Fugatoga**	**5.89 38**	P	**Pn**	**20 33 24.3**	**+0.9**
MARNC	**Mare, Loyalty**	**9.77 254**	Pn	**Pn**	**20 34 14.6**	**-2.0**
MARNC	**Mare, Loyalty**	**9.77 254**	P	**Pn**	**20 34 17.9**	**+1.3**
FUNA	**Funafuti**	**10.45 6**	Pn	**Pn**	**20 34 22.2**	**-3.7**
PINNC	**Pines Island,**	**10.60 248**		**Pn**	**20 34 26.1**	**-1.7**
PINNC	**Pines Island,**	**10.60 248**	P	**Pn**	**20 34 28.7**	**+0.8**
RAO	**Raoul Island**	**10.85 161**	Pn	**Pn**	**20 34 30.5**	**-0.8**
RAO	**Raoul Island**	**10.85 161**	Pn	**Pn**	**20 34 33.6**	**+2.3**
	15nm,0.3s,baz=270,slow=20,SNR=4.1					
RAO			Sn	**Sn**	**20 36 35.8**	**+4.3**
	27nm,0.3s,baz=15,slow=20,SNR=1.6					
RAO			LR	LR	20 37 19.9	
	comp=Z,11μm,19.3s,baz=331,slow=30					
	48nm,0.3s					
GLKZ	**Green Lake**	**10.86 161**	P	**Pn**	**20 34 35.5**	**+4.1**
YATNC	**Mamie plateau,**	**10.94 252**	P	**Pn**	**20 34 34.9**	**+2.3**
AFI	**Afiamalu**	**10.94 64**		**Pn**	**20 34 30.6**	**-2.2**
AFI	**Afiamalu**	**10.94 64**	P	**Pn**	**20 34 35.3**	**+2.6**
AFI	**Afiamalu**	**10.94 64**	P	Pn	20 34 36.5	+3.8
AFI	**Afiamalu**	**10.94 64**	P	**Pn**	**20 34 30.6**	**-2.2**
SANVU	**Saraoutou**	**10.99 287**		**Pn**	**20 34 31.0**	**-2.2**
OUENC	**Ouen Island, N**	**11.07 250**	P	**Pn**	**20 34 34.8**	**+0.4**
NIUE	**Niue**	**11.33 92**	P	**Pn**	**20 34 37.0**	**-0.9**
NIUE	**Niue**	**11.33 92**		**Pn**	**20 34 36.6**	**-1.2**
NIUE	**Niue**	**11.33 92**	P	**Pn**	**20 34 38.3**	**+0.4**
DZM	**Mont Dzumac**	**11.34 252**	Pn	**Pn**	**20 34 38.0**	**-0.2**
	0.4nm,0.3s,baz=81,slow=14,SNR=25					
DZM			Sn	**Sn**	**20 36 44.1**	**+0.3**
	0.1nm,0.3s,baz=80,slow=17,SNR=1.2					
DZM			LR	LR	20 38 18.9	
	comp=Z,22μm,18.7s,baz=79,slow=34					
	151nm,1.3s					
ONTNC	**Ouen Toro**	**11.39 251**		**Pn**	**20 34 37.3**	**-1.5**
ONTNC	**Ouen Toro**	**11.39 251**	P	**Pn**	**20 34 40.9**	**+2.1**
KOUNC	**Koumac, New Ca**	**13.10 261**	P	**Pn**	**20 35 02.5**	**+0.4**
NFK	**Norfolk Island**	**13.65 221**	P	**Pn**	**20 35 08.7**	**-0.9**
	comp=Z,453nm,1.4s					
OUZ	**Omahuta**	**16.66 193**	P	**Pn**	**20 35 49.3**	**+0.1**
WCZ	**Waipu Caves**	**17.21 190**	P	**Pn**	**20 35 57.1**	**+1.0**
GRZ	**Great Barrier**	**17.36 187**	P	**Pn**	**20 35 59.0**	**+1.0**
KUZ	**Kuaotunu**	**17.82 186**	P	**Pn**	**20 36 05.4**	**+1.8**
MKAZ	**Moumakai**	**18.24 188**	P	**P**	**20 36 10.1**	**+1.3**
MXZ	**Matakaoa Point**	**18.51 179**		**P**	**20 36 09.8**	**-1.9**
HAZ	**Te Kaha**	**18.71 181**	P	**P**	**20 36 14.4**	**+0.5**
WMGZ	**Waiomatatini S**	**18.77 179**	P	**P**	**20 36 16.7**	**+2.2**
PKGZ	**Pakihiroa**	**18.82 180**	P	**Pn**	**20 36 19.8**	**+4.0**
TOZ	**Tahuroa Road**	**18.82 186**		**P**	**20 36 14.0**	**-1.1**
TOZ	**Tahuroa Road**	**18.82 186**	P	**Pn**	**20 36 18.6**	**+2.8**
OPRZ	**Ohinepanea**	**18.84 184**	P	**P**	**20 36 17.2**	**+1.8**
KMRZ	**Kaimai**	**18.89 185**	P	**Pn**	**20 36 22.4**	**+5.7**
RUGZ	**Raukumara Rang**	**18.92 181**	P	**Pn**	**20 36 20.2**	**+3.0**
LIRZ	**Lichensteins R**	**19.01 184**	P	**Pn**	**20 36 22.8**	**+4.6**
PUZ	**Puketiti**	**19.02 180**	P	**Pn**	**20 36 23.2**	**+4.9**
EDRZ	**Edgecumbe**	**19.09 183**	P	**P**	**20 36 20.8**	**+2.6**
OMRZ	**Omania**	**19.11 184**	P	**Pn**	**20 36 23.7**	**+4.2**
NGRZ	**Ngongotaha**	**19.12 185**	P	**P**	**20 36 21.0**	**+2.4**
URZ	**Urewera**	**19.23 182**	P	**P**	**20 36 18.8**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=8.4,slow=3.6,SNR=12					
URZ			S	**S**	**20 39 55.2**	**-0.3**
	comp=Z,10nm,1.1s,baz=49,slow=9.3,SNR=2.1					
URZ			LR	LR	20 41 53.2	
	comp=Z,10μm,21.4s,baz=18,slow=31					
	comp=Z,30nm,0.9s					
URZ	**Urewera**	**19.23 182**	P	**P**	**20 36 20.8**	**+1.2**
MWZ	**Matawai**	**19.29 181**	P	**P**	**20 36 21.4**	**+1.1**
TLZ	**Tolley Road**	**19.41 186**	P	**P**	**20 36 24.4**	**+2.8**
CNGZ	**Carnagh Statio**	**19.43 180**	P	**P**	**20 36 24.6**	**+2.7**
RAGZ	**Rawiri**	**19.45 182**	P	**P**	**20 36 22.0**	**-0.1**
RTZ	**Ruatahuna**	**19.59 183**		**P**	**20 36 22.6**	**-1.1**
RTZ			IAmb	IAmb	20 36 37.6	
	comp=Z,377nm,1.8s					
RIGZ	**Rimuhau**	**19.66 181**	P	**P**	**20 36 25.9**	**+1.5**
HIZ	**Hauiti**	**19.66 188**	P	**P**	**20 36 22.5**	**-1.9**
HIZ			IAmb	IAmb	20 36 31.2	
	comp=Z,420nm,1.7s					
HIZ	**Hauiti**	**19.66 188**	P	**Pn**	**20 36 28.3**	**+2.4**
HNR	**Honiara**	**19.98 296**	P	**P**	**20 36 23.9**	**-4.1**
HNR			IAmb	IAmb	20 36 40.1	
	comp=Z,334nm,1.2s					
HNR	**Honiara**	**19.98 296**	P	**P**	**20 36 28.7**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=120,slow=14,SNR=8.8					
HNR			S	**S**	**20 40 10.8**	**-0.1**
	comp=Z,14nm,0.4s,baz=153,slow=6.8,SNR=1.2					
HNR			LR	LR	20 42 57.1	
	comp=Z,3μm,19.2s,baz=130,slow=33					
	comp=Z,14nm,0.3s					
HNR	**Honiara**	**19.98 296**	P	Pn	20 36 30.0	+0.2
BKZ	**Black Stump Fm**	**20.16 184**		**P**	**20 36 27.9**	**-1.9**
BKZ			IAMs_20	IAMs_20	20 42 13.1	
	comp=Z,10μm,22.0s					
BKZ	**Black Stump Fm**	**20.16 184**	P	Pn	20 36 33.1	+1.2
BKZ	**Black Stump Fm**	**20.16 184**	P	**P**	**20 36 31.4**	**+1.6**
OTVZ	**Oturere**	**20.22 185**	P	**P**	**20 36 32.2**	**+1.6**
SAVO	**Savo Central**	**20.23 296**	P	**P**	**20 36 31.4**	**+0.6**
NGZ	**Ngauruhoe**	**20.24 186**	P	**P**	**20 36 34.0**	**+3.2**
VRZ	**Vera Road**	**20.28 188**	P	Pn	20 36 34.6	+1.4
NEZ	**North Egmont**	**20.51 189**	P	Pn	20 36 37.2	+1.1
RAR	**Rarotonga**	**20.90 100**	P	**P**	**20 36 36.8**	**-1.1**
RAR			IAmb	IAmb	20 36 45.8	
	comp=Z,307nm,1.8s					
RAR	**Rarotonga**	**20.90 100**	P	Pn	20 36 41.5	+0.9
	comp=Z,27nm,1.0s,baz=262,slow=19,SNR=5.4					
RAR			S	Sn	20 40 34.0	-1.8
	comp=Z,8.2nm,0.6s,baz=300,slow=20,SNR=1.1					
RAR			LR	LR	20 45 05.7	
	comp=Z,3μm,18.1s,baz=239,slow=37					
	comp=Z,27nm,1.0s					
RAR	**Rarotonga**	**20.90 100**	P	**P**	**20 36 36.8**	**-1.1**
RAR			pmax	pmax		
	comp=Z,307nm,1.8s					
LHI	**Lord Howe Isla**	**21.22 230**	P	**P**	**20 36 43.4**	**+2.0**
LHI	**Lord Howe Isla**	**21.22 230**	P	**P**	**20 36 40.2**	**-1.1**
LHI			IAmb	IAmb	20 36 56.8	
	comp=Z,224nm,1.2s					
LHI	**Lord Howe Isla**	**21.22 230**	P	**P**	**20 36 42.6**	**+1.3**
BFZ	**Birch Farm**	**21.68 184**	IAMs_20	IAMs_20	20 43 23.4	
	comp=Z,10μm,21.0s					
BFZ	**Birch Farm**	**21.68 184**	P	**P**	**20 36 47.7**	**+1.5**
BFZ	**Birch Farm**	**21.68 184**	P	**P**	**20 36 45.2**	**-1.0**
MRZ	**Mangatainoka R**	**21.71 185**	P	**P**	**20 36 45.8**	**-0.7**
MRZ			IAmb	IAmb	20 36 52.5	
	comp=Z,289nm,1.9s					
MRZ			IAMs_20	IAMs_20	20 43 23.2	
	comp=Z,9μm,20.0s					
MRZ	**Mangatainoka R**	**21.71 185**	P	**P**	**20 36 46.5**	**0.0**
QRZ	**Quartz Range**	**22.29 191**	P	**P**	**20 36 53.2**	**+0.5**
SNZO	**South Karori**	**22.44 187**	P	**P**	**20 36 52.9**	**-1.4**
SNZO	**South Karori**	**22.44 187**	P	**P**	**20 36 56.8**	**+2.5**
NNZ	**Nelson**	**22.53 189**	IAMs_20	IAMs_20	20 44 05.6	
	comp=Z,9μm,19.0s					
NNZ	**Nelson**	**22.53 189**	P	**P**	**20 36 55.5**	**+0.3**
THZ	**Tophouse**	**23.13 190**	IAMs_20	IAMs_20	20 44 24.7	
	comp=Z,9μm,20.0s					
THZ	**Tophouse**	**23.13 190**	P	**P**	**20 37 01.4**	**-0.2**
DSZ	**Denniston Nort**	**23.31 192**	P	**P**	**20 37 03.0**	**-0.4**
KHZ	**Kahutara**	**23.68 188**	IAMs_20	IAMs_20	20 45 04.1	
	comp=Z,9μm,19.0s					
KHZ	**Kahutara**	**23.68 188**	P	**P**	**20 37 05.0**	**-1.8**
LTZ	**Lake Taylor**	**24.23 190**		**P**	**20 37 09.4**	**-2.7**
LTZ			IAmb	IAmb	20 37 16.5	
	comp=Z,72nm,0.8s					
GC1S	**Gold Coast 1 S**	**24.28 243**	P	**P**	**20 37 14.2**	**+1.6**
GVZ	**Greta Valley S**	**24.29 189**	IAMs_20	IAMs_20	20 45 32.3	
	comp=Z,7μm,20.0s					
GVZ	**Greta Valley S**	**24.29 189**	P	**P**	**20 37 11.3**	**-1.2**
AUWSH	**Wavell State H**	**24.48 245**	P	**P**	**20 37 16.3**	**+1.9**
MQZ	**McQueen's Vall**	**25.07 189**	IAMs_20	IAMs_20	20 46 14.9	
	comp=Z,7μm,19.0s					
RPZ	**Rata Peaks**	**25.36 192**	LR	LR	20 45 43.4	
	comp=Z,3μm,21.7s,baz=20,slow=33					
TW1H	**Toowoomba 1 Ha**	**25.43 246**	P	**P**	**20 37 23.8**	**+0.7**
GD1S	**Gladstone Soft**	**25.51 254**	P	**P**	**20 37 25.8**	**+2.0**
EIDS	**Eidsvold**	**25.78 251**	P	**P**	**20 37 25.4**	**-0.9**
	comp=Z,50nm,1.3s					
EIDS	**Eidsvold**	**25.78 251**		**P**	**20 37 24.0**	**-2.3**
EIDS	**Eidsvold**	**25.78 251**	P	**P**	**20 37 25.9**	**-0.4**
AUNRC	**North Rockhamp**	**26.05 256**	P	**P**	**20 37 30.7**	**+2.0**
JCZ	**Jackson Bay**	**26.21 195**	P	**P**	**20 37 32.6**	**+2.6**
ARMA	**Armidale**	**26.54 240**	P	**P**	**20 37 32.8**	**-0.5**
	comp=Z,45nm,1.7s					
ARMA	**Armidale**	**26.54 240**		**P**	**20 37 32.0**	**-1.2**
ARMA	**Armidale**	**26.54 240**	P	**P**	**20 37 35.4**	**+2.2**
AUPHS	**Peel High Scho**	**27.36 239**	P	**P**	**20 37 41.4**	**+0.9**
MLZ	**Mavora Lakes**	**27.59 195**	IAMs_20	IAMs_20	20 47 31.3	
	comp=Z,5μm,18.0s					
WHZ	**Wether Hill Ro**	**28.12 195**	IAMs_20	IAMs_20	20 47 21.1	
	comp=Z,6μm,18.0s					
SYDH	**Sydney Hard Ro**	**28.48 233**	P	**P**	**20 37 53.7**	**+3.3**
PYZ	**Puysegur Point**	**28.70 197**	IAMs_20	IAMs_20	20 47 54.3	
	comp=Z,7μm,18.0s					
RABL	**Rabaul**	**29.28 297**	P	**P**	**20 37 55.2**	**-2.5**
RABL			IAmb	IAmb	20 38 29.4	
	comp=Z,34nm,0.6s					
AULRC	**Lightning Ridg**	**29.29 243**	P	**P**	**20 37 59.5**	**+1.8**
TV1H	**Townsville Har**	**29.56 264**	P	**P**	**20 38 01.1**	**+1.0**
CTA	**Charters Tower**	**30.01 263**	LR	LR	20 48 25.2	
	comp=Z,137nm,21.0s,baz=89,slow=33					
CNB	**Canberra Magne**	**30.16 232**	P	**P**	**20 38 05.3**	**0.0**
	comp=Z,61nm,1.1s					
CNB	**Canberra Magne**	**30.16 232**		**P**	**20 38 07.7**	**+2.3**
AUDAR	**Daramalan Coll**	**30.29 232**	P	**P**	**20 38 08.3**	**+1.7**
AUSIS	**Research Schoo**	**30.33 232**	P	**P**	**20 38 08.9**	**+2.0**
AUMHS	**Melrose High S**	**30.38 232**	P	**P**	**20 38 09.1**	**+1.8**
AUMTS	**Mt Stromlo**	**30.43 232**	P	**P**	**20 38 09.7**	**+1.9**
CAN	**Canberra**	**30.43 232**	P	**P**	**20 38 07.8**	**0.0**
	comp=Z,40nm,1.2s					
CAN	**Canberra**	**30.43 232**		**P**	**20 38 06.4**	**-1.4**
CAN			IAmb	IAmb	20 38 17.0	
	comp=Z,74nm,1.4s					
CAN	**Canberra**	**30.43 232**	P	**P**	**20 38 09.6**	**+1.8**
CAN	**Canberra**	**30.43 232**	P	**P**	**20 38 06.4**	**-1.4**
CAN			pmax	pmax		
	comp=Z,74nm,1.4s					
CAN			MLR	MLR		
	comp=Z,2μm,20.0s					
YNG	**Young**	**30.48 234**	P	**P**	**20 38 09.0**	**+0.9**
	comp=Z,34nm,1.3s					
PPT2	**Papeete2**	**30.70 93**	*e*PKIKP	P	20 38 02.5	-7.9
	comp=Z,388nm,26.0s					
PPT2			*e*S	**S**	**20 43 06.9**	**-4.2**
	comp=Z,2μm,25.2s					
PPT2			*e*LQ	LQ	20 44 50.4	
	comp=Z,2μm,24.2s					
PPT2			*e*LR	LR	20 46 07.8	
	comp=Z,12μm,28.0s					
PPT2			*e*LR	LR	20 46 16.1	
	comp=Z,15μm,25.8s	

comp=Z,89nm,1.2s
BBOO Buckleboo 39.98 241 P P 20 39 28.4 -1.5
BBOO Buckleboo 39.98 241 P P 20 39 30.9 +1.0
JAY Jayapura 40.08 290 LR LR 20 55 42.2
comp=Z,924nm,18.8s,baz=98,slow=36
GENI Genyem 40.52 289 P P 20 39 35.8 +1.3
GENI Genyem 40.52 289 P P 20 39 34.5 0.0
comp=Z,3μmcomp=Z,123nm,1.6s
AUCAS Cummins Area S 40.52 239 P P 20 39 37.2 +2.9
WB0 Warramunga Arr 41.15 261 P P 20 39 38.1 -1.6
WRAB Tennant Creek 41.17 261 IAMs_20 IAMs_20 20 54 40.9
comp=Z,3μm,21.0s
WRAB Tennant Creek 41.17 261 P P 20 39 40.6 +0.7
WRAB Tennant Creek 41.17 261 *ce*P **P 20 39 38.5 -1.4**
WRAB pmax pmax
comp=Z,30nm,1.3s
WRA Warramunga Arr 41.18 261 P P 20 39 37.0 -3.0
WRA Warramunga Arr 41.18 261 P P 20 39 37.7 -2.3
comp=Z,5.8nm,0.7s,baz=97,slow=8.0,SNR=43
WRA S **S 20 45 48.8 -2.6**
comp=Z,0.1nm,0.3s,baz=100,slow=10,SNR=1.8
WRA LR LR 20 57 06.4
comp=Z,3μm,18.1s,baz=98,slow=37
comp=Z,5.8nm,0.7s
AS01 Alice Springs 41.27 256 P P 20 39 40.3 -0.4
AS31 Alice Springs 41.31 256 P P 20 39 40.1 -0.9
comp=Z,18nm,0.6s
AS31 Alice Springs 41.31 256 P 20 39 39.5 -1.5
ASAR Alice Springs 41.31 256 P 20 39 39.9 -1.1
ASAR Alice Springs 41.31 256 P P 20 39 39.8 -1.2
comp=Z,21nm,0.5s,baz=92,slow=8.0,SNR=399
ASAR S **S 20 45 51.4 -1.9**
comp=Z,0.2nm,0.8s,baz=84,slow=18,SNR=1.7
ASAR LR LR 20 56 29.2
comp=Z,3μm,18.1s,baz=97,slow=36
comp=Z,21nm,0.5s
ASAR Alice Springs 41.31 256 P P 20 39 39.9 -1.1
AUALC St Philip's Co 41.33 255 P P 20 39 41.4 +0.2
SMPI Sarmi 42.09 289 P P 20 39 45.5 -1.9
comp=Z,2μmcomp=Z,59nm,1.6s
RKT Rikitea 43.85 104 *e*LQ LQ 20 50 07.2
comp=Z,22μm,41.5s
RKT *e*LR LR 20 52 12.6
comp=Z,36μm,28.0s
KDU Kakadu 44.24 271 P P 20 40 04.4 -0.4
comp=Z,23nm,1.6s
BAKI Biak 44.78 288 P P 20 40 09.6 +0.5
comp=Z,68nm,1.6s
MTN Manton Dam 45.47 270 P P 20 40 13.0 -1.6
comp=Z,28nm,1.0s
MTN Manton Dam 45.47 270 P 20 40 12.6 -2.0
DRS Darwin Rock St 45.79 271 P P 20 40 16.8 -0.4
AUDHS Darwin High Sc 45.86 271 P P 20 40 18.7 +1.0
GUMO Guam 46.04 312 LR LR 20 58 25.4
comp=Z,586nm,19.9s,baz=136,slow=34
WRKA Warakurna 46.36 253 P P 20 40 20.8 -0.8
comp=Z,28nm,1.3s
RKPI Ransiki, Papua 46.38 287 P P 20 40 22.3 +0.5
comp=Z,39nm,0.9s
FORT Forrest 46.55 245 P P 20 40 21.8 -1.1
comp=Z,55nm,1.4s
FORT Forrest 46.55 245 P 20 40 21.4 -1.6
KNRA Kununurra 47.09 266 P P 20 40 26.8 -0.6
comp=Z,25nm,1.2s
KNRA Kununurra 47.09 266 P 20 40 25.2 -2.2
KNRA IAmb IAmb 20 40 28.1
comp=Z,74nm,1.6s
FAKI Fak Fak 47.57 284 P P 20 40 28.4 -2.8
FAKI IAmb IAmb 20 40 59.9
comp=Z,84nm,1.3s
SWI Sorong 49.30 286 P P 20 40 43.5 -0.9
comp=Z,2μmcomp=Z,836nmcomp=Z,30nm,1.3s
SWI Sorong 49.30 286 P P 20 40 44.0 -0.4
FITZ Fitzroy Crossi 49.59 262 P P 20 40 45.5 -1.1
FITZ Fitzroy Crossi 49.59 262 P P 20 40 45.4 -1.2
FITZ Fitzroy Crossi 49.59 262 LR LR 21 00 13.7
comp=Z,3μm,21.6s,baz=102,slow=34
KMBL Kambalda 51.86 245 P P 20 41 01.4 -2.2
comp=Z,19nm,1.7s
NLAI Namlea 52.21 281 P P 20 41 03.1 -3.3
comp=Z,1μmcomp=Z,41nm,1.7s
SOEI Soe 52.78 272 P P 20 41 09.9 -0.8
SOEI Soe 52.78 272 P P 20 41 11.6 +0.9
SOEI Soe 52.78 272 P P 20 41 10.7 0.0
BATI Baumata 53.22 271 LR LR 21 03 50.7
comp=Z,2μm,19.1s,baz=133,slow=36
TNTI Ternate 53.52 286 P P 20 41 14.8 -1.2
TNTI IAmb IAmb 20 41 25.3
comp=Z,49nm,1.3s
DRV Dumont d'Urvil 53.61 198 P P 20 41 14.7 -1.2
SANI Sanana 53.68 282 P P 20 41 18.0 +0.8
SANI Sanana 53.68 282 P P 20 41 16.0 -1.2
PSA00 Pilbara Seismi 54.43 257 P P 20 41 21.3 -1.3
comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 54.43 257 P P 20 41 20.8 -1.9
PSA00 IAmb IAmb 20 41 25.4
comp=Z,47nm,1.1s
PSA00 Pilbara Seismi 54.43 257 P P 20 41 20.2 -2.4
PSA00 IAmb IAmb 20 41 23.3
comp=Z,73nm,1.8s
PSA00 Pilbara Seismi 54.43 257 P P 20 41 21.9 -0.8
MBWA Marble Bar 54.60 257 P P 20 41 21.1 -2.8
MBWA Marble Bar 54.60 257 P P 20 41 21.3 -2.6
MBWA IAmb IAmb 20 41 27.2
comp=Z,50nm,1.1s
MBWA Marble Bar 54.60 257 P P 20 41 23.4 -0.5
MEEK Meekatharra 54.95 250 P P 20 41 24.7 -1.7
comp=Z,49nm,1.3s
MEEK Meekatharra 54.95 250 P P 20 41 25.9 -0.5
MMRI Maumere 55.02 273 P P 20 41 24.5 -2.5
MMRI Maumere 55.02 273 P P 20 41 27.2 +0.2
NWAO Narrogin (SRO) 55.78 243 P P 20 41 31.0 -1.2
comp=Z,133nm,1.9s
NWAO Narrogin (SRO) 55.78 243 P P 20 41 30.1 -2.1
NWAO Narrogin (SRO) 55.78 243 IAMs_20 IAMs_20 21 04 26.4
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 55.78 243 LR LR 21 04 47.1
comp=Z,3μm,18.9s,baz=84,slow=35
NWAO Narrogin (SRO) 55.78 243 P P 20 41 33.0 +0.8
NWAO Narrogin (SRO) 55.78 243 P P 20 41 32.1 -0.1
NWAO Narrogin (SRO) 55.78 243 P P 20 41 30.1 -2.1
NWAO pmax pmax
comp=Z,193nm,1.7s
NWAO MLR MLR
comp=Z,3μm,20.0s
MUN Mundaring 56.68 244 P P 20 41 38.8 +0.1
comp=Z,56nm,2.2s
MUN Mundaring 56.68 244 P P 20 41 39.9 +1.2
MORW Morawa 57.01 247 P P 20 41 37.9 -3.2
MORW Morawa 57.01 247 P P 20 41 39.0 -2.1
MORW IAmb IAmb 20 41 41.3
comp=Z,125nm,1.9s
MORW Morawa 57.01 247 P P 20 41 42.5 +1.4
LUWI Luwuk 57.04 281 P P 20 41 39.0 -2.4
JCJ Chichijima 57.54 322 LR LR 21 03 21.9
comp=Z,382nm,20.9s,baz=142,slow=33
DAV Davao City (W) 57.86 292 LR LR 21 04 05.0
comp=Z,793nm,21.8s,baz=110,slow=33
KAPI Kappang 58.48 276 P P 20 41 49.1 -2.5
KAPI IAmb IAmb 20 42 07.6
comp=Z,35nm,1.2s
KAPI Kappang 58.48 276 LR LR 21 07 05.5
comp=Z,582nm,20.0s,baz=105,slow=36
KAPI Kappang 58.48 276 P P 20 41 49.1 -2.5
KAPI pmax pmax
comp=Z,35nm,1.2s
VNDA Vanda 59.12 184 P P 20 41 53.8 -1.3
VNDA Vanda 59.12 184 P P 20 41 53.9 -1.2
comp=Z,0.9nm,0.8s,baz=15,slow=5.0,SNR=8.7
VNDA PcP **PcP 20 42 44.7 +1.4**
comp=Z,2.7nm,0.8s,baz=0.0,slow=1.0,SNR=7.4
VNDA S **S 20 49 57.2 -2.4**
comp=Z,0.2nm,0.4s,baz=330,slow=6.8,SNR=3.0
VNDA LR LR 21 03 58.2
comp=Z,1μm,19.5s,baz=12,slow=32
comp=Z,0.9nm,0.8s
SBA Scott Base 59.17 183 P P 20 41 54.4 -1.0
SBA Scott Base 59.17 183 P P 20 41 54.4 -1.0
SBA pmax pmax
comp=Z,17nm,1.2s
SBA MLR MLR
comp=Z,1μm,19.0s
PLAI Plampang 59.18 271 P P 20 41 57.3 +0.9
GIRL Giralia 59.41 254 P P 20 41 55.7 -2.2
comp=Z,67nm,1.8s
TOLI2 Tolitoli 59.69 283 P P 20 41 57.0 -2.9
TOLI2 IAmb IAmb 20 42 00.8
comp=Z,78nm,1.6s
TOLI2 Tolitoli 59.69 283 P P 20 41 01.1 +1.1
JAGI Jajag, Banyuwa 62.71 270 P P 20 42 17.5 -3.0
JAGI IAmb IAmb 20 42 25.1
comp=Z,43nm,0.9s
JAGI Jajag, Banyuwa 62.71 270 P P 20 42 22.1 +1.6
MYLDM Lahad Datu 63.39 286 P P 20 42 23.1 -1.8
MYLDM IAmb IAmb 20 42 28.4
comp=Z,80nm,1.5s
MYLDM Lahad Datu 63.39 286 P P 20 42 26.6 +1.7
JHJ Hachijo jima 2 63.43 324 LR LR 21 04 08.3
comp=Z,661nm,21.6s,baz=129,slow=30
CASY Casey 63.78 205 P P 20 42 24.4 -2.3
CASY IAmb IAmb 20 42 45.3
comp=Z,82nm,1.9s
TGY Tagaytay City 65.19 296 LR LR 21 08 54.4
comp=Z,701nm,20.6s,baz=114,slow=34
UGM Wanagama 66.31 270 P P 20 42 42.5 -1.5
JOW Kunigami 66.40 312 LR LR 21 10 22.6
comp=Z,930nm,18.8s,baz=127,slow=35
RPN Rapa Nui 66.47 112 LR LR 21 04 37.5
comp=Z,640nm,20.8s,baz=275,slow=29
JGF Kuroka 66.62 325 P P 20 42 46.4 +0.9
MJAR Matsushiro Arr 66.86 326 P P 20 42 47.5 +0.5
comp=Z,7.7nm,0.9s,baz=155,slow=5.7,SNR=14
MJAR S **S 20 51 40.6 +3.3**
comp=Z,0.6nm,0.5s,baz=136,slow=18,SNR=2.5
MJAR LR LR 21 06 48.9
comp=Z,684nm,21.9s,baz=127,slow=31
comp=Z,7.7nm,0.9s
MAJO Matsushiro 66.86 326 P P 20 42 44.0 -3.0
MAJO IAmb IAmb 20 42 54.0
comp=Z,53nm,1.4s
MAJO Matsushiro 66.86 326 P P 20 42 47.5 +0.5
MAJO Matsushiro 66.86 326 *i* P **P 20 42 44.6 -2.4**
MAJO pmax pmax
comp=Z,47nm,1.5s
SBUM Sibu 68.12 281 P P 20 42 53.2 -2.3
SBUM Sibu 68.12 281 P P 20 42 56.3 +0.8
JNU Nakatsue 68.69 319 LR LR 21 06 37.8
comp=Z,271nm,20.8s,baz=118,slow=30
LEM Lembang 69.38 270 LR LR 21 12 15.6
comp=Z,777nm,21.1s,baz=106,slow=35
TWG Pinlang 69.48 304 IAMs_20 IAMs_20 21 07 17.7
comp=Z,2μm,21.0s
KSM Kuching 69.55 279 P P 20 43 02.2 -2.2
KSM Kuching 69.55 279 P P 20 43 05.7 +1.3
YULB Yu-li 69.61 305 IAMs_20 IAMs_20 21 07 32.3
comp=Z,2μm,22.0s
NACB Ninganchiao 69.80 306 P P 20 43 02.8 -2.8
NACB IAmb IAmb 20 43 17.5
comp=Z,65nm,1.2s
NACB IAMs_20 IAMs_20 21 07 54.2
comp=Z,1μm,22.0s
TPUB Ta-pu 70.08 304 IAMs_20 IAMs_20 21 09 11.8
comp=Z,2μm,21.0s
YHNB Yeheng 70.23 306 IAMs_20 IAMs_20 21 09 13.7
comp=Z,2μm,21.0s
ASAJ Asahikawa 70.70 334 P P 20 43 14.7 +4.0
comp=Z,9.4nm,0.9s,baz=103,slow=16,SNR=2.5
ASAJ S **S 20 52 26.7 +4.1**
comp=Z,12nm,1.2s,baz=195,slow=20,SNR=1.3
ASAJ LR LR 21 10 43.2
comp=Z,430nm,19.3s,baz=158,slow=33
ADK Adak 70.71 3 P P 20 43 08.7 -1.9
ADK Adak 70.71 3 P P 20 43 12.1 +1.5
ADK Adak 70.71 3 P P 20 43 08.7 -1.9
ADK pmax pmax
comp=Z,161nm,1.6s
ADK MLR MLR
comp=Z,1μm,21.0s
QSPA South Pole Qui 71.07 180 P P 20 43 12.7 -0.3
QSPA South Pole Qui 71.07 180 IAMs_20 IAMs_20 21 11 03.3
comp=Z,1μm,19.0s
QSPA South Pole Qui 71.07 180 P P 20 43 14.2 +1.2
comp=Z,19nm,0.8s,baz=35,slow=4.1,SNR=62
QSPA S **S 20 52 29.9 +3.1**
comp=Z,0.6nm,0.9s,baz=78,slow=3.6,SNR=1.5
QSPA LR LR 21 11 04.0
comp=Z,1μm,18.9s,baz=33,slow=33
comp=Z,19nm,0.8s
SHEM Shemya Is, Ala 71.49 357 LR LR 21 08 01.5
comp=Z,2μm,21.2s,baz=142,slow=30
SKR Severo-Kuril's 72.02 346 *e*P **P 20 43 21.6 +3.1**
YSS Yuzhno-Sakhali 72.95 336 P P 20 43 22.8 -1.3
YSS IAmb IAmb 20 43 27.4
comp=Z,42nm,1.3s
YSS Yuzhno-Sakhali 72.95 336 P P 20 43 26.9 +2.8
YSS Yuzhno-Sakhali 72.95 336 *ke*P **P 20 43 24.9 +0.8**
YSS *e* 20 46 13.8
YSS *e*S **S 20 52 46.9 -1.4**
YSS *e*SS **SS 20 57 40.0 +10**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=N,20nm,1.3s
YSS pmax pmax
comp=E,10.0nm,1.0s
YSS pmax pmax
comp=Z,300nm,5.6s
YSS smax smax
comp=N,100nm,8.1s
YSS smax smax
comp=E,400nm,9.3s
YSS MLR MLR
comp=N,400nm,14.0s
PMBI Palembang 73.29 273 P P 20 43 25.2 -1.8
KSRS Korea Array 73.35 320 P P 20 43 28.0 +1.2
comp=N,4.4nm,1.0s,baz=143,slow=5.5,SNR=9.8
KSRS S **SKiKP 20 52 57.5 +2.0**
comp=N,0.3nm,0.6s,baz=150,slow=22,SNR=1.5
comp=N,4.4nm,1.0s
KSAR Wonju Array Be 73.37 320 P P 20 43 25.8 -1.0
KSAR Wonju Array Be 73.37 320 P P 20 43 25.8 -1.0
PET Petropavlovsk 73.66 348 *e*P **P 20 43 25.7 -2.5**
PET *e*S **S 20 52 55.6 -0.5**
PET *e*SS **SS 20 57 42.7 +2.3**
PET pmax pmax
comp=Z,200nm,12.0s
SSE Sheshan 73.92 312 P P 20 43 31.8 +1.6
SSE S **S 20 53 03.0 +3.1**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,98nm,8.4s
SSE LR LR
comp=Z,310nm,18.3s
SSE LR LR
comp=Z,180nm,18.5s
PEA0B Petropavlovsk- 73.93 347 *i* P **P 20 43 31.0 +1.2**
PETK Petropavlovsk- 73.93 347 P P 20 43 31.4 +1.5
comp=Z,16nm,1.2s,baz=164,slow=5.9
PETK S **S 20 52 58.8 -0.5**
comp=Z,1.1nm,0.8s,baz=168,slow=23,SNR=1.4
PETK LR LR 21 11 17.8
comp=Z,513nm,21.1s,baz=161,slow=32
comp=Z,16nm,1.2s
TEY Ternei 74.07 331 *e*P **P 20 43 31.8 +1.1**
TEY *e* 20 53 09.2
USRK Ussuriysk Ar. 75.69 328 P P 20 43 41.4 +1.3
comp=Z,11nm,1.1s,baz=135,slow=3.3,SNR=24
comp=Z,11nm,1.1s
MYKOM Kota Tinggi 75.72 277 P P 20 43 38.9 -2.2
MYKOM IAmb IAmb 20 43 42.4
comp=Z,60nm,1.7s
P08K Saint George I 76.01 7 IAMs_20 IAMs_20 21 09 46.7
comp=Z,2μm,22.0s
NJ2 Nanjing 76.10 311 *e*P **P 20 43 42.6 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,5.3s
NJ2 LR LR
comp=Z,270nm,12.6s
NJ2 LR LR
comp=Z,420nm,13.1s
NJ2 LR LR
comp=Z,450nm,19.7s
TYV Tymovskoe 76.20 338 *e*P **P 20 43 44.3 +1.3**
TYV *e*S **S 20 53 27.5 +3.0**
TYV pmax pmax
comp=Z,14nm,1.1s
TYV pmax pmax
comp=Z,200nm,2.6s
TYV smax smax
comp=N,300nm,5.6s
TYV smax smax
comp=E,200nm,5.6s
SPIA Saint Paul Isl 76.49 6 IAMs_20 IAMs_20 21 10 33.6
comp=Z,1μm,22.0s
QIZ Qiongzhong 76.89 296 P P 20 43 46.1 -1.5
QIZ S **S 20 53 33.8 +0.5**
QIZ LR LR
comp=Z,530nm,24.7s
QIZ LR LR
comp=Z,440nm,20.0s
QIZ LR LR
comp=Z,900nm,24.5s
MDJ Mudanjiang 77.21 327 P P 20 43 49.9 +1.1
MDJ pmax pmax
comp=Z,19nm,1.6s
MDJ pmax pmax
comp=Z,350nm,4.7s
MDJ LR LR
comp=Z,690nm,21.3s
MDJ LR LR
comp=Z,380nm,19.9s
MDJ LR LR
comp=Z,930nm,18.1s
MDJ Mudanjiang 77.21 327 P P 20 43 46.8 -2.0
MDJ Mudanjiang 77.21 327 P P 20 43 50.5 +1.7
DL2 Dalian 78.14 318 P P 20 43 57.5 +3.4
DL2 pmax pmax
comp=Z,34nm,1.3s
DL2 pmax pmax
comp=Z,400nm,5.2s
DL2 LR LR
comp=Z,270nm,13.3s
DL2 LR LR
comp=Z,550nm,16.7s
DL2 LR LR
comp=Z,630nm,18.6s
GRNR Gornyy 78.52 334 ⇑ *i*P **P 20 43 58.2 +2.2**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,300nm,16.0s
WHN Wuhan 78.60 308 P P 20 43 57.8 +0.9
WHN LR LR
comp=E,4μm,24.0s
NKL Nikolayevsk 78.78 338 *e*P **P 20 43 56.9 -0.4**
NKL *e*S **S 20 53 51.9 -0.4**
NKL pmax pmax
comp=N,21nm,1.5s
NKL pmax pmax
comp=E,30nm,1.2s
NKL pmax pmax
comp=Z,104nm,1.2s
NKL smax smax
comp=N,163nm,5.7s
NKL smax smax
comp=E,446nm,5.7s
NKL MLR MLR
comp=N,4μm,21.0s
NKL MLR MLR
comp=Z,7μm,20.0s
CN2 Changchun 78.89 324 *e*P **P 20 43 59.4 +1.2**
CN2 *e*S **S 20 54 00.1 +6.1**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,600nm,21.1s
BNX BinXian 79.11 327 ⇑ P **P 20 44 00.3 +1.0**
BNX PcP **PcP 20 44 08.0 +0.4**
BNX pP **sP 20 44 13.3 -0.1**
BNX PP **PP 20 47 02.0 +2.8**
BNX S **S 20 53 56.0 -0.2**
BNX sS **SKKSac 20 54 15.5 +1.7**
BNX SS **SS 20 59 06.3 +3.1**
BNX pmax pmax
comp=Z,16nm,1.5s
BNX pmax pmax
comp=Z,170nm,5.2s
BNX LR LR
comp=Z,320nm,14.6s
BNX LR LR
comp=Z,320nm,17.3s
BNX LR LR
comp=Z,660nm,19.5s
GULI GuiLin 79.21 301 P P 20 44 00.8 +0.5
GULI pmax pmax
comp=Z,38nm,1.5s
GULI LR LR
comp=Z,500nm,28.2s
GULI LR LR
comp=Z,360nm,21.7s
GULI LR LR
comp=Z,950nm,22.0s
PLK4 Peulik 4 79.24 14 P P 20 43 57.8 -2.1
PLK4 IAmb IAmb 20 44 14.1
comp=Z,46nm,1.1s
IPM Ipoh 79.28 279 P P 20 43 58.2 -2.8
IPM IAmb IAmb 20 44 02.1
comp=Z,111nm,1.7s
IPM Ipoh 79.28 279 P P 20 44 01.0 0.0
TIA Tai'an 79.56 314 P P 20 44 01.9 -0.1
TIA S **S 20 54 08.8 +7.3**
TIA pmax pmax
comp=Z,18nm,1.4s
TIA pmax pmax
comp=Z,380nm,4.1s
TIA LR LR
comp=Z,450nm,17.5s
TIA LR LR
comp=Z,500nm,16.2s
TIA LR LR
comp=Z,630nm,24.1s
OHAK Old Harbor 79.60 15 P P 20 44 00.0 -1.6
OHAK Old Harbor 79.60 15 P P 20 44 03.8 +2.1
PKD Bear Valley Ra 79.69 46 P P 20 44 00.6 -2.2
PKD IAmb IAmb 20 44 11.0
comp=Z,75nm,1.4s
KULM Kulim 79.91 279 P P 20 44 02.6 -1.8
KULM IAmb IAmb 20 44 15.1
comp=Z,60nm,1.6s
OSI Osito Audit: C 80.25 48 IAMs_20 IAMs_20 21 13 04.1
comp=Z,1μm,19.0s
KDAK Kodiak Island 80.27 15 P P 20 44 04.4 -0.9
KDAK Kodiak Island 80.27 15 LR LR 21 12 45.7
comp=Z,1μm,21.4s,baz=207,slow=30
KDAK Kodiak Island 80.27 15 P P 20 44 05.8 +0.5
KDAK pmax pmax
comp=Z,121nm,1.5s
N14K Kuskokwak Cree 80.33 10 P P 20 44 03.7 -1.9
N14K IAMs_20 IAMs_20 21 12 27.6
comp=Z,2μm,21.0s
PSI Prapat 80.69 276 LR LR 21 22 05.1
comp=Z,674nm,18.2s,baz=148,slow=37
N15K Kwethluk River 80.84 11 P P 20 44 06.7 -1.6
N15K IAmb IAmb 20 44 18.1
comp=Z,90nm,1.6s
ORV Oroville 81.01 43 P P 20 44 07.9 -1.8
ORV pmax pmax
comp=Z,41nm,1.4s
M14K Bethel 81.07 10 IAMs_20 IAMs_20 21 13 26.1
comp=Z,2μm,22.0s
P18K Big Mountain, 81.09 13 P P 20 44 07.9 -1.8
P18K IAmb IAmb 20 44 17.1
comp=Z,44nm,1.2s
P18K IAMs_20 IAMs_20 21 11 46.7
comp=Z,1μm,22.0s
O03E Paynes Creek 81.23 42 P P 20 44 09.2 -1.8
SMAI San Martin Ant 81.31 160 P P 20 44 08.8 -2.0
PFO Pinyon Flats O 81.37 50 LR LR 21 14 41.5
comp=Z,816nm,18.3s,baz=240,slow=31
YBH Yreka Blue Hor 81.47 41 LR LR 21 12 32.7
comp=Z,36nm,22.0s,baz=247,slow=30
BELA Belgrano 2 81.50 173 P P 20 44 10.3 -1.5
BELA IAmb IAmb 20 44 16.1
comp=Z,64nm,1.5s
CWC Cottonwood Cre 81.64 47 IAMs_20 IAMs_20 21 13 27.7
comp=Z,1μm,20.0s
MAW Mawson 81.71 201 P P 20 44 11.4 -1.7
MAW Mawson 81.71 201 P P 20 44 12.2 -0.8
comp=Z,7.4nm,0.7s,baz=115,slow=6.7,SNR=12

MAW LR LR 21 16 52.8
comp=Z,2μm,20.6s,baz=97,slow=33
comp=Z,7.4nm,0.7s
N17K Nushagak Hills 81.72 12 IAMs_20 IAMs_20 21 13 39.6
comp=Z,2μm,21.0s
HNS HongShan 81.84 314 ⇓P **P** **20 44 15.1 +1.0**
HNS SS SS 20 59 48.5 +4.2
HNS pmax pmax
comp=Z,20nm,2.0s
HNS LR LR
comp=Z,520nm,16.8s
HNS LR LR
comp=Z,370nm,17.6s
HNS LR LR
comp=Z,950nm,19.6s
LPIG La Paz 81.85 61 LR LR 21 12 14.9
comp=Z,342nm,21.9s,baz=232,slow=29
BEKR Beckworth 81.92 43 P **P** **20 44 14.0 -0.7**
BEKR IAmb IAmb 20 44 22.9
comp=Z,89nm,1.8s
LYN LuoYang 81.97 311 P **P** **20 44 16.6 +1.7**
LYN sS sS 20 54 46.1 +2.2
LYN pmax pmax
comp=Z,61nm,1.2s
LYN pmax pmax
comp=Z,360nm,5.4s
LYN LR LR
comp=Z,750nm,18.5s
LYN LR LR
comp=Z,720nm,17.2s
LYN LR LR
comp=Z,2μm,19.2s
O19K Port Alsworth 82.02 14 IAMs_20 IAMs_20 21 12 16.5
comp=Z,1μm,22.0s
N18K Kilae Creek 82.12 13 IAMs_20 IAMs_20 21 13 07.8
comp=Z,2μm,22.0s
HEH HeiHe 82.13 330 *e*P **P** **20 44 15.6 +0.2**
HEH pP **pP** **20 44 26.4 +0.7**
HEH S **SKSac** **20 54 34.3 +1.3**
HEH pmax pmax
comp=Z,13nm,2.0s
HEH pmax pmax
comp=Z,260nm,4.8s
HEH LR LR
comp=Z,520nm,19.6s
HEH LR LR
comp=Z,420nm,19.7s
HEH LR LR
comp=Z,800nm,21.4s
CNPM China Poot 82.14 15 IAMs_20 IAMs_20 21 13 24.6
comp=Z,2μm,19.0s
ENH Enshi 82.16 306 P **P** **20 44 14.2 -1.9**
ENH Enshi 82.16 306 P **P** **20 44 17.9 +1.8**
BJT Baijiatuau 82.25 317 P **P** **20 44 15.2 -1.1**
BJT IAmb IAmb 20 44 19.4
comp=Z,53nm,1.8s
BJT Baijiatuau 82.25 317 P **P** **20 44 15.2 -1.1**
BJT pmax pmax
comp=Z,53nm,1.8s
BJT MLR MLR
comp=Z,600nm,20.0s
BJI Beijing 82.26 317 P **P** **20 44 14.8 -1.5**
BJI PP **PP** **20 47 25.3 -0.1**
BJI S **S** **20 54 27.4 -1.9**
BJI pmax pmax
comp=Z,7.0nm,1.7s
BJI pmax pmax
comp=Z,69nm,3.6s
BJI LR LR
comp=Z,220nm,17.6s
BJI LR LR
comp=Z,240nm,17.7s
BJI LR LR
comp=Z,360nm,21.6s
L16K Owhat River 82.39 11 P **P** **20 44 15.6 -0.8**
L16K IAmb IAmb 20 44 25.2
comp=Z,69nm,1.6s
NVAR Mina Array Bea 82.51 45 P **P** **20 44 17.8 -0.2**
NVAR Mina Array Bea 82.51 45 P **P** **20 44 20.3 +2.4**
comp=Z,6.7nm,1.0s,baz=250,slow=5.8,SNR=26
NVAR LR LR 21 17 16.7
comp=Z,461nm,18.4s,baz=244,slow=33
comp=Z,6.7nm,1.0s
N19K Bonanza Creek 82.54 13 P **P** **20 44 15.9 -1.5**
N19K IAmb IAmb 20 44 56.2
comp=Z,71nm,1.9s
N19K IAMs_20 IAMs_20 21 13 07.8
comp=Z,1μm,22.0s
K15K Wolf Creek Mou 82.60 9 P **P** **20 44 16.8 -0.8**
GYA Guiyang 82.72 301 ⇑P **P** **20 44 19.8 +0.6**
GYA S **S** **20 54 29.4 -5.5**
GYA pmax pmax
comp=Z,19nm,1.6s
GYA pmax pmax
comp=Z,220nm,3.1s
GYA LR LR
comp=Z,450nm,21.5s
GYA LR LR
comp=Z,550nm,19.0s
GYA LR LR
comp=Z,900nm,21.1s
SLVN Son La 82.91 295 P **P** **20 44 21.4 +1.2**
SLKM Skilak Lake 83.25 15 IAMs_20 IAMs_20 21 14 10.1
comp=Z,1μm,21.0s
O22K Cooper Landing 83.36 15 IAMs_20 IAMs_20 21 16 20.7
comp=Z,941nm,20.0s
HSIG 83.43 56 P **P** **20 44 21.9 -0.8**
K17K Iditarod 83.53 11 P **P** **20 44 21.0 -1.4**
K17K IAmb IAmb 20 44 53.1
comp=Z,52nm,1.6s
K17K IAMs_20 IAMs_20 21 15 50.5
comp=Z,2μm,20.0s
M19K Big River Lodg 83.54 13 IAMs_20 IAMs_20 21 14 45.9
comp=Z,915nm,20.0s
J16K Anvik River 83.68 10 P **P** **20 44 21.3 -1.9**
L19K White Mountain 83.69 12 IAMs_20 IAMs_20 21 14 51.6
comp=Z,1μm,21.0s
RC01 Rabbit Creek A 83.88 15 IAMs_20 IAMs_20 21 24 16.8
comp=Z,1μm,19.0s
J17K VABM Dome 84.03 10 IAMs_20 IAMs_20 21 14 19.7
comp=Z,1μm,21.0s
PMSA Palmer Station 84.11 158 LR LR 21 16 34.4
comp=Z,451nm,18.8s,baz=242,slow=32
SEY Seymchan 84.12 348 P **P** **20 44 26.4 +1.1**
comp=Z,19nm,1.1s,baz=151,slow=5.5,SNR=14
SEY LR LR 21 17 26.9
comp=Z,397nm,21.4s,baz=154,slow=32
comp=Z,19nm,1.1s
SEY Seymchan 84.12 348 *e*P **P** **20 44 23.7 -1.6**
SEY pmax pmax
comp=Z,27nm,1.2s
HIN Hinchinbrook I 84.13 17 IAMs_20 IAMs_20 21 14 21.1
comp=Z,1μm,19.0s
ANM Nome 84.25 7 IAMs_20 IAMs_20 21 14 32.2
comp=Z,1μm,22.0s
XAN Xi'an 84.31 309 ⇑P **P** **20 44 27.8 +0.7**
XAN pP pP 20 44 39.1 +1.1
XAN S **S** **20 54 54.4 +3.9**
XAN pmax pmax
comp=Z,27nm,1.6s
XAN LR LR
comp=Z,440nm,23.5s
XAN LR LR
comp=Z,840nm,19.2s
XAN LR LR
comp=Z,1μm,22.0s
R11B Troy Canyon, C 84.31 46 P **P** **20 44 25.6 -1.6**
M22K Willow 84.36 15 P **P** **20 44 25.9 -0.7**
M22K IAMs_20 IAMs_20 21 15 19.6
comp=Z,2μm,20.0s
GLI Glacier Island 84.37 16 IAMs_20 IAMs_20 21 13 28.6
comp=Z,997nm,22.0s
XLT XiLinHaoTe 84.40 320 *e*P **P** **20 44 28.6 +1.2**
XLT sS sS 20 55 07.4 -0.9
XLT SS **SS** **21 00 22.8 +0.4**
XLT pmax pmax
comp=Z,18nm,1.9s
XLT pmax pmax
comp=Z,200nm,5.1s
XLT LR LR
comp=Z,410nm,25.0s
XLT LR LR
comp=Z,350nm,22.1s
FID Port Fidalgo 84.43 17 IAMs_20 IAMs_20 21 14 59.8
comp=Z,1μm,19.0s
PMR Palmer 84.46 15 P **P** **20 44 26.4 -0.7**
PMR IAmb IAmb 20 44 36.0
comp=Z,53nm,1.5s
PMR Palmer 84.46 15 P **P** **20 44 28.7 +1.6**
PMR Palmer 84.46 15 P **P** **20 44 26.4 -0.7**
PMR pmax pmax
comp=Z,53nm,1.5s
KNK Knik Glacier 84.47 15 IAMs_20 IAMs_20 21 16 33.6
comp=Z,960nm,20.0s
ZEA Zeya 84.56 332 *e*P **P** **20 44 29.0 +1.2**
ZEA *e*SS SS 21 00 30.8 +6.8
ZEA pmax pmax
comp=Z,100nm,2.6s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.5s
RAGM Ragged Mountai 84.63 18 IAMs_20 IAMs_20 21 25 41.8
comp=Z,2μm,18.0s
GHO Glory Hole Cre 84.67 15 IAMs_20 IAMs_20 21 24 42.6
comp=Z,1μm,19.0s
SML Sawmill 84.84 15 P **P** **20 44 28.1 -1.0**
SML IAmb IAmb 20 44 39.1
comp=Z,75nm,1.7s
SML IAMs_20 IAMs_20 21 24 37.0
comp=Z,966nm,19.0s
SML Sawmill 84.84 15 P **P** **20 44 25.6 -3.5**
SML pmax pmax
comp=Z,75nm,1.7s
BBB Bella Bella 84.87 30 LR LR 21 14 35.0
comp=Z,974nm,21.1s,baz=236,slow=30
CUT Chulitna 84.89 14 IAMs_20 IAMs_20 21 15 38.7
comp=Z,1μm,20.0s
PPLA Purkeypile 84.89 13 IAMs_20 IAMs_20 21 14 33.6
comp=Z,2μm,22.0s
K20K Telida 84.91 12 IAMs_20 IAMs_20 21 14 42.8
comp=Z,1μm,22.0s
BERG Berg Lake 84.92 18 IAMs_20 IAMs_20 21 14 25.4
comp=Z,1μm,19.0s
DIV Divide 84.94 17 P **P** **20 44 28.3 -1.3**
DIV IAmb IAmb 20 44 38.4
comp=Z,71nm,1.7s
DIV IAMs_20 IAMs_20 21 21 42.9
comp=Z,1μm,19.0s
SCM Sheep Creek Mo 85.12 16 IAMs_20 IAMs_20 21 14 24.6
comp=Z,1μm,19.0s
BMRM Bremner River 85.13 17 P **P** **20 44 29.6 -0.9**
BMRM IAMs_20 IAMs_20 21 25 58.6
comp=Z,1μm,18.0s
KLU Klutina 85.20 16 IAMs_20 IAMs_20 21 21 58.8
comp=Z,1μm,19.0s
WAX Waxell Ridge 85.21 18 IAMs_20 IAMs_20 21 16 00.2
comp=Z,2μm,20.0s
HIA Hailar 85.36 326 P **P** **20 44 30.3 -1.7**
HIA Hailar 85.36 326 P **P** **20 44 30.3 -1.7**
HIA pmax pmax
comp=Z,18nm,1.3s
HIA MLR MLR
comp=Z,500nm,19.0s
CRQM Cirque 85.38 18 IAMs_20 IAMs_20 21 14 41.8
comp=Z,1μm,21.0s
KMI Kunming 85.39 298 P **P** **20 44 34.1 +1.1**
KMI PP **PP** **20 47 52.3 +0.7**
KMI S **S** **20 55 05.9 +3.9**
KMI SS **SS** **21 00 41.6 +3.7**
KMI pmax pmax
comp=Z,23nm,1.6s
KMI pmax pmax
comp=Z,280nm,8.0s
KMI LR LR
comp=Z,300nm,13.4s
KMI LR LR
comp=Z,600nm,18.6s
KMI LR LR
comp=Z,740nm,23.3s
TGL Tana Glacier 85.47 18 IAMs_20 IAMs_20 21 14 32.9
comp=Z,1μm,20.0s
ISLE Juniper Island 85.49 18 IAMs_20 IAMs_20 21 15 06.5
comp=Z,1μm,20.0s
HILR Hailar Array B 85.53 326 P **P** **20 44 33.8 +0.9**
comp=Z,1.2nm,0.5s,baz=159,slow=4.3,SNR=4.7
HILR S **SKSac** **20 54 55.1 -0.2**
comp=Z,0.5nm,0.4s,baz=133,slow=38,SNR=0.8
comp=Z,1.2nm,0.5s
VRDI Verde Repeater 85.67 18 P **P** **20 44 33.2 -0.2**
VRDI IAmb IAmb 20 44 42.3
comp=Z,39nm,1.5s
HHC Hu-ho-hao-te 85.69 316 *e*P **P** **20 44 33.6 -0.3**
HHC SKS **SKSac** **20 54 52.5 -4.4**
HHC S **SKKSac** **20 55 03.3 -0.6**
HHC sS sS 20 55 19.9 -1.3
HHC SS **SS** **21 00 41.8 +0.3**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,260nm,3.8s
HHC LR LR
comp=Z,260nm,21.6s
HHC LR LR
comp=Z,400nm,20.8s
HHC LR LR
comp=Z,690nm,20.8s
TABL Table Mountain 85.72 19 IAMs_20 IAMs_20 21 22 54.7
comp=Z,1μm,18.0s
KTH Kantishna Hill 85.75 13 IAMs_20 IAMs_20 21 15 11.8
comp=Z,1μm,22.0s
GRNC Granite Creek 85.77 19 IAMs_20 IAMs_20 21 15 14.9
comp=Z,1μm,21.0s
H18K Honhosa River 85.78 10 IAMs_20 IAMs_20 21 16 43.7
comp=Z,2μm,20.0s
TRF Thorofare Moun 85.80 14 IAMs_20 IAMs_20 21 15 14.2
comp=Z,1μm,22.0s
BCPM Bancas Point 85.81 20 IAMs_20 IAMs_20 21 18 55.3
comp=Z,2μm,20.0s
E07A Sunnyside 85.87 38 P **P** **20 44 33.2 -1.3**
E07A IAmb IAmb 20 44 42.5
comp=Z,72nm,1.6s
WUAZ Wupatki 85.97 50 P **P** **20 44 34.1 -1.5**
BARN Barnard Glacie 86.06 18 IAMs_20 IAMs_20 21 15 23.5
comp=Z,1μm,21.0s
LOGN Logan Glacier 86.07 19 IAMs_20 IAMs_20 21 14 38.8
comp=Z,1μm,21.0s
CTGM Chitina Glacie 86.08 19 IAMs_20 IAMs_20 21 15 03.1
comp=Z,1μm,22.0s
RND Reindeer 86.09 14 IAMs_20 IAMs_20 21 16 13.8
comp=Z,1μm,20.0s
CM31 Chiang Mai Arr 86.14 291 P **P** **20 44 36.1 -0.5**
CM31 IAmb IAmb 20 44 39.3
comp=Z,39nm,1.6s
CMAR Chiang Mai Arr 86.14 291 P **P** **20 44 35.8 -0.7**
CMAR Chiang Mai Arr 86.14 291 P **P** **20 44 36.9 +0.4**
comp=Z,3.2nm,1.0s,baz=113,slow=5.0,SNR=27
CMAR S **S** **20 55 07.6 -1.6**
comp=Z,0.1nm,0.4s,baz=125,slow=6.4,SNR=1.1
CMAR PKKPbc **PKKPbc** **21 02 39.0 +3.5**
comp=Z,0.2nm,0.6s,baz=313,slow=2.3,SNR=4.7
CMAR LR LR 21 19 35.9
comp=Z,274nm,21.9s,baz=115,slow=33
comp=Z,3.2nm,1.0s
CMAR Chiang Mai Arr 86.14 291 *i* P **P** **20 44 37.5 +1.0**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
BPAW Bear Paw Mtn. 86.21 13 IAMs_20 IAMs_20 21 15 24.1
comp=Z,1μm,21.0s
CHTO Chiang Mai 86.27 291 P **P** **20 44 35.4 -1.8**
CHTO IAmb IAmb 20 44 39.7
comp=Z,30nm,1.4s
CHTO Chiang Mai 86.27 291 P **P** **20 44 38.0 +0.8**
CHTO Chiang Mai 86.27 291 P **P** **20 44 35.4 -1.8**
CHTO pmax pmax
comp=Z,30nm,1.5s
CHTO MLR MLR
comp=Z,500nm,20.0s
O28M Mount Upton 86.28 19 IAMs_20 IAMs_20 21 25 31.4
comp=Z,1μm,18.0s
MCK McKinley 86.35 14 IAMs_20 IAMs_20 21 16 44.7
comp=Z,1μm,21.0s
H19K Roundabout Mou 86.45 10 IAMs_20 IAMs_20 21 16 18.6
comp=Z,1μm,21.0s
BMO Blue Mountains 86.48 40 P **P** **20 44 39.9 +2.2**
PAX Paxson 86.55 16 IAMs_20 IAMs_20 21 17 05.1
comp=Z,1μm,21.0s
BTO Baotou 86.60 315 *e*P **P** **20 44 40.9 +2.5**
BTO pP **pwP** **20 44 51.5 +2.1**
BTO sP **sP** **20 44 55.3 +2.0**
BTO S **S** **20 55 15.8 +2.9**
BTO sS **sS** **20 55 32.8 +2.5**
BTO SS **SS** **21 00 58.8 +4.0**
BTO pmax pmax
comp=Z,35nm,1.4s
BTO pmax pmax
comp=Z,660nm,5.2s
BTO LR LR
comp=Z,920nm,24.9s
BTO LR LR
comp=Z,710nm,22.3s
BTO LR LR
comp=Z,2μm,22.2s
M26K Nabesna, AK 86.74 17 IAMs_20 IAMs_20 21 16 15.2
comp=Z,1μm,21.0s
PZH PanZhiHua 86.76 299 P **P** **20 44 37.6 -2.0**
CD2 Chengdu 86.89 304 P **P** **20 44 41.6 +1.6**
CD2 S **S** **20 55 15.3 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,1μm,21.1s
CD2 LR LR
comp=Z,1μm,19.2s
SKAG Skagway 86.89 22 P **P** **20 44 41.4 +2.2**
I21K Tanana 86.96 12 IAMs_20 IAMs_20 21 16 54.8
comp=Z,2μm,21.0s
M27K Edge Creek, AK 87.02 17 IAMs_20 IAMs_20 21 23 54.1
comp=Z,904nm,20.0s
NEA2 Nenana 87.06 14 IAMs_20 IAMs_20 21 16 25.5
comp=Z,1μm,21.0s
MLY Manley 87.08 13 IAMs_20 IAMs_20 21 16 36.0
comp=Z,1μm,21.0s
DUG Dugway, Tooele 87.09 46 P **P** **20 44 39.8 -1.1**
DUG IAmb IAmb 20 44 47.9
comp=Z,53nm,2.0s
DUG Dugway, Tooele 87.09 46 P **P** **20 44 39.8 -1.1**
DUG pmax pmax
comp=Z,53nm,2.0s
L26K Log Cabin Wild 87.15 17 IAMs_20 IAMs_20 21 18 28.1
comp=Z,1μm,20.0s
WRH Wood River Hil 87.17 14 P **P** **20 44 40.1 -0.4**
WRH IAmb IAmb 20 45 13.5
comp=Z,35nm,1.6s
WRH IAMs_20 IAMs_20 21 15 54.6
comp=Z,2μm,22.0s
BILL Bilibino 87.20 356 *ce*P **P** **20 44 42.9 +2.3**
BILL pmax pmax
comp=Z,18nm,1.3s
RIDG Independent Ri 87.34 16 IAMs_20 IAMs_20 21 17 19.1
comp=Z,1μm,20.0s
SYO Syowa Base 87.35 194 ⇓ *e*P **P** **20 44 39.3 -2.2**
SYO Syowa Base 87.35 194 ⇓ *e*PcP **P** **20 44 42.2 +0.7**
SYO Syowa Base 87.35 194 ⇓ *e*pP P 20 44 46.5 +5.0
USHA Ushuaia 87.38 148 LR LR 21 15 07.7
comp=Z,768nm,20.9s,baz=242,slow=30
HDA Harding Lake 87.39 14 IAMs_20 IAMs_20 21 16 21.6
comp=Z,887nm,20.0s
CCB Clear Creek Bu 87.39 14 P **P** **20 44 40.6 -1.0**
DOT Dot Lake 87.47 16 IAMs_20 IAMs_20 21 17 44.8
comp=Z,1μm,21.0s
COLA College 87.57 14 P **P** **20 44 44.6 +2.2**
COLA College 87.57 14 *i* P **P** **20 44 42.8 +0.4**
COLA pmax pmax
comp=Z,26nm,1.5s
L27K Beaver Creek, 87.60 17 IAMs_20 IAMs_20 21 17 01.7
comp=Z,1μm,21.0s
ILAR Eielson Array 87.71 14 P **P** **20 44 41.3 -1.8**
ILAR Eielson Array 87.71 14 P **P** **20 44 43.1 0.0**
comp=Z,1.3nm,0.8s,baz=210,slow=4.9,SNR=11
ILAR S **SKSac** **20 55 09.7 +1.7**
comp=Z,0.3nm,0.9s,baz=210,slow=10,SNR=1.7
ILAR LR LR 21 16 43.8
comp=Z,1μm,21.8s,baz=215,slow=31
comp=Z,1.3nm,0.8s
ILAR Eielson Array 87.71 14 P **P** **20 44 41.3 -1.8**
SCRK Sand Creek 87.76 16 IAMs_20 IAMs_20 21 17 53.0
comp=Z,944nm,20.0s
N30M Aishikik Lake 87.78 20 IAMs_20 IAMs_20 21 21 32.1
comp=Z,2μm,20.0s
MPU Maple Canyon 87.81 46 P **P** **20 44 43.6 -0.8**
C16K Lisburne Hills 87.84 6 IAMs_20 IAMs_20 21 20 38.9
comp=Z,982nm,20.0s
G21K Allakaket 87.86 11 IAMs_20 IAMs_20 21 18 54.6
comp=Z,2μm,20.0s
RDOG Red Dog Mine 87.90 7 IAMs_20 IAMs_20 21 16 59.8
comp=Z,1μm,22.0s
J25K Salcha River, 87.94 15 P **P** **20 44 43.6 -0.7**
J25K IAmb IAmb 20 44 56.2
comp=Z,25nm,1.6s
J25K IAMs_20 IAMs_20 21 23 44.6
comp=Z,756nm,18.0s
MOIG Morelia 87.96 69 P **P** **20 44 44.1 -1.6**
F20K Avaraart Lake 87.96 10 IAMs_20 IAMs_20 21 17 50.7
comp=Z,1μm,21.0s
M29M Somme Creek 88.09 19 IAMs_20 IAMs_20 21 19 01.4
comp=Z,1μm,21.0s
DLBC Dease Lake 88.15 24 LR LR 21 15 59.5
comp=Z,18μm,21.8s,baz=222,slow=30
N31M Braeburn, Yuko 88.22 20 IAMs_20 IAMs_20 21 21 55.9
comp=Z,1μm,20.0s
J26L Joseph Creek 88.29 16 IAMs_20 IAMs_20 21 18 48.1
comp=Z,1μm,20.0s
NEW Newport 88.35 37 LR LR 21 19 19.1
comp=Z,476nm,19.0s,baz=236,slow=32
H24K Noodor Dome 88.39 13 IAMs_20 IAMs_20 21 16 42.6
comp=Z,1μm,22.0s
PRP Porcupine Dome 88.65 14 IAMs_20 IAMs_20 21 17 00.6
comp=Z,1μm,22.0s
L29M L29M 88.70 18 IAMs_20 IAMs_20 21 17 42.4
comp=Z,1μm,21.0s
N32M Quiet Lake 88.89 21 IAMs_20 IAMs_20 21 18 49.4
comp=Z,2μm,20.0s
TNCH TengChong 88.90 297 ⇑P **P** **20 44 50.5 +0.6**
TNCH pP pP 20 44 59.6 -1.2
TNCH PP **PP** **20 48 21.6 +1.8**
TNCH S **S** **20 55 29.1 -6.6**
TNCH sS pS 20 55 48.8 -0.2
TNCH pmax pmax
comp=Z,23nm,2.5s
TNCH LR LR
comp=Z,300nm,16.8s
TNCH LR LR
comp=Z,520nm,19.8s
TNCH LR LR
comp=Z,1μm,18.7s
LZH Lanzhou 88.95 309 *e*P **P** **20 44 52.3 +2.4**
LZH pP pP 20 45 02.3 +1.5
LZH S **S** **20 55 42.1 +6.4**
LZH SS **SS** **21 01 31.8 +2.4**
LZH pmax pmax
comp=Z,57nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,530nm,16.5s
LZH LR LR
comp=Z,640nm,15.6s
LZH LR LR
comp=Z,1μm,16.5s
JRQG Juriquilla Cam 88.97 68 P **P** **20 44 48.8 -1.5**
JRQG IAmb IAmb 20 45 00.1
comp=Z,49nm,1.6s
LZDM Lanzhou Array 89.00 309 P **P** **20 44 50.3 -0.1**
comp=Z,3.5nm,0.4s,baz=111,slow=6.3,SNR=5.1
LZDM LR LR 21 21 10.4
comp=Z,765nm,21.5s,baz=115,slow=33
comp=Z,3.5nm,0.4s
EGAK Eagle 89.14 16 P **P** **20 44 49.6 -0.2**
EGAK IAmb IAmb 20 45 02.0
comp=Z,35nm,1.6s
EGAK IAMs_20 IAMs_20 21 18 04.6
comp=Z,1μm,20.0s
TROLL Troll, Antarti 89.19 181 ⇓P **P** **20 44 48.9 -1.5**
comp=Z,1μm,0.9s
M31M Drury Creek, Y 89.20 20 IAMs_20 IAMs_20 21 21 13.7
comp=Z,1μm,19.0s
G24K Hadweenzic Riv 89.21 13 IAMs_20 IAMs_20 21 17 42.6
comp=Z,1μm,22.0s
ANMO Albuquerque 89.37 53 LR LR 21 20 18.9
comp=Z,668nm,18.2s,baz=337,slow=32
ANMO Albuquerque 89.37 53 *ce*P **P** **20 44 54.1 +2.2**
ANMO pmax pmax
comp=Z,30nm,2.5s
YAK Yakutsk 89.37 339 P **P** **20 44 50.5 -0.4**
YAK Yakutsk 89.37 339 P **P** **20 44 51.1 +0.1**
comp=Z,4.8nm,0.5s,baz=125,slow=10,SNR=21
YAK LR LR 21 18 57.2
comp=Z,325nm,21.7s,baz=132,slow=32
comp=Z,4.8nm,0.5s
YAK Yakutsk 89.37 339 *e*P **P** **20 44 50.1 -0.9**

YAK *e* 20 48 20.5
YAK *e* 20 55 36.2
YAK *e*SS SS 21 01 32.8 -1.3
YAK *e*SSS SSS 21 05 06.7
YAK pmax pmax
comp=Z,36nm,2.1s
YAK pmax pmax
comp=N,12nm,2.2s
YAK pmax pmax
comp=E,8.0nm,2.1s
YAK pmax pmax
comp=Z,165nm,5.2s
YAK pmax pmax
comp=N,81nm,5.3s
YAK pmax pmax
comp=E,83nm,4.5s
TXAR Lajitas Array 89.38 59 P **P 20 44 55.1 +3.1**
comp=E,11nm,1.0s,baz=248,slow=3.9,SNR=63
TXAR LR LR 21 21 28.0
comp=E,193nm,18.0s,baz=242,slow=33
comp=E,11nm,1.0s
K29M Barlow Dome 89.43 18 P **P 20 44 51.4 0.0**
E21K Killik River 89.51 10 IAMs_20 IAMs_20 21 18 19.6
comp=Z,1µm,22.0s
TLIG Tlapa 89.55 71 P **P 20 44 52.4 -0.6**
TLIG IAmb IAmb 20 45 01.4
comp=Z,77nm,1.8s
SNAA Sanae 89.58 180 ⇑P **P 20 44 50.4 -1.6**
comp=Z,112nm,1.0s
SNAA Sanae 89.58 180 P **P 20 44 49.4 -2.7**
SNAA IAMs_20 IAMs_20 21 21 16.0
comp=Z,909nm,20.0s
SNAA Sanae 89.58 180 P **P 20 44 50.5 -1.6**
comp=Z,3.7nm,0.7s,baz=199,slow=6.8,SNR=25
SNAA S **SKSac 20 55 17.4 -2.2**
comp=Z,1.7nm,1.2s,baz=198,slow=13,SNR=1.5
SNAA LR LR 21 23 20.9
comp=Z,825nm,18.8s,baz=193,slow=34
comp=Z,3.7nm,0.7s
FYU Fort Yukon 89.59 14 IAMs_20 IAMs_20 21 17 17.7
comp=Z,1µm,22.0s
E22K Anaktuvuk Pass 89.60 11 IAMs_20 IAMs_20 21 20 30.7
comp=Z,1µm,20.0s
UNM Universidad Na 89.61 70 IAMs_20 IAMs_20 21 16 22.6
comp=Z,1µm,20.0s
COYC Coyhaique 89.73 139 P **P 20 44 52.7 -0.5**
F24K Squaw Lake 89.82 12 IAMs_20 IAMs_20 21 18 44.3
comp=Z,1µm,22.0s
VNA3 Neumayer Olymp 89.85 177 ⇓P **P 20 44 51.4 -1.9**
comp=Z,16nm,0.7s
H03S2 Juan Fernandez 89.86 126 T T 22 24 26.2
baz=246,slow=74,SNR=11
H03S1 Juan Fernandez 89.88 126 T T 22 24 28.0
baz=246,slow=74,SNR=9.4
H03S3 Juan Fernandez 89.88 126 T T 22 24 25.7
baz=246,slow=74,SNR=10.0
I28M Miner Creek 89.99 16 IAMs_20 IAMs_20 21 17 59.0
comp=Z,1µm,22.0s
H03N2 Juan Fernandez 90.01 125 T T 22 24 28.1
baz=251,slow=73,SNR=4.1
H03N3 Juan Fernandez 90.01 125 T T 22 24 29.4
baz=251,slow=73,SNR=6.1
H03N1 Juan Fernandez 90.03 125 T T 22 24 20.9
baz=251,slow=73,SNR=4.7
D22K Ayikyak River 90.12 10 IAMs_20 IAMs_20 21 18 49.2
comp=Z,1µm,20.0s
CIT Chita 90.17 326 *e*P **P 20 44 56.4 +1.4**
CIT pmax pmax
comp=Z,76nm,2.2s
H27K Steamboat Moun 90.19 15 IAMs_20 IAMs_20 21 25 04.8
comp=Z,910nm,18.0s
G26K Porcupine Rive 90.23 14 IAMs_20 IAMs_20 21 17 02.6
comp=Z,2µm,22.0s
VNA2 Neumayer--Watz 90.25 178 ⇓P **P 20 44 53.3 -1.9**
comp=Z,10nm,0.6s,baz=178,slow=4.3
J30M Hart River 90.33 18 IAMs_20 IAMs_20 21 19 15.5
comp=Z,963nm,20.0s
BOZ Bozeman (W) 90.34 41 P **P 20 44 58.7 +2.6**
F25K Christian Rive 90.35 13 IAMs_20 IAMs_20 21 18 29.3
comp=Z,2µm,22.0s
PDAR Pinedale Array 90.42 45 P **P 20 44 56.2 -0.5**
PDAR Pinedale Array 90.42 45 P **P 20 44 58.2 +1.5**
comp=Z,11nm,1.1s,baz=247,slow=5.1,SNR=26
PDAR LR LR 21 22 08.7
comp=Z,317nm,18.2s,baz=237,slow=33
comp=Z,11nm,1.1s
VNA1 Neumayer--Stat 90.49 178 ⇓P **P 20 44 54.7 -1.6**
comp=Z,9.7nm,1.0s
MMPY Sheldon Lake, 90.53 21 P **P 20 44 56.4 -0.1**
MMPY IAmb IAmb 20 45 08.2
comp=Z,55nm,1.6s
D23K Nanushuk River 90.54 11 IAMs_20 IAMs_20 21 18 15.2
comp=Z,1µm,20.0s
F26K Sheenjek River 90.76 14 IAMs_20 IAMs_20 21 18 18.2
comp=Z,1µm,22.0s
I30M Mount Dempster 90.79 18 IAMs_20 IAMs_20 21 18 58.7
comp=Z,1µm,21.0s
E25K Arctic Village 90.81 13 IAMs_20 IAMs_20 21 17 57.8
comp=Z,2µm,22.0s
LL02 Futaleuf 90.96 137 P **P 20 44 59.0 -0.1**
LL02 IAmb IAmb 20 45 06.1
comp=Z,35nm,1.3s
C23K Itkillik River 91.31 10 IAMs_20 IAMs_20 21 18 39.6
comp=Z,2µm,22.0s
G29M Pine Creek 91.61 16 IAMs_20 IAMs_20 21 20 21.8
comp=Z,1µm,20.0s
D25K Kavik River 91.64 12 IAMs_20 IAMs_20 21 19 42.1
comp=Z,1µm,21.0s
F28M Old Crow 91.69 15 IAMs_20 IAMs_20 21 32 45.9
comp=Z,844nm,18.0s
E27K Coleen River 91.73 14 IAMs_20 IAMs_20 21 19 08.9
comp=Z,1µm,22.0s
H31M Peel River 91.80 18 IAMs_20 IAMs_20 21 19 42.4
comp=Z,933nm,20.0s
ULN Ulaanbaatar 91.84 320 P **P 20 45 02.0 -1.0**
ULN IAmb IAmb 20 45 05.6
comp=Z,27nm,1.7s
ULN Ulaanbaatar 91.84 320 *ce*P **P 20 45 04.4 +1.4**
ULN pmax pmax
comp=Z,17nm,1.7s
ISCO Idaho Springs 91.91 48 P **P 20 45 03.4 -0.4**
ISCO Idaho Springs 91.91 48 P **P 20 45 03.4 -0.4**
ISCO pmax pmax
comp=Z,12nm,1.2s
G30M tAoh Zrail Nji 92.14 16 IAMs_20 IAMs_20 21 19 55.7
comp=Z,1µm,21.0s
SONM Songino Array 92.22 320 P **P 20 45 03.5 -1.3**
SONM Songino Array 92.22 320 P **P 20 45 05.4 +0.6**
comp=Z,5.4nm,1.3s,baz=116,slow=6.6,SNR=15
SONM LR LR 21 21 59.8
comp=Z,291nm,21.9s,baz=107,slow=32
comp=Z,5.4nm,1.3s
SONM Songino Array 92.22 320 P **P 20 45 03.5 -1.3**
SONM pmax pmax
comp=Z,13nm,1.6s
K22A Casper 92.41 46 IAMs_20 IAMs_20 21 22 26.6
comp=Z,816nm,18.0s
E28M Babbage River 92.54 14 IAMs_20 IAMs_20 21 18 57.5
comp=Z,980nm,21.0s
G31M Satah River 92.62 17 IAMs_20 IAMs_20 21 17 33.7
comp=Z,980nm,21.0s
D27M Malcolm River 92.71 14 IAMs_20 IAMs_20 21 19 52.3
comp=Z,1µm,22.0s
CMIG Matias Romero 92.72 73 LR LR 21 18 08.9
comp=Z,1µm,20.3s,baz=191,slow=30
F30M Barrier River 92.72 16 IAMs_20 IAMs_20 21 22 06.0
comp=Z,875nm,20.0s
PLCA Paso Flores 92.96 135 P **P 20 45 10.8 +2.3**
comp=Z,8.5nm,1.3s,baz=260,slow=11,SNR=3.9
PLCA LR LR 21 17 37.1
comp=Z,437nm,22.0s,baz=240,slow=29
comp=Z,8.5nm,1.3s
HNDO Hondo 93.02 60 P **P 20 45 08.6 -0.2**
HNDO IAmb IAmb 20 45 18.4
comp=Z,24nm,1.0s
F31M Tsiigehtchic 93.14 17 IAMs_20 IAMs_20 21 19 53.3
comp=Z,1µm,20.0s
GTA Gaotai 93.19 311 *e*P **P 20 45 10.9 +1.5**
GTA pP pP 20 45 19.3 -1.1
GTA sS sS 20 56 29.4 -2.2
GTA SS **SS 21 02 27.9 -2.5**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,130nm,8.4s
GTA LR LR
comp=Z,340nm,19.1s
GTA LR LR
comp=Z,440nm,21.1s
GTA LR LR
comp=Z,670nm,20.7s
ABTX Abilene, Hawle 93.78 57 IAMs_20 IAMs_20 21 24 11.0
comp=Z,859nm,19.0s
INK Inuvik 93.81 16 LR LR 21 21 20.5
comp=Z,596nm,21.0s,baz=208,slow=32
BRDH Bariadhala 94.01 292 LR LR 21 24 57.8
comp=Z,340nm,21.9s,baz=154,slow=34
RSSD Black Hills 94.65 45 P **P 20 45 17.1 +0.9**
SHL Shillong 94.72 295 P **P 20 45 15.6 -1.3**
SHL Shillong 94.72 295 P **P 20 45 15.6 -1.3**
SHL pmax pmax
comp=Z,17nm,0.5s
PLPT Palo Pinto 94.90 57 P **P 20 45 16.1 -1.2**
PLPT IAmb IAmb 20 45 24.5
comp=Z,24nm,1.4s
APG El Apazote 96.09 76 LR LR 21 21 00.9
comp=Z,34nm,20.7s,baz=288,slow=30
TIXI Tiksi 96.37 346 P **P 20 45 21.5 -1.6**
TIXI Tiksi 96.37 346 P **P 20 45 22.3 -0.7**
comp=Z,0.4nm,0.3s,baz=96,slow=5.1,SNR=5.2
TIXI LR LR 21 25 02.0
comp=Z,391nm,19.8s,baz=155,slow=33
comp=Z,0.4nm,0.3s
TIXI Tiksi 96.37 346 *ce*P **P 20 45 24.0 +0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.4s
LSA Lhasa 96.64 299 P **P 20 45 25.6 -0.3**
LSA Lhasa 96.64 299 P **P 20 45 25.6 -0.3**
LSA pmax pmax
comp=Z,15nm,1.8s
LSA MLR MLR
comp=Z,500nm,22.0s
VA03 San Esteban 96.67 128 IAMs_20 IAMs_20 21 17 35.2
comp=Z,1µm,22.0s
YKA Yellowknife Ar 96.71 26 P **P 20 45 25.6 +0.8**
comp=Z,1.0nm,0.8s,baz=257,slow=5.5,SNR=3.0
YKA LR LR 21 22 52.1
comp=Z,2µm,20.0s,baz=255,slow=32
comp=Z,1.0nm,0.8s
OK052 Battle Ridge R 97.10 55 IAMs_20 IAMs_20 21 21 41.7
comp=Z,909nm,19.0s
OK048 Pawnee Station 97.12 54 IAMs_20 IAMs_20 21 27 42.3
comp=Z,880nm,21.0s
A36M Sachs Harbour 98.36 15 IAMs_20 IAMs_20 21 26 35.7
comp=Z,846nm,19.0s
H04S1 CROZET ISLANDS 98.53 214 T T 22 35 46.8
baz=127,slow=75,SNR=4.5
H04S2 CROZET ISLANDS 98.54 214 T T 22 35 48.9
baz=127,slow=75,SNR=3.7
H04S3 CROZET ISLANDS 98.55 214 T T 22 35 47.9
baz=127,slow=75,SNR=4.6
CFA Coronel Fontan 98.94 128 LR LR 21 24 21.6
comp=Z,178nm,18.2s,baz=273,slow=32
PALK Pallekele 99.29 275 IAMs_20 IAMs_20 21 33 19.4
comp=Z,646nm,19.0s
PALK Pallekele 99.29 275 LR LR 21 33 30.6
comp=Z,587nm,18.1s,baz=117,slow=37
JTS Las Juntas de 99.79 82 LR LR 21 20 34.9
comp=Z,524nm,20.6s,baz=250,slow=29
NNA Nana 100.01 106 IAMs_20 IAMs_20 21 20 45.5
comp=Z,858nm,19.0s
HOPE Hope Point 101.24 160 *i*P **Pdif 20 45 49.5 +4.1**
PB03 IPOC Station P 102.14 118 IAMs_20 IAMs_20 21 20 41.8
comp=Z,1µm,19.0s
OXF Oxford 102.50 58 IAMs_20 IAMs_20 21 29 25.3
comp=Z,668nm,19.0s
S44A Carbondale 103.39 55 IAMs_20 IAMs_20 21 26 58.4
comp=Z,628nm,20.0s
ZALV Zalesovo Beam 107.03 322 PKiKP **PKiKP 20 50 18.4 -2.0**
comp=Z,0.9nm,0.8s,baz=90,slow=2.9,SNR=3.7
MKAR Makanchi Array 107.50 314 PKiKP **PKiKP 20 50 21.5 -0.1**
comp=Z,2.7nm,1.1s,baz=117,slow=1.6,SNR=6.1
MKAR PKKPbc **PKKPbc 21 01 38.8 +1.0**
comp=Z,1.6nm,1.1s,baz=270,slow=1.4,SNR=4.0
KURK Kurchatov 110.41 318 *i*PKIKP **PKiKP 20 50 25.9 -0.9**
KURBB Kurchatov Arra 110.45 318 PKiKP **PKiKP 20 50 25.9 -1.0**
comp=Z,0.6nm,0.3s,baz=111,slow=1.7,SNR=8.8
KURBB PKKPbc **PKKPbc 21 01 27.0 -1.4**
comp=Z,0.2nm,0.7s,baz=273,slow=3.5,SNR=4.1
KSH Kashi 111.02 306 PKP **PKiKP 20 50 27.3 -1.3**
KSH PP **PP 20 51 12.4 +4.8**
KSH LR LR
comp=Z,290nm,18.6s
KSH LR LR
comp=Z,580nm,17.5s
KSH LR LR
comp=Z,540nm,20.6s
AAK Ala-Archa 112.49 309 *c i*PKIKP **PKiKP 20 50 32.2 +0.9**
AAK pmax pmax
comp=Z,1.0nm,1.3s
TULEG Thule 113.66 14 IAMs_20 IAMs_20 21 35 26.2
comp=Z,898nm,20.0s
SDDR Presa de Sabaz 114.82 77 IAMs_20 IAMs_20 21 28 45.7
comp=Z,796nm,21.0s
KK31 Karatay Array 115.44 309 **PKPdf 20 50 35.3 -1.5**
KK31 Karatay Array 115.44 309 PKIKP **PKPdf 20 50 35.3 -1.5**
KKAR Karatay Array 115.44 309 **PKPdf 20 50 35.2 -1.6**
KKAR Karatay Array 115.44 309 PKIKP **PKPdf 20 50 35.2 -1.6**
BORK Borovoye 115.61 320 *c i*PKIKP **PKiKP 20 50 36.8 +0.1**
BORK pmax pmax
comp=Z,10.0nm,1.7s
KBL Kabul 115.95 300 **PKPdf 20 50 36.8 -1.4**
KBL Kabul 115.95 300 PKIKP **PKPdf 20 50 36.8 -1.4**
CHGR Chuyangaron 116.21 304 **PKPdf 20 50 36.3 -2.1**
CHGR Chuyangaron 116.21 304 PKIKP **PKPdf 20 50 36.3 -2.1**
BCX Boston College 117.73 52 IAMs_20 IAMs_20 21 44 17.0
comp=Z,842nm,19.0s
SPITS Spitsbergen Ar 120.11 356 PKP **PKPdf 20 50 44.6 -0.2**
comp=Z,10nm,1.0s,baz=32,slow=5.6,SNR=2.2
SVE Sverdlovsk 120.66 325 *e*PKIKP **PKPdf 20 50 46.4 +0.1**
HRA Herat 121.54 299 **PKPdf 20 50 47.6 -1.4**
ARTI Arti 121.98 325 **PKPdf 20 50 47.6 -1.2**
ARTI IAMs_20 IAMs_20 21 49 35.9
comp=Z,712nm,20.0s
ARTI Arti 121.98 325 PKP **PKPdf 20 50 48.7 -0.2**
comp=Z,6.2nm,0.9s,baz=43,slow=0.8,SNR=5.4
ARTI Arti 121.98 325 *i*PKIKP **PKiKP 20 50 49.8 +0.8**
ARTI 20 52 22.1
ARTI 20 57 58.6
SABA Saba 122.01 81 IAMs_20 IAMs_20 21 36 45.4
comp=Z,473nm,19.0s
AB31 Akbulak array 122.47 317 PKPdf **PKPdf 20 50 49.6 -0.4**
ABKAR Akbulak array 122.47 317 **PKPdf 20 50 49.3 -0.7**
BDFB Brasilia 123.05 124 PKP **PKPdf 20 50 51.5 -0.8**
comp=Z,2.1nm,0.9s,baz=180,slow=9.1,SNR=3.6
AKTO Aktyubinsk 123.50 318 PKP **PKPdf 20 50 51.6 -0.3**
comp=Z,3.7nm,0.8s,baz=38,slow=1.1,SNR=7.1
ILAM Ilet Lapin Mar 123.63 85 IAMs_20 IAMs_20 21 44 06.5
comp=Z,566nm,19.0s
KIRV Kirov 125.82 330 PKP **PKPdf 20 50 55.8 -0.3**
comp=Z,11nm,0.8s,baz=108,slow=3.2,SNR=5.8
KIRV Kirov 125.82 330 *ce*PKIKP **PKPdf 20 50 56.9 +0.8**
BOSA Boshof 125.89 210 PKP **PKPdf 20 50 55.5 -2.0**
comp=Z,7.9nm,1.1s,baz=145,slow=3.2,SNR=6.4
UOSS Minazif 126.12 287 PKPdf **PKPdf 20 50 55.2 -2.6**
APA Apatity 126.51 344 ⇓*i*PKIKP **PKPdf 20 50 55.1 -2.1**
ARCES ARCESS Array B 126.74 348 PKP **PKPdf 20 50 58.4 +0.7**
comp=Z,5.7nm,0.8s,baz=39,slow=3.5,SNR=6.0
KLMR Klimovskoe 129.00 335 *e*PKIKP **PKPdf 20 51 00.7 -1.5**
KLMR *e* 20 53 08.5
KLMR pmax pmax
comp=Z,36nm,1.5s
KLMR MLR MLR
comp=Z,564nm,18.0s
BELG Belogornoye 129.19 323 PKP **PKPdf 20 51 02.2 -0.5**
comp=Z,15nm,1.0s,baz=60,slow=20,SNR=4.1
PHPEN Phepeng 129.67 209 PKPdf **PKPdf 20 51 04.3 -0.5**
MREMI Moremi 129.72 216 PKPdf **PKPdf 20 51 04.0 -0.9**
MAK Makhachkala 132.19 311 *e*P **Pdif 20 48 02.3 -0.9**
MAK *e*PPP PPP 20 56 21.7
MAK *e* 20 58 16.7
MAK *e*SS SS 21 11 04.7 -2.1
MAK *e*SSS SSS 21 16 00.0
MAK pmax pmax
comp=Z,83nm,1.5s
AKT Akhty 132.37 309 *i*PKIKP **PKPdf 20 51 08.5 -0.8**
AKT *e*PPP PPP 20 56 21.7
AKT pmax pmax
comp=Z,22nm,1.4s
MOS Moscow 132.80 331 *i*PKIKP **PKPdf 20 51 09.8 +0.3**
MOS *e* 20 53 36.9
VRH Novokhopyorsk 133.02 324 *e*PKIKP **PKPdf 20 51 09.4 -0.7**
VRH pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 133.25 342 PKhKP PKPpre 20 51 04.3
comp=Z,2.7nm,0.9s,baz=27,slow=1.6,SNR=4.7
FINES FINESS Array B 133.25 342 *ce*PKIKP **PKiKP 20 51 11.8 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 133.65 330 ⇓*e*PKIKP **PKiKP 20 51 13.8 +1.4**
OBN *e* 20 53 39.5
OBN *e* 20 58 15.6
OBN *e*PS **PS 21 04 02.0 +2.6**
OBN pmax pmax
comp=Z,35nm,1.7s
LPSR Galich'ya Gora 133.86 326 *e*PKIKP **PKPdf 20 51 11.3 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 134.43 325 *e*PKIKP **PKPdf 20 51 11.7 -1.0**
VSR pmax pmax
comp=Z,9.0nm,1.1s
GNI Garni 134.88 308 PKPdf **PKPdf 20 51 12.0 -2.1**
GNI Garni 134.88 308 *ce*PKIKP **PKPdf 20 51 15.6 +1.4**
GNI pmax pmax
comp=Z,19nm,2.5s
KBZ Khabaz 135.19 314 PKP **PKPdf 20 51 14.9 +0.5**
comp=Z,1.8nm,1.0s,baz=47,slow=2.6,SNR=4.7
KIV Kislovodsk 135.26 314 *i*PKIKP **PKPdf 20 51 15.1 +0.4**
KIV *e* 20 53 49.0
KIV *e*SS SS 21 11 42.6 -1.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
QNGWA Qangwa 135.53 212 PKPdf **PKPdf 20 51 13.3 -2.6**
RAYN Ar Rayn 135.74 284 PKPdf **PKPdf 20 51 13.8 -2.2**
RAYN Ar Rayn 135.74 284 IAMs_20 IAMs_20 21 49 39.4
comp=Z,429nm,20.0s
RAYN Ar Rayn 135.74 284 PKIKP **PKPdf 20 51 13.9 -2.2**
RAYN MLR MLR
comp=Z,400nm,20.0s
ATD Arta Tunnel 136.29 267 IAMs_20 IAMs_20 21 51 45.2
comp=Z,592nm,18.0s
NOA NORSAR Array B 136.97 351 PKP **PKPdf 20 51 18.2 +1.0**
comp=Z,0.6nm,0.7s,baz=14,slow=4.0,SNR=3.6
HFS Hagfors 137.40 349 PKP **PKPdf 20 51 16.3 -1.7**
comp=Z,3.5nm,0.8s,baz=46,slow=4.2,SNR=4.7
SOC Sochi 137.41 315 *e*PKIKP **PKPdf 20 51 14.8 -3.7**
SOC *e*SS SS 21 12 12.1 +2.8
SOC *e*SSS SSS 21 17 14.3
MNK Minsk 137.87 334 *i*PKIKP **PKiKP 20 51 26.8 +5.8**
MNK *i* 20 54 12.7
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=E,16nm,0.9s
MNK MLR MLR
comp=E,292nm,20.0s
MNK MLR MLR
comp=Z,426nm,19.0s
MNK MLR MLR
comp=N,193nm,20.0s
ANN Anapa 138.43 317 *i*PKIKP **PKPdf 20 51 21.1 +0.8**
ANN pmax pmax
comp=Z,29nm,0.8s
ANN MLR MLR
comp=Z,344nm,19.0s
AK03 Malin Array Si 139.86 329 PKP **PKPdf 20 51 20.2 -2.6**
AKASG Malin Array Be 139.88 329 **PKPdf 20 51 21.5 -1.3**
AKASG Malin Array Be 139.88 329 PKP **PKPdf 20 51 21.0 -1.8**
comp=Z,3.0nm,0.8s,baz=47,slow=3.3,SNR=9.8
AKBB Malin Array Si 139.88 329 **PKPdf 20 51 21.6 -1.2**
AKBB Malin Array Si 139.88 329 PKIKP **PKPdf 20 51 21.6 -1.2**
AKBB Malin Array Si 139.88 329 PKP **PKPdf 20 51 20.2 -2.6**
AK01 Malin Array Si 139.89 329 PKP **PKPdf 20 51 20.3 -2.5**
KIEV Kiev 139.89 329 **PKPdf 20 51 21.5 -1.3**
KIEV Kiev 139.89 329 IAMs_20 IAMs_20 21 51 10.9
comp=Z,519nm,20.0s
KIEV Kiev 139.89 329 PKIKP **PKPdf 20 51 21.5 -1.3**
KIEV MLR MLR
comp=Z,500nm,20.0s
KIEV Kiev 139.89 329 PKP **PKPdf 20 51 20.2 -2.6**
AK04 Malin Array Si 139.89 329 PKP **PKPdf 20 51 20.3 -2.5**
AK09 Malin Array Si 139.90 329 PKP **PKPdf 20 51 20.3 -2.6**
AK08 Malin Array Si 139.91 329 PKP **PKPdf 20 51 20.3 -2.5**
AK22 Malin Array Si 139.91 329 PKP **PKPdf 20 51 20.3 -2.6**
AK02 Malin Array Si 139.91 329 PKP **PKPdf 20 51 20.3 -2.6**
AK21 Malin Array Si 139.91 330 PKP **PKPdf 20 51 20.3 -2.6**
AK11 Malin Array Si 139.92 329 PKP **PKPdf 20 51 20.3 -2.6**
AK10 Malin Array Si 139.93 329 PKP **PKPdf 20 51 20.3 -2.6**
AK18 Malin Array Si 139.94 329 PKP **PKPdf 20 51 20.4 -2.5**
AK05 Malin Array Si 139.94 329 PKP **PKPdf 20 51 20.4 -2.5**
AK20 Malin Array Si 139.95 330 PKP **PKPdf 20 51 20.4 -2.5**
AK16 Malin Array Si 139.95 329 PKP **PKPdf 20 51 20.4 -2.5**
AK06 Malin Array Si 139.96 329 PKP **PKPdf 20 51 20.4 -2.6**
AK19 Malin Array Si 139.97 329 PKP **PKPdf 20 51 20.4 -2.6**
AK17 Malin Array Si 139.97 329 PKP **PKPdf 20 51 20.4 -2.6**
AK14 Malin Array Si 139.98 329 PKP **PKPdf 20 51 20.4 -2.6**
AK07 Malin Array Si 139.98 329 PKP **PKPdf 20 51 20.4 -2.6**
AK13 Malin Array Si 140.01 329 PKP **PKPdf 20 51 20.5 -2.6**
LODK Lodwar 140.44 252 IAMs_20 IAMs_20 21 47 15.1
comp=Z,582nm,20.0s
RNPP8 Varash 141.00 332 PKP **PKPdf 20 51 22.2 -2.6**
RNPP5 Staryi Chortor 141.06 332 PKP **PKPdf 20 51 22.3 -2.6**
LUBAR Lubar, Ukraine 141.10 329 PKP **PKPdf 20 51 22.5 -2.6**
SORM Soroca 141.96 327 ⇑P **PKPdf 20 51 24.2 -2.4**
SORM Soroca 141.96 327 ⇑PKIKP **PKPdf 20 51 24.2 -2.4**
BRTR Keskin Array B 143.10 312 PKPbc 20 51 26.2 +0.1
BRTR Keskin Array B 143.10 312 PKhKP PKPpre 20 51 24.9
comp=Z,1.5nm,0.9s,baz=119,slow=1.8,SNR=13
BRTR Keskin Array B 143.10 312 PKIKP PKPbc 20 51 26.2 +0.1
KWP Kalwaria Pacla 143.62 333 *e*PKP PKPbc 20 51 27.8 +0.8
EKA Eskdalemuir Ar 143.70 1 PKP **PKPdf 20 51 30.5 +1.0**
comp=Z,3.2nm,0.8s,baz=347,slow=2.4,SNR=5.1
MMAI Mount Meron Ar 143.88 300 PKP PKPbc 20 51 28.9 +0.5
comp=Z,3.3nm,0.6s,baz=70,slow=4.7,SNR=5.2
BUR08 Bucovina Ar. S 143.88 328 PKPbc 20 51 29.5 +1.5
TESR Tescani 143.89 326 ⇑P PKPbc 20 51 28.7 +0.7
BURAR Bucovina Array 143.90 328 ⇓P **PKPdf 20 51 30.3 +0.1**
BURAR Bucovina Array 143.90 328 ⇓PKIKP **PKPdf 20 51 30.3 +0.1**
CFR Carcaliu 143.90 323 ⇑P PKPbc 20 51 28.9 +0.9
CFR Carcaliu 143.90 323 ⇑PKIKP PKPbc 20 51 28.9 +0.9
TPGR Topolog 143.93 322 ⇓P PKPbc 20 51 29.2 +1.1
PANC Panciu 144.03 325 ⇓P **PKPdf 20 51 30.5 +0.2**
GHAJ Ghor Haditha 144.10 297 PKPdf **PKPab 20 51 28.5 0.0**
GHAJ IAMs_20 IAMs_20 22 00 49.9
comp=Z,432nm,20.0s
ONER Baraj Valea Uz 144.14 326 ⇓P PKPbc 20 51 30.0 +1.3
TIRR Tirgusor 144.16 322 PKPdf **PKPab 20 51 28.8 +0.5**
TIRR IAMs_20 IAMs_20 21 55 51.6
comp=Z,441nm,21.0s
TIRR Tirgusor 144.16 322 ⇓P PKPbc 20 51 29.7 +0.9
TIRR Tirgusor 144.16 322 PKIKP **PKPab 20 51 28.8 +0.5**
TIRR MLR MLR
comp=Z,400nm,21.0s
VRI Vrincioaia 144.26 325 ⇓P PKPbc 20 51 29.7 +0.6
VRI Vrincioaia 144.26 325 ⇓PKIKP PKPbc 20 51 29.7 +0.6
HARR Harsova 144.31 323 ⇓P PKPbc 20 51 30.4 +1.2
HARR Harsova 144.31 323 ⇓PKIKP PKPbc 20 51 30.4 +1.2
PLOR Plostina 144.31 325 ⇓P PKPbc 20 51 29.7 +0.4
PLOR Plostina 144.31 325 ⇓PKIKP PKPbc 20 51 29.7 +0.4
TLBR Topalu 144.32 322 ⇑P PKPbc 20 51 30.5 +1.2
OJC Ojcow 144.35 336 *e*PKP PKPbc 20 51 29.6 +0.4
OJC Ojcow 144.35 336 **PKPab 20 51 28.9 +0.1**
OJC Ojcow 144.35 336 PKIKP **PKPab 20 51 29.0 +0.1**
STHS Stebnicka Huta 144.40 334 *e*PKP **PKPab 20 51 29.7 +0.6**
BISRR Bisoca 144.47 325 ⇓P PKPbc 20 51 30.7 +0.9
TURR Turia 144.52 326 ⇑P **PKPdf 20 51 31.5 +0.2**
SAHE Sakarya_HENDEK 144.52 315 ⇓P **PKPab 20 51 30.1 +0.2**
OZUR 144.62 326 ⇑P PKPbc 20 51 31.2 +1.0
BMR Baia Mare 144.69 330 ⇑P **PKPdf 20 51 31.5 0.0**
BMR Baia Mare 144.69 330 ⇑PKIKP **PKPdf 20 51 31.5 0.0**
NEHR Nehoiu 144.77 325 ⇓P **PKPdf 20 51 31.9 +0.1**
NIE Niedzica 144.79 335 *e*PKP **PKPdf 20 51 31.8 +0.1**
PSN Preselentsi 144.80 321 P PKPbc 20 51 31.5 +0.7
ISR Istrita 144.83 324 ⇑P **PKPdf 20 51 32.3 +0.4**
ISR Istrita 144.83 324 ⇑PKIKP **PKPdf 20 51 32.3 +0.4**
DOPR Dopca 144.91 326 ⇓P **PKPdf 20 51 32.4 +0.4**
MLR Muntele Rosu 144.92 325 IAMs_20 IAMs_20 21 59 59.9
comp=Z,476nm,21.0s
MLR Muntele Rosu 144.92 325 PKP PKPbc 20 51 32.0 +0.6
comp=Z,48nm,1.2s,baz=13,slow=3.2,SNR=50
MLR Muntele Rosu 144.92 325 ⇓P **PKPab 20 51 31.7 +0.4**
MLR Muntele Rosu 144.92 325 ⇓PKIKP **PKPab 20 51 31.7 +0.4**
KSP Ksiaz 145.08 340 *e*PKP **PKPdf 20 51 32.3 +0.3**
OKC Ostrava-Krasne 145.28 337 AMS AMS 21 53 30.0

comp=Z,400nm,17.8s
CJR Cluj-Napoca 145.32 329 ⇑PKIKP PKPdf 20 51 33.8 +1.1
CJR Cluj-Napoca 145.32 329 ⇑PKIKP PKPdf 20 51 33.8 +1.1
LANS Liptovska Anna 145.33 335 *e*PKIKP PKPdf 20 51 34.7 +2.1
LANS Liptovska Anna 145.33 335 *e*PKP PKPdf 20 51 34.7 +2.1
STEB Steborice 145.34 338 *e*PKP PKPdf 20 51 33.1 +0.5
OSTC Ostas 145.35 340 *e*PKIKP PKPdf 20 51 33.8 +1.2
OSTC MLR MLR
comp=Z,500nm,15.8s
OSTC Ostas 145.35 340 *e*PKP PKPdf 20 51 33.8 +1.2
OSTC AMS AMS 22 04 10.0
comp=Z,500nm,15.8s
CHVC Chvalec 145.38 340 *e*PKIKP PKPdf 20 51 33.7 +1.1
CHVC Chvalec 145.38 340 *e*PKP PKPdf 20 51 33.7 +1.1
UPC Upice 145.46 340 *e*PKIKP PKPab 20 51 33.7 +0.7
UPC MLR MLR
comp=Z,500nm,20.7s
UPC Upice 145.46 340 *e*PKP PKPab 20 51 33.7 +0.7
UPC AMS AMS 21 53 10.0
comp=Z,500nm,20.7s
DPC Dobruska-Polom 145.50 339 *e*PKIKP PKPab 20 51 33.9 +0.7
DPC MLR MLR
comp=Z,500nm,18.3s
DPC Dobruska-Polom 145.50 339 *e*PKP PKPab 20 51 33.9 +0.7
DPC AMS AMS 22 04 20.0
comp=Z,500nm,18.3s
PRD Provadia 145.50 321 P PKPab 20 51 34.1 +0.7
MORC Moravsky Berou 145.56 338 ⇓P PKPab 20 51 33.9 +0.5
MORC Moravsky Berou 145.56 338 *e*PKP PKPdf 20 51 33.3 +0.3
MORC Moravsky Berou 145.56 338 ⇓PKIKP PKPab 20 51 33.9 +0.5
KRLC Kraliky 145.57 339 *e*PKIKP PKPab 20 51 34.2 +0.7
KRLC MLR MLR
comp=Z,500nm,20.7s
KRLC Kraliky 145.57 339 *e*PKP PKPab 20 51 34.2 +0.7
KRLC AMS AMS 22 03 00.0
comp=Z,500nm,20.7s
MARR Marisel-Cluj 145.58 329 ⇓P PKPbc 20 51 33.9 +0.5
CLL Collm 145.66 343 PKPbc PKPdf 20 51 32.6 -0.5
CLL Collm 145.66 343 *i* PKIKP PKPbc 20 51 33.7 +0.4
CLL *i* 20 51 38.6
CLL pmax pmax
comp=Z,163nm,1.5s
CLL MLR MLR
comp=Z,400nm,20.6s
DRGR 145.69 329 ⇓P PKPbc 20 51 34.2 +0.5
DRGR 145.69 329 ⇓PKIKP PKPbc 20 51 34.2 +0.5
ARR Arges 145.70 326 ⇓P PKPab 20 51 34.6 +0.4
BRG Berggiesshubel 145.78 342 *i* PKP PKPdf 20 51 33.8 +0.5
BRG Amp 20 51 36.8
comp=Z,85nm,1.3s
MAUC Maruska 145.79 337 *e*PKP PKPab 20 51 35.1 +0.8
RAZG Razgrad 145.80 322 ⇓P PKPbc 20 51 34.6 +0.5
PVCC Panska Ves 145.90 341 AMS AMS 21 52 50.0
comp=Z,600nm,24.2s
RICC Richard 146.03 342 *e*PKP PKiKP 20 51 39.3 +1.4
PSZ Piszkesteto 146.13 333 PKPdf 20 51 34.0 0.0
PSZ Piszkesteto 146.13 333 ⇑P PKPdf 20 51 34.4 +0.3
PSZ Piszkesteto 146.13 333 PKP2 PKPdf 20 51 34.0 0.0
HSKC Hora Svate Kat 146.17 342 *e*PKP PKiKP 20 51 38.4 +0.2
HSKC AMS AMS 22 01 00.0
comp=Z,400nm,20.6s
JAVC Velka Javorina 146.27 337 *e*PKP PKPbc 20 51 35.9 +0.5
VRAC Vranov 146.29 338 PKPbc PKPbc 20 51 35.8 +0.4
comp=Z,19nm,1.1s,baz=62,slow=3.4,SNR=18
VRAC Vranov 146.29 338 ⇓P PKPbc 20 51 36.1 +0.7
VRAC Vranov 146.29 338 *e*PKP PKPdf 20 51 34.7 +0.5
SZH Strazhitsa 146.29 322 P PKPbc 20 51 35.8 +0.2
PRU Pruhonice 146.39 341 *e*PKP2 PKPbc 20 51 35.6 0.0
PRU MLR MLR
comp=Z,600nm,21.2s
PRU Pruhonice 146.39 341 *e*PKP PKPbc 20 51 35.6 0.0
PRU AMS AMS 21 52 40.0
comp=Z,600nm,21.2s
ELND Elena 146.55 322 ⇓P PKPdf 20 51 35.4 +0.6
KRUC Moravsky 146.56 338 *e*PKP PKPdf 20 51 35.1 +0.4
SIRR Siria 146.57 330 ⇓P PKPbc 20 51 37.3 +1.0
BAND Balkesir-Ban 146.59 316 ⇓P PKPbc 20 51 36.4 -0.1
GZR Gura Zlata 146.65 328 ⇑P PKPbc 20 51 37.1 +0.5
GZR Gura Zlata 146.65 328 ⇑PKP2 PKPbc 20 51 37.1 +0.5
TREC Trest 146.68 339 AMS AMS 22 03 50.0
comp=Z,400nm,16.0s
SURR Surduc 146.72 329 ⇑P PKPbc 20 51 37.1 +0.4
VLAD Vladila 146.72 324 ⇑P PKPbc 20 51 37.6 +0.8
MODS Modra-Piesok 146.81 336 *e*PKP2 PKPab 20 51 38.4 +0.2
MODS Modra-Piesok 146.81 336 *e*PKP PKPab 20 51 38.3 +0.1
PVL Pavlikeni 146.84 322 P PKPdf 20 51 36.2 +0.9
SRO Srobarova 146.87 335 *e*PKP PKiKP 20 51 39.7 0.0
SRO *e* 20 51 44.3
ZVC Zvikov 146.98 341 *e*PKP PKPbc 20 51 38.4 +1.1
ZVC AMS AMS 21 52 40.0
comp=Z,600nm,20.4s
PLVB Pleven 146.99 323 ⇓P PKPdf 20 51 36.5 +0.9
ZST Bratislava 147.03 336 *e*PKP2 PKPbc 20 51 38.4 +0.9
ZST MLR MLR
comp=Z,600nm,20.4s
ZST Bratislava 147.03 336 *e*PKP PKiKP 20 51 43.8 +3.8
BZS Buzias 147.07 329 ⇓P PKPdf 20 51 35.8 +0.2
BZS Buzias 147.07 329 ⇓PKIKP PKPdf 20 51 35.8 +0.2
HERR Herculane 147.19 327 ⇓P PKPbc 20 51 38.4 +0.3
MANT Manisa 147.19 313 PKPdf 20 51 36.2 -0.1
KHC Kasperske Hory 147.44 341 IAMs_20 IAMs_20 21 55 20.0
comp=Z,381nm,21.0s
KHC Kasperske Hory 147.44 341 *e*PKP2 PKPbc 20 51 39.3 +0.6
KHC Kasperske Hory 147.44 341 *e*PKP PKPbc 20 51 39.3 +0.6
KHC AMS AMS 21 53 00.0
comp=Z,600nm,29.4s
VALD Valchedram 147.46 325 P PKPdf 20 51 37.1 +0.8
BANR Banloc 147.47 329 ⇓P PKPab 20 51 40.4 -0.5
MPEP Malo Peshtene 147.50 324 P PKPdf 20 51 37.5 +1.1
GRA1 Grafenberg Arr 147.60 344 IAMs_20 IAMs_20 21 58 34.8
comp=Z,368nm,20.0s
GRFO Grafenberg 147.60 344 PKPdf PKPdf 20 51 35.2 -1.2
GRFO IAMs_20 IAMs_20 22 06 25.7
comp=Z,381nm,21.0s
GRFO Grafenberg 147.60 344 PKIKP PKPdf 20 51 35.2 -1.2
GRFO MLR MLR
comp=Z,400nm,21.0s
MDVR Moldovita 147.61 328 ⇓P PKPbc 20 51 39.4 +0.1
GEC2 GERESS Array S 147.65 341 PKPdf 20 51 35.0 -1.6
GERES GERESS Array B 147.65 341 PKPbc PKPbc 20 51 40.0 +0.7
comp=Z,9.6nm,0.8s,baz=35,slow=3.6,SNR=51
CONA Conrad Observa 147.71 337 *i* PKIKP PKPbc 20 51 40.3 +0.8
comp=Z,79nm,1.5s,SNR=24
RONA Rosalia, Austr 147.74 337 *i* PKiKP PKPbc 20 51 40.3 +0.8
comp=Z,58nm,1.5s,SNR=25
RDO Rodhopi 147.80 319 PKPdf 20 51 35.4 -1.6
MEM Membach 147.82 351 *d*PKP PKPdf 20 51 38.3 +1.6
BTNL Ternell 147.82 350 *d*PKP PKPdf 20 51 38.6 +1.8
UCC Uccle 147.87 353 *d*PKP PKPdf 20 51 37.8 +1.1
BSTI Sart Tilman 147.91 351 *d*PKP PKPdf 20 51 38.1 +1.2
MORH Mrgy, Hungar 147.99 333 *e*P PKPdf 20 51 36.9 -0.2
MORH Mrgy, Hungar 147.99 333 ⇑P PKPdf 20 51 38.1 +1.0
BHOU Houvegnez 148.07 350 *d*PKP PKPdf 20 51 38.7 +1.5
BCLA Clavier 148.11 351 *d*PKP PKPdf 20 51 38.8 +1.6
BGES Gesves 148.18 352 *d*PKP PKPbc 20 51 41.4 +0.8
BMRD Maredsous 148.30 352 *d*PKP PKPdf 20 51 38.2 +0.7
MOA Molln 148.34 339 *i* PKP PKPbc 20 51 40.5 -0.6
comp=Z,33nm,1.5s,SNR=11
RCHB Rochefort 148.38 351 *d*PKP PKPbc 20 51 40.5 -0.6
ARSA Arzberg 148.41 337 *i* PKP PKPbc 20 51 41.6 +0.3
comp=Z,34nm,1.6s,SNR=12
BOVS Bovan 148.42 326 ⇑P PKPbc 20 51 41.7 +0.3
DOU Dourbes 148.53 352 *d*PKP PKPbc 20 51 42.5 +1.0
BEHE Becsehely 148.57 335 *e*P PKPbc 20 51 42.1 +0.4
BIOA Bad Ischl, Aus 148.69 340 *i* PKP PKPbc 20 51 42.2 +0.2
comp=Z,36nm,1.4s,SNR=11
WLF Walferdange 148.72 350 IAMs_20 IAMs_20 22 03 59.7
comp=Z,499nm,18.0s
WLF Walferdange 148.72 350 *d*PKP PKPbc 20 51 42.7 +0.7
KKB Krupnik 148.82 322 P PKPdf 20 51 40.5 +1.8
STU Stuttgart 148.96 346 IAMs_20 IAMs_20 21 53 36.4
comp=Z,426nm,22.0s
SOKA Soboth 149.07 337 *i* PKP PKPbc 20 51 43.0 -0.1
comp=Z,45nm,1.4s,SNR=12
LESA Schwarzleotal 149.23 340 *i* PKP PKPbc 20 51 43.4 -0.1
comp=Z,44nm,1.4s,SNR=12
MOSL Moslavina 149.27 334 ⇓*i* P PKPbc 20 51 43.4 -0.2
KBA Koelnbreinsper 149.32 339 *i* PKiKP PKPbc 20 51 43.5 -0.4
comp=Z,26nm,1.2s,SNR=11
OBKA Obir 149.39 337 *i* PKiKP PKPbc 20 51 43.5 -0.4
comp=Z,25nm,1.6s,SNR=5.5
VAY Valandovo 149.47 322 *i* P PKPbc 20 51 43.8 -0.4
KARP Karpathos 149.50 309 IAMs_20 IAMs_20 22 12 58.3
comp=Z,355nm,20.0s
H10S3 ASCENSION HYDR 149.52 155 T T 23 39 44.8
baz=205,slow=74,SNR=13
H10S2 ASCENSION HYDR 149.52 155 T T 23 39 47.5
baz=15,slow=74,SNR=13
BFO Black Forest 149.57 346 PKP2 PKPbc 20 51 44.7 +0.5
MYKA Terra Mystica 149.61 339 *i* PKiKP PKPbc 20 51 43.8 -0.6
comp=Z,31nm,1.4s,SNR=9.1
RUDO Rudo 149.62 329 *e*P PKPbc 20 51 44.4 -0.1
WATA Walderalm 149.65 342 *i* PKiKP PKPbc 20 51 44.4 -0.2
comp=Z,43nm,1.1s,SNR=15
SKO Skopje 149.69 324 *i* P PKPbc 20 51 45.4 +0.7
WTTA Wattenberg 149.69 342 *i* PKP PKPbc 20 51 44.9 +0.1
comp=Z,44nm,1.1s,SNR=16
RETA Reutte 149.74 343 *i* PKiKP PKPbc 20 51 44.7 -0.1
comp=Z,32nm,1.4s,SNR=8.9
BLY Banja Luka 149.78 332 ⇓*i* P PKPbc 20 51 44.7 -0.1
BLY Banja Luka 149.78 332 ⇓P PKPbc 20 51 45.1 +0.3
MOTA Moosalm 149.78 342 *i* PKP PKPbc 20 51 44.9 0.0
comp=Z,75nm,1.2s,SNR=15
OZLJ Ozalj 149.79 335 ⇓*i* P PKPbc 20 51 44.5 -0.3
LJU Ljubljana 149.79 337 *i* PKPbc PKPbc 20 51 45.5 +0.6
SQTA Sankt Quirin 149.86 342 *i* PKP PKPbc 20 51 45.2 +0.1
comp=Z,58nm,1.0s,SNR=17
ABTA Abfaltersbach 149.88 340 *i* PKiKP PKPbc 20 51 44.5 -0.7
comp=Z,45nm,1.3s,SNR=14
ECH Echery 149.93 348 IAMs_20 IAMs_20 22 04 20.8
comp=Z,430nm,20.0s
BOJS Bojanci 149.97 336 *i* PKPbc PKPbc 20 51 45.8 +0.5
CEY Cerknica 150.09 337 *i* PKPbc PKPbc 20 51 45.5 -0.1
DAVA Damuels 150.17 344 *i* PKP PKPbc 20 51 46.2 +0.3
comp=Z,52nm,1.4s,SNR=13
FETA Feichten 150.18 342 *i* PKP PKPbc 20 51 46.4 +0.4
comp=Z,43nm,1.2s,SNR=27
LIT Litokhoron 150.28 320 PKPdf 20 51 38.9 -2.2
LIT Litokhoron 150.28 320 PKIKP PKPdf 20 51 38.9 -2.2
KLINJ Klinje 150.34 329 *e*P PKPbc 20 51 44.7 -1.7
PDG Podgorica 150.54 327 PKPdf 20 51 40.3 -1.0
PDG IAMs_20 IAMs_20 22 04 21.0
comp=Z,397nm,22.0s
PDG Podgorica 150.54 327 ⇓P PKPbc 20 51 46.3 -0.4
H10N3 ASCENSION HYDR 150.59 154 T T 23 41 06.3
baz=204,slow=75,SNR=11
H10N1 ASCENSION HYDR 150.60 154 T T 23 41 07.0
baz=204,slow=75,SNR=9.8
H10N2 ASCENSION HYDR 150.61 154 T T 23 41 07.7
baz=204,slow=75,SNR=7.8
OHR Ohrid 150.62 324 *i* P PKPbc 20 51 47.7 +0.6
FUORN Ofenpass-Fuorn 150.68 343 IAMs_20 IAMs_20 22 06 44.0
comp=Z,510nm,19.0s
KIJV Kijevo 150.71 332 ⇓*i* P PKPbc 20 51 46.3 -0.8
STON Ston 150.99 329 ⇓*i* P PKPbc 20 51 46.6 -1.1
BRJN Brijuni 151.05 337 *e*P PKPbc 20 51 47.6 -0.2
TUE Stuetta 151.06 344 PKPdf 20 51 40.2 -2.1
TUE IAMs_20 IAMs_20 22 06 51.2
comp=Z,522nm,20.0s
IDI Anoyia 151.28 310 PKPdf 20 51 40.7 -2.1
TEOL Teolo 151.38 340 PKPdf 20 51 41.5 -1.1
ITM Ithomi 152.37 316 PKPbc 20 51 49.9 -1.3
FDMO Fiordimonte 152.88 335 PKPdf 20 51 43.6 -1.3
AQU L'Aquila 153.33 334 *e*P PKiKP 20 51 57.2 +3.9
CESX Cesi 153.44 336 PKPdf 20 51 43.2 -2.5
CUC Castrocucco 154.09 328 IAMs_20 IAMs_20 22 11 37.9
comp=Z,419nm,20.0s
TIP Timpagrande 154.19 325 ⇑P PKPbc 20 51 55.5 +0.4
CEL Celeste 155.32 325 IAMs_20 IAMs_20 22 08 26.9
comp=Z,381nm,22.0s
VSL Villasalto 157.35 337 IAMs_20 IAMs_20 22 04 57.2
comp=Z,399nm,20.0s
MAHO Mahon 158.49 347 IAMs_20 IAMs_20 22 09 12.5
comp=Z,396nm,20.0s
ESDC Sonseca Array 159.30 5 PKPab PKPab 20 52 31.4 +0.6
comp=Z,3.8nm,1.3s,baz=13,slow=2.7,SNR=4.1
KEST Kesra 160.58 331 PKPab PKPab 20 52 36.9 +0.4
comp=Z,3.6nm,0.8s,baz=18,slow=3.2,SNR=5.1

IDC 19 20:39:04.7±4.5, 21°.69S×177°.67W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=189.1km s-min=37.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.56	246	P	P	20 46 20.5	-0.4
	1.2nm,0.6s,baz=77,slow=12,SNR=4.6 1.2nm,0.6s						
ASAR	Alice Springs	44.56	258	P	P	20 47 18.9	+0.2
	3.1nm,0.7s,baz=100,slow=8.1,SNR=31 3.1nm,0.7s						
WRA	Warramunga Arr	44.75	263	P	P	20 47 20.1	-0.2
	2.3nm,0.6s,baz=100,slow=8.0,SNR=21 2.3nm,0.6s						
ILAR	Eielson Array	89.41	13	P	P	20 52 02.7	-0.1
	0.2nm,0.6s,baz=212,slow=6.2,SNR=4.6 0.2nm,0.6s						

*KOLA **19** 20:44:57.9, 67°.64N×33°.85E, h0km, ML1.2, Error ellipse: s-maj=3.5km s-min=2.5km az=120.0, Khibiny, mines Rasvumchorr, Central*

HEL 19 20:44:57.8±0.2, 67°.60N×33°.91E, h0km, ML1.1, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.20	260	P	Pg	20 45 01.2	-0.3
APA0	Apatity Array	0.35	271	P	Pg	20 45 03.6	-0.9
APA0				S	Sg	20 45 08.2	-0.8
LVZ	Lovozero	0.41	43	S	Sg	20 45 10.8	-0.2
LVZ	Lovozero	0.41	43	PG	Pg	20 45 05.4	-0.2
baz=225							
LVZ				SG	Sg	20 45 09.9	-1.0
KVDA	Kovda	1.00	204	P	Pg	20 45 16.4	-0.6
KVDA				S	Sg	20 45 29.7	-0.1
VRF	Varrio	1.65	277	MSG		20 45 47.0	
comp=Z,1.7nm,0.2s							
VRF				SB	Sn	20 45 47.9	-1.9
TERR	Teriberka	1.67	15	S	Sn	20 45 47.8	-2.5
KU6	Riekki	2.24	227	PG	Pb	20 45 37.8	-1.4
baz=48							
KU6				MSG		20 46 04.1	
comp=Z,0.5nm,0.2s							
KU6				SG	Sb	20 46 07.2	-0.3
RAJF	Raja-Jooseppi	2.28	295	PB	Pn	20 45 37.1	+0.5
RAJF				SN	Sn	20 46 05.0	-0.4
MSF	Maaselka	2.57	231	PG	Pb	20 45 43.6	-1.1
VADS	Vadso	3.02	329	S	Sn	20 46 21.7	-1.8
RNF	Rovaniemi	3.24	256	SN	Sn	20 46 30.2	+1.1
KEV	Kevo	3.32	314	PN	Pn	20 45 51.0	+0.1
KEV				SN	Sn	20 46 29.7	-1.3
ARA0	ARCESS Array S	3.64	306	PN	Pn	20 45 54.6	-0.7
baz=121							
ARA0				SG	Sb	20 46 47.8	+0.2
ARCES	ARCESS Array B	3.64	306	P	Pn	20 45 54.2	-1.2
ARCES				S	Sn	20 46 36.4	-2.5
OUL	Oulu	4.10	236	PB	Pb	20 46 08.0	-2.7
LANU	Lannavaara	4.54	281	SG	Sb	20 47 16.0	+2.6

HEL 19 20:45:35.9±0.7, 67°.11N×20°.76E, h0km, ML0.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.80	134	PG	Pg	20 45 50.0	-1.1
ERTU				SG	Sg	20 46 00.5	-0.9
HEF	Hetta	1.71	39	MSG		20 46 27.0	
HEF				SG	Sn	20 46 28.5	-0.9
TOF	Tornio	1.76	124	PB	Pn	20 46 07.1	-0.5
TOF	Tornio	1.76	124	PG	Pn	20 46 07.1	-0.5
baz=302							
TOF				SG	Sn	20 46 27.3	-3.4
TOF				MSG		20 46 28.5	
comp=Z,0.6nm,0.2s							
KIF	Kilpisjarvi	1.90	0	MSG		20 46 33.7	
comp=Z,0.5nm,0.2s							
KIF				SB	Sn	20 46 34.6	+0.5
RNF	Rovaniemi	2.14	101	SG	Sg	20 46 44.2	-0.2
KEV	Kevo	3.52	38	PB	Pb	20 46 37.3	-1.6
KEV				SB	Sb	20 47 20.5	-1.6
MSF	Maaselka	3.53	106	SG	Sb	20 47 24.6	+2.2

IDC 19 21:02:08.7±3.8, 5°.63S×146°.93E, h211km±59km, mb3.0/2, mbtmp3.5/4, Error ellipse: s-maj=115.2km s-min=33.8km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.76	177	P	Pn	21 03 08.8	+0.9
5.5nm,0.3s,baz=348,slow=9.3,SNR=2.1							
PMG				S	S	21 03 54.6	+0.3
4.9nm,0.4s,baz=330,slow=20,SNR=1.5							
WRA	Warramunga Arr	18.77	220	P	P	21 06 12.1	-0.2
0.9nm,0.6s,baz=46,slow=11,SNR=5.3							
ASAR	Alice Springs	21.88	214	P	P	21 06 45.4	+0.3
1.1nm,0.6s,baz=44,slow=8.0,SNR=15 1.1nm,0.6s							
MKAR	Makanchi Array	77.17	320	P	P	21 13 38.8	-0.4
0.2nm,0.5s,baz=94,slow=7.0,SNR=1.6 0.2nm,0.5s							

*DJA **19** 21:16:49.9±0.5, 12°.5S±5°.5×11°.1E±°, h10km, M4.5/22, mB4.9/3, mb4.5/13, MLv4.5/22, Mw(mB)4.2/3*
*IDC **19** 21:16:52.3±0.9, 11°.39S×111°.94E, h0km, mb3.6/10, mbtmp3.7/12, ML3.9/2, Error ellipse: s-maj=33.4km s-min=11.8km az=39.0*

ISC 19 21:16:56.6±0.8, 11°.62S±0°.09×111°.70E±0°.07, h35km, n37, σ2°.33/38, mb3.8/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	3.44	351	P	Pn	21 17 43.9	-3.9
UGM	Wanagama	3.86	342	P	Pn	21 17 49.6	-4.0
JAGI	Jajag, Banyuwa	3.95	38	P	Pn	21 17 54.2	-0.6
YOGI	Yogyakarta	4.03	340	P	Pn	21 17 52.7	-3.1
NGJI	Ngawi	4.23	357	P	Pn	21 17 58.2	-0.4
NGJI				S	Sn	21 18 50.8	+4.0
BLJI	Banyuglugur	4.28	26	P	Pn	21 17 59.5	+0.3
DNP	Denpasar	4.52	50	P	Pn	21 18 03.4	+0.8
ABJI	Asem Bagus	4.55	34	P	Pn	21 18 04.1	+1.2
GRJI	Gresik	4.74	9	P	Pn	21 18 05.4	-0.2
SRBI	Singaraja	4.93	45	P	Pn	21 18 08.8	+0.6
KMMI	Kalianget	5.06	26	P	Pn	21 18 09.7	-0.3
0.4nm49nm,1.4s							
KPJI	Karang Pucung	5.06	327	P	Pn	21 18 08.3	-1.7
0.3nm37nm,0.7s							
BWJI	Bawean	5.81	9	P	Pn	21 18 18.2	-2.1
TWSI	Taliwang, Sumb	5.85	61	P	Pn	21 18 19.2	-1.6
0.4nm1μm35nm,0.6s							
CNJI	Cibinong	6.22	313	P	Pn	21 18 21.7	-4.3
PLAI	Plampang	6.59	66	P	Pn	21 18 29.3	-1.7
0.2nm31nm,0.8s							
CGJI	Cibinong	7.74	309	P	Pn	21 18 43.1	-3.8
0.1nm1μm22nm,0.9s							
WBSI	Waikabubak, Su	7.81	76	P	Pn	21 18 48.1	+0.3
WSI	Waingapu	8.67	78	P	Pn	21 19 00.0	+0.4
53nm,1.6s							
KASI	Kota Agung	9.35	310	P	Pn	21 19 05.7	-3.2
EDFI	Ende, Flores	10.23	75	P	Pn	21 19 20.5	-0.7
BATI	Baumata	11.83	84	Pn	Pn	21 19 39.8	-3.1
1.3nm,0.3s,baz=252,slow=9.6,SNR=1.5							
BATI				Sn	Sn	21 21 49.0	-4.8
1.1nm,0.3s,baz=3.4,slow=21,SNR=1.5 4.3nm,0.3s							
FITZ	Fitzroy Crossi	14.93	117	Pn	Pn	21 20 22.0	-3.1
0.3nm,0.3s,baz=309,slow=9.4,SNR=13							
FITZ				Sn	Sn	21 22 56.6	-13
0.3nm,0.3s,baz=90,slow=17,SNR=4.0 0.7nm,0.3s							
WRA	Warramunga Arr	23.28	114	P	P	21 22 01.5	+0.1
0.7nm,0.8s,baz=287,slow=11,SNR=6.8							
WRA				S	S	21 26 14.9	+3.4
1.1nm,0.9s,baz=297,slow=17,SNR=6.3 0.7nm,0.8s							
ASAR	Alice Springs	24.27	123	P	P	21 22 11.2	+0.5
0.2nm,0.6s,baz=298,slow=8.7,SNR=10							
ASAR				S	S	21 26 29.9	+2.5
0.1nm,0.4s,baz=301,slow=24,SNR=1.9 0.2nm,0.6s							
CMAR	Chiang Mai Arr	32.43	337	P	P	21 23 24.1	+0.6
0.9nm,0.8s,baz=170,slow=8.2,SNR=5.0 0.9nm,0.8s							
H08S2	Diego Garcia H	38.84	272	T	T	22 05 53.3	
baz=99							
H08S3	Diego Garcia H	38.85	272	T	T	22 05 50.7	
baz=99							
H08S1	Diego Carcia H	38.85	272	T	T	22 06 02.7	
baz=99							
SONM	Songino Array	59.38	356	P	P	21 26 55.8	+0.4
0.3nm,0.6s,baz=176,slow=6.7,SNR=2.3 0.3nm,0.6s							
KSH	Kashi	60.77	329	P	P	21 27 06.5	+1.4
MKAR	Makanchi Array	63.83	338	P	P	21 27 25.4	0.0
0.6nm,0.6s,baz=152,slow=8.3,SNR=6.1 0.6nm,0.6s							
KURBB	Kurchatov Arra	68.40	338	P	P	21 27 54.5	-0.1
0.2nm,0.4s,baz=155,slow=5.7,SNR=2.5 0.2nm,0.4s							
ZALV	Zalesovo Beam	69.20	343	P	P	21 27 59.1	-0.4
0.5nm,0.4s,baz=145,slow=5.3,SNR=4.0 0.5nm,0.4s							
QSPA	South Pole Qui	78.39	180	P	P	21 28 56.5	+3.0
0.3nm,0.3s,baz=313,slow=3.5,SNR=7.6 0.3nm,0.3s							
KBZ	Khabaz	83.17	317	P	P	21 29 19.6	+0.5
1.3nm,1.0s,baz=108,slow=6.4,SNR=4.1 1.3nm,1.0s							
BRTR	Keskin Array B	88.35	311	P	P	21 29 46.4	+1.3
0.4nm,0.8s,baz=95,slow=10,SNR=3.6 0.4nm,0.8s							

*IDC **19** 21:37:24.9±19.0, 23°.02N×94°.79E, h208km±183km, mb3.1/10, mbtmp3.7/10, MS2.7/1, Error ellipse: s-maj=152.2km s-min=16.9km az=53.0*

ISC 19 21:37:24.1±1.3, 23°.1N±0°.4×94°.9E±0°.5, h200km, n11, σ0°.43/10, mb3.4/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.96	139	LR	LR	21 41 54.7	
comp=Z,62nm,19.9s,baz=155,slow=45							
MKAR	Makanchi Array	25.76	340	P	P	21 42 36.8	+0.4
1.6nm,0.7s,baz=148,slow=10,SNR=15 1.6nm,0.7s							
KURBB	Kurchatov Arra	30.32	339	P	P	21 43 16.7	+0.1
0.6nm,0.5s,baz=152,slow=8.4,SNR=4.1 0.6nm,0.5s							
ZALV	Zalesovo Beam	31.76	349	P	P	21 43 29.0	-0.3
0.2nm,0.4s,baz=171,slow=10,SNR=2.3 0.2nm,0.4s							
WRA	Warramunga Arr	57.53	135	P	P	21 46 52.8	-0.1
0.2nm,0.5s,baz=318,slow=7.1,SNR=1.9 0.2nm,0.5s							
FINES	FINESS Array B	59.89	329	P	P	21 47 08.3	-0.3
0.6nm,0.5s,baz=80,slow=4.3,SNR=6.0 0.6nm,0.5s							
ASAR	Alice Springs	59.97	138	P	P	21 47 09.9	+0.2
0.2nm,0.6s,baz=322,slow=6.6,SNR=4.9 0.2nm,0.6s							
ARCES	ARCESS Array B	61.39	338	P	P	21 47 19.4	+0.8
2.8nm,0.9s,baz=99,slow=10,SNR=1.3 2.8nm,0.9s							
HFS	Hagfors	65.92	327	P	P	21 47 48.2	-0.2
0.8nm,0.5s,baz=77,slow=6.2,SNR=6.2 0.8nm,0.5s							
NOA	NORSAR Array B	67.06	328	P	P	21 47 55.2	-0.4
0.3nm,0.5s,baz=85,slow=6.4,SNR=1.3 0.3nm,0.5s							
GERES	GERESS Array B	67.30	315	P	P	21 47 57.4	-0.1
0.2nm,0.5s,baz=57,slow=6.1,SNR=2.1 0.2nm,0.5s							

*DJA **19** 21:51:31.4±0.5, 2°.N±3°.×12°.9E±°, h15km±4km, M4.7/42, mb4.9/42, mB5.2/10, MLv4.8/18, Mw(mB)4.6/10*
*IDC **19** 21:51:34.8±2.0, 2°.12N×128°.71E, h60km±18km, mb3.9/17, mbtmp4.2/18, MS3.6/18, Error ellipse: s-maj=23.7km s-min=10.4km az=75.0*
*NEIC **19** 21:51:35.2±1.5, 2°.05N±0°.05×128°.60E±0°.07, h59km±7km, mb4.6/47, Error ellipse: s-maj=11.7km s-min=3.1km az=55.0*

ISC 19 21:51:34.0±0.4, 2°.06N±0°.05×128°.62E±0°.06, h50km, n140, σ1°.32/131, mb4.5/46, MS3.6/15, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.79	224		Pn	21 52 01.7	-0.8

TNTI Sn **Sn** **21 52 25.2 +1.1**
TNTI Ternate 1.79 224 P **Pn** **21 52 01.6 -0.9**
TNTI S **Sn** **21 52 25.7 +1.5**
SGSI Sangihe 3.48 298 P **Pn** **21 52 24.4 -1.3**
SWI Sorong 3.92 138 P **Pn** **21 52 31.2 -0.6**
SANI Sanana 4.86 213 P **Pn** **21 52 42.8 -1.8**
KMSI Cibinong 4.87 252 P **Pn** **21 52 44.1 -0.6**
MSAI Masohi 5.38 177 P **Pn** **21 52 53.9 +2.1**
0.8nm105nm,0.6s
NLAI Namlea 5.48 196 P **Pn** **21 52 54.0 +0.9**
0.4nm64nm,0.6s
AAI Ambon 5.73 184 P **Pn** **21 52 57.5 +1.0**
0.3nm93nm,0.8s
DAV Davao City (W) 5.83 329 LR LR 21 54 22.4
comp=Z,138nm,21.8s,baz=170,slow=29
FAKI Fak Fak 6.14 144 **Pn** **21 53 02.2 +0.1**
FAKI Fak Fak 6.14 144 P **Pn** **21 53 02.0 -0.1**
0.5nm2μm122nm,0.9s
RKPI Ransiki, Papua 6.59 123 P **Pn** **21 53 10.2 +1.8**
111nm,0.8s
LUWI Luwuk 6.61 242 **Pn** **21 53 09.2 +0.6**
LUWI Luwuk 6.61 242 P **Pn** **21 53 10.0 +1.4**
0.5nm2μm88nm,0.7s
MRSI Marisa 6.86 257 P **Pn** **21 53 12.8 +0.7**
APSI Ampana 7.57 247 P **Pn** **21 53 22.5 +0.7**
0.4nm924nm71nm,0.9s
TOLI2 Tolitoli 7.89 263 **Pn** **21 53 25.1 -1.2**
BAKI Biak 8.15 113 P **Pn** **21 53 30.8 +1.0**
1μm75nm,0.8s
KDI Kendari 8.47 225 P **Pn** **21 53 34.6 +0.5**
BBSI Bau Bau 9.63 219 P **Pn** **21 53 49.6 -0.5**
94nm,1.1s
MYLDM Lahad Datu 10.56 287 **Pn** **21 54 03.2 +0.4**
BNSI Bone 10.66 233 P **Pn** **21 54 03.4 -0.7**
36nm,0.7s
SPSI Sidrap Palu 10.68 236 P **Pn** **21 54 03.6 -0.8**
39nm,0.6s
SMPI Sarmi 10.86 112 P **Pn** **21 54 08.2 +1.3**
BKSI Bulukumba 11.22 229 P **Pn** **21 54 13.3 +1.5**
46nm,0.7s
KAPI Kappang 11.31 232 **Pn** **21 54 10.9 -2.2**
KAPI Kappang 11.31 232 P **Pn** **21 54 14.6 +1.6**
8.9nm,0.4s,baz=58,slow=7.4,SNR=4.6
KAPI LR LR 21 58 44.9
comp=Z,132nm,21.9s,baz=51,slow=38
BKB Balikpapan 12.18 254 P **Pn** **21 54 24.6 -0.3**
2μm49nm,0.7s
SOEI Soe 12.52 200 **Pn** **21 54 30.0 +0.4**
EDFI Ende, Flores 12.77 213 P **Pn** **21 54 33.9 +0.8**
19nm,0.8s
JAY Jayapura 12.91 111 LR LR 21 58 43.4
comp=Z,367nm,21.1s,baz=311,slow=33
BATI Baumata 13.15 202 P **Pn** **21 54 42.0 +3.8**
63nm,0.8s,baz=158,slow=1.9,SNR=15
BATI Baumata 13.15 202 P **Pn** **21 54 40.9 +2.7**
69nm,0.9s
TGY Tagaytay City 14.17 328 P **P** **21 54 59.6 +1.3**
262nm,0.3s,baz=175,slow=6.6,SNR=5.4
TGY LR LR 22 00 49.2
comp=Z,271nm,19.3s,baz=43,slow=39
WBSI Waikabubak, Su 14.82 218 P **Pn** **21 55 02.0 +1.3**
69nm,0.9s
MTN Manton Dam 15.02 171 **Pn** **21 55 01.1 -2.1**
MTN IAmb IAmb 21 55 12.7
comp=Z,23nm,1.1s
PLAI Plampang 15.29 225 P **Pn** **21 55 08.3 +1.5**
TWSI Taliwang, Sumb 15.88 227 P **Pn** **21 55 15.0 +0.7**
comp=Z,82nm,0.9s
SBUM Sibu 16.39 272 **Pn** **21 55 20.7 -0.1**
KMMI Kalianget 17.20 238 P **P** **21 55 33.6 +1.7**
comp=Z,103nm,1.3s
KNRA Kununurra 17.63 180 **Pn** **21 55 34.8 -1.4**
KNRA IAmb IAmb 21 55 42.9
comp=Z,22nm,0.8s
JAGI Jajag, Banyuwa 17.82 234 **Pn** **21 55 37.9 -0.7**
JAGI IAmb IAmb 21 55 42.5
comp=Z,47nm,0.9s
JAGI Jajag, Banyuwa 17.82 234 P **Pn** **21 55 38.4 -0.2**
comp=Z,58nm,1.4s
BLJI Banyuglugur 17.88 237 P **P** **21 55 43.1 +3.7**
KSM Kuching 18.31 268 **P** **21 55 43.7 -0.5**
NGJI Ngawi 19.52 241 P **Pn** **21 55 59.5 +0.5**
comp=Z,55nm,0.8s
GUMO Guam 19.73 54 LR LR 22 03 03.0
comp=Z,92nm,20.1s,baz=232,slow=35
PCJI Pacitan 20.16 239 P **P** **21 56 05.5 +1.1**
FITZ Fitzroy Crossi 20.25 188 **P** **21 56 04.6 -0.7**
FITZ Fitzroy Crossi 20.25 188 P **P** **21 56 05.2 -0.1**
comp=Z,5.4nm,0.6s,baz=23,slow=9.1,SNR=18
FITZ LR LR 22 05 06.9
comp=Z,114nm,19.3s,baz=6.0,slow=40
comp=Z,5.4nm,0.6s
SMRI Semarang 20.28 243 P **P** **21 56 05.8 +0.1**
UGM Wanagama 20.59 241 P **P** **21 56 09.2 +0.1**
UGM Wanagama 20.59 241 P **P** **21 56 10.6 +1.5**
comp=Z,88nm,1.2s
YOGI Yogyakarta 20.75 242 P **P** **21 56 11.4 +0.6**
COEN Coen 21.48 138 **P** **21 56 19.4 +0.8**
COEN IAmb IAmb 21 56 23.8
comp=Z,19nm,0.8s
PMG Port Moresby 21.70 122 P **P** **21 56 20.8 -0.1**
comp=Z,5.1nm,0.6s,baz=299,slow=13,SNR=3.8
PMG LR LR 22 05 05.4
comp=Z,273nm,21.4s,baz=316,slow=37
comp=Z,5.1nm,0.6s
KPJI Karang Pucung 21.75 244 P **P** **21 56 22.3 +0.8**
comp=Z,73nm,0.9s
WB0 Warramunga Arr 22.42 166 **P** **21 56 28.2 -0.4**
WRA Warramunga Arr 22.58 166 **P** **21 56 28.7 -1.6**
WRA Warramunga Arr 22.58 166 P **P** **21 56 29.9 -0.4**
comp=Z,9.3nm,0.6s,baz=347,slow=11,SNR=35
WRA ScP **ScP** **22 03 54.5 -1.6**
comp=Z,0.3nm,0.6s,baz=331,slow=3.1,SNR=4.6
WRA LR LR 22 06 06.1
comp=Z,182nm,19.3s,baz=308,slow=38
comp=Z,9.3nm,0.6s
LEM Lembang 22.75 247 P **P** **21 56 32.4 0.0**
SSLB Suanglung 22.84 342 P **P** **21 56 33.3 +0.3**
SSLB IAmb IAmb 21 56 36.9
comp=Z,38nm,1.1s
CNJI Cibinong 23.38 246 P **P** **21 56 36.8 -1.7**
comp=Z,26nm,1.1s
YHNB Yeheng 23.54 343 P **P** **21 56 40.2 +0.2**
YHNB IAmb IAmb 21 56 42.9
comp=Z,34nm,1.0s
CGJI Cibinong 24.46 249 P **P** **21 56 46.9 -1.6**
JOW Kunigami 24.63 359 LR LR 22 05 13.7
comp=Z,144nm,21.8s,baz=128,slow=33
MBWA Marble Bar 24.67 200 P **P** **21 56 49.6 -0.6**
MBWA IAmb IAmb 21 57 18.4
comp=Z,16nm,1.1s
MYKOM Kota Tinggi 24.76 270 P **P** **21 56 50.1 -1.1**
MYKOM IAmb IAmb 21 56 53.2
comp=Z,18nm,1.1s
PSA00 Pilbara Seismi 25.01 200 P **P** **21 56 52.7 -0.7**
PSA00 Pilbara Seismi 25.01 200 P **P** **21 56 52.0 -1.3**
PSA00 IAmb IAmb 21 57 02.0
comp=Z,11nm,0.8s
AS31 Alice Springs 26.09 169 **P** **21 57 03.5 +0.3**
ASAR Alice Springs 26.09 169 **P** **21 57 03.2 0.0**
ASAR Alice Springs 26.09 169 P **P** **21 57 03.1 -0.1**
comp=Z,5.4nm,0.8s,baz=3.0,slow=7.4,SNR=49
ASAR PcP **PcP** **22 00 31.5 +1.5**
comp=Z,0.8nm,0.7s,baz=336,slow=3.0,SNR=4.1
ASAR ScP **ScP** **22 04 02.8 -3.0**
comp=Z,0.7nm,0.8s,baz=343,slow=2.7,SNR=4.6
ASAR LR LR 22 08 47.7
comp=Z,188nm,18.4s,baz=303,slow=40
comp=Z,5.4nm,0.8s
CTA Charters Tower 28.00 143 LR LR 22 10 55.2
comp=Z,7.0nm,18.2s,baz=309,slow=42
JNU Nakatsue 30.97 4 LR LR 22 08 53.1
comp=Z,107nm,21.5s,baz=176,slow=34
GSI Gunungsitoli 31.04 269 P **P** **21 57 47.0 -0.4**
NJ2 Nanjing 31.22 344 *eP* **P** **21 57 51.6 +2.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
WHN Wuhan 31.39 336 P **P** **21 57 53.3 +3.1**
WHN pP **pP** **21 58 06.3 +3.0**
FORT Forrest 32.66 181 P **P** **21 58 00.8 -0.6**
FORT IAmb IAmb 21 58 01.9
comp=Z,11nm,0.8s
MORW Morawa 33.22 200 P **P** **21 58 04.8 -1.6**
MORW IAmb IAmb 21 58 10.8
comp=Z,8.7nm,0.9s
HNR Honiara 33.23 111 LR LR 22 10 30.2
comp=Z,188nm,21.7s,baz=302,slow=34
CMAR Chiang Mai Arr 33.34 301 P **P** **21 58 06.5 -1.0**
CMAR Chiang Mai Arr 33.34 301 P **P** **21 58 07.6 +0.1**
comp=Z,2.1nm,0.9s,baz=114,slow=7.1,SNR=15
CMAR LR LR 22 14 02.3
comp=Z,41nm,18.2s,baz=105,slow=40
comp=Z,2.1nm,0.9s
CHTO Chiang Mai 33.50 302 P **P** **21 58 08.2 -0.7**
EIDS Eidsvold 34.89 143 **P** **21 58 20.8 0.0**
KSRS Korea Array 35.22 359 P **P** **21 58 22.8 -0.8**
comp=Z,0.8nm,0.7s,baz=177,slow=11,SNR=5.6
comp=Z,0.8nm,0.7s
BBOO Buckleboo 35.39 169 P **P** **21 58 25.1 0.0**
MJAR Matsushiro Arr 35.43 13 P **P** **21 58 23.8 -1.6**
comp=Z,1.4nm,0.6s,baz=183,slow=9.3,SNR=6.1
MJAR LR LR 22 12 18.8
comp=Z,89nm,19.0s,baz=210,slow=35
comp=Z,1.4nm,0.6s
PZH PanZhiHua 35.45 316 P **P** **21 58 27.6 +1.8**
STKA Stephens Creek 35.93 161 **P** **21 58 29.8 +0.1**
STKA Stephens Creek 35.93 161 P **P** **21 58 30.2 +0.4**
comp=Z,26nm,0.7s,baz=337,slow=8.7,SNR=45
STKA LR LR 22 16 34.0
comp=Z,104nm,18.6s,baz=352,slow=42
XAN Xi'an 36.75 332 ⇑P **P** **21 58 38.8 +2.0**
XAN pmax pmax
comp=Z,13nm,0.9s
ARMA Armidale 39.05 148 P **P** **21 58 56.8 +0.5**
ARMA IAmb IAmb 21 58 58.5
comp=Z,13nm,0.8s
H11S3 WAKE ISLAND Hy 40.72 64 T T 22 42 32.5
baz=251,slow=75,SNR=50
H11S2 WAKE ISLAND Hy 40.73 64 T T 22 42 36.2
baz=251,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 40.73 64 T T 22 42 35.3
baz=251,slow=75,SNR=40
LZDM Lanzhou Array 40.87 328 P **P** **21 59 13.2 +1.6**
comp=Z,1.0nm,0.3s,baz=153,slow=7.6,SNR=2.0
LZDM LR LR 22 17 03.6
comp=Z,81nm,20.4s,baz=50,slow=37
comp=Z,1.0nm,0.3s
LZH Lanzhou 40.89 329 *eP* **P** **21 59 15.0 +3.4**
LZH pP pP 21 59 23.3 -1.7
LZH pmax pmax
comp=Z,23nm,1.3s
H11N1 WAKE ISLAND Hy 41.31 62 T T 22 43 15.0
baz=250,slow=75,SNR=42
H11N2 WAKE ISLAND Hy 41.32 62 T T 22 43 15.4
baz=250,slow=75,SNR=24
H11N3 WAKE ISLAND Hy 41.33 62 T T 22 43 14.5
baz=250,slow=75,SNR=33
HHC Hu-ho-hao-te 41.58 340 *eP* **P** **21 59 19.4 +2.4**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,65nm,5.6s
HHC LR LR
comp=N,100nm,11.4s
HHC LR LR
comp=E,96nm,11.2s
HHC LR LR
comp=Z,73nm,11.6s
CAN Canberra 41.80 155 P **P** **21 59 19.6 +0.7**
USRK Ussuriysk Ar. 42.06 4 P **P** **21 59 20.2 -0.6**
comp=Z,1.8nm,0.6s,baz=174,slow=8.2,SNR=2.4
comp=Z,1.8nm,0.6s
SHL Shillong 42.38 307 **P** **21 59 22.1 -1.8**
SHL IAmb IAmb 21 59 34.0
comp=Z,11nm,0.7s
TOO Toolangi 42.42 160 P **P** **21 59 23.9 0.0**
TOO IAmb IAmb 21 59 26.3
comp=Z,7.6nm,0.9s
DZM Mont Dzumac 44.04 125 LR LR 22 17 56.9
comp=Z,98nm,18.4s,baz=248,slow=36
GTA Gaotai 45.49 328 *eP* **P** **21 59 51.3 +2.7**
GTA pP pP 21 59 59.3 -2.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
EVN Everest 47.49 307 **P** **22 00 04.3 -0.8**
EVN IAmb IAmb 22 00 15.1
comp=Z,13nm,0.9s
HEH HeiHe 48.02 359 *eP* **P** **22 00 06.8 -1.2**
HEH pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 49.29 341 **P** **22 00 17.9 -0.2**
ULN IAmb IAmb 22 00 28.1
comp=Z,4.6nm,0.9s
SONM Songino Array 49.48 340 P **P** **22 00 19.6 +0.1**
SONM IAmb IAmb 22 00 36.3
comp=Z,6.4nm,1.4s
SONM Songino Array 49.48 340 P **P** **22 00 18.9 -0.6**
comp=Z,1.6nm,0.7s,baz=153,slow=8.9,SNR=13
comp=Z,1.6nm,0.7s
PETK Petropavlovsk- 56.28 21 P **P** **22 01 08.7 -0.7**
comp=Z,2.9nm,0.8s,baz=270,slow=1.3,SNR=4.5
comp=Z,2.9nm,0.8s
QRZ Quartz Range 58.46 142 P **P** **22 01 25.2 +0.2**
YAK Yakutsk 59.83 1 P **P** **22 01 33.0 -1.0**
MKAR Makanchi Array 59.99 325 **P** **22 01 34.3 -1.2**
MKAR Makanchi Array 59.99 325 P **P** **22 01 34.0 -1.5**
comp=Z,3.1nm,0.8s,baz=126,slow=7.8,SNR=15
comp=Z,3.1nm,0.8s
URZ Urewera 60.04 137 LR LR 22 28 00.2
comp=Z,202nm,18.4s,baz=320,slow=36
RTZ Ruatahuna 60.13 138 **P** **22 01 35.6 -1.0**
KSH Kashi 60.55 315 P **P** **22 01 41.9 +2.3**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 60.84 318 **P** **22 01 41.8 +0.3**
KDJ IAmb IAmb 22 01 45.3
comp=Z,4.1nm,1.0s
ZALV Zalesovo Beam 62.92 333 P **P** **22 01 54.0 -1.1**
comp=Z,0.5nm,0.4s,baz=124,slow=9.2,SNR=2.2
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 64.15 327 P **P** **22 02 03.8 +0.5**
comp=Z,3.5nm,0.8s,baz=124,slow=5.8,SNR=15
comp=Z,3.5nm,0.8s
KURK Kurchatov 64.15 327 **P** **22 02 03.1 -0.2**
KURK IAmb IAmb 22 02 17.5
comp=Z,5.1nm,0.7s
KK31 Karatay Array 65.73 317 **P** **22 02 13.2 -0.5**
KKAR Karatay Array 65.73 317 **P** **22 02 13.3 -0.4**
TIXI Tiksi 69.48 0 P **P** **22 02 34.7 -2.1**
AB31 Akbulak array 74.63 321 P **P** **22 03 07.1 -0.9**
ARTI Arti 77.43 328 P **P** **22 03 23.9 +0.1**
comp=Z,1.9nm,0.7s,baz=78,slow=9.3,SNR=3.7
comp=Z,1.9nm,0.7s
VNDA Vanda 81.55 173 P **P** **22 03 45.0 -0.8**
VNDA Vanda 81.55 173 P **P** **22 03 45.1 -0.6**
comp=Z,1.2nm,0.7s,baz=317,slow=6.0,SNR=9.9
comp=Z,1.2nm,0.7s
C19K Lookout Ridge 81.64 20 P **P** **22 03 46.3 -0.2**
C19K IAmb IAmb 22 04 23.9
comp=Z,23nm,1.4s
H19K Roundabout Mou 81.91 24 P **P** **22 03 48.2 +0.3**
H19K IAmb IAmb 22 04 09.4
comp=Z,9.0nm,1.2s
D19K Kuna River 81.99 21 P **P** **22 03 48.4 +0.1**
D19K IAmb IAmb 22 04 25.6
comp=Z,21nm,1.4s
KDAK Kodiak Island 82.28 32 P **P** **22 03 50.6 +0.5**
KDAK IAmb IAmb 22 04 08.1
comp=Z,12nm,1.1s
GURO Guroymak-BITLI 86.05 308 P **P** **22 04 09.7 -0.2**
GURO IAmb IAmb 22 04 19.0
comp=Z,4.2nm,0.9s
QSPA South Pole Qui 91.98 180 **P** **22 04 38.5 +1.3**
QSPA IAmb IAmb 22 04 47.7
comp=Z,2.5nm,1.1s
QSPA South Pole Qui 91.98 180 P **P** **22 04 38.5 +1.3**
comp=Z,0.4nm,0.5s,baz=307,slow=5.1,SNR=6.4
comp=Z,0.4nm,0.5s

IDC 19 21:58:18.1±3.5, 11°.03N×126°.62E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=286.1km s-min=24.6km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.71**	**166**	P	P	22 04 43.4	-0.3
	0.3nm,0.5s,baz=347,slow=8.6,SNR=2.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**35.22**	**168**	P	P	22 05 14.4	+0.1
	0.2nm,0.4s,baz=347,slow=7.1,SNR=5.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**51.63**	**322**	P	P	22 07 27.1	+0.6
	0.6nm,0.7s,baz=120,slow=7.2,SNR=3.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**55.65**	**325**	P	P	22 07 55.1	-0.8
	0.3nm,0.3s,baz=125,slow=6.4,SNR=1.4						
	0.3nm,0.3s						

SJA 19 22:02:11.0±0.8, 22°.39S×66°.02W, h276km±6km, ML3.3, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.51**	**66**	*eP*	Pn	22 02 48.5	+1.0
YJA				*eS*	S	22 03 14.9	-1.4
HJA	**Humahuaca**	**0.99**	**146**	*eP*	Pn	22 02 50.2	+0.9
PB09	**IPOC Station P**	**3.05**	**281**	*eP*	Pn	22 03 06.4	+0.5
PB09				IAML		22 04 05.7	
	comp=Z,21nm,2.6s						
PB06	**IPOC Station P**	**3.30**	**264**	*eP*	Pn	22 03 08.9	+0.4
PB06				*eS*	S	22 03 54.2	-0.1
PB06				IAML		22 03 58.7	
	comp=Z,16nm,0.3s						
PB03	**IPOC Station P**	**3.48**	**275**	*eP*	Pn	22 03 10.4	0.0
PB03				IAML		22 03 57.0	
	comp=Z,27nm,0.2s						
PB01	**IPOC Station P**	**3.49**	**292**	*eP*	Pn	22 03 10.7	+0.1
PB01				IAML		22 03 57.7	
	comp=Z,28nm,0.2s						
PB08	**IPOC Station P**	**3.68**	**307**	*eP*	Pn	22 03 13.4	+0.5
PB08				IAML		22 04 05.4	
	comp=Z,16nm,0.1s						
PB02	**IPOC Station P**	**3.76**	**286**	*eP*	Pn	22 03 13.4	0.0
PB02				IAML		22 04 02.9	
	comp=Z,50nm,0.2s						
PB05	**IPOC Station P**	**3.90**	**262**	*eP*	Pn	22 03 14.7	-0.3
PB05				*eS*	S	22 04 03.2	-2.8
PB05				IAML		22 04 11.7	
	comp=Z,15nm,2.0s						
GO01	**Chusmiza**	**4.02**	**312**	*eP*	Pn	22 03 17.5	+0.7
GO01				*eS*	S	22 04 11.9	+2.7
GO01				IAML		22 04 14.8	
	comp=Z,16nm,0.8s						
HMBC	**Humberstone**	**4.17**	**299**	*eP*	Pn	22 03 17.8	-0.4
HMBC				IAML		22 04 10.1	
	comp=Z,54nm,0.5s						
GO02	**Mina Guanaco**	**4.28**	**229**	*eP*	Pn	22 03 19.2	-0.3
GO02				*eP*		22 03 19.9	
GO02				*eS*	S	22 04 12.1	-2.2
GO02				IAML		22 04 12.6	
	comp=Z,47nm,0.6s						
PB11	**IPOC Station P**	**4.29**	**307**	*eP*	Pn	22 03 19.2	-0.3
PB11				*eS*	S	22 04 11.0	-3.3
PB11				IAML		22 04 13.9	
	comp=Z,30nm,0.1s						
PB10	**IPOC Station P**	**4.33**	**254**	*eP*	Pn	22 03 19.7	-0.1
PB10				*eS*	S	22 04 11.7	-3.1
PB10				IAML		22 04 36.5	
	comp=Z,21nm,3.2s						
PB14	**IPOC Station P**	**4.60**	**240**	*eP*	Pn	22 03 23.3	0.0
PB14				*eS*	S	22 04 16.7	-4.4
PB14				IAML		22 04 19.2	
	comp=Z,20nm,0.5s						
PB16	**IPOC Station P**	**5.19**	**320**	*eP*	Pn	22 03 31.4	+0.7
PB16				*eS*	S	22 04 34.1	-0.2
PB16				IAML		22 04 36.2	
	comp=Z,6.3nm,1.8s						

DJA 19 22:16:56.8±0.7, 9°S±3°×11°0E±°, h20km±6km, M3.8/14, mb4.3/3, MLv3.5/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.92**	**18**	P	Pn	22 17 14.5	-0.1
UGM				S	Sb	22 17 26.3	+0.5
YOGI	**Yogyakarta**	**0.97**	**3**	P	Pn	22 17 15.3	0.0
YOGI				S	Sb	22 17 27.6	+0.3
PCJI	**Pacitan**	**1.10**	**58**	P	Pn	22 17 15.8	-1.3
SMRI	**Semarang**	**1.74**	**7**	P	Pn	22 17 26.8	+0.9
SMRI				S	Sn	22 17 48.1	+0.5
NGJI	**Ngawi**	**1.86**	**41**	P	Pn	22 17 28.6	+1.1
NGJI				S	Sn	22 17 51.1	+0.6
KPJI	**Karang Pucung**	**1.94**	**318**	P	Pn	22 17 29.9	+1.2
GRJI	**Gresik**	**2.90**	**50**	P	Pn	22 17 43.6	+1.8
CNJI	**Cibinong**	**3.41**	**295**	P	Pn	22 17 48.8	-0.1
JAGI	**Jajag, Banyuwa**	**3.88**	**86**	P	Pn	22 17 55.2	-0.2
CGJI	**Cibinong**	**5.00**	**295**	P	Pn	22 18 10.8	+0.1
	0.1nm18nm,1.3s						
PLAI	**Plampang**	**7.45**	**91**	P	Pn	22 18 45.5	+1.1
	25nm,1.7s						
MASI	**Maura Aman, Be**	**9.73**	**305**	P	Pn	22 19 15.9	+0.1

CATAC 19 22:27:04.9±0.3, 13°N±3°×8°8W±°, h16km±2km, M3.5/15, MLv3.5/15, Error ellipse: s-maj=6.1km s-min=2.2km az=26.8, confirmed
SNET 19 22:27:07.3±0.9, 12°.93N×88°.01W, h20km±7km, ML3.4

ISC 19 22:27:04.4±1.5, 12°.78N±0°.05×87°.96W±0°.03, h16km±11km, n36, o0°60/45, 9C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.43**	**63**	⇑P	**Pb**	**22 27 14.4**	**+0.7**
CSGN				S	**Sb**	**22 27 20.7**	**+0.6**
CNCH	**Conchagua**	**0.51**	**13**	⇓*iP*	**Pb**	**22 27 15.3**	**+0.3**
CNCH				*eS*	**Sb**	**22 27 22.3**	**-0.1**
CNCH	**Conchagua**	**0.51**	**13**	⇓P	**Pb**	**22 27 15.3**	**+0.3**
LCND	**La Caada**	**0.53**	**7**	*eP*	**Pb**	**22 27 15.4**	**0.0**
LCND				IAML		22 27 24.3	
	comp=Z,3μm,0.2s						
LCND	**La Caada**	**0.53**	**7**	⇓P	**Pb**	**22 27 15.6**	**+0.2**
BLLM	**Bellamira**	**0.72**	**338**	*eP*	**Pb**	**22 27 18.5**	**0.0**
LCY	**Lacayo**	**0.72**	**333**	*eP*	**Pb**	**22 27 18.9**	**+0.2**
CRIN	**San Cristobal**	**0.89**	**95**	P	**Pn**	**22 27 23.0**	**+0.7**
TECA	**Tecapa**	**0.89**	**323**	*eP*	**Pb**	**22 27 21.5**	**-0.1**
TECA				IAML		22 27 35.3	
	comp=Z,2μm,0.3s						
PKGN	**Cerro Pekin**	**0.96**	**96**	⇑P	**Pg**	**22 27 23.4**	**+0.3**
PKGN				S	**Sn**	**22 27 36.3**	**-0.2**
TECO	**Alcaldia de Te**	**1.10**	**313**	*eP*	**Pb**	**22 27 24.4**	**-0.8**
TECO	**Alcaldia de Te**	**1.10**	**313**	S	**Sb**	**22 27 38.9**	**-0.4**
TECO	**Alcaldia de Te**	**1.10**	**313**	⇓P	**Pb**	**22 27 24.6**	**-0.6**
POLN	**Al Sur del Vol**	**1.12**	**96**	⇑P	**Pb**	**22 27 23.7**	**-1.8**
POLN				S	**Sb**	**22 27 38.9**	**-1.0**
UESV	**Universidad de**	**1.18**	**317**	S	**Sb**	**22 27 41.2**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.19**	**321**	*eP*	**Pn**	**22 27 26.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**321**	⇑P	**Pn**	**22 27 26.2**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**321**	S	**Sg**	**22 27 42.7**	**-0.2**
CNGA	**Al SSO del Vol**	**1.26**	**103**	⇓P	**Pn**	**22 27 27.6**	**+0.3**
CNGA				S	**Sn**	**22 27 44.1**	**+0.2**
CNGN	**Cerro Negro**	**1.26**	**102**	S	**Sn**	**22 27 44.6**	**+0.7**
CNGN	**Cerro Negro**	**1.26**	**102**	⇑P	**Pn**	**22 27 27.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.44**	**27**	⇓P	**Pn**	**22 27 29.4**	**-0.4**
TGUH				S	**Sb**	**22 27 47.8**	**-1.1**
COPN	**Copaltepe**	**1.46**	**114**	⇑P	**Pn**	**22 27 30.9**	**+0.8**
LOMA	**Loma Larga**	**1.47**	**306**	S	**Sn**	**22 27 49.3**	**+0.1**
LOMA	**Loma Larga**	**1.47**	**306**	⇑P	**Pn**	**22 27 30.3**	**0.0**
MOM2	**El Cardon**	**1.48**	**103**	⇓P	**Pn**	**22 27 30.6**	**+0.3**
MOM2				S	**Sb**	**22 27 50.7**	**+0.8**
LIMN	**Finca el Limon**	**1.58**	**79**	⇑P	**Pn**	**22 27 31.3**	**-0.4**
LIMN				S	**Sb**	**22 27 52.3**	**-0.7**
PMON	**Piamonte**	**1.62**	**305**	S	**Sb**	**22 27 53.9**	**-0.2**
PMON	**Piamonte**	**1.62**	**305**	P	**Pn**	**22 27 32.6**	**+0.3**
JAYA	**Jayaque - finc**	**1.70**	**301**	*eP*	**Pn**	**22 27 33.7**	**+0.2**
JAYA				*eS*	**Sn**	**22 27 54.2**	**-0.7**
JAYA	**Jayaque - finc**	**1.70**	**301**	S	**Sn**	**22 27 55.1**	**+0.2**
JAYA	**Jayaque - finc**	**1.70**	**301**	⇑P	**Pn**	**22 27 33.6**	**+0.2**
RCVN	**Varilla!2**	**1.90**	**65**	S	**Sn**	**22 27 59.8**	**-0.1**
RCVN	**Varilla!2**	**1.90**	**65**	P	**Pn**	**22 27 36.2**	**0.0**
NUBE	**Las Nubes**	**2.10**	**302**	S	**Sn**	**22 28 05.7**	**+0.8**
RBDL	**Robledal**	**2.15**	**308**	*eP*	**Pn**	**22 27 41.3**	**+1.6**

IDC 19 22:36:15.2±2.7, 17°.76S×174°.43W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=70.0km s-min=45.9km az=44.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.38**	**259**	P	P	22 44 59.1	-0.3
	0.4nm,0.5s,baz=97,slow=7.1,SNR=6.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**48.48**	**254**	P	P	22 45 00.1	0.0
	0.7nm,0.7s,baz=85,slow=7.8,SNR=7.1						

0.7nm,0.7s
VNDA Vanda 60.94 186 P P 22 46 29.6 0.0
0.4nm,0.5s,baz=24,slow=6.0,SNR=7.5
0.4nm,0.5s
BRTR Keskin Array B 147.30 318 PKPbc PKPbc 22 56 00.5 -0.8
0.2nm,0.5s,baz=46,slow=4.2,SNR=1.6

*SNET **19** 23:04:59.0±0.9, 12°.64N×90°.23W, h36km±12km, ML3.4*
*GCG **19** 23:04:59.3±0.8, 12°.79N×90°.27W, h7km±27km, MD4.2*
ISC 19 23:04:49.5±6.8, 12°.3N±0°.3×90°.5W±0°.2, h30km, n12, σ0§45/14, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.69**	**36**	*eP*	**Pb**	**23 05 20.5**	**+0.5**
JAYA	**Jayaque - finc**	**1.69**	**36**	*eP*	**Pb**	**23 05 20.5**	**+0.5**
NUBE	**Las Nubes**	**1.74**	**22**	*eP*	**Pb**	**23 05 21.5**	**+0.5**
NUBE	**Las Nubes**	**1.74**	**22**	*eP*	**Pb**	**23 05 21.5**	**+0.5**
NUBE				*eS*	**Sn**	**23 05 38.9**	**-0.3**
SBLS	**San Blas**	**1.75**	**28**	*eP*	**Pb**	**23 05 21.7**	**+0.5**
RTR	**El Retiro**	**1.79**	**26**	*eP*	**Pb**	**23 05 22.4**	**+0.6**
LOMA	**Loma Larga**	**1.85**	**43**	*eP*	**Pb**	**23 05 22.5**	**-0.3**
LFRS	**El Faro**	**1.91**	**46**	*eP*	**Pb**	**23 05 23.9**	**0.0**
RBDL	**Robledal**	**1.97**	**23**	⇑*eP*	**Pb**	**23 05 25.3**	**+0.4**
RBDL				*eS*	**Sn**	**23 05 44.6**	**-0.3**
MTO3	**Montecristo**	**2.36**	**27**	*eP*	**Pb**	**23 05 31.4**	**-0.2**
MTO3	**Montecristo**	**2.36**	**27**	*eP*	**Pb**	**23 05 31.4**	**-0.2**
APG	**El Apazote**	**2.71**	**0**	*eP*	**Pb**	**23 05 37.2**	**-0.2**

*NIED **19** 23:34:49.4, 28°.78N×129°.58E, h16km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.26; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.52; $M_{r\theta}$1.48; $M_{\theta\phi}$-3.98; $M_{\phi r}$1.24; Fault plane solution: $M_0$4.39000×10^{14} NP1: ϕ_s172.00000°, δ70.00000°, λ-3.00000°. NP2:ϕ_s263.00000°, δ87.00000°, λ-160.00000°.*
JMA 19 23:34:49.4±0.2, 28°.8N±0°.7×13°.0E±°, h16km, MV3.5/19, NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.37**	**176**	*i P*	Pg	23 34 56.4	-0.5
JAM				S	Sg	23 35 02.0	-0.1
JAM	**Amami Oshima**	**0.37**	**176**	A	A	23 34 56.4	
comp=N,6.0nm,0.3s,comp=E,4.0nm,0.3s							
JTAJ	**Takarajima**	**0.49**	**319**	P	Pg	23 34 59.1	-0.1
JTAJ				S	Sb	23 35 07.4	+0.7
JZK	**Kikaishima**	**0.58**	**143**	P	Pb	23 35 01.1	0.0
JZK				*eS*	Sb	23 35 10.4	+1.3
JAMN	**Amaminishikomi**	**0.64**	**214**	*i P*	Pg	23 35 01.9	-0.1
JNN	**Nakanoshima**	**1.09**	**14**	*i P*	Pb	23 35 07.9	-1.9
JNN				*eS*	Sb	23 35 21.9	-1.9
JTK	**Tokunoshima**	**1.14**	**209**	P	Pn	23 35 10.1	-0.5
JTK				*eS*	Sn	23 35 25.7	-0.1
JYAK	**Yakushimahirau**	**1.66**	**29**	*eP*	Pn	23 35 15.5	-2.3
JYAK				*eS*	Sn	23 35 36.4	-2.5
JOKE	**Okinoerabujima**	**1.67**	**212**	*eP*	Pn	23 35 18.6	+0.7
JKC	**Kuchinoerabu**	**1.76**	**18**	P	Pn	23 35 17.4	-1.7
JMTN	**Minamitane**	**1.98**	**35**	*eP*	Pn	23 35 21.1	-1.1
JYRO	**Yoronjima**	**2.01**	**210**	P	Pn	23 35 23.6	+1.0
JOW	**Kunigami**	**2.26**	**211**	P	Pb	23 35 28.9	-0.9
JKDJ	**Kitadaitoujima**	**3.21**	**151**	*eP*	Pn	23 35 38.4	-0.8

IDC 19 23:44:35.3±8.6, 16°.71N×40°.14E, h0km, mb3.5/5, mbtmp3.5/5, MS3.4/2, Error ellipse: s-maj=179.2km s-min=41.9km az=17.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**23.62**	**347**	P	P	23 49 48.9	+0.7
0.2nm,0.6s,baz=178,slow=10,SNR=1.8							
0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**37.27**	**270**	LR	LR	00 06 45.6	
comp=Z,98nm,20.2s,baz=178,slow=36							
GERES	**GERESS Array B**	**38.61**	**332**	P	P	23 51 59.9	-0.4
0.6nm,0.7s,baz=124,slow=8.3,SNR=5.9							
0.6nm,0.7s							
AAK	**Ala-Archa**	**39.05**	**41**	LR	LR	00 11 08.4	
comp=Z,30nm,18.4s,baz=278,slow=41							
MKAR	**Makanchi Array**	**45.91**	**40**	P	P	23 52 59.6	-0.2
0.6nm,0.7s,baz=243,slow=7.5,SNR=5.4							
0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**50.71**	**32**	P	P	23 53 35.7	-0.9
0.5nm,0.5s,baz=225,slow=8.0,SNR=4.3							
0.5nm,0.5s							
SONM	**Songino Array**	**61.89**	**44**	P	P	23 54 57.6	+0.7
0.5nm,0.7s,baz=269,slow=5.8,SNR=3.0							
0.5nm,0.7s							

*IDC **19** 23:59:25.1±3.2, 5°.66S×154°.41E, h170km±28km, mb3.6/16, mbtmp4.1/17, Error ellipse: s-maj=20.5km s-min=12.0km az=79.0*
ISC 19 23:59:22.9±0.6, 5°.59S±0°.09×154°.52E±0°.10, h150km, n46, σ1§05/46, mb3.8/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.22**	**242**	P	**Pn**	**00 01 21.7**	**+2.3**
26nm,0.9s,baz=343,slow=10,SNR=5.7							
PMG				S	**Sn**	**00 02 50.4**	**-0.5**
9.8nm,0.7s,baz=57,slow=12,SNR=3.8							
DZM	**Mont Dzumac**	**20.04**	**146**	P	**P**	**00 03 45.2**	**+0.7**
12nm,0.5s,baz=272,slow=7.7,SNR=26							
12nm,0.5s							
WRA	**Warramunga Arr**	**24.26**	**232**	P	**P**	**00 04 24.8**	**-1.6**
0.9nm,0.5s,baz=56,slow=10.0,SNR=10							
WRA				PcP	**PcP**	**00 08 01.4**	**-1.3**
0.4nm,0.8s,baz=62,slow=3.2,SNR=1.5							
0.9nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**26.77**	**26**	T	T	00 32 58.2	
baz=24,slow=79,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**26.78**	**26**	T	T	00 32 57.4	
baz=24,slow=79,SNR=2.9							
ASAR	**Alice Springs**	**26.78**	**226**	P	**P**	**00 04 47.2**	**-1.9**
0.6nm,0.4s,baz=57,slow=9.2,SNR=30							
ASAR				PcP	**PcP**	**00 08 07.7**	**-0.7**
0.3nm,0.5s,baz=47,slow=2.3,SNR=4.3							
0.6nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**26.79**	**26**	T	T	00 33 00.6	
baz=24,slow=79,SNR=3.8							
HAZ	**Te Kaha**	**38.39**	**150**	P	**P**	**00 06 30.7**	**+1.0**
URZ	**Urewera**	**38.45**	**151**	P	**P**	**00 06 31.6**	**+1.4**
RUGZ	**Raukumara Rang**	**38.50**	**150**	P	**P**	**00 06 31.6**	**+0.8**
PKGZ	**Pakihiroa**	**38.63**	**150**	P	**P**	**00 06 32.9**	**+1.2**
RTZ	**Ruatahuna**	**38.67**	**151**	P	**P**	**00 06 33.3**	**+1.1**
RAGZ	**Rawiri**	**38.79**	**151**	P	**P**	**00 06 34.6**	**+1.5**
MTHZ	**Maungataniwha**	**38.80**	**152**	P	**P**	**00 06 34.0**	**+0.9**
TWGZ	**Tauwhareparae**	**38.82**	**150**	P	**P**	**00 06 34.4**	**+1.1**
BKZ	**Black Stump Fm**	**38.88**	**152**	P	**P**	**00 06 34.2**	**+0.3**
RAHZ	**Arahi**	**38.96**	**152**	P	**P**	**00 06 35.5**	**+1.0**
NMHZ	**Naumai**	**38.98**	**152**	P	**P**	**00 06 36.2**	**+1.5**
SNGZ	**Shannon Statio**	**38.98**	**151**	P	**P**	**00 06 34.8**	**+0.2**
KWHZ	**Kaweka Forest**	**39.06**	**153**	P	**P**	**00 06 35.3**	**0.0**
CNGZ	**Carnagh Statio**	**39.17**	**150**	P	**P**	**00 06 37.0**	**+0.8**
ARHZ	**Aropaoanui**	**39.20**	**152**	P	**P**	**00 06 37.0**	**+0.6**
KRHZ	**Kereru**	**39.21**	**153**	P	**P**	**00 06 37.0**	**+0.4**
PNHZ	**Pukenui**	**39.36**	**153**	P	**P**	**00 06 37.9**	**+0.1**
TSZ	**Takapari Road**	**39.37**	**154**	P	**P**	**00 06 37.8**	**-0.1**
MHGZ	**Mahia Peninsul**	**39.54**	**151**	P	**P**	**00 06 39.3**	**+0.1**
KAHZ	**Kahuranaki**	**39.57**	**153**	P	**P**	**00 06 40.1**	**+0.6**
OGWZ	**Otaki Gorge**	**39.66**	**155**	P	**P**	**00 06 40.2**	**+0.1**
MRZ	**Mangatainoka R**	**39.70**	**155**	P	**P**	**00 06 40.1**	**-0.4**
PXZ	**Pawanui**	**39.75**	**153**	P	**P**	**00 06 41.6**	**+0.7**
BFZ	**Birch Farm**	**40.00**	**154**	P	**P**	**00 06 43.0**	**-0.1**
TMWZ	**Te Maipa**	**40.20**	**155**	P	**P**	**00 06 44.2**	**-0.5**
GVZ	**Greta Valley S**	**40.67**	**159**	P	**P**	**00 06 46.4**	**-2.1**
KSRS	**Korea Array**	**49.48**	**332**	P	**P**	**00 07 57.9**	**-0.2**
1.4nm,0.8s,baz=146,slow=7.1,SNR=7.6							
1.4nm,0.8s							
PETK	**Petropavlovsk-**	**58.54**	**2**	P	**P**	**00 09 04.2**	**+0.7**
1.5nm,0.7s,baz=154,slow=6.5,SNR=9.8							
1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.76**	**295**	P	**P**	**00 09 13.3**	**+0.7**
1.2nm,0.5s,baz=125,slow=5.5,SNR=11							
1.2nm,0.5s							
HILR	**Hailar Array B**	**62.68**	**335**	P	**P**	**00 09 32.2**	**+0.5**
3.0nm,0.7s,baz=133,slow=7.2,SNR=6.4							
3.0nm,0.7s							
LZDM	**Lanzhou Array**	**63.03**	**315**	P	**P**	**00 09 35.3**	**+0.6**
0.9nm,0.3s,baz=167,slow=7.4,SNR=3.6							
0.9nm,0.3s							
SONM	**Songino Array**	**67.91**	**327**	P	**P**	**00 10 05.9**	**+0.4**
0.9nm,0.6s,baz=143,slow=5.5,SNR=5.6							
0.9nm,0.6s							
VNDA	**Vanda**	**71.99**	**178**	P	**P**	**00 10 29.6**	**-0.2**
1.7nm,0.7s,baz=333,slow=7.0,SNR=15							
1.7nm,0.7s							
MKAR	**Makanchi Array**	**82.05**	**319**	P	**P**	**00 11 26.2**	**-0.4**
0.7nm,0.7s,baz=90,slow=8.3,SNR=6.6							
0.7nm,0.7s							
ILAR	**Eielson Array**	**82.25**	**22**	P	**P**	**00 11 26.4**	**-0.8**
0.6nm,0.7s,baz=233,slow=5.2,SNR=4.8							
0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**82.76**	**326**	P	**P**	**00 11 28.4**	**-1.6**
0.5nm,0.4s,baz=123,slow=5.3,SNR=2.7							
0.5nm,0.4s							
QSPA	**South Pole Qui**	**84.38**	**180**	P	**P**	**00 11 39.7**	**+1.4**
6.0nm,0.7s,baz=9.7,slow=0.4,SNR=38							
6.0nm,0.7s							
KURBB	**Kurchatov Arra**	**85.48**	**322**	P	**P**	**00 11 42.4**	**-1.4**
0.3nm,0.6s,baz=104,slow=4.5,SNR=2.1							
0.3nm,0.6s							
MAW	**Mawson**	**85.50**	**203**	P	**P**	**00 11 42.0**	**-1.6**
3.4nm,0.6s,baz=98,slow=6.0,SNR=8.9							
3.4nm,0.6s							

*IDC **20** 00:37:22.0±3.2, 10°.18S×111°.78E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=174.8km s-min=28.1km az=46.0*
*DJA **20** 00:37:29.5±0.4, 10°.S±4°.×11°.3E±°, h10km, M3.9/18, mb4.0/5, MLv3.9/18*
ISC 20 00:37:30.6±1.3, 9°.7S±0°.1×112°.77E±0°.07, h35km, n18, σ1§42/20, mb3.4/3, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.83**	**49**	P	**Pn**	**00 37 58.6**	**-0.9**
JAGI				S	**Sn**	**00 38 20.9**	**-0.5**
BLJI	**Banyuglugur**	**2.10**	**23**	P	**Pn**	**00 38 03.1**	**-0.1**
PCJI	**Pacitan**	**2.16**	**313**	P	**Pn**	**00 38 04.6**	**+0.5**
ABJI	**Asem Bagus**	**2.37**	**38**	P	**Pn**	**00 38 07.9**	**+0.9**
NGJI	**Ngawi**	**2.64**	**331**	P	**Pn**	**00 38 12.6**	**+1.9**
GRJI	**Gresik**	**2.77**	**354**	P	**Pn**	**00 38 12.9**	**+0.4**
UGM	**Wanagama**	**2.83**	**308**	P	**Pn**	**00 38 14.2**	**+0.8**
SRBI	**Singaraja**	**2.89**	**57**	P	**Pn**	**00 38 14.8**	**+0.6**
TBJI	**Tambak Boyo**	**2.99**	**342**	P	**Pn**	**00 38 18.3**	**+2.7**
YOGI	**Yogyakarta**	**3.07**	**307**	P	**Pn**	**00 38 19.0**	**+2.4**
TWSI	**Taliwang, Sumb**	**4.17**	**77**	P	**Pn**	**00 38 32.3**	**+0.6**
TWSI				S	**Sn**	**00 39 19.0**	**-0.3**
PLAI	**Plampang**	**5.02**	**81**	P	**Pn**	**00 38 44.7**	**+1.3**
CNJI	**Cibinong**	**6.06**	**293**	P	**Pn**	**00 38 59.0**	**+1.3**
0.1nm16nm,1.3s							
BASI	**Baing, Sumba**	**7.71**	**95**	P	**Pn**	**00 39 21.0**	**+0.6**
EDFI	**Ende, Flores**	**8.86**	**85**	P	**Pn**	**00 39 35.5**	**-0.8**
WRA	**Warramunga Arr**	**23.18**	**119**	P	**P**	**00 42 36.1**	**+1.7**
0.3nm,0.5s,baz=294,slow=9.8,SNR=2.3							
0.3nm,0.5s							
ASAR	**Alice Springs**	**24.51**	**127**	P	**P**	**00 42 48.0**	**+1.1**
0.7nm,0.6s,baz=304,slow=8.9,SNR=13							
0.7nm,0.6s							
MKAR	**Makanchi Array**	**62.46**	**337**	P	**P**	**00 47 48.0**	**-2.4**
0.2nm,0.4s,baz=146,slow=6.5,SNR=4.3							
0.2nm,0.4s							

IDC 20 00:45:00.7±4.4, 18°.58S×172°.53W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=294.6km s-min=33.1km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.99**	**254**	P	P	00 53 57.4	+0.2
1.7nm,0.8s,baz=90,slow=8.2,SNR=14							
1.7nm,0.8s							
WRA	**Warramunga Arr**	**50.00**	**259**	P	P	00 53 56.7	-0.5
0.7nm,0.5s,baz=97,slow=8.3,SNR=9.5							
0.7nm,0.5s							
PDAR	**Pinedale Array**	**84.08**	**41**	P	P	00 57 33.5	-0.2
0.5nm,0.7s,baz=207,slow=4.7,SNR=5.0							
0.5nm,0.7s							
BRTR	**Keskin Array B**	**149.11**	**319**	PKPbc	PKPbc	01 04 51.1	-0.3
0.3nm,0.7s,baz=113,slow=3.3,SNR=3.8							

*NNC **20** 00:53:21.0±0.7, 43°.13N×71°.28E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=12.0km s-min=3.0km az=3.0*
*SOME **20** 00:53:22.3, 43°.02N×71°.32E, h10km*
*KRNET **20** 00:53:22.4±0.1, 43°.03N×71°.30E, mb2.4*
ISC 20 00:53:21.9±0.8, 43°.06N±0°.04×71°.32E±0°.02, h10km, n26, σ1§69/50, 19C-19D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.17**	**177**	*eP*	**Pg**	**00 53 25.6**	**0.0**
29nm,0.1s							
DZA				*eS*	**Sg**	**00 53 27.5**	**-0.7**
2μm,0.2s							
KK06	**Karatay Array**	**0.58**	**273**	⇑P	**Pg**	**00 53 32.0**	**-1.2**
KK06				⇓S	**Sg**	**00 53 39.6**	**-1.3**
KK05	**Karatay Array**	**0.58**	**275**	⇓P	**Pg**	**00 53 32.1**	**-1.1**
KK05				⇑S	**Sg**	**00 53 39.7**	**-1.3**
KK02	**Karatay Array**	**0.59**	**274**	⇑P	**Pg**	**00 53 32.2**	**-1.2**
KK02				⇓S	**Sg**	**00 53 39.9**	**-1.3**
KK31	**Karatay Array**	**0.59**	**274**	⇑P	**Pg**	**00 53 32.2**	**-1.2**
0.7nm,0.1s,baz=287,slow=20,SNR=291							
KK31				⇑S	**Sg**	**00 53 39.7**	**-1.5**
11nm,0.2s,baz=94,slow=18,SNR=87							
KK01	**Karatay Array**	**0.60**	**274**	⇓P	**Pg**	**00 53 32.3**	**-1.2**
KK01				⇑S	**Sg**	**00 53 40.0**	**-1.3**
KK04	**Karatay Array**	**0.60**	**275**	⇓P	**Pg**	**00 53 32.3**	**-1.2**
KK04				⇑S	**Sg**	**00 53 40.0**	**-1.3**
KK07	**Karatay Array**	**0.60**	**273**	⇑P	**Pg**	**00 53 32.4**	**-1.1**
KK07				⇑S	**Sg**	**00 53 40.0**	**-1.4**
KK03	**Karatay Array**	**0.60**	**274**	⇓P	**Pg**	**00 53 32.4**	**-1.2**
KK03				⇑S	**Sg**	**00 53 40.0**	**-1.4**
KK09	**Karatay Array**	**0.60**	**276**	⇑P	**Pg**	**00 53 32.5**	**-1.1**
KK09				⇑S	**Sg**	**00 53 40.2**	**-1.3**
KK08	**Karatay Array**	**0.61**	**274**	⇑P	**Pg**	**00 53 32.5**	**-1.2**
KK08				⇑S	**Sg**	**00 53 40.3**	**-1.5**
BRLS	**Borolday**	**1.09**	**269**	P	**Pn**	**00 53 47.4**	**+4.2**
1.0nm,0.1s							
BRLS				S	**Sn**	**00 54 03.7**	**+5.3**
4.2nm,0.2s							
BRLS	**Borolday**	**1.09**	**269**	*eP*	**Pn**	**00 53 44.4**	**+1.2**
0.5nm,0.1s							
BRLS				*eS*	**Sn**	**00 53 59.8**	**+1.4**
5.1nm,0.2s							
IUG	**Iuzhnay**	**1.32**	**226**	P	**Pg**	**00 53 47.3**	**0.0**
4.0nm,0.1s							
IUG				S	**Sn**	**00 54 03.7**	**-0.6**
8.0nm,0.4s							
ARK	**Arkit**	**1.35**	**159**	⇑*eP*	**Pb**	**00 53 46.7**	**-0.7**
ARK				⇑*eS*	**Sn**	**00 54 04.4**	**-0.6**
MRKS	**Merke**	**1.44**	**102**	P	**Pg**	**00 53 49.0**	**-0.4**
1.6nm,0.2s							
MRKS				S	**Sb**	**00 54 06.7**	**-0.5**
10.0nm,0.2s							
MRKS	**Merke**	**1.44**	**102**	*eP*	**Pg**	**00 53 49.0**	**-0.4**
1.6nm,0.1s							
MRKS				*eS*	**Sg**	**00 54 07.6**	**-0.5**
20nm,0.2s							
EKS2	**Erkin-Say**	**1.85**	**102**	⇑*eP*	**Pb**	**00 53 55.8**	**-0.1**
EKS2				⇑*eS*	**Sg**	**00 54 20.4**	**-1.0**
ARSB	**Arslanbob**	**2.13**	**144**	⇓*eP*	**Pb**	**00 53 59.4**	**-1.3**
ARSB				⇓*eS*	**Sb**	**00 54 26.4**	**-0.9**
USP	**Ospenovka**	**2.34**	**84**	⇑*eP*	**Pb**	**00 54 02.7**	**-1.4**
USP				⇑*eS*	**Sb**	**00 54 32.1**	**-0.9**
AAK	**Ala-Archa**	**2.37**	**99**	⇓Pg	**Pg**	**00 54 05.8**	**-1.6**
1.7nm,0.8s							
AAK				⇓Lg	Lg	00 54 37.2	
1.6nm,0.5s							
AAK	**Ala-Archa**	**2.37**	**99**	⇓*eP*	**Pb**	**00 54 03.2**	**-1.6**
AAK				⇓*eS*	**Sb**	**00 54 32.9**	**-1.3**
KBK	**Karagaybulak**	**2.70**	**97**	⇓*eP*	**Pb**	**00 54 07.7**	**-2.7**
KBK				⇓*eS*	**Sb**	**00 54 40.8**	**-2.8**
TKM2	**Tokmak 2**	**3.14**	**91**	⇓*eP*	**Pn**	**00 54 14.0**	**+2.4**
TKM2				⇓*eS*	**Sn**	**00 54 51.7**	**+2.4**
KST	**Kastek**	**3.40**	**89**	Pg	**Pb**	**00 54 23.2**	**+0.8**
2.8nm,0.3s							
KST				Lg	Lg	00 55 05.1	
2.3nm,0.3s							
BOOM	**Boomskoye usch**	**3.45**	**98**	⇓*eP*	**Pn**	**00 54 18.2**	**+2.4**
BOOM				⇓*eS*	**Sn**	**00 54 58.9**	**+2.1**

*IDC **20** 01:17:13.4±2.8, 6°.01S×147°.12E, h59km±29km, mb3.8/7, mbtmp4.1/9, ML4.1/1, MS3.2/17, Error ellipse: s-maj=37.4km s-min=12.7km az=110.0*
*DJA **20** 01:17:16.5±1.2, 6°.S±5°.×14°.7E±°, h31km±10km, M5.1/13, mb4.6/13, mB5.8/5, MLv5.1/5, Mw(mB)5.4/5*
ISC 20 01:17:13.0±1.0, 5°.98S±0°.08×147°.1E±0°.1, h35km, n43, σ1§91/24, mb4.2/10, MS3.2/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**178**	P	**Pn**	**01 18 03.4**	**-0.3**
55nm,0.3s,baz=350,slow=4.2,SNR=23							
PMG				S	**Sn**	**01 18 43.1**	**+0.3**
218nm,0.8s,baz=315,slow=19,SNR=6.7							
PMG				LR	LR	01 19 43.4	
comp=Z,661nm,20.2s,baz=20,slow=44							
PMG	**Port Moresby**	**3.41**	**178**	P	**Pn**	**01 18 03.7**	**0.0**
MMPI	**Merauke**	**7.06**	**249**	P	Pn	01 18 48.4	-5.5
JAY	**Jayapura**	**7.21**	**298**	LR	LR	01 22 18.8	
comp=Z,315nm,19.4s,baz=183,slow=42							
JAY	**Jayapura**	**7.21**	**298**	P	**Pn**	**01 18 58.7**	**+2.8**
GENI	**Genyem**	**7.64**	**296**	P	**Pn**	**01 19 01.9**	**0.0**
0.3nm4μm21nm,0.5s							
COEN	**Coen**	**8.80**	**205**	P	**Pn**	**01 19 17.8**	**0.0**
HNR	**Honiara**	**13.23**	**106**	LR	LR	01 24 23.7	
comp=Z,97nm,20.9s,baz=153,slow=33							
CTA	**Charters Tower**	**14.05**	**183**	LR	LR	01 25 31.8	
comp=Z,5.9nm,18.8s,baz=35,slow=36							
QIS	**Mount Isa**	**16.20**	**206**	P	**Pn**	**01 20 58.3**	**+0.3**
WRAB	**Tennant Creek**	**18.57**	**221**	P	**P**	**01 21 27.7**	**+0.6**
WRA	**Warramunga Arr**	**18.59**	**221**	P	**P**	**01 21 25.6**	**-1.7**
0.6nm,0.3s,baz=43,slow=12,SNR=15							
WRA				S	Sn	01 24 40.7	-14
0.6nm,0.6s,baz=37,slow=21,SNR=2.2							
WRA				PcP	**PcP**	**01 25 54.1**	**-1.7**
2.3nm,0.9s,baz=26,slow=1.8,SNR=8.2							
WRA				LR	LR	01 29 38.4	
comp=Z,162nm,20.9s,baz=97,slow=40							
2.5nm,0.8s							
GUMO	**Guam**	**19.56**	**354**	LR	LR	01 27 53.4	
comp=Z,29nm,21.4s,baz=102,slow=33							
QLP	**Quilpie**	**20.67**	**187**	P	**P**	**01 21 52.4**	**+2.5**
AS01	**Alice Springs**	**21.64**	**214**	P	**P**	**01 22 02.2**	**+1.7**
ASAR	**Alice Springs**	**21.67**	**214**	P	**P**	**01 21 59.0**	**-1.8**
1.9nm,0.5s,baz=56,slow=8.6,SNR=18							
ASAR				S	**S**	**01 25 56.8**	**-2.1**
0.9nm,0.7s,baz=30,slow=20,SNR=4.8							
ASAR				LR	LR	01 31 57.9	
comp=Z,172nm,18.2s,baz=44,slow=41							
1.9nm,0.5s							
BATI	**Baumata**	**23.53**	**258**	P	**P**	**01 22 19.8**	**-0.5**
30nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.12**	**238**	P	**P**	**01 22 24.2**	**-1.6**
19nm,0.9s,baz=83,slow=8.4,SNR=25							
19nm,0.9s							
ARMA	**Armidale**	**24.69**	**171**	P	**P**	**01 22 35.1**	**+4.1**
LUWI	**Luwuk**	**24.72**	**281**	P	**P**	**01 22 31.3**	**0.0**
DAV	**Davao City (W)**	**25.04**	**301**	LR	LR	01 33 51.7	
comp=Z,19nm,18.0s,baz=157,slow=40							
EDFI	**Ende, Flores**	**25.30**	**262**	P	**P**	**01 22 33.0**	**-3.7**
17nm,0.8s							
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**01 22 43.4**	**-1.7**
1.3nm,0.6s,baz=17,slow=10,SNR=4.6							
STKA				LR	LR	01 33 22.6	
comp=Z,166nm,20.2s,baz=24,slow=37							
1.3nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**31.09**	**38**	T	T	01 56 16.3	
baz=220,slow=74,SNR=16							
H11S2	**WAKE ISLAND Hy**	**31.09**	**38**	T	T	01 56 08.5	
baz=220,slow=74,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**31.10**	**38**	T	T	01 56 07.3	
baz=220,slow=74,SNR=7.7							
H11N1	**WAKE ISLAND Hy**	**32.14**	**37**	T	T	01 57 20.9	
baz=218,slow=76,SNR=6.1							
H11N3	**WAKE ISLAND Hy**	**32.16**	**37**	T	T	01 57 22.0	
baz=218,slow=76,SNR=8.9							
H11N2	**WAKE ISLAND Hy**	**32.16**	**37**	T	T	01 57 22.2	
baz=218,slow=76,SNR=8.5							
JCJ	**Chichijima**	**33.21**	**352**	LR	LR	01 35 07.0	
comp=Z,30nm,21.6s,baz=116,slow=32							
JHJ	**Hachijo jima 2**	**39.49**	**350**	LR	LR	01 38 35.2	
comp=Z,15nm,21.4s,baz=350,slow=32							
CGJI	**Cibinong**	**41.11**	**267**	P	P	01 24 47.4	-6.6
JNU	**Nakatsue**	**41.81**	**339**	LR	LR	01 39 38.5	
comp=Z,29nm,19.6s,baz=103,slow=32							
MDSI	**Maura Dua**	**42.71**	**270**	P	**P**	**01 25 09.8**	**+2.7**
MJAR	**Matsushiro Arr

WB0	Warramunga Arr	50.27	260	P	P	01 38 28.3	-3.9
WRA	Warramunga Arr	50.30	260	P	P	01 38 28.5	-4.0
WRA	Warramunga Arr	50.30	260	P	P	01 38 28.7	-3.7
	comp=Z,1.9nm,0.6s,baz=97,slow=8.7,SNR=5.8						
	comp=Z,1.9nm,0.6s						
TXAR	Lajitas Array	81.63	55	P	P	01 41 55.0	+1.0
	comp=Z,0.5nm,0.9s,baz=216,slow=7.7,SNR=4.2						
	comp=Z,0.5nm,0.9s						
PDAR	Pinedale Array	84.14	41	P	P	01 42 06.2	-0.7
	comp=Z,0.8nm,0.7s,baz=218,slow=2.2,SNR=8.6						
	comp=Z,0.8nm,0.7s						
SNAA	Sanae	89.27	177	LR	LR	02 14 49.8	
	comp=Z,18nm,21.0s,baz=48,slow=30						
BRTR	Keskin Array B	149.67	318	PKPbc	PKPdf	01 49 25.1	+4.0
	comp=Z,1.3nm,0.8s,baz=132,slow=2.9,SNR=12						
GERES	GERESS Array B	149.86	352	PKPbc	PKPdf	01 49 25.4	+4.4
	comp=Z,0.2nm,0.5s,baz=29,slow=3.0,SNR=5.9						

MEX ***20*** *01:30:04.7±0.8, 15°.46N×94°.74W, h16km±8km, MD4.2*
GCG ***20*** *01:30:04.0±0.8, 15°.65N×94°.85W, h55km±67km, MD4.6*

ISC 20 01:29:59.7±1.5, 15°.53N±0°.04×94.77W±0°.02, h17km±11km, n44, σ1§97/80, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	1.04	8	eP	Pn	01 30 20.7	+1.2
NILT				eS	Sn	01 30 33.4	-0.3
HUIG	Huatulco	1.31	281	eP	Pg	01 30 25.6	+0.7
HUIG				eS	Sb	01 30 40.7	+0.3
HUIG	Huatulco	1.31	281	eP	Pg	01 30 25.3	+0.3
HUIG				eS	Sb	01 30 40.5	+0.1
PCIG		1.51	83	eP	Pb	01 30 27.1	-0.2
PCIG				eS	Sn	01 30 44.4	-0.8
CMIG	Matias Romero	1.55	356	eP	Pg	01 30 29.2	-0.5
CMIG				eS	Sb	01 30 48.0	+0.5
UXUV	UXUV	1.88	19	eP	Pb	01 30 34.3	+0.7
UXUV				eS	Sb	01 30 57.2	+0.4
TGIG		2.01	52	eP	Pb	01 30 35.6	-0.3
TGIG				eS	Sb	01 30 59.9	-0.8
TGIG		2.01	52	eP	Pb	01 30 35.6	-0.3
TGIG				eS	Sb	01 31 01.0	+0.2
TGBT	Tuxtla Gutierr	2.04	52	eP	Pb	01 30 37.0	+0.7
TGBT				eS	Sb	01 31 01.4	0.0
PEIG	Puerto Escondi	2.33	282	eP	Pb	01 30 40.2	-1.2
PEIG				eS	Sn	01 31 04.9	-0.9
NEUV	Arroyo Zacate	2.38	336	eP	Pb	01 30 40.7	-1.5
NEUV				eS	Sb	01 31 11.1	-0.3
OXLC	Oaxaca	2.40	310	eS	Sb	01 31 11.7	-0.4
OXBJ	Oaxaca	2.42	309	eS	Sb	01 31 13.4	+0.8
VHO	Vista Hermosa	2.43	309	eP	Pb	01 30 44.0	+0.9
VHO				eS	Sb	01 31 12.5	-0.4
PATR	El Naranjo	2.48	99	eP	Pn	01 30 40.3	+0.7
PATR				eS	Sn	01 31 06.7	-3.1
THIG		2.50	104	eP	Pb	01 30 44.6	+0.4
THIG				eS	Sn	01 31 08.7	-1.0
TUIG	Tuzandepetl	2.51	8	eP	Pb	01 30 42.7	-1.7
TUIG				eS	Sb	01 31 13.3	-1.7
PAVE	Pavencul	2.53	97	eP	Pn	01 30 41.8	+1.5
PAVE				eS	Sn	01 31 09.5	-1.3
CHUJ	Union Juarez	2.61	99	eP	Pn	01 30 42.8	+1.4
CHUJ				eS	Sn	01 31 10.7	-2.1
CCIG	Comitan	2.64	73	eP	Pb	01 30 44.9	-1.9
CCIG				eS	Sn	01 31 12.8	-0.8
CCIG	Comitan	2.64	73	eP	Pb	01 30 45.5	-1.2
CCIG				eS	Sb	01 31 18.6	-0.5
YOIG	Yosondua	2.97	297	eP	Pb	01 30 51.2	-1.3
YOIG				eS	Sn	01 31 23.9	+2.0
PMUV	Sontecomapan	3.02	354	eP	Pn	01 30 48.0	+1.2
PMUV				eS	Sn	01 31 23.6	+0.9
RTAL	Retalhuleu	3.14	108	eP	Pb	01 30 52.8	-2.3
RTAL				eS	Sn	01 31 24.2	-1.4
HUEH	Huehuetenango	3.16	93	eP	Pn	01 30 51.8	+2.8
HUEH				eS	Sn	01 31 28.7	+2.3
PNIG	Pinotepa	3.34	285	eP	Pn	01 30 54.8	+3.5
PNIG				eS	Sn	01 31 29.2	-1.3
TXIG	Tlaxiaco	3.35	301	eP	Pb	01 30 57.0	-1.8
TXIG				eS	Sn	01 31 32.8	+1.7
TOIG	Toxpalan	3.36	320	eP	Pb	01 30 57.6	-1.4
TOIG				eS	Sn	01 31 35.1	+3.8
HLIG	Huajuapan de L	3.70	309	eP	Pn	01 31 00.5	+4.2
HLIG				eS	Sn	01 31 39.3	-0.3
TPIG	Tehuac#an	3.79	320	eP	Pn	01 30 57.9	+0.3
TPIG				eS	Sb	01 31 50.1	-2.0
FTIG	Fresnillo de T	3.99	307	eP	Pb	01 31 06.6	-3.1
FTIG				eS	Sn	01 31 47.3	+0.4
MGIG	Malinaltepec	4.08	295	eP	Pb	01 31 07.1	-4.1
MGIG				eS	Sn	01 31 48.0	-0.9
TLIG	Tlapa	4.16	300	eP	Pb	01 31 08.6	-4.0
TLIG				eS	Sn	01 31 51.3	+0.3
JAUV	Jalcomulco	4.28	333	eP	Pn	01 31 05.2	+1.0
JAUV				eS	Sn	01 31 49.9	-3.8
CRIG	Cruz Grande	4.36	287	eP	Pn	01 31 08.9	+3.7
CRIG				eS	Sn	01 31 53.7	-2.0
LVIG	Laguna Verde	4.45	340	eS	Sn	01 31 56.4	-1.6
PETF	Flores	4.91	73	eP	Pn	01 31 14.9	+2.1
PETF				eS	Sn	01 32 10.5	+1.2
DAIG	Los Arroyos	4.91	288	eS	Sn	01 32 05.0	-4.4
MEIG	Mezcala	5.22	298	eP	Pn	01 31 23.4	+6.2
MEIG				eS	Sn	01 32 17.8	+0.7
YAIG	Yautepec	5.27	310	eP	Pb	01 31 25.3	-6.3
YAIG				eS	Sn	01 32 19.3	+0.8
CXUV	Coxquihui	5.34	330	eP	Pn	01 31 20.9	+2.1
CXUV				eS	Sn	01 32 17.4	-2.5
PLIG	Platanillo	5.35	303	eP	Pn	01 31 26.0	+7.1
PLIG				eS	Sn	01 32 20.1	-0.1
CAIG	El Cayaco	5.49	287	eP	Pn	01 31 25.1	+4.3
CAIG				eS	Sn	01 32 18.4	-5.2
ARIG	Puente Sto Nin	6.00	298	eP	Pn	01 31 34.6	+6.8
ARIG				eS	Sn	01 32 35.9	-0.3

NEIC ***20*** *01:48:06.3±0.6, 13°.9S±0°.1×170°.4E±0°.2, h607km±12km, mb4.3/12, Error ellipse: s-maj=28.7km s-min=14.0km az=60.0*
IDC ***20*** *01:48:06.8±7.8, 13°.84S×170°.03E, h583km±41km, mb3.4/4, mbtmp4.4/5, Error ellipse: s-maj=117.1km s-min=27.1km az=27.0*

ISC 20 01:48:06.5±1.4, 14°.0S±0°.1×170°.3E±0°.2, h600km, n22, σ1§13/23, mb4.4/10, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.31	243	P	P	01 49 28.0	+0.5
MARNC	Mare, Loyalty	7.76	196	P	P	01 50 03.4	-0.2
DZM	Mont Dzumac	8.84	204	P	P	01 50 13.6	-0.3
	6.8nm,0.9s,baz=228,slow=16,SNR=7.9						
PINNC	Pines Island,	9.00	197	P	P	01 50 16.0	+0.6
ONTNC	Ouen Toro	9.05	203	P	P	01 50 16.4	+0.5
ARMA	Armidale	23.72	223	P	P	01 52 32.9	-0.7
BKZ	Black Stump Fm	25.69	169	P	P	01 52 49.8	-0.9
BKZ				IAmb	IAmb	01 52 50.3	
	comp=Z,8.4nm,0.5s						
STKA	Stephens Creek	31.71	231	P	P	01 53 42.9	+0.1
STKA	Stephens Creek	31.71	231	P	P	01 53 43.0	+0.2
	comp=Z,5.8nm,0.5s,baz=65,slow=8.1,SNR=19						
	comp=Z,5.8nm,0.5s						
WR8	Warramunga Arr	34.67	255	P	P	01 54 07.4	-0.5
WR8				IAmb	IAmb	01 54 27.5	
	comp=Z,5.9nm,1.2s						
WB0	Warramunga Arr	34.76	255	P	P	01 54 08.7	+0.1
WB0				IAmb	IAmb	01 54 08.8	
	comp=Z,5.8nm,0.6s						
WRA	Warramunga Arr	34.82	255	P	P	01 54 08.7	-0.5
	comp=Z,3.4nm,0.6s,baz=85,slow=8.6,SNR=31						
	comp=Z,3.4nm,0.6s						
AS31	Alice Springs	35.65	249	P	P	01 54 15.6	-0.4
ASAR	Alice Springs	35.65	249	P	P	01 54 15.3	-0.8
ASAR	Alice Springs	35.65	249	P	P	01 54 15.8	-0.2
	comp=Z,5.9nm,0.6s,baz=77,slow=9.2,SNR=119						
ASAR				ScP	ScP	01 59 18.9	+1.6
	comp=Z,0.9nm,0.7s,baz=81,slow=4.2,SNR=10.0						
	comp=Z,5.9nm,0.6s						
BBOO	Buckleboo	36.34	233	P	P	01 54 21.2	-0.3
BBOO				IAmb	IAmb	01 54 27.6	
	comp=Z,12nm,1.2s						
KNRA	Kununurra	40.11	262	P	P	01 54 52.6	+0.5
KNRA				IAmb	IAmb	01 55 10.8	
	comp=Z,11nm,1.4s						
FORT	Forrest	42.18	239	P	P	01 55 07.9	-0.3
FORT				IAmb	IAmb	01 55 48.3	
	comp=Z,11nm,1.0s						
ERM	Erimo	61.05	337	P	P	01 57 22.4	-0.9
VNDA	Vanda	63.70	182	P	P	01 57 37.7	-2.2
QSPA	South Pole Qui	76.05	180	P	P	01 58 56.0	+2.6
QSPA	South Pole Qui	76.05	180	P	P	01 58 55.9	+2.6
	comp=Z,1.4nm,0.6s,baz=34,slow=1.2,SNR=16						
	comp=Z,1.4nm,0.6s						

MOS ***20*** *02:19:39.5±0.9, 40°.65N×142°.59E, h36km, mb4.6/20, Error ellipse: s-maj=9.9km s-min=6.0km az=92.8*
NIED ***20*** *02:19:40.7, 40°.68N×142°.67E, h24km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.96; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-1.43; $M_{r\theta}$0.12; $M_{\theta\phi}$0.62; $M_{\phi r}$0.99; Fault plane solution: $M_0$2.09000×10^{15} NP1: ϕ_s143.00000°, δ34.00000°, λ70.00000°. NP2: ϕ_s347.00000°, δ59.00000°, λ103.00000°.*
JMA ***20*** *02:19:40.7±0.2, 40°.7N±0°.6×14°.3E±°, h24km, MD4.2/37, MV4.2/37, E OFF AOMORI PREF*
IDC ***20*** *02:19:42.1±4.6, 40°.67N×142°.59E, h38km±38km, mb3.9/16, mbtmp4.1/18, ML4.1/2, MS3.2/12, Error ellipse: s-maj=21.1km s-min=17.7km az=74.0*
NEIC ***20*** *02:19:43.7±1.8, 40°.87N±0°.05×142°.50E±0°.09, h38km±8km, mb4.3/63, Error ellipse: s-maj=10.7km s-min=5.7km az=121.0*

ISC 20 02:19:40.4±0.8, 40°.66N±0°.04×142°.72E±0°.05, h27km±5km, n180, σ1§46/169, mb4.3/65, MS3.2/9, 6C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	0.90	240	⇓iP	Pn	02 19 56.7	-0.5
JKEN				⇓eS	Sb	02 20 06.8	-2.0
JKEN	Kujiedanarisaw	0.90	240	A	A	02 19 56.7	
	comp=N,7.0nm,0.6s,comp=E,7.0nm,3.5s						
JANG	Nango	0.96	253	⇓iP	Pn	02 19 57.9	-0.3
JANG	Nango	0.96	253	A	A	02 19 57.9	
	comp=N,2.0nm,0.7s,comp=E,4.0nm,0.3s						
JTH	Tanohata	0.97	223	⇓iP	Pn	02 19 58.2	-0.1
JTH				⇓eS	Sb	02 20 10.6	-0.5
JARK	Aomorirokkasho	1.09	289	⇓iP	Pn	02 19 59.4	-0.5
JARK	Aomorirokkasho	1.09	289	A	A	02 19 59.4	
	comp=N,9.0nm,1.1s,comp=E,6.0nm,0.5s						
JAHD	Aomorihigashid	1.21	300	A	A	02 20 01.6	
	comp=N,11nm,0.7s,comp=E,14nm,0.9s						
JTM	Tenmabayashi	1.26	276		Pn	02 20 02.2	-0.1
JTM				Sn	Sn	02 20 15.1	-3.3
JTM	Tenmabayashi	1.26	276	⇓iP	Pn	02 20 02.4	+0.1
ERM	Erimo	1.39	13		Pb	02 20 05.1	-0.6
ERM				Sn	Sn	02 20 19.5	-2.1
ERM	Erimo	1.39	13	P	Pb	02 20 05.1	-0.6
ERM						02 20 19.5	
JEM	Erimo	1.40	13	eP	Pn	02 20 04.9	+0.8
JOT	Ohata	1.46	300	⇓iP	Pn	02 20 04.7	-0.3
JOT	Ohata	1.46	300	A	A	02 20 04.7	
	comp=N,5.0nm,2.1s,comp=E,3.0nm,0.4s						
JOM	Ohasama	1.61	223	⇓iP	Pn	02 20 08.2	+1.1
JNBK	Urakawa-nobuka	1.62	1	eP	Pn	02 20 08.3	+1.1
JNBK	Urakawa-nobuka	1.62	1	A	A	02 20 08.3	
	comp=N,8.0nm,0.5s,comp=E,6.0nm,0.5s						
JAH	Hinai	1.66	254	⇓iP	Pn	02 20 09.0	+1.3
JKB	Kayabe	1.77	315	P	Pn	02 20 09.0	-0.2
JSI2	Shiura 2	1.80	284	A	A	02 20 10.5	
	comp=N,8.0nm,1.7s,comp=E,7.0nm,0.8s						
JSR	Shiriuchi	1.95	297	⇓iP	Pn	02 20 12.4	+0.7
JSR				⇓eS	Sn	02 20 35.4	+0.1
JNTW	Noshirotokiwa	1.99	260	A	A	02 20 13.3	
	comp=N,9.0nm,2.8s,comp=E,9.0nm,3.2s						
JCH	Churui	2.01	14	eP	Pn	02 20 13.5	+0.9
JCH				S	Sn	02 20 37.6	+0.7
JIAM	Iburiatsuma	2.05	343	A	A	02 20 14.3	
	comp=N,7.0nm,0.8s,comp=E,11nm,0.5s						
JEW	Eniwo	2.38	337	A	A	02 20 19.0	
	comp=N,5.0nm,0.9s,comp=E,8.0nm,0.9s						
JMM	Marumori	3.17	209		Pn	02 20 30.5	+2.0
JMM				Sn	Sb	02 21 11.4	-2.7
ASAJ	Asahikawa	3.46	359	Pn	Pn	02 20 34.1	+1.6
	comp=E,6.1nm,0.3s,baz=212,slow=10,SNR=27						
ASAJ				Sn	Sn	02 21 10.9	-1.6
	comp=E,12nm,0.3s,baz=9.4,slow=28,SNR=4.6						
	comp=E,13nm,0.3s						
ASAJ	Asahikawa	3.46	359	P	Pn	02 20 32.7	+0.2
JKA	Kamikawa-asahi	3.46	359		Pn	02 20 32.6	+0.2
NMR	Nemuro--Hokkai	3.51	39	iP	Pn	02 20 33.0	-0.2
NMR				eS	Sn	02 21 10.4	-3.5
GLVR	Golovnino	3.71	33	eP	Pn	02 20 36.4	+0.4
GLVR				eS	Sn	02 21 16.0	-2.8
GLVR				pmax	pmax		
	comp=Z,112nm,0.1s						
GLVR				smax	smax		
	comp=N,692nm,0.3s						
GLVR				smax	smax		
	comp=E,839nm,0.3s						
RUSJ	Misakicho	3.92	28	eP	Pn	02 20 39.5	+0.7
RUSJ				eS	Sn	02 21 23.1	-0.8
YUK	Yuzh-Kuril'sk	4.10	34	eP	Pn	02 20 40.9	-0.3
YUK				eS	Sn	02 21 25.8	-2.5
YUK				pmax	pmax		
	comp=N,41nm,0.2s						
YUK				pmax	pmax		
	comp=E,74nm,0.2s						
YUK				pmax	pmax		
	comp=Z,198nm,0.2s						
YUK				smax	smax		
	comp=N,554nm,0.4s						
YUK				smax	smax		
	comp=E,665nm,0.7s						
JSD	Sado	4.34	234	Pn	Pn	02 20 45.3	+0.7
MJAR	Matsushiro Arr	5.42	222	LR	LR	02 23 32.4	
	comp=E,223nm,21.0s,baz=65,slow=43						
KUR	Kuril'sk	5.93	38	eP	Pn	02 21 06.4	0.0
KUR				S	Sn	02 22 10.6	-2.8
KUR				pmax	pmax		
	comp=E,50nm,0.4s						
KUR				pmax	pmax		
	comp=Z,140nm,0.4s						
KUR				pmax	pmax		
	comp=N,62nm,0.7s						
KUR				smax	smax		
	comp=N,116nm,0.6s						
KUR				smax	smax		
	comp=E,94nm,0.7s						
TEY	Ternei	6.27	316	↑eP	Pn	02 21 12.6	+1.5
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS	Yuzhno-Sakhali	6.29	0	eP	Pn	02 21 13.2	+1.8
YSS				eS	Sn	02 22 22.5	+0.1
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=N,20nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
USRK	Ussuriysk Ar.	8.69	298	Pn	Pn	02 21 47.6	+3.3
	comp=E,1.0nm,0.3s,baz=95,slow=16,SNR=11						
JMN	Monobe	9.88	228	Pn	Pn	02 22 02.9	+2.2
KSRS	Korea Array	11.94	259	Pn	Pn	02 22 34.6	+5.8
	comp=E,0.1nm,0.3s,baz=69,slow=13,SNR=5.0						
JNU	Nakatsue	12.10	235	Pn	Pn	02 22 31.1	+0.1
JNU	Nakatsue	12.10	235	LR	LR	02 27 13.6	
	comp=E,75nm,18.2s,baz=98,slow=38						
PETK	Petropavlovsk-	16.08	34	LR	LR	02 30 04.6	
	comp=E,61nm,18.2s,baz=243,slow=39						
ZEA	Zeya	16.73	327	eP	Pn	02 23 33.1	+0.4
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JMZ	Minamidaito 2	17.62	216	Pn	P	02 23 45.4	+0.6
HILR	Hailar Array B	18.43	307	P	P	02 23 51.7	-2.0
	baz=102,slow=10						
	comp=Z,2.3nm,0.4s						
BJT	Baijiatuau	20.23	277	P	P	02 24 13.2	-0.2
BJT				IAmb	IAmb	02 24 23.6	
	comp=Z,7.0nm,0.7s						
BJT	Baijiatuau	20.23	277	P	P	02 24 13.2	-0.2
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YAK	Yakutsk	22.81	344	LR	LR	02 34 01.8	
	comp=Z,39nm,19.5s,baz=210,slow=38						
SEY	Seymchan	23.04	11	LR	LR	02 33 26.8	
	comp=Z,41nm,19.0s,baz=226,slow=36						
SEY	Seymchan	23.04	11	iP	P	02 24 42.2	-1.0
SEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YOJ	Yonaguni jima	23.09	232	P	P	02 24 48.3	+4.3
YOJ	Yonaguni jima	23.09	232	P	P	02 24 48.3	+4.3
YOJ				pmax	pmax		
	comp=Z,149nm,1.1s						
HHC	Hu-ho-hao-te	23.55	281	eP	P	02 24 46.0	-2.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,85nm,4.1s						
YHNB	Yeheng	23.93	235	P	P	02 24 54.8	+2.5
NACB	Ninganchiao	24.16	234	P	P	02 24 57.0	+2.6
BOD	Bodaibo	25.13	323	eP	P	02 25 00.9	-2.0
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	26.36	298	iP	P	02 25 11.5	-2.9
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SONM	Songino Array	26.80	298	P	P	02 25 17.3	-1.0
SONM	Songino Array	26.80	298	P	P	02 25 17.3	-1.0
	comp=Z,1.2nm,0.5s,baz=85,slow=8.6,SNR=6.7						
	comp=Z,1.2nm,0.5s						
H11N2	WAKE ISLAND Hy	29.35	128	T	T	02 56 32.5	
	baz=322,slow=75,SNR=120						
H11N1	WAKE ISLAND Hy	29.36	128	T	T	02 56 39.1	
	baz=322,slow=75,SNR=69						
H11N3	WAKE ISLAND Hy	29.37	128	T	T	02 56 41.5	
	baz=322,slow=75,SNR=101						
H11S1	WAKE ISLAND Hy	30.19	130	T	T	02 58 30.3	
	baz=322,slow=75,SNR=36						
H11S3	WAKE ISLAND Hy	30.19	130	T	T	02 58 28.8	
	baz=322,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	30.20	130	T	T	02 58 30.9	
	baz=322,slow=75,SNR=22						
TIXI	Tiksi	31.84	352	LR	LR	02 39 09.4	
	comp=Z,30nm,19.8s,baz=215,slow=37						
KNGR	Kungurtug, Tuv	32.67	303	iP	P	02 26 09.0	-1.3
KNGR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAV	Davao City (W)	36.79	209	LR	LR	02 41 35.8	
	comp=Z,30nm,20.8s,baz=164,slow=36						
N15K	Kwethluk River	39.81	41	P	P	02 27 10.0	-1.0
N15K				IAmb	IAmb	02 27 19.9	
	comp=Z,5.9nm,0.9s						
F17K	Baldwin Pennin	40.08	31	P	P	02 27 12.3	-0.7
F17K				IAmb	IAmb	02 27 25.6	
	comp=Z,6.1nm,1.1s						
L16K	Owhat River	40.20	39	P	P	02 27 14.6	+0.4
ZAA0	Zalesovo Array	40.32	309	P	P	02 27 14.2	-1.0
ZAA0				IAmb	IAmb	02 27 15.5	
	comp=Z,5.1nm,0.6s						
ZALV	Zalesovo Beam	40.32	309		P	02 27 14.5	-0.7
ZALV	Zalesovo Beam	40.32	309	P	P	02 27 15.0	-0.2
	comp=Z,5.5nm,0.5s,baz=92,slow=8.2,SNR=22						
ZALV				PcP	PcP	02 29 18.5	+0.2
	comp=Z,0.9nm,0.4s,baz=111,slow=4.3,SNR=2.9						
	comp=Z,5.5nm,0.5s						
ZALV	Zalesovo Beam	40.32	309	iP	P	02 27 14.8	-0.4
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
H17K	Granite Mounta	40.36	34	P	P	02 27 17.3	+1.8
E18K	Tukpahlearik C	40.53	30	P	P	02 27 16.4	-0.4
E18K				IAmb	IAmb	02 27 33.4	
	comp=Z,7.5nm,1.1s						
J17K	VABM Dome	40.53	36	P	P	02 27 18.3	+1.4
C18K	Utukok River	40.59	28	P	P	02 27 17.7	+0.3
C18K				IAmb	IAmb	02 27 22.3	
	comp=Z,10.0nm,1.1s						
O16K	Kokwok River B	40.80	42	P	P	02 27 19.5	+0.4
O16K				IAmb	IAmb	02 27 36.5	
	comp=Z,8.3nm,1.1s						
G18K	Tagagawik	41.02	32	P	P	02 27 22.3	+1.4
G18K				IAmb	IAmb	02 27 23.6	
	comp=Z,4.2nm,0.8s						
H18K	Honhosa River	41.04	33	P	P	02 27 22.5	+1.4
H18K				IAmb	IAmb	02 27 39.0	
	comp=Z,4.4nm,0.8s						
M17K	Holitna River	41.16	39	P	P	02 27 23.1	+1.0
M17K				IAmb	IAmb	02 27 35.4	
	comp=Z,6.9nm,1.1s						
D19K	Kuna River	41.66	28	P	P	02 27 27.2	+1.1
D19K				IAmb	IAmb	02 27 32.5	
	comp=Z,10nm,1.1s						
E19K	Redstone River	41.81	30	P	P	02 27 28.7	+1.3
E19K				IAmb	IAmb	02 27 47.8	
	comp=Z,3.6nm,0.8s						
H19K	Roundabout Mou	41.88	33	P	P	02 27 29.7	+1.8
N18K	Kilae Creek	41.90	40	P	P	02 27 29.8	+1.6
J19K	Poorman	42.12	35	P	P	02 27 31.0	+1.1
J19K				IAmb	IAmb	02 27 49.2	
	comp=Z,5.6nm,1.0s						
D20K	Etivluk River	42.24	28	P	P	02 27 31.0	+0.1
D20K				IAmb	IAmb	02 27 32.3	
	comp=Z,8.1nm,1.1s						
N19K	Bonanza Creek	42.59	40	P	P	02 27 37.1	+3.1
N19K				IAmb	IAmb	02 27 51.0	
	comp=Z,6.6nm,1.1s						
J20K	Nowinta River	42.77	35	P	P	02 27 36.9	+1.7
K20K	Telida	42.78	36	P	P	02 27 36.6	+1.2
IMAR	Indian Mountai	43.03	32	P	P	02 27 38.9	+1.6
Q19K	Cape Douglas,	43.10	43	P	P	02 27 37.9	-0.1
MK31	Makanchi Array	43.15	299	P	P	02 27 38.1	-0.5
MK31				IAmb	IAmb	02 27 38.6	
	comp=Z,3.1nm,0.7s						
MK31	Makanchi Array	43.15	299	ceP	P	02 27 38.6	0.0
MKAR	Makanchi Array	43.15	299	P	P	02 27 38.0	-0.6
MKAR	Makanchi Array	43.15	299	P	P	02 27 38.4	-0.2
	comp=Z,2.6nm,0.5s,baz=85,slow=10,SNR=31						
	comp=Z,2.6nm,0.5s						
G21K	Allakaket	43.17	32	P	P	02 27 39.6	+1.2
G21K				IAmb	IAmb	02 27 44.0	
	comp=Z,7.8nm,1.1s						
MAKZ	Makanchi	43.36	299	P	P	02 27 39.9	-0.4
MAKZ				IAmb	IAmb	02 27 40.2	
	comp=Z,3.5nm,0.7s						
MAKZ	Makanchi	43.36	299	P	P	02 27 39.9	-0.4
MAKZ		

comp=Z,3.0nm,1.0s
SML Sawmill 45.50 38 P P 02 27 58.9 +1.7
SML pmax pmax
comp=Z,3.0nm,1.0s
G24K Hadweenzic Riv 45.58 32 P P 02 27 59.4 +1.7
G24K IAmb IAmb 02 28 16.3
comp=Z,3.5nm,1.0s
ILAR Eielson Array 45.91 34 P P 02 28 00.5 +0.2
comp=Z,0.6nm,0.7s,baz=270,slow=6.6,SNR=7.1
comp=Z,0.6nm,0.7s
SCM Sheep Creek Mo 45.97 38 P P 02 28 02.0 +1.1
SCM Sheep Creek Mo 45.97 38 P P 02 28 02.0 +1.1
SCM pmax pmax
comp=Z,9.0nm,1.2s
F25K Christian Rive 46.26 30 P P 02 28 05.4 +2.3
F25K IAmb IAmb 02 28 06.0
comp=Z,2.0nm,0.8s
PRP Porcupine Dome 46.43 33 P P 02 28 06.8 +2.3
PRP IAmb IAmb 02 28 21.4
comp=Z,2.5nm,0.7s
FYU Fort Yukon 46.48 32 P P 02 28 06.4 +1.7
FYU IAmb IAmb 02 28 20.9
comp=Z,4.7nm,0.8s
G26K Porcupine Rive 47.02 31 P P 02 28 10.8 +1.8
G26K IAmb IAmb 02 28 27.6
comp=Z,4.9nm,1.1s
EVN Everest 47.16 273 P 02 28 11.3 -0.1
SCRK Sand Creek 47.24 35 P P 02 28 11.9 +1.0
SCRK IAmb IAmb 02 28 26.8
comp=Z,2.6nm,0.7s
DOT Dot Lake 47.25 36 P P 02 28 11.2 +0.4
BORK Borovoye 48.98 310 *i* P **P 02 28 21.8 -2.6**
BORK pmax pmax
comp=Z,4.0nm,0.6s
KSH Kashi 49.94 292 P P 02 28 38.9 +6.9
KSH pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 52.26 298 P P 02 28 47.7 -1.5
KK31 Karatay Array 52.26 298 P P 02 28 47.7 -1.5
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 52.26 298 P P 02 28 47.9 -1.3
KKAR Karatay Array 52.26 298 P P 02 28 47.9 -1.3
SVE Sverdlovsk 53.15 317 *eP* **P 02 28 55.5 -0.1**
ARTI Arti 54.47 317 P 02 29 03.9 -1.4
ARTI Arti 54.47 317 LR LR 02 54 58.5
comp=Z,57nm,18.8s,baz=38,slow=39
ARTI Arti 54.47 317 *c i* P **P 02 29 04.7 -0.5**
ARTI *PP **sP** 02 29 17.8 +1.7
ARTI 02 30 06.5
ARTI 02 31 03.5
ARTI S **S 02 36 43.5 +1.4**
ARTI SS **SKiKP 02 40 14.8 +2.0**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
NIL Nilore 54.51 286 P P 02 29 05.1 -0.8
NIL Nilore 54.51 286 P P 02 29 05.1 -0.8
NIL pmax pmax
comp=Z,10.0nm,0.9s
CHGR Chuyangaron 55.09 294 P P 02 29 09.4 -0.7
CHGR Chuyangaron 55.09 294 P P 02 29 09.4 -0.7
CHGR pmax pmax
comp=Z,9.0nm,0.9s
AB31 Akbulak array 56.43 309 P 02 29 18.5 -0.9
AB31 IAmb IAmb 02 29 32.9
comp=Z,1.9nm,0.7s
ABKAR Akbulak array 56.43 309 P 02 29 18.9 -0.5
KIRV Kirov 58.00 322 *ceP* **P 02 29 29.0 -1.3**
WRA Warramunga Arr 60.79 189 P P 02 29 49.9 -0.1
comp=Z,1.1nm,0.7s,baz=9.8,slow=6.9,SNR=7.5
comp=Z,1.1nm,0.7s
ASAR Alice Springs 64.52 189 P P 02 30 15.2 +0.3
comp=Z,1.3nm,0.7s,baz=11,slow=6.6,SNR=13
comp=Z,1.3nm,0.7s
FINES FINESS Array B 66.09 332 P P 02 30 24.0 -0.6
comp=Z,4.4nm,0.5s,baz=51,slow=7.5,SNR=54
comp=Z,4.4nm,0.5s
FINES FINESS Array B 66.09 332 *i* P **P 02 30 24.0 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 69.32 311 *eP* **P 02 30 45.8 +0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 69.33 310 P P 02 30 46.2 +0.8
comp=Z,1.8nm,0.7s,baz=62,slow=4.4,SNR=8.6
comp=Z,1.8nm,0.7s
KBZ Khabaz 69.33 310 *ceP* **P 02 30 42.8 -2.5**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
GNI Garni 70.37 306 LR LR 03 04 18.1
comp=Z,20nm,20.2s,baz=16,slow=38
HFS Hagfors 71.21 336 P **P 02 30 56.5 -0.1**
comp=Z,1.6nm,0.4s,baz=38,slow=7.5,SNR=17
comp=Z,1.6nm,0.4s
NB2 NORSAR Subarra 71.24 337 P P 02 30 56.2 -0.6
comp=Z,0.8nm,0.5s,baz=35,slow=6.2
NB2 NORSAR Subarra 71.24 337 P P 02 30 56.4 -0.4
NOA NORSAR Array B 71.24 337 P P 02 30 56.5 -0.4
comp=Z,2.5nm,0.8s,baz=37,slow=6.1,SNR=7.7
NOA LR LR 03 06 13.6
comp=Z,13nm,18.5s,baz=355,slow=39
comp=Z,2.5nm,0.8s
AKASG Malin Array Be 72.06 322 P P 02 31 00.5 -1.4
comp=Z,1.3nm,0.6s,baz=43,slow=6.0,SNR=8.5
comp=Z,1.3nm,0.6s
AKBB Malin Array Si 72.06 322 *i* P **P 02 30 59.9 -1.9**
AKBB pmax pmax
comp=Z,20nm,3.3s
GURO Guroymak-BITLI 73.01 306 P P 02 31 08.4 +0.5
KOPT Kop Dagi 73.02 308 P P 02 31 09.2 +1.1
PDAR Pinedale Array 74.42 47 P P 02 31 16.8 +0.5
comp=Z,0.3nm,0.6s,baz=207,slow=1.7,SNR=4.8
comp=Z,0.3nm,0.6s
MARD Mardin 74.56 306 P P 02 31 16.7 -0.3
BRTR Keskin Array B 77.21 312 P P 02 31 32.3 +0.2
comp=Z,0.6nm,0.6s,baz=89,slow=3.9,SNR=5.6
comp=Z,0.6nm,0.6s
MLR Muntele Rosu 77.28 320 LR LR 03 09 07.6
comp=Z,24nm,20.0s,baz=1.0,slow=38
CLL Collm 78.46 330 *i* P **P 02 31 38.2 -0.4**
CLL Collm 78.46 330 *i* P **P 02 31 38.2 -0.4**
EKA Eskdalemuir Ar 80.05 341 P P 02 31 47.5 +0.2
comp=Z,0.5nm,0.5s,baz=25,slow=4.6,SNR=1.2
comp=Z,0.5nm,0.5s
PPT Papeete 85.38 118 LR LR 03 06 05.7
comp=Z,25nm,21.2s,baz=198,slow=33
TXAR Lajitas Array 87.12 53 P P 02 32 24.8 +0.6
comp=Z,0.3nm,0.7s,baz=291,slow=3.5,SNR=4.3
comp=Z,0.3nm,0.7s
SNAA Sanae 144.51 198 PKP **PKPab 02 39 11.6 0.0**
comp=Z,1.6nm,0.8s,baz=218,slow=6.1,SNR=29

*JMA **20** 02:20:02.2±0.2, 35°.7N±0°.4×139°.4E±0°.4, h27km±1km, MV3.2/20, TOKYO PREF*
JMA Felt II J1 at TOKYO PREF .
*IDC **20** 02:20:02.3±2.7, 35°.46N×139°.15E, h33km±32km, mb3.2/2, mbtmp3.5/3, ML3.6/1, MS3.3/1, Error ellipse: s-maj=33.6km s-min=25.1km az=72.0*
ISC 20 02:20:01.1±1.0,**35°.63N**±0°.03×**139°.43E**±0°.04,**h33**km±4km,
n17,σ0°.60/24,**6D**,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSGW	**Sagamiharawaka**	**0.19**	**261**	*i* P	**Pb**	**02 20 07.8**	**+0.2**
JSGW				*e*S	**Sb**	**02 20 12.1**	**+0.1**
TOK	**Tokyo**	**0.27**	**78**	P	**Pn**	**02 20 09.3**	**+0.7**
TOK				*e*S	**Sb**	**02 20 13.8**	**+0.4**
JOD2	**Odawara 2**	**0.46**	**218**	P	**Pn**	**02 20 11.9**	**+0.3**
JOD2				*e*S	**Sn**	**02 20 18.8**	**+0.2**
JRY	**Ryogami san**	**0.58**	**312**	⇓*e*P	**Pn**	**02 20 13.2**	**+0.1**
JRY				⇓*e*S	**Sn**	**02 20 20.8**	**-0.6**
JYN	**Shimob**	**0.74**	**260**	⇓*i*P	**Pb**	**02 20 16.0**	**+0.3**
JYN				⇓*e*S	**Sn**	**02 20 26.4**	**+0.9**
JAG	**Ashikaga**	**0.79**	**1**	⇓*i*P	**Pb**	**02 20 16.6**	**0.0**
JIM2	**Oshima 3**	**0.91**	**180**	*e*P	**Pn**	**02 20 17.2**	**-0.5**
JIM2				*e*S	**Sn**	**02 20 29.8**	**+0.1**
JIZS	**Izushimoda**	**1.02**	**207**	*e*P	**Pb**	**02 20 19.8**	**-0.5**
JIZS				*e*S	**Sb**	**02 20 33.7**	**+0.3**
JNT	**Takato**	**1.08**	**283**	⇓*e*P	**Pb**	**02 20 22.1**	**+0.6**
JKT	**Katashina**	**1.14**	**353**	*e*P	**Pb**	**02 20 22.3**	**-0.2**
SHZ3	**Shizuoka 3**	**1.15**	**241**	*e*P	**Pb**	**02 20 22.8**	**+0.3**
BSO3	**Boso 3**	**1.21**	**133**	*e*P	**Pn**	**02 20 22.0**	**+0.5**
MJAR	**Matsushiro Arr**	**1.34**	**313**	Pg	**Pb**	**02 20 26.3**	**+0.5**
	7.7nm,0.3s,baz=144,slow=14,SNR=363						
MJAR				Lg	Lg	02 20 45.2	
	4.5nm,0.3s,baz=145,slow=24,SNR=8.3						
JHJ	**Hachijo jima 2**	**2.52**	**173**	P	**Pn**	**02 20 41.0**	**+1.2**
	30nm,0.3s,baz=75,slow=24,SNR=15						
JHJ				Sn	**Sn**	**02 21 09.9**	**+0.5**
	58nm,0.3s,baz=88,slow=22,SNR=13						
	69nm,0.3s						
BVAR	**Borovoye Array**	**50.34**	**313**	LR	LR	02 49 18.0	
	comp=Z,29nm,18.3s,baz=24,slow=35						
WRA	**Warramunga Arr**	**55.48**	**186**	P	**P**	**02 29 31.6**	**-1.2**
	0.3nm,0.4s,baz=0.1,slow=7.6,SNR=7.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**59.21**	**186**	P	**P**	**02 29 58.5**	**-0.6**
	0.1nm,0.4s,baz=350,slow=8.2,SNR=1.5						
	0.1nm,0.4s						

*FUNV **20** 02:20:58.4, 9°.92N×62°.72W, h5km, MW3.5*
ISC 20 02:20:57.3±1.7,**9°.3N**±0°.1×**62°.67W**±0°.10,**h31**km,**n7**,
σ1°.58/13,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.81**	**44**	*e*P	**Pb**	**02 21 30.6**	**+0.8**
GRGR	**Grenville**	**2.95**	**20**	*e*P	**Pn**	**02 21 42.3**	**+0.2**
GRGR				*e*S	**Sn**	**02 22 15.2**	**-1.3**
GCMP	**Grenada, Carri**	**3.36**	**21**	*e*P	**Pn**	**02 21 48.3**	**+0.6**
GCMP				*e*S	**Sn**	**02 22 24.5**	**-2.0**
CACV	**CAICARA DEL OR**	**4.21**	**246**	*e*P	**Pn**	**02 21 60.0**	**+0.5**
CACV				*e*S	**Sn**	**02 22 44.9**	**-2.8**
TACV	**Tcata**	**4.37**	**281**	*e*P	**Pn**	**02 22 02.9**	**+1.2**
TACV				*e*S	**Sn**	**02 22 50.0**	**-1.5**
BENV	**Beln**	**4.90**	**278**	*e*P	**Pn**	**02 22 10.9**	**+1.9**
BENV				*e*S	**Sn**	**02 23 03.1**	**-1.5**
BAUV	**El Baul**	**5.32**	**266**	*e*P	**Pn**	**02 22 15.0**	**+0.3**
BAUV				*e*S	**Sn**	**02 23 14.7**	**-0.2**

*UPA **20** 02:47:45.1±1.3, 7°.70N×80°.60W, h10km±645km, MW3.6*
*UCR **20** 02:47:50.2±0.7, 7°.94N×80°.92W, h8km±32km, MW3.6*
ISC 20 02:47:48.4±3.8,**7°.9N**±0°.2×**80°.8W**±0°.1,**h15**km±29km,**n21**,
σ0°.66/26,**1C-1D**,**Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZANG	**Zanguenga, Cho**	**1.41**	**39**	*e*P	**Pg**	**02 48 15.8**	**+0.1**
KKNTU	**Kakinto**	**1.43**	**314**	*e*P	**Pn**	**02 48 13.1**	**-0.7**
KKNTU				*e*S	**Sb**	**02 48 33.7**	**+0.9**
KKNTU	**Kakinto**	**1.43**	**314**	*e*P	**Pn**	**02 48 12.5**	**-1.4**
BCIP	**Isla Barro Col**	**1.60**	**35**	*e*P	**Pg**	**02 48 18.8**	**-0.3**
RBALA	**Bur**	**1.72**	**307**	⇑*e*P	**Pn**	**02 48 17.4**	**-0.4**
RBALA				*e*S	**Sb**	**02 48 42.0**	**+0.9**
RBALA	**Bur**	**1.72**	**307**	*e*P	**Pn**	**02 48 17.4**	**-0.4**
PBNVO	**Pueblo Nuevo,**	**1.75**	**306**	*e*P	**Pn**	**02 48 18.0**	**-0.3**
WILLF	**Boquete**	**1.88**	**299**	*e*P	**Pn**	**02 48 19.4**	**-0.8**
DAP26	**falda E V. Bar**	**1.89**	**300**	*e*P	**Pn**	**02 48 19.4**	**-0.9**
BQTLY	**Boquete Panama**	**1.91**	**298**	⇓*i*P	**Pn**	**02 48 20.1**	**-0.6**
BQTLY				*e*S	**Sb**	**02 48 46.4**	**-0.5**
BQTLY	**Boquete Panama**	**1.91**	**298**	*e*P	**Pn**	**02 48 20.0**	**-0.6**
CAZU	**Cerro Azul, Pa**	**1.92**	**44**	*e*P	**Pb**	**02 48 23.6**	**+0.3**
JEFFS	**S de V. Baru**	**1.93**	**295**	*e*P	**Pn**	**02 48 20.6**	**-0.3**
BANCO	**falda S V. Bar**	**1.95**	**296**	*e*P	**Pn**	**02 48 20.8**	**-0.4**
CLLRA	**Cordillera,**	**2.04**	**296**	*e*P	**Pn**	**02 48 22.5**	**+0.1**
CLLRA				*e*S	**Sb**	**02 48 49.9**	**-0.6**
TBS2		**2.10**	**297**	*e*P	**Pn**	**02 48 22.3**	**-1.0**
BRU2	**Volcan**	**2.13**	**296**	*e*P	**Pn**	**02 48 23.5**	**-0.1**
BRU2				*e*S	**Sb**	**02 48 53.7**	**+0.6**
BRU2	**Volcan**	**2.13**	**296**	*e*P	**Pn**	**02 48 23.5**	**-0.1**
DMCAL	**E. de Neily**	**2.17**	**292**	*e*P	**Pn**	**02 48 24.3**	**+0.2**
ALCO	**Alturas Coton,**	**2.32**	**298**	*e*P	**Pn**	**02 48 26.6**	**+0.3**
DRK0	**Durika**	**2.83**	**300**	*e*P	**Pn**	**02 48 33.7**	**+0.4**

CATAC 20 02:50:31.0±0.2,**13°N**±1°×**86°.9W**±0°.9,**h4**km,**M3.9**/35,
MLv3.9/35,**8C-4D**,**Error ellipse: s-maj=2.6km**
s-min=1.6km az=26.9,**confirmed**,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	**Cerro Pekin**	**0.07**	**235**	⇑P	Pg	02 50 32.9	+0.3
PKGN				S	Sg	02 50 34.0	+0.4
CRIN	**San Cristobal**	**0.13**	**265**	⇑P	Pg	02 50 33.7	+0.1
CRIN				S	Sg	02 50 35.3	-0.1
ALEN	**Leon**	**0.26**	**170**	S	Sg	02 50 40.6	+1.3
ALEN	**Leon**	**0.26**	**170**	⇓P	Pg	02 50 36.5	+0.5
CNGN	**Cerro Negro**	**0.30**	**134**	S	Sg	02 50 41.9	+1.2
CNGN	**Cerro Negro**	**0.30**	**134**	⇑P	Pg	02 50 37.4	+0.6
CNGA	**Al SSO del Vol**	**0.30**	**135**	⇑P	Pg	02 50 37.5	+0.6
CNGA				S	Sg	02 50 42.2	+1.4
AESN	**El Sauce Leon**	**0.41**	**64**	P	Pg	02 50 39.7	+0.8
AESN	**El Sauce Leon**	**0.41**	**64**	S	Sg	02 50 45.0	+0.8
MOM2	**El Cardon**	**0.50**	**123**	⇑P	Pg	02 50 41.1	+0.5
MOM2				S	Sg	02 50 48.5	+1.3
COPN	**Copaltepe**	**0.62**	**149**	P	Pg	02 50 42.6	-0.2
LIMN	**Finca el Limon**	**0.64**	**57**	⇑P	Pg	02 50 43.7	+0.4
LIMN				S	Sg	02 50 52.6	+0.9
AMTN	**Mateare**	**0.67**	**135**	S	Sb	02 50 53.9	-0.9
AMTN	**Mateare**	**0.67**	**135**	P	Pg	02 50 44.2	+0.4
CSGN	**Cosiguina Volc**	**0.68**	**293**	⇑P	Pg	02 50 44.3	+0.3
APQ3	**Volcan Apoyequ**	**0.69**	**129**	P	Pg	02 50 44.5	+0.3
APQ3				S	Sb	02 50 54.7	-0.8
APYN	**Apoyeque**	**0.73**	**130**	P	Pg	02 50 45.8	-0.4
APYN				S	Sg	02 50 55.4	+0.9
APQ2	**Apoyeque**	**0.77**	**131**	P	Pg	02 50 46.4	+0.6
APQ2				S	Sb	02 50 57.4	-0.4
APQN	**BB Volcan Apoy**	**0.78**	**129**	P	Pg	02 50 45.3	-0.6
APQN	**BB Volcan Apoy**	**0.78**	**129**	S	Sg	02 50 56.2	+0.2
ABCN	**Banco Central**	**0.83**	**135**	P	Pg	02 50 47.2	+0.2
ABCN	**Banco Central**	**0.83**	**135**	S	Sb	02 50 58.8	-0.8
ALLN	**Telcor Managua**	**0.84**	**131**	P	Pg	02 50 47.4	+0.3
ALLN	**Telcor Managua**	**0.84**	**131**	S	Sb	02 50 59.2	-0.5
TISN	**Laguna Tiscapa**	**0.85**	**132**	P	Pg	02 50 46.4	-0.9
MGAN	**Managua**	**0.86**	**130**	P	Pg	02 50 47.3	-0.2
MGAN	**Managua**	**0.86**	**130**	S	Sg	02 50 59.2	+0.5
UNAN	**Cigeo UNAN**	**0.87**	**133**	P	Pg	02 50 47.6	-0.1
UNAN				S	Sb	02 50 59.9	-0.7
WILN	**Americas 2**	**0.90**	**127**	P	Pg	02 50 47.8	-0.4
WILN				S	Sb	02 51 01.0	-0.5
AERN	**Aeropuerto Man**	**0.92**	**127**	S	Sb	02 51 01.6	-0.6
MATN	**Matagalpa**	**0.99**	**77**	S	Sg	02 51 02.8	-0.2
MATN	**Matagalpa**	**0.99**	**77**	⇑P	Pg	02 50 48.6	-1.5
MAS3	**Al N del Volca**	**0.99**	**133**	P	Pg	02 50 49.3	-0.8
MAS3				S	Sg	02 51 03.4	+0.4
MASN	**Masaya**	**1.04**	**134**	P	Pg	02 50 49.8	-1.1
SABN	**Sabanita**	**1.05**	**135**	P	Pg	02 50 48.3	-2.9
CNCH	**Conchagua**	**1.05**	**302**	P	Pg	02 50 51.2	-0.1
NANN	**Nandasmo**	**1.09**	**134**	P	Pg	02 50 52.0	0.0
NANN	**Nandasmo**	**1.09**	**134**	S	Sb	02 51 07.2	+0.2
LCND	**La Caada**	**1.12**	**302**	P	Pg	02 50 51.8	-0.7
RCVN	**Varillal2**	**1.12**	**39**	S	Sb	02 51 07.7	-0.3
RCVN	**Varillal2**	**1.12**	**39**	⇓P	Pg	02 50 51.8	-0.7
RCPN	**Sur Rio San Ju**	**1.14**	**45**	⇓P	Pg	02 50 52.4	-0.5
NADN	**Granada**	**1.29**	**138**	P	Pg	02 50 54.4	-1.3
NADN				S	Sg	02 51 12.6	+0.1
TGUH	**Tegucigalpa,Un**	**1.38**	**346**	⇓P	Pn	02 50 56.9	-0.3
TGUH				S	Sg	02 51 15.3	-0.2
MORN	**Al O del Volca**	**1.70**	**133**	P	Pn	02 51 01.8	+0.4
MORN				S	Sb	02 51 24.6	+0.1
CONN	**Concepcion**	**1.70**	**132**	P	Pn	02 51 01.1	-0.3
OMEN	**Al SSO del Vol**	**1.74**	**133**	P	Pn	02 51 01.9	0.0
PAVA	**Las Pavas**	**2.21**	**297**	P	Pn	02 51 09.7	+1.2
PAVA				S	Sb	02 51 38.5	-0.8

*HEL **20** 02:53:32.0±0.3, 67°.17N×20°.49E, h0km, ML1.6, Suspected explosion*
*UPP **20** 02:53:32.3±0.1, 67°.20N×20°.68E, h0km, ML2.0, Confirmed Induced event*
*IDC **20** 02:53:33.4±1.1, 67°.19N×20°.98E, h0km, mbtmp2.8/4, ML2.0/4, Error ellipse: s-maj=18.3km s-min=8.8km az=103.0*
ISC 20 02:53:32.4±0.8,**67°.19N**±0°.02×**20°.67E**±0°.03,**h0**km,**n37**,
σ0°.85/56,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**208**	P	**Pg**	**02 53 34.2**	**+0.4**
DUNU				S	**Sg**	**02 53 35.4**	**+0.5**
RATU	**Laukkuluspa**	**0.76**	**327**	P	**Pg**	**02 53 46.6**	**-0.3**
RATU				S	**Sg**	**02 53 56.9**	**+0.3**
KUA	**Kurravaara**	**0.78**	**351**	P	**Pg**	**02 53 46.8**	**-0.4**
SALU	**Saltoluokta**	**0.86**	**284**	P	**Pg**	**02 53 48.5**	**-0.2**
SALU	**Saltoluokta**	**0.86**	**284**	*e*P	**Pg**	**02 53 48.6**	**-0.2**
ERTU	**Ertsjaerv**	**0.88**	**136**	P	**Pg**	**02 53 48.6**	**-0.6**
ERTU	**Ertsjaerv**	**0.88**	**136**	PG	**Pg**	**02 53 48.4**	**-0.8**
ERTU				SB	**Sg**	**02 54 01.5**	**+1.0**
NIKU	**Nikkaluokta**	**0.92**	**318**	P	**Pg**	**02 53 49.6**	**-0.5**
PAJU	**Pajala**	**0.97**	**99**	P	**Pg**	**02 53 50.5**	**-0.5**
PAJU	**Pajala**	**0.97**	**99**	PG	**Pg**	**02 53 50.3**	**-0.7**
	baz=283						
PAJU				SN	**Sn**	**02 54 07.6**	**-0.1**
LANU	**Lannavaara**	**1.00**	**30**	P	**Pg**	**02 53 50.9**	**-0.5**
LANU	**Lannavaara**	**1.00**	**30**	PB	**Pg**	**02 53 51.0**	**-0.5**
LANU				SB	**Sb**	**02 54 05.8**	**-0.4**
HARU	**Harads**	**1.04**	**173**	P	**Pg**	**02 53 51.4**	**-0.8**
KOVU	**Salmi**	**1.05**	**350**	P	**Pg**	**02 53 51.8**	**-0.7**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**02 54 02.8**	**-0.1**
HEF	**Hetta**	**1.67**	**42**	PG	**Pn**	**02 54 02.5**	**-0.3**
	baz=222						
HEF				MSG		02 54 23.6	
	comp=Z,4.0nm,0.2s						
HEF				SN	**Sb**	**02 54 25.0**	**-0.4**
KALU	**Kalix**	**1.72**	**140**	PG	**Pn**	**02 54 03.4**	**-0.1**
KALU				SN	**Sg**	**02 54 27.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.82**	**2**	PG	**Pn**	**02 54 05.6**	**+0.7**
KIF				MSG		02 54 28.0	
	comp=Z,7.7nm,0.2s						
KIF				SG	**Sg**	**02 54 31.8**	**+1.0**
TOF	**Tornio**	**1.84**	**126**	PG	**Pn**	**02 54 05.5**	**+0.4**
TOF				MSG		02 54 28.2	
	comp=Z,3.3nm,0.2s						
TOF				SN	**Sg**	**02 54 31.1**	**-0.2**
KTK1	**Kautokeino**	**2.07**	**27**	PG	**Pb**	**02 54 09.7**	**-1.0**
KTK1				SG	**Sb**	**02 54 37.3**	**+0.4**
RNF	**Rovaniemi**	**2.19**	**103**	PG	**Pn**	**02 54 10.9**	**+1.0**
RNF				SG	**Sb**	**02 54 41.0**	**+0.6**
TRO	**Tromso**	**2.54**	**346**	PG	**Pb**	**02 54 17.5**	**-1.2**
BURU	**Burvik**	**2.64**	**173**	PG	**Pn**	**02 54 17.0**	**+0.9**
BURU				SG	**Sn**	**02 54 50.0**	**+1.3**
RANF	**Ranua**	**2.71**	**113**	PN	**Pn**	**02 54 17.6**	**+0.5**
	baz=297						
RANF				SG	**Sb**	**02 54 55.7**	**+0.2**
ARA0	**ARCESS Array S**	**2.96**	**35**	PB	**Pn**	**02 54 21.8**	**+1.2**
ARA0				SB	**Sb**	**02 55 02.3**	**-0.3**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**02 54 20.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=25						
ARCES				Sn	**Sn**	**02 54 56.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=215,slow=23,SNR=11						
	comp=Z,0.7nm,0.3s						
OBF4	**Vikkela, Lumij**	**3.00**	**141**	PG	**Pb**	**02 54 25.3**	**-1.3**
OBF4				MSG		02 55 00.9	
	comp=Z,1.0nm,0.2s						
OUL	**Oulu**	**3.00**	**132**	PG	**Pb**	**02 54 25.0**	**-1.6**
	baz=313						
RAJF	**Raja-Jooseppi**	**3.17**	**63**	PB	**Pn**	**02 54 25.5**	**+2.1**
UMAU	**Umeaa**	**3.32**	**180**	PB	**Pn**	**02 54 26.1**	**+0.6**
KEV	**Kevo**	**3.48**	**39**	PN	**Pn**	**02 54 28.6**	**+0.9**
KEV				SN	**Sn**	**02 55 10.2**	**+0.8**
OLKF	**Oulanka, Finla**	**3.57**	**100**	PN	**Pn**	**02 54 29.8**	**+0.8**
MSF	**Maaselka**	**3.59**	**107**	PG	**Pb**	**02 54 38.0**	**+1.5**
KU6	**Riekki**	**3.86**	**103**	PN	**Pn**	**02 54 33.5**	**+0.6**
KU6				SN	**Sn**	**02 55 20.3**	**+1.4**
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**02 55 06.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=8.0						
FINES				Pg	**Pb**	**02 55 19.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=3.4						
FINES				Sn	**Sn**	**02 56 16.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=348,slow=24,SNR=1.9						
FINES				Lg	Lg	02 56 46.4	
	comp=Z,0.2nm,0.3s,baz=339,slow=27,SNR=1.9						
	comp=Z,0.5nm,0.4s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**02 55 22.5**	**+0.6**
	baz=32,slow=10,SNR=1.4						
	comp=Z,1.1nm,1.1s						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**02 55 25.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=0.9						
	comp=Z,1.0nm,0.8s						

*IDC **20** 02:52:39.4±3.6, 22°.70S×178°.07W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=170.0km s-min=47.7km az=150.0*
*NEIC **20** 02:53:39.9±1.6, 23°.63S±0°.08×179°.4W±0°.2, h538km±15km, mb4.2/9, Error ellipse: s-maj=33.0km s-min=10.6km az=84.0*
ISC 20 02:53:38.3±1.5,**23°.6S**±0°.2×**179°.1W**±0°.2,**h550**km,**n22**,
σ0°.68/22,**mb4.0**/9,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.41**	**335**	P	**P**	**02 55 21.9**	**+1.0**
FUTU	**Fugatoga**	**9.29**	**6**	P	**P**	**02 55 49.2**	**+0.1**
QRZ	**Quartz Range**	**18.56**	**200**	P	**P**	**02 57 22.0**	**+0.9**
EIDS	**Eidsvold**	**27.17**	**260**	P	**P**	**02 58 37.5**	**-0.7**
EIDS				IAmb	IAmb	02 59 08.8	
	comp=Z,16nm,1.4s						
TOO	**Toolangi**	**33.30**	**237**	P	**P**	**02 59 31.2**	**+0.4**
TOO				IAmb	IAmb	02 59 57.9	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**35.60**	**248**	P	**P**	**02 59 50.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=100,slow=11,SNR=2.8						
	comp=Z,0.8nm,0.3s						
BBOO	**Buckleboo**	**40.32**	**247**	P	**P**	**03 00 27.5**	**-1.0**
AS31	**Alice Springs**	**42.89**	**260**	P	**P**	**03 00 48.5**	**-0.4**
ASAR	**Alice Springs**	**42.89**	**260**	P	**P**	**03 00 48.8**	**-0.2**
ASAR	**Alice Springs**	**42.89**	**260**	P	**P**	**03 00 48.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=97,slow=7.5,SNR=27						
	comp=Z,2.6nm,0.8s						
WR8	**Warramunga Arr**	**43.09**	**266**	P	**P**	**03 00 49.9**	**-0.7**
WR8				IAmb	IAmb	03 01 23.5	
	comp=Z,6.8nm,1.4s						
WB0	**Warramunga Arr**	**43.24**	**266**	P	**P**	**03 00 50.9**	**-0.8**
WB0

KNRA Kununurra 16.12 216 Pn 03 09 05.5 -1.2
KNRA IAmb IAmb 03 09 27.8
comp=Z,7.9nm,0.7s
BATI Baumata 16.58 243 Pn **P 03 09 16.1 +1.4**
comp=Z,6.0nm,0.3s,baz=102,slow=4.5,SNR=2.7
GUMO Guam 17.33 21 LR LR 03 15 53.3
comp=Z,34nm,19.9s,baz=57,slow=37
WB0 Warramunga Arr 17.46 193 P **Pn 03 09 23.3 -0.3**
WB0 IAmb IAmb 03 09 55.2
comp=Z,22nm,1.4s
WR8 Warramunga Arr 17.62 193 P **Pn 03 09 25.1 -0.4**
WRA Warramunga Arr 17.65 193 P **Pn 03 09 24.8 -1.0**
comp=Z,0.6nm,0.3s,baz=15,slow=12,SNR=13
WRA S **Sn 03 12 32.5 -9.1**
comp=Z,1.0nm,0.9s,baz=6.3,slow=24,SNR=3.1
comp=Z,1.2nm,0.3s
FITZ Fitzroy Crossi 19.88 219 P **P 03 09 50.7 -0.3**
comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=2.6
comp=Z,2.1nm,0.9s
AS31 Alice Springs 21.34 192 P **P 03 10 06.7 -0.2**
AS31 IAmb IAmb 03 10 22.2
comp=Z,3.9nm,0.8s
ASAR Alice Springs 21.34 192 P **P 03 10 07.0 +0.1**
ASAR Alice Springs 21.34 192 P **P 03 10 06.5 -0.4**
comp=Z,3.8nm,0.8s,baz=20,slow=9.8,SNR=26
ASAR S **S 03 14 01.6 -0.8**
comp=Z,0.8nm,0.7s,baz=15,slow=24,SNR=4.9
comp=Z,3.8nm,0.8s
NWAO Narrogin (SRO) 36.13 211 LR LR 03 28 25.9
comp=Z,130nm,19.8s,baz=134,slow=38
JNU Nakatsue 36.34 349 LR LR 03 27 28.2
comp=Z,19nm,19.3s,baz=168,slow=37
KSRS Korea Array 41.14 347 P **P 03 13 03.4 -0.1**
comp=Z,1.0nm,0.8s,baz=167,slow=8.6,SNR=5.8
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 44.30 300 P **P 03 13 30.2 +0.8**
comp=Z,1.4nm,0.3s,baz=121,slow=5.3,SNR=4.4
comp=Z,1.4nm,0.3s
URZ Urewera 49.93 140 LR LR 03 36 08.0
comp=Z,66nm,18.3s,baz=198,slow=37
MKAR Makanchi Array 69.68 322 P **P 03 16 29.2 +0.4**
MKAR Makanchi Array 69.68 322 P **P 03 16 29.1 +0.2**
comp=Z,1.2nm,0.6s,baz=116,slow=8.0,SNR=8.4
comp=Z,1.2nm,0.6s
MAKZ Makanchi 69.87 322 P **P 03 16 30.3 +0.2**
BOOM Boomskoye usch 72.03 316 P **P 03 16 43.9 +0.4**
BOOM IAmb IAmb 03 16 45.4
comp=Z,2.1nm,0.8s
KURBB Kurchatov Arra 73.62 325 P **P 03 16 51.9 -0.5**
comp=Z,0.5nm,0.7s,baz=118,slow=5.1,SNR=4.0
comp=Z,0.5nm,0.7s
ABKAR Akbulak array 84.60 320 P **P 03 17 52.4 -0.1**
ILAR Eielson Array 85.87 24 P **P 03 17 58.0 -0.5**
comp=Z,0.6nm,0.6s,baz=258,slow=4.4,SNR=11
comp=Z,0.6nm,0.6s
QSPA South Pole Qui 87.27 180 P **P 03 18 09.0 +3.5**
comp=Z,0.9nm,0.8s,baz=281,slow=1.8,SNR=7.4
comp=Z,0.9nm,0.8s
PB11 IPOC Station P 144.43 130 PKPdf **PKPdf 03 24 56.4 -0.1**

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*IDC **20** 03:35:21.2±8.1, 7°.70S×128°.32E, h183km±88km, mb3.4/3, mbtmp4.1/6, Error ellipse: s-maj=99.5km s-min=32.8km az=43.0*

ISC 20 03:35:22.1±1.3, 7°.99S±0°.09×128°.3E±0°.1, h200km, n7, σ1°73/10, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.05**	**244**	P	**Pn**	**03 36 38.6**	**+1.3**
	45nm,0.4s,baz=283,slow=3.5,SNR=15						
BATI				S	**Sn**	**03 37 34.4**	**-2.1**
	76nm,0.4s,baz=326,slow=23,SNR=14						
FITZ	**Fitzroy Crossi**	**10.37**	**194**	P	**Pn**	**03 37 48.2**	**+2.1**
	7.0nm,0.5s,baz=32,slow=10.0,SNR=33						
FITZ				S	**Sn**	**03 39 42.5**	**+0.6**
	7.4nm,0.3s,baz=268,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**13.26**	**154**	P	**P**	**03 38 26.6**	**+0.9**
	1.7nm,0.5s,baz=335,slow=11,SNR=21						
WRA				S	**S**	**03 40 48.0**	**-2.8**
	4.3nm,0.4s,baz=332,slow=22,SNR=15						
ASAR	**Alice Springs**	**16.50**	**162**	P	Pn	03 39 08.8	+6.2
	7.6nm,0.5s,baz=341,slow=11,SNR=190						
ASAR				S	**Sn**	**03 42 07.5**	**-0.8**
	1.4nm,0.4s,baz=315,slow=16,SNR=7.0						
MKAR	**Makanchi Array**	**68.13**	**328**	P	**P**	**03 46 00.0**	**-0.5**
	0.3nm,0.6s,baz=119,slow=9.0,SNR=2.1						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**71.72**	**335**	P	**P**	**03 46 21.6**	**-0.7**
	0.7nm,0.5s,baz=115,slow=6.7,SNR=3.8						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.47**	**329**	P	**P**	**03 46 26.6**	**-0.1**
	1.3nm,0.6s,baz=130,slow=5.2,SNR=16						
	1.3nm,0.6s						

RSNC 20 03:36:24.1±0.0, 4°N±1°×7°6W±°, h101km±2km, M1.8, ML1.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.50**	**190**	P	Pn	03 36 40.0	-0.2
YOTC				S	Sn	03 36 52.7	+0.5
GUY2C	**Guyana, Caldas**	**1.16**	**50**	P	Pn	03 36 47.0	+0.1
GUY2C				S	Sn	03 37 03.7	-0.3
ORTC	**Ortega, Tolima**	**1.16**	**119**	P	Pn	03 36 46.0	-0.4
ORTC				S	Sn	03 37 02.8	-0.5
CBOC	**Ciudad Bolivar**	**1.40**	**10**	P	Pn	03 36 49.8	+0.4
CBOC				S	Sn	03 37 09.2	+0.8
PRAC	**Prado**	**1.57**	**119**	P	Pn	03 36 51.0	-0.3
PRAC				S	Sn	03 37 11.8	-0.2
PRAC	**Prado**	**1.57**	**119**	P	Pn	03 36 51.0	-0.3
PRAC				S	Sn	03 37 12.2	+0.2
HELC	**Santa Helena**	**1.85**	**23**	P	Pn	03 36 55.3	+0.1
HELC				S	Sn	03 37 19.0	+0.2
POPC	**Popayan, Colom**	**1.97**	**192**	P	Pn	03 36 55.7	-0.9
POPC				S	Sn	03 37 20.1	-1.3
BOG	**Bogota**	**2.19**	**86**	P	Pn	03 36 52.0	-7.5
BOG				S	Sn	03 37 12.9	-14
URMC	**La Uribe, Meta**	**2.24**	**123**	P	Pn	03 36 59.4	-0.5
URMC				S	Sn	03 37 26.6	-0.8
URMC	**La Uribe, Meta**	**2.24**	**123**	P	Pn	03 36 59.5	-0.4
URMC				S	Sn	03 37 26.2	-1.2
DBBC	**Dabeiba**	**2.52**	**1**	P	Pn	03 36 59.0	-4.6
PTBC	**PUERTO BERRIO,**	**2.72**	**41**	P	Pn	03 37 06.3	+0.1
PTBC				S	Sn	03 37 38.3	-0.3
FLOC	**Florencia**	**2.94**	**168**	P	Pn	03 37 08.0	-1.2
FLOC				S	Sn	03 37 43.4	-0.5

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*IDC **20** 04:11:16.1±1.1, 5°.80S×148°.42E, h0km, mb3.9/6, mbtmp4.0/8, ML4.5/1, MS3.1/4, Error ellipse: s-maj=61.5km s-min=19.2km az=108.0*

ISC 20 04:11:24.0±1.0, 5°.9S±0°.1×148°.2E±0°.3, h60km, n10, σ0°85/10, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.60**	**196**	Pn	**Pn**	**04 12 17.6**	**+0.2**
	51nm,0.4s,baz=14,slow=6.4,SNR=16						
PMG				Sn	**Sn**	**04 12 57.3**	**-1.4**
	35nm,0.3s,baz=185,slow=19,SNR=20						
PMG				LR	LR	04 14 04.0	
	comp=Z,315nm,18.9s,baz=8.0,slow=44						
JAY	**Jayapura**	**8.19**	**294**	LR	LR	04 16 38.3	
	comp=Z,96nm,19.6s,baz=302,slow=38						
WRA	**Warramunga Arr**	**19.37**	**223**	P	**Pn**	**04 15 47.0**	**+0.4**
	1.4nm,0.3s,baz=50,slow=11,SNR=43						
	4.8nm,0.5s						
ASAR	**Alice Springs**	**22.36**	**216**	P	**P**	**04 16 18.2**	**+1.0**
	3.8nm,0.7s,baz=57,slow=9.3,SNR=39						
ASAR				S	**S**	**04 20 18.7**	**-0.6**
	0.7nm,0.7s,baz=32,slow=24,SNR=4.9						
ASAR				LR	LR	04 25 01.5	
	comp=Z,61nm,19.0s,baz=118,slow=36						
	3.8nm,0.7s						
STKA	**Stephens Creek**	**26.54**	**193**	P	**P**	**04 16 56.2**	**-0.1**
	1.4nm,0.8s,baz=41,slow=14,SNR=2.2						
	1.4nm,0.8s						
JCJ	**Chichijima**	**33.34**	**350**	LR	LR	04 29 15.4	
	comp=Z,41nm,21.8s,baz=134,slow=32						
PETK	**Petropavlovsk-**	**59.36**	**7**	P	**P**	**04 21 19.4**	**-0.5**
	0.8nm,0.5s,baz=151,slow=5.9,SNR=6.3						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**79.58**	**328**	P	**P**	**04 23 24.4**	**-0.1**
	0.5nm,0.3s,baz=126,slow=7.3,SNR=2.5						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**04 23 49.0**	**+1.0**
	1.7nm,0.9s,baz=310,slow=1.5,SNR=7.8						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**84.96**	**23**	P	**P**	**04 23 52.0**	**-0.4**
	0.4nm,0.7s,baz=259,slow=5.5,SNR=3.4						
	0.4nm,0.7s						

IDC 20 04:21:23.0±2.6, 2°.08S×133°.28E, h0km, mb3.6/2, mbtmp3.6/4, ML3.7/2, MS3.6/1, Error ellipse: s-maj=97.2km s-min=28.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.59**	**205**	P	Pn	04 25 30.1	+0.3
	0.3nm,0.3s,baz=26,slow=14,SNR=8.1						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**17.78**	**177**	P	Pn	04 25 31.9	-0.2
	0.2nm,0.3s,baz=355,slow=12,SNR=5.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**21.47**	**178**	P	P	04 26 13.3	0.0
	0.9nm,0.5s,baz=6.1,slow=12,SNR=17						
	0.9nm,0.5s						
LEM	**Lembang**	**26.01**	**259**	LR	LR	04 39 34.4	
	comp=Z,115nm,18.6s,baz=94,slow=42						
MKAR	**Makanchi Array**	**66.05**	**324**	P	P	04 32 11.7	0.0
	0.5nm,0.5s,baz=129,slow=8.0,SNR=2.9						
	0.5nm,0.5s						

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*NEIC **20** 04:26:32.1±2.1, 18°.34S±0°.09×172°.11W±0°.07, h10km±1km, mb5.0/152, Error ellipse: s-maj=16.8km s-min=7.6km az=30.0*

*IDC **20** 04:26:33.0±0.5, 18°.57S×172°.58W, h0km, mb4.6/17, mbtmp4.6/17, MS3.9/37, Error ellipse: s-maj=21.6km s-min=15.0km az=118.0*

*NOU **20** 04:26:33.1, 18°.24S×172°.07W, h14km, mb4.6/10, Tonga Islands Region*

*GCMT **20** 04:26:38.1±0.3, 18°.60S±0°.03×172°.28W±0°.02, h13km±1km, MW4.8/100, Moment Tensor Solution. s22, c25; s100, c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.34±.15; $M_{\theta\theta}$0.72±.09; $M_{\phi\phi}$1.62±.10; $M_{r\theta}$0.03±.24; $M_{\theta\phi}$0.75±.06; $M_{r\phi}$0.73±.24; Best double couple: M_0=2.30800×10^{16} NP1:ϕ_s=36.00000°, δ37.00000°, λ-79.00000°. NP2:ϕ_s=202.00000°, δ54.00000°, λ-98.00000°. Principal axes: T 2.1420, Plg8.0000°, Azm298.0000°; N 0.3350, Plg6.0000°, Azm207.0000°; P -2.4750, Plg79.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 04:26:37.3±0.3, 18°.48S±0°.05×172°.19W±0°.05, h35km, n278, σ2°33/219, mb4.9/88, MS4.0/38, 13D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.22**	**106**	Pn	**Pn**	**04 27 08.6**	**-3.1**
NIUE				Sn	**Sn**	**04 27 34.8**	**-3.1**
NIUE	**Niue**	**2.22**	**106**	P	**Pn**	**04 27 08.5**	**-3.2**
NIUE	**Niue**	**2.22**	**106**	P	**Pn**	**04 27 08.3**	**-3.4**
NIUE				S	**Sn**	**04 27 33.1**	**-4.8**
AFI	**Afiamalu**	**4.56**	**5**	Pn	Pn	04 27 38.5	-5.4
AFI	**Afiamalu**	**4.56**	**5**	P	**Pn**	**04 27 39.2**	**-4.7**
AFI	**Afiamalu**	**4.56**	**5**	S	**Sn**	**04 28 29.0**	**-6.8**
AFI	**Afiamalu**	**4.56**	**5**	P	Pn	04 27 38.8	-5.1
AFI				S	**Sn**	**04 28 28.0**	**-7.8**
MSVF	**Nonsavu**	**9.31**	**273**		**Pn**	**04 28 49.3**	**+0.1**
RAR	**Rarotonga**	**11.99**	**105**	Pn	**Pn**	**04 29 22.0**	**-3.8**
RAR	**Rarotonga**	**11.99**	**105**	Pn	**Pn**	**04 29 22.2**	**-3.6**
	4.3nm,0.3s,baz=242,slow=2.8,SNR=9.0						
RAR				LR	LR	04 32 54.7	
	comp=Z,818nm,18.5s,baz=275,slow=31						
RAR	**Rarotonga**	**11.99**	**105**	P	**Pn**	**04 29 23.0**	**-2.8**
MARNC	**Mare, Loyalty**	**18.83**	**258**	P	**P**	**04 30 49.8**	**-4.4**
MARNC	**Mare, Loyalty**	**18.83**	**258**	P	**P**	**04 30 52.8**	**-1.4**
PINNC	**Pines Island,**	**19.50**	**254**		**P**	**04 30 58.6**	**-3.0**
PINNC				IAmb	IAmb	04 31 01.3	
	comp=Z,76nm,0.9s						
SANVU	**Saraoutou**	**19.94**	**276**	P	**P**	**04 31 04.2**	**-2.1**
DZM	**Mont Dzumac**	**20.36**	**256**	P	**P**	**04 31 10.4**	**-0.6**
	comp=Z,27nm,0.8s,baz=88,slow=20,SNR=15						
ONTNC	**Ouen Toro**	**20.38**	**256**	P	**P**	**04 31 09.0**	**-2.1**
ONTNC				IAmb	IAmb	04 31 13.1	
	comp=Z,150nm,1.6s						
MXZ	**Matakaoa Point**	**20.76**	**202**	P	Pn	04 31 17.6	0.0
KUZ	**Kuaotunu**	**21.08**	**208**	P	**P**	**04 31 20.2**	**+1.7**
KUZ	**Kuaotunu**	**21.08**	**208**	P	**P**	**04 31 22.4**	**+3.9**
PKGZ	**Pakihiroa**	**21.11**	**202**	P	**P**	**04 31 22.4**	**+3.5**
HAZ	**Te Kaha**	**21.12**	**203**	P	**P**	**04 31 19.6**	**+0.6**
RUGZ	**Raukumara Rang**	**21.34**	**202**	P	**P**	**04 31 23.2**	**+1.8**
PPT2	**Papeete2**	**21.52**	**91**	*e*P	P	04 31 16.0	-7.5
	comp=Z,112nm,26.5s						
PPT2				*e*S	**S**	**04 35 19.6**	**-0.9**
	comp=Z,745nm,25.5s						
PPT2				*e*LR	LR	04 36 21.6	
	comp=Z,741nm,24.5s						
PPT2				*e*LR	LR	04 36 28.1	
	comp=Z,680nm,22.2s						
PPT	**Papeete**	**21.52**	**91**	LR	LR	04 37 19.0	
	comp=Z,387nm,20.3s,baz=258,slow=30						
TBI	**Tubuai**	**21.77**	**107**	*e*P	**P**	**04 31 22.1**	**-4.0**
	comp=Z,1μm,31.5s						
TBI				*e*S	**S**	**04 35 26.4**	**+1.3**
	comp=Z,2μm,27.8s						
TBI				*e*LR	LR	04 36 21.3	
	comp=Z,1μm,29.8s						
TBI				*e*LR	LR	04 36 23.7	
	comp=Z,5μm,27.8s						
URZ	**Urewera**	**21.81**	**203**	P	**P**	**04 31 24.9**	**-1.4**
	comp=Z,58nm,1.0s,baz=288,slow=8.6,SNR=15						
URZ				S	**S**	**04 35 16.1**	**-9.5**
	comp=Z,5.0nm,0.6s,baz=100,slow=19,SNR=2.6						
URZ				LR	LR	04 39 59.6	
	comp=Z,75nm,21.5s,baz=22,slow=37						
	comp=Z,58nm,1.0s						
URZ	**Urewera**	**21.81**	**203**	P	**P**	**04 31 27.1**	**+0.8**
URZ	**Urewera**	**21.81**	**203**	P	**P**	**04 31 27.5**	**+1.1**
TOZ	**Tahuroa Road**	**22.00**	**207**	P	**P**	**04 31 30.8**	**+2.4**
RAHZ	**Arahi**	**22.40**	**202**	P	**P**	**04 31 32.1**	**-0.7**
BKZ	**Black Stump Fm**	**22.83**	**203**	P	**P**	**04 31 38.9**	**+1.5**
BKZ	**Black Stump Fm**	**22.83**	**203**	P	**P**	**04 31 37.5**	**+0.1**
KWHZ	**Kaweka Forest**	**23.09**	**203**	P	**P**	**04 31 42.0**	**+2.1**
ETVZ	**East Tongariro**	**23.11**	**205**	P	**P**	**04 31 40.5**	**+0.2**
OTVZ	**Oturere**	**23.15**	**205**	P	**P**	**04 31 39.3**	**-1.4**
MRZ	**Mangatainoka R**	**24.48**	**203**	P	**P**	**04 31 54.7**	**+1.6**
MRZ				IAmb	IAmb	04 32 21.3	
	comp=Z,72nm,1.7s						
NNZ	**Nelson**	**25.82**	**206**	P	**P**	**04 32 08.3**	**+3.1**
TKNZ	**Takaka Hill**	**25.84**	**206**	P	**P**	**04 32 10.3**	**+4.9**
QRZ	**Quartz Range**	**25.85**	**207**	P	**P**	**04 32 07.5**	**+2.0**
BSWZ	**Blackbirch Sta**	**26.04**	**204**	P	**P**	**04 32 12.8**	**+5.6**
MRNZ	**Matariki Terra**	**26.22**	**206**	P	**P**	**04 32 13.3**	**+4.4**
THZ	**Tophouse**	**26.47**	**206**	P	**P**	**04 32 17.6**	**+6.4**
THZ				IAmb	IAmb	04 32 25.4	
	comp=Z,33nm,0.7s						
KHZ	**Kahutara**	**26.77**	**204**	P	P	04 32 21.2	+7.5
KHZ				IAmb	IAmb	04 32 25.9	
	comp=Z,30nm,0.8s						
KHZ	**Kahutara**	**26.77**	**204**	P	**P**	**04 32 15.6**	**+1.8**
DSZ	**Denniston Nort**	**26.91**	**207**	P	**P**	**04 32 19.9**	**+4.7**
GVZ	**Greta Valley S**	**27.43**	**204**	P	P	04 32 28.5	+8.7
LTZ	**Lake Taylor**	**27.58**	**205**		**P**	**04 32 26.9**	**+5.8**
INZ	**Inchbonnie**	**27.87**	**206**	P	**P**	**04 32 28.7**	**+5.1**
OXZ	**Oxford**	**28.12**	**205**	P	P	04 32 32.0	+6.0
HNR	**Honiara**	**28.46**	**285**	LR	LR	04 42 05.5	
	comp=Z,432nm,18.8s,baz=119,slow=33						
RPZ	**Rata Peaks**	**28.85**	**206**		P	04 32 39.5	+7.1
FOZ	**Fox Glacier**	**29.22**	**207**		P	04 32 41.5	+5.8
LBZ	**Lake Benmore**	**29.75**	**206**	P	P	04 32 46.9	+6.5
LBZ				IAmb	IAmb	04 32 53.0	
	comp=Z,49nm,1.2s						
TAOE	**Nuku Hiva Isla**	**32.52**	**77**	*e*LR	LR	04 41 28.3	
	comp=Z,495nm,26.3s						
EIDS	**Eidsvold**	**34.68**	**252**	P	**P**	**04 33 20.5**	**-3.3**
CTA	**Charters Tower**	**39.19**	**261**	LR	LR	04 48 18.1	
	comp=Z,7.7nm,20.3s,baz=50,slow=34						
PMG	**Port Moresby**	**40.39**	**277**	LR	LR	04 48 52.3	
	comp=Z,295nm,19.0s,baz=130,slow=34						
COEN	**Coen**	**43.02**	**269**	P	**P**	**04 34 31.2**	**-2.6**
STKA	**Stephens Creek**	**43.59**	**243**	P	**P**	**04 34 35.2**	**-3.0**
	comp=Z,6.7nm,1.0s,baz=85,slow=11,SNR=7.4						
STKA				LR	LR	04 50 21.3	
	comp=Z,102nm,21.5s,baz=38,slow=33						
	comp=Z,6.7nm,1.0s						
BBOO	**Buckleboo**	**48.34**	**242**	P	**P**	**04 35 13.5**	**-2.2**
WR8	**Warramunga Arr**	**50.19**	**259**		**P**	**04 35 26.9**	**-3.1**
WR8				IAmb	IAmb	04 35 32.4	
	comp=Z,24nm,1.3s						
AS31	**Alice Springs**	**50.33**	**254**	P	**P**	**04 35 29.2**	**-1.8**
AS31				IAmb	IAmb	04 35 31.8	
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**50.33**	**254**		**P**	**04 35 28.9**	**-2.1**
ASAR	**Alice Springs**	**50.33**	**254**	P	**P**	**04 35 28.2**	**-2.9**
	comp=Z,41nm,0.9s,baz=89,slow=7.8,SNR=69						
ASAR				LR	LR	04 56 02.9	
	comp=Z,156nm,18.4s,baz=104,slow=35						
	comp=Z,41nm,0.9s						
WRA	**Warramunga Arr**	**50.34**	**259**	P	**P**	**04 35 28.2**	**-2.9**
WRA	**Warramunga Arr**	**50.34**	**259**	P	**P**	**04 35 28.0**	**-3.2**
	comp=Z,8.6nm,0.8s,baz=96,slow=8.5,SNR=46						
WRA				LR	LR	04 55 34.3	
	comp=Z,177nm,19.1s,baz=102,slow=35						
	comp=Z,8.6nm,0.8s						
GUMO	**Guam**	**52.99**	**304**	LR	LR	04 55 18.7	
	comp=Z,69nm,21.9s,baz=136,slow=33						
MTN	**Manton Dam**	**54.69**	**267**	P	**P**	**04 36 00.8**	**-2.6**
MTN				IAmb	IAmb	04 36 03.4	
	comp=Z,9.8nm,0.8s						
RPN	**Rapa Nui**	**58.07**	**111**	LR	LR	04 54 45.8	
	comp=Z,202nm,20.8s,baz=323,slow=29						
SWI	**Sorong**	**58.15**	**281**	P	**P**	**04 36 26.8**	**-1.3**
	comp=Z,1μmcomp=Z,27nm,1.0s						
FITZ	**Fitzroy Crossi**	**58.76**	**260**	P	**P**	**04 36 30.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**58.76**	**260**	P	**P**	**04 36 30.8**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=151,slow=5.0,SNR=5.8						
FITZ				LR	LR	05 00 16.4	
	comp=Z,230nm,20.6s,baz=108,slow=35						
	comp=Z,1.8nm,0.5s						
SBA	**Scott Base**	**60.30**	**185**		**P**	**04 36 42.6**	**+0.6**
VNDA	**Vanda**	**60.45**	**186**	P	**P**	**04 36 43.8**	**+0.8**
VNDA	**Vanda**	**60.45**	**186**	P	**P**	**04 36 44.0**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=349,slow=6.7,SNR=8.6						
	comp=Z,2.3nm,0.9s						
SOEI	**Soe**	**61.98**	**269**	P	**P**	**04 36 54.6**	**+0.1**
JCJ	**Chichijima**	**63.33**	**315**	LR	LR	05 00 10.6	
	comp=Z,109nm,20.4s,baz=85,slow=32						
EDFI	**Ende, Flores**	**64.70**	**269**	P	**P**	**04 37 11.9**	**-0.6**
	comp=Z,15nm,1.3s						
JHJ	**Hachijo jima 2**	**68.82**	**318**	LR	LR	05 02 37.4	
	comp=Z,46nm,18.9s,baz=105,slow=32						
QSPA	**South Pole Qui**	**71.58**	**180**	P	**P**	**04 37 57.5**	**+2.7**
QSPA				IAmb	IAmb	04 37 58.6	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**71.58**	**180**	P	**P**	**04 37 57.0**	**+2.2**
	comp=Z,7.0nm,0.9s,baz=8.2,slow=1.6,SNR=14						
	comp=Z,7.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**71.90**	**351**	LR	LR	05 03 05.4	
	comp=Z,84nm,21.8s,baz=117,slow=30						
MJAR	**Matsushiro Arr**	**72.03**	**320**	P	**P**	**04 37 58.1**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=158,slow=5.4,SNR=7.0						
MJAR				LR	LR	05 04 15.4	
	comp=Z,99nm,21.0s,baz=142,slow=32						
	comp=Z,3.8nm,0.9s						
JOW	**Kunigami**	**73.23**	**306**	LR	LR	05 02 52.4	
	comp=Z,184nm,20.8s,baz=112,slow=30						
MTKI	**Muara Teweh, K**	**73.51**	**275**	P	**P**	**04 38 07.5**	**+0.4**
LPIG	**La Paz**	**73.69**	**57**	LR	LR	05 03 02.8	
	comp=Z,138nm,19.9s,baz=222,slow=30						
JNU	**Nakatsue**	**74.74**	**313**	LR	LR	05 06 25.6	
	comp=Z,40nm,20.8s,baz=138,slow=32						
ASAJ	**Asahikawa**	**74.75**	**328**	LR	LR	05 05 14.8	
	comp=Z,69nm,22.0s,baz=176,slow=31						
PIX	**Pinacate**	**75.14**	**49**	P	**P**	**04 38 17.4**	**+1.2**
WAKR	**Walker**	**75.20**	**40**	P	**P**	**04 38 19.4**	**+2.7**
WAKR				IAmb	IAmb	04 38 42.6	
	comp=Z,33nm,2.0s						
QSM	**Queen of Sheba**	**75.29**	**44**	P	**P**	**04 38 17.7**	**+0.8**
QSM				IAmb	IAmb	04 38 20.4	
	comp=Z,10nm,1.1s						
YBH	**Yreka Blue Hor**	**75.37**	**36**	LR	LR	05 05 56.3	
	comp=Z,10.0nm,19.4s,baz=248,slow=31						
IRM	**Iron Mountain**	**75.40**	**46**	P	**P**	**04 38 19.3**	**+1.6**
DSP	**Deep Springs**	**75.42**	**42**		**P**	**04 38 19.6**	**+2.0**
GWY	**Greenwater Val**	**75.56**	**44**	P	**P**	**04 38 20.5**	**+1.9**
GWY				IAmb	IAmb	04 38 29.8	
	comp=Z,18nm,1.8s						
113A	**Mohawk Valley,**	**75.58**	**48**	P	**P**	**04 38 20.2**	**+1.5**
113A				IAmb	IAmb	04 38 22.4	
	comp=Z,25nm,1.9s						
GRAC	**Grapevine Rang**	**75.58**	**43**	P	**P**	**04 38 20.5**	**+1.8**
GRAC				IAmb	IAmb	04 38 27.1	
	comp=Z,24nm,1.6s						
FURC	**Furnace Creek,**	**75.59**	**43**	P	**P**	**04 38 20.7**	**+2.1**
214A	**Organ Pipe Nat**	**75.82**	**49**	P	**P**	**04 38 21.5**	**+1.4**
NVAR	**Mina Array Bea**	**75.86**	**41**	P	**P**	**04 38 21.7**	**+1.3**
NVAR	**Mina Array Bea**	**75.86**	**41**	P	**P**	**04 38 23.2**	**+2.8**
	comp=Z,2.9nm,0.8s,baz=227,slow=10,SNR=11						
NVAR				LR	LR	05 06 35.1	
	comp=Z,142nm,20.2s,baz=270,slow=32						
	comp=Z,2.9nm,0.8s						
MTPC	**Mountain Pass**	**75.88**	**45**	P	**P**	**04 38 22.2**	**+1.6**
PETK	**Petropavlovsk-**	**75.90**	**342**	P	**P**	**04 38 21.4**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=120,slow=8.8,SNR=5.1						
	comp=Z,3.7nm,0.9s						
NV11	**Mina Array Sit**	**75.95**	**41**	P	**P**	**04 38 22.4**	**+1.5**
NV11				IAmb	IAmb	04 38 24.5	
	comp=Z,11nm,1.2s						
NEE2	**Needles Airpor**	**76.11**	**46**	P	**P**	**04 38 23.9**

comp=Z,18nm,1.4s
TCUT Toone Canyon 81.74 42 P P 04 38 54.9 +2.2
TCUT IAmb IAmb 04 38 56.4
comp=Z,13nm,0.9s
PV18 Skein Mesa, Pa 81.85 45 P 04 38 55.5 +2.2
PV18 IAmb IAmb 04 38 57.1
comp=Z,21nm,1.1s
PV20 West Nyswonger 81.86 45 P P 04 38 56.0 +2.6
PV20 IAmb IAmb 04 38 57.1
comp=Z,25nm,1.2s
ALPN Alpine 81.87 54 P P 04 38 55.6 +2.0
PV16 Nyswonger Mesa 81.88 45 P P 04 38 52.7 -0.8
PV16 IAmb IAmb 04 38 57.3
comp=Z,14nm,1.4s
PV23 Carpenter Ridg 81.89 45 P P 04 38 54.8 +1.2
PV23 IAmb IAmb 04 40 59.6
comp=Z,24nm,1.1s
PV03 Paradox Valley 81.89 45 IAmb IAmb 04 38 57.4
comp=Z,12nm,1.3s
PV11 David Mesa, Pa 81.90 45 P P 04 38 55.7 +2.2
PV11 IAmb IAmb 04 38 58.1
comp=Z,14nm,1.0s
ANMO Albuquerque 81.91 49 P 04 38 55.5 +1.8
ANMO Albuquerque 81.91 49 LR LR 05 09 51.3
comp=Z,117nm,19.7s,baz=334,slow=32
PV04 Paradox Valley 81.93 45 P P 04 38 55.6 +1.9
PV04 IAmb IAmb 04 40 36.5
comp=Z,8.0nm,1.0s
PV12 Saucer Basin, 81.96 45 P P 04 38 55.7 +1.8
PV12 IAmb IAmb 04 38 58.5
comp=Z,24nm,1.2s
PV01 Paradox Valley 82.02 46 P P 04 38 55.7 +1.4
PV07 Paradox Valley 82.12 45 P P 04 38 56.1 +1.3
PV07 IAmb IAmb 04 38 58.6
comp=Z,12nm,1.4s
PECS Pecos 82.14 53 P P 04 38 56.7 +1.8
PECS IAmb IAmb 04 38 59.5
comp=Z,15nm,1.4s
PV15 Paradox Valley 82.19 45 P P 04 38 57.9 +2.8
PV15 IAmb IAmb 04 38 58.7
comp=Z,7.4nm,1.0s
H03S2 Juan Fernandez 82.55 123 T T 06 09 52.4
baz=251,slow=75,SNR=118
H03S1 Juan Fernandez 82.56 123 T T 06 09 53.4
baz=251,slow=75,SNR=94
H03S3 Juan Fernandez 82.56 123 T T 06 09 52.1
baz=251,slow=75,SNR=75
NEW Newport 82.60 34 LR LR 05 10 56.8
comp=Z,145nm,18.6s,baz=222,slow=32
H03N2 Juan Fernandez 82.66 123 T T 06 09 55.7
baz=257,slow=72,SNR=90
H03N3 Juan Fernandez 82.66 123 T T 06 09 57.0
baz=257,slow=72,SNR=61
H03N1 Juan Fernandez 82.68 123 T T 06 09 55.9
baz=257,slow=72,SNR=57
SAND Sanderson 82.86 55 IAmb IAmb 04 39 02.2
comp=Z,8.8nm,1.1s
NJ2 Nanjing 82.94 307 *e*P **P 04 39 03.3 +4.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
MNHN Monahans 82.98 54 IAmb IAmb 04 39 02.7
comp=Z,5.6nm,0.9s
DLMT Dillon 83.38 38 IAmb IAmb 04 39 04.4
comp=Z,6.0nm,0.9s
SNOW Snow King Moun 83.43 40 IAmb IAmb 04 39 04.9
comp=Z,8.1nm,0.8s
LOHW Long Hollow 83.60 40 IAmb IAmb 04 39 05.6
comp=Z,13nm,1.4s
BW06 Boulder Array 83.79 41 IAmb IAmb 04 39 06.1
comp=Z,5.0nm,0.8s
PD31 Pinedale Array 83.79 41 IAmb IAmb 04 39 06.1
comp=Z,5.1nm,0.8s
PDAR Pinedale Array 83.79 41 P P 04 39 05.4 +2.1
PDAR Pinedale Array 83.79 41 P P 04 39 05.1 +1.8
comp=Z,4.1nm,0.7s,baz=212,slow=3.2,SNR=41
PDAR LR LR 05 12 24.0
comp=Z,61nm,20.4s,baz=230,slow=33
comp=Z,4.1nm,0.7s
DRIO Del Rio 83.81 56 P 04 39 05.8 +2.4
DRIO IAmb IAmb 04 39 07.2
comp=Z,13nm,1.1s
CMIG Matias Romero 83.83 70 LR LR 05 07 18.8
comp=Z,90nm,20.7s,baz=184,slow=29
M26K Nabesna, AK 83.86 13 IAmb IAmb 04 39 08.4
comp=Z,6.6nm,1.0s
YHB Horse Butte 83.87 39 P P 04 39 06.2 +2.6
YHB IAmb IAmb 04 39 07.6
comp=Z,11nm,1.0s
YHL Hebgen Lake 83.93 39 P 04 39 05.8 +1.8
SDCO Great Sand Dun 83.93 47 IAmb IAmb 04 39 07.9
comp=Z,11nm,1.4s
M27K Edge Creek, AK 84.06 14 IAmb IAmb 04 39 07.3
comp=Z,13nm,1.1s
O30N Mendenhall 84.15 17 IAmb IAmb 04 39 07.2
comp=Z,6.1nm,0.9s
833A Chaparral WMA, 84.33 58 P P 04 39 07.4 +1.3
POST Post 84.69 53 IAmb IAmb 04 39 12.3
comp=Z,23nm,1.5s
BCAR Beaver Creek A 84.71 13 P P 04 39 09.2 +2.0
YNE Yellowstone No 84.71 39 P P 04 39 08.7 +0.7
YNE IAmb IAmb 04 39 11.6
comp=Z,7.3nm,1.2s
WRH Wood River Hil 84.75 10 IAmb IAmb 04 39 09.8
comp=Z,14nm,1.2s
HNDO Hondo 84.92 57 P P 04 39 11.4 +2.4
CCB Clear Creek Bu 84.96 10 P P 04 39 09.1 +0.7
CCB IAmb IAmb 04 39 10.6
comp=Z,10nm,1.2s
COLA College 85.17 10 P P 04 39 10.3 +0.9
COLA IAmb IAmb 04 39 16.9
comp=Z,14nm,1.1s
SN07 Snyder 07 85.17 53 IAmb IAmb 04 39 13.6
comp=Z,25nm,1.5s
ILAR Eielson Array 85.24 11 P P 04 39 10.6 +0.8
ILAR Eielson Array 85.24 11 P P 04 39 10.9 +1.2
comp=Z,1.1nm,0.9s,baz=205,slow=5.3,SNR=8.0
ILAR LR LR 05 10 04.1
comp=Z,29nm,21.0s,baz=106,slow=31
comp=Z,1.1nm,0.9s
MAW Mawson 85.25 198 P P 04 39 08.8 -1.2
comp=Z,3.6nm,0.8s,baz=139,slow=8.7,SNR=4.2
comp=Z,3.6nm,0.8s
J25K Salcha River, 85.36 11 IAmb IAmb 04 39 13.1
comp=Z,6.7nm,1.1s
DKNS Dickens 85.39 52 IAmb IAmb 04 39 17.5
comp=Z,17nm,1.2s
J26L Joseph Creek 85.61 12 IAmb IAmb 04 39 15.1
comp=Z,8.1nm,1.0s
SEY Seymchan 85.78 345 P P 04 39 13.7 +1.2
comp=Z,3.0nm,0.8s,baz=157,slow=7.2,SNR=7.9
SEY LR LR 05 12 43.8
comp=Z,33nm,19.7s,baz=140,slow=32
comp=Z,3.0nm,0.8s
M31M Drury Creek, Y 85.80 17 IAmb IAmb 04 39 15.5
comp=Z,20nm,1.7s
APMT Aspermont 85.85 53 P 04 39 14.7 +1.1
BRDY Brady 85.86 55 P 04 39 16.0 +2.2
BRDY IAmb IAmb 04 39 17.2
comp=Z,14nm,1.3s
ABTX Abilene, Hawle 85.92 54 P P 04 39 16.2 +2.2
DAWY Dawson 86.11 14 IAmb IAmb 04 39 17.2
comp=Z,8.8nm,1.0s
PRP Porcupine Dome 86.16 11 IAmb IAmb 04 39 17.4
comp=Z,9.0nm,1.2s
EGAK Eagle 86.34 13 IAmb IAmb 04 39 20.1
comp=Z,17nm,1.5s
PLCA Paso Flores 86.60 132 LR LR 05 09 36.0
comp=Z,103nm,20.2s,baz=223,slow=30
I30M Mount Dempster 87.79 14 IAmb IAmb 04 39 25.3
comp=Z,12nm,1.2s
X34A Smith Ranch, M 88.11 53 P P 04 39 27.3 +2.7
IPM Ipoh 88.36 275 P P 04 39 27.7 +1.4
TROLL Troll, Antarti 89.67 178 ⇓P **P 04 39 31.2 -0.2**
comp=Z,239nm,0.9s
TGUH Tegucigalpa,Un 89.68 75 P P 04 39 33.7 +1.2
TGUH IAmb IAmb 04 41 28.0
comp=Z,11nm,1.1s
VNA3 Neumayer Olymp 89.70 174 ⇓P **P 04 39 31.0 -0.5**
comp=Z,3.4nm,0.8s
CO02 Combarbal 89.73 123 P P 04 39 34.5 +2.0
SNAA Sanae 89.78 177 ⇓P **P 04 39 31.6 -0.3**
comp=Z,74nm,1.0s
SNAA Sanae 89.78 177 P 04 39 31.6 -0.3
SNAA Sanae 89.78 177 P P 04 39 31.8 -0.1
comp=Z,3.0nm,0.9s,baz=180,slow=2.3,SNR=12
comp=Z,3.0nm,0.9s
VNA2 Neumayer--Watz 90.20 175 ⇓P **P 04 39 33.8 0.0**
comp=Z,5.2nm,0.7s,baz=176,slow=3.9
VNA1 Neumayer--Stat 90.40 175 ⇓P **P 04 39 34.1 -0.6**
comp=Z,5.6nm,0.9s
JTS Las Juntas de 90.62 79 LR LR 05 10 51.4
comp=Z,94nm,19.6s,baz=270,slow=29
ATAH Atahualpa 91.34 98 LR LR 05 12 22.3
comp=Z,121nm,18.6s,baz=265,slow=30
HHC Hu-ho-hao-te 91.96 312 *e*P **P 04 39 43.9 +1.4**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.3s
YAK Yakutsk 92.39 336 LR LR 05 13 58.0
comp=Z,29nm,21.8s,baz=120,slow=31
ECSD EROS Data Cent 92.62 45 P 04 39 47.6 +2.2
ECSD IAmb IAmb 04 39 48.3
comp=Z,10nm,1.1s
R40A Maddies Statio 93.65 51 P 04 39 52.6 +2.4
CMAR Chiang Mai Arr 94.67 288 P P 04 39 57.5 +2.1
CMAR Chiang Mai Arr 94.67 288 P P 04 39 58.0 +2.7
comp=Z,1.9nm,0.7s,baz=107,slow=2.0,SNR=6.6
PZH PanZhiHua 94.68 296 P P 04 39 58.8 +3.4
FVM French Village 94.91 52 P 04 39 57.6 +1.5
FVM IAmb IAmb 04 39 59.1
comp=Z,10nm,1.0s
ULM Lac du Bonnet 95.59 39 LR LR 05 19 21.4
comp=Z,112nm,18.4s,baz=250,slow=33
LPAZ La Paz 97.68 110 LR LR 05 13 47.4
comp=Z,137nm,21.6s,baz=232,slow=29
TKL Tuckaleechee C 99.29 56 LR LR 05 21 02.2
comp=Z,53nm,20.1s,baz=256,slow=33
AKASG Malin Array Be 143.61 337 PKP PKPbc 04 46 06.8 +1.1
comp=Z,0.6nm,0.6s,baz=38,slow=3.6,SNR=4.1
AKBB Malin Array Si 143.61 337 PKP PKPdf 04 46 08.7 +0.4
KMBO Kilima Mbogo 145.10 239 PKP PKPab 04 46 12.7 +0.7
comp=Z,6.2nm,0.5s,baz=106,slow=5.3,SNR=7.5
KMPD K-Podol'skiy 146.40 337 PKP PKPbc 04 46 14.4 -0.1
KMPD PKP PKPdf 04 46 14.2 +1.0
KWP Kalwaria Pacla 146.69 342 PKP PKPdf 04 46 14.6 +0.9
STNU Starunia 146.95 340 PKP PKPdf 04 46 15.1 +0.9
CLL Collm 146.99 354 *i* PKiKP **PKPab 04 46 17.6 0.0**
comp=Z,17nm,0.9s
STHS Stebnicka Huta 147.29 344 *e*PKP **PKiKP 04 46 24.5 +5.1**
OSTC Ostas 147.30 350 *e*PKP **PKPab 04 46 19.2 +0.3**
BRG Berggiesshubel 147.31 353 *e*PKP **PKPab 04 46 19.1 +0.2**
BRG Amp 04 46 19.9
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 147.31 353 P PKiKP 04 46 25.1 +5.8
BRG Amp 04 46 33.9
comp=Z,6.3nm,1.1s
BRG PP **PP 04 49 40.7 -1.2**
BRG Amp 04 49 42.6
comp=Z,7.0nm,1.5s
UPC Upice 147.38 350 *e*PKP **PKPab 04 46 19.5 +0.3**
DPC Dobruska-Polom 147.48 350 *e*PKP **PKPab 04 46 20.0 +0.4**
STEB Steborice 147.62 348 *e*PKP **PKiKP 04 46 19.7 -0.3**
MORC Moravsky Berou 147.81 348 *e*PKP **PKiKP 04 46 20.4 -0.1**
MEM Membach 147.91 2 *d*PKP **PKiKP 04 46 20.1 -0.5**
BSTI Sart Tilman 147.92 3 *d*PKP **PKPbc 04 46 18.0 -0.7**
BTNL Ternell 147.94 2 *d*PKP **PKPbc 04 46 19.9 +1.1**
LANS Liptovska Anna 147.99 346 *e*PKP **PKiKP 04 46 21.0 +0.1**
BGES Gesves 148.09 3 *d*PKP **PKPbc 04 46 20.5 +1.3**
PRU Pruhonice 148.11 352 *e*PKP **PKiKP 04 46 21.0 0.0**
MAUC Maruska 148.15 348 *e*PKP **PKiKP 04 46 21.5 +0.3**
BMRD Maredsous 148.16 4 *d*PKP **PKiKP 04 46 21.3 +0.2**
BHOU Houvengnez 148.17 2 *d*PKP **PKiKP 04 46 21.3 +0.2**
DOU Dourbes 148.35 4 *d*PKP **PKiKP 04 46 21.7 +0.2**
VRAC Vranov 148.44 349 *e*PKP **PKiKP 04 46 22.0 +0.3**
JAVC Velka Javorina 148.66 347 *e*PKP **PKiKP 04 46 23.7 +1.4**
ZVC Zvikov 148.69 352 *e*PKP **PKiKP 04 46 22.6 +0.4**
ZVC *ex* x 04 46 33.9
KRUC Moravsky 148.71 349 *e*PKP **PKiKP 04 46 22.6 +0.3**
WLF Walferdange 148.86 2 *d*PKP **PKiKP 04 46 23.1 +0.6**
KHC Kasperske Hory 149.07 353 *e*PKP **PKiKP 04 46 23.7 +0.6**
MODS Modra-Piesok 149.21 348 *e*PKP **PKiKP 04 46 24.6 +1.2**
BRTR Keskin Array B 149.25 319 PKPbc **PKiKP 04 46 24.1 +0.2**
comp=Z,4.3nm,0.9s,baz=132,slow=1.8,SNR=29
GERES GERESS Array B 149.34 352 PKPbc **PKiKP 04 46 24.4 +0.6**
comp=Z,2.0nm,0.8s,baz=33,slow=3.7,SNR=17
CONA Conrad Observa 149.90 349 *i* PKP **PKiKP 04 46 25.8 +0.9**
comp=Z,13nm,1.4s
RONA Rosalia, Austr 150.04 348 *i* PKP **PKiKP 04 46 26.0 +0.9**
comp=Z,8.1nm,1.0s
MOA Molln 150.24 351 *i* PKP **PKiKP 04 46 26.0 +0.5**
comp=Z,7.4nm,1.6s
BIOA Bad Ischl, Aus 150.48 352 *e*pPKP **PKiKP 04 46 26.4 +0.4**
comp=Z,5.4nm,1.2s
LESA Schwarzleotal 150.86 353 *e*PKP **PKiKP 04 46 27.3 +0.4**
comp=Z,12nm,2.0s
WATA Walderalm 151.06 355 *e*PKP **PKiKP 04 46 27.8 +0.5**
comp=Z,7.0nm,1.0s
MOTA Moosalm 151.09 355 *e*PKP **PKiKP 04 46 28.1 +0.6**
comp=Z,9.4nm,1.0s,SNR=7.0
WTTA Wattenberg 151.12 355 *e*PKP **PKiKP 04 46 28.2 +0.7**
comp=Z,5.4nm,0.8s
SQTA Sankt Quirin 151.20 355 *i* PKP **PKiKP 04 46 28.4 +0.7**
comp=Z,4.3nm,0.8s
DAVA Damuels 151.22 357 *e*PKP **PKiKP 04 46 28.6 +0.8**
comp=Z,7.3nm,1.0s
MMAI Mount Meron Ar 151.35 306 PKPbc **PKPbc 04 46 28.4 +0.5**
comp=Z,1.9nm,0.6s,baz=277,slow=2.3,SNR=2.1
FETA Feichten 151.44 356 *e*PKP **PKiKP 04 46 29.1 +0.9**
comp=Z,5.4nm,0.9s,SNR=5.8
ABTA Abfaltersbach 151.54 353 *e*PKP **PKiKP 04 46 28.9 +0.5**
comp=Z,11nm,0.9s,SNR=11

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*BJI **20** 04:32:01.7, 18°.37S×172°.01W, h5km, mB5.2/7, mb4.9/13, Ms4.6/3, Ms7 4.4/3*
*NEIC **20** 04:32:02.6±1.5, 18°.68S±0°.04×172°.2W±0°.1, h10km±1km, mb5.0/65, Error ellipse: s-maj=18.2km s-min=5.8km az=73.0*
*IDC **20** 04:32:03.1±0.6, 18°.68S×172°.54W, h0km, mb4.4/15, mbtmp4.5/16, ML4.3/1, Error ellipse: s-maj=24.5km s-min=15.5km az=135.0*
*GCMT **20** 04:32:09.6±0.4, 18°.74S±0°.04×172°.23W±0°.03, h19km±1km, MW4.9/74, Moment Tensor Solution. s15,c16; s74,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.60±.20; $M_{\theta\theta}$=1.06±.12; $M_{\phi\phi}$=1.54±.14; $M_{r\theta}$=-1.18±.30; $M_{\theta\phi}$=0.67±.07; $M_{\phi r}$=-0.21±.29; Best double couple: M_0=2.56100×10^{16} NP1:ϕ_S=206.00000°, δ35.00000°, λ-111.00000°. NP2: ϕ_S=51.00000°, δ57.00000°, λ-76.00000°. Principal axes: T 2.1750, Plg11.0000°, Azm131.0000°; N 0.7730, Plg12.0000°, Azm223.0000°; P -2.9480, Plg74.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 04:32:03.2±0.4, 18°.81S±0°.09×172°.28W±0°.06, h10km, n158, σ1§48/130, mb4.9/52, 5C-8D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.24**	**97**	Pn	**Pn**	**04 32 38.3**	**-2.2**
MSVF	**Nonsavu**	**9.25**	**275**		**Pn**	**04 34 17.6**	**+0.8**
RAR	**Rarotonga**	**12.00**	**104**	Pn	**Pn**	**04 34 51.9**	**-2.5**
RAR	**Rarotonga**	**12.00**	**104**	Pn	**Pn**	**04 34 51.7**	**-2.7**
4.6nm,0.3s,baz=140,slow=2.5,SNR=9.8							
MARNC	**Mare, Loyalty**	**18.68**	**259**	P	**P**	**04 36 20.1**	**-1.5**
PINNC	**Pines Island,**	**19.34**	**255**		**P**	**04 36 27.6**	**-1.2**
PINNC				IAmb	IAmb	04 36 29.9	
comp=Z,141nm,1.1s							
DZM	**Mont Dzumac**	**20.20**	**257**	P	**P**	**04 36 38.7**	**+0.3**
comp=Z,0.8nm,0.3s,baz=80,slow=19,SNR=16							
comp=Z,32nm,0.8s							
ONTNC	**Ouen Toro**	**20.21**	**256**	P	**P**	**04 36 38.2**	**-0.2**
ONTNC				IAmb	IAmb	04 36 43.9	
comp=Z,92nm,1.2s							
URZ	**Urupera**	**21.47**	**203**	P	**P**	**04 36 55.0**	**+3.1**
comp=Z,21nm,0.7s,baz=10,slow=6.0,SNR=8.2							
URZ				S	S	04 40 41.6	-8.5
comp=Z,3.3nm,0.8s,baz=184,slow=19,SNR=1.4							
comp=Z,21nm,0.7s							
PPT2	**Papeete2**	**21.60**	**90**	*e*S	**S**	**04 40 50.5**	**-2.6**
comp=Z,420nm,25.0s							
PPT2				*e*LR	LR	04 41 58.8	
comp=Z,490nm,22.8s							
PPT2				*e*LR	LR	04 42 05.6	
comp=Z,476nm,25.2s							
TBI	**Tubuai**	**21.76**	**106**	*e*LR	LR	04 42 04.7	
comp=Z,1μm,39.8s							
TBI				*e*LR	LR	04 42 09.9	
comp=Z,4μm,30.2s							
BKZ	**Black Stump Fm**	**22.50**	**203**		**P**	**04 37 04.0**	**+1.0**
TAOE	**Nuku Hiva Isla**	**32.68**	**77**	*e*LR	LR	04 47 06.2	
comp=Z,228nm,22.7s							
EIDS	**Eidsvold**	**34.49**	**252**	P	**P**	**04 38 49.9**	**-1.8**
EIDS				IAmb	IAmb	04 38 52.1	
comp=Z,28nm,1.4s							
ARMA	**Armidale**	**34.65**	**244**	P	**P**	**04 38 53.9**	**+0.8**
ARMA				IAmb	IAmb	04 38 56.5	
comp=Z,37nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**42.43**	**330**	T	T	05 25 36.5	
baz=147,slow=76,SNR=5.7							
H11S3	**WAKE ISLAND Hy**	**42.44**	**330**	T	T	05 25 35.8	
baz=147,slow=76,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**42.44**	**330**	T	T	05 25 36.6	
baz=147,slow=76,SNR=4.5							
COEN	**Coen**	**42.92**	**270**		**P**	**04 40 00.0**	**-2.6**
STKA	**Stephens Creek**	**43.37**	**243**		**P**	**04 40 05.2**	**-0.7**
STKA	**Stephens Creek**	**43.37**	**243**	P	**P**	**04 40 05.2**	**-0.7**
comp=Z,10nm,1.0s,baz=85,slow=7.9,SNR=6.7							
comp=Z,10nm,1.0s							
H11N3	**WAKE ISLAND Hy**	**43.39**	**331**	T	T	05 26 17.2	
baz=150,slow=76,SNR=19							
H11N1	**WAKE ISLAND Hy**	**43.39**	**331**	T	T	05 26 12.7	
baz=150,slow=76,SNR=43							
H11N2	**WAKE ISLAND Hy**	**43.41**	**331**	T	T	05 26 19.0	
baz=150,slow=76,SNR=21							
INKA	**Innaminka**	**43.84**	**249**	P	**P**	**04 40 09.5**	**-0.3**
INKA				IAmb	IAmb	04 40 10.8	
comp=Z,14nm,0.9s							
BBOO	**Buckleboo**	**48.11**	**243**	P	**P**	**04 40 43.2**	**-0.3**
WR8	**Warramunga Arr**	**50.04**	**259**		**P**	**04 40 56.9**	**-1.6**
AS31	**Alice Springs**	**50.16**	**255**		**P**	**04 40 58.4**	**-0.9**
AS31				IAmb	IAmb	04 40 59.7	
comp=Z,16nm,0.9s							
ASAR	**Alice Springs**	**50.16**	**255**		**P**	**04 40 58.2**	**-1.1**
ASAR	**Alice Springs**	**50.16**	**255**	P	**P**	**04 40 58.7**	**-0.6**
comp=Z,44nm,0.8s,baz=86,slow=8.6,SNR=182							
ASAR				S	**S**	**04 48 05.9**	**-5.5**
comp=Z,0.8nm,0.9s,baz=96,slow=14,SNR=5.1							
comp=Z,44nm,0.8s							
WRA	**Warramunga Arr**	**50.19**	**259**		**P**	**04 40 57.7**	**-1.9**
WRA	**Warramunga Arr**	**50.19**	**259**	P	**P**	**04 40 57.9**	**-1.7**
comp=Z,9.5nm,0.7s,baz=96,slow=8.6,SNR=7.3							
comp=Z,9.5nm,0.7s							
MTN	**Manton Dam**	**54.58**	**267**		**P**	**04 41 30.1**	**-2.2**
MTN				IAmb	IAmb	04 41 33.0	
comp=Z,15nm,0.8s							
FORT	**Forrest**	**54.90**	**245**	P	**P**	**04 41 34.3**	**0.0**
FORT				IAmb	IAmb	04 41 35.5	
comp=Z,13nm,0.8s							
KNRA	**Kununurra**	**56.18**	**263**		**P**	**04 41 43.6**	**-0.2**
KNRA				IAmb	IAmb	04 41 43.6	
comp=Z,14nm,0.9s							
FITZ	**Fitzroy Crossi**	**58.61**	**260**		**P**	**04 42 00.5**	**-0.4**
FITZ				IAmb	IAmb	04 42 04.6	
comp=Z,14nm,1.9s							
FITZ	**Fitzroy Crossi**	**58.61**	**260**	P	**P**	**04 42 00.6**	**-0.4**
comp=Z,2.1nm,0.6s,baz=121,slow=3.6,SNR=9.4							
comp=Z,2.1nm,0.6s							
SBA	**Scott Base**	**59.96**	**185**		**P**	**04 42 10.3**	**+1.0**
VNDA	**Vanda**	**60.12**	**186**	P	**P**	**04 42 11.9**	**+1.6**
VNDA	**Vanda**	**60.12**	**186**	P	**P**	**04 42 12.7**	**+2.4**
comp=Z,0.9nm,0.9s,baz=29,slow=6.2,SNR=5.4							
comp=Z,0.9nm,0.9s							
TNTI	**Ternate**	**62.34**	**281**	P	**P**	**04 42 26.1**	**-0.3**
PSA00	**Pilbara Seismi**	**63.30**	**255**		**P**	**04 42 32.3**	**-0.5**
PSA00	**Pilbara Seismi**	**63.30**	**255**		**P**	**04 42 32.0**	**-0.8**
PSA00				IAmb	IAmb	04 42 34.6	
comp=Z,16nm,1.3s							
MBWA	**Marble Bar**	**63.49**	**255**		**P**	**04 42 33.3**	**-0.7**
TOLI2	**Tolitoli**	**68.60**	**279**	P	**P**	**04 43 06.3**	**-0.7**
TOLI2				IAmb	IAmb	04 43 11.1	
comp=Z,15nm,1.0s							
QSPA	**South Pole Qui**	**71.25**	**180**	P	P	04 43 28.1	+5.5
QSPA				IAmb	IAmb	04 43 34.2	
comp=Z,8.8nm,1.3s							
QSPA	**South Pole Qui**	**71.25**	**180**	P	P	04 43 28.3	+5.7
comp=Z,4.0nm,1.1s,baz=62,slow=2.5,SNR=8.2							
MYLDM	**Lahad Datu**	**72.18**	**282**	P	**P**	**04 43 28.4**	**-0.5**
MJAR	**Matsushiro Arr**	**72.22**	**320**	P	**P**	**04 43 28.4**	**-0.2**
MJAR				IAmb	IAmb	04 44 43.8	
comp=Z,21nm,1.8s							
MJAR	**Matsushiro Arr**	**72.22**	**320**	P	**P**	**04 43 28.9**	**+0.3**
comp=Z,3.5nm,1.1s,baz=158,slow=5.8,SNR=6.1							
comp=Z,3.5nm,1.1s							
QSM	**Queen of Sheba**	**75.59**	**44**	IAmb	IAmb	04 46 36.3	
comp=Z,5.0nm,0.6s							
NVAR	**Mina Array Bea**	**76.16**	**41**	P	**P**	**04 43 54.3**	**+2.4**
comp=Z,1.8nm,0.8s,baz=224,slow=9.0,SNR=7.1							
comp=Z,1.8nm,0.8s							
PETK	**Petropavlovsk-**	**76.19**	**342**	P	**P**	**04 43 51.7**	**+0.3**
comp=Z,2.4nm,0.8s,baz=106,slow=11,SNR=4.0							
comp=Z,2.4nm,0.8s							
NV11	**Mina Array Sit**	**76.26**	**41**	IAmb	IAmb	04 44 36.8	
comp=Z,23nm,1.9s							
TPH	**Tonopah**	**76.62**	**42**	IAmb	IAmb	04 43 57.0	
comp=Z,8.2nm,1.2s							
PRN	**Pahroc Range**	**77.62**	**43**		**P**	**04 44 01.1**	**+1.0**
X16A	**Lo Mia Camp, P**	**78.39**	**47**		**P**	**04 44 05.9**	**+1.5**
KSRS	**Korea Array**	**79.33**	**316**	P	**P**	**04 44 11.3**	**+2.1**
comp=Z,3.2nm,1.1s,baz=141,slow=6.0,SNR=7.9							
comp=Z,3.2nm,1.1s							
KSAR	**Wonju Array Be**	**79.35**	**316**		**P**	**04 44 09.4**	**0.0**
BELA	**Belgrano 2**	**80.49**	**172**	P	**P**	**04 44 17.1**	**+2.1**
MNTX	**Cornudas Mount**	**81.42**	**52**		**P**	**04 44 22.0**	**+1.3**
HLID	**Hailey**	**81.59**	**38**	P	**P**	**04 44 22.8**	**+1.2**
TXAR	**Lajitas Array**	**81.64**	**55**		**P**	**04 44 23.4**	**+1.3**
TXAR	**Lajitas Array**	**81.64**	**55**	P	**P**	**04 44 24.9**	**+2.9**
comp=Z,2.2nm,0.9s,baz=223,slow=9.1,SNR=18							
TXAR				PKKP	**PKKPdf**	**05 02 46.4**	**+0.2**
comp=Z,0.4nm,1.0s,baz=125,slow=0.6,SNR=4.7							
comp=Z,2.2nm,0.9s							
TCUT	**Toone Canyon**	**82.04**	**42**	IAmb	IAmb	04 44 26.8	
comp=Z,7.7nm,0.8s							
H03S2	**Juan Fernandez**	**82.44**	**123**	T	T	06 15 20.9	
baz=250,slow=75,SNR=63							
H03S1	**Juan Fernandez**	**82.46**	**123**	T	T	06 15 23.5	
baz=250,slow=75,SNR=56							
H03S3	**Juan Fernandez**	**82.46**	**123**	T	T	06 15 22.5	
baz=250,slow=75,SNR=52							
H03N2	**Juan Fernandez**	**82.56**	**123**	T	T	06 15 28.8	
baz=257,slow=72,SNR=55							
H03N3	**Juan Fernandez**	**82.56**	**123**	T	T	06 15 30.1	
baz=257,slow=72,SNR=51							
H03N1	**Juan Fernandez**	**82.58**	**123**	T	T	06 15 28.7	
baz=257,slow=72,SNR=25							
NJ2	**Nanjing**	**83.06**	**307**	*e*P	**P**	**04 44 30.1**	**+0.8**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
MCMT	**McKenzie Canyo**	**83.24**	**38**	P	**P**	**04 44 31.5**	**+1.2**
DLMT	**Dillon**	**83.70**	**38**	IAmb	IAmb	04 47 22.1	
comp=Z,28nm,1.9s							
SNOW	**Snow King Moun**	**83.73**	**40**	IAmb	IAmb	04 44 35.9	
comp=Z,14nm,1.4s							
DRIO	**Del Rio**	**84.07**	**56**	IAmb	IAmb	04 44 37.6	
comp=Z,6.2nm,1.0s							
PD31	**Pinedale Array**	**84.10**	**41**	P	**P**	**04 44 35.1**	**+0.5**
PDAR	**Pinedale Array**	**84.10**	**41**	P	**P**	**04 44 35.6**	**+1.0**
comp=Z,2.9nm,0.8s,baz=215,slow=3.3,SNR=26							
comp=Z,2.9nm,0.8s							
BOZ	**Bozeman (W)**	**84.39**	**38**	IAmb	IAmb	04 44 37.9	
comp=Z,6.7nm,1.1s							
M27K	**Edge Creek, AK**	**84.40**	**14**	IAmb	IAmb	04 44 37.7	
comp=Z,17nm,1.2s							
YNE	**Yellowstone No**	**85.02**	**39**	P	**P**	**04 44 40.9**	**+1.6**
YNE				IAmb	IAmb	04 44 42.8	
comp=Z,8.3nm,1.3s							
WRH	**Wood River Hil**	**85.09**	**10**		**P**	**04 44 39.0**	**+0.2**
IL31		**85.57**	**11**	IAmb	IAmb	04 44 42.5	
comp=Z,17nm,1.6s							
ILAR	**Eielson Array**	**85.57**	**11**	P	**P**	**04 44 41.7**	**+0.4**
ILAR	**Eielson Array**	**85.57**	**11**	P	**P**	**04 44 41.0**	**-0.2**
comp=Z,1.2nm,0.9s,

K29M	Barlow Dome	86.70	15		P	P	04 44 47.2 +0.2
K29M				IAmb	IAmb		04 44 48.5
comp=Z,11nm,1.2s							
I30M	Mount Dempster	88.12	14		P	P	04 44 54.4 +0.6
I30M				IAmb	IAmb		04 44 55.5
comp=Z,9.7nm,1.1s							
BMAR	Burnt Mountain	88.39	10	P	P	P	04 44 56.1 +1.2
HNS	HongShan	88.48	310	⇓P	P	P	04 44 45.1 -11
HNS				pmax	pmax		
comp=Z,36nm,0.9s							
BJI	Beijing	88.58	313	P	P	P	04 44 52.3 -4.1
BJI				pmax	pmax		
comp=Z,6.0nm,0.7s							
TROLL	Troll, Antarti	89.34	178	⇑P	P	P	04 45 01.4 +1.7
comp=Z,118nm,0.8s							
VNA3	Neumayer Olymp	89.38	174	⇑P	P	P	04 45 01.1 +1.3
comp=Z,1.8nm,0.8s							
SNAA	Sanae	89.46	177	⇑P	P	P	04 45 02.1 +1.9
comp=Z,38nm,0.9s							
SNAA	Sanae	89.46	177	P	P	P	04 45 02.4 +2.2
SNAA	Sanae	89.46	177	P	P	P	04 45 01.8 +1.6
comp=Z,1.2nm,0.8s,baz=219,slow=4.6,SNR=11							
comp=Z,1.2nm,0.8s							
SYO	Syowa Base	89.48	191	⇓eP	P	P	04 44 58.7 -1.5
VNA2	Neumayer--Watz	89.89	175	⇑P	P	P	04 45 04.7 +2.6
comp=Z,2.8nm,0.6s,baz=182,slow=3.9							
VNA1	Neumayer--Stat	90.08	175	⇑P	P	P	04 45 05.7 +2.7
comp=Z,2.9nm,0.9s							
GYA	Guiyang	90.57	298	⇓P	P	P	04 45 09.3 +3.0
GYA				pmax	pmax		
comp=Z,11nm,1.5s							
HHC	Hu-ho-hao-te	92.11	313	eP	P	P	04 45 14.8 +1.7
HHC				pmax	pmax		
comp=Z,11nm,0.7s							
HHC				pmax	pmax		
comp=Z,130nm,4.4s							
R40A	Maddies Statio	93.93	51	IAmb	IAmb		04 45 23.7
comp=Z,9.4nm,1.0s							
CMAR	Chiang Mai Arr	94.68	288	P	P	P	04 45 26.2 +1.0
CMAR	Chiang Mai Arr	94.68	288	P	P	P	04 45 28.1 +2.8
comp=Z,1.3nm,0.3s,baz=83,slow=3.0,SNR=7.4							
PZH	PanZhiHua	94.74	296	P	P	P	04 45 26.8 +1.3
WMQ	Urumqi	109.91	311	Pdif	Pdif	P	04 46 35.3 +2.5
AKASG	Malin Array Be	143.88	337	PKP	PKPdf	P	04 51 37.2 -1.5
comp=Z,0.3nm,0.4s,baz=41,slow=3.3,SNR=4.6							
AK18	Malin Array Si	143.92	337	PKP	PKPdf	P	04 51 39.3 +0.5
RNPP8	Varash	144.52	340	PKP	PKPdf	P	04 51 40.0 +0.2
RNPP5	Staryi Chortor	144.60	340	PKP	PKPdf	P	04 51 40.4 +0.5
KMBO	Kilima Mbogo	144.86	239	PKP	PKPdf	P	04 51 43.1 +1.2
comp=Z,2.3nm,0.3s,baz=156,slow=3.9,SNR=7.4							
LUBAR	Lubar, Ukraine	145.06	337	PKP	PKPdf	P	04 51 40.4 -0.4
KMPD	K-Podol'skiy	146.66	337	PKP	PKPbc	P	04 51 44.5 -0.6
CLL	Collm	147.30	354	i PKiKP	PKiKP	P	04 51 48.0 -1.2
comp=Z,18nm,1.0s							
OSTC	Ostas	147.61	350	ePKP	PKiKP	P	04 51 49.7 -0.2
BRG	Berggiesshubel	147.63	353	ePKP	PKiKP	P	04 51 49.4 -0.5
BRG				Amp			04 51 50.3
comp=Z,9.3nm,1.0s							
DPC	Dobruska-Polom	147.79	350	ePKP	PKPab	P	04 51 49.8 -0.9
STEB	Steborice	147.92	348	ePKP	PKPab	P	04 51 50.2 -1.0
MORC	Moravsky Berou	148.11	348	ePKP	PKPab	P	04 51 51.0 -1.0
BSTI	Sart Tilman	148.25	3	dPKP	PKiKP	P	04 51 50.7 -0.5
BTNL	Ternell	148.27	2	dPKP	PKiKP	P	04 51 50.0 -1.3
LANS	Liptovska Anna	148.28	345	ePKP	PKPab	P	04 51 54.3 +1.6
PRU	Pruhonice	148.42	352	ePKP	PKPab	P	04 51 51.6 -1.5
MAUC	Maruska	148.45	347	ePKP	PKPab	P	04 51 52.0 -1.3
BNN	Bunyan	148.49	315		PKiKP	P	04 51 52.1 -0.1
BHOU	Houvegnez	148.50	2	dPKP	PKPab	P	04 51 52.7 -0.8
ILGA	Ilgaz	148.60	320		PKiKP	P	04 51 51.6 -0.9
DOU	Dourbes	148.69	4	dPKP	PKPab	P	04 51 52.2 -2.0
VRAC	Vranov	148.74	349	ePKP	PKPab	P	04 51 52.5 -2.0
JAVC	Velka Javorina	148.96	347	ePKP	PKPab	P	04 51 54.3 -1.2
ZVC	Zvikov	149.00	352	ePKP	PKiKP	P	04 51 53.0 +0.2
KRUC	Moravsky	149.02	349	ePKP	PKiKP	P	04 51 53.0 +0.2
WLF	Walferdange	149.19	2	dPKP	PKPab	P	04 51 54.0 -2.3
KHC	Kasperske Hory	149.38	352	ePKP	PKiKP	P	04 51 54.4 +0.8
BRTR	Keskin Array B	149.44	318	PKPbc	PKiKP	P	04 51 54.5 +0.3
comp=Z,5.7nm,0.9s,baz=129,slow=1.8,SNR=35							
MODS	Modra-Piesok	149.50	347	ePKP	PKPab	P	04 51 55.1 -2.5
GERES	GERESS Array B	149.65	352	PKPbc	PKiKP	P	04 51 54.3 0.0
comp=Z,2.7nm,0.9s,baz=29,slow=3.0,SNR=16							
CONA	Conrad Observa	150.21	349	ePKiKP	PKiKP	P	04 51 56.1 +0.6
comp=Z,9.0nm,1.0s,SNR=7.3							
RONA	Rosalia, Austr	150.34	348	ePKiKP	PKiKP	P	04 51 56.3 +0.6
comp=Z,4.7nm,0.9s,SNR=5.5							
MOA	Molln	150.54	351	ePKiKP	PKiKP	P	04 51 56.7 +0.6
comp=Z,3.1nm,0.9s							
BIOA	Bad Ischl, Aus	150.79	352	ePKP	PKPab	P	04 52 03.7 +0.7
comp=Z,5.4nm,1.1s							
LESA	Schwarzleotal	151.17	353	ePKiKP	PKiKP	P	04 51 58.1 +0.7
comp=Z,3.7nm,1.0s							
RETA	Reutte	151.29	356	ePKiKP	PKiKP	P	04 51 58.1 +0.4
comp=Z,7.6nm,1.1s							
WATA	Walderalm	151.37	355	i PKiKP	PKiKP	P	04 51 58.3 +0.4
comp=Z,6.4nm,0.8s							
MOTA	Moosalm	151.40	355	ePKiKP	PKiKP	P	04 51 58.3 +0.3
comp=Z,7.0nm,1.3s,SNR=6.2							
KBA	Koelnbreinsper	151.43	352	ePKP	PKiKP	P	04 51 58.0 -0.2
comp=Z,1.8nm,0.6s							
WTTA	Wattenberg	151.44	354	ePKiKP	PKiKP	P	04 51 58.7 +0.6
comp=Z,16nm,1.2s,SNR=5.5							
SQTA	Sankt Quirin	151.52	355	i PKiKP	PKiKP	P	04 51 59.0 +0.8
comp=Z,14nm,1.3s							
DAVA	Damuels	151.54	357	ePKiKP	PKiKP	P	04 51 59.3 +1.0
comp=Z,9.2nm,1.1s							
SOKA	Soboth	151.56	349	ePKP	PKiKP	P	04 51 58.3 +0.1
comp=Z,5.4nm,0.8s							
FETA	Feichten	151.75	356	i PKiKP	PKiKP	P	04 51 59.7 +0.9
comp=Z,7.3nm,1.0s							
MYKA	Terra Mystica	151.83	351	ePKP	PKiKP	P	04 51 58.9 0.0
comp=Z,4.8nm,1.0s							
ABTA	Abfaltersbach	151.86	353	ePKP	PKiKP	P	04 51 59.0 +0.1
comp=Z,10.0nm,0.9s,SNR=5.0							

*HLW **20** 04:32:32.8, 27°.53N×34°.11E, h23km±2km, Ml2.4*
*SGS **20** 04:32:33.7, 27°.63N×34°.47E, h3km, Ml1.6*
*GII **20** 04:32:34.6±0.0, 27°.313N±0°.004×34°.573E±0°.002, h1km, Mws2.6, confirmed*

ISC 20 04:32:29.6±0.9, 27°.40N±0°.03×34°.39E±0°.03, h12km, n27, σ1§34/28, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.72	327	P	Pg	04 32 42.7	-0.8
HHRG	Al Ghardaqah	0.75	256	P	Pn	04 32 45.6	-0.6
HHRG				S	Sg	04 32 54.4	+0.2
RSHS		0.96	22	P	Pg	04 32 47.5	-0.7
RSHS		0.96	22	S	Sg	04 32 57.6	-3.1
MWLHS	Almuwaylih	1.05	71	P	Pn	04 32 51.3	+1.1
MWLHS	Almuwaylih	1.05	71	S	Sg	04 33 04.2	+0.5
AYUS	`Aynunah	1.10	45	P	Pb	04 32 50.7	+0.1
AYUS	`Aynunah	1.10	45	S	Sb	04 33 03.0	-2.0
HKAT	Jabal Katrina	1.17	343	P	Pb	04 32 50.8	-1.2
BDAS	Al Bad'	1.20	31	P	Pn	04 32 51.4	-0.9
WTBKS	WTBKS	1.51	63	P	Pg	04 32 58.3	-0.3
WTBKS	WTBKS	1.51	63	S	Sn	04 33 16.2	-0.1
DESA	DESA	1.58	86	P	Pg	04 33 00.2	+0.2
JLOS		1.65	36	P	Pn	04 32 58.5	0.0
HAQS	Haql	1.71	16	P	Pg	04 33 05.5	+3.1
WJHS		1.91	110	P	Pb	04 33 05.1	+0.7
NADB	Abo Dabab	2.06	177	P	Pb	04 33 07.5	+0.5
EIL	Elat	2.31	12	P	Pg	04 33 14.9	+1.0
EIL	Elat	2.31	12	S	Sg	04 33 44.7	+0.8
BIDS	Bi'r al Bayda'	2.35	103	P	Pb	04 33 11.3	-0.6
EWJHS	Al Wajh	2.37	121	P	Pb	04 33 11.5	-0.8
URD12	Shuwaq	2.39	81	P	Pb	04 33 12.4	-0.4
MBRI	Mt Berech	2.42	11	P	Pg	04 33 16.0	-0.2
MBRI	Mt Berech	2.42	11	S	Sg	04 33 47.7	0.0
URD10	Hayder	2.52	72	P	Pb	04 33 13.4	-1.5
PRNI	Paran	2.99	10	P	Pb	04 33 24.3	+1.5
PRNI	Paran	2.99	10	S	Sb	04 34 02.0	+2.8

*IDC **20** 04:33:13.2±0.9, 18°.80S×172°.47W, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=55.7km s-min=25.6km az=150.0*

ISC 20 04:33:15.1±0.9, 18°.5S±0°.2×172°.6W±0°.3, h10km, n9, σ1§27/9, mb4.2/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.67	202	P	P	04 38 07.7	+1.7
5.7nm,0.6s,baz=345,slow=20,SNR=1.1							
WRA	Warramunga Arr	49.94	259	P	P	04 42 08.6	-1.0
2.7nm,0.7s,baz=97,slow=8.5,SNR=5.1							
2.7nm,0.7s							
ASAR	Alice Springs	49.94	254	P	P	04 42 10.2	+0.6
4.6nm,0.7s,baz=89,slow=7.8,SNR=4.2							
4.6nm,0.7s							
NVAR	Mina Array Bea	76.11	41	P	P	04 45 03.5	0.0
0.3nm,0.3s,baz=244,slow=9.0,SNR=2.4							
0.3nm,0.3s							
TXAR	Lajitas Array	81.70	55	P	P	04 45 35.2	+0.9
1.3nm,0.9s,baz=244,slow=5.6,SNR=5.5							
1.3nm,0.9s							
PDAR	Pinedale Array	84.05	41	P	P	04 45 46.1	-0.2
1.4nm,0.7s,baz=202,slow=3.7,SNR=8.0							
1.4nm,0.7s							
SNAA	Sanae	89.83	177	P	P	04 46 11.8	-2.0
1.4nm,1.0s,baz=8.1,slow=7.1,SNR=9.4							
1.4nm,1.0s							
BRTR	Keskin Array B	148.96	319	PKPbc	PKiKP	04 53 05.0	-0.1
2.0nm,0.8s,baz=138,slow=2.7,SNR=4.9							
GERES	GERESS Array B	149.26	352	PKPbc	PKPbc	04 53 04.9	+0.7
0.8nm,0.8s,baz=47,slow=4.5,SNR=2.8							

*IDC **20** 04:41:02.9±1.1, 18°.35S×172°.76W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=58.7km s-min=24.8km az=145.0*

ISC 20 04:41:05.5±1.0, 18°.3S±0°.3×172°.8W±0°.3, h19km, n7, σ0§23/7, mb3.9/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.78	202	P	P	04 45 56.1	0.0
5.6nm,0.7s,baz=286,slow=1.6,SNR=2.7							
5.6nm,0.7s							
WRA	Warramunga Arr	49.80	259	P	P	04 49 57.2	-0.2
0.4nm,0.3s,baz=98,slow=7.9,SNR=9.8							
0.4nm,0.3s							
ASAR	Alice Springs	49.82	254	P	P	04 49 57.8	+0.1
3.8nm,0.8s,baz=86,slow=8.2,SNR=37							
3.8nm,0.8s							
TXAR	Lajitas Array	81.75	56	P	P	04 53 23.5	+0.1
0.4nm,0.9s,baz=238,slow=5.7,SNR=4.0							
0.4nm,0.9s							
PDAR	Pinedale Array	84.02	41	P	P	04 53 34.9	-0.2
0.5nm,0.6s,baz=217,slow=4.7,SNR=5.1							
0.5nm,0.6s							
BRTR	Keskin Array B	148.70	319	PKPbc	PKiKP	05 00 53.7	+0.3
0.7nm,0.8s,baz=141,slow=6.1,SNR=4.4							
GERES	GERESS Array B	149.04	352	PKPbc	PKiKP	05 00 53.9	+0.1
0.4nm,0.6s,baz=8.6,slow=7.2,SNR=4.7							

*IDC **20** 04:41:24.6±0.8, 18°.36S×172°.75W, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/2, Error ellipse: s-maj=37.5km s-min=24.6km az=140.0*

ISC 20 04:41:26.1±0.8, 18°.4S±0°.2×172°.7W±0°.2, h10km, n14, σ1§24/9, mb3.8/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	12.52	105	LR	LR	04 47 55.1	
comp=Z,136nm,18.3s,baz=284,slow=31							
PPT2	Papeete2	22.04	92	eLR	LR	04 51 06.0	
174nm,27.8s							
PPT2				eLR	LR	04 51 06.0	
217nm,24.5s							
TBI	Tubuai	22.29	107	eLR	LR	04 51 17.2	
881nm,27.5s							
TAOE	Nuku Hiva Isla	33.00	78	eLR	LR	04 55 47.4	
107nm,23.3s							
WRA	Warramunga Arr	49.85	259	P	P	04 50 19.4	-0.5
1.4nm,0.5s,baz=97,slow=8.6,SNR=15							
1.4nm,0.5s							
ASAR	Alice Springs	49.86	254	P	P	04 50 19.5	-0.4
1.7nm,0.6s,baz=93,slow=8.1,SNR=11							
1.7nm,0.6s							
KAPI	Kappang	67.11	272	LR	LR	05 21 54.2	
comp=Z,57nm,18.4s,baz=136,slow=36							
QSPA	South Pole Qui	71.69	180	P	P	04 52 49.5	+1.5
0.4nm,0.5s,baz=339,slow=0.3,SNR=8.0							
0.4nm,0.5s							
TXAR	Lajitas Array	81.75	55	P	P	04 53 45.5	+0.1
0.3nm,0.8s,baz=218,slow=7.9,SNR=3.4							
0.3nm,0.8s							
PDAR	Pinedale Array	84.06	41	P	P	04 53 56.5	-0.8
0.5nm,0.6s,baz=221,slow=3.2,SNR=6.0							
0.5nm,0.6s							
ILAR	Eielson Array	85.23	11	P	P	04 54 02.4	0.0
0.3nm,0.6s,baz=235,slow=6.0,SNR=5.2							
0.3nm,0.6s							
SNAA	Sanae	89.92	177	P	P	04 54 23.5	-1.6
0.6nm,1.0s,baz=190,slow=12,SNR=1.4							
0.6nm,1.0s							
BRTR	Keskin Array B	148.83	319	PKPbc	PKPbc	05 01 15.6	+1.1
0.8nm,0.6s,baz=94,slow=1.7,SNR=5.9							
GERES	GERESS Array B	149.16	352	PKPbc	PKPbc	05 01 16.2	+1.3
0.4nm,0.6s,baz=5.7,slow=1.0,SNR=2.9							

*IDC **20** 04:41:58.8±1.5, 37°.83N×21°.21E, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/4, Error ellipse: s-maj=43.7km s-min=27.8km az=125.0*
*ATH **20** 04:42:02.7, 37°.80N×21°.25E, h28km, ML3.2/17, Manual Solution by F.Xalaris First location: 2019/10/20 04:42:53, This location: 2019/10/20 14:42:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **20** 04:42:03.7, 37°.8N±1°.0×21°.2E±0°.5, h5km±1km, M3.0/23, MLh3.0/23*

ISC 20 04:42:03.1±0.8, 37°.83N±0°.02×21°.25E±0°.02, h27km±5km, n72, σ0§94/81, mb3.6/4, MS3.7/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHA	Lechaina	0.11	8	P	Pn	04 42 08.4	-0.6
LCHA				S	Sb	04 42 12.0	+0.5
CLEM	Kyllini,Ilia,G	0.11	303	P	Pb	04 42 07.9	-0.2
CLEM				S	Sb	04 42 12.0	+0.5
YRMI	Loutra Irminis	0.28	17	P	Pb	04 42 10.0	-0.1
YRMI				S	Sb	04 42 15.3	+0.5
RLS	Riolos of Patr	0.28	38	P	Pb	04 42 10.0	-0.2
RLS				S	Sb	04 42 15.2	+0.3
KYPS	Kipseli, Zakin	0.34	268	P	Pb	04 42 11.1	+0.3
KYPS				S	Sb	04 42 16.0	0.0
LTHK	Lithakia	0.35	249	P	Pb	04 42 10.6	-0.4
LTHK				S	Sb	04 42 16.0	-0.3
AXS	Araxos	0.38	16	P	Pb	04 42 11.2	-0.3
AXS	Araxos	0.38	16	P	Pb	04 42 11.5	0.0
AXS				S	Sb	04 42 17.8	+0.6
DRO	Drossia	0.39	72	P	Pb	04 42 11.6	0.0
DRO				S	Sn	04 42 18.0	-1.5
DRO	Drossia	0.39	72	P	Pb	04 42 11.4	-0.2
DRO				S	Sn	04 42 17.6	-1.9
ORTH	Orthonies,Zaky	0.43	273	P	Pb	04 42 12.8	+0.4
ZACRO	Zacharo	0.47	137	P	Pb	04 42 12.6	-0.3
AMT	Artemida-Makis	0.47	129	P	Pb	04 42 12.3	-0.7
AMT				S	Sb	04 42 19.3	-0.4
PATG	Patra B	0.56	43	P	Pn	04 42 14.9	-0.3
MSL1	Messolongi	0.56	15	P	Pn	04 42 14.9	-0.4
PSDA	Pessada-Kefalo	0.59	299	P	Pb	04 42 14.8	-0.2
PSDA	Pessada-Kefalo	0.59	299	P	Pb	04 42 14.6	-0.4
UPR	University Cam	0.62	43	P	Pn	04 42 16.1	-0.1
VLS	Valsamata	0.62	304	P	Pb	04 42 15.5	+0.1
VLS	Valsamata	0.62	304	P	Pb	04 42 15.3	-0.1
VLS				S	Sb	04 42 24.4	+0.5
ARG2	Argostoli	0.69	300	P	Pb	04 42 16.5	-0.1
ARG2	Argostoli	0.69	300	P	Pb	04 42 16.4	-0.1
KLV1	Kalavrita	0.71	73	P	Pn	04 42 17.0	-0.4
KLV	Kalavryta, Ach	0.75	73	S	Sn	04 42 29.9	+1.6
KLV	Kalavryta, Ach	0.75	73	P	Pn	04 42 17.2	-0.7
VSK1	VASILIKIADES	0.79	317	P	Pn	04 42 18.5	+0.1
EFP	Efpalio	0.79	41	P	Pn	04 42 18.1	-0.3
DMLN	Damoulianata-K	0.80	301	P	Pb	04 42 18.6	+0.1
DMLN	Damoulianata-K	0.80	301	P	Pb	04 42 18.2	-0.2
PVO	Paravola	0.81	16	P	Pn	04 42 19.5	+0.7
PVO	Paravola	0.81	16	P	Pn	04 42 19.0	+0.2
FSK	Fiskardo	0.83	320	P	Pn	04 42 19.2	+0.2
FSK	Fiskardo	0.83	320	P	Pn	04 42 18.6	-0.2
ITM	Ithomi	0.85	140	P	Pn	04 42 18.9	-0.3
SERG	Sergoula	0.86	48	P	Pn	04 42 19.4	-0.1
GUR	Goura	0.87	83	S	Sn	04 42 34.4	+2.9
GUR	Goura	0.87	83	P	Pn	04 42 19.2	-0.5
KALE	Kalithea	0.90	51	P	Pn	04 42 20.0	0.0
EVGI	Lefkada island	0.92	330	P	Pn	04 42 20.8	+0.7
EVGI	Lefkada island	0.92	330	P	Pn	04 42 20.4	+0.3
ANX	Ano Chora	0.93	35	P	Pn	04 42 20.6	+0.2
NYDR	Nydri-Lefkada	0.98	334	P	Pb	04 42 21.5	0.0
PYL1	Pylos	0.98	158	P	Pb	04 42 20.8	-0.7
VLX	Vlachokerasia	1.01	117	P	Pn	04 42 23.7	+2.1
PYL	PYLOS	1.01	157	S	Sn	04 42 37.7	+2.8
PYL	PYLOS	1.01	157	P	Pb	04 42 21.0	-0.6
LKD2	Lefkada island	1.06	334	P	Pb	04 42 22.8	-0.1
AMPL	Ampelaki	1.09	359	P	Pb	04 42 23.4	0.0
TSLK	Tsoukalades, L	1.09	335	P	Pb	04 42 24.4	+1.0
TSLK	Tsoukalades, L	1.09	335	P	Pb	04 42 23.5	+0.1
EVR	Evrytania	1.17	22	P	Pb	04 42 24.6	-0.1
AGG	Agios Georgios	1.46	35	P	Pb	04 42 31.5	+1.8
TETR	Tetrakomo, Epi	1.51	1	P	Pb	04 42 31.8	+1.3
LKR	Lokris	1.60	59	P	Pb	04 42 32.9	+0.9
ATAL	Atalanti	1.64	58	P	Pb	04 42 33.7	+1.0
VILL	Villia	1.67	78	P	Pb	04 42 34.0	+0.8
VLI	Veliai	1.75	129	P	Pb	04 42 35.4	+0.9
STFN	Stefani	1.85	79	P	Pb	04 42 36.4	+0.2
ATH	Athens Observa	1.96	85	P	Pb	04 42 38.3	+0.2
ATHU	Athens Univers	2.01	85	P	Pb	04 42 38.5	-0.5
VLY	Voula,Athens	2.02	89	P	Pb	04 42 38.7	-0.4
KYMI	Kymi, Euboea I	2.39	70	P	Pb	04 42 43.8	-1.5
AOS	Alonnisos	2.46	56	P	Pb	04 42 44.3	-2.4
OHR	Ohrid	3.29	354	i Pn	Pb	04 42 57.4	-3.5
VAY	Valandovo	3.63	16	i Pn	Pb	04 43 08.1	+1.5
HFS	Hagfors	22.83	350	P	P	04 47 03.1	-0.6
1.1nm,0.7s,baz=147,slow=14,SNR=1.6							
HFS				LR	LR	04 56 29.7	
comp=Z,319nm,21.6s,baz=132,slow=38							
1.1nm,0.7s							
FINES	FINESS Array B	23.83	6	P	P	04 47 13.2	-0.3
1.4nm,0.7s,baz=182,slow=9.7,SNR=6.8							
FINES				LR	LR	04 57 45.8	
comp=Z,21nm,20.6s,baz=228,slow=40							
1.4nm,0.7s							
TORD	Torodi Ar. Bea	30.13	220	P	P	04 48 10.2	-0.5
1.9nm,0.4s,baz=33,slow=10,SNR=1.5							
KURBB	Kurchatov Arra	41.98	53	P	P	04 49 51.5	0.0
0.4nm,0.3s,baz=277,slow=8.7,SNR=5.0							
0.4nm,0.3s							
MKAR	Makanchi Array	45.00	58	P	P	04 50 15.9	-0.1
0.7nm,0.5s,baz=273,slow=7.1,SNR=9.3							
0.7nm,0.5s							
SJG	San Juan	77.12	283	LR	LR	05 22 45.6	
comp=Z,31nm,20.6s,baz=288,slow=32							
JCJ	Chichijima	94.94	50	LR	LR	05 41 51.8	
comp=Z,28nm,19.2s,baz=104,slow=38							

*NIED **20** 04:42:51.6, 41°.91N×142°.33E, h70km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.54; Mθθ-0.37; Mφφ-1.17; Mrθ0.65; Mφθ-0.55; Mφr1.35; Fault plane solution: M0 2.12000×10^15 NP1: φs208.00000°, δ22.00000°, λ92.00000°. NP2: φs26.00000°, δ68.00000°, λ89.00000°.*
*MOS **20** 04:42:51.6±1.0, 41°.95N×142°.38E, h61km, mb4.7/20 Error ellipse: s-maj=7.5km s-min=6.1km az=80.0*
*JMA **20** 04:42:51.6±0.2, 41°.9N±0°.9×142°.3E±0°.9, h70km±2km, MD4.1/40, MV4.1/40, S OFF URAKAWA*
JMA Felt II J1 at S OFF URAKAWA .
*NEIC **20** 04:42:52.6±1.3, 41°.93N±0°.06×142°.38E±0°.07, h64km±3km, mb4.4/76, Error ellipse: s-maj=10.6km s-min=5.0km az=141.0*
*IDC **20** 04:42:53.5±1.6, 42°.01N×142°.33E, h74km±12km, mb3.9/23, mbtmp4.2/29, MS2.8/7, Error ellipse: s-maj=15.6km s-min=10.6km az=122.0*

ISC 20 04:42:52.8±0.6, 41°.93N±0°.03×142°.35E±0°.03, h68km±4km, n231, σ1§10/235, mb4.3/86, 12C-24D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.47	40	P	Pn	04 43 03.7	-1.4
JNBK	Urakawa-nobuka	0.47	40	A	A	04 43 03.7	
comp=N,19nm,0.5s,comp=E,13nm,1.1s							
JSHD	Hidakashinhida	0.49	10	i P	Pn	04 43 04.5	-0.9
JSHD				S	Sn	04 43 14.3	-0.2
JSHD	Hidakashinhida	0.49	10	A	A	04 43 04.5	
comp=N,41nm,1.2s,comp=E,40nm,1.3s							
ERM	Erimo	0.61	81		Pn	04 43 06.0	-0.6
ERM					Sn	04 43 15.3	-1.3
ERM	Erimo	0.61	81	P	Pn	04 43 06.0	-0.6
ERM						04 43 15.3	
JEM	Erimo	0.61	81	P	Pn	04 43 06.0	-0.5
JIAM	Iburiatsuma	0.77	336	⇓i P	Pn	04 43 08.1	-0.2
JIAM				⇓eS	Sn	04 43 20.1	+0.4
JIAM	Iburiatsuma	0.77	336	A	A	04 43 08.1	
comp=N,60nm,0.6s,comp=E,105nm,0.8s							
JTHR	Tokachihiroo	0.80	62	A	A	04 43 07.9	
comp=N,11nm,0.5s,comp=E,13nm,2.6s							
JBT2	Biratori 2	0.85	1	⇓P	Pn	04 43 08.3	-1.1
JBT2

comp=E,844nm,0.6s
JMM Marumori 4.23 197 Pn 04 43 53.8 -0.9
JSD Sado 4.99 220 Pn 04 44 06.2 +0.9
YSS Yuzhno-Sakhali 5.04 3 Pn **Pn 04 44 06.6 +0.9**
YSS Yuzhno-Sakhali 5.04 3 *eP* **Pn 04 44 06.7 +0.9**
YSS *eS* **Sn 04 45 02.0 -0.6**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=N,30nm,1.2s
YSS MLR MLR
comp=Z,200nm,15.0s
KUR Kuril'sk 5.20 49 *eP* **Pn 04 44 08.2 +0.3**
KUR *eS* **Sn 04 45 06.3 -0.2**
TEY Ternei 5.21 309⇑ *eP* **Pn 04 44 07.3 -0.8**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,0.8s
MJB9 Matsu-Tunnel 6.26 212 Pn 04 44 23.4 +0.8
MAJO Matsushiro 6.26 212 Pn 04 44 23.2 +0.6
MAJO Matsushiro 6.26 212 P **Pn 04 44 23.2 +0.6**
MJAR Matsushiro Arr 6.26 212 Pn **Pn 04 44 22.4 -0.2**
MJAR Matsushiro Arr 6.26 212 P **Pn 04 44 24.2 +1.6**
comp=Z,1.8nm,0.4s,baz=24,slow=15,SNR=5.9
MJAR LR LR 04 47 40.5
comp=Z,35nm,18.1s,baz=20,slow=45
JGF Kuroka 7.42 213 Pn 04 44 38.2 -0.3
INU Inuyama 7.78 214 Pn **Pn 04 44 43.7 +0.4**
USRK Ussuriysk Ar. 7.92 290 P **Pn 04 44 47.1 +2.0**
comp=Z,12nm,0.7s,baz=96,slow=14,SNR=15
MSHR Mys Shultsa 8.33 278 *ceP* **Pn 04 44 53.6 +2.8**
MSHR pmax pmax
comp=Z,10.0nm,0.8s
PSTR Posyet 8.59 279 *i* P **Pn 04 44 56.5 +2.2**
TYV Tymovskoe 8.94 1 *eP* **Pn 04 44 56.1 -3.0**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,10.0nm,0.9s
BNX BinXian 11.45 294 ⇓P **Pn 04 45 34.8 +1.5**
BNX pmax pmax
comp=Z,7.0nm,0.7s
KSRS Korea Array 11.97 253 P **Pn 04 45 42.6 +2.0**
comp=Z,4.6nm,0.7s,baz=64,slow=14,SNR=17
KS19 Wonju Array Si 11.99 253 Pn 04 45 41.9 +1.0
KSAR Wonju Array Be 12.01 253 Pn **Pn 04 45 42.4 +1.4**
KSAR Wonju Array Be 12.01 253 P **Pn 04 45 42.4 +1.4**
JNU Nakatsue 12.64 230 LR LR 04 51 10.5
comp=Z,22nm,21.6s,baz=54,slow=39
PETK Petropavlovsk- 15.22 37 P **Pn 04 46 22.4 -1.1**
comp=Z,0.9nm,0.5s,baz=231,slow=9.1,SNR=2.0
ZEA Zeya 15.53 325 *eP* P 04 46 42.3 +12
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HILR Hailar Array B 17.48 304 Pn 04 46 51.7 -0.2
comp=Z,2.3nm,0.4s,baz=94,slow=9.1,SNR=4.3
YAK Yakutsk 21.52 344 LR LR 04 56 01.9
comp=Z,19nm,20.6s,baz=128,slow=37
HNS HongShan 21.71 267 ⇓P **P 04 47 42.3 +4.1**
HNS pmax pmax
comp=Z,7.0nm,0.6s
SEY Seymchan 21.86 12 P **P 04 47 37.0 -2.5**
comp=Z,0.8nm,0.3s,baz=9.7,slow=22,SNR=4.8
SEY LR LR 04 56 53.6
comp=Z,14nm,20.5s,baz=116,slow=39
comp=Z,0.8nm,0.3s
SEY Seymchan 21.86 12 *eP* **P 04 47 37.1 -2.5**
SEY pmax pmax
comp=Z,5.0nm,1.2s
HHC Hu-ho-hao-te 23.07 278 *eP* **P 04 47 52.4 -0.2**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,65nm,5.9s
ULN Ulaanbaatar 25.54 296 *ceP* **P 04 48 16.7 +1.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 25.99 295 P 04 48 19.0 -0.2
SONM Songino Array 25.99 295 P **P 04 48 19.1 -0.1**
comp=Z,2.4nm,0.5s,baz=80,slow=8.6,SNR=9.9
SONM LR LR 04 59 09.2
comp=Z,43nm,20.2s,baz=116,slow=38
comp=Z,2.4nm,0.5s
XAN Xi'an 27.37 264 ⇓P **P 04 48 31.3 -0.4**
XAN pmax pmax
comp=Z,8.0nm,1.3s
H11N2 WAKE ISLAND Hy 30.36 129 T T 05 21 34.6
baz=322,slow=76,SNR=6.1
H11N1 WAKE ISLAND Hy 30.38 129 T T 05 21 35.6
baz=322,slow=76,SNR=79
H11N3 WAKE ISLAND Hy 30.38 129 T T 05 21 34.7
baz=322,slow=76,SNR=101
H11S1 WAKE ISLAND Hy 31.22 131 T T 05 22 40.1
baz=323,slow=76,SNR=156
H11S3 WAKE ISLAND Hy 31.23 131 T T 05 22 40.1
baz=323,slow=76,SNR=138
H11S2 WAKE ISLAND Hy 31.24 131 T T 05 22 39.1
baz=323,slow=76,SNR=109
PZH PanZhiHua 36.57 258 P P 04 49 53.8 +1.5
C16K Lisburne Hills 38.03 29 P P 04 50 03.2 -0.8
ZAA0 Zalesovo Array 39.31 308 P P 04 50 14.5 -0.4
ZAA0 IAmb IAmb 04 50 15.1
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 39.31 308 P P 04 50 14.1 -0.8
ZALV Zalesovo Beam 39.31 308 P P 04 50 14.7 -0.2
comp=Z,5.0nm,0.7s,baz=92,slow=8.6,SNR=18
ZALV PcP **PcP 04 52 22.2 0.0**
comp=Z,1.5nm,0.6s,baz=96,slow=3.0,SNR=4.7
ZALV LR LR 05 07 16.9
comp=Z,27nm,18.2s,baz=184,slow=37
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 39.31 308 *i* P **P 04 50 14.5 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
L16K Owhat River 39.40 40 P P 04 50 15.7 +0.1
L16K IAmb IAmb 04 50 22.9
comp=Z,4.9nm,1.1s
C19K Lookout Ridge 40.27 28 P P 04 50 21.8 -1.0
C19K IAmb IAmb 04 50 26.9
comp=Z,5.1nm,1.1s
M17K Holitna River 40.37 40 P P 04 50 24.8 +1.2
H19K Roundabout Mou 40.98 34 P P 04 50 28.2 -0.4
H19K IAmb IAmb 04 50 40.7
comp=Z,4.6nm,0.9s
B20K Meade River 41.28 27 P P 04 50 29.6 -1.4
B20K IAmb IAmb 04 50 36.5
comp=Z,5.4nm,1.0s
J20K Nowinta River 41.91 36 P P 04 50 36.8 +0.6
K20K Telida 41.94 37 P P 04 50 36.6 +0.1
B21K Ikpikpuk River 42.10 28 P P 04 50 35.9 -1.7
B21K IAmb IAmb 04 50 37.9
comp=Z,11nm,1.1s
MK31 Makanchi Array 42.30 298 *ceP* **P 04 50 39.6 -0.1**
MKAR Makanchi Array 42.30 298 P P 04 50 39.0 -0.7
comp=Z,4.6nm,0.9s,baz=83,slow=9.2,SNR=20
MKAR PcP **PcP 04 52 31.6 -0.6**
comp=Z,0.3nm,0.4s,baz=72,slow=0.5,SNR=1.8
comp=Z,4.6nm,0.9s
MAKZ Makanchi 42.51 298 P 04 50 40.5 -0.8
MAKZ IAmb IAmb 04 50 41.6
comp=Z,6.1nm,0.8s
MAKZ Makanchi 42.51 298 P P 04 50 40.5 -0.8
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
OHAK Old Harbor 42.76 46 P P 04 50 43.2 0.0
E22K Anaktuvuk Pass 42.98 30 P P 04 50 44.2 -0.7
E22K IAmb IAmb 04 51 03.1
comp=Z,6.7nm,1.0s
BPAW Bear Paw Mtn. 43.29 36 P P 04 50 47.7 +0.2
KTH Kantishna Hill 43.35 37 P P 04 50 47.7 -0.2
KTH IAmb IAmb 04 50 54.5
comp=Z,7.5nm,1.0s
CMAR Chiang Mai Arr 43.61 251 P P 04 50 50.6 +0.1
comp=Z,1.2nm,0.3s,baz=46,slow=7.6,SNR=1.8
comp=Z,1.2nm,0.3s
KURK Kurchatov 43.63 304 P **P 04 50 49.7 -0.6**
KURK Kurchatov 43.63 304 *ceP* **P 04 50 49.6 -0.7**
KURK pmax pmax
comp=Z,15nm,1.3s
TRF Thorofare Moun 43.63 37 P **P 04 50 50.1 -0.3**
TRF IAmb IAmb 04 50 57.6
comp=Z,5.0nm,1.1s
KURBB Kurchatov Arra 43.71 304 P **P 04 50 50.2 -0.7**
comp=Z,8.2nm,0.7s,baz=78,slow=8.6,SNR=47
KURBB PcP **PcP 04 52 36.1 -0.7**
comp=Z,0.4nm,0.3s,baz=93,slow=3.7,SNR=2.2
comp=Z,8.2nm,0.7s
NEA2 Nenana 44.10 35 P **P 04 50 53.6 -0.3**
NEA2 IAmb IAmb 04 50 55.6
comp=Z,4.0nm,0.8s
E24K Your Creek 44.22 30 P **P 04 50 54.6 -0.3**
RND Reindeer 44.28 37 P **P 04 50 55.3 -0.2**
RND Reindeer 44.28 37 P **P 04 50 55.3 -0.2**
RND pmax pmax
comp=Z,4.0nm,1.1s
GHO Glory Hole Cre 44.41 39 P **P 04 50 55.6 -0.9**
GHO IAmb IAmb 04 51 14.1
comp=Z,7.2nm,1.1s
F24K Squaw Lake 44.46 31 P **P 04 50 56.2 -0.6**
WRH Wood River Hil 44.53 35 P **P 04 50 56.8 -0.5**
SML Sawmill 44.69 39 P **P 04 50 58.7 0.0**
SML IAmb IAmb 04 51 03.8
comp=Z,10nm,1.2s
SML Sawmill 44.69 39 P **P 04 50 58.7 0.0**
SML pmax pmax
comp=Z,10.0nm,1.2s
D25K Kavik River 44.98 28 P **P 04 50 59.7 -1.2**
D25K IAmb IAmb 04 50 59.9
comp=Z,7.7nm,0.9s
IL31 45.02 35 P **P 04 51 01.0 -0.2**
IL31 IAmb IAmb 04 51 03.1
comp=Z,3.7nm,0.9s
ILAR Eielson Array 45.02 35 P **P 04 51 01.5 +0.3**
ILAR Eielson Array 45.02 35 P **P 04 51 01.3 0.0**
comp=Z,1.9nm,0.9s,baz=272,slow=6.8,SNR=15
comp=Z,1.9nm,0.9s
ILAR Eielson Array 45.02 35 P **P 04 51 01.5 +0.3**
HDA Harding Lake 45.03 35 P **P 04 51 01.3 0.0**
SCM Sheep Creek Mo 45.16 39 P **P 04 51 02.4 0.0**
SCM Sheep Creek Mo 45.16 39 P **P 04 51 02.4 0.0**
SCM pmax pmax
comp=Z,3.0nm,1.0s
PRP Porcupine Dome 45.53 34 P **P 04 51 05.0 -0.4**
FYU Fort Yukon 45.55 32 P **P 04 51 05.3 -0.1**
FYU IAmb IAmb 04 51 10.1
comp=Z,5.9nm,1.1s
KLU Klutina 45.87 39 P **P 04 51 08.0 0.0**
KLU IAmb IAmb 04 51 09.2
comp=Z,6.2nm,0.9s
F26K Sheenjek River 45.88 31 P **P 04 51 07.7 -0.3**
C27K Jago River 45.91 28 P **P 04 51 07.2 -1.0**
MID Middleton Isla 46.02 42 P **P 04 51 08.1 -1.0**
RIDG Independent Ri 46.03 36 P **P 04 51 08.4 -0.8**
G26K Porcupine Rive 46.09 32 P **P 04 51 10.3 +0.7**
G26K IAmb IAmb 04 51 25.3
comp=Z,4.0nm,1.1s
SCRK Sand Creek 46.37 36 P **P 04 51 11.2 -0.8**
SCRK IAmb IAmb 04 51 12.6
comp=Z,3.5nm,0.9s
DOT Dot Lake 46.39 36 P **P 04 51 11.5 -0.5**
J26L Joseph Creek 46.48 35 P **P 04 51 12.8 0.0**
EVN Everest 46.84 271 P 04 51 16.7 -0.1
TARG Taragay, Kyrgy 47.04 293 IAmb IAmb 04 51 23.8
comp=Z,3.2nm,0.8s
VRDI Verde Repeater 47.09 39 P **P 04 51 17.1 -0.6**
VRDI IAmb IAmb 04 51 19.8
comp=Z,6.4nm,1.1s
MCARA McCarthy VSAT 47.26 39 P **P 04 51 18.7 -0.1**
MCARA IAmb IAmb 04 51 30.0
comp=Z,7.1nm,1.0s
KDJ Kajisay 47.31 293 P **P 04 51 19.5 -0.3**
KDJ IAmb IAmb 04 51 33.5
comp=Z,3.9nm,0.9s
KDJ Kajisay 47.31 293 P **P 04 51 19.5 -0.3**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
EGAK Eagle 47.46 34 P **P 04 51 20.3 0.0**
L27K Beaver Creek, 47.48 37 P **P 04 51 20.9 +0.3**
L27K IAmb IAmb 04 51 22.4
comp=Z,3.5nm,0.8s
BCAR Beaver Creek A 47.50 37 P **P 04 51 21.0 +0.3**
E28M Babbage River 47.50 29 P **P 04 51 19.9 -0.7**
E28M IAmb IAmb 04 51 28.5
comp=Z,3.9nm,1.1s
M27K Edge Creek, AK 47.59 38 P **P 04 51 21.8 +0.1**
M27K IAmb IAmb 04 51 22.6
comp=Z,4.1nm,1.1s
I28M Miner Creek 47.85 33 P **P 04 51 23.6 +0.1**
I28M IAmb IAmb 04 51 25.9
comp=Z,4.0nm,1.0s
BORK Borovoye 47.96 309 *ceP* **P 04 51 24.6 +0.2**
BORK pmax pmax
comp=Z,4.0nm,1.0s
E29M Blow River 48.13 29 P **P 04 51 25.4 -0.1**
E29M IAmb IAmb 04 51 31.5
comp=Z,3.9nm,1.1s
H29M Whitestone 48.34 32 P **P 04 51 27.5 +0.4**
G29M Pine Creek 48.34 31 P **P 04 51 27.1 0.0**
DAWY Dawson 48.35 35 P **P 04 51 26.7 -0.5**
I29M Ogilvie Camp, 48.53 33 P **P 04 51 28.9 +0.3**
I29M IAmb IAmb 04 51 37.5
comp=Z,3.7nm,0.9s
AAK Ala-Archa 48.94 295 P **P 04 51 31.2 -1.0**
AAK IAmb IAmb 04 51 37.5
comp=Z,2.1nm,0.6s
AAK Ala-Archa 48.94 295 *ceP* **P 04 51 33.7 +1.4**
AAK pmax pmax
comp=Z,5.0nm,1.7s
F30M Barrier River 49.05 30 P **P 04 51 32.9 +0.3**
F30M IAmb IAmb 04 51 46.6
comp=Z,5.4nm,1.1s
L29M L29M 49.11 36 P **P 04 51 33.6 +0.4**
L29M IAmb IAmb 04 51 35.4
comp=Z,3.9nm,0.8s
K29M Barlow Dome 49.20 35 P **P 04 51 34.4 +0.5**
K29M IAmb IAmb 04 51 35.9
comp=Z,4.5nm,1.0s
I30M Mount Dempster 49.35 33 P **P 04 51 35.6 +0.5**
J30M Hart River 49.53 34 P **P 04 51 36.9 +0.5**
J30M IAmb IAmb 04 51 45.5
comp=Z,2.8nm,1.1s
INK Inuvik 49.73 29 P **P 04 51 37.1 -0.6**
INK IAmb IAmb 04 51 46.2
comp=Z,3.5nm,1.0s
INK Inuvik 49.73 29 P **P 04 51 37.1 -0.6**
INK pmax pmax
comp=Z,4.0nm,1.0s
G31M Satah River 49.78 31 P **P 04 51 37.7 -0.4**
G31M IAmb IAmb 04 51 52.7
comp=Z,7.0nm,1.1s
M30M Minto, Yukon 49.84 37 P **P 04 51 39.2 +0.5**
HYT Haines Junctio 49.99 39 P **P 04 51 41.5 +1.5**
H31M Peel River 50.03 32 P **P 04 51 40.3 +0.2**
P29M Windy Craggy 50.23 41 P **P 04 51 43.0 +1.4**
ARSB Arslanbob 50.51 294 P 04 51 44.4 +0.2
ARSB Arslanbob 50.51 294 P **P 04 51 44.4 +0.2**
ARSB pmax pmax
comp=Z,9.0nm,0.6s
N31M Braeburn, Yuko 50.61 38 P **P 04 51 45.1 +0.6**
WHY Whitehorse 51.27 39 P **P 04 51 50.5 +0.9**
KKAR Karatay Array 51.42 297 P 04 51 50.0 -0.9
KKAR Karatay Array 51.42 297 P **P 04 51 50.0 -0.9**
SVE Sverdlovsk 52.03 316 *eP* **P 04 51 54.8 -0.4**
SVE pmax pmax
comp=Z,8.0nm,0.7s
P33M Teslin, Yukon 52.39 39 P **P 04 51 58.5 +0.7**
P33M IAmb IAmb 04 52 05.6
comp=Z,2.8nm,1.1s
C36M Paulatuk 52.71 26 P 04 52 00.1 +0.2
ARTI Arti 53.35 316 P **P 04 52 03.8 -1.1**
ARTI Arti 53.35 316 *c i P* **P 04 52 04.2 -0.7**
ARTI *PP **pP** 04 52 22.5 +0.5
ARTI 04 53 09.2
ARTI S **S 04 59 30.6 -0.9**
ARTI SS **SS 05 03 08.1 -3.4**
ARTI pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 53.37 293 P **P 04 52 05.1 -0.4**
ABKAR Akbulak array 55.42 308 P 04 52 19.5 -0.5
KIRV Kirov 56.84 321 *ceP* **P 04 52 29.9 0.0**
YKA Yellowknife Ar 59.25 32 P **P 04 52 45.9 -0.8**
comp=Z,0.4nm,0.4s,baz=246,slow=5.4,SNR=6.8
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 59.69 339 P **P 04 52 48.6 -1.1**
comp=Z,1.2nm,0.6s,baz=57,slow=8.8,SNR=8.1
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 62.00 189 P **P 04 53 05.0 -0.9**
comp=Z,0.6nm,0.5s,baz=6.8,slow=6.9,SNR=6.5
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 62.00 189 *i* P **P 04 53 05.1 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.84 332 P **P 04 53 23.4 -0.8**
comp=Z,4.3nm,0.4s,baz=54,slow=6.9,SNR=110
comp=Z,4.3nm,0.4s
ASAR Alice Springs 65.73 188 P **P 04 53 30.7 +0.4**
comp=Z,0.5nm,0.8s,baz=8.7,slow=7.8,SNR=3.3
comp=Z,0.5nm,0.8s
KIV Kislovodsk 68.29 310 *i* P **P 04 53 47.3 +0.7**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 68.30 310 P **P 04 53 47.4 +0.8**
comp=Z,3.6nm,0.9s,baz=28,slow=4.9,SNR=7.4
comp=Z,3.6nm,0.9s
KBZ Khabaz 68.30 310 *ceP* **P 04 53 47.5 +1.0**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
MNK Minsk 68.87 325 *i* P **P 04 53 50.5 +0.6**
MNK *i* *PP **pP 04 54 06.9 -0.8**
MNK *i* 04 54 14.4
MNK *i* 04 56 23.2
MNK *i* PPP PPP 04 58 05.6
MNK *i* S **S 05 02 50.5 +2.0**
MNK *i* *SS **sS 05 03 21.4 +2.4**
MNK *i* SS **SS 05 07 21.1 +7.3**
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,9.0nm,0.6s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK MLR MLR
comp=Z,14nm,12.0s
MNK MLR MLR
comp=E,73nm,19.0s
MNK MLR MLR
comp=N,65nm,16.0s
HFS Hagfors 69.94 335 P **P 04 53 55.8 -0.6**
comp=N,3.5nm,0.3s,baz=39,slow=6.0,SNR=47
comp=N,3.5nm,0.3s
NB2 NORSAR Subarra 69.97 337 P **P 04 53 55.7 -0.9**
comp=Z,1.0nm,0.4s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.97 337 P **P 04 53 55.6 -1.0**
NOA NORSAR Array B 69.97 337 P **P 04 53 55.8 -0.9**
comp=Z,2.4nm,0.7s,baz=200,slow=2.7,SNR=13
comp=Z,2.4nm,0.7s
NORES NORESS Array B 70.11 337 P **P 04 53 59.4 +1.9**
AKASG Malin Array Be 70.89 322 P **P 04 54 01.5 -0.8**
comp=Z,2.9nm,0.5s,baz=46,slow=6.0,SNR=19
comp=Z,2.9nm,0.5s
PDAR Pinedale Array 73.76 47 P **P 04 54 20.4 +0.5**
comp=Z,1.3nm,0.7s,baz=284,slow=2.5,SNR=13
comp=Z,1.3nm,0.7s
BURAR Bucovina Array 74.93 321 P **P 04 54 26.2 -0.3**
BURAR IAmb IAmb 04 54 27.4
comp=Z,3.2nm,0.8s
BURAR Bucovina Array 74.93 321 P **P 04 54 26.2 -0.3**
BRTR Keskin Array B 76.17 311 P **P 04 54 33.1 -0.6**
comp=Z,1.1nm,0.7s,baz=97,slow=3.6,SNR=5.1
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 76.17 311 *ceP* **P 04 54 33.5 -0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
DPC Dobruska-Polom 76.71 328 *eP* **P 04 54 37.0 +0.5**
DPC Dobruska-Polom 76.71 328 *eP* **P 04 54 37.0 +0.5**
CLL Collm 77.22 330 *i* P **P 04 54 37.8 -1.4**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 77.22 330 *i* Px Px 04 54 38.1
comp=Z,4.0nm,0.7s
MODS Modra-Piesok 77.87 326 *eP* **P 04 54 43.6 +0.7**
MODS Modra-Piesok 77.87 326 *eP* **P 04 54 43.6 +0.7**
KHC Kasperske Hory 78.76 329 *ceP* **P 04 54 48.6 +0.7**
KHC pmax pmax
comp=Z,11nm,2.5s
KHC Kasperske Hory 78.76 329 *eP* **P 04 54 48.1 +0.2**
EKA Eskdalemuir Ar 78.76 341 P **P 04 54 47.4 -0.3**
comp=Z,1.5nm,0.6s,baz=25,slow=5.4,SNR=6.3
comp=Z,1.5nm,0.6s
RONA Rosalia, Austr 78.80 326 *i* P **P 04 54 48.7 +0.5**
comp=Z,3.5nm,0.6s
GERES GERESS Array B 78.94 328 P **P 04 54 48.7 -0.2**
comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=5.7
comp=Z,0.6nm,0.6s
BIOA Bad Ischl, Aus 79.89 328 *eP* **P 04 54 54.4 +0.3**
comp=Z,2.8nm,0.7s
OBKA Obir 80.47 326 *eP* **P 04 54 57.0 -0.3**
comp=Z,3.2nm,0.7s
LESA Schwarzleotal 80.49 328 *eP* **P 04 54 57.6 +0.2**
comp=Z,1.7nm,0.7s
KBA Koelnbreinsper 80.51 327 *eP* **P 04 54 58.1 +0.6**
comp=Z,4.3nm,1.0s
WATA Walderalm 81.00 329 *eP* **P 04 54 59.4 -0.8**
comp=Z,1.6nm,0.6s
MOTA Moosalm 81.17 329 *eP* **P 04 55 00.9 -0.2**
comp=Z,4.8nm,0.8s
RETA Reutte 81.19 329 P **P 04 55 00.9 -0.1**
comp=Z,5.0nm,1.2s
SQTA Sankt Quirin 81.23 329 *eP* **P 04 55 01.2 -0.2**
comp=Z,1.5nm,0.5s
DAVA Damuels 81.69 330 *i* P **P 04 55 03.7 -0.2**
comp=Z,0.6nm,0.2s
PPT Papeete 86.21 118 LR LR 05 25 21.2
comp=Z,22nm,21.2s,baz=65,slow=30
TXAR Lajitas Array 86.58 53 P **P 04 55 29.9 +1.0**
comp=Z,0.7nm,0.7s,baz=296,slow=3.9,SNR=10
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 86.58 53 P **P 04 55 30.0 +1.0**
KEST Kesra 91.55 323 P **P 04 55 51.7 -0.5**
comp=Z,3.8nm,1.0s,baz=144,slow=16,SNR=3.6
comp=Z,3.8nm,1.0s
ESDC Sonseca Array 93.21 335 P **P 04 55 58.8 -0.9**
comp=Z,0.8nm,0.9s,baz=13,slow=3.0,SNR=3.2
comp=Z,0.8nm,0.9s
SNAA Sanae 145.62 199 PKPbc **PKPdf 05 02 21.5 -0.6**
comp=Z,0.8nm,0.7s,baz=168,slow=9.3,SNR=11
H03N1 Juan Fernandez 146.53 89 T T 07 45 52.2
SNR=4.0

IDC 20 04:46:06.3±2.7, 17°.60S×173°.14W, h0km, mb3.7/4, mbtmp3.7/4, MS3.8/1, Error ellipse: s-maj=213.8km s-min=27.6km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.62**	**259**	P	P	04 54 59.5	-0.3
	0.4nm,0.5s,baz=96,slow=8.6,SNR=5.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**49.70**	**254**	P	P	04 55 00.4	-0.1
	3.0nm,0.9s,baz=82,slow=8.3,SNR=21						
ASAR				LR	LR	05 13 29.8	
	comp=Z,112nm,20.6s,baz=284,slow=33						
	3.0nm,0.9s						
TXAR	**Lajitas Array**	**81.63**	**56**	P	P	04 58 26.4	-0.3
	0.3nm,0.8s,baz=194,slow=2.6,SNR=3.9						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**83.73**	**42**	P	P	04 58 37.5	0.0
	0.4nm,0.7s,baz=177,slow=2.7,SNR=4.0						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**147.99**	**319**	PKPbc	PKPbc	05 05 54.1	0.0
	0.2nm,0.4s,baz=48,slow=2.4,SNR=1.4						

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*IDC **20** 04:52:13.2±0.7, 1°.68S×139°.13E, h0km, mb4.1/10, mbtmp4.2/11, ML4.1/1, MS3.6/4, Error ellipse: s-maj=24.0km s-min=15.6km az=65.0*

*NEIC **20** 04:52:15.6±1.6, 1°.9S±0°.1×139°.03E±0°.07, h10km±1km, mb4.1/10, Error ellipse: s-maj=23.4km s-min=10.5km az=195.0*

*DJA **20** 04:52:16.2±0.4, 2°.S±6°×13°9E±°, h10km, M4.2/7, mb4.0/2, MLv4.3/7*

ISC 20 04:52:17.9±0.6, 1°.95S±0°.07×139°.01E±0°.05, h29km, n42, σ1§89/37, mb4.2/12, MS3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.30**	**263**	P	**Pb**	**04 52 23.9**	**-1.4**
GENI	**Genyem**	**1.32**	**119**	P	**Pn**	**04 52 41.0**	**+0.6**
JAY	**Jayapura**	**1.78**	**108**	Pn	**Pn**	**04 52 45.8**	**-1.0**
	13nm,0.3s,baz=246,slow=10,SNR=34						
JAY				Sn	**Sb**	**04 53 10.2**	**-1.7**
	12nm,0.3s,baz=238,slow=5.8,SNR=7.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.78	108	P	Pn	04 52 45.6	-1.2
SRPI	Serui, Papua	2.77	272	P	Pn	04 53 00.2	-0.1
BAKI	Biak	3.00	285	P	Pn	04 53 03.7	+0.2
RKPI	Ransiki, Papua	4.85	275	P	Pn	04 53 29.0	0.0
FAKI	Fak Fak	6.82	262	Pn	Pn	04 53 55.3	-0.8
FAKI	Fak Fak	6.82	262	P	Pn	04 53 54.9	-1.2
	0.1nm21nm,1.2s						
MTN	Manton Dam	13.34	215		Pn	04 55 27.9	+2.5
SOEI	Soe	16.58	242	P	P	04 56 22.7	+12
KNRA	Kununurra	16.97	216		P	04 56 16.8	+1.8
KNRA				IAmb	IAmb	04 56 24.1	
	comp=Z,10nm,0.9s						
WB0	Warramunga Arr	18.27	194		Pn	04 56 31.3	+1.8
WR8	Warramunga Arr	18.43	194		P	04 56 31.1	-0.1
WR8				IAmb	IAmb	04 56 41.8	
	comp=Z,6.4nm,0.7s						
WRA	Warramunga Arr	18.46	194	P	Pn	04 56 32.3	+0.6
	comp=Z,0.7nm,0.3s,baz=16,slow=12,SNR=21						
WRA				S	Sn	04 59 51.4	-5.8
	comp=Z,1.6nm,0.9s,baz=11,slow=22,SNR=5.5						
	comp=Z,4.9nm,0.8s						
CTA	Charters Tower	19.37	159	LR	LR	05 04 58.6	
	comp=Z,4.6nm,18.9s,baz=30,slow=39						
FITZ	Fitzroy Crossi	20.73	218	P	Pn	04 57 00.3	+1.6
	comp=Z,2.3nm,1.0s,baz=35,slow=14,SNR=6.5						
FITZ				S	S	05 00 40.9	-5.5
	comp=Z,8.1nm,0.8s,baz=178,slow=15,SNR=9.8						
	comp=Z,2.3nm,1.0s						
AS31	Alice Springs	22.15	193		P	04 57 11.7	+0.2
ASAR	Alice Springs	22.15	193		P	04 57 13.2	+1.7
ASAR	Alice Springs	22.15	193	P	P	04 57 13.1	+1.5
	comp=Z,5.8nm,1.0s,baz=23,slow=10,SNR=29						
ASAR				S	S	05 01 16.8	+2.7
	comp=Z,0.6nm,0.8s,baz=14,slow=24,SNR=4.8						
	comp=Z,5.8nm,1.0s						
STKA	Stephens Creek	29.87	176	LR	LR	05 11 44.2	
	comp=Z,196nm,19.5s,baz=359,slow=39						
H11S3	WAKE ISLAND Hy 33.98	52		T	T	05 34 36.6	
	baz=236,slow=75,SNR=53						
H11S2	WAKE ISLAND Hy 33.99	52		T	T	05 34 37.4	
	baz=236,slow=75,SNR=65						
H11S1	WAKE ISLAND Hy 33.99	52		T	T	05 34 37.9	
	baz=236,slow=75,SNR=41						
CMAR	Chiang Mai Arr	44.33	299	P	P	05 00 25.3	-0.5
	comp=Z,1.0nm,0.3s,baz=124,slow=6.7,SNR=6.0						
	comp=Z,1.0nm,0.3s						
BRDH	Bariadhala	52.25	301	LR	LR	05 24 25.4	
	comp=Z,41nm,20.3s,baz=160,slow=37						
SONM	Songino Array	57.17	334	P	P	05 02 01.8	-0.4
SONM				IAmb	IAmb	05 02 22.5	
	comp=Z,3.7nm,1.3s						
YAK	Yakutsk	64.21	355	LR	LR	05 27 44.8	
	comp=Z,21nm,21.0s,baz=120,slow=33						
MKAR	Makanchi Array	69.38	322	P	P	05 03 22.9	-0.2
	comp=Z,2.3nm,0.8s,baz=116,slow=8.2,SNR=12						
	comp=Z,2.3nm,0.8s						
MAKZ	Makanchi	69.58	322		P	05 03 24.3	0.0
ZALV	Zalesovo Beam	71.44	330	P	P	05 03 32.9	-2.6
	comp=Z,0.8nm,0.5s,baz=101,slow=7.7,SNR=5.7						
	comp=Z,0.8nm,0.5s						
KURK	Kurchatov	73.27	325		P	05 03 46.1	-0.4
KURK				IAmb	IAmb	05 03 46.7	
	comp=Z,3.7nm,0.9s						
KURBB	Kurchatov Arra	73.29	325	P	P	05 03 46.0	-0.6
	comp=Z,3.4nm,1.0s,baz=112,slow=6.0,SNR=16						
	comp=Z,3.4nm,1.0s						
KK31	Karatay Array	75.80	315	P	P	05 04 01.1	-0.3
KK31				IAmb	IAmb	05 04 01.6	
	comp=Z,2.0nm,1.1s						
KKAR	Karatay Array	75.80	315	P	P	05 04 00.9	-0.5
VNDA	Vanda	76.50	175	P	P	05 04 04.8	+0.1
VNDA				IAmb	IAmb	05 04 06.6	
	comp=Z,1.3nm,0.9s						
VNDA	Vanda	76.50	175	P	P	05 04 05.6	+0.9
	comp=Z,0.9nm,0.7s,baz=308,slow=6.2,SNR=4.8						
	comp=Z,0.9nm,0.7s						
L19K	White Mountain	80.80	26	P	P	05 04 29.3	+0.7
MAW	Mawson	82.94	202	P	P	05 04 40.7	+1.0
	comp=Z,3.8nm,0.7s,baz=261,slow=13,SNR=7.2						
	comp=Z,3.8nm,0.7s						
ILAR	Eielson Array	85.02	24	P	P	05 04 48.7	-1.7
	comp=Z,1.6nm,1.0s,baz=249,slow=5.0,SNR=7.9						
	comp=Z,1.6nm,1.0s						
BMAR	Burnt Mountain	86.59	22	P	P	05 04 59.0	+0.8
QSPA	South Pole Qui	87.99	180	P	P	05 05 07.9	+2.8
	comp=Z,2.3nm,1.0s,baz=340,slow=1.7,SNR=4.1						
QSPA				LR	LR	05 43 56.9	
	comp=Z,54nm,20.2s,baz=12,slow=35						
	comp=Z,2.3nm,1.0s						

*JMA **20** 05:05:39.2±0.2,23°N±1°×122°6E±0°8,h43km,MV3.1/14,*
NEAR ISHIGAKIJIMA ISLAND
*TAP **20** 05:05:40.1,23°09N×122°55E,h66km±1km,ML3.7,D*
ISC 20 05:05:38.7±1.6,23°09N±0°03×122°64E±0°03,h24km±16km,
n134,σ1°26/209,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	1.07	344	eP	Pn	05 05 57.7	-0.3
EOS4				S	Sn	05 06 10.2	-1.7
CHKH	Chenggong	1.15	276	P	Pn	05 05 58.7	-0.5
CHKH				S	Sn	05 06 11.5	-2.6
LDUT	Ludao	1.15	249	i P	Pn	05 05 58.9	-0.4
LDUT				S	Sn	05 06 11.7	-2.6
CHKT	Chengkung	1.17	271	eP	Pn	05 05 59.0	-0.6
CHKT				i S	Sn	05 06 11.6	-3.1
TEGC	Jichi Village	1.18	302	P	Pn	05 05 59.3	-0.5
TEGC				S	Sn	05 06 13.9	-1.2
HGSD	Ruisui	1.19	290	P	Pn	05 05 58.8	-1.0
HGSD				S	Sn	05 06 12.6	-2.6
SHUL	Shoufeng	1.21	306	P	Pn	05 05 59.7	-0.4
TEYL	Yanliau Villag	1.23	310	eP	Pn	05 06 00.2	-0.2
EDH	Donghe	1.23	265	P	Pn	05 06 00.3	-0.2
EDH				S	Sn	05 06 14.3	-2.0
EOS3	EOS3	1.23	346	eP	Pn	05 06 00.4	+0.1
EYUL	Yuli	1.24	282	P	Pn	05 06 00.3	-0.2
EYUL				eS	Sn	05 06 14.8	-1.7
FULB	Fuli	1.24	276	P	Pn	05 05 59.7	-0.9
FULB				i S	Sn	05 06 14.0	-2.6
EGFH	Guangfu	1.25	298	eP	Pn	05 06 00.5	-0.2
EHYH	Wanrong	1.25	289	eP	Pn	05 06 00.5	-0.2
EHYH				eS	Sn	05 06 15.5	-1.4
TWF1	Yuli	1.26	282	eP	Pn	05 06 00.4	-0.4
TWF1				S	Sn	05 06 15.5	-1.6
YULB	Yu-li	1.27	284	P	Pn	05 06 00.7	-0.3
YULB	Yu-li	1.27	284	P	Pn	05 06 00.7	-0.3
YULB				S	Sn	05 06 15.8	-1.5
EHY	Hungye	1.28	289	eP	Pn	05 06 00.8	-0.3
EHY				eS	Sn	05 06 16.0	-1.5
ECS	Chishang	1.30	271	P	Pn	05 06 01.6	+0.1
ECS				eS	Sn	05 06 17.2	-0.9
WARBT	Fenglin Townsh	1.31	299	i P	Pn	05 06 01.0	-0.6
WARBT				S	Sn	05 06 16.2	-2.1
ESL	Shilin	1.32	304	eP	Pn	05 06 00.8	-0.9
ETM	Tongmen	1.37	310	eP	Pn	05 06 01.5	-0.8
TWD	Chiawan	1.38	316	eP	Pn	05 06 01.6	-0.8
TWD				eS	Sn	05 06 17.7	-2.2
EOS2	EOS2	1.38	345	P	Pn	05 06 02.7	+0.3
EOS2				eS	Sn	05 06 20.1	+0.3
JYNG	Yonagunijimaku	1.39	12	S	Sn	05 06 20.3	+0.1
LONT	Longtian	1.40	263	eP	Pn	05 06 03.3	+0.5
LONT				S	Sn	05 06 20.1	-0.4
TTN	Taitung	1.41	257	eP	Pn	05 06 03.4	+0.4
TTN				i S	Sn	05 06 19.8	-0.9
YOJ	Yonaguni jima	1.41	14	P	Pn	05 06 03.7	+0.7
YOJ	Yonaguni jima	1.41	14	S	Sn	05 06 20.9	+0.1
YOJ	Yonaguni jima	1.41	14	eP	Pn	05 06 03.5	+0.6
YOJ				eS	Sn	05 06 20.0	-0.9
YOJ	Yonaguni jima	1.41	14	P	Pn	05 06 03.4	+0.5
YOJ				eS	Sn	05 06 20.8	-0.1
ETL	Fush Village	1.42	319	eP	Pn	05 06 02.2	-0.8
NACB	Ninganchiao	1.44	319	P	Pn	05 06 02.5	-0.9
NACB	Ninganchiao	1.44	319	P	Pn	05 06 02.5	-0.9
HATJ	Hateruma jima	1.45	48	P	Pn	05 06 03.5	+0.1
HATJ				eS	Sn	05 06 21.1	-0.5
LAY	Lan-yu	1.45	224	eP	Pn	05 06 02.9	-0.6
LAY				eS	Sn	05 06 21.9	+0.2
LYUB	Lan-yu	1.45	222	P	Pn	05 06 03.2	-0.3
LYUB				S	Sn	05 06 19.5	-2.2
LXIB	Xiulin Townshi	1.46	310	eP	Pn	05 06 03.2	-0.5
TWGBT	Beinan	1.46	260	P	Pn	05 06 04.2	+0.6
TWGBT	Beinan	1.46	260	S	Sn	05 06 21.3	-0.6
TWGBT	Beinan	1.46	260	P	Pn	05 06 03.8	+0.3
TWGBT				eS	Sn	05 06 21.1	-0.8
TWG	Pinlang	1.46	260	P	Pn	05 06 04.4	+0.7
TWG				S	Sn	05 06 21.0	-1.1
EAHA	Aohua	1.49	327	i P	Pn	05 06 03.8	-0.2
EAHA				eS	Sn	05 06 21.2	-1.4
ELDTW	Lidau	1.49	274	eP	Pn	05 06 04.2	+0.1
ELDTW				eS	Sn	05 06 21.1	-1.9
VWDT	VWDT	1.52	296	P	Pn	05 06 04.8	+0.3
VWDT				S	Sn	05 06 22.5	-1.1
ETLH	Xiulin Townshi	1.54	317	eP	Pn	05 06 04.2	-0.5
EWUT	Wuta	1.56	330	i P	Pn	05 06 05.4	+0.3
EWUT				S	Sn	05 06 24.0	-0.6
ENA	Nanau	1.57	329	P	Pn	05 06 04.9	-0.2
ENA				eS	Sn	05 06 23.1	-1.6
OWD	Renai	1.59	303	eP	Pn	05 06 05.6	0.0
IRIF	Iriomote-Funau	1.60	39	P	Pn	05 06 05.8	+0.3
IRIF				eS	Sn	05 06 25.0	-0.4
ECL	Taimali	1.62	253	eP	Pn	05 06 06.3	+0.4
ECL				i S	Sn	05 06 24.5	-1.6
WHF	Hehuan Shan	1.64	310	eP	Pn	05 06 06.2	-0.3
ESAO	Su ao	1.65	334	eP	Pn	05 06 06.5	+0.2
WUSB	Renai	1.66	303	eP	Pn	05 06 06.8	+0.3
TWC	Suao	1.68	335	eP	Pn	05 06 06.7	+0.1
TWC				eS	Sn	05 06 25.5	-1.9
SSLB	Suanglung	1.69	295	P	Pn	05 06 07.0	+0.1
SSLB	Suanglung	1.69	295	S	Sn	05 06 26.4	-1.4
SSLB	Suanglung	1.69	295	P	Pn	05 06 07.0	+0.1
SSLB				eS	Sn	05 06 26.1	-1.7
JKRS	Kuro-shima	1.70	47	P	Pn	05 06 07.5	+0.6
STYH	Taoyuan	1.71	273	eP	Pn	05 06 07.7	+0.7
STYH				eS	Sn	05 06 28.2	0.0
FUSS	Fushou	1.72	313	i P	Pn	05 06 07.6	+0.2
ALS	Alishan	1.73	284	eP	Pn	05 06 08.7	+1.1
ALS				S	Sn	05 06 29.1	-0.1
WHYT	Xinyi Township	1.75	291	P	Pn	05 06 08.5	+0.9
WHYT				eS	Sn	05 06 28.8	-0.4
NDS	Dongshan	1.76	332	eP	Pn	05 06 08.4	+0.7
NNSB	Datong	1.76	320	eP	Pn	05 06 08.1	+0.2
NNSB				eS	Sn	05 06 28.4	-1.2
LATG	Datong	1.77	325	P	Pn	05 06 07.9	-0.1
TWT	Tachien	1.77	311	eP	Pn	05 06 08.8	+0.7
TWT				eS	Sn	05 06 29.2	-0.7
TAWH	Dawu Township	1.77	246	P	Pn	05 06 08.4	+0.5
TAWH				eS	Sn	05 06 28.9	-0.9
NNS	Nan Shan	1.78	320	eP	Pn	05 06 08.4	+0.3
NNS				eS	Sn	05 06 29.2	-0.8
SMLT	Sun Moon Lake	1.78	297	P	Pn	05 06 08.7	+0.6
TDCB	Techi	1.79	311	eP	Pn	05 06 08.4	+0.2
TDCB				eS	Sn	05 06 28.6	-1.6
EAST	Anshuo	1.79	247	P	Pn	05 06 08.6	+0.4
EAST				eS	Sn	05 06 29.1	-1.1
ENTT	Nioudou	1.83	328	eP	Pn	05 06 09.3	+0.5
ENTT				eS	Sn	05 06 30.3	-0.8
TWE	Neicheng	1.85	332	eP	Pn	05 06 09.8	+0.8
TWE				eS	Sn	05 06 31.0	-0.7
TPUB	Ta-pu	1.86	277	P	Pn	05 06 11.1	+2.0
TPUB	Ta-pu	1.86	277	P	Pn	05 06 10.9	+1.8
TPUB				eS	Sn	05 06 32.6	+0.8
CHN5	Tsauling	1.87	286	P	Pn	05 06 11.2	+1.9
CHN5				eS	Sn	05 06 32.6	+0.3
TSMG	Majia	1.87	259	eP	Pn	05 06 09.9	+0.6
SSD	Sandimen	1.88	260	eP	Pn	05 06 10.2	+0.9
JIJ	Ishigaki jima	1.88	47	P	Pn	05 06 09.3	0.0
JIJ				S	Sn	05 06 31.3	-1.0
WCKO	Fanlu	1.90	281	eP	Pb	05 06 12.4	-0.4
SLIU	Shizi	1.90	243	eP	Pn	05 06 10.2	+0.5
MASBT	Mashibuluo	1.91	256	eP	Pn	05 06 10.9	+1.2
FUSB	Fushanzhiwuyua	1.92	330	P	Pn	05 06 10.6	+0.6
FUSB				S	Sn	05 06 33.7	+0.2
CHN1	Nanshi	1.94	273	eP	Pn	05 06 12.9	+2.6
WHP	Taichung City	1.95	308	eP	Pn	05 06 11.7	+1.2
WHP				eS	Sn	05 06 33.8	-0.5
YHNB	Yeheng	1.95	324	P	Pn	05 06 11.1	+0.6
YHNB	Yeheng	1.95	324	P	Pn	05 06 11.1	+0.6
YHNB				eS	Sn	05 06 33.0	-1.3
WNT	Mingjian	1.96	294	eP	Pn	05 06 13.0	+2.6
NSK	Sanguang	1.97	324	i P	Pn	05 06 10.9	+0.3
NSK				S	Sn	05 06 33.6	-1.1
SNST	Tainan City	1.97	274	eP	Pn	05 06 13.0	+2.3
NWLT	Wulai	1.98	329	P	Pn	05 06 11.7	+0.9
NWLT				eS	Sn	05 06 34.4	-0.4
SCST	Cishan	1.98	265	eP	Pn	05 06 12.3	+1.5
SCST				eS	Sb	05 06 38.9	+0.5
TWK	Hsinying	1.98	276	eP	Pn	05 06 13.3	+2.4
TWK				S	Sn	05 06 37.4	+2.4
SCZT	Fangliau	1.99	250	eP	Pn	05 06 12.4	+1.5
WGK	Gukeng	2.00	288	eP	Pn	05 06 11.4	+0.4
WDLH	Douliu	2.02	288	eP	Pn	05 06 13.7	+2.4
WDLH				eS	Sn	05 06 38.3	+2.6
TIPB	Shuangxi	2.02	339	eP	Pn	05 06 12.7	+1.3
TIPB				i S	Sn	05 06 35.2	-0.6
TWKBT	Hengchun	2.03	236	eP	Pn	05 06 12.8	+1.3
TWKBT				eS	Sn	05 06 37.0	+0.9
CHN2	Minshiung	2.04	283	eS	Sb	05 06 39.5	-0.4
HEN	Hengchun	2.06	239	eP	Pn	05 06 12.7	+0.9
HEN				eS	Sn	05 06 37.0	+0.3
TWM1	Shoushan	2.06	263	eP	Pn	05 06 13.9	+2.0
CHY	Chiayi	2.07	282	eP	Pb	05 06 15.3	-0.3
CHY				eS	Sn	05 06 40.0	+2.9
NFF	Wufeng Townshi	2.07	318	eP	Pn	05 06 13.8	+1.6
TCU	Taichung	2.08	301	eP	Pn	05 06 14.8	+2.6
SXI1	Grass Mountain	2.12	341	P	Pn	05 06 12.8	+0.1
SXI1				S	Sn	05 06 37.1	-1.2
TWA	Mucha	2.12	333	eP	Pn	05 06 14.4	+1.7
TWA				i S	Sn	05 06 38.9	+0.7
TWQ1	Liyutan	2.12	307	eP	Pn	05 06 15.1	+2.4
WFSB	Wu-fen Shan	2.13	339	eP	Pn	05 06 14.6	+1.9
WFSB				S	Sn	05 06 38.7	+0.3
JISG	Ishigakijimahi	2.14	45	P	Pn	05 06 12.8	-0.2
JISG				S	Sn	05 06 38.1	-0.7
NSTT	Nanjuang	2.15	316	eP	Pn	05 06 15.1	+2.0
LIOB	Emei	2.15	317	eP	Pn	05 06 15.2	+2.1
KSHI	Guanxi Townshi	2.15	322	i P	Pn	05 06 15.4	+2.3
WTK	Tuku	2.15	287	eP	Pn	05 06 14.9	+1.8
WTK				eS	Sn	05 06 39.3	+0.3
TATO	Taipei	2.15	331	P	Pn	05 06 14.9	+1.7
NSY	Sanyi	2.17	308	eP	Pn	05 06 15.7	+2.4
NMLH	Miaoli	2.22	311	eP	Pn	05 06 16.4	+2.2
CHN8	Yiju	2.25	277	eS	Sn	05 06 44.7	+3.3
WSL	Shuilin Townsh	2.25	282	P	Pn	05 06 17.2	+2.7
WSL				i S	Sn	05 06 43.8	+2.2
YM01	YM01	2.27	335	eP	Pn	05 06 16.0	+1.2
YM01				S	Sn	05 06 42.3	+0.2
ZUZH	Zhuzihu	2.29	335	P	Pn	05 06 16.3	+1.2
ZUZH				S	Sn	05 06 42.6	-0.1
NCUH	Zhongli	2.30	325	eP	Pn	05 06 16.9	+1.8
NCUH				S	Sn	05 06 44.0	+1.3
WTCT	Ta-ch'eng	2.30	290	eP	Pn	05 06 15.4	+0.3
NCU	National Centr	2.30	325	eP	Pn	05 06 16.5	+1.4
YM08	YM08	2.30	336	eP	Pn	05 06 17.2	+2.0
ANP	Anpu	2.33	334	eP	Pn	05 06 17.9	+2.2
NTST	Danshui	2.34	333	eP	Pn	05 06 15.1	-0.6
NTST				eS	Sn	05 06 43.3	-0.3
TSCK	Chigu Township	2.35	272	eP	Pn	05 06 16.0	+0.2
TSCK				eS	Sn	05 06 46.5	+2.7
PHUB	P'eng-hu	2.85	279	eP	Pn	05 06 24.1	+1.5
PHUB				S	Sn	05 06 56.3	+0.1
VCHM	Qimei	2.95	273	eP	Pn	05 06 25.5	+1.3
VCHM				eS	Sn	05 06 59.0	+0.2
JMJ2	Miyako jima3	2.96	56	eP	Pn	05 06 25.1	+0.8
PTMZ	Houxiangcun	3.76	302	P	Pn	05 06 36.2	+1.0
PTMZ				S	Sn	05 07 16.8	-1.8
XPSS	Dashiqiu	4.42	330	eP	Pn	05 06 44.2	-0.2
AXDP	Jialang	4.63	294	eP	Pn	05 06 48.1	+0.8

*MOS **20** 05:14:17.8±1.6,50°47N×87°33E,h7km,mb3.9/6,Error ellipse: s-maj=7.1km s-min=4.2km az=92.6*
*ASRS **20** 05:14:17.5,50°5N±1°0×87°5E±1°0,h13km±1km, MLh4.8/22,confirmed*
*IDC **20** 05:14:18.2±1.0,50°68N×87°48E,h0km,mb3.7/8, mbtmp3.9/13,ML4.1/5,MS3.0/4,Error ellipse: s-maj=17.9km s-min=14.9km az=130.0*
*NEIC **20** 05:14:21.7±1.8,50°69N±0°01×87°2E±0°2,h10km±2km, mb4.2/20,Error ellipse: s-maj=20.5km s-min=3.0km az=90.0*
*NNC **20** 05:14:21.4±1.0,50°62N×87°05E,h0km,mb4.5,mpv4.5, Error ellipse: s-maj=9.4km s-min=4.4km az=100.0*

ISC 20 05:14:18.9±0.4,50°59N±0°02×87°43E±0°02,h10km,n149, σ2°17/208,mb3.9/16,16C-19D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	Chibit, Altay	0.28	170	⇓Pg	Pg	05 14 22.3	-2.2
CHBI				S	Sg	05 14 25.6	-2.7
CHBI	Chibit, Altay	0.28	170	PG	Pg	05 14 22.3	-2.2
AKAR	Aktash	0.29	156	⇓P	Pg	05 14 22.7	-2.2
AKAR				Sg	Sg	05 14 26.2	-2.6
AKAR	Aktash	0.29	156	PG	Pg	05 14 22.7	-2.2
ULGR	Ulagan, Altay	0.34	84	⇑P	Pg	05 14 24.7	-1.0
ULGR				S	Sg	05 14 29.5	-0.7
ULGR	Ulagan, Altay	0.34	84	PG	Pg	05 14 24.7	-1.0
CUR	Chagan-Uzun	0.77	129	⇑P	Pg	05 14 31.5	-2.1
CUR				S	Sg	05 14 41.5	-2.2
CUR	Chagan-Uzun	0.77	129	PG	Pg	05 14 31.5	-2.1
CUR				S	Sg	05 14 41.4	-2.2
DGZ	Jazzator, Alta	0.89	180	⇓P	Pg	05 14 33.5	-2.4
DGZ				S	Sg	05 14 44.3	-3.3
DGZ	Jazzator, Alta	0.89	180	PG	Pg	05 14 33.6	-2.4
DGZ						05 14 44.1	
ELDR	Elanda	1.06	307	⇑P	Pg	05 14 37.9	-1.3
ELDR				S	Sg	05 14 52.2	-0.7
ELDR	Elanda	1.06	307	PG	Pg	05 14 38.2	-1.0
ELDR						05 14 52.6	
YALR	Yailyu, Altay	1.19	5	⇓P	Pb	05 14 40.5	-1.0
YALR				S	Sb	05 14 56.9	0.0
YALR	Yailyu, Altay	1.19	5	PG	Pb	05 14 40.5	-1.0
YALR				S	Sb	05 14 56.9	0.0
ARTR	Artybash	1.22	356	⇓P	Pn	05 14 41.2	-0.7
ARTR				S	Sn	05 14 58.5	0.0
ARTR	Artybash	1.22	356	PG	Pn	05 14 41.3	-0.7
ARTR						05 14 58.3	
GALT	Gorno-Altaysk,	1.66	326	P	Pb	05 14 49.1	-0.4
GALT				S	Sg	05 15 11.9	-0.3
GALT	Gorno-Altaysk,	1.66	326	PN	Pb	05 14 49.1	-0.4
GALT				S	Sg	05 15 11.8	-0.3
TEL	Teeli	1.81	75	⇑P	Pb	05 14 51.7	-0.4
TEL				S	Sb	05 15 15.3	+0.4
TEL	Teeli	1.81	75	PN	Pb	05 14 51.7	-0.4
TEL						05 15 15.5	
TASR	Tashtagol	2.19	7	⇓P	Pb	05 14 59.2	+0.5
TASR				S	Sg	05 15 28.7	-0.7
TASR	Tashtagol	2.19	7	PN	Pg	05 14 59.9	-1.0
TASR						05 15 30.2	
ELT	Eltsovka	2.78	345	⇓P	Pb	05 15 06.5	-2.1
ELT				S	Sb	05 15 42.3	-0.4
ELT	Eltsovka	2.78	345	PN	Pb	05 15 06.4	-2.1
ELT				S	Sb	05 15 42.2	-0.4
KALT1	Kaltan 1	2.83	360	P	Pb	05 15 07.5	-1.9
KALT1				S	Sg	05 15 49.0	-0.8
MALIN	Malinovka, Kuz	2.84	358	P	Pb	05 15 07.1	-2.5
MALIN				Sg	Sg	05 15 50.2	+0.1
MALIN	Malinovka, Kuz	2.84	358	PN	Pb	05 15 07.1	-2.5
MALIN				S	Sg	05 15 50.1	+0.1
TAIL	Tailep, Kuzbas	2.87	357	P	Pb	05 15 09.7	-0.4
TAIL				Sg	Sg	05 15 51.0	0.0
TAIL	Tailep, Kuzbas	2.87	357	PN	Pb	05 15 09.7	-0.4
TAIL				S	Sg	05 15 50.9	0.0
KALT3	Kaltan 3	2.93	0	P	Pb	05 15 09.3	-1.8
KALT3				Sg	Sg	05 15 51.8	-1.1
KIYZ	Kiyzas, Kuzbas	2.98	4	P	Pb	05 15 09.7	-2.3
KIYZ				Sg	Sg	05 15 54.1	-0.5
LUZB	Luzhba, Kemero	3.21	16	P	Pn	05 15 12.5	+3.2
LUZB				Sg	Sg	05 16 03.4	+1.5
LUZB	Luzhba, Kemero	3.21	16	PN	Pn	05 15 12.5	+3.2
LUZB				S	Sg	05 16 03.3	+1.5
VEH	Verkhnyaya Baz	3.21	33	P	Pb	05 15 13.1	-2.9
VEH				Sg	Sg	05 15 60.0	-2.1
VEH	Verkhnyaya Baz	3.21	33	PN	Pb	05 15 13.1	-2.9
VEH				S	Sg	05 15 59.9	-2.1
DJO	Djoy, Khakassi	3.22	46	P	Pb	05 15 17.5	+1.3
DJO				Sg	Sg	05 15 59.4	-2.9
DJO	Djoy, Khakassi	3.22	46	PN	Pb	05 15 17.4	+1.3
DJO				S	Sg	05 15 59.4	-2.9
CERR	Cheremushki	3.36	46	Pg	Pb	05 15 20.0	+1.5
CERR				Sg	Sb	05 16 03.2	+3.7
CERR	Cheremushki	3.36	46	PN	Pb	05 15 20.0	+1.5
CERR				S	Sb	05 16 03.1	+3.7
ERU	Erunakovo, Kuz	3.56	360	Pn	Pb	05 15 17.8	-4.0
ERU				Pg	Pb	05 15 23.8	+1.9
ERU				Sg	Sg	05 16 11.1	-2.0
ERU	Erunak

MAKZ				⇑Sn		Sn	05 16 39.8 +2.4
	comp=Z,96nm,0.8s						
MAKZ				⇓Lg		Lg	05 17 02.2
	comp=Z,344nm,1.2s						
MAKZ	**Makanchi**	**5.23**	**226**	PN		**Pn**	**05 15 39.1 +2.0**
MAKZ				S		**Sn**	**05 16 39.8 +2.4**
KURK	**Kurchatov**	**5.61**	**275**			**Pn**	**05 15 44.0 +1.8**
KURK	**Kurchatov**	**5.61**	**275**	*i* PN		**Pn**	**05 15 43.7 +1.5**
KURBB	**Kurchatov Arra**	**5.67**	**274**	Pn		**Pn**	**05 15 44.8 +1.8**
	comp=Z,3.9nm,0.3s,baz=87,slow=14,SNR=420						
KURBB				Sn		**Sn**	**05 16 51.3 +3.2**
	comp=Z,2.3nm,0.3s,baz=71,slow=20,SNR=4.1						
KURBB				Lg		Lg	05 17 14.5
	comp=Z,3.3nm,0.3s,baz=88,slow=33,SNR=15						
KURBB				LR		LR	05 18 04.5
	comp=Z,142nm,18.7s,baz=184,slow=40						
	comp=Z,40nm,0.4s						
KURBB	**Kurchatov Arra**	**5.67**	**274**	⇑Pn		**Pn**	**05 15 44.2 +1.2**
	comp=Z,58nm,0.5s						
KURBB				⇑Sn		**Sn**	**05 16 48.4 +0.3**
	comp=Z,130nm,0.6s						
KURBB				⇓Lg		Lg	05 17 13.5
	comp=Z,402nm,0.7s						
KURBB	**Kurchatov Arra**	**5.67**	**274**	PN		**Pn**	**05 15 44.2 +1.2**
KURBB							05 16 50.3
KNGR	**Kungurtug, Tuv**	**6.42**	**86**	*e*PN		Pn	05 15 59.0 +5.4
PDGK	**Podgornoye**	**9.06**	**220**	⇓Pn		**Pn**	**05 16 30.9 +1.2**
	comp=Z,20nm,0.5s						
PDGK				⇓Sn		**Sn**	**05 18 13.5 +1.6**
	comp=Z,59nm,0.7s						
PDGK				⇑Lg		Lg	05 19 04.8
	comp=Z,74nm,0.8s						
PDGK	**Podgornoye**	**9.06**	**220**	P		**Pn**	**05 16 30.5 +0.7**
PDGK							05 18 09.1
BVAR	**Borovoye Array**	**10.83**	**290**	LR		LR	05 21 30.3
	comp=Z,55nm,20.9s,baz=86,slow=40						
BORK	**Borovoye**	**10.88**	**290**	*i* P		**Pn**	**05 16 53.3 -1.1**
BRVK	**Borovoye**	**10.90**	**290**	⇓Pn		**Pn**	**05 16 54.5 -0.2**
	comp=Z,3.6nm,0.6s						
BRVK				⇓Sn		**Sn**	**05 18 56.1 -0.5**
	comp=Z,7.1nm,0.7s						
BRVK				⇑Lg		Lg	05 19 59.3
	comp=Z,18nm,0.9s						
KDJ	**Kajisay**	**11.02**	**224**	Pn		**Pn**	**05 16 58.9 +2.2**
KDJ	**Kajisay**	**11.02**	**224**	P		**Pn**	**05 16 58.9 +2.2**
TARG	**Taragay, Kyrgy**	**11.08**	**221**			**Pn**	**05 16 58.1 +0.4**
TARG	**Taragay, Kyrgy**	**11.08**	**221**	P		**Pn**	**05 16 58.1 +0.4**
BOOM	**Boomskoye usch**	**11.31**	**229**			**Pn**	**05 17 02.1 +1.5**
BOOM	**Boomskoye usch**	**11.31**	**229**	P		**Pn**	**05 17 02.1 +1.5**
AAK	**Ala-Archa**	**11.92**	**233**	Pn		**Pn**	**05 17 08.9 0.0**
	comp=Z,0.5nm,0.3s,baz=72,slow=9.4,SNR=9.0						
AAK				Sn		**Sn**	**05 19 18.3 -3.6**
	comp=Z,0.3nm,0.3s,baz=285,slow=20,SNR=2.3						
AAK				Lg		Lg	05 20 36.8
	comp=Z,0.7nm,0.3s,baz=299,slow=21,SNR=7.0						
	comp=Z,2.2nm,0.5s						
AAK	**Ala-Archa**	**11.92**	**233**	⇑Pn		**Pn**	**05 17 09.2 +0.3**
	comp=Z,21nm,0.7s						
AAK				⇑Sn		**Sn**	**05 19 22.2 +0.3**
	comp=Z,39nm,0.7s						
AAK				⇓Lg		Lg	05 20 35.0
	comp=Z,216nm,1.2s						
AAK	**Ala-Archa**	**11.92**	**233**	*i* P		**Pn**	**05 17 09.2 +0.3**
SONM	**Songino Array**	**12.70**	**95**	Lg		Lg	05 20 58.5
	comp=Z,0.5nm,0.3s,baz=297,slow=29,SNR=8.3						
KSH	**Kashi**	**13.70**	**220**	P		**P**	**05 17 42.0 0.0**
KK31	**Karatay Array**	**13.77**	**244**	Pn		**Pn**	**05 17 32.3 -1.7**
KK31	**Karatay Array**	**13.77**	**244**	⇑Pn		**Pn**	**05 17 34.0 0.0**
	comp=Z,1.2nm,0.4s						
KK31				⇑Sn		**Sn**	**05 20 06.3 -0.6**
	comp=Z,2.4nm,0.5s						
KK31				⇑Lg		Lg	05 21 32.0
	comp=Z,19nm,0.8s						
KK31	**Karatay Array**	**13.77**	**244**	P		**Pn**	**05 17 32.4 -1.6**
KK31							05 20 02.7
KKAR	**Karatay Array**	**13.77**	**244**	Pn		**Pn**	**05 17 32.3 -1.7**
KKAR	**Karatay Array**	**13.77**	**244**	P		**Pn**	**05 17 32.3 -1.7**
GAR	**Garm**	**16.74**	**233**			**Pn**	**05 18 13.6 +0.2**
GAR				IAmb		IAmb	05 18 19.2
	comp=Z,13nm,0.5s						
SVE	**Sverdlovsk**	**16.98**	**302**	*e*P		**Pn**	**05 18 15.0 -1.2**
SVE				*e*S		**Sn**	**05 21 18.1 -6.6**
AB31	**Akbulak array**	**17.71**	**276**			**Pn**	**05 18 24.1 -1.3**
AB31	**Akbulak array**	**17.71**	**276**	Pn		**Pn**	**05 18 24.3 -1.1**
	comp=Z,1.9nm,0.5s,baz=80,slow=16,SNR=27						
AB31	**Akbulak array**	**17.71**	**276**	P		**Pn**	**05 18 24.3 -1.1**
ABKAR	**Akbulak array**	**17.71**	**276**			**Pn**	**05 18 24.3 -1.1**
ARTI	**Arti**	**18.14**	**300**	P		**Pn**	**05 18 28.3 -2.4**
ARTI	**Arti**	**18.14**	**300**	P		**Pn**	**05 18 29.4 -1.3**
	comp=Z,0.6nm,0.3s,baz=79,slow=6.1,SNR=3.4						
ARTI				S		**Sn**	**05 21 47.6 -5.3**
	comp=Z,2.7nm,0.6s,baz=56,slow=18,SNR=1.9						
	comp=Z,2.2nm,0.5s						
ARTI	**Arti**	**18.14**	**300**	P		**Pn**	**05 18 28.4 -2.3**
ARTI				S		**Sn**	**05 21 47.6 -5.3**
AKTO	**Aktyubinsk**	**18.66**	**281**	P		**P**	**05 18 35.8 -0.9**
	comp=Z,0.5nm,0.3s,baz=68,slow=8.9,SNR=12						
AKTO				LR		LR	05 26 21.8
	comp=Z,40nm,20.8s,baz=70,slow=39						
	comp=Z,4.1nm,0.6s						
AKTO	**Aktyubinsk**	**18.66**	**281**	⇓Pn		**Pn**	**05 18 36.6 -0.4**
	comp=Z,7.3nm,1.5s						
NIL	**Nilore**	**19.87**	**217**	P		**Pn**	**05 18 52.2 +0.5**
NIL				IAmb		IAmb	05 18 53.1
	comp=Z,13nm,1.1s						
NIL	**Nilore**	**19.87**	**217**	P		**Pn**	**05 18 52.2 +0.5**
NIL				pmax		pmax	
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**20.90**	**227**	P		Pn	05 19 02.7 -1.3
KBL	**Kabul**	**20.90**	**227**	P		Pn	05 19 02.7 -1.3
KBL				pmax		pmax	
	comp=Z,4.0nm,0.8s						
BELG	**Belogornoye**	**24.64**	**290**	*i* P		**P**	**05 19 40.9 +1.7**
BELG				pmax		pmax	
	comp=Z,2.0nm,0.7s						
CN2	**Changchun**	**26.48**	**90**	*e*P		**P**	**05 20 02.3 +6.2**
CN2				pmax		pmax	
	comp=Z,10.0nm,0.6s						
TIXI	**Tiksi**	**28.09**	**26**	LR		LR	05 32 26.5
	comp=Z,32nm,18.9s,baz=186,slow=39						
CHTO	**Chiang Mai**	**33.00**	**160**	P		P	05 20 58.8 +4.7
CHTO				IAmb		IAmb	05 21 02.7
	comp=Z,2.8nm,1.1s						
CHTO	**Chiang Mai**	**33.00**	**160**	P		P	05 20 58.8 +4.8
CHTO				pmax		pmax	
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**34.66**	**312**	P		**P**	**05 21 09.0 +1.0**
FINES	**FINESS Array B**	**34.66**	**312**	P		**P**	**05 21 08.5 +0.5**
	comp=Z,0.7nm,0.6s,baz=90,slow=14,SNR=4.9						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**34.66**	**312**	*i* P		**P**	**05 21 09.3 +1.3**
FINES				pmax		pmax	
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**38.66**	**275**	P		**P**	**05 21 43.6 +1.1**
BRTR	**Keskin Array B**	**38.66**	**275**	P		**P**	**05 21 44.4 +1.9**
	comp=Z,1.6nm,0.9s,baz=81,slow=7.6,SNR=8.8						
	comp=Z,1.6nm,0.9s						
BRTR	**Keskin Array B**	**38.66**	**275**	*i* P		**P**	**05 21 44.5 +1.9**
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.8s						
BUR08	**Bucovina Ar. S**	**39.78**	**291**	P		**P**	**05 21 52.9 +1.1**
MLR	**Muntele Rosu**	**40.38**	**287**	P		**P**	**05 21 57.3 +0.5**
MLR	**Muntele Rosu**	**40.38**	**287**	P		**P**	**05 21 57.3 +0.5**
MLR				pmax		pmax	
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**40.85**	**313**	P		**P**	**05 22 00.9 +0.6**
	comp=Z,2.5nm,0.8s,baz=81,slow=12,SNR=2.1						
	comp=Z,2.5nm,0.8s						
NC405	**NORSAR Array S**	**41.41**	**315**	P		**P**	**05 22 06.0 +1.0**
NC405				IAmb		IAmb	05 22 25.9
	comp=Z,5.6nm,0.9s						
NC303	**NORSAR Array S**	**41.53**	**315**	P		**P**	**05 22 07.3 +1.3**
NB2	**NORSAR Subarra**	**41.67**	**315**	P		**P**	**05 22 07.7 +0.6**
	comp=Z,0.7nm,0.6s,baz=66,slow=7.9						
NOA	**NORSAR Array B**	**41.67**	**315**	P		**P**	**05 22 07.4 +0.3**
	comp=Z,0.8nm,0.7s,baz=65,slow=7.8,SNR=5.9						
	comp=Z,0.8nm,0.7s						
CLL	**Collm**	**44.99**	**301**	*e*P		**P**	**05 22 37.0 +3.0**
CLL	**Collm**	**44.99**	**301**	*e*P		**P**	**05 22 37.0 +3.0**
FUORN	**Ofenpass-Fuorn**	**49.02**	**297**	P		**P**	**05 23 07.0 +1.1**
FUORN				IAmb		IAmb	05 23 31.6
	comp=Z,2.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**51.05**	**313**	P		**P**	**05 23 21.6 +0.8**
	comp=Z,0.6nm,0.5s,baz=68,slow=6.6,SNR=4.8						
	comp=Z,0.6nm,0.5s						
D22K	**Ayikyak River**	**52.91**	**23**	P		**P**	**05 23 36.5 +1.9**
D23K	**Nanushuk River**	**53.35**	**22**	P		**P**	**05 23 40.3 +2.6**
F26K	**Sheenjek River**	**55.88**	**21**	P		**P**	**05 24 00.4 +4.2**
F26K				IAmb		IAmb	05 24 10.2
	comp=Z,2.6nm,1.1s						
E29M	**Blow River**	**56.66**	**18**	P		**P**	**05 24 04.1 +2.5**
G27K	**Doyon Strip**	**57.17**	**21**	P		P	05 24 10.0 +4.6
G27K				IAmb		IAmb	05 24 31.2
	comp=Z,1.9nm,1.1s						
ILAR	**Eielson Array**	**57.53**	**24**	P		**P**	**05 24 09.3 +1.4**
ILAR	**Eielson Array**	**57.53**	**24**	P		**P**	**05 24 07.7 -0.2**
	comp=Z,0.3nm,0.7s,baz=314,slow=4.5,SNR=4.6						
	comp=Z,0.3nm,0.7s						
G29M	**Pine Creek**	**57.88**	**19**	P		**P**	**05 24 14.0 +3.7**
I30M	**Mount Dempster**	**59.68**	**20**	P		**P**	**05 24 25.1 +2.2**
I30M				IAmb		IAmb	05 24 26.3
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**81.46**	**136**	P		**P**	**05 26 37.1 +1.0**
	comp=Z,0.5nm,0.8s,baz=332,slow=5.8,SNR=3.4						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**84.55**	**138**	P		**P**	**05 26 53.6 +1.5**
	comp=Z,0.3nm,0.6s,baz=334,slow=5.4,SNR=4.9						
	comp=Z,0.3nm,0.6s						

*IDC **20** 05:19:51.4±0.5, 27°.23N×140°.31E, h454km±9km, mb3.3/14, mbtmp4.2/16, Error ellipse: s-maj=24.9km s-min=11.7km az=81.0*

ISC 20 05:19:51.4±0.8, 27°.2N±0°.1×140°.3E±0°.1, h450km, n19, σ0.72/19, mb3.7/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.73**	**94**	P	**P**	**05 20 51.4**	**+0.9**
	169nm,0.3s,baz=5.1,slow=19,SNR=668						
JCJ				S	**S**	**05 21 38.7**	**+0.4**
	169nm,0.3s,baz=259,slow=22,SNR=10						
JHJ	**Hachijo jima 2**	**5.89**	**356**	P	**P**	**05 21 25.4**	**+0.9**
	74nm,0.8s,baz=48,slow=23,SNR=6.3						
JOW	**Kunigami**	**10.69**	**271**	P	**P**	**05 22 17.4**	**+1.4**
	22nm,0.5s,baz=115,slow=18,SNR=5.4						
KSRS	**Korea Array**	**14.57**	**318**	P		05 23 04.1	+6.3
	0.5nm,0.6s,baz=144,slow=8.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**38.91**	**266**	P	**P**	**05 26 36.8**	**-0.3**
	0.7nm,0.3s,baz=56,slow=7.8,SNR=4.9						
	0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**47.23**	**199**	P	**P**	**05 27 42.2**	**-0.1**
	1.6nm,0.8s,baz=30,slow=9.5,SNR=2.3						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**47.23**	**188**	P	**P**	**05 27 42.2**	**-0.2**
	0.8nm,0.4s,baz=4.2,slow=7.6,SNR=19						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**48.27**	**319**	P	**P**	**05 27 49.5**	**-0.3**
	0.9nm,0.3s,baz=98,slow=6.8,SNR=4.8						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**49.07**	**310**	P	**P**	**05 27 56.0**	**0.0**
	0.7nm,0.4s,baz=87,slow=11,SNR=6.5						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**50.96**	**187**	P	**P**	**05 28 10.0**	**-0.1**
	0.4nm,0.4s,baz=359,slow=5.0,SNR=9.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**51.72**	**314**	P	**P**	**05 28 15.2**	**-0.1**
	5.4nm,0.7s,baz=92,slow=8.1,SNR=44						
	5.4nm,0.7s						
AKTO	**Aktyubinsk**	**64.74**	**316**	P	**P**	**05 29 43.5**	**-0.4**
	1.2nm,0.5s,baz=90,slow=5.1,SNR=2.2						
	1.2nm,0.5s						
ARCES	**ARCESS Array B**	**72.85**	**340**	P	**P**	**05 30 33.6**	**+0.7**
	1.0nm,0.5s,baz=70,slow=8.2,SNR=14						
	1.0nm,0.5s						
KBZ	**Khabaz**	**76.66**	**312**	P	**P**	**05 30 54.0**	**-0.8**
	1.4nm,0.7s,baz=87,slow=8.0,SNR=4.8						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**77.07**	**333**	P	**P**	**05 30 56.5**	**-0.2**
	3.4nm,0.4s,baz=68,slow=4.9,SNR=64						
	3.4nm,0.4s						
HFS	**Hagfors**	**82.62**	**336**	P	**P**	**05 31 25.0**	**-1.0**
	0.9nm,0.4s,baz=127,slow=2.3,SNR=12						
	0.9nm,0.4s						
NB2	**NORSAR Subarra**	**82.85**	**338**	P	**P**	**05 31 26.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.85**	**338**	P	**P**	**05 31 26.6**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=46,slow=4.9,SNR=5.4						
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**84.65**	**312**	P	**P**	**05 31 36.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=48,slow=4.3,SNR=2.4						
	comp=Z,0.4nm,0.6s						

ROM 20 05:21:27.8±0.0, 42°.790N±0°.002×13°.142E±0°.004, h10km, ML2.2/94, 8C-4D, Error ellipse: s-maj=0.2km s-min=0.1km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**335**	⇓P	Pg	05 21 30.4	+0.4
NRCA				S	Sg	05 21 32.0	+0.4
NRCA				AML	AML		
	comp=E,9985μm,0.4s						
NRCA				AML	AML		
	comp=E,9990μm,0.4s						
NRCA				AML	AML		
	comp=N,8200μm,0.1s						
NRCA				AML	AML		
	comp=E,9985μm,1.6s						
NRCA				AML	AML		
	comp=N,8201μm,0.1s						
NRCA				AML	AML		
	comp=E,9960μm,0.1s						
MC2	**Monte Cornacci**	**0.13**	**16**	⇓P	Pg	05 21 31.5	+0.4
MC2				S	Sg	05 21 34.1	+0.8
MMO1	**Montemonaco**	**0.17**	**51**	⇑P	Pg	05 21 32.1	+0.4
MMO1				S	Sg	05 21 35.3	+0.9
FEMA	**Monte Fema**	**0.18**	**339**	P	Pg	05 21 32.3	+0.4
FEMA				S	Sg	05 21 35.5	+0.8
MTRA	**Matera**	**0.19**	**100**	⇑P	Pg	05 21 32.4	+0.4
MTRA				S	Sg	05 21 35.7	+0.9
MTRA				AML	AML		
	comp=N,1590μm,1.5s						
MTRA				AML	AML		
	comp=E,1550μm,0.1s						
MTRA				AML	AML		
	comp=N,1560μm,1.5s						
MTRA				AML	AML		
	comp=N,1595μm,1.5s						
MTRA				AML	AML		
	comp=N,1595μm,1.5s						
MTRA				AML	AML		
	comp=N,1595μm,0.5s						
MTRA				AML	AML		
	comp=N,1560μm,0.5s						
MTRA				AML	AML		
	comp=E,1575μm,0.1s						
MTRA				AML	AML		
	comp=N,1341μm,0.2s						
MTRA				AML	AML		
	comp=N,1362μm,0.2s						
MTRA				AML	AML		
	comp=E,1576μm,0.1s						
MTRA				AML	AML		
	comp=E,1546μm,0.1s						
LNSS	**Leonessa**	**0.20**	**202**	⇑P	Pg	05 21 32.7	+0.6
LNSS				S	Sg	05 21 36.4	+1.3
LNSS				AML	AML		
	comp=E,1860μm,0.1s						
LNSS				AML	AML		
	comp=N,1855μm,0.6s						
LNSS				AML	AML		
	comp=E,1865μm,0.1s						
LNSS				AML	AML		
	comp=E,2010μm,0.1s						
LNSS				AML	AML		
	comp=N,1850μm,0.6s						
LNSS				AML	AML		
	comp=N,1960μm,0.6s						
LNSS				AML	AML		
	comp=N,1960μm,1.4s						
LNSS				AML	AML		
	comp=N,1850μm,1.4s						
LNSS				AML	AML		
	comp=N,1925μm,0.2s						
LNSS				AML	AML		
	comp=N,1804μm,0.2s						
LNSS				AML	AML		
	comp=E,2013μm,0.1s						
LNSS				AML	AML		
	comp=E,1862μm,0.1s						
SMA1	**SAN MARTINO**	**0.21**	**138**	⇑P	Pg	05 21 32.9	+0.5
SMA1				S	Sg	05 21 36.6	+1.2
SMA1				AML	AML		
	comp=E,946μm,1.6s						
SMA1				AML	AML		
	comp=N,876μm,0.5s						
SMA1				AML	AML		
	comp=N,759μm,0.2s						
SMA1				AML	AML		
	comp=E,801μm,0.2s						
FDMO	**Fiordimonte**	**0.25**	**351**	⇓P	Pg	05 21 33.3	+0.3
FDMO				S	Sg	05 21 37.4	+1.0
FDMO				AML	AML		
	comp=N,854μm,1.4s						
FDMO				AML	AML		
	comp=E,870μm,0.2s						
FDMO				AML	AML		
	comp=N,854μm,0.6s						
FDMO				AML	AML		
	comp=E,870μm,1.8s						
FDMO				AML	AML		
	comp=N,787μm,0.3s						
FDMO				AML	AML		
	comp=E,870μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**321**	P	Pg	05 21 33.8	+0.3
CESI				S	Sg	05 21 38.4	+1.1
CESI				AML	AML		
	comp=N,2220μm,0.6s						
CESI				AML	AML		
	comp=E,1290μm,0.1s						
CESI				AML	AML		
	comp=N,2305μm,0.4s						
CESI				AML	AML		
	comp=E,1290μm,0.1s						
CESI				AML	AML		
	comp=E,1325μm,1.0s						
CESI				AML	AML		
	comp=E,1293μm,0.1s						
CESI				AML	AML		
	comp=N,2013μm,0.2s						
CESI				AML	AML		
	comp=N,1806μm,0.1s						
CESI				AML	AML		
	comp=E,1322μm,0.2s						
RM33	**Pellescritta (**	**0.29**	**169**	P	Pg	05 21 34.2	+0.5
RM33				S	Sb	05 21 39.1	-0.9
RM33				AML	AML		
	comp=N,544μm,0.3s						
RM33				AML	AML		
	comp=N,569μm,1.4s						
RM33				AML	AML		
	comp=E,703μm,0.2s						
RM33				AML	AML		
	comp=E,688μm,0.2s						
RM33				AML	AML		
	comp=N,569μm,0.6s						
RM33				AML	AML		
	comp=E,687μm,0.2s						
RM33				AML	AML		
	comp=N,512μm,0.1s						
RM33				AML	AML		
	comp=N,518μm,0.1s						
CSP1	**Cessapalombo**	**0.30**	**9**	P	Pg	05 21 34.3	+0.2
CSP1				S	Sg	05 21 39.2	+1.0
CSP1				AML	AML		
	comp=E,1047μm,0.6s						
CSP1				AML	AML		
	comp=N,943μm,1.2s						
CSP1				AML	AML		
	comp=N,943μm,0.8s						
CSP1				AML	AML		
	comp=E,1047μm,1.4s						
CSP1				AML	AML		
	comp=E,968μm,0.2s						
CSP1				AML	AML		
	comp=N,927μm,0.2s						
MF5	**Montefalcone A**	**0.31**	**50**	P	Pg	05 21 34.7	+0.7
MF5				S	Sb	05 21 39.9	-0.6
MF5				AML	AML		
	comp=E,902μm,0.7s						
MF5				AML	AML		
	comp=N,798μm,0.7s						
MF5				AML	AML		
	comp=E,902μm,1.3s						
MF5				AML	AML		
	comp=N,798μm,1.3s						
MF5				AML	AML		
	comp=N,702μm,0.2s						
MF5				AML	AML		
	comp=E,671μm,0.5s						
GUMA	**Gualdo di Mace**	**0.31**	**27**	⇑P	Pg	05 21 34.6	+0.6
GUMA				S	Sb	05 21 40.0	-0.6
GUMA				AML	AML		
	comp=E,2000μm,0.3s						
GUMA				AML	AML		
	comp=N,3570μm,0.3s						
GUMA				AML	AML		
	comp=N,2990μm,0.5s						
GUMA				AML	AML		
	comp=E,4120μm,0.3s						
GUMA				AML	AML		
	comp=N,3570μm,0.3s						
GUMA				AML	AML		
	comp=E,2000μm,0.3s						
GUMA				AML	AML		
	comp=E,4120μm,0.3s						
GUMA				AML	AML		
	comp=N,2503μm,0.3s						
GUMA				AML	AML		
	comp=N,3570μm,0.3s						
GUMA				AML	AML		
	comp=E,2002μm,0.3s						
CAMP	**Campotosto**	**0.32**	**142**	P	Pg	05 21 34.6	+0.3
CAMP				S	Sg	05 21 39.6	+1.0
MML1	**Montelago di S**	**0.35**	**339**	⇓P	Pg	05 21 35.0	+0.2
MML1				S	Sg	05 21 40.5	+1.0
ARRO	**Arrone**	**0.35**	**233**	⇑P	Pg	05 21 35.1	+0.4
ARRO				S	Sb	05 21 41.0	-0.6
ARRO				AML	AML		
	comp=E,476μm,0.2s						
ARRO				AML	AML		
	comp=N,422μm,1.0s						
ARRO				AML	AML		
	comp=N,397μm,0.3s						
ARRO				AML	AML		
	comp=E,475μm,0.2s						
SAP2	**Sant'Angelo in**	**0.36**	**32**	P	Pg	05 21 35.6	+0.6
SAP2				S	Sb	05 21 41.5	-0.5
SAP2				AML	AML		
	comp=E,1100μm,0.3s						
SAP2				AML	AML		
	comp=N,8905μm,0.7s						
SAP2				AML	AML		
	comp=E,1099μm,0.3s						
SAP2				AML	AML		
	comp=N,7431μm,0.2s						
PF6	**Pievefavera**	**0.36**	**6**	P	Pg	05 21 35.2	+0.2
PF6				S	Sg	05 21 40.4	+0.6
TERO	**Teramo**	**0.38**	**116**	P	Pg	05 21 35.4	+0.1
TERO				S	Sg	05 21 41.4	+1.0
TERO				AML	AML		
	comp=E,570μm,0.9s						
TERO				AML	AML		
	comp=N,708μm,0.3s						
TERO				AML	AML		
	comp=E,570μm,1.1s						
TERO				AML	AML		
	comp=N,613μm,0.1s						
TERO				AML	AML		
	comp=E,502μm,0.1s						
SEF1	**Sefro**	**0.38**	**338**	P	Pg	05 21 35.6	+0.2
SEF1				S	Sb	05 21 41.7	-1.0
MDAR	**Monte D'Aria**	**0.40**	**0**	P	Pb	05 21 36.7	-0.4
MDAR				S	Sb	05 21 42.3	-1.1
MOMA	**Monte Martano**	**0.42**	**272**	⇑P	Pg	05 21 36.3	+0.2
MOMA				S	Sb	05 21 43.2	-0.7
MOMA				AML	AML		
	comp=N,531μm,0.2s						
MOMA				AML	AML		
	comp=E,714μm,1.2s						
MOMA				AML	AML		
	comp=E,648μm,0.3s						
MOMA				AML	AML		
	comp=N,531μm,0.2s						
MOMA				AML	AML		
	comp=E,624μm,0.3s						
MOMA				AML	AML		
	comp=N,453μm,0.2s						
MNTP	**Montappone**	**0.42**	**35**	P	Pb	05 21 37.0	-0.4

OFFI	**Offida**	**0.42 70**	P	Pb	05 21 37.2	-0.2
OFFI			AML	AML		
	comp=E,700μm,1.6s					
OFFI			AML	AML		
	comp=N,549μm,0.5s					
OFFI			AML	AML		
	comp=E,700μm,0.4s					
OFFI			AML	AML		
	comp=N,549μm,1.5s					
OFFI			AML	AML		
	comp=E,627μm,0.3s					
OFFI			AML	AML		
	comp=N,504μm,0.3s					
MNTT	**Montottone**	**0.43 51**	⇑P	Pb	05 21 37.3	-0.3
MNTT			S	Sb	05 21 43.3	-0.8
MNTT			AML	AML		
	comp=E,980μm,0.2s					
MNTT			AML	AML		
	comp=N,1225μm,0.2s					
MNTT			AML	AML		
	comp=N,1225μm,0.2s					
MNTT			AML	AML		
	comp=E,979μm,0.2s					
ASSB	**Assisi San Ben**	**0.44 306**	P	Pg	05 21 36.5	+0.1
ASSB			S	Sb	05 21 43.2	-1.0
ASSB			AML	AML		
	comp=N,490μm,0.2s					
ASSB			AML	AML		
	comp=E,510μm,0.3s					
ASSB			AML	AML		
	comp=E,498μm,0.2s					
ASSB			AML	AML		
	comp=N,490μm,0.2s					
CESX	**Cesi**	**0.45 247**	P	Pg	05 21 36.7	+0.1
CESX			S	Sb	05 21 44.1	-0.6
GIGS	**Gran Sasso**	**0.46 137**	P	Pg	05 21 36.9	0.0
GIGS			S	Sg	05 21 43.9	+0.9
GIGS			AML	AML		
	comp=N,95μm,0.4s					
GIGS			AML	AML		
	comp=E,87μm,0.2s					
GIGS			AML	AML		
	comp=N,80μm,0.1s					
GIGS			AML	AML		
	comp=E,63μm,0.1s					
AQU	**L'Aquila**	**0.48 156**	P	Pg	05 21 37.5	+0.4
AQU			S	Sb	05 21 44.9	-0.5
SNTG	**Esanatoglia**	**0.49 342**	P	Pg	05 21 37.4	0.0
SNTG			S	Sb	05 21 44.9	-0.8
SNTG			AML	AML		
	comp=N,188μm,0.9s					
SNTG			AML	AML		
	comp=E,149μm,0.5s					
SNTG			AML	AML		
	comp=E,149μm,1.5s					
SNTG			AML	AML		
	comp=N,188μm,1.1s					
SNTG			AML	AML		
	comp=E,128μm,0.1s					
SNTG			AML	AML		
	comp=N,173μm,0.2s					
FIAM	**Fiamignano**	**0.52 182**	P	Pg	05 21 38.0	0.0
FIAM			S	Sg	05 21 45.8	+0.9
FIAM			AML	AML		
	comp=N,103μm,0.2s					
FIAM			AML	AML		
	comp=E,110μm,0.7s					
FIAM			AML	AML		
	comp=N,103μm,0.2s					
FIAM			AML	AML		
	comp=N,187μm,0.2s					
FIAM			AML	AML		
	comp=E,108μm,0.4s					
ATCC	**AVT- Casa Cast**	**0.54 317**	P	Pg	05 21 38.5	+0.2
ATCC			S	Sb	05 21 46.6	-0.6
ATCC			AML	AML		
	comp=E,300μm,1.3s					
ATCC			AML	AML		
	comp=N,333μm,0.3s					
ATCC			AML	AML		
	comp=N,333μm,0.3s					
ATCC			AML	AML		
	comp=E,273μm,0.2s					
EL6	**Elcito**	**0.54 357**	P	Pg	05 21 38.4	0.0
EL6			S	Sb	05 21 46.8	-0.5
EL6			AML	AML		
	comp=E,317μm,0.3s					
EL6			AML	AML		
	comp=N,301μm,0.4s					
EL6			AML	AML		
	comp=E,303μm,0.1s					
EL6			AML	AML		
	comp=N,301μm,0.4s					
TRTR	**Tortoreto Alta**	**0.57 88**	P	Pb	05 21 39.6	-0.3
TRTR			AML	AML		
	comp=N,677μm,0.4s					
TRTR			AML	AML		
	comp=E,691μm,0.5s					
FAGN	**Fagnano**	**0.62 148**	P	Pg	05 21 40.0	+0.2
FAGN			AML	AML		
	comp=E,300μm,0.5s					
FAGN			AML	AML		
	comp=N,231μm,0.4s					
FAGN			AML	AML		
	comp=N,269μm,0.6s					
FAGN			AML	AML		
	comp=E,300μm,0.5s					
VCEL	**Villa Celiera**	**0.65 127**	P	Pg	05 21 40.4	0.0
VCEL			AML	AML		
	comp=E,249μm,0.4s					
VCEL			AML	AML		
	comp=N,256μm,0.6s					
VCEL			AML	AML		
	comp=N,241μm,0.2s					
VCEL			AML	AML		
	comp=E,222μm,0.2s					
MURB	**Monte Urbino**	**0.66 316**	P	Pg	05 21 40.5	0.0
MURB			AML	AML		
	comp=E,590μm,0.3s					
MURB			AML	AML		
	comp=N,488μm,0.9s					
MURB			AML	AML		
	comp=N,569μm,0.9s					
MURB			AML	AML		
	comp=N,488μm,0.9s					
MURB			AML	AML		
	comp=E,607μm,0.3s					
MURB			AML	AML		
	comp=E,607μm,0.3s					
MURB			AML	AML		
	comp=E,590μm,0.3s					
MURB			AML	AML		
	comp=N,445μm,0.3s					
MURB			AML	AML		
	comp=N,521μm,0.3s					
SSFR	**Montelago di S**	**0.70 338**	P	Pg	05 21 41.3	-0.1
SSFR			AML	AML		
	comp=N,344μm,0.8s					
SSFR			AML	AML		
	comp=E,269μm,0.2s					
SSFR			AML	AML		
	comp=N,328μm,0.8s					
SSFR			AML	AML		
	comp=N,328μm,1.2s					
SSFR			AML	AML		
	comp=N,344μm,1.2s					
SSFR			AML	AML		
	comp=E,326μm,0.2s					
SSFR			AML	AML		
	comp=N,307μm,0.2s					
SSFR			AML	AML		
	comp=N,297μm,0.2s					
SSFR			AML	AML		
	comp=E,326μm,0.2s					
SSFR			AML	AML		
	comp=E,269μm,0.2s					
ATFO	**Monte Foce - G**	**0.71 324**	P	Pg	05 21 41.9	+0.3
ATFO			AML	AML		
	comp=N,125μm,0.3s					
ATFO			AML	AML		
	comp=E,116μm,1.2s					
ATFO			AML	AML		
	comp=N,125μm,0.3s					
ATFO			AML	AML		
	comp=E,111μm,0.4s					
ARVD	**Arcevia**	**0.72 348**	P	Pg	05 21 41.5	-0.3
ARVD			AML	AML		
	comp=N,63μm,0.6s					
ARVD			AML	AML		
	comp=E,110μm,0.2s					
ARVD			AML	AML		
	comp=N,63μm,1.4s					
ARVD			AML	AML		
	comp=E,110μm,0.2s					
ARVD			AML	AML		
	comp=N,59μm,0.1s					
SRES	**S.Oreste - Sor**	**0.72 220**	P	Pg	05 21 42.0	+0.2
SRES			AML	AML		
	comp=E,89μm,0.7s					
SRES			AML	AML		
	comp=N,111μm,0.5s					
SRES			AML	AML		
	comp=E,89μm,1.3s					
SRES			AML	AML		
	comp=N,111μm,1.5s					
SRES			AML	AML		
	comp=E,77μm,0.2s					
SRES			AML	AML		
	comp=N,112μm,0.5s					
MGAB	**Montegabbione**	**0.77 280**	P	Pg	05 21 42.7	+0.1
MGAB			AML	AML		
	comp=E,232μm,1.6s					
MGAB			AML	AML		
	comp=N,204μm,0.3s					
MGAB			AML	AML		
	comp=E,240μm,1.6s					
MGAB			AML	AML		
	comp=N,219μm,0.3s					
MGAB			AML	AML		
	comp=E,240μm,0.4s					
MGAB			AML	AML		
	comp=E,232μm,0.4s					
MGAB			AML	AML		
	comp=N,219μm,0.3s					
MGAB			AML	AML		
	comp=N,204μm,0.3s					
MGAB			AML	AML		
	comp=E,197μm,0.3s					
MGAB			AML	AML		
	comp=E,183μm,0.3s					
FRON	**Frontone**	**0.79 337**	P	Pg	05 21 42.6	-0.4
FRON			AML	AML		
	comp=E,73μm,0.4s					
FRON			AML	AML		
	comp=N,94μm,0.3s					
FRON			AML	AML		
	comp=E,63μm,0.2s					
FRON			AML	AML		
	comp=N,94μm,0.3s					
ATMI	**Monte Miggiano**	**0.84 311**	P	Pg	05 21 44.2	+0.2
ATMI			AML	AML		
	comp=E,290μm,0.3s					
ATMI			AML	AML		
	comp=N,342μm,0.3s					
ATMI			AML	AML		
	comp=E,290μm,0.3s					
ATMI			AML	AML		
	comp=N,341μm,0.3s					
CERT	**Cerreto**	**0.85 188**	P	Pg	05 21 43.9	-0.2
CERT			AML	AML		
	comp=E,203μm,0.5s					
CERT			AML	AML		
	comp=N,117μm,0.4s					
CERT			AML	AML		
	comp=E,203μm,1.5s					
CERT			AML	AML		
	comp=E,203μm,0.5s					
CERT			AML	AML		
	comp=N,117μm,0.4s					
PIEI	**Pieia**	**0.87 329**	P	Pg	05 21 44.5	0.0
PIEI			AML	AML		
	comp=E,90μm,0.9s					
PIEI			AML	AML		
	comp=N,50μm,0.9s					
PIEI			AML	AML		
	comp=N,50μm,1.1s					
PIEI			AML	AML		
	comp=E,90μm,1.1s					
PIEI			AML	AML		
	comp=E,79μm,0.4s					
PIEI			AML	AML		
	comp=N,45μm,0.4s					
MPAG	**Monte Paganucc**	**0.88 342**	P	Pg	05 21 44.9	0.0
MPAG			AML	AML		
	comp=N,58μm,0.3s					
MPAG			AML	AML		
	comp=E,58μm,1.5s					
MPAG			AML	AML		
	comp=N,58μm,0.3s					
MPAG			AML	AML		
	comp=E,54μm,0.4s					
SACS	**San Casciano d**	**0.91 274**	P	Pg	05 21 45.2	-0.1
SACS			AML	AML		
	comp=E,64μm,1.3s					
SACS			AML	AML		
	comp=N,54μm,0.5s					
SACS			AML	AML		
	comp=E,64μm,0.7s					
SACS			AML	AML		
	comp=N,54μm,0.5s					
SACS			AML	AML		
	comp=E,55μm,0.5s					
SACS			AML	AML		
	comp=E,128μm,0.8s					
APEC	**Apecchio**	**0.93 326**	AML	AML		
	comp=E,84μm,1.4s					
APEC			AML	AML		
	comp=N,99μm,0.7s					
APEC			AML	AML		
	comp=E,84μm,0.6s					

ROM 20 05:22:22.1±0.1,**42°.803N**±0°.003×**13°.137E**±0°.005,
h13km,**ML1.0/6**,**Error ellipse: s-maj=0.4km**
s-min=0.1km az=271.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**331**	P	Pg	05 22 24.7	0.0
NRCA				S	Sg	05 22 26.4	0.0
MC2	**Monte Cornacci**	**0.12**	**20**	P	Pg	05 22 25.7	+0.1
MC2				S	Sg	05 22 28.6	+0.6
MMO1	**Montemonaco**	**0.17**	**55**	P	Pg	05 22 26.4	+0.3
MTRA	**Matera**	**0.20**	**104**	P	Pg	05 22 26.6	0.0
MTRA				S	Sb	05 22 30.5	-0.8
LNSS	**Leonessa**	**0.21**	**200**	P	Pg	05 22 27.0	+0.1
LNSS				S	Sg	05 22 30.9	+0.8
LNSS				AML	AML		
	comp=E,83μm,0.1s						
LNSS				AML	AML		
	comp=N,108μm,0.2s						
MTCL	**Monte Cavallo**	**0.22**	**332**	P	Pg	05 22 27.2	+0.3
MTCL				S	Sb	05 22 31.1	-0.8
SMA1	**SAN MARTINO**	**0.23**	**140**	P	Pg	05 22 27.6	+0.6
SMA1				S	Sg	05 22 31.1	+0.6
CESI	**CESI - Serrava**	**0.26**	**320**	P	Pg	05 22 28.2	+0.4
CESI				S	Sg	05 22 32.0	+0.5
CSP1	**Cessapalombo**	**0.29**	**10**	P	Pg	05 22 28.4	+0.1
CSP1				S	Sb	05 22 33.7	-0.5
CSP1				AML	AML		
	comp=E,32μm,0.2s						
CSP1				AML	AML		
	comp=N,28μm,0.2s						
ARRO	**Arrone**	**0.35**	**231**	P	Pg	05 22 29.6	+0.3
ARRO				S	Sb	05 22 35.8	0.0
TERO	**Teramo**	**0.39**	**117**	P	Pg	05 22 30.2	+0.3
TERO				S	Sg	05 22 35.8	+0.6
TERO				AML	AML		
	comp=E,14μm,0.1s						
TERO				AML	AML		
	comp=N,23μm,0.1s						

*IDC **20** 05:33:13.4±1.7,3°.16S×137°.85E,h0km,mb3.6/2,*
mbtmp3.6/5,ML3.7/3,Error ellipse: s-maj=54.9km
s-min=24.5km az=126.0
*DJA **20** 05:33:26.1±1.2,3°.S±5°.×13°.9E±°,h18km±14km,M3.9/7,*
MLv3.9/7
ISC 20 05:33:13.8±0.8,**3°.89S**±0°.06×**138°.32E**±0°.05,**h10**km,**n10,**
σ2°33/15,**Irian Jaya**

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

SMPI	**Sarmi**	**1.92 12**	P	**Pg**	**05 33 50.5**	**-0.2**
SMPI			S	**Sn**	**05 34 11.2**	**+0.4**
GENI	**Genyem**	**2.25 55**	P	**Pg**	**05 33 56.5**	**-0.3**
GENI			S	**Sn**	**05 34 19.8**	**+1.0**
JAY	**Jayapura**	**2.74 60**	Pn	**Pb**	**05 34 02.2**	**-0.7**
	3.7nm,0.3s,baz=210,slow=10.0,SNR=16					
JAY			Sn	**Sn**	**05 34 30.1**	**-1.0**
	8.8nm,0.3s,baz=191,slow=11,SNR=5.4					
	7.4nm,0.3s					
JAY	**Jayapura**	**2.74 60**	P	**Pb**	**05 34 03.0**	**+0.1**
SRPI	**Serui, Papua**	**2.89 314**	P	**Pg**	**05 34 09.3**	**+0.1**
BAKI	**Biak**	**3.47 320**	P	**Pb**	**05 34 14.6**	**-0.8**
WRA	**Warramunga Arr**	**16.43 193**	P	**P**	**05 37 11.6**	**+4.2**
	0.4nm,0.3s,baz=17,slow=12,SNR=11					
WRA			S	**Sn**	**05 40 04.3**	**-2.7**
	1.5nm,0.8s,baz=7.3,slow=22,SNR=5.3					
	0.7nm,0.5s					
FITZ	**Fitzroy Crossi**	**18.81 220**	P	**Pn**	**05 37 37.6**	**+3.5**
	0.2nm,0.3s,baz=55,slow=11,SNR=6.2					
FITZ			S	**Sn**	**05 41 00.6**	**-4.1**
	2.6nm,0.7s,baz=161,slow=7.0,SNR=3.6					
	1.3nm,0.8s					
ASAR	**Alice Springs**	**20.12 192**	P	Pn	05 37 56.3	+6.4
	1.5nm,0.8s,baz=20,slow=11,SNR=16					
ASAR			S	**S**	**05 41 31.9**	**-2.3**
	0.5nm,0.7s,baz=6.5,slow=28,SNR=3.6					
	1.5nm,0.8s					
ILAR	**Eielson Array**	**87.06 24**	P	**P**	**05 45 58.1**	**-1.3**
	0.4nm,0.5s,baz=256,slow=5.4,SNR=7.3					
	0.4nm,0.5s					

*SJA **20** 05:37:37.8±0.6,24°.26S×66°.88W,h160km±7km,ML3.5,*
MW3.4
*GUC **20** 05:37:41.3±0.6,24°.22S×67°.43W,h214km±9km,ML3.5*
ISC 20 05:37:40.0±1.3,**24°.31S**±0°.04×**67°.06W**±0°.05,**h150**km,**n38,**
σ1°83/47,**1C**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.66**	**83**	*e*P	**Pn**	**05 38 01.4**	**-1.5**
SALTA				*e*P		05 38 06.7	
SALTA				*e*P		05 38 06.7	
SLA	**San Lorenzo**	**1.47**	**106**	*e*P	Pn	05 37 53.5	-16
SLA				IAML		05 38 09.3	
	comp=Z,386nm,2.7s						
AF01	**San Pedro de A**	**1.70**	**323**	*e*P	**Pn**	**05 38 15.4**	**+3.3**
AF01	**San Pedro de A**	**1.70**	**323**	*e*P	Pn	05 37 57.4	-15
AF01				IAML		05 38 17.1	
	comp=Z,114nm,0.1s						
HJA	**Humahuaca**	**1.87**	**54**	*e*P	**Pn**	**05 38 11.8**	**-2.3**
FSA	**Cafayete**	**2.04**	**152**	*e*P	**Pn**	**05 38 18.4**	**+2.6**
FSA				*e*S	**Sn**	**05 38 42.2**	**-1.1**
GO02	**Mina Guanaco**	**2.46**	**249**	*e*P	**Pn**	**05 38 22.1**	**+1.2**
GO02	**Mina Guanaco**	**2.46**	**249**	*e*P	**Pn**	**05 38 22.1**	**+1.2**
GO02				*e*S	**Sn**	**05 38 54.3**	**+2.0**
GO02				IAML		05 38 55.4	
	comp=Z,214nm,0.3s						
YJA	**Yavi**	**2.56**	**34**	*e*P	**Pn**	**05 38 25.5**	**+3.2**
PB06	**IPOC Station P**	**2.81**	**304**⇑	*e*P	**Pn**	**05 38 26.2**	**+1.1**
PB06	**IPOC Station P**	**2.81**	**304**	*e*P	**Pn**	**05 38 26.0**	**+0.9**
PB06				*e*S	**Sn**	**05 39 00.8**	**+0.8**
PB06				IAML		05 39 01.8	
	comp=Z,155nm,0.1s						
PB14	**IPOC Station P**	**3.07**	**263**	IAML		05 39 06.6	
	comp=E,52nm,0.2s						
PB14	**IPOC Station P**	**3.07**	**263**	*e*P	**Pn**	**05 38 29.7**	**+1.2**
PB14				*e*S	**Sn**	**05 39 05.0**	**-0.9**
PB14				IAML		05 39 07.7	
	comp=Z,66nm,0.2s						
AC02	**Maricunga**	**3.13**	**216**	*e*P	**Pn**	**05 38 30.5**	**+1.0**
AC02				IAML		05 39 28.8	
	comp=E,34nm,0.3s						
AC02	**Maricunga**	**3.13**	**216**	*e*P	**Pn**	**05 38 31.1**	**+1.6**
AC02				*e*S	**Sn**	**05 39 14.3**	**+6.5**
PB09	**IPOC Station P**	**3.21**	**321**	*e*P	**Pn**	**05 38 31.6**	**+1.4**
PB09				*e*S	**Sn**	**05 39 09.7**	**+0.5**
PB09				IAML		05 39 11.9	
	comp=N,79nm,0.4s						
PB09	**IPOC Station P**	**3.21**	**321**	*e*P	**Pn**	**05 38 31.7**	**+1.5**
PB09				IAML		05 39 16.8	
	comp=Z,46nm,0.3s						
PB05	**IPOC Station P**	**3.23**	**296**	*e*P	**Pn**	**05 38 30.7**	**+0.3**
PB05				*e*S	**Sn**	**05 39 07.4**	**-2.0**
PB05				IAML		05 39 10.7	
	comp=E,69nm,0.1s						
PB05	**IPOC Station P**	**3.23**	**296**	*e*P	**Pn**	**05 38 30.7**	**+0.3**
PB05				*e*S	**Sn**	**05 39 10.4**	**+1.0**
PB05				IAML		05 39 12.4	
	comp=Z,48nm,0.4s						
PB10	**IPOC Station P**	**3.30**	**283**	*e*P	**Pn**	**05 38 31.4**	**+0.2**
PB10				IAML		05 39 14.3	
	comp=E,68nm,0.2s						
PB10	**IPOC Station P**	**3.30**	**283**	*e*P	**Pn**	**05 38 31.7**	**+0.6**
PB10				*e*S	**Sn**	**05 39 10.1**	**-0.6**
PB10				IAML		05 39 12.1	
	comp=Z,61nm,0.2s						
PB03	**IPOC Station P**	**3.35**	**312**	*e*P	**Pn**	**05 38 32.4**	**+0.4**
PB03	**IPOC Station P**	**3.35**	**312**	*e*P	**Pn**	**05 38 32.4**	**+0.4**
PB03				IAML		05 39 15.0	
	comp=Z,115nm,0.1s						
AC01	**Pan de Azucar**	**3.69**	**240**	*e*P	**Pn**	**05 38 35.3**	**-0.9**
AC01	**Pan de Azucar**	**3.69**	**240**	*e*P	**Pn**	**05 38 35.5**	**-0.7**
AC01				*e*S	**Sn**	**05 39 18.3**	**-1.6**
AC01				IAML		05 39 19.5	
	comp=Z,44nm,0.2s						
PB01	**IPOC Station P**	**3.95**	**325**	*e*P	**Pn**	**05 38 39.5**	**-0.2**
PB01	**IPOC Station P**	**3.95**	**325**	*e*P	**Pn**	**05 38 39.6**	**-0.2**
PB01				IAML		05 39 29.2	
	comp=Z,44nm,0.1s						
PB02	**IPOC Station P**	**3.96**	**318**	*e*P	**Pn**	**05 38 39.6**	**-0.3**
PB02	**IPOC Station P**	**3.96**	**318**	*e*P	**Pn**	**05 38 39.6**	**-0.3**
PB02				IAML		05 39 29.0	
	comp=Z,134nm,0.1s						
AC06	**Mina Casimiro**	**4.25**	**224**	*e*P	**Pn**	**05 38 42.3**	**-1.1**
GO03	**Copiapo**	**4.34**	**221**	*e*P	**Pn**	**05 38 43.6**	**-1.2**
GO03	**Copiapo**	**4.34**	**221**	*e*P	**Pn**	**05 38 43.6**	**-1.2**
GO03				*e*S	**Sn**	**05 39 33.8**	**-1.4**
GO03				IAML		05 39 35.9	
	comp=Z,53nm,0.3s						
PATCX	**Punta Patache**	**4.50**	**320**	*e*P	**Pn**	**05 38 46.0**	**-0.9**
PATCX	**Punta Patache**	**4.50**	**320**	*e*P	**Pn**	**05 38 46.1**	**-0.8**
PATCX				*e*S	**Sn**	**05 39 36.7**	**-2.3**
PATCX				IAML		05 39 37.2	
	comp=Z,32nm,0.5s						
PB08	**IPOC Station P**	**4.58**	**335**	*e*P	**Pn**	**05 38 48.9**	**+0.6**
PB08				IAML		05 39 44.5	
	comp=Z,17nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.09**	**179**	*e*P	**Pn**	**05 38 55.6**	**+0.8**
PB11	**IPOC Station P**	**5.13**	**331**	*e*P	**Pn**	**05 38 53.8**	**-1.6**
PB11				IAML		05 39 54.0	
	comp=Z,34nm,0.3s						
AC04	**Llanos de Chal**	**5.29**	**222**	*e*S	**Sn**	**05 39 53.1**	**-4.6**
AC04				IAML		05 39 56.9	
	comp=Z,20nm,0.3s						

GCG 20 05:40:48.2±0.3,**13°.86N**×**90°.17W**,**h80**km±15km,**MD3.9,**
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.38**	**84**	*e*P	Pn	05 41 01.6	+0.4
PCG5	**San Vicente Pa**	**0.41**	**330**	*e*P	Pn	05 41 04.8	+3.3
JAYA	**Jayaque - finc**	**0.73**	**107**	*e*P	Pn	05 41 04.1	-0.2
JAYA				*e*S	Sn	05 41 16.5	+0.2
ESSG	**Sabana Grande**	**0.83**	**309**	*e*P	Pn	05 41 05.7	+0.3

*IDC **20** 05:59:07.7±1.1,2°.45N×128°.49E,h0km,mb3.9/6,*
mbtmp3.9/6,MS3.0/3,Error ellipse: s-maj=84.3km
s-min=17.0km az=71.0
*DJA **20** 05:59:10.4±0.5,3°.N±5°.×12°.9E±°,h10km,M4.4/11,mB4.9/2,*
mb4.7/4,MLv4.2/11,Mw(mB)4.2/2
*NEIC **20** 05:59:15.4±1.3,2°.52N±0°.10×128°.64E±0°.07,h58km±8km,*
mb4.1/18,Error ellipse: s-maj=14.5km s-min=9.6km
az=195.0
ISC 20 05:59:12.5±0.6,**2°.57N**±0°.07×**128°.78E**±0°.10,**h35**km,**n42,**
σ1°28/39,**mb4.2**/15,**MS3.0**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.28**	**218**		**Pn**	**05 59 49.5**	**+1.9**
TNTI	**Ternate**	**2.28**	**218**	P	**Pn**	**05 59 48.8**	**+1.2**

SGSI	Sangihe	3.44 289	P	Pn	06 00 05.2	+1.7
SWI	Sorong	4.21 144	P	Pn	06 00 13.6	-0.6
KMSI	Cibinong	5.19 248	P	Pn	06 00 29.3	+1.6
	156nm,0.8s					
FAKI	Fak Fak	6.46 148	Pn	Pn	06 00 48.1	+2.9
FAKI	Fak Fak	6.46 148	P	Pn	06 00 44.7	-0.4
	0.1nm18nm,1.3s					
LUWI	Luwuk	7.00 239	Pn	Pn	06 00 53.4	+0.9
MRSI	Marisa	7.15 253	P	Pn	06 00 58.5	+3.9
TOLI2	Tolitoli	8.13 260		Pn	06 01 07.5	-0.5
MYLDM	Lahad Datu	10.58 285	Pn	Pn	06 01 42.3	+0.6
KAPI	Kappang	11.75 230	Pn	Pn	06 01 58.2	+0.4
SBUM	Sibu	16.55 270	Pn	Pn	06 03 00.5	-1.5
KNRA	Kununurra	18.13 180	P	Pn	06 03 21.1	-0.5
KNRA			IAmb	IAmb	06 03 21.6	
	comp=Z,8.4nm,1.1s					
KSM	Kuching	18.50 267	P	P	06 03 23.4	-2.4
FITZ	Fitzroy Crossi	20.77 188	P	P	06 03 50.4	-0.1
TPUB	Ta-pu	22.07 340	P	P	06 04 05.0	+0.4
WB0	Warramunga Arr	22.87 166	P	P	06 04 12.7	-0.4
WB0			IAmb	IAmb	06 04 21.5	
	comp=Z,4.9nm,0.9s					
WRA	Warramunga Arr	23.02 167	P	P	06 04 12.9	-1.8
WRA	Warramunga Arr	23.02 167	P	P	06 04 14.1	-0.6
	comp=Z,0.8nm,0.5s,baz=344,slow=10,SNR=11					
	comp=Z,0.8nm,0.5s					
WR8	Warramunga Arr	23.08 166	P	P	06 04 15.2	0.0
WR8			IAmb	IAmb	06 04 20.2	
	comp=Z,3.3nm,0.8s					
PSA00	Pilbara Seismi	25.54 200	P	P	06 04 39.1	+1.0
PSA00			IAmb	IAmb	06 04 39.6	
	comp=Z,5.8nm,0.9s					
AS31	Alice Springs	26.55 169	P	P	06 04 46.8	-0.5
ASAR	Alice Springs	26.55 169	P	P	06 04 47.0	-0.2
ASAR	Alice Springs	26.55 169	P	P	06 04 47.1	-0.1
	comp=Z,0.8nm,0.6s,baz=353,slow=7.8,SNR=14					
	comp=Z,0.8nm,0.6s					
KSRS	Korea Array	34.73 359	P	P	06 05 59.8	+0.6
	comp=Z,0.3nm,0.3s,baz=178,slow=9.1,SNR=2.9					
	comp=Z,0.3nm,0.3s					
MJAR	Matsushiro Arr	34.91 13	LR	LR	06 18 57.8	
	comp=Z,16nm,21.4s,baz=167,slow=34					
BBOO	Buckleboo	35.85 170	P	P	06 06 09.6	+0.6
BBOO			IAmb	IAmb	06 06 25.7	
	comp=Z,4.0nm,1.1s					
STKA	Stephens Creek	36.35 161	P	P	06 06 12.7	-0.7
	comp=Z,2.0nm,0.6s,baz=339,slow=7.0,SNR=4.5					
	comp=Z,2.0nm,0.6s					
SHL	Shillong	42.21 306	P	P	06 07 03.4	+0.8
EVN	Everest	47.33 306		P	06 07 42.2	-1.6
SONM	Songino Array	49.06 340	LR	LR	06 29 14.3	
	comp=Z,18nm,20.6s,baz=268,slow=37					
YAK	Yakutsk	59.33 0	LR	LR	06 36 21.7	
	comp=Z,15nm,18.5s,baz=344,slow=38					
MKAR	Makanchi Array	59.68 325	P	P	06 09 14.0	+0.6
	comp=Z,2.0nm,0.6s,baz=125,slow=8.1,SNR=16					
	comp=Z,2.0nm,0.6s					
KURBB	Kurchatov Arra	63.82 327	P	P	06 09 41.4	+0.2
	comp=Z,2.3nm,0.7s,baz=125,slow=6.0,SNR=20					
	comp=Z,2.3nm,0.7s					
KURK	Kurchatov	63.82 327	P	P	06 09 40.5	-0.8
KURK			IAmb	IAmb	06 09 42.5	
	comp=Z,2.8nm,0.7s					
KK31	Karatay Array	65.48 317	P	P	06 09 51.3	-0.9
KK31			IAmb	IAmb	06 09 52.8	
	comp=Z,0.7nm,0.7s					
KKAR	Karatay Array	65.48 317	P	P	06 09 51.9	-0.3
AB31	Akbulak array	74.34 321	P	P	06 10 46.6	0.0
AB31			IAmb	IAmb	06 10 47.1	
	comp=Z,1.7nm,0.8s					
ABKAR	Akbulak array	74.34 321	P	P	06 10 46.3	-0.2
C18K	Utukok River	80.42 20	P	P	06 11 20.5	+0.2
C18K			IAmb	IAmb	06 11 44.3	
	comp=Z,2.8nm,1.1s					
D19K	Kuna River	81.46 21	P	P	06 11 27.7	+1.8
D19K			IAmb	IAmb	06 11 28.5	
	comp=Z,6.7nm,1.1s					

*IDC **20** 06:04:01.8±0.6, 18°.53S×172°.61W, h0km, mb4.2/11, mbtmp4.2/12, ML3.7/1, MS3.6/15, Error ellipse: s-maj=26.3km s-min=17.2km az=131.0*

ISC 20 06:04:07.8±0.7, 18°.7S±0°.1×172°.7W±0°.2, h41km, n43, σ1§47/20, mb4.1/14, MS3.8/14, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	12.41	104	LR	LR	06 10 23.9	
	comp=Z,165nm,20.2s,baz=276,slow=31						
DZM	Mont Dzumac	19.85	257	P	Pn	06 08 36.7	-0.7
	0.2nm,0.3s,baz=86,slow=18,SNR=4.6						
DZM				LR	LR	06 15 02.3	
	comp=Z,224nm,19.9s,baz=163,slow=33						
	7.6nm,0.9s						
URZ	Urewera	21.44	202	P	P	06 08 53.1	+0.6
	3.1nm,0.4s,baz=289,slow=1.2,SNR=5.6						
URZ				S	S	06 12 44.6	-3.6
	5.9nm,1.0s,baz=102,slow=19,SNR=1.9						
	3.1nm,0.4s						
PPT2	Papeete2	21.99	91	eP	P	06 08 43.8	-15
	20nm,21.8s						
PPT2				eLR	LR	06 13 49.6	
	316nm,28.0s						
PPT2				eLR	LR	06 13 56.6	
	344nm,25.5s						
PPT	Papeete	22.00	91	LR	LR	06 14 48.0	
	comp=Z,109nm,20.5s,baz=269,slow=30						
TBI	Tubuai	22.17	106	eS	S	06 12 49.4	-13
	1μm,26.2s						
TBI				eLR	LR	06 14 07.4	
	468nm,22.0s						
HNR	Honiara	28.05	285	LR	LR	06 19 36.0	
	comp=Z,88nm,20.5s,baz=107,slow=33						
TAOE	Nuku Hiva Isla	33.03	77	eLR	LR	06 18 57.7	
	143nm,22.2s						
H11S2	WAKE ISLAND Hy	42.12	330	T	T	06 57 36.4	
	baz=147,slow=75,SNR=31						
H11S3	WAKE ISLAND Hy	42.13	330	T	T	06 57 35.0	
	baz=147,slow=75,SNR=30						
H11S1	WAKE ISLAND Hy	42.13	330	T	T	06 57 34.2	
	baz=147,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	43.09	331	T	T	06 58 15.1	
	baz=150,slow=76,SNR=12						
H11N1	WAKE ISLAND Hy	43.09	331	T	T	06 58 08.9	
	baz=150,slow=76,SNR=18						
H11N2	WAKE ISLAND Hy	43.10	331	T	T	06 58 17.0	
	baz=150,slow=76,SNR=14						
JAY	Jayapura	48.35	284	LR	LR	06 31 56.5	
	comp=Z,61nm,21.3s,baz=5.0,slow=35						
ASAR	Alice Springs	49.82	254	P	P	06 12 57.3	+0.2
	21nm,0.9s,baz=91,slow=7.7,SNR=48						
ASAR				LR	LR	06 33 02.6	
	comp=Z,68nm,18.4s,baz=117,slow=35						
	21nm,0.9s						
WRA	Warramunga Arr	49.83	259	P	P	06 12 56.6	-0.6
	3.0nm,0.5s,baz=97,slow=8.5,SNR=23						
WRA				LR	LR	06 32 44.4	
	comp=Z,104nm,18.9s,baz=126,slow=34						
	3.0nm,0.5s						
FITZ	Fitzroy Crossi	58.25	260	LR	LR	06 37 44.9	
	comp=Z,92nm,20.4s,baz=132,slow=35						
VNDA	Vanda	60.21	186	P	P	06 14 12.7	+1.5
	0.9nm,0.9s,baz=345,slow=6.7,SNR=5.1						
	0.9nm,0.9s						
JCJ	Chichijima	63.12	315	LR	LR	06 35 34.8	
	comp=Z,23nm,21.4s,baz=136,slow=30						
QSPA	South Pole Qui	71.39	180	P	P	06 15 25.8	+2.2
	1.9nm,1.0s,baz=65,slow=3.4,SNR=5.1						
	1.9nm,1.0s						
MJAR	Matsushiro Arr	71.87	320	P	P	06 15 27.6	+0.9
	1.6nm,0.7s,baz=150,slow=6.6,SNR=5.5						
MJAR				LR	LR	06 41 54.9	
	comp=Z,18nm,20.2s,baz=144,slow=32						
	1.6nm,0.7s						
LPIG	La Paz	74.20	57	LR	LR	06 38 40.2	
	comp=Z,58nm,19.8s,baz=182,slow=28						
NVAR	Mina Array Bea	76.32	41	P	P	06 15 51.8	-1.1
	1.7nm,0.7s,baz=222,slow=10,SNR=8.9						
NVAR				LR	LR	06 44 39.1	
	comp=Z,50nm,19.4s,baz=271,slow=32						
	1.7nm,0.7s						
KSRS	Korea Array	78.96	316	P	P	06 16 10.0	+2.7
	1.2nm,0.9s,baz=132,slow=5.6,SNR=4.4						
KSRS				LR	LR	06 45 07.3	
	comp=Z,5μm,21.6s,baz=35,slow=31						
TXAR	Lajitas Array	81.88	55	P	P	06 16 23.3	-0.1
	1.3nm,0.8s,baz=215,slow=8.8,SNR=17						
TXAR				LR	LR	06 44 15.3	
	comp=Z,25nm,19.2s,baz=214,slow=30						
	1.3nm,0.8s						
H03S2	Juan Fernandez	82.84	123	T	T	07 47 18.5	
	baz=251,slow=75,SNR=50						
H03S1	Juan Fernandez	82.86	123	T	T	07 47 18.9	
	baz=251,slow=75,SNR=50						
H03S3	Juan Fernandez	82.86	123	T	T	07 47 23.2	
	baz=251,slow=75,SNR=45						
H03N2	Juan Fernandez	82.96	123	T	T	07 47 23.6	
	baz=257,slow=72,SNR=15						
H03N3	Juan Fernandez	82.96	123	T	T	07 47 27.2	
	baz=257,slow=72,SNR=16						
H03N1	Juan Fernandez	82.97	123	T	T	07 47 24.2	
	baz=257,slow=72,SNR=14						
NEW	Newport	83.03	34	LR	LR	06 48 27.9	
	comp=Z,56nm,18.1s,baz=201,slow=32						
PDAR	Pinedale Array	84.25	41	P	P	06 16 34.4	-1.1
	2.6nm,0.7s,baz=214,slow=3.4,SNR=25						
	2.6nm,0.7s						
ILAR	Eielson Array	85.51	11	P	P	06 16 39.5	-1.6
	0.5nm,0.8s,baz=225,slow=6.0,SNR=7.4						
	0.5nm,0.8s						
TROLL	Troll, Antarti	89.49	179	⇑P	P	06 16 59.2	-1.2
	comp=Z,62nm,0.8s						
SNAA	Sanae	89.62	177	⇑P	P	06 17 00.2	-0.7
	comp=Z,34nm,0.9s						
SNAA	Sanae	89.62	177	P	P	06 17 00.4	-0.6
	comp=Z,1.5nm,0.9s,baz=200,slow=6.3,SNR=7.1						
	comp=Z,1.5nm,0.9s						
VNA2	Neumayer--Watz	90.05	175	⇑P	P	06 17 03.0	0.0
	comp=Z,2.7nm,0.6s,baz=182,slow=4.1						
VNA1	Neumayer--Stat	90.25	175	⇑P	P	06 17 03.7	-0.1
	comp=Z,2.9nm,0.9s						
LPAZ	La Paz	98.06	110	LR	LR	06 54 43.6	
	comp=Z,34nm,18.0s,baz=68,slow=31						
BRTR	Keskin Array B	149.08	318	PKPbc	PKPbc	06 23 52.1	+0.1
	comp=Z,1.4nm,0.8s,baz=149,slow=2.6,SNR=8.7						
GERES	GERESS Array B	149.46	352	PKPbc	PKiKP	06 23 53.2	-0.6
	comp=Z,0.8nm,0.8s,baz=35,slow=4.9,SNR=7.4						

*NEIC **20** 06:25:49.9±2.5, 47°.74N±0°.02×122°.02W±0°.03, h27km±9km, Error ellipse: s-maj=3.4km s-min=3.1km az=110.0*
*PNSN **20** 06:25:50.2, 47°.74N×121°.95W, h18km, MD2.2, Fault plane solution: NP1:φs150.00000°, δ85.00000°, λ120.00000°.*

SEA 20 06:25:50.2±2.0, 47°.74N±0°.01×121°.95W±0°.01, h19km±1km, ML2.2/20, ML2.3/36(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=172.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARN	East Ridge Ele	0.06	274		Pg	06 25 53.6	+0.1
ALCT	Alcott Element	0.10	213		Pg	06 25 54.0	+0.1
BLH	Bald Hill	0.11	332		Pg	06 25 53.7	-0.4
LEOT	Leota Junior H	0.11	287		Pg	06 25 54.1	+0.1
LEOT					Sg	06 25 57.6	+1.0
MARYW	Marymoor Park	0.14	237		Pg	06 25 54.5	+0.3
HTW	Haystack Looko	0.14	61		Pg	06 25 54.1	-0.3
MBPA	Monroe Substat	0.17	15		Pg	06 25 54.5	-0.2
MBPA					Sg	06 25 57.8	0.0
EVGW	Everett Gatewa	0.18	311		Pg	06 25 54.8	-0.1
EVGW					Sg	06 25 58.8	+0.7
NIHS	Ingelmoor High	0.18	272		Pg	06 25 55.2	+0.4
NIHS					Sg	06 25 60.0	+1.9
C05A	Tolt Reservoir	0.18	103		Pg	06 25 54.6	-0.3
C05A					Sg	06 25 57.9	-0.3
TTW	Tolt Reservoir	0.18	103		Pg	06 25 54.6	-0.3
TTW					Sg	06 25 57.9	-0.2
FINN	Finn Hill Juni	0.19	265		Pg	06 25 55.4	+0.4
FINN					Sg	06 26 00.2	+2.0
WISC	Wilburton Inst	0.20	230		Pg	06 25 55.5	+0.4
WISC					Sg	06 26 00.5	+2.1
NOWS	NOAA--Sand Poi	0.21	257		Pg	06 25 55.8	+0.5
BRKS	Brookside Elem	0.23	275		Pg	06 25 55.9	+0.3
BRKS					Sg	06 26 01.0	+1.8
ELW	Echo Lake	0.25	167		Pb	06 25 55.5	-0.4
ELW					Sg	06 25 60.0	+0.2
SP2	Seward Park 2	0.27	228		Pb	06 25 56.3	0.0
SP2					Sb	06 26 01.5	+1.1
SCCW	Shoreline CC	0.28	273		Pb	06 25 56.7	+0.2
SCCW					Sb	06 26 02.4	+1.8
TKCO	King County	0.31	230		Pb	06 25 57.2	+0.1
BSFP	Boeing Fire Pr	0.32	227		Pb	06 25 57.2	-0.1
BSFP					Sb	06 26 03.6	+1.6
CDMR	Cedar Moraine	0.34	157		Pg	06 25 57.0	-0.4
JCW	Jim Creek	0.46	2		Pg	06 25 59.1	-0.4
JCW					Sg	06 26 05.5	-0.4
VVHS	Vashon High Sc	0.46	228		Pg	06 25 59.1	-0.5
B05A	Bryant	0.54	350		Pg	06 26 00.3	-0.6
D05A	Enumclaw	0.55	183		Pb	06 26 00.6	-0.5
D05A					Sb	06 26 08.8	+0.2
GMW	Gold Mountain	0.59	252		Pb	06 26 00.7	-1.2
GMW					Sb	06 26 09.0	-0.9
GNW	Green Mountain	0.61	254		Pb	06 26 01.0	-1.2
GNW					Sb	06 26 09.5	-0.9
GNW				IAML		06 26 09.7	
	comp=N,154nm,0.1s						
B013	Quilcene	0.65	277		Pb	06 26 01.5	-1.4
B013					Sb	06 26 10.3	-1.2
GPW	Glacier Peak	0.67	55		Pb	06 26 02.7	-0.6
C04A	Brinnon	0.69	269		Pb	06 26 02.0	-1.5
C04A					Sb	06 26 11.3	-1.3
SVOH	Skagit Valley	0.72	321		Pb	06 26 03.3	-0.7
WRW	Wenatchee Ridg	0.73	80		Pb	06 26 03.8	-0.7
C06D	Leavenworth	0.74	75		Pb	06 26 03.8	-0.7
C06D					Sb	06 26 13.8	-0.4
HDW	Hoodsport	0.75	264		Pb	06 26 03.1	-1.6
HDW					Sb	06 26 13.2	-1.4
B941	Kapowsin	0.77	194		Pb	06 26 03.5	-1.5
RPW	Rockport	0.77	22		Pb	06 26 04.7	-0.4
RVC	Mount Rainier-	0.79	181		Pb	06 26 04.3	-1.1
FMW	Mount Fremont	0.83	167		Pb	06 26 04.6	-1.4
OBSR	Observation Ro	0.84	174		Pg	06 26 07.2	+0.1
RCS	Mount Rainier-	0.88	170		Pb	06 26 05.8	-1.3
PANH	Panhandle Gap,	0.90	166		Pb	06 26 06.1	-1.3
REMR	Mount Rainier-	0.92	175		Pb	06 26 06.4	-1.2
LON	Longmire	0.99	174		Pb	06 26 07.1	-1.7
LON	Longmire	0.99	174		Pb	06 26 07.4	-1.4
LTY	Liberty	0.99	118		Pb	06 26 08.4	-0.5
LTY				IAML		06 26 21.8	
	comp=N,144nm,0.3s						
LTY				IAML		06 26 21.9	
	comp=E,114nm,0.4s						
MBW	Mount Baker	1.05	2		Pb	06 26 09.6	-0.3
UWFH	University of	1.08	319		Pb	06 26 09.1	-1.1
TBM	Table Mountain	1.08	121		Pn	06 26 10.6	+0.1
B04A	Port Angeles	1.09	288		Pb	06 26 08.6	-1.9
B04A	Port Angeles	1.09	288		Pb	06 26 08.6	-1.9
B04A				IAML		06 26 20.6	
	comp=E,36nm,2.0s						
B04A				IAML		06 26 40.0	
	comp=N,38nm,4.0s						
A04D	Lummi Island	1.11	333		Pn	06 26 09.6	-1.1
A04D				IAML		06 26 27.6	
	comp=N,42nm,0.6s						
MCW	Mount Constitu	1.11	328		Pn	06 26 09.8	-1.1
SHUK	Shuksan-Mt. Ba	1.13	9		Pn	06 26 10.9	-0.4
NLW	Nelson Butte	1.14	72		Pn	06 26 11.2	-0.1
VGZ	Gonzales	1.14	307		Pn	06 26 09.6	-1.6
EBG	Ellensburg	1.25	131		Pb	06 26 13.5	+0.2
NAC	Naches	1.26	142		Pn	06 26 13.1	+0.2
CBSW	Chelan Butte S	1.29	86		Pn	06 26 13.5	+0.1
NLWA	Neilton Lookou	1.34	256	Pn	Pn	06 26 13.2	-0.8
NLWA				IAML		06 26 38.3	
	comp=N,38nm,3.6s						
NLWA				IAML		06 26 39.2	
	comp=N,46nm,2.5s						
WTV	Waterville	1.35	91		Pb	06 26 14.9	0.0
B011	North Saanich	1.35	313		Pn	06 26 13.0	-1.1
PGC	Sidney	1.36	313	Pn	Pn	06 26 12.9	-1.2
PGC				IAML		06 26 31.8	
	comp=N,30nm,0.6s						
PGC				IAML		06 26 47.3	
	comp=E,28nm,4.0s						
WISH	Wishkah	1.38	244	Pn	Pn	06 26 14.0	-0.5
WISH				IAML		06 26 51.9	
	comp=E,91nm,2.6s						
TDL	Tradedollar La	1.40	187		Pn	06 26 14.7	-0.1
ERK	Elk Rock	1.46	191		Pn	06 26 15.3	-0.3
REMW	Rembrandt	1.54	186		Pb	06 26 17.7	-0.6
SEPW	September Lobe	1.54	186		Pb	06 26 18.2	-0.1
FL2	Flat Top 2	1.56	190		Pn	06 26 17.1	0.0
E03A	Lebam	1.62	223	Pn	Pn	06 26 13.7	-4.0
E03A				IAML		06 27 17.8	
	comp=N,54nm,2.2s						
CDFW	Cedar Flats	1.62	182		Pb	06 26 19.1	-0.4
MXC	Moxie City	1.62	135		Pb	06 26 18.7	-0.8
MXC				IAML		06 26 41.7	
	comp=E,37nm,3.0s						
MXC				IAML		06 26 42.6	
	comp=N,29nm,0.6s						
B023	Clatskanie	1.80	206		Pn	06 26 21.1	+0.9
CLRS	Cowichan Lake	1.81	308	Pn	Pn	06 26 19.5	-0.9
CLRS				IAML		06 26 32.4	
	comp=E,31nm,3.5s						
CLRS				IAML		06 26 54.7	
	comp=N,30nm,4.2s						
FHE	Frenchman Hill	1.84	114		Pn	06 26 21.3	+0.4
E07A	Sunnyside	1.85	129	Pn	Pn	06 26 21.8	+0.8
B08A	Colville Reser	1.86	70	Pn	Pn	06 26 21.0	-0.2
WAH2	Wahluke Slope	1.90	120		Pn	06 26 22.6	+1.0
BENWA	Benson Ranch	1.95	128		Pn	06 26 22.8	+0.5
LOCW	Locke Island	2.00	120		Pn	06 26 23.5	+0.5
F07A	Phinny Hill Vi	2.31	142		Pn	06 26 25.5	-1.7
F07A				IAML		06 27 01.2	
	comp=E,19nm,0.3s						
BPO	Bald Peter	3.09	176		Pb	06 26 46.3	+1.6
NEW	Newport	3.29	79	Pn	Pn	06 26 40.1	-0.6
NEW				IAML		06 27 26.4	
	comp=E,14nm,4.8s						
NEW				IAML		06 27 44.6	
	comp=E,14nm,4.8s						
F10A	Beach Ranch, E	3.69	117	Pn	Pn	06 26 47.5	+1.2

*NSSP **20** 06:53:51.6, 38°.88N×43°.65E, h10km, Ms4.1*
*IDC **20** 06:53:51.2±1.4, 38°.71N×43°.89E, h0km, mb3.7/6, mbtmp3.6/11, ML2.9/5, MS3.3/17, Error ellipse: s-maj=20.7km s-min=11.1km az=142.0*
*MOS **20** 06:53:52.5±1.6, 38°.58N×43°.75E, h10km, mb4.2/5, Error ellipse: s-maj=9.5km s-min=4.7km az=83.2*
*ISK **20** 06:53:52.5, 38°.94N×43°.75E, h7km, ML4.0/7*
*AFAD **20** 06:53:53.8, 38°.95N×43°.68E, h9km±1km, MW4.0*

ISC 20 06:53:54.5±1.0, 38°.97N±0°.02×43°.67E±0°.02, h5km±7km, n109, σ2§13/133, mb3.8/10, MS3.1/9, 11C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.08	287	P	Pg	06 53 56.0	-0.4
VMUR				S	Sg	06 53 58.2	+0.5
ERCV	ERCIS-VAN	0.27	282	Pg	Pg	06 53 59.2	-0.5
ERCV				Sg	Sg	06 54 04.8	+1.6
OZAP	Van, Ozalp-Mer	0.39	140	P	Pb	06 54 01.6	-2.5
OZAP				i IAML		06 54 11.0	
	comp=N,4μm,0.9s						
OZAP				i IAML		06 54 15.0	
	comp=E,6μm,0.9s						
DYDN	Diyadin	0.58	1	P	Pg	06 54 04.6	-1.0
DYDN				S	Sg	06 54 14.4	+1.2
DYDN				i IAML		06 54 19.0	
	comp=N,5μm,1.0s						
DYDN				i IAML		06 54 19.0	
	comp=E,5μm,0.8s						
ADCV	BITLIS_Adilcev	0.76	258	P	Pg	06 54 08.8	-0.2
ADCV				i IAML		06 54 21.0	
	comp=N,2μm,0.5s						
ADCV				S	Sb	06 54 21.4	+0.5
ADCV				i IAML		06 54 22.0	
	comp=E,4μm,0.6s						
AGRB	Hanur-Agry	0.81	319	Pg	Pg	06 54 09.3	-0.7
AGRB				Sg	Sg	06 54 21.8	+1.3
DORK	Agr/Tutak/Do	0.81	302	P	Pg	06 54 09.1	-1.0
DORK				S	Sg	06 54 14.8	-5.9
DORK				i IAML		06 54 22.0	
	comp=N,3μm,0.6s						
DORK				i IAML		06 54 28.0	
	comp=E,4μm,0.8s						
AKDM	Akdamar-Van	0.83	221	Pg	Pg	06 54 09.4	-1.1
MLAZ	Malazgirt-MUS	0.89	282	Pg	Pg	06 54 11.4	-0.2
KOTA	Agri, Merkez-K	0.91	337	P	Pg	06 54 11.2	-0.7
KOTA				i IAML		06 54 39.0	
	comp=N,859nm,0.9s						
KOTA				i IAML		06 54 39.0	
	comp=E,708nm,0.7s						
IGDI	IGDIR	0.95	19	P	Pg	06 54 12.0	-0.9
IGDI				S	Sn	06 54 30.2	+1.4
IGDI				i IAML		06 54 31.0	
	comp=N,2μm,0.4s						
IGDI				i IAML		06 54 32.0	
	comp=E,3μm,0.7s						
TASB	TASBURUN-IGDIR	1.11	23	Pn	Pb	06 54 14.3	-1.9
VNNZ	Vanand	1.14	6	eP	Pb	06 54 15.9	-1.0
VNNZ				eS	Sn	06 54 33.6	+0.2
METS	Metsamor	1.23	15	eP	Pn	06 54 17.0	-1.4
METS				eS	Sn	06 54 35.5	+0.1
EATA	Eleskirt	1.28	315	P	Pn	06 54 17.9	-1.5
EATA				S	Sg	06 54 37.5	+1.8
EATA				i IAML		06 54 45.0	
	comp=N,854nm,0.6s						
EATA				i IAML		06 54 47.0	
	comp=E,1μm,0.9s						
BLIS	Bitlis-Merkez	1.34	246	P	Pn	06 54 18.5	-1.5
BLIS				S	Sg	06 54 37.0	-0.5
BLIS				i IAML		06 54 44.0	
	comp=N,2μm,0.7s						
BLIS				i IAML		06 54 45.0	
	comp=E,1μm,0.9s						
GURO	Guroymak-BITLI	1.35	253	Pn	Pn	06 54 18.9	-1.2
PERV	Siirt/Pervari-	1.35	221	P	Pg	06 54 21.5	+1.2
PERV				S	Sg	06 54 44.3	+6.4
PERV				i IAML		06 54 48.0	
	comp=N,1μm,0.8s						
PERV				i IAML		06 54 48.0	
	comp=E,3μm,1.2s						
ARUZ	Aruch	1.36	14	eP	Pn	06 54 19.1	-1.1
ARUZ				eS	Sg	06 54 39.3	+1.2
HAKT	HAKKARI	1.41	179	P	Pg	06 54 20.2	-1.2
HAKT				S	Sg	06 54 43.6	+4.0
HAKT				i IAML		06 54 54.0	
	comp=N,1μm,0.7s						
HAKT				i IAML		06 55 03.0	
	comp=E,1μm,1.3s						
NAX	Nakhchivan	1.43	81	P	Pg	06 54 21.4	-0.6
GNI	Garni	1.44	35	Pn	Pn	06 54 19.7	-1.8
GNI	Garni	1.44	35	Pg	Pn	06 54 20.8	-0.

AKH Akhalkalaki 2.45 357 P **Pb 06 54 38.5 -0.6**
AKH S **Sg 06 55 13.1 0.0**
YEDI Yedisu-Bingol 2.48 282 Pn **Pn 06 54 35.4 -0.3**
KZRT Kazreti 2.48 13 P **Pn 06 54 36.4 +0.7**
KZRT S **Sg 06 55 13.1 -1.2**
KZRT Kazreti 2.48 13 P **Pn 06 54 36.4 +0.7**
KZRT S **Sg 06 55 13.0 -1.2**
BINT Bingol 2.48 269 P **Pn 06 54 32.9 -2.9**
TRLG Trialeti 2.59 7 P **Pb 06 54 41.0 -0.6**
TRLG S **Sg 06 55 20.6 +2.8**
TRLG Trialeti 2.59 7 P **Pb 06 54 41.0 -0.6**
TRLG S **Sg 06 55 20.6 +2.8**
GANJ Ganja 2.64 50 P **Pn 06 54 36.1 -1.8**
DGRG David-gareji 2.80 27 P **Pb 06 54 46.4 +1.2**
DGRG S **Sg 06 55 29.1 +4.5**
DGRG David-gareji 2.80 27 P **Pb 06 54 46.3 +1.2**
DGRG S **Sg 06 55 29.1 +4.5**
TBLG Delisi 2.88 16 P **Pb 06 54 46.1 -0.4**
TBLG S **Sg 06 55 26.7 -0.3**
TBLG Delisi 2.88 16 P **Pb 06 54 46.0 -0.4**
TBLG S **Sg 06 55 26.7 -0.3**
BATM Batumi 3.04 331 P **Pb 06 54 49.9 +0.7**
BATM Batumi 3.04 331 P **Pb 06 54 49.8 +0.7**
ALIG Mtskhetisjvari 3.14 360 P **Pb 06 54 50.3 -0.5**
ALIG S **Sg 06 55 36.5 +1.2**
ALIG Mtskhetisjvari 3.14 360 P **Pb 06 54 50.3 -0.5**
ALIG S **Sg 06 55 36.4 +1.2**
MNGR Mingechevir, A 3.19 54 P **Pn 06 54 43.7 -1.6**
TKB Tkibuli 3.42 352 P **Pg 06 54 58.5 -1.5**
TKB S **Sg 06 55 50.1 +5.8**
TKB Tkibuli 3.42 352 P **Pg 06 54 58.5 -1.5**
SEKA Sheki 3.51 49 P **Pn 06 54 48.7 -1.1**
GARIG Gari 3.64 358 P **Pb 06 55 01.8 +2.4**
GARIG S **Sg 06 55 53.7 +2.4**
SHTL Shatili 3.85 16 P **Pb 06 55 02.7 -0.4**
SHTL S **Sg 06 55 59.3 +1.0**
SHTL Shatili 3.85 16 P **Pb 06 55 02.7 -0.4**
AKT Akhty 4.00 50 *e*P **Pn 06 54 57.9 +1.4**
AKT *e*S **Sn 06 55 46.4 +2.6**
AKT pmax pmax
comp=Z,9.0nm,0.6s
AKT smax smax
comp=N,34nm,0.6s
AKT smax smax
comp=N,37nm,0.6s
AKT smax smax
comp=E,30nm,0.5s
LKRN Lenkeran, Azer 4.00 92 P **Pn 06 54 57.0 +0.6**
NEUR Neytrino 4.36 351 ⇓*i*P **Pn 06 55 05.8 +4.3**
DVE Vedeno 4.40 24 *i* P Pn 06 55 06.1 +4.1
NCK Nalchik 4.53 359 *i* P Pn 06 55 08.2 +4.5
KBZ Khabaz 4.79 353 P **Pn 06 55 11.1 +3.7**
comp=E,0.1nm,0.3s,baz=151,slow=13,SNR=8.4
KBZ Pg **Pg 06 55 22.9 -3.4**
comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=3.6
KBZ Lg Lg 06 56 27.3
baz=313,slow=19
KBZ LR LR 06 57 24.8
comp=E,308nm,21.2s,baz=179,slow=42
comp=E,4.2nm,1.0s
KBZ Khabaz 4.79 353 *ce*P **Pb 06 55 14.5 -4.5**
SHA1 Shidzhatmaz 4.83 351 *i* P **Pn 06 55 11.4 +3.3**
MAK Makhachkala 4.94 35 *cu i*P **Pn 06 55 04.9 -4.4**
MAK pmax pmax
comp=Z,58nm,0.8s
MAK MLR MLR
comp=Z,261nm,8.0s
KIV Kislovodsk 5.04 352 *e*P Pn 06 55 15.6 +4.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,60nm,8.0s
VSLR Vesyoloye 5.26 330 *i* P **Pb 06 55 23.3 -3.7**
SOC Sochi 5.49 328 *e*P **Pn 06 55 20.5 +3.5**
SOC *e* 06 56 26.4
SOC MLR MLR
comp=Z,160nm,13.0s
BRTR Keskin Array B 7.81 279 Pn **Pn 06 55 53.0 +4.0**
comp=Z,0.1nm,0.3s,baz=84,slow=11,SNR=4.9
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 7.81 279 P Pn 06 55 53.0 +4.0
ASF Jabal al Asfar 8.74 221 Lg Lg 06 58 39.3
comp=Z,0.3nm,0.3s,baz=73,slow=19,SNR=1.0
ASF LR LR 06 59 41.0
comp=Z,188nm,19.1s,baz=96,slow=40
MMAI Mount Meron Ar 8.95 231 LR LR 07 00 09.0
comp=Z,297nm,19.2s,baz=42,slow=42
EIL Elat 11.74 220 LR LR 07 01 45.3
comp=Z,282nm,18.9s,baz=14,slow=41
BELG Belogornoye 13.71 10 Pn **Pn 06 57 09.8 +0.4**
comp=Z,0.3nm,0.3s,baz=167,slow=14,SNR=1.4
comp=Z,4.9nm,0.6s
AKTO Aktyubinsk 15.31 37 Pn **Pn 06 57 28.4 -2.9**
comp=Z,0.2nm,0.3s,baz=224,slow=5.3,SNR=2.9
comp=Z,1.0nm,0.5s
IDI Anoyia 15.42 262 LR LR 07 04 40.4
comp=Z,143nm,18.3s,baz=109,slow=42
AKASG Malin Array Be 15.54 324 Pn **Pn 06 57 33.2 -1.1**
baz=139,slow=11,SNR=1.3
AKASG LR LR 07 04 26.8
comp=Z,89nm,18.4s,baz=164,slow=40
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 15.54 324 *i* P **P 06 57 38.7 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 15.54 324 *ce*P **P 06 57 42.5 +3.8**
OBN Obninsk 16.85 346⇑*e*P **P 06 57 54.3 +1.2**
OBN pmax pmax
comp=Z,20nm,1.3s
OBN MLR MLR
comp=Z,117nm,15.0s
ARTI Arti 19.97 24 P **P 06 58 25.4 -2.0**
comp=Z,1.5nm,0.5s,baz=228,slow=12,SNR=2.2
ARTI LR LR 07 08 07.7
comp=Z,60nm,18.7s,baz=222,slow=42
comp=Z,1.5nm,0.5s
ARTI Arti 19.97 24 P Pn 06 58 31.9 +2.7
ARTI 06 58 45.9
ARTI S Sn 07 02 17.1 +3.2
KIRV Kirov 19.98 9 LR LR 07 08 03.8
comp=Z,24nm,18.0s,baz=205,slow=42
VRAC Vranov 21.90 307 LR LR 07 09 21.6
comp=Z,41nm,18.7s,baz=82,slow=42
KLMR Klimovskoe 22.07 355 *e*P **P 06 58 51.0 +1.0**
KLMR pmax pmax
comp=Z,47nm,1.4s
BORK Borovoye 23.08 44 *ce*P **P 06 59 03.7 +2.8**
BORK pmax pmax
comp=Z,3.0nm,1.3s
BVAR Borovoye Array 23.11 44 LR LR 07 09 37.5
comp=Z,56nm,18.1s,baz=242,slow=41
AAK Ala-Archa 23.55 71 LR LR 07 10 09.0
comp=Z,38nm,19.2s,baz=290,slow=42
AAK Ala-Archa 23.55 71 *ce*P **P 06 59 10.8 +4.9**
AAK pmax pmax
comp=Z,4.0nm,1.7s
GERES GERESS Array B 23.61 305 P **P 06 59 06.8 +0.4**
comp=Z,1.6nm,1.1s,baz=88,slow=8.7,SNR=6.6
comp=Z,1.6nm,1.1s
FINES FINESS Array B 25.00 340 P **P 06 59 19.8 +0.8**
comp=Z,2.3nm,0.9s,baz=149,slow=16,SNR=3.8
FINES LR LR 07 09 51.4
comp=Z,104nm,18.5s,baz=180,slow=38
comp=Z,2.3nm,0.9s
KURBB Kurchatov Arra 27.09 53 P **P 06 59 36.8 -1.2**
comp=Z,0.5nm,0.6s,baz=265,slow=9.3,SNR=5.4
comp=Z,0.5nm,0.6s
KURK Kurchatov 27.17 53 *ce*P **P 06 59 40.5 +1.8**
KURK pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 29.12 62 P **P 06 59 54.6 -1.7**
comp=Z,0.6nm,0.7s,baz=278,slow=8.2,SNR=3.8
MKAR LR LR 07 13 22.6
comp=Z,62nm,18.6s,baz=249,slow=40
comp=Z,0.6nm,0.7s
NOA NORSAR Array B 29.86 328 LR LR 07 13 28.1
comp=Z,34nm,19.8s,baz=130,slow=39
ZALV Zalesovo Beam 31.55 48 LR LR 07 14 44.2
comp=Z,41nm,19.5s,baz=246,slow=40
ARCES ARCESS Array B 32.13 348 LR LR 07 15 38.6
comp=Z,49nm,18.5s,baz=102,slow=40
ESDC Sonseca Array 36.52 287 P **P 07 00 58.7 -2.2**
comp=Z,1.2nm,0.7s,baz=77,slow=8.3,SNR=8.3
comp=Z,1.2nm,0.7s
ULN Ulaanbaatar 45.72 57 *ce*P **P 07 02 19.2 +2.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SFJD Kangerlussuaq 56.43 332 LR LR 07 28 05.7
comp=Z,48nm,18.4s,baz=114,slow=36
VNDA Vanda 133.74 165 PKP **PKPdf 07 13 05.6 -5.5**
comp=Z,0.4nm,0.5s,baz=291,slow=2.8,SNR=2.5

*IDC **20** 06:57:39.0±0.5, 9°.37S×112°.83E, h0km, mb4.3/20, mbtmp4.4/22, ML4.8/2, MS3.5/25, Error ellipse: s-maj=20.1km s-min=11.0km az=54.0*
*NEIC **20** 06:57:42.7±1.1, 9°.74S±0°.08×112°.78E±0°.06, h35km±2km, mb4.5/18, Error ellipse: s-maj=13.9km s-min=10.7km az=187.0*
*DJA **20** 06:57:44.6±0.2, 10°.5±3°×11°.3E±°, h41km±6km, M4.9/34, mb5.0/34, mB5.4/11, MLv5.0/33, Mw(mB)4.8/11*
ISC 20 06:57:44.4±0.4, 9.58S±0.06×112.81E±0.04, h36km, n153, σ1**978**/132, **mb4.5**/33, **MS3.5**/25, **5C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.73**	**50**		**Pn**	**06 58 12.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	P	**Pn**	**06 58 12.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	S	**Sn**	**06 58 37.1**	**+4.4**
JAGI	**Jajag, Banyuwa**	**1.73**	**50**	P	**Pn**	**06 58 12.4**	**+0.5**
BLJI	**Banyuglugur**	**1.98**	**23**	P	**Pn**	**06 58 17.3**	**+1.9**
PCJI	**Pacitan**	**2.12**	**310**	P	**Pn**	**06 58 18.2**	**+1.0**
ABJI	**Asem Bagus**	**2.27**	**39**	P	**Pn**	**06 58 21.3**	**+2.0**
DNP	**Denpasar**	**2.54**	**69**	P	**Pn**	**06 58 24.6**	**+1.6**
WOJI	**Wonogiri, Jawa**	**2.54**	**313**	P	**Pn**	**06 58 24.4**	**+1.3**
NGJI	**Ngawi**	**2.57**	**329**	P	**Pn**	**06 58 26.3**	**+2.8**
GRJI	**Gresik**	**2.67**	**353**	P	**Pn**	**06 58 27.5**	**+2.7**
KMMI	**Kalianget**	**2.76**	**25**	P	**Pn**	**06 58 28.1**	**+2.0**
UGM	**Wanagama**	**2.80**	**306**		**Pn**	**06 58 27.2**	**+0.5**
UGM	**Wanagama**	**2.80**	**306**	P	**Pn**	**06 58 27.9**	**+1.2**
UGM	**Wanagama**	**2.80**	**306**	S	**Sn**	**06 59 02.8**	**+3.6**
UGM	**Wanagama**	**2.80**	**306**	P	**Pn**	**06 58 27.6**	**+0.9**
SRBI	**Singaraja**	**2.80**	**58**	P	**Pn**	**06 58 28.3**	**+1.6**
TBJI	**Tambak Boyo**	**2.90**	**341**	P	**Pn**	**06 58 29.7**	**+1.6**
YOGI	**Yogyakarta**	**3.04**	**305**	P	**Pn**	**06 58 32.4**	**+2.5**
SMRI	**Semarang**	**3.44**	**317**		**Pn**	**06 58 35.5**	**+0.1**
SMRI	**Semarang**	**3.44**	**317**	P	**Pn**	**06 58 36.9**	**+1.5**
SMRI	**Semarang**	**3.44**	**317**	P	**Pn**	**06 58 36.8**	**+1.4**
BWJI	**Bawean**	**3.71**	**358**	P	**Pn**	**06 58 41.0**	**+1.9**
TWSI	**Taliwang, Sumb**	**4.11**	**79**	P	**Pn**	**06 58 46.7**	**+2.0**
KPJI	**Karang Pucung**	**4.44**	**300**	P	**Pn**	**06 58 51.7**	**+2.6**
CMJI	**Cimerak**	**4.66**	**292**	P	**Pn**	**06 58 52.8**	**+0.5**
PLAI	**Plampang**	**4.96**	**82**	P	**Pn**	**06 58 58.4**	**+2.0**
PLAI	**Plampang**	**4.96**	**82**	S	**Sn**	**06 59 54.4**	**+1.8**
PLAI	**Plampang**	**4.96**	**82**	P	**Pn**	**06 58 58.5**	**+2.0**
JCJI	**Jatiwangi**	**5.44**	**304**	P	**Pn**	**06 59 01.9**	**-1.1**
BBJI	**Bungbulang**	**5.52**	**292**	P	**Pn**	**06 59 05.2**	**+1.1**
LEM	**Lembang**	**5.82**	**298**	Pn	**Pn**	**06 59 11.7**	**+3.4**
	10nm,0.3s,baz=171,slow=8.0,SNR=7.0						
LEM				Sn	**Sn**	**07 00 17.1**	**+3.1**
	4.2nm,0.3s,baz=323,slow=20,SNR=1.6						
LEM	**Lembang**	**5.82**	**298**	P	**Pn**	**06 59 10.6**	**+2.3**
	0.9nm60nm,0.7s						
CNJI	**Cibinong**	**6.05**	**291**	P	**Pn**	**06 59 11.4**	**0.0**
	0.4nm53nm,1.2s						
BBKI	**Banjar Baru**	**6.41**	**19**	P	**Pn**	**06 59 18.2**	**+2.0**
WBSI	**Waikabubak, Su**	**6.49**	**91**	P	**Pn**	**06 59 19.5**	**+2.0**
	1.2nm2μm155nm,0.9s						
SKJI	**Sukabumi**	**6.69**	**292**	P	**Pn**	**06 59 21.2**	**+1.0**
	267nm,1.2s						
DBJI	**Dramaga**	**6.71**	**296**	P	**Pn**	**06 59 21.7**	**+1.3**
	1.1nm10μm82nm,0.6s						
XMI	**Christmas Isla**	**7.06**	**262**	P	**Pn**	**06 59 24.3**	**-1.0**
WSI	**Waingapu**	**7.39**	**91**	P	**Pn**	**06 59 31.2**	**+1.5**
CGJI	**Cibinong**	**7.63**	**292**	P	**Pn**	**06 59 34.7**	**+1.6**
	0.6nm4μm93nm,0.4s						
BASI	**Baing, Sumba**	**7.68**	**95**	P	**Pn**	**06 59 35.7**	**+1.9**
	159nm,0.6s						
KAPI	**Kappang**	**8.25**	**57**		**Pn**	**06 59 41.0**	**-0.5**
KAPI	**Kappang**	**8.25**	**57**	Pn	**Pn**	**06 59 42.0**	**+0.5**
	5.1nm,0.3s,baz=249,slow=13,SNR=6.4						
KAPI				Sn	**Sn**	**07 01 13.8**	**+0.3**
	1.7nm,0.3s,baz=217,slow=20,SNR=1.8						
KAPI				LR	LR	07 03 17.5	
	comp=Z,524nm,21.1s,baz=266,slow=42						
KAPI	**Kappang**	**8.25**	**57**	P	**Pn**	**06 59 43.5**	**+2.0**
BSSI	**Bau Bau, Buton**	**8.34**	**66**	P	**Pn**	**06 59 43.9**	**+1.1**
	1μm86nm,0.7s						
BKSI	**Bulukumba**	**8.40**	**60**	P	**Pn**	**06 59 44.4**	**+0.8**
	42nm,0.6s						
EDFI	**Ende, Flores**	**8.81**	**85**	P	**Pn**	**06 59 48.9**	**-0.5**
	964nm44nm,0.6s						
BNSI	**Bone**	**8.88**	**55**	P	**Pn**	**06 59 53.2**	**+2.9**
	900nm79nm,0.6s						
KASI	**Kota Agung**	**9.17**	**295**	P	**Pn**	**06 59 54.4**	**+0.2**
	39nm,0.6s						
MMRI	**Mamere**	**9.36**	**85**	Pn	**Pn**	**06 59 55.6**	**-1.2**
STKI	**Sintang**	**9.67**	**352**	P	**Pn**	**07 00 04.4**	**+3.3**
	42nm,0.8s						
LWLI	**Liwa**	**9.79**	**297**	P	**Pn**	**07 00 03.7**	**+0.9**
	117nm,0.7s						
MDSI	**Maura Dua**	**9.95**	**300**	P	**Pn**	**07 00 05.9**	**+1.1**
	19nm,0.8s						
BATI	**Baumata**	**10.71**	**94**	Pn	**Pn**	**07 00 15.9**	**+0.5**
	18nm,0.3s,baz=285,slow=8.9,SNR=7.7						
	40nm,0.4s						
BATI	**Baumata**	**10.71**	**94**	P	**Pn**	**07 00 17.4**	**+2.0**
	46nm,0.7s						
MNAI	**Manna**	**11.07**	**297**		**Pn**	**07 00 19.2**	**-1.0**
MNAI	**Manna**	**11.07**	**297**	P	**Pn**	**07 00 20.4**	**+0.2**
MNAI	**Manna**	**11.07**	**297**	P	**Pn**	**07 00 19.8**	**-0.4**
KSM	**Kuching**	**11.26**	**347**	Pn	**Pn**	**07 00 21.6**	**-1.3**
SOEI	**Soe**	**11.30**	**92**		**Pn**	**07 00 20.3**	**-3.2**
SOEI	**Soe**	**11.30**	**92**	P	**Pn**	**07 00 24.6**	**+1.1**
SOEI	**Soe**	**11.30**	**92**	P	**Pn**	**07 00 24.1**	**+0.6**
	87nm,1.0s						
KSI	**Kapahiang**	**11.73**	**299**	P	**Pn**	**07 00 29.5**	**+0.2**
SBUM	**Sibu**	**11.96**	**357**		**Pn**	**07 00 32.0**	**-0.5**
MASI	**Maura Aman, Be**	**12.29**	**301**	P	**Pn**	**07 00 36.9**	**-0.1**
	149nm,1.1s						
LUWI	**Luwuk**	**13.05**	**50**	P	**Pn**	**07 00 48.9**	**+1.6**
GIRL	**Giralia**	**13.06**	**174**	Pn	Pn	07 00 43.0	-4.4
MBWA	**Marble Bar**	**13.30**	**151**		Pn	07 00 46.8	-4.0
MBWA	**Marble Bar**	**13.30**	**151**	P	**Pn**	**07 00 50.1**	**-0.7**
PSA00	**Pilbara Seismi**	**13.71**	**151**		Pn	07 00 52.1	-4.3
PSA00	**Pilbara Seismi**	**13.71**	**151**		Pn	07 00 51.9	-4.5
PSA00	**Pilbara Seismi**	**13.71**	**151**	P	**Pn**	**07 00 55.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**15.06**	**126**	Pn	**Pn**	**07 01 11.8**	**-2.8**
FITZ	**Fitzroy Crossi**	**15.06**	**126**	Pn	**Pn**	**07 01 12.4**	**-2.1**
	1.5nm,0.3s,baz=308,slow=8.2,SNR=26						
FITZ				Sn	Sn	07 03 47.4	-13
	2.5nm,0.3s,baz=193,slow=18,SNR=7.8						
	5.1nm,0.4s						
SANI	**Sanana**	**15.09**	**61**	P	**Pn**	**07 01 18.1**	**+3.1**
	41nm,1.2s						
KNRA	**Kununurra**	**16.70**	**113**		**Pn**	**07 01 35.1**	**-0.6**
KNRA				IAmb	IAmb	07 01 46.7	
	comp=Z,16nm,0.7s						
MTN	**Manton Dam**	**18.27**	**102**	P	**P**	**07 01 52.7**	**-2.4**
MTN				IAmb	IAmb	07 02 07.8	
	comp=Z,41nm,1.2s						
MORW	**Morawa**	**19.62**	**172**	P	**P**	**07 02 09.7**	**-0.1**
SWI	**Sorong**	**20.30**	**66**	P	**P**	**07 02 17.7**	**+0.4**
	comp=Z,63nm,0.9s						
FAKI	**Fak Fak**	**20.42**	**72**	P	**P**	**07 02 16.3**	**-2.3**
FAKI	**Fak Fak**	**20.42**	**72**	P	Pn	07 02 21.1	+0.2
FAKI	**Fak Fak**	**20.42**	**72**	P	**P**	**07 02 19.6**	**+1.0**
DAV	**Davao City (W)**	**20.87**	**38**	LR	LR	07 10 37.1	
	comp=Z,90nm,21.5s,baz=197,slow=38						
WB0	**Warramunga Arr**	**23.18**	**118**	P	**P**	**07 02 48.8**	**+0.7**
WB0				IAmb	IAmb	07 03 03.0	
	comp=Z,8.3nm,0.7s						
WRA	**Warramunga Arr**	**23.20**	**119**	P	**P**	**07 02 49.7**	**+1.4**
WRA	**Warramunga Arr**	**23.20**	**119**	P	**P**	**07 02 47.8**	**-0.5**
	comp=Z,4.0nm,0.5s,baz=292,slow=11,SNR=37						
WRA				S	**S**	**07 07 03.6**	**+5.8**
	comp=Z,1.2nm,0.6s,baz=286,slow=24,SNR=5.2						
WRA				LR	LR	07 12 17.7	
	comp=Z,164nm,21.6s,baz=306,slow=38						
	comp=Z,4.0nm,0.5s						
WR8	**Warramunga Arr**	**23.35**	**119**	P	**P**	**07 02 48.6**	**-1.1**
WR8				IAmb	IAmb	07 03 04.6	
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.59**	**171**	LR	LR	07 13 17.8	
	comp=Z,157nm,18.0s,baz=290,slow=40						
ASAR	**Alice Springs**	**24.54**	**127**	P	**P**	**07 02 58.2**	**-2.7**
ASAR	**Alice Springs**	**24.54**	**127**	P	**P**	**07 03 01.4**	**+0.5**
	comp=Z,11nm,0.6s,baz=303,slow=8.9,SNR=54						
ASAR				S	S	07 07 33.0	+13
	comp=Z,1.2nm,0.9s,baz=306,slow=22,SNR=4.1						
ASAR				LR	LR	07 13 03.5	
	comp=Z,51nm,19.1s,baz=288,slow=38						
	comp=Z,11nm,0.6s						
AS31	**Alice Springs**	**24.54**	**127**	P	**P**	**07 02 58.4**	**-2.5**
FORT	**Forrest**	**25.43**	**148**	P	**P**	**07 03 10.2**	**+1.4**
FORT				IAmb	IAmb	07 03 30.0	
	comp=Z,14nm,0.8s						
COEN	**Coen**	**30.03**	**101**	P	**P**	**07 03 47.9**	**-2.3**
COEN				IAmb	IAmb	07 04 03.9	
	comp=Z,7.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.04**	**334**	P	**P**	**07 03 57.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**31.04**	**334**	P	**P**	**07 03 59.0**	**0.0**
	comp=Z,1.2nm,0.2s,baz=170,slow=7.8,SNR=7.1						
CMAR				LR	LR	07 18 54.3	
	comp=Z,70nm,18.3s,baz=160,slow=41						
	comp=Z,1.2nm,0.2s						
PMG	**Port Moresby**	**33.87**	**93**	LR	LR	07 20 50.3	
	comp=Z,115nm,18.2s,baz=304,slow=41						
STKA	**Stephens Creek**	**34.69**	**134**	P	**P**	**07 04 32.0**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=310,slow=9.6,SNR=7.9						
STKA				LR	LR	07 20 29.7	
	comp=Z,91nm,18.7s,baz=304,slow=39						
	comp=Z,3.4nm,0.6s						
PALK	**Pallekele**	**36.10**	**297**	LR	LR	07 20 17.6	
	comp=Z,81nm,20.1s,baz=124,slow=38						
PZH	**PanZhiHua**	**37.44**	**344**	P	**P**	**07 04 57.8**	**+3.3**
GUMO	**Guam**	**39.27**	**55**	LR	LR	07 21 29.7	
	comp=Z,26nm,20.2s,baz=228,slow=37						
H08S2	**Diego Garcia H**	**39.89**	**270**	T	T	07 47 32.6	
	baz=95,slow=75,SNR=6.1						
H08S3	**Diego Garcia H**	**39.90**	**270**	T	T	07 47 30.8	
	baz=95,slow=75,SNR=6.3						
H08S1	**Diego Carcia H**	**39.91**	**270**	T	T	07 47 29.6	
	baz=95,slow=75,SNR=5.4						
SHL	**Shillong**	**40.44**	**330**	P	**P**	**07 05 18.8**	**-0.9**
SHL				IAmb	IAmb	07 05 38.5	
	comp=Z,10nm,1.0s						
XAN	**Xi'an**	**43.53**	**355**	⇑P	**P**	**07 05 46.3**	**+1.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
JNU	**Nakatsue**	**45.82**	**21**	LR	LR	07 26 26.4	
	comp=Z,24nm,21.0s,baz=192,slow=38						
JCJ	**Chichijima**	**46.27**	**37**	LR	LR	07 24 13.0	
	comp=Z,23nm,21.0s,baz=203,slow=35						
KSRS	**Korea Array**	**48.88**	**16**	P	**P**	**07 06 26.6**	**0.0**
	comp=Z,0.7nm,0.4s,baz=200,slow=6.8,SNR=4.9						
KSRS				LR	LR	07 28 17.5	
	comp=Z,10μm,21.6s,baz=200,slow=38						
	comp=Z,0.7nm,0.4s						
JHJ	**Hachijo jima 2**	**49.63**	**30**	LR	LR	07 27 46.1	
	comp=Z,13nm,21.4s,baz=140,slow=36						
BTO	**Baotou**	**50.00**	**357**	*e*P	**P**	**07 06 35.5**	**+0.3**
BTO				pP	**sP**	**07 06 51.0**	**+1.6**
BTO				sP	pwP	07 06 58.3	+9.4
BTO				pmax	pmax		
	comp=Z,23nm,0.9s						
BTO				pmax	pmax		
	comp=Z,170nm,7.1s						
HHC	**Hu-ho-hao-te**	**50.19**	**359**	*e*P	**P**	**07 06 39.9**	**+3.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,92nm,5.6s						
INU	**Inuyama**	**50.20**	**26**	P	**P**	**07 06 35.2**	**-1.6**
MJAR	**Matsushiro Arr**	**51.73**	**26**	P	**P**	**07 06 46.0**	**-2.2**
MJAR				IAmb	IAmb	07 06 58.5	
	comp=Z,7.5nm,1.4s						
MJAR	**Matsushiro Arr**	**51.73**	**26**	P	**P**	**07 06 45.8**	**-2.4**
	comp=Z,2.6nm,0.5s,baz=199,slow=8.4,SNR=11						
	comp=Z,2.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**56.28**	**17**	P	**P**	**07 07 21.4**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=152,slow=3.6,SNR=4.6						
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**57.44**	**355**	P	**P**	**07 07 27.7**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=172,slow=8.5,SNR=12						
	comp=Z,3.3nm,0.7s						
KSH	**Kashi**	**59.62**	**327**	P	**P**	**07 07 45.8**	**+0.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HEH	**HeiHe**	**60.93**	**11**	*e*P	**P**	**07 07 51.9**	**-1.6**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**62.38**	**337**	P	**P**	**07 08 02.1**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=152,slow=7.5,SNR=9.8						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**62.65**	**329**	LR	LR	07 39 43.7	
	comp=Z,40nm,21.8s,baz=130,slow=40						
KK31	**Karatay Array**	**65.06**	**327**	P	**P**	**07 08 19.5**	**-1.7**
KKAR	**Karatay Array**	**65.06**	**327**	P	**P**	**07 08 19.5**	**-1.7**
MAW	**Mawson**	**66.67**	**199**	LR	LR	07 32 13.3	
	comp=Z,116nm,21.8s,baz=66,slow=31						
KURBB	**Kurchatov Arra**	**66.94**	**337**	P	**P**	**07 08 31.7**	**-1.4**
	comp=Z,2.5nm,0.2s,baz=142,slow=4.7,SNR=2.1						
	comp=Z,2.5nm,0.2s						
ZAA0	**Zalesovo Array**	**67.58**	**343**	P	**P**	**07 08 35.3**	**-1.7**
ZAA0				IAmb	IAmb	07 08 48.6	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**67.58**	**343**	P	**P**	**07 08 34.9**	**-2.1**
ZALV	**Zalesovo Beam**	**67.58**	**343**	P	**P**	**07 08 35.0**	**-2.1**
	comp=Z,3.2nm,0.8s,baz=143,slow=3.9,SNR=12						
	comp=Z,3.2nm,0.8s						
BVAR	**Borovoye Array**	**72.06**	**335**	LR	LR	07 43 42.8	
	comp=Z,35nm,21.0s,baz=138,slow=38						
VNDA	**Vanda**	**72.42**	**170**	P	**P**	**07 09 07.4**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=295,slow=7.5,SNR=8.6						
VNDA				LR	LR	07 40 03.9	
	comp=Z,72nm,18.4s,baz=318,slow=35						
	comp=Z,1.4nm,0.9s						
YAK	**Yakutsk**	**72.59**	**8**	LR	LR	07 44 57.0	
	comp=Z,21nm,18.2s,baz=234,slow=39						
PETK	**Petropavlovsk-**	**73.18**	**26**	P	**P**	**07 09 09.2**	**-2.2**
	comp=Z,1.8nm,0.9s,baz=227,slow=5.3,SNR=2.7						
	comp=Z,1.8nm,0.9s						
AB31	**Akbulak array**	**74.62**	**327**		**P**	**07 09 18.9**	**-1.0**
ABKAR	**Akbulak array**	**74.62**	**327**		**P**	**07 09 18.8**	**-1.0**
AKTO	**Aktyubinsk**	**76.32**	**327**	P	**P**	**07 09 28.1**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=268,slow=4.5,SNR=9.9						
	comp=Z,1.9nm,0.5s						
ARTI	**Arti**	**79.53**	**333**	P	**P**	**07 09 46.0**	**-1.3**
ARTI	**Arti**	**79.53**	**333**	P	**P**	**07 09 46.1**	**-1.1**
	comp=Z,2.6nm,0.4s,baz=71,slow=3.2,SNR=6.2						
ARTI				LR	LR	07

mbtmp3.8/5, Error ellipse: s-maj=43.5km s-min=19.4km az=114.0

ISC 20 07:04:54.6±1.4, 13°.3N±0°.2×143°.3E±0°.2, h200km, n6, σ0°.80/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.60**	**78**	P	**Pn**	**07 05 30.0**	**+0.9**
	74nm,0.3s,baz=257,slow=4.8,SNR=89						
GUMO				S	**Sn**	**07 05 54.7**	**-1.2**
	159nm,0.4s,baz=174,slow=23,SNR=16						
WRA	**Warramunga Arr**	**34.15**	**195**	P	**P**	**07 11 20.7**	**-0.2**
	1.9nm,0.7s,baz=17,slow=9.4,SNR=12						
	1.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.69**	**210**	P	**P**	**07 11 33.9**	**-0.2**
	1.3nm,1.0s,baz=37,slow=12,SNR=1.4						
	1.3nm,1.0s						
ASAR	**Alice Springs**	**37.83**	**194**	P	**P**	**07 11 51.8**	**-0.3**
	0.3nm,0.5s,baz=21,slow=12,SNR=4.7						
	0.3nm,0.5s						
DZM	**Mont Dzumac**	**41.84**	**147**	P	**P**	**07 12 25.5**	**+0.3**
	2.6nm,0.6s,baz=292,slow=16,SNR=5.5						
	2.6nm,0.6s						
ILAR	**Eielson Array**	**69.53**	**25**	P	**P**	**07 15 41.2**	**-0.1**
	0.2nm,0.5s,baz=254,slow=6.0,SNR=5.6						
	0.2nm,0.5s						

*NEIC **20** 07:14:50.8±1.7, 17°.44S±0°.08×172°.03W±0°.06, h10km±1km, mb4.5/13, Error ellipse: s-maj=13.4km s-min=9.0km az=185.0*

*IDC **20** 07:14:55.8±0.7, 18°.49S×172°.68W, h0km, mb4.2/9, mbtmp4.2/9, MS3.6/17, Error ellipse: s-maj=33.0km s-min=20.0km az=134.0*

ISC 20 07:14:54.8±0.9, 17°.9S±0°.2×172°.25W±0°.09, h21km, n65, σ1°.11/30, mb4.3/19, MS3.7/16, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.50**	**118**		**Pn**	**07 15 31.8**	**-2.4**
AFI	**Afiamalu**	**3.99**	**7**	Pn	Pn	07 15 44.9	-10
RAR	**Rarotonga**	**12.22**	**108**	Pn	Pn	07 17 44.1	-3.5
RAR	**Rarotonga**	**12.22**	**108**	LR	LR	07 21 17.3	
	comp=Z,232nm,18.3s,baz=281,slow=31						
PINNC	**Pines Island,**	**19.61**	**253**	P	**P**	**07 19 21.9**	**-0.1**
DZM	**Mont Dzumac**	**20.45**	**255**	LR	LR	07 26 06.4	
	comp=Z,266nm,18.8s,baz=171,slow=34						
PPT2	**Papeete2**	**21.60**	**93**	*e*S	**S**	**07 23 42.4**	**+0.2**
	206nm,28.2s						
PPT2				*e*LR	LR	07 24 44.0	
	235nm,25.8s						
PPT2				*e*LR	LR	07 24 49.6	
	359nm,25.5s						
PPT	**Papeete**	**21.60**	**93**	LR	LR	07 25 41.7	
	comp=Z,129nm,20.9s,baz=266,slow=29						
TBI	**Tubuai**	**22.00**	**108**	*e*S	S	07 23 39.9	-10
	627nm,30.0s						
TBI				*e*LR	LR	07 25 01.5	
	982nm,26.5s						
URZ	**Urewera**	**22.32**	**202**	P	**P**	**07 19 51.9**	**+0.8**
	10nm,0.7s,baz=325,slow=6.5,SNR=5.7						
BKZ	**Black Stump Fm**	**23.35**	**203**	P	**P**	**07 20 03.4**	**+1.6**
BKZ				IAmb	IAmb	07 20 10.1	
	comp=Z,20nm,1.3s						
HNR	**Honiara**	**28.26**	**284**	LR	LR	07 30 28.7	
	comp=Z,124nm,19.4s,baz=190,slow=33						
TAOE	**Nuku Hiva Isla**	**32.45**	**78**	*e*LR	LR	07 29 51.9	
	comp=Z,149nm,25.6s						
EIDS	**Eidsvold**	**34.80**	**251**	P	**P**	**07 21 43.4**	**-0.9**
ARMA	**Armidale**	**35.09**	**242**	P	**P**	**07 21 46.5**	**-0.3**
ARMA				IAmb	IAmb	07 22 13.3	
	comp=Z,13nm,1.2s						
PMG	**Port Moresby**	**40.26**	**277**	LR	LR	07 37 05.0	
	comp=Z,103nm,18.4s,baz=156,slow=33						
H11S2	**WAKE ISLAND Hy**	**41.66**	**329**	T	T	08 08 28.3	
	baz=147,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hy**	**41.67**	**329**	T	T	08 08 29.4	
	baz=147,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**41.67**	**329**	T	T	08 08 27.6	
	baz=147,SNR=16						
H11N3	**WAKE ISLAND Hy**	**42.61**	**330**	T	T	08 09 02.8	
	baz=150,slow=76,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**42.62**	**330**	T	T	08 09 05.5	
	baz=150,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**42.63**	**330**	T	T	08 09 05.5	
	baz=150,slow=76,SNR=9.4						
COEN	**Coen**	**42.97**	**269**	P	**P**	**07 22 51.0**	**-1.8**
INKA	**Innaminka**	**44.20**	**248**	P	**P**	**07 23 02.0**	**-0.6**
WR8	**Warramunga Arr**	**50.24**	**259**	P	**P**	**07 23 49.4**	**-0.4**
WR8				IAmb	IAmb	07 23 54.8	
	comp=Z,5.3nm,1.1s						
WB0	**Warramunga Arr**	**50.36**	**259**		**P**	**07 23 50.5**	**-0.3**
WB0				IAmb	IAmb	07 23 50.8	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**50.39**	**259**		**P**	**07 23 50.6**	**-0.4**
WRA	**Warramunga Arr**	**50.39**	**259**	P	**P**	**07 23 50.4**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=97,slow=8.6,SNR=30						
WRA				LR	LR	07 44 43.0	
	comp=Z,59nm,18.1s,baz=126,slow=36						
	comp=Z,2.4nm,0.7s						
AS31	**Alice Springs**	**50.43**	**254**		**P**	**07 23 51.0**	**-0.3**
AS31				IAmb	IAmb	07 23 55.2	
	comp=Z,5.4nm,1.1s						
ASAR	**Alice Springs**	**50.43**	**254**		**P**	**07 23 50.9**	**-0.4**
ASAR	**Alice Springs**	**50.43**	**254**	P	**P**	**07 23 51.2**	**0.0**
	comp=Z,14nm,0.9s,baz=88,slow=8.4,SNR=59						
ASAR				LR	LR	07 43 43.3	
	comp=Z,77nm,18.4s,baz=110,slow=35						
	comp=Z,14nm,0.9s						
GUMO	**Guam**	**52.61**	**304**	LR	LR	07 44 46.7	
	comp=Z,14nm,19.3s,baz=126,slow=34						
MTN	**Manton Dam**	**54.66**	**267**	P	**P**	**07 24 21.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**58.80**	**259**	LR	LR	07 49 09.8	
	comp=Z,88nm,18.6s,baz=126,slow=35						
VNDA	**Vanda**	**61.03**	**186**	P	**P**	**07 25 07.2**	**+0.8**
VNDA	**Vanda**	**61.03**	**186**	P	**P**	**07 25 06.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=339,slow=5.0,SNR=4.3						
	comp=Z,0.6nm,0.8s						
JCJ	**Chichijima**	**62.87**	**314**	LR	LR	07 48 12.5	
	comp=Z,22nm,19.4s,baz=90,slow=32						
SHEM	**Shemya Is, Ala**	**71.32**	**351**	LR	LR	07 51 44.0	
	comp=Z,22nm,21.2s,baz=303,slow=31						
MJAR	**Matsushiro Arr**	**71.54**	**320**	LR	LR	07 53 09.6	
	comp=Z,16nm,19.1s,baz=139,slow=32						
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**07 26 19.0**	**+1.1**
QSPA				IAmb	IAmb	07 26 22.0	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**07 26 20.2**	**+2.4**
	comp=Z,4.2nm,1.2s,baz=60,slow=2.2,SNR=4.9						
	comp=Z,4.2nm,1.2s						
LPIG	**La Paz**	**73.42**	**57**	LR	LR	07 52 12.5	
	comp=Z,80nm,20.2s,baz=239,slow=30						
JNU	**Nakatsue**	**74.30**	**313**	LR	LR	07 51 48.9	
	comp=Z,39nm,20.3s,baz=340,slow=30						
NVAR	**Mina Array Bea**	**75.46**	**41**	P	P	07 26 45.8	+8.1
	comp=Z,1.1nm,0.7s,baz=229,slow=8.2,SNR=6.2						
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**81.10**	**55**	P	P	07 27 16.9	+8.0
	comp=Z,1.3nm,0.8s,baz=218,slow=9.1,SNR=15						
	comp=Z,1.3nm,0.8s						
BELA	**Belgrano 2**	**81.39**	**172**	P	**P**	**07 27 09.6**	**0.0**
BELA				IAmb	IAmb	07 27 09.7	
	comp=Z,3.3nm,1.1s						
PMSA	**Palmer Station**	**81.46**	**156**	LR	LR	08 01 57.7	
	comp=Z,164nm,18.7s,baz=194,slow=35						
ANMO	**Albuquerque**	**81.57**	**49**	LR	LR	07 57 57.1	
	comp=Z,46nm,20.4s,baz=62,slow=31						
H03S2	**Juan Fernandez**	**82.92**	**123**	T	T	08 58 12.6	
	baz=251,slow=75,SNR=49						
H03S1	**Juan Fernandez**	**82.93**	**123**	T	T	08 58 16.9	
	baz=251,slow=75,SNR=41						
H03S3	**Juan Fernandez**	**82.94**	**123**	T	T	08 58 11.0	
	baz=251,slow=75,SNR=40						
H03N2	**Juan Fernandez**	**83.03**	**123**	T	T	08 58 16.7	
	baz=257,slow=73,SNR=18						
H03N3	**Juan Fernandez**	**83.03**	**123**	T	T	08 58 17.8	
	baz=257,slow=73,SNR=12						
H03N1	**Juan Fernandez**	**83.04**	**123**	T	T	08 58 17.3	
	baz=257,slow=73,SNR=23						
PDAR	**Pinedale Array**	**83.39**	**41**	P	P	07 27 28.1	+7.3
	comp=Z,1.7nm,0.7s,baz=206,slow=3.1,SNR=18						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**84.67**	**11**	P	P	07 27 35.5	+8.9
	comp=Z,0.9nm,1.1s,baz=238,slow=3.7,SNR=4.5						
	comp=Z,0.9nm,1.1s						
TROLL	**Troll, Antarti**	**90.25**	**178**	⇑P	**P**	**07 27 53.8**	**+0.1**
	comp=Z,67nm,0.8s						
VNA3	**Neumayer Olymp**	**90.28**	**174**	⇑P	**P**	**07 27 54.2**	**+0.4**
	comp=Z,1.3nm,0.8s						
SNAA	**Sanae**	**90.37**	**177**	⇑P	**P**	**07 27 54.4**	**+0.1**
	comp=Z,27nm,1.0s						
SNAA	**Sanae**	**90.37**	**177**	P	**P**	**07 27 54.4**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=139,slow=1.5,SNR=5.2						
	comp=Z,1.0nm,0.9s						
VNA2	**Neumayer--Watz**	**90.79**	**175**	⇑P	**P**	**07 27 56.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=174,slow=3.8						
VNA1	**Neumayer--Stat**	**90.98**	**175**	⇑P	**P**	**07 27 56.9**	**0.0**
	comp=Z,2.7nm,1.1s						
ATAH	**Atahualpa**	**91.48**	**98**	LR	LR	08 02 21.5	
	comp=Z,35nm,18.0s,baz=78,slow=31						
GERES	**GERESS Array B**	**148.75**	**352**	PKPbc	**PKPab**	**07 34 46.5**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=48,slow=4.2,SNR=5.3						
BRTR	**Keskin Array B**	**148.77**	**320**	PKPbc	**PKPab**	**07 34 46.9**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=107,slow=1.3,SNR=8.7						

*NEIC **20** 07:30:35.5±1.2, 40°.62N±0°.03×123°.51W±0°.03, h32km±4km, Error ellipse: s-maj=3.9km s-min=3.5km az=170.0*

NCEDC 20 07:30:36.0±1.8, 40°.63N±0°.03×123°.49W±0°.02, h29km±7km, ML3.0/19, ML3.0/83(NEIC), Error ellipse: s-maj=3.7km s-min=2.5km az=170.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMOR	**Dinsmores, CA**	**0.18**	**296**		Pb	07 30 42.1	0.0
DMOR					Sb	07 30 47.5	+1.2
KHBM	**Hayfork Bally**	**0.21**	**82**		Pb	07 30 42.3	-0.1
KHBM					Sb	07 30 47.4	+0.6
KHMM	**Horse Mountain**	**0.30**	**323**		Pb	07 30 43.4	-0.2
KHMM					Sb	07 30 49.5	+0.7
WEAV	**Weaverville**	**0.40**	**73**		Pb	07 30 44.5	-0.4
WEAV					Sb	07 30 51.4	+0.4
KMRM	**Mail Ridge**	**0.44**	**202**		Pb	07 30 45.6	+0.1
KMRM				IAML		07 30 53.8	
	comp=N,2μm,0.9s						
KMRM	**Mail Ridge**	**0.44**	**202**		Sn	07 30 52.9	-0.5
JCC	**Jacoby Creek,**	**0.45**	**294**		Pb	07 30 44.9	-0.7
JCC				IAML		07 30 54.8	
	comp=E,711nm,1.2s						
JCC				IAML		07 30 55.4	
	comp=N,947nm,1.1s						
JCC	**Jacoby Creek,**	**0.45**	**294**		Sb	07 30 52.3	+0.1
KMPM	**Mount Pierce**	**0.53**	**246**		Pb	07 30 46.3	-0.6
KMPM					Sb	07 30 54.2	-0.1
KMPM				IAML		07 30 56.7	
	comp=E,1μm,0.6s						
KMPM				IAML		07 30 57.9	
	comp=N,2μm,0.5s						
FER	**Ferndale**	**0.59**	**265**		Pb	07 30 47.4	-0.5
BRIC	**Briceland Vine**	**0.60**	**211**		Pb	07 30 47.6	-0.4
BRIC				IAML		07 30 59.6	
	comp=N,1μm,0.4s						
BRIC				IAML		07 30 59.7	
	comp=E,1μm,0.6s						
KOMM	**Orleans Mounta**	**0.65**	**2**		Pb	07 30 47.9	-1.0
KCTM	**Capetown**	**0.67**	**257**		Pb	07 30 48.2	-0.9
KRPM	**Rodgers**	**0.67**	**323**		Pb	07 30 48.0	-1.1
KRPM				IAML		07 30 58.6	
	comp=N,926nm,0.7s						
KRPM				IAML		07 31 04.5	
	comp=E,984nm,0.5s						
N02D	**Trinity Center**	**0.69**	**60**		Pb	07 30 48.7	-0.8
O02D	**Mt. Diablo Mer**	**0.70**	**130**		Pb	07 30 49.0	-0.8
O02D				IAML		07 31 01.2	
	comp=E,1μm,0.5s						
O02D				IAML		07 31 02.1	
	comp=N,846nm,0.5s						
PETL	**Petrolia**	**0.74**	**243**		Pb	07 30 48.8	-1.4
LBKM	**Bonanza King**	**0.77**	**54**		Pb	07 30 49.9	-1.0
KIPM	**Iron Peak**	**0.82**	**180**		Pn	07 30 50.8	-0.9
M02C	**Callahan**	**0.90**	**32**		Pn	07 30 51.7	-1.0
M02C				IAML		07 31 04.1	
	comp=E,497nm,0.8s						
M02C				IAML		07 31 05.9	
	comp=N,527nm,0.5s						
KRMB	**Red Mountain**	**0.95**	**341**		Pn	07 30 51.9	-1.5
KRMB				IAML		07 31 04.6	
	comp=N,351nm,0.3s						
KRMB				IAML		07 31 04.9	
	comp=E,317nm,0.6s						
KCPM	**Cahto Peak**	**0.95**	**184**		Pn	07 30 52.3	-1.1
KCPM				IAML		07 31 11.8	
	comp=N,352nm,0.8s						
KCPM				IAML		07 31 24.4	
	comp=E,497nm,0.7s						
GROM	**Round Mountain**	**0.95**	**139**		Pn	07 30 52.8	-0.6
GVV	**Valley View**	**1.06**	**144**		Pn	07 30 54.3	-0.7
INGLE	**Inglenook, Smi**	**1.11**	**188**		Pn	07 30 54.1	-1.4
LSHM	**Sage Hen Hill**	**1.11**	**81**		Pn	07 30 55.0	-0.6
LCSM	**College of the**	**1.14**	**46**		Pn	07 30 56.0	0.0
DCMP	**DeCamp, Califo**	**1.17**	**174**		Pn	07 30 54.8	-1.5
LGBM	**Gray Butte**	**1.21**	**54**		Pn	07 30 57.5	+0.4
M03C	**McCloud**	**1.22**	**58**		Pn	07 30 57.3	+0.2
GTC	**Three Chop Rid**	**1.23**	**182**		Pn	07 30 55.7	-1.5
KSXB	**Camp Six Broad**	**1.23**	**346**		Pn	07 30 55.8	-1.5
KSXB				IAML		07 31 29.3	
	comp=N,176nm,0.8s						
YBH	**Yreka Blue Hor**	**1.25**	**28**		Pn	07 30 57.0	-0.4
YBH				IAML		07 31 16.9	
	comp=N,172nm,0.9s						
LDBM	**Digger Butte**	**1.31**	**98**		Pn	07 30 57.3	-1.1
LMPM	**Military Pass**	**1.32**	**49**		Pb	07 30 59.4	-0.8
O03E	**Paynes Creek**	**1.33**	**104**		Pn	07 30 57.7	-0.9
O03E				IAML		07 31 23.0	
	comp=E,197nm,0.6s						
MNDO	**Woodland Fire**	**1.33**	**189**		Pn	07 30 57.0	-1.5
GCK	**Clark Valley**	**1.35**	**143**		Pn	07 30 59.3	+0.5
LHEM	**Herd Peak**	**1.38**	**43**		Pn	07 30 59.9	+0.4
LBFM	**Black Fox Moun**	**1.41**	**59**		Pn	07 30 59.9	+0.1
GWRM	**Wonder Ranch**	**1.43**	**174**		Pn	07 30 58.6	-1.4
B040	**Montague**	**1.44**	**34**		Pn	07 31 00.3	+0.1
B040	**Montague**	**1.44**	**34**		Pn	07 31 00.0	-0.1
L02F	**Cave Junction**	**1.49**	**358**		Pn	07 30 59.9	-0.9
HATC	**Hat Creek Radi**	**1.55**	**83**		Pn	07 31 01.7	0.0
HATC				IAML		07 31 36.9	
	comp=E,177nm,1.1s						
HATC				IAML		07 31 41.6	
	comp=N,148nm,1.3s						
LRDM	**Redding Peak**	**1.55**	**96**		Pn	07 31 00.9	-0.7
LCMM	**Colby Mountain**	**1.58**	**107**		Pn	07 31 01.6	-0.5
LGMM	**Garner Mountai**	**1.58**	**52**		Pn	07 31 02.3	+0.2
GHOM	**Hamilton Openi**	**1.58**	**181**		Pn	07 31 00.4	-1.7
LTIM	**Timbered Crate**	**1.61**	**70**		Pn	07 31 02.3	-0.2
BONV	**Boonville, CA**	**1.65**	**176**		Pn	07 31 01.4	-1.5
HOPS	**Hopland Field**	**1.67**	**169**	Pn	Pn	07 31 02.1	-1.1
KBO	**Bosley Butte**	**1.67**	**341**	Pn	Pn	07 31 02.0	-1.3
KBO				IAML		07 31 23.4	
	comp=N,269nm,0.3s						
GSNM	**Snow Mountain**	**1.70**	**172**		Pn	07 31 02.7	-1.1
LASM	**Arnica Sink**	**1.74**	**56**		Pn	07 31 04.1	-0.3
GALB	**Galbreath Wild**	**1.78**	**174**		Pn	07 31 03.1	-1.6
L04D	**Klamath Falls**	**1.82**	**29**		Pn	07 31 05.9	+0.5
L04D				IAML		07 31 30.2	
	comp=N,132nm,0.6s						
L04D				IAML		07 31 48.5	
	comp=E,125nm,0.9s						
ORV	**Oroville**	**1.87**	**125**		Pn	07 31 05.8	-0.1
SUTB	**Sutter Butte**	**1.92**	**136**		Pn	07 31 05.7	-0.9
SUTB				IAML		07 31 41.8	
	comp=N,103nm,0.7s						
SUTB				IAML		07 31 50.2	
	comp=E,99nm,0.6s						
MNRC	**McLaughlin Min**	**1.93**	**155**	Pn	Pn	07 31 06.9	+0.1
KPK	**Kanaka Peak**	**1.97**	**121**		Pn	07 31 08.1	+0.6
TULE	**Intermountain**	**2.02**	**48**	Pn	Pn	07 31 07.5	-0.6
K02D	**Willamette Mer**	**2.07**	**356**		Pn	07 31 08.3	-0.5
K02D				IAML		07 31 31.2	
	comp=N,67nm,4.5s						
KEBM	**Edson Butte**	**2.33**	**344**	Pn	Pn	07 31 11.6	-0.7
KEBM				IAML		07 31 41.3	
	comp=N,139nm,2.7s						
KEBM				IAML		07 32 21.4	
	comp=E,140nm,2.5s						
BBOR	**Butler Butte**	**2.33**	**15**		Pn	07 31 13.2	+0.7
K04D	**Chiloquin, OR**	**2.38**	**33**		Pn	07 31 13.5	+0.4
BEKR	**Beckworth**	**2.51**	**107**		Pn	07 31 14.3	-0.7
MCCM	**Marconi Confer**	**2.53**	**169**	Pn	Pn	07 31 14.1	-0.9
MCCM				IAML		07 31 50.7	
	comp=E,73nm,2.0s						
MCCM				IAML		07 32 32.9	
	comp=N,58nm,2.9s						
J01E	**Myrtle Point**	**2.55**	**353**	Pn	Pn	07 31 15.2	-0.1
J01E				IAML		07 31 46.0	
	comp=E,87nm,2.8s						
J01E				IAML		07 31 47.3	
	comp=N,66nm,3.5s						
J04A	**Umpqua Nationa**	**2.80**	**21**		Pn	07 31 20.0	+1.0
K05A	**Summer Lake**	**2.86**	**42**		Pn	07 31 20.4	+0.6
WELL	**Weller Preserv**	**3.06**	**135**		Pn	07 31 23.4	+1.1
I03D	**Drain, OR**	**3.07**	**2**	Pn	Pn	07 31 22.4	0.0
J05D	**Fort Rock, OR**	**3.14**	**32**		Pn	07 31 24.6	+1.1
I04A	**Tendick Farm,**	**3.26**	**14**	Pn	Pn	07 31 25.2	+0.1
PAHR	**Pah Rah Range**	**3.28**	**105**		Pn	07 31 25.6	+0.1
JRSC	**Jasper Ridge**	**3.37**	**163**	Pn	Pn	07 31 26.3	-0.2
I02E	**Swisshome, OR**	**3.48**	**356**	Pn	Pn	07 31 28.3	+0.2
BUCK	**Buck Mountain**	**3.58**	**6**	Pn	Pn	07 31 31.3	+1.7
MHC	**Mount Hamilton**	**3.59**	**156**	Pn	Pn	07 31 31.1	+1.4
MHC				IAML		07 33 25.6	
	comp=E,28nm,4.2s						
MHC				IAML		07 33 41.0	
	comp=N,20nm,4.9s						
WIFE	**Three Sisters-**	**3.64**	**19**	Pn	Pn	07 31 31.2	+0.6
PINE	**Pine Mountain**	**3.68**	**30**		Pn	07 31 32.5	+1.4
H04D	**Lebanon**	**3.93**	**8**	Pn	Pn	07 31 34.8	+0.6
COR	**Corvallis**	**3.96**	**2**	Pn	Pn	07 31 36.0	+1.4
WVOR	**Wild Horse Val**	**4.06**	**62**	Pn	Pn	07 31 35.3	-0.9
WVOR				IAML		07 32 32.0	
	comp=N,12nm,4.2s						
H04A	**Detroit Lake**	**4.16**	**13**	Pn	Pn	07 31 37.9	+0.4
F03A	**Seaside**	**5.30**	**359**	Pn	Pn	07 31 52.4	-0.6
E03A	**Lebam**	**5.91**	**359**	Pn	Pn	07 32 00.6	-0.9
WISH	**Wishkah**	**6.49**	**358**	Pn	Pn	07 32 09.3	-0.1

*GCG **20** 07:36:47.9±0.7, 13°.38N×89°.46W, h78km±4km, MD3.7, ML2.5*

*SNET **20** 07:36:48.0±0.7, 13°.37N×89°.41W, h76km±3km, ML2.6*

*CATAC **20** 07:36:48.3±0.5, 13°N±3°×8°.9W±°, h55km±3km, M2.6/12, MLv2.6/12, Error ellipse: s-maj=8.2km s-min=4.9km az=31.8, confirmed*

ISC 20 07:36:49.0±1.9, 13°.39N±0°.07×89°.42W±0°.05, h70km±9km, n56, σ0°.51/63, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.14**	**44**	*e*P	**Pn**	**07 36 59.0**	**-0.3**
LALI				*e*S	**Sn**	**07 37 07.4**	**+0.4**
LALI	**Alcalda de L**	**0.14**	**44**	*i* P	**Pn**	**07 36 59.1**	**-0.3**
LALI				IAML		07 36 59.9	
	comp=N,221nm,0.1s						
LALI				*i* S	**Sn**	**07 37 08.1**	**+1.1**
LALI	**Alcalda de L**	**0.14**	**44**	P	**Pn**	**07 36 59.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.27**	**354**	‖*e*P	**Pn**	**07 36 60.0**	**-0.3**
JAYA	**Jayaque - finc**	**0.27**	**354**	*i* P	**Pn**	**07 36 60.0**	**-0.3**
JAYA				*i* S	**Sn**	**07 37 09.1**	**+0.7**
JAYA	**Jayaque - finc**	**0.27**	**354**	S	**Sn**	**07 37 08.8**	**+0.4**
JAYA	**Jayaque - finc**	**0.27**	**354**	P	**Pn**	**07 36 60.0**	**-0.3**
PMON	**Piamonte**	**0.34**	**18**	*e*P	**Pn**	**07 36 60.0**	**-0.7**
PMON	**Piamonte**	**0.34**	**18**	S	**Sn**	**07 37 09.7**	**+0.5**
PMON	**Piamonte**	**0.34**	**18**	P	**Pn**	**07 36 60.0**	**-0.7**
LOMA	**Loma Larga**	**0.35**	**43**	*e*P	**Pn**	**07 37 00.1**	**-0.7**
LOMA	**Loma Larga**	**0.35**	**43**	S	**Sn**	**07 37 10.0**	**+0.6**
LOMA	**Loma Larga**	**0.35**	**43**	P	**Pn**	**07 37 00.1**	**-0.7**
BOQS	**Boqueron**	**0.37**	**22**	*e*P	**Pn**	**07 37 01.3**	**+0.3**
CEDA	**San Andres**	**0.41**	**4**	*e*P	**Pn**	**07 37 00.6**	**-0.6**
CEDA	**San Andres**	**0.41**	**4**	S	**Sn**	**07 37 10.7**	**+0.7**
CEDA	**San Andres**	**0.41**	**4**	P	**Pn**	**07 37 00.6**	**-0.6**
LFRS	**El Faro**	**0.42**	**56**	⇑*e*P	**Pn**	**07 37 00.9**	**-0.4**
LFRS				*e*S	**Sn**	**07 37 10.6**	**+0.3**
SBLS	**San Blas**	**0.49**	**337**	‖*e*P	**Pn**	**07 37 01.7**	**-0.3**
LBRS	**Las Brisas**	**0.51**	**46**	*e*P	**Pn**	**07 37 01.5**	**-0.5**
SNJE	**San Jose**	**0.51**	**340**	*e*P	**Pn**	**07 37 01.7**	**-0.5**
RTR	**El Retiro**	**0.55**	**337**	*e*P	**Pn**	**07 37 02.6**	**0.0**
PAVA	**Las Pavas**	**0.57**	**55**	*e*P	**Pn**	**07 37 02.1**	**-0.6**
PAVA	**Las Pavas**	**0.57**	**55**	S	**Sn**	**07 37 13.0**	**+0.2**
PAVA	**Las Pavas**	**0.57**	**55**	P	**Pn**	**07 37 02.1**	**-0.6**
UNIC	**Universidad Ca**	**0.60**	**348**	S	**Sn**	**07 37 13.3**	**+0.1**
UNIC	**Universidad Ca**	**0.60**	**348**	P	**Pn**	**07 37 02.4**	**-0.6**
NUBE	**Las Nubes**	**0.62**	**326**	*e*P	**Pn**	**07 37 02.8**	**-0.5**
NUBE	**Las Nubes**	**0.62**	**326**	*i* P	**Pn**	**07 37 02.8**	**-0.5**
NUBE	**Las Nubes**	**0.62**	**326**	S	**Sn**	**07 37 14.1**	**+0.4**
NUBE	**Las Nubes**	**0.62**	**326**	P	**Pn**	**07 37 02.7**	**-0.5**
TECO	**Alcaldia de Te**	**0.64**	**76**	*e*P	**Pn**	**07 37 02.6**	**-0.7**
TECO				*e*S	**Sn**	**07 37 14.0**	**+0.2**
TECO	**Alcaldia de Te**	**0.64**	**76**	S	**Sn**	**07 37 13.9**	**0.0**
TECO	**Alcaldia de Te**	**0.64**	**76

LCY	Lacayo	0.95	54	eP		Pb	07 42 42.8	0.0
CEDA	San Andres	0.98	342	eP		Pb	07 42 43.0	-0.3
CNRM	Centro Naciona	1.08	56	S		Sb	07 42 58.5	-0.1
CNRM	Centro Naciona	1.08	56	P		Pn	07 42 42.1	-1.9
SBLS	San Blas	1.10	332	eP		Pb	07 42 45.1	-0.3
SNJE	San Jose	1.12	333	eP		Pb	07 42 45.3	-0.5
RTR	El Retiro	1.16	332	eP		Pb	07 42 46.3	-0.2
UNIC	Universidad Ca	1.20	338	P		Pb	07 42 46.4	-0.6
NUBE	Las Nubes	1.23	327	eP		Pn	07 42 46.8	+0.5
NUBE	Las Nubes	1.23	327	eP		Pn	07 42 46.8	+0.5
NUBE				i S		Sn	07 43 01.9	-0.1
NUBE	Las Nubes	1.23	327	P		Pn	07 42 46.8	+0.5
LCND	La Caada	1.24	69‖	eP		Pn	07 42 46.8	+0.5
LCND	La Caada	1.24	69	P		Pn	07 42 46.8	+0.5
CNCH	Conchagua	1.28	71	eP		Pn	07 42 47.2	+0.3
CNCH	Conchagua	1.28	71	P		Pn	07 42 47.3	+0.3
LLGN	La Laguna	1.29	6	eP		Pn	07 42 47.4	+0.3
LLGN	La Laguna	1.29	6	P		Pn	07 42 47.4	+0.3
FAME	Alcaldia de Sa	1.33	317	S		Sn	07 43 03.4	-0.7
FAME	Alcaldia de Sa	1.33	317	P		Pn	07 42 48.1	+0.7
RBDL	Robledal	1.37	335‖	eP		Pn	07 42 49.0	+0.8
CSGN	Cosiguina Volc	1.49	86	P		Pn	07 42 50.3	+0.5
CSGN				S		Sn	07 43 09.4	+1.1
MTO3	Montecristo	1.55	350	eP		Pn	07 42 51.1	+0.5
MTO3	Montecristo	1.55	350	i P		Pn	07 42 51.1	+0.5
MTO3	Montecristo	1.55	350	P		Pn	07 42 51.1	+0.5
JUAM	Asuncion Mita	1.58	338	i P		Pn	07 42 51.8	+0.9
JUAM				i S		Sb	07 43 11.1	-2.0
ESQI	Esquipulas	1.70	352	eP		Pn	07 42 53.5	+0.8
ESQI	Esquipulas	1.70	352	P		Pn	07 42 53.5	+0.8
INTHN	La Esperanza I	1.73	33	P		Pn	07 42 53.5	+0.4
SARH	Santa Rosa de	1.92	9	i P		Pn	07 42 56.7	+1.0
SARH	Santa Rosa de	1.92	9	P		Pn	07 42 56.7	+1.0
PKGN	Cerro Pekin	2.06	95	P		Pn	07 42 58.4	+0.8
POLN	Al Sur del Vol	2.23	95	P		Pn	07 42 57.7	-2.2
CNGA	Al SSO del Vol	2.35	99	P		Pn	07 43 01.8	+0.2
CNGN	Cerro Negro	2.36	99	P		Pn	07 43 00.4	-1.3
COPN	Copaltepe	2.53	105	P		Pn	07 43 04.9	+1.0
MOM2	El Cardon	2.57	99	P		Pn	07 43 05.1	+0.6
MOM2				S		Sn	07 43 34.3	-0.6
LIMN	Finca el Limon	2.66	86	P		Pn	07 43 06.4	+0.6
LIMN				S		Sn	07 43 37.3	+0.2

*IDC **20** 07:45:21.1±1.2, 18°.55S×172°.65W, h0km, mb3.8/5, mbtmp3.9/5, MS2.9/2, Error ellipse: s-maj=59.2km s-min=25.6km az=146.0*

ISC 20 07:45:26.8±1.1, 18°.6S±0°.3×172°.7W±0°.3, h41km, n17, σ0s81/6, mb3.8/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	12.41	104	LR	LR	07 51 45.2	
	comp=Z,50nm,21.9s,baz=260,slow=31						
URZ	Urewera	21.53	202	P	P	07 50 12.2	-0.2
	2.2nm,0.6s,baz=193,slow=18,SNR=1.1						
	2.2nm,0.6s						
PPT	Papeete	21.98	91	LR	LR	07 56 37.2	
	comp=Z,31nm,19.9s,baz=263,slow=31						
H11N3	WAKE ISLAND Hy	43.02	331	T	T	08 39 34.0	
	baz=150,slow=77,SNR=5.8						
H11N1	WAKE ISLAND Hy	43.03	331	T	T	08 39 29.7	
	baz=150,slow=77,SNR=6.6						
H11N2	WAKE ISLAND Hy	43.04	331	T	T	08 39 34.2	
	baz=150,slow=77,SNR=4.6						
ASAR	Alice Springs	49.86	254	P	P	07 54 16.9	+0.5
	4.7nm,0.9s,baz=86,slow=8.4,SNR=28						
	4.7nm,0.9s						
WRA	Warramunga Arr	49.87	259	P	P	07 54 16.2	-0.3
	0.9nm,0.5s,baz=97,slow=8.4,SNR=16						
	0.9nm,0.5s						
TXAR	Lajitas Array	81.82	55	P	P	07 57 42.8	+0.8
	0.3nm,0.9s,baz=252,slow=5.5,SNR=3.5						
	0.3nm,0.9s						
H03S2	Juan Fernandez	82.87	123	T	T	09 28 44.4	
	baz=250,slow=74,SNR=17						
H03S1	Juan Fernandez	82.89	123	T	T	09 28 44.9	
	baz=250,slow=74,SNR=13						
H03S3	Juan Fernandez	82.89	123	T	T	09 28 43.8	
	baz=250,slow=74,SNR=12						
H03N2	Juan Fernandez	82.99	123	T	T	09 28 45.5	
	baz=258,slow=73,SNR=7.7						
H03N3	Juan Fernandez	82.99	123	T	T	09 28 44.5	
	baz=258,slow=73,SNR=5.2						
H03N1	Juan Fernandez	83.00	123	T	T	09 28 46.3	
	baz=258,slow=73,SNR=5.1						
PDAR	Pinedale Array	84.17	41	P	P	07 57 53.2	-0.9
	0.3nm,0.6s,baz=259,slow=4.1,SNR=4.5						
	0.3nm,0.6s						
BRTR	Keskin Array B	149.03	318	PKPbc	PKiKP	08 05 12.6	+0.4
	0.3nm,0.4s,baz=48,slow=2.1,SNR=3.5						

*CATAC **20** 07:46:42.2±0.6, 13°N±3°×9°0W±°, h12km±2km, M3.1/18, MLv3.1/18, Error ellipse: s-maj=6.4km s-min=3.4km az=22.8, confirmed*

*GCG **20** 07:46:42.7±0.9, 13°.26N×90°.45W, h16km±8km, MD4.2, ML3.0*

*SNET **20** 07:46:44.0±1.1, 13°.19N×90°.28W, h18km±8km, ML2.9*

ISC 20 07:46:43.8±1.6, 13°.20N±0°.08×90°.36W±0°.05, h24km, n53, σ0s87/56, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.72	28	P	Pb	07 46 57.3	-0.5
NUBE	Las Nubes	0.89	39	eP	Pb	07 46 59.9	-0.9
NUBE	Las Nubes	0.89	39	eP	Pb	07 46 59.9	-0.9
NUBE				eS	Sb	07 47 12.4	0.0
NUBE	Las Nubes	0.89	39	P	Pb	07 46 59.8	-1.0
NUBE	Las Nubes	0.89	39	S	Sn	07 47 14.1	+0.8
SBLS	San Blas	0.95	48	eP	Pb	07 47 01.1	-0.8
LOAL	Lomas de Alarc	0.97	35	P	Pn	07 47 00.9	-1.1
LOAL	Lomas de Alarc	0.97	35	S	Sb	07 47 14.4	-0.1
RTR	El Retiro	0.98	45	eP	Pn	07 47 01.7	-0.5
SNJE	San Jose	0.98	48	eP	Pn	07 47 01.5	-0.8
JAYA	Jayaque - finc	0.99	63‖	eP	Pn	07 47 01.2	-1.1
JAYA				eS	Sn	07 47 16.5	+0.7
JAYA	Jayaque - finc	0.99	63	eP	Pn	07 47 01.3	-1.1
JAYA				eS	Sb	07 47 15.5	+0.4
JAYA	Jayaque - finc	0.99	63	P	Pn	07 47 01.3	-1.1
LALI	Alcalda de L	1.05	74	eP	Pn	07 47 02.5	-0.6
LALI	Alcalda de L	1.05	74	eP	Pn	07 47 02.4	-0.6
LALI	Alcalda de L	1.05	74	P	Pn	07 47 02.4	-0.6
FG16	Alotenango, Sa	1.07	352	eP	Pb	07 47 05.5	+1.6
UNIC	Universidad Ca	1.10	45	P	Pn	07 47 03.2	-0.6
UNIC	Universidad Ca	1.10	45	S	Sn	07 47 17.3	-1.1
CEDA	San Andres	1.11	57	P	Pn	07 47 02.2	-1.8
RBDL	Robledal	1.11	36‖	eP	Pn	07 47 03.7	-0.4
PMON	Piamonte	1.13	63	eP	Pn	07 47 03.6	-0.7
PMON	Piamonte	1.13	63	P	Pn	07 47 03.2	-1.1
PANCS	Alcalda de	1.22	70	P	Pn	07 47 04.7	-0.7
PANCS	Alcalda de	1.22	70	S	Sn	07 47 20.6	-0.5
LOMA	Loma Larga	1.23	69	eP	Pn	07 47 04.7	-1.1
LOMA	Loma Larga	1.23	69	P	Pn	07 47 04.7	-1.1
LOMA	Loma Larga	1.23	69	S	Sb	07 47 22.6	+0.5
JUAM	Asuncion Mita	1.29	29	eP	Pn	07 47 06.1	-0.3
JUAM				IAML		07 47 27.2	
	comp=N,154nm,0.3s						
LFRS	El Faro	1.33	72	eP	Pn	07 47 06.6	-0.4
PAVA	Las Pavas	1.47	70	eP	Pn	07 47 09.6	+0.6
PAVA	Las Pavas	1.47	70	P	Pn	07 47 09.3	+0.4
MTO3	Montecristo	1.53	39	eP	Pn	07 47 10.0	+0.1
MTO3	Montecristo	1.53	39	eP	Pn	07 47 10.0	+0.1
MTO3	Montecristo	1.53	39	P	Pn	07 47 10.1	+0.1
TECO	Alcaldia de Te	1.57	78	eP	Pn	07 47 09.7	-0.6
TECO	Alcaldia de Te	1.57	78	P	Pn	07 47 09.7	-0.6
STG2	El Palmar, Qui	1.57	321	eP	Pb	07 47 13.4	+1.1
UESV	Universidad de	1.59	74	P	Pn	07 47 09.7	-0.7
UESV	Universidad de	1.59	74	S	Sn	07 47 31.6	+1.4
SCLA	Alcaldia de Sa	1.66	72	eP	Pn	07 47 12.1	+0.6
SCLA	Alcaldia de Sa	1.66	72	P	Pn	07 47 11.5	0.0
ESQI	Esquipulas	1.67	36	P	Pn	07 47 12.2	+0.5
LLGN	La Laguna	1.67	55	P	Pn	07 47 11.9	+0.2
LLGN	La Laguna	1.67	55	S	Sb	07 47 35.2	+0.6
APG	El Apazote	1.79	357	eP	Pn	07 47 14.0	+0.5
TECA	Tecapa	1.83	81	eP	Pn	07 47 13.6	-0.3
RTAL	Retalhuleu	1.85	315	S	Sn	07 47 35.7	-1.0
RTAL	Retalhuleu	1.85	315	P	Pb	07 47 15.0	-1.9
SARH	Santa Rosa de	2.20	45	P	Pn	07 47 19.5	+0.5
LCND	La Caada	2.40	87	P	Pn	07 47 22.6	+0.9
CNCH	Conchagua	2.46	88	P	Pn	07 47 22.9	+0.4
CNCH	Conchagua	2.46	88	S	Sn	07 47 53.9	+2.0

*IDC **20** 07:58:54.4±3.5, 57°.52N×155°.30W, h42km±31km, mb3.6/7, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=41.5km s-min=19.7km az=2.0*

*NEIC **20** 07:58:55.7±0.9, 57°.30N±0°.03×154°.88W±0°.05, h35km±2km, Error ellipse: s-maj=5.4km s-min=3.9km az=50.0*

*AEIC **20** 07:58:56.1±1.0, 57°.30N±0°.03×154°.88W±0°.06, h47km±9km, ML3.2, ML3.4/86(NEIC), Error ellipse: s-maj=5.2km s-min=3.9km az=60.0*

ISC 20 07:58:54.7±0.8, 57°.33N±0°.05×154°.85W±0°.04, h52km±7km, n144, σ1s39/155, mb3.8/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGLS	Mageik Landsli	0.83	348		Pn	07 59 10.9	+0.7
SII	Sitkinak Islan	0.85	154		Pn	07 59 10.7	+0.2
SII					Sn	07 59 23.1	+1.1
PLK3	Peulik 3	0.85	296		Pn	07 59 11.1	+0.7
PLK3					Sn	07 59 23.4	+1.4
OHAK	Old Harbor	0.85	96		Pn	07 59 11.0	+0.6
OHAK				IAML		07 59 27.6	
	comp=E,1μm,0.5s						
OHAK				IAML		07 59 28.3	
	comp=N,1μm,0.6s						
PLK4	Peulik 4	0.87	291		Pn	07 59 11.3	+0.4
PLK4					Sn	07 59 22.5	-0.2
PLK2	Peulik 2	0.91	300		Pn	07 59 12.0	+0.7
PLK2					Sn	07 59 23.7	+0.3
ACHA	Angle Creek He	0.93	344		Pn	07 59 12.2	+0.7
ACHA					Sn	07 59 24.7	+0.8
ANCK	Angle Creek	0.94	339		Pn	07 59 12.6	+0.8
KABU	Katmai Buttres	0.98	346		Pn	07 59 13.3	+1.1
KAKN	Katmai Knife C	0.98	353		Pn	07 59 13.1	+0.8
KAKN					Sn	07 59 25.9	+0.6
KAWH	Katmai	1.06	1		Pn	07 59 14.1	+0.8
PLK1	Peulik 1	1.06	297		Pn	07 59 14.1	+0.9
PLK1					Sn	07 59 29.4	+2.4
CNTC	Contact Creek	1.09	330		Pn	07 59 14.6	+0.8
CNTC					Sn	07 59 29.5	+1.5
PLBL	Peulik Blue Cr	1.13	290		Pn	07 59 15.2	+1.1
KARR	Katmai Rainbow	1.18	4		Pn	07 59 16.1	+1.2
KAHG	Katmai Hook Gl	1.18	8		Pn	07 59 16.5	+1.6
PLK5	Peulik 5	1.28	303		Pn	07 59 17.0	+0.8
KAPH	Katmai Pasha	1.30	12		Pn	07 59 18.2	+1.7
KDAK	Kodiak Island	1.30	68		Pn	07 59 17.5	+1.1
KDAK				IAML		07 59 40.5	
	comp=N,651nm,0.3s						
KDAK				IAML		07 59 40.0	
	comp=N,779nm,0.4s						
KDAK	Kodiak Island	1.30	68	P	Pn	07 59 17.5	+1.1
	comp=N,163nm,0.3s,baz=211,slow=4.0,SNR=3705						
KDAK				S	Sn	07 59 36.8	+4.0
	comp=N,216nm,0.3s,baz=43,slow=19,SNR=9.1						
KAHC	Katmai Hardscr	1.33	356		Pn	07 59 18.1	+1.1
KAHC					Sn	07 59 35.6	+1.9
R16K	Pilot Point	1.50	280		Pn	07 59 19.8	+0.7
R16K				IAML		07 59 40.2	
	comp=N,382nm,0.4s						
R16K				IAML		07 59 41.2	
	comp=E,395nm,1.1s						
CHIR	Chirikof Islan	1.57	196		Pn	07 59 19.8	-0.2
CHIR				IAML		07 59 55.1	
	comp=E,476nm,0.7s						
CHIR				IAML		07 59 59.2	
	comp=N,447nm,0.6s						
Q16K	King Salmon	1.66	325		Pn	07 59 21.8	+0.4
Q19K	Cape Douglas,	1.73	21		Pn	07 59 24.1	+1.7
Q19K				IAML		07 59 52.8	
	comp=N,460nm,0.6s						
ANNE	Aniakchak Nort	1.80	258		Pn	07 59 23.9	+0.5
SYI	Shuyak Island	1.84	44		Pn	07 59 25.5	+1.8
SYI				IAML		07 59 53.1	
	comp=N,360nm,0.4s						
SYI				IAML		07 59 54.5	
	comp=E,334nm,0.6s						
ANPB	Aniakchak Plen	1.95	256		Pn	07 59 25.8	+0.5
P18K	Big Mountain,	2.08	355		Pn	07 59 28.1	+0.9
P16K	Nushagak River	2.39	317		Pn	07 59 31.9	+0.6
P19K	Oil Pt	2.48	19		Pn	07 59 35.0	+2.4
P19K				IAML		08 00 12.5	
	comp=N,172nm,0.4s						
P19K				IAML		08 00 12.5	
	comp=E,198nm,0.4s						
VNSG	Veniaminof 6	2.63	245		Pn	07 59 35.4	+0.7
O17K	Koliganek Bris	2.72	335		Pn	07 59 36.7	+0.9
ILS	Iliamna Low So	2.80	19		Pn	07 59 39.1	+2.1
ILSW	Iliamna Southw	2.81	18		Pn	07 59 39.1	+1.9
VNKR	Veniaminof 5	2.81	244		Pn	07 59 37.7	+0.6
O16K	Kokwok River B	2.84	324		Pn	07 59 37.9	+0.4
O16K				IAML		08 00 28.6	
	comp=E,76nm,0.8s						
IVE	Iliamna Volcan	2.86	19		Pn	07 59 39.6	+1.7
O19K	Port Alsworth	2.89	5		Pn	07 59 39.8	+1.6
O19K				IAML		08 00 30.8	
	comp=N,168nm,0.4s						
CNPM	China Poot	2.91	39		Pn	07 59 40.0	+1.5
CNPM				IAML		08 00 24.2	
	comp=E,80nm,0.4s						
CNPM				IAML		08 00 26.8	
	comp=N,100nm,1.2s						
BRLK	Bradley Lake	3.21	39		Pn	07 59 43.6	+1.1
BRLK				IAML		08 00 31.5	
	comp=E,62nm,0.1s						
BRLK				IAML		08 00 32.8	
	comp=N,106nm,0.4s						
O15K	Ungalikthiuk R	3.22	307		Pn	07 59 43.3	+0.6
BRSE	Bradley Lake S	3.24	40		Pn	07 59 43.9	+0.9
RDWB	Redoubt West	3.34	17		Pn	07 59 46.1	+1.7
N18K	Kilae Creek	3.41	351		Pn	07 59 46.4	+1.1
N18K				IAML		08 00 54.0	
	comp=E,42nm,1.2s						
N17K	Nushagak Hills	3.43	340		Pn	07 59 46.9	+1.3
N17K				IAML		08 00 48.1	
	comp=N,46nm,0.8s						
DFR	Drift River	3.46	18		Pn	07 59 48.2	+2.1
N19K	Bonanza Creek	3.50	3	Pn	Pn	07 59 48.4	+1.7
N19K				IAML		08 01 05.4	
	comp=N,43nm,0.7s						
CNBA	Chernabura Isl	3.66	229	Pn	Pn	07 59 48.1	-0.5
SDPT	Sand Point	3.71	240		Pn	07 59 49.5	+0.2
O14K	Tigyukauivet M	3.90	302	Pn	Pn	07 59 52.8	+0.9
N15K	Kwethluk River	3.95	318		Pn	07 59 54.1	+1.5
N15K				IAML		08 00 42.0	
	comp=E,50nm,0.8s						
N15K				IAML		08 01 17.7	
	comp=N,65nm,0.8s						
SEW	Seward	3.96	43	Pn	Pn	07 59 53.2	+0.4
SLKM	Skilak Lake	3.99	35	Pn	Pn	07 59 54.4	+1.1
SLKM				IAML		08 00 52.9	
	comp=E,45nm,0.4s						
SLKM				IAML		08 00 53.9	
	comp=N,55nm,0.5s						
SPU	Mount Spurr	4.12	19		Pn	07 59 57.0	+1.9
SPWE	Spurr West	4.13	16		Pn	07 59 57.5	+2.3
O22K	Cooper Landing	4.13	38		Pn	07 59 56.8	+1.7
SPNN	North Nagishla	4.20	14		Pn	07 59 58.6	+2.4
M18K	Stony River	4.21	354		Pn	07 59 57.4	+1.2
M16K	Timber Creek	4.27	332		Pn	07 59 58.4	+1.4
M16K				IAML		08 00 47.1	
	comp=N,27nm,0.4s						
M16K				IAML		08 00 47.2	
	comp=E,34nm,0.4s						
M17K	Holitna River	4.30	343		Pn	07 59 59.2	+1.8
M17K				IAML		08 01 27.4	
	comp=N,53nm,1.2s						
S12K	Black Hills	4.32	251	Pn	Pn	07 59 58.5	+0.8
PN7A	Pavlof North-7	4.41	248		Pn	07 59 59.6	+0.6
N14K	Kuskokwak Cree	4.42	309		Pn	08 00 00.2	+1.1
N14K				IAML		08 01 40.2	
	comp=N,53nm,1.1s						
STLK	Strandline Lak	4.46	19		Pn	08 00 01.7	+2.0
DOL	Dolgoi Island	4.48	244		Pn	07 59 59.9	-0.1
RC01	Rabbit Creek A	4.60	33	Pn	Pn	08 00 03.1	+1.5
RC01				IAML		08 01 07.5	
	comp=E,37nm,1.2s						
RC01				IAML		08 01 18.1	
	comp=N,35nm,1.1s						
M19K	Big River Lodg	4.60	3	Pn	Pn	08 00 03.4	+1.9
SUA	Susitna One	4.65	25	Pn	Pn	08 00 04.3	+1.9
SUA				IAML		08 01 04.3	
	comp=N,44nm,1.1s						
SUA				IAML		08 01 05.2	
	comp=E,31nm,0.8s						

DT1	Dutton Round H	4.71	245			Pn	08 00 02.9	-0.2
PWL	Port Wells	4.88	41	Pn		Pn	08 00 06.0	+0.6
PWL				IAML			08 01 25.5	
	comp=E,30nm,0.7s							
L16K	Owhat River	4.99	334			Pn	08 00 07.8	+0.9
L16K				IAML			08 01 39.6	
	comp=E,18nm,1.0s							
L18K	Granite Mounta	5.00	350			Pn	08 00 08.4	+1.4
L18K				IAML			08 01 44.5	
	comp=N,14nm,1.0s							
L18K				IAML			08 02 00.4	
	comp=E,14nm,1.2s							
M14K	Bethel	5.03	316			Pn	08 00 08.4	+1.0
M14K				IAML			08 01 39.8	
	comp=E,18nm,1.1s							
M14K				IAML			08 01 40.2	
	comp=N,28nm,1.1s							
L20K	Farewell, AK	5.19	5			Pn	08 00 12.1	+2.4
HIN	Hinchinbrook I	5.31	51	Pn		Pn	08 00 11.6	+0.2
GLI	Glacier Island	5.35	45	Pn		Pn	08 00 11.8	-0.1
GLI				IAML			08 01 14.7	
	comp=N,14nm,0.8s							
GLI				IAML			08 01 33.7	
	comp=E,17nm,1.2s							
M13K	Dall Lake	5.39	309	Pn		Pn	08 00 14.1	+1.7
M13K				IAML			08 03 15.5	
	comp=E,14nm,1.1s							
M13K				IAML			08 03 17.7	
	comp=N,12nm,1.1s							
FID	Port Fidalgo	5.52	48	Pn		Pn	08 00 13.7	-0.4
L15K	Ungalak Mounta	5.52	325			Pn	08 00 14.9	+0.7
K17K	Iditarod	5.68	344			Pn	08 00 17.8	+1.4
L14K	Kuka Creek	5.68	318			Pn	08 00 17.5	+1.1
SCM	Sheep Creek Mo	5.92	37	Pn		Pn	08 00 20.9	+1.2
K15K	Wolf Creek Mou	6.02	329			Pn	08 00 22.6	+1.7
DIV	Divide	6.02	47	Pn		Pn	08 00 21.4	+0.4
RAGM	Ragged Mountai	6.10	56	Pn		Pn	08 00 22.7	+0.5
GOAT	Goat Mountain	6.17	54			Pn	08 00 23.5	+0.4
KLU	Klutina	6.18	44	Pn		Pn	08 00 24.1	+0.8
J18K	Innoko River	6.23	352			Pn	08 00 25.5	+1.7
SUCK	Suckling Hills	6.39	60	Pn		Pn	08 00 26.9	+0.7
BMRM	Bremner River	6.41	51	Pn		Pn	08 00 26.9	+0.5
J17K	VABM Dome	6.44	343			Pn	08 00 27.9	+1.2
M24K	Tolsona, Glenn	6.50	39	Pn		Pn	08 00 29.1	+1.5
J16K	Anvik River	6.62	337			Pn	08 00 30.4	+1.1
M11K	Mekoryuk	6.64	302	Pn		Pn	08 00 30.9	+1.4
N25K	Chitina, Valde	6.76	46	Pn		Pn	08 00 32.2	+1.1
KHIT	Khitrov Hills	6.77	58			Pn	08 00 31.4	0.0
K13K	Kusilvak Mount	6.79	317			Pn	08 00 32.5	+1.1
SNH	Sunshine Point	6.87	60	Pn		Pn	08 00 33.4	+0.7
CRQM	Cirque	6.95	55	Pn		Pn	08 00 34.4	+0.5
WAX	Waxell Ridge	6.96	58	Pn		Pn	08 00 34.4	+0.4
J14K	Nanvaranak Lak	6.97	325	Pn		Pn	08 00 35.1	+1.2
GLB	Gilahina Butte	6.98	49	Pn		Pn	08 00 34.8	+0.5
VRDI	Verde Repeater	7.02	51	Pn		Pn	08 00 35.9	+0.9
BPAW	Bear Paw Mtn.	7.05	14	Pn		Pn	08 00 37.4	+2.2
TGL	Tana Glacier	7.09	56	Pn		Pn	08 00 36.2	+0.5
BARK	Barkley Ridge	7.11	59			Pn	08 00 36.3	+0.3
ISLE	Juniper Island	7.25	58	Pn		Pn	08 00 38.7	+0.7
MCARA	McCarthy VSAT	7.28	51	Pn		Pn	08 00 40.0	+1.7
KIAG	Kiagna River	7.37	55			Pn	08 00 39.8	+0.2
BALM	Baldy	7.42	55			Pn	08 00 40.8	+0.5
PTPK	Patty Peak	7.43	53			Pn	08 00 41.0	+0.5
UNV	Unalaska Valle	7.47	247	Pn		Pn	08 00 40.6	-0.2
MNAT	Makushin Natee	7.54	248			Pn	08 00 41.7	-0.2
GRNC	Granite Creek	7.57	58	Pn		Pn	08 00 42.7	+0.3
BARN	Barnard Glacie	7.73	56	Pn		Pn	08 00 45.3	+0.7
TABL	Table Mountain	7.75	61	Pn		Pn	08 00 45.3	+0.3
CTGM	Chitina Glacie	7.84	57	Pn		Pn	08 00 46.6	+0.5
LOGN	Logan Glacier	7.94	58	Pn		Pn	08 00 48.3	+0.8
H17K	Granite Mounta	8.02	344	Pn		Pn	08 00 50.2	+1.8
HDA	Harding Lake	8.08	25	Pn		Pn	08 00 50.3	+1.2
PCA	Pinnacle	8.09	64			Pn	08 00 49.6	+0.3
RIDG	Independent Ri	8.10	33	Pn		Pn	08 00 51.6	+2.2
CCB	Clear Creek Bu	8.10	22	Pn		Pn	08 00 49.8	+0.4
O28M	Mount Upton	8.30	59			Pn	08 00 52.6	+0.1
SPIA	Saint Paul Isl	8.36	275	Pn		Pn	08 00 53.2	+0.2
ILAR	Eielson Array	8.40	24	P		Pn	08 00 52.8	-0.8
	comp=N,0.2nm,0.3s,baz=218,slow=13,SNR=12							
ILAR				S		Sn	08 02 20.2	-6.7
	comp=N,0.3nm,0.3s,baz=311,slow=30,SNR=4.6							
	comp=N,0.3nm,0.3s							
PNL	Peninsula	8.42	67			Pn	08 00 53.8	-0.1
OKTU	Okmok Mt. Tuli	8.49	248			Pn	08 00 54.6	-0.2
BCAR	Beaver Creek A	8.67	43	Pn		Pn	08 00 58.3	+1.0
ANM	Nome	8.88	329	Pn		Pn	08 01 01.5	+1.4
PRP	Porcupine Dome	9.34	25	Pn		Pn	08 01 07.7	+1.1
M29M	Somme Creek	9.69	51	Pn		Pn	08 01 12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.98**	**187**	P	**Pn**	**08 06 10.7**	**-0.4**
	7.0nm,0.3s,baz=326,slow=8.0,SNR=39						
DZM				S	**Sn**	**08 07 28.7**	**-0.5**
	6.8nm,0.3s,baz=97,slow=16,SNR=9.4						
URZ	**Urewera**	**24.63**	**161**	P	**P**	**08 09 39.6**	**-0.1**
	6.1nm,0.9s,baz=355,slow=1.4,SNR=1.4						
	6.1nm,0.9s						
STKA	**Stephens Creek**	**28.80**	**230**	P	**P**	**08 10 18.1**	**+0.9**
	1.5nm,0.4s,baz=57,slow=12,SNR=12						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**31.80**	**256**	P	**P**	**08 10 43.1**	**-0.7**
	0.2nm,0.3s,baz=84,slow=8.4,SNR=4.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**32.60**	**250**	P	**P**	**08 10 50.1**	**-0.7**
	1.1nm,0.6s,baz=86,slow=8.8,SNR=22						
	1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.01**	**260**	P	**P**	**08 11 54.2**	**+0.4**
	0.8nm,0.5s,baz=87,slow=9.4,SNR=5.6						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**08 16 00.3**	**+2.3**
	1.8nm,0.8s,baz=357,slow=7.7,SNR=14						
	1.8nm,0.8s						
TROLL	**Troll, Antarti**	**92.50**	**185**	⇑P	**P**	**08 17 27.2**	**-0.4**
	comp=Z,76nm,0.6s						
SNAA	**Sanae**	**93.18**	**183**	⇑P	**P**	**08 17 29.6**	**-1.0**
	comp=Z,9.4nm,0.4s						
SNAA	**Sanae**	**93.18**	**183**	P	**P**	**08 17 29.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=199,slow=8.5,SNR=10						
	comp=Z,0.4nm,0.5s						
VNA3	**Neumayer Olymp**	**93.84**	**181**	⇑P	**P**	**08 17 32.4**	**-1.2**
	comp=Z,1.1nm,0.4s						
ARCES	**ARCESS Array B**	**120.63**	**345**	PKP	**PKPdf**	**08 23 06.0**	**-1.2**
	comp=Z,4.5nm,1.0s,baz=62,slow=2.1,SNR=6.3						
FINES	**FINESS Array B**	**126.09**	**338**	PKP	**PKiKP**	**08 23 18.5**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=98,slow=2.8,SNR=1.4						

*NEIC **20** 08:05:36.1±0.8, 18°.4S±0°.1×172°.17W±0°.04, h10km±1km, mb4.8/19, Error ellipse: s-maj=17.2km s-min=6.3km az=186.0*

*IDC **20** 08:05:37.6±0.6, 18°.69S×172°.53W, h0km, mb4.1/19, mbtmp4.1/20, ML3.8/1, Error ellipse: s-maj=20.9km s-min=15.5km az=143.0*

*GCMT **20** 08:05:53.1±0.3, 18°.49S±0°.03×172°.19W±0°.03, h12km, MW5.0/102, Moment Tensor Solution. s20,c24; s102,c135; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.52±.12; Mθθ1.20±.13; Mφφ2.32±.11; Mrθ1.07±.45; Mθφ1.15±.08; Mφr0.53±.55; Best double couple: M0:3.48000×10^16 NP1:φs=25.00000°, δ37.00000°, λ-103.00000°. NP2:φs=221.00000°, δ54.00000°, λ-80.00000°. Principal axes: T 3.1960, Plg9.0000°, Azm304.0000°; N 0.5680, Plg8.0000°, Azm35.0000°; P -3.7640, Plg78.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 08:05:37.5±0.5, 18°.54S±0°.08×172°.32W±0°.08, h10km, n80, σ1§81/54, mb4.5/35, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.33**	**104**		**Pn**	**08 06 13.1**	**-2.8**
AFI	**Afiamalu**	**4.63**	**7**		**Pn**	**08 06 44.3**	**-3.3**
RAR	**Rarotonga**	**12.10**	**105**	Pn	**Pn**	**08 08 28.3**	**-1.8**
	1.6nm,0.3s,baz=253,slow=5.8,SNR=3.9						
DZM	**Mont Dzumac**	**20.22**	**256**	P	**P**	**08 10 12.9**	**0.0**
	0.3nm,0.3s,baz=52,slow=14,SNR=3.5						
	2.9nm,0.5s						
PPT2	**Papeete2**	**21.64**	**91**	eLR	LR	08 15 34.5	
	1μm,24.0s						
PPT	**Papeete**	**21.65**	**91**	P	P	08 10 33.1	+4.8
	17nm,0.8s,baz=196,slow=18,SNR=2.3						
	17nm,0.8s						
URZ	**Urewera**	**21.71**	**203**	P	**P**	**08 10 29.0**	**+0.3**
	4.7nm,0.4s,baz=293,slow=1.4,SNR=7.1						
	4.7nm,0.4s						
TBI	**Tubuai**	**21.87**	**107**	eLR	LR	08 15 36.6	
	5μm,27.2s						
RPZ	**Rata Peaks**	**28.74**	**206**	P	**P**	**08 11 38.3**	**+3.1**
	8.9nm,0.6s,baz=336,slow=4.1,SNR=7.6						
TAOE	**Nuku Hiva Isla**	**32.65**	**77**	eLR	LR	08 20 40.4	
	444nm,23.0s						
ARMA	**Armidale**	**34.73**	**243**	P	**P**	**08 12 27.2**	**-0.9**
ARMA				IAmb	IAmb	08 12 38.8	
	comp=Z,15nm,1.1s						
CAN	**Canberra**	**38.04**	**236**	P	**P**	**08 12 54.9**	**-1.4**
CAN				IAmb	IAmb	08 13 14.7	
	comp=Z,13nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**42.17**	**330**	T	T	08 59 18.5	
	baz=149,slow=74						
H11S3	**WAKE ISLAND Hy**	**42.18**	**330**	T	T	08 59 16.3	
	baz=149,slow=74						
H11S1	**WAKE ISLAND Hy**	**42.19**	**330**	T	T	08 59 10.7	
	baz=149						
COEN	**Coen**	**42.89**	**269**	P	**P**	**08 13 36.0**	**-0.6**
H11N3	**WAKE ISLAND Hy**	**43.13**	**331**	T	T	08 59 59.9	
	baz=150,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**43.14**	**331**	T	T	08 59 54.9	
	baz=150,slow=76,SNR=52						
H11N2	**WAKE ISLAND Hy**	**43.15**	**331**	T	T	09 00 00.1	
	baz=150,slow=76,SNR=31						
STKA	**Stephens Creek**	**43.45**	**243**	P	**P**	**08 13 41.2**	**+0.2**
STKA	**Stephens Creek**	**43.45**	**243**	P	**P**	**08 13 40.4**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=146,slow=4.3,SNR=3.6						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**48.20**	**242**	P	**P**	**08 14 18.6**	**+0.1**
BBOO				IAmb	IAmb	08 14 30.9	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**50.01**	**259**	P	**P**	**08 14 31.6**	**-1.0**
WR0				IAmb	IAmb	08 14 46.1	
	comp=Z,11nm,0.8s						
WR8	**Warramunga Arr**	**50.05**	**259**		**P**	**08 14 31.7**	**-1.2**
WR8				IAmb	IAmb	08 14 46.4	
	comp=Z,16nm,0.9s						
WB0	**Warramunga Arr**	**50.18**	**259**		**P**	**08 14 32.2**	**-1.5**
AS31	**Alice Springs**	**50.19**	**254**	P	**P**	**08 14 32.8**	**-1.1**
AS31				IAmb	IAmb	08 14 46.1	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**50.19**	**254**		**P**	**08 14 32.9**	**-1.0**
ASAR	**Alice Springs**	**50.19**	**254**	P	**P**	**08 14 32.7**	**-1.2**
	comp=Z,7.4nm,0.8s,baz=87,slow=8.6,SNR=60						
	comp=Z,7.4nm,0.8s						
WRAB	**Tennant Creek**	**50.19**	**259**	P	**P**	**08 14 33.1**	**-0.8**
WRAB				IAmb	IAmb	08 14 46.7	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**50.20**	**259**		**P**	**08 14 32.4**	**-1.6**
WRA	**Warramunga Arr**	**50.20**	**259**	P	**P**	**08 14 32.2**	**-1.8**
	comp=Z,1.7nm,0.4s,baz=97,slow=8.5,SNR=36						
	comp=Z,1.7nm,0.4s						
KNRA	**Kununurra**	**56.17**	**263**	P	**P**	**08 15 14.3**	**-3.7**
KNRA				IAmb	IAmb	08 15 30.2	
	comp=Z,8.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.62**	**260**	P	**P**	**08 15 33.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**58.62**	**260**	P	**P**	**08 15 34.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=107,slow=2.9,SNR=5.8						
	comp=Z,1.1nm,0.5s						
SBA	**Scott Base**	**60.23**	**185**	P	**P**	**08 15 44.9**	**-0.5**
SBA				IAmb	IAmb	08 16 00.7	
	comp=Z,4.7nm,1.0s						
VNDA	**Vanda**	**60.38**	**186**	P	**P**	**08 15 46.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=14,slow=8.7,SNR=1.9						
	comp=Z,0.4nm,0.8s						
PSA00	**Pilbara Seismi**	**63.34**	**255**	P	**P**	**08 16 05.7**	**-1.6**
GIRL	**Giralia**	**68.24**	**252**	P	**P**	**08 16 37.6**	**-1.3**
H06S1	**SOCORRO T**	**70.73**	**62**	T	T	09 34 20.3	
	SNR=30						
H06E1	**SOCORRO T-PHAS**	**70.78**	**62**	T	T	09 34 20.5	
	SNR=76						
QSPA	**South Pole Qui**	**71.53**	**180**	P	**P**	**08 17 01.1**	**+2.5**
	comp=Z,1.9nm,1.1s,baz=75,slow=0.2,SNR=2.3						
	comp=Z,1.9nm,1.1s						
MJAR	**Matsushiro Arr**	**71.99**	**320**	P	**P**	**08 17 04.5**	**+3.0**
	comp=Z,1.5nm,1.1s,baz=145,slow=4.7,SNR=6.4						
	comp=Z,1.5nm,1.1s						
PETK	**Petropavlovsk-**	**75.91**	**342**	P	P	08 17 27.9	+3.7
	comp=Z,0.9nm,0.7s,baz=162,slow=5.2,SNR=6.5						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**75.98**	**41**	P	**P**	**08 17 27.2**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=240,slow=4.2,SNR=4.6						
	comp=Z,0.4nm,0.6s						
KSM	**Kuching**	**78.50**	**275**		**P**	**08 17 37.6**	**-2.0**
KSM				IAmb	IAmb	08 17 59.3	
	comp=Z,13nm,0.9s						
KSRS	**Korea Array**	**79.11**	**316**	P	**P**	**08 17 45.8**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=132,slow=6.7,SNR=2.0						
	comp=Z,0.5nm,0.8s						
KSAR	**Wonju Array Be**	**79.13**	**316**		**P**	**08 17 40.2**	**-2.2**
BELA	**Belgrano 2**	**80.77**	**172**		**P**	**08 17 48.5**	**-2.3**
BELA				IAmb	IAmb	08 18 03.7	
	comp=Z,6.3nm,1.1s						
TXAR	**Lajitas Array**	**81.52**	**55**	P	P	08 17 58.4	+2.7
	comp=Z,1.7nm,1.1s,baz=235,slow=4.4,SNR=10						
	comp=Z,1.7nm,1.1s						
H03S2	**Juan Fernandez**	**82.63**	**123**	T	T	09 49 08.7	
	baz=253						
H03S1	**Juan Fernandez**	**82.64**	**123**	T	T	09 49 09.7	
	baz=253						
H03S3	**Juan Fernandez**	**82.64**	**123**	T	T	09 49 09.9	
	baz=253						
H03N2	**Juan Fernandez**	**82.74**	**123**	T	T	09 49 13.1	
	baz=260,slow=74						
H03N3	**Juan Fernandez**	**82.74**	**123**	T	T	09 49 11.6	
	baz=260,slow=74						
H03N1	**Juan Fernandez**	**82.75**	**123**	T	T	09 49 10.2	
	baz=260						
NJ2	**Nanjing**	**82.87**	**307**	*e*P	**P**	**08 18 02.1**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PDAR	**Pinedale Array**	**83.92**	**41**	P	**P**	**08 18 09.8**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=246,slow=5.1,SNR=7.2						
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**85.31**	**11**	P	**P**	**08 18 15.8**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=208,slow=4.9,SNR=5.6						
	comp=Z,0.7nm,0.9s						
WHN	**Wuhan**	**85.69**	**304**	P	**P**	**08 18 15.6**	**-1.3**
TROLL	**Troll, Antarti**	**89.62**	**178**	⇑P	**P**	**08 18 35.0**	**-0.3**
	comp=Z,65nm,1.0s						
VNA3	**Neumayer Olymp**	**89.66**	**174**	⇑P	P	08 18 41.2	+5.9
	comp=Z,1.2nm,0.7s						
SNAA	**Sanae**	**89.74**	**177**	⇑P	P	**08 18 35.1**	**-0.7**
	comp=Z,34nm,0.7s						
SNAA	**Sanae**	**89.74**	**177**	P	P	**08 18 34.2**	**-1.6**
SNAA	**Sanae**	**89.74**	**177**	P	**P**	**08 18 35.4**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=186,slow=10,SNR=1.5						
	comp=Z,0.3nm,0.7s						
VNA2	**Neumayer--Watz**	**90.16**	**175**	⇑P	**P**	**08 18 38.9**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=182,slow=4.3						
HILR	**Hailar Array B**	**90.44**	**323**	P	**P**	**08 18 40.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=122,slow=10,SNR=1.9						
	comp=Z,1.0nm,0.3s						
HHC	**Hu-ho-hao-te**	**91.90**	**313**	*e*P	**P**	**08 18 45.9**	**-0.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
YKA	**Yellowknife Ar**	**92.55**	**23**	P	**P**	**08 18 51.1**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=234,slow=4.7,SNR=1.6						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.56**	**288**	P	**P**	**08 19 01.2**	**+2.2**
	comp=Z,0.8nm,0.2s,baz=110,slow=3.8,SNR=1.8						
	comp=Z,0.8nm,0.2s						
PZH	**PanZhiHua**	**94.59**	**296**	P	**P**	**08 18 59.1**	**0.0**
AKASG	**Malin Array Be**	**143.61**	**337**	PKP	**PKiKP**	**08 25 16.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=46,slow=4.0,SNR=2.2						
OSTC	**Ostas**	**147.33**	**350**	*e*PKP	PKiKP	08 25 35.3	+12
DPC	**Dobruska-Polom**	**147.51**	**350**	*e*PKP	PKiKP	08 25 34.6	+11
STEB	**Steborice**	**147.64**	**348**	*e*PKP	PKiKP	08 25 33.1	+8.8
PRU	**Pruhonice**	**148.14**	**352**	*e*PKP	PKPab	08 25 38.4	+12
KHC	**Kasperske Hory**	**149.11**	**352**	*e*PKP	PKPab	08 25 38.3	+8.0
BRTR	**Keskin Array B**	**149.21**	**319**	PKPbc	**PKPab**	**08 25 28.4**	**-2.9**
	comp=Z,0.7nm,0.6s,baz=116,slow=2.5,SNR=6.1						
GERES	**GERESS Array B**	**149.37**	**352**	PKPbc	**PKiKP**	**08 25 27.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=3.8,SNR=5.0						
MMAI	**Mount Meron Ar**	**151.28**	**306**	PKPab	**PKPab**	**08 25 42.3**	**+2.4**
	comp=Z,2.5nm,0.6s,baz=51,slow=14,SNR=2.1						
TORD	**Torodi Ar. Bea**	**172.14**	**132**	PKPab	**PKPab**	**08 27 13.9**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=251,slow=3.8,SNR=2.1						

*BJI **20** 08:08:48.8, 18°.08S×171°.95W, h4km, mB5.5/12, mb5.2/31, Ms5.0/13, Ms7 4.6/14*

*MOS **20** 08:08:49.6±1.1, 18°.52S×172°.46W, h10km, mb5.2/19, MS5.0/4, Error ellipse: s-maj=11.1km s-min=8.6km az=148.8*

*IDC **20** 08:08:49.3±0.4, 18°.50S×172°.49W, h0km, mb4.8/23, mbtmp4.8/23, MS4.3/25, Error ellipse: s-maj=14.9km s-min=12.0km az=102.0*

*NEIC **20** 08:08:49.5±1.7, 18°.44S±0°.09×172°.10W±0°.06, h10km±1km, mb5.3/221, Ms_20 4.9/35, Mwws.1/9, Error ellipse: s-maj=14.8km s-min=9.4km az=18.0*

*NEIC **20** 08:08:50.7, 18°.54S×172°.30W, h12km*

*NEIC **20** 08:08:50.7, 18°.54S×172°.30W, h12km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^16Nm; Mrr=4.32; Mθθ0.95; Mφφ3.38; Mrθ0.03; Mφr1.31; Mθφ3.56; Fault plane solution: M0:5.47000×10^16 NP1:φs33.87000°, δ26.61000°, λ-68.04000°. NP2:φs189.60000°, δ65.45000°, λ-100.61000°. Principal axes: T 5.1337, Plg20.0000°, Azm288.0000°; N 0.6163, Plg10.0000°, Azm194.0000°; P -5.7500, Plg68.0000°, Azm79.0000°;*

*GCMT **20** 08:08:54.1±0.1, 18°.61S±0°.01×172°.22W±0°.01, h12km, MW5.1/132, Moment Tensor Solution. s60,c83; s132,c213; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.07±.08; Mθθ0.84±.08; Mφφ4.23±.07; Mrθ-0.74±.25; Mθφ1.63±.07; Mφr0.14±.23; Best double couple: M0:5.03200×10^16 NP1:φs194.00000°, δ45.00000°, λ-101.00000°. NP2:φs30.00000°, δ46.00000°, λ-79.00000°. Principal axes: T 4.8890, Plg1.0000°, Azm112.0000°; N 0.2880, Plg8.0000°, Azm202.0000°; P -5.1750, Plg82.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **20** 08:09:13.4, 18°.72S×173°.71W, h132km, mb4.7/24, Tonga Islands*

ISC 20 08:08:49.9±0.3, 18°.53S±0°.05×172°.23W±0°.05, h10km, n781, σ1§44/671, mb5.2/170, MS4.7/51, 92C-25D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.25**	**104**	P	**Pn**	**08 09 25.1**	**-2.2**
NIUE	**Niue**	**2.25**	**104**	Pn	**Pn**	**08 09 25.2**	**-2.0**
NIUE				Sn	**Sn**	**08 09 49.3**	**-5.8**
AFI	**Afiamalu**	**4.62**	**6**		**Pn**	**08 09 57.0**	**-2.9**
AFI	**Afiamalu**	**4.62**	**6**	P	**Pn**	**08 09 57.0**	**-2.9**
MSVF	**Nonsavu**	**9.27**	**273**		**Pn**	**08 11 04.7**	**+0.8**
MSVF	**Nonsavu**	**9.27**	**273**	P	**Pn**	**08 11 04.7**	**+0.8**
RAO	**Raoul Island**	**11.87**	**205**	LR	LR	08 16 01.6	
	comp=Z,208nm,21.5s,baz=68,slow=37						
GLKZ	**Green Lake**	**11.88**	**205**	P	Pn	08 11 35.9	-3.4
GLKZ				S	Sn	08 13 38.3	-14
RAR	**Rarotonga**	**12.02**	**105**	Pn	**Pn**	**08 11 38.6**	**-2.8**
	5.6nm,0.3s,baz=256,slow=10,SNR=27						
RAR				Sn	Sn	08 13 41.1	-15
	0.4nm,0.3s,baz=209,slow=15,SNR=1.3						
RAR				LR	LR	08 15 13.8	
	comp=Z,1μm,22.0s,baz=214,slow=31						
MARNC	**Mare, Loyalty**	**18.78**	**258**	P	**P**	**08 13 07.0**	**-2.4**
MARNC				IAmb	IAmb	08 13 11.7	
	comp=Z,574nm,1.8s						
MARNC	**Mare, Loyalty**	**18.78**	**258**	P	**P**	**08 13 07.1**	**-2.4**
MARNC	**Mare, Loyalty**	**18.78**	**258**	S	Sn	08 16 21.2	-19
PINNC	**Pines Island,**	**19.45**	**255**		**P**	**08 13 15.9**	**-0.9**
PINNC				IAmb	IAmb	08 13 27.9	
	comp=Z,188nm,1.5s						
PINNC	**Pines Island,**	**19.45**	**255**	P	**P**	**08 13 16.1**	**-0.7**
SANVU	**Saraoutou**	**19.90**	**276**		**P**	**08 13 21.7**	**-0.1**
DZM	**Mont Dzumac**	**20.30**	**256**	P	**P**	**08 13 24.0**	**-2.2**
	comp=Z,8.5nm,0.6s,baz=85,slow=16,SNR=9.5						
DZM				LR	LR	08 20 01.8	
	comp=Z,1μm,20.1s,baz=97,slow=34						
	comp=Z,8.5nm,0.6s						
ONTNC	**Ouen Toro**	**20.32**	**256**	P	**P**	**08 13 24.9**	**-1.5**
ONTNC				IAmb	IAmb	08 13 38.2	
	comp=Z,184nm,1.8s						
MXZ	**Matakaoa Point**	**20.69**	**202**	P	Pn	08 13 35.2	+2.7
OUZ	**Omahuta**	**20.84**	**214**	P	**P**	**08 13 33.1**	**+1.3**
OUZ	**Omahuta**	**20.84**	**214**	S	S	08 17 12.1	-12
OUZ	**Omahuta**	**20.84**	**214**	P	**P**	**08 13 32.6**	**+0.8**
KUZ	**Kuaotunu**	**21.01**	**208**	P	**P**	**08 13 36.4**	**+2.7**
KUZ	**Kuaotunu**	**21.01**	**208**	P	**P**	**08 13 36.1**	**+2.4**
HAZ	**Te Kaha**	**21.05**	**202**	P	**P**	**08 13 36.2**	**+2.1**
PUZ	**Puketiti**	**21.16**	**201**	P	**P**	**08 13 36.0**	**+0.6**
RUGZ	**Raukumara Rang**	**21.27**	**202**	P	**P**	**08 13 41.0**	**+4.4**
MKAZ	**Moumakai**	**21.56**	**208**	P	**P**	**08 13 40.4**	**+0.9**
PPT	**Papeete**	**21.56**	**91**	P	**P**	**08 13 42.9**	**+3.1**
	comp=Z,43nm,0.9s,baz=281,slow=5.3,SNR=5.5						
PPT				LR	LR	08 19 36.8	
	comp=Z,644nm,21.6s,baz=250,slow=30						
	comp=Z,43nm,0.9s						
PPTF	**Pamatai, Papee**	**21.57**	**91**	P	**P**	**08 13 38.2**	**-1.7**
PPTF				IAmb	IAmb	08 13 47.6	
	comp=Z,265nm,1.5s						
MWZ	**Matawai**	**21.66**	**202**	P	**P**	**08 13 42.0**	**+1.4**
URZ	**Urewera**	**21.74**	**203**	P	**P**	**08 13 41.4**	**-0.1**
	comp=Z,8.2nm,0.4s,baz=10,slow=8.5,SNR=13						
URZ				S	**S**	**08 17 33.8**	**-8.2**
	comp=Z,7.0nm,0.8s,baz=18,slow=15,SNR=1.5						
URZ				LR	LR	08 21 19.8	
	comp=Z,180nm,21.7s,baz=6.0,slow=35						
	comp=Z,8.2nm,0.4s						
URZ	**Urewera**	**21.74**	**203**	P	**P**	**08 13 46.8**	**+5.3**
URZ	**Urewera**	**21.74**	**203**	P	**P**	**08 13 41.8**	**+0.3**
KMRZ	**Kaimai**	**21.84**	**206**	P	P	08 13 50.1	+7.4
RIGZ	**Rimuhau**	**21.91**	**201**	P	**P**	**08 13 48.1**	**+4.8**
TOZ	**Tahuroa Road**	**21.93**	**207**	P	**P**	**08 13 47.6**	**+4.1**
RRRZ	**Republican Roa**	**22.04**	**204**	P	**P**	**08 13 44.8**	**0.0**
MUGZ	**Murupara**	**22.06**	**203**	P	**P**	**08 13 47.9**	**+2.9**
RTZ	**Ruatahuna**	**22.10**	**203**	P	**P**	**08 13 45.3**	**-0.2**
RAHZ	**Arahi**	**22.33**	**202**	P	**P**	**08 13 51.0**	**+3.1**
MTHZ	**Maungataniwha**	**22.36**	**203**	P	**P**	**08 13 52.3**	**+4.1**
WHHZ	**Waihua**	**22.42**	**202**	P	**P**	**08 13 54.1**	**+5.3**
NMHZ	**Naumai**	**22.59**	**203**	P	**P**	**08 13 57.7**	**+6.9**
BKZ	**Black Stump Fm**	**22.77**	**203**	P	**P**	**08 13 56.3**	**+3.7**
BKZ	**Black Stump Fm**	**22.77**	**203**	P	**P**	**08 13 55.9**	**+3.3**
HIZ	**Hauiti**	**22.86**	**207**	P	**P**	**08 13 58.5**	**+5.0**
HIZ	**Hauiti**	**22.86**	**207**	P	**P**	**08 13 58.2**	**+4.7**
MCHZ	**McNeill Hill**	**22.94**	**202**	P	**P**	**08 13 56.8**	**+2.5**
KWHZ	**Kaweka Forest**	**23.02**	**203**	P	**P**	**08 13 58.3**	**+3.1**
ETVZ	**East Tongariro**	**23.04**	**205**	P	**P**	**08 13 58.4**	**+2.9**
OTVZ	**Oturere**	**23.08**	**205**	P	**P**	**08 13 56.7**	**+0.7**
SNVZ	**South Ngauruho**	**23.11**	**205**	P	**P**	**08 13 57.7**	**+1.4**
NGZ	**Ngauruhoe**	**23.12**	**205**	P	**P**	**08 14 01.4**	**+5.0**
TUVZ	**Tukino**	**23.18**	**204**	P	**P**	**08 14 00.2**	**+3.3**
KAHZ	**Kahuranaki**	**23.18**	**202**	P	**P**	**08 14 00.4**	**+3.5**
WHVZ	**Whangaehu Hut**	**23.22**	**205**	P	**P**	**08 14 00.3**	**+2.9**
KRHZ	**Kereru**	**23.23**	**203**	P	**P**	**08 13 59.6**	**+2.3**
WNVZ	**Wahianoa**	**23.25**	**204**	P	**P**	**08 13 59.7**	**+2.0**
VRZ	**Vera Road**	**23.42**	**206**	P	**P**	**08 14 02.8**	**+3.6**
PNHZ	**Pukenui**	**23.53**	**203**	P	**P**	**08 14 02.9**	**+2.5**
TSZ	**Takapari Road**	**23.75**	**203**	P	**P**	**08 14 06.3**	**+3.8**
PKE	**Pukeiti**	**23.81**	**207**	P	**P**	**08 14 08.4**	**+5.4**
SNZO	**South Karori**	**25.31**	**203**	P	**P**	**08 14 21.3**	**+4.6**
QRZ	**Quartz Range**	**25.78**	**207**	P	**P**	**08 14 24.8**	**+3.8**
KHZ	**Kahutara**	**26.70**	**204**	P	**P**	**08 14 35.3**	**+6.0**
HNR	**Honiara**	**28.43**	**285**	LR	LR	08 24 13.3	
	comp=Z,906nm,21.8s,baz=121,slow=33						
RPZ	**Rata Peaks**	**28.78**	**206**	P	P	08 14 53.4	+5.4
	comp=Z,38nm,0.6s,baz=31,slow=9.3,SNR=19						
RPZ	**Rata Peaks**	**28.78**	**206**	P	**P**	**08 14 51.8**	**+3.8**
JCZ	**Jackson Bay**	**30.04**	**208**	P	**P**	**08 15 03.7**	**+4.5**
ODZ	**Otahua Downs**	**30.04**	**205**	P	P	08 15 05.2	+6.1
ARMA	**Armidale**	**34.81**	**243**	P	**P**	**08 15 39.8**	**-1.4**
CAN	**Canberra**	**38.11**	**236**	P	**P**	**08 16 08.7**	**-0.6**
CAN	**Canberra**	**38.11**	**236**	P	**P**	**08 16 08.7**	**-0.6**
CAN				pmax	pmax		
	comp=Z,65nm,1.8s						
CTA	**Charters Tower**	**39.14**	**261**	LR	LR	08 30 45.9	
	comp=Z,19nm,19.1s,baz=58,slow=34						
CMSA	**Cobar Meteorol**	**40.02**	**243**	P	**P**	**08 16 23.3**	**-2.0**
	comp=Z,20nm,1.4s						
PMG	**Port Moresby**	**40.36**	**277**	LR	LR	08 31 09.4	
	comp=Z,634nm,18.3s,baz=107,slow=33						
PMG	**Port Moresby**	**40.36**	**277**	P	**P**	**08 16 27.4**	**-0.8**
PMG	**Port Moresby**	**40.36**	**277**	⇑*i*P	**P**	**08 16 27.6**	**-0.6**
QLP	**Quilpie**	**40.84**	**251**	P	**P**	**08 16 29.8**	**-2.3**
	comp=Z,54nm,1.4s						
MTSU	**Mount Surprise**	**41.17**	**263**	P	**P**	**08 16 32.4**	**-2.6**
	comp=Z,4.4nm,0.7s						
TOO	**Toolangi**	**41.44**	**234**	P	**P**	**08 16 37.1**	**+0.1**
TOO	**Toolangi**	**41.44**	**234**	P	**P**	**08 16 37.1**	**+0.1**
TOO				pmax	pmax		
	comp=Z,14nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**42.21**	**329**	T	T	09 02 24.2	
	baz=147,slow=76						
**H

FITZ	Fitzroy Crossi	58.70	260	P	P	08 18 48.0	-0.3
	comp=Z,2.8nm,1.3s						
FITZ	Fitzroy Crossi	58.70	260	LR	LR	08 42 33.7	
	comp=Z,556nm,19.9s,baz=100,slow=35						
SBA	Scott Base	60.24	185		P	08 18 57.2	-0.7
SBA	Scott Base	60.24	185	P	P	08 18 59.9	+2.0
SBA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	Vanda	60.40	186		P	08 18 58.6	-0.4
VNDA	Vanda	60.40	186	P	P	08 19 00.6	+1.6
	comp=Z,3.6nm,0.9s,baz=7.7,slow=7.2,SNR=15						
VNDA				S	S	08 27 16.0	+2.4
	comp=Z,0.2nm,0.4s,baz=88,slow=22,SNR=5.6						
	comp=Z,3.6nm,0.9s						
SOEI	Soe	61.93	269		P	08 19 10.4	-0.2
SOEI	Soe	61.93	269	P	P	08 19 11.5	+0.9
	comp=Z,55nm,1.0s						
PSAC2	Pilbara Seismi	63.37	255	P	P	08 19 19.8	-0.2
	comp=Z,36nm,1.7s						
PSAB3	Pilbara Seismi	63.41	255	P	P	08 19 19.3	-0.9
	comp=Z,33nm,1.2s						
PSA00	Pilbara Seismi	63.42	255	P	P	08 19 19.4	-0.9
	comp=Z,29nm,1.2s						
PSA00	Pilbara Seismi	63.42	255		P	08 19 19.7	-0.6
PSA00				IAmb	IAmb	08 19 21.3	
	comp=Z,22nm,1.2s						
PSAC1	Pilbara Seismi	63.46	255	P	P	08 19 20.1	-0.4
	comp=Z,26nm,1.4s						
MBWA	Marble Bar	63.60	255	P	P	08 19 20.9	-0.6
	comp=Z,34nm,1.3s						
MBWA	Marble Bar	63.60	255		P	08 19 21.3	-0.2
MEEK	Meekatharra	63.70	249	P	P	08 19 21.6	-0.5
	comp=Z,16nm,2.5s						
NWAO	Narrogin (SRO)	64.10	242	LR	LR	08 46 12.7	
	comp=Z,158nm,18.2s,baz=94,slow=35						
EDFI	Ende, Flores	64.66	269	P	P	08 19 27.5	-1.1
	comp=Z,12nm,1.1s						
BLDU	Ballidu	64.81	244	P	P	08 19 28.7	-0.6
	comp=Z,37nm,1.3s						
MUN	Mundaring	65.07	243	P	P	08 19 30.7	-0.3
	comp=Z,59nm,1.2s						
MUN	Mundaring	65.07	243	P	P	08 19 31.1	+0.2
MORW	Morawa	65.60	246	P	P	08 19 33.5	-0.9
	comp=Z,36nm,1.5s						
GIRL	Giralia	68.32	252	P	P	08 19 52.0	+0.2
	comp=Z,49nm,1.5s						
H06S1	SOCORRO T	70.66	62	T	T	09 37 17.7	
	SNR=72						
H06E1	SOCORRO T-PHAS	70.70	62	T	T	09 37 16.5	
	SNR=252						
NIKH	Nikolski High	71.27	2	P	P	08 20 09.2	0.0
	baz=183						
QSPA	South Pole Qui	71.53	180	P	P	08 20 13.7	+2.7
QSPA				IAmb	IAmb	08 20 15.8	
	comp=Z,40nm,1.4s						
QSPA	South Pole Qui	71.53	180	P	P	08 20 14.1	+3.1
	comp=Z,16nm,1.1s,baz=42,slow=2.9,SNR=18						
	comp=Z,16nm,1.1s						
JAGI	Jajag, Banyuwa	71.88	267		P	08 20 11.9	-1.9
JAGI				IAmb	IAmb	08 20 13.6	
	comp=Z,41nm,1.1s						
MJAR	Matsushiro Arr	72.04	320	P	P	08 20 14.5	+0.2
MJAR	Matsushiro Arr	72.04	320	P	P	08 20 14.4	+0.2
	comp=Z,6.6nm,0.9s,baz=153,slow=6.1,SNR=11						
MJAR				S	S	08 29 35.1	-1.0
	comp=Z,0.8nm,0.5s,baz=181,slow=10.0,SNR=4.4						
	comp=Z,6.6nm,0.9s						
MJAR	Matsushiro Arr	72.04	320	P	P	08 20 14.5	+0.2
MJAR				pmax	pmax		
	comp=Z,12nm,1.3s						
MYLDM	Lahad Datu	72.17	282	P	P	08 20 15.2	-0.3
MYLDM				IAmb	IAmb	08 20 31.8	
	comp=Z,52nm,1.3s						
UNV	Unalaska Valle	72.25	4	P	P	08 20 14.9	-0.2
	baz=186						
MHC	Mount Hamilton	73.19	40		P	08 20 22.0	+0.8
MHC				IAmb	IAmb	08 20 24.7	
	comp=Z,29nm,1.2s						
MHC	Mount Hamilton	73.19	40	P	P	08 20 22.0	+0.8
MHC				pmax	pmax		
	comp=Z,29nm,1.2s						
FALS	False Pass	73.48	5	P	P	08 20 22.1	-0.2
	baz=189						
DPP	Dos Picos Cty	73.58	46	P	P	08 20 24.1	+0.5
DPP				IAmb	IAmb	08 20 26.2	
	comp=Z,28nm,1.4s						
ELS	Elsinore Mount	73.63	45	P	P	08 20 20.9	-3.0
LPIG	La Paz	73.75	57	LR	LR	08 46 01.1	
	comp=Z,253nm,19.5s,baz=236,slow=30						
CHNA	Chernabura Isl	73.86	8	P	P	08 20 24.9	+0.3
	baz=192						
BORC	Borrego Spring	74.09	46	P	P	08 20 24.8	-1.7
PFO	Pinyon Flats O	74.26	46	LR	LR	08 47 21.0	
	comp=Z,199nm,20.2s,baz=236,slow=31						
PFO	Pinyon Flats O	74.26	46	P	P	08 20 28.0	+0.4
PFO				pmax	pmax		
	comp=Z,16nm,1.1s						
SDPT	Sand Point	74.27	7	P	P	08 20 27.0	0.0
	baz=192						
S12K	Black Hills	74.44	6	P	P	08 20 26.8	-1.2
	baz=190						
PCJI	Pacitan	74.78	266	P	P	08 20 31.2	+0.3
BELC	Belle Mtn. Jos	74.80	46		P	08 20 29.0	-1.8
BELC				IAmb	IAmb	08 20 33.9	
	comp=Z,28nm,1.3s						
CWC	Cottonwood Cre	74.86	43		P	08 20 29.9	-1.2
P08K	Saint George I	74.88	2	P	P	08 20 29.8	-0.7
	baz=183						
WOJI	Wonogiri, Jawa	75.12	267	P	P	08 20 33.2	+0.3
CHIR	Chirikof Islan	75.39	10	P	P	08 20 33.2	-0.3
	baz=196						
YBH	Yreka Blue Hor	75.44	36	LR	LR	08 47 57.2	
	comp=Z,13nm,19.2s,baz=252,slow=31						
SPIA	Saint Paul Isl	75.44	1	P	P	08 20 33.0	-0.7
	baz=182						
NVAR	Mina Array Bea	75.93	41	P	P	08 20 39.1	+1.8
	comp=Z,12nm,1.0s,baz=226,slow=9.0,SNR=34						
NVAR				LR	LR	08 48 51.1	
	comp=Z,206nm,18.2s,baz=268,slow=32						
	comp=Z,12nm,1.0s						
PEA0B	Petropavlovsk-	75.94	342	‖ *iP*	P	08 20 36.8	+0.1
PETK	Petropavlovsk-	75.94	342	P	P	08 20 37.0	+0.3
	comp=Z,13nm,0.9s,baz=126,slow=7.5,SNR=14						
	comp=Z,13nm,0.9s						
SII	Sitkinak Islan	76.33	10	P	P	08 20 38.5	-0.3
	baz=198						
YSS	Yuzhno-Sakhali	76.74	330	*eP*	P	08 20 42.2	+0.8
YSS				*e*		08 23 32.3	
YSS				*eS*	S	08 30 28.4	0.0
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				pmax	pmax		
	comp=Z,100nm,3.0s						
R16K	Pilot Point	76.79	8	P	P	08 20 41.1	-0.3
	baz=194						
Y14A	Wickenburg	76.82	47		P	08 20 40.7	-1.5
R17L	Mt. Peulik Vol	77.02	9	P	P	08 20 43.3	+0.6
	baz=196						
STKI	Sintang	77.03	274	P	P	08 20 44.3	+0.5
	comp=Z,36nm,0.6s						
SBUM	Sibu	77.10	277	P	P	08 20 44.2	0.0
OHAK	Old Harbor	77.11	10	P	P	08 20 42.6	-0.6
	baz=198						
NACB	Ninganchiao	77.21	301		P	08 20 44.4	-0.1
J05D	Fort Rock, OR	77.28	36	IAmb	IAmb	08 20 47.8	
	comp=Z,38nm,1.2s						
PRN	Pahroc Range	77.39	43	IAmb	IAmb	08 20 49.1	
	comp=Z,24nm,1.2s						
TUC	Tucson	77.53	50	IAmb	IAmb	08 20 50.1	
	comp=Z,32nm,1.4s						
TUC	Tucson	77.53	50	P	P	08 20 48.0	+1.7
TUC				pmax	pmax		
	comp=Z,17nm,1.3s						
Q17K	Contact Creek	77.70	9	P	P	08 20 46.9	+0.3
	baz=196						
KDAK	Kodiak Island	77.77	11	IAmb	IAmb	08 20 49.8	
	comp=Z,55nm,1.4s						
KDAK	Kodiak Island	77.77	11	LR	LR	08 48 25.3	
	comp=Z,101nm,20.2s,baz=203,slow=30						
KDAK	Kodiak Island	77.77	11	P	P	08 20 47.0	+0.1
	baz=199						
PINE	Pine Mountain	77.77	35	IAmb	IAmb	08 20 50.8	
	comp=Z,43nm,1.2s						
Q16K	King Salmon	77.99	8	P	P	08 20 48.6	+0.5
	baz=195						
O14K	Tigyukauivet M	78.02	6	P	P	08 20 48.9	+0.6
	baz=191						
O15K	Ungalikthiuk R	78.09	6	P	P	08 20 48.7	0.0
	baz=192						
319A	Douglas	78.15	51	IAmb	IAmb	08 20 53.6	
	comp=Z,30nm,1.2s						
P16K	Nushagak River	78.16	7	P	P	08 20 49.2	+0.2
	baz=194						
X16A	Lo Mia Camp, P	78.17	47	IAmb	IAmb	08 20 53.7	
	comp=Z,24nm,1.2s						
Q18K	Katmai Hardscr	78.20	9	P	P	08 20 49.7	+0.3
	baz=197						
WVOR	Wild Horse Val	78.20	37	IAmb	IAmb	08 20 52.8	
	comp=Z,26nm,1.2s						
WVOR	Wild Horse Val	78.20	37	P	P	08 20 52.1	+2.2
WVOR				pmax	pmax		
	comp=Z,20nm,1.7s						
P17K	Kvichak River	78.52	8	P	P	08 20 51.2	+0.1
	baz=195						
Q20K	Shuyak Island	78.58	10	P	P	08 20 50.9	-0.5
	baz=199						
KSM	Kuching	78.59	275		P	08 20 51.8	-0.7
KNB	Kanab	78.64	45	IAmb	IAmb	08 20 56.2	
	comp=Z,35nm,1.5s						
N14K	Kuskokwak Cree	78.65	5	P	P	08 20 51.0	-0.6
	baz=190						
Q19K	Cape Douglas,	78.68	10	P	P	08 20 51.3	-0.6
	baz=198						
O16K	Kokwok River B	78.70	7	P	P	08 20 51.6	-0.4
	baz=194						
HPIG		78.79	57	IAmb	IAmb	08 20 57.1	
	comp=Z,35nm,1.4s						
M11K	Mekoryuk	78.79	3	P	P	08 20 52.4	0.0
	baz=186						
P18K	Big Mountain,	78.88	9	P	P	08 20 52.7	-0.4
	baz=196						
M13K	Dall Lake	79.00	4	P	P	08 20 54.0	+0.4
	baz=189						
O17K	Koliganek Bris	79.00	8	P	P	08 20 53.6	0.0
	baz=195						
N15K	Kwethluk River	79.04	6	P	P	08 20 53.6	-0.3
	baz=192						
KSRS	Korea Array	79.17	316	P	P	08 20 56.6	+1.5
	comp=Z,4.4nm,0.9s,baz=132,slow=5.5,SNR=16						
	comp=Z,4.4nm,0.9s						
ELK	Elko	79.21	40	P	P	08 20 57.2	+1.6
X18A	Snowflake	79.28	48	IAmb	IAmb	08 20 59.8	
	comp=Z,32nm,1.5s						
O18K	Koktuh Hills	79.33	9	P	P	08 20 55.7	+0.2
	baz=196						
P19K	Oil Pt	79.44	10	P	P	08 20 56.4	+0.2
	baz=198						
M14K	Bethel	79.44	5	P	P	08 20 56.4	+0.4
	baz=190						
D05A	Enumclaw	79.47	32	IAmb	IAmb	08 20 59.8	
	comp=Z,67nm,1.3s						
N16K	Nishlik Lake	79.48	7	P	P	08 20 56.8	+0.5
	baz=193						
M15K	Kasigluk River	79.50	6	P	P	08 20 57.1	+0.8
	baz=191						
TYV	Tymovskoe	79.63	333	*eP*	P	08 20 58.0	+0.7
TYV				*eS*	S	08 30 58.3	-1.0
TYV				pmax	pmax		
	comp=Z,13nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,3.8s						
TYV				smax	smax		
	comp=N,200nm,4.5s						
TYV				smax	smax		
	comp=E,100nm,4.5s						
HOM	Homer	79.70	10	P	P	08 20 58.1	+0.6
	baz=200						
N17K	Nushagak Hills	79.72	7	P	P	08 20 57.9	+0.3
	baz=194						
O19K	Port Alsworth	79.79	9	P	P	08 20 58.5	+0.6
	baz=197						
CBB	Campbell River	79.81	29	IAmb	IAmb	08 21 01.2	
	comp=Z,48nm,1.3s						
121A	Cookes Peak, D	79.83	51	IAmb	IAmb	08 21 03.1	
	comp=Z,28nm,1.2s						
BRSE	Bradley Lake S	79.94	11	P	P	08 20 59.1	+0.3
	baz=201						
O20K	Slope Mountain	79.94	10	P	P	08 20 59.4	+0.5
	baz=199						
L14K	Kuka Creek	79.97	5	P	P	08 20 59.5	+0.6
	baz=189						
M16K	Timber Creek	80.00	7	IAmb	IAmb	08 21 02.0	
	comp=Z,27nm,1.1s						
M16K	Timber Creek	80.00	7	P	P	08 20 58.9	-0.1
	baz=193						
N18K	Kilae Creek	80.03	8	P	P	08 20 59.4	+0.1
	baz=196						
E07A	Sunnyside	80.16	34	IAmb	IAmb	08 21 03.2	
	comp=Z,41nm,1.4s						
N19K	Bonanza Creek	80.36	9	P	P	08 21 01.3	+0.2
	baz=197						
L15K	Ungalak Mounta	80.40	5	P	P	08 21 01.8	+0.6
	baz=190						
EPT	El Paso	80.41	52	IAmb	IAmb	08 21 05.7	
	comp=Z,40nm,1.5s						
DUG	Dugway, Tooele	80.41	42	P	P	08 21 03.8	+1.8
DUG				pmax	pmax		
	comp=Z,11nm,1.1s						
K13K	Kusilvak Mount	80.42	4	P	P	08 21 01.4	+0.1
	baz=187						
BMO	Blue Mountains	80.46	36	P	P	08 21 03.3	+1.2
Q23K	Middleton Isla	80.52	13	P	P	08 21 01.9	+0.1
	baz=205						
M17K	Holitna River	80.54	7	P	P	08 21 01.9	-0.1
	baz=194						
USRK	Ussuriysk Ar.	80.54	323	P	P	08 21 03.4	+1.0
	comp=Z,1.1nm,0.4s,baz=174,slow=5.8,SNR=6.1						
	comp=Z,1.1nm,0.4s						
L16K	Owhat River	80.62	6	P	P	08 21 02.2	-0.2
	baz=192						
SLKM	Skilak Lake	80.75	11		P	08 21 02.3	-0.9
BELA	Belgrano 2	80.75	172		P	08 21 03.2	+0.1
BELA				IAmb	IAmb	08 21 04.7	
	comp=Z,22nm,1.1s						
P23K	Montague Islan	80.82	12	P	P	08 21 03.1	-0.4
	baz=204						
O22K	Cooper Landing	80.82	11	P	P	08 21 04.7	+1.2
CRAG	Craig	80.82	21	P	P	08 21 03.5	-0.1
	baz=217						
M18K	Stony River	80.83	8	P	P	08 21 02.9	-0.6
	baz=196						
TMUT	Trail Mountain	80.95	43	IAmb	IAmb	08 21 08.9	
	comp=Z,26nm,1.0s						
D08A	Wollman Farm,	80.97	34	IAmb	IAmb	08 21 07.4	
	comp=Z,24nm,1.1s						
K15K	Wolf Creek Mou	81.00	5	P	P	08 21 03.9	-0.5
	baz=190,SNR=6.5						
N20K	Mount Spurr	81.07	10	P	P	08 21 04.4	-0.5
	baz=199						
SPCR	Spurr Chakacha	81.07	10	P	P	08 21 04.4	-0.5
	baz=199						
VHRN	Van Horn	81.09	53		P	08 21 03.7	-2.2
VHRN				IAmb	IAmb	08 21 09.7	
	comp=Z,41nm,1.2s						
Y22A	Socorro	81.11	50	IAmb	IAmb	08 21 09.8	
	comp=Z,27nm,1.2s						
L17K	Donlin	81.16	7	P	P	08 21 04.7	-0.5
	baz=193						
Y22D	IRIS PASSCAL I	81.21	50	IAmb	IAmb	08 21 10.7	
	comp=Z,43nm,1.2s						
MNTX	Cornudas Mount	81.22	52	IAmb	IAmb	08 21 10.0	
	comp=Z,31nm,1.1s						
J14K	Nanvaranak Lak	81.30	4	P	P	08 21 05.7	-0.3
	baz=188						
PLID	Pearl Lake	81.34	37		P	08 21 06.1	-0.9
P17A	Butcher Ranch,	81.35	43	IAmb	IAmb	08 21 10.7	
	comp=Z,25nm,1.1s						
SIT	Sitka	81.38	19	P	P	08 21 06.2	-0.3
	baz=215						
KAIM	Kayak Island	81.39	14	P	P	08 21 06.3	-0.2
	baz=207						
STLK	Strandline Lak	81.41	10	IAmb	IAmb	08 21 39.5	
	comp=Z,20nm,0.5s						
M19K	Big River Lodg	81.42	8	P	P	08 21 06.5	-0.2
	baz=197						
L18K	Granite Mounta	81.42	7	P	P	08 21 05.8	-0.9
	baz=195						
PWL	Port Wells	81.43	12	P	P	08 21 06.5	-0.3
	baz=203,SNR=5.5						
TX31	Lajitas Ar. Si	81.44	55	IAmb	IAmb	08 21 11.8	
	comp=Z,52nm,1.4s						
TXAR	Lajitas Array	81.45	55	P	P	08 21 10.1	+2.4
	comp=Z,15nm,1.1s,baz=215,slow=6.2,SNR=52						
TXAR				LR	LR	08 51 02.8	
	comp=Z,80nm,18.4s,baz=241,slow=31						
	comp=Z,15nm,1.1s						
SUA	Susitna One	81.56	10	P	P	08 21 06.6	-1.0
	baz=201						
B08A	Colville Reser	81.59	33		P	08 21 06.1	-1.8
B08A				IAmb	IAmb	08 21 09.8	
	comp=Z,24nm,1.2s						
L19K	White Mountain	81.62	8	P	P	08 21 07.1	-0.7
	baz=197						
GLI	Glacier Island	81.69	12	P	P	08 21 07.8	-0.4
	baz=204,SNR=5.4						
K17K	Iditarod	81.72	6	P	P	08 21 08.4	+0.1
	baz=193						
C09A	Chrisman Ranch	81.78	33	IAmb	IAmb	08 21 11.4	
	comp=Z,37nm,1.4s						
WRAK	Wrangell Islan	81.84	21	P	P	08 21 08.5	-0.5
	baz=218						
SKT	Skwentna	81.92	10	P	P	08 21 09.3	0.0
	baz=200						
KNK	Knik Glacier	81.92	11	P	P	08 21 10.0	+0.6
	baz=203						
M22K	Willow	81.94	10	P	P	08 21 09.3	-0.1
	baz=201						
S32K	Killisnoo	81.95	19	P	P	08 21 09.8	+0.3
	baz=216						
PMR	Palmer	81.96	11	P	P	08 21 10.1	+0.6
	baz=202						
ANMO	Albuquerque	81.97	49	LR	LR	08 51 49.8	
	comp=Z,190nm,19.0s,baz=330,slow=31						
ANMO	Albuquerque	81.97	49	‖ *iP*	P	08 21 12.7	+2.2
ANMO				pmax	pmax		
	comp=Z,20nm,1.3s						
GAMB	Gambell	82.04	0	P	P	08 21 10.6	+0.7
	baz=181						
J16K	Anvik River	82.06	5	P	P	08 21 10.8	+0.8
	baz=191						
MDJ	Mudanjiang	82.17	322	P	P	08 21 13.0	+1.9
MDJ				pmax	pmax		
	comp=Z,18nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.1s						
MESA	MESA	82.19	15	P	P	08 21 11.4	+0.4
	baz=209						
U35K	Hyder	82.27	22	P	P	08 21 11.7	+0.4
	baz=220						
BMRM	Bremner River	82.29	13	P	P	08 21 11.4	+0.1
	baz=206,SNR=6.0						
SML	Sawmill	82.31	11	P	P	08 21 10.9	-0.6
	baz=203						
J17K	VABM Dome	82.31	6	P	P	08 21 12.2	+0.9
	baz=193						
PNL	Peninsula	82.39	16	P	P	08 21 12.3	+0.4
	baz=211						
YAH	Yahtse	82.40	15	IAmb	IAmb	08 21 14.7	
	comp=Z,40nm,1.0s						
M23K	Glacier View	82.41	11	P	P	08 21 12.2	+0.3
	baz=203						
CRQE	Cirque	82.43	14	P	P	08 21 12.5	+0.3
	baz=208,SNR=5.6						
KLU	Klutina	82.48	12	P	P	08 21 12.6	+0.2
	baz=205						
SCM	Sheep Creek Mo	82.52	12	P	P	08 21 13.1	+0.5
	baz=204						
MDSI	Maura Dua	82.52	268	P	P	08 21 13.1	-0.5
	comp=Z,844nmcomp=Z,36nm,1.1s						
CUT	Chulitna	82.52	10	P	P	08 21 13.1	+0.7
	baz=201						
PINM	Pinnacle	82.54	16	P	P	08 21 13.2	+0.5
	baz=210						
H03S2	Juan Fernandez	82.56	123	T	T	09 52 00.4	
	baz=250,slow=75,SNR=99						
H03S1	Juan Fernandez	82.57	123	T	T	09 52 01.4	
	baz=250,slow=75,SNR=119						
H03S3	Juan Fernandez	82.57	123	T	T	09 52 01.7	
	baz=250,slow=75,SNR=116						
R32K	Eaglecrest	82.62	19	P	P	08 21 13.9	+0.8
	baz=216						
J18K	Innoko River	82.63	7	IAmb	IAmb	08 21 15.6	
	comp=Z,19nm,1.2s						
J18K	Innoko River	82.63	7	P	P	08 21 14.1	+1.1
	baz=195,SNR=6.3						
I17K	Unalakleet	82.64	5	P	P	08 21 13.8	+0.8
	baz=191						
H03N2	Juan Fernandez	82.67	123	T	T	09 52 06.0	
	baz=257,slow=72,SNR=46						
H03N3	Juan Fernandez	82.67	123	T	T	09 52 06.8	
	baz=257,slow=72,SNR=37						
PPLA	Purkeypile	82.68	9	P	P	08 21 14.3	+0.8
	baz=199						
H03N1	Juan Fernandez	82.68	123	T	T	09 52 07.3	
	baz=257,slow=72,SNR=40						
RDMU	Red Mountain	82.69	43	IAmb	IAmb	08 21 17.0	
	comp=Z,17nm,1.0s						
VRDI	Verde Repeater	82.77	14	IAmb	IAmb	08 21 16.1	
	comp=Z,19nm,1.1s						
P29M	Windy Craggy	82.81	17	IAmb	IAmb	08 21 16.8	
	comp=Z,43nm,1.4s						
P29M	Windy Craggy	82.81	17	P	P	08 21 15.3	+1.2
	baz=213,SNR=5.4						
K20K	Telida	82.85	8	IAmb	IAmb	08 21 16.3	
	comp=Z,39nm,1.8s						
N25K	Chitina, Valde	82.86	13	IAmb	IAmb	08 21 16.5	
	comp=Z,27nm,1.1s						
N25K	Chitina, Valde	82.86	13	P	P	08 21 15.1	+0.7
	baz=206,SNR=5.8						
GLB	Gilahina Butte	82.88	13	IAmb	IAmb	08 21 16.5	
	comp=Z,21nm,1.1s						
SAND	Sanderson	82.92	55	IAmb	IAmb	08 21 18.7	
	comp=Z,30nm,1.2s						
LOGN	Logan Glacier	82.99	15	IAmb	IAmb	08 21 17.4	
	comp=Z,38nm,1.2s						
M24K	Tolsona, Glenn	82.99	12	P	P	08 21 16.0	+1.0
	baz=205						
ANM	Nome	83.00	3	P	P	08 21 15.5	+0.5
	baz=187						
MCARA	McCarthy VSAT	83.01	14	P	P	08 21 15.4	+0.4
	baz=208						
T35M	Bob Quinn	83.01	22	P	P	08 21 15.9	+0.8
	baz=220						
CTG	Chitna Glacier	83.03	15	P	P	08 21 15.9	+0.6
	baz=209,SNR=6.1						
CTGM	Chitina Glacie	83.03	15	IAmb	IAmb	08 21 17.5	
	comp=Z,29nm,1.0s						
PLBC	Pleasant Camp	83.05	18	P	P	08 21 16.0	+0.8
	baz=214						
S22A	4UR Ranch, Cre	83.08	47	IAmb	IAmb	08 21 20.1	
	comp=Z,34nm,1.1s						
WAT6	Susitna Watana	83.13	11	P	P	08 21 16.2	+0.4
	baz=203,SNR=6.2						
O28M	Mount Upton	83.14	15	P	P	08 21 16.8	+0.7
	baz=210,SNR=6.1						
O29M	Mount Kennedy	83.15	16	P	P	08 21 16.9	+1.0
	baz=212,SNR=7.8						
WAT1	Susitna Watana	83.21	11	P	P	08 21 16.4	+0.3
	baz=203						
H16K	Elim	83.26	4	P	P	08 21 16.9	+0.7
	baz=190						
J19K	Poorman	83.27	7	IAmb	IAmb	08 21 19.2	
	comp=Z,44nm,1.7s						
J19K	Poorman	83.27	7	P	P	08 21 17.4	+1.1
	baz=196						
O20A	White River Ci	83.33	44	IAmb	IAmb	08 21 20.5	
	comp=Z,23nm,1.0s						
SKAG	Skagway	83.35	18	P	P	08 21 18.2	+1.4
	baz=215,SNR=6.1						
DSRI	Dabo	83.39	272	P	P	08 21 19.9	+1.8
	comp=Z,54nm,1.4s						
TPAW	Teton Pass	83.39	40	IAmb	IAmb	08 21 20.8	
	comp=Z,20nm,1.0s						
FXWY	Fox Creek	83.42	40	IAmb	IAmb	08 21 21.0	
	comp=Z,21nm,1.2s						
S34M	Telegraph Cree	83.43	21	P	P	08 21 18.2	+0.9
	baz=219,SNR=5.4						
P30M	Million Dollar	83.44	17	P	P	08 21 17.8	+0.5
	baz=214						
DLMT	Dillon	83.45	38	IAmb	IAmb	08 21 20.8	
	comp=Z,26nm,1.0s

J20K	**Nowinta River**	**83.63**	**8**		**P**	**08 21 17.2 -1.0**
J20K				IAmb	IAmb	08 21 20.5
	comp=Z,23nm,1.1s					
J20K	**Nowinta River**	**83.63**	**8**	P	**P**	**08 21 18.9 +0.7**
	baz=197					
DHY	**Denali Highway**	**83.65**	**11**	P	**P**	**08 21 18.9 +0.4**
	baz=204					
YUK8	**Steele Glacier**	**83.69**	**15**	P	**P**	**08 21 19.2 +0.3**
	baz=211,SNR=13					
H17K	**Granite Mounta**	**83.74**	**5**	P	**P**	**08 21 19.1 +0.4**
	baz=192					
YUK6	**Outpost Mounta**	**83.75**	**16**	P	**P**	**08 21 19.4 +0.2**
	baz=212,SNR=5.6					
GCSA	**Galena City Sc**	**83.85**	**7**	P	**P**	**08 21 20.2 +1.0**
	baz=195					
BW06	**Boulder Array**	**83.86**	**41**	IAmb	IAmb	08 21 22.4
	comp=Z,21nm,0.9s					
PDAR	**Pinedale Array**	**83.86**	**41**	P	**P**	**08 21 21.2 +1.1**
	comp=Z,13nm,0.8s,baz=213,slow=3.1,SNR=90					
	comp=Z,13nm,0.8s					
F14K	**Arctic Creek**	**83.87**	**2**	P	**P**	**08 21 19.8 +0.5**
	baz=186					
HYT	**Haines Junctio**	**83.88**	**16**	IAmb	IAmb	08 21 22.5
	comp=Z,32nm,1.2s					
HYT	**Haines Junctio**	**83.88**	**16**	P	**P**	**08 21 20.5 +0.8**
	baz=213,SNR=8.7					
Q32M	**Nakina River**	**83.88**	**20**	IAmb	IAmb	08 21 22.6
	comp=Z,28nm,1.3s					
Q32M	**Nakina River**	**83.88**	**20**	P	**P**	**08 21 20.3 +0.4**
	baz=218					
TNA	**Tin City**	**83.90**	**2**	P	**P**	**08 21 20.8 +1.3**
	baz=184					
YPP	**Pitchstone Pla**	**83.90**	**39**	IAmb	IAmb	08 21 37.3
	comp=Z,27nm,1.6s					
PAX	**Paxson**	**83.92**	**12**	IAmb	IAmb	08 21 21.5
	comp=Z,25nm,1.4s					
PAX	**Paxson**	**83.92**	**12**	P	**P**	**08 21 20.5 +0.8**
	baz=206,SNR=7.4					
M26K	**Nabesna, AK**	**83.92**	**13**	IAmb	IAmb	08 21 22.2
	comp=Z,32nm,1.1s					
M26K	**Nabesna, AK**	**83.92**	**13**	P	**P**	**08 21 20.5 +0.7**
	baz=208,SNR=20					
P32M	**Atlin**	**83.94**	**19**	IAmb	IAmb	08 21 21.9
	comp=Z,39nm,1.5s					
P32M	**Atlin**	**83.94**	**19**	P	**P**	**08 21 20.8 +0.9**
	baz=216					
MCK	**McKinley**	**83.98**	**10**	P	**P**	**08 21 20.6 +0.6**
	baz=202,SNR=12					
YFT	**Old Faithful**	**83.98**	**39**	IAmb	IAmb	08 21 24.9
	comp=Z,24nm,1.2s					
BPAW	**Bear Paw Mtn.**	**84.00**	**9**	P	**P**	**08 21 21.0 +0.9**
	baz=200					
G16K	**Koyuk River**	**84.00**	**4**	P	**P**	**08 21 21.1 +1.1**
	baz=190					
YUK4	**Talbot Arm**	**84.02**	**16**	P	**P**	**08 21 21.6 +1.1**
	baz=212					
BNX	**BinXian**	**84.08**	**322**	⇑P	**P**	**08 21 22.0 +1.1**
BNX				pmax	pmax	
	comp=Z,15nm,1.1s					
H18K	**Honhosa River**	**84.10**	**6**	P	**P**	**08 21 21.5 +0.9**
	baz=193					
M27K	**Edge Creek, AK**	**84.12**	**14**	P	**P**	**08 21 21.6 +0.7**
	baz=209					
BOZ	**Bozeman (W)**	**84.15**	**38**	P	**P**	**08 21 23.2 +1.7**
F15K	**North Star Dit**	**84.18**	**3**	P	**P**	**08 21 22.2 +1.3**
	baz=187					
I20K	**Naaghedeneel**	**84.18**	**8**	P	**P**	**08 21 22.1 +1.2**
	baz=197					
CN2	**Changchun**	**84.19**	**320**	*e*P	**P**	**08 21 22.9 +1.4**
CN2				*e*S	**SKSac**	**08 31 43.9 -1.2**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CN2				pmax	pmax	
	comp=Z,100nm,3.0s					
CN2				LR	LR	
	comp=Z,200nm,11.0s					
CN2				LR	LR	
	comp=Z,300nm,11.0s					
CN2				LR	LR	
	comp=Z,200nm,10.0s					
DLBC	**Dease Lake**	**84.21**	**21**	LR	LR	08 57 04.4
	comp=Z,722nm,18.8s,baz=180,slow=34					
DLBC	**Dease Lake**	**84.21**	**21**	P	**P**	**08 21 22.4 +1.1**
	baz=220					
O30N	**Mendenhall**	**84.22**	**17**	IAmb	IAmb	08 21 24.0
	comp=Z,35nm,1.2s					
O30N	**Mendenhall**	**84.22**	**17**	P	**P**	**08 21 22.3 +1.0**
	baz=214,SNR=11					
YNR	**Norris Junctio**	**84.22**	**39**	IAmb	IAmb	08 21 26.7
	comp=Z,25nm,1.3s					
G17K	**Kiwalik Mounta**	**84.24**	**5**	P	**P**	**08 21 22.2 +0.9**
	baz=191					
L26K	**Log Cabin Wild**	**84.40**	**13**	IAmb	IAmb	08 21 24.7
	comp=Z,20nm,1.1s					
L26K	**Log Cabin Wild**	**84.40**	**13**	P	**P**	**08 21 23.2 +1.1**
	baz=207,SNR=13					
WHY	**Whitehorse**	**84.46**	**17**	P	**P**	**08 21 23.4 +0.8**
	baz=215,SNR=5.6					
N30M	**Aishikik Lake**	**84.52**	**16**	P	**P**	**08 21 23.6 +0.8**
	baz=213,SNR=5.9					
R33M	**Jennings River**	**84.64**	**20**	P	**P**	**08 21 24.4 +0.8**
	baz=219,SNR=7.7					
H19K	**Roundabout Mou**	**84.66**	**7**	P	**P**	**08 21 24.1 +0.7**
	baz=195,SNR=5.5					
P33M	**Teslin, Yukon**	**84.71**	**19**	P	**P**	**08 21 24.2 +0.3**
	baz=217					
RIDG	**Independent Ri**	**84.73**	**12**	P	**P**	**08 21 25.1 +1.2**
	baz=206,SNR=8.1					
L27K	**Beaver Creek,**	**84.75**	**13**	IAmb	IAmb	08 21 26.4
	comp=Z,23nm,1.3s					
L27K	**Beaver Creek,**	**84.75**	**13**	P	**P**	**08 21 24.9 +0.9**
	baz=209					
NEA2	**Nenana**	**84.76**	**10**	P	**P**	**08 21 24.0 +0.1**
	baz=202					
G18K	**Tagagawik**	**84.80**	**6**	IAmb	IAmb	08 21 26.2
	comp=Z,44nm,1.6s					
G18K	**Tagagawik**	**84.80**	**6**	P	**P**	**08 21 24.4 +0.3**
	baz=193					
H20K	**Anotleneega Mo**	**84.80**	**7**	P	**P**	**08 21 24.7 +0.6**
	baz=196					
LL02	**Futaleuf**	**84.81**	**134**	IAmb	IAmb	08 21 33.8
	comp=Z,15nm,1.1s					
I21K	**Tanana**	**84.88**	**8**	P	**P**	**08 21 25.1 +0.7**
	baz=199					
N31M	**Braeburn, Yuko**	**84.89**	**17**	P	**P**	**08 21 25.0 +0.3**
	baz=214,SNR=11					
MLY	**Manley**	**84.91**	**9**	P	**P**	**08 21 24.9 +0.2**
	baz=200,SNR=7.8					
HDA	**Harding Lake**	**84.95**	**11**	P	**P**	**08 21 25.7 +0.8**
	baz=204,SNR=12					
JCT	**Junction City**	**84.96**	**56**	P	**P**	**08 21 27.8 +2.0**
M29M	**Somme Creek**	**85.00**	**15**	P	**P**	**08 21 25.9 +0.6**
	baz=212,SNR=14					
QIZ	**Qiongzhong**	**85.10**	**292**	P	**P**	**08 21 26.3 -0.4**
QIZ				S	**S**	**08 31 56.9 +0.1**
QIZ				LR	LR	
	comp=Z,180nm,6.0s					
QIZ				LR	LR	
	comp=Z,150nm,8.9s					
QIZ				LR	LR	
	comp=Z,210nm,23.7s					
QIZ	**Qiongzhong**	**85.10**	**292**	IAMs_20	IAMs_20	09 07 09.4
	comp=Z,728nm,20.0s					
SCRK	**Sand Creek**	**85.12**	**12**	P	**P**	**08 21 26.6 +0.7**
	baz=207,SNR=12					
F17K	**Baldwin Pennin**	**85.12**	**4**	P	**P**	**08 21 26.8 +1.2**
	baz=190					
MAW	**Mawson**	**85.19**	**198**	P	**P**	**08 21 26.8 +0.5**
	comp=Z,10.0nm,0.9s,baz=124,slow=9.0,SNR=11					
	comp=Z,10.0nm,0.9s					
H21K	**Melozitna Rive**	**85.22**	**8**	IAmb	IAmb	08 21 28.8
	comp=Z,31nm,1.4s					
H21K	**Melozitna Rive**	**85.22**	**8**	P	**P**	**08 21 26.9 +0.7**
	baz=198					
COLA	**College**	**85.22**	**10**	P	**P**	**08 21 26.9 +0.7**
COLA				pmax	pmax	
	comp=Z,37nm,1.2s					
COLA	**College**	**85.22**	**10**	P	**P**	**08 21 26.8 +0.6**
	baz=203					
I23K	**Minto, Yukon-K**	**85.23**	**9**	P	**P**	**08 21 26.4 +0.1**
	baz=202,SNR=8.2					
ILAR	**Eielson Array**	**85.30**	**11**	P	**P**	**08 21 26.9 +0.3**
	comp=Z,7.9nm,1.1s,baz=228,slow=6.1,SNR=36					
	comp=Z,7.9nm,1.1s					
N32M	**Quiet Lake**	**85.38**	**18**	IAmb	IAmb	08 21 29.9
	comp=Z,38nm,1.2s					
N32M	**Quiet Lake**	**85.38**	**18**	P	**P**	**08 21 27.6 +0.4**
	baz=217					
F18K	**Selawik**	**85.40**	**5**	P	**P**	**08 21 27.8 +0.7**
	baz=192					
J25K	**Salcha River,**	**85.42**	**11**	P	**P**	**08 21 28.2 +0.9**
	baz=206,SNR=17					
POKR	**Poker Plat Res**	**85.52**	**10**	P	**P**	**08 21 28.7 +1.0**
	baz=204,SNR=5.0					
M30M	**Minto, Yukon**	**85.53**	**16**	P	**P**	**08 21 28.8 +0.9**
	baz=214,SNR=10					
K27K	**Chicken**	**85.55**	**13**	IAmb	IAmb	08 21 30.9
	comp=Z,36nm,1.3s					
K27K	**Chicken**	**85.55**	**13**	P	**P**	**08 21 29.2 +1.3**
	baz=209					
H22K	**Ishtalitna Cre**	**85.64**	**8**	P	**P**	**08 21 29.1 +0.7**
	baz=200,SNR=8.9					
L29M	**L29M**	**85.65**	**15**	P	**P**	**08 21 29.3 +0.9**
	baz=212,SNR=30					
J26L	**Joseph Creek**	**85.67**	**12**	P	**P**	**08 21 29.7 +1.1**
	baz=207					
E17K	**Hotham Inlet**	**85.71**	**4**	P	**P**	**08 21 29.4 +0.8**
	baz=190					
WHN	**Wuhan**	**85.77**	**304**	P	**P**	**08 21 31.8 +2.1**
F19K	**Shaleruckik Mo**	**85.80**	**6**	IAmb	IAmb	08 21 31.3
	comp=Z,55nm,1.6s					
F19K	**Shaleruckik Mo**	**85.80**	**6**	P	**P**	**08 21 29.4 +0.4**
	baz=194					
SEY	**Seymchan**	**85.82**	**345**	*e*P	**P**	**08 21 28.6 -0.6**
SEY				pmax	pmax	
	comp=Z,27nm,1.3s					
H23K	**Yukon River**	**85.84**	**9**	P	**P**	**08 21 29.6 +0.3**
	baz=202					
M31M	**Drury Creek, Y**	**85.86**	**17**	P	**P**	**08 21 29.8 +0.3**
	baz=216,SNR=9.1					
WTLY	**Watson Lake, Y**	**85.90**	**20**	P	**P**	**08 21 29.7 0.0**
	baz=221					
G21K	**Allakaket**	**85.95**	**7**	IAmb	IAmb	08 21 32.4
	comp=Z,28nm,1.5s					
G21K	**Allakaket**	**85.95**	**7**	P	**P**	**08 21 30.1 +0.3**
	baz=198					
ABTX	**Abilene, Hawle**	**85.98**	**54**	P	**P**	**08 21 28.9 -2.0**
E18K	**Tukpahlearik C**	**86.13**	**4**	IAmb	IAmb	08 21 34.0
	comp=Z,52nm,1.6s					
E18K	**Tukpahlearik C**	**86.13**	**4**	P	**P**	**08 21 31.7 +1.0**
	baz=191					
DAWY	**Dawson**	**86.17**	**14**	P	**P**	**08 21 31.9 +0.9**
	baz=211,SNR=28					
TOAD	**Toad River Com**	**86.19**	**22**	P	**P**	**08 21 31.6 +0.4**
	baz=224					
F20K	**Avaraart Lake**	**86.21**	**6**	P	**P**	**08 21 31.9 +0.8**
	baz=196					
PRP	**Porcupine Dome**	**86.22**	**11**	P	**P**	**08 21 31.9 +0.6**
	baz=205,SNR=18					
D17K	**Noatak River**	**86.25**	**3**	P	**P**	**08 21 32.0 +0.8**
	baz=189					
LIRD	**Liard River Hi**	**86.29**	**22**	P	**P**	**08 21 32.1 +0.5**
	baz=223					
EGAK	**Eagle**	**86.40**	**13**	P	**P**	**08 21 32.8 +0.7**
	baz=209,SNR=12					
K29M	**Barlow Dome**	**86.42**	**15**	P	**P**	**08 21 33.1 +0.8**
	baz=213,SNR=18					
E19K	**Redstone River**	**86.45**	**6**	IAmb	IAmb	08 21 34.8
	comp=Z,45nm,1.6s					
E19K	**Redstone River**	**86.45**	**6**	P	**P**	**08 21 33.4 +1.1**
	baz=194					
I26K	**Coal Creek Min**	**86.47**	**12**	IAmb	IAmb	08 21 35.0
	comp=Z,30nm,1.2s					
I26K	**Coal Creek Min**	**86.47**	**12**	P	**P**	**08 21 33.3 +1.0**
	baz=208					
G22K	**Bettles**	**86.59**	**8**	P	**P**	**08 21 33.7 +0.8**
	baz=200					
PLCA	**Paso Flores**	**86.60**	**132**		**P**	**08 21 32.6 -1.3**
PLCA	**Paso Flores**	**86.60**	**132**	P	**P**	**08 21 35.2 +1.3**
	comp=Z,3.2nm,0.9s,baz=235,slow=8.3,SNR=5.0					
	comp=Z,3.2nm,0.9s					
G23K	**Bananza Creek**	**86.60**	**9**	P	**P**	**08 21 33.9 +0.8**
	baz=201					
RDOG	**Red Dog Mine**	**86.61**	**3**	P	**P**	**08 21 33.8 +0.7**
	baz=189					
MAYO	**Mayo, Yukon**	**86.61**	**15**	P	**P**	**08 21 34.4 +1.2**
	baz=214,SNR=5.8					
HEH	**HeiHe**	**86.62**	**326**	*e*P	**P**	**08 21 34.0 +0.5**
HEH				pmax	pmax	
	comp=Z,9.0nm,1.1s					
F21K	**Alatna River**	**86.63**	**7**	P	**P**	**08 21 33.7 +0.5**
	baz=198					
J29N	**Klondike Camp**	**86.77**	**14**	P	**P**	**08 21 34.8 +0.8**
	baz=212,SNR=5.2					
H25L	**Birch Creek**	**86.85**	**10**	P	**P**	**08 21 34.5 +0.3**
	baz=205					
G24K	**Hadweenzic Riv**	**86.97**	**10**	P	**P**	**08 21 35.6 +0.8**
	baz=204					
C17K	**DeLong Mountai**	**87.01**	**3**	P	**P**	**08 21 36.3 +1.3**
	baz=189					
I27K	**Kandik River**	**87.03**	**12**	P	**P**	**08 21 36.3 +1.1**
	baz=209					
COLD	**Coldfoot**	**87.06**	**8**	P	**P**	**08 21 36.6 +1.4**
	baz=201					
F22K	**John River**	**87.06**	**8**	P	**P**	**08 21 36.1 +0.8**
	baz=199					
TGTN	**Hyland Airport**	**87.14**	**19**	P	**P**	**08 21 36.3 +0.5**
	baz=221					
I28M	**Miner Creek**	**87.25**	**13**	P	**P**	**08 21 37.1 +0.8**
	baz=210,SNR=8.6					
G25K	**Bearman Lake**	**87.25**	**10**	P	**P**	**08 21 36.9 +0.7**
	baz=205					
C18K	**Utukok River**	**87.30**	**4**	P	**P**	**08 21 37.1 +0.6**
	baz=190					
J30M	**Hart River**	**87.32**	**15**	P	**P**	**08 21 36.9 +0.1**
	baz=214,SNR=9.4					
E20K	**Nigu River**	**87.33**	**6**	P	**P**	**08 21 37.7 +1.1**
	baz=195					
PPI	**Padang Panjang**	**87.36**	**270**	P	P	08 21 30.5 -7.5
D19K	**Kuna River**	**87.39**	**5**	P	**P**	**08 21 37.4 +0.5**
	baz=193					
WMOK	**Wichita Mounta**	**87.52**	**52**	P	**P**	**08 21 39.8 +1.5**
I29M	**Ogilvie Camp,**	**87.53**	**14**	P	**P**	**08 21 38.5 +1.0**
	baz=212,SNR=14					
KOTAN	**Kotaneelee Air**	**87.53**	**22**	P	**P**	**08 21 38.8 +1.1**
	baz=225					
H27K	**Steamboat Moun**	**87.60**	**12**	P	**P**	**08 21 38.4 +0.5**
	baz=209,SNR=8.1					
F24K	**Squaw Lake**	**87.66**	**9**	P	**P**	**08 21 39.0 +0.7**
	baz=203					
E22K	**Anaktuvuk Pass**	**87.70**	**8**	P	**P**	**08 21 39.1 +0.7**
	baz=199					
D20K	**Etivluk River**	**87.73**	**6**	P	**P**	**08 21 38.7 +0.2**
	baz=195					
E21K	**Killik River**	**87.74**	**7**	P	**P**	**08 21 39.0 +0.5**
	baz=197					
BILL	**Bilibino**	**87.75**	**352**	⇓*i*P	**P**	**08 21 38.2 -0.3**
BILL				pmax	pmax	
	comp=Z,4.0nm,0.6s					
G26K	**Porcupine Rive**	**87.82**	**11**	P	**P**	**08 21 39.5 +0.6**
	baz=207,SNR=9.6					
I30M	**Mount Dempster**	**87.85**	**14**	P	**P**	**08 21 39.7 +0.5**
	baz=214,SNR=20					
C19K	**Lookout Ridge**	**87.87**	**5**	P	**P**	**08 21 40.0 +0.8**
	baz=192					
HKT	**Hockley**	**87.90**	**58**	P	**P**	**08 21 43.1 +3.0**
E23K	**Chandalar**	**87.92**	**8**	P	**P**	**08 21 39.2 -0.3**
	baz=201					
B18K	**Kokolik River**	**87.97**	**4**	P	**P**	**08 21 39.7 +0.1**
	baz=190					
RSSD	**Black Hills**	**88.02**	**42**	P	**P**	**08 21 41.8 +1.1**
F25K	**Christian Rive**	**88.08**	**10**	P	**P**	**08 21 41.3 +1.0**
	baz=205					
G27K	**Doyon Strip**	**88.09**	**12**	P	**P**	**08 21 41.0 +0.7**
	baz=209					
E24K	**Your Creek**	**88.09**	**9**	P	**P**	**08 21 41.2 +0.9**
	baz=202					
H29M	**Whitestone**	**88.24**	**13**	P	**P**	**08 21 41.7 +0.7**
	baz=212					
OK038	**West end E0370**	**88.26**	**51**	IAMs_20	IAMs_20	08 49 21.8
	comp=Z,670nm,21.0s					
D22K	**Ayikyak River**	**88.31**	**7**	P	**P**	**08 21 41.9 +0.7**
	baz=199					
HNS	**HongShan**	**88.33**	**310**	⇑P	**P**	**08 21 44.3 +2.3**
HNS				pmax	pmax	
	comp=Z,20nm,1.6s					
C21K	**Knifeblade Rid**	**88.34**	**6**	P	**P**	**08 21 42.1 +0.7**
	baz=197					
BJI	**Beijing**	**88.42**	**313**	P	**P**	**08 21 43.4 +1.0**
BJI				S	**S**	**08 32 31.9 +3.8**
BJI				pmax	pmax	
	comp=Z,8.0nm,1.2s					
F26K	**Sheenjek River**	**88.42**	**10**	P	**P**	**08 21 42.9 +1.0**
	baz=207					
TOLK	**Toolik Lake Re**	**88.47**	**8**	P	**P**	**08 21 42.7 +0.7**
	baz=202					
E25K	**Arctic Village**	**88.57**	**10**	P	**P**	**08 21 43.2 +0.7**
	baz=205					
D23K	**Nanushuk River**	**88.63**	**8**	P	**P**	**08 21 43.7 +1.0**
	baz=200					
ZEA	**Zeya**	**88.67**	**329**	*e*P	**P**	**08 21 44.5 +1.3**
ZEA				pmax	pmax	
	comp=N,10.0nm,1.6s					
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.6s					
EPYK	**Eagle Plains**	**88.73**	**14**	P	**P**	**08 21 44.6 +1.3**
	baz=214					
B21K	**Ikpikpuk River**	**88.81**	**6**	P	**P**	**08 21 45.0 +1.5**
	baz=197					
H31M	**Peel River**	**88.81**	**15**	P	**P**	**08 21 44.2 +0.5**
	baz=216					
LYN	**LuoYang**	**88.83**	**307**	P	**P**	**08 21 46.0 +1.5**
LYN				pmax	pmax	
	comp=Z,15nm,0.8s					
A19K	**Wainwright**	**88.85**	**4**	P	**P**	**08 21 44.9 +1.2**
	baz=191					
G29M	**Pine Creek**	**88.91**	**13**	P	**P**	**08 21 45.0 +0.9**
	baz=212					
KULM	**Kulim**	**88.94**	**276**	IAMs_20	IAMs_20	09 08 27.4
	comp=Z,320nm,22.0s					
OK029	**Liberty Lake**	**88.94**	**52**	IAMs_20	IAMs_20	08 53 05.7
	comp=Z,570nm,20.0s					
B20K	**Meade River**	**88.94**	**5**	P	**P**	**08 21 44.7 +0.5**
	baz=194					
D24K	**Happy Valley**	**89.05**	**8**	P	**P**	**08 21 45.6 +1.0**
	baz=202					
F28M	**Old Crow**	**89.13**	**12**	P	**P**	**08 21 46.4 +1.3**
	baz=211					
PEL	**Peldehue**	**89.28**	**125**	IAmb	IAmb	08 21 56.7
	comp=Z,14nm,0.9s					
PEL	**Peldehue**	**89.28**	**125**	P	**P**	**08 21 48.2 +1.3**
PEL				pmax	pmax	
	comp=Z,18nm,1.0s					
E27K	**Coleen River**	**89.31**	**11**	P	**P**	**08 21 47.2 +1.2**
	baz=209					
G30M	**tAoh Zraii Nji**	**89.35**	**13**	P	**P**	**08 21 47.1 +0.9**
	baz=214					
C23K	**Itkillik River**	**89.45**	**7**	P	**P**	**08 21 47.2 +0.7**
	baz=200					
D25K	**Kavik River**	**89.55**	**9**	P	**P**	**08 21 47.4 +0.3**
	baz=204					
TROLL	**Troll, Antarti**	**89.62**	**178**	⇑P	**P**	**08 21 47.8 0.0**
	comp=Z,578nm,0.9s					
B22K	**Teshekpuk Lake**	**89.62**	**6**	P	**P**	**08 21 48.3 +1.0**
	baz=198					
QUOK	**Quay**	**89.64**	**52**	IAmb	IAmb	08 21 54.7
	comp=Z,33nm,1.5s					
VNA3	**Neumayer Olymp**	**89.65**	**174**	⇑P	**P**	**08 21 48.0 +0.2**
	comp=Z,9.0nm,0.9s					
DEOK	**Depew**	**89.67**	**52**	IAmb	IAmb	08 21 52.6
	comp=Z,17nm,1.1s					
OK051	**E0350 and S346**	**89.68**	**51**	IAMs_20	IAMs_20	08 57 25.3
	comp=Z,584nm,18.0s					
SNAA	**Sanae**	**89.73**	**177**	⇑P	**P**	**08 21 48.3 +0.2**
	comp=Z,163nm,0.8s					
SNAA	**Sanae**	**89.73**	**177**		**P**	**08 21 48.5 +0.3**
SNAA				IAmb	IAmb	08 21 49.7
	comp=Z,15nm,1.1s					
SNAA	**Sanae**	**89.73**	**177**	P	**P**	**08 21 48.1 -0.1**
	comp=Z,8.1nm,0.9s,baz=190,slow=2.9,SNR=30					
	comp=Z,8.1nm,0.9s					
SNAA	**Sanae**	**89.73**	**177**	⇓*i*P	**P**	**08 21 48.4 +0.2**
SNAA				pmax	pmax	
	comp=Z,16nm,1.1s					
CO02	**Combarbal**	**89.74**	**123**	IAmb	IAmb	08 21 59.9
	comp=Z,18nm,0.9s					
G31M	**Satah River**	**89.74**	**14**	P	**P**	**08 21 48.6 +0.6**
	baz=216,SNR=8.7					
SYO	**Syowa Base**	**89.76**	**191**	⇓*e*P	**P**	**08 21 48.1 -0.1**
WRGLY	**Wrigley**	**89.92**	**20**	P	**P**	**08 21 49.7 +0.9**
	baz=226					
F30M	**Barrier River**	**89.97**	**13**	P	**P**	**08 21 49.8 +0.8**
	baz=214					
E28M	**Babbage River**	**90.05**	**11**	P	**P**	**08 21 50.2 +0.8**
	baz=211					
VNA2	**Neumayer--Watz**	**90.15**	**175**	⇑P	**P**	**08 21 50.4 +0.3**
	comp=Z,9.8nm,0.8s,baz=162,slow=6.0					
XLT	**XiLinHaoTe**	**90.16**	**317**	*e*P	**P**	**08 21 52.4 +1.8**
XLT				pmax	pmax	
	comp=Z,11nm,0.7s					
E29M	**Blow River**	**90.19**	**12**	P	**P**	**08 21 50.4 +0.4**
	baz=212					
K30B	**Basset**	**90.25**	**45**	IAmb	IAmb	08 21 55.4
	comp=Z,25nm,1.1s					
F31M	**Tsiigehtchic**	**90.28**	**14**	P	**P**	**08 21 51.1 +0.6**
	baz=216,SNR=14					
VNA1	**Neumayer--Stat**	**90.35**	**175**	⇑P	**P**	**08 21 51.8 +0.8**
	comp=Z,17nm,0.9s					
D27M	**Malcolm River**	**90.35**	**11**	P	**P**	**08 21 51.6 +0.7**
	baz=210					
GYA	**Guiyang**	**90.48**	**298**	⇑P	**P**	**08 21 55.0 +2.4**
GYA				SKS	**SKSac**	**08 32 23.3 -1.3**
GYA				S	**S**	**08 32 46.5 -1.8**
GYA				pmax	pmax	
	comp=Z,27nm,1.0s					
GYA				pmax	pmax	
	comp=Z,220nm,4.3s					
GYA				LR	LR	
	comp=Z,140nm,4.4s					
GYA				LR	LR	
	comp=Z,110nm,4.8s					
GYA				LR	LR	
	comp=Z,61nm,4.9s					
HILR	**Hailar Array B**	**90.48**	**323**	P	**P**	**08 21 52.9 +1.0**
	comp=Z,3.1nm,0.7s,baz=128,slow=9.6,SNR=12					
	comp=Z,3.1nm,0.7s					
JTS	**Las Juntas de**	**90.67**	**79**	IAmb	IAmb	08 21 58.4
	comp=Z,27nm,1.1s					
JTS	**Las Juntas de**	**90.67**	**79**	P	**P**	**08 21 56.8 +3.2**
INK	**Inuvik**	**91.03**	**13**	P	**P**	**08 21 54.4 +0.5**
	baz=216,SNR=6.2					
KCSI	**Kotacane, Aceh**	**91.10**	**273**	P	**P**	**08 21 58.1 +2.5**
	comp=Z,13nm,0.8s					
SLVN	**Son La**	**91.13**	**292**	IAmb	IAmb	08 21 59.1
	comp=Z,20nm,1.2s					
NNA	**Nana**	**91.26**	**103**	LR	LR	08 53 42.4
	comp=Z,118nm,21.2s,baz=222,slow=29					
XAN	**Xi'an**	**91.35**	**305**	⇓P	**P**	**08 21 57.6 +1.3**
XAN				pmax	pmax	
	comp=Z,13nm,1.4s					
XAN				LR	LR	
	comp=Z,210nm,15.1s					
XAN				LR	LR	
	comp=Z,190nm,23.4s					
XAN				LR	LR	
	comp=Z,160nm,16.5s					
ATAH	**Atahualpa**	**91.38**	**98**	LR	LR	08 55 00.9
	comp=Z,173nm,18.0s,baz=246,slow=30					
ZON	**Zonda**	**91.45**	**124**	IAmb	IAmb	08 22 05.1
	comp=Z,33nm,1.5s					
HHC	**Hu-ho-hao-te**	**91.96**	**313**	*e*P	**P**	**08 21 59.1 0.0**
HHC				pmax	pmax	
	comp=Z,10.0nm,0.7s					
HHC				pmax	pmax	
	comp=Z,65nm,4.0s					
YKA	**Yellowknife Ar**	**92.52**	**23**	P	**P**	**08 22 01.0 0.0**
	comp=Z,7.3nm,1.2s,baz=250,slow=5.3,SNR=4.9					
	comp=Z,7.3nm,1.2s					
KMI	**Kunming**	**93.37**	**295**	P	**P**	**08 22 09.0 +2.9**
KMI				pmax	pmax	
	comp=Z,14nm,0.6s					
KMI				LR	LR	
	comp=Z,160nm,25.0s					
KMI				LR	LR	
	comp=Z,210nm,20.7s					
KMI				LR	LR	
	comp=Z,230nm,24.2s					
P40A	**Paris**

comp=Z,11nm,1.1s
A36M Sachs Harbour 95.68 13 P **P 08 22 15.3 0.0**
baz=224
ULN Ulaanbaatar 97.50 318⇑ *i*P Pdif 08 22 25.3 +0.9
ULN pmax pmax
comp=Z,3.0nm,1.2s
LPAZ La Paz 97.70 110 LR LR 08 56 16.9
comp=Z,192nm,21.9s,baz=235,slow=29
LSA Lhasa 104.53 297 IAMs_20 IAMs_20 09 20 29.7
comp=Z,254nm,22.0s
WMQ Urumqi 109.76 311 Pdif **Pdif 08 23 20.6 +1.7**
WMQ LR LR
comp=Z,910nm,20.1s
WMQ LR LR
comp=Z,560nm,20.1s
WMQ LR LR
comp=Z,420nm,24.9s
ZALV Zalesovo Beam 112.36 321 PKiKP **PKiKP 08 27 25.5 -0.4**
comp=Z,0.9nm,0.6s,baz=134,slow=4.2,SNR=4.1
MK31 Makanchi Array 113.80 314*c i*PKiKP **PKiKP 08 27 29.1 +0.1**
MKAR Makanchi Array 113.80 314 PKiKP **PKiKP 08 27 28.8 -0.2**
comp=Z,1.9nm,0.7s,baz=68,slow=2.7,SNR=14
MKAR PP **PP 08 28 21.8 -0.4**
comp=Z,0.2nm,0.8s,baz=137,slow=3.0,SNR=3.9
MKAR PKKPbc **PKKPbc 08 38 11.3 -1.4**
comp=Z,0.4nm,0.7s,baz=308,slow=3.5,SNR=3.7
KURK Kurchatov 116.21 318 *i* PKiKP **PKiKP 08 27 33.6 +0.2**
KURBB Kurchatov Arra 116.27 318 PKP **PKiKP 08 27 33.2 -0.3**
comp=Z,2.0nm,0.8s,baz=100,slow=1.8,SNR=16
KURBB PP **PP 08 28 36.6 -2.8**
comp=Z,0.8nm,0.7s,baz=88,slow=6.7,SNR=5.9
KSH Kashi 118.21 305 PKP **PKiKP 08 27 40.3 +2.5**
AAK Ala-Archa 119.33 309 IAMs_20 IAMs_20 09 30 12.7
comp=Z,363nm,22.0s
BORK Borovoye 121.06 321*ce*PKiKP **PKPdf 08 27 42.2 -0.5**
BORK pmax pmax
comp=Z,9.0nm,1.0s
ARTI Arti 126.68 328 *i* PKiKP **PKiKP 08 27 54.2 +0.4**
ARTI 08 29 47.6
ARTI 08 35 05.4
ARCES ARCESS Array B 127.85 352 PKP **PKiKP 08 27 56.3 +0.5**
comp=Z,9.5nm,0.9s,baz=316,slow=3.3,SNR=8.5
ABKAR Akbulak array 128.31 319 **PKiKP 08 27 58.0 +0.7**
KIRV Kirov 129.83 333*ce*PKiKP **PKiKP 08 28 01.0 +1.0**
BOSA Boshof 130.17 200 PKP **PKiKP 08 28 02.3 +0.3**
comp=Z,5.5nm,0.9s,baz=249,slow=3.6,SNR=6.5
FINES FINESS Array B 135.23 348 PKP **PKiKP 08 28 10.5 -0.4**
comp=Z,8.1nm,0.9s,baz=91,slow=5.8,SNR=9.3
NB2 NORSAR Subarra137.47 358 PKP **PKiKP 08 28 14.2 -1.4**
comp=Z,9.3nm,1.1s,baz=13,slow=4.1
NOA NORSAR Array B 137.47 358 PKP **PKiKP 08 28 14.7 -0.8**
comp=Z,3.4nm,1.0s,baz=15,slow=2.4,SNR=4.5
HFS Hagfors 138.23 356 PKP **PKiKP 08 28 17.7 +0.6**
comp=Z,3.0nm,0.8s,baz=82,slow=3.1,SNR=3.1
PABE Paberze 141.09 345 IAMs_20 IAMs_20 09 30 27.5
comp=Z,319nm,18.0s
KBZ Khabaz 141.27 318 PKP **PKiKP 08 28 22.9 -0.8**
comp=Z,0.6nm,0.3s,baz=84,slow=3.7,SNR=2.1
KBZ Khabaz 141.27 318 PKiKP **PKiKP 08 28 23.0 -0.8**
KIV Kislovodsk 141.29 319 IAMs_20 IAMs_20 09 30 56.6
comp=Z,149nm,22.0s
KIV Kislovodsk 141.29 319 *i* PKiKP **PKiKP 08 28 22.8 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
SOC Sochi 143.33 320 *e*PKiKP **PKPdf 08 28 24.1 -0.6**
SOC *e* 08 31 33.6
SOC *e*PPP PPP 08 34 43.8
SOC *e*SSS SSS 08 55 43.3
AKASG Malin Array Be 143.65 337 PKP **PKPdf 08 28 23.7 -1.3**
comp=Z,2.3nm,0.7s,baz=35,slow=4.6,SNR=8.2
AK08 Malin Array Si 143.69 337 PKP **PKPdf 08 28 24.2 -0.9**
AK09 Malin Array Si 143.69 337 PKP **PKPdf 08 28 24.2 -0.9**
AK14 Malin Array Si 143.75 337 PKP **PKPdf 08 28 24.2 -1.0**
MI28 Mi28,Pidlybu 144.01 338 PKP **PKPdf 08 28 24.9 -0.8**
RNPP9 Sopachiv 144.20 341 PKP **PKPdf 08 28 24.9 -1.1**
RNPP5 Staryi Chortor 144.36 340 PKP **PKPdf 08 28 25.2 -1.1**
LUBAR Lubar, Ukraine 144.82 337 PKP **PKPab 08 28 25.5 -0.6**
KMBO Kilima Mbogo 145.04 239 PKP **PKPdf 08 28 29.9 +1.0**
comp=Z,16nm,0.7s,baz=193,slow=6.7,SNR=15
BEL Belsk 145.22 346 *e*PKP **PKPdf 08 28 28.8 +1.0**
SIM Simferopol' 145.71 326 *e*PKiKP **PKPab 08 28 30.7 +1.2**
SIM *e* 08 28 34.2
SIM pmax pmax
comp=Z,119nm,1.0s
SIM pmax pmax
comp=Z,133nm,1.1s
SORM Soroca 146.05 335⇑P **PKPab 08 28 30.9 +0.3**
SORM Soroca 146.05 335⇑PKP2 **PKPab 08 28 30.9 +0.3**
KMPD K-Podol'skiy 146.43 337 PKP **PKPdf 08 28 29.8 -0.1**
PURM Purcari 146.66 332⇑P **PKiKP 08 28 33.6 -1.2**
OJC Ojcow 146.95 346 *e*PKP **PKPab 08 28 33.8 -0.3**
CLL Collm 147.03 354 *i* PKP2 **PKPab 08 28 33.7 -0.6**
CLL pmax pmax
comp=Z,61nm,0.9s
KSP Ksiaz 147.06 350 *e*PKP **PKiKP 08 28 34.5 -0.9**
STHS Stebnicka Huta 147.33 344 *e*PKP **PKPbc 08 28 34.1 +0.3**
CHVC Chvalec 147.34 350 *e*PKP2 **PKiKP 08 28 35.4 -0.7**
CHVC Chvalec 147.34 350⇑*e*PKP **PKiKP 08 28 35.4 -0.7**
OSTC Ostas 147.35 350 *e*PKP2 **PKiKP 08 28 35.7 -0.4**
OSTC Ostas 147.35 350⇑*e*PKP **PKiKP 08 28 35.7 -0.4**
BRG Berggiesshubel 147.36 353 *e*PKP **PKPbc 08 28 33.0 -0.8**
BRG Amp 08 28 36.4
comp=Z,30nm,0.9s
BRG Berggiesshubel 147.36 353 P **PKiKP 08 28 42.0 +5.9**
BRG Amp 08 28 43.5
comp=Z,18nm,1.1s
UPC Upice 147.43 350 *e*PKP2 **PKiKP 08 28 35.8 -0.4**
UPC Upice 147.43 350⇑*e*PKP **PKiKP 08 28 35.8 -0.4**
VASR Vaslui 147.48 334⇑P **PKiKP 08 28 36.0 -0.5**
DPC Dobruska-Polom 147.53 350 *e*PKP2 **PKiKP 08 28 36.0 -0.5**
DPC MLR MLR
comp=Z,300nm,22.5s
DPC MLR MLR
comp=E,200nm,18.0s
DPC Dobruska-Polom 147.53 350⇑*e*PKP **PKiKP 08 28 36.0 -0.5**
DPC AMS AMS 09 55 20.0
comp=E,300nm,22.5s
NIE Niedzica 147.58 345 *e*PKP **PKiKP 08 28 36.2 -0.4**
PVCC Panska Ves 147.62 352 *e*PKP2 **PKiKP 08 28 36.5 -0.1**
PVCC MLR MLR
comp=Z,300nm,21.5s
PVCC Panska Ves 147.62 352⇑*e*PKP **PKiKP 08 28 36.5 -0.1**
PVCC AMS AMS 09 55 00.0
comp=Z,300nm,21.5s
STEB Steborice 147.66 348⇑*e*PKP **PKiKP 08 28 36.4 -0.3**
BURAR Bucovina Array 147.68 338⇑P **PKPab 08 28 36.6 -0.5**
BURAR Bucovina Array 147.68 338⇑PKP2 **PKPab 08 28 36.6 -0.5**
OKC Ostrava-Krasne 147.68 347 *e*PKP2 **PKPab 08 28 36.3 -0.6**
OKC Ostrava-Krasne 147.68 347⇑*e*PKP **PKPab 08 28 36.3 -0.6**
HSKC Hora Svate Kat 147.68 353⇑*e*PKP **PKiKP 08 28 36.1 -0.7**
HSKC AMS AMS 09 58 40.0
comp=Z,400nm,17.6s
BZK Bozkurt 147.69 322⇑P **PKPab 08 28 37.0 -0.2**
UCC Uccle 147.69 4 *d*PKP **PKPab 08 28 36.0 -0.9**
KRLC Kraliky 147.71 349 *e*PKP2 **PKPab 08 28 36.7 -0.4**
KRLC Kraliky 147.71 349⇑*e*PKP **PKPab 08 28 36.7 -0.4**
BEBN Eben Emael 147.77 2 *d*PKP **PKiKP 08 28 36.2 -0.7**
MORC Moravsky Berou 147.86 348⇑P **PKiKP 08 28 36.5 -0.7**
MORC Moravsky Berou 147.86 348 *e*PKP **PKPbc 08 28 33.7 -1.6**
MORC Moravsky Berou 147.86 348⇑PKP2 **PKiKP 08 28 36.5 -0.7**
MEM Membach 147.97 2 *d*PKP **PKiKP 08 28 36.4 -0.9**
BSTI Sart Tilman 147.97 3 *d*PKP **PKPab 08 28 37.0 -1.1**
BTNL Ternell 147.99 2 *d*PKP **PKiKP 08 28 36.8 -0.6**
LANS Liptovska Anna 148.03 345 *e*PKP2 **PKPab 08 28 38.2 -0.2**
LANS Liptovska Anna 148.03 345 *e*PKP **PKPab 08 28 38.2 -0.2**
TESR Tescani 148.05 335⇓P **PKiKP 08 28 37.0 -0.7**
GHRR 148.10 334⇑P **PKPab 08 28 38.0 -0.7**
BCLA Clavier 148.13 3 *d*PKP **PKiKP 08 28 36.4 -1.2**
BGES Gesves 148.15 3 *d*PKP **PKiKP 08 28 36.7 -1.0**
PRU Pruhonice 148.15 352 *e*PKP2 **PKiKP 08 28 37.6 -0.1**
PRU MLR MLR
comp=N,400nm,25.9s
PRU Pruhonice 148.15 352⇑*e*PKP **PKiKP 08 28 37.6 -0.1**
PRU AMS AMS 09 48 30.0
TLCR 148.17 331⇑P **PKiKP 08 28 37.1 -0.8**
TLCR 148.17 331⇑PKP2 **PKiKP 08 28 37.1 -0.8**
MAUC Maruska 148.19 347⇑*e*PKP **PKPab 08 28 38.2 -0.8**
BMRD Maredsous 148.21 4 *d*PKPdf **PKPbc 08 28 34.4 -1.7**
BMRD *d*PKP **PKiKP 08 28 37.5 -0.3**
BMR Baia Mare 148.22 340⇑P **PKiKP 08 28 37.6 -0.3**
BMR Baia Mare 148.22 340⇑PKP2 **PKiKP 08 28 37.6 -0.3**
BHOU Houvegnez 148.22 2 *d*PKP **PKPab 08 28 37.8 -1.3**
ONER Baraj Valea Uz 148.29 335⇑P **PKPab 08 28 38.7 -0.8**
CIDE Kastamonu/Cide 148.35 323⇑P **PKiKP 08 28 38.3 -0.1**
RCHB Rochefort 148.39 3 *d*PKP **PKiKP 08 28 37.2 -1.0**
DOU Dourbes 148.41 4 *d*PKP **PKiKP 08 28 37.9 -0.4**
JURR Jurilovca 148.46 331⇑P **PKiKP 08 28 38.4 -0.1**
CFR Carcaliu 148.48 332⇑P **PKiKP 08 28 38.0 -0.5**
CFR Carcaliu 148.48 332⇑PKP2 **PKiKP 08 28 38.0 -0.5**
VRAC Vranov 148.48 349⇑P **PKiKP 08 28 38.6 +0.1**
VRAC Vranov 148.48 349 *e*PKP **PKPbc 08 28 35.0 -1.9**
VRAC Vranov 148.48 349⇑PKP2 **PKiKP 08 28 38.6 +0.1**
VRI Vrincioaia 148.54 334⇑P **PKiKP 08 28 38.4 -0.3**
VRI Vrincioaia 148.54 334⇑PKP2 **PKiKP 08 28 38.4 -0.3**
PLOR Plostina 148.58 334⇑P **PKiKP 08 28 37.6 -1.2**
PLOR Plostina 148.58 334⇑PKP2 **PKiKP 08 28 37.6 -1.2**
TPGR Topolog 148.60 331⇑P **PKiKP 08 28 39.1 +0.3**
JAVC Velka Javorina 148.70 347 *e*PKP **PKPbc 08 28 36.1 -1.4**
ZVC Zvikov 148.74 352⇑*e*PKP **PKiKP 08 28 39.2 +0.2**
ZVC AMS AMS 09 59 40.0
comp=N,300nm,14.4s
KRUC Moravsky 148.76 349 *e*PKP **PKPbc 08 28 35.2 -2.4**
TIRR Tirgusor 148.91 331 **PKiKP 08 28 39.2 -0.2**
TIRR IAMs_20 IAMs_20 09 49 33.0
comp=Z,187nm,20.0s
TIRR Tirgusor 148.91 331⇑P **PKiKP 08 28 39.4 -0.1**
TIRR Tirgusor 148.91 331⇑PKP2 **PKiKP 08 28 39.4 -0.1**
WLF Walferdange 148.92 2 *d*PKP **PKiKP 08 28 39.8 +0.5**
HARR Harsova 148.95 332⇑P **PKiKP 08 28 40.0 +0.5**
HARR Harsova 148.95 332⇑PKP2 **PKiKP 08 28 40.0 +0.5**
CBBR Cluj-Babes-Bol 148.99 339⇓P **PKiKP 08 28 40.1 +0.5**
DOPR Dopca 148.99 336⇑P **PKiKP 08 28 40.1 +0.5**
TLBR Topalu 149.01 331⇑P **PKiKP 08 28 40.1 +0.4**
CJR Cluj-Napoca 149.02 339⇑P **PKiKP 08 28 40.3 +0.6**
CJR Cluj-Napoca 149.02 339⇑PKP2 **PKiKP 08 28 40.3 +0.6**
PSZ Piszkesteto 149.06 344⇑P **PKiKP 08 28 40.2 +0.4**
PSZ Piszkesteto 149.06 344⇑PKP2 **PKiKP 08 28 40.2 +0.4**
MFTR Murfatlar 149.11 330⇑P **PKiKP 08 28 39.8 0.0**
KHC Kasperske Hory 149.12 353 *e*PKP2 **PKiKP 08 28 40.3 +0.5**
KHC MLR MLR
comp=Z,300nm,19.4s
KHC Kasperske Hory 149.12 353⇑*e*PKP **PKiKP 08 28 40.3 +0.5**
KHC AMS AMS 09 56 30.0
comp=Z,300nm,19.4s
MLR Muntele Rosu 149.16 335⇑P **PKiKP 08 28 40.1 -0.1**
MLR Muntele Rosu 149.16 335⇑PKP2 **PKiKP 08 28 40.1 -0.1**
MARR Marisel-Cluj 149.22 339⇑P **PKiKP 08 28 40.7 +0.5**
ISR Istria 149.22 334⇑P **PKiKP 08 28 40.4 +0.2**
ISR Istrita 149.22 334⇑PKP2 **PKiKP 08 28 40.4 +0.2**
MODS Modra-Piesok 149.25 348 *e*PKP2 **PKPab 08 28 41.1 -2.2**
MODS Modra-Piesok 149.25 348 *e*PKP **PKPab 08 28 41.1 -2.2**
DRGR 149.25 340⇑P **PKiKP 08 28 40.5 +0.3**
DRGR 149.25 340⇑PKP2 **PKiKP 08 28 40.5 +0.3**
BRTR Keskin Array B 149.26 319 PKP **PKPdf 08 28 36.0 +0.9**
comp=Z,17nm,0.9s,baz=117,slow=0.6,SNR=4.9
BRTR PKPbc **PKiKP 08 28 40.1 -0.4**
comp=Z,24nm,0.8s,baz=39,slow=2.4,SNR=73
BORR Bors 149.28 341⇑P **PKiKP 08 28 41.1 +0.9**
GERES GERESS Array B 149.38 352 PKPbc **PKiKP 08 28 40.3 -0.2**
comp=Z,11nm,0.8s,baz=25,slow=2.7,SNR=51
KIRS Kirsehir-Merke 149.43 318⇑P **PKiKP 08 28 40.8 0.0**
ZST Bratislava 149.45 348 *e*PKP2 **PKPbc 08 28 39.2 -0.1**
ZST MLR MLR
comp=Z,300nm,14.4s
SRO Srobarova 149.55 346 *e*PKP **PKiKP 08 28 41.8 +1.1**
ANTO Ankara 149.70 320⇑P **PKiKP 08 28 42.4 +1.0**
ANTO Ankara 149.70 320⇑PKP2 **PKiKP 08 28 42.4 +1.0**
ARR Arges 149.79 336⇓P **PKiKP 08 28 41.8 +0.5**
CONA Conrad Observa 149.95 349 *e*PKiKP **PKiKP 08 28 42.2 +0.6**
comp=Z,39nm,1.0s,SNR=18
DEV Deva 149.98 339⇑P **PKiKP 08 28 42.4 +0.8**
DEV Deva 149.98 339⇑PKP2 **PKiKP 08 28 42.4 +0.8**
LOT Lotru 150.04 337⇑P **PKiKP 08 28 41.8 -0.2**
SIRR Siria 150.05 341⇑P **PKiKP 08 28 42.7 +0.9**
RONA Rosalia, Austr 150.09 348 *i* PKiKP **PKiKP 08 28 42.5 +0.6**
comp=Z,33nm,0.9s,SNR=16
SAHE Sakarya_HENDEK 150.22 323⇑P **PKiKP 08 28 42.9 +0.6**
MOA Molln 150.28 351 *e*PKiKP **PKiKP 08 28 42.6 +0.3**
comp=Z,19nm,1.2s,SNR=6.3
SURR Surduc 150.36 339⇓P **PKiKP 08 28 42.7 +0.3**
GZR Gura Zlata 150.45 338⇑P **PKiKP 08 28 43.1 +0.4**
GZR Gura Zlata 150.45 338⇑PKIKP **PKiKP 08 28 43.1 +0.4**
RAZG Razgrad 150.47 332⇑P **PKiKP 08 28 43.5 +0.7**
BIOA Bad Ischl, Aus 150.52 352 *e*PKiKP **PKiKP 08 28 42.8 +0.1**
comp=Z,26nm,1.3s,SNR=10
LOZB Loznitsa 150.58 331⇑P **PKiKP 08 28 43.4 +0.4**
BZS Buzias 150.65 340⇑P **PKiKP 08 28 43.0 0.0**
ARSA Arzberg 150.66 349 *e*PKiKP **PKiKP 08 28 43.1 0.0**
comp=Z,12nm,1.0s,SNR=5.6
SILT Sile 150.69 325⇑P **PKiKP 08 28 44.3 +1.1**
LESA Schwarzleotal 150.91 353 *i* PKiKP **PKiKP 08 28 43.9 +0.3**
comp=Z,18nm,1.2s,SNR=6.8
MORH Mrgy, Hungar 150.97 344⇑P **PKiKP 08 28 44.0 +0.3**
RETA Reutte 151.02 356 *i* PKiKP **PKiKP 08 28 44.3 +0.5**
comp=Z,24nm,1.1s,SNR=7.5
HERR Herculane 151.02 338⇑P **PKiKP 08 28 43.7 -0.1**
WATA Walderalm 151.10 355 *i* PKiKP **PKiKP 08 28 44.5 +0.4**
comp=Z,22nm,0.8s,SNR=11
MOTA Moosalm 151.13 355 *i* PKiKP **PKiKP 08 28 44.6 +0.5**
comp=Z,57nm,1.1s,SNR=12
KBA Koelnbreinsper 151.16 352 *i* PKP **PKiKP 08 28 44.0 -0.3**
comp=Z,16nm,0.9s,SNR=6.0
WTTA Wattenberg 151.17 355 *i* PKiKP **PKiKP 08 28 44.8 +0.5**
comp=Z,46nm,0.6s,SNR=16
SQTA Sankt Quirin 151.25 355 *i* PKiKP **PKiKP 08 28 44.9 +0.5**
comp=Z,30nm,0.8s,SNR=12
DAVA Damuels 151.27 357 *i* PKiKP **PKiKP 08 28 45.0 +0.6**
comp=Z,30nm,0.9s,SNR=9.9
SOKA Soboth 151.30 350 *i* PKiKP **PKiKP 08 28 44.5 +0.1**
comp=Z,24nm,0.9s,SNR=9.0
PERS Pernice 151.33 349 *i* PKPbc **PKiKP 08 28 44.5 0.0**
MMAI Mount Meron Ar 151.35 306 PKPbc **PKiKP 08 28 44.7 -0.3**
comp=Z,33nm,1.0s,baz=5.7,slow=2.9,SNR=19
MDVR Moldovita 151.35 339⇑P **PKiKP 08 28 44.7 +0.1**
PLVB Pleven 151.43 334⇑P **PKiKP 08 28 44.9 +0.2**
FETA Feichten 151.48 356 *i* PKiKP **PKiKP 08 28 45.6 +0.7**
comp=Z,29nm,0.9s,SNR=7.5
OBKA Obir 151.54 350 *i* PKP **PKiKP 08 28 44.8 -0.1**
comp=Z,11nm,0.8s
MYKA Terra Mystica 151.56 351 *i* PKP **PKiKP 08 28 44.9 -0.1**
comp=Z,17nm,0.8s,SNR=6.6
ABTA Abfaltersbach 151.59 353 *i* PKiKP **PKiKP 08 28 45.2 +0.1**
comp=Z,54nm,0.8s,SNR=16
VNDS Vrh nad Dolski 151.91 350 *i* PKPbc **PKiKP 08 28 46.1 +0.4**
CRNS Crni Vrh 152.01 350 *i* PKPbc **PKiKP 08 28 46.2 +0.3**
BAND Balkesir-Ban 152.09 325⇑P **PKiKP 08 28 47.1 +0.9**
BOVS Bovan 152.35 338⇑P **PKiKP 08 28 47.4 +0.8**
BLY Banja Luka 152.70 345⇑P **PKiKP 08 28 47.9 +0.7**
RDO Rodhopi 152.80 330 **PKPdf 08 28 41.0 +0.7**
TEOL Teolo 153.05 354 **PKiKP 08 28 48.8 +0.8**
TEOL PKPab **pPKPab 08 28 59.8 -2.4**
MANT Manisa 153.11 322 **PKiKP 08 28 49.7 +1.1**
BNI Bardonecchia 153.54 2 IAMs_20 IAMs_20 09 25 42.7
comp=Z,172nm,19.0s
PDG Podgorica 154.26 340 IAMs_20 IAMs_20 09 31 37.9
comp=Z,135nm,22.0s
ESDC Sonseca Array 156.62 23 PKP **PKPdf 08 28 47.1 +1.4**
comp=Z,1.1nm,1.0s,baz=331,slow=3.4,SNR=4.3
ESDC PKPab **pPKPab 08 29 15.6 -2.0**
comp=Z,1.2nm,0.8s,baz=329,slow=4.1,SNR=5.0
CART Cartagena 159.52 20 IAMs_20 IAMs_20 09 23 36.9
comp=Z,182nm,19.0s
DBIC Dimbokro 162.96 132 PKP **PKPdf 08 28 53.1 -0.4**
comp=Z,7.9nm,1.0s,baz=280,slow=2.9,SNR=3.8
TORD Torodi Ar. Bea 172.07 132 PKP **PKPdf 08 28 59.5 -0.5**
comp=Z,6.5nm,1.1s,baz=190,slow=2.6,SNR=16
TORD PKPab **sPKPab 08 30 25.0 -1.9**
comp=Z,67nm,0.8s,baz=277,slow=4.4,SNR=3.6

JMA 20 08:30:38.5±0.3, 36°.9N±0°.8×14°.4E±°, h53km, MV3.6/26,
FAR E OFF CENTRAL HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.29**	**308**	P	Pn	08 31 14.6	+0.8
JIKH				*e*S	Sn	08 31 40.9	+0.1
JFK	**Kawauchi**	**2.34**	**282**	*e*P	Pn	08 31 15.5	+0.9
JFK				S	Sn	08 31 43.2	+1.1
ONAJ	**Iwakimizuishiy**	**2.37**	**276**	*e*P	Pn	08 31 16.1	+1.1
ONAJ				S	Sn	08 31 43.9	+1.1
JMST	**Minamisoumatoc**	**2.42**	**290**	*e*S	Sn	08 31 45.5	+1.5
JIO	**Ouri**	**2.45**	**310**	*e*P	Pn	08 31 17.1	+1.1
JIO				S	Sn	08 31 45.3	+0.6
JOTO	**OTAMA OYAMA**	**2.80**	**284**	*e*P	Pn	08 31 22.9	+2.0
JOTO				*e*S	Sn	08 31 55.8	+2.4
JMK	**Ichinoseki**	**2.85**	**316**	*e*P	Pn	08 31 22.7	+1.1
JMK				*e*S	Sn	08 31 55.4	+0.7
BSO1	**Boso 1**	**3.18**	**226**	*e*P	Pn	08 31 26.1	+0.6
BSO1				*e*S	Sn	08 32 03.7	+1.6
JOM	**Ohasama**	**3.21**	**324**	*e*P	Pn	08 31 27.7	+1.2
JOM				*e*S	Sn	08 32 03.3	-0.1
JYK	**Kaneyama**	**3.35**	**308**	*e*P	Pn	08 31 30.1	+1.7
JAG	**Ashikaga**	**3.49**	**263**	*e*P	Pn	08 31 31.5	+1.2
JAG				*e*S	Sn	08 32 10.7	+0.5
JOT	**Ohata**	**4.93**	**336**	*e*S	Sn	08 32 43.5	-2.3
JHJ2	**Mitsune**	**4.97**	**222**	*e*S	Sn	08 32 46.3	-0.6
JCH	**Churui**	**5.71**	**357**	*e*P	Pn	08 31 59.1	-1.6
JCH				*e*S	Sn	08 33 00.1	-4.7

CATAC 20 08:36:27.0±0.6, 12°N±3°×8°8W±°, h29km±4km, M3.1/29,
MLv3.1/29, Error ellipse: s-maj=7.6km s-min=2.4km
az=25.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.85**	**24**	P	Pn	08 36 43.1	+0.1
CRIN	**San Cristobal**	**0.97**	**59**	P	Pb	08 36 45.4	+0.1
PKGN	**Cerro Pekin**	**1.02**	**62**	P	Pn	08 36 45.2	-0.2
PKGN				S	Sb	08 36 59.3	+0.1
CNCH	**Conchagua**	**1.08**	**4**	P	Pb	08 36 46.7	-0.4
PLRN	**Geotermica Pol**	**1.18**	**71**	P	Pn	08 36 46.8	-0.7
PLRN				S	Sn	08 36 59.7	-2.9
CNGA	**Al SSO del Vol**	**1.21**	**76**	P	Pn	08 36 47.5	-0.5
CNGN	**Cerro Negro**	**1.22**	**76**	P	Pn	08 36 47.8	-0.3
COPN	**Copaltepe**	**1.28**	**91**	P	Pn	08 36 48.6	-0.4
MOM2	**El Cardon**	**1.41**	**80**	P	Pn	08 36 50.5	-0.2
MOM2				S	Sn	08 37 09.0	+0.7
APYN	**Apoyeque**	**1.52**	**88**	P	Pn	08 36 53.0	+0.7
APQ2	**Apoyeque**	**1.55**	**90**	P	Pn	08 36 52.7	+0.2
APQ2				S	Sb	08 37 13.0	-1.2
TECO	**Alcaldia de Te**	**1.58**	**327**	P	Pn	08 36 52.7	-0.4
TECO	**Alcaldia de Te**	**1.58**	**327**	S	Sn	08 37 12.4	-0.2
TISN	**Laguna Tiscapa**	**1.60**	**92**	P	Pn	08 36 52.5	-0.8
UNAN	**Cigeo UNAN**	**1.60**	**93**	P	Pn	08 36 53.5	+0.1
UNAN				S	Sn	08 37 13.5	+0.4
MGAN	**Managua**	**1.62**	**92**	P	Pn	08 36 54.0	+0.4
MGAN	**Managua**	**1.62**	**92**	S	Sn	08 37 14.2	+0.6
UESV	**Universidad de**	**1.67**	**329**	P	Pn	08 36 54.5	+0.2
UESV	**Universidad de**	**1.67**	**329**	S	Sn	08 37 15.2	+0.4
WILN	**Americas 2**	**1.68**	**91**	P	Pn	08 36 54.5	+0.1
WILN				S	Sn	08 37 15.8	+0.8
SCLA	**Alcaldia de Sa**	**1.70**	**332**	P	Pn	08 36 54.7	0.0
SCLA	**Alcaldia de Sa**	**1.70**	**332**	S	Sb	08 37 17.2	-1.4
AERN	**Aeropuerto Man**	**1.70**	**92**	P	Pn	08 36 54.4	-0.3
MAS3	**Al N del Volca**	**1.70**	**96**	P	Pn	08 36 54.5	-0.3
LIMN	**Finca el Limon**	**1.73**	**60**	P	Pn	08 36 55.1	-0.1
LIMN				S	Sn	08 37 18.0	+1.5
NANN	**Nandasmo**	**1.76**	**98**	P	Pn	08 36 56.5	+0.9
PAVA	**Las Pavas**	**1.81**	**326**	P	Pn	08 36 56.5	+0.1
NADN	**Granada**	**1.89**	**103**	P	Pn	08 36 57.3	0.0
NADN				S	Sn	08 37 19.9	-0.2
TGUH	**Tegucigalpa,Un**	**1.95**	**18**	P	Pn	08 36 58.7	+0.4
PMON	**Piamonte**	**2.04**	**318**	P	Pn	08 37 00.2	+0.7
PMON	**Piamonte**	**2.04**	**318**	S	Sn	08 37 24.8	+0.7
MATN	**Matagalpa**	**2.07**	**69**	P	Pn	08 36 59.0	-0.8
JAYA	**Jayaque - finc**	**2.09**	**314**	P	Pn	08 36 59.4	-0.8
JAYA	**Jayaque - finc**	**2.09**	**314**	S	Sn	08 37 24.3	-1.1
RCVN	**Varilla!2**	**2.17**	**50**	P	Pn	08 37 01.7	+0.4
RCPN	**Sur Rio San Ju**	**2.21**	**53**	P	Pn	08 37 03.4	+1.6
NUBE	**Las Nubes**	**2.49**	**313**	P	Pn	08 37 05.5	-0.2
NUBE	**Las Nubes**	**2.49**	**313**	S	Sn	08 37 35.1	-0.2

*IDC **20** 08:44:55.4±5.9, 35°.85N×69°.99E, h116km±45km, mb3.5/7,*
mbtmp3.8/10, Error ellipse: s-maj=66.8km s-min=28.4km
az=151.0
*NEIC **20** 08:44:56.5±0.8, 36°.06N±0°.07×69°.7E±0°.1, h136km±18km,*
mb4.0/3, Error ellipse: s-maj=14.5km s-min=9.3km
az=69.0
*NNC **20** 08:45:01.6±5.1, 36°.53N×69°.36E, h84km±116km, mb3.2,*
mpv3.3, Error ellipse: s-maj=46.5km s-min=37.9km
az=89.0
ISC 20 08:44:57.0±0.7, 36°21N±0°.05×69°71E±0°.06, h112km, n33,
σ2s46/38, mb3.7/6, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.75**	**198**		**Pn**	**08 45 27.0**	**-0.2**
KBL				Sn	**Sn**	**08 45 48.9**	**-1.3**
CHGR	**Chuyangaron**	**2.48**	**350**		**Pn**	**08 45 38.6**	**+2.2**
GAR	**Garm**	**2.83**	**10**		**Pn**	**08 45 43.1**	**+2.2**
NIL	**Nilore**	**3.87**	**130**		**Pn**	**08 45 53.0**	**-1.6**
ARSB	**Arslanbob**	**5.71**	**26**	Pn	**Pn**	**08 46 20.8**	**+1.2**
DHRM	**DHARAMSHALA**	**6.73**	**124**	*e*P	Pn	08 46 40.6	+7.1
DHRM				IAML		08 47 42.0	
comp=E,217nm,0.1s							
DHRM				IAML		08 47 43.3	
comp=N,98nm,0.3s							
DHRM				*e*S	**Sn**	**08 47 52.9**	**+4.0**
KK31	**Karatay Array**	**6.91**	**5**		**Pn**	**08 46 37.4**	**+1.7**
KK31	**Karatay Array**	**6.91**	**5**	⇓P	**Pn**	**08 46 36.7**	**+1.0**
comp=N,1.6nm,0.4s,baz=197,slow=16,SNR=18							
KK31				⇓S	**Sn**	**08 47 51.6**	**-1.3**
comp=N,4.9nm,0.3s							
KKAR	**Karatay Array**	**6.91**	**5**		**Pn**	**08 46 37.4**	**+1.7**
BHK	**Bhakra**	**7.34**	**129**	*e*P	Pn	08 46 51.4	+10
BHK				*e*S	Sn	08 48 17.9	+14
BHK				IAML		08 55 32.1	
comp=E,94nm,0.1s							
BHK				IAML		08 55 32.2	
comp=N,102nm,0.1s							
AAK	**Ala-Archa**	**7.41**	**28**		**Pn**	**08 46 42.9**	**+0.3**
AAK	**Ala-Archa**	**7.41**	**28**	P	**Pn**	**08 46 43.3**	**+0.8**
comp=N,4.8nm,0.3s,baz=

comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 64.67 268 P **P** **08 55 22.1 -1.1**
comp=Z,0.2nm,0.4s,baz=47,slow=8.1,SNR=1.8

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*BJI **20** 08:55:26.8, 6˚.04N×125˚.24E, h10km, mB5.3/43, mb4.8/69, Ms4.8/68, Ms7 4.5/66*
*IDC **20** 08:55:30.4±0.4, 6˚.52N×124˚.87E, h0km, mb4.5/29, mbtmp4.5/30, ML4.8/2, MS4.3/61, Error ellipse: s-maj=11.3km s-min=8.9km az=128.0*
*MOS **20** 08:55:30.7±1.0, 6˚.57N×124˚.98E, h12km, mb5.2/53, MS4.5/8, Error ellipse: s-maj=9.3km s-min=4.6km az=115.8*
*MAN **20** 08:55:32.4, 6˚.62N×124˚.94E, h15km, mb6.2, ML5.3, MS5.9*
MAN INTENSITY IV - TULUNAN COTABATO; INTENSITY III - CITY OF KORONADAL TAMPAKAN AND TUPI SOUTH COTABATO; MALUNGON SARANGANI; INTENSITY II- CITY OF KIDAPAWAN COTABATO; CITY OF DAVAO; CITY OF GENERAL SANTOS; CITY OF TAGUM DAVAO DEL NORTE.
*NEIC **20** 08:55:32.7±1.3, 6˚.58N±0˚.04×125˚.03E±0˚.04, h10km±1km, mb5.3/159, Mww5.1/13, Error ellipse: s-maj=8.0km s-min=4.3km az=51.0*
*NEIC **20** 08:55:33.1, 6˚.59N×125˚.04E, h14km*
*GCMT **20** 08:55:33.7±0.2, 6˚.68N±0˚.01×124˚.92E±0˚.01, h15km, MW5.1/131, Moment Tensor Solution. s65,c91; s131,c225; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.65±.15; $M_{\theta\theta}$5.87±.12; $M_{\phi\phi}$-3.22±.11; $M_{r\theta}$-1.79±.33; $M_{\theta\phi}$2.57±.09; $M_{\phi r}$1.86±.39; Best double couple: $M_0$6.19200×10^16^ NP1:ϕ_s216.00000°, δ58.00000°, λ-157.00000°. NP2:ϕ_s113.00000°, δ70.00000°, λ-35.00000°. Principal axes: T 6.7240, Plδ8.0000°, Azm167.0000°; N -1.0640, Plγ51.0000°, Azm267.0000°; P -5.6600, Plγ38.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 08:55:33.1, 6˚.69N×124˚.94E, h14km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16^Nm; M_{rr}-1.07; $M_{\theta\theta}$4.78; $M_{\phi\phi}$-3.70; $M_{r\theta}$2.20; $M_{\theta\phi}$-0.81; $M_{\phi r}$-1.31; Fault plane solution: $M_0$5.11000×10^16^ NP1:ϕ_s49.31000°, δ59.39000°, λ-177.23000°. NP2:ϕ_s317.91000°, δ87.62000°, λ-30.63000°. Principal axes: T 5.6652, Plγ19.0000°, Azm8.0000°; N -1.4162, Plγ59.0000°, Azm134.0000°; P -4.2489, Plγ23.0000°, Azm269.0000°;*
*DJA **20** 08:55:34.6±0.5, 7˚.N±2˚×12˚.5E±˚, h11km±4km, M5.0/62, mB5.5/45, mb5.1/62, MLv5.7/11, Mw5.2/14, Mw(mB)5.0/45, MwMwp4.9/18, Mwp5.2/18*
ISC 20 08:55:33.7±0.4, 6˚.62N±0˚.03×125˚.12E±0˚.04, h17km±2km, h17km:pP-P, n781, σ1$51/741, mb5.1/192, MS4.4/89, 14C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.64**	**45**		**Pb**	**08 55 47.0**	**+0.6**
DAV	**Davao City (W)**	**0.64**	**45**	Pg	**Pb**	**08 55 47.2**	**+0.8**
	3μm,0.3s,baz=242,slow=4.5,SNR=270						
DAV				Lg	Lg	08 55 59.4	
	6μm,0.3s,baz=326,slow=23,SNR=16						
DAV	**Davao City (W)**	**0.64**	**45**	P	**Pb**	**08 55 47.4**	**+0.9**
DAV	**Davao City (W)**	**0.64**	**45**	S	**Sn**	**08 55 57.5**	**-0.3**
DAV	**Davao City (W)**	**0.64**	**45**	P	**Pg**	**08 55 45.0**	**-1.4**
SGSI	**Sangihe**	**2.94**	**172**	P	**Pn**	**08 56 21.2**	**+1.5**
KMSI	**Cibinong**	**6.11**	**191**	P	**Pn**	**08 57 05.1**	**+1.8**
TNTI	**Ternate**	**6.22**	**159**		**Pn**	**08 57 05.0**	**+0.2**
TNTI	**Ternate**	**6.22**	**159**	P	**Pn**	**08 57 06.8**	**+1.9**
TNTI	**Ternate**	**6.22**	**159**	S	**Sn**	**08 58 19.9**	**+4.2**
TNTI	**Ternate**	**6.22**	**159**	P	**Pn**	**08 57 07.9**	**+3.0**
	3μm3μm333nm,0.9s						
MYLDM	**Lahad Datu**	**6.74**	**258**		**Pn**	**08 57 12.7**	**+0.8**
MYLDM	**Lahad Datu**	**6.74**	**258**	P	**Pn**	**08 57 13.1**	**+1.1**
MRSI	**Marisa**	**6.88**	**208**	P	**Pn**	**08 57 13.1**	**-0.7**
TOLI2	**Tolitoli**	**6.97**	**219**		**Pn**	**08 57 11.6**	**-3.6**
TOLI2	**Tolitoli**	**6.97**	**219**	P	**Pn**	**08 57 17.1**	**+1.9**
TOLI2	**Tolitoli**	**6.97**	**219**	S	**Sn**	**08 58 35.8**	**+1.6**
LUWI	**Luwuk**	**7.96**	**197**		**Pn**	**08 57 29.9**	**+1.1**
LUWI	**Luwuk**	**7.96**	**197**	P	**Pn**	**08 57 31.6**	**+2.9**
LUWI	**Luwuk**	**7.96**	**197**	S	**Sn**	**08 59 03.1**	**+4.6**
LUWI	**Luwuk**	**7.96**	**197**	P	**Pn**	**08 57 31.2**	**+2.5**
APSI	**Ampana**	**8.24**	**205**	P	**Pn**	**08 57 33.7**	**+1.1**
	5μm350nm,1.2s						
TGY	**Tagaytay City**	**8.50**	**331**	Pn	**Pn**	**08 57 35.3**	**-0.9**
	56nm,0.3s,baz=175,slow=23,SNR=1.4						
TGY				LR	LR	09 01 33.5	
	comp=Z,2μm,19.2s,baz=148,slow=43						
SANI	**Sanana**	**8.65**	**174**	P	**Pn**	**08 57 39.6**	**+1.4**
SANI	**Sanana**	**8.65**	**174**	P	**Pn**	**08 57 37.8**	**-0.4**
	3μm4μm321nm,1.0s						
I39PW	**PALAU INFRASON**	**9.40**	**84**	I	I	09 53 60.0	
	baz=266,slow=306,SNR=6.1						
SWI	**Sorong**	**9.63**	**140**	P	**Pn**	**08 57 53.1**	**+1.4**
	2μm83nm,1.2s						
SWI	**Sorong**	**9.63**	**140**	P	**Pn**	**08 57 55.7**	**+4.0**
SWI				S	**Sn**	**08 59 45.5**	**+6.0**
NLAI	**Namlea**	**9.99**	**169**	P	**Pn**	**08 57 57.1**	**+0.5**
	3μm236nm,0.9s						
MSAI	**Masohi**	**10.60**	**159**	P	**Pn**	**08 58 06.7**	**+1.7**
	3μm4μm98nm,0.8s						
AAI	**Ambon**	**10.69**	**163**	P	**Pn**	**08 58 05.8**	**-0.3**
	2μm140nm,0.7s						
BKB	**Balikpapan**	**11.34**	**227**	P	**Pn**	**08 58 14.6**	**-0.5**
	125nm,0.8s						
SPSI	**Sidrap Palu**	**11.79**	**207**	P	**Pn**	**08 58 23.6**	**+2.3**
	1μm44nm,1.2s						
FAKI	**Fak Fak**	**11.85**	**143**		**Pn**	**08 58 21.2**	**-0.9**
FAKI	**Fak Fak**	**11.85**	**143**	P	**Pn**	**08 58 23.9**	**+1.8**
FAKI	**Fak Fak**	**11.85**	**143**	P	**Pn**	**08 58 23.5**	**+1.4**
	2μm167nm,1.2s						
BNSI	**Bone**	**12.04**	**205**	P	**Pn**	**08 58 26.6**	**+2.0**
	3μm2μm68nm,1.1s						
RKPI	**Ransiki, Papua**	**12.12**	**131**	P	**Pn**	**08 58 30.0**	**+4.2**
	144nm,1.1s						
BBSI	**Bau Bau**	**12.29**	**192**	P	**Pn**	**08 58 30.5**	**+2.4**
	3μm155nm,1.0s						
MTKI	**Muara Teweh, K**	**12.67**	**234**	P	**Pn**	**08 58 34.5**	**+1.2**
	74nm,0.9s						
KAPI	**Kappang**	**12.74**	**205**	Pn	**Pn**	**08 58 32.9**	**-1.3**
KAPI	**Kappang**	**12.74**	**205**	Pn	**Pn**	**08 58 33.5**	**-0.7**
	5.8nm,0.3s,baz=38,slow=14,SNR=2.4						
KAPI				LR	LR	09 03 41.6	
	comp=Z,2μm,20.4s,baz=32,slow=39						
KAPI	**Kappang**	**12.74**	**205**	P	**Pn**	**08 58 36.1**	**+1.9**
KAPI	**Kappang**	**12.74**	**205**	P	**Pn**	**08 58 32.9**	**-1.3**
BKSI	**Bulukumba**	**12.87**	**203**	P	**Pn**	**08 58 36.5**	**+0.5**
BAKI	**Biak**	**13.43**	**125**	P	**Pn**	**08 58 47.2**	**+3.5**
	2μm4μm120nm,1.6s						
BSSI	**Bau Bau, Buton**	**13.49**	**200**	P	**Pn**	**08 58 44.7**	**+0.2**
	2μm70nm,1.2s						
SBUM	**Sibu**	**13.51**	**253**		**Pn**	**08 58 43.8**	**-0.9**
SBUM	**Sibu**	**13.51**	**253**	P	**Pn**	**08 58 48.0**	**+3.2**
SRPI	**Serui, Papua**	**13.94**	**127**	P	**P**	**08 58 55.4**	**-3.3**
BBKI	**Banjar Baru**	**14.34**	**226**	P	**Pn**	**08 58 56.4**	**+0.3**
	157nm,1.4s						
STKI	**Sintang**	**15.09**	**245**	P	**Pn**	**08 59 07.1**	**+0.8**
	79nm,1.5s						
MMRI	**Maumere**	**15.42**	**191**		**Pn**	**08 59 10.0**	**-0.7**
MMRI				IAmb	IAmb	08 59 18.2	
	comp=Z,79nm,0.7s						
MMRI	**Maumere**	**15.42**	**191**	P	**Pn**	**08 59 12.5**	**+1.8**
MMRI	**Maumere**	**15.42**	**191**	P	**Pn**	**08 59 11.6**	**+0.9**
	comp=Z,4μmcomp=Z,226nm,1.3s						
KSM	**Kuching**	**15.63**	**252**		**Pn**	**08 59 12.9**	**-0.5**
KSM				IAmb	IAmb	08 59 18.1	
	comp=Z,302nm,1.7s						
KSM	**Kuching**	**15.63**	**252**	P	**P**	**08 59 16.5**	**-1.0**
EDFI	**Ende, Flores**	**15.64**	**193**	P	**Pn**	**08 59 14.9**	**+1.2**
SOEI	**Soe**	**16.29**	**183**		**Pn**	**08 59 19.8**	**-2.1**
SOEI	**Soe**	**16.29**	**183**	P	**P**	**08 59 24.4**	**-0.5**
SOEI	**Soe**	**16.29**	**183**	P	**P**	**08 59 23.4**	**-1.5**
	comp=Z,3μmcomp=Z,175nm,1.3s						
BATI	**Baumata**	**16.78**	**185**	Pn	**Pn**	**08 59 28.4**	**+0.3**
	comp=Z,18nm,0.3s,baz=282,slow=1.8,SNR=7.5						
BATI				LR	LR	09 06 38.6	
	comp=Z,631nm,19.6s,baz=14,slow=40						
BATI	**Baumata**	**16.78**	**185**	P	**P**	**08 59 29.6**	**-0.6**
	comp=Z,2μmcomp=Z,174nm,0.9s						
PLAI	**Plampang**	**17.00**	**206**	P	**P**	**08 59 32.7**	**0.0**
PLAI	**Plampang**	**17.00**	**206**	P	**P**	**08 59 32.2**	**-0.5**
	comp=Z,2μmcomp=Z,2μmcomp=Z,178nm,1.1s						
WBSI	**Waikabubak, Su**	**17.13**	**200**	P	**P**	**08 59 33.9**	**-0.3**
	comp=Z,2μmcomp=Z,3μmcomp=Z,95nm,1.1s						
TWSI	**Taliwang, Sumb**	**17.32**	**208**	P	**P**	**08 59 39.3**	**+3.0**
SSLB	**Suanglung**	**17.54**	**347**	P	**Pn**	**08 59 35.7**	**-1.8**
KMMI	**Kalianget**	**17.55**	**220**	P	**P**	**08 59 43.9**	**+5.1**
GENI	**Genyem**	**17.59**	**121**	P	**P**	**08 59 40.7**	**+1.5**
GENI	**Genyem**	**17.59**	**121**	P	**P**	**08 59 45.7**	**+6.5**
JAY	**Jayapura**	**18.01**	**120**	P	**Pn**	**08 59 43.5**	**0.0**
	comp=Z,0.7nm,0.3s,baz=30,slow=8.1,SNR=1.2						
JAY				LR	LR	09 06 18.6	
	comp=Z,319nm,19.1s,baz=318,slow=36						
	comp=Z,9.1nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.55**	**216**		**P**	**08 59 47.8**	**-2.1**
JAGI	**Jajag, Banyuwa**	**18.55**	**216**	P	**Pn**	**08 59 52.2**	**+2.1**
JAGI	**Jajag, Banyuwa**	**18.55**	**216**	P	**Pn**	**08 59 51.1**	**+1.0**
	comp=Z,2μmcomp=Z,105nm,1.2s						
QZH	**Quanzhou**	**19.27**	**342**	P	**Pn**	**08 59 59.8**	**+1.2**
QZH				S	**S**	**09 03 40.3**	**+5.0**
QZH				pmax	pmax		
	comp=Z,2μm,3.1s						
QZH				LR	LR		
	comp=Z,2μm,22.7s						
QZH				LR	LR		
	comp=Z,2μm,21.0s						
QZH				LR	LR		
	comp=Z,3μm,22.7s						
QIZ	**Qiongzhong**	**19.32**	**311**	P	**Pn**	**08 59 59.8**	**+0.4**
QIZ				S	**Sn**	**09 03 34.3**	**-1.5**
QIZ				pmax	pmax		
	comp=Z,36nm,2.2s						
QIZ				pmax	pmax		
	comp=Z,460nm,5.3s						
QIZ				LR	LR		
	comp=Z,880nm,12.8s						
QIZ				LR	LR		
	comp=Z,880nm,16.3s						
QIZ				LR	LR		
	comp=Z,1μm,16.5s						
QIZ	**Qiongzhong**	**19.32**	**311**	P	**P**	**08 59 58.5**	**+0.2**
NGJI	**Ngawi**	**19.46**	**225**	P	**Pn**	**09 00 01.3**	**+0.3**
	comp=Z,3μmcomp=Z,136nm,1.3s						
AUDHS	**Darwin High Sc**	**19.76**	**163**		**Pn**	**09 00 03.8**	**-0.8**
TPI	**Tanjungpandan**	**19.77**	**242**	P	**Pn**	**09 00 04.7**	**-0.1**
	comp=Z,1μmcomp=Z,60nm,1.3s						
DRS	**Darwin Rock St**	**19.78**	**163**	P	**Pn**	**09 00 04.7**	**-0.1**
WOJI	**Wonogiri, Jawa**	**20.17**	**225**	P	**P**	**09 00 05.9**	**-1.6**
MTN	**Manton Dam**	**20.23**	**163**	P	**P**	**09 00 08.3**	**+0.1**
	comp=Z,81nm,1.2s						
MTN	**Manton Dam**	**20.23**	**163**		**P**	**09 00 07.6**	**-0.6**
PCJI	**Pacitan**	**20.24**	**224**	P	Pn	09 00 09.8	-0.5
	comp=Z,71nm,1.4s						
JOW	**Kunigami**	**20.33**	**8**	P	Pn	09 00 10.6	-0.7
	comp=Z,32nm,0.8s,baz=238,slow=16,SNR=4.2						
JOW				LR	LR	09 08 13.8	
	comp=Z,1μm,19.8s,baz=136,slow=37						
	comp=Z,32nm,0.8s						
KDU	**Kakadu**	**20.52**	**159**	P	**P**	**09 00 11.5**	**+0.1**
	comp=Z,36nm,1.2s						
GUMO	**Guam**	**20.63**	**69**	P	Pn	09 00 16.2	+1.3
	comp=Z,52nm,0.8s,baz=218,slow=5.2,SNR=5.4						
GUMO				LR	LR	09 06 40.8	
	comp=Z,778nm,21.8s,baz=242,slow=32						
	comp=Z,52nm,0.8s						
KPJI	**Karang Pucung**	**21.28**	**230**	P	**P**	**09 00 21.1**	**+1.5**
	comp=Z,2μmcomp=Z,95nm,1.7s						
TPRI	**Tanjung Pinang**	**21.31**	**255**	P	**P**	**09 00 23.2**	**+3.3**
DSRI	**Dabo**	**21.68**	**252**	P	**P**	**09 00 25.4**	**+1.5**
	comp=Z,73nm,1.3s						
MYKOM	**Kota Tinggi**	**21.74**	**258**	P	**P**	**09 00 23.4**	**-1.1**
MYKOM	**Kota Tinggi**	**21.74**	**258**	P	**P**	**09 00 26.6**	**+2.0**
BTDF	**Bukit Timah Da**	**21.92**	**257**	P	**P**	**09 00 28.9**	**+2.4**
LEM	**Lembang**	**21.98**	**233**	P	**P**	**09 00 30.6**	**+3.3**
	comp=Z,12nm,0.4s,baz=27,slow=7.1,SNR=8.3						
BBJI	**Bungbulang**	**22.35**	**232**	P	**P**	**09 00 32.6**	**+1.5**
KNRA	**Kununurra**	**22.44**	**171**	P	**P**	**09 00 31.3**	**-0.7**
	comp=Z,143nm,0.9s						
KNRA	**Kununurra**	**22.44**	**171**	P	**P**	**09 00 28.9**	**-3.2**
KNRA				IAmb	IAmb	09 00 42.9	
	comp=Z,99nm,0.8s						
SBJI	**Serang**	**22.79**	**237**	P	**P**	**09 00 37.1**	**+1.4**
	comp=Z,220nm,1.3s						
GULI	**GuiLin**	**23.32**	**324**	P	**P**	**09 00 41.4**	**+0.2**
GULI				S	**S**	**09 04 54.1**	**+0.9**
GULI				pmax	pmax		
	comp=Z,20nm,1.3s						
GULI				pmax	pmax		
	comp=Z,230nm,4.3s						
GULI				LR	LR		
	comp=Z,1μm,18.9s						
GULI				LR	LR		
	comp=Z,1μm,17.4s						
GULI				LR	LR		
	comp=Z,1μm,20.2s						
MDSI	**Maura Dua**	**23.64**	**243**	P	**P**	**09 00 46.5**	**+2.1**
	comp=Z,994nmcomp=Z,53nm,1.4s						
LHSI	**Lahat**	**23.93**	**245**	P	P	09 01 00.6	+13
LWLI	**Liwa**	**23.99**	**242**	P	P	09 01 07.1	+19
IPM	**Ipoh**	**24.08**	**266**	P	**P**	**09 00 47.5**	**-1.1**
IPM				IAmb	IAmb	09 00 59.9	
	comp=Z,192nm,1.7s						
IPM	**Ipoh**	**24.08**	**266**	P	**P**	**09 00 48.9**	**+0.3**
KULM	**Kulim**	**24.38**	**268**	P	**P**	**09 00 50.4**	**-0.9**
KULM	**Kulim**	**24.38**	**268**	P	**P**	**09 00 53.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.56**	**179**	P	**P**	**09 00 52.4**	**-0.5**
	comp=Z,18nm,1.8s						
FITZ	**Fitzroy Crossi**	**24.56**	**179**	P	**P**	**09 00 52.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.56**	**179**	LR	LR	09 12 16.0	
	comp=Z,384nm,21.1s,baz=15,slow=41						
FITZ	**Fitzroy Crossi**	**24.56**	**179**	P	**P**	**09 00 52.9**	**0.0**
SSE	**Sheshan**	**24.63**	**352**	P	**P**	**09 00 53.3**	**-0.1**
SSE				S	**S**	**09 05 16.8**	**+2.7**
SSE				pmax	pmax		
	comp=Z,15nm,0.9s						
SSE				pmax	pmax		
	comp=Z,250nm,5.0s						
SSE				LR	LR		
	comp=Z,320nm,18.7s						
SSE				LR	LR		
	comp=Z,570nm,18.1s						
MASI	**Maura Aman, Be**	**24.82**	**248**	P	**P**	**09 00 56.9**	**+1.6**
	comp=Z,3μmcomp=Z,121nm,1.5s						
KRJI	**Kerinci**	**25.15**	**251**	P	P	09 01 09.6	+11
SLVN	**Son La**	**25.20**	**308**	P	**P**	**09 00 58.0**	**-0.8**
SLVN				IAmb	IAmb	09 01 02.8	
	comp=Z,92nm,1.7s						
SLVN	**Son La**	**25.20**	**308**	P	**P**	**09 01 01.1**	**+2.3**
PPI	**Padang Panjang**	**25.65**	**255**	P	**P**	**09 01 04.6**	**+1.7**
	comp=Z,1μmcomp=Z,41nm,0.9s						
PDSI	**Padang**	**25.72**	**254**	P	**P**	**09 01 08.5**	**+4.9**
WHN	**Wuhan**	**25.86**	**338**	P	**P**	**09 01 07.0**	**+2.4**
NJ2	**Nanjing**	**25.97**	**348**	*e*P	**P**	**09 01 11.8**	**+6.2**
NJ2				sP	**sP**	**09 01 13.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,480nm,5.7s						
NJ2				LR	LR		
	comp=Z,670nm,18.9s						
NJ2				LR	LR		
	comp=Z,1μm,19.0s						
NJ2				LR	LR		
	comp=Z,1μm,21.3s						
JCJ	**Chichijima**	**26.04**	**37**	P	**P**	**09 01 05.0**	**-1.2**
JCJ	**Chichijima**	**26.04**	**37**	LR	LR	09 09 55.7	
	comp=Z,543nm,20.2s,baz=229,slow=33						
PSI	**Prapat**	**26.38**	**263**	LR	LR	09 13 09.6	
	comp=Z,550nm,20.0s,baz=102,slow=40						
JNU	**Nakatsue**	**26.91**	**11**	LR	LR	09 11 30.6	
	comp=Z,564nm,21.6s,baz=207,slow=36						
PMG	**Port Moresby**	**27.12**	**126**	P	**P**	**09 01 15.9**	**-0.2**
PMG				IAmb	IAmb	09 01 27.2	
	comp=Z,40nm,0.8s						
PMG	**Port Moresby**	**27.12**	**126**	P	**P**	**09 01 17.5**	**+1.4**
PMG	**Port Moresby**	**27.12**	**126**	P	**P**	**09 01 17.7**	**+1.6**
PMG	**Port Moresby**	**27.12**	**126**	⇑*i*P	**P**	**09 01 16.2**	**+0.1**
PMG				pmax	pmax		
	comp=Z,19nm,0.9s						
COEN	**Coen**	**27.18**	**139**	P	**P**	**09 01 20.2**	**+3.5**
COEN	**Coen**	**27.18**	**139**	P	**P**	**09 01 16.1**	**-0.6**
COEN				IAmb	IAmb	09 01 29.1	
	comp=Z,42nm,0.9s						
COEN	**Coen**	**27.18**	**139**	P	**P**	**09 01 18.6**	**+1.9**
KCSI	**Kotacane, Aceh**	**27.41**	**265**	P	**P**	**09 01 19.5**	**+0.7**
	comp=Z,558nmcomp=Z,28nm,1.1s						
WB0	**Warramunga Arr**	**27.76**	**161**	P	**P**	**09 01 20.8**	**-1.0**
WB0				IAmb	IAmb	09 01 40.7	
	comp=Z,63nm,1.1s						
WRAB	**Tennant Creek**	**27.90**	**161**	P	**P**	**09 01 21.6**	**-1.5**
WRAB				IAmb	IAmb	09 01 49.9	
	comp=Z,67nm,1.2s						
WRAB	**Tennant Creek**	**27.90**	**161**	P	**P**	**09 01 22.6**	**-0.5**
WRAB	**Tennant Creek**	**27.90**	**161**	*c iP*	**P**	**09 01 21.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,49nm,1.4s						
WR1	**Warramunga Arr**	**27.91**	**161**	P	**P**	**09 01 21.8**	**-1.3**
	comp=Z,58nm,1.1s						
WRA	**Warramunga Arr**	**27.91**	**161**	P	**P**	**09 01 21.4**	**-1.8**
WRA	**Warramunga Arr**	**27.91**	**161**	P	**P**	**09 01 22.1**	**-1.0**
	comp=Z,13nm,0.9s,baz=340,slow=8.6,SNR=42						
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**27.91**	**161**	*i* P	**P**	**09 01 21.8**	**-1.3**
WRA				pmax	pmax		
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**27.91**	**161**	P	**P**	**09 01 21.8**	**-1.3**
	comp=Z,61nm,1.1s						
WB1	**Warramunga Ar.**	**27.93**	**161**	P	**P**	**09 01 23.5**	**+0.2**
WR8	**Warramunga Arr**	**27.97**	**161**	P	**P**	**09 01 22.8**	**-0.9**
WR8				IAmb	IAmb	09 01 50.6	
	comp=Z,98nm,1.6s						
GSI	**Gunungsitoli**	**27.97**	**260**	P	**P**	**09 01 21.7**	**-2.1**
GSI	**Gunungsitoli**	**27.97**	**260**	P	**P**	**09 01 25.6**	**+1.8**
GSI	**Gunungsitoli**	**27.97**	**260**	P	P	09 01 31.9	+8.1
WR0	**Warramunga Arr**	**27.99**	**161**	P	**P**	**09 01 23.1**	**-0.8**
	comp=Z,43nm,1.4s						
CM31	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**09 01 23.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**09 01 24.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**09 01 23.3**	**-1.5**
	comp=Z,1.6nm,0.4s,baz=112,slow=8.6,SNR=3.3						
CMAR				LR	LR	09 11 59.3	
	comp=Z,354nm,21.6s,baz=90,slow=35						
	comp=Z,1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**09 01 24.4**	**-0.4**
MBWA	**Marble Bar**	**28.11**	**191**	P	**P**	**09 01 23.7**	**-1.1**
	comp=Z,42nm,1.3s						
MBWA	**Marble Bar**	**28.11**	**191**	P	**P**	**09 01 22.4**	**-2.4**
MBWA				IAmb	IAmb	09 01 25.4	
	comp=Z,70nm,1.4s						
MBWA	**Marble Bar**	**28.11**	**191**	P	**P**	**09 01 25.9**	**+1.0**
CHTO	**Chiang Mai**	**28.21**	**298**	P	**P**	**09 01 24.8**	**-1.1**
CHTO	**Chiang Mai**	**28.21**	**298**	P	**P**	**09 01 25.8**	**-0.1**
CHTO	**Chiang Mai**	**28.21**	**298**	P	**P**	**09 01 24.8**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,36nm,1.6s						
KMI	**Kunming**	**28.23**	**313**	P	**P**	**09 01 25.3**	**-1.0**
KMI				S	**S**	**09 06 18.4**	**+6.6**
KMI				pmax	pmax		
	comp=Z,25nm,1.1s						
KMI				LR	LR		
	comp=Z,780nm,17.1s						
KMI				LR	LR		
	comp=Z,430nm,20.1s						
KMI				LR	LR		
	comp=Z,920nm,21.6s						
PSAC1	**Pilbara Seismi**	**28.46**	**190**	P	**P**	**09 01 26.7**	**-1.3**
	comp=Z,55nm,1.3s						
PSAC2	**Pilbara Seismi**	**28.47**	**190**	P	**P**	**09 01 27.0**	**-1.2**
	comp=Z,54nm,1.4s						
PSA00	**Pilbara Seismi**	**28.49**	**190**	P	**P**	**09 01 26.8**	**-1.5**
	comp=Z,53nm,1.3s						
PSA00	**Pilbara Seismi**	**28.49**	**190**	P	**P**	**09 01 26.8**	**-1.5**
PSA00				IAmb	IAmb	09 01 28.9	
	comp=Z,100nm,1.4s						
PSA00	**Pilbara Seismi**	**28.49**	**190**	P	**P**	**09 01 26.8**	**-1.5**
PSA00				IAmb	IAmb	09 01 28.9	
	comp=Z,61nm,1.4s						
PSA00	**Pilbara Seismi**	**28.49**	**190**	P	**P**	**09 01 27.7**	**-0.6**
PSAB3	**Pilbara Seismi**	**28.51**	**190**	P	**P**	**09 01 27.3**	**-1.2**
	comp=Z,58nm,1.3s						
PZH	**PanZhiHua**	**29.78**	**314**	P	**P**	**09 01 39.8**	**-0.1**
PZH				S	**S**	**09 06 37.9**	**+2.0**
PZH				pmax	pmax		
	comp=Z,20nm,1.5s						
PZH				LR	LR		
	comp=Z,710nm,21.8s						
PZH				LR	LR		
	comp=Z,570nm,20.7s						
PZH				LR	LR		
	comp=Z,750nm,22.0s						
LYN	**LuoYang**	**30.15**	**339**	P	**P**	**09 01 46.3**	**+3.4**
LYN				S	**S**	**09 06 41.9**	**+0.6**
LYN				sS	sS	09 06 56.8	+6.7
LYN				SS	**ScP**	**09 08 24.9**	**-1.0**
LYN				pmax	pmax		
	comp=Z,15nm,1.1s						
LYN				LR	LR		
	comp=Z,1μm,20.3s						
LYN				LR	LR		
	comp=Z,1μm,22.7s						
LYN				LR	LR		
	comp=Z,2μm,24.9s						
TIA	**Tai'an**	**30.35**	**347**	P	**P**	**09 01 43.0**	**-1.7**
TIA				S	**S**	**09 06 39.5**	**-4.9**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TIA				LR	LR		
	comp=Z,550nm,13.7s						
TIA				LR	LR		
	comp=Z,640nm,17.2s						
TIA				LR	LR		
	comp=Z,900nm,19.6s						
QIS	**Mount Isa**	**30.53**	**153**	P	**P**	**09 01 45.8**	**-0.6**
	comp=Z,50nm

MAJO pmax pmax
comp=Z,14nm,1.1s
DL2 Dalian 32.30 355 P **P** **09 02 03.6 +1.8**
DL2 S **S** **09 07 14.1 -0.6**
DL2 pmax pmax
comp=Z,51nm,0.9s
DL2 pmax pmax
comp=Z,280nm,11.5s
DL2 LR LR
comp=Z,890nm,17.9s
DL2 LR LR
comp=Z,870nm,17.6s
DL2 LR LR
comp=Z,780nm,19.0s
TV1H Townsville Har 33.42 141 P **P** **09 02 13.6 +1.8**
MEEK Meekatharra 33.65 191 P **P** **09 02 12.3 -1.6**
comp=Z,21nm,1.6s
MEEK Meekatharra 33.65 191 P **P** **09 02 15.4 +1.6**
CTA Charters Tower 33.71 142 LR LR 09 15 49.0
comp=Z,16nm,19.5s,baz=346,slow=36
JMM Marumori 34.21 22 P **P** **09 02 17.9 -0.5**
JMM IAmb IAmb 09 02 30.9
comp=Z,38nm,1.0s
JMM Marumori 34.21 22 P **P** **09 02 20.1 +1.6**
BJT Baijiatuau 34.22 348 P **P** **09 02 17.8 -0.7**
BJT IAmb IAmb 09 02 26.4
comp=Z,57nm,1.4s
BJT Baijiatuau 34.22 348 P **P** **09 02 20.1 +1.6**
BJT Baijiatuau 34.22 348 P **P** **09 02 17.8 -0.7**
BJT pmax pmax
comp=Z,57nm,1.4s
BJI Beijing 34.23 348 P **P** **09 02 19.1 +0.5**
BJI S **S** **09 07 48.3 +3.5**
BJI pmax pmax
comp=Z,14nm,1.1s
BJI LR LR
comp=Z,150nm,21.2s
BJI LR LR
comp=Z,350nm,21.9s
BJI LR LR
comp=Z,260nm,18.6s
SNY Shenyang 35.09 358 ⇑P **P** **09 02 27.3 +1.3**
SNY S **S** **09 07 54.5 -3.4**
SNY pmax pmax
comp=Z,38nm,1.0s
SNY pmax pmax
comp=Z,120nm,4.8s
SNY LR LR
comp=Z,420nm,22.7s
SNY LR LR
comp=Z,470nm,12.8s
SNY LR LR
comp=Z,500nm,22.3s
LZDM Lanzhou Array 35.19 329 P **P** **09 02 27.4 -0.1**
comp=Z,6.3nm,0.7s,baz=160,slow=9.5,SNR=4.8
LZDM LR LR 09 17 20.8
comp=Z,362nm,20.7s,baz=205,slow=37
comp=Z,6.3nm,0.7s
LZH Lanzhou 35.22 329 *e*P **P** **09 02 28.5 +1.0**
LZH sP sP 09 02 36.8 +1.8
LZH S **S** **09 08 02.0 +1.6**
LZH pmax pmax
comp=Z,30nm,1.3s
LZH pmax pmax
comp=Z,210nm,3.9s
LZH LR LR
comp=Z,930nm,15.2s
LZH LR LR
comp=Z,950nm,16.8s
LZH LR LR
comp=Z,1μm,18.4s
BRDH Bariadhala 35.98 300 LR LR 09 19 25.0
comp=Z,598nm,18.9s,baz=118,slow=40
HHC Hu-ho-hao-te 36.18 342 *e*P **P** **09 02 37.5 +1.9**
HHC sP sP 09 02 45.4 +2.2
HHC PP **PP** **09 04 06.8 +8.8**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,200nm,4.0s
HHC LR LR
comp=Z,840nm,22.1s
HHC LR LR
comp=Z,640nm,21.6s
HHC LR LR
comp=Z,2μm,21.9s
BTO Baotou 36.44 340 *e*P **P** **09 02 39.0 +1.2**
BTO pP **pP** **09 02 43.4 +0.3**
BTO sP **sP** **09 02 46.0 +0.6**
BTO S **S** **09 08 23.4 +4.4**
BTO sS **sS** **09 08 31.8 +4.1**
BTO SS **SnSn** **09 10 48.5 +0.8**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,290nm,8.1s
BTO LR LR
comp=Z,2μm,23.9s
BTO LR LR
comp=Z,2μm,22.8s
BTO LR LR
comp=Z,3μm,23.3s
MORW Morawa 36.54 193 P **P** **09 02 39.0 +0.4**
SHL Shillong 36.91 304 IAmb IAmb 09 02 45.5
comp=Z,80nm,1.0s
FORT Forrest 37.29 176 P **P** **09 02 41.7 -3.2**
QLP Quilpie 37.85 151 P **P** **09 02 51.4 +1.6**
KMBL Kambalda 37.90 185 P **P** **09 02 48.8 -1.3**
comp=Z,26nm,1.4s
USRK Ussuriysk Ar. 37.91 8 P **P** **09 02 51.2 +1.1**
comp=Z,5.8nm,0.6s,baz=180,slow=7.1,SNR=12
comp=Z,5.8nm,0.6s
XLT XiLinHaoTe 37.97 349 *e*P **P** **09 02 51.5 +0.8**
XLT sP sP 09 02 57.8 -0.6
XLT S **S** **09 08 45.8 +3.7**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,200nm,4.6s
XLT LR LR
comp=Z,720nm,18.8s
XLT LR LR
comp=Z,380nm,24.5s
MDJ Mudanjiang 38.05 5 P **P** **09 02 52.1 +0.8**
MDJ S **S** **09 08 44.4 +1.3**
MDJ pmax pmax
comp=Z,27nm,1.6s
MDJ pmax pmax
comp=Z,270nm,3.6s
MDJ LR LR
comp=Z,650nm,20.3s
MDJ LR LR
comp=Z,370nm,14.6s
MDJ LR LR
comp=Z,840nm,20.0s
MDJ Mudanjiang 38.05 5 P **P** **09 02 50.8 -0.5**
MDJ IAmb IAmb 09 03 00.5
comp=Z,122nm,1.7s
MDJ Mudanjiang 38.05 5 P **P** **09 02 54.4 +3.1**
HNR Honiara 38.19 114 LR LR 09 19 08.4
comp=Z,154nm,18.1s,baz=300,slow=37
AUNRC North Rockhamp 38.78 141 P **P** **09 02 59.8 +2.2**
BNX BinXian 39.02 3 ⇓P **P** **09 03 00.3 +0.9**
BNX pP **pP** **09 03 03.1 -1.7**
BNX sP **sP** **09 03 04.8 -2.3**
BNX S **S** **09 09 01.5 +3.7**
BNX pmax pmax
comp=Z,22nm,1.6s
BNX pmax pmax
comp=Z,240nm,5.7s
BNX LR LR
comp=Z,340nm,22.8s
BNX LR LR
comp=Z,340nm,21.1s
BNX LR LR
comp=Z,730nm,17.3s
LSA Lhasa 39.35 310 P **P** **09 03 01.1 -1.9**
LSA S **S** **09 09 02.9 -1.2**
LSA LR LR
comp=Z,260nm,15.1s
LSA LR LR
comp=Z,200nm,15.8s
LSA LR LR
comp=Z,330nm,19.2s
LSA Lhasa 39.35 310 P **P** **09 03 02.3 -0.7**
LSA Lhasa 39.35 310 P **P** **09 03 02.3 -0.7**

LSA pmax pmax
comp=Z,27nm,1.1s
TEY Ternei 39.56 13⇓*e*P **P** **09 03 02.8 -1.1**
TEY pmax pmax
comp=Z,100nm,4.0s
GTA Gaotai 39.81 329 *e*P **P** **09 03 07.6 +1.3**
GTA pP pP 09 03 11.4 -0.2
GTA S **S** **09 09 13.3 +3.2**
GTA SS **SnSn** **09 12 11.3 +2.1**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,190nm,7.2s
GTA LR LR
comp=Z,530nm,21.5s
GTA LR LR
comp=Z,580nm,19.1s
GTA LR LR
comp=Z,890nm,23.9s
NWAO Narrogin (SRO) 40.03 190 **P** **09 03 06.8 -1.2**
NWAO IAmb IAmb 09 03 09.2
comp=Z,94nm,1.4s
NWAO Narrogin (SRO) 40.03 190 LR LR 09 21 13.2
comp=Z,289nm,21.4s,baz=66,slow=39
NWAO Narrogin (SRO) 40.03 190 P **P** **09 03 08.1 +0.1**
NWAO Narrogin (SRO) 40.03 190 P **P** **09 03 09.3 +1.3**
NWAO Narrogin (SRO) 40.03 190 P **P** **09 03 06.8 -1.2**
NWAO pmax pmax
comp=Z,94nm,1.4s
ASAJ Asahikawa 40.37 20 LR LR 09 19 29.4
comp=Z,562nm,19.6s,baz=222,slow=36
GOMU GeErMu 40.45 321 P **P** **09 03 12.8 +0.9**
GOMU pP pP 09 03 16.5 -0.8
GOMU sP sP 09 03 20.0 +0.5
GOMU S **S** **09 09 23.5 +3.4**
GOMU pmax pmax
comp=Z,3.0nm,0.4s
GOMU LR LR
comp=Z,760nm,16.7s
GOMU LR LR
comp=Z,610nm,16.8s
GOMU LR LR
comp=Z,540nm,16.7s
BBOO Buckleboo 40.57 166 P **P** **09 03 11.6 -0.8**
BBOO Buckleboo 40.57 166 P **P** **09 03 12.3 -0.1**
WHYH Whyalla 41.17 164 P **P** **09 03 18.6 +1.2**
STKA Stephens Creek 41.38 159 P **P** **09 03 18.6 -0.5**
STKA Stephens Creek 41.38 159 P **P** **09 03 19.0 -0.2**
comp=Z,34nm,1.0s,baz=339,slow=7.8,SNR=26
STKA LR LR 09 21 30.6
comp=Z,217nm,19.7s,baz=337,slow=38
comp=Z,34nm,1.0s
STKA Stephens Creek 41.38 159 P **P** **09 03 19.2 0.0**
STKA Stephens Creek 41.38 159 *i*P **P** **09 03 18.6 -0.5**
AUJCS Jamestown Cent 41.62 163 P **P** **09 03 22.4 +1.3**
AUCAS Cummins Area S 41.87 167 P **P** **09 03 24.1 +1.0**
HTT Hallett 41.93 163 P **P** **09 03 23.8 +0.1**
HTT Hallett 41.93 163 P **P** **09 03 22.1 -1.6**
EVN Everest 42.01 305 P **P** **09 03 24.8 -0.4**
AULRC Lightning Ridg 42.05 150 P **P** **09 03 24.8 +0.2**
CMSA Cobar Meteorol 42.73 154 P **P** **09 03 31.3 +1.1**
HIA Hailar 42.75 355 P **P** **09 03 31.6 +1.5**
YSS Yuzhno-Sakhali 42.95 18 *e*P **P** **09 03 31.8 +0.1**
YSS *e*S **S** **09 09 55.2 -0.9**
YSS *e*SS **SS** **09 13 02.6 -5.6**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS pmax pmax
comp=Z,200nm,5.7s
YSS smax smax
comp=N,200nm,6.5s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=E,300nm,16.0s
HILR Hailar Array B 43.03 355 P **P** **09 03 33.5 +1.1**
comp=E,5.8nm,0.7s,baz=165,slow=11,SNR=8.2
HILR LR LR 09 22 09.4
comp=E,456nm,21.2s,baz=130,slow=37
comp=E,5.8nm,0.7s
AUMAR Marden Senior 43.21 164 P **P** **09 03 35.0 +1.0**
HEH HeiHe 43.53 2 *e*P **P** **09 03 36.8 +0.4**
HEH pP **pP** **09 03 39.9 -2.0**
HEH S **S** **09 10 02.8 -1.8**
HEH pmax pmax
comp=E,21nm,1.2s
HEH pmax pmax
comp=E,330nm,5.1s
HEH LR LR
comp=E,570nm,18.7s
HEH LR LR
comp=E,660nm,16.0s
HEH LR LR
comp=E,720nm,19.2s
AUMBR Murray Bridge 43.62 163 P **P** **09 03 39.0 +1.7**
ULN Ulaanbaatar 43.90 342 P **P** **09 03 39.4 -0.3**
ULN Ulaanbaatar 43.90 342⇑*i*P **P** **09 03 39.6 0.0**
ULN pmax pmax
comp=Z,12nm,1.6s
SONM Songino Array 44.07 342 P **P** **09 03 40.8 -0.2**
SONM Songino Array 44.07 342 P **P** **09 03 40.6 -0.4**
comp=Z,1.3nm,0.8s,baz=159,slow=7.6,SNR=7.5
SONM LR LR 09 22 51.7
comp=Z,1μm,21.6s,baz=156,slow=37
comp=Z,1.3nm,0.8s
SONM Songino Array 44.07 342 P **P** **09 03 40.8 -0.2**
SONM pmax pmax
comp=Z,24nm,1.4s
PALK Pallekele 44.09 274 LR LR 09 23 41.0
comp=Z,187nm,18.8s,baz=82,slow=39
ARMA Armidale 44.74 147 **P** **09 03 46.0 -0.6**
GRNR Gornyy 45.01 10⇑*i*P **P** **09 03 49.3 +1.1**
GRNR pmax pmax
comp=Z,5.0nm,1.0s
GRNR MLR MLR
comp=Z,400nm,16.0s
TYV Tymovskoe 46.46 15 *e*P **P** **09 04 00.4 +0.7**
TYV pmax pmax
comp=Z,10.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.1s
HYB Hyderabad 46.68 288 *e*P **P** **09 04 00.7 -1.3**
HYB IVmB_BB 09 04 05.0
comp=Z,448nm,3.0s
HYB *e*PP **PP** **09 05 50.2 -1.7**
HYB *e*S **S** **09 10 50.1 -1.0**
HYB *e*ScS **ScS** **09 13 55.5 -1.4**
HYB IVMs_BB IVMs_BB 09 26 54.4
comp=Z,161nm,10.8s
ZEA Zeya 47.01 2 *e*P **P** **09 04 06.1 +2.1**
ZEA *e* 09 05 41.5
ZEA *e* 09 05 55.9
ZEA pmax pmax
comp=Z,100nm,5.0s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 47.29 341 *e*P **P** **09 04 05.1 -1.3**
ZAK pmax pmax
comp=Z,12nm,1.9s
BRAT Ballarat 47.32 160 P **P** **09 04 08.2 +1.7**
AUMTS Mt Stromlo 47.39 153 P **P** **09 04 09.2 +1.9**
CAN Canberra 47.39 153 **P** **09 04 06.6 -0.7**
CAN Canberra 47.39 153 P **P** **09 04 10.0 +2.7**
CAN Canberra 47.39 153 P **P** **09 04 06.6 -0.7**
CAN pmax pmax
comp=Z,69nm,1.5s
CNB Canberra Magne 47.55 153 P **P** **09 04 10.8 +2.3**
TOO Toolangi 47.90 158 **P** **09 04 09.4 -1.7**
TOO IAmb IAmb 09 04 14.6
comp=Z,30nm,1.2s
TOO Toolangi 47.90 158 P **P** **09 04 09.4 -1.7**
TOO pmax pmax
comp=Z,30nm,1.3s
WMQ Urumqi 49.46 325 *e*P **P** **09 04 25.1 +1.9**
WMQ S **S** **09 11 33.3 +3.4**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,160nm,3.9s
WMQ LR LR
comp=Z,970nm,20.7s
WMQ LR LR
comp=Z,790nm,19.7s
WMQ LR LR
comp=Z,590nm,20.7s

YATNC Mamie plateau, 49.86 126 P **P** **09 04 28.0 +1.5**
ZSN Zaisan 53.23 327 *e*P **P** **09 04 51.6 +0.3**
ZSN Zaisan 53.23 327 *e*P **P** **09 04 51.6 +0.3**
PEA0B Petropavlovsk- 53.41 24 P **P** **09 04 51.8 -0.7**
PEA0B Petropavlovsk- 53.41 24*d i*P **P** **09 04 53.5 +0.9**
PETK Petropavlovsk- 53.41 24 **P** **09 04 52.3 -0.3**
PETK Petropavlovsk- 53.41 24 P **P** **09 04 53.5 +0.9**
comp=Z,4.6nm,0.5s,baz=207,slow=4.2,SNR=16
PETK LR LR 09 27 33.0
comp=Z,506nm,20.0s,baz=221,slow=36
comp=Z,4.6nm,0.5s
PET Petropavlovsk 53.74 24 P **P** **09 04 54.8 -0.1**
PET Petropavlovsk 53.74 24 P **P** **09 04 56.6 +1.7**
PET Petropavlovsk 53.74 24 *e*P **P** **09 04 56.0 +1.1**
PET *e*S **S** **09 12 30.2 +1.8**
PET *e*SS **SKiKP** **09 16 08.1 -0.8**
PET pmax pmax
comp=Z,100nm,9.9s
PET pmax pmax
comp=Z,51nm,1.6s
PET pmax pmax
comp=Z,100nm,14.8s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 53.74 24 P **P** **09 04 54.5 -0.4**
comp=Z,47nm,1.6s
SHLS Shalkode 54.12 320 *e*P **P** **09 04 56.0 -2.1**
comp=Z,18nm,1.1s
SHLS Shalkode 54.12 320 *e*P **P** **09 04 56.0 -2.1**
SHLS pmax pmax
comp=Z,18nm,1.1s
MK31 Makanchi Array 54.29 325⇑*i*P **P** **09 04 58.8 -0.3**
MKAR Makanchi Array 54.29 325 P **P** **09 04 58.5 -0.6**
comp=Z,3.5nm,0.6s,baz=122,slow=8.3,SNR=22
MKAR LR LR 09 28 55.9
comp=Z,427nm,21.2s,baz=124,slow=37
comp=Z,3.5nm,0.6s
MKAR Makanchi Array 54.29 325 *i*P **P** **09 04 58.7 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 54.47 325 P **P** **09 05 00.0 -0.5**
MAKZ IAmb IAmb 09 05 05.2
comp=Z,70nm,1.7s
MAKZ Makanchi 54.47 325 P **P** **09 05 00.0 -0.5**
MAKZ pmax pmax
comp=Z,70nm,1.7s
TARG Taragay, Kyrgy 54.55 318 IAmb IAmb 09 07 02.7
comp=Z,15nm,0.7s
SATY Saty 54.75 319 *e*P **P** **09 05 02.7 -0.1**
comp=Z,16nm,1.1s
SATY Saty 54.75 319 *e*P **P** **09 05 02.6 -0.1**
SATY pmax pmax
comp=Z,16nm,1.1s
KSH Kashi 54.89 314 P **P** **09 05 06.3 +2.6**
KSH pmax pmax
comp=Z,20nm,1.6s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,450nm,18.2s
KSH LR LR
comp=Z,340nm,15.8s
KSH LR LR
comp=Z,510nm,15.8s
NIL Nilore 54.91 307 **P** **09 05 02.8 -1.1**
NIL Nilore 54.91 307 P **P** **09 05 02.8 -1.1**
NIL pmax pmax
comp=Z,87nm,1.6s
KDJ Kajisay 55.14 318 **P** **09 05 04.6 -1.0**
KDJ IAmb IAmb 09 05 11.3
comp=Z,28nm,1.2s
KDJ Kajisay 55.14 318 P **P** **09 05 04.6 -1.0**
KDJ pmax pmax
comp=Z,28nm,1.2s
YAK Yakutsk 55.40 3 P **P** **09 05 07.3 +0.5**
YAK Yakutsk 55.40 3 LR LR 09 29 27.3
comp=Z,347nm,20.8s,baz=191,slow=37
YAK Yakutsk 55.40 3 *e*P **P** **09 05 06.3 -0.5**
YAK *e* 09 06 05.0
YAK *e* 09 07 09.8
YAK *e*PPP PPP 09 08 25.9
YAK *e*S **S** **09 12 52.1 +1.6**
YAK *e* 09 14 55.9
YAK *e*SS **SS** **09 16 36.5 +1.3**
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=Z,84nm,3.5s
YAK pmax pmax
comp=E,44nm,3.1s
YAK pmax pmax
comp=N,30nm,1.8s
YAK smax smax
comp=E,60nm,3.7s
YAK smax smax
comp=N,51nm,3.1s
YAK MLR MLR
comp=Z,331nm,18.0s
YAK MLR MLR
comp=N,210nm,19.0s
YAK MLR MLR
comp=E,92nm,17.0s
TDK Taldyqorghan 55.67 321 *e*P **P** **09 05 09.2 0.0**
comp=E,28nm,1.5s
TDK Taldyqorghan 55.67 321 *e*P **P** **09 05 09.2 0.0**
TDK pmax pmax
comp=Z,28nm,1.5s
MDOK Medeo 55.69 319 *e*P **P** **09 05 09.1 -0.4**
MDOK Medeo 55.69 319 *e*P **P** **09 05 09.1 -0.4**
TNSS Tian-Shan 55.70 319 *e*P **P** **09 05 09.0 -0.8**
TNSS Tian-Shan 55.70 319 *e*P **P** **09 05 09.0 -0.8**
AAA Alma-Ata 55.80 319 *e*P **P** **09 05 09.9 -0.2**
AAA Alma-Ata 55.80 319 *e*P **P** **09 05 09.9 -0.2**
BOOM Boomskoye usch 56.13 318 **P** **09 05 12.0 -0.6**
BOOM IAmb IAmb 09 05 31.6
comp=Z,45nm,1.7s
BOOM Boomskoye usch 56.13 318 P **P** **09 05 12.0 -0.6**
BOOM pmax pmax
comp=Z,45nm,1.7s
AAK Ala-Archa 57.16 317 **P** **09 05 19.1 -0.9**
AAK Ala-Archa 57.16 317 LR LR 09 31 39.9
comp=Z,385nm,21.0s,baz=107,slow=38
AAK Ala-Archa 57.16 317⇑*i*P **P** **09 05 20.1 +0.1**
AAK pmax pmax
comp=Z,25nm,2.8s
ZAA0 Zalesovo Array 57.30 333 P **P** **09 05 19.3 -1.2**
ZALV Zalesovo Beam 57.30 333 P **P** **09 05 19.7 -0.8**
comp=Z,0.8nm,0.5s,baz=116,slow=6.8,SNR=5.2
ZALV LR LR 09 30 59.4
comp=Z,255nm,21.3s,baz=132,slow=37
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 57.30 333 *i*P **P** **09 05 20.7 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
SGDS Sogindy 57.40 318 *e*P **P** **09 05 21.2 -0.4**
MSVF Nonsavu 57.58 116 **P** **09 05 22.1 -1.1**
MSVF Nonsavu 57.58 116 P **P** **09 05 24.8 +1.6**
MSVF Nonsavu 57.58 116 P **P** **09 05 22.1 -1.1**
MSVF pmax pmax
comp=Z,115nm,1.8s
ARSB Arslanbob 57.69 315 **P** **09 05 23.5 -0.2**
ARSB IAmb IAmb 09 05 34.3
comp=Z,69nm,1.8s
ARSB Arslanbob 57.69 315 P **P** **09 05 23.5 -0.2**
ARSB pmax pmax
comp=Z,69nm,1.8s
KURBB Kurchatov Arra 58.46 327 **P** **09 05 27.9 -0.8**
comp=Z,12nm,0.9s,baz=128,slow=6.0,SNR=35
KURBB LR LR 09 32 59.9
comp=Z,237nm,18.6s,baz=170,slow=38
comp=Z,12nm,0.9s
KURK Kurchatov 58.46 327 P **P** **09 05 27.0 -1.7**
KURK IAmb IAmb 09 05 32.2
comp=Z,26nm,1.0s
KURK Kurchatov 58.46 327⇑*i*P **P** **09 05 27.7 -1.0**
KURK pmax pmax
comp=Z,42nm,1.1s
KBL Kabul 58.52 307 P **P** **09 05 29.0 -0.7**
KBL Kabul 58.52 307 P **P** **09 05 29.0 -0.7**
KBL pmax pmax
comp=Z,16nm,1.2s
GAR Garm 58.81 312 P **P** **09 05 30.9 -0.6**

DZA	Taraz	59.41	316	eP	P	09 05 35.6	0.0
	comp=Z,5.6nm,0.7s						
DZA	Taraz	59.41	316	eP	P	09 05 35.5	0.0
DZA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHGR	Chuyangaron	59.56	311	P	P	09 05 35.8	-1.0
CHGR	Chuyangaron	59.56	311	P	P	09 05 35.8	-1.0
CHGR				pmax	pmax		
	comp=Z,145nm,1.9s						
SEY	Seymchan	59.62	14	LR	LR	09 30 43.1	
	comp=Z,272nm,21.5s,baz=216,slow=35						
SEY	Seymchan	59.62	14	eP	P	09 05 37.2	+0.7
SEY				pmax	pmax		
	comp=Z,31nm,1.7s						
IUG	Iuzhnay	60.05	315	eP	P	09 05 39.8	-0.2
	comp=Z,8.9nm,1.0s						
IUG	Iuzhnay	60.05	315	eP	P	09 05 39.8	-0.2
IUG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KK31	Karatay Array	60.05	316	P	P	09 05 39.0	-0.9
KK31				IAmb	IAmb	09 05 44.4	
	comp=Z,60nm,1.9s						
KK31	Karatay Array	60.05	316	P	P	09 05 39.0	-0.9
KK31				pmax	pmax		
	comp=Z,60nm,1.9s						
KKAR	Karatay Array	60.05	316	P	P	09 05 39.0	-0.9
KKAR	Karatay Array	60.05	316	P	P	09 05 39.0	-0.9
CHM	Chimkent	60.40	315	eP	P	09 05 42.3	-0.1
	comp=Z,8.8nm,0.6s						
CHM	Chimkent	60.40	315	eP	P	09 05 42.3	-0.1
CHM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRLS	Borolday	60.48	316	eP	P	09 05 42.6	-0.4
	comp=Z,22nm,1.9s						
BRLS	Borolday	60.48	316	eP	P	09 05 42.5	-0.4
BRLS				pmax	pmax		
	comp=Z,22nm,1.9s						
BVAR	Borovoye Array	64.04	327	P	P	09 06 05.6	-0.9
	comp=Z,12nm,1.1s						
BVAR				LR	LR	09 34 29.8	
	comp=Z,296nm,20.5s,baz=110,slow=37						
	comp=Z,12nm,1.1s						
BORK	Borovoye	64.09	327⇑	iP	P	09 06 05.3	-1.5
BORK				pmax	pmax		
	comp=Z,22nm,0.9s						
THZ	Tophouse	64.95	142	P	P	09 06 11.9	-0.7
TIXI	Tiksi	65.00	1		P	09 06 12.0	-0.4
TIXI				IAmb	IAmb	09 06 39.3	
	comp=Z,35nm,1.5s						
TIXI	Tiksi	65.00	1	LR	LR	09 36 16.2	
	comp=Z,486nm,20.0s,baz=200,slow=38						
TIXI	Tiksi	65.00	1	P	P	09 06 12.0	-0.4
TIXI				pmax	pmax		
	comp=Z,35nm,1.5s						
RPZ	Rata Peaks	65.03	145	LR	LR	09 34 53.7	
	comp=Z,260nm,19.9s,baz=44,slow=36						
RAO	Raoul Island	65.31	126	LR	LR	09 33 52.0	
	comp=Z,67nm,21.6s,baz=298,slow=35						
URZ	Urewera	65.73	137	LR	LR	09 34 53.0	
	comp=Z,74nm,20.9s,baz=302,slow=36						
BKZ	Black Stump Fm	65.79	138	P	P	09 06 20.5	+2.3
RTZ	Ruatahuna	65.83	138		P	09 06 20.4	+1.9
BILL	Bilibino	67.20	16⇑	iP	P	09 06 29.2	+2.5
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AB31	Akbulak array	68.92	320		P	09 06 36.8	-1.0
AB31				IAmb	IAmb	09 06 50.0	
	comp=Z,16nm,1.1s						
ABKAR	Akbulak array	68.92	320		P	09 06 36.6	-1.1
NIKH	Nikolski High	70.41	36	P	P	09 06 46.4	-0.5
	baz=254						
AKTO	Aktyubinsk	70.42	321	LR	LR	09 40 25.5	
	comp=Z,348nm,19.5s,baz=103,slow=38						
SVE	Sverdlovsk	70.68	328	eP	P	09 06 49.3	+0.8
SVE				pmax	pmax		
	comp=Z,25nm,1.3s						
SPIA	Saint Paul Isl	70.86	31	P	P	09 06 49.4	-0.2
	baz=252						
P08K	Saint George I	71.05	32	P	P	09 06 49.9	-0.9
	baz=253						
ARTI	Arti	71.74	327		P	09 06 53.7	-1.3
ARTI				IAmb	IAmb	09 06 57.7	
	comp=Z,33nm,1.6s						
ARTI	Arti	71.74	327	LR	LR	09 39 41.9	
	comp=Z,266nm,21.7s,baz=101,slow=37						
ARTI	Arti	71.74	327⇓	iP	P	09 06 53.6	-1.3
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
UNV	Unalaska Valle	71.99	35	P	P	09 06 55.0	-1.4
	baz=256						
GAMB	Gambell	72.44	25	P	P	09 06 58.0	-0.9
	baz=248						
M11K	Mekoryuk	73.81	29	P	P	09 07 06.6	-0.5
	baz=254						
FALS	False Pass	73.98	35	P	P	09 07 07.3	-0.9
	baz=258						
TNA	Tin City	74.58	23	P	P	09 07 10.8	-0.7
	baz=252						
S12K	Black Hills	74.90	34	P	P	09 07 12.8	-0.8
	baz=260						
K13K	Kusilvak Mount	74.94	27	P	P	09 07 13.3	-0.3
	baz=256						
F14K	Arctic Creek	75.19	24	P	P	09 07 14.4	-0.6
	baz=253						
M13K	Dall Lake	75.19	29	P	P	09 07 14.6	-0.6
	baz=257						
ANM	Nome	75.32	25	P	P	09 07 14.8	-1.0
	baz=254						
J14K	Nanvaranak Lak	75.64	27	P	P	09 07 16.6	-1.0
	baz=256						
L14K	Kuka Creek	75.72	28	P	P	09 07 17.5	-0.6
	baz=258						
SDPT	Sand Point	75.73	35	P	P	09 07 17.6	-0.7
	baz=261						
N14K	Kuskokwak Cree	75.90	30	P	P	09 07 17.9	-1.3
	baz=259						
F15K	North Star Dit	75.92	24	P	P	09 07 18.0	-1.2
	baz=255						
M14K	Bethel	75.94	29	P	P	09 07 18.7	-0.7
	baz=258						
G15K	Niukluk	75.98	24	P	P	09 07 18.7	-0.9
	baz=255						
O14K	Tigyukauivet M	75.98	31	P	P	09 07 18.8	-0.9
	baz=259						
CHNA	Chernabura Isl	76.15	35	P	P	09 07 19.7	-1.1
	baz=262						
L15K	Ungalak Mounta	76.35	28	P	P	09 07 20.9	-0.8
	baz=258						
C16K	Lisburne Hills	76.38	21	P	P	09 07 20.6	-1.2
	baz=253						
K15K	Wolf Creek Mou	76.45	27	P	P	09 07 21.4	-1.0
	baz=258						
MAK	Makhachkala	76.46	312	eP	P	09 07 15.9	-6.9
MAK				eS	S	09 16 57.8	-10
MAK				eSS	SS	09 21 59.0	-3.5
MAK				eSSS	SSS	09 25 19.5	
MAK				pmax	pmax		
	comp=Z,134nm,1.5s						
MAK				MLR	MLR		
	comp=Z,179nm,19.0s						
M15K	Kasigluk River	76.54	29	P	P	09 07 21.5	-1.3
	baz=259						
H16K	Elim	76.64	25	P	P	09 07 21.9	-1.5
	baz=257						
O15K	Ungalikthiuk R	76.70	31	P	P	09 07 22.3	-1.5
	baz=260						
N15K	Kwethluk River	76.73	30	P	P	09 07 22.4	-1.6
	baz=260						
G16K	Koyuk River	76.77	24	P	P	09 07 22.6	-1.5
	baz=257						
KIRV	Kirov	76.94	329	LR	LR	09 43 45.0	
	comp=Z,292nm,20.7s,baz=104,slow=38						
KIRV	Kirov	76.94	329	ceP	P	09 07 27.1	+2.0
D17K	Noatak River	77.04	22	P	P	09 07 24.2	-1.3
	baz=256						
J16K	Anvik River	77.07	27	P	P	09 07 24.7	-1.1
	baz=259						
I17K	Unalakleet	77.14	26	P	P	09 07 24.8	-1.4
	baz=259						
RDOG	Red Dog Mine	77.19	22	IAmb	IAmb	09 07 45.6	
	comp=Z,30nm,1.2s						
RDOG	Red Dog Mine	77.19	22	P	P	09 07 25.4	-1.0
	baz=256						
C17K	DeLong Mountai	77.20	21	P	P	09 07 25.2	-1.3
	baz=255						
L16K	Owhat River	77.30	28	P	P	09 07 25.9	-1.2
	baz=260						
E17K	Hotham Inlet	77.36	23	P	P	09 07 26.4	-1.0
	baz=257						
M16K	Timber Creek	77.43	29	P	P	09 07 26.7	-1.1
	baz=261						
N16K	Nishlik Lake	77.43	30	P	P	09 07 26.9	-1.1
	baz=261						
F17K	Baldwin Pennin	77.45	23	P	P	09 07 26.7	-1.1
	baz=258						
G17K	Kiwalik Mounta	77.49	24	P	P	09 07 26.9	-1.2
	baz=258						
P16K	Nushagak River	77.61	31	P	P	09 07 27.4	-1.5
	baz=262						
R16K	Pilot Point	77.64	33	P	P	09 07 27.6	-1.5
	baz=263						
O16K	Kokwok River B	77.64	30	P	P	09 07 27.6	-1.5
	baz=262						
H17K	Granite Mounta	77.68	25	IAmb	IAmb	09 07 38.4	
	comp=Z,26nm,1.2s						
H17K	Granite Mounta	77.68	25	P	P	09 07 27.7	-1.5
	baz=259						
J17K	VABM Dome	77.77	27	P	P	09 07 28.1	-1.6
	baz=260						
RAYN	Ar Rayn	77.89	293		P	09 07 30.2	-1.1
RAYN	Ar Rayn	77.89	293	P	P	09 07 30.2	-1.1
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
B18K	Kokolik River	77.90	20	P	P	09 07 29.0	-1.3
	baz=256						
E18K	Tukpahlearik C	77.90	22	IAmb	IAmb	09 07 50.5	
	comp=Z,21nm,1.0s						
E18K	Tukpahlearik C	77.90	22	P	P	09 07 29.1	-1.3
	baz=258						
L17K	Donlin	77.92	28	P	P	09 07 29.0	-1.6
	baz=261						
C18K	Utukok River	77.95	21	P	P	09 07 29.6	-1.1
	baz=257						
K17K	Iditarod	78.00	27	P	P	09 07 29.8	-1.2
	baz=261						
F18K	Selawik	78.11	23	P	P	09 07 30.6	-0.9
	baz=259						
O17K	Koliganek Bris	78.17	30	P	P	09 07 31.0	-0.9
	baz=263						
M17K	Holitna River	78.21	29	P	P	09 07 30.7	-1.5
	baz=262						
N17K	Nushagak Hills	78.22	30	P	P	09 07 30.9	-1.4
	baz=263						
Q16K	King Salmon	78.26	31	P	P	09 07 31.4	-1.0
	baz=263						
R17L	Mt. Peulik Vol	78.30	33	P	P	09 07 31.8	-1.0
	baz=264						
A19K	Wainwright	78.35	20	P	P	09 07 31.9	-0.9
	baz=257						
H18K	Honhosa River	78.37	25	P	P	09 07 32.4	-0.7
	baz=261						
G18K	Tagagawik	78.37	24	P	P	09 07 32.4	-0.7
	baz=260						
GNI	Garni	78.42	310	LR	LR	09 48 06.2	
	comp=Z,113nm,19.4s,baz=89,slow=40						
GNI	Garni	78.42	310	iP	P	09 07 35.1	+1.1
P17K	Kvichak River	78.43	31	P	P	09 07 32.3	-1.2
	baz=264						
CHIR	Chirikof Islan	78.52	34	P	P	09 07 32.6	-1.5
	baz=265						
Q17K	Contact Creek	78.61	32	P	P	09 07 33.0	-1.6
	baz=264						
C19K	Lookout Ridge	78.62	21	P	P	09 07 33.4	-1.0
	baz=259						
RAR	Rarotonga	78.63	113	LR	LR	09 39 16.0	
	comp=Z,52nm,19.4s,baz=268,slow=33						
L18K	Granite Mounta	78.67	28	P	P	09 07 33.8	-0.9
	baz=263						
J18K	Innoko River	78.83	27	P	P	09 07 34.8	-0.8
	baz=262						
N18K	Kilae Creek	78.87	29	P	P	09 07 34.6	-1.3
	baz=264						
F19K	Shaleruckik Mo	78.88	23	P	P	09 07 35.1	-0.7
	baz=261						
ACHA	Angle Creek He	78.90	32	IAmb	IAmb	09 07 47.9	
	comp=Z,34nm,1.6s						
GCSA	Galena City Sc	78.93	25	P	P	09 07 35.8	-0.3
	baz=262						
M18K	Stony River	78.99	29	P	P	09 07 35.6	-0.9
	baz=264						
D19K	Kuna River	79.03	21	IAmb	IAmb	09 08 02.1	
	comp=Z,34nm,1.3s						
D19K	Kuna River	79.03	21	P	P	09 07 35.9	-0.8
	baz=260						
P18K	Big Mountain,	79.07	31	P	P	09 07 36.2	-0.8
	baz=264						
Q18K	Katmai Hardscr	79.11	32	P	P	09 07 36.3	-1.0
	baz=265						
O18K	Koktuh Hills	79.12	30	P	P	09 07 36.2	-1.1
	baz=264						
E19K	Redstone River	79.19	23	P	P	09 07 36.7	-0.8
	baz=261						
H19K	Roundabout Mou	79.22	25	IAmb	IAmb	09 07 46.9	
	comp=Z,36nm,1.2s						
H19K	Roundabout Mou	79.22	25	P	P	09 07 36.9	-0.7
	baz=262						
J19K	Poorman	79.38	26	P	P	09 07 37.8	-0.8
	baz=263						
SII	Sitkinak Islan	79.38	34	P	P	09 07 38.0	-0.7
	baz=266						
L19K	White Mountain	79.52	28	P	P	09 07 39.4	-0.1
	baz=264						
N19K	Bonanza Creek	79.57	29	P	P	09 07 40.4	+0.6
	baz=265						
O19K	Port Alsworth	79.60	30	P	P	09 07 39.9	+0.1
	baz=265						
D20K	Etivluk River	79.61	21	IAmb	IAmb	09 07 55.7	
	comp=Z,28nm,1.2s						
D20K	Etivluk River	79.61	21	P	P	09 07 40.0	+0.2
	baz=262						
B20K	Meade River	79.62	20	P	P	09 07 40.0	+0.2
	baz=261						
E20K	Nigu River	79.70	22	P	P	09 07 40.3	-0.1
	baz=262						
F20K	Avaraart Lake	79.71	23	P	P	09 07 40.2	-0.1
	baz=263						
M19K	Big River Lodg	79.71	28	P	P	09 07 40.2	-0.3
	baz=265						
Q19K	Cape Douglas,	79.84	31	P	P	09 07 41.3	+0.1
	baz=266						
KBZ	Khabaz	79.85	313	P	P	09 07 39.1	-2.4
	comp=Z,4.0nm,1.0s,baz=133,slow=1.7,SNR=4.8						
KBZ				LR	LR	09 47 02.9	
	comp=Z,255nm,19.4s,baz=81,slow=39						
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	79.85	313	diP	P	09 07 41.2	-0.3
H20K	Anotleneega Mo	79.86	25	P	P	09 07 41.4	+0.2
	baz=264						
OHAK	Old Harbor	79.92	33	P	P	09 07 41.4	-0.2
	baz=267						
I20K	Naaghedeneel	79.96	25	IAmb	IAmb	09 07 54.8	
	comp=Z,42nm,1.1s						
I20K	Naaghedeneel	79.96	25	P	P	09 07 41.2	-0.4
	baz=264						
KIV	Kislovodsk	80.00	313	eP	P	09 07 42.7	+0.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,191nm,19.0s						
A21K	Barrow	80.01	19	P	P	09 07 41.9	+0.1
	baz=261						
J20K	Nowinta River	80.04	26	IAmb	IAmb	09 07 51.4	
	comp=Z,54nm,1.6s						
J20K	Nowinta River	80.04	26	P	P	09 07 42.5	+0.3
	baz=265						
P19K	Oil Pt	80.10	31	P	P	09 07 42.6	0.0
	baz=266						
C21K	Knifeblade Rid	80.33	21	P	P	09 07 43.3	-0.3
	baz=263						
KDAK	Kodiak Island	80.33	33	LR	LR	09 38 39.0	
	comp=Z,171nm,21.6s,baz=249,slow=32						
KDAK	Kodiak Island	80.33	33	P	P	09 07 44.0	+0.2
	baz=267						
IMAR	Indian Mountai	80.38	24	P	P	09 07 44.3	+0.4
O20K	Slope Mountain	80.44	30	P	P	09 07 44.4	-0.1
	baz=267						
B21K	Ikpikpuk River	80.44	20	P	P	09 07 44.7	+0.5
	baz=263						
Q20K	Shuyak Island	80.47	32	P	P	09 07 44.5	-0.1
	baz=267						
A22K	Sinclair Lake	80.49	19	P	P	09 07 44.1	-0.4
	baz=263						
GURO	Guroymak-BITLI	80.52	308	P	P	09 07 44.9	-0.6
GURO				IAmb	IAmb	09 08 05.5	
	comp=Z,47nm,1.5s						
G21K	Allakaket	80.53	24	P	P	09 07 44.3	-0.5
	baz=265						
E21K	Killik River	80.54	22	P	P	09 07 44.8	-0.1
	baz=264						
F21K	Alatna River	80.60	23	P	P	09 07 45.6	+0.4
	baz=265						
N20K	Mount Spurr	80.70	29	P	P	09 07 45.9	0.0
	baz=267						
SPCR	Spurr Chakacha	80.70	29	P	P	09 07 45.8	-0.1
	baz=267						
H21K	Melozitna Rive	80.74	25	P	P	09 07 46.0	0.0
	baz=266						
VRH	Novokhopyorsk	80.75	321	eP	P	09 07 46.7	+0.5
VRH				pmax	pmax		
	comp=Z,48nm,1.9s						
PPLA	Purkeypile	80.81	27	P	P	09 07 46.4	-0.2
	baz=267						
CHUM	Lake Minchumin	80.82	26	P	P	09 07 45.7	-0.6
	baz=266						
HOM	Homer	80.91	31	P	P	09 07 46.5	-0.4
	baz=268						
B22K	Teshekpuk Lake	80.93	20	P	P	09 07 47.1	+0.3
	baz=264						
I21K	Tanana	81.05	25	IAmb	IAmb	09 08 01.1	
	comp=Z,28nm,1.1s						
I21K	Tanana	81.05	25	P	P	09 07 47.7	+0.2
	baz=266						
D22K	Ayikyak River	81.05	21	P	P	09 07 47.7	+0.2
	baz=265						
SKT	Skwentna	81.07	28	IAmb	IAmb	09 07 59.8	
	comp=Z,20nm,1.0s						
SKT	Skwentna	81.07	28	P	P	09 07 47.6	-0.1
	baz=267						
F22K	John River	81.13	23	P	P	09 07 47.9	-0.1
	baz=266						
CAPN	Captain Cook N	81.20	30	P	P	09 07 48.4	0.0
	baz=268						
E22K	Anaktuvuk Pass	81.31	22	IAmb	IAmb	09 07 59.9	
	comp=Z,44nm,1.4s						
E22K	Anaktuvuk Pass	81.31	22	P	P	09 07 49.1	+0.1
	baz=266						
H22K	Ishtalitna Cre	81.34	24	P	P	09 07 49.5	+0.4
	baz=267						
G22K	Bettles	81.35	23	P	P	09 07 49.1	0.0
	baz=267						
BRSE	Bradley Lake S	81.37	31	P	P	09 07 48.3	-1.1
	baz=268						
BPAW	Bear Paw Mtn.	81.42	26	P	P	09 07 48.8	-0.8
	baz=268,SNR=13						
SUA	Susitna One	81.42	29	P	P	09 07 49.0	-0.7
	baz=268						
MLY	Manley	81.56	25		P	09 07 50.6	+0.2
MLY	Manley	81.56	25	P	P	09 07 49.9	-0.5
	baz=268						
CUT	Chulitna	81.68	28	P	P	09 07 50.4	-0.5
	baz=268						
TRF	Thorofare Moun	81.70	27	IAmb	IAmb	09 07 59.5	
	comp=Z,34nm,1.1s						
TRF	Thorofare Moun	81.70	27	P	P	09 07 50.4	-0.9
	baz=268,SNR=5.2						
M22K	Willow	81.73	29	P	P	09 07 50.5	-0.7
	baz=269						
D23K	Nanushuk River	81.78	21	P	P	09 07 50.6	-0.7
	baz=267						
C23K	Itkillik River	81.85	20	P	P	09 07 51.2	-0.5
	baz=267						
COLD	Coldfoot	81.88	23	IAmb	IAmb	09 08 02.8	
	comp=Z,23nm,1.3s						
COLD	Coldfoot	81.88	23	P	P	09 07 50.4	-1.6
	baz=268						
O22K	Cooper Landing	81.89	30	P	P	09 07 51.3	-0.8
	baz=269						
RC01	Rabbit Creek A	81.90	29	P	P	09 07 51.6	-0.5
	baz=269						
G23K	Bananza Creek	81.93	24	IAmb	IAmb	09 08 08.5	
	comp=Z,20nm,1.1s						
G23K	Bananza Creek	81.93	24	P	P	09 07 51.7	-0.6
	baz=268						
SEW	Seward	82.02	30	P	P	09 07 51.6	-1.2
	baz=269						
H23K	Yukon River	82.09	24	IAmb	IAmb	09 08 08.5	
	comp=Z,50nm,1.8s						
H23K	Yukon River	82.09	24	P	P	09 07 51.6	-1.5
	baz=268						
KLMR	Klimovskoe	82.12	330	eP	P	09 07 52.5	-0.8
KLMR				pmax	pmax		
	comp=Z,29nm,1.5s						
E23K	Chandalar	82.13	22	IAmb	IAmb	09 08 01.6	
	comp=Z,33nm,1.2s						
E23K	Chandalar	82.13	22	P	P	09 07 52.6	-0.8
	baz=268,SNR=7.7						
I23K	Minto, Yukon-K	82.15	25	IAmb	IAmb	09 08 04.4	
	comp=Z,34nm,1.4s						
I23K	Minto, Yukon-K	82.15	25	P	P	09 07 53.1	-0.3
	baz=269						
TOLK	Toolik Lake Re	82.17	22	P	P	09 07 53.1	-0.4
	baz=268						
PMR	Palmer	82.20	29	IAmb	IAmb	09 08 01.7	
	comp=Z,29nm,1.2s						
PMR	Palmer	82.20	29	P	P	09 07 53.3	-0.3
	baz=270						
NEA2	Nenana	82.27	26	P	P	09 07 53.4	-0.6
	baz=269						
VORD	Divnogorie	82.28	320	eP	P	09 07 49.9	-4.4
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	McKinley	82.31	27	P	P	09 07 53.7	-0.6
	baz=269,SNR=8.0						
RND	Reindeer	82.34	27	IAmb	IAmb	09 08 07.4	
	comp=Z,43nm,1.3s						
VSR	Storozhevoye	82.35	321	eP	P	09 07 49.9	-4.8
VSR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
D24K	Happy Valley	82.45	21	P	P	09 07 55.2	+0.3
	baz=269						
LPSR	Galich'ya Gora	82.48	322	eP	P	09 07 55.3	0.0
LPSR				pmax	pmax		
	comp=Z,35nm,2.2s						
WAT1	Susitna Watana	82.48	28	P	P	09 07 55.0	-0.2
	baz=270						
C24K	Franklin Bluff	82.51	21	P	P	09 07 54.7	-0.5
	baz=269						
KNK	Knik Glacier	82.52	29	P	P	09 07 54.8	-0.7
	baz=270						
E24K	Your Creek	82.56	22	P	P	09 07 54.6	-1.0
	baz=269						
SML	Sawmill	82.58	29	IAmb	IAmb	09 08 09.8	
	comp=Z,32nm,1.1s						
SML	Sawmill	82.58	29	P	P	09 07 54.9	-0.9
	baz=270						
PWL	Port Wells	82.58	30	P	P	09 07 55.2	-0.6
	baz=270						
WRH	Wood River Hil	82.69	26	IAmb	IAmb	09 08 05.0	
	comp=Z,21nm,1.1s						
F24K	Squaw Lake	82.78	23	IAmb	IAmb	09 07 58.9	
	comp=Z,24nm,1.4s						
F24K	Squaw Lake	82.78	23	P	P	09 07 56.2	-0.5
	baz=270						
H24K	Noodor Dome	82.78	24	IAmb	IAmb	09 08 07.3	
	comp=Z,29nm,1.2s						
COLA	College	82.79	25	P	P	09 07 56.4	-0.3
COLA	College	82.79	25	P	P	09 07 56.4	-0.3
COLA				pmax	pmax		
	comp=Z,12nm,0.9s						
COLA	College	82.79	25	P	P	09 07 56.5	-0.3
	baz=270						
CCB	Clear Creek Bu	82.81	26	IAmb	IAmb	09 08 05.3	
	comp=Z,16nm,1.1s						
WAT6	Susitna Watana	82.85	28	P	P	09 07 56.9	-0.4
	baz=271						
M23K	Glacier View	82.87	29	P	P	09 07 56.7	-0.6
	baz=271						
G24K	Hadweenzic Riv	82.94	24	IAmb	IAmb	09 08 23.3	
	comp=Z,30nm,1.4s						
G24K	Hadweenzic Riv	82.94	24	P	P	09 07 56.8	-0.7
	baz=270						
POKR	Poker Plat Res	82.97	25	P	P	09 07 56.9	-0.7
	baz=270						
DHY	Denali Highway	83.01	27	IAmb	IAmb	09 08 00.3	
	comp=Z,22nm,1.5s						
DHY	Denali Highway	83.01	27	P	P	09 07 57.1	-1.1
	baz=271						
P23K	Montague Islan	83.05	30	P	P	09 07 57.5	-0.7
	baz=271						
SCM	Sheep Creek Mo	83.06	29	P	P	09 07 57.1	-1.2
	baz=271						
MOS	Moscow	83.17	325	eP	P	09 07 56.9	-2.0
MOS				MLR	MLR		

comp=Z,600nm,22.0s
HDA Harding Lake 83.18 26 IAmb IAmb 09 08 06.2
comp=Z,11nm,0.8s
HDA Harding Lake 83.18 26 P **P** **09 07 57.5 -1.3**
baz=271
GLI Glacier Island 83.19 29 P **P** **09 07 57.6 -1.2**
baz=271
ILAR Eielson Array 83.20 26 P **P** **09 07 56.1 -2.8**
ILAR Eielson Array 83.20 26 P **P** **09 07 57.8 -1.1**
comp=Z,2.0nm,0.9s,baz=260,slow=5.1,SNR=4.3
ILAR LR LR 09 46 48.2
comp=Z,88nm,19.2s,baz=260,slow=37
comp=Z,2.0nm,0.9s
D25K Kavik River 83.33 21 P **P** **09 07 59.4 -0.1**
baz=271
G25K Bearman Lake 83.48 24 P **P** **09 08 00.4 +0.1**
baz=272
M24K Tolsona, Glenn 83.59 28 P **P** **09 08 00.3 -0.8**
baz=272
Q23K Middleton Isla 83.60 31 P **P** **09 08 00.7 -0.3**
baz=272
H25L Birch Creek 83.61 24 P **P** **09 08 00.5 -0.5**
baz=272
F25K Christian Rive 83.64 23 IAmb IAmb 09 08 10.8
comp=Z,51nm,1.9s
F25K Christian Rive 83.64 23 P **P** **09 08 00.8 -0.3**
baz=272
E25K Arctic Village 83.65 22 IAmb IAmb 09 08 12.1
comp=Z,27nm,1.1s
E25K Arctic Village 83.65 22 P **P** **09 08 00.7 -0.5**
baz=272
KLU Klutina 83.73 29 P **P** **09 08 01.4 -0.4**
baz=272
PRP Porcupine Dome 83.76 25 P **P** **09 08 01.7 -0.2**
baz=272
OBN Obninsk 83.79 325 LR LR 09 48 33.3
comp=Z,171nm,19.9s,baz=25,slow=38
OBN Obninsk 83.79 325‖ *e*P **P** **09 08 01.4 -0.7**
OBN *i* *PP **PcP** **09 08 04.8 -1.3**
OBN *e*SP **pP** **09 08 06.5 -1.4**
OBN S **SKSac** **09 18 20.0 -4.2**
OBN SS **SS** **09 23 53.0 +1.5**
OBN pmax pmax
comp=Z,58nm,2.1s
OBN MLR MLR
comp=Z,409nm,23.0s
C26K Camden Bay 83.82 20 P **P** **09 08 02.2 +0.3**
baz=272
J25K Salcha River, 83.86 26 P **P** **09 08 02.4 +0.1**
baz=272
PAX Paxson 83.89 27 IAmb IAmb 09 08 10.0
comp=Z,32nm,1.3s
PAX Paxson 83.89 27 P **P** **09 08 02.2 -0.3**
baz=273,SNR=7.2
BMAR Burnt Mountain 84.05 23 **P** **09 08 02.2 -1.0**
HARP HAARP 84.06 28 P **P** **09 08 03.0 -0.4**
baz=273
RIDG Independent Ri 84.13 27 P **P** **09 08 03.1 -0.6**
baz=273,SNR=12
F26K Sheenjek River 84.21 23 IAmb IAmb 09 08 20.1
comp=Z,14nm,1.1s
F26K Sheenjek River 84.21 23 P **P** **09 08 04.0 0.0**
baz=273
C27K Jago River 84.25 21 P **P** **09 08 04.3 +0.1**
baz=274
N25K Chitina, Valde 84.36 29 IAmb IAmb 09 08 18.5
comp=Z,32nm,1.4s
N25K Chitina, Valde 84.36 29 P **P** **09 08 04.8 -0.3**
baz=274
G26K Porcupine Rive 84.39 23 P **P** **09 08 04.7 -0.1**
baz=274
BMRM Bremner River 84.40 29 P **P** **09 08 04.5 -0.7**
baz=274
DOT Dot Lake 84.48 27 IAmb IAmb 09 08 12.6
comp=Z,37nm,1.5s
SCRK Sand Creek 84.50 26 IAmb IAmb 09 08 16.9
comp=Z,32nm,1.4s
SCRK Sand Creek 84.50 26 P **P** **09 08 04.8 -0.8**
baz=274,SNR=7.1
KAIM Kayak Island 84.56 30 P **P** **09 08 06.0 +0.1**
baz=274
APA Apatity 84.59 337‖ *e*P **P** **09 08 04.6 -1.3**
APA *e* 09 11 17.4
APA pmax pmax
comp=Z,15nm,1.2s
APA MLR MLR
comp=Z,876nm,5.3s
J26L Joseph Creek 84.64 26 IAmb IAmb 09 08 13.5
comp=Z,13nm,1.0s
J26L Joseph Creek 84.64 26 P **P** **09 08 05.8 -0.6**
baz=274,SNR=8.3
GLB Gilahina Butte 84.75 29 IAmb IAmb 09 08 21.0
comp=Z,29nm,1.3s
I26K Coal Creek Min 84.76 25 IAmb IAmb 09 08 14.6
comp=Z,22nm,1.0s
I26K Coal Creek Min 84.76 25 P **P** **09 08 06.4 -0.4**
baz=274
L26K Log Cabin Wild 84.85 27 IAmb IAmb 09 08 17.9
comp=Z,28nm,1.5s
L26K Log Cabin Wild 84.85 27 P **P** **09 08 06.8 -0.5**
baz=274
M26K Nabesna, AK 85.06 28 IAmb IAmb 09 08 40.8
comp=Z,40nm,1.6s
M26K Nabesna, AK 85.06 28 P **P** **09 08 08.9 +0.5**
baz=275
BGLC Bering Glacier 85.11 30 P **P** **09 08 08.7 +0.1**
baz=275
E27K Coleen River 85.13 22 P **P** **09 08 08.5 -0.1**
baz=276
MCARA McCarthy VSAT 85.13 29 P **P** **09 08 08.8 +0.1**
baz=275
CRQE Cirque 85.15 30 P **P** **09 08 08.4 -0.7**
baz=275
G27K Doyon Strip 85.24 23 IAmb IAmb 09 08 19.1
comp=Z,14nm,1.1s
G27K Doyon Strip 85.24 23 P **P** **09 08 09.6 +0.3**
baz=276
D27M Malcolm River 85.25 21 P **P** **09 08 09.6 +0.3**
baz=276
K27K Chicken 85.33 26 P **P** **09 08 10.1 +0.4**
baz=276,SNR=14
BNN Bunyan 85.34 308 **P** **09 08 08.5 -2.0**
BNN IAmb IAmb 09 08 26.3
comp=Z,36nm,1.6s
H27K Steamboat Moun 85.35 24 IAmb IAmb 09 08 14.8
comp=Z,24nm,1.2s
H27K Steamboat Moun 85.35 24 P **P** **09 08 10.1 +0.3**
baz=276,SNR=5.4
I27K Kandik River 85.38 25 P **P** **09 08 10.2 +0.3**
baz=276,SNR=17
L27K Beaver Creek, 85.54 27 P **P** **09 08 10.6 -0.2**
baz=276
BCAR Beaver Creek A 85.56 27 **P** **09 08 10.9 -0.1**
M27K Edge Creek, AK 85.58 28 P **P** **09 08 10.9 -0.2**
baz=276
EGAK Eagle 85.65 25 P **P** **09 08 11.2 -0.1**
baz=276
MESA MESA 85.77 30 P **P** **09 08 11.8 -0.5**
baz=276
E28M Babbage River 85.84 21 IAmb IAmb 09 08 21.8
comp=Z,34nm,1.3s
E28M Babbage River 85.84 21 P **P** **09 08 12.5 +0.3**
baz=277
F28M Old Crow 85.84 22 IAmb IAmb 09 08 20.0
comp=Z,32nm,1.4s
F28M Old Crow 85.84 22 P **P** **09 08 12.2 0.0**
baz=277
MAW Mawson 85.90 200 P **P** **09 08 11.1 -1.2**
comp=Z,13nm,1.3s,baz=11,slow=11,SNR=4.0
MAW LR LR 09 41 47.6
comp=Z,96nm,21.2s,baz=24,slow=32
comp=Z,13nm,1.3s
CTG Chitna Glacier 85.98 29 P **P** **09 08 12.4 -0.8**
baz=276
D28M Stokes Point 86.03 21 P **P** **09 08 13.3 +0.3**
baz=278
I28M Miner Creek 86.09 25 P **P** **09 08 13.1 -0.5**
baz=277,SNR=8.9
SIM Simferopol' 86.09 315 *e*P **P** **09 08 13.1 -0.8**
SIM *e*S **S** **09 18 46.9 -0.8**
SIM pmax pmax
comp=Z,20nm,1.4s
SIM smax smax
comp=E,43nm,14.3s
MMAI Mount Meron Ar 86.21 303 P **P** **09 08 13.5 -1.3**
comp=E,0.4nm,0.2s,baz=64,slow=3.8,SNR=4.6
MMAI LR LR 09 51 39.7
comp=E,83nm,21.0s,baz=84,slow=39
comp=E,0.4nm,0.2s
E29M Blow River 86.47 22 P **P** **09 08 15.4 +0.1**
baz=279
VNDA Vanda 86.48 173 **P** **09 08 14.0 -1.0**
VNDA Vanda 86.48 173 P **P** **09 08 13.4 -1.6**
comp=E,5.1nm,0.9s,baz=316,slow=6.1,SNR=22
VNDA LR LR 09 49 17.3
comp=E,65nm,18.0s,baz=330,slow=37
comp=E,5.1nm,0.9s
VNDA Vanda 86.48 173 P **P** **09 08 14.0 -1.0**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
DAWY Dawson 86.50 26 IAmb IAmb 09 08 36.8
comp=Z,31nm,1.7s
DAWY Dawson 86.50 26 P **P** **09 08 15.0 -0.6**
baz=278
O28M Mount Upton 86.57 29 P **P** **09 08 15.1 -1.2**
baz=277
H29M Whitestone 86.62 24 P **P** **09 08 16.1 +0.1**
baz=279
PINM Pinnacle 86.62 30 P **P** **09 08 16.1 -0.2**
baz=277
G29M Pine Creek 86.65 23 P **P** **09 08 15.6 -0.6**
baz=279
YUK8 Steele Glacier 86.70 29 P **P** **09 08 16.1 -0.8**
baz=278
I29M Ogilvie Camp, 86.78 25 P **P** **09 08 16.7 -0.2**
baz=279
J29N Klondike Camp 86.95 26 P **P** **09 08 17.6 -0.2**
baz=279
BRTR Keskin Array B 86.96 309 **P** **09 08 17.1 -1.4**
BRTR Keskin Array B 86.96 309 P **P** **09 08 16.5 -2.0**
comp=Z,1.1nm,0.9s,baz=172,slow=2.9,SNR=4.8
comp=Z,1.1nm,0.9s
BRTR Keskin Array B 86.96 309 *i* P **P** **09 08 20.2 +1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
PNL Peninsula 87.11 30 P **P** **09 08 18.4 -0.2**
baz=278
M29M Somme Creek 87.15 28 P **P** **09 08 18.6 -0.3**
baz=279
L29M L29M 87.20 27 P **P** **09 08 18.7 -0.3**
baz=279
ARCES ARCESS Array B 87.20 340 LR LR 09 53 01.8
comp=Z,190nm,18.1s,baz=84,slow=40
YUK4 Talbot Arm 87.23 29 P **P** **09 08 18.6 -0.8**
baz=279
EPYK Eagle Plains 87.25 24 P **P** **09 08 18.3 -0.9**
baz=280
G30M tAoh Zraii Nji 87.34 23 P **P** **09 08 18.8 -0.8**
baz=281
K29M Barlow Dome 87.35 26 P **P** **09 08 19.2 -0.6**
baz=280
SPITS Spitsbergen Ar 87.35 349 LR LR 09 52 42.8
comp=Z,306nm,19.4s,baz=62,slow=39
KIBK Kibwezi 87.36 267 **P** **09 08 19.2 -1.7**
F30M Barrier River 87.39 22 P **P** **09 08 19.4 -0.4**
baz=281
SBA Scott Base 87.40 172 **P** **09 08 19.3 -0.2**
SBA Scott Base 87.40 172 P **P** **09 08 19.3 -0.2**
SBA pmax pmax
comp=Z,46nm,1.8s
O29M Mount Kennedy 87.42 30 P **P** **09 08 19.8 -0.4**
baz=279
YUK6 Outpost Mounta 87.43 29 P **P** **09 08 19.8 -0.6**
baz=279
PPT Papeete 87.52 108 LR LR 09 42 32.4
comp=Z,50nm,19.5s,baz=283,slow=32
PPT2 Papeete2 87.52 108 *e*P **P** **09 08 22.7 +1.2**
comp=Z,34nm,22.5s
PPT2 Papeete2 87.52 108 *e*S **S** **09 18 57.0 -5.7**
comp=Z,114nm,25.5s
PPT2 *e*SS **SS** **09 24 44.7 -3.9**
comp=Z,38nm,25.8s
PPT2 *e*LQ LQ 09 32 21.2
comp=Z,163nm,25.2s
PPT2 *e*LR LR 09 35 53.0
comp=Z,159nm,34.0s
PPT2 *e*LR LR 09 36 03.0
comp=Z,160nm,26.2s
I30M Mount Dempster 87.60 25 IAmb IAmb 09 08 33.5
comp=Z,32nm,2.0s
I30M Mount Dempster 87.60 25 P **P** **09 08 20.3 -0.7**
baz=280
J30M Hart River 87.73 25 P **P** **09 08 20.8 -0.9**
baz=281
HYT Haines Junctio 87.86 29 P **P** **09 08 21.8 -0.6**
baz=280
M30M Minto, Yukon 87.89 27 P **P** **09 08 21.8 -0.6**
baz=280
P29M Windy Craggy 87.94 30 P **P** **09 08 21.7 -0.9**
baz=280
N30M Aishikik Lake 87.95 28 P **P** **09 08 21.5 -1.2**
baz=280
KMBO Kilima Mbogo 88.01 269 P **P** **09 08 23.1 -1.1**
comp=Z,3.5nm,0.3s,baz=49,slow=2.2,SNR=4.2
comp=Z,3.5nm,0.3s
INK Inuvik 88.08 21 LR LR 09 52 03.9
comp=Z,97nm,18.7s,baz=18,slow=38
INK Inuvik 88.08 21 P **P** **09 08 22.2 -0.8**
baz=283
G31M Satah River 88.10 23 P **P** **09 08 22.3 -0.8**
baz=282
MAYO Mayo, Yukon 88.11 26 P **P** **09 08 22.6 -0.7**
baz=281
F31M Tsiigehtchic 88.19 22 P **P** **09 08 23.2 -0.4**
baz=283
P30M Million Dollar 88.25 30 P **P** **09 08 23.6 -0.5**
baz=280
H31M Peel River 88.31 24 P **P** **09 08 23.4 -0.8**
baz=282
TBI Tubuai 88.41 114 *e*P **P** **09 08 25.1 -0.4**
comp=Z,706nm,35.5s
TBI Tubuai 88.41 114 *e*S **S** **09 19 11.5 +0.8**
comp=Z,690nm,37.0s
TBI *e*SS **SS** **09 24 58.8 -2.3**
comp=Z,516nm,36.5s
TBI *e*LQ LQ 09 32 49.9
comp=Z,2μm,38.0s
TBI *e*LR LR 09 36 33.9
comp=Z,709nm,23.5s
FINES FINESS Array B 88.55 332 P **P** **09 08 23.2 -2.2**
comp=Z,1.9nm,0.7s,baz=67,slow=5.3,SNR=5.5
FINES LR LR 09 51 42.7
comp=Z,347nm,20.8s,baz=77,slow=38
comp=Z,1.9nm,0.7s
FINES FINESS Array B 88.55 332 *i* P **P** **09 08 27.5 +2.1**
FINES pmax pmax
comp=Z,4.0nm,1.0s
O30N Mendenhall 88.55 29 P **P** **09 08 25.0 -0.5**
baz=281
N31M Braeburn, Yuko 88.56 28 P **P** **09 08 25.3 -0.2**
baz=281
AK03 Malin Array Si 88.66 321 P **P** **09 08 25.1 -1.0**
AKASG Malin Array Be 88.66 321 P **P** **09 08 23.4 -2.8**
comp=Z,2.7nm,0.8s,baz=75,slow=4.0,SNR=10
AKASG LR LR 09 50 56.8
comp=Z,200nm,21.4s,baz=75,slow=38
comp=Z,2.7nm,0.8s
AKASG Malin Array Be 88.66 321 *i* P **P** **09 08 25.5 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 88.66 321‖ *i* P **P** **09 08 26.2 +0.1**
AKBB Malin Array Si 88.66 321 P **P** **09 08 25.4 -0.7**
PLBC Pleasant Camp 88.67 30 P **P** **09 08 24.9 -1.1**
baz=281
AK16 Malin Array Si 88.74 321 P **P** **09 08 24.2 -2.3**
MNK Minsk 88.86 325 *i* P **P** **09 08 23.7 -3.3**
MNK *i* 09 11 51.2
MNK *i* S **SKSac** **09 18 52.7 -3.1**
MNK *i* SS **SS** **09 25 09.9 +4.2**
MNK *i* SSS SSS 09 28 37.3
MNK pmax pmax
comp=N,7.0nm,0.6s
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.6s
MNK MLR MLR
comp=N,184nm,16.0s
MNK MLR MLR
comp=Z,293nm,18.0s
MNK MLR MLR
comp=E,265nm,20.0s
M31M Drury Creek, Y 89.06 27 P **P** **09 08 27.1 -0.8**
baz=282
WHY Whitehorse 89.16 29 P **P** **09 08 26.9 -1.5**
baz=282
R31K City Hall, Gus 89.18 31 P **P** **09 08 28.0 -0.4**
baz=281
SKAG Skagway 89.18 30 P **P** **09 08 28.1 -0.3**
baz=282
ISP Isparta 89.61 308*c* *i* P **P** **09 08 30.8 -0.3**
ISP pmax pmax
comp=Z,4.0nm,1.0s
SIT Sitka 89.67 33 P **P** **09 08 30.0 -0.7**
baz=282
LUBAR Lubar, Ukraine 89.71 320 P **P** **09 08 29.5 -1.6**
A36M Sachs Harbour 89.72 17 P **P** **09 08 30.5 -0.2**
baz=291
R32K Eaglecrest 89.84 31 P **P** **09 08 31.0 -0.5**
baz=282
N32M Quiet Lake 89.91 28 IAmb IAmb 09 08 47.1
comp=Z,12nm,0.8s
N32M Quiet Lake 89.91 28 P **P** **09 08 31.4 -0.4**
baz=284
P32M Atlin 89.96 30 P **P** **09 08 31.5 -0.7**
baz=283
S32K Killisnoo 89.98 32 P **P** **09 08 31.7 -0.4**
baz=282
P33M Teslin, Yukon 90.26 29 P **P** **09 08 32.3 -1.3**
baz=284
RNPP9 Sopachiv 90.61 322 P **P** **09 08 34.5 -0.7**
RNPP5 Staryi Chortor 90.64 322 P **P** **09 08 34.6 -0.8**
KMPD K-Podol'skiy 90.79 319 P **P** **09 08 35.0 -1.2**
Q32M Nakina River 90.83 30 P **P** **09 08 35.3 -1.1**
baz=284
T33K Petersburg 90.99 33 P **P** **09 08 36.4 -0.5**
baz=284
C36M Paulatuk 91.04 19 P **P** **09 08 36.7 -0.1**
baz=292
CRAG Craig 91.21 34 P **P** **09 08 38.0 0.0**
baz=284
R33M Jennings River 91.37 30 P **P** **09 08 38.7 -0.1**
baz=285
WRAK Wrangell Islan 91.41 33 P **P** **09 08 38.1 -0.7**
baz=284
S34M Telegraph Cree 91.67 31 P **P** **09 08 39.3 -0.8**
baz=285
MLR Muntele Rosu 91.72 316 LR LR 09 57 01.2
comp=Z,111nm,18.3s,baz=70,slow=40
TGTN Hyland Airport 92.04 27 P **P** **09 08 40.9 -0.8**
baz=288
DLBC Dease Lake 92.10 31 LR LR 09 46 57.4
comp=Z,806nm,21.4s,baz=288,slow=33
DLBC Dease Lake 92.10 31 P **P** **09 08 41.2 -0.9**
baz=286
WTLY Watson Lake, Y 92.22 29 IAmb IAmb 09 08 57.2
comp=Z,31nm,1.6s
WTLY Watson Lake, Y 92.22 29 P **P** **09 08 42.3 -0.3**
baz=287
T35M Bob Quinn 92.38 32 P **P** **09 08 43.3 -0.1**
baz=286
U35K Hyder 92.80 33 P **P** **09 08 44.1 -1.1**
baz=286
WRGLY Wrigley 93.57 25 P **P** **09 08 47.7 -1.0**
baz=292
LIRD Liard River Hi 93.74 29 P **P** **09 08 49.6 +0.1**
baz=290
TOAD Toad River Com 94.35 29 P **P** **09 08 51.6 -0.8**
baz=290
KOTAN Kotaneelee Air 94.46 28 P **P** **09 08 52.3 -0.5**
baz=291
HFS Hagfors 94.73 332 LR LR 09 55 31.2
comp=Z,351nm,19.8s,baz=61,slow=38
RES Resolute Bay 95.27 10 LR LR 09 56 37.9
comp=Z,75nm,18.8s,baz=336,slow=38
NOA NORSAR Array B 95.51 333 P **P** **09 08 57.4 -0.3**
comp=Z,0.9nm,1.0s,baz=65,slow=4.5,SNR=2.0
NOA LR LR 09 58 14.1
comp=Z,150nm,18.2s,baz=70,slow=39
comp=Z,0.9nm,1.0s
TAOE Nuku Hiva Isla 95.65 98 *e*LR LR 09 39 50.7
comp=Z,212nm,22.2s
QSPA South Pole Qui 96.50 180 P **P** **09 09 02.9 +0.8**
comp=Z,3.7nm,1.1s,baz=341,slow=3.8,SNR=4.7
QSPA LR LR 09 53 20.4
comp=Z,146nm,20.1s,baz=338,slow=36
comp=Z,3.7nm,1.1s
JMIC Jan Mayen 96.69 346 LR LR 09 57 57.2
comp=Z,168nm,19.8s,baz=37,slow=39
VRAC Vranov 96.90 321 LR LR 09 57 34.6
comp=Z,124nm,19.4s,baz=66,slow=38
YKA Yellowknife Ar 97.53 24 P Pdif 09 09 08.8 +1.9
comp=Z,0.9nm,0.8s,baz=302,slow=5.1,SNR=4.7
comp=Z,0.9nm,0.8s
BRG Berggiesshubel 97.98 323 *e*P Pdif 09 09 10.6 +1.5
BRG Amp 09 09 12.4
comp=Z,3.7nm,1.0s
GERES GERESS Array B 98.84 322 P **P** **09 09 11.8 -1.4**
comp=Z,0.2nm,0.4s,baz=113,slow=2.2,SNR=3.8
GERES LR LR 09 57 13.9
comp=Z,137nm,21.6s,baz=75,slow=38
comp=Z,0.2nm,0.4s
BFO Black Forest 102.33 322 *i* P **Pdif** **09 09 28.0 -0.6**
TORD Torodi Ar. Bea 120.48 289 PKP **PKPdf** **09 14 23.3 -2.2**
comp=Z,63nm,0.7s,baz=72,slow=4.6,SNR=3.7
TXAR Lajitas Array 121.05 50 PKP **PKPdf** **09 14 25.4 -1.0**
comp=Z,0.9nm,0.9s,baz=345,slow=2.4,SNR=3.5
JCT Junction City 123.33 47 **PKPdf** **09 14 28.0 -2.6**
JCT Junction City 123.33 47 PKIKP **PKPdf** **09 14 28.0 -2.6**
R40A Maddies Statio 123.40 35 **PKPdf** **09 14 29.7 -0.8**
PLCA Paso Flores 143.25 160 PKhKP PKPpre 09 15 01.9
comp=Z,2.8nm,1.1s,baz=258,slow=10,SNR=2.8
PLCA PKP **PKPdf** **09 15 08.0 +0.4**
comp=Z,2.5nm,0.9s,baz=272,slow=9.1,SNR=3.7
TRQA Tornquist 148.05 169 **PKPbc** **09 15 18.2 -0.7**
TRQA Tornquist 148.05 169 PKP2 **PKPbc** **09 15 18.2 -0.7**
BO01 Tunca 148.56 154 **PKPbc** **09 15 19.4 -1.0**
MT02 Curacav 149.49 152 **PKPbc** **09 15 22.4 -0.3**
ZON Zonda 152.04 154 **PKPbc** **09 15 28.9 0.0**
ZON Zonda 152.04 154 PKIKP **PKPbc** **09 15 28.9 0.0**
GO04 Tololo Observa 152.19 149 **PKPbc** **09 15 29.1 -0.3**
LCO Las Campanas 153.18 148 **PKPbc** **09 15 31.2 -0.5**
LCO PKPab **PKPab** **09 15 43.1 -0.2**
ROSC El Rosal 157.50 60 PKP **PKPdf** **09 15 30.3 -0.5**
comp=Z,3.5nm,0.4s,baz=309,slow=18,SNR=1.4
CPUP Villa Florida 160.26 173 **PKPab** **09 16 13.4 +0.2**
CPUP Villa Florida 160.26 173 PKP **PKPdf** **09 15 30.7 -2.4**
comp=Z,0.8nm,1.1s,baz=116,slow=1.2,SNR=2.6
CPUP PKPab **PKPab** **09 16 12.1 -1.1**
comp=Z,2.1nm,1.2s,baz=280,slow=1.5,SNR=3.4
LPAZ La Paz 163.85 128 PKP **PKPdf** **09 15 37.1 -0.7**
comp=Z,2.6nm,1.0s,baz=255,slow=0.5,SNR=5.6
LPAZ PKPab **PKPab** **09 16 31.2 +0.9**
comp=Z,1.8nm,0.8s,baz=225,slow=4.3,SNR=5.0
LPAZ La Paz 163.85 128 *e*P **PKPdf** **09 15 37.4 -0.4**
BDFB Brasilia 168.79 216 PKP **PKPdf** **09 15 39.2 -1.9**
comp=Z,2.4nm,0.8s,baz=63,slow=6.8,SNR=2.9
BOAV Boa Vista 169.42 32 **PKPdf** **09 15 39.6 -1.8**
BOAV Boa Vista 169.42 32 *e*P **PKPdf** **09 15 38.6 -2.8**
NPGB Novo Progresso 179.36 132 *e*P **PKPdf** **09 15 45.1 +0.5**

WEL 20 09:03:46.1±1.3,34°S±8°×17°9W±1°5,h12km,M4.0/7, mB4.7/5,ML4.1/10,MLv4.1/7,Mw(mB)3.9/5,Error ellipse: s-maj=19.9km s-min=8.8km az=104.1,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.41**	**205**	P	Pn	09 04 53.2	+0.4
MXZ				S	Sn	09 05 47.0	+2.9
WMGZ	**Waiomatatini S**	**4.61**	**203**	P	Pn	09 04 56.1	+0.6
WMGZ				S	Sn	09 05 54.1	+5.1
PKGZ	**Pakihiroa**	**4.76**	**205**	P	Pn	09 04 56.9	-0.8
PKGZ				S	Sn	09 05 54.7	+1.8
HAZ	**Te Kaha**	**4.78**	**208**	P	Pn	09 04 58.5	+0.5
HAZ				S	Sn	09 05 58.1	+4.8
PUZ	**Puketiti**	**4.89**	**203**	P	Pn	09 04 58.6	-0.8
RUGZ	**Raukumara Rang**	**5.00**	**208**	P	Pn	09 05 00.9	-0.2
RUGZ				S	Sn	09 06 00.6	+1.7
TWGZ	**Tauwhareparae**	**5.08**	**204**	P	Pn	09 05 01.9	-0.1
TWGZ				S	Sn	09 06 02.8	+2.2
CNGZ	**Carnagh Statio**	**5.28**	**201**	P	Pn	09 05 03.9	-1.0
TKGZ	**Te Karaka**	**5.36**	**204**	P	Pn	09 05 06.6	+0.7
TKGZ				S	Sn	09 06 09.7	+2.2
MWZ	**Matawai**	**5.38**	**207**	P	Pn	09 05 04.8	-1.4
MWZ				S	Sn	09 06 10.8	+2.7
URZ	**Urewera**	**5.49**	**211**	P	Pn	09 05 06.7	-0.9
URZ				S	Sn	09 06 13.1	+2.5
RIGZ	**Rimuhau**	**5.63**	**204**	P	Pn	09 05 09.2	-0.4
RIGZ				S	Sn	09 06 15.0	+0.8
WCZ	**Waipu Caves**	**5.70**	**244**	P	Pn	09 05 12.2	+1.7

MUGZ	Murupara	5.81	212	P	Pn	09 05 10.0	-2.2
MUGZ				S	Sn	09 06 21.4	+2.7
RTZ	Ruatahuna	5.84	209	P	Pn	09 05 11.7	-0.9
SNGZ	Shannon Statio	5.84	206	P	Pn	09 05 12.3	-0.3
SNGZ				S	Sn	09 06 21.4	+1.8
KNZ	Kokohu	5.94	203	P	Pn	09 05 10.3	-3.6
MHGZ	Mahia Peninsul	5.99	201	P	Pn	09 05 11.1	-3.5
OUZ	Omahuta	6.05	252	P	Pn	09 05 16.4	+1.0
RAHZ	Arahi	6.06	207	P	Pn	09 05 15.3	-0.2
RAHZ				S	Sn	09 06 26.7	+2.0
WPRZ	Whakapapatarin	6.13	215	P	Pn	09 05 16.5	+0.1
BKZ	Black Stump Fm	6.51	210	P	Pn	09 05 18.9	-2.8
BKZ				S	Sn	09 06 21.8	-14

IDC 20 09:05:16.8±1.9, 6°.68N×124°.75E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=37.1km s-min=13.1km az=139.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.91	65	Pg	Pb	09 05 35.2	-0.3
	424nm,0.3s,baz=265,slow=7.3,SNR=23						
DAV				Lg	Lg	09 05 45.8	
	355nm,0.3s,baz=322,slow=23,SNR=5.5						
WRA	Warramunga Arr	28.09	161	P	P	09 11 10.0	-0.4
	0.5nm,0.5s,baz=329,slow=11,SNR=6.2						
	0.5nm,0.5s						
ASAR	Alice Springs	31.46	164	P	P	09 11 40.5	+0.3
	0.3nm,0.5s,baz=341,slow=6.8,SNR=7.7						
	0.3nm,0.5s						
PETK	Petropavlovsk-	53.51	24	P	P	09 14 38.8	-0.2
	1.7nm,0.7s,baz=242,slow=11,SNR=4.3						
	1.7nm,0.7s						

GCG 20 09:06:50.2±0.7, 14°.88N×91°.13W, h177km±6km, MD3.8, ML2.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.50	209	*i* P	Pn	09 07 15.0	+0.1
APG	El Apazote	0.65	79	*i* P	Pn	09 07 16.8	+1.1
APG				*i* S	Sn	09 07 36.8	+1.5
CCIG	Comitan	1.70	325	*i* P	Pn	09 07 25.3	+1.2
CCIG				*i* S	Sn	09 07 52.3	+1.8

IDC 20 09:10:33.8±8.5, 6°.12S×130°.26E, h124km±87km, mb3.4/1, mbtmp4.2/4, ML4.4/3, Error ellipse: s-maj=68.0km s-min=30.3km az=36.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.68	238	P	Pn	09 12 24.9	+1.8
	7.2nm,0.3s,baz=308,slow=22,SNR=2.3						
BATI				S	Sn	09 13 47.4	-1.3
	30nm,0.4s,baz=207,slow=22,SNR=7.0						
	17nm,0.3s						
WRA	Warramunga Arr	14.30	164	P	Pn	09 13 48.9	-1.8
	1.4nm,0.3s,baz=346,slow=11,SNR=12						
WRA				S	Sn	09 16 18.7	-10
	4.1nm,0.6s,baz=346,slow=23,SNR=12						
	1.1nm,0.5s						
ASAR	Alice Springs	17.79	169	P	Pn	09 14 34.0	+0.2
	1.8nm,0.3s,baz=352,slow=10,SNR=93						
ASAR				S	S	09 17 44.2	-7.1
	2.1nm,0.9s,baz=355,slow=27,SNR=5.8						
	13nm,0.7s						
MKAR	Makanchi Array	67.64	327	P	P	09 21 17.3	-0.1
	0.4nm,0.4s,baz=138,slow=7.3,SNR=5.0						
	0.4nm,0.4s						

*ISN **20** 09:13:27.9±0.8, 35°.05N×45°.77E, h15km±5km, ML2.6*
*TEH **20** 09:13:30.4, 35°.03N×45°.56E, h10km±154km*
ISC 20 09:13:31.1±1.0, 35°.05N±0°.07×45°.53E±0°.05, h10km, n8, σ0.80/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.79	116	Pg	Pg	09 13 45.9	-0.4
GLG1	Gilan-e-Gharb	0.99	161	Pg	Pg	09 13 49.7	-0.4
IKRK	Kirkuk	1.03	290	*e*Pg	Pg	09 13 50.0	-0.9
IKRK				*e*Sg	Sn	09 14 07.0	+0.9
IKRK				AML	AML	09 14 15.0	
	comp=N,316nm,0.3s						
IKRK				AML	AML	09 14 15.4	
	comp=E,277nm,0.5s						
IGHG	Ghaleghazi	1.12	130	Pg	Pg	09 13 52.3	-0.3
KCHF	Cheshme Sefid,	1.47	121	Pg	Pg	09 13 58.9	-0.4
SNQR	Sonqor, Kerman	1.74	96	Pg	Pb	09 14 03.2	-0.1
BHD	Baghdad	2.02	208	*e*Pn	Pn	09 14 05.0	-0.1
BHD				*e*Sn	Sn	09 14 31.0	+0.7
BHD				AML	AML	09 14 38.1	
	comp=E,15nm,0.7s						
MSL	Mosul	2.38	305	*e*Pn	Pn	09 14 10.0	-0.2
MSL				*e*Sn	Sn	09 14 41.0	+1.6

*IDC **20** 09:14:01.8±0.5, 32°.52S×14°.55W, h0km, mb4.3/14, mbtmp4.3/14, MS4.2/23, Error ellipse: s-maj=20.2km s-min=15.1km az=99.0*
*NEIC **20** 09:14:04.1±1.5, 32°.6S±0°.1×14°.5W±0°.1, h10km±1km, mb4.8/40, Error ellipse: s-maj=21.3km s-min=17.3km az=154.0*
*GCMT **20** 09:14:07.1±0.3, 32°.73S±0°.04×14°.48W±0°.02, h14km±1km, MW4.9/89, Moment Tensor Solution. s25,c28; s89,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41±.19; $M_{\theta\theta}$0.31±.12; $M_{\phi\phi}$2.10±.13; $M_{r\theta}$-1.06±.37; $M_{\theta\phi}$0.14±.08; $M_{\phi r}$-0.72±.27; Best double couple: M_o2.56200×10^{16} NP1:ϕ_s171.00000°, δ37.00000°, λ-117.00000°. NP2: ϕ_s24.00000°, δ58.00000°, λ-71.00000°. Principal axes: T 2.2660, Plg11.0000°, Azm100.0000°; N 0.5910, Plg16.0000°, Azm193.0000°; P -2.8570, Plg70.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 09:14:06.0±0.4, 32°.57S±0°.08×14°.52W±0°.08, h26km, n101, σ0.91/71, mb4.7/35, MS4.2/25, 10C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	23.49	360	T	T	09 43 23.4	
	baz=179,slow=74,SNR=186						
H10S3	ASCENSION HYDR	23.50	360	T	T	09 43 23.9	
	baz=41,slow=74,SNR=180						
H10N1	ASCENSION HYDR	24.60	0	T	T	09 44 59.9	
	baz=189,slow=78						
H10N3	ASCENSION HYDR	24.60	0	T	T	09 44 57.8	
	baz=189,slow=78						
H10N2	ASCENSION HYDR	24.62	0	T	T	09 44 54.9	
	baz=189,slow=78						
WIN	Windhoek	29.65	78	P	P	09 20 08.6	-1.1
WIN				IAmb	IAmb	09 20 36.3	
	comp=Z,14nm,1.2s						
TSUM	Tsumeb	31.67	73	P	P	09 20 26.7	-0.8
TSUM	Tsumeb	31.67	73	LR	LR	09 30 48.1	
	comp=Z,558nm,20.4s,baz=176,slow=32						
KOOLE	Kule	32.04	82		P	09 20 30.1	-0.6
KOOLE				IAmb	IAmb	09 20 31.6	
	comp=Z,13nm,1.1s						
LKGWB	Lokgwabe	32.44	84	P	P	09 20 37.1	+2.8
RCBR	Riachuelo	33.25	319	LR	LR	09 31 07.4	
	comp=Z,79nm,18.3s,baz=182,slow=31						
KGCAE	Kacgae	33.78	83	P	P	09 20 45.1	-0.9
KGCAE				IAmb	IAmb	09 20 46.5	
	comp=Z,19nm,1.2s						
BOSA	Boshof	34.33	94	P	P	09 20 50.3	-0.4
	comp=Z,2.4nm,0.8s,baz=249,slow=7.3,SNR=4.8						
BOSA				LR	LR	09 32 19.8	
	comp=Z,444nm,18.4s,baz=214,slow=32						
	comp=Z,2.4nm,0.8s						
BDFB	Brasilia	34.72	291		P	09 20 53.8	-0.4
BDFB	Brasilia	34.72	291	P	P	09 20 53.2	-0.9
	comp=Z,22nm,0.8s,baz=124,slow=6.8,SNR=32						
BDFB				LR	LR	09 32 29.4	
	comp=Z,523nm,20.3s,baz=140,slow=32						
	comp=Z,22nm,0.8s						
XAUDM	Khaudum	35.05	75	P	P	09 20 57.1	0.0
XAUDM				IAmb	IAmb	09 20 58.4	
	comp=Z,10nm,0.7s						
LBTB	Lobatse	35.79	88	LR	LR	09 32 47.0	
	comp=Z,417nm,22.0s,baz=230,slow=31						
LPHEP	Lephephe	36.64	86		P	09 21 09.9	-0.7
LPHEP				IAmb	IAmb	09 21 11.8	
	comp=Z,26nm,1.1s						
KHWEE	KHWEE	36.88	84	P	P	09 21 12.0	-0.6
CPUP	Villa Florida	37.60	268	LR	LR	09 34 50.0	
	comp=Z,149nm,18.4s,baz=339,slow=33						
VNA1	Neumayer--Stat	38.29	177	⇑P	P	09 21 24.5	+0.7
	comp=Z,8.2nm,0.8s						
VNA1				⇑x	x	09 23 37.6	
	comp=Z,4.7nm,1.5s						
MREMI	Moremi	38.30	86		P	09 21 24.1	-0.5
MREMI				IAmb	IAmb	09 21 26.2	
	comp=Z,27nm,1.5s						
AQDB	Aquidauana	38.54	278	P	P	09 21 26.9	+0.4
AQDB				IAmb	IAmb	09 21 28.2	
	comp=Z,14nm,1.0s						
VNA2	Neumayer--Watz	38.61	176	⇑P	P	09 21 26.9	+0.4
	comp=Z,15nm,0.7s,baz=348,slow=11						
VNA3	Neumayer Olymp	38.82	177	⇑P	P	09 21 28.1	-0.2
	comp=Z,11nm,0.8s						
VNA3				⇑x	x	09 23 38.9	
	comp=Z,1.7nm,0.8s						
SNAA	Sanae	39.66	174	⇑P	P	09 21 35.2	-0.2
	comp=Z,44nm,0.9s						
SNAA				⇑x	x	09 23 41.5	
	comp=Z,29nm,0.9s						
SNAA	Sanae	39.66	174		P	09 21 34.6	-0.9
SNAA	Sanae	39.66	174	P	P	09 21 34.9	-0.5
	comp=Z,2.1nm,0.9s,baz=332,slow=9.0,SNR=8.3						
	comp=Z,2.1nm,0.9s						
DBIC	Dimbokro	40.09	15	P	P	09 21 39.1	-0.3
	comp=Z,8.1nm,0.8s,baz=210,slow=7.3,SNR=7.3						
DBIC				LR	LR	09 34 20.3	
	comp=Z,120nm,20.2s,baz=211,slow=30						
	comp=Z,8.1nm,0.8s						
MATP	Matopo	40.10	83	LR	LR	09 36 08.2	
	comp=Z,615nm,19.1s,baz=224,slow=33						
POGA	Pongola	40.15	95	P	P	09 21 37.1	-2.8
TROLL	Troll, Antarti	40.53	172	⇑P	P	09 21 43.1	+0.4
	comp=Z,465nm,0.9s						
TROLL				⇑x	x	09 23 44.8	
	comp=Z,127nm,0.8s						
ESPZ	Base Esperanza	40.65	208	P	P	09 21 42.6	-1.0
LSZ	Lusaka	42.34	76	P	P	09 21 58.5	+0.3
LSZ	Lusaka	42.34	76	LR	LR	09 37 00.5	
	comp=Z,359nm,21.9s,baz=210,slow=32						
PTLB	Pontes e Lacer	43.83	282		P	09 22 10.8	+0.7
PLCA	Paso Flores	45.03	243	P	P	09 22 19.9	+0.3
PLCA	Paso Flores	45.03	243	P	P	09 22 19.8	+0.3
	comp=Z,2.7nm,0.9s,baz=141,slow=9.1,SNR=4.0						
PLCA				LR	LR	09 42 47.9	
	comp=Z,173nm,18.2s,baz=79,slow=38						
	comp=Z,2.7nm,0.9s						
CFA	Coronel Fontan	45.11	256	LR	LR	09 38 56.5	
	comp=Z,196nm,21.1s,baz=57,slow=33						
GO09	Cerro Castillo	45.63	228	P	P	09 22 24.5	+0.5
MT08	Bocatoma Ro	46.07	253	P	P	09 22 28.1	+0.1
MT08				IAmb	IAmb	09 22 41.5	
	comp=Z,16nm,1.5s						
BELA	Belgrano 2	46.27	186	P	P	09 22 27.9	-0.9
BELA				IAmb	IAmb	09 22 29.6	
	comp=Z,7.3nm,1.0s						
BO04	La Punta	46.41	252	P	P	09 22 31.3	+0.8
BO04				IAmb	IAmb	09 23 25.3	
	comp=Z,14nm,1.4s						
SMAI	San Martin Ant	46.46	204	P	P	09 22 31.3	+1.0
BO01	Tunca	46.69	252	P	P	09 22 31.7	-0.9
BO01				IAmb	IAmb	09 22 41.4	
	comp=Z,11nm,1.2s						
CO01	Juntas del Tor	47.12	258		P	09 22 35.3	-1.0
CO01				IAmb	IAmb	09 22 46.1	
	comp=Z,12nm,1.1s						
SYO	Syowa Base	47.31	157	⇑*e*pP	P	09 22 37.0	+0.1
TORD	Torodi Ar. Bea	48.03	21	P	P	09 22 43.0	-0.1
	comp=Z,125nm,1.1s,baz=193,slow=7.2,SNR=7.4						
MAL2	Monte Alegre,	48.06	301		P	09 22 43.6	+0.1
LPAZ	La Paz	50.92	275	P	P	09 23 04.5	-1.5
	comp=Z,2.3nm,1.1s,baz=142,slow=5.7,SNR=6.0						
LPAZ				LR	LR	09 43 32.6	
	comp=Z,360nm,20.0s,baz=80,slow=35						
	comp=Z,2.3nm,1.1s						
H04S3	CROZET ISLANDS	51.57	127	T	T	10 18 48.2	
	baz=263,slow=75,SNR=67						
H04S2	CROZET ISLANDS	51.57	127	T	T	10 18 46.9	
	baz=263,slow=75,SNR=89						
H04S1	CROZET ISLANDS	51.59	127	T	T	10 18 47.3	
	baz=263,slow=75,SNR=59						
MDP	Montagnes des	52.09	309	LR	LR	09 43 01.7	
	comp=Z,242nm,21.1s,baz=85,slow=33						
MACA	Manacapuru-AM	52.17	294	P	P	09 23 14.8	+0.2
MACA				IAmb	IAmb	09 23 16.1	
	comp=Z,8.5nm,0.8s						
MAW	Mawson	55.57	153	P	P	09 23 38.2	-0.5
	comp=Z,5.3nm,0.9s,baz=284,slow=7.2,SNR=6.9						
	comp=Z,5.3nm,0.9s						
OPO	Ambohidratompo	56.69	92	LR	LR	09 45 10.8	
	comp=Z,127nm,19.1s,baz=333,slow=33						
QSPA	South Pole Qui	57.68	180	P	P	09 23 55.5	+1.5
QSPA				IAmb	IAmb	09 23 57.7	
	comp=Z,7.6nm,0.8s						
QSPA	South Pole Qui	57.68	180	P	P	09 23 56.0	+2.1
	comp=Z,7.4nm,0.8s,baz=207,slow=1.6,SNR=36						
	comp=Z,7.4nm,0.8s						
KIBK	Kibwezi	57.69	70	P	P	09 23 54.0	-0.7
TAM	Tamanrasset	58.28	22	P	P	09 23 58.6	0.0
LODK	Lodwar	59.24	63	P	P	09 24 07.0	+1.5
LODK				IAmb	IAmb	09 24 15.7	
	comp=Z,7.0nm,1.2s						
NNA	Nana	60.38	275	LR	LR	09 50 08.6	
	comp=Z,167nm,18.1s,baz=150,slow=36						
ATAH	Atahualpa	64.21	278	LR	LR	09 52 19.2	
	comp=Z,274nm,21.2s,baz=165,slow=36						
SDV	Santo Domingo	67.48	297	LR	LR	09 53 07.3	
	comp=Z,399nm,18.8s,baz=78,slow=35						
ROSC	El Rosal	67.77	292	LR	LR	09 53 53.2	
	comp=Z,450nm,18.7s,baz=119,slow=35						
SBA	Scott Base	69.83	180	P	P	09 25 13.6	-0.1
SBA				IAmb	IAmb	09 26 00.6	
	comp=Z,6.3nm,1.2s						
ATD	Arta Tunnel	70.13	61	LR	LR	09 52 56.8	
	comp=Z,6.8nm,20.5s,baz=56,slow=33						
VNDA	Vanda	70.15	179	P	P	09 25 15.2	-0.5
VNDA	Vanda	70.15	179	P	P	09 25 15.6	0.0
	comp=Z,1.2nm,1.1s,baz=221,slow=4.2,SNR=4.5						
	comp=Z,1.2nm,1.1s						
SJG	San Juan	70.55	308	LR	LR	09 55 36.5	
	comp=Z,96nm,18.9s,baz=80,slow=35						
KEST	Kesra	71.53	20	P	P	09 25 25.1	+0.5
	comp=Z,7.6nm,0.9s,baz=340,slow=3.1,SNR=6.7						
KEST				LR	LR	09 54 48.7	
	comp=Z,142nm,18.8s,baz=326,slow=34						
	comp=Z,7.6nm,0.9s						
ESDC	Sonseca Array	72.54	9	P	P	09 25 30.2	-0.2
	comp=Z,1.8nm,1.0s,baz=182,slow=6.5,SNR=7.2						
	comp=Z,1.8nm,1.0s						
JTS	Las Juntas de	79.44	289	LR	LR	10 00 02.5	
	comp=Z,218nm,20.0s,baz=132,slow=35						
RAYN	Ar Rayn	79.94	54	P	P	09 26 13.7	+0.8
RAYN				IAmb	IAmb	09 26 16.1	
	comp=Z,8.9nm,0.8s						
BR131	Keskin Array S	84.64	35	P	P	09 26 37.1	-0.2
BRTR	Keskin Array B	84.64	35	P	P	09 26 37.3	+0.1
BRTR	Keskin Array B	84.64	35	P	P	09 26 37.5	+0.2
	comp=Z,0.8nm,0.9s,baz=308,slow=6.0,SNR=5.1						
	comp=Z,0.8nm,0.9s						
GERES	GERESS Array B	84.88	18	P	P	09 26 37.3	-0.9
	comp=Z,1.0nm,0.9s,baz=199,slow=3.7,SNR=6.8						
	comp=Z,1.0nm,0.9s						
MODS	Modra-Piesok	85.45	21	*e*P	P	09 26 41.6	+0.6
PSZ	Piszkesteto	85.86	22	P	P	09 26 43.5	+0.5
PSZ				IAmb	IAmb	09 26 44.8	
	comp=Z,11nm,1.1s						
MLR	Muntele Rosu	85.92	27		P	09 26 43.5	-0.1
APG	El Apazote	86.54	290	LR	LR	10 07 42.7	
	comp=Z,7.1nm,18.1s,baz=47,slow=37						
MORC	Moravsky Berou	86.79	20	P	P	09 26 47.7	+0.2
MORC				IAmb	IAmb	09 26 49.5	
	comp=Z,8.6nm,1.3s						
CLL	Collm	86.96	17	*i* P	P	09 26 48.9	+0.6
	comp=Z,6.0nm,1.3s						
CLL				*i* PP	PP	09 30 12.8	+0.7
	comp=Z,6.0nm,1.4s						
PETF	Flores	87.16	292	P	P	09 26 50.4	+0.3
BURAR	Bucovina Array	87.43	26	P	P	09 26 51.8	+1.0
STHS	Stebnicka Huta	87.61	22	*e*P	P	09 26 52.9	+1.4
CMIG	Matias Romero	91.22	289	LR	LR	10 07 39.2	
	comp=Z,175nm,20.4s,baz=174,slow=35						
PALK	Pallekele	98.26	87	LR	LR	10 06 10.4	
	comp=Z,168nm,20.0s,baz=240,slow=32						
FINES	FINESS Array B	99.31	18	P	Pdif	09 27 42.9	-2.1
	comp=Z,1.6nm,0.8s,baz=129,slow=0.9,SNR=4.5						
	comp=Z,1.6nm,0.8s						
TBI	Tubuai	109.70	224	*e*LR	LR	10 04 54.0	
	comp=Z,344nm,27.2s						
TAOE	Nuku Hiva Isla	113.84	241	*e*LR	LR	10 06 48.0	
	comp=Z,98nm,25.0s						
PPT2	Papeete2	114.15	228	*e*LR	LR	10 06 55.5	
	comp=Z,54nm,23.5s						
KURBB	Kurchatov Arra	116.20	45	PKKPbc	PKKPbc	09 43 14.2	-2.5
	comp=Z,0.3nm,0.6s,baz=80,slow=3.6,SNR=4.5						
ASAR	Alice Springs	116.47	148	PKP	PKPdf	09 32 47.0	-1.0
	comp=Z,0.4nm,0.7s,baz=204,slow=2.0,SNR=3.0						
NVAR	Mina Array Bea	119.31	299	PKP	PKiKP	09 32 53.8	+0.6
	comp=Z,0.4nm,0.7s,baz=53,slow=3.7,SNR=4.1						
WRA	Warramunga Arr	119.89	146	PKP	PKPdf	09 32 53.0	-1.6
	comp=Z,0.3nm,0.7s,baz=240,slow=1.6,SNR=2.6						
ILAR	Eielson Array	136.71	332	PKP	PKPdf	09 33 25.4	+0.3
	comp=Z,1.4nm,0.8s,baz=47,slow=1.7,SNR=15						
KSRS	Korea Array	148.99	70	PKPbc	PKPbc	09 33 51.4	-0.2
	comp=Z,2.5nm,0.8s,baz=268,slow=2.0,SNR=12						
MJAR	Matsushiro Arr	157.22	72	PKPab	PKPab	09 34 30.5	-0.1
	comp=Z,3.0nm,1.0s,baz=262,slow=4.0,SNR=7.5						

*TRN **20** 09:21:06.9, 10°.15N×62°.15W, h50km, MD4.5, Gulf of Paria.*
*FUNV **20** 09:21:07.1, 10°.37N×62°.24W, h4km, MW4.1*
*IDC **20** 09:21:12.1±4.3, 10°.45N×62°.55W, h54km±38km, mb3.4/9, mbtmp3.8/10, ML3.4/2, MS3.3/4, Error ellipse: s-maj=29.2km s-min=22.9km az=112.0*
*VAO **20** 09:21:12.3±0.7, 9°.64N×62°.59W, h22km±4km, mb4.1*
ISC 20 09:21:06.9±1.3, 10°.15N±0°.04×62°.28W±0°.04, h27km±10km, n66, σ2.34/92, mb3.6/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.83	78	*e*P	Pb	09 21 23.3	+0.6
DMDM	Guralp CMG5TDE	0.90	53	*e*P	Pn	09 21 21.1	-2.6
DMDM				*e*S	Sb	09 21 33.3	-2.2
TRN	Trinidad (W)	0.99	60	*e*P	Pn	09 21 23.1	-1.9
TRN				*e*S	Sn	09 21 35.7	-2.5
GRFF	Grenada Fort F	1.96	16	*e*P	Pn	09 21 37.2	-1.2
GRFF				*e*S	Sn	09 21 59.6	-2.5
GRGR	Grenville	2.06	17	*e*P	Pn	09 21 38.3	-1.5
GRGR				*e*S	Sn	09 22 02.9	-1.8
GRW	Mount Saint Ca	2.09	17	*e*P	Pn	09 21 40.5	+0.3
GRW				*e*S	Sn	09 22 03.6	-1.7
GRHS	Sauteurs	2.15	17	*e*P	Pn	09 21 40.0	-1.1
GRHS				*e*S	Sn	09 22 04.8	-2.1
GRSS	Sisters	2.23	17	*e*P	Pn	09 21 41.6	-0.5
GRSS				*e*S	Sn	09 22 07.2	-1.6
GCMP	Grenada, Carri	2.47	20	*e*P	Pn	09 21 44.3	-1.1
GCMP				*e*S	Sn	09 22 11.6	-3.0
SVB	Belmont	3.26	18	*e*P	Pn	09 21 55.6	-0.7
SVB				*e*S	Sn	09 22 31.8	-2.5
BBGH	Gun Hill	3.99	42	*e*P	Pn	09 22 05.1	-1.3
SLBI	Saint Lucia, B	4.05	18	*e*P	Pn	09 22 06.7	-0.6
SLBI				*e*S	Sn	09 22 50.4	-3.5
FUNV	FUNVISIS	4.47	274	*e*P	Pn	09 22 15.2	+2.1
FUNV				*e*S	Sn	09 23 04.8	+0.5
BIM	Bigot	4.50	15	*e*P	Pn	09 22 12.9	-0.4
BIM				*e*S	Sn	09 23 00.1	-4.7
TACV	Tcata	4.68	270	*e*P	Pn	09 22 18.3	+2.4
TACV				*e*S	Sn	09 23 09.8	+0.5
SVN	Savane Anatole	4.79	13	*e*P	Pn	09 22 17.2	-0.2
SVN				*e*S	Sn	09 23 07.3	-4.7
ILAM	Ilet Lapin Mar	4.80	16	*e*P	Pn	09 22 17.7	+0.3
CACV	CAICARA DEL OR	4.93	239	*e*P	Pn	09 22 15.6	-3.7
CACV				*e*S	Sn	09 23 09.7	-5.8
BENV	Beln	5.25	268	*e*P	Pn	09 22 25.7	+2.1
DSLB	Salisbury	5.32	9	*e*P	Pn	09 22 24.0	-0.7
DSLB				x	x	09 23 21.7	
DWS	Wesley	5.47	10	*e*P	Pn	09 22 27.0	+0.4
DWS				x	x	09 23 26.7	
TBG	Guadaloupe-3	5.70	6	*e*P	Pn	09 22 29.3	-0.6
BAUV	El Baul	5.81	259	*e*P	Pn	09 22 33.2	+1.9
BAUV				*e*S	Sn	09 23 37.0	-0.2
BAUV	El Baul	5.81	259	*e*P	Pn	09 22 32.5	+1.1
BAUV				*e*S	Sn	09 23 36.6	-0.6
MMLZ	Guadeloupe Bro	5.89	6	*e*P	Pn	09 22 32.7	+0.2
MMLZ				x	x	09 23 36.0	
ATGZ	Broadband at L	5.94	5	*e*P	Pn	09 22 32.5	-0.6
ATGZ				x	x	09 23 37.3	
DHSZ	Broadband at M	6.11	5	*e*P	Pn	09 22 36.0	+0.6
DSDZ	La Diserade, G	6.24	11	*e*P	Pn	09 22 36.5	-0.7
MBWH	Windy Hill	6.55	1	*e*P	Pn	09 22 41.3	-0.3
SKI	Saint Kitts	7.16	356	*e*P	Pn	09 22 50.1	+0.3
ANWB	Willy Bob	7.49	4	*e*P	Pn	09 22 54.7	+0.3
BOAV	Boa Vista	7.90	167	*e*P	Pn	09 22 59.6	-0.5
BOAV				*e*S	Sn	09 24 25.6	-3.1
SDV	Santo Domingo	8.34	262	P	Pn	09 23 06.6	+0.4
	11nm,0.3s,baz=84,slow=8.9,SNR=11						
SDV				S	Sn	09 24 36.2	-3.5
	29nm,0.4s,baz=35,slow=16,SNR=4.8						
SDV				LR	LR	09 27 24.0	
	comp=Z,135nm,19.4s,baz=68,slow=46						
SDV	Santo Domingo	8.34	262	*e*P	Pn	09 23 07.1	+0.9
SDV				*e*S	Sn	09 24 36.6	-3.1
SJG	San Juan	8.76	335	P	Pn	09 23 04.1	-7.8
	2.9nm,0.6s,baz=349,slow=20,SNR=2.0						
SJG				S	Sn	09 24 39.8	-10
	3.9nm,0.3s,baz=354,slow=20,SNR=2.4						
SJG				LR	LR	09 26 47.7	
	comp=Z,62nm,18.7s,baz=129,slow=40						
CAPV	Capacho	10.17	258	*e*P	Pn	09 23 32.5	+1.0
MDP	Montagnes des	10.79	117	P	Pn	09 23 39.1	-0.6

1.8nm,0.7s
ILAR Eielson Array 78.59 334 P P 09 33 04.6 -1.3
0.3nm,0.6s,baz=94,slow=4.9,SNR=9.5
0.3nm,0.6s
FINES FINESS Array B 80.38 29 P P 09 33 17.0 +1.3
1.5nm,0.4s,baz=277,slow=4.4,SNR=21
1.5nm,0.4s
BRTR Keskin Array B 88.10 50 P P 09 33 55.6 0.0
0.2nm,0.4s,baz=224,slow=4.0,SNR=3.7
0.2nm,0.4s
ASAR Alice Springs 159.53 227 PKPab PKPab 09 41 43.9 +1.9
0.4nm,0.8s,baz=129,slow=4.3,SNR=2.4
WRA Warramunga Arr 161.25 237 PKPab PKPab 09 41 49.8 +0.1
0.3nm,0.6s,baz=110,slow=3.9,SNR=6.9

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*NOU **20** 09:21:40.4, 23°.35S×179°.61W, h546km, mb4.2/23, South of Fiji Islands*
*NEIC **20** 09:21:41.4±1.9, 23°.3S±0°.1×179°.8W±0°.1, h537km±8km, mb4.4/20, Error ellipse: s-maj=18.1km s-min=15.5km az=131.0*
*IDC **20** 09:21:43.5±2.6, 23°.07S×179°.96E, h561km±30km, mb3.5/10, mbtmp4.4/11, Error ellipse: s-maj=18.4km s-min=13.9km az=157.0*
ISC 20 09:21:40.4±0.4, 23°.37S±0°.06×179°.77W±0°.07, h532km, n105, σ1§66/110, mb4.2/23, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.97**	**340**	P	**P**	**09 23 18.1**	**+0.1**
GLKZ	**Green Lake**	**6.09**	**165**	P	**P**	**09 23 19.5**	**+0.6**
FUTU	**Fugatoga**	**9.15**	**10**	P	**P**	**09 23 51.2**	**+1.7**
NIUE	**Niue**	**10.12**	**67**	P	**P**	**09 23 58.7**	**-0.7**
NIUE	**Niue**	**10.12**	**67**	P	**P**	**09 23 58.6**	**-0.8**
MARNC	**Mare, Loyalty**	**11.44**	**277**	P	**P**	**09 24 13.9**	**+0.8**
MARNC	**Mare, Loyalty**	**11.44**	**277**	P	**P**	**09 24 13.9**	**+0.8**
PINNC	**Pines Island,**	**11.80**	**271**	P	**P**	**09 24 18.5**	**+1.6**
PINNC	**Pines Island,**	**11.80**	**271**	P	**P**	**09 24 18.6**	**+1.7**
DZM	**Mont Dzumac**	**12.79**	**273**	P	**P**	**09 24 28.7**	**+1.4**
	9.9nm,0.7s,baz=87,slow=18,SNR=13						
OUZ	**Omahuta**	**13.14**	**205**	P	**P**	**09 24 32.7**	**+2.1**
OUZ	**Omahuta**	**13.14**	**205**	P	**P**	**09 24 32.5**	**+1.8**
WCZ	**Waipu Caves**	**13.53**	**201**	P	**P**	**09 24 36.7**	**+2.1**
KUZ	**Kuaotunu**	**13.89**	**195**	P	**P**	**09 24 39.1**	**+0.8**
KUZ	**Kuaotunu**	**13.89**	**195**	P	**P**	**09 24 42.5**	**+4.1**
HAZ	**Te Kaha**	**14.49**	**188**	P	**P**	**09 24 45.6**	**+0.9**
HAZ				S	**S**	**09 27 13.6**	**-3.0**
RUGZ	**Raukumara Rang**	**14.71**	**188**	P	**P**	**09 24 47.5**	**+0.4**
RUGZ				S	**S**	**09 27 20.3**	**-0.8**
PUZ	**Puketiti**	**14.75**	**186**	P	P	09 24 38.3	-9.1
PUZ				S	**S**	**09 27 19.8**	**-1.8**
TOZ	**Tahuroa Road**	**14.88**	**195**	P	**P**	**09 24 51.3**	**+2.6**
TOZ	**Tahuroa Road**	**14.88**	**195**	P	**P**	**09 24 52.3**	**+3.6**
TWGZ	**Tauwhareparae**	**14.88**	**187**	P	**P**	**09 24 48.7**	**-0.1**
TWGZ				S	**S**	**09 27 22.4**	**-1.7**
URZ	**Urewera**	**15.08**	**189**	P	**P**	**09 24 49.9**	**-0.8**
	5.5nm,0.3s,baz=343,slow=1.8,SNR=13						
URZ				S	**S**	**09 27 23.0**	**-4.7**
	15nm,0.7s,baz=241,slow=22,SNR=11						
URZ	**Urewera**	**15.08**	**189**	P	**P**	**09 24 50.1**	**-0.7**
URZ	**Urewera**	**15.08**	**189**	P	**P**	**09 24 49.3**	**-1.4**
URZ				S	**S**	**09 27 22.6**	**-5.1**
MWZ	**Matawai**	**15.09**	**188**	P	**P**	**09 24 48.4**	**-2.6**
MWZ				S	**S**	**09 27 23.3**	**-4.7**
TKGZ	**Te Karaka**	**15.16**	**187**	P	**P**	**09 24 52.3**	**+0.7**
CNGZ	**Carnagh Statio**	**15.16**	**186**	P	**P**	**09 24 52.6**	**+0.9**
MUGZ	**Murupara**	**15.35**	**190**	P	**P**	**09 24 53.9**	**+0.3**
TLZ	**Tolley Road**	**15.44**	**194**	P	**P**	**09 24 57.1**	**+2.5**
KNZ	**Kokohu**	**15.75**	**187**	P	**P**	**09 24 56.9**	**-0.8**
KNZ				S	**S**	**09 27 40.4**	**+0.7**
HIZ	**Hauiti**	**15.78**	**196**	P	**P**	**09 24 58.5**	**+0.5**
HIZ	**Hauiti**	**15.78**	**196**	P	**P**	**09 25 01.7**	**+3.7**
BKZ	**Black Stump Fm**	**16.06**	**191**	P	**P**	**09 24 58.9**	**-2.0**
BKZ	**Black Stump Fm**	**16.06**	**191**	P	**P**	**09 24 57.7**	**-3.2**
VRZ	**Vera Road**	**16.38**	**195**	P	**P**	**09 25 06.1**	**+2.2**
PXZ	**Pawanui**	**16.85**	**189**	P	**P**	**09 25 06.9**	**-1.5**
TSZ	**Takapari Road**	**17.02**	**191**	P	**P**	**09 25 07.7**	**-2.4**
BFZ	**Birch Farm**	**17.58**	**190**	P	**P**	**09 25 13.6**	**-1.5**
BFZ	**Birch Farm**	**17.58**	**190**	P	**P**	**09 25 13.2**	**-2.0**
MRZ	**Mangatainoka R**	**17.68**	**192**	P	**P**	**09 25 13.3**	**-2.7**
QRZ	**Quartz Range**	**18.57**	**199**	P	**P**	**09 25 24.9**	**+0.7**
QRZ	**Quartz Range**	**18.57**	**199**	P	**P**	**09 25 25.0**	**+0.9**
NNZ	**Nelson**	**18.70**	**196**	P	**P**	**09 25 24.5**	**-0.8**
THZ	**Tophouse**	**19.34**	**197**	P	**P**	**09 25 31.0**	**-0.2**
DSZ	**Denniston Nort**	**19.63**	**199**	P	**P**	**09 25 34.1**	**+0.2**
KHZ	**Kahutara**	**19.79**	**195**	P	**P**	**09 25 34.7**	**-0.6**
KHZ	**Kahutara**	**19.79**	**195**	P	**P**	**09 25 34.6**	**-0.6**
GVZ	**Greta Valley S**	**20.43**	**195**	P	**P**	**09 25 40.0**	**-1.1**
LTZ	**Lake Taylor**	**20.46**	**197**	P	**P**	**09 25 40.5**	**-0.8**
INZ	**Inchbonnie**	**20.64**	**199**	P	**P**	**09 25 42.0**	**-0.9**
RPZ	**Rata Peaks**	**21.66**	**198**	P	**P**	**09 25 52.5**	**+0.4**
JCZ	**Jackson Bay**	**22.69**	**202**	P	**P**	**09 26 01.3**	**-0.2**
ARMA	**Armidale**	**26.41**	**248**	P	**P**	**09 26 35.7**	**+1.0**
ARMA				IAmb	IAmb	09 26 36.4	
	comp=Z,11nm,0.8s						
EIDS	**Eidsvold**	**26.61**	**260**	P	**P**	**09 26 36.8**	**+0.4**
CNB	**Canberra Magne**	**29.30**	**239**	P	**P**	**09 27 01.2**	**+1.3**
CAN	**Canberra**	**29.59**	**239**	P	**P**	**09 27 03.0**	**+0.7**
CAN	**Canberra**	**29.59**	**239**	P	**P**	**09 27 03.1**	**+0.7**
TV1H	**Townsville Har**	**31.38**	**271**	P	**P**	**09 27 18.1**	**+0.3**
CMSA	**Cobar Meteorol**	**31.61**	**247**	P	**P**	**09 27 19.7**	**0.0**
QLP	**Quilpie**	**32.72**	**257**	P	**P**	**09 27 29.6**	**+0.4**
PMG	**Port Moresby**	**34.53**	**288**	P	**P**	**09 27 44.1**	**-0.4**
STKA	**Stephens Creek**	**35.12**	**247**	P	**P**	**09 27 49.4**	**+0.1**
	comp=Z,9.9nm,0.6s,baz=94,slow=11,SNR=33						
	comp=Z,9.9nm,0.6s						
STKA	**Stephens Creek**	**35.12**	**247**	P	**P**	**09 27 49.7**	**+0.4**
COEN	**Coen**	**36.25**	**278**	P	**P**	**09 27 59.1**	**+0.2**
HTT	**Hallett**	**37.49**	**245**	P	**P**	**09 28 09.0**	**+0.1**
QIS	**Mount Isa**	**37.70**	**266**	P	**P**	**09 28 10.5**	**-0.3**
AS31	**Alice Springs**	**42.33**	**260**		**P**	**09 28 47.6**	**-0.3**
AS31				IAmb	IAmb	09 28 48.7	
	comp=Z,5.3nm,0.5s						
ASAR	**Alice Springs**	**42.34**	**260**		**P**	**09 28 46.9**	**-1.0**
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**09 28 47.6**	**-0.3**
	comp=Z,16nm,0.8s,baz=96,slow=7.1,SNR=171						
ASAR				S	**S**	**09 34 28.1**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=102,slow=13,SNR=5.9						
	comp=Z,16nm,0.8s						
WR8	**Warramunga Arr**	**42.51**	**266**		**P**	**09 28 48.5**	**-0.7**
WR8				IAmb	IAmb	09 28 49.1	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**42.66**	**265**		**P**	**09 28 50.0**	**-0.4**
WRA	**Warramunga Arr**	**42.66**	**265**	P	**P**	**09 28 49.4**	**-1.0**
	comp=Z,17nm,0.7s,baz=102,slow=8.3,SNR=128						
	comp=Z,17nm,0.7s						
MTN	**Manton Dam**	**47.63**	**274**	P	**P**	**09 29 27.8**	**-0.8**
MTN				IAmb	IAmb	09 29 46.2	
	comp=Z,12nm,1.3s						
KNRA	**Kununurra**	**48.91**	**269**	P	**P**	**09 29 37.7**	**-0.4**
KNRA				IAmb	IAmb	09 29 38.5	
	comp=Z,27nm,1.1s						
SBA	**Scott Base**	**54.91**	**183**	P	**P**	**09 30 23.3**	**+2.9**
VNDA	**Vanda**	**54.92**	**185**	P	**P**	**09 30 21.7**	**+1.3**
VNDA	**Vanda**	**54.92**	**185**	P	**P**	**09 30 22.2**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=12,slow=6.8,SNR=7.2						
	comp=Z,0.4nm,0.5s						
MBWA	**Marble Bar**	**55.68**	**260**	P	**P**	**09 30 25.6**	**-1.0**
MBWA				IAmb	IAmb	09 30 26.6	
	comp=Z,11nm,0.9s						
TOLI2	**Tolitoli**	**62.65**	**284**	P	**P**	**09 31 13.6**	**+0.2**
TOLI2				IAmb	IAmb	09 31 32.5	
	comp=Z,16nm,0.9s						
QSPA	**South Pole Qui**	**66.71**	**180**	P	**P**	**09 31 41.7**	**+3.4**
QSPA	**South Pole Qui**	**66.71**	**180**	P	**P**	**09 31 41.7**	**+3.4**
	comp=Z,2.0nm,0.6s,baz=4.4,slow=2.1,SNR=22						
	comp=Z,2.0nm,0.6s						
JMN	**Monobe**	**71.91**	**321**	P	**P**	**09 32 09.4**	**-0.5**
ADK	**Adak**	**74.98**	**2**	P	**P**	**09 32 26.1**	**-0.7**
NIKH	**Nikolski High**	**76.61**	**7**	P	**P**	**09 32 35.5**	**-0.4**
BELA	**Belgrano 2**	**76.93**	**173**	P	**P**	**09 32 37.2**	**-0.2**
PETK	**Petropavlovsk-**	**78.64**	**346**	P	**P**	**09 32 46.0**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=159,slow=5.6,SNR=4.2						
	comp=Z,1.6nm,0.7s						
SLBS	**Sierra La Lagu**	**82.36**	**60**	P	**P**	**09 33 07.7**	**+0.7**
SLBS				IAmb	IAmb	09 33 29.2	
	comp=Z,33nm,1.4s						
O02D	**Mt. Diablo Mer**	**82.52**	**40**	P	**P**	**09 33 08.7**	**+1.3**
O02D				IAmb	IAmb	09 33 10.2	
	comp=Z,19nm,1.4s						
BORC	**Borrego Spring**	**82.53**	**49**	P	**P**	**09 33 08.1**	**+0.5**
BORC				IAmb	IAmb	09 33 09.5	
	comp=Z,3.5nm,0.8s						

NVAR Mina Array Bea 84.22 44 P P 09 33 16.9 +0.7
comp=Z,1.2nm,0.7s,baz=254,slow=5.8,SNR=8.1
comp=Z,1.2nm,0.7s
TROLL Troll, Antarti 84.86 181 ⇑P P 09 33 18.3 -0.3
comp=Z,107nm,0.5s
SNAA Sanae 85.19 179 ⇑P P 09 33 19.2 -1.0
comp=Z,14nm,0.5s
SNAA Sanae 85.19 179 P P 09 33 19.6 -0.6
comp=Z,0.5nm,0.5s,baz=206,slow=8.7,SNR=13
VNA3 Neumayer Olymp 85.39 177 ⇑P P 09 33 20.0 -1.1
comp=Z,1.0nm,0.5s
VNA2 Neumayer--Watz 85.81 177 ⇑P P 09 33 22.5 -0.5
comp=Z,1.1nm,0.5s,baz=193,slow=5.0
TXAR Lajitas Array 89.97 58 P P 09 33 44.7 +1.3
comp=Z,1.6nm,0.8s,baz=213,slow=6.3,SNR=21
comp=Z,1.6nm,0.8s
ILAR Eielson Array 91.47 13 P P 09 33 48.1 -1.2
comp=Z,0.6nm,0.8s,baz=203,slow=5.2,SNR=5.7
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 92.16 44 P P 09 33 52.6 -0.8
comp=Z,0.8nm,0.6s,baz=217,slow=4.0,SNR=7.7
comp=Z,0.8nm,0.6s
FINES FINESS Array B 138.01 342 SKPbc SKPbc 09 42 47.9 -0.2
comp=Z,2.4nm,1.0s,baz=64,slow=3.2,SNR=5.6
NB2 NORSAR Subarra141.59 351 PKP PKPpre 09 40 05.3
comp=Z,0.6nm,0.6s,baz=15,slow=3.2
NOA NORSAR Array B141.59 351 PKhKP PKPpre 09 40 05.0
comp=Z,0.8nm,0.7s,baz=15,slow=4.6,SNR=4.5
HFS Hagfors 142.07 349 PKhKP PKPpre 09 40 06.5
comp=Z,4.3nm,0.5s,baz=70,slow=4.9,SNR=33
AKASG Malin Array Be 144.64 328 PKP PKPdf 09 40 14.2 -2.0
comp=Z,1.5nm,0.5s,baz=44,slow=3.9,SNR=9.4
EKA Eskdalemuir Ar 147.98 4 PKPbc PKPbc 09 40 24.5 -1.0
comp=Z,0.8nm,0.4s,baz=349,slow=2.6,SNR=6.6
GERES GERESS Array B 152.43 341 PKPbc PKPbc 09 40 35.3 -1.0
comp=Z,0.2nm,0.5s,baz=20,slow=3.3,SNR=4.2

GII 20 09:30:42.2±0.0, 33°.21N×35°.22E, h0km, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.13**	**198**	P	Pg	09 30 44.7	0.0
HNTI	**Hanita**	**0.13**	**198**	S	Sg	09 30 47.0	+0.6
MMC7	**Mount Meron ar**	**0.23**	**142**	P	Pg	09 30 47.1	+0.4
MMA0B	**Mount Meron ar**	**0.24**	**142**	P	Pg	09 30 46.8	-0.1
MMA0B	**Mount Meron ar**	**0.24**	**142**	S	Sg	09 30 51.7	+1.7

IDC 20 09:32:47.9±1.7, 2°.70S×138°.40E, h0km, mb3.2/2, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=32.5km s-min=18.7km az=168.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.31**	**86**	Pn	Pn	09 33 27.7	+0.3
	3.7nm,0.3s,baz=228,slow=7.7,SNR=12						
JAY				Lg	Lg	09 34 01.1	
	1.9nm,0.3s,baz=168,slow=22,SNR=1.7						
	13nm,0.5s						
WRA	**Warramunga Arr**	**17.59**	**193**	P	P	09 36 55.4	-0.4
	0.1nm,0.3s,baz=13,slow=12,SNR=6.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.29**	**191**	P	P	09 37 35.9	-0.4
	0.3nm,0.5s,baz=12,slow=11,SNR=13						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.59**	**323**	P	P	09 43 59.0	0.0
	0.1nm,0.3s,baz=116,slow=8.2,SNR=2.1						
	0.1nm,0.3s						

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*SNET **20** 09:39:14.0±0.7, 13°.15N×89°.17W, h59km±6km, ML2.4*
CATAC 20 09:39:13.2±0.6, 13°N±5°×8°9W±°, h35km±5km, M2.4/12, MLv2.4/12, Error ellipse: s-maj=10.3km s-min=4.9km az=22.6, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	**Loma Larga**	**0.63**	**1**	*eP*	Pn	09 39 26.4	+0.6
LOMA	**Loma Larga**	**0.63**	**1**	P	Pn	09 39 26.5	+0.6
LOMA	**Loma Larga**	**0.63**	**1**	S	Sn	09 39 36.3	+1.6
TECO	**Alcaldia de Te**	**0.66**	**37**	P	Pn	09 39 26.3	+0.2
UTEC	**Universidad Te**	**0.69**	**359**	P	Pn	09 39 27.4	+0.9
JAYA	**Jayaque - finc**	**0.69**	**338**	*eP*	Pn	09 39 27.3	+0.6
JAYA				*eS*	Sn	09 39 37.4	+1.2
JAYA	**Jayaque - finc**	**0.69**	**338**	P	Pn	09 39 27.3	+0.7
UDBS	**Universidad Do**	**0.70**	**3**	P	Pn	09 39 27.2	+0.5
UDBS	**Universidad Do**	**0.70**	**3**	S	Sn	09 39 38.2	+1.8
PMON	**Piamonte**	**0.71**	**350**	*eP*	Pn	09 39 27.3	+0.4
PMON				*eS*	Sn	09 39 38.6	+2.1
PMON	**Piamonte**	**0.71**	**350**	P	Pn	09 39 27.4	+0.5
UESV	**Universidad de**	**0.73**	**32**	P	Pn	09 39 27.7	+0.5
UESV	**Universidad de**	**0.73**	**32**	S	Sn	09 39 38.2	+1.1
LBRS	**Las Brisas**	**0.74**	**11**	*eP*	Pn	09 39 28.0	+0.8
PAVA	**Las Pavas**	**0.74**	**19**	*eP*	Pn	09 39 27.8	+0.5
PAVA	**Las Pavas**	**0.74**	**19**	P	Pn	09 39 27.7	+0.4
PAVA	**Las Pavas**	**0.74**	**19**	S	Sn	09 39 39.5	+2.1
SCLA	**Alcaldia de Sa**	**0.82**	**33**	*eP*	Pn	09 39 29.0	+0.6
SCLA	**Alcaldia de Sa**	**0.82**	**33**	P	Pn	09 39 28.9	+0.6
SCLA	**Alcaldia de Sa**	**0.82**	**33**	S	Sn	09 39 41.3	+2.0
TECA	**Tecapa**	**0.82**	**54**	*eP*	Pn	09 39 29.3	+0.8
TECA				*eS*	Sn	09 39 40.7	+1.1
LCY	**Lacayo**	**0.96**	**65**	*eP*	Pn	09 39 31.2	+0.9
NUBE	**Las Nubes**	**1.06**	**327**	*eP*	Pn	09 39 32.2	+0.5
NUBE	**Las Nubes**	**1.06**	**327**	P	Pn	09 39 31.6	-0.1
NUBE	**Las Nubes**	**1.06**	**327**	S	Sn	09 39 46.1	+0.9
FAME	**Alcaldia de Sa**	**1.15**	**316**	S	Sn	09 39 47.8	+0.3
FAME	**Alcaldia de Sa**	**1.15**	**316**	P	Pn	09 39 33.7	+0.8
LCND	**La Caada**	**1.30**	**77**	P	Pn	09 39 35.2	+0.4
MTO3	**Montecristo**	**1.39**	**353**	P	Pn	09 39 36.3	0.0
MTO3	**Montecristo**	**1.39**	**353**	S	Sn	09 39 53.7	+0.1

IDC 20 09:45:17.4±1.4, 2°.69S×138°.38E, h0km, mb3.5/2, mbtmp3.5/5, ML3.3/3, MS3.3/3, Error ellipse: s-maj=28.9km s-min=17.4km az=166.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.33**	**86**	Pn	Pn	09 45 57.2	+0.1
	4.0nm,0.3s,baz=230,slow=8.6,SNR=13						
JAY				Lg	Lg	09 46 30.8	
	2.1nm,0.3s,baz=119,slow=20,SNR=1.6						
JAY				LR	LR	09 46 49.8	
	comp=Z,56nm,19.1s,baz=232,slow=40						
	16nm,0.4s						
WRA	**Warramunga Arr**	**17.59**	**193**	P	Pn	09 49 24.2	0.0
	0.2nm,0.3s,baz=9.9,slow=11,SNR=9.8						
	0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.76**	**218**	P	P	09 49 48.5	-0.7
	baz=51,slow=10,SNR=1.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**21.29**	**191**	P	P	09 50 05.5	-0.3
	0.8nm,0.5s,baz=22,slow=9.9,SNR=14						
ASAR				S	S	09 53 59.4	-4.0
	0.5nm,0.8s,baz=18,slow=22,SNR=3.5						
	0.8nm,0.5s						
BRDH	**Bariadhala**	**52.09**	**302**	LR	LR	10 18 31.1	
	comp=Z,86nm,18.9s,baz=238,slow=38						
MKAR	**Makanchi Array**	**69.57**	**323**	P	P	09 56 28.9	+0.5
	0.7nm,0.7s,baz=132,slow=8.0,SNR=5.5						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**71.75**	**330**	LR	LR	10 29 20.0	
	comp=Z,51nm,20.2s,baz=250,slow=37						

IDC 20 09:48:10.0±4.3, 17°.00S×177°.37W, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/1, Error ellipse: s-maj=179.3km s-min=37.5km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.93**	**240**	P	P	09 55 46.0	-0.2
	1.0nm,0.4s,baz=125,slow=9.5,SNR=5.2						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**45.77**	**259**	P	P	09 56 33.5	-0.2
	0.3nm,0.3s,baz=93,slow=6.7,SNR=7.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**45.99**	**253**	P	P	09 56 35.6	+0.1
	2.8nm,0.5s,baz=88,slow=8.3,SNR=64						
ASAR				LR	LR	10 15 00.4	
	comp=Z,58nm,18.1s,baz=204,slow=35						
	2.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**54.16**	**260**	P	P	09 57 37.0	-0.5
	1.5nm,1.0s,baz=93,slow=17,SNR=1.6						
	1.5nm,1.0s						

ILAR Eielson Array 84.79 13 P P 10 00 46.0 +0.1
0.3nm,0.9s,baz=209,slow=5.2,SNR=2.1
0.3nm,0.9s

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*IDC **20** 10:37:33.8±1.1, 72°.26N×15°.46E, h0km, mbtmp3.5/5, ML2.7/5, Error ellipse: s-maj=19.5km s-min=10.6km az=74.0*
*NAO **20** 10:37:34.3±0.4, 72°.36N×15°.05E, h15km, ML3.1*
*BER **20** 10:37:35.6±3.4, 72°.29N×14°.93E, h15km, ML2.2, ML3.1(NAO), Confirmed Earthquake*
*KOLA **20** 10:37:37.3, 72°.05N×15°.55E, h0km, ML2.4, Error ellipse: s-maj=21.9km s-min=9.8km az=160.0, Norwegian sea*
*UPP **20** 10:37:41.1±3.0, 71°.80N×15°.01E, h0km, ML2.3, Presumed earthquake*
ISC 20 10:37:31.2±1.1, 72°.31N±0°.05×14°.89E±0°.05, h10km, n67, σ2§80/112, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEA6	**Bear Island, N**	**2.50**	**26**	Pn	**Pn**	**10 38 14.9**	**+3.1**
	baz=210,slow=18						
BEA6				Sn	**Sn**	**10 38 41.3**	**-0.9**
	baz=210,slow=37						
TRO	**Tromso**	**3.00**	**152**	Pn	**Pn**	**10 38 22.1**	**+3.4**
TRO				Sn	**Sn**	**10 38 53.8**	**-0.7**
TRO	**Tromso**	**3.00**	**152**	*eP*	**Pn**	**10 38 21.8**	**+3.1**
TRO				*eS*	**Sn**	**10 38 53.1**	**-1.4**
TRO				IAML		10 38 55.9	
	comp=Z,20nm,0.2s						
HAMF	**Hammerfest**	**3.27**	**117**	Pn	**Pn**	**10 38 24.1**	**+1.7**
HAMF				Sn	**Sn**	**10 38 58.9**	**-2.3**
HAMF	**Hammerfest**	**3.27**	**117**	*eP*	**Pn**	**10 38 23.9**	**+1.5**
HAMF				*eS*	**Sn**	**10 38 58.8**	**-2.4**
HAMF				IAML		10 39 00.2	
	comp=Z,23nm,0.2s						
JETT	**Jettan, Norway**	**3.31**	**144**	Pn	**Pn**	**10 38 24.9**	**+2.0**
JETT				Sn	**Sn**	**10 39 01.5**	**-0.8**
JETT	**Jettan, Norway**	**3.31**	**144**	Pn	**Pn**	**10 38 24.9**	**+2.0**
JETT				Sn	**Sn**	**10 39 01.5**	**-0.8**
JETT				IAML		10 39 06.4	
	comp=Z,12nm,0.3s						
KIF	**Kilpisjarvi**	**3.86**	**146**	Pn	**Pn**	**10 38 33.5**	**+3.1**
KIF				Sn	**Sn**	**10 39 16.0**	**+0.3**
KIF	**Kilpisjarvi**	**3.86**	**146**	*eP*	**Pn**	**10 38 33.3**	**+2.8**
KIF				*eS*	**Sn**	**10 39 14.3**	**-1.5**
LOF	**Lofoten**	**4.22**	**187**	Pn	**Pn**	**10 38 36.2**	**+0.7**
LOF				Sn	**Sn**	**10 39 20.9**	**-3.8**
LOF	**Lofoten**	**4.22**	**187**	*eP*	**Pn**	**10 38 36.1**	**+0.6**
LOF				Sn	**Sn**	**10 39 20.9**	**-3.8**
KTK1	**Kautokeino**	**4.32**	**136**	Pn	**Pn**	**10 38 39.9**	**+3.0**
KTK1				Sn	**Sn**	**10 39 27.1**	**-0.1**
KTK1	**Kautokeino**	**4.32**	**136**	*eP*	**Pn**	**10 38 39.8**	**+3.0**
KTK1				*eS*	**Sn**	**10 39 26.5**	**-0.7**
KTK1				IAML		10 39 30.4	
	comp=Z,10nm,0.4s						
STEI	**Steigen**	**4.40**	**178**	Pn	**Pn**	**10 38 40.2**	**+2.2**
STEI				Sn	**Sn**	**10 39 27.6**	**-1.6**
STEI	**Steigen**	**4.40**	**178**	*eP*	**Pn**	**10 38 40.0**	**+2.1**
STEI				*eS*	**Sn**	**10 39 27.6**	**-1.6**
STEI				IAML		10 39 29.4	
	comp=Z,7.4nm,0.5s						
ARA0	**ARCESS Array S**	**4.46**	**124**	Pn	**Pn**	**10 38 40.8**	**+2.0**
	baz=314,slow=11						
ARA0				Sn	**Sn**	**10 39 29.3**	**-1.3**
	baz=309,slow=22						
ARA0	**ARCESS Array S**	**4.46**	**124**	Pn	**Pn**	**10 38 40.8**	**+2.0**
	baz=314,slow=11						
ARA0				Sn	**Sn**	**10 39 29.3**	**-1.3**
	baz=309,slow=22						
ARA0				IAML		10 39 34.1	
	comp=Z,11nm,0.3s						
ARCES	**ARCESS Array B**	**4.46**	**124**	Pn	**Pn**	**10 38 40.9**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=319,slow=12,SNR=52						
ARCES				Sn	**Sn**	**10 39 29.6**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=311,slow=21,SNR=17						
	comp=Z,1.5nm,0.3s						
ARCES	**ARCESS Array B**	**4.46**	**124**	P	**Pn**	**10 38 40.8**	**+2.0**
ARCES				S	**Sn**	**10 39 28.2**	**-2.4**
KOVU	**Salmi**	**4.48**	**154**	P	**Pn**	**10 38 42.5**	**+3.5**
KOVU				S	**Sn**	**10 39 31.1**	**0.0**
KEV	**Kevo**	**4.71**	**117**	Pn	**Pn**	**10 38 43.2**	**+1.0**
KEV				Sn	**Sn**	**10 39 34.2**	**-2.5**
KEV	**Kevo**	**4.71**	**117**	*eP*	**Pn**	**10 38 43.4**	**+1.2**
KEV				*eS*	**Sn**	**10 39 34.1**	**-2.5**
KUA	**Kurravaara**	**4.75**	**154**	P	**Pn**	**10 38 46.7**	**+3.9**
	baz=352						
KUA				S	**Sn**	**10 39 36.5**	**-1.3**
HEF	**Hetta**	**4.91**	**139**	Pn	**Pn**	**10 38 47.3**	**+2.4**
HEF				Sn	**Sn**	**10 39 40.5**	**-1.1**
HEF	**Hetta**	**4.91**	**139**	*eP*	**Pn**	**10 38 47.2**	**+2.3**
HEF				*eS*	**Sn**	**10 39 39.6**	**-2.0**
LANU	**Lannavaara**	**4.91**	**147**	P	**Pn**	**10

NRA0	NORESS Array S	11.70 188	P	Pn	10 40 19.9	+2.0
	baz=1.0,slow=11					
NRA0	NORESS Array S	11.70 188	P	Pn	10 40 19.9	+2.0
	baz=1.0,slow=11					
FIA0	FINESS Array S	11.73 153	P	Pn	10 40 20.2	+1.8
	baz=343,slow=14					
FIA0	FINESS Array S	11.73 153	P	Pn	10 40 20.2	+1.8
	baz=343,slow=14					
FINES	FINESS Array B	11.73 153	Pn	Pn	10 40 20.4	+2.1
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=5.8					
FINES			Sn	Sn	10 42 22.5	-6.6
	comp=Z,0.1nm,0.3s,baz=354,slow=24,SNR=2.0					
	comp=Z,1.7nm,0.9s					
HFS	Hagfors	12.24 183	P	Pn	10 40 26.8	+1.5
	baz=359,slow=16					
HFS	Hagfors	12.24 183	Pn	Pn	10 40 26.5	+1.2
	comp=Z,0.2nm,0.3s,baz=1.6,slow=10,SNR=7.2					
	comp=Z,1.7nm,0.7s					
HFS	Hagfors	12.24 183	P	Pn	10 40 26.8	+1.5
	baz=359,slow=16					

TRN 20 11:11:14.3, 16°.47N×59°.32W, h37km, MD4.1, Far East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DSDZ	La Diserade, G	1.68	265	eP			Pn	11 11 42.0	+0.8
DSDZ				eS			Sn	11 12 00.8	-0.7
DWS	Wesley	2.11	245	eP			Pn	11 11 48.6	+1.5
DWS				eS			Sn	11 12 14.3	+2.3
ILAM	Ilet Lapin Mar	2.25	222	x			Pn	11 11 49.6	+0.6
DSLB	Salisbury	2.27	243	eP			Pn	11 11 50.6	+1.4
DSLB				eS			Sn	11 12 17.8	+1.9
MMLZ	Guadeloupe Bro	2.29	260	eP			Pn	11 11 51.7	+2.1
MMLZ				eS			Sn	11 12 18.9	+2.3
TBG	Guadaloupe-3	2.32	255	eP			Pn	11 11 51.6	+1.7
TBG				eS			Sn	11 12 18.4	+1.3
ATGZ	Broadband at L	2.34	261	eP			Pn	11 11 52.5	+2.3
ATGZ				eS			Sn	11 12 18.4	+0.7
DHSZ	Broadband at M	2.35	266	eP			Pn	11 11 51.7	+1.3
DHSZ				eS			Sn	11 12 19.1	+1.0
BIM	Bigot	2.57	221	eP			Pn	11 11 54.8	+1.4
BIM				eS			Sn	11 12 25.3	+1.8
ANWB	Willy Bob	2.64	297	eP			Pn	11 11 55.7	+1.3
ANWB				eS			Sn	11 12 25.9	+0.7
MBWH	Windy Hill	2.77	276	eP			Pn	11 11 58.2	+2.1
MBWH				eS			Sn	11 12 30.4	+2.2
SLBI	Saint Lucia, B	2.91	213	eP			Pn	11 11 58.9	+0.8
SLBI				eS			Sn	11 12 33.5	+1.7
SKI	Saint Kitts	3.38	285	eP			Pn	11 12 07.0	+2.4
SKI				eS			Sn	11 12 45.2	+1.7
SVB	Belmont	3.69	211	eP			Pn	11 12 10.7	+1.9
SVB				eS			Sn	11 12 52.1	+1.1
GRGR	Grenville	4.87	208	eP			Pn	11 12 27.3	+2.3
GRGR				eS			Sn	11 13 19.8	-0.4

*IDC **20** 11:25:21.4±1.6, 32°.35S×14°.83W, h0km, mb4.2/4, mbtmp4.2/4, MS4.0/1, Error ellipse: s-maj=64.1km s-min=24.6km az=1.0*
*NEIC **20** 11:25:23.3±1.7, 32°.5S±0°.1×14°.9W±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=22.0km s-min=19.7km az=340.0*

ISC 20 11:25:22.6±0.6, 32°.4S±0°.1×14°.93W±0°.10, h10km, n33, σ1§23/25, mb4.4/12, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	18.39	29				Pn	11 29 38.1	+0.3
H10N1	ASCENSION HYDR	24.46	1	T			T	11 56 13.9	
	baz=178								
H10N3	ASCENSION HYDR	24.46	1	T			T	11 56 16.3	
	baz=178								
H10N2	ASCENSION HYDR	24.48	1	T			T	11 56 19.2	
	baz=178								
HOPE	Hope Point	26.69	209	P			P	11 31 01.4	-0.3
VAO	Valinhos	29.78	280	P			P	11 31 30.2	+0.4
VAO				IAmb			IAmb	11 31 46.7	
	comp=Z,6.1nm,0.9s								
SPB	Sao Paulo	29.92	279	P			P	11 31 32.2	+1.3
SPB				IAmb			IAmb	11 31 41.9	
	comp=Z,7.4nm,0.8s								
WIN	Windhoek	29.96	79	P			P	11 31 31.2	-0.2
WIN				IAmb			IAmb	11 31 50.9	
	comp=Z,6.3nm,1.1s								
KOOLE	Kule	32.36	82	P			P	11 31 53.0	+0.4
KOOLE				IAmb			IAmb	11 31 56.6	
	comp=Z,7.2nm,1.1s								
RCBR	Riachuelo	32.91	319	P			P	11 31 57.1	-0.2
BDFB	Brasilia	34.34	291	P			P	11 32 09.8	-0.1
BDFB				IAmb			IAmb	11 32 12.8	
	comp=Z,6.9nm,0.8s								
BDFB	Brasilia	34.34	291	P			P	11 32 11.8	+1.9
	comp=Z,4.9nm,0.7s,baz=122,slow=8.8,SNR=7.6								
	comp=Z,4.9nm,0.7s								
GRHM	Grahamstown, E	34.55	103	P			P	11 32 10.4	-1.0
KDWAN	Kaudwane	35.96	86	P			P	11 32 23.1	-0.7
KDWAN				IAmb			IAmb	11 32 40.9	
	comp=Z,6.1nm,1.1s								
LPHEP	Lephephe	36.98	86	P			P	11 32 32.7	+0.3
LPHEP				IAmb			IAmb	11 32 35.4	
	comp=Z,7.6nm,1.1s								
MREMI	Moremi	38.63	86	P			P	11 32 47.7	+1.3
DBIC	Dimbokro	40.04	16	P			P	11 32 57.1	-0.9
	comp=Z,4.5nm,1.0s,baz=172,slow=7.1,SNR=3.1								
	comp=Z,4.5nm,1.0s								
MATP	Matopo	40.43	84	P			P	11 33 02.5	+1.0
	comp=Z,2.1nm,0.7s,baz=238,slow=6.7,SNR=7.5								
	comp=Z,2.1nm,0.7s								
PLCA	Paso Flores	44.79	243	LR			LR	11 52 09.8	
	comp=Z,171nm,19.0s,baz=89,slow=36								
SIV	San Ignacio	44.79	280	P			P	11 33 37.6	+0.8
	comp=Z,0.9nm,0.6s,baz=108,slow=5.8,SNR=5.9								
	comp=Z,0.9nm,0.6s								
BELA	Belgrano 2	46.38	186	P			P	11 33 47.3	-1.4
PB09	IPOC Station P	49.05	268	P			P	11 34 08.3	-1.9
PB09				IAmb			IAmb	11 34 18.5	
	comp=Z,6.6nm,1.1s								
H04S3	CROZET ISLANDS	51.93	127	T			T	12 30 05.7	
	baz=263								
H04S2	CROZET ISLANDS	51.94	127	T			T	12 30 04.5	
	baz=263								
H04S1	CROZET ISLANDS	51.95	127	T			T	12 30 03.2	
	baz=263								
QSPA	South Pole Qui	57.82	180	P			P	11 35 14.2	+0.1
SBA	Scott Base	69.98	180	P			P	11 36 36.0	+2.3
IDI	Anoyia	77.02	33	P			P	11 37 16.6	+0.9
IDI				IAmb			IAmb	11 37 23.9	
	comp=Z,5.8nm,1.1s								
APG	El Apazote	86.17	290	LR			LR	12 15 47.6	
	comp=Z,5.9nm,21.1s,baz=96,slow=35								
ILAR	Eielson Array	136.42	332	PKP			PKPdf	11 44 41.7	-2.1
	comp=Z,0.3nm,0.9s,baz=40,slow=1.5,SNR=4.4								
L14K	Kuka Creek	144.32	334	PKPdf			PKPdf	11 44 57.1	-1.1
M14K	Bethel	144.42	333	PKPdf			PKPdf	11 44 57.2	-1.1
KSRS	Korea Array	149.27	70	PKPbc			PKPdf	11 45 08.9	+1.7
	comp=Z,0.4nm,0.7s,baz=270,slow=4.3,SNR=2.1								

*IDC **20** 11:25:51.4±0.9, 32°.40S×14°.52W, h0km, mb4.1/8, mbtmp4.1/8, MS3.7/1, Error ellipse: s-maj=29.5km s-min=20.6km az=6.0*
*NEIC **20** 11:25:55.7±1.6, 32°.3S±0°.1×14°.8W±0°.1, h10km±1km, mb4.5/19, Error ellipse: s-maj=23.3km s-min=19.0km az=156.0*

ISC 20 11:25:56.9±0.6, 32°.3S±0°.1×14°.7W±0°.1, h26km, n39, σ1§43/32, mb4.4/18, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	18.19	29	P			Pn	11 30 08.3	+0.5
SHEL				IAmb			IAmb	11 30 25.4	
	comp=Z,54nm,1.1s								
H10N1	ASCENSION HYDR	24.34	1	T			T	11 56 49.2	
	baz=189,slow=78,SNR=9.3								
H10N3	ASCENSION HYDR	24.34	0	T			T	11 56 45.9	
	baz=189,slow=78,SNR=35								
H10N2	ASCENSION HYDR	24.36	0	T			T	11 56 47.5	
	baz=189,slow=78,SNR=9.0								
WIN	Windhoek	29.75	79	P			P	11 32 02.8	+1.3
SUR	Sutherland	29.91	100	P			P	11 32 01.9	-1.1
SUR				IAmb			IAmb	11 32 18.7	
	comp=Z,10nm,1.1s								
KOOLE	Kule	32.15	82	P			P	11 32 23.3	+0.6
KOOLE				IAmb			IAmb	11 32 33.4	
	comp=Z,5.1nm,1.1s								
GRTLG	Ghanzi	33.70	80	P			P	11 32 35.1	-1.1
GRTLG				IAmb			IAmb	11 32 42.7	
	comp=Z,10.0nm,1.0s								
BDFB	Brasilia	34.49	291	P			P	11 32 42.8	-0.3
BDFB	Brasilia	34.49	291	P			P	11 32 42.7	-0.4
	comp=Z,9.9nm,0.7s,baz=118,slow=7.7,SNR=10.0								
	comp=Z,9.9nm,0.7s								
BOSA	Boshof	34.50	95	P			P	11 32 43.9	+0.8
BOSA	Boshof	34.50	95	P			P	11 32 39.1	-3.9
	comp=Z,2.1nm,1.0s,baz=259,slow=5.2,SNR=2.2								
	comp=Z,2.1nm,1.0s								
XAUDM	Khaudum	35.13	76	P			P	11 32 49.9	+1.2
KDWAN	Kaudwane	35.76	86	P			P	11 32 54.8	+0.8
KDWAN				IAmb			IAmb	11 33 14.9	
	comp=Z,7.6nm,0.9s								
LBTB	Lobatse	35.93	89	P			P	11 32 52.4	-3.1
	comp=Z,1.0nm,0.6s,baz=230,slow=7.9,SNR=1.4								
	comp=Z,1.0nm,0.6s								
LPHEP	Lephephe	36.77	86				P	11 33 03.2	+0.6
LPHEP				IAmb			IAmb	11 33 07.4	
	comp=Z,12nm,1.1s								
KSANE	Kasane	38.65	78	P			P	11 33 19.4	+0.8
KSANE				IAmb			IAmb	11 33 22.4	
	comp=Z,8.6nm,1.1s								
DBIC	Dimbokro	39.88	15	P			P	11 33 28.4	-0.2
DBIC				IAmb			IAmb	11 33 37.2	
	comp=Z,9.2nm,1.1s								
DBIC	Dimbokro	39.88	15	P			P	11 33 27.7	-0.9
	comp=Z,7.2nm,0.9s,baz=195,slow=8.8,SNR=4.0								
	comp=Z,7.2nm,0.9s								
MATP	Matopo	40.22	84	P			P	11 33 33.9	+2.2
	comp=Z,6.2nm,0.8s,baz=262,slow=12,SNR=3.6								
PTLB	Pontes e Lacer	43.63	282	P			P	11 33 58.7	-0.7
PMSA	Palmer Station	44.20	208	P			P	11 34 03.6	+0.3
SIV	San Ignacio	44.97	280	P			P	11 34 10.6	+0.4
	comp=Z,1.3nm,0.6s,baz=108,slow=11,SNR=5.4								
	comp=Z,1.3nm,0.6s								
CFA	Coronel Fontan	45.03	256	LR			LR	11 50 55.8	
	comp=Z,100nm,20.5s,baz=139,slow=33								
COYC	Coyhaique	45.64	236	P			P	11 34 15.8	+0.6
COYC				IAmb			IAmb	11 34 27.6	
	comp=Z,8.6nm,1.0s								
LPAZ	La Paz	50.75	275	P			P	11 34 53.7	-2.0
	comp=Z,0.6nm,0.7s,baz=149,slow=5.9,SNR=2.6								
	comp=Z,0.6nm,0.7s								
H04S3	CROZET ISLANDS	51.84	127	T			T	12 30 37.3	
	baz=263,slow=75,SNR=26								
H04S2	CROZET ISLANDS	51.85	127	T			T	12 30 41.4	
	baz=263,slow=75,SNR=31								
H04S1	CROZET ISLANDS	51.86	127	T			T	12 30 32.2	
	baz=263,slow=75,SNR=24								
QSPA	South Pole Qui	57.93	180	P			P	11 35 45.2	-1.5
	comp=Z,2.1nm,0.8s,baz=223,slow=3.7,SNR=4.9								
	comp=Z,2.1nm,0.8s								
OTAV	Otavalo	68.14	285	P			P	11 36 56.5	+0.8
SBA	Scott Base	70.09	180	P			P	11 37 08.0	+1.8
SBA				IAmb			IAmb	11 37 16.2	
	comp=Z,3.6nm,1.1s								
PDPR	Patillas Dam,	70.12	308	P			P	11 37 06.4	-0.8
ESDC	Sonseca Array	72.31	9	P			P	11 37 19.4	-0.7
	comp=Z,1.1nm,0.9s,baz=178,slow=6.5,SNR=4.6								
	comp=Z,1.1nm,0.9s								
IDI	Anoyia	76.82	32	P			P	11 37 47.8	+1.5
IDI				IAmb			IAmb	11 37 58.5	
	comp=Z,6.9nm,0.8s								
ILAR	Eielson Array	136.41	333	PKP			PKPdf	11 45 14.6	-0.9
	comp=Z,0.5nm,0.7s,baz=312,slow=0.7,SNR=5.7								
L14K	Kuka Creek	144.31	334	PKPdf			PKPab	11 45 28.5	+0.7
M14K	Bethel	144.41	333	PKPdf			PKPab	11 45 28.6	+0.5
KSRS	Korea Array	149.04	70	PKPbc			PKPdf	11 45 40.6	+2.1
	comp=Z,1.0nm,1.0s,baz=267,slow=4.7,SNR=4.7								

*IDC **20** 11:40:20.9±1.9, 24°.25S×66°.95W, h132km±24km, mb3.3/2, mbtmp3.6/8, Error ellipse: s-maj=28.9km s-min=16.6km az=102.0*
*SJA **20** 11:40:21.9±0.8, 24°.33S×67°.22W, h188km±5km, ML3.9, MW3.7*
*GUC **20** 11:40:23.2±0.7, 24°.33S×67°.46W, h209km±6km, ML4.2*
*NEIC **20** 11:40:25.7±1.2, 24°.34S±0°.07×67°.6W±0°.2, h177km±11km, mb4.1/5, ML4.2(GUC), Error ellipse: s-maj=24.6km s-min=9.9km az=93.0*

ISC 20 11:40:23.1±0.7, 24°.31S±0°.03×67°.22W±0°.04, h172km±8km, n78, σ1§84/105, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SALTA		0.81	84	‖eP			Pn	11 40 49.6	+0.3
SALTA		0.81	84	eP			Pn	11 40 49.7	+0.5
AF01	San Pedro de A	1.61	327				Pn	11 40 57.7	+1.8
AF01	San Pedro de A	1.61	327	eP			Pn	11 40 57.6	+1.8
AF01				eS			Sn	11 41 24.1	+3.0
AF01	San Pedro de A	1.61	327	eP			Pn	11 40 57.9	+2.0
AF01				eS			Sn	11 41 22.1	+1.0
AF01				IAML				11 41 38.4	
	comp=Z,311nm,0.8s								
SLA	San Lorenzo	1.62	105	‖eP			Pn	11 40 56.2	+0.5
SLA	San Lorenzo	1.62	105	eP			Pn	11 40 56.6	+0.9
SLA				eS			Sn	11 41 22.1	+1.2
HJA	Humahuaca	1.99	57	eP			Pn	11 41 01.0	+1.1
FSA	Cafayete	2.12	148	eP			Pn	11 41 01.2	+0.2
GO02	Mina Guanaco	2.31	248				Pn	11 41 03.8	+0.3
GO02	Mina Guanaco	2.31	248	eP			Pn	11 41 04.0	+0.6
GO02				i S			Sn	11 41 34.9	+0.2
GO02				IAML				11 41 36.1	
	comp=E,914nm,0.3s								
GO02	Mina Guanaco	2.31	248	eP			Pn	11 41 04.1	+0.6
GO02				eS			Sn	11 41 35.6	+0.9
GO02				IAML				11 41 40.2	
	comp=Z,404nm,0.3s								
YJA	Yavi	2.64	37	eP			Pn	11 41 08.2	+0.7
YJA	Yavi	2.64	37	eP			Pn	11 41 08.7	+1.2
PB06	IPOC Station P	2.68	306				Pn	11 41 08.2	+0.5
PB06	IPOC Station P	2.68	306	eP			Pn	11 41 08.5	+0.9
PB06				i S			Sn	11 41 42.0	-0.2
PB06				IAML				11 41 44.2	
	comp=E,763nm,0.4s								
PB06	IPOC Station P	2.68	306	eP			Pn	11 41 08.5	+0.9
PB06				eS			Sn	11 41 42.5	+0.2
PB06				IAML				11 41 44.9	
	comp=Z,562nm,0.2s								
PB14	IPOC Station P	2.92	263				Pn	11 41 09.9	-0.7
PB14	IPOC Station P	2.92	263	eP			Pn	11 41 10.6	0.0
PB14				eS			Sn	11 41 46.3	-1.3
PB14	IPOC Station P	2.92	263	eP			Pn	11 41 10.9	+0.3
PB14				eS			Sn	11 41 46.7	-0.8
PB14				IAML				11 41 52.0	
	comp=Z,117nm,0.4s								
AC02	Maricunga	3.05	214				Pn	11 41 12.3	-0.1
AC02	Maricunga	3.05	214	‖eP			Pn	11 41 12.8	+0.4
AC02	Maricunga	3.05	214	eP			Pn	11 41 13.0	+0.6
AC02				eS			Sn	11 41 52.4	+1.6
PB09	IPOC Station P	3.12	323				Pn	11 41 10.4	+1.0
PB09	IPOC Station P	3.12	323	‖eP			Pn	11 41 14.1	+1.0
PB09				i S			Sn	11 41 52.5	+0.6
PB09				IAML				11 41 55.4	
	comp=N,441nm,0.3s								
PB09	IPOC Station P	3.12	323	eP			Pn	11 41 13.7	+0.6
PB09				eS			Sn	11 41 52.9	+1.0
PB09				IAML				11 41 57.6	
	comp=Z,256nm,0.4s								
PB10	IPOC Station P	3.15	284				Pn	11 41 13.2	-0.1
PB10	IPOC Station P	3.15	284	eP			Pn	11 41 13.4	+0.2
PB10				eS			Sn	11 41 50.3	-1.9
PB10				IAML				11 41 56.1	
	comp=N,154nm,0.2s								
PB10	IPOC Station P	3.15	284	eP			Pn	11 41 13.6	+0.4
PB10				IAML				11 41 58.0	
	comp=Z,110nm,0.6s								
PB03	IPOC Station P	3.24	314				Pn	11 41 14.6	+0.1
PB03	IPOC Station P	3.24	314	‖eP			Pn	11 41 14.8	+0.3
PB03	IPOC Station P	3.24	314	eP			Pn	11 41 14.8	+0.3
PB03				eS			Sn	11 41 53.5	-1.0
PB03				IAML				11 41 54.5	
	comp=Z,516nm,0.2s								
AC01	Pan de Azucar	3.56	238				Pn	11 41 17.1	-1.3
AC01	Pan de Azucar	3.56	238	‖eP			Pn	11 41 17.3	-1.1
AC01	Pan de Azucar	3.56	238	eP			Pn	11 41 17.3	-1.1
AC01				eS			Sn	11 41 59.9	-1.6
AC01				IAML				11 42 02.4	
	comp=Z,105nm,0.3s								
PB02	IPOC Station P	3.87	320				Pn	11 41 21.9	-0.4
PB02	IPOC Station P	3.87	320	eP			Pn	11 41 22.0	-0.4
PB02	IPOC Station P	3.87	320	eP			Pn	11 41 22.1	-0.2
PB02				eS			Sn	11 42 07.3	-1.3
PB02				IAML				11 42 11.7	
	comp=Z,480nm,0.4s								
PB01	IPOC Station P	3.87	327				Pn	11 41 21.9	-0.5
PB01	IPOC Station P	3.87	327	eP			Pn	11 41 21.9	-0.5
PB01				i S			Sn	11 42 06.8	-1.9
PB01	IPOC Station P	3.87	327	eP			Pn	11 41 22.2	-0.1
PB01				eS			Sn	11 42 06.9	-1.7
PB01				IAML				11 42 08.8	
	comp=Z,151nm,0.5s								
AC06	Mina Casimiro	4.14	222				Pn	11 41 24.1	-1.7
AC06	Mina Casimiro	4.14	222	eP			Pn	11 41 24.3	-1.5
GO03	Copiapo	4.25	219				Pn	11 41 25.8	-1.4
GO03	Copiapo	4.25	219	eP			Pn	11 41 25.8	-1.4
GO03				i S			Sn	11 42 14.1	-3.2
GO03	Copiapo	4.25	219	eP			Pn	11 41 25.8	-1.4
GO03				eS			Sn	11 42 14.8	-2.5
GO03				IAML				11 42 17.4	
	comp=Z,155nm,0.3s								
PATCX	Punta Patache	4.41	321				Pn	11 41 29.4	+0.2
PATCX	Punta Patache	4.41	321	eP			Pn	11 41 28.9	-0.3
VCA	Vinchina	4.49	191	eP			Pn	11 41 32.0	+1.6
VCA				eS			Sn	11 42 32.2	+9.0
PB08	IPOC Station P	4.52	336				Pn	11 41 31.3	+0.3
PB08	IPOC Station P	4.52	336	eP			Pn	11 41 31.5	+0.5
PB08				eS			Sn	11 42 22.8	-1.3
PB08				IAML				11 42 29.6	
	comp=Z,59nm,0.5s								
GO01	Chusmiza	4.97	338				Pn	11 41 37.6	+0.6
GO01	Chusmiza	4.97	338	eP			Pn	11 41 37.3	+0.3
GO01				eS			Sn	11 42 31.3	-3.5
GO01				IAML				11 42 40.5	
	comp=Z,60nm,0.3s								
PB11	IPOC Station P	5.06	333				Pn	11 41 36.6	-1.3
PB11	IPOC Station P	5.06	333	eP			Pn	11 41 36.4	-1.4
PB11				eS			Sn	11 42 33.2	-3.2
PB11				IAML				11 42 34.1	
	comp=Z,82nm,0.3s								
ACLC	CERRO LA CRUZ	5.10	177	eP			Pn	11 41 37.6	-0.7
AC04	Llanos de Chal	5.20	221				Pn	11 41 37.3	-2.1
AC04	Llanos de Chal	5.20	221	eP			Pn	11 41 37.0	-2.3
AC04				i S			Sn	11 42 35.3	-4.0
AC04	Llanos de Chal	5.20	221	eP			Pn	11 41 37.1	-2.3
AC04				eS			Sn	11 42 36.2	-3.1
AC04				IAML				11 42 37.5	
	comp=Z,54nm,0.6s								
AGUA	GUANDACOL	5.28	192	eP			Pn	11 41 40.8	+0.2
PB16	IPOC Station P	6.32	340				Pn	11 41 54.3	-0.5
CFA	Coronel Fontan	7.32	187	P			Pn	11 42 05.8	-1.6
	comp=Z,0.6nm,0.3s,baz=70,slow=22,SNR=10								
CFA				S			Sn	11 43 25.2	-4.5
	comp=Z,0.7nm,0.3s,baz=199,slow=19,SNR=2.3								
LPAZ	La Paz	8.03	354				Pn	11 42 17.1	-0.3
LPAZ	La Paz	8.03	354	P			Pn	11 42 16.7	-0.7
	comp=Z,3.3nm,0.3s,baz=161,slow=5.5,SNR=45								
LPAZ				S			Sn	11 43 43.8	-3.9
	comp=Z,0.9nm,0.5s,baz=216,slow=10,SNR=3.9								
CPUP	Villa Florida	9.17	105	Pn			Pn	11 42 37.6	+5.7
CPUP	Villa Florida	9.17	105	P			Pn	11 42 28.0	-3.9
	comp=Z,0.4nm,0.6s,baz=134,slow=14,SNR=3.0								
SIV	San Ignacio	10.09	36	P			Pn	11 42 39.6	-4.4
	comp=Z,2.8nm,0.5s,baz=214,slow=15,SNR=15								
SIV				S			Sn	11 44 27.7	-8.6
	comp=Z,0.6nm,0.6s,baz=281,slow=19,SNR=3.1								
ITAB	Concordia	13.91	105	Pn			Pn	11 43 33.6	+0.7
TRQA	Tornquist	14.41	163	Pn			Pn	11 43 39.6	+0.4
PLCA	Paso Flores	16.61	189	P			Pn	11 44 06.8	+0.7
PLCA				IAmb			IAmb	11 44 32.1	
	comp=Z,12nm,1.5s								
PLCA	Paso Flores	16.61	189	P			P	11 44 06.5	+0.9
	comp=Z,1.3nm,0.9s,baz=347,slow=11,SNR=4.8								
LL02	Futaleuf	19.21	190	P			P	11 44 35.2	+1.3
LL02				IAmb			IAmb	11 44 37.8	
	comp=Z,6.1nm,0.8s								
BDFB	Brasilia	19.99	68	P			P	11 44 40.6	-2.0
	comp=Z,4.3nm,0.8s,baz=220,slow=13,SNR=5.3								
SDV	Santo Domingo	33.16	354	P			P	11 46 45.1	+1.5
SNAA	Sanae	59.12	161	P			P	11 50 07.7	+2.5
SNAA				IAmb			IAmb	11 50 26.2	
	comp=Z,4.6nm,1.4s								
SNAA	Sanae	59.12	161	P			P	11 50 07.6	+2.5
	comp=Z,1.0nm,0.9s,baz=256,slow=4.2,SNR=2.6								
	comp=Z,1.0nm,0.9s								
QSPA	South Pole Qui	65.89	180	P			P	11 50 52.4	+2.2
QSPA	South Pole Qui	65.89	180	P			P	11 50 52.5	+2.4
	comp=Z,0.3nm,0.5s,baz=149,slow=5.9,SNR=8.1								
	comp=Z,0.3nm,0.5s								

*IDC **20** 11:49:03.8±1.4, 2°.62S×138°.26E, h0km, mb4.0/4, mbtmp4.1/7, ML3.8/3, MS3.9/6, Error ellipse: s-maj=41.3km s-min=22.

PSA00	Pilbara Seismi	25.84 223	P	P	11 54 38.4	-1.0
PZH	PanZhiHua	45.94 312	P	P	11 57 31.8	+0.7
HHC	Hu-ho-hao-te	50.00 333	eP	P	11 58 04.5	+2.2
HHC			pmax	pmax		
	comp=Z,18nm,0.9s					
HHC			pmax	pmax		
	comp=Z,79nm,3.8s					
WMQ	Urumqi	65.00 322	eP	P	11 59 49.9	+1.9
WMQ			LR	LR		
	comp=N,770nm,20.3s					
WMQ			LR	LR		
	comp=E,530nm,21.3s					
WMQ			LR	LR		
	comp=Z,310nm,18.1s					
VNDA	Vanda	75.57 175	P	P	12 00 51.5	-0.5
VNDA			IAmb	IAmb	12 01 02.6	
	comp=Z,3.3nm,1.3s					
VNDA	Vanda	75.57 175	P	P	12 00 50.8	-1.2
	comp=Z,0.8nm,0.8s,baz=322,slow=6.4,SNR=5.1					
	comp=Z,0.8nm,0.8s					
L16K	Owhat River	79.78 25	P	P	12 01 15.9	+0.2
CNPM	China Poot	82.70 29	P	P	12 01 30.9	-0.5
ILAR	Eielson Array	86.18 24	P	P	12 01 44.4	-4.4
	comp=Z,0.6nm,0.8s,baz=242,slow=5.2,SNR=5.8					
	comp=Z,0.6nm,0.8s					
QSPA	South Pole Qui	87.00 180	P	P	12 01 54.3	+1.3
	comp=Z,2.8nm,1.1s,baz=332,slow=5.5,SNR=8.8					
	comp=Z,2.8nm,1.1s					
BBB	Bella Bella	94.46 38	LR	LR	12 38 08.5	
	comp=Z,77nm,19.6s,baz=258,slow=31					
KVAR	Kislovodsk Arr	96.13 314	LR	LR	12 52 51.8	
	comp=Z,78nm,18.3s,slow=40					
YBH	Yreka Blue Hor	98.60 48	LR	LR	12 37 25.3	
	comp=Z,8.4nm,21.7s,baz=289,slow=30					
LPAZ	La Paz	147.56 127	PKPbc	PKPbc	12 08 53.5	-0.4
	comp=Z,1.8nm,1.0s,baz=232,slow=4.7,SNR=4.8					

BJI ***20*** *11:50:31.0, 6°.30N×125°.55E, h10km, mB5.3/39, mb4.7/65, Ms4.6/59, Ms7 4.3/58*
MOS ***20*** *11:50:32.7±1.0, 6°.61N×125°.27E, h10km, mb5.1/41, MS4.2/4, Error ellipse: s-maj=11.2km s-min=5.6km az=113.0*
NEIC ***20*** *11:50:35.2±1.7, 6°.66N±0°.06×125°.17E±0°.06, h10km±1km, mb5.1/81, Mww5.0/25, Error ellipse: s-maj=12.8km s-min=7.6km az=134.0*
NEIC ***20*** *11:50:35.2, 6°.65N×125°.27E, h16km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16^Nm; Mrr=0.18; Mθθ=3.62; Mφφ=-3.44; Mrθ=1.60; Mθφ=0.36; Mφr=2.32; Fault plane solution: M0=4.53000×10^16^ NP1: φs=224.94000°, δ=52.94000°, λ=-174.41000°. NP2: φs=131.56000°, δ=85.54000°, λ=-37.19000°. Principal axes: T 4.2309, Plg=22.0000°, Azm=184.0000°; N 0.5503, Plg=53.0000°, Azm=306.0000°; P -4.7812, Plg=29.0000°, Azm=82.0000°;*
NEIC ***20*** *11:50:35.2, 6°.65N×125°.17E, h16km*
IDC ***20*** *11:50:35.4±2.8, 6°.59N×125°.21E, h20km±18km, mb4.4/26, mbtmp4.5/26, MS4.3/3, Error ellipse: s-maj=19.7km s-min=10.0km az=72.0*
MAN ***20*** *11:50:35.4, 6°.73N×125°.16E, h10km, mb5.7, ML4.7, MS5.0*
GCMT ***20*** *11:50:39.1±0.2, 6°.68N±0°.01×125°.19E±0°.01, h24km±1km, MW5.1/121, Moment Tensor Solution. s47, c58; s121, c197; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.07±.18; Mθθ=4.70±.15; Mφφ=-4.76±.15; Mrθ=-2.10±.23; Mθφ=0.12±.11; Mφr=0.71±.22; Best double couple: M0=5.19800×10^16^ NP1:φs=222.00000°, δ=68.00000°, λ=171.00000°. NP2:φs=316.00000°, δ=82.00000°, λ=22.00000°. Principal axes: T 5.5120, Plg=21.0000°, Azm=181.0000°; N -0.6240, Plg=67.0000°, Azm=335.0000°; P -4.8830, Plg=9.0000°, Azm=87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***20*** *11:50:39.3±1.3, 7°N±4°×12°5E±°, h24km±9km, M5.0/55, mb5.1/55, mB5.4/32, MLv5.7/8, Mw(mB)4.9/32, MwMwp4.8/4, Mwp5.1/4*
ISC 20 11:50:35.9±0.5,**6°57N**±0°.03×**125°27E**±0°.05,**h14**km±2km, **h14**km:**pP-P**,**n304**,σ**2**º**16**/320,**mb5.0**/127,**MS4.3**/26, **13C-5D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.58	32		Pg	11 50 46.6	-0.8
DAV	Davao City (W)	0.58	32	Pg	Pg	11 50 46.8	-0.5
	4μm,0.3s,baz=256,slow=8.2,SNR=37						
DAV				Lg	Lg	11 50 56.1	
	7μm,0.3s,baz=225,slow=17,SNR=23						
DAV	Davao City (W)	0.58	32	P	Pg	11 50 45.0	-2.3
SGSI	Sangihe	2.88	175		Pn	11 51 24.2	+2.7
KMSI	Cibinong	6.10	192	P	Pn	11 52 08.2	+2.4
TNTI	Ternate	6.13	160		Pn	11 52 08.7	+2.4
TNTI	Ternate	6.13	160	P	Pn	11 52 09.2	+3.0
	3μm229nm,0.9s						
MYLDM	Lahad Datu	6.88	259		Pn	11 52 17.0	+0.5
MRSI	Marisa	6.91	209	P	Pn	11 52 17.5	+0.6
TOLI2	Tolitoli	7.04	220		Pn	11 52 16.6	-2.1
LUWI	Luwuk	7.97	198		Pn	11 52 32.1	+0.6
LUWI	Luwuk	7.97	198	P	Pn	11 52 35.8	+4.4
APSI	Ampana	8.27	206	P	Pn	11 52 40.9	+5.3
SANI	Sanana	8.60	175	P	Pn	11 52 40.5	+0.4
TGY	Tagaytay City	8.61	331	LR	LR	11 56 17.5	
	comp=Z,2μm,20.2s,baz=104,slow=40						
I39PW	PALAU INFRASON	9.25	84	I	I	12 40 00.0	
	baz=266,slow=306,SNR=5.6						
SWI	Sorong	9.50	141	P	Pn	11 52 56.1	+3.6
	1μm81nm,1.0s						
NLAI	Namlea	9.92	169	P	Pn	11 53 00.1	+1.9
	175nm,0.8s						
MSAI	Masohi	10.51	160	P	Pn	11 53 11.4	+5.1
AAI	Ambon	10.60	164	P	Pn	11 53 12.9	+5.3
KDI	Kendari	10.79	194	P	Pn	11 53 12.6	+2.4
FAKI	Fak Fak	11.72	143		Pn	11 53 23.9	+1.0
FAKI	Fak Fak	11.72	143	P	Pn	11 53 27.6	+4.6
SPSI	Sidrap Palu	11.82	208	P	Pn	11 53 28.4	+4.1
	44nm,0.9s						
RKPI	Ransiki, Papua	11.98	132	P	Pn	11 53 28.4	+1.9
	171nm,1.1s						
BNSI	Bone	12.06	205	P	Pn	11 53 29.5	+1.9
	1μm78nm,1.1s						
KAPI	Kappang	12.76	206		Pn	11 53 38.4	+1.2
KAPI	Kappang	12.76	206	Pn	Pn	11 53 40.9	+3.7
	0.9nm,0.3s,baz=31,slow=9.6,SNR=6.1						
KAPI				LR	LR	11 58 49.4	
	comp=Z,1μm,19.8s,baz=40,slow=39						
KAPI	Kappang	12.76	206	*i* P	Pn	11 53 37.5	+0.3
BKSI	Bulukumba	12.89	204	P	Pn	11 53 41.7	+2.8
SBUM	Sibu	13.64	253		Pn	11 53 50.0	+0.8
BBKI	Banjar Baru	14.42	227	P	P	11 54 04.3	-2.4
	161nm,1.1s						
MMRI	Maumere	15.41	191	Pn	Pn	11 54 13.5	+0.3
MMRI	Maumere	15.41	191	P	P	11 54 17.3	-0.4
	2μm100nm,1.0s						
EDFI	Ende, Flores	15.64	193	P	P	11 54 20.1	-0.2
KSM	Kuching	15.76	252		Pn	11 54 17.8	0.0
SOEI	Soe	16.25	184		P	11 54 26.1	-1.1
SOEI	Soe	16.25	184	P	P	11 54 27.1	-0.1
	2μm244nm,1.0s						
PBKI	Pangkalan Bun	16.41	236	P	P	11 54 42.1	+13
BATI	Baumata	16.75	186	Pn	P	11 54 35.2	+2.6
	8.2nm,0.3s,baz=215,slow=2.5,SNR=6.7						
BATI				LR	LR	12 02 51.2	
	comp=Z,855nm,20.6s,baz=33,slow=44						
BATI	Baumata	16.75	186	P	P	11 54 34.3	+1.7
	2μm147nm,0.8s						
PLAI	Plampang	17.03	206	P	P	11 54 37.8	+2.1
	2μm183nm,0.9s						
WBSI	Waikabubak, Su	17.14	200	P	P	11 54 39.0	+2.0
	2μm89nm,1.1s						
TWSI	Taliwang, Sumb	17.36	209	P	P	11 54 42.0	+2.6
	1μm81nm,0.8s						
SRBI	Singaraja	17.68	215	P	P	11 54 47.0	+4.1
	96nm,1.1s						
JAY	Jayapura	17.86	120	P	P	11 54 48.7	+3.8
	20nm,0.8s,baz=314,slow=19,SNR=2.4						
YHNB	Yeheng	18.38	349	P	P	11 54 49.3	-1.3
YHNB				IAmb	IAmb	11 54 53.7	
	comp=Z,174nm,1.6s						
JAGI	Jajag, Banyuwa	18.61	217		P	11 54 51.3	-1.8
JAGI	Jajag, Banyuwa	18.61	217	P	Pn	11 54 56.8	+3.4
	comp=Z,83nm,1.3s						
QZH	Quanzhou	19.36	341	P	Pn	11 55 06.6	+4.2
QZH				S	S	11 58 41.8	+1.7
QZH				pmax	pmax		
	comp=Z,2μm,5.5s						
QZH				LR	LR		
	comp=Z,790nm,23.0s						
QZH				LR	LR		
	comp=Z,2μm,23.7s						
QZH				LR	LR		
	comp=Z,1μm,20.6s						
QIZ	Qiongzhong	19.46 311	P	P	11 55 01.3	-1.2	
QIZ			S	Sn	11 58 39.5	-2.6	
QIZ			pmax	pmax			
	comp=Z,25nm,1.2s						
QIZ			pmax	pmax			
	comp=Z,430nm,3.5s						
QIZ			LR	LR			
	comp=Z,880nm,15.3s						
QIZ			LR	LR			
	comp=Z,550nm,17.5s						
QIZ			LR	LR			
	comp=Z,1μm,16.7s						
NGJI	Ngawi	19.54 225	P	Pn	11 55 09.2	+4.6	
MTN	Manton Dam	20.15 163	P	P	11 55 08.4	-1.6	
MTN	Manton Dam	20.15 163		P	11 55 08.8	-1.3	
MTN			IAmb	IAmb	11 55 26.1		
	comp=Z,75nm,1.1s						
JOW	Kunigami	20.35 8	P	P	11 55 11.1	-1.0	
	comp=Z,16nm,0.8s,baz=160,slow=5.0,SNR=1.5						
	comp=Z,16nm,0.8s						
KDU	Kakadu	20.43 159	P	P	11 55 13.6	+0.6	
	comp=Z,42nm,0.7s						
KPJI	Karang Pucung	21.37 230	P	P	11 55 27.4	+4.2	
	comp=Z,1μmcomp=Z,93nm,0.8s						
TPRI	Tanjung Pinang	21.44 256	P	P	11 55 30.0	+5.9	
DSRI	Dabo	21.81 252	P	P	11 55 33.4	+5.4	
	comp=Z,1μmcomp=Z,71nm,1.1s						
MYKOM	Kota Tinggi	21.88 258	P	P	11 55 28.0	-0.8	
KNRA	Kununurra	22.38 171	P	P	11 55 33.8	-0.2	
	comp=Z,128nm,0.7s						
KNRA	Kununurra	22.38 171		P	11 55 33.3	-0.7	
CNJI	Cibinong	22.75 233	P	P	11 55 43.6	+5.5	
SBJI	Serang	22.89 237	P	P	11 55 42.9	+3.4	
	comp=Z,252nm,1.1s						
GULI	GuiLin	23.45 324	P	P	11 55 46.4	+1.3	
GULI			S	S	11 59 57.8	-0.5	
GULI			pmax	pmax			
	comp=Z,17nm,1.1s						
GULI			pmax	pmax			
	comp=Z,90nm,5.4s						
GULI			LR	LR			
	comp=Z,530nm,22.9s						
GULI			LR	LR			
	comp=Z,720nm,23.3s						
GULI			LR	LR			
	comp=Z,540nm,23.5s						
CGJI	Cibinong	23.52 237	P	P	11 55 48.9	+3.0	
	comp=Z,78nm,0.8s						
MDSI	Maura Dua	23.75 243	P	P	11 55 51.9	+3.7	
	comp=Z,39nm,0.9s						
KASI	Kota Agung	23.97 240	P	P	11 55 54.1	+3.9	
	comp=Z,1μmcomp=Z,71nm,1.0s						
LHSI	Lahat	24.05 245	P	P	11 55 56.3	+5.3	
LWLI	Liwa	24.11 242	P	P	11 55 55.4	+3.7	
IPM	Ipoh	24.22 266		P	11 55 51.4	-1.3	
IPM			IAmb	IAmb	11 56 06.1		
	comp=Z,68nm,1.4s						
FITZ	Fitzroy Crossi	24.52 179	P	P	11 55 54.3	-0.9	
	comp=Z,17nm,0.7s,baz=21,slow=2.3,SNR=9.6						
	comp=Z,17nm,0.7s						
KULM	Kulim	24.52 268		P	11 55 53.8	-1.6	
KULM			IAmb	IAmb	11 56 00.9		
	comp=Z,31nm,0.9s						
SSE	Sheshan	24.69 352	P	P	11 55 55.8	-0.9	
SSE			S	S	12 00 18.9	+0.7	
SSE			pmax	pmax			
	comp=Z,13nm,0.7s						
SSE			pmax	pmax			
	comp=Z,190nm,4.2s						
SSE			LR	LR			
	comp=Z,220nm,16.7s						
SSE			LR	LR			
	comp=Z,400nm,16.5s						
MASI	Maura Aman, Be	24.94 248	P	P	11 56 02.9	+3.7	
PPI	Padang Panjang	25.79 255	P	P	11 56 11.4	+4.5	
	comp=Z,38nm,1.4s						
PDSI	Padang	25.86 254	P	P	11 56 10.6	+3.1	
	comp=Z,19nm,1.0s						
WHN	Wuhan	25.96 338	P	P	11 56 11.4	+3.2	
WHN			pP	sP	11 56 13.9	-0.2	
WHN			S	S	12 00 47.5	+9.2	
WHN			pmax	pmax			
	comp=Z,22nm,0.7s						
WHN			LR	LR			
	comp=Z,1μm,15.6s						
WHN			LR	LR			
	comp=Z,4μm,23.4s						
WHN			LR	LR			
	comp=Z,2μm,19.9s						
NJ2	Nanjing	26.05 348	eP	P	11 56 09.1	+0.1	
NJ2			sP	pP	11 56 13.5	+0.3	
NJ2			S	S	12 00 40.6	+0.9	
NJ2			pmax	pmax			
	comp=Z,7.0nm,0.5s						
NJ2			pmax	pmax			
	comp=Z,450nm,5.2s						
NJ2			LR	LR			
	comp=Z,460nm,18.5s						
NJ2			LR	LR			
	comp=Z,1μm,22.3s						
NJ2			LR	LR			
	comp=Z,630nm,15.6s						
MNSI	Mandailing Nat	26.27 258	P	P	11 56 14.2	+3.0	
	comp=Z,1μmcomp=Z,18nm,0.8s						
PMG	Port Moresby	26.97 126		P	11 56 17.4	-0.1	
PMG			IAmb	IAmb	11 56 18.8		
	comp=Z,42nm,0.9s						
PMG	Port Moresby	26.97 126	P	P	11 56 17.1	-0.5	
	comp=Z,40nm,0.9s,baz=287,slow=8.7,SNR=8.5						
	comp=Z,40nm,0.9s						
PMG	Port Moresby	26.97 126 ⇑	*i* P	P	11 56 16.7	-0.8	
PMG			pmax	pmax			
	comp=Z,35nm,0.9s						
KCSI	Kotacane, Aceh	27.56 265	P	P	11 56 25.6	+2.7	
	comp=Z,26nm,1.2s						
WB0	Warramunga Arr	27.67 161	P	P	11 56 23.3	-0.5	
WB0			IAmb	IAmb	11 57 08.4		
	comp=Z,37nm,0.8s						
WRAB	Tennant Creek	27.81 161	P	P	11 56 23.5	-1.5	
WRAB			IAmb	IAmb	11 57 09.9		
	comp=Z,39nm,1.0s						
WRAB	Tennant Creek	27.81 161 ⇓	*i* P	P	11 56 24.6	-0.4	
WRAB			pmax	pmax			
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	27.82 161	P	P	11 56 23.9	-1.1	
WRA	Warramunga Arr	27.82 161	P	P	11 56 23.8	-1.2	
	comp=Z,8.8nm,0.8s,baz=338,slow=9.6,SNR=10						
	comp=Z,8.8nm,0.8s						
WRA	Warramunga Arr	27.82 161	*i* P	P	11 56 23.7	-1.4	
WRA			pmax	pmax			
	comp=Z,9.0nm,0.8s						
WR8	Warramunga Arr	27.88 161		P	11 56 25.1	-0.5	
WR8			IAmb	IAmb	11 57 03.0		
	comp=Z,34nm,0.9s						
CM31	Chiang Mai Arr	28.24 297	P	P	11 56 27.3	-1.6	
CMAR	Chiang Mai Arr	28.24 297		P	11 56 27.0	-1.9	
CMAR	Chiang Mai Arr	28.24 297	P	P	11 56 27.4	-1.4	
	comp=Z,1.9nm,0.7s,baz=120,slow=7.3,SNR=17						
	comp=Z,1.9nm,0.7s						
CMAR	Chiang Mai Arr	28.24 297	*i* P	P	11 56 28.1	-0.8	
CMAR			pmax	pmax			
	comp=Z,2.0nm,0.7s						
CHTO	Chiang Mai	28.37 298		P	11 56 28.6	-1.5	
CHTO			IAmb	IAmb	11 56 35.3		
	comp=Z,46nm,1.5s						
CHTO	Chiang Mai	28.37 298	P	P	11 56 28.6	-1.5	
CHTO			pmax	pmax			
	comp=Z,46nm,1.5s						
KMI	Kunming	28.37 313	P	P	11 56 30.5	+0.2	
KMI			S	S	12 01 17.0	-0.1	
KMI			pmax	pmax			
	comp=Z,26nm,1.4s						
KMI			pmax	pmax			
	comp=Z,140nm,3.2s						
KMI			LR	LR			
	comp=Z,610nm,19.5s						
KMI			LR	LR			
	comp=Z,520nm,16.4s						
KMI			LR	LR			
	comp=Z,690nm,17.2s						
PSA00	Pilbara Seismi	28.47 191	P	P	11 56 32.7	+1.8	
	comp=Z,26nm,1.0s						
PSA00	Pilbara Seismi	28.47 191		P	11 56 31.0	+0.1	
PSA00	Pilbara Seismi	28.47 191		P	11 56 29.9	-1.0	
PSA00			IAmb	IAmb	11 56 46.9		
	comp=Z,9.1nm,0.9s						
PZH	PanZhiHua	29.92 314	P	P	11 56 44.5	+0.6	
LYN	LuoYang	30.25 339	P	P	11 56 49.9	+3.4	
LYN			sS	sS	12 01 55.6	+2.8	
LYN			pmax	pmax			
	comp=Z,19nm,0.6s						
LYN			pmax	pmax			
	comp=Z,320nm,5.4s						
LYN			LR	LR			
	comp=Z,990nm,23.7s						
LYN			LR	LR			
	comp=Z,1μm,19.6s						
LYN			LR	LR			
	comp=Z,1μm,20.9s						
TIA	Tai'an	30.43 347	P	P	11 56 50.6	+2.5	
TIA			pmax	pmax			
	comp=Z,8.0nm,1.0s						
TIA			LR	LR			
	comp=Z,340nm,23.5s						
TIA			LR	LR			
	comp=Z,860nm,24.5s						
TIA			LR	LR			
	comp=Z,400nm,24.9s						
KSAR	Wonju Array Be	30.82 4	P	P	11 56 49.3	-2.2	
KSAR	Wonju Array Be	30.82 4	P	P	11 56 49.3	-2.2	
KSRS	Korea Array	30.83 4	P	P	11 56 49.3	-2.3	
	comp=Z,3.0nm,0.9s,baz=179,slow=8.7,SNR=12						
	comp=Z,3.0nm,0.9s						
AS31	Alice Springs	31.21 165	P	P	11 56 54.5	-0.7	
ASAR	Alice Springs	31.21 165		P	11 56 54.2	-0.9	
ASAR	Alice Springs	31.21 165	P	P	11 56 53.5	-1.7	
	comp=Z,5.8nm,0.9s,baz=341,slow=6.7,SNR=11						
	comp=Z,5.8nm,0.9s						
ASAR	Alice Springs	31.21 165	P	P	11 56 54.3	-0.9	
XAN	Xi'an	31.24 333 ⇓	P	P	11 56 56.9	+1.5	
XAN			pP	sP	11 57 01.4	+0.2	
XAN			S	S	12 02 07.1	+5.5	
XAN			pmax	pmax			
	comp=Z,13nm,0.9s						
XAN			LR	LR			
	comp=Z,420nm,17.9s						
XAN			LR	LR			
	comp=Z,1μm,19.2s						
XAN			LR	LR			
	comp=Z,510nm,22.7s						
TNCH	TengChong	31.50 309	P	P	11 57 02.1	+4.2	
TNCH			S	S	12 02 08.4	+2.3	
TNCH			pmax	pmax			
	comp=Z,23nm,0.5s						
TNCH			pmax	pmax			
	comp=Z,160nm,3.4s						
TNCH			LR	LR			
	comp=Z,510nm,14.2s						
TNCH			LR	LR			
	comp=Z,410nm,11.9s						
TNCH			LR	LR			
	comp=Z,350nm,17.7s						
MAJO	Matsushiro	32.09 20	*i* P	P	11 57 02.5	-0.3	
MAJO			pmax	pmax			
	comp=Z,20nm,2.0s						
MJAR	Matsushiro Arr	32.09 20	P	P	11 56 59.6	-3.2	
	comp=Z,4.2nm,0.8s,baz=194,slow=9.3,SNR=7.8						
	comp=Z,4.2nm,0.8s						
HNS	HongShan	32.16 344 ⇑	P	P	11 57 06.8	+3.5	
HNS			pmax	pmax			
	comp=Z,29nm,1.2s						
HNS			LR	LR			
	comp=Z,300nm,19.0s						
HNS			LR	LR			
	comp=Z,620nm,19.2s						
HNS			LR	LR			
	comp=Z,460nm,22.6s						
DL2	Dalian	32.36 355	S	S	12 02 28.1	+9.4	
DL2	Dalian	32.36 355	LR	LR			
	comp=Z,680nm,19.6s						
DL2	Dalian	32.36 355	LR	LR			
	comp=E,590nm,19.1s						
DL2	Dalian	32.36 355	LR	LR			
	comp=N,290nm,19.9s						
DL2	Dalian	32.36 355	pmax	pmax			
	comp=Z,190nm,10.7s						
DL2	Dalian	32.36 355	pmax	pmax			
	comp=Z,36nm,1.1s						
DL2	Dalian	32.36 355	P	P	11 57 14.3	+9.3	
JMM	Marumori	34.19 22		P	11 57 18.1	-2.9	
JMM			IAmb	IAmb	11 57 37.7		
	comp=Z,28nm,0.8s						
BJT	Baijiatuau	34.29 348		P	11 57 19.5	-2.4	
BJT			IAmb	IAmb	11 57 29.7		
	comp=Z,16nm,0.8s						
BJT	Baijiatuau	34.29 348	P	P	11 57 19.5	-2.4	
BJT			pmax	pmax			
	comp=Z,16nm,0.8s						
BJI	Beijing	34.31 348	P	P	11 57 21.3	-0.7	
BJI			S	S	12 02 47.4	-1.6	
BJI			sS	sS	12 03 00.6	+4.7	
BJI			pmax	pmax			
	comp=Z,10.0nm,1.2s						
BJI			LR	LR			
	comp=Z,87nm,16.5s						
BJI			LR	LR			
	comp=Z,220nm,20.4s						
BJI			LR	LR			
	comp=Z,190nm,21.5s						
LZDM	Lanzhou Array	35.31 329	P	P	11 57 29.7	-1.5	
	comp=Z,2.8nm,0.4s,baz=124,slow=11,SNR=6.5						
	comp=Z,2.8nm,0.4s						
LZH	Lanzhou	35.33 329	eP	P	11 57 33.6	+2.4	
LZH			sP	sP	11 57 40.0	+2.9	
LZH			PP	PP	11 58 51.0	-0.5	
LZH			S	S	12 03 13.3	+8.0	
LZH			pmax	pmax			
	comp=Z,49nm,1.7s						
LZH			pmax	pmax			
	comp=Z,230nm,4.0s						
LZH			LR	LR			
	comp=Z,490nm,15.9s						
LZH			LR	LR			
	comp=Z,560nm,16.2s						
LZH			LR	LR			
	comp=Z,760nm,18.1s						
PSTR	Posyet	36.26 7	*i* P	P	11 57 37.9	-0.9	
HHC	Hu-ho-hao-te	36.26 342	eP	P	11 57 43.0	+4.0	
HHC			PP	PP	11 59 07.0	+5.4	
HHC			S	S	12 03 22.6	+3.3	
HHC			sS	sS	12 03 31.9	+5.6	
HHC			pmax	pmax			
	comp=Z,260nm,3.8s						
HHC			LR	LR			
	comp=Z,420nm,21.9s						
HHC			LR	LR			
	comp=Z,550nm,21.9s						
HHC			LR	LR			
	comp=Z,660nm,21.9s						
VLA	Vladivostok	36.86 8	*i* P	P	11 57 43.3	-0.6	
VLA			pmax	pmax			
	comp=Z,28nm,1.0s						
SHL	Shillong	37.06 304		P	11 57 44.3	-1.8	
SHL	Shillong	37.06 304	P	P	11 57 44.3	-1.8	
SHL			pmax	pmax			
	comp=Z,128nm,1.5s						
CN2	Changchun	37.08 0	eP	P	11 57 48.4	+2.6	
CN2			PP	PnPn	11 59 12.9	+2.2	
CN2			eS	S	12 03 36.9	+5.5	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.6s						
CN2			pmax	pmax			
	comp=Z,200nm,4.5s						
CN2			LR	LR			
	comp=Z,400nm,19.0s						
CN2			LR	LR			
	comp=Z,500nm,19.0s						
CN2			LR	LR			
	comp=Z,500nm,19.6s						
INKA	Innaminka	37.25 157		P	11 57 47.5	+0.1	
USRK	Ussuriysk Ar.	37.94 8	P	P	11 57 51.7	-1.3	
	comp=Z,18nm,0.8s,baz=190,slow=8.5,SNR=16						
	comp=Z,18nm,0.8s						

XLT	**XiLinHaoTe**	**38.04**	**349**	*e*P	**P**	**11 57 58.6**	**+4.5**
XLT				sP	sP	11 58 07.3	+7.3
XLT				S	**S**	**12 03 51.9**	**+5.6**
XLT				pmax	pmax		
	comp=Z,29nm,1.2s						
XLT				pmax	pmax		
	comp=Z,280nm,5.4s						
XLT				LR	LR		
	comp=Z,370nm,19.9s						
XLT				LR	LR		
	comp=Z,230nm,21.4s						
MDJ	**Mudanjiang**	**38.08**	**5**	P	**P**	**11 57 54.0**	**-0.3**
MDJ				S	**S**	**12 03 49.9**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,19nm,1.1s						
MDJ				LR	LR		
	comp=Z,350nm,24.1s						
MDJ				LR	LR		
	comp=Z,540nm,21.6s						
MDJ				LR	LR		
	comp=Z,590nm,23.6s						
BNX	**BinXian**	**39.06**	**2**	⇓P	**P**	**11 58 03.0**	**+0.5**
BNX				pmax	pmax		
	comp=Z,17nm,1.0s						
BNX				pmax	pmax		
	comp=Z,230nm,4.3s						
LSA	**Lhasa**	**39.50**	**310**		**P**	**11 58 04.2**	**-2.8**
LSA				IAmb	IAmb	11 58 13.5	
	comp=Z,70nm,1.7s						
LSA	**Lhasa**	**39.50**	**310**	P	**P**	**11 58 04.2**	**-2.8**
LSA				pmax	pmax		
	comp=Z,70nm,1.7s						
TEY	**Ternei**	**39.56**	**13**⇑	*e*P	**P**	**11 58 06.1**	**-0.6**
TEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA	**Gaotai**	**39.93**	**329**	P	**P**	**11 58 10.1**	**+0.1**
GTA				pP	pP	11 58 13.8	-0.5
GTA				S	S	12 04 26.4	+11
GTA				SS	**SnSn**	**12 07 15.8**	**+1.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,250nm,7.6s						
GTA				LR	LR		
	comp=Z,520nm,16.3s						
GTA				LR	LR		
	comp=Z,550nm,17.5s						
GTA				LR	LR		
	comp=Z,680nm,15.5s						
EIDS	**Eidsvold**	**40.47**	**143**	P	**P**	**11 58 14.9**	**+0.4**
BBOO	**Buckleboo**	**40.49**	**166**		**P**	**11 58 14.4**	**-0.1**
BBOO				IAmb	IAmb	11 58 15.3	
	comp=Z,42nm,1.0s						
GOMU	**GeErMu**	**40.57**	**321**	P	**P**	**11 58 16.4**	**+0.7**
GOMU				pP	pP	11 58 19.8	-0.2
GOMU				sP	sP	11 58 23.8	+2.2
GOMU				S	**S**	**12 04 27.6**	**+2.5**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,370nm,15.5s						
GOMU				LR	LR		
	comp=Z,150nm,16.0s						
GOMU				LR	LR		
	comp=Z,160nm,15.2s						
STKA	**Stephens Creek**	**41.29**	**159**		**P**	**11 58 21.0**	**-0.1**
STKA	**Stephens Creek**	**41.29**	**159**	P	**P**	**11 58 20.6**	**-0.5**
	comp=Z,15nm,0.9s,baz=338,slow=7.7,SNR=13						
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**41.29**	**159***c*	*i*P	**P**	**11 58 20.8**	**-0.3**
YSS	**Yuzhno-Sakhali**	**42.95**	**18**	*e*P	**P**	**11 58 32.5**	**-1.9**
YSS				*e**SP	**pP**	**11 58 37.6**	**-1.1**
YSS				*e*		12 00 12.6	
YSS				*e*S	**S**	**12 04 55.8**	**-3.3**
YSS				pmax	pmax		
	comp=Z,200nm,4.3s						
YSS				smax	smax		
	comp=N,100nm,5.0s						
HILR	**Hailar Array B**	**43.09**	**355**	P	**P**	**11 58 35.0**	**-0.7**
	comp=N,4.1nm,0.6s,baz=159,slow=13,SNR=6.4						
	comp=N,4.1nm,0.6s						
HEH	**HeiHe**	**43.57**	**2**	*e*P	**P**	**11 58 38.4**	**-1.1**
HEH				sP	**pP**	**11 58 42.9**	**-0.8**
HEH				S	**S**	**12 05 12.6**	**+4.4**
HEH				pmax	pmax		
	comp=N,43nm,1.0s						
HEH				pmax	pmax		
	comp=N,320nm,4.1s						
HEH				LR	LR		
	comp=N,310nm,16.0s						
HEH				LR	LR		
	comp=N,250nm,15.3s						
HEH				LR	LR		
	comp=N,410nm,20.4s						
ULN	**Ulaanbaatar**	**43.98**	**342**	P	**P**	**11 58 41.8**	**-1.3**
ULN	**Ulaanbaatar**	**43.98**	**342**	*e*P	**P**	**11 58 43.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**44.16**	**342**	P	**P**	**11 58 43.1**	**-1.3**
SONM	**Songino Array**	**44.16**	**342**	P	**P**	**11 58 43.8**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=155,slow=7.1,SNR=8.5						
	comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**44.16**	**342**	P	**P**	**11 58 43.1**	**-1.3**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GRNR	**Gornyy**	**45.02**	**10**⇑	*i*P	**P**	**11 58 51.2**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GRNR				MLR	MLR		
	comp=Z,280nm,16.0s						
HYB	**Hyderabad**	**46.84**	**288**	*e*P	**P**	**11 59 03.7**	**-2.3**
HYB				IVmB_BB		11 59 10.5	
	comp=Z,242nm,1.7s						
HYB				IVMs_BB	IVMs_BB	12 15 15.2	
	comp=Z,150nm,4.1s						
SANVU	**Saraoutou**	**46.95**	**118**		**P**	**11 59 06.3**	**-0.4**
ZEA	**Zeya**	**47.05**	**2**	*e*P	**P**	**11 59 10.5**	**+3.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
CAN	**Canberra**	**47.29**	**153**		**P**	**11 59 09.8**	**+0.6**
CAN	**Canberra**	**47.29**	**153**	P	**P**	**11 59 09.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,33nm,1.1s						
ZAK	**Zakamensk**	**47.38**	**341**	*e*P	P	11 59 14.9	+5.1
ZAK				pmax	pmax		
	comp=Z,11nm,1.6s						
DZM	**Mont Dzumac**	**49.37**	**126**	P	**P**	**11 59 25.1**	**-0.5**
	comp=Z,28nm,1.0s,baz=309,slow=6.5,SNR=8.3						
	comp=Z,28nm,1.0s						
WMQ	**Urumqi**	**49.58**	**325**	*e*P	**P**	**11 59 26.9**	**+0.1**
WMQ				LR	LR		
	comp=Z,700nm,22.5s						
WMQ				LR	LR		
	comp=Z,410nm,22.5s						
WMQ				LR	LR		
	comp=Z,200nm,23.7s						
ZSN	**Zaisan**	**53.35**	**327**	*e*P	**P**	**11 59 55.4**	**+0.5**
	comp=Z,11nm,1.3s						
ZSN	**Zaisan**	**53.35**	**327**	*e*P	**P**	**11 59 55.4**	**+0.5**
ZSN				pmax	pmax		
	comp=Z,11nm,1.3s						
PEA0B	**Petropavlovsk-**	**53.39**	**24**	P	**P**	**11 59 54.7**	**-0.5**
PEA0B				IAmb	IAmb	12 00 12.0	
	comp=Z,30nm,1.1s						
PEA0B	**Petropavlovsk-**	**53.39**	**24**⇓	*i*P	**P**	**11 59 54.4**	**-0.7**
PETK	**Petropavlovsk-**	**53.39**	**24**	P	**P**	**11 59 54.0**	**-1.1**
PETK	**Petropavlovsk-**	**53.39**	**24**	P	**P**	**11 59 53.8**	**-1.3**
	comp=Z,7.4nm,0.8s,baz=197,slow=4.6,SNR=11						
	comp=Z,7.4nm,0.8s						
PETK	**Petropavlovsk-**	**53.39**	**24**	P	**P**	**11 59 54.0**	**-1.1**
PET	**Petropavlovsk**	**53.72**	**24**	*e*P	**P**	**12 00 00.9**	**+3.4**
PET				*e*S	**S**	**12 07 29.8**	**-1.4**
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET	**Petropavlovsk**	**53.72**	**24**	P	**P**	**11 59 56.6**	**-0.9**
	comp=Z,25nm,1.4s						
SHLS	**Shalkode**	**54.25**	**320**	*e*P	**P**	**11 59 59.9**	**-1.9**
	comp=Z,16nm,1.1s						
MK31	**Makanchi Array**	**54.41**	**325**⇑	*i*P	**P**	**12 00 02.3**	**-0.4**
MKAR	**Makanchi Array**	**54.41**	**325**		**P**	**12 00 01.0**	**-1.8**
MKAR	**Makanchi Array**	**54.41**	**325**	P	**P**	**12 00 01.2**	**-1.5**
	comp=Z,12nm,1.1s,baz=126,slow=8.2,SNR=20						
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**54.41**	**325**	*i*P	**P**	**12 00 02.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAKZ	**Makanchi**	**54.60**	**325**		**P**	**12 00 02.5**	**-1.6**
MAKZ				IAmb	IAmb	12 00 11.1	
	comp=Z,25nm,1.4s						
MAKZ	**Makanchi**	**54.60**	**325**	P	**P**	**12 00 02.5**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,25nm,1.4s						
PRZ	**Przheval'sk**	**54.62**	**319**		**P**	**12 00 03.1**	**-1.5**
PRZ	**Przheval'sk**	**54.62**	**319**	P	**P**	**12 00 03.1**	**-1.5**
PRZ				pmax	pmax		
	comp=Z,190nm,2.0s						
KSH	**Kashi**	**55.02**	**314**	P	**P**	**12 00 08.9**	**+1.4**
KSH				pP	sP	12 00 13.6	+0.1
KSH				pmax	pmax		
	comp=Z,18nm,1.6s						
KSH				LR	LR		
	comp=Z,360nm,19.2s						
KSH				LR	LR		
	comp=Z,250nm,15.8s						
KSH				LR	LR		
	comp=Z,260nm,17.9s						
NIL	**Nilore**	**55.06**	**307**	P	**P**	**12 00 06.2**	**-1.5**
NIL	**Nilore**	**55.06**	**307**	P	**P**	**12 00 06.2**	**-1.5**
NIL				pmax	pmax		
	comp=Z,28nm,1.0s						
KDJ	**Kajisay**	**55.28**	**318**	P	**P**	**12 00 07.7**	**-1.6**
KDJ	**Kajisay**	**55.28**	**318**	P	**P**	**12 00 07.7**	**-1.6**
KDJ				pmax	pmax		
	comp=Z,45nm,1.4s						
YAK	**Yakutsk**	**55.44**	**3**		**P**	**12 00 08.8**	**-1.0**
YAK	**Yakutsk**	**55.44**	**3**	*e*P	**P**	**12 00 08.7**	**-1.1**
YAK				*e*		12 01 08.8	
YAK				*e*		12 02 12.4	
YAK				*e*PPP	PPP	12 03 21.2	
YAK				*e*S	**S**	**12 07 53.6**	**-0.5**
YAK				*e*		12 09 58.4	
YAK				*e*SS	**SS**	**12 11 42.2**	**+3.4**
YAK				pmax	pmax		
	comp=Z,19nm,1.4s						
YAK				pmax	pmax		
	comp=N,12nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,55nm,3.2s						
YAK				smax	smax		
	comp=N,50nm,3.7s						
YAK				smax	smax		
	comp=E,16nm,2.8s						
YAK				MLR	MLR		
	comp=Z,303nm,20.0s						
YAK				MLR	MLR		
	comp=E,122nm,21.0s						
YAK				MLR	MLR		
	comp=N,133nm,19.0s						
TDK	**Taldyqorghan**	**55.80**	**321**	*e*P	**P**	**12 00 13.2**	**+0.3**
	comp=N,5.8nm,0.4s						
TDK	**Taldyqorghan**	**55.80**	**321**	*e*P	**P**	**12 00 13.1**	**+0.3**
TDK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MDOK	**Medeo**	**55.82**	**319**	*e*P	**P**	**12 00 13.1**	**-0.1**
MDOK	**Medeo**	**55.82**	**319**	*e*P	**P**	**12 00 13.0**	**-0.1**
TNSS	**Tian-Shan**	**55.83**	**319**	*e*P	**P**	**12 00 13.4**	**-0.1**
TNSS	**Tian-Shan**	**55.83**	**319**	*e*P	**P**	**12 00 13.4**	**-0.1**
AAA	**Alma-Ata**	**55.93**	**319**	*e*P	**P**	**12 00 14.1**	**+0.2**
AAA	**Alma-Ata**	**55.93**	**319**	*e*P	**P**	**12 00 14.0**	**+0.2**
AAK	**Ala-Archa**	**57.30**	**317**	P	**P**	**12 00 21.3**	**-2.4**
AAK	**Ala-Archa**	**57.30**	**317**	*i*P	**P**	**12 00 22.9**	**-0.8**
ZAA0	**Zalesovo Array**	**57.41**	**333**	P	**P**	**12 00 22.8**	**-1.3**
ZALV	**Zalesovo Beam**	**57.41**	**333**	P	**P**	**12 00 21.6**	**-2.5**
ZALV	**Zalesovo Beam**	**57.41**	**333**	P	**P**	**12 00 22.1**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=142,slow=5.3,SNR=7.6						
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**57.41**	**333**	*i*P	**P**	**12 00 24.7**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MSVF	**Nonsavu**	**57.43**	**116**		**P**	**12 00 25.2**	**+0.3**
MSVF				IAmb	IAmb	12 00 27.5	
	comp=Z,20nm,0.9s						
MSVF	**Nonsavu**	**57.43**	**116**	*i*P	**P**	**12 00 25.1**	**+0.3**
MSVF				pmax	pmax		
	comp=Z,25nm,0.9s						
SGDS	**Sogindy**	**57.54**	**318**	*e*P	**P**	**12 00 25.6**	**+0.3**
	comp=Z,13nm,1.4s						
KURBB	**Kurchatov Arra**	**58.58**	**327**	P	**P**	**12 00 30.6**	**-1.7**
	comp=Z,6.9nm,0.8s,baz=126,slow=6.0,SNR=19						
	comp=Z,6.9nm,0.8s						
KURK	**Kurchatov**	**58.58**	**327**	P	**P**	**12 00 30.4**	**-1.9**
KURK	**Kurchatov**	**58.58**	**327**⇑	*i*P	**P**	**12 00 31.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,22nm,1.4s						
GAR	**Garm**	**58.95**	**312**	P	**P**	**12 00 33.7**	**-1.6**
DZA	**Taraz**	**59.54**	**316**	*e*P	**P**	**12 00 39.3**	**+0.1**
DZA	**Taraz**	**59.54**	**316**	*e*P	**P**	**12 00 39.3**	**+0.1**
SEY	**Seymchan**	**59.62**	**14**	*e*P	**P**	**12 00 38.8**	**-0.5**
SEY				pmax	pmax		
	comp=Z,23nm,1.3s						
CHGR	**Chuyangaron**	**59.71**	**311**	P	**P**	**12 00 39.4**	**-1.1**
CHGR	**Chuyangaron**	**59.71**	**311**	P	**P**	**12 00 39.4**	**-1.1**
CHGR				pmax	pmax		
	comp=Z,61nm,1.3s						
KK31	**Karatay Array**	**60.18**	**316**	P	**P**	**12 00 42.2**	**-1.4**
KK31	**Karatay Array**	**60.18**	**316**	P	**P**	**12 00 42.2**	**-1.4**
KK31				pmax	pmax		
	comp=Z,30nm,1.3s						
KKAR	**Karatay Array**	**60.18**	**316**	P	**P**	**12 00 41.8**	**-1.8**
KKAR	**Karatay Array**	**60.18**	**316**	P	**P**	**12 00 41.8**	**-1.8**
IUG	**Iuzhnay**	**60.18**	**315**	*e*P	**P**	**12 00 43.9**	**+0.1**
IUG	**Iuzhnay**	**60.18**	**315**	*e*P	**P**	**12 00 43.8**	**+0.1**
BRZS	**Berezniki**	**61.55**	**324**	*e*P	**P**	**12 00 53.4**	**+0.6**
BRZS	**Berezniki**	**61.55**	**324**	*e*P	**P**	**12 00 53.3**	**+0.6**
BVAR	**Borovoye Array**	**64.16**	**327**	P	**P**	**12 01 07.6**	**-2.5**
	comp=Z,2.6nm,0.7s						
	comp=Z,2.6nm,0.7s						
BORK	**Borovoye**	**64.21**	**327***c*	*i*P	**P**	**12 01 10.3**	**-0.1**
BORK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**65.04**	**1**	P	**P**	**12 01 14.6**	**-0.8**
TIXI				IAmb	IAmb	12 01 21.2	
	comp=Z,16nm,1.4s						
TIXI	**Tiksi**	**65.04**	**1**⇑	*i*P	**P**	**12 01 14.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**67.21**	**16**⇑	*e*P	**P**	**12 01 29.2**	**-0.2**
BILL				pmax	pmax		
	comp=Z,25nm,1.9s						
AB31	**Akbulak array**	**69.05**	**320**	P	**P**	**12 01 39.2**	**-2.1**
ABKAR	**Akbulak array**	**69.05**	**320**	P	**P**	**12 01 39.1**	**-2.3**
SVE	**Sverdlovsk**	**70.80**	**328**	*e*P	**P**	**12 01 50.2**	**-1.8**
SVE				pmax	pmax		
	comp=Z,23nm,1.2s						
ARTI	**Arti**	**71.86**	**327**	P	**P**	**12 01 58.5**	**+0.1**
ARTI	**Arti**	**71.86**	**327***c*	*i*P	**P**	**12 01 59.3**	**+0.9**
ARTI						12 02 19.6	
ARTI				S	**S**	**12 11 21.1**	**+2.4**
ARTI				SS	**SS**	**12 15 57.2**	**+2.3**
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MAK	**Makhachkala**	**76.60**	**312**	*e*P	P	12 02 19.3	-7.0
MAK				*e*PPP	PPP	12 07 00.5	
MAK				*e*S	S	12 12 00.7	-12
MAK				*e*SS	**SS**	**12 17 03.1**	**-4.6**
MAK				*e*SSS	SSS	12 20 30.3	
MAK				pmax	pmax		
	comp=Z,37nm,0.3s						
MAK				MLR	MLR		
	comp=Z,139nm,17.0s						
KIRV	**Kirov**	**77.06**	**329**⇓	*i*P	**P**	**12 02 29.4**	**+0.9**
RAYN	**Ar Rayn**	**78.05**	**293**	P	**P**	**12 02 33.6**	**-1.3**
RAYN				IAmb	IAmb	12 02 38.7	
	comp=Z,13nm,0.9s						
RAYN	**Ar Rayn**	**78.05**	**293**	P	**P**	**12 02 33.7**	**-1.3**
RAYN				pmax	pmax		
	comp=Z,13nm,0.9s						
GNI	**Garni**	**78.56**	**310**		**P**	**12 02 35.4**	**-2.2**
GNI	**Garni**	**78.56**	**310**	*i*P	**P**	**12 02 37.5**	**-0.1**
GNI	**Garni**	**78.56**	**310**	P	**P**	**12 02 36.6**	**-1.0**
	comp=Z,552nmcomp=Z,22nm,1.5s						
E19K	**Redstone River**	**79.17**	**23**		**P**	**12 02 40.3**	**+0.1**
E19K				IAmb	IAmb	12 02 50.3	
	comp=Z,14nm,1.0s						
H19K	**Roundabout Mou**	**79.19**	**25**		**P**	**12 02 39.5**	**-0.8**
H19K				IAmb	IAmb	12 02 46.9	
	comp=Z,14nm,1.0s						
KBZ	**Khabaz**	**79.99**	**313**	P	**P**	**12 02 43.5**	**-1.6**
	comp=Z,6.5nm,1.0s,baz=89,slow=7.5,SNR=8.0						
	comp=Z,6.5nm,1.0s						
KBZ	**Khabaz**	**79.99**	**313**⇑	*i*P	**P**	**12 02 43.9**	**-1.1**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
J20K	**Nowinta River**	**80.01**	**26**		**P**	**12 02 43.8**	**-1.0**
J20K				IAmb	IAmb	12 03 10.2	
	comp=Z,47nm,1.9s						
KIV	**Kislovodsk**	**80.14**	**313**	*e*P	**P**	**12 02 43.6**	**-2.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
G21K	**Allakaket**	**80.50**	**24**		**P**	**12 02 48.3**	**+0.9**
GURO	**Guroymak-BITLI**	**80.66**	**308**	P	**P**	**12 02 46.4**	**-2.6**
GURO				IAmb	IAmb	12 02 56.0	
	comp=Z,42nm,1.5s						
SKT	**Skwentna**	**81.03**	**28**	P	**P**	**12 02 49.7**	**-0.7**
BPAW	**Bear Paw Mtn.**	**81.39**	**26**	P	**P**	**12 02 51.3**	**-0.9**
BPAW				IAmb	IAmb	12 03 00.2	
	comp=Z,21nm,0.9s						
MLY	**Manley**	**81.54**	**25**	P	**P**	**12 02 51.9**	**-1.1**
MLY				IAmb	IAmb	12 03 05.5	
	comp=Z,19nm,1.3s						
TRF	**Thorofare Moun**	**81.67**	**27**	P	**P**	**12 02 52.9**	**-1.0**
TRF				IAmb	IAmb	12 02 59.4	
	comp=Z,14nm,1.0s						
I23K	**Minto, Yukon-K**	**82.13**	**25**	P	**P**	**12 02 55.3**	**-0.7**
I23K				IAmb	IAmb	12 03 01.9	
	comp=Z,7.5nm,0.6s						
PMR	**Palmer**	**82.16**	**29**	P	**P**	**12 02 55.0**	**-1.3**
PMR	**Palmer**	**82.16**	**29**	P	**P**	**12 02 55.0**	**-1.3**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KLMR	**Klimovskoe**	**82.23**	**330**	*e*P	**P**	**12 02 54.3**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,13nm,1.0s						
NEA2	**Nenana**	**82.24**	**26**	P	**P**	**12 02 54.9**	**-1.7**
MCK	**McKinley**	**82.28**	**27**	P	**P**	**12 02 56.0**	**-0.9**
MCK	**McKinley**	**82.28**	**27**	P	**P**	**12 02 56.0**	**-0.9**
MCK				pmax	pmax		
	comp=Z,24nm,1.0s						
RND	**Reindeer**	**82.31**	**27**	P	**P**	**12 02 55.0**	**-2.1**
RND				IAmb	IAmb	12 03 03.6	
	comp=Z,17nm,1.1s						
RND	**Reindeer**	**82.31**	**27**	P	**P**	**12 02 55.1**	**-2.1**
RND				pmax	pmax		
	comp=Z,17nm,1.1s						
KNK	**Knik Glacier**	**82.48**	**29**	P	**P**	**12 02 56.6**	**-1.4**
KNK				IAmb	IAmb	12 03 04.0	
	comp=Z,17nm,1.0s						
WRH	**Wood River Hil**	**82.66**	**26**	P	**P**	**12 02 58.0**	**-0.9**
WRH				IAmb	IAmb	12 03 04.3	
	comp=Z,31nm,1.5s						
CCB	**Clear Creek Bu**	**82.78**	**26**	P	**P**	**12 02 57.5**	**-2.0**
CCB				IAmb	IAmb	12 03 06.6	
	comp=Z,18nm,1.4s						
DHY	**Denali Highway**	**82.98**	**27**	P	**P**	**12 02 59.6**	**-1.1**
DHY				IAmb	IAmb	12 03 06.7	
	comp=Z,39nm,2.0s						
HDA	**Harding Lake**	**83.16**	**26**	P	**P**	**12 03 00.5**	**-0.9**
HDA				IAmb	IAmb	12 03 08.2	
	comp=Z,11nm,0.8s						
IL31		**83.18**	**26**	P	**P**	**12 03 00.4**	**-1.1**
ILAR	**Eielson Array**	**83.18**	**26**	P	**P**	**12 02 59.8**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=234,slow=4.9,SNR=18						
	comp=Z,1.9nm,0.8s						
MOS	**Moscow**	**83.29**	**325**	*e*P	**P**	**12 03 03.2**	**+0.9**
J25K	**Salcha River,**	**83.83**	**26**		**P**	**12 03 03.8**	**-1.2**
OBN	**Obninsk**	**83.92**	**325**⇑	*e*P	**P**	**12 03 06.0**	**+0.5**
OBN				*i*		12 03 09.4	
OBN				*i **SP	**pP**	**12 03 10.7**	**+0.7**
OBN				PS	PnS	12 14 46.8	+25
OBN				*e*SS	SS	12 19 01.0	+4.6
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BMAR	**Burnt Mountain**	**84.03**	**23**	P	**P**	**12 03 05.5**	**-0.5**
SCRK	**Sand Creek**	**84.47**	**26**	P	**P**	**12 03 08.0**	**-0.3**
SCRK				IAmb	IAmb	12 03 15.4	
	comp=Z,11nm,1.0s						
WAX	**Waxell Ridge**	**85.26**	**30**	P	**P**	**12 03 12.8**	**+0.5**
H27K	**Steamboat Moun**	**85.33**	**24**	P	**P**	**12 03 11.4**	**-1.1**
H27K				IAmb	IAmb	12 03 23.9	
	comp=Z,21nm,1.3s						
EGAK	**Eagle**	**85.63**	**25**	P	**P**	**12 03 14.0**	**+0.1**
EGAK				IAmb	IAmb	12 03 25.1	
	comp=Z,7.4nm,0.8s						
BARN	**Barnard Glacie**	**85.78**	**29**	P	**P**	**12 03 15.8**	**+0.7**
BARN				IAmb	IAmb	12 03 28.9	
	comp=Z,20nm,1.0s						
CTGM	**Chitina Glacie**	**85.95**	**29**	P	**P**	**12 03 15.7**	**-0.2**
CTGM				IAmb	IAmb	12 03 18.4	
	comp=Z,16nm,0.8s						
I28M	**Miner Creek**	**86.06**	**25**	P	**P**	**12 03 15.5**	**-0.8**
I28M				IAmb	IAmb	12 03 27.0	
	comp=Z,14nm,0.9s						
SIM	**Simferopol'**	**86.23**	**315**	*e*P	**P**	**12 03 18.9**	**+1.6**
SIM				*e*		12 06 44.1	
SIM				pmax	pmax		
	comp=Z,18nm,1.0s						
SIM				pmax	pmax		
	comp=Z,8.0nm,11.5s						
MMAI	**Mount Meron Ar**	**86.36**	**303**	P	**P**	**12 03 15.3**	**-3.0**
	comp=Z,0.4nm,0.2s,baz=68,slow=8.1,SNR=1.4						
	comp=Z,0.4nm,0.2s						
VNDA	**Vanda**	**86.41**	**173**	P	**P**	**12 03 15.3**	**-2.2**
	comp=Z,2.3nm,0.9s,baz=309,slow=5.6,SNR=11						
	comp=Z,2.3nm,0.9s						
BRTR	**Keskin Array B**	**87.10**	**309**	P	**P**	**12 03 20.0**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=119,slow=4.8,SNR=5.8						
	comp=Z,0.5nm,0.6s						
PPT2	**Papeete2**	**87.36**	**108**	*e*LR	LR	12 31 06.2	
	comp=Z,164nm,27.2s						
PPT2				*e*LR	LR	12 31 08.1	
	comp=Z,162nm,25.0s						
FINES	**FINESS Array B**	**88.66**	**332**	P	**P**	**12 03 26.4**	**-2.3**
	comp=Z,3.7nm,1.1s,baz=74,slow=4.6,SNR=5.7						
	comp=Z,3.7nm,1.1s						
FINES	**FINESS Array B**	**88.66**	**332**	*i*P	**P**	**12 03 29.6**	**+0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AK09	**Malin Array Si**	**88.76**	**321**	P	**P**	**12 03 28.1**	**-1.3**
AK03	**Malin Array Si**	**88.78**	**321**	P	**P**	**12 03 28.6**	**-0.9**
AK10	**Malin Array Si**	**88.78**	**321**	P	**P**	**12 03 28.5**	**-1.0**
AKASG	**Malin Array Be**	**88.79**	**321**	P	**P**	**12 03 26.6**	**-2.9**
	comp=Z,1.9nm,0.8s,baz=70,slow=4.3,SNR=6.7						
	comp=Z,1.9nm,0.8s						
AKASG	**Malin Array Be**	**88.79**	**321**	*i*P	**P**	**12 03 28.3**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKBB	**Malin Array Si**	**88.79**	**321**	P	**P**	**12 03 28.5**	**-1.0**
AK11	**Malin Array Si**	**88.83**	**321**

Plg56.0000°, Azm338.0000°; P -4.9768, Plg15.0000°, Azm92.0000°;
NEIC ***20*** *11:59:43.5±1.1, 6.65N±0.03×125.20E±0.04, h10km±1km, mb5.0/67, Mww5.1/23 Error ellipse: s-maj=7.8km s-min=3.5km az=53.0*
MAN ***20*** *11:59:43.1, 6.72N×125.18E, h11km, mb5.7, ML4.7, MS5.1*
MAN INTENSITY IV - DAVAO CITY; DIGOS CITY; KIDAPAWAN CITY; M'LANG COTABATO;; INTENSITY III - KORONADAL CITY; TAMPAKAN SOUTH COTABATO; INTENSITY II - GENERAL SANTOS CITY; GLAN SARANGANI.
NEIC ***20*** *11:59:43.5, 6.65N×125.19E, h16km*
DJA ***20*** *11:59:44.0±0.5, 7.1N±4.1×12.5E±.1, h10km, M5.3/25, mb5.4/25, mB5.7/19, MLv5.8/10, Mw(mB)5.2/19*
GCMT ***20*** *11:59:47.5±0.2, 6.76N±0.01×125.17E±0.01, h21km±1km, MW5.2/121, Moment Tensor Solution. s50,c59; s121,c206; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.35±.18; Mθθ5.98±.15; Mϕϕ-6.33±.15; Mrθ-3.64±.33; Mθϕ-1.77±.12; Mϕr0.62±.27; Best double couple: M0 7.29500×10^16 NP1:ϕs230.00000°, δ71.00000°, λ162.00000°. NP2:ϕs326.00000°, δ73.00000°, λ20.00000°. Principal axes: T 8.0090, Plg26.0000°, Azm188.0000°; N -1.4240, Plg64.0000°, Azm6.0000°; P -6.5810, Plg1.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 11:59:44.5±0.5, 6.59N±0.03×125.21E±0.05, h14km±2km, h14km:pP-P, n385, σ1§98/363, mb4.9/132, MS4.4/79, 10C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.60**	**37**	Pg	**Pg**	**11 59 54.6**	**-1.7**
	4μm,0.3s,baz=236,slow=2.5,SNR=137						
DAV				Lg	Lg	12 00 03.7	
	9μm,0.3s,baz=320,slow=23,SNR=27						
DAV				LR	LR	12 00 28.5	
	comp=Z,34μm,19.2s,baz=200,slow=69						
DAV	**Davao City (W)**	**0.60**	**37**	S	**Sb**	**12 00 04.7**	**-0.4**
DAV	**Davao City (W)**	**0.60**	**37**	P	**Pb**	**11 59 57.0**	**+0.2**
SGSI	**Sangihe**	**2.90**	**174**	P	**Pn**	**12 00 31.9**	**+1.6**
KMSI	**Cibinong**	**6.10**	**192**	P	**Pn**	**12 01 16.3**	**+2.0**
TNTI	**Ternate**	**6.17**	**160**		**Pn**	**12 01 17.1**	**+1.9**
TNTI	**Ternate**	**6.17**	**160**	P	**Pn**	**12 01 17.9**	**+2.7**
TNTI	**Ternate**	**6.17**	**160**	P	**Pn**	**12 01 18.0**	**+2.7**
	3μm212nm,1.0s						
MYLDM	**Lahad Datu**	**6.82**	**259**		**Pn**	**12 01 25.1**	**+0.8**
MYLDM	**Lahad Datu**	**6.82**	**259**	P	**Pn**	**12 01 26.2**	**+2.0**
MRSI	**Marisa**	**6.89**	**208**	P	**Pn**	**12 01 25.0**	**-0.2**
TOLI2	**Tolitoli**	**7.01**	**219**		**Pn**	**12 01 24.9**	**-1.9**
LUWI	**Luwuk**	**7.96**	**198**		**Pn**	**12 01 43.8**	**+3.9**
LUWI	**Luwuk**	**7.96**	**198**	P	**Pn**	**12 01 44.3**	**+4.4**
LUWI	**Luwuk**	**7.96**	**198**	P	**Pn**	**12 01 42.4**	**+2.5**
	6μm558nm,0.7s						
APSI	**Ampana**	**8.26**	**206**	P	**Pn**	**12 01 47.3**	**+3.4**
	4μm373nm,0.9s						
TGY	**Tagaytay City**	**8.57**	**331**	LR	LR	12 06 00.7	
	comp=Z,2μm,18.1s,baz=142,slow=44						
SANI	**Sanana**	**8.62**	**175**	P	**Pn**	**12 01 50.0**	**+1.1**
SANI	**Sanana**	**8.62**	**175**	P	**Pn**	**12 01 48.3**	**-0.6**
I39PW	**PALAU INFRASON**	**9.31**	**84**	I	I	12 57 36.4	
	baz=266,slow=311						
SWI	**Sorong**	**9.55**	**141**	P	**Pn**	**12 02 03.2**	**+1.5**
	75nm,0.9s						
SWI	**Sorong**	**9.55**	**141**	P	**Pn**	**12 02 04.9**	**+3.2**
NLAI	**Namlea**	**9.94**	**169**	P	**Pn**	**12 02 07.1**	**0.0**
	3μm249nm,0.8s						
MSAI	**Masohi**	**10.54**	**159**	P	**Pn**	**12 02 16.3**	**+1.0**
	106nm,0.8s						
AAI	**Ambon**	**10.63**	**164**	P	**Pn**	**12 02 17.1**	**+0.6**
	2μm107nm,0.5s						
BKB	**Balikpapan**	**11.39**	**227**	Pn	**Pn**	**12 02 26.0**	**-0.9**
FAKI	**Fak Fak**	**11.77**	**143**		**Pn**	**12 02 33.8**	**+1.7**
FAKI	**Fak Fak**	**11.77**	**143**	P	**Pn**	**12 02 34.9**	**+2.8**
FAKI	**Fak Fak**	**11.77**	**143**	P	**Pn**	**12 02 33.4**	**+1.3**
BNDI	**Bandanaira**	**11.99**	**157**	P	**Pn**	**12 02 39.5**	**+4.4**
RKPI	**Ransiki, Papua**	**12.04**	**132**	P	**Pn**	**12 02 38.3**	**+2.6**
	7μm149nm,0.9s						
BNSI	**Bone**	**12.05**	**205**	P	**Pn**	**12 02 37.3**	**+1.4**
	74nm,1.1s						
BBSI	**Bau Bau**	**12.28**	**192**	P	**Pn**	**12 02 40.6**	**+1.5**
MTKI	**Muara Teweh, K**	**12.73**	**234**	P	**Pn**	**12 02 45.5**	**+0.3**
	47nm,0.8s						
KAPI	**Kappang**	**12.75**	**205**		**Pn**	**12 02 47.1**	**+1.6**
KAPI	**Kappang**	**12.75**	**205**	Pn	**Pn**	**12 02 45.8**	**+0.3**
	1.1nm,0.3s,baz=31,slow=22,SNR=3.8						
KAPI				LR	LR	12 07 57.6	
	comp=Z,2μm,20.4s,baz=42,slow=39						
KAPI	**Kappang**	**12.75**	**205**	P	**Pn**	**12 02 49.3**	**+3.8**
KAPI	**Kappang**	**12.75**	**205**	P	**Pn**	**12 02 47.1**	**+1.6**
BKSI	**Bulukumba**	**12.88**	**203**	P	**Pn**	**12 02 51.3**	**+4.0**
KMPI	**Kaimana, Papua**	**13.25**	**140**	P	Pn	12 02 57.3	+4.9
BAKI	**Biak**	**13.34**	**125**	P	**Pn**	**12 02 55.6**	**+2.0**
	2μm76nm,0.8s						
BSSI	**Bau Bau, Buton**	**13.50**	**201**	P	**Pn**	**12 02 56.2**	**+0.5**
	3μm61nm,0.8s						
SBUM	**Sibu**	**13.59**	**253**		**Pn**	**12 02 58.9**	**+1.9**
SBUM	**Sibu**	**13.59**	**253**	P	**Pn**	**12 03 00.3**	**+3.4**
BBKI	**Banjar Baru**	**14.38**	**226**	P	**P**	**12 03 12.6**	**-2.2**
MMRI	**Maumere**	**15.41**	**191**		**P**	**12 03 24.9**	**-1.4**
MMRI				IAmb	IAmb	12 03 27.8	
	comp=Z,169nm,1.9s						
MMRI	**Maumere**	**15.41**	**191**	P	**P**	**12 03 24.2**	**-2.1**
MMRI	**Maumere**	**15.41**	**191**	P	**Pn**	**12 03 23.3**	**+1.6**
	comp=Z,2μmcomp=Z,79nm,0.9s						
EDFI	**Ende, Flores**	**15.64**	**193**	P	**Pn**	**12 03 24.6**	**-0.1**
KSM	**Kuching**	**15.71**	**252**		**Pn**	**12 03 25.6**	**+0.1**
KSM	**Kuching**	**15.71**	**252**	P	**P**	**12 03 28.7**	**-0.8**
SOEI	**Soe**	**16.27**	**183**		**P**	**12 03 35.2**	**-0.7**
SOEI	**Soe**	**16.27**	**183**	P	**P**	**12 03 35.1**	**-0.7**
SOEI	**Soe**	**16.27**	**183**	P	**Pn**	**12 03 33.5**	**+0.7**
	comp=Z,3μmcomp=Z,155nm,1.0s						
BATI	**Baumata**	**16.76**	**185**	Pn	**Pn**	**12 03 40.0**	**+1.0**
	comp=Z,17nm,0.3s,baz=95,slow=1.3,SNR=11						
BATI				LR	LR	12 11 21.5	
	comp=Z,1μm,21.3s,baz=355,slow=42						
BATI	**Baumata**	**16.76**	**185**	P	**P**	**12 03 40.3**	**-0.9**
	comp=Z,2μmcomp=Z,185nm,0.7s						
PLAI	**Plampang**	**17.02**	**206**	P	**P**	**12 03 45.4**	**+1.4**
PLAI	**Plampang**	**17.02**	**206**	P	**P**	**12 03 43.3**	**-0.7**
DLV	**Lat**	**17.34**	**289**	P	**P**	**12 03 49.6**	**+1.8**
GENI	**Genyem**	**17.50**	**121**	P	**P**	**12 03 50.6**	**+1.2**
JAY	**Jayapura**	**17.92**	**120**	P	**P**	**12 03 55.3**	**+1.2**
	comp=Z,16nm,0.7s,baz=183,slow=9.1,SNR=6.0						
JAY				LR	LR	12 10 54.9	
	comp=Z,896nm,18.1s,baz=306,slow=38						
JAGI	**Jajag, Banyuwa**	**18.59**	**217**		**Pn**	**12 04 01.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**18.59**	**217**	P	**Pn**	**12 04 04.8**	**+3.1**
QZH	**Quanzhou**	**19.32**	**342**	P	**Pn**	**12 04 14.5**	**+4.1**
QZH				pmax	pmax		
	comp=Z,2μm,5.2s						
QZH				LR	LR		
	comp=Z,1μm,25.1s						
QZH				LR	LR		
	comp=Z,3μm,24.7s						
QZH				LR	LR		
	comp=Z,2μm,23.4s						
QIZ	**Qiongzhong**	**19.41**	**311**	P	**P**	**12 04 08.9**	**-1.5**
QIZ				S	**S**	**12 07 50.1**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,33nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,670nm,6.4s						
QIZ				LR	LR		
	comp=Z,1μm,18.8s						
QIZ				LR	LR		
	comp=Z,1μm,15.5s						
QIZ				LR	LR		
	comp=Z,1μm,19.6s						
QIZ	**Qiongzhong**	**19.41**	**311**	P	**Pn**	**12 04 13.1**	**+1.6**
DRS	**Darwin Rock St**	**19.73**	**163**	P	**Pn**	**12 04 15.2**	**-0.1**
MTN	**Manton Dam**	**20.18**	**163**	P	**P**	**12 04 17.7**	**-1.2**
	comp=Z,62nm,1.0s						
MTN	**Manton Dam**	**20.18**	**163**	P	**P**	**12 04 18.3**	**-0.6**
MTN				IAmb	IAmb	12 04 25.6	
	comp=Z,48nm,0.7s						
JOW	**Kunigami**	**20.34**	**8**	P	**P**	**12 04 18.9**	**-1.6**
JOW	**Kunigami**	**20.34**	**8**	P	Pn	12 04 23.1	+0.5
	comp=Z,82nm,1.0s,baz=202,slow=11,SNR=4.6						
JOW				LR	LR	12 12 02.3	
	comp=Z,940nm,21.7s,baz=140,slow=36						
JOW	**Kunigami**	**20.34**	**8**	P	Pn	12 04 22.7	+0.1
KDU	**Kakadu**	**20.47**	**159**	P	**P**	**12 04 20.5**	**-1.4**
	comp=Z,54nm,1.1s						
GUMO	**Guam**	**20.55**	**69**	LR	LR	12 10 58.8	
	comp=Z,249nm,20.8s,baz=251,slow=33						
GUMO	**Guam**	**20.55**	**69**	P	Pn	12 04 26.3	+1.1
MYKOM	**Kota Tinggi**	**21.83**	**258**	P	**P**	**12 04 36.6**	**-0.1**
MYKOM	**Kota Tinggi**	**21.83**	**258**	P	**P**	**12 04 39.3**	**+2.6**
BTDF	**Bukit Timah Da**	**22.00**	**257**	P	**P**	**12 04 41.9**	**+3.3**
LEM	**Lembang**	**22.04**	**233**	P	**P**	**12 04 40.5**	**+1.3**
	comp=Z,50nm,0.8s,baz=40,slow=15,SNR=8.7						
BBJI	**Bungbulang**	**22.40**	**232**	P	**P**	**12 04 46.2**	**+3.3**
KNRA	**Kununurra**	**22.40**	**171**	P	**P**	**12 04 41.1**	**-1.7**
	comp=Z,179nm,0.7s						
KNRA	**Kununurra**	**22.40**	**171**	P	**P**	**12 04 42.9**	**+0.1**
GULI	**GuiLin**	**23.40**	**324**	P	**P**	**12 04 51.3**	**-1.8**
GULI				S	**S**	**12 09 07.8**	**+1.8**
GULI				pmax	pmax		
	comp=Z,28nm,1.0s						
GULI				pmax	pmax		
	comp=Z,520nm,6.2s						
GULI				LR	LR		
	comp=Z,880nm,19.3s						
GULI				LR	LR		
	comp=Z,980nm,17.2s						
GULI				LR	LR		
	comp=Z,960nm,22.4s						
IPM	**Ipoh**	**24.16**	**266**	P	**P**	**12 04 59.5**	**-1.1**
IPM				IAmb	IAmb	12 05 06.9	
	comp=Z,47nm,1.1s						
IPM	**Ipoh**	**24.16**	**266**	P	**P**	**12 05 03.4**	**+2.8**
KULM	**Kulim**	**24.46**	**268**	P	**P**	**12 05 03.1**	**-0.3**
KULM				IAmb	IAmb	12 05 07.5	
	comp=Z,37nm,1.1s						
KULM	**Kulim**	**24.46**	**268**	P	**P**	**12 05 06.1**	**+2.8**
FITZ	**Fitzroy Crossi**	**24.54**	**179**	P	**P**	**12 05 01.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**24.54**	**179**	P	**P**	**12 05 02.6**	**-1.2**
	comp=Z,16nm,0.5s,baz=12,slow=7.5,SNR=37						
	comp=Z,16nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.54**	**179**	P	**P**	**12 05 05.7**	**+1.8**
SSE	**Sheshan**	**24.67**	**352**	P	**P**	**12 05 03.9**	**-1.1**
SSE				S	**S**	**12 09 25.8**	**-0.4**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SSE				pmax	pmax		
	comp=Z,370nm,5.3s						
SSE				LR	LR		
	comp=Z,160nm,17.5s						
SSE				LR	LR		
	comp=Z,630nm,18.2s						
SLVN	**Son La**	**25.29**	**308**	P	**P**	**12 05 09.4**	**-1.4**
SLVN	**Son La**	**25.29**	**308**	P	**P**	**12 05 13.7**	**+2.9**
WHN	**Wuhan**	**25.92**	**338**	P	**P**	**12 05 20.8**	**+4.5**
WHN				pmax	pmax		
	comp=Z,34nm,1.0s						
WHN				LR	LR		
	comp=Z,1μm,12.8s						
WHN				LR	LR		
	comp=Z,2μm,16.4s						
WHN				LR	LR		
	comp=Z,3μm,18.5s						
JCJ	**Chichijima**	**26.01**	**36**	LR	LR	12 15 31.3	
	comp=Z,396nm,20.1s,baz=216,slow=36						
NJ2	**Nanjing**	**26.02**	**348**	*e*P	**P**	**12 05 15.0**	**-2.2**
NJ2				pP	**pP**	**12 05 21.3**	**-0.3**
NJ2				S	**S**	**12 09 40.1**	**-7.6**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,570nm,7.6s						
NJ2				LR	LR		
	comp=Z,380nm,17.5s						
NJ2				LR	LR		
	comp=Z,2μm,21.3s						
NJ2				LR	LR		
	comp=Z,900nm,20.8s						
PSI	**Prapat**	**26.46**	**263**	LR	LR	12 17 59.6	
	comp=Z,472nm,19.2s,baz=159,slow=42						
GYA	**Guiyang**	**26.51**	**320**	⇑P	**P**	**12 05 22.6**	**+0.7**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JNU	**Nakatsue**	**26.92**	**11**	LR	LR	12 18 07.7	
	comp=Z,332nm,18.4s,baz=187,slow=41						
PMG	**Port Moresby**	**27.03**	**126**	P	**P**	**12 05 25.4**	**-1.2**
PMG				IAmb	IAmb	12 05 30.6	
	comp=Z,36nm,0.8s						
PMG	**Port Moresby**	**27.03**	**126**	P	**P**	**12 05 26.1**	**-0.5**
	comp=Z,41nm,0.9s,baz=324,slow=8.8,SNR=8.6						
	comp=Z,41nm,0.9s						
PMG	**Port Moresby**	**27.03**	**126**	P	**P**	**12 05 27.2**	**+0.6**
PMG	**Port Moresby**	**27.03**	**126**	*i* P	**P**	**12 05 25.1**	**-1.5**
PMG				pmax	pmax		
	comp=Z,32nm,0.8s						
COEN	**Coen**	**27.10**	**139**	P	**P**	**12 05 25.2**	**-1.9**
	comp=Z,47nm,0.8s						
COEN	**Coen**	**27.10**	**139**	P	**P**	**12 05 27.4**	**+0.2**
COEN				IAmb	IAmb	12 05 34.5	
	comp=Z,30nm,0.7s						
COEN	**Coen**	**27.10**	**139**	P	**P**	**12 05 28.2**	**+1.0**
ENH	**Enshi**	**27.81**	**330**	P	**P**	**12 05 36.7**	**+3.3**
WRAB	**Tennant Creek**	**27.85**	**161**	P	**P**	**12 05 32.7**	**-1.1**
WRAB				IAmb	IAmb	12 06 16.8	
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**27.85**	**161**	*ce*P	**P**	**12 05 33.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,41nm,1.7s						
WRA	**Warramunga Arr**	**27.85**	**161**	P	**P**	**12 05 31.9**	**-1.9**
WRA	**Warramunga Arr**	**27.85**	**161**	P	**P**	**12 05 32.0**	**-1.9**
	comp=Z,8.8nm,0.8s,baz=329,slow=11,SNR=43						
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**27.85**	**161**	*i* P	**P**	**12 05 31.8**	**-2.1**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GSI	**Gunungsitoli**	**28.06**	**260**	P	**P**	**12 05 34.9**	**-0.9**
GSI	**Gunungsitoli**	**28.06**	**260**	P	**P**	**12 05 39.0**	**+3.2**
MBWA	**Marble Bar**	**28.10**	**191**	P	**P**	**12 05 39.2**	**+3.2**
CMAR	**Chiang Mai Arr**	**28.18**	**297**	P	**P**	**12 05 35.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**28.18**	**297**	P	**P**	**12 05 35.6**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=124,slow=7.2,SNR=20						
CMAR				LR	LR	12 16 51.4	
	comp=Z,487nm,19.3s,baz=105,slow=37						
	comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.18**	**297**	*i* P	**P**	**12 05 36.0**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**28.31**	**298**	P	**P**	**12 05 36.4**	**-1.6**
CHTO				IAmb	IAmb	12 05 43.1	
	comp=Z,26nm,1.1s						
CHTO	**Chiang Mai**	**28.31**	**298**	P	**P**	**12 05 36.4**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,26nm,1.1s						
KMI	**Kunming**	**28.32**	**313**	P	**P**	**12 05 39.0**	**+0.7**
KMI				pmax	pmax		
	comp=Z,25nm,1.1s						
KMI				LR	LR		
	comp=Z,820nm,17.9s						
KMI				LR	LR		
	comp=Z,370nm,17.2s						
KMI				LR	LR		
	comp=Z,930nm,16.9s						
PSAC1	**Pilbara Seismi**	**28.45**	**191**	P	**P**	**12 05 37.3**	**-1.8**
	comp=Z,28nm,0.9s						
PSAC2	**Pilbara Seismi**	**28.46**	**190**	P	**P**	**12 05 37.0**	**-2.3**
	comp=Z,33nm,0.8s						
PSA00	**Pilbara Seismi**	**28.48**	**191**	P	**P**	**12 05 38.2**	**-1.2**
	comp=Z,20nm,0.7s						
PSA00	**Pilbara Seismi**	**28.48**	**191**	P	**P**	**12 05 39.7**	**+0.3**
PSA00				IAmb	IAmb	12 05 45.6	
	comp=Z,22nm,0.8s						
PSA00	**Pilbara Seismi**	**28.48**	**191**	P	**P**	**12 05 38.2**	**-1.2**
PSA00				IAmb	IAmb	12 05 45.5	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**28.48**	**191**	P	**P**	**12 05 42.4**	**+3.0**
PSAB3	**Pilbara Seismi**	**28.50**	**190**	P	**P**	**12 05 39.4**	**-0.2**
	comp=Z,29nm,0.9s						
JHJ	**Hachijo jima 2**	**29.67**	**25**	LR	LR	12 18 19.8	
	comp=Z,608nm,18.9s,baz=292,slow=38						
PZH	**PanZhiHua**	**29.86**	**314**	P	**P**	**12 05 52.8**	**+0.9**
LYN	**LuoYang**	**30.21**	**339**	P	**P**	**12 05 57.8**	**+3.1**
LYN				pmax	pmax		
	comp=Z,24nm,0.5s						
LYN				LR	LR		
	comp=Z,1μm,22.3s						
LYN				LR	LR		
	comp=Z,2μm,18.9s						
LYN				LR	LR		
	comp=Z,2μm,21.1s						
TIA	**Tai'an**	**30.40**	**347**	P	**P**	**12 05 54.0**	**-2.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIA				LR	LR		
	comp=Z,530nm,23.5s						
TIA				LR	LR		
	comp=Z,1μm,23.0s						
TIA				LR	LR		
	comp=Z,710nm,24.4s						
QIS	**Mount Isa**	**30.46**	**153**	P	**P**	**12 05 55.1**	**-1.9**
	comp=Z,40nm,0.8s						
QIS	**Mount Isa**	**30.46**	**153**	P	**P**	**12 05 59.0**	**+1.9**
KSRS	**Korea Array**	**30.82**	**4**	P	**P**	**12 05 57.9**	**-2.1**
	comp=Z,3.2nm,1.0s,baz=182,slow=10,SNR=9.8						
	comp=Z,3.2nm,1.0s						
MTSU	**Mount Surprise**	**30.97**	**143**	P	**P**	**12 06 01.8**	**+0.2**
	comp=Z,13nm,0.7s						
MTSU	**Mount Surprise**	**30.97**	**143**	P	**P**	**12 06 04.9**	**+3.3**
XAN	**Xi'an**	**31.20**	**333**	⇑P	**P**	**12 06 05.8**	**+2.3**
XAN				pP	sP	12 06 10.3	+0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
XAN				LR	LR		
	comp=Z,730nm,19.2s						
XAN				LR	LR		
	comp=Z,1μm,18.6s						
XAN				LR	LR		
	comp=Z,730nm,18.5s						
AS15	**Alice Springs**	**31.22**	**164**	P	**P**	**12 06 01.0**	**-2.7**
	comp=Z,24nm,0.8s						
AS31	**Alice Springs**	**31.25**	**165**	P	**P**	**12 06 01.9**	**-2.1**
	comp=Z,7.1nm,0.6s						
AS31	**Alice Springs**	**31.25**	**165**	P	**P**	**12 06 03.1**	**-0.9**
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**12 06 02.6**	**-1.4**
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**12 06 02.1**	**-1.8**
	comp=Z,4.7nm,0.5s,baz=340,slow=7.0,SNR=81						
ASAR				PcP	**PcP**	**12 08 57.4**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=351,slow=3.2,SNR=2.0						
ASAR				ScP	**ScP**	**12 12 41.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=352,slow=5.1,SNR=1.7						
ASAR				LR	LR	12 19 30.5	
	comp=Z,434nm,21.9s,baz=340,slow=38						
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**12 06 02.6**	**-1.4**
AS01	**Alice Springs**	**31.26**	**164**	P	**P**	**12 06 05.9**	**+1.8**
AS17	**Alice Springs**	**31.27**	**164**	P	**P**	**12 06 01.7**	**-2.4**
	comp=Z,19nm,0.8s						
AS09	**Alice Springs**	**31.29**	**164**	P	**P**	**12 06 02.5**	**-1.8**
	comp=Z,20nm,0.7s						
WRKA	**Warakurna**	**31.58**	**175**	P	**P**	**12 06 03.8**	**-3.1**
MAJO	**Matsushiro**	**32.09**	**20**	*i* P	**P**	**12 06 12.4**	**+1.1**
MJAR	**Matsushiro Arr**	**32.09**	**20**	P	**P**	**12 06 10.2**	**-1.1**
MJAR	**Matsushiro Arr**	**32.09**	**20**	P	**P**	**12 06 09.5**	**-1.8**
	comp=Z,6.3nm,1.0s,baz=197,slow=8.6,SNR=12						
MJAR				LR	LR	12 19 32.4	
	comp=Z,564nm,18.1s,baz=216,slow=37						
	comp=Z,6.3nm,1.0s						
MJAR	**Matsushiro Arr**	**32.09**	**20**	P	**P**	**12 06 10.2**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HNS	**HongShan**	**32.13**	**344**	⇑P	**P**	**12 06 14.8**	**+3.3**
HNS				pmax	pmax		
	comp=Z,35nm,1.0s						
HNS				LR	LR		
	comp=Z,530nm,23.0s						
HNS				LR	LR		
	comp=Z,1μm,20.1s						
HNS				LR	LR		
	comp=Z,870nm,18.8s						
DL2	**Dalian**	**32.33**	**355**	P	**P**	**12 06 14.1**	**+0.8**
DL2				S	**S**	**12 11 31.6**	**+4.8**
DL2				pmax	pmax		
	comp=Z,35nm,1.0s						
DL2				pmax	pmax		
	comp=Z,300nm,11.8s						
DL2				LR	LR		
	comp=Z,460nm,18.3s						
DL2				LR	LR		
	comp=Z,840nm,19.4s						
DL2				LR	LR		
	comp=Z,960nm,21.6s						
TV1H	**Townsville Har**	**33.35**	**141**	P	**P**	**12 06 24.0**	**+1.6**
CTA	**Charters Tower**	**33.63**	**142**	LR	LR	12 21 58.7	
	comp=Z,21nm,19.1s,baz=304,slow=40						
MEEK	**Meekatharra**	**33.64**	**191**	P	**P**	**12 06 23.2**	**-1.8**
	comp=Z,24nm,0.8s						
MEEK	**Meekatharra**	**33.64**	**191**	P	**P**	**12 06 27.3**	**+2.4**
JMM	**Marumori**	**34.20**	**22**	P	**P**	**12 06 28.0**	**-1.6**
JMM	**Marumori**	**34.20**	**22**	P	**P**	**12 06 32.4**	**+2.8**
BJT	**Baijiatuau**	**34.26**	**348**	P	**P**	**12 06 33.9**	**+3.8**
BJI	**Beijing**	**34.28**	**348**	P	**P**	**12 06 28.4**	**-1.9**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
BJI				pmax	pmax		
	comp=Z,150nm,4.3s						
BJI				LR	LR		
	comp=Z,170nm,18.1s						
BJI				LR	LR		
	comp=Z,350nm,21.5s						
BJI				LR	LR		
	comp=Z,230nm,18.7s						
LZDM	**Lanzhou Array**	**35.26**	**329**	P	**P**	**12 06 38.2**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=144,slow=13,SNR=6.0						
LZDM				LR	LR	12 22 26.7	
	comp=Z,684nm,18.1s,baz=45,slow=39						
	comp=Z,1.2nm,0.3s						
LZH	**Lanzhou**	**35.29**	**329**	*e*P	**P**	**12 06 42.0**	**+2.7**
LZH				sP	sP	12 06 47.8	+2.4
LZH				pmax	pmax		
	comp=Z,47nm,1.7s						
LZH				LR	LR		
	comp=Z,830nm,15.6s						
LZH				LR	LR		
	comp=Z,840nm,17.8s						
LZH				LR	LR		
	comp=Z,1μm,17.1s						
BRDH	**Bariadhala**	**36.08**	**300**	LR	LR	12 22 37.9	
	comp=Z,571nm,19.7s,baz=118,slow=38						
HHC	**Hu-ho-hao-te**	**36.23**	**342**	*e*P	**P**	**12 06 47.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,4.4s						
PSTR	**Posyet**	**36.25**	**7**	*i* P	**P**	**12 06 49.6**	**+2.4**
MORW	**Morawa**	**36.53**	**194**	P	**P**	**12 06 49.6**	**-0.

BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,280nm,6.2s
BNX LR LR
comp=Z,440nm,21.7s
BNX LR LR
comp=Z,440nm,16.3s
BNX LR LR
comp=Z,750nm,16.9s
LSA Lhasa 39.44 310 P P 12 07 11.8 -3.2
LSA S **S 12 13 18.3 +1.3**
LSA LR LR
comp=Z,190nm,17.9s
LSA LR LR
comp=Z,230nm,16.5s
LSA LR LR
comp=Z,340nm,15.1s
TEY Ternei 39.56 13 *e*P **P 12 07 13.3 -1.8**
TEY *e* 12 07 18.4
GTA Gaotai 39.88 329 *e*P **P 12 07 18.3 +0.2**
GTA pP pP 12 07 22.8 +0.3
GTA S **S 12 13 30.6 +7.9**
GTA SS **SS 12 16 15.1 -4.2**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,290nm,8.0s
GTA LR LR
comp=Z,740nm,19.1s
GTA LR LR
comp=Z,600nm,18.3s
GTA LR LR
comp=Z,1μm,15.9s
NWAO Narrogin (SRO) 40.02 190 P **P 12 07 17.2 -1.9**
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 40.02 190 LR LR 12 25 38.1
comp=Z,228nm,21.5s,baz=318,slow=39
NWAO Narrogin (SRO) 40.02 190 P **P 12 07 17.9 -1.2**
ASAJ Asahikawa 40.36 19 LR LR 12 24 58.8
comp=Z,402nm,18.5s,baz=225,slow=38
BBOO Buckleboo 40.52 166 P **P 12 07 21.6 -1.7**
comp=Z,55nm,0.7s
BBOO Buckleboo 40.52 166 P **P 12 07 22.1 -1.1**
BBOO IAmb IAmb 12 07 29.1
comp=Z,36nm,0.8s
EIDS Eidsvold 40.52 143 P **P 12 07 21.7 -1.7**
comp=Z,16nm,0.8s
EIDS Eidsvold 40.52 143 P **P 12 07 22.6 -0.8**
STKA Stephens Creek 41.32 159 P **P 12 07 28.8 -1.1**
STKA Stephens Creek 41.32 159 P **P 12 07 29.0 -0.9**
comp=Z,16nm,0.8s,baz=350,slow=7.5,SNR=21
STKA LR LR 12 28 33.0
comp=Z,189nm,19.4s,baz=337,slow=42
comp=Z,16nm,0.8s
HTT Hallett 41.87 163 P **P 12 07 33.0 -1.5**
comp=Z,11nm,1.4s
HTT Hallett 41.87 163 P **P 12 07 37.0 +2.5**
HTT Hallett 41.87 163 P **P 12 07 34.2 -0.3**
EVN Everest 42.10 305 P **P 12 07 35.4 -1.7**
EVN IAmb IAmb 12 07 44.4
comp=Z,61nm,1.3s
CMSA Cobar Meteorol 42.66 154 P **P 12 07 43.3 +2.4**
HIA Hailar 42.78 355 P **P 12 07 44.7 +3.1**
YSS Yuzhno-Sakhali 42.95 18 P **P 12 07 46.7 +3.7**
YSS Yuzhno-Sakhali 42.95 18 *ce*P **P 12 07 47.0 +4.0**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,100nm,4.4s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=Z,300nm,16.0s
HILR Hailar Array B 43.07 355 P **P 12 07 43.9 -0.1**
comp=Z,10.0nm,0.7s,baz=163,slow=11,SNR=10
HILR LR LR 12 26 45.1
comp=Z,406nm,19.8s,baz=105,slow=38
comp=Z,10.0nm,0.7s
AUMAR Marden Senior 43.16 164 P **P 12 07 46.6 +1.8**
HEH HeiHe 43.56 2 *e*P **P 12 07 47.6 -0.2**
HEH pP **pP 12 07 50.3 -2.0**
HEH S **S 12 14 22.1 +5.6**
HEH sS **sS 12 14 24.8 +1.0**
HEH pmax pmax
comp=Z,12nm,0.8s
HEH pmax pmax
comp=Z,400nm,5.2s
HEH LR LR
comp=Z,370nm,20.8s
HEH LR LR
comp=Z,430nm,21.6s
HEH LR LR
comp=Z,620nm,19.2s
AUMBR Murray Bridge 43.57 163 P **P 12 07 51.2 +3.1**
ULN Ulaanbaatar 43.95 342 P **P 12 07 49.5 -1.8**
ULN IAmb IAmb 12 08 05.9
comp=Z,27nm,1.2s
ULN Ulaanbaatar 43.95 342 *ce*P **P 12 07 50.2 -1.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 44.12 342 P **P 12 07 51.5 -1.2**
SONM Songino Array 44.12 342 P **P 12 07 51.7 -0.9**
comp=Z,1.1nm,0.8s,baz=144,slow=6.7,SNR=5.8
SONM LR LR 12 27 11.2
comp=Z,1μm,21.8s,baz=157,slow=37
comp=Z,1.1nm,0.8s
SONM Songino Array 44.12 342 P **P 12 07 51.5 -1.2**
SONM pmax pmax
comp=Z,11nm,1.1s
PALK Pallekele 44.18 274 LR LR 12 28 04.9
comp=Z,215nm,18.8s,baz=94,slow=39
ARMA Armidale 44.67 147 P **P 12 07 56.7 -0.5**
ARMA IAmb IAmb 12 08 13.4
comp=Z,14nm,0.8s
ARPS Mount Arapiles 45.86 161 P **P 12 08 05.7 -0.7**
comp=Z,26nm,1.2s
TYV Tymovskoe 46.46 15 *e*P **P 12 08 14.5 +3.6**
TYV *e*S S 12 15 07.6 +9.1
TYV pmax pmax
comp=Z,7.0nm,1.4s
TYV pmax pmax
comp=Z,200nm,5.3s
TYV smax smax
comp=N,100nm,5.3s
TYV smax smax
comp=E,300nm,5.3s
SANVU Saraoutou 47.01 118 P **P 12 08 14.0 -1.7**
SANVU Saraoutou 47.01 118 P **P 12 08 18.7 +3.0**
ZEA Zeya 47.04 2 *e*P **P 12 08 18.4 +3.0**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,13.0s
BRAT Ballarat 47.26 160 P **P 12 08 19.1 +1.8**
CAN Canberra 47.33 153 P **P 12 08 16.7 -1.3**
comp=Z,29nm,0.9s
CAN Canberra 47.33 153 P **P 12 08 17.1 -0.9**
CAN Canberra 47.33 153 P **P 12 08 21.3 +3.3**
CAN Canberra 47.33 153 P **P 12 08 17.1 -0.9**
CAN pmax pmax
comp=Z,18nm,0.8s
TOO Toolangi 47.84 158 P **P 12 08 21.1 -0.8**
TOO IAmb IAmb 12 08 30.3
comp=Z,18nm,1.4s
TOO Toolangi 47.84 158 P **P 12 08 21.1 -0.8**
TOO pmax pmax
comp=Z,18nm,1.5s
DZM Mont Dzumac 49.42 126 LR LR 12 30 44.5
comp=Z,168nm,19.2s,baz=300,slow=38
WMQ Urumqi 49.53 325 *e*P **P 12 08 35.8 +0.8**
WMQ LR LR
comp=Z,810nm,24.9s
WMQ LR LR
comp=Z,530nm,22.3s
WMQ LR LR
comp=Z,470nm,22.3s
ONTNC Ouen Toro 49.55 127 P **P 12 08 35.0 -0.3**
ONTNC IAmb IAmb 12 09 28.3
comp=Z,20nm,0.8s
ZSN Zaisan 53.30 327 *e*P **P 12 09 02.6 -0.5**
ZSN Zaisan 53.30 327 *e*P **P 12 09 02.5 -0.5**
PEA0B Petropavlovsk- 53.40 24 P **P 12 09 02.1 -1.6**
PEA0B IAmb IAmb 12 09 20.0
comp=Z,27nm,1.1s
PEA0B Petropavlovsk- 53.40 24 *ce*P **P 12 09 05.0 +1.3**
PETK Petropavlovsk- 53.40 24 P **P 12 09 02.8 -0.9**
PETK Petropavlovsk- 53.40 24 P **P 12 09 03.4 -0.3**
comp=Z,8.8nm,0.8s,baz=209,slow=8.2,SNR=15
comp=Z,8.8nm,0.8s
PETK Petropavlovsk- 53.40 24 P **P 12 09 02.8 -0.9**
SHLS Shalkode 54.20 320 *e*P **P 12 09 07.2 -2.6**
comp=Z,16nm,0.9s
SHLS Shalkode 54.20 320 *e*P **P 12 09 07.2 -2.6**
SHLS pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 54.36 325 *i* P **P 12 09 09.7 -1.2**
MKAR Makanchi Array 54.36 325 P **P 12 09 09.6 -1.3**
MKAR Makanchi Array 54.36 325 P **P 12 09 09.8 -1.0**
comp=Z,4.1nm,0.6s,baz=121,slow=7.2,SNR=16
MKAR LR LR 12 32 05.6
comp=Z,331nm,22.0s,baz=122,slow=36
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 54.36 325 *i* P **P 12 09 10.3 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 54.55 325 P **P 12 09 10.8 -1.4**
MAKZ Makanchi 54.55 325 P **P 12 09 10.8 -1.4**
SATY Saty 54.83 319 *e*P **P 12 09 13.7 -0.9**
comp=Z,17nm,1.1s
SATY Saty 54.83 319 *e*P **P 12 09 13.6 -0.9**
SATY pmax pmax
comp=Z,17nm,1.1s
KSH Kashi 54.97 314 P **P 12 09 16.1 +0.5**
KSH pP sP 12 09 21.8 0.0
KSH pmax pmax
comp=Z,13nm,1.0s
KSH LR LR
comp=Z,550nm,17.9s
KSH LR LR
comp=Z,320nm,17.9s
KSH LR LR
comp=Z,430nm,17.9s
KDJ Kajisay 55.22 318 P **P 12 09 16.1 -1.3**
KDJ IAmb IAmb 12 09 22.6
comp=Z,20nm,1.1s
KDJ Kajisay 55.22 318 P **P 12 09 16.1 -1.3**
KDJ pmax pmax
comp=Z,20nm,1.1s
YAK Yakutsk 55.42 3 P **P 12 09 17.0 -1.2**
YAK Yakutsk 55.42 3 LR LR 12 35 19.2
comp=Z,355nm,19.3s,baz=186,slow=39
YAK Yakutsk 55.42 3 *e*P **P 12 09 18.1 -0.1**
YAK *e* 12 10 17.1
YAK *e* 12 11 21.9
YAK *e*PPP PPP 12 12 34.8
YAK *e*S **S 12 17 01.0 -1.3**
YAK *e* 12 19 07.4
YAK *e*SS **SS 12 20 45.6 -1.5**
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=Z,117nm,4.3s
YAK pmax pmax
comp=N,115nm,4.7s
YAK pmax pmax
comp=E,84nm,4.9s
YAK smax smax
comp=E,56nm,3.8s
YAK smax smax
comp=N,41nm,3.3s
YAK MLR MLR
comp=Z,389nm,17.0s
YAK MLR MLR
comp=N,288nm,21.0s
YAK MLR MLR
comp=E,169nm,18.0s
TDK Taldyqorghan 55.75 321 *e*P **P 12 09 20.3 -0.6**
comp=E,8.8nm,0.8s
TDK Taldyqorghan 55.75 321 *e*P **P 12 09 20.3 -0.6**
TDK pmax pmax
comp=Z,9.0nm,0.8s
MDOK Medeo 55.77 319 *e*P **P 12 09 20.4 -0.9**
MDOK Medeo 55.77 319 *e*P **P 12 09 20.4 -0.9**
TNSS Tian-Shan 55.78 319 *e*P **P 12 09 20.6 -1.1**
TNSS Tian-Shan 55.78 319 *e*P **P 12 09 20.5 -1.1**
AAA Alma-Ata 55.87 319 *e*P **P 12 09 21.3 -0.7**
comp=Z,9.8nm,0.6s
AAA Alma-Ata 55.87 319 *e*P **P 12 09 21.2 -0.7**
AAA pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 57.24 317 P **P 12 09 30.6 -1.2**
AAK Ala-Archa 57.24 317 *ce*P **P 12 09 31.9 +0.1**
AAK pmax pmax
comp=Z,17nm,1.7s
ZAA0 Zalesovo Array 57.37 333 P **P 12 09 31.0 -1.2**
ZALV Zalesovo Beam 57.37 333 P **P 12 09 29.6 -2.6**
comp=Z,1.2nm,0.6s,baz=145,slow=4.6,SNR=6.7
ZALV LR LR 12 35 54.6
comp=Z,282nm,18.6s,baz=128,slow=38
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 57.37 333 *i* P **P 12 09 33.2 +1.0**
ZALV pmax pmax
comp=Z,3.0nm,1.0s
SGDS Sogindy 57.48 318 *e*P **P 12 09 32.9 -0.5**
MSVF Nonsavu 57.49 116 P **P 12 09 32.8 -1.0**
MSVF IAmb IAmb 12 09 58.0
comp=Z,24nm,1.0s
MSVF Nonsavu 57.49 116 P **P 12 09 36.3 +2.5**
MSVF Nonsavu 57.49 116 *i* P **P 12 09 33.2 -0.6**
MSVF pmax pmax
comp=Z,18nm,0.9s
ARSB Arslanbob 57.77 315 P **P 12 09 34.6 -0.9**
ARSB IAmb IAmb 12 09 40.4
comp=Z,16nm,1.1s
ARSB Arslanbob 57.77 315 P **P 12 09 34.6 -0.9**
ARSB pmax pmax
comp=Z,16nm,1.1s
KURBB Kurchatov Arra 58.53 327 P **P 12 09 38.2 -2.2**
comp=Z,3.7nm,0.7s,baz=126,slow=6.0,SNR=26
comp=Z,3.7nm,0.7s
KURK Kurchatov 58.53 327 P **P 12 09 38.4 -2.1**
KURK Kurchatov 58.53 327 *ce*P **P 12 09 38.3 -2.1**
KURK pmax pmax
comp=Z,36nm,1.0s
GAR Garm 58.89 312 P **P 12 09 42.5 -0.9**
DZA Taraz 59.49 316 *e*P **P 12 09 46.9 -0.5**
comp=Z,12nm,1.2s
DZA Taraz 59.49 316 *e*P **P 12 09 46.8 -0.5**
DZA pmax pmax
comp=Z,12nm,1.2s
SEY Seymchan 59.62 14 LR LR 12 38 14.6
comp=Z,109nm,18.0s,baz=209,slow=39
SEY Seymchan 59.62 14 *e*P **P 12 09 47.8 0.0**
SEY pmax pmax
comp=Z,20nm,1.5s
CHGR Chuyangaron 59.65 311 P **P 12 09 47.0 -1.6**
CHGR Chuyangaron 59.65 311 P **P 12 09 47.0 -1.6**
CHGR pmax pmax
comp=Z,17nm,0.8s
KK31 Karatay Array 60.13 316 P **P 12 09 50.0 -1.7**
KK31 IAmb IAmb 12 09 55.9
comp=Z,16nm,0.9s
KK31 Karatay Array 60.13 316 P **P 12 09 50.0 -1.7**
KK31 pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 60.13 316 P **P 12 09 50.1 -1.6**
KKAR Karatay Array 60.13 316 P **P 12 09 50.1 -1.6**
IUG Iuzhnay 60.13 315 *e*P **P 12 09 51.3 -0.6**
comp=Z,15nm,1.0s
IUG Iuzhnay 60.13 315 *e*P **P 12 09 51.2 -0.6**
IUG pmax pmax
comp=Z,15nm,1.0s
CHM Chimkent 60.48 315 *e*P **P 12 09 53.7 -0.5**
CHM Chimkent 60.48 315 *e*P **P 12 09 53.6 -0.5**
BRLS Borolday 60.56 316 *e*P **P 12 09 52.2 -2.5**
BRLS pmax pmax
comp=Z,41nm,3.7s
BRZS Berezniki 61.50 324 *e*P **P 12 10 00.7 -0.3**
BRZS Berezniki 61.50 324 *e*P **P 12 10 00.6 -0.3**
BVAR Borovoye Array 64.11 327 P **P 12 10 16.2 -2.0**
comp=Z,5.3nm,0.8s
BVAR LR LR 12 39 43.4
comp=Z,279nm,19.5s,baz=115,slow=38
comp=Z,5.3nm,0.8s
BORK Borovoye 64.16 327 *i* P **P 12 10 16.6 -2.0**
BORK pmax pmax
comp=Z,18nm,1.1s
RPZ Rata Peaks 64.95 145 LR LR 12 39 12.1
comp=Z,284nm,19.7s,baz=303,slow=36
TIXI Tiksi 65.03 1 LR LR 12 38 42.3
comp=Z,447nm,21.9s,baz=206,slow=36
TIXI Tiksi 65.03 1 *i* P **P 12 10 22.3 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
RAO Raoul Island 65.22 126 LR LR 12 38 53.1
comp=Z,51nm,19.6s,baz=298,slow=36
URZ Urewera 65.65 137 LR LR 12 40 51.2
comp=Z,164nm,18.4s,baz=300,slow=38
BKZ Black Stump Fm 65.71 138 P **P 12 10 27.9 -1.0**
BKZ Black Stump Fm 65.71 138 P **P 12 10 32.1 +3.2**
BILL Bilibino 67.21 16 *i* P **P 12 10 38.4 +0.5**
BILL pmax pmax
comp=Z,6.0nm,0.9s
AB31 Akbulak array 69.00 320 P **P 12 10 48.0 -1.5**
AB31 IAmb IAmb 12 11 02.4
comp=Z,11nm,1.2s
ABKAR Akbulak array 69.00 320 P **P 12 10 47.0 -2.5**
AKTO Aktyubinsk 70.50 321 LR LR 12 42 51.7
comp=Z,304nm,19.2s,baz=111,slow=37
SVE Sverdlovsk 70.75 328 *e*P **P 12 11 01.1 +0.9**
SVE pmax pmax
comp=Z,15nm,1.0s
ARTI Arti 71.81 327 LR LR 12 45 48.3
comp=Z,161nm,19.4s,baz=100,slow=39
ARTI Arti 71.81 327 *d i*P **P 12 11 07.6 +1.0**
ARTI 12 11 27.7
ARTI S **S 12 20 28.5 +1.9**
ARTI SS **SS 12 25 02.5 -0.1**
ARTI pmax pmax
comp=Z,4.0nm,0.7s
MAK Makhachkala 76.54 312 *d i*P P 12 11 28.4 -6.1
MAK *e* 12 14 23.1
MAK *e*PPP PPP 12 16 08.3
MAK *e*S S 12 21 10.8 -9.5
MAK *e*SS **SS 12 26 10.7 -4.6**
MAK *e*SSS SSS 12 29 28.0
MAK pmax pmax
comp=Z,45nm,0.3s
MAK MLR MLR
comp=Z,226nm,18.0s
KIRV Kirov 77.01 329 LR LR 12 45 53.5
comp=Z,152nm,21.9s,baz=95,slow=36
KIRV Kirov 77.01 329 *i* P **P 12 11 35.8 -1.0**
BELG Belogornoye 77.23 322 LR LR 12 47 08.0
comp=Z,394nm,21.1s,baz=97,slow=37
BELG Belogornoye 77.23 322 *i* P **P 12 11 38.2 0.0**
BELG pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 77.99 293 P **P 12 11 41.8 -1.3**
RAYN IAmb IAmb 12 11 46.7
comp=Z,10nm,0.8s
RAYN Ar Rayn 77.99 293 P **P 12 11 41.8 -1.3**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 78.50 310 LR LR 12 49 33.1
comp=Z,74nm,21.8s,baz=76,slow=38
GNI Garni 78.50 310 *i* P **P 12 11 45.3 -0.5**
GNI pmax pmax
comp=Z,27nm,1.4s
H19K Roundabout Mou 79.20 25 P **P 12 11 48.1 -0.7**
H19K IAmb IAmb 12 11 56.8
comp=Z,13nm,0.9s
F20K Avaraart Lake 79.70 23 **P 12 11 50.7 -0.8**
F20K IAmb IAmb 12 12 02.9
comp=Z,21nm,1.4s
KBZ Khabaz 79.93 313 P **P 12 11 51.9 -1.3**
comp=Z,4.5nm,1.1s,baz=352,slow=3.3,SNR=4.6
comp=Z,4.5nm,1.1s
KBZ Khabaz 79.93 313 *i* P **P 12 11 52.3 -0.9**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 80.08 313 *e*P **P 12 11 56.1 +1.9**
KIV pmax pmax
comp=Z,11nm,1.0s
KDAK Kodiak Island 80.30 33 LR LR 12 44 44.1
comp=Z,147nm,19.6s,baz=243,slow=34
VRH Novokhopyorsk 80.82 321 *e*P **P 12 11 59.6 +1.7**
VRH pmax pmax
comp=Z,11nm,0.8s
I21K Tanana 81.03 25 P **P 12 11 58.3 -0.4**
I21K IAmb IAmb 12 12 09.0
comp=Z,23nm,1.2s
ERBR Yeremizino-Bor 81.65 315 *e*P **P 12 12 02.5 +0.1**
ERBR pmax pmax
comp=Z,11nm,0.6s
E23K Chandalar 82.12 22 **P 12 12 03.6 -0.9**
E23K IAmb IAmb 12 12 22.0
comp=Z,25nm,1.2s
I23K Minto, Yukon-K 82.14 25 P **P 12 12 03.3 -1.2**
I23K IAmb IAmb 12 12 11.4
comp=Z,10nm,0.8s
PMR Palmer 82.18 29 P **P 12 12 07.6 +2.8**
KLMR Klimovskoe 82.19 330 *e*P **P 12 12 03.7 -1.2**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR MLR MLR
comp=Z,424nm,17.0s
MCK McKinley 82.30 27 P **P 12 12 03.5 -2.0**
MCK McKinley 82.30 27 P **P 12 12 03.5 -2.0**
MCK pmax pmax
comp=Z,19nm,0.9s
RND Reindeer 82.33 27 P **P 12 12 04.1 -1.6**
RND IAmb IAmb 12 12 17.8
comp=Z,12nm,1.0s
RND Reindeer 82.33 27 P **P 12 12 04.1 -1.6**
RND pmax pmax
comp=Z,12nm,1.0s
VSR Storozhevoye 82.43 321 *e*P **P 12 12 05.4 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 82.55 322 *e*P **P 12 12 07.9 +0.9**
LPSR pmax pmax
comp=Z,17nm,0.9s
COLA College 82.78 25 P **P 12 12 11.3 +3.4**
DHY Denali Highway 83.00 27 P **P 12 12 08.2 -1.1**
DHY IAmb IAmb 12 12 57.4
comp=Z,13nm,1.3s
HDA Harding Lake 83.17 26 P **P 12 12 08.2 -1.8**
HDA IAmb IAmb 12 12 14.1
comp=Z,12nm,0.8s
ILAR Eielson Array 83.19 26 P **P 12 12 08.2 -1.9**
comp=Z,1.0nm,0.6s,baz=244,slow=5.5,SNR=16
ILAR LR LR 12 47 17.9
comp=Z,61nm,22.0s,baz=274,slow=34
comp=Z,1.0nm,0.6s
ANN Anapa 83.83 314 *e*P **P 12 12 11.5 -2.2**
ANN *e*S **SKSac 12 22 34.8 -1.7**
ANN pmax pmax
comp=Z,42nm,1.0s
OBN Obninsk 83.87 325 LR LR 12 53 02.4
comp=Z,182nm,20.4s,baz=33,slow=38
OBN Obninsk 83.87 325‖ *e*P **P 12 12 14.6 +0.9**
OBN *i* 12 12 17.7
OBN *i* *SP **sP 12 12 20.4 +0.3**
OBN *i* S **S 12 22 42.3 +5.5**
OBN *e* 12 23 54.6
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,218nm,20.0s
APA Apatity 84.65 337‖ *e*P **P 12 12 16.5 -0.9**
APA *e* 12 15 29.0
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,733nm,4.6s
ASF Jabal al Asfar 85.11 302 LR LR 12 55 03.6
comp=Z,122nm,20.9s,baz=122,slow=39
H27K Steamboat Moun 85.34 24 P **P 12 12 19.6 -1.4**
H27K IAmb IAmb 12 12 28.4
comp=Z,11nm,1.0s
BCAR Beaver Creek A 85.54 27 P **P 12 12 21.1 -1.0**
EGAK Eagle 85.64 25 P **P 12 12 21.7 -0.8**
EGAK IAmb IAmb 12 12 37.6
comp=Z,11nm,1.0s
MAW Mawson 85.91 200 LR LR 12 45 51.2
comp=Z,98nm,21.4s,baz=63,slow=32
SIM Simferopol' 86.17 315 *e*P **P 12 12 27.1 +1.6**
SIM pmax pmax
comp=Z,24nm,0.9s

MMAI	**Mount Meron Ar**	**86.30 303**	P	**P**	**12 12 25.5**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=60,slow=4.9,SNR=5.4					
MMAI			LR	LR	12 55 02.6	
	comp=Z,99nm,20.9s,baz=86,slow=38					
	comp=Z,2.5nm,0.6s					
VNDA	**Vanda**	**86.44 173**	P	**P**	**12 12 25.1**	**-1.0**
VNDA	**Vanda**	**86.44 173**	P	**P**	**12 12 23.4**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=306,slow=7.4,SNR=5.4					
VNDA			LR	LR	12 50 25.0	
	comp=Z,100nm,20.6s,baz=333,slow=35					
	comp=Z,0.5nm,0.6s					
VNDA	**Vanda**	**86.44 173**	P	**P**	**12 12 25.1**	**-1.0**
VNDA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
G29M	**Pine Creek**	**86.64 23**		**P**	**12 12 26.4**	**-1.0**
EIL	**Elat**	**87.01 299**	LR	LR	12 56 25.9	
	comp=Z,205nm,20.4s,baz=2.5,slow=39					
BR131	**Keskin Array S**	**87.05 309**	*i* P	**P**	**12 12 31.3**	**+1.2**
BRTR	**Keskin Array B**	**87.05 309**	P	**P**	**12 12 27.9**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=108,slow=4.0,SNR=6.8					
	comp=Z,0.2nm,0.4s					
BRTR	**Keskin Array B**	**87.05 309**	*i* P	**P**	**12 12 33.2**	**+3.0**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.9s					
M29M	**Somme Creek**	**87.13 28**		**P**	**12 12 29.5**	**-0.5**
ARCES	**ARCESS Array B**	**87.26 340**	LR	LR	12 56 38.1	
	comp=Z,293nm,18.1s,baz=83,slow=39					
SPITS	**Spitsbergen Ar**	**87.40 349**	LR	LR	12 57 40.2	
	comp=Z,209nm,18.1s,baz=60,slow=40					
PPT	**Papeete**	**87.43 108**	LR	LR	12 46 42.0	
	comp=Z,56nm,18.7s,baz=271,slow=32					
PPT2	**Papeete2**	**87.43 108**	*e*SS	SS	12 28 58.2	-0.5
	comp=Z,516nm,38.5s					
PPT2			*e*LQ	LQ	12 36 36.6	
	comp=Z,798nm,41.5s					
PPT2			*e*LR	LR	12 40 13.5	
	comp=Z,230nm,27.2s					
PPT2			*e*LR	LR	12 40 14.8	
	comp=Z,309nm,26.5s					
TBI	**Tubuai**	**88.31 114**	*e*SS	SS	12 29 14.8	+3.5
	comp=Z,1μm,34.8s					
TBI	**Tubuai**	**88.31 114**	*e*LR	LR	12 40 35.1	
	comp=Z,1μm,28.2s					
TBI			*e*LR	LR	12 40 42.5	
	comp=Z,1μm,27.0s					
FINES	**FINESS Array B**	**88.61 332**	P	**P**	**12 12 34.8**	**-2.1**
	comp=Z,4.1nm,1.1s,baz=78,slow=8.8,SNR=5.4					
FINES			LR	LR	12 55 41.1	
	comp=Z,253nm,20.4s,baz=58,slow=38					
	comp=Z,4.1nm,1.1s					
FINES	**FINESS Array B**	**88.61 332**	*i* P	**P**	**12 12 35.5**	**-1.4**
FINES			pmax	pmax		
	comp=Z,4.0nm,1.1s					
AKASG	**Malin Array Be**	**88.73 321**	P	**P**	**12 12 36.2**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=72,slow=4.5,SNR=9.2					
AKASG			LR	LR	12 55 45.6	
	comp=Z,181nm,19.4s,baz=70,slow=38					
	comp=Z,0.6nm,0.5s					
AKASG	**Malin Array Be**	**88.73 321**	*i* P	**P**	**12 12 41.0**	**+3.3**
AKASG			pmax	pmax		
	comp=Z,6.0nm,0.9s					
MNK	**Minsk**	**88.93 325**	*i* P	**P**	**12 12 34.7**	**-3.9**
MNK			*i*		12 16 04.3	
MNK			*i* PPP	PPP	12 18 00.8	
MNK			*i* S	**SKSac**	**12 23 03.8**	**-4.0**
MNK			*i* PS	**PnS**	**12 24 29.5**	**-1.2**
MNK			*i* SS	**SS**	**12 29 15.3**	**-3.0**
MNK			pmax	pmax		
	comp=Z,7.0nm,0.7s					
MNK			pmax	pmax		
	comp=N,17nm,0.7s					
MNK			pmax	pmax		
	comp=E,26nm,0.8s					
MNK			MLR	MLR		
	comp=N,234nm,18.0s					
MNK			MLR	MLR		
	comp=Z,223nm,20.0s					
MNK			MLR	MLR		
	comp=E,272nm,22.0s					
MLR	**Muntele Rosu**	**91.81 316**	LR	LR	13 00 49.4	
	comp=E,201nm,18.8s,baz=66,slow=40					
DLBC	**Dease Lake**	**92.07 31**	LR	LR	12 50 26.2	
	comp=E,844nm,20.5s,baz=271,slow=33					
DAG	**Danmarks Havn**	**94.23 352**	*i* P	**P**	**12 13 05.0**	**+2.2**
HFS	**Hagfors**	**94.80 332**	LR	LR	12 57 56.4	
	comp=E,362nm,21.6s,baz=62,slow=37					
RES	**Resolute Bay**	**95.28 10**	LR	LR	13 00 36.7	
	comp=E,86nm,19.1s,baz=256,slow=38					
TAOE	**Nuku Hiva Isla**	**95.56 98**	*e*LR	LR	12 43 59.1	
	comp=E,301nm,26.6s					
NOA	**NORSAR Array B**	**95.57 333**	P	**P**	**12 13 07.7**	**-1.5**
	comp=E,1.1nm,1.0s,baz=62,slow=4.7,SNR=2.3					
NOA			LR	LR	13 00 13.5	
	comp=E,258nm,19.5s,baz=60,slow=38					
	comp=E,1.1nm,1.0s					
QSPA	**South Pole Qui**	**96.48 180**	P	**P**	**12 13 12.9**	**-0.3**
	comp=E,0.3nm,0.6s,baz=315,slow=2.9,SNR=7.4					
QSPA			LR	LR	12 58 19.2	
	comp=E,93nm,20.1s,baz=351,slow=36					
	comp=E,0.3nm,0.6s					
JMIC	**Jan Mayen**	**96.74 346**	LR	LR	13 02 16.0	
	comp=E,82nm,18.2s,baz=32,slow=39					
VRAC	**Vranov**	**96.97 321**	LR	LR	13 02 16.8	
	comp=E,131nm,18.5s,baz=66,slow=39					
GERES	**GERESS Array B**	**98.92 322**	LR	LR	13 01 51.9	
	comp=E,116nm,18.5s,baz=66,slow=38					
TXAR	**Lajitas Array**	**120.99 50**	PKP	**PKiKP**	**12 18 38.0**	**+0.3**
	comp=E,0.8nm,1.0s,baz=263,slow=0.4,SNR=4.9					
PLCA	**Paso Flores**	**143.19 160**	PKP	PKPbc	12 19 15.6	0.0
	comp=E,1.3nm,0.7s,baz=74,slow=2.1,SNR=3.7					

*SOME **20** 12:11:43.5, 41.°38N×83.°90E, h5km*
*NNC **20** 12:11:45.9±1.6, 41.°31N×83.°73E, h0km, mb3.9, mpv3.4,*
Error ellipse: s-maj=11.9km s-min=7.1km az=154.0

ISC 20 12:11:57.7±3.5, 41.°8N±0.°2×83.°3E±0.°1, h10km, n9,
σ0°85/10, 5C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.14 297**		Pg	**Pn**	**12 12 47.3**	**0.0**
	12nm,0.4s						
SHLS				Lg	Lg	12 13 33.0	
	39nm,0.8s						
SHLS	**Shalkode**	**3.14 297**		*e*P	**Pn**	**12 12 47.3**	**0.0**
	12nm,0.4s						
SHLS				*e*S	**Sb**	**12 13 33.0**	**+1.0**
	39nm,0.8s						
PDGK	**Podgornoye**	**3.19 300**		⇑Pg	**Pb**	**12 12 54.7**	**+0.1**
	7.0nm,0.7s						
PDGK				⇑Lg	Lg	12 13 46.0	
	26nm,0.9s						
KPKS	**Kokpek**	**3.78 298**		Pg	**Pb**	**12 13 04.3**	**-0.2**
	0.2nm,0.1s						
KPKS				Lg	Lg	12 14 02.6	
	3.8nm,0.4s						
SATY	**Saty**	**3.83 291**		Pg	**Pb**	**12 13 04.9**	**-0.4**
	2.2nm,0.3s						
SATY				Lg	Lg	12 14 04.0	
	7.1nm,0.3s						
MK31	**Makanchi Array**	**5.05 352**		⇑Pg	**Pb**	**12 13 27.2**	**+1.0**
	0.9nm,0.6s,baz=164,slow=15,SNR=3.0						
MK31				⇑Lg	Lg	12 14 43.5	
	6.8nm,0.6s,baz=164,slow=26,SNR=14						
MAKZ	**Makanchi**	**5.11 350**		⇑Lg	Lg	12 14 44.7	
	11nm,0.9s						
ZSN	**Zaisan**	**5.77 11**		Pg	**Pb**	**12 13 38.7**	**+0.3**
	4.0nm,0.3s						
ZSN				Lg	Lg	12 15 01.3	
	16nm,1.0s						
ZSN	**Zaisan**	**5.77 11**		*e*P	**Pb**	**12 13 38.7**	**+0.3**
	4.0nm,0.3s						
ZSN				*e*S	**Sg**	**12 15 01.3**	**-1.6**
	16nm,1.0s						

IDC 20 12:12:45.9±4.3, 13.°81N×145.°72E, h87km±46km, mb3.0/3,
mbtmp3.3/3, MS3.4/1, Error ellipse: s-maj=114.0km
s-min=24.4km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.86 255**		P	Pn	12 13 05.4	+1.7
	1μm,0.3s,baz=87,slow=4.3,SNR=692						
GUMO				S	Sn	12 13 17.8	+0.7
	1μm,0.3s,baz=327,slow=23,SNR=15						
H11S3	**WAKE ISLAND Hy 20.67**	**74**		T	T	12 39 35.4	
	baz=261,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy 20.68**	**74**		T	T	12 39 35.9	
	baz=261,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy 20.68**	**74**		T	T	12 39 31.3	
	baz=261,slow=74,SNR=5.0						
H11N1	**WAKE ISLAND Hy 21.09**	**71**		T	T	12 40 32.9	
	baz=258						
H11N2	**WAKE ISLAND Hy 21.10**	**71**		T	T	12 40 40.2	
	baz=258						
H11N3	**WAKE ISLAND Hy 21.11**	**71**		T	T	12 40 29.0	
	baz=258						
KAPI	**Kappang**	**31.84 236**		LR	LR	12 32 38.0	
	comp=Z,65nm,20.3s,baz=47,slow=37						
WRA	**Warramunga Arr**	**35.36 199**		P	P	12 19 33.6	+0.2
	0.4nm,0.6s,baz=24,slow=9.5,SNR=6.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**39.00 197**		P	P	12 20 04.1	0.0
	0.2nm,0.8s,baz=8.7,slow=6.7,SNR=1.4						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**68.01 25**		P	P	12 23 35.2	-0.5
	0.2nm,0.4s,baz=262,slow=6.1,SNR=8.0						
	0.2nm,0.4s						

*NEIC **20** 12:20:40.6±1.4, 6.°65N±0.°06×125.°24E±0.°06, h10km±1km,*
mb4.7/35, Error ellipse: s-maj=13.0km s-min=4.7km
az=135.0
*DJA **20** 12:20:40.6±0.3, 7.°N±3.°×12.°5E±.°, h10km, M5.0/15,*
mb5.1/15, mB5.3/9, MLv5.1/11, Mw(mB)4.8/9, MwMwp5.6/1,
Mwp5.8/1
*BJI **20** 12:20:40.3, 6.°67N×125.°39E, h12km, mB5.1/4, mb4.5/31,*
Ms4.3/4, Ms7 4.0/4
*IDC **20** 12:20:41.3±2.5, 6.°53N×125.°41E, h23km±16km, mb4.0/16,*
mbtmp4.2/17, ML4.4/1, MS3.5/9, Error ellipse:
s-maj=26.4km s-min=12.1km az=78.0

ISC 20 12:20:39.9±0.4, 6.°60N±0.°04×125.°31E±0.°07, h10km, n103,
σ1°58/92, mb4.5/39, MS3.4/10, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**30**		**Pb**	**12 20 51.3**	**-0.2**
DAV	**Davao City (W)**	**0.54**	**30**	Pg	**Pb**	**12 20 51.9**	**+0.5**
	2μm,0.3s,baz=246,slow=2.1,SNR=161						
DAV				Lg	Lg	12 21 01.6	
	4μm,0.3s,baz=319,slow=22,SNR=25						
DAV				LR	LR	12 21 24.3	
	comp=Z,7μm,18.4s,baz=34,slow=76						
DAV	**Davao City (W)**	**0.54**	**30**	P	**Pb**	**12 20 51.5**	**0.0**
DAV	**Davao City (W)**	**0.54**	**30**	P	**Pg**	**12 20 50.0**	**-0.4**
SGSI	**Sangihe**	**2.90 176**		P	**Pn**	**12 21 28.3**	**+2.1**
SGSI				S	**Sb**	**12 22 06.1**	**-1.3**
KMSI	**Cibinong**	**6.13 193**		P	**Pn**	**12 22 12.2**	**+1.6**
TNTI	**Ternate**	**6.14 160**			**Pn**	**12 22 13.4**	**+2.7**
TNTI	**Ternate**	**6.14 160**		P	Pn	12 22 18.3	+7.5
TNTI	**Ternate**	**6.14 160**		P	**Pn**	**12 22 12.8**	**+2.0**
	71nm,1.0s						
MYLDM	**Lahad Datu**	**6.92 259**			**Pn**	**12 22 21.6**	**+0.2**
MRSI	**Marisa**	**6.95 209**		P	**Pn**	**12 22 22.2**	**+0.3**
	2μm201nm,0.7s						
TOLI2	**Tolitoli**	**7.08 220**			**Pn**	**12 22 22.8**	**-0.9**
TOLI2	**Tolitoli**	**7.08 220**		P	**Pn**	**12 22 22.2**	**-1.5**
LUWI	**Luwuk**	**8.00 199**			**Pn**	**12 22 40.1**	**+3.8**
LUWI	**Luwuk**	**8.00 199**		P	Pn	12 22 42.4	+6.1
LUWI	**Luwuk**	**8.00 199**		P	**Pn**	**12 22 37.7**	**+1.4**
	2μm259nm,1.1s						
APSI	**Ampana**	**8.31 206**		P	**Pn**	**12 22 44.4**	**+3.9**
	2μm103nm,0.8s						
SANI	**Sanana**	**8.62 175**		P	**Pn**	**12 22 45.6**	**+0.8**
	731nm73nm,0.9s						
I39PW	**PALAU INFRASON**	**9.22 84**		I	I	13 16 50.5	
	baz=268,slow=308,SNR=2.5						
NLAI	**Namlea**	**9.94 170**		P	**Pn**	**12 23 02.6**	**-0.3**
	807nm60nm,0.6s						
MSAI	**Masohi**	**10.52 160**		P	**Pn**	**12 23 13.1**	**+2.2**
	75nm,0.6s						
AAI	**Ambon**	**10.62 164**		P	**Pn**	**12 23 10.5**	**-1.7**
FAKI	**Fak Fak**	**11.72 144**			**Pn**	**12 23 30.2**	**+2.9**
FAKI	**Fak Fak**	**11.72 144**		P	Pn	12 23 33.2	+5.8
SBUM	**Sibu**	**13.68 253**			**Pn**	**12 23 54.5**	**+0.4**
MMRI	**Maumere**	**15.44 191**		Pn	**Pn**	**12 24 17.8**	**-0.2**
MMRI				IAmb	IAmb	12 24 57.5	
	comp=Z,30nm,0.9s						
SOEI	**Soe**	**16.28 184**			**Pn**	**12 24 28.5**	**-0.5**
SOEI				IAmb	IAmb	12 25 02.3	
	comp=Z,48nm,0.9s						
SOEI	**Soe**	**16.28 184**		P	**P**	**12 24 33.4**	**+1.4**
SOEI	**Soe**	**16.28 184**		P	**Pn**	**12 24 30.4**	**+1.4**
	comp=Z,47nm,0.8s						
BATI	**Baumata**	**16.78 186**		Pn	**Pn**	**12 24 33.9**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=32,slow=9.5,SNR=2.6						
	comp=Z,23nm,0.7s						
PLAI	**Plampang**	**17.07 206**		P	**Pn**	**12 24 39.8**	**+1.0**
TPUB	**Ta-pu**	**17.20 345**			**Pn**	**12 24 40.8**	**+0.3**
TPUB				IAmb	IAmb	12 25 05.4	
	comp=Z,57nm,1.3s						
JAY	**Jayapura**	**17.84 120**		LR	LR	12 29 59.0	
	comp=Z,164nm,20.7s,baz=330,slow=32						
MTN	**Manton Dam**	**20.16 163**			**P**	**12 25 15.0**	**+0.3**
JOW	**Kunigami**	**20.32 8**		LR	LR	12 33 11.1	
	comp=Z,125nm,19.2s,baz=336,slow=37						
GUMO	**Guam**	**20.46 69**		LR	LR	12 31 45.1	
	comp=Z,83nm,21.8s,baz=242,slow=32						
KNRA	**Kununurra**	**22.40 171**			**P**	**12 25 39.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.54 179**			**P**	**12 25 59.6**	**-0.4**
KULM	**Kulim**	**24.56 268**		P	**P**	**12 26 00.4**	**+0.2**
KULM				IAmb	IAmb	12 26 05.9	
	comp=Z,19nm,1.0s						
JCJ	**Chichijima**	**25.94 36**		LR	LR	12 34 41.8	
	comp=Z,66nm,20.0s,baz=209,slow=32						
NJ2	**Nanjing**	**26.03 347**		*e*P	**P**	**12 26 14.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JNU	**Nakatsue**	**26.89 10**		LR	LR	12 37 53.6	
	comp=Z,90nm,19.8s,baz=203,slow=38						
PMG	**Port Moresby**	**26.96 126**			**P**	**12 26 22.5**	**+0.5**
PMG	**Port Moresby**	**26.96 126**		LR	LR	12 38 12.2	
	comp=Z,91nm,18.2s,baz=287,slow=39						
COEN	**Coen**	**27.05 139**			**P**	**12 26 23.3**	**+0.6**
COEN				IAmb	IAmb	12 26 28.9	
	comp=Z,20nm,0.9s						
COEN	**Coen**	**27.05 139**		P	**P**	**12 26 16.4**	**-6.3**
WRAB	**Tennant Creek**	**27.83 162**		P	**P**	**12 26 26.8**	**-2.9**
WRA	**Warramunga Arr**	**27.83 162**		P	**P**	**12 26 28.4**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=338,slow=10,SNR=14						
	comp=Z,2.3nm,0.8s						
GSI	**Gunungsitoli**	**28.15 260**		P	**P**	**12 26 31.9**	**-0.8**
CM31	**Chiang Mai Arr**	**28.26 297**		P	**P**	**12 26 32.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**28.26 297**		P	**P**	**12 26 33.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**28.26 297**		P	**P**	**12 26 33.7**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=118,slow=7.4,SNR=15						
	comp=Z,1.5nm,0.3s						
PSA00	**Pilbara Seismi**	**28.50 191**		P	**P**	**12 26 36.5**	**+0.8**
PZH	**PanZhiHua**	**29.93 314**		P	**P**	**12 26 50.3**	**+1.8**
KSRS	**Korea Array**	**30.80 4**		P	**P**	**12 26 55.7**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=186,slow=11,SNR=5.7						
	comp=Z,1.3nm,1.0s						
AS31	**Alice Springs**	**31.23 165**		P	**P**	**12 26 59.5**	**-0.4**
ASAR	**Alice Springs**	**31.23 165**		P	**P**	**12 26 59.2**	**-0.7**
ASAR	**Alice Springs**	**31.23 165**		P	**P**	**12 26 58.2**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=343,slow=7.3,SNR=28						
	comp=Z,1.3nm,0.6s						
MJAR	**Matsushiro Arr**	**32.05 20**		P	**P**	**12 27 04.9**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=204,slow=10,SNR=4.6						
MJAR				LR	LR	12 40 10.1	
	comp=Z,72nm,18.5s,baz=227,slow=36						
	comp=Z,1.3nm,0.8s						
HNS	**HongShan**	**32.14 344**		⇑P	**P**	**12 27 11.4**	**+3.7**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJI	**Beijing**	**34.29 348**		P	**P**	**12 27 29.8**	**+3.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZDM	**Lanzhou Array**	**35.30 329**		P	**P**	**12 27 36.5**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=122,slow=14,SNR=1.5						
	comp=Z,1.2nm,0.3s						
LZH	**Lanzhou**	**35.33 329**		*e*P	**P**	**12 27 40.3**	**+4.6**
LZH				pP	sP	12 27 44.6	+4.6
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				LR	LR		
	comp=Z,830nm,15.5s						
LZH				LR	LR		
	comp=Z,840nm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
HHC	**Hu-ho-hao-te**	**36.25 342**		*e*P	**P**	**12 27 45.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,6.8s						
SHL	**Shillong**	**37.07 304**		P	**P**	**12 27 49.3**	**-1.5**
SHL				IAmb	IAmb	12 27 54.9	
	comp=Z,17nm,0.9s						
MDJ	**Mudanjiang**	**38.05 5**		P	**P**	**12 27 58.3**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA	**Gaotai**	**39.92 329**		*e*P	**P**	**12 28 16.8**	**+2.3**
GTA				pP	sP	12 28 19.3	+0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				LR	LR		
	comp=Z,170nm,15.5s						
GTA				LR	LR		
	comp=Z,170nm,14.7s						
GTA				LR	LR		
	comp=Z,210nm,17.5s						
ASAJ	**Asahikawa**	**40.32 19**		LR	LR	12 46 39.5	
	comp=Z,87nm,18.1s,baz=224,slow=39						
BBOO	**Buckleboo**	**40.50 166**		P	**P**	**12 28 19.4**	**+0.2**
BBOO				IAmb	IAmb	12 28 24.4	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**41.30 159**		P	**P**	**12 28 25.8**	**0.0**
STKA	**Stephens Creek**	**41.30 159**		P	**P**	**12 28 25.6**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=322,slow=2.6,SNR=7.6						
	comp=Z,4.1nm,0.6s						
EVN	**Everest**	**42.18 305**			**P**	**12 28 32.5**	**-1.3**
EVN				IAmb	IAmb	12 28 40.0	
	comp=Z,12nm,1.1s						
HEH	**HeiHe**	**43.54 2**		*e*P	**P**	**12 28 43.5**	**-0.3**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**44.15 342**		P	**P**	**12 28 50.1**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=158,slow=8.7,SNR=2.7						
SONM				LR	LR	12 48 16.3	
	comp=Z,149nm,20.0s,baz=162,slow=37						
	comp=Z,1.2nm,0.9s						
ARMA	**Armidale**	**44.63 147**		P	**P**	**12 28 53.4**	**+0.5**
PETK	**Petropavlovsk-**	**53.36 24**		P	**P**	**12 29 58.9**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=219,slow=9.0,SNR=5.0						
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**54.41 325**		P	**P**	**12 30 06.7**	**-0.6**
MKAR	**Makanchi Array**	**54.41 325**		P	**P**	**12 30 07.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=119,slow=7.1,SNR=14						
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**54.60 325**		P	**P**	**12 30 09.0**	**+0.3**
KSH	**Kashi**	**55.03 314**		P	P	12 30 17.8	+5.7
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NIL	**Nilore**	**55.07 307**			**P**	**12 30 12.1**	**-0.3**
NIL				IAmb	IAmb	12 30 23.2	
	comp=Z,9.4nm,1.0s						
KDJ	**Kajisay**	**55.28 318**		P	**P**	**12 30 13.2**	**-0.7**
KDJ				IAmb	IAmb	12 30 19.2	
	comp=Z,9.6nm,1.1s						
YAK	**Yakutsk**	**55.41 3**		P	**P**	**12 30 14.2**	**+0.1**
AAK	**Ala-Archa**	**57.30 317**		P	**P**	**12 30 28.4**	**+0.2**
ZALV	**Zalesovo Beam**	**57.41 333**		P	**P**	**12 30 29.1**	**+0.5**
ZALV	**Zalesovo Beam**	**57.41 333**		P	**P**	**12 30 29.8**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=121,slow=7.2,SNR=5.3						
	comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**58.58 327**		P	**P**	**12 30 37.0**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=127,slow=5.9,SNR=12						
	comp=Z,2.3nm,0.9s						
KURK	**Kurchatov**	**58.58 327**		P	**P**	**12 30 37.0**	**+0.2**
KURK				IAmb	IAmb	12 30 50.9	
	comp=Z,3.4nm,0.7s						
KBL	**Kabul**	**58.68 307**		P	**P**	**12 30 37.0**	**-1.2**
KBL				IAmb	IAmb	12 30 44.6	
	comp=Z,5.5nm,0.8s						
GAR	**Garm**	**58.96 312**		P	**P**	**12 30 39.8**	**-0.2**
KK31	**Karatay Array**	**60.19 316**		P	**P**	**12 30 47.7**	**-0.5**
KK31				IAmb	IAmb	12 30 52.6	
	comp=Z,7.9nm,0.9s						
KKAR	**Karatay Array**	**60.19 316**		P	**P**	**12 30 47.5**	**-0.6**
TIXI	**Tiksi**	**65.02 1**		P	**P**	**12 31 20.0**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=234,slow=1.8,SNR=5.0						
	comp=Z,2.4nm,0.3s						
ABKAR	**Akbulak array**	**69.05 320**		P	**P**	**12 31 44.5**	**-1.4**
RAYN	**Ar Rayn**	**78.07 293**		P	**P**	**12 32 39.4**	**-0.2**
BPAW	**Bear Paw Mtn.**	**81.35 26**		P	**P**	**12 32 56.8**	**+0.2**
BPAW				IAmb	IAmb	12 33 10.3	
	comp=Z,5.7nm,1.0s						
MLY	**Manley**	**81.50 25**		P	**P**	**12 32 57.8**	**+0.4**
MLY				IAmb	IAmb	12 33 04.0	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**83.14 26**		P	**P**	**12 33 05.0**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=239,slow=4.9,SNR=8.7						
	comp=Z,0.9nm,0.9s						
RIDG	**Independent Ri**	**84.06 27**		P	**P**	**12 33 10.9**	**+0.2**
I28M	**Miner Creek**	**86.03 25**		P	**P**	**12 33 20.5**	**-0.2**
I28M				IAmb	IAmb	12 33 39.2	
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**86.44 173**		P	**P**	**12 33 20.9**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=313,slow=7.4,SNR=4.6						
	comp=Z,0.8nm,0.8s						
K29M	**Barlow Dome**	**87.28 26**		P	**P**	**12 33 26.0**	**-0.9**
K29M				IAmb	IAmb	12 33 26.5	
	comp=Z,5.7nm,1.4s						
FINES	**FINESS Array B**	**88.65 332**		P	**P**	**12 33 31.8**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=82,slow=14,SNR=3.5						
	comp=Z,2.6nm,0.9s						

*IDC **20** 12:45:19.2±0.7, 2.°68S×138.°35E, h0km, mb4.0/10,*
mbtmp4.0/13, ML4.0/3, MS3.5/15, Error ellipse:
s-maj=24.9km s-min=16.3km az=77.0
*DJA **20** 12:45:23.7±0.7, 2.°S±6.°×13.°9E±.°, h26km±9km, M4.5/9,*
mB6.0/1, mb4.7/3, MLv4.4/9, Mw(mB)5.6/1

ISC 20 12:45:23.8±0.6, 2.°57S±0.°06×138.°46E±0.°05, h32km, n38,
**σ1°

KSRS	Korea Array	41.00	347	P	P	12 53 04.8 +0.9
	0.8nm,0.8s,baz=163,slow=8.7,SNR=3.4					
	0.8nm,0.8s					
CMAR	Chiang Mai Arr	44.15	300	P	P	12 53 29.9 0.0
	0.6nm,0.3s,baz=130,slow=7.1,SNR=6.3					
CMAR				LR	LR	13 11 37.9
	comp=Z,19nm,21.8s,baz=215,slow=36					
	0.6nm,0.3s					
LZH	Lanzhou	50.22	323	eP	P	12 54 18.6 +1.5
LZH				pP	pP	12 54 24.3 -2.6
LZH				pmax	pmax	
	comp=Z,17nm,1.4s					
GTA	Gaotai	54.81	324	eP	P	12 54 52.6 +1.6
GTA				pP	pP	12 54 58.3 -2.6
GTA				pmax	pmax	
	comp=Z,5.0nm,1.0s					
SONM	Songino Array	57.48	335	P	P	12 55 11.9 +1.9
	comp=Z,0.5nm,0.4s,baz=129,slow=3.9,SNR=2.5					
SONM				LR	LR	13 19 53.5
	comp=Z,59nm,19.4s,baz=152,slow=36					
	comp=Z,0.5nm,0.4s					
PETK	Petropavlovsk-	57.78	14	LR	LR	13 16 21.4
	comp=Z,29nm,21.7s,baz=221,slow=32					
YAK	Yakutsk	64.77	355	LR	LR	13 20 20.2
	comp=Z,42nm,21.9s,baz=244,slow=32					
MKAR	Makanchi Array	69.53	322	P	P	12 56 30.1 +0.7
	comp=Z,3.9nm,0.8s,baz=114,slow=7.5,SNR=28					
	comp=Z,3.9nm,0.8s					
ZALV	Zalesovo Beam	71.69	330	P	P	12 56 42.4 0.0
	comp=Z,0.9nm,0.8s,baz=118,slow=5.7,SNR=4.8					
	comp=Z,0.9nm,0.8s					
KURBB	Kurchatov Arra	73.47	325	P	P	12 56 53.6 +0.5
	comp=Z,1.1nm,0.8s,baz=120,slow=4.8,SNR=10					
	comp=Z,1.1nm,0.8s					
VNDA	Vanda	75.94	175	P	P	12 57 06.5 -0.5
	comp=Z,0.5nm,0.5s,baz=319,slow=6.9,SNR=5.9					
	comp=Z,0.5nm,0.5s					
KDAK	Kodiak Island	81.10	30	LR	LR	13 29 27.5
	comp=Z,71nm,21.5s,baz=236,slow=33					
MAW	Mawson	82.17	202	LR	LR	13 31 00.9
	comp=Z,32nm,20.0s,baz=74,slow=33					
ILAR	Eielson Array	85.81	24	P	P	12 57 59.2 -0.6
	comp=Z,0.7nm,0.9s,baz=282,slow=5.3,SNR=6.2					
	comp=Z,0.7nm,0.9s					
QSPA	South Pole Qui	87.38	180	P	P	12 58 08.5 +0.8
	comp=Z,2.9nm,1.0s,baz=335,slow=2.5,SNR=8.4					
	comp=Z,2.9nm,1.0s					
BBB	Bella Bella	94.12	38	LR	LR	13 36 40.8
	comp=Z,34nm,18.9s,baz=101,slow=33					
LPAZ	La Paz	147.73	126	PKPbc	PKPbc	13 05 08.8 +1.7
	comp=Z,1.4nm,1.0s,baz=203,slow=2.7,SNR=4.0					

IDC 20 13:02:13.7±1.2, 7°.34N×126°.21E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=22.2km s-min=12.4km az=159.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.68	247	Pg	Pb	13 02 27.7	-0.7
	74nm,0.3s,baz=60,slow=8.1,SNR=3.8						
DAV				Lg	Lg	13 02 35.5	
	161nm,0.3s,baz=301,slow=1.5,SNR=4.1						
WRA	Warramunga Arr	28.26	164	P	P	13 08 09.5	+0.6
	0.8nm,0.9s,baz=346,slow=10,SNR=6.8						
	0.8nm,0.9s						
ASAR	Alice Springs	31.72	166	P	P	13 08 38.6	-0.8
	0.3nm,0.7s,baz=342,slow=7.1,SNR=11						
	0.3nm,0.7s						
MKAR	Makanchi Array	54.33	324	P	P	13 11 41.4	-0.7
	0.6nm,0.8s,baz=120,slow=7.2,SNR=4.5						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	58.45	326	P	P	13 12 11.6	+0.2
	0.2nm,0.3s,baz=130,slow=5.5,SNR=5.8						
	0.2nm,0.3s						

*NEIC **20** 13:03:38, 65°.58N×165°.18W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.31; $M_{\theta\theta}$2.13; $M_{\phi\phi}$-2.44; $M_{r\theta}$-0.99; $M_{\phi\theta}$-1.14; $M_{\phi r}$0.15; Fault plane solution: $M_0$2.75000×10^{14} NP1:ϕ_s237.00000°, δ81.00000°, λ160.00000°. NP2:ϕ_s330.00000°, δ70.00000°, λ10.00000°. Principal axes: T 2.7545, Plg21.0000°, Azm192.0000°; N 0.0003, Plg68.0000°, Azm33.0000°; P -2.7547, Plg7.0000°, Azm285.0000°;*
*NEIC **20** 13:03:40.0±2.0, 65°.56N±0°.03×165°.20W±0°.06, h10km±1km Error ellipse: s-maj=5.5km s-min=3.6km az=203.0*

AEIC 20 13:03:38.6±1.6, 65°.60N±0°.03×165°.15W±0°.05, h2km±6km, ML3.4, mb_Lg3.2/32(NEIC), ML3.6/76(NEIC), Mwr3.6/17(SLM), Error ellipse: s-maj=4.3km s-min=2.9km az=184.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F15K	North Star Dit	0.23	61		Pg	13 03 44.3	+1.2
F15K					Sg	13 03 47.8	+1.6
F15K	North Star Dit	0.23	61	IAML		13 03 48.2	
	comp=N,9μm,0.5s						
F15K				IAML		13 03 48.2	
	comp=E,5μm,0.7s						
F14K	Arctic Creek	0.51	256		Pg	13 03 48.6	+0.3
F14K					Sg	13 03 55.0	0.0
G15K	Niukluk	0.76	142		Pg	13 03 53.2	0.0
G15K					Sg	13 04 03.0	-0.1
ANM	Nome	1.04	185		Pg	13 03 58.1	-0.4
ANM	Nome	1.04	185		Sg	13 04 10.9	-1.1
ANM	Nome	1.04	185	IAmb_Lg		13 04 13.0	
	comp=Z,339nm,0.8s						
ANM				IAML		13 04 14.9	
	comp=E,1μm,0.6s						
ANM				IAML		13 04 15.7	
	comp=N,893nm,0.4s						
TNA	Tin City	1.16	269		Pg	13 04 00.1	-0.6
TNA				IAML		13 04 20.1	
	comp=E,901nm,0.5s						
TNA	Tin City	1.16	269		Sg	13 04 15.9	+0.2
G16K	Koyuk River	1.18	99		Pg	13 04 01.3	+0.1
G16K	Koyuk River	1.18	99		Sb	13 04 17.3	-0.1
G16K	Koyuk River	1.18	99	IAmb_Lg		13 04 17.8	
	comp=Z,74nm,0.8s						
G16K				IAML		13 04 20.2	
	comp=E,742nm,0.6s						
G16K				IAML		13 04 20.8	
	comp=N,685nm,0.8s						
H16K	Elim	1.56	127		Pn	13 04 07.0	-0.3
H16K					Pb	13 04 07.6	-0.6
H16K					Sg	13 04 28.7	0.0
H16K					Sb	13 04 28.9	+0.6
F17K	Baldwin Pennin	1.80	60		Pb	13 04 11.5	-0.8
F17K				IAML		13 04 42.2	
	comp=E,614nm,0.9s						
F17K				IAML		13 04 44.9	
	comp=N,700nm,0.9s						
G17K	Kiwalik Mounta	1.87	91		Pn	13 04 11.0	-0.6
G17K					Sb	13 04 37.6	+0.4
G17K					Sg	13 04 38.2	-0.5
E17K	Hotham Inlet	2.00	40		Pn	13 04 12.7	-0.6
E17K					Pb	13 04 13.0	-2.7
D17K	Noatak River	2.27	20		Pn	13 04 17.0	0.0
H17K	Granite Mounta	2.30	104		Pn	13 04 17.4	0.0
H17K				IAmb_Lg		13 04 54.6	
	comp=Z,91nm,0.8s						
F18K	Selawik	2.45	63		Pn	13 04 19.4	-0.1
F18K					Pb	13 04 19.9	-3.4
I17K	Unalakleet	2.57	130		Pn	13 04 21.6	+0.5
I17K				IAML		13 05 08.3	
	comp=E,344nm,0.8s						
E18K	Tukpahlearik C	2.58	43		Pn	13 04 21.1	-0.2
E18K					Pb	13 04 21.5	-4.1
E18K	Tukpahlearik C	2.58	43	IAML		13 05 04.8	
	comp=E,234nm,0.8s						
E18K				IAML		13 05 07.4	
	comp=N,183nm,0.6s						
RDOG	Red Dog Mine	2.62	19		Pn	13 04 22.6	+0.8
C16K	Lisburne Hills	2.69	358		Pn	13 04 23.2	+0.4
C16K				IAmb_Lg		13 05 08.0	
	comp=Z,62nm,0.8s						
C16K				IAML		13 05 13.3	
	comp=E,203nm,0.8s						
G18K	Tagagawik	2.70	81		Pn	13 04 22.5	-0.4
G18K	Tagagawik	2.70	81	IAmb_Lg		13 05 10.3	
	comp=Z,110nm,0.9s						
G18K				IAML		13 05 10.4	
	comp=E,161nm,1.1s						
H18K	Honhosa River	2.88	96		Pn	13 04 25.6	+0.3
H18K				IAML		13 05 16.2	
	comp=E,228nm,0.9s						
J14K	Nanvaranak Lak	2.94	166	Pn	Pn	13 04 26.3	0.0
J14K				IAML		13 05 26.1	
	comp=N,169nm,0.8s						
J14K				IAML		13 05 28.3	
	comp=E,191nm,1.0s						
C17K	DeLong Mountai	2.99	14		Pn	13 04 27.9	+0.9
J16K	Anvik River	3.04	138		Pn	13 04 28.0	+0.3
J16K				IAmb_Lg		13 05 16.8	
	comp=Z,74nm,0.7s						
F19K	Shaleruckik Mo	3.23	64	IAmb_Lg		13 05 25.3	
	comp=Z,98nm,0.8s						
GAMB	Gambell	3.36	240	Pn	Pn	13 04 30.9	-1.0
J17K	VABM Dome	3.43	127		Pn	13 04 34.0	+1.1
J17K				IAML		13 05 34.2	
	comp=N,130nm,1.1s						
J17K				IAML		13 05 34.6	
	comp=E,157nm,0.7s						
C18K	Utukok River	3.43	25	IAmb_Lg		13 05 31.1	
	comp=Z,41nm,1.0s						
H19K	Roundabout Mou	3.62	87		Pn	13 04 36.5	+1.0
H19K				IAML		13 05 35.0	
	comp=N,143nm,0.6s						
H19K				IAmb_Lg		13 05 40.3	
	comp=Z,72nm,0.9s						
H19K				IAML		13 05 41.2	
	comp=E,100nm,1.1s						
E19K	Redstone River	3.68	56		Pn	13 04 38.0	+1.7
E19K				IAML		13 05 41.6	
	comp=E,104nm,0.7s						
E19K				IAmb_Lg		13 05 44.6	
	comp=Z,90nm,0.8s						
E19K				IAML		13 05 45.0	
	comp=N,115nm,0.7s						
K15K	Wolf Creek Mou	3.68	153		Pn	13 04 37.1	+0.7
K15K				IAmb_Lg		13 05 40.5	
	comp=Z,85nm,0.9s						
K13K	Kusilvak Mount	3.69	176	Pn	Pn	13 04 36.8	+0.4
K13K				IAML		13 05 40.2	
	comp=N,115nm,0.5s						
D19K	Kuna River	4.00	40		Pn	13 04 41.9	+1.0
D19K	Kuna River	4.00	40	IAML		13 05 52.8	
	comp=N,58nm,1.1s						
D19K				IAmb_Lg		13 05 52.9	
	comp=Z,66nm,1.2s						
F20K	Avaraart Lake	4.07	65	IAML		13 05 50.6	
	comp=E,55nm,0.7s						
F20K				IAML		13 05 51.2	
	comp=N,72nm,0.8s						
F20K				IAmb_Lg		13 05 54.9	
	comp=Z,56nm,0.8s						
K17K	Iditarod	4.16	131		Pn	13 04 43.5	+0.5
K17K				IAML		13 05 55.8	
	comp=E,90nm,0.8s						
K17K				IAmb_Lg		13 06 00.0	
	comp=Z,51nm,0.8s						
K17K				IAML		13 06 08.8	
	comp=N,77nm,1.1s						
J18K	Innoko River	4.22	117		Pn	13 04 44.6	+0.7
J18K				IAmb_Lg		13 05 56.1	
	comp=Z,48nm,1.1s						
J18K				IAML		13 06 02.3	
	comp=N,53nm,0.9s						
L14K	Kuka Creek	4.41	164		Pn	13 04 46.7	+0.3
L14K				IAmb_Lg		13 06 06.9	
	comp=Z,67nm,1.2s						
L14K				IAML		13 06 14.6	
	comp=N,77nm,1.1s						
D20K	Etivluk River	4.56	43	IAmb_Lg		13 06 11.3	
	comp=Z,32nm,1.0s						
D20K				IAML		13 06 16.8	
	comp=E,49nm,1.1s						
D20K				IAML		13 06 19.5	
	comp=N,37nm,0.9s						
I20K	Naaghedeneel	4.56	95	Pn	Pn	13 04 49.8	+1.2
L17K	Donlin	4.61	136		Pn	13 04 50.3	+1.2
L16K	Owhat River	4.65	144	Pn	Pn	13 04 50.3	+0.7
J20K	Nowinta River	4.90	102	IAML		13 06 22.0	
	comp=N,30nm,0.7s						
J20K				IAML		13 06 25.4	
	comp=E,35nm,0.7s						
F21K	Alatna River	4.96	66	Pn	Pn	13 04 55.1	+1.1
F21K				IAML		13 06 22.4	
	comp=E,53nm,0.8s						
F21K				IAML		13 06 25.0	
	comp=N,34nm,0.7s						
L18K	Granite Mounta	5.04	128	IAML		13 06 35.4	
	comp=N,26nm,0.8s						
M14K	Bethel	5.07	162	Pn	Pn	13 04 56.3	+0.8
M14K				IAmb_Lg		13 06 33.2	
	comp=Z,50nm,1.1s						
M14K				IAML		13 06 35.0	
	comp=E,41nm,1.2s						
H21K	Melozitna Rive	5.11	84	IAML		13 06 30.4	
	comp=E,25nm,1.1s						
H21K				IAML		13 06 30.7	
	comp=N,30nm,1.0s						
E21K	Killik River	5.22	52	Pn	Pn	13 04 59.5	+1.9
E21K				IAML		13 06 37.9	
	comp=E,31nm,1.1s						
M11K	Mekoryuk	5.25	186	Pn	Pn	13 04 58.2	+0.2
M13K	Dall Lake	5.27	170	Pn	Pn	13 04 58.0	-0.1
B20K	Meade River	5.36	31		Pn	13 05 00.6	+1.2
M17K	Holitna River	5.44	137	Pn	Pn	13 05 01.9	+1.3
M18K	Stony River	5.86	130		Pn	13 05 07.5	+1.3
N17K	Nushagak Hills	6.24	141		Pn	13 05 13.1	+1.6
B22K	Teshekpuk Lake	6.48	38		Pn	13 05 15.6	+0.8
N19K	Bonanza Creek	6.80	130		Pn	13 05 20.9	+1.6
NEA2	Nenana	6.86	91		Pn	13 05 21.1	+1.0
C23K	Itkillik River	6.96	46		Pn	13 05 22.2	+0.9
SPNN	North Nagishla	7.00	122		Pn	13 05 23.6	+1.5
SPWE	Spurr West	7.11	122		Pn	13 05 25.1	+1.5
STLK	Strandline Lak	7.22	119		Pn	13 05 26.7	+1.6
CKL	Chakachamna La	7.24	122		Pn	13 05 26.8	+1.4
RND	Reindeer	7.36	100		Pn	13 05 27.7	+0.7
IL01		7.72	88		Pn	13 05 32.2	+0.4

*TXNET **20** 13:05:42.1, 31°.7N±0°.9×10°.4W±°, h7km±1km, ML2.6/16, Error ellipse: s-maj=1.8km s-min=1.2km az=55.9, final*

NEIC 20 13:05:41.9±0.8, 31°.64N±0°.02×104°.29W±0°.02, h5km±1km, mb_Lg2.5/18, ML2.5/38, Error ellipse: s-maj=3.1km s-min=2.9km az=18.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	Culberson Coun	0.13	357	P	Pg	13 05 40.4	-4.2
TPB09				S	Sg	13 05 42.4	-4.1
PECS	Pecos	0.46	127		Pg	13 05 51.3	+0.6
PECS					Sg	13 05 58.0	+1.3
PECS				IAML		13 05 58.4	
	263nm,0.2s						
PECS	Pecos	0.46	127	P	Pb	13 05 51.9	-0.6
PECS				S	Sg	13 05 58.0	+1.4
TPB12	Southwest of T	0.52	146	P	Pb	13 05 52.8	-0.7
TPB12				S	Sb	13 06 00.1	-1.3
TPB07	Mentone	0.54	97	P	Pb	13 05 53.7	-0.1
TPB10	Southeast of T	0.58	128	P	Pb	13 05 54.3	-0.4
TPB10				S	Sb	13 06 02.7	-0.5
LWM1	Layne Water Mi	0.70	126	P	Pb	13 05 56.5	-0.2
LWM1				S	Sb	13 06 06.6	-0.1
PCOS	Crockett Middl	0.71	109	P	Pb	13 05 57.1	+0.3
PCOS				S	Sb	13 06 06.6	-0.2
LWM2	Layne Water Mi	0.71	121	P	Pb	13 05 56.8	0.0
LWM2				S	Sb	13 06 06.8	-0.1
CLNB	Carlsbad	0.71	30		Pg	13 05 55.3	-0.3
CLNB	Carlsbad	0.71	30	P	Pg	13 05 56.2	+0.6
CLNB				S	Sb	13 06 06.4	-0.6
TPB01	Permian Basin	0.82	148	P	Pg	13 05 57.8	+0.1
TPB01				S	Sg	13 06 08.7	+0.3
TPB03	Saragosa	0.87	130	P	Pb	13 05 59.4	-0.1
TPB03				S	Sb	13 06 11.2	-0.4
TPB06	Permian Basin	0.92	90	S	Sb	13 06 12.9	+0.1
MNTX	Cornudas Mount	0.93	274		Pg	13 05 59.8	0.0
MNTX	Cornudas Mount	0.93	274	P	Pg	13 06 00.0	+0.3
MNTX				S	Sg	13 06 12.2	+0.4
TPB04	Verhalen	0.99	117	P	Pb	13 06 01.4	-0.1
TPB04				S	Sb	13 06 15.7	+0.8
TPB27	North of Pyote	0.99	94	P	Pb	13 06 01.5	-0.2
TPB27				S	Sb	13 06 15.5	+0.4
HTMS	Hat Mesa	1.00	34		Pg	13 06 01.2	+0.1
HTMS	Hat Mesa	1.00	34	P	Pb	13 06 01.5	-0.3
HTMS				S	Sb	13 06 15.2	-0.1
TPB16	Coyonosa	1.03	120	S	Sb	13 06 16.4	+0.3
NM01	Eunice	1.04	47	P	Pb	13 06 02.3	-0.1
NM01				S	Sb	13 06 16.0	-0.4
VHRN	Van Horn	1.04	215		Pg	13 06 01.9	0.0
VHRN				IAML		13 06 17.4	
	76nm,0.3s						
VHRN	Van Horn	1.04	215	P	Pg	13 06 02.1	+0.2
VHRN				S	Sg	13 06 15.7	+0.4
TPB19	West of Imperi	1.07	108	P	Pn	13 06 04.0	+0.3
TPB19				S	Sb	13 06 18.0	+0.6
TPB05	Hovey Rd	1.10	131	P	Pb	13 06 03.3	-0.2
TPB05				S	Sb	13 06 18.0	-0.2
TPB15	Southwest of C	1.12	112	S	Sn	13 06 19.5	-0.6
MNHN	Monahans	1.34	103	Pg	Pn	13 06 07.2	-0.2
MNHN				IAML		13 06 28.8	
	86nm,0.3s						
MNHN				IAML		13 06 29.6	
	83nm,0.3s						
MNHN	Monahans	1.34	103	P	Pb	13 06 07.6	-0.1
MNHN				S	Sn	13 06 25.4	-0.2
ALPN	Alpine	1.39	156		Pn	13 06 07.4	-0.6
ALPN				IAML		13 06 31.0	
	121nm,0.3s						
ALPN				IAML		13 06 33.1	
	95nm,0.3s						
ALPN	Alpine	1.39	156	P	Pn	13 06 07.6	-0.5
ALPN				S	Sb	13 06 25.5	-0.9
TPB08	Permian Basin	1.40	122	P	Pn	13 06 08.4	+0.2
TPB08				S	Sn	13 06 27.5	+0.3
CPRX	Cap Rock	1.43	15		Pb	13 06 08.9	-0.2
CPRX	Cap Rock	1.43	15	P	Pb	13 06 09.1	0.0
ODSA	Odessa	1.56	72		Pn	13 06 10.5	+0.1
ODSA	Odessa	1.56	72	P	Pb	13 06 10.9	-0.4
ODSA				S	Sb	13 06 31.3	0.0
TMB04	Seminole	1.82	57	P	Pb	13 06 15.4	-0.3
TMB04				S	Sb	13 06 39.4	+0.6
TMB01	Midkiff	1.89	89	P	Pb	13 06 16.5	-0.4
TMB01				S	Sb	13 06 41.5	+0.8
TMB02	Rankin	1.98	102	P	Pb	13 06 18.2	-0.3
TMB02				S	Sb	13 06 44.3	+0.9
TMB06	Greenwood	2.15	80	P	Pb	13 06 21.1	-0.3
TMB06				S	Sb	13 06 48.2	-0.2
TX31	Lajitas Ar. Si	2.37	167		Pn	13 06 22.8	+1.3
TX31	Lajitas Ar. Si	2.37	167	P	Pn	13 06 22.9	+1.4
TX31				S	Sb	13 06 56.2	+1.6
TXAR	Lajitas Array	2.37	167		Pn	13 06 22.6	+1.2
SAND	Sanderson	2.51	131		Pn	13 06 24.8	+1.3
SAND				IAML		13 07 03.4	
	26nm,0.5s						
SAND				IAML		13 07 04.6	
	29nm,0.6s						
MSTX	Muleshoe	2.65	29		Pn	13 06 26.5	+1.1
SGCY	Sterling City	2.71	83		Pn	13 06 27.0	+0.8
SGCY				IAML		13 07 07.7	
	36nm,0.5s						
SGCY				IAML		13 07 09.0	
	25nm,0.6s						
SGCY				IAmb_Lg		13 07 11.6	
	comp=Z,19nm,0.7s						
POST	Post	2.76	58		Pn	13 06 28.2	+1.3
POST				IAmb_Lg		13 07 07.8	
	comp=Z,13nm,0.8s						
OZNA	Ozona	2.81	104	Pn	Pn	13 06 28.3	+0.8
OZNA				IAML		13 07 13.6	
	comp=Z,25nm,0.6s						
OZNA				IAML		13 07 14.4	
	comp=Z,20nm,0.5s						
OZNA				IAmb_Lg		13 07 17.1	
	comp=Z,13nm,1.0s						
121A	Cookes Peak, D	3.09	288	Pn	Pn	13 06 32.8	+1.3
121A				IAML		13 07 10.2	
	comp=E,11nm,4.5s						
121A				IAML		13 07 14.7	
	comp=N,14nm,4.8s						
BNM	Barren Site	3.18	322		Pn	13 06 34.0	+1.2
Y22A	Socorro	3.21	316		Pn	13 06 34.5	+1.3
Y22A				IAML		13 07 24.9	
	comp=E,18nm,0.4s						
Y22A				IAML		13 07 26.7	
	comp=N,12nm,0.3s						
SN07	Snyder 07	3.22	62	IAmb_Lg		13 07 22.5	
	comp=Z,15nm,0.7s						
SBM	South Baldy	3.36	314	Pn	Pn	13 06 36.3	+0.8
DKNS	Dickens	3.48	54	Pn	Pn	13 06 38.5	+1.7
APMT	Aspermont	3.90	63	IAmb_Lg		13 07 49.1	
	comp=Z,12nm,0.8s						
JCT	Junction City	4.03	106	IAmb_Lg		13 07 58.9	
	comp=Z,11nm,0.8s						
ABTX	Abilene, Hawle	4.06	75	IAmb_Lg		13 07 57.3	
	comp=Z,8.9nm,0.7s						
BRDY	Brady	4.54	93	IAmb_Lg		13 08 11.9	
	comp=Z,7.9nm,1.0s						
T25A	Trinidad	5.48	359	IAmb_Lg		13 08 41.7	
	comp=Z,8.8nm,1.3s						
FW06	Azle	5.86	75	IAmb_Lg		13 09 04.6	
	comp=Z,4.5nm,0.7s						

*JMA **20** 13:11:15.5±0.2, 35°.0N±0°.6×140°.7E±1°.0, h55km±2km, MV2.9/33, SE OFF BOSO PENINSULA*
*IDC **20** 13:11:15.9±1.5, 34°.24N×138°.17E, h0km, mb3.3/2, mbtmp3.2/3, ML2.3/1, MS1.8/1, Error ellipse: s-maj=38.5km s-min=20.6km az=76.0*

ISC 20 13:11:15.9±1.4, 35°.02N±0°.08×140°.6E±0°.1, h67km, n16, σ1§63/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	Boso 3	0.24	207	*i* P	Pn	13 11 24.8	-1.2
BSO3				X		13 11 32.2	
BSO4	Boso 4	0.25	264	P	Pn	13 11 25.0	-1.3
KTR	Katsuura	0.30	296	P	Pn	13 11 25.1	-1.7
KTR				*e*S	Sn	13 11 32.2	-2.4
JKUC	kamogawauchiur	0.39	291	*i* P	Pn	13 11 26.1	-1.4
JKUC				*e*S	Sn	13 11 33.7	-2.2
BSO1	Boso 1	0.46	143	P	Pn	13 11 26.7	-0.7
BSO1				X		13 11 35.5	
JIM2	Oshima 3	1.04	254	P	Pn	13 11 33.9	-0.9
JHJ	Hachijo jima 2	2.02	201	Pn	Pn	13 11 48.1	+0.3
	20nm,0.3s,baz=88,slow=23,SNR=4.6						
JHJ				Sn	Sn	13 12 10.9	-1.1
	50nm,0.3s,baz=262,slow=23,SNR=7.6						
MJAR	Matsushiro Arr	2.50	308	Pn	Pn	13 11 54.7	+0.4
	0.8nm,0.3s,baz=182,slow=6.8,SNR=38						
MJAR				Sn	Sn	13 12 25.4	+1.8
	1.0nm,0.3s,baz=225,slow=26,SNR=2.6						
MJAR				LR	LR	13 12 52.3	
	comp=Z,21nm,20.2s,baz=124,slow=42						
	3.4nm,0.3s						
H11N2	WAKE ISLAND Hy 27.73	1.16		T	T	13 46 41.6	
	baz=309,slow=75,SNR=7.6						
H11N1	WAKE ISLAND Hy 27.74	1.16		T	T	13 46 16.6	
	baz=309,slow=75,SNR=8.5						
H11N3	WAKE ISLAND Hy 27.75	1.16		T	T	13 46 19.4	
	baz=309,slow=75,SNR=9.1						
H11S3	WAKE ISLAND Hy 28.36	1.19		T	T	13 46 55.8	
	baz=312,slow=75,SNR=6.3						
H11S1	WAKE ISLAND Hy 28.37	1.19		T	T	13 47 02.7	
	baz=312,slow=75,SNR=8.5						
H11S2	WAKE ISLAND Hy 28.38	1.19		T	T	13 47 08.3	
	baz=312,slow=75,SNR=6.2						
WRA	Warramunga Arr	54.98	187	P	P	13 20 42.1	+1.8
	0.4nm,0.5s,baz=1.6,slow=7.6,SNR=6.2						
	0.4nm,0.5s						
ASAR	Alice Springs	58.71	187	P	P	13 21

IMP					IAML			13 13 40.6	
	comp=N,2μm,1.1s								
IMP					*e*S	**Sb**		**13 13 41.2**	**-1.6**
IMP					IAML			13 13 43.7	
	comp=E,1μm,1.2s								
ZIRO	**ZIRO**	**3.62**	**308**	*e*P		**Pb**		**13 13 20.2**	**-0.5**
TEZP	**TEZPUR**	**4.05**	**290**	*e*P		**Pb**		**13 13 25.1**	**-2.7**
TEZP					IAML			13 14 04.6	
	comp=N,832nm,0.1s								
TEZP					IAML			13 14 05.8	
	comp=E,924nm,0.5s								
TEZP					*e*S	**Sn**		**13 14 09.8**	**+3.9**
SHL	**Shillong**	**4.68**	**274**	Pn		**Pn**		**13 13 27.6**	**+0.2**
SHL	**Shillong**	**4.68**	**274**	*e*P		Pn		13 13 32.9	+5.5
SHL					IAML			13 14 19.3	
	comp=E,275nm,0.1s								
SHL					IAML			13 14 22.1	
	comp=N,254nm,0.2s								
SHL					*e*S	**Sn**		**13 14 23.1**	**+1.1**
AGT	**Agartala**	**5.47**	**256**	*e*P		Pn		13 13 43.5	+5.3
AGT				*e*S		**Sn**		**13 14 42.6**	**+1.4**
AGT					IAML			13 16 08.5	
	comp=N,293nm,0.1s								
AGT					IAML			13 16 11.1	
	comp=E,290nm,0.0s								
CRAI	**Chiangrai**	**5.91**	**148**	Pn		**Pn**		**13 13 44.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**7.04**	**165**	Pn		Pn		13 14 07.7	+8.0
	comp=E,0.2nm,0.3s,baz=343,slow=14,SNR=1.4								
CMAR				Pg		**Pg**		**13 14 31.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=344,slow=16,SNR=1.6								
CMAR				Lg	Lg			13 16 09.9	
	comp=E,0.1nm,0.3s,baz=345,slow=28,SNR=2.0								
	comp=E,0.4nm,0.4s								
EVN	**Everest**	**9.53**	**288**			**Pn**		**13 14 32.8**	**-1.6**
HYB	**Hyderabad**	**18.93**	**249**	*e*P		**P**		**13 16 37.2**	**-0.5**
HYB				*e*S		**S**		**13 20 12.8**	**-0.1**
MK31	**Makanchi Array**	**24.45**	**335**	P		**P**		**13 17 36.3**	**+0.8**
MKAR	**Makanchi Array**	**24.45**	**335**	P		**P**		**13 17 35.4**	**-0.1**
MKAR	**Makanchi Array**	**24.45**	**335**	P		**P**		**13 17 36.6**	**+1.1**
	comp=E,1.7nm,0.7s,baz=136,slow=9.0,SNR=14								
	comp=E,1.7nm,0.7s								
GAR	**Garm**	**26.32**	**308**	P		**P**		**13 17 52.3**	**-0.3**
GAR				IAmb		IAmb		13 17 54.4	
	comp=Z,7.7nm,1.0s								
KURBB	**Kurchatov Arra**	**29.02**	**335**	P		**P**		**13 18 16.5**	**0.0**
	comp=Z,1.3nm,0.3s,baz=151,slow=9.2,SNR=1.4								
	comp=Z,1.3nm,0.3s								
ZALV	**Zalesovo Beam**	**30.02**	**345**	P		**P**		**13 18 26.5**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=151,slow=9.2,SNR=1.9								
	comp=Z,0.4nm,0.5s								
MDJ	**Mudanjiang**	**32.58**	**45**	P		**P**		**13 18 47.0**	**-1.0**
AB31	**Akbulak array**	**37.43**	**319**			**P**		**13 19 29.8**	**+0.1**
AB31				IAmb		IAmb		13 19 32.8	
	comp=Z,1.3nm,0.8s								
ABKAR	**Akbulak array**	**37.43**	**319**	P		**P**		**13 19 29.5**	**-0.2**
WRA	**Warramunga Arr**	**57.77**	**138**	P		P		13 22 14.2	+6.2
	comp=Z,0.1nm,0.3s,baz=317,slow=7.0,SNR=1.9								
	comp=Z,0.1nm,0.3s								
ASAR	**Alice Springs**	**60.37**	**141**	P		P		13 22 30.9	+4.8
	comp=Z,1.2nm,1.1s,baz=323,slow=6.3,SNR=6.3								
	comp=Z,1.2nm,1.1s								
RIDG	**Independent Ri**	**78.97**	**24**	P		**P**		**13 24 19.9**	**-0.4**
RIDG				IAmb		IAmb		13 24 38.3	
	comp=Z,6.6nm,1.4s								
G30M	**tAoh Zraii Nji**	**79.74**	**19**	P		**P**		**13 24 25.4**	**+1.1**
G30M				IAmb		IAmb		13 24 53.2	
	comp=Z,5.1nm,0.8s								
H31M	**Peel River**	**81.10**	**19**	P		**P**		**13 24 33.4**	**+1.7**

*UCR **20** 13:18:01.6±1.1, 8.°24N×82.°90W, h0km±4km, MW4.2*
*UPA **20** 13:18:02.4±0.9, 8.°24N×82.°91W, h18km±2km, MWW3.7*
*CATAC **20** 13:18:04.4±0.6, 8.°N±4.°×8.°3W±.°, h1km±2km, M3.7/12, MLv3.7/12, Error ellipse: s-maj=8.6km s-min=3.0km az=15.8, confirmed*

ISC 20 13:18:02.9±1.0, 8.°21N±0.°03×82.°90W±0.°02, h18km±3km, n99, σ1°24/130, 1C-17D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	**Limones**	**0.12**	**162**	⇑*iP*		**Pg**	**13 18 06.8**	**+0.1**
LMNES	**Limones**	**0.12**	**162**	*e*P		**Pg**	**13 18 06.8**	**+0.1**
LESP3	**La Esperanza,**	**0.22**	**29**	⇓*iP*		**Pg**	**13 18 07.5**	**-0.6**
LESP3					AMP		13 18 07.6	
	comp=Z,50μm,0.1s							
LESP3				*e*S		**Sg**	**13 18 13.2**	**+1.5**
LPPC	**Paso Canoas**	**0.32**	**10**	*e*P		**Pg**	**13 18 09.1**	**-0.7**
LPPC				*e*S		**Sb**	**13 18 14.3**	**-0.7**
CDITO	**Canoas**	**0.36**	**4**	P		**Pg**	**13 18 09.6**	**-0.9**
CDITO	**Canoas**	**0.36**	**4**	S		**Sg**	**13 18 15.0**	**-0.6**
NELY	**Ciudad Neily**	**0.44**	**354**	*e*P		**Pg**	**13 18 10.8**	**-1.0**
BAGA3	**Bagala, Chiriq**	**0.45**	**56**	⇓*iP*		**Pb**	**13 18 12.0**	**-0.3**
BAGA3					AMP		13 18 12.1	
	comp=Z,13μm,0.2s							
BAGA3				*e*S		**Sb**	**13 18 19.9**	**+1.3**
DMCAL	**E. de Neily**	**0.46**	**13**	*e*P		**Pg**	**13 18 11.8**	**-0.6**
PIRO	**Carate, Puerto**	**0.47**	**294**	P		**Pg**	**13 18 11.5**	**-1.0**
PIRO	**Carate, Puerto**	**0.47**	**294**	*e*P		**Pg**	**13 18 11.5**	**-1.0**
DVD	**David**	**0.49**	**64**	⇓*iP*		**Pg**	**13 18 12.5**	**-0.4**
DVD				*e*S		**Sb**	**13 18 20.0**	**+0.1**
DVD	**David**	**0.49**	**64**	⇓*iP*		**Pg**	**13 18 12.5**	**-0.4**
DVD					AMP		13 18 13.7	
	comp=Z,17μm,0.1s							
DVD				*e*S		**Sb**	**13 18 20.5**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.50**	**70**	⇓*iP*		**Pg**	**13 18 12.4**	**-0.5**
PEDE3					AMP		13 18 13.0	
	comp=Z,11μm,0.1s							
PEDE3				*e*S		**Sb**	**13 18 22.1**	**+2.0**
LOCO3	**Loma Colorada,**	**0.51**	**68**	⇓*iP*		**Pg**	**13 18 12.9**	**-0.3**
LOCO3					AMP		13 18 13.0	
	comp=Z,22μm,0.1s							
LOMA3	**Las Lomas, Chi**	**0.55**	**67**	⇓*iP*		**Pg**	**13 18 13.3**	**-0.5**
LOMA3					AMP		13 18 13.8	
	comp=Z,9μm,0.5s							
LOMA3				*e*S		**Sb**	**13 18 22.2**	**+0.8**
JEFFS	**S de V. Baru**	**0.58**	**39**	*e*P		**Pb**	**13 18 14.1**	**-0.4**
MLIR3	**Monte Lirio, C**	**0.58**	**7**	*e*P		Pn	13 18 22.0	+5.6
CHIR3	**Chiriqui UPA,**	**0.59**	**72**	⇓*iP*		**Pg**	**13 18 14.0**	**-0.7**
CHIR3					AMP		13 18 14.1	
	comp=Z,7μm,0.1s							
CHIR3				*e*S		**Sb**	**13 18 24.0**	**+1.4**
CLLRA	**Cordillera,**	**0.60**	**28**	⇓*iP*		**Pg**	**13 18 14.2**	**-0.7**
RSRNO	**Rio Sereno**	**0.60**	**4**	*e*S		**Sb**	**13 18 23.9**	**+0.8**
VITO	**San Vito**	**0.60**	**353**	*e*P		**Pg**	**13 18 14.0**	**-0.9**
BRU2	**Volcan**	**0.61**	**20**	⇓*iP*		**Pg**	**13 18 14.4**	**-0.7**
BRU2				*e*S		**Sb**	**13 18 23.8**	**+0.4**
BRU2	**Volcan**	**0.61**	**20**	⇓*iP*		**Pg**	**13 18 14.4**	**-0.7**
BRU2					AMP		13 18 16.2	
	comp=Z,5μm,0.2s							
BRU2				*e*S		**Sb**	**13 18 23.5**	**+0.1**
BRU2	**Volcan**	**0.61**	**20**	P		**Pg**	**13 18 14.4**	**-0.7**
BRU2	**Volcan**	**0.61**	**20**	*e*P		**Pg**	**13 18 14.3**	**-0.7**
BRU2				*e*S		**Sb**	**13 18 23.5**	**+0.1**
BANCO	**falda S V. Bar**	**0.62**	**36**	*e*P		**Pg**	**13 18 14.6**	**-0.7**
PTAR3	**Potrerillos Ar**	**0.62**	**40**	⇓*iP*		**Pg**	**13 18 14.6**	**-0.7**
PTAR3					AMP		13 18 15.0	
	comp=Z,8μm,0.1s							
PTAR3				*e*S		**Sb**	**13 18 25.0**	**+1.4**
TBS2		**0.62**	**23**	*e*P		**Pb**	**13 18 15.4**	**+0.1**
SCLRA	**Santa Clara, W**	**0.63**	**11**	⇓*iP*		**Pg**	**13 18 14.8**	**-0.6**
SCLRA				*e*S		**Sb**	**13 18 24.5**	**+0.7**
SCLRA	**Santa Clara, W**	**0.63**	**11**	*e*P		**Pg**	**13 18 14.8**	**-0.6**
BC3P	**Paso Ancho**	**0.66**	**25**	⇓*e*P		**Pg**	**13 18 15.1**	**-1.0**
BC3P					AMP		13 18 15.5	
	comp=Z,13μm,0.1s							
BC3P				*e*S		**Sb**	**13 18 26.3**	**+1.4**
GUAL3	**Gualaca, Chiri**	**0.67**	**62**	*e*P		**Pg**	**13 18 15.5**	**-0.7**
BQTLY	**Boquete Panama**	**0.69**	**39**	⇓*iP*		**Pg**	**13 18 15.6**	**-1.0**
BQTLY				*e*S		**Sb**	**13 18 25.7**	**0.0**
BQTLY	**Boquete Panama**	**0.69**	**39**	*e*P		**Pg**	**13 18 15.5**	**-1.0**
BQSF3	**Alto Boquete,**	**0.70**	**41**	⇓*iP*		**Pg**	**13 18 15.6**	**-1.1**
BQSF3					AMP		13 18 15.8	
	comp=Z,5μm,0.1s							
BQSF3				*e*S		**Sg**	**13 18 25.5**	**-0.5**
WILLF	**Boquete**	**0.70**	**41**	*e*P		**Pg**	**13 18 15.6**	**-1.2**
ALCO	**Alturas Coton,**	**0.73**	**5**	*e*P		**Pg**	**13 18 16.0**	**-1.3**
EDP2	**Potrero Grande**	**0.84**	**341**	*e*P		**Pg**	**13 18 17.9**	**-1.5**
PANP	**Palmar Norte**	**0.93**	**323**	*e*P		**Pg**	**13 18 18.5**	**-2.5**
PBNVO	**Pueblo Nuevo,**	**0.97**	**46**	*e*P		**Pg**	**13 18 19.6**	**-2.1**
RBALA	**Bur**	**0.99**	**48**	⇓*iP*		**Pg**	**13 18 20.4**	**-1.7**
RBALA				*e*S		**Sg**	**13 18 33.2**	**-2.0**
RBALA	**Bur**	**0.99**	**48**	*e*P		**Pg**	**13 18 20.4**	**-1.7**
CHGR2	**Aguacate**	**1.04**	**46**	*e*P		**Pg**	**13 18 20.8**	**-2.2**
CHGR2					AMP		13 18 21.3	
	comp=Z,163μm,0.1s							
CHGR2				*e*S		**Sg**	**13 18 34.5**	**-2.1**
REME3	**Remedios, Chir**	**1.06**	**89**	*e*P		**Pg**	**13 18 21.6**	**-1.7**
OCHAL	**Ojochal**	**1.15**	**320**	S		**Sn**	**13 18 39.9**	**+0.6**
EDPE	**Pejibaye, P**	**1.15**	**325**	*e*P		**Pb**	**13 18 22.5**	**-1.8**
NANC3	**Nancito, Chiri**	**1.16**	**89**	*e*P		**Pb**	**13 18 22.9**	**-1.4**
SAJE	**San Jernim**	**1.28**	**332**	*e*P		**Pn**	**13 18 24.6**	**-1.4**
CEUA	**Cerro Uatsi, L**	**1.40**	**358**	*e*P		**Pb**	**13 18 28.5**	**0.0**
LAES	**El Progreso Va**	**1.55**	**354**	*e*P		**Pn**	**13 18 30.3**	**+0.7**
BUS1	**Rivas**	**1.57**	**328**	*e*P		**Pn**	**13 18 29.8**	**-0.6**
MESA3	**La Mesa, Verag**	**1.70**	**92**	*e*P		**Pn**	**13 18 31.3**	**-0.3**
MESA3				*e*S		**Sn**	**13 18 53.8**	**+0.9**
GMAL	**Guarumal, Vera**	**1.71**	**105**	*e*P		**Pn**	**13 18 31.5**	**-0.3**
GMAL				*e*S		**Sg**	**13 18 56.9**	**-1.1**
GMAL	**Guarumal, Vera**	**1.71**	**105**	*e*P		**Pn**	**13 18 31.0**	**-0.8**
VERH	**Veragua Rainfo**	**1.73**	**350**	*e*P		**Pn**	**13 18 32.9**	**+0.8**
QUEP	**Quepos**	**1.74**	**314**	S		**Sb**	**13 18 55.7**	**-0.2**
QUEP	**Quepos**	**1.74**	**314**	P		**Pb**	**13 18 34.1**	**-0.2**
PIEC	**Cerro El Cedra**	**1.75**	**323**	*e*P		**Pn**	**13 18 32.4**	**-0.2**
RAZU	**San Marcos de**	**1.82**	**322**	*e*P		**Pn**	**13 18 34.5**	**+1.1**
LCR2	**La Lucha 2**	**1.87**	**324**	S		**Sb**	**13 19 00.4**	**+0.6**
LCR2	**La Lucha 2**	**1.87**	**324**	P		**Pb**	**13 18 35.9**	**-0.8**
PICV	**PH. Pirrs**	**1.90**	**318**	*e*P		**Pn**	**13 18 35.2**	**+0.8**
STIA3	**Santiago, Vera**	**1.91**	**93**	*e*P		**Pn**	**13 18 35.4**	**+0.8**
STIA3				*e*S		**Sn**	**13 19 00.2**	**+2.0**
RESJ	**San Isidro (Tu**	**1.95**	**338**	*e*P		**Pn**	**13 18 35.6**	**+0.5**
ABRB	**Las Abras (San**	**1.96**	**336**	*e*P		**Pn**	**13 18 35.9**	**+0.5**
CVTV	**Tajo**	**1.97**	**335**	*e*P		**Pn**	**13 18 36.5**	**+0.9**
LCOCO	**El Coco**	**1.97**	**341**	*e*P		**Pn**	**13 18 36.6**	**+1.2**
MARI3	**Mariato, Verag**	**1.97**	**106**	*e*P		**Pb**	**13 18 37.3**	**-1.0**
MARI3					AMP		13 18 38.1	
	comp=Z,643nm,0.1s							
MARI3				*e*S		**Sb**	**13 19 03.2**	**+0.7**
CVTQ	**Turrialba Volc**	**1.98**	**334**	*e*P		**Pn**	**13 18 36.7**	**+0.9**
VTR0	**Volcan Turrial**	**1.98**	**335**	*e*P		**Pn**	**13 18 36.9**	**+0.9**
CVTR	**Volcan Turrial**	**1.99**	**335**	*e*P		**Pn**	**13 18 36.8**	**+0.8**
CALO3	**Calobre, Verag**	**2.04**	**87**	*e*P		**Pn**	**13 18 37.2**	**+0.9**
CALO3				*e*S		**Sb**	**13 19 04.1**	**-0.3**
HEME	**Heredia, Merce**	**2.15**	**325**	*e*P		**Pn**	**13 18 39.8**	**+1.8**
CACAO	**El Cacao, Vera**	**2.20**	**113**	*e*P		**Pn**	**13 18 39.9**	**+1.4**
CACAO				*e*S		**Sb**	**13 19 08.7**	**-0.2**
CRIS3	**El Cristo, Coc**	**2.26**	**89**	*e*P		**Pn**	**13 18 40.1**	**+0.8**
CRIS3				*e*S		**Sn**	**13 19 09.3**	**+2.6**
CHIT3	**Chitre**	**2.47**	**96**	*e*P		**Pn**	**13 18 43.3**	**+1.1**
CHIT3				*e*S		**Sb**	**13 19 15.8**	**-1.0**
TRT2	**Tortugero**	**2.47**	**341**	S		**Sb**	**13 19 16.6**	**-0.3**
TRT2	**Tortugero**	**2.47**	**341**	P		**Pn**	**13 18 43.7**	**+1.4**
PNME	**Penonome**	**2.56**	**84**	*e*P		**Pn**	**13 18 43.6**	**+0.1**
CBL1	**Cabuya**	**2.56**	**302**	*e*P		**Pn**	**13 18 42.2**	**-1.3**
AZU	**Azuero**	**2.63**	**99**	*e*P		**Pn**	**13 18 46.6**	**+2.2**
AZU				*e*S		**Sb**	**13 19 20.5**	**-1.0**
AZU	**Azuero**	**2.63**	**99**	*e*P		**Pn**	**13 18 45.4**	**+0.9**
SOCE	**Pocosol**	**2.74**	**322**	P		**Pn**	**13 18 48.0**	**+2.0**
CASO	**Castillo**	**2.85**	**321**	*e*P		**Pn**	**13 18 49.5**	**+1.9**
ARE1	**Arenal 1**	**2.87**	**321**	*e*P		**Pn**	**13 18 50.2**	**+2.5**
JTS	**Las Juntas de**	**2.89**	**316**	*e*P		**Pn**	**13 18 48.9**	**+0.8**
JTS				*e*S		**Sn**	**13 19 23.9**	**+1.4**
JTS	**Las Juntas de**	**2.89**	**316**	P		**Pn**	**13 18 50.2**	**+2.1**
JTS				S		**Sn**	**13 19 24.1**	**+1.7**
JTS	**Las Juntas de**	**2.89**	**316**	*e*P		**Pn**	**13 18 48.7**	**+0.6**
COVE	**Coope Vega, Sa**	**2.90**	**329**	P		**Pn**	**13 18 50.7**	**+2.6**
COVE	**Coope Vega, Sa**	**2.90**	**329**	S		**Sn**	**13 19 24.9**	**+2.4**
QUEB	**Quebradon, Cot**	**3.10**	**321**	*e*P		**Pn**	**13 18 52.5**	**+1.5**
TIMP	**Tierras Morena**	**3.15**	**319**	*e*P		**Pn**	**13 18 53.0**	**+1.3**
BCIP	**Isla Barro Col**	**3.17**	**72**	*e*P		**Pn**	**13 18 52.8**	**+0.9**
BCIP				*e*S		**Sn**	**13 19 30.8**	**+1.5**
BCIP	**Isla Barro Col**	**3.17**	**72**	P		**Pb**	**13 18 55.9**	**-2.8**
BCIP				S		**Sb**	**13 19 36.8**	**-0.3**
CHOR3	**La Chorrera**	**3.17**	**77**	*e*P		**Pn**	**13 18 53.5**	**+1.6**
CHOR3				*e*S		**Sn**	**13 19 31.8**	**+2.5**
CUI	**Cuipilapa**	**3.30**	**318**	*e*P		**Pn**	**13 18 55.0**	**+1.3**
MESS	**Mesas**	**3.38**	**318**	*e*P		**Pn**	**13 18 57.8**	**+2.9**
CAZU	**Cerro Azul, Pa**	**3.60**	**73**	*e*P		**Pn**	**13 18 58.5**	**+0.6**

*KRSC **20** 13:27:49.2±2.3, 50.°71N×152.°44E, h477km±35km, Ml4.1*
*MOS **20** 13:27:50.8±0.8, 50.°61N×152.°44E, h475km, mb3.7/1, Error ellipse: s-maj=22.3km s-min=8.9km az=51.7*
*SKHL **20** 13:27:50.7±0.3, 50.°40N×152.°90E, h509km±8km, mb4.5/5, msha5.0/3*
*IDC **20** 13:27:51.5±1.1, 51.°15N×151.°58E, h430km±13km, mb2.9/10, mbtmp3.7/14, Error ellipse: s-maj=20.1km s-min=11.8km az=135.0*

ISC 20 13:27:53.3±0.8, 50.°6N±0.°1×152.°71E±0.°08, h450km, n59, σ1°38/67, mb3.3/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**3.62**	**48**	PN		**P**	**13 29 02.6**	**-2.4**
APC	**Apacha**	**3.62**	**48**	*e*P		**P**	**13 29 02.7**	**-2.4**
ASAK	**Asacha**	**3.71**	**59**	PN		**P**	**13 29 06.1**	**+0.2**
ASAK	**Asacha**	**3.71**	**59**	*e*P		**P**	**13 29 06.2**	**+0.2**
GRL	**Gorelyy**	**3.88**	**57**	PN		**P**	**13 29 08.7**	**+1.3**
GRL	**Gorelyy**	**3.88**	**57**	*e*P		**P**	**13 29 08.7**	**+1.3**
MTVR	**Mutnovka**	**3.91**	**59**	PN		**P**	**13 29 07.6**	**-0.1**
MTVR	**Mutnovka**	**3.91**	**59**	*e*P		**P**	**13 29 07.7**	**-0.1**
PEA0B	**Petropavlovsk-**	**3.99**	**49**	PN		**P**	**13 29 06.5**	**-1.7**
PETK	**Petropavlovsk-**	**3.99**	**49**	P		**P**	**13 29 06.3**	**-2.0**
	5.8nm,0.7s,baz=231,slow=9.1,SNR=35							
PETK				S		**S**	**13 30 09.6**	**+0.2**
	1.5nm,0.7s,baz=226,slow=19,SNR=1.5							
RUS	**Russkaya**	**4.07**	**61**	*e*S		**S**	**13 30 09.5**	**-1.0**
PET	**Petropavlovsk**	**4.42**	**54**	*e*PN		**P**	**13 29 12.0**	**-0.1**
PET				*e*S		**S**	**13 30 15.2**	**-1.1**
PET				pmax		pmax		
	comp=Z,26nm,0.5s							
PET				smax		smax		
	comp=N,38nm,0.9s							
PET	**Petropavlovsk**	**4.42**	**54**	*e*P		**P**	**13 29 12.0**	**-0.1**
PET				AMB		AMB	13 29 14.0	
	comp=N,30nm,0.5s							
PET				*e*S		**S**	**13 30 15.3**	**-1.1**
PET				A		A	13 30 18.1	
	comp=N,40nm,0.7s							
PET				A		A	13 30 18.1	
	comp=N,40nm,0.7s							
DALK	**Dalny**	**4.48**	**55**	PN		**P**	**13 29 12.7**	**+0.2**
DALK				S		**S**	**13 30 17.0**	**-0.3**
DALK	**Dalny**	**4.48**	**55**	*e*P		**P**	**13 29 12.8**	**+0.2**
DALK				*e*S		**S**	**13 30 17.0**	**-0.3**
DALK	**Dalny**	**4.48**	**55**	*e*P		**P**	**13 29 12.7**	**+0.2**
DALK				*e*S		**S**	**13 30 17.0**	**-0.3**
GNL	**Ganaly**	**4.48**	**44**	PN		**P**	**13 29 10.3**	**-2.4**
GNL	**Ganaly**	**4.48**	**44**	*e*P		**P**	**13 29 10.3**	**-2.4**
KOK	**Koryaka**	**4.56**	**51**	PN		**P**	**13 29 13.3**	**-0.1**
KOK	**Koryaka**	**4.56**	**51**	*e*P		**P**	**13 29 13.3**	**-0.1**
AVH	**Avacha**	**4.59**	**52**	PN		**P**	**13 29 14.4**	**+0.7**
AVH	**Avacha**	**4.59**	**52**	*e*P		**P**	**13 29 14.4**	**+0.7**
KRX	**Arik**	**4.60**	**51**	PN		**P**	**13 29 13.4**	**-0.5**
KRX				S		**S**	**13 30 18.4**	**-1.3**
KRX	**Arik**	**4.60**	**51**	*e*P		**P**	**13 29 13.4**	**-0.5**
KRX				*e*S		**S**	**13 30 18.5**	**-1.3**
KRER	**Koryakskii**	**4.62**	**52**	PN		**P**	**13 29 14.3**	**+0.2**
KRER				S		**S**	**13 30 21.4**	**+1.3**
KRER	**Koryakskii**	**4.62**	**52**	*e*P		**P**	**13 29 14.4**	**+0.2**
KRER				*e*S		**S**	**13 30 21.4**	**+1.3**
SMAR	**Somma**	**4.63**	**52**	PN		**P**	**13 29 14.8**	**+0.6**
SMAR	**Somma**	**4.63**	**52**	*e*P		**P**	**13 29 14.8**	**+0.6**
SDLR	**Sedlovina**	**4.68**	**52**	PN		**P**	**13 29 14.7**	**+0.1**
SDLR				S		**S**	**13 30 21.1**	**+0.2**
SDLR	**Sedlovina**	**4.68**	**52**	*e*P		**P**	**13 29 14.7**	**+0.1**
SDLR				*e*S		**S**	**13 30 21.2**	**+0.2**
SPN	**Mys Shipunski**	**5.18**	**58**	PN		**P**	**13 29 18.3**	**-1.0**
SPN				S		**S**	**13 30 25.5**	**-4.1**
SPN	**Mys Shipunski**	**5.18**	**58**	*e*P		**P**	**13 29 18.4**	**-1.0**
SPN				*e*S		**S**	**13 30 25.5**	**-4.1**
SPN	**Mys Shipunski**	**5.18**	**58**	*e*P		**P**	**13 29 18.3**	**-1.0**
TYV	**Tymovskoe**	**6.39**	**276**	*e*P		**P**	**13 29 32.1**	**+0.6**
TYV					AMB	AMB	13 29 32.7	
	comp=N,20nm,0.5s							
TYV				*e*S		**S**	**13 30 51.2**	**-0.7**
TYV				A		A	13 30 52.8	
	comp=N,40nm,0.5s							
TYV				A		A	13 30 52.8	
	comp=N,40nm,0.5s							
KZV	**Kizimen**	**6.45**	**42**	PN		**P**	**13 29 32.1**	**-0.1**
KZV	**Kizimen**	**6.45**	**42**	*e*P		**P**	**13 29 32.1**	**-0.1**
TUMD	**Tumrok D**	**6.56**	**42**	PN		**P**	**13 29 32.7**	**-0.5**
TUMD	**Tumrok D**	**6.56**	**42**	*e*P		**P**	**13 29 32.8**	**-0.5**
OKH	**Okha**	**6.72**	**300**	*e*P		**P**	**13 29 35.6**	**+0.8**
OKH					AMB	AMB	13 29 37.0	
	comp=N,120nm,0.8s							
OKH				*e*S		**S**	**13 30 57.3**	**-0.7**
OKH				A		A	13 30 58.6	
	comp=N,120nm,0.8s							
OKH				A		A	13 30 58.6	
	comp=N,60nm,0.8s							
MKZ	**Mys Kozlova**	**6.78**	**51**	PN		**P**	**13 29 34.2**	**-1.3**
MKZ	**Mys Kozlova**	**6.78**	**51**	*e*P		**P**	**13 29 34.2**	**-1.3**
MKZ	**Mys Kozlova**	**6.78**	**51**	*e*P		**P**	**13 29 34.2**	**-1.3**
NKL	**Nikolayevsk**	**7.88**	**294**	*e*P		**P**	**13 29 47.7**	**+0.5**
NKL					AMB	AMB	13 29 50.8	
	comp=N,30nm,0.5s							
NMR	**Nemuro--Hokkai**	**8.65**	**216**	*e*P		P	13 29 51.0	-4.8
ASAJ	**Asahikawa**	**9.43**	**231**	P		**P**	**13 30 02.4**	**-1.8**
	comp=N,6.1nm,1.0s,baz=16,slow=7.1,SNR=5.7							
SEY	**Seymchan**	**12.38**	**359**	P		P	13 30 29.8	-6.2
	comp=N,1.9nm,0.4s,baz=192,slow=11,SNR=16							
MJAR	**Matsushiro Arr**	**17.49**	**222**	P		**P**	**13 31 28.9**	**-1.9**
	comp=N,0.8nm,0.6s,baz=14,slow=12,SNR=5.1							
KSRS	**Korea Array**	**22.01**	**243**	P		**P**	**13 32 09.3**	**-3.5**
	comp=N,0.6nm,0.5s,baz=45,slow=10,SNR=2.7							
	comp=N,0.6nm,0.5s							
ILAR	**Eielson Array**	**33.79**	**42**	P		**P**	**13 33 56.3**	**+0.5**
	comp=N,0.7nm,0.5s,baz=255,slow=10,SNR=17							
	comp=N,0.7nm,0.5s							
MKAR	**Makanchi Array**	**45.04**	**294**	P		P	13 35 19.7	-7.5
	comp=N,0.5nm,0.8s,baz=44,slow=6.4,SNR=2.6							
	comp=N,0.5nm,0.8s							
KURK	**Kurchatov**	**45.10**	**300**	P		P	13 35 20.2	-7.3
KURK	**Kurchatov**	**45.10**	**300**	*e*P		P	13 35 20.2	-7.3
KURBB	**Kurchatov Arra**	**45.20**	**300**	P		P	13 35 20.2	-8.0
	comp=N,0.3nm,0.7s,baz=57,slow=6.8,SNR=2.2							
	comp=N,0.3nm,0.7s							
FINES	**FINESS Array B**	**60.47**	**334**	P		P	13 37 11.6	-6.1
	comp=N,1.8nm,0.9s,baz=9.1,slow=7.5,SNR=1.7							
	comp=N,1.8nm,0.9s							
NVAR	**Mina Array Bea**	**60.94**	**64**	P		**P**	**13 37 22.8**	**+1.2**
	comp=N,0.4nm,0.7s,baz=312,slow=5.1,SNR=2.6							
	comp=N,0.4nm,0.7s							
PDAR	**Pinedale Array**	**62.73**	**55**	P		**P**	**13 37 35.1**	**+1.8**
	comp=N,0.3nm,0.5s,baz

0.8nm,0.7s,baz=356,slow=23,SNR=3.2
2.5nm,0.9s
ASAR Alice Springs 22.96 174 P **P 14 09 57.9 -1.3**
1.2nm,0.7s,baz=358,slow=11,SNR=19
ASAR S **S 14 14 10.0 +2.8**
0.3nm,0.7s,baz=355,slow=28,SNR=4.2
1.2nm,0.7s
JOW Kunigami 27.53 354 LR LR 14 20 27.0
comp=Z,23nm,21.7s,baz=81,slow=34
ASAJ Asahikawa 45.69 11 LR LR 14 28 49.1
comp=Z,21nm,20.9s,baz=176,slow=31
MKAR Makanchi Array 63.88 325 P **P 14 15 26.9 +0.1**
0.6nm,0.6s,baz=108,slow=7.9,SNR=4.8
0.6nm,0.6s
KURBB Kurchatov Arra 68.01 327 P **P 14 15 52.9 -0.4**
0.5nm,0.4s,baz=126,slow=5.8,SNR=4.8
0.5nm,0.4s
QSPA South Pole Qui 89.25 180 P **P 14 17 50.3 +0.4**
1.0nm,1.0s,baz=322,slow=1.9,SNR=1.4
1.0nm,1.0s

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*IDC **20** 14:18:07.9±1.9, 8°.35S×147°.72E, h106km±15km, mb3.4/5, mbtmp3.8/6, Error ellipse: s-maj=44.1km s-min=25.7km az=109.0*
ISC 20 14:18:07.3±1.3, 8°.3S±0°.2×147°.7E±0°.4, h100km, n7, σ1§19/8, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.27**	**206**	P	**Pn**	**14 18 32.0**	**+1.3**
	174nm,0.3s,baz=31,slow=12,SNR=178						
PMG				S	**Sn**	**14 18 48.3**	**-0.2**
	181nm,0.3s,baz=34,slow=11,SNR=20						
WRA	**Warramunga Arr**	**17.40**	**227**	P	**P**	**14 22 02.2**	**-1.6**
	1.8nm,0.7s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**20.25**	**219**	P	**P**	**14 22 33.7**	**-1.1**
	0.8nm,0.5s,baz=51,slow=9.5,SNR=23						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**79.70**	**321**	P	**P**	**14 30 05.1**	**+1.0**
	0.3nm,0.6s,baz=110,slow=5.4,SNR=2.9						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.30**	**328**	P	**P**	**14 30 12.8**	**+0.4**
	1.0nm,0.5s,baz=121,slow=5.1,SNR=4.7						
	1.0nm,0.5s						
QSPA	**South Pole Qui**	**81.72**	**180**	P	**P**	**14 30 14.6**	**0.0**
	0.9nm,0.9s,baz=22,slow=3.4,SNR=5.6						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**87.27**	**23**	P	**P**	**14 30 41.6**	**-0.8**
	0.6nm,0.7s,baz=248,slow=4.9,SNR=6.9						
	0.6nm,0.7s						

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*IDC **20** 14:28:12.8±1.4, 31°.16S×177°.47W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=36.7km s-min=21.7km az=77.0*
*NEIC **20** 14:28:13.6±1.9, 31°.16S±0°.07×177°.3W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=28.5km s-min=12.0km az=92.0*
ISC 20 14:28:16.3±0.9, 31°.16S±0°.07×177°.6W±0°.2, h27km, n25, σ1§47/26, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.92**	**351**	Pn	**Pn**	**14 28 46.3**	**-0.9**
RAO	**Raoul Island**	**1.92**	**351**	Pn	**Pn**	**14 28 47.4**	**+0.2**
	97nm,0.3s,baz=80,slow=12,SNR=7.1						
RAO				Sn	**Sb**	**14 29 13.0**	**-1.2**
	103nm,0.3s,baz=260,slow=23,SNR=3.0						
URZ	**Urewera**	**8.32**	**210**	Pn	**Pn**	**14 30 11.4**	**-3.7**
	0.2nm,0.3s,baz=11,slow=10,SNR=1.9						
URZ				Sn	Sn	14 31 41.4	-6.7
	0.6nm,0.3s,baz=195,slow=21,SNR=6.8						
RTZ	**Ruatahuna**	**8.67**	**209**	Pn	**Pn**	**14 30 19.5**	**-0.6**
TOZ	**Tahuroa Road**	**8.69**	**219**	Pn	**Pn**	**14 30 19.2**	**-1.0**
BKZ	**Black Stump Fm**	**9.34**	**210**	Pn	**Pn**	**14 30 26.4**	**-2.8**
TARA	**Tarawa**	**33.57**	**343**	P	**P**	**14 34 53.5**	**-0.7**
STKA	**Stephens Creek**	**34.66**	**258**	P	**P**	**14 35 04.8**	**+1.2**
	0.9nm,0.3s,baz=97,slow=8.1,SNR=3.6						
	0.9nm,0.3s						
BBOO	**Buckleboo**	**39.11**	**255**	P	**P**	**14 35 42.2**	**+0.7**
BBOO				IAmb	IAmb	14 35 58.3	
	comp=Z,39nm,1.5s						
AS31	**Alice Springs**	**43.43**	**268**	P	**P**	**14 36 16.8**	**-0.3**
ASAR	**Alice Springs**	**43.43**	**268**	P	**P**	**14 36 17.3**	**+0.2**
ASAR	**Alice Springs**	**43.43**	**268**	P	**P**	**14 36 18.2**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=106,slow=7.2,SNR=30						
	comp=Z,2.0nm,0.7s						
WR8	**Warramunga Arr**	**44.34**	**273**	P	**P**	**14 36 25.7**	**+1.3**
WR8				IAmb	IAmb	14 37 00.3	
	comp=Z,6.0nm,1.4s						
WRA	**Warramunga Arr**	**44.48**	**273**	P	**P**	**14 36 26.9**	**+1.4**
WRA	**Warramunga Arr**	**44.48**	**273**	P	**P**	**14 36 26.7**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=114,slow=7.6,SNR=13						
	comp=Z,1.1nm,0.5s						
WB0	**Warramunga Arr**	**44.51**	**273**	P	**P**	**14 36 26.9**	**+1.2**
WB0				IAmb	IAmb	14 36 28.0	
	comp=Z,3.2nm,0.9s						
VNDA	**Vanda**	**47.38**	**186**	P	**P**	**14 36 47.2**	**-0.4**
VNDA				IAmb	IAmb	14 37 22.9	
	comp=Z,1.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.72**	**270**	P	**P**	**14 37 29.7**	**+0.8**
QSPA	**South Pole Qui**	**58.96**	**180**	P	**P**	**14 38 15.4**	**+2.3**
QSPA				IAmb	IAmb	14 38 31.5	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**58.96**	**180**	P	**P**	**14 38 15.4**	**+2.3**
	comp=Z,1.3nm,0.9s,baz=44,slow=6.7,SNR=5.6						
	comp=Z,1.3nm,0.9s						
SNAA	**Sanae**	**77.39**	**178**	P	**P**	**14 40 07.5**	**-0.9**
SNAA				IAmb	IAmb	14 40 37.7	
	comp=Z,5.5nm,1.5s						
SNAA	**Sanae**	**77.39**	**178**	P	**P**	**14 40 07.6**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=202,slow=4.3,SNR=3.8						
	comp=Z,1.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**83.85**	**355**	P	**P**	**14 40 43.6**	**+0.7**
SMY	**Shemya**	**83.85**	**355**	P	**P**	**14 40 43.6**	**+0.8**
FINES	**FINESS Array B**	**145.98**	**340**	PKPbc	**PKPab**	**14 47 52.7**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=18,slow=5.0,SNR=5.7						

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*IDC **20** 14:37:53.8±1.9, 53°.64N×164°.05W, h0km, mb3.4/2, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=54.1km s-min=22.8km az=124.0*
*NEIC **20** 14:38:01.4±0.9, 53°.09N±0°.03×162°.31W±0°.09, h10km±1km, ML3.8/14, ML3.7(AEIC), Error ellipse: s-maj=9.1km s-min=4.6km az=253.0*
*AEIC **20** 14:38:02.3±0.9, 52°.9N±0°.1×162°.20W±0°.10, h1km±9km, Error ellipse: s-maj=16.4km s-min=7.3km az=162.0*
ISC 20 14:37:56.6±2.1, 52°.8N±0°.1×162°.10W±0°.05, h10km, n42, σ1§85/37, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**2.19**	**340**		**Pn**	**14 38 33.4**	**+0.5**
FALS	**False Pass**	**2.19**	**340**		**Sn**	**14 38 59.2**	**-0.9**
FALS	**False Pass**	**2.19**	**340**	P	**Pn**	**14 38 33.5**	**+0.5**
FALS	**False Pass**	**2.19**	**340**	S	**Sn**	**14 39 00.1**	**0.0**
SSLS	**Shishaldin Sou**	**2.21**	**330**		**Pn**	**14 38 34.3**	**+1.0**
SSLS					**Sn**	**14 39 00.2**	**-0.5**
ISNN	**Isanotski Nort**	**2.25**	**334**		**Pn**	**14 38 35.2**	**+1.3**
ISNN					**Sn**	**14 39 01.8**	**+0.1**
DT1	**Dutton Round H**	**2.30**	**357**		**Pn**	**14 38 35.2**	**+0.7**
DT1					**Sn**	**14 39 01.5**	**-1.4**
SSBA	**Shishaldin**	**2.30**	**329**		**Pn**	**14 38 35.4**	**+0.8**
SSBA					**Sn**	**14 39 02.2**	**-0.8**
DOL	**Dolgoi Island**	**2.34**	**3**		**Pn**	**14 38 36.3**	**+1.2**
CNBA	**Chernabura Isl**	**2.50**	**36**		**Sn**	**14 39 07.0**	**-0.8**
CNBA	**Chernabura Isl**	**2.50**	**36**		**Pn**	**14 38 38.6**	**+1.3**
CHNA	**Chernabura Isl**	**2.51**	**35**	P	**Pn**	**14 38 39.0**	**+1.6**
HAG	**Hague Volcano**	**2.51**	**3**		**Pn**	**14 38 39.5**	**+2.0**
AKSA	**Akutan Strait**	**2.52**	**303**		**Pn**	**14 38 38.5**	**+0.9**
AKSA					**Sn**	**14 39 05.6**	**-2.8**
AKUT	**Akutan**	**2.56**	**303**		**Pn**	**14 38 39.1**	**+1.0**
AKUT				IAML		14 39 07.4	
	comp=N,336nm,0.5s						
AKUT				IAML		14 39 07.9	
	comp=E,464nm,0.5s						
AKUT	**Akutan**	**2.56**	**303**		**Sn**	**14 39 06.6**	**-2.7**
AKUT	**Akutan**	**2.56**	**303**	P	**Pn**	**14 38 39.3**	**+1.2**
AKUT	**Akutan**	**2.56**	**303**	S	**Sn**	**14 39 07.3**	**-2.0**
AHB	**Akutan Harbor**	**2.58**	**302**		**Sn**	**14 39 07.6**	**-2.1**
ZRO	**Akutan Zero**	**2.65**	**300**		**Pn**	**14 38 40.4**	**+1.0**
ZRO					**Sn**	**14 39 09.3**	**-2.2**
AKMO	**Akutan Morgan**	**2.67**	**300**		**Sn**	**14 39 10.5**	**-1.4**
SDPT	**Sand Point**	**2.71**	**20**		**Pn**	**14 38 42.0**	**+1.9**
SDPT				IAML		14 39 15.1	
	comp=N,470nm,0.5s						
SDPT				IAML		14 39 15.7	
	comp=E,538nm,0.4s						
SDPT	**Sand Point**	**2.71**	**20**	P	**Pn**	**14 38 42.3**	**+2.1**
SDPT	**Sand Point**	**2.71**	**20**	S	**Sn**	**14 39 12.5**	**-0.5**
UNV	**Unalaska Valle**	**2.84**	**293**	IAML		14 39 17.0	
	comp=N,258nm,0.3s						
S12K	**Black Hills**	**2.90**	**0**	IAML		14 39 19.5	
	comp=N,551nm,0.3s						
NIKH	**Nikolski High**	**4.09**	**275**	IAML		14 39 44.2	
	comp=N,178nm,0.4s						
NIKH				IAML		14 39 47.8	
	comp=E,153nm,0.6s						
NIKH	**Nikolski High**	**4.09**	**275**	P	**Pn**	**14 39 00.3**	**+1.1**
SII	**Sitkinak Islan**	**5.93**	**48**	P	**Pn**	**14 39 27.0**	**+2.6**
OHAK	**Old Harbor**	**6.72**	**45**		**Pn**	**14 39 36.4**	**+1.3**
OHAK	**Old Harbor**	**6.72**	**45**	P	**Pn**	**14 39 37.6**	**+2.4**
KDAK	**Kodiak Island**	**7.36**	**44**	Pn	**Pn**	**14 39 45.2**	**+1.2**
	comp=E,0.4nm,0.3s,baz=212,slow=5.1,SNR=16						
KDAK				Sn	**Sn**	**14 41 02.0**	**-5.6**
	comp=E,0.5nm,0.3s,baz=29,slow=19,SNR=9.4						
	comp=E,4.3nm,0.9s						
ADK	**Adak**	**8.98**	**270**	P	**Pn**	**14 40 08.8**	**+2.6**
ILAR	**Eielson Array**	**14.29**	**27**	Pn	Pn	14 41 14.0	-4.7
	baz=224,slow=13,SNR=1.9						
ILAR				Sn	Sn	14 43 46.4	-11
	comp=E,0.1nm,0.3s,baz=320,slow=33,SNR=4.6						
	comp=E,0.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**40.82**	**228**	T	T	15 29 27.0	
	baz=26,slow=76,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**40.82**	**228**	T	T	15 29 25.3	
	baz=26,slow=76,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**40.84**	**228**	T	T	15 29 26.4	
	baz=26,slow=76,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**41.98**	**227**	T	T	15 30 53.6	
	baz=25,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**41.99**	**227**	T	T	15 30 55.2	
	baz=25,slow=76,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**41.99**	**227**	T	T	15 30 56.1	
	baz=25,slow=76,SNR=2.9						
TXAR	**Lajitas Array**	**48.33**	**95**	P	P	14 46 47.5	+9.2
	comp=E,0.2nm,0.6s,baz=321,slow=5.4,SNR=2.5						
	comp=E,0.2nm,0.6s						
ASAR	**Alice Springs**	**94.20**	**236**	P	P	14 51 11.6	-4.0
	comp=E,0.2nm,0.7s,baz=23,slow=3.4,SNR=4.1						
	comp=E,0.2nm,0.7s						

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*AEIC **20** 14:39:50.6±1.1, 54°.31N±0°.04×162°.64W±0°.05, h20km±7km, Error ellipse: s-maj=6.3km s-min=3.9km az=159.0*
NEIC 20 14:39:36.4±1.0, 54°.28N±0°.05×162°.57W±0°.05, h24km±12km, ML2.8/10, ML2.5(AEIC), Error ellipse: s-maj=8.2km s-min=3.3km az=157.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.76**	**320**		**Pb**	**14 40 04.1**	**-0.4**
FALS				IAML		14 40 21.4	
	comp=N,1μm,0.6s						
FALS				IAML		14 40 21.8	
	comp=E,1μm,0.6s						
FALS	**False Pass**	**0.76**	**320**		**Sb**	**14 40 14.8**	**+0.4**
DT1	**Dutton Round H**	**0.84**	**11**		**Pb**	**14 40 06.0**	**0.0**
DT1					**Sb**	**14 40 16.9**	**0.0**
ISNN	**Isanotski Nort**	**0.89**	**309**		**Pb**	**14 40 06.9**	**0.0**
ISNN					**Sn**	**14 40 19.1**	**-0.1**
SSLS	**Shishaldin Sou**	**0.94**	**298**		**Pb**	**14 40 07.5**	**-0.1**
SSLS					**Sn**	**14 40 20.3**	**-0.1**
DOL	**Dolgoi Island**	**0.96**	**25**		**Pb**	**14 40 08.0**	**0.0**
DOL					**Sn**	**14 40 20.6**	**-0.3**
SSBA	**Shishaldin**	**1.03**	**299**		**Pn**	**14 40 08.6**	**-0.4**
SSBA					**Sb**	**14 40 22.3**	**0.0**
SSBA					**Sn**	**14 40 23.6**	**+0.9**
HAG	**Hague Volcano**	**1.11**	**20**		**Pb**	**14 40 10.5**	**0.0**
PS4A	**Pavlof South-4**	**1.14**	**21**		**Pb**	**14 40 11.0**	**-0.1**
PN7A	**Pavlof North-7**	**1.20**	**16**		**Pb**	**14 40 12.2**	**+0.1**
PS1A	**Pavlof South-1**	**1.24**	**22**		**Pb**	**14 40 12.3**	**-0.4**
PS1A					**Pn**	**14 40 12.4**	**+0.6**
PS1A					**Sb**	**14 40 29.1**	**+0.9**
S12K	**Black Hills**	**1.46**	**11**		**Pn**	**14 40 14.8**	**0.0**
S12K	**Black Hills**	**1.46**	**11**	IAML		14 40 35.6	
	comp=N,101nm,0.3s						
S12K				IAML		14 40 37.2	
	comp=E,76nm,1.2s						
SDPT	**Sand Point**	**1.62**	**48**		**Pn**	**14 40 17.3**	**+0.3**
SDPT				IAML		14 40 39.8	
	comp=N,79nm,0.4s						
SDPT	**Sand Point**	**1.62**	**48**		**Sn**	**14 40 37.9**	**+0.8**
AKSA	**Akutan Strait**	**1.84**	**267**		**Pn**	**14 40 20.5**	**+0.4**
AKSA					**Sn**	**14 40 42.5**	**-0.1**
AKUT	**Akutan**	**1.89**	**267**	Pn	**Pn**	**14 40 20.6**	**0.0**
AKUT				IAML		14 40 45.2	
	comp=N,43nm,0.9s						
AHB	**Akutan Harbor**	**1.91**	**266**		**Pn**	**14 40 21.6**	**+0.5**
P08K	**Saint George I**	**4.60**	**303**	Pn	**Pn**	**14 40 57.0**	**-1.0**

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*IDC **20** 14:49:02.3±0.7, 29°.35N×140°.45E, h431km±10km, mb2.9/8, mbtmp3.7/10, Error ellipse: s-maj=38.0km s-min=11.3km az=74.0*
*JMA **20** 14:49:03.1±0.2, 29°.N±1°.×14°.0E±°., h415km, MV3.4/6, NEAR TORISHIMA IS*
ISC 20 14:49:02.0±0.7, 29°.1N±0°.1×139°.5E±0°.2, h400km, n13, σ0§55/17, mb3.3/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.10**	**130**	*e*P	**Pn**	**14 50 06.9**	**+0.7**
CBIJ				*e*S	**S**	**14 50 57.2**	**-0.8**
JCJ	**Chichijima**	**3.10**	**130**	P	**Pn**	**14 50 06.0**	**-0.2**
	65nm,0.4s,baz=46,slow=23,SNR=161						
JCJ				S	**S**	**14 50 57.5**	**-0.5**
	91nm,0.3s,baz=283,slow=22,SNR=16						
JHH2	**Haha-jima-NKT2**	**3.42**	**136**	*e*P	**Pn**	**14 50 09.7**	**+0.9**
JHH2				*e*S	**S**	**14 51 02.9**	**0.0**
MJAR	**Matsushiro Arr**	**7.49**	**352**	P	**Pn**	**14 50 51.0**	**-0.1**
	0.5nm,0.4s,baz=88,slow=28,SNR=4.1						
MJAR				S	**S**	**14 52 21.3**	**+0.9**
	0.3nm,0.4s,baz=217,slow=24,SNR=1.6						
SONM	**Songino Array**	**31.63**	**315**	P	**P**	**14 54 50.3**	**+0.4**
	0.2nm,0.4s,baz=98,slow=8.9,SNR=2.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.42**	**318**	P	**P**	**14 56 50.1**	**-0.2**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=2.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**47.37**	**308**	P	**P**	**14 56 57.5**	**-0.4**
	0.1nm,0.3s,baz=83,slow=9.5,SNR=2.4						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**49.02**	**186**	P	**P**	**14 57 10.8**	**+0.4**
	1.0nm,0.5s,baz=3.4,slow=7.8,SNR=23						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**52.75**	**186**	P	**P**	**14 57 38.2**	**+0.4**
	0.2nm,0.4s,baz=5.1,slow=8.0,SNR=12						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**75.09**	**333**	P	**P**	**15 00 00.6**	**-0.5**
	0.6nm,0.5s,baz=67,slow=6.1,SNR=8.1						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**79.59**	**323**	P	**P**	**15 00 25.4**	**-0.5**
	0.3nm,0.3s,baz=48,slow=1.4,SNR=1.5						
	0.3nm,0.3s						
HFS	**Hagfors**	**80.63**	**336**	P	**P**	**15 00 30.9**	**-0.3**
	0.8nm,0.5s,baz=61,slow=6.8,SNR=1.7						
	0.8nm,0.5s						
LPAZ	**La Paz**	**151.57**	**69**	PKPbc	**PKPdf**	**15 08 04.3**	**-0.1**
	0.5nm,0.3s,baz=281,slow=6.4,SNR=7.3						

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*NEIC **20** 15:30:05.9±1.3, 14°.6S±0°.1×167°.5E±0°.1, h160km±5km, mb4.5/29, Error ellipse: s-maj=17.7km s-min=12.4km az=134.0*
*IDC **20** 15:30:06.2±3.2, 14°.60S×167°.37E, h164km±27km, mb3.9/13, mbtmp4.3/14, MS2.7/2, Error ellipse: s-maj=20.7km s-min=16.0km az=84.0*
*NOU **20** 15:30:12.7, 15°.02S×167°.11E, h167km, mb4.2/13, Vanuatu Islands*
ISC 20 15:30:06.8±0.5, 14°.63S±0°.06×167°.46E±0°.09, h170km, n78, σ1§16/81, mb4.4/30, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.85**	**197**		**Pn**	**15 30 30.4**	**-2.0**
MARNC	**Mare, Loyalty**	**6.84**	**176**	P	**Pn**	**15 31 45.4**	**+0.7**
MARNC	**Mare, Loyalty**	**6.84**	**176**	S	**Sn**	**15 32 59.5**	**-2.4**
YATNC	**Mamie plateau,**	**7.41**	**184**	P	**Pn**	**15 31 51.9**	**-0.4**
DZM	**Mont Dzumac**	**7.47**	**187**	P	**Pn**	**15 31 53.1**	**0.0**
	18nm,0.5s,baz=48,slow=16,SNR=51						
DZM				S	**Sn**	**15 33 17.3**	**+0.2**
	24nm,0.4s,baz=150,slow=23,SNR=6.1						
ONTNC	**Ouen Toro**	**7.70**	**187**		**Pn**	**15 31 55.5**	**-0.7**
ONTNC	**Ouen Toro**	**7.70**	**187**	P	**Pn**	**15 31 57.7**	**+1.6**
OUENC	**Ouen Island, N**	**7.77**	**184**	P	**Pn**	**15 31 58.6**	**+1.5**
PINNC	**Pines Island,**	**7.94**	**180**	Pn	**Pn**	**15 31 59.6**	**+0.3**
PINNC	**Pines Island,**	**7.94**	**180**	P	**Pn**	**15 32 00.6**	**+1.3**
EIDS	**Eidsvold**	**18.72**	**233**	Pn	**P**	**15 34 13.9**	**+1.4**
EIDS				IAmb	IAmb	15 34 27.8	
	comp=Z,23nm,1.1s						
EIDS	**Eidsvold**	**18.72**	**233**	P	**P**	**15 34 13.3**	**+0.8**
RAO	**Raoul Island**	**19.86**	**140**	P	**Pn**	**15 34 30.0**	**+1.6**
ARMA	**Armidale**	**21.43**	**220**	P	**P**	**15 34 43.4**	**+1.8**
NIUE	**Niue**	**22.08**	**105**	P	**P**	**15 34 47.4**	**-0.9**
COEN	**Coen**	**23.54**	**269**	P	**P**	**15 35 02.8**	**+0.9**
COEN				IAmb	IAmb	15 35 03.3	
	comp=Z,31nm,1.5s						
HIZ	**Hauiti**	**24.67**	**166**	P	**P**	**15 35 15.7**	**+3.8**
QLP	**Quilpie**	**24.73**	**238**	P	**P**	**15 35 14.4**	**+1.8**
CNB	**Canberra Magne**	**26.25**	**215**	P	**P**	**15 35 28.0**	**+1.8**
INKA	**Innaminka**	**28.04**	**238**	P	**P**	**15 35 41.4**	**-0.8**
LTZ	**Lake Taylor**	**28.36**	**173**	P	**P**	**15 35 43.3**	**-1.6**
STKA	**Stephens Creek**	**29.20**	**230**		**P**	**15 35 53.0**	**+0.5**
STKA	**Stephens Creek**	**29.20**	**230**	P	**P**	**15 35 53.0**	**+0.5**
	comp=Z,4.3nm,0.5s,baz=56,slow=7.6,SNR=12						
STKA				PcP	**PcP**	**15 38 54.0**	**-1.5**
	comp=Z,4.1nm,0.8s,baz=38,slow=3.9,SNR=5.5						
	comp=Z,4.3nm,0.5s						
STKA	**Stephens Creek**	**29.20**	**230**	P	**P**	**15 35 54.0**	**+1.5**
MLZ	**Mavora Lakes**	**30.65**	**179**	P	**P**	**15 36 04.9**	**-0.1**
WR8	**Warramunga Arr**	**31.88**	**256**	P	**P**	**15 36 15.0**	**-1.2**
WR8				IAmb	IAmb	15 36 58.4	
	comp=Z,7.3nm,1.4s						
WB0	**Warramunga Arr**	**31.96**	**256**	P	**P**	**15 36 15.2**	**-1.8**
WRAB	**Tennant Creek**	**32.02**	**256**	P	**P**	**15 36 19.1**	**+1.7**
WRA	**Warramunga Arr**	**32.03**	**256**	P	**P**	**15 36 15.7**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=78,slow=5.9,SNR=9.0						
WRA				PcP	**PcP**	**15 39 02.6**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=97,slow=3.8,SNR=4.4						
WRA				S	S	15 41 08.4	-8.6
	comp=Z,0.6nm,0.9s,baz=75,slow=16,SNR=2.6						
	comp=Z,0.9nm,0.8s						
AS31	**Alice Springs**	**32.88**	**249**		**P**	**15 36 23.5**	**-1.5**
ASAR	**Alice Springs**	**32.88**	**249**	P	**P**	**15 36 23.4**	**-1.5**
ASAR	**Alice Springs**	**32.88**	**249**	P	**P**	**15 36 23.2**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=80,slow=8.9,SNR=42						
ASAR				PcP	**PcP**	**15 39 04.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=81,slow=3.6,SNR=5.6						
ASAR				S	S	15 41 21.8	-8.4
	comp=Z,0.5nm,1.1s,baz=75,slow=18,SNR=3.0						
	comp=Z,2.3nm,0.7s						
BBOO	**Buckleboo**	**33.79**	**232**	P	**P**	**15 36 33.2**	**+0.5**
BBOO				IAmb	IAmb	15 36 33.9	
	comp=Z,24nm,1.1s						
GUMO	**Guam**	**35.86**	**320**	LR	LR	15 51 53.3	
	comp=Z,13nm,19.8s,baz=160,slow=36						
KNRA	**Kununurra**	**37.33**	**263**	P	**P**	**15 37 02.1**	**-0.9**
KNRA				IAmb	IAmb	15 37 39.0	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**40.21**	**259**	P	**P**	**15 37 26.9**	**-0.1**
MBWA	**Marble Bar**	**45.75**	**255**	P	**P**	**15 38 11.3**	**-0.2**
MBWA				IAmb	IAmb	15 38 48.8	
	comp=Z,19nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.96**	**239**	P	**P**	**15 38 35.3**	**-0.8**
MORW	**Morawa**	**49.48**	**244**	P	**P**	**15 38 39.1**	**-1.0**
MORW				IAmb	IAmb	15 39 13.2	
	comp=Z,18nm,1.4s						
NACB	**Ninganchiao**	**59.10**	**310**	P	**P**	**15 39 50.0**	**+0.4**
VNDA	**Vanda**	**62.97**	**181**		**P**	**15 40 14.4**	**-0.5**
VNDA				IAmb	IAmb	15 40 16.5	
	comp=Z,3.6nm,0.8s						
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**15 40 14.3**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=2.0,slow=6.0,SNR=8.7						
	comp=Z,2.6nm,0.7s						
SBA	**Scott Base**	**63.24**	**180**		**P**	**15 40 16.9**	**+0.3**
CASY	**Casey**	**63.69**	**202**	P	**P**	**15 40 20.0**	**+0.3**
CASY				IAmb	IAmb	15 40 20.1	
	comp=Z,9.7nm,0.9s						
NJ2	**Nanjing**	**65.73**	**316**	*e*P	**P**	**15 40 35.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PETK	**Petropavlovsk-**	**67.98**	**354**	P	**P**	**15 40 48.2**	**+0.9**
PETK	**Petropavlovsk-**	**67.98**	**354**	P	**P**	**15 40 47.9**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=180,slow=8.9,SNR=7.0						
	comp=Z,3.9nm,0.9s						
WHN	**Wuhan**	**68.01**	**312**	P	**P**	**15 40 48.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**75.08**	**294**	P	**P**	**15 41 30.9**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=107,slow=4.0,SNR=12						
CMAR				LR	LR	16 13 19.4	
	comp=Z,3.9nm,20.3s,baz=225,slow=35						
	comp=Z,0.8nm,0.4s						
QSPA	**South Pole Qui**	**75.40**	**180

*TXNET **20** 15:39:00.2, 31.3N±0.5×103.6W±0.4, h4km, ML2.6/13, Error ellipse: s-maj=0.8km s-min=0.6km az=26.4, final*

NEIC 20 15:39:00.5±0.8, 31.285N±0.008×103.582W±0.004, h5km±1km, mb_Lg2.5/16, ML2.4/56, 2C-1D, Error ellipse: s-maj=2.3km s-min=1.4km az=38.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWM2	**Layne Water Mi**	**0.02**	**190**	⇑P	Pg	15 39 01.1	-0.4
LWM2				S	Sg	15 39 02.1	-0.1
LWM1	**Layne Water Mi**	**0.07**	**218**	⇑P	Pg	15 39 01.9	-0.2
LWM1				S	Sg	15 39 03.7	+0.5
PCOS	**Crockett Middl**	**0.14**	**26**		Pg	15 39 03.2	-0.1
PCOS	**Crockett Middl**	**0.14**	**26**	P	Pg	15 39 03.2	-0.1
PCOS				S	Sg	15 39 06.6	+1.5
TPB10	**Southeast of T**	**0.15**	**269**	P	Pg	15 39 03.6	+0.1
TPB10				S	Sg	15 39 07.2	+1.7
TPB03	**Saragosa**	**0.21**	**164**	⇓P	Pg	15 39 05.8	+1.2
TPB03				S	Sg	15 39 09.8	+2.5
PECS	**Pecos**	**0.26**	**289**	Pg	Pg	15 39 05.7	+0.2
PECS				IAML		15 39 10.8	
	854nm,0.4s						
PECS				IAML		15 39 12.3	
	720nm,0.8s						
PECS	**Pecos**	**0.26**	**289**	P	Pg	15 39 05.8	+0.3
PECS				S	Sg	15 39 09.8	+0.8
TPB04	**Verhalen**	**0.28**	**110**	P	Pb	15 39 07.2	-0.9
TPB04				S	Sb	15 39 12.1	-1.1
TPB07	**Mentone**	**0.30**	**346**	P	Pg	15 39 06.8	+0.5
TPB07				S	Sg	15 39 11.8	+1.4
TPB16	**Coyonosa**	**0.33**	**119**	S	Sb	15 39 13.5	-0.9
TPB12	**Southwest of T**	**0.33**	**258**	P	Pg	15 39 07.3	+0.4
TPB12				S	Sg	15 39 12.5	+1.2
TPB13	**Reeves - Culbe**	**0.35**	**320**	S	Sg	15 39 13.1	+1.1
TPB01	**Permian Basin**	**0.38**	**207**	P	Pg	15 39 08.2	+0.3
TPB01				S	Sg	15 39 14.2	+1.3
TPB19	**West of Imperi**	**0.41**	**87**	S	Sb	15 39 15.9	-1.0
TPB05	**Hovey Rd**	**0.43**	**149**	P	Pg	15 39 09.5	+0.8
TPB05				S	Sb	15 39 16.4	-0.9
TPB15	**Southwest of C**	**0.43**	**100**	S	Sb	15 39 16.7	-0.8
TPB06	**Permian Basin**	**0.48**	**41**	P	Pg	15 39 10.3	+0.6
TPB27	**North of Pyote**	**0.48**	**53**	P	Pg	15 39 10.4	+0.7
TPB08	**Permian Basin**	**0.70**	**124**	S	Sb	15 39 25.0	-0.2
MNHN	**Monahans**	**0.70**	**85**		Pg	15 39 13.9	-0.1
MNHN	**Monahans**	**0.70**	**85**	P	Pg	15 39 14.1	+0.1
MNHN				S	Sg	15 39 24.0	+0.9
TPB11	**China Draw**	**0.75**	**329**	S	Sg	15 39 25.4	+0.6
ALPN	**Alpine**	**0.91**	**183**		Pg	15 39 17.1	-0.8
ALPN				IAML		15 39 39.8	
	104nm,0.3s						
ALPN	**Alpine**	**0.91**	**183**	P	Pg	15 39 17.2	-0.7
ALPN				S	Sb	15 39 31.2	-0.1
CLNB	**Carlsbad**	**1.01**	**346**		Pg	15 39 19.7	-0.1
CLNB	**Carlsbad**	**1.01**	**346**	S	Sb	15 39 33.6	-0.5
HTMS	**Hat Mesa**	**1.18**	**358**		Pg	15 39 22.9	-0.3
ODSA	**Odessa**	**1.21**	**46**		Pg	15 39 23.0	-0.7
ODSA					Sb	15 39 39.8	-0.1
ODSA	**Odessa**	**1.21**	**46**	P	Pg	15 39 23.0	-0.7
ODSA				S	Sb	15 39 39.8	-0.1
VHRN	**Van Horn**	**1.30**	**248**		Pg	15 39 24.7	-0.8
VHRN					Sg	15 39 42.0	-0.4
VHRN				IAML		15 39 48.4	
	66nm,0.3s						
VHRN				IAML		15 39 49.8	
	67nm,0.7s						
VHRN	**Van Horn**	**1.30**	**248**	P	Pg	15 39 24.6	-0.9
VHRN				S	Sg	15 39 42.0	-0.4
TMB02	**Rankin**	**1.32**	**93**	P	Pn	15 39 25.3	-0.4
TMB02				S	Sg	15 39 43.0	-0.1
TMB01	**Midkiff**	**1.34**	**73**	P	Pn	15 39 25.3	-0.5
TMB01				S	Sb	15 39 43.6	+0.1
MNTX	**Cornudas Mount**	**1.59**	**285**		Pn	15 39 29.6	+0.3
MNTX					Sb	15 39 51.0	+0.2
MNTX				IAML		15 39 55.9	
	42nm,0.7s						
MNTX				IAML		15 39 56.0	
	36nm,0.8s						
MNTX	**Cornudas Mount**	**1.59**	**285**	P	Pn	15 39 29.8	+0.5
TMB06	**Greenwood**	**1.67**	**65**	S	Sg	15 39 54.4	+0.3
CPRX	**Cap Rock**	**1.76**	**352**		Pn	15 39 32.4	+0.7
SAND	**Sanderson**	**1.83**	**136**		Pn	15 39 33.5	+0.9
SAND					Sb	15 39 57.9	+0.3
SAND	**Sanderson**	**1.83**	**136**	P	Pb	15 39 33.9	+0.5
SAND				S	Sb	15 39 57.9	+0.3
TX31	**Lajitas Ar. Si**	**1.95**	**182**		Pb	15 39 35.5	-0.9
TX31	**Lajitas Ar. Si**	**1.95**	**182**	P	Pb	15 39 35.5	-0.9
TXAR	**Lajitas Array**	**1.95**	**182**		Pb	15 39 35.5	-1.0
TMB05	**Klondike**	**1.98**	**47**	P	Pn	15 39 35.9	+1.1
TMB05				S	Sb	15 40 02.6	+0.5
OZNA	**Ozona**	**2.14**	**99**		Pn	15 39 38.1	+1.2
OZNA					Sb	15 40 06.2	-0.4
OZNA				IAmb_Lg		15 40 08.6	
	comp=Z,11nm,0.7s						
OZNA	**Ozona**	**2.14**	**99**	P	Pb	15 39 38.3	-1.4
OZNA				S	Sb	15 40 06.1	-0.4
SGCY	**Sterling City**	**2.19**	**73**	IAmb_Lg		15 40 12.8	
	comp=Z,19nm,0.7s						
SN07	**Snyder 07**	**2.91**	**51**	IAmb_Lg		15 40 32.4	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**3.35**	**103**	IAmb_Lg		15 40 51.3	
	comp=Z,18nm,0.7s						
BRDY	**Brady**	**3.92**	**89**	IAmb_Lg		15 41 08.4	
	comp=Z,14nm,0.8s						
HNDO	**Hondo**	**4.11**	**114**	IAmb_Lg		15 41 18.4	
	comp=Z,10nm,0.8s						
ANMO	**Albuquerque**	**4.38**	**327**	IAML		15 41 20.2	
	comp=Z,3.5nm,1.1s						

WEL 20 15:45:47.6±0.7, 39.S±6.×17.4E±., h9km±4km, M3.5/76, ML4.0/25, MLv3.5/76, Error ellipse: s-maj=8.8km s-min=3.6km az=150.3, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPCS	**New Plymouth C**	**0.06**	**127**	P	Pg	15 45 50.6	+1.0
NPCS				S	Sg	15 45 52.9	+1.8
PKE	**Pukeiti**	**0.17**	**186**	P	Pg	15 45 52.0	+0.7
PKE				S	Sg	15 45 55.0	+1.3
INHS	**Inglewood High**	**0.19**	**133**	P	Pg	15 45 52.1	+0.5
INHS				S	Sg	15 45 56.0	+1.6
DREZ	**Durham Road**	**0.22**	**138**	P	Pg	15 45 52.9	+0.7
DREZ				S	Sg	15 45 57.0	+1.7
MHEZ	**Mangahewa**	**0.25**	**102**	P	Pg	15 45 53.7	+1.0
MHEZ				S	Sg	15 45 57.9	+1.9
NEZ	**North Egmont**	**0.25**	**165**	P	Pg	15 45 53.4	+0.6
NEZ				S	Sg	15 45 57.5	+1.2
NBEZ	**Newall Road No**	**0.27**	**204**	P	Pb	15 45 53.9	-0.7
NBEZ				S	Sb	15 45 58.8	-0.5
KHEZ	**Kahui Hut**	**0.27**	**179**	P	Pg	15 45 53.6	+0.6
KHEZ				S	Sg	15 45 57.9	+1.1
PREZ	**Palmer Road**	**0.34**	**160**	P	Pb	15 45 55.2	-0.7
PREZ				S	Sb	15 46 01.0	-0.4
NMEZ	**Namu Road**	**0.40**	**195**	P	Pg	15 45 56.2	+0.7
NMEZ				S	Sb	15 46 02.8	-0.4
OPSS	**Opunake Primar**	**0.44**	**196**	P	Pb	15 45 56.9	-0.7
OPSS				S	Sb	15 46 04.2	-0.1
LREZ	**Lake Rotokare**	**0.53**	**145**	P	Pb	15 45 58.7	-0.4
VRZ	**Vera Road**	**0.59**	**100**	P	Pg	15 45 59.4	+0.3
HIZ	**Hauiti**	**0.84**	**53**	P	Pg	15 46 03.7	0.0
WAZ	**Wanganui**	**1.05**	**134**	P	Pg	15 46 07.5	-0.3
PKVZ	**Pokaka**	**1.07**	**105**	P	Pg	15 46 07.3	-0.9
TWVZ	**Taurewa**	**1.11**	**93**	P	Pg	15 46 08.0	-1.0
MTVZ	**Mangateitei**	**1.19**	**108**	P	Pb	15 46 09.3	-1.1
COVZ	**Chateau Observ**	**1.21**	**99**	P	Pb	15 46 09.6	-1.1
FWVZ	**Far West T-bar**	**1.22**	**101**	P	Pb	15 46 10.0	-1.0
TRVZ	**Turoa**	**1.23**	**103**	P	Pb	15 46 10.2	-1.0
MAVZ	**Matarangi**	**1.23**	**102**	P	Pb	15 46 10.3	-0.9
WTVZ	**West Tongariro**	**1.23**	**95**	P	Pn	15 46 10.1	-1.1
NGZ	**Ngauruhoe**	**1.25**	**97**	P	Pn	15 46 10.3	-1.1
NNVZ	**North Ngauruho**	**1.25**	**95**	P	Pn	15 46 10.5	-1.0
WHVZ	**Whangaehu Hut**	**1.25**	**102**	P	Pn	15 46 10.5	-1.0
WNVZ	**Wahianoa**	**1.27**	**104**	P	Pn	15 46 10.8	-0.9
KRVZ	**Karewarewa**	**1.27**	**94**	P	Pn	15 46 11.1	-0.6
SNVZ	**South Ngauruho**	**1.28**	**98**	P	Pn	15 46 11.6	-0.3
OTVZ	**Oturere**	**1.30**	**97**	P	Pn	15 46 11.6	-0.4
NTVZ	**North Tongarir**	**1.30**	**94**	P	Pn	15 46 11.7	-0.4
TUVZ	**Tukino**	**1.30**	**101**	P	Pn	15 46 11.6	-0.6
KATZ	**Kakaramea**	**1.31**	**88**	P	Pn	15 46 11.8	-0.5
TMVZ	**Te Maari**	**1.32**	**94**	P	Pn	15 46 12.0	-0.4
ETVZ	**East Tongariro**	**1.33**	**95**	P	Pn	15 46 12.2	-0.3
WATZ	**Wairara**	**1.38**	**77**	P	Pn	15 46 13.0	-0.2
RATZ	**Rangitukua**	**1.38**	**84**	P	Pn	15 46 12.9	-0.3
TLZ	**Tolley Road**	**1.38**	**60**	P	Pn	15 46 12.2	-1.0
MOVZ	**Moawhango**	**1.41**	**106**	P	Pn	15 46 12.9	-0.6
RITZ	**Rihia Road**	**1.44**	**89**	P	Pb	15 46 14.5	-0.2
KUTZ	**Kaahu Road**	**1.52**	**70**	P	Pn	15 46 15.3	+0.3
OHWZ	**Ohakea**	**1.55**	**140**	P	Pb	15 46 16.2	-0.3
WHTZ	**Whakaora**	**1.56**	**77**	P	Pb	15 46 16.9	+0.1
TOZ	**Tahuroa Road**	**1.75**	**43**	P	Pn	15 46 17.4	-0.7
WPRZ	**Whakapapatarin**	**1.76**	**74**	P	Pn	15 46 18.7	+0.4
DUWZ	**D'Urville Isla**	**1.78**	**182**	P	Pn	15 46 18.2	-0.3
GRRZ	**Galatos Road**	**1.78**	**68**	P	Pn	15 46 19.3	+0.7
TSZ	**Takapari Road**	**1.83**	**125**	P	Pn	15 46 20.2	+0.9
MRHZ	**Matea Rd**	**1.89**	**85**	P	Pn	15 46 20.0	-0.1
HRRZ	**Handcock Road**	**1.89**	**71**	P	Pb	15 46 23.0	+0.7
HSRZ	**Hossack Road**	**1.89**	**69**	P	Pb	15 46 22.8	+0.5
UTU	**Utuhina**	**1.91**	**64**	P	Pn	15 46 19.9	-0.5
PNHZ	**Pukenui**	**1.91**	**118**	P	Pn	15 46 21.0	+0.6
KWHZ	**Kaweka Forest**	**1.92**	**103**	P	Pn	15 46 21.6	+1.1
POWZ	**Post Office Ro**	**1.92**	**136**	P	Pb	15 46 22.3	-0.6
KRHZ	**Kereru**	**1.93**	**109**	P	Pn	15 46 21.7	+1.0
BKZ	**Black Stump Fm**	**1.94**	**95**	P	Pn	15 46 21.5	+0.7
NGRZ	**Ngongotaha**	**1.94**	**62**	P	Pn	15 46 20.4	-0.4
KIW	**Kapiti Island**	**1.96**	**160**	P	Pn	15 46 21.4	+0.3
HLRZ	**Highlands Stat**	**1.99**	**68**	P	Pb	15 46 24.8	+0.7
OGWZ	**Otaki Gorge**	**2.00**	**154**	P	Pb	15 46 23.0	-1.1
KARZ	**Kaharoa**	**2.02**	**61**	P	Pb	15 46 23.6	-0.9
AWAZ	**Awhitu Peninsu**	**2.02**	**15**	P	Pn	15 46 21.4	-0.4
MRZ	**Mangatainoka R**	**2.03**	**144**	P	Pb	15 46 23.5	-1.2
OMRZ	**Omania**	**2.07**	**64**	P	Pb	15 46 25.7	+0.4
DVHZ	**Dannevirke**	**2.10**	**128**	P	Pb	15 46 25.3	-0.5
MKAZ	**Moumakai**	**2.12**	**26**	P	Pn	15 46 22.9	-0.4
QRZ	**Quartz Range**	**2.13**	**212**	P	Pn	15 46 21.8	-1.6
MCHZ	**McNeill Hill**	**2.13**	**102**	P	Pb	15 46 28.2	-0.6
WTAZ	**Waiatarua**	**2.14**	**12**	P	Pn	15 46 23.2	-0.3
WPHZ	**Waipukurau**	**2.15**	**120**	P	Pb	15 46 26.4	-0.3
PRWZ	**Pori Road**	**2.15**	**136**	P	Pb	15 46 26.2	-0.6
TKNZ	**Takaka Hill**	**2.16**	**202**	P	Pn	15 46 23.1	-0.7
NMHZ	**Naumai**	**2.18**	**93**	P	Pg	15 46 28.8	-0.6
ETAZ	**East Tamaki Re**	**2.19**	**20**	P	Pn	15 46 23.9	-0.4
TCW	**Tory Channel**	**2.19**	**175**	P	Pn	15 46 24.4	+0.1
TGRZ	**Tauranga**	**2.19**	**55**	P	Pn	15 46 23.6	-0.6
HOWZ	**Holdsworth Sta**	**2.20**	**149**	P	Pb	15 46 26.3	-1.3
MTHZ	**Maungataniwha**	**2.21**	**86**	P	Pn	15 46 25.6	+1.0
MUGZ	**Murupara**	**2.23**	**77**	P	Pb	15 46 28.3	+0.2
CAW	**Cannon Point**	**2.23**	**159**	P	Pb	15 46 26.5	-1.6
NNZ	**Nelson**	**2.24**	**192**	P	Pn	15 46 24.3	-0.6
HBAZ	**Herne Bay Bore**	**2.25**	**15**	P	Pb	15 46 28.1	-0.3
TIWZ	**Tintock**	**2.27**	**141**	P	Pb	15 46 28.1	-0.7
RVAZ	**Riverhead Bore**	**2.30**	**12**	P	Pn	15 46 25.2	-0.4
OPRZ	**Ohinepanea**	**2.32**	**60**	P	Pn	15 46 25.8	-0.2
WEL	**Wellington**	**2.33**	**166**	P	Pb	15 46 29.2	-0.6
ARHZ	**Aropaoanui**	**2.33**	**97**	P	Pb	15 46 28.7	-1.2
KAHZ	**Kahuranaki**	**2.35**	**110**	P	Pb	15 46 30.2	0.0
MBAZ	**Motutapu North**	**2.36**	**18**	P	Pn	15 46 26.1	-0.4
PRHZ	**Porangahau**	**2.38**	**122**	P	Pb	15 46 30.1	-0.4
ANWZ	**Angora Road**	**2.38**	**128**	P	Pb	15 46 31.6	+0.9
BFZ	**Birch Farm**	**2.39**	**135**	P	Pb	15 46 29.6	-1.2
WIAZ	**Waiheke Island**	**2.40**	**22**	P	Pn	15 46 27.0	-0.1
RAHZ	**Arahi**	**2.40**	**88**	P	Pb	15 46 30.7	-0.3
TUWZ	**Tuamarina**	**2.40**	**181**	P	Pn	15 46 27.1	0.0
MTW	**Mount Morrison**	**2.42**	**152**	P	Pb	15 46 29.9	-1.5
PXZ	**Pawanui**	**2.42**	**115**	P	Pb	15 46 32.6	+1.2
CKHZ	**Cape Kidnapper**	**2.46**	**106**	P	Pb	15 46 30.9	-1.1
BHW	**Baring Head**	**2.47**	**165**	P	Pb	15 46 30.4	-1.8
ABAZ	**Army Bay**	**2.51**	**15**	P	Pn	15 46 27.8	-0.8
CPWZ	**Castlepoint**	**2.53**	**139**	P	Pb	15 46 33.9	+0.8
TMWZ	**Te Maipa**	**2.53**	**146**	P	Pb	15 46 32.4	-0.8
URZ	**Urewera**	**2.54**	**73**	P	Pb	15 46 32.7	-0.8
MRNZ	**Marwick Terra**	**2.56**	**202**	P	Pn	15 46 28.8	-0.5
MSWZ	**Moikau Station**	**2.57**	**159**	P	Pn	15 46 31.6	+2.1
PAWZ	**Paruwai Farm**	**2.59**	**156**	P	Pb	15 46 35.3	+1.0
SNGZ	**Shannon Statio**	**2.61**	**86**	P	Pb	15 46 33.3	-1.3
KUZ	**Kuaotunu**	**2.65**	**31**	P	Pn	15 46 29.5	-0.9
BSWZ	**Blackbirch Sta**	**2.69**	**182**	P	Pb	15 46 35.1	-0.8
TRWZ	**Traveller**	**2.70**	**152**	P	Pb	15 46 35.5	-0.5
PLWZ	**Palliser**	**2.71**	**160**	P	Pb	15 46 35.1	-1.2
MWZ	**Matawai**	**2.84**	**77**	P	Pb	15 46 36.4	-2.1
THZ	**Tophouse**	**2.86**	**197**	P	Pn	15 46 33.4	-0.1
RIGZ	**Rimuhau**	**2.95**	**85**	P	Pb	15 46 39.9	-0.5
GRZ	**Great Barrier**	**3.00**	**23**	P	Pn	15 46 34.5	-0.8
PRGZ	**Paritu Road**	**3.02**	**89**	P	Pn	15 46 37.5	+1.8
RUGZ	**Raukumara Rang**	**3.07**	**71**	P	Pb	15 46 40.9	-1.6
WCZ	**Waipu Caves**	**3.09**	**5**	P	Pn	15 46 36.0	-0.6
DSZ	**Dennistoon Nort**	**3.20**	**211**	P	Pn	15 46 37.0	-1.1
HAZ	**Te Kaha**	**3.22**	**68**	P	Pb	15 46 42.8	-2.3
PKGZ	**Pakihiroa**	**3.40**	**71**	P	Pb	15 46 45.5	-2.5
KHZ	**Kahutara**	**3.41**	**186**	P	Pn	15 46 41.9	+1.0
WMGZ	**Waiomatatini S**	**3.66**	**72**	P	Pn	15 46 48.3	+3.8
OUZ	**Omahuta**	**3.81**	**355**	P	Pn	15 46 46.7	+0.2
LTZ	**Lake Taylor**	**3.98**	**199**	P	Pn	15 46 48.8	0.0
INZ	**Inchbonnie**	**4.18**	**207**	P	Pn	15 46 50.9	-0.6
OXZ	**Oxford**	**4.55**	**198**	P	Pn	15 46 56.7	+0.1
WVZ	**Waitaha Valley**	**4.74**	**210**	P	Pn	15 47 01.0	+1.7
TMZ	**Timaru**	**5.81**	**202**	P	Pn	15 47 12.5	-1.4
JCZ	**Jackson Bay**	**6.39**	**216**	P	Pn	15 47 22.6	+0.7

*IDC **20** 15:47:53.3±1.6, 0.56N×126.18E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=170.2km s-min=21.1km az=66.0*
*DJA **20** 15:47:56.7±0.3, 1.N±3.×12.6E±., h10km, M3.4/11, mb3.2/1, MLv3.5/11*

ISC 20 15:47:58.9±1.1, 0.6N±0.1×126.20E±0.06, h44km, n8, σ0.62/9, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**80**	P	**Pn**	**15 48 18.5**	**-0.5**
KMSI	**Cibinong**	**2.22**	**270**	P	**Pn**	**15 48 32.6**	**-0.6**
KMSI				S	**Sn**	**15 48 59.4**	**-0.1**
SANI	**Sanana**	**2.61**	**185**	P	**Pn**	**15 48 38.6**	**-0.1**
LUWI	**Luwuk**	**3.78**	**245**	P	**Pn**	**15 48 54.4**	**-0.4**
WRA	**Warramunga Arr**	**21.89**	**159**	P	**P**	**15 52 47.7**	**-0.7**
	1.6nm,0.5s,baz=338,slow=11,SNR=18						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**25.23**	**163**	P	**P**	**15 53 21.2**	**+0.3**
	0.5nm,0.4s,baz=343,slow=8.0,SNR=37						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.86**	**327**	P	**P**	**15 58 00.8**	**+0.7**
	0.4nm,0.4s,baz=120,slow=8.0,SNR=7.5						
MKAR				LR	LR	16 27 22.7	
	comp=Z,15nm,18.1s,baz=110,slow=40						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	**P**	**15 58 29.2**	**+0.6**
	0.4nm,0.6s,baz=130,slow=6.2,SNR=5.2						
	0.4nm,0.6s						

IDC 20 16:03:09.3±1.5, 18.61S×172.44W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=56.0km s-min=36.1km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**42.18**	**330**	T	T	16 56 40.0	
	baz=147,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**42.19**	**330**	T	T	16 56 41.0	
	baz=147,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**42.20**	**330**	T	T	16 56 42.0	
	baz=147,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**43.15**	**331**	T	T	16 57 25.6	
	baz=150,slow=77,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**43.15**	**331**	T	T	16 57 19.4	
	baz=150,slow=77,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**43.16**	**331**	T	T	16 57 27.6	
	baz=150,slow=77,SNR=3.6						
ASAR	**Alice Springs**	**50.07**	**254**	P	P	16 12 06.0	-0.3
	0.9nm,0.8s,baz=89,slow=8.1,SNR=10.0						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**50.08**	**259**	P	P	16 12 06.6	+0.2
	0.2nm,0.5s,baz=96,slow=8.7,SNR=4.6						
	0.2nm,0.5s						
VNDA	**Vanda**	**60.30**	**186**	P	P	16 13 19.2	-0.1
	0.3nm,0.6s,baz=36,slow=9.2,SNR=1.6						
	0.3nm,0.6s						
H03S2	**Juan Fernandez**	**82.68**	**123**	T	T	17 46 33.4	
	baz=250,slow=74,SNR=29						
H03S1	**Juan Fernandez**	**82.69**	**123**	T	T	17 46 35.1	
	baz=250,slow=74,SNR=29						
H03S3	**Juan Fernandez**	**82.69**	**123**	T	T	17 46 28.3	
	baz=250,slow=74,SNR=36						
H03N2	**Juan Fernandez**	**82.79**	**123**	T	T	17 46 30.9	
	baz=258,slow=74						
H03N3	**Juan Fernandez**	**82.79**	**123**	T	T	17 46 34.2	
	baz=258,slow=74						
H03N1	**Juan Fernandez**	**82.81**	**123**	T	T	17 46 32.6	
	baz=258						
PDAR	**Pinedale Array**	**84.04**	**41**	P	P	16 15 42.1	0.0
	0.4nm,0.7s,baz=234,slow=9.5,SNR=3.9						
	0.4nm,0.7s						

GCG 20 16:23:04.3±0.3, 14.39N×90.36W, h6km±14km, MD3.5, ML2.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.18**	**232**	*e*P	Pg	16 23 14.8	+6.7
ESSG	**Sabana Grande**	**0.46**	**270**	*e*P	Pg	16 23 13.8	+0.7
ESSG				IAML		16 23 21.9	
	comp=N,321nm,0.1s						
APG	**El Apazote**	**0.62**	**351**	*e*P	Pb	16 23 17.4	-0.4

*AFAD **20** 16:48:38.5, 41.03N×35.09E, h5km±3km, ML2.1*
*ISK **20** 16:48:38.5, 41.05N×35.14E, h11km, ML2.5/9*

ISC 20 16:48:38.8±1.0, 41.04N±0.02×35.12E±0.02, h10km±9km, n32, σ0.52/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYAZ	**Ayas K¶y, M**	**0.41**	**209**	P	**Pg**	**16 48 47.2**	**+0.3**
AYAZ				S	**Sg**	**16 48 52.3**	**+0.1**
AYAZ				*i* IAML		16 48 53.0	
	comp=E,146nm,0.4s						
KAGI	**orum-Kargı**	**0.49**	**282**	P	**Pg**	**16 48 48.5**	**+0.2**
KAGI				S	**Sg**	**16 48 55.3**	**+0.5**
YARM	**Yarimca-Ladik(**	**0.55**	**102**	Pg	**Pg**	**16 48 49.1**	**-0.4**
YARM				Sg	**Sg**	**16 48 57.2**	**+0.5**
BOYA	**Sinop/Boyabat-**	**0.59**	**326**	P	**Pg**	**16 48 49.6**	**-0.7**
KIZO	**Buyukkizoglu-L**	**0.64**	**102**	Pg	**Pg**	**16 48 50.9**	**-0.2**
KIZO				Sg	**Sg**	**16 48 59.9**	**+0.5**
COAL	**Corum-Alaca**	**0.79**	**187**	P	**Pg**	**16 48 53.9**	**-0.1**
SAMS	**Samsun-Alacam**	**0.87**	**68**	P	**Pg**	**16 48 55.5**	**-0.1**
SINP	**Sinop**	**0.94**	**359**	Pg	**Pb**	**16 48 56.9**	**-0.3**
SNOP	**Sinop**	**0.98**	**4**	Pg	**Pb**	**16 48 57.6**	**-0.3**
SNOP				Sg	**Sb**	**16 49 11.5**	**+0.6**
CKRK	**Yozgat, Cekere**	**1.01**	**163**	P	**Pg**	**16 48 57.8**	**-0.4**
CKRK				S	**Sn**	**16 49 14.7**	**+1.2**
CKRK				*i* IAML		16 49 18.0	
	comp=N,56nm,0.7s						
YENC	**ankr-Yen**	**1.03**	**250**	P	**Pn**	**16 48 59.2**	**-0.2**
YENC				S	**Sn**	**16 49 13.4**	**-0.6**
ILGA	**Ilgaz**	**1.06**	**271**	P	**Pg**	**16 48 59.0**	**-0.1**
SUNG	**orum-Sungurl**	**1.08**	**218**	P	**Pn**	**16 48 59.8**	**-0.3**
SUNG				S	**Sb**	**16 49 13.6**	**-0.1**
SEYI	**Kastamonu-Seyd**	**1.19**	**300**	P	**Pn**	**16 49 01.7**	**0.0**
BZK	**Bozkurt**	**1.24**	**318**	Pn	**Pg**	**16 49 02.5**	**-0.1**
BZK				Sn	**Sn**	**16 49 19.9**	**+0.8**
YOZG	**Bozok Univ. Me**	**1.28**	**191**	P	**Pb**	**16 49 03.0**	**-0.1**
YOZG				S	**Sb**	**16 49 18.9**	**-0.8**
ERBA	**Erbaa**	**1.29**	**106**	P	**Pn**	**16 49 01.9**	**-1.1**
TOKT	**Tokat**	**1.30**	**123**	Pn	**Pn**	**16 49 03.0**	**-0.1**
DELI	**KIRIKKALE**	**1.38**	**222**	P	**Pn**	**16 49 04.4**	**+0.1**
PELI	**Kastamonı-Ara**	**1.39**	**281**	P	**Pg**	**16 49 05.0**	**-0.4**
YOZ	**Yozgat**	**1.41**	**174**	Pn	**Pn**	**16 49 04.6**	**-0.1**

MKAR	Makanchi Array	29.37	50	P		P	16 58 47.5	+0.7
	comp=Z,0.4nm,0.7s,baz=246,slow=10,SNR=1.9							
	comp=Z,0.4nm,0.7s							
FINES	FINESS Array B	33.43	340	P		P	16 59 21.8	-0.4
	comp=Z,1.0nm,0.4s,baz=142,slow=10,SNR=12							
	comp=Z,1.0nm,0.4s							
SENIN	Lac Senin/Sane	35.39	307	P		P	16 59 38.1	-1.6
HFS	Hagfors	36.96	331	P		P	16 59 52.2	-0.5
	comp=Z,1.1nm,0.5s,baz=115,slow=8.7,SNR=12							
	comp=Z,1.1nm,0.5s							
NC405	NORSAR Array S	38.32	331	P		P	17 00 03.4	-0.8
NOA	NORSAR Array B	38.48	331	P		P	17 00 04.7	-0.9
	comp=Z,0.3nm,0.6s,baz=118,slow=9.3,SNR=1.3							
	comp=Z,0.3nm,0.6s							

IDC ***20*** *16:59:12.5±4.6, 35°.95N×22°.20E, h0km, mb3.7/5, mbtmp3.6/8, ML2.5/3, MS2.6/1, Error ellipse: s-maj=87.5km s-min=23.7km az=37.0*
ATH ***20*** *16:59:14.6, 35°.92N×22°.47E, h13km±1km, ML3.2/13, Manual Solution by A.Papageorgiou First location: 2019/10/20 17:00:27, This location: 2021/08/22 05:09:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***20*** *16:59:16.5, 36°.N±3°.×2°.3E±°, h0km±2km, M3.1/16, MLh3.1/16*
ISC 20 16:59:15.2±1.3, 35°.90N±0°.04×22°.52E±0°.04, h15km±8km, n49, σ1°39/65, mb3.7/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHA	Kythira Island	0.57	51	P	Pg	16 59 26.3	-0.1
KTHA	Kythira Island	0.57	51	P	Pg	16 59 26.2	-0.2
KTHA				S	Sg	16 59 34.0	0.0
ANKY	Antikythira Is	0.64	93	P	Pb	16 59 27.9	-0.3
ANKY				S	Sg	16 59 36.8	+0.7
ANKY	Antikythira Is	0.64	93	P	Pb	16 59 27.8	-0.3
ANKY				S	Sg	16 59 36.5	+0.4
VLI	Veliai	0.88	22	P	Pg	16 59 31.8	-0.6
VLI				S	Sg	16 59 43.2	-0.8
VLI	Veliai	0.88	22	P	Pg	16 59 31.8	-0.6
VLI				S	Sg	16 59 43.6	-0.4
MNVA	Monemvasia	0.89	28	P	Pg	16 59 31.9	-0.6
MNVA				S	Sb	16 59 44.5	+0.4
MTHA	Methoni	1.13	325	P	Pb	16 59 35.6	-0.8
PYL	PYLOS	1.17	328	P	Pg	16 59 37.1	-0.8
PYL				S	Sn	16 59 55.2	+2.2
PYL	PYLOS	1.17	328	P	Pb	16 59 35.9	-1.4
PYL				S	Sb	16 59 51.2	-1.1
PYL1	Pylos	1.21	327	P	Pb	16 59 36.7	-1.2
PYL1				S	Sb	16 59 52.6	-0.8
AAMF	Ano Amfeia	1.26	343	P	Pn	16 59 37.3	-1.0
CH01	Chania	1.28	107	P	Pn	16 59 38.4	-0.2
CH01				S	Sn	16 59 56.3	+0.8
CHAN	Chania	1.30	107	P	Pg	16 59 39.9	-0.3
CHAN				S	Sb	16 59 56.0	+0.2
CHNB	Souda	1.33	108	P	Pn	16 59 39.6	+0.3
ITM	Ithomi	1.36	340	P	Pg	16 59 41.0	-0.5
ITM				S	Sg	17 00 03.3	+4.0
ITM	Ithomi	1.36	340	P	Pn	16 59 39.1	-0.7
ITM				S	Sb	16 59 55.6	-2.2
VLX	Vlachokerasia	1.47	356	P	Pb	16 59 42.3	-0.1
VLX				S	Sg	17 00 08.5	+5.8
VLX	Vlachokerasia	1.47	356	P	Pn	16 59 40.5	-0.9
GVD	Gavdhos	1.66	129	P	Pg	16 59 46.6	-0.6
GVD	Gavdhos	1.66	129	P	Pn	16 59 44.2	+0.3
PRNS	Prines Rethymn	1.70	108	P	Pb	16 59 46.4	+0.2
PRNS	Prines Rethymn	1.70	108	P	Pn	16 59 44.1	-0.3
MHLO	Agia Marina, M	1.71	62	P	Pb	16 59 46.3	-0.2
MHLO	Agia Marina, M	1.71	62	P	Pb	16 59 45.9	-0.5
MHLO				S	Sn	17 00 05.4	-0.8
AMT	Artemida-Makis	1.75	338	P	Pn	16 59 45.1	-0.1
MET1	Methana Town,	1.81	22	P	Pn	16 59 45.8	-0.2
MET6	Megalochori,Me	1.82	21	P	Pn	16 59 45.8	-0.2
IDI	Anoyia	2.03	107	P	Pg	16 59 53.1	-1.0
IDI				S	Sg	17 00 20.3	-0.2
IDI	Anoyia	2.03	107	Pn	Pg	16 59 53.3	-0.9
	7.1nm,0.3s,baz=289,slow=16,SNR=36						
IDI				Sn	Sg	17 00 19.5	-0.9
	16nm,0.3s,baz=40,slow=19,SNR=10						
	32nm,0.4s						
GUR	Goura	2.04	356	P	Pg	16 59 52.9	-1.4
LOUT	Loutraki	2.12	10	P	Pn	16 59 49.4	-0.8
DRO	Drossia	2.15	343	P	Pg	16 59 56.2	-0.3
LTK	Loutraki	2.15	9	P	Pg	16 59 54.8	-1.6
LTK	Loutraki	2.15	9	P	Pn	16 59 50.6	0.0
KLV	Kalavryta, Ach	2.16	352	P	Pb	16 59 54.7	+0.6
KLV	Kalavryta, Ach	2.16	352	P	Pn	16 59 50.9	+0.1
VLY	Voula,Athens	2.20	27	P	Pb	16 59 53.1	-1.7
THR5	Thira Island,	2.35	76	P	Pb	16 59 57.1	-0.2
VILL	Villia	2.35	15	P	Pb	16 59 55.4	-1.9
PTL	Penteli	2.40	26	P	Pn	16 59 55.8	+1.7
BRTR	Keskin Array B	9.59	63	Pn	Pn	17 01 37.6	+4.7
	0.1nm,0.3s,baz=248,slow=10,SNR=3.8						
	0.3nm,0.6s						
MMAI	Mount Meron Ar	11.02	101	Pn	Pn	17 01 52.9	+0.5
	0.3nm,0.3s,baz=289,slow=13,SNR=1.4						
	1.1nm,0.7s						
GERES	GERESS Array B	14.47	336	LR	LR	17 10 12.5	
	comp=Z,22nm,18.7s,baz=146,slow=46						
HFS	Hagfors	24.91	349	P	P	17 04 36.4	-1.1
	1.4nm,0.9s,baz=170,slow=8.8,SNR=1.3						
	1.4nm,0.9s						
FINES	FINESS Array B	25.66	4	P	P	17 04 43.2	-1.1
	4.2nm,1.1s,baz=186,slow=12,SNR=2.3						
	4.2nm,1.1s						
KURBB	Kurchatov Arra	42.34	52	P	P	17 07 09.6	+1.1
	0.4nm,0.5s,baz=279,slow=8.6,SNR=4.8						
	0.4nm,0.5s						
MKAR	Makanchi Array	45.17	57	P	P	17 07 31.7	+0.3
	0.4nm,0.4s,baz=266,slow=7.5,SNR=8.4						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	46.05	47	P	P	17 07 38.5	+0.3
	0.3nm,0.3s,baz=262,slow=8.5,SNR=2.4						
	0.3nm,0.3s						

IDC ***20*** *17:26:21.0±1.3, 17°.60N×147°.80E, h0km, mb3.7/13, mbtmp3.7/14, ML4.3/1, Error ellipse: s-maj=41.4km s-min=16.1km az=91.0*
ISC 20 17:26:25.0±1.3, 17°.6N±0°.1×147°.7E±0°.2, h26km, n20, σ0°71/15, mb3.7/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.80	215	Pn	Pn	17 27 36.0	+0.4
	13nm,0.3s,baz=31,slow=14,SNR=13						
GUMO				Sn	Sn	17 28 29.5	-1.0
	12nm,0.3s,baz=39,slow=24,SNR=8.5						
	25nm,0.3s						
H11S3	WAKE ISLAND Hy	18.07	84	T	T	17 49 18.7	
	baz=269						
H11S1	WAKE ISLAND Hy	18.08	84	T	T	17 49 42.0	
	baz=269						
H11S2	WAKE ISLAND Hy	18.09	84	T	T	17 49 24.2	
	baz=269						
H11N1	WAKE ISLAND Hy	18.30	80	T	T	17 49 54.0	
	baz=269						
H11N2	WAKE ISLAND Hy	18.31	80	T	T	17 49 56.1	
	baz=269						
H11N3	WAKE ISLAND Hy	18.32	80	T	T	17 49 54.6	
	baz=269						
MJAR	Matsushiro Arr	20.70	338	P	P	17 31 04.2	+0.9
	0.9nm,0.7s,baz=170,slow=9.6,SNR=6.4						
	0.9nm,0.7s						
KSRS	Korea Array	26.38	323	P	P	17 31 59.7	+0.4
	1.1nm,0.6s,baz=149,slow=9.3,SNR=8.5						
	1.1nm,0.6s						
HILR	Hailar Array B	39.09	331	P	P	17 33 49.7	-0.3
	1.6nm,0.5s,baz=115,slow=9.7,SNR=2.3						
	1.6nm,0.5s						
WRA	Warramunga Arr	39.51	200	P	P	17 33 54.6	+0.9
	1.4nm,0.7s,baz=21,slow=9.2,SNR=12						
	1.4nm,0.7s						
FITZ	Fitzroy Crossi	41.55	213	P	P	17 34 10.6	-0.1
	0.9nm,0.8s,baz=90,slow=4.0,SNR=1.4						
	0.9nm,0.8s						
ASAR	Alice Springs	43.13	199	P	P	17 34 24.1	+0.6
	0.3nm,0.8s,baz=19,slow=11,SNR=6.6						
	0.3nm,0.8s						
SONM	Songino Array	45.23	321	P	P	17 34 40.7	+0.4
	0.5nm,0.6s,baz=131,slow=6.3,SNR=3.8						
	0.5nm,0.6s						
CMAR	Chiang Mai Arr	46.28	279	P	P	17 34 48.2	-0.6
	0.3nm,0.7s,baz=63,slow=7.3,SNR=4.7						
	0.3nm,0.7s						
ZALV	Zalesovo Beam	60.09	323	P	P	17 36 30.1	+0.2
	0.5nm,0.6s,baz=99,slow=8.5,SNR=4.2						
	0.5nm,0.6s						
MKAR	Makanchi Array	60.63	314	P	P	17 36 33.4	-0.4
	0.5nm,0.8s,baz=77,slow=8.5,SNR=2.0						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	63.45	318	P	P	17 36 52.0	-0.5
	0.8nm,0.8s,baz=103,slow=6.9,SNR=7.4						
	0.8nm,0.8s						
ILAR	Eielson Array	63.83	26	P	P	17 36 53.7	-1.2
	0.1nm,0.5s,baz=272,slow=6.2,SNR=1.6						
	0.1nm,0.5s						
FINES	FINESS Array B	88.72	336	P	P	17 39 16.7	+0.6
	1.4nm,0.9s,baz=85,slow=2.9,SNR=3.7						
	1.4nm,0.9s						

SJA ***20*** *17:32:29.0±1.9, 39°.56S×72°.51W, h91km±8km, ML3.5, MW3.6*
GUC ***20*** *17:32:31.7±0.8, 39°.57S×72°.46W, h86km±3km, ML4.1*
ISC 20 17:32:29.6±1.4, 39°.59S±0°.03×72°.47W±0°.04, h98km±8km, n27, σ0°97/42, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR03	Panguipulli	0.11	115	eP	Pn	17 32 43.5	+0.1
LR03				i S	Sn	17 32 52.8	-0.8
LR03				IAML		17 32 53.5	
	comp=E,19μm,0.2s						
LR03	Panguipulli	0.11	115	i P	Pn	17 32 42.9	-0.4
LR03				eS	Sn	17 32 51.9	-1.8
LR03				IAML		17 32 54.5	
	comp=Z,9μm,0.3s						
LR02	Universidad Au	0.64	250	eP	Pn	17 32 46.7	+0.4
LR02				i S	Sn	17 32 58.9	+0.1
LR05	Currie	0.74	151	eP	Pn	17 32 48.0	+0.8
LR05				i S	Sn	17 33 00.9	+0.5
LR05				IAML		17 33 01.7	
	comp=E,7μm,0.3s						
LR05	Currie	0.74	151	i P	Pn	17 32 47.8	+0.6
LR05				eS	Sn	17 33 00.7	+0.3
LR05				IAML		17 33 03.6	
	comp=Z,2μm,0.5s						
GO06	Curarrehue	0.77	90	eP	Pn	17 32 48.1	+0.4
GO06				i S	Sn	17 33 01.1	-0.2
GO06	Curarrehue	0.77	90	i P	Pn	17 32 47.5	-0.1
GO06				eS	Sn	17 33 01.0	-0.2
GO06				IAML		17 33 05.5	
	comp=Z,378nm,0.6s						
LR04	Corral	0.79	248	eP	Pn	17 32 48.5	+0.8
LR04				i S	Sn	17 33 01.6	+0.3
LR04				IAML		17 33 02.4	
	comp=E,15μm,0.3s						
LR04	Corral	0.79	248	i P	Pn	17 32 47.9	+0.2
LR04				eS	Sn	17 33 00.3	-1.0
LR04				IAML		17 33 02.0	
	comp=Z,6μm,0.2s						
LC01	Cunco	0.83	34	eP	Pn	17 32 48.5	+0.3
LC01				i S	Sn	17 33 01.7	-0.3
LC01				IAML		17 33 02.2	
	comp=E,6μm,0.1s						
LC02	Puerto Saavedr	1.06	318	eP	Pn	17 32 52.0	+1.4
LC02				i S	Sn	17 33 06.5	+0.1
LC02				IAML		17 33 11.3	
	comp=E,6μm,0.2s						
LL03	Petrohue	1.55	178	eP	Pn	17 32 57.9	+1.5
LL03				i S	Sn	17 33 18.1	+1.3
LL03				IAML		17 33 20.3	
	comp=N,2μm,0.7s						
LL03	Petrohue	1.55	178	i P	Pn	17 32 57.4	+1.0
LL03				eS	Sn	17 33 17.4	+0.7
LL03				IAML		17 33 19.2	
	comp=Z,871nm,0.5s						
BI04	Isla Mocha	1.61	316	eP	Pn	17 32 58.1	+1.0
BI04				i S	Sn	17 33 17.2	-0.7
BI04				IAML		17 33 18.9	
	comp=E,4μm,0.2s						
PLCA	Paso Flores	1.86	128	i P	Pn	17 33 00.9	+0.5
PLCA				IAML		17 33 37.1	
	comp=Z,46nm,0.5s						
LL05	Los Muermos	1.97	203	eP	Pn	17 33 02.1	+0.3
LL05				i S	Sn	17 33 26.1	-0.1
LL05				IAML		17 33 27.4	
	comp=N,1μm,0.1s						
CANA	Caviahue	2.02	33	i P	Pn	17 33 04.6	+2.0
CANA				IAML		17 33 38.0	
	comp=Z,45nm,0.4s						
BI05	Punta Hualpn	2.89	348	eP	Pn	17 33 12.9	-0.9
BI05				IAML		17 33 47.3	
	comp=N,916nm,0.3s						
BI05	Punta Hualpn	2.89	348	i P	Pn	17 33 14.1	+0.3
BI05				IAML		17 33 51.1	
	comp=Z,184nm,0.1s						
BI02	San Fabin de	3.07	18	i P	Pn	17 33 17.4	+1.1
BI02				IAML		17 33 57.6	
	comp=Z,40nm,0.3s						
LL02	Futaleuf	3.63	173	i P	Pn	17 33 20.8	-3.0
LL02				IAML		17 34 12.9	
	comp=Z,22nm,3.2s						
GO07	Milladeo Hill,	3.64	194	i P	Pn	17 33 23.8	0.0
GO07				IAML		17 34 08.6	
	comp=Z,471nm,0.4s						
ML02	Panimavida	3.91	13	eP	Pn	17 33 28.6	+1.0
GO05	Hualane	4.59	6	eP	Pn	17 33 36.3	-0.5
GO05	Hualane	4.59	6	i P	Pn	17 33 36.0	-0.8
GO05				IAML		17 34 32.9	
	comp=Z,41nm,0.3s						
BO02	Sierra Bellavi	4.97	16	i P	Pn	17 33 42.4	+0.4
BO02				IAML		17 34 42.8	
	comp=Z,61nm,0.1s						
BO01	Tunca	5.30	13	i P	Pn	17 33 45.3	-1.1
BO01				IAML		17 34 47.2	
	comp=Z,45nm,0.3s						

IDC ***20*** *17:40:15.7±2.7, 11°.35N×86°.44W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=190.1km s-min=55.6km az=53.0*
CATAC ***20*** *17:40:26.0±0.5, 12°.N±2°.×8°.7W±°, h27km±3km, M3.9/30, MLv3.9/30, Error ellipse: s-maj=5.1km s-min=2.4km az=33.8, confirmed*
SNET ***20*** *17:40:27.3±1.0, 11°.61N×86°.30W, h35km±772km, ML3.3*
UCR ***20*** *17:40:39.0±0.5, 11°.60N×86°.14W, h30km, MW4.0*
ISC 20 17:40:27.0±1.1, 11°.65N±0°.05×87°.12W±0°.04, h52km±13km, n65, σ0°86/76, 5C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.74	45	P	Pn	17 40 40.4	-1.0
ALEN	Leon	0.84	17	P	Pn	17 40 41.3	-1.4
ABCN	Banco Central	0.92	59	P	Pn	17 40 43.3	-0.5
CNGA	AI SSO del Vol	0.94	26	P	Pn	17 40 43.2	-0.8
CNGN	Cerro Negro	0.94	26	P	Pn	17 40 43.1	-1.0
CNGN	Cerro Negro	0.94	26	eP	Sb	17 40 57.6	+1.0
UNAN	Cigeo UNAN	0.95	61	P	Pn	17 40 43.6	-0.6
UNAN				S	Sn	17 40 56.8	0.0
APYN	Apoyeque	0.95	52	⇑P	Pn	17 40 43.9	-0.3
APYN				S	Sn	17 40 56.9	+0.1
ALLN	Telcor Managua	0.97	59	P	Pn	17 40 44.0	-0.4
MGAN	Managua	0.99	60	S	Sn	17 40 57.8	+0.1
MGAN	Managua	0.99	60	P	Pn	17 40 44.0	-0.6
MAS3	AI N del Volca	1.00	68	⇑P	Pn	17 40 44.1	-0.7
MAS3				S	Sn	17 40 57.9	0.0
MOM2	El Cardon	1.00	38	⇓P	Pn	17 40 44.2	-0.6
MOM2				S	Sn	17 40 57.9	-0.1
MASN	Masaya	1.01	70	P	Pn	17 40 44.4	-0.5
MASN				S	Sn	17 40 58.9	+0.7
NANN	Nandasmo	1.02	74	P	Pn	17 40 45.4	+0.3
NANN	Nandasmo	1.02	74	S	Sn	17 40 58.5	+0.1
PKGN	Cerro Pekin	1.02	8	⇓P	Pn	17 40 44.4	-0.8
CRIN	San Cristobal	1.05	4	S	Sn	17 40 59.1	0.0
CRIN	San Cristobal	1.05	4	⇓P	Pn	17 40 44.8	-0.7
WILN	Americas 2	1.05	61	P	Pn	17 40 44.8	-0.6
WILN				S	Sn	17 40 60.0	+1.0
NADN	Granada	1.07	85	P	Pn	17 40 45.5	-0.3
NADN				S	Sn	17 41 00.3	+0.6
CSGN	Cosiguina Volc	1.39	342	⇓P	Pn	17 40 49.2	-0.9
CSGN				S	Sn	17 41 07.7	+0.4
MORN	AI O del Volca	1.45	94	⇓P	Pn	17 40 49.9	-1.0
MORN				S	Sn	17 41 09.0	+0.2
OMEN	AI SSO del Vol	1.47	95	⇓P	Pn	17 40 50.2	-0.9
OMEN				S	Sn	17 41 09.4	0.0
LIMN	Finca el Limon	1.59	28	⇑P	Pn	17 40 52.3	-0.6
LIMN				S	Sn	17 41 12.7	+0.4
CARN	Rivas	1.64	106	⇑P	Pn	17 40 52.8	-0.6
CARN				S	Sn	17 41 13.7	+0.4
MATN	Matagalpa	1.73	42	S	Sn	17 41 15.3	-0.5
MATN	Matagalpa	1.73	42	⇑P	Pn	17 40 53.4	-1.4
CNCH	Conchagua	1.76	337	eP	Pn	17 40 55.1	-0.2
CNCH				eS	Sn	17 41 17.4	+0.8
CNCH	Conchagua	1.76	337	P	Pn	17 40 54.9	-0.4
LCND	La Caada	1.81	336	eP	Pn	17 40 55.7	-0.1
LCND				eS	Sn	17 41 18.4	+0.7
LCND	La Caada	1.81	336	⇓P	Pn	17 40 55.7	-0.1
ELI1	Hacienda Flor	1.84	123	eP	Pn	17 40 58.7	+2.6
ALIBA	Liberia Airpor	1.87	124	eP	Pn	17 40 59.2	+2.6
GPS2	Hotel Rincn d	1.95	117	eP	Pn	17 40 58.8	+1.0
SACU	Santa Cruz	2.04	132	eP	Pn	17 41 02.5	+3.5
MESS	Mesas	2.10	115	eP	Pn	17 40 59.9	+0.1
RCPN	Sur Rio San Ju	2.12	28	⇓P	Pn	17 41 00.7	+0.6
COLC	Colonia	2.12	117	eP	Pn	17 41 00.4	+0.2
HORNC	Hornillas	2.12	116	eP	Pn	17 41 00.6	+0.4
VMAR	Armenia, Volca	2.14	113	eP	Pn	17 40 59.8	-0.5
JUD3	Juan Diaz 3	2.14	133	eP	Pn	17 40 59.3	-1.1
CUI	Cuipilapa	2.16	117	eP	Pn	17 40 59.7	-1.0
PLVR	Palo Verde	2.17	126	eP	Pn	17 41 03.5	+2.7
MOTZ	Rio Naranjo	2.23	115	eP	Pn	17 41 01.9	+0.3
TENO	El Achiote	2.31	114	eP	Pn	17 41 02.7	0.0
TIMP	Tierras Morena	2.32	117	eP	Pn	17 41 02.1	-0.8
TGUH	Tegucigalpa,Un	2.40	357	⇓P	Pn	17 41 04.4	+0.4
TGUH				S	Sn	17 41 32.9	+0.6
QUEB	Quebradon, Cot	2.41	115	eP	Pn	17 41 04.2	+0.1
JTS	Las Juntas de	2.52	122	S	Sn	17 41 35.5	+0.4
SCLA	Alcaldia de Sa	2.57	323	S	Sn	17 41 37.2	+0.8
ARE1	Arenal 1	2.64	116	eP	Pn	17 41 07.0	-0.2
VARE2	V. Arenal	2.64	116	eP	Pn	17 41 07.9	+0.6
CEDE	Laguna Cedeo	2.64	116	eP	Pn	17 41 07.3	0.0
LFRS	El Faro	2.73	316	eP	Pn	17 41 07.9	-0.5
LOMA	Loma Larga	2.82	315	IAML		17 41 49.8	
	comp=Z,111nm,0.2s						
LOMA	Loma Larga	2.82	315	S	Sn	17 41 43.1	+0.6
PMON	Piamonte	2.96	314	S	Sn	17 41 47.5	+1.3
JAYA	Jayaque - finc	3.02	312	eP	Pn	17 41 12.3	-0.3
JAYA				eS	Sn	17 41 45.6	-2.0
JAYA	Jayaque - finc	3.02	312	S	Sn	17 41 47.6	0.0
TXAR	Lajitas Array	23.39	321	P	P	17 45 32.8	+1.2
	comp=Z,1.4nm,0.7s,baz=140,slow=10.0,SNR=18						
	comp=Z,1.4nm,0.7s						
PDAR	Pinedale Array	36.62	332	P	P	17 47 29.2	+0.4
	comp=Z,0.3nm,0.7s,baz=146,slow=9.2,SNR=2.7						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	139.26	247	PKP	PKPdf	17 59 45.4	-3.8
	comp=Z,0.2nm,0.9s,baz=87,slow=3.5,SNR=1.5						
WRA	Warramunga Arr	139.35	253	PKP	PKPdf	17 59 48.0	-1.5
	comp=Z,0.6nm,0.7s,baz=101,slow=2.5,SNR=5.5						
CMAR	Chiang Mai Arr	149.49	349	PKPbc	PKPdf	18 00 08.5	+1.5
	comp=Z,0.4nm,0.6s,baz=338,slow=3.0,SNR=5.3						

NIED ***20*** *17:58:45.9, 38°.33N×141°.64E, h53km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.01; $M_{\theta\theta}$=0.18; $M_{\phi\phi}$=0.19; $M_{r\theta}$=0.88; $M_{\theta\phi}$=-0.23; $M_{\phi r}$=0.61; Fault plane solution: M_0=1.09000×10^{15} NP1: ϕ_s=292.00000°, δ7.00000°, λ148.00000°. NP2:ϕ_s=53.00000°, δ87.00000°, λ84.00000°.*
JMA ***20*** *17:58:45.9±0.1, 38°.3N±0°.3×141°.6E±0°.5, h53km, MD3.8/32, MV4.0/32, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
IDC ***20*** *17:58:46.3±1.8, 38°.34N×141°.76E, h65km±15km, mb3.5/16, mbtmp3.8/24, MS2.8/9, Error ellipse: s-maj=17.9km s-min=10.3km az=113.0*
ISC 20 17:58:44.7±0.8, 38°.29N±0°.04×141°.75E±0°.06, h51km±6km, n69, σ1°06/61, mb3.7/16, MS2.9/7, 21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.22	276	⇓i P	Pn	17 58 54.2	+0.9
JIKH				⇓S	Sn	17 59 00.0	+0.7
JIKH	Ishinomakikobu	0.22	276	A	A	17 58 54.2	
	comp=N,29nm,0.9s,comp=E,17nm,0.5s						
JIO	Ouri	0.36	298	⇓P	Pn	17 58 55.0	+0.6
JIO				⇓S	Sn	17 59 01.3	0.0
JKMT	Kesennumamotoy	0.57	338	⇓i P	Pn	17 58 57.3	+0.5
JKMT				⇓S	Sn	17 59 05.3	-0.2
JMK	Ichinoseki	0.78	328	⇓P	Pn	17 59 00.0	+0.4
JMK				⇓S	Sn	17 59 10.0	-0.4
JMK	Ichinoseki	0.78	328	A	A	17 59 00.0	
	comp=N,8.0nm,0.8s,comp=E,4.0nm,0.3s						
OFUJ	Ofunato	0.80	356	⇓P	Pn	17 59 00.3	+0.5
OFUJ				⇓eS	Sn	17 59 10.4	-0.3
OFUJ	Ofunato	0.80	356	A	A	17 59 00.3	
	comp=N,4.0nm,0.6s,comp=E,4.0nm,0.3s						
JOU	Okura	0.86	276	⇓P	Pn	17 59 00.6	+0.1
JOU				⇓eS	Sn	17 59 11.4	-0.8
JOU	Okura	0.86	276	A	A	17 59 00.6	
	comp=N,11nm,0.6s,comp=E,12nm,0.4s						
JMM	Marumori	0.86	241	P	Pn	17 59 00.8	+0.2
JMM	Marumori	0.86	241	S	Sn	17 59 11.6	-0.7
JMM	Marumori	0.86	241	⇓P	Pn	17 59 00.8	+0.2
JMM				⇓S	Sn	17 59 11.6	-0.7
JMM	Marumori	0.86	241	A	A	17 59 00.8	
	comp=N,8.0nm,1.2s,comp=E,6.0nm,0.5s						
JMST	Minamisoumatoc	0.88	231	A	A	17 59 01.8	
	comp=N,5.0nm,0.7s,comp=E,4.0nm,1.6s						
JFK	Kawauchi	1.15	217	P	Pn	17 59 05.1	+0.6
JFK				eS	Sn	17 59 19.3	+0.1
JOM	Ohasama	1.24	343	⇓P	Pn

SONM Songino Array 27.33 302 P **P** **18 04 24.3 -0.5**
comp=E,0.5nm,0.5s,baz=110,slow=11,SNR=2.0
SONM LR LR 18 15 42.4
comp=E,19nm,20.4s,baz=164,slow=37
comp=E,0.5nm,0.5s
H11N2 WAKE ISLAND Hy 28.58 123 T T 18 34 55.0
baz=316,slow=75,SNR=223
H11N1 WAKE ISLAND Hy 28.59 123 T T 18 34 51.7
baz=316,slow=75,SNR=290
H11N3 WAKE ISLAND Hy 28.60 123 T T 18 34 53.7
baz=316,slow=75,SNR=404
H11S1 WAKE ISLAND Hy 29.34 125 T T 18 35 54.1
baz=318,slow=76,SNR=217
H11S3 WAKE ISLAND Hy 29.34 125 T T 18 35 56.1
baz=318,slow=76,SNR=264
H11S2 WAKE ISLAND Hy 29.36 125 T T 18 35 56.7
baz=318,slow=76,SNR=172
TIXI Tiksi 34.08 353 LR LR 18 22 01.8
comp=E,23nm,18.5s,baz=22,slow=41
ZALV Zalesovo Beam 41.28 311 P **P** **18 06 24.6 -0.2**
comp=E,1.5nm,0.4s,baz=79,slow=7.7,SNR=8.4
ZALV LR LR 18 24 06.7
comp=E,14nm,19.2s,baz=104,slow=37
comp=E,1.5nm,0.4s
CMAR Chiang Mai Arr 42.08 254 P **P** **18 06 32.1 +0.3**
comp=E,0.2nm,0.4s,baz=104,slow=9.5,SNR=1.8
comp=E,0.2nm,0.4s
MKAR Makanchi Array 43.69 301 P **P** **18 06 44.6 +0.1**
comp=E,2.7nm,0.8s,baz=88,slow=9.3,SNR=14
comp=E,2.7nm,0.8s
KURBB Kurchatov Arra 45.45 307 P **P** **18 06 58.0 -0.4**
comp=E,6.5nm,0.7s,baz=82,slow=8.1,SNR=46
comp=E,6.5nm,0.7s
ILAR Eielson Array 48.30 33 P **P** **18 07 19.2 -1.3**
comp=E,0.2nm,0.6s,baz=216,slow=7.5,SNR=2.1
comp=E,0.2nm,0.6s
ARTI Arti 55.71 318 LR LR 18 33 46.9
comp=E,24nm,20.8s,baz=175,slow=38
WRA Warramunga Arr 58.34 188 P **P** **18 08 34.7 +0.1**
comp=E,1.8nm,0.6s,baz=6.5,slow=7.3,SNR=10
comp=E,1.8nm,0.6s
ASAR Alice Springs 62.06 188 P **P** **18 09 00.2 +0.2**
comp=E,1.2nm,0.7s,baz=9.9,slow=7.2,SNR=7.5
comp=E,1.2nm,0.7s
FINES FINESS Array B 67.83 332 P **P** **18 09 36.4 -0.7**
comp=E,3.6nm,1.1s,baz=343,slow=4.4,SNR=2.1
comp=E,3.6nm,1.1s
HFS Hagfors 73.06 336 P **P** **18 10 08.6 -0.5**
comp=E,1.4nm,0.8s,baz=96,slow=6.1,SNR=1.6
comp=E,1.4nm,0.8s
NOA NORSAR Array B 73.14 337 P **P** **18 10 08.7 -0.9**
comp=E,0.9nm,0.9s,baz=39,slow=5.8,SNR=3.4
NOA LR LR 18 45 50.6
comp=E,7.2nm,18.9s,baz=285,slow=39
comp=E,0.9nm,0.9s
AKASG Malin Array Be 73.47 322 P **P** **18 10 10.8 -0.8**
comp=E,0.4nm,0.4s,baz=44,slow=6.8,SNR=2.6
comp=E,0.4nm,0.4s
PDAR Pinedale Array 76.60 46 P **P** **18 10 31.2 +1.1**
comp=E,0.2nm,0.5s,baz=267,slow=2.5,SNR=3.5
comp=E,0.2nm,0.5s
BRTR Keskin Array B 78.22 312 P **P** **18 10 39.5 +0.4**
comp=E,0.3nm,0.6s,baz=19,slow=9.2,SNR=2.4
comp=E,0.3nm,0.6s
GERES GERESS Array B 81.79 328 P **P** **18 10 57.5 -0.7**
comp=E,0.1nm,0.3s,baz=64,slow=9.0,SNR=2.0
comp=E,0.1nm,0.3s
TXAR Lajitas Array 89.15 53 P **P** **18 11 36.3 +1.2**
comp=E,0.2nm,0.6s,baz=262,slow=3.7,SNR=2.7
comp=E,0.2nm,0.6s
H03N2 Juan Fernandez 146.87 94 T T 21 02 52.4
baz=291,slow=76,SNR=9.8
H03N3 Juan Fernandez 146.88 94 T T 21 02 53.5
baz=291,slow=76,SNR=10
H03N1 Juan Fernandez 146.89 94 T T 21 02 53.0
baz=291,slow=76,SNR=13

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*IDC **20** 17:58:48.1±0.9, 2°.69S×138°.28E, h0km, mb3.7/6, mbtmp3.8/10, ML4.0/4, MS2.9/5, Error ellipse: s-maj=21.9km s-min=15.7km az=95.0*
*DJA **20** 17:58:51.4±0.7, 2°.S±4°×13°.8E±°, h13km±6km, M4.0/7, mb4.0/2, MLv4.0/7*
ISC 20 17:58:52.2±0.7, 2°.64S±0°.08×138°.45E±0°.05, h32km, n21, σ1§60/21, mb3.6/6, MS2.8/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.70**	**22**	P	**Pn**	**17 59 02.8**	**-3.1**
GENI	**Genyem**	**1.72**	**88**	P	**Pn**	**17 59 20.9**	**+1.0**
JAY	**Jayapura**	**2.26**	**87**	Pn	**Pn**	**17 59 28.6**	**+1.2**
	12nm,0.3s,baz=270,slow=10,SNR=55						
JAY				Sn	**Sb**	**17 59 59.2**	**-0.8**
	8.8nm,0.3s,baz=319,slow=20,SNR=5.3						
JAY				LR	LR	18 00 52.4	
	comp=Z,442nm,19.6s,baz=246,slow=51						
	41nm,0.5s						
JAY	**Jayapura**	**2.26**	**87**	P	**Pn**	**17 59 28.4**	**+1.0**
JAY				S	**Sn**	**17 59 56.0**	**+1.8**
BAKI	**Biak**	**2.75**	**302**	P	**Pn**	**17 59 34.6**	**+0.5**
RKPI	**Ransiki, Papua**	**4.41**	**285**	P	**Pn**	**17 59 56.0**	**-1.0**
SWI	**Sorong**	**7.40**	**284**	P	**Pn**	**18 00 38.6**	**+0.6**
	0.1nm17nm,1.1s						
BATI	**Baumata**	**16.49**	**242**	Pn	**Pn**	**18 02 41.0**	**-0.5**
	5.0nm,0.3s,baz=0.0,slow=7.1,SNR=7.5						
	11nm,0.6s						
GUMO	**Guam**	**17.34**	**21**	LR	LR	18 09 01.2	
	comp=Z,31nm,18.3s,baz=158,slow=35						
WRA	**Warramunga Arr**	**17.66**	**193**	P	**Pn**	**18 02 54.8**	**-1.2**
	0.5nm,0.3s,baz=9.9,slow=12,SNR=14						
WRA				S	**Sn**	**18 06 08.3**	**-3.6**
	1.4nm,0.9s,baz=10,slow=22,SNR=3.9						
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.84**	**218**	P	**P**	**18 03 19.5**	**-1.1**
	0.1nm,0.3s,baz=37,slow=12,SNR=1.9						
FITZ				S	S	18 06 50.5	-12
	2.6nm,0.6s,baz=9.8,slow=19,SNR=5.9						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**21.36**	**192**	P	**P**	**18 03 36.3**	**-0.8**
	1.5nm,0.7s,baz=22,slow=10.0,SNR=35						
ASAR				S	**S**	**18 07 33.0**	**+0.2**
	0.8nm,0.9s,baz=18,slow=21,SNR=3.3						
	1.5nm,0.7s						
HNR	**Honiara**	**22.41**	**108**	LR	LR	18 13 27.7	
	comp=Z,36nm,18.2s,baz=96,slow=39						
STKA	**Stephens Creek**	**29.23**	**175**	P	**P**	**18 04 53.5**	**+2.2**
	0.5nm,0.4s,baz=349,slow=16,SNR=1.6						
	0.5nm,0.4s						
JOW	**Kunigami**	**30.90**	**342**	LR	LR	18 15 17.3	
	comp=Z,11nm,21.7s,baz=320,slow=32						
CMAR	**Chiang Mai Arr**	**44.17**	**300**	P	**P**	**18 06 58.8**	**+0.3**
	0.5nm,0.9s,baz=129,slow=6.7,SNR=4.9						
	0.5nm,0.9s						
ASAJ	**Asahikawa**	**46.69**	**4**	LR	LR	18 28 58.6	
	comp=Z,12nm,18.1s,baz=174,slow=39						
ZALV	**Zalesovo Beam**	**71.74**	**330**	P	**P**	**18 10 10.2**	**-1.0**
	0.2nm,0.3s,baz=103,slow=11,SNR=1.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**73.52**	**325**	P	**P**	**18 10 21.8**	**-0.1**
	0.7nm,0.2s,baz=116,slow=6.3,SNR=4.3						
	0.7nm,0.2s						
QSPA	**South Pole Qui**	**87.31**	**180**	P	**P**	**18 11 38.1**	**+2.4**
	0.3nm,0.5s,baz=349,slow=5.2,SNR=1.5						
	0.3nm,0.5s						
LPAZ	**La Paz**	**147.70**	**126**	PKPbc	**PKiKP**	**18 18 36.9**	**-0.6**
	0.5nm,0.6s,baz=271,slow=0.2,SNR=2.3						

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*NEIC **20** 18:11:51.0±1.5, 22°.33N±0°.10×142°.9E±0°.2, h174km±12km, mb4.3/7, Error ellipse: s-maj=25.8km s-min=14.0km az=80.0*
*IDC **20** 18:11:51.1±2.1, 22°.28N×143°.33E, h178km±17km, mb3.4/16, mbtmp3.9/18, MS2.5/1, Error ellipse: s-maj=21.1km s-min=13.9km az=83.0*
ISC 20 18:11:51.3±0.7, 22°.33N±0°.07×143°.1E±0°.1, h178km, n35, σ1§50/38, mb3.8/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.81**	**350**	Pn	**Pn**	**18 13 01.9**	**-0.8**
JCJ				Sn	**Sn**	**18 14 02.0**	**+3.1**
JCJ	**Chichijima**	**4.81**	**350**	P	**Pn**	**18 13 04.1**	**+1.4**
	56nm,0.4s,baz=228,slow=15,SNR=50						
JCJ				S	**Sn**	**18 14 00.7**	**+1.8**
	66nm,0.4s,baz=270,slow=20,SNR=14						
JHJ2	**Mitsune**	**11.12**	**346**	Pn	**Pn**	**18 14 22.2**	**-3.2**
JMN	**Monobe**	**13.95**	**326**	Pn	**Pn**	**18 14 59.4**	**-2.0**
INU	**Inuyama**	**14.01**	**339**	Pn	**Pn**	**18 14 59.3**	**-2.9**
MJAR	**Matsushiro Arr**	**14.78**	**344**		**Pn**	**18 15 11.1**	**-0.6**
MJAR	**Matsushiro Arr**	**14.78**	**344**	P	**Pn**	**18 15 12.6**	**+0.9**
	0.6nm,0.6s,baz=169,slow=7.3,SNR=1.8						
MAJO	**Matsushiro**	**14.78**	**344**	Pn	**Pn**	**18 15 11.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**14.78**	**344**		**Pn**	**18 15 12.1**	**+0.3**
JMM	**Marumori**	**15.61**	**353**		**Pn**	**18 15 21.1**	**-0.6**
JMM				IAmb	IAmb	18 15 39.1	
	comp=Z,41nm,1.4s						
KSRS	**Korea Array**	**19.95**	**322**	P	**Pn**	**18 16 13.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=153,slow=8.9,SNR=6.3						
	comp=Z,0.4nm,0.4s						
KS19	**Wonju Array Si**	**20.02**	**322**	P	**P**	**18 16 09.1**	**-1.2**
KS19				IAmb	IAmb	18 16 12.3	
	comp=Z,12nm,1.1s						
SSLB	**Suanglung**	**20.41**	**278**	P	**P**	**18 16 13.0**	**-1.7**
PETK	**Petropavlovsk-**	**32.70**	**16**	LR	LR	18 32 47.1	
	comp=Z,7.5nm,18.3s,baz=258,slow=38						
LZDM	**Lanzhou Array**	**36.73**	**301**	P	**P**	**18 18 44.0**	**+2.1**
	comp=Z,3.1nm,0.4s,baz=11,slow=17,SNR=1.6						
	comp=Z,3.1nm,0.4s						
SONM	**Songino Array**	**38.79**	**320**	P	**P**	**18 18 58.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=67,slow=3.7,SNR=2.4						
	comp=Z,0.3nm,0.7s						
WB0	**Warramunga Arr**	**42.69**	**192**	P	**P**	**18 19 30.2**	**-0.6**
WB0				IAmb	IAmb	18 19 47.9	
	comp=Z,9.1nm,1.4s						
WR8	**Warramunga Arr**	**42.86**	**192**	P	**P**	**18 19 30.0**	**-2.1**
WR8				IAmb	IAmb	18 20 02.9	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**42.88**	**192**	P	**P**	**18 19 31.7**	**-0.6**
WRA	**Warramunga Arr**	**42.88**	**192**	P	**P**	**18 19 31.9**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=16,slow=9.1,SNR=9.1						
WRA				PcP	**PP**	**18 21 18.9**	**+3.2**
	comp=Z,0.5nm,0.7s,baz=6.9,slow=3.7,SNR=4.7						
	comp=Z,0.2nm,0.2s						
ASAR	**Alice Springs**	**46.59**	**192**	P	**P**	**18 20 01.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=11,slow=6.9,SNR=5.2						
	comp=Z,0.1nm,0.3s						
ZALV	**Zasovo Beam**	**53.65**	**321**	P	**P**	**18 20 55.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=121,slow=7.4,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**54.20**	**312**	P	**P**	**18 21 00.2**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=90,slow=6.9,SNR=3.1						
MKAR				PcP	**PcP**	**18 22 00.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=76,slow=5.6,SNR=1.9						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.99**	**317**	P	**P**	**18 21 20.1**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=94,slow=7.7,SNR=18						
	comp=Z,1.7nm,0.5s						
ILAR	**Eielson Array**	**61.52**	**27**	P	**P**	**18 21 48.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=266,slow=5.2,SNR=4.1						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**62.13**	**319**	P	**P**	**18 21 54.7**	**+1.4**
	comp=Z,2.4nm,0.4s						
	comp=Z,2.4nm,0.4s						
AB31	**Akbulak array**	**69.03**	**316**	P	**P**	**18 22 37.2**	**-0.4**
AB31				IAmb	IAmb	18 22 39.4	
	comp=Z,1.8nm,0.7s						
ABKAR	**Akbulak array**	**69.03**	**316**	P	**P**	**18 22 37.0**	**-0.5**
YKA	**Yellowknife Ar**	**75.94**	**28**	P	**P**	**18 23 18.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=242,slow=5.9,SNR=7.8						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**78.29**	**341**	P	**P**	**18 23 31.4**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=66,slow=5.9,SNR=5.4						
	comp=Z,4.3nm,1.0s						
KBZ	**Khabaz**	**81.86**	**314**	P	**P**	**18 23 51.3**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=76,slow=4.2,SNR=4.3						
	comp=Z,2.1nm,0.9s						
FINES	**FINESS Array B**	**82.57**	**334**	P	**P**	**18 23 53.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=61,slow=4.6,SNR=18						
	comp=Z,0.6nm,0.3s						
NVAR	**Mina Array Bea**	**82.83**	**52**	P	**P**	**18 23 55.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=277,slow=5.0,SNR=5.0						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**88.11**	**337**	P	**P**	**18 24 20.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=76,slow=6.7,SNR=7.3						
	comp=Z,0.9nm,0.5s						
LPAZ	**La Paz**	**149.98**	**84**	PKPbc	**PKPbc**	**18 31 21.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=248,slow=5.4,SNR=4.3						

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*IDC **20** 18:32:45.4±0.7, 6°.68N×124°.92E, h0km, mb3.9/14, mbtmp3.9/16, ML3.9/2, MS3.4/5, Error ellipse: s-maj=14.4km s-min=9.3km az=151.0*
*NEIC **20** 18:32:46.8±2.4, 6°.73N±0°.08×124°.96E±0°.06, h10km±1km, mb4.5/16, Error ellipse: s-maj=15.3km s-min=6.6km az=331.0*
*DJA **20** 18:32:50.4±0.5, 7°.N±4°×12°.5E±°, h10km, M4.7/11, mb5.0/11, mB5.1/8, MLv4.9/10, Mw(mB)4.4/8*
ISC 20 18:32:50.0±0.4, 6°.75N±0°.05×125°.12E±0°.06, h35km, n63, σ1§88/53, mb4.1/21, MS3.8/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.55**	**55**		**Pn**	**18 33 00.6**	**-0.8**
DAV				Sg	**Sn**	**18 33 08.2**	**-1.2**
DAV	**Davao City (W)**	**0.55**	**55**	Pg	**Pn**	**18 33 00.9**	**-0.5**
	2μm,0.3s,baz=239,slow=2.0,SNR=171						
DAV				Lg	Lg	18 33 10.0	
	4μm,0.3s,baz=319,slow=19,SNR=115						
DAV				LR	LR	18 33 33.8	
	comp=Z,2μm,19.0s,baz=18,slow=64						
DAV	**Davao City (W)**	**0.55**	**55**	P	**Pn**	**18 32 58.0**	**-3.4**
SGSI	**Sangihe**	**3.07**	**172**	P	**Pn**	**18 33 38.0**	**+1.9**
SGSI				S	**Sn**	**18 34 14.0**	**+2.4**
KMSI	**Cibinong**	**6.24**	**191**	P	**Pn**	**18 34 22.3**	**+2.7**
	1.4nm4μm488nm,1.0s						
TNTI	**Ternate**	**6.35**	**159**		**Pn**	**18 34 21.4**	**+0.3**
TNTI	**Ternate**	**6.35**	**159**	P	**Pn**	**18 34 23.3**	**+2.2**
	31nm,0.6s						
MYLDM	**Lahad Datu**	**6.77**	**257**		Pn	18 34 31.5	+4.7
MRSI	**Marisa**	**6.99**	**207**	P	**Pn**	**18 34 31.3**	**+1.3**
	1.4nm1μm82nm,0.5s						
TOLI2	**Tolitoli**	**7.08**	**218**		**Pn**	**18 34 31.1**	**0.0**
LUWI	**Luwuk**	**8.09**	**197**	Pn	**Pn**	**18 34 43.4**	**-1.6**
LUWI	**Luwuk**	**8.09**	**197**	P	**Pn**	**18 34 48.2**	**+3.2**
	917nm100nm,0.8s						
APSI	**Ampana**	**8.36**	**205**	P	Pn	18 34 52.5	+3.7
	650nm72nm,0.6s						
SANI	**Sanana**	**8.79**	**174**	P	**Pn**	**18 34 54.6**	**0.0**
	378nm25nm,0.8s						
KAPI	**Kappang**	**12.86**	**205**	LR	LR	18 41 03.1	
	comp=Z,53nm,20.7s,baz=39,slow=39						
SBUM	**Sibu**	**13.55**	**252**	Pn	**Pn**	**18 35 55.9**	**-3.9**
SOEI	**Soe**	**16.42**	**183**	Pn	**Pn**	**18 36 35.1**	**-2.9**
SOEI				IAmb	IAmb	18 37 03.3	
	comp=Z,28nm,0.9s						
BATI	**Baumata**	**16.91**	**185**	Pn	**P**	**18 36 44.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=282,slow=16,SNR=1.8						
	comp=Z,6.2nm,0.6s						
TPUB	**Ta-pu**	**17.01**	**346**	P	**Pn**	**18 36 45.6**	**+0.3**
TPUB				IAmb	IAmb	18 37 25.4	
	comp=Z,70nm,1.4s						
JAY	**Jayapura**	**18.08**	**120**	P	**P**	**18 37 00.7**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=2.0						
	comp=Z,15nm,1.0s						
YHNB	**Yeheng**	**18.18**	**349**	P	**Pn**	**18 36 58.8**	**-0.9**
MTN	**Manton Dam**	**20.36**	**163**	P	Pn	18 37 24.5	-1.4
MTN				IAmb	IAmb	18 37 39.8	
	comp=Z,8.9nm,0.6s						
GUMO	**Guam**	**20.58**	**69**	P	**P**	**18 37 27.5**	**+1.4**
	comp=Z,16nm,0.4s,baz=236,slow=17,SNR=1.5						
	comp=Z,16nm,0.4s						
KNRA	**Kununurra**	**22.57**	**171**		**P**	**18 37 48.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**18 38 08.7**	**+0.8**
NJ2	**Nanjing**	**25.84**	**348**	*e*P	**P**	**18 38 22.5**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
COEN	**Coen**	**27.28**	**139**	P	**P**	**18 38 31.3**	**-0.1**
COEN				IAmb	IAmb	18 38 38.4	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**27.89**	**161**	P	**P**	**18 38 36.6**	**-0.2**
WB0				IAmb	IAmb	18 38 50.6	
	comp=Z,7.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**18 38 35.6**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=17,slow=15,SNR=1.3						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**28.04**	**161**	P	**P**	**18 38 37.8**	**-0.3**
WRA	**Warramunga Arr**	**28.04**	**161**	P	**P**	**18 38 37.5**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=330,slow=11,SNR=12						
	comp=Z,1.2nm,0.8s						
WR8	**Warramunga Arr**	**28.10**	**161**	P	**P**	**18 38 38.5**	**-0.2**
WR8				IAmb	IAmb	18 39 16.8	
	comp=Z,4.2nm,0.8s						
PZH	**PanZhiHua**	**29.69**	**314**	P	P	18 38 57.6	+4.7
KSRS	**Korea Array**	**30.67**	**4**	P	**P**	**18 39 04.2**	**+3.0**
	comp=Z,0.3nm,0.4s,baz=186,slow=9.7,SNR=2.7						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**31.43**	**164**		**P**	**18 39 06.3**	**-1.9**
ASAR	**Alice Springs**	**31.43**	**164**	P	**P**	**18 39 05.6**	**-2.5**
ASAR	**Alice Springs**	**31.43**	**164**	P	**P**	**18 39 08.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=341,slow=6.7,SNR=31						
	comp=Z,0.9nm,0.5s						
MJAR	**Matsushiro Arr**	**31.98**	**20**	LR	LR	18 52 19.6	
	comp=Z,33nm,19.5s,baz=210,slow=37						
HHC	**Hu-ho-hao-te**	**36.05**	**342**	*e*P	P	18 39 53.4	+5.2
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,69nm,5.2s						
BBOO	**Buckleboo**	**40.70**	**166**	P	**P**	**18 40 26.4**	**-0.8**
EIDS	**Eidsvold**	**40.71**	**143**	P	**P**	**18 40 23.7**	**-3.7**
EIDS				IAmb	IAmb	18 40 29.9	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**41.51**	**159**	P	**P**	**18 40 34.5**	**+0.6**
STKA	**Stephens Creek**	**41.51**	**159**	P	**P**	**18 40 34.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=348,slow=7.3,SNR=5.0						
	comp=Z,2.1nm,0.6s						
EVN	**Everest**	**41.94**	**305**	P	**P**	**18 40 37.6**	**-0.7**
HEH	**HeiHe**	**43.40**	**2**	*e*P	**P**	**18 40 50.8**	**+1.7**
SONM	**Songino Array**	**43.94**	**342**	P	**P**	**18 40 52.3**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=165,slow=7.4,SNR=1.8						
	comp=Z,0.3nm,0.6s						
ARMA	**Armidale**	**44.86**	**147**	P	**P**	**18 41 00.4**	**-0.8**
ARMA				IAmb	IAmb	18 41 40.9	
	comp=Z,14nm,1.4s						
WMQ	**Urumqi**	**49.35**	**325**	*e*P	P	18 41 40.8	+4.8
WMQ				LR	LR		
	comp=N,280nm,17.9s						
WMQ				LR	LR		
	comp=E,250nm,19.3s						
WMQ				LR	LR		
	comp=Z,130nm,24.3s						
PETK	**Petropavlovsk-**	**53.29**	**24**	P	**P**	**18 42 08.0**	**+2.7**
PETK	**Petropavlovsk-**	**53.29**	**24**	P	**P**	**18 42 05.8**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=233,slow=3.3,SNR=4.5						
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**54.18**	**325**	P	**P**	**18 42 11.1**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=118,slow=8.1,SNR=5.1						
	comp=Z,0.1nm,0.5s						
KSH	**Kashi**	**54.79**	**314**	P	P	18 42 23.0	+6.3
KSH				pP	pP	18 42 27.8	+0.4
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURBB	**Kurchatov Arra**	**58.35**	**327**	P	**P**	**18 42 43.0**	**+1.4**
	comp=Z,0.9nm,0.2s,baz=125,slow=6.4,SNR=5.2						
	comp=Z,0.9nm,0.2s						
KKAR	**Karatay Array**	**59.95**	**316**	P	**P**	**18 42 51.8**	**-1.1**
BVAR	**Borovoye Array**	**63.93**	**327**	P	**P**	**18 43 20.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=179,slow=7.2,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**68.81**	**320**	P	**P**	**18 43 49.2**	**-1.6**
AKTO	**Aktyubinsk**	**70.31**	**321**	P	**P**	**18 44 00.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=85,slow=8.6,SNR=4.1						
	comp=Z,0.4nm,0.5s						
GNI	**Garni**	**78.33**	**309**	LR	LR	19 23 30.8	
	comp=Z,22nm,20.4s,baz=17,slow=39						
ILAR	**Eielson Array**	**83.08**	**26**	P	**P**	**18 45 14.2**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=249,slow=4.3,SNR=5.8						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**88.43**	**332**	P	**P**	**18 45 40.8**	**+2.5**
	comp=Z,2.8nm,1.0s,baz=66,slow=8.1,SNR=2.0						
	comp=Z,2.8nm,1.0s						
MLR	**Muntele Rosu**	**91.63**	**316**	LR	LR	19 32 39.7	
	comp=Z,42nm,18.2s,baz=46,slow=39						
SYO	**Syowa Base**	**94.65**	**201⇓**	*e*P	**P**	**18 46 06.6**	**-0.3**
JMIC	**Jan Mayen**	**96.56**	**346**	LR	LR	19 36 35.8	
	comp=Z,31nm,18.8s,baz=250,slow=40						

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*NEIC **20** 18:39:25.0±1.8, 13°.15N±0°.07×120°.87E±0°.09, h24km±6km, mb4.7/29, Error ellipse: s-maj=12.2km s-min=10.2km az=93.0*
*BJI **20** 18:39:26.9, 12°.88N×120°.99E, h62km, mB4.8/13, mb4.4/44, Ms4.1/28, Ms7 3.9/28*
*IDC **20** 18:39:27.5±1.1, 13°.11N×121°.06E, h48km±9km, mb3.9/27, mbtmp4.2/28, MS3.5/14, Error ellipse: s-maj=19.6km s-min=9.6km az=77.0*
ISC 20 18:39:24.6±0.5, 13°.04N±0°.05×121°.03E±0°.07, h25km, n100, σ1§51/90, mb4.5/49, MS3.6/20, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.06**	**355**	P	**Pb**	**18 39 44.7**	**+0.4**
	8μm,0.6s,baz=202,slow=3.3,SNR=146						
TGY				S	**Sn**	**18 39 58.6**	**+0.7**
	7μm,0.3s,baz=233,slow=20,SNR=11						
TGY				LR	LR	18 40 08.8	
	comp=Z,2μm,20.2s,baz=137,slow=42						
DAV	**Davao City (W)**	**7.43**	**143**	Pn	**Pn**	**18 41 13.7**	**+2.1**
DAV	**Davao City (W)**	**7.43**	**143**	LR	LR	18 44 40.6	
	comp=Z,907nm,20.8s,baz=348,slow=42						
MYLDM	**Lahad Datu**	**8.20**	**198**	Pn	**Pn**	**18 41 23.6**	**+1.4**
TPUB	**Ta-pu**	**10.21**	**358**	Pn	**Pn**	**18 41 48.3**	**-1.4**
YULB	**Yu-li**	**10.30**	**1**	Pn	**Pn**	**18 41 49.7**	**-1.2**
SSLB	**Suanglung**	**10.69**	**360**	Pn	**Pn**	**18 41 54.5**	**-1.7**
NACB	**Ninganchiao**	**11.09**	**3**	Pn	**Pn**	**18 41 59.5**	**-2.2**
QIZ	**Qiongzhong**	**12.29**	**300**	P	**Pn**	**18 42 21.9**	**+3.7**
QIZ				pP	**P**	**18 42 31.1**	**+0.9**

comp=Z,52nm,1.3s
LEM Lembang 23.82 215 P P 18 44 35.9 -0.1
comp=Z,39nm,1.1s,baz=308,slow=8.7,SNR=5.4
comp=Z,39nm,1.1s
TNCH TengChong 24.35 303 P P 18 44 41.8 +0.8
TNCH pP sP 18 44 53.5 +1.6
TNCH pmax pmax
comp=Z,13nm,0.6s
TNCH pmax pmax
comp=Z,120nm,3.8s
HNS HongShan 24.91 348 ⇑P P 18 44 53.1 +7.5
HNS pmax pmax
comp=Z,7.0nm,0.9s
JAY Jayapura 24.91 127 LR LR 18 54 29.1
comp=Z,110nm,19.6s,baz=358,slow=36
KSAR Wonju Array Be 25.06 13 P P 18 44 46.4 -0.6
KSRS Korea Array 25.08 13 P P 18 44 47.2 0.0
comp=Z,2.5nm,1.0s,baz=185,slow=9.3,SNR=8.0
comp=Z,2.5nm,1.0s
GSI Gunungsitoli 25.99 245 P P 18 44 52.9 -2.9
GSI IAmb IAmb 18 45 05.8
comp=Z,49nm,1.4s
MTN Manton Dam 27.60 158 P P 18 45 09.5 -0.7
MTN IAmb IAmb 18 45 18.6
comp=Z,15nm,1.3s
LZDM Lanzhou Array 27.64 329 P P 18 45 10.9 +0.1
comp=Z,2.2nm,0.3s,baz=163,slow=10,SNR=1.5
comp=Z,2.2nm,0.3s
LZH Lanzhou 27.67 329 *e*P **P 18 45 16.0 +5.1**
LZH pmax pmax
comp=Z,33nm,0.6s
LZH LR LR
comp=Z,210nm,16.8s
LZH LR LR
comp=Z,340nm,17.9s
LZH LR LR
comp=Z,360nm,17.5s
MJAR Matsushiro Arr 28.02 30 P P 18 45 13.6 -0.2
comp=Z,0.3nm,0.5s,baz=254,slow=8.6,SNR=1.4
comp=Z,0.3nm,0.5s
HHC Hu-ho-hao-te 28.92 345 *e*P **P 18 45 25.1 +3.2**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,63nm,3.8s
HHC LR LR
comp=Z,110nm,16.4s
HHC LR LR
comp=Z,100nm,15.7s
HHC LR LR
comp=Z,96nm,18.3s
BRDH Bariadhala 29.52 293 LR LR 18 59 09.8
comp=Z,120nm,18.6s,baz=130,slow=40
SHL Shillong 30.12 299 P 18 45 32.5 -0.2
LSA Lhasa 32.25 306 P **P 18 45 49.8 -2.1**
LSA Lhasa 32.25 306 P 18 45 50.1 -1.8
LSA IAmb IAmb 18 46 00.8
comp=Z,8.3nm,0.9s
GTA Gaotai 32.26 328 *e*P **P 18 45 53.3 +1.8**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA LR LR
comp=Z,220nm,17.5s
GTA LR LR
comp=Z,220nm,17.5s
GTA LR LR
comp=Z,380nm,17.1s
USRK Ussuriysk Ar. 32.44 15 P P 18 45 52.2 -0.6
comp=Z,1.8nm,0.8s,baz=189,slow=18,SNR=1.7
comp=Z,1.8nm,0.8s
GOMU GeErMu 32.96 319 P P 18 45 58.5 +0.6
GOMU pmax pmax
comp=Z,4.0nm,1.2s
GOMU LR LR
comp=Z,100nm,13.8s
GOMU LR LR
comp=Z,130nm,13.5s
GOMU LR LR
comp=Z,190nm,13.2s
WB0 Warramunga Arr 35.16 158 P P 18 46 15.8 -0.8
WB0 IAmb IAmb 18 46 28.6
comp=Z,7.1nm,0.8s
EVN Everest 35.17 300 P P 18 46 15.2 -2.3
EVN IAmb IAmb 18 46 24.0
comp=Z,9.7nm,0.7s
WRA Warramunga Arr 35.30 158 P P 18 46 18.6 +0.7
comp=Z,4.8nm,0.6s,baz=336,slow=9.7,SNR=30
comp=Z,4.8nm,0.6s
WR8 Warramunga Arr 35.37 158 P P 18 46 18.8 +0.4
WR8 IAmb IAmb 18 46 31.4
comp=Z,10nm,1.1s
HILR Hailar Array B 36.42 359 LR LR 19 03 00.9
comp=Z,129nm,20.8s,baz=40,slow=39
SONM Songino Array 36.78 343 P P 18 46 29.8 -0.6
SONM Songino Array 36.78 343 P P 18 46 30.3 -0.1
comp=Z,0.9nm,0.7s,baz=154,slow=9.8,SNR=6.4
SONM LR LR 19 02 12.0
comp=Z,72nm,19.0s,baz=156,slow=37
comp=Z,0.9nm,0.7s
HEH HeiHe 37.47 7 *e*P **P 18 46 39.1 +3.0**
AS31 Alice Springs 38.59 161 P 18 46 45.5 +0.7
ASAR Alice Springs 38.59 161 P P 18 46 46.6 +0.7
ASAR Alice Springs 38.59 161 P P 18 46 47.3 +1.4
comp=Z,3.3nm,0.6s,baz=344,slow=6.6,SNR=49
comp=Z,3.3nm,0.6s
PALK Pallekele 40.07 266 LR LR 19 02 25.8
comp=Z,45nm,20.6s,baz=90,slow=34
WMQ Urumqi 41.92 323 *e*P **P 18 47 14.3 +1.0**
WMQ LR LR
comp=Z,270nm,15.9s
WMQ LR LR
comp=Z,240nm,19.1s
WMQ LR LR
comp=Z,140nm,23.1s
INKA Innaminka 44.82 155 P P 18 47 38.7 +1.9
MKAR Makanchi Array 46.75 324 P P 18 47 51.3 -0.6
MKAR Makanchi Array 46.75 324 P P 18 47 52.7 +0.8
comp=Z,3.0nm,0.5s,baz=116,slow=8.9,SNR=30
comp=Z,3.0nm,0.5s
TARG Taragay, Kyrgy 47.14 316 P P 18 47 55.0 -0.5
TARG IAmb IAmb 18 48 05.0
comp=Z,6.7nm,1.1s
KSH Kashi 47.58 312 P P 18 48 01.5 +2.9
KSH pmax pmax
comp=Z,5.0nm,0.9s
NIL Nilore 47.94 304 P P 18 48 00.9 -0.4
STKA Stephens Creek 48.82 157 P P 18 48 09.0 +1.0
comp=Z,3.0nm,0.8s,baz=300,slow=7.4,SNR=5.4
comp=Z,3.0nm,0.8s
YAK Yakutsk 49.31 5 LR LR 19 10 32.8
comp=Z,31nm,18.1s,baz=180,slow=38
PETK Petropavlovsk- 49.45 28 P P 18 48 13.4 +0.9
PETK Petropavlovsk- 49.45 28 P P 18 48 12.0 -0.6
comp=Z,2.7nm,0.8s,baz=201,slow=7.8,SNR=8.1
comp=Z,2.7nm,0.8s
AAK Ala-Archa 49.76 315 P P 18 48 14.0 -1.4
AAK IAmb IAmb 18 48 23.2
comp=Z,7.1nm,1.2s
AAK Ala-Archa 49.76 315 P P 18 48 15.6 +0.2
comp=Z,1.5nm,0.5s,baz=174,slow=8.3,SNR=5.5
AAK LR LR 19 10 29.1
comp=Z,154nm,21.3s,baz=107,slow=37
comp=Z,1.5nm,0.5s
ZAA0 Zalesovo Array 49.79 333 P P 18 48 13.9 -1.3
ZALV Zalesovo Beam 49.79 333 P P 18 48 14.0 -1.1
ZALV Zalesovo Beam 49.79 333 P P 18 48 14.9 -0.2
comp=Z,1.0nm,0.4s,baz=111,slow=6.7,SNR=6.9
comp=Z,1.0nm,0.4s
ARSB Arslanbob 50.34 313 IAmb IAmb 18 48 21.5
comp=Z,8.3nm,0.8s
DRK Karamyk 50.62 311 P P 18 48 22.6 +0.6
KURBB Kurchatov Arra 50.91 326 P P 18 48 24.1 +0.4
comp=Z,4.2nm,0.5s,baz=116,slow=9.3,SNR=18
comp=Z,4.2nm,0.5s
KURK Kurchatov 50.91 326 P P 18 48 23.2 -0.5
GAR Garm 51.58 310 P 18 48 28.5 -0.6
CHGR Chuyangaron 52.37 309 P 18 48 34.5 -0.5
KK31 Karatay Array 52.66 315 P P 18 48 36.4 -0.6
KKAR Karatay Array 52.66 315 P P 18 48 36.9 -0.1
BVAR Borovoye Array 56.49 326 P P 18 49 04.7 +0.1
comp=Z,1.3nm,0.6s,baz=116,slow=10,SNR=6.2
BVAR LR LR 19 14 47.5
comp=Z,96nm,18.2s,baz=106,slow=38
comp=Z,1.3nm,0.6s
TIXI Tiksi 58.77 3 P P 18 49 19.1 -1.1
TIXI IAmb IAmb 18 49 27.4
comp=Z,6.9nm,1.1s

AB31 Akbulak array 61.44 319 P P 18 49 38.0 -1.0
AB31 IAmb IAmb 18 49 39.7
comp=Z,3.7nm,0.7s
ABKAR Akbulak array 61.44 319 P P 18 49 37.7 -1.2
AKTO Aktyubinsk 62.92 320 P P 18 49 48.2 -0.7
comp=Z,2.9nm,0.7s,baz=92,slow=5.7,SNR=8.6
comp=Z,2.9nm,0.7s
RAYN Ar Rayn 71.79 291 P P 18 50 43.8 -1.8
RAYN IAmb IAmb 18 50 47.1
comp=Z,6.6nm,0.9s
KBZ Khabaz 72.56 312 P P 18 50 49.8 +0.1
comp=Z,0.9nm,0.6s,baz=67,slow=5.3,SNR=4.1
comp=Z,0.9nm,0.6s
OBN Obninsk 76.26 324 LR LR 19 26 58.2
comp=Z,83nm,18.4s,baz=0.5,slow=37
ILAR Eielson Array 79.20 26 P P 18 51 26.9 -0.4
comp=Z,0.3nm,0.8s,baz=297,slow=2.8,SNR=2.3
comp=Z,0.3nm,0.8s
MMAI Mount Meron Ar 79.39 302 LR LR 19 29 42.5
comp=Z,11nm,18.9s,baz=184,slow=38
BRTR Keskin Array B 79.81 308 P P 18 51 30.8 -0.5
comp=Z,0.3nm,0.6s,baz=156,slow=4.7,SNR=2.9
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 79.81 339 P P 18 51 29.8 -0.7
comp=Z,4.3nm,0.9s,baz=71,slow=5.1,SNR=6.0
comp=Z,4.3nm,0.9s
SPITS Spitsbergen Ar 80.30 348 P P 18 51 32.7 -0.4
comp=Z,8.7nm,1.0s,baz=128,slow=11,SNR=1.4
comp=Z,8.7nm,1.0s
EIL Elat 80.30 298 LR LR 19 31 13.2
comp=Z,30nm,20.9s,baz=102,slow=39
FINES FINESS Array B 81.01 331 P P 18 51 36.1 -0.9
comp=Z,1.1nm,0.6s,baz=38,slow=9.6,SNR=3.8
comp=Z,1.1nm,0.6s
HFS Hagfors 87.20 331 P P 18 52 07.5 -1.2
comp=Z,1.4nm,0.6s,baz=93,slow=8.0,SNR=6.3
comp=Z,1.4nm,0.6s
NB2 NORSAR Subarra 87.99 333 P P 18 52 10.9 -1.6
comp=Z,0.7nm,0.5s,baz=68,slow=4.6
NOA NORSAR Array B 87.99 333 P P 18 52 11.3 -1.1
comp=Z,0.9nm,0.8s,baz=68,slow=4.6,SNR=3.7
comp=Z,0.9nm,0.8s
GERES GERESS Array B 91.34 321 P P 18 52 27.7 -0.8
comp=Z,0.1nm,0.3s,baz=15,slow=5.5,SNR=4.2
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 119.71 45 PKP **PKPdf 18 58 12.3 -1.1**
comp=Z,0.1nm,0.6s,baz=325,slow=2.5,SNR=1.7

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*JMA **20** 19:07:23.2±0.0, 40°.0N±0°.1×140°.5E±0°.2, h5km±1km, MV3.5/20, NORTHERN AKITA PREF*
JMA Felt II J1 at NORTHERN AKITA PREF .
*IDC **20** 19:07:23.6±2.8, 40°.03N×140°.37E, h0km, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=45.8km s-min=23.4km az=115.0*
ISC 20 19:07:23.4±0.9, 40°.07N±0°.04×140°.51E±0°.04, h14km±8km, n11, σ1§54/20, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.15**	**40**	⇓*i*P	**Pg**	**19 07 27.3**	**+0.2**
JAH				⇓S	**Sg**	**19 07 30.1**	**+0.4**
JNTW	**Noshirotokiwa**	**0.33**	**307**	*i* P	**Pb**	**19 07 30.4**	**-0.7**
JNTW				*e*S	**Sb**	**19 07 35.7**	**-0.6**
JKZ	**Kuzumaki**	**0.64**	**98**	⇓*i*P	**Pb**	**19 07 35.9**	**-0.5**
JKZ				⇓S	**Sg**	**19 07 44.1**	**-0.2**
JIW	**Iwasaki**	**0.65**	**324**	*i* P	**Pb**	**19 07 35.6**	**-0.8**
JIW				S	**Sb**	**19 07 44.5**	**-0.8**
JRG	**Rokugo**	**0.68**	**172**	*i* P	**Pg**	**19 07 35.9**	**-0.7**
JRG				S	**Sg**	**19 07 44.6**	**-1.1**
JANG	**Nango**	**0.83**	**68**	⇓*i*P	**Pb**	**19 07 39.4**	**-0.1**
JANG				⇓S	**Sg**	**19 07 50.3**	**0.0**
JTM	**Tenmabayashi**	**0.83**	**31**	*i* P	**Pb**	**19 07 39.6**	**0.0**
JTM				S	**Sb**	**19 07 50.7**	**0.0**
MJAR	**Matsushiro Arr**	**3.96**	**208**	Pn	**Pn**	**19 08 24.7**	**+1.0**
	0.1nm,0.3s,baz=22,slow=15,SNR=4.8						
MJAR				Sn	**Sn**	**19 09 10.6**	**+0.5**
	0.1nm,0.3s,baz=25,slow=25,SNR=4.4						
	0.5nm,0.3s						
ASAJ	**Asahikawa**	**4.33**	**20**	Pn	**Pn**	**19 08 31.2**	**+2.4**
	0.5nm,0.3s,baz=197,slow=11,SNR=5.8						
ASAJ				Sn	**Sb**	**19 09 26.5**	**-4.9**
	0.1nm,0.3s,baz=159,slow=8.6,SNR=2.4						
	3.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**7.55**	**306**	Pn	**Pn**	**19 09 13.6**	**+0.5**
	0.2nm,0.3s,baz=121,slow=6.9,SNR=2.4						
	2.3nm,0.7s						
KSRS	**Korea Array**	**10.17**	**259**	Pn	**Pn**	**19 09 50.5**	**+1.6**
	0.3nm,0.3s,baz=74,slow=15,SNR=8.8						
	1.3nm,0.5s						

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*IDC **20** 19:10:59.5±2.8, 10°.54S×162°.18E, h57km±23km, mb3.9/13, mbtmp4.2/16, ML1.8/1, MS3.3/18, Error ellipse: s-maj=22.0km s-min=15.3km az=81.0*
ISC 20 19:10:57.5±0.7, 10°.48S±0°.08×162°.32E±0°.10, h39km, n32, σ1§03/19, mb4.0/13, MS3.4/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.56**	**294**	P	**Pn**	**19 11 37.2**	**+0.7**
	374nm,0.3s,baz=150,slow=5.8,SNR=52						
HNR				S	**Sn**	**19 12 06.9**	**+0.4**
	869nm,0.3s,baz=54,slow=20,SNR=4.6						
DZM	**Mont Dzumac**	**12.18**	**162**	P	**Pn**	**19 13 50.8**	**+2.2**
	2.8nm,0.3s,baz=318,slow=18,SNR=28						
DZM				S	**Sn**	**19 16 02.0**	**-1.1**
	4.8nm,0.7s,baz=342,slow=20,SNR=3.2						
DZM				LR	LR	19 17 53.5	
	comp=Z,205nm,20.0s,baz=12,slow=34						
PMG	**Port Moresby**	**14.98**	**273**	P	**Pn**	**19 14 27.9**	**+1.3**
	0.1nm,0.3s,baz=162,slow=20,SNR=3.0						
PMG				LR	LR	19 19 46.9	
	comp=Z,189nm,20.2s,baz=140,slow=36						
	5.5nm,0.7s						
WRA	**Warramunga Arr**	**28.55**	**247**	P	**P**	**19 16 48.9**	**-1.1**
	6.0nm,0.7s,baz=77,slow=9.2,SNR=43						
WRA				LR	LR	19 27 43.9	
	comp=Z,185nm,19.4s,baz=96,slow=35						
	6.0nm,0.7s						
STKA	**Stephens Creek**	**28.65**	**219**	P	**P**	**19 16 49.9**	**-0.7**
	1.0nm,0.5s,baz=42,slow=13,SNR=4.5						
STKA				LR	LR	19 27 08.3	
	comp=Z,185nm,21.3s,baz=30,slow=34						
	1.0nm,0.5s						
H11S2	**WAKE ISLAND Hy 29.11**	**9**		T	T	19 47 42.6	
	baz=189,slow=76,SNR=304						
H11S3	**WAKE ISLAND Hy 29.11**	**9**		T	T	19 47 42.1	
	baz=189,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy 29.13**	**9**		T	T	19 47 44.2	
	baz=189,slow=76,SNR=32						
GUMO	**Guam**	**29.53**	**324**	LR	LR	19 28 43.7	
	comp=Z,21nm,19.4s,baz=86,slow=36						
ASAR	**Alice Springs**	**30.09**	**241**	P	**P**	**19 17 01.8**	**-1.7**
	2.1nm,0.7s,baz=64,slow=10,SNR=44						
ASAR				LR	LR	19 28 56.0	
	comp=Z,145nm,18.4s,baz=81,slow=36						
	2.1nm,0.7s						
H11N1	**WAKE ISLAND Hy 30.34**	**9**		T	T	19 49 14.8	
	baz=189,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy 30.35**	**9**		T	T	19 49 10.1	
	baz=189,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy 30.36**	**9**		T	T	19 49 13.7	
	baz=189,slow=76,SNR=22						
FITZ	**Fitzroy Crossi**	**36.29**	**254**	LR	LR	19 31 57.2	
	comp=Z,87nm,18.8s,baz=66,slow=35						
DAV	**Davao City (W)**	**40.53**	**294**	LR	LR	19 34 14.1	
	comp=Z,15nm,21.1s,baz=117,slow=34						
JOW	**Kunigami**	**49.69**	**319**	LR	LR	19 40 15.7	
	comp=Z,27nm,20.5s,baz=118,slow=35						
MJAR	**Matsushiro Arr**	**51.99**	**335**	P	**P**	**19 20 01.9**	**-1.1**
	1.3nm,1.0s,baz=223,slow=8.3,SNR=4.1						
MJAR				LR	LR	19 40 33.6	
	comp=Z,18nm,21.1s,baz=120,slow=34						
	1.3nm,1.0s						
JNU	**Nahatsue**	**52.71**	**327**	LR	LR	19 41 24.1	
	comp=Z,33nm,19.2s,baz=170,slow=35						
ASAJ	**Asahikawa**	**57.22**	**343**	P	**P**	**19 20 41.6**	**+0.8**
	12nm,0.8s,baz=196,slow=10,SNR=9.2						
ASAJ				LR	LR	19 41 28.1	
	comp=Z,38nm,21.8s,baz=164,slow=32						
	12nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.99**	**335**	P	**P**	**19 21 06.5**	**-0.4**
	6.9nm,0.8s,baz=123,slow=9.3,SNR=7.3						
	6.9nm,0.8s						
PETK	**Petropavlovsk-**	**63.46**	**357**	P	**P**	**19 21 24.0**	**+0.7**
	3.8nm,0.9s,baz=186,slow=5.5,SNR=7.6						
PETK				LR	LR	19 43 43.9	
	comp=Z,24nm,21.8s,baz=129,slow=31						
	3.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**68.81**	**294**	P	**P**	**19 21 58.1**	**-0.3**
	0.3nm,0.2s,baz=103,slow=6.5,SNR=4.8						
	0.3nm,0.2s						
SONM	**Songino Array**	**76.25**	**325**	P	**P**	**19 22 42.7**	**+0.4**
	2.7nm,0.9s,baz=143,slow=5.5,SNR=12						
SONM				LR	LR	19 55 37.1	
	comp=Z,17nm,20.3s,baz=108,slow=35						
	2.7nm,0.9s						
YAK	**Yakutsk**	**76.64**	**345**	LR	LR	19 53 51.6	
	comp=Z,18nm,21.0s,baz=132,slow=34						
QSPA	**South Pole Qui**	**79.52**	**180**	P	**P**	**19 23 00.3**	**+0.2**
	1.1nm,0.9s,baz=27,slow=2.3,SNR=2.2						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**84.08**	**20**	P	**P**	**19 23 24.2**	**+0.4**
	1.7nm,0.9s,baz=230,slow=4.8,SNR=10.0						
	1.7nm,0.9s						
NVAR	**Mina Array Bea**	**88.25**	**51**	P	**P**	**19 23 44.7**	**-0.6**
	0.7nm,0.8s,baz=234,slow=8.7,SNR=4.1						
	0.7nm,0.8s						
PFO	**Pinyon Flats O**	**88.53**	**56**	LR	LR	19 59 31.5	
	comp=Z,23nm,18.9s,baz=264,slow=33						
MKAR	**Makanchi Array**	**90.83**	**317**	P	**P**	**19 23 56.1**	**-0.8**
	0.4nm,0.6s,baz=89,slow=6.0,SNR=4.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**91.15**	**325**	LR	LR	20 03 47.5	
	comp=Z,17nm,21.8s,baz=40,slow=35						
AAK	**Ala-Archa**	**95.42**	**312**	LR	LR	20 09 31.0	
	comp=Z,5.2nm,18.1s,baz=355,slow=37						
ESDC	**Sonseca Array**	**148.47**	**340**	PKPbc	**PKPbc**	**19 30 40.6**	**+0.1**
	0.8nm,0.9s,baz=351,slow=2.7,SNR=3.1						

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*IDC **20** 19:11:32.9±1.0, 38°.93S×178°.19E, h0km, mb3.8/5, mbtmp3.8/6, ML3.5/1, MS3.0/1, Error ellipse: s-maj=34.5km s-min=12.3km az=45.0*
*NOU **20** 19:11:37.6, 38°.84S×178°.09E, h21km, MLv4.2/12, Off E. Coast of N. Island, N.Z.*
*WEL **20** 19:11:39.9±0.4, 39°.5S±3°.×17°.8E±°., h27km±2km, M4.5/27, ML4.8/27, MLv4.5/27, Error ellipse: s-maj=4.6km s-min=2.9km az=122.7, confirmed*
*WEL **20** 19:11:39.8, 38°.69S×178°.01E, h34km, ML4.2, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}~1.19; $M_{\theta\theta}$0.38; $M_{\phi\phi}$0.81; $M_{r\theta}$-1.00; $M_{\theta\phi}$0.09; $M_{\theta r}$~1.17; Fault plane solution: $M_0$1.83000×10^{15} NP1: ϕ_s36.00000°, δ74.00000°, λ-84.00000°. NP2:ϕ_s193.00000°, δ17.00000°, λ-111.00000°. Principal axes: T -2.0505, Plg29.0000°, Azm121.0000°; N 0.4485, Plg7.0000°, Azm214.0000°; P 1.6020, Plg60.0000°, Azm316.0000°; Stations used: MWZ URZ WIZ KUZ NORMAL FAULTING*
ISC 20 19:11:37.4±1.0, 38°.81S±0°.03×178°.19E±0°.04, h30km±7km, n160, σ1§25/168, mb3.6/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKBS	**Kaiti Beach**	**0.18**	**317**	P	**Pn**	**19 11 45.4**	**+1.3**
GHHS	**Gisborne Hospi**	**0.21**	**322**	P	**Pn**	**19 11 45.5**	**+1.0**
GHHS				S	**Sn**	**19 11 50.4**	**+1.3**
PRGZ	**Paritu Road**	**0.26**	**245**	P	**Pn**	**19 11 47.1**	**+1.8**
GWTS	**Gisborne Waipa**	**0.28**	**312**	P	**Pn**	**19 11 45.9**	**+0.4**
GWTS				S	**Sn**	**19 11 51.7**	**+1.1**
CNGZ	**Carnagh Statio**	**0.33**	**3**	P	**Pn**	**19 11 48.1**	**+2.0**
CNGZ				S	**Sn**	**19 11 55.7**	**+3.9**
RIGZ	**Rimuhau**	**0.35**	**287**	P	**Pn**	**19 11 46.3**	**-0.2**
RIGZ				S	**Sb**	**19 11 51.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**0.41**	**212**	P	**Pn**	**19 11 50.4**	**+3.2**
KNZ	**Kokohu**	**0.45**	**242**	P	**Pn**	**19 11 49.3**	**+1.4**
KNZ				S	**Sn**	**19 11 57.0**	**+2.1**
TKGZ	**Te Karaka**	**0.46**	**324**	P	**Pn**	**19 11 47.5**	**-0.3**
TKGZ				S	**Sb**	**19 11 53.7**	**-0.1**
TWGZ	**Tauwhareparae**	**0.65**	**346**	P	**Pn**	**19 11 51.5**	**+0.9**
TWGZ				S	**Sn**	**19 12 00.8**	**+0.8**
SNGZ	**Shannon Statio**	**0.66**	**272**	P	**Pn**	**19 11 51.2**	**+0.4**
SNGZ				S	**Sb**	**19 11 59.7**	**+0.2**
RAGZ	**Rawiri**	**0.68**	**297**	P	**Pb**	**19 11 50.7**	**-0.2**
RAGZ				S	**Sb**	**19 11 59.3**	**-0.7**
MWZ	**Matawai**	**0.70**	**312**	P	**Pb**	**19 11 50.9**	**-0.3**
MWZ				S	**Sb**	**19 11 59.3**	**-1.3**
PUZ	**Puketiti**	**0.74**	**4**	P	**Pn**	**19 11 52.9**	**+1.1**
WHHZ	**Waihua**	**0.79**	**250**	P	**Pn**	**19 11 54.0**	**+1.5**
WHHZ				S	**Sn**	**19 12 05.9**	**+2.7**
RAHZ	**Arahi**	**0.87**	**263**	P	**Pn**	**19 11 54.3**	**+0.7**
RAHZ				S	**Sn**	**19 12 06.4**	**+1.2**
RUGZ	**Raukumara Rang**	**0.93**	**334**	P	**Pn**	**19 11 54.6**	**0.0**
RUGZ				S	**Sb**	**19 12 05.5**	**-1.7**
PKGZ	**Pakihiroa**	**0.95**	**355**	P	**Pb**	**19 11 55.5**	**+0.3**
RTZ	**Ruatahuna**	**0.96**	**281**	P	**Pn**	**19 11 55.1**	**+0.1**
WMGZ	**Waiomatatini S**	**1.01**	**10**	P	**Pb**	**19 11 57.0**	**+0.7**
URZ	**Urewera**	**1.01**	**303**	Pg	**Pn**	**19 11 55.4**	**-0.1**
	940nm,0.3s,baz=162,slow=4.0,SNR=3241						
URZ				Lg	Lg	19 12 07.1	
	1μm,0.3s,baz=45,slow=20,SNR=13						
URZ				LR	LR	19 12 10.6	
	comp=Z,398nm,19.1s,baz=200,slow=35						
URZ	**Urewera**	**1.01**	**303**	P	**Pn**	**19 11 55.5**	**0.0**
URZ	**Urewera**	**1.01**	**303**	S	**Sb**	**19 12 07.9**	**-1.3**
URZ	**Urewera**	**1.01**	**303**	P	**Pn**	**19 11 55.4**	**-0.1**
URZ				S	**Sb**	**19 12 07.1**	**-2.0**
ARHZ	**Aropaoanui**	**1.03**	**244**	P	**Pb**	**19 11 57.8**	**+1.1**
MTHZ	**Maungataniwha**	**1.05**	**267**	P	**Pn**	**19 11 56.5**	**+0.4**
HAZ	**Te Kaha**	**1.10**	**343**	P	**Pb**	**19 11 57.3**	**-0.5**
NMHZ	**Naumai**	**1.11**	**255**	P	**Pb**	**19 11 58.7**	**+0.5**
MUGZ	**Murupara**	**1.16**	**286**	P	**Pn**	**19 11 57.9**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.21**	**225**	P	**Pb**	**19 11 59.9**	**+0.2**
MXZ	**Matakaoa Point**	**1.25**	**4**	P	**Pb**	**19 12 00.3**	**-0.1**
MXZ	**Matakaoa Point**	**1.25**	**4**	P	**Pb**	**19 12 00.2**	**-0.2**
MCHZ	**McNeill Hill**	**1.32**	**241**	P	**Pb**	**19 12 01.6**	**0.0**
EDRZ	**Edgecumbe**	**1.34**	**301**	P	**Pn**	**19 12 00.6**	**+0.5**
WHRZ	**Whale Island**	**1.35**	**315**	P	**Pn**	**19 12 00.9**	**+0.7**
BKZ	**Black Stump Fm**	**1.37**	**254**	P	**Pb**	**19 12 02.1**	**-0.3**
BKZ	**Black Stump Fm**	**1.37**	**254**	P	**Pn**	**19 12 01.4**	**+0.9**
MRHZ	**Matea Rd**	**1.38**	**268**	P	**Pn**	**19 12 01.4**	**+0.7**
RRRZ	**Republican Roa**	**1.39**	**289**	P	**Pn**	**19 12 01.0**	**+0.2**
KAHZ	**Kahuranaki**	**1.41**	**226**	P	**Pb**	**19 12 02.6**	**-0.6**
TARZ	**Mount Tarawera**	**1.44**	**293**	P	**Pn**	**19 12 02.1**	**+0.6**
PRRZ	**Plateau Road**	**1.44**	**282**	P	**Pn**	**19 12 01.7**	**+0.3**
MARZ	**Manawahe**	**1.45**	**304**	P	**Pn**	**19 12 02.0**	**+0.4**
ALRZ	**Allen Road**	**1.46**	**279**	P	**Pn**	**19 12 02.2**	**+0.4**
WIZ	**White Island**	**1.50**	**328**	P	**Pb**	**19 12 05.7**	**+1.0**
MKRZ	**Makatiti**	**1.51**	**296**	P	**Pb**	**19 12 06.0**	**+1.2**
HLRZ	**Highlands Stat**	**1.54**	**291**	P	**Pb**	**19 12 04.4**	**-0.9**
HRRZ	**Handcock Road**	**1.55**	**285**	P	**Pn**	**19 12 03.3**	**+0.3**
OMRZ	**Omania**	**1.59**	**296**	P	**Pn**	**19 12 03.8**	**+0.3**
PXZ	**Pawanui**	**1.59**	**220**	P	**Pn**	**19 12 04.5**	**+1.0**
HSRZ	**Hossack Road**	**1.60**	**288**	P	**Pn**	**19 12 04.1**	**+0.4**
OPRZ	**Ohinepanea**	**1.61**	**306**	P	**Pn**	**19 12 03.6**	**-0.1**
OPRZ				S	**Sn**	**19 12 21.7**	**-1.7**
WPRZ	**Whakapapatarin**	**1.61**	**280**	P	**Pn**	**19 12 04.1**	**+0.3**
LIRZ	**Lichensteins R**	**1.63**	**299**	P	**Pn**	**19 12 04.3**	**+0.2**
HATZ	**Hinemaiaia**	**1.64**	**267**	P	**Pb**	**19 12 07.7**	**+0.7**
KRHZ	**Kereru**	**1.64**	**239**	P	**Pn**	**19 12 05.2**	**+1.0**
UTU	**Utuhina**	**1.69**	**291**	P	**Pb**	**19 12 08.1**	**+0.3**
GRRZ	**Galatos Road**	**1.69**	**285**	P	**Pn**	**19 12 05.6**	**+0.6**
KARZ	**Kaharoa**	**1.72**	**297**	P	**Pn**	**19 12 05.4**	**+0.1**
NGRZ	**Ngongotaha**	**1.72**	**294**	P	**Pb**	**19 12 07.2**	**-1.2**
WHTZ	**Whakaora**	**1.75**	**274**	P	**Pb**	**19 12 11.4**	**+2.5**
RITZ	**Rihia Road**	**1.82**	**264**	P	**Pn**	**19 12 08.3**	**+1.6**
WPHZ	**Waipukurau**	**1.84**	**227**	P	**Pn**	**19 12 08.2**	**+1.2**
TGRZ	**Tauranga**	**1.86**	**305**	P	**Pn**	**19 12 06.8**	**-0.4**
**KUTZ

WHVZ	Whangaehu Hut	2.08	256	P	Pn	19 12 11.9	+1.5
WNVZ	Wahianoa	2.08	255	P	Pn	19 12 11.5	+1.1
MAVZ	Matarangi	2.10	257	P	Pn	19 12 12.3	+1.6
COVZ	Chateau Observ	2.10	258	P	Pn	19 12 12.0	+1.5
FWVZ	Far West T-bar	2.10	257	P	Pn	19 12 11.9	+1.1
ANWZ	Angora Road	2.11	218	P	Pb	19 12 12.7	-2.3
TRVZ	Turoa	2.11	256	P	Pn	19 12 12.7	+1.8
TSZ	Takapari Road	2.13	233	P	Pn	19 12 11.5	+0.6
TLZ	Tolley Road	2.13	282	P	Pn	19 12 11.2	+0.2
DVHZ	Dannevirke	2.16	226	P	Pn	19 12 11.7	+0.4
TWVZ	Taurewa	2.16	262	P	Pn	19 12 13.0	+1.6
MYRZ	Mayor Island	2.17	314	P	Pn	19 12 11.7	+0.2
MTVZ	Mangateitei	2.19	254	P	Pn	19 12 13.4	+1.6
PKVZ	Pokaka	2.26	257	P	Pn	19 12 14.4	+1.5
TOZ	Tahuroa Road	2.37	296	P	Pn	19 12 14.2	-0.1
BFZ	Birch Farm	2.39	218	P	Pn	19 12 14.9	+0.3
BFZ	Birch Farm	2.39	218	P	Pn	19 12 14.7	+0.1
PRWZ	Pori Road	2.44	224	P	Pn	19 12 16.3	+1.1
POWZ	Post Office Ro	2.45	229	P	Pn	19 12 16.6	+1.3
CPWZ	Castlepoint	2.59	215	P	Pn	19 12 17.8	+0.5
HIZ	Hauiti	2.62	275	P	Pn	19 12 18.6	+0.9
HIZ	Hauiti	2.62	275	P	Pn	19 12 18.7	+0.9
WAZ	Wanganui	2.66	248	P	Pn	19 12 20.7	+2.5
VRZ	Vera Road	2.69	262	P	Pn	19 12 20.2	+1.6
MRZ	Mangatainoka R	2.73	227	P	Pn	19 12 19.0	-0.2
KUZ	Kuaotunu	2.84	316	P	Pn	19 12 20.5	-0.2
KUZ	Kuaotunu	2.84	316	P	Pn	19 12 20.6	0.0
TMWZ	Te Maipa	2.89	217	P	Pn	19 12 21.1	-0.3
MKAZ	Moumakai	2.94	305	P	Pn	19 12 22.1	+0.1
LREZ	Lake Rotokare	3.01	256	P	Pn	19 12 25.2	+2.2
OGWZ	Otaki Gorge	3.07	228	P	Pn	19 12 23.6	-0.2
DREZ	Durham Road	3.13	262	P	Pn	19 12 27.0	+2.3
WIAZ	Waiheke Island	3.15	309	P	Pn	19 12 25.5	+0.6
ETAZ	East Tamaki Re	3.18	305	P	Pn	19 12 26.1	+0.8
PREZ	Palmer Road	3.18	259	P	Pn	19 12 28.0	+2.6
NEZ	North Egmont	3.22	261	P	Pn	19 12 28.8	+2.8
KIW	Kapiti Island	3.25	230	P	Pn	19 12 26.0	-0.4
KHEZ	Kahui Hut	3.28	260	P	Pn	19 12 28.8	+1.9
KHEZ	Kahui Hut	3.28	260	P	Pn	19 12 29.5	+2.6
PKE	Pukeiti	3.29	262	P	Pn	19 12 29.1	+2.1
AWAZ	Awhitu Peninsu	3.30	301	P	Pn	19 12 27.9	+0.9
MBAZ	Motutapu North	3.31	307	P	Pn	19 12 27.7	+0.6
PAWZ	Paruwai Farm	3.33	219	P	Pn	19 12 27.0	-0.4
GRZ	Great Barrier	3.35	319	P	Pn	19 12 27.9	+0.1
NBEZ	Newall Road No	3.39	261	P	Pn	19 12 31.7	+3.4
WTAZ	Waiatarua	3.42	302	P	Pn	19 12 31.2	+2.5
ABAZ	Army Bay	3.46	309	P	Pn	19 12 30.0	+0.9
BHW	Baring Head	3.63	223	P	Pn	19 12 30.9	-0.7
SNZO	South Karori	3.66	226	P	Pn	19 12 31.1	-0.8
DUWZ	D'Urville Isla	3.84	237	P	Pn	19 12 34.0	-0.4
TCW	Tory Channel	3.84	230	P	Pn	19 12 33.6	-0.9
WCZ	Waipu Caves	4.19	312	P	Pn	19 12 39.8	+0.6
NNZ	Nelson	4.41	235	P	Pn	19 12 41.4	-0.7
TKNZ	Takaka Hill	4.59	239	P	Pn	19 12 43.7	-1.1
QRZ	Quartz Range	4.80	243	P	Pn	19 12 46.1	-1.5
MRNZ	Matariki Terra	4.90	236	P	Pn	19 12 48.1	-0.9
THZ	Tophouse	5.00	232	P	Pn	19 12 50.0	-0.5
KHZ	Kahutara	5.05	223	P	Pn	19 12 50.1	-0.9
OUZ	Omahuta	5.13	313	P	Pn	19 12 53.6	+1.4
OUZ	Omahuta	5.13	313	P	Pn	19 12 53.7	+1.4
GVZ	Greta Valley S	5.70	222	P	Pn	19 12 59.9	0.0
CTZ	Chatham Island	6.29	143	P	Pn	19 13 12.1	+4.1
RPZ	Rata Peaks	7.27	225	Pn	Pn	19 13 20.0	-1.6
	0.9nm,0.3s,baz=46,slow=16,SNR=1.5						
RPZ				Sn	Sn	19 14 34.4	-8.6
	2.9nm,0.3s,baz=327,slow=19,SNR=12						
	2.7nm,0.3s						
RAR	Rarotonga	25.81	54	LR	LR	19 27 07.7	
	comp=Z,30nm,18.1s,baz=308,slow=36						
ASAR	Alice Springs	40.36	279	P	P	19 19 12.8	+0.3
	1.3nm,0.5s,baz=134,slow=8.7,SNR=30						
	1.3nm,0.5s						
WRA	Warramunga Arr	42.12	284	P	P	19 19 25.8	-1.2
	1.1nm,0.9s,baz=122,slow=8.8,SNR=4.1						
	1.1nm,0.9s						
QSPA	South Pole Qui	51.32	180	P	P	19 20 39.5	+0.9
	0.8nm,1.1s,baz=315,slow=6.7,SNR=2.2						
	0.8nm,1.1s						
SNAA	Sanae	69.82	180	P	P	19 22 42.1	-2.5
	0.5nm,1.0s,baz=175,slow=12,SNR=1.3						
	0.5nm,1.0s						
H03S2	Juan Fernandez	78.41	124	T	T	20 49 47.2	
	baz=229,slow=74,SNR=136						
H03S1	Juan Fernandez	78.42	124	T	T	20 49 48.4	
	baz=229,slow=74,SNR=179						
H03S3	Juan Fernandez	78.43	124	T	T	20 49 47.5	
	baz=229,slow=74,SNR=156						
H03N3	Juan Fernandez	78.65	124	T	T	20 50 01.5	
	baz=232,slow=72,SNR=48						
H03N2	Juan Fernandez	78.65	124	T	T	20 49 56.7	
	baz=232,slow=72,SNR=57						
H03N1	Juan Fernandez	78.67	124	T	T	20 50 02.4	
	baz=232,slow=72,SNR=43						
KSRS	Korea Array	88.88	322	P	P	19 24 29.5	+1.1
	0.7nm,0.6s,baz=145,slow=6.7,SNR=2.5						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	124.38	310	PKP	PKPdf	19 30 32.8	+0.1
	0.5nm,0.8s,baz=106,slow=2.3,SNR=3.5						
ARCES	ARCESS Array B	145.94	343	PKPbc	PKPab	19 31 13.7	+0.3
	3.3nm,0.9s,baz=54,slow=4.6,SNR=8.1						
FINES	FINESS Array B	151.55	332	PKPbc	PKiKP	19 31 28.1	+0.1
	2.4nm,1.0s,baz=38,slow=1.8,SNR=7.8						
FINES				PKPab	pPKPbc	19 31 35.5	-1.9
	2.5nm,1.0s,baz=32,slow=5.4,SNR=5.2						

DMN ***20*** *19:24:26.3±0.0,27°.82N×87°.98E,h74km,MI4.2/9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 20 19:24:25.0±2.9,27°.9N±0°.2×88°.00E±0°.07,h102km±49km, n10,σ0°96/19,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	Odare	1.14	209	Pn	Pn	19 24 47.9	+0.5
	baz=209,slow=0.0						
ODAN				Sn	Sn	19 25 03.3	-0.9
	820nm,0.2s,baz=209,slow=0.0						
RAMN	Ramite	1.54	234	Pn	Pn	19 24 52.4	+0.2
	baz=235,slow=0.0						
RAMN				Sn	Sn	19 25 12.8	+0.1
	78nm,0.2s,baz=235,slow=0.0						
GUN	Gumba	1.88	272	Pn	Pn	19 24 57.5	+1.1
	baz=273,slow=0.0						
GUN				Sn	Sn	19 25 19.7	-0.6
	314nm,0.2s,baz=273,slow=0.0						
PKI	Pulchoki	2.32	263	Pn	Pn	19 25 02.8	+0.7
	baz=264,slow=0.0						
PKI				Sn	Sn	19 25 29.5	-0.9
	161nm,0.2s,baz=264,slow=0.0						
PKIN	Phulchoki	2.33	263	Pn	Pn	19 25 03.1	+0.9
	baz=264,slow=0.0						
PKIN				Sn	Sn	19 25 29.6	-1.0
	168nm,0.2s,baz=264,slow=0.0						
KKN	Kakani	2.41	269	Pn	Pn	19 25 04.7	+1.5
	baz=270,slow=0.0						
KKN				Sn	Sn	19 25 32.4	-0.1
	235nm,0.2s,baz=270,slow=0.0						
DMN	Daman	2.58	265	Pn	Pn	19 25 06.4	+0.9
	baz=266,slow=0.0						
DMN				Sn	Sn	19 25 35.8	-0.7
	99nm,0.2s,baz=266,slow=0.0						
GKN	Gorkha	2.98	273	Pn	Pn	19 25 11.5	+0.8
	baz=274,slow=0.0						
GKN				Sn	Sn	19 25 45.6	-0.2
	175nm,0.2s,baz=274,slow=0.0						
LSA	Lhasa	3.31	56	Pg	Pn	19 25 15.8	+0.4
LSA				Sg	Sn	19 25 31.8	-22
LSA				smax	smax		
	comp=N,7.0nm,0.9s						
LSA				smax	smax		
	comp=E,10.0nm,0.6s						
DANN	Dangsing	3.78	278	Pn	Pn	19 25 21.3	-0.2
	baz=279,slow=0.0						
DANN				Sn	Sn	19 26 03.3	-1.9
	comp=E,142nm,0.2s,baz=279,slow=0.0						

TXNET ***20*** *19:30:37.9,31°.2N±0°.7×103°.8W±0°.6,h6km±1km,ML2.8/15, Error ellipse: s-maj=1.1km s-min=0.7km az=34.4,final*

NEIC 20 19:30:37.9±1.3,31°.223N±0°.008×103°.81W±0°.02, h5km±2km,mb_Lg2.5/28,ML2.8/40,1C,Error ellipse: s-maj=3.0km s-min=2.5km az=265.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB10	Southeast of T	0.07	37	⇑P	Pg	19 30 39.5	-0.2
TPB10				S	Sg	19 30 41.8	+0.9
TPB12	Southwest of T	0.13	266	P	Pg	19 30 41.1	+0.6
TPB12				S	Sg	19 30 43.9	+1.5
LWM1	Layne Water Mi	0.15	87	P	Pg	19 30 41.4	+0.4
LWM1				S	Sg	19 30 44.5	+1.5
PECS	Pecos	0.15	341		Pg	19 30 41.3	+0.2
PECS				Sg	Sg	19 30 44.0	+0.8
PECS				IAML		19 30 44.2	
	4μm,0.4s						
PECS				IAML		19 30 45.6	
	3μm,0.3s						
PECS	Pecos	0.15	341	P	Pg	19 30 41.3	+0.2
PECS				S	Sg	19 30 43.7	+0.5
LWM2	Layne Water Mi	0.20	76	P	Pg	19 30 42.7	+0.9
LWM2				S	Sg	19 30 46.1	+1.7
TPB01	Permian Basin	0.28	175	P	Pg	19 30 44.3	+0.9
TPB01				S	Sb	19 30 50.4	-0.1
TPB03	Saragosa	0.29	119	S	Sb	19 30 49.2	-1.5
PCOS	Crockett Middl	0.31	54	P	Pg	19 30 44.7	+0.7
TPB13	Reeves - Culbe	0.33	354	P	Pg	19 30 44.9	+0.5
TPB13				S	Sg	19 30 49.9	+1.1
TPB07	Mentone	0.38	18	P	Pg	19 30 45.4	+0.2
TPB07				S	Sg	19 30 51.0	+0.8
TPB04	Verhalen	0.46	94	P	Pg	19 30 47.7	+0.8
TPB04				S	Sb	19 30 54.6	-1.2
TPB16	Coyonosa	0.49	101	P	Pg	19 30 47.8	+0.6
TPB16				S	Sb	19 30 55.3	-1.2
TPB05	Hovey Rd	0.51	126	P	Pg	19 30 48.5	+0.7
TPB05				S	Sb	19 30 56.4	-0.9
TPB19	West of Imperi	0.61	82	P	Pg	19 30 49.7	0.0
TPB15	Southwest of C	0.62	91	S	Sb	19 30 59.3	-1.1
TPB06	Permian Basin	0.66	50	P	Pg	19 30 51.0	+0.4
TPB06				S	Sb	19 31 00.3	-1.1
TPB27	North of Pyote	0.68	58	P	Pb	19 30 52.2	-0.1
TPB27				S	Sb	19 31 01.7	-0.3
TPB09	Culberson Coun	0.69	323	P	Pg	19 30 51.2	-0.1
TPB09				S	Sg	19 31 00.2	-0.1
TPB11	China Draw	0.74	345	S	Sg	19 31 02.4	+0.7
TPB08	Permian Basin	0.84	113	S	Sb	19 31 06.5	-0.2
ALPN	Alpine	0.86	170		Pg	19 30 54.4	0.0
ALPN				IAML		19 31 06.8	
	217nm,0.3s						
ALPN				IAML		19 31 08.5	
	288nm,0.3s						
ALPN	Alpine	0.86	170	P	Pg	19 30 54.4	0.0
ALPN				S	Sg	19 31 06.4	+0.8
MNHN	Monahans	0.90	82		Pg	19 30 54.4	-0.9
MNHN				IAML		19 31 14.4	
	231nm,0.5s						
MNHN	Monahans	0.90	82	P	Pg	19 30 54.9	-0.4
MNHN				S	Sg	19 31 06.8	-0.2
CLNB	Carlsbad	1.04	357		Pg	19 30 57.0	-0.9
CLNB	Carlsbad	1.04	357	P	Pg	19 30 58.2	+0.3
CLNB				S	Sg	19 31 11.7	+0.3
CLNB	Carlsbad	1.04	357	P	Pg	19 30 58.0	+0.1
VHRN	Van Horn	1.10	247		Pg	19 30 58.8	-0.2
VHRN	Van Horn	1.10	247	P	Pg	19 30 59.1	+0.1
VHRN				S	Sb	19 31 14.5	+0.3
NM01	Eunice	1.18	17	P	Pg	19 31 00.1	-0.4
NM01				S	Sb	19 31 16.4	-0.1
HTMS	Hat Mesa	1.25	7		Pg	19 31 01.5	-0.5
HTMS	Hat Mesa	1.25	7	S	Sb	19 31 18.9	+0.2
ODSA	Odessa	1.40	50		Pn	19 31 03.5	-0.7
ODSA	Odessa	1.40	50	P	Pn	19 31 03.4	-0.8
ODSA				S	Sn	19 31 23.0	0.0
MNTX	Cornudas Mount	1.43	290		Pb	19 31 05.0	0.0
MNTX	Cornudas Mount	1.43	290	P	Pb	19 31 05.1	+0.1
MNTX				S	Sg	19 31 24.9	+1.1
TMB02	Rankin	1.52	90	P	Pb	19 31 06.2	-0.4
TMB01	Midkiff	1.54	73	P	Pn	19 31 06.1	0.0
TMB01				S	Sg	19 31 27.2	-0.2
TMB04	Seminole	1.79	38	P	Pn	19 31 10.1	+0.5
TMB04				S	Sg	19 31 35.2	-0.3
CPRX	Cap Rock	1.80	358		Pn	19 31 09.8	0.0
CPRX	Cap Rock	1.80	358	P	Pb	19 31 11.1	-0.4
TMB06	Greenwood	1.87	66	S	Sb	19 31 36.9	+0.5
TX31	Lajitas Ar. Si	1.89	176		Pb	19 31 12.7	-0.2
TX31	Lajitas Ar. Si	1.89	176	P	Pb	19 31 12.6	-0.3
TX31				S	Sg	19 31 39.0	+0.4
TXAR	Lajitas Array	1.89	176		Pb	19 31 12.6	-0.3
SAND	Sanderson	1.93	131		Pb	19 31 13.4	-0.2
SAND				IAML		19 31 41.6	
	55nm,0.4s						
SAND				IAmb_Lg		19 31 43.1	
	comp=Z,16nm,0.7s						
OZNA	Ozona	2.32	97		Pn	19 31 18.4	+1.6
OZNA				IAML		19 31 50.6	
	comp=Z,54nm,0.4s						
OZNA				IAmb_Lg		19 31 54.0	
	comp=Z,19nm,0.7s						
OZNA				IAML		19 32 03.3	
	comp=Z,47nm,0.8s						
EPT	El Paso	2.37	284	IAmb_Lg		19 31 57.0	
	comp=Z,14nm,1.0s						
SGCY	Sterling City	2.39	73		Pn	19 31 18.3	+0.5
SGCY				IAML		19 31 53.6	
	comp=Z,63nm,0.5s						
SGCY				IAmb_Lg		19 31 56.8	
	comp=Z,23nm,0.8s						
SGCY				IAML		19 31 57.8	
	comp=Z,52nm,0.3s						
POST	Post	2.68	46		Pn	19 31 23.3	+1.5
POST				IAmb_Lg		19 32 06.1	
	comp=Z,11nm,0.7s						
POST				IAML		19 32 07.1	
	comp=Z,58nm,0.6s						
POST				IAML		19 32 12.3	
	comp=Z,64nm,0.6s						
MSTX	Muleshoe	2.87	17		Pn	19 31 26.1	+1.6
SN07	Snyder 07	3.10	52	IAmb_Lg		19 32 18.7	
	comp=Z,23nm,0.7s						
DRIO	Del Rio	3.29	122	IAmb_Lg		19 32 19.7	
	comp=Z,15nm,0.9s						
DKNS	Dickens	3.45	44		Pn	19 31 33.2	+0.8
DKNS				IAmb_Lg		19 32 27.6	
	comp=Z,15nm,1.1s						
APMT	Aspermont	3.76	55		Pn	19 31 37.6	+1.0
APMT				IAmb_Lg		19 32 45.7	
	comp=Z,19nm,0.8s						
Y22A	Socorro	3.80	316		Pn	19 31 38.4	+1.1
Y22A				IAML		19 32 39.2	
	comp=N,11nm,0.4s						
Y22A				IAML		19 33 03.7	
	comp=E,16nm,2.9s						
ABTX	Abilene, Hawle	3.81	67	Pn	Pn	19 31 37.2	-0.1
AMTX	Amarillo	4.06	25	IAmb_Lg		19 32 56.6	
	comp=Z,14nm,0.8s						
BRDY	Brady	4.12	88	IAmb_Lg		19 32 56.6	
	comp=Z,12nm,0.8s						
319A	Douglas	4.69	273	IAmb_Lg		19 33 16.5	
	comp=Z,8.2nm,0.8s						
PLPT	Palo Pinto	4.93	70	IAmb_Lg		19 33 26.7	
	comp=Z,11nm,1.0s						

NEIC ***20*** *19:32:53.8±1.7,31°.70S±0°.07×179°.0W±0°.2,h10km±1km, mb4.5/11,Error ellipse: s-maj=30.1km s-min=6.8km az=111.0*

IDC ***20*** *19:32:56.9±0.6,31°.85S×178°.00W,h0km,mb4.2/10, mbtmp4.1/12,ML3.8/2,MS3.7/17,Error ellipse: s-maj=23.1km s-min=17.6km az=92.0*

ISC 20 19:32:57.4±0.5,32°.07S±0°.06×178°.0W±0°.1,h10km,n63, σ1°58/43,mb4.5/17,MS3.8/15,4C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.81	1	Pn	Pn	19 33 36.6	-5.8
RAO				Sn	Sn	19 34 06.9	-9.4
RAO	Raoul Island	2.81	1	Pn	Pn	19 33 40.7	-1.6
	55nm,0.3s,baz=20,SNR=3.6						
RAO				Sn	Sn	19 34 14.8	-1.4
	58nm,0.3s,baz=97,slow=20,SNR=3.5						
RAO				LR	LR	19 35 05.0	
	comp=Z,718nm,18.6s,baz=113,slow=50						
	164nm,0.3s						
MXZ	Matakaoa Point	6.27	208	Pn	Pn	19 34 26.2	-3.7
URZ	Urewera	7.36	212	Pn	Pn	19 34 45.1	+0.2
	1.9nm,0.3s,baz=18,slow=6.4,SNR=9.4						
URZ				Sn	Sn	19 36 06.0	-2.5
	2.5nm,0.3s,baz=57,slow=18,SNR=3.8						
RTZ	Ruatahuna	7.71	211		Pn	19 34 45.9	-3.9
BKZ	Black Stump Fm	8.38	211	Pn	Pn	19 34 54.0	-5.0
LTZ	Lake Taylor	13.19	213	Pn	Pn	19 35 59.0	-5.7
NIUE	Niue	14.84	31	Pn	Pn	19 36 24.8	-2.5
DZM	Mont Dzumac	17.04	302	Pn	Pn	19 36 54.3	-1.6
	0.1nm,0.3s,baz=132,slow=18,SNR=0.9						
DZM				LR	LR	19 42 31.2	
	comp=Z,734nm,18.2s,baz=190,slow=34						
	2.3nm,0.8s						
MLZ	Mavora Lakes	17.10	215	Pn	Pn	19 36 46.4	-10
MLZ				IAmb	IAmb	19 37 05.0	
	comp=Z,25nm,1.1s						
RAR	Rarotonga	19.52	61	LR	LR	19 45 42.3	
	comp=Z,60nm,18.3s,baz=257,slow=39						
TBI	Tubuai	26.66	78	eLR	LR	19 45 00.8	
	comp=Z,1μm,32.5s						
TBI				eLR	LR	19 45 07.3	
	comp=Z,787nm,29.5s						
PPT2	Papeete2	29.44	67	eLR	LR	19 46 19.1	
	comp=Z,153nm,28.8s						
PPT2				eLR	LR	19 46 19.5	
	comp=Z,107nm,27.5s						
PPT	Papeete	29.45	67	LR	LR	19 48 48.9	
	comp=Z,61nm,20.5s,baz=232,slow=32						
HNR	Honiara	30.41	313	LR	LR	19 49 35.1	
	comp=Z,104nm,19.2s,baz=177,slow=33						
CTA	Charters Tower	34.10	282	LR	LR	19 52 20.9	
	comp=Z,5.9nm,18.1s,baz=44,slow=34						
STKA	Stephens Creek	34.14	259	P	P	19 39 30.8	-12
STKA	Stephens Creek	34.14	259	P	P	19 39 44.5	+1.9
	comp=Z,2.3nm,0.7s,baz=98,slow=11,SNR=7.4						
STKA				LR	LR	19 52 55.4	
	comp=Z,162nm,19.1s,baz=35,slow=35						
	comp=Z,2.3nm,0.7s						
BBOO	Buckleboo	38.54	256	P	P	19 40 09.1	-11
BBOO				IAmb	IAmb	19 40 21.8	
	comp=Z,20nm,1.2s						
PMG	Port Moresby	39.34	297	LR	LR	19 54 52.3	
	comp=Z,75nm,19.4s,baz=117,slow=34						
ASAR	Alice Springs	43.05	269	P	P	19 40 44.5	-13
ASAR	Alice Springs	43.05	269	P	P	19 40 58.2	+0.6
	comp=Z,3.8nm,0.6s,baz=106,slow=7.3,SNR=44						
ASAR				LR	LR	19 59 01.1	
	comp=Z,120nm,19.2s,baz=120,slow=36						
	comp=Z,3.8nm,0.6s						
WR8	Warramunga Arr	44.04	274		P	19 40 54.9	-11
WR8				IAmb	IAmb	19 41 23.9	
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	44.18	274		P	19 40 55.2	-12
WRA	Warramunga Arr	44.18	274	P	P	19 41 07.3	+0.5
	comp=Z,5.3nm,0.4s,baz=114,slow=7.6,SNR=42						
WRA				LR	LR	19 58 41.4	
	comp=Z,190nm,18.5s,baz=102,slow=35						
	comp=Z,5.3nm,0.4s						
WB0	Warramunga Arr	44.22	274		P	19 40 56.6	-10
WB0				IAmb	IAmb	19 41 13.0	
	comp=Z,8.4nm,0.8s						
FORT	Forrest	45.64	257	P	P	19 41 08.9	-9.3
FORT				IAmb	IAmb	19 41 23.9	
	comp=Z,10nm,0.8s						
VNDA	Vanda	46.44	186	P	P	19 41 22.1	-1.9
VNDA				IAmb	IAmb	19 41 38.9	
	comp=Z,2.9nm,1.5s						
VNDA	Vanda	46.44	186	P	P	19 41 27.4	+3.5
	comp=Z,0.9nm,0.8s,baz=3.5,slow=4.1,SNR=5.8						
	comp=Z,0.9nm,0.8s						
FITZ	Fitzroy Crossi	52.38	271	LR	LR	20 04 09.2	
	comp=Z,231nm,18.7s,baz=148,slow=36						
BATI	Baumata	57.88	278	LR	LR	20 08 10.2	
	comp=Z,230nm,18.2s,baz=158,slow=36						
QSPA	South Pole Qui	58.05	180	P	P	19 42 49.9	-0.6
QSPA	South Pole Qui	58.05	180	P	P	19 42 54.4	+3.9
	comp=Z,2.1nm,0.9s,baz=82,slow=0.9,SNR=12						
	comp=Z,2.1nm,0.9s						
KAPI	Kappang	63.91	281	LR	LR	20 11 50.6	
	comp=Z,80nm,18.5s,baz=100,slow=36						
MAW	Mawson	70.75	201	P	P	19 44 18.6	+5.3
	comp=Z,4.9nm,1.1s,baz=177,slow=3.1,SNR=3.9						
TROLL	Troll, Antarti	76.21	180	⇑P	P	19 44 45.6	-0.1
	comp=Z,174nm,1.0s						
SNAA	Sanae	76.49	178	⇑P	P	19 44 47.9	+0.7
	comp=Z,42nm,0.9s						
SNAA	Sanae	76.49	178	P	P	19 44 46.3	-0.9
SNAA				IAmb	IAmb	19 45 11.5	
	comp=Z,9.2nm,1.1s						
SNAA	Sanae	76.49	178	P	P	19 44 47.8	+0.7
	comp=Z,2.0nm,0.9s,baz=183,slow=5.7,SNR=9.1						
	comp=Z,2.0nm,0.9s						
VNA3	Neumayer Olymp	76.65	176	⇑P	P	19 44 48.5	+0.5
	comp=Z,7.4nm,0.7s						
VNA2	Neumayer--Watz	77.08	177	⇑P	P	19 44 48.9	-1.5
	comp=Z,4.0nm,0.5s,baz=152,slow=7.7						
JOW	Kunigami	77.78	313	LR	LR	20 18 13.2	
	comp=Z,17nm,19.3s,baz=126,slow=35						
LPIG	La Paz	85.41	58	LR	LR	20 16 53.3	
	comp=Z,48nm,18.7s,baz=210,slow=31						
PETK	Petropavlovsk-	87.42	346	P	P	19 45 45.2	+0.7
	comp=Z,2.9nm,0.9s,baz=164,slow=5.1,SNR=5.2						
	comp=Z,2.9nm,0.9s						
NVAR	Mina Array Bea	89.46	43	P	P	19 45 55.0	+0.2
	comp=Z,0.7nm,0.8s,baz=209,slow=7.5,SNR=3.7						
	comp=Z,0.7nm,0.8s						
TXAR	Lajitas Array	93.29	57	P	P	19 46 12.3	-0.4
	comp=Z,0.4nm,1.1s,baz=251,slow=5.3,SNR=2.6						
	comp=Z,0.4nm,1.1s						
CMAR	Chiang Mai Arr	93.95	289	P	P	19 46 17.6	+1.8
	comp=Z,0.2nm,0.4s,baz=114,slow=7.1,SNR=1.4						
	comp=Z,0.2nm,0.4s						
BBB	Bella Bella	94.56	28

SWI	**Sorong**	**5.26 6**	P	**Pn**	**19 40 16.7**	**-3.0**
	0.9nm24nm,1.1s					
RKPI	**Ransiki, Papua**	**5.73 37**	P	**Pn**	**19 40 24.8**	**-1.1**
SANI	**Sanana**	**6.25 310**	P	**Pn**	**19 40 31.9**	**-0.9**
	0.1nm488nm16nm,0.8s					
BAKI	**Biak**	**7.26 48**	P	**Pn**	**19 40 47.6**	**+1.2**
SOEI	**Soe**	**7.36 240**	P	**Pn**	**19 40 50.2**	**+2.4**
	0.2nm16nm,0.7s					
BATI	**Baumata**	**8.10 240**	P	**Pn**	**19 40 59.5**	**+2.0**
	8.9nm,0.3s,baz=81,slow=4.3,SNR=5.5					
BATI			S	**Sn**	**19 42 27.2**	**-0.6**
	14nm,0.3s,baz=126,slow=19,SNR=9.1					
BATI	**Baumata**	**8.10 240**	P	**Pn**	**19 40 59.8**	**+2.3**
	20nm,1.1s					
EDFI	**Ende, Flores**	**9.35 253**	P	**Pn**	**19 41 18.2**	**+3.9**
	7.8nm,1.0s					
WBSI	**Waikabubak, Su**	**11.78 252**	P	**Pn**	**19 41 47.3**	**+1.0**
	20nm,1.1s					
FITZ	**Fitzroy Crossi**	**12.89 202**	P	**Pn**	**19 42 00.7**	**+0.1**
	5.0nm,0.3s,baz=26,slow=10,SNR=88					
FITZ			S	**Sn**	**19 44 16.6**	**-6.8**
	6.1nm,0.3s,baz=59,slow=20,SNR=12					
FITZ	**Fitzroy Crossi**	**12.89 202**	P	**Pn**	**19 42 00.7**	**+0.1**
TWSI	**Taliwang, Sumb**	**13.99 259**	P	**Pn**	**19 42 16.9**	**+2.2**
	12nm,0.9s					
WRA	**Warramunga Arr**	**14.16 166**	P	**P**	**19 42 19.0**	**-0.8**
	0.4nm,0.3s,baz=328,slow=14,SNR=6.8					
WRA			S	**Sn**	**19 44 47.3**	**-6.5**
	3.2nm,0.6s,baz=353,slow=23,SNR=9.8					
ASAR	**Alice Springs**	**17.69 170**	P	**Pn**	**19 43 03.4**	**+3.3**
	0.4nm,0.4s,baz=345,slow=12,SNR=12					
ASAR			S	**S**	**19 46 10.4**	**-4.6**
	0.8nm,0.5s,baz=346,slow=26,SNR=4.7					
JOW	**Kunigami**	**32.86 356**	LR	LR	19 58 47.5	
	comp=Z,15nm,19.6s,baz=104,slow=36					
SONM	**Songino Array**	**57.87 341**	P	**P**	**19 48 41.8**	**+2.9**
	0.3nm,0.5s,baz=158,slow=7.9,SNR=2.9					
	0.3nm,0.5s					
MKAR	**Makanchi Array**	**67.92 326**	P	**P**	**19 49 48.4**	**+3.1**
	1.5nm,0.3s,baz=113,slow=8.1,SNR=34					
	1.5nm,0.3s					
KURBB	**Kurchatov Arra**	**72.17 328**	P	**P**	**19 50 13.6**	**+2.5**
	0.4nm,0.5s,baz=126,slow=4.9,SNR=8.0					
	0.4nm,0.5s					

*NEIC **20** 20:09:05.4±1.7, 19°.21N±0°.03×67°.27W±0°.02, h10km±1km, ML2.8/13, Md3.0/12(RSPR), Error ellipse: s-maj=5.3km s-min=2.9km az=156.0*
*RSPR **20** 20:09:08.0, 19°.17N×67°.34W, h10km±31km, MD3.0/12*
*SDD **20** 20:09:07.0±1.8, 19°.21N×67°.20W, h18km±62km, MD3.3, ML2.7, MW3.2*

ISC 20 20:09:04.7±1.4,**19°.22N**±0°.06×**67°.27W**±0°.03,**h13**km±10km, **n57**, σ0**°87**/69,**12C-15D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76 169**			**Pn**	**20 09 20.5**	**-0.7**
AGPR					**Sb**	**20 09 30.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.76 169**		⇓*iP*	**Pn**	**20 09 20.5**	**-0.7**
AGPR	**Aguadilla, PR**	**0.76 169**		*eS*	**Sb**	**20 09 30.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.76 169**		⇑*ePg*	**Pn**	**20 09 20.4**	**-0.7**
AGPR				⇑*eSg*	**Sb**	**20 09 30.5**	**+0.3**
AGPR				IAML		20 09 33.4	
	comp=N,324nm,0.2s						
IDE	**Isla Desecheo**	**0.85 193**			**Pn**	**20 09 22.1**	**-0.3**
IDE					**Sb**	**20 09 33.3**	**+0.6**
IDE	**Isla Desecheo**	**0.85 193**		⇓*iP*	**Pn**	**20 09 22.1**	**-0.3**
IDE	**Isla Desecheo**	**0.85 193**		*eS*	**Sb**	**20 09 33.3**	**+0.6**
AOPR	**Arecibo Observ**	**0.99 151**			**Pn**	**20 09 24.3**	**-0.2**
AOPR	**Arecibo Observ**	**0.99 151**		⇓*iP*	**Pn**	**20 09 24.3**	**-0.2**
AOPR	**Arecibo Observ**	**0.99 151**		⇓*ePg*	**Pn**	**20 09 24.3**	**-0.2**
AOPR				IAML		20 09 41.7	
	comp=N,329nm,0.2s						
PRSN	**Puerto Rico Se**	**1.00 173**			**Pn**	**20 09 24.3**	**-0.3**
PRSN					**Sb**	**20 09 36.6**	**-0.5**
PRSN	**Puerto Rico Se**	**1.00 173**		⇑*eP*	**Pn**	**20 09 24.3**	**-0.3**
PRSN	**Puerto Rico Se**	**1.00 173**		*eS*	**Sb**	**20 09 36.6**	**-0.5**
PRSN	**Puerto Rico Se**	**1.00 173**		⇓*ePg*	**Pn**	**20 09 24.3**	**-0.3**
PRSN				⇑*eSg*	**Sn**	**20 09 38.1**	**-0.5**
PRSN				IAML		20 09 40.6	
	comp=N,562nm,0.2s						
EMPR	**Esperanza - Ma**	**1.02 136**			**Sn**	**20 09 41.5**	**+2.6**
EMPR	**Esperanza - Ma**	**1.02 136**		Pg	**Pn**	**20 09 25.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.02 136**		⇑*iP*	**Pn**	**20 09 25.4**	**+0.6**
EMPR	**Esperanza - Ma**	**1.02 136**		*eS*	**Sn**	**20 09 41.5**	**+2.6**
LSP	**Las Mesas**	**1.05 170**			**Sn**	**20 09 40.6**	**+0.8**
LSP	**Las Mesas**	**1.05 170**		*eS*	**Sn**	**20 09 40.6**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.09 151**			**Pg**	**20 09 25.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.09 151**			**Sn**	**20 09 40.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.09 151**		⇓*eP*	**Pg**	**20 09 25.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.09 151**		*eS*	**Sn**	**20 09 40.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.22 173**			**Pg**	**20 09 27.9**	**-0.2**
CRPR					**Sb**	**20 09 42.1**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.22 173**		IAML		20 09 44.9	
	comp=N,131nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.22 173**		⇑*iP*	**Pg**	**20 09 27.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.22 173**		*eS*	**Sb**	**20 09 42.1**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.22 173**		⇓*ePg*	**Pb**	**20 09 27.4**	**-0.2**
CRPR				⇑*eSg*	**Sb**	**20 09 41.9**	**-1.4**
CRPR				IAML		20 09 50.8	
	comp=N,141nm,0.2s						
ECPR	**Experimental S**	**1.24 136**		⇑*iP*	**Pg**	**20 09 28.3**	**-0.3**
ECPR	**Experimental S**	**1.24 136**		*eS*	**Sg**	**20 09 47.3**	**+2.6**
MLPR	**Magueyes Islan**	**1.26 170**		*eS*	**Sb**	**20 09 43.7**	**-0.9**
MLPR	**Magueyes Islan**	**1.26 170**		⇓*ePg*	**Pb**	**20 09 28.1**	**-0.3**
MLPR				⇑*eSg*	**Sb**	**20 09 44.3**	**-0.2**
MLPR				IAML		20 09 45.3	
	comp=N,33nm,0.3s						
PCDR	**Punta Cana, DR**	**1.27 237**		⇑*ePg*	**Pg**	**20 09 29.4**	**+0.3**
PCDR				⇑*eSg*	**Sg**	**20 09 46.6**	**+1.1**
PCDR				IAML		20 09 49.7	
	comp=N,180nm,0.7s						
CELP	**Cerrillos**	**1.31 150**			**Pb**	**20 09 29.2**	**0.0**
CELP					**Sb**	**20 09 46.0**	**-0.1**
CELP	**Cerrillos**	**1.31 150**		IAML		20 09 49.5	
	comp=E,157nm,0.2s						
CELP				IAML		20 09 50.5	
	comp=N,202nm,0.3s						
CELP	**Cerrillos**	**1.31 150**		⇓*iP*	**Pb**	**20 09 29.2**	**0.0**
CELP	**Cerrillos**	**1.31 150**		*eS*	**Sb**	**20 09 46.0**	**-0.1**
CELP	**Cerrillos**	**1.31 150**		⇓*ePg*	**Pb**	**20 09 29.2**	**0.0**
CELP				⇑*eSg*	**Sn**	**20 09 46.4**	**+0.2**
CELP				IAML		20 09 50.4	
	comp=N,205nm,0.3s						
OBIP	**Obispado Ponce**	**1.33 152**			**Pb**	**20 09 29.5**	**0.0**
OBIP					**Sb**	**20 09 45.0**	**-1.5**
OBIP	**Obispado Ponce**	**1.33 152**		IAML		20 09 50.1	
	comp=N,157nm,0.5s						
OBIP				IAML		20 09 51.8	
	comp=E,174nm,0.3s						
OBIP	**Obispado Ponce**	**1.33 152**		⇓*iP*	**Pb**	**20 09 29.5**	**0.0**
OBIP	**Obispado Ponce**	**1.33 152**		*eS*	**Sb**	**20 09 45.0**	**-1.5**
GCPR	**Guaynabo City**	**1.44 129**			**Pg**	**20 09 31.7**	**-0.7**
GCPR					**Sg**	**20 09 51.4**	**+0.2**
GCPR	**Guaynabo City**	**1.44 129**		⇑*eP*	**Pg**	**20 09 31.7**	**-0.7**
GCPR	**Guaynabo City**	**1.44 129**		*eS*	**Sg**	**20 09 51.4**	**+0.2**
SJG	**San Juan**	**1.53 136**			**Pb**	**20 09 32.9**	**0.0**
IGPR	**InterUniversit**	**1.66 138**			**Pb**	**20 09 34.7**	**-0.6**
IGPR					**Sn**	**20 09 55.4**	**+0.5**
IGPR	**InterUniversit**	**1.66 138**		⇑*eP*	**Pb**	**20 09 34.7**	**-0.6**
IGPR	**InterUniversit**	**1.66 138**		*eS*	**Sn**	**20 09 55.4**	**+0.5**
PDPR	**Patillas Dam,**	**1.68 135**			**Pn**	**20 09 33.9**	**0.0**
PDPR				IAML		20 10 00.9	
	comp=E,62nm,0.2s						
PDPR				IAML		20 10 07.2	
	comp=N,86nm,0.4s						
PDPR	**Patillas Dam,**	**1.68 135**		⇓*eP*	**Pb**	**20 09 35.2**	**-0.4**
PDPR	**Patillas Dam,**	**1.68 135**		*eS*	**Sg**	**20 09 57.6**	**-1.2**
MIDR	**Miches**	**1.70 262**		⇑*ePg*	**Pg**	**20 09 37.5**	**+0.1**
MIDR				⇓*eSg*	**Sg**	**20 10 01.2**	**+1.7**
MIDR				IAML		20 10 03.0	
	comp=N,69nm,0.7s						
SMDR	**Samana, DR**	**1.81 273**		⇓*eP*	**Pb**	**20 09 37.6**	**-0.3**
DR12	**Loma Pena Alta**	**2.04 258**			**Pg**	**20 09 42.5**	**-1.5**
HATOM	**Hato Mayor del**	**2.04 258**		⇓*ePg*	**Pg**	**20 09 42.5**	**-1.4**
HATOM				IAML		20 10 16.5	
	comp=N,48nm,0.8s						

*ATH **20** 20:09:38.7, 37°.66N×20°.52E, h19km, ML2.6/8, Manual Solution by M.Kolligri First location: 2019/10/20 20:10:38, This location: 2019/10/21 05:49:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **20** 20:09:40.3, 38°.N±1°.×2°.1E±°, h5km±2km, M2.4/12, MLh2.4/12*

ISC 20 20:09:40.3±1.3,**37°.70N**±0°.04×**20°.57E**±0°.05,**h16**km±7km, **n37**, σ0**°74**/53,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.18 34**		P	**Pb**	**20 09 45.3**	**0.0**
ORTH				S	**Sg**	**20 09 48.1**	**+0.3**
LTHK	**Lithakia**	**0.21 88**		P	**Pg**	**20 09 44.7**	**-0.5**
LTHK				S	**Sg**	**20 09 48.2**	**-0.3**
LTHK	**Lithakia**	**0.21 88**		P	**Pg**	**20 09 44.6**	**-0.6**
LTHK				S	**Sg**	**20 09 47.8**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.23 60**		P	**Pg**	**20 09 45.5**	**0.0**
KYPS				S	**Sg**	**20 09 49.6**	**+0.5**
ZAK2	**Zakynthos**	**0.28 72**		P	**Pg**	**20 09 46.2**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.41 23**		P	**Pg**	**20 09 48.3**	**-0.3**
RTZL				S	**Sb**	**20 09 55.3**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.41 1**		P	**Pg**	**20 09 48.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.41 1**		P	**Pg**	**20 09 48.1**	**-0.5**
PSDA				S	**Sg**	**20 09 54.6**	**+0.3**
VLS	**Valsamata**	**0.47 2**		P	**Pg**	**20 09 49.6**	**-0.3**
VLS				S	**Sb**	**20 09 57.7**	**+0.6**
VLS	**Valsamata**	**0.47 2**		P	**Pg**	**20 09 49.2**	**-0.7**
VLS				S	**Sg**	**20 09 56.5**	**+0.2**
ARG2	**Argostoli**	**0.48 352**		P	**Pg**	**20 09 49.9**	**0.0**
ARG2				S	**Sb**	**20 09 57.9**	**+0.6**
ARG2	**Argostoli**	**0.48 352**		P	**Pg**	**20 09 49.9**	**0.0**
ARG2				S	**Sb**	**20 09 57.3**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.48 67**		P	**Pg**	**20 09 49.5**	**-0.5**
CLEM				S	**Sg**	**20 09 57.3**	**+0.8**
LXR1	**Lixouri, Cepha**	**0.51 348**		P	**Pb**	**20 09 50.7**	**-0.2**
SMHA	**Samh**	**0.55 6**		P	**Pg**	**20 09 49.6**	**-1.7**
SMHA				S	**Sg**	**20 09 58.3**	**-0.4**
DMLN	**Damoulianata-K**	**0.56 344**		P	**Pg**	**20 09 51.3**	**-0.1**
DMLN	**Damoulianata-K**	**0.56 344**		P	**Pg**	**20 09 50.8**	**-0.6**
DMLN				S	**Sg**	**20 09 59.0**	**+0.1**
YRMI	**Loutra Irminis**	**0.73 57**		P	**Pg**	**20 09 53.9**	**-0.7**
YRMI				S	**Sg**	**20 10 03.7**	**-0.7**
FSK	**Fiskardo**	**0.76 359**		P	**Pb**	**20 09 55.3**	**+0.2**
FSK				S	**Sb**	**20 10 06.8**	**+1.7**
FSK	**Fiskardo**	**0.76 359**		P	**Pg**	**20 09 53.6**	**-1.5**
RLS	**Riolos of Patr**	**0.79 63**		P	**Pg**	**20 09 54.9**	**-0.8**
AXS	**Araxos**	**0.81 52**		S	**Sb**	**20 10 08.1**	**+1.5**
AXS	**Araxos**	**0.81 52**		P	**Pg**	**20 09 54.8**	**-1.3**
AMT	**Artemida-Makis**	**0.92 100**		P	**Pg**	**20 09 56.8**	**-1.4**
EVGI	**Lefkada island**	**0.92 4**		P	**Pg**	**20 09 56.9**	**-1.3**
DRO	**Drossia**	**0.94 74**		P	**Pg**	**20 09 57.9**	**-0.5**
DRO	**Drossia**	**0.94 74**		P	**Pg**	**20 09 57.3**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.01 6**		P	**Pn**	**20 09 60.0**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.01 6**		P	**Pb**	**20 09 58.6**	**-0.9**
LKD2	**Lefkada island**	**1.09 4**		P	**Pb**	**20 10 00.0**	**-0.8**
TSLK	**Tsoukalades, L**	**1.12 3**		P	**Pb**	**20 10 01.1**	**-0.3**
PVO	**Paravola**	**1.18 39**		P	**Pg**	**20 10 03.1**	**0.0**
ITM	**Ithomi**	**1.20 115**		P	**Pg**	**20 10 02.8**	**-0.7**
PYL	**PYLOS**	**1.23 130**		P	**Pg**	**20 10 03.5**	**-0.6**
PYL				S	**Sg**	**20 10 21.1**	**+0.9**
SERG	**Sergoula**	**1.37 58**		P	**Pn**	**20 10 05.3**	**+0.5**
KALE	**Kalithea**	**1.42 60**		P	**Pb**	**20 10 06.2**	**-0.2**
GUR	**Goura**	**1.42 80**		P	**Pb**	**20 10 06.4**	**-0.1**

*IDC **20** 20:24:47.8±0.9, 2°.55S×138°.30E, h0km, mb3.9/7, mbtmp3.9/11, ML3.5/4, MS2.9/6, Error ellipse: s-maj=21.8km s-min=20.9km az=85.0*
*DJA **20** 20:24:52.0±0.4, 2°.5±3°.×13°.8E±°, h10km, M3.9/6, mb4.0/1, MLv3.8/6*

ISC 20 20:24:52.1±0.7,**2°.6S**±0°.1×**138°.50E**±0°.05,**h32**km,**n20**, σ1**°73**/18,**mb3.7/7,MS2.8**/3,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.66 18**		P	**Pn**	**20 25 02.5**	**-2.8**
GENI	**Genyem**	**1.67 89**		P	**Pb**	**20 25 21.9**	**-0.2**
JAY	**Jayapura**	**2.20 87**		Pn	**Pn**	**20 25 28.6**	**+2.0**
	6.2nm,0.3s,baz=243,slow=4.5,SNR=23						
JAY				Sn	**Sb**	**20 25 59.6**	**+1.3**
	6.4nm,0.3s,baz=295,slow=20,SNR=3.7						
	19nm,0.4s						
JAY	**Jayapura**	**2.20 87**		P	**Pn**	**20 25 28.5**	**+2.0**
BAKI	**Biak**	**2.79 301**		P	**Pn**	**20 25 35.3**	**+0.8**
BAKI				S	**Sn**	**20 26 08.9**	**+1.9**
SWI	**Sorong**	**7.45 283**		P	**Pn**	**20 26 39.8**	**+1.2**
PMG	**Port Moresby**	**10.93 128**		LR	LR	20 32 23.0	
	comp=Z,53nm,20.5s,baz=326,slow=41						
BATI	**Baumata**	**16.55 242**		Pn	**Pn**	**20 28 39.0**	**-2.9**
	1.3nm,0.3s,baz=28,slow=15,SNR=1.6						
	3.5nm,0.3s						
GUMO	**Guam**	**17.30 21**		LR	LR	20 35 13.4	
	comp=Z,36nm,21.7s,baz=177,slow=36						
WRA	**Warramunga Arr**	**17.69 193**		P	**P**	**20 28 55.5**	**-1.3**
	0.2nm,0.3s,baz=17,slow=13,SNR=5.9						
WRA				LR	LR	20 36 01.7	
	comp=Z,30nm,19.5s,baz=112,slow=38						
	0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.89 218**		P	**P**	**20 29 19.2**	**-1.8**
	baz=32,slow=14,SNR=1.5						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**21.39 192**		P	**P**	**20 29 37.2**	**0.0**
	1.9nm,0.9s,baz=20,slow=11,SNR=13						
ASAR				LR	LR	20 38 47.2	
	comp=Z,107nm,19.9s,baz=27,slow=39						
	1.9nm,0.9s						
JOW	**Kunigami**	**30.91 342**		LR	LR	20 41 36.4	
	comp=Z,20nm,19.9s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**44.22 300**		P	**P**	**20 32 57.9**	**-0.7**
	0.3nm,0.5s,baz=109,slow=9.5,SNR=5.1						
	0.3nm,0.5s						
ASAJ	**Asahikawa**	**46.68 4**		LR	LR	20 50 36.1	
	comp=Z,6.8nm,21.9s,baz=150,slow=33						
MKAR	**Makanchi Array**	**69.59 322**		P	**P**	**20 35 57.8**	**-0.4**
	1.5nm,0.9s,baz=120,slow=7.2,SNR=7.7						
	1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**71.76 330**		P	**P**	**20 36 11.0**	**-0.2**
	0.4nm,0.5s,baz=141,slow=4.8,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**73.54 325**		P	**P**	**20 36 21.9**	**+0.1**
	3.2nm,0.3s,baz=119,slow=7.6,SNR=1.6						
	3.2nm,0.3s						
ILAR	**Eielson Array**	**85.84 24**		P	**P**	**20 37 27.9**	**-0.3**
	0.3nm,0.7s,baz=269,slow=4.8,SNR=4.3						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**87.32 180**		P	**P**	**20 37 38.4**	**+2.7**
	2.2nm,1.1s,baz=335,slow=1.7,SNR=4.1						
	2.2nm,1.1s						

*IDC **20** 21:00:58.8±0.6, 2°.60S×138°.37E, h0km, mb4.0/15, mbtmp4.0/19, ML4.0/3, MS3.7/31, Error ellipse: s-maj=19.3km s-min=13.4km az=75.0*
*DJA **20** 21:01:01.8±0.3, 3°.5±3°.×13°.8E±°, h10km, M4.5/7, mb4.7/2, MLv4.5/7*
*GCMT **20** 21:01:02.7±0.4, 2°.72S±0°.03×138°.54E±0°.04, h26km±1km, MW4.8/64, Moment Tensor Solution. s24,c24; s64,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.35±.20; $M_{\theta\theta}$-1.15±.12; $M_{\phi\phi}$-1.20±.13; $M_{r\theta}$0.58±.20; $M_{\theta\phi}$0.81±.05; $M_{\phi r}$1.07±.24; Best double couple: $M_0$2.41100×10^{16} NP1:ϕ_s119.00000°, δ43.00000°, λ60.00000°. NP2: ϕ_s337.00000°, δ54.00000°, λ115.00000°. Principal axes: T 2.8020, Plg70.0000°, Azm304.0000°; N -0.7830, Plg20.0000°, Azm142.0000°; P -2.0190, Plg6.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 21:01:04.7±2.0, 2°.85S±0°.04×138°.36E±0°.05, h35km±2km, mb4.6/27 Error ellipse: s-maj=9.5km s-min=4.6km az=241.0*

ISC 20 21:01:01.0±0.4,**2°.75S**±0°.06×**138°.37E**±0°.04,**h10**km,**n96**, σ1**°22**/69,**mb4.4**/31,**MS3.8**/29,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.82 24**		P	Pg	21 01 13.7	-3.2
GENI	**Genyem**	**1.80 85**		P	**Pn**	**21 01 31.9**	**-0.2**
JAY	**Jayapura**	**2.34 84**		Pn	**Pn**	**21 01 39.4**	**-0.2**
	29nm,0.3s,baz=269,slow=13,SNR=66						
JAY				Sn	**Sn**	**21 02 10.5**	**+2.0**
	12nm,0.3s,baz=348,slow=18,SNR=4.4						
	112nm,0.4s						
JAY	**Jayapura**	**2.34 84**		P	**Pn**	**21 01 39.4**	**-0.2**
BAKI	**Biak**	**2.74 304**		P	**Pn**	**21 01 45.2**	**+0.1**
RKPI	**Ransiki, Papua**	**4.37 286**		P	**Pn**	**21 02 07.6**	**+0.1**
FAKI	**Fak Fak**	**6.12 268**		Pn	**Pn**	**21 02 31.3**	**-0.3**
FAKI				Sn	**Sn**	**21 03 41.3**	**-0.4**
FAKI	**Fak Fak**	**6.12 268**		P	**Pn**	**21 02 33.9**	**+2.3**
	0.2nm58nm,1.1s						
SWI	**Sorong**	**7.35 285**		P	**Pn**	**21 02 49.2**	**+0.7**
PMG	**Port Moresby**	**10.96 128**		Pn	**Pn**	**21 03 37.0**	**-1.0**
	7.3nm,0.7s,baz=311,slow=20,SNR=1.7						
PMG				LR	LR	21 09 22.0	
	comp=Z,772nm,20.6s,baz=314,slow=46						
COEN	**Coen**	**12.11 157**		Pn	**Pn**	**21 03 54.1**	**+0.4**
MTN	**Manton Dam**	**12.33 215**			**Pn**	**21 03 55.9**	**-0.8**
RABL	**Rabaul**	**13.84 96**		Pn	**Pn**	**21 04 18.1**	**+0.6**
SOEI	**Soe**	**15.65 243**			**Pn**	**21 04 43.6**	**+1.7**
LUWI	**Luwuk**	**15.68 276**			**Pn**	**21 04 42.5**	**+0.2**
KNRA	**Kununurra**	**15.96 216**			**Pn**	**21 04 44.0**	**-1.8**
KNRA				IAmb	IAmb	21 05 18.0	
	comp=Z,28nm,1.0s						
BATI	**Baumata**	**16.38 242**		Pn	**Pn**	**21 04 52.8**	**+1.5**
	comp=Z,6.8nm,0.3s,baz=74,slow=14,SNR=7.3						
WB0	**Warramunga Arr**	**17.36 193**			**Pn**	**21 05 02.9**	**-0.7**
WB0				IAmb	IAmb	21 05 24.7	
	comp=Z,45nm,1.2s						
GUMO	**Guam**	**17.46 22**		LR	LR	21 10 17.4	
	comp=Z,282nm,20.6s,baz=194,slow=32						
WR8	**Warramunga Arr**	**17.52 192**			**Pn**	**21 05 03.5**	**-2.0**
WR8				IAmb	IAmb	21 05 22.4	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**17.53 193**			**Pn**	**21 05 05.0**	**-0.7**
WRAB				IAmb	IAmb	21 05 26.2	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**17.54 193**			**Pn**	**21 05 03.3**	**-2.5**
WRA	**Warramunga Arr**	**17.54 193**		P	**Pn**	**21 05 05.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=16,slow=12,SNR=28						
WRA				S	Sn	21 08 11.6	-10
	comp=Z,3.7nm,1.1s,baz=14,slow=17,SNR=4.1						
WRA				LR	LR	21 12 02.4	
	comp=Z,366nm,19.6s,baz=360,slow=38						
	comp=Z,2.6nm,0.6s						
TOLI2	**Tolitoli**	**18.00 282**			**Pn**	**21 05 12.4**	**+0.8**
CTA	**Charters Tower**	**18.88 157**		LR	LR	21 13 28.1	
	comp=Z,10nm,20.5s,baz=335,slow=39						
FITZ	**Fitzroy Crossi**	**19.71 218**			**P**	**21 05 30.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.71 218**		P	**P**	**21 05 31.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=8.0						
FITZ				S	S	21 09 04.2	-9.1
	comp=Z,8.6nm,0.9s,baz=50,slow=15,SNR=3.2						
FITZ				LR	LR	21 13 56.5	
	comp=Z,366nm,18.5s,baz=40,slow=39						
	comp=Z,2.7nm,0.6s						
AS31	**Alice Springs**	**21.24 191**			**P**	**21 05 45.9**	**-1.6**
ASAR	**Alice Springs**	**21.24 191**		P	**P**	**21 05 45.5**	**-1.9**
ASAR	**Alice Springs**	**21.24 191**		P	**P**	**21 05 47.3**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=15,slow=11,SNR=29						
ASAR				S	**S**	**21 09 42.3**	**-1.4**
	comp=Z,5.0nm,1.1s,baz=15,slow=22,SNR=4.2						
ASAR				LR	LR	21 14 32.1	
	comp=Z,274nm,20.9s,baz=15,slow=38						
	comp=Z,4.6nm,0.7s						
MYLDM	**Lahad Datu**	**21.36 292**		P	**P**	**21 05 47.6**	**-1.1**
MYLDM				IAmb	IAmb	21 06 34.2	
	comp=Z,42nm,1.3s						
EIDS	**Eidsvold**	**25.61 153**		P	**P**	**21 06 31.4**	**+0.7**
EIDS				IAmb	IAmb	21 06 56.4	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**25.98 222**		P	**P**	**21 06 33.8**	**-0.4**
PSA00				IAmb	IAmb	21 06 40.6	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**29.13 174**		P	**P**	**21 07 03.9**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=352,slow=14,SNR=1.7						
STKA				LR	LR	21 19 39.0	
	comp=Z,188nm,18.8s,baz=347,slow=38						
	comp=Z,0.5nm,0.3s						
JCJ	**Chichijima**	**29.90 7**		LR	LR	21

PPT	Papeete	72.07	107	LR	LR	21 41 04.1
	comp=Z,39nm,21.6s,baz=200,slow=33					
PPT2	Papeete2	72.07	107	eLR	LR	21 34 38.9
	comp=Z,73nm,24.0s					
KURBB	Kurchatov Arra	73.56	325	P	P	21 12 32.8 -1.5
	comp=Z,2.4nm,1.2s,baz=112,slow=4.8,SNR=9.0					
	comp=Z,2.4nm,1.2s					
ARSB	Arslanbob	73.62	314	P	P	21 12 34.6 -0.5
TIXI	Tiksi	74.52	357	LR	LR	21 45 11.5
	comp=Z,60nm,19.8s,baz=201,slow=36					
VNDA	Vanda	75.77	175	P	P	21 12 46.9 +0.2
VNDA	Vanda	75.77	175	P	P	21 12 47.8 +1.1
	comp=Z,0.4nm,0.5s,baz=335,slow=7.6,SNR=5.7					
	comp=Z,0.4nm,0.5s					
BVAR	Borovoye Array	79.15	325	P	P	21 13 04.7 -1.3
	comp=Z,1.3nm,0.5s,baz=102,slow=6.1,SNR=5.9					
	comp=Z,1.3nm,0.5s					
L16K	Owhat River	79.61	25	P	P	21 13 08.8 +0.5
L16K				IAmb	IAmb	21 13 41.0
	comp=Z,14nm,1.4s					
OHAK	Old Harbor	80.76	31	P	P	21 13 13.9 -0.7
OHAK				IAmb	IAmb	21 13 28.6
	comp=Z,14nm,1.3s					
H17K	Granite Mounta	80.88	22	P	P	21 13 16.1 +1.1
H17K				IAmb	IAmb	21 13 48.1
	comp=Z,9.9nm,1.2s					
KDAK	Kodiak Island	81.31	30	LR	LR	21 44 12.5
	comp=Z,86nm,21.3s,baz=230,slow=32					
MAW	Mawson	81.96	202	P	P	21 13 19.3 -1.5
	comp=Z,2.4nm,1.0s,baz=88,slow=0.8,SNR=3.6					
MAW				LR	LR	21 47 58.9
	comp=Z,69nm,19.1s,baz=81,slow=34					
	comp=Z,2.4nm,1.0s					
E19K	Redstone River	82.96	21	P	P	21 13 26.5 +0.5
E19K				IAmb	IAmb	21 13 56.9
	comp=Z,10nm,1.4s					
ILAR	Eielson Array	86.01	24	P	P	21 13 41.8 +0.3
ILAR	Eielson Array	86.01	24	P	P	21 13 38.4 -3.0
	comp=Z,0.7nm,0.8s,baz=262,slow=5.9,SNR=7.1					
ILAR				LR	LR	21 45 55.0
	comp=Z,46nm,21.9s,baz=227,slow=31					
	comp=Z,0.7nm,0.8s					
J25K	Salcha River,	86.60	25	P	P	21 13 44.1 -0.3
J25K				IAmb	IAmb	21 13 49.1
	comp=Z,5.1nm,1.2s					
RIDG	Independent Ri	86.62	26	P	P	21 13 43.3 -1.3
RIDG				IAmb	IAmb	21 14 15.8
	comp=Z,7.3nm,1.3s					
QSPA	South Pole Qui	87.20	180	IAmb	IAmb	21 14 01.2
	comp=Z,4.0nm,1.1s					
QSPA	South Pole Qui	87.20	180	P	P	21 13 48.6 +1.1
	comp=Z,2.6nm,1.0s,baz=342,slow=2.2,SNR=7.0					
QSPA				LR	LR	21 51 16.2
	comp=Z,92nm,21.9s,baz=12,slow=34					
	comp=Z,2.6nm,1.0s					
QSPA	South Pole Qui	87.20	180	P	P	21 13 48.8 +1.3
KIRV	Kirov	91.78	328	LR	LR	21 57 13.0
	comp=Z,31nm,19.9s,baz=66,slow=37					
DLBC	Dease Lake	93.16	32	LR	LR	21 53 35.9
	comp=Z,414nm,18.9s,baz=242,slow=34					
BBB	Bella Bella	94.31	38	LR	LR	21 48 14.1
	comp=Z,48nm,21.6s,baz=257,slow=30					
GNI	Garni	94.53	310	LR	LR	22 00 25.8
	comp=Z,12nm,21.5s,baz=64,slow=38					
YBH	Yreka Blue Hor	98.48	48	LR	LR	21 49 53.8
	comp=Z,6.8nm,21.9s,baz=276,slow=30					
CPUP	Villa Florida	147.35	153	PKPbc	PKPdf	21 20 46.0 +2.5
	comp=Z,0.4nm,0.8s,baz=226,slow=5.6,SNR=2.9					
LPAZ	La Paz	147.69	127	PKPbc	PKPdf	21 20 46.0 +1.0
	comp=Z,1.9nm,0.7s,baz=220,slow=3.7,SNR=8.7					

*IDC **20** 21:03:55.7±1.6, 31°.13S×68°.56W, h103km±9km, mb3.4/1, mbtmp3.5/4, Error ellipse: s-maj=48.5km s-min=25.5km az=106.0*
*SJA **20** 21:03:56.6±0.7, 31°.14S×68°.36W, h107km±2km, ML3.6, MW3.7*
*NEIC **20** 21:03:58.1±2.0, 31°.19S±0°.06×68°.41W±0°.07, h97km±6km, mb4.3/6, Error ellipse: s-maj=9.2km s-min=7.9km az=115.0*

ISC 20 21:03:57.0±0.7, 31°.17S±0°.03×68°.33W±0°.03, h108km±5km, n97, σ1§36/130, mb4.2/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.21	218	eP	Pn	21 04 12.3	+0.1
RTLL				eS	Sn	21 04 24.2	+0.5
RTLL				IAML		21 04 24.5	
	comp=Z,4μm,0.3s						
SJA	San Juan	0.41	209	eP	Pn	21 04 13.7	+0.5
SJA				eP		21 04 13.8	
SJA				eS	Sn	21 04 25.7	+0.4
SJA				IAML		21 04 26.8	
	comp=Z,2μm,0.2s						
CFA	Coronel Fontan	0.44	170	P	Pn	21 04 13.4	+0.1
	comp=Z,145nm,0.3s,baz=348,slow=6.7,SNR=2939						
CFA				S	Sn	21 04 25.9	+0.3
	comp=Z,302nm,0.4s,baz=351,slow=14,SNR=7.3						
CFA	Coronel Fontan	0.44	170	eP	Pn	21 04 13.8	+0.5
CFA				eS	Sn	21 04 26.1	+0.6
ZON	Zonda	0.48	218		Pn	21 04 13.7	+0.1
ZON				Sn	Sn	21 04 23.7	-2.3
ZON	Zonda	0.48	218	eP	Pn	21 04 13.7	+0.1
ZON				eS	Sn	21 04 26.3	+0.3
ZON				IAML		21 04 27.1	
	comp=Z,1μm,0.2s						
ACCO	Cerro Coronel	0.86	312	eP	Pn	21 04 17.3	+0.3
ACCO				eS	Sn	21 04 32.2	+0.3
ACDV	Cuesta del Vie	1.21	325	eP	Pn	21 04 19.6	-0.8
ACDV				eS	Sn	21 04 37.8	-0.4
ACDV				IAML		21 04 39.1	
	comp=Z,2μm,0.6s						
AROD	Rodeo	1.40	315	eP	Pn	21 04 23.4	+0.5
ACAN	Cantantal	1.47	139	eP	Pn	21 04 24.4	+1.0
ASAL	Salagasta	1.48	197	eP	Pn	21 04 24.4	+0.8
ASAL				eS	Sn	21 04 45.2	+1.5
AGUA	GUANDACOL	1.68	355	eP	Pn	21 04 26.5	+0.5
AGUA				eS	Sn	21 04 48.1	0.0
AGUA				IAML		21 04 51.7	
	comp=Z,1μm,0.2s						
ARCO	CERRO ARCO	1.75	197	eP	Pn	21 04 27.7	+0.8
ARCO				eS	Sn	21 04 51.3	+1.7
ARCO				IAML		21 04 52.3	
	comp=Z,561nm,0.3s						
CO01	Juntas del Tor	1.93	307		Pn	21 04 30.3	+1.1
CO01				Sn	Sn	21 04 53.6	-0.2
CO01	Juntas del Tor	1.93	307	eP	Pn	21 04 30.2	+1.0
CO01				eS	Sn	21 04 54.6	+0.7
CO01				IAML		21 04 55.1	
	comp=Z,641nm,0.5s						
AAGR	Agrelo	1.96	192	eP	Pn	21 04 30.4	+0.9
AAGR				eS	Sn	21 04 55.3	+1.0
AAGR				IAML		21 04 56.3	
	comp=Z,336nm,0.2s						
CO03	El Pedregal	2.06	279		Pn	21 04 31.1	+0.5
CO03				Sn	Sn	21 04 55.7	-0.7
CO03	El Pedregal	2.06	279	eP	Pn	21 04 31.1	+0.5
CO03				eS	Sn	21 04 56.7	+0.3
CO03				IAML		21 04 58.0	
	comp=Z,510nm,0.2s						
ACLC	CERRO LA CRUZ	2.10	35	eP	Pn	21 04 32.5	+1.1
ACLC				eS	Sn	21 04 59.6	+1.9
ACLC				IAML		21 05 02.3	
	comp=Z,364nm,0.7s						
CO02	Combarbal	2.29	268		Pn	21 04 33.6	-0.1
CO02	Combarbal	2.29	268	eP	Pn	21 04 33.6	-0.1
CO02				eS	Sn	21 05 01.7	-0.2
CO02				IAML		21 05 03.7	
	comp=Z,445nm,0.5s						
AVIZ	Vizcacheras	2.31	184	eP	Pn	21 04 35.0	+1.1
GO04	Tololo Observa	2.35	294		Pn	21 04 34.2	-0.4
GO04	Tololo Observa	2.35	294	eP	Pn	21 04 34.6	0.0
GO04				eS	Sn	21 05 03.5	0.0
GO04				IAML		21 05 04.7	
	comp=Z,873nm,0.3s						
VCA	Vinchina	2.42	3	eP	Pn	21 04 36.9	+1.4
VCA				eS	Sn	21 05 07.2	+2.1
VCA				IAML		21 05 16.5	
	comp=Z,617nm,0.3s						
VA03	San Esteban	2.47	229		Pn	21 04 36.6	+0.6
VA03	San Esteban	2.47	229	eP	Pn	21 04 36.8	+0.7
VA03				eS	Sn	21 05 07.2	+1.2
VA03				IAML		21 05 11.7	
	comp=Z,226nm,0.3s						
MRA	San Martin	2.55	120	eP	Pn	21 04 38.6	+1.5
MRA				eS	Sn	21 05 00.4	-7.5
MRA				IAML		21 05 10.8	
	comp=Z,220nm,0.3s						
AANI	Anillaco	2.64	28	eP	Pn	21 04 34.3	-4.0
MT08	Bocatoma Ro	2.69	212		Pn	21 04 39.3	+0.3
MT08	Bocatoma Ro	2.69	212	eP	Pn	21 04 40.5	+1.5
MT08				eS	Sn	21 05 13.8	+2.6
MT08				IAML		21 05 17.0	
	comp=Z,119nm,0.9s						
MT04	Ro Olivares	2.71	214	eP	Pn	21 04 40.6	+1.3
MT04				eS	Sn	21 05 10.7	-1.1
MT04				IAML		21 05 21.1	
	comp=Z,93nm,0.5s						
CO05	La Serena	2.80	296		Pn	21 04 39.2	-1.1
PEL	Peldehue	2.81	225		Pn	21 04 39.8	-0.7
PEL	Peldehue	2.81	225	eP	Pn	21 04 41.0	+0.5
PEL				eS	Sn	21 05 14.7	+0.8
PEL				IAML		21 05 21.2	
	comp=Z,107nm,0.4s						
CO06	Fray Jorge	2.88	279		Pn	21 04 39.5	-1.9
VA06	Catapilco	2.88	240		Pn	21 04 40.0	-1.4
ROC1	El Roble	2.91	231	eP	Pn	21 04 41.3	-0.7
ROC1				eS	Sn	21 05 15.6	-1.0
MT16	CCHEN	2.92	219		Pn	21 04 41.1	-0.8
MT03	Universidad Ad	2.97	218		Pn	21 04 43.4	+0.8
MT03	Universidad Ad	2.97	218	eP	Pn	21 04 43.5	+0.8
MT03				eS	Sn	21 05 19.2	+1.6
MT03				IAML		21 05 20.0	
	comp=Z,278nm,0.6s						
LCO	Las Campanas	2.98	316		Pn	21 04 42.8	-0.1
LCO	Las Campanas	2.98	316	eP	Pn	21 04 42.8	-0.1
LCO				eS	Sn	21 05 18.1	0.0
LCO				IAML		21 05 25.0	
	comp=Z,332nm,0.3s						
MT05	Renca	3.02	222		Pn	21 04 43.8	+0.6
MT05	Renca	3.02	222	eP	Pn	21 04 43.6	+0.4
MT05				eS	Sn	21 05 20.0	+1.2
MT05				IAML		21 05 21.9	
	comp=Z,184nm,0.2s						
LMEL	Las Melosas	3.11	210		Pn	21 04 45.3	+0.8
LMEL	Las Melosas	3.11	210	eP	Pn	21 04 45.4	+0.9
LMEL				eS	Sn	21 05 21.7	+0.6
LMEL				IAML		21 05 30.2	
	comp=Z,83nm,0.2s						
MT02	Curacav	3.17	228		Pn	21 04 44.4	-0.8
MT02	Curacav	3.17	228	eP	Pn	21 04 44.3	-0.8
MT02				eS	Sn	21 05 21.7	-0.6
MT02				IAML		21 05 24.9	
	comp=Z,67nm,0.2s						
TCA	Tanti	3.20	94	eP	Pn	21 04 47.0	+1.3
TCA				eS	Sn	21 05 13.7	-10
TCA				eS		21 05 24.1	
TCA				IAML		21 05 25.3	
	comp=Z,208nm,0.7s						
BO04	La Punta	3.41	214		Pn	21 04 49.0	+0.5
MT09	Talagante	3.44	220		Pn	21 04 48.3	-0.6
CYA	Choya	3.49	40	eP	Pn	21 04 50.1	+0.6
CYA				eS	Sn	21 05 30.5	+0.4
CYA				IAML		21 05 31.3	
	comp=Z,90nm,0.2s						
RFA	San Rafael	3.60	182	eP	Pn	21 04 50.8	-0.2
RFA				eS	Sn	21 05 21.2	-11
RFA				IAML		21 06 06.9	
	comp=Z,63nm,0.3s						
MT01	Popeta	3.65	222		Pn	21 04 50.3	-1.3
MT01	Popeta	3.65	222	eP	Pn	21 04 50.0	-1.6
MT01				IAML		21 05 32.0	
	comp=Z,64nm,0.3s						
AC04	Llanos de Chal	3.80	320	Pn	Pn	21 04 54.2	+0.6
AC04	Llanos de Chal	3.80	320	eP	Pn	21 04 53.7	+0.1
AC04				IAML		21 06 12.2	
	comp=Z,70nm,0.8s						
GO03	Copiapo	3.93	334		Pn	21 04 55.6	+0.1
GO03	Copiapo	3.93	334	eP	Pn	21 04 55.7	+0.3
GO03				eS	Sn	21 05 40.9	+0.2
GO03				IAML		21 05 42.7	
	comp=Z,74nm,0.2s						
BO01	Tunca	3.97	215		Pn	21 04 54.7	-1.1
BO01	Tunca	3.97	215	eP	Pn	21 04 54.8	-1.1
BO01				eS	Sn	21 05 39.9	-1.6
BO01				IAML		21 05 45.6	
	comp=Z,46nm,0.3s						
BO02	Sierra Bellavi	4.16	209		Pn	21 04 58.5	0.0
BO02	Sierra Bellavi	4.16	209	eP	Pn	21 04 58.7	+0.1
BO02				eS	Sn	21 05 47.8	+1.5
BO02				IAML		21 05 49.0	
	comp=Z,95nm,0.2s						
AC06	Mina Casimiro	4.19	334		Pn	21 04 58.8	-0.1
AC02	Maricunga	4.37	351		Pn	21 05 03.5	+1.6
AC02	Maricunga	4.37	351	eP	Pn	21 05 03.4	+1.6
AC02				eS	Sn	21 05 50.4	-1.7
AC02				IAML		21 05 58.4	
	comp=Z,36nm,0.6s						
EDS3	Malargue	4.68	191	eP	Pn	21 05 05.8	+0.2
EDS3				eS	Sn	21 05 44.7	-14
ML02	Panimavida	5.26	209		Pn	21 05 11.6	-1.7
AC01	Pan de Azucar	5.38	338		Pn	21 05 14.1	-1.0
AC01	Pan de Azucar	5.38	338	eP	Pn	21 05 13.4	-1.6
AC01				IAML		21 06 28.7	
	comp=Z,26nm,0.9s						
BI02	San Fabin de	6.00	203		Pn	21 05 21.9	-1.5
GO02	Mina Guanaco	6.08	349		Pn	21 05 24.6	-0.2
PB14	IPOC Station P	6.77	344		Pn	21 05 32.4	-1.8
PB10	IPOC Station P	7.88	345	Pn	Pn	21 05 46.7	-2.1
TRQA	Tornquist	8.63	144		Pn	21 05 58.8	-0.2
PB03	IPOC Station P	9.17	352		Pn	21 06 03.0	-3.6
H03N1	Juan Fernandez	9.24	253	T	T	21 13 42.1	
	baz=83,slow=72,SNR=10						
H03N3	Juan Fernandez	9.26	253	T	T	21 13 20.3	
	baz=83,slow=72,SNR=17						
H03N2	Juan Fernandez	9.26	253	T	T	21 13 31.6	
	baz=83,slow=72,SNR=15						
PB09	IPOC Station P	9.37	355	Pn	Pn	21 06 07.1	-2.1
PLCA	Paso Flores	9.71	190	P	Pn	21 06 13.2	-0.5
	comp=Z,2.7nm,1.1s,baz=12,slow=20,SNR=1.5						
PB01	IPOC Station P	10.14	354		Pn	21 06 15.7	-3.9
CPUP	Villa Florida	10.78	66	P	Pn	21 06 29.8	+1.5
	comp=Z,0.2nm,0.3s,baz=301,slow=11,SNR=1.3						
LPAZ	La Paz	14.81	1		Pn	21 07 21.3	-0.3
LPAZ	La Paz	14.81	1	P	Pn	21 07 20.6	-1.1
	comp=Z,2.2nm,0.7s,baz=179,slow=7.2,SNR=13						
OTAV	Otavalo	32.68	341	P	P	21 10 20.6	+0.9
BOAV	Boa Vista	34.19	14	P	P	21 10 34.0	+1.8
BOAV				IAmb	IAmb	21 10 34.9	
	comp=Z,6.2nm,1.5s						
RUSC	La Rusia	37.13	352	P	P	21 10 58.6	+0.7
RUSC				IAmb	IAmb	21 11 40.3	
	comp=Z,4.9nm,1.2s						
MTDJ	Mount Denham	49.90	349	P	P	21 12 41.3	+1.5
SNAA	Sanae	53.05	159	P	P	21 13 03.4	+0.8
SNAA				IAmb	IAmb	21 13 10.8	
	comp=Z,4.4nm,1.4s						
SNAA	Sanae	53.05	159	P	P	21 13 02.8	+0.1
	comp=Z,1.0nm,1.0s,baz=293,slow=12,SNR=2.6						
	comp=Z,1.0nm,1.0s						
TORD	Torodi Ar. Bea	80.28	68	P	P	21 15 56.9	+0.6
	comp=Z,3.1nm,0.5s,baz=232,slow=7.1,SNR=1.6						
WRA	Warramunga Arr	124.72	206	PKP	PKPdf	21 22 43.3	-1.3
	comp=Z,0.3nm,0.3s,baz=155,slow=1.5,SNR=7.4						
KURBB	Kurchatov Arra	148.67	42	PKPbc	PKPbc	21 23 30.0	-1.2
	comp=Z,0.3nm,0.5s,baz=307,slow=3.0,SNR=4.1						
ZALV	Zalesovo Beam	150.16	32	PKPbc	PKPbc	21 23 33.0	-1.7
	comp=Z,1.0nm,0.4s,baz=312,slow=3.0,SNR=5.8						
MKAR	Makanchi Array	152.54	47	PKPbc	PKPbc	21 23 40.3	-0.2
	comp=Z,0.6nm,0.7s,baz=323,slow=3.5,SNR=2.7						

*NAO **20** 21:14:40.4, 39°.64N×25°.83E, h10km, mb3.3*
*IDC **20** 21:15:05.9±2.0, 41°.25N×20°.36E, h0km, mb3.2/2, mbtmp3.3/6, ML2.6/3, Error ellipse: s-maj=22.8km s-min=16.4km az=29.0*
*SKO **20** 21:15:07.2, 41°.26N×20°.30E, h13km, ML3.1*
*SOF **20** 21:15:07.3, 41°.24N±0°.01×20°.37E±0°.02, h12km±3km, MD3.2/7*
*PDG **20** 21:15:07.6±0.6, 41°.35N×20°.43E, h1km±1km, MD3.5/1, ML3.5/13, Error ellipse: s-maj=0.7km s-min=1.3km az=0.0*
*BEO **20** 21:15:08.4±0.4, 41°.30N×20°.45E, h4km±2km, ML2.9/20*
*THE **20** 21:15:09.0, 41°.N±7°.×2°.0E±°, h0km±9km, M2.9/11, MLh2.9/11*
*ATH **20** 21:15:14.5, 40°.94N×20°.82E, h18km±5km, ML2.9/13,*

Manual Solution by E.Daskalaki First location: 2019/10/20 21:16:32, This location: 2019/10/21 08:39:24 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 8 km

ISC 20 21:15:07.6±1.0, 41°.26N±0°.02×20°.39E±0°.02, h8km±8km, n142, σ1§14/187, 6C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.34	116	i Pg	Pb	21 15 15.2	-0.8
OHR				i Sg	Sb	21 15 21.6	-0.1
OHR				eLg	Lg	21 15 21.9	
	comp=N,3μm,1.0s						
OHR				eLg	Lg	21 15 22.5	
	comp=E,3μm,0.7s						
TIR	Tirane	0.40	282	i Pg	Pg	21 15 14.1	-1.4
TIR				i Sg	Sg	21 15 20.7	-0.2
KBN	Korca	0.71	155	P	Pg	21 15 20.5	-0.7
KBN				S	Sb	21 15 31.2	-0.9
LMS2	Laimos Florina	0.71	127	P	Pg	21 15 20.7	-0.6
NEST	Nestorio	0.98	149	P	Pg	21 15 26.0	-0.5
NEST				S	Sb	21 15 39.7	-0.3
NEST	Nestorio	0.98	149	P	Pg	21 15 25.7	-0.8
VLO	Vlora	1.04	221	P	Pg	21 15 27.0	-0.6
SKO	Skopje	1.06	48	i Pg	Pb	21 15 28.6	+0.4
SKO				i Sg	Sn	21 15 45.4	+1.7
ULC	Ulcinj	1.11	310	ePg	Pg	21 15 26.6	-2.3
ULC				i Sg	Sg	21 15 44.3	+1.0
PENT	Pentalofos	1.21	152	P	Pg	21 15 30.5	-0.3
PENT	Pentalofos	1.21	152	P	Pg	21 15 30.0	-0.8
DRME	Dracevica, Mon	1.29	316	ePg	Pn	21 15 30.2	-1.7
DRME				eSg	Sb	21 15 50.1	+1.3
DRME	Dracevica, Mon	1.29	316	ePg	Pn	21 15 30.7	-1.2
DRME				i Sg	Sb	21 15 50.2	+1.4
PVY	Plav	1.37	347	ePg	Pn	21 15 34.0	+0.9
PVY	Plav	1.37	347	ePg	Pn	21 15 31.4	-1.7
PVY				i Sg	Sg	21 15 51.6	-0.1
KZN	Kozani	1.42	132	P	Pn	21 15 33.8	+0.1
KZN	Kozani	1.42	132	P	Pn	21 15 32.8	-1.0
PDG	Podgorica	1.44	324	‖P	Pn	21 15 33.5	-0.4
PDG				‖S	Sb	21 15 54.3	+1.1
PDG	Podgorica	1.44	324	ePg	Pn	21 15 32.8	-1.2
PDG				eSg	Sg	21 15 54.6	+0.6
PDG	Podgorica	1.44	324	ePg	Pn	21 15 33.2	-0.8
PDG				i Sg	Sg	21 15 55.1	+1.1
BUM	Brajici-Budva	1.52	313	‖iPg	Pn	21 15 35.1	-0.1
BUM				i Sg	Sg	21 15 58.3	+1.6
KEK	Kerkira	1.61	196	P	Pg	21 15 40.7	+2.1
KEK	Kerkira	1.61	196	P	Pg	21 15 40.1	+1.5
JAN	Janina	1.64	167	P	Pn	21 15 37.4	+0.6
JAN	Janina	1.64	167	P	Pn	21 15 37.5	+0.8
VAY	Valandovo	1.65	87	i Pn	Pb	21 15 38.2	0.0
VAY				i Sn	Sg	21 16 02.6	+2.2
VAY				eLg	Lg	21 16 02.9	
	comp=N,252nm,0.8s						
VAY				eLg	Lg	21 16 04.0	
	comp=E,156nm,1.0s						
BEY	Berane	1.65	347	ePg	Pn	21 15 38.0	+1.1
BEY				eSg	Sb	21 16 00.5	+1.3
IVA	Berane	1.65	347	ePg	Pn	21 15 36.6	-0.3
IVA				i Sg	Sg	21 16 01.1	+0.4
CEME	Cevo	1.69	320	ePn	Pn	21 15 37.9	+0.5
CEME				i Sn	Sg	21 16 03.3	+1.4
KOME	Kolasin	1.71	338	ePn	Pn	21 15 38.6	+0.8
KOME	Kolasin	1.71	338	ePn	Pn	21 15 38.0	+0.2
KOME				i Sn	Sg	21 16 03.4	+0.7
IGT	Igoumenitsa	1.73	181	P	Pb	21 15 39.4	-0.2
IGT	Igoumenitsa	1.73	181	ePn	Pb	21 15 39.2	-0.4
IGT				eSn	Sg	21 16 03.8	+0.6
IGT	Igoumenitsa	1.73	181	P	Pb	21 15 39.3	-0.2
PRMD	Pramanda	1.81	162	P	Pb	21 15 40.9	-0.2
HCY	Herceg Novi	1.84	311	ePn	Pn	21 15 41.0	+1.5
HCY				i Sn	Sg	21 16 07.4	+0.5
NKME	Niksic	1.84	325	ePn	Pn	21 15 40.6	+1.0
NKME				i Sn	Sg	21 16 06.9	0.0
BARS	Barje	1.88	34	i Pn	Pn	21 15 40.7	+0.6
BARS	Barje	1.88	34	ePn	Pn	21 15 40.4	+0.4
KNT	Kendrikon	1.90	92	P	Pn	21 15 40.9	+0.7
KNT	Kendrikon	1.90	92	i Pn	Pn	21 15 41.2	+0.9
KNT	Kendrikon	1.90	92	P	Pn	21 15 41.0	+0.7
LIT	Litokhoron	1.98	125	P	Pn	21 15 41.4	+0.1
LIT	Litokhoron	1.98	125	i Pn	Pn	21 15 42.1	+0.8
LIT	Litokhoron	1.98	125	P	Pn	21 15 40.9	-0.4
BOSS	Bosilegrad	1.99	51	ePn	Pn	21 15 42.0	+0.5
SJES	Sjenica	2.02	351	ePn	Pn	21 15 43.7	+1.7
SELS	Selova	2.03	15	ePn	Pn	21 15 42.3	+0.2
SELS				eSn	Sn	21 16 08.3	+0.7
TETR	Tetrakomo, Epi	2.03	160	P	Pb	21 15 44.2	-0.6
THE	Thessaloniki	2.05	107	i Pn	Pb	21 15 43.8	-1.3
THE				i Sn	Sn	21 16 09.1	+1.0
THE	Thessaloniki	2.05	107	P	Pn	21 15 42.5	+0.2
THL	Klokotos Trika	2.10	143	P	Pn	21 15 43.8	+0.8
TREB	Trebinje	2.10	314	ePn	Pn	21 15 43.3	+0.2
TREB	Trebinje	2.10	314	ePn	Pn	21 15 43.2	+0.2
TREB				eSn	Sn	21 16 11.8	+2.4
KKB	Krupnik	2.14	73	i P	Pn	21 15 44.6	+1.1
KKB				S	Sb	21 16 11.9	-1.3
KKB	Krupnik	2.14	73	i Pn	Pn	21 15 44.6	+1.1
KKB				i Sn	Sb	21 16 12.8	-0.4
BRY	Bratogost	2.14	321	ePn	Pn	21 15 44.9	+1.2
BRY				i Sn	Sb	21 16 14.2	+0.8
HORT	Hortiatis	2.16	107	P	Pn	21 15 44.5	+0.6
PLE	Pljevlja	2.19	341	ePn	Pn	21 15 45.3	+0.9
PLE				i Sn	Sb	21 16 15.0	0.0
LRSO	Larissa Observ	2.21	135	P	Pb	21 15 46.4	-1.3
UPM	Unac-Piva	2.23	331	‖iPn	Pn	21 15 46.0	+1.0
UPM				i Sn	Sb	21 16 16.0	0.0
SOH	Sokhos	2.29	100	P	Pn	21 15 47.0	+1.4
SOH	Sokhos	2.29	100	i Pn	Pn	21 15 47.1	+1.5
SOH				i Sn	Sb	21 16 16.6	-0.9
SOH	Sokhos	2.29

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVB	Pleven	3.79	55	⇓P	Pn	21 16 07.9	+1.7
HERR	Herculane	3.91	22	⇑P	Pn	21 16 08.5	+0.6
KIJV	Kijevo	4.02	314	*e*Pn	Pn	21 16 08.4	-1.0
BLY	Banja Luka	4.20	327	*e*Pn	Pn	21 16 15.2	+3.3
BLY	Banja Luka	4.20	327	*e*Pn	Pn	21 16 14.5	+2.6
ELND	Elena	4.41	66	⇓P	Pn	21 16 15.6	+0.8
BZS	Buzias	4.44	11	⇓P	Pn	21 16 15.6	+0.4
BZS	Buzias	4.44	11	*e*Pn	Pn	21 16 15.0	-0.2
GZR	Gura Zlata	4.48	22	⇓P	Pn	21 16 16.4	+0.5
GZR	Gura Zlata	4.48	22	*e*Pn	Pn	21 16 15.8	0.0
SIRR	Siria	5.09	10	⇑P	Pn	21 16 24.3	+0.2
SIRR	Siria	5.09	10	*e*Pn	Pn	21 16 23.9	-0.2
SIRR				*e*Sn	Sn	21 17 22.1	-0.9
MOSL	Moslavina	5.09	330	*e*Pn	Pn	21 16 24.5	+0.4
MORH	Mrgy, Hungar	5.11	346	*e*Pn	Pn	21 16 24.6	+0.2
MORH	Mrgy, Hungar	5.11	346	⇓P	Pn	21 16 25.6	+1.3
MORH	Mrgy, Hungar	5.11	346	*e*Pn	Pn	21 16 24.5	+0.2
AQU	L'Aquila	5.33	284	*e*Pn	Pn	21 16 30.1	+2.6
OZLJ	Ozalj	5.63	322	*e*Pn	Pn	21 16 30.8	-0.8
BOJS	Bojanci	5.65	320	*e*Pn	Pn	21 16 32.5	+0.6
DRGR		5.78	16	⇑P	Pn	21 16 34.9	+1.3
MLR	Muntele Rosu	5.85	42	Pn	Pn	21 16 36.2	+1.5
	comp=E,0.3nm,0.3s,baz=225,slow=11,SNR=6.2						
MLR				Sn	Sn	21 17 42.5	+0.5
	baz=194,slow=12,SNR=1.4						
	comp=E,1.1nm,0.5s						
MLR	Muntele Rosu	5.85	42	⇓P	Pn	21 16 35.9	+1.2
NEHR	Nehoiu	5.99	44	⇑P	Pn	21 16 38.0	+1.6
BRJN	Brijuni	6.07	309	*e*Pn	Pn	21 16 39.4	+1.8
CEY	Cerknica	6.23	318	*e*Pn	Pn	21 16 40.3	+0.5
CEY				*e*Sn	Sn	21 17 50.4	-0.7
VRI	Vrincioaia	6.51	43	⇑P	Pn	21 16 45.1	+1.5
SOKA	Soboth	6.65	326	*e*Pn	Pn	21 16 45.7	+0.1
	comp=E,2.1nm,0.4s						
OBKA	Obir	6.73	323	*e*Pn	Pn	21 16 48.3	+1.6
	comp=E,0.3nm,0.1s						
OBKA				*e*Sn	Sn	21 18 06.5	+2.9
	comp=E,2.2nm,0.4s						
IDI	Anoyia	6.94	148	Pn	Pn	21 16 48.7	-0.8
	comp=E,2.4nm,0.6s,baz=335,slow=14,SNR=1.3						
IDI				Sn	Sn	21 18 07.0	-1.6
	comp=E,0.3nm,0.3s,baz=311,slow=20,SNR=1.9						
KECS	Kecovo	7.22	1	*e*PN	Pn	21 16 59.2	+5.9
KBA	Koelnbreinsper	7.71	321	*e*Pn	Pn	21 17 01.6	+1.4
	comp=E,0.5nm,0.3s						
ABTA	Abfaltersbach	7.89	317	*e*Pn	Pn	21 17 03.5	+0.9
	comp=E,0.4nm,0.2s						
ABTA				*e*Sn	Sn	21 18 32.5	+0.4
	comp=E,1.1nm,0.4s						
BIOA	Bad Ischl, Aus	8.04	325	*e*Pn	Pn	21 17 05.5	+1.0
	comp=E,0.3nm,0.2s						
WTTA	Wattenberg	8.68	317	*e*Pn	Pn	21 17 13.9	+0.3
	comp=E,0.1nm,0.1s						
GERES	GERESS Array B	8.93	330	Pn	Pn	21 17 18.5	+1.6
	baz=140,slow=17,SNR=4.3						
GERES				Sn	Sn	21 18 55.5	-2.2
	baz=146,slow=27,SNR=1.9						
	comp=E,0.6nm,0.7s						
HFS	Hagfors	19.34	350	P	P	21 19 32.2	-0.9
	comp=E,0.1nm,0.3s,baz=177,slow=7.2,SNR=2.1						
	comp=E,1.5nm,0.8s						
FINES	FINESS Array B	20.50	8	P	P	21 19 45.6	-0.1
	comp=E,2.7nm,0.9s,baz=191,slow=14,SNR=3.6						
	comp=E,2.7nm,0.9s						
NB2	NORSAR Subarra	20.58	347	P	P	21 19 46.6	-0.1
	comp=Z,0.9nm,0.7s,baz=150,slow=10						
NOA	NORSAR Array B	20.58	347	P	P	21 19 44.2	-2.5
	comp=Z,0.5nm,0.8s,baz=156,slow=11,SNR=3.6						
	comp=Z,0.5nm,0.8s						

*SNET **20** 21:15:28.8±1.6, 12°.92N×89°.05W, h26km, ML3.0*
*CATAC **20** 21:15:29.6±0.7, 13°N±5°×8°9W±°, h30km±5km, M2.9/10, MLv2.9/10, Error ellipse: s-maj=10.7km s-min=3.7km az=17.0, confirmed*

ISC 20 21:15:28.8±1.6, 12°.93N±0°.07×89°.06W±0°.04, h29km±13km, n33, σ0°38/42, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.62	335	S	Sn	21 15 50.4	-0.3
TECO	Alcaldia de Te	0.67	24	*e*P	Pn	21 15 42.2	-0.1
TECO				*e*S	Sn	21 15 51.3	-0.6
TECO	Alcaldia de Te	0.67	24	P	Pn	21 15 42.3	-0.1
PANCS	Alcalda de	0.69	350	S	Sn	21 15 52.1	-0.5
LOMA	Loma Larga	0.72	351	*e*P	Pn	21 15 43.4	+0.1
LOMA				*e*S	Sn	21 15 53.2	-0.3
LOMA	Loma Larga	0.72	351	P	Pn	21 15 43.3	+0.1
UESV	Universidad de	0.75	20	*e*P	Pn	21 15 43.8	+0.2
UESV				*e*S	Sn	21 15 53.8	-0.3
UESV	Universidad de	0.75	20	P	Pn	21 15 43.6	0.0
UESV	Universidad de	0.75	20	S	Sn	21 15 54.1	0.0
TECA	Tecapa	0.78	44	*e*P	Pn	21 15 44.4	+0.3
UDBS	Universidad Do	0.79	353	S	Sn	21 15 55.1	+0.1
PAVA	Las Pavas	0.79	8	P	Pn	21 15 44.5	+0.3
PAVA	Las Pavas	0.79	8	S	Sn	21 15 55.4	+0.3
JAYA	Jayaque - finc	0.82	332	*e*P	Pb	21 15 44.8	+0.2
JAYA				*e*S	Sb	21 15 55.2	-0.2
BOQS	Boqueron	0.83	345	*e*P	Pb	21 15 45.2	+0.3
SCLA	Alcaldia de Sa	0.83	22	*e*P	Pb	21 15 45.1	+0.2
SCLA				*e*S	Sn	21 15 56.4	+0.3
SCLA	Alcaldia de Sa	0.83	22	P	Pb	21 15 45.1	+0.2
PQSS	Presa 15 de Se	0.85	35	S	Sn	21 15 57.0	+0.7
LCY	Lacayo	0.89	56	*e*P	Pb	21 15 45.9	+0.1
VSM	San Miguel	0.91	57	*e*P	Pb	21 15 46.3	+0.1
SBLS	San Blas	1.06	329	*e*P	Pb	21 15 49.3	+0.5
LCND	La Caada	1.20	71	*e*P	Pn	21 15 50.0	+0.4
LCND	La Caada	1.20	71	P	Pn	21 15 50.1	+0.4
NUBE	Las Nubes	1.20	324	*e*P	Pb	21 15 51.4	+0.4
NUBE				*e*S	Sb	21 16 05.6	-0.7
NUBE	Las Nubes	1.20	324	P	Pn	21 15 50.2	+0.4
LLGN	La Laguna	1.23	5	P	Pn	21 15 50.5	+0.2
CNCH	Conchagua	1.24	74	P	Pn	21 15 50.5	+0.1
CNCH	Conchagua	1.24	74	S	Sn	21 16 06.1	-0.1
FAME	Alcaldia de Sa	1.30	314	P	Pb	21 15 52.4	-0.3
FAME	Alcaldia de Sa	1.30	314	S	Sn	21 16 07.4	-0.3
RBDL	Robledal	1.33	333	*e*P	Pn	21 15 52.3	+0.6
RBDL				*e*S	Sb	21 16 09.5	-0.5
CSGN	Cosiguina Volc	1.46	88	P	Pn	21 15 54.0	+0.6
CSGN				S	Sn	21 16 11.4	-0.2
LIMN	Finca el Limon	2.62	87	P	Pn	21 16 09.5	+0.1
LIMN				S	Sn	21 16 39.4	-1.0

*UPP **20** 21:35:25.9±0.1, 67°.19N×20°.68E, h0km, ML3.4, Suspected explosion*
*DNK **20** 21:35:26.3±0.4, 67°.19N×20°.67E, h0km, ML3.4(UPP), Explosion*
*IDC **20** 21:35:26.2±0.7, 67°.17N×20°.72E, h0km, mb3.4/3, mbtmp3.6/10, ML3.3/7, MS2.6/1, Error ellipse: s-maj=13.4km s-min=6.8km az=114.0*
*HEL **20** 21:35:26.7±0.0, 67°.18N×20°.65E, h1km, ML2.7, ML3.4(UPP), Confirmed Induced event*

ISC 20 21:35:25.1±0.6, 67°.19N±0°.02×20°.67E±0°.02, h0km, n66, σ1°15/86, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.08	210	P	Pg	21 35 27.8	+1.3
DUNU				S	Sg	21 35 29.0	+1.4
DUNU	Dundret	0.08	210	P	Pg	21 35 27.8	+1.3
DUNU				S	Sg	21 35 29.0	+1.4
DUNU	Dundret	0.08	210	*i* P	Pg	21 35 27.8	+1.3
DUNU				*i* S	Sg	21 35 29.0	+1.4
RATU	Laukkuluspa	0.76	328	P	Pg	21 35 40.2	+0.5
RATU	Laukkuluspa	0.76	328	P	Pg	21 35 40.2	+0.5
RATU	Laukkuluspa	0.76	328	*i* P	Pg	21 35 40.2	+0.5
KUA	Kurravaara	0.78	351	P	Pg	21 35 40.4	+0.3
KUA				S	Sg	21 35 51.4	+1.3
KUA	Kurravaara	0.78	351	P	Pg	21 35 40.4	+0.3
KUA				S	Sg	21 35 51.4	+1.3
KUA	Kurravaara	0.78	351	*i* P	Pg	21 35 40.4	+0.3
KUA				*i* S	Sg	21 35 51.4	+1.3
SALU	Saltoluokta	0.86	284	P	Pg	21 35 42.1	+0.5
SALU				S	Sg	21 35 53.6	+0.9
SALU	Saltoluokta	0.86	284	P	Pg	21 35 42.1	+0.5
SALU				S	Sg	21 35 53.6	+0.9
SALU	Saltoluokta	0.86	284	*i* P	Pg	21 35 42.1	+0.5
SALU				*i* S	Sg	21 35 53.6	+0.9
ERTU	Ertsjaerv	0.88	136	P	Pg	21 35 42.3	+0.4
ERTU				*e*S	Sg	21 35 54.0	+0.8
ERTU	Ertsjaerv	0.88	136	*e*P	Pg	21 35 42.3	+0.4
ERTU				*e*S	Sg	21 35 54.0	+0.8
NIKU	Nikkaluokta	0.93	318	P	Pg	21 35 43.3	+0.4
NIKU	Nikkaluokta	0.93	318	P	Pg	21 35 43.3	+0.4
NIKU	Nikkaluokta	0.93	318	*e*P	Pg	21 35 43.3	+0.4
PAJU	Pajala	0.97	99	P	Pg	21 35 44.2	+0.5
PAJU	Pajala	0.97	99	P	Pg	21 35 44.2	+0.5
PAJU	Pajala	0.97	99	*e*P	Pg	21 35 44.2	+0.5
PAJU				*e*S	Sb	21 35 57.7	-0.5
LANU	Lannavaara	1.00	30	P	Pg	21 35 44.7	+0.4
LANU	Lannavaara	1.00	30	*e*P	Pg	21 35 44.6	+0.4
LANU	Lannavaara	1.00	30	P	Pg	21 35 44.7	+0.4
LANU	Lannavaara	1.00	30	*e*P	Pg	21 35 44.7	+0.4
LANU				*e*S	Sg	21 35 57.9	+0.6
HARU	Harads	1.04	173	P	Pg	21 35 44.9	0.0
HARU	Harads	1.04	173	P	Pg	21 35 44.9	0.0
HARU	Harads	1.04	173	*e*P	Pg	21 35 44.9	0.0
KOVU	Salmi	1.06	350	P	Pg	21 35 45.4	+0.1
KOVU	Salmi	1.06	350	P	Pg	21 35 45.4	+0.1
KOVU	Salmi	1.06	350	*e*P	Pg	21 35 45.4	+0.1
HEF	Hetta	1.67	41	*e*P	Pn	21 35 56.3	+0.7
HEF				*e*S	Sb	21 36 18.6	+0.3
HEF				MSG		21 36 22.1	
	comp=Z,53nm,0.2s						
KALU	Kalix	1.71	140	P	Pn	21 35 57.0	+0.9
KALU	Kalix	1.71	140	P	Pn	21 35 57.0	+0.9
KALU	Kalix	1.71	140	*e*P	Pn	21 35 57.1	+0.9
KALU				*e*SN	Sb	21 36 19.8	+0.3
KALU				MSG		21 36 24.0	
	comp=Z,47nm,0.2s						
SJUU	Sjulsmark	1.73	167	P	Pn	21 35 57.3	+0.9
SJUU	Sjulsmark	1.73	167	*e*P	Pn	21 35 56.9	+0.5
SJUU	Sjulsmark	1.73	167	P	Pn	21 35 57.3	+0.9
SJUU	Sjulsmark	1.73	167	*e*P	Pn	21 35 57.3	+0.9
KIF	Kilpisjarvi	1.83	2	*e*SG	Sg	21 36 24.8	+1.1
TOF	Tornio	1.83	126	*e*PN	Pb	21 35 59.3	-0.2
TOF				*e*SG	Sb	21 36 23.7	+0.8
TOF				MSG		21 36 27.0	
	comp=Z,89nm,0.2s						
KTK1	Kautokeino	2.07	27	*e*PB	Pb	21 36 03.1	-0.4
KTK1				*e*S	Sb	21 36 29.5	-0.2
RNF	Rovaniemi	2.19	103	*e*SB	Sb	21 36 32.9	-0.2
SGF	Sodankyl	2.29	81	*e*P	Pn	21 36 05.5	+1.5
SGF				*e*SB	Sb	21 36 36.0	+0.1
SGF				MSG		21 36 38.4	
	comp=Z,62nm,0.2s						
TRO	Tromso	2.54	346	*e*P	Pn	21 36 09.3	+1.8
TRO				*e*S	Sb	21 36 41.6	-1.5
ARCES	ARCESS Array B	2.96	35	Pn	Pn	21 36 14.6	+1.2
	comp=Z,3.8nm,0.3s,baz=215,slow=13,SNR=260						
ARCES				Sn	Sn	21 36 50.4	+0.9
	comp=Z,4.4nm,0.3s,baz=223,slow=18,SNR=8.8						
ARCES				Lg	Lg	21 36 54.5	
	comp=Z,8.3nm,0.3s,baz=218,slow=27,SNR=7.9						
	comp=Z,14nm,0.4s						
VAF	Ylistaro	4.25	168	*e*P	Pn	21 36 32.6	+1.6
KEF	Keuruu	5.35	158	*e*P	Pn	21 36 47.5	+1.4
RAF	Rauma	6.21	175	*e*P	Pn	21 36 58.7	+0.8
JOF	Joensuu	6.21	129	*e*P	Pn	21 36 57.9	0.0
FINES	FINESS Array B	6.23	155	Pn	Pn	21 36 59.7	+1.5
	comp=Z,1.5nm,0.3s,baz=345,slow=12,SNR=70						
FINES				Sn	Sn	21 38 08.5	-1.3
	comp=Z,0.9nm,0.3s,baz=343,slow=22,SNR=3.7						
FINES				Lg	Lg	21 38 37.5	
	comp=Z,5.7nm,0.3s,baz=346,slow=28,SNR=14						
	comp=Z,4.5nm,0.4s						
AAL	Aland	7.04	183	*e*P	Pn	21 37 09.4	+0.1
MEF	Metsahovi	7.19	165	*e*P	Pn	21 37 11.7	+0.4
NOA	NORSAR Array B	7.42	218	Pn	Pn	21 37 14.8	+0.2
	baz=28,slow=11,SNR=14						
NOA				Sn	Sn	21 38 34.4	-5.0
	comp=Z,0.1nm,0.3s,baz=48,slow=15,SNR=9.0						
NOA				Lg	Lg	21 39 12.7	
	comp=Z,0.2nm,0.3s,baz=35,slow=20,SNR=2.5						
	comp=Z,0.2nm,0.3s						
HFS	Hagfors	7.72	207	Pn	Pn	21 37 18.4	-0.3
	comp=Z,0.8nm,0.3s,baz=19,slow=13,SNR=33						
HFS				Sn	Sn	21 38 43.0	-3.8
	comp=Z,1.9nm,0.3s,baz=25,slow=25,SNR=11						
HFS				Lg	Lg	21 39 22.9	
	comp=Z,1.1nm,0.3s,baz=28,slow=28,SNR=5.4						
HFS				LR	LR	21 39 38.8	
	comp=Z,46nm,22.0s,baz=311,slow=33						
	comp=Z,1.6nm,0.3s						
STRU	Stroemstad	9.23	212	*e*P	Pn	21 37 37.5	-1.8
SLIT	Slitere, Latvi	9.62	175	*e*P	Pn	21 37 43.6	-1.1
SPITS	Spitsbergen Ar	11.12	355	Pn	Pn	21 38 04.4	-0.6
	baz=173,slow=14						
	comp=Z,2.6nm,0.5s						
KIRV	Kirov	15.53	110	Pn	Pn	21 39 01.5	-3.6
	comp=Z,0.9nm,0.3s,baz=346,slow=8.3,SNR=2.9						
	comp=Z,5.2nm,0.5s						
EKA	Eskdalemuir Ar	16.36	235	Lg	Lg	21 44 02.0	
	baz=36,slow=24						
AKASG	Malin Array Be	17.09	161	P	Pn	21 39 26.3	+1.3
	comp=Z,0.4nm,0.3s,baz=348,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.4s						
ARTI	Arti	20.47	103	P	P	21 40 04.2	+0.2
	comp=Z,1.2nm,0.4s,baz=328,slow=15,SNR=1.8						
	comp=Z,1.2nm,0.4s						
MKAR	Makanchi Array	37.21	92	P	P	21 42 37.6	-0.2
	comp=Z,0.5nm,0.9s,baz=324,slow=8.5,SNR=1.4						
	comp=Z,0.5nm,0.9s						
ILAR	Eielson Array	48.02	353	P	P	21 44 06.5	+1.2
	comp=Z,0.2nm,0.6s,baz=16,slow=8.7,SNR=1.7						
	comp=Z,0.2nm,0.6s						
SADO	Sadowa	53.20	299	LR	LR	22 06 18.0	
	comp=Z,578nm,20.4s,baz=339,slow=35						
TORD	Torodi Ar. Bea	55.44	203	P	P	21 45 01.4	+0.2
	comp=Z,3.9nm,0.4s,baz=359,slow=20,SNR=3.0						

*IDC **20** 21:38:50.1±1.5, 66°.69N×8°.14E, h0km, mbtmp3.9/9, ML3.3/8, Error ellipse: s-maj=22.9km s-min=14.2km az=87.0*
*FCIAR **20** 21:38:53.0, 66°.32N×7°.35E, h10km*
*DNK **20** 21:38:53.5±0.9, 66°.65N×8°.92E, h2km±28km, ML3.0(UPP)*
*NAO **20** 21:38:53.5±0.7, 66°.66N×8°.56E, h15km, ML3.8*
*BER **20** 21:38:53.4±3.0, 66°.63N×8°.46E, h10km, Mw4.3, ML3.8(NAO), Confirmed Earthquake*
*UPP **20** 21:38:54.5±2.3, 66°.62N×8°.95E, h0km, ML3.0, Presumed earthquake*

ISC 20 21:38:50.0±0.7, 66°.67N±0°.04×8°.46E±0°.05, h10km, n101, σ2°61/147, 1D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	Stokkvaagen	1.86	98	Pn	Pn	21 39 23.6	+1.7
STOK				Sn	Sn	21 39 45.3	0.0
STOK	Stokkvaagen	1.86	98	*e*P	Pn	21 39 23.6	+1.7
STOK				*e*S	Sn	21 39 45.5	+0.1
STOK				IAML		21 39 46.3	
	comp=Z,166nm,0.2s						
VAGH	Vaagaholmen	1.92	86	Pn	Pn	21 39 24.3	+1.7
VAGH				Sn	Sn	21 39 46.6	-0.2
VAGH	Vaagaholmen	1.92	86	*e*P	Pn	21 39 24.1	+1.5
VAGH				*e*S	Sn	21 39 46.1	-0.6
VAGH				IAML		21 39 47.4	
	comp=Z,65nm,0.4s						
LEIR	Leirfjorden	1.96	104	Pn	Pn	21 39 25.1	+2.0
LEIR				Sn	Sn	21 39 47.6	-0.1
LEIR	Leirfjorden	1.96	104	*e*P	Pn	21 39 25.2	+2.0
LEIR				*e*S	Sn	21 39 47.6	-0.1
LEIR				IAML		21 39 49.5	
	comp=Z,133nm,0.3s						
RAUS	Rausandaksla	2.25	93	⇓*i* P	Pn	21 39 29.6	+2.4
RAUS				*e*S	Sn	21 39 55.2	+0.3
RAUS				IAML		21 39 56.6	
	comp=Z,183nm,0.3s						
LOF	Lofoten	2.45	51	Pn	Pn	21 39 30.8	+0.7
LOF	Lofoten	2.45	51	*e*P	Pn	21 39 30.7	+0.7
LOF				*e*S	Sn	21 39 56.9	-3.1
LOF				IAML		21 40 04.7	
	comp=Z,24nm,0.3s						
MOR8	Moi Rana	2.46	99	Pn	Pn	21 39 34.1	+4.0
MOR8				Sn	Sn	21 40 03.9	+3.7
MOR8	Moi Rana	2.46	99	*e*P	Pn	21 39 34.0	+3.9
MOR8				*e*S	Sn	21 40 03.6	+3.4
MOR8				IAML		21 40 08.0	
	comp=Z,164nm,0.3s						
NSS	Namsos	2.59	144	*e*P	Pn	21 39 34.2	+2.2
NSS				*e*S	Sn	21 40 03.5	+0.1
NSS				IAML		21 40 05.8	
	comp=Z,158nm,0.3s						
FAUS	Fauske	2.77	72	Pn	Pn	21 39 36.4	+1.9
FAUS				Sn	Sn	21 40 08.0	+0.1
FAUS	Fauske	2.77	72	*e*P	Pn	21 39 36.2	+1.8
FAUS				*e*S	Sn	21 40 07.5	-0.5
FAUS				IAML		21 40 10.0	
	comp=Z,85nm,0.3s						
STEI	Steigen	2.92	61	Pn	Pn	21 39 38.9	+2.5
STEI				Sn	Sn	21 40 09.9	-1.6
STEI	Steigen	2.92	61	*e*P	Pn	21 39 38.1	+1.7
STEI				*e*S	Sn	21 40 10.2	-1.4
STEI				IAML		21 40 14.1	
	comp=Z,28nm,0.3s						
SALU	Saltoluokta	4.00	75	P	Pn	21 39 54.0	+2.6
SALU				S	Sn	21 40 38.1	-0.2
SALU	Saltoluokta	4.00	75	*e*P	Pn	21 39 54.2	+2.8
SALU				*e*S	Sn	21 40 37.6	-0.7
SALU	Saltoluokta	4.00	75	P	Pn	21 39 54.0	+2.6
SALU				S	Sn	21 40 38.1	-0.2
MOL	Molde	4.13	186	Pn	Pn	21 39 54.0	+0.9
MOL				Sn	Sn	21 40 36.7	-4.7
MOL	Molde	4.13	186	*e*P	Pn	21 39 53.7	+0.6
MOL				*e*S	Sn	21 40 36.1	-5.3
MOL				IAML		21 40 37.6	
	comp=Z,55nm,0.3s						
NOD	Norderasen	4.22	137	P	Pn	21 39 56.7	+2.4
NOD				S	Sn	21 40 44.2	+0.6
NOD	Norderasen	4.22	137	P	Pn	21 39 56.7	+2.4
NOD				S	Sn	21 40 44.2	+0.6
NIKU	Nikkaluokta	4.28	69	P	Pn	21 39 57.7	+2.6
NIKU	Nikkaluokta	4.28	69	P	Pn	21 39 57.7	+2.6
RATU	Laukkuluspa	4.48	70	P	Pn	21 40 01.0	+3.2
RATU	Laukkuluspa	4.48	70	P	Pn	21 40 01.0	+3.2
AKN	Aaknes	4.55	189	Pn	Pn	21 40 00.8	+2.0
AKN				Sn	Sn	21 40 48.0	-3.7
AKN	Aaknes	4.55	189	Pn	Pn	21 40 00.8	+2.0
AKN				Sn	Sn	21 40 48.0	-3.7
AKN				IAML		21 40 53.2	
	comp=Z,29nm,0.1s						
DOMB	Dombas	4.65	176	Pn	Pn	21 40 01.7	+1.4
DOMB				Sn	Sn	21 40 50.6	-3.6
DOMB	Dombas	4.65	176	*e*P	Pn	21 40 01.9	+1.6
DOMB				*e*S	Sn	21 40 50.0	-4.3
DOMB				IAML		21 40 56.2	
	comp=Z,32nm,0.3s						
KOVU	Salmi	4.77	66	P	Pn	21 40 05.0	+3.1
KOVU	Salmi	4.77	66	P	Pn	21 40 05.0	+3.1
KUA	Kurravaara	4.78	69	P	Pn	21 40 04.7	+2.7
KUA	Kurravaara	4.78	69	P	Pn	21 40 04.7	+2.7
DUNU	Dundret	4.79	79	P	Pn	21 40 04.4	+2.2
DUNU				S	Sn	21 40 56.4	-1.4
DUNU	Dundret	4.79	79	P	Pn	21 40 04.4	+2.2
DUNU				S	Sn	21 40 56.4	-1.4
TRO	Tromso	4.91	48	*e*P	Pn	21 40 05.5	+1.7
BREU	Bredtraesk	5.08	119	P	Pn	21 40 09.3	+3.2
BREU	Bredtraesk	5.08	119	P	Pn	21 40 09.3	+3.2
SVAU	Svanoeiden	5.10	110	P	Pn	21 40 08.8	+2.4
SVAU	Svanoeiden	5.10	110	P	Pn	21 40 08.8	+2.4
FOO	Floro	5.30	198	Pn	Pn	21 40 10.9	+1.7
FOO				Sn	Sn	21 41 04.0	-6.2
FOO	Floro	5.30	198	*e*P	Pn	21 40 10.7	+1.6
FOO				*e*S	Sn	21 41 04.0	-6.2
FOO				IAML		21 41 12.5	
	comp=Z,19nm,0.2s						
JETT	Jettan, Norway	5.33	52	*e*P	Pn	21 40 12.7	+3.2
LANU	Lannavaara	5.41	69	P	Pn	21 40 13.1	+2.5
LANU	Lannavaara	5.41	69	P	Pn	21 40 13.1	+2.5
HYA	Hoyanger	5.61	191	*e*P	Pn	21 40 15.5	+2.1
HYA				IAML		21 41 28.1	
	comp=Z,13nm,0.1s						
NB2	NORSAR Subarra	5.78	167	Pn	Pn	21 40 17.8	+2.0
	baz=350,slow=18						
NB2	NORSAR Subarra	5.78	167	Pn	Pn	21 40 17.8	+2.0
	baz=350,slow=18						
NOA	NORSAR Array B	5.78	167	Pn	Pn	21 40 17.5	+1.7
	comp=Z,0.2nm,0.3s,baz=350,slow=14,SNR=6.7						
NOA				Sn	Sn	21 41 16.7	-5.3
	comp=Z,0.4nm,0.3s,baz=320,slow=17,SNR=4.6						
	comp=Z,1.0nm,0.2s						
SUE	Sulen	5.86	198	*e*P	Pn	21 40 17.7	+0.8
SUE				*e*S	Sn	21 41 18.3	-5.7
SUE				IAML		21 41 31.8	
	comp=Z,8.7nm,0.3s						
SKAR	Skarslia	6.01	181	*e*P	Pn	21 40 19.9	+0.9
SKAR				*e*S	Sn	21 41 21.8	-5.9
KTK1	Kautokeino	6.06	60	*e*P	Pn	21 40 22.2	+2.6
HEF	Hetta	6.08	66	Pn	Pn	21 40 22.4	+2.5
HEF	Hetta	6.08	66	*e*P	Pn	21 40 22.1	+2.3
HEF				*e*S	Sn	21 41 26.1	-3.2
NRA0	NORESS Array S	6.11	166	Pn	Pn	21 40

FINES FINESS Array B 9.31 116 Pn **Pn 21 41 05.9 +1.9**
comp=Z,3.8nm,0.3s,baz=310,slow=14,SNR=28
FINES Sn **Sn 21 42 43.4 -5.2**
comp=Z,1.7nm,0.3s,baz=313,slow=22,SNR=6.3
comp=Z,11nm,0.3s
ONAU Onsala 9.44 169 *i* P **Pn 21 41 06.3 +0.4**
FABU Falkenberg 9.90 166 *i* P **Pn 21 41 13.7 +1.5**
DEL Delary 10.55 163 *i* P **Pn 21 41 21.1 +0.1**
BJUU Bjuv 10.85 166 *i* P **Pn 21 41 25.7 +0.6**
LUNU Lund 11.33 165 *i* P **Pn 21 41 31.7 0.0**
SPITS Spitsbergen Ar 11.80 8 Pn **Pn 21 41 38.9 +0.9**
baz=192,slow=13
SPITS Sn **Sn 21 43 43.9 -5.6**
baz=193,slow=25
comp=Z,20nm,1.0s
EKA Eskdalemuir Ar 12.66 212 Pn **Pn 21 41 49.4 -0.4**
baz=22,slow=13
comp=Z,0.6nm,0.5s
KLMR Klimovskoe 14.79 98 *eP* **Pn 21 42 19.5 +0.5**
KLMR *eS* Sn 21 44 51.5 -11
LSH Leshukonskoye 15.25 79 *eP* **Pn 21 42 28.0 +3.0**
LSH *eS* **Sn 21 45 05.8 -8.0**
CHVC Chvalec 16.58 163 *eP* **Pn 21 42 41.9 -0.4**
OSTC Ostas 16.63 162 *eP* **Pn 21 42 42.3 -0.7**
DPC Dobruska-Polom 16.85 162 *eP* **Pn 21 42 45.0 -0.7**
SHIP Sredneye Shipi 16.89 90 *eP* **P 21 42 53.2 +5.1**
SHIP *eS* **Sn 21 45 46.2 -7.3**
KRLC Kraliky 17.17 162 *eP* **Pn 21 42 48.8 -1.0**
GERES GERESS Array B 18.08 169 P **Pn 21 43 03.2 +2.1**
baz=350,slow=16,SNR=2.6
comp=Z,0.3nm,0.5s
AKASG Malin Array Be 19.14 137 P **P 21 43 13.7 +0.7**
comp=Z,0.8nm,0.3s,baz=338,slow=12,SNR=2.9
comp=Z,0.5nm,0.4s

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*DNK **20** 21:39:47.1±2.2, 81°.80N×3°.33W, h36km±36km, ML1.4*
BER 20 21:39:47.3±2.4, 81°.59N×3°.77W, h10km, Mw3.2,
Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.90**	**277**	*eP*	Pn	21 40 18.2	-1.4
NOR				*eS*	Sn	21 40 39.6	-3.9
NOR	**Nord**	**1.90**	**277**	*i P*	Pn	21 40 16.0	-3.6
NOR				IAML		21 40 41.8	
comp=Z,2.5nm,0.4s							
KBS	**Kingsbay**	**3.77**	**127**	*eP*	Pn	21 40 43.3	-2.0
KBS				*eS*	Sn	21 41 23.4	-6.1
KBS				IAML		21 41 24.4	
comp=Z,6.8nm,0.8s							
KBS	**Kingsbay**	**3.77**	**127**	*i P*	Pn	21 40 43.8	-1.5
KBS				*i S*	Sn	21 41 22.6	-7.0
BRBB	**Barentsburg B**	**4.71**	**129**	*eP*	Pn	21 40 57.2	-1.1
BRBB				*eS*	Sn	21 41 47.6	-5.2
BRBA	**Barentsburg A**	**4.74**	**129**	*eP*	Pn	21 40 57.7	-0.9
BRBA				*eS*	Sn	21 41 49.0	-4.6
BRBA				IAML		21 41 52.3	
comp=Z,5.0nm,0.9s							
SPA0	**Spitsbergen Ar**	**4.90**	**124**	*eP*	Pn	21 40 58.8	-2.0
SPA0				*eS*	Sn	21 41 50.9	-6.6
SPA0				IAML		21 42 01.4	
comp=Z,3.6nm,1.1s							
DAG	**Danmarks Havn**	**5.57**	**218**	*eP*	Pn	21 41 07.5	-2.5
DAG				*eS*	Sn	21 42 05.9	-8.0
DAG	**Danmarks Havn**	**5.57**	**218**	*i P*	Pn	21 41 08.0	-2.0
DAG				*i S*	Sn	21 42 08.4	-5.5
DAG				IAML		21 42 11.6	
comp=Z,2.1nm,0.3s							
HSPB	**Hornsund (broa**	**5.80**	**132**	*eP*	Pn	21 41 12.0	-1.2
DBG	**Daneborg**	**8.03**	**213**	*eP*	Pn	21 41 40.7	-3.1
DBG				*eS*	Sn	21 43 05.7	-8.7
DBG	**Daneborg**	**8.03**	**213**	*eP*	Pn	21 41 41.3	-2.5
DBG				*eS*	Sn	21 43 06.4	-8.1
DBG				IAML		21 43 16.3	
comp=Z,0.9nm,0.4s							

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*IDC **20** 21:49:10.7±3.3, 9°.45S×112°.27E, h0km, mb3.7/6,*
mbtmp3.7/7, ML3.5/1, MS3.1/3, Error ellipse:
s-maj=169.6km s-min=18.6km az=49.0
*DJA **20** 21:49:14.8±1.1, 10°.5±5°×11°.2E±°, h19km±12km, M4.1/22,*
mB4.7/2, mb4.2/5, MLv4.0/22, Mw(mB)3.9/2
ISC 20 21:49:14.7±1.0, 9°.8S±0°.1×112°.09E±0°.06, h35km, n28,
σ1°.28/28, mb3.6/6, MS3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.86**	**331**	P	**Pn**	**21 49 42.6**	**-1.5**
PCJI				S	**Sn**	**21 50 05.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**2.44**	**57**	P	**Pn**	**21 49 50.9**	**-1.2**
UGM	**Wanagama**	**2.46**	**321**	P	**Pn**	**21 49 52.8**	**+0.5**
UGM				S	**Sn**	**21 50 22.4**	**+1.2**
NGJI	**Ngawi**	**2.53**	**346**	P	**Pn**	**21 49 55.0**	**+1.7**
BLJI	**Banyuglugur**	**2.55**	**36**	P	**Pn**	**21 49 54.4**	**+0.8**
BLJI				S	**Sn**	**21 50 24.5**	**+1.0**
YOGI	**Yogyakarta**	**2.68**	**318**	P	**Pn**	**21 49 55.8**	**+0.5**
GRJI	**Gresik**	**2.93**	**8**	P	**Pn**	**21 49 58.8**	**+0.1**
ABJI	**Asem Bagus**	**2.93**	**46**	P	**Pn**	**21 49 59.9**	**+1.1**
TBJI	**Tambak Boyo**	**3.01**	**355**	P	**Pn**	**21 49 59.7**	**-0.1**
SMRI	**Semarang**	**3.21**	**329**	P	**Pn**	**21 50 04.1**	**+1.4**
KMMI	**Kalianget**	**3.33**	**34**	P	**Pn**	**21 50 04.8**	**+0.5**
SRBI	**Singaraja**	**3.54**	**61**	P	**Pn**	**21 50 07.7**	**+0.5**
KPJI	**Karang Pucung**	**3.99**	**308**	P	**Pn**	**21 50 15.7**	**+2.3**
TWSI	**Taliwang, Sumb**	**4.85**	**77**	P	**Pn**	**21 50 26.4**	**+1.2**
CNJI	**Cibinong**	**5.51**	**297**	P	**Pn**	**21 50 36.1**	**+1.8**
0.1nm560nm27nm,1.5s							
PLAI	**Plampang**	**5.70**	**80**	P	**Pn**	**21 50 37.8**	**+0.9**
650nm29nm,1.1s							
CGJI	**Cibinong**	**7.09**	**296**	P	**Pn**	**21 50 58.2**	**+2.1**
WBSI	**Waikabubak, Su**	**7.20**	**89**	P	**Pn**	**21 50 57.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.49**	**123**	Pn	**Pn**	**21 52 50.4**	**-0.3**
0.1nm,0.3s,baz=312,slow=11,SNR=1.6							
1.2nm,0.7s							
DAV	**Davao City (W)**	**21.51**	**39**	LR	LR	22 04 33.4	
comp=Z,13nm,18.5s,baz=179,slow=44							
WRA	**Warramunga Arr**	**23.70**	**118**	P	**P**	**21 54 24.7**	**+1.1**
0.4nm,0.4s,baz=294,slow=9.8,SNR=14							
0.4nm,0.4s							
ASAR	**Alice Springs**	**24.96**	**126**	P	**P**	**21 54 37.3**	**+2.3**
0.6nm,0.6s,baz=298,slow=9.4,SNR=7.5							
0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.96**	**335**	P	**P**	**21 55 27.9**	**-0.8**
0.4nm,0.5s,baz=155,slow=8.5,SNR=6.8							
0.4nm,0.5s							
HNR	**Honiara**	**47.15**	**94**	LR	LR	22 19 58.7	
comp=Z,22nm,18.5s,baz=96,slow=39							
SONM	**Songino Array**	**57.63**	**355**	P	**P**	**21 59 00.3**	**-1.1**
0.5nm,0.6s,baz=171,slow=9.5,SNR=5.7							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**62.34**	**337**	P	**P**	**21 59 32.9**	**-0.7**
1.5nm,0.5s,baz=147,slow=7.9,SNR=16							
1.5nm,0.5s							
ZALV	**Zalesovo Beam**	**67.61**	**343**	P	**P**	**22 00 06.3**	**-1.3**
0.5nm,0.3s,baz=156,slow=6.3,SNR=4.3							
0.5nm,0.3s							
RAO	**Raoul Island**	**67.84**	**118**	LR	LR	22 28 27.1	
comp=Z,44nm,21.6s,baz=230,slow=35							

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*IDC **20** 21:50:51.2±7.7, 17°.90S×178°.08W, h602km±84km, mb3.1/7,*
mbtmp4.1/7, Error ellipse: s-maj=45.5km s-min=26.7km
az=97.0
ISC 20 21:50:50.1±1.1, 17°.9S±0°.2×178°.0W±0°.3, h590km, n10,
σ0°.83/11, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.98**	**259**	P	**P**	**21 58 13.9**	**-0.3**
2.1nm,0.5s,baz=95,slow=8.1,SNR=26							
2.1nm,0.5s							
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**21 58 15.3**	**-0.1**
3.9nm,0.7s,baz=94,slow=8.1,SNR=43							
ASAR				PcP	**PcP**	**21 59 41.7**	**-1.4**
0.5nm,0.8s,baz=98,slow=3.7,SNR=2.5							
3.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.38**	**260**	P	**P**	**21 59 16.0**	**+0.1**
1.2nm,0.6s,baz=100,slow=6.1,SNR=1.6							
1.2nm,0.6s							
MJAR	**Matsushiro Arr**	**68.09**	**323**	P	**P**	**22 00 52.6**	**+0.6**
0.9nm,0.5s,baz=156,slow=6.3,SNR=6.2							
0.9nm,0.5s							
QSPA	**South Pole Qui**	**72.18**	**180**	P	**P**	**22 01 16.7**	**+0.8**
1.3nm,0.6s,baz=76,slow=3.9,SNR=3.0							
1.3nm,0.6s							
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**22 01 25.8**	**+1.1**
1.1nm,0.6s,baz=159,slow=5.5,SNR=2.5							
1.1nm,0.6s							
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**22 02 26.4**	**-0.9**
0.3nm,0.5s,baz=210,slow=4.5,SNR=9.6							
0.3nm,0.5s							
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	**PKPdf**	**22 09 21.5**	**+0.1**
0.6nm,0.7s,baz=105,slow=3.9,SNR=5.3							
MMAI	**Mount Meron Ar**	**146.41**	**303**	PKPbc	**PKPbc**	**22 09 26.0**	**-0.3**
0.4nm,0.4s,baz=72,slow=5.5,SNR=4.1							
GERES	**GERESS Array B**	**147.67**	**345**	PKPbc	**PKPbc**	**22 09 28.5**	**-0.7**
0.3nm,0.4s,baz=11,slow=2.2,SNR=4.6							

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*BUT **20** 21:55:33.9±1.0, 46°.91N±0°.03×112°.52W±0°.04, h12km±6km,*
Error ellipse: s-maj=5.4km s-min=1.7km az=47.0
NEIC 20 21:55:33.5±1.0, 46°.93N±0°.03×112°.52W±0°.04, h12km±1km,
ML2.3/20, ML2.5/7(BUT), Error ellipse: s-maj=5.3km
s-min=3.2km az=222.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.16**	**74**		Pg	21 55 37.9	+0.5
LYMT					Sg	21 55 40.7	+0.4
BEMT	**Mount Belmont**	**0.22**	**144**		Pg	21 55 38.4	0.0
BEMT					Sg	21 55 41.5	-0.2
OVMT	**Ovando**	**0.36**	**293**		Pg	21 55 41.0	+0.3
CHMT	**Chamberlain Mo**	**0.50**	**269**		Pg	21 55 43.7	+0.3
HRY	**Holter Researc**	**0.52**	**114**		Pg	21 55 43.7	+0.1
SLMT	**Seeley Lake**	**0.74**	**296**		Pg	21 55 47.9	+0.1
BPMT	**Black Pine Rid**	**0.80**	**233**		Pg	21 55 48.8	-0.3
BUT	**Butte**	**0.91**	**182**		Pg	21 55 50.9	-0.2
MSO	**Missoula**	**0.98**	**265**		Pb	21 55 52.5	0.0
MSO	**Missoula**	**0.98**	**265**	IAML		21 56 09.7	
80nm,0.5s							
PCMT	**Pistol Creek**	**1.07**	**286**		Pb	21 55 53.6	-0.4
LRM	**Limekiln Ridge**	**1.10**	**178**		Pb	21 55 54.4	-0.2
HBMT	**Mount Humbug**	**1.13**	**183**		Pb	21 55 54.6	-0.5
SWMT	**Swartz Lake**	**1.17**	**301**		Pb	21 55 55.0	-0.6
VCMT	**Victor**	**1.25**	**248**		Pn	21 55 56.7	-0.1
YBMT	**Yellow Bay**	**1.38**	**313**		Pb	21 55 59.2	-0.1
FBMT	**Ferry Basin**	**1.39**	**291**		Pn	21 55 59.0	+0.2
JTMT	**Jette**	**1.46**	**305**		Pb	21 56 00.3	-0.2
BOZ	**Bozeman (W)**	**1.46**	**155**		Pn	21 56 00.0	+0.2
DLMT	**Dillon**	**1.56**	**182**		Pb	21 56 02.8	+0.4
DLMT	**Dillon**	**1.56**	**182**	IAML		21 56 24.7	
30nm,1.1s							
NDMT	**Ninemile Divid**	**1.60**	**283**		Pb	21 56 02.9	0.0
BGMT	**Barton Gulch**	**1.72**	**169**		Pn	21 56 04.0	+0.6
BZMT	**Bozeman Pass**	**1.75**	**136**		Pb	21 56 05.0	-0.6
BSMT	**Bassoo Peak**	**1.80**	**302**		Pb	21 56 06.5	0.0
MCMT	**McKenzie Canyo**	**2.11**	**186**	Pn	Pn	21 56 09.2	+0.4
EGMT	**Eagleton**	**2.17**	**59**		Pn	21 56 10.5	+1.0
QLMT	**Earthquake Lak**	**2.23**	**160**	Pn	Pn	21 56 10.4	0.0
YHL	**Hebgen Lake**	**2.27**	**155**	Pn	Pn	21 56 10.9	-0.2
YHL				IAML		21 56 50.0	
comp=N,16nm,0.8s							
YHL				IAML		21 56 51.4	
comp=E,18nm,1.7s							
MKRVA	**Milk River, Al**	**2.27**	**12**		Pb	21 56 14.5	+0.1
YMV	**Mammoth Vault**	**2.33**	**146**		Pg	21 56 16.9	-1.2
MOMT	**Monida**	**2.33**	**178**		Pg	21 56 18.0	-0.2
GCR	**Grayling Creek**	**2.35**	**155**		Pg	21 56 17.4	-1.1
YHB	**Horse Butte**	**2.36**	**156**	Pn	Pn	21 56 12.8	+0.6
YHB				IAML		21 56 50.2	
comp=N,17nm,0.3s							
YPDC	**Denny Creek**	**2.39**	**158**		Pn	21 56 13.7	+1.1
YMC	**Maple Creek**	**2.41**	**153**		Pn	21 56 13.8	+0.9
YHH	**Holmes Hill**	**2.43**	**151**		Pn	21 56 14.2	+0.9
YMR	**Madison River**	**2.50**	**154**	Pn	Pn	21 56 15.2	+1.0
YMR				IAML		21 56 56.5	
comp=N,20nm,3.1s							
YPWB	**West Boundary**	**2.52**	**156**		Pg	21 56 20.6	-1.3
YPM	**Purple Mountai**	**2.54**	**152**		Pg	21 56 20.9	-1.3
YNE	**Yellowstone No**	**2.60**	**137**	Pn	Pn	21 56 15.9	+0.4
YNE				IAML		21 56 55.0	
comp=N,13nm,1.4s							
YNE				IAML		21 57 00.9	
comp=E,11nm,0.4s							
PLID	**Pearl Lake**	**3.04**	**234**		Pn	21 56 21.9	+0.3
PLID	**Pearl Lake**	**3.04**	**234**	IAML		21 57 21.0	
comp=E,8.9nm,4.0s							
PLID				IAML		21 57 30.4	
comp=E,9.0nm,5.0s							
LAO	**LASA Array**	**4.33**	**91**	Pn	Pn	21 56 40.8	+1.7

IDC 20 21:58:38.0±8.7, 7°.75S×117°.29E, h268km±96km, mb2.9/4,
mbtmp3.5/5, Error ellipse: s-maj=138.1km
s-min=30.7km az=56.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.11**	**142**	P	P	22 01 35.5	-0.4
3.0nm,1.1s,baz=334,slow=9.8,SNR=1.7							
FITZ				S	S	22 04 01.8	+1.5
0.7nm,0.6s,baz=335,slow=19,SNR=1.1							
WRA	**Warramunga Arr**	**20.49**	**128**	P	P	22 02 55.6	-0.6
0.3nm,0.3s,baz=301,slow=11,SNR=2.8							
0.3nm,0.3s							
ASAR	**Alice Springs**	**22.46**	**137**	P	P	22 03 15.0	+0.1
0.5nm,0.4s,baz=310,slow=9.7,SNR=6.9							
0.5nm,0.4s							
SONM	**Songino Array**	**56.18**	**351**	P	P	22 07 50.7	+0.3
0.4nm,0.4s,baz=161,slow=8.8,SNR=3.2							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**62.59**	**334**	P	P	22 08 33.6	-0.3
0.7nm,0.8s,baz=152,slow=7.3,SNR=2.2							
0.7nm,0.8s							

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*NEIC **20** 22:09:26.1±2.0, 21°.9S±0°.1×171°.0E±0°.1, h82km±6km,*
mb4.5/23, Error ellipse: s-maj=18.8km s-min=14.2km
az=158.0
*IDC **20** 22:09:27.3±3.8, 21°.84S×170°.81E, h90km±26km, mb3.9/7,*
mbtmp4.2/8, MS3.2/3, Error ellipse: s-maj=35.9km
s-min=22.3km az=32.0
*NOU **20** 22:09:30.3, 21°.93S×170°.44E, h0km, MLv4.7/8, Southeast*
of Loyalty Islands
ISC 20 22:09:28.2±0.7, 21°.9S±0°.1×170°.81E±0°.07, h100km, n51,
σ1°.02/52, mb4.4/18, 4C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.62**	**279**	P	**Pn**	**22 10 09.3**	**+0.4**
MARNC	**Mare, Loyalty**	**2.62**	**279**	S	**Sn**	**22 10 38.8**	**-1.5**
PINNC	**Pines Island,**	**3.19**	**257**		**Pn**	**22 10 16.7**	**+0.2**
YATNC	**Mamie plateau,**	**3.64**	**267**	P	**Pn**	**22 10 22.4**	**-0.2**
YATNC	**Mamie plateau,**	**3.64**	**267**	S	**Sn**	**22 11 02.0**	**-2.7**
OUENC	**Ouen Island, N**	**3.71**	**262**	P	**Pn**	**22 10 24.0**	**+0.5**
OUENC	**Ouen Island, N**	**3.71**	**262**	S	**Sn**	**22 11 05.9**	**-0.5**
DZM	**Mont Dzumac**	**4.06**	**267**	P	**Pn**	**22 10 28.7**	**+0.4**
35nm,0.3s,baz=83,slow=18,SNR=152							
DZM				S	**Sn**	**22 11 13.7**	**-1.1**
670nm,0.7s,baz=0.0,slow=20,SNR=43							
DZM				LR	LR	22 11 56.8	
comp=Z,160nm,20.2s,baz=232,slow=37							
ONTNC	**Ouen Toro**	**4.06**	**264**		**Pn**	**22 10 28.6**	**+0.4**
ONTNC	**Ouen Toro**	**4.06**	**264**	P	**Pn**	**22 10 29.2**	**+1.0**
ONTNC	**Ouen Toro**	**4.06**	**264**	S	**Sn**	**22 11 14.4**	**-0.4**
RTZ	**Ruatahuna**	**17.47**	**164**		**P**	**22 13 23.7**	**-1.6**
RTZ				IAmb	IAmb	22 13 55.2	
comp=Z,41nm,1.5s							
EIDS	**Eidsvold**	**18.40**	**255**		**Pn**	**22 13 37.5**	**+0.7**
QRZ	**Quartz Range**	**18.91**	**176**	P	**P**	**22 13 40.2**	**-0.8**
QRZ				IAmb	IAmb	22 13 48.4	
comp=Z,64nm,1.2s							
MSWZ	**Moikau Station**	**19.80**	**170**	P	**P**	**22 13 49.9**	**-0.7**
WHZ	**Wether Hill Ro**	**24.03**	**185**	P	**P**	**22 14 34.8**	**+1.0**
WHZ				IAmb	IAmb	22 15 07.0	
comp=Z,33nm,1.3s							
COEN	**Coen**	**27.43**	**282**	P	**P**	**22 15 06.3**	**+1.5**
COEN				IAmb	IAmb	22 15 19.3	
comp=Z,24nm,1.4s							
STKA	**Stephens Creek**	**27.81**	**243**	P	**P**	**22 15 08.9**	**+0.9**
STKA	**Stephens Creek**	**27.81**	**243**	P	**P**	**22 15 09.0**	**+1.0**
comp=Z,1.6nm,0.4s,baz=95,slow=11,SNR=6.4							
comp=Z,1.6nm,0.4s							
WR8	**Warramunga Arr**	**33.92**	**267**	P	**P**	**22 16 01.8**	**-0.3**
WR8				IAmb	IAmb	22 16 06.1	
comp=Z,5.9nm,1.1s							
AS31	**Alice Springs**	**34.01**	**260**	P	**P**	**22 16 03.4**	**+0.6**
ASAR	**Alice Springs**	**34.01**	**260**	P	**P**	**22 16 02.9**	**+0.1**
ASAR	**Alice Springs**	**34.01**	**260**	P	**P**	**22 16 02.7**	**-0.1**
comp=Z,4.5nm,0.8s,baz=92,slow=8.2,SNR=46							
ASAR				ScP	**ScP**	**22 22 16.1**	**+1.6**
comp=Z,0.7nm,0.7s,baz=98,slow=3.5,SNR=6.2							
comp=Z,4.5nm,0.8s							
WB0	**Warramunga Arr**	**34.06**	**267**	P	**P**	**22 16 02.9**	**-0.2**
WB0				IAmb	IAmb	22 16 30.4	
comp=Z,15nm,1.5s							
WRA	**Warramunga Arr**	**34.08**	**267**	P	**P**	**22 16 03.0**	**-0.3**
WRA	**Warramunga Arr**	**34.08**	**267**	P	**P**	**22 16 02.6**	**-0.7**
comp=Z,0.6nm,0.3s,baz=102,slow=8.1,SNR=10							
WRA				LR	LR	22 28 35.3	
comp=Z,64nm,18.2s,baz=138,slow=34							
comp=Z,0.6nm,0.3s							
MTN	**Manton Dam**	**38.83**	**277**	P	**P**	**22 16 42.8**	**-0.9**
MTN				IAmb	IAmb	22 17 16.9	
comp=Z,7.8nm,1.1s							
KNRA	**Kununurra**	**40.20**	**271**	P	**P**	**22 16 54.8**	**-0.3**
KNRA				IAmb	IAmb	22 17 00.5	
comp=Z,14nm,1.4s							
FITZ	**Fitzroy Crossi**	**42.51**	**267**	P	**P**	**22 17 15.1**	**+1.1**
PSA00	**Pilbara Seismi**	**47.16**	**260**	P	**P**	**22 17 50.6**	**-0.3**
PSA00				IAmb	IAmb	22 18 01.5	
comp=Z,12nm,1.4s							
NWAO	**Narrogin (SRO)**	**48.36**	**245**	P	**P**	**22 17 59.6**	**-0.4**
KAPI	**Kappang**	**52.15**	**281**	LR	LR	22 41 36.5	
comp=Z,17nm,18.0s,baz=110,slow=37							
VNDA	**Vanda**	**55.83**	**182**	P	**P**	**22 18 54.2**	**-0.5**
VNDA	**Vanda**	**55.83**	**182**	P	**P**	**22 18 54.1**	**-0.6**
comp=Z,0.7nm,1.0s,baz=0.0,slow=1.0,SNR=2.8							
comp=Z,0.7nm,1.0s							
SBA	**Scott Base**	**56.02**	**181**	P	**P**	**22 18 57.1**	**+1.1**
SBA				IAmb	IAmb	22 18 57.5	
comp=Z,3.7nm,0.8s							
JOW	**Kunigami**	**63.59**	**318**	P	**P**	**22 19 48.7**	**+0.2**
QSPA	**South Pole Qui**	**68.15**	**180**	P	**P**	**22 20 19.3**	**+1.8**
QSPA				IAmb	IAmb	22 20 20.4	
comp=Z,4.8nm,0.8s							
QSPA	**South Pole Qui**	**68.15**	**180**	P	**P**	**22 20 19.5**	**+2.0**
comp=Z,4.3nm,0.7s,baz=35,slow=1.0,SNR=30							
comp=Z,4.3nm,0.7s							
MAW	**Mawson**	**76.52**	**202**	P	**P**	**22 21 07.3**	**+0.4**
comp=Z,1.3nm,0.6s,baz=124,slow=7.3,SNR=2.4							
comp=Z,1.3nm,0.6s							
BELA	**Belgrano 2**	**79.31**	**175**	P	**P**	**22 21 20.8**	**-1.5**
BELA				IAmb	IAmb	22 21 21.6	
comp=Z,4.4nm,1.1s							
TROLL	**Troll, Antarti**	**85.98**	**184**	⇑P	**P**	**22 21 56.3**	**-0.8**
comp=Z,288nm,0.5s							
SNAA	**Sanae**	**86.56**	**182**	⇑P	**P**	**22 21 58.7**	**-1.2**
comp=Z,39nm,0.4s							
SNAA	**Sanae**	**86.56**	**182**	P	**P**	**22 21 58.5**	**-1.4**
SNAA				IAmb	IAmb	22 21 59.4	
comp=Z,3.8nm,0.9s							
SNAA	**Sanae**	**86.56**	**182**	P	**P**	**22 21 58.5**	**-1.4**
comp=Z,2.3nm,0.5s,baz=198,slow=9.6,SNR=7.4							
comp=Z,2.3nm,0.5s							
VNA3	**Neumayer Olymp**	**87.09**	**180**	⇑P	**P**	**22 22 01.0**	**-1.4**
comp=Z,6.6nm,0.6s							
BRLK	**Bradley Lake**	**87.20**	**18**	P	**P**	**22 22 02.5**	**-0.4**
VNA1	**Neumayer--Stat**	**87.69**	**180**	⇑P	**P**	**22 22 04.7**	**-0.5**
comp=Z,6.0nm,0.8s							
K17K	**Iditarod**	**87.83**	**14**	P	**P**	**22 22 05.5**	**-0.3**
ARCES	**ARCESS Array B**	**128.02**	**345**	PKP	**PKPdf**	**22 28 20.0**	**-1.7**
comp=Z,4.1nm,1.0s,baz=46,slow=3.1,SNR=3.5							
FINES	**FINESS Array B**	**133.61**	**337**	PKP	**PKPdf**	**22 28 33.2**	**+0.7**
comp=Z,1.4nm,0.8s,baz=52,slow=1.9,SNR=1.4							
GERES	**GERESS Array B**	**147.53**	**331**	PKPbc	**PKPbc**	**22 29 01.0**	**+0.2**
comp=Z,0.2nm,0.4s,baz=22,slow=3.9,SNR=5.8							

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*KRSC **20** 22:26:28.5±1.1, 55°.68N×163°.36E, h16km±18km, Ml4.3,*
Felt [III-IV] at HMS cape Afrika.
*IDC **20** 22:26:28.5±1.0, 55°.96N×162°.71E, h0km, mb3.6/10,*
mbtmp3.6/11, ML2.4/1, MS2.6/2, Error ellipse:
s-maj=26.0km s-min=19.9km az=133.0
*MOS **20** 22:26:29.5±0.7, 55°.78N×163°.29E, h17km, mb3.9/1, Error*
ellipse: s-maj=8.1km s-min=5.2km az=58.2
ISC 20 22:26:29.9±1.6, 55°.83N±0°.04×163°.26E±0°.04, h14km±9km,
n96, σ1°.50/105, mb3.7/11, Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.45**	**327**	PN	**Pb**	**22 26 40.0**	**+0.4**
KBTR				S	**Sn**	**22 26 48.0**	**-1.8**
KBTR	**Krutoberegovo**	**0.45**	**327**	*eP*	**Pb**	**22 26 40.1**	**+0.4**
KBTR				*eS*	**Sn**	**22 26 48.0**	**-1.8**
SMKR	**Semkarok**	**1.25**	**308**	PN	**Pn**	**22 26 53.5**	**+0.5**
SMKR	**Semkarok**	**1.25**	**308**	*eP*	**Pn**	**22 26 53.6**	**+0.5**
ZLN	**Zelenaya**	**1.39**	**279**	PN	**Pn**	**22 26 56.1**	**+1.1**
ZLN	**Zelenaya**	**1.39**	**279**	*eP*	**Pn**	**22 26 56.1**	**+1.1**
CIRR	**Tsirk**	**1.44**	**283**	PN	**Pn**	**22 26 56.0**	**+0.4**
CIRR	**Tsirk**	**1.44**	**283**	*eP*	**Pn**	**22 26 56.1**	**+0.4**
BZGR	**Bezymyanny

comp=Z,83nm,0.5s
PET smax smax
comp=N,117nm,0.7s
PET smax smax
comp=E,117nm,1.0s
PET MLR MLR
comp=Z,100nm,11.0s
PEA0B Petropavlovsk- 4.24 232 PN **Pn 22 27 35.7 +1.7**
PETK Petropavlovsk- 4.24 232 Pn **Pn 22 27 34.1 +0.2**
comp=Z,1.2nm,0.3s,baz=283,slow=12,SNR=24
PETK Sn **Sn 22 28 30.2 +7.0**
comp=Z,0.6nm,0.3s,baz=44,slow=36,SNR=1.7
comp=Z,2.0nm,0.4s
KRMR Karymshinskiy 4.25 227 PN **Pn 22 27 35.7 +1.7**
KRMR Karymshinskiy 4.25 227 *eP* **Pn 22 27 35.8 +1.7**
RUS Russkaya 4.40 221 PN **Pn 22 27 36.4 +0.3**
RUS Russkaya 4.40 221 *eP* **Pn 22 27 36.5 +0.3**
GRL Gorelyy 4.48 225 PN **Pn 22 27 39.6 +2.3**
GRL Gorelyy 4.48 225 *eP* **Pn 22 27 39.7 +2.3**
MTVR Mutnovka 4.49 224 PN **Pn 22 27 38.3 +0.8**
MTVR Mutnovka 4.49 224 *eP* **Pn 22 27 38.4 +0.8**
APC Apacha 4.60 233 PN **Pn 22 27 42.4 +3.5**
APC Apacha 4.60 233 *eP* **Pn 22 27 42.5 +3.5**
ASAK Asacha 4.67 225 PN **Pn 22 27 41.2 +1.2**
ASAK Asacha 4.67 225 *eP* **Pn 22 27 41.3 +1.2**
SEY Seymchan 9.02 327 LR LR 22 32 37.4
comp=Z,59nm,18.2s,baz=68,slow=42
TIXI Tiksi 21.47 331 P **P 22 31 16.7 -0.8**
comp=Z,1.7nm,0.3s,baz=118,slow=9.2,SNR=6.5
TIXI LR LR 22 38 51.6
comp=Z,11nm,21.5s,baz=198,slow=35
comp=Z,1.7nm,0.3s
ILAR Eielson Array 25.60 49 P **P 22 31 58.8 +0.6**
comp=Z,0.3nm,0.7s,baz=277,slow=9.5,SNR=4.8
comp=Z,0.3nm,0.7s
MJAR Matsushiro Arr 25.70 232 P **P 22 31 57.9 -1.4**
comp=Z,0.6nm,0.3s,baz=24,slow=7.9,SNR=4.4
comp=Z,0.6nm,0.3s
SONM Songino Array 35.12 281 P **P 22 33 19.6 -3.1**
comp=Z,0.2nm,0.3s,baz=55,slow=8.9,SNR=4.2
comp=Z,0.2nm,0.3s
H11N2 WAKE ISLAND Hy 36.15 174 T T 23 12 29.7
baz=357
H11N3 WAKE ISLAND Hy 36.16 174 T T 23 12 28.2
baz=357
H11N1 WAKE ISLAND Hy 36.16 174 T T 23 11 56.4
baz=357
H11S1 WAKE ISLAND Hy 37.35 175 T T 23 13 37.6
baz=350
H11S3 WAKE ISLAND Hy 37.36 175 T T 23 13 38.6
baz=350
H11S2 WAKE ISLAND Hy 37.37 175 T T 23 13 39.3
baz=350
KURK Kurchatov 47.87 301 P **P 22 35 05.7 -1.2**
KURBB Kurchatov Arra 47.97 301 P **P 22 35 05.7 -2.0**
comp=Z,0.8nm,0.2s,baz=55,slow=7.9,SNR=2.0
MKAR Makanchi Array 48.64 295 P **P 22 35 09.5 -3.5**
comp=Z,0.8nm,0.7s,baz=52,slow=10,SNR=4.2
comp=Z,0.8nm,0.7s
FINES FINESS Array B 58.32 337 P **P 22 36 24.1 +0.4**
comp=Z,2.4nm,1.1s,baz=28,slow=6.7,SNR=4.7
comp=Z,2.4nm,1.1s
TXAR Lajitas Array 67.92 70 P **P 22 37 31.1 +3.0**
comp=Z,0.3nm,0.5s,baz=335,slow=6.2,SNR=3.6
comp=Z,0.3nm,0.5s
GERES GERESS Array B 72.63 339 P **P 22 37 56.4 -0.2**
comp=Z,0.4nm,0.7s,baz=3.6,slow=7.9,SNR=4.4
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 79.36 208 P **P 22 38 36.2 +1.2**
comp=Z,0.4nm,0.8s,baz=13,slow=6.5,SNR=1.5
comp=Z,0.4nm,0.8s
ASAR Alice Springs 83.03 207 P **P 22 38 55.5 +1.0**
comp=Z,0.3nm,0.8s,baz=21,slow=5.4,SNR=1.8
comp=Z,0.3nm,0.8s

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*KRSC **20** 22:27:45.3±1.0, 55°.70N×163°.40E, h20km±19km, Ml4.2, Felt [III-IV] at HMS cape Afrika.*
*IDC **20** 22:27:45.6±1.0, 55°.85N×162°.81E, h0km, mb3.7/10, mbtmp3.7/11, ML2.3/1, Error ellipse: s-maj=28.3km s-min=21.2km az=124.0*
*MOS **20** 22:27:46.4±0.8, 55°.76N×163°.31E, h17km, mb3.8/1, Error ellipse: s-maj=9.9km s-min=6.4km az=64.2*
ISC 20 22:27:46.0±1.4, 55°.74N±0°.04×163°.36E±0°.05, h8km±9km, n74, σ1§47/89, mb3.7/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.56**	**327**	PN		**Pg**	**22 27 56.6**	**-0.1**
KBTR				S		**Sg**	**22 28 04.5**	**+0.5**
KBTR	**Krutoberegovo**	**0.56**	**327**	*eP*		**Pg**	**22 27 56.6**	**-0.1**
KBTR				*eS*		**Sg**	**22 28 04.5**	**+0.5**
SMKR	**Semkarok**	**1.35**	**309**	PN		**Pn**	**22 28 10.8**	**-0.4**
SMKR				S		**Sb**	**22 28 29.4**	**+0.4**
SMKR	**Semkarok**	**1.35**	**309**	*eP*		**Pn**	**22 28 10.8**	**-0.4**
SMKR				*eS*		**Sb**	**22 28 29.5**	**+0.4**
BDR	**Baidarnaya**	**1.46**	**305**	*eS*		**Sn**	**22 28 32.6**	**+0.5**
MKZ	**Mys Kozlova**	**1.51**	**219**	PN		**Pn**	**22 28 12.4**	**-0.9**
MKZ				S		**Sn**	**22 28 31.6**	**-1.6**
MKZ	**Mys Kozlova**	**1.51**	**219**	*eP*		**Pn**	**22 28 12.5**	**-0.9**
MKZ				*eS*		**Sn**	**22 28 31.6**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**1.51**	**279**	PN		**Pn**	**22 28 12.9**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**1.51**	**279**	*eP*		**Pn**	**22 28 13.0**	**-0.6**
CIRR	**Tsirk**	**1.52**	**285**	*eS*		**Sn**	**22 28 32.9**	**-0.7**
BKI	**Bering**	**1.58**	**109**	*eS*		**Sg**	**22 28 35.8**	**-1.0**
KLY	**Klyuchi**	**1.62**	**292**	PN		**Pn**	**22 28 12.8**	**-2.0**
KLY				S		**Sn**	**22 28 33.7**	**-2.2**
KLY	**Klyuchi**	**1.62**	**292**	*eP*		**Pn**	**22 28 12.9**	**-2.0**
KLY				*eS*		**Sn**	**22 28 33.8**	**-2.2**
BZMR	**Bezymyannaya**	**1.63**	**278**	*eS*		**Sn**	**22 28 34.7**	**-1.7**
KIRR	**Kirishev**	**1.71**	**278**	PN		**Pn**	**22 28 16.4**	**+0.2**
KIRR	**Kirishev**	**1.71**	**278**	*eP*		**Pn**	**22 28 16.5**	**+0.2**
KMNR	**Kamenistaya**	**1.76**	**272**	PN		**Pn**	**22 28 16.8**	**-0.1**
KMNR				S		**Sn**	**22 28 39.8**	**+0.2**
KMNR	**Kamenistaya**	**1.76**	**272**	*eP*		**Pn**	**22 28 16.8**	**-0.1**
KMNR				*eS*		**Sn**	**22 28 39.9**	**+0.2**
TUMD	**Tumrok D**	**1.77**	**253**	PN		**Pn**	**22 28 16.1**	**-0.8**
TUMD				S		**Sn**	**22 28 38.6**	**-1.0**
TUMD	**Tumrok D**	**1.77**	**253**	*eP*		**Pn**	**22 28 16.1**	**-0.8**
TUMD				*eS*		**Sn**	**22 28 38.7**	**-1.0**
KPT	**Kopyto**	**1.78**	**279**	PN		**Pn**	**22 28 17.4**	**+0.2**
KPT				S		**Sn**	**22 28 40.3**	**+0.3**
KPT	**Kopyto**	**1.78**	**279**	*eP*		**Pn**	**22 28 17.4**	**+0.2**
KPT				*eS*		**Sn**	**22 28 40.3**	**+0.3**
KZV	**Kizimen**	**1.86**	**251**	PN		**Pn**	**22 28 17.5**	**-0.7**
KZV	**Kizimen**	**1.86**	**251**	*eP*		**Pn**	**22 28 17.6**	**-0.7**
TUMR	**Tumrok**	**1.88**	**257**	*eS*		**Sn**	**22 28 43.3**	**+0.8**
KOZ	**Kozyrevsk**	**1.99**	**281**	PN		**Pn**	**22 28 19.9**	**0.0**
KOZ				S		**Sn**	**22 28 45.2**	**+0.2**
KOZ	**Kozyrevsk**	**1.99**	**281**	*eP*		**Pn**	**22 28 19.9**	**0.0**
KOZ				*eS*		**Sn**	**22 28 45.2**	**+0.2**
SRDR	**Sredinnyy**	**2.12**	**287**	PN		**Pn**	**22 28 22.4**	**+0.6**
SRDR				S		**Sn**	**22 28 49.3**	**+0.9**
SRDR	**Sredinnyy**	**2.12**	**287**	*eP*		**Pn**	**22 28 22.5**	**+0.6**
SRDR				*eS*		**Sn**	**22 28 49.3**	**+0.9**
ESO	**Esso**	**2.63**	**276**	PN		**Pn**	**22 28 30.3**	**+1.5**
ESO	**Esso**	**2.63**	**276**	*eP*		**Pn**	**22 28 30.4**	**+1.5**
KII	**Karymskiy**	**2.83**	**234**	*eh*			22 28 32.5	
SPN	**Mys Shipunski**	**3.29**	**218**	PN		**Pn**	**22 28 36.7**	**-1.1**
SPN	**Mys Shipunski**	**3.29**	**218**	*eP*		**Pn**	**22 28 36.7**	**-1.1**
SPN				*eS*		**Sn**	**22 29 15.2**	**-1.8**
NLC	**Nalytchevo**	**3.48**	**224**	PN		**Pn**	**22 28 40.5**	**+0.1**
NLC	**Nalytchevo**	**3.48**	**224**	*eP*		**Pn**	**22 28 40.5**	**+0.1**
NLC				*eS*		**Sn**	**22 29 21.0**	**-0.8**
OSSR	**Ossora**	**3.52**	**358**	PN		**Pn**	**22 28 41.4**	**+0.5**
OSSR	**Ossora**	**3.52**	**358**	*eP*		**Pn**	**22 28 41.5**	**+0.5**
SDLR	**Sedlovina**	**3.59**	**228**	PN		**Pn**	**22 28 42.8**	**+0.8**
SDLR	**Sedlovina**	**3.59**	**228**	*eP*		**Pn**	**22 28 42.9**	**+0.8**
KRER	**Koryakskii**	**3.63**	**230**	PN		**Pn**	**22 28 44.5**	**+1.9**
KRER	**Koryakskii**	**3.63**	**230**	*eP*		**Pn**	**22 28 44.5**	**+1.9**
KRX	**Arik**	**3.63**	**231**	PN		**Pn**	**22 28 44.9**	**+2.3**
KRX	**Arik**	**3.63**	**231**	*eP*		**Pn**	**22 28 45.0**	**+2.3**
SMAR	**Somma**	**3.64**	**229**	PN		**Pn**	**22 28 43.4**	**+0.6**
SMAR	**Somma**	**3.64**	**229**	*eP*		**Pn**	**22 28 43.4**	**+0.6**
KOK	**Koryaka**	**3.69**	**230**	PN		**Pn**	**22 28 46.0**	**+2.7**
KOK	**Koryaka**	**3.69**	**230**	*eP*		**Pn**	**22 28 46.1**	**+2.7**
DALK	**Dalny**	**3.82**	**227**	PN		**Pn**	**22 28 45.1**	**0.0**
DALK	**Dalny**	**3.82**	**227**	*eP*		**Pn**	**22 28 45.1**	**0.0**
PET	**Petropavlovsk**	**3.87**	**227**	*ePN*		**Pn**	**22 28 48.3**	**+2.5**
PET				*eS*		**Sn**	**22 29 32.9**	**+1.5**
PET				smax		smax		
comp=N,109nm,0.6s
PET smax smax
comp=E,87nm,0.8s
PETK Petropavlovsk- 4.23 234 Pn **Pn 22 28 49.1 -1.6**
comp=E,1.0nm,0.3s,baz=29,slow=19,SNR=4.0
PETK Sn **Sn 22 29 46.4 +6.1**
comp=E,0.4nm,0.3s,baz=130,slow=46,SNR=0.9
comp=E,3.8nm,0.5s
RUS Russkaya 4.37 223 PN **Pn 22 28 53.4 +0.8**
RUS Russkaya 4.37 223 *eP* **Pn 22 28 53.4 +0.8**
MTVR Mutnovka 4.46 225 PN **Pn 22 28 56.3 +2.3**
MTVR Mutnovka 4.46 225 *eP* **Pn 22 28 56.4 +2.3**
TIXI Tiksi 21.58 331 P **P 22 32 35.1 -0.5**
comp=E,1.7nm,0.2s,baz=116,slow=11,SNR=4.6
comp=E,1.7nm,0.2s
ILAR Eielson Array 25.61 49 P **P 22 33 16.7 +1.3**
comp=E,0.3nm,0.9s,baz=273,slow=10,SNR=1.1
comp=E,0.3nm,0.9s
MJAR Matsushiro Arr 25.69 232 P **P 22 33 16.0 -0.4**
comp=E,0.9nm,0.5s,baz=36,slow=9.0,SNR=2.2
comp=E,0.9nm,0.5s
MJAR Matsushiro Arr 25.69 232 P **P 22 33 16.0 -0.4**
H11N2 WAKE ISLAND Hy 36.05 174 T T 23 13 45.2
baz=357,slow=76,SNR=111
H11N3 WAKE ISLAND Hy 36.07 174 T T 23 13 46.4
baz=357,slow=76,SNR=75
H11N1 WAKE ISLAND Hy 36.07 174 T T 23 13 46.7
baz=357,slow=76,SNR=86
H11S1 WAKE ISLAND Hy 37.26 175 T T 23 15 12.1
baz=359,slow=76,SNR=7.0
H11S3 WAKE ISLAND Hy 37.27 175 T T 23 15 14.6
baz=359,slow=76,SNR=7.5
H11S2 WAKE ISLAND Hy 37.27 175 T T 23 15 37.4
baz=359,slow=76,SNR=6.7
KURK Kurchatov 47.96 302 P **P 22 36 21.9 -2.8**
KURBB Kurchatov Arra 48.07 301 P **P 22 36 21.9 -3.6**
comp=E,2.1nm,0.2s,baz=56,slow=8.1,SNR=1.3
comp=E,2.1nm,0.2s
MKAR Makanchi Array 48.73 295 P **P 22 36 28.1 -2.7**
comp=E,0.5nm,0.7s,baz=60,slow=7.6,SNR=2.1
comp=E,0.5nm,0.7s
FINES FINESS Array B 58.42 338 P **P 22 37 42.2 +0.6**
comp=E,1.4nm,0.8s,baz=32,slow=6.1,SNR=3.8
comp=E,1.4nm,0.8s
NOA NORSAR Array B 61.50 345 P **P 22 38 01.9 -0.8**
comp=E,0.5nm,0.8s,baz=18,slow=6.9,SNR=2.0
comp=E,0.5nm,0.8s
TXAR Lajitas Array 67.89 70 P **P 22 38 47.8 +2.8**
comp=E,0.2nm,0.4s,baz=318,slow=6.2,SNR=2.0
comp=E,0.2nm,0.4s
WRA Warramunga Arr 79.31 208 P **P 22 39 52.9 +1.0**
comp=E,0.1nm,0.3s,baz=12,slow=5.7,SNR=1.7
comp=E,0.1nm,0.3s
ASAR Alice Springs 82.98 207 P **P 22 40 11.8 +0.4**
comp=E,0.2nm,0.7s,baz=16,slow=5.2,SNR=1.5
comp=E,0.2nm,0.7s

WEL 20 22:37:17.0±1.3, 32°.S±20°×17°.9E±5°.0, h168km±64km, mB4.6/7, ML4.4/8, MLv4.4/6, Mw(mB)3.8/7, Error ellipse: s-maj=69.7km s-min=4.7km az=111.7, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.73**	**49**	P		Pn	22 38 11.8	-2.5
GLKZ				S		Sn	22 39 00.2	+1.2
MXZ	**Matakaoa Point**	**5.80**	**184**	P		Pn	22 38 42.6	+1.5
MXZ				S		Sn	22 39 48.6	+1.4
HAZ	**Te Kaha**	**6.04**	**188**	P		Pn	22 38 45.7	+1.4
HAZ				S		Sn	22 39 54.8	+1.9
WMGZ	**Waiomatatini S**	**6.05**	**183**	P		Pn	22 38 45.8	+1.4
WMGZ				S		Sn	22 39 54.0	+0.9
PKGZ	**Pakihiroa**	**6.12**	**186**	P		Pn	22 38 46.8	+1.5
PKGZ				S		Sn	22 39 57.4	+2.5
RUGZ	**Raukumara Rang**	**6.26**	**189**	P		Pn	22 38 46.9	-0.5
RUGZ				S		Sn	22 39 58.5	+0.1
URZ	**Urewera**	**6.63**	**192**	P		Pn	22 38 51.7	-0.5
URZ				S		Sn	22 40 07.6	+0.6
MWZ	**Matawai**	**6.64**	**189**	P		Pn	22 38 53.1	+0.8
MWZ				S		Sn	22 40 07.5	+0.2
CNGZ	**Carnagh Statio**	**6.72**	**184**	P		Pn	22 38 52.9	-0.4
MUGZ	**Murupara**	**6.91**	**194**	P		Pn	22 38 56.2	+0.4
SNGZ	**Shannon Statio**	**7.11**	**190**	P		Pn	22 38 57.6	-0.8
SNGZ				S		Sn	22 40 16.8	-1.6
MTHZ	**Maungataniwha**	**7.26**	**193**	P		Pn	22 39 00.6	+0.2
MTHZ				S		Sn	22 40 20.5	-1.5
KNZ	**Kokohu**	**7.30**	**187**	P		Pn	22 38 58.5	-2.5
KNZ				S		Sn	22 40 19.2	-3.8
WHHZ	**Waihua**	**7.41**	**190**	P		Pn	22 38 56.6	-5.9

IDC 20 22:45:20.1±15.0, 12°.38N×93°.30E, h0km, mb3.7/4, mbtmp3.7/5, Error ellipse: s-maj=278.3km s-min=58.2km az=173.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.13**	**41**	Pn		Pn	22 47 19.1	-0.3
0.7nm,0.3s,baz=228,slow=12,SNR=7.9								
MKAR	**Makanchi Array**	**35.54**	**347**	P		P	22 52 18.2	-0.7
0.4nm,0.7s,baz=157,slow=7.8,SNR=2.2								
0.4nm,0.7s								
SONM	**Songino Array**	**37.00**	**15**	P		P	22 52 32.1	+0.6
0.4nm,0.6s,baz=188,slow=7.3,SNR=4.2								
0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**40.00**	**345**	P		P	22 52 57.6	+1.1
1.0nm,0.3s,baz=150,slow=8.7,SNR=1.8								
1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**42.01**	**353**	P		P	22 53 11.9	-1.1
0.7nm,0.4s,baz=157,slow=7.8,SNR=5.9								
0.7nm,0.4s								

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*GCG **20** 22:48:30.8±0.7, 13°.29N×90°.09W, h25km±7km, MD3.3, ML3.2*
*SNET **20** 22:48:31.0±1.5, 13°.27N×90°.03W, h34km, ML3.3*
ISC 20 22:48:33.0±2.7, 13°.2N±0°.2×89°.85W±0°.08, h40km±55km, n16, σ2§24/24, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.56**	**43**	*eP*		**Pn**	**22 48 44.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.56**	**43**	*i P*		**Pn**	**22 48 44.4**	**-0.4**
JAYA				*i* S		**Sn**	**22 48 54.6**	**+1.5**
SBLS	**San Blas**	**0.63**	**20**	*eP*		**Pn**	**22 48 44.9**	**-0.9**
SBLS				*eP*			22 48 44.9	
SBLS				*eS*		**Sn**	**22 48 55.4**	**+0.6**
NUBE	**Las Nubes**	**0.66**	**6**	*eP*		**Pn**	**22 48 44.6**	**-1.5**
NUBE				*eS*		**Sn**	**22 48 54.5**	**-0.9**
NUBE	**Las Nubes**	**0.66**	**6**	*i P*		**Pn**	**22 48 44.5**	**-1.5**
NUBE				*i* S		**Sn**	**22 48 54.7**	**-0.7**
SNJE	**San Jose**	**0.67**	**21**	*eP*		**Pn**	**22 48 45.4**	**-0.8**
RTR	**El Retiro**	**0.68**	**17**	*eP*		**Pn**	**22 48 45.7**	**-0.7**
PMON	**Piamonte**	**0.70**	**48**	*eP*		**Pn**	**22 48 47.5**	**+1.0**
BOQS	**Boqueron**	**0.74**	**48**	*eP*		**Pn**	**22 48 47.2**	**0.0**
LOMA	**Loma Larga**	**0.77**	**59**	*eP*		**Pn**	**22 48 47.5**	**0.0**
LFIJ	**La Fuente**	**0.87**	**55**	*eP*		**Pn**	**22 48 47.1**	**-1.8**
RBDL	**Robledal**	**0.88**	**10**	*eP*		**Pn**	**22 48 48.0**	**-1.1**
RBDL				*eS*		**Sn**	**22 49 01.3**	**+0.5**
JUAM	**Asuncion Mita**	**1.10**	**7**	*i S*		**Sn**	**22 49 06.7**	**+0.7**
JUAM				IAML			22 49 06.8	
comp=E,398nm,0.2s								
FG16	**Alotenango, Sa**	**1.21**	**328**	*i P*		**Pn**	**22 48 54.9**	**+1.2**
FG16				*i* S		**Sn**	**22 49 13.5**	**+4.6**
FG16				IAML			22 49 21.0	
comp=N,1μm,0.3s								
FG8	**Yepocapa, Chim**	**1.23**	**326**	*i P*		**Pn**	**22 48 55.7**	**+1.9**
FG8				*i* S		**Sn**	**22 49 14.3**	**+5.0**
ESSG	**Sabana Grande**	**1.48**	**320**	*i P*		**Pn**	**22 48 53.4**	**-3.9**
ESSG				*i* S		**Sn**	**22 49 11.3**	**-4.2**

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*IDC **20** 22:52:18.9±1.8, 8°.82S×157°.72E, h0km, mb3.9/8, mbtmp3.9/8, MS4.0/2, Error ellipse: s-maj=51.1km s-min=25.5km az=94.0*
*NEIC **20** 22:52:20.0±2.0, 8°.7S±0°.1×157°.75E±0°.08, h10km±1km, mb4.6/16, Error ellipse: s-maj=22.3km s-min=10.8km az=206.0*
ISC 20 22:52:20.7±0.6, 8°.8S±0°.1×157°.7E±0°.1, h16km, n29, σ1§27/28, mb4.4/16, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.31**	**107**	Pn		**Pn**	**22 52 58.2**	**+0.2**
PMG	**Port Moresby**	**10.45**	**266**	LR		LR	22 58 22.3	
comp=Z,136nm,18.5s,baz=110,slow=35								
ARMA	**Armidale**	**22.30**	**194**	P		**P**	**22 57 19.1**	**+1.5**
ARMA				IAmb		IAmb	22 57 45.8	
comp=Z,21nm,1.4s								
WR8	**Warramunga Arr**	**25.06**	**241**			**P**	**22 57 44.4**	**-0.2**
WB0	**Warramunga Arr**	**25.08**	**242**			**P**	**22 57 44.5**	**-0.2**
WRA	**Warramunga Arr**	**25.20**	**241**	P		**P**	**22 57 43.9**	**-2.0**
WRA	**Warramunga Arr**	**25.20**	**241**	P		**P**	**22 57 45.9**	**+0.1**
comp=Z,2.5nm,0.5s,baz=65,slow=9.6,SNR=20								
WRA				PcP		**PcP**	**23 01 21.4**	**+1.8**
comp=Z,0.4nm,0.5s,baz=59,slow=2.3,SNR=2.3								
comp=Z,2.5nm,0.5s								
ASAR	**Alice Springs**	**27.19**	**234**	P		**P**	**22 58 02.6**	**-1.2**
comp=Z,0.7nm,0.8s,baz=59,slow=9.2,SNR=5.8								
comp=Z,0.7nm,0.8s								
STKA	**Stephens Creek**	**27.46**	**211**	P		**P**	**22 58 06.9**	**+0.8**
STKA	**Stephens Creek**	**27.46**	**211**	P		**P**	**22 58 07.6**	**+1.5**
comp=Z,1.9nm,0.6s,baz=32,slow=15,SNR=9.8								
comp=Z,1.9nm,0.6s								
SOEI	**Soe**	**33.02**	**266**	P		**P**	**22 58 53.8**	**-1.9**
SOEI				IAmb		IAmb	22 59 34.2	
comp=Z,10nm,0.7s								
MAJO	**Matsushiro**	**48.64**	**339**	P		**P**	**23 01 03.8**	**-0.2**
MAJO				IAmb		IAmb	23 01 17.9	
comp=Z,8.1nm,1.1s								
MJB9	**Matsu-Tunnel**	**48.64**	**339**	P		**P**	**23 01 04.2**	**+0.2**
MJB9				IAmb		IAmb	23 01 18.9	
comp=Z,8.3nm,1.1s								
SHEM	**Shemya Is, Ala**	**62.82**	**11**	P		**P**	**23 02 44.3**	**-1.0**
SMY	**Shemya**	**62.82**	**11**	P		**P**	**23 02 44.6**	**-0.8**
CM31	**Chiang Mai Arr**	**63.97**	**295**	P		**P**	**23 02 53.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**63.97**	**295**	P		**P**	**23 02 54.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**63.97**	**295**	P		**P**	**23 02 55.4**	**+1.6**
comp=Z,0.8nm,0.3s,baz=111,slow=7.2,SNR=11								
comp=Z,0.8nm,0.3s								
LZDM	**Lanzhou Array**	**67.49**	**315**	P		**P**	**23 03 19.2**	**+2.6**
comp=Z,0.7nm,0.3s,baz=142,slow=4.9,SNR=1.5								
comp=Z,0.7nm,0.3s								
SBA	**Scott Base**	**69.24**	**178**	P		**P**	**23 03 25.7**	**-0.7**
SBA				IAmb		IAmb	23 04 07.4	
comp=Z,4.9nm,1.3s								
SONM	**Songino Array**	**72.27**	**326**	P		**P**	**23 03 44.9**	**-0.6**
comp=Z,0.3nm,0.4s,baz=130,slow=6.3,SNR=1.3								
comp=Z,0.3nm,0.4s								
QSPA	**South Pole Qui**	**81.24**	**180**	P		**P**	**23 04 38.3**	**+2.5**
QSPA	**South Pole Qui**	**81.24**	**180**	P		**P**	**23 04 35.6**	**-0.3**
comp=Z,1.1nm,1.0s,baz=2.1,slow=11,SNR=2.3								
comp=Z,1.1nm,1.0s								
KNK	**Knik Glacier**	**81.48**	**23**	P		**P**	**23 04 36.3**	**-0.7**
KNK				IAmb		IAmb	23 05 11.4	
comp=Z,15nm,1.2s								
MKAR	**Makanchi Array**	**86.50**	**318**	P		**P**	**23 05 03.6**	**+0.7**
comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=1.7								
comp=Z,0.4nm,0.7s								
RPN	**Rapa Nui**	**88.67**	**117**	LR		LR	23 36 48.7	
comp=Z,373nm,19.4s,baz=250,slow=30								
SYO	**Syowa Base**	**91.55**	**199**	*eP*		**P**	**23 05 26.0**	**-0.3**
BELA	**Belgrano 2**	**93.24**	**177**	P		**P**	**23 05 32.3**	**-1.8**
BELA				IAmb		IAmb	23 05 45.1	
comp=Z,2.1nm,1.0s								
KK31	**Karatay Array**	**93.87**	**313**	P		**P**	**23 05 37.7**	**+0.1**
KK31				IAmb		IAmb	23 05 43.4	
comp=Z,4.1nm,1.4s								

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*MOS **20** 22:53:32.4±1.0, 38°.61N×142°.13E, h50km, mb4.6/7, Error ellipse: s-maj=10.1km s-min=7.3km az=92.1*
*NEIC **20** 22:53:32.2±1.5, 38°.57N±0°.06×142°.18E±0°.09, h35km±2km, mb4.5/15, Error ellipse: s-maj=13.4km s-min=8.1km az=122.0*
*NIED **20** 22:53:34.9, 38°.62N×141°.89E, h47km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.70; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.57; $M_{r\theta}$0.29; $M_{\theta\phi}$-0.19; $M_{\phi r}$0.73; Fault plane solution: $M_0$1.03000×10^{15} NP1: ϕ_s199.00000°, δ20.00000°, λ88.00000°. NP2:ϕ_s21.00000°, δ70.00000°, λ91.00000°.*
*JMA **20** 22:53:34.9±0.1, 38°.6N±0°.2×141°.9E±0°.6, h47km, MD3.9/38, MV3.9/38, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
*IDC **20** 22:53:35.9±2.3, 38°.67N×141°.94E, h61km±18km, mb3.8/16, mbtmp4.0/21, MS2.9/4, Error ellipse: s-maj=22.5km s-min=13.9km az=113.0*
ISC 20 22:53:33.3±1.2, 38°.57N±0°.05×142°.08E±0°.07, h44km±9km, n113, σ1§30/109, mb4.3/30, 8C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.53**	**298**	‖*i P*		**Pn**	**22 53 44.7**	**0.0**
JKMT				‖S		**Sn**	**22 53 51.4**	**-1.3**
JKMT	**Kesennumamotoy**	**0.53**	**298**	A		A	22 53 44.7	
comp=N,4.0nm,0.3s,comp=E,10.0nm,0.5s								
JIKH	**Ishinomakikobu**	**0.55**	**242**	‖*i P*		**Pn**	**22 53 45.4**	**+0.6**
JIKH				‖S		**Sn**	**22 53 52.6**	**-0.3**
JIKH	**Ishinomakikobu**	**0.55**	**242**	A		A	22 53 45.4	
comp=N,9.0nm,0.8s,comp=E,21nm,1.0s								
JIO	**Ouri**	**0.58**	**259**	‖*i P*		**Pn**	**22 53 45.5**	**+0.2**
JIO				‖S		**Sn**	**22 53 52.7**	**-1.2**
JIO	**Ouri**	**0.58**	**259**	A		A	22 53 45.5	
comp=N,19nm,0.4s,comp=E,21nm,0.5s								
OFUJ	**Ofunato**	**0.61**	**328**	‖*i P*		**Pn**	**22 53 45.9**	**+0.3**
OFUJ				‖S		**Sn**	**22 53 53.5**	**-0.9**
OFUJ	**Ofunato**	**0.61**	**328**	A		A	22 53 45.9	
comp=N,11nm,0.3s,comp=E,20nm,0.4s								
JMK	**Ichinoseki**	**0.78**	**300**	‖*

GLVR *e*S **Sn** **22 55 59.9 -1.6**
GLVR smax smax
comp=E,195nm,0.2s
GLVR smax smax
comp=N,365nm,0.3s
RUSJ Misakicho 6.03 22 *e*P **Pn** **22 55 01.3 +1.5**
RUSJ *e*S **Sn** **22 56 07.1 -0.4**
YUK Yuzh-Kuril'sk 6.16 26 P **Pn** **22 55 03.5 +1.8**
YUK *e*S **Sn** **22 56 08.5 -2.3**
YUK pmax pmax
comp=Z,153nm,0.2s
YUK smax smax
comp=E,91nm,0.2s
YUK smax smax
comp=N,286nm,0.5s
USRK Ussuriysk Ar. 9.44 310 P **Pn** **22 55 48.2 +1.6**
comp=N,5.0nm,0.7s,baz=121,slow=15,SNR=7.3
JNU Nakatsue 10.59 243 P **Pn** **22 56 02.9 +0.5**
comp=N,8.5nm,0.8s,baz=70,slow=16,SNR=2.2
JNU LR LR 23 00 26.5
comp=N,63nm,19.4s,baz=27,slow=39
KSRS Korea Array 11.23 269 P **Pn** **22 56 14.3 +3.2**
comp=N,2.2nm,0.8s,baz=80,slow=14,SNR=5.5
HIA Hailar 19.25 311 P **Pn** **22 57 54.9 -0.4**
HIA Hailar 19.25 311 P **Pn** **22 57 54.9 -0.4**
HIA pmax pmax
comp=Z,6.0nm,0.5s
SEY Seymchan 25.19 11 LR LR 23 08 59.0
comp=Z,22nm,19.2s,baz=270,slow=37
ULN Ulaanbaatar 26.97 302 *ce*P **P** **22 59 12.7 +1.8**
ULN pmax pmax
comp=Z,7.0nm,2.5s
SONM Songino Array 27.40 301 P **P** **22 59 14.9 +0.2**
comp=Z,0.5nm,0.6s,baz=98,slow=9.3,SNR=4.5
comp=Z,0.5nm,0.6s
H11N2 WAKE ISLAND Hy 28.52 124 T T 23 29 50.3
baz=317,slow=75,SNR=440
H11N1 WAKE ISLAND Hy 28.53 124 T T 23 29 54.4
baz=317,slow=75,SNR=612
H11N3 WAKE ISLAND Hy 28.54 124 T T 23 29 55.7
baz=317,slow=75,SNR=442
H11S1 WAKE ISLAND Hy 29.29 126 T T 23 30 54.0
baz=319,slow=76,SNR=51
H11S3 WAKE ISLAND Hy 29.29 126 T T 23 30 52.9
baz=319,slow=76,SNR=126
H11S2 WAKE ISLAND Hy 29.31 126 T T 23 30 53.8
baz=319,slow=76,SNR=42
LZDM Lanzhou Array 30.52 277 P **P** **22 59 42.1 -0.6**
comp=Z,1.1nm,0.4s,baz=97,slow=10,SNR=3.6
comp=Z,1.1nm,0.4s
ZAA0 Zalesovo Array 41.29 311 P **P** **23 01 13.8 -0.4**
ZALV Zalesovo Beam 41.29 311 P **P** **23 01 13.4 -0.8**
comp=Z,2.3nm,0.5s,baz=85,slow=8.0,SNR=14
ZALV PcP **PcP** **23 03 12.1 0.0**
comp=Z,0.7nm,0.3s,baz=98,slow=2.6,SNR=4.9
comp=Z,2.3nm,0.5s
ZALV Zalesovo Beam 41.29 311 P **P** **23 01 13.6 -0.6**
TOLI2 Tolitoli 42.08 213 P **P** **23 01 20.6 -0.5**
CMAR Chiang Mai Arr 42.41 254 P **P** **23 01 23.8 +0.1**
comp=Z,2.3nm,0.3s,baz=54,slow=8.0,SNR=13
comp=Z,2.3nm,0.3s
MK31 Makanchi Array 43.77 301 *ce*P **P** **23 01 35.3 +0.8**
MKAR Makanchi Array 43.77 301 P **P** **23 01 32.3 -2.2**
MKAR Makanchi Array 43.77 301 P **P** **23 01 33.9 -0.6**
comp=Z,2.5nm,0.9s,baz=79,slow=9.0,SNR=10
MKAR PcP **PcP** **23 03 20.5 -0.1**
comp=Z,0.3nm,0.7s,baz=62,slow=3.4,SNR=1.4
comp=Z,2.5nm,0.9s
MKAR Makanchi Array 43.77 301 *ce*P **P** **23 01 38.2 +3.7**
KURK Kurchatov 45.42 307 **P** **23 01 46.8 -0.7**
KURK Kurchatov 45.42 307 *ce*P **P** **23 01 47.2 -0.3**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 45.49 307 P **P** **23 01 47.4 -0.6**
comp=Z,9.9nm,0.5s,baz=81,slow=8.3,SNR=44
comp=Z,9.9nm,0.5s
EVN Everest 46.79 274 P **P** **23 01 59.0 -0.4**
EVN IAmb IAmb 23 02 00.6
comp=Z,3.9nm,0.9s
TARG Taragay, Kyrgy 48.21 295 P **P** **23 02 09.4 -0.6**
TARG IAmb IAmb 23 02 22.9
comp=Z,3.5nm,0.9s
TARG Taragay, Kyrgy 48.21 295 P **P** **23 02 09.4 -0.6**
TARG pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 49.94 311 P **P** **23 02 22.2 -0.4**
comp=Z,1.6nm,0.5s,baz=78,slow=9.0,SNR=5.8
comp=Z,1.6nm,0.5s
BORK Borovoye 49.98 312 *ce*P **P** **23 02 23.9 +1.1**
BORK pmax pmax
comp=Z,2.0nm,0.7s
G31M Satah River 52.79 29 P **P** **23 02 43.4 -0.2**
G31M IAmb IAmb 23 02 46.0
comp=Z,9.4nm,1.3s
KKAR Karatay Array 52.83 299 P **P** **23 02 43.1 -1.2**
KKAR Karatay Array 52.83 299 P **P** **23 02 43.1 -1.2**
H31M Peel River 53.00 31 P **P** **23 02 43.5 -1.7**
H31M IAmb IAmb 23 03 15.4
comp=Z,7.7nm,1.2s
SIT Sitka 54.89 41 P **P** **23 02 58.5 -0.6**
SIT Sitka 54.89 41 P **P** **23 02 58.5 -0.6**
SIT pmax pmax
comp=Z,52nm,1.4s
CHGR Chuyangaron 55.49 295 P **P** **23 03 03.6 -0.3**
CHGR IAmb IAmb 23 03 08.8
comp=Z,4.0nm,0.7s
CHGR Chuyangaron 55.49 295 P **P** **23 03 03.6 -0.3**
CHGR pmax pmax
comp=Z,4.0nm,0.7s
ARTI Arti 55.68 318 P **P** **23 03 04.7 -0.1**
ARTI Arti 55.68 318 P **P** **23 03 04.7 -0.1**
ARTI pmax pmax
comp=Z,11nm,0.3s
AB31 Akbulak array 57.37 310 P **P** **23 03 16.4 -0.5**
AB31 IAmb IAmb 23 03 17.2
comp=Z,2.1nm,0.7s
WB0 Warramunga Arr 58.47 188 P **P** **23 03 24.8 -0.1**
WB0 IAmb IAmb 23 03 26.1
comp=Z,7.6nm,1.3s
WR8 Warramunga Arr 58.64 188 P **P** **23 03 25.6 -0.5**
WR8 IAmb IAmb 23 04 00.8
comp=Z,4.5nm,1.1s
WRA Warramunga Arr 58.65 189 P **P** **23 03 26.6 +0.5**
comp=Z,1.6nm,1.0s,baz=8.4,slow=6.6,SNR=5.3
comp=Z,1.6nm,1.0s
FINES FINESS Array B 67.71 332 P **P** **23 04 25.7 0.0**
comp=Z,1.5nm,0.7s,baz=34,slow=5.5,SNR=5.7
comp=Z,1.5nm,0.7s
FINES FINESS Array B 67.71 332 *ce*P **P** **23 04 26.2 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 70.31 311 P **P** **23 04 42.9 +0.8**
comp=Z,2.7nm,0.9s,baz=27,slow=4.5,SNR=6.9
comp=Z,2.7nm,0.9s
KBZ Khabaz 70.31 311 *ce*P **P** **23 04 43.5 +1.4**
HFS Hagfors 72.91 336 P **P** **23 04 56.4 -1.1**
comp=Z,1.1nm,0.4s,baz=54,slow=7.3,SNR=12
comp=Z,1.1nm,0.4s
NB2 NORSAR Subarra 72.98 337 P **P** **23 04 57.7 -0.3**
comp=Z,2.7nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.98 337 P **P** **23 04 57.9 -0.1**
comp=Z,1.0nm,0.7s,baz=38,slow=6.0,SNR=5.3
NOA LR LR 23 40 55.6
comp=Z,8.7nm,18.6s,baz=350,slow=39
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 73.41 322 P **P** **23 04 59.8 -0.8**
comp=Z,0.5nm,0.4s,baz=47,slow=6.4,SNR=4.9
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 73.41 322 *ce*P **P** **23 05 02.0 +1.4**
PDAR Pinedale Array 76.22 46 P **P** **23 05 19.0 +1.6**
comp=Z,0.3nm,0.7s,baz=292,slow=4.9,SNR=3.8
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 78.23 312 P **P** **23 05 28.5 0.0**
comp=Z,0.3nm,0.6s,baz=49,slow=6.7,SNR=4.6
comp=Z,0.3nm,0.6s
CLL Collm 80.03 330 *i*P **P** **23 05 38.0 0.0**
comp=Z,3.0nm,0.8s
GERES GERESS Array B 81.69 328 P **P** **23 05 47.2 +0.2**
comp=Z,0.3nm,0.4s,baz=38,slow=5.8,SNR=3.5
comp=Z,0.3nm,0.4s
QSPA South Pole Qui 128.31 180 PKP **PKiKP** **23 12 35.4 +0.8**
comp=Z,0.5nm,0.9s,baz=332,slow=2.1,SNR=1.3
LPAZ La Paz 145.45 58 PKPbc **PKPdf** **23 13 07.6 -0.2**
comp=Z,1.6nm,1.1s,baz=326,slow=2.2,SNR=2.7
H03N2 Juan Fernandez 146.63 94 T T 01 57 41.7
baz=290,slow=76,SNR=8.8
H03N3 Juan Fernandez 146.64 94 T T 01 57 37.1
baz=290,slow=76,SNR=8.6
H03N1 Juan Fernandez 146.65 94 T T 01 57 40.0
baz=290,slow=76,SNR=6.3

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*IDC **20** 23:12:32.6±1.8, 6°.96S×129°.18E, h0km, mb3.5/2, mbtmp3.9/6, ML4.1/4, Error ellipse: s-maj=50.9km s-min=25.8km az=82.0*
ISC 20 23:12:46.3±1.4, 7°.68S±0°.10×128°.9E±0°.1, h131km, n6, σ2°34/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.73**	**244**	Pn	**Pn**	**23 14 07.4**	**-1.9**
	7.5nm,0.3s,baz=83,slow=8.1,SNR=3.4						
BATI				Sn	**Sn**	**23 15 16.7**	**+2.7**
	11nm,0.3s,baz=90,slow=20,SNR=12						
	12nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.83**	**197**	Pn	**Pn**	**23 15 19.1**	**+1.3**
	1.9nm,0.3s,baz=23,slow=14,SNR=44						
FITZ				Sn	**Sn**	**23 17 13.8**	**-3.4**
	1.4nm,0.3s,baz=93,slow=17,SNR=4.7						
	4.1nm,0.3s						
WRA	**Warramunga Arr**	**13.29**	**157**	Pn	**Pn**	**23 15 50.7**	**+0.6**
	1.0nm,0.3s,baz=338,slow=12,SNR=18						
WRA				Sn	**Sn**	**23 18 14.6**	**-2.2**
	1.1nm,0.3s,baz=333,slow=23,SNR=6.7						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**16.61**	**164**	P	**P**	**23 16 34.5**	**+2.7**
	0.3nm,0.3s,baz=338,slow=9.8,SNR=12						
ASAR				S	**Sn**	**23 19 37.6**	**+0.8**
	0.3nm,0.4s,baz=346,slow=23,SNR=4.9						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**23 23 31.6**	**-1.0**
	0.5nm,0.7s,baz=126,slow=7.8,SNR=2.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**72.51**	**329**	P	**P**	**23 23 58.9**	**+0.3**
	0.2nm,0.5s,baz=125,slow=5.2,SNR=4.1						
	0.2nm,0.5s						

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*IDC **20** 23:17:59.6±1.9, 18°.46N×146°.94E, h0km, mb3.9/9, mbtmp3.9/9, MS2.8/3, Error ellipse: s-maj=76.2km s-min=22.1km az=83.0*
ISC 20 23:18:06.9±2.2, 18°.4N±0°.2×146°.9E±0°.6, h52km, n12, σ0°99/9, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**19.11**	**299**	LR	LR	23 27 57.4	
	comp=Z,18nm,19.8s,baz=112,slow=31						
PETK	**Petropavlovsk-**	**35.64**	**11**	LR	LR	23 36 48.6	
	comp=Z,15nm,21.7s,baz=298,slow=32						
WRA	**Warramunga Arr**	**40.05**	**199**	P	**P**	**23 25 37.0**	**-0.3**
	1.0nm,0.8s,baz=19,slow=7.9,SNR=5.6						
	1.0nm,0.8s						
SHEM	**Shemya Is, Ala**	**40.30**	**25**	LR	LR	23 39 55.6	
	comp=Z,20nm,19.6s,baz=350,slow=33						
LZDM	**Lanzhou Array**	**41.84**	**304**	P	**P**	**23 25 53.4**	**+1.1**
	1.2nm,0.3s,baz=134,slow=6.2,SNR=2.4						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**43.70**	**197**	P	**P**	**23 26 07.3**	**+0.3**
	0.4nm,0.7s,baz=17,slow=8.7,SNR=5.1						
	0.4nm,0.7s						
SONM	**Songino Array**	**44.08**	**321**	P	**P**	**23 26 09.8**	**-0.2**
	0.4nm,0.4s,baz=124,slow=7.7,SNR=1.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.48**	**314**	P	**P**	**23 28 02.9**	**-1.7**
	0.6nm,0.9s,baz=97,slow=9.6,SNR=1.5						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**62.29**	**318**	P	**P**	**23 28 23.0**	**-0.6**
	0.4nm,0.5s,baz=95,slow=6.7,SNR=8.0						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**67.42**	**320**	P	**P**	**23 28 56.7**	**-0.2**
	1.4nm,0.4s,baz=90,slow=8.6,SNR=7.3						
	1.4nm,0.4s						
ARCES	**ARCESS Array B**	**83.11**	**342**	P	**P**	**23 30 27.7**	**+1.0**
	1.6nm,0.5s,baz=58,slow=4.8,SNR=15						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**87.62**	**336**	P	**P**	**23 30 49.1**	**-0.3**
	1.4nm,0.5s,baz=57,slow=5.1,SNR=13						
	1.4nm,0.5s						

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*IDC **20** 23:24:28.8±1.2, 67°.94N×20°.48E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=18.8km s-min=6.7km az=122.0*
*UPP **20** 23:24:30.7±0.1, 67°.89N×20°.15E, h0km, ML1.9, Suspected explosion*
ISC 20 23:24:28.6±0.9, 67°.82N±0°.05×20°.58E±0°.05, h0km, n11, σ1°78/14, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**326**	P	**Pg**	**23 24 32.9**	**+1.3**
KUA				S	**Sg**	**23 24 34.2**	**+0.5**
RATU	**Laukkuluspa**	**0.37**	**271**	P	**Pg**	**23 24 35.2**	**-0.5**
KOVU	**Salmi**	**0.43**	**339**	P	**Pg**	**23 24 37.2**	**+0.4**
LANU	**Lannavaara**	**0.58**	**66**	P	**Pn**	**23 24 44.0**	**-0.2**
NIKU	**Nikkaluokta**	**0.59**	**275**	P	**Pg**	**23 24 38.6**	**-1.1**
KIF	**Kilpisjarvi**	**1.19**	**4**	*e*P	**Pb**	**23 24 51.6**	**-0.3**
HEF	**Hetta**	**1.30**	**62**	*e*P	**Pg**	**23 24 52.2**	**-1.2**
ARCES	**ARCESS Array B**	**2.49**	**44**	Pn	**Pn**	**23 25 09.9**	**-0.5**
	0.3nm,0.3s,baz=227,slow=15,SNR=8.8						
ARCES				Lg	Lg	23 25 45.3	
	1.5nm,0.3s,baz=228,slow=23,SNR=12						
	3.6nm,0.9s						
FINES	**FINESS Array B**	**6.82**	**157**	Pn	**Pn**	**23 26 13.2**	**+3.5**
	0.1nm,0.3s,baz=345,slow=10,SNR=1.1						
FINES				Sn	**Sn**	**23 27 30.0**	**+2.0**
	0.2nm,0.3s,baz=342,slow=20,SNR=4.4						
FINES				Lg	Lg	23 28 06.1	
	0.3nm,0.3s,baz=344,slow=25,SNR=5.7						
	2.6nm,0.9s						
NOA	**NORSAR Array B**	**7.91**	**215**	Pn	**Pn**	**23 26 24.1**	**-0.6**
	baz=13,slow=13,SNR=1.1						
NOA				Lg	Lg	23 28 39.0	
	baz=22,slow=9.6,SNR=4.5						
	0.3nm,0.7s						
HFS	**Hagfors**	**8.28**	**205**	Pn	**Pn**	**23 26 30.1**	**+0.4**
	baz=25,slow=14,SNR=1.8						
HFS				Sn	**Sn**	**23 28 00.3**	**-3.6**
	0.2nm,0.3s,baz=18,slow=24,SNR=4.5						
HFS				Lg	Lg	23 28 47.9	
	0.3nm,0.3s,baz=24,slow=30,SNR=5.2						
	2.9nm,1.1s						

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*CATAC **20** 23:25:44.1±0.8, 15°N±4°×9°4W±°, h6km±4km, M3.6/7, MLv3.6/7, Error ellipse: s-maj=9.8km s-min=4.7km az=37.7, confirmed*
*GCG **20** 23:25:46.6±1.1, 14°.73N×93°.81W, h36km±25km, MD3.9*
*MEX **20** 23:25:49.4±0.6, 14°.82N×93°.58W, h10km, MD4.1*
ISC 20 23:25:43.3±1.4, 14°.85N±0°.05×93°.69W±0°.03, h13km±10km, n30, σ1°43/49, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.96**	**28**	*e*P	**Pn**	**23 26 04.3**	**+1.8**
PCIG				*e*S	**Sn**	**23 26 17.1**	**+1.1**
THIG		**1.38**	**88**	*e*P	**Pg**	**23 26 10.6**	**+0.8**
THIG				*e*S	**Sg**	**23 26 28.1**	**+0.4**
THIG		**1.38**	**88**	*i*P	**Pg**	**23 26 10.6**	**+0.8**
THIG				*i*S	**Sg**	**23 26 27.8**	**+0.1**
PATR	**El Naranjo**	**1.43**	**79**	*e*P	**Pg**	**23 26 10.8**	**0.0**
PATR				*e*S	**Sn**	**23 26 26.8**	**-1.1**
PAVE	**Pavencul**	**1.50**	**77**	*e*P	**Pg**	**23 26 11.9**	**-0.2**
PAVE				*e*S	**Sn**	**23 26 28.3**	**-1.4**
CHUJ	**Union Juarez**	**1.54**	**81**	*e*P	**Pb**	**23 26 12.5**	**+0.6**
CHUJ				*e*S	**Sn**	**23 26 30.8**	**0.0**
SMCA	**Catarina**	**1.56**	**90**	*i*S	**Sg**	**23 26 32.8**	**-0.8**
NILT	**Santiago Nilte**	**1.92**	**332**	*e*P	**Pb**	**23 26 18.3**	**+0.1**
NILT				*e*S	**Sn**	**23 26 39.3**	**-0.5**
RTAL	**Retalhuleu**	**1.96**	**99**	*e*P	**Pn**	**23 26 14.9**	**-1.3**
RTAL				*e*S	**Sb**	**23 26 42.5**	**-0.6**
RTAL	**Retalhuleu**	**1.96**	**99**	S	**Sb**	**23 26 44.0**	**+0.9**
RTAL	**Retalhuleu**	**1.96**	**99**	P	**Pb**	**23 26 18.6**	**-0.2**
TGIG		**1.99**	**16**	*e*P	**Pb**	**23 26 20.2**	**+0.8**
TGIG				*e*S	**Sb**	**23 26 44.0**	**-0.2**
TGIG		**1.99**	**16**	*i*P	**Pb**	**23 26 20.3**	**+0.8**
TGIG				*i*S	**Sg**	**23 26 45.7**	**-1.6**
TGBT	**Tuxtla Gutierr**	**2.00**	**17**	*e*S	**Sg**	**23 26 45.4**	**-2.2**
CCIG	**Comitan**	**2.06**	**46**	*e*P	**Pg**	**23 26 22.7**	**-0.1**
CCIG				*e*S	**Sg**	**23 26 49.2**	**-0.5**
CCIG	**Comitan**	**2.06**	**46**	*i*P	**Pg**	**23 26 22.5**	**-0.3**
CCIG				*i*S	**Sg**	**23 26 49.7**	**0.0**
CCIG	**Comitan**	**2.06**	**46**	S	**Sg**	**23 26 50.1**	**+0.4**
CCIG	**Comitan**	**2.06**	**46**	P	**Pg**	**23 26 22.8**	**-0.1**
HUEH	**Huehuetenango**	**2.16**	**77**	*e*P	**Pb**	**23 26 23.4**	**+1.0**
HUEH				*e*S	**Sb**	**23 26 47.4**	**-1.8**
HUEH	**Huehuetenango**	**2.16**	**77**	*i*S	**Sg**	**23 26 51.4**	**-1.4**
HUEH	**Huehuetenango**	**2.16**	**77**	S	**Sg**	**23 26 51.6**	**-1.3**
SOKI	**Kika Raxquin**	**2.21**	**91**	*i*P	**Pb**	**23 26 24.4**	**+1.1**
UXUV	**UXUV**	**2.49**	**350**	*e*P	**Pb**	**23 26 27.2**	**-0.7**
UXUV				*e*S	**Sb**	**23 26 56.5**	**-2.0**
CMIG	**Matias Romero**	**2.50**	**333**	*e*P	**Pn**	**23 26 25.1**	**+1.4**
CMIG				*e*S	**Sn**	**23 26 54.1**	**-0.1**
HUIG	**Huatulco**	**2.51**	**292**	*e*P	**Pn**	**23 26 23.7**	**-0.1**
HUIG	**Huatulco**	**2.51**	**292**	*i*P	**Pn**	**23 26 23.9**	**+0.1**
HUIG				*i*S	**Sn**	**23 26 49.1**	**-5.1**
NEUV	**Arroyo Zacate**	**3.49**	**325**	*e*P	**Pn**	**23 26 37.8**	**+0.4**
NEUV				*e*S	**Sn**	**23 27 17.8**	**-0.8**
YOIG	**Yosondua**	**4.21**	**299**	*e*P	**Pn**	**23 26 49.8**	**+2.2**
YOIG				*e*S	**Sn**	**23 27 38.8**	**+2.0**
TOIG	**Toxpalan**	**4.57**	**315**	*e*P	**Pn**	**23 26 55.2**	**+3.0**
TOIG				*e*S	**Sn**	**23 27 45.9**	**+0.6**
TXIG	**Tlaxiaco**	**4.59**	**302**	*e*P	**Pn**	**23 26 55.6**	**+2.9**

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*IDC **20** 23:27:01.0±1.0, 7°.79S×117°.17E, h0km, mb3.9/7, mbtmp3.9/10, ML3.9/3, MS2.5/1, Error ellipse: s-maj=22.8km s-min=15.8km az=59.0*
*NEIC **20** 23:27:03.1±0.7, 7°.67S±0°.05×117°.21E±0°.06, h10km±1km, mb4.3/11, Error ellipse: s-maj=11.0km s-min=8.1km az=236.0*
*DJA **20** 23:27:04.0±1.0, 8°S±4°×117°E±°, h11km±9km, M4.2/21, mB5.7/1, mb4.0/3, MLv4.3/21, Mw(mB)5.2/1*
ISC 20 23:27:06.1±0.6, 7°.78S±0°.06×117°.22E±0°.06, h35km, n53, σ0°96/53, mb4.1/11, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.01**	**199**	P	**Pn**	**23 27 22.7**	**-1.1**
PLAI	**Plampang**	**1.18**	**152**	P	**Pn**	**23 27 25.9**	**-0.3**
SRBI	**Singaraja**	**2.01**	**261**	P	**Pn**	**23 27 36.6**	**-0.9**
DNP	**Denpasar**	**2.18**	**246**	P	**Pn**	**23 27 40.3**	**+0.4**
WBSI	**Waikabubak, Su**	**2.84**	**131**	P	**Pn**	**23 27 48.7**	**-0.3**
ABJI	**Asem Bagus**	**2.96**	**270**	P	**Pn**	**23 27 51.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**3.11**	**257**		**Pn**	**23 27 52.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.11**	**257**	P	**Pn**	**23 27 51.8**	**-0.9**
KMMI	**Kalianget**	**3.30**	**282**	P	**Pn**	**23 27 56.6**	**+1.2**
WSI	**Waingapu**	**3.58**	**122**	P	**Pn**	**23 27 59.2**	**0.0**
BLJI	**Banyuglugur**	**3.59**	**270**	P	**Pn**	**23 28 00.1**	**+0.8**
BSSI	**Bau Bau, Buton**	**3.63**	**64**	P	**Pn**	**23 27 59.8**	**-0.2**
KAPI	**Kappang**	**3.73**	**43**		**Pn**	**23 28 00.8**	**-0.4**
KAPI	**Kappang**	**3.73**	**43**	Pn	**Pn**	**23 28 01.3**	**0.0**
	14nm,0.3s,baz=191,slow=5.2,SNR=18						
KAPI				Sn	**Sn**	**23 28 45.0**	**+1.1**
	24nm,0.3s,baz=229,slow=20,SNR=5.1						
KAPI				Lg	Lg	23 28 59.9	
	18nm,0.3s,baz=232,slow=19,SNR=8.3						
KAPI				LR	LR	23 30 04.3	
	comp=Z,64nm,19.6s,baz=157,slow=49						
	28nm,0.3s						
BKSI	**Bulukumba**	**3.78**	**50**	P	**Pn**	**23 28 01.8**	**-0.2**
BASI	**Baing, Sumba**	**4.11**	**126**	P	**Pn**	**23 28 07.0**	**+0.5**
BNSI	**Bone**	**4.42**	**41**	P	**Pn**	**23 28 12.2**	**+1.5**
EDFI	**Ende, Flores**	**4.53**	**103**	P	**Pn**	**23 28 12.7**	**+0.3**
GRJI	**Gresik**	**4.78**	**280**	P	**Pn**	**23 28 16.7**	**+1.1**
BBKI	**Banjar Baru**	**4.90**	**331**	P	**Pn**	**23 28 18.3**	**+1.0**
MMRI	**Maumere**	**5.04**	**100**	Pn	**Pn**	**23 28 18.9**	**-0.4**
MMRI	**Maumere**	**5.04**	**100**	P	**Pn**	**23 28 19.7**	**+0.4**
PCJI	**Pacitan**	**6.00**	**266**	P	**Pn**	**23 28 32.9**	**+0.5**
	0.2nm23nm,1.3s						
UGM	**Wanagama**	**6.63**	**268**	Pn	**Pn**	**23 28 40.5**	**-0.7**
BATI	**Baumata**	**6.81**	**111**	Pn	**Pn**	**23 28 44.6**	**+0.9**
	6.0nm,0.3s,baz=282,slow=9.3,SNR=2.7						
	13nm,0.3s						
SOEI	**Soe**	**7.24**	**106**	Pn	**Pn**	**23 28 49.2**	**-0.5**
LUWI	**Luwuk**	**8.69**	**40**	Pn	Pn	23 29 04.1	-5.3
TOLI2	**Tolitoli**	**9.52**	**22**	Pn	**Pn**	**23 29 18.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**13.13**	**142**	Pn	**Pn**	**23 30 08.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**13.13**	**142**	Pn	**Pn**	**23 30 07.6**	**-2.7**
	0.2nm,0.3s,baz=323,slow=10,SNR=5.1						
FITZ				Sn	Sn	23 32 25.2	-10
	0.4nm,0.3s,baz=306,slow=19,SNR=8.3						
	1.7nm,0.7s						
MBWA	**Marble Bar**	**13.52**	**170**	Pn	**Pn**	**23 30 16.0**	**+0.4**
KNRA	**Kununurra**	**13.76**	**126**	Pn	**Pn**	**23 30 18.8**	**0.0**
MTN	**Manton Dam**	**14.58**	**111**	Pn	**Pn**	**23 30 27.8**	**-2.3**
GIRL	**Giralia**	**15.05**	**191**	Pn	**Pn**	**23 30 36.0**	**-0.3**
WB0	**Warramunga Arr**	**20.48**	**127**	P	**P**	**23 31 41.3**	**+0.2**
WB0				IAmb	IAmb	23 31 46.0	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**20.53**	**128**	P	**P**	**23 31 41.5**	**-0.2**
WRA	**Warramunga Arr**	**20.53**	**128**	P	**P**	**23 31 41.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=304,slow=12,SNR=19						
	comp=Z,1.9nm,0.6s						
WR8	**Warramunga Arr**	**20.66**	**128**	P	**P**	**23 31 43.2**	**+0.1**
WR8				IAmb	IAmb	23 31 44.2	
	comp=Z,5.8nm,0.7s						
AS31	**Alice Springs**	**22.49**	**136**	P	**P**	**23 32 03.0**	**+0.3**
ASAR	**Alice Springs**	**22.49**	**136**	P	**P**	**23 32 04.0**	**+1.3**
ASAR	**Alice Springs**	**22.49**	**136**	P	**P**	**23 32 02.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=309,slow=9.0,SNR=17						
	comp=Z,1.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.02**	**180**	P	**P**	**23 32 27.6**	**+0.7**
NWAO				IAmb	IAmb	23 32 59.7	
	comp=Z,22nm,1.4s						
FORT	**Forrest**	**25.03**	**158**	P	**P**	**23 32 27.1**	**0.0**
FORT				IAmb	IAmb	23 32 57.5	
	comp=Z,8.8nm,1.1s						
COEN	**Coen**	**26.21**	**106**	P	**P**	**23 32 38.0**	**+0.1**
COEN				IAmb	IAmb	23 33 13.4	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**33.01**	**140**	P	**P**	**23 33 38.4**	**+0.3**
STKA	**Stephens Creek**	**33.01**	**140**	P	**P**	**23 33 38.3**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=312,slow=13,SNR=5.0						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**56.20**	**351**	P	**P**	**23 36 43.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=166,slow=3.0,SNR=1.5						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.58**	**334**	P	**P**	**23 37 27.2**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=145,slow=7.3,SNR=14						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**67.11**	**334**	P	**P**	**23 37 56.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=144,slow=5.2,SNR=9.6						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**67.29**	**340**	P	**P**	**23 37 55.7**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=148,slow=5.4,SNR=4.9						
	comp=Z,1.0nm,0.5s						
AB31	**Akbulak array**	**75.56**	**325**	P	**

ISC 20 23:32:11.0±1.0, 24°.63N±0°.03×122°.41E±0°.02, h23km±9km, n58, σ0°.65/91, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.26**	**218**	*i* P	**Pb**	**23 32 17.3**	**+0.1**
EOS2				*i* S	**Sb**	**23 32 22.4**	**+1.0**
EOS3	**EOS3**	**0.35**	**194**	*i* P	**Pb**	**23 32 18.9**	**+0.4**
EOS3				*i* S	**Sb**	**23 32 24.2**	**+0.6**
EGS		**0.49**	**297**	*i* P	**Pb**	**23 32 20.2**	**-0.8**
EGS				*i* S	**Sb**	**23 32 26.5**	**-1.2**
EOS4	**EOS4**	**0.51**	**189**	*eP*	**Pn**	**23 32 21.8**	**-0.8**
TWC	**Suao**	**0.51**	**268**	*i* P	**Pb**	**23 32 20.0**	**-1.3**
TWC				S	**Sb**	**23 32 28.0**	**-0.4**
ESAO	**Su ao**	**0.52**	**265**	*eP*	**Pb**	**23 32 20.3**	**-1.2**
JYNG	**Yonaguni jima**	**0.52**	**109**	*eS*	**Sb**	**23 32 28.3**	**-0.3**
TWB1	**Santiao Chiao**	**0.54**	**315**	*i* P	**Pb**	**23 32 20.9**	**-1.0**
TWB1				*i* S	**Sb**	**23 32 27.3**	**-2.0**
YOJ	**Yonaguni jima**	**0.57**	**106**	*eP*	**Pb**	**23 32 22.1**	**-0.3**
YOJ				*eS*	**Sb**	**23 32 30.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.57**	**106**	*i* P	**Pb**	**23 32 22.7**	**+0.3**
YOJ				*i* S	**Sb**	**23 32 30.7**	**+0.6**
NDS	**Dongshan**	**0.63**	**271**	P	**Pb**	**23 32 22.9**	**-0.6**
NDS				S	**Sb**	**23 32 32.1**	**+0.3**
TIPB	**Shuangxi**	**0.63**	**303**	P	**Pb**	**23 32 23.0**	**-0.5**
TIPB				S	**Sb**	**23 32 31.0**	**-0.9**
ENA	**Nanau**	**0.64**	**252**	*i* P	**Pb**	**23 32 22.7**	**-0.9**
ENA				*i* S	**Sb**	**23 32 32.6**	**+0.5**
SXI1	**Grass Mountain**	**0.67**	**314**	P	**Pb**	**23 32 23.8**	**-0.4**
SXI1				S	**Sb**	**23 32 33.3**	**+0.2**
EAHA	**Aohua**	**0.68**	**244**	*i* P	**Pb**	**23 32 24.0**	**-0.2**
EAHA				S	**Sb**	**23 32 32.8**	**-0.3**
TWE	**Neicheng**	**0.68**	**278**	P	**Pb**	**23 32 23.3**	**-1.0**
TWE				S	**Sb**	**23 32 33.5**	**+0.2**
NWF	**Wu-fen Shan**	**0.72**	**308**	*i* P	**Pb**	**23 32 25.4**	**+0.3**
NWF				*i* S	**Sb**	**23 32 35.3**	**+0.7**
WFSB	**Wu-fen Shan**	**0.72**	**308**	P	**Pb**	**23 32 25.3**	**+0.3**
WFSB				S	**Sb**	**23 32 34.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.76**	**280**	P	**Pb**	**23 32 25.0**	**-0.7**
FUSB				S	**Sb**	**23 32 36.0**	**+0.4**
ENTT	**Nioudou**	**0.77**	**271**	*i* P	**Pb**	**23 32 25.4**	**-0.4**
ENTT				*i* S	**Sb**	**23 32 35.9**	**+0.1**
TNOU	**National Taiwa**	**0.78**	**312**	*eP*	**Pb**	**23 32 25.8**	**-0.2**
TNOU				S	**Sb**	**23 32 36.4**	**+0.3**
LATG	**Datong**	**0.81**	**264**	*i* P	**Pb**	**23 32 25.9**	**-0.6**
LATG				S	**Sn**	**23 32 37.8**	**-0.7**
TWA	**Mucha**	**0.83**	**295**	P	**Pb**	**23 32 26.8**	**0.0**
TWA				S	**Sb**	**23 32 37.0**	**-0.5**
NWLT	**Wulai**	**0.84**	**281**	P	**Pb**	**23 32 26.6**	**-0.3**
NWLT				S	**Sb**	**23 32 37.1**	**-0.7**
ETL	**Fush Village**	**0.85**	**237**	*eP*	**Pb**	**23 32 26.7**	**-0.5**
NHY	**Taipei**	**0.87**	**299**	*eP*	**Pn**	**23 32 28.1**	**+0.2**
NACB	**Ninganchiao**	**0.87**	**239**	*eP*	**Pb**	**23 32 27.2**	**-0.2**
NACB				*eS*	**Sb**	**23 32 38.6**	**0.0**
NHDH	**Xindian Distri**	**0.87**	**293**	*eP*	**Pn**	**23 32 27.8**	**-0.1**
NHDH				*eS*	**Sb**	**23 32 38.8**	**0.0**
TWD	**Chiawan**	**0.92**	**234**	*eP*	**Pn**	**23 32 28.5**	**0.0**
YM01	**YM01**	**0.92**	**304**	*eP*	**Pb**	**23 32 28.5**	**+0.1**
YM01				*i* S	**Sb**	**23 32 40.8**	**+0.5**
YM08	**YM08**	**0.93**	**307**	*eP*	**Pn**	**23 32 28.9**	**+0.1**
YM08				*i* S	**Sb**	**23 32 40.3**	**-0.2**
YHNB	**Yeheng**	**0.94**	**273**	P	**Pb**	**23 32 28.4**	**-0.3**
YHNB				S	**Sb**	**23 32 40.9**	**0.0**
ETLH	**Xiulin Townshi**	**0.94**	**244**	*eP*	**Pn**	**23 32 28.8**	**-0.2**
ETLH				*eS*	**Sn**	**23 32 41.6**	**-0.1**
ZUZH	**Zhuzihu**	**0.95**	**304**	*eP*	**Pb**	**23 32 28.7**	**-0.1**
ZUZH				S	**Sb**	**23 32 41.6**	**+0.5**
NNSB	**Datong**	**0.95**	**258**	P	**Pb**	**23 32 28.7**	**-0.3**
NSK	**Sanguang**	**0.96**	**273**	*i* P	**Pb**	**23 32 28.8**	**-0.2**
NSK				*i* S	**Sb**	**23 32 40.9**	**-0.4**
NNS	**Nan Shan**	**0.96**	**259**	P	**Pb**	**23 32 28.8**	**-0.3**
TWY	**Chenhua**	**0.98**	**312**	P	**Pn**	**23 32 29.9**	**+0.6**
TWY				S	**Sb**	**23 32 42.1**	**+0.3**
TWS1	**Kuangyinshan**	**1.02**	**298**	*eP*	**Pb**	**23 32 30.6**	**+0.6**
TWS1				S	**Sn**	**23 32 44.2**	**+0.7**
NTST	**Danshui**	**1.02**	**302**	*eP*	**Pb**	**23 32 30.2**	**+0.1**
NTST				*eS*	**Sn**	**23 32 44.2**	**+0.5**
PCYT	**Pengchaiyu**	**1.05**	**343**	*eP*	**Pb**	**23 32 31.4**	**+0.9**
ETM	**Tongmen**	**1.06**	**232**	*eP*	**Pb**	**23 32 31.3**	**+0.5**
LXIB	**Xiulin Townshi**	**1.09**	**237**	*eP*	**Pb**	**23 32 31.4**	**0.0**
FUSS	**Fushou**	**1.13**	**251**	*eP*	**Pb**	**23 32 32.5**	**+0.5**
KSHI	**Guanxi Townshi**	**1.13**	**278**	*eP*	**Pb**	**23 32 33.5**	**+1.6**
WHF	**Hehuan Shan**	**1.15**	**246**	P	**Pb**	**23 32 32.1**	**-0.4**
NFF	**Wufeng Townshi**	**1.18**	**271**	*eP*	**Pb**	**23 32 33.8**	**+1.1**
TWT	**Tachien**	**1.18**	**252**	P	**Pb**	**23 32 34.2**	**+1.2**
TDCB	**Techi**	**1.20**	**252**	*eP*	**Pb**	**23 32 33.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.24**	**103**	*eP*	**Pn**	**23 32 32.3**	**-0.6**
LIOB	**Emei**	**1.27**	**271**	*eP*	**Pb**	**23 32 35.1**	**+0.8**
NSTT	**Nanjuang**	**1.28**	**271**	*eP*	**Pb**	**23 32 35.5**	**+1.0**
WARBT	**Fenglin Townsh**	**1.30**	**226**	*eP*	**Pb**	**23 32 34.2**	**-0.6**
OWD	**Renai**	**1.31**	**240**	*eP*	**Pb**	**23 32 34.9**	**-0.2**
WUSB	**Renai**	**1.34**	**242**	*eP*	**Pb**	**23 32 36.3**	**+0.8**
WHP	**Taichung City**	**1.38**	**256**	*eP*	**Pb**	**23 32 37.1**	**+1.0**
WCS	**Beigang Elemen**	**1.48**	**248**	*eP*	**Pb**	**23 32 39.1**	**+1.3**
JKRS	**Kuro-shima**	**1.51**	**104**	*eP*	**Pn**	**23 32 36.6**	**-0.1**
JKRS				*eS*	**Sn**	**23 32 55.1**	**-0.5**

*IDC **20** 23:34:05.8±0.7, 8°.64S×157°.57E, h0km, mb4.0/11, mbtmp4.0/12, ML4.6/1, MS3.3/7, Error ellipse: s-maj=20.9km s-min=18.3km az=158.0*
*NEIC **20** 23:34:07.9±1.6, 8°.72S±0°.09×157°.54E±0°.05, h10km±1km, mb4.5/15, Error ellipse: s-maj=15.8km s-min=7.2km az=335.0*

ISC 20 23:34:08.7±0.5, 8°.76S±0°.09×157°.62E±0°.06, h17km, n35, σ1°.30/34, mb4.2/18, MS3.1/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.40**	**106**		**Pn**	**23 34 48.3**	**+1.1**
HNR				Sn	**Sb**	**23 35 19.5**	**-1.2**
HNR	**Honiara**	**2.40**	**106**	Pn	**Pn**	**23 34 47.5**	**+0.3**
	128nm,0.3s,baz=271,slow=12,SNR=7.3						
HNR				Sn	**Sb**	**23 35 20.5**	**-0.1**
	196nm,0.3s,baz=313,slow=19,SNR=13						
HNR				LR	LR	23 35 40.4	
	comp=Z,580nm,21.0s,baz=44,slow=38						
	606nm,0.7s						
PMG	**Port Moresby**	**10.35**	**266**	LR	LR	23 40 26.3	
	comp=Z,156nm,20.9s,baz=118,slow=37						
SANVU	**Saraoutou**	**11.49**	**126**	Pn	**Pn**	**23 36 52.1**	**0.0**
COEN	**Coen**	**15.07**	**249**	P	**P**	**23 37 44.2**	**-1.9**
COEN				IAmb	IAmb	23 37 49.0	
	comp=Z,16nm,1.1s						
PATS	**Pohnpei**	**15.51**	**3**	Pn	**Pn**	**23 37 46.2**	**-0.6**
PATS				IAmb	IAmb	23 37 58.8	
	comp=Z,18nm,0.9s						
ARMA	**Armidale**	**22.26**	**194**	P	**P**	**23 39 04.7**	**-0.4**
WR8	**Warramunga Arr**	**24.97**	**241**		**P**	**23 39 29.6**	**-2.0**
WR8				IAmb	IAmb	23 39 46.1	
	comp=Z,8.0nm,1.1s						
WB0	**Warramunga Arr**	**24.99**	**242**		**P**	**23 39 30.7**	**-1.1**
WB0				IAmb	IAmb	23 39 32.2	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**25.10**	**241**	P	**P**	**23 39 31.0**	**-1.8**
WRA	**Warramunga Arr**	**25.10**	**241**	P	**P**	**23 39 32.0**	**-0.8**
	comp=Z,5.9nm,1.0s,baz=66,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**23 43 06.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=87,slow=2.1,SNR=2.9						
	comp=Z,5.9nm,1.0s						
ASAR	**Alice Springs**	**27.10**	**234**	P	**P**	**23 39 49.3**	**-1.6**
	comp=Z,1.4nm,1.0s,baz=60,slow=9.2,SNR=6.4						
ASAR				PcP	**PcP**	**23 43 11.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=45,slow=1.4,SNR=4.9						
ASAR				LR	LR	23 49 05.8	
	comp=Z,59nm,20.1s,baz=15,slow=33						
	comp=Z,1.4nm,1.0s						
STKA	**Stephens Creek**	**27.39**	**211**	P	**P**	**23 39 53.9**	**+0.5**
STKA	**Stephens Creek**	**27.39**	**211**	P	**P**	**23 39 55.0**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=30,slow=14,SNR=5.4						
	comp=Z,2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**32.41**	**250**	P	**P**	**23 40 39.5**	**+1.6**
	comp=Z,2.5nm,1.1s,baz=75,slow=17,SNR=1.8						
	comp=Z,2.5nm,1.1s						
BATI	**Baumata**	**33.51**	**265**	LR	LR	23 54 24.8	
	comp=Z,88nm,19.7s,baz=94,slow=36						
BKZ	**Black Stump Fm**	**34.68**	**154**	P	**P**	**23 40 57.4**	**-0.2**
BKZ				IAmb	IAmb	23 41 09.1	
	comp=Z,12nm,1.2s						
LUWI	**Luwuk**	**35.53**	**281**	P	**P**	**23 41 06.6**	**+1.4**
KAPI	**Kappang**	**37.76**	**273**	LR	LR	23 57 31.6	
	comp=Z,18nm,20.2s,baz=68,slow=37						
RAR	**Rarotonga**	**42.84**	**112**	LR	LR	23 57 12.2	
	comp=Z,53nm,18.1s,baz=106,slow=32						
JOW	**Kunigami**	**45.41**	**322**	LR	LR	23 58 18.2	
	comp=Z,20nm,20.6s,baz=220,slow=32						
PETK	**Petropavlovsk-**	**61.63**	**0**	P	**P**	**23 44 25.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=185,slow=7.4,SNR=1.2						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.88**	**295**	P	**P**	**23 44 40.4**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=116,slow=7.7,SNR=10.0						
	comp=Z,2.2nm,0.9s						
VNDA	**Vanda**	**68.77**	**179**	P	**P**	**23 45 11.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=342,slow=7.0,SNR=4.3						
	comp=Z,0.6nm,0.8s						
SONM	**Songino Array**	**72.23**	**327**	P	**P**	**23 45 32.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=116,slow=6.6,SNR=2.4						
	comp=Z,0.2nm,0.3s						
L19K	**White Mountain**	**79.66**	**21**	P	**P**	**23 46 15.0**	**0.0**
L19K				IAmb	IAmb	23 46 20.3	
	comp=Z,5.8nm,0.8s						
J18K	**Innoko River**	**79.92**	**19**	P	**P**	**23 46 19.9**	**+3.5**
H17K	**Granite Mounta**	**80.00**	**17**	P	**P**	**23 46 17.7**	**+0.9**
H17K				IAmb	IAmb	23 46 21.4	
	comp=Z,5.9nm,1.0s						
QSPA	**South Pole Qui**	**81.22**	**180**	P	**P**	**23 46 25.8**	**+2.2**
	comp=Z,2.2nm,1.0s,baz=0.0,slow=1.0,SNR=4.6						
	comp=Z,2.2nm,1.0s						
MCK	**McKinley**	**82.74**	**21**	P	**P**	**23 46 30.0**	**-1.4**
ILAR	**Eielson Array**	**84.08**	**21**	P	**P**	**23 46 36.3**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=255,slow=5.5,SNR=6.4						
	comp=Z,1.2nm,0.9s						
DOT	**Dot Lake**	**84.48**	**22**	P	**P**	**23 46 40.1**	**-0.2**
DOT				IAmb	IAmb	23 46 45.0	
	comp=Z,5.3nm,1.0s						
J25K	**Salcha River,**	**84.53**	**21**	P	**P**	**23 46 40.6**	**0.0**
J25K				IAmb	IAmb	23 46 40.8	
	comp=Z,5.0nm,1.2s						
NVAR	**Mina Array Bea**	**90.78**	**51**	P	**P**	**23 47 11.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=263,slow=9.1,SNR=5.9						
	comp=Z,1.0nm,0.7s						
BDFB	**Brasilia**	**144.89**	**134**	PKPbc	**PKPab**	**23 53 43.8**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=243,slow=2.3,SNR=5.2						

*IDC **20** 23:37:45.9±1.5, 31°.86S×72°.44W, h0km, mb4.0/1, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=54.3km s-min=28.2km az=97.0*
*GUC **20** 23:37:49.6±0.9, 31°.80S×72°.09W, h29km±3km, ML3.6*

ISC 20 23:37:47.6±2.0, 31°.77S±0°.04×72°.11W±0°.08, h4km±11km, n40, σ0°.98/52, 11C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**1.00**	**106**	⇓*iP*	**Pb**	**23 38 07.5**	**-0.2**
CO04				*i* S	**Sb**	**23 38 20.0**	**-1.3**
CO04				IAML		23 38 23.2	
	comp=N,3μm,0.2s						
VA06	**Catapilco**	**1.05**	**139**	*i* P	**Pg**	**23 38 08.0**	**+0.3**
VA06				*i* S	**Sg**	**23 38 21.3**	**0.0**
VA06				IAML		23 38 25.5	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**1.10**	**60**	⇓*iP*	**Pn**	**23 38 09.4**	**-0.5**
CO02				*i* S	**Sb**	**23 38 22.4**	**-1.7**
ROCH	**El Roble**	**1.52**	**143**	⇑*iP*	**Pn**	**23 38 15.4**	**-0.3**
ROCH				⇑*iP*	**Pn**	**23 38 15.4**	**-0.3**
ROCH				*i* S	**Sn**	**23 38 34.9**	**-1.2**
ROCH				*i* S	**Sn**	**23 38 35.0**	**-1.2**
ROCH				IAML		23 38 37.0	
	comp=E,809nm,0.4s						
ROCH				IAML		23 38 40.7	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**1.53**	**53**	⇑*iP*	**Pg**	**23 38 16.1**	**-0.9**
CO03				*i* S	**Sg**	**23 38 35.7**	**-1.0**
CO03				IAML		23 38 44.4	
	comp=E,958nm,0.8s						
VA03	**San Esteban**	**1.65**	**127**	⇑*iP*	**Pn**	**23 38 17.6**	**+0.1**
VA03				*i* S	**Sn**	**23 38 38.1**	**-1.1**
VA03				IAML		23 38 43.3	
	comp=N,2μm,0.5s						
MT02	**Curacav**	**1.70**	**151**	⇑*iP*	**Pn**	**23 38 17.7**	**-0.3**
MT02				*i* S	**Sn**	**23 38 39.0**	**-1.2**
PEL	**Peldehue**	**1.82**	**139**	⇑*iP*	**Pn**	**23 38 19.9**	**0.0**
PEL				*i* S	**Sn**	**23 38 42.0**	**-1.4**
PEL				IAML		23 38 49.8	
	comp=N,913nm,0.2s						
MT05	**Renca**	**1.99**	**145**	*eP*	**Pn**	**23 38 22.3**	**+0.2**
MT05				*i* S	**Sn**	**23 38 47.7**	**+0.2**
CO05	**La Serena**	**1.99**	**22**	*i* P	**Pn**	**23 38 22.1**	**+0.1**
CO05				IAML		23 38 58.0	
	comp=N,578nm,0.5s						
MT10	**Hacienda Santa**	**2.00**	**139**	⇑*iP*	**Pn**	**23 38 22.7**	**+0.3**
MT10				*i* S	**Sn**	**23 38 48.7**	**+0.7**
MT14	**Cerro Cal¡n**	**2.10**	**141**	*i* P	**Pn**	**23 38 23.7**	**+0.1**
MT14				*i* S	**Sn**	**23 38 50.9**	**+0.7**
MT16	**CCHEN**	**2.13**	**141**	⇑*iP*	**Pn**	**23 38 24.2**	**+0.2**
MT16				*i* S	**Sn**	**23 38 52.6**	**+1.7**
MT16				IAML		23 38 57.9	
	comp=N,534nm,0.6s						
FCH	**Farellones**	**2.18**	**136**	*i* P	**Pn**	**23 38 25.2**	**+0.2**
MT03	**Universidad Ad**	**2.19**	**142**	*i* P	**Pn**	**23 38 25.2**	**+0.3**
MT03				*i* S	**Sn**	**23 38 53.3**	**+0.9**
MT03				IAML		23 38 56.9	
	comp=E,989nm,0.4s						
MT01	**Popeta**	**2.21**	**161**	*i* P	**Pn**	**23 38 24.8**	**-0.3**
MT01				IAML		23 39 02.9	
	comp=E,354nm,0.5s						
MT09	**Talagante**	**2.21**	**155**	*i* P	**Pn**	**23 38 25.7**	**+0.4**
MT09				*i* S	**Sn**	**23 38 51.4**	**-1.7**
MT09				IAML		23 39 07.5	
	comp=N,646nm,0.5s						
MT15	**Las Vizcachas**	**2.27**	**144**	*i* P	**Pn**	**23 38 26.5**	**+0.5**
MT15				*i* S	**Sn**	**23 38 54.1**	**-0.3**
MT15				IAML		23 39 05.9	
	comp=N,792nm,0.5s						
MT04	**Ro Olivares**	**2.33**	**135**	*i* P	**Pn**	**23 38 27.9**	**+1.0**
MT04				*eS*	**Sn**	**23 38 56.2**	**0.0**
MT04				IAML		23 39 01.5	
	comp=E,398nm,0.2s						
MT12	**Pirque**	**2.36**	**147**	⇑*iP*	**Pn**	**23 38 27.5**	**+0.4**
MT08	**Bocatoma Ro**	**2.43**	**134**	*i* P	**Pn**	**23 38 29.5**	**+1.2**
MT08				*i* S	**Sn**	**23 39 00.8**	**+2.2**
MT08				IAML		23 39 05.8	
	comp=N,302nm,0.5s						
CO01	**Juntas del Tor**	**2.49**	**45**	IAML		23 39 09.7	
	comp=N,302nm,0.8s						
LMEL	**Las Melosas**	**2.62**	**143**	⇑*iP*	**Pn**	**23 38 31.6**	**+0.7**
LMEL				*eS*	**Sn**	**23 39 03.8**	**+0.6**
LMEL				IAML		23 39 12.9	
	comp=N,294nm,0.4s						
H03N1	**Juan Fernandez**	**5.98**	**252**	T	T	23 46 04.6	
	baz=78,slow=73,SNR=175						
H03N3	**Juan Fernandez**	**5.99**	**252**	T	T	23 46 02.8	
	baz=78,slow=73,SNR=196						
H03N2	**Juan Fernandez**	**6.00**	**252**	T	T	23 46 04.8	
	baz=78,slow=73,SNR=178						
H03S3	**Juan Fernandez**	**6.08**	**248**	T	T	23 46 07.4	
	baz=85,slow=75,SNR=6.6						
H03S1	**Juan Fernandez**	**6.09**	**248**	T	T	23 46 07.5	
	baz=85,slow=75,SNR=5.8						
H03S2	**Juan Fernandez**	**6.10**	**248**	T	T	23 46 06.6	
	baz=85,slow=75,SNR=5.5						
PLCA	**Paso Flores**	**9.03**	**172**	Pn	**Pn**	**23 39 57.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=354,slow=16,SNR=3.1						
	comp=N,1.3nm,0.7s						
CPUP	**Villa Florida**	**14.01**	**71**	Pn	**Pn**	**23 41 10.0**	**+3.1**
	baz=265,slow=11,SNR=1.9						
CPUP				Sn	S	23 43 53.2	-12
	baz=210,slow=20,SNR=1.4						
	comp=N,0.3nm,0.7s						
LPAZ	**La Paz**	**15.83**	**14**	Pn	**Pn**	**23 41 33.2**	**+1.2**
	baz=188,slow=7.1,SNR=2.0						
	comp=N,0.4nm,0.6s						
VNA2	**Neumayer--Watz**	**52.09**	**158**	P	P	23 46 52.0	-6.3
	baz=154,slow=32						
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**23 47 09.9**	**-0.2**
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**23 47 09.1**	**-1.0**
	comp=N,1.4nm,0.7s,baz=280,slow=7.6,SNR=10						
	comp=N,1.4nm,0.7s						
TROLL	**Troll, Antarti**	**55.38**	**159**	⇑P	**P**	**23 47 23.0**	**+0.4**
	comp=Z,69nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.51**	**70**	P	**P**	**23 50 16.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=261,slow=3.3,SNR=1.6						
BVAR	**Borovoye Array**	**145.66**	**41**	PKPbc	**PKPdf**	**23 57 25.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=316,slow=4.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**151.25**	**40**	PKPbc	**PKPbc**	**23 57 41.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**152.35**	**30**	PKPbc	**PKPbc**	**23 57 44.0**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=318,slow=2.3,SNR=5.4						

*MOS **21** 00:25:36.1±0.9, 28°.26N×104°.88E, h12km, mb4.7/8, Error ellipse: s-maj=10.6km s-min=8.1km az=99.1*
*IDC **21** 00:25:36.5±0.6, 28°.25N×104°.84E, h0km, mb4.1/17, mbtmp4.0/20, ML4.2/3, MS3.1/9, Error ellipse: s-maj=21.1km s-min=12.1km az=64.0*
*NEIC **21** 00:25:38.6±1.2, 28°.30N±0°.07×104°.90E±0°.08, h10km±1km, mb4.5/64, Error ellipse: s-maj=12.4km s-min=12.0km az=133.0*

ISC 21 00:25:39.5±0.4, 28°.27N±0°.06×104°.91E±0°.07, h19km, n131, σ0°.81/128, mb4.5/54, MS3.0/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**4.47**	**62**	Pn	**Pn**	**00 26 48.0**	**+1.7**
SLVN	**Son La**	**6.97**	**188**	Pn	**Pn**	**00 27 20.8**	**+0.1**
LZDM	**Lanzhou Array**	**7.73**	**353**	Pn	**Pn**	**00 27 31.2**	**-0.1**
	baz=174,slow=16						
LZDM				Lg	Lg	00 29 44.6	
	baz=173,slow=29						
	2.5nm,0.3s						
CRAI	**Chiangrai**	**9.01**	**208**	Pn	**Pn**	**00 27 47.8**	**-0.8**
HKPS	**Hong Kong Po S**	**10.27**	**123**	Pn	**Pn**	**00 28 05.5**	**-0.3**
CHTO	**Chiang Mai**	**10.89**	**211**	Pn	**Pn**	**00 28 15.1**	**+0.7**
CHTO	**Chiang Mai**	**10.89**	**211**	P	**Pn**	**00 28 15.1**	**+0.7**
CM31	**Chiang Mai Arr**	**11.20**	**211**	Pn	**Pn**	**00 28 18.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.20**	**211**		**Pn**	**00 28 17.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**11.20**	**211**	Pn	**Pn**	**00 28 16.1**	**-2.5**
	0.4nm,0.3s,baz=26,slow=12,SNR=1.7						
CMAR				LR	LR	00 33 18.4	
	comp=Z,29nm,21.4s,baz=30,slow=42						
	0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.20**	**211**	P	**Pn**	**00 28 17.1**	**-1.5**
SHL	**Shillong**	**11.93**	**260**	Pn	**Pn**	**00 28 28.8**	**0.0**
SHL	**Shillong**	**11.93**	**260**	P	**Pn**	**00 28 28.8**	**0.0**
LSA	**Lhasa**	**12.13**	**280**	Pn	**Pn**	**00 28 30.2**	**-1.6**
LSA	**Lhasa**	**12.13**	**280**	P	**Pn**	**00 28 30.2**	**-1.6**
KNMB	**Chin-men Tao**	**12.67**	**104**	Pn	**Pn**	**00 28 35.7**	**-2.9**
BJT	**Baijiatuau**	**14.96**	**36**	Pn	**Pn**	**00 29 08.1**	**-1.7**
BJT	**Baijiatuau**	**14.96**	**36**	P	**Pn**	**00 29 08.1**	**-1.7**
NACB	**Ninganchiao**	**15.52**	**101**	Pn	**Pn**	**00 29 16.4**	**-0.9**
TWG	**Pinlang**	**15.56**	**107**	Pn	**Pn**	**00 29 18.7**	**+0.7**
TWG				IAmb	IAmb	00 29 33.6	
	comp=Z,15nm,0.5s						
EVN	**Everest**	**15.97**	**273**	Pn	**Pn**	**00 29 22.6**	**-1.2**
SONM	**Songino Array**	**19.56**	**3**	P	**P**	**00 30 06.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=183,slow=9.4,SNR=7.4						
	comp=Z,0.7nm,0.4s						
JOW	**Kunigami**	**20.76**	**88**	LR	LR	00 39 22.1	
	comp=Z,65nm,18.9s,baz=240,slow=40						
KSRS	**Korea Array**	**21.35**	**59**	P	**P**	**00 30 26.0**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=241,slow=10,SNR=11						
	comp=Z,2.9nm,0.6s						
ZAK	**Zakamensk**	**22.11**	**357**	*eP*	**P**	**00 30 33.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
JNU	**Nakatsue**	**22.82**	**71**	LR	LR	00 40 48.1	
	comp=Z,40nm,21.1s,baz=330,slow=40						
HILR	**Hailar Array B**	**24.10**	**24**	P	**P**	**00 30 54.4**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=211,slow=8.1,SNR=1.8						
	comp=Z,1.2nm,0.3s						
MKAR	**Makanchi Array**	**25.61**	**322**	P	**P**	**00 31 07.5**	**-0.1**
MKAR	**Makanchi Array**	**25.61**	**322**	P	**P**	**00 31 07.8**	**+0.3**
	comp=Z,5.4nm,1.0s,baz=133,slow=9.4,SNR=13						
MKAR				LR	LR	00 42 21.5	
	comp=Z,29nm,18.5s,baz=112,slow=39						
	comp=Z,5.4nm,1.0s

	comp=Z,6.1nm,1.1s							
D20K	**Etivluk River**	**66.97**	**23**	P	**P**	**00 36 30.6**	**0.0**
NC405	**NORSAR Array S**	**67.17**	**328**	P	**P**	**00 36 31.3**	**-0.6**
NC405				IAmb	IAmb	00 36 41.0	
	comp=Z,3.8nm,1.1s						
B21K	**Ikpikpuk River**	**67.35**	**22**	P	**P**	**00 36 33.2**	**+0.4**
NB2	**NORSAR Subarra**	**67.42**	**328**	P	**P**	**00 36 33.0**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=76,slow=5.6						
NOA	**NORSAR Array B**	**67.42**	**328**	P	**P**	**00 36 33.2**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=76,slow=5.4,SNR=5.1						
	comp=Z,1.5nm,0.9s						
NC204	**NORSAR Array S**	**67.56**	**329**	P	**P**	**00 36 33.9**	**-0.5**
NC204				IAmb	IAmb	00 36 46.3	
	comp=Z,3.9nm,0.9s						
J17K	**VABM Dome**	**67.72**	**29**	P	**P**	**00 36 35.8**	**+0.4**
K17K	**Iditarod**	**68.28**	**30**	P	**P**	**00 36 39.5**	**+0.7**
N15K	**Kwethluk River**	**68.31**	**32**	P	**P**	**00 36 40.7**	**+1.6**
J18K	**Innoko River**	**68.70**	**28**	P	**P**	**00 36 41.9**	**+0.4**
J18K				IAmb	IAmb	00 36 42.9	
	comp=Z,4.4nm,1.1s						
E22K	**Anaktuvuk Pass**	**68.84**	**23**	P	**P**	**00 36 42.8**	**+0.5**
E22K				IAmb	IAmb	00 36 43.6	
	comp=Z,4.0nm,1.1s						
D23K	**Nanushuk River**	**68.89**	**22**	P	**P**	**00 36 43.0**	**+0.4**
STKA	**Stephens Creek**	**69.26**	**147**	P	**P**	**00 36 44.8**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=308,slow=17,SNR=3.0						
	comp=Z,1.5nm,0.5s						
N17K	**Nushagak Hills**	**69.54**	**32**	P	**P**	**00 36 47.3**	**+0.6**
N17K				IAmb	IAmb	00 36 53.5	
	comp=Z,2.3nm,1.1s						
E24K	**Your Creek**	**70.00**	**23**	P	**P**	**00 36 49.7**	**+0.2**
E24K				IAmb	IAmb	00 36 58.3	
	comp=Z,5.8nm,1.1s						
GERES	**GERESS Array B**	**70.03**	**315**	P	**P**	**00 36 50.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=70,slow=4.7,SNR=5.2						
	comp=Z,0.5nm,0.6s						
MLY	**Manley**	**70.50**	**26**	P	**P**	**00 36 53.3**	**+0.7**
H23K	**Yukon River**	**70.61**	**25**	P	**P**	**00 36 54.3**	**+1.0**
H23K				IAmb	IAmb	00 37 01.7	
	comp=Z,5.0nm,1.2s						
N19K	**Bonanza Creek**	**70.66**	**31**	P	**P**	**00 36 53.7**	**-0.1**
BPAW	**Bear Paw Mtn.**	**70.80**	**27**	P	**P**	**00 36 54.0**	**-0.4**
BPAW				IAmb	IAmb	00 36 56.1	
	comp=Z,2.9nm,0.8s						
C27K	**Jago River**	**70.81**	**20**	P	**P**	**00 36 54.2**	**-0.2**
PPLA	**Purkeypile**	**70.81**	**28**	P	**P**	**00 36 55.1**	**+0.4**
PPLA				IAmb	IAmb	00 36 55.5	
	comp=Z,4.2nm,0.8s						
I23K	**Minto, Yukon-K**	**70.97**	**25**	P	**P**	**00 36 57.8**	**+2.4**
NEA2	**Nenana**	**71.33**	**26**	P	**P**	**00 36 57.9**	**+0.3**
NEA2				IAmb	IAmb	00 36 59.2	
	comp=Z,5.0nm,1.2s						
TRF	**Thorofare Moun**	**71.36**	**27**	P	**P**	**00 36 59.2**	**+1.2**
SKT	**Skwentna**	**71.48**	**29**	P	**P**	**00 36 58.4**	**-0.2**
BMAR	**Burnt Mountain**	**71.62**	**22**	P	**P**	**00 37 00.1**	**+0.7**
ILAR	**Eielson Array**	**72.08**	**25**	P	**P**	**00 37 01.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=270,slow=5.4,SNR=5.8						
	comp=Z,0.6nm,0.7s						
G26K	**Porcupine Rive**	**72.12**	**23**	P	**P**	**00 37 02.5**	**+0.2**
PRP	**Porcupine Dome**	**72.23**	**24**	P	**P**	**00 37 03.7**	**+0.5**
PRP				IAmb	IAmb	00 37 04.2	
	comp=Z,3.8nm,0.9s						
FDMO	**Fiordimonte**	**72.55**	**310**	P	**P**	**00 37 05.7**	**+0.3**
FDMO				IAmb	IAmb	00 37 22.4	
	comp=Z,4.8nm,1.1s						
DHY	**Denali Highway**	**72.70**	**27**	P	**P**	**00 37 06.1**	**+0.1**
DHY				IAmb	IAmb	00 37 06.3	
	comp=Z,4.2nm,1.2s						
KDAK	**Kodiak Island**	**72.81**	**33**	P	**P**	**00 37 06.0**	**-0.6**
KDAK	**Kodiak Island**	**72.81**	**33**	P	**P**	**00 37 06.0**	**-0.6**
SML	**Sawmill**	**72.91**	**28**	P	**P**	**00 37 06.8**	**-0.4**
SML				IAmb	IAmb	00 37 09.9	
	comp=Z,7.9nm,1.2s						
G27K	**Doyon Strip**	**72.92**	**22**	P	**P**	**00 37 06.8**	**-0.3**
E29M	**Blow River**	**73.24**	**20**	P	**P**	**00 37 09.5**	**+0.6**
E29M				IAmb	IAmb	00 37 27.6	
	comp=Z,3.5nm,1.1s						
SCM	**Sheep Creek Mo**	**73.32**	**28**	P	**P**	**00 37 09.2**	**-0.4**
SCM				IAmb	IAmb	00 37 27.3	
	comp=Z,7.8nm,1.2s						
SCM	**Sheep Creek Mo**	**73.32**	**28**	P	**P**	**00 37 09.2**	**-0.4**
SCM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PWL	**Port Wells**	**73.36**	**29**	P	**P**	**00 37 10.0**	**+0.2**
RIDG	**Independent Ri**	**73.37**	**26**	P	**P**	**00 37 08.8**	**-1.1**
RIDG				IAmb	IAmb	00 37 10.4	
	comp=Z,2.9nm,1.1s						
ARMA	**Armidale**	**73.44**	**139**	P	**P**	**00 37 11.0**	**+0.3**
ARMA				IAmb	IAmb	00 37 22.0	
	comp=Z,6.1nm,1.1s						
J26L	**Joseph Creek**	**73.46**	**25**	P	**P**	**00 37 10.0**	**-0.4**
J26L				IAmb	IAmb	00 37 10.7	
	comp=Z,3.5nm,0.9s						
SCRK	**Sand Creek**	**73.57**	**25**	P	**P**	**00 37 11.1**	**0.0**
G29M	**Pine Creek**	**74.06**	**21**	P	**P**	**00 37 13.4**	**-0.4**
G29M				IAmb	IAmb	00 37 28.5	
	comp=Z,3.9nm,1.1s						
KLU	**Klutina**	**74.07**	**28**	P	**P**	**00 37 14.5**	**+0.5**
KLU				IAmb	IAmb	00 37 16.1	
	comp=Z,9.6nm,1.2s						
I28M	**Miner Creek**	**74.25**	**23**	P	**P**	**00 37 15.1**	**0.0**
K27K	**Chicken**	**74.26**	**25**	P	**P**	**00 37 16.6**	**+1.5**
H29M	**Whitestone**	**74.34**	**22**	P	**P**	**00 37 14.1**	**-1.4**
F30M	**Barrier River**	**74.34**	**20**	P	**P**	**00 37 15.5**	**0.0**
F30M				IAmb	IAmb	00 37 26.4	
	comp=Z,7.1nm,1.1s						
N25K	**Chitina, Valde**	**74.56**	**28**	P	**P**	**00 37 17.6**	**+0.7**
N25K				IAmb	IAmb	00 37 35.1	
	comp=Z,4.3nm,0.8s						
G30M	**tAoh Zraii Nji**	**74.59**	**21**	P	**P**	**00 37 16.6**	**-0.3**
G30M				IAmb	IAmb	00 37 17.1	
	comp=Z,3.8nm,1.1s						
UCC	**Uccle**	**74.83**	**320**	P	**P**	**00 37 19.2**	**+0.8**
UCC	**Uccle**	**74.83**	**320**	P	**P**	**00 37 19.3**	**+0.8**
UCC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
L27K	**Beaver Creek,**	**74.88**	**26**	P	**P**	**00 37 19.2**	**+0.5**
BMRM	**Bremner River**	**74.89**	**28**	P	**P**	**00 37 18.1**	**-0.7**
BMRM				IAmb	IAmb	00 37 31.4	
	comp=Z,6.4nm,0.9s						
BCAR	**Beaver Creek A**	**74.89**	**26**	P	**P**	**00 37 18.8**	**0.0**
QSPA	**South Pole Qui**	**118.06**	**180**		**PKiKP**	**00 44 26.2**	**+1.8**
QSPA	**South Pole Qui**	**118.06**	**180**	PKP	**PKPdf**	**00 44 22.5**	**-1.8**
	comp=Z,1.3nm,1.0s,baz=0,3,slow=1.2,SNR=3.0						
SNAA	**Sanae**	**122.14**	**201**		**PKPdf**	**00 44 32.1**	**0.0**
SNAA	**Sanae**	**122.14**	**201**	PKP	**PKPdf**	**00 44 31.8**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=128,slow=18,SNR=5.4						
SNAA	**Sanae**	**122.14**	**201**	PKIKP	**PKPdf**	**00 44 32.1**	**0.0**
ROSC	**El Rosal**	**147.07**	**359**		**PKPbc**	**00 45 23.3**	**+0.9**
ROSC	**El Rosal**	**147.07**	**359**	PKPbc	**PKPab**	**00 45 23.8**	**0.0**
	comp=Z,7.0nm,0.6s,baz=59,slow=22,SNR=4.7						

*IDC **21** 00:42:24.1±0.9,34°.17N×25°.02E, h0km, mb3.9/12, mbtmp3.9/20, ML3.6/8, Error ellipse: s-maj=16.0km s-min=12.4km az=62.0*
*ISK **21** 00:42:25.4,34°.29N×25°.12E, h5km, ML3.4/22*
*HLW **21** 00:42:27.7,34°.20N×25°.31E, h4km±13km, Ml3.2*
*ATH **21** 00:42:27.5,34°.32N×25°.07E, h11km±4km, ML3.4/5, Manual Solution by F.Xalaris First location: 2019/10/21 00:43:48, This location: 2020/11/18 07:39:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **21** 00:42:29.2,34°N±6°×2°5E±°, h0km±5km, M3.2/10, MLh3.2/10*
*GII **21** 00:42:31.2±0.0,33°.96N±0°.02×25°.643E±0°.006, h1km, Mws3.4, confirmed*
*AFAD **21** 00:42:35.9,34°.69N×25°.88E, h6km±3km, ML3.4*
*NAO **21** 00:43:18.7,39°.45N×22°.52E, h10km, mb3.3*

ISC 21 00:42:25.6±1.3,34°.18N±0°.04×25°.12E±0°.03, h10km±8km, n151, σ2§29/174, mb3.8/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.07**	**308**	Pg	**Pg**	**00 42 45.9**	**-0.3**
GVD				Sg	**Sb**	**00 43 01.4**	**+1.0**
GVD	**Gavdhos**	**1.07**	**308**	P	**Pg**	**00 42 46.1**	**-0.2**
GVD				S	**Sg**	**00 42 59.6**	**-0.6**
GVD	**Gavdhos**	**1.07**	**308**	P	**Pg**	**00 42 46.0**	**-0.3**
GVD				S	**Sg**	**00 42 59.3**	**-0.9**
IDI	**Anoyia**	**1.12**	**350**	Pg	**Pg**	**00 42 45.9**	**-1.2**
IDI				Sg	**Sb**	**00 43 01.1**	**-0.7**
IDI	**Anoyia**	**1.12**	**350**	P	**Pg**	**00 42 46.4**	**-0.8**
IDI				S	**Sg**	**00 43 00.9**	**-0.9**
IDI	**Anoyia**	**1.12**	**350**	Pg	**Pg**	**00 42 46.4**	**-0.8**
	26nm,0.3s,baz=169,slow=13,SNR=284						
IDI				Lg	Lg	00 43 00.8	
	149nm,0.3s,baz=262,slow=22,SNR=17						
IDI	**Anoyia**	**1.12**	**350**	P	**Pg**	**00 42 46.5**	**-0.6**
IDI				S	**Sg**	**00 42 59.5**	**-2.3**
NPS	**Neapolis**	**1.15**	**21**	P	**Pg**	**00 42 47.5**	**-0.3**
NPS				S	**Sb**	**00 43 03.1**	**+0.4**
NPS	**Neapolis**	**1.15**	**21**	P	**Pg**	**00 42 47.8**	**0.0**
NPS				S	**Sg**	**00 43 01.2**	**-1.6**
PRNS	**Prines Rethymn**	**1.28**	**337**	P	**Pg**	**00 42 49.5**	**-0.8**
PRNS	**Prines Rethymn**	**1.28**	**337**	P	**Pg**	**00 42 49.4**	**-0.8**
PRNS				S	**Sg**	**00 43 04.6**	**-2.4**
STIA	**Sitia Lasithi**	**1.30**	**38**	P	**Pg**	**00 42 50.5**	**0.0**
ZKR	**Zakros**	**1.30**	**44**	Pn	**Pg**	**00 42 50.1**	**-0.5**
ZKR				Sn	**Sb**	**00 43 07.8**	**+0.9**
ZKR	**Zakros**	**1.30**	**44**	P	**Pg**	**00 42 50.4**	**-0.2**
ZKR	**Zakros**	**1.30**	**44**	P	**Pg**	**00 42 50.6**	**+0.1**
SIT2	**Siteia**	**1.31**	**38**	P	**Pg**	**00 42 50.9**	**+0.2**
SIT2				S	**Sg**	**00 43 06.7**	**-1.1**
CHAN	**Chania**	**1.60**	**327**	P	**Pn**	**00 42 55.0**	**+1.0**
CH01	**Chania**	**1.61**	**326**	P	**Pn**	**00 42 54.2**	**+0.1**
KARP	**Karpathos**	**2.16**	**50**	Pn	**Pn**	**00 43 02.9**	**+1.1**
KARP	**Karpathos**	**2.16**	**50**	P	**Pb**	**00 43 05.7**	**+0.8**
THR6	**Thira Island,**	**2.18**	**6**	P	**Pn**	**00 43 04.0**	**+2.0**
SNT5	**Nea Kammeni, S**	**2.23**	**6**	P	**Pn**	**00 43 04.3**	**+1.7**
THR3	**Thira Island,**	**2.23**	**6**	P	**Pb**	**00 43 05.9**	**-0.2**
THR5	**Thira Island,**	**2.24**	**5**	P	**Pn**	**00 43 05.2**	**+2.4**
ANKY	**Antikythira Is**	**2.25**	**319**	P	**Pn**	**00 43 05.0**	**+2.1**
SAP3	**Santorini-Thir**	**2.26**	**5**	P	**Pb**	**00 43 06.4**	**-0.1**
KTHA	**Kythira Island**	**2.67**	**321**	Pn	**Pn**	**00 43 09.9**	**+1.2**
KTHA	**Kythira Island**	**2.67**	**321**	P	**Pn**	**00 43 10.9**	**+2.2**
SLUM	**Salum**	**2.68**	**178**	P	**Pn**	**00 43 11.6**	**+2.7**
VLI	**Veliai**	**3.09**	**326**	P	**Pn**	**00 43 15.9**	**+1.4**
VLI				S	**Sn**	**00 43 51.3**	**-0.3**
YAZI	**Mula-Dat§a-**	**3.14**	**37**	P	**Pn**	**00 43 16.5**	**+1.3**
ARG	**Arkhangelos**	**3.19**	**50**	Pn	**Pn**	**00 43 17.7**	**+1.8**
ARG	**Arkhangelos**	**3.19**	**50**	P	**Pn**	**00 43 19.1**	**+3.2**
DAT	**Datca**	**3.24**	**38**	Pn	**Pn**	**00 43 18.2**	**+1.6**
DAT	**Datca**	**3.24**	**38**	P	**Pn**	**00 43 19.9**	**+3.2**
BDRM	**Kayabasi**	**3.45**	**33**	P	**Pn**	**00 43 23.0**	**+3.6**
TURN	**Turunc**	**3.63**	**44**	Pn	**Pn**	**00 43 23.5**	**+1.6**
TURN	**Turunc**	**3.63**	**44**	P	**Pn**	**00 43 24.8**	**+2.9**
TURN				S	**Sn**	**00 44 01.4**	**-3.5**
DALY	**Dalyan (Mula)**	**3.90**	**47**	Pn	**Pn**	**00 43 27.6**	**+2.0**
YER	**Yerkesik**	**3.92**	**40**	Pn	**Pn**	**00 43 27.9**	**+2.0**
ITM	**Ithomi**	**3.96**	**320**	Pn	**Pn**	**00 43 28.5**	**+2.0**
MULA	**Mugla, Merkez-**	**4.03**	**39**	P	**Pn**	**00 43 30.3**	**+2.9**
IZZE	**Mula-Seydike**	**4.04**	**55**	P	**Pn**	**00 43 30.0**	**+2.4**
IZZE				S	**Sn**	**00 44 10.6**	**-4.4**
IZZE				*i* IAML		00 44 20.0	
	comp=E,81nm,0.4s						
IZZE				*i* IAML		00 44 20.0	
	comp=N,129nm,0.6s						
SABU	**Mula-Dalaman**	**4.10**	**49**	P	**Pn**	**00 43 31.6**	**+3.2**
SABU				S	**Sn**	**00 44 17.5**	**+1.0**
AYDN	**Tasoluk**	**4.13**	**32**	P	**Pn**	**00 43 31.9**	**+3.1**
AKAS	**Kas**	**4.21**	**60**	Pn	**Pn**	**00 43 32.2**	**+2.3**
AKAS	**Kas**	**4.21**	**60**	P	**Pn**	**00 43 32.0**	**+2.1**
URLA	**Izmir**	**4.34**	**16**	Pn	**Pn**	**00 43 33.5**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**4.38**	**30**	Pn	**Pn**	**00 43 34.2**	**+1.9**
CAME	**Cameli-Denizli**	**4.39**	**50**	Pn	**Pn**	**00 43 34.7**	**+2.3**
DNZT	**Denizli-Tavas-**	**4.43**	**45**	P	**Pn**	**00 43 35.6**	**+2.6**
DNZT				S	**Sn**	**00 44 21.3**	**-3.5**
ESEN	**Aydn-Nazilli**	**4.46**	**35**	P	**Pn**	**00 43 36.2**	**+3.0**
BLCB	**Balcova**	**4.47**	**20**	Pn	**Pn**	**00 43 35.5**	**+2.0**
TAVA	**DENIZLI_Tavas**	**4.50**	**42**	P	**Pn**	**00 43 37.1**	**+3.2**
TAVA				S	**Sn**	**00 44 20.9**	**-5.5**
KNIK	**Mula-Seydike**	**4.50**	**53**	P	**Pn**	**00 43 37.1**	**+3.1**
CAEL	**Denizli, Camel**	**4.51**	**48**	P	**Pn**	**00 43 36.9**	**+2.8**
IZMR	**zmir-demi**	**4.56**	**29**	P	**Pn**	**00 43 37.2**	**+2.4**
NAZL	**Nazilli-Aydin**	**4.57**	**33**	Pn	**Pn**	**00 43 36.8**	**+2.0**
ELL	**Elmali**	**4.67**	**55**	Pn	**Pn**	**00 43 39.0**	**+2.6**
DNIZ	**Denizli-Tavas-**	**4.68**	**42**	P	**Pn**	**00 43 40.8**	**+4.4**
APMY	**Acipayam-Deniz**	**4.73**	**45**	Pn	**Pn**	**00 43 39.5**	**+2.5**
GOLH	**Golhisar**	**4.73**	**49**	P	**Pn**	**00 43 39.5**	**+2.4**
GOLH				S	**Sn**	**00 44 30.0**	**-2.1**
AKUM	**Antalya-Kumluc**	**4.78**	**62**	P	**Pn**	**00 43 39.8**	**+2.1**
KIRA	**zmir-Kiraz**	**4.81**	**33**	P	**Pn**	**00 43 41.6**	**+3.5**
SWA2		**4.93**	**177**	P	**Pn**	**00 43 42.2**	**+2.4**
SWA2				S	**Sn**	**00 44 36.6**	**-0.3**
INCE	**Denizli-Bozkur**	**5.05**	**44**	P	**Pn**	**00 43 45.8**	**+4.3**
KORT	**Korkueli**	**5.11**	**55**	Pn	**Pn**	**00 43 45.0**	**+2.7**
KORT	**Korkueli**	**5.11**	**55**	P	**Pn**	**00 43 45.4**	**+3.1**
KULA	**Kula-Manisa**	**5.18**	**32**	Pn	**Pn**	**00 43 45.8**	**+2.5**
GORD	**Gordes-Manisa**	**5.32**	**27**	Pn	**Pn**	**00 43 47.8**	**+2.6**
BUCA	**Burdur, Bucak-**	**5.43**	**53**	P	**Pn**	**00 43 50.5**	**+3.8**
PASA	**Karahalli, USA**	**5.46**	**39**	P	**Pn**	**00 43 50.4**	**+3.3**
USAK	**Uak-Merkez**	**5.51**	**34**	P	**Pn**	**00 43 50.4**	**+2.6**
BCK	**Bucak**	**5.52**	**52**	Pn	**Pn**	**00 43 50.7**	**+2.8**
DEMI	**Demirci**	**5.65**	**30**	P	**Pn**	**00 43 53.9**	**+4.2**
GDZ	**Gediz**	**6.03**	**34**	P	**Pn**	**00 43 58.0**	**+3.1**
GAZI	**Gazipasa**	**6.24**	**69**	Pn	**Pn**	**00 44 00.2**	**+2.4**
RYAN	**Fayoum**	**6.72**	**138**	P	**Pn**	**00 44 06.2**	**+1.9**
RYAN				S	**Sn**	**00 45 18.3**	**-2.8**
CSS	**Mathiatis**	**6.82**	**81**	P	**Pn**	**00 44 06.7**	**+1.0**
CSS	**Mathiatis**	**6.82**	**81**	S	**Sn**	**00 45 22.6**	**-0.8**
HFRF	**Wahat Farafira**	**7.53**	**158**	⇑P	**Pn**	**00 44 16.7**	**+1.2**
OFRI	**`Ofer**	**8.40**	**98**	P	**Pn**	**00 44 27.6**	**+0.2**
OFRI	**`Ofer**	**8.40**	**98**	S	**Sn**	**00 45 59.3**	**-3.0**
HNTI	**Hanita**	**8.46**	**95**	P	**Pn**	**00 44 28.8**	**+0.6**
HNTI	**Hanita**	**8.46**	**95**	S	**Sn**	**00 46 01.0**	**-2.8**
KZIT	**Kziot**	**8.49**	**110**	P	**Pn**	**00 44 29.2**	**+0.6**
KZIT	**Kziot**	**8.49**	**110**	S	**Sn**	**00 46 00.8**	**-3.7**
SLTI	**Sal'it**	**8.54**	**100**	P	**Pn**	**00 44 30.2**	**+0.9**
SLTI	**Sal'it**	**8.54**	**100**	S	**Sn**	**00 46 02.5**	**-3.3**
AMAZ	**Amatzia**	**8.66**	**105**	P	**Pn**	**00 44 31.5**	**+0.5**
AMAZ	**Amatzia**	**8.66**	**105**	S	**Sn**	**00 46 05.2**	**-3.5**
MMA0B	**Mount Meron ar**	**8.66**	**95**	P	**Pn**	**00 44 32.0**	**+0.9**
MMA0B	**Mount Meron ar**	**8.66**	**95**	S	**Sn**	**00 46 06.2**	**-2.6**
MMAI	**Mount Meron Ar**	**8.66**	**95**	Pn	**Pn**	**00 44 31.8**	**+0.8**
	1.5nm,0.3s,baz=282,slow=12,SNR=18						
MMAI				Sn	**Sn**	**00 46 07.1**	**-1.8**
	1.3nm,0.3s,baz=281,slow=22,SNR=2.9						
	0.9nm,0.3s						
SALP	**Salfit**	**8.71**	**101**	P	**Pn**	**00 44 32.4**	**+0.7**
SALP	**Salfit**	**8.71**	**101**	S	**Sn**	**00 46 07.3**	**-2.7**
BRTR	**Keskin Array B**	**8.78**	**48**	Pn	**Pn**	**00 44 34.2**	**+1.5**
	0.1nm,0.3s,baz=222,slow=16,SNR=6.9						
MMLI	**Mount Malkishu**	**8.80**	**99**	P	**Pn**	**00 44 33.5**	**+0.6**
MMLI	**Mount Malkishu**	**8.80**	**99**	S	**Sn**	**00 46 08.9**	**-3.3**
GEM	**Giv'at Ha'Em**	**8.84**	**93**	P	**Pn**	**00 44 34.3**	**+0.8**
GEM	**Giv'at Ha'Em**	**8.84**	**93**	S	**Sn**	**00 46 10.6**	**-2.6**
YTIR	**Yattir**	**8.88**	**106**	P	**Pn**	**00 44 34.7**	**+0.6**
YTIR	**Yattir**	**8.88**	**106**	S	**Sn**	**00 46 10.8**	**-3.4**
NATI	**Neve Ativ**	**8.89**	**93**	P	**Pn**	**00 44 35.3**	**+1.1**
NATI	**Neve Ativ**	**8.89**	**93**	S	**Sn**	**00 46 12.3**	**-2.2**
UJAP	**Al Uja**	**8.96**	**101**	P	**Pn**	**00 44 35.7**	**+0.6**
UJAP	**Al Uja**	**8.96**	**101**	S	**Sn**	**00 46 12.1**	**-4.1**
KSHT	**Keshet**	**9.00**	**95**	P	**Pn**	**00 44 36.8**	**+1.1**
KSHT	**Keshet**	**9.00**	**95**	S	**Sn**	**00 46 14.6**	**-2.7**
DSI	**Dead Sea**	**9.02**	**104**	P	**Pn**	**00 44 36.5**	**+0.7**
DSI	**Dead Sea**	**9.02**	**104**	S	**Sn**	**00 46 13.7**	**-3.7**
MSBI	**Mazada**	**9.09**	**106**	P	**Pn**	**00 44 37.5**	**+0.7**
MSBI	**Mazada**	**9.09**	**106**	S	**Sn**	**00 46 15.6**	**-3.5**
KRMI	**Paran Flat**	**9.10**	**114**	P	**Pn**	**00 44 37.7**	**+0.7**
KRMI	**Paran Flat**	**9.10**	**114**	S	**Sn**	**00 46 15.6**	**-3.9**
PRNI	**Paran**	**9.20**	**112**	P	**Pn**	**00 44 39.2**	**+0.8**
PRNI	**Paran**	**9.20**	**112**	S	**Sn**	**00 46 18.5**	**-3.5**
IDAN	**Idan**	**9.20**	**108**	P	**Pn**	**00 44 38.8**	**+0.4**
IDAN	**Idan**	**9.20**	**108**	S	**Sn**	**00 46 18.3**	**-3.8**
ZFRI	**Zfri**	**9.24**	**110**	P	**Pn**	**00 44 39.5**	**+0.5**
ZFRI	**Zfri**	**9.24**	**110**	S	**Sn**	**00 46 19.3**	**-3.7**
GHAJ	**Ghor Haditha**	**9.26**	**105**	P	**Pn**	**00 44 39.8**	**+0.6**
GHAJ	**Ghor Haditha**	**9.26**	**105**	S	**Sn**	**00 46 19.6**	**-3.8**
VAE	**Valguarnera**	**9.29**	**294**	Pn	**Pn**	**00 44 38.3**	**-1.4**
	2.4nm,0.5s,baz=72,slow=16,SNR=2.1						
VAE				Sn	**Sn**	**00 46 21.8**	**-2.5**
	0.3nm,0.3s,baz=29,slow=19,SNR=1.2						
HRFI	**Mount Harif**	**9.37**	**113**	P	**Pn**	**00 44 41.7**	**+0.9**
HRFI	**Mount Harif**	**9.37**	**113**	S	**Sn**	**00 46 22.3**	**-4.0**
HDK1	**Dakhla**	**9.38**	**156**	P	**Pn**	**00 44 43.5**	**+2.7**
MBRI	**Mt Berech**	**9.40**	**115**	P	**Pn**	**00 44 41.9**	**+0.7**
MBRI	**Mt Berech**	**9.40**	**115**	S	**Sn**	**00 46 22.7**	**-4.3**
EIL	**Elat**	**9.49**	**116**	Pn	**Pn**	**00 44 42.8**	**+0.4**
	2.2nm,0.3s,baz=226,slow=5.1,SNR=14						
EIL				Sn	**Sn**	**00 46 24.2**	**-4.8**
	0.3nm,0.3s,baz=345,slow=16,SNR=1.6						
	4.7nm,0.4s						
EIL	**Elat**	**9.49**	**116**	P	**Pn**	**00 44 42.9**	**+0.5**
EIL	**Elat**	**9.49**	**116**	S	**Sn**	**00 46 25.2**	**-3.9**
ASF	**Jabal al Asfar**	**10.07**	**98**	Pn	**Pn**	**00 44 51.0**	**+0.5**
	0.2nm,0.3s,baz=314,slow=17,SNR=1.5						
ASF				Sn	**Sn**	**00 46 38.0**	**-5.6**
	0.2nm,0.3s,baz=315,slow=19,SNR=1.5						
	0.5nm,0.3s						
VRAC	**Vranov**	**16.38**	**340**	Pn	**Pn**	**00 46 14.8**	**-0.8**
	0.1nm,0.3s,baz=111,slow=9.5,SNR=4.6						
	2.2nm,0.7s						
KBZ	**Khabaz**	**16.77**	**50**	Pn	**Pn**	**00 46 23.2**	**+2.8**
	0.2nm,0.3s,baz=239,slow=9.7,SNR=9.4						
	3.0nm,1.1s						
AKASG	**Malin Array Be**	**16.78**	**9**	Pn	**Pn**	**00 46 20.6**	**0.0**
	1.2nm,0.3s,baz=202,slow=11,SNR=5.4						
	0.3nm,0.3s						
GERES	**GERESS Array B**	**16.93**	**333**	Pn	**Pn**	**00 46 23.8**	**+1.2**
	baz=149,slow=11,SNR=12						
	1.2nm,0.6s						
ESDC	**Sonseca Array**	**23.83**	**292**	P	**P**	**00 47 38.7**	**-0.2**
	1.0nm,0.8s,baz=82,slow=9.5,SNR=6.9						
	1.0nm,0.8s						
HFS	**Hagfors**	**27.02**	**347**	P	**P**	**00 48 07.8**	**+0.2**
	0.8nm,0.5s,baz=144,slow=10,SNR=6.1						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**27.29**	**1**	P	**P**	**00 48 08.8**	**-1.2**
	0.7nm,0.6s,baz=160,slow=12,SNR=7.1						
	0.7nm,0.6s						
NB2	**NORSAR Subarra**	**28.34**	**346**	P	**P**	**00 48 19.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=157,slow=10						
NOA	**NORSAR Array B**	**28.34**	**346**	P	**P**	**00 48 19.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=157,slow=9.0,SNR=3.9						
	comp=Z,0.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**28.82**	**326**	P	**P**	**00 48 24.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=111,slow=10,SNR=3.6						
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	P	00 48 31.8	-1.4
	comp=Z,2.9nm,0.3s,baz=35,slow=10.0,SNR=3.0						
	comp=Z,2.9nm,0.3s						
ARCES	**ARCESS Array B**	**35.41**	**0**	P	**P**	**00 49 20.2**	**-1.1**
	comp=Z,5.8nm,1.0s,baz=183,slow=9.4,SNR=4.0						
	comp=Z,5.8nm,1.0s						
KURBB	**Kurchatov Arra**	**41.77**	**50**	P	**P**	**00 50 16.1**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=275,sl

WB0 Warramunga Arr 23.83 231 P P 01 38 44.6 +0.2
WB0 IAmb IAmb 01 38 45.6
comp=Z,8.3nm,0.8s
WR8 Warramunga Arr 23.86 230 P P 01 38 44.4 -0.2
WR8 IAmb IAmb 01 38 46.4
comp=Z,10nm,1.0s
WRA Warramunga Arr 23.97 231 P P 01 38 45.2 -0.5
WRA Warramunga Arr 23.97 231 P P 01 38 45.9 +0.2
comp=Z,4.6nm,0.6s,baz=54,slow=9.8,SNR=49
comp=Z,4.6nm,0.6s
INKA Innaminka 25.66 208 P P 01 39 00.9 +0.1
INKA IAmb IAmb 01 39 44.4
comp=Z,4.6nm,0.5s
ASAR Alice Springs 26.57 224 P P 01 39 09.2 -0.1
comp=Z,0.9nm,0.6s,baz=60,slow=8.8,SNR=4.5
comp=Z,0.9nm,0.6s
KNRA Kununurra 26.72 245 P P 01 39 08.7 -1.9
KNRA IAmb IAmb 01 39 36.4
comp=Z,10nm,1.1s
H11S3 WAKE ISLAND Hy 26.73 28 T T 02 07 32.8
baz=208,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 26.73 28 T T 02 07 33.7
baz=208,slow=76,SNR=13
H11S1 WAKE ISLAND Hy 26.74 28 T T 02 07 37.7
baz=208,slow=76,SNR=17
STKA Stephens Creek 28.93 202 P P 01 39 30.9 +0.9
STKA IAmb IAmb 01 40 06.5
comp=Z,13nm,1.1s
STKA Stephens Creek 28.93 202 P P 01 39 30.8 +0.7
comp=Z,0.3nm,0.3s,baz=31,slow=12,SNR=1.0
comp=Z,0.3nm,0.3s
FITZ Fitzroy Crossi 30.38 243 P P 01 39 42.4 -0.6
TCW Tory Channel 40.28 156 P P 01 41 08.1 +0.5
KSRS Korea Array 48.80 332 P P 01 42 13.9 -1.4
comp=Z,1.0nm,0.6s,baz=152,slow=7.1,SNR=2.1
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 58.95 295 P P 01 43 30.8 +1.1
CMAR Chiang Mai Arr 58.95 295 P P 01 43 31.5 +1.8
comp=Z,1.2nm,0.4s,baz=114,slow=5.2,SNR=13
comp=Z,1.2nm,0.4s
LZH Lanzhou 62.21 315 *eP* **P 01 43 55.3 +3.6**
LZH pP pP 01 44 03.4 -13
LZH pmax pmax
comp=Z,22nm,1.3s
LZDM Lanzhou Array 62.25 315 P P 01 43 53.3 +1.2
comp=Z,2.9nm,0.4s,baz=114,slow=10,SNR=4.9
GTA Gaotai 66.62 317 *eP* **P 01 44 22.6 +2.3**
GTA pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 67.19 327 P P 01 44 24.6 +0.8
comp=Z,1.0nm,0.6s,baz=147,slow=5.2,SNR=4.7
comp=Z,1.0nm,0.6s
EVN Everest 72.40 301 P P 01 44 56.2 -0.5
EVN IAmb IAmb 01 44 59.0
comp=Z,3.1nm,0.6s
MKAR Makanchi Array 81.28 319 P P 01 45 46.0 +0.6
comp=Z,0.8nm,0.6s,baz=85,slow=7.8,SNR=5.4
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 82.03 326 P P 01 45 47.6 -1.6
ZALV Zalesovo Beam 82.03 326 P P 01 45 48.2 -1.0
comp=Z,0.5nm,0.4s,baz=142,slow=7.3,SNR=2.6
comp=Z,0.5nm,0.4s
ILAR Eielson Array 82.13 22 P P 01 45 47.5 -2.0
comp=Z,0.3nm,0.8s,baz=250,slow=4.4,SNR=5.5
comp=Z,0.3nm,0.8s
BOOM Boomskoye usch 84.59 313 P P 01 46 04.5 +1.6
KURBB Kurchatov Arra 84.72 322 P P 01 46 02.7 -0.4
comp=Z,0.4nm,0.6s,baz=110,slow=3.2,SNR=4.7
comp=Z,0.4nm,0.6s
GAR Garm 88.19 309 P P 01 46 21.1 +0.7
GERES GERESS Array B 124.90 329 PKP PKiKP 01 52 29.6 +0.5
comp=Z,0.2nm,0.6s,baz=57,slow=3.6,SNR=2.3
PB16 IPOC Station P 131.31 120 PKPdf PKPdf 01 52 41.4 -1.0
BDFB Brasilia 150.08 134 PKPbc PKPbc 01 53 19.5 -0.9
comp=Z,1.4nm,0.5s,baz=234,slow=2.6,SNR=4.5
TORD Torodi Ar. Bea 151.39 288 PKPbc PKPbc 01 53 23.7 +0.3
comp=Z,0.8nm,0.4s,baz=64,slow=2.5,SNR=7.1

*AEIC **21** 01:46:45.9±1.5, 65°.59N±0°.01×165°.21W±0°.05, h6km±4km, ML3.7, mb_Lg3.4/41(NEIC), ML3.7/78(NEIC), Error ellipse: s-maj=2.9km s-min=1.8km az=62.0*
*NEIC **21** 01:46:46.4±1.9, 65°.57N±0°.02×165°.23W±0°.05, h10km±1km, Error ellipse: s-maj=3.9km s-min=3.1km az=121.0*
*IDC **21** 01:46:48.7±1.6, 65°.81N×165°.41W, h0km, mb3.7/3, mbtmp3.9/6, ML3.7/3, MS3.0/3, Error ellipse: s-maj=29.7km s-min=17.7km az=32.0*
ISC 21 01:46:46.6±0.7, 65°.59N±0°.03×165°.17W±0°.03, h10km, n129, σ1°27/135, mb3.5/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F15K	**North Star Dit**	**0.24**	**62**		**Pg**	**01 46 51.2**	**-0.5**
F15K					**Sg**	**01 46 54.8**	**-0.2**
F14K	**Arctic Creek**	**0.50**	**257**		**Pg**	**01 46 55.7**	**-0.6**
F14K					**Sg**	**01 47 02.0**	**-0.8**
G15K	**Niukluk**	**0.77**	**141**		**Pg**	**01 47 00.3**	**-1.1**
G15K					**Pb**	**01 47 00.4**	**-1.6**
G15K					**Sg**	**01 47 11.1**	**-0.3**
ANM	**Nome**	**1.04**	**185**	Pg	**Pg**	**01 47 04.8**	**-1.7**
ANM				Sg	**Sg**	**01 47 18.7**	**-1.3**
ANM				IAML		01 47 23.9	
comp=E,2μm,0.5s							
TNA	**Tin City**	**1.15**	**270**	Pg	**Pb**	**01 47 07.1**	**-1.4**
TNA				IAmb_Lg		01 47 20.9	
comp=Z,232nm,0.8s							
TNA				Sg	**Sb**	**01 47 21.7**	**-1.7**
TNA				IAML		01 47 27.5	
comp=E,2μm,0.6s							
TNA				IAML		01 47 27.6	
comp=N,3μm,0.6s							
G16K	**Koyuk River**	**1.19**	**98**	Pn	**Pb**	**01 47 07.9**	**-1.3**
G16K				IAML		01 47 29.2	
comp=N,2μm,0.5s							
G16K	**Koyuk River**	**1.19**	**98**		**Sg**	**01 47 24.5**	**-0.4**
G16K					**Sn**	**01 47 25.6**	**+0.1**
H16K	**Elim**	**1.57**	**126**		**Pn**	**01 47 14.5**	**0.0**
H16K					**Sb**	**01 47 35.6**	**+0.1**
H16K					**Sg**	**01 47 36.0**	**-0.9**
F17K	**Baldwin Pennin**	**1.81**	**60**	Pn	**Pb**	**01 47 18.9**	**-0.9**
F17K				IAML		01 47 49.3	
comp=E,713nm,0.9s							
F17K				IAML		01 47 52.0	
comp=N,891nm,0.8s							
G17K	**Kiwalik Mounta**	**1.88**	**91**		**Pn**	**01 47 18.2**	**-0.6**
G17K					**Sb**	**01 47 43.3**	**-1.3**
E17K	**Hotham Inlet**	**2.02**	**41**		**Pn**	**01 47 20.1**	**-0.5**
E17K					**Sb**	**01 47 46.9**	**-1.5**
D17K	**Noatak River**	**2.27**	**21**		**Pn**	**01 47 24.0**	**-0.2**
H17K	**Granite Mounta**	**2.31**	**104**	Pn	**Pn**	**01 47 24.8**	**+0.1**
H17K				IAML		01 48 01.1	
comp=E,431nm,0.6s							
F18K	**Selawik**	**2.46**	**63**		**Pn**	**01 47 27.2**	**+0.5**
F18K					**Pb**	**01 47 28.0**	**-2.9**
I17K	**Unalakleet**	**2.57**	**130**	Pn	**Pn**	**01 47 28.8**	**+0.5**
E18K	**Tukpahlearik C**	**2.59**	**43**	Pn	**Pn**	**01 47 28.8**	**+0.2**
E18K				IAML		01 48 10.6	
comp=E,268nm,0.9s							
RDOG	**Red Dog Mine**	**2.63**	**19**	Pn	**Pn**	**01 47 29.9**	**+0.8**
C16K	**Lisburne Hills**	**2.69**	**359**	Pn	**Pn**	**01 47 30.2**	**+0.2**
C16K				IAmb_Lg		01 48 18.5	
comp=Z,104nm,0.9s							
C16K				IAML		01 48 20.4	
comp=E,349nm,0.8s							
G18K	**Tagagawik**	**2.71**	**81**	Pn	**Pn**	**01 47 29.3**	**-0.8**
G18K				IAmb_Lg		01 48 19.2	
comp=Z,177nm,0.8s							
H18K	**Honhosa River**	**2.88**	**96**	Pn	**Pn**	**01 47 32.1**	**-0.6**
H18K				IAML		01 48 20.4	
comp=N,404nm,0.8s							
J14K	**Nanvaranak Lak**	**2.94**	**165**		**Pn**	**01 47 33.3**	**-0.1**
J14K	**Nanvaranak Lak**	**2.94**	**165**	IAmb_Lg		01 48 22.0	
comp=Z,181nm,0.7s							
J14K				IAML		01 48 28.0	
comp=E,300nm,0.8s							
J14K				IAML		01 48 33.1	
comp=N,266nm,0.9s							
C17K	**DeLong Mountai**	**3.00**	**14**		**Pn**	**01 47 34.7**	**+0.5**
J16K	**Anvik River**	**3.05**	**137**	Pn	**Pn**	**01 47 35.0**	**+0.2**
J16K				IAML		01 48 29.2	
comp=E,328nm,0.8s							
F19K	**Shaleruckik Mo**	**3.25**	**64**	Pn	**Pn**	**01 47 36.7**	**-0.9**
F19K				IAmb_Lg		01 48 33.3	
comp=Z,132nm,0.9s							
J17K	**VABM Dome**	**3.44**	**127**	Pn	**Pn**	**01 47 40.8**	**+0.6**
J17K				IAML		01 48 42.2	
comp=E,259nm,1.1s							
C18K	**Utukok River**	**3.44**	**25**	Pn	**Pn**	**01 47 41.6**	**+1.3**
C18K				IAmb_Lg		01 48 34.6	
comp=Z,70nm,0.8s							
C18K				IAML		01 48 39.5	
comp=N,123nm,0.8s							
H19K	**Roundabout Mou**	**3.63**	**87**	Pn	**Pn**	**01 47 42.3**	**-0.4**
H19K				IAML		01 48 42.8	
comp=E,132nm,0.8s							
H19K				IAML		01 48 50.5	
comp=N,122nm,1.4s							
K15K	**Wolf Creek Mou**	**3.68**	**152**	Pn	**Pn**	**01 47 43.7**	**+0.2**
K15K				IAmb_Lg		01 48 45.7	
comp=Z,156nm,1.0s							
K13K	**Kusilvak Mount**	**3.68**	**176**	Pn	**Pn**	**01 47 43.2**	**-0.3**
K13K				IAML		01 48 50.8	
comp=N,182nm,1.1s							
E19K	**Redstone River**	**3.69**	**56**	Pn	**Pn**	**01 47 44.8**	**+1.2**
E19K				IAmb_Lg		01 48 52.0	
comp=Z,74nm,0.8s							
E19K				IAML		01 48 52.4	
comp=E,129nm,0.6s							
E19K				IAML		01 48 54.5	
comp=N,124nm,1.3s							
D19K	**Kuna River**	**4.01**	**40**	Pn	**Pn**	**01 47 48.9**	**+0.7**
D19K				IAML		01 49 09.3	
comp=E,75nm,1.0s							
F20K	**Avaraart Lake**	**4.08**	**65**	Pn	**Pn**	**01 47 49.5**	**+0.6**
F20K				IAML		01 49 04.6	
comp=N,99nm,1.2s							
F20K				IAmb_Lg		01 49 06.3	
comp=Z,108nm,1.1s							
C19K	**Lookout Ridge**	**4.13**	**29**	Pn	**Pn**	**01 47 52.2**	**+2.4**
C19K				IAmb_Lg		01 49 04.1	
comp=Z,77nm,1.2s							
K17K	**Iditarod**	**4.17**	**131**	Pn	**Pn**	**01 47 50.4**	**+0.2**
K17K				IAmb_Lg		01 49 03.1	
comp=Z,98nm,1.0s							
J18K	**Innoko River**	**4.23**	**116**		**Pn**	**01 47 51.6**	**+0.5**
J18K	**Innoko River**	**4.23**	**116**	IAmb_Lg		01 49 04.6	
comp=Z,65nm,0.7s							
J18K				IAML		01 49 05.2	
comp=E,71nm,0.8s							
J18K				IAML		01 49 05.2	
comp=N,94nm,0.8s							
L15K	**Ungalak Mounta**	**4.26**	**156**		**Pn**	**01 47 52.0**	**+0.5**
H20K	**Anotleneega Mo**	**4.28**	**87**		**Pn**	**01 47 52.0**	**+0.2**
J19K	**Poorman**	**4.39**	**107**	Pn	**Pn**	**01 47 54.4**	**+1.1**
J19K				IAmb_Lg		01 49 13.9	
comp=Z,93nm,1.1s							
J19K				IAML		01 49 14.0	
comp=E,69nm,0.9s							
J19K				IAML		01 49 14.6	
comp=N,69nm,1.2s							
L14K	**Kuka Creek**	**4.41**	**164**	Pn	**Pn**	**01 47 53.2**	**-0.4**
L14K				IAmb_Lg		01 49 13.8	
comp=Z,62nm,0.9s							
L14K				IAML		01 49 21.5	
comp=N,108nm,1.1s							
E20K	**Nigu River**	**4.43**	**49**		**Pn**	**01 47 53.9**	**0.0**
D20K	**Etivluk River**	**4.58**	**43**	Pn	**Pn**	**01 47 58.2**	**+2.4**
D20K				IAML		01 49 26.6	
comp=N,58nm,0.9s							
D20K				IAML		01 49 37.5	
comp=E,52nm,1.2s							
I20K	**Naaghedeneel**	**4.58**	**95**		**Pn**	**01 47 56.4**	**+0.6**
L17K	**Donlin**	**4.61**	**136**		**Pn**	**01 47 57.0**	**+0.7**
L16K	**Owhat River**	**4.65**	**144**	Pn	**Pn**	**01 47 56.7**	**-0.1**
L16K				IAmb_Lg		01 49 25.1	
comp=Z,61nm,1.1s							
L16K				IAML		01 49 27.8	
comp=N,47nm,1.3s							
G21K	**Allakaket**	**4.84**	**74**	Pn	**Pn**	**01 48 00.8**	**+1.3**
G21K				IAML		01 49 27.7	
comp=E,79nm,0.9s							
G21K				IAML		01 49 28.5	
comp=N,85nm,0.9s							
J20K	**Nowinta River**	**4.91**	**102**	Pn	**Pn**	**01 48 01.6**	**+1.3**
J20K				IAML		01 49 24.3	
comp=N,44nm,1.0s							
J20K				IAML		01 49 36.9	
comp=E,56nm,1.2s							
F21K	**Alatna River**	**4.97**	**66**	Pn	**Pn**	**01 48 03.5**	**+2.3**
F21K				IAML		01 49 32.9	
comp=N,47nm,0.7s							
F21K				IAML		01 49 35.5	
comp=E,59nm,0.8s							
L18K	**Granite Mounta**	**5.05**	**128**	Pn	**Pn**	**01 48 03.7**	**+1.4**
L18K				IAmb_Lg		01 49 39.3	
comp=Z,46nm,0.8s							
M14K	**Bethel**	**5.07**	**162**	Pn	**Pn**	**01 48 03.1**	**+0.5**
M14K				IAmb_Lg		01 49 39.6	
comp=Z,45nm,0.8s							
M11K	**Mekoryuk**	**5.25**	**186**	Pn	**Pn**	**01 48 06.0**	**+1.0**
M13K	**Dall Lake**	**5.26**	**170**	Pn	**Pn**	**01 48 05.5**	**+0.3**
M13K				IAmb_Lg		01 49 34.0	
comp=Z,58nm,1.1s							
K20K	**Telida**	**5.30**	**110**	Pn	**Pn**	**01 48 06.8**	**+1.1**
M15K	**Kasigluk River**	**5.32**	**155**		**Pn**	**01 48 06.2**	**+0.2**
B20K	**Meade River**	**5.37**	**31**		**Pn**	**01 48 07.1**	**+0.5**
B20K	**Meade River**	**5.37**	**31**	IAML		01 49 10.5	
comp=N,39nm,1.0s							
B20K				IAML		01 50 40.6	
comp=E,30nm,1.4s							
M16K	**Timber Creek**	**5.37**	**146**	Pn	**Pn**	**01 48 07.5**	**+0.7**
M16K				IAML		01 49 55.7	
comp=E,34nm,1.1s							
M16K				IAML		01 50 01.7	
comp=N,34nm,1.1s							
M17K	**Holitna River**	**5.45**	**137**	Pn	**Pn**	**01 48 09.2**	**+1.5**
I21K	**Tanana**	**5.53**	**88**	Pn	**Pn**	**01 48 09.8**	**+0.9**
L19K	**White Mountain**	**5.70**	**122**	Pn	**Pn**	**01 48 11.6**	**+0.4**
B21K	**Ikpikpuk River**	**5.71**	**40**	Pn	**Pn**	**01 48 12.8**	**+1.5**
CHUM	**Lake Minchumin**	**5.77**	**101**		**Pn**	**01 48 13.0**	**+0.9**
D22K	**Ayikyak River**	**5.86**	**50**	Pn	**Pn**	**01 48 14.9**	**+1.5**
M18K	**Stony River**	**5.86**	**130**		**Pn**	**01 48 14.3**	**+0.8**
N16K	**Nishlik Lake**	**5.90**	**148**		**Pn**	**01 48 14.9**	**+0.8**
N14K	**Kuskokwak Cree**	**5.91**	**163**	Pn	**Pn**	**01 48 15.0**	**+0.9**
N14K				IAmb_Lg		01 49 57.5	
comp=Z,56nm,1.1s							
N15K	**Kwethluk River**	**5.92**	**155**	Pn	**Pn**	**01 48 15.2**	**+1.0**
N15K				IAmb_Lg		01 50 05.6	
comp=Z,44nm,1.1s							
MLY	**Manley**	**6.07**	**89**	Pn	**Pn**	**01 48 17.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.23**	**97**	Pn	**Pn**	**01 48 20.0**	**+1.4**
N17K	**Nushagak Hills**	**6.24**	**141**	Pn	**Pn**	**01 48 19.3**	**+0.7**
G23K	**Bananza Creek**	**6.24**	**73**	Pn	**Pn**	**01 48 20.4**	**+1.7**
PPLA	**Purkeypile**	**6.27**	**110**	Pn	**Pn**	**01 48 20.7**	**+1.5**
H23K	**Yukon River**	**6.45**	**81**	Pn	**Pn**	**01 48 21.8**	**+0.3**
KTH	**Kantishna Hill**	**6.47**	**102**	Pn	**Pn**	**01 48 22.9**	**+1.1**
N18K	**Kilae Creek**	**6.48**	**135**	Pn	**Pn**	**01 48 23.2**	**+1.3**
B22K	**Teshekpuk Lake**	**6.49**	**38**	Pn	**Pn**	**01 48 22.4**	**+0.4**
A22K	**Sinclair Lake**	**6.61**	**30**		**Pn**	**01 48 23.9**	**+0.2**
O14K	**Tigyukauivet M**	**6.62**	**162**		**Pn**	**01 48 24.5**	**+0.7**
I23K	**Minto, Yukon-K**	**6.62**	**87**	Pn	**Pn**	**01 48 25.6**	**+1.8**
TRF	**Thorofare Moun**	**6.77**	**102**	Pn	**Pn**	**01 48 27.5**	**+1.5**
TOLK	**Toolik Lake Re**	**6.80**	**56**		**Pn**	**01 48 25.8**	**-0.5**
N19K	**Bonanza Creek**	**6.80**	**130**	Pn	**Pn**	**01 48 27.5**	**+1.0**
O16K	**Kokwok River B**	**6.85**	**148**	Pn	**Pn**	**01 48 27.9**	**+1.0**
O17K	**Koliganek Bris**	**6.92**	**144**		**Pn**	**01 48 28.7**	**+0.8**
C23K	**Itkillik River**	**6.97**	**46**		**Pn**	**01 48 29.3**	**+0.6**
SKT	**Skwentna**	**7.04**	**115**	Pn	**Pn**	**01 48 29.6**	**-0.1**
SPWE	**Spurr West**	**7.12**	**122**		**Pn**	**01 48 31.1**	**+0.3**
SPBG	**Spurr Blockage**	**7.19**	**121**		**Pn**	**01 48 31.8**	**0.0**
MCK	**McKinley**	**7.21**	**98**	Pn	**Pn**	**01 48 32.5**	**+0.5**
STLK	**Strandline Lak**	**7.23**	**118**	Pn	**Pn**	**01 48 33.5**	**+1.3**
CKL	**Chakachamna La**	**7.25**	**122**		**Pn**	**01 48 33.9**	**+1.3**
G24K	**Hadweenzic Riv**	**7.26**	**73**	Pn	**Pn**	**01 48 33.5**	**+0.9**
SPU	**Mount Spurr**	**7.36**	**121**	Pn	**Pn**	**01 48 35.9**	**+1.8**
RND	**Reindeer**	**7.37**	**100**	Pn	**Pn**	**01 48 35.1**	**+0.9**
P16K	**Nushagak River**	**7.38**	**150**	Pn	**Pn**	**01 48 36.3**	**+2.0**
P16K				IAmb_Lg		01 50 55.7	
comp=Z,38nm,1.1s							
CCB	**Clear Creek Bu**	**7.38**	**89**	Pn	**Pn**	**01 48 34.4**	**+0.1**
P18K	**Big Mountain,**	**7.73**	**139**	Pn	**Pn**	**01 48 39.6**	**+0.5**
IL31		**7.73**	**88**	Pn	**Pn**	**01 48 39.1**	**+0.1**
ILAR	**Eielson Array**	**7.73**	**88**	Pn	**Pn**	**01 48 39.4**	**+0.2**
comp=Z,0.4nm,0.3s,baz=280,slow=14,SNR=29							
ILAR				Sn	**Sn**	**01 50 03.2**	**-3.4**
comp=Z,0.2nm,0.3s,baz=290,slow=23,SNR=5.8							
ILAR				Lg	Lg	01 50 55.9	
comp=Z,0.2nm,0.3s,baz=283,slow=28,SNR=6.2							
comp=Z,1.8nm,0.6s							
HDA	**Harding Lake**	**7.81**	**90**	Pn	**Pn**	**01 48 41.5**	**+1.4**
ILSW	**Iliamna Southw**	**7.87**	**130**	Pn	**Pn**	**01 48 42.6**	**+1.5**
F25K	**Christian Rive**	**8.02**	**67**	Pn	**Pn**	**01 48 44.0**	**+0.9**
P19K	**Oil Pt**	**8.10**	**132**	Pn	**Pn**	**01 48 45.5**	**+1.3**
D25K	**Kavik River**	**8.11**	**54**	Pn	**Pn**	**01 48 45.5**	**+1.2**
E25K	**Arctic Village**	**8.11**	**63**	Pn	**Pn**	**01 48 45.8**	**+1.5**
DHY	**Denali Highway**	**8.12**	**100**	Pn	**Pn**	**01 48 45.4**	**+0.8**
PRP	**Porcupine Dome**	**8.14**	**82**	Pn	**Pn**	**01 48 45.6**	**+0.8**
GHO	**Glory Hole Cre**	**8.16**	**110**	Pn	**Pn**	**01 48 45.3**	**+0.2**
RC01	**Rabbit Creek A**	**8.27**	**116**	Pn	**Pn**	**01 48 48.8**	**+2.3**
SML	**Sawmill**	**8.37**	**109**	Pn	**Pn**	**01 48 49.8**	**+1.9**
SLKM	**Skilak Lake**	**8.48**	**120**	Pn	**Pn**	**01 48 52.1**	**+2.8**
F26K	**Sheenjek River**	**8.60**	**66**	Pn	**Pn**	**01 48 52.5**	**+1.5**
ACHA	**Angle Creek He**	**8.73**	**143**	Pn	**Pn**	**01 48 53.6**	**+0.8**
SCM	**Sheep Creek Mo**	**8.76**	**107**	Pn	**Pn**	**01 48 55.0**	**+1.8**
CNPM	**China Poot**	**8.84**	**127**	Pn	**Pn**	**01 48 56.1**	**+1.8**
PLK4	**Peulik 4**	**9.01**	**148**	Pn	**Pn**	**01 48 57.4**	**+0.7**
C27K	**Jago River**	**9.10**	**54**	Pn	**Pn**	**01 48 58.4**	**+0.6**
J26L	**Joseph Creek**	**9.19**	**87**	Pn	**Pn**	**01 48 58.5**	**-0.6**
KDAK	**Kodiak Island**	**9.83**	**137**	Pn	**Pn**	**01 49 11.0**	**+3.1**
comp=Z,0.5nm,0.3s,baz=336,slow=10.0,SNR=8.3							
comp=Z,3.9nm,0.6s							
H29M	**Whitestone**	**10.94**	**75**	Pn	**Pn**	**01 49 25.0**	**+2.0**
I30M	**Mount Dempster**	**11.95**	**79**	Pn	**Pn**	**01 49 41.2**	**+4.3**
DLBC	**Dease Lake**	**17.77**	**97**	P	**P**	**01 50 57.4**	**+2.8**
comp=Z,0.2nm,0.3s,baz=312,slow=16,SNR=2.4							
comp=Z,18nm,1.0s							
SEY	**Seymchan**	**18.36**	**281**	LR	LR	01 58 27.8	
comp=Z,30nm,18.5s,baz=1.5,slow=38							
YAK	**Yakutsk**	**27.81**	**294**	LR	LR	02 05 09.3	
comp=Z,18nm,18.7s,baz=322,slow=40							
NVAR	**Mina Array Bea**	**38.17**	**112**	P	P	01 54 11.1	+4.9
comp=Z,0.9nm,0.9s,baz=290,slow=6.1,SNR=5.7							
comp=Z,0.9nm,0.9s							
FINES	**FINESS Array B**	**53.00**	**353**	P	**P**	**01 56 04.1**	**+1.3**
comp=Z,1.1nm,0.8s,baz=25,slow=7.2,SNR=4.6							
comp=Z,1.1nm,0.8s							
ESDC	**Sonseca Array**	**74.05**	**15**	P	**P**	**01 58 25.0**	**+2.7**
comp=Z,0.5nm,1.1s,baz=359,slow=5.5,SNR=4.5							
comp=Z,0.5nm,1.1s							
DAV	**Davao City (W)**	**75.09**	**254**	LR	LR	02 31 20.6	
comp=Z,23nm,20.6s,baz=189,slow=36							

*CATAC **21** 01:55:28.4±0.6, 15°N±3°×9°4W±°, h1km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=8.6km s-min=5.5km az=57.9, confirmed*
*GCG **21** 01:55:29.9±0.9, 14°.70N×93°.92W, h35km±17km, MD4.0*
*MEX **21** 01:55:31.6±1.1, 14°.85N×93°.83W, h30km±28km, MD4.0*
ISC 21 01:55:28.2±2.2, 14°.94N±0°.06×93°.86W±0°.03, h14km±13km, n40, σ1°90/61, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.98**	**39**	*e*P	**Pn**	**01 55 48.4**	**+0.8**
PCIG				*e*S	**Sg**	**01 55 59.8**	**-0.3**
THIG		**1.55**	**91**	*e*P	**Pn**	**01 55 54.9**	**-0.4**
THIG				*e*S	**Sn**	**01 56 10.4**	**-4.8**
THIG		**1.55**	**91**	*i* P	**Pn**	**01 55 55.9**	**+0.6**
THIG				*i* S	**Sn**	**01 56 14.9**	**-0.3**
PATR	**El Naranjo**	**1.58**	**83**	*e*P	**Pn**	**01 55 55.5**	**-0.6**
PATR				*e*S	**Sn**	**01 56 12.0**	**-4.5**
PAVE	**Pavencul**	**1.65**	**81**	*e*P	**Pn**	**01 55 57.0**	**0.0**
PAVE				*e*S	**Sn**	**01 56 15.6**	**-2.5**
CHUJ	**Union Juarez**	**1.70**	**85**	*e*P	**Pn**	**01 55 57.1**	**-0.6**
CHUJ				*e*S	**Sn**	**01 56 16.7**	**-2.8**
SMCA	**Catarina**	**1.73**	**93**	*i* P	**Pn**	**01 55 58.3**	**+0.4**
SMCA				*i* S	**Sn**	**01 56 20.2**	**+0.4**
NILT	**Santiago Nilte**	**1.77**	**336**	*e*P	**Pb**	**01 56 01.3**	**+0.8**
NILT				*e*S	**Sn**	**01 56 18.5**	**-2.2**
TGIG		**1.96**	**21**	*e*P	**Pb**	**01 56 04.7**	**+0.9**
TGIG				*e*S	**Sg**	**01 56 29.8**	**-1.6**
TGIG		**1.96**	**21**	*i* P	**Pb**	**01 56 04.6**	**+0.8**
TGIG				*i* S	**Sg**	**01 56 31.6**	**+0.1**
CCIG	**Comitan**	**2.13**	**51**	*e*P	**Pb**	**01 56 07.5**	**+0.7**
CCIG				*e*S	**Sn**	**01 56 29.9**	**0.0**
CCIG	**Comitan**	**2.13**	**51**	*i* P	**Pb**	**01 56 06.7**	**-0.1**
CCIG				*i* S	**Sb**	**01 56 34.4**	**+1.2**
CCIG	**Comitan**	**2.13**	**51**	P	**Pb**	**01 56 07.1**	**+0.3**
CCIG	**Comitan**	**2.13**	**51**	S	**Sg**	**01 56 35.3**	**-1.6**
RTAL	**Retalhuleu**	**2.14**	**101**	*e*P	**Pn**	**01 56 03.2**	**-0.3**
RTAL				*e*S	**Sn**	**01 56 28.8**	**-1.1**
RTAL	**Retalhuleu**	**2.14**	**101**	P	**Pn**	**01 56 03.3**	**-0.2**
HUEH	**Huehuetenango**	**2.31**	**80**	*e*P	**Pn**	**01 56 08.2**	**+2.1**
HUEH				*e*S	**Sn**	**01 56 35.5**	**+1.1**
HUEH	**Huehuetenango**	**2.31**	**80**	S	**Sb**	**01 56 38.3**	**-0.1**
HUEH	**Huehuetenango**	**2.31**	**80**	P	**Pb**	**01 56 09.1**	**-0.7**
HUIG	**Huatulco**	**2.32**	**291**	*e*P	**Pn**	**01 56 05.9**	**0.0**
HUIG				*e*S	**Sn**	**01 56 30.5**	**-3.7**
HUIG	**Huatulco**	**2.32**	**291**	*i* P	**Pn**	**01 56 06.1**	**+0.1**
HUIG				*i* S	**Sn**	**01 56 31.1**	**-3.1**
CMIG	**Matias Romero**	**2.35**	**335**	*e*P	**Pn**	**01 56 08.3**	**+1.8**
CMIG				*e*S	**Sn**	**01 56 34.8**	**-0.4**
UXUV	**UXUV**	**2.38**	**354**	*e*P	**Pb**	**01 56 10.9**	**0.0**
UXUV				*e*S	**Sb**	**01 56 38.8**	**-1.3**
QUIS	**Sacapulas**	**2.70**	**82**	*i* P	**Pn**	**01 56 13.1**	**+1.8**
APG	**El Apazote**	**3.29**	**88**	*i* P	**Pn**	**01 56 21.4**	**

34 km NE of Ostrava Suspected Mining induced.
*IPEC **21** 01:58:05.2±0.1, 50.°00N×18.°58E, h1km, ML2.4/6, Error ellipse: s-maj=1.7km s-min=0.7km az=165.0*
*PRU **21** 01:58:06.3, 50.°02N×18.°52E, h0km*
ISC 21 01:58:04.6±0.8, 49.°99N±0.°03×18.°54E±0.°02, h0km, n51, σ1°16/87, 12C-3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.24**	**293**	*e*PG	**Pg**	**01 58 11.4**	**+2.2**
RAC				*e*SG	**Sg**	**01 58 15.7**	**+3.5**
OKC	**Ostrava-Krasne**	**0.29**	**238**	*e*PG	**Pb**	**01 58 11.9**	**-0.9**
OKC				*e*SG	**Sb**	**01 58 17.1**	**-1.1**
STEB	**Steborice**	**0.50**	**264**	*e*PG	**Pb**	**01 58 15.5**	**-0.7**
STEB				*e*SG	**Sb**	**01 58 23.0**	**-1.0**
MORC	**Moravsky Berou**	**0.68**	**252**	⇑P	**Pb**	**01 58 18.7**	**-0.7**
MORC				⇑S	**Sb**	**01 58 28.5**	**-0.8**
MORC	**Moravsky Berou** baz=71	**0.68**	**252**	*e*Pg	**Pb**	**01 58 18.9**	**-0.4**
MORC				*e*Sg	**Sg**	**01 58 27.1**	**+0.8**
ANAC	**Anensky vrch** baz=95	**0.75**	**277**	*e*Pg	**Pb**	**01 58 20.0**	**-0.6**
ANAC				*e*Sg	**Sg**	**01 58 29.5**	**+0.8**
LOSC	**Losov** baz=64	**0.84**	**244**	*e*Pg	**Pb**	**01 58 21.9**	**-0.2**
LOSC				*e*Sg	**Sg**	**01 58 32.4**	**+0.8**
OJC	**Ojcow**	**0.84**	**74**	*e*Pg	**Pg**	**01 58 20.5**	**-0.3**
OJC				*e*Sg	**Sg**	**01 58 31.9**	**+0.2**
LANS	**Liptovska Anna**	**1.04**	**144**	*e*PG	**Pg**	**01 58 25.0**	**+0.5**
LANS				*e*SG	**Sb**	**01 58 39.5**	**-0.2**
LANS				*e*LG	Lg	01 58 43.4	
KRLC	**Kraliky**	**1.13**	**275**	*e*PG	**Pb**	**01 58 27.0**	**-0.1**
KRLC				*e*SG	**Sb**	**01 58 43.1**	**+0.7**
JAVC	**Velka Javorina**	**1.27**	**207**	*e*PG	**Pn**	**01 58 29.8**	**+0.1**
JAVC	**Velka Javorina** baz=27	**1.27**	**207**	*e*Pg	**Pn**	**01 58 29.7**	**+0.1**
NIE	**Niedzica**	**1.28**	**116**	*e*Pg	**Pn**	**01 58 29.8**	**0.0**
NIE				*e*Sg	**Sn**	**01 58 48.1**	**+0.4**
VRAC	**Vranov**	**1.44**	**242**	⇓P	**Pb**	**01 58 32.2**	**0.0**
VRAC				⇓S	**Sn**	**01 58 52.3**	**+0.8**
VRAC	**Vranov** baz=61	**1.44**	**242**	*e*Pg	**Pg**	**01 58 32.0**	**-0.1**
VRAC				*e*Sg	**Sb**	**01 58 51.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.47**	**285**	*e*PG	**Pn**	**01 58 32.4**	**0.0**
DPC				*e*SG	**Sb**	**01 58 52.0**	**0.0**
OSTC	**Ostas**	**1.59**	**292**	*e*PG	**Pb**	**01 58 34.8**	**-0.1**
OSTC				*e*SG	**Sg**	**01 58 57.0**	**+1.3**
KSP	**Ksiaz**	**1.67**	**302**	*e*Pg	**Pn**	**01 58 35.1**	**0.0**
KSP				*e*Sg	**Sg**	**01 58 59.2**	**+1.0**
KRUC	**Moravsky** baz=56	**1.68**	**237**	*e*Pn	**Pb**	**01 58 36.2**	**-0.1**
KRUC				*e*Sg	**Sg**	**01 58 58.4**	**0.0**
CHVC	**Chvalec**	**1.70**	**292**	*e*PG	**Pg**	**01 58 36.9**	**-0.3**
CHVC				*e*SG	**Sg**	**01 58 59.2**	**0.0**
UPC	**Upice**	**1.70**	**289**	*e*PG	**Pb**	**01 58 36.6**	**-0.1**
UPC				*e*SG	**Sb**	**01 58 58.5**	**-0.2**
MODS	**Modra-Piesok**	**1.82**	**207**	*e*PN	**Pb**	**01 58 38.4**	**-0.4**
MODS				*e*SN	**Sn**	**01 59 00.7**	**-0.2**
MODS				*e*LG	Lg	01 59 05.4	
STHS	**Stebnicka Huta**	**1.85**	**107**	*e*PN	**Pb**	**01 58 39.3**	**0.0**
STHS				*e*SG	**Sg**	**01 59 06.1**	**+2.1**
STHS				*e*LG	Lg	01 59 09.0	
KECS	**Kecovo**	**1.98**	**139**	*e*SN	**Sn**	**01 59 04.9**	**+0.1**
KECS				*e*LG	Lg	01 59 15.8	
SRO	**Srobarova**	**2.19**	**184**	*e*PG	**Pg**	**01 58 47.6**	**+1.1**
SRO				*e*SG	**Sg**	**01 59 17.9**	**+3.1**
SRO				*e*LG	Lg	01 59 23.0	
PSZ	**Piszkesteto**	**2.26**	**156**	⇑P	**Pn**	**01 58 42.8**	**-0.5**
PSZ				⇓S	**Sn**	**01 59 11.9**	**0.0**
PRU	**Pruhonice**	**2.58**	**271**	*e*PG	**Pb**	**01 58 51.0**	**-0.7**
PRU				*e*SG	**Sg**	**01 59 26.6**	**-0.8**
PVCC	**Panska Ves**	**2.60**	**283**	*e*PG	**Pg**	**01 58 53.6**	**-0.8**
PVCC				*e*SG	**Sg**	**01 59 28.9**	**+0.8**
CONA	**Conrad Observa** 0.7nm,0.7s	**2.71**	**221**	*i* Pn	**Pn**	**01 58 50.4**	**+0.9**
CONA				*i* Sn	**Sn**	**01 59 22.5**	**-0.6**
RONA	**Rosalia, Austr** 1.4nm,0.3s 0.1nm,0.1s	**2.73**	**214**	*i* Pn	**Pn**	**01 58 49.8**	**0.0**
RONA				*e*Sn	**Sn**	**01 59 24.5**	**+1.1**
ZVC	**Zvikov** 1.4nm,0.2s	**2.87**	**261**	*e*PG	**Pb**	**01 58 56.3**	**-0.4**
ZVC				*e*SG	**Sg**	**01 59 36.3**	**-0.5**
BRG	**Berggiesshubel**	**3.07**	**288**	Pg	**Pg**	**01 59 01.9**	**-1.4**
BRG				Sg	**Sg**	**01 59 42.4**	**-0.7**
BRG	comp=Z,4.6nm,0.5s			Amp		01 59 47.3	
KHC	**Kasperske Hory**	**3.34**	**257**	*e*PN	**Pn**	**01 58 58.5**	**+0.4**
KHC				*e*PG	**Pb**	**01 59 05.1**	**+0.4**
KHC				*e*SG	**Sg**	**01 59 51.2**	**-0.7**
MOA	**Molln** comp=Z,0.8nm,0.2s	**3.54**	**234**	*i* Sn	**Sn**	**01 59 44.1**	**+0.7**
CLL	**Collm** comp=Z,9.0nm,0.6s	**3.76**	**293**	*e*Pg	**Pg**	**01 59 16.0**	**-0.6**
CLL				*e*Sg	**Sg**	**02 00 03.0**	**-2.3**
BIOA	**Bad Ischl, Aus** comp=Z,2.7nm,0.4s	**3.97**	**236**	*e*Sn	**Sn**	**01 59 56.8**	**+2.8**
DRGR		**4.24**	**137**	⇑P	**Pn**	**01 59 09.7**	**-0.8**
DRGR				⇑S	**Sn**	**01 59 59.2**	**-1.5**
SIRR	**Siria**	**4.27**	**150**	⇑P	**Pn**	**01 59 10.8**	**-0.1**
SIRR				⇑S	**Sn**	**02 00 00.7**	**-0.8**
MARR	**Marisel-Cluj**	**4.51**	**136**	⇑P	**Pn**	**01 59 14.0**	**-0.3**
MARR				⇑S	**Sn**	**02 00 07.5**	**+0.1**
KBA	**Koelnbreinsper** comp=Z,1.3nm,0.5s	**4.51**	**232**	*i* Sn	**Sn**	**02 00 09.7**	**+2.1**
LESA	**Schwarzleotal** comp=Z,0.6nm,0.4s	**4.65**	**239**	*e*Sn	**Sn**	**02 00 14.4**	**+3.5**
BURAR	**Bucovina Array**	**5.01**	**116**	⇑P	**Pn**	**01 59 20.8**	**-0.4**
ABTA	**Abfaltersbach** comp=Z,0.1nm,0.3s	**5.16**	**233**	*e*Sn	**Sn**	**02 00 25.2**	**+1.7**
WATA	**Walderalm** comp=Z,0.7nm,0.2s	**5.32**	**243**	*e*Sg	**Sg**	**02 00 52.9**	**-2.6**
WTTA	**Wattenberg** comp=Z,3.2nm,0.7s	**5.33**	**242**	*e*Sg	**Sg**	**02 00 54.0**	**-1.6**
GZR	**Gura Zlata**	**5.42**	**147**	⇑P	**Pn**	**01 59 26.3**	**-0.4**
GZR				⇑S	**Sn**	**02 00 30.1**	**+0.3**
MOTA	**Moosalm** comp=Z,2.3nm,0.4s	**5.59**	**245**	*e*Sg	**Sg**	**02 01 03.2**	**-0.9**
SQTA	**Sankt Quirin** comp=Z,1.5nm,0.4s	**5.59**	**243**	*e*Sg	**Sg**	**02 01 04.6**	**+0.3**
RETA	**Reutte** comp=Z,0.2nm,0.2s	**5.72**	**247**	*e*Sg	**Sg**	**02 01 06.5**	**-1.8**
FETA	**Feichten** comp=Z,1.3nm,0.7s	**5.98**	**243**	Sg	**Sg**	**02 01 15.0**	**-1.5**
DAVA	**Damuels** comp=Z,0.6nm,0.2s	**6.34**	**248**	*e*Sg	**Sg**	**02 01 25.4**	**-2.8**

*LDG **21** 02:13:39.9±0.1, 45.°82N×5.°59E, h8km, MI1.5/10, Error ellipse: s-maj=0.9km s-min=0.8km az=75.0*
STR 21 02:13:39.5±0.5, 46.°N±2.°×7.°±, h18km, MLv1.4/8, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGMY	**Moye**	**0.21**	**74**	Pg	Pg	02 13 44.3	-0.2
OGMY				Sg	Sg	02 13 47.6	-0.4
OG35	**Corcelles**	**0.22**	**354**	Pg	Pg	02 13 44.8	0.0
OG35				Sg	Sg	02 13 48.1	-0.2
OGSM	**Saint Maurice**	**0.23**	**163**	Pg	Pg	02 13 44.7	-0.1
OGSM				Sg	Sg	02 13 48.0	-0.4
GRN	**Grenoble**	**0.59**	**170**	Pg	Pg	02 13 50.6	-0.7
GRN				Sg	Sb	02 13 59.5	+0.1
RSL	**Roselend**	**0.73**	**100**	Pg	Pg	02 13 54.0	+0.2
RSL				Sg	Sg	02 14 03.6	+0.1
OGSI	**Sixt**	**0.84**	**73**	Sg	Sg	02 14 07.2	+0.3
LPL	**La Plagne**	**0.85**	**111**	*e*Pg	Pg	02 13 56.3	+0.2
LPL	**La Plagne**	**0.85**	**111**	*e*P	Pn	02 13 57.9	+1.1
LPL				*e*Sg	Sg	02 14 07.4	0.0
CABF	**La Chapelle** 0.5nm,0.2s	**0.85**	**23**	*e*Pg	Pn	02 13 56.7	-0.1
CABF				*e*Sg	Sg	02 14 07.4	-0.1
ORIF	**Oris-en-Rattie** 0.3nm,0.1s	**0.93**	**168**	*e*Pg	Pb	02 13 57.3	+0.2
ORIF				*e*Sg	Sb	02 14 08.8	-0.3
ORIF	**Oris-en-Rattie** 2.7nm,0.2s	**0.93**	**168**	Sg	Sb	02 14 09.3	+0.1
RIVEL	**MONT RIVEL**	**0.96**	**13**	Pg	Pb	02 13 57.9	+0.2
VIVF	**Saint-Julien-l**	**1.17**	**214**	*e*Pg	Pg	02 14 01.8	-0.3
VIVF				*e*Sg	Sn	02 14 16.6	0.0
BRANT	1.6nm,0.2s **Les Verrieres**	**1.27**	**28**	Pg	Pg	02 14 03.6	-0.3
SMF	**Signal de Mont**	**1.47**	**304**	*e*P	Pg	02 14 07.4	-0.4
SMF				*e*Sg	Sg	02 14 26.6	-0.4
AVF	1.0nm,0.2s **Avril sur Loir**	**1.83**	**303**	*e*Pg	Pg	02 14 13.8	-0.9
AVF				*e*Sg	Sg	02 14 37.2	-1.4
SMRF	0.4nm,0.2s **Simiane la Rot**	**1.85**	**181**	*e*Pn	Pn	02 14 11.0	+0.6
SMRF				*e*Sn	Sn	02 14 33.6	+0.3
LOR	1.2nm,0.4s **Lormes**	**1.88**	**321**	*e*Sg	Sg	02 14 38.7	-1.3
SSF	0.9nm,0.3s **Saint Saulge**	**1.91**	**311**	*e*Sg	Sg	02 14 39.4	-1.4
	0.2nm,0.2s						

*IDC **21** 02:23:05.1±0.9, 1.°50N×126.°80E, h0km, mb4.3/8, mbtmp4.4/10, ML4.4/2, Error ellipse: s-maj=52.9km s-min=12.6km az=70.0*
*NEIC **21** 02:23:12.0±2.3, 1.°3N±0.°2×126.°3E±0.°1, h35km±2km, mb4.7/22, Error ellipse: s-maj=30.7km s-min=11.3km az=31.0*
*DJA **21** 02:23:14.9±1.0, 1.°N±2.°×12.°7E±.°, h29km±10km, M4.5/13, mB5.1/3, mb4.6/4, MLv4.5/13, Mw(mB)4.5/3*
ISC 21 02:23:12.7±0.5, 1.°37N±0.°05×126.°59E±0.°05, h47km, n56, σ2°02/66, mb4.6/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**128**		**Pn**	**02 23 32.7**	**+2.6**
TNTI				Sn	**Sn**	**02 23 46.9**	**+4.0**
TNTI	**Ternate**	**0.98**	**128**	P	**Pn**	**02 23 33.0**	**+2.9**
TNTI				S	**Sn**	**02 23 47.2**	**+4.3**
SGSI	**Sangihe**	**2.53**	**335**	P	**Pn**	**02 23 53.5**	**+2.2**
SGSI				S	**Sn**	**02 24 22.2**	**+1.2**
KMSI	**Cibinong**	**2.73**	**253**	P	**Pn**	**02 23 57.2**	**+3.2**
KMSI				S	**Sn**	**02 24 29.6**	**+3.8**
SANI	**Sanana**	**3.45**	**190**	P	**Pn**	**02 24 04.8**	**+0.8**
LUWI	**Luwuk**	**4.51**	**238**	P	**Pn**	**02 24 22.5**	**+4.0**
LUWI				S	**Sn**	**02 25 11.8**	**+2.0**
NLAI	**Namlea**	**4.61**	**174**	P	**Pn**	**02 24 21.7**	**+1.8**
NLAI				S	**Sn**	**02 25 11.8**	**-0.4**
APSI	**Ampana** 1.2nm2μm96nm,0.8s	**5.44**	**245**	P	**Pn**	**02 24 35.7**	**+4.4**
TOLI2	**Tolitoli**	**5.81**	**267**	Pn	**Pn**	**02 24 38.6**	**+2.2**
FAKI	**Fak Fak**	**7.08**	**127**	Pn	**Pn**	**02 24 55.1**	**+1.3**
MYLDM	**Lahad Datu**	**8.92**	**295**	Pn	**Pn**	**02 25 19.6**	**+0.6**
KAPI	**Kappang**	**9.32**	**227**	Pn	**Pn**	**02 25 25.6**	**+0.9**
KAPI	**Kappang**	**9.32**	**227**	Pn	**Pn**	**02 25 25.2**	**+0.6**
KAPI	2.1nm,0.3s,baz=18,slow=22,SNR=2.3 4.5nm,0.3s,baz=62,slow=21,SNR=5.8 6.6nm,0.4s			Sn	**Sn**	**02 27 05.7**	**-2.5**
SOEI	**Soe**	**11.30**	**192**	Pn	**Pn**	**02 25 53.5**	**+1.8**
SBUM	**Sibu**	**14.40**	**274**	P	**P**	**02 26 41.4**	**+1.6**
MTN	**Manton Dam**	**14.83**	**162**	Pn	**Pn**	**02 26 38.6**	**-0.9**
KSM	**Kuching**	**16.28**	**271**	P	**Pn**	**02 26 58.2**	**-0.1**
KSM				IAmb	IAmb	02 27 03.3	
KNRA	comp=Z,24nm,0.8s **Kununurra**	**17.08**	**173**		**Pn**	**02 27 07.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**19.37**	**183**	P	**P**	**02 27 33.4**	**-1.3**
FITZ	**Fitzroy Crossi** comp=Z,1.1nm,0.3s,baz=10,slow=12,SNR=33 comp=Z,5.4nm,0.5s	**19.37**	**183**	P	**P**	**02 27 33.9**	**-0.8**
WB0	**Warramunga Arr**	**22.36**	**160**	P	**P**	**02 28 06.0**	**-1.0**
COEN	**Coen**	**22.41**	**133**	P	**P**	**02 28 07.1**	**-0.4**
COEN				IAmb	IAmb	02 28 39.5	
WRAB	comp=Z,20nm,1.4s **Tennant Creek**	**22.50**	**161**	P	**P**	**02 28 07.7**	**-0.8**
WRAB				IAmb	IAmb	02 28 09.1	
WRA	comp=Z,28nm,0.8s **Warramunga Arr**	**22.51**	**161**	P	**P**	**02 28 06.2**	**-2.4**
WRA	**Warramunga Arr** comp=Z,34nm,0.6s,baz=337,slow=11,SNR=133	**22.51**	**161**	P	**P**	**02 28 07.3**	**-1.2**
WRA				S	**S**	**02 32 07.1**	**-5.4**
	comp=Z,4.4nm,0.7s,baz=338,slow=18,SNR=12 comp=Z,34nm,0.6s						
WR8	**Warramunga Arr**	**22.57**	**160**	P	**P**	**02 28 08.0**	**-1.3**
WR8				IAmb	IAmb	02 28 09.9	
PSA00	comp=Z,39nm,0.8s **Pilbara Seismi**	**23.74**	**196**	P	**P**	**02 28 19.9**	**-0.8**
PSA00				IAmb	IAmb	02 29 00.1	
AS31	comp=Z,26nm,1.5s **Alice Springs**	**25.89**	**164**	P	**P**	**02 28 40.1**	**-0.2**
AS31				IAmb	IAmb	02 28 43.2	
ASAR	comp=Z,8.3nm,0.9s **Alice Springs**	**25.89**	**164**	P	**P**	**02 28 39.8**	**-0.6**
ASAR	**Alice Springs** comp=Z,7.7nm,0.5s,baz=342,slow=9.1,SNR=62	**25.89**	**164**	P	**P**	**02 28 40.0**	**-0.4**
ASAR				PcP	**PcP**	**02 32 08.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=1.9,slow=1.6,SNR=1.8						
ASAR				S	**S**	**02 33 12.1**	**+4.8**
	comp=Z,2.4nm,0.7s,baz=346,slow=20,SNR=12 comp=Z,7.7nm,0.5s						
GIRL	**Giralia**	**26.74**	**206**	P	**P**	**02 28 46.4**	**-1.7**
NJ2	**Nanjing**	**31.38**	**347**	*e*P	**P**	**02 29 30.8**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FORT	**Forrest**	**32.01**	**178**	P	**P**	**02 29 34.0**	**-0.7**
FORT				IAmb	IAmb	02 29 35.8	
	comp=Z,9.3nm,0.6s						
PZH	**PanZhiHua**	**34.57**	**318**	P	**P**	**02 29 59.8**	**+2.6**
BBOO	**Buckleboo**	**35.16**	**166**	P	**P**	**02 30 01.6**	**-0.5**
STKA	**Stephens Creek**	**36.00**	**158**	P	**P**	**02 30 08.7**	**-0.7**
STKA	**Stephens Creek**	**36.00**	**158**	P	**P**	**02 30 08.4**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=335,slow=7.2,SNR=9.2 comp=Z,2.5nm,0.4s						
LZH	**Lanzhou**	**40.47**	**331**	*e*P	**P**	**02 30 49.1**	**+2.0**
LZH				sP	sP	02 31 15.3	+11
LZH				pmax	pmax		
	comp=Z,27nm,1.5s						
HHC	**Hu-ho-hao-te**	**41.59**	**343**	*e*P	**P**	**02 30 58.9**	**+2.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,73nm,4.0s						
GTA	**Gaotai**	**45.05**	**330**	*e*P	**P**	**02 31 22.6**	**-1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EVN	**Everest**	**46.31**	**308**	P	**P**	**02 31 34.2**	**-0.6**
EVN				IAmb	IAmb	02 31 37.2	
	comp=Z,7.7nm,0.6s						
SONM	**Songino Array**	**49.48**	**342**	P	**P**	**02 31 57.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=152,slow=6.5,SNR=4.0 comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.41**	**326**	P	**P**	**02 33 09.3**	**-1.3**
MKAR	**Makanchi Array**	**59.41**	**326**	P	**P**	**02 33 09.8**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=120,slow=8.0,SNR=21 comp=Z,1.4nm,0.4s						
ODZ	**Otahua Downs**	**60.49**	**145**	P	**P**	**02 33 17.5**	**-0.4**
GAR	**Garm**	**63.42**	**314**	P	**P**	**02 33 37.0**	**-0.9**
GAR				IAmb	IAmb	02 33 38.8	
	comp=Z,5.7nm,0.7s						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	**P**	**02 33 38.2**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=125,slow=6.5,SNR=22 comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**63.65**	**328**	P	**P**	**02 33 37.8**	**-1.2**
KURK				IAmb	IAmb	02 33 41.8	
	comp=Z,6.0nm,0.7s						
CHGR	**Chuyangaron**	**64.14**	**313**	P	**P**	**02 33 42.6**	**0.0**
CHGR				IAmb	IAmb	02 33 46.0	
	comp=Z,7.3nm,0.8s						
KKAR	**Karatay Array**	**64.86**	**318**	P	**P**	**02 33 46.2**	**-0.9**
AB31	**Akbulak array**	**73.88**	**321**	P	**P**	**02 34 41.6**	**-1.1**
ABKAR	**Akbulak array**	**73.88**	**321**	P	**P**	**02 34 41.5**	**-1.2**
VNDA	**Vanda**	**81.12**	**173**	P	**P**	**02 35 21.6**	**-1.0**
VNDA	**Vanda**	**81.12**	**173**	P	**P**	**02 35 22.1**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=318,slow=5.8,SNR=11 comp=Z,2.2nm,0.7s						
GURO	**Guroymak-BITLI**	**84.89**	**308**	P	**P**	**02 35 43.7**	**+0.6**
GURO				IAmb	IAmb	02 35 44.6	
	comp=Z,6.6nm,0.8s						
BRTR	**Keskin Array B**	**91.41**	**310**	P	**P**	**02 36 12.5**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=102,slow=6.5,SNR=2.6 comp=Z,0.5nm,0.8s						

*SJA **21** 02:45:04.5±0.7, 22.°37S×69.°03W, h102km±3km, ML3.9, MW3.9*
*NEIC **21** 02:45:04.8±0.8, 22.°41S±0.°04×69.°03W±0.°05, h103km±6km, mb4.1/3, ML4.1(GUC), Error ellipse: s-maj=7.4km s-min=4.6km az=62.0*
*GUC **21** 02:45:05.5±0.8, 22.°38S×69.°03W, h101km±3km, ML4.1*
ISC 21 02:45:04.8±0.9, 22.°38S±0.°03×69.°05W±0.°04, h100km±6km, n84, σ2°32/109, 3C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.58**	**236**		**Pn**	**02 45 21.6**	**+0.2**
PB06				Sn	**Sn**	**02 45 34.0**	**+0.2**
PB06	**IPOC Station P**	**0.58**	**236**	⇑*i*P	**Pn**	**02 45 21.8**	**+0.5**
PB06				*i* S	**Sn**	**02 45 34.3**	**+0.5**
PB06	**IPOC Station P**	**0.58**	**236**	*e*P	**Pn**	**02 45 21.8**	**+0.5**
PB06				*e*S	**Sn**	**02 45 35.3**	**+1.5**
PB06	comp=Z,1μm,0.1s			IAML		02 45 36.7	
PB09	**IPOC Station P**	**0.61**	**343**	Pn	**Pn**	**02 45 22.3**	**+0.7**
PB09				Sn	**Sn**	**02 45 35.0**	**+0.8**
PB09	**IPOC Station P**	**0.61**	**343**	⇓*i*P	**Pn**	**02 45 22.6**	**+1.0**
PB09				*i* S	**Sn**	**02 45 34.9**	**+0.8**
PB09	**IPOC Station P**	**0.61**	**343**	*e*P	**Pn**	**02 45 22.3**	**+0.7**
PB09				*e*S	**Sn**	**02 45 35.3**	**+1.2**
PB09	comp=Z,2μm,0.3s			IAML		02 45 36.2	
PB03	**IPOC Station P**	**0.73**	**297**	Pn	**Pn**	**02 45 23.3**	**+0.7**
PB03				Sn	**Sn**	**02 45 36.7**	**+0.7**
PB03	**IPOC Station P**	**0.73**	**297**	⇑*i*P	**Pn**	**02 45 23.6**	**+0.9**
PB03				*i* S	**Sn**	**02 45 37.0**	**+1.0**
PB03	comp=N,7μm,0.2s			IAML		02 45 37.8	
PB03	**IPOC Station P**	**0.73**	**297**	*e*P	**Pn**	**02 45 23.3**	**+0.7**
PB03				*e*S	**Sn**	**02 45 37.1**	**+1.0**
PB03	comp=Z,4μm,0.2s			IAML		02 45 38.2	
AF01	**San Pedro de A**	**0.99**	**126**	Pn	**Pn**	**02 45 25.4**	**+0.1**
AF01				Sn	**Sn**	**02 45 40.6**	**-0.2**
AF01	**San Pedro de A**	**0.99**	**126**	*i* P	**Pn**	**02 45 25.8**	**+0.5**
AF01	**San Pedro de A**	**0.99**	**126**	*e*P	**Pn**	**02 45 25.9**	**+0.5**
AF01				*e*S	**Sn**	**02 45 41.6**	**+0.8**
AF01	comp=Z,3μm,0.5s			IAML		02 45 58.6	
PB05	**IPOC Station P**	**1.17**	**246**	Pn	**Pn**	**02 45 27.6**	**+0.5**
PB05				Sn	**Sn**	**02 45 44.5**	**+0.4**
PB05	**IPOC Station P**	**1.17**	**246**	⇑*i*P	**Pn**	**02 45 28.0**	**+0.8**
PB05				*i* S	**Sn**	**02 45 45.2**	**+1.1**
PB05	**IPOC Station P**	**1.17**	**246**	*e*P	**Pn**	**02 45 28.0**	**+0.8**
PB05				*e*S	**Sn**	**02 45 45.8**	**+1.7**
PB05	comp=Z,931nm,0.4s			IAML		02 45 47.9	
PB02	**IPOC Station P**	**1.31**	**323**	Pn	**Pn**	**02 45 30.1**	**+1.2**
PB02	**IPOC Station P**	**1.31**	**323**	⇓*i*P	**Pn**	**02 45 30.3**	**+1.4**
PB02				*i* S	**Sn**	**02 45 48.1**	**+1.0**
PB02	comp=E,5μm,0.4s			IAML		02 45 54.4	
PB02	**IPOC Station P**	**1.31**	**323**	*e*P	**Pn**	**02 45 30.2**	**+1.2**
PB02				*e*S	**Sn**	**02 45 49.0**	**+1.8**
PB01	**IPOC Station P**	**1.39**	**343**	Pn	**Pn**	**02 45 30.8**	**+1.0**
PB01	**IPOC Station P**	**1.39**	**343**	⇓*i*P	**Pn**	**02 45 31.1**	**+1.3**
PB01				*i* S	**Sn**	**02 45 50.6**	**+1.9**
PB01	**IPOC Station P**	**1.39**	**343**	*e*P	**Pn**	**02 45 30.6**	**+0.8**
PB01				*e*S	**Sn**	**02 45 52.5**	
PB01	comp=Z,2μm,0.2s			IAML		02 45 52.5	
PB10	**IPOC Station P**	**1.79**	**231**	Pn	**Pn**	**02 45 35.3**	**+0.6**
PB10	**IPOC Station P**	**1.79**	**231**	*i* P	**Pn**	**02 45 35.4**	**+0.7**
PB10				*i* S	**Sn**	**02 45 57.9**	**+0.5**
PB10	**IPOC Station P**	**1.79**	**231**	*e*P	**Pn**	**02 45 35.9**	**+1.2**
PB10				*e*S	**Sn**	**02 45 49.0**	**-8.4**
PB10	comp=Z,569nm,0.8s			IAML		02 46 05.1	
PATCX	**Punta Patache**	**1.86**	**326**	Pn	**Pn**	**02 45 36.2**	**+0.5**
PATCX	**Punta Patache**	**1.86**	**326**	⇓*i*P	**Pn**	**02 45 36.6**	**+0.9**
PATCX				*i* S	**Sn**	**02 46 00.5**	**+1.3**
PATCX	**Punta Patache**	**1.86**	**326**	*e*P	**Pn**	**02 45 36.7**	**+1.0**
PATCX				*e*S	**Sn**	**02 45 58.7**	**-0.5**
PATCX	comp=Z,1μm,0.3s			IAML		02 46 05.8	
PB08	**IPOC Station P**	**2.23**	**357**	Pn	**Pn**	**02 45 41.7**	**+0.9**
PB08	**IPOC Station P**	**2.23**	**357**	*i* P	**Pn**	**02 45 42.3**	**+1.6**
PB08	**IPOC Station P**	**2.23**	**357**	*e*P	**Pn**	**02 45 42.3**	**+1.6**
PB08				*e*S	Sn	02 46 18.1	+10
PB08	comp=Z,235nm,0.3s			IAML		02 46 21.1	
HMBC	**Humberstone**	**2.23**	**339**	Pn	**Pn**	**02 45 40.4**	**-0.1**
HMBC	**Humberstone**	**2.23**	**339**	⇓*i*P	**Pn**	**02 45 41.0**	**+0.4**
HMBC				*i* S	**Sn**	**02 46 09.4**	**+1.6**
HMBC	comp=E,1μm,0.4s			IAML		02 46 17.0	
HMBC	**Humberstone**	**2.23**	**339**	*e*P	**Pn**	**02 45 40.9**	**+0.4**
HMBC				*e*S	**Sn**	**02 46 13.7**	**+5.9**
HMBC	comp=Z,974nm,0.2s			IAML		02 46 22.4	
TA02	**Huaiquique**	**2.33**	**334**	*i* P	**Pn**	**02 45 41.9**	**+0.3**
TA02	**Huaiquique**	**2.33**	**334**	*e*P	**Pn**	**02 45 42.3**	**+0.7**
TA02				*e*S	**Sn**	**02 46 08.8**	**-1.0**
TA02	comp=Z,736nm,0.7s			IAML		02 46 19.4	
PB14	**IPOC Station P**	**2.56**	**209**	Pn	**Pn**	**02 45 44.4**	**-0.6**
PB14	**IPOC Station P**	**

GO04	**Tololo Observa**	**7.92**	**191**	Pn	**Pn**	**02 46 53.9**	**-3.5**
CO03	**El Pedregal**	**8.55**	**190**	Pn	**Pn**	**02 47 01.3**	**-4.6**
CO02	**Combarbal**	**8.96**	**191**	Pn	Pn	02 47 05.1	-6.4
ZON	**Zonda**	**9.14**	**178**	Pn	**Pn**	**02 47 09.4**	**-4.4**
VA03	**San Esteban**	**10.43**	**187**	Pn	**Pn**	**02 47 27.1**	**-4.4**
MT02	**Curacav**	**11.00**	**189**	Pn	Pn	02 47 32.0	-7.0
MT09	**Talagante**	**11.48**	**188**	Pn	Pn	02 47 39.3	-6.4
MT01	**Popeta**	**11.61**	**189**	Pn	Pn	02 47 39.6	-7.6
TRQA	**Tornquist**	**16.77**	**160**		**Pn**	**02 48 52.6**	**-0.9**
TRQA				IAmb	IAmb	02 48 56.4	
	comp=Z,5.1nm,0.9s						
VAO	**Valinhos**	**20.39**	**96**	P	**P**	**02 49 32.4**	**-1.5**
VAO				IAmb	IAmb	02 50 14.0	
	comp=Z,31nm,1.4s						
SNAA	**Sanae**	**61.50**	**161**	P	**P**	**02 55 11.7**	**+1.0**
SNAA				IAmb	IAmb	02 55 22.8	
	comp=Z,3.7nm,1.5s						

*IDC **21** 02:46:21.3±0.7,8.°78S×157.°55E,h0km,mb4.2/11, mbtmp4.2/12,ML4.9/1,Error ellipse: s-maj=23.3km s-min=17.4km az=155.0*

*NEIC **21** 02:46:23±1.8,8.°8S±0.°1×157.°61E±0.°08,h10km±1km, mb4.6/20,Error ellipse: s-maj=21.4km s-min=6.8km az=212.0*

ISC 21 02:46:23.8±0.5,8.°85S±0.°09×157.°57E±0.°07,h17km,n49, σ1º15/50,mb4.6/25,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**104**		**Pn**	**02 47 01.8**	**-0.7**
HNR	**Honiara**	**2.42**	**104**	Pn	**Pn**	**02 47 02.7**	**+0.2**
	261nm,0.3s,baz=213,slow=12,SNR=12						
HNR				Sn	**Sb**	**02 47 36.4**	**0.0**
	285nm,0.3s,baz=24,slow=21,SNR=12						
	1μm,0.7s						
RABL	**Rabaul**	**7.09**	**310**	Pn	**Pn**	**02 48 05.0**	**-1.9**
SANVU	**Saraoutou**	**11.47**	**126**	Pn	**Pn**	**02 49 07.1**	**+0.2**
PATS	**Pohnpei**	**15.60**	**3**	Pn	**Pn**	**02 50 02.0**	**-1.0**
ARMA	**Armidale**	**22.16**	**194**	P	**P**	**02 51 20.0**	**+0.9**
INKA	**Innaminka**	**24.60**	**218**	P	**P**	**02 51 42.8**	**-0.4**
WR0	**Warramunga Arr**	**24.85**	**241**	P	**P**	**02 51 45.5**	**-0.1**
WR0				IAmb	IAmb	02 51 47.0	
	comp=Z,12nm,0.9s						
WR8	**Warramunga Arr**	**24.89**	**241**	P	**P**	**02 51 44.9**	**-1.0**
WR8				IAmb	IAmb	02 51 48.0	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**24.91**	**242**	P	**P**	**02 51 45.4**	**-0.8**
WB0				IAmb	IAmb	02 51 48.2	
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**25.01**	**241**	P	**P**	**02 51 46.4**	**-0.7**
WRAB				IAmb	IAmb	02 51 52.0	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**25.01**	**241**	P	**P**	**02 51 47.0**	**-0.1**
WB2				IAmb	IAmb	02 51 49.2	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**02 51 46.6**	**-0.5**
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**02 51 47.0**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=67,slow=9.4,SNR=23						
WRA				PcP	**PcP**	**02 55 22.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=73,slow=2.6,SNR=7.7						
	comp=Z,7.4nm,0.7s						
ASAR	**Alice Springs**	**27.01**	**234**	P	**P**	**02 52 04.1**	**-1.1**
ASAR	**Alice Springs**	**27.01**	**234**	P	**P**	**02 52 04.4**	**-0.8**
	comp=Z,3.3nm,1.0s,baz=65,slow=9.4,SNR=12						
ASAR				PcP	**PcP**	**02 55 25.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=47,slow=2.5,SNR=4.1						
	comp=Z,3.3nm,1.0s						
STKA	**Stephens Creek**	**27.30**	**211**	P	**P**	**02 52 10.5**	**+2.9**
STKA	**Stephens Creek**	**27.30**	**211**	P	**P**	**02 52 09.7**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=45,slow=14,SNR=9.4						
	comp=Z,2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**32.34**	**250**	P	**P**	**02 52 50.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**32.34**	**250**	P	**P**	**02 52 51.8**	**-0.6**
	comp=Z,5.5nm,1.1s,baz=60,slow=10,SNR=6.3						
	comp=Z,5.5nm,1.1s						
RTZ	**Ruatahuna**	**34.39**	**153**	P	**P**	**02 53 09.2**	**-1.0**
BKZ	**Black Stump Fm**	**34.62**	**154**	P	**P**	**02 53 11.5**	**-0.7**
KSRS	**Korea Array**	**53.78**	**331**	P	**P**	**02 55 45.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=156,slow=25,SNR=2.2						
	comp=Z,1.0nm,0.8s						
NJ2	**Nanjing**	**54.97**	**320**	*e*P	**P**	**02 55 55.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.88**	**295**	P	**P**	**02 56 55.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**63.88**	**295**	P	**P**	**02 56 57.1**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=114,slow=4.9,SNR=13						
	comp=Z,1.1nm,0.3s						
CHTO	**Chiang Mai**	**64.00**	**296**	P	**P**	**02 56 57.0**	**+0.1**
CHTO				IAmb	IAmb	02 57 04.5	
	comp=Z,4.3nm,0.9s						
HEH	**HeiHe**	**64.45**	**339**	*e*P	P	02 57 04.6	+5.4
PZH	**PanZhiHua**	**64.56**	**305**	P	**P**	**02 57 02.8**	**+2.2**
HHC	**Hu-ho-hao-te**	**65.09**	**323**	*e*P	**P**	**02 57 06.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,36nm,3.6s						
LZH	**Lanzhou**	**67.42**	**315**	*e*P	**P**	**02 57 20.3**	**+1.5**
LZH				sP	sP	02 57 28.6	+2.2
LZH				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA	**Gaotai**	**71.83**	**316**	*e*P	**P**	**02 57 47.3**	**+1.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**72.27**	**327**	P	**P**	**02 57 47.8**	**-0.7**
SONM	**Songino Array**	**72.27**	**327**	P	**P**	**02 57 48.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=146,slow=6.4,SNR=3.5						
	comp=Z,0.6nm,0.7s						
SHL	**Shillong**	**72.43**	**300**	P	**P**	**02 57 49.7**	**-0.1**
L18K	**Granite Mounta**	**79.16**	**20**	P	**P**	**02 58 27.2**	**-0.2**
L18K				IAmb	IAmb	02 58 32.3	
	comp=Z,5.8nm,0.8s						
L19K	**White Mountain**	**79.76**	**21**	P	**P**	**02 58 30.0**	**-0.7**
L19K				IAmb	IAmb	02 58 35.7	
	comp=Z,6.2nm,0.8s						
WMQ	**Urumqi**	**81.92**	**317**	*e*P	**P**	**02 58 44.1**	**+1.4**
WMQ				LR	LR		
	comp=N,3μm,18.5s						
WMQ				LR	LR		
	comp=E,3μm,14.7s						
WMQ				LR	LR		
	comp=Z,3μm,22.1s						
ILAR	**Eielson Array**	**84.17**	**21**	P	**P**	**02 58 55.0**	**+1.2**
ILAR	**Eielson Array**	**84.17**	**21**	P	**P**	**02 58 53.1**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=291,slow=14,SNR=15						
	comp=Z,2.1nm,1.1s						
DOT	**Dot Lake**	**84.58**	**22**	P	**P**	**02 58 56.9**	**+1.0**
DOT				IAmb	IAmb	02 59 00.1	
	comp=Z,5.1nm,0.8s						
MKAR	**Makanchi Array**	**86.48**	**318**	P	**P**	**02 59 05.6**	**-0.1**
MKAR	**Makanchi Array**	**86.48**	**318**	P	**P**	**02 59 06.7**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=104,slow=5.1,SNR=3.7						
	comp=Z,0.8nm,0.8s						
I29M	**Ogilvie Camp,**	**87.59**	**22**	P	**P**	**02 59 13.0**	**+2.3**
I29M				IAmb	IAmb	02 59 14.8	
	comp=Z,4.5nm,1.0s						
NVAR	**Mina Array Bea**	**90.87**	**51**	P	**P**	**02 59 26.6**	**-0.5**
NVAR	**Mina Array Bea**	**90.87**	**51**	P	**P**	**02 59 27.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=240,slow=7.3,SNR=6.0						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**98.04**	**48**	P	Pdif	02 59 59.2	-0.6
PDAR	**Pinedale Array**	**98.04**	**48**	P	**P**	**02 59 58.6**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=270,slow=5.3,SNR=3.5						
	comp=Z,0.2nm,0.7s						
BDFB	**Brasilia**	**144.87**	**134**	PKPdf	**PKPab**	**03 05 59.7**	**-0.4**

*BJI **21** 02:52:25.6,18.°90S×169.°65E,h220km,mB6.5/76, mb5.9/96*

*MOS **21** 02:52:28.2±1.0,19.°10S×169.°48E,h235km,mb6.4/38, Error ellipse: s-maj=8.6km s-min=6.2km az=118.1*

*NEIC **21** 02:52:29.3,19.°05S×169.°36E,h250km,Moment Tensor Solution. Duration: 8s2 Moment tensor: Scale 10^18^Nm; Mrr4.74; Mθθ-0.48; Mφφ-4.27; Mrθ1.73; Mrφ-1.56; Mθφ-2.38; Fault plane solution: M0:5.62000×10^18^ NP1:φs38.77000°, δ38.85000°,λ124.58000°. NP2:φs177.26000°,δ58.91000°, λ65.44000°. Principal axes: T 5.9957, Plg66.0000°, Azm40.0000°; N -0.8560, Plg21.0000°, Azm191.0000°; P -5.1397, Plg11.0000°, Azm285.0000°;*

*IPGP **21** 02:52:29.0,19.°04S×169.°45E,h237km,Mw6.5,Fault plane solution: NP1:φs35.00000°,δ39.00000°, λ123.00000°. NP2:φs175.00000°,δ58.00000°,λ66.00000°.*

*NEIC **21** 02:52:29.3,19.°05S×169.°46E,h250km*

*NEIC **21** 02:52:29.7±1.9,19.°02S±0.°06×169.°49E±0.°07,h231km, mb6.4/716,Mwb6.4/67,Mww6.4/78,Error ellipse: s-maj=12.0km s-min=9.7km az=109.0,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr5.18; Mθθ-1.52; Mφφ-3.66; Mrθ1.38; Mrφ-1.35; Mθφ-2.11; Fault plane solution: M0:5.43000×10^18^ NP1:φs186.46000°, δ55.75000°,λ70.06000°. NP2:φs39.26000°,δ39.01000°, λ116.60000°. Principal axes: T 6.0195, Plg71.0000°, Azm48.0000°; N -1.5024, Plg16.0000°, Azm198.0000°; P -4.5171, Plg9.0000°, Azm291.0000°;*

*NOU **21** 02:52:30.3,19.°04S×169.°44E,h233km,ML6.1/178, Vanuatu Islands*

*NEIC **21** 02:52:30.7,19.°04S×169.°47E,h242km*

*IDC **21** 02:52:30.4±0.6,19.°08S×169.°50E,h242km±5km,mb5.6/34, mbtmp6.2/36,Error ellipse: s-maj=6.8km s-min=5.4km az=57.0*

*GCMT **21** 02:52:32.7±0.0,19.°07S×169.°31E,h245km,MW6.4/176, Moment Tensor Solution. s170,c447; s176,c775; Duration: 4s1 Moment tensor: Scale 10^18^Nm; Mrr4.58±.02; Mθθ0.06±.02; Mφφ-4.64±.02; Mrθ1.93±.02; Mθφ-1.63±.02; Mφr-2.40±.02; Best double couple: M0:5.75900×10^18^ NP1:φs39.00000°,δ40.00000°, λ129.00000°. NP2:φs173.00000°,δ60.00000°,λ62.00000°. Principal axes: T 6.0400, Plg64.0000°, Azm35.0000°; N -0.5600, Plg24.0000°, Azm188.0000°; P -5.4770, Plg11.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 02:52:29.0±0.2,19.°14S±0.°03×169.°56E±0.°02,h236km±1km, h236km:pP-P,n2108,σ1º57/2294,mb6.3/473,235C-100D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.74**	**211**	Pn	**Pn**	**02 53 16.8**	**-0.9**
MARNC	**Mare, Loyalty**	**2.74**	**211**	P	**Pn**	**02 53 17.7**	**0.0**
YATNC	**Mamie plateau,**	**3.83**	**220**	P	**Pn**	**02 53 29.7**	**-0.5**
PINNC	**Pines Island,**	**3.98**	**209**		**Pn**	**02 53 31.3**	**-0.6**
PINNC	**Pines Island,**	**3.98**	**209**	P	**Pn**	**02 53 32.4**	**+0.5**
DZM	**Mont Dzumac**	**4.13**	**224**	P	**Pn**	**02 53 35.7**	**+1.9**
	1μm,0.6s,baz=54,slow=14,SNR=90						
DZM				S	**S**	**02 54 27.4**	**+2.4**
ONTNC	**Ouen Toro**	**4.29**	**222**	Pn	**Pn**	**02 53 35.5**	**-0.1**
ONTNC	**Ouen Toro**	**4.29**	**222**	P	**Pn**	**02 53 36.3**	**+0.7**
ONTNC	**Ouen Toro**	**4.29**	**222**	⇑P	**Pn**	**02 53 35.9**	**+0.3**
SANVU	**Saraoutou**	**4.30**	**328**	Pn	**Pn**	**02 53 33.9**	**-1.9**
SANVU	**Saraoutou**	**4.30**	**328**	P	**Pn**	**02 53 35.3**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.16**	**253**	P	**Pn**	**02 53 48.2**	**+1.9**
MSVF	**Nonsavu**	**8.18**	**82**	Pn	**Pn**	**02 54 28.1**	**+3.4**
MSVF	**Nonsavu**	**8.18**	**82**	P	**Pn**	**02 54 28.7**	**+4.0**
MSVF	**Nonsavu**	**8.18**	**82**	*d*P	**Pn**	**02 54 28.4**	**+3.7**
MSVF	**Nonsavu**	**8.18**	**82**	⇓P	**Pn**	**02 54 28.5**	**+3.8**
NFK	**Norfolk Island**	**9.97**	**188**	P	**P**	**02 54 50.9**	**-2.9**
NFK	**Norfolk Island**	**9.97**	**188**	⇑P	**Pn**	**02 54 49.4**	**+2.1**
FUTU	**Fugatoga**	**12.74**	**70**		**P**	**02 55 25.8**	**+1.0**
FUTU	**Fugatoga**	**12.74**	**70**	P	**P**	**02 55 26.2**	**+1.5**
HNR	**Honiara**	**13.40**	**315**		**Pn**	**02 55 29.8**	**-0.6**
HNR	**Honiara**	**13.40**	**315**	P	**Pn**	**02 55 30.7**	**+0.3**
	19μm,0.6s,baz=276,slow=0.0,SNR=309						
HNR				S	**S**	**02 57 58.3**	**-0.6**
	450nm,1.0s,baz=51,slow=21,SNR=0.6						
HNR	**Honiara**	**13.40**	**315**	P	**Pn**	**02 55 29.9**	**-0.5**
HNR	**Honiara**	**13.40**	**315**	⇑P	**Pn**	**02 55 30.5**	**+0.1**
SAVO	**Savo Central**	**13.70**	**315**	P	**P**	**02 55 35.1**	**-0.3**
FUNA	**Funafuti**	**14.09**	**43**		**P**	**02 55 39.5**	**-0.2**
FUNA	**Funafuti**	**14.09**	**43**	P	**P**	**02 55 40.2**	**+0.5**
FUNA	**Funafuti**	**14.09**	**43**	⇑P	**P**	**02 55 39.9**	**+0.1**
RIZ	**Raoul Island**	**15.21**	**134**	P	**Pn**	**02 55 55.6**	**+3.4**
RAO	**Raoul Island**	**15.22**	**134**	P	**Pn**	**02 55 55.1**	**+2.8**
RAO	**Raoul Island**	**15.22**	**134**	P	**Pn**	**02 55 56.6**	**+4.2**
	500nm,0.8s,baz=106,slow=2.0,SNR=19						
RAO				S	**S**	**02 58 43.3**	**+3.0**
	92nm,0.4s,baz=286,slow=23,SNR=1.0						
RAO	**Raoul Island**	**15.22**	**134**	P	**Pn**	**02 55 56.1**	**+3.7**
RAO	**Raoul Island**	**15.22**	**134**	P	**Pn**	**02 55 55.6**	**+3.2**
GLKZ	**Green Lake**	**15.22**	**134**	P	**Pn**	**02 55 54.5**	**+2.1**
LHI	**Lord Howe Isla**	**15.54**	**215**	P	**Pn**	**02 55 56.6**	**+0.4**
LHI	**Lord Howe Isla**	**15.54**	**215**	P	**Pn**	**02 55 57.3**	**+1.1**
LHI	**Lord Howe Isla**	**15.54**	**215**	⇑P	**Pn**	**02 55 57.4**	**+1.2**
OUZ	**Omahuta**	**16.42**	**168**	P	**Pn**	**02 56 08.0**	**+1.4**
AUWSH	**Wavell State H**	**17.25**	**238**	P	**Pn**	**02 56 16.4**	**0.0**
WCZ	**Waipu Caves**	**17.26**	**167**	P	**Pn**	**02 56 17.5**	**+1.0**
GD1S	**Gladstone Soft**	**17.74**	**251**	P	**Pn**	**02 56 22.2**	**0.0**
GRZ	**Great Barrier**	**17.82**	**164**	P	**Pn**	**02 56 23.8**	**+0.8**
TWI1H	**Toowoomba 1 Ha**	**18.17**	**239**	P	**Pn**	**02 56 26.1**	**-1.3**
EIDS	**Eidsvold**	**18.18**	**247**	P	**P**	**02 56 24.9**	**+0.4**
EIDS	**Eidsvold**	**18.18**	**247**	⇓P	**Pn**	**02 56 26.2**	**-1.2**
AUNRC	**North Rockhamp**	**18.22**	**253**	P	**Pn**	**02 56 26.6**	**-1.3**
KUZ	**Kuaotunu**	**18.36**	**164**	P	**Pn**	**02 56 29.2**	**-0.2**
KUZ	**Kuaotunu**	**18.36**	**164**	P	**Pn**	**02 56 28.1**	**-1.3**
AFI	**Afiamalu**	**18.63**	**77**	P	**P**	**02 56 29.1**	**-0.4**
AFI	**Afiamalu**	**18.63**	**77**	P	**Pn**	**02 56 31.9**	**-1.0**
AFI	**Afiamalu**	**18.63**	**77**	P	**P**	**02 56 29.3**	**-0.3**
AFI	**Afiamalu**	**18.63**	**77**	⇑P	**P**	**02 56 27.5**	**-2.1**
TOZ	**Tahuroa Road**	**19.24**	**166**	P	**Pn**	**02 56 38.1**	**-1.7**
TOZ	**Tahuroa Road**	**19.24**	**166**	P	**Pn**	**02 56 38.4**	**-1.3**
NIUE	**Niue**	**19.39**	**93**	P	**P**	**02 56 37.1**	**-0.5**
NIUE	**Niue**	**19.39**	**93**	P	**P**	**02 56 38.7**	**+1.2**
NIUE	**Niue**	**19.39**	**93**	P	**P**	**02 56 37.0**	**-0.5**
NIUE	**Niue**	**19.39**	**93**	⇓P	**P**	**02 56 36.8**	**-0.8**
TGRZ	**Tauranga**	**19.43**	**164**	P	**Pn**	**02 56 40.8**	**-1.1**
WIZ	**White Island**	**19.50**	**162**	P	**Pn**	**02 56 42.0**	**-0.8**
ARMA	**Armidale**	**19.75**	**232**	P	**P**	**02 56 42.0**	**+0.6**
ARMA	**Armidale**	**19.75**	**232**	⇑P	**P**	**02 56 43.0**	**+1.6**
TLZ	**Tolley Road**	**19.82**	**166**	P	**Pn**	**02 56 45.3**	**-1.4**
HIZ	**Hauiti**	**19.85**	**168**	P	**Pn**	**02 56 44.7**	**-2.3**
HIZ	**Hauiti**	**19.85**	**168**	P	**Pn**	**02 56 45.9**	**-1.1**
MXZ	**Matakaoa Point**	**19.89**	**159**	P	**Pn**	**02 56 46.6**	**-0.9**
MXZ	**Matakaoa Point**	**19.89**	**159**	P	**Pn**	**02 56 46.1**	**-1.3**
MXZ	**Matakaoa Point**	**19.89**	**159**	P	**Pn**	**02 56 47.0**	**-0.5**
HAZ	**Te Kaha**	**19.89**	**161**	P	**Pn**	**02 56 46.2**	**-1.3**
RUGZ	**Raukumara Rang**	**20.05**	**161**	P	Pn	02 56 48.4	-1.1
RRRZ	**Republican Roa**	**20.07**	**164**	P	Pn	02 56 48.2	-1.5
URZ	**Urewera**	**20.16**	**163**	P	Pn	02 56 48.3	-2.3
	98nm,0.5s,baz=284,slow=2.7,SNR=54						
URZ				S	**S**	**03 00 23.3**	**+4.8**
	41nm,0.7s,baz=341,slow=11,SNR=7.9						
URZ				ScP	**ScP**	**03 04 04.0**	**+0.5**
	51nm,0.9s,baz=351,slow=0.2,SNR=6.3						
	98nm,0.5s						
URZ	**Urewera**	**20.16**	**163**	P	Pn	02 56 49.0	-1.6
URZ	**Urewera**	**20.16**	**163**	P	Pn	02 56 48.6	-2.0
WMGZ	**Waiomatatini S**	**20.16**	**159**	P	Pn	02 56 48.3	-2.4
ALRZ	**Allen Road**	**20.24**	**164**	P	Pn	02 56 51.5	-0.1
MUGZ	**Murupara**	**20.27**	**163**	P	Pn	02 56 51.6	-0.4
PUZ	**Puketiti**	**20.34**	**160**	P	**P**	**02 56 49.4**	**+1.9**
MWZ	**Matawai**	**20.35**	**162**	P	Pn	02 56 51.1	-1.9
VRZ	**Vera Road**	**20.42**	**168**	P	Pn	02 56 53.4	-0.4
NEZ	**North Egmont**	**20.45**	**170**	P	Pn	02 56 54.4	+0.2
RTZ	**Ruatahuna**	**20.45**	**163**	P	**P**	**02 56 50.6**	**+1.7**
RTZ	**Ruatahuna**	**20.45**	**163**	P	**P**	**02 56 51.0**	**+2.1**
KHEZ	**Kahui Hut**	**20.46**	**170**	P	Pn	02 56 51.7	-2.6
TARA	**Tarawa**	**20.63**	**10**	P	**P**	**02 56 49.8**	**-1.0**
TARA	**Tarawa**	**20.63**	**10**	P	**P**	**02 56 51.0**	**+0.2**
TARA	**Tarawa**	**20.63**	**10**	⇑P	**P**	**02 56 49.9**	**-1.0**
AUPHS	**Peel High Scho**	**20.64**	**231**	P	**P**	**02 56 52.5**	**+1.6**
NGZ	**Ngauruhoe**	**20.64**	**167**	P	Pn	02 56 55.1	-1.6
BKZ	**Black Stump Fm**	**20.84**	**165**	P	**P**	**02 56 54.1**	**+1.2**
BKZ	**Black Stump Fm**	**20.84**	**165**	P	**P**	**02 56 55.6**	**+2.7**
BKZ	**Black Stump Fm**	**20.84**	**165**	P	**P**	**02 56 55.4**	**+2.5**
KNZ	**Kokohu**	**21.03**	**162**	P	**P**	**02 56 56.4**	**+1.7**
WAZ	**Wanganui**	**21.08**	**168**	P	**P**	**02 56 58.8**	**+3.5**
TSZ	**Takapari Road**	**21.57**	**167**	P	**P**	**02 57 02.1**	**+2.0**
AUKHS	**Kincumber High**	**21.61**	**225**	P	**P**	**02 57 02.4**	**+1.9**
PXZ	**Pawanui**	**21.75**	**165**	P	**P**	**02 57 03.4**	**+1.6**
QRZ	**Quartz Range**	**21.77**	**174**	P	**P**	**02 57 05.6**	**+3.7**
QRZ	**Quartz Range**	**21.77**	**174**	P	**P**	**02 57 04.8**	**+2.9**
RIV	**Riverview**	**21.98**	**225**	⇓P	**P**	**02 57 05.5**	**+1.5**
MRZ	**Mangatainoka R**	**22.07**	**168**	P	**P**	**02 57 05.6**	**+0.9**
AULRC	**Lightning Ridg**	**22.14**	**238**	P	**P**	**02 57 07.1**	**+1.6**
SYDH	**Sydney Hard Ro**	**22.21**	**225**	P	**P**	**02 57 07.8**	**+1.7**
BFZ	**Birch Farm**	**22.23**	**166**	P	**P**	**02 57 07.0**	**+0.8**
NNZ	**Nelson**	**22.25**	**172**	P	**P**	**02 57 09.0**	**+2.7**
NNZ	**Nelson**	**22.25**	**172**	P	**P**	**02 57 09.2**	**+2.8**
SNZO	**South Karori**	**22.54**	**170**	P	**P**	**02 57 10.0**	**+1.1**
SNZO	**South Karori**	**22.54**	**170**	P	**P**	**02 57 11.7**	**+2.8**
SNZO	**South Karori**	**22.54**	**170**	⇑P	**P**	**02 57 09.8**	**+0.8**
SNZO	**South Karori**	**22.54**	**170**	P	**P**	**02 57 09.1**	**+0.2**
SNZO				S	**S**	**03 00 58.2**	**+0.2**
RABL	**Rabaul**	**22.56**	**309**	P	**P**	**02 57 09.7**	**+0.1**
RABL	**Rabaul**	**22.56**	**309**	⇓P	**P**	**02 57 07.5**	**-2.0**
DSZ	**Denniston Nort**	**22.62**	**176**	P	**P**	**02 57 12.8**	**+3.0**
THZ	**Tophouse**	**22.73**	**174**	P	**P**	**02 57 12.5**	**+1.7**
THZ	**Tophouse**	**22.73**	**174**	P	**P**	**02 57 12.8**	**+2.0**
CMWZ	**Cape Campbell**	**22.89**	**171**	P	**P**	**02 57 13.5**	**+1.3**
AUUHS	**Ulladulla High**	**23.36**	**222**	P	**P**	**02 57 18.0**	**+1.5**
KHZ	**Kahutara**	**23.45**	**173**	P	**P**	**02 57 18.5**	**+1.2**
KHZ	**Kahutara**	**23.45**	**173**	P	**P**	**02 57 18.8**	**+1.5**
KHZ	**Kahutara**	**23.45**	**173**	P	**P**	**02 57 18.7**	**+1.5**
KHZ	**Kahutara**	**23.45**	**173**	⇓P	**P**	**02 57 18.2**	**+1.0**
INZ	**Inchbonnie**	**23.57**	**177**	P	**P**	**02 57 19.9**	**+1.6**
LTZ	**Lake Taylor**	**23.68**	**175**	P	**P**	**02 57 21.5**	**+2.1**
PMG	**Port Moresby**	**23.73**	**291**	P	**P**	**02 57 20.3**	**+0.1**
PMG	**Port Moresby**	**23.73**	**291**	P	**P**	**02 57 20.8**	**+0.6**
	1μm,0.9s,baz=98,slow=5.7,SNR=167						
PMG				S	**S**	**03 01 18.2**	**+0.4**
	86nm,1.2s,baz=350,slow=21,SNR=1.7						
	1μm,0.9s						
PMG	**Port Moresby**	**23.73**	**291**	P	**P**	**02 57 21.1**	**+1.0**
PMG	**Port Moresby**	**23.73**	**291**	P	**P**	**02 57 20.9**	**+0.8**
PMG	**Port Moresby**	**23.73**	**291**	⇓P	**P**	**02 57 20.7**	**+0.6**
WVZ	**Waitaha Valley**	**23.89**	**178**	P	**P**	**02 57 23.1**	**+1.9**
MTSU	**Mount Surprise**	**23.93**	**268**	P	**P**	**02 57 23.6**	**+1.6**
CNB	**Canberra Magne**	**24.05**	**224**	P	**P**	**02 57 24.5**	**+1.6**
AUSIS	**Research Schoo**	**24.20**	**224**	P	**P**	**02 57 25.9**	**+1.7**
OXZ	**Oxford**	**24.21**	**176**	P	**P**	**02 57 26.9**	**+2.8**
AUMTS	**Mt Stromlo**	**24.29**	**224**	P	**P**	**02 57 26.5**	**+1.4**
CAN	**Canberra**	**24.29**	**224**	P	**P**	**02 57 25.5**	**+0.4**
CAN	**Canberra**	**24.29**	**224**	P	**P**	**02 57 26.5**	**+1.4**
CAN	**Canberra**	**24.29**	**224**	⇓P	**P**	**02 57 26.2**	**+1.1**
FOZ	**Fox Glacier**	**24.32**	**180**	P	**P**	**02 57 27.3**	**+2.2**
QLP	**Quilpie**	**24.45**	**248**	P	**P**	**02 57 27.3**	**+0.7**
QLP	**Quilpie**	**24.45**	**248**	⇑P	**P**	**02 57 27.0**	**+0.4**
RPZ	**Rata Peaks**	**24.54**	**177**	P	**P**	**02 57 30.0**	**+2.9**
RPZ	**Rata Peaks**	**24.54**	**177**	P	**P**	**02 57 29.1**	**+2.0**
CMSA	**Cobar Meteorol**	**24.79**	**235**	P	**P**	**02 57 30.5**	**+1.0**
JCZ	**Jackson Bay**	**24.87**	**181**	P	**P**	**02 57 33.2**	**+3.0**
JCZ	**Jackson Bay**	**24.87**	**181**	P	**P**	**02 57 32.5**	**+2.3**
TMZ	**Timaru**	**25.20**	**178**	P	**P**	**02 57 34.3**	**+1.2**
AUSMG	**Snowy Mountain**	**25.20**	**223**	P	**P**	**02 57 35.1**	**+1.8**
COEN	**Coen**	**25.79**	**278**	P	**P**	**02 57 38.4**	**-0.4**
COEN				IAmb	IAmb	02 57 41.4	
	comp=Z,935nm,1.2s						
COEN	**Coen**	**25.79**	**278**	P	**P**	**02 57 39.4**	**+0.7**
COEN	**Coen**	**25.79**	**278**	⇓P	**P**	**02 57 39.2**	**+0.4**
ODZ	**Otahua Downs**	**25.85**	**178**	P	**P**	**02 57 41.1**	**+2.2**
ODZ	**Otahua Downs**	**25.85**	**178**	P	**P**	**02 57 41.2**	**+2.3**
ODZ	**Otahua Downs**	**25.85**	**178**	⇓P	**P**	**02 57 40.0**	**+1.1**
MLZ	**Mavora Lakes**	**26.18**	**182**	P	**P**	**

baz=208,slow=5.9,SNR=16
H11S3 WAKE ISLAND Hy 37.50 356 P **P** **02 59 19.9 -0.3**
baz=208,slow=5.9,SNR=9.6
H11S1 WAKE ISLAND Hy 37.52 356 P **P** **02 59 20.0 -0.3**
baz=208,slow=5.9,SNR=16
DRS Darwin Rock St 37.73 274 P **P** **02 59 22.3 -0.2**
WAKE Wake Island 38.29 356 **P** **02 59 26.3 -0.7**
TBI Tubuai 38.34 104 *e*P **P** **02 59 28.8 +1.3**
comp=Z,296nm,1.1s
TBI *e*pP **pP** **03 00 14.3 -0.8**
comp=Z,20μm,28.5s
TBI *e*S **S** **03 04 58.7 -5.5**
comp=Z,49μm,27.8s
TBI *es*S **sS** **03 06 25.9 -4.2**
comp=Z,17μm,24.0s
TBI *e*SS **SS** **03 08 04.8 +1.2**
comp=Z,58μm,23.0s
XMAS Kiritimati 38.66 61 P **P** **02 59 30.9 +0.7**
XMAS Kiritimati 38.66 61 P **P** **02 59 32.0 +1.8**
XMAS Kiritimati 38.66 61 ⇑P **P** **02 59 31.3 +1.1**
XMAS Kiritimati 38.66 61 P **P** **02 59 31.3 +1.1**
XMAS pP **pP** **03 00 18.7 +0.7**
H11N1 WAKE ISLAND Hy 38.70 356 P **P** **02 59 30.0 -0.1**
baz=186,slow=11,SNR=11
H11N3 WAKE ISLAND Hy 38.70 356 P **P** **02 59 30.2 0.0**
baz=186,slow=11,SNR=13
H11N2 WAKE ISLAND Hy 38.71 356 P **P** **02 59 30.2 0.0**
baz=186,slow=11,SNR=19
SAUI Saumlaki 38.72 281 P **P** **02 59 31.5 +0.8**
PAE Paea 38.74 95 *e*P **P** **02 59 32.3 +1.4**
comp=Z,35nm,1.1s
PAE *e*S **S** **03 05 07.7 -2.6**
comp=Z,865nm,23.3s
PAE *e*SS **SS** **03 08 08.5 -3.2**
comp=Z,4μm,23.7s
PPT2 Papeete2 38.76 94 *e*P **P** **02 59 29.0 -2.1**
comp=Z,143nm,1.2s
PPT2 *e*pP **pP** **03 00 15.7 -3.1**
comp=Z,6μm,26.8s
PPT2 *e*S S 03 04 59.1 -12
comp=Z,11μm,26.2s
PPT2 *es*S sS 03 06 27.3 -9.5
comp=Z,4μm,23.2s
PPT2 *e*SS **SS** **03 08 11.6 -0.6**
comp=Z,16μm,24.2s
PPT Papeete 38.76 94 P **P** **02 59 32.2 +1.1**
comp=Z,108nm,0.7s,baz=22,slow=0.1,SNR=22
PPT PcP **PcP** **03 01 40.0 +2.3**
comp=Z,79nm,0.9s,baz=262,slow=20,SNR=3.1
comp=Z,108nm,0.7s
PPTF Pamatai, Papee 38.77 94 P **P** **02 59 31.3 +0.1**
PPTF Pamatai, Papee 38.77 94 P **P** **02 59 33.9 +2.7**
PPTF Pamatai, Papee 38.77 94 ⇓P **P** **02 59 32.1 +1.0**
RKPI Ransiki, Papua 38.82 293 P **P** **02 59 31.8 +0.2**
comp=Z,23μmcomp=Z,14μmcomp=Z,800nm,1.3s
TIAR Tiarei 38.98 94 *e*P **P** **02 59 34.2 +1.3**
comp=Z,235nm,1.0s
TIAR *e*S **S** **03 05 10.9 -3.0**
comp=Z,7μm,25.0s
TIAR *e*SS **SS** **03 08 14.4 -2.1**
comp=Z,18μm,23.5s
KNRA Kununurra 39.02 269 IAmb IAmb 02 59 34.7
comp=Z,1μm,1.2s
TVO Taravao 39.03 95 *e*P **P** **02 59 36.1 +2.7**
comp=Z,40nm,0.8s
TVO *e*S **S** **03 05 11.8 -3.0**
comp=Z,1μm,23.4s
TVO *e*SS **SS** **03 08 14.0 -3.6**
comp=Z,4μm,24.1s
FAKI Fak Fak 39.87 289 P **P** **02 59 40.0 -0.2**
FAKI Fak Fak 39.87 289 P **P** **02 59 39.1 -1.1**
comp=Z,20μmcomp=Z,6μmcomp=Z,380nm,1.3s
FAKI Fak Fak 39.87 289 ⇓P **P** **02 59 39.5 -0.7**
GUMO Guam 40.61 321 P **P** **02 59 46.6 +0.5**
GUMO IAmb IAmb 02 59 48.2
comp=Z,3μm,1.9s
GUMO Guam 40.61 321 S **S** **03 05 38.3 +0.4**
comp=Z,68nm,0.3s,baz=0.0,slow=20,SNR=1.4
PMOR Pomariorio Ree 40.81 91 *e*P **P** **02 59 47.9 0.0**
comp=Z,158nm,0.9s
PMOR *e*S **S** **03 05 37.5 -3.6**
comp=Z,6μm,25.4s
PMOR *e*SS **SS** **03 08 51.6 -0.9**
comp=Z,10μm,26.1s
VAH Vaihoa 41.02 91 *e*P **P** **02 59 50.3 +0.7**
comp=Z,40nm,0.9s
JOHN Johnston Islan 41.15 31 P **P** **02 59 50.5 0.0**
JOHN Johnston Islan 41.15 31 P **P** **02 59 51.8 +1.2**
BNDI Bandanaira 41.30 285 P **P** **02 59 51.8 -0.2**
BNDI Bandanaira 41.30 285 P **P** **02 59 50.5 -1.5**
comp=Z,15μmcomp=Z,717nm,1.2s
BNDI Bandanaira 41.30 285 ⇓P **P** **02 59 50.9 -1.1**
FITZ Fitzroy Crossi 41.55 264 P **P** **02 59 54.3 +0.3**
comp=Z,997nm,0.8s,baz=105,slow=6.2,SNR=1337
FITZ S **S** **03 05 51.4 -0.6**
comp=Z,260nm,1.3s,baz=100,slow=15,SNR=14
comp=Z,997nm,0.8s
FITZ Fitzroy Crossi 41.55 264 P **P** **02 59 54.5 +0.6**
FITZ Fitzroy Crossi 41.55 264 ⇓P **P** **02 59 54.2 +0.3**
SWI Sorong 41.69 291 P **P** **02 59 53.6 -1.5**
comp=Z,18μmcomp=Z,8μmcomp=Z,619nm,1.5s
AAI Ambon 43.20 286 P **P** **03 00 06.9 -0.3**
comp=Z,17μmcomp=Z,4μmcomp=Z,372nm,1.3s
NLAI Namlea 44.38 286 P **P** **03 00 16.4 -0.2**
comp=Z,18μmcomp=Z,7μmcomp=Z,634nm,1.4s
SOEI Soe 44.72 275 P **P** **03 00 19.9 +0.5**
SOEI S **S** **03 06 37.7 -0.8**
SOEI Soe 44.72 275 P **P** **03 00 19.8 +0.4**
SOEI IAmb IAmb 03 00 27.4
comp=Z,2μm,1.5s
SOEI Soe 44.72 275 P **P** **03 00 20.1 +0.6**
SOEI Soe 44.72 275 P **P** **03 00 20.3 +0.8**
comp=Z,8μmcomp=Z,644nm,1.1s
BATI Baumata 45.16 275 P **P** **03 00 24.0 +1.2**
comp=Z,1μm,0.9s,baz=165,slow=1.3,SNR=75
BATI S **S** **03 06 46.1 +1.6**
comp=Z,52nm,0.8s,baz=118,slow=19,SNR=4.4
comp=Z,1μm,0.9s
BATI Baumata 45.16 275 P **P** **03 00 23.1 +0.3**
comp=Z,17μmcomp=Z,9μmcomp=Z,1μm,1.3s
SANI Sanana 45.88 286 S **S** **03 06 53.1 -1.6**
SANI P **S** **03 00 27.8 -0.6**
SANI Sanana 45.88 286 P **P** **03 00 28.6 +0.2**
SANI Sanana 45.88 286 P **P** **03 00 28.1 -0.3**
comp=Z,21μmcomp=Z,6μmcomp=Z,365nm,1.6s
TNTI Ternate 45.89 291 P **P** **03 00 28.6 +0.1**
TNTI Ternate 45.89 291 P **P** **03 00 28.9 +0.5**
PSA00 Pilbara Seismi 46.52 258 P **P** **03 00 32.9 -0.4**
PSA00 Pilbara Seismi 46.52 258 P **P** **03 00 32.4 -0.8**
PSA00 IAmb IAmb 03 00 35.4
comp=Z,692nm,0.9s
PSA00 Pilbara Seismi 46.52 258 P **P** **03 00 33.5 +0.3**
MBWA Marble Bar 46.67 259 P **P** **03 00 34.2 -0.2**
MBWA Marble Bar 46.67 259 P **P** **03 00 34.9 +0.5**
MBWA Marble Bar 46.67 259 ⇑P **P** **03 00 33.8 -0.6**
MBWA Marble Bar 46.67 259 P **P** **03 00 34.6 +0.2**
MBWA S **S** **03 07 05.8 0.0**
MMRI Maumere 46.97 276 P **P** **03 00 37.0 +0.1**
MMRI Maumere 46.97 276 P **P** **03 00 36.4 -0.5**
comp=Z,6μmcomp=Z,15μmcomp=Z,598nm,1.3s
MMRI Maumere 46.97 276 ⇓P **P** **03 00 36.6 -0.2**
MEEK Meekatharra 47.27 251 P **P** **03 00 39.2 +0.1**
EDFI Ende, Flores 47.45 276 P **P** **03 00 39.5 -1.2**
comp=Z,15μmcomp=Z,4μmcomp=Z,342nm,1.2s
BASI Baing, Sumba 48.07 273 P **P** **03 00 45.3 0.0**
comp=Z,16μmcomp=Z,17μmcomp=Z,2μm,1.4s
WSI Waingapu 48.49 274 P **P** **03 00 48.4 -0.1**
comp=Z,14μmcomp=Z,14μmcomp=Z,807nm,1.1s
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 47.8 -0.7**
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 48.1 -0.5**
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 48.8 +0.3**
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 48.6 +0.1**
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 47.8 -0.7**
NWAO pmax pmax
comp=Z,351nm,1.0s
NWAO Narrogin (SRO) 48.52 243 P **P** **03 00 48.1 -0.5**
NWAO pP **pP** **03 01 38.8 +1.3**
NWAO sP **sP** **03 02 03.7 +0.4**
NWAO PcP **PcP** **03 02 08.9 -1.7**
MIDW Midway 48.74 15 P **P** **03 00 49.1 -0.9**
MIDW Midway 48.74 15 P **P** **03 00 51.1 +1.1**
KMSI Cibinong 48.81 288 P **P** **03 00 50.0 -0.9**
comp=Z,17μmcomp=Z,12μmcomp=Z,764nm,1.3s
SGSI Sangihe 48.88 293 P **P** **03 00 51.7 +0.2**
BLDU Ballidu 48.90 246 P **P** **03 00 51.3 -0.1**
LUWI Luwuk 49.22 286 P **P** **03 00 54.4 +0.4**
LUWI S **S** **03 07 41.8 +0.1**
LUWI Luwuk 49.22 286 P **P** **03 00 54.3 +0.3**
LUWI IAmb IAmb 03 00 56.6
comp=Z,1μm,1.3s
LUWI Luwuk 49.22 286 P **P** **03 00 53.9 -0.1**
comp=Z,10μmcomp=Z,801nm,1.4s
LUWI Luwuk 49.22 286 ⇓P **P** **03 00 54.6 +0.6**
WBSI Waikabubak, Su 49.35 274 P **P** **03 00 54.8 -0.3**
comp=Z,14μmcomp=Z,9μmcomp=Z,965nm,1.2s
MUN Mundaring 49.35 244 P **P** **03 00 55.9 +1.1**
BSSI Bau Bau, Buton 49.42 278 P **P** **03 00 54.8 -0.7**
MORW Morawa 49.49 248 P **P** **03 00 56.1 +0.2**
MORW Morawa 49.49 248 ⇓P **P** **03 00 55.5 -0.4**
AUHAR St Anne's Scho 49.66 243 P **P** **03 00 58.4 +1.3**
TAOE Nuku Hiva Isla 49.71 85 *e*P **P** **03 00 59.3 +1.5**
comp=Z,519nm,1.1s
TAOE *e*S **S** **03 07 45.4 -3.3**
comp=Z,10μm,26.2s
TAOE *e*LQ LQ 03 13 32.5
comp=Z,19μm,28.4s
TAOE *e*LR LR 03 15 32.2
comp=Z,3μm,24.2s
MTKN Mount Kenneth 49.72 244 P **P** **03 00 58.8 +1.2**
BKSI Bulukumba 50.04 279 P **P** **03 00 59.0 -1.2**
comp=Z,11μmcomp=Z,4μmcomp=Z,358nm,1.2s
AUBUS Georgiana Moll 50.11 242 P **P** **03 01 01.6 +1.1**
APSI Ampana 50.30 285 P **P** **03 01 02.6 +0.5**
comp=Z,10μmcomp=Z,706nm,1.4s
BNSI Bone 50.38 280 P **P** **03 01 02.9 +0.2**
comp=Z,15μmcomp=Z,7μmcomp=Z,558nm,1.4s
KAPI Kappang 50.49 280 P **P** **03 01 03.3 -0.3**
KAPI Kappang 50.49 280 P **P** **03 01 04.7 +1.2**
KAPI Kappang 50.49 280 *d i*P **P** **03 01 04.1 +0.5**
KAPI pmax pmax
comp=Z,941nm,1.4s
KAPI Kappang 50.49 280 ⇓P **P** **03 01 04.2 +0.5**
KAPI Kappang 50.49 280 P **P** **03 01 03.9 +0.3**
KAPI S **S** **03 07 59.1 -0.2**
KAPI Kappang 50.49 280 P **P** **03 01 04.1 +0.5**
KAPI pP **pP** **03 01 52.9 -0.7**
DAV Davao City (W) 50.55 297 P **P** **03 01 03.6 -0.4**
DAV Davao City (W) 50.55 297 P **P** **03 01 04.4 +0.4**
comp=Z,264nm,0.5s,baz=91,slow=2.8,SNR=13
DAV S **S** **03 08 00.5 +0.5**
comp=Z,220nm,0.3s,baz=137,slow=23,SNR=8.1
comp=Z,264nm,0.5s
DAV Davao City (W) 50.55 297 P **P** **03 01 05.1 +1.1**
DAV S **S** **03 07 59.6 -0.5**
DAV Davao City (W) 50.55 297 P **P** **03 01 02.0 -2.0**
MRSI Marisa 50.61 287 P **P** **03 01 02.9 -1.5**
KEKH Kekaha 50.73 38 P **P** **03 01 05.4 +0.3**
KEKH IAmb IAmb 03 01 08.3
comp=Z,3μm,1.3s
SPSI Sidrap Palu 50.85 281 P **P** **03 01 05.1 -1.2**
comp=Z,241nm,1.1s
PLAI Plampang 51.11 274 P **P** **03 01 08.6 +0.4**
PLAI Plampang 51.11 274 P **P** **03 01 07.9 -0.3**
comp=Z,16μmcomp=Z,7μmcomp=Z,575nm,1.3s
H01W1 Cape Leeuwin H 51.18 240 P **P** **03 01 09.7 +1.5**
baz=108,slow=7.2,SNR=24
H01W3 Cape Leeuwin H 51.20 240 P **P** **03 01 09.9 +1.7**
baz=108,slow=7.2,SNR=17
H01W2 Cape Leeuwin H 51.20 240 P **P** **03 01 10.1 +1.8**
baz=108,slow=7.2,SNR=19
HON Honolulu 51.24 40 P **P** **03 01 09.7 +0.8**
HON IAmb IAmb 03 01 12.2
comp=Z,1μm,1.3s
HON Honolulu 51.24 40 P **P** **03 01 09.7 +0.8**
HON pmax pmax
comp=Z,1μm,1.3s
KIP Kipapa 51.30 40 P **P** **03 01 09.6 +0.2**
KIP IAmb IAmb 03 01 11.8
comp=Z,609nm,0.7s
KIP Kipapa 51.30 40 P **P** **03 01 10.8 +1.4**
KIP Kipapa 51.30 40 P **P** **03 01 10.5 +1.1**
KIP Kipapa 51.30 40 *c i*P **P** **03 01 10.3 +0.9**
KIP pmax pmax
comp=Z,615nm,0.7s
KIP Kipapa 51.30 40 P **P** **03 01 10.0 +0.6**
KIP pP **pP** **03 02 01.3 +1.3**
MWH Mokuaweoweo 51.40 44 IAmb IAmb 03 01 13.8
comp=Z,2μm,1.4s
AIN Ainahou 51.41 44 IAmb IAmb 03 01 13.3
comp=Z,1μm,0.8s
MLH Mauna Loa 51.54 44 IAmb IAmb 03 01 14.2
comp=Z,1μm,0.9s
UWE Uwekahuna 51.55 44 IAmb IAmb 03 01 14.1
comp=Z,1μm,1.0s
POHA Pohakuloa 51.63 43 P **P** **03 01 12.7 +0.5**
POHA IAmb IAmb 03 01 14.9
comp=Z,786nm,0.8s
POHA Pohakuloa 51.63 43 P **P** **03 01 13.8 +1.6**
POHA Pohakuloa 51.63 43 ⇑P **P** **03 01 12.9 +0.8**
STCH Steam Cracks 51.63 44 IAmb IAmb 03 01 14.7
comp=Z,2μm,0.8s
RKT Rikitea 51.64 105 *e*P **P** **03 01 13.7 +1.7**
comp=Z,289nm,0.9s
RKT *e*S **S** **03 08 15.9 +1.1**
comp=Z,33μm,28.0s
RKT *es*S **sS** **03 09 42.6 -2.3**
comp=Z,19μm,24.0s
RKT *e*LQ LQ 03 14 11.8
comp=Z,52μm,28.0s
JOKA Jonika Flow 51.75 44 P **P** **03 01 13.4 +0.6**
JOKA IAmb IAmb 03 01 16.2
comp=Z,2μm,0.9s
HLK Haleakala 51.90 42 P **P** **03 01 13.9 -0.2**
HLK IAmb IAmb 03 01 17.4
comp=Z,2μm,1.3s
TOLI2 Tolitoli 51.93 287 P **P** **03 01 13.0 -1.2**
TOLI2 Tolitoli 51.93 287 P **P** **03 01 14.0 -0.2**
TWSI Taliwang, Sumb 51.98 274 P **P** **03 01 14.8 +0.1**
comp=Z,13μmcomp=Z,8μmcomp=Z,515nm,1.3s
JCJ Chichijima 53.07 329 P **P** **03 01 21.5 -0.8**
JCJ IAmb IAmb 03 01 27.0
comp=Z,1μm,1.0s
JCJ Chichijima 53.07 329 P **P** **03 01 21.2 -1.1**
comp=Z,1μm,1.0s,baz=146,slow=2.0,SNR=60
JCJ S **S** **03 08 30.4 -3.5**
comp=Z,99nm,1.1s,baz=173,slow=22,SNR=7.9
comp=Z,1μm,1.0s
JCJ Chichijima 53.07 329 P **P** **03 01 23.3 +1.0**
JCJ Chichijima 53.07 329 ⇑P **P** **03 01 21.9 -0.3**
SRBI Singaraja 53.76 274 P **P** **03 01 27.3 -0.3**
comp=Z,16μmcomp=Z,6μmcomp=Z,420nm,1.4s
BKB Balikpapan 54.52 283 P **P** **03 01 34.4 +1.3**
JAGI Jajag, Banyuwa 54.64 273 P **P** **03 01 34.4 +0.4**
JAGI Jajag, Banyuwa 54.64 273 P **P** **03 01 32.1 -1.9**
comp=Z,14μmcomp=Z,6μmcomp=Z,485nm,1.4s
JAGI Jajag, Banyuwa 54.64 273 ⇓P **P** **03 01 32.9 -1.1**
ABJI Asem Bagus 54.77 274 P **P** **03 01 35.1 +0.3**
comp=Z,15μmcomp=Z,6μmcomp=Z,479nm,1.4s
KMMI Kalianget 55.25 275 P **P** **03 01 38.5 +0.2**
comp=Z,16μmcomp=Z,5μmcomp=Z,413nm,1.4s
BBKI Banjar Baru 55.62 279 P **P** **03 01 41.3 +0.3**
comp=Z,575nm,1.5s
MYLDM Lahad Datu 55.76 290 P **P** **03 01 43.4 +1.4**
MYLDM IAmb IAmb 03 01 57.7
comp=Z,1μm,1.5s
MYLDM Lahad Datu 55.76 290 P **P** **03 01 43.1 +1.2**
MYLDM Lahad Datu 55.76 290 ⇓P **P** **03 01 43.5 +1.6**
TBJI Tambak Boyo 57.32 274 P **P** **03 01 53.5 +0.6**
NGJI Ngawi 57.51 273 P **P** **03 01 55.2 +1.0**
comp=Z,6μmcomp=Z,397nm,1.3s
PCJI Pacitan 57.53 272 P **P** **03 01 53.8 -0.6**
comp=Z,11μmcomp=Z,896nm,1.5s
TGY Tagaytay City 58.16 301 P **P** **03 01 59.5 +0.8**
comp=Z,411nm,0.4s,baz=203,slow=1.6,SNR=38
TGY S **S** **03 09 41.9 +0.2**
comp=Z,160nm,0.3s,baz=159,slow=23,SNR=18
comp=Z,411nm,0.4s
UGM Wanagama 58.23 272 IAmb IAmb 03 02 02.0
comp=Z,541nm,1.1s
UGM Wanagama 58.23 272 P **P** **03 01 59.9 +0.6**
YOGI Yogyakarta 58.48 273 P **P** **03 02 01.6 +0.6**
comp=Z,11μmcomp=Z,11μmcomp=Z,1μm,1.3s
VNDA Vanda 58.54 182 P **P** **03 02 00.6 +0.2**
VNDA Vanda 58.54 182 P **P** **03 02 01.2 +0.8**
comp=Z,106nm,1.0s,baz=358,slow=7.6,SNR=177
VNDA S **S** **03 09 47.4 +2.6**
comp=Z,2.4nm,1.0s,baz=39,slow=24,SNR=9.2
VNDA PKPPKP P'P'df 03 31 29.2 -10
comp=Z,2.5nm,1.0s,baz=187,slow=1.7,SNR=8.9
comp=Z,106nm,1.0s
SMRI Semarang 58.57 273 IAmb IAmb 03 02 04.4
comp=Z,2μm,1.9s
SMRI Semarang 58.57 273 P **P** **03 02 02.6 +1.0**
SMRI Semarang 58.57 273 P **P** **03 02 01.6 0.0**
comp=Z,15μmcomp=Z,10μmcomp=Z,550nm,1.8s
SBA Scott Base 58.77 181 P **P** **03 02 03.3 +1.4**
SBA IAmb IAmb 03 02 05.6
comp=Z,583nm,1.1s
SBA Scott Base 58.77 181 P **P** **03 02 03.3 +1.4**
SBA pmax pmax
comp=Z,583nm,1.1s
JHJ Hachijo jima 2 59.24 331 P **P** **03 02 07.4 +1.7**
comp=Z,230nm,0.6s,baz=186,slow=7.9,SNR=2.4
comp=Z,230nm,0.6s
KPJI Karang Pucung 59.91 273 P **P** **03 02 09.9 -0.9**
comp=Z,13μmcomp=Z,7μmcomp=Z,458nm,1.5s
SBUM Sibu 60.27 284 P **P** **03 02 13.4 +0.3**
SBUM Sibu 60.27 284 P **P** **03 02 14.3 +1.1**
SBUM Sibu 60.27 284 ⇓P **P** **03 02 13.9 +0.7**
CASY Casey 60.34 204 P **P** **03 02 13.1 +0.3**
CASY Casey 60.34 204 ⇑P **P** **03 02 13.0 +0.3**
JOW Kunigami 60.76 317 IAmb IAmb 03 02 22.1
comp=Z,469nm,0.9s
JOW Kunigami 60.76 317 P **P** **03 02 17.4 +1.1**
comp=Z,352nm,0.8s,baz=169,slow=6.0,SNR=30
JOW PcP **PcP** **03 02 57.5 -0.2**
comp=Z,119nm,0.8s,baz=147,slow=6.8,SNR=4.6
comp=Z,352nm,0.8s
JOW Kunigami 60.76 317 P **P** **03 02 17.5 +1.3**
JOW Kunigami 60.76 317 ⇑P **P** **03 02 17.2 +1.1**
JOW Kunigami 60.76 317 P **P** **03 02 17.1 +0.9**
CCD Concordia, Ant 61.06 192 P **P** **03 02 18.4 +0.4**
CCD PcP **PcP** **03 02 59.1 +0.4**
BBJI Bungbulang 61.08 272 P **P** **03 02 18.7 -0.1**
JSG Sagara 61.27 331 P **P** **03 02 19.6 +0.2**
LEM Lembang 61.31 273 P **P** **03 02 20.5 +0.1**
comp=Z,1μm,1.3s
JOD2 Odawara 2 61.34 332 P **P** **03 02 20.0 0.0**
CNJI Cibinong 61.62 272 P **P** **03 02 19.4 -2.9**
comp=Z,5μmcomp=Z,473nm,1.3s
KSM Kuching 61.64 283 P **P** **03 02 22.6 +0.2**
KSM Kuching 61.64 283 ⇓P **P** **03 02 22.8 +0.4**
JYT Yasato 61.67 333 P **P** **03 02 23.1 +1.0**
JIE Ise 61.73 329 P **P** **03 02 23.2 +0.7**
JRY Ryogami san 62.06 332 P **P** **03 02 25.2 +0.5**
XMI Christmas Isla 62.07 268 P **P** **03 02 26.0 +0.7**
XMI Christmas Isla 62.07 268 ⇑P **P** **03 02 26.1 +0.7**
SKJI Sukabumi 62.26 272 P **P** **03 02 26.1 -0.4**
INU Inuyama 62.36 330 P **P** **03 02 26.5 -0.2**
INU IAmb IAmb 03 02 29.1
comp=Z,810nm,1.4s
INU Inuyama 62.36 330 P **P** **03 02 27.6 +0.9**
JGF Kuroka 62.41 331 IAmb IAmb 03 02 28.3
comp=Z,695nm,1.6s
JGF Kuroka 62.41 331 P **P** **03 02 28.1 +1.0**
JGF Kuroka 62.41 331 P **P** **03 02 27.4 +0.3**
TPI Tanjungpandan 62.59 277 P **P** **03 02 27.5 -1.2**
comp=Z,12μmcomp=Z,4μmcomp=Z,302nm,1.5s
JMN Monobe 62.62 327 IAmb IAmb 03 02 31.2
comp=Z,996nm,1.3s
JMN Monobe 62.62 327 P **P** **03 02 29.6 +1.1**
JMN Monobe 62.62 327 ⇑P **P** **03 02 29.2 +0.8**
YOJ Yonaguni jima 62.72 312 IAmb IAmb 03 02 31.2
comp=Z,567nm,0.9s
YOJ Yonaguni jima 62.72 312 P **P** **03 02 30.6 +1.3**
YOJ Yonaguni jima 62.72 312 ⇑P **P** **03 02 29.9 +0.6**
JSU Suzuyama 62.79 323 P **P** **03 02 30.3 +0.6**
MJAR Matsushiro Arr 62.80 332 P **P** **03 02 29.4 -0.3**
MJAR IAmb IAmb 03 02 31.5
comp=Z,745nm,1.3s
MJAR Matsushiro Arr 62.80 332 P **P** **03 02 29.7 +0.1**
comp=Z,366nm,1.1s,baz=164,slow=7.1,SNR=122
MJAR S **S** **03 10 37.9 -1.8**
comp=Z,1.0nm,0.3s,baz=105,slow=5.3,SNR=4.5
MJAR PKPPKP **P'P'df** **03 31 24.7 -3.7**
comp=Z,0.7nm,0.3s,baz=339,slow=3.1,SNR=4.2
comp=Z,366nm,1.1s
MAJO Matsushiro 62.80 332 P **P** **03 02 29.3 -0.4**
MAJO IAmb IAmb 03 02 31.6
comp=Z,1μm,1.5s
MAJO Matsushiro 62.80 332 P **P** **03 02 29.8 +0.2**
MAJO Matsushiro 62.80 332 *c i*P **P** **03 02 30.1 +0.5**
MAJO pmax pmax
comp=Z,987nm,1.5s
MAJO Matsushiro 62.80 332 ⇑P **P** **03 02 29.9 +0.2**
MAJO Matsushiro 62.80 332 P **P** **03 02 29.4 -0.2**
MAJO S **S** **03 10 41.0 +1.2**
MAT Matsushiro 62.80 332 P **P** **03 02 29.8 +0.2**
MJB9 Matsu-Tunnel 62.81 332 IAmb IAmb 03 02 32.5
comp=Z,1μm,1.5s
JMM Marumori 62.82 335 IAmb IAmb 03 02 35.2
comp=Z,622nm,0.9s
JMM Marumori 62.82 335 P **P** **03 02 30.4 +0.7**
JMM Marumori 62.82 335 P **P** **03 02 30.5 +0.9**
SBJI Serang 62.93 273 P **P** **03 02 30.5 -0.4**
JGN Niukaw 62.94 331 P **P** **03 02 30.9 +0.3**
TWGBT Beinan 63.09 309 P **P** **03 02 32.0 +0.3**
CGJI Cibinong 63.19 272 P **P** **03 02 31.9 -0.7**
YULB Yu-li 63.28 310 P **P** **03 02 33.2 +0.2**
NACB Ninganchiao 63.54 311 IAmb IAmb 03 02 36.3
comp=Z,702nm,1.1s
NACB Ninganchiao 63.54 311 P **P** **03 02 35.1 +0.4**
TPUB Ta-pu 63.71 309 P **P** **03 02 34.5 -1.3**
TPUB IAmb IAmb 03 02 39.8
comp=Z,465nm,0.8s
TPUB Ta-pu 63.71 309 P **P** **03 02 36.0 +0.2**
JNU Nakatsue 63.76 324 IAmb IAmb 03 02 38.0
comp=Z,528nm,1.1s
JNU Nakatsue 63.76 324 P **P** **03 02 36.4 +0.3**
comp=Z,277nm,0.9s,baz=89,slow=0.5,SNR=46
comp=Z,277nm,0.9s
JNU Nakatsue 63.76 324 P **P** **03 02 36.6 +0.6**
JNU Nakatsue 63.76 324 ⇑P **P** **03 02 36.2 +0.2**
JNU Nakatsue 63.76 324 P **P** **03 02 36.3 +0.3**
SSLB Suanglung 63.77 310 IAmb IAmb 03 02 40.2
comp=Z,435nm,0.9s
SSLB Suanglung 63.77 310 P **P** **03 02 36.3 +0.1**
JYA Atsumi 63.88 334 P **P** **03 02 37.8 +1.2**
JHS Saijyo 64.00 327 P **P** **03 02 38.2 +0.7**
BLSI Bandar Lampung 64.00 273 P **P** **03 02 37.2 -0.8**
YHNB Yeheng 64.01 311 IAmb IAmb 03 02 43.3
comp=Z,1μm,1.2s
YHNB Yeheng 64.01 311 P **P** **03 02 38.5 +0.7**
JOM Ohasama 64.01 336 P **P** **03 02 38.1 +0.7**
JSD Sado 64.03 333 IAmb IAmb 03 02 40.1
comp=Z,768nm,1.2s
JSD Sado 64.03 333 P **P** **03 02 38.9 +1.4**
JSD Sado 64.03 333 ⇑P **P** **03 02 38.5 +0.9**
JSD Sado 64.03 333 P **P** **03 02 38.3 +0.8**
TATO Taipei 64.11 311 P **P** **03 02 37.7 -0.7**
TATO IAmb IAmb 03 02 40.1
comp=Z,1μm,1.1s
TATO Taipei 64.11 311 P **P** **03 02 38.6 +0.2**
TATO S **S** **03 11 00.6 +4.3**
TATO Taipei 64.11 311 P **P** **03 02 39.6 +1.2**
TATO Taipei 64.11 311 P **P** **03 02 38.5 +0.2**
KLI Kotabumi 64.53 274 P **P** **03 02 40.0 -1.4**
comp=Z,10μmcomp=Z,7μmcomp=Z,560nm,1.5s
LWLI Liwa 65.23 273 P **P** **03 02 45.3 -0.7**
JTM Tenmabayashi 65.23 336 P **P** **03 02 45.1 -0.2**
JTM IAmb IAmb 03 02 50.8
comp=Z,764nm,1.0s
JTM Tenmabayashi 65.23 336 P **P** **03 02 45.8 +0.5**
JTM Tenmabayashi 65.23 336 ⇑P **P** **03 02 42.6 -2.6**
JTM Tenmabayashi 65.23 336 P **P** **03 02 45.8 +0.5**
PMBI Palembang 65.24 276 P **P** **03 02 47.6 +1.6**
MDSI Maura Dua 65.29 274 P **P** **03 02 44.4 -1.9**
comp=Z,7μmcomp=Z,513nm,1.4s
ERM Erimo 65.56 339 P **P** **03 02 48.4 +1.0**
ERM IAmb IAmb 03 02 50.5
comp=Z,946nm,1.8s
ERM Erimo 65.56 339 P **P** **03 02 49.2 +1.9**
ERM Erimo 65.56 339 ⇑P **P** **03 02 48.3 +1.0**
ERM Erimo 65.56 339 P **P** **03 02 48.2 +0.9**
ERM S **S** **03 11 16.2 +3.0**
JEM Erimo 65.56 339 P **P** **03 02 49.3 +2.0**
JOT Ohata 65.76 337 P **P** **03 02 49.2 +0.6**
KNMB Chin-men Tao 66.04 309 P **P** **03 02 51.1 +0.3**
LHSI Lahat 66.12 274 P **P** **03 02 50.6 -1.0**
comp=Z,6μmcomp=Z,359nm,1.6s
QZH Quanzhou 66.18 310 ⇑*i*P **P** **03 02 52.3 +0.7**
QZH PcP **PcP** **03 03 20.6 +0.7**
QZH pP **pP** **03 03 46.4 +0.9**
QZH sP **sP** **03 04 10.0 -0.9**
QZH S **S** **03 11 19.0 -2.3**
QZH ScS **ScS** **03 12 25.1 0.0**

QZH pmax pmax
comp=Z,320nm,1.7s
QZH pmax pmax
comp=Z,4μm,5.4s
QZH LR LR
comp=Z,6μm,18.6s
DSRI Dabo 66.26 278 P **P 03 02 52.5 0.0**
comp=Z,12μmcomp=Z,6μmcomp=Z,485nm,1.4s
MNAI Manna 66.48 274 P **P 03 02 53.0 -0.8**
MNAI Manna 66.48 274 P **P 03 02 54.3 +0.4**
MNAI Manna 66.48 274 P **P 03 02 53.1 -0.8**
MNAI Manna 66.48 274 ⇑P **P 03 02 53.6 -0.3**
YUK Yuzh-Kuril'sk 66.50 342*d i*P **P 03 02 53.7 +0.4**
YUK *i* *PP **pwP 03 03 48.5 -0.8**
YUK *e* 03 05 25.7
YUK *i* S **S 03 11 25.9 +1.4**
YUK pmax pmax
comp=Z,1μm,1.0s
YUK pmax pmax
comp=E,235nm,0.6s
YUK pmax pmax
comp=Z,2μm,2.0s
JEW Eniwo 66.88 338 P **P 03 02 56.5 +0.8**
KUR Kuril'sk 67.03 344*c i*P **P 03 02 56.7 +0.1**
KUR *i* S **S 03 11 32.7 +1.9**
KUR *e*SS **SS 03 15 54.4 -0.7**
KUR pmax pmax
comp=E,280nm,1.4s
KUR pmax pmax
comp=Z,4μm,1.4s
KUR pmax pmax
comp=N,981nm,1.3s
KUR pmax pmax
comp=Z,14μm,4.9s
KUR MLR MLR
comp=Z,2μm,13.0s
KUR MLR MLR
comp=N,1μm,14.0s
JSH Shimam 67.22 337 P **P 03 02 58.7 +0.8**
JMP Maruseppu 67.26 340 P **P 03 02 59.5 +1.4**
JKA Kamikawa-asahi 67.61 339 IAmb IAmb 03 03 07.3
comp=Z,1μm,1.2s
ASAJ Asahikawa 67.61 339 P **P 03 03 02.2 +2.0**
comp=Z,329nm,0.6s,baz=215,slow=7.7,SNR=157
ASAJ S **S 03 11 41.3 +3.6**
comp=Z,2.7nm,0.3s,baz=90,slow=29,SNR=6.2
comp=Z,329nm,0.6s
ASAJ Asahikawa 67.61 339 P **P 03 03 02.0 +1.7**
DLV Lat 67.63 292 IAmb IAmb 03 03 04.4
comp=Z,1μm,1.8s
DLV Lat 67.63 292 P **P 03 03 01.9 +0.7**
BTDF Bukit Timah Da 67.67 280 P **P 03 03 02.3 +1.0**
MYKOM Kota Tinggi 67.75 280 P **P 03 03 03.0 +1.2**
MYKOM Kota Tinggi 67.75 280 ⇑P **P 03 03 02.6 +0.8**
HKC Hong Kong Obse 68.01 305 ⇑P **P 03 03 05.0 +1.8**
HKPS Hong Kong Po S 68.02 305 P **P 03 03 04.8 +1.5**
TJN Taejon 68.11 324 P **P 03 03 03.2 -0.3**
TJN Taejon 68.11 324 P **P 03 03 04.7 +1.2**
TJN Taejon 68.11 324*c i*P **P 03 03 04.0 +0.5**
TJN pmax pmax
comp=Z,32nm,1.5s
SSE Sheshan 68.20 316 P **P 03 03 03.8 -0.4**
SSE pP **pP 03 03 56.8 -1.5**
SSE sP **sP 03 04 23.6 0.0**
SSE S **S 03 11 43.3 -2.0**
SSE SKS **SKSac 03 12 40.3 +0.4**
SSE pmax pmax
comp=Z,100nm,1.3s
SSE pmax pmax
comp=Z,2μm,3.5s
SSE Sheshan 68.20 316 P **P 03 03 04.1 -0.1**
SSE PcP **PcP 03 03 28.8 +0.5**
SSE sP **sP 03 04 23.0 -0.6**
KSRS Korea Array 68.59 325 P **P 03 03 07.2 +0.8**
comp=Z,45nm,0.8s,baz=149,slow=5.7,SNR=128
KSRS S **S 03 11 51.9 +2.4**
comp=Z,2.1nm,0.9s,baz=161,slow=15,SNR=4.1
KSRS PKP2bc **P'P'bc 03 31 17.8 -2.2**
comp=Z,13nm,1.1s,baz=305,slow=2.2,SNR=16
comp=Z,45nm,0.8s
KSAR Wonju Array Be 68.60 325 P **P 03 03 06.6 0.0**
KSAR Wonju Array Be 68.60 325 P **P 03 03 06.6 0.0**
KS19 Wonju Array Si 68.66 325 IAmb IAmb 03 03 09.3
comp=Z,1μm,1.7s
GZH Guangzhou 69.08 305 P **P 03 03 11.4 +1.6**
GZH pP **pP 03 04 03.8 -0.3**
GZH sP **sP 03 04 29.8 +0.5**
GZH S **S 03 11 58.1 +2.3**
GZH pmax pmax
comp=Z,410nm,1.7s
INCN Inchon 69.31 325 P **P 03 03 11.5 +0.6**
INCN IAmb IAmb 03 03 13.7
comp=Z,2μm,1.6s
INCN Inchon 69.31 325 P **P 03 03 11.7 +0.8**
INCN Inchon 69.31 325 ⇑P **P 03 03 11.8 +0.8**
PPSI Pulau Pagai 69.78 274 P **P 03 03 14.8 +0.5**
comp=Z,15μmcomp=Z,886nm,1.7s
QIZ Qiongzhong 69.79 299 P **P 03 03 15.3 +1.1**
QIZ pP **pP 03 04 07.8 -1.0**
QIZ S **S 03 12 07.0 +2.7**
QIZ sS **sS 03 13 39.3 +1.4**
QIZ pmax pmax
comp=Z,220nm,1.5s
QIZ pmax pmax
comp=Z,3μm,4.8s
QIZ Qiongzhong 69.79 299 P **P 03 03 15.8 +1.6**
COCO West Island 69.94 264 P **P 03 03 17.0 +1.7**
COCO West Island 69.94 264 P **P 03 03 16.1 +0.8**
COCO West Island 69.94 264 P **P 03 03 17.0 +1.7**
COCO pmax pmax
comp=Z,3μm,1.9s
YSS Yuzhno-Sakhali 70.08 341 P **P 03 03 16.8 +1.4**
YSS IAmb IAmb 03 03 19.0
comp=Z,844nm,1.1s
YSS Yuzhno-Sakhali 70.08 341 P **P 03 03 16.5 +1.1**
YSS Yuzhno-Sakhali 70.08 341*α i*P **P 03 03 17.2 +1.9**
YSS *e* 03 03 36.6
YSS *e**PP **pwP 03 04 12.1 +0.2**
YSS *e**SP **sP 03 04 38.2 +3.6**
YSS *e* 03 05 51.6
YSS *e*S **S 03 12 07.5 +0.9**
YSS *e*SS **SS 03 16 38.0 -3.9**
YSS pmax pmax
comp=Z,12μm,5.4s
YSS pmax pmax
comp=N,4μm,4.5s
YSS pmax pmax
comp=E,1μm,2.0s
YSS pmax pmax
comp=Z,640nm,1.1s
YSS pmax pmax
comp=N,280nm,1.0s
YSS smax smax
comp=N,11μm,10.8s
YSS smax smax
comp=E,10μm,7.0s
YSS Yuzhno-Sakhali 70.08 341 ⇑P **P 03 03 17.2 +1.9**
NJ2 Nanjing 70.34 316⇑*i*P **P 03 03 17.8 +0.5**
NJ2 PcP **PcP 03 03 38.1 +0.8**
NJ2 pP **pP 03 04 11.1 -0.6**
NJ2 S **S 03 12 11.3 +1.1**
NJ2 SS **SS 03 16 44.9 -1.6**
NJ2 pmax pmax
comp=E,290nm,1.4s
NJ2 pmax pmax
comp=E,5μm,5.5s
SKR Severo-Kuril's 70.52 351*α i*P **P 03 03 18.4 +0.5**
SKR *i* S **S 03 12 14.0 +2.6**
SKR pmax pmax
comp=Z,13μm,5.3s
SKR pmax pmax
comp=Z,1μm,1.0s
SKR MLR MLR
comp=Z,2μm,18.0s
TEY Ternei 70.57 336⇑*e*P **P 03 03 18.9 +0.6**
TEY *e* 03 12 10.6
TEY pmax pmax
comp=N,30nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,100nm,1.2s
TEY pmax pmax
comp=Z,600nm,5.6s
TEY pmax pmax
comp=E,200nm,5.9s
TEY pmax pmax
comp=N,200nm,6.0s
TEY pmax pmax
comp=E,700nm,6.0s
TEY pmax pmax
comp=N,500nm,8.1s
TEY pmax pmax
comp=Z,100nm,14.5s
AMKA Amchitka 70.73 6 P **P 03 03 19.1 -0.1**
MSHR Mys Shultsa 70.88 331*c i*P **P 03 03 21.9 +1.6**
MSHR pmax pmax
comp=Z,536nm,1.4s
QSPA South Pole Qui 70.92 180 P **P 03 03 23.2 +2.7**
QSPA IAmb IAmb 03 03 26.7
comp=Z,507nm,1.1s
QSPA South Pole Qui 70.92 180 P **P 03 03 23.5 +3.0**
comp=Z,288nm,0.8s,baz=15,slow=1.6,SNR=371
QSPA S **S 03 12 17.6 +1.4**
comp=Z,2.0nm,0.9s,baz=165,slow=3.8,SNR=3.1
QSPA PKP2bc **P'P'bc 03 31 12.8 -4.1**
comp=Z,24nm,1.4s,baz=231,slow=1.7,SNR=23
comp=Z,288nm,0.8s
VLA Vladivostok 70.97 332*d i*P **P 03 03 22.4 +1.6**
VLA pmax pmax
comp=Z,1μm,1.7s
PSTR Posyet 71.10 331*c i*P **P 03 03 23.1 +1.5**
SISI Saibi 71.12 275 P **P 03 03 22.3 -0.1**
comp=Z,9μmcomp=Z,480nm,1.4s
IPM Ipoh 71.35 282 IAmb IAmb 03 03 25.9
comp=Z,1μm,1.9s
IPM Ipoh 71.35 282 P **P 03 03 24.4 +0.6**
IPM Ipoh 71.35 282 ⇑P **P 03 03 24.2 +0.4**
MNSI Mandailing Nat 71.39 278 P **P 03 03 22.6 -1.4**
comp=Z,7μmcomp=Z,371nm,1.5s
KIWB Kanaga Island 71.63 9 IAmb IAmb 03 03 27.7
comp=Z,879nm,0.9s
SMY Shemya 71.67 3 P **P 03 03 26.2 +1.4**
SMY Shemya 71.67 3 ⇑P **P 03 03 25.6 +0.8**
ADK Adak 71.73 9 P **P 03 03 24.9 -0.2**
ADK IAmb IAmb 03 03 27.3
comp=Z,1μm,1.1s
ADK Adak 71.73 9 P **P 03 03 26.3 +1.1**
ADK Adak 71.73 9 ⇑P **P 03 03 25.4 +0.3**
ADK Adak 71.73 9 P **P 03 03 25.5 +0.3**
ADK pP **pP 03 04 19.6 +0.1**
USRK Ussuriysk Ar. 71.78 333 P **P 03 03 26.8 +1.1**
comp=Z,514nm,1.1s,baz=138,slow=4.6,SNR=310
USRK S **S 03 12 25.5 -0.8**
comp=Z,1.8nm,0.7s,baz=141,slow=34,SNR=1.5
comp=Z,514nm,1.1s
KULM Kulim 72.00 282 IAmb IAmb 03 03 29.7
comp=Z,1μm,1.9s
KULM Kulim 72.00 282 P **P 03 03 28.6 +0.9**
CNSH ChangSha 72.18 309 P **P 03 03 28.0 -0.4**
CNSH S **S 03 12 30.8 -0.7**
CNSH pmax pmax
comp=Z,240nm,1.4s
CNSH LR LR
comp=Z,6μm,23.1s
CNSH LR LR
comp=Z,6μm,16.3s
CNSH LR LR
comp=Z,5μm,31.6s
UGL Uglegorsk 72.18 341*c i*P **P 03 03 29.3 +1.4**
UGL *i* S **SKiKP 03 12 35.1 -4.2**
UGL pmax pmax
comp=Z,300nm,1.8s
UGL pmax pmax
comp=E,4μm,4.1s
UGL pmax pmax
comp=N,4μm,4.9s
UGL pmax pmax
comp=Z,10μm,5.2s
UGL smax smax
comp=E,11μm,6.7s
UGL smax smax
comp=N,14μm,7.1s
PBSI Pulau Batu 72.31 276 P **P 03 03 29.5 0.0**
comp=N,13μmcomp=N,10μmcomp=N,428nm,2.0s
PET Petropavlovsk 72.48 353 P **P 03 03 29.6 +0.1**
PET Petropavlovsk 72.48 353⇑*i*P **P 03 03 30.4 +0.8**
PET *e*S **S 03 12 34.7 +1.0**
PET *e*SS **SS 03 17 24.7 +6.4**
PET pmax pmax
comp=Z,9μm,6.1s
PET pmax pmax
comp=Z,852nm,1.2s
PET pmax pmax
comp=Z,4μm,7.5s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,900nm,15.0s
PET Petropavlovsk 72.48 353 ⇑P **P 03 03 30.4 +0.8**
PET Petropavlovsk 72.48 353 P **P 03 03 30.1 +0.6**
comp=Z,20μmcomp=Z,1μm,1.6s
WHN Wuhan 72.50 312 ⇑P **P 03 03 30.8 +0.6**
WHN pP **pP 03 04 23.3 -1.7**
WHN sP **sP 03 04 48.6 -1.5**
WHN S **S 03 12 34.3 -0.7**
WHN sS **sS 03 14 03.8 -5.3**
WHN pmax pmax
comp=Z,12μm,3.6s
GULI GuiLin 72.55 305 *i* P **P 03 03 30.5 -0.1**
GULI pP **pP 03 04 23.1 -2.5**
GULI sP **sP 03 04 50.8 0.0**
GULI S **S 03 12 30.9 -4.9**
GULI pmax pmax
comp=Z,600nm,1.4s
GULI pmax pmax
comp=Z,5μm,3.5s
GULI LR LR
comp=Z,3μm,22.8s
GULI LR LR
comp=Z,3μm,19.5s
GULI LR LR
comp=Z,3μm,21.7s
PEA0B Petropavlovsk- 72.67 353*c i*P **P 03 03 32.1 +1.4**
PETK Petropavlovsk- 72.67 353 P **P 03 03 31.1 +0.3**
comp=Z,595nm,0.8s,baz=123,slow=7.4,SNR=342
PETK S **S 03 12 35.8 -0.2**
comp=Z,1.0nm,0.4s,baz=133,slow=40,SNR=1.4
PETK PKPPKP **P'P'df 03 31 13.2 +2.0**
comp=Z,1.2nm,0.5s,baz=43,slow=2.8,SNR=3.6
comp=Z,595nm,0.8s
DL2 Dalian 73.11 323⇑*i*P **P 03 03 34.6 +1.0**
DL2 pP **pP 03 04 26.0 -2.5**
DL2 sP **sP 03 04 52.4 -1.1**
DL2 S **S 03 12 42.8 +1.2**
DL2 pmax pmax
comp=Z,1μm,1.3s
DL2 pmax pmax
comp=Z,9μm,5.2s
MDJ Mudanjiang 73.18 331 P **P 03 03 34.9 +1.0**
MDJ S **S 03 12 46.3 +4.2**
MDJ pmax pmax
comp=Z,650nm,1.5s
MDJ LR LR
comp=Z,6μm,24.4s
MDJ LR LR
comp=Z,5μm,24.7s
MDJ LR LR
comp=Z,3μm,23.1s
MDJ Mudanjiang 73.18 331 IAmb IAmb 03 03 36.8
comp=Z,773nm,1.2s
MDJ Mudanjiang 73.18 331 P **P 03 03 34.7 +0.8**
GSI Gunungsitoli 73.44 277 P **P 03 03 36.1 0.0**
GSI Gunungsitoli 73.44 277 P **P 03 03 37.3 +1.2**
GSI Gunungsitoli 73.44 277 P **P 03 03 35.9 -0.2**
comp=Z,10μmcomp=Z,625nm,1.6s
GSI Gunungsitoli 73.44 277 ⇑P **P 03 03 37.0 +0.8**
TYV Tymovskoe 73.61 343 *e*P **P 03 03 38.1 +1.9**
TYV *e*S **S 03 12 46.8 +0.2**
TYV pmax pmax
comp=Z,422nm,1.2s
TYV pmax pmax
comp=Z,9μm,5.4s
TYV smax smax
comp=N,59nm,2.2s
TYV smax smax
comp=E,54nm,2.2s
TYV smax smax
comp=N,7μm,6.3s
TYV smax smax
comp=E,7μm,6.3s
KCSI Kotacane, Aceh 74.03 280 P **P 03 03 38.4 -1.2**
SNY Shenyang 74.07 326 ⇑P **P 03 03 39.4 +0.3**
SNY S **S 03 12 51.5 -0.6**
SNY pmax pmax
comp=E,260nm,2.0s
SNY pmax pmax
comp=E,4μm,5.0s
SNY LR LR
comp=E,2μm,18.5s
SNY LR LR
comp=E,2μm,16.1s
SNY LR LR
comp=E,3μm,14.7s
TIA Tai'an 74.07 318 P **P 03 03 39.6 +0.3**
TIA pP **pP 03 04 32.4 -1.9**
TIA S **S 03 12 52.5 +0.1**
TIA SS **SS 03 17 47.3 +4.1**
TIA pmax pmax
comp=E,400nm,1.4s
TIA pmax pmax
comp=E,6μm,6.7s
TIA LR LR
comp=E,5μm,20.7s
TIA LR LR
comp=E,6μm,20.6s
TIA LR LR
comp=E,7μm,22.8s
NIKH Nikolski High 74.21 13 P **P 03 03 39.6 0.0**
NIKH Nikolski High 74.21 13 P **P 03 03 40.1 +0.4**
NIKH Nikolski High 74.21 13 P **P 03 03 39.7 +0.1**
baz=201,SNR=179
NIKH S **S 03 12 51.5 -1.7**
baz=201
CN2 Changchun 74.53 328 ⇑P **P 03 03 42.4 +0.7**
CN2 pP pP 03 04 35.1 -1.7
CN2 sP sP 03 04 59.8 -2.0
CN2 S **S 03 12 59.6 +2.4**
CN2 SS **SS 03 17 53.5 +3.6**
CN2 pmax pmax
comp=E,670nm,0.7s
CN2 pmax pmax
comp=E,7μm,5.0s
CN2 LR LR
comp=E,3μm,21.0s
CN2 LR LR
comp=E,3μm,21.0s
CN2 LR LR
comp=E,2μm,19.0s
SNSI Sinabang, Aceh 74.99 278 P **P 03 03 45.7 +0.6**
comp=E,11μmcomp=E,10μmcomp=E,745nm,1.3s
BNX BinXian 75.03 331 ⇑P **P 03 03 44.6 0.0**
BNX pP **pP 03 04 40.5 +0.7**
BNX S **S 03 13 04.9 +2.2**
BNX sS **sS 03 14 38.8 -1.0**
BNX SS **SS 03 17 59.6 +2.1**
BNX pmax pmax
comp=E,240nm,1.3s
BNX pmax pmax
comp=E,5μm,3.9s
LHMI Lhok Sumawe 75.41 281 IAmb IAmb 03 03 49.8
comp=Z,1μm,1.8s
LHMI Lhok Sumawe 75.41 281 P **P 03 03 48.5 +1.1**
GRNR Gornyy 75.46 339⇑*i*P **P 03 03 49.0 +2.1**
GRNR pmax pmax
comp=N,130nm,1.2s
GRNR pmax pmax
comp=E,100nm,1.2s
GRNR pmax pmax
comp=Z,510nm,1.2s
UNV Unalaska Valle 75.55 14 IAmb IAmb 03 03 49.3
comp=Z,739nm,1.0s
UNV Unalaska Valle 75.55 14 P **P 03 03 47.5 +0.2**
UNV Unalaska Valle 75.55 14 P **P 03 03 47.3 0.0**
baz=203,SNR=53
UNV S **S 03 13 04.2 -3.7**
baz=203
MLSI Meulaboh, Aceh 75.57 280 P **P 03 03 48.2 -0.2**
comp=Z,9μmcomp=Z,9μmcomp=Z,709nm,1.2s
SLVN Son La 75.78 299 P **P 03 03 50.9 +1.4**
ENH Enshi 75.84 309 IAmb IAmb 03 03 51.6
comp=Z,2μm,1.9s
ENH Enshi 75.84 309 P **P 03 03 50.3 +0.7**
AKUT Akutan 75.99 15 P **P 03 03 48.9 -0.9**
AKUT Akutan 75.99 15 P **P 03 03 50.1 +0.3**
AKUT Akutan 75.99 15 ⇑P **P 03 03 49.5 -0.3**
GYA Guiyang 76.01 305 ⇑P **P 03 03 51.3 +0.6**
GYA sP sP 03 05 10.8 -0.1
GYA S **S 03 13 14.1 -0.3**
GYA SKS **SKSac 03 13 36.5 -2.6**
GYA SS **SS 03 18 15.5 +2.4**
GYA pmax pmax
comp=Z,320nm,1.5s
GYA pmax pmax
comp=Z,4μm,3.6s
GYA LR LR
comp=Z,750nm,11.6s
GYA LR LR
comp=Z,2μm,17.5s
GYA LR LR
comp=Z,2μm,18.0s
LYN LuoYang 76.11 314 ⇑P **P 03 03 52.0 +1.1**
LYN pP pP 03 04 45.3 -0.9
LYN sP sP 03 05 09.5 -1.6
LYN S **S 03 13 14.3 -0.6**
LYN pmax pmax
comp=E,860nm,1.3s
LYN pmax pmax
comp=E,10μm,9.1s
NKL Nikolayevsk 76.20 343 *e*P **P 03 03 50.6 -0.4**
NKL *e*S **S 03 13 19.6 +4.5**
NKL pmax pmax
comp=E,681nm,1.2s
NKL pmax pmax
comp=N,281nm,1.1s
NKL pmax pmax
comp=Z,3μm,1.1s
HNS HongShan 76.33 318 ⇑P **P 03 03 53.3 +1.2**
HNS pP **pP 03 04 47.3 -0.1**
HNS sP **sP 03 05 10.1 -2.2**
HNS S **S 03 13 17.8 +0.7**
HNS SKS **SKSac 03 13 39.3 -1.3**
HNS pmax pmax
comp=Z,440nm,1.8s
HNS pmax pmax
comp=Z,7μm,6.9s
HNS LR LR
comp=Z,3μm,19.1s
HNS LR LR
comp=Z,1μm,15.5s
HNS LR LR
comp=Z,5μm,22.3s
BJT Baijiatuau 77.04 321 P **P 03 03 57.0 +1.0**
BJT Baijiatuau 77.04 321 P **P 03 03 57.0 +1.0**
BJT pP **pP 03 04 52.9 +1.5**
BJI Beijing 77.05 321 P **P 03 03 56.9 +0.9**
BJI PcP **PcP 03 04 08.4 +2.5**
BJI pP **pP 03 04 52.6 +1.2**
BJI S **S 03 13 28.5 +3.7**
BJI sS **sS 03 15 01.6 +0.1**
BJI pmax pmax
comp=Z,170nm,1.3s
BJI pmax pmax
comp=Z,3μm,3.9s
BJI LR LR
comp=Z,1μm,20.0s
BJI LR LR
comp=Z,2μm,22.7s
BJI LR LR
comp=Z,3μm,19.5s
FALS False Pass 77.23 16 IAmb IAmb 03 03 58.2
comp=Z,2μm,1.5s
FALS False Pass 77.23 16 P **P 03 03 57.4 +0.7**
FALS False Pass 77.23 16 P **P 03 03 56.5 -0.2**
baz=206,SNR=6.6
FALS S **S 03 13 24.9 -1.2**
baz=206
SPIA Saint Paul Isl 77.88 11 P **P 03 04 01.4 +1.2**
SPIA Saint Paul Isl 77.88 11 P **P 03 04 01.0 +0.8**
baz=200,SNR=41
TIY Taiyuan 77.96 317 P **P 03 04 02.6 +1.3**
TIY S **S 03 13 36.4 +1.4**
TIY ScS **ScS 03 14 00.8 +2.1**
TIY pmax pmax
comp=Z,320nm,1.5s
TIY pmax pmax

comp=Z,5μm,3.7s
TIY LR LR
comp=Z,2μm,16.7s
TIY LR LR
comp=Z,3μm,18.4s
TIY LR LR
comp=Z,3μm,20.6s
CNBA Chernabura Isl 78.23 18 IAmb IAmb 03 04 04.2
comp=Z,2μm,1.7s
CHNA Chernabura Isl 78.24 18 P **P 03 04 03.2 +0.9**
CHNA Chernabura Isl 78.24 18 P **P 03 04 02.2 0.0**
baz=210
CHNA S **S 03 13 36.4 -0.5**
baz=210
XAN Xi'an 78.26 312 ⇑P **P 03 04 04.0 +1.0**
XAN pP pP 03 04 55.3 -3.2
XAN S **S 03 13 38.6 +0.3**
XAN SKS **SKSac 03 13 47.6 -7.3**
XAN ScS **ScS 03 13 59.3 -2.0**
XAN SS **SS 03 18 51.3 +4.6**
XAN pmax pmax
comp=Z,680nm,1.0s
XAN pmax pmax
comp=Z,10μm,6.0s
S12K Black Hills 78.33 16 IAmb IAmb 03 04 05.1
comp=Z,1μm,1.1s
S12K Black Hills 78.33 16 P **P 03 04 02.9 +0.1**
baz=207,SNR=35
S12K S **S 03 13 36.5 -1.5**
baz=207
SDPT Sand Point 78.44 17 P **P 03 04 04.6 +1.2**
SDPT Sand Point 78.44 17 P **P 03 04 03.3 0.0**
baz=209,SNR=18
SDPT S **S 03 13 37.5 -1.6**
baz=209
HEH HeiHe 78.45 334 *e*P **P 03 04 03.9 +0.3**
HEH sP **sP 03 05 22.8 -1.3**
HEH PP **PP 03 07 00.8 -4.0**
HEH S **S 03 13 35.8 -3.7**
HEH SS **SS 03 18 45.5 -3.3**
HEH pmax pmax
comp=Z,420nm,1.4s
HEH pmax pmax
comp=Z,8μm,7.6s
KMI Kunming 78.47 302 ⇑P **P 03 04 06.3 +1.7**
KMI pP pP 03 05 00.0 -0.2
KMI S **S 03 13 37.9 -3.3**
KMI pmax pmax
comp=Z,610nm,1.4s
KMI pmax pmax
comp=Z,5μm,6.9s
KMI LR LR
comp=Z,2μm,17.2s
KMI LR LR
comp=Z,2μm,19.9s
KMI LR LR
comp=Z,2μm,21.4s
KMI Kunming 78.47 302 P **P 03 04 06.0 +1.4**
KMI pP **pP 03 05 02.2 +2.1**
MAW Mawson 78.64 202 P **P 03 04 05.8 +1.4**
comp=Z,98nm,1.0s,baz=110,slow=6.8,SNR=84
MAW S **S 03 13 41.5 +0.4**
comp=Z,0.5nm,0.4s,baz=302,slow=19,SNR=0.9
comp=Z,98nm,1.0s
CM31 Chiang Mai Arr 78.73 294 IAmb IAmb 03 04 09.2
comp=Z,997nm,1.7s
CM31 Chiang Mai Arr 78.73 294 P **P 03 04 07.6 +1.8**
SNR=154
CMAR Chiang Mai Arr 78.73 294 P **P 03 04 06.8 +1.0**
CMAR Chiang Mai Arr 78.73 294 P **P 03 04 07.6 +1.8**
comp=Z,75nm,0.8s,baz=124,slow=3.5,SNR=262
CMAR S **S 03 13 43.2 -0.6**
comp=Z,1.6nm,0.3s,baz=354,slow=30,SNR=1.7
CMAR PKKPbc **PKKPbc 03 23 00.2 +1.4**
comp=Z,1.9nm,0.4s,baz=296,slow=3.8,SNR=8.6
CMAR PKPPKP **P'P'df 03 31 00.0 -2.4**
comp=Z,1.1nm,0.4s,baz=294,slow=3.3,SNR=11
comp=Z,75nm,0.8s
CMBY CAMPBELL BAY 78.85 281 *e*P **P 03 04 05.6 -1.0**
CMBY IAmb IAmb 03 04 08.2
comp=Z,337nm,1.4s
CMBY *e*S **S 03 13 45.7 +0.6**
CHTO Chiang Mai 78.88 294 P **P 03 04 07.3 +0.7**
CHTO IAmb IAmb 03 04 09.7
comp=Z,1μm,1.8s
CHTO Chiang Mai 78.88 294 P **P 03 04 08.3 +1.7**
CHTO Chiang Mai 78.88 294 ⇑P **P 03 04 07.8 +1.2**
CHTO Chiang Mai 78.88 294 P **P 03 04 07.8 +1.2**
CHTO S **S 03 13 48.5 +3.2**
XLT XiLinHaoTe 79.54 324 *e*P **P 03 04 10.5 +0.8**
XLT PcP **PcP 03 04 18.8 +2.0**
XLT S **S 03 13 54.3 +2.9**
XLT ScS **SKKSac 03 14 07.3 +1.8**
XLT SS **SS 03 19 08.5 +3.1**
XLT pmax pmax
comp=Z,450nm,1.7s
PZH PanZhiHua 79.90 303 ⇑P **P 03 04 12.4 +0.3**
PZH pP **pP 03 05 06.5 -1.5**
PZH S **S 03 13 55.5 -0.5**
PZH SKS **SKSac 03 14 00.3 -6.6**
PZH SS **SS 03 19 16.4 +4.8**
PZH pmax pmax
comp=Z,210nm,1.4s
PZH pmax pmax
comp=Z,3μm,5.7s
PZH LR LR
comp=Z,3μm,22.9s
PZH LR LR
comp=Z,2μm,19.5s
PZH LR LR
comp=Z,2μm,22.9s
MA2 Magadan 79.92 350 P **P 03 04 10.6 -0.7**
MA2 Magadan 79.92 350 P **P 03 04 10.6 -0.7**
MA2 pmax pmax
comp=Z,238nm,1.1s
MA2 Magadan 79.92 350 P **P 03 04 10.8 -0.4**
CHIR Chirikof Islan 80.27 19 IAmb IAmb 03 04 15.7
comp=Z,2μm,1.4s
CHIR Chirikof Islan 80.27 19 P **P 03 04 14.9 +1.7**
CHIR Chirikof Islan 80.27 19 P **P 03 04 14.1 +0.8**
baz=213
CHIR S **S 03 13 57.7 -0.6**
baz=213
HHC Hu-ho-hao-te 80.34 319 ⇑*i*P **P 03 04 15.3 +1.2**
HHC pP pP 03 05 08.8 -1.3
HHC S **S 03 13 58.8 -1.1**
HHC pmax pmax
comp=Z,400nm,1.5s
CD2 Chengdu 80.41 307 P **P 03 04 15.5 +0.8**
CD2 pP pP 03 05 08.5 -2.0
CD2 sP sP 03 05 33.4 -1.9
CD2 S **S 03 14 02.8 +1.8**
CD2 SS **SS 03 19 20.8 +1.9**
CD2 pmax pmax
comp=Z,410nm,1.2s
CD2 pmax pmax
comp=Z,6μm,5.0s
CD2 LR LR
comp=Z,8μm,22.6s
CD2 LR LR
comp=Z,4μm,14.0s
CD2 LR LR
comp=Z,2μm,18.6s
BTO Baotou 81.16 318 ⇑*i*P **P 03 04 20.4 +2.0**
BTO pP **pP 03 05 14.4 -0.1**
BTO sP **sP 03 05 38.0 -1.3**
BTO PP **PP 03 07 31.6 +4.1**
BTO S **S 03 14 06.0 -2.4**
BTO sS **sS 03 15 45.9 +0.8**
BTO pmax pmax
comp=Z,550nm,2.1s
BTO pmax pmax
comp=Z,12μm,8.9s
BTO LR LR
comp=Z,6μm,22.2s
BTO LR LR
comp=Z,7μm,23.5s
BTO LR LR
comp=Z,9μm,18.4s
HIA Hailar 81.17 330 P **P 03 04 18.9 +0.7**
R16K Pilot Point 81.18 17 P **P 03 04 18.8 +0.9**
baz=211,SNR=8.2
R16K S **S 03 14 07.5 0.0**
baz=211
ZEA Zeya 81.19 336 *e*P **P 03 04 19.7 +1.6**
ZEA *e**PP **pP 03 05 16.9 +2.8**
ZEA *e**SP **sP 03 05 42.7 +3.9**
ZEA *e*S **S 03 14 11.0 +3.2**
ZEA pmax pmax
comp=E,800nm,4.9s
ZEA pmax pmax
comp=N,1μm,5.8s
ZEA pmax pmax
comp=Z,4μm,5.9s
ZEA pmax pmax
comp=E,40nm,1.5s
ZEA pmax pmax
comp=N,120nm,1.3s
ZEA pmax pmax
comp=Z,270nm,1.1s
ZEA smax smax
comp=N,3μm,5.4s
ZEA smax smax
comp=E,4μm,8.0s
SII Sitkinak Islan 81.33 19 IAmb IAmb 03 04 26.2
comp=Z,1μm,0.9s
SII Sitkinak Islan 81.33 19 P **P 03 04 20.1 +1.3**
SII Sitkinak Islan 81.33 19 P **P 03 04 20.1 +1.3**
baz=214
SII S **S 03 14 10.1 +0.8**
baz=214
HILR Hailar Array B 81.37 330 P **P 03 04 19.7 +0.4**
comp=Z,38nm,0.7s,baz=133,slow=8.7,SNR=58
HILR S **S 03 14 06.8 -3.2**
comp=Z,3.0nm,0.5s,baz=264,slow=40,SNR=1.4
comp=Z,38nm,0.7s
R17L Mt. Peulik Vol 81.58 18 P **P 03 04 21.1 +1.0**
baz=212
R17L S **S 03 14 11.4 -0.4**
baz=212
PLK4 Peulik 4 81.58 18 IAmb IAmb 03 04 22.8
comp=Z,592nm,0.8s
PAF Port-aux-Franc 81.60 221 P **P 03 04 21.6 +1.1**
PAF IAmb IAmb 03 04 23.7
comp=Z,1μm,1.1s
PAF Port-aux-Franc 81.60 221 ⇑P **P 03 04 22.5 +2.0**
PBA Port Blair 81.61 285 P **P 03 04 22.9 +1.6**
SNR=6.2
PBA Port Blair 81.61 285 *e*P **P 03 04 21.6 +0.3**
PBA IAmb IAmb 03 04 23.8
comp=Z,1μm,1.7s
PBA *e*S **S 03 14 13.4 -0.4**
M11K Mekoryuk 81.64 12 P **P 03 04 22.2 +1.9**
baz=203,SNR=63
M11K S **SKSac 03 14 15.5 -1.4**
baz=203
O14K Tigyukauivet M 81.69 15 IAmb IAmb 03 04 24.4
comp=Z,424nm,0.8s
O14K Tigyukauivet M 81.69 15 P **P 03 04 21.6 +1.0**
baz=208,SNR=46
O14K S **S 03 14 11.8 -1.0**
baz=208
TNCH TengChong 81.86 300 P **P 03 04 23.6 +1.0**
TNCH pP pP 03 05 18.8 +0.1
TNCH sP sP 03 05 42.8 -0.6
TNCH S **S 03 14 16.1 -0.3**
TNCH pmax pmax
comp=Z,570nm,1.5s
TNCH pmax pmax
comp=Z,5μm,3.4s
O15K Ungalikthiuk R 81.97 15 P **P 03 04 22.3 +0.2**
O15K Ungalikthiuk R 81.97 15 P **P 03 04 22.6 +0.5**
baz=209,SNR=41
O15K S **S 03 14 15.2 -0.5**
baz=209
OHAK Old Harbor 82.16 19 P **P 03 04 24.5 +1.4**
OHAK Old Harbor 82.16 19 P **P 03 04 24.2 +1.1**
baz=215
OHAK S **S 03 14 18.6 +1.0**
baz=215
N14K Kuskokwak Cree 82.19 14 IAmb IAmb 03 04 26.2
comp=Z,884nm,0.8s
N14K Kuskokwak Cree 82.19 14 P **P 03 04 24.4 +1.3**
baz=207,SNR=140
N14K S **S 03 14 18.5 +0.8**
baz=207
Q17K Contact Creek 82.25 18 P **P 03 04 24.2 +0.6**
baz=213,SNR=345
Q17K S **S 03 14 19.1 +0.3**
baz=213
M13K Dall Lake 82.25 13 IAmb IAmb 03 04 27.0
comp=Z,678nm,1.0s
M13K Dall Lake 82.25 13 P **P 03 04 25.2 +1.7**
baz=206,SNR=61
M13K S **SKSac 03 14 22.9 +1.9**
baz=206
P16K Nushagak River 82.32 16 IAmb IAmb 03 04 26.0
comp=Z,919nm,1.0s
P16K Nushagak River 82.32 16 P **P 03 04 24.6 +0.7**
baz=211
P16K S **S 03 14 19.7 +0.5**
baz=211
ACHA Angle Creek He 82.36 18 IAmb IAmb 03 04 27.9
comp=Z,2μm,1.8s
Q16K King Salmon 82.38 17 P **P 03 04 24.8 +0.6**
baz=212,SNR=260
Q16K S **SKSac 03 14 21.7 -0.1**
baz=212
O16K Kokwok River B 82.78 16 IAmb IAmb 03 04 27.9
comp=Z,877nm,1.4s
O16K Kokwok River B 82.78 16 P **P 03 04 26.5 +0.2**
baz=211,SNR=127
O16K S **S 03 14 22.2 -1.6**
baz=211
N15K Kwethluk River 82.78 15 P **P 03 04 28.0 +1.7**
baz=209,SNR=282
N15K S **SKSac 03 14 26.9 +2.3**
baz=209
Q18K Katmai Hardscr 82.82 18 P **P 03 04 27.2 +0.6**
baz=214,SNR=783
Q18K S **S 03 14 24.9 +0.3**
baz=214
KDAK Kodiak Island 82.84 19 P **P 03 04 27.0 +0.4**
KDAK Kodiak Island 82.84 19 *c i*P **P 03 04 28.1 +1.5**
KDAK pmax pmax
comp=Z,2μm,1.4s
KDAK Kodiak Island 82.84 19 P **P 03 04 27.9 +1.3**
baz=216
KDAK S **SKSac 03 14 25.9 +0.9**
baz=216
KDAK Kodiak Island 82.84 19 P **P 03 04 27.7 +1.1**
KDAK pP **pP 03 05 23.6 +0.9**
M14K Bethel 82.86 14 P **P 03 04 28.0 +1.4**
baz=207,SNR=192
M14K S **SKSac 03 14 27.1 +2.1**
baz=207
P17K Kvichak River 82.88 17 P **P 03 04 27.3 +0.6**
baz=212
P17K S **S 03 14 25.4 +0.6**
baz=212
LZH Lanzhou 82.88 312 ⇑P **P 03 04 29.3 +1.7**
LZH pP pP 03 05 23.6 -0.3
LZH sP sP 03 05 47.6 -1.0
LZH PP **PP 03 07 41.5 -0.3**
LZH S **S 03 14 21.8 -4.5**
LZH pmax pmax
comp=Z,560nm,1.4s
LZH pmax pmax
comp=Z,7μm,8.3s
LZH LR LR
comp=Z,3μm,20.4s
LZH LR LR
comp=Z,2μm,20.1s
LZH LR LR
comp=Z,4μm,21.3s
SEY Seymchan 82.91 352 *c i*P **P 03 04 27.5 +0.7**
SEY pmax pmax
comp=Z,457nm,1.4s
LZDM Lanzhou Array 82.92 312 P **P 03 04 29.6 +1.6**
comp=Z,122nm,0.9s,baz=103,slow=6.5,SNR=71
LZDM S **S 03 14 24.3 -2.7**
comp=Z,1.2nm,0.3s,baz=47,slow=28,SNR=1.2
comp=Z,122nm,0.9s
M15K Kasigluk River 83.10 14 P **P 03 04 29.2 +1.4**
baz=208,SNR=318
O17K Koliganek Bris 83.19 16 P **P 03 04 28.8 +0.4**
baz=212,SNR=158
L14K Kuka Creek 83.23 13 IAmb IAmb 03 04 31.7
comp=Z,769nm,0.8s
L14K Kuka Creek 83.23 13 P **P 03 04 29.9 +1.4**
baz=206,SNR=310
K13K Kusilvak Mount 83.37 12 IAmb IAmb 03 04 32.5
comp=Z,902nm,1.1s
K13K Kusilvak Mount 83.37 12 P **P 03 04 30.9 +1.7**
baz=204,SNR=142
N16K Nishlik Lake 83.37 15 P **P 03 04 31.3 +2.0**
baz=210,SNR=525
P18K Big Mountain, 83.38 17 P **P 03 04 30.0 +0.6**
baz=213,SNR=475
Q19K Cape Douglas, 83.45 18 P **P 03 04 30.4 +0.6**
baz=215,SNR=178
Q20K Shuyak Island 83.57 19 P **P 03 04 31.2 +0.9**
baz=216,SNR=143
O18K Koktuh Hills 83.77 17 P **P 03 04 32.2 +0.8**
baz=213,SNR=241
L15K Ungalak Mounta 83.80 13 P **P 03 04 32.5 +1.1**
baz=208,SNR=331
M16K Timber Creek 83.80 15 P **P 03 04 33.5 +2.1**
baz=210,SNR=673
N17K Nushagak Hills 83.81 16 P **P 03 04 32.8 +1.2**
baz=212,SNR=388
SMAI San Martin Ant 83.83 162 IAmb IAmb 03 04 34.2
comp=Z,2μm,1.9s
GAMB Gambell 83.92 8 IAmb IAmb 03 04 35.1
comp=Z,967nm,1.0s
GAMB Gambell 83.92 8 P **P 03 04 33.5 +1.6**
baz=198,SNR=39
P19K Oil Pt 84.17 18 P **P 03 04 33.8 +0.4**
baz=215,SNR=106
L16K Owhat River 84.28 14 P **P 03 04 34.9 +1.1**
L16K Owhat River 84.28 14 P **P 03 04 35.3 +1.5**
baz=209,SNR=464
L16K S **S 03 14 42.0 +3.2**
baz=209
N18K Kilae Creek 84.28 16 P **P 03 04 35.0 +1.1**
baz=213
N18K S **S 03 14 41.5 +2.6**
baz=213
J14K Nanvaranak Lak 84.33 12 P **P 03 04 35.6 +1.6**
baz=206
J14K S **S 03 14 42.4 +3.3**
baz=206
K15K Wolf Creek Mou 84.33 13 P **P 03 04 36.0 +1.9**
baz=207,SNR=579
K15K S **S 03 14 43.3 +4.1**
baz=207
M17K Holitna River 84.50 15 P **P 03 04 36.8 +1.8**
baz=211,SNR=315
M17K S **S 03 14 46.2 +5.2**
baz=211
HOM Homer 84.64 19 P **P 03 04 36.3 +0.6**
baz=217,SNR=69
HOM S **S 03 14 45.5 +3.1**
baz=217
O20K Slope Mountain 84.70 18 S **S 03 14 47.8 +4.7**
baz=216
N19K Bonanza Creek 84.78 17 IAmb IAmb 03 04 38.6
comp=Z,2μm,2.0s
N19K Bonanza Creek 84.78 17 P **P 03 04 36.7 +0.2**
baz=214
N19K S **S 03 14 47.3 +3.4**
baz=214
FARB Farallon Islan 84.88 47 IAmb IAmb 03 04 40.9
comp=Z,537nm,0.8s
L17K Donlin 84.92 15 P **P 03 04 38.8 +1.7**
baz=210,SNR=391
L17K S **S 03 14 50.9 +5.8**
baz=210
BRLK Bradley Lake 84.96 19 IAmb IAmb 03 04 39.8
comp=Z,2μm,1.7s
BRSE Bradley Lake S 84.99 19 P **P 03 04 37.7 +0.3**
baz=217,SNR=117
BRSE S **S 03 14 49.2 +3.4**
baz=217
M18K Stony River 84.99 16 P **P 03 04 38.7 +1.3**
baz=213,SNR=800
M18K S **S 03 14 49.9 +4.2**
baz=213
SYO Syowa Base 85.11 196 ⇑*i*P **P 03 04 38.0 -0.1**
SYO Syowa Base 85.11 196 ⇑*i*PcP **PcP 03 04 40.3 -0.5**
MCCM Marconi Confer 85.18 47 IAmb IAmb 03 04 42.3
comp=Z,646nm,0.8s
JRSC Jasper Ridge 85.27 48 IAmb IAmb 03 04 43.7
comp=Z,625nm,1.0s
L18K Granite Mounta 85.39 15 IAmb IAmb 03 04 43.1
comp=Z,362nm,0.7s
L18K Granite Mounta 85.39 15 P **P 03 04 40.7 +1.4**
baz=212
L18K S **S 03 14 53.6 +4.0**
baz=212
J16K Anvik River 85.41 13 P **P 03 04 41.1 +1.7**
baz=208,SNR=370
J16K S **S 03 14 54.6 +4.8**
baz=208
K17K Iditarod 85.43 14 IAmb IAmb 03 04 43.8
comp=Z,954nm,1.1s
K17K Iditarod 85.43 14 P **P 03 04 40.8 +1.3**
baz=210,SNR=226
K17K S **S 03 14 54.9 +4.9**
baz=210
KCPM Cahto Peak 85.44 45 P **P 03 04 41.6 +1.3**
HOPS Hopland Field 85.45 46 IAmb IAmb 03 04 44.7
comp=Z,2μm,1.6s
DCMP DeCamp, Califo 85.50 46 IAmb IAmb 03 04 44.2
comp=Z,350nm,0.8s
SAO San Andreas Ge 85.53 49 IAmb IAmb 03 04 45.0
comp=Z,519nm,1.1s
GDXM Geysers 85.56 46 IAmb IAmb 03 04 45.5
comp=Z,643nm,1.4s
IMP Imphal 85.56 298 *e*P **P 03 04 41.2 0.0**
IMP IAmb IAmb 03 04 46.0
comp=Z,331nm,0.8s
IMP *e*S **SKSac 03 14 42.0 -2.1**
CVS Carmenet Viney 85.56 47 IAmb IAmb 03 04 46.2
comp=Z,1μm,1.2s
ANM Nome 85.65 11 IAmb IAmb 03 04 44.0
comp=Z,523nm,1.0s
ANM Nome 85.65 11 P **P 03 04 42.0 +1.4**
baz=204,SNR=30
ANM S **S 03 14 56.2 +4.1**
baz=204
MHC Mount Hamilton 85.66 48 IAmb IAmb 03 04 46.0
comp=Z,502nm,0.9s
SEW Seward 85.67 19 P **P 03 04 40.7 0.0**
baz=218,SNR=23
SEW S **S 03 14 53.5 +1.1**
baz=218
CAPN Captain Cook N 85.68 18 P **P 03 04 42.1 +1.4**
baz=217
CAPN S **S 03 14 57.3 +4.8**
baz=217
JCC Jacoby Creek, 85.70 44 P **P 03 04 42.6 +1.3**
JCC IAmb IAmb 03 04 45.4
comp=Z,514nm,0.9s
N20K Mount Spurr 85.73 17 P **P 03 04 40.5 -0.7**
baz=216
N20K S **S 03 14 52.0 -1.2**
baz=216
SPCR Spurr Chakacha 85.73 17 P **P 03 04 40.8 -0.3**
baz=216,SNR=19
SPCR S **S 03 14 52.9 -0.3**
baz=216
BBGB Big Mountain B 85.74 49 IAmb IAmb 03 04 51.0
comp=Z,549nm,0.8s
PMPB Monarch Peak 85.74 49 IAmb IAmb 03 04 45.8
comp=Z,624nm,0.9s
SLKM Skilak Lake 85.75 19 IAmb IAmb 03 04 43.8
comp=Z,516nm,0.9s
KOHI KOHIMA 85.78 299 *e*P **P 03 04 42.1 -0.2**
KOHI IAmb IAmb 03 04 44.2
comp=Z,1μm,1.6s
KOHI *e*S **SKSac 03 14 41.9 -3.7**
PKD Bear Valley Ra 85.80 50 IAmb IAmb 03 04 45.8
comp=Z,350nm,0.8s
L19K White Mountain 85.82 16 IAmb IAmb 03 04 46.8
comp=Z,1μm,1.2s
L19K White Mountain 85.82 16 P **P 03 04 42.6 +1.1**
baz=214
L19K S **S 03 14 57.5 +3.6**
baz=214
MNRC McLaughlin Min 85.83 47 P **P 03 04 44.0 +1.9**
MNRC IAmb IAmb 03 04 46.9
comp=Z,882nm,1.2s
J17K VABM Dome 85.84 14 IAmb IAmb 03 04 45.9
comp=Z,565nm,1.1s
J17K VABM Dome 85.84 14 P **P 03 04 43.2 +1.6**
baz=210
J17K S **S 03 14 58.5 +4.5**
baz=210
KRPM Rodgers 85.88 44 IAmb IAmb 03 04 47.4

	comp=Z,1μm,1.3s						
O22K	Cooper Landing	85.89	19	IAmb	IAmb	03 04 46.6	
	comp=Z,532nm,0.7s						
O22K	Cooper Landing	85.89	19	P	P	03 04 41.8	0.0
	baz=218,SNR=56						
O22K				S	S	03 14 56.5	+2.0
	baz=218						
I17K	Unalakleet	85.93	13	IAmb	IAmb	03 04 46.5	
	comp=Z,1μm,1.8s						
I17K	Unalakleet	85.93	13	P	P	03 04 43.5	+1.6
	baz=208,SNR=24						
I17K				S	S	03 14 59.6	+4.8
	baz=208						
KHMM	Horse Mountain	85.93	44	IAmb	IAmb	03 04 46.9	
	comp=Z,645nm,0.8s						
CIT	Chita	85.96	329	eP	P	03 04 43.0	+0.5
CIT				e		03 08 09.6	
CIT				e		03 14 45.6	
CIT				pmax	pmax		
	comp=Z,2μm,2.5s						
JORH	JORHAT	86.06	300	eP	P	03 04 44.3	+0.8
JORH				IAmb	IAmb	03 04 49.1	
	comp=Z,660nm,0.9s						
JORH				eS	SKSac	03 14 47.2	+0.3
KRMB	Red Mountain	86.13	44	IAmb	IAmb	03 04 47.8	
	comp=Z,976nm,1.3s						
TNA	Tin City	86.16	9	P	P	03 04 44.3	+1.3
	baz=201,SNR=58						
TNA				S	S	03 14 59.8	+2.9
	baz=201						
Q23K	Middleton Isla	86.16	21	P	P	03 04 42.9	-0.2
	baz=221						
Q23K				S	S	03 15 03.2	+6.0
	baz=221						
MID	Middleton Isla	86.16	21	IAmb	IAmb	03 04 47.2	
	comp=Z,496nm,1.1s						
O02D	Mt. Diablo Mer	86.22	45	IAmb	IAmb	03 04 49.0	
	comp=Z,867nm,0.9s						
P23K	Montague Islan	86.24	20	IAmb	IAmb	03 04 46.1	
	comp=Z,433nm,1.3s						
P23K	Montague Islan	86.24	20	P	P	03 04 43.8	+0.2
	baz=220						
P23K				S	S	03 14 58.9	+0.9
	baz=220						
KBO	Bosley Butte	86.27	43	IAmb	IAmb	03 04 48.3	
	comp=Z,1μm,1.4s						
G15K	Niukluk	86.28	11	P	P	03 04 44.8	+1.2
	baz=205						
G15K				S	S	03 15 00.8	+2.7
	baz=205						
H16K	Elim	86.29	12	P	P	03 04 44.9	+1.2
	baz=207,SNR=81						
H16K				S	S	03 15 02.0	+3.7
	baz=207						
KSXB	Camp Six Broad	86.30	43	P	P	03 04 46.2	+1.7
KSXB				IAmb	IAmb	03 04 49.2	
	comp=Z,556nm,1.2s						
F14K	Arctic Creek	86.33	10	P	P	03 04 45.2	+1.4
	baz=203						
F14K				S	S	03 15 02.8	+4.2
	baz=203						
SUA	Susitna One	86.36	18	P	P	03 04 44.0	-0.3
	baz=217						
RC01	Rabbit Creek A	86.36	19	IAmb	IAmb	03 04 49.1	
	comp=Z,366nm,1.0s						
RC01	Rabbit Creek A	86.36	19	P	P	03 04 44.1	-0.1
	baz=218,SNR=30						
RC01				S	S	03 15 00.6	+1.5
	baz=218						
J18K	Innoko River	86.44	14	IAmb	IAmb	03 04 47.8	
	comp=Z,466nm,0.8s						
J18K	Innoko River	86.44	14	P	P	03 04 45.4	+0.9
	baz=212						
J18K				S	S	03 15 03.4	+3.5
	baz=212						
SUTB	Sutter Butte	86.45	46	IAmb	IAmb	03 04 49.0	
	comp=Z,706nm,0.9s						
SILR	SILCHAR	86.50	298	eP	P	03 04 46.6	+1.0
SILR				eS	SKSac	03 14 49.8	+0.1
KEBM	Edson Butte	86.53	42	IAmb	IAmb	03 04 49.9	
	comp=Z,424nm,0.9s						
SKT	Skwentna	86.55	17	P	P	03 04 43.6	-1.5
	baz=217,SNR=20						
SKT				S	S	03 15 01.0	+0.1
	baz=217						
PWL	Port Wells	86.61	19	IAmb	IAmb	03 04 52.7	
	comp=Z,314nm,0.9s						
PWL	Port Wells	86.61	19	P	P	03 04 45.1	-0.3
	baz=220,SNR=29						
PWL				S	S	03 15 02.2	+0.6
	baz=220						
L02F	Cave Junction	86.65	43	IAmb	IAmb	03 04 49.9	
	comp=Z,487nm,1.2s						
ITAN	ITANAGAR	86.66	300	eP	P	03 04 47.3	+1.0
ITAN				IAML		03 04 49.4	
	comp=Z,1μm,1.4s						
ITAN				eS	SKSac	03 14 48.8	-1.9
LEGD	La Grand CA	86.66	49	IAmb	IAmb	03 04 49.5	
	comp=Z,399nm,1.1s						
ZIRO	ZIRO	86.70	300	eP	P	03 04 47.6	+0.7
ZIRO				IAmb	IAmb	03 04 49.2	
	comp=Z,296nm,1.2s						
ZIRO				eS	SKSac	03 14 50.0	-1.3
PASC	Pasadena Art C	86.75	52	IAmb	IAmb	03 04 49.8	
	comp=Z,332nm,0.8s						
M22K	Willow	86.77	18	P	P	03 04 45.6	-0.4
	baz=218,SNR=70						
M22K				S	S	03 15 06.5	+3.6
	baz=218						
WELL	Weller Preserv	86.81	48	IAmb	IAmb	03 04 50.6	
	comp=Z,794nm,1.3s						
F15K	North Star Dit	86.82	10	P	P	03 04 47.4	+1.2
	baz=204,SNR=48						
F15K				S	S	03 15 06.1	+2.7
	baz=204						
HIN	Hinchinbrook I	86.84	20	IAmb	IAmb	03 04 49.6	
	comp=Z,440nm,1.2s						
YAK	Yakutsk	86.86	342	P	P	03 04 46.3	-0.2
YAK				IAmb	IAmb	03 04 48.3	
	comp=Z,1μm,1.5s						
YAK	Yakutsk	86.86	342c	iP	P	03 04 46.6	+0.1
YAK				pmax	pmax		
	comp=Z,720nm,1.3s						
CMB	Columbia Colle	86.86	48	IAmb	IAmb	03 04 50.6	
	comp=Z,327nm,0.8s						
K02D	Willamette Mer	86.87	43	IAmb	IAmb	03 04 50.8	
	comp=Z,530nm,1.2s						
MWC	Mount Wilson	86.87	52	IAmb	IAmb	03 04 50.7	
	comp=Z,436nm,0.8s						
TJX	Tijuana	86.90	54	IAmb	IAmb	03 04 50.1	
	comp=Z,733nm,1.0s						
PMSA	Palmer Station	86.90	160	P	P	03 04 47.2	+0.4
PMSA				IAmb	IAmb	03 04 49.0	
	comp=Z,786nm,1.6s						
PMSA	Palmer Station	86.90	160	P	P	03 04 47.2	+0.4
	comp=Z,146nm,0.9s,baz=224,slow=4.8,SNR=20						
	comp=Z,146nm,0.9s						
PMSA	Palmer Station	86.90	160	eP	P	03 04 47.3	+0.4
J01E	Myrtle Point	86.93	42	IAmb	IAmb	03 04 51.6	
	comp=Z,307nm,0.9s						
CCX	Cicese	86.93	55	IAmb	IAmb	03 04 51.7	
	comp=Z,468nm,1.0s						
PMR	Palmer	86.94	18	IAmb	IAmb	03 04 49.3	
	comp=Z,781nm,1.8s						
PMR	Palmer	86.94	18	P	P	03 04 46.8	-0.1
PMR	Palmer	86.94	18	P	P	03 04 46.5	-0.4
	baz=219,SNR=62						
PMR				S	S	03 15 05.9	+1.3
	baz=219						
G16K	Koyuk River	86.94	11	IAmb	IAmb	03 04 49.9	
	comp=Z,306nm,0.7s						
G16K	Koyuk River	86.94	11	P	P	03 04 48.2	+1.4
	baz=206						
G16K				S	S	03 15 08.7	+4.2
	baz=206						
BILL	Biiibino	86.96	359	P	P	03 04 46.5	-0.3
BILL				IAmb	IAmb	03 04 49.1	
	comp=Z,604nm,1.0s						
BILL	Biiibino	86.96	359c	iP	P	03 04 47.4	+0.5
BILL				pmax	pmax		
	comp=Z,762nm,1.0s						
ULN	Ulaanbaatar	86.96	323	P	P	03 04 47.9	+0.3
ULN				IAmb	IAmb	03 04 50.1	
	comp=Z,1μm,1.4s						
ULN	Ulaanbaatar	86.96	323c	iP	P	03 04 48.4	+0.8
ULN				pmax	pmax		
	comp=Z,1μm,1.3s						
ULN	Ulaanbaatar	86.96	323	P	P	03 04 48.2	+0.6
K20K	Telida	87.00	16	IAmb	IAmb	03 04 51.3	
	comp=Z,573nm,1.5s						
KNK	Knik Glacier	87.00	19	IAmb	IAmb	03 04 52.0	
	comp=Z,1μm,1.8s						
KNK	Knik Glacier	87.00	19	P	P	03 04 47.3	0.0
	baz=219,SNR=62						
KNK				S	S	03 15 06.2	+0.8
	baz=219						
GLI	Glacier Island	87.02	20	IAmb	IAmb	03 04 50.3	
	comp=Z,923nm,1.6s						
GLI	Glacier Island	87.02	20	P	P	03 04 46.9	-0.4
	baz=221,SNR=37						
GLI				S	S	03 15 05.8	+0.4
	baz=221						
H17K	Granite Mounta	87.02	13	IAmb	IAmb	03 04 50.6	
	comp=Z,266nm,0.7s						
H17K	Granite Mounta	87.02	13	P	P	03 04 48.1	+0.9
	baz=209,SNR=147						
H17K				S	S	03 15 08.6	+3.3
	baz=209						
ELS	Elsinore Mount	87.10	53	IAmb	IAmb	03 04 52.8	
	comp=Z,803nm,1.7s						
PPLA	Purkeypile	87.11	16	P	P	03 04 46.4	-1.5
	baz=216,SNR=19						
PPLA				S	S	03 15 06.7	+0.1
	baz=216						
FID	Port Fidalgo	87.11	20	IAmb	IAmb	03 04 50.6	
	comp=Z,516nm,1.3s						
CBX	Cerro Bola	87.12	54	IAmb	IAmb	03 04 52.2	
	comp=Z,401nm,0.8s						
GHO	Glory Hole Cre	87.14	18	IAmb	IAmb	03 04 50.6	
	comp=Z,980nm,1.8s						
J19K	Poorman	87.15	15	IAmb	IAmb	03 04 51.5	
	comp=Z,744nm,1.8s						
J19K	Poorman	87.15	15	P	P	03 04 49.0	+1.1
	baz=213						
J19K				S	S	03 15 10.5	+3.9
	baz=213						
KAIM	Kayak Island	87.19	21	P	P	03 04 48.5	+0.4
	baz=223,SNR=13						
KAIM				S	S	03 15 09.0	+2.0
	baz=223						
DPP	Dos Picos Cty	87.19	54	P	P	03 04 49.8	+1.0
DPP				IAmb	IAmb	03 04 52.3	
	comp=Z,348nm,0.8s						
TEZP	TEZPUR	87.21	299	eP	P	03 04 49.1	+0.1
TEZP				IAmb	IAmb	03 04 51.4	
	comp=Z,936nm,1.8s						
TEZP				eS	SKSac	03 14 52.6	-1.4
CUT	Chulitna	87.25	18	IAmb	IAmb	03 04 53.3	
	comp=Z,316nm,0.9s						
CUT	Chulitna	87.25	18	P	P	03 04 47.8	-0.5
	baz=218,SNR=31						
CUT				S	S	03 15 06.9	-0.6
	baz=218						
GTA	Gaotai	87.27	313	P	P	03 04 50.5	+1.3
GTA				pP	pP	03 05 45.6	-0.5
GTA				sP	sP	03 06 11.4	+0.7
GTA				SKS	SKSac	03 14 54.0	-0.2
GTA				S	S	03 15 10.8	+1.7
GTA				SS	SS	03 20 58.3	-1.5
GTA				pmax	pmax		
	comp=Z,370nm,1.5s						
GTA				pmax	pmax		
	comp=Z,4μm,10.7s						
GTA				LR	LR		
	comp=Z,4μm,18.9s						
GTA				LR	LR		
	comp=Z,1μm,18.5s						
GTA				LR	LR		
	comp=Z,3μm,21.4s						
SONM	Songino Array	87.32	323	P	P	03 04 49.4	+0.2
SONM				IAmb	IAmb	03 04 51.6	
	comp=Z,1μm,1.4s						
SONM	Songino Array	87.32	323	P	P	03 04 49.7	+0.5
	comp=Z,226nm,1.0s,baz=140,slow=3.9,SNR=519						
SONM				S	SKSac	03 14 52.2	-1.8
	comp=Z,1.1nm,0.9s,baz=137,slow=22,SNR=2.0						
SONM				PKKP	PKKPbc	03 22 39.4	-1.3
	comp=Z,6.4nm,1.0s,baz=271,slow=2.2,SNR=10						
SONM				PKPPKP		03 30 37.5	
	comp=Z,1.7nm,0.9s,baz=222,slow=2.0,SNR=7.3						
	comp=Z,226nm,1.0s						
SML	Sawmill	87.35	19	IAmb	IAmb	03 04 54.8	
	comp=Z,1μm,1.8s						
SML	Sawmill	87.35	19	P	P	03 04 48.6	-0.3
	baz=219,SNR=55						
SML				S	S	03 15 11.0	+2.3
	baz=219						
G17K	Kiwalik Mounta	87.37	12	P	P	03 04 49.9	+1.1
	baz=208,SNR=100						
G17K				S	S	03 15 11.4	+2.9
	baz=208						
VTX	Valle De La Tr	87.42	56	IAmb	IAmb	03 04 54.6	
	comp=Z,741nm,1.3s						
RAGM	Ragged Mountai	87.44	21	IAmb	IAmb	03 04 52.9	
	comp=Z,565nm,1.5s						
AGT	Agartala	87.47	296	eP	P	03 04 51.5	+1.2
AGT				IAmb	IAmb	03 04 54.3	
	comp=Z,1μm,1.4s						
AGT				eS	SKSac	03 14 54.8	-0.9
GCSA	Galena City Sc	87.50	14	P	P	03 04 50.4	+0.9
	baz=212,SNR=86						
GCSA				S	S	03 15 13.3	+3.5
	baz=212						
SUCK	Suckling Hills	87.51	21	IAmb	IAmb	03 04 53.9	
	comp=Z,781nm,1.9s						
L04D	Klamath Falls	87.52	44	IAmb	IAmb	03 04 54.5	
	comp=Z,1μm,1.1s						
M23K	Glacier View	87.52	19	P	P	03 04 49.5	-0.2
	baz=220,SNR=44						
M23K				S	S	03 15 10.6	+0.4
	baz=220						
H18K	Honhosa River	87.53	13	P	P	03 04 50.0	+0.3
	baz=210,SNR=44						
H18K				S	S	03 15 12.6	+2.5
	baz=210						
HMT	Hamilton	87.54	21	IAmb	IAmb	03 04 54.1	
	comp=Z,926nm,1.8s						
ESJX	Sierra Juarez	87.55	55	IAmb	IAmb	03 04 54.6	
	comp=Z,877nm,1.6s						
I03D	Drain, OR	87.56	42	IAmb	IAmb	03 04 53.9	
	comp=Z,577nm,0.9s						
SHL	Shilong	87.57	298	IAmb	IAmb	03 04 54.2	
	comp=Z,691nm,1.8s						
SHL	Shillong	87.57	298	P	P	03 04 51.2	+0.2
	SNR=122						
SHL	Shillong	87.57	298	eP	P	03 04 50.5	-0.4
SHL				IAmb	IAmb	03 04 53.6	
	comp=Z,2μm,2.4s						
SHL				eS	SKSac	03 14 54.9	-1.7
BBOR	Butler Butte	87.59	43	IAmb	IAmb	03 04 54.2	
	comp=Z,1μm,1.8s						
DIV	Divide	87.63	20	P	P	03 04 49.5	-0.8
DIV				IAmb	IAmb	03 04 54.3	
	comp=Z,941nm,1.7s						
J20K	Nowinta River	87.66	15	P	P	03 04 50.9	+0.6
	baz=214						
J20K				S	S	03 15 13.7	+2.2
	baz=214						
DNR	Dunn Ranch,Anz	87.67	53	IAmb	IAmb	03 04 55.4	
	comp=Z,240nm,0.7s						
SCM	Sheep Creek Mo	87.67	19	IAmb	IAmb	03 04 53.1	
	comp=Z,1μm,1.8s						
SCM	Sheep Creek Mo	87.67	19	P	P	03 04 50.5	0.0
	baz=220,SNR=54						
SCM				S	S	03 15 12.9	+1.1
	baz=220						
LRMC	Laurel Mtn Rad	87.69	51	IAmb	IAmb	03 04 54.9	
	comp=Z,569nm,1.0s						
BORC	Borrego Spring	87.70	54	P	P	03 04 52.9	+1.7
BORC				IAmb	IAmb	03 04 54.9	
	comp=Z,461nm,0.8s						
BEKR	Beckworth	87.72	46	IAmb	IAmb	03 04 54.8	
	comp=Z,1μm,1.4s						
BGLC	Bering Glacier	87.72	22	P	P	03 04 51.2	+0.6
	baz=224						
BGLC				S	S	03 15 14.7	+2.7
	baz=224						
HG4B	Hotspring	87.72	32	IAmb	IAmb	03 04 54.4	
	comp=Z,712nm,1.2s						
CWC	Cottonwood Cre	87.81	50	IAmb	IAmb	03 04 55.4	
	comp=Z,459nm,1.1s						
PFO	Pinyon Flats O	87.81	53	P	P	03 04 53.0	+1.0
PFO				IAmb	IAmb	03 04 56.3	
	comp=Z,1μm,1.9s						
PFO	Pinyon Flats O	87.81	53c	iP	P	03 04 53.6	+1.7
PFO				pmax	pmax		
	comp=Z,1μm,2.0s						
PFO	Pinyon Flats O	87.81	53	P	P	03 04 53.3	+1.4
PFO				pP	pP	03 05 49.8	+1.4
YUH	Yuha Desert	87.83	54	IAmb	IAmb	03 04 56.4	
	comp=Z,1μm,1.8s						
MOBC	Moresby Island	87.84	31	IAmb	IAmb	03 04 54.8	
	comp=Z,826nm,1.3s						
KLU	Klutina	87.85	20	P	P	03 04 51.2	-0.2
	baz=222,SNR=64						
KLU				S	S	03 15 12.6	-0.9
	baz=222						
WSHM	Spangler Hills	87.88	51	IAmb	IAmb	03 04 55.6	
	comp=Z,501nm,1.0s						
CHUM	Lake Minchumin	87.88	16	P	P	03 04 50.9	-0.4
	baz=216,SNR=83						
CHUM				S	S	03 15 13.5	0.0
	baz=216						
BMRM	Bremner River	87.89	20	IAmb	IAmb	03 04 54.8	
	comp=Z,1μm,1.9s						
BMRM	Bremner River	87.89	20	P	P	03 04 51.5	0.0
	baz=223,SNR=55						
BMRM				S	S	03 15 13.9	+0.1
	baz=223						
PMD	Palm Desert	87.89	53	IAmb	IAmb	03 04 56.2	
	comp=Z,404nm,1.1s						
CCCA	Chr Cany lake	87.94	51	P	P	03 04 53.8	+1.4
CCCA				IAmb	IAmb	03 04 56.1	
	comp=Z,688nm,0.8s						
TIN	Tinemaha, Big	87.96	50	IAmb	IAmb	03 04 57.0	
	comp=Z,1μm,1.1s						
KTH	Kantishna Hill	87.98	17	IAmb	IAmb	03 04 53.3	
	comp=Z,966nm,1.8s						
SFX	San Felipe	88.01	56	IAmb	IAmb	03 04 56.1	
	comp=Z,413nm,1.2s						
COR	Corvallis	88.03	41	P	P	03 04 53.5	+1.0
COR				IAmb	IAmb	03 04 56.4	
	comp=Z,1μm,1.4s						
K04D	Chiloquin, OR	88.07	43	IAmb	IAmb	03 04 57.2	
	comp=Z,727nm,1.0s						
TRF	Thorofare Moun	88.07	17	IAmb	IAmb	03 04 54.1	
	comp=Z,951nm,1.9s						
TRF	Thorofare Moun	88.07	17	P	P	03 04 51.5	-0.9
	baz=218,SNR=93						
TRF				S	S	03 15 14.0	-1.7
	baz=218						
MPMC	Manual Prospec	88.08	51	P	P	03 04 54.4	+1.2
WAT1	Susitna Watana	88.08	18	P	P	03 04 52.1	-0.3
	baz=219						
WAT1				S	S	03 15 15.2	-0.3
	baz=219						
F17K	Baldwin Pennin	88.09	11	IAmb	IAmb	03 04 56.5	
	comp=Z,530nm,0.8s						
F17K	Baldwin Pennin	88.09	11	P	P	03 04 53.4	+1.2
	baz=208,SNR=113						
F17K				S	S	03 15 18.4	+3.2
	baz=208						
I20K	Naaghedeneel	88.10	15	IAmb	IAmb	03 04 56.6	
	comp=Z,485nm,0.9s						
I20K	Naaghedeneel	88.10	15	P	P	03 04 53.4	+1.1
	baz=214,SNR=103						
I20K				S	S	03 15 19.3	+3.9
	baz=214						
WAX	Waxell Ridge	88.11	21	IAmb	IAmb	03 04 54.6	
	comp=Z,278nm,0.8s						
G18K	Tagagawik	88.11	13	IAmb	IAmb	03 04 56.3	
	comp=Z,556nm,1.1s						
G18K	Tagagawik	88.11	13	P	P	03 04 53.1	+0.7
	baz=210						
G18K				S	S	03 15 17.3	+1.7
	baz=210						
WAT6	Susitna Watana	88.12	18	P	P	03 04 52.3	-0.4
	baz=220,SNR=150						
WAT6				S	S	03 15 16.6	+0.4
	baz=220						
I04A	Tendick Farm,	88.20	42	IAmb	IAmb	03 04 56.6	
	comp=Z,1μm,1.6s						
CRQM	Cirque	88.23	21	IAmb	IAmb	03 04 57.0	
	comp=Z,1μm,1.9s						
MESA	MESA	88.23	22	P	P	03 04 53.8	+0.5
	baz=225,SNR=42						
MESA				S	S	03 15 17.9	+0.6
	baz=225						
M24K	Tolsona, Glenn	88.23	19	IAmb	IAmb	03 05 03.4	
	comp=Z,2μm,1.9s						
M24K	Tolsona, Glenn	88.23	19	P	P	03 04 53.4	+0.3
	baz=221,SNR=70						
M24K				S	S	03 15 17.9	+0.9
	baz=221						
CRQE	Cirque	88.24	21	P	P	03 04 53.2	0.0
	baz=224,SNR=53						
CRQE				S	S	03 15 17.6	+0.3
	baz=224						
GSC	Goldstone, Bar	88.26	52	IAmb	IAmb	03 04 57.4	
	comp=Z,2μm,1.8s						
H19K	Roundabout Mou	88.27	13	P	P	03 04 54.0	+0.9
	baz=212,SNR=159						
H19K				S	S	03 15 20.1	+3.1
	baz=212						
DSP	Deep Springs	88.29	49	IAmb	IAmb	03 04 58.4	
	comp=Z,641nm,1.2s						
LHV	Little Huntoon	88.29	48	IAmb	IAmb	03 04 57.8	
	comp=Z,1μm,1.5s						
H04D	Lebanon	88.35	41	P	P	03 04 55.2	+1.2
N25K	Chitina, Valde	88.36	20	IAmb	IAmb	03 04 56.4	
	comp=Z,618nm,1.7s						
N25K	Chitina, Valde	88.36	20	P	P	03 04 53.8	0.0
	baz=223,SNR=73						
N25K				S	S	03 15 18.1	-0.2
	baz=223						
BPAW	Bear Paw Mtn.	88.41	16	P	P	03 04 52.6	-1.2
	baz=217,SNR=49						
BPAW				S	S	03 15 16.3	-2.2
	baz=217						
RND	Reindeer	88.44	17	IAmb	IAmb	03 04 57.2	
	comp=Z,380nm,1.1s						
NVAR	Mina Array Bea	88.51	48	P	P	03 04 56.0	+0.8
NVAR	Mina Array Bea	88.51	48	P	P	03 04 56.7	+1.5
	comp=Z,72nm,0.7s,baz=227,slow=8.0,SNR=659						
NVAR				S	SKSac	03 15 06.4	+4.6
	comp=Z,0.5nm,0.8s,baz=104,slow=11,SNR=1.0						
NVAR				PKKPbc	PKKPbc	03 22 38.5	+1.2
	comp=Z,0.5nm,0.5s,baz=64,slow=22,SNR=11						
NVAR				PKPPKP	P'P'df	03 30 38.4	-5.6
	comp=Z,3.1nm,1.1s,baz=75,slow=3.0,SNR=9.1						
	comp=Z,72nm,0.7s						
F18K	Selawik	88.53	12	P	P	03 04 55.0	+0.7
	baz=209,SNR=88						
F18K				S	S	03 15 21.7	+2.3
	baz=209						
E17K	Hotham Inlet	88.56	11	P	P	03 04 55.7	+1.3
	baz=207,SNR=249						
E17K				S	S	03 15 22.6	+2.9
	baz=207						
H20K	Anotleneega Mo	88.59	14	P	P	03 04 55.5	+0.9
	baz=213,SNR=188						
H20K				S	S	03 15 22.4	+2.3
	baz=213						
DHY	Denali Highway	88.61	18	P	P	03 04 54.5	-0.4
	baz=220,SNR=88						
DHY				S	S	03 15 19.3	-1.4
	baz=220						
NV11	Mina Array Sit	88.61	48	IAmb	IAmb	03 04 59.9	
	comp=Z,1μm,1.6s						
RADR	Rader Ridge	88.63	39	P	P	03 04 56.6	+1.3
TROLL	Troll, Antarti	88.66	184	⇑P	P	03 04 55.2	-0.1
	comp=Z,18μm,1.1s						
TROLL				⇓pP	pP	03 05 51.9	-0.3
	comp=Z,4μm,0.8s						
TROLL				⇓SKSac	SKSac	03 15 01.1	-0.5
	comp=N,376nm,0.9s						
MCK	McKinley	88.67	17	IAmb	IAmb	03 04 58.3	
	comp=Z,1μm,1.8s						
MCK	McKinley	88.67	17	P	P	03 04 54.4	-0.7
	baz=219,SNR=135						
MCK				S	S	03 15 24.0	+3.0
	baz=219						
CRAG	Craig	88.69	29	IAmb	IAmb	03 04 58.7	
	comp=Z,593nm,1.4s						
CRAG	Craig	88.69	29	P	P	03 04 57.3	+2.0
CRAG	Craig	88.69	29	P	P	03 04 56.9	+1.6
	baz=233,SNR=27						
CRAG				S	S	03 15 20.9	-0.5
	baz=233						
TABL	Table Mountain	88.70	22	IAmb	IAmb	03 04 57.4	
	comp=Z,272nm,0.7s						
SIT	Sitka	88.71	27	IAmb	IAmb	03 04 58.3	

	comp=Z,993nm,1.7s						
SIT	Sitka	88.71	27	P	P	03 04 56.8	+1.5
SIT	Sitka	88.71	27	P	P	03 04 56.4	+1.1
SIT	baz=231,SNR=20			S	S	03 15 23.4	+1.9
	baz=231						
MCARA	McCarthy VSAT	88.72	21	P	P	03 04 55.5	+0.2
MCARA	baz=224,SNR=47			S	S	03 15 21.4	-0.1
	baz=224						
GWY	Greenwater Val	88.73	51	IAmb	IAmb	03 05 00.8	
	comp=Z,412nm,1.0s						
GMN	Gold Mountain	88.77	50	IAmb	IAmb	03 04 59.7	
	comp=Z,1μm,2.0s						
HARP	HAARP	88.77	19	P	P	03 04 55.7	+0.1
	baz=222,SNR=39						
PCA	Pinnacle	88.78	23	P	P	03 04 55.2	-0.5
PINM	Pinnacle	88.78	23	P	P	03 04 55.9	+0.1
PINM	baz=227,SNR=51			S	S	03 15 21.7	-0.5
	baz=227						
PNL	Peninsula	88.80	23	P	P	03 04 56.7	+0.9
PNL	Peninsula	88.80	23	P	P	03 04 55.8	0.0
PNL	baz=227,SNR=28			S	S	03 15 21.8	-0.6
	baz=227						
BWN	Browne	88.87	17	IAmb	IAmb	03 05 01.0	
	comp=Z,541nm,0.8s						
D17K	Noatak River	88.89	10	P	P	03 04 57.4	+1.4
D17K	baz=206,SNR=69			S	S	03 15 25.8	+3.0
	baz=206						
SHOC	Shoshone, Teco	88.90	51	IAmb	IAmb	03 05 00.8	
	comp=Z,699nm,1.0s						
BARN	Barnard Glacie	88.95	21	IAmb	IAmb	03 04 58.6	
	comp=Z,230nm,0.8s						
WISH	Wishkah	88.99	39	P	P	03 04 58.9	+2.0
NVL	N'lazarevskaya	89.00	187	*e*P	P	03 04 49.6	-7.0
NVL				*e*S	SKSac	03 14 55.6	-7.6
NVL				*e*SSS	SSS	03 24 54.7	
NVL				pmax	pmax		
	comp=Z,33nm,1.3s						
NVL				smax	smax		
	comp=N,3μm,10.7s						
CTG	Chitna Glacier	89.00	22	P	P	03 04 57.0	+0.1
CTG	baz=226,SNR=118			S	S	03 15 25.9	+1.5
	baz=226						
I21K	Tanana	89.02	15	S	S	03 15 26.8	+2.7
	baz=216						
C16K	Lisburne Hills	89.06	9	IAmb	IAmb	03 05 01.0	
	comp=Z,415nm,1.2s						
C16K	Lisburne Hills	89.06	9	P	P	03 04 57.6	+0.9
C16K	baz=204,SNR=36			S	S	03 15 27.4	+3.0
	baz=204						
E18K	Tukpahlearik C	89.08	11	P	P	03 04 58.1	+1.2
E18K	baz=208,SNR=82			S	S	03 15 26.6	+2.1
	baz=208						
PAX	Paxson	89.10	19	P	P	03 04 56.8	-0.4
PAX	baz=222,SNR=39			S	S	03 15 25.2	0.0
	baz=222						
F19K	Shaleruckik Mo	89.11	12	IAmb	IAmb	03 05 01.3	
	comp=Z,676nm,1.6s						
F19K	Shaleruckik Mo	89.11	12	P	P	03 04 57.8	+0.8
F19K	baz=211			S	S	03 15 26.4	+1.6
	baz=211						
TPH	Tonopah	89.12	49	IAmb	IAmb	03 05 02.3	
	comp=Z,944nm,1.3s						
I05D	Terrebonne, OR	89.14	42	IAmb	IAmb	03 05 01.3	
	comp=Z,765nm,1.1s						
H21K	Melozitna Rive	89.21	15	P	P	03 04 58.3	+0.7
H21K	baz=215,SNR=74			S	S	03 15 28.5	+2.6
	baz=215						
MLY	Manley	89.22	16	P	P	03 04 56.9	-0.7
MLY	baz=217,SNR=101			S	S	03 15 24.9	-1.2
	baz=217						
RDOG	Red Dog Mine	89.25	10	P	P	03 04 59.2	+1.5
RDOG	baz=206,SNR=16			S	S	03 15 28.6	+2.5
	baz=206						
IMAR	Indian Mountai	89.26	14	P	P	03 04 57.8	+0.1
SLBS	Sierra La Lagu	89.26	65	P	P	03 05 01.1	+2.2
O28M	Mount Upton	89.27	22	IAmb	IAmb	03 05 00.2	
	comp=Z,457nm,1.2s						
O28M	Mount Upton	89.27	22	P	P	03 04 58.5	+0.2
O28M	baz=227,SNR=178			S	S	03 15 27.2	0.0
	baz=227						
SNAA	Sanae	89.28	182	⇑P	P	03 04 57.7	-0.5
SNAA	comp=Z,4μm,0.8s			⇑pP	pP	03 05 52.3	-2.8
SNAA	comp=Z,950nm,0.9s			⇑SKSac	SKSac	03 15 03.3	-1.8
SNAA	comp=N,127nm,1.0s			⇑S	S	03 15 24.4	-2.5
SNAA	Sanae	89.28	182	P	P	03 04 57.3	-0.7
SNAA				IAmb	IAmb	03 04 59.3	
	comp=Z,753nm,1.5s						
SNAA	Sanae	89.28	182	P	P	03 04 57.6	-0.5
SNAA	comp=Z,190nm,0.8s,baz=199,slow=5.6,SNR=462			PKiKP	PKiKP	03 09 54.6	-0.2
SNAA	comp=Z,1.8nm,0.5s,baz=234,slow=4.8,SNR=6.1			S	SKSac	03 15 03.1	-2.0
SNAA	comp=Z,2.5nm,0.9s,baz=1.7,slow=23,SNR=15			PKKP	PKKPdf	03 22 31.0	+2.1
	comp=Z,1.2nm,0.7s,baz=356,slow=3.9,SNR=2.9						
	comp=Z,190nm,0.8s						
S32K	Killisnoo	89.29	27	IAmb	IAmb	03 05 00.8	
	comp=Z,892nm,1.5s						
S32K	Killisnoo	89.29	27	P	P	03 04 59.2	+1.2
S32K	baz=232,SNR=71			S	S	03 15 27.7	+0.9
	baz=232						
NEA2	Nenana	89.31	17	P	P	03 04 57.0	-1.1
NEA2	baz=219,SNR=85			S	S	03 15 24.5	-2.3
	baz=219						
PIX	Pinacate	89.31	56	IAmb	IAmb	03 05 02.9	
	comp=Z,385nm,1.0s						
RUBB	Prince Rupert	89.36	31	IAmb	IAmb	03 05 02.0	
	comp=Z,768nm,1.4s						
BOD	Bodaibo	89.37	334	⇓*i*P	P	03 04 57.9	-0.5
BOD				pmax	pmax		
	comp=Z,719nm,1.5s						
R31K	City Hall, Gus	89.40	25	P	P	03 04 59.6	+1.1
R31K	baz=231,SNR=7.8			S	S	03 15 29.0	+1.2
	baz=231						
P29M	Windy Craggy	89.40	24	IAmb	IAmb	03 05 01.6	
	comp=Z,830nm,1.4s						
P29M	Windy Craggy	89.40	24	P	P	03 04 59.3	+0.7
P29M	baz=229,SNR=160			S	S	03 15 27.8	-0.2
	baz=229						
GOMU	GeErMu	89.45	309	P	P	03 05 01.1	+1.3
GOMU				SS	SS	03 21 25.9	-6.0
GOMU				pmax	pmax		
	comp=Z,150nm,2.0s						
GOMU				LR	LR		
	comp=Z,290nm,14.2s						
GOMU				LR	LR		
	comp=Z,940nm,17.2s						
GOMU				LR	LR		
	comp=Z,1μm,18.6s						
M26K	Nabesna, AK	89.46	20	P	P	03 04 58.9	0.0
M26K	baz=224			S	S	03 15 29.6	+1.2
	baz=224						
O29M	Mount Kennedy	89.54	23	P	P	03 04 59.5	+0.2
O29M	baz=228,SNR=64			S	S	03 15 29.2	-0.2
	baz=228						
C17K	DeLong Mountai	89.58	10	P	P	03 05 00.4	+1.2
C17K	baz=206			S	S	03 15 31.8	+2.5
	baz=206						
T33K	Petersburg	89.58	28	P	P	03 05 00.8	+1.4
	baz=233,SNR=13						
WRAK	Wrangell Islan	89.61	28	P	P	03 05 00.9	+1.4
	baz=233,SNR=96						
I23K	Minto, Yukon-K	89.67	16	P	P	03 04 59.2	-0.4
	baz=218,SNR=28						
I23K				S	S	03 15 27.8	-2.2
	baz=218						
NEE2	Needles Airpor	89.68	53	IAmb	IAmb	03 05 04.9	
	comp=Z,675nm,1.0s						
F20K	Avaraart Lake	89.71	13	IAmb	IAmb	03 05 02.6	
	comp=Z,612nm,1.6s						
F20K	Avaraart Lake	89.71	13	P	P	03 05 01.0	+1.2
F20K	baz=213			S	S	03 15 32.0	+1.6
	baz=213						
LSA	Lhasa	89.73	302	P	P	03 04 58.8	-2.6
LSA				LR	LR		
	comp=Z,4μm,12.2s						
LSA				LR	LR		
	comp=Z,5μm,14.1s						
LSA	Lhasa	89.73	302	P	P	03 05 01.4	0.0
LSA				IAmb	IAmb	03 05 03.7	
	comp=Z,483nm,1.8s						
LSA	Lhasa	89.73	302	P	P	03 05 01.9	+0.4
LSA	Lhasa	89.73	302	P	P	03 05 01.4	0.0
LSA				pmax	pmax		
	comp=Z,483nm,1.8s						
H22K	Ishtalitna Cre	89.75	15	P	P	03 05 00.6	+0.5
H22K	baz=217,SNR=88			S	S	03 15 31.4	+0.5
	baz=217						
HDA	Harding Lake	89.75	17	P	P	03 04 59.5	-0.5
HDA	baz=221,SNR=192			S	S	03 15 29.0	-1.9
	baz=221						
E19K	Redstone River	89.75	12	P	P	03 05 01.1	+1.1
E19K	baz=211,SNR=123			S	S	03 15 31.4	+0.6
	baz=211						
G21K	Allakaket	89.75	14	IAmb	IAmb	03 05 02.5	
	comp=Z,319nm,1.1s						
G21K	Allakaket	89.75	14	P	P	03 05 00.8	+0.8
G21K	baz=215			S	S	03 15 32.6	+1.7
	baz=215						
GNW	Green Mountain	89.77	39	IAmb	IAmb	03 05 04.7	
	comp=Z,669nm,1.0s						
YUK8	Steele Glacier	89.77	22	P	P	03 05 01.1	+0.5
YUK8	baz=227,SNR=237			S	S	03 15 31.5	-0.3
	baz=227						
M27K	Edge Creek, AK	89.80	20	P	P	03 05 00.8	+0.3
M27K	baz=225,SNR=107			S	S	03 15 31.6	-0.1
	baz=225						
L26K	Log Cabin Wild	89.80	20	P	P	03 05 00.5	+0.1
L26K	baz=224,SNR=88			S	S	03 15 30.8	-0.7
	baz=224						
R32K	Eaglecrest	89.81	26	IAmb	IAmb	03 05 03.3	
	comp=Z,517nm,1.4s						
R32K	Eaglecrest	89.81	26	P	P	03 05 01.6	+1.1
R32K	baz=232,SNR=81			S	S	03 15 29.3	-2.4
	baz=232						
PLBC	Pleasant Camp	89.82	24	P	P	03 05 01.2	+0.7
PLBC	baz=230,SNR=250			S	S	03 15 31.7	0.0
	baz=230						
VNA3	Neumayer Olymp	89.86	180	⇑P	P	03 05 00.2	-0.5
VNA3	comp=Z,337nm,0.7s			⇑pP	pP	03 05 57.7	0.0
	comp=Z,113nm,0.8s						
VNA3				⇓SKSac	SKSac	03 15 06.5	-1.8
	comp=E,11nm,1.2s						
VNA3				⇑S	S	03 15 29.6	-2.5
COLA	College	89.86	17	P	P	03 04 59.6	-0.9
COLA	College	89.86	17	P	P	03 05 00.1	-0.4
COLA	College	89.86	17	P	P	03 04 59.6	-0.9
COLA	baz=220			S	S	03 15 30.7	-1.1
	baz=220						
COLA	College	89.86	17	P	P	03 04 59.5	-1.0
COLA				S	S	03 15 33.5	+1.7
COLA	College	89.86	17	P	P	03 04 59.5	-1.0
RIDG	Independent Ri	89.86	19	P	P	03 05 00.5	-0.1
RIDG	baz=223,SNR=101			S	S	03 15 30.7	-1.4
	baz=223						
JIS	Juneau Island	89.87	26	P	P	03 05 02.1	+1.4
SHPR	Sheep Range	89.97	51	IAmb	IAmb	03 05 06.6	
	comp=Z,1μm,1.7s						
LON	Longmire	89.99	40	IAmb	IAmb	03 05 05.5	
	comp=Z,1μm,1.7s						
P30M	Million Dollar	90.02	24	P	P	03 05 02.4	+0.9
P30M	baz=230			S	S	03 15 33.9	+0.2
	baz=230						
YUK6	Outpost Mounta	90.04	23	P	P	03 05 02.0	+0.2
YUK6	baz=228,SNR=86			S	S	03 15 36.0	+1.7
	baz=228						
ILAR	Eielson Array	90.05	17	P	P	03 05 00.1	-1.3
ILAR	Eielson Array	90.05	17	P	P	03 05 00.8	-0.6
	comp=Z,58nm,0.7s,baz=236,slow=4.8,SNR=1015						
ILAR				PKiKP	PKiKP	03 09 57.2	+1.2
	comp=Z,1.1nm,0.7s,baz=278,slow=3.0,SNR=0.8						
ILAR				S	SKSac	03 15 07.5	-1.5
	comp=Z,4.0nm,1.1s,baz=254,slow=13,SNR=5.3						
ILAR				PKKP	PKKPdf	03 22 30.5	+0.4
	comp=Z,0.7nm,0.4s,baz=344,slow=2.7,SNR=12						
	comp=Z,58nm,0.7s						
C18K	Utukok River	90.06	10	P	P	03 05 02.4	+0.9
C18K	baz=208,SNR=32			S	S	03 15 34.8	+1.0
	baz=208						
D05A	Enumclaw	90.09	39	P	P	03 05 03.3	+1.3
ESPZ	Base Esperanza	90.10	161	P	P	03 05 02.2	+0.3
ESPZ				IAmb	IAmb	03 05 05.7	
	comp=Z,457nm,0.9s						
H23K	Yukon River	90.15	16	P	P	03 05 01.8	-0.1
H23K	baz=218			S	S	03 15 30.4	-4.2
	baz=218						
VNA2	Neumayer--Watz	90.15	181	⇑P	P	03 05 01.9	-0.2
VNA2	comp=Z,326nm,1.0s,baz=173,slow=4.6			⇓pP	pP	03 05 58.3	-0.8
	comp=Z,69nm,0.7s,baz=175,slow=30						
VNA2				⇑SKSac	SKSac	03 15 08.4	-1.6
	comp=E,2.9nm,0.6s,baz=331,slow=34						
POKR	Poker Plat Res	90.16	17	P	P	03 05 01.0	-1.0
POKR	baz=220,SNR=34			S	S	03 15 29.7	-5.0
	baz=220						
YUK4	Talbot Arm	90.21	22	P	P	03 05 03.4	+0.9
SKAG	baz=228,SNR=170						
SKAG	Skagway	90.23	25	IAmb	IAmb	03 05 08.6	
	comp=Z,632nm,1.1s						
SKAG	Skagway	90.23	25	P	P	03 05 03.8	+1.4
SKAG	Skagway	90.23	25	P	P	03 05 03.5	+1.1
SKAG	baz=231,SNR=229			S	S	03 15 33.6	-1.8
	baz=231						
HYT	Haines Junctio	90.28	23	IAmb	IAmb	03 05 04.8	
	comp=Z,1μm,1.9s						
HYT	Haines Junctio	90.28	23	P	P	03 05 03.2	+0.4
HYT	baz=229,SNR=143			S	S	03 15 36.6	+0.5
	baz=229						
SCRK	Sand Creek	90.30	19	P	P	03 05 02.9	+0.1
SCRK	baz=223,SNR=170			S	S	03 15 35.5	-0.7
	baz=223						
L27K	Beaver Creek,	90.31	20	P	P	03 05 02.7	-0.1
L27K	baz=225,SNR=72			S	S	03 15 36.0	-0.2
	baz=225						
BCAR	Beaver Creek A	90.33	20	P	P	03 05 02.5	-0.4
F21K	Alatna River	90.34	14	IAmb	IAmb	03 05 05.2	
	comp=Z,1μm,1.9s						
F21K	Alatna River	90.34	14	P	P	03 05 03.5	+0.6
F21K	baz=215,SNR=133			S	S	03 15 37.3	+1.0
	baz=215						
J25K	Salcha River,	90.36	18	P	P	03 05 02.8	-0.2
J25K	baz=222			S	S	03 15 35.8	-0.8
	baz=222						
U35K	Hyder	90.38	29	IAmb	IAmb	03 05 11.3	
	comp=Z,461nm,0.6s						
U35K	Hyder	90.38	29	P	P	03 05 04.3	+1.2
U35K	baz=235,SNR=28			S	S	03 15 41.1	+4.2
	baz=235						
ZAK	Zakamensk	90.39	324	*e*P	P	03 05 02.8	-0.7
ZAK				pmax	pmax		
	comp=Z,598nm,1.7s						
R11B	Troy Canyon, C	90.41	49	IAmb	IAmb	03 05 07.3	
	comp=Z,932nm,2.0s						
VNA1	Neumayer--Stat	90.44	181	⇑P	P	03 05 03.2	-0.1
VNA1	comp=Z,398nm,1.2s			⇓S	S	03 15 34.5	-2.7
D19K	Kuna River	90.48	11	IAmb	IAmb	03 05 06.1	
	comp=Z,273nm,0.9s						
D19K	Kuna River	90.48	11	P	P	03 05 04.5	+1.0
D19K	baz=210,SNR=64			S	S	03 15 38.3	+0.8
	baz=210						
J08A	Circle Bar Ran	90.54	44	IAmb	IAmb	03 05 06.9	
	comp=Z,377nm,1.0s						
G22K	Bettles	90.55	14	P	P	03 05 04.5	+0.8
G22K	baz=216,SNR=204			S	S	03 15 39.0	+1.0
	baz=216						
Y14A	Wickenburg	90.58	54	IAmb	IAmb	03 05 08.3	
	comp=Z,1μm,1.9s						
B18K	Kokolik River	90.60	10	P	P	03 05 05.5	+1.5
B18K	baz=207,SNR=23			S	S	03 15 40.1	+1.6
	baz=207						
E20K	Nigu River	90.64	12	P	P	03 05 05.5	+1.2
E20K	baz=212,SNR=108			S	S	03 15 40.3	+1.2
	baz=212						
G23K	Bananza Creek	90.73	15	IAmb	IAmb	03 05 07.2	
	comp=Z,379nm,1.5s						
G23K	Bananza Creek	90.73	15	P	P	03 05 05.5	+0.8
G23K	baz=218			S	S	03 15 40.3	+0.4
	baz=218						
C19K	Lookout Ridge	90.75	11	IAmb	IAmb	03 05 07.7	
	comp=Z,432nm,1.1s						
C19K	Lookout Ridge	90.75	11	P	P	03 05 06.1	+1.4
C19K	baz=209,SNR=44			S	S	03 15 40.7	+0.8
	baz=209						
O30N	Mendenhall	90.77	24	IAmb	IAmb	03 05 07.6	
	comp=Z,502nm,1.2s						
O30N	Mendenhall	90.77	24	P	P	03 05 05.3	+0.4
O30N	baz=230,SNR=156			S	S	03 15 36.5	-4.0
	baz=230						
IRK	Irkutsk	90.80	326	*e*P	P	03 05 04.6	-0.6
IRK				*e*		03 15 39.4	
IRK				pmax	pmax		
	comp=Z,489nm,2.5s						
J26L	Joseph Creek	90.80	18	P	P	03 05 05.4	+0.3
J26L	baz=224,SNR=227			S	S	03 15 40.6	-0.1
	baz=224						
MXC	Moxie City	90.83	40	P	P	03 05 06.6	+1.0
TLY	Talaya	90.84	325	P	P	03 05 05.8	+0.3
N30M	Aishikik Lake	90.85	23	P	P	03 05 05.5	+0.2
N30M	baz=229,SNR=120			S	S	03 15 41.7	+0.5
	baz=229						
F22K	John River	90.87	14	P	P	03 05 06.2	+1.0
F22K	baz=216			S	S	03 15 41.7	+0.7
	baz=216						
T35M	Bob Quinn	90.88	28	IAmb	IAmb	03 05 08.9	
	comp=Z,791nm,1.6s						
T35M	Bob Quinn	90.88	28	P	P	03 05 07.1	+1.6
	baz=235,SNR=79						
K27K	Chicken	90.92	19	P	P	03 05 06.5	+1.0
K27K	baz=225			S	S	03 15 40.4	-1.2
	baz=225						
D20K	Etivluk River	90.95	12	IAmb	IAmb	03 05 08.5	
	comp=Z,654nm,1.2s						
D20K	Etivluk River	90.95	12	P	P	03 05 06.8	+1.2
D20K	baz=212,SNR=115			S	S	03 15 43.3	+1.6
	baz=212						
P32M	Atlin	90.96	25	P	P	03 05 06.8	+0.9
P32M	baz=232,SNR=208			S	S	03 15 43.8	+1.6
	baz=232						
PRP	Porcupine Dome	90.99	17	P	P	03 05 04.8	-1.2
PRP	baz=222,SNR=73			S	S	03 15 41.1	-1.3
	baz=222						
M29M	Somme Creek	91.01	21	P	P	03 05 06.4	+0.2
M29M	baz=228,SNR=89			S	S	03 15 42.8	+0.1
	baz=228						
S34M	Telegraph Cree	91.03	27	P	P	03 05 07.6	+1.5
S34M	baz=234,SNR=281			S	S	03 15 44.9	+2.1
	baz=234						
G08A	Pilot Rock	91.08	42	IAmb	IAmb	03 05 11.0	
	comp=Z,944nm,1.5s						
E07A	Sunnyside	91.09	41	IAmb	IAmb	03 05 11.0	
	comp=Z,637nm,1.0s						
COLD	Coldfoot	91.10	15	IAmb	IAmb	03 05 09.1	
	comp=Z,843nm,1.9s						
COLD	Coldfoot	91.10	15	P	P	03 05 07.4	+1.1
COLD	baz=218,SNR=76			S	S	03 15 45.2	+2.1
	baz=218						
WHY	Whitehorse	91.16	24	P	P	03 05 07.3	+0.4
WHY	baz=231,SNR=177			S	S	03 15 48.3	+4.2
	baz=231						
Q32M	Nakina River	91.17	26	P	P	03 05 07.7	+0.7
Q32M	Nakina River	91.17	26	P	P	03 05 08.2	+1.2
	baz=234,SNR=140						
MG05	Puerto Natales	91.19	147	IAmb	IAmb	03 05 09.9	
	comp=Z,490nm,1.7s						
E21K	Killik River	91.25	13	P	P	03 05 08.0	+1.0
E21K	baz=214			S	S	03 15 44.3	-0.2
	baz=214						
N31M	Braeburn, Yuko	91.35	23	IAmb	IAmb	03 05 10.3	
	comp=Z,652nm,1.1s						
N31M	Braeburn, Yuko	91.35	23	P	P	03 05 08.1	+0.4
	baz=231,SNR=280						
G24K	Hadweenzic Riv	91.36	16	IAmb	IAmb	03 05 10.4	
	comp=Z,933nm,2.0s						
G24K	Hadweenzic Riv	91.36	16	P	P	03 05 07.6	0.0
G24K	baz=220,SNR=75			S	S	03 15 44.0	-1.5
	baz=220						
USHA	Ushuaia	91.39	151	P	P	03 05 08.5	+0.5
	comp=Z,45nm,0.5s,baz=219,slow=6.3,SNR=5.9						
	comp=Z,45nm,0.5s						
YPT	Yellepit	91.42	41	IAmb	IAmb	03 05 11.6	
	comp=Z,1μm,1.9s						
E22K	Anaktuvuk Pass	91.46	14	P	P	03 05 08.8	+0.8
E22K	baz=216,SNR=132			S	S	03 15 46.8	+0.5
	baz=216						
H25L	Birch Creek	91.47	17	P	P	03 05 07.2	-0.8
H25L	baz=222,SNR=7.5			S	S	03 15 47.7	+1.3
	baz=222						
A19K	Wainwright	91.47	10	P	P	03 05 09.3	+1.5
A19K	baz=208,SNR=12			S	S	03 15 46.9	+0.7
	baz=208						
GO09	Cerro Castillo	91.50	146	P	P	03 05 09.6	+0.9
GO09				IAmb	IAmb	03 05 11.7	
	comp=Z,393nm,1.5s						
I26K	Coal Creek Min	91.51	18	P	P	03 05 08.7	+0.5
I26K	baz=224			S	S	03 15 47.1	+0.3
	baz=224						
L29M	L29M	91.57	21	IAmb	IAmb	03 05 11.6	
	comp=Z,374nm,1.1s						
L29M	L29M	91.57	21	P	P	03 05 09.1	+0.5
L29M	baz=228,SNR=229			S	S	03 15 49.0	+1.4
	baz=228						
SPR3	Spring Creek 3	91.57	49	P	P	03 05 10.6	+1.0
SPR3				IAmb	IAmb	03 05 12.6	
	comp=Z,259nm,1.1s						
ELK	Elko	91.63	47	IAmb	IAmb	03 05 13.0	
	comp=Z,578nm,1.8s						
C21K	Knifeblade Rid	91.68	12	P	P	03 05 10.6	+1.6
C21K	baz=214,SNR=70			S	S	03 15 50.6	+2.4

	baz=214						
M30M	**Minto, Yukon**	**91.68**	**22**	IAmb	IAmb	03 05 11.8	
	comp=Z,788nm,1.3s						
M30M	**Minto, Yukon**	**91.68**	**22**	P	**P**	**03 05 09.5**	**+0.4**
	baz=230,SNR=468						
M30M				S	**S**	**03 15 49.1**	**+0.5**
	baz=230						
P33M	**Teslin, Yukon**	**91.69**	**25**	IAmb	IAmb	03 05 11.5	
	comp=Z,977nm,1.9s						
P33M	**Teslin, Yukon**	**91.69**	**25**	P	**P**	**03 05 09.9**	**+0.6**
	baz=233,SNR=153						
MG01	**Puerto William**	**91.69**	**151**	IAmb	IAmb	03 05 12.2	
	comp=Z,698nm,1.6s						
TUC	**Tucson**	**91.70**	**56**	P	**P**	**03 05 11.6**	**+1.6**
CCUT	**Cedar City**	**91.71**	**51**	IAmb	IAmb	03 05 14.8	
	comp=Z,1μm,1.6s						
EGAK	**Eagle**	**91.73**	**19**	IAmb	IAmb	03 05 11.1	
	comp=Z,282nm,0.7s						
EGAK	**Eagle**	**91.73**	**19**	P	**P**	**03 05 09.5**	**+0.2**
	baz=226,SNR=262						
LNOR	**Lincton Mounta**	**91.76**	**42**	IAmb	IAmb	03 05 12.9	
	comp=Z,542nm,1.8s						
G25K	**Bearman Lake**	**91.77**	**16**	P	**P**	**03 05 09.7**	**+0.3**
	baz=221						
G25K				S	**S**	**03 15 50.7**	**+1.6**
	baz=221						
LLLB	**Lillooet**	**91.78**	**36**	IAmb	IAmb	03 05 17.3	
	comp=Z,254nm,0.9s						
MALK	**Mahakanadarawa**	**91.79**	**278**	P	**P**	**03 05 12.0**	**+1.3**
DAWY	**Dawson**	**91.80**	**20**	IAmb	IAmb	03 05 11.5	
	comp=Z,431nm,1.5s						
DAWY	**Dawson**	**91.80**	**20**	P	**P**	**03 05 09.8**	**+0.1**
	baz=227,SNR=146						
DLBC	**Dease Lake**	**91.81**	**27**	P	**P**	**03 05 11.1**	**+1.2**
	baz=235,SNR=227						
DLBC				S	**S**	**03 15 53.3**	**+3.3**
	baz=235						
FYU	**Fort Yukon**	**91.85**	**16**	IAmb	IAmb	03 05 12.8	
	comp=Z,589nm,1.9s						
D22K	**Ayikyak River**	**91.88**	**13**	IAmb	IAmb	03 05 13.0	
	comp=Z,354nm,0.9s						
D22K	**Ayikyak River**	**91.88**	**13**	P	**P**	**03 05 11.4**	**+1.5**
	baz=216						
D22K				S	**S**	**03 15 51.1**	**+1.1**
	baz=216						
F24K	**Squaw Lake**	**91.89**	**15**	IAmb	IAmb	03 05 12.8	
	comp=Z,268nm,1.2s						
F24K	**Squaw Lake**	**91.89**	**15**	P	**P**	**03 05 11.1**	**+1.1**
	baz=220,SNR=67						
F24K				S	**S**	**03 15 52.0**	**+1.8**
	baz=220						
E23K	**Chandalar**	**91.90**	**14**	IAmb	IAmb	03 05 12.7	
	comp=Z,1μm,1.8s						
E23K	**Chandalar**	**91.90**	**14**	P	**P**	**03 05 11.0**	**+0.9**
	baz=218,SNR=83						
E23K				S	**S**	**03 15 50.8**	**+0.5**
	baz=218						
BMO	**Blue Mountains**	**91.95**	**43**	IAmb	IAmb	03 05 13.9	
	comp=Z,343nm,1.4s						
B20K	**Meade River**	**91.96**	**11**	P	**P**	**03 05 10.6**	**+0.5**
B20K				IAmb	IAmb	03 05 13.0	
	comp=Z,689nm,1.6s						
B20K	**Meade River**	**91.96**	**11**	P	**P**	**03 05 11.4**	**+1.2**
	baz=211						
B20K				S	**S**	**03 15 51.1**	**+0.5**
	baz=211						
X16A	**Lo Mia Camp, P**	**91.96**	**54**	IAmb	IAmb	03 05 16.0	
	comp=Z,379nm,1.0s						
R33M	**Jennings River**	**91.97**	**26**	P	**P**	**03 05 11.8**	**+1.2**
	baz=235,SNR=277						
R33M				S	**S**	**03 15 54.0**	**+2.6**
	baz=235						
BOK	**Bokaro**	**92.02**	**294**	*e*P	**P**	**03 05 11.4**	**-0.2**
BOK				IAmb	IAmb	03 05 12.9	
	comp=Z,107nm,0.9s						
BOK				*e*S	**SKSac**	**03 15 20.6**	**-1.5**
B21K	**Ikpikpuk River**	**92.10**	**12**	IAmb	IAmb	03 05 13.8	
	comp=Z,308nm,0.9s						
B21K	**Ikpikpuk River**	**92.10**	**12**	P	**P**	**03 05 12.1**	**+1.3**
	baz=214,SNR=53						
B21K				S	**S**	**03 15 53.0**	**+1.1**
	baz=214						
E09A	**Wood Farm, Sta**	**92.13**	**41**	IAmb	IAmb	03 05 14.5	
	comp=Z,734nm,1.6s						
N32M	**Quiet Lake**	**92.16**	**24**	P	**P**	**03 05 12.1**	**+0.7**
	baz=233						
N32M				S	**S**	**03 15 55.7**	**+2.8**
	baz=233						
I27K	**Kandik River**	**92.17**	**18**	P	**P**	**03 05 11.5**	**+0.2**
	baz=226,SNR=84						
I27K				S	**S**	**03 15 52.9**	**+0.1**
	baz=226						
E24K	**Your Creek**	**92.18**	**15**	P	**P**	**03 05 12.2**	**+0.9**
	baz=219						
E24K				S	**S**	**03 15 53.3**	**+0.5**
	baz=219						
B08A	**Colville Reser**	**92.22**	**39**	IAmb	IAmb	03 05 14.7	
	comp=Z,1μm,1.9s						
MG02	**Cerro Sombrero**	**92.22**	**149**	IAmb	IAmb	03 05 14.7	
	comp=Z,785nm,1.4s						
VIS	**Vishakhapatnam**	**92.25**	**288**	*e*P	**P**	**03 05 12.4**	**-0.3**
VIS				IAmb	IAmb	03 05 15.3	
	comp=Z,383nm,2.1s						
VIS				*e*S	**SKSac**	**03 15 22.6**	**-1.0**
K29M	**Barlow Dome**	**92.26**	**21**	IAmb	IAmb	03 05 14.0	
	comp=Z,644nm,1.6s						
K29M	**Barlow Dome**	**92.26**	**21**	P	**P**	**03 05 12.2**	**+0.3**
	baz=229,SNR=184						
K29M				S	**S**	**03 15 56.5**	**+2.7**
	baz=229						
M31M	**Drury Creek, Y**	**92.31**	**23**	P	**P**	**03 05 11.7**	**-0.4**
	baz=232,SNR=212						
MFID	**Camas Ranch**	**92.31**	**45**	P	**P**	**03 05 13.6**	**+0.9**
TOLK	**Toolik Lake Re**	**92.37**	**14**	IAmb	IAmb	03 05 14.8	
	comp=Z,494nm,1.4s						
TOLK	**Toolik Lake Re**	**92.37**	**14**	P	**P**	**03 05 13.1**	**+0.9**
	baz=218,SNR=51						
TOLK				S	**S**	**03 15 57.4**	**+3.0**
	baz=218						
D23K	**Nanushuk River**	**92.38**	**13**	IAmb	IAmb	03 05 16.0	
	comp=Z,550nm,1.1s						
D23K	**Nanushuk River**	**92.38**	**13**	P	**P**	**03 05 13.8**	**+1.7**
	baz=217						
D23K				S	**S**	**03 15 55.8**	**+1.4**
	baz=217						
WUAZ	**Wupatki**	**92.42**	**53**	IAmb	IAmb	03 05 18.6	
	comp=Z,663nm,1.3s						
J29N	**Klondike Camp**	**92.44**	**20**	P	**P**	**03 05 13.3**	**+0.7**
	baz=228,SNR=52						
F10A	**Beach Ranch, E**	**92.47**	**42**	IAmb	IAmb	03 05 16.1	
	comp=Z,872nm,1.7s						
F25K	**Christian Rive**	**92.51**	**16**	IAmb	IAmb	03 05 15.7	
	comp=Z,546nm,1.7s						
F25K	**Christian Rive**	**92.51**	**16**	P	**P**	**03 05 13.9**	**+1.0**
	baz=222,SNR=51						
F25K				S	**S**	**03 15 57.2**	**+1.5**
	baz=222						
G26K	**Porcupine Rive**	**92.52**	**17**	IAmb	IAmb	03 05 15.4	
	comp=Z,279nm,0.8s						
G26K	**Porcupine Rive**	**92.52**	**17**	P	**P**	**03 05 13.7**	**+0.9**
	baz=224,SNR=144						
319A	**Douglas**	**92.56**	**58**	IAmb	IAmb	03 05 18.7	
	comp=Z,356nm,0.9s						
I28M	**Miner Creek**	**92.57**	**19**	P	**P**	**03 05 13.1**	**-0.1**
	baz=227,SNR=151						
H27K	**Steamboat Moun**	**92.64**	**18**	IAmb	IAmb	03 05 15.8	
	comp=Z,742nm,1.8s						
H27K	**Steamboat Moun**	**92.64**	**18**	P	**P**	**03 05 14.2**	**+0.7**
	baz=226,SNR=117						
MAYO	**Mayo, Yukon**	**92.66**	**21**	P	**P**	**03 05 14.2**	**+0.7**
	baz=230,SNR=15						
BMAR	**Burnt Mountain**	**92.66**	**16**	P	**P**	**03 05 14.2**	**+0.6**
PLID	**Pearl Lake**	**92.89**	**43**	IAmb	IAmb	03 05 18.1	
	comp=Z,552nm,2.0s						
E25K	**Arctic Village**	**92.92**	**15**	IAmb	IAmb	03 05 17.4	
	comp=Z,540nm,1.6s						
E25K	**Arctic Village**	**92.92**	**15**	P	**P**	**03 05 15.7**	**+0.9**
	baz=222,SNR=42						
E25K				S	**S**	**03 16 00.3**	**+1.0**
	baz=222						
B22K	**Teshekpuk Lake**	**92.93**	**12**	IAmb	IAmb	03 05 17.5	
	comp=Z,622nm,1.3s						
B22K	**Teshekpuk Lake**	**92.93**	**12**	P	**P**	**03 05 15.8**	**+1.2**
	baz=215,SNR=20						
B22K				S	**S**	**03 15 59.5**	**+0.4**
	baz=215						
D24K	**Happy Valley**	**92.94**	**14**	IAmb	IAmb	03 05 17.6	
	comp=Z,296nm,1.1s						
D24K	**Happy Valley**	**92.94**	**14**	P	**P**	**03 05 16.2**	**+1.4**
	baz=219						
D24K				S	**S**	**03 16 01.2**	**+1.9**
	baz=219						
F26K	**Sheenjek River**	**92.97**	**16**	IAmb	IAmb	03 05 18.0	
	comp=Z,632nm,1.9s						
F26K	**Sheenjek River**	**92.97**	**16**	P	**P**	**03 05 16.0**	**+1.0**
	baz=223,SNR=45						
F26K				S	**S**	**03 16 00.5**	**+0.8**
	baz=223						
G27K	**Doyon Strip**	**93.01**	**17**	IAmb	IAmb	03 05 17.7	
	comp=Z,496nm,1.8s						
G27K	**Doyon Strip**	**93.01**	**17**	P	**P**	**03 05 15.7**	**+0.5**
	baz=226,SNR=79						
G27K				S	**S**	**03 16 00.3**	**+0.2**
	baz=226						
I29M	**Ogilvie Camp,**	**93.01**	**19**	IAmb	IAmb	03 05 16.8	
	comp=Z,646nm,1.4s						
I29M	**Ogilvie Camp,**	**93.01**	**19**	P	**P**	**03 05 15.1**	**-0.1**
	baz=228,SNR=205						
I29M				S	**S**	**03 16 01.2**	**+1.0**
	baz=228						
C23K	**Itkillik River**	**93.09**	**13**	P	**P**	**03 05 16.8**	**+1.4**
	baz=217						
C23K				S	**S**	**03 16 02.3**	**+1.7**
	baz=217						
J30M	**Hart River**	**93.14**	**21**	IAmb	IAmb	03 05 17.9	
	comp=Z,642nm,1.9s						
J30M	**Hart River**	**93.14**	**21**	P	**P**	**03 05 16.2**	**+0.2**
	baz=230,SNR=67						
A21K	**Barrow**	**93.18**	**10**	P	**P**	**03 05 16.4**	**+0.7**
	baz=212						
A21K				S	**S**	**03 16 03.1**	**+1.8**
	baz=212						
A22K	**Sinclair Lake**	**93.19**	**11**	P	**P**	**03 05 17.0**	**+1.1**
	baz=213						
A22K				S	**S**	**03 16 02.3**	**+0.9**
	baz=213						
WTLY	**Watson Lake, Y**	**93.28**	**26**	P	**P**	**03 05 17.7**	**+1.1**
	baz=236,SNR=53						
C24K	**Franklin Bluff**	**93.41**	**13**	P	**P**	**03 05 18.2**	**+1.3**
	baz=219						
C24K				S	**S**	**03 16 06.1**	**+2.8**
	baz=219						
W18A	**Petrified Fore**	**93.53**	**54**	IAmb	IAmb	03 05 21.8	
	comp=Z,859nm,1.8s						
I30M	**Mount Dempster**	**93.54**	**20**	IAmb	IAmb	03 05 19.3	
	comp=Z,239nm,1.1s						
I30M	**Mount Dempster**	**93.54**	**20**	P	**P**	**03 05 17.6**	**-0.1**
	baz=230,SNR=141						
H29M	**Whitestone**	**93.57**	**19**	IAmb	IAmb	03 05 19.7	
	comp=Z,950nm,1.8s						
H29M	**Whitestone**	**93.57**	**19**	P	**P**	**03 05 18.0**	**+0.3**
	baz=228,SNR=84						
H29M				S	**S**	**03 16 09.3**	**+4.3**
	baz=228						
D25K	**Kavik River**	**93.63**	**14**	IAmb	IAmb	03 05 20.1	
	comp=Z,256nm,1.2s						
D25K	**Kavik River**	**93.63**	**14**	P	**P**	**03 05 18.4**	**+0.4**
	baz=221,SNR=42						
D25K				S	**S**	**03 16 03.9**	**-1.6**
	baz=221						
KNGR	**Kungurtug, Tuv**	**93.75**	**323**	⇑*i*P	**P**	**03 05 19.7**	**+0.7**
KNGR				pmax	pmax		
	comp=Z,325nm,1.6s						
Q16A	**Castle Valley**	**93.82**	**50**	IAmb	IAmb	03 05 23.4	
	comp=Z,908nm,1.9s						
MPU	**Maple Canyon**	**93.89**	**49**	IAmb	IAmb	03 05 23.2	
	comp=Z,392nm,1.8s						
TMUT	**Trail Mountain**	**93.93**	**50**	P	**P**	**03 05 21.3**	**+0.9**
TMUT				IAmb	IAmb	03 05 24.0	
	comp=Z,481nm,1.9s						
E27K	**Coleen River**	**94.00**	**16**	P	**P**	**03 05 20.6**	**+0.9**
	baz=226,SNR=60						
E27K				S	**S**	**03 16 08.4**	**-0.3**
	baz=226						
LIRD	**Liard River Hi**	**94.05**	**28**	P	**P**	**03 05 21.0**	**+0.9**
	baz=239,SNR=110						
CTU	**Camp Tracy**	**94.05**	**48**	IAmb	IAmb	03 05 23.7	
	comp=Z,473nm,1.9s						
F28M	**Old Crow**	**94.07**	**17**	IAmb	IAmb	03 05 22.2	
	comp=Z,454nm,1.6s						
F28M	**Old Crow**	**94.07**	**17**	P	**P**	**03 05 20.3**	**+0.3**
	baz=227,SNR=50						
F28M				S	**S**	**03 16 08.4**	**-1.0**
	baz=227						
G29M	**Pine Creek**	**94.13**	**18**	P	**P**	**03 05 20.4**	**+0.1**
	baz=229,SNR=70						
G29M				S	**S**	**03 16 12.6**	**+2.7**
	baz=229						
TOAD	**Toad River Com**	**94.15**	**28**	P	**P**	**03 05 21.3**	**+0.7**
	baz=239,SNR=216						
121A	**Cookes Peak, D**	**94.15**	**57**	IAmb	IAmb	03 05 25.1	
	comp=Z,677nm,1.8s						
EPYK	**Eagle Plains**	**94.17**	**19**	P	**P**	**03 05 20.6**	**+0.1**
	baz=230,SNR=129						
EPYK				S	**S**	**03 16 09.2**	**-1.1**
	baz=230						
JLU	**Jordanelle**	**94.23**	**49**	IAmb	IAmb	03 05 24.7	
	comp=Z,242nm,1.5s						
TGTN	**Hyland Airport**	**94.27**	**25**	P	**P**	**03 05 21.9**	**+0.8**
	baz=237,SNR=123						
SRU	**San Rafael Swe**	**94.36**	**50**	IAmb	IAmb	03 05 25.0	
	comp=Z,378nm,1.8s						
C26K	**Camden Bay**	**94.42**	**14**	P	**P**	**03 05 23.0**	**+1.5**
	baz=223,SNR=20						
TCUT	**Toone Canyon**	**94.45**	**48**	IAmb	IAmb	03 05 30.9	
	comp=Z,221nm,0.8s						
C27K	**Jago River**	**94.49**	**15**	P	**P**	**03 05 23.0**	**+1.1**
	baz=224						
C27K				S	**S**	**03 16 18.2**	**+5.4**
	baz=224						
H31M	**Peel River**	**94.56**	**20**	IAmb	IAmb	03 05 23.6	
	comp=Z,653nm,1.7s						
H31M	**Peel River**	**94.56**	**20**	P	**P**	**03 05 21.9**	**-0.4**
	baz=232,SNR=49						
TIXI	**Tiksi**	**94.70**	**348**	P	**P**	**03 05 21.2**	**-1.5**
TIXI				IAmb	IAmb	03 09 11.9	
	comp=Z,367nm,1.9s						
TIXI	**Tiksi**	**94.70**	**348**	⇑*i*P	**P**	**03 05 21.7**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,54nm,1.5s						
G30M	**tAoh Zraii Nji**	**94.72**	**19**	P	**P**	**03 05 22.8**	**-0.3**
	baz=230,SNR=225						
P18A	**Preston Nutter**	**94.74**	**50**	IAmb	IAmb	03 05 28.5	
	comp=Z,245nm,1.7s						
COYC	**Coyhaique**	**94.79**	**142**	IAmb	IAmb	03 05 26.6	
	comp=Z,264nm,1.8s						
E28M	**Babbage River**	**94.84**	**17**	P	**P**	**03 05 24.2**	**+0.7**
	baz=226,SNR=105						
D27M	**Malcolm River**	**94.90**	**16**	P	**P**	**03 05 25.0**	**+1.1**
	baz=226						
D27M				S	**S**	**03 16 20.9**	**+4.3**
	baz=226						
EPT	**El Paso**	**94.92**	**58**	IAmb	IAmb	03 05 27.9	
	comp=Z,554nm,1.6s						
SBM	**South Baldy**	**95.11**	**56**	P	**P**	**03 05 27.0**	**+0.9**
E29M	**Blow River**	**95.15**	**17**	IAmb	IAmb	03 05 26.6	
	comp=Z,595nm,1.8s						
E29M	**Blow River**	**95.15**	**17**	P	**P**	**03 05 24.8**	**-0.1**
	baz=229,SNR=62						
PV10	**Paradox Valley**	**95.19**	**51**	IAmb	IAmb	03 05 34.6	
	comp=Z,113nm,0.8s						
PV19	**Morning Glory**	**95.21**	**51**	IAmb	IAmb	03 05 36.4	
	comp=Z,538nm,1.8s						
DLMT	**Dillon**	**95.21**	**44**	IAmb	IAmb	03 05 30.2	
	comp=Z,511nm,1.9s						
PV20	**West Nyswonger**	**95.23**	**51**	IAmb	IAmb	03 05 35.5	
	comp=Z,150nm,0.9s						
PV23	**Carpenter Ridg**	**95.23**	**51**	IAmb	IAmb	03 05 30.9	
	comp=Z,220nm,0.9s						
PV18	**Skein Mesa, Pa**	**95.24**	**51**	IAmb	IAmb	03 05 31.4	
	comp=Z,450nm,1.8s						
F30M	**Barrier River**	**95.25**	**18**	P	**P**	**03 05 25.7**	**+0.3**
	baz=231,SNR=76						
Y22A	**Socorro**	**95.27**	**56**	IAmb	IAmb	03 05 29.8	
	comp=Z,352nm,1.9s						
G31M	**Satah River**	**95.28**	**19**	P	**P**	**03 05 25.5**	**0.0**
	baz=232,SNR=120						
PV21	**Cone Mtn., Par**	**95.30**	**51**	IAmb	IAmb	03 05 31.2	
	comp=Z,143nm,1.0s						
KOTAN	**Kotaneelee Air**	**95.31**	**27**	P	**P**	**03 05 26.6**	**+0.8**
	baz=240,SNR=78						
LENM	**Lemitar**	**95.34**	**56**	P	**P**	**03 05 26.6**	**-0.2**
PV12	**Saucer Basin,**	**95.34**	**51**	IAmb	IAmb	03 05 32.1	
	comp=Z,745nm,1.9s						
Y22D	**IRIS PASSCAL I**	**95.35**	**56**	IAmb	IAmb	03 05 31.5	
	comp=Z,294nm,1.5s						
Y22D	**IRIS PASSCAL I**	**95.35**	**56**	P	**P**	**03 05 28.4**	**+1.5**
	baz=251						
PV02	**Paradox Valley**	**95.35**	**52**	IAmb	IAmb	03 05 28.8	
	comp=Z,396nm,1.7s						
PV22	**Blue Mesa, Par**	**95.43**	**51**	IAmb	IAmb	03 05 30.0	
	comp=Z,207nm,1.4s						
PV07	**Paradox Valley**	**95.50**	**51**	IAmb	IAmb	03 05 32.8	
	comp=Z,465nm,1.9s						
D28M	**Stokes Point**	**95.54**	**16**	P	**P**	**03 05 27.4**	**+0.8**
	baz=228						
RDMU	**Red Mountain**	**95.56**	**49**	P	**P**	**03 05 28.0**	**+0.3**
RDMU				IAmb	IAmb	03 05 32.0	
	comp=Z,453nm,1.8s						
PV15	**Paradox Valley**	**95.59**	**51**	IAmb	IAmb	03 05 33.1	
	comp=Z,439nm,1.9s						
F31M	**Tsiigehtchic**	**95.76**	**19**	P	**P**	**03 05 27.6**	**0.0**
	baz=233,SNR=185						
MNTX	**Cornudas Mount**	**95.80**	**59**	IAmb	IAmb	03 05 31.9	
	comp=Z,359nm,1.6s						
VHRN	**Van Horn**	**95.83**	**60**	IAmb	IAmb	03 05 34.1	
	comp=Z,497nm,1.5s						
LOHW	**Long Hollow**	**95.90**	**46**	IAmb	IAmb	03 05 33.2	
	comp=Z,232nm,1.9s						
YHB	**Horse Butte**	**95.91**	**45**	P	**P**	**03 05 30.3**	**+1.1**
YHB				IAmb	IAmb	03 05 34.0	
	comp=Z,332nm,1.9s						
BOZ	**Bozeman (W)**	**95.93**	**44**	IAmb	IAmb	03 05 32.0	
	comp=Z,231nm,1.6s						
YHL	**Hebgen Lake**	**95.95**	**45**	IAmb	IAmb	03 05 32.8	
	comp=Z,239nm,1.6s						
ANMO	**Albuquerque**	**96.00**	**55**	P	**P**	**03 05 30.1**	**+0.3**
ANMO	**Albuquerque**	**96.00**	**55**	*ce*P	**P**	**03 05 30.6**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,95nm,1.4s						
ALBI	**Allahabad**	**96.02**	**295**	*e*P	**P**	**03 05 29.3**	**-0.5**
ALBI				IAmb	IAmb	03 05 31.6	
	comp=Z,607nm,2.0s						
YMR	**Madison River**	**96.03**	**45**	IAmb	IAmb	03 05 33.2	
	comp=Z,239nm,1.6s						
YFT	**Old Faithful**	**96.04**	**45**	IAmb	IAmb	03 05 35.7	
	comp=Z,249nm,1.8s						
YNM	**Yellowstone No**	**96.23**	**45**	IAmb	IAmb	03 05 35.9	
	comp=Z,240nm,1.7s						
YNR	**Norris Junctio**	**96.24**	**45**	IAmb	IAmb	03 05 36.1	
	comp=Z,269nm,2.0s						
PDAR	**Pinedale Array**	**96.33**	**47**	P	**P**	**03 05 31.0**	**-0.1**
PDAR	**Pinedale Array**	**96.33**	**47**	P	**P**	**03 05 31.3**	**+0.1**
	comp=Z,8.5nm,0.6s,baz=228,slow=3.6,SNR=75						
PDAR				PP	**PP**	**03 09 26.4**	**-2.0**
	comp=Z,6.8nm,0.9s,baz=240,slow=6.0,SNR=9.4						
PDAR				PKKP	**PKKPbc**	**03 22 15.2**	**-2.0**
	comp=Z,4.9nm,0.9s,baz=88,slow=3.2,SNR=14						
PDAR				PKPPKP	**P'P'df**	**03 30 27.4**	**-1.8**
	comp=Z,1.4nm,0.9s,baz=90,slow=3.3,SNR=7.3						
	comp=Z,8.5nm,0.6s						
INK	**Inuvik**	**96.35**	**18**	P	**P**	**03 05 30.0**	**-0.3**
	baz=233,SNR=98						
TX31	**Lajitas Ar. Si**	**96.45**	**61**	IAmb	IAmb	03 05 35.5	
	comp=Z,384nm,1.7s						
TXAR	**Lajitas Array**	**96.45**	**61**	P	**P**	**03 05 32.8**	**+0.9**
TXAR	**Lajitas Array**	**96.45**	**61**	P	**P**	**03 05 33.3**	**+1.4**
	comp=Z,17nm,0.7s,baz=220,slow=4.9,SNR=89						
TXAR				PKKP	**PKKPdf**	**03 22 17.3**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=104,slow=2.9,SNR=34						
TXAR				PKPPKP	**P'P'df**	**03 30 26.1**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.1,SNR=5.0						
	comp=Z,17nm,0.7s						
HYB	**Hyderabad**	**96.47**	**286**	*e*PP	**PP**	**03 09 27.4**	**-2.3**
HYB				IVmB_BB		03 09 33.9	
	comp=Z,408nm,2.1s						
HYB				*e*SKSac	**SKSac**	**03 15 46.4**	**0.0**
HYB				IVMs_BB	IVMs_BB	03 18 01.6	
	comp=Z,2μm,6.6s						
YNE	**Yellowstone No**	**96.79**	**45**	IAmb	IAmb	03 05 36.4	
	comp=Z,259nm,1.9s						
PECS	**Pecos**	**96.92**	**59**	IAmb	IAmb	03 05 36.7	
	comp=Z,282nm,1.9s						
LL03	**Petrohue**	**97.02**	**138**	IAmb	IAmb	03 05 37.8	
	comp=Z,101nm,0.8s						
WRGLY	**Wrigley**	**97.07**	**25**	IAmb	IAmb	03 05 35.9	
	comp=Z,317nm,1.3s						
WRGLY	**Wrigley**	**97.07**	**25**	P	Pdif	03 05 34.3	+0.6
	baz=241,SNR=34						
HAYD	**Hayden**	**97.20**	**50**	P	Pdif	03 05 35.8	+0.5
WMQ	**Urumqi**	**97.35**	**314**	⇑P	Pdif	03 05 36.1	+0.5
WMQ				pP	pP	03 06 31.1	-1.9
WMQ				PP	**PP**	**03 09 37.6**	**+1.7**
WMQ				SKS	**SKSac**	**03 15 48.1**	**-1.8**
WMQ				S	**S**	**03 16 36.9**	**-1.8**
WMQ				SS	**SS**	**03 23 20.5**	**-3.0**
WMQ				pmax	pmax		
	comp=Z,140nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,3μm,4.9s						
WMQ				LR	LR		
	comp=Z,3μm,16.1s						
WMQ				LR	LR		
	comp=Z,2μm,24.5s						
ODSA	**Odessa**	**98.22**	**59**	P	Pdif	03 05 39.8	+0.1
ODSA				IAmb	IAmb	03 05 42.3	
	comp=Z,358nm,1.8s						
K22A	**Casper**	**98.40**	**48**	IAmb	IAmb	03 09 44.1	
	comp=Z,373nm,1.8s						
PLCA	**Paso Flores**	**98.41**	**138**	P	Pdif	03 05 41.8	+1.3
	comp=Z,8.2nm,0.8s,baz=231,slow=6.6,SNR=11						
PLCA				PKKPbc	**PKKPbc**	**03 22 10.5**	**-0.4**
	comp=Z,8.1nm,1.0s,baz=32,slow=6.2,SNR=4.7						
	comp=Z,8.2nm,0.8s						
PLCA	**Paso Flores**	**98.41**	**138**	*e*P	**P**	**03 05 40.2**	**-0.3**
PLCA	**Paso Flores**	**98.41**	**138**	S	**S**	**03 16 50.1**	**+2.0**
FRKB	**FARRUKHABAD**	**98.56**	**296**	*e*P	Pdif	03 05 40.9	-0.4
FRKB				*e*S	**SKSac**	**03 15 55.9**	**-0.6**
MSTX	**Muleshoe**	**98.59**	**57**	IAmb	IAmb	03 05 43.8	
	comp=Z,387nm,1.9s						
BHPL	**Bhopal**	**99.22**	**291**	*e*P	**Pdif**	**03 05 44.0**	**-0.3**
BHPL				IAmb	IAmb	03 05 45.5	
	comp=Z,2μm,2.1s						
BHPL				*e*S	**SKSac**	**03 15 59.9**	**-0.2**
C36M	**Paulatuk**	**99.80**	**19**	Pdiff	**Pdif**	**03 05 46.0**	**+0.2**
	baz=242						
ZSN	**Zaisan**	**100.36**	**317**	*e*PKiKP	**PKiKP**	**03 10 14.1**	**-0.4**
YKA	**Yellowknife Ar**	**100.44**	**27**		**Pdif**	**03 05 48.8**	**+0.1**
YKA	**Yellowknife Ar**	**100.44**	**27**	P	**Pdif**	**03 05 49.5**	**+0.7**
	comp=Z,19nm,0.6s,baz=210,slow=8.6,

CFA Coronel Fontan 105.07 132 Pdiff **Pdif** **03 06 10.3 +0.1**
comp=Z,3.2nm,0.9s,baz=250,slow=5.6,SNR=7.6
CFA PKKPbc **PKKPbc** **03 21 51.0 -0.3**
comp=Z,0.8nm,0.5s,baz=224,slow=0.9,SNR=2.9
CFA PKKPab **PKKPab** **03 22 10.4 -1.1**
comp=Z,5.4nm,0.9s,baz=56,slow=6.1,SNR=8.7
KURK Kurchatov 105.15 319 **Pdif** **03 06 08.9 -1.0**
KURK Kurchatov 105.15 319 P **Pdif** **03 06 08.9 -1.0**
KURBB Kurchatov Arra 105.19 319 Pdiff **Pdif** **03 06 10.0 -0.1**
comp=Z,3.7nm,0.5s,baz=107,slow=3.8,SNR=26
KURBB PKiKP **PKiKP** **03 10 23.1 0.0**
comp=Z,5.6nm,0.5s,baz=114,slow=1.8,SNR=8.4
KURBB PKKPbc **PKKPbc** **03 21 50.3 -1.4**
comp=Z,3.6nm,0.6s,baz=274,slow=3.9,SNR=14
KURBB PKKPab **PKKPab** **03 22 07.8 +0.6**
comp=Z,4.7nm,0.7s,baz=281,slow=5.1,SNR=8.1
KURBB PKPPKP 03 30 11.9
comp=Z,0.5nm,0.8s,baz=282,slow=2.0,SNR=4.4
AAK Ala-Archa 106.35 310 P **Pdif** **03 06 16.0 +0.2**
AAK Ala-Archa 106.35 310 P **Pdif** **03 06 15.7 0.0**
SGDS Sogindy 106.41 311 *e*PKiKP **PKiKP** **03 10 25.2 -0.6**
SGDS *e*PP **PP** **03 10 42.0 -1.7**
ULM Lac du Bonnet 107.35 42 PKKPbc PKKPbc 03 21 45.4 +0.4
comp=Z,9.2nm,0.8s,baz=119,slow=4.9,SNR=5.0
DZA Taraz 108.69 310 *e*PKiKP **PKiKP** **03 10 29.6 -0.4**
BLKN Baker Lake 108.98 27 **Pdif** **03 06 27.8 +1.2**
IUG Iuzhnay 109.52 309 *e*PKiKP **PKiKP** **03 10 31.1 -0.5**
IUG *e*PP **PP** **03 11 04.7 -1.7**
BRLS Borolday 109.79 310 *e*PKiKP **PKiKP** **03 10 31.8 -0.3**
CHM Chimkent 109.86 309 *e*PKiKP **PKiKP** **03 10 31.6 -0.5**
BVAR Borovoye Array 110.53 320 Pdiff **Pdif** **03 06 36.1 +2.2**
comp=Z,3.8nm,0.6s,baz=83,slow=4.8,SNR=12
BVAR PKiKP **PKiKP** **03 10 33.2 +0.1**
comp=Z,12nm,0.4s,baz=128,slow=2.4,SNR=21
BORK Borovoye 110.57 320 *i* PKIKP **PKiKP** **03 10 32.7 -0.4**
LPAZ La Paz 113.24 118 **PKiKP** **03 10 39.4 -0.7**
LPAZ La Paz 113.24 118 Pdiff **Pdif** **03 06 51.0 +3.4**
comp=Z,2.0nm,0.9s,baz=200,slow=3.3,SNR=7.5
LPAZ PKiKP **PKiKP** **03 10 40.2 +0.1**
comp=Z,1.9nm,0.4s,baz=26,slow=3.9,SNR=13
LPAZ PKKPbc **PKKPbc** **03 21 24.9 -0.8**
comp=Z,3.1nm,0.9s,baz=89,slow=1.6,SNR=4.6
CAMR Camarioca 114.30 73 *e*P **PKiKP** **03 10 41.3 +0.2**
CBCY The Bluff, Cay 115.09 77 *e*P **PKiKP** **03 10 42.9 +0.1**
JLN Jalan Bani Buh 115.09 286 P **PKiKP** **03 10 43.0 +0.3**
SNR=10
061Z Ochoppi 115.23 70 *e*P **PKiKP** **03 10 42.9 0.0**
MGV Manicaragua 115.37 74 *e*P **PKPdf** **03 10 43.0 -0.2**
N51A Ashland 115.78 53 **PKPdf** **03 10 41.0 -2.5**
CPUP Villa Florida 115.86 133 PKP **PKPdf** **03 10 44.1 0.0**
comp=Z,3.5nm,1.1s,baz=124,slow=2.7,SNR=14
CPUP SKP 03 13 58.4
comp=Z,1.4nm,0.9s,baz=149,slow=4.1,SNR=5.0
CPUP PKKPbc **PKKPbc** **03 21 16.1 -0.2**
comp=Z,5.1nm,1.2s,baz=280,slow=3.2,SNR=9.2
WSAR Wadi Sarin 116.00 287 P **PKiKP** **03 10 44.7 +0.3**
SNR=6.4
SVE Sverdlovsk 116.15 325*d* *i*PKIKP **PKPdf** **03 10 43.4 -0.3**
SVE pmax pmax
comp=Z,77nm,1.5s
MHTO MHTO 116.17 284 P **PKPdf** **03 10 42.8 -2.0**
SNR=13
ROSC El Rosal 116.24 94 PKP **PKPdf** **03 10 45.2 -0.5**
comp=Z,12nm,0.5s,baz=10,slow=0.6,SNR=6.3
JMDO Jabal Madar 116.32 286 P **PKPdf** **03 10 44.7 -0.4**
SNR=9.7
DQM DQM 116.35 283 P **PKiKP** **03 10 45.8 +0.6**
SMDO Samad 116.50 287 P **PKPdf** **03 10 44.8 -0.7**
SNR=14
BIDO Bidbid 116.51 287 P **PKiKP** **03 10 45.6 +0.2**
SNR=7.4
AB31 Akbulak array 117.01 316 *i* PKIKP **PKPdf** **03 10 44.3 -1.3**
ABKAR Akbulak array 117.01 316 **PKPdf** **03 10 44.1 -1.5**
CCCC Cccc 117.21 76 *e*P **PKPdf** **03 10 46.7 -0.1**
HOQ Hoqain 117.26 287 P **PKPdf** **03 10 46.3 -0.6**
SNR=16
NOR Nord 117.42 1 *i* P **PKPdf** **03 10 44.8 -0.8**
ARTI Arti 117.43 324 **PKPdf** **03 10 45.5 -0.7**
ARTI Arti 117.43 324 *i* PKIKP **PKPdf** **03 10 45.7 -0.5**
ARTI 03 11 57.6
ARTI 03 17 34.8
ARTI SP SP 03 21 16.9 -4.0
SHAO Shalim 117.72 281 P **PKPdf** **03 10 46.2 -1.7**
SHAO Shalim 117.72 281 P **PKPdf** **03 10 47.4 -0.5**
ARQ Araqi 117.93 287 P **PKPdf** **03 10 47.5 -0.6**
SNR=16
SOHO SOHO 118.05 288 P **PKPdf** **03 10 47.9 -0.5**
SOHO SOHO 118.05 288 *i* P **PKPdf** **03 10 47.4 -1.0**
SNR=48
CHIV Chivirico 118.21 77 *e*P **PKPdf** **03 10 47.2 -1.5**
DMTO DMTO 118.28 280 P **PKPdf** **03 10 48.2 -0.8**
NEEM North Greenlan 118.36 9 *i* P **PKPdf** **03 10 47.6 -0.2**
MDH Madha 118.45 289 P **PKPdf** **03 10 48.1 -1.0**
SNR=11
MDH Madha 118.45 289 *i* P **PKPdf** **03 10 48.1 -1.0**
SNR=6.8
UOSS Minazif 118.48 289 PKPdf **PKPdf** **03 10 47.4 -1.8**
UOSS Minazif 118.48 289 P **PKPdf** **03 10 48.6 -0.5**
UOSS Minazif 118.48 289 *i* P **PKPdf** **03 10 48.2 -0.9**
SNR=14
UOSS Minazif 118.48 289 PKP **PKPdf** **03 10 47.9 -1.3**
HATD Hatta, Dubai 118.53 288 P **PKPdf** **03 10 49.1 -0.2**
SNR=27
HATD Hatta, Dubai 118.53 288 P **PKPdf** **03 10 48.2 -1.1**
HATD *i* P **PKiKP** **03 10 48.6 -0.8**
SNR=22
BANOM Banah 118.54 290 P **PKPdf** **03 10 49.0 -0.4**
BANOM Banah 118.54 290 *i* P **PKPdf** **03 10 48.9 -0.4**
SNR=8.2
ASHO Ashiyiah 118.57 288 P **PKPdf** **03 10 48.9 -0.5**
SNR=25
ASHO Ashiyiah 118.57 288 *i* P **PKPdf** **03 10 48.7 -0.7**
SNR=34
MSFE Esma-Masafi 118.58 289 *i* P **PKPdf** **03 10 49.4 -0.1**
SNR=14
MASF Masafi 118.59 289 P **PKPdf** **03 10 48.9 -0.5**
SNR=14
SHME Shamm 118.70 290 P **PKPdf** **03 10 49.1 -0.5**
SNR=5.4
SHME Shamm 118.70 290 *i* P **PKPdf** **03 10 49.0 -0.5**
SNR=12
HLGC Holguin 118.72 76 *e*P **PKPdf** **03 10 48.1 -1.6**
ALNE Al Ain 118.75 287 P **PKPdf** **03 10 49.7 0.0**
SNR=34
ALNE Al Ain 118.75 287 *i* P **PKPdf** **03 10 49.0 -0.8**
SNR=21
RCC Rio Carpintero 118.88 77 *e*P **PKPdf** **03 10 47.0 -3.0**
PINC Pinares de May 118.89 77 *e*P **PKPdf** **03 10 49.2 -0.8**
RBK Rabkut 118.93 280 P **PKPdf** **03 10 49.9 -0.4**
SNR=15
NAZ Nazwa, Dubai 118.97 288 P **PKPdf** **03 10 49.4 -0.7**
SNR=22
NAZ Nazwa, Dubai 118.97 288 *i* P **PKPdf** **03 10 49.4 -0.7**
SNR=22
FAQ Al Faqa, Dubai 119.00 288 P **PKPdf** **03 10 49.3 -0.9**
SNR=9.8
FAQ Al Faqa, Dubai 119.00 288 *i* P **PKPdf** **03 10 49.6 -0.6**
SNR=12
UMQ Umm Al-Quwin 119.05 289 P **PKiKP** **03 10 50.4 +0.2**
SNR=5.6
UMQ Umm Al-Quwin 119.05 289 *i* P **PKiKP** **03 10 50.7 +0.4**
SNR=7.2
KULLO Kullorsuaq 119.16 13 *i* P **PKiKP** **03 10 49.1 0.0**
SSPA Standing Stone 119.17 54 PKPdf **PKPdf** **03 10 48.3 -1.8**
SIV San Ignacio 119.18 122 PKP **PKPdf** **03 10 49.8 -1.1**
comp=Z,8.4nm,0.7s,baz=247,slow=3.8,SNR=42
SIV PKKPbc **PKKPbc** **03 21 04.6 +0.1**
comp=Z,2.5nm,0.6s,baz=54,slow=4.5,SNR=9.6
ASUD Al Ashush, Dub 119.22 288 P **PKPdf** **03 10 50.2 -0.4**
SNR=9.1
ASUD Al Ashush, Dub 119.22 288 *i* P **PKPdf** **03 10 50.6 0.0**
SNR=9.6
DOK Doka 119.23 281 P **PKPdf** **03 10 50.1 -0.7**
SNR=14
KBS Kingsbay 119.26 355 *e*PKPdf **PKiKP** **03 10 51.0 +1.8**
KBS IVmB_BB 03 11 33.5
comp=Z,2μm,4.3s
KBS *e*PP **PP** **03 12 13.3 -0.1**
KBS *e*SP SP 03 21 36.8 +0.8
KBS *e*SS **SS** **03 28 17.2 +1.7**
KBS Kingsbay 119.26 355 *i* P **PKPdf** **03 10 49.0 -0.1**
SABCS La Quijada 119.30 77 *e*P **PKPdf** **03 10 49.5 -1.4**
GTBY Guantanamo Bay 119.41 77 *e*P **PKPdf** **03 10 50.0 -1.1**
WHFO Wadi Hawf 119.42 280 P **PKPdf** **03 10 50.6 -0.6**
SNR=12

AJN Ajban 119.51 288 P **PKPdf** **03 10 50.5 -0.7**
SNR=9.4
AJN Ajban 119.51 288 *i* P **PKPdf** **03 10 50.8 -0.4**
SNR=11
SPA0 Spitsbergen Ar 119.53 354 *e* **PKPdf** **03 10 49.3 -0.3**
SPITS Spitsbergen Ar 119.53 354 PKP **PKPdf** **03 10 49.4 -0.3**
comp=Z,13nm,0.4s,baz=96,slow=5.4,SNR=131
SPITS PKKPbc **PKKPab** **03 21 03.0 0.0**
comp=Z,5.6nm,0.7s,baz=163,slow=6.1,SNR=7.3
SPITS Spitsbergen Ar 119.53 354 PKIKP **PKPdf** **03 10 48.8 -0.9**
AMBA Amambai (Brazi 119.67 132 *e*P **PKiKP** **03 10 52.0 +0.3**
QMBU Quimbuelo 119.73 77 *e*P **PKPdf** **03 10 49.4 -2.4**
HOPEN Hopen 119.84 351 *e*PP **PP** **03 12 13.9 -3.5**
N58A Sunbury 120.06 53 PKPdf **PKPdf** **03 10 50.7 -1.0**
MASC Masc 120.27 77 *e*P **PKPdf** **03 10 51.9 -0.8**
MZWR Madinat Zayed 120.39 287 P **PKPdf** **03 10 52.9 0.0**
PTGB Pitanga 120.48 135 PKP **PKiKP** **03 10 53.3 0.0**
UPNV Upernavik 120.51 14 *i* P **PKPdf** **03 10 51.2 -0.5**
MZR Muzera 120.63 286 P **PKiKP** **03 10 53.7 +0.2**
SNR=42
MZR Muzera 120.63 286 *i* P **PKiKP** **03 10 53.6 +0.1**
SNR=33
SUR Sutherland 120.68 211 PKPdf **PKPdf** **03 10 53.4 -0.2**
AQDB Aquidauana 120.71 129 PKPdf **PKPdf** **03 10 52.9 -0.7**
AQDB Aquidauana 120.71 129 PKP **PKPdf** **03 10 53.3 -0.3**
SDV Santo Domingo 120.96 91 PKPdf **PKPdf** **03 10 52.6 -1.8**
SDV Santo Domingo 120.96 91 PKP **PKPdf** **03 10 53.7 -0.8**
comp=Z,29nm,1.0s,baz=235,slow=2.0,SNR=30
SDV Santo Domingo 120.96 91 *e*P **PKPdf** **03 10 52.7 -1.8**
SDV Santo Domingo 120.96 91 PKP **PKPdf** **03 10 53.6 -0.8**
PTLB Pontes e Lacer 121.03 122 PKP **PKPdf** **03 10 53.6 -0.7**
BOSA Boshof 121.32 217 PKP **PKiKP** **03 10 55.2 +0.3**
comp=Z,30nm,0.4s,baz=154,slow=1.4,SNR=209
BOSA PKKPbc **PKKPbc** **03 20 56.2 -0.9**
comp=Z,9.2nm,0.6s,baz=329,slow=3.2,SNR=25
BOSA Boshof 121.32 217 PKP **PKiKP** **03 10 54.9 0.0**
GHWR Ruwais 121.33 287 P **PKPdf** **03 10 54.6 0.0**
SGC2 Sao Gabriel da 121.37 102 PKP **PKPdf** **03 10 53.6 -1.5**
JRN Qarnain Island 121.49 288 P **PKPdf** **03 10 54.6 -0.3**
SNR=18
VILB Vilhena 121.53 119 *e*P **PKPdf** **03 10 54.1 -1.3**
VILB Vilhena 121.53 119 PKP **PKPdf** **03 10 54.8 -0.5**
KIRV Kirov 121.75 328*c* *i*PKIKP **PKPdf** **03 10 54.0 -0.4**
TIJ01 Guaruva-PR 122.03 138 PKP **PKPdf** **03 10 54.6 -1.6**
TEFE Tefe 122.16 107 *e*P **PKPdf** **03 10 55.5 -1.1**
TEFE Tefe 122.16 107 PKP **PKPdf** **03 10 55.9 -0.7**
DAG Danmarks Havn 122.18 2 *i* P **PKPdf** **03 10 53.3 -1.4**
FRNY Flat Rock 122.20 49 PKPdf **PKPdf** **03 10 54.4 -1.3**
BJO1 Bjornoya 122.36 351 *e*PP **PP** **03 12 31.5 -3.0**
TRNA Turayna 122.94 288 P **PKPdf** **03 10 57.6 -0.1**
SNR=31
FRTB Fartura 123.08 136 PKP **PKiKP** **03 10 58.6 +0.2**
PCMB Pacaembu 123.13 133 *e*P **PKPdf** **03 10 57.0 -1.3**
SMRA Abu-Samra 123.29 287 P **PKPdf** **03 10 57.9 -0.5**
SNR=37
SHMA Al-Shehemyia 123.30 289 P **PKPdf** **03 10 58.3 -0.1**
SNR=14
SALV Santo Antonio 123.49 125 *e*P **PKPdf** **03 10 57.2 -1.8**
SALV Santo Antonio 123.49 125 PKP **PKiKP** **03 10 59.4 0.0**
LVZ Lovozero 123.65 341 PKPdf **PKPdf** **03 10 57.1 -0.8**
LVZ Lovozero 123.65 341 PKIKP **PKPdf** **03 10 57.1 -0.8**
VADS Vadso 123.69 345 *e*PKPdf **PKiKP** **03 10 58.4 +0.3**
VADS *e*PP **PP** **03 12 42.3 -1.2**
VADS *e*PP **PP** **03 12 42.3 -1.2**
VADS *e*SS SS 03 29 13.4 +1.4
SAKB Bahrain 123.69 289 P **PKPdf** **03 10 58.9 -0.2**
HRV Adam Dziewonsk 123.85 51 PKPdf **PKPdf** **03 10 58.2 -0.7**
HRV Adam Dziewonsk 123.85 51 ⇑PKIKP **PKPdf** **03 10 58.7 -0.3**
PET01 Itanhaem-SP 123.86 139 *e*P **PKPdf** **03 10 58.2 -1.4**
PET01 Itanhaem-SP 123.86 139 PKP **PKiKP** **03 11 00.2 +0.3**
C2SB Chapadao do Su 123.87 130 PKP **PKiKP** **03 11 00.3 +0.3**
ILULI Ilulissat 124.08 16 *i* P **PKPdf** **03 10 58.0 -0.6**
SUMG Summit 124.21 10 *i* P **PKPdf** **03 10 58.0 -1.3**
APA Apatity 124.23 341 ⇓*i*PKIKP **PKPdf** **03 10 56.9 -2.0**
APA *i* 03 17 33.7
APA *i* 03 22 17.0
BELG Belogornoye 124.33 321*c* *i*PKIKP **PKPdf** **03 10 59.5 0.0**
KEV Kevo 124.52 345 PKP **PKPdf** **03 10 59.2 -0.2**
DBG Daneborg 124.55 3 *i* P **PKPdf** **03 10 59.0 -0.4**
HAMF Hammerfest 124.62 347 *e*PKPdf **PKiKP** **03 11 00.5 +0.6**
HAMF *e*PP **PP** **03 12 48.8 -0.9**
HAMF *e*SS SS 03 29 23.6 0.0
SCHQ Schefferville 124.65 36 PKP **PKPdf** **03 10 59.3 -0.8**
comp=Z,250nm,0.8s,baz=318,slow=2.8,SNR=13
SCHQ PKKPab **PKKPab** **03 20 42.4 +0.8**
comp=Z,65nm,0.7s,baz=128,slow=4.8,SNR=8.2
VABB Valinhos 124.99 138 PKP **PKPdf** **03 11 01.6 -0.3**
ITRB Iturama 125.03 132 PKP **PKPdf** **03 11 01.6 -0.4**
ARA0 ARCESS Array S 125.04 345 *e*PKPdf **PKPdf** **03 11 00.2 -0.2**
ARA0 *e*PKPdf **PKiKP** **03 11 00.6 -0.2**
ARCES ARCESS Array B 125.04 345 PKPdf **PKPdf** **03 10 59.1 -1.4**
ARCES ARCESS Array B 125.04 345 PKhKP PKPpre 03 10 48.4
comp=Z,4.1nm,0.9s,baz=356,slow=0.7,SNR=6.1
ARCES PKP **PKPdf** **03 11 00.2 -0.2**
comp=Z,33nm,0.3s,baz=82,slow=2.3,SNR=44
ARCES PKKPab **PKKPab** **03 20 41.2 +1.8**
comp=Z,2.0nm,0.5s,baz=213,slow=3.8,SNR=16
RCLB Rio Claro- Sao 125.05 137 PKP **PKPdf** **03 11 01.9 -0.1**
PDRB Porto dos Gac 125.10 120 *e*P **PKPdf** **03 11 01.5 -0.7**
PDRB Porto dos Gac 125.10 120 PKP **PKPdf** **03 11 01.9 -0.3**
BB19B Bebedouro 125.35 135 *e*P **PKPdf** **03 11 01.9 -0.7**
BB19B Bebedouro 125.35 135 PKP **PKPdf** **03 11 00.4 -2.2**
KLMR Klimovskoe 125.58 333 *e*PKIKP **PKPdf** **03 11 01.2 -0.5**
KLMR *e* 03 12 55.0
KLMR SP SP 03 22 29.9 -2.8
KLMR *e* 03 24 33.4
KLMR SS **SS** **03 29 30.8 -5.4**
KLMR pmax pmax
comp=Z,282nm,1.5s
PARB Paraibuna 125.59 139 *e*P **PKPdf** **03 11 02.5 -0.6**
PARB Paraibuna 125.59 139 PKP **PKPdf** **03 11 02.9 -0.1**
SFJD Kangerlussuaq 125.70 18 PKPdf **PKPdf** **03 11 00.5 -1.2**
SFJD Kangerlussuaq 125.70 18 PKIKP **PKPdf** **03 11 00.5 -1.2**
SFJD Kangerlussuaq 125.70 18 PKP **PKPdf** **03 11 01.2 -0.5**
MACA Manacapuru-AM 125.87 109 *e*P **PKPdf** **03 11 03.1 -0.6**
MACA Manacapuru-AM 125.87 109 PKP **PKPdf** **03 11 03.1 -0.6**
KTK1 Kautokeino 125.97 346 *e*PKPdf **PKiKP** **03 11 02.5 -0.2**
KTK1 *e*PP **PP** **03 12 58.7 0.0**
MAK Makhachkala 126.13 310 *e*P **Pdif** **03 07 38.5 -4.9**
MAK *i* 03 11 04.0
MAK *e* 03 12 03.7
MAK *e* 03 12 57.7
MAK *e*PPP PPP 03 15 40.4
MAK *e* 03 17 41.4
MAK *e*SS SS 03 29 41.5 -2.9
MAK *e*SSS SSS 03 34 29.3
MAK pmax pmax
comp=Z,648nm,1.5s
AKT Akhty 126.13 308 *i* PKIKP **PKPdf** **03 11 03.5 0.0**
AKT *e* 03 12 05.0
AKT *e* 03 12 59.3
AKT *e* 03 17 44.9
AKT *e* 03 22 33.8
AKT *e* 03 24 35.6
AKT *e*SS SS 03 29 35.9 -9.0
AKT pmax pmax
comp=Z,294nm,1.5s
JETT Jettan, Norway 126.17 347 *e*P **PKPdf** **03 11 02.1 -0.6**
CLDB Colider 126.27 120 *e*P **PKPdf** **03 11 03.8 -0.7**
CLDB Colider 126.27 120 PKP **PKPdf** **03 11 04.4 0.0**
TRO Tromso 126.42 348 *e*PKPdf **PKPdf** **03 11 01.5 -1.5**
TRO *e*PP **PP** **03 13 02.0 +0.5**
KBD Kabd 126.48 293 P **PKPdf** **03 11 04.2 -0.2**
ARAG Araguaiana, MT 126.56 128 *e*P **PKPdf** **03 11 04.1 -0.8**
ITU3 Corumbazu 127.06 132 PKP **PKPdf** **03 11 05.4 -0.5**
NUUK Nuuk 127.16 21 *i* P **PKPdf** **03 11 04.1 -0.5**
DY2G Dye2 127.31 17 *i* P **PKPdf** **03 11 04.8 -0.4**
SJG San Juan 127.39 81 PKPdf **PKPdf** **03 11 05.5 -0.9**
SJG San Juan 127.39 81 PKP **PKPdf** **03 11 05.6 -0.8**
comp=Z,116nm,0.7s,baz=282,slow=1.3,SNR=40
IPMB Ipameri, GO 127.68 133 *e*P **PKPdf** **03 11 06.4 -0.7**
IPMB Ipameri, GO 127.68 133 PKP **PKPdf** **03 11 06.8 -0.4**
VAS01 Vassouras-RJ 127.70 140 *e*P **PKPdf** **03 11 06.6 -0.5**
VAS01 Vassouras-RJ 127.70 140 PKP **PKiKP** **03 11 07.4 -0.2**
KIBK Kibwezi 127.80 251 PKP **PKiKP** **03 11 08.0 -0.2**
KIBK Kibwezi 127.80 251 PKPdf **PKPdf** **03 11 07.5 0.0**
KIBK Kibwezi 127.80 251 P **PKiKP** **03 11 07.9 -0.2**
SNR=16
BSCB Bom Sucesso 127.84 138 *e*P **PKPdf** **03 11 06.8 -0.6**
BSCB Bom Sucesso 127.84 138 PKP **PKPdf** **03 11 07.0 -0.4**
RAYN Ar Rayn 127.97 285 PKPdf **PKiKP** **03 11 07.8 -0.3**
RAYN Ar Rayn 127.97 285 P **PKPdf** **03 11 07.7 +0.2**

RAYN Ar Rayn 127.97 285 *i* P **PKiKP** **03 11 07.9 -0.1**
SNR=42
RAYN Ar Rayn 127.97 285 PKIKP **PKiKP** **03 11 07.8 -0.3**
SFA1 Serra Facao 128.05 133 PKP **PKPdf** **03 11 07.8 -0.1**
JNW Jan Mayen West 128.09 359 *e*PKPdf **PKiKP** **03 11 09.1 +2.3**
JNW *e*PP **PP** **03 13 13.9 +1.4**
JNE Jan Mayen East 128.13 359 *e*PKPdf **PKiKP** **03 11 07.8 +0.9**
JNE *e*PP **PP** **03 13 14.5 +1.8**
VRH Novokhopyorsk 128.18 321 *e*PKIKP **PKPdf** **03 11 06.0 -0.9**
VRH pmax pmax
comp=Z,140nm,1.4s
SCO Scoresbysund 128.19 5 *i* P **PKiKP** **03 11 06.9 -0.1**
JMI Jan Mayen 128.20 359 *e*PKPdf **PKiKP** **03 11 07.8 +0.7**
JMI *e*PP **PP** **03 13 15.0 +1.9**
ATD Arta Tunnel 128.21 270 P **PKiKP** **03 11 09.0 +0.2**
SNR=14
BOAV Boa Vista 128.30 102 *e*P **PKPdf** **03 11 07.3 -1.0**
BOAV Boa Vista 128.30 102 PKP **PKPdf** **03 11 07.7 -0.6**
DUB01 Friburgo-RJ 128.49 141 *e*P **PKPdf** **03 11 08.2 -0.4**
DUB01 Friburgo-RJ 128.49 141 PKP **PKiKP** **03 11 09.1 -0.2**
PMNB Patos De Minas 128.52 135 *e*P **PKPdf** **03 11 07.9 -0.9**
PMNB Patos De Minas 128.52 135 PKP **PKPdf** **03 11 08.7 0.0**
GNI Garni 128.53 306 PKPdf **PKPdf** **03 11 08.0 -0.2**
GNI Garni 128.53 306 P **PKiKP** **03 11 08.9 0.0**
GNI Garni 128.53 306*c* *i*PKIKP **PKPdf** **03 11 08.5 +0.3**
GNI Garni 128.53 306 PKP **PKPdf** **03 11 08.5 +0.3**
KOOLE Kule 128.54 217 PKPdf **PKPdf** **03 11 08.8 0.0**
BAT3 Ipameri 128.55 133 PKP **PKPdf** **03 11 08.3 -0.5**
STEI Steigen 128.58 348 *e*PKPdf **PKiKP** **03 11 08.4 +0.5**
STEI *e*PP **PP** **03 13 15.7 0.0**
BAT2 UHE Batalha 128.62 133 PKP **PKPdf** **03 11 08.2 -0.8**
LOF Lofoten 128.74 349 *e*PKPdf **PKiKP** **03 11 08.2 0.0**
LOF *e*PP **PP** **03 13 16.5 -0.2**
MOS Moscow 128.76 327 *i* PKIKP **PKPdf** **03 11 05.7 -2.2**
MOS *e* 03 12 04.0
MOS *e*PS **SP** **03 23 02.7 +2.1**
MOS pmax pmax
comp=Z,290nm,1.6s
MOS pmax pmax
comp=E,32nm,1.1s
MOS pmax pmax
comp=Z,800nm,2.0s
LSZ Lusaka 128.86 231 PKPdf **PKPdf** **03 11 08.7 -0.8**
LSZ Lusaka 128.86 231 PKIKP **PKPdf** **03 11 08.7 -0.8**
NCK Nalchik 128.87 311*c* *i*PKIKP **PKPdf** **03 11 08.9 +0.3**
GOF Gofitskoye 128.94 313*c* *i*PKIKP **PKPdf** **03 11 08.7 +0.1**
KMBO Kilima Mbogo 129.04 252 *i* PKIKP **PKiKP** **03 11 12.1 +1.3**
KMBO pmax pmax
comp=Z,63nm,0.4s
FAUS Fauske 129.04 348 *e*PKPdf **PKiKP** **03 11 09.0 +0.2**
FAUS *e*PP **PP** **03 13 18.5 -0.2**
FAUS *e*SP SP 03 23 05.3 +3.1
FAUS *e*SS **SS** **03 30 21.2 +2.8**
CAM01 Campos-RJ 129.11 142 *e*P **PKPdf** **03 11 09.2 -0.5**
CAM01 Campos-RJ 129.11 142 PKP **PKPdf** **03 11 10.0 +0.3**
SNDB Serra Nova Dou 129.24 124 *e*P **PKPdf** **03 11 09.3 -0.8**
SNDB Serra Nova Dou 129.24 124 PKP **PKPdf** **03 11 09.6 -0.5**
KBZ Khabaz 129.32 311 PKP **PKiKP** **03 11 10.7 +0.7**
comp=Z,37nm,1.3s,baz=47,slow=3.9,SNR=4.8
KBZ PP **PP** **03 13 21.8 +0.3**
comp=Z,12nm,1.1s,baz=67,slow=12,SNR=4.1
LPSR Galich'ya Gora 129.32 323 *e*PKIKP **PKPdf** **03 11 08.2 -0.9**
LPSR pmax pmax
comp=Z,223nm,1.1s
BDFB Brasilia 129.39 131 PKhKP PKPpre 03 11 00.3
comp=Z,3.2nm,0.5s,baz=255,slow=3.9,SNR=5.6
BDFB PKP **PKPdf** **03 11 10.7 +0.2**
comp=Z,12nm,0.8s,baz=339,slow=4.9,SNR=6.1
BDFB Brasilia 129.39 131 PKP **PKPdf** **03 11 10.3 -0.2**
KIV Kislovodsk 129.42 312 PKPdf **PKPdf** **03 11 09.5 -0.2**
KIV Kislovodsk 129.42 312 ⇑P **PKPdf** **03 11 06.3 -3.4**
KIV Kislovodsk 129.42 312 *i* P **PKPdf** **03 11 09.9 +0.2**
SNR=17
KIV Kislovodsk 129.42 312 *e*P **Pdif** **03 07 56.8 -1.4**
KIV *i* 03 11 09.5
KIV *e* 03 13 20.0
KIV *e* 03 17 53.9
KIV *e*SP SP 03 23 00.1 -7.4
KIV *e*PS PS 03 23 33.7 -1.8
KIV *e*SS **SS** **03 30 22.2 -3.1**
KIV pmax pmax
comp=Z,107nm,1.1s
KIV Kislovodsk 129.42 312 PKP **PKiKP** **03 11 10.1 -0.4**
KIV Kislovodsk 129.42 312 PKP **PKPdf** **03 11 09.7 0.0**
SHA1 Shidzhatmaz 129.49 311*c* *i*PKIKP **PKPdf** **03 11 10.3 +0.3**
OBN Obninsk 129.57 327 PKPdf **PKPdf** **03 11 09.2 -0.2**
OBN Obninsk 129.57 327 ⇑P PKPpre 03 11 05.3
OBN Obninsk 129.57 327*c* *i*PKIKP **PKPdf** **03 11 09.3 -0.2**
OBN *e* 03 12 11.9
OBN *e* 03 13 23.4
OBN *e*PPP PPP 03 16 12.4
OBN *e* 03 17 54.8
OBN *e*SS SS 03 30 23.0 -2.8
OBN *e*SSS SSS 03 35 16.3
OBN pmax pmax
comp=Z,160nm,1.4s
OBN Obninsk 129.57 327 PKP **PKPdf** **03 11 09.5 +0.1**
ITTB Itaituba 129.69 113 *e*P **PKPdf** **03 11 09.9 -1.1**
ITTB Itaituba 129.69 113 PKP **PKPdf** **03 11 10.7 -0.3**
VSR Storozhevoye 129.69 322 *e*PKIKP **PKPdf** **03 11 06.4 -3.4**
VSR pmax pmax
comp=Z,70nm,1.3s
VORD Divnogorie 129.70 321 *e*PKIKP **PKPdf** **03 11 07.0 -2.8**
VORD pmax pmax
comp=Z,50nm,1.1s
BBSR BB Station 129.87 63 PKPdf **PKPdf** **03 11 10.1 -0.6**
VAGH Vaagaholmen 130.01 348 *e*PKPdf **PKiKP** **03 11 11.2 +0.4**
VAGH *e*PP **PP** **03 13 24.5 -0.5**
RAUS Rausandaksla 130.11 347 *e* PKPpre 03 10 59.3
RAUS *e*PP **PP** **03 13 25.6 0.0**
ANGG Ammassalik, Gr 130.21 14 *i* P **PKiKP** **03 11 10.8 -0.4**
MOR8 Moi Rana 130.25 347 *e*PKPdf **PKPdf** **03 11 10.7 +0.2**
MOR8 *ep*PKPdf **pPKPdf** **03 12 10.3 -0.3**
MOR8 *e*PP **PP** **03 13 24.6 -2.0**
MOR8 *e*SS SS 03 30 26.4 -6.9
IVI Ivigtut 130.33 23 *i* P **PKPdf** **03 11 10.3 -0.4**
STOK Stokkvaagen 130.41 348 *e*PKPdf **PKPdf** **03 11 09.8 -0.9**
STOK *e*PP **PP** **03 13 27.6 +0.1**
STOK *e*SS SS 03 30 38.0 +2.9
DIAM Diamantina, MG 130.52 137 *e*P **PKPdf** **03 11 11.7 -0.9**
DIAM Diamantina, MG 130.52 137 PKP **PKPdf** **03 11 12.4 -0.3**
ERBR Yeremizino-Bor 130.54 314 *i* PKIKP **PKPdf** **03 11 11.8 +0.2**
ERBR *e* 03 12 13.1
ERBR *e* 03 13 26.4
ERBR pmax pmax
comp=Z,189nm,1.4s
LEIR Leirfjorden 130.58 348 *e*PKPdf **PKPdf** **03 11 10.4 -0.7**
LEIR *e*PP **PP** **03 13 29.3 +0.6**
LEIR *e*SS SS 03 30 40.6 +3.4
BATM Batumi 130.60 309 ⇑P **PKPdf** **03 11 08.1 -3.8**
BATM Batumi 130.60 309 ⇑PKIKP **PKPdf** **03 11 08.1 -3.8**
FINES FINESS Array B 130.60 338 PKPdf **PKPdf** **03 11 10.6 -0.6**
FINES FINESS Array B 130.60 338 PKhKP PKPpre 03 10 59.4
comp=Z,1.7nm,0.3s,baz=50,slow=3.1,SNR=16
FINES PKP **PKiKP** **03 11 11.9 -0.2**
comp=Z,11nm,0.4s,baz=67,slow=2.0,SNR=10
FINES PP **PP** **03 13 26.9 -2.1**
comp=Z,38nm,1.2s,baz=28,slow=8.6,SNR=7.3
FINES SKPbc **SKPbc** **03 14 12.3 -0.4**
comp=Z,42nm,0.6s,baz=72,slow=6.2,SNR=21
LABN Labinsk 130.65 313 *i* PKIKP **PKPdf** **03 11 11.9 0.0**
LABN *e* 03 12 12.3
LABN *e* 03 13 27.5
LABN pmax pmax
comp=Z,65nm,1.2s
JQT1 Jequitai-MG 130.83 135 PKP **PKPdf** **03 11 12.6 -0.5**
NRS Narsarsuaq 131.35 22 *i* P **PKPdf** **03 11 11.7 -0.9**
MC01 Montes Claros 131.49 135 PKP **PKPdf** **03 11 14.6 +0.2**
SOC Sochi 131.60 312 *e*P **Pdif** **03 08 02.8 -5.0**
SOC *i* 03 11 13.1
SOC *e* 03 12 14.4
SOC *e* 03 13 34.0
SOC *e*SS SS 03 30 45.7 -5.9
SOC *e*SSS SSS 03 35 50.7
SOC

NSS	**Namsos**	**132.20 347**	*e*P	**PKPdf**	**03 11 13.2**	**-1.0**
NSS			*e*PP	**PP**	**03 13 39.8**	**+0.7**
NSS			*e*SS	SS	03 31 00.3	+3.5
LODK	**Lodwar**	**132.62 257**	P	**PKPdf**	**03 11 16.6**	**0.0**
	SNR=15					
ANN	**Anapa**	**132.87 314**	*i* PKIKP	**PKPdf**	**03 11 15.9**	**-0.1**
ANN			*e*		03 12 16.5	
ANN			*e*		03 13 43.1	
ANN			pmax	pmax		
	comp=Z,59nm,1.2s					
TSUM	**Tsumeb**	**133.01 217**	PKPdf	**PKPdf**	**03 11 17.1**	**-0.2**
ATM1	**UHE Belo Monte**	**133.26 114**	PKP	**PKPdf**	**03 11 18.0**	**+0.3**
BMO2	**UHE Belo Monte**	**133.43 114**	PKP	**PKPdf**	**03 11 18.2**	**+0.1**
PRPB	**Parauapebas**	**133.78 119**	PKP	**PKPdf**	**03 11 18.6**	**-0.1**
SDBA	**SAO DESIDERIO**	**133.79 130**	PKP	**PKPdf**	**03 11 18.4**	**-0.4**
SMTB	**Santa Maria do**	**134.02 124**	PKP	**PKPdf**	**03 11 19.6**	**+0.4**
MNK	**Minsk**	**134.21 330**	*e*PKIKP	**PKPdf**	**03 11 17.0**	**-1.2**
GUA01	**Guaratinga, BA**	**134.24 139**	*e*P	**PKPdf**	**03 11 17.2**	**-2.3**
GUA01	**Guaratinga, BA**	**134.24 139**	PKP	**PKPdf**	**03 11 19.2**	**-0.2**
MOL	**Molde**	**134.85 348**	*e*	PKPpre	03 11 06.4	
MOL			IVmB_BB		03 11 19.8	
	comp=Z,1μm,3.0s					
MOL			*e*pPKPdf	pPKPdf	03 12 17.7	-1.6
MOL			*e*PP	**PP**	**03 13 53.5**	**-2.3**
MOL			*e*SS	SS	03 31 32.0	+3.4
DOMB	**Dombas**	**135.02 347**	*e*PKPdf	PKPpre	03 11 14.8	
DOMB			*e*PP	**PP**	**03 13 54.5**	**-2.5**
DOMB			*e*PKSdf	**PKSdf**	**03 14 55.5**	**-0.1**
DOMB			*e*SS	SS	03 31 31.8	+0.9
SIM	**Simferopol'**	**135.05 315**	*i* PKIKP	**PKPdf**	**03 11 19.8**	**-0.4**
SIM			*e*		03 13 55.0	
SIM			pmax	pmax		
	comp=Z,118nm,1.3s					
SIM			pmax	pmax		
	comp=Z,500nm,6.1s					
SIM			pmax	pmax		
	comp=Z,800nm,9.3s					
ANA01	**Lindo Horizont**	**135.17 136**	PKP	**PKPdf**	**03 11 20.9**	**-0.5**
AKN	**Aaknes**	**135.31 348**	*e*PKPdf	**PKiKP**	**03 11 21.2**	**-0.4**
CMC01	**Camacan, BA**	**135.35 138**	PKP	**PKPdf**	**03 11 21.2**	**-0.4**
PAL01	**Palmeiras do T**	**135.35 121**	PKP	**PKPdf**	**03 11 22.2**	**+0.5**
NB2	**NORSAR Subarra**	**135.42 345**	PKPdf	PKPpre	03 11 08.7	
	comp=Z,346nm,2.0s,baz=31,slow=1.9					
NB2			PP	**PP**	**03 13 52.6**	**-7.0**
	comp=Z,382nm,2.5s,baz=30,slow=6.2					
NB2			pPKP		03 14 28.0	
	comp=Z,13nm,0.9s,baz=20,slow=4.4					
NB2	**NORSAR Subarra**	**135.42 345**	PKPdf	PKPpre	03 11 08.7	
	baz=31,slow=1.9					
NOA	**NORSAR Array B**	**135.42 345**	PKhKP	PKPpre	03 11 09.0	
	comp=Z,2.2nm,0.5s,baz=48,slow=2.1,SNR=24					
NOA			PKP	**PKPdf**	**03 11 20.6**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=52,slow=2.0,SNR=18					
NOA			PP	**PP**	**03 13 59.5**	**0.0**
	comp=Z,31nm,1.2s,baz=34,slow=6.1,SNR=7.1					
NOA			SKPbc	**SKPbc**	**03 14 28.6**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=16,slow=2.7,SNR=3.9					
NOA			SKPab	**SKPab**	**03 14 33.9**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=27,slow=3.4,SNR=9.9					
NOA			SKKPbc	**SKKPbc**	**03 23 38.4**	**+2.9**
	comp=Z,1.8nm,0.9s,baz=201,slow=3.7,SNR=4.0					
PAL2	**UHE Estreito -**	**135.48 122**	PKP	**PKPdf**	**03 11 22.4**	**+0.5**
HFS	**Hagfors**	**135.55 343**	PKhKP	PKPpre	03 11 06.1	
	comp=Z,1.9nm,0.3s,baz=64,slow=3.4,SNR=21					
HFS			PKP	**PKiKP**	**03 11 21.6**	**-0.6**
	comp=Z,10.0nm,0.4s,baz=117,slow=5.3,SNR=12					
HFS			PP	**PP**	**03 14 00.2**	**-0.1**
	comp=Z,22nm,1.1s,baz=27,slow=6.8,SNR=7.5					
HFS			SKPbc	**SKPbc**	**03 14 28.9**	**-0.5**
	comp=Z,25nm,0.9s,baz=63,slow=0.3,SNR=8.1					
HFS			SKPab	**SKPab**	**03 14 35.0**	**+0.6**
	comp=Z,12nm,0.7s,baz=50,slow=2.3,SNR=4.1					
HFS			PKKP	**PKKPdf**	**03 21 00.1**	**-3.7**
	comp=Z,0.9nm,0.4s,baz=144,slow=5.5,SNR=2.3					
HFS			SKKPbc	**SKKPbc**	**03 23 36.8**	**+1.9**
	comp=Z,5.2nm,1.0s,baz=318,slow=2.0,SNR=4.6					
AK03	**Malin Array Si**	**135.57 325**	PKP	**PKPdf**	**03 11 20.3**	**-0.6**
AKASG	**Malin Array Be**	**135.58 325**		PKPpre	03 11 09.0	
AKASG				**PKPdf**	**03 11 20.3**	**-0.6**
AKASG	**Malin Array Be**	**135.58 325**	PKhKP	PKPpre	03 11 06.8	
	comp=Z,1.1nm,0.4s,baz=53,slow=4.0,SNR=9.6					
AKASG			PKP	**PKPdf**	**03 11 21.3**	**+0.4**
	comp=Z,6.9nm,0.4s,baz=48,slow=2.9,SNR=16					
AKASG			PP	**PP**	**03 13 59.2**	**-1.8**
	comp=Z,11nm,0.9s,baz=54,slow=6.6,SNR=7.4					
AKASG			SKPbc	**SKPbc**	**03 14 29.8**	**-0.1**
	comp=Z,31nm,0.7s,baz=50,slow=4.1,SNR=29					
AKASG			SKKPbc	**SKKPbc**	**03 23 28.7**	**-5.5**
	comp=Z,0.6nm,0.6s,baz=238,slow=6.3,SNR=4.6					
AKASG	**Malin Array Be**	**135.58 325**	PKHKP	PKPpre	03 11 09.0	
AKASG					03 11 20.3	
AKBB	**Malin Array Si**	**135.58 325**	PKP	**PKPdf**	**03 11 20.6**	**-0.3**
AK01	**Malin Array Si**	**135.59 325**	PKP	**PKPdf**	**03 11 21.1**	**+0.2**
AK09	**Malin Array Si**	**135.59 324**	PKP	**PKPdf**	**03 11 21.1**	**+0.1**
KIEV	**Kiev**	**135.59 325**		PKPpre	03 11 07.1	
KIEV				**PKPdf**	**03 11 20.1**	**-0.9**
KIEV	**Kiev**	**135.59 325**	⇑P	PKPpre	03 11 16.2	
KIEV	**Kiev**	**135.59 325**	*i* P	**PKPdf**	**03 11 20.7**	**-0.2**
	SNR=10					
KIEV	**Kiev**	**135.59 325**	PKHKP	PKPpre	03 11 07.1	
KIEV					03 11 20.1	
KIEV	**Kiev**	**135.59 325**	PKP	**PKPdf**	**03 11 20.5**	**-0.4**
NC602	**NORSAR Array S**	**135.61 345**	*e*P	PKPpre	03 11 08.3	
NBIT	**Itapeh - BA**	**135.72 138**	PKP	**PKPdf**	**03 11 22.3**	**0.0**
BZK	**Bozkurt**	**136.09 311**	⇑P	**PKPdf**	**03 11 19.8**	**-2.3**
FOO	**Floro**	**136.20 349**	*e*PKPdf	PKPpre	03 11 10.4	
FOO			IVmBBB		03 11 24.2	
	comp=Z,3μm,3.8s					
FOO			*e*PP	**PP**	**03 14 05.9**	**+1.6**
FOO			*e*SS	SS	03 31 48.1	+3.4
MI28	**Mi28,Pidlybu**	**136.31 326**	PKP	**PKPdf**	**03 11 22.2**	**-0.1**
HYA	**Hoyanger**	**136.40 348**	*e*PKPdf	PKPpre	03 11 11.3	
HYA			IVmB_BB		03 11 24.4	
	comp=Z,2μm,5.5s					
HYA			*e*pPKPdf	pPKPdf	03 12 21.6	-0.7
HYA			*e*PP	**PP**	**03 14 02.3**	**-3.2**
HYA			*e*SS	SS	03 31 50.9	+3.8
SKAR	**Skarslia**	**136.41 347**	*e*PKPdf	PKPpre	03 11 11.1	
SKAR			IVmB_BB		03 11 27.6	
	comp=Z,2μm,5.5s					
SKAR			*e*PP	**PP**	**03 14 06.1**	**+0.4**
SKAR			*e*SS	SS	03 31 49.9	+2.4
OSL	**Oslo**	**136.50 345**	*e*PKPdf	**PKiKP**	**03 11 23.3**	**-0.8**
OSL			*e*PP	**PP**	**03 14 07.2**	**+1.0**
OSL			*e*SS	SS	03 31 48.8	+0.3
MDP	**Montagnes des**	**136.59 103**	PKhKP	PKPpre	03 11 14.9	
	comp=Z,8.3nm,0.8s,baz=348,slow=7.2,SNR=6.1					
MDP			PKP	**PKPdf**	**03 11 23.9**	**0.0**
	comp=Z,27nm,0.7s,baz=259,slow=3.6,SNR=16					
SUW	**Suwalki**	**136.69 332**	*e*PKPdf	**PKPdf**	**03 11 22.8**	**-0.1**
SUW			*e*PP	**PP**	**03 14 06.8**	**-1.0**
SUE	**Sulen**	**136.76 349**	*e*	PKPpre	03 11 12.4	
SUE			IVmB_BB		03 11 27.8	
	comp=Z,2μm,4.9s					
SUE			*e*PP	**PP**	**03 14 05.2**	**-2.5**
SUE			*e*SP	SP	03 24 12.2	+4.2
SUE			*e*SS	**SS**	**03 31 55.1**	**+3.7**
LUBAR	**Lubar, Ukraine**	**136.79 324**	PKP	**PKPdf**	**03 11 23.4**	**+0.2**
CIDE	**Kastamonu/Cide**	**136.87 311**	⇑P	**PKPdf**	**03 11 19.8**	**-3.8**
MMAI	**Mount Meron Ar**	**136.89 298**	PKhKP	PKPpre	03 11 13.8	
	comp=Z,1.3nm,0.4s,baz=95,slow=3.5,SNR=8.5					
MMAI			PKP	**PKPdf**	**03 11 24.7**	**+0.6**
	comp=Z,15nm,0.4s,baz=95,slow=5.1,SNR=20					
MMAI			PP	**PP**	**03 14 12.3**	**+2.1**
	comp=Z,19nm,1.2s,baz=234,slow=2.8,SNR=3.9					
MMAI			SKP		03 14 36.2	
	comp=Z,21nm,0.6s,baz=79,slow=4.3,SNR=17					
KIRS	**Kirsehir-Merke**	**136.93 307**	⇓P	**PKPdf**	**03 11 20.7**	**-3.3**
RNPP9	**Sopachiv**	**136.97 327**	PKP	**PKPdf**	**03 11 23.9**	**+0.4**
BRTR	**Keskin Array B**	**136.99 308**		PKPpre	03 11 12.7	
BRTR	**Keskin Array B**	**136.99 308**	PKhKP	PKPpre	03 11 13.4	
	comp=Z,3.6nm,0.9s,baz=130,slow=4.0,SNR=12					
BRTR			PKP	**PKPdf**	**03 11 24.8**	**+0.7**
	comp=Z,20nm,0.9s,baz=140,slow=3.4,SNR=19					
BRTR			PP	**PP**	**03 14 12.2**	**+1.5**
	comp=Z,14nm,1.1s,baz=101,slow=5.2,SNR=6.6					
BRTR			SKP		03 14 36.2	
	comp=Z,17nm,0.8s,baz=103,slow=3.0,SNR=9.5					
BRTR			SKKPbc	SKKPbc	03 23 33.6	+5.2
	comp=Z,4.3nm,1.2s,baz=238,slow=2.3,SNR=4.4					
BR106	**Keskin Array S**	**137.00 308**	PKP	**PKPdf**	**03 11 24.3**	**+0.2**
RNPP2	**Kostyukhnivka**	**137.02 327**	PKP	**PKPdf**	**03 11 23.9**	**+0.3**
KONO	**Kongsberg**	**137.03 345**	⇑PKIKP	PKPpre	03 11 18.8	
KONO	**Kongsberg**	**137.03 345**	*e*PKPdf	PKPpre	03 11 13.0	
KONO			IVmB_BB		03 11 28.1	
	comp=Z,2μm,5.1s					
KONO			*e*pPKPdf	pPKPdf	03 12 22.0	-1.5
KONO			*e*PP	**PP**	**03 14 11.3**	**+1.8**
KONO			*e*SS	SS	03 31 55.0	+0.3
STRU	**Stroemstad**	**137.17 344**	*e*P	PKPpre	03 11 15.1	
PURM	**Purcari**	**137.17 319**	⇑P	**PKPdf**	**03 11 20.3**	**-3.7**
ASK	**Askoy**	**137.22 349**	*e*PKPdf	PKPpre	03 11 10.8	
ASK			IVmB_BB		03 11 24.3	
	comp=Z,3μm,3.1s					
ASK			*e*pPKPdf	pPKPdf	03 12 21.8	-1.9
ASK			*e*PP	**PP**	**03 14 07.4**	**-3.2**
TMAB	**Tom-Au,PA,Br**	**137.27 116**	PKP	**PKPdf**	**03 11 25.8**	**+0.6**
BER	**Bergen**	**137.28 349**	*e*PKPdf	PKPpre	03 11 12.6	
BER			IVmB_BB		03 11 24.5	
	comp=Z,3μm,3.8s					
BER			*e*pPKPdf	pPKPdf	03 12 22.0	-1.9
BER			*e*PP	**PP**	**03 14 08.4**	**-2.6**
BER			*e*SP	SP	03 24 14.1	+1.6
SORM	**Soroca**	**137.35 322**	⇑P	**PKPdf**	**03 11 20.9**	**-3.4**
SORM	**Soroca**	**137.35 322**	⇑PKIKP	**PKPdf**	**03 11 20.9**	**-3.4**
ODD1	**Odda**	**137.46 347**	*e*PKPdf	PKPpre	03 11 15.3	
ODD1			IVmB_BB		03 11 24.9	
	comp=Z,3μm,3.7s					
ODD1			*e*pPKPdf	pPKPdf	03 12 22.4	-2.0
ODD1			*e*PP	**PP**	**03 14 13.4**	**+1.2**
ANTO	**Ankara**	**137.57 309**	⇑P	**PKPdf**	**03 11 22.0**	**-3.1**
ANTO	**Ankara**	**137.57 309**	⇑PKIKP	**PKPdf**	**03 11 22.0**	**-3.1**
ANTO	**Ankara**	**137.57 309**	PKP	**PKPdf**	**03 11 25.0**	**-0.1**
HORU	**Horodok**	**137.90 324**	PKP	**PKPdf**	**03 11 25.2**	**-0.1**
TJOU	**Tjoern**	**137.91 343**	*e*P	PKPpre	03 11 16.9	
BORU	**Boraas**	**137.91 342**	*i* P	PKPpre	03 11 14.8	
BLS5	**Blasjo**	**137.94 347**	*e*PKPdf	PKPpre	03 11 16.3	
BLS5			IVmB_BB		03 11 29.8	
	comp=Z,2μm,3.5s					
BLS5			*e*PP	**PP**	**03 14 14.9**	**-0.3**
BLS5			*e*SS	SS	03 32 11.5	+5.9
ONAU	**Onsala**	**138.36 342**	*e*P	PKPpre	03 11 16.7	
KMY	**Karmoy**	**138.39 348**	*e*PKPdf	PKPpre	03 11 17.1	
KMY			IVmB_BB		03 11 32.0	
	comp=Z,2μm,5.1s					
KMY			*e*PP	**PP**	**03 14 18.6**	**+0.8**
VASR	**Vaslui**	**138.40 320**	⇑P	PKPpre	03 11 22.1	
TLCR		**138.42 318**	⇑P	PKPpre	03 11 19.9	
TLCR		**138.42 318**	⇑PKHKP	PKPpre	03 11 19.9	
FABU	**Falkenberg**	**138.45 341**	*e*P	PKPpre	03 11 17.3	
HOMB	**Homborsund**	**138.52 345**	*e*PKPdf	PKPpre	03 11 18.4	
HOMB			*e*pPKPdf	pPKPdf	03 12 24.8	-1.5
HOMB			*e*PP	PP	03 14 10.4	-8.3
HOMB			*e*SS	SS	03 32 12.8	+0.6
HOMB	**Homborsund**	**138.52 345**	*e*P	PKPpre	03 11 18.8	
DEL	**Delary**	**138.52 340**	*i* P	PKPpre	03 11 17.2	
JURR	**Jurilovca**	**138.56 317**	⇓P	**PKPdf**	**03 11 23.1**	**-3.5**
VLDR	**Vladesti**	**138.59 319**	⇓P	**PKPdf**	**03 11 23.3**	**-3.4**
BIR	**Birlad**	**138.68 320**	⇓P	**PKPdf**	**03 11 23.9**	**-2.9**
BIR	**Birlad**	**138.68 320**	⇓PKIKP	**PKPdf**	**03 11 23.9**	**-2.9**
SAHE	**Sakarya_HENDEK**	**138.69 311**	⇑P	**PKPdf**	**03 11 23.6**	**-3.4**
VARL	**Varlezi**	**138.71 319**	⇑P	**PKPdf**	**03 11 23.4**	**-3.4**
SCTR	**Scanteiesti**	**138.72 319**	⇑P	**PKPdf**	**03 11 24.1**	**-2.8**
SNART	**Snartemo**	**138.77 346**	*e*PP	**PP**	**03 14 19.5**	**-0.7**
SNART	**Snartemo**	**138.77 346**	*e*P	PKPpre	03 11 18.8	
R9F13	**Warsaw-Wawer**	**138.79 331**	*e*PKPdf	**PKPdf**	**03 11 27.0**	**+0.2**
R9F13			*e*		03 14 03.8	
R9F13			*e*		03 14 40.3	
TPGR	**Topolog**	**138.82 317**	⇓P	PKPpre	03 11 21.0	
CFR	**Carcaliu**	**138.86 318**	⇑P	PKPpre	03 11 21.7	
CFR	**Carcaliu**	**138.86 318**	⇑PKIKP	PKPpre	03 11 21.7	
NEGRR	**Negrea**	**138.86 319**	⇑P	**PKPdf**	**03 11 27.2**	**0.0**
SCHL	**Schela**	**138.91 318**	⇑P	**PKPdf**	**03 11 27.5**	**+0.3**
SCHLR	**Schela**	**138.92 318**	⇓P	**PKPdf**	**03 11 24.8**	**-2.4**
TIRR	**Tirgusor**	**139.00 317**	⇓P	PKPpre	03 11 22.5	
TIRR	**Tirgusor**	**139.00 317**	⇓PKIKP	PKPpre	03 11 22.5	
EFOR	**EFORIE**	**139.01 316**	⇓P	**PKPdf**	**03 11 24.4**	**-3.0**
COSR	**Cosmesti PH**	**139.06 319**	⇓P	PKPpre	03 11 22.4	
MFTR	**Murfatlar**	**139.11 316**	⇑P	**PKPdf**	**03 11 24.6**	**-3.0**
BJUU	**Bjuv**	**139.12 340**	*e*P	PKPpre	03 11 17.6	
MANR	**Mangalia**	**139.15 316**	⇓P	PKPpre	03 11 23.4	
TESR	**Tescani**	**139.16 320**	⇓P	PKPpre	03 11 22.1	
PANC	**Panciu**	**139.16 319**	⇑P	PKPpre	03 11 22.5	
TLBR	**Topalu**	**139.19 317**	⇑P	PKPpre	03 11 23.6	
HARR	**Harsova**	**139.20 317**	⇓P	PKPpre	03 11 22.7	
HARR	**Harsova**	**139.20 317**	⇓PKIKP	PKPpre	03 11 22.7	
BEL	**Belsk**	**139.21 330**	*e*PKPdf	**PKPdf**	**03 11 27.6**	**0.0**
BEL			*e*PP	**PP**	**03 14 22.7**	**-0.7**
ODBI	**Odobesti**	**139.27 319**	⇑P	PKPpre	03 11 20.5	
LUNU	**Lund**	**139.34 339**	*e*P	PKPpre	03 11 17.6	
ONER	**Baraj Valea Uz**	**139.40 320**	⇑P	PKPpre	03 11 22.9	
VRI	**Vrincioaia**	**139.42 320**	⇑P	PKPpre	03 11 21.5	
VRI	**Vrincioaia**	**139.42 320**	⇑PKHKP	PKPpre	03 11 21.5	
BURAR	**Bucovina Array**	**139.43 323**	⇑P	PKPpre	03 11 23.7	
BURAR	**Bucovina Array**	**139.43 323**	⇑PKIKP	PKPpre	03 11 23.7	
KALB	**Balgarevo**	**139.43 315**	⇑P	**PKPdf**	**03 11 27.9**	**-0.3**
SILT	**Silt**	**139.45 312**	⇑P	**PKPdf**	**03 11 25.6**	**-2.8**
PLOR	**Plostina**	**139.47 320**	⇓P	PKPpre	03 11 20.9	
PLOR	**Plostina**	**139.47 320**	⇓PKHKP	PKPpre	03 11 20.9	
PSN	**Preselentsi**	**139.52 316**	*e*P	**PKPdf**	**03 11 25.6**	**-2.8**
ICOR	**Ion Corvin**	**139.54 317**	⇓P	PKPpre	03 11 21.4	
BISRR	**Bisoca**	**139.58 319**	⇑P	PKPpre	03 11 23.8	
COP	**Copenhagen**	**139.63 340**	*e*P	PKPpre	03 11 20.5	
KWP	**Kalwaria Pacla**	**139.66 327**	*e*PKPdf	**PKPdf**	**03 11 28.5**	**0.0**
KWP			*e*PP	**PP**	**03 14 26.5**	**+0.2**
NBLA	**Lagarto - SE**	**139.72 136**	PKP	**PKPdf**	**03 11 29.3**	**-0.4**
TURR	**Turia**	**139.76 320**	⇓P	PKPpre	03 11 21.1	
GKP	**Gorka Klasztor**	**139.76 334**	*e*PKPdf	**PKPdf**	**03 11 28.6**	**0.0**
GKP			*e*PP	**PP**	**03 14 26.4**	**-0.2**
OZUR		**139.88 320**	⇑P	PKPpre	03 11 22.6	
ISR	**Istrita**	**139.89 319**	⇓P	PKPpre	03 11 21.7	
ISR	**Istrita**	**139.89 319**	⇓PKHKP	PKPpre	03 11 21.7	
NEHR	**Nehoiu**	**139.90 319**	⇓P	PKPpre	03 11 22.3	
MUD	**Monsted U'grnd**	**139.94 343**	*i* P	PKPpre	03 11 20.0	
BOSR	**Bodos**	**139.97 320**	⇑P	PKPpre	03 11 21.9	
LEHL	**Lehliu**	**140.01 318**	⇓P	PKPpre	03 11 21.6	
MLR	**Muntele Rosu**	**140.08 319**	PKhKP	PKPpre	03 11 22.4	
	comp=Z,3.4nm,0.3s,baz=17,slow=4.4,SNR=15					
MLR			SKPbc	**SKPbc**	**03 14 42.9**	**-0.2**
	comp=Z,50nm,1.2s,baz=7.4,slow=3.2,SNR=7.1					
MLR	**Muntele Rosu**	**140.08 319**	⇑P	PKPpre	03 11 20.4	
MLR	**Muntele Rosu**	**140.08 319**	⇑PKHKP	PKPpre	03 11 20.4	
DOPR	**Dopca**	**140.18 320**	⇑P	PKPpre	03 11 21.5	
PRD	**Provadia**	**140.20 315**	*e*P	PKPpre	03 11 24.9	
NEF	**NEVSHA**	**140.25 316**	*e*P	PKPpre	03 11 23.7	
SULR		**140.28 318**	⇑P	PKPpre	03 11 25.3	
CTYL	**Yalikoy Yolu**	**140.28 313**	⇑P	PKPpre	03 11 23.6	
BMR	**Baia Mare**	**140.38 324**	⇑P	PKPpre	03 11 23.2	
BMR	**Baia Mare**	**140.38 324**	⇑PKHKP	PKPpre	03 11 23.2	
STHS	**Stebnicka Huta**	**140.55 327**	*e*PKHKP	PKPpre	03 11 23.9	
STHS	**Stebnicka Huta**	**140.55 327**	*e*PKP	PKPpre	03 11 23.9	
STHS			*e*		03 14 44.7	
LOZB	**Loznitsa**	**140.65 316**	⇓P	**PKPdf**	**03 11 26.7**	**-3.8**
SGRR	**Singureni**	**140.66 318**	⇑P	PKPpre	03 11 25.4	
MDB	**Medias**	**140.70 321**	⇑P	PKPpre	03 11 26.3	
MDB	**Medias**	**140.70 321**	⇑PKIKP	PKPpre	03 11 26.3	
OJC	**Ojcow**	**140.75 329**	*e*PKPdf	**PKPdf**	**03 11 30.4**	**-0.1**
OJC			*e*PP	**PP**	**03 14 31.8**	**-1.0**
PHSR	**Pinarhisar**	**140.75 313**	⇑P	**PKPdf**	**03 11 27.5**	**-3.2**
BAND	**Balkesir-Ban**	**140.83 311**	⇓P	**PKPdf**	**03 11 27.5**	**-3.4**
CBBR	**Cluj-Babes-Bol**	**140.85 323**	⇑P	PKPpre	03 11 24.7	
CJR	**Cluj-Napoca**	**140.85 322**	⇓P	PKPpre	03 11 24.8	
CJR	**Cluj-Napoca**	**140.85 322**	⇓PKHKP	PKPpre	03 11 24.8	
ARR	**Arges**	**140.94 320**	⇓P	PKPpre	03 11 24.7	
MESR	**Meseseni**	**140.98 323**	⇑P	PKPpre	03 11 26.1	
KSL	**Kastellorizon**	**141.01 304**	P	PKPpre	03 11 23.7	
TNR	**Turnu Rosu**	**141.02 321**	⇑P	PKPpre	03 11 25.0	
TNR	**Turnu Rosu**	**141.02 321**	⇑PKHKP	PKPpre	03 11 25.0	
NIE	**Niedzica**	**141.02 328**	*e*PKPdf	**PKPdf**	**03 11 31.9**	**+0.8**
JMB	**Yambol**	**141.07 315**	*e*P	PKPpre	03 11 25.6	
JMB	**Yambol**	**141.07 315**	P	PKPpre	03 11 24.5	
SZH	**Strazhitsa**	**141.10 316**	*e*P	PKPpre	03 11 25.9	
SZH	**Strazhitsa**	**141.10 316**	P	PKPpre	03 11 24.5	
MARR	**Marisel-Cluj**	**141.15 323**	⇓P	PKPpre	03 11 25.1	
HUMR	**Humele**	**141.15 319**	⇑P	PKPpre	03 11 24.3	
COPA	**Copaceanca**	**141.19 318**	⇑P	PKPpre	03 11 25.4	
DRGR		**141.31 323**	⇑P	PKPpre	03 11 25.0	
DRGR		**141.31 323**	⇑PKHKP	PKPpre	03 11 25.0	
ELND	**Elena**	**141.32 316**	⇑P	PKPpre	03 11 25.9	
ZIMR		**141.32 317**	⇑P	**PKPdf**	**03 11 28.1**	**-3.6**
ZIMR		**141.32 317**	⇑PKIKP	**PKPdf**	**03 11 28.1**	**-3.6**
LOT	**Lotru**	**141.43 321**	⇑P	PKPpre	03 11 25.5	
NBPS	**Pedro II - PI**	**141.56 124**	PKP	**PKPdf**	**03 11 33.0**	**-0.1**
LANS	**Liptovska Anna**	**141.61 328**	*e*PKIKP	**PKPdf**	**03 11 28.5**	**-3.6**
LANS			*e*		03 14 37.3	
LANS	**Liptovska Anna**	**141.61 328**	*e*PKP	**PKPdf**	**03 11 28.5**	**-3.6**
LANS			*e*PP	**PP**	**03 14 37.3**	**-0.8**
LANS			*e*		03 14 49.5	
LANS			*e*		03 23 10.2	
NBMA	**Muriti-CE**	**141.63 131**	PKP	**PKPdf**	**03 11 33.8**	**+0.6**
BORR	**Bors**	**141.66 324**	⇓P	PKPpre	03 11 27.2	
KPL	**Plockton**	**141.69 356**	*e*P	PKPpre	03 11 26.5	
PVL	**Pavlikeni**	**141.69 317**	*e*P	PKPpre	03 11 28.4	
NBAN	**Anadia - AL**	**141.69 136**	PKP	**PKPdf**	**03 11 33.1**	**-0.2**
DEV	**Deva**	**141.71 322**	⇓P	PKPpre	03 11 27.1	
DEV	**Deva**	**141.71 322**	⇓PKHKP	PKPpre	03 11 27.1	
VLAD	**Vladila**	**141.77 318**	⇓P	PKPpre	03 11 27.7	
OKC	**Ostrava-Krasne**	**141.80 330**	*e*PKP	PKPpre	03 11 27.4	
OKC			*e*PP	**PP**	**03 14 39.2**	**+0.1**
OKC	**Ostrava-Krasne**	**141.80 330**	*e*PKHKP	PKPpre	03 11 27.4	
OKC			*e*		03 14 39.2	
DIM	**Dimitrovgrad**	**141.90 315**	*e*P	**PKPdf**	**03 11 28.9**	**-3.9**
PLVB	**Pleven**	**141.92 317**	⇑P	PKPpre	03 11 28.0	
KSP	**Ksiaz**	**141.93 332**	*e*PKPdf	**PKPdf**	**03 11 32.8**	**+0.2**
GZR	**Gura Zlata**	**142.05 321**	⇓P	PKPpre	03 11 27.2	
GZR	**Gura Zlata**	**142.05 321**	⇓PKHKP	PKPpre	03 11 27.2	
ENEZ	**Enez**	**142.05 313**	P	PKPpre	03 11 27.3	
CAVK	**Edirne/Enez-Ca**	**142.06 312**	⇑P	PKPpre	03 11 27.8	
ALN	**Alexandroupoli**	**142.06 313**	P	PKPpre	03 11 27.0	
MORC	**Moravsky Berou**	**142.12 330**	⇑P	PKPpre	03 11 26.6	
MORC	**Moravsky Berou**	**142.12 330**	*e*PKP	PKPpre	03 11 26.5	
MORC			*e*PP	**PP**	**03 14 42.3**	**+1.2**
MORC			*e*		03 23 07.9	
MORC	**Moravsky Berou**	**142.12 330**	⇑PKHKP	PKPpre	03 11 26.6	
ARG	**Arkhangelos**	**142.13 305**	P	PKPpre	03 11 28.3	
OSTC	**Ostas**	**142.18 332**	*e*PKP	**PKPdf**	**03 11 29.2**	**-3.8**
OSTC			*e*PP	**PP**	**03 14 42.6**	**+1.2**
OSTC			*e*SKKP		03 23 08.5	
OSTC	**Ostas**	**142.18 332**	*e*PKIKP	**PKPdf**	**03 11 29.2**	**-3.8**
OSTC			*e*		03 14 42.6	
SRE	**Strehaia**	**142.18 320**	⇑P	PKPpre	03 11 29.0	
SRE	**Strehaia**	**142.18 320**	⇑PKHKP	PKPpre	03

SRS	Serrai	143.65 314	P		PKPab	03 11 33.1	-0.1
OUR	Ouranopolis	143.73 313	P		PKPab	03 11 33.5	+0.1
NEWG	New Galloway	143.77 354	*e*P		PKPab	03 11 32.4	-0.8
EDMD	Edmundbyers	143.78 352	*e*P		PKPab	03 11 32.8	-0.5
ZVC	Zvikov	143.88 333	*e*PKP		PKPbc	03 11 34.6	+0.1
ZVC			*e*PP		**PP**	**03 14 52.4**	**+0.8**
MORH	Mrgy, Hungar	143.92 325	⇑*i*P		PKPbc	03 11 34.7	+0.1
MORH	Mrgy, Hungar	143.92 325	⇑P		PKPab	03 11 33.7	-0.4
SKY	Skiros Island	143.92 311	P		PKPab	03 11 34.4	+0.1
NBPA	Parau_RN	143.92 131	*e*P		PKPab	03 11 34.4	-0.6
NBPA	Parau_RN	143.92 131	PKP		PKPab	03 11 34.8	-0.2
SOH	Sokhos	143.94 314	P		PKPab	03 11 33.8	-0.6
CLGH	Cloghs, Cushen	143.96 356	*e*P		PKPab	03 11 33.2	-0.7
IDGL	Inch Island, C	144.06 357	PKP		**PKPab**	**03 11 33.9**	**-0.3**
IDGL	Inch Island, C	144.06 357	*e*P		**PKPab**	**03 11 33.9**	**-0.3**
GAL1	Galloway	144.06 354	*e*P		**PKPab**	**03 11 33.8**	**-0.4**
PLG	Polygyros	144.08 313	P		**PKPab**	**03 11 34.3**	**-0.6**
KNT	Kendrikon	144.09 315	P		**PKPab**	**03 11 35.0**	**+0.1**
THERA	Ancient Thera,	144.13 306	P		**PKPab**	**03 11 34.3**	**-0.9**
RONA	Rosalia, Austr	144.15 329	*i* PKP		PKPbc	03 11 35.5	+0.1
	comp=Z,108nm,0.9s,SNR=455						
RONA			*e*PP		**PP**	**03 14 50.8**	**-2.5**
	comp=Z,4.1nm,0.7s						
RONA			*e*SKKP			03 22 59.7	
	comp=Z,28nm,2.1s						
KESW	Keswick, Cumbr	144.17 353	*e*P		**PKPab**	**03 11 33.7**	**-1.0**
THR3	Thira Island,	144.17 306	P		**PKPab**	**03 11 34.4**	**-0.9**
SNT5	Nea Kammeni, S	144.18 306	P		**PKPab**	**03 11 34.2**	**-1.1**
CONA	Conrad Observa	144.21 329	*i* PKP		PKPbc	03 11 35.9	+0.3
	comp=Z,6μm,2.2s,SNR=355						
CONA			*e*PP		**PP**	**03 14 51.0**	**-2.7**
	comp=Z,707nm,3.2s						
CONA			*i* SKKP			03 22 59.5	
	comp=Z,16nm,1.3s						
SAP3	Santorini-Thir	144.21 306	P		**PKPab**	**03 11 34.6**	**-0.8**
HORT	Hortiatis	144.22 314	P		**PKPab**	**03 11 34.7**	**-0.8**
VAY	Valandovo	144.24 315	*i* P		**PKPab**	**03 11 35.3**	**-0.2**
AOS	Alonnisos	144.28 311	P		**PKPab**	**03 11 35.1**	**-0.6**
THE	Thessaloniki	144.29 314	P		**PKPab**	**03 11 35.0**	**-0.6**
KARY	Karystos	144.33 309	P		**PKPab**	**03 11 35.1**	**-0.8**
KYMI	Kymi, Euboea I	144.34 310	P		**PKPab**	**03 11 35.2**	**-0.7**
NPS	Neapolis	144.37 304	P		PKPbc	03 11 36.4	0.0
KHC	Kasperske Hory	144.38 333	*e*PKP		PKPbc	03 11 36.4	+0.4
KHC			x		x	03 12 20.0	
KHC			*e*PP		**PP**	**03 14 55.2**	**+0.6**
KHC			*e*SKKP			03 22 59.1	
KHC	Kasperske Hory	144.38 333	*e*PKIKP		PKPbc	03 11 36.4	+0.4
KHC			*e*			03 14 55.2	
GEC2	GERESS Array S	144.54 332			**PKPab**	**03 11 36.5**	**0.0**
GERES	GERESS Array B	144.54 332	PKP		PKPbc	03 11 36.6	+0.1
	comp=Z,135nm,0.7s,baz=42,slow=4.2,SNR=350						
GERES			SKKPbc		SKKPbc	03 22 58.3	-0.8
	comp=Z,2.7nm,0.9s,baz=230,slow=3.3,SNR=5.6						
HPK	Haverah Park	144.58 351	*e*P		**PKPab**	**03 11 36.1**	**-0.2**
IOMK	Kirk Michael	144.65 354	*e*P		**PKPab**	**03 11 36.0**	**-0.6**
SKO	Skopje	144.66 317	*i* P		**PKPdf**	**03 11 37.5**	**-0.2**
DION	Dionisos Attik	144.68 310	P		**PKPab**	**03 11 36.0**	**-1.3**
NEO	Neokhori	144.69 312	P		PKPbc	03 11 36.0	-1.2
RCBR	Riachuelo	144.73 132	PKPbc		**PKPab**	**03 11 37.1**	**-0.9**
RCBR	Riachuelo	144.73 132	PKP		**PKPab**	**03 11 37.4**	**-0.7**
	comp=Z,86nm,0.9s,baz=209,slow=7.9,SNR=77						
RCBR	Riachuelo	144.73 132	*e*P		**PKPab**	**03 11 37.7**	**-0.4**
RCBR	Riachuelo	144.73 132	PKP		**PKPab**	**03 11 37.2**	**-0.9**
PTL	Penteli	144.74 310	P		PKPbc	03 11 36.3	-1.2
BEHE	Becsehely	144.74 327	⇑*i*P		**PKPdf**	**03 11 37.7**	**+0.1**
WIM	Isle of Man	144.77 354	*e*P		PKPbc	03 11 36.6	-0.4
ATHU	Athens Univers	144.83 309	P		PKPbc	03 11 36.7	-1.0
MHLO	Agia Marina, M	144.84 307	P		PKPbc	03 11 36.7	-1.0
ARSA	Arzberg	144.84 329	*i* PKP		PKPbc	03 11 36.9	-0.5
	comp=Z,8μm,5.5s,SNR=403						
ARSA			*e*PP		**PP**	**03 14 57.3**	**-0.2**
	comp=Z,831nm,4.6s						
ARSA			*e*SKKP			03 22 56.4	
	comp=Z,14nm,1.3s						
LIT	Litokhoron	144.85 314	P		PKPbc	03 11 36.8	-1.0
LMK	Market Rasen	144.86 349	*e*P		PKPbc	03 11 36.8	-0.5
VLY	Voula,Athens	144.87 309	P		PKPbc	03 11 36.9	-0.9
ATH	Athens Observa	144.88 310	P		PKPbc	03 11 36.9	-0.9
IDI	Anoyia	144.92 305	PKP		PKPbc	03 11 37.7	-0.5
IDI	Anoyia	144.92 305	P		PKPbc	03 11 38.1	0.0
IDI	Anoyia	144.92 305	PKP		PKPbc	03 11 38.0	-0.2
	comp=Z,263nm,0.4s,baz=30,slow=7.2,SNR=274						
STFN	Stefani	144.92 310	P		PKPbc	03 11 37.0	-1.1
GRFO	Grafenberg	144.93 335			PKPbc	03 11 37.6	0.0
GRFO	Grafenberg	144.93 335	PKIKP		PKPbc	03 11 37.6	0.0
MAGU	Magoula	144.98 310	P		PKPbc	03 11 37.1	-1.1
MOA	Molln	145.02 331	*i* PKP		**PKPbc**	**03 11 37.4**	**-0.6**
	comp=Z,5μm,1.9s,SNR=500						
MOA			*i* PP		**PP**	**03 14 57.5**	**-0.9**
	comp=Z,1μm,3.8s						
MOA			*i* SKKP			03 22 55.1	
	comp=Z,8.3nm,1.0s						
ILTH	Belurgan, Co L	145.03 356	PKP		**PKPbc**	**03 11 37.3**	**-0.4**
ILTH	Belurgan, Co L	145.03 356	*e*P		**PKPbc**	**03 11 37.4**	**-0.4**
RUDO	Rudo	145.06 321	*e*P		**PKPbc**	**03 11 37.7**	**-0.6**
ATAL	Atalanti	145.09 311	P		**PKPdf**	**03 11 37.4**	**-1.1**
VILL	Villia	145.09 310	P		**PKPdf**	**03 11 37.0**	**-1.5**
LKR	Lokris	145.12 311	P		**PKPdf**	**03 11 37.3**	**-1.2**
LBWR	Ladybower, Pea	145.14 351	*e*P		**PKPdf**	**03 11 38.1**	**0.0**
IVA	Berane	145.16 319	⇑*i*PKP		**PKPdf**	**03 11 38.0**	**-0.6**
PRNS	Prines Rethymn	145.20 305	P		**PKPab**	**03 11 39.2**	**-0.1**
PLE	Pljevlja	145.21 320	⇑*i*PKP		**PKPdf**	**03 11 38.1**	**-0.6**
KZN	Kozani	145.25 314	P		**PKPdf**	**03 11 37.7**	**-1.1**
MOSL	Moslavina	145.32 326	⇑*i*P		**PKPdf**	**03 11 38.5**	**-0.2**
AXAR	Agios Charalam	145.32 311	P		**PKPdf**	**03 11 38.2**	**-0.7**
WACR	West Acre	145.38 348	*e*P		**PKPbc**	**03 11 38.7**	**-0.2**
LTK	Loutraki	145.40 310	P		**PKPdf**	**03 11 37.7**	**-1.3**
KOME	Kolasin	145.40 320	⇑*i*PKP		**PKPdf**	**03 11 38.7**	**-0.3**
BIOA	Bad Ischl, Aus	145.42 331	*i* PKP		**PKPdf**	**03 11 38.0**	**-0.8**
	comp=Z,42nm,1.0s,SNR=157						
BIOA			*i* PP		**PP**	**03 14 57.7**	**-3.1**
	comp=Z,2.5nm,0.8s						
BIOA			*i* SKKP			03 22 53.3	
	comp=Z,16nm,1.3s						
THL	Klokotos Trika	145.42 313	P		**PKPdf**	**03 11 37.8**	**-1.2**
AGG	Agios Georgios	145.44 312	P		**PKPdf**	**03 11 37.9**	**-1.2**
PERS	Pernice	145.47 328	*i* PKPdf		**PKPdf**	**03 11 38.1**	**-0.9**
PERS			*i* PKPbc		**PKPbc**	**03 11 39.5**	**+0.1**
PERS			*e*PP		**PP**	**03 14 57.8**	**-3.4**
PERS			*e*			03 38 59.2	
WME	Myndd Eilian	145.47 354	*e*P		**PKPdf**	**03 11 38.9**	**+0.2**
SOKA	Soboth	145.48 328	*i* PKP		**PKPdf**	**03 11 38.3**	**-0.7**
	comp=Z,4μm,4.6s,SNR=309						
SOKA			*e*PP		**PP**	**03 14 55.3**	**-6.0**
	comp=Z,592nm,3.4s						
SOKA			*e*SKKP			03 22 53.7	
	comp=Z,18nm,1.3s						
WPS	Cemaes, Angles	145.49 354	*e*P		**PKPdf**	**03 11 38.7**	**+0.1**
CHAN	Chania	145.50 305	P		**PKPdf**	**03 11 39.5**	**+0.2**
OHR	Ohrid	145.51 316	*i* P		**PKPdf**	**03 11 39.1**	**-0.1**
STNC	Stoke	145.51 351	*e*P		**PKPbc**	**03 11 39.5**	**+0.2**
UPM	Unac-Piva	145.57 321	⇑*i*PKP		**PKPdf**	**03 11 38.3**	**-1.1**
MAKR	Makrakomi, Fth	145.58 312	P		**PKPdf**	**03 11 39.0**	**-0.4**
WLF1	Llynfaes	145.59 354	*e*P		**PKPbc**	**03 11 39.3**	**-0.2**
BLY	Banja Luka	145.64 324	⇑*i*P		**PKPdf**	**03 11 38.7**	**-0.5**
BLY	Banja Luka	145.64 324	⇑P		**PKPdf**	**03 11 37.9**	**-1.4**
GVD	Gavdhos	145.69 304	P		**PKPdf**	**03 11 39.3**	**-0.3**
NEST	Nestorio	145.69 315	P		**PKPdf**	**03 11 39.2**	**-0.3**
CWF	Charnwood Fore	145.72 350	*e*P		**PKPdf**	**03 11 39.2**	**+0.1**
PENT	Pentalofos	145.73 315	P		**PKPdf**	**03 11 39.1**	**-0.6**
KBN	Korca	145.76 315	P		**PKPdf**	**03 11 39.5**	**-0.2**
IGLA	Glengowla, Co	145.77 359	PKP		**PKPdf**	**03 11 38.4**	**-0.7**
IGLA	Glengowla, Co	145.77 359	*e*P		**PKPdf**	**03 11 39.1**	**0.0**
KLINJ	Klinje	145.78 321	*e*P		**PKPbc**	**03 11 40.2**	**-0.4**
NKME	Niksic	145.79 320	⇑*i*PKP		**PKPdf**	**03 11 39.0**	**-0.6**
PDG	Podgorica	145.80 319	⇑P		**PKPdf**	**03 11 37.9**	**-1.6**
PDG	Podgorica	145.80 319	⇑*i*PKP		**PKPdf**	**03 11 38.9**	**-0.6**
DSB	Dublin	145.81 356	PKP		**PKPdf**	**03 11 39.4**	**+0.2**
DSB	Dublin	145.81 356	PKP		**PKPdf**	**03 11 38.6**	**-0.6**
OBKA	Obir	145.84 329	*e*PKP		**PKPdf**	**03 11 39.0**	**-0.7**
	comp=Z,7μm,7.2s,SNR=97						
OBKA			*e*PP		**PP**	**03 14 58.5**	**-4.9**
	comp=Z,714nm,3.0s						
FOEL	Foel Wylfa	145.84 352	*e*P		**PKPdf**	**03 11 39.1**	**-0.3**
KALE	Kalithea	145.84 311	P		**PKPdf**	**03 11 39.6**	**-0.3**
EVR	Evrytania	145.85 312	P		**PKPdf**	**03 11 39.5**	**-0.4**
GUR	Goura	145.89 310	P		**PKPdf**	**03 11 39.3**	**-0.7**
SERG	Sergoula	145.89 311	P		**PKPdf**	**03 11 39.3**	**-0.6**
ANX	Ano Chora	145.91 312	P		**PKPdf**	**03 11 40.1**	**+0.1**
BEBN	Eben Emael	145.92 342	*d*PKPdf		**PKPdf**	**03 11 39.3**	**-0.2**
BEBN			*d*PKP		**PKPbc**	**03 11 40.8**	**+0.2**
BEBN			*dp*PKP		**pPKPdf**	**03 12 39.0**	**-0.6**
VLI	Veliai	145.93 308	P		**PKPdf**	**03 11 38.8**	**-1.1**
CEME	Cevo	145.94 320	⇑*i*PKP		**PKPdf**	**03 11 39.1**	**-0.8**
LLW	Llanuwychllyn	145.94 353	*e*P		**PKPbc**	**03 11 40.5**	**-0.1**
ANKY	Antikythira Is	145.96 306	P		**PKPdf**	**03 11 40.0**	**0.0**
BTNL	Ternell	145.97 341	*d*PKPdf		**PKPdf**	**03 11 39.0**	**-0.6**
BRY	Bratogost	145.97 320	⇑*i*PKP		**PKPdf**	**03 11 39.3**	**-0.7**
DRME	Dracevica, Mon	145.97 319	⇑*i*PKP		**PKPdf**	**03 11 39.5**	**-0.4**
KLV	Kalavryta, Ach	145.98 311	P		**PKPdf**	**03 11 40.0**	**-0.1**
MEM	Membach	145.98 341	*d*PKPdf		**PKPdf**	**03 11 39.3**	**-0.3**
OZLJ	Ozalj	145.99 327	⇑*i*P		**PKPdf**	**03 11 39.1**	**-0.6**
EFP	Efpalio	146.00 311	P		**PKPdf**	**03 11 40.0**	**0.0**
KBA	Koelnbreinsper	146.01 330	*e*PKP		**PKPdf**	**03 11 38.9**	**-1.1**
	comp=Z,1μm,1.8s,SNR=92						
KBA			*i* PP		**PP**	**03 14 59.2**	**-5.3**
	comp=Z,998nm,2.6s						
TETR	Tetrakomo, Epi	146.03 313	P		**PKPdf**	**03 11 40.4**	**+0.3**
ULC	Ulcinj	146.06 319	⇑*i*PKP		**PKPdf**	**03 11 39.2**	**-0.9**
LESA	Schwarzleotal	146.06 331	*i* PKP		**PKPdf**	**03 11 39.2**	**-0.8**
	comp=Z,1μm,1.1s,SNR=302						
LESA			*i* PP		**PP**	**03 14 59.3**	**-5.3**
	comp=Z,917nm,2.5s						
PRMD	Pramanda	146.07 314	P		**PKPdf**	**03 11 40.6**	**+0.4**
VLX	Vlachokerasia	146.09 309	P		**PKPdf**	**03 11 39.8**	**-0.5**
BUM	Brajici-Budva	146.09 319	⇑*i*PKP		**PKPdf**	**03 11 39.4**	**-0.8**
BSTI	Sart Tilman	146.14 342	*d*PKPdf		**PKPdf**	**03 11 39.5**	**-0.3**
HLM1	Long Mynd	146.16 352	*e*P		**PKPdf**	**03 11 40.4**	**+0.5**
LJU	Ljubljana	146.18 328	*i* PKPdf		**PKPdf**	**03 11 39.9**	**-0.2**
LJU			*i* PKPbc		**PKPbc**	**03 11 41.8**	**+0.3**
LJU			*ep*PKPbc		**pPKPdf**	**03 12 40.0**	**-0.6**
LJU			*e*PP		**PP**	**03 15 06.0**	**+0.6**
LJU			*e*SS		SS	03 33 41.3	-0.2
LJU			*e*			03 39 06.7	
BOJS	Bojanci	146.18 327	*i* PKPdf		**PKPdf**	**03 11 39.9**	**-0.2**
BOJS			*i* PKPbc		**PKPab**	**03 11 42.2**	**-0.5**
BOJS			*ep*PKPbc		**pPKPdf**	**03 12 40.7**	**+0.2**
BOJS			*e*			03 21 32.6	
JAN	Janina	146.18 314	P		**PKPdf**	**03 11 40.3**	**-0.1**
PVO	Paravola	146.18 312	P		**PKPdf**	**03 11 40.3**	**0.0**
TREB	Trebinje	146.19 320	⇑*i*P		**PKPbc**	**03 11 41.0**	**-0.7**
MYKA	Terra Mystica	146.19 330	*e*PKP		**PKPdf**	**03 11 39.3**	**-0.9**
	comp=Z,1μm,1.9s,SNR=95						
MYKA			*e*PP		**PP**	**03 15 05.4**	**0.0**
	comp=Z,728nm,2.7s						
MYKA			*e*SKKP			03 22 51.0	
	comp=Z,12nm,1.0s						
BHOU	Houvegnez	146.21 341	*d*PKPdf		**PKPdf**	**03 11 40.0**	**0.0**
BHOU			*d*PKP		**PKPbc**	**03 11 42.0**	**+0.5**
BHOU			*dp*PKP		**pPKPdf**	**03 12 38.1**	**-2.1**
HCY	Herceg Novi	146.25 320	⇑*i*PKP		**PKPdf**	**03 11 39.7**	**-0.6**
AMPL	Ampelaki	146.27 313	P		**PKPdf**	**03 11 40.4**	**-0.1**
UCC	Uccle	146.29 343	*d*PKPdf		**PKPdf**	**03 11 39.9**	**-0.2**
UCC			*dp*PKP		pPKPbc	03 12 40.8	-0.2
DRO	Drossia	146.34 311	P		**PKPdf**	**03 11 40.5**	**-0.1**
BCLA	Clavier	146.36 342	*d*PKP		**PKPbc**	**03 11 42.0**	**+0.1**
BGES	Gesves	146.46 342	*d*PKPdf		**PKPdf**	**03 11 40.0**	**-0.5**
RLS	Riolos of Patr	146.47 311	P		**PKPdf**	**03 11 40.8**	**-0.1**
AXS	Araxos	146.47 311	P		**PKPdf**	**03 11 40.6**	**-0.3**
STON	Ston	146.49 321	⇑*i*P		**PKPdf**	**03 11 39.7**	**-1.0**
ITM	Ithomi	146.50 309	P		**PKPdf**	**03 11 40.6**	**-0.3**
KIJV	Kijevo	146.54 324	⇑*i*P		**PKPdf**	**03 11 39.7**	**-1.1**
IGT	Igoumenitsa	146.59 314	P		**PKPdf**	**03 11 40.8**	**-0.3**
WATA	Walderalm	146.62 332	*e*PKP		**PKPdf**	**03 11 40.3**	**-0.7**
	comp=Z,884nm,1.2s,SNR=166						
WATA			*i* PP		**PP**	**03 15 00.9**	**-7.0**
	comp=Z,724nm,2.5s						
RCHB	Rochefort	146.62 342	*d*PKPdf		**PKPdf**	**03 11 39.9**	**-0.7**
RCHB			*dp*PKP		**pPKPdf**	**03 12 40.2**	**-0.7**
BMRD	Maredsous	146.62 342	*d*PKPdf		**PKPdf**	**03 11 40.4**	**-0.3**
ABTA	Abfaltersbach	146.64 331	*i* PKP		**PKPdf**	**03 11 40.0**	**-1.0**
	comp=Z,1μm,2.2s,SNR=194						
ABTA			*i* PP		PP	03 14 58.8	-9.3
	comp=Z,739nm,3.0s						
ABTA			*i* SKKP			03 22 50.1	
	comp=Z,17nm,1.4s						
WTTA	Wattenberg	146.64 332	*i* PKP		**PKPdf**	**03 11 40.5**	**-0.6**
	comp=Z,1μm,1.3s,SNR=253						
WTTA			*e*PP		**PP**	**03 15 01.3**	**-6.8**
	comp=Z,1μm,3.2s						
VLO	Vlora	146.69 316	P		**PKPdf**	**03 11 40.9**	**-0.2**
MCH1	Michaelchurch	146.69 352	*e*P		**PKPbc**	**03 11 42.4**	**-0.4**
TSLK	Tsoukalades, L	146.70 313	P		**PKPdf**	**03 11 40.9**	**-0.3**
IWEX	Carrickbyrne,	146.71 356	PKP		**PKPdf**	**03 11 40.0**	**-0.8**
IWEX	Carrickbyrne,	146.71 356	*e*P		**PKPbc**	**03 11 42.5**	**-0.3**
LKD2	Lefkada island	146.71 313	P		**PKPdf**	**03 11 41.0**	**-0.3**
NYDR	Nydri-Lefkada	146.72 312	P		**PKPdf**	**03 11 41.0**	**-0.2**
PYL	PYLOS	146.74 309	P		**PKPdf**	**03 11 40.2**	**-1.1**
WLF	Walferdange	146.76 340	PKP		**PKPdf**	**03 11 41.8**	**+0.8**
WLF	Walferdange	146.76 340	*d*PKPdf		**PKPdf**	**03 11 41.3**	**+0.3**
ELSH	Elham, Standar	146.77 347	*e*P		**PKPdf**	**03 11 41.6**	**+0.7**
STRD	Stroud	146.78 351	*e*P		**PKPbc**	**03 11 42.7**	**-0.4**
EVGI	Lefkada island	146.79 312	P		**PKPdf**	**03 11 40.7**	**-0.7**
MOTA	Moosalm	146.81 333	*e*PKP		**PKPdf**	**03 11 40.6**	**-0.7**
	comp=Z,1μm,1.6s,SNR=154						
MOTA			*i* PP		PP	03 15 01.1	-8.0
	comp=Z,625nm,2.5s						
MONM	Monmouth	146.82 351	*e*P		**PKPbc**	**03 11 42.9**	**-0.2**
RETA	Reutte	146.85 333	*i* PKP		**PKPdf**	**03 11 40.7**	**-0.6**
	comp=Z,2μm,2.0s,SNR=92						
RETA			*i* PP		**PP**	**03 15 09.3**	**+0.1**
	comp=Z,2μm,4.4s						
DOU	Dourbes	146.86 342	*d*PKPdf		**PKPdf**	**03 11 40.3**	**-0.8**
DOU			*dp*PKPdf		**pPKPdf**	**03 12 39.0**	**-2.3**
KEK	Kerkira	146.86 315	P		**PKPab**	**03 11 44.8**	**-0.8**
SQTA	Sankt Quirin	146.86 333	*i* PKP		**PKPdf**	**03 11 40.7**	**-0.7**
	comp=Z,1μm,1.4s,SNR=217						
SQTA			*i* PP		PP	03 15 01.4	-8.0
	comp=Z,78nm,1.3s						
FSK	Fiskardo	146.93 312	P		**PKPdf**	**03 11 40.6**	**-1.0**
RSBS	Rosebush, Pemb	146.95 354	*e*P		**PKPbc**	**03 11 42.9**	**-0.7**
RTZL	Ratzakli, Kefa	146.95 311	P		**PKPdf**	**03 11 40.9**	**-0.7**
SWN1	Swindon	146.98 350	*e*P		**PKPbc**	**03 11 43.5**	**0.0**
VLS	Valsamata	147.04 312	P		**PKPdf**	**03 11 41.1**	**-0.7**
LTHK	Lithakia	147.06 311	P		**PKPdf**	**03 11 40.7**	**-1.1**
PSDA	Pessada-Kefalo	147.07 312	P		**PKPdf**	**03 11 40.7**	**-1.1**
WOL	Wolverton	147.07 349	*e*P		**PKPbc**	**03 11 43.6**	**-0.3**
ORTH	Orthonies,Zaky	147.10 311	P		**PKPdf**	**03 11 41.2**	**-0.8**
BFO	Black Forest	147.14 337			**PKPdf**	**03 11 40.3**	**-1.4**
BFO	Black Forest	147.14 337	PKIKP		**PKPdf**	**03 11 40.3**	**-1.4**
DMLN	Damoulianata-K	147.16 312	P		**PKPdf**	**03 11 41.3**	**-0.7**
HMNX	Herstmonceux	147.20 347	*e*P		**PKPbc**	**03 11 44.3**	**+0.1**
FETA	Feichten	147.23 333	*i* PKP		**PKPdf**	**03 11 41.7**	**-0.3**
	comp=Z,2μm,2.0s,SNR=130						
VAL	Valentia	147.26 360	PKP		**PKPdf**	**03 11 41.5**	**-0.2**
VAL	Valentia	147.26 360	PKP		**PKPdf**	**03 11 40.6**	**-1.1**
BRJN	Brijuni	147.36 327	⇑*i*P		**PKPdf**	**03 11 41.9**	**-0.2**
DAVA	Damuels	147.38 334	*i* PKP		**PKPdf**	**03 11 41.5**	**-0.8**
	comp=Z,3μm,2.3s,SNR=146						
DAVA			*i* PP		**PP**	**03 15 11.5**	**-0.9**
	comp=Z,294nm,1.7s						
HTL	Hartland	147.86 353	*e*P		**PKPbc**	**03 11 45.7**	**-0.3**
SBD	Saint Breward	148.31 353	*e*P		**PKPbc**	**03 11 46.5**	**-0.6**
MATE	Matera	148.38 319	⇑P		**PKPdf**	**03 11 43.5**	**-0.8**
CCA1	Carnmenellis	148.74 354	*e*P		**PKPbc**	**03 11 48.1**	**-0.2**
TIP	Timpagrande	149.16 316	⇑P		**PKPdf**	**03 11 45.3**	**0.0**
AQU	L'Aquila	149.28 324	PKP		**PKPdf**	**03 11 44.7**	**-0.7**
AQU	L'Aquila	149.28 324	⇑*i*P		**PKPdf**	**03 11 44.4**	**-1.0**
JSA	Saint Aubin	149.29 349	*e*P		**PKPbc**	**03 11 48.4**	**-1.2**
VLC	Villacollemand	149.56 330	PKP		**PKPdf**	**03 11 44.0**	**-1.7**
CEL	Celeste	150.22 315			**PKPdf**	**03 11 45.8**	**-1.2**
CEL					**PKPbc**	**03 11 52.1**	**-0.3**
CEL					**PKPab**	**03 11 59.8**	**+0.5**
VAE	Valguarnera	151.63 315	PKP		**PKPdf**	**03 11 49.0**	**-0.2**
	comp=Z,15nm,1.0s,baz=321,slow=2.7,SNR=15						
H07S1	FLORES T-PHASE	153.01 37	*e*PKPdf		**PKPdf**	**03 11 49.5**	**-1.6**
EJON	La Jonquera	154.16 337	PKP		**PKPdf**	**03 11 51.9**	**-0.8**
CBEU	Beuda	154.40 337	*e*PKP		**PKPdf**	**03 11 53.5**	**+0.4**
CBEU			*ep*PKP		**pPKPdf**	**03 12 56.8**	**+3.4**
CBEU			*e*PP		**PP**	**03 15 52.2**	**0.0**
CBEU			*e*SKKS			03 26 15.5	
CBEU			*e*SS		**SS**	**03 35 15.0**	**+3.0**
CBRU	Bruguera	154.56 338	*e*PKP		**PKPdf**	**03 11 54.4**	**+1.1**
CBRU			*ep*PKP		**pPKPdf**	**03 12 57.4**	**+3.7**
CBRU			*e*PP		**PP**	**03 15 50.1**	**-3.0**
CBRU			*e*SS		SS	03 35 21.9	+8.2
ARBS	La Rabassa	154.63 339	*e*PKP		**PKPdf**	**03 11 52.1**	**-1.6**
ARBS			*ep*PKP		**pPKPdf**	**03 12 53.2**	**-0.7**
ARBS			*e*PP		**PP**	**03 15 54.8**	**+1.1**
ARBS			*e*SKKS			03 26 19.5	
ARBS			*e*SS		**SS**	**03 35 16.8**	**+2.1**
CORG	Organya	154.91 339	*e*PKP		**PKPdf**	**03 11 54.0**	**+0.3**
CORG			*ep*PKP		**pPKPbc**	**03 12 58.7**	**-3.9**
CORG			*e*PP		**PP**	**03 15 56.8**	**+1.9**
CORG			*e*SKKS			03 26 23.1	
CORG			*e*SS		**SS**	**03 35 24.8**	**+7.6**
PCED	Cedros	154.93 35	*e*PKPab		**PKPab**	**03 12 18.2**	**-0.9**
CALA	Caldeira	154.97 35	*e*PKPab		**PKPab**	**03 12 18.2**	**-1.2**
CALA			*e*PP		**PP**	**03 15 53.3**	**-2.5**
SRBC	Serra Branca	154.99 34	*e*PKPab		**PKPab**	**03 12 18.2**	**-1.2**
SRBC			*e*PP		**PP**	**03 15 51.7**	**-4.1**
CTRE	Tremp	155.00 340	*e*PKP		**PKPdf**	**03 11 55.8**	**+1.8**
CTRE			*ep*PKP		**pPKPdf**	**03 12 58.3**	**+4.0**
CTRE			*e*PP		**PP**	**03 15 56.7**	**+1.2**
CTRE			*e*SKKS			03 26 25.0	
CTRE			*e*SS		SS	03 35 29.5	+11
PGRA	Graciosa	155.03 34	*e*PKPdf		**PKPdf**	**03 11 53.8**	**-0.1**
PGRA			*e*PKPab		**PKPab**	**03 12 18.2**	**-1.3**
PGRA			*e*PP		**PP**	**03 15 54.4**	**-1.6**
HOR	Horta	155.04 35	*e*PKPdf		**PKPdf**	**03 11 50.6**	**-3.4**
ROSA	Rosais	155.12 35	*e*PKPdf		**PKPdf**	**03 11 52.2**	**-1.9**
ROSA			*e*PKPab		**PKPab**	**03 12 19.2**	**-0.6**
ROSA			*e*PP		**PP**	**03 15 50.1**	**-6.4**
PICO	Pico	155.18 35	*e*PKPab		**PKPab**	**03 12 19.8**	**-0.4**
PMAN	Manadas	155.26 35	*e*PKPdf		**PKPdf**	**03 11 54.9**	**+0.7**
PMAN			*e*PKPab		**PKPab**	**03 12 19.8**	**-0.7**
PPNO	Prainha do Nor	155.28 35	*e*PKPdf		**PKPdf**	**03 11 54.4**	**0.0**
PPNO			*e*PKPab		**PKPab**	**03 12 19.2**	**-1.4**
PID	Ribeirinha	155.38 35	*e*PKPdf		**PKPdf**	**03 11 56.0**	**+1.5**
PID			*e*PKPab		**PKPab**	**03 12 20.9**	**-0.2**
PID			*e*PP		**PP**	**03 15 58.7**	**+0.7**
CAVN	Les Avellanes	155.41 340	*e*PKP		**PKPdf**	**03 11 55.4**	**+0.9**
CAVN			*

MORF *eP* **PP** **03 16 33.6 +1.3**
PFVI Vila Bisbo 162.01 356⇑ *e*PKPdf **PKPdf** **03 12 02.6 +0.3**
PFVI *e*PKPab **PKPab** **03 12 50.9 +1.2**
PFVI *eP* **PP** **03 16 34.3 +1.1**
SFS San Fernando 162.34 349 PKP **PKPdf** **03 12 02.6 -0.1**
CNIL Conil 162.40 348 PKP **PKPdf** **03 12 02.9 +0.2**
WMELI Melilla 162.57 339 PKP **PKPdf** **03 12 02.1 -0.8**
CEU Ceuta 162.71 346 PKP **PKPdf** **03 12 01.9 -1.1**
IFR Ifrane 164.91 343 PKP **PKPdf** **03 12 05.2 -0.2**
PMOZ Porto Moniz, M 165.09 23⇑ *e*PKPdf **PKPdf** **03 12 06.6 +1.1**
PMOZ *e*PKPab **PKPab** **03 13 04.5 +1.0**
PMOZ *eP* **PP** **03 16 52.3 +2.5**
PMPST Porto Santo, M 165.15 20⇑ *e*PKPdf **PKPdf** **03 12 06.1 +0.7**
PMPST *e*PKPab **PKPab** **03 13 04.5 +0.9**
PMPST *eP* **PP** **03 16 49.4 -0.4**
PMPS Porto Santo 165.17 20⇑ *e*PKPdf **PKPdf** **03 12 06.2 +0.8**
PMPS *e*PKPab **PKPab** **03 13 04.6 +0.9**
PMAR Madeira 165.28 22⇑ *e*PKPdf **PKPdf** **03 12 06.6 +0.9**
PMAR *e*PKPab **pPKPdf** **03 13 05.8 -0.2**
PMAR *eP* **PP** **03 16 53.4 +2.5**
FUL Funchal 165.35 22⇑ *e*PKPdf **PKPdf** **03 12 06.2 +0.7**
FUL *e*PKPab **pPKPdf** **03 13 05.7 -0.2**
FUL *eP* **PP** **03 16 54.1 +3.2**
MD01 Midelt array s 165.41 341 PKPdf **PKPdf** **03 12 05.1 -0.7**
MD01 PKPab **PKPab** **03 13 04.9 -0.1**
MDT Midelt 165.41 340 PKP **PKPdf** **03 12 06.0 +0.2**
comp=Z,42nm,1.2s,baz=89,slow=0.4,SNR=35
MDT PKPab **PKPab** **03 13 04.8 -0.1**
comp=Z,14nm,0.9s,baz=64,slow=6.0,SNR=5.3
DBIC Dimbokro 166.47 204 PKPdf **PKPdf** **03 12 05.3 -1.7**
DBIC Dimbokro 166.47 204 PKP **PKPdf** **03 12 07.5 +0.5**
comp=Z,48nm,1.2s,baz=174,slow=1.8,SNR=13
DBIC PKPab **PKPab** **03 13 10.1 +0.2**
comp=Z,46nm,0.9s,baz=170,slow=5.1,SNR=11
DBIC Dimbokro 166.47 204 PKP **PKPdf** **03 12 06.6 -0.4**
TORD Torodi Ar. Bea 166.91 245 PKPdf **PKPdf** **03 12 04.6 -2.6**
TORD PKPab **PKPab** **03 13 11.9 -0.2**
TORD Torodi Ar. Bea 166.91 245 PKP **PKPdf** **03 12 07.0 -0.2**
comp=Z,30nm,0.8s,baz=35,slow=2.2,SNR=22
TORD PKPab **PKPab** **03 13 11.4 -0.7**
comp=Z,32nm,1.1s,baz=88,slow=4.1,SNR=6.8
TIO Tiouine 167.91 347 PKP **PKPdf** **03 12 07.8 +0.1**

SOME ***21*** *03:29:51.4, 41.°88N×68.°85E, h5km*
ISU ***21*** *03:29:51, 41.°91N×68.°53E, h18km*
NNC ***21*** *03:29:51.5±1.4, 41.°64N×69.°03E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=9.6km s-min=6.9km az=35.0
KRNET ***21*** *03:29:54.4±0.1, 40.°40N×69.°44E, mb3.2*
ISC 21 03:29:49.6±1.4, 42.°00N±0.°03×68.°77E±0.°04, h4km±10km,
n30, σ2°28/43, 6C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	**0.69**	**63**	*eP*	**Pb**	**03 30 05.7**	**+1.4**
	251nm,0.2s						
CHM				*eS*	**Sb**	**03 30 16.6**	**+2.3**
	615nm,0.3s						
TGS	**TashGRES**	**0.81**	**136**	P	**Pg**	**03 30 04.0**	**-1.1**
TGS				S	**Sb**	**03 30 14.5**	**-3.0**
NZBK	**Nazarbek**	**0.82**	**162**	P	**Pb**	**03 30 05.5**	**-1.0**
NZBK				S	**Sb**	**03 30 16.1**	**-1.8**
IUG	**Iuzhnay**	**0.95**	**81**	S	**Sn**	**03 30 25.1**	**+1.2**
CHRV	**Charvak**	**0.95**	**112**	P	**Pb**	**03 30 08.7**	**-0.1**
CHRV				S	**Sn**	**03 30 23.1**	**-0.8**
CHMG	**Chimgan**	**1.03**	**116**	P	**Pb**	**03 30 10.6**	**+0.5**
CHMG				S	**Sn**	**03 30 25.9**	**-0.1**
PSK	**Pskem**	**1.20**	**93**	P	**Pn**	**03 30 14.7**	**+1.4**
PSK				S	**Sn**	**03 30 32.6**	**+2.5**
BRLS	**Borolday**	**1.29**	**37**	S	**Sb**	**03 30 27.6**	**-3.9**
	156nm,0.4s						
BRLS	**Borolday**	**1.29**	**37**	*eP*	**Pn**	**03 30 13.1**	**-1.4**
	97nm,0.2s						
BRLS				*eS*	**Sb**	**03 30 28.6**	**-2.9**
	181nm,0.2s						
KK31	**Karatay Array**	**1.69**	**49**	Pn	**Pg**	**03 30 24.2**	**+2.1**
	3.6nm,0.2s,baz=213,slow=13,SNR=68						
KK31				⇓Sn	**Sg**	**03 30 49.0**	**+5.1**
	45nm,0.4s,baz=216,slow=25						
TRKS	**Terek-Say**	**1.83**	**104⇑**	*eP*	**Pg**	**03 30 25.6**	**+0.8**
TRKS			⇑	*eS*	**Sg**	**03 30 49.0**	**+0.5**
BXML	**Bakhmal**	**2.38**	**194**	P	**Pb**	**03 30 33.8**	**+0.6**
BXML				S	**Sb**	**03 31 01.9**	**-1.1**
ARK	**Arkit**	**2.39**	**94⇑**	*eP*	**Pg**	**03 30 36.4**	**+0.9**
ARK			⇑	*eS*	**Sg**	**03 31 07.1**	**+0.7**
CHMI	**Chimion**	**2.71**	**129**	P	**Pg**	**03 30 41.0**	**-0.5**
FRG	**Fergana**	**2.80**	**125**	S	**Sg**	**03 31 22.8**	**+3.4**
TMD	**Tamdy-Bulak**	**3.10**	**267**	P	**Pn**	**03 30 38.3**	**-1.0**
TMD				S	**Sn**	**03 31 12.8**	**-3.9**
ARSB	**Arslanbob**	**3.23**	**101⇓**	*eP*	**Pn**	**03 30 42.7**	**+1.5**
ARSB			⇓	*eS*	**Sn**	**03 31 17.9**	**-2.3**
MRKS	**Merke**	**3.38**	**76**	Pg	**Pg**	**03 30 53.7**	**-0.7**
	2.3nm,0.3s						
MRKS				Lg	Lg	03 31 39.0	
	30nm,0.5s						
MRKS	**Merke**	**3.38**	**76**	*eP*	**Pg**	**03 30 53.7**	**-0.7**
	1.1nm,0.1s						
MRKS				*eS*	**Sg**	**03 31 39.0**	**+0.7**
	34nm,0.4s						
DRK	**Karamyk**	**3.41**	**137⇓**	*eP*	Pn	03 30 31.9	-12
DRK			⇓	*eS*	**Pg**	**03 30 59.0**	**+4.0**
AAK	**Ala-Archa**	**4.29**	**80**	⇓Pn	**Pn**	**03 30 56.1**	**+0.3**
	2.3nm,0.6s						
AAK				⇑Sn	**Sn**	**03 31 48.1**	**+1.7**
	6.0nm,0.8s						
ZRB	**Zarabog**	**4.34**	**207**	P	**Pn**	**03 31 00.8**	**+4.3**
ZRB				S	**Sn**	**03 31 48.4**	**+0.8**
SGDS	**Sogindy**	**4.55**	**69**	Pg	**Pb**	**03 31 14.2**	**+4.0**
	2.3nm,1.1s						
SGDS				Lg	Lg	03 32 13.9	
	9.4nm,0.7s						
KST	**Kastek**	**5.42**	**77**	Pg	Pb	03 31 30.2	+5.3
	5.8nm,1.7s						
KST				Lg	Lg	03 32 41.6	
	20nm,0.9s						
KST	**Kastek**	**5.42**	**77**	*eP*	Pb	03 31 30.1	+5.3
	1.7nm,0.2s						
KST				*eS*	**Sg**	**03 32 40.7**	**-2.9**
	14nm,0.8s						
KTBS	**Karatobe**	**6.06**	**71**	Pg	**Pg**	**03 31 43.2**	**-2.5**
	1.1nm,0.5s						
KTBS				Lg	Lg	03 33 03.6	
	8.9nm,0.9s						
MDOK	**Medeo**	**6.22**	**76**	Pg	**Pg**	**03 31 47.1**	**-1.6**
	3.1nm,1.2s						
ARXS	**Arharly**	**6.99**	**69**	*eP*	Pg	03 31 59.9	-3.5
ARXS				*eS*	**Sg**	**03 33 32.2**	**-1.7**
AB31	**Akbulak array**	**9.53**	**323**	⇓P	Pn	03 32 15.1	+7.6
	0.8nm,0.6s,baz=140,slow=12,SNR=9.1						
MAKZ	**Makanchi**	**10.60**	**59**	⇑Pn	Pn	03 32 13.3	-8.9
	7.0nm,1.3s						
MAKZ				⇓Lg	Lg	03 32 52.3	
	5.4nm,1.4s						

IDC ***21*** *03:44:13.7±1.0, 56.°33N×149.°75W, h0km, mb3.9/14,*
mbtmp4.0/18, ML3.2/3, Error ellipse: s-maj=26.9km
s-min=16.0km az=24.0
NEIC ***21*** *03:44:14.4±2.4, 56.°24N±0.°06×150.°0W±0.°1, h10km±1km,*
mb4.4/3, ML4.1/74, ML4.0(AEIC), Error ellipse:
s-maj=11.9km s-min=8.9km az=141.0
AEIC ***21*** *03:44:14.7±5.7, 55.°93N±0.°08×149.°7W±0.°1, h12km±4km,*
Error ellipse: s-maj=12.7km s-min=8.7km az=156.0
ISC 21 03:44:13.6±0.6, 56.°20N±0.°06×150.°03W±0.°05, h10km,
n235, σ1$49/234, mb4.3/19, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.07**	**301**		**Pn**	**03 44 48.0**	**-0.3**
OHAK					**Sn**	**03 45 13.6**	**-0.5**
OHAK	**Old Harbor**	**2.07**	**301**	P	**Pn**	**03 44 48.8**	**+0.5**
OHAK	**Old Harbor**	**2.07**	**301**	S	**Sb**	**03 45 15.3**	**-1.6**
KDAK	**Kodiak Island**	**2.12**	**320**	Pn	**Pn**	**03 44 49.0**	**0.0**
KDAK				Sn	**Sb**	**03 45 16.2**	**-2.0**
KDAK	**Kodiak Island**	**2.12**	**320**	Pn	**Pb**	**03 44 49.9**	**-2.0**
	18nm,0.3s,baz=44,slow=0.4,SNR=45						
KDAK				Sn	**Sb**	**03 45 16.4**	**-1.8**
	20nm,0.3s,baz=336,slow=22,SNR=17						
	50nm,0.4s						
SII	**Sitkinak Islan**	**2.34**	**281**	Pn	**Pn**	**03 44 51.6**	**-0.5**
SII				Sn	**Sn**	**03 45 19.9**	**-0.9**
SII	**Sitkinak Islan**	**2.34**	**281**	P	**Pn**	**03 44 51.7**	**-0.4**
SII	**Sitkinak Islan**	**2.34**	**281**	S	**Sn**	**03 45 21.5**	**+0.7**
SYI	**Shuyak Island**	**2.73**	**333**	Pn	**Pn**	**03 44 57.6**	**+0.2**
SYI				Sn	**Sn**	**03 45 32.2**	**+1.7**
CHIR	**Chirikof Islan**	**3.16**	**265**	Pn	**Pn**	**03 45 01.8**	**-1.5**
CHIR					**Sn**	**03 45 38.0**	**-3.1**
CHIR	**Chirikof Islan**	**3.16**	**265**	P	**Pn**	**03 45 02.5**	**-0.9**
Q19K	**Cape Douglas,**	**3.36**	**326**	Pn	**Pn**	**03 45 07.8**	**+1.8**
KAHG	**Katmai Hook Gl**	**3.36**	**315**		**Pn**	**03 45 08.2**	**+2.1**
KAWH	**Katmai**	**3.39**	**312**		**Pn**	**03 45 08.2**	**+1.7**
CNPM	**China Poot**	**3.40**	**350**	Pn	**Pn**	**03 45 06.1**	**-0.5**
CNPM				Sn	**Sn**	**03 45 47.0**	**+0.1**
CNPM				IAML		03 45 54.4	
	comp=E,322nm,0.9s						
MGLS	**Mageik Landsli**	**3.40**	**307**		**Pn**	**03 45 07.8**	**+1.2**
KARR	**Katmai Rainbow**	**3.42**	**314**		**Pn**	**03 45 09.2**	**+2.2**
ACHA	**Angle Creek He**	**3.52**	**307**	Pn	**Pn**	**03 45 09.2**	**+1.0**
BRSE	**Bradley Lake S**	**3.57**	**354**		**Sn**	**03 45 51.4**	**+0.2**
HOM	**Homer**	**3.57**	**347**	Pn	**Pn**	**03 45 09.3**	**+0.3**
ANCK	**Angle Creek**	**3.59**	**306**		**Pn**	**03 45 10.8**	**+1.5**
BRLK	**Bradley Lake**	**3.60**	**353**	Pn	**Pn**	**03 45 09.2**	**-0.2**
BRLK				IAML		03 45 56.2	
	comp=N,318nm,1.0s						
BRLK				IAML		03 45 57.3	
	comp=E,338nm,0.7s						
AUJK	**Augustine Jueg**	**3.64**	**332**		**Pn**	**03 45 11.2**	**+1.3**
AUCH	**Augustine Cone**	**3.66**	**331**		**Pn**	**03 45 11.7**	**+1.4**
PLK3	**Peulik 3**	**3.73**	**296**		**Pn**	**03 45 12.6**	**+1.5**
PLK4	**Peulik 4**	**3.75**	**295**	Pn	**Pn**	**03 45 12.4**	**+0.8**
PLK4				IAML		03 46 05.5	
	comp=E,216nm,0.7s						
PLK4				IAML		03 46 14.8	
	comp=N,289nm,0.9s						
PLK2	**Peulik 2**	**3.79**	**297**		**Pn**	**03 45 13.3**	**+1.4**
MID	**Middleton Isla**	**3.79**	**30**	Pn	**Pn**	**03 45 09.5**	**-2.4**
MID				IAML		03 45 55.5	
	comp=E,238nm,0.9s						
MID				IAML		03 46 08.0	
	comp=N,279nm,1.3s						
P19K	**Oil Pt**	**3.86**	**335**	Pn	**Pn**	**03 45 13.6**	**+0.6**
P19K				IAML		03 46 07.3	
	comp=E,457nm,0.6s						
P19K				IAML		03 46 09.9	
	comp=N,327nm,0.5s						
SEW	**Seward**	**3.93**	**4**	Pn	**Pn**	**03 45 12.7**	**-1.1**
PLK1	**Peulik 1**	**3.94**	**297**		**Pn**	**03 45 15.4**	**+1.4**
P23K	**Montague Islan**	**4.05**	**19**	Pn	**Pn**	**03 45 14.8**	**-0.7**
P23K				IAML		03 46 04.4	
	comp=N,256nm,1.1s						
P23K				IAML		03 46 10.7	
	comp=E,232nm,1.0s						
ILS	**Iliamna Low So**	**4.10**	**338**		**Pn**	**03 45 16.6**	**+0.3**
ILSW	**Iliamna Southw**	**4.14**	**338**	Pn	**Pn**	**03 45 16.8**	**-0.1**
ILSW				IAML		03 46 12.2	
	comp=N,169nm,0.8s						
ILSW				IAML		03 46 21.6	
	comp=E,188nm,1.0s						
IVE	**Iliamna Volcan**	**4.14**	**339**		**Pn**	**03 45 17.2**	**+0.3**
P18K	**Big Mountain,**	**4.24**	**321**	Pn	**Pn**	**03 45 18.8**	**+0.6**
Q22K	**Cooper Landing**	**4.30**	**2**	Pn	**Pn**	**03 45 19.7**	**+0.8**
SLKM	**Skilak Lake**	**4.32**	**359**	Pn	**Pn**	**03 45 19.1**	**-0.2**
SLKM				IAML		03 46 13.2	
	comp=N,264nm,0.3s						
SLKM				IAML		03 46 13.3	
	comp=E,342nm,0.7s						
Q16K	**King Salmon**	**4.36**	**307**		**Pn**	**03 45 20.6**	**+0.9**
HIN	**Hinchinbrook I**	**4.60**	**22**		**Pn**	**03 45 21.4**	**-1.7**
HIN				IAML		03 46 23.4	
	comp=N,299nm,0.7s						
O19K	**Port Alsworth**	**4.60**	**332**	Pn	**Pn**	**03 45 22.9**	**-0.2**
PWL	**Port Wells**	**4.76**	**10**	Pn	**Pn**	**03 45 24.5**	**-0.7**
PWL				IAML		03 46 26.6	
	comp=E,177nm,0.6s						
PWL				IAML		03 46 39.7	
	comp=N,150nm,1.0s						
KAIM	**Kayak Island**	**4.78**	**36**	Pn	**Pn**	**03 45 23.6**	**-1.9**
RC01	**Rabbit Creek A**	**4.91**	**2**	Pn	**Pn**	**03 45 26.9**	**-0.4**
RC01				IAML		03 46 28.0	
	comp=E,130nm,0.4s						
RC01				IAML		03 46 32.2	
	comp=N,116nm,0.7s						
FID	**Port Fidalgo**	**4.93**	**21**	Pn	**Pn**	**03 45 26.1**	**-1.5**
FID				IAML		03 46 28.1	
	comp=E,173nm,0.6s						
FID				IAML		03 46 37.2	
	comp=N,124nm,1.3s						
GLI	**Glacier Island**	**4.94**	**17**	Pn	**Pn**	**03 45 26.7**	**-1.0**
GLI				IAML		03 46 32.2	
	comp=N,132nm,0.8s						
GLI				IAML		03 46 34.7	
	comp=E,181nm,0.6s						
RAGM	**Ragged Mountai**	**5.06**	**32**	Pn	**Pn**	**03 45 28.4**	**-1.0**
SUCK	**Suckling Hills**	**5.10**	**38**	Pn	**Pn**	**03 45 28.5**	**-1.4**
SUCK				IAML		03 46 34.4	
	comp=N,206nm,1.1s						
SPU	**Mount Spurr**	**5.11**	**349**	Pn	**Pn**	**03 45 28.8**	**-1.2**
P16K	**Nushagak River**	**5.13**	**307**	Pn	**Pn**	**03 45 31.7**	**+1.3**
P16K				IAML		03 46 36.2	
	comp=N,135nm,1.3s						
P16K				IAML		03 46 51.6	
	comp=E,164nm,1.1s						
HMT	**Hamilton**	**5.14**	**34**	Pn	**Pn**	**03 45 29.1**	**-1.4**
N19K	**Bonanza Creek**	**5.18**	**335**	Pn	**Pn**	**03 45 31.1**	**0.0**
N19K				IAML		03 46 49.0	
	comp=E,98nm,1.0s						
KNK	**Knik Glacier**	**5.29**	**8**	Pn	**Pn**	**03 45 33.0**	**+0.4**
KNK				IAML		03 46 45.9	
	comp=N,115nm,0.9s						
KNK				IAML		03 46 46.8	
	comp=E,104nm,0.9s						
SUA	**Susitna One**	**5.29**	**356**	Pn	**Pn**	**03 45 32.7**	**0.0**
SUA				IAML		03 46 43.3	
	comp=E,106nm,0.8s						
SUA				IAML		03 46 47.7	
	comp=N,99nm,0.9s						
BERG	**Berg Lake**	**5.37**	**36**	Pn	**Pn**	**03 45 31.6**	**-2.0**
SPNN	**North Nagishla**	**5.37**	**346**		**Pn**	**03 45 33.9**	**+0.1**
STLK	**Strandline Lak**	**5.40**	**351**	Pn	**Pn**	**03 45 33.7**	**-0.4**
STLK				IAML		03 46 38.5	
	comp=N,98nm,0.8s						
STLK				IAML		03 46 40.3	
	comp=E,100nm,1.1s						
GRIN	**Grindle Hills**	**5.41**	**38**		**Pn**	**03 45 32.5**	**-1.8**
DIV	**Divide**	**5.42**	**22**	Pn	**Pn**	**03 45 33.2**	**-1.1**
DIV				IAML		03 46 42.2	
	comp=E,54nm,0.8s						
DIV				IAML		03 46 53.3	
	comp=N,72nm,0.7s						
PMR	**Palmer**	**5.43**	**5**	Pn	**Pn**	**03 45 33.9**	**-0.5**
PMR				IAML		03 46 39.6	
	comp=N,60nm,0.8s						
PMR				IAML		03 46 39.7	
	comp=E,78nm,0.7s						
PMR	**Palmer**	**5.43**	**5**	P	**Pn**	**03 45 35.0**	**+0.6**
PMR	**Palmer**	**5.43**	**5**	S	**Sn**	**03 46 36.0**	**-0.8**
N18K	**Kilae Creek**	**5.45**	**328**	Pn	**Pn**	**03 45 35.3**	**+0.6**
O16K	**Kokwok River B**	**5.48**	**312**	Pn	**Pn**	**03 45 35.7**	**+0.6**
SNH	**Sunshine Point**	**5.51**	**41**	Pn	**Pn**	**03 45 33.7**	**-1.9**
KHIT	**Khitrov Hills**	**5.55**	**37**		**Pn**	**03 45 34.1**	**-2.1**
BMRM	**Bremner River**	**5.56**	**28**	Pn	**Pn**	**03 45 35.0**	**-1.3**
M22K	**Willow**	**5.57**	**360**	Pn	**Pn**	**03 45 37.3**	**+1.0**
CHNA	**Chernabura Isl**	**5.60**	**260**	P	**Pn**	**03 45 36.4**	**-0.4**
CHNA	**Chernabura Isl**	**5.60**	**260**	S	**Sn**	**03 46 42.5**	**+1.3**
CNBA	**Chernabura Isl**	**5.61**	**260**	Pn	**Pn**	**03 45 35.2**	**-1.7**
GHO	**Glory Hole Cre**	**5.62**	**5**	Pn	**Pn**	**03 45 37.7**	**+0.6**
SML	**Sawmill**	**5.69**	**8**	Pn	**Pn**	**03 45 38.2**	**+0.1**
WAX	**Waxell Ridge**	**5.70**	**39**	Pn	**Pn**	**03 45 36.9**	**-1.3**
KLU	**Klutina**	**5.72**	**20**	Pn	**Pn**	**03 45 38.1**	**-0.4**
N17K	**Nushagak Hills**	**5.74**	**322**	Pn	**Pn**	**03 45 39.7**	**+0.9**
SCM	**Sheep Creek Mo**	**5.82**	**13**	Pn	**Pn**	**03 45 40.5**	**+0.6**
CRQM	**Cirque**	**5.82**	**35**	Pn	**Pn**	**03 45 38.0**	**-2.0**
MESA	**MESA**	**5.84**	**44**	Pn	**Pn**	**03 45 38.0**	**-2.3**
SKT	**Skwentna**	**5.85**	**353**	Pn	**Pn**	**03 45 39.9**	**-0.3**
TGL	**Tana Glacier**	**5.92**	**37**	Pn	**Pn**	**03 45 39.4**	**-1.9**
SDPT	**Sand Point**	**5.96**	**266**	Pn	**Pn**	**03 45 40.8**	**-0.9**
SDPT	**Sand Point**	**5.96**	**266**	P	**Pn**	**03 45 41.5**	**-0.2**
ISLE	**Juniper Island**	**5.98**	**39**	Pn	**Pn**	**03 45 40.7**	**-1.5**
YAH	**Yahtse**	**6.04**	**43**	Pn	**Pn**	**03 45 41.2**	**-1.9**
O15K	**Ungalikthiuk R**	**6.04**	**304**	Pn	**Pn**	**03 45 44.3**	**+1.5**
VRDI	**Verde Repeater**	**6.09**	**31**	Pn	**Pn**	**03 45 42.3**	**-1.5**
CHX	**Chaix Hills**	**6.10**	**47**	Pn	**Pn**	**03 45 41.9**	**-1.9**
N25K	**Chitina, Valde**	**6.11**	**25**	Pn	**Pn**	**03 45 42.8**	**-1.0**
RKAV	**Rock Avalanche**	**6.15**	**45**		**Pn**	**03 45 42.5**	**-2.0**
GLB	**Gilahina Butte**	**6.17**	**29**	Pn	**Pn**	**03 45 43.4**	**-1.2**
CUT	**Chulitna**	**6.22**	**359**	Pn	**Pn**	**03 45 46.9**	**+1.6**
M24K	**Tolsona, Glenn**	**6.25**	**17**	Pn	**Pn**	**03 45 45.8**	**+0.1**
SAMH	**Samovar Hills**	**6.28**	**47**		**Pn**	**03 45 44.4**	**-1.8**
GRNC	**Granite Creek**	**6.28**	**40**	Pn	**Pn**	**03 45 44.4**	**-1.9**
N16K	**Nishlik Lake**	**6.29**	**317**		**Pn**	**03 45 47.8**	**+1.5**
TABL	**Table Mountain**	**6.32**	**44**		**Pn**	**03 45 44.6**	**-2.3**
MCARA	**McCarthy VSAT**	**6.34**	**32**	Pn	**Pn**	**03 45 46.0**	**-1.0**
PTPK	**Patty Peak**	**6.36**	**35**		**Pn**	**03 45 46.0**	**-1.5**
M17K	**Holitna River**	**6.48**	**327**	Pn	**Pn**	**03 45 49.2**	**+0.3**
PCA	**Pinnacle**	**6.48**	**49**	Pn	**Pn**	**03 45 47.0**	**-1.9**
L19K	**White Mountain**	**6.49**	**340**	Pn	**Pn**	**03 45 49.2**	**+0.2**
WACK	**Wrangell Chich**	**6.50**	**24**		**Pn**	**03 45 49.0**	**-0.4**
BARN	**Barnard Glacie**	**6.54**	**38**	Pn	**Pn**	**03 45 48.6**	**-1.3**
CTGM	**Chitina Glacie**	**6.59**	**40**	Pn	**Pn**	**03 45 48.1**	**-2.5**
LOGN	**Logan Glacier**	**6.62**	**42**	Pn	**Pn**	**03 45 48.5**	**-2.4**
PNL	**Peninsula**	**6.64**	**54**		**Pn**	**03 45 48.5**	**-2.7**
PNL	**Peninsula**	**6.64**	**54**	P	**Pn**	**03 45 48.8**	**-2.3**
N15K	**Kwethluk River**	**6.64**	**311**	Pn	**Pn**	**03 45 53.0**	**+1.9**
BCPM	**Bancas Point**	**6.67**	**51**	Pn	**Pn**	**03 45 49.0**	**-2.5**
WAT7	**Susitna Watana**	**6.68**	**5**		**Pn**	**03 45 51.5**	**-0.2**
M16K	**Timber Creek**	**6.71**	**320**	Pn	**Pn**	**03 45 53.2**	**+1.1**
O14K	**Tigyukauivet M**	**6.75**	**302**	Pn	**Pn**	**03 45 54.1**	**+1.6**
S12K	**Black Hills**	**6.78**	**271**	Pn	**Pn**	**03 45 51.3**	**-1.7**
PPLA	**Purkeypile**	**6.81**	**352**	Pn	**Pn**	**03 45 55.6**	**+2.1**
O28M	**Mount Upton**	**6.89**	**44**	Pn	**Pn**	**03 45 52.7**	**-2.1**
L18K	**Granite Mounta**	**6.94**	**333**	Pn	**Pn**	**03 45 54.5**	**-0.6**
DT1	**Dutton Round H**	**7.02**	**266**		**Pn**	**03 45 55.1**	**-1.2**
DHY	**Denali Highway**	**7.03**	**10**	Pn	**Pn**	**03 45 57.0**	**+0.5**
PAX	**Paxson**	**7.17**	**17**	Pn	**Pn**	**03 45 58.8**	**+0.3**
M15K	**Kasigluk River**	**7.18**	**313**		**Pn**	**03 45 59.3**	**+0.9**
M26K	**Nabesna, AK**	**7.18**	**27**	Pn	**Pn**	**03 45 58.1**	**-0.5**
N14K	**Kuskokwak Cree**	**7.22**	**306**	Pn	**Pn**	**03 46 00.1**	**+1.1**
RND	**Reindeer**	**7.25**	**4**	Pn	**Pn**	**03 46 00.6**	**+1.0**
TRF	**Thorofare Moun**	**7.28**	**359**	Pn	**Pn**	**03 46 00.3**	**+0.4**
O29M	**Mount Kennedy**	**7.30**	**51**	Pn	**Pn**	**03 45 58.8**	**-1.5**
L16K	**Owhat River**	**7.37**	**322**	Pn	**Pn**	**03 46 02.5**	**+1.5**
KTH	**Kantishna Hill**	**7.39**	**357**	Pn	**Pn**	**03 46 02.5**	**+1.1**
P29M	**Windy Craggy**	**7.39**	**57**	Pn	**Pn**	**03 45 58.8**	**-2.6**
M27K	**Edge Creek, AK**	**7.45**	**31**	Pn	**Pn**	**03 46 01.7**	**-0.5**
K20K	**Telida**	**7.46**	**346**	Pn	**Pn**	**03 46 02.7**	**+0.4**
MCK	**McKinley**	**7.58**	**4**	Pn	**Pn**	**03 46 04.1**	**+0.2**
L26K	**Log Cabin Wild**	**7.63**	**24**	Pn	**Pn**	**03 46 05.2**	**+0.5**
S31K	**Pelican**	**7.72**	**71**		Pn	03 46 00.8	-5.1
M14K	**Bethel**	**7.74**	**311**	Pn	**Pn**	**03 46 07.5**	**+1.4**
K17K	**Iditarod**	**7.77**	**331**	Pn	**Pn**	**03 46 06.3**	**-0.2**
BPAW	**Bear Paw Mtn.**	**7.94**	**357**	Pn	**Pn**	**03 46 07.7**	**-1.2**
P30M	**Million Dollar**	**7.95**	**55**		**Pn**	**03 46 07.0**	**-2.0**
PLBC	**Pleasant Camp**	**7.99**	**60**		**Pn**	**03 46 06.9**	**-2.6**
RIDG	**Independent Ri**	**7.99**	**17**	Pn	**Pn**	**03 46 09.5**	**-0.2**
BWN	**Browne**	**8.00**	**2**	Pn	**Pn**	**03 46 10.8**	**+1.1**
HYT	**Haines Junctio**	**8.02**	**50**	Pn	**Pn**	**03 46 08.2**	**-2.0**
L27K	**Beaver Creek,**	**8.03**	**28**	Pn	**Pn**	**03 46 10.1**	**-0.1**
BCAR	**Beaver Creek A**	**8.05**	**28**	Pn	**Pn**	**03 46 09.5**	**-0.9**
DOT	**Dot Lake**	**8.05**	**19**	Pn	**Pn**	**03 46 10.5**	**+0.2**
L15K	**Ungalak Mounta**	**8.07**	**318**		**Pn**	**03 46 12.4**	**+1.7**
SIT	**Sitka**	**8.15**	**78**	Pn	Pn	03 46 05.4	-6.4
M13K	**Dall Lake**	**8.18**	**307**	Pn	**Pn**	**03 46 13.1**	**+0.9**
J20K	**Nowinta River**	**8.26**	**347**	Pn	**Pn**	**03 46 12.7**	**-0.5**
J19K	**Poorman**	**8.30**	**343**	Pn	**Pn**	**03 46 15.2**	**+1.4**
L14K	**Kuka Creek**	**8.35**	**313**	Pn	**Pn**	**03 46 16.3**	**+1.9**
WRH	**Wood River Hil**	**8.35**	**6**	Pn	**Pn**	**03 46 15.3**	**+0.7**
SCRK	**Sand Creek**	**8.36**	**19**	Pn	**Pn**	**03 46 13.7**	**-1.1**
NEA2	**Nenana**	**8.43**	**3**	Pn	**Pn**	**03 46 15.9**	**+0.2**
K15K	**Wolf Creek Mou**	**8.48**	**321**	Pn	**Pn**	**03 46 18.2**	**+1.9**
SKAG	**Skagway**	**

NOA	**NORSAR Array B**	62.17	10	P	P	03 54 35.7	+1.3
	comp=Z,1.0nm,0.9s,baz=348,slow=6.7,SNR=4.1						
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	62.66	2	P	P	03 54 39.0	+1.3
	comp=Z,1.7nm,0.8s,baz=17,slow=8.0,SNR=4.9						
	comp=Z,1.7nm,0.8s						
HFS	**Hagfors**	63.29	9	P	P	03 54 42.8	+0.9
	comp=Z,2.5nm,0.9s,baz=64,slow=3.4,SNR=5.4						
	comp=Z,2.5nm,0.9s						
KURBB	**Kurchatov Arra**	66.19	329	P	P	03 55 01.8	+0.9
	comp=Z,1.5nm,0.8s,baz=27,slow=6.1,SNR=6.9						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	68.42	324	P	P	03 55 16.3	+1.2
	comp=Z,1.8nm,1.0s,baz=29,slow=6.9,SNR=4.5						
	comp=Z,1.8nm,1.0s						
LZH	**Lanzhou**	68.87	303	*e*P	P	03 55 15.8	-2.5
LZH				sP	pwP	03 55 25.9	-0.7
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
AKASG	**Malin Array Be**	73.46	0	P	P	03 55 44.8	-0.8
	comp=Z,0.9nm,0.7s,baz=354,slow=5.8,SNR=2.7						
	comp=Z,0.9nm,0.7s						
GERES	**GERESS Array B**	74.45	11	P	P	03 55 52.8	+1.2
	comp=Z,0.5nm,0.8s,baz=3.3,slow=7.0,SNR=4.3						
	comp=Z,0.5nm,0.8s						
KSH	**Kashi**	76.98	325	P	P	03 56 05.4	-0.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ESDC	**Sonseca Array**	80.24	26	P	P	03 56 25.9	+1.7
	comp=Z,1.2nm,1.0s,baz=350,slow=4.0,SNR=5.1						
	comp=Z,1.2nm,1.0s						
BRTR	**Keskin Array B**	84.39	357	P	P	03 56 47.2	+1.3
	comp=Z,0.4nm,0.6s,baz=24,slow=3.9,SNR=3.1						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	85.95	297	P	P	03 56 55.6	+1.7
	comp=Z,1.7nm,0.3s,baz=30,slow=5.7,SNR=11						
	comp=Z,1.7nm,0.3s						
QSPA	**South Pole Qui**	145.99	180	PKPbc	PKiKP	04 03 53.8	-1.5
	comp=Z,0.7nm,0.7s,baz=118,slow=2.4,SNR=6.3						

IDC 21 03:48:55.7±9.3, 5.78S×146.61E, h104km±56km, mb3.4/2, mbtmp3.7/4, Error ellipse: s-maj=92.8km s-min=56.4km az=46.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.64	171	P	Pn	03 49 50.1	-0.1
	4.6nm,0.3s,baz=344,slow=15,SNR=2.4						
PMG				S	Sn	03 50 33.0	+0.7
	5.9nm,0.3s,baz=240,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	18.45	219	P	Pn	03 53 04.3	-0.5
	0.7nm,0.3s,baz=44,slow=11,SNR=14						
ASAR	**Alice Springs**	21.58	213	P	P	03 53 36.2	-1.0
	0.7nm,0.5s,baz=50,slow=8.9,SNR=8.1						
	0.7nm,0.5s						
STKA	**Stephens Creek**	26.38	190	P	P	03 54 22.7	+0.3
	1.1nm,0.4s,baz=343,slow=18,SNR=5.2						
	1.1nm,0.4s						

IDC 21 03:52:53.0±1.2, 29.°93N×102.°14E, h0km, mb3.5/5, mbtmp3.5/6, MS3.6/1, Error ellipse: s-maj=31.5km s-min=17.8km az=77.0

ISC 21 03:52:54.9±1.3, 29.°88N±0.°10×102.°33E±0.°10, h10km, n9, σ1§91/12, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	6.17	10	Pg	Pb	03 54 45.2	+2.6
	baz=182,slow=13						
LZDM				Sn	Sn	03 55 38.2	+1.1
	baz=194,slow=40						
LZDM				Lg	Lg	03 56 09.7	
	baz=225,slow=48						
XAN	**Xi'an**	6.97	52	Pn	Pn	03 54 37.6	+0.5
XAN				Pg	Pg	03 55 06.1	-2.2
XAN				Sn	Sn	03 55 59.0	+2.6
XAN				Sg	Sg	03 56 37.0	-1.6
XAN				smax	smax		
	comp=N,61nm,0.8s						
XAN				smax	smax		
	comp=E,59nm,0.8s						
CMAR	**Chiang Mai Arr**	11.78	196	LR	LR	04 00 59.4	
	comp=E,300nm,19.6s,baz=195,slow=41						
SONM	**Songino Array**	18.20	9	P	P	03 57 07.3	-0.8
	comp=E,0.5nm,0.6s,baz=193,slow=12,SNR=2.2						
KSRS	**Korea Array**	22.55	64	P	P	03 57 55.1	-0.1
	comp=E,2.1nm,0.6s,baz=257,slow=9.5,SNR=8.5						
	comp=E,2.1nm,0.6s						
MKAR	**Makanchi Array**	22.97	323	P	P	03 57 57.2	-2.3
	comp=E,0.7nm,0.7s,baz=122,slow=13,SNR=3.5						
	comp=E,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	27.34	326	P	P	03 58 38.2	-1.8
	comp=E,0.8nm,0.7s,baz=131,slow=10,SNR=7.6						
	comp=E,0.8nm,0.7s						
WRA	**Warramunga Arr**	58.34	144	P	P	04 02 50.9	+0.5
	comp=E,0.5nm,0.6s,baz=328,slow=7.1,SNR=7.3						
	comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	61.27	147	P	P	04 03 11.9	+1.3
	comp=E,0.2nm,0.6s,baz=337,slow=8.3,SNR=1.7						
	comp=E,0.2nm,0.6s						

IDC 21 04:15:37.8±1.4, 36.°15N×141.°49E, h0km, mb3.5/4, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=28.0km s-min=23.9km az=104.0

JMA 21 04:15:40.9±0.2, 36.°2N±0.°4×14.°1E±.°, h51km±2km, MV3.4/33, FAR E OFF IBARAKI PREF

ISC 21 04:15:41.4±1.9, 36.°19N±0.°05×141.°43E±0.°08, h24km±13km, n24, σ0§98/23, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	0.69	283	*e*P	Pb	04 15 54.8	0.0
JHYU				S	Sb	04 16 04.8	+0.8
JIHU	**Itakohorinouch**	0.76	253	*e*P	Pb	04 15 56.0	+0.1
JHO	**Hitachi**	0.81	302	*i* P	Pb	04 15 56.1	-0.7
JYT	**Yasato**	1.00	273	*e*P	Pn	04 15 58.6	-1.2
JYT				*e*S	Sn	04 16 11.3	-1.8
ONAJ	**Iwakimizuishiy**	1.04	331	*e*P	Pn	04 15 59.5	-1.0
BSO1	**Boso 1**	1.58	194	*e*S	Sn	04 16 28.1	+1.4
JAG	**Ashikaga**	1.61	279	*e*P	Pn	04 16 07.6	-0.7
JAG				*e*S	Sn	04 16 27.2	-1.1
JOTO	**OTAMA OYAMA**	1.62	328	P	Pn	04 16 08.8	+0.3
JMM	**Marumori**	1.75	343	P	Pn	04 16 09.7	-0.5
JFY	**Yanaizu**	1.84	312	*e*P	Pn	04 16 11.9	+0.5
JKT	**Katashina**	1.85	289	*e*P	Pn	04 16 11.9	+0.3
JKT				*e*S	Sn	04 16 34.7	+0.4
MJAR	**Matsushiro Arr**	2.62	279	Pn	Pn	04 16 22.1	-0.1
	0.8nm,0.3s,baz=99,slow=8.8,SNR=14						
MJAR				Sn	Sn	04 16 55.5	+2.2
	0.7nm,0.3s,baz=53,slow=20,SNR=6.7						
	3.2nm,0.3s						
JHJ	**Hachijo jima 2**	3.35	204	Pn	Pn	04 16 31.7	-0.5
	21nm,0.3s,baz=66,slow=15,SNR=1.4						
JHJ				Sn	Sn	04 17 10.4	-0.8
	22nm,0.3s,baz=80,slow=20,SNR=1.7						
	158nm,0.7s						
JCJ	**Chichijima**	9.09	176	Pn	Pn	04 17 45.5	-5.5
	2.2nm,0.3s,baz=340,slow=15,SNR=2.7						
JCJ				Sn	Sn	04 19 18.0	-15
	3.2nm,0.3s,baz=262,slow=19,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	27.72	119	T	T	04 50 44.9	
	baz=317						
H11N1	**WAKE ISLAND Hy**	27.72	119	T	T	04 50 41.2	
	baz=317						
H11N3	**WAKE ISLAND Hy**	27.73	119	T	T	04 50 47.7	
	baz=317						
H11S1	**WAKE ISLAND Hy**	28.40	122	T	T	04 51 36.9	
	baz=314,slow=76,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	28.40	122	T	T	04 51 37.7	
	baz=314,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	28.42	122	T	T	04 51 39.2	
	baz=314,slow=76,SNR=6.0						
MKAR	**Makanchi Array**	44.58	303	P	P	04 23 52.3	+0.8
	0.2nm,0.3s,baz=77,slow=7.6,SNR=1.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	46.53	309	P	P	04 24 06.9	+0.2
	0.7nm,0.4s,baz=84,slow=8.1,SNR=7.5						
	0.7nm,0.4s						
ILAR	**Eielson Array**	50.20	32	P	P	04 24 34.8	-0.1
	0.4nm,0.8s,baz=276,slow=7.6,SNR=4.6						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	56.23	188	P	P	04 25 19.4	-0.2
	0.2nm,0.3s,baz=3.2,slow=7.4,SNR=1.8						
	0.2nm,0.3s						

ISN 21 04:37:17.8±1.1, 36.°32N×45.°35E, h6km±5km, ML3.1

TEH 21 04:37:18.9, 36.°25N×45.°34E, h12km±38km

ISC 21 04:37:20.4±1.0, 36.°28N±0.°04×45.°32E±0.°05, h10km, n14, σ0§89/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	0.58	32	Pg	Pg	04 37 30.4	-1.3
MAHB				Sg	Sg	04 37 39.6	+0.2
IKRK	**Kirkuk**	1.18	223	*e*Pg	Pn	04 37 42.0	-1.0
IKRK				*e*Sg	Sb	04 37 58.0	-0.2
IKRK				AML	AML	04 37 59.4	
	comp=N,291nm,0.5s						
IKRK				AML	AML	04 37 59.6	
	comp=E,526nm,0.6s						
IAZR	**Azarshahr**	1.50	21	Pg	Pn	04 37 47.3	-0.3
KGS1	**Ghasr-e-Shirin**	1.78	173	Pg	Pn	04 37 51.4	+0.2
MSL	**Mosul**	1.79	275	*e*Pn	Pn	04 37 51.0	-0.3
MSL				*e*Sn	Sn	04 38 15.0	+0.9
IDHR	**Dehrash**	1.80	151	Pg	Pn	04 37 50.4	-1.3
IHSH	**Hashtrud**	1.87	56	Pn	Pn	04 37 52.3	-0.5
ISHB	**Shabestar**	2.02	7	Pn	Pn	04 37 55.2	+0.5
IGHG	**Ghaleghazi**	2.19	152	Pn	Pn	04 37 57.4	+0.2
GLG1	**Gilan-e-Gharb**	2.21	167	Pn	Pn	04 37 57.4	+0.2
SNQR	**Sonqor, Kerman**	2.35	126	Pn	Pn	04 37 59.8	+0.4
IMRD	**Marand**	2.45	7	Pn	Pn	04 38 02.1	+1.5
BHD	**Baghdad**	3.10	195	*e*Pn	Pn	04 38 09.0	-0.3
BHD				*e*Sn	Sn	04 38 48.0	+1.7
IBDR	**Badra**	3.20	171	*e*Pn	Pn	04 38 11.0	+0.3
IBDR				*e*Sn	Sn	04 38 50.0	+1.2

NNC 21 04:47:19.8±2.1, 41.°89N×68.°55E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.2km s-min=9.5km az=46.0

SOME 21 04:47:21.1, 41.°80N×68.°78E, h5km

ISU 21 04:47:23, 41.°97N×68.°62E, h23km

ISC 21 04:47:20.2±1.4, 42.°05N±0.°04×68.°75E±0.°05, h2km±12km, n20, σ1§67/29, 1C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	0.69	67	*e*P	Pn	04 47 36.8	-0.2
	285nm,0.2s						
CHM				*e*S	Sn	04 47 48.3	0.0
	598nm,0.2s						
TGS	**TashGRES**	0.85	137	P	Pg	04 47 36.0	-0.5
TGS				S	Sg	04 47 47.6	0.0
NZBK	**Nazarbek**	0.87	161	P	Pg	04 47 36.8	-0.1
NZBK				S	Sg	04 47 47.8	-0.5
IUG	**Iuzhnay**	0.96	84	S	Sn	04 47 56.5	+1.4
	334nm,0.3s						
CHMG	**Chimgan**	1.07	118	P	Pn	04 47 41.8	-0.5
CHMG				S	Sn	04 47 57.9	+0.1
PSK	**Pskem**	1.22	95	P	Pg	04 47 45.1	+1.6
PSK				S	Sn	04 48 03.7	+2.3
BRLS	**Borolday**	1.27	39	*e*P	Pn	04 47 44.5	-0.5
	98nm,0.3s						
BRLS				*e*S	Sb	04 48 00.7	-0.8
	164nm,0.3s						
KK31	**Karatay Array**	1.67	50	⇑Pn	Pg	04 47 53.5	+1.2
	1.7nm,0.1s,baz=233,slow=16,SNR=70						
KK31				⇓Lg	Lg	04 48 19.1	
	52nm,0.5s,baz=232,slow=28						
DZI	**Dzhizak**	2.06	200	P	Pb	04 47 57.0	-1.2
DZI				S	Sb	04 48 23.6	-0.6
KSNS	**Kasansay**	2.26	112	S	Sg	04 48 38.2	+5.3
FRG	**Fergana**	2.84	125	S	Sg	04 49 02.2	+11
TMD	**Tamdy-Bulak**	3.08	266	P	Pn	04 48 11.0	+1.2
MRKS	**Merke**	3.39	77	Pg	Pg	04 48 24.5	-0.6
	2.6nm,0.5s						
MRKS				Lg	Lg	04 49 09.9	
	32nm,0.5s						
MRKS	**Merke**	3.39	77	*e*P	Pg	04 48 24.5	-0.6
	1.0nm,0.1s						
MRKS				*e*S	Sg	04 49 09.9	+0.9
	32nm,0.5s						
ZRB	**Zarabog**	4.38	206	S	Sg	04 49 42.1	+1.2
SGDS	**Sogindy**	4.55	70	Pg	Pg	04 48 46.1	-1.3
	2.4nm,0.9s						
SGDS				Lg	Lg	04 49 46.7	
	4.4nm,0.4s						
KST	**Kastek**	5.42	77	Pg	Pg	04 49 01.5	-2.6
	1.0nm,0.4s						
KST				Lg	Lg	04 50 12.9	
	16nm,0.9s						
KST	**Kastek**	5.42	77	*e*P	Pg	04 49 01.5	-2.6
	0.5nm,0.2s						
KST				*e*S	Sg	04 50 12.9	-1.4
	13nm,0.4s						
MTBS	**Maitube**	5.77	77	Pg	Pg	04 49 09.6	-1.1
	2.5nm,0.8s						
MTBS	**Maitube**	5.77	77	*e*P	Pg	04 49 09.6	-1.1
	1.5nm,0.1s						
MTBS				*e*S	Sg	04 50 27.2	+1.7
	6.9nm,0.2s						

SDD 21 04:56:38.5±2.1, 19.°81N×67.°44W, h15km±13km, MD2.8, ML2.1, MW2.9

RSPR 21 04:56:41.0, 19.°03N×65.°31W, h29km±20km, MD2.9/10, 14C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	1.02	226	⇑*e*P	Pn	04 56 57.1	-2.3
GCPR	**Guaynabo City**	1.02	226	*e*S	Sn	04 57 10.2	-2.7
PDPR	**Patillas Dam,**	1.21	214	⇑*e*P	Pn	04 56 59.9	-2.1
PDPR	**Patillas Dam,**	1.21	214	*e*S	Sn	04 57 15.2	-2.2
ECPR	**Experimental S**	1.22	235	⇑*e*P	Pn	04 56 59.8	-2.4
ECPR	**Experimental S**	1.22	235	*e*S	Sn	04 57 15.6	-2.2
IGPR	**InterUniversit**	1.30	216	⇑*e*P	Pn	04 57 01.4	-1.8
IGPR	**InterUniversit**	1.30	216	*e*S	Sn	04 57 17.5	-2.2
AOPR	**Arecibo Observ**	1.53	244	⇓*e*P	Pn	04 57 04.2	-2.2
AOPR	**Arecibo Observ**	1.53	244	*e*S	Sn	04 57 22.8	-2.6
AOPR	**Arecibo Observ**	1.53	244	⇑*i*P	Pn	04 57 04.6	-1.9
AOPR				*i* S	Sn	04 57 23.6	-1.7
AOPR				IAML		04 57 29.6	
	comp=N,39nm,0.2s						
CELP	**Cerrillos**	1.53	232	⇑*e*P	Pn	04 57 04.8	-1.6
CELP	**Cerrillos**	1.53	232	*e*S	Sn	04 57 23.2	-2.3
CELP	**Cerrillos**	1.53	232	⇑*i*P	Pn	04 57 07.4	+0.9
CELP				IAML		04 57 40.3	
	comp=N,18nm,1.9s						
UUPR	**Utuado, UPR, P**	1.54	240	⇓*e*P	Pn	04 57 05.5	-1.2
UUPR	**Utuado, UPR, P**	1.54	240	*e*S	Sn	04 57 23.2	-2.5
OBIP	**Obispado Ponce**	1.57	232	⇑*e*P	Pn	04 57 05.1	-1.9
OBIP	**Obispado Ponce**	1.57	232	*e*S	Sn	04 57 24.4	-2.0
AGPR	**Aguadilla, PR**	1.80	252	*i* P	Pn	04 57 03.2	-6.9
AGPR				⇑*i*S	Sn	04 57 18.7	-13
AGPR				IAML		04 57 27.8	
	comp=N,50nm,1.8s						
LSP	**Las Mesas**	1.89	244	⇑*e*P	Pn	04 57 10.1	-1.3
LSP	**Las Mesas**	1.89	244	*e*S	Sn	04 57 31.7	-2.5
MLPR	**Magueyes Islan**	1.96	238	⇓*e*P	Pn	04 57 10.8	-1.5
MLPR	**Magueyes Islan**	1.96	238	*e*S	Sn	04 57 34.2	-1.7
MLPR	**Magueyes Islan**	1.96	238	⇑*i*P	Pn	04 57 08.8	-3.5
MLPR				⇑*i*S	Sn	04 57 30.1	-5.8
MLPR				*e*Sg	Sb	04 57 33.9	-6.0
MLPR				IAML		04 57 36.1	
	comp=N,6.5nm,1.4s						
CRPR	**Cabo Rojo, PR**	1.99	240	⇑*e*P	Pn	04 57 11.6	-1.1
CRPR	**Cabo Rojo, PR**	1.99	240	*e*S	Sn	04 57 34.7	-1.9
CRPR	**Cabo Rojo, PR**	1.99	240	*i* P	Pn	04 57 07.0	-5.7
CRPR				⇑*i*S	Sn	04 57 29.8	-6.8
CRPR				IAML		04 57 39.1	
	comp=N,30nm,1.2s						

IDC 21 04:59:58.9±3.0, 26.°50N×55.°26E, h0km, mb3.8/7, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=58.8km s-min=33.3km az=153.0

TEH 21 04:59:59.9, 26.°38N×55.°36E, h19km±30km

DSN 21 05:00:01.2±0.2, 26.°85N×55.°32E, h15km, ML2.9/5, Error ellipse: s-maj=4.9km s-min=1.5km az=10.0

OMAN 21 05:00:01.6±0.7, 26.°78N×55.°28E, h15km, ml3.1/11, Error ellipse: s-maj=7.3km s-min=4.6km az=24.0

ISC 21 05:00:02.4±1.2, 26.°59N±0.°03×55.°27E±0.°05, h15km±9km, n38, σ1§50/47, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	0.95	124	P	Pn	05 00 21.6	+0.3
	SNR=21						
SHME				S	Sn	05 00 36.7	+2.1
SHME	**Shamm**	0.95	124	*e*P	Pn	05 00 21.4	+0.1
	SNR=37						
SHME				S	Sn	05 00 36.6	+2.1
UMQ	**Umm Al-Quwin**	1.11	161	P	Pn	05 00 26.0	+2.4
UMQ				S	Sn	05 00 43.4	+4.7
BANOM	**Banah**	1.14	125	P	Pn	05 00 24.7	+0.8
BANOM				S	Sn	05 00 41.8	+2.5
BANOM	**Banah**	1.14	125	*e*P	Pn	05 00 24.3	+0.4
	SNR=113						
BANOM				S	Sn	05 00 41.3	+2.0
BNDS	**Bandar-Abbas**	1.14	45	Pg	Pb	05 00 23.7	-0.3
GENO	**Geno**	1.14	45	Pg	Pb	05 00 23.7	-0.3
LAR1	**LAR**	1.34	324	Pg	Pg	05 00 29.2	+1.0
IBND	**Bandar-abas**	1.42	53	Pg	Pn	05 00 27.8	0.0
IBND				Sg	Sg	05 00 49.0	+0.6
MASF	**Masafi**	1.45	146	P	Pg	05 00 30.2	-0.2
	SNR=32						
MASF				S	Sg	05 00 51.1	+1.8
MDH	**Madha**	1.58	144	P	Pg	05 00 32.0	-0.9
	SNR=14						
MDH				S	Sg	05 00 53.5	+0.1
NAZ	**Nazwa, Dubai**	1.63	167	P	Pg	05 00 33.0	-0.7
	SNR=9.5						
NAZ				S	Sg	05 00 56.2	+1.3
UOSS	**Minazif**	1.84	152	*e*P	Pg	05 00 36.5	-1.2
	SNR=13						
HATD	**Hatta, Dubai**	1.92	156	*e*P	Pb	05 00 37.2	0.0
	SNR=20						
ASUD	**Al Ashush, Dub**	1.95	178	P	Pg	05 00 38.4	-1.5
ALNE	**Al Ain**	2.56	170	P	Pb	05 00 45.9	-2.2
KHNJ	**Kahnooj**	2.56	57	Pn	Pn	05 00 42.8	-0.6
SOHO	**SOHO**	2.70	155	P	Pn	05 00 47.1	+1.8
SOHO	**SOHO**	2.70	155	P	Pn	05 00 46.8	+1.5
NGRK	**Negar Kerman**	3.31	23	Pn	Pn	05 00 55.2	+1.1
KBAM	**BAM**	3.79	47	Pn	Pn	05 01 00.4	-0.1
CHMN	**Cheshme madani**	3.83	31	Pn	Pn	05 01 01.7	+0.5
KHGB	**Koh Gabri**	3.92	15	Pn	Pn	05 01 04.2	+1.8
SMDO	**Samad**	4.33	144	P	Pn	05 01 09.8	+2.0
	SNR=5.9						
WSAR	**Wadi Sarin**	4.52	137	P	Pn	05 01 11.8	+1.4
KLNJ	**Kolanjah**	5.46	325	Pn	Pn	05 01 25.1	+1.4
JLN	**Jalan Bani Buh**	5.81	139	P	Pn	05 01 28.9	+0.8
MHTO	**MHTO**	6.10	156	P	Pn	05 01 33.2	+1.2
WHFO	**Wadi Hawf**	8.74	189	P	Pn	05 02 09.8	+1.4
	SNR=7.4						
ABTO	**Aybut**	9.37	192	P	Pn	05 02 18.3	+1.2
KBZ	**Khabaz**	19.83	333	P	P	05 04 32.5	0.0
	0.1nm,0.3s,baz=136,slow=8.4,SNR=4.9						
	1.7nm,0.7s						
BRTR	**Keskin Array B**	22.28	311	P	P	05 04 58.1	-1.2
	0.7nm,0.6s,baz=123,slow=10,SNR=4.2						
	0.7nm,0.6s						
AKASG	**Malin Array Be**	31.22	327	P	P	05 06 20.6	-0.6
	0.1nm,0.3s,baz=144,slow=9.7,SNR=2.0						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	34.97	31	P	P	05 06 53.2	-0.6
	1.8nm,0.5s,baz=243,slow=10,SNR=7.7						
	1.8nm,0.5s						
FINES	**FINESS Array B**	40.00	339	P	P	05 07 34.7	-1.6
	1.2nm,0.6s,baz=127,slow=8.2,SNR=4.4						
	1.2nm,0.6s						
HFS	**Hagfors**	43.89	331	P	P	05 08 08.5	+0.3
	0.9nm,0.4s,baz=123,slow=10,SNR=6.1						
	0.9nm,0.4s						
ESDC	**Sonseca Array**	50.46	301	P	P	05 08 58.7	-1.1
	0.4nm,0.8s,baz=79,slow=7.4,SNR=1.8						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	51.79	266	P	P	05 09 08.7	-1.3
	1.9nm,0.3s,baz=61,slow=8.4,SNR=1.4						
	1.9nm,0.3s						

IDC 21 05:16:05.6±1.9, 55.°07N×164.°66E, h0km, mb3.5/4, mbtmp3.5/5, ML2.4/1, MS3.5/1, Error ellipse: s-maj=74.9km s-min=25.0km az=166.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	4.54	247	Pn	Pn	05 17 15.5	-0.1
	0.9nm,0.3s,baz=56,slow=14,SNR=6.8						
PETK				Sn	Sn	05 18 05.2	-3.9
	0.3nm,0.3s,baz=64,slow=31,SNR=1.2						
	1.5nm,0.5s						
KDAK	**Kodiak Island**	23.51	66	P	P	05 21 16.7	-0.2
	8.7nm,1.3s,baz=297,slow=4.5,SNR=2.0						
	8.7nm,1.3s						
ILAR	**Eielson Array**	25.50	48	P	P	05 21 35.3	+0.1
	0.5nm,1.0s,baz=270,slow=7.8,SNR=5.3						
	0.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	35.32	176	T	T	06 01 25.8	
	baz=359,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	35.33	176	T	T	06 01 28.0	
	baz=359,slow=76,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	35.34	176	T	T	06 01 29.6	
	baz=359,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	36.53	177	T	T	06 02 57.5	
	baz=355						
H11S3	**WAKE ISLAND Hy**	36.54	177	T	T	06 02 56.3	
	baz=355						
H11S2	**WAKE ISLAND Hy**	36.55	177	T	T	06 02 59.3	
	baz=355						
KURBB	**Kurchatov Arra**	49.05	303	P	P	05 24 53.9	-0.1
	0.1nm,0.4s,baz=50,slow=7.4,SNR=1.9						
	0.1nm,0.4s						
ARCES	**ARCESS Array B**	52.21	343	LR	LR	05 52 04.6	
	comp=Z,43nm,18.4s,baz=138,slow=41						
TXAR	**Lajitas Array**	67.42	71	P	P	05 27 03.0	0.0
	0.3nm,0.7s,baz=282,slow=4.5,SNR=4.8						
	0.3nm,0.7s						

*AEIC 21 05:21:59.4±1.5, 69.°49N±0.°02×144.°32W±0.°10, h7km±6km, ML3.5, ML3.5/130(NEIC), Mwr3.6/19(SLM), Error ellipse: s-maj=4.9km s-min=

TOLK IAML 05 23 08.9
comp=E,296nm,0.6s
TOLK IAML 05 23 19.6
comp=N,317nm,0.7s
BM01 Burnt Mountain 2.09 182 Pn 05 22 37.0 +1.1
E24K Your Creek 2.11 228 Pn 05 22 37.2 +1.0
E24K Your Creek 2.11 228 IAML 05 23 11.2
comp=E,298nm,0.8s
E24K IAML 05 23 11.2
comp=N,294nm,0.7s
BMAR Burnt Mountain 2.11 183 Pn 05 22 37.0 +0.8
C23K Itkillik River 2.22 281 Pn 05 22 38.1 +0.4
C23K IAML 05 23 13.5
comp=N,389nm,0.6s
D23K Nanushuk River 2.34 259 Pn 05 22 40.5 +1.1
F24K Squaw Lake 2.41 215 Pn 05 22 41.1 +0.7
E23K Chandalar 2.43 235 Pn 05 22 41.6 +0.9
F28M Old Crow 2.52 138 Pn 05 22 42.5 +0.6
F28M IAML 05 23 25.9
comp=N,249nm,0.6s
F28M IAML 05 23 29.1
comp=E,232nm,0.8s
E29M Blow River 2.58 113 Pn 05 22 43.6 +1.0
E29M IAML 05 23 28.6
comp=E,234nm,0.9s
G26K Porcupine Rive 2.60 175 Pn 05 22 43.7 +0.8
G27K Doyon Strip 2.91 159 Pn 05 22 47.8 +0.6
FYU Fort Yukon 3.00 187 Pn 05 22 49.4 +1.1
D22K Ayikyak River 3.06 262 IAML 05 23 52.1
comp=N,162nm,1.1s
E22K Anaktuvuk Pass 3.06 246 Pn 05 22 49.4 +0.1
G24K Hadweenzic Riv 3.08 204 IAML 05 23 37.2
comp=E,138nm,1.1s
COLD Coldfoot 3.18 226 Pn 05 22 51.8 +1.0
COLD IAML 05 23 49.8
comp=N,106nm,1.1s
COLD IAML 05 23 50.3
comp=E,116nm,1.2s
H27K Steamboat Moun 3.48 161 Pn 05 22 56.2 +1.2
H27K IAML 05 24 01.8
comp=E,87nm,0.7s
G23K Bananza Creek 3.55 220 Pn 05 22 56.3 +0.4
G23K IAML 05 23 55.9
comp=E,98nm,0.6s
G23K IAML 05 24 04.5
comp=N,78nm,1.2s
B21K Ikpikpuk River 3.62 276 Pn 05 22 57.5 +0.7
B21K IAML 05 24 03.5
comp=N,120nm,1.1s
B21K IAML 05 24 15.9
comp=E,107nm,1.0s
E21K Killik River 3.65 257 IAML 05 24 03.3
comp=N,86nm,0.6s
E21K IAML 05 24 07.4
comp=E,92nm,0.8s
F30M Barrier River 3.67 118 Pn 05 22 59.5 +1.9
F30M Barrier River 3.67 118 IAML 05 24 10.5
comp=E,116nm,0.9s
G30M tAoh Zraii Nji 3.95 127 IAML 05 24 13.2
comp=N,77nm,1.1s
H24K Noodor Dome 3.95 202 IAML 05 24 10.6
comp=E,63nm,1.0s
H29M Whitestone 4.01 143 Pn 05 23 03.6 +1.3
H29M IAML 05 23 55.4
comp=E,91nm,0.6s
H29M IAML 05 24 20.4
comp=N,85nm,1.0s
PRP Porcupine Dome 4.06 187 IAML 05 24 12.8
comp=E,78nm,0.8s
PRP IAML 05 24 13.2
comp=N,75nm,0.9s
INK Inuvik 4.08 102 Pn 05 23 03.5 +0.3
INK Inuvik 4.08 102 Pn **Pn 05 23 04.1 +0.9**
comp=N,0.8nm,0.3s,baz=312,slow=6.8,SNR=40
INK Sn **Sn 05 23 49.9 -1.5**
comp=N,1.5nm,0.3s,baz=0.5,slow=23,SNR=3.9
INK Lg Lg 05 24 07.0
comp=N,2.4nm,0.3s,baz=24,slow=20,SNR=5.4
comp=N,4.0nm,0.4s
F21K Alatna River 4.11 240 IAML 05 24 20.4
comp=E,79nm,0.8s
F21K IAML 05 24 22.2
comp=N,58nm,0.8s
H23K Yukon River 4.22 211 IAML 05 24 18.8
comp=E,77nm,1.1s
H23K IAML 05 23 24.8
comp=N,84nm,1.0s
EPYK Eagle Plains 4.27 134 Pn **Pn 05 23 07.3 +1.4**
F31M Tsiigehtchic 4.42 113 Pn **Pn 05 23 09.0 +1.2**
F31M IAML 05 24 24.9
comp=N,56nm,0.7s
I28M Miner Creek 4.43 156 IAML 05 24 02.5
comp=E,52nm,0.7s
I28M IAML 05 24 07.9
comp=N,52nm,0.6s
D20K Etivluk River 4.48 265 IAML 05 24 42.8
comp=E,54nm,1.1s
D20K IAML 05 24 46.6
comp=N,45nm,0.9s
G31M Satah River 4.56 120 Pn **Pn 05 23 10.5 +0.7**
POKR Poker Plat Res 4.60 197 IAML 05 24 35.3
comp=E,49nm,1.0s
I29M Ogilvie Camp, 4.78 148 IAML 05 24 12.2
comp=N,40nm,0.5s
I29M IAML 05 24 34.1
comp=E,46nm,0.7s
I23K Minto, Yukon-K 4.82 206 Pn 05 23 13.7 +0.4
I23K Minto, Yukon-K 4.82 206 IAML 05 24 42.9
comp=N,38nm,1.0s
I23K IAML 05 24 43.9
comp=E,41nm,1.2s
COLA College 4.88 198 Pn 05 23 15.1 +0.9
IL31 4.89 193 Pn 05 23 15.0 +0.7
ILAR Eielson Array 4.89 193 Pn 05 23 15.6 +1.4
ILAR Eielson Array 4.89 193 Pn **Pn 05 23 15.4 +1.2**
comp=E,1.3nm,0.3s,baz=7.5,slow=14,SNR=63
ILAR Sn **Sn 05 24 10.3 -0.9**
comp=E,2.0nm,0.3s,baz=7.7,slow=24,SNR=11
comp=E,4.3nm,0.5s
F20K Avaraart Lake 4.92 245 Pn 05 23 15.8 +1.1
F20K IAML 05 24 40.6
comp=N,31nm,0.7s
F20K IAML 05 24 50.3
comp=E,29nm,1.0s
EGAK Eagle 4.93 164 Pn 05 23 15.8 +0.9
EGAK IAML 05 25 30.4
comp=E,41nm,0.1s
EGAK IAML 05 25 31.1
comp=E,35nm,0.1s
J25K Salcha River, 4.96 185 IAML 05 24 41.7
comp=E,37nm,1.0s
J26L Joseph Creek 5.06 176 IAML 05 24 20.6
comp=N,26nm,0.4s
J26L IAML 05 24 39.4
comp=E,36nm,0.6s
D19K Kuna River 5.07 265 IAML 05 24 56.8
comp=N,45nm,0.9s
D19K IAML 05 24 58.8
comp=E,43nm,1.1s
CCB Clear Creek Bu 5.09 197 Pn 05 23 18.1 +1.0
CCB IAML 05 24 47.7
comp=E,27nm,0.6s
MLY Manley 5.16 212 Pn 05 23 19.7 +1.6
HDA Harding Lake 5.25 193 Pn 05 23 20.4 +1.1
HDA Harding Lake 5.25 193 IAML 05 24 48.3
comp=N,33nm,0.7s
HDA IAML 05 25 01.6
comp=E,41nm,1.1s
I21K Tanana 5.28 218 Pn 05 23 19.2 -0.5
WRH Wood River Hil 5.29 198 Pn 05 23 21.1 +1.2
WRH Wood River Hil 5.29 198 IAML 05 24 49.6
comp=E,23nm,1.2s
WRH IAML 05 24 52.0
comp=N,23nm,0.8s
I30M Mount Dempster 5.30 141 Pn 05 23 20.8 +0.7
I30M IAML 05 24 25.5
comp=N,28nm,0.5s
I30M IAML 05 24 50.5
comp=E,34nm,0.6s
NEA2 Nenana 5.30 203 Pn 05 23 21.1 +1.2
H31M Peel River 5.33 130 Pn 05 23 20.8 +0.5
H31M IAML 05 24 54.3
comp=N,26nm,0.8s
H31M IAML 05 24 56.9
comp=E,33nm,1.1s
DAWY Dawson 5.82 158 Pn 05 23 28.3 +1.2

RIDG Independent Ri 5.82 182 Pn 05 23 28.8 +1.7
MCK McKinley 6.11 200 Pn 05 23 32.1 +1.1
RND Reindeer 6.41 199 Pn 05 23 36.6 +1.3
BCAR Beaver Creek A 6.57 170 Pn 05 23 38.8 +1.3
DHY Denali Highway 6.60 192 Pn 05 23 39.9 +2.0
A36M Sachs Harbour 6.75 60 Pn 05 23 39.3 -0.5
RDOG Red Dog Mine 6.90 266 Pn 05 23 40.7 -1.2
WAT6 Susitna Watana 7.12 193 Pn 05 23 46.6 +1.6
HARP HAARP 7.17 183 Pn 05 23 47.6 +1.9
WACK Wrangell Chich 7.58 180 Pn 05 23 52.9 +1.5
SKT Skwentna 8.14 205 Pn Pn 05 24 00.2 +1.3
MCARA McCarthy VSAT 8.20 176 Pn 05 24 01.6 +1.9
YUK8 Steele Glacier 8.49 165 Pn 05 24 05.5 +1.6
BMRM Bremner River 8.60 181 Pn 05 24 06.6 +1.3
KIAG Kiagna River 8.68 174 Pn 05 24 07.8 +1.3
CTGM Chitina Glacie 8.69 170 Pn 05 24 08.6 +2.1
GRNC Granite Creek 8.90 172 Pn 05 24 12.1 +2.5
YUK6 Outpost Mounta 8.97 161 Pn 05 24 12.3 +1.8
BAGL Bagley Icefiel 9.13 173 Pn 05 24 15.7 +3.3
KHIT Khitrov Hills 9.14 177 Pn 05 24 15.3 +2.7
WAX Waxell Ridge 9.14 175 Pn 05 24 16.0 +3.3
BARK Barkley Ridge 9.20 174 Pn 05 24 16.8 +3.3
RKAV Rock Avalanche 9.35 171 Pn 05 24 18.2 +2.5
O29M Mount Kennedy 9.57 163 Pn 05 24 20.8 +2.1
WHY Whitehorse 9.74 152 Pn **Pn 05 24 21.6 +0.8**
M17K Holitna River 9.79 220 Pn **Pn 05 24 21.6 +0.2**
P29M Windy Craggy 10.32 161 Pn **Pn 05 24 30.6 +1.7**
Q32M Nakina River 11.80 148 Pn **Pn 05 24 48.7 -0.4**
KDAK Kodiak Island 12.33 201 Sn **Sn 05 27 11.2 -2.8**
baz=76,slow=8.9,SNR=1.8
DLBC Dease Lake 12.72 144 Pn **Pn 05 25 00.8 -0.8**
comp=E,1.4nm,0.3s,baz=346,slow=12,SNR=5.7
comp=E,7.2nm,0.5s
YKA Yellowknife Ar 13.85 106 Pn **Pn 05 25 14.0 -2.8**
YKA Yellowknife Ar 13.85 106 Pn **Pn 05 25 13.9 -2.9**
comp=E,0.4nm,0.3s,baz=8.6,slow=20,SNR=12
YKA Sn Sn 05 27 38.8 -12
comp=E,0.3nm,0.3s,baz=319,slow=27,SNR=4.8
comp=E,0.7nm,0.5s
RES Resolute Bay 15.58 49 Pn **Pn 05 25 36.7 -3.5**
comp=E,0.5nm,0.3s,baz=270,slow=14,SNR=9.8
RES Sn Sn 05 28 18.1 -15
comp=E,0.4nm,0.3s,baz=14,slow=17,SNR=8.0
SEY Seymchan 25.22 286 P **P 05 27 29.1 +2.6**
comp=E,1.0nm,0.5s,baz=72,slow=9.6,SNR=3.8
comp=E,1.0nm,0.5s
PETK Petropavlovsk- 30.77 268 P **P 05 28 16.9 +0.7**
comp=E,1.2nm,0.8s,baz=16,slow=16,SNR=4.3
comp=E,1.2nm,0.8s
PDAR Pinedale Array 32.20 128 P **P 05 28 31.4 +2.2**
comp=E,0.2nm,0.7s,baz=320,slow=9.0,SNR=1.9
comp=E,0.2nm,0.7s
NVAR Mina Array Bea 34.13 142 P **P 05 28 47.2 +1.2**
comp=E,0.2nm,0.6s,baz=330,slow=9.0,SNR=2.2
comp=E,0.2nm,0.6s
ARCES ARCESS Array B 41.02 5 P **P 05 29 43.1 -0.5**
comp=E,2.9nm,0.8s,baz=5.5,slow=7.3,SNR=1.4
comp=E,2.9nm,0.8s
TXAR Lajitas Array 46.42 128 P **P 05 30 30.8 +3.1**
comp=E,0.1nm,0.4s,baz=354,slow=9.4,SNR=1.6
comp=E,0.1nm,0.4s
FINES FINESS Array B 49.13 6 P **P 05 30 49.4 +1.2**
comp=E,2.2nm,0.9s,baz=353,slow=10,SNR=1.9
comp=E,2.2nm,0.9s
HFS Hagfors 49.67 14 P **P 05 30 52.4 0.0**
comp=E,0.6nm,0.7s,baz=359,slow=12,SNR=1.0
comp=E,0.6nm,0.7s
KURBB Kurchatov Arra 56.13 329 P **P 05 31 38.6 -1.4**
comp=E,0.2nm,0.5s,baz=17,slow=4.4,SNR=2.5
comp=E,0.2nm,0.5s
MKAR Makanchi Array 59.06 324 P **P 05 31 59.8 -1.1**
comp=E,0.5nm,0.8s,baz=28,slow=4.8,SNR=1.8
comp=E,0.5nm,0.8s

*SKO **21** 05:25:46.8, 41°.19N×20°.29E, h6km, ML2.3*
*BEO **21** 05:25:47.3±0.3, 41°.22N×20°.21E, h0km, ML2.1/8*
*PDG **21** 05:25:47.4±0.3, 41°.21N×20°.30E, h9km±1km, ML3.0/11, Error ellipse: s-maj=0.9km s-min=2.1km az=0.0*
*ATH **21** 05:25:51.6, 41°.09N×20°.63E, h11km±4km, ML2.3/12, Manual Solution by N.Liadopoulou First location: 2019/10/21 05:27:18, This location: 2019/10/21 06:50:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 21 05:25:47.0±1.1, 41°.18N±0°.02×20°.27E±0°.02, h5km±10km, n60, σ1°.20/90, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.35**	**300**	*i* Pg	**Pg**	**05 25 53.8**	**0.0**
TIR				*i* Sg	**Sb**	**05 25 59.8**	**-1.7**
OHR	**Ohrid**	**0.41**	**99**	*i* Pg	**Pg**	**05 25 54.3**	**-0.5**
OHR				*i* Sg	**Sg**	**05 26 00.7**	**+0.4**
OHR				*e*Lg	Lg	05 26 00.7	
	comp=N,476nm,1.0s						
OHR				*e*Lg	Lg	05 26 01.8	
	comp=E,359nm,0.5s						
LMS2	**Laimos Florina**	**0.74**	**117**	P	**Pg**	**05 26 01.0**	**-0.3**
NEST	**Nestorio**	**0.96**	**142**	P	**Pg**	**05 26 05.3**	**-0.2**
NEST				S	**Sg**	**05 26 17.2**	**-0.8**
ULC	**Ulcinj**	**1.10**	**316**	↑*i*Pg	**Pg**	**05 26 05.8**	**-2.3**
ULC				*i* Sg	**Sn**	**05 26 24.0**	**-0.7**
PENT	**Pentalofos**	**1.18**	**146**	P	**Pn**	**05 26 10.2**	**-0.1**
PENT				S	**Sg**	**05 26 23.9**	**-1.1**
SKO	**Skopje**	**1.19**	**47**	*i* Pg	**Pb**	**05 26 09.1**	**-0.9**
DRME	**Dracevica, Mon**	**1.30**	**322**	*e*Pn	**Pn**	**05 26 09.8**	**-2.0**
DRME				*e*Sn	**Sn**	**05 26 29.1**	**-0.4**
DRME	**Dracevica, Mon**	**1.30**	**322**	*e*Pg	**Pn**	**05 26 09.6**	**-2.2**
DRME				*i* Sg	**Sn**	**05 26 31.2**	**+1.7**
KZN	**Kozani**	**1.43**	**127**	P	**Pb**	**05 26 13.9**	**-0.3**
KZN				S	**Sb**	**05 26 29.5**	**-3.4**
PDG	**Podgorica**	**1.47**	**329**	*e*Pn	**Pn**	**05 26 12.9**	**-1.2**
PDG				*e*Sn	**Sb**	**05 26 33.9**	**+0.2**
PDG	**Podgorica**	**1.47**	**329**	*e*Pg	**Pn**	**05 26 12.8**	**-1.3**
PDG				*i* Sg	**Sg**	**05 26 35.9**	**+1.8**
KEK	**Kerkira**	**1.50**	**194**	P	**Pg**	**05 26 19.0**	**+3.2**
BUM	**Brajici-Budva**	**1.52**	**318**	↑*i*Pg	**Pn**	**05 26 13.8**	**-1.2**
BUM				*i* Sg	**Sg**	**05 26 39.1**	**+3.1**
JAN	**Janina**	**1.58**	**163**	P	**Pg**	**05 26 17.6**	**+0.3**
IGT	**Igoumenitsa**	**1.64**	**178**	*i* Pn	**Pg**	**05 26 18.9**	**+0.4**
IGT	**Igoumenitsa**	**1.64**	**178**	*e*Pn	**Pg**	**05 26 18.7**	**+0.2**
IGT				*e*Sn	**Sg**	**05 26 40.8**	**+1.1**
IGT	**Igoumenitsa**	**1.64**	**178**	P	**Pg**	**05 26 19.8**	**+1.3**
CEME	**Cevo**	**1.70**	**324**	*e*Pn	**Pn**	**05 26 16.5**	**-0.9**
CEME				*i* Sn	**Sg**	**05 26 43.1**	**+1.4**
BEY	**Berane**	**1.72**	**351**	*e*Pn	**Pn**	**05 26 18.4**	**+0.7**
BEY				*e*Sn	**Sb**	**05 26 41.3**	**+0.2**
IVA	**Berane**	**1.72**	**351**	*e*Pn	**Pb**	**05 26 19.3**	**+0.2**
IVA				*i* Sn	**Sg**	**05 26 43.3**	**+1.1**
VAY	**Valandovo**	**1.74**	**84**	*i* Pn	**Pn**	**05 26 18.7**	**+0.8**
VAY				*i* Sn	**Sb**	**05 26 41.6**	**0.0**
VAY				*e*Lg	Lg	05 26 42.0	
	comp=E,15nm,0.5s						
VAY				*e*Lg	Lg	05 26 43.1	
	comp=N,37nm,0.7s						
KOME	**Kolasin**	**1.77**	**342**	*e*Pn	**Pn**	**05 26 18.4**	**+0.1**
KOME				*e*Sn	**Sn**	**05 26 41.3**	**0.0**
KOME	**Kolasin**	**1.77**	**342**	*e*Pn	**Pb**	**05 26 19.3**	**-0.6**
KOME				*i* Sn	**Sg**	**05 26 44.0**	**+0.2**
HCY	**Herceg Novi**	**1.84**	**314**	*e*Pn	**Pb**	**05 26 20.0**	**-1.1**
HCY				*i* Sn	**Sg**	**05 26 46.2**	**+0.2**
NKME	**Niksic**	**1.87**	**329**	*e*Pn	**Pb**	**05 26 20.6**	**-1.1**
NKME				*i* Sn	**Sg**	**05 26 48.1**	**+1.0**
TETR	**Tetrakomo, Epi**	**1.98**	**157**	P	**Pb**	**05 26 23.5**	**-0.2**
KNT	**Kendrikon**	**1.99**	**90**	P	**Pn**	**05 26 21.6**	**+0.3**
LIT	**Litokhoron**	**2.00**	**122**	*i* Pn	**Pn**	**05 26 22.0**	**+0.4**
LIT	**Litokhoron**	**2.00**	**122**	P	**Pn**	**05 26 21.9**	**+0.4**
BARS	**Barje**	**2.00**	**35**	*i* Pn	**Pn**	**05 26 22.9**	**+1.3**
BARS				*i* Sn	**Sg**	**05 26 53.1**	**+1.6**
BARS	**Barje**	**2.00**	**35**	*e*Pn	**Pn**	**05 26 22.0**	**+0.4**
BARS				*e*Sn	**Sn**	**05 26 47.8**	**+0.8**
THL	**Klokotos Trika**	**2.09**	**140**	P	**Pn**	**05 26 23.6**	**+0.9**
SJES	**Sjenica**	**2.10**	**354**	*e*Pn	**Pb**	**05 26 24.4**	**-1.2**
SJES				*e*Sn	**Sn**	**05 26 49.8**	**+0.4**
BOSS	**Bosilegrad**	**2.12**	**51**	*e*Pn	**Pn**	**05 26 22.7**	**-0.4**
BOSS				*e*Sn	**Sn**	**05 26 51.2**	**+1.4**
SELS	**Selova**	**2.14**	**17**	*e*Pn	**Pn**	**05 26 22.4**	**-1.0**
SELS				*e*Sn	**Sn**	**05 26 50.0**	**-0.4**
BRY	**Bratogost**	**2.15**	**324**	*e*Pn	**Pn**	**05 26 24.9**	**+1.2**
BRY				*i* Sn	**Sb**	**05 26 54.7**	**+1.1**
HORT	**Hortiatis**	**2.22**	**104**	P	**Pn**	**05 26 24.6**	**0.0**

UPM	**Unac-Piva**	**2.27**	**334**	*e*Pn	**Pn**	**05 26 26.8**	**+1.5**
UPM				*i* Sn	**Sb**	**05 26 57.5**	**+0.6**
TSLK	**Tsoukalades, L**	**2.37**	**173**	P	**Pb**	**05 26 29.8**	**-0.3**
IVAS	**Ivanjica**	**2.40**	**358**	*e*Pn	**Pn**	**05 26 25.7**	**-1.4**
IVAS				*e*Sn	**Sn**	**05 26 57.0**	**+0.1**
LKD2	**Lefkada island**	**2.40**	**173**	P	**Pb**	**05 26 29.2**	**-1.5**
GOCS	**Kraljevo Serbi**	**2.43**	**10**	*e*Pn	**Pn**	**05 26 26.3**	**-1.2**
GOCS				*e*Sn	**Sn**	**05 26 57.6**	**0.0**
SRS	**Serrai**	**2.51**	**90**	P	**Pn**	**05 26 28.6**	**+0.1**
PLG	**Polygyros**	**2.54**	**107**	P	**Pn**	**05 26 29.0**	**0.0**
EVR	**Evrytania**	**2.55**	**152**	P	**Pn**	**05 26 30.4**	**+1.4**
EVGI	**Lefkada island**	**2.57**	**173**	P	**Pb**	**05 26 31.4**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.59**	**146**	P	**Pn**	**05 26 30.6**	**+1.0**
BOVS	**Bovan**	**2.68**	**23**	*e*Pn	**Pn**	**05 26 31.3**	**+0.5**
GRUS	**Gruza**	**2.73**	**7**	*e*Pn	**Pn**	**05 26 32.2**	**+0.7**
PVO	**Paravola**	**2.73**	**159**	P	**Pb**	**05 26 33.4**	**-2.9**
ZAPS	**Zavoj**	**2.74**	**39**	*e*Pn	**Pn**	**05 26 32.9**	**+1.3**
BBLS	**Lazi&#263i**	**2.76**	**347**	*e*Pn	**Pn**	**05 26 33.2**	**+1.2**
ANX	**Ano Chora**	**2.88**	**153**	P	**Pn**	**05 26 35.0**	**+1.4**
DIVS	**Divibare**	**2.93**	**356**	*e*Pn	**Pn**	**05 26 34.7**	**+0.4**
NEO	**Neokhori**	**2.93**	**129**	P	**Pn**	**05 26 34.9**	**+0.5**
OUR	**Ouranopolis**	**2.94**	**105**	P	**Pn**	**05 26 34.8**	**+0.4**
ZAGS	**Zajecar**	**3.01**	**28**	*e*Pn	**Pn**	**05 26 35.4**	**+0.1**
ZAGS				*e*Sn	**Sn**	**05 27 13.6**	**+1.8**
TRUS	**Trudelj**	**3.05**	**2**	*e*Pn	**Pn**	**05 26 35.8**	**-0.1**
TEKS	**Tekeris**	**3.42**	**351**	*e*Pn	**Pn**	**05 26 41.1**	**+0.1**

IDC 21 05:32:53.3±3.9, 6°.32N×59°.34E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=101.4km s-min=37.7km az=73.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**40.42**	**69**	P	P	05 40 34.0	+0.3
	0.7nm,0.3s,baz=272,slow=9.0,SNR=4.9						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**46.98**	**17**	P	P	05 41 27.4	+1.4
	0.7nm,0.9s,baz=214,slow=8.3,SNR=5.0						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**51.79**	**19**	P	P	05 42 01.7	-1.0
	0.6nm,0.4s,baz=224,slow=6.0,SNR=1.8						
	0.6nm,0.4s						
H04N1	**CROZET ISLANDS**	**52.68**	**187**	T	T	06 39 34.7	
	baz=12						
H04N2	**CROZET ISLANDS**	**52.68**	**187**	T	T	06 39 33.2	
	baz=12						
H04N3	**CROZET ISLANDS**	**52.70**	**187**	T	T	06 39 27.5	
	baz=12						
SONM	**Songino Array**	**57.52**	**36**	P	P	05 42 43.5	-1.2
	0.4nm,0.5s,baz=243,slow=7.9,SNR=4.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**78.53**	**116**	P	P	05 44 57.3	+0.1
	1.0nm,0.9s,baz=283,slow=6.7,SNR=8.1						
	1.0nm,0.9s						

IDC 21 05:34:44.2±4.1, 6°.44N×59°.63E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=108.5km s-min=39.7km az=73.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**40.11**	**69**	P	P	05 42 21.8	-0.2
	1.6nm,0.3s,baz=263,slow=8.4,SNR=3.3						
	1.6nm,0.3s						
KURBB	**Kurchatov Arra**	**46.78**	**16**	P	P	05 43 15.2	-0.2
	0.7nm,0.8s,baz=214,slow=7.7,SNR=4.1						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**51.58**	**19**	P	P	05 43 52.0	-0.1
	0.5nm,0.4s,baz=222,slow=7.8,SNR=1.3						
	0.5nm,0.4s						
H04N1	**CROZET ISLANDS**	**52.83**	**187**	T	T	06 41 20.9	
	baz=13,slow=75						
H04N2	**CROZET ISLANDS**	**52.83**	**187**	T	T	06 41 22.6	
	baz=13,slow=75						
H04N3	**CROZET ISLANDS**	**52.85**	**187**	T	T	06 41 19.7	
	baz=13,slow=75						
SONM	**Songino Array**	**57.25**	**36**	P	P	05 44 33.8	+0.2
	0.5nm,0.5s,baz=258,slow=4.3,SNR=2.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**78.32**	**116**	P	P	05 46 47.0	+0.1
	0.9nm,0.9s,baz=285,slow=5.9,SNR=5.8						
	0.9nm,0.9s						

*ISK **21** 05:39:45.2, 39°.43N×25°.67E, h8km, ML3.2/20*
*ATH **21** 05:39:45.5, 39°.38N×25°.72E, h24km±1km, ML2.7/10, Manual Solution by N.Liadopoulou First location: 2019/10/21 05:41:20, This location: 2019/10/21 07:00:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **21** 05:39:46.2, 39°.4N±0°.7×2°.6E±°, h4km±2km, M2.7/9, MLh2.7/9*
*AFAD **21** 05:39:46.4, 39°.43N×25°.73E, h7km±2km, ML3.0*

ISC 21 05:39:45.9±0.8, 39°.41N±0°.02×25°.69E±0°.02, h17km±7km, n81, σ0°.77/106, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.23**	**146**	Pg	**Pg**	**05 39 51.0**	**-0.2**
SIGR				Sg	**Sg**	**05 39 55.1**	**+0.2**
SIGR	**SIGRI**	**0.23**	**146**	P	**Pg**	**05 39 51.1**	**-0.1**
SIGR				S	**Sg**	**05 39 54.8**	**-0.1**
SIGR	**SIGRI**	**0.23**	**146**	P	**Pg**	**05 39 51.0**	**-0.2**
SIGR				S	**Sg**	**05 39 54.7**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.35**	**82**	Pg	**Pg**	**05 39 52.9**	**-0.3**
GPNR				Sg	**Sb**	**05 39 58.6**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.36**	**75**	P	**Pg**	**05 39 53.4**	**-0.1**
KOCA				S	**Sg**	**05 39 58.0**	**-0.5**
KOCA				*i* IAML		05 39 59.0	
	comp=N,2μm,0.2s						
KOCA				*i* IAML		05 39 59.0	
	comp=E,2μm,0.3s						
PRK	**Paraskevi**	**0.48**	**109**	P	**Pg**	**05 39 55.5**	**0.0**
PRK				S	**Sb**	**05 40 02.5**	**-0.2**
BOZC	**Bozcaada**	**0.52**	**33**	Pg	**Pg**	**05 39 55.6**	**-0.6**
BOZC				Sg	**Sb**	**05 40 03.2**	**-0.6**
BOZC	**Bozcaada**	**0.52**	**33**	P	**Pg**	**05 39 55.8**	**-0.5**
BOZC				S	**Sg**	**05 40 02.6**	**-0.7**
EFSA	**Agios Efstrati**	**0.56**	**284**	P	**Pg**	**05 39 57.1**	**+0.2**
EFSA				S	**Sg**	**05 40 05.0**	**+0.6**
LIA	**Limnos Island**	**0.63**	**322**	P	**Pg**	**05 39 58.0**	**-0.2**
LIA				S	**Sg**	**05 40 06.6**	**0.0**
LIA	**Limnos Island**	**0.63**	**322**	P	**Pg**	**05 39 58.2**	**0.0**
LIA				S	**Sg**	**05 40 06.4**	**-0.2**
EZNE	**Ezine-Canakkal**	**0.63**	**56**	Pg	**Pg**	**05 39 57.8**	**-0.5**
EZNE				Sg	**Sb**	**05 40 07.1**	**+0.1**
EZN	**Ezine**	**0.65**	**49**	Pg	**Pg**	**05 39 57.9**	**-0.7**
EZN				Sg	**Sb**	**05 40 07.6**	**+0.1**
EZN	**Ezine**	**0.65**	**49**	P	**Pg**	**05 39 57.9**	**-0.7**
EZN				S	**Sb**	**05 40 07.1**	**-0.4**
LMN1	**MIRINA LIMNOU**	**0.67**	**314**	P	**Pg**	**05 39 59.6**	**+0.5**
LMN1				S	**Sg**	**05 40 08.7**	**+0.6**
ECEA	**Canakkale, Ece**	**0.74**	**30**	P	**Pg**	**05 40 00.1**	**-0.2**
ECEA				S	**Sb**	**05 40 10.8**	**+0.7**
ECEA				*i* IAML		05 40 13.0	
	comp=N,1μm,0.3s						
ECEA				*i* IAML		05 40 13.0	
	comp=E,2μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**63**	P	**Pg**	**05 39 59.8**	**-0.7**
BAYC				S	**Sg**	**05 40 08.8**	**-1.5**
GOAD	**anakkale-G¶**	**0.77**	**13**	P	**Pg**	**05 40 00.5**	**-0.5**
GOAD				S	**Sb**	**05 40 11.0**	**-0.1**
GOAD				*i* IAML		05 40 13.0	
	comp=E,586nm,0.4s						
GOAD				*i* IAML		05 40 15.0	
	comp=N,470nm,0.3s						
AYVA	**Ayvalik**	**0.78**	**97**	P	**Pg**	**05 40 00.9**	**-0.3**
GADA	**Gvkgeada**	**0.80**	**12**	Pg	**Pg**	**05 40 00.6**	**-0.9**
GADA				Sg	**Sb**	**05 40 11.9**	**0.0**
GADA	**Gvkgeada**	**0.80**	**12**	P	**Pg**	**05 40 00.6**	**-0.9**
GADA				S	**Sb**	**05 40 12.0**	**+0.1**
CNKL	**anakkale-Mer**	**0.85**	**39**	P	**Pb**	**05 40 02.3**	**0.0**
CNKL				S	**Sb**	**05 40 13.5**	**+0.2**
COMU	**Canakkale**	**0.92**	**41**	Pg	**Pg**	**05 40 03.1**	**-0.7**
EAG2	**Marmaro, Chios**	**0.92**	**159**	P	**Pg**	**05 40 02.8**	**-1.0**
KARB	**zmir-Karabur**	**0.93**	**143**	P	**Pg**	**05 40 04.3**	**+0.3**
DKL	**

CHOS	**Chios island**	**1.06 164**	P	**Pg**	**05 40 06.0**	**-0.4**
CHOS			S	**Sb**	**05 40 21.5**	**+2.1**
CHOS	**Chios island**	**1.06 164**	P	**Pg**	**05 40 05.1**	**-1.3**
SMTH	**Samothraki Isl**	**1.07 354**	P	**Pg**	**05 40 05.7**	**-0.9**
SMTH			S	**Sb**	**05 40 20.5**	**+0.8**
SMTH	**Samothraki Isl**	**1.07 354**	P	**Pg**	**05 40 05.6**	**-1.0**
BUHA	**Balikesir, Bur**	**1.08 85**	P	**Pb**	**05 40 06.8**	**+0.7**
YAYO	**Edremit-Balk**	**1.09 79**	Pn	**Pg**	**05 40 06.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.16 31**	Pn	**Pg**	**05 40 07.4**	**-0.9**
ZEDA	**zmir-Bergama**	**1.17 112**	P	**Pb**	**05 40 08.1**	**+0.5**
CANM	**Can-anakkale**	**1.21 60**	Pn	**Pb**	**05 40 08.7**	**+0.3**
URLA	**Izmir**	**1.26 146**	Pn	**Pn**	**05 40 09.1**	**+0.3**
URLA	**Izmir**	**1.26 146**	P	**Pn**	**05 40 08.8**	**0.0**
LPK	**Lapseki**	**1.27 40**	Pn	**Pn**	**05 40 09.6**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**1.33 151**	P	**Pg**	**05 40 11.8**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.33 16**	P	**Pn**	**05 40 10.5**	**+0.7**
ENEZ	**Enez**	**1.38 15**	Pn	**Pn**	**05 40 10.8**	**+0.5**
ENEZ	**Enez**	**1.38 15**	P	**Pn**	**05 40 11.0**	**+0.7**
ENEZ			S	**Sg**	**05 40 30.8**	**+0.4**
ERIK	**Erikli-Kesan**	**1.41 26**	Pn	**Pn**	**05 40 11.4**	**+0.6**
AOS	**Alonnisos**	**1.42 261**	P	**Pn**	**05 40 11.9**	**+0.9**
AOS			S	**Sg**	**05 40 33.4**	**+1.6**
ALEX	**Alexandroupoli**	**1.46 6**	P	**Pn**	**05 40 11.0**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.46 238**	P	**Pn**	**05 40 10.4**	**-1.1**
BLCB	**Balcova**	**1.47 134**	Pn	**Pn**	**05 40 12.9**	**+1.3**
ALN	**Alexandroupoli**	**1.51 10**	Pn	**Pn**	**05 40 12.5**	**+0.3**
ALN	**Alexandroupoli**	**1.51 10**	P	**Pn**	**05 40 12.5**	**+0.3**
ALN	**Alexandroupoli**	**1.51 10**	P	**Pn**	**05 40 11.1**	**-1.1**
BALY	**Balya**	**1.53 77**	P	**Pb**	**05 40 14.4**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.57 90**	P	**Pg**	**05 40 16.5**	**+0.3**
KRBG	**Karabiga-Canak**	**1.58 51**	Pn	**Pn**	**05 40 14.0**	**+0.8**
OUR	**Ouranopolis**	**1.61 306**	Pn	**Pn**	**05 40 14.8**	**+1.3**
OUR	**Ouranopolis**	**1.61 306**	P	**Pn**	**05 40 14.1**	**+0.6**
OUR	**Ouranopolis**	**1.61 306**	P	**Pn**	**05 40 13.5**	**0.0**
KESN	**Edirne-Kesan**	**1.61 28**	P	**Pn**	**05 40 14.7**	**+0.8**
DGB	**zmir**	**1.64 145**	P	**Pn**	**05 40 14.6**	**+0.6**
GONE	**Gonen-Balikesi**	**1.67 67**	Pn	**Pn**	**05 40 15.2**	**+0.9**
KARY	**Karystos**	**1.69 216**	P	**Pn**	**05 40 12.7**	**-1.9**
RKY	**Sarkoy-Tekirda**	**1.72 41**	Pn	**Pn**	**05 40 15.9**	**+0.8**
SART	**Tekirdag**	**1.72 41**	P	**Pb**	**05 40 17.5**	**+0.4**
AKHS	**Akhisar**	**1.74 107**	P	**Pb**	**05 40 17.4**	**0.0**
RDO	**Rodhopi**	**1.74 356**	Pn	**Pn**	**05 40 15.7**	**+0.4**
RDO	**Rodhopi**	**1.74 356**	P	**Pn**	**05 40 15.8**	**+0.4**
RDO	**Rodhopi**	**1.74 356**	P	**Pn**	**05 40 14.7**	**-0.6**
BKES	**Balkesir-Mer**	**1.76 79**	P	**Pb**	**05 40 18.7**	**+0.9**
BLKS	**Balkesir-Sus**	**1.82 74**	P	**Pb**	**05 40 18.5**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.87 22**	Pn	**Pn**	**05 40 18.1**	**+1.0**
DION	**Dionisos Attik**	**1.91 227**	P	**Pn**	**05 40 16.6**	**-1.1**
SMG	**Samos**	**1.92 152**	P	**Pn**	**05 40 15.9**	**-1.9**
PLG	**Polygyros**	**1.98 300**	P	**Pn**	**05 40 18.3**	**-0.4**
ATAL	**Atalanti**	**2.19 252**	P	**Pn**	**05 40 20.4**	**-1.2**
VIL2	**Platees**	**2.23 238**	P	**Pn**	**05 40 21.2**	**-0.9**
SOH	**Sokhos**	**2.28 309**	P	**Pn**	**05 40 22.3**	**-0.6**
HORT	**Hortiatis**	**2.32 302**	P	**Pn**	**05 40 22.6**	**-0.8**
SRS	**Serrai**	**2.34 317**	P	**Pn**	**05 40 22.9**	**-0.8**
MET4	**Agioi Theodoro**	**2.53 226**	P	**Pn**	**05 40 24.6**	**-1.6**

*IDC **21** 05:51:17.2±0.8, 8°.67S×157°.56E, h0km, mb3.8/10, mbtmp3.8/11, ML4.5/1, MS3.4/3, Error ellipse: s-maj=24.4km s-min=19.4km az=154.0*
*NEIC **21** 05:51:19.1±1.4, 8°.65S±0°.09×157°.55E±0°.09, h10km±1km, mb4.6/21, Error ellipse: s-maj=20.0km s-min=7.6km az=47.0*

ISC 21 05:51:19.5±0.5, **8°.68S**±0°.10×**157°.57E**±0°.08, **h16**km, **n51**, σ0:**90**/44, **mb4.2**/17, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46 108**			**Pn**	**05 51 59.5**	**+0.4**
HNR	**Honiara**	**2.46 108**		Pn	**Pn**	**05 51 57.1**	**-1.9**
	108nm,0.3s,baz=205,slow=7.6,SNR=8.7						
HNR				Sn	**Sb**	**05 52 32.6**	**-0.9**
	129nm,0.3s,baz=244,slow=21,SNR=13						
HNR				LR	LR	05 52 52.5	
	comp=Z,326nm,21.8s,baz=111,slow=38						
	145nm,0.4s						
RABL	**Rabaul**	**6.98 309**		Pn	**Pn**	**05 53 00.8**	**-0.4**
MANU	**Manus Island**	**12.11 302**		Pn	**Pn**	**05 54 09.0**	**-2.5**
ARMA	**Armidale**	**22.33 194**		P	**P**	**05 56 16.6**	**-0.1**
WR8	**Warramunga Arr**	**24.97 241**		P	**P**	**05 56 41.5**	**-1.0**
WB0	**Warramunga Arr**	**24.99 241**		P	**P**	**05 56 43.4**	**+0.7**
WB2	**Warramunga Arr**	**25.09 241**		P	**P**	**05 56 44.2**	**+0.5**
WB2				IAmb	IAmb	05 56 46.1	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**25.10 241**		P	**P**	**05 56 43.5**	**-0.3**
WRA	**Warramunga Arr**	**25.10 241**		P	**P**	**05 56 43.5**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=67,slow=9.4,SNR=9.2						
WRA				PcP	**PcP**	**06 00 18.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=65,slow=2.0,SNR=5.1						
	comp=Z,3.1nm,1.0s						
AS31	**Alice Springs**	**27.11 234**		P	**P**	**05 57 02.1**	**+0.1**
ASAR	**Alice Springs**	**27.11 234**		P	**P**	**05 57 01.6**	**-0.3**
ASAR	**Alice Springs**	**27.11 234**		P	**P**	**05 57 01.8**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=63,slow=9.4,SNR=6.6						
	comp=Z,1.1nm,1.0s						
STKA	**Stephens Creek**	**27.44 211**		P	**P**	**05 57 03.8**	**-0.9**
STKA				IAmb	IAmb	05 57 11.1	
	comp=Z,47nm,1.4s						
STKA	**Stephens Creek**	**27.44 211**		P	**P**	**05 57 05.7**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=37,slow=13,SNR=7.9						
	comp=Z,0.8nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**28.46**	**18**	T	T	06 25 45.5	
	baz=199,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**28.46**	**18**	T	T	06 25 50.0	
	baz=199,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.48**	**18**	T	T	06 25 46.5	
	baz=199,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**29.67**	**18**	T	T	06 27 25.5	
	baz=196						
H11N3	**WAKE ISLAND Hy**	**29.68**	**18**	T	T	06 27 30.7	
	baz=196						
H11N2	**WAKE ISLAND Hy**	**29.69**	**18**	T	T	06 27 37.4	
	baz=196						
BATI	**Baumata**	**33.47 265**		LR	LR	06 11 59.8	
	comp=Z,105nm,21.9s,baz=158,slow=37						
TUWZ	**Tuamarina**	**35.69 159**		P	**P**	**05 58 17.3**	**+0.2**
SHEM	**Shemya Is, Ala**	**62.78 11**		LR	LR	06 26 09.1	
	comp=Z,37nm,20.5s,baz=33,slow=33						
CM31	**Chiang Mai Arr**	**63.81 295**		P	**P**	**06 01 50.4**	**-1.0**
CM31				IAmb	IAmb	06 02 34.0	
	comp=Z,6.1nm,1.2s						
CMAR	**Chiang Mai Arr**	**63.81 295**		P	**P**	**06 01 50.5**	**-1.0**
KIWB	**Kanaga Island**	**64.09 17**		P	**P**	**06 01 52.1**	**-0.5**
VNDA	**Vanda**	**68.85 179**		P	**P**	**06 02 23.5**	**+0.8**
VNDA				IAmb	IAmb	06 02 56.5	
	comp=Z,3.8nm,1.5s						
VNDA	**Vanda**	**68.85 179**		P	**P**	**06 02 22.8**	**0.0**
	comp=Z,0.3nm,0.8s,baz=27,slow=2.7,SNR=2.1						
	comp=Z,0.3nm,0.8s						
UNV	**Unalaska Valle**	**69.29 22**		P	**P**	**06 02 25.5**	**-0.3**
SONM	**Songino Array**	**72.13 327**		P	**P**	**06 02 45.1**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=118,slow=5.2,SNR=1.9						
	comp=Z,0.4nm,0.3s						
O14K	**Tigyukauivet M**	**75.30 20**		P	**P**	**06 03 01.8**	**+0.2**
O15K	**Ungalikthiuk R**	**75.75 21**		P	**P**	**06 03 04.3**	**+0.2**
M16K	**Timber Creek**	**77.38 20**			**P**	**06 03 15.2**	**+1.8**
M16K				IAmb	IAmb	06 03 19.1	
	comp=Z,24nm,1.4s						
L18K	**Granite Mounta**	**79.00 20**		P	**P**	**06 03 23.6**	**+1.3**
L18K				IAmb	IAmb	06 03 31.6	
	comp=Z,11nm,1.4s						
L19K	**White Mountain**	**79.60 21**		P	**P**	**06 03 27.3**	**+1.6**
L19K				IAmb	IAmb	06 03 28.6	
	comp=Z,7.3nm,1.0s						
QSPA	**South Pole Qui**	**81.31 180**		P	**P**	**06 03 35.1**	**+0.1**
QSPA				IAmb	IAmb	06 04 16.6	
	comp=Z,8.3nm,1.5s						
QSPA	**South Pole Qui**	**81.31 180**		P	**P**	**06 03 36.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=98,slow=2.1,SNR=1.3						
	comp=Z,0.3nm,0.6s						
TRF	**Thorofare Moun**	**82.03 21**		P	**P**	**06 03 38.5**	**-0.3**
TRF				IAmb	IAmb	06 03 55.9	
	comp=Z,9.6nm,1.5s						
IMAR	**Indian Mountai**	**82.51 18**		P	**P**	**06 03 42.1**	**+1.1**
IL31		**84.02 21**		P	**P**	**06 03 48.6**	**-0.1**
IL31				IAmb	IAmb	06 04 28.8	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**84.02 21**		P	**P**	**06 03 48.9**	**+0.1**
ILAR	**Eielson Array**	**84.02 21**		P	**P**	**06 03 48.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=237,slow=5.0,SNR=4.3						
	comp=Z,0.6nm,0.8s						

MK31	**Makanchi Array**	**86.35 318**		P	**P**	**06 04 00.9**	**-0.1**
MK31				IAmb	IAmb	06 04 23.0	
	comp=Z,3.5nm,1.1s						
MKAR	**Makanchi Array**	**86.35 318**		P	**P**	**06 04 01.1**	**+0.1**
MKAR	**Makanchi Array**	**86.35 318**		P	**P**	**06 04 00.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.7,SNR=1.4						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**90.77 51**		P	**P**	**06 04 23.0**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=247,slow=8.3,SNR=7.7						
	comp=Z,0.9nm,0.8s						
KK31	**Karatay Array**	**93.72 313**		P	**P**	**06 04 36.4**	**+0.7**
KKAR	**Karatay Array**	**93.72 313**		P	**P**	**06 04 36.4**	**+0.7**
PDAR	**Pinedale Array**	**97.93 48**		P	Pdif	06 04 55.7	+0.5
	comp=Z,0.3nm,0.8s,baz=268,slow=7.5,SNR=2.1						
	comp=Z,0.3nm,0.8s						
BDFB	**Brasilia**	**144.98 134**		PKPbc	**PKPab**	**06 10 55.9**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=246,slow=2.7,SNR=3.9						

*TAP **21** 05:56:34.8, 24°.63N×121°.89E, h65km, ML3.7, B*
*JMA **21** 05:56:34.8±0.2, 24°.6N±0°.4×121°.9E±0°.4, h65km±2km, MV2.6/10, TAIWAN REGION*

ISC 21 05:56:35.3±1.3, **24°.67N**±0°.03×**121°.93E**±0°.02, **h67**km±5km, **n98**, σ0:**68**/183, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.09 229**		*i* P	**Pn**	**05 56 45.0**	**-0.1**
TWC				S	**Sn**	**05 56 52.3**	**+0.1**
ESAO	**Su ao**	**0.12 219**		*i* P	**Pn**	**05 56 44.9**	**-0.2**
ESAO				S	**Sn**	**05 56 52.1**	**-0.2**
EGS		**0.18**	**2**	*e*P	**Pn**	**05 56 45.6**	**+0.2**
EGS				*e*S	**Sn**	**05 56 53.2**	**+0.5**
ILA	**Ilan**	**0.19 301**		*i* P	**Pn**	**05 56 45.9**	**+0.5**
ILA				*i* S	**Sn**	**05 56 53.8**	**+1.0**
NDS	**Dongshan**	**0.19 260**		*i* P	**Pn**	**05 56 45.5**	**0.0**
NDS				S	**Sn**	**05 56 53.0**	**+0.1**
NTC	**Toucheng**	**0.20 335**		*e*P	**Pn**	**05 56 45.9**	**+0.4**
NTC				S	**Sn**	**05 56 53.5**	**+0.6**
TWE	**Neicheng**	**0.24 283**		*i* P	**Pn**	**05 56 45.8**	**+0.2**
TWE				S	**Sn**	**05 56 53.8**	**+0.5**
EWUT	**Wuta**	**0.26 211**		*i* P	**Pn**	**05 56 45.5**	**-0.3**
EWUT				S	**Sn**	**05 56 53.3**	**-0.1**
ENA	**Nanau**	**0.29 215**		*i* P	**Pn**	**05 56 45.7**	**-0.3**
ENA				S	**Sn**	**05 56 53.8**	**0.0**
TIPB	**Shuangxi**	**0.32 343**		*i* P	**Pn**	**05 56 46.2**	**-0.1**
TIPB				*i* S	**Sn**	**05 56 54.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.32 287**		*i* P	**Pn**	**05 56 46.2**	**-0.1**
FUSB				S	**Sn**	**05 56 54.4**	**+0.1**
ENTT	**Nioudou**	**0.33 265**		*i* P	**Pn**	**05 56 46.1**	**-0.1**
ENTT				*i* S	**Sn**	**05 56 54.7**	**+0.3**
TWB1	**Santiao Chiao**	**0.34**	**10**	*i* P	**Pn**	**05 56 46.2**	**-0.2**
TWB1				*i* S	**Sn**	**05 56 54.2**	**-0.3**
EOS2	**EOS2**	**0.37 132**		*e*P	**Pn**	**05 56 47.1**	**+0.6**
EOS2				*e*S	**Sn**	**05 56 56.3**	**+1.7**
EAHA	**Aohua**	**0.38 207**		P	**Pn**	**05 56 46.2**	**-0.5**
EAHA				S	**Sn**	**05 56 55.0**	**+0.1**
LATG	**Datong**	**0.39 250**		*i* P	**Pn**	**05 56 46.6**	**-0.3**
LATG				S	**Sn**	**05 56 55.1**	**-0.2**
NWLT	**Wulai**	**0.40 286**		*i* P	**Pn**	**05 56 46.6**	**-0.3**
NWLT				S	**Sn**	**05 56 54.7**	**-0.7**
NWF	**Wu-fen Shan**	**0.42 342**		*e*P	**Pn**	**05 56 47.2**	**0.0**
NWF				*i* S	**Sn**	**05 56 55.7**	**-0.1**
WFSB	**Wu-fen Shan**	**0.42 342**		P	**Pn**	**05 56 47.2**	**+0.1**
WFSB				S	**Sn**	**05 56 55.7**	**+0.1**
SXI1	**Grass Mountain**	**0.43 354**		*i* P	**Pn**	**05 56 46.9**	**-0.2**
SXI1				S	**Sn**	**05 56 54.9**	**-0.4**
TWA	**Mucha**	**0.44 315**		*i* P	**Pn**	**05 56 47.2**	**-0.1**
TWA				*i* S	**Sn**	**05 56 55.9**	**0.0**
NHDH	**Xindian Distri**	**0.47 309**		*e*P	**Pn**	**05 56 47.3**	**-0.2**
NHDH				S	**Sn**	**05 56 56.1**	**-0.2**
NHY	**Taipei**	**0.49 319**		P	**Pn**	**05 56 47.8**	**+0.1**
NHY				*e*S	**Sn**	**05 56 57.3**	**+0.6**
TNOU	**National Taiwa**	**0.50 344**		*e*P	**Pn**	**05 56 47.6**	**-0.1**
TNOU				S	**Sn**	**05 56 56.6**	**-0.3**
YHNB	**Yeheng**	**0.50 270**		P	**Pn**	**05 56 47.5**	**-0.4**
YHNB				S	**Sn**	**05 56 56.6**	**-0.4**
NSK	**Sanguang**	**0.52 271**		*i* P	**Pn**	**05 56 47.5**	**-0.4**
NSK				S	**Sn**	**05 56 56.8**	**-0.6**
EOS3	**EOS3**	**0.52 137**		*e*P	**Pn**	**05 56 48.2**	**+0.4**
EOS3				*e*S	**Sn**	**05 56 58.5**	**+1.5**
TAP	**Taipei**	**0.53 314**		*e*P	**Pn**	**05 56 48.0**	**-0.1**
TAP				S	**Sn**	**05 56 57.5**	**+0.1**
NNSB	**Datong**	**0.55 244**		P	**Pn**	**05 56 48.1**	**-0.2**
NNSB				S	**Sn**	**05 56 57.5**	**-0.5**
NNS	**Nan Shan**	**0.55 246**		*i* P	**Pn**	**05 56 48.2**	**-0.3**
NNS				S	**Sn**	**05 56 57.6**	**-0.4**
YM01	**YM01**	**0.57 326**		*e*P	**Pn**	**05 56 48.5**	**-0.1**
YM01				*e*S	**Sn**	**05 56 58.5**	**+0.1**
ETL	**Fush Village**	**0.58 209**		*e*P	**Pn**	**05 56 48.0**	**-0.6**
ETL				*e*S	**Sn**	**05 56 58.4**	**0.0**
NACB	**Ninganchiao**	**0.58 211**		*e*P	**Pn**	**05 56 47.5**	**-1.1**
NACB				*e*S	**Sn**	**05 56 57.5**	**-0.8**
YM08	**YM08**	**0.60 330**		P	**Pn**	**05 56 48.5**	**-0.3**
YM08				S	**Sn**	**05 56 58.0**	**-0.8**
ZUZH	**Zhuzihu**	**0.60 325**		P	**Pn**	**05 56 48.7**	**-0.2**
ZUZH				S	**Sn**	**05 56 58.5**	**-0.3**
ETLH	**Xiulin Townshi**	**0.61 221**		*e*P	**Pn**	**05 56 48.4**	**-0.7**
ETLH				*e*S	**Sn**	**05 56 58.2**	**-0.9**
TWS1	**Kuangyinshan**	**0.63 313**		*i* P	**Pn**	**05 56 49.2**	**+0.1**
TWS1				*i* S	**Sn**	**05 57 00.1**	**+0.8**
ANP	**Anpu**	**0.63 325**		*e*P	**Pn**	**05 56 49.1**	**-0.2**
EOS4	**EOS4**	**0.65 147**		*e*P	**Pn**	**05 56 49.6**	**+0.5**
EOS4				*e*S	**Sn**	**05 56 59.6**	**+0.5**
NTST	**Danshui**	**0.66 319**		*i* P	**Pn**	**05 56 49.7**	**+0.3**
NTST				*i* S	**Sn**	**05 57 00.6**	**+0.7**
TWD	**Chiawan**	**0.66 207**		P	**Pn**	**05 56 48.6**	**-0.8**
TWD				S	**Sn**	**05 56 58.6**	**-1.3**
KSHI	**Guanxi Townshi**	**0.69 279**		P	**Pn**	**05 56 49.7**	**-0.1**
KSHI				S	**Sn**	**05 57 00.8**	**+0.3**
NCUH	**Zhongli**	**0.73 294**		P	**Pn**	**05 56 50.1**	**-0.2**
NCUH				S	**Sn**	**05 57 01.4**	**0.0**
NFF	**Wufeng Townshi**	**0.73 267**		P	**Pn**	**05 56 50.0**	**-0.4**
NFF				S	**Sn**	**05 57 01.1**	**-0.5**
FUSS	**Fushou**	**0.75 236**		*e*P	**Pn**	**05 56 50.5**	**-0.2**
FUSS				*e*S	**Sn**	**05 57 01.8**	**-0.3**
LXIB	**Xiulin Townshi**	**0.80 216**		P	**Pn**	**05 56 50.0**	**-1.2**
LXIB				S	**Sn**	**05 57 01.8**	**-1.2**
WHF	**Hehuan Shan**	**0.80 229**		*e*P	**Pn**	**05 56 51.1**	**-0.4**
WHF				*e*S	**Sn**	**05 57 02.1**	**-0.3**
TWT	**Tachien**	**0.80 239**		*e*P	**Pn**	**05 56 51.5**	**+0.3**
TWT				*e*S	**Sn**	**05 57 02.9**	**-0.2**
ETM	**Tongmen**	**0.80 209**		*e*P	**Pn**	**05 56 49.9**	**-1.3**
ETM				*e*S	**Sn**	**05 57 01.4**	**-1.5**
TDCB	**Techi**	**0.81 240**		P	**Pn**	**05 56 51.4**	**0.0**
TDCB				S	**Sn**	**05 57 03.0**	**-0.3**
LIOB	**Emei**	**0.83 269**		*e*P	**Pn**	**05 56 51.2**	**-0.3**
LIOB				*e*S	**Sn**	**05 57 03.3**	**-0.2**
NSTT	**Nanjuang**	**0.84 268**		*e*P	**Pn**	**05 56 51.3**	**-0.3**
NSTT				*e*S	**Sn**	**05 57 03.3**	**-0.4**
TEYL	**Yanliau Villag**	**0.85 201**		*e*P	**Pn**	**05 56 51.5**	**-0.3**
TEYL				*e*S	**Sn**	**05 57 04.6**	**+0.7**
SBCB	**Hsinchu**	**0.86 278**		*e*P	**Pn**	**05 56 51.8**	**-0.1**
SBCB				*e*S	**Sn**	**05 57 04.1**	**-0.1**
HSN	**Hsinchu**	**0.88 279**		*e*P	**Pn**	**05 56 51.5**	**-0.5**
HSN				*e*S	**Sn**	**05 57 03.9**	**-0.6**
SHUL	**Shoufeng**	**0.94 201**		*e*P	**Pn**	**05 56 52.4**	**-0.4**
SHUL				*e*S	**Sn**	**05 57 05.5**	**-0.2**
JYNG	**Yonagunijimaku**	**0.95 103**		P	**Pn**	**05 56 52.8**	**-0.2**
JYNG				S	**Sn**	**05 57 05.5**	**-0.6**
ESL	**Shilin**	**0.96 208**		*e*S	**Sn**	**05 57 04.1**	**-2.3**
WHP	**Taichung City**	**0.97 247**		P	**Pn**	**05 56 53.7**	**+0.4**
WHP				S	**Sn**	**05 57 07.1**	**+0.3**
OWD	**Renai**	**0.99 224**		*e*P	**Pn**	**05 56 53.3**	**-0.3**
OWD				*e*S	**Sn**	**05 57 06.7**	**-0.4**
WUSB	**Renai**	**1.00 228**		P	**Pn**	**05 56 53.7**	**0.0**
WUSB				S	**Sn**	**05 57 07.1**	**-0.3**
YOJ	**Yonaguni jima**	**1.01 102**		*e*P	**Pn**	**05 56 53.5**	**-0.1**
YOJ				S	**Sn**	**05 57 06.9**	**-0.4**
YOJ	**Yonaguni jima**	**1.01 102**		P	**Pn**	**05 56 53.5**	**-0.1**
YOJ				S	**Sn**	**05 57 06.8**	**-0.6**
NMLH	**Miaoli**	**1.04 263**		*e*P	**Pn**	**05 56 54.0**	**-0.1**
NMLH				*e*S	**Sn**	**05 57 07.8**	**-0.3**
WARBT	**Fenglin Townsh**	**1.07 208**		*e*P	**Pn**	**05 56 52.6**	**-1.8**
WARBT				*e*S	**Sn**	**05 57 06.3**	**-2.4**
NSY	**Sanyi**	**1.09 257**		P	**Pn**	**05 56 55.8**	**+1.0**
NSY				*e*S	**Sn**	**05 57 10.6**	**+1.3**
TWQ1	**Liyutan**	**1.10 253**		*e*P	**Pn**	**05 56 54.9**	**0.0**
TWQ1				*e*S	**Sn**	**05 57 08.9**	**-0.5**
WCS	**Beigang Elemen**	**1.11 237**		*e*P	**Pn**	**05 56 55.4**	**+0.5**

VWDT	**VWDT**	**1.16 218**		*e*P	**Pn**	**05 56 55.6**	**0.0**
VWDT				*e*S	**Sn**	**05 57 10.8**	**0.0**
WDJ	**Dajia District**	**1.21 255**		*e*P	**Pn**	**05 56 56.4**	**+0.1**
WDJ				*e*S	**Sn**	**05 57 12.3**	**+0.3**
SMLT	**Sun Moon Lake**	**1.22 230**		*e*P	**Pn**	**05 56 57.2**	**+0.7**
SMLT				*e*S	**Sn**	**05 57 13.2**	**+0.8**
TYC	**Yuchr**	**1.24 232**		*e*P	**Pn**	**05 56 56.9**	**+0.3**
TYC				*e*S	**Sn**	**05 57 13.9**	**+1.3**
SSLB	**Suanglung**	**1.25 225**		*e*P	**Pn**	**05 56 57.6**	**+0.8**
SSLB				*e*S	**Sn**	**05 57 13.9**	**+1.0**
HGSD	**Ruisui**	**1.26 201**		*e*P	**Pn**	**05 56 56.7**	**-0.3**
EHY	**Hungye**	**1.28 206**		*e*P	**Pn**	**05 56 56.7**	**-0.5**
WCHH	**Zhanghua**	**1.38 245**		*e*P	**Pn**	**05 56 58.3**	**-0.2**
WCHH				*e*S	**Sn**	**05 57 15.5**	**-0.4**
WHYT	**Xinyi Township**	**1.38 226**		*e*P	**Pn**	**05 56 59.5**	**+1.0**
WHYT				*e*S	**Sn**	**05 57 17.1**	**+1.1**
WNT	**Mingjian**	**1.38 235**		P	**Pn**	**05 56 58.9**	**+0.4**
WNT				*e*S	**Sn**	**05 57 16.4**	**+0.4**
WJS	**Zhushan**	**1.38 233**		*e*S	**Sn**	**05 57 16.9**	**+0.9**
YULB	**Yu-li**	**1.39 204**		*e*P	**Pn**	**05 56 57.6**	**-1.2**
YULB				*e*S	**Sn**	**05 57 14.2**	**-2.2**
ALS	**Alishan**	**1.54 222**		*e*P	**Pn**	**05 57 01.7**	**+0.8**
ALS				S	**Sn**	**05 57 21.5**	**+1.2**
CHN5	**Tsauling**	**1.56 227**		*e*P	**Pn**	**05 57 01.5**	**+0.4**
CHN5				*e*S	**Sn**	**05 57 20.8**	**+0.4**
WGK	**Gukeng**	**1.58 232**		*e*P	**Pn**	**05 57 01.5**	**+0.3**
WGK				*e*S	**Sn**	**05 57 21.8**	**+1.0**
WDLH	**Douliu**	**1.60 233**		*e*P	**Pn**	**05 57 01.6**	**+0.2**
WDLH				*e*S	**Sn**	**05 57 21.1**	**-0.1**
ELDTW	**Lidau**	**1.69 210**		*e*P	**Pn**	**05 57 02.5**	**-0.2**
WTK	**Tuku**	**1.71 235**		S	**Sn**	**05 57 23.4**	**-0.4**
WCKO	**Fanlu**	**1.72 225**		*e*S	**Sn**	**05 57 25.4**	**+1.3**
CHY	**Chiayi**	**1.80 230**		*e*P	**Pn**	**05 57 04.3**	**+0.2**
CHY				*e*S	**Sn**	**05 57 26.4**	**+0.4**
TPUB	**Ta-pu**	**1.81 221**		*e*P	**Pn**	**05 57 05.0**	**+0.7**
WSF	**Szhu**	**1.86 237**		S	**Sn**	**05 57 27.2**	**-0.3**
TWK	**Hsinying**	**1.92 224**		*e*P	**Pn**	**05 57 06.6**	**+0.8**
WSL	**Shuilin Townsh**	**1.93 234**		*e*P	**Pn**	**05 57 05.5**	**-0.3**
WSL				*e*S	**Sn**	**05 57 28.4**	**-0.6**
JKRS	**Kuro-shima**	**1.95 102**		*e*P	**Pn**	**05 57 06.3**	**+0.2**
JKRS				*e*S	**Sn**	**05 57 29.4**	**-0.1**
CHN1	**Nanshi**	**1.95 221**		*e*P	**Pn**	**05 57 06.7**	**+0.4**
CHN1				*e*S	**Sn**	**05 57 31.1**	**+1.3**
JIJ	**Ishigaki jima**	**2.04 98**	

TWT			eS		Sn	05 59 24.6	0.0
TDCB	**Techi**	**1.27 252**	eP		Pb	05 59 07.7	-0.1
TDCB			eS		Sg	05 59 25.3	+0.9
LIOB	**Emei**	**1.33 270**	eP		Pg	05 59 09.4	+0.2
LIOB			eS		Sg	05 59 26.4	0.0
NSTT	**Nanjuang**	**1.34 269**	eP		Pg	05 59 09.5	+0.1
NSTT			eS		Sn	05 59 26.4	-0.3
HATJ	**Hateruma jima**	**1.35 116**	eP		Pg	05 59 09.4	-0.1
HATJ			S		Sg	05 59 27.3	+0.4
WARBT	**Fenglin Townsh**	**1.36 227**	eP		Pb	05 59 09.1	-0.2
WARBT			eS		Sb	05 59 26.5	-0.4
SBCB	**Hsinchu**	**1.36 276**	eP		Pg	05 59 11.0	+1.2
SBCB			eS		Sg	05 59 29.0	+1.5
OWD	**Renai**	**1.38 240**	eP		Pb	05 59 09.5	-0.1
OWD			eS		Sg	05 59 28.9	+1.1
WUSB	**Renai**	**1.40 242**	eP		Pb	05 59 10.0	-0.1
WUSB			eS		Sg	05 59 29.8	+1.0
WHP	**Taichung City**	**1.44 255**	eP		Pb	05 59 11.0	+0.2
WHP			eS		Sg	05 59 29.9	-0.2
JKRS	**Kuro-shima**	**1.46 106**	eP		Pb	05 59 10.7	-0.2
JKRS			eS		Sb	05 59 29.2	-0.4
HGSD	**Ruisui**	**1.50 220**	eP		Pn	05 59 10.8	0.0
VWDT	**VWDT**	**1.51 234**	eP		Pb	05 59 12.1	+0.2
NMLH	**Miaoli**	**1.54 266**	eP		Pg	05 59 13.8	+0.7
NMLH			eS		Sg	05 59 34.6	+1.4
JIJ	**Ishigaki jima**	**1.54 100**	eP		Pn	05 59 11.4	+0.1
JIJ			S		Sn	05 59 31.0	-0.6
WCS	**Beigang Elemen**	**1.55 248**	eP		Pb	05 59 12.7	+0.2
NSY	**Sanyi**	**1.58 262**	eP		Pg	05 59 15.7	+1.8
NSY			eS		Sg	05 59 36.5	+2.0
TWQ1	**Liyutan**	**1.58 259**	eP		Pg	05 59 14.6	+0.6
TWQ1			eS		Sg	05 59 36.1	+1.6
SMLT	**Sun Moon Lake**	**1.63 242**	eP		Pg	05 59 14.8	-0.1
SSLB	**Suanglung**	**1.64 239**	P		Pb	05 59 14.1	+0.1
SSLB			eS		Sn	05 59 32.9	-1.1
YULB	**Yu-li**	**1.65 221**	eP		Pn	05 59 12.9	0.0
TYC	**Yuchr**	**1.66 244**	eP		Pg	05 59 15.2	-0.2
JISG	**Ishigakijimahi**	**1.67 92**	eP		Pn	05 59 13.5	+0.4
FULB	**Fuli**	**1.81 217**	eP		Pn	05 59 14.9	-0.1
FULB			eS		Sn	05 59 38.3	+0.1
ALS	**Alishan**	**1.90 234**	eP		Pb	05 59 19.3	+0.5
ALS			eS		Sb	05 59 42.1	-0.7
CHN5	**Tsauling**	**1.95 238**	eP		Pb	05 59 20.2	+0.8
CHN5			eS		Sg	05 59 45.7	-0.7
EDH	**Donghe**	**1.99 213**	eP		Pn	05 59 18.5	+1.0
EDH			eS		Sn	05 59 40.6	-1.9
WDLH	**Douliu**	**2.01 242**	eP		Pg	05 59 21.6	-0.6
WDLH			eS		Sb	05 59 45.8	+0.1
WCKO	**Fanlu**	**2.10 235**	eP		Pb	05 59 20.3	-1.5
TPUB	**Ta-pu**	**2.16 232**	eP		Pb	05 59 22.6	-0.3
TPUB			eS		Sb	05 59 49.4	-0.5
TWK	**Hsinying**	**2.28 233**	eP		Pb	05 59 25.3	+0.2
TWK			eS		Sb	05 59 53.8	+0.3
MASBT	**Mashibuluo**	**2.64 220**	eP		Pb	05 59 30.0	-1.2
MASBT			eS		Sn	05 59 59.3	+0.5

*ASRS **21** 05:58:44.0±1.2, 54°.19N×86°.36E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 05:58:45.4±3.1, 54°.18N×86°.42E, h0km, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=23.9km s-min=13.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97 257**		I	I	06 04 20.0	
	0.1nm,0.9s,baz=74,slow=338,SNR=22						
ZALV	**Zalesovo Beam**	**0.97 257**		Pg	Pg	05 59 02.8	-1.2
	0.8nm,0.3s,baz=76,slow=17,SNR=6.1						
ZALV				Lg	Lg	05 59 18.2	
	1.8nm,0.3s,baz=79,slow=28,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.00 237**		Pn	Pn	06 00 16.2	+0.9
	baz=53,slow=13,SNR=2.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.85 201**		Pn	Pn	06 00 41.9	+1.1
	0.1nm,0.3s,baz=20,slow=13,SNR=2.4						
	0.5nm,0.6s						

*SJA **21** 06:00:29.2±0.8, 32°.32S×69°.42W, h134km±4km, ML3.9, MW3.8*
*GUC **21** 06:00:31.3±0.9, 32°.35S×69°.77W, h132km±6km, ML4.0*
*NEIC **21** 06:00:31.9±1.4, 32°.30S±0°.02×69°.48W±0°.05, h108km±5km, mb4.4/7, ML4.0(GUC), Error ellipse: s-maj=6.4km s-min=2.1km az=86.0*
*IDC **21** 06:00:32.7±0.7, 32°.21S×69°.38W, h120km±5km, mb3.5/6, mbtmp3.9/8, Error ellipse: s-maj=18.2km s-min=11.4km az=127.0*

ISC 21 06:00:31.6±0.5, 32°.29S±0°.03×69°.49W±0°.03, h121km±4km, n136, σ1°.98/171, mb4.3/9, 13C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	**Salagasta**	**0.63 119**		eP	Pn	06 00 49.8	-0.8
ARCO	**CERRO ARCO**	**0.73 140**		eP	Pn	06 00 50.7	-0.7
ARCO				IAML		06 01 07.4	
	comp=Z,6μm,0.4s						
AAGR	**Agrelo**	**0.97 145**		eP	Pn	06 00 52.9	-0.7
AAGR				IAML		06 01 12.2	
	comp=Z,977nm,3.9s						
ZON	**Zonda**	**1.01 43**			Pn	06 00 53.4	-0.5
ZON					Sn	06 01 10.1	-0.7
ZON	**Zonda**	**1.01 43**		eP	Pn	06 00 53.3	-0.5
ZON				eS	Sn	06 01 10.1	-0.7
ZON				IAML		06 01 11.5	
	comp=Z,1μm,0.3s						
VA03	**San Esteban**	**1.01 242**			Pn	06 00 53.4	-0.5
VA03					Sn	06 01 10.6	-0.2
VA03	**San Esteban**	**1.01 242**		eP	Pn	06 00 53.4	-0.5
VA03				eS	Sn	06 01 10.4	-0.4
VA03	**San Esteban**	**1.01 242**		eP	Pn	06 00 53.2	-0.7
VA03				eS	Sn	06 01 11.1	+0.3
VA03				IAML		06 01 11.7	
	comp=Z,4μm,0.5s						
SJA	**San Juan**	**1.10 46**		eP	Pn	06 00 42.0	-13
SJA				IAML		06 01 14.7	
	comp=Z,1μm,0.4s						
FCH	**Farellones**	**1.24 213**		eP	Pn	06 00 56.4	-0.1
FCH				eS	Sn	06 01 15.3	0.0
FCH				IAML		06 01 16.1	
	comp=N,4μm,0.4s						
MT08	**Bocatoma Ro**	**1.24 201**			Pn	06 00 55.8	-0.5
MT08	**Bocatoma Ro**	**1.24 201**	‖	eP	Pn	06 00 55.9	-0.5
MT08	**Bocatoma Ro**	**1.24 201**		eP	Pn	06 00 56.0	-0.4
MT08				eS	Sn	06 01 18.1	+3.0
MT04	**Ro Olivares**	**1.24 206**		eP	Pn	06 00 55.4	-1.0
MT04				eS	Sn	06 01 15.9	+0.7
MT04				eS		06 01 26.2	
MT04				IAML		06 01 26.2	
	comp=Z,668nm,0.2s						
CFA	**Coronel Fontan**	**1.27 58**		P	Pn	06 00 55.8	-0.7
	comp=Z,132nm,0.3s,baz=208,slow=15,SNR=1395						
CFA				S	Sn	06 01 14.2	-1.1
	comp=Z,488nm,0.4s,baz=92,slow=18,SNR=90						
CFA	**Coronel Fontan**	**1.27 58**		eP	Pn	06 00 55.0	-1.5
CFA				eS	Sn	06 01 14.4	-0.9
CO04	**Los Peladeros**	**1.28 281**	⇑	iP	Pn	06 00 56.0	-0.9
CO04				eS	Sn	06 01 15.3	-0.8
CO04				IAML		06 01 16.0	
	comp=E,3μm,0.2s						
RTLL	**Cerro Villicun**	**1.29 42**		eP	Pn	06 00 55.8	-1.0
RTLL				IAML		06 01 17.9	
	comp=Z,1μm,0.4s						
MT10	**Hacienda Santa**	**1.32 222**		eP	Pn	06 00 56.9	-0.3
PEL	**Peldehue**	**1.32 229**			Pn	06 00 56.2	-0.9
PEL				Sn	Sn	06 01 15.5	-0.9
PEL	**Peldehue**	**1.32 229**	⇑	iP	Pn	06 00 56.1	-1.0
PEL				IAML		06 01 16.3	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.32 229**		eP	Pn	06 00 50.8	-6.3
PEL				IAML		06 01 18.6	
	comp=Z,2μm,0.3s						
MT14	**Cerro Calı¡n**	**1.41 218**	⇑	iP	Pn	06 00 57.8	-0.4
MT14				IAML		06 01 19.3	
	comp=E,4μm,0.5s						
MT16	**CCHEN**	**1.43 217**			Pn	06 00 58.1	-0.2
MT16	**CCHEN**	**1.43 217**	⇑	iP	Pn	06 00 58.0	-0.4
MT16				IAML		06 01 20.0	
	comp=E,2μm,0.7s						
AVIZ	**Vizcacheras**	**1.44 146**		eP	Pn	06 00 58.0	-0.5
ROCH	**El Roble**	**1.45 242**		eP	Pn	06 00 57.8	-1.0
ROCH				IAML		06 01 19.3	
	comp=E,2μm,0.3s						
ROC1	**El Roble**	**1.46 242**		eP	Pn	06 00 57.2	-1.7
ROC1				eS	Sn	06 01 12.8	-6.8
MT03	**Universidad Ad**	**1.48 215**			Pn	06 00 58.4	-0.4
MT03	**Universidad Ad**	**1.48 215**	⇑	eP	Pn	06 00 58.5	-0.4
MT03	**Universidad Ad**	**1.48 215**		eP	Pn	06 00 58.5	-0.4
MT03				eS	Sn	06 01 19.9	+0.2
MT03				IAML		06 01 21.5	
	comp=Z,3μm,0.3s						
MT05	**Renca**	**1.52 223**			Pn	06 00 58.7	-0.7
MT05	**Renca**	**1.52 223**	⇑	eP	Pn	06 00 58.8	-0.6
MT05	**Renca**	**1.52 223**		eP	Pn	06 00 58.7	-0.7
MT05				eS	Sn	06 01 20.8	+0.3
VA06	**Catapilco**	**1.55 259**			Pn	06 00 58.2	-1.5
VA06	**Catapilco**	**1.55 259**	⇑	iP	Pn	06 00 58.1	-1.5
VA06				IAML		06 01 21.1	
	comp=E,4μm,0.5s						
MT15	**Las Vizcachas**	**1.56 213**		eP	Pn	06 00 59.2	-0.6
MT15				IAML		06 01 25.5	
	comp=E,5μm,0.3s						
LMEL	**Las Melosas**	**1.67 201**			Pn	06 01 00.8	-0.4
LMEL	**Las Melosas**	**1.67 201**		eP	Pn	06 01 00.8	-0.4
LMEL				IAML		06 01 33.0	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.67 201**		eP	Pn	06 01 00.8	-0.4
LMEL				eS	Sn	06 01 29.1	+5.4
LMEL				IAML		06 01 32.2	
	comp=Z,545nm,0.1s						
CO02	**Combarbal**	**1.68 310**			Pn	06 01 01.0	-0.3
CO02	**Combarbal**	**1.68 310**	⇑	iP	Pn	06 01 01.0	-0.3
CO02				eS	Sn	06 01 24.1	+0.1
CO02	**Combarbal**	**1.68 310**		eP	Pn	06 01 01.1	-0.3
CO02				eS	Sn	06 01 25.2	+1.2
CO02				IAML		06 01 26.3	
	comp=Z,2μm,0.4s						
MT02	**Curacav**	**1.69 235**			Pn	06 00 59.9	-1.4
MT02	**Curacav**	**1.69 235**		eP	Pn	06 00 59.9	-1.4
MT02				IAML		06 01 22.8	
	comp=N,1μm,0.4s						
MT02	**Curacav**	**1.69 235**		eP	Pn	06 00 59.9	-1.4
MT02				eS	Sn	06 01 16.4	-7.6
MT02				IAML		06 01 28.7	
	comp=Z,653nm,0.2s						
MT12	**Pirque**	**1.69 211**	⇑	eP	Pn	06 01 00.8	-0.6
MT12				IAML		06 01 32.6	
	comp=E,2μm,0.5s						
ACCO	**Cerro Coronel**	**1.73 12**		eP	Pn	06 01 02.5	+0.3
ACCO				eS	Sn	06 01 27.3	+1.9
CO03	**El Pedregal**	**1.77 324**			Pn	06 01 02.5	+0.2
CO03	**El Pedregal**	**1.77 324**		eP	Pn	06 01 02.6	+0.2
CO03				eS	Sn	06 01 26.6	+0.8
CO03				IAML		06 01 28.4	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.77 324**		eP	Pn	06 01 02.6	+0.2
CO03				eS	Sn	06 01 27.2	+1.4
CO03				IAML		06 01 33.1	
	comp=Z,820nm,0.8s						
BO04	**La Punta**	**1.94 209**			Pn	06 01 03.9	-0.4
BO04	**La Punta**	**1.94 209**		eP	Pn	06 01 03.6	-0.7
BO04				IAML		06 01 30.9	
	comp=E,1μm,0.2s						
MT09	**Talagante**	**1.95 220**		eP	Pn	06 01 03.3	-1.3
VA01	**Torpederas**	**1.96 247**			Pn	06 01 02.7	-1.8
VA01	**Torpederas**	**1.96 247**		eP	Pn	06 01 02.8	-1.8
VA01				IAML		06 01 28.7	
	comp=E,1μm,0.1s						
VA01	**Torpederas**	**1.96 247**		eP	Pn	06 00 50.6	-14
VA01				IAML		06 01 28.2	
	comp=Z,426nm,0.3s						
AROD	**Rodeo**	**2.11 0**		eP	Pn	06 01 07.9	+1.0
AROD				eS	Sn	06 01 24.8	-9.0
ACDV	**Cuesta del Vie**	**2.13 9**		eP	Pn	06 01 07.8	+0.8
ACDV				eS	Sn	06 01 31.3	-2.7
ACDV				IAML		06 01 40.0	
	comp=Z,185nm,0.4s						
MT01	**Popeta**	**2.16 223**			Pn	06 01 05.2	-1.9
MT01	**Popeta**	**2.16 223**		eP	Pn	06 01 05.1	-1.9
MT01				eS	Sn	06 01 31.1	-3.1
MT01				IAML		06 01 33.0	
	comp=E,2μm,0.2s						
MT01	**Popeta**	**2.16 223**		eP	Pn	06 01 05.2	-1.9
MT01				eS	Sn	06 01 26.2	-8.0
MT01				IAML		06 01 32.8	
	comp=Z,921nm,0.6s						
CO01	**Juntas del Tor**	**2.36 347**	⇑	eP	Pn	06 01 11.5	+1.6
CO01	**Juntas del Tor**	**2.36 347**		eP	Pn	06 01 11.5	+1.6
CO01				eS	Sn	06 01 26.2	-13
GO04	**Tololo Observa**	**2.39 332**			Pn	06 01 10.1	-0.1
GO04	**Tololo Observa**	**2.39 332**		eP	Pn	06 01 10.3	+0.1
GO04	**Tololo Observa**	**2.39 332**		eP	Pn	06 01 10.2	0.0
GO04				eS	Sn	06 01 40.3	+0.5
GO04				IAML		06 01 43.0	
	comp=Z,632nm,0.3s						
CO06	**Fray Jorge**	**2.44 311**			Pn	06 01 09.2	-1.4
CO06	**Fray Jorge**	**2.44 311**		eP	Pn	06 01 09.4	-1.2
CO06				IAML		06 01 47.1	
	comp=E,571nm,0.5s						
BO01	**Tunca**	**2.49 212**			Pn	06 01 09.5	-1.7
BO01	**Tunca**	**2.49 212**		eP	Pn	06 01 09.4	-1.8
BO01				IAML		06 01 42.8	
	comp=E,354nm,0.2s						
BO01	**Tunca**	**2.49 212**		eP	Pn	06 01 08.9	-2.3
BO01				eS	Sn	06 01 40.3	-1.4
BO01				IAML		06 01 42.5	
	comp=Z,292nm,0.2s						
RFA	**San Rafael**	**2.62 161**		eP	Pn	06 01 11.7	-1.3
RFA				eS	Sn	06 01 42.5	-2.4
RFA				IAML		06 01 44.5	
	comp=Z,218nm,0.4s						
BO02	**Sierra Bellavi**	**2.72 203**			Pn	06 01 13.8	-0.5
BO02	**Sierra Bellavi**	**2.72 203**		eP	Pn	06 01 13.6	-0.7
BO02	**Sierra Bellavi**	**2.72 203**		eP	Pn	06 01 13.4	-0.9
BO02				eS	Sn	06 01 42.5	-4.7
BO02				IAML		06 01 54.7	
	comp=Z,336nm,0.1s						
CO05	**La Serena**	**2.80 327**		eP	Pn	06 01 14.5	-0.7
AGUA	**GUANDACOL**	**2.92 17**		eP	Pn	06 01 17.7	+0.7
AGUA				eS	Sn	06 01 38.9	-13
AGUA				IAML		06 01 52.0	
	comp=Z,204nm,0.3s						
BO03	**Pichilemu**	**3.02 223**	⇑	eP	Pn	06 01 15.0	-3.1
MRA	**San Martin**	**3.20 93**		eP	Pn	06 01 19.2	-1.3
MRA				eS	Sn	06 01 41.2	-17
MRA				IAML		06 02 22.8	
	comp=Z,358nm,0.6s						
GO05	**Hualane**	**3.39 216**		eP	Pn	06 01 20.1	-2.9
GO05	**Hualane**	**3.39 216**		eP	Pn	06 01 20.1	-2.9
GO05				eS	Sn	06 02 01.4	-1.4
GO05				IAML		06 02 04.1	
	comp=Z,142nm,0.7s						
LCO	**Las Campanas**	**3.43 342**			Pn	06 01 23.4	-0.4
LCO	**Las Campanas**	**3.43 342**		eP	Pn	06 01 23.4	-0.4
LCO				eS	Sn	06 02 03.2	-1.0
LCO				IAML		06 02 03.8	
	comp=Z,538nm,0.5s						
EDS3	**Malargue**	**3.48 179**		eP	Pn	06 01 31.7	+7.4
ACLC	**CERRO LA CRUZ**	**3.59 38**		eP	Pn	06 01 25.2	-0.7
ACLC				IAML		06 02 30.6	
	comp=Z,101nm,0.6s						
VCA	**Vinchina**	**3.71 18**		eP	Pn	06 01 27.9	+0.4
ML02	**Panimavida**	**3.82 204**		eP	Pn	06 01 26.0	-2.6
ML02				eS	Sn	06 02 10.0	-2.9
ML02				IAML		06 02 37.9	
	comp=Z,126nm,0.6s						
TCA	**Tanti**	**4.27 78**	⇑	eP	Pn	06 01 33.1	-1.7
TCA	**Tanti**	**4.27 78**		eP	Pn	06 01 33.1	-1.7
TCA				eS	Sn	06 02 20.3	-3.7
TCA				IAML		06 02 33.6	
	comp=Z,144nm,0.5s						
AC04	**Llanos de Chal**	**4.29 341**			Pn	06 01 34.5	-0.6
AC04	**Llanos de Chal**	**4.29 341**		eP	Pn	06 01 34.2	-0.8
AC04				eS	Sn	06 02 16.1	-8.2
AC04				IAML		06 02 25.9	
	comp=Z,69nm,0.7s						
BI02	**San Fabin de**	**4.61 198**			Pn	06 01 37.7	-1.6
BI02	**San Fabin de**	**4.61 198**		eP	Pn	06 01 37.6	-1.6
BI02				IAML		06 02 34.4	
	comp=Z,32nm,0.4s						
PIL	**Pilar**	**4.80 84**		eP	Pn	06 01 41.0	-0.9
CYA	**Choya**	**4.99 41**		eP	Pn	06 01 42.5	-1.9
CYA				eS	Sn	06 02 31.3	-10
CYA				eS		06 02 37.2	
CYA				IAML		06 02 40.2	
	comp=Z,56nm,0.4s						
AC02	**Maricunga**	**5.44 3**			Pn	06 01 51.4	+0.4
GO02	**Mina Guanaco**	**7.10 359**		Pn	Pn	06 02 13.3	+0.1
H03N1	**Juan Fernandez**	**8.01 259**		P	Pn	06 02 23.7	-1.1
	baz=78,slow=13,SNR=12						
H03N1				T	T	06 09 25.3	
	baz=86,slow=73,SNR=92						
H03N3	**Juan Fernandez**	**8.02 259**		P	Pn	06 02 24.8	-0.2
	baz=78,slow=13,SNR=12						
H03N3				T	T	06 09 25.6	
	baz=86,slow=73,SNR=83						
H03N2	**Juan Fernandez**	**8.03 259**		P	Pn	06 02 24.3	-0.7
	baz=78,slow=13,SNR=11						
H03N2				T	T	06 09 21.4	
	baz=86,slow=73,SNR=71						
H03S1	**Juan Fernandez**	**8.05 256**		P	Pn	06 02 23.6	-1.9
	baz=52,slow=17,SNR=7.4						
H03S1				T	T	06 09 10.2	
	baz=86,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**8.05 256**		P	Pn	06 02 24.3	-1.2
	baz=52,slow=17,SNR=9.7						
H03S3				T	T	06 09 06.9	
	baz=86,slow=74,SNR=24						
H03S2	**Juan Fernandez**	**8.07 256**		P	Pn	06 02 24.1	-1.5
	baz=52,slow=17,SNR=10						
H03S2				T	T	06 09 00.7	
	baz=86,slow=74,SNR=22						
TRQA	**Tornquist**	**8.42 135**			Pn	06 02 28.5	-2.2
PLCA	**Paso Flores**	**8.47 185**		P	Pn	06 02 28.9	-2.5
	comp=Z,1.6nm,1.0s,baz=331,slow=16,SNR=1.2						
CPUP	**Villa Florida**	**12.16 64**			Pn	06 03 16.2	-4.5
CPUP	**Villa Florida**	**12.16 64**		P	Pn	06 03 15.7	-5.1
	comp=Z,0.5nm,0.9s,baz=78,slow=9.2,SNR=3.3						
CPUP				S	Sn	06 05 33.6	-1.0
	comp=Z,0.4nm,0.5s,baz=59,slow=16,SNR=1.3						
LPAZ	**La Paz**	**15.98 5**		P	P	06 04 11.0	-0.4
	comp=Z,3.4nm,0.7s,baz=182,slow=7.8,SNR=11						
SIV	**San Ignacio**	**17.94 27**		P	Pn	06 04 32.3	-1.2
	comp=Z,1.0nm,0.6s,baz=204,slow=12,SNR=7.9						
RUSC	**La Rusia**	**38.12 354**		P	P	06 07 41.1	+1.6
RUSC				IAmb	IAmb	06 07 41.8	
	comp=Z,10nm,0.7s						
BELA	**Belgrano 2**	**48.20 171**		P	P	06 09 00.5	+1.2
SNAA	**Sanae**	**52.37 158**		P	P	06 09 31.2	+0.3
SNAA	**Sanae**	**52.37 158**		P	P	06 09 31.7	+0.8
SNAA				IAmb	IAmb	06 10 00.9	
	comp=Z,2.7nm,1.2s						
SNAA	**Sanae**	**52.37 158**		P	P	06 09 31.3	+0.4
	comp=Z,1.1nm,0.8s,baz=320,slow=11,SNR=5.6						
SNAA				pP	pP	06 09 59.8	-0.2
	comp=Z,1.0nm,0.9s,baz=18,slow=19,SNR=2.9						
	comp=Z,1.1nm,0.8s						
TROLL	**Troll, Antarti**	**54.09 159**	⇑	P	P	06 09 43.8	+0.3
	comp=Z,44nm,0.6s						
QSPA	**South Pole Qui**	**57.95 180**		P	P	06 10 14.5	+3.5
QSPA				IAmb	IAmb	06 10 44.3	
	comp=Z,3.5nm,1.1s						
QSPA	**South Pole Qui**	**57.95 180**		P	P	06 10 14.1	+3.1
	comp=Z,3.4nm,1.1s,baz=198,slow=0.8,SNR=16						
QSPA				pP	pP	06 10 42.3	+1.2
	comp=Z,2.1nm,0.9s,baz=154,slow=5.6,SNR=4.4						
	comp=Z,3.4nm,1.1s						
TXAR	**Lajitas Array**	**69.34 328**		P	P	06 11 27.4	+1.2
	comp=Z,0.3nm,0.7s,baz=157,slow=9.5,SNR=5.2						
TXAR				pP	pP	06 11 57.5	+0.6
	comp=Z,0.2nm,0.6s,baz=160,slow=8.0,SNR=3.1						
	comp=Z,0.3nm,0.7s						
WVT	**Waverly**	**70.20 344**		P	P	06 11 31.8	+0.7
WVT				IAmb	IAmb	06 11 32.3	
	comp=Z,4.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.61 69**		P	P	06 12 36.6	+0.2
	comp=Z,1.9nm,0.3s,baz=260,slow=7.3,SNR=2.2						
TORD				pP	pP	06 13 06.5	-1.5
	comp=Z,3.3nm,0.4s,baz=219,slow=4.8,SNR=2.0						
	comp=Z,1.9nm,0.3s						
PDAR	**Pinedale Array**	**83.24 331**		P	P	06 12 45.6	+1.0
	comp=Z,0.3nm,0.6s,baz=150,slow=4.4,SNR=3.1						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.74 324**		P	P	06 12 48.7	+1.5
	comp=Z,0.5nm,0.7s,baz=172,slow=5.1,SNR=4.6						
	comp=Z,0.5nm,0.7s						
SCHQ	**Schefferville**	**86.80 2**		P	P	06 13 02.0	+0.2
	comp=Z,36nm,0.9s,baz=252,slow=15,SNR=1.6						
J08A	**Circle Bar Ran**	**87.61 327**		IAmb	IAmb	06 13 08.6	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**123.27 207**		PKP	**PKiKP**	06 19 14.2	-0.8
	comp=Z,0.2nm,0.5s,baz=175,slow=1.6,SNR=5.8						
BVAR	**Borovoye Array**	**144.58 42**		PKP	**PKPdf**	06 19 53.4	+0.2
	comp=Z,1.1nm,0.5s,baz=338,slow=1.6,SNR=4.1						
KK31	**Karatay Array**	**146.84 59**		PKPdf	**PKPab**	06 19 59.6	-1.5
KKAR	**Karatay Array**	**146.84 59**			**PKPab**	06 20 00.0	-1.1
GAR	**Garm**	**146.86 67**		PKPdf	**PKPab**	06 19 59.4	-2.0
KURBB	**Kurchatov Arra**	**150.16 43**		PKPbc	**PKiKP**	06 20 08.7	+0.1
	comp=Z,1.3nm,0.4s,baz=300,slow=3.1,SNR=6.4						
ZAA0	**Zalesovo Array**	**151.64 33**		PKPbc	**PKiKP**	06 20 11.6	+0.1
ZALV	**Zalesovo Beam**	**151.64 33**			**PKiKP**	06 20 11.8	+0.3
ZALV	**Zalesovo Beam**	**151.64 33**		PKPbc	**PKiKP**	06 20 12.0	+0.5
	comp=Z,4.8nm,0.6s,baz=296,slow=2.9,SNR=16						
ZALV				pPKPbc	**pPKPbc**	06 20 43.9	-0.6
	comp=Z,1.2nm,0.4s,baz=249,slow=2.5,SNR=3.2						
MKAR	**Makanchi Array**	**154.03 48**		PKPab	**PKPab**	06 20 31.6	+0.9

az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**256**	I	I	06 41 40.0	
	0.1nm,0.7s,baz=74,slow=338,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.44**	**256**	Pg	Pn	06 34 56.3	-2.2
	2.1nm,0.3s,baz=73,slow=16,SNR=8.5						
ZALV				Lg	Lg	06 35 17.5	
	3.8nm,0.3s,baz=77,slow=33,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.45**	**238**	Pn	Pn	06 36 07.8	+0.5
	0.1nm,0.3s,baz=48,slow=15,SNR=4.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.15**	**204**	Pn	Pn	06 36 32.4	+1.7
	0.3nm,0.3s,baz=30,slow=14,SNR=1.8						
	0.3nm,0.3s						

*IDC **21** 06:47:01.4±0.6, 17°.85S×176°.64W, h0km, mb4.0/13, mbtmp4.0/13, MS3.8/33, Error ellipse: s-maj=24.3km s-min=18.4km az=119.0*
*NEIC **21** 06:47:03.2±1.9, 17°.91S±0°.09×176°.39W±0°.08, h10km±1km, mb4.8/21, Error ellipse: s-maj=14.8km s-min=12.6km az=197.0*

ISC 21 06:47:02.7±0.4, **17°.90S**±0°.09×**176°.41W**±0°.08, **h10**km, **n98**, σ1§**30**/74, **mb4.6**/22, **MS3.9**/32, **3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.93**	**335**	Pn	**Pn**	**06 48 02.5**	**-0.7**
MSVF	**Nonsavu**	**5.28**	**271**		**Pn**	**06 48 22.6**	**+0.8**
AFI	**Afiamalu**	**5.97**	**49**		**Pn**	**06 48 31.5**	**+0.2**
NIUE	**Niue**	**6.26**	**102**	Pn	**Pn**	**06 48 34.4**	**-0.8**
RAO	**Raoul Island**	**11.38**	**187**	LR	LR	06 53 26.9	
	comp=Z,955nm,19.8s,baz=18,slow=34						
PINNC	**Pines Island,**	**15.85**	**250**		**Pn**	**06 50 48.2**	**+2.0**
PINNC				IAmb	IAmb	06 51 05.4	
	comp=Z,91nm,1.3s						
RAR	**Rarotonga**	**16.02**	**105**	LR	LR	06 55 29.0	
	comp=Z,244nm,19.1s,baz=266,slow=31						
DZM	**Mont Dzumac**	**16.64**	**253**	Pn	**P**	**06 51 00.1**	**+1.4**
DZM				LR	LR	06 56 14.6	
	comp=Z,753nm,19.4s,baz=68,slow=34						
URZ	**Urewera**	**21.06**	**194**	LR	LR	06 59 20.4	
	comp=Z,556nm,18.9s,baz=32,slow=35						
HNR	**Honiara**	**24.44**	**287**	LR	LR	07 00 27.3	
	comp=Z,242nm,18.9s,baz=154,slow=33						
PPT	**Papeete**	**25.55**	**93**	LR	LR	06 59 52.9	
	comp=Z,219nm,20.2s,baz=246,slow=30						
CTA	**Charters Tower**	**35.32**	**260**	LR	LR	07 06 34.3	
	comp=Z,4.5nm,19.1s,baz=44,slow=33						
PMG	**Port Moresby**	**36.34**	**279**	LR	LR	07 07 10.8	
	comp=Z,269nm,18.7s,baz=144,slow=34						
STKA	**Stephens Creek**	**40.30**	**242**	P	**P**	**06 54 38.7**	**-1.7**
STKA	**Stephens Creek**	**40.30**	**242**	P	**P**	**06 54 39.6**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=97,slow=12,SNR=5.0						
	comp=Z,2.1nm,0.9s						
JAY	**Jayapura**	**44.74**	**285**	LR	LR	07 14 06.9	
	comp=Z,120nm,18.4s,baz=67,slow=36						
WB0	**Warramunga Arr**	**46.47**	**260**		**P**	**06 55 27.9**	**-2.5**
WB0				IAmb	IAmb	06 55 32.9	
	comp=Z,9.4nm,0.9s						
WRA	**Warramunga Arr**	**46.50**	**259**		**P**	**06 55 27.4**	**-3.2**
WRA	**Warramunga Arr**	**46.50**	**259**	P	**P**	**06 55 27.8**	**-2.9**
	comp=Z,2.8nm,0.7s,baz=94,slow=7.0,SNR=23						
WRA				LR	LR	07 13 57.6	
	comp=Z,160nm,21.1s,baz=114,slow=35						
	comp=Z,2.8nm,0.7s						
AS31	**Alice Springs**	**46.62**	**254**		**P**	**06 55 29.3**	**-2.2**
ASAR	**Alice Springs**	**46.62**	**254**		**P**	**06 55 29.5**	**-2.1**
ASAR				PcP	**PcP**	**06 57 04.2**	**-1.4**
ASAR	**Alice Springs**	**46.62**	**254**	P	**P**	**06 55 29.4**	**-2.2**
	comp=Z,6.4nm,0.7s,baz=87,slow=8.2,SNR=35						
ASAR				PcP	**PcP**	**06 57 06.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=96,slow=3.5,SNR=1.6						
ASAR				LR	LR	07 13 11.3	
	comp=Z,71nm,21.1s,baz=96,slow=34						
	comp=Z,6.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.91**	**260**	LR	LR	07 19 31.7	
	comp=Z,103nm,18.0s,baz=102,slow=36						
SOEI	**Soe**	**57.97**	**270**	P	**P**	**06 56 56.1**	**-0.1**
TNTI	**Ternate**	**58.31**	**282**	P	**P**	**06 56 58.5**	**+0.1**
JCJ	**Chichijima**	**60.11**	**317**	LR	LR	07 17 58.4	
	comp=Z,37nm,21.8s,baz=138,slow=31						
SBA	**Scott Base**	**60.55**	**184**	P	**P**	**06 57 13.1**	**+0.2**
SBA				IAmb	IAmb	06 57 24.9	
	comp=Z,5.6nm,1.1s						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**06 57 14.2**	**+0.9**
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**06 57 13.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=11,slow=6.7,SNR=7.4						
	comp=Z,1.1nm,0.8s						
DAV	**Davao City (W)**	**62.40**	**288**	LR	LR	07 20 04.5	
	comp=Z,53nm,21.6s,baz=144,slow=32						
MJAR	**Matsushiro Arr**	**69.05**	**322**	P	**P**	**06 58 08.8**	**0.0**
MJAR	**Matsushiro Arr**	**69.05**	**322**	P	**P**	**06 58 08.0**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=152,slow=6.7,SNR=6.8						
MJAR				LR	LR	07 23 40.0	
	comp=Z,18nm,19.7s,baz=147,slow=32						
	comp=Z,4.0nm,0.9s						
MAJO	**Matsushiro**	**69.05**	**322**	P	**P**	**06 58 08.8**	**0.0**
MAJO				IAmb	IAmb	06 58 12.2	
	comp=Z,12nm,1.0s						
MJB9	**Matsu-Tunnel**	**69.06**	**322**	P	**P**	**06 58 09.7**	**+0.8**
MJB9				IAmb	IAmb	06 58 13.2	
	comp=Z,11nm,1.0s						
SHEM	**Shemya Is, Ala**	**70.81**	**354**	LR	LR	07 23 07.9	
	comp=Z,81nm,21.0s,baz=71,slow=31						
QSPA	**South Pole Qui**	**72.16**	**180**	P	**P**	**06 58 27.7**	**+0.1**
QSPA				IAmb	IAmb	06 58 31.8	
	comp=Z,8.1nm,1.0s						
QSPA	**South Pole Qui**	**72.16**	**180**	P	**P**	**06 58 29.4**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=36,slow=1.6,SNR=19						
	comp=Z,5.9nm,0.9s						
PEA0B	**Petropavlovsk-**	**74.17**	**344**	P	**P**	**06 58 39.4**	**+0.1**
PEA0B				IAmb	IAmb	06 58 50.4	
	comp=Z,18nm,1.4s						
PETK	**Petropavlovsk-**	**74.17**	**344**	P	**P**	**06 58 39.8**	**+0.5**
PETK	**Petropavlovsk-**	**74.17**	**344**	P	**P**	**06 58 40.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=182,slow=7.0,SNR=2.3						
PETK				LR	LR	07 24 46.5	
	comp=Z,27nm,21.8s,baz=146,slow=31						
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**75.97**	**317**	P	**P**	**06 58 51.0**	**+1.0**
KSRS	**Korea Array**	**75.97**	**317**	P	**P**	**06 58 51.0**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=131,slow=5.5,SNR=4.1						
	comp=Z,1.0nm,0.8s						
PFO	**Pinyon Flats O**	**76.73**	**48**	LR	LR	07 25 33.2	
	comp=Z,87nm,20.9s,baz=226,slow=30						
YBH	**Yreka Blue Hor**	**77.33**	**38**	LR	LR	07 24 47.4	
	comp=Z,7.7nm,19.9s,baz=254,slow=29						
KDAK	**Kodiak Island**	**77.96**	**13**	LR	LR	07 26 14.6	
	comp=Z,61nm,19.3s,baz=197,slow=30						
NVAR	**Mina Array Bea**	**78.11**	**43**	P	**P**	**06 59 01.8**	**-0.6**
NVAR	**Mina Array Bea**	**78.11**	**43**	P	**P**	**06 59 03.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=254,slow=7.5,SNR=5.7						
NVAR				LR	LR	07 27 17.8	
	comp=Z,82nm,19.9s,baz=241,slow=31						
	comp=Z,0.3nm,0.6s						
SMAI	**San Martin Ant**	**80.49**	**159**	P	**P**	**06 59 14.1**	**-0.4**
SMAI				IAmb	IAmb	06 59 14.7	
	comp=Z,10.0nm,1.0s						
BBB	**Bella Bella**	**81.41**	**28**	LR	LR	07 26 50.6	
	comp=Z,62nm,20.8s,baz=236,slow=29						
BELA	**Belgrano 2**	**81.93**	**172**	P	**P**	**06 59 22.0**	**-0.2**
SEY	**Seymchan**	**84.21**	**346**	LR	LR	07 32 54.8	
	comp=Z,32nm,19.4s,baz=126,slow=33						
TX31	**Lajitas Ar. Si**	**84.39**	**57**	P	**P**	**06 59 36.0**	**+0.2**
TXAR	**Lajitas Array**	**84.39**	**57**	P	**P**	**06 59 35.8**	**0.0**
TXAR	**Lajitas Array**	**84.39**	**57**	P	**P**	**06 59 36.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=202,slow=9.5,SNR=4.9						
	comp=Z,0.4nm,0.8s						
NEW	**Newport**	**84.39**	**35**	LR	LR	07 28 16.6	
	comp=Z,60nm,21.6s,baz=258,slow=29						
MAW	**Mawson**	**84.50**	**199**	LR	LR	07 35 12.6	
	comp=Z,58nm,19.2s,baz=99,slow=34						
DLBC	**Dease Lake**	**85.08**	**22**	LR	LR	07 30 08.0	
	comp=Z,724nm,20.2s,baz=198,slow=30						
IMAR	**Indian Mountai**	**85.36**	**9**	P	**P**	**06 59 39.5**	**-0.2**
ILAR	**Eielson Array**	**85.46**	**12**	P	**P**	**06 59 40.6**	**+0.4**
ILAR	**Eielson Array**	**85.46**	**12**	P	**P**	**06 59 39.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=226,slow=6.6,SNR=5.1						
ILAR				LR	LR	07 30 02.9	
	comp=Z,49nm,21.1s,baz=214,slow=30						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**86.05**	**43**	P	**P**	**06 59 44.9**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=243,slow=8.7,SNR=2.9						
PDAR				LR	LR	07 32 56.5	
	comp=Z,41nm,20.2s,baz=226,slow=32						
	comp=Z,0.3nm,0.8s						
DRIO	**Del Rio**	**86.87**	**58**	P	**P**	**06 59 47.7**	**-0.4**
DRIO				IAmb	IAmb	06 59 52.0	
	comp=Z,5.5nm,1.0s						
CMIG	**Matias Romero**	**87.42**	**71**	LR	LR	07 29 32.2	
	comp=Z,40nm,21.1s,baz=181,slow=29						
HILR	**Hailar Array B**	**87.62**	**324**	LR	LR	07 36 12.5	
	comp=Z,41nm,19.2s,baz=215,slow=34						
TROLL	**Troll, Antarti**	**90.31**	**180**	⇑P	**P**	**07 00 02.2**	**-1.6**
	comp=Z,83nm,0.8s						
SNAA	**Sanae**	**90.55**	**178**	⇑P	**P**	**07 00 04.1**	**-0.7**
	comp=Z,46nm,1.0s						
SNAA	**Sanae**	**90.55**	**178**	P	**P**	**07 00 04.8**	**0.0**
SNAA				IAmb	IAmb	07 00 09.1	
	comp=Z,5.6nm,1.3s						
SNAA	**Sanae**	**90.55**	**178**	P	**P**	**07 00 03.9**	**-0.9**
	comp=Z,2.4nm,1.1s,baz=215,slow=4.0,SNR=5.2						
SNAA				LR	LR	07 39 34.2	
	comp=Z,21nm,18.2s,baz=194,slow=35						
	comp=Z,2.4nm,1.1s						
VNA3	**Neumayer Olymp**	**90.62**	**176**	⇑P	**P**	**07 00 04.8**	**-0.3**
	comp=Z,6.1nm,0.9s						
YKA	**Yellowknife Ar**	**93.54**	**24**	LR	LR	07 39 24.5	
	comp=Z,59nm,18.6s,baz=279,slow=34						
SONM	**Songino Array**	**94.79**	**319**		**P**	**07 00 23.9**	**-0.9**
SONM				IAmb	IAmb	07 00 52.0	
	comp=Z,5.9nm,1.9s						
ATAH	**Atahualpa**	**95.40**	**99**	LR	LR	07 34 55.3	
	comp=Z,34nm,21.4s,baz=265,slow=30						
TIXI	**Tiksi**	**96.64**	**345**	LR	LR	07 36 56.2	
	comp=Z,34nm,21.9s,baz=188,slow=31						
ULM	**Lac du Bonnet**	**97.68**	**40**	LR	LR	07 39 03.7	
	comp=Z,64nm,18.3s,baz=260,slow=32						
BNN	**Bunyan**	**145.04**	**313**		**PKPbc**	**07 06 40.4**	**+0.1**
BURAR	**Buczwina Array**	**145.47**	**334**		**PKPdf**	**07 06 41.2**	**-0.1**
BR131	**Keskin Array S**	**146.11**	**316**	PKPdf	**PKPdf**	**07 06 42.7**	**+0.1**
BRTR	**Keskin Array B**	**146.11**	**316**		**PKPdf**	**07 06 42.8**	**+0.1**
BRTR	**Keskin Array B**	**146.11**	**316**	PKPbc	**PKPbc**	**07 06 43.7**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=58,slow=3.1,SNR=6.0						
MLR	**Muntele Rosu**	**146.78**	**331**	PKPbc	**PKPbc**	**07 06 45.6**	**+0.3**
	comp=Z,7.6nm,1.0s,baz=132,slow=12,SNR=7.5						
GERES	**GERESS Array B**	**148.06**	**347**	PKPbc	**PKPdf**	**07 06 46.7**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=42,slow=1.6,SNR=7.9						
CONA	**Conrad Observa**	**148.41**	**344**	*e*PKiKP	**PKiKP**	**07 06 52.1**	**+0.8**
	comp=Z,0.2nm,0.3s						
RONA	**Rosalia, Austr**	**148.51**	**343**	*i* PKP	**PKiKP**	**07 06 51.9**	**+0.5**
	comp=Z,2.6nm,0.6s						
MOA	**Molln**	**148.88**	**346**	*i* PKP	**PKPab**	**07 06 55.6**	**+1.0**
	comp=Z,0.9nm,0.6s						
ARSA	**Arzberg**	**149.13**	**344**	*e*PKiKP	**PKPab**	**07 06 55.4**	**-0.2**
	comp=Z,4.9nm,1.1s						
BIOA	**Bad Ischl, Aus**	**149.17**	**347**	*e*PKP	**PKPab**	**07 06 55.9**	**+0.1**
	comp=Z,2.0nm,0.5s						
LESA	**Schwarzleotal**	**149.62**	**348**	*e*PKP	**PKPab**	**07 06 57.8**	**+0.1**
	comp=Z,0.6nm,0.5s						
SOKA	**Soboth**	**149.78**	**344**	*e*PKiKP	**PKiKP**	**07 06 56.0**	**+1.8**
	comp=Z,5.9nm,1.7s						
KBA	**Koelnbreinsper**	**149.81**	**347**	*e*PKiKP	**PKiKP**	**07 06 56.3**	**+2.0**
	comp=Z,3.8nm,0.9s						
RETA	**Reutte**	**149.91**	**350**	*i* PKiKP	**PKiKP**	**07 06 57.0**	**+2.6**
	comp=Z,0.1nm,0.2s						
WTTA	**Wattenberg**	**149.98**	**349**	*e*PKiKP	**PKiKP**	**07 06 57.2**	**+2.5**
	comp=Z,3.1nm,0.6s						
MOTA	**Moosalm**	**149.99**	**350**	*i* PKP	**PKiKP**	**07 06 55.5**	**+0.9**
	comp=Z,0.2nm,0.3s						
OBKA	**Obir**	**150.06**	**345**	*e*PKiKP	**PKiKP**	**07 06 57.3**	**+2.5**
	comp=Z,2.9nm,0.9s						
SQTA	**Sankt Quirin**	**150.09**	**350**	*e*PKP	**PKiKP**	**07 06 55.5**	**+0.7**
	comp=Z,0.1nm,0.2s						
MYKA	**Terra Mystica**	**150.17**	**346**	*i* PKiKP	**PKPab**	**07 06 58.1**	**-1.9**
	comp=Z,0.2nm,0.3s						
DAVA	**Damuels**	**150.24**	**351**	*e*PKiKP	**PKPab**	**07 06 58.6**	**-1.8**
	comp=Z,0.3nm,0.4s						
ABTA	**Abfaltersbach**	**150.30**	**348**	*i* PKiKP	**PKiKP**	**07 06 57.0**	**+1.8**
	comp=Z,7.6nm,0.9s						
FETA	**Feichten**	**150.37**	**350**	*e*PKiKP	**PKiKP**	**07 06 58.6**	**+3.1**
	comp=Z,1.2nm,0.5s						

*WEL **21** 06:50:29.5±0.3, 43°.5S±3°.1×17°.1E±°, h5km, M3.4/12, ML3.6/11, MLv3.4/12, Error ellipse: s-maj=3.9km s-min=2.7km az=42.4, confirmed*
*NOU **21** 06:50:30.7, 43°.31S×170°.96E, h9km, MLv3.9/16, South Island, New Zealand*

ISC 21 06:50:29.8±1.0, **43°.26S**±0°.02×**170°.89E**±0°.02, **h5**km±9km, **n60**, σ0§**63**/65, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.22**	**328**	P	**Pg**	**06 50 34.0**	**-0.1**
WVZ				S	**Sg**	**06 50 37.1**	**+0.2**
WVAS	**Waitaha Valley**	**0.22**	**329**	P	**Pg**	**06 50 34.0**	**-0.1**
WVAS				S	**Sg**	**06 50 37.4**	**+0.4**
HAFS	**Harihari Fire**	**0.27**	**294**	P	**Pg**	**06 50 35.4**	**+0.3**
KOKS	**Kokatahi**	**0.41**	**26**	P	**Pg**	**06 50 37.1**	**-0.6**
RPZ	**Rata Peaks**	**0.47**	**166**	P	**Pg**	**06 50 39.1**	**+0.3**
RPZ	**Rata Peaks**	**0.47**	**166**	S	**Sg**	**06 50 45.9**	**+1.0**
RPZ	**Rata Peaks**	**0.47**	**166**	P	**Pg**	**06 50 39.3**	**+0.5**
MHCZ	**Mount Hutt**	**0.56**	**119**	P	**Pg**	**06 50 40.8**	**+0.2**
MHCZ				S	**Sg**	**06 50 48.6**	**+0.7**
MSMC	**Mount Somers S**	**0.58**	**140**	P	**Pb**	**06 50 41.6**	**-0.8**
MSMC				S	**Sb**	**06 50 49.5**	**-1.3**
APPS	**Arthurs Pass P**	**0.58**	**58**	P	**Pg**	**06 50 40.7**	**-0.3**
APPS				S	**Sg**	**06 50 48.4**	**-0.2**
CSHS	**Castle Hill**	**0.61**	**87**	P	**Pg**	**06 50 41.7**	**+0.2**
MTHS	**Methven North**	**0.64**	**118**	P	**Pb**	**06 50 42.7**	**-0.8**
FGPS	**Fox Glacier Pa**	**0.67**	**252**	P	**Pg**	**06 50 42.9**	**+0.2**
INZ	**Inchbonnie**	**0.67**	**37**	P	**Pg**	**06 50 41.5**	**-1.2**
MAYC	**Mayfield Schoo**	**0.68**	**146**	P	**Pb**	**06 50 43.7**	**-0.4**
KOWC	**Kowai**	**0.70**	**95**	P	**Pg**	**06 50 43.5**	**+0.2**
ARCZ	**Arundel**	**0.71**	**163**	P	**Pg**	**06 50 43.8**	**+0.2**
FOZ	**Fox Glacier**	**0.83**	**251**	P	**Pg**	**06 50 45.6**	**-0.1**
OXZ	**Oxford**	**0.84**	**95**	P	**Pg**	**06 50 45.9**	**0.0**
WACZ	**Wakanui South**	**0.97**	**135**	P	**Pb**	**06 50 48.8**	**-0.2**
RACZ	**Rakaia**	**1.02**	**118**	P	**Pb**	**06 50 49.6**	**-0.2**
LTZ	**Lake Taylor**	**1.12**	**65**	P	**Pg**	**06 50 51.1**	**-0.1**
TMZ	**Timaru**	**1.12**	**176**	P	**Pg**	**06 50 51.3**	**0.0**
LBZ	**Lake Benmore**	**1.24**	**204**	P	**Pb**	**06 50 52.8**	**-0.8**
AMCZ	**Amberley**	**1.29**	**87**	P	**Pg**	**06 50 54.3**	**-0.1**
MQZ	**McQueen's Vall**	**1.36**	**110**	P	**Pn**	**06 50 54.6**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.59**	**113**	P	**Pn**	**06 50 57.7**	**-0.8**
GVZ	**Greta Valley S**	**1.59**	**80**	P	**Pn**	**06 50 58.4**	**-0.3**
OKCZ	**Okains Bay**	**1.64**	**107**	P	**Pn**	**06 50 59.2**	**-0.1**
DSZ	**Denniston Nort**	**1.66**	**24**	P	**Pn**	**06 50 58.8**	**-0.8**
JCZ	**Jackson Bay**	**1.73**	**241**	P	**Pn**	**06 51 01.1**	**+0.5**
JCZ	**Jackson Bay**	**1.73**	**241**	S	**Sb**	**06 51 24.3**	**+0.1**
JCZ	**Jackson Bay**	**1.73**	**241**	P	**Pn**	**06 51 00.7**	**+0.1**
ODZ	**Otahua Downs**	**1.79**	**186**	P	**Pn**	**06 51 01.5**	**+0.2**
ODZ	**Otahua Downs**	**1.79**	**186**	S	**Sn**	**06 51 24.8**	**+0.4**
ODZ	**Otahua Downs**	**1.79**	**186**	P	**Pn**	**06 51 01.8**	**+0.5**
WKZ	**Wanaka**	**2.07**	**220**	P	**Pn**	**06 51 05.2**	**0.0**
THZ	**Tophouse**	**2.11**	**45**	P	**Pn**	**06 51 06.4**	**+0.6**
KHZ	**Kahutara**	**2.12**	**67**	P	**Pn**	**06 51 06.1**	**+0.3**
KHZ	**Kahutara**	**2.12**	**67**	S	**Sn**	**06 51 32.4**	**-0.1**
KHZ	**Kahutara**	**2.12**	**67**	P	**Pn**	**06 51 06.3**	**+0.5**
EAZ	**Earnscleugh**	**2.27**	**210**	P	**Pn**	**06 51 07.2**	**-0.7**
MRNZ	**Matariki Terra**	**2.32**	**37**	P	**Pn**	**06 51 09.3**	**+0.7**
MSZ	**Milford Sound**	**2.57**	**236**	P	**Pn**	**06 51 12.8**	**+0.8**
BSWZ	**Blackbirch Sta**	**2.69**	**56**	P	**Pn**	**06 51 14.6**	**+0.9**
TKNZ	**Takaka Hill**	**2.71**	**35**	P	**Pn**	**06 51 14.1**	**+0.2**
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	**06 51 13.6**	**-0.5**
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	**06 51 14.0**	**-0.1**
NNZ	**Nelson**	**2.75**	**43**	P	**Pn**	**06 51 15.4**	**+0.9**
TUZ	**Tuapeka**	**2.84**	**198**	P	**Pn**	**06 51 16.0**	**+0.3**
MLZ	**Mavora Lakes**	**2.90**	**222**	P	**Pn**	**06 51 16.3**	**-0.2**
TUWZ	**Tuamarina**	**2.91**	**52**	P	**Pn**	**06 51 17.2**	**+0.6**
TCW	**Tory Channel**	**3.24**	**52**	P	**Pn**	**06 51 21.3**	**+0.1**
SNZO	**South Karori**	**3.43**	**57**	P	**Pn**	**06 51 25.0**	**+1.1**
SYZ	**Scrubby Hill**	**3.50**	**200**	P	**Pn**	**06 51 24.5**	**-0.3**
SYZ	**Scrubby Hill**	**3.50**	**200**	S	**Sn**	**06 52 06.2**	**-0.4**
KHEZ	**Kahui Hut**	**4.61**	**32**	P	**Pn**	**06 51 41.1**	**+1.0**
KHEZ	**Kahui Hut**	**4.61**	**32**	S	**Sn**	**06 52 36.3**	**+2.3**
HIZ	**Hauiti**	**5.61**	**34**	P	**Pn**	**06 51 53.9**	**+0.1**
OUZ	**Omahuta**	**8.30**	**16**	P	**Pn**	**06 52 31.8**	**+1.1**

*ASRS **21** 06:55:32.0±1.4, 54°.06N×86°.51E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 06:55:35.2±2.5, **54°.02N**×**86°.38E, h0**km, **mbtmp3.5**/2,

ML2.8/2, **Error ellipse: s-maj=21.2km s-min=12.6km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**266**	I	I	07 01 20.0	
	0.1nm,0.8s,baz=85,slow=340,SNR=31						
ZALV	**Zalesovo Beam**	**0.93**	**266**	Pg	Pg	06 55 52.7	-0.3
	1.0nm,0.3s,baz=84,slow=17,SNR=12						
ZALV				Lg	Lg	06 56 06.0	
	1.5nm,0.3s,baz=87,slow=27,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.89**	**238**	Pn	Pn	06 57 04.6	+0.9
	0.2nm,0.3s,baz=58,slow=13,SNR=2.7						
	2.0nm,0.2s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	06 57 29.4	+1.0
	0.2nm,0.3s,baz=22,slow=12,SNR=9.5						
	0.6nm,0.2s						

*OMAN **21** 06:57:26.8±0.1, 28°.58N×56°.94E, h10km, mb4.7/5, ml3.2/11, Error ellipse: s-maj=2.3km s-min=1.1km az=24.0*
*TEH **21** 06:57:27.2, 28°.56N×56°.98E, h15km±34km*

ISC 21 06:57:27.2±1.1, **28°.57N**±0°.05×**56°.96E**±0°.05, **h10**km, **n35**, σ1§**01**/42, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.91**	**133**	Pg	**Pg**	**06 57 44.4**	**-0.3**
IBND	**Bandar-abas**	**1.18**	**198**	Pg	**Pb**	**06 57 49.7**	**0.0**
GENO	**Geno**	**1.36**	**211**	Pg	**Pn**	**06 57 52.9**	**+0.5**
GENO				Sg	**Sb**	**06 58 11.9**	**+1.5**
BNDS	**Bandar-Abbas**	**1.36**	**211**	Pg	**Pn**	**06 57 52.8**	**+0.4**
CHMN	**Cheshme madani**	**1.38**	**22**	Pg	**Pn**	**06 57 52.9**	**0.0**
KBAM	**BAM**	**1.43**	**67**	Pg	**Pn**	**06 57 53.2**	**-0.1**
KHGB	**Koh Gabri**	**1.84**	**347**	Pn	**Pn**	**06 58 00.2**	**+1.0**
KRM1	**Kerman Provinc**	**1.94**	**8**	Pn	**Pn**	**06 58 02.1**	**+1.6**
SHME	**Shamm**	**2.62**	**196**	P	**Pn**	**06 58 09.5**	**-0.1**
	SNR=8.6						
SHME				S	**Sn**	**06 58 42.7**	**+1.3**
BANOM	**Banah**	**2.70**	**193**	P	**Pn**	**06 58 10.5**	**-0.3**
BANOM				S	**Sn**	**06 58 43.9**	**+0.3**
IBAF	**Bafgh**	**3.24**	**339**	Pn	**Pn**	**06 58 20.2**	**+1.9**
MDH	**Madha**	**3.31**	**190**	P	**Pn**	**06 58 20.7**	**+1.5**
MDH				S	**Sn**	**06 58 57.8**	**-0.8**
IMEH	**Mehriz**	**3.47**	**325**	Pn	**Pn**	**06 58 22.9**	**+1.4**
UOSS	**Minazif**	**3.67**	**191**	P	**Pn**	**06 58 25.9**	**+1.8**
UOSS				S	**Sn**	**06 59 06.4**	**-1.2**
NAZ	**Nazwa, Dubai**	**3.75**	**198**	P	**Pn**	**06 58 26.0**	**+0.8**
	SNR=5.4						
ASHO	**Ashiyiah**	**3.96**	**192**	P	**Pn**	**06 58 28.6**	**+0.5**
FAQ	**Al Faqa, Dubai**	**4.00**	**198**	P	**Pn**	**06 58 29.2**	**+0.6**
	SNR=5.2						
ASUD	**Al Ashush, Dub**	**4.19**	**201**	P	**Pn**	**06 58 31.7**	**+0.4**
IKOO	**Kooshah**	**4.22**	**24**	Pn	**Pn**	**06 58 33.6**	**+1.7**
CHBR	**Chabahar**	**4.32**	**133**	Pn	**Pn**	**06 58 33.3**	**+0.3**
AJN	**Ajban**	**4.37**	**204**	P	**Pn**	**06 58 34.0**	**+0.4**
SOHO	**SOHO**	**4.44**	**185**	P	**Pn**	**06 58 34.8**	**+0.1**
NGCH	**Negor - Chabah**	**4.92**	**130**	P	**Pn**	**06 58 41.7**	**+0.5**
	SNR=9.0						
NGCH

AGDM				Sn	Sn	07 00 02.6	-0.7
QRD	**Qoradiz**	**3.76**	**249**	Pn	Pn	06 59 22.4	+0.9
QRD				Sn	Sn	07 00 02.5	-1.9
MAK	**Makhachkala**	**3.86**	**304**	*e*PN	Pn	06 59 28.8	+5.9
MAK				*e*S	Sn	07 00 16.2	+9.3
MAK				pmax	pmax		
	comp=Z,126nm,0.3s						
MAK				smax	smax		
	comp=N,268nm,0.5s						
MAK				smax	smax		
	comp=N,392nm,0.4s						
MAK				MLR	MLR		
	comp=Z,28nm,6.0s						
ZKTA	**Zakatala**	**4.03**	**283**	Pn	Pn	06 59 27.7	+2.5
ZKTA				Sn	Sn	07 00 12.8	+1.7
VSHL	**Vashlovani**	**4.15**	**277**	P	Pn	06 59 28.9	+2.0
VSHL				S	Sn	07 00 15.2	+1.0
GANJ	**Ganja**	**4.22**	**269**	Pn	Pn	06 59 28.0	+0.2
GANJ				Sn	Sn	07 00 12.3	-3.5
TLTR	**Tlyarata**	**4.32**	**288**	*e*Pn	Pn	06 59 30.9	+1.6
	comp=Z,11nm,0.6s						
TLTR	**Tlyarata**	**4.32**	**288**	*e*PN	Pn	06 59 30.9	+1.6
TLTR				*e*S	Sn	07 00 19.5	+1.1
BTLR	**Botlikh**	**4.58**	**295**	⇓*e*PN	Pn	06 59 36.9	+4.1
GDB	**GEDABAY**	**4.64**	**270**	Pn	Pn	06 59 33.7	-0.1
GDB				Sn	Sn	07 00 22.8	-3.6
DVE	**Vedeno**	**4.76**	**298**	⇓*e*PN	Pn	06 59 37.8	+2.5
ORD	**Ordubad**	**4.92**	**249**	Pn	Pn	06 59 38.8	+1.3
ORD				Sn	Sn	07 00 31.7	-1.5
QZX	**Qazax, Azerbai**	**4.92**	**274**	Pn	Pn	06 59 37.9	+0.4
QZX				Sn	Sn	07 00 32.0	-1.1
DGRG	**David-gareji**	**4.94**	**279**	P	Pn	06 59 39.1	+1.4
DGRG				S	Sn	07 00 32.4	-1.1
DGRG	**David-gareji**	**4.94**	**279**	PN	Pn	06 59 39.1	+1.4
DGRG				S	Sn	07 00 32.4	-1.1
NAX	**Nakhchivan**	**5.18**	**253**	Sn	Sn	07 00 39.8	+0.2
GNI	**Garni**	**5.48**	**265**		Pn	06 59 43.7	-1.6
GNI	**Garni**	**5.48**	**265**	Pn	Pn	06 59 44.5	-0.7
	comp=Z,0.7nm,0.3s,baz=354,slow=21,SNR=1.0						
GNI				Sn	Sn	07 00 41.6	-5.5
	comp=Z,3.9nm,0.3s,baz=76,slow=17,SNR=7.6						
	comp=Z,4.4nm,0.4s						
GNI	**Garni**	**5.48**	**265**	P	Pn	06 59 47.6	+2.3
	comp=Z,0.2nmcomp=Z,23nm,0.8s						
HYR	**Heyderabad**	**5.49**	**260**	Sn	Sn	07 00 46.2	-1.0
TRLG	**Trialeti**	**5.89**	**279**	P	Pn	06 59 50.8	-0.2
TRLG				S	Sn	07 00 53.9	-3.4
TRLG	**Trialeti**	**5.89**	**279**	P	Pn	06 59 50.8	-0.2
TRLG				S	Sn	07 00 59.3	+2.0
PYA1	**Pyatigorsk**	**7.22**	**299**	⇓*e*P	Pn	07 00 09.3	+0.2
KBZ	**Khabaz**	**7.23**	**296**	Pn	Pn	07 00 07.3	-1.8
	comp=Z,0.3nm,0.3s,baz=102,slow=6.9,SNR=8.4						
KBZ				Sn	Sn	07 01 23.3	-6.6
	comp=Z,1.3nm,0.3s,baz=72,slow=9.6,SNR=3.8						
	comp=Z,0.7nm,0.2s						
KBZ	**Khabaz**	**7.23**	**296**	⇓*e*P	Pn	07 00 09.9	+0.8
SHA1	**Shidzhatmaz**	**7.40**	**296**	*de*P	Pn	07 00 12.6	+0.9
KIV	**Kislovodsk**	**7.46**	**297**	*e*P	Pn	07 00 13.9	+1.6
KIV				*e*S	Sn	07 01 34.1	-1.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AB31	**Akbulak array**	**10.13**	**32**		Pn	07 00 49.3	+0.4
AB31	**Akbulak array**	**10.13**	**32**	⇑P	Pn	07 00 49.4	+0.5
	comp=Z,1.0nm,0.2s,baz=209,slow=13,SNR=149						
AB31				⇑S	Sn	07 02 36.7	-4.4
	comp=Z,6.2nm,0.3s						
AB31	**Akbulak array**	**10.13**	**32**	*e*P	Pn	07 00 49.4	+0.5
AB31						07 02 39.6	
ABKAR	**Akbulak array**	**10.13**	**32**		Pn	07 00 49.3	+0.5
AKTO	**Aktyubinsk**	**10.48**	**22**	Pn	Pn	07 00 54.3	+0.7
	comp=Z,4.1nm,0.3s,baz=204,slow=11,SNR=30						
AKTO				Sn	Sn	07 02 43.5	-6.1
	comp=Z,11nm,0.3s,baz=127,slow=20,SNR=19						
	comp=Z,13nm,0.4s						
AKTO	**Aktyubinsk**	**10.48**	**22**	⇑P	Pn	07 00 53.8	+0.2
	comp=Z,7.1nm,0.5s						
AKTO				⇑S	Sn	07 02 45.6	-4.0
	comp=Z,34nm,0.5s						
AKTO	**Aktyubinsk**	**10.48**	**22**	P	Pn	07 00 53.8	+0.2
AKTO						07 02 44.6	
BELG	**Belogornoye**	**11.88**	**347**	Pn	Pn	07 01 12.8	+0.1
	comp=Z,1.4nm,0.3s,baz=114,slow=17,SNR=3.6						
BELG				Sn	Sn	07 03 12.5	-11
	comp=Z,4.7nm,0.3s,baz=134,slow=22,SNR=13						
	comp=Z,4.7nm,0.3s						
BELG	**Belogornoye**	**11.88**	**347**	⇓*e*P	Pn	07 01 15.2	+2.5
BELG				pmax	pmax		
	comp=Z,11nm,4.0s						
BRTR	**Keskin Array B**	**13.96**	**271**	Pn	Pn	07 01 41.4	-0.1
	comp=Z,0.3nm,0.3s,baz=90,slow=9.5,SNR=6.6						
	comp=Z,0.7nm,0.6s						
BR104	**Keskin Array S**	**13.96**	**271**	P	Pn	07 01 40.7	-0.7
	comp=Z,2.3nm,1.0s						
BR106	**Keskin Array S**	**13.98**	**271**	P	Pn	07 01 41.0	-0.6
	comp=Z,37nmcomp=Z,3.5nm,0.8s						
BR105	**Keskin Array S**	**13.98**	**271**	P	Pn	07 01 41.8	+0.2
	comp=Z,3.3nm,0.9s						
KK31	**Karatay Array**	**14.05**	**75**		Pn	07 01 44.8	+2.4
KK31	**Karatay Array**	**14.05**	**75**	P	Pn	07 01 42.2	-0.2
	comp=Z,2.8nm,0.6s,baz=269,slow=15,SNR=10						
KK31				⇑S	Sn	07 04 12.5	-4.4
	comp=Z,3.8nm,0.4s,baz=269,slow=24						
KK31	**Karatay Array**	**14.05**	**75**	P	Pn	07 01 44.8	+2.4
KKAR	**Karatay Array**	**14.05**	**75**	Pn	Pn	07 01 44.6	+2.3
KKAR	**Karatay Array**	**14.05**	**75**	P	Pn	07 01 44.7	+2.3
GAR	**Garm**	**14.28**	**92**		Pn	07 01 47.8	+2.1
ANTO	**Ankara**	**14.58**	**272**	P	Pn	07 01 49.7	0.0
	comp=Z,3.5nm,0.8s						
CSS	**Mathiatis**	**15.77**	**254**	Pn	Pn	07 02 02.4	-2.9
CSS				IAmb	IAmb	07 02 31.9	
	comp=Z,6.6nm,0.6s						
CSS	**Mathiatis**	**15.77**	**254**	P	Pn	07 02 07.0	+1.7
	comp=Z,11nm,0.9s						
ARSB	**Arslanbob**	**15.93**	**81**		Pn	07 02 09.4	+2.0
ARSB				IAmb	IAmb	07 02 10.1	
	comp=Z,12nm,0.7s						
ARSB	**Arslanbob**	**15.93**	**81**	P	Pn	07 02 09.4	+2.0
ARSB				pmax	pmax		
	comp=Z,12nm,0.7s						
ARTI	**Arti**	**16.09**	**13**		Pn	07 02 08.0	-1.3
ARTI				IAmb	IAmb	07 02 09.7	
	comp=Z,15nm,0.6s						
ARTI	**Arti**	**16.09**	**13**	Pn	Pn	07 02 07.8	-1.5
	comp=Z,1.7nm,0.3s,baz=197,slow=9.3,SNR=9.0						
ARTI	**Arti**	**16.09**	**13**	P	Pn	07 02 07.0	-2.4
ARTI				S	Sn	07 04 59.9	-6.6
NE56	**Odesa**	**16.20**	**298**	P	Pn	07 02 09.2	-1.5
AAK	**Ala-Archa**	**16.97**	**77**	P	P	07 02 25.1	+2.8
AAK	**Ala-Archa**	**16.97**	**77**	P	P	07 02 25.5	+3.2
	comp=Z,0.3nm,0.3s,baz=218,slow=18,SNR=3.5						
	comp=Z,3.5nm,0.6s						
AAK	**Ala-Archa**	**16.97**	**77**	P	P	07 02 25.1	+2.8
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BORK	**Borovoye**	**17.45**	**40**	*ce*P	P	07 02 27.2	-0.1
BORK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BVAR	**Borovoye Array**	**17.47**	**40**	P	P	07 02 27.6	+0.1
	comp=Z,0.3nm,0.3s,baz=235,slow=10.0,SNR=20						
BVAR				LR	LR	07 10 31.3	
	comp=Z,46nm,20.6s,baz=220,slow=41						
	comp=Z,7.2nm,0.5s						
OBN	**Obninsk**	**17.48**	**330**	*e*P	Pn	07 02 25.7	-1.0
OBN				pmax	pmax		
	comp=Z,11nm,0.3s						
OBN	**Obninsk**	**17.48**	**330**	P	Pn	07 02 24.3	-2.4
	comp=Z,23nm,0.5s						
KIRV	**Kirov**	**17.79**	**356**	P	P	07 02 31.2	+0.1
	comp=Z,3.4nm,0.3s,baz=242,slow=2.4,SNR=3.8						
	comp=Z,12nm,0.4s						
BOOM	**Boomskoye usch**	**18.04**	**77**	P	P	07 02 37.5	+3.3
BOOM				IAmb	IAmb	07 03 09.1	
	comp=Z,22nm,1.2s						
BOOM	**Boomskoye usch**	**18.04**	**77**	P	P	07 02 37.5	+3.3
BOOM				pmax	pmax		
	comp=Z,22nm,1.2s						
RAYN	**Ar Rayn**	**18.11**	**199**	P	P	07 02 36.5	+1.7
RAYN				IAmb	IAmb	07 02 38.4	
	comp=Z,5.3nm,0.6s						
RAYN	**Ar Rayn**	**18.11**	**199**	P	P	07 02 36.6	+1.7
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AK09	**Malin Array Si**	**18.46**	**309**	P	P	07 02 36.8	-1.6
AK10	**Malin Array Si**	**18.47**	**309**	P	P	07 02 37.6	-1.0
AK08	**Malin Array Si**	**18.48**	**309**	P	P	07 02 37.4	-1.3
AK06	**Malin Array Si**	**18.50**	**309**	P	P	07 02 37.5	-1.4
AK05	**Malin Array Si**	**18.51**	**309**	P	P	07 02 37.5	-1.5
AK02	**Malin Array Si**	**18.52**	**309**	P	P	07 02 37.8	-1.3
AKASG	**Malin Array Be**	**18.53**	**310**	P	P	07 02 37.0	-2.2
	comp=Z,1.7nm,0.3s,baz=115,slow=11,SNR=6.9						
	comp=Z,0.6nm,0.3s						
AKASG	**Malin Array Be**	**18.53**	**310**	*ce*P	P	07 02 38.2	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**18.53**	**310**	P	P	07 02 38.5	-0.7
AKBB	**Malin Array Si**	**18.53**	**310**	P	P	07 02 38.5	-0.7
AKBB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKBB	**Malin Array Si**	**18.53**	**310**	P	P	07 02 38.4	-0.7
AK01	**Malin Array Si**	**18.53**	**310**	P	P	07 02 37.9	-1.3
KIEV	**Kiev**	**18.53**	**310**	P	P	07 02 38.5	-0.8
	comp=Z,21nm,0.5s						
AK17	**Malin Array Si**	**18.62**	**309**	P	P	07 02 38.4	-1.8
AK19	**Malin Array Si**	**18.66**	**310**	P	P	07 02 39.6	-1.1
AK20	**Malin Array Si**	**18.67**	**310**	P	P	07 02 38.6	-2.2
LUBAR	**Lubar, Ukraine**	**19.12**	**306**	P	P	07 02 44.0	-1.8
MLR	**Muntele Rosu**	**19.42**	**292**	P	P	07 02 46.6	-2.6
	comp=Z,0.2nm,0.3s,baz=138,slow=18,SNR=1.6						
	comp=Z,1.0nm,0.4s						
KMPD	**K-Podol'skiy**	**19.56**	**302**	P	P	07 02 49.6	-0.9
HORU	**Horodok**	**19.74**	**303**	P	P	07 02 52.2	-0.3
RDO	**Rodhopi**	**19.85**	**279**	P	P	07 02 54.0	+0.2
RDO				IAmb	IAmb	07 02 54.8	
	comp=Z,5.8nm,0.8s						
BURAR	**Bucovina Array**	**20.18**	**298**	P	P	07 02 56.8	-0.6
BUR08	**Bucovina Ar. S**	**20.20**	**298**	P	P	07 02 57.1	-0.5
RNPP5	**Staryi Chortor**	**20.68**	**309**	P	P	07 03 01.7	-1.0
KURBB	**Kurchatov Arra**	**20.90**	**53**	P	Pn	07 03 07.3	-0.4
	comp=Z,1.8nm,0.3s,baz=256,slow=11,SNR=14						
	comp=Z,1.8nm,0.3s						
KURK	**Kurchatov**	**20.98**	**53**		Pn	07 03 09.0	+0.3
KURK				IAmb	IAmb	07 03 13.1	
	comp=Z,9.0nm,0.7s						
KURK	**Kurchatov**	**20.98**	**53**	P	Pn	07 03 09.0	+0.3
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KLMR	**Klimovskoe**	**21.39**	**343**	*e*P	P	07 03 08.1	-2.1
KLMR				*e*		07 07 12.7	
KLMR				pmax	pmax		
	comp=Z,13nm,1.1s						
IDI	**Anoyia**	**21.91**	**264**	P	P	07 03 15.6	-0.6
IDI	**Anoyia**	**21.91**	**264**	P	P	07 03 13.7	-2.4
	comp=Z,3.6nm,0.5s,baz=93,slow=19,SNR=6.1						
	comp=Z,3.6nm,0.5s						
MAKZ	**Makanchi**	**22.43**	**65**	P	P	07 03 23.9	+2.4
MAKZ				IAmb	IAmb	07 03 26.0	
	comp=Z,5.1nm,0.6s						
MAKZ	**Makanchi**	**22.43**	**65**	P	P	07 03 23.9	+2.4
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MK31	**Makanchi Array**	**22.64**	**65**	P	P	07 03 26.1	+2.3
MK31				IAmb	IAmb	07 03 34.7	
	comp=Z,5.3nm,1.1s						
MK31	**Makanchi Array**	**22.64**	**65**	P	P	07 03 25.7	+1.9
	comp=Z,1.1nm,0.3s,baz=254,slow=8.1,SNR=21						
MK31	**Makanchi Array**	**22.64**	**65**	P	P	07 03 26.1	+2.3
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**22.64**	**65**		P	07 03 26.5	+2.7
MKAR	**Makanchi Array**	**22.64**	**65**	P	P	07 03 26.3	+2.5
	comp=Z,1.8nm,0.5s,baz=258,slow=9.7,SNR=19						
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**22.64**	**65**	P	P	07 03 26.5	+2.7
OJC	**Ojcow**	**24.16**	**304**	P	P	07 03 37.8	-0.8
	comp=Z,6.4nm,0.7s						
KEK	**Kerkira**	**24.42**	**278**	P	P	07 03 40.6	-0.5
ZAA0	**Zalesovo Array**	**25.58**	**48**	P	P	07 03 52.9	+1.4
ZAA0				IAmb	IAmb	07 04 31.0	
	comp=Z,4.7nm,1.1s						
ZALV	**Zalesovo Beam**	**25.58**	**48**		P	07 03 53.4	+1.9
ZALV	**Zalesovo Beam**	**25.58**	**48**	P	P	07 03 53.6	+2.1
	comp=Z,1.4nm,0.4s,baz=261,slow=9.9,SNR=6.9						
	comp=Z,1.4nm,0.4s						
FIA1	**FINESS Array S**	**25.87**	**331**	P	P	07 03 53.5	-0.5
FINES	**FINESS Array B**	**25.87**	**331**	P	P	07 03 53.6	-0.4
	comp=Z,0.9nm,0.2s,baz=136,slow=13,SNR=12						
	comp=Z,0.9nm,0.2s						
KSP	**Ksiaz**	**26.47**	**304**	P	P	07 03 59.4	-0.1
HFS	**Hagfors**	**30.37**	**322**	P	P	07 04 33.3	-0.9
	comp=Z,0.8nm,0.5s,baz=101,slow=7.5,SNR=6.0						
	comp=Z,0.8nm,0.5s						
EVN	**Everest**	**31.37**	**103**	P	P	07 04 46.8	+2.7
EVN				IAmb	IAmb	07 04 47.5	
	comp=Z,2.9nm,0.7s						
NOA	**NORSAR Array B**	**31.84**	**323**	P	P	07 04 46.4	-0.8
	comp=Z,0.1nm,0.4s,baz=123,slow=7.9,SNR=1.7						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**31.87**	**343**	P	P	07 04 47.7	+0.4
	comp=Z,3.0nm,0.9s,baz=144,slow=7.9,SNR=6.0						
	comp=Z,3.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**38.43**	**311**	P	P	07 05 43.5	-0.4
	comp=Z,0.5nm,0.3s,baz=97,slow=8.8,SNR=7.6						
	comp=Z,0.5nm,0.3s						
SPITS	**Spitsbergen Ar**	**40.07**	**349**	P	P	07 05 58.0	+0.7
	comp=Z,7.7nm,0.9s,baz=145,slow=10,SNR=1.7						
	comp=Z,7.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**51.65**	**253**	P	P	07 07 27.0	-2.4
	comp=Z,3.7nm,0.4s,baz=40,slow=8.8,SNR=1.5						
	comp=Z,3.7nm,0.4s						

*ASRS **21** 07:00:09.0±1.5, 54°.12N×86°.40E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 07:00:06.7±3.2, 54°.13N×86°.77E, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=27.0km s-min=15.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**262**	I	I	07 05 50.0	
	0.1nm,0.8s,baz=80,slow=340,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.17**	**262**	Pg	Pg	07 00 27.6	-1.4
	0.7nm,0.3s,baz=80,slow=16,SNR=6.0						
ZALV				Lg	Lg	07 00 45.3	
	2.0nm,0.3s,baz=81,slow=29,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.15**	**238**	Pn	Pn	07 01 40.5	+1.8
	0.1nm,0.3s,baz=56,slow=12,SNR=2.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**203**	Pn	Pn	07 02 03.3	+0.7
	0.1nm,0.3s,baz=26,slow=16,SNR=5.3						
	2.7nm,1.1s						

*GCG **21** 07:03:41.4±3.1, 15°.93N×95°.24W, h54km±293km, MD3.8*
*MEX **21** 07:03:41.8±0.9, 15°.64N×95°.08W, h21km±62km, MD3.9*

ISC 21 07:03:39.8±2.2, 15°.63N±0°.05×95°.09W±0°.03, h35km±7km, n22, σ1°.72/43, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.99**	**278**	*i* P	Pn	07 03 57.4	+0.1
HUIG				*e*S	Sn	07 04 09.4	-0.8
HUIG	**Huatulco**	**0.99**	**278**	*i* P	Pn	07 03 57.2	-0.1
HUIG				*i* S	Sn	07 04 09.6	-0.5
NILT	**Santiago Nilte**	**1.04**	**26**	*e*P	Pn	07 03 56.3	-1.6
NILT				*e*S	Sn	07 04 07.6	-3.7
CMIG	**Matias Romero**	**1.47**	**8**	*e*P	Pn	07 04 03.3	-0.5
CMIG				*e*S	Sn	07 04 20.0	-1.9
PCIG		**1.80**	**87**	*e*P	Pn	07 04 08.4	0.0
PCIG				*e*S	Sn	07 04 29.0	-1.1
UXUV	**UXUV**	**1.91**	**28**	*e*P	Pn	07 04 10.3	+0.3
UXUV				*e*S	Sn	07 04 31.7	-1.1
PEIG	**Puerto Escondi**	**2.02**	**281**	*e*P	Pn	07 04 11.6	+0.2
PEIG				*e*S	Sn	07 04 33.2	-2.3
VHO	**Vista Hermosa**	**2.14**	**313**	*e*P	Pn	07 04 15.2	+2.0
VHO				*e*S	Sn	07 04 39.7	+1.1
NEUV	**Arroyo Zacate**	**2.18**	**342**	*e*P	Pn	07 04 14.0	+0.3
NEUV				*e*S	Sn	07 04 40.1	+0.6
TGIG		**2.21**	**59**	*e*P	Pn	07 04 15.6	+1.6
TGIG				*e*S	Sn	07 04 41.3	+1.0
TGIG		**2.21**	**59**	*i* P	Pn	07 04 15.7	+1.6
TGIG				*i* S	Sn	07 04 42.1	+1.8
YOIG	**Yosondua**	**2.66**	**298**	*e*P	Pn	07 04 23.1	+2.6
YOIG				*e*S	Sn	07 04 51.2	-0.4
PATR	**El Naranjo**	**2.80**	**100**	*e*P	Pn	07 04 23.0	+0.6
PATR				*e*S	Sn	07 04 54.1	-1.0
PAVE	**Pavencul**	**2.84**	**98**	*e*P	Pn	07 04 23.5	+0.6
PAVE				*e*S	Sn	07 04 53.8	-2.3
CCIG	**Comitan**	**2.91**	**77**	*e*P	Pn	07 04 25.1	+1.2
CCIG				*e*S	Sn	07 05 00.3	+2.5
CCIG	**Comitan**	**2.91**	**77**	*i* P	Pn	07 04 26.9	+3.0
CHUJ	**Union Juarez**	**2.92**	**100**	*e*P	Pn	07 04 24.7	+0.6
CHUJ				*e*S	Sn	07 04 56.3	-1.8
PNIG	**Pinotepa**	**3.02**	**285**	*e*P	Pn	07 04 26.1	+0.9
PNIG				*e*S	Sn	07 04 57.4	-2.8
TXIG	**Tlaxiaco**	**3.04**	**303**	*e*P	Pn	07 04 28.3	+2.6
TXIG				*e*S	Sn	07 05 00.2	-0.9
HLIG	**Huajuapan de L**	**3.40**	**310**	*e*P	Pb	07 04 38.7	-0.8
HLIG				*e*S	Sn	07 05 09.3	-0.7
FTIG	**Fresnillo de T**	**3.69**	**308**	*e*P	Pn	07 04 37.6	+3.0
FTIG				*e*S	Sn	07 05 16.6	-0.4
TLIG	**Tlapa**	**3.85**	**300**	*e*P	Pn	07 04 39.7	+3.0
TLIG				*e*S	Sn	07 05 19.1	-1.7

*ASRS **21** 07:05:09.0±1.7, 54°.28N×86°.78E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 07:05:09.0±3.4, 54°.31N×86°.97E, h0km, mbtmp3.0/2, ML2.3/1, Error ellipse: s-maj=30.2km s-min=18.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**255**	I	I	07 11 50.0	
	baz=75,slow=340,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.32**	**255**	Pg	Pg	07 05 32.4	-1.8
	2.3nm,0.3s,baz=72,slow=17,SNR=15						
ZALV				Lg	Lg	07 05 51.5	
	3.0nm,0.3s,baz=72,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn	Pn	07 06 45.2	+1.5
	0.7nm,0.3s,baz=51,slow=14,SNR=1.0						
MKAR	**Makanchi Array**	**8.10**	**203**	Pn	Pn	07 07 08.8	+1.0
	baz=24,slow=13,SNR=1.9						
	0.6nm,0.8s						

*TAP **21** 07:18:24.4, 24°.68N×122°.40E, h10km, ML3.0, C*
*JMA **21** 07:18:25.3±0.1, 25°.N±1°.×122°.4E±0°.6, h28km±4km, MV2.2/9, NW OFF ISHIGAKIJIMA IS*

ISC 21 07:18:24.1±1.0, 24°.64N±0°.02×122°.44E±0°.02, h15km±8km, n59, σ0°.62/106, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.29**	**220**	*e*P	Pb	07 18 31.2	+0.3
EOS2				*e*S	Sb	07 18 36.4	+1.0
EOS3	**EOS3**	**0.37**	**197**	*e*P	Pb	07 18 32.9	+0.6
EOS3				*e*S	Sb	07 18 38.9	+1.1
JYNG	**Yonagunijimaku**	**0.50**	**112**	*e*P	Pb	07 18 35.1	+0.5
EOS4	**EOS4**	**0.53**	**192**	*e*P	Pn	07 18 35.8	-0.9
EOS4				*e*S	Sn	07 18 44.1	-1.2
TWC	**Suao**	**0.53**	**267**	*i* P	Pg	07 18 34.2	-0.5
TWC				*i* S	Sb	07 18 43.2	+0.6
ESAO	**Su ao**	**0.54**	**263**	*e*P	Pg	07 18 34.7	-0.1
TWB1	**Santiao Chiao**	**0.55**	**312**	*i* P	Pg	07 18 34.9	0.0
TWB1				*i* S	Sg	07 18 41.4	-0.8
YOJ	**Yonaguni jima**	**0.55**	**109**	*e*P	Pb	07 18 36.2	+0.7
YOJ				*e*S	Sb	07 18 43.5	+0.2
YOJ	**Yonaguni jima**	**0.55**	**109**	P	Pb	07 18 36.1	+0.6
YOJ				S	Sn	07 18 45.0	-1.4
EWUT	**Wuta**	**0.63**	**252**	*e*P	Pg	07 18 36.2	-0.2
EWUT				S	Sg	07 18 44.4	-0.3
TIPB	**Shuangxi**	**0.65**	**301**	*i* P	Pg	07 18 36.9	+0.1
TIPB				S	Sg	07 18 44.9	-0.4
NDS	**Dongshan**	**0.65**	**270**	*e*P	Pg	07 18 36.6	-0.3
NDS				S	Sb	07 18 46.5	+0.4
ENA	**Nanau**	**0.67**	**252**	*e*P	Pg	07 18 36.7	-0.4
ENA				*e*S	Sb	07 18 47.1	+0.7
SXI1	**Grass Mountain**	**0.68**	**312**	P	Pb	07 18 38.0	+0.2
SXI1				S	Sb	07 18 47.5	+0.6
TWE	**Neicheng**	**0.70**	**277**	P	Pg	07 18 37.4	-0.4
TWE				*e*S	Sb	07 18 48.1	+0.6
EAHA	**Aohua**	**0.70**	**244**	P	Pg	07 18 37.9	0.0
EAHA				*e*S	Sg	07 18 47.0	-0.2
NWF	**Wu-fen Shan**	**0.73**	**306**	P	Pb	07 18 39.3	+0.7
NWF				S	Sb	07 18 49.5	+1.0
WFSB	**Wu-fen Shan**	**0.73**	**306**	P	Pn	07 18 39.4	-0.5
WFSB				S	Sb	07 18 49.2	+0.8
FUSB	**Fushanzhiwuyua**	**0.78**	**279**	*e*P	Pg	07 18 39.1	-0.2
FUSB				*e*S	Sg	07 18 49.7	+0.1
TNOU	**National Taiwa**	**0.79**	**310**	P	Pg	07 18 39.6	+0.3
TNOU				S	Sb	07 18 50.0	+0.1
ENTT	**Nioudou**	**0.79**	**270**	*e*P	Pg

az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**262**	I	I	07 27 30.0	
	baz=82,slow=338,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.46**	**262**	Pg	Pn	07 20 25.6	-1.3
	2.3nm,0.3s,baz=82,slow=17,SNR=18						
ZALV				Lg	Lg	07 20 45.9	
	1.4nm,0.3s,baz=76,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	07 21 35.9	+0.8
	0.5nm,0.3s,baz=56,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	07 21 58.5	+1.1
	0.1nm,0.3s,baz=28,slow=14,SNR=1.7						
	0.5nm,0.8s						

IDC 21 07:23:37.1±5.2, 12°.88S×167°.87E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=249.8km s-min=29.9km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.87**	**253**	P	P	07 30 12.6	-0.5
	0.4nm,0.4s,baz=85,slow=9.1,SNR=5.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**33.90**	**247**	P	P	07 30 22.5	+0.3
	0.4nm,0.6s,baz=77,slow=9.0,SNR=6.5						
	0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.96**	**257**	P	P	07 31 21.9	-0.1
	0.6nm,0.4s,baz=77,slow=8.1,SNR=6.2						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**84.60**	**18**	P	P	07 36 12.1	0.0
	0.8nm,0.7s,baz=232,slow=5.6,SNR=14						
	0.8nm,0.7s						

*NNC **21** 07:29:30.2±0.9, 49°.76N×81°.37E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=14.3km s-min=4.6km az=49.0, Suspected Mining explosion.*

IDC 21 07:28:54.5±1.2, 49°.77N×81°.65E, h0km, mbtmp2.3/3, ML1.8/3, 1C-6D, Error ellipse: s-maj=18.6km s-min=9.3km az=54.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.17**	**297**	⇓Pn	Sn	07 30 05.0	+5.6
	5.0nm,0.7s						
KURK				⇓Lg	Lg	07 30 34.7	
	5.1nm,0.5s						
KURBB	**Kurchatov Arra**	**2.18**	**294**	Pn	Pn	07 29 32.3	+0.3
	0.1nm,0.3s,baz=112,slow=19,SNR=26						
KURBB				Pg	Pb	07 29 33.7	-1.2
	0.1nm,0.3s,baz=110,slow=19,SNR=4.9						
KURBB				Lg	Lg	07 30 03.8	
	0.4nm,0.3s,baz=111,slow=18,SNR=13						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**2.18**	**294**	⇑Pn	Sn	07 30 05.2	+5.5
	23nm,0.7s,baz=247,slow=14						
KURBB				⇓Lg	Lg	07 30 35.3	
	31nm,0.6s						
MAKZ	**Makanchi**	**2.97**	**176**	⇓Pn	Sn	07 30 18.8	-0.3
	9.0nm,1.1s						
MAKZ				⇓Lg	Lg	07 31 04.5	
	6.4nm,0.7s						
MK31	**Makanchi Array**	**3.00**	**172**	Pn	Sn	07 30 19.7	-0.3
	3.5nm,0.7s,baz=351,slow=15,SNR=5.7						
MK31				⇓Lg	Lg	07 31 05.8	
	3.7nm,0.5s,baz=347,slow=29						
MKAR	**Makanchi Array**	**3.00**	**172**	Pn	Pn	07 29 44.7	+1.3
	0.3nm,0.3s,baz=352,slow=15,SNR=9.8						
MKAR				Pg	Pb	07 29 47.0	-1.8
	0.3nm,0.3s,baz=354,slow=15,SNR=2.3						
MKAR				Lg	Lg	07 30 26.6	
	0.5nm,0.3s,baz=356,slow=29,SNR=8.7						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**4.62**	**24**	I	I	07 58 30.0	
	baz=203,slow=333,SNR=2.8						
ZALV	**Zalesovo Beam**	**4.62**	**24**	Pn	Pn	07 30 07.3	+1.8
	0.3nm,0.3s,baz=203,slow=13,SNR=1.6						
ZALV				Lg	Lg	07 31 20.4	
	baz=202,slow=40						
	0.4nm,0.2s						

*KRSC **21** 07:35:11.7±0.9, 55°.69N×163°.36E, h19km±20km, Ml4.3, Felt [III-IV] at HMS cape Afrika.*

*IDC **21** 07:35:12.5±1.1, 56°.33N×162°.76E, h0km, mb3.6/4, mbtmp3.6/5, ML2.3/1, MS3.4/4, Error ellipse: s-maj=47.0km s-min=22.4km az=143.0*

*MOS **21** 07:35:12.7±0.6, 55°.78N×163°.29E, h15km, mb3.9/1, Error ellipse: s-maj=8.2km s-min=5.3km az=57.4*

ISC 21 07:35:13.4±1.4, 55°.77N±0°.04×163°.28E±0°.03, h13km±9km, n90, σ1°21/107, mb3.6/4, MS3.6/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.51**	**330**	PN	**Pg**	**07 35 22.9**	**-0.5**
KBTR				S	**Sb**	**07 35 30.8**	**-0.7**
KBTR	**Krutoberegovo**	**0.51**	**330**	*e*P	**Pg**	**07 35 22.9**	**-0.5**
KBTR				*e*S	**Sb**	**07 35 30.9**	**-0.7**
SMKR	**Semkarok**	**1.30**	**310**	PN	Pn	07 35 36.3	-1.0
SMKR				S	**Sg**	**07 35 56.5**	**+1.2**
SMKR	**Semkarok**	**1.30**	**310**	*e*P	Pn	07 35 36.4	-1.0
SMKR				*e*S	**Sg**	**07 35 56.5**	**+1.2**
ZLN	**Zelenaya**	**1.42**	**281**	PN	**Pn**	**07 35 38.7**	**-0.2**
ZLN	**Zelenaya**	**1.42**	**281**	*e*P	**Pn**	**07 35 38.8**	**-0.2**
CIRR	**Tsirk**	**1.47**	**285**	PN	**Pn**	**07 35 39.4**	**-0.2**
CIRR				S	**Sb**	**07 35 59.7**	**+0.6**
CIRR	**Tsirk**	**1.47**	**285**	*e*P	**Pn**	**07 35 39.4**	**-0.2**
CIRR				*e*S	**Sb**	**07 35 59.8**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.47**	**278**	PN	**Pn**	**07 35 38.6**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**1.47**	**278**	*e*P	**Pn**	**07 35 38.6**	**-1.0**
MKZ	**Mys Kozlova**	**1.51**	**217**	PN	**Pn**	**07 35 38.1**	**-1.9**
MKZ	**Mys Kozlova**	**1.51**	**217**	*e*P	**Pn**	**07 35 38.2**	**-1.9**
KLY	**Klyuchi**	**1.57**	**291**	PN	**Pn**	**07 35 38.7**	**-2.2**
KLY				S	**Sn**	**07 35 59.7**	**-1.4**
KLY	**Klyuchi**	**1.57**	**291**	*e*P	**Pn**	**07 35 38.8**	**-2.2**
KLY				*e*S	**Sn**	**07 35 59.7**	**-1.4**
BZMR	**Bezymyannaya**	**1.58**	**277**	PN	**Pn**	**07 35 40.6**	**-0.6**
BZMR	**Bezymyannaya**	**1.58**	**277**	*e*P	**Pn**	**07 35 40.7**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.58**	**278**	PN	**Pn**	**07 35 40.8**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.58**	**278**	*e*P	**Pn**	**07 35 40.8**	**-0.4**
BKI	**Bering**	**1.63**	**109**	PN	**Pn**	**07 35 41.2**	**-0.5**
BKI				S	**Sn**	**07 36 02.4**	**-0.2**
BKI	**Bering**	**1.63**	**109**	*e*P	**Pn**	**07 35 41.3**	**-0.5**
BKI				*e*S	**Sn**	**07 36 02.4**	**-0.2**
KIRR	**Kirishev**	**1.67**	**278**	PN	**Pn**	**07 35 41.9**	**-0.5**
KIRR				S	**Sn**	**07 36 03.9**	**+0.2**
KIRR	**Kirishev**	**1.67**	**278**	*e*P	**Pn**	**07 35 41.9**	**-0.5**
KIRR				*e*S	**Sn**	**07 36 03.9**	**+0.2**
KMNR	**Kamenistaya**	**1.72**	**271**	PN	**Pn**	**07 35 43.0**	**-0.1**
KMNR				S	**Sb**	**07 36 06.6**	**+0.2**
KMNR	**Kamenistaya**	**1.72**	**271**	*e*P	**Pn**	**07 35 43.1**	**-0.1**
KMNR				*e*S	**Sb**	**07 36 06.7**	**+0.2**
KPT	**Kopyto**	**1.73**	**278**	PN	**Pn**	**07 35 42.9**	**-0.3**
KPT				S	**Sb**	**07 36 06.4**	**-0.4**
KPT	**Kopyto**	**1.73**	**278**	*e*P	**Pn**	**07 35 43.0**	**-0.3**
KPT				*e*S	**Sb**	**07 36 06.5**	**-0.4**
TUMD	**Tumrok D**	**1.74**	**252**	PN	**Pn**	**07 35 42.1**	**-1.1**
TUMD				S	**Sn**	**07 36 05.0**	**-0.2**
TUMD	**Tumrok D**	**1.74**	**252**	*e*P	**Pn**	**07 35 42.1**	**-1.1**
TUMD				*e*S	**Sn**	**07 36 05.0**	**-0.2**
KZV	**Kizimen**	**1.82**	**250**	PN	**Pn**	**07 35 43.6**	**-0.9**
KZV	**Kizimen**	**1.82**	**250**	*e*P	**Pn**	**07 35 43.7**	**-0.9**
KOZ	**Kozyrevsk**	**1.94**	**280**	PN	**Pn**	**07 35 46.7**	**+0.7**
KOZ				S	**Sb**	**07 36 12.3**	**-0.3**
KOZ	**Kozyrevsk**	**1.94**	**280**	*e*P	**Pn**	**07 35 46.7**	**+0.7**
KOZ				*e*S	**Sb**	**07 36 12.3**	**-0.3**
SRDR	**Sredinnyy**	**2.07**	**287**	PN	**Pn**	**07 35 48.5**	**+0.6**
SRDR				S	**Sb**	**07 36 16.0**	**-0.5**
SRDR	**Sredinnyy**	**2.07**	**287**	*e*P	**Pn**	**07 35 48.6**	**+0.6**
SRDR				*e*S	**Sb**	**07 36 16.0**	**-0.5**
ESO	**Esso**	**2.59**	**275**	PN	**Pn**	**07 35 55.3**	**+0.4**
ESO	**Esso**	**2.59**	**275**	*e*P	**Pn**	**07 35 55.3**	**+0.4**
KII	**Karymskiy**	**2.81**	**233**	PN	**Pn**	**07 35 58.9**	**+0.8**
KII	**Karymskiy**	**2.81**	**233**	*e*P	**Pn**	**07 35 58.9**	**+0.8**
SPN	**Mys Shipunski**	**3.28**	**217**	PN	**Pn**	**07 36 02.8**	**-1.6**
SPN	**Mys Shipunski**	**3.28**	**217**	*e*P	**Pn**	**07 36 02.9**	**-1.6**
NLC	**Nalytchevo**	**3.47**	**223**	PN	**Pn**	**07 36 07.7**	**+0.7**
NLC				S	**Sn**	**07 36 48.1**	**+0.2**
NLC	**Nalytchevo**	**3.47**	**223**	*e*P	**Pn**	**07 36 07.7**	**+0.7**
NLC				*e*S	**Sn**	**07 36 48.1**	**+0.2**
OSSR	**Ossora**	**3.49**	**358**	PN	**Pn**	**07 36 07.8**	**+0.5**
OSSR	**Ossora**	**3.49**	**358**	*e*P	**Pn**	**07 36 07.8**	**+0.5**
SDLR	**Sedlovina**	**3.58**	**228**	PN	**Pn**	**07 36 09.2**	**+0.6**
SDLR	**Sedlovina**	**3.58**	**228**	*e*P	**Pn**	**07 36 09.2**	**+0.6**
KRER	**Koryakskii**	**3.62**	**229**	PN	**Pn**	**07 36 11.2**	**+2.0**
KRER	**Koryakskii**	**3.62**	**229**	*e*P	**Pn**	**07 36 11.2**	**+2.0**
KRX	**Arik**	**3.62**	**230**	PN	**Pn**	**07 36 10.0**	**+0.8**
KRX	**Arik**	**3.62**	**230**	*e*P	**Pn**	**07 36 10.1**	**+0.8**
SMAR	**Somma**	**3.62**	**228**	PN	**Pn**	**07 36 09.8**	**+0.5**
SMAR	**Somma**	**3.62**	**228**	*e*P	**Pn**	**07 36 09.8**	**+0.5**
AVH	**Avacha**	**3.65**	**228**	PN	**Pn**	**07 36 10.4**	**+0.9**
AVH	**Avacha**	**3.65**	**228**	*e*P	**Pn**	**07 36 10.5**	**+0.9**
UGLR	**Uglovaya**	**3.65**	**227**	PN	**Pn**	**07 36 10.6**	**+1.0**
UGLR	**Uglovaya**	**3.65**	**227**	*e*P	**Pn**	**07 36 10.7**	**+1.0**
KOK	**Koryaka**	**3.67**	**229**	PN	**Pn**	**07 36 11.0**	**+1.1**
KOK	**Koryaka**	**3.67**	**229**	*e*P	**Pn**	**07 36 11.0**	**+1.1**
GNL	**Ganaly**	**3.73**	**238**	PN	**Pn**	**07 36 10.9**	**+0.2**
GNL	**Ganaly**	**3.73**	**238**	*e*P	**Pn**	**07 36 11.0**	**+0.2**
DALK	**Dalny**	**3.81**	**226**	PN	**Pn**	**07 36 12.4**	**+0.7**
DALK	**Dalny**	**3.81**	**226**	*e*P	**Pn**	**07 36 12.4**	**+0.7**
PET	**Petropavlovsk**	**3.86**	**226**	*e*PN	**Pn**	**07 36 14.8**	**+2.5**
PET				*e*S	**Sn**	**07 36 59.5**	**+2.1**
PET				pmax	pmax		
	comp=Z,40nm,0.5s						
PET				smax	smax		
	comp=N,105nm,0.7s						
PET				smax	smax		
	comp=E,100nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PEA0B	**Petropavlovsk-**	**4.21**	**233**	PN	**Pn**	**07 36 18.5**	**+1.3**
PETK	**Petropavlovsk-**	**4.21**	**233**	Pn	**Pn**	**07 36 18.7**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=55,slow=13,SNR=13						
PETK				Sn	**Sb**	**07 37 13.2**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=28,slow=25,SNR=1.7						
PETK				LR	LR	07 37 57.3	
	comp=Z,66nm,21.2s,baz=176,slow=38						
	comp=Z,5.9nm,0.8s						
KRMR	**Karymshinskiy**	**4.22**	**228**	PN	**Pn**	**07 36 18.8**	**+1.6**
KRMR	**Karymshinskiy**	**4.22**	**228**	*e*P	**Pn**	**07 36 18.9**	**+1.6**
RUS	**Russkaya**	**4.36**	**222**	PN	**Pn**	**07 36 19.5**	**+0.2**
RUS	**Russkaya**	**4.36**	**222**	*e*P	**Pn**	**07 36 19.6**	**+0.2**
GRL	**Gorelyy**	**4.45**	**226**	PN	**Pn**	**07 36 22.4**	**+1.9**
GRL	**Gorelyy**	**4.45**	**226**	*e*P	**Pn**	**07 36 22.5**	**+1.9**
MTVR	**Mutnovka**	**4.45**	**224**	PN	**Pn**	**07 36 21.3**	**+0.7**
MTVR	**Mutnovka**	**4.45**	**224**	*e*P	**Pn**	**07 36 21.4**	**+0.7**
ASAK	**Asacha**	**4.64**	**225**	PN	**Pn**	**07 36 25.1**	**+1.9**
ASAK	**Asacha**	**4.64**	**225**	*e*P	**Pn**	**07 36 25.2**	**+1.9**
ILAR	**Eielson Array**	**25.63**	**49**	P	**P**	**07 40 41.8**	**-0.3**
	comp=Z,0.1nm,0.7s,baz=271,slow=9.4,SNR=4.1						
	comp=Z,0.1nm,0.7s						
JHJ	**Hachijo jima 2**	**27.92**	**226**	LR	LR	07 52 01.2	
	comp=Z,172nm,21.1s,baz=316,slow=36						
H11N2	**WAKE ISLAND Hy**	**36.08**	**174**	T	T	08 21 06.3	
	baz=357,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**36.10**	**174**	T	T	08 21 07.4	
	baz=357,slow=76,SNR=107						
H11N1	**WAKE ISLAND Hy**	**36.10**	**174**	T	T	08 21 07.6	
	baz=357,slow=76,SNR=94						
H11S1	**WAKE ISLAND Hy**	**37.29**	**175**	T	T	08 22 38.8	
	baz=359,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.30**	**175**	T	T	08 22 55.2	
	baz=359,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.31**	**175**	T	T	08 22 42.7	
	baz=359						
KURK	**Kurchatov**	**47.91**	**301**	P	**P**	**07 43 48.5**	**-2.4**
KURBB	**Kurchatov Arra**	**48.02**	**301**	P	**P**	**07 43 48.5**	**-3.2**
	comp=Z,1.7nm,0.2s,baz=55,slow=7.9,SNR=2.1						
	comp=Z,1.7nm,0.2s						
AKTO	**Aktyubinsk**	**57.38**	**313**	LR	LR	08 11 28.2	
	comp=Z,118nm,19.9s,baz=138,slow=38						
TXAR	**Lajitas Array**	**67.92**	**70**	P	**P**	**07 46 13.2**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.9,SNR=8.2						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**79.31**	**208**	LR	LR	08 23 15.7	
	comp=Z,20nm,19.1s,baz=164,slow=36						
ASAR	**Alice Springs**	**82.98**	**207**	P	**P**	**07 47 40.8**	**+2.9**
	comp=Z,0.2nm,0.7s,baz=16,slow=5.9,SNR=2.5						
	comp=Z,0.2nm,0.7s						
QSPA	**South Pole Qui**	**145.52**	**180**	PKPbc	**PKiKP**	**07 54 53.3**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=35,slow=6.5,SNR=2.2						

*IDC **21** 07:37:58.0±1.1, 55°.95N×163°.17E, h0km, mb3.7/8, mbtmp3.7/9, ML2.7/1, Error ellipse: s-maj=31.2km s-min=22.2km az=120.0*

*MOS **21** 07:37:58.8±0.7, 55°.77N×163°.41E, h15km, mb4.0/1, Error ellipse: s-maj=8.1km s-min=5.3km az=56.1*

*KRSC **21** 07:37:59.1±1.1, 55°.67N×163°.37E, h19km±25km, Ml4.4, Felt [III-IV] at HMS cape Afrika.*

ISC 21 07:37:58.4±1.2, 55°.86N±0°.04×163°.45E±0°.03, h9km±8km, n93, σ1°17/117, mb3.9/8, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.50**	**315**	PN	**Pn**	**07 38 10.2**	**-1.6**
KBTR				S	**Sb**	**07 38 17.9**	**+1.1**
KBTR	**Krutoberegovo**	**0.50**	**315**	*e*P	**Pn**	**07 38 10.2**	**-1.6**
KBTR				*e*S	**Sb**	**07 38 17.9**	**+1.1**
SMKR	**Semkarok**	**1.32**	**304**	PN	**Pb**	**07 38 23.7**	**+0.3**
SMKR				S	**Sn**	**07 38 42.6**	**+1.6**
SMKR	**Semkarok**	**1.32**	**304**	*e*P	**Pb**	**07 38 23.8**	**+0.3**
SMKR				*e*S	**Sn**	**07 38 42.7**	**+1.6**
BDR	**Baidarnaya**	**1.44**	**300**	*e*S	**Sn**	**07 38 46.3**	**+2.4**
ZLN	**Zelenaya**	**1.50**	**277**	PN	**Pg**	**07 38 26.3**	**-0.8**
ZLN				S	**Sn**	**07 38 45.3**	**0.0**
ZLN	**Zelenaya**	**1.50**	**277**	*e*P	**Pg**	**07 38 26.4**	**-0.8**
ZLN				*e*S	**Sn**	**07 38 45.4**	**0.0**
CIRR	**Tsirk**	**1.54**	**281**	PN	**Pg**	**07 38 27.7**	**-0.3**
CIRR				S	**Sg**	**07 38 49.5**	**+1.6**
CIRR	**Tsirk**	**1.54**	**281**	*e*P	**Pg**	**07 38 27.7**	**-0.3**
CIRR				*e*S	**Sg**	**07 38 49.5**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**1.56**	**274**	PN	**Pn**	**07 38 26.3**	**-0.1**
BZGR				S	**Sn**	**07 38 46.1**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**1.56**	**274**	*e*P	**Pn**	**07 38 26.3**	**-0.1**
BZGR				*e*S	**Sn**	**07 38 46.2**	**-0.6**
BKI	**Bering**	**1.57**	**114**	PN	**Pg**	**07 38 29.1**	**+0.6**
BKI				S	**Sg**	**07 38 50.3**	**+1.3**
BKI	**Bering**	**1.57**	**114**	*e*P	**Pg**	**07 38 29.2**	**+0.6**
BKI				*e*S	**Sg**	**07 38 50.3**	**+1.3**
KLY	**Klyuchi**	**1.64**	**287**	PN	**Pn**	**07 38 26.0**	**-1.3**
KLY				S	**Sn**	**07 38 46.1**	**-2.4**
KLY	**Klyuchi**	**1.64**	**287**	*e*P	**Pn**	**07 38 26.1**	**-1.3**
KLY				*e*S	**Sn**	**07 38 46.2**	**-2.4**
MKZ	**Mys Kozlova**	**1.64**	**218**	PN	**Pn**	**07 38 25.5**	**-1.9**
MKZ	**Mys Kozlova**	**1.64**	**218**	*e*P	**Pn**	**07 38 25.6**	**-1.9**
BZWR	**Bezymyannyi-We**	**1.67**	**275**	PN	**Pn**	**07 38 28.0**	**0.0**
BZWR	**Bezymyannyi-We**	**1.67**	**275**	*e*P	**Pn**	**07 38 28.0**	**0.0**
BZMR	**Bezymyannaya**	**1.67**	**274**	PN	**Pn**	**07 38 28.2**	**+0.2**
BZMR	**Bezymyannaya**	**1.67**	**274**	*e*P	**Pn**	**07 38 28.2**	**+0.2**
KMNR	**Kamenistaya**	**1.82**	**268**	PN	**Pn**	**07 38 30.5**	**+0.5**
KMNR				S	**Sn**	**07 38 54.0**	**+0.8**
KMNR	**Kamenistaya**	**1.82**	**268**	*e*P	**Pn**	**07 38 30.5**	**+0.5**
KMNR				*e*S	**Sn**	**07 38 54.0**	**+0.8**
KPT	**Kopyto**	**1.82**	**275**	PN	**Pn**	**07 38 30.3**	**+0.3**
KPT				S	**Sn**	**07 38 54.1**	**+0.8**
KPT	**Kopyto**	**1.82**	**275**	*e*P	**Pn**	**07 38 30.3**	**+0.3**
KPT				*e*S	**Sn**	**07 38 54.2**	**+0.8**
TUMD	**Tumrok D**	**1.86**	**250**	PN	**Pn**	**07 38 29.7**	**-0.7**
TUMD				S	**Sn**	**07 38 52.4**	**-1.6**
TUMD	**Tumrok D**	**1.86**	**250**	*e*P	**Pn**	**07 38 29.7**	**-0.7**
TUMD				*e*S	**Sn**	**07 38 52.5**	**-1.6**
KZV	**Kizimen**	**1.95**	**249**	PN	**Pn**	**07 38 31.2**	**-0.6**
KZV				S	**Sn**	**07 38 55.4**	**-1.1**
KZV	**Kizimen**	**1.95**	**249**	*e*P	**Pn**	**07 38 31.2**	**-0.6**
KZV				*e*S	**Sn**	**07 38 55.4**	**-1.1**
TUMR	**Tumrok**	**1.97**	**254**	PN	**Pn**	**07 38 32.7**	**+0.7**
TUMR				S	**Sn**	**07 38 57.7**	**+0.9**
TUMR	**Tumrok**	**1.97**	**254**	*e*P	**Pn**	**07 38 32.8**	**+0.7**
TUMR				*e*S	**Sn**	**07 38 57.8**	**+0.9**
KOZ	**Kozyrevsk**	**2.02**	**277**	PN	**Pb**	**07 38 33.9**	**-1.4**
KOZ				S	**Sb**	**07 38 59.7**	**-0.9**
KOZ	**Kozyrevsk**	**2.02**	**277**	*e*P	**Pb**	**07 38 33.9**	**-1.4**
KOZ				*e*S	**Sb**	**07 38 59.8**	**-0.9**
SRDR	**Sredinnyy**	**2.14**	**284**	PN	**Pb**	**07 38 35.7**	**-1.7**
SRDR				S	**Sb**	**07 39 03.1**	**-1.0**
SRDR	**Sredinnyy**	**2.14**	**284**	*e*P	**Pb**	**07 38 35.7**	**-1.7**
SRDR				*e*S	**Sb**	**07 39 03.2**	**-1.0**
ESO	**Esso**	**2.68**	**273**	PN	**Pn**	**07 38 43.1**	**+1.4**
ESO	**Esso**	**2.68**	**273**	*e*P	**Pn**	**07 38 43.2**	**+1.4**
KII	**Karymskiy**	**2.95**	**233**	PN	**Pn**	**07 38 45.6**	**+0.2**
KII	**Karymskiy**	**2.95**	**233**	*e*P	**Pn**	**07 38 45.7**	**+0.2**
OSSR	**Ossora**	**3.41**	**357**	PN	**Pb**	**07 38 55.1**	**-3.7**
OSSR	**Ossora**	**3.41**	**357**	*e*P	**Pb**	**07 38 55.2**	**-3.7**
SPN	**Mys Shipunski**	**3.42**	**217**	PN	**Pn**	**07 38 49.5**	**-2.3**
SPN	**Mys Shipunski**	**3.42**	**217**	*e*P	**Pn**	**07 38 49.6**	**-2.3**
NLC	**Nalytchevo**	**3.60**	**223**	PN	**Pn**	**07 38 54.1**	**-0.3**
NLC	**Nalytchevo**	**3.60**	**223**	*e*P	**Pn**	**07 38 54.2**	**-0.3**
NLC				*e*S	**Sn**	**07 39 35.1**	**-1.9**
SDLR	**Sedlovina**	**3.71**	**228**	PN	**Pn**	**07 38 56.1**	**+0.1**
SDLR	**Sedlovina**	**3.71**	**228**	*e*P	**Pn**	**07 38 56.1**	**+0.1**
KRER	**Koryakskii**	**3.75**	**229**	PN	**Pn**	**07 38 57.0**	**+0.4**
KRER	**Koryakskii**	**3.75**	**229**	*e*P	**Pn**	**07 38 57.1**	**+0.4**
KRX	**Arik**	**3.75**	**230**	PN	**Pn**	**07 38 57.1**	**+0.5**
KRX	**Arik**	**3.75**	**230**	*e*P	**Pn**	**07 38 57.2**	**+0.5**
SMAR	**Somma**	**3.76**	**228**	PN	**Pn**	**07 38 56.8**	**+0.1**
SMAR	**Somma**	**3.76**	**228**	*e*P	**Pn**	**07 38 56.8**	**+0.1**
AVH	**Avacha**	**3.78**	**228**	PN	**Pn**	**07 38 57.5**	**+0.6**
AVH	**Avacha**	**3.78**	**228**	*e*P	**Pn**	**07 38 57.6**	**+0.6**
UGLR	**Uglovaya**	**3.79**	**227**	PN	**Pn**	**07 38 57.4**	**+0.4**
UGLR	**Uglovaya**	**3.79**	**227**	*e*P	**Pn**	**07 38 57.5**	**+0.4**
KOK	**Koryaka**	**3.81**	**229**	PN	**Pn**	**07 38 57.4**	**+0.1**
KOK	**Koryaka**	**3.81**	**229**	*e*P	**Pn**	**07 38 57.4**	**+0.1**
GNL	**Ganaly**	**3.86**	**238**	PN	**Pn**	**07 38 58.7**	**+0.7**
GNL	**Ganaly**	**3.86**	**238**	*e*P	**Pn**	**07 38 58.8**	**+0.7**
DALK	**Dalny**	**3.94**	**226**	PN	**Pn**	**07 38 58.9**	**-0.2**
DALK	**Dalny**	**3.94**	**226**	*e*P	**Pn**	**07 38 58.9**	**-0.2**
PET	**Petropavlovsk**	**3.99**	**227**	*e*PN	**Pn**	**07 39 00.1**	**+0.4**
PET				*e*S	**Sn**	**07 39 45.6**	**-1.0**
PET				pmax	pmax		
	comp=Z,65nm,0.6s						
PET				smax	smax		
	comp=E,109nm,1.0s						
PET				smax	smax		
	comp=N,112nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET				MLR	MLR		
	comp=Z,100nm,10.0s						
PEA0B	**Petropavlovsk-**	**4.34**	**233**	PN	**Pn**	**07 39 06.7**	**+2.1**
PETK	**Petropavlovsk-**	**4.34**	**233**	Pn	**Pn**	**07 39 05.0**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=54,slow=17,SNR=19						
PETK				Sn	**Sn**	**07 39 55.0**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=48,slow=24,SNR=3.7						
	comp=Z,4.9nm,0.5s						
KRMR	**Karymshinskiy**	**4.35**	**228**	PN	**Pn**	**07 39 05.2**	**+0.6**
KRMR	**Karymshinskiy**	**4.35**	**228**	*e*P	**Pn**	**07 39 05.2**	**+0.6**
GRL	**Gorelyy**	**4.58**	**226**	PN	**Pn**	**07 39 09.4**	**+1.5**
GRL	**Gorelyy**	**4.58**	**226**	*e*P	**Pn**	**07 39 09.5**	**+1.5**
MTVR	**Mutnovka**	**4.59**	**225**	PN	**Pn**	**07 39 08.1**	**+0.1**
MTVR	**Mutnovka**	**4.59**	**225**	*e*P	**Pn**	**07 39 08.1**	**+0.1**
APC	**Apacha**	**4.71**	**234**	PN	**Pn**	**07 39 10.6**	**+1.1**
APC	**Apacha**	**4.71**	**234**	*e*P	**Pn**	**07 39 10.7**	**+1.1**
ASAK	**Asacha**	**4.78**	**225**	PN	**Pn**	**07 39 11.8**	**+1.2**
ASAK	**Asacha**	**4.78**	**225**	*e*P	**Pn**	**07 39 11.8**	**+1.2**
ILAR	**Eielson Array**	**25.49**	**49**	P	**P**	**07 43 28.0**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=272,slow=8.8,SNR=2.2						
	comp=Z,0.2nm,0.8s						
MJAR

MZR	Muzera	21.97	332	*i* P	P	07 46 51.4 +1.2
	SNR=15					
ALNE	Al Ain	21.97	339	P	P	07 46 52.9 +2.6
	SNR=12					
ALNE				P	P	07 46 52.9 +2.6
	SNR=12					
ALNE	Al Ain	21.97	339	*i* P	P	07 46 52.2 +1.9
	SNR=5.7					
SBV	Sambava	22.13	220	P	P	07 46 54.0 +2.0
ASHO	Ashiyiah	22.44	340	P	P	07 46 57.2 +1.9
	SNR=12					
ASHO				P	P	07 46 57.2 +1.9
	SNR=12					
ASHO	Ashiyiah	22.44	340	*i* P	P	07 46 57.6 +2.3
	SNR=14					
MZWR	Madinat Zayed	22.45	334	P	P	07 46 57.8 +2.5
HATD	Hatta, Dubai	22.54	340	P	P	07 46 59.2 +2.8
	SNR=14					
HATD				P	P	07 46 59.2 +2.8
	SNR=14					
HATD	Hatta, Dubai	22.54	340	*i* P	P	07 46 58.8 +2.4
	SNR=7.9					
UOSS	Minazif	22.63	341		P	07 46 58.6 +1.3
UOSS	Minazif	22.63	341	P	P	07 46 59.3 +2.0
UOSS	Minazif	22.63	341	*i* P	P	07 46 58.8 +1.5
	SNR=5.7					
ASUD	Al Ashush, Dub	22.64	338	P	P	07 47 01.5 +4.0
FAQ	Al Faqa, Dubai	22.66	339	P	P	07 47 01.5 +3.9
	SNR=6.0					
FAQ				P	P	07 47 01.5 +3.9
	SNR=6.0					
FAQ	Al Faqa, Dubai	22.66	339	P	P	07 47 01.7 +4.1
ATD	Arta Tunnel	22.66	292	P	P	07 46 58.4 +0.6
ATD				IAmb	IAmb	07 47 01.4
	comp=Z,41nm,1.2s					
ATD	Arta Tunnel	22.66	292	LR	LR	07 54 11.4
	comp=Z,5.6nm,20.9s,baz=44,slow=33					
UDPR	Udaipur	22.78	23	*eP*	P	07 46 52.7 -6.2
UDPR				*eS*	S	07 51 03.0 -4.7
UDPR				IAmb	IAmb	07 53 44.5
	comp=Z,225nm,1.7s					
NAZ	Nazwa, Dubai	22.85	339	P	P	07 47 03.0 +3.3
	SNR=19					
NAZ				P	P	07 47 03.0 +3.3
	SNR=19					
NAZ	Nazwa, Dubai	22.85	339	*i* P	P	07 47 03.0 +3.3
	SNR=12					
MSFE	Esma-Masafi	23.03	341	*i* P	P	07 47 04.4 +2.8
	SNR=8.2					
MASF	Masafi	23.04	341	P	P	07 47 04.7 +3.1
	SNR=6.8					
MASF				P	P	07 47 04.7 +3.1
	SNR=6.8					
VIS	Vishakhapatnam	23.37	52	*eP*	P	07 46 58.6 -6.4
VIS				*eS*	S	07 51 13.6 -4.1
VIS				IAmb	IAmb	07 53 21.6
	comp=Z,14nm,0.5s					
BANOM	Banah	23.51	342	P	P	07 47 09.3 +2.9
BANOM	Banah	23.51	342	P	P	07 47 09.5 +3.2
SHME	Shamm	23.68	341	P	P	07 47 10.1 +2.1
SHME				P	P	07 47 10.1 +2.1
SHME	Shamm	23.68	341	P	P	07 47 09.3 +1.4
KIBK	Kibwezi	26.88	258		P	07 47 37.1 -0.3
KIBK	Kibwezi	26.88	258	P	P	07 47 37.3 -0.2
RAYN	Ar Rayn	26.89	319		P	07 47 37.1 -0.3
RAYN	Ar Rayn	26.89	319	P	P	07 47 37.1 -0.3
RAYN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
OPO	Ambohidratompo	27.71	217	LR	LR	07 55 53.0
	comp=Z,295nm,20.7s,baz=198,slow=30					
LODK	Lodwar	28.87	271		P	07 47 56.5 +1.2
LODK				IAmb	IAmb	07 47 57.8
	comp=Z,20nm,1.1s					
LODK	Lodwar	28.87	271	P	P	07 47 57.0 +1.8
	SNR=6.8					
HRA	Herat	30.72	357	P	P	07 48 13.6 +2.1
KBL	Kabul	31.13	8	P	P	07 48 16.7 +1.5
KBL				IAmb	IAmb	07 48 19.9
	comp=Z,19nm,1.2s					
KBL	Kabul	31.13	8	P	P	07 48 18.8 +3.6
	SNR=7.2					
KBL				P	P	07 48 18.8 +3.6
	SNR=7.2					
KBL	Kabul	31.13	8	P	P	07 48 16.7 +1.5
KBL				pmax	pmax	
	comp=Z,19nm,1.2s					
BRDH	Bariadhala	32.60	52	LR	LR	08 03 08.3
	comp=Z,499nm,18.5s,baz=244,slow=39					
SHL	Shillong	34.36	48		P	07 48 45.9 +2.3
SHL				IAmb	IAmb	07 48 47.2
	comp=Z,46nm,1.5s					
SHL	Shillong	34.36	48	P	P	07 48 46.7 +3.1
	SNR=8.1					
SHL	Shillong	34.36	48	P	P	07 48 45.9 +2.3
SHL				pmax	pmax	
	comp=Z,46nm,1.5s					
PSI	Prapat	34.59	90	LR	LR	08 00 43.9
	comp=Z,149nm,20.1s,baz=249,slow=33					
GAR	Garm	35.69	8		P	07 48 55.9 +1.2
GAR				IAmb	IAmb	07 48 57.9
	comp=Z,25nm,1.1s					
CMAR	Chiang Mai Arr	36.99	64	P	P	07 49 06.4 +0.4
CMAR	Chiang Mai Arr	36.99	64	P	P	07 49 07.5 +1.4
	comp=Z,4.2nm,0.9s,baz=258,slow=9.0,SNR=33					
CMAR				PcP	PcP	07 51 26.8 -0.3
	comp=Z,2.0nm,0.3s,baz=240,slow=4.1,SNR=6.5					
CMAR				LR	LR	08 03 55.1
	comp=Z,101nm,19.3s,baz=240,slow=36					
	comp=Z,4.2nm,0.9s					
CMAR	Chiang Mai Arr	36.99	64	P	P	07 49 06.4 +0.4
CMAR						07 51 26.8
CHTO	Chiang Mai	37.11	63		P	07 49 09.1 +2.1
CHTO				IAmb	IAmb	07 49 11.1
	comp=Z,35nm,1.4s					
CHTO	Chiang Mai	37.11	63	P	P	07 49 09.5 +2.5
CHTO	Chiang Mai	37.11	63	P	P	07 49 09.1 +2.1
CHTO				pmax	pmax	
	comp=Z,35nm,1.4s					
KSH	Kashi	37.32	15	P	P	07 49 07.3 -1.4
KSH				sP	pwP	07 49 16.0 -0.7
KSH				pmax	pmax	
	comp=Z,14nm,1.5s					
KSH				LR	LR	
	comp=Z,230nm,15.8s					
KSH				LR	LR	
	comp=Z,250nm,16.2s					
KSH				LR	LR	
	comp=Z,260nm,15.1s					
EIL	Elat	38.02	316	LR	LR	08 03 43.8
	comp=Z,125nm,18.4s,baz=159,slow=34					
ASF	Jabal al Asfar	38.34	321	LR	LR	08 04 33.4
	comp=Z,87nm,19.9s,baz=151,slow=36					
IUG	Iuzhnay	38.75	7	*eP*	P	07 49 21.7 +1.0
	comp=Z,16nm,1.2s					
IUG	Iuzhnay	38.75	7	*eP*	P	07 49 21.7 +1.0
IUG				pmax	pmax	
	comp=Z,16nm,1.2s					
CHM	Chimkent	38.87	6	*eP*	P	07 49 22.7 +1.1
	comp=Z,13nm,0.9s					
CHM	Chimkent	38.87	6	*eP*	P	07 49 22.7 +1.1
CHM				pmax	pmax	
	comp=Z,13nm,0.9s					
BRLS	Boroldoy	39.60	6	*eP*	P	07 49 26.6 -1.1
BRLS	Boroldoy	39.60	6	*eP*	P	07 49 26.6 -1.1
DZA	Taraz	39.65	8	*eP*	P	07 49 29.2 +1.0
DZA	Taraz	39.65	8	*eP*	P	07 49 29.1 +1.0
KKAR	Karatay Array	39.75	7	P	P	07 49 30.0 +1.1
KKAR	Karatay Array	39.75	7	P	P	07 49 30.0 +1.1
MMAI	Mount Meron Ar	39.84	321	P	P	07 49 29.1 -0.8
	comp=Z,1.6nm,0.6s,baz=129,slow=11,SNR=5.4					
MMAI				LR	LR	08 04 58.4
	comp=Z,127nm,20.0s,baz=134,slow=35					
	comp=Z,1.6nm,0.6s					
MARD	Mardin	39.91	330	P	P	07 49 31.5 +1.0
MARD				IAmb	IAmb	07 49 34.4
	comp=Z,27nm,1.2s					
AAK	Ala-Archa	39.95	12	P	P	07 49 31.5 +0.8
AAK	Ala-Archa	39.95	12	LR	LR	08 06 51.1
	comp=Z,94nm,18.0s,baz=209,slow=37					
AAK	Ala-Archa	39.95	12	*d iP*	P	07 49 32.8 +2.0
AAK				pmax	pmax	
	comp=Z,8.0nm,1.1s					
LSZ	Lusaka	40.35	241		P	07 49 34.1 -0.3
LSZ				IAmb	IAmb	07 49 34.9
	comp=Z,34nm,1.4s					
LSZ	Lusaka	40.35	241	LR	LR	08 04 10.2
	comp=Z,170nm,19.1s,baz=50,slow=33					
LSZ	Lusaka	40.35	241	P	P	07 49 34.2 -0.3
LSZ				P	P	07 49 34.2 -0.3
LSZ	Lusaka	40.35	241	P	P	07 49 34.1 -0.3
LSZ				pmax	pmax	
	comp=Z,34nm,1.4s					
GNI	Garni	40.47	337	P	P	07 49 36.5 +1.4
GNI				IAmb	IAmb	07 49 38.6
	comp=Z,52nm,1.4s					
GNI	Garni	40.47	337	LR	LR	08 06 43.4
	comp=Z,96nm,19.8s,baz=146,slow=37					
GNI	Garni	40.47	337	P	P	07 49 36.5 +1.4
GNI				pmax	pmax	
	comp=Z,52nm,1.4s					
GNI	Garni	40.47	337	P	P	07 49 36.2 +1.0
	comp=Z,446nmcomp=Z,33nm,1.9s					
AKT	Akhty	40.56	341	*eP*	P	07 49 33.6 -2.2
AKT				pmax	pmax	
	comp=Z,24nm,1.1s					
SGDS	Sogindy	40.76	12	*eP*	P	07 49 38.7 +1.3
TNSS	Tian-Shan	40.88	14	*eP*	P	07 49 40.1 +1.4
TNSS	Tian-Shan	40.88	14	*eP*	P	07 49 40.1 +1.4
MDOK	Medeo	41.02	14	*eP*	P	07 49 40.6 +0.9
MDOK	Medeo	41.02	14	*eP*	P	07 49 40.5 +0.9
AAA	Alma-Ata	41.03	14	*eP*	P	07 49 40.5 +0.8
	comp=Z,17nm,0.5s					
AAA	Alma-Ata	41.03	14	*eP*	P	07 49 40.4 +0.8
AAA				pmax	pmax	
	comp=Z,17nm,0.5s					
SATY	Saty	41.28	16	*eP*	P	07 49 43.0 +1.3
SATY	Saty	41.28	16	*eP*	P	07 49 43.0 +1.3
SHLS	Shalkode	41.66	17	*eP*	P	07 49 47.6 +2.7
	comp=Z,17nm,1.1s					
SHLS	Shalkode	41.66	17	*eP*	P	07 49 47.5 +2.7
SHLS				pmax	pmax	
	comp=Z,17nm,1.1s					
SLVN	Son La	42.34	62	P	P	07 49 51.5 +0.9
CSS	Mathiatis	42.41	321	P	P	07 49 51.5 +0.5
CSS	Mathiatis	42.41	321	P	P	07 49 51.9 +0.9
	comp=Z,10.0nm,1.4s					
MATP	Matopo	42.45	234	LR	LR	08 04 29.4
	comp=Z,164nm,20.1s,baz=49,slow=32					
PZH	PanZhiHua	42.48	54	P	P	07 49 55.3 +3.5
KMI	Kunming	42.72	56	P	P	07 49 57.1 +3.2
KMI				pmax	pmax	
	comp=Z,13nm,1.1s					
KMI				LR	LR	
	comp=Z,110nm,26.2s					
TDK	Taldyqorghan	43.09	15	*eP*	P	07 49 57.4 +1.0
	comp=Z,23nm,1.1s					
TDK	Taldyqorghan	43.09	15	*eP*	P	07 49 57.3 +1.0
TDK				pmax	pmax	
	comp=Z,23nm,1.1s					
KSANE	Kasane	44.04	240	IAmb	IAmb	07 50 05.1
	comp=Z,35nm,1.2s					
KBZ	Khabaz	44.25	338	P	P	07 50 06.7 +1.1
	comp=Z,14nm,1.0s,baz=176,slow=2.4,SNR=16					
KBZ				PcP	PcP	07 51 50.6 +0.6
	comp=Z,1.9nm,0.7s,baz=117,slow=0.4,SNR=5.4					
KBZ				LR	LR	08 09 24.8
	comp=Z,84nm,19.2s,baz=148,slow=37					
	comp=Z,14nm,1.0s					
KBZ	Khabaz	44.25	338	*cP*	P	07 50 07.0 +1.4
KBZ				pmax	pmax	
	comp=Z,21nm,1.1s					
SHA1	Shidzhatmaz	44.35	338	⇓*eP*	P	07 50 07.3 +0.6
MREMI	Moremi	44.38	232	P	P	07 50 06.6 -0.5
KIV	Kislovodsk	44.52	338	P	P	07 50 10.3 +2.4
KIV				P	P	07 50 10.3 +2.4
KIV	Kislovodsk	44.52	338	*eP*	P	07 50 09.1 +1.1
KIV						07 59 50.6
KIV				pmax	pmax	
	comp=Z,15nm,1.1s					
KIV				MLR	MLR	
	comp=Z,56nm,16.0s					
KIV	Kislovodsk	44.52	338	P	P	07 50 09.0 +1.1
	comp=Z,14nm,1.1s					
WMQ	Urumqi	45.12	24	*eP*	P	07 50 14.3 +1.6
WMQ				LR	LR	
	comp=Z,530nm,23.1s					
WMQ				LR	LR	
	comp=Z,270nm,21.5s					
SOC	Sochi	45.40	335	*eP*	P	07 50 12.6 -2.2
SOC				*e**PP	pP	07 50 15.3 -2.6
SOC				*e*		07 51 58.6
SOC				*eS*	S	07 56 53.2 -2.5
SOC				pmax	pmax	
	comp=Z,10.0nm,1.1s					
SOC				MLR	MLR	
	comp=Z,168nm,18.0s					
BR104	Keskin Array S	45.43	326	P	P	07 50 16.2 +0.9
	comp=Z,53nmcomp=Z,6.4nm,1.0s					
BR131	Keskin Array S	45.44	327	P	P	07 50 17.1 +1.7
BR131	Keskin Array S	45.44	327	⇓*eP*	P	07 50 16.2 +0.8
BRTR	Keskin Array B	45.44	327	P	P	07 50 16.3 +0.8
	comp=Z,4.6nm,0.9s,baz=146,slow=9.0,SNR=21					
BRTR				PcP	PcP	07 51 53.5 -1.0
	comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=1.9					
	comp=Z,4.6nm,0.9s					
BR105	Keskin Array S	45.45	326	P	P	07 50 16.4 +0.9
	comp=Z,72nmcomp=Z,7.6nm,1.0s					
BR106	Keskin Array S	45.46	327	P	P	07 50 16.4 +0.8
	comp=Z,59nmcomp=Z,6.7nm,1.2s					
AB31	Akbulak array	45.67	356	P	P	07 50 17.7 +0.9
ABKAR	Akbulak array	45.67	356		P	07 50 17.8 +1.0
MK31	Makanchi Array	45.80	17	*c iP*	P	07 50 18.7 +0.7
MKAR	Makanchi Array	45.80	17	P	P	07 50 18.7 +0.7
MKAR	Makanchi Array	45.80	17	P	P	07 50 18.2 +0.2
	comp=Z,1.2nm,0.7s,baz=206,slow=8.1,SNR=4.8					
MKAR				PcP	PcP	07 51 55.2 -0.2
	comp=Z,2.3nm,1.0s,baz=230,slow=3.6,SNR=3.7					
MKAR				LR	LR	08 10 36.2
	comp=Z,75nm,19.1s,baz=206,slow=38					
	comp=Z,1.2nm,0.7s					
MKAR	Makanchi Array	45.80	17	*i P*	P	07 50 18.7 +0.7
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ANTO	Ankara	46.01	326	P	P	07 50 20.8 +1.0
	comp=Z,7.0nm,1.0s					
ANTO				pP	sP	07 50 22.8 -1.3
	comp=Z,7.0nm,1.0s					
LPHEP	Lephephe	46.04	233	P	P	07 50 20.0 -0.4
LPHEP				IAmb	IAmb	07 50 21.4
	comp=Z,41nm,1.4s					
GYA	Guiyang	46.50	56	⇓P	P	07 50 25.0 +1.1
GYA				pmax	pmax	
	comp=Z,29nm,1.4s					
ARG	Arkhangelos	46.52	319	P	P	07 50 24.4 +0.6
ARG	Arkhangelos	46.52	319	P	P	07 50 24.4 +0.6
ARG				pmax	pmax	
	comp=Z,101nm,1.5s					
KARP	Karpathos	46.78	318	P	P	07 50 26.8 +0.9
	comp=Z,40nm,1.1s					
BRZS	Berezniki	46.79	7	*eP*	P	07 50 26.7 +1.0
BRZS	Berezniki	46.79	7	*eP*	P	07 50 26.7 +1.0
KDWAN	Kaudwane	47.00	233	IAmb	IAmb	07 50 28.0
	comp=Z,21nm,1.1s					
QIZ	Qiongzhong	47.06	67	P	P	07 50 29.4 +1.1
QIZ				S	S	07 57 23.6 +3.3
QIZ				LR	LR	
	comp=Z,140nm,12.7s					
QIZ				LR	LR	
	comp=Z,160nm,15.3s					
LBTB	Lobatse	47.09	231	IAmb	IAmb	07 50 29.1
	comp=Z,26nm,1.1s					
LBTB	Lobatse	47.09	231	LR	LR	08 07 27.5
	comp=Z,159nm,20.8s,baz=56,slow=33					
ZSN	Zaisan	47.19	19	*eP*	P	07 50 30.4 +1.5
ZSN	Zaisan	47.19	19	*eP*	P	07 50 30.3 +1.5
GTA	Gaotai	48.06	37	*eP*	P	07 50 38.0 +2.1
GTA				S	S	07 57 40.3 +6.2
GTA				pmax	pmax	
	comp=Z,7.0nm,1.0s					
GTA				LR	LR	
	comp=Z,300nm,18.5s					
GTA				LR	LR	
	comp=Z,350nm,18.5s					
GTA				LR	LR	
	comp=Z,430nm,19.6s					
QNGWA	Qangwa	48.19	240	IAmb	IAmb	07 50 38.4
	comp=Z,18nm,1.2s					
IDI	Anoyia	48.20	316	P	P	07 50 37.5 +0.5
KURBB	Kurchatov Arra	48.40	12	P	P	07 50 37.9 -0.2
KURBB				PcP	PcP	07 52 04.1 -0.4
	comp=Z,7.2nm,1.0s,baz=207,slow=8.1,SNR=17					
KURBB				PcP	PcP	07 52 04.1 -0.4
	comp=Z,1.1nm,1.0s,baz=213,slow=3.3,SNR=4.9					
KURBB				LR	LR	08 11 51.8
	comp=Z,153nm,18.0s,baz=189,slow=37					
	comp=Z,2.7nm,1.0s					
KURK	Kurchatov	48.51	12	P	P	07 50 39.7 +0.7
KURK	Kurchatov	48.51	12		PcP	07 52 04.1 -0.7
KURK	Kurchatov	48.51	12	P	P	07 50 40.3 +1.3
KURK	Kurchatov	48.51	12	⇓*iP*	P	07 50 39.3 +0.3
KURK				pmax	pmax	
	comp=Z,9.0nm,1.1s					
LZDM	Lanzhou Array	48.56	43	P	P	07 50 39.6 -0.4
	comp=Z,1.0nm,0.3s,baz=194,slow=4.0,SNR=1.8					
	comp=Z,1.0nm,0.3s					
KGCAE	Kacgae	48.74	235	IAmb	IAmb	07 50 41.6
	comp=Z,16nm,1.0s					
BOSA	Boshof	49.29	227	P	P	07 50 44.0 -1.6
BOSA				IAmb	IAmb	07 50 45.7
	comp=Z,24nm,1.1s					
BOSA	Boshof	49.29	227	P	P	07 50 43.0 -2.5
	comp=Z,10nm,1.0s,baz=57,slow=9.8,SNR=7.5					
	comp=Z,10nm,1.0s					
BOSA	Boshof	49.29	227	P	P	07 50 44.0 -1.6
BOSA				pmax	pmax	
	comp=Z,24nm,1.2s					
BVAR	Borovoye Array	49.55	5	P	P	07 50 45.3 -1.6
	comp=Z,0.3nm,0.3s,baz=240,slow=8.1,SNR=2.0					
BVAR				PcP	PcP	07 52 09.6 +0.9
	comp=Z,2.6nm,0.9s,baz=212,slow=5.1,SNR=3.9					
BVAR				LR	LR	08 12 45.0
	comp=Z,242nm,19.5s,baz=177,slow=37					
	comp=Z,0.3nm,0.3s					
BORK	Borovoye	49.56	5	⇓*eP*	P	07 50 47.6 +0.5
BORK				pmax	pmax	
	comp=Z,13nm,2.5s					
BELG	Belogornoye	50.59	347	*d iP*	P	07 50 54.8 0.0
BELG				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ALN	Alexandroupoli	50.61	323	IAmb	IAmb	07 50 57.8
	comp=Z,37nm,1.3s					
H04N2	CROZET ISLANDS	50.74	191	T	T	08 45 47.4
	baz=20,slow=75,SNR=12					
H04N1	CROZET ISLANDS	50.75	191	T	T	08 45 55.2
	baz=20,slow=75,SNR=11					
H04N3	CROZET ISLANDS	50.76	191	T	T	08 45 29.0
	baz=20,slow=75,SNR=10.0					
RDO	Rodhopi	51.06	323	IAmb	IAmb	07 51 01.0
	comp=Z,25nm,1.3s					
TSUM	Tsumeb	51.20	242	P	P	07 50 59.7 -0.4
XAN	Xi'an	51.37	48	⇓P	P	07 51 02.1 +0.9
XAN				pP	pwP	07 51 07.5 -1.8
XAN				pmax	pmax	
	comp=Z,43nm,1.4s					
TIRR	Tirgusor	51.51	328	IAmb	IAmb	07 51 03.2
	comp=Z,17nm,1.3s					
TIRR	Tirgusor	51.51	328	P	P	07 51 02.3 +0.4
	comp=Z,12nm,1.7s					
NE56	Odesa	51.78	331	P	P	07 51 04.7 +0.8
SZH	Strazhitsa	52.09	325	*eP*	P	07 51 07.3 +1.0
LIT	Litokhoron	52.38	320	P	P	07 51 08.8 +0.3
LIT				IAmb	IAmb	07 51 09.6
	comp=Z,19nm,1.3s					
LIT	Litokhoron	52.38	320	P	P	07 51 08.8 +0.3
LIT				pmax	pmax	
	comp=Z,19nm,1.3s					
MMB	Musomishta	52.39	322	*eP*	P	07 51 09.0 +0.4
ARTI	Arti	52.87	356		P	07 51 12.0 +0.1
ARTI	Arti	52.87	356	LR	LR	08 15 02.5
	comp=Z,82nm,18.3s,baz=119,slow=38					
ARTI	Arti	52.87	356	*d iP*	P	07 51 11.5 -0.3
ARTI						07 52 16.6
ARTI						07 53 06.9
ARTI				S	S	07 58 43.6 +3.3
ARTI				SS	SS	08 02 22.0 +2.7
ARTI				pmax	pmax	
	comp=Z,13nm,1.4s					
KKB	Krupnik	52.94	322	*eP*	P	07 51 13.2 +0.5
ISR	Istrita	52.95	327	⇑P	P	07 51 15.6 +2.9
ISR	Istrita	52.95	327	⇑P	P	07 51 15.6 +2.9
ISR	Istrita	52.95	327	P	P	07 51 13.4 +0.7
	comp=Z,32nm,1.3s					
ZALV	Zalesovo Beam	52.96	15	P	P	07 51 12.0 -0.5
ZALV	Zalesovo Beam	52.96	15	P	P	07 51 12.1 -0.4
	comp=Z,4.4nm,0.7s,baz=208,slow=8.8,SNR=14					
ZALV				LR	LR	08 13 36.3
	comp=Z,116nm,21.3s,baz=218,slow=36					
	comp=Z,4.4nm,0.7s					
GHRR		53.10	328	P	P	07 51 14.6 +0.9
PLNA	Plana	53.12	323	*eP*	P	07 51 15.2 +1.1
BISRR	Bisoca	53.14	328	⇓P	P	07 51 16.7 +2.6
BISRR	Bisoca	53.14	328	P	P	07 51 14.8 +0.7
	comp=Z,14μmcomp=Z,75nm,1.3s					
NEHR	Nehoiu	53.28	327	⇑P	P	07 51 17.2 +2.1
VTS	Vitosha	53.32	323	*eP*	P	07 51 16.2 +0.6
VRI	Vrincioaia	53.34	328	⇑P	P	07 51 17.5 +2.0
VRI	Vrincioaia	53.34	328	⇑P	P	07 51 17.5 +2.0
VRI	Vrincioaia	53.34	328	P	P	07 51 16.3 +0.8
	comp=Z,58nm,1.4s					
PLOR5	Plostina Array	53.36	328	P	P	07 51 16.4 +0.7
	comp=Z,713nmcomp=Z,66nm,1.3s					
PLOR	Plostina	53.37	328	⇑P	P	07 51 17.8 +2.1
PLOR	Plostina	53.37	328	⇑P	P	07 51 17.8 +2.1
BLSH	Balsha	53.43	323	*eP*	P	07 51 17.2 +0.9
MLR	Muntele Rosu	53.51	327	IAmb	IAmb	07 51 20.2
	comp=Z,40nm,1.3s					
MLR	Muntele Rosu	53.51	327	P	P	07 51 17.5 +0.6
	comp=Z,19nm,1.2s,baz=113,slow=1.9,SNR=17					
MLR				LR	LR	08 14 56.5
	comp=Z,79nm,18.9s,baz=102,slow=37					
	comp=Z,19nm,1.2s					
MLR	Muntele Rosu	53.51	327	⇑P	P	07 51 18.7 +1.8
MLR	Muntele Rosu	53.51	327	⇑P	P	07 51 18.7 +1.8
MLR	Muntele Rosu	53.51	327	P	P	07 51 17.6 +0.6
	comp=Z,23nm,1.5s					
TESR	Tescani	53.80	328	⇑P	P	07 51 19.3 +0.4
TESR	Tescani	53.80	328	P	P	07 51 19.7 +0.8
	comp=Z,51nm,1.4s					
TURR	Turia	53.84	328	⇑P	P	07 51 19.1 -0.1
OZUR		53.98	328	⇑P	P	07 51 21.2 +0.9
SORM	Soroca	54.03	331	⇑P	P	07 51 18.8 -1.7
SORM	Soroca	54.03	331	⇑P	P	07 51 18.8 -1.7
DOPR	Dopca	54.12	327	⇓P	P	07 51 22.0 +0.8
ARR	Arges	54.15	326	⇑P	P	07 51 21.6 +0.1
WHN	Wuhan	54.26	55	P	P	07 51 24.3 +1.8
KNGR	Kungurtug, Tuv	54.57	25	⇑*eP*	P	07 51 26.1 +1.5
KNGR				pmax	pmax	
	comp=Z,7.0nm,0.4s					
BOVS	Bovan	54.82	323	⇑P	P	07 51 21.0 -5.3
HERR	Herculane	55.12	325	⇑P	P	07 51 29.3 +0.8
GZR	Gura Zlata	55.21	325	⇑P	P	07 51 24.6 -4.6
GZR	Gura Zlata	55.21	325	⇑P	P	07 51 24.6 -4.6
BTO	Baotou	55.21	42	*eP*	P	07 51 30.8 +1.4
BTO				pP	pwP	07 51 35.5 -2.0
BTO				sP	sP	07 51 37.9 +4.2
BTO				S	S	07 59 13.5 +0.8
BTO				sS	sS	07 59 22.5 +4.5
BTO				SS	SS	08 02 56.5 -0.5
BTO				pmax	pmax	
	comp=Z,28nm,1.5s					
BTO				pmax	pmax	
	comp=Z,250nm,5.4s					
BTO				LR	LR	
	comp=Z,320nm,14.9s					
BTO				LR	LR	
	comp=Z,270nm,17.0s					
BTO				LR	LR	
	comp=Z,420nm,17.8s					
KMPD	K-Podol'skiy	55.25	330	P	pP	07 51 28.9 -3.6
KMPD				P	P	07 51 28.5 -0.8
BURAR	Bucovina Array	55.26	329	P	P	07 51

comp=Z,13nm,1.2s
AKBB Malin Array Si 55.44 334 P P 07 51 29.4 -1.3
KIEV Kiev 55.44 334 P 07 51 30.0 -0.7
KIEV IAmb IAmb 07 51 30.9
comp=Z,19nm,1.4s
KIEV Kiev 55.44 334 P P 07 51 30.0 -0.7
KIEV pmax pmax
comp=Z,19nm,1.5s
KIEV Kiev 55.44 334 P P 07 51 29.7 -1.0
comp=Z,39nm,1.6s
AK11 Malin Array Si 55.45 334 P P 07 51 29.7 -1.0
MDVR Moldovita 55.47 324 ⇑P P 07 51 30.9 -0.1
AK22 Malin Array Si 55.55 334 P P 07 51 30.5 -0.9
AK20 Malin Array Si 55.56 334 P P 07 51 30.5 -1.1
KSV Kosov 55.79 329 P P 07 51 33.3 0.0
MARR Marisel-Cluj 55.79 327 ⇓P P 07 51 30.6 -2.8
SURR Surduc 55.79 325 ⇓P P 07 51 25.6 -7.7
BZS Buzias 56.00 325 ⇑P P 07 51 25.7 -9.1
BZS Buzias 56.00 325 ⇑P P 07 51 25.7 -9.1
OBN Obninsk 56.06 341⇑*e*P P 07 51 35.1 +0.1
OBN *e* 07 52 31.8
OBN *e* 07 53 39.7
OBN pmax pmax
comp=Z,12nm,0.4s
OBN MLR MLR
comp=Z,44nm,16.0s
RAKU Rahkiv 56.07 329 P P 07 51 35.2 -0.1
DRGR 56.08 327 ⇑P P 07 51 34.8 -0.7
DRGR 56.08 327 ⇑P P 07 51 34.8 -0.7
KIRV Kirov 56.08 351 LR LR 08 17 29.5
comp=Z,96nm,18.6s,baz=160,slow=38
KIRV Kirov 56.08 351*c*eP P 07 51 35.4 +0.3
MOS Moscow 56.26 342 *e*P P 07 51 35.5 -0.9
MOS pmax pmax
comp=Z,81nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.1s
MI28 Mi28,Pidlybu 56.30 333 P P 07 51 36.3 -0.5
STNU Starunia 56.33 329 P P 07 51 36.8 -0.3
HHC Hu-ho-hao-te 56.36 42 *e*P P 07 51 41.1 +3.5
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,60nm,3.8s
HHC LR LR
comp=Z,140nm,14.3s
HHC LR LR
comp=Z,130nm,15.1s
MEZ Mezhgor'ye 56.71 329 P P 07 51 40.4 +0.5
BRIU Brid 56.86 328 P P 07 51 41.4 +0.5
MORS Morshin 56.91 329 P P 07 51 41.8 +0.6
BERU Beregovo 56.99 328 P P 07 51 42.5 +0.7
SONM Songino Array 57.00 33 P P 07 51 42.8 +0.7
SONM IAmb IAmb 07 51 45.2
comp=Z,13nm,1.2s
SONM Songino Array 57.00 33 P P 07 51 43.2 +1.1
comp=Z,8.1nm,1.1s,baz=233,slow=7.2,SNR=23
SONM LR LR 08 16 23.2
comp=Z,273nm,20.6s,baz=234,slow=36
comp=Z,8.1nm,1.1s
SONM Songino Array 57.00 33 P P 07 51 42.8 +0.7
SONM pmax pmax
comp=Z,13nm,1.2s
ZAK Zakamensk 57.03 29 *e*P P 07 51 42.2 0.0
ZAK pmax pmax
comp=Z,10.0nm,1.8s
ACER Acerenza 57.04 317 P 07 51 42.8 +0.4
HNS HongShan 57.05 47 ⇑P P 07 51 44.6 +2.2
HNS pmax pmax
comp=Z,17nm,1.3s
MUKU Mukachevo 57.11 328 P P 07 51 43.1 +0.5
HOLU Holmets 57.31 328 P P 07 51 44.6 +0.5
ULN Ulaanbaatar 57.38 33⇓*i*P P 07 51 45.9 +1.1
ULN pmax pmax
comp=Z,12nm,1.7s
RNPP9 Sopachiv 57.44 333 P P 07 51 44.1 -0.8
MORH Mrgy, Hungar 58.06 324 P P 07 51 49.0 -0.4
comp=Z,21nm,1.4s
NJ2 Nanjing 58.40 54 *e*P P 07 51 53.8 +1.8
NJ2 pmax pmax
comp=Z,13nm,0.7s
TIA Tai'an 58.40 49 P P 07 51 52.9 +0.9
TIA pmax pmax
comp=Z,14nm,1.4s
MNK Minsk 58.75 336 *i*P P 07 51 51.9 -2.1
MNK *i* 07 54 01.4
MNK *i*S **S 07 59 57.8 -0.8**
MNK *i*SS **SS 08 03 52.0 +0.1**
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=N,83nm,19.0s
MNK MLR MLR
comp=Z,87nm,19.0s
MNK MLR MLR
comp=E,61nm,20.0s
NIE Niedzica 58.95 328 P P 07 51 55.0 -0.6
comp=E,4.6nm,1.4s
BJI Beijing 59.16 45 P P 07 51 59.1 +1.9
BJI pmax pmax
comp=E,4.0nm,1.0s
LANS Liptovska Anna 59.23 327 *e*P P 07 51 58.3 +0.7
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 59.23 327 *e*P P 07 51 58.3 +0.7
MORW Morawa 59.27 127 P P 07 51 58.8 +0.6
BOJS Bojanci 59.72 322 *i*P P 07 52 00.3 -0.7
DOBS Dobrina 59.91 323 *i*P P 07 52 01.9 -0.4
FDMO Fiordimonte 59.96 319 IAmb IAmb 07 52 03.5
comp=Z,21nm,1.2s
SMOL Smolenice 60.00 326 *e*P P 07 52 02.7 -0.1
MODS Modra-Piesok 60.01 326 *e*P P 07 52 02.2 -0.7
MODS pmax pmax
comp=Z,20nm,1.1s
MODS Modra-Piesok 60.01 326 *e*P P 07 52 02.2 -0.7
JAVC Velka Javorina 60.05 326 *e*P P 07 52 03.5 +0.3
KLMR Klimovskoe 60.16 346 *e*P P 07 52 01.0 -2.6
KLMR pmax pmax
comp=Z,66nm,1.3s
RONA Rosalia, Austr 60.21 325 *i*P P 07 52 03.9 -0.4
comp=Z,11nm,1.3s
ZAVS Zavodnje 60.32 323 *i*P P 07 52 04.3 -0.8
H01W3 Cape Leeuwin H 60.41 134 T T 08 57 23.1
baz=299,slow=75,SNR=39
H01W2 Cape Leeuwin H 60.41 134 T T 08 57 20.6
baz=299,slow=75,SNR=49
H01W1 Cape Leeuwin H 60.42 134 T T 08 57 21.6
baz=299,slow=75,SNR=41
ARSA Arzberg 60.43 324 *i*P P 07 52 06.1 +0.3
comp=Z,15nm,1.3s
SOKA Soboth 60.43 323 *i*P P 07 52 06.0 0.0
comp=Z,13nm,1.5s
CONA Conrad Observa 60.58 325 *i*P P 07 52 05.9 -1.0
comp=Z,11nm,1.1s
MORC Moravsky Berou 60.62 327 P 07 52 06.3 -0.8
MORC IAmb IAmb 07 52 08.0
comp=Z,14nm,1.1s
MORC Moravsky Berou 60.62 327 *e*P P 07 52 06.1 -1.0
MORC Moravsky Berou 60.62 327 P P 07 52 06.3 -0.8
MORC pmax pmax
comp=Z,15nm,1.1s
OBKA Obir 60.64 323 *i*P P 07 52 07.6 +0.2
comp=Z,11nm,1.0s
XLT XiLinHaoTe 60.73 41 *e*P P 07 52 10.6 +2.6
XLT sP pwP 07 52 18.1 +2.0
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,81nm,4.8s
XLT LR LR
comp=Z,200nm,15.4s
XLT LR LR
comp=Z,250nm,20.3s
KRUC Moravsky 60.87 326 *e*P P 07 52 07.9 -0.8
VRAC Vranov 60.89 326 P P 07 52 08.8 -0.1
comp=Z,8.6nm,0.9s,baz=122,slow=6.7,SNR=12
comp=Z,8.6nm,0.9s
VRAC Vranov 60.89 326 *e*P P 07 52 09.1 +0.2
KRLC Kraliky 61.20 327 *e*P P 07 52 11.1 +0.1
KRLC Kraliky 61.20 327 *e*P P 07 52 11.1 +0.1
MYKA Terra Mystica 61.25 323 *i*P P 07 52 11.3 -0.1
comp=Z,16nm,1.3s
MOA Molln 61.47 324 *e*P P 07 52 11.9 -1.0
comp=Z,26nm,1.2s
KBA Koelnbreinsper 61.64 323 *i*P P 07 52 13.9 -0.4
comp=Z,10nm,1.3s
STAL STALIGIAL 61.65 322 P P 07 52 13.2 -0.9
STAL IAmb IAmb 07 52 14.6
comp=Z,19nm,1.3s
BIOA Bad Ischl, Aus 61.76 324 *i*P P 07 52 14.4 -0.4
comp=Z,26nm,1.2s
OSTC Ostas 61.77 327 *e*P P 07 52 15.2 +0.4
OSTC Ostas 61.77 327 *e*P P 07 52 15.2 +0.4
NWAO Narrogin (SRO) 61.82 130 LR LR 08 13 54.1
comp=Z,58nm,19.9s,baz=2.0,slow=31
CHVC Chvalec 61.87 327 *e*P P 07 52 15.2 -0.3
CHVC Chvalec 61.87 327 *e*P P 07 52 15.2 -0.3
ZCCA Zocca 61.91 319 P P 07 52 16.5 +0.6
ABTA Abfaltersbach 61.99 322 *e*P P 07 52 15.4 -1.1
comp=Z,15nm,1.0s
LESA Schwarzleotal 62.20 323 *i*P P 07 52 17.0 -0.9
comp=Z,18nm,1.3s
KHC Kasperske Hory 62.49 325*d i*P P 07 52 18.2 -1.6
KHC pmax pmax
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 62.51 283 P P 07 52 20.1 -0.3
TORD IAmb IAmb 07 53 15.8
comp=Z,6.2nm,0.7s
TORD Torodi Ar. Bea 62.51 283 P P 07 52 19.2 -1.2
comp=Z,3.4nm,0.3s,baz=98,slow=6.8,SNR=1.9
comp=Z,3.4nm,0.3s
WTTA Wattenberg 62.76 322 *i*P P 07 52 20.1 -1.7
comp=Z,17nm,1.2s
WATA Walderalm 62.83 323 *e*P P 07 52 20.4 -1.7
comp=Z,22nm,1.3s
SQTA Sankt Quirin 63.00 322 *i*P P 07 52 21.4 -1.9
comp=Z,5.8nm,0.7s
MOTA Moosalm 63.12 322 *i*P P 07 52 21.7 -2.4
comp=Z,6.1nm,0.7s
BRG Berggiesshubel 63.16 327 *e*P P 07 52 23.4 -0.7
BRG Amp 07 52 25.8
comp=Z,7.8nm,1.1s
FETA Feichten 63.21 322 *i*P P 07 52 23.6 -1.1
comp=Z,11nm,1.3s
FUORN Ofenpass-Fuorn 63.32 321 IAmb IAmb 07 52 26.0
comp=Z,16nm,1.1s
RETA Reutte 63.39 322 *i*P P 07 52 24.5 -1.3
comp=Z,0.6nm,0.3s
DAVA Damuels 63.84 322 *e*P P 07 52 26.6 -2.4
comp=Z,27nm,1.1s
CLL Collm 63.89 327 P P 07 52 28.7 -0.3
CLL IAmb IAmb 07 52 30.0
comp=Z,16nm,1.1s
CLL Collm 63.89 327 *i*P P 07 52 28.1 -0.8
CLL *i* 07 52 35.1
CLL pmax pmax
comp=Z,23nm,1.3s
CLL Collm 63.89 327 P P 07 52 28.2 -0.7
comp=Z,14nm,1.4s
CLL Collm 63.89 327 *i*P P 07 52 28.1 -0.8
comp=Z,23nm,1.3s
FITZ Fitzroy Crossi 64.15 112 LR LR 08 19 03.9
comp=Z,30nm,18.2s,baz=0.5,slow=35
FINES FINESS Array B 64.46 341 P P 07 52 31.4 -1.0
comp=Z,7.3nm,1.0s,baz=98,slow=7.9,SNR=6.0
FINES LR LR 08 22 23.0
comp=Z,66nm,18.5s,baz=86,slow=38
comp=Z,7.3nm,1.0s
SENIN Lac Senin/Sane 65.09 320 IAmb IAmb 07 52 36.9
comp=Z,19nm,1.1s
BFO Black Forest 65.23 322 P 07 52 37.4 -0.4
BFO Black Forest 65.23 322 P P 07 52 37.4 -0.4
BFO pmax pmax
comp=Z,36nm,1.3s
JOW Kunigami 65.23 62 LR LR 08 23 13.8
comp=Z,65nm,18.7s,baz=282,slow=38
HILR Hailar Array B 65.45 36 P P 07 52 40.3 +1.1
comp=Z,1.5nm,0.5s,baz=198,slow=9.1,SNR=4.7
comp=Z,1.5nm,0.5s
ECH Echery 65.90 322 IAmb IAmb 07 52 42.0
comp=Z,15nm,1.2s
KNRA Kununurra 66.57 109 P 07 52 46.9 0.0
CN2 Changchun 66.97 44 *e*P P 07 52 49.9 +0.9
KSAR Wonju Array Be 67.00 51 P 07 52 49.8 +0.4
KSAR Wonju Array Be 67.00 51 P P 07 52 49.8 +0.4
KSRS Korea Array 67.03 51 P P 07 52 49.3 -0.2
comp=Z,0.7nm,0.3s,baz=264,slow=7.2,SNR=6.7
comp=Z,0.7nm,0.3s
APA Apatity 67.30 348⇓*e*P P 07 53 01.6 +11
APA *e* 07 53 16.6
APA MLR MLR
comp=Z,918nm,5.1s
HFS Hagfors 68.24 335 P P 07 52 55.8 -1.0
comp=Z,6.3nm,0.6s,baz=132,slow=6.6,SNR=20
HFS LR LR 08 24 04.6
comp=Z,74nm,20.7s,baz=98,slow=37
comp=Z,6.3nm,0.6s
JNU Nakatsue 68.50 56 LR LR 08 23 14.0
comp=Z,55nm,21.6s,baz=226,slow=36
KONO Kongsberg 69.74 334⇓*e*P P 07 53 04.7 -1.3
KONO pmax pmax
comp=Z,18nm,1.3s
NOA NORSAR Array B 69.76 336 P P 07 53 04.7 -1.6
comp=Z,3.4nm,1.1s,baz=114,slow=6.8,SNR=3.7
NOA LR LR 08 25 23.1
comp=Z,55nm,21.3s,baz=105,slow=37
comp=Z,3.4nm,1.1s
HEH HeiHe 70.30 37 *e*P P 07 53 09.6 -0.1
HEH pmax pmax
comp=Z,9.0nm,1.3s
HEH LR LR
comp=Z,540nm,14.6s
HEH LR LR
comp=Z,270nm,15.5s
HEH LR LR
comp=Z,320nm,15.2s
ARCES ARCESS Array B 70.64 346 P P 07 53 11.8 +0.4
ARCES ARCESS Array B 70.64 346 P P 07 53 11.0 -0.4
comp=Z,9.1nm,0.9s,baz=126,slow=4.6,SNR=5.4
ARCES LR LR 08 25 43.1
comp=Z,36nm,21.1s,baz=84,slow=37
comp=Z,9.1nm,0.9s
ARCES ARCESS Array B 70.64 346 P P 07 53 11.8 +0.4
ARCES pmax pmax
comp=Z,112nm,1.9s
MAW Mawson 71.02 181 P P 07 53 13.4 -0.3
comp=Z,3.1nm,0.7s,baz=326,slow=11,SNR=5.0
MAW LR LR 08 18 20.6
comp=Z,70nm,18.3s,baz=65,slow=31
comp=Z,3.1nm,0.7s
ESDC Sonseca Array 71.05 311 P 07 53 13.8 -0.8
ESDC IAmb IAmb 07 53 14.7
comp=Z,16nm,1.4s
ESDC Sonseca Array 71.05 311 P P 07 53 13.7 -0.9
comp=Z,5.7nm,1.0s,baz=92,slow=4.7,SNR=19
comp=Z,5.7nm,1.0s
WRA Warramunga Arr 72.58 112 P 07 53 24.7 +0.6
WRA Warramunga Arr 72.58 112 P P 07 53 24.6 +0.6
comp=Z,23nm,1.0s,baz=287,slow=5.6,SNR=73
comp=Z,23nm,1.0s
WRA Warramunga Arr 72.58 112 P P 07 53 24.7 +0.6
WRA pmax pmax
comp=Z,4.0nm,1.3s
WRAB Tennant Creek 72.59 112 P P 07 53 24.9 +0.8
WRAB Tennant Creek 72.59 112 P P 07 53 24.9 +0.8
WRAB pmax pmax
comp=Z,53nm,1.3s
WR8 Warramunga Arr 72.73 112 P 07 53 25.5 +0.5
ASAR Alice Springs 72.90 116 P P 07 53 26.4 +0.4
ASAR Alice Springs 72.90 116 P P 07 53 26.2 +0.2
comp=Z,9.5nm,1.0s,baz=284,slow=5.6,SNR=51
ASAR LR LR 08 20 21.0
comp=Z,29nm,21.4s,baz=240,slow=32
comp=Z,9.5nm,1.0s
ASAR Alice Springs 72.90 116 P P 07 53 26.4 +0.4
SYO Syowa Base 74.39 189⇑*e*P P 07 53 34.4 +0.7
MJAR Matsushiro Arr 74.97 53 LR LR 08 29 33.5
comp=Z,40nm,19.4s,baz=264,slow=38
YAK Yakutsk 75.49 26 LR LR 08 27 41.7
comp=Z,144nm,20.9s,baz=244,slow=36
YAK Yakutsk 75.49 26⇑*i*P P 07 53 40.6 +0.4
YAK pmax pmax
comp=Z,9.0nm,0.5s
JHJ Hachijo jima 2 75.91 57 LR LR 08 30 40.8
comp=Z,81nm,18.0s,baz=331,slow=38
JCJ Chichijima 77.61 63 LR LR 08 27 52.9
comp=Z,16nm,19.1s,baz=122,slow=36
SPITS Spitsbergen Ar 78.55 351 LR LR 08 31 39.0
comp=Z,82nm,19.5s,baz=118,slow=38
TIXI Tiksi 78.79 17 P 07 53 58.2 -0.3
TIXI IAmb IAmb 07 53 59.8
comp=Z,12nm,1.1s
TIXI Tiksi 78.79 17 LR LR 08 30 37.7
comp=Z,107nm,18.6s,baz=248,slow=37
TIXI Tiksi 78.79 17⇓*i*P P 07 53 58.4 -0.2
TIXI pmax pmax
comp=Z,17nm,1.4s
YSS Yuzhno-Sakhali 79.53 43⇑*i*P P 07 54 03.7 +0.6
YSS pmax pmax
comp=Z,12nm,1.0s
GUMO Guam 80.02 77 LR LR 08 27 29.8
comp=Z,17nm,20.2s,baz=52,slow=34
JMIC Jan Mayen 81.07 342 LR LR 08 32 22.4
comp=Z,48nm,18.4s,baz=44,slow=37
STKA Stephens Creek 81.14 123 P P 07 54 12.5 +0.4
STKA Stephens Creek 81.14 123 P P 07 54 11.3 -0.9
comp=Z,10nm,1.2s,baz=272,slow=6.3,SNR=9.1
comp=Z,10nm,1.2s
STKA Stephens Creek 81.14 123 P P 07 54 12.5 +0.4
STKA pmax pmax
comp=Z,87nm,1.3s
MA2 Magadan 85.16 31 LR LR 08 33 35.2
comp=Z,198nm,21.7s,baz=270,slow=36
MA2 Magadan 85.16 31*de*P P 07 54 32.4 +0.1
MA2 pmax pmax
comp=Z,30nm,2.5s
SEY Seymchan 85.97 27 LR LR 08 35 30.9
comp=Z,101nm,19.5s,baz=283,slow=37
SEY Seymchan 85.97 27⇑*e*P P 07 54 37.4 +1.1
SEY pmax pmax
comp=Z,12nm,1.4s
SNAA Sanae 86.33 197 P P 07 54 38.4 +0.5
SNAA IAmb IAmb 07 54 39.2
comp=Z,12nm,1.5s
SNAA Sanae 86.33 197 P P 07 54 38.3 +0.3
comp=Z,1.7nm,1.1s,baz=71,slow=8.5,SNR=4.1
SNAA LR LR 08 25 44.9
comp=Z,87nm,22.0s,baz=19,slow=30
comp=Z,1.7nm,1.1s
SNAA Sanae 86.33 197 P P 07 54 38.4 +0.5
SNAA pmax pmax
comp=Z,12nm,1.5s
CAN Canberra 87.73 125 P P 07 54 45.5 -0.1
CAN Canberra 87.73 125 P P 07 54 45.5 -0.1
CAN pmax pmax
comp=Z,43nm,1.4s
PETK Petropavlovsk- 89.22 37 LR LR 08 36 38.3
comp=Z,129nm,20.4s,baz=284,slow=37
BILL Bilibino 91.18 22⇑*e*P P 07 55 00.8 -0.2
BILL pmax pmax
comp=Z,12nm,1.5s
QSPA South Pole Qui 93.54 180 LR LR 08 33 47.3
comp=Z,76nm,18.9s,baz=251,slow=33
VNDA Vanda 95.11 167 LR LR 08 31 30.7
comp=Z,88nm,20.5s,baz=264,slow=31
SFJD Kangerlussuaq 96.22 339 LR LR 08 39 02.0
comp=Z,35nm,19.7s,baz=62,slow=36
SHEM Shemya Is, Ala 99.01 35 LR LR 08 41 51.5
comp=Z,61nm,22.0s,baz=298,slow=36
LAO LASA Array 129.26 352 PKiKP 08 01 06.4 +0.7
LPAZ La Paz 131.59 251 PKPdf 08 01 11.3 +0.4
LPAZ La Paz 131.59 251 PKP **PKPdf 08 01 10.2 -0.6**
comp=Z,1.3nm,0.9s,baz=124,slow=3.6,SNR=5.4
LPAZ La Paz 131.59 251 PKIKP **PKPdf 08 01 11.3 +0.4**
PDAR Pinedale Array 133.54 354 PKPdf 08 01 13.4 0.0
PDAR Pinedale Array 133.54 354 PKP **PKPdf 08 01 13.0 -0.4**
comp=Z,0.6nm,0.7s,baz=345,slow=0.6,SNR=7.5
N02D Trinity Center 135.21 8 PKPdf 08 01 16.7 +0.3
NVAR Mina Array Bea 138.14 3 PKiKP 08 01 23.4 -0.7
NVAR Mina Array Bea 138.14 3 PKP **PKPdf 08 01 19.7 -2.4**
comp=Z,1.7nm,1.1s,baz=11,slow=4.5,SNR=8.7
TUC Tucson 144.01 353 PKPbc 08 01 31.4 +1.0
TUC Tucson 144.01 353 PKIKP PKPbc 08 01 31.4 +1.0
VHRN Van Horn 144.33 344 PKPab 08 01 31.0 -0.2
TXAR Lajitas Array 145.30 341 PKPbc **PKPbc 08 01 34.2 -0.4**
comp=Z,5.3nm,0.6s,baz=60,slow=2.2,SNR=54

*PDG **21** 07:47:54.9±0.1, 42°.74N×18°.67E, h22km, ML2.5/11, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*RHSSO **21** 07:47:55.7±0.8, 42°.73N×18°.70E, h4km±2km, ML2.0/5*
*BEO **21** 07:47:56.2±0.6, 42°.79N×18°.62E, h14km±6km, ML1.3/7*
ISC 21 07:47:55.7±0.8, 42°.74N±0°.02×18°.67E±0°.02, h17km±6km, n33, σ0°77/63, 1C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**330**	⇓*i*Pg	**Pg**	**07 48 00.3**	**-0.2**
BRY				*i* Sg	**Sb**	**07 48 04.2**	**0.0**
NKME	**Niksic**	**0.21**	**82**	*e*Pg	**Pg**	**07 48 00.4**	**-0.4**
NKME				*i* Sg	**Sg**	**07 48 04.4**	**+0.2**
TREB	**Trebinje**	**0.23**	**265**	⇓*i*Pg	**Pg**	**07 48 00.7**	**-0.3**
TREB				*e*Sg	**Sg**	**07 48 05.0**	**+0.3**
TREB	**Trebinje**	**0.23**	**265**	*e*Pg	**Pg**	**07 48 00.8**	**-0.3**
TREB				*e*Sg	**Sb**	**07 48 05.5**	**+0.2**
CEME	**Cevo**	**0.27**	**136**	*e*Pg	**Pg**	**07 48 01.0**	**-0.6**
CEME				*i* Sg	**Sg**	**07 48 05.8**	**+0.1**
HCY	**Herceg Novi**	**0.32**	**203**	⇓*i*Pg	**Pg**	**07 48 01.9**	**-0.5**
HCY				*i* Sg	**Sb**	**07 48 07.9**	**+0.1**
KLINJ	**Klinje**	**0.43**	**352**	*e*Pg	**Pg**	**07 48 03.7**	**-0.9**
KLINJ				*e*Sg	**Sg**	**07 48 10.5**	**-0.1**
BUM	**Brajici-Budva**	**0.47**	**159**	⇓*i*Pg	**Pg**	**07 48 04.3**	**-0.9**
BUM				*i* Sg	**Sb**	**07 48 12.3**	**+0.1**
UPM	**Unac-Piva**	**0.50**	**21**	*e*Pg	**Pg**	**07 48 04.8**	**-0.9**
UPM				*i* Sg	**Sb**	**07 48 13.1**	**0.0**
PDG	**Podgorica**	**0.53**	**125**	*e*Pg	**Pn**	**07 48 07.9**	**-0.6**
PDG				*e*Sg	**Sn**	**07 48 18.4**	**+1.3**
PDG	**Podgorica**	**0.53**	**125**	*e*Pg	**Pg**	**07 48 05.5**	**-0.8**
PDG				*i* Sg	**Sb**	**07 48 14.1**	**+0.1**
KOME	**Kolasin**	**0.64**	**80**	*e*Pg	**Pg**	**07 48 08.0**	**-0.3**
KOME				*e*Sg	**Sb**	**07 48 18.5**	**+1.5**
KOME	**Kolasin**	**0.64**	**80**	*e*Pg	**Pg**	**07 48 07.1**	**-1.2**
KOME				*i* Sg	**Sb**	**07 48 17.3**	**+0.3**
DRME	**Dracevica, Mon**	**0.67**	**145**	*e*Pg	**Pb**	**07 48 09.4**	**+0.4**
DRME	**Dracevica, Mon**	**0.67**	**145**	⇓*i*Pg	**Pg**	**07 48 07.8**	**-1.1**
DRME				*i* Sg	**Sb**	**07 48 18.8**	**+0.8**
STON	**Ston**	**0.72**	**281**	⇑*i*Pg	**Pg**	**07 48 08.5**	**-1.3**
STON				*e*Sg	**Sg**	**07 48 19.4**	**0.0**
STON	**Ston**	**0.72**	**281**	*e*Pg	**Pg**	**07 48 08.7**	**-1.1**
PLE	**Pljevlja**	**0.79**	**42**	*e*Pg	**Pg**	**07 48 10.0**	**-1.2**
PLE				*i* Sg	**Sb**	**07 48 22.8**	**+1.2**
ULC	**Ulcinj**	**0.89**	**151**	*e*Pg	**Pg**	**07 48 11.6**	**-1.3**
ULC				*i* Sg	**Sn**	**07 48 25.9**	**+0.1**
BEY	**Berane**	**0.91**	**81**	*e*Pg	**Pn**	**07 48 13.9**	**+0.1**
BEY				*e*Sg	**Sb**	**07 48 25.7**	**+0.7**
RUDO	**Rudo**	**1.02**	**30**	*e*Pg	**Pb**	**07 48 13.4**	**-1.5**
RUDO				*e*Sg	**Sb**	**07 48 28.1**	**+0.1**
RUDO	**Rudo**	**1.02**	**30**	*e*Pg	**Pb**	**07 48 13.8**	**-1.1**
RUDO				*e*Sg	**Sg**	**07 48 28.6**	**-0.2**
SJES	**Sjenica**	**1.09**	**61**	*e*Pg	**Pb**	**07 48 16.1**	**-0.1**
SJES				*e*Sg	**Sn**	**07 48 32.4**	**+1.3**
BBLS	**Lazi&#263i**	**1.25**	**25**	*e*Pg	**Pg**	**07 48 19.6**	**-0.2**
BBLS				*e*Sg	**Sb**	**07 48 34.5**	**-0.2**
LSTV	**Lastovo**	**1.31**	**272**	*e*Pg	**Pn**	**07 48 19.5**	**+0.4**
LSTV				*e*Sg	**Sg**	**07 48 37.6**	**-0.3**
MAKA	**Makarska**	**1.32**	**295**	*e*Pg	**Pb**	**07 48 20.7**	**+0.6**
MAKA				Sg	**Sg**	**07 48 38.8**	**+0.2**
RICI	**Ricice**	**1.35**	**304**	*e*Pg	**Pb**	**07 48 20.9**	**+0.3**
IVAS	**Ivanjica**	**1.37**	**52**	*e*Pg	**Pn**	**07 48 20.8**	**+0.7**
IVAS				*e*Sg	**Sb**	**07 48 39.1**	**+0.9**
HVAR	**Hvar**	**1.69**	**286**	*e*Pn	**Pb**	**07 48 25.7**	**-0.5**
HVAR				Sn	**Sb**	**07 48 48.7**	**+1.6**
GOCS	**Kraljevo Serbi**	**1.81**	**62**	*e*Pg	**Pb**	**07 48 28.8**	**+0.3**
GOCS				*e*Sg	**Sg**	**07 48 53.1**	**-1.0**
SELS	**Selova**	**1.86**	**74**	*e*Pg	**Pb**	**07 48 28.5**	**-0.8**
SELS				*e*Sg	**Sg**	**07 48 55.1**	**-0.6**
TRUS	**Trudelj**	**1.95**	**40**	*e*Pg	**Pb**	**07 48 31.3**	**+0.5**
TRUS				*e*Sg	**Sg**	**07 48 59.4**	**+0.9**
KIJV	**Kijevo**	**2.08**	**308**	*e*Pn	**Pb**	**07 48 31.7**	**-1.2**
KIJV				*e*Sn	**Sb**	**07 48 58.1**	**-0.3**

*RHSSO **21** 07:48:32.9±0.8, 42°.74N×18°.71E, h5km±2km, ML2.4/6*
*PDG **21** 07:48:32.1±0.1, 42°.74N×18°.67E, h23km, MD2.6/4, ML2.5/13, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
BEO 21 07:48:33.5±0.2, 42°.81N×18°.67E, h9km±2km, ML1.9/15, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.13**	**314**	*e*Pg	Pg	07 48 37.3	+0.7
BRY				*i* Sg	Sg	07 48 41.6	+2.8
NKME	**Niksic**	**0.21**	**101**	⇑*i*Pg	Pg	07 48 37.7	-0.2

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NKME                                  i Sg          Sg     07 48 41.8 +0.9
TREB  Trebinje          0.25 248 ⇓iPg          Pg     07 48 38.0 -0.6
TREB                                  eSg          Sg     07 48 42.3 +0.3
TREB  Trebinje          0.25 248 ePg          Pg     07 48 38.1 -0.5
TREB                                  eSg          Sg     07 48 42.5 +0.5
CEME  Cevo              0.32 145 ⇑iPg          Pg     07 48 38.4 -1.5
CEME                                  i Sg          Sg     07 48 43.3 -0.9
KLINJ Klinje            0.36 350 ePg          Pg     07 48 41.1 +0.4
KLINJ                                 eSg          Sb     07 48 48.0 -0.1
HCY   Herceg Novi       0.39 200 ePg          Pg     07 48 39.2 -1.8
HCY                                   i Sg          Sg     07 48 45.2 -0.9
UPM   Unac-Piva         0.43  24 ePg          Pg     07 48 42.0  0.0
UPM                                   i Sg          Sb     07 48 50.3 +0.2
BUM   Brajici-Budva     0.54 162 ePg          Pg     07 48 41.6 -2.3
BUM                                   i Sg          Sg     07 48 49.8 -1.1
PDG   Podgorica         0.58 131 ePg          Pg     07 48 43.7 -0.9
PDG                                   eSg          Sg     07 48 53.0 +0.8
PDG   Podgorica         0.58 131 ePg          Pg     07 48 42.7 -1.9
PDG                                   i Sg          Sg     07 48 51.8 -0.4
KOME  Kolasin           0.62  86 ePg          Pg     07 48 45.2 -0.4
KOME                                  eSg          Sg     07 48 53.8  0.0
KOME  Kolasin           0.62  86 ePg          Pg     07 48 44.3 -1.3
KOME                                  i Sg          Sb     07 48 55.1 -0.4
STON  Ston              0.71 275 ePg          Pg     07 48 45.7 -1.6
STON                                  eSg          Sb     07 48 57.6 -0.4
STON  Ston              0.71 275 ePg          Pg     07 48 46.2 -1.0
STON                                  Sg           Sb     07 48 57.5 -0.5
STON  Ston              0.71 275 ePg          Pg     07 48 45.9 -1.4
STON                                  eSg          Sb     07 48 58.1 +0.1
DRME  Dracevica, Mon    0.73 148 ePg          Pg     07 48 46.7 -0.9
DRME                                  eSg          Sb     07 48 57.8 -0.7
DRME  Dracevica, Mon    0.73 148 ePg          Pg     07 48 45.1 -2.5
DRME                                  i Sg          Sg     07 48 56.3 -0.8
PLE   Pljevlja          0.74  45 ePg          Pg     07 48 47.5 -0.3
PLE                                   eSg          Sg     07 48 58.1 +0.6
PLE   Pljevlja          0.74  45 ePg          Pg     07 48 47.1 -0.7
PLE                                   i Sg          Sb     07 49 00.1 +1.2
BEY   Berane            0.90  86 ePg          Pg     07 48 50.3 -0.6
BEY                                   eSg          Sg     07 49 03.0 +0.4
IVA   Berane            0.90  86 ⇑iPg          Pg     07 48 49.3 -1.6
IVA                                   i Sg          Sb     07 49 04.1 +0.5
ULC   Ulcinj            0.95 153 ePg          Pg     07 48 49.0 -2.7
ULC                                   i Sg          Sg     07 49 03.4 -0.6
RUDO  Rudo              0.96  32 ePg          Pg     07 48 50.9 -1.0
RUDO                                  eSg          Sg     07 49 04.4  0.0
RUDO  Rudo              0.96  32 ePg          Pg     07 48 50.9 -1.0
RUDO                                  eSg          Sg     07 49 03.7 -0.7
PVY   Plav              0.98 102 ePg          Pg     07 48 50.3 -2.0
PVY                                   i Sg          Sb     07 49 05.8 +0.1
SJES  Sjenica           1.06  64 ePg          Pg     07 48 53.7 -0.1
SJES                                  eSg          Sg     07 49 06.8 -0.8
BBLS  Lazi&#263i        1.19  27 ePg          Pb     07 48 56.1 -0.1
BBLS                                  eSg          Sg     07 49 11.2 -0.4
MAKA  Makarska          1.30 292 ePg          Pb     07 48 58.0  0.0
MAKA                                  Sg           Sg     07 49 16.3 +1.0
LSTV  Lastovo           1.31 269 ePg          Pn     07 48 56.9 -1.1
LSTV                                  Sg           Sb     07 49 15.1  0.0
RICI  Ricice            1.31 302 ePg          Pb     07 48 58.4 +0.1
IVAS  Ivanjica          1.33  54 ePg          Pn     07 48 58.4 +0.1
IVAS                                  eSg          Sb     07 49 15.8  0.0
DIVS  Divibare          1.61  36 ePg          Pb     07 49 03.4  0.0
DIVS                                  eSg          Sb     07 49 23.5 -0.4
HVAR  Hvar              1.67 283 ePn          Pn     07 49 03.0 +0.1
HVAR                                  Sn           Sb     07 49 26.1 +0.6
GOCS  Kraljevo Serbi    1.78  64 ePg          Pn     07 49 04.9 +0.4
GOCS                                  eSg          Sb     07 49 29.5 +0.7
GRUS  Gruza             1.84  53 ePg          Pn     07 49 05.9 +0.6
GRUS                                  eSg          Sg     07 49 32.6 -0.1
SELS  Selova            1.84  76 ePn          Pn     07 49 05.5 +0.2
SELS                                  eSn          Sn     07 49 28.9 +0.1
TEKS  Tekeris           1.85  19 ePg          Pn     07 49 05.5 +0.1
TEKS                                  eSg          Sb     07 49 31.7 +1.0
TRUS  Trudelj           1.90  41 ePg          Pb     07 49 08.0 -0.3
TRUS                                  eSg          Sg     07 49 33.5 -0.9
KIJV  Kijevo            2.04 307 ePn          Pn     07 49 08.7 +0.7
KIJV                                  eSn          Sb     07 49 35.3 -0.8
BLY   Banja Luka        2.22 331 ePn          Pn     07 49 11.6 +1.2
BLY                                   eSn          Sb     07 49 39.8 -1.5
BARS  Barje             2.32  89 ePn          Pn     07 49 11.1 -0.7
BARS                                  eSn          Sn     07 49 40.8 +0.4
ZAPS  Zavoj             2.94  80 ePn          Pn     07 49 19.4 -1.1
ZAPS                                  eSn          Sn     07 49 55.5 -0.5
```

VIE 21 07:51:13.2±0.3, 47°.51N×14°.91E, h0km, mb1.3/4, ml1.3/6, Error ellipse: s-maj=2.7km s-min=2.1km az=10.0 0 km SSW of Erzberg Mining explosion., Austria

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Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
ARSA  Arzberg             0.49 122  i Pg  Pg          07 51 22.6 -0.1
      1.6nm,0.3s
ARSA                                eSg   Sg          07 51 28.4 -0.6
      2.8nm,0.2s
MOA   Molln               0.55 308  ePg   Pg          07 51 23.9 +0.2
      0.1nm,0.1s
MOA                                 eSg   Sg          07 51 32.2 +1.3
      0.6nm,0.2s
CONA  Conrad Observa      0.77  57  i Pg  Pg          07 51 28.0 +0.2
      4.6nm,1.2s
CONA                                eSg   Sb          07 51 39.9 -0.6
      0.1nm,0.1s
RONA  Rosalia, Austr      0.96  78  i Pg  Pb          07 51 32.5 -0.2
      0.8nm,0.2s
RONA                                eSg   Sb          07 51 46.4 +0.4
      0.5nm,0.3s
KBA   Koelnbreinsper      1.15 248  ePg   Pg          07 51 34.4 -0.8
      0.2nm,0.2s
KBA                                 eSg   Sb          07 51 51.8 +0.2
      1.1nm,0.3s
```

*IDC **21** 08:01:54.1±0.9, 19°.53S×172°.97W, h0km, mb4.2/10, mbtmp4.2/12, ML3.8/2, MS3.0/2, Error ellipse: s-maj=44.1km s-min=16.4km az=156.0*
*NEIC **21** 08:01:55.3±1.1, 19°.05±0°.1×172°.77W±0°.10, h10km±1km, mb4.7/24, Error ellipse: s-maj=19.2km s-min=15.2km az=201.0*

ISC 21 08:01:55.4±0.5, 19°.06S±0°.08×172°.84W±0°.07, h10km, n57, σ1§69/56, mb4.5/23, Tonga Islands region

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Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
NIUE  Niue                2.75  91          Pn        08 02 38.1 -1.5
AFI   Afiamalu            5.22  11    Pn    Pn        08 03 11.8 -1.9
RAR   Rarotonga          12.46 102    Pn    Pn        08 04 50.1 -2.7
RAR   Rarotonga          12.46 102    Pn    Pn        08 04 51.4 -1.4
      3.2nm,0.3s,baz=233,slow=6.7,SNR=8.9
      7.6nm,0.4s
PINNC Pines Island,      18.76 256                P     08 06 14.9 +0.2
PINNC                                IAmb  IAmb        08 06 38.0
      comp=Z,43nm,1.1s
DZM   Mont Dzumac        19.63 258    P             P     08 06 23.4 -0.9
      comp=Z,0.4nm,0.3s,baz=72,slow=19,SNR=3.5
      comp=Z,9.3nm,0.8s
URZ   Urewera            21.04 203    P             P     08 06 38.9 -0.5
      comp=Z,14nm,0.7s,baz=17,slow=1.6,SNR=7.8
URZ                                  S             S     08 10 29.0 -4.6
      comp=Z,6.0nm,0.9s,baz=336,slow=20,SNR=1.3
PPT   Papeete            22.13  90    LR    LR        08 14 05.0
      comp=Z,31nm,20.7s,baz=210,slow=33
EIDS  Eidsvold           33.91 253    P             P     08 08 37.6 -1.2
EIDS                                 IAmb  IAmb        08 08 53.8
      comp=Z,16nm,1.2s
TOO   Toolangi           40.67 234    P             P     08 09 36.4 +0.3
COEN  Coen               42.40 270    P             P     08 09 50.2 -0.2
STKA  Stephens Creek     42.78 243    P             P     08 09 52.8 -0.6
STKA                                 IAmb  IAmb        08 09 53.5
      comp=Z,9.7nm,0.7s
STKA  Stephens Creek     42.78 243    P             P     08 09 51.2 -2.1
      comp=Z,1.3nm,0.5s,baz=81,slow=10.0,SNR=8.8
      comp=Z,1.3nm,0.5s
BBOO  Buckleboo          47.53 243    P             P     08 10 30.2 -0.9
BBOO                                 IAmb  IAmb        08 10 30.9
      comp=Z,4.6nm,0.8s
WR8   Warramunga Arr     49.48 260    P             P     08 10 44.9 -1.4
WR8                                  IAmb  IAmb        08 10 46.3
      comp=Z,4.5nm,0.6s
AS31  Alice Springs      49.58 255    P             P     08 10 46.9 -0.2
ASAR  Alice Springs      49.58 255    P             P     08 10 46.1 -1.0
ASAR  Alice Springs      49.58 255    P             P     08 10 45.4 -1.8
      comp=Z,5.8nm,0.6s,baz=98,slow=7.7,SNR=105
      comp=Z,5.8nm,0.6s
WB0   Warramunga Arr     49.60 260    P             P     08 10 45.8 -1.5
WB0                                  IAmb  IAmb        08 10 46.5
      comp=Z,7.9nm,0.7s
WRA   Warramunga Arr     49.63 260    P             P     08 10 45.7 -1.7
WRA   Warramunga Arr     49.63 260    P             P     08 10 45.2 -2.3
      comp=Z,3.4nm,0.5s,baz=97,slow=8.5,SNR=60
      comp=Z,3.4nm,0.5s
FORT  Forrest            54.32 245    P             P     08 11 21.5 -0.7
FORT                                 IAmb  IAmb        08 11 25.0
      comp=Z,5.3nm,0.9s
KNRA  Kununurra          55.63 264    P             P     08 11 31.4 -0.5
FITZ  Fitzroy Crossi     58.05 260    P             P     08 11 48.9 -0.2
FITZ  Fitzroy Crossi     58.05 260    P             P     08 11 47.8 -1.4
      comp=Z,3.3nm,0.5s,baz=133,slow=5.9,SNR=18
      comp=Z,3.3nm,0.5s
VNDA  Vanda              59.81 186    P             P     08 12 03.3 +2.9
      comp=Z,0.6nm,0.7s,baz=9.3,slow=8.0,SNR=3.2
PSA00 Pilbara Seismi     62.73 255    P             P     08 12 21.3 +0.2
PSA00 Pilbara Seismi     62.73 255    P             P     08 12 21.3 +0.2
PSA00                                IAmb  IAmb        08 12 47.3
      comp=Z,8.1nm,1.4s
MBWA  Marble Bar         62.91 255    P             P     08 12 21.9 -0.5
DAV   Davao City (W)     65.98 287    LR    LR        08 40 03.3
      comp=Z,15nm,19.9s,baz=174,slow=35
QSPA  South Pole Qui     71.01 180    P             P     08 13 17.8 +4.6
      comp=Z,1.7nm,0.6s,baz=55,slow=1.2,SNR=19
NIKH  Nikolski High      71.81   3    P             P     08 13 17.5 -0.4
MJAR  Matsushiro Arr     72.07 320    P             P     08 13 21.2 +1.3
      comp=Z,1.9nm,0.6s,baz=158,slow=6.6,SNR=4.8
      comp=Z,1.9nm,0.6s
PEA0B Petropavlovsk-     76.26 342    P             P     08 13 44.0 +0.1
PEA0B                                IAmb  IAmb        08 14 06.5
      comp=Z,16nm,1.5s
NVAR  Mina Array Bea     76.70  41    P             P     08 13 45.8 -1.2
NVAR  Mina Array Bea     76.70  41    P             P     08 13 50.7 +3.6
      comp=Z,1.2nm,0.7s,baz=225,slow=9.3,SNR=12
      comp=Z,1.2nm,0.7s
KSRS  Korea Array        79.14 316    P             P     08 14 02.4 +2.0
      comp=Z,1.5nm,0.8s,baz=131,slow=6.9,SNR=6.0
      comp=Z,1.5nm,0.8s
KSAR  Wonju Array Be     79.16 316    P             P     08 14 00.2 -0.2
TX31  Lajitas Ar. Si     82.21  55    P             P     08 14 15.9 -1.3
TX31                                 IAmb  IAmb        08 14 38.6
      comp=Z,8.6nm,1.4s
TXAR  Lajitas Array      82.21  55    P             P     08 14 15.9 -1.3
TXAR  Lajitas Array      82.21  55    P             P     08 14 19.6 +2.4
      comp=Z,0.4nm,0.7s,baz=220,slow=7.5,SNR=6.9
      comp=Z,0.4nm,0.7s
TRF   Thorofare Moun     84.11  10    P             P     08 14 24.1 -2.2
TRF                                  IAmb  IAmb        08 14 44.0
      comp=Z,4.1nm,0.9s
PD31  Pinedale Array     84.63  41    P             P     08 14 28.8 -0.7
PDAR  Pinedale Array     84.63  41    P             P     08 14 28.2 -1.3
PDAR  Pinedale Array     84.63  41    P             P     08 14 32.0 +2.5
      comp=Z,0.8nm,0.7s,baz=210,slow=4.3,SNR=10
      comp=Z,0.8nm,0.7s
CCB   Clear Creek Bu     85.64  11    P             P     08 14 33.3 -0.4
CCB                                  IAmb  IAmb        08 14 52.1
      comp=Z,3.5nm,0.9s
ILAR  Eielson Array      85.92  11    P             P     08 14 35.5 +0.4
ILAR  Eielson Array      85.92  11    P             P     08 14 37.2 +2.1
      comp=Z,0.5nm,0.6s,baz=226,slow=5.7,SNR=16
      comp=Z,0.5nm,0.6s
IMAR  Indian Mountai     86.00   8    P             P     08 14 34.8 -0.7
BMAR  Burnt Mountain     88.73  11    P             P     08 14 48.6 -0.1
H29M  Whitestone         88.88  13    P             P     08 14 48.2 -1.2
D22K  Ayikyak River      88.89   7    P             P     08 14 49.5 +0.1
BVAR  Borovoye Array    121.07 321    PKP           PKPdf 08 20 49.4 +1.3
      comp=Z,1.2nm,0.6s,baz=145,slow=5.3,SNR=4.6
FINES FINESS Array B     135.61 347    PKP           PKPdf 08 21 16.9 +1.4
      comp=Z,4.3nm,1.1s,baz=338,slow=1.5,SNR=2.0
BRTR  Keskin Array B     149.27 318    PKPbc         PKPbc 08 21 46.2 +1.4
      comp=Z,1.4nm,0.6s,baz=112,slow=2.5,SNR=8.0
GERES GERESS Array B     149.82 351    PKPbc         PKPbc 08 21 46.1 +0.3
      comp=Z,0.4nm,0.4s,baz=32,slow=3.8,SNR=1.3
MMAI  Mount Meron Ar     151.18 304    PKPbc         PKPbc 08 21 51.1 +1.6
      comp=Z,0.5nm,0.2s,baz=34,slow=3.6,SNR=4.4
```

*NOU **21** 08:02:05.5, 21°.71S×169°.97E, h0km, MLv3.9/10, Southeast of Loyalty Islands*

IDC 21 08:02:08.2±8.3, 21°.41S×170°.01E, h83km±52km, mb3.4/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=105.0km s-min=60.3km az=169.0, Southeast of Loyalty Islands

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
MARNC Mare, Loyalty      1.84 267    P             Pn        08 02 37.6 -0.4
MARNC Mare, Loyalty      1.84 267    S             Sn        08 03 01.8 +1.0
PINNC Pines Island,      2.66 243    P             Pn        08 02 47.2 -1.8
PINNC Pines Island,      2.66 243    S             Sn        08 03 18.7 -1.6
YATNC Mamie plateau,     2.97 257    P             Pn        08 02 52.2 -0.9
YATNC Mamie plateau,     2.97 257    S             Sn        08 03 28.0 +0.2
OUENC Ouen Island, N     3.10 251    P             Pn        08 02 54.3 -0.7
OUENC Ouen Island, N     3.10 251    S             Sn        08 03 31.9 +0.8
DZM   Mont Dzumac        3.38 258    P             Pn        08 02 58.7  0.0
      16nm,0.3s,baz=75,slow=18,SNR=210
DZM                                  S             Sn        08 03 38.2 +0.4
      178nm,0.6s,baz=105,slow=20,SNR=34
      45nm,0.4s
ONTNC Ouen Toro          3.42 254    P             Pn        08 02 59.0 -0.2
ONTNC Ouen Toro          3.42 254    S             Sn        08 03 39.5 +0.8
STKA  Stephens Creek    27.38 242    P             P         08 07 46.2 +0.5
      1.5nm,0.7s,baz=92,slow=11,SNR=5.3
      1.5nm,0.7s
WRA   Warramunga Arr     33.36 266    P             P         08 08 38.1 -0.6
      0.4nm,0.5s,baz=101,slow=8.3,SNR=5.4
      0.4nm,0.5s
ASAR  Alice Springs      33.37 259    P             P         08 08 38.8 +0.1
      0.4nm,0.7s,baz=83,slow=8.8,SNR=5.0
      0.4nm,0.7s
```

NOU 21 08:11:06.9, 16°.79S×167°.81E, h0km, MLv4.0/6, Vanuatu Islands, Vanuatu Islands

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
SANVU Saraoutou          1.46 336    P             Pn        08 11 33.6 -0.9
MARNC Mare, Loyalty      4.67 177    P             Pn        08 12 18.4 -0.3
KOUNC Koumac, New Ca     5.01 221    P             Pn        08 12 23.3 -0.1
YATNC Mamie plateau,     5.31 189    P             Pn        08 12 26.7 -0.9
ONTNC Ouen Toro          5.63 193    P             Pn        08 12 32.4 +0.4
OUENC Ouen Island, N     5.67 189    P             Pn        08 12 33.2 +0.7
```

*ASRS **21** 08:25:19.0±0.7, 53°.67N×86°.87E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **21** 08:25:21.6±1.7, 53°.50N×86°.85E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=15.3km s-min=8.2km az=102.0, Suspected Mining explosion.*
*IDC **21** 08:25:22.4±2.7, 53°.70N×86°.91E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=25.1km s-min=14.6km az=72.0*

ISC 21 08:25:22.0±6.4, 53°.7N±0°.3×86°.8E±0°.4, h0km, n7, σ2§11/6, 3D, Southwestern Siberia

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA     1.22 283    I             I         08 32 10.0
      baz=102,slow=346,SNR=6.0
ZAA0  Zalesovo Array     1.22 283 ⇓Pn              Pn        08 25 46.7 +0.4
      0.2nm,0.4s,baz=112,slow=12
ZAA0                                ⇓Lg            Lg        08 26 03.5
      0.8nm,0.7s,baz=110,slow=28
ZALV  Zalesovo Beam      1.22 283    Pg            Pg        08 25 44.9 -0.5
      1.2nm,0.3s,baz=100,slow=16,SNR=9.1
ZALV                                Lg            Lg        08 26 03.7
      2.1nm,0.3s,baz=102,slow=30,SNR=10
ZALV                                Rg            Rg        08 26 11.1
      1.9nm,0.4s,baz=102,slow=29,SNR=6.5
KURBB Kurchatov Arra     5.97 242    Pn            Pn        08 26 53.7 +2.2
      baz=53,slow=14,SNR=1.7
      0.5nm,0.4s
KURBB Kurchatov Arra     5.97 242 ⇓P               Pn        08 26 50.2 -1.3
      1.5nm,0.8s
MK31  Makanchi Array     7.50 205    P             Pn        08 27 10.9 -1.7
      12nm,1.7s,baz=27,slow=13,SNR=8.6
MKAR  Makanchi Array     7.50 205    Pn            Pn        08 27 14.4 +1.8
      0.1nm,0.3s,baz=25,slow=13,SNR=5.8
      0.7nm,0.7s
```

STR 21 08:36:48.2±0.8, 46°.N±4°×°±°, h0km, MLv1.4/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
OG35  Corcelles          0.29  36    Pg            Pg        08 36 54.3 +0.6
OG35                                Sg            Sg        08 36 58.6 +1.1
OGSM  Saint Maurice      0.33 128    Pg            Pg        08 36 54.9 +0.5
OGSM                                Sg            Sg        08 36 59.5 +0.8
OGMY  Moye               0.40  80    Pg            Pg        08 36 56.0 +0.2
OGMY                                Sg            Sg        08 37 01.8 +0.8
RSL   Roselend           0.92  97    Pg            Pg        08 37 06.0 +0.3
RSL                                 Pn            Pn        08 37 08.4 -0.1
RSL                                 Sn            Sn        08 37 22.3 -0.1
RIVEL MONT RIVEL         1.03  23    Pn            Pn        08 37 09.6 -0.4
```

*CATAC **21** 08:55:21.0±0.3, 13°N±1°×9°0W±°, h8km±1km, M4.7/55, mb4.7/6, mB4.8/3, MLv4.8/55, Mw(mB)4.1/3, Error ellipse: s-maj=3.2km s-min=1.7km az=31.4, confirmed*
*SNET **21** 08:55:20.6±1.0, 13°.12N×90°.45W, h6km, ML4.6*
*GCG **21** 08:55:21.2±0.7, 13°.18N×90°.47W, h5km±5km, MD4.1, ML4.2, MW4.0*
*NEIC **21** 08:55:25.7±1.6, 13°.20N±0°.06×90°.25W±0°.06, h41km±5km, mb4.5/228, Mwr4.7/14, Error ellipse: s-maj=9.3km s-min=7.1km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.02; $M_{\theta\theta}$=0.30; $M_{\phi\phi}$=0.33; $M_{r\theta}$=0.47; $M_{\theta\phi}$=-1.28; $M_{\phi r}$=0.34; Fault plane solution: M_0=1.44000×10^{16} NP1:φ=95.70000°, δ=81.62000°, λ=160.29000°. NP2:φ=188.68000°, δ=70.50000°, λ=8.89000°. Principal axes: T 1.5337, Plg20.0000°, Azm51.0000°; N -0.2028, Plg69.0000°, Azm254.0000°; P -1.3309, Plg8.0000°, Azm144.0000°;*
*NEIC **21** 08:55:26.3, 13°.20N×90°.24W, h48km*
*IDC **21** 08:55:28.7±1.6, 13°.44N×89°.91W, h77km±11km, mb4.1/14, mbtmp4.4/17, MS3.6/28, Error ellipse: s-maj=25.8km s-min=8.6km az=50.0*
*UCR **21** 08:55:51.0±1.1, 12°.66N×88°.30W, h21km±16km, MW4.3*

ISC 21 08:55:24.9±0.8, 13°.14N±0°.04×90°.36W±0°.04, h51km±7km, n447, σ1§47/367, mb4.5/96, MS3.6/27, 6C-21D, Near coast of Guatemala

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
FAME  Alcaldia de Sa     0.78  25 ⇓P               Pn        08 55 37.3 -2.4
FAME  Alcaldia de Sa     0.78  25    S             Sn        08 55 47.9 -2.6
NUBE  Las Nubes          0.95  36  i P             Pn        08 55 39.9 -2.2
NUBE  Las Nubes          0.95  36  i P             Pn        08 55 40.0 -2.1
NUBE                                i S             Sn        08 55 54.9 +0.1
NUBE  Las Nubes          0.95  36 ⇓P               Pn        08 55 40.0 -2.1
NUBE  Las Nubes          0.95  36    S             Sn        08 55 53.5 -1.2
SBLS  San Blas           1.00  46  i P             Pn        08 55 41.2 -1.7
SBLS                                ⇓iP            Pn        08 55 41.2 -1.7
JAYA  Jayaque - finc     1.02  60  i P             Pn        08 55 41.4 -1.7
JAYA                                eS            Sn        08 55 56.1 -0.4
JAYA  Jayaque - finc     1.02  60  i P             Pn        08 55 41.4 -1.7
JAYA                                i S             Sn        08 55 57.2 +0.6
JAYA  Jayaque - finc     1.02  60 ⇓P               Pn        08 55 41.5 -1.7
LOAL  Lomas de Alarc     1.02  33  eP             Pn        08 55 41.5 -1.6
LOAL  Lomas de Alarc     1.02  33 ⇓P               Pn        08 55 41.5 -1.6
LOAL  Lomas de Alarc     1.02  33    S             Sn        08 55 54.9 -1.6
RTR   El Retiro          1.02  42  i P             Pn        08 55 41.5 -1.6
SNJE  San Jose           1.03  45 ⇓iP              Pn        08 55 41.6 -1.7
SNJE                                i P             08 55 41.7
LALI  Alcalda de L       1.07  71  eP             Pn        08 55 42.0 -1.6
LALI  Alcalda de L       1.07  71  i P             Pn        08 55 41.9 -1.6
LALI                                IAML            08 56 01.1
      comp=Z,2μm,0.5s
LALI  Alcalda de L       1.07  71 ⇓P               Pn        08 55 42.0 -1.6
LALI  Alcalda de L       1.07  71    S             Sn        08 55 57.4  0.0
PCG5  San Vicente Pa     1.07 359  i P             Pn        08 55 43.3 -0.5
FG8   Yepocapa, Chim     1.13 350  i P             Pn        08 55 45.4 +0.8
FG16  Alotenango, Sa     1.14 353  i P             Pn        08 55 45.5 +0.8
CEDA  San Andres         1.15  55  i P             Pn        08 55 43.2 -1.4
CEDA  San Andres         1.15  55 ⇓P               Pn        08 55 43.3 -1.4
CEDA  San Andres         1.15  55    S             Sn        08 55 59.8 +0.4
UNIC  Universidad Ca     1.15  43  eP             Pn        08 55 43.4 -1.5
UNIC  Universidad Ca     1.15  43 ⇓P               Pn        08 55 43.3 -1.5
UNIC  Universidad Ca     1.15  43    S             Sn        08 55 59.1 -0.4
PMON  Piamonte           1.17  61  eP             Pn        08 55 43.1 -1.9
PMON  Piamonte           1.17  61 ⇓P               Pn        08 55 43.3 -1.8
PMON  Piamonte           1.17  61    S             Sn        08 56 00.3 +0.4
RBDL  Robledal           1.17  34  i P             Pn        08 55 43.8 -1.3
MAGS  Ministerio de      1.18  62  eP             Pn        08 55 44.1 -1.1
BQOS  Boqueron           1.21  60  eP             Pn        08 55 44.7 -1.0
PIC2  El Picacho         1.23  61  eP             Pn        08 55 44.9 -1.1
PANCS Alcalda de         1.24  68  eP             Pn        08 55 44.4 -1.6
PANCS Alcalda de         1.24  68    P             Pn        08 55 44.4 -1.6
PANCS Alcalda de         1.24  68    S             Sn        08 56 01.2 -0.5
UTEC  Universidad Te     1.26  63 ⇑P               Pn        08 55 45.1 -1.2
UTEC  Universidad Te     1.26  63    S             Sn        08 56 02.8 +0.7
LOMA  Loma Larga         1.26  66  eP             Pn        08 55 44.9 -1.4
LOMA  Loma Larga         1.26  66 ⇓P               Pn        08 55 44.9 -1.4
LOMA  Loma Larga         1.26  66    S             Sn        08 56 03.8 +1.6
IGN   Direccin Gen       1.29  64  eP             Pn        08 55 45.8 -0.8
IGN   Direccin Gen       1.29  64    P             Pn        08 55 45.6 -1.0
IGN   Direccin Gen       1.29  64    S             Sn        08 56 04.0 +1.1
UDBS  Universidad Do     1.30  64  eP             Pn        08 55 45.7 -1.1
UDBS  Universidad Do     1.30  64 ⇓P               Pn        08 55 45.7 -1.1
UDBS  Universidad Do     1.30  64    S             Sn        08 56 04.4 +1.2
ESSG  Sabana Grande      1.32 340  i P             Pn        08 55 43.8 -3.3
ESSG                                IAML            08 56 05.7
      comp=Z,3μm,0.9s
JUAM  Asuncion Mita      1.35  28  i P             Pn        08 55 46.3 -1.2
JUAM                                i S             Sn        08 56 04.9 +0.6
LFRS  El Faro            1.35  69  eP             Pn        08 55 46.1 -1.4
LFU   La Fuente          1.35  63  eP             Pn        08 55 46.8 -0.8
LBRS  Las Brisas         1.41  65  eP             Pn        08 55 47.4 -0.9
GCG4  OSOP               1.45 353  i P             Pn        08 55 47.2 -1.7
PAVA  Las Pavas          1.50  67  eP             Pn        08 55 48.8 -0.8
PAVA  Las Pavas          1.50  67 ⇓P               Pn        08 55 48.7 -0.8
SNVI  San Vicente        1.55  72  eP             Pn        08 55 49.7 -0.6
MTO3  Montecristo        1.58  38                Pn        08 55 50.2 -0.7
MTO3                                Sn            Sn        08 56 07.0 -3.3
MTO3  Montecristo        1.58  38  i P             Pn        08 55 50.1 -0.7
MTO3  Montecristo        1.58  38  i P             Pn        08 55 50.2 -0.7
MTO3  Montecristo        1.58  38 ⇓P               Pn        08 55 50.1 -0.7
MTO3  Montecristo        1.58  38    S             Sn        08 56 12.3 +2.0
TECO  Alcaldia de Te     1.59  75  eP             Pn        08 55 49.8 -0.9
TECO  Alcaldia de Te     1.59  75 ⇑P               Pn        08 55 49.3 -1.3
TECO  Alcaldia de Te     1.59  75    S             Sn        08 56 10.9 +0.9
UESV  Universidad de     1.61  72  eP             Pn        08 55 50.2 -0.8
UESV  Universidad de     1.61  72 ⇑P               Pn        08 55 50.2 -0.8
UESV  Universidad de     1.61  72    S             Sn        08 56 12.4 +1.8
SCLA  Alcaldia de Sa     1.68  70  eP             Pn        08 55 51.4 -0.5
SCLA  Alcaldia de Sa     1.68  70 ⇓P               Pn        08 55 51.5 -0.5
SCLA  Alcaldia de Sa     1.68  70    S             Sn        08 56 15.1 +2.7
LLGN  La Laguna          1.71  53  eP             Pn        08 55 51.8 -0.6
LLGN  La Laguna          1.71  53    P             Pn        08 55 51.8 -0.6
LLGN  La Laguna          1.71  53    S             Sn        08 56 16.1 +2.9
ESQI  Esquipulas         1.73  35                Pn        08 55 52.2 -0.4
ESQI                                Sn            Sn        08 56 12.2 -1.3
ESQI  Esquipulas         1.73  35  i P             Pn        08 55 52.2 -0.4
ESQI  Esquipulas         1.73  35 ⇓P               Pn        08 55 52.2 -0.4
ESQI  Esquipulas         1.73  35    S             Sn        08 56 16.7 +3.1
PQSS  Presa 15 de Se     1.82  74  eP             Pn        08 55 53.3 -0.4
PQSS  Presa 15 de Se     1.82  74    P             Pn        08 55 53.2 -0.6
PQSS  Presa 15 de Se     1.82  74    S             Sn        08 56 16.1 +0.4
TECA  Tecapa             1.84  79  eP             Pn        08 55 53.2 -1.1
APG   El Apazote         1.86 357    P             Pn        08 55 54.2 -0.4
      comp=Z,100nm,0.4s,baz=139,slow=10.0,SNR=1409
APG                                 S             Sn        08 56 17.5 +0.5
      comp=Z,77nm,0.7s,baz=220,slow=18,SNR=5.8
APG                                 LR            LR        08 56 39.5
      comp=Z,169nm,20.3s,baz=116,slow=43
APG   El Apazote         1.86 357  i P             Pn        08 55 53.8 -0.7
RTAL  Retalhuleu         1.89 317                Pn        08 55 52.0 -2.9
RTAL  Retalhuleu         1.89 317 ⇓P               Pn        08 55 51.8 -3.0
RTAL  Retalhuleu         1.89 317    S             Sn        08 56 15.1 -2.5
SOKI  Kika Raxquin       1.96 329  i P             Pn        08 55 54.4 -1.7
SOKI                                IAML            08 56 29.1
      comp=Z,2μm,0.7s
LCY   Lacayo             2.03  82  eP             Pn        08 55 56.3 -0.5
VSM   San Miguel         2.05  82  eP             Pn        08 55 56.9 -0.3
QUEO  Labor Ovalle       2.06 327  i P             Pn        08 55 56.2 -1.2
CNRM  Centro Naciona     2.16  81  eP             Pn        08 55 58.3 -0.2
CNRM  Centro Naciona     2.16  81    P             Pn        08 55 58.4  0.0
CNRM  Centro Naciona     2.16  81    S             Sn        08 56 27.3 +3.3
SARH  Santa Rosa de      2.25  43  i P             Pn        08 55 59.8  0.0
```

SARH Santa Rosa de 2.25 43 ⇓P Pn 08 55 59.8 0.0
QUIS Sacapulas 2.25 342 *i* P Pn 08 55 58.6 -1.3
QUIS *i* S Sn 08 56 27.7 +1.1
QUIS IAML 08 56 36.3
comp=Z,1μm,1.4s
AVCB Coban 2.32 359 *i* P Pn 08 55 59.8 -1.0
AVCB IAML 08 56 43.4
comp=Z,2μm,0.6s
SMCA Catarina 2.39 316 *i* P Pn 08 55 59.5 -2.1
SMCA *i* S Sn 08 56 28.3 -1.4
LCND La Caada 2.41 86 *eP* Pn 08 56 01.4 -0.6
LCND La Caada 2.41 86 ⇑P Pn 08 56 01.3 -0.6
HUEH Huehuetenango 2.44 333 Pn 08 56 02.5 +0.1
HUEH Sn Sn 08 56 31.6 +0.4
HUEH Huehuetenango 2.44 333 *eP* Pn 08 56 02.0 -0.4
HUEH Huehuetenango 2.44 333 IAML 08 56 44.8
comp=Z,1μm,0.5s
HUEH Huehuetenango 2.44 333 ⇓P Pn 08 56 02.1 -0.3
HUEH Huehuetenango 2.44 333 S **Sn 08 56 32.9 +1.7**
CNCH Conchagua 2.46 87 *eP* Pn 08 56 01.9 -0.8
CNCH Conchagua 2.46 87 ⇑P Pn 08 56 01.9 -0.8
CNCH Conchagua 2.46 87 S **Sn 08 56 35.2 +3.4**
INTHN La Esperanza I 2.48 62 ⇓P Pn 08 56 02.8 -0.4
THIG 2.55 314 *i* P Pn 08 56 01.5 -2.4
THIG IAML 08 56 43.3
comp=Z,2μm,0.7s
CSGN Cosiguina Volc 2.73 93 P Pn 08 56 06.0 -0.5
CSGN S **Sn 08 56 40.7 +2.4**
CSGN Cosiguina Volc 2.73 93 *eP* Pn 08 56 05.9 -0.5
POTN Potosi Cosigui 2.78 93 P Pn 08 56 06.4 -0.7
POTN S **Sn 08 56 42.2 +2.8**
POTN Potosi Cosigui 2.78 93 *eP* Pn 08 56 05.9 -1.1
IZABA Izabal, Puerto 3.10 33 P Pn 08 56 11.4 +0.1
TGUH Tegucigalpa,Un 3.14 73 Pn 08 56 11.4 -0.6
TGUH Tegucigalpa,Un 3.14 73 P Pn 08 56 11.4 -0.6
CRIN San Cristobal 3.25 97 Pn 08 56 12.4 -1.1
CRIN San Cristobal 3.25 97 P Pn 08 56 14.6 +1.1
CRIN San Cristobal 3.25 97 *eP* Pn 08 56 13.9 +0.3
PKGN Cerro Pekin 3.33 98 P Pn 08 56 13.6 -0.9
PKGN S **Sn 08 56 53.1 +0.3**
HERN Volcan Telica 3.48 98 Pn 08 56 15.2 -1.4
POLN Al Sur del Vol 3.49 98 P Pn 08 56 11.0 -5.8
POLN S **Sn 08 56 50.4 -6.5**
CCIG Comitan 3.57 331 Pn 08 56 18.5 +0.5
CCIG Comitan 3.57 331 *i* P Pn 08 56 16.7 -1.2
CCIG IAML 08 57 28.9
comp=Z,395nm,1.4s
CCIG Comitan 3.57 331 P **Pn 08 56 18.0 0.0**
CCIG Comitan 3.57 331 S **Sn 08 57 00.3 +1.3**
CNGA Al SSO del Vol 3.62 100 P **Pn 08 56 17.4 -1.2**
CNGA S **Sn 08 56 59.0 -1.2**
CNGN Cerro Negro 3.63 100 Pn 08 56 17.2 -1.4
CNGN Cerro Negro 3.63 100 P **Pn 08 56 16.9 -1.7**
CNGN Cerro Negro 3.63 100 S **Sn 08 57 00.5 +0.2**
CNGN Cerro Negro 3.63 100 *eP* Pn 08 56 17.2 -1.4
PETF Flores 3.79 7 Pn 08 56 20.5 -0.3
PETF Flores 3.79 7 P **Pn 08 56 21.0 +0.2**
COPN Copaltepe 3.80 104 P **Pn 08 56 19.3 -1.7**
COPN Copaltepe 3.80 104 *eP* Pn 08 56 19.1 -1.8
OCON Estacion meteo 3.81 82 P **Pn 08 56 20.5 -0.7**
MOM2 El Cardon 3.84 100 P **Pn 08 56 20.1 -1.4**
LIMN Finca el Limon 3.89 91 ⇓P Pn 08 56 21.2 -1.1
LIMN S **Sn 08 57 08.6 +1.8**
APYN Apoyeque 4.01 102 P **Pn 08 56 24.5 +0.5**
APQ2 Apoyeque 4.05 103 P **Pn 08 56 24.9 +0.6**
RCVN Varillal2 4.08 83 P **Pn 08 56 24.1 -0.8**
TISN Laguna Tiscapa 4.11 103 P **Pn 08 56 22.9 -2.3**
UNAN Cigeo UNAN 4.12 104 P **Pn 08 56 24.6 -0.7**
UNAN S **Sn 08 57 08.3 -4.0**
MGAN Managua 4.13 103 Pn 08 56 23.8 -1.7
MGAN Managua 4.13 103 P **Pn 08 56 26.2 +0.7**
MGAN Managua 4.13 103 S **Sn 08 57 07.5 -5.1**
MGAN Managua 4.13 103 *eP* Pn 08 56 24.6 -1.0
MAS3 Al N del Volca 4.23 105 P **Pn 08 56 27.2 +0.2**
MAS3 S **Sn 08 57 10.6 -4.5**
NANN Nandasmo 4.31 106 P **Pn 08 56 28.8 +0.8**
NANN Nandasmo 4.31 106 S **Sn 08 57 15.5 -1.5**
MATN Matagalpa 4.33 92 ⇑P Pn 08 56 26.0 -2.3
MORN Al O del Volca 4.87 108 P **Pn 08 56 36.9 +1.2**
MORN S **Sn 08 57 24.4 -6.3**
CONN Concepcion 4.88 108 P **Pn 08 56 34.5 -1.3**
CONN S **Sn 08 57 24.1 -7.0**
OMEN Al SSO del Vol 4.90 109 P **Pn 08 56 34.7 -1.3**
LCRUZ La Cruz 5.06 113 *eP* Pn 08 56 36.9 -1.3
CARN Rivas 5.11 112 P **Pn 08 56 39.1 +0.1**
CARN Rivas 5.11 112 *eP* Pn 08 56 37.8 -1.2
ELI1 Hacienda Flor 5.32 117 *eP* Pn 08 56 42.7 +0.9
ALIBA Liberia Airpor 5.35 118 *eP* Pn 08 56 42.6 +0.4
LAPC Finca la Perla 5.37 116 *eP* Pn 08 56 43.6 +1.1
DELF Filadelfia 5.41 119 *eP* Pn 08 56 43.3 +0.2
VRLE La Escondida, 5.42 115 *eP* Pn 08 56 44.0 +0.7
GPS3 Bodega del ICE 5.43 115 *eP* Pn 08 56 44.7 +1.3
GPS1 Guardaparques 5.43 115 *eP* Pn 08 56 46.3 +2.7
GPS2 Hotel Rincn d 5.44 115 *eP* Pn 08 56 43.5 -0.2
JUD3 Juan Diaz 3 5.57 122 Pn 08 56 45.5 +0.1
JUD3 Juan Diaz 3 5.57 122 *eP* Pn 08 56 44.7 -0.7
MESS Mesas 5.59 115 *eP* Pn 08 56 45.2 -0.4
HORNC Hornillas 5.61 115 *eP* Pn 08 56 45.8 -0.2
BAGA Bagaces 5.62 117 *eP* Pn 08 56 46.3 +0.2
VMAR Armenia, Volca 5.63 114 *eP* Pn 08 56 45.7 -0.4
PLVR Palo Verde 5.63 119 *eP* Pn 08 56 45.9 -0.4
CUI Cuipilapa 5.65 115 *eP* Pn 08 56 47.0 +0.6
MOTZ Rio Naranjo 5.72 115 *eP* Pn 08 56 46.5 -0.9
TENO El Achiote 5.79 114 *eP* Pn 08 56 47.5 -1.0
TIMP Tierras Morena 5.81 115 *eP* Pn 08 56 48.7 +0.1
INVE Universidad In 5.82 116 *eP* Pn 08 56 49.1 +0.4
SCIG Sabancuy 5.85 352 P **Pn 08 56 49.2 +0.1**
CMIG Matias Romero 5.88 313 P **Pn 08 56 47.3 -2.2**
comp=Z,12nm,0.5s,baz=119,slow=11,SNR=20
CMIG S **Sn 08 57 52.4 -3.2**
comp=Z,54nm,0.7s,baz=122,slow=19,SNR=6.6
CMIG LR LR 08 59 33.3
comp=Z,618nm,20.3s,baz=127,slow=41
LCHIL Los Chiles 5.90 110 *eP* Pn 08 56 44.6 -5.2
QUEB Quebradon, Cot 5.90 114 *eP* Pn 08 56 49.3 -0.6
TILA Tilaran 5.91 116 *eP* Pn 08 56 50.0 0.0
JUNT Juntas 6.00 118 *eP* Pn 08 56 51.3 +0.1
JTS Las Juntas de 6.00 118 Pn 08 56 51.3 0.0
JTS Las Juntas de 6.00 118 P **Pn 08 56 51.4 +0.2**
comp=Z,13nm,0.3s,baz=306,slow=18,SNR=39
JTS S **Sn 08 57 55.9 -2.9**
comp=Z,15nm,0.4s,baz=43,slow=22,SNR=1.1
JTS Las Juntas de 6.00 118 P **Pn 08 56 52.0 +0.8**
JTS Las Juntas de 6.00 118 *eP* Pn 08 56 51.5 +0.3
TABAC Tabacon 6.07 115 *eP* Pn 08 56 52.8 +0.6
JCR1 Jicaral 6.09 122 *eP* Pn 08 56 52.5 0.0
MTEVE Monteverde 6.10 117 *eP* Pn 08 56 53.0 +0.3
CASO Castillo 6.13 115 *eP* Pn 08 56 53.3 +0.3
ARE1 Arenal 1 6.13 115 *eP* Pn 08 56 53.3 +0.3
VARE2 V. Arenal 6.13 115 *eP* Pn 08 56 53.1 +0.1
CEDE Laguna Cedeo 6.13 115 *eP* Pn 08 56 53.8 +0.7
FORC Fortuna 6.17 115 *eP* Pn 08 56 54.0 +0.5
SOCE Pocosol 6.25 115 Pn 08 56 54.9 +0.3
SOCE Pocosol 6.25 115 P **Pn 08 56 55.7 +1.1**
SOCE Pocosol 6.25 115 *eP* Pn 08 56 54.5 -0.1
ROBF Roble, Puntare 6.34 119 *eP* Pn 08 56 57.7 +1.9
ARZA Esparza 6.39 119 *eP* Pn 08 56 58.6 +2.0
QUEU Ciudad Quesada 6.44 115 *eP* Pn 08 56 57.2 -0.1
VPL2 V. Platanar 6.49 115 *eP* Pn 08 56 58.4 +0.3
RAMO San Ramon 6.52 117 *eP* Pn 08 57 00.0 +1.6
PALD Palmares 6.56 117 *eP* Pn 08 56 59.5 +0.4
ATEO Atenas 6.64 118 *eP* Pn 08 57 01.4 +1.3
PURI Puriscal 6.77 118 *eP* Pn 08 57 05.1 +3.2
BILN Bilwi Airport 6.85 82 Pn **Pn 08 57 01.6 -1.2**
HDC Heredia 6.87 116 Pn **Pn 08 57 03.1 -0.1**
ACOS Acosta 6.92 118 *eP* Pn 08 57 04.9 +1.0
PAR1A Puntarenas Pro 6.94 120 *eP* Pn 08 57 06.3 +2.2
AMPA Desamparados 6.96 117 *eP* Pn 08 57 07.3 +2.8
PICV PH. Pirrs 6.98 119 *eP* Pn 08 57 06.0 +1.3
RAZU San Marcos de 7.11 118 *eP* Pn 08 57 09.0 +2.4
LLNJ Naranjito 7.14 120 *eP* Pn 08 57 08.5 +1.7
REPA Paraso 7.16 117 *eP* Pn 08 57 09.2 +1.9
PCAYA Pacayas 7.17 116 *eP* Pn 08 57 08.4 +1.0
PIEC Cerro El Cedra 7.18 118 *eP* Pn 08 57 08.8 +1.2
ABRB Las Abras (San 7.21 115 *eP* Pn 08 57 09.7 +1.6
TEIG Tepich 7.33 16 Pn 08 57 09.3 0.0
TEIG Tepich 7.33 16 P **Pn 08 57 09.4 +0.1**
baz=128,slow=20,SNR=41
TEIG S **Sn 08 58 31.2 +0.1**
baz=131,slow=24,SNR=1.0

BUS1 Rivas 7.40 118 *eP* Pn 08 57 12.3 +1.6
ZEDO Perez Zeledon 7.55 119 *eP* Pn 08 57 13.4 +0.9
VERH Veragua Rainfo 7.71 114 *eP* Pn 08 57 14.6 -0.1
EDPE Pejibaye, P 7.75 120 *eP* Pn 08 57 16.9 +1.7
LAES El Progreso Va 7.91 114 *eP* Pn 08 57 19.8 +2.4
BURE Buenos Aires 7.94 119 *eP* Pn 08 57 19.3 +1.5
EDP2 Potrero Grande 8.15 119 *eP* Pn 08 57 20.6 -0.1
ALCO Alturas Coton, 8.48 119 *eP* Pn 08 57 26.6 +1.3
BRU2 Volcan 8.68 119 Pn **Pn 08 57 27.3 -0.8**
BANCO falda S V. Bar 8.85 119 *eP* Pn 08 57 31.7 +1.2
BQTLY Boquete Panama 8.89 119 *eP* Pn 08 57 32.2 +1.2
LMNES Limones 8.91 123 *eP* Pn 08 57 34.0 +3.0
WILLF Boquete 8.92 118 *eP* Pn 08 57 30.8 -0.5
TLIG Tlapa 9.06 300 Pn 08 57 34.3 +1.1
PBNVO Pueblo Nuevo, 9.06 117 *eP* Pn 08 57 32.8 -0.4
RBALA Bur 9.10 117 *eP* Pn 08 57 35.4 +1.7
SOR Soroa 11.87 35 Pn **Pn 08 58 13.7 +2.0**
SOR Soroa 11.87 35 *eP* Pn 08 58 14.4 +2.8
MOIG Morelia 12.26 303 Pn 08 58 19.6 +2.5
CAMR Camarioca 13.05 40 *eP* Pn 08 58 30.3 +2.7
MGV Manicaragua 13.32 46 *eP* Pn 08 58 32.6 +1.4
CCCC Cccc 14.45 55 *eP* P 08 58 55.1 +2.9
ZAIG Zacatecas 15.04 311 Pn 08 58 55.4 +0.8
061Z Ochoppi 15.47 34 Pn **Pn 08 58 58.8 -1.1**
656A Willston 17.71 23 P **P 08 59 28.2 0.0**
656A IAmb IAmb 08 59 30.4
comp=Z,54nm,1.2s
553A Crawfordville 17.83 17 P **P 08 59 29.2 -0.4**
553A IAmb IAmb 08 59 34.9
comp=Z,63nm,1.0s
ROSC El Rosal 17.85 116 P **P 08 59 30.9 +0.7**
comp=Z,9.4nm,0.7s,baz=287,slow=22,SNR=4.6
HNDO Hondo 18.29 334 P **Pn 08 59 35.3 +0.3**
FLOC Florencia 18.54 127 P **Pn 08 59 38.9 +0.7**
435B Jarrell 18.78 340 P **Pn 08 59 41.0 0.0**
DRIO Del Rio 18.80 331 Pn 08 59 41.2 +0.1
NATX Nacogdoches 18.95 349 IAmb IAmb 08 59 44.6
comp=Z,18nm,0.7s
VBMS Vicksburg 18.99 360 IAmb IAmb 09 00 02.5
comp=Z,34nm,0.8s
COHC Cochancay 19.02 144 P **Pn 08 59 43.9 0.0**
146A Union 19.45 3 P **Pn 08 59 48.5 -0.4**
146A IAmb IAmb 08 59 50.8
comp=Z,38nm,1.1s
BRDY Brady 19.74 338 P 08 59 51.4 +0.8
SDV Santo Domingo 19.81 100 P 08 59 50.6 -1.0
SDV IAmb IAmb 09 00 07.3
comp=Z,24nm,1.2s
SDV Santo Domingo 19.81 100 P **P 08 59 50.5 -1.2**
comp=Z,8.8nm,0.7s,baz=291,slow=5.6,SNR=7.4
SDV LR LR 09 09 09.1
comp=Z,73nm,19.0s,baz=258,slow=42
SDV Santo Domingo 19.81 100 *eP* P 08 59 50.4 -1.3
HPIG 19.85 316 Pn 08 59 53.2 -0.7
WHTX Lake Whitney, 19.86 342 P **P 08 59 51.5 -0.4**
WHTX IAmb IAmb 08 59 55.5
comp=Z,17nm,0.7s
SAND Sanderson 19.97 329 Pn 08 59 54.6 -0.5
LRAL Lakeview Retre 20.04 8 IAmb IAmb 08 59 58.7
comp=Z,15nm,0.8s
Z47A Carrollton 20.08 6 P **P 08 59 54.1 0.0**
Z47A IAmb IAmb 08 59 59.5
comp=Z,27nm,0.7s
Z41A Richland Creek 20.15 354 IAmb IAmb 09 00 00.6
comp=Z,23nm,0.8s
FW13 Cleburne 20.19 342 IAmb IAmb 08 59 56.9
comp=Z,17nm,0.7s
OZNA Ozona 20.30 332 P 08 59 57.1 +0.5
OZNA IAmb IAmb 09 00 27.1
comp=Z,28nm,1.2s
TXAR Lajitas Array 20.31 325 Pn 08 59 58.8 -0.4
TXAR Lajitas Array 20.31 325 P Pn 08 59 58.5 -0.7
comp=Z,9.3nm,0.7s,baz=152,slow=12,SNR=74
TXAR PcP **PcP 09 04 09.6 +0.8**
comp=Z,1.1nm,0.9s,baz=131,slow=3.5,SNR=4.3
comp=Z,9.3nm,0.7s
Z38A Mt. Pleasant 20.47 349 P 08 59 58.3 -0.1
Z38A IAmb IAmb 09 00 01.9
comp=Z,28nm,0.8s
Y45A Yeager Farm, C 20.65 2 IAmb IAmb 09 00 08.3
comp=Z,29nm,0.9s
PLPT Palo Pinto 20.89 341 P 09 00 03.5 +0.4
Y49A Blount Mountai 20.94 9 P **P 09 00 03.2 -0.3**
Y49A IAmb IAmb 09 00 10.3
comp=Z,18nm,0.9s
MNHN Monahans 21.41 330 IAmb IAmb 09 00 11.8
comp=Z,27nm,0.9s
X48A Hartselle 21.43 8 P 09 00 09.2 +0.4
X48A IAmb IAmb 09 00 17.3
comp=Z,19nm,0.8s
MIAR Mount Ida 21.51 353 IAmb IAmb 09 00 47.5
comp=Z,12nm,0.7s
FPAL Fort Paine 21.74 11 IAmb IAmb 09 00 32.6
comp=Z,14nm,0.9s
ODSA Odessa 21.95 331 IAmb IAmb 09 00 17.4
comp=Z,13nm,0.8s
APMT Aspermont 21.98 338 IAmb IAmb 09 00 45.9
comp=Z,13nm,0.9s
POST Post 22.30 335 IAmb IAmb 09 00 18.7
comp=Z,11nm,0.8s
SWET Sewanee 22.34 10 IAmb IAmb 09 00 25.6
comp=Z,12nm,0.7s
DKNS Dickens 22.59 337 IAmb IAmb 09 00 24.0
comp=Z,7.8nm,0.6s
W52A Murphy 22.62 14 P **P 09 00 21.2 -0.3**
V48A Smith Brothers 22.73 7 IAmb IAmb 09 00 37.3
comp=Z,12nm,0.8s
TKL Tuckaleechee C 23.20 14 P **P 09 00 26.6 -0.8**
TKL Tuckaleechee C 23.20 14 LR LR 09 10 07.7
comp=Z,152nm,19.2s,baz=200,slow=38
TUL3 Leonard 23.20 349 IAmb IAmb 09 00 51.9
comp=Z,13nm,0.8s
RLO Rose Lookout 23.31 350 IAmb IAmb 09 00 29.0
comp=Z,14nm,0.8s
ATAH Atahualpa 23.39 149 LR LR 09 08 20.3
comp=Z,163nm,19.1s,baz=343,slow=33
V53A Saluda 23.44 16 IAmb IAmb 09 00 50.8
comp=Z,18nm,1.0s
OK029 Liberty Lake 23.45 345 IAmb IAmb 09 00 59.6
comp=Z,31nm,1.1s
OK052 Battle Ridge R 23.49 347 IAmb IAmb 09 00 43.0
comp=Z,29nm,1.2s
PBMO Poplar Bluff 23.54 360 IAmb IAmb 09 01 05.4
comp=Z,29nm,1.4s
SMWD Samnorwood 23.63 339 IAmb IAmb 09 00 33.3
comp=Z,10nm,0.6s
QUOK Quay 23.64 347 P **P 09 00 30.6 -0.9**
QUOK IAmb IAmb 09 00 44.9
comp=Z,17nm,0.9s
U49A Red Boiling Sp 23.64 9 IAmb IAmb 09 00 45.8
comp=Z,24nm,1.0s
AMTX Amarillo 23.95 337 IAmb IAmb 09 01 00.5
comp=Z,9.9nm,0.8s
MGMO Mountain Grove 23.98 356 IAmb IAmb 09 01 09.7
comp=Z,16nm,1.4s
T50A Nancy 24.29 11 IAmb IAmb 09 00 38.0
comp=Z,8.3nm,0.7s
T35A Sooner Cattle 24.31 348 P 09 00 36.7 -1.0
T35A IAmb IAmb 09 00 40.2
comp=Z,12nm,0.9s
T35A **pP 09 00 49.7 -1.1**
CCM Cathedral Cave 24.83 358 P 09 00 41.9 -0.5
CCM IAmb IAmb 09 01 21.5
comp=Z,13nm,1.2s
319A Douglas 25.15 319 IAmb IAmb 09 01 16.8
comp=Z,16nm,1.0s
WCI Wyandotte Cave 25.25 8 P 09 00 45.2 -1.0
OLIL Olney 25.57 4 IAmb IAmb 09 00 53.0
comp=Z,16nm,0.8s
Y22A Socorro 25.63 327 IAmb IAmb 09 00 55.2
comp=Z,14nm,0.8s
Q44A Meyer Farm, Va 25.69 2 IAmb IAmb 09 01 07.9
comp=Z,13nm,0.9s
ANMO Albuquerque 26.15 329 P 09 00 55.3 +0.6
P40A Paris 26.33 357 IAmb IAmb 09 00 55.6
comp=Z,7.5nm,0.7s
Q51A Peebles 26.52 12 IAmb IAmb 09 00 57.2
comp=Z,9.4nm,0.7s
P38A Dawn 26.53 355 IAmb IAmb 09 00 59.2
comp=Z,13nm,1.3s
WUAZ Wupatki 29.25 323 IAmb IAmb 09 01 25.8
comp=Z,8.9nm,0.9s
PV03 Paradox Valley 29.93 330 IAmb IAmb 09 01 31.2
comp=Z,5.2nm,0.8s
PV18 Skein Mesa, Pa 29.96 330 IAmb IAmb 09 01 31.9
comp=Z,12nm,0.9s
PV11 David Mesa, Pa 29.98 330 IAmb IAmb 09 01 37.4
comp=Z,8.3nm,0.9s
PV17 East Wray Mesa 30.01 330 IAmb IAmb 09 01 31.4
comp=Z,6.2nm,0.8s
PV16 Nyswonger Mesa 30.01 330 IAmb IAmb 09 01 31.0
comp=Z,5.9nm,0.9s
PV19 Morning Glory 30.04 330 IAmb IAmb 09 01 31.2
comp=Z,9.0nm,0.8s
PV20 West Nyswonger 30.06 330 IAmb IAmb 09 01 31.3
comp=Z,9.8nm,0.9s
PV04 Paradox Valley 30.07 330 IAmb IAmb 09 01 32.4
comp=Z,9.2nm,0.8s
PV10 Paradox Valley 30.12 330 IAmb IAmb 09 01 31.7
comp=Z,8.8nm,0.8s
PV22 Blue Mesa, Par 30.12 330 IAmb IAmb 09 01 32.8
comp=Z,5.9nm,0.9s
BC3 Big Chuckawall 30.64 316 IAmb IAmb 09 01 38.5
comp=Z,6.9nm,0.8s
IRM Iron Mountain 30.73 317 P **P 09 01 36.8 +1.4**
KNB Kanab 31.14 324 IAmb IAmb 09 01 42.1
comp=Z,8.6nm,0.8s
PFO Pinyon Flats O 31.30 315 LR LR 09 15 28.7
comp=Z,113nm,18.6s,baz=112,slow=38
LCMT Little Creek M 31.38 323 IAmb IAmb 09 01 44.9
comp=Z,5.6nm,0.9s
BOAV Boa Vista 31.39 107 P 09 01 41.5 +0.2
BOAV IAmb IAmb 09 01 42.1
comp=Z,5.7nm,0.8s
BOAV Boa Vista 31.39 107 *eP* P 09 01 39.5 -1.8
V12A Nelson 31.50 320 P 09 01 44.2 +2.0
V12A IAmb IAmb 09 01 45.4
comp=Z,11nm,1.0s
SZCU Shurtz Canyon 31.69 324 IAmb IAmb 09 01 46.9
comp=Z,7.7nm,0.9s
MTPC Mountain Pass 31.80 319 IAmb IAmb 09 01 49.2
comp=Z,6.7nm,1.2s
P17A Butcher Ranch, 31.81 329 IAmb IAmb 09 01 47.3
comp=Z,7.0nm,0.7s
CCUT Cedar City 31.82 324 IAmb IAmb 09 01 49.1
comp=Z,9.1nm,1.1s
SHOC Shoshone, Teco 32.52 319 IAmb IAmb 09 01 54.0
comp=Z,8.4nm,1.2s
PRN Pahroc Range 32.71 322 IAmb IAmb 09 02 13.6
comp=Z,8.0nm,1.4s
SADO Sadowa 32.95 15 LR LR 09 15 48.8
comp=Z,1μm,19.4s,baz=210,slow=38
TPNV Topopah Spring 33.15 320 IAmb IAmb 09 02 00.3
comp=Z,5.7nm,1.1s
CTU Camp Tracy 33.24 330 IAmb IAmb 09 01 59.4
comp=Z,4.4nm,0.9s
WCT Wildcat Mounta 33.29 320 IAmb IAmb 09 02 19.8
comp=Z,6.2nm,1.3s
SPR3 Spring Creek 3 33.37 325 P 09 02 00.4 +1.6
SPR3 IAmb IAmb 09 02 01.0
comp=Z,6.8nm,0.9s
SPR3 **PcP 09 04 41.3 +1.7**
MPMC Manual Prospec 33.40 318 IAmb IAmb 09 02 01.8
comp=Z,4.8nm,1.0s
TCUT Toone Canyon 33.40 330 IAmb IAmb 09 02 07.9
comp=Z,5.4nm,0.7s
MACA Manacapuru-AM 33.62 117 P **P 09 02 01.4 +0.6**
MACA Manacapuru-AM 33.62 117 *eP* P 09 01 59.2 -1.6
R11B Troy Canyon, C 33.65 323 IAmb IAmb 09 02 04.2
comp=Z,6.8nm,1.0s
HWUT Hardware Ranch 33.85 331 P **P 09 02 03.7 +0.9**
HWUT IAmb IAmb 09 02 06.9
comp=Z,4.1nm,0.9s
HWUT **PcP 09 04 42.0 +1.2**
PDAR Pinedale Array 33.87 334 P **P 09 02 03.7 +0.7**
PDAR **PcP 09 04 41.5 +0.6**
PDAR Pinedale Array 33.87 334 P **P 09 02 03.2 +0.2**
comp=Z,0.5nm,0.7s,baz=121,slow=11,SNR=4.3
PDAR PcP **PcP 09 04 41.6 +0.8**
comp=Z,1.5nm,0.8s,baz=126,slow=6.2,SNR=9.8
PDAR LR LR 09 17 24.9
comp=Z,49nm,20.1s,baz=130,slow=39
comp=Z,0.5nm,0.7s
GRAC Grapevine Rang 33.88 319 IAmb IAmb 09 02 06.6
comp=Z,10nm,1.1s
TPH Tonopah 34.46 321 IAmb IAmb 09 02 11.1
comp=Z,5.2nm,0.9s
DSP Deep Springs 34.49 319 IAmb IAmb 09 02 12.6
comp=Z,4.8nm,0.9s
TPAW Teton Pass 35.06 334 IAmb IAmb 09 02 19.2
comp=Z,7.3nm,1.1s
ELK Elko 35.09 326 IAmb IAmb 09 02 17.2
comp=Z,5.5nm,0.9s
NVAR Mina Array Bea 35.34 320 P **P 09 02 18.3 +2.6**
NVAR Mina Array Bea 35.34 320 P **P 09 02 17.9 +2.1**
comp=Z,17nm,0.8s,baz=136,slow=8.7,SNR=84
NVAR PcP **PcP 09 04 47.2 +2.0**
comp=Z,3.1nm,0.7s,baz=132,slow=4.0,SNR=14
NVAR LR LR 09 18 29.5
comp=Z,153nm,21.6s,baz=134,slow=39
comp=Z,17nm,0.8s
MDPB Devils Postpil 35.35 319 IAmb IAmb 09 02 20.2
comp=Z,6.7nm,0.8s
RYN Ryan 35.60 321 IAmb IAmb 09 02 21.1
comp=Z,6.0nm,0.9s
LEGD La Grand CA 35.81 317 IAmb IAmb 09 02 23.3
comp=Z,7.9nm,0.8s
WAKR Walker 36.10 320 IAmb IAmb 09 02 25.8
comp=Z,9.7nm,1.1s
CMB Columbia Colle 36.43 318 IAmb IAmb 09 02 28.6
comp=Z,6.6nm,1.0s
LPAZ La Paz 36.58 142 P **P 09 02 26.9 0.0**
LPAZ La Paz 36.58 142 P **P 09 02 27.1 +0.2**
comp=Z,0.7nm,0.6s,baz=300,slow=11,SNR=4.2
LPAZ LR LR 09 17 28.3
comp=Z,130nm,21.4s,baz=340,slow=36
comp=Z,0.7nm,0.6s
PAHR Pah Rah Range 36.79 321 IAmb IAmb 09 02 31.1
comp=Z,6.9nm,0.9s
DGMT Dagmar 37.05 345 IAmb IAmb 09 02 30.9
comp=Z,7.2nm,0.7s
DLMT Dillon 37.26 334 IAmb IAmb 09 02 34.9
comp=Z,4.8nm,0.9s
ULM Lac du Bonnet 37.28 354 P **P 09 02 29.8 -2.0**
comp=Z,4.5nm,0.6s,baz=175,slow=10.0,SNR=3.6
ULM LR LR 09 21 14.6
comp=Z,68nm,18.4s,baz=172,slow=42
comp=Z,4.5nm,0.6s
WVOR Wild Horse Val 38.10 325 IAmb IAmb 09 02 41.2
comp=Z,9.6nm,1.1s
ITTB Itaituba 38.53 115 *eP* P 09 02 41.1 -1.8
PLID Pearl Lake 38.60 331 IAmb IAmb 09 02 44.8
comp=Z,4.4nm,0.8s
MAL2 Monte Alegre, 38.93 110 P 09 02 46.1 -0.1
O02D Mt. Diablo Mer 39.18 319 P **P 09 02 48.7 +0.6**
O02D IAmb IAmb 09 02 49.7
comp=Z,8.5nm,0.8s
M03C McCloud 39.40 321 IAmb IAmb 09 02 53.9
comp=Z,9.4nm,0.8s
VILB Vilhena 39.57 130 P **P 09 02 52.3 +0.8**
VILB IAmb IAmb 09 03 03.8
comp=Z,9.6nm,0.8s
VILB Vilhena 39.57 130 *eP* P 09 02 51.4 -0.2
YBH Yreka Blue Hor 40.03 321 P **P 09 02 55.0 -0.1**
YBH Yreka Blue Hor 40.03 321 LR LR 09 21 26.3
comp=Z,9.1nm,20.8s,baz=130,slow=39
L04D Klamath Falls 40.07 322 P **P 09 02 56.5 +0.9**
NPGB Novo Progresso 40.14 118 *eP* P 09 02 54.5 -1.7
KHMM Horse Mountain 40.17 320 P **P 09 02 58.5 +2.1**
PINE Pine Mountain 40.26 325 P **P 09 02 58.1 +1.0**
PINE IAmb IAmb 09 02 59.1
comp=Z,11nm,0.8s
BBOR Butler Butte 40.69 323 IAmb IAmb 09 03 02.1
comp=Z,13nm,1.2s
WIFE Three Sisters- 40.92 325 IAmb IAmb 09 03 04.7
comp=Z,12nm,0.9s
SIV San Ignacio 40.94 134 P **P 09 03 02.8 -0.1**
comp=Z,4.7nm,0.8s,baz=303,slow=7.7,SNR=31
SIV PcP **PcP 09 05 03.3 +0.6**
comp=Z,0.8nm,0.5s,baz=263,slow=4.0,SNR=5.5
comp=Z,4.7nm,0.8s
PDRB Porto dos Gac 41.45 125 *eP* P 09 03 06.0 -1.1
NEW Newport 41.48 333 LR LR 09 24 04.1
comp=Z,79nm,18.6s,baz=126,slow=41
CLDB Colider 41.78 123 *eP* P 09 03 08.2 -1.5
RPN Rapa Nui 44.06 205 LR LR 09 17 03.7
comp=Z,134nm,20.5s,baz=261,slow=29
SALV Santo Antonio 44.81 129 *eP* P 09 03 33.7 -0.4
SCHQ Schefferville 45.49 19 P **P 09 03 36.6 -2.5**
comp=Z,46nm,0.5s,baz=220,slow=8.5,SNR=15
SCHQ LR LR 09 21 57.0
comp=Z,640nm,18.5s,baz=187,slow=35

H03N2	Juan Fernandez	47.58	167	T		T	09 54 55.0
	baz=346,slow=76,SNR=20						
H03N1	Juan Fernandez	47.59	167	T		T	09 54 59.5
	baz=346,slow=76,SNR=26						
H03N3	Juan Fernandez	47.60	167	T		T	09 54 56.5
	baz=346,slow=76,SNR=28						
ZON	Zonda	49.06	155	P		P	09 04 08.3 +1.2
BBB	Bella Bella	49.29	330	LR		LR	09 29 23.6
	comp=Z,5Snm,18.4s,baz=122,slow=41						
VA03	San Esteban	49.41	158	P		P	09 04 11.1 +1.2
AMBA	Amambai (Brazi	49.84	136	eP		P	09 04 13.0 -0.3
BDFB	Brasilia	50.72	123	LR		LR	09 27 00.6
	comp=Z,57nm,21.2s,baz=271,slow=38						
YKA	Yellowknife Ar	52.23	346	P		P	09 04 28.7 -1.9
	comp=Z,2.5nm,0.8s,baz=155,slow=7.0,SNR=6.9						
	comp=Z,2.5nm,0.8s						
FRB	Frobisher Bay	52.81	12	LR		LR	09 27 59.2
	comp=Z,69nm,18.8s,baz=208,slow=37						
TAOE	Nuku Hiva Isla	54.06	249	eLR		LR	09 20 25.4
	comp=Z,71nm,20.7s						
DLBC	Dease Lake	54.09	336	P		P	09 04 44.6 +0.2
	comp=Z,39nm,0.9s,baz=92,slow=15,SNR=4.6						
	comp=Z,39nm,0.9s						
PLTB	Pedras Altas	56.87	143	P		P	09 05 05.8 +1.1
NBAN	Anadia - AL	58.28	110	eP		P	09 05 13.7 -1.3
SFJD	Kangerlussuaq	59.86	17	LR		LR	09 31 18.8
	comp=Z,27nm,19.0s,baz=205,slow=36						
RAGM	Ragged Mountai	61.43	333	P		P	09 05 36.7 +0.8
BCAR	Beaver Creek A	61.47	336	P		P	09 05 36.6 +0.5
RES	Resolute Bay	61.59	359	LR		LR	09 33 25.4
	comp=Z,57nm,19.8s,baz=326,slow=37						
INK	Inuvik	61.72	343	LR		LR	09 38 22.6
	comp=Z,112nm,18.4s,baz=41,slow=42						
ILAR	Eielson Array	64.26	337	P		P	09 05 54.8 +0.2
ILAR	Eielson Array	64.26	337	P		P	09 05 53.1 -1.5
	comp=Z,2.3nm,1.0s,baz=123,slow=4.1,SNR=6.5						
ILAR				LR		LR	09 36 34.8
	comp=Z,74nm,19.7s,baz=102,slow=38						
	comp=Z,2.3nm,1.0s						
KDAK	Kodiak Island	64.28	328	P		P	09 05 56.5 +1.7
RND	Reindeer	64.48	335	P		P	09 05 56.4 +0.3
RND				IAmb		IAmb	09 05 57.4
	comp=Z,9.6nm,1.3s						
BMAR	Burnt Mountain	64.65	340	P		P	09 05 57.6 +0.5
PPT	Papeete	65.93	244	LR		LR	09 27 11.4
	comp=Z,97nm,18.8s,baz=86,slow=29						
PPT2	Papeete2	65.94	244	eLR		LR	09 25 53.9
	comp=Z,169nm,26.0s						
PPT2				eLR		LR	09 25 59.7
	comp=Z,109nm,23.8s						
TBI	Tubuai	68.24	238	eLR		LR	09 26 58.5
	comp=Z,406nm,26.8s						
BORG	Borgarnes	69.30	25	LR		LR	09 34 10.1
	comp=Z,16nm,21.4s,baz=325,slow=34						
JMIC	Jan Mayen	75.01	20	LR		LR	09 39 48.0
	comp=Z,23nm,20.1s,baz=220,slow=36						
RAR	Rarotonga	76.21	244	P		P	09 07 09.7 +1.4
EKA	Eskdalemuir Ar	77.73	36	P		P	09 07 13.5 -2.8
	comp=Z,1.5nm,0.6s,baz=271,slow=5.6,SNR=7.6						
	comp=Z,1.5nm,0.6s						
ESDC	Sonseca Array	79.00	52	IAmb		IAmb	09 07 23.2
	comp=Z,2.6nm,0.9s						
ESDC	Sonseca Array	79.00	52	P		P	09 07 22.0 -1.8
	comp=Z,2.3nm,0.9s,baz=286,slow=5.2,SNR=11						
ESDC				LR		LR	09 37 54.7
	comp=Z,32nm,18.2s,baz=256,slow=32						
	comp=Z,2.3nm,0.9s						
NOA	NORSAR Array B	84.14	29	LR		LR	09 44 19.4
	comp=Z,14nm,20.0s,baz=245,slow=35						
DBIC	Dimbokro	84.15	85	P		P	09 07 50.6 -0.7
	comp=Z,4.2nm,0.7s,baz=289,slow=5.8,SNR=4.0						
	comp=Z,4.2nm,0.7s						
HFS	Hagfors	85.58	29	P		P	09 07 56.9 -0.7
	comp=Z,1.3nm,0.7s,baz=243,slow=6.3,SNR=2.7						
HFS				LR		LR	09 47 37.6
	comp=Z,17nm,18.1s,baz=282,slow=37						
	comp=Z,1.3nm,0.7s						
TORD	Torodi Ar. Bea	89.02	77	P		P	09 08 12.7 -2.5
	comp=Z,5.0nm,0.3s,baz=315,slow=4.9,SNR=3.5						
	comp=Z,5.0nm,0.3s						
SEY	Seymchan	90.19	336	LR		LR	09 51 58.5
	comp=Z,23nm,21.8s,baz=92,slow=38						
VAE	Valguarnera	93.48	50	LR		LR	09 48 10.4
	comp=Z,44nm,18.2s,baz=324,slow=34						
KSRS	Korea Array	118.15	326	PKP		PKiKP	09 14 07.5 +0.7
	comp=Z,2.0nm,0.8s,baz=346,slow=1.3,SNR=7.6						
BOSA	Boshof	118.55	116	PKP		PKiKP	09 14 09.4 +1.5
	comp=Z,3.0nm,0.6s,baz=282,slow=3.0,SNR=6.0						
MKAR	Makanchi Array	119.98	6	PKP		PKPdf	09 14 09.5 -0.6
	comp=Z,1.3nm,0.9s,baz=309,slow=0.9,SNR=3.7						
STKA	Stephens Creek	129.01	240	PKP		PKPdf	09 14 28.6 +0.9
	comp=Z,1.2nm,0.7s,baz=36,slow=2.5,SNR=3.7						
WRA	Warramunga Arr	136.72	255	PKhKP		PKPpre	09 14 37.9
	comp=Z,0.8nm,0.8s,baz=113,slow=1.3,SNR=5.2						
WRA				PKP		PKPdf	09 14 43.3 +0.8
	comp=Z,1.0nm,0.6s,baz=90,slow=2.5,SNR=10						
ASAR	Alice Springs	136.87	249	PKhKP		PKPpre	09 14 38.9
	comp=Z,0.3nm,0.6s,baz=95,slow=2.7,SNR=2.1						
ASAR				PKP		PKPdf	09 14 43.8 +1.0
	comp=Z,0.6nm,0.7s,baz=107,slow=1.8,SNR=8.3						
SHL	Shillong	141.47	357	PKPdf		PKPdf	09 14 51.7 +0.3
FITZ	Fitzroy Crossi	145.02	257			PKPbc	09 14 57.3 +0.4
LUWI	Luwuk	145.06	287	PKPbc		PKPbc	09 14 55.7 -1.5
CHTO	Chiang Mai	146.95	344	PKPbc		PKPbc	09 15 02.9 +0.1
CM31	Chiang Mai Arr	147.29	344	PKPbc		PKPbc	09 15 03.7 0.0
CMAR	Chiang Mai Arr	147.29	344			PKPbc	09 15 04.0 +0.3
CMAR	Chiang Mai Arr	147.29	344	PKPbc		PKPdf	09 15 03.1 +1.7
	comp=Z,7.5nm,0.7s,baz=340,slow=3.5,SNR=34						
PSA00	Pilbara Seismi	150.02	250	PKPbc		PKPbc	09 15 11.7 +1.0
PSA00	Pilbara Seismi	150.02	250	PKPbc		PKPbc	09 15 11.6 +1.0
MBWA	Marble Bar	150.20	250	PKPbc		PKPbc	09 15 12.1 +0.9

*IDC **21** 08:59:30.2±2.0, 60°.71N×153°.07W, h95km±23km, mb3.5/3, mbtmp4.1/8, Error ellipse: s-maj=25.7km s-min=21.6km az=113.0*

*NEIC **21** 08:59:31.4±1.1, 60°.62N±0°.04×152°.68W±0°.08, h123km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=92.0*

*AEIC **21** 08:59:32.7±1.1, 60°.61N±0°.03×152°.63W±0°.08, h118km±4km, ML3.6, ML3.8/196(NEIC), Error ellipse: s-maj=5.8km s-min=5.0km az=88.0*

ISC 21 08:59:31.2±0.7, 60°.59N±0°.04×152°.61W±0°.04, h125km±5km, n156, σ0.97/142, mb3.9/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DFR	Drift River	0.04	269		Pn	08 59 48.1	-0.2
DFR					Sn	09 00 00.3	-1.0
RDJH	Redoubt Jeurge	0.09	269		Pn	08 59 48.4	-0.1
RDJH					Sn	09 00 00.6	-0.9
RDWB	Redoubt West	0.15	227		Pn	08 59 48.1	-0.5
RDWB					Sn	09 00 00.9	-0.8
O20K	Slope Mountain	0.51	181		Pn	08 59 50.0	+0.1
O20K					Sn	09 00 04.1	+0.1
IVE	Iliamna Volcan	0.61	199		Pn	08 59 50.6	0.0
IVE					Sn	09 00 04.6	-0.6
CKL	Chakachamna La	0.62	12		Pn	08 59 50.8	+0.1
SPCR	Spurr Chakacha	0.64	18		Pn	08 59 50.7	0.0
SPCR					Sn	09 00 04.8	-0.8
SPU	Mount Spurr	0.65	25		Pn	08 59 50.8	-0.1
ILSW	Iliamna Southw	0.67	204		Pn	08 59 51.0	-0.1
ILSW					Sn	09 00 05.8	-0.2
ILSW				IAML		09 00 06.1	
	comp=E,1μm,0.9s						
ILSW				IAML		09 00 06.2	
	comp=N,963nm,1.1s						
SPCN	Chakachatna No	0.67	18		Pn	08 59 51.1	+0.2
SPBG	Spurr Blockage	0.68	10		Pn	08 59 51.4	+0.3
SPBG					Sn	09 00 05.9	-0.2
SPWE	Spurr West	0.68	2		Pn	08 59 51.3	+0.2
SPNN	North Nagishla	0.78	357		Pn	08 59 51.9	-0.1
N19K	Bonanza Creek	0.95	284		Pn	08 59 52.8	-0.5
N19K					Sn	09 00 08.8	-1.2
N19K				IAML		09 00 09.4	
	comp=N,826nm,0.7s						
N19K				IAML		09 00 09.5	
	comp=E,620nm,0.8s						
STLK	Strandline Lak	0.99	22		Pn	08 59 53.8	+0.1
STLK					Sn	09 00 10.2	-0.4
STLK				IAML		09 00 10.8	
	comp=E,820nm,0.9s						
STLK				IAML		09 00 11.2	
	comp=N,685nm,0.7s						
P19K	Oil Pt	0.99	198		Pn	08 59 54.3	+0.6
P19K				IAML		09 00 12.2	
	comp=N,3μm,0.5s						
HOM	Homer	1.06	152		Pn	08 59 55.1	+0.9
HOM					Sn	09 00 13.0	+1.3
SLKM	Skilak Lake	1.19	93		Pn	08 59 55.9	+0.3
SLKM				IAML		09 00 14.1	
	comp=N,2μm,0.6s						
SLKM				IAML		09 00 14.7	
	comp=E,2μm,0.3s						
BRLK	Bradley Lake	1.20	133		Pn	08 59 56.1	+0.3
BRLK				IAML		09 00 16.3	
	comp=E,2μm,0.3s						
SUA	Susitna One	1.26	45		Pn	08 59 57.0	+0.5
SUA				IAML		09 00 17.9	
	comp=E,2μm,0.4s						
SUA				IAML		09 00 17.9	
	comp=N,2μm,0.4s						
CNPM	China Poot	1.27	147		Pn	08 59 57.0	+0.5
CNPM				IAML		09 00 16.6	
	comp=E,3μm,0.5s						
CNPM				IAML		09 00 16.6	
	comp=N,3μm,0.5s						
FIS	Fire Island	1.30	64		Pn	08 59 58.4	+1.7
M20K	Styx River	1.32	349		Pn	08 59 57.3	+0.2
O22K	Cooper Landing	1.43	93		Pn	08 59 58.5	+0.4
SKT	Skwentna	1.49	20		Pn	08 59 59.0	+0.2
SKT				IAML		09 00 21.0	
	comp=E,420nm,0.8s						
RC01	Rabbit Creek A	1.49	69	Pn	Pn	08 59 59.3	+0.4
M19K	Big River Lodg	1.57	328		Pn	08 59 59.8	0.0
N18K	Kilae Creek	1.62	275		Pn	09 00 00.0	-0.3
N18K				IAML		09 00 21.4	
	comp=E,363nm,0.7s						
SEW	Seward	1.65	106		Pn	09 00 00.7	0.0
SEW				IAML		09 00 27.1	
	comp=E,560nm,0.5s						
SEW				IAML		09 00 28.2	
	comp=N,587nm,0.4s						
M22K	Willow	1.68	45		Pn	09 00 01.8	+0.8
Q19K	Cape Douglas,	1.75	198		Pn	09 00 02.1	+0.2
Q19K				IAML		09 00 31.7	
	comp=E,976nm,0.8s						
Q19K				IAML		09 00 32.6	
	comp=N,1μm,0.7s						
P18K	Big Mountain,	1.78	229		Pn	09 00 02.2	-0.1
M18K	Stony River	1.80	301		Pn	09 00 01.8	-0.7
L19K	White Mountain	1.93	327		Pn	09 00 04.0	0.0
L19K				IAML		09 00 29.7	
	comp=E,250nm,0.9s						
PMR	Palmer	1.97	58		Pn	09 00 04.0	-0.4
PMR				IAML		09 00 29.8	
	comp=E,998nm,0.4s						
PMR				IAML		09 00 33.5	
	comp=N,855nm,0.4s						
PMR	Palmer	1.97	58	P	Pn	09 00 04.4	0.0
PMR	Palmer	1.97	58	S	Sn	09 00 29.4	-0.5
SYI	Shuyak Island	1.99	177		Pn	09 00 05.4	+0.6
SYI				IAML		09 00 35.0	
	comp=N,1μm,0.5s						
SYI				IAML		09 00 36.2	
	comp=E,835nm,0.5s						
PWL	Port Wells	2.12	81	IAML		09 00 35.0	
	comp=E,1μm,0.4s						
L22K	Petersville	2.13	24		Pn	09 00 06.8	+0.3
CUT	Chulitna	2.14	31		Pn	09 00 07.0	+0.4
GHO	Glory Hole Cre	2.14	55		Pn	09 00 06.6	-0.2
KNK	Knik Glacier	2.19	66		Pn	09 00 07.0	-0.2
KNK				IAML		09 00 35.2	
	comp=E,1μm,0.6s						
N17K	Nushagak Hills	2.26	270		Pn	09 00 08.0	-0.1
N17K				IAML		09 00 35.4	
	comp=N,276nm,0.9s						
PPLA	Purkeypile	2.32	5	IAML		09 00 39.6	
	comp=E,232nm,0.9s						
SML	Sawmill	2.41	58		Pn	09 00 09.7	-0.3
SML				IAML		09 00 39.0	
	comp=N,850nm,0.7s						
M17K	Holitna River	2.49	291		Pn	09 00 10.8	-0.2
M17K				IAML		09 00 40.9	
	comp=E,143nm,1.0s						
P23K	Montague Islan	2.66	101		Pn	09 00 13.5	+0.2
P23K				IAML		09 00 47.9	
	comp=E,683nm,0.4s						
P23K				IAML		09 00 51.2	
	comp=N,652nm,0.5s						
GLI	Glacier Island	2.73	82		Pn	09 00 12.6	-1.4
ACHA	Angle Creek He	2.76	211		Pn	09 00 15.4	+0.8
MGLS	Mageik Landsli	2.79	209		Pn	09 00 15.6	+0.7
KDAK	Kodiak Island	2.82	180		Pn	09 00 14.5	-0.8
KDAK				IAML		09 00 58.8	
	comp=N,259nm,0.3s						
KDAK				IAML		09 01 00.8	
	comp=N,267nm,0.7s						
KDAK	Kodiak Island	2.82	180	P	Pn	09 00 14.4	-0.8
	comp=N,143nm,0.3s,baz=351,slow=10,SNR=361						
KDAK				S	Sn	09 00 47.2	-2.0
	comp=N,118nm,0.5s,baz=347,slow=9.1,SNR=6.2						
SCM	Sheep Creek Mo	2.84	62		Pn	09 00 15.6	0.0
SCM				IAML		09 01 00.2	
	comp=E,688nm,0.8s						
SCM				IAML		09 01 01.6	
	comp=N,754nm,0.8s						
K20K	Telida	2.86	347		Pn	09 00 15.8	+0.1
CNTC	Contact Creek	2.87	217		Pn	09 00 16.4	+0.4
O16K	Kokwok River B	2.92	252		Pn	09 00 16.8	+0.2
FID	Port Fidalgo	3.02	84		Pn	09 00 16.5	-1.4
FID				IAML		09 00 55.5	
	comp=N,514nm,0.4s						
FID				IAML		09 00 56.9	
	comp=E,462nm,0.3s						
HIN	Hinchinbrook I	3.03	91		Pn	09 00 17.7	-0.3
HIN				IAML		09 00 55.3	
	comp=N,402nm,0.4s						
HIN				IAML		09 00 58.0	
	comp=E,458nm,0.5s						
TRF	Thorofare Moun	3.07	20	IAML		09 00 55.3	
	comp=N,184nm,0.5s						
TRF				IAML		09 00 57.5	
	comp=E,202nm,0.5s						
KTH	Kantishna Hill	3.08	14		Pn	09 00 18.6	-0.1
KTH				IAML		09 00 56.5	
	comp=N,152nm,0.6s						
KTH				IAML		09 01 31.3	
	comp=E,106nm,0.9s						
M16K	Timber Creek	3.14	281		Pn	09 00 19.4	0.0
CHUM	Lake Minchumin	3.31	2		Pn	09 00 21.5	-0.1
RND	Reindeer	3.33	31	IAML		09 01 01.5	
	comp=E,101nm,0.7s						
RND				IAML		09 01 07.5	
	comp=N,98nm,0.6s						
MID	Middleton Isla	3.36	108		Pn	09 00 22.5	+0.2
MID	Middleton Isla	3.36	108	IAML		09 01 09.9	
	comp=E,177nm,0.7s						
MID				IAML		09 01 22.4	
	comp=N,154nm,0.7s						
DIV	Divide	3.39	78		Pn	09 00 22.1	-0.7
OHAK	Old Harbor	3.40	186		Pn	09 00 21.6	-1.2
OHAK				IAML		09 01 02.2	
	comp=E,106nm,0.7s						
OHAK				IAML		09 01 14.3	
	comp=N,96nm,0.7s						
OHAK	Old Harbor	3.40	186	P	Pn	09 00 22.0	-0.8
K17K	Iditarod	3.45	311		Pn	09 00 23.2	-0.3
K17K	Iditarod	3.45	311	IAML		09 01 05.0	
	comp=E,72nm,1.0s						
PLK3	Peulik 3	3.47	214		Pn	09 00 24.6	+0.8
J18K	Innoko River	3.47	328		Pn	09 00 24.0	+0.2
PLK1	Peulik 1	3.47	218		Pn	09 00 24.8	+1.0
DHY	Denali Highway	3.52	43	IAML		09 01 07.1	
	comp=E,299nm,0.5s						
PLK4	Peulik 4	3.54	215		Pn	09 00 25.6	+0.8
PLK4	Peulik 4	3.54	215	IAML		09 01 30.4	
	comp=E,66nm,0.8s						
MCK	McKinley	3.59	27		Pn	09 00 25.4	0.0
MCK				IAML		09 01 09.9	
	comp=E,91nm,0.3s						
MCK				IAML		09 01 11.4	
	comp=N,100nm,0.5s						
BPAW	Bear Paw Mtn.	3.60	11		Pn	09 00 24.9	-0.6
BPAW	Bear Paw Mtn.	3.60	11	IAML		09 01 06.9	
	comp=N,62nm,0.5s						
BPAW				IAML		09 01 06.9	
	comp=E,63nm,0.6s						
BWN	Browne	3.88	21	IAML		09 01 48.5	
	comp=E,142nm,0.8s						
BWN				IAML		09 01 54.6	
	comp=N,134nm,1.0s						
O15K	Ungalikthiuk R	3.90	252		Pn	09 00 29.5	0.0
BMRM	Bremner River	3.94	81	IAML		09 01 17.2	
	comp=E,280nm,0.5s						
BMRM				IAML		09 01 17.3	
	comp=N,318nm,0.4s						
N25K	Chitina, Valde	4.02	72	IAML		09 01 18.9	
	comp=N,197nm,0.7s						
N25K				IAML		09 01 20.9	
	comp=E,217nm,0.5s						
SII	Sitkinak Islan	4.13	192		Pn	09 00 31.3	-1.3
SII	Sitkinak Islan	4.13	192	IAML		09 01 21.3	
	comp=N,178nm,0.6s						
SII				IAML		09 01 23.0	
	comp=E,130nm,0.6s						
SII	Sitkinak Islan	4.13	192	P	Pn	09 00 31.2	-1.3
SII	Sitkinak Islan	4.13	192	S	Sn	09 01 17.1	-3.0
PAX	Paxson	4.15	52	IAML		09 01 22.6	
	comp=N,199nm,0.5s						
PAX				IAML		09 01 22.8	
	comp=E,157nm,0.4s						
WACK	Wrangell Chich	4.24	67		Pn	09 00 34.3	+0.1
I20K	Naaghedeneel	4.31	349		Pn	09 00 35.1	+0.3
I20K				IAML		09 01 26.3	
	comp=E,97nm,1.2s						
I20K				IAML		09 02 13.3	
	comp=N,125nm,1.1s						
GLB	Gilahina Butte	4.37	75	IAML		09 01 37.8	
	comp=E,80nm,0.7s						
GLB				IAML		09 01 55.1	
	comp=N,140nm,1.2s						
WRH	Wood River Hil	4.42	26	IAML		09 01 58.4	
	comp=E,40nm,0.9s						
WRH				IAML		09 01 58.7	
	comp=N,35nm,1.0s						
L15K	Ungalak Mounta	4.44	288		Pn	09 00 36.2	-0.3
VRDI	Verde Repeater	4.52	78		Pn	09 00 37.5	-0.4
VRDI	Verde Repeater	4.52	78	IAML		09 01 30.9	
	comp=N,183nm,0.8s						
VRDI				IAML		09 01 32.7	
	comp=E,85nm,0.7s						
M14K	Bethel	4.60	276		Pn	09 00 38.4	-0.4
CCB	Clear Creek Bu	4.63	27	IAML		09 01 34.6	
	comp=E,49nm,0.4s						
CCB				IAML		09 01 35.4	
	comp=N,31nm,0.3s						
J16K	Anvik River	4.64	309		Pn	09 00 38.8	-0.5
HDA	Harding Lake	4.64	32	IAML		09 01 32.0	
	comp=E,177nm,0.5s						
MCARA	McCarthy VSAT	4.74	76		Pn	09 00 41.1	+0.4
I23K	Minto, Yukon-K	4.81	17	IAML		09 02 14.6	
	comp=E,27nm,1.0s						
I23K				IAML		09 02 31.1	
	comp=N,25nm,0.8s						
RIDG	Independent Ri	4.82	46	IAML		09 01 39.2	
	comp=N,142nm,0.8s						
RIDG				IAML		09 01 45.5	
	comp=E,159nm,0.8s						
COLA	College	4.82	25		Pn	09 00 41.7	0.0
COLA	College	4.82	25	P	Pn	09 00 41.4	-0.3
M26K	Nabesna, AK	4.95	64	IAML		09 01 39.3	
	comp=E,85nm,0.5s						
M26K				IAML		09 01 41.5	
	comp=N,98nm,0.6s						
ILAR	Eielson Array	4.95	30	Pn	Pn	09 00 43.0	-0.5
ILAR	Eielson Array	4.95	30	P	Pn	09 00 42.7	-0.8
	comp=N,55nm,0.4s,baz=215,slow=13,SNR=603						
ILAR				S	Sn	09 01 35.7	-4.0
	comp=N,6.5nm,0.4s,baz=206,slow=18,SNR=4.9						
L14K	Kuka Creek	4.96	283		Pn	09 00 43.8	+0.2
L14K	Kuka Creek	4.96	283	IAML		09 02 46.9	
	comp=N,26nm,1.1s						
L26K	Log Cabin Wild	5.03	57	IAML		09 02 02.5	
	comp=E,156nm,0.6s						
L26K				IAML		09 02 03.1	
	comp=N,135nm,0.5s						
KIAG	Kiagna River	5.04	82		Pn	09 00 44.8	0.0
CHIR	Chirikof Islan	5.04	200	P	Pn	09 00 42.7	-2.0
BALM	Baldy	5.05	80		Pn	09 00 44.9	+0.1
DOT	Dot Lake	5.05	49	IAML		09 01 55.4	
	comp=N,90nm,0.9s						
DOT				IAML		09 01 55.7	
	comp=E,152nm,0.9s						
POKR	Poker Flat Res	5.12	25	IAML		09 01 45.8	
	comp=N,36nm,0.4s						
POKR				IAML		09 01 45.9	
	comp=E,41nm,0.8s						
J25K	Salcha River,	5.24	37	IAML		09 01 46.5	
	comp=E,88nm,0.6s						
J25K				IAML		09 01 47.4	
	comp=N,82nm,0.5s						
SCRK	Sand Creek	5.27	46	IAML		09 02 04.2	
	comp=N,49nm,0.7s						
SCRK				IAML		09 02 08.0	
	comp=E,59nm,0.6s						
MESA	MESA	5.31	90		Pn	09 00 49.2	+0.8
GRNC	Granite Creek	5.34	84		Pn	09 00 49.6	+0.6
BARN	Barnard Glacie	5.38	80		Pn	09 00 49.9	+0.5
BARN	Barnard Glacie	5.38	80	IAML		09 01 53.3	
	comp=N,112nm,0.5s						
BARN				IAML		09 01 55.8	
	comp=E,111nm,0.5s						
YAH	Yahtse	5.38	88		Pn	09 00 50.0	+0.6
IMAR	Indian Mountai	5.44	355		Pn	09 00 49.3	-0.6
CTGM	Chitina Glacie	5.54	81		Pn	09 00 52.6	+1.0
RKAV	Rock Avalanche	5.59	88		Pn	09 00 53.4	+1.2
BCAR	Beaver Creek A	5.70	60		Pn	09 00 54.3	+0.8
VNKR	Veniaminof 5	5.79	221		Pn	09 00 55.2	+0.3
YUK8	Steele Glacier	6.30	78		Pn	09 01 03.4	+1.5
SDPT	Sand Point	6.71	222	P	Pn	09 01 06.2	-1.0
F18K	Selawik	6.79	336		Pn	09 01 08.5	+0.3
CHNA	Chernabura Isl	6.88	216	P	Pn	09 01 08.1	-1.3
P29M	Windy Craggy	7.50	91		Pn	09 01 18.5	+0.7
DT1	Dutton Round H	7.53	227		Pn	09 01 18.2	0.0
E22K	Anaktuvuk Pass	7.58	2		Pn	09 01 18.8	-0.1
E17K	Hotham Inlet	7.67	332		Pn	09 01 18.7	-1.3
BMAR	Burnt Mountain	7.71	24		Pn	09 01 19.1	-1.4
E24K	Your Creek	7.72	12		Pn	09 01 20.6	-0.1
K29M	Barlow Dome	7.76	59		Pn	09 01 21.9	+0.5
TOLK	Toolik Lake Re	8.19	8		Pn	09 01 27.9	+0.9
J30M	Hart River	8.50	55		Pn	09 01 30.7	-0.6
EPYK	Eagle Plains	9.15	44	Pn	Pn	09 01 39.5	-0.5
R32K	Eaglecrest	9.50	96	Pn	Pn	09 01 46.7	+2.0
JIS	Juneau Island	9.57	96	P	Pn	09 01 47.2	+1.6
SIT	Sitka	9.63	104	P	Pn	09 01 46.8	+0.3
H31M	Peel River	9.74	50	Pn	Pn	09 01 48.3	+0.4
E29M	Blow River	10.04	33	Pn	Pn	09 01 51.9	0.0
INK	Inuvik	11

0.9nm,0.3s,baz=90,slow=13,SNR=13
ZALV Lg Lg 09 10 42.7
1.7nm,0.3s,baz=92,slow=22,SNR=18
KURBB Kurchatov Arra 6.56 245 Pn Pn 09 11 22.2 0.0
0.1nm,0.3s,baz=63,slow=14,SNR=3.4
KURBB Lg Lg 09 13 12.4
baz=52,slow=34,SNR=4.9
0.4nm,0.5s
MKAR Makanchi Array 7.87 209 Pn Pn 09 11 42.3 +2.0
0.1nm,0.3s,baz=31,slow=15,SNR=1.2
MKAR Sn Sn 09 13 09.3 -0.7
0.1nm,0.3s,baz=26,slow=24,SNR=1.5
MKAR Lg Lg 09 13 51.9
0.1nm,0.3s,baz=22,slow=33,SNR=2.3
0.5nm,0.8s

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*SJA **21** 09:36:21.0±0.6, 38.°90S×72.°92W, h65km±6km, ML4.7, MW4.5*
*NEIC **21** 09:36:22.2±2.3, 38.°87S±0.°04×72.°87W±0.°08, h46km±6km, mb4.9/47, Mww4.6/11, Mwr5.0(GUC), Error ellipse: s-maj=9.7km s-min=6.5km az=86.0*
*IDC **21** 09:36:23.3±2.5, 38.°75S×72.°66W, h57km±21km, mb4.1/11, mbtmp4.3/15, ML3.9/4, MS3.5/16, Error ellipse: s-maj=25.3km s-min=10.9km az=90.0*
*VAO **21** 09:36:23.2±1.0, 38.°64S×72.°41W, h41km±10km, mb5.1*
*GUC **21** 09:36:23.7±0.8, 38.°94S×72.°84W, h58km±5km, ML5.0*
ISC 21 09:36:22.4±0.7, 38.°84S±0.°03×72.°85W±0.°04, h53km±6km, n188, σ1°73/181, mb4.8/19, MS3.5/15, 7C-12D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC02	**Puerto Saavedr**	**0.42**	**276**		**Pn**	**09 36 35.1**	**+2.1**
LC02	**Puerto Saavedr**	**0.42**	**276**	⇓*iP*	**Pn**	**09 36 35.0**	**+2.0**
LC02				*i* S	**Sn**	**09 36 43.4**	**+2.8**
LC02				IAML		09 36 44.4	
	comp=E,311μm,0.5s						
LC01	**Cunco**	**0.76**	**95**	⇑*iP*	**Pn**	**09 36 37.8**	**+0.7**
LC01				IAML		09 36 49.8	
	comp=N,147μm,0.2s						
LR03	**Panguipulli**	**0.88**	**154**		**Pn**	**09 36 38.9**	**+0.1**
LR03	**Panguipulli**	**0.88**	**154**	⇓*iP*	**Pn**	**09 36 38.8**	**+0.1**
LR03				*i* S	**Sn**	**09 36 49.7**	**-1.0**
LR03				IAML		09 36 57.0	
	comp=E,83μm,0.6s						
LR03	**Panguipulli**	**0.88**	**154**	*eP*	**Pn**	**09 36 38.6**	**-0.1**
LR03				IAML		09 36 53.6	
	comp=Z,47μm,0.6s						
BI04	**Isla Mocha**	**0.92**	**297**	⇑*iP*	**Pn**	**09 36 41.0**	**+1.9**
LR02	**Universidad Au**	**1.02**	**198**	⇓*iP*	**Pn**	**09 36 40.1**	**-0.3**
LR02				*i* S	**Sn**	**09 36 52.6**	**-1.1**
LR02				IAML		09 37 08.7	
	comp=E,96μm,0.6s						
LR04	**Corral**	**1.13**	**203**		**Pn**	**09 36 41.5**	**-0.5**
LR04	**Corral**	**1.13**	**203**	⇓*iP*	**Pn**	**09 36 41.5**	**-0.5**
LR04				*eS*	**Sn**	**09 36 55.3**	**-1.2**
LR04				IAML		09 36 59.9	
	comp=E,36μm,0.2s						
LR04	**Corral**	**1.13**	**203**	*eP*	**Pn**	**09 36 40.8**	**-1.3**
LR04				IAML		09 36 59.0	
	comp=Z,16μm,0.2s						
GO06	**Curarrehue**	**1.30**	**125**	⇑*iP*	**Pn**	**09 36 44.7**	**+0.3**
GO06				*i* S	**Sn**	**09 37 01.2**	**+0.3**
GO06	**Curarrehue**	**1.30**	**125**	*eP*	**Pn**	**09 36 44.7**	**+0.3**
GO06				*eS*	**Sn**	**09 37 02.2**	**+1.4**
LR05	**Currie**	**1.54**	**155**		**Pn**	**09 36 47.8**	**+0.3**
LR05	**Currie**	**1.54**	**155**	*eP*	**Pn**	**09 36 47.8**	**+0.3**
LR05				*i* S	**Sn**	**09 37 06.0**	**-0.3**
LR05				IAML		09 37 08.1	
	comp=E,24μm,0.5s						
LR05	**Currie**	**1.54**	**155**	*eP*	**Pn**	**09 36 48.0**	**+0.6**
LR05				*eS*	**Sn**	**09 37 07.2**	**+0.8**
LR05				IAML		09 37 11.1	
	comp=Z,9μm,0.9s						
CANA	**Caviahue**	**1.69**	**56**	*eP*	**Pn**	**09 36 52.6**	**+2.8**
CANA				*eS*	**Sn**	**09 37 15.4**	**+4.9**
BI05	**Punta Hualpn**	**2.10**	**352**		**Pn**	**09 36 57.2**	**+2.0**
BI05	**Punta Hualpn**	**2.10**	**352**	⇓*iP*	**Pn**	**09 36 57.1**	**+2.0**
BI05	**Punta Hualpn**	**2.10**	**352**	*eP*	**Pn**	**09 36 56.5**	**+1.4**
BI05				IAML		09 37 33.9	
	comp=Z,3μm,0.6s						
LL03	**Petrohue**	**2.32**	**172**		**Pn**	**09 36 57.5**	**-0.7**
LL03	**Petrohue**	**2.32**	**172**	⇓*eP*	**Pn**	**09 36 57.3**	**-0.9**
LL03				IAML		09 37 53.4	
	comp=N,9μm,0.4s						
LL03	**Petrohue**	**2.32**	**172**	*eP*	**Pn**	**09 36 58.1**	**-0.1**
LL03				*eS*	**Sn**	**09 37 25.3**	**-0.2**
LL03				IAML		09 37 40.4	
	comp=Z,5μm,0.8s						
BI02	**San Fabin de**	**2.50**	**30**		**Pn**	**09 37 03.3**	**+2.6**
BI02	**San Fabin de**	**2.50**	**30**	⇓*iP*	**Pn**	**09 37 03.3**	**+2.6**
BI02	**San Fabin de**	**2.50**	**30**	*eP*	**Pn**	**09 37 02.8**	**+2.0**
PLCA	**Paso Flores**	**2.59**	**138**		**Pn**	**09 37 02.4**	**+0.4**
PLCA	**Paso Flores**	**2.59**	**138**	P	**Pn**	**09 37 02.2**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=313,slow=9.7,SNR=87						
PLCA				S	**Sn**	**09 37 33.4**	**+1.1**
	comp=Z,414nm,0.7s,baz=338,slow=12,SNR=3.7						
	comp=Z,18nm,0.3s						
PLCA	**Paso Flores**	**2.59**	**138**	*eP*	**Pn**	**09 37 02.5**	**+0.5**
PLCA				*eS*	Sn	09 37 21.6	-11
PLCA	**Paso Flores**	**2.59**	**138**	*eP*	**Pn**	**09 37 02.0**	**0.0**
LL05	**Los Muermos**	**2.61**	**190**		**Pn**	**09 37 00.6**	**-1.5**
LL05	**Los Muermos**	**2.61**	**190**	⇓*eP*	**Pn**	**09 37 00.8**	**-1.3**
LL05				IAML		09 37 44.5	
	comp=N,4μm,0.8s						
ML02	**Panimavida**	**3.27**	**21**		**Pn**	**09 37 12.9**	**+1.7**
ML02	**Panimavida**	**3.27**	**21**	⇓*eP*	**Pn**	**09 37 13.0**	**+1.7**
ML02				IAML		09 38 13.1	
	comp=E,2μm,0.4s						
ML02	**Panimavida**	**3.27**	**21**	*eP*	**Pn**	**09 37 12.9**	**+1.7**
ML02				*eS*	Sn	09 38 11.6	+23
ML02				IAML		09 38 14.1	
	comp=Z,1μm,0.6s						
LL06	**Loncomilla**	**3.43**	**190**	*eP*	**Pn**	**09 37 10.9**	**-2.4**
LL06				IAML		09 37 48.9	
	comp=E,2μm,0.5s						
LL01	**San Ignacio de**	**3.55**	**175**		**Pn**	**09 37 15.3**	**+0.3**
LL01	**San Ignacio de**	**3.55**	**175**	⇓*eP*	**Pn**	**09 37 15.4**	**+0.3**
LL01	**San Ignacio de**	**3.55**	**175**	*eP*	**Pn**	**09 37 15.5**	**+0.5**
LL01				*eS*	**Sn**	**09 37 57.6**	**+1.9**
GO05	**Hualane**	**3.89**	**11**	⇓*eP*	**Pn**	**09 37 20.5**	**+0.8**
GO05	**Hualane**	**3.89**	**11**	*eP*	**Pn**	**09 37 20.7**	**+1.0**
GO05				IAML		09 38 41.2	
	comp=Z,509nm,0.8s						
PDRA	**Piedra**	**4.03**	**175**	⇓*iP*	**Pn**	**09 37 21.5**	**-0.2**
GO07	**Milladeo Hill,**	**4.32**	**188**		**Pn**	**09 37 23.7**	**-1.8**
GO07	**Milladeo Hill,**	**4.32**	**188**	*eP*	**Pn**	**09 37 23.0**	**-2.5**
GO07				IAML		09 38 12.5	
	comp=Z,1μm,0.4s						
BO02	**Sierra Bellavi**	**4.36**	**23**		**Pn**	**09 37 28.0**	**+1.8**
BO02	**Sierra Bellavi**	**4.36**	**23**	*eP*	**Pn**	**09 37 28.2**	**+1.9**
BO02				IAML		09 38 50.7	
	comp=Z,488nm,0.7s						
LL02	**Futaleuf**	**4.41**	**170**		**Pn**	**09 37 27.2**	**+0.3**
LL02	**Futaleuf**	**4.41**	**170**	*eP*	**Pn**	**09 37 27.1**	**+0.2**
BO01	**Tunca**	**4.66**	**18**		**Pn**	**09 37 30.7**	**+0.5**
BO01	**Tunca**	**4.66**	**18**	*eP*	**Pn**	**09 37 30.4**	**+0.2**
BO01				IAML		09 38 55.2	
	comp=Z,288nm,1.3s						
MT01	**Popeta**	**5.13**	**15**		**Pn**	**09 37 36.9**	**+0.2**
MT01	**Popeta**	**5.13**	**15**	*eP*	**Pn**	**09 37 37.0**	**+0.3**
MT01				IAML		09 38 59.6	
	comp=Z,268nm,1.1s						
BO04	**La Punta**	**5.16**	**21**		**Pn**	**09 37 37.5**	**+0.3**
MT09	**Talagante**	**5.27**	**17**		**Pn**	**09 37 38.5**	**-0.2**
MT03	**Universidad Ad**	**5.66**	**20**		**Pn**	**09 37 44.2**	**+0.1**
MT05	**Renca**	**5.70**	**18**		**Pn**	**09 37 44.4**	**-0.1**
MT16	**CCHEN**	**5.72**	**20**		**Pn**	**09 37 44.8**	**0.0**
MT02	**Curacav**	**5.74**	**14**		**Pn**	**09 37 44.8**	**-0.3**
MT08	**Bocatoma Ro**	**5.85**	**24**		**Pn**	**09 37 47.9**	**+1.1**
VA01	**Torpederas**	**5.88**	**10**		**Pn**	**09 37 46.4**	**-0.6**
PEL	**Peldehue**	**5.95**	**18**		**Pn**	**09 37 47.8**	**-0.1**
VA06	**Catapilco**	**6.39**	**12**		**Pn**	**09 37 53.2**	**-0.7**
COYC	**Coyhaique**	**6.75**	**175**		**Pn**	**09 37 59.2**	**+0.3**
H03S1	**Juan Fernandez**	**6.98**	**314**	P	**Pn**	**09 38 03.9**	**+2.1**
	baz=119,slow=74,SNR=116						
H03S1				S	**Sn**	**09 39 14.3**	**-5.3**
	baz=301,slow=80,SNR=4.9						
H03S1				T	T	09 45 17.8	
	baz=142,slow=75,SNR=61						
H03S3	**Juan Fernandez**	**7.00**	**314**	P	**Pn**	**09 38 04.0**	**+2.0**
H03S3				S	**Sn**	**09 39 14.6**	**-5.4**
	baz=301,slow=80,SNR=119						
H03S3				T	T	09 45 26.3	
	baz=142,slow=75,SNR=84						
H03S2	**Juan Fernandez**	**7.00**	**314**	P	**Pn**	**09 38 03.8**	**+1.8**
	baz=301,slow=74,SNR=124						
H03S2				S	**Sn**	**09 39 14.2**	**-5.9**
	baz=301,slow=80,SNR=4.8						
H03S2				T	T	09 45 04.5	
	baz=142,slow=75,SNR=77						
VA04	**Juan Fernndez**	**7.09**	**315**		**Pn**	**09 38 05.1**	**+1.6**
H03N3	**Juan Fernandez**	**7.28**	**316**	P	**Pn**	**09 38 08.4**	**+2.4**
H03N3				S	**Sn**	**09 39 23.3**	**-3.8**
	SNR=216						
H03N1	**Juan Fernandez**	**7.28**	**316**	P	**Pn**	**09 38 08.3**	**+2.3**
H03N1				S	**Sn**	**09 39 23.1**	**-4.0**
	SNR=263						
H03N2	**Juan Fernandez**	**7.30**	**316**	P	**Pn**	**09 38 08.5**	**+2.4**
H03N2				S	**Sn**	**09 39 23.4**	**-3.9**
	SNR=240						
CFA	**Coronel Fontan**	**8.14**	**29**	P	**Pn**	**09 38 16.2**	**-1.8**
	comp=Z,5.9nm,0.3s,baz=216,slow=12,SNR=99						
CFA				S	**Sn**	**09 39 46.3**	**-2.3**
	comp=Z,6.9nm,0.5s,baz=120,slow=16,SNR=1.6						
CFA				LR	LR	09 42 04.8	
	comp=Z,262nm,20.1s,baz=209,slow=43						
	comp=Z,51nm,0.8s						
TRQA	**Tornquist**	**8.56**	**88**		**Pn**	**09 38 24.4**	**+0.7**
LCO	**Las Campanas**	**9.96**	**11**		**Pn**	**09 38 42.0**	**-1.1**
AC04	**Llanos de Chal**	**10.71**	**8**		**Pn**	**09 38 50.8**	**-2.3**
PB14	**IPOC Station P**	**14.32**	**9**		**Pn**	**09 39 42.5**	**0.0**
PSAL	**Palomas, Salto**	**14.69**	**63**	*eP*	**Pn**	**09 39 43.5**	**-3.5**
PB10	**IPOC Station P**	**15.40**	**8**	IAmb	IAmb	09 40 02.6	
	comp=Z,107nm,1.0s						
PB05	**IPOC Station P**	**16.09**	**9**	IAmb	IAmb	09 40 10.2	
	comp=Z,65nm,0.8s						
USHA	**Ushuaia**	**16.28**	**171**	P	**Pn**	**09 40 07.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=359,slow=13,SNR=2.5						
	comp=Z,9.5nm,0.6s						
PB06	**IPOC Station P**	**16.32**	**11**	IAmb	IAmb	09 40 12.9	
	comp=Z,64nm,0.9s						
EFI	**East Falkland**	**16.48**	**146**	P	**P**	**09 40 10.8**	**-1.0**
MG01	**Puerto William**	**16.48**	**169**	P	**Pn**	**09 40 10.5**	**+0.7**
MG01				IAmb	IAmb	09 40 48.4	
	comp=Z,69nm,1.0s						
PB03	**IPOC Station P**	**16.94**	**10**	IAmb	IAmb	09 40 19.8	
	comp=Z,64nm,0.9s						
PLTB	**Pedras Altas**	**17.20**	**72**	P	**Pn**	**09 40 18.2**	**-0.8**
PLTB	**Pedras Altas**	**17.20**	**72**	*eP*	**Pn**	**09 40 15.2**	**-3.8**
PB09	**IPOC Station P**	**17.27**	**11**	P	**P**	**09 40 20.7**	**-0.1**
PB09				IAmb	IAmb	09 40 25.1	
	comp=Z,72nm,0.9s						
PB02	**IPOC Station P**	**17.64**	**9**	IAmb	IAmb	09 40 27.8	
	comp=Z,91nm,0.8s						
PB01	**IPOC Station P**	**17.97**	**10**	IAmb	IAmb	09 40 31.4	
	comp=Z,76nm,0.8s						
CPUP	**Villa Florida**	**18.04**	**51**	P	**P**	**09 40 27.9**	**-1.2**
CPUP	**Villa Florida**	**18.04**	**51**	P	**P**	**09 40 27.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=87,slow=10,SNR=9.2						
CPUP				LR	LR	09 48 12.4	
	comp=Z,56nm,20.1s,baz=82,slow=40						
	comp=Z,1.8nm,0.8s						
PB11	**IPOC Station P**	**19.21**	**9**	IAmb	IAmb	09 40 45.0	
	comp=Z,82nm,0.8s						
GO01	**Chusmiza**	**19.36**	**10**	IAmb	IAmb	09 40 47.2	
	comp=Z,36nm,0.6s						
PB12	**IPOC Station P**	**20.27**	**7**	IAmb	IAmb	09 40 57.5	
	comp=Z,68nm,0.7s						
PB16	**IPOC Station P**	**20.64**	**9**	IAmb	IAmb	09 41 05.1	
	comp=Z,92nm,1.0s						
ITAB	**Concordia**	**20.82**	**62**	P	**P**	**09 40 56.5**	**-3.0**
ITAB	**Concordia**	**20.82**	**62**	*eP*	**P**	**09 40 56.2**	**-3.2**
PB18	**Visviri**	**21.37**	**9**	P	**P**	**09 41 09.1**	**+3.1**
AMBA	**Amambai (Brazi**	**21.99**	**49**	*eP*	**P**	**09 41 10.0**	**-2.0**
PTGB	**Pitanga**	**22.52**	**57**	*eP*	**P**	**09 41 14.7**	**-3.2**
LPAZ	**La Paz**	**22.84**	**12**	P	**P**	**09 41 23.2**	**+1.5**
LPAZ	**La Paz**	**22.84**	**12**	P	**P**	**09 41 22.2**	**+0.4**
	comp=Z,13nm,0.7s,baz=165,slow=6.6,SNR=38						
	comp=Z,13nm,0.7s						
LPAZ	**La Paz**	**22.84**	**12**	*eP*	**P**	**09 41 19.8**	**-1.9**
BDQN	**Bodoquena, MS**	**22.99**	**42**	*eP*	**P**	**09 41 20.0**	**-2.6**
AQDB	**Aquidauana**	**23.53**	**44**	*eP*	**P**	**09 41 25.9**	**-1.8**
SIV	**San Ignacio**	**25.00**	**28**	LR	LR	09 53 23.6	
	comp=Z,138nm,19.4s,baz=111,slow=41						
FRTB	**Fartura**	**25.12**	**59**	*eP*	**P**	**09 41 40.8**	**-1.6**
PTLB	**Pontes e Lacer**	**26.23**	**31**	P	**P**	**09 41 52.6**	**+0.1**
PTLB	**Pontes e Lacer**	**26.23**	**31**	*eP*	**P**	**09 41 52.0**	**-0.5**
PP1B	**Ponte de Pedra**	**26.33**	**42**	*eP*	**P**	**09 41 52.3**	**-1.1**
SPB	**Sao Paulo**	**26.40**	**62**	*eP*	**P**	**09 41 52.5**	**-1.5**
C2SB	**Chapadao do Su**	**26.49**	**47**	*eP*	**P**	**09 41 54.2**	**-0.5**
PMSA	**Palmer Station**	**26.49**	**172**	LR	LR	09 50 56.9	
	comp=Z,157nm,18.6s,baz=351,slow=33						
VAO	**Valinhos**	**27.11**	**62**	P	**P**	**09 41 59.4**	**-1.1**
VAO				IAmb	IAmb	09 42 00.4	
	comp=Z,26nm,0.9s						
VAO	**Valinhos**	**27.11**	**62**	*eP*	**P**	**09 41 59.3**	**-1.1**
RCLB	**Rio Claro- Sao**	**27.12**	**60**	*eP*	**P**	**09 41 59.0**	**-1.4**
ITRB	**Iturama**	**27.23**	**52**	*eP*	**P**	**09 42 00.2**	**-1.2**
SALV	**Santo Antonio**	**27.36**	**38**	*eP*	**P**	**09 42 00.9**	**-1.7**
BB19B	**Bebedouro**	**27.39**	**57**	*eP*	**P**	**09 42 01.0**	**-1.9**
VILB	**Vilhena**	**28.12**	**27**	P	**P**	**09 42 09.1**	**-0.3**
VILB				IAmb	IAmb	09 42 39.8	
	comp=Z,26nm,1.1s						
VILB	**Vilhena**	**28.12**	**27**	*eP*	**P**	**09 42 08.4**	**-1.0**
ARAG	**Araguaiana, MT**	**29.53**	**45**	*eP*	**P**	**09 42 20.6**	**-1.3**
BSCB	**Bom Sucesso**	**29.96**	**62**	*eP*	**P**	**09 42 23.4**	**-2.4**
PDRB	**Porto dos Gac**	**30.68**	**32**	*eP*	**P**	**09 42 31.6**	**-0.5**
CLDB	**Colider**	**31.74**	**33**	*eP*	**P**	**09 42 40.7**	**-0.7**
BDFB	**Brasilia**	**31.77**	**50**	P	**P**	**09 42 39.7**	**-2.1**
BDFB				IAmb	IAmb	09 42 47.6	
	comp=Z,20nm,1.0s						
BDFB	**Brasilia**	**31.77**	**50**	P	**P**	**09 42 39.9**	**-1.9**
	comp=Z,14nm,0.9s,baz=218,slow=7.1,SNR=13						
BDFB				LR	LR	09 55 50.2	
	comp=Z,79nm,20.7s,baz=204,slow=37						
	comp=Z,14nm,0.9s						
ATAH	**Atahualpa**	**31.96**	**350**	LR	LR	09 53 57.7	
	comp=Z,52nm,18.7s,baz=172,slow=33						
RPN	**Rapa Nui**	**32.56**	**280**	LR	LR	09 52 01.1	
	comp=Z,103nm,19.4s,baz=228,slow=29						
SJMB	**Sao Joao De Ma**	**33.99**	**63**	*eP*	**P**	**09 42 58.9**	**-2.2**
RIB01	**Linhares ES**	**34.13**	**65**	*eP*	**P**	**09 43 01.0**	**-1.3**
NPGB	**Novo Progresso**	**35.37**	**31**	*eP*	**P**	**09 43 12.3**	**-0.7**
SDBA	**SAO DESIDERIO**	**36.16**	**51**	*eP*	**P**	**09 43 17.9**	**-2.0**
GUA01	**Guaratinga, BA**	**36.40**	**62**	*eP*	**P**	**09 43 20.7**	**-1.1**
COHC	**Cochancay**	**36.67**	**349**	P	**P**	**09 43 26.8**	**+2.7**
MACA	**Manacapuru-AM**	**37.20**	**20**	*eP*	**P**	**09 43 27.9**	**-0.6**
CMC01	**Camacan, BA**	**37.45**	**61**	*eP*	**P**	**09 43 29.7**	**-1.0**
SMTB	**Santa Maria do**	**37.48**	**44**	*eP*	**P**	**09 43 30.5**	**-0.5**
ITTB	**Itaituba**	**37.67**	**29**	*eP*	**P**	**09 43 31.8**	**-0.8**
PRPB	**Parauapebas**	**38.62**	**39**	*eP*	**P**	**09 43 39.2**	**-1.3**
OTAV	**Otavalo**	**39.23**	**351**	P	**P**	**09 43 45.5**	**-0.6**
OTAV	**Otavalo**	**39.23**	**351**	*eP*	**P**	**09 43 45.9**	**-0.3**
MAL2	**Monte Alegre,**	**40.42**	**30**	P	**P**	**09 43 55.1**	**-0.5**
MAL2				IAmb	IAmb	09 43 56.3	
	comp=Z,32nm,1.1s						
BOAV	**Boa Vista**	**42.58**	**18**	P	**P**	**09 44 11.4**	**-1.7**
BOAV	**Boa Vista**	**42.58**	**18**	*eP*	**P**	**09 44 12.6**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**42.75**	**38**	*eP*	**P**	**09 44 13.9**	**-0.7**
NBAN	**Anadia - AL**	**43.73**	**58**	*eP*	**P**	**09 44 21.7**	**-0.9**
VNA3	**Neumayer Olymp**	**45.17**	**156**	⇑P	**P**	**09 44 33.4**	**0.0**
	comp=Z,3.6nm,0.6s						
RCBR	**Riachuelo**	**46.84**	**55**	P	**P**	**09 44 47.5**	**+0.2**
RCBR				IAmb	IAmb	09 44 49.5	
	comp=Z,31nm,1.2s						
RCBR	**Riachuelo**	**46.84**	**55**	LR	LR	10 05 38.5	
	comp=Z,66nm,20.5s,baz=240,slow=38						
SNAA	**Sanae**	**47.40**	**156**	⇑P	**P**	**09 44 51.3**	**+0.4**
	comp=Z,53nm,0.7s						
SNAA	**Sanae**	**47.40**	**156**	P	**P**	**09 44 50.8**	**-0.1**
SNAA				IAmb	IAmb	09 45 07.8	
	comp=Z,11nm,1.2s						
SNAA	**Sanae**	**47.40**	**156**	P	**P**	**09 44 51.0**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=278,slow=6.3,SNR=10						
	comp=Z,2.4nm,0.8s						
SDV	**Santo Domingo**	**47.52**	**3**	P	**P**	**09 44 52.5**	**-0.2**
SDV				IAmb	IAmb	09 44 53.5	
	comp=Z,10nm,0.9s						
SDV	**Santo Domingo**	**47.52**	**3**	*eP*	**P**	**09 44 52.6**	**0.0**
MDP	**Montagnes des**	**47.55**	**28**	LR	LR	10 04 38.4	
	comp=Z,92nm,21.3s,baz=180,slow=36						
BAUV	**El Baul**	**47.74**	**6**	P	**P**	**09 44 53.6**	**-0.5**
TROLL	**Troll, Antarti**	**49.09**	**157**	⇑P	**P**	**09 45 04.1**	**0.0**
	comp=Z,167nm,0.7s						
TROLL				⇑pP	**pP**	**09 45 20.3**	**+2.0**
	comp=Z,287nm,0.6s						
QSPA	**South Pole Qui**	**51.41**	**180**	P	**P**	**09 45 24.2**	**+2.5**
QSPA				IAmb	IAmb	09 45 42.6	
	comp=Z,9.0nm,0.8s						
QSPA	**South Pole Qui**	**51.41**	**180**	P	**P**	**09 45 23.7**	**+2.1**
	comp=Z,5.0nm,0.8s,baz=140,slow=2.2,SNR=38						
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**59.24**	**192**	P	**P**	**09 46 19.3**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=136,slow=4.2,SNR=6.0						
VNDA				LR	LR	10 08 43.1	
	comp=Z,27nm,19.7s,baz=233,slow=33						
	comp=Z,0.8nm,0.8s						
TBI	**Tubuai**	**65.65**	**259**	*e*LR	LR	10 06 50.2	
	comp=Z,513nm,28.8s						
TAOE	**Nuku Hiva Isla**	**66.84**	**277**	*e*LR	LR	10 07 18.8	
	comp=Z,88nm,29.9s						
MAW	**Mawson**	**68.74**	**163**	P	**P**	**09 47 20.3**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=195,slow=12,SNR=2.5						
MAW				LR	LR	10 17 18.7	
	comp=Z,60nm,18.3s,baz=162,slow=36						
	comp=Z,1.4nm,0.6s						
PPT2	**Papeete2**	**68.99**	**264**	*e*LR	LR	10 08 13.4	
	comp=Z,84nm,32.2s						
TXAR	**Lajitas Array**	**73.67**	**332**	P	**P**	**09 47 50.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=152,slow=4.8,SNR=5.8						
	comp=Z,0.5nm,0.7s						
DBIC	**Dimbokro**	**77.37**	**71**	IAmb	IAmb	09 48 16.3	
	comp=Z,21nm,1.1s						
DBIC	**Dimbokro**	**77.37**	**71**	P	**P**	**09 48 11.8**	**0.0**
	comp=Z,11nm,0.6s,baz=232,slow=5.9,SNR=14						
DBIC				LR	LR	10 19 35.6	
	comp=Z,21nm,18.6s,baz=178,slow=34						
	comp=Z,11nm,0.6s						
CCM	**Cathedral Cave**	**78.37**	**345**	P	**P**	**09 48 17.5**	**+0.7**
CCM				IAmb	IAmb	09 48 41.5	
	comp=Z,20nm,1.3s						
BOSA	**Boshof**	**78.42**	**117**	IAmb	IAmb	09 48 32.2	
	comp=Z,19nm,1.4s						
BOSA	**Boshof**	**78.42**	**117**	P	**P**	**09 48 18.9**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=264,slow=5.3,SNR=4.6						
BOSA				LR	LR	10 18 50.8	
	comp=Z,13nm,20.8s,baz=210,slow=32						
	comp=Z,2.4nm,0.6s						
ANMO	**Albuquerque**	**79.74**	**332**	LR	LR	10 18 55.8	
	comp=Z,16nm,21.2s,baz=240,slow=32						
P40A	**Paris**	**79.95**	**345**	P	**P**	**09 48 26.3**	**+0.9**
P40A				IAmb	IAmb	09 48 27.2	
	comp=Z,29nm,1.5s						
LBTB	**Lobatse**	**80.88**	**115**	LR	LR	10 24 57.7	
	comp=Z,5.9nm,18.4s,baz=200,slow=36						
ECSD	**EROS Data Cent**	**84.96**	**343**	P	**P**	**09 48 52.6**	**+1.2**
ECSD				IAmb	IAmb	09 49 16.1	
	comp=Z,7.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**86.47**	**70**	P	**P**	**09 48 58.9**	**-0.7**
	comp=Z,5.2nm,0.3s,baz=225,slow=3.6,SNR=20						
	comp=Z,5.2nm,0.3s						
PDAR	**Pinedale Array**	**87.79**	**334**	P	**P**	**09 49 07.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=200,slow=3.9,SNR=2.8						
	comp=Z,0.2nm,0.5s						
SCHQ	**Schefferville**	**93.44**	**3**	LR	LR	10 32 48.8	
	comp=Z,276nm,19.6s,baz=83,slow=36						
MDT	**Midelt**	**95.34**	**52**	LR	LR	10 31 47.2	
	comp=Z,71nm,20.2s,baz=234,slow=35						
WRA	**Warramunga Arr**	**116.22**	**209**	PKP	**PKPdf**	**09 54 59.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=158,slow=1.6,SNR=13						
FITZ	**Fitzroy Crossi**	**120.77**	**201**	PKP	**PKPdf**	**09 55 07.7**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=166,slow=4.2,SNR=1.4						
H11S2	**WAKE ISLAND Hyl**	**24.92**	**266**	T	T	12 12 21.3	
	baz=126,slow=75,SNR=77						
H11S1	**WAKE ISLAND Hyl**	**24.94**	**266**	T	T	12 12 22.5	
	baz=126,slow=75,SNR=70						
H11S3	**WAKE ISLAND Hyl**	**24.94**	**266**	T	T	12 12 23.0	
	baz=126,slow=75,SNR=54						

CCCA				Sg	10 13 56.9	+1.1
CCCA	**Chr Cany lake**	**0.07 122**	IAML		10 13 57.2	
	comp=N,147μm,0.4s					
CCCA			IAML		10 13 57.2	
	comp=E,71μm,0.5s					
LRMC	**Laurel Mtn Rad**	**0.22 248**		Pg	10 13 57.6	+0.1
CLC	**China Lake**	**0.29 332**		Pg	10 13 58.9	0.0
CLC			IAML		10 14 03.4	
	comp=E,7μm,0.4s					
CLC			IAML		10 14 03.4	
	comp=N,5μm,0.4s					
SRTC	**Snort**	**0.29 297**		Pg	10 13 59.3	+0.4
SRTC				Sg	10 14 03.9	+1.2
TOW	**Tower One**	**0.36 313**		Pg	10 14 00.7	+0.4
TOW				Sb	10 14 06.8	-1.5
DTP	**Desert Tortois**	**0.45 229**		Pg	10 14 01.6	-0.2
DTP				Sg	10 14 07.7	+0.1
MPMC	**Manual Prospec**	**0.50 355**		Pg	10 14 02.6	-0.2
MPMC			IAML		10 14 09.9	
	comp=E,1μm,0.4s					
MPMC			IAML		10 14 10.0	
	comp=N,2μm,0.5s					
MPMC	**Manual Prospec**	**0.50 355**		Sg	10 14 09.5	+0.2
JRC2	**Joshua Ridge**	**0.52 324**		Sg	10 14 10.6	+0.6
WCSM	**Coso Springs S**	**0.54 330**		Pg	10 14 03.5	-0.1
WCSM				Sg	10 14 10.8	+0.2
GSC	**Goldstone, Bar**	**0.57 117**		Pg	10 14 04.2	-0.1
GSC			IAML		10 14 13.2	
	comp=N,1μm,0.5s					
GSC	**Goldstone, Bar**	**0.57 117**		Sg	10 14 12.0	+0.3
WRVM	**Rose V. Centra**	**0.58 320**		Pg	10 14 04.1	-0.3
WRVM				Sg	10 14 12.2	+0.2
QSM	**Queen of Sheba**	**0.61 49**		Pg	10 14 04.9	-0.1
QSM				Sg	10 14 13.2	+0.2
QSM	**Queen of Sheba**	**0.61 49**	IAML		10 14 13.8	
	comp=E,1μm,0.5s					
QSM			IAML		10 14 13.8	
	comp=N,1μm,0.7s					
CCAC	**Calif City Air**	**0.63 230**		Pg	10 14 05.1	-0.1
CCAC				Sg	10 14 13.8	+0.4
MFS	**McCloud Flat S**	**0.65 329**		Pg	10 14 05.6	-0.2
MFS				Sg	10 14 14.8	+0.6
WORM	**Onyx Ranch**	**0.67 282**		Pg	10 14 05.7	-0.4
WORM				Sg	10 14 14.7	-0.2
HYS	**Haystack Butte**	**0.70 189**		Pg	10 14 06.2	-0.5
HYS				Sg	10 14 15.8	0.0
WHFM	**Hanning Flat**	**0.76 281**		Pg	10 14 07.3	-0.4
WHFM				Sg	10 14 17.5	-0.1
RRX	**Edison Barstow**	**0.77 152**		Pg	10 14 08.0	0.0
RRX				Sg	10 14 17.8	-0.2
ISA	**Isabella, Lake**	**0.85 277**		Pg	10 14 09.2	-0.4
ISA			IAML		10 14 21.0	
	comp=N,2μm,0.2s					
ISA			IAML		10 14 21.2	
	comp=E,1μm,0.2s					
ISA	**Isabella, Lake**	**0.85 277**		Sg	10 14 20.1	-0.5
GWY	**Greenwater Val**	**0.88 45**		Pg	10 14 09.8	-0.4
GWY				Sg	10 14 21.2	-0.4
GWY	**Greenwater Val**	**0.88 45**	IAML		10 14 25.2	
	comp=N,1μm,0.5s					
GWY			IAML		10 14 26.0	
	comp=E,943nm,0.5s					
WASM	**Alta Sierra Ca**	**0.93 281**		Pg	10 14 10.6	-0.6
WASM				Sg	10 14 23.0	-0.2
TPO	**Tropico Hills**	**0.94 224**		Pg	10 14 10.8	-0.5
SHOC	**Shoshone, Teco**	**1.00 70**		Pg	10 14 11.9	-0.6
SHOC				Sg	10 14 25.4	0.0
FURC	**Furnace Creek,**	**1.02 27**		Pg	10 14 12.4	-0.3
FURC			IAML		10 14 31.3	
	comp=E,1μm,0.8s					
FURC			IAML		10 14 31.6	
	comp=N,1000nm,0.7s					
CWC	**Cottonwood Cre**	**1.02 329**		Pg	10 14 12.4	-0.4
CWC			IAML		10 14 28.5	
	comp=E,488nm,0.3s					
BFSC	**Mount Baldy Ra**	**1.33 188**	IAML		10 14 37.1	
	comp=E,638nm,0.3s					
BFSC			IAML		10 14 37.1	
	comp=N,312nm,0.3s					
VES	**Vestal, Richgr**	**1.37 282**		Pn	10 14 18.3	-0.8
VES			IAML		10 14 24.1	
	comp=E,585nm,0.8s					
WCT	**Wildcat Mounta**	**1.39 28**		Pn	10 14 18.1	-1.4
OSI	**Osito Audit: C**	**1.42 229**		Pn	10 14 19.7	-0.1
MWC	**Mount Wilson**	**1.43 201**	IAML		10 14 42.2	
	comp=N,639nm,0.5s					
MWC			IAML		10 14 44.5	
	comp=E,549nm,0.4s					
GRAC	**Grapevine Rang**	**1.43 2**	IAML		10 14 42.4	
	comp=N,762nm,0.7s					
PASC	**Pasadena Art C**	**1.52 204**		Pn	10 14 20.7	-0.4
PASC			IAML		10 14 44.1	
	comp=E,384nm,0.4s					
PASC			IAML		10 14 48.7	
	comp=N,336nm,0.8s					
MTPC	**Mountain Pass**	**1.54 92**	IAML		10 14 43.9	
	comp=E,266nm,0.3s					
MTPC			IAML		10 14 45.6	
	comp=N,250nm,0.4s					
TIN	**Tinemaha, Big**	**1.62 337**	IAML		10 14 48.7	
	comp=E,591nm,0.5s					
TIN			IAML		10 14 48.7	
	comp=N,646nm,0.6s					
GMRC	**Granite Mounta**	**1.65 118**		Pn	10 14 20.9	-2.1
TPNV	**Topopah Spring**	**1.68 34**		Pn	10 14 22.7	-0.9
TPNV			IAML		10 14 50.2	
	comp=N,256nm,0.8s					
TPNV			IAML		10 14 55.0	
	comp=N,224nm,0.7s					
DSP	**Deep Springs**	**1.86 347**		Pn	10 14 25.7	0.0
ELS	**Elsinore Mount**	**1.91 180**		Pn	10 14 25.8	-0.8
ELS			IAML		10 15 03.1	
	comp=N,173nm,0.8s					
DANC	**Danby, Needles**	**1.92 118**		Pn	10 14 26.0	-0.7
DANC			IAML		10 15 01.9	
	comp=N,470nm,0.6s					
BELC	**Belle Mtn. Jos**	**1.95 142**		Pn	10 14 26.3	-0.9
BELC			IAML		10 14 59.4	
	comp=N,238nm,0.6s					
BELC			IAML		10 15 00.7	
	comp=E,198nm,0.5s					
SHPR	**Sheep Range**	**2.07 62**		Pn	10 14 28.0	-0.9
PMD	**Palm Desert**	**2.10 155**		Pn	10 14 28.0	-1.1
PFO	**Pinyon Flats O**	**2.10 157**		Pn	10 14 28.4	-0.9
V12A	**Nelson**	**2.11 85**		Pn	10 14 28.0	-1.4
V12A			IAML		10 15 00.6	
	comp=N,138nm,0.8s					
V12A			IAML		10 15 02.0	
	comp=E,144nm,0.4s					
IRM	**Iron Mountain**	**2.35 126**	IAML		10 15 09.5	
	comp=N,117nm,0.5s					
IRM			IAML		10 15 09.5	
	comp=E,140nm,0.6s					
NEE2	**Needles Airpor**	**2.44 108**		Pn	10 14 32.3	-1.5
NEE2			IAML		10 15 14.8	
	comp=E,226nm,0.5s					
NEE2			IAML		10 15 18.9	
	comp=N,242nm,0.7s					
MDPB	**Devils Postpil**	**2.46 328**	IAML		10 15 15.5	
	comp=N,94nm,0.8s					
MDPB			IAML		10 15 18.1	
	comp=E,115nm,1.0s					
BC3	**Big Chuckawall**	**2.51 139**		Pn	10 14 35.0	+0.2
BC3			IAML		10 15 15.2	
	comp=N,98nm,0.7s					
BC3			IAML		10 15 20.4	
	comp=E,90nm,0.9s					
TPH	**Tonopah**	**2.52 4**		Pn	10 14 34.9	-0.2
PKD	**Bear Valley Ra**	**2.56 280**		Pn	10 14 35.1	-0.3
DPP	**Dos Picos Cty**	**2.59 171**		Pn	10 14 35.4	-0.5
DPP			IAML		10 15 14.7	
	comp=E,124nm,0.8s					
PRN	**Pahroc Range**	**2.66 45**		Pn	10 14 36.5	-0.5
PRN			IAML		10 15 23.9	
	comp=N,148nm,0.6s					
PRN			IAML		10 15 29.1	
	comp=E,154nm,0.8s					
LEGD	**La Grand CA**	**2.74 308**		Pb	10 14 40.6	-2.2
LEGD			IAML		10 15 18.7	
	comp=N,207nm,0.5s					
PMPB	**Monarch Peak**	**2.81 284**		Pn	10 14 38.6	-0.3
PMPB			IAML		10 15 23.1	
	comp=E,134nm,0.9s					
PMPB			IAML		10 15 35.1	
	comp=N,160nm,1.2s					
LHV	**Little Huntoon**	**2.82 343**		Pn	10 14 39.8	+0.8
LHV			IAML		10 15 35.3	
	comp=E,75nm,0.9s					
LHV			IAML		10 15 36.3	
	comp=N,83nm,1.1s					
NV11	**Mina Array Sit**	**2.92 349**		Pn	10 14 40.7	+0.1
NV11			IAML		10 15 31.0	
	comp=E,55nm,1.5s					
W13A	**Hualapai Mount**	**2.94 98**		Pn	10 14 39.7	-1.2
BAR	**Barrett**	**2.94 167**		Pn	10 14 40.7	0.0
BAR			IAML		10 15 25.6	
	comp=E,117nm,0.6s					
BAR			IAML		10 15 29.1	
	comp=N,96nm,0.7s					
NVAR	**Mina Array Bea**	**2.95 347**		Pn	10 14 42.0	+1.0
BLYC	**Blythe**	**3.00 126**		Pn	10 14 39.7	-1.8
BLYC			IAML		10 15 30.1	
	comp=N,81nm,0.5s					
BLYC			IAML		10 15 30.7	
	comp=E,86nm,0.6s					
R11B	**Troy Canyon, C**	**3.15 27**		Pn	10 14 43.2	-0.6
RYN	**Ryan**	**3.18 344**		Pn	10 14 44.3	+0.1
LCMT	**Little Creek M**	**3.68 66**		Pn	10 14 51.5	+0.5
MHC	**Mount Hamilton**	**3.83 299**		Pn	10 14 54.3	+1.3
MHC			IAML		10 16 00.2	
	comp=E,32nm,1.9s					
MHC			IAML		10 16 01.9	
	comp=N,49nm,1.0s					
Y14A	**Wickenburg**	**3.99 113**	IAML		10 16 05.6	
	comp=N,65nm,0.9s					
Y14A			IAML		10 16 06.7	
	comp=E,48nm,0.6s					
KNB	**Kanab**	**4.00 67**	IAML		10 16 05.9	
	comp=N,27nm,3.6s					

*NNC **21** 10:13:57.3±0.3, 45°.86N×81°.55E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=4.7km s-min=1.6km az=124.0*
*SOME **21** 10:13:59.0, 45°.80N×81°.52E, h15km*

ISC 21 10:13:54.8±1.3, **45°.71N**±0°.06×**81°.64E**±0°.08, **h10**km, **n18,** σ0**67**/24, **2C-2D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.12**	**12**	⇓P	**Pn**	**10 14 16.6**	**0.0**
	8.2nm,0.3s						
MAKZ				⇓S	**Sg**	**10 14 30.1**	**-0.9**
	21nm,0.3s						
MK31	**Makanchi Array**	**1.17**	**22**	⇑P	**Pg**	**10 14 18.0**	**+0.6**
	2.6nm,0.2s,baz=209,slow=14,SNR=320						
MK31				⇑S	**Sb**	**10 14 32.4**	**-0.1**
	19nm,0.3s,baz=208,slow=26						
TDK	**Taldyqorghan**	**2.39**	**254**	Lg	Lg	10 15 12.0	
	348nm,0.4s						
TDK	**Taldyqorghan**	**2.39**	**254**	*e*P	**Pg**	**10 14 41.5**	**+1.0**
	30nm,0.2s						
TDK				*e*S	**Sg**	**10 15 12.0**	**+0.6**
	348nm,0.4s						
SHLS	**Shalkode**	**2.99**	**212**	Pg	**Pg**	**10 14 52.1**	**0.0**
	59nm,0.7s						
SHLS				Lg	Lg	10 15 30.1	
	186nm,0.6s						
SHLS	**Shalkode**	**2.99**	**212**	*e*P	**Pg**	**10 14 52.1**	**0.0**
	45nm,0.3s						
SHLS				*e*S	**Sg**	**10 15 30.1**	**-0.7**
	249nm,0.5s						
KPKS	**Kokpek**	**3.08**	**224**	Pg	**Pg**	**10 14 54.6**	**+0.8**
	18nm,0.7s						
KPKS				Lg	Lg	10 15 35.3	
	120nm,0.7s						
ARXS	**Arharly**	**3.09**	**242**	Pg	**Pg**	**10 14 54.2**	**+0.2**
	5.8nm,0.4s						
ARXS				Lg	Lg	10 15 34.0	
	86nm,0.5s						
ARXS	**Arharly**	**3.09**	**242**	*e*P	**Pg**	**10 14 54.2**	**+0.2**
ARXS				*e*S	**Sg**	**10 15 34.0**	**-0.1**
KURS	**Kuram**	**3.33**	**229**	Pg	**Pg**	**10 14 58.8**	**+0.3**
	8.7nm,0.5s						
KURS				Lg	Lg	10 15 41.8	
	43nm,0.1s						
SATY	**Saty**	**3.52**	**222**	Pg	**Pg**	**10 15 02.9**	**+0.7**
	12nm,1.1s						
SATY				Lg	Lg	10 15 48.6	
	49nm,0.6s						
CHKK	**Chushkaly**	**3.80**	**242**	Pg	**Pg**	**10 15 07.5**	**0.0**
	11nm,1.0s						
CHKK				Lg	Lg	10 15 56.8	
	27nm,0.5s						
CHKK	**Chushkaly**	**3.80**	**242**	*e*P	**Pg**	**10 15 07.5**	**0.0**
	11nm,1.0s						
CHKK				*e*S	**Sg**	**10 15 56.9**	**+0.2**
	27nm,0.5s						
MDOK	**Medeo**	**4.16**	**234**	Pg	**Pg**	**10 15 13.1**	**-1.4**
	4.2nm,1.0s						
TNSS	**Tian-Shan**	**4.30**	**233**	Pg	**Pg**	**10 15 17.2**	**+0.2**
	2.5nm,0.7s						
TNSS	**Tian-Shan**	**4.30**	**233**	*e*P	**Pg**	**10 15 17.2**	**+0.2**
	2.2nm,0.3s						
TNSS				*e*S	**Sg**	**10 16 13.3**	**+0.6**
	10.0nm,0.6s						
KRBS	**Karabastau**	**4.70**	**247**	Pg	**Pg**	**10 15 23.4**	**-1.4**
	4.5nm,0.5s						
DGS	**Degeres**	**4.87**	**242**	Pg	**Pg**	**10 15 27.2**	**-0.8**
	4.2nm,0.7s						

*DNK **21** 10:18:58.2±2.1, 58°.04N×23°.16E, h0km, ML3.0*
*BER **21** 10:18:58.1±1.1, 58°.10N×23°.54E, h0km, ML2.7(UPP), Suspected explosion*
*IDC **21** 10:19:01.1±2.4, 58°.16N×22°.78E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=23.9km s-min=10.0km az=161.0*
*HEL **21** 10:19:01.6±0.1, 58°.12N×22°.90E, h0km, ML2.1, Explosion*
*EST **21** 10:19:01.8±0.1, 58°.14N×22°.91E, h0km, ML2.1(HEL), Explosion*
*UPP **21** 10:19:01.0±2.2, 58°.20N×22°.88E, h0km, ML2.7, Presumed earthquake*
*LVSN **21** 10:19:03.2±4.7, 58°.07N×22°.91E, h0km±58km, ML2.4*

ISC 21 10:19:00.1±0.7, **58°.14N**±0°.02×**22°.83E**±0°.02, **h0**km, **n96,** σ1**28**/118, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.59**	**209**	*e*P	**Pg**	**10 19 11.4**	**+0.1**
SLIT	**Slitere, Latvi**	**0.59**	**209**	*e*P	**Pg**	**10 19 12.1**	**+0.7**
SLIT				*e*S	**Sg**	**10 19 20.7**	**+1.7**
SLIT				AML	AML	10 19 58.7	
	comp=E,396nm,0.7s						
SLIT				AML	AML	10 19 58.7	
	comp=N,562nm,0.7s						
SLIT				AML	AML	10 20 00.8	
	comp=Z,363nm,0.7s						
SLIT	**Slitere, Latvi**	**0.59**	**209**	*e*P	**Pg**	**10 19 12.1**	**+0.7**
SLIT				*e*S	**Sg**	**10 19 20.0**	**+0.9**
EE06	**Soera, Palade,**	**0.83**	**1**	*e*P	**Pg**	**10 19 16.6**	**+0.7**
EE01	**Perakula, Nova**	**1.14**	**21**	*e*P	**Pg**	**10 19 21.8**	**-0.2**
EE01				*e*PB	**Pb**	**10 19 22.1**	**-0.6**
EE08	**Sarghaua, Vand**	**1.37**	**67**	*e*P	**Pg**	**10 19 25.1**	**-1.3**
EE02	**Kiisa, Saku**	**1.43**	**42**	*e*P	**Pn**	**10 19 26.9**	**-0.5**
EE02				*e*PN	**Pb**	**10 19 28.9**	**+1.3**
TVF	**Tvarminne**	**1.72**	**7**	*e*P	**Pb**	**10 19 32.4**	**-0.1**
TVF				*e*SN	**Sg**	**10 19 55.7**	**+0.4**
EE03	**Tooma soojaam,**	**1.95**	**67**	*e*P	**Pn**	**10 19 35.5**	**+1.1**
EE03				*e*PG	**Pb**	**10 19 36.4**	**-0.1**
EE03				*e*S	**Sn**	**10 19 59.9**	**+0.3**
VSU	**Vasula**	**2.09**	**80**	*e*P	**Pn**	**10 19 36.7**	**+0.4**
VSU				AML	AML	10 19 37.6	
	comp=Z,82nm,0.1s						
VSU				*e*S	**Sn**	**10 20 03.8**	**+0.8**
VSU				AML	AML	10 20 07.8	
	comp=N,77nm,0.1s						
VSU				AML	AML	10 20 08.1	
	comp=E,46nm,0.1s						
VSU	**Vasula**	**2.09**	**80**	*e*P	**Pn**	**10 19 37.0**	**+0.7**
VSU				*e*SB	**Sn**	**10 20 03.6**	**+0.6**
PBUR	**Paburge**	**2.18**	**193**	*e*P	**Pn**	**10 19 38.3**	**+0.7**
PBUR	**Paburge**	**2.18**	**193**	*e*P	**Pn**	**10 19 38.4**	**+0.8**
PBUR				AML	AML	10 19 42.4	
	comp=Z,84nm,0.6s						
PBUR				AML	AML	10 20 13.4	
	comp=N,67nm,0.2s						
PBUR				AML	AML	10 20 24.5	
	comp=E,61nm,0.5s						
PBUR	**Paburge**	**2.18**	**193**	*e*P	**Pn**	**10 19 39.1**	**+1.6**
PBUR				*e*SB	**Sb**	**10 20 07.9**	**0.0**
HEL5	**Espoo, Suvisaa**	**2.21**	**26**	*e*PB	**Pb**	**10 19 40.2**	**-0.7**
MEF	**Metsahovi**	**2.23**	**21**	*e*P	**Pb**	**10 19 41.0**	**-0.2**
MEF	**Metsahovi**	**2.23**	**21**	*e*P	**Pb**	**10 19 40.9**	**-0.3**
MEF				*e*S	**Sb**	**10 20 10.0**	**+0.7**
MEF				AML	AML	10 20 11.8	
	comp=Z,29nm,0.1s						
MEF				AML	AML	10 20 13.1	
	comp=E,28nm,0.2s						
MEF				AML	AML	10 20 13.9	
	comp=N,24nm,0.1s						
MEF	**Metsahovi**	**2.23**	**21**	*e*PB	**Pb**	**10 19 40.7**	**-0.5**
MEF				*e*SG	**Sg**	**10 20 10.8**	**-0.9**
HEL1	**Helsinki**	**2.30**	**27**	*e*PB	**Pb**	**10 19 41.6**	**-0.7**
GOTU	**Gotland**	**2.32**	**260**	P	**Pn**	**10 19 40.8**	**+1.3**
GOTU				S	**Sb**	**10 20 12.3**	**+0.5**
GOTU	**Gotland**	**2.32**	**260**	P	**Pn**	**10 19 40.8**	**+1.3**
GOTU				S	**Sb**	**10 20 12.3**	**+0.5**
GOTU	**Gotland**	**2.32**	**260**	P	**Pn**	**10 19 40.8**	**+1.3**
GOTU				S	**Sb**	**10 20 12.3**	**+0.5**
GOTU	**Gotland**	**2.32**	**260**	*e*P	**Pn**	**10 19 41.2**	**+1.8**
EE07	**Piusa Caves, O**	**2.49**	**95**	*e*P	**Pn**	**10 19 43.7**	**+1.9**
EE07				*e*PB	**Pb**	**10 19 44.1**	**-1.5**
EE07				*e*SB	**Sb**	**10 20 15.7**	**-1.1**
AAL	**Aland**	**2.51**	**326**	P	**Pn**	**10 19 42.9**	**+0.8**
AAL	**Aland**	**2.51**	**326**	*e*P	**Pn**	**10 19 43.4**	**+1.3**
AAL	**Aland**	**2.51**	**326**	P	**Pn**	**10 19 42.9**	**+0.8**
AAL	**Aland**	**2.51**	**326**	*e*PB	**Pb**	**10 19 45.3**	**-0.6**
AAL				MSG		10 20 20.8	
	comp=Z,6.3nm,0.1s						
NUR	**Nurmijarvi**	**2.55**	**21**	*e*PB	**Pb**	**10 19 45.6**	**-1.1**
NRTU	**Norrtaelje**	**2.66**	**307**	P	**Pn**	**10 19 45.3**	**+1.1**
NRTU	**Norrtaelje**	**2.66**	**307**	P	**Pn**	**10 19 45.3**	**+1.1**
NRTU	**Norrtaelje**	**2.66**	**307**	P	**Pn**	**10 19 45.3**	**+1.1**
NYNU	**Nynaeshamn**	**2.67**	**291**	P	**Pn**	**10 19 44.8**	**+0.5**
NYNU	**Nynaeshamn**	**2.67**	**291**	P	**Pn**	**10 19 44.8**	**+0.5**
NYNU	**Nynaeshamn**	**2.67**	**291**	P	**Pn**	**10 19 44.8**	**+0.5**
PABE	**Paberze**	**2.72**	**166**	*e*P	**Pn**	**10 19 46.9**	**+2.0**
PABE	**Paberze**	**2.72**	**166**	*e*P	**Pb**	**10 19 48.1**	**-1.4**
PABE				AML	AML	10 19 48.4	
	comp=Z,12nm,0.1s						
PABE				AML	AML	10 20 25.0	
	comp=N,24nm,0.2s						
PABE				AML	AML	10 20 35.1	
	comp=E,20nm,0.6s						
PVF	**Pernaja**	**2.87**	**32**	*e*P	**Pn**	**10 19 49.2**	**+2.2**
EE04	**Vaivara Sinima**	**2.91**	**63**	*e*SB	**Sb**	**10 20 26.8**	**-2.0**
RAF	**Rauma**	**2.94**	**350**	*e*P	**Pn**	**10 19 50.5**	**+2.5**
RAF	**Rauma**	**2.94**	**350**	*e*P	**Pn**	**10 19 50.4**	**+2.4**
GRAU	**Graesoe**	**3.11**	**317**	P	**Pn**	**10 19 50.7**	**+0.4**
GRAU	**Graesoe**	**3.11**	**317**	P	**Pn**	**10 19 50.7**	**+0.4**
GRAU	**Graesoe**	**3.11**	**317**	P	**Pn**	**10 19 50.7**	**+0.4**
UPP	**Uppsala**	**3.19**	**305**	*e*P	**Pn**	**10 19 53.3**	**+1.9**
FLYU	**Flymyra**	**3.23**	**310**	P	**Pn**	**10 19 52.8**	**+0.8**
FLYU	**Flymyra**	**3.23**	**310**	P	**Pn**	**10 19 52.8**	**+0.8**
FLYU	**Flymyra**	**3.23**	**310**	P	**Pn**	**10 19 52.8**	**+0.8**
BYXU	**Byxelkrok**	**3.24**	**257**	P	**Pn**	**10 19 53.7**	**+1.6**
BYXU	**Byxelkrok**	**3.24**	**257**	P	**Pn**	**10 19 53.7**	**+1.6**
BYXU	**Byxelkrok**	**3.24**	**257**	P	**Pn**	**10 19 53.7**	**+1.6**
VIKU	**Vikbolandet**	**3.25**	**279**	P	**Pn**	**10 19 53.8**	**+1.5**
VIKU	**Vikbolandet**	**3.25**	**279**	P	**Pn**	**10 19 53.8**	**+1.5**
VIKU	**Vikbolandet**	**3.25**	**279**	P	**Pn**	**10 19 53.8**	**+1.5**
FORU	**Forsmark**	**3.28**	**315**	P	**Pn**	**10 19 53.3**	**+0.7**
FORU	**Forsmark**	**3.28**	**315**	P	**Pn**	**10 19 53.3**	**+0.7**
FORU	**Forsmark**	**3.28**	**315**	P	**Pn**	**10 19 53.3**	**+0.7**
VSTU	**Vaestervik**	**3.39**	**264**	P	**Pn**	**10 19 55.9**	**+1.7**
VSTU	**Vaestervik**	**3.39**	**264**	P	**Pn**	**10 19 55.9**	**+1.7**
VSTU	**Vaestervik**	**3.39**	**264**	P	**Pn**	**10 19 55.9**	**+1.7**
VJF	**Virojoki**	**3.41**	**43**	*e*P	**Pn**	**10 19 55.0**	**+0.5**
ESKU	**Eskilstuna**	**3.53**	**291**	P	**Pn**	**10 19 56.7**	**+0.6**
ESKU	**Eskilstuna**	**3.53**	**291**	P	**Pn**	**10 19 56.7**	**+0.6**
ESKU	**Eskilstuna**	**3.53**	**291**	P	**Pn**	**10 19 56.7**	**+0.6**
OSTU	**Oestervaala**	**3.60**	**308**	P	**Pn**	**10 19 58.0**	**+1.0**
OSTU	**Oestervaala**	**3.60**	**308**	P	**Pn**	**10 19 58.0**	**+1.0**
OSTU	**Oestervaala**	**3.60**	**308**	P	**Pn**	**10 19 58.0**	**+1.0**
FIA0	**FINESS Array S**	**3.69**	**25**	*e*P	**Pn**	**10 19 59.6**	**+1.2**
FIA0				MSG		10 20 47.4	
	comp=Z,4.0nm,0.1s						
FINES	**FINESS Array B**	**3.69**	**25**	Pn	**Pn**	**10 20 00.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=19						
FINES				Sn	**Sn**	**10 20 44.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=204,slow=23,SNR=5.5						
FINES				Lg	Lg	10 20 57.1	
	comp=Z,0.8nm,0.3s,baz=205,slow=26,SNR=5.6						
	comp=Z,0.8nm,0.2s						
KPF	**Kankaanpaa**	**3.72**	**354**	*e*P	**Pn**	**10 20 01.1**	**+2.4**
KPF				MSG		10 20 48.3	
	comp=Z,3.9nm,0.1s						
SUW	**Suwalki**	**4.15**	**177**	*e*P	**Pn**	**10 20 05.3**	**+0.7**
KEF	**Keuruu**	**4.16**	**13**	*e*P	**Pn**	**10 20 07.8**	**+3.0**
RUF	**Ruokolahti**	**4.52**	**41**	MSG		10 21 05.7	
	comp=Z,3.1nm,0.1s						
VAF	**Ylistaro**	**4.92**	**359**	*e*P	**Pn**	**10 20 17.4**	**+2.3**
HFS	**Hagfors**	**5.11**	**297**	Pn	**Pn**	**10 20 18.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=109,slow=13,SNR=2.3						
HFS				Sn	**Sn**	**10 21 16.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=104,slow=22,SNR=1.6						
HFS				Lg	Lg	10 21 39.7	
	comp=Z,0.4nm,0.3s,baz=108,slow=31,SNR=5.2						
	comp=Z,0.5nm,0.3s						
DEL	**Delary**	**5.14**	**255**	*e*P	**Pn**	**10 20 18.6**	**+0.4**
DEL				*e*S	**Sn**	**10 21 15.4**	**-2.6**
BORU	**Boraas**	**5.39**	**269**	*e*P	**Pn**	**10 20 23.2**	**+1.6**
FABU	**Falkenberg**	**5.56**	**262**	*e*P	**Pn**	**10 20 24.9**	**+1.0**
LUNU	**Lund**	**5.72**	**248**	*e*P	**Pn**	**10 20 26.0**	**-0.3**
LUNU				*i* S	**Sn**	**10 21 28.5**	**-4.0**
BJUU	**Bjuv**	**5.73**	**253**	*i* P	**Pn**	**10 20 26.6**	**+0.3**
BJUU				*i* S	**Sn**	**10 21 31.3**	**-1.4**
ONAU	**Onsala**	**5.89**	**267**	*e*P	**Pn**	**10 20 29.8**	**+1.4**
TJOU	**Tjoern**	**5.94**	**274**	*i* P	**Pn**	**10 20 30.2**	**+1.0**
STRU	**Stroemstad**	**6.15**	**283**	*e*P	**Pn**	**10 20 32.1**	**0.0**
STRU	**Stroemstad**	**6.15**	**283**	*e*P	**Pn**	**10 20 32.3**	**+0.2**
STRU	**Stroemstad**	**6.15**	**283**	*i* P	**Pn**	**10 20 32.0**	**-0.1**
STRU	

KSL	Kastellorizon	0.88	3	P	Pg	10 30 58.1	+0.4
KSL				S	Sg	10 31 08.5	-0.7
KSL	Kastellorizon	0.88	3	P	Pg	10 30 58.1	+0.4
KSL				S	Sg	10 31 09.1	-0.1
KSL	Kastellorizon	0.88	3	P	Pg	10 30 57.9	+0.2
KSL				S	Sg	10 31 06.6	-2.7
AKAS	Kas	0.96	4	Pg	Pg	10 30 59.3	0.0
AKAS	Kas	0.96	4	S	Sg	10 31 11.7	-0.3
AKAS	Kas	0.96	4		Pg	10 30 59.7	+0.5
DEMR	Demre-Antalya	1.01	18	Pn	Pg	10 31 00.2	0.0
IZZE	Mula-Seydike	1.19	348	S	Sb	10 31 15.6	-2.4
AKUM	Antalya-Kumluc	1.24	32	P	Pn	10 31 03.6	+0.3
AKUM				S	Sb	10 31 17.9	-1.6
FETY	Fethiye	1.41	345	P	Pn	10 30 55.4	-10
ARG	Arkhangelos	1.48	310	Pn	Pn	10 31 06.6	0.0
ARG	Arkhangelos	1.48	310		Pn	10 31 06.7	+0.2
ARG	Arkhangelos	1.48	310	P	Pn	10 31 06.5	-0.1
ARG				S	Sn	10 31 25.9	+0.4
ARG	Arkhangelos	1.48	310	P	Pn	10 31 06.3	-0.3
ARG	Arkhangelos	1.48	310	P	Pn	10 31 06.6	0.0
ELL	Elmali	1.51	12	Pn	Pn	10 31 08.4	+1.3
ELL	Elmali	1.51	12		Pn	10 31 08.3	+1.2
KNIK	Mula-Seydike	1.57	1	P	Pn	10 31 08.4	+0.5
KNIK				S	Sn	10 31 26.5	-1.5
CAME	Cameli-Denizli	1.68	354	Pn	Pn	10 31 10.6	+1.1
DALY	Dalyan (Mula)	1.70	336	Pn	Pn	10 31 10.4	+0.9
TURN	Turunc	1.82	326	Pn	Pn	10 31 11.9	+0.6
TURN				Sn	Sn	10 31 36.0	+1.9
KORT	Korkueli	1.85	21	Pn	Pn	10 31 13.2	+1.4
CAEL	Denizli, Camel	1.86	355	*i* IAML		10 31 54.0	
	comp=E,513nm,0.9s						
CAEL				*i* IAML		10 32 01.0	
	comp=N,616nm,0.8s						
ANTB	Antalya	1.86	29	Pn	Pn	10 31 13.5	+1.7
KARP	Karpathos	1.95	279	Pn	Pn	10 31 12.7	-0.4
KARP	Karpathos	1.95	279		Pn	10 31 14.7	+1.6
KARP	Karpathos	1.95	279	P	Pn	10 31 14.6	+1.5
KARP				S	Sn	10 31 38.1	+0.9
KARP	Karpathos	1.95	279	P	Pn	10 31 14.8	+1.6
KARP	Karpathos	1.95	279	P	Pn	10 31 14.7	+1.6
YER	Yerkesik	2.11	332	Pn	Pn	10 31 16.4	+1.0
YER	Yerkesik	2.11	332	P	Pn	10 31 17.3	+1.9
YER				S	Sn	10 31 41.3	-0.1
DAT	Datca	2.15	313	Pn	Pn	10 31 16.5	+0.7
APMY	Acipayam-Deniz	2.20	355	Pn	Pn	10 31 17.9	+1.3
AKMS	Akamas	2.32	95	P	Pn	10 31 19.9	+1.8
AKMS				S	Sn	10 31 45.2	-1.1
AKMS				AML	AML	10 31 50.0	
	1.1nm,0.3s						
AKMS				AML	AML	10 31 51.2	
	1.5nm,0.5s						
AKMS	Akamas	2.32	95	P	Pn	10 31 19.7	+1.6
BCK	Bucak	2.35	21	Pn	Pn	10 31 20.6	+2.0
ALAN	Alanya-ANTALYA	2.41	57	Pn	Pn	10 31 20.7	+1.4
GAZI	Gazipasa	2.46	66	Pn	Pn	10 31 20.9	+0.8
MLSB	Milas	2.46	326	Pn	Pn	10 31 19.5	-0.7
ALFC	Alefka	2.52	92	P	Pn	10 31 22.6	+1.7
ALFC				S	Sn	10 31 50.5	-0.8
ALFC				AML	AML	10 31 50.9	
	1.0nm,0.8s						
ALFC				AML	AML	10 31 52.5	
	0.9nm,0.5s						
ALFC	Alefka	2.52	92	P	Pn	10 31 22.2	+1.3
BODT	Bodrum	2.53	316	Pn	Pn	10 31 22.2	+1.1
BODT	Bodrum	2.53	316	P	Pn	10 31 22.1	+1.1
NATA	Nata	2.55	100	P	Pn	10 31 23.5	+2.3
NATA				S	Sn	10 31 52.5	+0.6
NATA				AML	AML	10 31 53.1	
	2.0nm,0.5s						
NATA				AML	AML	10 31 53.2	
	2.3nm,0.3s						
NATA	Nata	2.55	100	P	Pn	10 31 23.6	+2.3
ISP	Isparta	2.67	17	Pn	Pn	10 31 25.0	+2.0
ISP	Isparta	2.67	17	Pn	Pn	10 31 25.7	+2.6
ZKR	Zakros	2.71	268	Pn	Pn	10 31 23.2	-0.3
ZKR	Zakros	2.71	268	P	Pn	10 31 25.9	+2.4
ZKR	Zakros	2.71	268	P	Pn	10 31 25.6	+2.1
TROD	Troodos	2.76	96	P	Pn	10 31 25.7	+1.3
TROD				S	Sn	10 31 55.9	-1.6
TROD				AML	AML	10 32 05.8	
	0.6nm,0.4s						
TROD				AML	AML	10 32 09.5	
	0.6nm,0.5s						
APOL	The Sanctuary	2.81	101	P	Pn	10 31 27.3	+2.6
APOL				S	Sn	10 31 57.6	-0.7
APOL				AML	AML	10 32 09.0	
	0.4nm,0.3s						
SEYD	Seydisehir-KON	2.83	41	Pn	Pn	10 31 27.5	+2.2
NAZL	Nazilli-Aydin	2.87	340	Pn	Pn	10 31 27.1	+1.4
XYLS	Xyliatos	2.90	94	P	Pn	10 31 27.9	+1.8
XYLS				S	Sn	10 32 00.5	-0.2
XYLS				AML	AML	10 32 03.7	
	0.8nm,0.3s						
XYLS				AML	AML	10 32 06.6	
	0.5nm,0.3s						
HDMB	Hadim	2.93	54	Pn	Pn	10 31 28.7	+1.9
AYDB	Zeytinkoy-Aydi	2.98	334	Pn	Pn	10 31 28.5	+1.2
GCAM	G?zelcaml?	3.05	323	Pn	Pn	10 31 28.9	+0.8
TEKE	Tekeli-Mersin	3.05	72	Pn	Pn	10 31 30.0	+1.9
ASGA	Asgata	3.09	98	P	Pn	10 31 30.9	+2.2
ASGA				S	Sn	10 32 05.8	+0.4
ASGA				AML	AML	10 32 06.7	
	0.7nm,0.6s						
ASGA				AML	AML	10 32 14.2	
	0.6nm,0.4s						
ASGA	Asgata	3.09	98	P	Pn	10 31 30.8	+2.0
CSS	Mathiatis	3.13	95	Pn	Pn	10 31 30.7	+1.3
CSS	Mathiatis	3.13	95		Pn	10 31 31.4	+2.0
CSS	Mathiatis	3.13	95	P	Pn	10 31 31.0	+1.7
CSS				S	Sn	10 32 06.0	-0.4
CSS				AML	AML	10 32 12.1	
	0.3nm,0.5s						
CSS				AML	AML	10 32 13.3	
	0.3nm,0.4s						
CSS	Mathiatis	3.13	95	P	Pn	10 31 31.7	+2.4
CSS	Mathiatis	3.13	95	P	Pn	10 31 30.6	+1.3
BERE	Bereket-Mersin	3.19	69	Pn	Pn	10 31 31.9	+1.7
NPS	Neapolis	3.20	271	P	Pn	10 31 32.6	+2.3
NPS				S	Sn	10 32 09.2	+1.1
NPS	Neapolis	3.20	271	P	Pn	10 31 32.3	+2.0
ODEM	Odemis-Izmir	3.22	339	Pn	Pn	10 31 31.1	+0.6
SMG	Samos	3.26	319	P	Pn	10 31 30.8	-0.2
SMG	Samos	3.26	319	P	Pn	10 31 31.1	+0.1
YORU	Yoruktepe-Mers	3.28	73	Pn	Pn	10 31 32.9	+1.6
LFK	Lefkose	3.28	89	Pn	Pn	10 31 33.0	+1.6
MANT	Manisa	3.31	347		Pn	10 31 32.2	+0.3
MVOU	Mavrovouni	3.38	93	P	Pn	10 31 35.1	+2.5
THERA	Ancient Thera,	3.47	290	P	Pn	10 31 34.4	+0.5
THERA	Ancient Thera,	3.47	290	P	Pn	10 31 34.2	+0.3
THR8	Santorini-Mono	3.48	290	P	Pn	10 31 34.2	+0.2
TISA	Tisan-Mersin	3.50	74	Pn	Pn	10 31 36.1	+1.8
KONT	Konya--Tatoy	3.51	40	Pn	Pn	10 31 37.1	+2.6
THR6	Thira Island,	3.52	289	P	Pn	10 31 35.6	+1.0
KARG	Kargicak-Mersi	3.53	74	Pn	Pn	10 31 37.1	+2.4
THR3	Thira Island,	3.54	290	P	Pn	10 31 35.5	+0.7
THR3	Thira Island,	3.54	290	P	Pn	10 31 35.2	+0.4
SNT5	Nea Kammeni, S	3.54	290	P	Pn	10 31 35.3	+0.4
SNT5	Nea Kammeni, S	3.54	290	P	Pn	10 31 35.5	+0.6
KRMN	Karaman	3.57	57	Pn	Pn	10 31 37.6	+2.2
THR5	Thira Island,	3.58	290	P	Pn	10 31 36.7	+1.3
THR5	Thira Island,	3.58	290	P	Pn	10 31 37.0	+1.5
SAP3	Santorini-Thir	3.59	290	P	Pn	10 31 37.9	+2.3
KEBE	Keben-Mersin	3.60	70	Pn	Pn	10 31 37.7	+1.9
BLCB	Balcova	3.69	328	Pn	Pn	10 31 38.6	+1.6
LADK	Ladik-KONYA	3.71	37	Pn	Pn	10 31 39.8	+2.5
IDI	Anoyia	3.79	272		Pn	10 31 39.6	+1.2
IDI	Anoyia	3.79	272	P	Pn	10 31 39.6	+1.2
IDI	Anoyia	3.79	272	Pn	Pn	10 31 40.0	+1.5
	69nm,0.5s,baz=29,slow=2.3,SNR=65						
IDI				Sn	Sn	10 32 21.1	-1.6
	17nm,0.3s,baz=143,slow=20,SNR=8.6						
IDI	Anoyia	3.79	272	P	Pn	10 31 39.8	+1.3
KIZK	Mersin	3.94	71	Pn	Pn	10 31 42.6	+2.2
CHOS	Chios island	4.17	319	Pn	Pn	10 31 45.4	+1.7
CHOS	Chios island	4.17	319	P	Pn	10 31 44.2	+0.5
CHOS	Chios island	4.17	319	P	Pn	10 31 44.2	+0.5
YESY	Yesilyurt	4.22	52	Pn	Pn	10 31 46.8	+2.4
GVD	Gavdhos	4.48	266	P	Pn	10 31 49.3	+1.5
BORA	Eskisehir	4.66	9	Pn	Pn	10 31 51.9	+1.5
CMRD	Camardi-Nigde	5.01	60	Pn	Pn	10 31 58.1	+2.9
ANKY	Antikythira Is	5.11	278	P	Pn	10 31 56.8	+0.4
HNTI	Hanita	5.17	113	P	Pn	10 31 59.2	+1.9
HNTI	Hanita	5.17	113	S	Sn	10 32 54.7	-1.9
SLUM	Salum	5.22	225	P	Pn	10 31 59.9	+2.0
OFRI	`Ofer	5.25	119	P	Pn	10 32 00.9	+2.4
OFRI	`Ofer	5.25	119	S	Sn	10 32 56.7	-2.0
DION	Dionisos Attik	5.30	304	P	Pn	10 32 00.5	+1.4
BLGI	Bet Lehem HaGe	5.34	117	P	Pn	10 32 01.4	+1.7
BLGI	Bet Lehem HaGe	5.34	117	S	Sn	10 32 59.4	-1.5
MMA0B	Mount Meron ar	5.37	113	P	Pn	10 32 02.6	+2.5
MMA0B	Mount Meron ar	5.37	113	S	Sn	10 32 59.9	-1.8
MMAI	Mount Meron Ar	5.37	113	Pn	Pn	10 32 01.6	+1.5
	6.4nm,0.3s,baz=304,slow=12,SNR=13						
MMAI				Sn	Sn	10 33 00.3	-1.3
	32nm,0.3s,baz=290,slow=29,SNR=20						
MMAI				LR	LR	10 35 21.3	
	comp=Z,70nm,18.7s,baz=294,slow=52						
	3.8nm,0.2s						
QRWL	Qaraoun	5.37	107	*e*P	Pn	10 32 02.4	+2.3
HWQ	Hawqa	5.38	99	*e*P	Pn	10 32 02.1	+1.8
GEM	Giv'at Ha'Em	5.48	110	P	Pn	10 32 03.8	+2.2
GEM	Giv'at Ha'Em	5.48	110	S	Sn	10 33 02.8	-1.6
SHBL	Chebaa	5.49	109	*e*P	Pn	10 32 04.2	+2.3
SLTI	Sal'it	5.50	122	P	Pn	10 32 03.8	+2.0
SLTI	Sal'it	5.50	122	S	Sn	10 33 03.3	-1.4
RCY	Rachaya	5.51	107	*e*P	Pn	10 32 04.1	+1.9
BRTR	Keskin Array B	5.52	35		Pn	10 32 05.2	+2.9
BRTR	Keskin Array B	5.52	35	Pn	Pn	10 32 03.5	+1.3
	0.5nm,0.3s,baz=208,slow=18,SNR=7.2						
BRTR				Sn	Sn	10 33 04.7	-0.7
	0.8nm,0.3s,baz=214,slow=26,SNR=8.5						
NATI	Neve Ativ	5.52	110	P	Pn	10 32 04.1	+2.0
NATI	Neve Ativ	5.52	110	S	Sn	10 33 03.5	-1.7
BR131	Keskin Array S	5.52	35		Pn	10 32 03.9	+1.6
BEIL	Beino	5.52	96	*e*P	Pn	10 32 03.6	+1.4
MMLI	Mount Malkishu	5.66	118	P	Pn	10 32 06.5	+2.4
MMLI	Mount Malkishu	5.66	118	S	Sn	10 33 07.0	-1.8
KOT	Kottamia	5.67	159	P	Pn	10 32 07.2	+3.0
KSHT	Keshet	5.69	112	P	Pn	10 32 07.3	+2.8
KSHT	Keshet	5.69	112	S	Sn	10 33 08.9	-0.6
HNAT	Natroun	5.70	170	P	Pn	10 32 06.7	+2.2
HNAT				S	Sn	10 33 07.2	-2.4
HHAG	Hagoal	5.73	157	P	Pn	10 32 08.4	+3.4
HMDT	Nahal Hemdat	5.83	119	P	Pn	10 32 07.8	+1.3
HMDT	Nahal Hemdat	5.83	119	S	Sn	10 33 10.9	-2.1
AMAZ	Amatzia	5.85	128	P	Pn	10 32 07.8	+1.1
AMAZ	Amatzia	5.85	128	S	Sn	10 33 11.2	-2.3
KZIT	Kziot	5.97	135	P	Pn	10 32 10.4	+2.1
KZIT				S	Sn	10 33 13.2	-3.2
KZIT				AML	AML	10 33 17.6	
	0.5nm,0.8s						
KZIT	Kziot	5.97	135	P	Pn	10 32 10.2	+1.9
YTIR	Yattir	6.09	128	P	Pn	10 32 11.5	+1.4
YTIR	Yattir	6.09	128	S	Sn	10 33 17.3	-2.1
DSI	Dead Sea	6.13	125	P	Pn	10 32 12.2	+1.7
DSI	Dead Sea	6.13	125	S	Sn	10 33 18.0	-2.3
MSBI	Mazada	6.28	127	P	Pn	10 32 14.2	+1.7
MSBI	Mazada	6.28	127	S	Sn	10 33 22.0	-1.9
GHAJ	Ghor Haditha	6.42	126		Pn	10 32 17.7	+3.2
GHAJ	Ghor Haditha	6.42	126	P	Pn	10 32 16.6	+2.1
GHAJ	Ghor Haditha	6.42	126	S	Sn	10 33 25.7	-1.8
ITM	Ithomi	6.43	289		Pn	10 32 16.8	+2.1
ZNM	Zenema	6.53	153	P	Pn	10 32 19.0	+3.1
PRNI	Paran	6.73	135	P	Pn	10 32 20.1	+1.3
PRNI	Paran	6.73	135	S	Sn	10 33 32.3	-2.9
KRMI	Paran Flat	6.75	138	P	Pn	10 32 20.5	+1.5
KRMI	Paran Flat	6.75	138	S	Sn	10 33 33.3	-2.4
NBNS	Bani Suef	6.80	167	P	Pn	10 32 22.1	+2.4
ASF	Jabal al Asfar	6.88	115	Pn	Pn	10 32 21.6	+0.7
	0.4nm,0.3s,baz=331,slow=10,SNR=1.7						
ASF				Sn	Sn	10 33 37.9	-0.9
	2.2nm,0.3s,baz=339,slow=8.6,SNR=7.1						
ASF				LR	LR	10 36 30.0	
	comp=Z,81nm,20.8s,baz=325,slow=51						
	1.4nm,0.3s						
SWA2		6.93	211	P	Pn	10 32 23.3	+1.9
HRFI	Mount Harif	6.99	137	P	Pn	10 32 23.7	+1.4
HRFI	Mount Harif	6.99	137	S	Sn	10 33 38.9	-2.6
MBRI	Mt Berech	7.11	139	P	Pn	10 32 26.0	+2.0
MBRI	Mt Berech	7.11	139	S	Sn	10 33 42.1	-2.4
EIL	Elat	7.22	139	Pn	Pn	10 32 27.0	+1.4
	2.1nm,0.3s,baz=303,slow=4.0,SNR=16						
EIL				Sn	Sn	10 33 44.1	-3.2
	11nm,0.3s,baz=60,slow=20,SNR=13						
	13nm,0.5s						
EIL	Elat	7.22	139	P	Pn	10 32 27.7	+2.1
EIL	Elat	7.22	139	S	Sn	10 33 44.3	-2.9
LIT	Litokhoron	7.37	313		Pn	10 32 30.4	+2.9
GRB	Gharib	7.51	157	P	Pn	10 32 31.5	+2.0
NUB	Nuweibaa	7.59	144	P	Pn	10 32 33.4	+2.8
HKAT	Jabal Katrina	7.72	149	P	Pn	10 32 34.3	+1.7
KEK	Kerkira	8.91	303		Pn	10 32 53.5	+4.9
CUC	Castrocucco	11.85	297		Pn	10 33 27.7	-1.1
ACER	Acerenza	12.04	301		Pn	10 33 29.6	-1.9
RAFF	Raffo Rosso	12.40	283		Pn	10 33 34.8	-1.6
SGRT	San Giovanni R	12.58	305	Pn	Pn	10 33 37.4	-1.6
KEST	Kesra	16.44	277		Pn	10 34 29.8	-0.9
KEST				IAmb	IAmb	10 34 35.4	
	comp=Z,22nm,0.8s						
KEST	Kesra	16.44	277	Pn	Pn	10 34 30.6	-0.1
	comp=Z,1.4nm,0.3s,baz=77,slow=5.4,SNR=18						
	comp=Z,22nm,0.8s						
GEC2	GERESS Array S	17.89	324	P	Pn	10 34 49.6	+0.8
GEC2				IAmb	IAmb	10 34 50.0	
	comp=Z,4.8nm,0.7s						
GERES	GERESS Array B	17.89	324	P	Pn	10 34 49.0	+0.2
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=19						
GERES				LR	LR	10 42 48.5	
	comp=Z,13nm,19.5s,baz=134,slow=41						
	comp=Z,2.0nm,0.5s						
KHC	Kasperske Hory	18.15	325	P	Pn	10 34 51.9	0.0
CLL	Collm	19.96	328	*e*P	P	10 35 11.0	-0.9
SENIN	Lac Senin/Sane	20.07	310		P	10 35 13.0	-0.4
SENIN				IAmb	IAmb	10 35 13.6	
	comp=Z,12nm,0.5s						
BELG	Belogornoye	21.43	31	P	P	10 35 29.0	+1.3
	comp=Z,3.7nm,0.5s,baz=221,slow=3.6,SNR=4.4						
	comp=Z,3.7nm,0.5s						
AB31	Akbulak array	26.29	49	P	P	10 36 16.3	+1.1
ABKAR	Akbulak array	26.29	49	P	P	10 36 19.1	+4.0
FINES	FINESS Array B	26.29	356	P	P	10 36 15.2	+0.2
	comp=Z,2.4nm,0.8s,baz=156,slow=9.6,SNR=4.8						
	comp=Z,2.4nm,0.8s						
ESBB	Sonseca Array	26.84	289	P	P	10 36 18.7	-1.7
ESBB				IAmb	IAmb	10 36 22.9	
	comp=Z,6.4nm,0.8s						
ESDC	Sonseca Array	26.85	289		P	10 36 20.5	+0.1
ESDC				IAmb	IAmb	10 36 22.8	
	comp=Z,2.6nm,0.9s						
ESDC	Sonseca Array	26.85	289	P	P	10 36 20.6	+0.1
	comp=Z,6.5nm,0.8s,baz=81,slow=9.5,SNR=27						
	comp=Z,6.5nm,0.8s						
HFS	Hagfors	26.91	342	P	P	10 36 19.6	-1.2
	comp=Z,2.4nm,0.8s,baz=125,slow=13,SNR=5.0						
	comp=Z,2.4nm,0.8s						
NOA	NORSAR Array B	28.33	341	LR	LR	10 50 03.4	
	comp=Z,12nm,18.9s,baz=260,slow=41						
TORD	Torodi Ar. Bea	33.40	236	IAmb	IAmb	10 37 21.3	
	comp=Z,8.0nm,0.7s						
TORD	Torodi Ar. Bea	33.40	236	P	P	10 37 18.5	0.0
	comp=Z,7.6nm,0.5s,baz=39,slow=9.5,SNR=2.8						
	comp=Z,7.6nm,0.5s						
ARCES	ARCESS Array B	34.39	357	P	P	10 37 26.3	-0.3
	comp=Z,7.5nm,1.1s,baz=147,slow=6.7,SNR=4.6						
	comp=Z,7.5nm,1.1s						
KURBB	Kurchatov Arra	38.27	51	P	P	10 38 01.3	+1.3
	comp=Z,0.3nm,0.5s,baz=275,slow=8.9,SNR=4.3						
KURK	Kurchatov	38.34	51	P	P	10 38 01.3	+0.8
KURK	Kurchatov	38.34	51	IAmb	IAmb	10 38 03.2	
	comp=Z,2.4nm,1.1s						
MKAR	Makanchi Array	40.72	57	P	P	10 38 20.4	-0.1
	comp=Z,0.4nm,0.5s,baz=261,slow=8.0,SNR=1.9						
	comp=Z,0.4nm,0.5s						

SCB 21 10:35:54.3±1.5, 21°.58S×66°.80W, h209km±10km, MB4.9, ML3.6/4, Error ellipse: s-maj=5.2km s-min=4.7km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.13	73	Pg	Pn	10 36 27.0	+0.5
MOCB				Sg	S	10 36 50.5	-0.7
MOCB				IAML		10 36 53.2	
	286nm,0.5s						
YJA	Yavi	1.33	117	Pg	Pn	10 36 29.0	+1.1
PB09	IPOC Station P	2.28	264	Pg	Pn	10 36 37.7	+1.1
PB01	IPOC Station P	2.56	282	Pg	Pn	10 36 40.3	+0.7
PB01				Sg	S	10 37 15.3	+0.8
PB01				IAML		10 37 16.6	
	54nm,0.4s						
PB08	IPOC Station P	2.63	303	Pg	Pn	10 36 41.7	+1.1
PB06	IPOC Station P	2.81	246	Pg	Pn	10 36 43.5	+1.1
PB02	IPOC Station P	2.90	275	Pg	Pn	10 36 43.6	+0.2
PB02				Sg	S	10 37 20.8	-0.5
PB02				IAML		10 37 21.3	
	248nm,0.4s						
GO01	Chusmiza	2.94	310	Pg	Pn	10 36 44.9	+0.6
SOEO	Opoqueri	3.17	341	Pg	Pn	10 36 48.2	+1.2
PB11	IPOC Station P	3.23	304	Pg	Pn	10 36 47.0	-0.3
PB11				Sg	S	10 37 27.5	-0.9
PB11				IAML		10 37 29.0	
	170nm,0.2s						
SOET	ToroToro	3.57	15	Pg	Pn	10 36 51.4	-0.2
PB16	IPOC Station P	4.11	321	Pg	Pn	10 36 59.3	+0.8
GO02	Mina Guanaco	4.39	215	Pg	Pn	10 37 01.9	+0.3
PB14	IPOC Station P	4.50	227	Pg	Pn	10 37 02.7	-0.2
BBOJ	La Paz, Jacaqu	4.77	344	Pg	Pn	10 37 08.0	+1.4
BBOE	La Paz, Chanca	4.87	347	Pg	Pn	10 37 08.7	+0.8
BBOD	La Paz, Gloria	5.20	341	Pg	Pn	10 37 12.6	+0.5
LPAZ	La Paz	5.41	346	Pg	Pn	10 37 14.9	0.0
BBOB	La Paz, Bander	5.56	347	Pg	Pn	10 37 16.2	-0.4

SOME ***21*** *10:39:16.6, 42°.42N×80°.80E, h10km*
NNC 21 10:39:03.3±3.8, 41°.61N×79°.86E, h0km, mb3.5, mpv3.2, 1C-4D, Error ellipse: s-maj=32.9km s-min=26.5km az=66.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.58	349	*e*P	Pg	10 39 36.1	+2.6
SHLS	2.0nm,0.1s						
	3.9nm,0.1s			*e*S	Sn	10 39 50.2	-3.6
PDGK	Podgornoye	1.74	351	⇓Pn	Pn	10 39 34.5	-0.4
PDGK	1.7nm,0.5s						
	5.5nm,0.7s			⇑Sn	Sg	10 39 59.2	-0.1
MAKZ	Makanchi	5.42	16	⇓Pn	Pn	10 40 26.0	+0.7
MAKZ	12nm,1.3s						
	7.0nm,1.4s			⇓Sn	Sn	10 41 29.0	+0.6
MK31	Makanchi Array	5.47	18	Pn	Pn	10 40 26.9	+0.8
	5.8nm,1.1s,baz=196,slow=14,SNR=5.3						
MK31				⇓Sn	Sn	10 41 30.0	+0.2
	3.6nm,1.1s,baz=203,slow=24						

MOS ***21*** *10:43:33.0±0.8, 20°.64S×179°.07W, h610km, mb5.4/25, Error ellipse: s-maj=10.2km s-min=7.9km az=111.4*
NEIC ***21*** *10:43:34.7, 20°.71S×179°.00W, h610km*
BJI ***21*** *10:43:34.2, 20°.23S×178°.64W, h626km, mB5.1/24, mb5.4/66*
NEIC ***21*** *10:43:34.7, 20°.81S×178°.89W, h610km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.75; $M_{\theta\theta}$=0.88; $M_{\phi\phi}$=-0.13; $M_{r\theta}$=0.52; $M_{\theta\phi}$=0.34; $M_{\phi r}$=0.65; Fault plane solution: M_0=1.22000×10^{17} NP1: ϕ_s=278.21000°, δ=30.97000°, λ=-45.35000°. NP2: ϕ_s=49.17000°, δ=68.52000°, λ=-112.87000°. Principal axes: T 1.2360, Plg20.0000°, Azm156.0000°; N -0.0413, Plg21.0000°, Azm58.0000°; P -1.1947, Plg60.0000°, Azm286.0000°;*
NEIC ***21*** *10:43:34.7±2.4, 20°.69S±0°.09×179°.02W±0°.10, h610km±5km, mb5.3/665, Mww5.3/8 Error ellipse: s-maj=13.4km s-min=12.2km az=127.0*
IDC ***21*** *10:43:35.0±0.5, 20°.65S×179°.00W, h623km±4km, mb4.6/21, mbtmp5.6/24, Error ellipse: s-maj=9.6km s-min=8.7km az=103.0*
NOU ***21*** *10:43:35.0, 20°.73S×178°.98W, h629km, ML5.1/171, Fiji Islands Region*
GCMT ***21*** *10:43:36.8±0.3, 20°.70S±0°.03×179°.13W±0°.03, h640km±2km, MW5.4/90, Moment Tensor Solution. s90, c144; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.96±.04; $M_{\theta\theta}$=0.58±.05; $M_{\phi\phi}$=0.37±.06; $M_{r\theta}$=0.93±.06; $M_{\theta\phi}$=0.94±.06; $M_{\phi r}$=0.51±.06; Best double couple: M_0=1.60900×10^{17} NP1: ϕ_s=210.00000°, δ=27.00000°, λ=-118.00000°. NP2: ϕ_s=60.00000°, δ=67.00000°, λ=-77.00000°. Principal axes: T 1.8120, Plg21.0000°, Azm140.0000°; N -0.4070, Plg12.0000°, Azm235.0000°; P -1.4050,

WMGZ S **S** **10 49 46.5 -2.1**
HAZ Te Kaha 17.15 189 P **P** **10 46 59.8 -1.4**
HAZ S **S** **10 49 42.5 -6.5**
RUGZ Raukumara Rang 17.37 189 P **P** **10 47 02.9 -0.4**
RUGZ S **S** **10 49 47.9 -4.9**
TGRZ Tauranga 17.39 193 P **P** **10 47 05.8 +2.5**
PUZ Puketiti 17.40 187 P **P** **10 47 02.9 -0.6**
PUZ S **S** **10 49 49.2 -3.9**
OPRZ Ohinepanea 17.44 192 P **P** **10 47 05.6 +1.7**
OPRZ S **S** **10 49 52.3 -1.4**
TWGZ Tauwhareparae 17.54 188 P **P** **10 47 05.4 +0.6**
TWGZ S **S** **10 49 51.9 -3.4**
TOZ Tahuroa Road 17.56 195 P **P** **10 47 06.5 +1.6**
KMRZ Kaimai 17.57 194 P **P** **10 47 07.5 +2.5**
KARZ Kaharoa 17.68 193 P **P** **10 47 07.5 +1.6**
URZ Urewera 17.75 190 P **P** **10 47 04.4 -2.2**
comp=Z,76nm,0.4s,baz=288,slow=2.0,SNR=73
URZ S **S** **10 49 54.0 -4.6**
comp=Z,84nm,0.7s,baz=47,slow=19,SNR=8.3
URZ ScP **ScP** **10 53 46.9 +0.3**
comp=Z,11nm,0.5s,baz=342,slow=3.2,SNR=3.3
URZ Urewera 17.75 190 P **P** **10 47 06.0 -0.6**
URZ Urewera 17.75 190 P **P** **10 47 04.4 -2.2**
URZ S **S** **10 49 53.4 -5.3**
MWZ Matawai 17.75 189 P **P** **10 47 05.2 -1.5**
MWZ S **S** **10 49 53.5 -5.4**
CNGZ Carnagh Statio 17.81 187 P **P** **10 47 07.4 +0.2**
TKGZ Te Karaka 17.81 188 P **P** **10 47 07.8 +0.6**
RAR Rarotonga 17.91 95 P **P** **10 47 08.7 +0.4**
RAR Rarotonga 17.91 95 P **P** **10 47 09.6 +1.2**
comp=Z,70nm,0.8s,baz=257,slow=6.9,SNR=12
RAR Rarotonga 17.91 95 P **P** **10 47 09.4 +1.0**
RAGZ Rawiri 17.93 189 P **P** **10 47 07.9 -0.5**
RRRZ Republican Roa 17.93 192 P **P** **10 47 08.8 +0.5**
HSRZ Hossack Road 17.95 192 P **P** **10 47 10.2 +1.7**
MUGZ Murupara 18.02 191 P **P** **10 47 07.3 -1.8**
MUGZ S **S** **10 49 55.5 -7.5**
GRRZ Galatos Road 18.02 193 P **P** **10 47 10.9 +1.8**
HRRZ Handcock Road 18.02 192 P **P** **10 47 05.8 -3.4**
RIGZ Rimuhau 18.09 188 P **P** **10 47 08.4 -1.4**
RIGZ S **S** **10 49 58.0 -6.1**
PRRZ Plateau Road 18.11 192 P **P** **10 47 09.9 0.0**
RTZ Ruatahuna 18.12 190 P **P** **10 47 08.9 -1.1**
TLZ Tolley Road 18.12 194 P **P** **10 47 12.6 +2.5**
ALRZ Allen Road 18.18 192 P **P** **10 47 10.8 +0.3**
SNGZ Shannon Statio 18.22 189 P **P** **10 47 06.2 -4.8**
SNGZ S **S** **10 50 00.2 -6.1**
PRGZ Paritu Road 18.28 188 P **P** **10 47 12.5 +1.0**
MTHZ Maungataniwha 18.37 190 P **P** **10 47 12.5 +0.2**
RAHZ Arahi 18.39 190 P **P** **10 47 12.8 +0.3**
KNZ Kokohu 18.41 188 P **P** **10 47 11.7 -0.9**
WATZ Wairara 18.44 193 P **P** **10 47 14.1 +1.1**
HIZ Hauiti 18.46 196 P **P** **10 47 15.8 +2.7**
MHGZ Mahia Peninsul 18.51 188 P **P** **10 47 13.5 0.0**
WHHZ Waihua 18.53 189 P **P** **10 47 14.2 +0.5**
NMHZ Naumai 18.61 190 P **P** **10 47 14.4 -0.2**
BKZ Black Stump Fm 18.74 191 P **P** **10 47 14.3 -1.4**
BKZ Black Stump Fm 18.74 191 P **P** **10 47 16.6 +0.9**
BKZ Black Stump Fm 18.74 191 P **P** **10 47 14.3 -1.4**
ARHZ Aropaoanui 18.75 190 P **P** **10 47 15.8 +0.1**
NTVZ North Tongariro 18.83 193 P **P** **10 47 17.7 +1.1**
TMVZ Te Maari 18.84 193 P **P** **10 47 16.8 +0.1**
ETVZ East Tongariro 18.86 193 P **P** **10 47 16.1 -0.8**
WTVZ West Tongariro 18.86 193 P **P** **10 47 17.1 +0.2**
NGZ Ngauruhoe 18.92 193 P **P** **10 47 19.4 +1.9**
COVZ Chateau Observ 18.96 193 P **P** **10 47 17.1 -0.6**
KWHZ Kaweka Forest 19.00 191 P **P** **10 47 18.0 0.0**
FWVZ Far West T-bar 19.01 193 P **P** **10 47 18.6 +0.3**
WHVZ Whangaehu Hut 19.03 193 P **P** **10 47 18.7 +0.2**
TRVZ Turoa 19.05 193 P **P** **10 47 18.7 0.0**
VRZ Vera Road 19.07 195 P **P** **10 47 20.4 +1.8**
WNVZ Wahianoa 19.07 193 P **P** **10 47 18.8 0.0**
PKVZ Pokaka 19.09 194 P **P** **10 47 18.9 +0.1**
MOVZ Moawhango 19.11 193 P **P** **10 47 18.7 -0.4**
CKHZ Cape Kidnapper 19.12 189 P **P** **10 47 19.1 +0.1**
KAHZ Kahuranaki 19.28 190 P **P** **10 47 20.3 -0.3**
KHEZ Kahui Hut 19.41 197 P **P** **10 47 25.8 +4.0**
PXZ Pawanui 19.52 190 P **P** **10 47 21.9 -0.7**
TSZ Takapari Road 19.70 192 P **P** **10 47 24.2 -0.1**
PRHZ Porangahau 19.78 190 P **P** **10 47 24.8 -0.2**
MSWZ Moikau Station 21.15 192 P **P** **10 47 36.5 -0.8**
TCW Tory Channel 21.16 194 P **P** **10 47 38.2 +0.8**
BHW Baring Head 21.22 193 P **P** **10 47 37.4 -0.4**
QRZ Quartz Range 21.25 198 P **P** **10 47 38.8 +0.6**
PLWZ Palliser 21.30 192 P **P** **10 47 37.9 -0.7**
TKNZ Takaka Hill 21.33 197 P **P** **10 47 38.6 -0.2**
LHI Lord Howe Isla 22.41 237 P **P** **10 47 50.4 +1.8**
comp=Z,189nm,0.8s
LHI Lord Howe Isla 22.41 237 P **P** **10 47 50.1 +1.5**
KHZ Kahutara 22.48 195 P **P** **10 47 48.5 -0.5**
HNR Honiara 23.26 296 P **P** **10 47 56.3 -0.1**
TARA Tarawa 23.40 339 P **P** **10 47 57.5 -0.2**
TARA Tarawa 23.40 339 P **P** **10 47 57.4 -0.2**
RPZ Rata Peaks 24.34 198 P **P** **10 48 06.3 +0.7**
JCZ Jackson Bay 25.37 201 P **P** **10 48 15.4 +0.7**
ODZ Otahua Downs 25.68 197 P **P** **10 48 17.3 0.0**
GC1S Gold Coast 1 S 26.08 248 P **P** **10 48 21.8 +0.7**
AUWSH Wavell State H 26.37 250 P **P** **10 48 24.6 +1.0**
MLZ Mavora Lakes 26.73 201 P **P** **10 48 27.8 +1.2**
WHZ Wether Hill Ro 27.26 200 P **P** **10 48 32.6 +1.5**
TW1H Toowoomba 1 Ha 27.33 250 P **P** **10 48 33.7 +1.6**
TBI Tubuai 27.43 101 *e*P **P** **10 48 34.5 +1.6**
comp=Z,233nm,0.9s
TBI *e*S **S** **10 52 28.2 -3.2**
comp=Z,2µm,30.8s
TBI *es*S **sS** **10 55 33.4 +1.6**
comp=Z,2µm,27.0s
PAE Paea 27.89 89 *e*P **P** **10 48 38.1 +1.1**
comp=Z,36nm,1.1s
PAE *ep*P **pP** **10 50 10.7 -1.2**
comp=Z,38nm,1.3s
PPT2 Papeete2 27.91 89 *e*S **S** **10 52 42.2 +3.1**
comp=Z,345nm,24.2s
PPT2 *es*S sS 10 55 37.8 -2.2
comp=Z,585nm,25.2s
PPT2 *es*S **SS** **10 55 45.6 +0.3**
comp=Z,229nm,42.5s
PPT Papeete 27.91 88 P **P** **10 48 38.7 +1.5**
comp=Z,138nm,1.0s,baz=350,slow=1.2,SNR=23
PPT ScP **ScP** **10 54 16.3 +2.1**
comp=Z,81nm,0.9s,baz=164,slow=0.3,SNR=9.0
comp=Z,138nm,1.0s
EIDS Eidsvold 27.91 255 P **P** **10 48 37.2 +0.1**
comp=Z,141nm,1.0s
EIDS Eidsvold 27.91 255 P **P** **10 48 37.4 +0.2**
EIDS Eidsvold 27.91 255 P **P** **10 48 37.4 +0.2**
PPTF Pamatai, Papee 27.91 89 P **P** **10 48 38.6 +1.4**
PPTF Pamatai, Papee 27.91 89 P **P** **10 48 38.7 +1.4**
TIAR Tiarei 28.13 89 *e*P **P** **10 48 40.2 +1.1**
comp=Z,284nm,0.9s
TIAR *ep*P **pP** **10 50 14.4 +0.3**
comp=Z,388nm,1.5s
ARMA Armidale 28.14 244 P **P** **10 48 39.9 +0.7**
comp=Z,162nm,0.8s
ARMA Armidale 28.14 244 P **P** **10 48 40.0 +0.8**
ARMA IAmb IAmb 10 48 41.4
comp=Z,96nm,0.8s
ARMA Armidale 28.14 244 P **P** **10 48 40.2 +1.0**
TVO Taravao 28.17 89 *e*P **P** **10 48 39.8 +0.3**
comp=Z,30nm,0.7s
AUNRC North Rockhamp 28.38 259 P **P** **10 48 41.1 0.0**
AUPHS Peel High Scho 28.92 243 P **P** **10 48 46.7 +0.9**
AUKHS Kincumber High 29.16 238 P **P** **10 48 49.2 +1.5**
MGCD Mangrove Creek 29.30 239 P **P** **10 48 50.4 +1.4**
SYDH Sydney Hard Ro 29.76 238 P **P** **10 48 54.0 +1.1**
RMQ Roma 30.07 253 P **P** **10 48 57.1 +1.4**
PMOR Pomariorio Ree 30.07 84 *e*P **P** **10 48 57.0 +1.2**
comp=Z,213nm,1.1s
VAH Vaihoa 30.26 85 *e*P **P** **10 48 58.2 +0.8**
comp=Z,43nm,0.8s
AUUHS Ulladulla High 30.50 235 P **P** **10 49 00.0 +0.9**
XMAS Kiritimati 30.96 45 P **P** **10 49 04.2 +0.8**
XMAS Kiritimati 30.96 45 P **P** **10 49 04.1 +0.7**
AULRC Lightning Ridg 31.07 247 P **P** **10 49 04.6 +0.4**
CNB Canberra Magne 31.33 236 P **P** **10 49 07.4 +1.0**
AUDAR Daramalan Coll 31.48 236 P **P** **10 49 08.6 +1.0**
AUSIS Research Schoo 31.52 236 P **P** **10 49 09.0 +1.1**
AUMTS Mt Stromlo 31.61 236 P **P** **10 49 09.6 +0.8**
CAN Canberra 31.62 236 IAmb IAmb 10 49 10.8
comp=Z,98nm,1.0s
CAN Canberra 31.62 236 P **P** **10 49 09.6 +0.8**
CAN Canberra 31.62 236 P **P** **10 49 09.6 +0.8**

CAN pP **PP** **10 50 49.3 -0.9**
TV1H Townsville Har 32.19 267 P **P** **10 49 13.9 +0.2**
AUSMG Snowy Mountain 32.28 234 P **P** **10 49 15.3 +0.9**
CMSA Cobar Meteorol 33.36 244 P **P** **10 49 24.0 +0.5**
QLP Quilpie 34.12 253 P **P** **10 49 29.9 0.0**
PMG Port Moresby 34.54 284 P **P** **10 49 33.6 +0.1**
PMG Port Moresby 34.54 284 P **P** **10 49 33.5 +0.1**
PMG Port Moresby 34.54 284 P **P** **10 49 33.4 -0.1**
PMG Port Moresby 34.54 284 P **P** **10 49 33.6 +0.1**
PMG pmax pmax
comp=Z,183nm,0.8s
PMG Port Moresby 34.54 284 P **P** **10 49 33.6 +0.1**
MTSU Mount Surprise 34.69 268 P **P** **10 49 34.8 +0.1**
TOO Toolangi 35.01 234 IAmb IAmb 10 49 38.9
comp=Z,48nm,0.7s
CORO Coronation Par 35.27 227 P **P** **10 49 40.3 +1.2**
PATS Pohnpei 35.39 318 P **P** **10 49 40.5 +0.1**
PATS IAmb IAmb 10 49 41.9
comp=Z,56nm,0.8s
PATS Pohnpei 35.39 318 P **P** **10 49 40.3 -0.1**
BRAT Ballarat 36.19 234 P **P** **10 49 47.6 +0.9**
AUMTC Mt Clear Colle 36.24 234 P **P** **10 49 48.3 +1.2**
COEN Coen 36.72 274 P **P** **10 49 51.6 +0.3**
STKA Stephens Creek 36.87 244 P **P** **10 49 53.3 +0.9**
STKA Stephens Creek 36.87 244 P **P** **10 49 53.3 +0.9**
comp=Z,93nm,0.5s,baz=92,slow=10,SNR=385
STKA ScP **ScP** **10 54 47.6 +2.5**
comp=Z,15nm,1.0s,baz=83,slow=3.3,SNR=4.9
comp=Z,93nm,0.5s
STKA Stephens Creek 36.87 244 P **P** **10 49 53.0 +0.7**
INKA Innaminka 37.27 251 IAmb IAmb 10 49 58.0
comp=Z,69nm,0.7s
MANU Manus Island 37.76 295 P **P** **10 50 00.4 +0.6**
QIS Mount Isa 38.70 263 P **P** **10 50 06.8 -0.6**
AUMBR Murray Bridge 39.27 240 P **P** **10 50 11.8 +0.1**
HTT Hallett 39.31 242 P **P** **10 50 12.4 +0.3**
AUJCS Jamestown Cent 39.54 243 P **P** **10 50 14.5 +0.6**
AUMAR Marden Senior 39.75 240 P **P** **10 50 15.8 +0.3**
GHSS Government Hou 39.79 240 P **P** **10 50 16.3 +0.5**
WHYH Whyalla 40.38 243 P **P** **10 50 20.9 +0.4**
RKT Rikitea 40.74 102 *e*P **P** **10 50 24.6 +1.1**
comp=Z,68nm,0.8s
BBOO Buckleboo 41.62 244 P **P** **10 50 30.9 +0.5**
BBOO Buckleboo 41.62 244 P **P** **10 50 30.5 +0.1**
AUCAS Cummins Area S 42.05 242 P **P** **10 50 33.8 +0.1**
WAKE Wake Island 42.24 340 P **P** **10 50 34.8 -0.4**
JAY Jayapura 43.29 289 P **P** **10 50 43.5 -0.1**
comp=Z,3µmcomp=Z,442nm,0.8s
WR8 Warramunga Arr 43.53 263 IAmb IAmb 10 50 46.4
comp=Z,189nm,1.1s
AS01 Alice Springs 43.55 257 P **P** **10 50 45.4 -0.1**
AS31 Alice Springs 43.59 257 P **P** **10 50 46.1 +0.3**
AS31 IAmb IAmb 10 50 46.6
comp=Z,100nm,0.7s
ASAR Alice Springs 43.59 257 P **P** **10 50 46.2 +0.4**
ASAR Alice Springs 43.59 257 P **P** **10 50 46.0 +0.2**
comp=Z,367nm,0.7s,baz=97,slow=7.5,SNR=5517
ASAR PcP **PcP** **10 52 19.1 +0.2**
comp=Z,36nm,0.6s,baz=105,slow=3.7,SNR=9.8
ASAR ScP **ScP** **10 55 14.3 +2.3**
comp=Z,9.2nm,0.8s,baz=105,slow=4.3,SNR=5.8
ASAR S **S** **10 56 29.2 -2.5**
comp=Z,20nm,0.8s,baz=94,slow=16,SNR=24
comp=Z,367nm,0.7s
AUALC St Philip's Co 43.60 257 P **P** **10 50 45.8 -0.1**
WRAB Tennant Creek 43.67 263 P **P** **10 50 45.9 -0.5**
WRAB Tennant Creek 43.67 263 P **P** **10 50 45.7 -0.8**
WRAB Tennant Creek 43.67 263 P **P** **10 50 45.9 -0.5**
WRAB pmax pmax
comp=Z,264nm,1.1s
WRAB Tennant Creek 43.67 263 P **P** **10 50 45.8 -0.6**
WRAB sP **sP** **10 53 43.8 +0.9**
WRA Warramunga Arr 43.68 263 P **P** **10 50 46.1 -0.4**
WRA Warramunga Arr 43.68 263 P **P** **10 50 46.1 -0.4**
comp=Z,131nm,0.5s,baz=97,slow=7.5,SNR=1043
WRA PcP **PcP** **10 52 19.6 +0.3**
comp=Z,28nm,1.0s,baz=100,slow=4.1,SNR=9.2
WRA S **S** **10 56 30.2 -2.8**
comp=Z,22nm,1.0s,baz=94,slow=14,SNR=14
comp=Z,131nm,0.5s
GENI Genyem 43.73 289 P **P** **10 50 47.1 +0.1**
GENI Genyem 43.73 289 P **P** **10 50 46.8 -0.2**
comp=Z,4µmcomp=Z,412nm,0.9s
SMPI Sarmi 45.30 289 P **P** **10 50 58.2 -0.7**
comp=Z,2µmcomp=Z,207nm,0.9s
BYL Byron's Ledge 46.20 32 IAmb IAmb 10 51 07.1
comp=Z,140nm,1.1s
MLH Mauna Loa 46.20 31 P **P** **10 51 06.4 +0.6**
JOKA Jonika Flow 46.34 32 IAmb IAmb 10 51 07.9
comp=Z,119nm,0.9s
POHA Pohakuloa 46.36 31 P **P** **10 51 07.6 +0.5**
POHA IAmb IAmb 10 51 15.1
comp=Z,92nm,0.8s
POHA Pohakuloa 46.36 31 P **P** **10 51 06.8 -0.2**
KIP Kipapa 46.67 27 P **P** **10 51 09.5 +0.4**
KIP IAmb IAmb 10 51 11.2
comp=Z,142nm,0.9s
KIP Kipapa 46.67 27 P **P** **10 51 09.1 0.0**
KIP Kipapa 46.67 27 P **P** **10 51 09.2 +0.1**
KIP Kipapa 46.67 27 *c i*P **P** **10 51 10.0 +0.9**
KIP pmax pmax
comp=Z,176nm,0.9s
BAKI Biak 47.98 288 P **P** **10 51 20.0 +1.0**
comp=Z,3µmcomp=Z,306nm,0.8s
DRS Darwin Rock St 48.61 272 P **P** **10 51 23.1 -0.6**
AUDHS Darwin High Sc 48.67 272 P **P** **10 51 23.2 -0.9**
RKPI Ransiki, Papua 49.56 287 P **P** **10 51 29.8 -0.8**
comp=Z,6µmcomp=Z,108nm,0.8s
SAUI Saumlaki 49.65 277 P **P** **10 51 30.6 -0.7**
comp=Z,552nm,1.0s
FAKI Fak Fak 50.70 284 P **P** **10 51 38.7 -0.3**
FAKI IAmb IAmb 10 51 39.5
comp=Z,143nm,1.1s
FAKI Fak Fak 50.70 284 P **P** **10 51 38.7 -0.3**
FAKI Fak Fak 50.70 284 P **P** **10 51 38.3 -0.6**
comp=Z,2µmcomp=Z,127nm,1.3s
FITZ Fitzroy Crossi 52.11 263 P **P** **10 51 48.8 -0.2**
BNDI Bandanaira 52.20 281 P P 10 51 56.9 +7.2
SWI Sorong 52.46 286 P **P** **10 51 51.2 -0.3**
MSAI Masohi 53.56 282 P **P** **10 51 58.3 -1.0**
comp=Z,294nm,0.6s
AAI Ambon 54.10 281 P **P** **10 52 02.2 -0.9**
comp=Z,3µmcomp=Z,237nm,1.2s
NLAI Namlea 55.28 281 P **P** **10 52 10.8 -0.5**
comp=Z,3µmcomp=Z,251nm,0.7s
SOEI Soe 55.62 272 P **P** **10 52 14.3 +0.5**
SOEI Soe 55.62 272 P **P** **10 52 14.6 +0.8**
LBMI Labuha 55.96 284 P **P** **10 52 14.9 -1.1**
BATI Baumata 56.05 272 P **P** **10 52 16.7 +0.1**
comp=Z,2µmcomp=Z,292nm,0.8s
TNTI Ternate 56.67 285 P **P** **10 52 20.8 -0.1**
TNTI IAmb IAmb 10 52 21.8
comp=Z,219nm,0.9s
TNTI Ternate 56.67 285 P **P** **10 52 20.9 0.0**
TNTI Ternate 56.67 285 P **P** **10 52 20.5 -0.4**
comp=Z,2µmcomp=Z,257nm,1.0s
PSA00 Pilbara Seismi 56.74 257 P **P** **10 52 20.9 -0.3**
PSA00 Pilbara Seismi 56.74 257 P **P** **10 52 20.6 -0.6**
SANI Sanana 56.77 282 P **P** **10 52 20.9 -0.6**
SANI Sanana 56.77 282 P **P** **10 52 20.6 -0.9**
comp=Z,2µmcomp=Z,202nm,0.9s
MBWA Marble Bar 56.92 258 P **P** **10 52 22.1 -0.4**
MBWA IAmb IAmb 10 52 22.9
comp=Z,243nm,0.7s
MBWA Marble Bar 56.92 258 P **P** **10 52 21.9 -0.6**
MBWA Marble Bar 56.92 258 P **P** **10 52 22.1 -0.4**
MBWA PcP **PcP** **10 53 07.9 -0.9**
MEEK Meekatharra 56.99 251 P **P** **10 52 22.1 -0.8**
NWAO Narrogin (SRO) 57.45 244 P **P** **10 52 26.1 +0.3**
NWAO IAmb IAmb 10 52 26.9
comp=Z,227nm,1.3s
NWAO Narrogin (SRO) 57.45 244 P **P** **10 52 25.9 0.0**
NWAO Narrogin (SRO) 57.45 244 P **P** **10 52 26.1 +0.3**
NWAO pmax pmax
comp=Z,227nm,1.3s
NWAO Narrogin (SRO) 57.45 244 P **P** **10 52 25.8 0.0**
SBA Scott Base 57.53 184 P **P** **10 52 28.9 +3.3**
SBA Scott Base 57.53 184 P **P** **10 52 28.9 +3.3**
SBA pmax pmax
comp=Z,54nm,1.1s
VNDA Vanda 57.55 185 P **P** **10 52 28.1 +2.3**
VNDA Vanda 57.55 185 P **P** **10 52 28.0 +2.3**
comp=Z,7.3nm,0.5s,baz=358,slow=7.8,SNR=128
VNDA ScP **ScP** **10 56 12.6 +1.5**

comp=Z,12nm,0.9s,baz=13,slow=3.9,SNR=11
comp=Z,7.3nm,0.5s
MMRI Maumere 57.88 273 IAmb IAmb 10 52 29.4
comp=Z,260nm,1.0s
MMRI Maumere 57.88 273 P **P** **10 52 28.6 -0.4**
MMRI Maumere 57.88 273 P **P** **10 52 27.8 -1.2**
comp=Z,259nm,0.8s
BLDU Ballidu 58.13 246 P **P** **10 52 30.0 -0.5**
EDFI Ende, Flores 58.35 272 P **P** **10 52 30.8 -1.5**
comp=Z,2µmcomp=Z,250nm,0.8s
MUN Mundaring 58.40 245 P **P** **10 52 32.4 +0.1**
AUMAZ Mazenod Senior 58.54 245 P **P** **10 52 33.5 +0.3**
AUHAR St Anne's Scho 58.56 243 P **P** **10 52 34.1 +0.8**
BBSI Bau Bau 58.63 276 P **P** **10 52 33.3 -0.8**
comp=Z,93nm,0.9s
MTKN Mount Kenneth 58.77 245 P **P** **10 52 35.1 +0.4**
MORW Morawa 58.90 248 IAmb IAmb 10 52 36.4
comp=Z,198nm,1.2s
MORW Morawa 58.90 248 P **P** **10 52 35.2 -0.5**
BASI Baing, Sumba 58.93 270 P **P** **10 52 36.0 0.0**
comp=Z,5µmcomp=Z,447nm,1.1s
KDI Kendari 59.14 278 P **P** **10 52 36.8 -0.7**
WSI Waingapu 59.36 271 P **P** **10 52 38.4 -0.5**
SGSI Sangihe 59.60 287 P **P** **10 52 39.6 -0.9**
comp=Z,3µmcomp=Z,279nm,0.6s
KMSI Cibinong 59.66 283 P **P** **10 52 40.6 -0.3**
comp=Z,295nm,1.0s
H01W1 Cape Leeuwin H 59.82 241 P **P** **10 52 43.0 +1.6**
baz=112,slow=7.5,SNR=10
H01W2 Cape Leeuwin H 59.84 241 P **P** **10 52 43.1 +1.7**
baz=112,slow=7.5,SNR=7.6
H01W3 Cape Leeuwin H 59.84 241 P **P** **10 52 43.1 +1.6**
baz=112,slow=7.5,SNR=11
LUWI Luwuk 60.11 281 P **P** **10 52 44.3 +0.4**
LUWI Luwuk 60.11 281 P **P** **10 52 43.5 -0.4**
comp=Z,3µmcomp=Z,391nm,1.1s
WBSI Waikabubak, Su 60.22 271 P **P** **10 52 43.8 -0.8**
comp=Z,2µmcomp=Z,130nm,1.2s
BSSI Bau Bau, Buton 60.34 275 P **P** **10 52 45.4 0.0**
comp=Z,119nm,1.1s
JCJ Chichijima 60.68 320 IAmb IAmb 10 52 47.7
comp=Z,239nm,1.2s
BKSI Bulukumba 60.97 276 P **P** **10 52 48.9 -0.6**
APSI Ampana 61.20 281 P **P** **10 52 51.5 +0.5**
comp=Z,2µmcomp=Z,221nm,0.8s
BNSI Bone 61.31 277 P **P** **10 52 50.7 -1.1**
comp=Z,2µmcomp=Z,185nm,1.0s
KAPI Kappang 61.43 276 P **P** **10 52 52.3 -0.2**
KAPI Kappang 61.43 276 P **P** **10 52 52.3 -0.2**
KAPI pmax pmax
comp=Z,38nm,1.0s
MRSI Marisa 61.48 282 P **P** **10 52 51.4 -1.4**
comp=Z,103nm,0.8s
GIRL Giralia 61.62 255 IAmb IAmb 10 52 55.5
comp=Z,127nm,0.8s
SPSI Sidrap Palu 61.78 277 P **P** **10 52 53.0 -1.8**
comp=Z,108nm,0.8s
PLAI Plampang 61.99 271 P **P** **10 52 55.5 -0.6**
PLAI Plampang 61.99 271 P **P** **10 52 55.2 -0.9**
comp=Z,4µmcomp=Z,469nm,0.9s
TOLI2 Tolitoli 62.80 283 IAmb IAmb 10 53 01.9
comp=Z,127nm,1.0s
TOLI2 Tolitoli 62.80 283 P **P** **10 53 00.7 -0.6**
TWSI Taliwang, Sumb 62.85 271 P **P** **10 53 01.2 -0.5**
comp=Z,3µmcomp=Z,386nm,0.9s
DNP Denpasar 64.44 270 P **P** **10 53 11.3 -0.4**
SRBI Singaraja 64.62 271 P **P** **10 53 12.1 -0.8**
comp=Z,3µmcomp=Z,247nm,1.0s
JAGI Jajag, Banyuwa 65.49 270 P **P** **10 53 16.7 -1.6**
JAGI Jajag, Banyuwa 65.49 270 P **P** **10 53 16.9 -1.4**
JAGI Jajag, Banyuwa 65.49 270 P **P** **10 53 16.7 -1.6**
comp=Z,2µmcomp=Z,235nm,1.0s
ABJI Asem Bagus 65.64 271 P **P** **10 53 19.2 0.0**
KMMI Kalianget 66.13 271 P **P** **10 53 21.9 -0.4**
comp=Z,187nm,0.8s
BLJI Banyuglugur 66.25 271 P **P** **10 53 22.3 -0.7**
comp=Z,3µmcomp=Z,271nm,0.9s
BBKI Banjar Baru 66.55 275 P **P** **10 53 25.0 +0.1**
comp=Z,150nm,0.6s
MYLDM Lahad Datu 66.55 286 IAmb IAmb 10 53 44.9
comp=Z,82nm,0.9s
MYLDM Lahad Datu 66.55 286 P **P** **10 53 25.0 +0.2**
MTKI Muara Teweh, K 67.42 278 P **P** **10 53 30.3 +0.1**
comp=Z,141nm,0.9s
GRJI Gresik 67.57 271 P **P** **10 53 31.2 +0.1**
comp=Z,486nm,1.1s
PCJI Pacitan 68.37 269 P **P** **10 53 35.7 -0.2**
JSG Sagara 68.56 323 P **P** **10 53 37.1 +0.5**
UGM Wanagama 69.07 269 P **P** **10 53 40.0 -0.2**
UGM Wanagama 69.07 269 P **P** **10 53 39.5 -0.7**
comp=Z,242nm,0.6s
QSPA South Pole Qui 69.28 180 P **P** **10 53 43.7 +3.1**
QSPA South Pole Qui 69.28 180 P **P** **10 53 44.1 +3.5**
comp=Z,45nm,0.8s,baz=334,slow=0.4,SNR=254
QSPA S **S** **11 01 56.3 -2.4**
comp=Z,5.2nm,1.1s,baz=339,slow=3.2,SNR=3.6
comp=Z,45nm,0.8s
YOGI Yogyakarta 69.31 269 P **P** **10 53 41.0 -0.6**
comp=Z,289nm,1.1s
SMRI Semarang 69.43 270 P **P** **10 53 41.9 -0.4**
comp=Z,238nm,1.4s
JMM Marumori 69.54 327 IAmb IAmb 10 53 43.5
comp=Z,88nm,1.0s
JMM Marumori 69.54 327 P **P** **10 53 42.4 0.0**
JOW Kunigami 69.67 311 IAmb IAmb 10 53 45.0
comp=Z,93nm,0.8s
JOW Kunigami 69.67 311 P **P** **10 53 43.9 +0.5**
JGF Kuroka 69.70 323 IAmb IAmb 10 53 44.1
comp=Z,48nm,0.7s
JGF Kuroka 69.70 323 P **P** **10 53 43.0 -0.4**
INU Inuyama 69.71 323 P **P** **10 53 43.2 -0.2**
MJAR Matsushiro Arr 69.92 324 P **P** **10 53 44.1 -0.5**
MJAR IAmb IAmb 10 53 45.3
comp=Z,59nm,0.8s
MJAR Matsushiro Arr 69.92 324 P **P** **10 53 44.2 -0.5**
comp=Z,56nm,0.7s,baz=156,slow=5.8,SNR=178
comp=Z,56nm,0.7s
MAJO Matsushiro 69.92 324 P **P** **10 53 43.8 -0.9**
MAJO IAmb IAmb 10 53 45.3
comp=Z,75nm,0.8s
MAJO Matsushiro 69.92 324 P **P** **10 53 44.3 -0.3**
MAJO Matsushiro 69.92 324 *d i*P **P** **10 53 44.4 -0.3**
MAJO Matsushiro 69.92 324 P **P** **10 53 44.4 -0.3**
MAJO pP **pP** **10 55 49.4 -0.4**
MJB9 Matsu-Tunnel 69.92 324 IAmb IAmb 10 53 46.3
comp=Z,73nm,0.8s
JMN Monobe 70.42 320 IAmb IAmb 10 53 49.5
comp=Z,85nm,0.9s
JMN Monobe 70.42 320 P **P** **10 53 48.4 +0.7**
KPJI Karang Pucung 70.75 269 P **P** **10 53 49.2 -0.8**
comp=Z,2µmcomp=Z,198nm,0.6s
JSD Sado 70.99 325 IAmb IAmb 10 53 52.2
comp=Z,101nm,1.2s
JSD Sado 70.99 325 P **P** **10 53 51.0 +0.1**
SBUM Sibu 71.18 280 IAmb IAmb 10 53 54.4
comp=Z,58nm,0.9s
SBUM Sibu 71.18 280 P **P** **10 53 52.8 +0.3**
ERM Erimo 71.64 331 P **P** **10 53 55.5 +1.0**
ERM Erimo 71.64 331 P **P** **10 53 54.7 +0.2**
ERM Erimo 71.64 331 P **P** **10 53 55.5 +1.0**
ERM pmax pmax
comp=Z,36nm,0.8s
JEM Erimo 71.64 331 P **P** **10 53 54.8 +0.3**
JCJI Jatiwangi 71.65 270 P **P** **10 53 54.8 -0.5**
comp=Z,357nm,0.9s
JTM Tenmabayashi 71.65 329 IAmb IAmb 10 53 56.0
comp=Z,117nm,1.0s
JTM Tenmabayashi 71.65 329 P **P** **10 53 54.8 +0.2**
JNU Nakatsue 71.88 317 IAmb IAmb 10 53 57.3
comp=Z,112nm,1.0s
JNU Nakatsue 71.88 317 P **P** **10 53 56.2 0.0**
BBJI Bungbulang 71.91 269 P **P** **10 53 55.7 -1.2**
LEM Lembang 72.15 269 P **P** **10 53 58.1 -0.3**
comp=Z,3µmcomp=Z,380nm,0.9s
YOJ Yonaguni jima 72.18 306 P **P** **10 53 58.1 +0.1**
KUR Kuril'sk 72.32 336 *i*P **P** **10 53 58.3 -0.1**
ADK Adak 72.38 1 P **P** **10 53 58.1 -0.4**
ADK Adak 72.38 1 P **P** **10 53 58.0 -0.6**
ADK Adak 72.38 1 P **P** **10 53 58.1 -0.4**
ADK pmax pmax
comp=Z,226nm,0.7s
ADK Adak 72.38 1 P **P** **10 53 58.0 -0.6**
CNJI Cibinong 72.44 269 P **P** **10 53 58.6 -1.2**
comp=Z,112nm,1.0s
KSM Kuching 72.57 278 P **P** **10 54 00.8 +0.2**
TWGBT Beinan 72.78 303 P **P** **10 53 59.8 -1.8**

YULB	Yu-li	72.92	304	IAmb	IAmb	10 54 02.0	
	comp=Z,77nm,0.6s						
YULB	Yu-li	72.92	304	P	P	10 54 01.2	-1.1
DBJI	Dramaga	73.05	269	P	P	10 54 03.3	0.0
	comp=Z,312nm,1.0s						
SKJI	Sukabumi	73.08	269	P	P	10 54 02.6	-0.9
	comp=Z,323nm,0.7s						
NACB	Ninganchiao	73.10	305	IAmb	IAmb	10 54 03.6	
	comp=Z,177nm,1.0s						
NACB	Ninganchiao	73.10	305	P	P	10 54 02.7	-0.7
TPUB	Ta-pu	73.39	303	P	P	10 54 03.6	-1.4
TPUB	Ta-pu	73.39	303	P	P	10 54 03.7	-1.4
SSLB	Suanglung	73.39	304	P	P	10 54 04.0	-1.1
TPI	Tanjungpandan	73.51	273	P	P	10 54 06.0	+0.1
	comp=Z,1µmcomp=Z,126nm,0.9s						
YHNB	Yeheng	73.54	305	IAmb	IAmb	10 54 06.9	
	comp=Z,101nm,0.8s						
YHNB	Yeheng	73.54	305	P	P	10 54 05.6	-0.3
JKA	Kamikawa-asahi	73.56	332	IAmb	IAmb	10 54 08.2	
	comp=Z,123nm,0.9s						
TATO	Taipei	73.61	305	P	P	10 54 05.4	-0.9
TATO	Taipei	73.61	305	P	P	10 54 05.8	-0.4
SBJI	Serang	73.77	270	P	P	10 54 06.9	-0.5
	comp=Z,376nm,1.1s						
NIKH	Nikolski High	73.97	6	P	P	10 54 07.3	-0.3
NIKH	Nikolski High	73.97	6	P	P	10 54 07.1	-0.5
	baz=190,SNR=29						
CGJI	Cibinong	74.02	269	P	P	10 54 07.6	-1.2
	comp=Z,3µmcomp=Z,302nm,0.9s						
SKR	Severo-Kuril's	74.48	344	*de*P	P	10 54 10.2	-0.3
BLSI	Bandar Lampung	74.86	270	P	P	10 54 12.1	-1.4
	comp=Z,149nm,0.4s						
UNV	Unalaska Valle	75.09	8	IAmb	IAmb	10 54 13.9	
	comp=Z,104nm,0.7s						
UNV	Unalaska Valle	75.09	8	P	P	10 54 12.7	-1.1
UNV	Unalaska Valle	75.09	8	P	P	10 54 13.1	-0.7
	baz=192,SNR=14						
PPBI	Pangkal Pinang	75.13	273	P	P	10 54 15.4	+0.4
AKUT	Akutan	75.47	8	IAmb	IAmb	10 54 16.8	
	comp=Z,87nm,0.8s						
KASI	Kota Agung	75.50	270	P	P	10 54 15.5	-1.6
	comp=Z,2µmcomp=Z,242nm,0.9s						
YSS	Yuzhno-Sakhali	75.75	334	P	P	10 54 18.5	+0.8
YSS				IAmb	IAmb	10 54 19.2	
	comp=Z,55nm,0.7s						
YSS	Yuzhno-Sakhali	75.75	334	P	P	10 54 18.3	+0.6
YSS	Yuzhno-Sakhali	75.75	334	*ce*P	P	10 54 18.2	+0.6
YSS				*e**PP	pP	10 56 23.9	-1.6
YSS				*e*		10 57 18.6	
YSS				*e*S	S	11 03 09.7	-0.4
YSS				*e*SS	SS	11 08 26.8	+5.7
YSS				pmax	pmax		
	comp=Z,200nm,2.0s						
YSS				pmax	pmax		
	comp=N,100nm,2.4s						
YSS				smax	smax		
	comp=N,200nm,5.7s						
YSS	Yuzhno-Sakhali	75.75	334	P	P	10 54 18.4	+0.8
YSS				sP	sP	10 57 30.5	+2.2
QZH	Quanzhou	75.83	304	P	P	10 54 18.9	+0.3
QZH				pmax	pmax		
	comp=N,140nm,0.8s						
PET	Petropavlovsk	76.03	346	P	P	10 54 18.5	-0.5
PET				IAmb	IAmb	10 54 19.1	
	comp=Z,45nm,0.7s						
PET	Petropavlovsk	76.03	346	P	P	10 54 18.2	-0.7
PET	Petropavlovsk	76.03	346	*e*P	P	10 54 18.3	-0.7
PET				*e*		10 57 29.2	
PET				*e*S	S	11 03 12.4	-0.3
PET				*e*SP	SPn	11 03 54.2	-1.3
PET				pmax	pmax		
	comp=Z,76nm,0.7s						
PET				pmax	pmax		
	comp=Z,200nm,6.1s						
PET				pmax	pmax		
	comp=Z,100nm,9.2s						
PET				pmax	pmax		
	comp=Z,100nm,12.4s						
LWLI	Liwa	76.09	270	P	P	10 54 19.2	-1.2
MDSI	Maura Dua	76.16	270	P	P	10 54 19.0	-1.7
	comp=Z,2µmcomp=Z,214nm,1.0s						
TJN	Taejon	76.18	318	IAmb	IAmb	10 54 23.0	
	comp=Z,103nm,0.9s						
TJN	Taejon	76.18	318	P	P	10 54 20.2	0.0
TJN	Taejon	76.18	318⇑	*e*P	P	10 54 20.5	+0.3
PEA0B	Petropavlovsk-	76.32	346	IAmb	IAmb	10 54 21.7	
	comp=Z,123nm,0.8s						
PEA0B	Petropavlovsk-	76.32	346	*d i*P	P	10 54 20.6	0.0
PETK	Petropavlovsk-	76.32	346	P	P	10 54 19.9	-0.7
PETK	Petropavlovsk-	76.32	346	P	P	10 54 19.7	-1.0
	comp=Z,86nm,0.7s,baz=132,slow=4.8,SNR=232						
PETK				PKiKP	PKiKP	10 59 57.2	-1.0
	comp=Z,2.4nm,0.7s,baz=129,slow=4.2,SNR=5.9						
	comp=Z,86nm,0.7s						
FALS	False Pass	76.50	9	P	P	10 54 21.0	-0.5
FALS	False Pass	76.50	9	P	P	10 54 20.7	-0.8
	baz=195						
KSRS	Korea Array	76.51	319	P	P	10 54 22.8	+0.7
	comp=Z,19nm,0.8s,baz=133,slow=6.1,SNR=79						
	comp=Z,19nm,0.8s						
KSAR	Wonju Array Be	76.53	319	P	P	10 54 22.8	+0.6
KSAR	Wonju Array Be	76.53	319	P	P	10 54 22.8	+0.6
LHSI	Lahat	77.00	271	P	P	10 54 24.4	-0.8
	comp=Z,2µmcomp=Z,119nm,1.1s						
TEY	Ternei	77.00	329	*e*P	P	10 54 23.2	-1.3
CNBA	Chernabura Isl	77.10	11	IAmb	IAmb	10 54 25.6	
	comp=Z,181nm,1.3s						
CHNA	Chernabura Isl	77.11	11	P	P	10 54 24.7	-0.1
CHNA	Chernabura Isl	77.11	11	P	P	10 54 24.4	-0.5
	baz=199						
DSRI	Dabo	77.19	274	P	P	10 54 26.5	+0.2
	comp=Z,164nm,1.0s						
INCN	Inchon	77.33	318	P	P	10 54 26.9	+0.4
INCN				IAmb	IAmb	10 54 28.2	
	comp=Z,92nm,1.1s						
INCN	Inchon	77.33	318	P	P	10 54 27.3	+0.8
INCN	Inchon	77.33	318	P	P	10 54 26.9	+0.4
INCN				pmax	pmax		
	comp=Z,92nm,1.2s						
MNAI	Manna	77.34	270	P	P	10 54 26.7	-0.4
MNAI	Manna	77.34	270	P	P	10 54 27.2	+0.1
MNAI	Manna	77.34	270	P	P	10 54 27.0	-0.1
SDPT	Sand Point	77.45	11	P	P	10 54 26.1	-0.5
SDPT	Sand Point	77.45	11	P	P	10 54 26.2	-0.5
	baz=198,SNR=9.3						
P08K	Saint George I	77.49	5	IAmb	IAmb	10 54 27.6	
	comp=Z,141nm,0.9s						
P08K	Saint George I	77.49	5	P	P	10 54 26.5	-0.3
	baz=189						
S12K	Black Hills	77.52	10	P	P	10 54 26.7	-0.4
	baz=196,SNR=6.5						
TPRI	Tanjung Pinang	77.74	276	P	P	10 54 29.5	+0.3
KSI	Kapahiang	77.93	271	P	P	10 54 29.8	-0.5
SPIA	Saint Paul Isl	78.00	5	P	P	10 54 29.5	-0.1
SPIA	Saint Paul Isl	78.00	5	P	P	10 54 29.8	+0.2
	baz=188,SNR=7.7						
VLA	Vladivostok	78.01	326⇑	*e*P	P	10 54 30.8	+0.8
VLA				pmax	pmax		
	comp=Z,87nm,1.0s						
MSHR	Mys Shultsa	78.03	325	*d i*P	P	10 54 31.0	+0.9
MSHR				pmax	pmax		
	comp=Z,83nm,0.8s						
HKPS	Hong Kong Po S	78.06	299	IAmb	IAmb	10 54 33.0	
	comp=Z,131nm,0.8s						
HKPS	Hong Kong Po S	78.06	299	P	P	10 54 31.8	+1.1
PSTR	Posyet	78.27	325⇓	*i*P	P	10 54 32.1	+0.7
DLV	Lat	78.36	288	IAmb	IAmb	10 54 34.7	
	comp=Z,89nm,0.9s						
DLV	Lat	78.36	288	P	P	10 54 33.5	+0.8
FARB	Farallon Islan	78.42	42	IAmb	IAmb	10 54 34.4	
	comp=Z,92nm,0.7s						
MASI	Maura Aman, Be	78.43	271	P	P	10 54 32.1	-0.9
HULI	Fort Hunter Li	78.54	44	IAmb	IAmb	10 54 36.1	
	comp=Z,71nm,0.8s						
BTDF	Bukit Timah Da	78.60	276	P	P	10 54 34.2	+0.4
SMAI	San Martin Ant	78.66	159	IAmb	IAmb	10 54 36.1	
	comp=Z,96nm,0.8s						
MYKOM	Kota Tinggi	78.68	276	IAmb	IAmb	10 54 35.8	
	comp=Z,155nm,0.8s						
MYKOM	Kota Tinggi	78.68	276	P	P	10 54 34.5	+0.2
USRK	Ussuriysk Ar.	78.70	326	P	P	10 54 35.0	+1.3
	comp=Z,93nm,0.8s,baz=138,slow=3.0,SNR=95						
	comp=Z,93nm,0.8s						
USRK	Ussuriysk Ar.	78.70	326	P	P	10 54 35.0	+1.3
JRSC	Jasper Ridge	78.72	43	IAmb	IAmb	10 54 36.6	
	comp=Z,75nm,0.9s						
CHIR	Chirikof Islan	78.83	13	P	P	10 54 34.3	+0.3
CHIR	Chirikof Islan	78.83	13	P	P	10 54 34.1	+0.1
	baz=202						
SAO	San Andreas Ge	78.84	44	IAmb	IAmb	10 54 37.4	
	comp=Z,74nm,0.9s						
TYV	Tymovskoe	78.94	336	*e*P	P	10 54 35.3	+0.6
TYV				*e*S	S	11 03 35.6	-7.7
TYV				pmax	pmax		
	comp=Z,115nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				smax	smax		
	comp=N,300nm,12.0s						
TYV				smax	smax		
	comp=E,1µm,12.0s						
PMPB	Monarch Peak	78.94	44	IAmb	IAmb	10 54 38.2	
	comp=Z,98nm,1.2s						
BBGB	Big Mountain B	79.00	44	IAmb	IAmb	10 54 38.9	
	comp=Z,134nm,1.3s						
MHC	Mount Hamilton	79.06	43	IAmb	IAmb	10 54 38.8	
	comp=Z,66nm,0.8s						
CVS	Carmenet Viney	79.15	42	IAmb	IAmb	10 54 38.7	
	comp=Z,140nm,1.0s						
HOPS	Hopland Field	79.17	41	IAmb	IAmb	10 54 39.0	
	comp=Z,132nm,0.9s						
KCPM	Cahto Peak	79.28	40	P	P	10 54 38.7	+1.7
KCPM				IAmb	IAmb	10 54 39.9	
	comp=Z,111nm,0.9s						
NJ2	Nanjing	79.38	310⇓	*i*P	P	10 54 38.4	+0.9
NJ2				S	S	11 03 44.0	-4.6
NJ2				pmax	pmax		
	comp=Z,68nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,240nm,10.7s						
BELA	Belgrano 2	79.39	173	P	P	10 54 37.2	+0.3
KMPM	Mount Pierce	79.42	39	IAmb	IAmb	10 54 40.8	
	comp=Z,209nm,1.0s						
MNRC	McLaughlin Min	79.48	41	IAmb	IAmb	10 54 41.2	
	comp=Z,162nm,1.0s						
KRJI	Kerinci	79.53	272	P	P	10 54 37.9	-1.0
CBX	Cerro Bola	79.58	50	IAmb	IAmb	10 54 41.3	
	comp=Z,153nm,1.5s						
JCC	Jacoby Creek,	79.72	39	IAmb	IAmb	10 54 42.1	
	comp=Z,171nm,1.5s						
SII	Sitkinak Islan	79.83	14	P	P	10 54 39.4	+0.1
SII	Sitkinak Islan	79.83	14	P	P	10 54 39.7	+0.4
	baz=204						
VES	Vestal, Richgr	79.86	46	IAmb	IAmb	10 54 42.1	
	comp=Z,92nm,0.9s						
TPO	Tropico Hills	79.90	47	IAmb	IAmb	10 54 42.9	
	comp=Z,92nm,1.1s						
KHMM	Horse Mountain	79.93	39	IAmb	IAmb	10 54 43.5	
	comp=Z,93nm,1.0s						
KRPM	Rodgers	79.94	39	IAmb	IAmb	10 54 43.7	
	comp=Z,129nm,1.1s						
O02D	Mt. Diablo Mer	80.06	40	IAmb	IAmb	10 54 44.3	
	comp=Z,161nm,1.1s						
R16K	Pilot Point	80.07	12	P	P	10 54 40.6	+0.1
	baz=200						
SUTB	Sutter Butte	80.10	41	IAmb	IAmb	10 54 43.3	
	comp=Z,182nm,1.5s						
KRMB	Red Mountain	80.23	39	IAmb	IAmb	10 54 45.2	
	comp=Z,135nm,1.2s						
MDJ	Mudanjiang	80.24	325	P	P	10 54 42.6	+0.9
MDJ				S	SKSac	11 04 01.1	+0.5
MDJ				pmax	pmax		
	comp=Z,130nm,0.9s						
MDJ	Mudanjiang	80.24	325	IAmb	IAmb	10 54 43.7	
	comp=Z,97nm,0.9s						
MDJ	Mudanjiang	80.24	325	P	P	10 54 42.5	+0.9
MDJ	Mudanjiang	80.24	325	P	P	10 54 42.6	+0.9
CMB	Columbia Colle	80.27	43	IAmb	IAmb	10 54 44.5	
	comp=Z,106nm,1.3s						
R17L	Mt. Peulik Vol	80.37	12	P	P	10 54 42.4	+0.3
	baz=201,SNR=36						
SLBS	Sierra La Lagu	80.42	60	P	P	10 54 45.0	+1.8
PFO	Pinyon Flats O	80.43	49	P	P	10 54 44.2	+1.1
PFO	Pinyon Flats O	80.43	49	*d i*P	P	10 54 44.3	+1.2
PFO				pmax	pmax		
	comp=Z,44nm,1.0s						
KSXB	Camp Six Broad	80.44	38	IAmb	IAmb	10 54 46.0	
	comp=Z,111nm,1.1s						
ORV	Oroville	80.47	41	IAmb	IAmb	10 54 45.5	
	comp=Z,77nm,1.0s						
KBO	Bosley Butte	80.48	38	IAmb	IAmb	10 54 46.4	
	comp=Z,90nm,1.1s						
N02D	Trinity Center	80.60	40	IAmb	IAmb	10 54 47.0	
	comp=Z,139nm,1.1s						
OHAK	Old Harbor	80.63	14	P	P	10 54 43.6	+0.3
OHAK	Old Harbor	80.63	14	P	P	10 54 43.7	+0.3
	baz=204						
O03E	Paynes Creek	80.73	41	IAmb	IAmb	10 54 47.6	
	comp=Z,200nm,1.1s						
M02C	Callahan	80.77	39	IAmb	IAmb	10 54 47.9	
	comp=Z,141nm,0.9s						
WSHM	Spangler Hills	80.80	46	IAmb	IAmb	10 54 47.3	
	comp=Z,66nm,1.0s						
L02F	Cave Junction	80.81	38	IAmb	IAmb	10 54 47.8	
	comp=Z,99nm,1.3s						
CCCA	Chr Cany lake	80.84	47	IAmb	IAmb	10 54 47.8	
	comp=Z,97nm,1.0s						
CLC	China Lake	80.85	46	IAmb	IAmb	10 54 47.6	
	comp=Z,87nm,1.0s						
PDSI	Padang	80.88	272	P	P	10 54 44.0	-1.8
	comp=Z,108nm,0.9s						
MDPB	Devils Postpil	80.89	44	IAmb	IAmb	10 54 48.1	
	comp=Z,80nm,1.0s						
MAW	Mawson	81.00	200	P	P	10 54 46.0	+0.7
	comp=Z,9.6nm,0.7s,baz=134,slow=6.4,SNR=25						
MAW				pP	pwP	10 56 56.9	-1.1
	comp=Z,21nm,1.1s,baz=125,slow=7.2,SNR=10						
	comp=Z,9.6nm,0.7s						
Q17K	Contact Creek	81.05	12	P	P	10 54 45.6	-0.1
	baz=202,SNR=72						
O14K	Tigyukauivet M	81.06	9	P	P	10 54 45.5	0.0
	baz=197						
YBH	Yreka Blue Hor	81.07	39	IAmb	IAmb	10 54 49.1	
	comp=Z,108nm,0.9s						
PPI	Padang Panjang	81.10	273	P	P	10 54 45.7	-1.1
ACHA	Angle Creek He	81.11	12	IAmb	IAmb	10 54 48.1	
	comp=Z,110nm,1.6s						
K02D	Willamette Mer	81.11	38	IAmb	IAmb	10 54 49.2	
	comp=Z,65nm,1.0s						
TIN	Tinemaha, Big	81.11	45	IAmb	IAmb	10 54 49.1	
	comp=Z,131nm,0.8s						
WAKR	Walker	81.16	43	IAmb	IAmb	10 54 49.7	
	comp=Z,139nm,1.2s						
BC3	Big Chuckawall	81.16	49	IAmb	IAmb	10 54 49.8	
	comp=Z,194nm,1.9s						
O15K	Ungalikthiuk R	81.21	10	P	P	10 54 46.2	-0.2
	baz=198						
GLA	Glamis	81.29	50	IAmb	IAmb	10 54 50.5	
	comp=Z,91nm,0.9s						
Q16K	King Salmon	81.29	12	P	P	10 54 46.8	+0.1
	baz=201,SNR=30						
KDAK	Kodiak Island	81.30	14	P	P	10 54 47.1	+0.3
KDAK				IAmb	IAmb	10 54 48.3	
	comp=Z,282nm,1.8s						
KDAK	Kodiak Island	81.30	14	*d i*P	P	10 54 47.1	+0.3
KDAK				pmax	pmax		
	comp=Z,169nm,1.6s						
KDAK	Kodiak Island	81.30	14	P	P	10 54 47.2	+0.4
	baz=205						
KDAK	Kodiak Island	81.30	14	P	P	10 54 47.0	+0.3
KDAK				pP	pP	10 56 59.5	+2.4
DL2	Dalian	81.33	317	P	P	10 54 47.8	+0.4
DL2				sP	PP	10 58 05.3	-0.3
DL2				S	SKSac	11 04 11.0	+3.0
DL2				pmax	pmax		
	comp=Z,60nm,1.0s						
DL2				pmax	pmax		
	comp=Z,350nm,4.1s						
GRNR	Gornyy	81.35	333⇓	*i*P	P	10 54 48.2	+0.9
GRNR				pmax	pmax		
	comp=Z,60nm,1.0s						
BEKR	Beckworth	81.37	42	IAmb	IAmb	10 54 50.3	
	comp=Z,78nm,1.1s						
P16K	Nushagak River	81.38	11	P	P	10 54 47.1	-0.1
	baz=200						
DSP	Deep Springs	81.46	45	IAmb	IAmb	10 54 50.8	
	comp=Z,64nm,1.0s						
PIX	Pinacate	81.51	52	IAmb	IAmb	10 54 51.1	
	comp=Z,59nm,0.9s						
M11K	Mekoryuk	81.54	6	IAmb	IAmb	10 54 50.4	
	comp=Z,146nm,0.8s						
M11K	Mekoryuk	81.54	6	P	P	10 54 49.2	+1.3
	baz=192,SNR=10						
Q18K	Katmai Hardscr	81.58	12	P	P	10 54 48.4	0.0
	baz=203,SNR=70						
LHV	Little Huntoon	81.61	44	IAmb	IAmb	10 54 51.8	
	comp=Z,94nm,1.0s						
IRM	Iron Mountain	81.64	49	IAmb	IAmb	10 54 52.2	
	comp=Z,107nm,1.4s						
N14K	Kuskokwak Cree	81.64	9	P	P	10 54 49.1	+0.7
	baz=196,SNR=17						
GRAC	Grapevine Rang	81.66	45	IAmb	IAmb	10 54 51.9	
	comp=Z,249nm,1.6s						
FURC	Furnace Creek,	81.70	46	IAmb	IAmb	10 54 51.7	
	comp=Z,55nm,0.8s						
DANC	Danby, Needles	81.73	48	IAmb	IAmb	10 54 52.4	
	comp=Z,103nm,1.0s						
P17K	Kvichak River	81.81	11	P	P	10 54 49.3	0.0
	baz=201						
RYN	Ryan	81.81	43	IAmb	IAmb	10 54 52.6	
	comp=Z,92nm,1.4s						
NVAR	Mina Array Bea	81.84	44	P	P	10 54 51.6	+1.3
	comp=Z,49nm,0.8s,baz=224,slow=8.4,SNR=228						
NVAR				pP	pP	10 57 01.0	+0.6
	comp=Z,2.6nm,0.9s,baz=232,slow=3.5,SNR=2.8						
NVAR				PKKPbc	PKKPbc	11 13 17.5	+0.5
	comp=Z,1.5nm,0.7s,baz=77,slow=2.2,SNR=11						
	comp=Z,49nm,0.8s						
SNY	Shenyang	81.86	320	⇓P	P	10 54 50.0	0.0
SNY				pmax	pmax		
	comp=Z,56nm,0.7s						
SNY				pmax	pmax		
	comp=Z,82nm,2.6s						
PAHR	Pah Rah Range	81.88	42	IAmb	IAmb	10 54 52.9	
	comp=Z,92nm,0.9s						
O16K	Kokwok River B	81.89	11	IAmb	IAmb	10 54 50.1	
	comp=Z,104nm,0.8s						
O16K	Kokwok River B	81.89	11	P	P	10 54 49.1	-0.6
	baz=200,SNR=21						
M13K	Dall Lake	81.89	8	IAmb	IAmb	10 54 52.0	
	comp=Z,88nm,0.9s						
M13K	Dall Lake	81.89	8	P	P	10 54 50.9	+1.2
	baz=195,SNR=6.2						
WHN	Wuhan	81.90	307	⇓P	P	10 54 51.1	+0.6
WHN				pmax	pmax		
	comp=Z,320nm,1.4s						
I03D	Drain, OR	81.92	37	IAmb	IAmb	10 54 53.0	
	comp=Z,167nm,1.3s						
NV11	Mina Array Sit	81.94	44	IAmb	IAmb	10 54 53.2	
	comp=Z,111nm,1.2s						
CN2	Changchun	81.98	323	P	P	10 54 50.8	+0.2
CN2				S	S	11 04 15.5	+1.1
CN2				pmax	pmax		
	comp=Z,90nm,1.2s						
SISI	Saibi	82.01	272	P	P	10 54 50.8	-0.7
	comp=Z,118nm,0.7s						
Q20K	Shuyak Island	82.10	14	P	P	10 54 51.2	+0.4
	baz=205,SNR=14						
SYI	Shuyak Island	82.10	14	IAmb	IAmb	10 54 52.2	
	comp=Z,101nm,1.0s						
N15K	Kwethluk River	82.11	9	P	P	10 54 51.7	+0.8
	baz=198,SNR=37						
BNX	BinXian	82.15	325	⇓P	P	10 54 51.0	-0.4
BNX				S	S	11 04 18.8	+2.9
BNX				pmax	pmax		
	comp=Z,150nm,0.8s						
BNX				pmax	pmax		
	comp=Z,400nm,2.9s						
K04D	Chiloquin, OR	82.17	39	IAmb	IAmb	10 54 54.4	
	comp=Z,130nm,0.9s						
P18K	Big Mountain,	82.23	12	IAmb	IAmb	10 54 52.1	
	comp=Z,86nm,0.8s						
P18K	Big Mountain,	82.23	12	P	P	10 54 51.1	-0.5
	baz=202,SNR=22						
O17K	Koliganek Bris	82.23	11	P	P	10 54 51.1	-0.3
	baz=201,SNR=20						
IPM	Ipoh	82.29	278	P	P	10 54 53.3	+0.4
MNSI	Mandailing Nat	82.31	274	P	P	10 54 51.2	-1.8
	comp=Z,224nm,0.8s						
NEE2	Needles Airpor	82.33	48	IAmb	IAmb	10 54 55.5	
	comp=Z,165nm,1.4s						
TPH	Tonopah	82.35	45	IAmb	IAmb	10 54 55.2	
	comp=Z,88nm,0.9s						
TPNV	Topopah Spring	82.38	46	IAmb	IAmb	10 54 55.4	
	comp=Z,70nm,0.8s						
M14K	Bethel	82.40	8	IAmb	IAmb	10 54 54.1	
	comp=Z,109nm,0.8s						
M14K	Bethel	82.40	8	P	P	10 54 53.1	+0.8
	baz=196,SNR=18						
I04A	Tendick Farm,	82.51	38	IAmb	IAmb	10 54 55.5	
	comp=Z,70nm,0.9s						
GULI	GuiLin	82.51	300	*i* P	P	10 54 57.1	+3.4
GULI				S	S	11 04 22.6	+2.2
GULI				pmax	pmax		
	comp=Z,97nm,1.2s						
GULI				pmax	pmax		
	comp=Z,240nm,4.2s						
M15K	Kasigluk River	82.53	9	P	P	10 54 53.8	+0.9
	baz=197,SNR=29						
N16K	Nishlik Lake	82.61	10	P	P	10 54 54.4	+1.0
	baz=199,SNR=48						
O18K	Koktuh Hills	82.66	12	P	P	10 54 53.5	-0.1
	baz=202,SNR=70						
H04D	Lebanon	82.78	37	IAmb	IAmb	10 54 57.4	
	comp=Z,119nm,1.0s						
Q09A	Carvers	82.80	44	IAmb	IAmb	10 54 57.4	
	comp=Z,103nm,0.9s						
TIA	Tai'an	82.81	313	P	P	10 54 55.4	+0.4
TIA				PcP	PcP	10 55 03.8	+5.7
TIA				pP	pP	10 57 11.0	+5.2
TIA				S	S	11 04 29.4	+6.4
TIA				pmax	pmax		
	comp=Z,67nm,1.3s						
TIA				pmax	pmax		
	comp=Z,370nm,5.1s						
P19K	Oil Pt	82.87	13	IAmb	IAmb	10 54 55.6	
	comp=Z,110nm,0.8s						
P19K	Oil Pt	82.87	13	P	P	10 54 54.7	0.0
	baz=204,SNR=24						
L14K	Kuka Creek	82.88	8	IAmb	IAmb	10 54 56.4	
	comp=Z,104nm,0.9s						
L14K	Kuka Creek	82.88	8	P	P	10 54 55.3	+0.6
	baz=195,SNR=24						
N17K	Nushagak Hills	82.93	11	P	P	10 54 55.0	0.0
	baz=200,SNR=6.4						
KULM	Kulim	82.93	278	IAmb	IAmb	10 54 57.8	
	comp=Z,100nm,0.9s						
KULM	Kulim	82.93	278	P	P	10 54 56.8	+0.7
WIFE	Three Sisters-	83.01	38	IAmb	IAmb	10 54 58.6	
	comp=Z,108nm,0.9s						
M16K	Timber Creek	83.10	10	P	P	10 54 57.0	+1.2
	baz=199,SNR=38						
O19K	Port Alsworth	83.15	12	P	P	10 54 55.9	-0.1
	baz=203,SNR=86						
CNPM	China Poot	83.18	14	IAmb	IAmb	10 54 57.5	
	comp=Z,103nm,0.8s						
H04A	Detroit Lake	83.19	37	IAmb	IAmb	10 54 58.7	
	comp=Z,85nm,1.0s						
HOM	Homer	83.21	14	P	P	10 54 56.8	+0.4

MA2	Magadan	83.82	345	*d*	iP	P	10 54 58.8	-0.6
MA2					pmax	pmax		
	comp=Z,66nm,0.9s							
MA2	Magadan	83.82	345		P	P	10 54 58.7	-0.6
WISH	Wishkah	83.84	34		IAmb	IAmb	10 55 02.7	
	comp=Z,110nm,0.9s							
TUC	Tucson	83.85	52		P	P	10 55 02.3	+1.9
TUC					IAmb	IAmb	10 55 03.6	
	comp=Z,49nm,0.9s							
TUC	Tucson	83.85	52		P	P	10 55 02.3	+1.9
TUC					pmax	pmax		
	comp=Z,49nm,0.9s							
HOOD	Mount Hood Mea	83.88	37		IAmb	IAmb	10 55 02.4	
	comp=Z,55nm,1.0s							
WVOR	Wild Horse Val	83.92	40		IAmb	IAmb	10 55 03.1	
	comp=Z,77nm,1.0s							
DIB	Dawson Inlet,	83.92	26		P	P	10 55 01.3	+1.3
DIB					IAmb	IAmb	10 55 02.5	
	comp=Z,175nm,1.4s							
K15K	Wolf Creek Mou	83.95	8		IAmb	IAmb	10 55 02.9	
	comp=Z,156nm,1.2s							
K15K	Wolf Creek Mou	83.95	8		P	P	10 55 00.9	+1.0
	baz=196,SNR=26							
NLWA	Neilton Lookou	83.97	34		IAmb	IAmb	10 55 03.1	
	comp=Z,96nm,0.9s							
M18K	Stony River	84.07	11		P	P	10 55 01.0	+0.4
	baz=202,SNR=21							
SEW	Seward	84.11	14		IAmb	IAmb	10 55 01.6	
	comp=Z,83nm,0.9s							
SEW	Seward	84.11	14		P	P	10 55 00.4	-0.3
	baz=208,SNR=16							
J14K	Nanvaranak Lak	84.14	7		IAmb	IAmb	10 55 02.5	
	comp=Z,85nm,1.6s							
J14K	Nanvaranak Lak	84.14	7		P	P	10 55 01.2	+0.4
	baz=194							
L17K	Donlin	84.26	10		P	P	10 55 02.5	+1.0
	baz=199,SNR=13							
Q23K	Middleton Isla	84.28	16		P	P	10 55 01.0	-0.6
	baz=210							
CAPN	Captain Cook N	84.32	13		P	P	10 55 02.1	+0.3
	baz=206							
GSI	Gunungsitoli	84.36	274		P	P	10 55 04.1	+1.0
GSI	Gunungsitoli	84.36	274		P	P	10 55 03.7	+0.6
I07A	Izee	84.36	39		IAmb	IAmb	10 55 05.2	
	comp=Z,63nm,1.0s							
O22K	Cooper Landing	84.38	14		P	P	10 55 02.0	-0.1
	baz=207,SNR=14							
G06A	Carlson Farm,	84.40	37		IAmb	IAmb	10 55 05.0	
	comp=Z,70nm,1.2s							
GAMB	Gambell	84.47	3		P	P	10 55 02.9	+0.5
	baz=187							
N20K	Mount Spurr	84.49	13		P	P	10 55 01.8	-0.9
	baz=205							
SPCR	Spurr Chakacha	84.49	13		P	P	10 55 01.9	-0.8
	baz=205,SNR=14							
P23K	Montague Islan	84.50	15		IAmb	IAmb	10 55 03.7	
	comp=Z,112nm,1.1s							
P23K	Montague Islan	84.50	15		P	P	10 55 02.7	0.0
	baz=210							
319A	Douglas	84.53	54		IAmb	IAmb	10 55 07.0	
	comp=Z,118nm,1.0s							
J08A	Circle Bar Ran	84.55	40		IAmb	IAmb	10 55 06.1	
	comp=Z,129nm,1.3s							
B04A	Port Angeles	84.58	34		IAmb	IAmb	10 55 06.0	
	comp=Z,78nm,1.1s							
L18K	Granite Mounta	84.60	10		IAmb	IAmb	10 55 05.0	
	comp=Z,55nm,0.9s							
L18K	Granite Mounta	84.60	10		P	P	10 55 03.8	+0.7
	baz=201,SNR=20							
GNW	Green Mountain	84.63	34		IAmb	IAmb	10 55 06.0	
	comp=Z,65nm,0.8s							
LON	Longmire	84.66	35		IAmb	IAmb	10 55 05.8	
	comp=Z,113nm,1.8s							
M19K	Big River Lodg	84.71	11		IAmb	IAmb	10 55 04.4	
	comp=Z,45nm,0.8s							
M19K	Big River Lodg	84.71	11		P	P	10 55 03.5	-0.3
	baz=203							
CLRS	Cowichan Lake	84.75	33		IAmb	IAmb	10 55 06.4	
	comp=Z,65nm,1.0s							
K17K	Iditarod	84.81	9		P	P	10 55 04.5	+0.4
	baz=199,SNR=9.4							
STLK	Strandline Lak	84.84	13		IAmb	IAmb	10 55 04.3	
	comp=Z,46nm,0.8s							
L19K	White Mountain	84.88	11		IAmb	IAmb	10 55 06.0	
	comp=Z,124nm,1.1s							
L19K	White Mountain	84.88	11		P	P	10 55 04.9	+0.3
	baz=203,SNR=36							
CBB	Campbell River	84.92	31		IAmb	IAmb	10 55 07.4	
	comp=Z,105nm,1.2s							
RC01	Rabbit Creek A	84.92	14		P	P	10 55 04.7	-0.1
	baz=207,SNR=8.9							
KCSI	Kotacane, Aceh	84.96	276		P	P	10 55 05.2	-0.9
	comp=Z,1µmcomp=Z,1µmcomp=Z,44nm,0.8s							
PGC	Sidney	84.98	33		IAmb	IAmb	10 55 07.5	
	comp=Z,64nm,0.9s							
J16K	Anvik River	85.02	8		IAmb	IAmb	10 55 06.8	
	comp=Z,72nm,1.4s							
J16K	Anvik River	85.02	8		P	P	10 55 05.7	+0.5
	baz=197,SNR=8.5							
SUA	Susitna One	85.03	13		P	P	10 55 05.0	-0.4
SUA					IAmb	IAmb	10 55 06.0	
	comp=Z,93nm,0.7s							
SUA	Susitna One	85.03	13		P	P	10 55 04.8	-0.6
	baz=206							
PWL	Port Wells	85.04	14		IAmb	IAmb	10 55 06.1	
	comp=Z,136nm,1.0s							
PWL	Port Wells	85.04	14		P	P	10 55 05.1	-0.2
	baz=209,SNR=18							
HNS	HongShan	85.09	313	⇓	P	P	10 55 06.8	+0.7
HNS					S	S	11 04 51.9	+7.0
HNS					pmax	pmax		
	comp=Z,86nm,1.1s							
HEH	HeiHe	85.09	329	*e*	P	P	10 55 06.0	+0.2
HEH					pP	pwP	10 57 21.0	+0.6
HEH					S	S	11 04 48.3	+4.0
HEH					pmax	pmax		
	comp=Z,110nm,0.6s							
F07A	Phinny Hill Vi	85.19	37		IAmb	IAmb	10 55 08.8	
	comp=Z,47nm,0.9s							
KAIM	Kayak Island	85.21	17		P	P	10 55 06.8	+0.7
	baz=212							
LYN	LuoYang	85.25	310	⇓	P	P	10 55 07.8	+0.9
LYN					S	S	11 04 49.3	+2.7
LYN					pmax	pmax		
	comp=Z,200nm,0.9s							
LYN					pmax	pmax		
	comp=Z,480nm,4.9s							
CRAG	Craig	85.34	24		IAmb	IAmb	10 55 09.2	
	comp=Z,58nm,0.9s							
CRAG	Craig	85.34	24		P	P	10 55 08.1	+1.3
CRAG	Craig	85.34	24		P	P	10 55 08.3	+1.5
	baz=222,SNR=7.3							
SKT	Skwentna	85.34	13		P	P	10 55 05.4	-1.3
	baz=206,SNR=13							
J17K	VABM Dome	85.34	9		P	P	10 55 07.1	+0.4
	baz=199							
GLI	Glacier Island	85.35	15		P	P	10 55 06.6	-0.2
	baz=210,SNR=11							
G08A	Pilot Rock	85.38	38		IAmb	IAmb	10 55 09.9	
	comp=Z,105nm,1.0s							
FID	Port Fidalgo	85.39	15		IAmb	IAmb	10 55 07.8	
	comp=Z,97nm,1.0s							
MXC	Moxie City	85.39	36		IAmb	IAmb	10 55 09.7	
	comp=Z,56nm,0.9s							
M22K	Willow	85.43	13		P	P	10 55 06.8	-0.3
	baz=207,SNR=26							
BJT	Baijiatuau	85.46	316		IAmb	IAmb	10 55 08.9	
	comp=Z,38nm,0.7s							
BJT	Baijiatuau	85.46	316		P	P	10 55 08.3	+0.5
BJT	Baijiatuau	85.46	316		P	P	10 55 08.2	+0.4
BJT					pP	pwP	10 57 21.8	-1.0
ENH	Enshi	85.47	305		P	P	10 55 08.7	+0.6
BJI	Beijing	85.47	316		P	P	10 55 08.4	+0.6
BJI					PcP	PcP	10 55 11.0	+1.3
BJI					S	S	11 04 50.8	+2.4
BJI					pmax	pmax		
	comp=Z,27nm,0.7s							
KNK	Knik Glacier	85.50	14		IAmb	IAmb	10 55 08.5	
	comp=Z,79nm,0.8s							
KNK	Knik Glacier	85.50	14		P	P	10 55 07.5	0.0
	baz=208,SNR=26							
PMR	Palmer	85.50	14		P	P	10 55 07.2	-0.2
PMR	Palmer	85.50	14		P	P	10 55 07.3	-0.2
PMR	Palmer	85.50	14		P	P	10 55 07.2	-0.2
PMR					pmax	pmax		
	comp=Z,202nm,1.5s							
PMR	Palmer	85.50	14		P	P	10 55 07.3	-0.2
	baz=208,SNR=26							
I17K	Unalakleet	85.59	8		P	P	10 55 07.9	+0.1
	baz=197							
LTY	Liberty	85.59	36		IAmb	IAmb	10 55 09.8	
	comp=Z,40nm,0.8s							
HMT	Hamilton	85.60	16		IAmb	IAmb	10 55 09.4	
	comp=Z,98nm,1.0s							
E07A	Sunnyside	85.62	36		IAmb	IAmb	10 55 11.0	
	comp=Z,106nm,1.0s							
HAWA	Hanford	85.70	37		IAmb	IAmb	10 55 11.3	
	comp=Z,105nm,0.9s							
ANM	Nome	85.72	6		P	P	10 55 08.6	+0.2
	baz=193							
SIT	Sitka	85.72	22		P	P	10 55 09.2	+0.6
SIT	Sitka	85.72	22		P	P	10 55 09.4	+0.8
	baz=220							
J18K	Innoko River	85.77	10		IAmb	IAmb	10 55 10.0	
	comp=Z,67nm,0.9s							
J18K	Innoko River	85.77	10		P	P	10 55 08.8	+0.1
	baz=201,SNR=39							
SML	Sawmill	85.87	14		P	P	10 55 09.1	-0.3
SML	Sawmill	85.87	14		P	P	10 55 09.0	-0.3
	baz=209,SNR=7.3							
CUT	Chulitna	85.98	13		P	P	10 55 09.4	-0.3
	baz=207,SNR=8.8							
M23K	Glacier View	86.00	14		P	P	10 55 09.8	-0.1
	baz=209,SNR=16							
GYA	Guiyang	86.02	300	⇓	P	P	10 55 11.6	+0.7
GYA					pP	pwP	10 57 27.0	-0.2
GYA					SKS	SKSac	11 04 40.9	+2.3
GYA					S	S	11 04 54.5	0.0
GYA					pmax	pmax		
	comp=Z,52nm,0.7s							
GYA					pmax	pmax		
	comp=Z,150nm,5.1s							
E08A	Dider Farm, El	86.03	37		IAmb	IAmb	10 55 12.7	
	comp=Z,77nm,0.8s							
PPLA	Purkeypile	86.04	12		P	P	10 55 09.8	-0.4
	baz=205,SNR=5.6							
BMRM	Bremner River	86.05	16		P	P	10 55 10.3	+0.1
	baz=212,SNR=27							
BMO	Blue Mountains	86.09	39		IAmb	IAmb	10 55 12.9	
	comp=Z,44nm,0.8s							
MESA	MESA	86.10	18		P	P	10 55 11.5	+0.9
	baz=214,SNR=20							
K20K	Telida	86.11	11		IAmb	IAmb	10 55 11.5	
	comp=Z,110nm,1.3s							
H16K	Elim	86.12	7		P	P	10 55 10.5	+0.2
	baz=196,SNR=6.4							
SCM	Sheep Creek Mo	86.13	14		P	P	10 55 10.7	+0.1
	baz=210,SNR=47							
KLU	Klutina	86.17	15		IAmb	IAmb	10 55 11.9	
	comp=Z,49nm,0.8s							
KLU	Klutina	86.17	15		P	P	10 55 10.7	-0.1
	baz=211,SNR=19							
MFID	Camas Ranch	86.18	41		IAmb	IAmb	10 55 13.7	
	comp=Z,73nm,1.0s							
SLVN	Son La	86.19	294		P	P	10 55 11.7	-0.1
121A	Cookes Peak, D	86.19	53		IAmb	IAmb	10 55 15.0	
	comp=Z,72nm,1.4s							
SYO	Syowa Base	86.25	193	⇓	*e*P	P	10 55 11.0	-0.1
CRQE	Cirque	86.27	17		P	P	10 55 11.8	+0.5
	baz=213,SNR=23							
G15K	Niukluk	86.27	6		P	P	10 55 11.2	+0.2
	baz=194,SNR=11							
S32K	Killisnoo	86.30	22		IAmb	IAmb	10 55 13.4	
	comp=Z,51nm,1.2s							
S32K	Killisnoo	86.30	22		P	P	10 55 12.3	+1.0
	baz=221,SNR=12							
WRAK	Wrangell Islan	86.33	24		IAmb	IAmb	10 55 13.8	
	comp=Z,94nm,0.9s							
WRAK	Wrangell Islan	86.33	24		P	P	10 55 12.8	+1.3
	baz=223,SNR=22							
TGL	Tana Glacier	86.34	17		IAmb	IAmb	10 55 13.1	
	comp=Z,125nm,1.2s							
LHMI	Lhok Sumawe	86.34	277		P	P	10 55 13.5	+0.9
LHMI	Lhok Sumawe	86.34	277		P	P	10 55 13.7	+1.1
ISLE	Juniper Island	86.35	17		IAmb	IAmb	10 55 13.1	
	comp=Z,95nm,0.9s							
PNL	Peninsula	86.43	19		P	P	10 55 12.5	+0.5
PNL	Peninsula	86.43	19		P	P	10 55 12.7	+0.7
	baz=217,SNR=23							
D08A	Wollman Farm,	86.44	36		IAmb	IAmb	10 55 14.7	
	comp=Z,111nm,1.0s							
J19K	Poorman	86.44	10		P	P	10 55 12.2	+0.4
	baz=202							
SEY	Seymchan	86.45	347	*d*	iP	P	10 55 12.0	+0.1
SEY					pmax	pmax		
	comp=Z,138nm,1.1s							
TNA	Tin City	86.48	5		P	P	10 55 12.1	+0.1
	baz=190							
MLSI	Meulaboh, Aceh	86.50	276		P	P	10 55 12.9	-0.5
	comp=Z,3µmcomp=Z,207nm,1.2s							
PCA	Pinnacle	86.52	18		IAmb	IAmb	10 55 13.9	
	comp=Z,76nm,0.8s							
PINM	Pinnacle	86.52	18		P	P	10 55 12.7	+0.3
	baz=216,SNR=12							
F14K	Arctic Creek	86.53	5		P	P	10 55 12.3	+0.1
	baz=192							
COYC	Coyhaique	86.54	138		IAmb	IAmb	10 55 16.4	
	comp=Z,44nm,0.9s							
COYC	Coyhaique	86.54	138		P	P	10 55 15.8	+2.8
E09A	Wood Farm, Sta	86.56	37		IAmb	IAmb	10 55 14.9	
	comp=Z,113nm,1.1s							
BCPM	Bancas Point	86.59	19		IAmb	IAmb	10 55 14.3	
	comp=Z,87nm,0.9s							
N25K	Chitina, Valde	86.59	16		P	P	10 55 13.2	+0.4
	baz=212,SNR=42							
GRNC	Granite Creek	86.61	17		IAmb	IAmb	10 55 14.5	
	comp=Z,112nm,1.1s							
R31K	City Hall, Gus	86.62	21		P	P	10 55 13.8	+1.1
	baz=220							
M24K	Tolsona, Glenn	86.64	15		P	P	10 55 13.4	+0.5
	baz=210,SNR=16							
WAT6	Susitna Watana	86.69	14		P	P	10 55 13.1	-0.1
	baz=209,SNR=54							
H17K	Granite Mounta	86.70	8		P	P	10 55 12.8	-0.2
	baz=198,SNR=8.9							
WAT1	Susitna Watana	86.73	13		P	P	10 55 13.0	-0.3
	baz=208							
TIY	Taiyuan	86.81	312		P	P	10 55 15.3	+1.0
TIY					pmax	pmax		
	comp=Z,47nm,0.6s							
MCARA	McCarthy VSAT	86.81	16		IAmb	IAmb	10 55 15.3	
	comp=Z,112nm,1.2s							
MCARA	McCarthy VSAT	86.81	16		P	P	10 55 14.1	+0.4
	baz=213,SNR=25							
EPT	El Paso	86.81	54		IAmb	IAmb	10 55 17.4	
	comp=Z,55nm,1.0s							
Q16A	Castle Valley	86.83	46		IAmb	IAmb	10 55 18.5	
	comp=Z,176nm,1.9s							
G16K	Koyuk River	86.84	7		P	P	10 55 13.9	+0.2
	baz=196,SNR=5.3							
J20K	Nowinta River	86.85	11		IAmb	IAmb	10 55 14.9	
	comp=Z,82nm,1.2s							
J20K	Nowinta River	86.85	11		P	P	10 55 13.9	+0.1
	baz=203							
U35K	Hyder	86.87	25		IAmb	IAmb	10 55 21.1	
	comp=Z,50nm,0.7s							
KTH	Kantishna Hill	86.88	12		IAmb	IAmb	10 55 13.9	
	comp=Z,88nm,0.9s							
LOGN	Logan Glacier	86.90	18		IAmb	IAmb	10 55 15.8	
	comp=Z,91nm,0.8s							
F15K	North Star Dit	86.91	6		P	P	10 55 13.8	-0.3
	baz=193							
BARN	Barnard Glacie	86.91	17		P	P	10 55 14.9	+0.5
CHUM	Lake Minchumin	86.91	11		P	P	10 55 13.2	-0.8
	baz=205,SNR=26							
P29M	Windy Craggy	86.91	20		IAmb	IAmb	10 55 16.4	
	comp=Z,121nm,1.1s							
P29M	Windy Craggy	86.91	20		P	P	10 55 15.3	+1.1
	baz=218,SNR=30							
TRF	Thorofare Moun	86.91	12		P	P	10 55 13.6	-0.7
	baz=207,SNR=124							
CTG	Chitna Glacier	86.92	17		P	P	10 55 14.9	+0.5
	baz=215,SNR=37							
R32K	Eaglecrest	86.93	22		P	P	10 55 14.5	+0.2
	baz=221							
GCSA	Galena City Sc	86.94	9		P	P	10 55 14.5	+0.3
	baz=201,SNR=26							
JIS	Juneau Island	86.98	22		P	P	10 55 15.3	+0.8
TMUT	Trail Mountain	86.99	46		IAmb	IAmb	10 55 18.3	
	comp=Z,57nm,1.1s							
PLID	Pearl Lake	86.99	39		IAmb	IAmb	10 55 17.3	
	comp=Z,107nm,1.2s							
LLLB	Lillooet	87.01	32		IAmb	IAmb	10 55 16.9	
	comp=Z,83nm,1.0s							
BESE	Bessie Mountai	87.04	21		IAmb	IAmb	10 55 17.1	
	comp=Z,81nm,1.0s							
O28M	Mount Upton	87.09	18		P	P	10 55 16.0	+0.6
	baz=216,SNR=55							
H18K	Honhosa River	87.11	9		IAmb	IAmb	10 55 15.7	
	comp=Z,69nm,1.5s							
H18K	Honhosa River	87.11	9		P	P	10 55 14.5	-0.6
	baz=199							
HLID	Hailey	87.12	41		IAmb	IAmb	10 55 18.5	
	comp=Z,62nm,0.9s							
HARP	HAARP	87.13	15		P	P	10 55 15.4	+0.2
	baz=211,SNR=20							
G17K	Kiwalik Mounta	87.14	8		P	P	10 55 15.0	-0.1
	baz=197,SNR=14							
O29M	Mount Kennedy	87.19	19		IAmb	IAmb	10 55 17.5	
	comp=Z,63nm,1.0s							
O29M	Mount Kennedy	87.19	19		P	P	10 55 16.3	+0.7
	baz=217,SNR=19							
DHY	Denali Highway	87.20	14		IAmb	IAmb	10 55 16.6	
	comp=Z,133nm,1.6s							
DHY	Denali Highway	87.20	14		P	P	10 55 15.4	-0.3
	baz=209,SNR=24							
PLBC	Pleasant Camp	87.22	20		P	P	10 55 16.8	+1.2
	baz=219,SNR=29							
C09A	Chrisman Ranch	87.22	36		IAmb	IAmb	10 55 18.0	
	comp=Z,81nm,0.8s							
BPAW	Bear Paw Mtn.	87.36	12		P	P	10 55 14.5	-1.7
BPAW	Bear Paw Mtn.	87.36	12		P	P	10 55 14.8	-1.5
	baz=206,SNR=15							
SRU	San Rafael Swe	87.36	46		IAmb	IAmb	10 55 19.3	
	comp=Z,54nm,0.9s							
I20K	Naaghedeneel	87.37	10		P	P	10 55 16.6	+0.5
	baz=203,SNR=20							
P17A	Butcher Ranch,	87.39	46		IAmb	IAmb	10 55 19.8	
	comp=Z,52nm,1.2s							
MCK	McKinley	87.44	13		P	P	10 55 16.2	-0.4
	baz=208,SNR=71							
TROLL	Troll, Antarti	87.44	180	⇑	P	PKKPbc	11 13 01.4	-3.4
	comp=Z,48nm,0.4s							
TROLL	Troll, Antarti	87.44	180	⇑	P	P	10 55 17.2	+0.3
	comp=Z,619nm,0.7s							
TROLL				⇑	pP	pP	10 57 31.3	+1.6
	comp=Z,752nm,0.8s							
TROLL				⇑	SKSac	SKSac	11 04 44.4	-1.3
	comp=E,383nm,1.1s							
ZEA	Zeya	87.45	331	*e*	P	P	10 55 17.4	+0.6
ZEA					pmax	pmax		
	comp=Z,100nm,3.7s							
ZEA					pmax	pmax		
	comp=N,20nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,40nm,0.9s							
T35M	Bob Quinn	87.54	24		P	P	10 55 18.6	+1.4
	baz=225,SNR=8.8							
Y22D	IRIS PASSCAL I	87.54	52		IAmb	IAmb	10 55 20.9	
	comp=Z,69nm,1.1s							
Y22D	IRIS PASSCAL I	87.54	52		P	P	10 55 19.7	+1.7
	baz=243							
P30M	Million Dollar	87.54	20		P	P	10 55 18.5	+1.2
	baz=219							
PAX	Paxson	87.55	15		P	P	10 55 16.8	-0.4
	baz=211,SNR=25							
VHRN	Van Horn	87.55	56		IAmb	IAmb	10 55 20.9	
	comp=Z,55nm,1.1s							
SKAG	Skagway	87.56	21		IAmb	IAmb	10 55 19.8	
	comp=Z,82nm,1.4s							
SKAG	Skagway	87.56	21		P	P	10 55 18.6	+1.4
SKAG	Skagway	87.56	21		P	P	10 55 18.6	+1.4
	baz=220,SNR=20							
XLT	XiLinHaoTe	87.57	319	*e*	P	P	10 55 17.8	0.0
XLT					pmax	pmax		
	comp=Z,37nm,0.7s							
XAN	Xi'an	87.60	308	⇓	P	P	10 55 18.9	+0.8
XAN					pmax	pmax		
	comp=Z,170nm,1.2s							
YUK8	Steele Glacier	87.63	18		P	P	10 55 18.6	+0.8
	baz=216,SNR=109							
MNTX	Cornudas Mount	87.64	55		IAmb	IAmb	10 55 21.0	
	comp=Z,38nm,0.9s							
M26K	Nabesna, AK	87.67	16		IAmb	IAmb	10 55 19.3	
	comp=Z,79nm,1.0s							
M26K	Nabesna, AK	87.67	16		P	P	10 55 18.0	+0.2
	baz=213							
H19K	Roundabout Mou	87.74	9		IAmb	IAmb	10 55 19.2	
	comp=Z,75nm,0.9s							
H19K	Roundabout Mou	87.74	9		P	P	10 55 18.2	+0.3
	baz=201,SNR=46							
LL02	Futaleuf	87.75	136		P	P	10 55 20.8	+2.1
SNAA	Sanae	87.75	179	⇑	P	PKKPbc	11 13 00.1	-3.8
	comp=Z,40nm,0.7s							
SNAA	Sanae	87.75	179	⇑	P	P	10 55 18.1	-0.1
	comp=Z,47nm,0.5s							
SNAA				⇑	pP	pP	10 57 32.5	+1.3
	comp=Z,186nm,0.8s							
SNAA				⇑	SKSac	SKSac	11 04 45.7	-1.7
	comp=E,58nm,0.8s							
SNAA	Sanae	87.75	179		P	P	10 55 17.9	-0.3
SNAA	Sanae	87.75	179		P	P	10 55 18.1	-0.1
	comp=E,1.8nm,0.5s,baz=209,slow=8.3,SNR=28							
SNAA					pP	pP	10 57 31.9	+0.7
	comp=E,11nm,0.9s,baz=216,slow=5.3,SNR=5.2							
SNAA					S	SKSac	11 04 45.4	-2.0
	comp=E,2.5nm,0.8s,baz=168,slow=22,SNR=15							
SNAA					PKKPbc	PKKPbc	11 13 00.5	-3.5
	comp=E,1.3nm,0.6s,baz=162,slow=0.7,SNR=11							
YUK6	Outpost Mounta	87.76	19		P	P	10 55 19.0	+0.5
	baz=218,SNR=17							
TCUT	Toone Canyon	87.77	44		IAmb	IAmb	10 55 21.4	
	comp=Z,81nm,1.0s							
G18K	Tagagawik	87.78	8		P	P	10 55 17.8	-0.3
	baz=199,SNR=12							
P18A	Preston Nutter	87.80	46		IAmb	IAmb	10 55 21.6	
	comp=Z,41nm,1.1s							
PV05	Paradox Valley	87.84	48		IAmb	IAmb	10 55 21.9	
	comp=Z,39nm,1.1s							
S34M	Telegraph Creek	87.88	23		P	P	10 55 20.2	+1.5
	baz=224,SNR=53							
BSUT	Blindstream Ca	87.90	45		IAmb	IAmb	10 55 22.2	
	comp=Z,69nm,1.0s							
VNA3	Neumayer Olymp	87.92	177	⇑	P	PKKPbc	11 12 58.9	-4.5
	comp=Z,3.6nm,0.8s							
VNA3	Neumayer Olymp	87.92	177	⇑	P	P	10 55 19.0	+0.1
	comp=Z,14nm,0.5s							
VNA3				⇑	pP	pP	10 57 33.8	+1.8
	comp=Z,15nm,0.7s							
VNA3				⇑	SKSac	SKSac	11 04 47.2	-1.0
	comp=E,4.8nm,1.4s							
M27K	Edge Creek, AK	87.93	16		P	P	10 55 19.8	+0.8
	baz=214							
HYT	Haines Junctio	87.93	19		IAmb	IAmb	10 55 20.9	
	comp=Z,60nm,0.9s							
HYT

comp=Z,30nm,0.9s
PV02 Paradox Valley 88.15 48 IAmb IAmb 10 55 22.9
comp=Z,78nm,1.4s
I21K Tanana 88.15 11 P **P 10 55 19.7 -0.2**
baz=205,SNR=70
PV21 Cone Mtn., Par 88.15 47 IAmb IAmb 10 55 23.0
comp=Z,104nm,1.7s
PV12 Saucer Basin, 88.16 48 IAmb IAmb 10 55 23.7
comp=Z,67nm,1.1s
NEA2 Nenana 88.18 12 IAmb IAmb 10 55 19.9
comp=Z,38nm,0.8s
NEA2 Nenana 88.18 12 P **P 10 55 18.9 -1.2**
baz=208,SNR=34
P32M Atlin 88.19 21 IAmb IAmb 10 55 22.3
comp=Z,36nm,0.9s
P32M Atlin 88.19 21 P **P 10 55 21.3 +1.1**
baz=222,SNR=21
Q32M Nakina River 88.23 22 IAmb IAmb 10 55 22.8
comp=Z,52nm,0.8s
Q32M Nakina River 88.23 22 P **P 10 55 21.9 +1.3**
baz=223,SNR=32
MLY Manley 88.25 12 IAmb IAmb 10 55 20.4
comp=Z,94nm,1.2s
MLY Manley 88.25 12 P **P 10 55 19.5 -0.8**
baz=206,SNR=54
PV22 Blue Mesa, Par 88.27 48 IAmb IAmb 10 55 23.5
comp=Z,41nm,1.2s
ANMO Albuquerque 88.28 52 P **P 10 55 22.4 +1.0**
ANMO IAmb IAmb 10 55 23.6
comp=Z,36nm,1.1s
ANMO Albuquerque 88.28 52 P **P 10 55 22.4 +1.0**
ANMO pmax pmax
comp=Z,37nm,1.1s
ANMO Albuquerque 88.28 52 P **P 10 55 22.7 +1.3**
ANMO pP **pwP 10 57 38.2 +0.8**
F18K Selawik 88.32 8 P **P 10 55 20.0 -0.5**
baz=198,SNR=11
O30N Mendenhall 88.32 20 P **P 10 55 21.6 +0.8**
baz=220,SNR=58
VNA2 Neumayer--Watz 88.35 177 ⇑P **PKKPbc 11 12 59.9 -2.5**
comp=Z,14nm,0.4s,baz=336,slow=9.7
RIDG Independent Ri 88.35 14 IAmb IAmb 10 55 21.9
comp=Z,74nm,0.9s
RIDG Independent Ri 88.35 14 P **P 10 55 20.9 0.0**
baz=212,SNR=36
HIA Hailar 88.41 325 P **P 10 55 21.7 +0.2**
HIA **Hailar 88.41 325***d i*P **P 10 55 21.6 +0.1**
HIA pmax pmax
comp=Z,27nm,0.8s
ALPN Alpine 88.42 57 IAmb IAmb 10 55 24.2
comp=Z,29nm,0.7s
H21K Melozitna Rive 88.44 11 IAmb IAmb 10 55 22.4
comp=Z,54nm,0.9s
H21K Melozitna Rive 88.44 11 P **P 10 55 21.4 +0.1**
baz=204
HDA Harding Lake 88.46 13 P **P 10 55 21.0 -0.4**
baz=210,SNR=79
DOT Dot Lake 88.46 15 IAmb IAmb 10 55 22.4
comp=Z,72nm,0.8s
L27K Beaver Creek, 88.52 16 IAmb IAmb 10 55 23.1
comp=Z,34nm,0.8s
L27K Beaver Creek, 88.52 16 P **P 10 55 21.9 +0.2**
baz=214,SNR=30
E17K Hotham Inlet 88.53 7 P **P 10 55 21.8 +0.2**
baz=196,SNR=27
BCAR Beaver Creek A 88.54 16 P **P 10 55 22.1 +0.3**
N30M Aishikik Lake 88.55 19 IAmb IAmb 10 55 23.4
comp=Z,33nm,0.7s
N30M Aishikik Lake 88.55 19 P **P 10 55 22.2 +0.3**
baz=219,SNR=24
HILR Hailar Array B 88.57 325 P **P 10 55 22.5 +0.2**
comp=Z,33nm,0.6s,baz=130,slow=7.2,SNR=37
comp=Z,33nm,0.6s
VNA1 Neumayer--Stat 88.58 177 ⇑P **P 10 55 19.0 -3.0**
comp=Z,8.2nm,0.6s
VNA1 ⇑pP **pP 10 57 34.9 -0.1**
comp=Z,13nm,0.8s
IMAR Indian Mountai 88.59 10 P **P 10 55 22.0 +0.2**
I23K Minto, Yukon-K 88.62 12 P **P 10 55 21.2 -0.8**
baz=208,SNR=34
WHY Whitehorse 88.62 20 P **P 10 55 23.1 +0.8**
baz=221,SNR=48
DLBC Dease Lake 88.66 23 P **P 10 55 23.6 +1.2**
baz=225,SNR=21
COLA College 88.68 13 P **P 10 55 21.6 -0.6**
COLA College 88.68 13 P **P 10 55 21.6 -0.6**
COLA College 88.68 13*d i*P **P 10 55 21.6 -0.6**
COLA pmax pmax
comp=Z,148nm,0.9s
COLA College 88.68 13 P **P 10 55 21.7 -0.5**
baz=209
COLA College 88.68 13 P **P 10 55 21.7 -0.6**
KMI Kunming 88.69 297 ⇓P **P 10 55 25.1 +1.5**
KMI pmax pmax
comp=Z,75nm,0.9s
RDMU Red Mountain 88.71 45 IAmb IAmb 10 55 25.3
comp=Z,44nm,0.8s
SCRK Sand Creek 88.76 15 IAmb IAmb 10 55 24.1
comp=Z,46nm,0.9s
SCRK Sand Creek 88.76 15 P **P 10 55 22.8 -0.1**
baz=212,SNR=56
F19K Shaleruckik Mo 88.78 8 IAmb IAmb 10 55 23.6
comp=Z,54nm,0.8s
F19K Shaleruckik Mo 88.78 8 P **P 10 55 22.5 -0.2**
baz=200
AHID Auburn Hatcher 88.79 43 IAmb IAmb 10 55 26.6
comp=Z,47nm,0.9s
IL31 88.79 13 IAmb IAmb 10 55 23.2
comp=Z,64nm,1.0s
ILAR Eielson Array 88.79 13 P **P 10 55 22.2 -0.6**
ILAR Eielson Array 88.79 13 P **P 10 55 22.1 -0.7**
comp=Z,39nm,0.8s,baz=220,slow=5.2,SNR=406
ILAR pP **pP 10 57 36.1 -0.3**
comp=Z,0.4nm,0.7s,baz=202,slow=4.5,SNR=1.5
ILAR PKiKP **PKiKP 11 00 16.9 -0.8**
comp=Z,0.9nm,0.5s,baz=267,slow=3.1,SNR=11
comp=Z,39nm,0.8s
H22K Ishtalitna Cre 88.91 11 P **P 10 55 23.5 +0.1**
baz=206,SNR=49
HHC Hu-ho-hao-te 88.92 315 ⇓*i*P **P 10 55 24.8 +0.7**
HHC S **S 11 05 23.1 +2.5**
HHC pmax pmax
comp=Z,49nm,0.8s
HHC pmax pmax
comp=Z,110nm,3.9s
M29M Somme Creek 88.93 18 P **P 10 55 24.2 +0.6**
baz=218,SNR=112
P33M Teslin, Yukon 88.96 21 P **P 10 55 24.5 +0.6**
baz=222,SNR=17
N31M Braeburn, Yuko 88.97 19 P **P 10 55 24.4 +0.7**
baz=220,SNR=42
POKR Poker Plat Res 88.98 13 IAmb IAmb 10 55 23.9
comp=Z,48nm,0.8s
POKR Poker Plat Res 88.98 13 P **P 10 55 23.0 -0.7**
baz=209,SNR=15
J25K Salcha River, 88.98 14 IAmb IAmb 10 55 24.6
comp=Z,48nm,0.6s
J25K Salcha River, 88.98 14 P **P 10 55 23.7 -0.2**
baz=211
E18K Tukpahlearik C 88.99 7 P **P 10 55 24.0 +0.3**
baz=197,SNR=20
D17K Noatak River 89.00 6 P **P 10 55 24.0 +0.3**
baz=195,SNR=16
R33M Jennings River 89.00 22 IAmb IAmb 10 55 26.4
comp=Z,58nm,1.2s
R33M Jennings River 89.00 22 P **P 10 55 25.1 +1.0**
baz=224,SNR=42
G21K Allakaket 89.12 10 P **P 10 55 24.3 0.0**
baz=204
MSO Missoula 89.14 38 IAmb IAmb 10 55 26.3
comp=Z,47nm,1.6s
DLMT Dillon 89.17 40 IAmb IAmb 10 55 27.6
comp=Z,32nm,0.8s
H23K Yukon River 89.18 12 P **P 10 55 23.9 -0.8**
baz=207
BILL Bilibino 89.23 354 P **P 10 55 24.7 -0.2**
BILL IAmb IAmb 10 55 26.0
comp=Z,37nm,1.0s
BILL Bilibino 89.23 354*d i*P **P 10 55 24.6 -0.2**
BILL pmax pmax
comp=Z,41nm,1.0s
TPAW Teton Pass 89.24 42 IAmb IAmb 10 55 28.2
comp=Z,38nm,0.9s
F20K Avaraart Lake 89.27 9 IAmb IAmb 10 55 26.2
comp=Z,67nm,0.9s
F20K Avaraart Lake 89.27 9 P **P 10 55 25.1 +0.1**
baz=202
S22A 4UR Ranch, Cre 89.27 49 IAmb IAmb 10 55 28.6
comp=Z,54nm,1.3s
J26L Joseph Creek 89.30 15 P **P 10 55 25.9 +0.6**
baz=213
C16K Lisburne Hills 89.36 5 IAmb IAmb 10 55 26.5
comp=Z,36nm,0.9s
C16K Lisburne Hills 89.36 5 P **P 10 55 25.5 +0.1**
baz=193
RDOG Red Dog Mine 89.36 6 IAmb IAmb 10 55 26.7
comp=Z,48nm,0.8s
RDOG Red Dog Mine 89.36 6 P **P 10 55 25.7 +0.3**
baz=195,SNR=7.5
CMAR Chiang Mai Arr 89.37 290 P **P 10 55 28.1 +1.5**
comp=Z,60nm,0.9s,baz=126,slow=3.0,SNR=286
CMAR pP **pP 10 57 40.6 +1.4**
comp=Z,3.2nm,0.8s,baz=112,slow=5.9,SNR=2.8
comp=Z,60nm,0.9s
CMAR Chiang Mai Arr 89.37 290 *i* P **P 10 55 28.2 +1.5**
CMAR pmax pmax
comp=Z,63nm,0.9s
O20A White River Ci 89.40 46 IAmb IAmb 10 55 28.6
comp=Z,51nm,0.8s
E19K Redstone River 89.44 8 P **P 10 55 26.0 +0.2**
baz=200
CHTO Chiang Mai 89.50 290 P **P 10 55 28.5 +1.3**
CHTO Chiang Mai 89.50 290 P **P 10 55 28.3 +1.1**
CHTO Chiang Mai 89.50 290 P **P 10 55 28.5 +1.3**
CHTO pmax pmax
comp=Z,73nm,0.7s
CHTO Chiang Mai 89.50 290 P **P 10 55 28.4 +1.1**
M30M Minto, Yukon 89.51 18 P **P 10 55 26.8 +0.5**
baz=219,SNR=120
LOHW Long Hollow 89.52 42 IAmb IAmb 10 55 29.2
comp=Z,81nm,1.6s
L29M L29M 89.55 17 P **P 10 55 27.4 +0.9**
baz=218,SNR=103
N32M Quiet Lake 89.57 20 IAmb IAmb 10 55 28.6
comp=Z,78nm,1.3s
N32M Quiet Lake 89.57 20 P **P 10 55 27.2 +0.6**
baz=222,SNR=13
YHB Horse Butte 89.72 41 IAmb IAmb 10 55 30.8
comp=Z,53nm,1.3s
PLCA Paso Flores 89.72 134 P **P 10 55 29.9 +1.9**
comp=Z,7.6nm,0.7s,baz=247,slow=5.3,SNR=20
PLCA PKKPbc **PKKPdf 11 12 54.0 +2.3**
comp=Z,3.8nm,1.0s,baz=5.8,slow=1.9,SNR=3.8
comp=Z,7.6nm,0.7s
PRP Porcupine Dome 89.73 13 IAmb IAmb 10 55 28.8
comp=Z,79nm,1.4s
PRP Porcupine Dome 89.73 13 P **P 10 55 26.8 -0.6**
baz=211,SNR=37
C17K DeLong Mountai 89.75 6 P **P 10 55 27.2 0.0**
baz=195
F21K Alatna River 89.77 10 IAmb IAmb 10 55 28.2
comp=Z,92nm,1.6s
F21K Alatna River 89.77 10 P **P 10 55 27.1 -0.2**
baz=204,SNR=18
BW06 Boulder Array 89.78 44 IAmb IAmb 10 55 29.9
comp=Z,33nm,0.8s
PD31 Pinedale Array 89.78 44 IAmb IAmb 10 55 29.9
comp=Z,32nm,0.8s
PDAR Pinedale Array 89.78 44 P **P 10 55 28.8 +0.5**
PDAR Pinedale Array 89.78 44 P **P 10 55 28.6 +0.4**
comp=Z,19nm,0.7s,baz=209,slow=3.2,SNR=206
PDAR pP **pP 10 57 42.3 +0.9**
comp=Z,2.3nm,1.0s,baz=247,slow=5.1,SNR=4.6
PDAR PP **PP 10 59 10.8 -2.0**
comp=Z,2.4nm,1.0s,baz=243,slow=6.5,SNR=6.0
PDAR PKKPbc **PKKPbc 11 12 57.4 -1.0**
comp=Z,1.1nm,0.7s,baz=89,slow=3.5,SNR=9.1
comp=Z,19nm,0.7s
YFT Old Faithful 89.79 42 IAmb IAmb 10 55 31.9
comp=Z,27nm,0.9s
G22K Bettles 89.82 10 P **P 10 55 27.8 +0.3**
baz=206
YMR Madison River 89.82 41 IAmb IAmb 10 55 31.3
comp=Z,101nm,1.7s
BTO Baotou 89.83 314 *e*P **P 10 55 29.8 +1.4**
BTO pP **pP 10 57 40.4 -1.1**
BTO sP **sP 10 58 39.3 -3.7**
BTO S **S 11 05 30.9 +2.0**
BTO sS **sS 11 09 22.0 -4.4**
BTO pmax pmax
comp=Z,95nm,1.2s
BTO pmax pmax
comp=Z,410nm,8.2s
BOZ Bozeman (W) 89.88 40 IAmb IAmb 10 55 30.9
comp=Z,37nm,1.1s
G23K Bananza Creek 89.89 11 IAmb IAmb 10 55 29.2
comp=Z,40nm,1.2s
G23K Bananza Creek 89.89 11 P **P 10 55 28.0 0.0**
baz=207,SNR=14
M31M Drury Creek, Y 89.94 19 IAmb IAmb 10 55 29.3
comp=Z,65nm,1.7s
M31M Drury Creek, Y 89.94 19 P **P 10 55 28.2 -0.1**
baz=221
DAWY Dawson 89.98 16 P **P 10 55 28.6 +0.2**
baz=217,SNR=67
ODSA Odessa 90.00 56 IAmb IAmb 10 55 31.3
comp=Z,43nm,1.0s
PZH PanZhiHua 90.06 298 P **P 10 55 30.6 +0.8**
I26K Coal Creek Min 90.07 14 P **P 10 55 29.0 +0.2**
baz=213,SNR=40
C18K Utukok River 90.11 6 IAmb IAmb 10 55 29.9
comp=Z,52nm,1.1s
C18K Utukok River 90.11 6 P **P 10 55 28.8 -0.2**
baz=197
EGAK Eagle 90.11 15 P **P 10 55 29.0 +0.1**
baz=215,SNR=74
CD2 Chengdu 90.19 303 P **P 10 55 31.3 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
F22K John River 90.24 10 P **P 10 55 29.8 +0.2**
baz=205,SNR=13
HAYD Hayden 90.24 46 IAmb IAmb 10 55 32.6
comp=Z,35nm,0.9s
WTLY Watson Lake, Y 90.29 23 IAmb IAmb 10 55 31.8
comp=Z,24nm,1.0s
WTLY Watson Lake, Y 90.29 23 P **P 10 55 30.7 +0.8**
baz=226,SNR=15
K29M Barlow Dome 90.30 17 P **P 10 55 30.7 +0.7**
baz=218,SNR=61
H25L Birch Creek 90.31 13 P **P 10 55 29.5 -0.3**
baz=211,SNR=5.8
D19K Kuna River 90.31 8 P **P 10 55 30.0 +0.1**
baz=200
COLD Coldfoot 90.32 11 IAmb IAmb 10 55 31.4
comp=Z,52nm,0.9s
COLD Coldfoot 90.32 11 P **P 10 55 30.3 +0.4**
baz=207,SNR=31
E20K Nigu River 90.34 8 P **P 10 55 30.4 +0.4**
baz=201
G24K Hadweenzic Riv 90.36 12 P **P 10 55 29.3 -0.7**
baz=209,SNR=6.8
MAYO Mayo, Yukon 90.56 18 P **P 10 55 32.1 +1.0**
baz=220,SNR=48
YNE Yellowstone No 90.58 41 IAmb IAmb 10 55 34.5
comp=Z,26nm,1.0s
MSTX Muleshoe 90.60 54 IAmb IAmb 10 55 33.7
comp=Z,24nm,0.8s
J29N Klondike Camp 90.60 16 P **P 10 55 32.1 +0.8**
baz=218
OZNA Ozona 90.62 57 IAmb IAmb 10 55 33.9
comp=Z,18nm,0.7s
I27K Kandik River 90.68 15 P **P 10 55 31.7 0.0**
baz=215
G25K Bearman Lake 90.68 12 P **P 10 55 31.6 +0.1**
baz=211
FYU Fort Yukon 90.69 13 IAmb IAmb 10 55 33.0
comp=Z,66nm,1.8s
D20K Etivluk River 90.71 8 P **P 10 55 31.8 +0.1**
baz=201
C19K Lookout Ridge 90.72 7 P **P 10 55 32.1 +0.3**
baz=198,SNR=17
T25A Trinidad 90.73 50 IAmb IAmb 10 55 34.5
comp=Z,21nm,0.9s
B18K Kokolik River 90.74 6 P **P 10 55 32.0 +0.3**
baz=196
TOAD Toad River Com 90.77 25 P **P 10 55 33.0 +0.8**
baz=229,SNR=41
LIRD Liard River Hi 90.81 24 P **P 10 55 32.9 +0.6**
baz=228,SNR=13
E21K Killik River 90.82 9 IAmb IAmb 10 55 33.1
comp=Z,49nm,1.1s
E21K Killik River 90.82 9 P **P 10 55 32.1 -0.1**
baz=203,SNR=15
E22K Anaktuvuk Pass 90.87 10 P **P 10 55 32.7 +0.2**
baz=205,SNR=22
I28M Miner Creek 90.96 15 IAmb IAmb 10 55 33.9
comp=Z,31nm,0.8s
I28M Miner Creek 90.96 15 P **P 10 55 32.8 -0.1**
baz=216,SNR=25
833A Chaparral WMA, 90.97 60 IAmb IAmb 10 55 35.9
comp=Z,32nm,0.9s
F24K Squaw Lake 91.00 11 IAmb IAmb 10 55 34.5
comp=Z,58nm,1.4s
F24K Squaw Lake 91.00 11 P **P 10 55 33.3 +0.3**
baz=209,SNR=9.3
E23K Chandalar 91.16 11 IAmb IAmb 10 55 35.1
comp=Z,33nm,1.0s
E23K Chandalar 91.16 11 P **P 10 55 34.1 +0.2**
baz=207,SNR=12
POST Post 91.19 55 IAmb IAmb 10 55 36.1
comp=Z,20nm,0.8s
J30M Hart River 91.20 17 P **P 10 55 34.4 +0.2**
baz=219,SNR=10
H27K Steamboat Moun 91.22 14 IAmb IAmb 10 55 35.6
comp=Z,30nm,1.0s
H27K Steamboat Moun 91.22 14 P **P 10 55 34.5 +0.3**
baz=215,SNR=19
I29M Ogilvie Camp, 91.30 16 IAmb IAmb 10 55 34.7
comp=Z,23nm,0.7s
I29M Ogilvie Camp, 91.30 16 P **P 10 55 34.2 -0.3**
baz=218
G26K Porcupine Rive 91.32 13 IAmb IAmb 10 55 36.9
comp=Z,47nm,0.9s
G26K Porcupine Rive 91.32 13 P **P 10 55 35.0 +0.6**
baz=213,SNR=17
C21K Knifeblade Rid 91.37 8 P **P 10 55 35.0 +0.3**
baz=203
E24K Your Creek 91.38 11 P **P 10 55 34.8 0.0**
baz=208
D22K Ayikyak River 91.41 9 IAmb IAmb 10 55 36.4
comp=Z,43nm,0.8s
D22K Ayikyak River 91.41 9 P **P 10 55 35.5 +0.6**
baz=204
TGTN Hyland Airport 91.46 22 P **P 10 55 36.0 +0.7**
baz=226,SNR=12
F25K Christian Rive 91.49 12 IAmb IAmb 10 55 37.2
comp=Z,37nm,1.6s
F25K Christian Rive 91.49 12 P **P 10 55 35.9 +0.5**
baz=211,SNR=5.8
BMAR Burnt Mountain 91.56 13 P **P 10 55 36.3 +0.7**
A19K Wainwright 91.62 6 P **P 10 55 35.9 +0.2**
baz=197
G27K Doyon Strip 91.67 14 P **P 10 55 36.2 +0.1**
baz=215
I30M Mount Dempster 91.69 17 IAmb IAmb 10 55 37.5
comp=Z,43nm,0.9s
I30M Mount Dempster 91.69 17 P **P 10 55 36.4 0.0**
baz=219,SNR=36
TOLK Toolik Lake Re 91.69 10 IAmb IAmb 10 55 38.3
comp=Z,49nm,1.5s
TOLK Toolik Lake Re 91.69 10 P **P 10 55 36.3 +0.1**
baz=207
K22A Casper 91.70 45 IAmb IAmb 10 55 38.8
comp=Z,30nm,1.1s
D23K Nanushuk River 91.80 10 IAmb IAmb 10 55 38.3
comp=Z,47nm,1.1s
D23K Nanushuk River 91.80 10 P **P 10 55 37.0 +0.3**
baz=206
B21K Ikpikpuk River 91.82 8 IAmb IAmb 10 55 38.5
comp=Z,65nm,1.4s
B21K Ikpikpuk River 91.82 8 P **P 10 55 37.0 +0.3**
baz=203
B20K Meade River 91.86 7 P **P 10 55 37.3 +0.4**
baz=200,SNR=8.4
F26K Sheenjek River 91.88 13 P **P 10 55 37.4 +0.3**
baz=212,SNR=6.4
E25K Arctic Village 91.96 12 P **P 10 55 37.8 +0.4**
baz=211
H29M Whitestone 91.96 15 P **P 10 55 37.7 +0.2**
baz=218,SNR=27
YAK Yakutsk 92.05 338 P **P 10 55 37.1 -0.8**
YAK Yakutsk 92.05 338 *e*P **P 10 55 36.7 -1.2**
YAK *e**PP **pP 10 57 49.7 -2.1**
YAK *e*S **SKSac 11 05 11.0 -0.4**
YAK *e*SS **SS 11 12 14.2 -2.9**
YAK *e*SSS SSS 11 16 01.8
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,12nm,1.3s
YAK smax smax
comp=E,9.0nm,1.8s
YAK smax smax
comp=N,15nm,1.5s
KOTAN Kotaneelee Air 92.07 24 P **P 10 55 38.3 +0.3**
baz=230
LZH Lanzhou 92.24 308 *e*P **P 10 55 40.8 +1.1**
LZH pP pP 10 57 50.1 -2.9
LZH sP sP 10 58 55.9 +1.5
LZH pmax pmax
comp=N,75nm,0.8s
D24K Happy Valley 92.27 10 P **P 10 55 39.1 +0.3**
baz=208
LZDM Lanzhou Array 92.29 308 P **P 10 55 41.0 +0.9**
comp=N,15nm,0.8s,baz=120,slow=5.3,SNR=17
comp=N,15nm,0.8s
ABTX Abilene, Hawle 92.45 56 IAmb IAmb 10 55 42.8
comp=Z,40nm,1.3s
EPYK Eagle Plains 92.50 16 IAmb IAmb 10 55 40.9
comp=Z,39nm,0.8s
EPYK Eagle Plains 92.50 16 P **P 10 55 39.7 -0.3**
baz=219,SNR=19
C23K Itkillik River 92.60 9 P **P 10 55 40.4 +0.2**
baz=206,SNR=5.1
G29M Pine Creek 92.60 15 IAmb IAmb 10 55 41.3
comp=Z,25nm,0.8s
G29M Pine Creek 92.60 15 P **P 10 55 40.1 -0.3**
baz=218,SNR=10
B22K Teshekpuk Lake 92.65 8 IAmb IAmb 10 55 41.7
comp=Z,52nm,1.1s
B22K Teshekpuk Lake 92.65 8 P **P 10 55 40.5 0.0**
baz=204
H31M Peel River 92.69 17 P **P 10 55 40.5 -0.3**
baz=221,SNR=6.1
F28M Old Crow 92.73 14 P **P 10 55 41.0 0.0**
baz=216,SNR=7.1
C24K Franklin Bluff 92.80 10 P **P 10 55 41.6 +0.4**
baz=208
E27K Coleen River 92.82 13 P **P 10 55 41.6 +0.2**
baz=215
D25K Kavik River 92.85 11 P **P 10 55 40.9 -0.6**
baz=210
A22K Sinclair Lake 93.06 8 P **P 10 55 42.0 -0.3**
baz=202
G30M tAoh Zraii Nji 93.10 15 P **P 10 55 42.5 -0.2**
baz=220
A21K Barrow 93.16 7 P **P 10 55 42.8 0.0**
baz=201
G31M Satah River 93.55 16 P **P 10 55 44.5 -0.2**
baz=221,SNR=24
PLPT Palo Pinto 93.56 56 IAmb IAmb 10 55 46.8
comp=Z,13nm,0.7s
C27K Jago River 93.60 12 P **P 10 55 44.8 0.0**
baz=213
E28M Babbage River 93.61 14 IAmb IAmb 10 55 46.1
comp=Z,32nm,0.9s
E28M Babbage River 93.61 14 P **P 10 55 44.8 -0.2**
baz=217
C26K Camden Bay 93.62 11 P **P 10 55 45.1 +0.1**
baz=212
F30M Barrier River 93.69 15 IAmb IAmb 10 55 47.8
comp=Z,21nm,0.9s
F30M Barrier River 93.69 15 P **P 10 55 45.1 -0.2**
baz=220,SNR=6.9
LAO LASA Array 93.70 41 IAmb IAmb 10 55 48.4
comp=Z,23nm,0.9s
E29M Blow River 93.80 14 IAmb IAmb 10 55 46.5
comp=Z,56nm,1.9s
E29M Blow River 93.80 14 P **P 10 55 45.1 -0.7**
baz=218,SNR=5.7
D27M Malcolm River 93.82 13 IAmb IAmb 10 55 47.0
comp=Z,18nm,0.9s
D27M Malcolm River 93.82 13 P **P 10 55 46.4 +0.5**
baz=215
RSSD Black Hills 93.98 44 P **P 10 55 47.6 +0.1**
RSSD IAmb IAmb 10 55 49.1
comp=Z,17nm,0.7s
RSSD Black Hills 93.98 44 P **P 10 55 47.6 +0.1**
RSSD pmax pmax
comp=Z,17nm,0.7s
F31M Tsiigehtchic 94.08 16 P **P 10 55 46.9 -0.2**
baz=222,SNR=24

WRGLY **Wrigley** 94.27 22 IAmb IAmb 10 55 52.2
comp=Z,18nm,1.2s
WRGLY **Wrigley** 94.27 22 P **P** **10 55 47.8 -0.2**
baz=231
INK **Inuvik** 94.78 15 IAmb IAmb 10 55 50.8
comp=Z,28nm,1.1s
INK **Inuvik** 94.78 15 P **P** **10 55 49.7 -0.5**
baz=222,SNR=8.9
ULN **Ulaanbaatar** 95.00 319 P **P** **10 55 51.2 -0.7**
ULN **Ulaanbaatar** 95.00 319 *d iP* **P** **10 55 51.3 -0.6**
ULN pmax pmax
comp=Z,9.0nm,0.9s
SONM **Songino Array** 95.39 319 P **P** **10 55 53.2 -0.4**
SONM **Songino Array** 95.39 319 P **P** **10 55 53.3 -0.4**
comp=Z,2.2nm,0.7s,baz=115,slow=2.8,SNR=13
SONM PP **PP** **10 59 52.6 -3.1**
comp=Z,0.9nm,0.5s,baz=129,slow=7.6,SNR=5.1
comp=Z,2.2nm,0.7s
DGMT **Dagmar** 95.71 40 IAmb IAmb 10 55 57.0
comp=Z,29nm,0.8s
GTA **Gaotai** 96.47 310 P **P** **10 55 59.1 +0.4**
GTA pmax pmax
comp=Z,18nm,1.4s
YKA **Yellowknife Ar** 97.14 25 P Pdif 10 56 00.9 0.0
comp=Z,4.3nm,0.7s,baz=254,slow=4.8,SNR=21
YKA pP pP 10 58 15.1 +0.2
comp=Z,2.3nm,1.0s,baz=267,slow=5.1,SNR=2.7
YKA PP **PP** **11 00 05.8 -2.7**
comp=Z,1.8nm,0.9s,baz=247,slow=8.3,SNR=3.8
comp=Z,4.3nm,0.7s
C36M **Paulatuk** 97.98 17 P Pdif 10 56 04.2 -0.3
baz=231
TIXI **Tiksi** 98.79 345‖ *eP* **P** **10 56 10.0 +1.9**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
A36M **Sachs Harbour** 99.38 15 P **Pdif** **10 56 10.4 -0.2**
baz=230
LPAZ **La Paz** 102.77 113 PKKPbc PKKPbc 11 12 22.5 -0.9
comp=Z,2.1nm,0.7s,baz=259,slow=1.4,SNR=7.9
WMQ **Urumqi** 106.44 311 Pdif **Pdif** **10 56 43.1 +0.2**
ZSN **Zaisan** 109.12 314 *e*PKiKP **PKiKP** **11 00 53.8 -0.9**
ZALV **Zalesovo Beam** 110.16 321 PKiKP **PKiKP** **11 00 55.0 -1.3**
comp=Z,14nm,0.6s,baz=166,slow=0.7,SNR=49
GUNA **GUNA** 110.38 289 *eP* **PKiKP** **11 00 59.4 +1.7**
AGRA **Agra** 110.46 292 *eP* **PKiKP** **11 00 53.7 -4.0**
MK31 **Makanchi Array** 110.75 313 *d iP*KIKP **PKiKP** **11 00 56.3 -1.4**
MKAR **Makanchi Array** 110.75 313 Pdiff **Pdif** **10 57 03.2 +1.3**
comp=Z,2.1nm,0.8s,baz=81,slow=6.6,SNR=7.8
MKAR PKiKP **PKiKP** **11 00 56.6 -1.2**
comp=Z,8.1nm,0.5s,baz=72,slow=1.5,SNR=40
ASOR **Ausora** 110.95 294 *eP* **PKiKP** **11 00 59.7 +1.1**
DDI **Dehra Dun** 111.05 295 *eP* **PKiKP** **11 00 54.7 -4.2**
GOA **Goa** 111.15 279 *eP* **PKiKP** **11 00 59.0 -0.3**
BISR **Bishrakh** 111.19 294 *eP* **PKiKP** **11 00 58.7 -0.4**
JMIU **JAMIA UNIVERSI** 111.32 293 *eP* **PKiKP** **11 00 59.2 -0.2**
KAD **Karad** 111.33 281 *eP* **PKiKP** **11 00 59.4 -0.3**
LDR **Lodi Road** 111.39 293 *eP* **PKiKP** **11 00 59.5 0.0**
NDI **New Delhi** 111.41 294 *eP* **PKiKP** **11 00 59.5 0.0**
NPLP **NPLP New Delhi** 111.44 294 *eP* **PKiKP** **11 00 59.6 0.0**
AYAN **Aya Nagar** 111.44 293 *eP* **PKiKP** **11 00 59.9 +0.3**
NRLA **Narela** 111.53 294 *eP* **PKiKP** **11 00 59.8 0.0**
BHGR **Bahadurgarh** 111.65 294 *eP* **PKiKP** **11 01 02.1 +2.2**
KUDL **Kundal** 111.92 293 *eP* **PKiKP** **11 01 00.5 0.0**
POO **Poona** 111.96 282 *eP* **PKiKP** **11 01 01.1 +0.2**
SMLA **Simla** 111.96 296 *eP* **PKiKP** **11 01 00.9 +0.4**
RTK **Rohtak** 112.17 294 *i P* **PKiKP** **11 01 01.5 +0.5**
SHLS **Shalkode** 112.21 309 *e*PKiKP **PKiKP** **11 00 59.1 -1.8**
SHLS **Shalkode** 112.21 309 *i* PKIKP **PKiKP** **11 00 59.0 -1.8**
BHK **Bhakra** 112.65 296 *eP* **PKiKP** **11 01 01.8 0.0**
DHRM **DHARAMSHALA** 112.91 297 *eP* **PKiKP** **11 01 02.4 -0.2**
SATY **Saty** 112.96 309 *e*PKiKP **PKiKP** **11 01 01.3 -0.9**
SATY **Saty** 112.96 309 *i* PKIKP **PKiKP** **11 01 01.3 -0.9**
TLWR **Talawar** 113.14 297 *eP* **PKiKP** **11 01 02.8 0.0**
TSSA **Tissa** 113.14 298 *eP* **PKiKP** **11 01 02.8 -0.2**
TDK **Taldyqorghan** 113.20 311 *e*PKiKP **PKiKP** **11 01 01.9 -0.6**
TDK **Taldyqorghan** 113.20 311 *i* PKIKP **PKiKP** **11 01 01.8 -0.6**
THN **Thein Dam** 113.42 297 *eP* **PKiKP** **11 01 03.2 0.0**
UDPR **Udaipur** 113.56 289 *eP* **PKiKP** **11 01 03.7 -0.1**
KURK **Kurchatov** 113.60 317 *i* PKIKP **PKiKP** **11 01 01.9 -1.1**
KURBB **Kurchatov Arra** 113.65 317 PKiKP **PKiKP** **11 01 01.9 -1.2**
comp=Z,14nm,0.7s,baz=95,slow=1.8,SNR=112
KURBB PP **PP** **11 02 04.8 -3.4**
comp=Z,4.1nm,1.1s,baz=96,slow=6.5,SNR=7.4
KURBB SKP 11 03 40.4
comp=Z,1.9nm,0.8s,baz=94,slow=2.2,SNR=4.9
MDOK **Medeo** 113.96 309 *e*PKiKP **PKiKP** **11 01 03.0 -1.2**
MDOK **Medeo** 113.96 309 *i* PKIKP **PKiKP** **11 01 02.9 -1.2**
TNSS **Tian-Shan** 114.02 309 *e*PKiKP PKPdf 11 01 03.3 -1.3
TNSS **Tian-Shan** 114.02 309 *i* PKIKP PKPdf 11 01 03.3 -1.3
AAA **Alma-Ata** 114.06 309 *e*PKP PKPdf 11 01 03.3 -0.9
AAA **Alma-Ata** 114.06 309 *e*PKiKP PKPdf 11 01 03.3 -1.0
KSH **Kashi** 114.32 305 PKP **PKiKP** **11 01 05.5 +0.6**
SRNI **Srinagar** 114.42 299 *eP* **PKiKP** **11 01 05.3 +0.2**
SGNS **Sogindy** 115.73 309 *e*PKP **PKiKP** **11 01 06.5 -1.0**
AAK **Ala-Archa** 115.78 308 **PKPdf** **11 01 06.7 -1.0**
AAK **Ala-Archa** 115.78 308 PKIKP **PKPdf** **11 01 06.7 -1.0**
BHUJ **Bhuj** 116.90 286 *eP* **PKPdf** **11 01 10.1 -0.1**
BRZS **Berezniki** 117.37 316 *e*PKP **PKPdf** **11 01 09.6 -0.8**
BRZS **Berezniki** 117.37 316 *e*PKIKP **PKPdf** **11 01 09.5 -0.8**
LMQ **La Malbaie** 117.51 46 **PKPdf** **11 01 09.7 -0.9**
NEEM **North Greenlan** 118.03 11 *i P* **PKPdf** **11 01 10.4 -0.8**
DZA **Taraz** 118.12 308 *e*PKP **PKPdf** **11 01 11.2 -0.9**
DZA **Taraz** 118.12 308 *e*PKIKP **PKPdf** **11 01 11.1 -0.9**
NOR **Nord** 118.68 3 *i P* **PKPdf** **11 01 11.0 -1.0**
BVAR **Borovoye Array** 118.72 320 PKP **PKPdf** **11 01 11.7 -1.1**
comp=Z,37nm,0.4s,baz=98,slow=2.9,SNR=113
KKAR **Karatay Array** 118.73 309 **PKPdf** **11 01 12.1 -1.1**
KKAR **Karatay Array** 118.73 309 PKIKP **PKPdf** **11 01 12.1 -1.1**
BORK **Borovoye** 118.76 320 *c iP*KIKP **PKPdf** **11 01 11.3 -1.6**
IUG **Iuzhnay** 119.04 307 *e*PKP **PKPdf** **11 01 13.1 -0.8**
IUG **Iuzhnay** 119.04 307 *e*PKIKP **PKPdf** **11 01 13.1 -0.8**
UPNV **Upernavik** 119.19 17 *i P* **PKPdf** **11 01 12.4 -0.7**
BRLS **Borolday** 119.22 308 *e*PKP **PKPdf** **11 01 13.5 -0.6**
BRLS **Borolday** 119.22 308 *e*PKIKP **PKPdf** **11 01 13.5 -0.6**
KBL **Kabul** 119.25 299 **PKPdf** **11 01 14.7 0.0**
KBL **Kabul** 119.25 299 PKIKP **PKPdf** **11 01 14.7 0.0**
CHM **Chimkent** 119.36 308 *e*PKP **PKPdf** **11 01 13.5 -0.9**
CHM **Chimkent** 119.36 308 *e*PKIKP **PKPdf** **11 01 13.5 -0.9**
SCHQ **Schefferville** 119.44 38 PKP **PKPdf** **11 01 12.1 -2.0**
comp=Z,66nm,0.8s,baz=266,slow=4.4,SNR=5.4
BDFB **Brasilia** 119.75 123 PKP **PKPdf** **11 01 15.6 -0.5**
comp=Z,2.1nm,0.4s,baz=242,slow=2.4,SNR=5.1
BDFB PKKPbc **PKKPbc** **11 11 28.5 +0.1**
comp=Z,5.0nm,0.6s,baz=69,slow=5.9,SNR=6.3
OPO **Ambohidratompo** 120.22 232 PKP **PKPdf** **11 01 17.0 0.0**
comp=Z,8.8nm,0.7s,baz=131,slow=3.1,SNR=12
MAL2 **Monte Alegre,** 121.39 106 **PKiKP** **11 01 19.6 +0.2**
SAQQ **Saqqaq** 121.66 19 *i P* **PKPdf** **11 01 17.2 -0.8**
SPA0 **Spitsbergen Ar** 122.09 356 *eP* **PKPdf** **11 01 18.2 -0.4**
SPITS **Spitsbergen Ar** 122.09 356 PKP **PKPdf** **11 01 18.3 -0.4**
comp=Z,55nm,0.7s,baz=90,slow=5.0,SNR=22
ILULI **Ilulissat** 122.31 19 *i P* **PKPdf** **11 01 18.4 -0.8**
DAG **Danmarks Havn** 123.10 5 *i P* **PKPdf** **11 01 19.4 -1.2**
SFJD **Kangerlussuaq** 123.53 22 *i P* **PKPdf** **11 01 20.6 -1.0**
SUMG **Summit** 123.63 13 **PKPdf** **11 01 21.6 -0.6**
SUMG **Summit** 123.63 13 PKIKP **PKPdf** **11 01 21.6 -0.6**
SUMG **Summit** 123.63 13 *i P* **PKPdf** **11 01 21.9 -0.3**
SVE **Sverdlovsk** 123.72 325 *e*PKiKP **PKPdf** **11 01 22.1 -0.2**
SVE pmax pmax
comp=Z,63nm,0.8s
NUUK **Nuuk** 124.40 25 *i P* **PKPdf** **11 01 23.3 0.0**
ARTI **Arti** 125.03 325 **PKPdf** **11 01 24.3 -0.5**
ARTI **Arti** 125.03 325 *i* PKIKP **PKPdf** **11 01 23.7 -1.1**
ARTI 11 03 21.8
ARTI 11 07 36.1
ARTI SS SS 11 19 29.8 -4.0
DBG **Daneborg** 125.22 7 *i P* **PKPdf** **11 01 24.3 -0.4**
DY2G **Dye2** 125.29 21 *i P* **PKPdf** **11 01 25.1 -0.2**
BOSA **Boshof** 125.61 206 PKP **PKiKP** **11 01 27.5 0.0**
comp=Z,14nm,1.0s,baz=222,slow=2.0,SNR=11
ABKAR **Akbulak array** 125.68 316 **PKPdf** **11 01 25.5 -0.8**
IVI **Ivigtut** 127.20 27 *i P* **PKPdf** **11 01 28.3 -0.5**
NRS **Narsarsuaq** 128.39 27 *i P* **PKPdf** **11 01 30.1 -0.9**
LVZ **Lovozero** 128.42 344 **PKPdf** **11 01 30.4 -0.6**
LVZ **Lovozero** 128.42 344 *d iP*KIKP **PKPdf** **11 01 31.0 0.0**
LBTB **Lobatse** 128.60 209 PKP **PKPdf** **11 01 32.8 0.0**
comp=Z,6.3nm,0.6s,baz=176,slow=2.6,SNR=12
KIRV **Kirov** 128.76 330 *d iP*KIKP **PKPdf** **11 01 31.3 -0.5**
APA **Apatity** 128.98 345‖ *i P*KIKP PKPpre 11 01 26.3
APA *i* 11 03 40.5
APA *i* 11 03 52.0
ARA0 **ARCESS Array S** 129.03 349 *eP* **PKPdf** **11 01 31.6 -0.5**
ARCES **ARCESS Array B** 129.03 349 PKP **PKPdf** **11 01 31.6 -0.5**
comp=Z,32nm,0.6s,baz=19,slow=0.9,SNR=68
ARCES PP **PP** **11 03 50.3 +0.4**
comp=Z,20nm,1.0s,baz=330,slow=4.2,SNR=7.2
KTK1 **Kautokeino** 129.88 350 *eP* **PKPdf** **11 01 32.6 -1.1**
TRO **Tromso** 129.96 352 *eP* **PKPdf** **11 01 33.1 -0.6**
MATP **Matopo** 131.03 215 PKP **PKiKP** **11 01 40.0 +1.4**
comp=Z,12nm,0.7s,baz=146,slow=2.0,SNR=23
MATP SKP 11 04 12.9
comp=Z,10nm,0.7s,baz=153,slow=3.9,SNR=12
KLMR **Klimovskoe** 131.78 336 *e*PKIKP **PKPdf** **11 01 36.0 -1.5**
KLMR pmax pmax
comp=Z,94nm,1.4s
BELG **Belogornoye** 132.29 323 SKPbc **SKPbc** **11 04 08.8 +0.6**
comp=Z,57nm,0.9s,baz=85,slow=2.5,SNR=11
BELG **Belogornoye** 132.29 323 *d iP*KIKP **PKPdf** **11 01 37.9 -0.8**
FAUS **Fauske** 132.54 353 *eP* **PKPdf** **11 01 37.3 -1.5**
STOK **Stokkvaagen** 133.81 353 *eP* **PKPdf** **11 01 40.5 -0.6**
LEIR **Leirfjorden** 134.01 353 *eP* **PKPdf** **11 01 41.5 -0.1**
LSZ **Lusaka** 135.34 219 **PKPdf** **11 01 46.4 +0.7**
LSZ **Lusaka** 135.34 219 PKP **PKPdf** **11 01 46.1 +0.4**
comp=Z,14nm,0.6s,baz=140,slow=2.6,SNR=17
LSZ SKPbc **SKPbc** **11 04 20.3 +1.0**
comp=Z,2.2nm,0.4s,baz=148,slow=3.4,SNR=3.9
AKT **Akhty** 135.66 309 *eP* **Pdif** **10 58 58.6 +5.7**
AKT *e* 11 01 43.9
AKT *e* 11 04 31.3
AKT *e*PPP PPP 11 07 34.4
AKT *e* 11 07 55.6
AKT pmax pmax
comp=Z,654nm,0.6s
MOS **Moscow** 135.72 331 *i* PKIKP **PKPdf** **11 01 42.6 -2.4**
MOS *e* 11 03 59.9
MOS pmax pmax
comp=Z,61nm,0.8s
FINES **FINESS Array B** 135.79 343 PKhKP PKPpre 11 01 31.7
comp=Z,2.9nm,0.6s,baz=51,slow=4.0,SNR=12
FINES PKP **PKPdf** **11 01 45.3 +0.4**
comp=Z,18nm,0.5s,baz=56,slow=3.4,SNR=22
FINES SKPbc **SKPbc** **11 04 19.9 +0.9**
comp=Z,28nm,0.8s,baz=56,slow=4.8,SNR=15
PUL **Pulkovo** 135.83 339‖ *e*PKIKP **PKPdf** **11 01 45.9 +0.8**
VRH **Novokhopyorsk** 136.11 324 *e*PKIKP **PKPdf** **11 01 42.1 -3.8**
VRH pmax pmax
comp=Z,30nm,0.8s
OBN **Obninsk** 136.58 331 **PKPdf** **11 01 45.9 -0.7**
OBN **Obninsk** 136.58 331 PKP **PKPdf** **11 01 46.0 -0.6**
comp=Z,42nm,0.5s,baz=350,slow=7.3,SNR=10
OBN SKPbc **SKPbc** **11 04 22.6 +1.0**
comp=Z,27nm,0.4s,baz=15,slow=4.9,SNR=6.1
OBN **Obninsk** 136.58 331⇑ *e*PKIKP **PKPdf** **11 01 45.3 -1.3**
OBN pmax pmax
comp=Z,51nm,0.9s
LPSR **Galich'ya Gora** 136.89 327 *e*PKIKP **PKPdf** **11 01 44.8 -2.5**
LPSR pmax pmax
comp=Z,40nm,1.0s
TSUM **Tsumeb** 137.09 203 PKP **PKPdf** **11 01 49.7 +0.8**
comp=Z,4.7nm,0.5s,baz=116,slow=2.0,SNR=6.4
TSUM SKPbc **SKPbc** **11 04 24.8 +0.3**
comp=Z,5.8nm,0.8s,baz=61,slow=22,SNR=4.5
VSR **Storozhevoye** 137.50 325 *e*PKIKP **PKPdf** **11 01 45.2 -3.3**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD **Divnogorie** 137.56 325 *e*PKIKP **PKPdf** **11 01 44.9 -3.7**
VORD pmax pmax
comp=Z,30nm,0.9s
MOL **Molde** 138.00 356 *eP* PKPpre 11 01 39.6
VSU **Vasula** 138.02 340⇑ *e*PKIKP **PKPdf** **11 01 49.9 +0.8**
NCK **Nalchik** 138.04 313 ‖ *i*PKIKP **PKiKP** **11 01 51.0 -1.0**
GNI **Garni** 138.17 307 PKP **PKPdf** **11 01 50.6 +0.3**
comp=Z,11nm,0.6s,baz=174,slow=2.9,SNR=9.8
GNI **Garni** 138.17 307 *d iP*KIKP **PKPdf** **11 01 50.2 -0.1**
DOMB **Dombas** 138.40 354 *eP* PKPpre 11 01 40.6
AKN **Aaknes** 138.43 356 *eP* **PKPdf** **11 01 46.7 -3.1**
KBZ **Khabaz** 138.44 313 PKhKP PKPpre 11 01 41.2
comp=Z,2.5nm,0.7s,baz=132,slow=3.0,SNR=6.8
KBZ PKP **PKPdf** **11 01 50.4 0.0**
comp=Z,9.3nm,0.8s,baz=76,slow=4.2,SNR=8.0
KBZ **Khabaz** 138.44 313⇑ *e*PKIKP **PKPdf** **11 01 50.3 -0.1**
SHA1 **Shidzhatmaz** 138.60 313 *de*PKIKP **PKPdf** **11 01 50.8 -0.3**
NB2 **NORSAR Subarra** 139.15 352 PKP PKPpre 11 01 42.5
comp=Z,6.5nm,0.7s,baz=16,slow=3.2
NB2 pPKP **SKPbc** **11 04 29.4 +0.7**
comp=Z,25nm,0.8s,baz=11,slow=2.9
NB2 **NORSAR Subarra** 139.15 352 PKPab PKPpre 11 01 42.5
baz=16,slow=3.2
NOA **NORSAR Array B** 139.15 352 PKhKP PKPpre 11 01 42.0
comp=Z,15nm,0.9s,baz=18,slow=2.8,SNR=49
NOA PKP **PKPdf** **11 01 50.0 -1.3**
comp=Z,1.7nm,0.4s,baz=355,slow=1.7,SNR=12
NOA SKPbc **SKPbc** **11 04 29.6 +0.8**
comp=Z,15nm,0.8s,baz=17,slow=4.2,SNR=16
NOA **NORSAR Array B** 139.15 352 PKIKP **PKPdf** **11 01 50.0 -1.3**
NC602 **NORSAR Array S** 139.40 352 *eP* PKPpre 11 01 43.1
AGRB **Hanur-Agry** 139.62 307 *eP* **PKiKP** **11 01 56.3 +0.7**
HFS **Hagfors** 139.67 350 PKhKP PKPpre 11 01 44.4
comp=Z,26nm,0.4s,baz=64,slow=3.4,SNR=106
HFS PKP **PKPdf** **11 01 51.3 -0.8**
comp=Z,13nm,0.6s,baz=64,slow=3.4,SNR=7.4
HFS SKPbc **SKPbc** **11 04 31.0 +0.9**
comp=Z,15nm,0.8s,baz=345,slow=3.5,SNR=10
SUE **Sulen** 139.68 357 *eP* PKPpre 11 01 44.4
CUKT **Cukurca** 139.69 303 *eP* **PKPdf** **11 01 53.5 +0.4**
SKAR **Skarslia** 139.81 354 *eP* PKPpre 11 01 45.6
ASK **Askoy** 140.23 357 *eP* PKPpre 11 01 47.0
KOPR **Koprukoy-ERZUR** 140.35 308 *eP* **PKiKP** **11 01 57.3 +0.3**
VSLR **Vesyoloye** 140.48 314‖ *e*PKIKP **PKPdf** **11 01 52.2 -2.0**
MNK **Minsk** 140.67 335 *i* PKP **PKPdf** **11 01 49.0 -5.1**
MNK *i* PKP **PKPdf** **11 01 49.0 -5.1**
MNK *i* PKP **PKPdf** **11 01 49.0 -5.1**
baz=42
MNK *i* PKiKP **PKiKP** **11 01 52.3 -4.6**
MNK *i* pPKP **pPKPdf** **11 04 13.4 -3.7**
MNK *i PP* **PP** **11 04 58.4 -3.9**
MNK *i* SKS **SKSdf** **11 08 00.5 -5.3**
MNK *i* PPP PPP 11 08 11.2
MNK *i* SKKS **SKKSdf** **11 17 24.6 -8.0**
MNK *i* SS **SS** **11 22 37.4 -2.0**
MNK *i* SSS SSS 11 28 03.9
MNK *i* LRM MLR 12 03 19.2
comp=E,97nm,18.4s
MNK **Minsk** 140.67 335 *i* PKHKP PKPpre 11 01 48.9
MNK *i* 11 01 52.3
MNK *i* 11 04 58.3
MNK *i* 11 08 00.4
MNK *i* PPP PPP 11 08 11.2
MNK *i* SS SS 11 22 37.4 -2.1
MNK *i* SSS SSS 11 28 03.8
MNK MLR MLR
comp=N,143nm,22.0s
MNK MLR MLR
comp=Z,116nm,21.0s
MNK MLR MLR
comp=E,97nm,18.0s
KONO **Kongsberg** 140.69 353 ⇑PKHKP PKPpre 11 01 47.8
KONO **Kongsberg** 140.69 353 *eP* PKPpre 11 01 47.9
ODD1 **Odda** 140.71 356 *eP* PKPpre 11 01 47.8
NACGM **Naroch** 140.79 337 *e*PKP PKPpre 11 01 49.8
comp=Z,67nm,0.8s,baz=40
BLS5 **Blasjo** 141.21 356 *eP* PKPpre 11 01 49.5
KMY **Karmoy** 141.50 357 *eP* PKPpre 11 01 51.3
BNGB **Bingl** 141.51 307 *eP* PKPpre 11 01 51.5
BIGH **Upper Bighouse** 142.16 4 *eP* PKPpre 11 01 52.2
HOMB **Homborsund** 142.17 354 *eP* **PKPdf** **11 01 53.8 -2.8**
DYBB **Diyarbakir** 142.20 306 *eP* **PKPdf** **11 01 53.7 -3.8**
SNART **Snartemo** 142.22 355 *eP* **PKPdf** **11 01 53.2 -3.5**
LEWI **Lewis, Hebride** 142.24 7 *eP* PKPpre 11 01 52.2
LODK **Lodwar** 142.41 247 **PKPdf** **11 01 56.6 -2.0**
SVRC **Sivrice-ELAZID** 142.71 307 *eP* **PKPdf** **11 01 56.9 -1.6**
SUW **Suwalki** 142.78 338 *e*PKP **PKPdf** **11 01 55.2 -2.6**
AKASG **Malin Array Be** 142.82 330 PKhKP PKPpre 11 01 54.9
comp=Z,217nm,0.6s,baz=44,slow=4.3,SNR=854
AKASG SKPbc **SKiKP** **11 04 39.1 -0.3**
comp=Z,3.8nm,0.7s,baz=43,slow=2.7,SNR=6.7
AKBB **Malin Array Si** 142.82 330 *d iP*KHKP PKPpre 11 01 54.6
KIEV **Kiev** 142.84 330 ⇑P **PKPdf** **11 01 55.3 -2.7**
KIEV **Kiev** 142.84 330 ⇑PKHKP PKPpre 11 01 55.3
SHEL **Horse Pasture** 142.88 169 **PKPdf** **11 01 59.2 -0.1**
SHEL **Horse Pasture** 142.88 169 PKIKP **PKPdf** **11 01 59.2 -0.1**
ILIC **ilic-Erzincan** 142.93 309 *eP* **PKPdf** **11 01 57.7 -1.1**
MCD **Coleburn Disti** 143.11 4 *eP* PKPab 11 01 54.0 -2.5
KPL **Plockton** 143.16 6 *eP* PKPab 11 01 55.5 -1.1
SIM **Simferopol'** 143.63 319 *i* PKIKP PKPab 11 01 59.2 +0.3
SIM *e* 11 04 16.0
SIM pmax pmax
comp=Z,562nm,0.8s
DRUM **Mains of Drumt** 143.82 3 *eP* PKPbc 11 01 57.1 -1.9
MUD **Monsted U'grnd** 143.87 352 *i P* PKPbc 11 01 59.1 0.0
SVSK **Karacayir** 143.91 310 *eP* PKPab 11 02 00.2 +0.1
TOKT **Tokat** 144.08 311 *eP* **PKPdf** **11 02 00.8 +0.1**
COP **Copenhagen** 144.12 349 *i P* PKPbc 11 01 59.9 0.0
INVG **Invergeldie, C** 144.21 5 *eP* PKPbc 11 01 58.9 -1.3
LAWE **Loch Awe, Argy** 144.25 6 *eP* PKPbc 11 01 59.2 -1.1
SSRD **Sdr. Stenderup** 144.76 352 *i P* PKPbc 11 02 01.7 -0.2
EDI **Edinburgh** 144.77 4 *eP* **PKPdf** **11 02 00.7 -0.5**
ESY **Stoneypath** 144.81 4 *eP* **PKPdf** **11 02 00.3 -1.0**
R9F13 **Warsaw-Wawer** 144.96 338 *e*PKP **PKPdf** **11 02 00.4 -1.3**
SORM **Soroca** 144.97 328 ⇑P **PKPdf** **11 02 01.8 0.0**
SORM **Soroca** 144.97 328 ⇑PKIKP **PKPdf** **11 02 01.8 0.0**
BNN **Bunyan** 145.12 309 *eP* **PKPdf** **11 02 03.0 +0.4**
BZK **Bozkurt** 145.15 315 ‖P **PKPdf** **11 02 03.0 +0.6**
IDGL **Inch Island, C** 145.16 9 PKP **PKPbc** **11 02 03.0 -0.1**
IDGL **Inch Island, C** 145.16 9 *eP* **PKPbc** **11 02 02.9 -0.1**
YOZ **Yozgat** 145.21 310 *eP* **PKPbc** **11 02 04.0 0.0**
GKP **Gorka Klasztor** 145.26 343 *e*PKP **PKPbc** **11 02 03.3 -0.2**
CLGH **Cloghs, Cushen** 145.33 7 *eP* **PKPbc** **11 02 03.3 -0.3**
EKA **Eskdalemuir Ar** 145.36 4 PKPbc **PKPdf** **11 02 03.1 +0.8**
comp=Z,79nm,0.7s,baz=346,slow=2.8,SNR=169
ESK **Eskdalemuir** 145.37 4 **PKPbc** **11 02 03.4 -0.4**
ESK **Eskdalemuir** 145.37 4 *eP* **PKPdf** **11 02 02.6 +0.3**
ESK **Eskdalemuir** 145.37 4 PKIKP **PKPbc** **11 02 03.4 -0.4**
BEL **Belsk** 145.40 338 *e*PKP **PKPbc** **11 02 04.2 +0.3**
KIS **Kishinev** 145.48 326 ‖P **PKPdf** **11 02 02.2 -0.5**
KIS **Kishinev** 145.48 326 ‖PKIKP **PKPdf** **11 02 02.2 -0.5**
NEWG **New Galloway** 145.49 5 *eP* **PKPdf** **11 02 02.9 +0.4**
TAHT **Tahtakopru-Hat** 145.68 305 *eP* **PKPbc** **11 02 05.7 +0.5**
GAL1 **Galloway** 145.69 6 *eP* **PKPdf** **11 02 02.1 -0.8**
CEYT **Ceyhan** 145.82 306 *eP* **PKPbc** **11 02 05.5 -0.1**
CIDE **Kastamonu/Cide** 145.88 315 ⇑P **PKPdf** **11 02 04.5 +1.0**
EDMD **Edmundbyers** 145.93 3 *eP* **PKPdf** **11 02 04.3 +1.0**
IASR **Iasi** 146.00 327 ⇑P **PKPbc** **11 02 05.4 -0.4**
KESW **Keswick, Cumbr** 146.10 4 *eP* **PKPdf** **11 02 04.0 +0.4**
ASF **Jabal al Asfar** 146.12 297 PKPbc **PKPbc** **11 02 07.2 +0.4**
comp=Z,68nm,0.8s,baz=132,slow=2.1,SNR=76
CMRD **Camardi-Nigde** 146.17 307 *eP* **PKPbc** **11 02 06.9 +0.2**
VASR **Vaslui** 146.25 326 ‖P **PKPbc** **11 02 06.7 +0.3**
KARA **Karaisali** 146.26 307 *eP* **PKPbc** **11 02 07.3 +0.5**
IOMK **Kirk Michael** 146.31 6 *eP* **PKPdf** **11 02 04.2 +0.3**
ILTH **Belurgan, Co L** 146.34 8 PKP **PKPbc** **11 02 05.5 -0.9**
ILTH **Belurgan, Co L** 146.34 8 *eP* **PKPdf** **11 02 05.2 +1.2**
BRTR **Keskin Array B** 146.37 311 **PKPdf** **11 02 04.1 -0.6**
BRTR **Keskin Array B** 146.37 311 PKPbc **PKPbc** **11 02 06.8 -0.5**
comp=Z,43nm,0.7s,baz=88,slow=1.3,SNR=109
BRTR **Keskin Array B** 146.37 311 PKIKP **PKPdf** **11 02 04.1 -0.6**
GDLE **Glaisdale, N Y** 146.39 2 *eP* **PKPdf** **11 02 04.6 +0.5**
KIRS **Kirsehir-Merke** 146.41 310 ‖P **PKPdf** **11 02 04.9 +0.2**
IGLA **Glengowla, Co** 146.45 11 PKP **PKPbc** **11 02 06.1 -0.6**
KWP **Kalwaria Pacla** 146.46 334 *e*PKP **PKPbc** **11 02 07.0 0.0**
KAMT **Kaman** 146.46 311 *eP* **PKPbc** **11 02 06.3 -1.1**
GULA **Gulagac** 146.48 309 *eP* **PKPbc** **11 02 07.4 -0.1**
BIR **Birlad** 146.58 326 ⇑P **PKPbc** **11 02 08.3 +0.9**
BIR **Birlad** 146.58 326 ⇑PKP2 **PKPbc** **11 02 08.3 +0.9**
VLDR **Vladesti** 146.60 325 ‖P **PKPbc** **11 02 08.0 +0.5**
TLCR 146.61 323 ‖P **PKPbc** **11 02 06.9 -0.6**
TLCR 146.61 323 ‖PKIKP **PKPbc** **11 02 06.9 -0.6**
VARL **Varlezi** 146.69 325 ‖P **PKPbc** **11 02 08.0 +0.4**
SCTR **Scanteiesti** 146.76 325 ‖P **PKPbc** **11 02 08.5 +0.6**
MERS **Mersin** 146.79 306 *eP* **PKPbc** **11 02 08.3 -0.1**
GHRR 146.82 326 ⇑P **PKPbc** **11 02 08.9 +0.9**
JURR **Jurilovca** 146.83 323 ‖P **PKPbc** **11 02 08.3 +0.2**
BURAR **Bucovina Array** 146.86 330 **PKPdf** **11 02 05.7 +0.4**
BURAR **Bucovina Array** 146.86 330 ‖P **PKPbc** **11 02 08.6 +0.4**
BURAR **Bucovina Array** 146.86 330 ‖PKP2 **PKPbc** **11 02 08.6 +0.4**
AFSR **Afar-Bala (An** 146.88 311 *eP* **PKPbc** **11 02 08.7 +0.2**
ANTO **Ankara** 146.89 312 **PKPdf** **11 02 05.9 +0.4**
ANTO **Ankara** 146.89 312 ⇑P **PKPdf** **11 02 05.5 0.0**
ANTO **Ankara** 146.89 312 PKIKP **PKPdf** **11 02 05.9 +0.4**
TESR **Tescani** 146.92 327 ‖P **PKPbc** **11 02 08.0 -0.2**
IZVR **Izvoarele** 146.97 325 ‖P **PKPbc** **11 02 08.7 +0.3**
CFR **Carcaliu** 146.99 324 ‖P **PKPbc** **11 02 08.3 -0.2**
CFR **Carcaliu** 146.99 324 ‖PKP2 **PKPbc** **11 02 08.3 -0.2**
COSR **Cosmesti PH** 147.01 325 ‖P **PKPbc** **11 02 09.5 +1.0**
TPGR **Topolog** 147.03 323 ‖P **PKPbc** **11 02 09.0 +0.3**
YESY **Yesilyurt** 147.05 308 *eP* **PKPbc** **11 02 07.1 +1.2**
PANC **Pancliu** 147.09 326 ⇑P **PKPbc** **11 02 09.4 +0.7**
OJC **Ojcow** 147.09 338 *e*PKP **PKPbc** **11 02 08.6 0.0**
DSB **Dublin** 147.09 8 PKP **PKPbc** **11 02 08.1 -0.4**
ONER **Baraj Valea Uz** 147.17 327 ‖P **PKPbc** **11 02 09.7 +0.8**
MMAI **Mount Meron Ar** 147.18 299 PKPbc **PKPbc** **11 02 09.8 +0.3**
comp=Z,103nm,0.6s,baz=64,slow=3.8,SNR=178
WME **Myndd Eilian** 147.19 6 *eP* **PKPdf** **11 02 05.0 -0.4**
ODBI **Odobesti** 147.21 325 ⇑P **PKiKP** **11 02 10.1 -0.5**
KIZK **Mersin** 147.21 306 *eP* **PKPbc** **11 02 09.2 -0.1**
STHS **Stebnicka Huta** 147.21 335 *e*PKP2 **PKPbc** **11 02 08.7 -0.3**
STHS **Stebnicka Huta** 147.21 335 *e*PKP **PKPbc** **11 02 08.7 -0.3**
STHS *e* 11 02 13.4
TIRR **Tirgusor** 147.28 322 ‖P **PKPbc** **11 02 08.4 -0.9**
TIRR **Tirgusor** 147.28 322 ‖PKIKP **PKPbc** **11 02 08.4 -0.9**
WLF1 **Llynfaes** 147.28 6 *eP* **PKPdf** **11 02 04.9 -0.6**
VRI **Vrincioaia** 147.31 326 ⇑P **PKPbc** **11 02 09.5 +0.1**
VRI **Vrincioaia** 147.31 326 ⇑PKP2 **PKPbc** **11 02 09.5 +0.1**
PLOR **Plostina** 147

comp=Z,89nm,0.8s
CLL **Collm** 148.13 346 *e*PKPdf **PKPdf** 11 02 07.0 0.0
CLL ⇓*i*PKPbc **PKPbc** 11 02 11.3 +0.1
comp=Z,226nm,0.9s
CLL ⇑*i*PKPab **PKPab** 11 02 16.4 -0.1
comp=Z,89nm,0.8s
CLL *e*SKPdf **SKPdf** 11 04 43.0 +0.3
CLL *es*PKPab **sPKPab** 11 05 33.0 -0.6
EIL Elat 148.18 293 PKP **PKPdf** 11 02 06.3 -1.5
comp=Z,91nm,0.9s,baz=138,slow=2.1,SNR=9.0
EIL PKPbc **PKPbc** 11 02 12.2 +0.2
comp=Z,73nm,0.7s,baz=83,slow=0.4,SNR=52
HLM1 Long Mynd 148.18 5 *e*P **PKPdf** 11 02 06.9 -0.2
KRLC Kraliky 148.22 341 *e*PKPDF **PKPdf** 11 02 07.6 +0.3
KRLC ⇑*e*PKP **PKPbc** 11 02 12.1 +0.6
KRLC Kraliky 148.22 341 *e*PKHKP PKPpre 11 02 07.6
MORC Moravsky Berou 148.24 340 ⇓P **PKPbc** 11 02 11.3 -0.3
MORC Moravsky Berou 148.24 340 *e*PKP **PKPdf** 11 02 06.9 -0.4
MORC *e* 11 02 11.9
MORC *e* 11 02 17.7
MORC Moravsky Berou 148.24 340 ⇓PKHKP PKPpre 11 02 11.3
KECS Kecovo 148.26 335 *e*PKP2 **PKiKP** 11 02 12.5 -0.3
KECS Kecovo 148.26 335 *e*PKP **PKiKP** 11 02 12.5 -0.3
KECS *e* 11 02 17.9
CBBR Cluj-Babes-Bol 148.26 330 ⇑P **PKPbc** 11 02 12.1 +0.4
CJR Cluj-Napoca 148.28 330 ⇓P **PKPbc** 11 02 12.2 +0.4
CJR Cluj-Napoca 148.28 330 ⇓PKP2 **PKPbc** 11 02 12.2 +0.4
BRG Berggiesshubel 148.30 344 ⇓*e*PKPf 11 02 07.6
BRG Amp 11 02 08.5
comp=Z,15nm,1.0s
BRG ⇑PKP **PKPbc** 11 02 12.1 +0.5
BRG Amp 11 02 13.6
comp=Z,105nm,1.0s
BRG PKPab **PKPab** 11 02 17.5 +0.2
BRG Amp 11 02 18.1
comp=Z,39nm,0.7s
BRG Berggiesshubel 148.30 344 PP PP 11 05 40.0 -6.7
CSS Mathiatis 148.32 303 *e*P **PKPbc** 11 02 11.6 -0.6
SILT Sile 148.40 316 ⇓P **PKPbc** 11 02 12.1 -0.1
PVCC Panska Ves 148.46 343 ⇑*e*PKP **PKiKP** 11 02 12.9 -0.2
PVCC Panska Ves 148.46 343 *e*PKP2 **PKiKP** 11 02 12.9 -0.2
MARR Marisel-Cluj 148.53 330 ⇓P **PKPbc** 11 02 12.4 -0.1
RICC Richard 148.56 344 ⇑*e*PKP **PKiKP** 11 02 13.0 -0.3
DRGR 148.63 331 ⇓P **PKPbc** 11 02 12.7 0.0
DRGR 148.63 331 ⇓PKHKP PKPpre 11 02 12.7
PRD Provadia 148.64 321 *e*P **PKPbc** 11 02 13.2 +0.5
NEF NEVSHA 148.66 322 *e*P **PKPbc** 11 02 13.3 +0.5
HSKC Hora Svate Kat 148.67 345 ⇑*e*PKP **PKPbc** 11 02 12.8 +0.2
HSKC *e*PKPAB **PKPab** 11 02 19.1 +0.2
MCH1 Michaelchurch 148.69 5 *e*P **PKPdf** 11 02 07.6 -0.3
TNR Turnu Rosu 148.71 328 ⇑P **PKPbc** 11 02 12.8 -0.1
TNR Turnu Rosu 148.71 328 ⇑PKHKP PKPpre 11 02 12.8
KLYT Kilyos 148.73 317 ⇓P **PKPbc** 11 02 12.3 -0.6
ARR Arges 148.73 327 ⇑P **PKiKP** 11 02 14.0 +0.1
PCED Cedros 148.83 49 *e*PKP **PKiKP** 11 02 14.2 0.0
CALA Caldeira 148.85 49 *e*PKP **PKPbc** 11 02 13.9 +0.4
MONM Monmouth 148.86 5 *e*P **PKPdf** 11 02 08.5 +0.4
RAZG Razgrad 148.91 323 ⇓P **PKPbc** 11 02 13.5 +0.1
HOR Horta 148.92 49 *e*PKP **PKiKP** 11 02 14.5 +0.1
PSZ Piszkesteto 148.95 335 ⇓P **PKPbc** 11 02 13.5 0.0
VRAC Vranov 148.95 340 ⇓P **PKPbc** 11 02 13.7 +0.4
VRAC Vranov 148.95 340 *e*PKP **PKPdf** 11 02 07.8 -0.6
VRAC *e* 11 02 13.4
VRAC *e* 11 02 20.5
VRAC Vranov 148.95 340 ⇓PKHKP PKPpre 11 02 13.7
PRU Pruhonice 148.95 343 ⇑*e*PKP **PKPbc** 11 02 13.6 +0.3
PRU *e*PKPAB **PKPab** 11 02 20.3 +0.3
PRU Pruhonice 148.95 343 *e*PKHKP PKPpre 11 02 13.6
PRU *e* 11 02 20.3
JAVC Velka Javorina 148.99 338 *e*PKP **PKiKP** 11 02 14.8 +0.5
LOZB Loznitsa 148.99 322 ⇑P **PKPbc** 11 02 13.8 +0.2
PCAN Candelaria 149.05 49 *e*PKP **PKiKP** 11 02 15.0 +0.3
PICO Pico 149.08 49 *e*PKP **PKiKP** 11 02 14.9 0.0
SRBC Serra Branca 149.10 48 *e*PKP **PKiKP** 11 02 14.6 -0.2
LOT Lotru 149.11 328 ⇓P **PKPbc** 11 02 14.0 +0.1
ROSA Rosais 149.11 48 *e*PKP **PKPbc** 11 02 14.5 +0.5
HUMR Humele 149.12 326 ⇓P **PKPbc** 11 02 13.3 -0.5
PGRA Graciosa 149.15 47 *e*PKP **PKiKP** 11 02 14.6 -0.3
PPNO Prainha do Nor 149.20 49 *e*PKP **PKiKP** 11 02 15.3 +0.1
DEV Deva 149.21 329 ⇓P **PKPbc** 11 02 14.4 +0.3
DEV Deva 149.21 329 ⇓PKHKP PKPpre 11 02 14.4
KRUC Moravsky 149.23 340 *e*PKP **PKPdf** 11 02 08.5 -0.4
KRUC *e* 11 02 13.9
KRUC *e* 11 02 21.5
PMAN Manadas 149.25 48 *e*PKP **PKiKP** 11 02 15.0 -0.1
TREC Trest 149.31 341 ⇑*e*PKP **PKPbc** 11 02 14.6 +0.4
TREC Trest 149.31 341 *e*PKHKP PKPpre 11 02 14.6
SMOL Smolenice 149.36 338 *e*PKP2 **PKiKP** 11 02 15.4 +0.3
SZH Strazhitsa 149.40 323 *e*P **PKPbc** 11 02 14.5 -0.1
SIRR Siria 149.50 331 ⇓P **PKPbc** 11 02 15.0 +0.3
MODS Modra-Piesok 149.54 338 *e*PKHKP PKPpre 11 02 09.7
MODS *e* 11 02 23.5
MODS Modra-Piesok 149.54 338 *e*PKP **PKPdf** 11 02 09.7 +0.3
MODS *e* 11 02 15.6
MODS *e* 11 02 23.5
ZVC Zvikov 149.55 343 ⇑*e*PKP **PKPbc** 11 02 15.1 +0.4
ZVC *e*PKPAB **PKPab** 11 02 23.2 +0.7
JMB Yambol 149.56 321 *e*P **PKPbc** 11 02 15.1 +0.1
GZR Gura Zlata 149.63 329 ⇓P **PKPbc** 11 02 14.8 -0.3
GZR Gura Zlata 149.63 329 ⇓PKHKP PKPpre 11 02 14.8
SRO Srobarova 149.64 337 *e*PKHKP PKPpre 11 02 15.8
SRO *e* 11 02 23.6
SRO Srobarova 149.64 337 *e*PKP **PKiKP** 11 02 15.8 +0.2
SRO *e* 11 02 23.6
ELND Elena 149.67 322 ⇓P **PKPbc** 11 02 15.4 +0.2
SURR Surduc 149.68 330 ⇓P **PKPbc** 11 02 15.0 -0.1
PSBA Serra de Santa 149.72 47 *e*PKP **PKiKP** 11 02 16.3 +0.2
VLAD Vladila 149.79 325 ⇓P **PKiKP** 11 02 15.9 -0.1
BAND Balkesir-Ban 149.81 316 ⇓P **PKPbc** 11 02 15.4 -0.3
PAGU Agualva, Azore 149.82 47 *e*PKP **PKiKP** 11 02 16.4 +0.1
BEBN Eben Emael 149.83 354 *d*PKPbc **PKPbc** 11 02 15.3 +0.1
BEBN *d*PKP **PKPab** 11 02 23.2 -0.3
UCC Uccle 149.93 356 *d*PKPbc **PKPbc** 11 02 15.6 0.0
UCC *d*PKP **PKPab** 11 02 23.4 -0.6
SBD Saint Breward 149.94 7 *e*P **PKPdf** 11 02 09.8 -0.1
MEM Membach 149.98 354 *d*PKPdf **PKPdf** 11 02 09.8 -0.1
MEM *d*PKPbc **PKPbc** 11 02 15.7 0.0
MEM *d*PKP **PKPab** 11 02 23.8 -0.5
BTNL Ternell 149.99 354 *d*PKPdf **PKPdf** 11 02 09.9 -0.1
BTNL *d*PKPbc **PKPbc** 11 02 15.8 +0.1
KHC Kasperske Hory 149.99 343 *e*PKPDF **PKPdf** 11 02 10.3 +0.2
KHC ⇑*e*PKP **PKiKP** 11 02 16.2 -0.2
KHC *e*PKPAB **PKPab** 11 02 25.4 +1.0
KHC *x* 11 02 43.5
KHC Kasperske Hory 149.99 343 *e*PKIKP **PKPdf** 11 02 10.3 +0.2
KHC *e* 11 02 25.4
BZS Buzias 150.01 330 ⇑P **PKPbc** 11 02 15.9 0.0
BZS Buzias 150.01 330 ⇑PKHKP PKPpre 11 02 15.9
GRFO Grafenberg 150.04 347 **PKPbc** 11 02 16.1 +0.3
GRFO Grafenberg 150.04 347 PKHKP PKPpre 11 02 16.1
BSTI Sart Tilman 150.05 354 *d*PKPbc **PKPbc** 11 02 16.0 +0.2
BSTI *d*PKP **PKPab** 11 02 24.1 -0.4
CKRC Cesky Krumlov 150.08 342 *e*PKPDF **PKPdf** 11 02 10.9 +0.7
CKRC ⇑*e*PKP **PKiKP** 11 02 16.4 -0.1
CKRC *e*PKPAB **PKPab** 11 02 25.5 +0.7
CKRC Cesky Krumlov 150.08 342 *e*PKHKP PKPpre 11 02 10.9
CKRC *e* 11 02 25.5
PLVB Pleven 150.08 324 ⇓P **PKPbc** 11 02 16.3 +0.2
HERR Herculane 150.18 329 ⇑P **PKPbc** 11 02 16.2 -0.1
GERES GERESS Array B 150.22 343 PKP **PKPdf** 11 02 10.4 -0.2
comp=Z,3.6nm,0.8s,baz=48,slow=2.0,SNR=20
GERES PKPbc **PKPbc** 11 02 16.4 0.0
comp=Z,50nm,0.8s,baz=21,slow=2.5,SNR=88
BHOU Houvegnez 150.23 354 *d*PKPdf **PKPdf** 11 02 11.0 +0.6
BHOU *d*PKPbc **PKPbc** 11 02 16.5 +0.2
BHOU *d*PKP **PKPab** 11 02 25.3 0.0
BCLA Clavier 150.24 355 *d*PKPbc **PKPbc** 11 02 16.1 -0.2
BCLA *d*PKP **PKPab** 11 02 25.0 -0.3
CCA1 Carnmenellis 150.24 8 *e*P **PKPdf** 11 02 12.8 +2.4
DJES Djerdap 150.29 328 ⇑P **PKPbc** 11 02 15.9 -0.7
BGES Gesves 150.29 355 *d*PKPbc **PKPbc** 11 02 16.1 -0.3
BGES *d*PKP **PKPab** 11 02 24.9 -0.6
BAIL Bailesti 150.33 326 ⇓P **PKiKP** 11 02 17.4 +0.2
DIM Dimitrovgrad 150.39 321 *e*P **PKiKP** 11 02 17.3 -0.1
BMRD Maredsous 150.40 355 *d*PKPbc **PKPbc** 11 02 16.6 0.0
BMRD *d*PKP **PKPab** 11 02 25.3 -0.6
CONA Conrad Observa 150.40 340 *i*PKP **PKPbc** 11 02 17.0 +0.2
comp=Z,75nm,0.6s,SNR=34
BANR Banloc 150.41 331 ⇑P **PKiKP** 11 02 17.5 +0.2
RONA Rosalia, Austr 150.45 339 *i*PKP **PKPbc** 11 02 17.0 +0.1
comp=Z,128nm,0.6s,SNR=36
RCHB Rochefort 150.50 355 *d*PKPdf **PKPdf** 11 02 11.6 +0.8
RCHB *d*PKPbc **PKPbc** 11 02 16.8 -0.1
RCHB *d*PKP **PKPab** 11 02 25.9 -0.5
MPEP Malo Peshtene 150.58 325 *e*P **PKPbc** 11 02 17.5 +0.2
MDVR Moldovita 150.59 329 ⇓P **PKPbc** 11 02 17.1 -0.3
DOU Dourbes 150.62 355 *d*PKPbc **PKPbc** 11 02 17.2 0.0
KDZ Kurdzhali 150.79 321 *e*P **PKPbc** 11 02 17.7 -0.2
PLD Plovdiv 150.81 322 *e*P **PKPbc** 11 02 17.4 -0.5
MORH Mrgy, Hungar 150.83 334 *e*P **PKPbc** 11 02 17.0 -0.8
MORH Mrgy, Hungar 150.83 334 ⇑P **PKPbc** 11 02 17.0 -0.8
WLF Walferdange 150.90 353 *d*PKPdf **PKPdf** 11 02 12.1 +0.7
WLF *d*PKPbc **PKiKP** 11 02 18.4 +0.3
WLF *d*PKP **PKPab** 11 02 27.6 -0.5
MOA Molln 150.96 342 *i*PKP **PKPbc** 11 02 17.8 -0.3
comp=Z,6.6nm,0.5s,SNR=10
ARSA Arzberg 151.10 339 *i*PKP **PKPbc** 11 02 17.9 -0.5
comp=Z,9.9nm,0.5s,SNR=10
RZN Rozhen 151.10 321 *e*P **PKPbc** 11 02 18.7 -0.1
BLSH Balsha 151.16 325 *e*P **PKiKP** 11 02 19.3 +0.3
EZN Ezine 151.24 317 ⇓P **PKPbc** 11 02 18.4 -0.5
EZN Ezine 151.24 317 ⇓PKIKP **PKPbc** 11 02 18.4 -0.5
BIOA Bad Ischl, Aus 151.29 342 *i*PKP **PKPbc** 11 02 18.2 -0.6
comp=Z,12nm,0.5s,SNR=5.2
PLNA Plana 151.34 324 *e*P **PKiKP** 11 02 19.5 0.0
VTS Vitosha 151.35 324 *e*P **PKPbc** 11 02 19.2 -0.1
BOVS Bovan 151.44 328 ⇓P **PKPbc** 11 02 18.9 -0.3
CMLA Cha da Macela 151.44 48 **PKiKP** 11 02 19.7 0.0
CMLA Cha da Macela 151.44 48 PKIKP **PKiKP** 11 02 19.7 0.0
JSA Saint Aubin 151.54 4 *e*P **PKPbc** 11 02 16.1 -3.1
KOGS Kog 151.55 338 *i*PKPdf **PKPdf** 11 02 12.6 +0.1
KOGS *i*PKPbc **PKPbc** 11 02 18.6 -0.7
KOGS *i*PKPab **PKPab** 11 02 30.6 -0.4
SOKA Soboth 151.76 339 *e*PKP **PKPdf** 11 02 12.3 -0.6
comp=Z,11nm,1.2s,SNR=18
SOKA *i*PKP **PKPbc** 11 02 19.5 -0.5
comp=Z,50nm,1.0s
MMB Musomishta 151.77 322 *e*P **PKPbc** 11 02 19.5 -0.6
LESA Schwarzleotal 151.80 343 *i*PKP **PKPdf** 11 02 12.5 -0.5
comp=Z,16nm,1.2s,SNR=5.8
LESA *i*PKP **PKPbc** 11 02 19.4 -0.6
comp=Z,36nm,0.5s
BFO Black Forest 151.90 350 **PKPbc** 11 02 20.0 -0.2
BFO Black Forest 151.90 350 PKIKP **PKPbc** 11 02 20.0 -0.2
KKB Krupnik 151.93 323 *e*P **PKPbc** 11 02 20.1 -0.3
KBA Koelnbreinsper 151.93 342 *i*PKP **PKPdf** 11 02 12.3 -0.9
comp=Z,10nm,1.1s
KBA *i*PKP **PKPbc** 11 02 19.2 -1.3
comp=Z,21nm,0.5s,SNR=10.0
MOSL Moslavina 152.07 336 *e*P **PKPbc** 11 02 20.3 -0.3
OBKA Obir 152.07 340 *i*PKP **PKPbc** 11 02 19.7 -0.9
comp=Z,20nm,0.8s,SNR=9.0
WATA Walderalm 152.17 345 *i*PKP **PKPdf** 11 02 13.1 -0.5
comp=Z,16nm,1.0s
WATA *i*PKP **PKPbc** 11 02 20.5 -0.4
comp=Z,31nm,0.5s,SNR=8.6
WTTA Wattenberg 152.22 344 *i*PKP **PKPdf** 11 02 13.5 -0.2
comp=Z,15nm,0.8s,SNR=5.9
WTTA *i*PKP **PKPbc** 11 02 20.8 -0.3
comp=Z,46nm,0.4s
RETA Reutte 152.22 346 *i*PKP **PKPdf** 11 02 13.3 -0.3
comp=Z,2.4nm,0.5s
RETA *e*PKP **PKPbc** 11 02 20.6 -0.3
comp=Z,24nm,0.6s,SNR=5.9
MYKA Terra Mystica 152.25 341 *e*PKP **PKPbc** 11 02 20.1 -0.9
comp=Z,37nm,0.5s,SNR=14
MOTA Moosalm 152.28 345 *i*PKP **PKPdf** 11 02 13.4 -0.4
comp=Z,21nm,0.9s,SNR=7.0
MOTA *i*PKP **PKPbc** 11 02 20.6 -0.6
comp=Z,46nm,0.7s
SQTA Sankt Quirin 152.37 345 *e*PKP **PKPdf** 11 02 13.3 -0.5
comp=Z,15nm,0.8s,SNR=5.3
SQTA *i*PKP **PKPbc** 11 02 21.1 -0.2
comp=Z,59nm,0.7s
ABTA Abfaltersbach 152.47 343 *i*PKP **PKPdf** 11 02 13.0 -1.0
comp=Z,24nm,0.9s,SNR=10
ABTA *i*PKP **PKPbc** 11 02 20.8 -0.7
comp=Z,46nm,0.8s
LJU Ljubljana 152.49 339 *i*PKPdf **PKPdf** 11 02 13.1 -0.8
LJU *i*PKPbc **PKPbc** 11 02 21.2 -0.3
LJU *i*PKPab **PKPab** 11 02 34.6 -0.4
OZLJ Ozalj 152.54 338 *e*P **PKPbc** 11 02 21.0 -0.5
RUDO Rudo 152.58 330 *e*P **PKPbc** 11 02 20.5 -1.3
DAVA Damuels 152.61 347 *i*PKP **PKPdf** 11 02 14.2 -0.1
comp=Z,15nm,1.3s
DAVA *i*PKP **PKPbc** 11 02 21.8 -0.1
comp=Z,57nm,1.0s,SNR=6.7
BLY Banja Luka 152.62 334 *e*P **PKPbc** 11 02 21.0 -0.8
BLY Banja Luka 152.62 334 ⇑P **PKPbc** 11 02 21.9 +0.1
FETA Feichten 152.67 345 *i*PKP **PKPdf** 11 02 14.0 -0.3
comp=Z,27nm,0.8s,SNR=14
FETA *i*PKP **PKPbc** 11 02 21.7 -0.3
comp=Z,61nm,0.9s
BOJS Bojanci 152.71 338 *i*PKPdf **PKPdf** 11 02 13.8 -0.4
BOJS *i*PKPbc **PKPbc** 11 02 22.0 0.0
BOJS *i*PKPab **PKPab** 11 02 35.7 -0.3
KLINJ Klinje 153.29 331 *e*P **PKiKP** 11 02 24.5 +1.0
KIJV Kijevo 153.55 335 *e*P **PKPbc** 11 02 22.8 -1.0
TREB Trebinje 153.75 330 *e*P **PKPbc** 11 02 22.5 -1.8
BRJN Brijuni 153.75 339 *e*P **PKPbc** 11 02 22.8 -1.4
STON Ston 153.92 331 *e*P **PKPbc** 11 02 23.1 -1.5
PGAV Gavieira, Arco 157.46 18 *e*PKPdf **PKPdf** 11 02 21.0 +0.2
PGAV *e*PKPab **PKPab** 11 02 57.1 +0.5
PCAB Cabril 157.77 18 *e*PKPdf **PKPdf** 11 02 23.9 +2.8
PCAB *e*PKPab **PKPab** 11 02 58.0 +0.1
POLO Lamas de Olo 158.15 18 *e*PKPdf **PKPdf** 11 02 21.7 0.0
POLO *e*PKPab **PKPab** 11 02 59.7 0.0
PVRL Vila Real 158.26 18 *e*PKPab **PKPab** 11 02 59.9 -0.2
MVO Moncorvo 158.56 17 *e*PKPdf **PKPdf** 11 02 22.6 +0.5
MVO *e*PKPab **PKPab** 11 03 01.9 +0.5
MTE Manteigas 159.12 19 *e*PKPdf **PKPdf** 11 02 24.1 +1.3
PCAS Casmilo, Conde 159.13 21 *e*PKPdf **PKPdf** 11 02 26.9 +4.1
PSBE So Bento 159.51 22 *e*PKPab **PKPab** 11 03 05.9 +0.4
PSARD Sardoal 159.65 21 *e*PKPdf **PKPdf** 11 02 24.0 +0.6
PSARD *e*PKPab **PKPab** 11 03 06.1 -0.1
PCBR Castelo Branco 159.65 19 *e*PKPdf **PKPdf** 11 02 24.3 +1.0
PMAFR Mafra 159.82 24 *e*PKPab **PKPab** 11 03 07.1 +0.1
PMRV Marv??o 160.05 19 *e*PKPdf **PKPdf** 11 02 24.2 +0.4
PMTG Montargil 160.10 22 *e*PKPdf **PKPdf** 11 02 21.4 -2.4
PMTG *e*PKPab **PKPab** 11 03 07.8 -0.3
PESTR Estremoz 160.50 21 *e*PKPdf **PKPdf** 11 02 24.3 0.0
PESTR *e*PKPab **PKPab** 11 03 09.6 -0.3
EVO Evora 160.66 22 *e*PKPdf **PKPdf** 11 02 25.1 +0.6
EVO *e*PKPab **PKPab** 11 03 10.6 0.0
ESDC Sonseca Array 160.69 12 **PKPdf** 11 02 24.4 -0.2
ESDC **PKPab** 11 03 10.0 -0.7
ESDC Sonseca Array 160.69 12 PKP **PKPdf** 11 02 24.8 +0.3
comp=Z,3.3nm,1.0s,baz=359,slow=2.7,SNR=12
ESDC PKPab **PKPab** 11 03 10.2 -0.6
comp=Z,19nm,0.9s,baz=342,slow=4.3,SNR=33
ESDC PP **PP** 11 06 52.3 -2.6
comp=Z,2.1nm,1.1s,baz=333,slow=5.1,SNR=5.2
PAB San Pablo 160.73 13 **PKPdf** 11 02 24.6 0.0
PAB San Pablo 160.73 13 PKIKP **PKPdf** 11 02 24.6 0.0
PBEJ Beja 161.16 22 *e*PKPdf **PKPdf** 11 02 26.0 +1.0
PBEJ *e*PKPab **PKPab** 11 03 12.9 0.0
MESJ Messejana 161.20 23 *e*PKPdf **PKPdf** 11 02 25.3 +0.3
MESJ *e*PKPab **PKPab** 11 03 12.7 -0.3
MESJ Messejana 161.20 23 *e*PKPdf **PKPdf** 11 02 25.9 +0.9
MESJ *e*PKPab **PKPab** 11 03 13.0 0.0
PTEO Sao Teotonio 161.26 25 *e*PKPab **PKPab** 11 03 13.4 +0.1
PBAR Barrancos 161.31 20 *e*PKPdf **PKPdf** 11 02 25.8 +0.6
PBAR *e*PKPab **PKPab** 11 03 13.6 +0.2
PCVE Castro Verde 161.45 23 *e*PKPdf **PKPdf** 11 02 26.2 +0.9
PCVE *e*PKPab **PKPab** 11 03 14.2 +0.1
MORF Marmelete 161.50 25 *e*PKPdf **PKPdf** 11 02 25.7 +0.3
MORF *e*PKPab **PKPab** 11 03 14.2 -0.2
MORF Marmelete 161.50 25 *e*PKPdf **PKPdf** 11 02 26.4 +1.0
MORF *e*PKPab **PKPab** 11 03 14.4 0.0
PFVI Vila Bisbo 161.58 26 *e*PKPdf **PKPdf** 11 02 26.6 +1.2
PFVI *e*PKPab **PKPab** 11 03 15.0 +0.3
PVAQ Vaqueiros 161.77 23 *e*PKPab **PKPab** 11 03 15.9 +0.4
PBDV Barranco-do-Ve 161.83 24 *e*PKPdf **PKPdf** 11 02 26.1 +0.4
PBDV *e*PKPab **PKPab** 11 03 16.2 +0.4
KEST Kesra 163.42 336 PKPab **PKPab** 11 03 23.2 +0.2
comp=Z,35nm,0.9s,baz=340,slow=2.4,SNR=21
DBIC Dimbokro 164.85 157 **PKPdf** 11 02 28.8 -0.4
DBIC Dimbokro 164.85 157 PKP **PKPdf** 11 02 28.6 -0.5
comp=Z,20nm,0.9s,baz=203,slow=0.7,SNR=11
DBIC PKPab **PKPab** 11 03 31.2 +1.7
comp=Z,16nm,1.1s,baz=274,slow=4.7,SNR=4.4
MD01 Midelt array s 166.90 22 **PKPdf** 11 02 31.0 +0.5
MD01 **PKPab** 11 03 38.5 +0.1
TORD Torodi Ar. Bea 172.38 185 PKP **PKPdf** 11 02 32.9 -1.0
comp=Z,11nm,0.8s,baz=102,slow=1.9,SNR=52
TORD PKPab **PKPab** 11 04 02.8 0.0
comp=Z,1.4nm,0.8s,baz=157,slow=3.3,SNR=3.3

UPA 21 10:52:41.1±1.6, 8°.13N×82°.46W, h10km±6km, MW3.2, 7C-5D, Fault plane solution: NP1:φ=74.00000°, δ=66.00000°, λ=-28.00000°., Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDE3	**Pedregal, Chir**	**0.26**	**8**	*e*P	Pb	10 52 49.0	+1.2
PEDE3				*es*S	Sb	10 52 55.4	+3.0
LOCO3	**Loma Colorada,**	**0.28**	**8**	*e*P	Pb	10 52 48.7	+0.4
LOCO3				*es*S	Sb	10 52 56.5	+3.3
CHIR3	**Chiriqui UPA,**	**0.29**	**26**	⇓*e*P	Pb	10 52 49.4	+0.9
CHIR3				AMP		10 52 49.8	
	comp=Z,1μm,0.2s						
CHIR3				*es*S	Sb	10 52 56.2	+2.8
DVD	**David**	**0.30**	**2**	⇓*i*P	Pb	10 52 49.6	+0.9
DVD				*es*S	Sb	10 52 55.9	+2.1
DVD	**David**	**0.30**	**2**	*e*P	Pb	10 52 49.6	+0.9
DVD				AMP		10 52 49.7	
	comp=Z,4μm,0.1s						
DVD				*es*S	Sb	10 52 55.5	+1.7
LOMA3	**Las Lomas, Chi**	**0.31**	**13**	*e*P	Pb	10 52 49.5	+0.7
LOMA3				AMP		10 52 50.1	
	comp=Z,983nm,0.1s						
LOMA3				*es*S	Sb	10 52 56.4	+2.5
BAGA3	**Bagala, Chiriq**	**0.34**	**349**	*e*P	Pb	10 52 50.3	+0.9
BAGA3				*es*S	Sb	10 52 54.8	-0.1
LMNES	**Limones**	**0.40**	**266**	⇑*i*P	Pg	10 52 49.5	+0.6
LMNES				*es*S	Sb	10 52 55.4	-1.0
LSP3	**La Esperanza,**	**0.43**	**310**	⇑*i*P	Pb	10 52 50.2	-0.6
LESP3				*es*S	Sb	10 52 56.9	-0.4
PTAR3	**Potrerillos Ar**	**0.56**	**356**	*e*P	Pb	10 52 53.1	-0.1
PTAR3				AMP		10 52 54.3	
	comp=Z,957nm,0.1s						
PTAR3				*es*S	Sb	10 53 01.5	+0.2
PSOM3	**Paja de Sombre**	**0.57**	**14**	⇑*e*P	Pb	10 52 52.9	-0.3
PSOM3				AMP		10 52 55.4	
	comp=Z,1μm,0.1s						
PSOM3				*es*S	Sb	10 53 01.4	0.0
BQSF3	**Alto Boquete,**	**0.61**	**2**	*e*P	Pg	10 52 53.0	0.0
BQSF3				*es*S	Sn	10 53 04.5	-1.5
BQTLY	**Boquete Panama**	**0.62**	**360**	⇓*i*P	Pb	10 52 53.9	-0.3
BQTLY				*es*S	Sb	10 53 04.6	+1.4
CLLRA	**Cordillera,**	**0.63**	**346**	⇑*i*P	Pb	10 52 53.9	-0.5
CLLRA				*es*S	Sg	10 53 01.9	+0.2
LNBQ3	**Los Naranjos,**	**0.66**	**2**	*e*P	Pn	10 53 05.3	+8.6
LNBQ3				*es*S	Sn	10 53 16.4	+9.2
BC3P	**Paso Ancho**	**0.70**	**348**	*e*P	Pg	10 52 54.7	+0.1
BC3P				*es*S	Sb	10 53 06.4	+1.1
BRU2	**Volcan**	**0.70**	**341**	⇑*i*P	Pg	10 52 54.8	+0.1
BRU2				*es*S	Sb	10 53 05.7	+0.4
BRU2	**Volcan**	**0.70**	**341**	⇑*i*P	Pg	10 52 54.8	+0.1
BRU2				AMP		10 52 55.3	
	comp=Z,926nm,0.2s						
BRU2				*es*S	Sb	10 53 05.9	+0.6
NANC3	**Nancito, Chiri**	**0.73**	**81**	*e*P	Pb	10 52 55.8	-0.1
SCLRA	**Santa Clara, W**	**0.77**	**336**	*es*S	Sb	10 53 07.7	+0.4
RBALA	**Bur**	**0.81**	**22**	⇓*i*P	Pg	10 52 56.6	0.0
RBALA				*es*S	Sb	10 53 08.8	+0.6
CHGR2	**Aguacate**	**0.86**	**21**	*e*P	Pg	10 52 57.1	-0.6
CHGR2				*es*S	Sb	10 53 09.8	-0.1
KKNTU	**Kakint@**	**0.96**	**42**	⇓*i*P	Pg	10 52 58.5	-1.1
KKNTU				*es*S	Sg	10 53 12.1	0.0
MESA3	**La Mesa, Verag**	**1.26**	**89**	*e*P	Pn	10 53 03.6	-1.2
MESA3				*es*S	Sb	10 53 21.0	-0.3
GMAL	**Guarumal, Vera**	**1.27**	**107**	*e*P	Pn	10 53 02.2	-2.7
GMAL				*es*S	Sb	10 53 19.9	-1.6
STIA3	**Santiago, Vera**	**1.47**	**91**	*e*P	Pn	10 53 07.2	-0.6
STIA3				*es*S	Sn	10 53 26.3	-0.8
MARI3	**Mariato, Verag**	**1.53**	**108**	*e*P	Pn	10 53 07.0	-1.6
MARI3				AMP		10 53 07.2	
	comp=Z,605nm,0.1s						
CALO3	**Calobre, Verag**	**1.61**	**83**	⇑*e*P	Pn	10 53 09.3	-0.3
CALO3				*es*S	Sn	10 53 30.5	-0.1
CACAO	**El Cacao, Vera**	**1.77**	**116**	*e*P	Pn	10 53 09.1	-2.7
CACAO				*es*S	Sn	10 53 32.5	-1.8
CHIT3	**Chitre**	**2.03**	**95**	*e*P	Pn	10 53 15.0	-0.4
CHIT3				*es*S	Sn	10 53 40.4	-0.4
AZU	**Azuero**	**2.19**	**99**	*e*P	Pn	10 53 16.6	-1.0
AZU				*es*S	Sn	10 53 45.1	+0.3
CHOR3	**La Chorrera**	**2.77**	**74**	*es*S	Sn	10 53 58.2	-1.0
BCIP	**Isla Barro Col**	**2.79**	**68**	*e*P	Pn	10 53 25.8	-0.1
BCIP				*es*S	Sn	10 53 59.3	-0.3

*BER **21** 10:56:10.8±3.8, 79°.67N×3°.87E, h10km, Mw4.0, ML3.8(NAO), Confirmed Earthquake*
*NAO **21** 10:56:12.5±2.4, 79°.47N×4°.08E, h15km, ML3.1*
*FCIAR **21** 10:56:13.0, 79°.60N×4°.66E, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 4.10*
*DNK **21** 10:56:13.9±3.1, 79°.38N×4°.13E, h34km±26km, ML2.1*
*KOLA **21** 10:56:14.3, 79°.62N×6°.20E, h0km, ML2.4, Error ellipse: s-maj=41.4km s-min=17.8km az=30.0, Greenland sea, Knipovich ridge, north*

ISC 21 10:56:07.8±1.1, 79°.70N±0°.07×3°.98E±0°.05, h10km, n31, σ2°.34/55, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.68**	**114**	Pb	**Pn**	**10 56 38.7**	**+1.5**
KBS				Sb	**Sn**	**10 56 57.5**	**-1.2**
KBS	**Kingsbay**	**1.68**	**114**	P	**Pn**	**10 56

DAG				IAML		10 58 30.9	
	comp=Z,7.0nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.34**	**60**	*e*P	**Pn**	**10 57 56.9**	**+2.1**
ZFI2				*e*S	**Sn**	**10 59 12.9**	**-5.1**
	comp=Z,45nm,3.3s						
OMEGA	**Omega**	**7.36**	**61**	*e*P	**Pn**	**10 57 56.9**	**+1.8**
OMEGA				*e*S	Sn	10 59 12.9	-5.5
	comp=Z,58nm,3.1s						
DBG	**Daneborg**	**7.60**	**237**	Pn	**Pn**	**10 57 59.6**	**+1.3**
DBG				Sn	Sn	10 59 16.8	-7.5
DBG	**Daneborg**	**7.60**	**237**	*e*P	**Pn**	**10 57 59.4**	**+1.0**
DBG				*e*S	Sn	10 59 15.8	-8.6
DBG	**Daneborg**	**7.60**	**237**	*i* P	**Pn**	**10 57 59.7**	**+1.3**
DBG				*e*S	Sn	10 59 15.2	-9.2
DBG				*e*P	Sn	10 59 15.2	-9.2
DBG				IAML		10 59 22.1	
	comp=Z,6.5nm,0.7s						
NEEM	**North Greenlan**	**10.76**	**286**	*i* P	**Pn**	**10 58 41.3**	**-0.6**
NEEM				*i* S	Sn	11 00 35.2	-7.2
NEEM				IAML		11 00 39.3	
	comp=Z,4.7nm,0.0s						
NEEM	**North Greenlan**	**10.76**	**286**	*i* P	**Pn**	**10 58 41.3**	**-0.6**
NEEM				*i* S	Sn	11 00 35.2	-7.2
NEEM				IAML		11 00 39.3	
	comp=Z,4.7nm,0.0s						
SUMG	**Summit**	**12.04**	**257**	*i* P	**Pn**	**10 58 59.8**	**+0.3**
SUMG	**Summit**	**12.04**	**257**	*i* P	**Pn**	**10 58 59.8**	**+0.3**

BJI ***21*** *10:58:45.3,27.°16N×54.°37E,h10km,mB5.6/75,mb5.5/93, Ms5.6/97,Ms7 5.2/94*

MOS ***21*** *10:58:50.5±0.9,27.°19N×55.°12E,h10km,mb5.8/76, MS5.0/38,Error ellipse: s-maj=5.6km s-min=3.4km az=110.8*

GCMT ***21*** *10:58:50.7±0.1,27.°08N×54.°94E,h12km,MW5.5/154, Moment Tensor Solution. s136,c234; s154,c323; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.04±.02; $M_{\theta\theta}$-2.17±.02; $M_{\phi\phi}$0.13±.02; $M_{r\theta}$-0.43±.05; $M_{\theta\phi}$0.05±.02; $M_{\phi r}$-0.80±.05; Best double couple: $M_0$2.29100×10^{17} NP1:ϕ_s110.00000°,δ43.00000°, λ120.00000°. NP2:ϕ_s252.00000°,δ54.00000°,λ66.00000°. Principal axes: T 2.3690, Plg70.0000°, Azm105.0000°; N -0.1500, Plg20.0000°, Azm267.0000°; P -2.2140, Plg6.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***21*** *10:58:50.6±0.3,27.°20N×55.°13E,h0km,mb5.5/51, mbtmp5.5/56,ML4.9/5,MS4.9/70 Error ellipse: s-maj=7.9km s-min=7.0km az=144.0*

TEH ***21*** *10:58:51.2,27.°07N×54.°99E,h18km±13km*

DSN ***21*** *10:58:52.5±1.5,27.°19N×54.°96E,h11km±10km,mb6.2/4, ML5.4/16,Error ellipse: s-maj=7.4km s-min=3.6km az=56.0*

THR ***21*** *10:58:52.4±0.0,27.°19N×55.°08E,h14km±5km,mb5.6*

ISC-PP ***21*** *10:58:52,27.°23N×55.°00E,h5km*

NEIC ***21*** *10:58:52.6±2.1,27.°23N±0.°06×55.°00E±0.°07,h9km±1km, mb5.6/456,Ms_20 5.2/208,Mwb5.3/63,Mww5.5/24,Error ellipse: s-maj=10.9km s-min=10.5km az=91.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.26; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$-0.16; $M_{r\theta}$-0.39; $M_{\theta\phi}$0.14; $M_{\phi r}$-0.13; Fault plane solution: $M_0$1.26000×10^{17} NP1: ϕ_s104.81000°,δ36.82000°,λ101.26000°. NP2: ϕ_s270.84000°,δ54.00000°,λ81.68000°. Principal axes: T 1.3351, Plg79.0000°, Azm148.0000°; N -0.1657, Plg7.0000°, Azm276.0000°; P -1.1694, Plg9.0000°, Azm7.0000°;*

NEIC ***21*** *10:58:52.7,27.°20N×54.°92E,h10km*

NEIC ***21*** *10:58:52.7,27.°19N×54.°92E,h12km*

NEIC ***21*** *10:58:52.7,27.°09N×54.°69E,h12km,Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.87; $M_{\theta\theta}$-1.53; $M_{\phi\phi}$-0.34; $M_{r\theta}$0.64; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.96; Fault plane solution: $M_0$2.09000×10^{17} NP1: ϕ_s266.29000°,δ34.02000°,λ61.35000°. NP2: ϕ_s119.68000°,δ60.59000°,λ107.94000°. Principal axes: T 2.3070, Plg69.0000°, Azm67.0000°; N -0.5545, Plg16.0000°, Azm291.0000°; P -1.7525, Plg14.0000°, Azm197.0000°;*

OMAN ***21*** *10:58:55.1±0.0,27.°02N×55.°05E,h10km,mb6.0/13, ml5.5/23,Mwp5.9/33 Error ellipse: s-maj=1.1km s-min=0.8km az=28.0*

ISC 21 10:58:52.4±0.3,27.°18N±0.°02×55.°02E±0.°02,h12km±1km, h13km:pP-P,n1596,σ1957/1559,mb5.6/519,MS5.1/235, 92C-57D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.76**	**311**	Pg	**Pg**	**10 59 06.5**	**-0.5**
BNDS	**Bandar-Abbas**	**1.05**	**78**	*e*Pg	**Pb**	**10 59 12.5**	**0.0**
GENO	**Geno**	**1.05**	**77**	Pg	**Pb**	**10 59 11.7**	**-0.9**
IBND	**Bandar-abas**	**1.38**	**78**	Pg	**Pb**	**10 59 18.3**	**+0.2**
IBND				Sg	**Sg**	**10 59 38.7**	**+1.8**
SHME	**Shamm**	**1.51**	**138**	P	**Pb**	**10 59 20.3**	**+0.1**
	SNR=532						
SHME				P	**Pb**	**10 59 20.3**	**+0.1**
	SNR=532						
SHME				S	**Sb**	**10 59 39.7**	**+0.4**
SHME				S	**Sb**	**10 59 39.7**	**+0.4**
SHME	**Shamm**	**1.51**	**138**	*e*P	**Pn**	**10 59 19.3**	**+0.2**
	SNR=537						
SHME				S	**Sg**	**10 59 41.0**	**+0.2**
LMD1	**Lamerd**	**1.66**	**276**	Pg	**Pb**	**10 59 22.5**	**-0.4**
LMD1	**Lamerd**	**1.66**	**276**	*e*Pn	**Pb**	**10 59 22.9**	**0.0**
LMD1				IAML		10 59 56.4	
	comp=Z,180μm,1.0s						
BANOM	**Banah**	**1.69**	**137**	P	**Pb**	**10 59 24.0**	**+0.5**
BANOM				P	**Pb**	**10 59 24.0**	**+0.5**
BANOM	**Banah**	**1.69**	**137**	*e*P	**Pn**	**10 59 22.4**	**+0.6**
	SNR=3523						
BANOM				S	**Sg**	**10 59 46.1**	**-0.8**
UMQ	**Umm Al-Quwin**	**1.74**	**161**	P	**Pg**	**10 59 25.4**	**-0.4**
	SNR=185						
UMQ				P	**Pg**	**10 59 25.4**	**-0.4**
	SNR=185						
UMQ	**Umm Al-Quwin**	**1.74**	**161**	*e*P	**Pb**	**10 59 24.2**	**-0.1**
	SNR=184						
JHRM	**Jahrom**	**1.84**	**316**	Pn	**Pn**	**10 59 24.5**	**+0.7**
MASF	**Masafi**	**2.07**	**150**	P	**Pb**	**10 59 29.6**	**-0.3**
	SNR=121						
MASF				P	**Pb**	**10 59 29.6**	**-0.3**
	SNR=121						
MSFE	**Esma-Masafi**	**2.08**	**150**	*e*P	**Pn**	**10 59 28.2**	**+1.1**
	SNR=804						
QIR1	**Qir**	**2.18**	**307**	Pn	**Pn**	**10 59 29.2**	**+0.8**
MDH	**Madha**	**2.19**	**148**	P	**Pn**	**10 59 30.1**	**+1.5**
	SNR=761						
MDH				P	**Pn**	**10 59 30.1**	**+1.5**
	SNR=761						
MDH	**Madha**	**2.19**	**148**	*e*P	**Pn**	**10 59 29.8**	**+1.2**
	SNR=761						
NAZ	**Nazwa, Dubai**	**2.25**	**165**	P	**Pb**	**10 59 31.5**	**-1.5**
	SNR=286						
NAZ				P	**Pb**	**10 59 31.5**	**-1.5**
	SNR=286						
NAZ	**Nazwa, Dubai**	**2.25**	**165**	*e*P	**Pn**	**10 59 31.1**	**+1.7**
	SNR=288						
UOSS	**Minazif**	**2.46**	**154**		**Pn**	**10 59 33.2**	**+0.8**
UOSS	**Minazif**	**2.46**	**154**	P	**Pb**	**10 59 34.9**	**-1.6**
UOSS	**Minazif**	**2.46**	**154**	Pn	**Pn**	**10 59 33.0**	**+0.7**
UOSS	**Minazif**	**2.46**	**154**	*e*P	**Pn**	**10 59 33.2**	**+0.8**
	SNR=656						
FAQ	**Al Faqa, Dubai**	**2.48**	**168**	P	**Pb**	**10 59 35.1**	**-1.7**
	SNR=134						
FAQ				P	**Pb**	**10 59 35.1**	**-1.7**
	SNR=134						
FAQ	**Al Faqa, Dubai**	**2.48**	**168**	*e*P	**Pn**	**10 59 33.8**	**+1.3**
	SNR=134						
KHNJ	**Kahnooj**	**2.50**	**72**	Pn	**Pn**	**10 59 33.5**	**+0.5**
HATD	**Hatta, Dubai**	**2.55**	**157**	P	**Pn**	**10 59 35.0**	**+1.5**
	SNR=414						
HATD				P	**Pn**	**10 59 35.0**	**+1.5**
	SNR=414						
HATD	**Hatta, Dubai**	**2.55**	**157**	*e*P	**Pn**	**10 59 34.5**	**+1.0**
	SNR=693						
ASUD	**Al Ashush, Dub**	**2.56**	**174**	P	**Pb**	**10 59 36.2**	**-1.9**
	SNR=956						
ASUD				P	**Pb**	**10 59 36.2**	**-1.9**
	SNR=956						
ASUD	**Al Ashush, Dub**	**2.56**	**174**	*e*P	**Pn**	**10 59 34.8**	**+1.2**
	SNR=263						
AJN	**Ajban**	**2.60**	**181**	P	**Pb**	**10 59 37.2**	**-1.8**
	SNR=687						
AJN				P	**Pb**	**10 59 37.2**	**-1.8**
	SNR=687						
AJN	**Ajban**	**2.60**	**181**	*e*P	**Pn**	**10 59 35.5**	**+1.3**
	SNR=629						
ASHO	**Ashiyiah**	**2.65**	**159**	P	**Pn**	**10 59 36.3**	**+1.3**
	SNR=1517						
ASHO				P	**Pn**	**10 59 36.3**	**+1.3**
	SNR=1517						
ASHO	**Ashiyiah**	**2.65**	**159**	*e*P	**Pn**	**10 59 36.1**	**+1.2**
	SNR=1519						
NGRK	**Negar Kerman**	**2.88**	**31**	Pn	**Pn**	**10 59 40.0**	**+1.6**
JRN	**Qarnain Island**	**2.96**	**222**	P	**Pb**	**10 59 42.3**	**-2.7**
	SNR=36						
JRN				P	**Pb**	**10 59 42.3**	**-2.7**
	SNR=36						
ALNE	**Al Ain**	**3.18**	**168**	P	**Pn**	**10 59 43.9**	**+1.7**
	SNR=196						
ALNE				P	**Pn**	**10 59 43.9**	**+1.7**
	SNR=196						
ALNE				S	**Sn**	**11 00 20.2**	**+0.3**
ALNE				S	**Sn**	**11 00 20.2**	**+0.3**
ALNE	**Al Ain**	**3.18**	**168**	*i* P	**Pn**	**10 59 43.4**	**+1.2**
	SNR=196						
SHI	**Shiraz**	**3.30**	**319**	Pn	**Pn**	**10 59 44.9**	**+0.8**
SOHO	**SOHO**	**3.32**	**155**	P	**Pn**	**10 59 45.8**	**+1.7**
SOHO				P	**Pn**	**10 59 45.8**	**+1.7**
SOHO	**SOHO**	**3.32**	**155**	*i* P	**Pn**	**10 59 44.4**	**+0.3**
	SNR=121						
KHGB	**Koh Gabri**	**3.44**	**22**	Pn	**Pn**	**10 59 47.8**	**+1.8**
CHMN	**Cheshme madani**	**3.47**	**39**	Pn	**Pn**	**10 59 48.0**	**+1.5**
DSBU	**Dashti - Bushe**	**3.53**	**290**	Pn	**Pn**	**10 59 47.5**	**+0.3**
MZWR	**Madinat Zayed**	**3.55**	**197**	P	**Pn**	**10 59 50.2**	**+2.9**
MZWR				P	**Pn**	**10 59 50.2**	**+2.9**
KBAM	**BAM**	**3.60**	**56**	Pn	**Pn**	**10 59 49.4**	**+1.2**
GHWR	**Ruwais**	**3.74**	**212**	P	**Pn**	**10 59 50.6**	**+0.8**
GHWR				P	**Pn**	**10 59 50.6**	**+0.8**
GHWR				S	**Sn**	**11 00 36.4**	**+2.6**
GHWR				S	**Sn**	**11 00 36.4**	**+2.6**
KAZ2	**Kazeron-Fars-I**	**3.83**	**310**	Pn	**Pn**	**10 59 52.1**	**+1.0**
KRM1	**Kerman Provinc**	**3.86**	**30**	Pn	**Pn**	**10 59 53.5**	**+1.7**
SHMA	**Al-Shehemyia**	**3.86**	**251**	P	**Pn**	**10 59 54.3**	**+2.7**
	SNR=71						
ZRDN	**Zarand Kerman**	**4.00**	**19**	Pn	**Pn**	**10 59 55.5**	**+1.7**
ARQ	**Araqi**	**4.06**	**160**	P	**Pn**	**10 59 56.8**	**+2.5**
	SNR=147						
ARQ				P	**Pn**	**10 59 56.8**	**+2.5**
	SNR=147						
ARQ				S	**Sn**	**11 00 44.4**	**+2.6**
ARQ				S	**Sn**	**11 00 44.4**	**+2.6**
HOQ	**Hoqain**	**4.13**	**149**	P	**Pn**	**10 59 55.5**	**+0.1**
	SNR=12						
HOQ				P	**Pn**	**10 59 55.5**	**+0.1**
	SNR=12						
HOQ				S	**Sn**	**11 00 46.6**	**+2.9**
HOQ				S	**Sn**	**11 00 46.6**	**+2.9**
HOQ	**Hoqain**	**4.13**	**149**	Pn	**Pn**	**10 59 54.3**	**-1.1**
SAKB	**Bahrain**	**4.19**	**254**	P	**Pn**	**10 59 59.4**	**+3.4**
SAKB				S	**Sn**	**11 00 48.7**	**+3.8**
TRNA	**Turayna**	**4.20**	**235**	P	**Pn**	**10 59 57.4**	**+1.2**
	SNR=317						
TRNA				S	**Sn**	**11 00 48.2**	**+3.0**
	SNR=10.0						
IMEH	**Meriz**	**4.21**	**355**	Pn	**Pn**	**10 59 58.4**	**+1.8**
MZR	**Muzera**	**4.38**	**199**	P	**Pn**	**10 59 59.6**	**+0.8**
	SNR=18						
MZR				S	**Sn**	**11 00 50.2**	**+0.4**
MZR	**Muzera**	**4.38**	**199**	*i* P	**Pn**	**10 59 59.0**	**+0.3**
	SNR=17						
IBAF	**Bafgh**	**4.42**	**6**	Pn	**Pn**	**11 00 00.7**	**+1.2**
UMZA	**Um Al Zommool**	**4.45**	**178**	P	**Pn**	**11 00 00.5**	**+1.0**
UMZA				P	**Pn**	**11 00 00.5**	**+1.0**
UMZA				S	**Sn**	**11 00 51.7**	**+0.5**
UMZA				S	**Sn**	**11 00 51.7**	**+0.5**
SMRA	**Abu-Samra**	**4.49**	**238**	P	**Pn**	**11 00 02.2**	**+2.1**
	SNR=421						
SMRA				S	**Sn**	**11 00 56.1**	**+3.9**
	SNR=8.0						
BIDO	**Bidbid**	**4.60**	**142**	P	**Pn**	**11 00 02.5**	**+0.8**
	SNR=49						
BIDO				S	**Sn**	**11 00 56.0**	**+1.0**
KLNJ	**Kolanjah**	**4.86**	**323**	Pn	**Pn**	**11 00 06.5**	**+1.0**
SMDO	**Samad**	**4.93**	**146**	P	**Pn**	**11 00 08.9**	**+2.5**
	SNR=86						
SMDO				P	**Pn**	**11 00 08.9**	**+2.5**
	SNR=86						
SMDO				S	**Sn**	**11 01 05.0**	**+1.5**
SMDO				S	**Sn**	**11 01 05.0**	**+1.5**
ICHK	**Chekchek**	**5.08**	**354**	Pn	**Pn**	**11 00 10.0**	**+1.5**
WSAR	**Wadi Sarin**	**5.11**	**139**	LR	LR	11 02 34.0	
	comp=Z,103nm,18.3s,baz=350,slow=44						
WSAR	**Wadi Sarin**	**5.11**	**139**	P	**Pn**	**11 00 10.0**	**+1.3**
	SNR=340						
WSAR				S	**Sn**	**11 01 08.1**	**+0.5**
CHBR	**Chabahar**	**5.15**	**107**	Pn	**Pn**	**11 00 09.2**	**0.0**
IRAM	**Ramesheh**	**5.16**	**334**	Pn	**Pn**	**11 00 11.0**	**+1.4**
YZKH	**Yazd**	**5.21**	**356**	*e*Pn	**Pn**	**11 00 12.1**	**+1.9**
YZKH				IAML		11 01 49.2	
	comp=Z,3μm,1.0s						
ABEH	**Behbahan**	**5.39**	**310**	Pn	**Pn**	**11 00 14.3**	**+1.7**
JMDO	**Jabal Madar**	**5.54**	**149**	P	**Pn**	**11 00 16.1**	**+1.3**
	SNR=60						
JMDO				P	**Pn**	**11 00 16.1**	**+1.3**
	SNR=60						
JMDO				S	**Sn**	**11 01 19.2**	**+0.8**
JMDO				S	**Sn**	**11 01 19.2**	**+0.8**
ZHSF	**Zahedan**	**5.62**	**63**	Pn	**Pn**	**11 00 19.0**	**+3.1**
IBRJ	**Brojen**	**5.74**	**326**	Pn	**Pn**	**11 00 18.6**	**+0.9**
NGCH	**Negor - Chabah**	**5.78**	**107**	P	**Pn**	**11 00 18.8**	**+0.9**
	SNR=123						
NGCH	**Negor - Chabah**	**5.78**	**107**	Pn	**Pn**	**11 00 18.2**	**+0.2**
IGAR	**Gharneh**	**5.82**	**334**	Pn	**Pn**	**11 00 20.0**	**+1.3**
NASN	**Na'in**	**5.92**	**342**	*e*Pn	**Pn**	**11 00 21.7**	**+1.5**
NASN				IAML		11 02 49.1	
	comp=Z,2μm,1.0s						
BSRN	**Basiran**	**5.96**	**36**	Pn	**Pn**	**11 00 22.0**	**+1.5**
BSRN	**Basiran**	**5.96**	**36**	*e*Pn	**Pn**	**11 00 22.1**	**+1.5**
BSRN				IAML		11 02 14.4	
	comp=Z,4μm,1.0s						
TPRV	**Parvadeh(Tabas**	**6.01**	**13**	Pn	**Pn**	**11 00 22.6**	**+1.4**
NHDN	**Nehbandan**	**6.08**	**45**	Pn	**Pn**	**11 00 23.7**	**+1.5**
ANAR	**Anarak**	**6.10**	**350**	Pn	**Pn**	**11 00 23.1**	**+0.7**
ZNGN	**Zangian**	**6.11**	**325**	Pn	**Pn**	**11 00 26.2**	**+3.4**
IZEF	**Zefreh**	**6.16**	**338**	Pn	**Pn**	**11 00 23.4**	**0.0**
IKOO	**Kooshah**	**6.27**	**33**	Pn	**Pn**	**11 00 26.5**	**+1.5**
JHBN	**Jahan bin**	**6.30**	**324**	Pn	**Pn**	**11 00 26.7**	**+1.3**
JLN	**Jalan Bani Buh**	**6.40**	**140**	P	**Pn**	**11 00 26.8**	**+0.3**
	SNR=71						
JLN				P	**Pn**	**11 00 26.8**	**+0.3**
	SNR=71						
ITEG	**Tejag**	**6.55**	**29**	Pn	**Pn**	**11 00 30.8**	**+2.1**
IPIR	**Pirpir**	**6.55**	**328**	Pn	**Pn**	**11 00 29.5**	**+0.7**
SRVN	**Saravan**	**6.57**	**86**	Pn	**Pn**	**11 00 29.7**	**+0.8**
TKDS	**Koohdasht(Taba**	**6.67**	**15**	Pn	**Pn**	**11 00 32.1**	**+1.9**
TABS	**Tabas**	**6.70**	**15**	*e*Pn	**Pn**	**11 00 32.2**	**+1.5**
TABS				IAML		11 02 37.0	
	comp=Z,4μm,1.0s						
MHTO	**MHTO**	**6.72**	**156**	P	**Pn**	**11 00 31.5**	**+0.5**
	SNR=242						
MHTO				P	**Pn**	**11 00 31.5**	**+0.5**
	SNR=242						
MHTO				S	**Sn**	**11 01 47.1**	**-0.4**
MHTO				S	**Sn**	**11 01 47.1**	**-0.4**
IKLH	**Kolahrood**	**6.81**	**335**	Pn	**Pn**	**11 00 33.8**	**+1.5**
TNSJ	**Nastanj**	**6.90**	**11**	Pn	**Pn**	**11 00 34.7**	**+1.2**
IDAH	**Dahanechah**	**6.96**	**36**	Pn	**Pn**	**11 00 35.7**	**+1.3**
AFRZ	**Afriz**	**7.12**	**28**	Pn	**Pn**	**11 00 37.6**	**+1.1**
QAMS	**Qamsar**	**7.25**	**335**	Pn	**Pn**	**11 00 40.2**	**+1.8**
ISFB	**Sefidab**	**7.54**	**342**	Pn	**Pn**	**11 00 43.1**	**+0.9**
DQM	**DQM**	**7.58**	**162**	P	**Pn**	**11 00 42.4**	**-0.2**
	SNR=30						
DQM				P	**Pn**	**11 00 42.4**	**-0.2**
	SNR=30						
SHRT	**Shahrakht**	**7.89**	**34**	Pn	**Pn**	**11 00 48.9**	**+1.9**
TAPT	**Tabas- Tapeh t**	**7.90**	**13**	Pn	**Pn**	**11 00 49.0**	**+1.8**
GHVR	**GHOM**	**7.95**	**337**	*e*Pn	**Pn**	**11 00 50.0**	**+2.2**
GHVR				IAML		11 02 34.9	
	comp=Z,2μm,1.0s						
IVRN	**Varamin**	**8.29**	**341**	Pn	**Pn**	**11 00 53.5**	**+1.0**
IANJ	**Anjilo**	**8.32**	**354**	Pn	**Pn**	**11 00 54.0**	**+1.0**
IQOM	**Qom**	**8.36**	**337**	Pn	**Pn**	**11 00 53.6**	**0.0**
ILAS	**Lasjerd**	**8.37**	**348**	Pn	**Pn**	**11 00 55.4**	**+1.7**
DOK	**Doka**	**8.56**	**186**	P	**Pn**	**11 00 56.7**	**+0.6**
	SNR=313						
DOK				P	**Pn**	**11 00 56.7**	**+0.6**
	SNR=313						
BDRS	**Dareh Seyedi**	**8.58**	**323**	Pn	**Pn**	**11 00 57.1**	**+0.5**
IFIR	**Firoozkooh**	**8.66**	**348**	Pn	**Pn**	**11 00 59.0**	**+1.3**
IDMV	**Damavand**	**8.76**	**344**	Pn	**Pn**	**11 01 00.2**	**+1.2**
SHRO	**Shahrood**	**8.83**	**5**	*e*Pn	**Pn**	**11 01 00.3**	**+0.4**
SHRO				IAML_BB		11 01 43.9	
	comp=Z,2μm,1.0s						
IDOB	**Doab**	**8.84**	**320**	Pn	**Pn**	**11 01 01.1**	**+0.9**
TBHD	**Torbat heydari**	**8.97**	**23**	Pn	**Pn**	**11 01 04.2**	**+2.3**
IKIA	**Kiasar**	**9.07**	**353**	Pn	**Pn**	**11 01 05.0**	**+1.7**
IALA	**Alasht**	**9.08**	**349**	Pn	**Pn**	**11 01 06.2**	**+2.7**
SHAO	**Shalim**	**9.13**	**176**	P	**Pn**	**11 01 03.9**	**0.0**
	SNR=90						
SHAO				P	**Pn**	**11 01 03.9**	**0.0**
	SNR=90						
SHAO	**Shalim**	**9.13**	**176**	*i* P	**Pn**	**11 01 03.5**	**-0.4**
	SNR=109						
HAGD	**Aghdareh**	**9.14**	**328**	Pn	**Pn**	**11 01 04.5**	**+0.3**
TBJM	**Torbat-e-JAM**	**9.26**	**28**	Pn	**Pn**	**11 01 08.5**	**+2.7**
WHFO	**Wadi Hawf**	**9.29**	**187**	P	**Pn**	**11 01 05.9**	**-0.2**
	SNR=142						
WHFO				P	**Pn**	**11 01 05.9**	**-0.2**
	SNR=142						
CHTH	**Charan**	**9.32**	**340**	*e*Pn	**Pn**	**11 01 08.3**	**+1.6**
CHTH				IAML_BB		11 02 00.7	
	comp=Z,2μm,1.0s						
IPRN	**Peran**	**9.32**	**346**	Pn	**Pn**	**11 01 09.4**	**+2.7**
RAYN	**Ar Rayn**	**9.34**	**249**		**Pn**	**11 01 05.4**	**-1.5**
RAYN	**Ar Rayn**	**9.34**	**249**	Pn	**Pn**	**11 01 06.1**	**-0.8**
RAYN	**Ar Rayn**	**9.34**	**249**	*i* P	**Pn**	**11 01 04.8**	**-2.1**
	SNR=169						
RAYN	**Ar Rayn**	**9.34**	**249**	P	**Pn**	**11 01 08.1**	**+1.2**
IGLO	**Ghaloghah**	**9.35**	**354**	Pn	**Pn**	**11 01 09.3**	**+2.1**
DMTO	**DMTO**	**9.41**	**180**	P	**Pn**	**11 01 08.0**	**+0.1**
	SNR=13						
DMTO				P	**Pn**	**11 01 08.0**	**+0.1**
	SNR=13						
SBZV	**Sabzevar**	**9.45**	**13**	Pn	**Pn**	**11 01 10.0**	**+1.6**
SBZV	**Sabzevar**	**9.45**	**13**	*e*Pn	**Pn**	**11 01 09.6**	**+1.2**
SBZV				IAML_BB		11 01 54.9	
	comp=Z,3μm,1.0s						
HRA	**Herat**	**9.50**	**39**		**Pn**	**11 01 10.8**	**+1.6**
IBZA	**Bozab**	**9.52**	**322**	Pn	**Pn**	**11 01 11.1**	**+1.5**
IMOG	**Moghan**	**9.63**	**21**	Pn	**Pn**	**11 01 13.7**	**+2.6**
IALM	**Almabolaq**	**9.65**	**324**	Pn	**Pn**	**11 01 11.7**	**+0.4**
RBK	**Rabkut**	**9.66**	**185**	P	**Pn**	**11 01 11.6**	**+0.4**
	SNR=50						
RBK				P	**Pn**	**11 01 11.6**	**+0.4**
	SNR=50						
QABG	**Abgarm-Qazvin**	**9.69**	**333**	Pn	**Pn**	**11 01 12.1**	**+0.3**
MZPU	**Pul - Mazandar**	**9.69**	**343**	Pn	**Pn**	**11 01 14.3**	**+2.6**
HGHA	**Hamedan- Ghaye**	**9.82**	**329**	Pn	**Pn**	**11 01 14.6**	**+1.0**
JRKH	**Jarkhoshk**	**9.82**	**26**	Pn	**Pn**	**11 01 15.5**	**+2.1**
IPAY	**Payeh**	**9.84**	**19**	Pn	**Pn**	**11 01 16.2**	**+2.3**
KCHF	**Cheshme Sefid,**	**9.86**	**318**	Pn	**Pn**	**11 01 15.2**	**+1.2**
ABTO	**Aybut**	**9.90**	**190**	P	**Pn**	**11 01 15.2**	**+0.6**
	SNR=54						
ABTO				P	**Pn**	**11 01 15.2**	**+0.6**
	SNR=54						
IAKL	**Akhelmad**	**9.92**	**18**	Pn	**Pn**	**11 01 16.4**	**+1.4**
SNQR	**Sonqor, Kerman**	**9.94**	**322**	Pn	**Pn**	**11 01 15.4**	**+0.1**
IGZV	**Ghazvin**	**10.05**	**337**	Pn	**Pn**	**11 01 18.0**	**+1.3**
IMND	**Minoodasht**	**10.06**	**2**	Pn	**Pn**	**11 01 18.6**	**+2.0**
IMYA	**Miami**	**10.11**	**24**	Pn	**Pn**	**11 01 20.7**	**+3.2**
ISFR	**Sfrayin**	**10.17**	**14**	Pn	**Pn**	**11 01 20.5**	**+2.1**
IGHG	**Ghaleghazi**	**10.18**	**317**	Pn	**Pn**	**11 01 19.3**	**+0.8**
IKRD	**Kardeh**	**10.30**	**21**	Pn	**Pn**	**11 01 22.5**	**+2.3**
GLG1	**Gilan-e-Gharb**	**10.45**	**314**	Pn	**Pn**	**11 01 22.2**	**+0.1**
MRVT	**Maraveh tapeh**	**10.49**	**5**	Pn	**Pn**	**11 01 24.3**	**+1.6**
MRVT	**Maraveh tapeh**	**10.49**	**5**	*e*Pn	**Pn**	**11 01 23.3**	**+0.7**
MRVT				IAML_BB		11 02 13.8	
	comp=Z,2μm,1.0s						
IDHR	**Dehrash**	**10.54**	**317**	Pn	**Pn**	**11 01 24.6**	**+1.2**
IEMG	**Emamgholi**	**10.66**	**16**	Pn	**Pn**	**11 01 27.1**	**+2.0**
ZNJK	**Zanjan**	**10.88**	**332**	Pn	**Pn**	**11 01 28.8**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**10.91**	**314**	Pn	**Pn**	**11 01 29.6**	**+1.3**
IHSH	**Hashtrud**	**12.04**	**329**	Pn	**Pn**	**11 01 44.5**	**+0.5**
MAHB	**Mahabad**	**12.40**	**323**	Pn	**Pn**	**11 01 48.4**	**-0.4**
IHRS	**Heris**	**12.97**	**331**	Pn	**Pn**	**11 01 58.5**	**+1.8**
GRMI	**Germi**	**13.04**	**335**	Pn	**Pn**	**11 01 59.8**	**+2.2**
BHUJ	**Bhuj**	**13.81**	**103**	*e*P	**P**	**11 02 16.1**	**-0.3**
BHUJ				IAmb	IAmb	11 02 19.4	
	comp=Z,469nm,1

NCK Nalchik 18.73 333⇑iP Pn 11 03 13.4 +2.1
BHK Bhakra 19.13 72 eP Pn 11 03 22.6 +6.4
BHK IAmb IAmb 11 03 30.6
comp=Z,451nm,0.5s
BHK eS S 11 07 04.3 +12
TSSA Tissa 19.14 68 eP Pn 11 03 18.8 +2.3
TSSA IAmb IAmb 11 03 28.3
comp=Z,486nm,1.2s
TSSA eS **S 11 06 54.6 +1.9**
DHRM DHARAMSHALA 19.15 70 eP Pn 11 03 18.7 +2.0
DHRM IAmb IAmb 11 03 37.6
comp=Z,405nm,0.9s
DHRM eS **S 11 06 54.9 +1.9**
JHJR Jhajjar 19.17 81 eP Pn 11 03 18.9 +2.2
JHJR IAmb IAmb 11 03 36.7
comp=Z,349nm,2.1s
JHJR eS **S 11 06 55.7 +2.8**
KBZ Khabaz 19.21 332 P **Pn 11 03 17.9 +1.0**
comp=Z,2.4nm,0.3s,baz=141,slow=12,SNR=27
KBZ S **Sn 11 06 50.4 -1.7**
comp=Z,28nm,0.9s,baz=200,slow=23,SNR=2.5
KBZ LR LR 11 11 56.9
comp=Z,4μm,19.6s,baz=152,slow=41
comp=Z,92nm,0.9s
KBZ Khabaz 19.21 332c iP **Pn 11 03 18.1 +1.1**
KBZ pmax pmax
comp=Z,377nm,0.9s
CHM Chimkent 19.24 35 eP **P 11 03 16.5 0.0**
CHM eS **S 11 06 54.0 -0.3**
CHM LR LR 11 11 53.8
CHM Chimkent 19.24 35 eP **P 11 03 16.5 0.0**
CHM eS **S 11 06 53.9 -0.3**
SHA1 Shidzhatmaz 19.31 332c iP **Pn 11 03 20.2 +1.6**
ATD Arta Tunnel 19.32 219 P **Pn 11 03 18.4 -0.2**
ATD IAmb IAmb 11 03 27.1
comp=Z,329nm,1.2s
ATD Arta Tunnel 19.32 219 P **Pn 11 03 19.4 +0.8**
comp=Z,3.8nm,0.8s,baz=345,slow=8.1,SNR=18
ATD S **S 11 06 57.1 +0.9**
comp=Z,0.9nm,0.7s,baz=320,slow=16,SNR=1.8
ATD LR LR 11 10 53.6
comp=Z,300nm,19.7s,baz=36,slow=37
ATD Arta Tunnel 19.32 219 P **Pn 11 03 20.0 +1.4**
SNR=13
IUG Iuzhnay 19.33 36 eP **P 11 03 17.4 -0.2**
IUG eS **Sn 11 06 55.8 +0.4**
IUG Iuzhnay 19.33 36 eP **P 11 03 17.4 -0.2**
IUG eS **Sn 11 06 55.7 +0.4**
POO Poona 19.35 112 eP **Pn 11 03 19.8 +0.8**
POO IAmb IAmb 11 03 31.0
comp=Z,87nm,0.8s
POO eS **S 11 06 59.6 +2.8**
BHGR Bahadurgarh 19.43 80 eP **Pn 11 03 21.4 +1.7**
BHGR IAmb IAmb 11 03 33.4
comp=Z,199nm,0.5s
KVAR Kislovodsk Arr 19.48 332 LR LR 11 11 39.2
comp=Z,3μm,18.1s,slow=39
KIV Kislovodsk 19.48 332 P **Pn 11 03 21.2 +0.8**
KIV Kislovodsk 19.48 332 ⇑P **Pn 11 03 21.9 +1.5**
KIV Kislovodsk 19.48 332 iP **Pn 11 03 20.8 +0.4**
SNR=56
KIV Kislovodsk 19.48 332 eP **Pn 11 03 21.6 +1.2**
KIV eS **S 11 07 02.4 +3.3**
KIV pmax pmax
comp=Z,533nm,1.1s
KIV MLR MLR
comp=Z,1μm,14.0s
NDI New Delhi 19.67 80 eP **Pn 11 03 23.8 +1.1**
NDI IAmb IAmb 11 03 44.0
comp=Z,191nm,1.1s
NDI eS **Sn 11 07 08.2 +4.7**
BISR Bishrakh 19.87 81 eP **Pn 11 03 25.8 +0.8**
BISR IAmb IAmb 11 04 01.1
comp=Z,521nm,0.9s
BISR eS **Sn 11 07 12.2 +3.9**
BRLS Borolday 19.88 33 eP **P 11 03 20.1 -3.4**
BRLS Borolday 19.88 33 eP **P 11 03 20.0 -3.4**
CSS Mathiatis 20.11 298 P Pn 11 03 27.2 -0.7
CSS IAmb IAmb 11 03 40.1
comp=Z,310nm,1.2s
CSS Mathiatis 20.11 298 P Pn 11 03 27.8 -0.1
comp=Z,4μmcomp=Z,271nm,0.9s
TOKA Tokat 20.19 315 P **P 11 03 27.3 +0.5**
KAD Karad 20.25 115 eP Pn 11 03 33.7 +4.0
KAD IAmb IAmb 11 03 54.5
comp=Z,293nm,1.0s
KAD eS Sn 11 07 19.2 +1.5
GOF Gofitskoye 20.26 335c iP Pn 11 03 29.7 +0.2
KK31 Karatay Array 20.27 34 IAmb IAmb 11 03 36.5
comp=Z,283nm,0.9s
KK31 Karatay Array 20.27 34 iP **P 11 03 27.1 -0.6**
KKAR Karatay Array 20.27 34 P **P 11 03 27.2 -0.5**
KKAR Karatay Array 20.27 34 P **P 11 03 27.2 -0.5**
VSLR Vesyoloye 20.28 327c iP Pn 11 03 29.4 -0.4
VSLR pmax pmax
comp=Z,552nm,0.9s
ALCI Alchi Leh 20.29 64 eP Pn 11 03 29.7 -0.6
ALCI IAmb IAmb 11 03 42.5
comp=Z,290nm,0.8s
ALCI eS Sn 11 07 19.4 +0.4
AGRA Agra 20.39 85 eP Pn 11 03 32.5 +1.4
AGRA eS Sn 11 07 23.6 +2.8
ARSB Arslanbob 20.43 42 IAmb IAmb 11 03 43.2
comp=Z,327nm,1.2s
DDI Dehra Dun 20.43 76 eP Pn 11 03 32.2 +0.5
DDI IAmb IAmb 11 03 51.7
comp=Z,89nm,0.3s
DDI eS Sn 11 07 22.9 +0.9
SOC Sochi 20.53 327 eP **P 11 03 29.4 -1.1**
SOC eP*PP PPP 11 03 55.1
SOC eS **S 11 07 20.2 +0.3**
SOC eSS **SnSn 11 07 42.0 +3.3**
SOC eSSS SSS 11 07 53.4
SOC pmax pmax
comp=Z,480nm,0.9s
SOC MLR MLR
comp=Z,4μm,13.0s
DZA Taraz 20.54 36 eP **P 11 03 30.5 -0.2**
comp=Z,155nm,0.8s
DZA Taraz 20.54 36 eP **P 11 03 30.5 -0.2**
DZA pmax pmax
comp=Z,155nm,0.8s
NRDN NARMADA NAGAR 20.56 98 eP Pn 11 03 32.7 -0.5
NRDN IAmb IAmb 11 03 38.8
comp=Z,105nm,0.9s
NRDN eS Sn 11 07 24.5 -0.5
BHPL Bhopal 20.64 96 eP Pn 11 03 34.6 +0.4
BHPL IAmb IAmb 11 03 46.3
comp=Z,138nm,0.9s
BHPL eS Sn 11 07 26.1 -1.0
LABN Labinsk 20.87 330 eP **P 11 03 35.2 +1.0**
LABN e*PP Pn 11 03 37.2 +0.5
LABN eS Sn 11 07 31.0 -1.2
LABN MLR MLR
comp=E,10μm,15.0s
LABN MLR MLR
comp=N,9μm,10.0s
LABN MLR MLR
comp=Z,6μm,12.0s
AKL Akola 21.10 103 eP **P 11 03 39.3 +2.5**
AKL IAmb IAmb 11 03 47.4
comp=Z,186nm,1.1s
AKL eS Sn 11 07 36.0 -2.0
JHNI Jhansi 21.15 89 eP **P 11 03 41.0 +3.6**
JHNI IAML 11 03 49.3
comp=Z,85nm,0.7s
JHNI eS Sn 11 07 37.4 -1.8
KIRS Kirsehir-Merke 21.26 309 ⇓P **P 11 03 40.6 +2.1**
KSH Kashi 21.34 49 P **P 11 03 33.3 -6.1**
KSH S S 11 07 18.3 -18
KSH pmax pmax
comp=Z,240nm,0.8s
KSH pmax pmax
comp=Z,620nm,2.6s
KSH LR LR
comp=Z,9μm,11.3s
KSH LR LR
comp=Z,6μm,11.3s
KSH LR LR
comp=Z,8μm,13.1s
BR104 Keskin Array S 21.72 311 P **P 11 03 45.1 +1.6**
comp=Z,2μmcomp=Z,339nm,1.0s
EKS2 Erkin-Say 21.73 40 P **P 11 03 43.8 +0.2**
SNR=112

BR131 Keskin Array S 21.73 311 IAmb IAmb 11 03 51.0
comp=Z,281nm,0.9s
BR131 Keskin Array S 21.73 311 P **P 11 03 45.4 +1.8**
SNR=35
BR131 Keskin Array S 21.73 311c iP **P 11 03 45.0 +1.4**
BRTR Keskin Array B 21.73 311 P **P 11 03 45.0 +1.4**
comp=Z,87nm,0.9s,baz=131,slow=13,SNR=25
BRTR S **S 11 07 45.4 +1.5**
comp=Z,8.9nm,0.8s,baz=138,slow=9.1,SNR=1.4
BRTR ScP **ScP 11 11 21.2 0.0**
comp=Z,4.6nm,0.9s,baz=144,slow=5.2,SNR=5.4
BRTR LR LR 11 14 22.7
comp=Z,5μm,18.6s,baz=123,slow=43
BRTR PKiKP **PKiKP 11 15 30.2 -0.5**
comp=Z,2.3nm,1.0s,baz=183,slow=4.9,SNR=4.3
comp=Z,87nm,0.9s
BR105 Keskin Array S 21.74 311 P **P 11 03 45.4 +1.7**
comp=Z,2μmcomp=Z,285nm,1.0s
JOSI Joshimath 21.74 75 eP **P 11 03 45.3 +1.4**
JOSI IAmb IAmb 11 03 55.7
comp=Z,472nm,1.1s
JOSI eS **S 11 07 48.8 +4.3**
BR106 Keskin Array S 21.75 311 P **P 11 03 45.4 +1.6**
comp=Z,2μmcomp=Z,287nm,0.9s
FRKB FARRUKHABAD 21.82 84 eP **P 11 03 46.8 +2.3**
FRKB IAmb IAmb 11 03 58.5
comp=Z,259nm,0.8s
FRKB eS Sn 11 07 50.6 -4.6
ERBR Yeremizino-Bor 21.82 332 eP **P 11 03 43.4 -1.0**
ERBR e*PP **pP 11 03 46.6 -1.6**
ERBR e 11 04 05.7
ERBR eS **S 11 07 46.1 +0.7**
ERBR MLR MLR
comp=Z,2μm,14.0s
ERBR MLR MLR
comp=E,5μm,11.0s
UCH Uchtor 21.89 42 P **P 11 03 49.5 +3.9**
SNR=12
AAK Ala-Archa 22.12 41 P **P 11 03 48.0 +0.1**
AAK IAmb IAmb 11 04 04.3
comp=Z,192nm,1.1s
AAK Ala-Archa 22.12 41 LR LR 11 12 50.9
comp=Z,8μm,19.4s,baz=244,slow=38
AAK Ala-Archa 22.12 41 P **P 11 03 48.2 +0.4**
SNR=42
AAK Ala-Archa 22.12 41 iP **P 11 03 47.8 -0.1**
SNR=91
AAK Ala-Archa 22.12 41 P **P 11 03 48.0 +0.1**
AAK pmax pmax
comp=Z,192nm,1.1s
PTH Pithoragarh 22.29 78 eP **P 11 03 51.5 +1.7**
PTH IAmb IAmb 11 03 54.8
comp=Z,199nm,1.6s
PTH eS **S 11 07 58.1 +3.1**
ANTO Ankara 22.37 310 P **P 11 03 51.9 +1.5**
ANTO IAmb IAmb 11 04 03.7
comp=Z,366nm,1.0s
ANTO Ankara 22.37 310 ⇑P **P 11 03 52.9 +2.4**
ANTO Ankara 22.37 310 P **P 11 03 52.8 +2.4**
ANTO Ankara 22.37 310 P **P 11 03 51.9 +1.5**
comp=Z,2μmcomp=Z,196nm,1.1s
AB31 Akbulak array 22.37 8 P **P 11 03 49.8 -0.4**
AB31 IAmb IAmb 11 03 52.2
comp=Z,287nm,0.8s
AB31 Akbulak array 22.37 8 iP **P 11 03 49.7 -0.6**
ABKAR Akbulak array 22.37 8 P **P 11 03 49.4 -0.8**
KBK Karagaybulak 22.40 41 P **P 11 03 52.1 +1.2**
SNR=34
CHMS Chumysh 22.50 40 P **P 11 03 54.7 +3.0**
SNR=26
USP Ospenovka 22.52 39 P **P 11 03 51.9 -0.1**
SNR=64
ANN Anapa 22.54 326 eP **P 11 03 52.4 +0.3**
ANN e*PP **pP 11 03 54.9 -1.0**
ANN e 11 04 16.5
ANN eS **S 11 08 01.9 +2.9**
ANN pmax pmax
comp=Z,106nm,0.8s
ANN MLR MLR
comp=Z,3μm,13.0s
ANN MLR MLR
comp=E,3μm,14.0s
ANN MLR MLR
comp=N,2μm,14.0s
BZK Bozkurt 22.65 316 IAmb IAmb 11 04 16.8
comp=Z,265nm,1.1s
BZK Bozkurt 22.65 316 ⇑P **P 11 03 54.8 +1.5**
SGDS Sogindy 22.71 39 eP **P 11 03 53.5 -0.5**
comp=Z,112nm,1.1s
BOOM Boomskoye usch 22.89 43 IAmb IAmb 11 04 02.1
comp=Z,366nm,1.4s
ULHL Ulahol 22.94 44 P **P 11 04 02.2 +5.6**
SNR=11
TKM2 Tokmak 2 22.94 41 P **P 11 03 57.0 +0.4**
SNR=56
ISP Isparta 23.16 303c iP **P 11 03 59.3 +0.5**
ISP pmax pmax
comp=Z,182nm,1.7s
CIDE Kastamonu/Cide 23.27 315 ⇑P **P 11 04 01.4 +1.7**
ELL Elmali 23.29 300 P **P 11 04 00.7 +0.6**
ELL IAmb IAmb 11 04 24.6
comp=Z,188nm,1.0s
ELL Elmali 23.29 300 P **P 11 04 00.7 +0.6**
ELL pmax pmax
comp=Z,188nm,1.0s
AKTO Aktyubinsk 23.34 5 P **P 11 04 01.6 +1.2**
comp=Z,272nm,0.7s,baz=184,slow=11,SNR=175
AKTO S **S 11 08 11.2 -1.6**
comp=Z,11nm,0.7s,baz=196,slow=15,SNR=1.3
AKTO LR LR 11 14 21.1
comp=Z,6μm,21.9s,baz=180,slow=40
comp=Z,272nm,0.7s
AKAS Kas 23.38 299 P **P 11 04 01.8 +0.7**
AKAS IAmb IAmb 11 04 24.2
comp=Z,146nm,0.8s
KDJ Kajisay 23.46 45 IAmb IAmb 11 04 09.8
comp=Z,247nm,1.2s
TARG Taragay, Kyrgy 23.65 46 P **P 11 04 04.2 +0.2**
TARG IAmb IAmb 11 04 25.5
comp=Z,351nm,1.5s
TARG Taragay, Kyrgy 23.65 46 P **P 11 04 04.2 +0.2**
TARG pmax pmax
comp=Z,351nm,1.5s
HYB Hyderabad 23.80 109 eP **P 11 04 06.0 +0.8**
HYB IVmB_BB 11 04 08.3
comp=Z,3μm,4.8s
HYB eS **S 11 08 23.0 +2.1**
TNSS Tian-Shan 23.82 43 eP **P 11 04 04.7 -1.0**
TNSS Tian-Shan 23.82 43 eP **P 11 04 04.6 -1.0**
FURI Furi 23.86 223 P **P 11 04 06.4 +0.3**
FURI IAmb IAmb 11 04 34.0
comp=Z,147nm,0.7s
FURI Furi 23.86 223 P **P 11 04 08.5 +2.4**
comp=Z,41nm,0.4s,baz=71,slow=3.9,SNR=13
FURI LR LR 11 13 55.2
comp=Z,4μm,19.1s,baz=36,slow=38
comp=Z,41nm,0.4s
AAA Alma-Ata 23.89 42 eP **P 11 04 05.4 -0.6**
comp=Z,104nm,0.7s
AAA LR LR 11 14 13.9
comp=Z,6μm,12.9s
AAA Alma-Ata 23.89 42 eP **P 11 04 05.3 -0.6**
AAA pmax pmax
comp=Z,104nm,0.7s
AAA MLR MLR
comp=Z,6μm,13.0s
MDOK Medeo 23.95 43 eP **P 11 04 05.9 -0.7**
MDOK eS **S 11 08 23.4 +0.3**
MDOK LR LR 11 14 15.4
MDOK Medeo 23.95 43 eP **P 11 04 05.9 -0.7**
MDOK eS **S 11 08 23.3 +0.3**
BORA Eskisehir 23.99 308 IAmb IAmb 11 04 22.0
comp=Z,304nm,1.2s
SAHE Sakarya_HENDEK 24.14 311 ⇓P **P 11 04 10.1 +1.9**
CHKK Chushkaly 24.31 41 eP **P 11 04 09.6 -0.2**
CHKK Chushkaly 24.31 41 eP **P 11 04 09.5 -0.2**
SIM Simferopol' 24.38 322 eP **P 11 04 11.2 +0.9**
SIM eS **S 11 08 29.0 -0.6**
SIM pmax pmax
comp=Z,149nm,1.1s
PRZ Przheval'sk 24.41 45 IAmb IAmb 11 04 18.6
comp=Z,218nm,1.2s
ARG Arkhangelos 24.53 298 IAmb IAmb 11 04 30.4
comp=Z,117nm,0.8s
SATY Saty 24.72 44 eP **P 11 04 13.1 -0.5**
SATY eS **S 11 08 35.9 +0.5**

SATY Saty 24.72 44 eP **P 11 04 13.1 -0.5**
SATY eS **S 11 08 35.9 +0.5**
MANT Manisa 24.85 304 IAmb IAmb 11 04 26.1
comp=Z,288nm,1.4s
SILT Sile 25.09 310 ⇑P **P 11 04 18.0 +1.2**
KARP Karpathos 25.15 296 eP **P 11 04 18.6 +1.1**
KARP Karpathos 25.15 296 P **P 11 04 19.4 +2.0**
comp=Z,5μmcomp=Z,724nm,1.0s
SHLS Shalkode 25.43 45 eP **P 11 04 21.9 +1.9**
comp=Z,46nm,0.8s
SHLS Shalkode 25.43 45 eP **P 11 04 21.9 +1.9**
SHLS pmax pmax
comp=Z,46nm,0.8s
PDGK Podgornoye 25.54 45 P **P 11 04 20.0 -1.0**
KLYT Kilyos 25.54 310 ⇓P **P 11 04 22.0 +1.1**
BELG Belogornoye 25.79 350 P **P 11 04 23.4 +0.4**
comp=Z,374nm,0.7s,baz=83,slow=9.1,SNR=50
BELG S **S 11 08 50.1 -1.7**
comp=Z,37nm,1.1s,baz=120,slow=17,SNR=1.0
BELG LR LR 11 17 26.0
comp=Z,3μm,19.6s,baz=107,slow=43
comp=Z,374nm,0.7s
TDK Taldyqorghan 25.81 40 eP **P 11 04 23.1 -0.3**
comp=Z,122nm,0.9s
TDK LR LR 11 15 18.9
comp=Z,5μm,11.7s
TDK Taldyqorghan 25.81 40 eP **P 11 04 23.0 -0.3**
TDK pmax pmax
comp=Z,122nm,0.9s
TDK MLR MLR
comp=Z,5μm,12.0s
BAND Balkesir-Ban 25.84 307 ⇓P **P 11 04 25.4 +1.8**
VJD Vijayawada 26.00 109 eP **P 11 04 28.3 +3.1**
VJD IAmb IAmb 11 04 41.0
comp=Z,208nm,1.6s
VJD eS **S 11 09 00.5 +4.7**
VRH Novokhopyorsk 26.03 341 eP **P 11 04 25.6 +0.4**
VRH eS **S 11 09 00.3 +4.6**
VRH pmax pmax
comp=Z,853nm,0.8s
VRH smax smax
comp=N,5μm,5.5s
VRH MLR MLR
comp=Z,2μm,20.0s
CTYL Yalikoy Yolu 26.15 310 ⇑P **P 11 04 27.7 +1.3**
BRZS Berezniki 26.50 26 eP **P 11 04 29.7 +0.1**
BRZS Berezniki 26.50 26 eP **P 11 04 29.6 +0.1**
VORD Divnogorie 26.60 337 eP **P 11 04 29.3 -1.0**
VORD eS **S 11 09 02.9 -1.8**
VORD pmax pmax
comp=Z,260nm,0.8s
VORD smax smax
comp=N,260nm,4.8s
PHSR Pinarhisar 26.74 310 ⇓P **P 11 04 33.1 +1.3**
VSR Storozhevoye 26.85 338 eP **P 11 04 31.8 -0.8**
VSR eS **S 11 09 03.8 -4.9**
VSR pmax pmax
comp=Z,90nm,0.6s
VSR smax smax
comp=N,4μm,16.9s
EZN Ezine 26.93 305 ⇑P **P 11 04 34.9 +1.5**
EZN Ezine 26.93 305 P **P 11 04 35.0 +1.6**
IDI Anoyia 26.93 295 P **P 11 04 34.8 +1.2**
IDI Anoyia 26.93 295 IAmb IAmb 11 04 36.4
comp=Z,133nm,0.9s
IDI Anoyia 26.93 295 P **P 11 04 35.2 +1.6**
comp=Z,108nm,0.8s,baz=104,slow=9.9,SNR=29
IDI S **S 11 09 09.7 -0.8**
comp=Z,7.3nm,0.7s,baz=92,slow=8.8,SNR=1.1
IDI ScP **ScP 11 11 36.0 +0.5**
comp=Z,25nm,1.1s,baz=108,slow=5.5,SNR=4.0
IDI LR LR 11 19 33.7
comp=Z,1μm,18.6s,baz=98,slow=46
comp=Z,108nm,0.8s
KALB Balgarevo 26.93 314 ⇑P **P 11 04 35.4 +2.0**
KHAM Kharkiv 26.96 333 P **P 11 04 34.5 +0.9**
MANR Mangalia 27.02 315 ⇑P **P 11 04 35.9 +1.7**
EFOR EFORIE 27.12 315 ⇑P **P 11 04 36.5 +1.4**
MFTR Murfatlar 27.30 315 ⇑P **P 11 04 38.4 +1.7**
JURR Jurilovca 27.31 317 ⇑P **P 11 04 38.2 +1.3**
CAVK Edirne/Enez-Ca 27.33 307 ⇑P **P 11 04 38.2 +1.1**
TIRR Tirgusor 27.44 316 ⇓P **P 11 04 39.0 +0.9**
TIRR Tirgusor 27.44 316 P **P 11 04 38.9 +0.9**
TIRR Tirgusor 27.44 316 P **P 11 04 38.4 +0.4**
comp=Z,745nmcomp=Z,62nm,0.9s
TIRR pP **sP 11 04 43.0 -0.5**
comp=Z,745nmcomp=Z,62nm,0.9s
TPGR Topolog 27.64 317 ⇑P **P 11 04 40.6 +0.8**
ICOR Ion Corvin 27.66 315 ⇑P **P 11 04 41.9 +1.9**
PURM Purcari 27.70 321 ⇓P **P 11 04 41.0 +0.7**
TLBR Topalu 27.71 316 ⇑P **P 11 04 40.9 +0.5**
HARR Harsova 27.86 316 ⇑P **P 11 04 42.9 +1.2**
HARR Harsova 27.86 316 P **P 11 04 42.9 +1.2**
RDO Rodhopi 27.94 308 IAmb IAmb 11 05 12.3
comp=Z,96nm,1.0s
CFR Carcaliu 27.98 317 ⇑P **P 11 04 43.4 +0.6**
CFR Carcaliu 27.98 317 P **P 11 04 43.4 +0.6**
BOK Bokaro 28.03 90 eP **P 11 04 46.6 +3.1**
BOK IAmb IAmb 11 04 49.2
comp=Z,173nm,1.8s
BOK eS **S 11 09 32.5 +4.6**
LOZB Loznitsa 28.09 313 ⇑P **P 11 04 44.7 +0.8**
LPSR Galich'ya Gora 28.11 339 eP **P 11 04 43.4 -0.4**
LPSR eS **S 11 09 23.8 -4.6**
LPSR pmax pmax
comp=Z,230nm,0.9s
LPSR smax smax
comp=N,880nm,10.5s
EVN Everest 28.16 81 P **P 11 04 45.5 +0.2**
EVN IAmb IAmb 11 04 56.3
comp=Z,102nm,0.9s
RAZG Razgrad 28.24 313 ⇑P **P 11 04 46.6 +1.4**
BORK Borovoye 28.24 20 deP **P 11 04 43.6 -1.5**
BORK pmax pmax
comp=Z,182nm,0.8s
BRVK Borovoye 28.24 20 P **P 11 04 44.4 -0.7**
BVAR Borovoye Array 28.25 20 P **P 11 04 44.9 -0.2**
comp=Z,279nm,0.8s,baz=205,slow=5.7,SNR=180
BVAR PcP **PcP 11 07 58.4 +0.1**
comp=Z,19nm,0.7s,baz=177,slow=2.7,SNR=2.7
BVAR LR LR 11 17 31.4
comp=Z,6μm,18.6s,baz=207,slow=40
comp=Z,279nm,0.8s
VLDR Vladesti 28.36 318 ⇓P **P 11 04 47.0 +0.8**
BAL3X Bal3x, Balta 28.68 323 P **P 11 04 48.9 -0.1**
BIR Birlad 28.85 319 ⇑P **P 11 04 52.3 +1.7**
BIR Birlad 28.85 319 P **P 11 04 52.2 +1.7**
GHRR 28.87 318 P **P 11 04 52.0 +1.3**
SGRR Singureni 28.87 314 ⇑P **P 11 04 51.3 +0.6**
MAKZ Makanchi 28.89 40 P **P 11 04 51.4 +0.5**
MAKZ IAMs_20 IAMs_20 11 16 25.6
comp=Z,4μm,19.0s
MAKZ Makanchi 28.89 40 P **P 11 04 51.4 +0.5**
MAKZ pmax pmax
comp=Z,79nm,1.1s
MAKZ MLR MLR
comp=Z,4μm,19.0s
SULR 28.90 315 ⇑P **P 11 04 52.4 +1.4**
VASR Vaslui 28.95 319 ⇑P **P 11 04 52.5 +1.0**
MK31 Makanchi Array 29.06 40 diP **P 11 04 52.4 -0.1**
MKAR Makanchi Array 29.06 40 P **P 11 04 51.6 -0.9**
MKAR Makanchi Array 29.06 40 P **P 11 04 52.5 +0.1**
comp=Z,30nm,0.7s,baz=226,slow=8.3,SNR=75
MKAR ScP **ScP 11 11 40.9 -1.0**
comp=Z,2.9nm,0.7s,baz=225,slow=3.2,SNR=3.4
MKAR LR LR 11 17 15.8
comp=Z,5μm,18.5s,baz=236,slow=38
MKAR P3KPbc 11 36 59.3
comp=Z,4.5nm,0.9s,baz=39,slow=5.5,SNR=10
comp=Z,30nm,0.7s
VRI Vrincioaia 29.18 317 ⇓P **P 11 04 54.8 +1.3**
VRI Vrincioaia 29.18 317 P **P 11 04 54.8 +1.3**
PLOR5 Plostina Array 29.21 317 P **P 11 04 55.2 +1.4**
comp=Z,1μmcomp=Z,85nm,0.8s
PLOR5 pP **sP 11 04 59.2 -0.1**
comp=Z,1μmcomp=Z,85nm,0.8s
PLOR Plostina 29.22 317 ⇓P **P 11 04 55.6 +1.7**
PLOR Plostina 29.22 317 P **P 11 04 55.6 +1.7**
NEHR Nehoiu 29.23 316 ⇑P **P 11 04 54.6 +0.6**
ARTI Arti 29.29 4 P **P 11 04 54.9 +0.6**
ARTI IAmb IAmb 11 05 09.0
comp=Z,80nm,0.8s
ARTI Arti 29.29 4 P **P 11 04 54.9 +0.6**
comp=Z,35nm,0.8s,baz=195,slow=5.6,SNR=15
ARTI ScP **ScP 11 11 41.6 -0.8**

comp=Z,11nm,0.8s,baz=157,slow=7.7,SNR=2.9
comp=Z,35nm,0.8s
ARTI Arti 29.29 4*d* P 11 04 54.7 +0.4
ARTI 11 05 48.7
ARTI S **S 11 09 51.1 +4.1**
ARTI SS **SnSn 11 11 18.8 +6.1**
ARTI pmax pmax
comp=Z,45nm,1.3s
ARTI MLR MLR
comp=Z,4μm,14.0s
MLR Muntele Rosu 29.47 316 IAmb IAmb 11 05 05.6
comp=Z,87nm,1.0s
MLR Muntele Rosu 29.47 316 P **P 11 04 57.9 +1.6**
comp=Z,48nm,0.8s,baz=30,slow=7.3,SNR=10
MLR S **S 11 09 50.7 +0.2**
comp=Z,6.8nm,0.9s,baz=251,slow=13,SNR=1.3
MLR ScP **ScP 11 11 42.2 -1.1**
comp=Z,11nm,1.0s,baz=117,slow=4.5,SNR=3.1
MLR LR LR 11 18 33.9
comp=Z,5μm,21.3s,baz=126,slow=40
comp=Z,48nm,0.8s
MLR Muntele Rosu 29.47 316 ⇑P **P 11 04 57.9 +1.6**
MLR Muntele Rosu 29.47 316 P **P 11 04 58.1 +1.8**
comp=Z,1μmcomp=Z,87nm,1.0s
SORM Soroca 29.47 322 ⇑P **P 11 04 56.3 +0.3**
SORM Soroca 29.47 322 P **P 11 04 56.3 +0.3**
KURBB Kurchatov Arra 29.48 31 P **P 11 04 55.5 -0.5**
comp=Z,66nm,0.9s,baz=231,slow=8.6,SNR=193
KURBB PcP **PcP 11 08 01.6 +0.2**
comp=Z,13nm,0.9s,baz=232,slow=4.0,SNR=4.2
KURBB ScP **ScP 11 11 42.1 -1.0**
comp=Z,4.5nm,1.0s,baz=233,slow=3.2,SNR=5.4
KURBB PKiKP **PKiKP 11 15 34.2 -0.3**
comp=Z,0.8nm,0.6s,baz=224,slow=1.3,SNR=4.0
KURBB LR LR 11 17 31.8
comp=Z,3μm,19.9s,baz=230,slow=38
KURBB P3KPbc 11 36 57.6
comp=Z,1.5nm,0.8s,baz=51,slow=4.0,SNR=12
comp=Z,66nm,0.9s
TESR Tescani 29.55 318 ⇑P **P 11 04 57.9 +1.1**
TESR Tescani 29.55 318 P **P 11 04 57.6 +0.8**
comp=Z,1μmcomp=Z,99nm,0.9s
KURK Kurchatov 29.58 31 P **P 11 04 57.0 0.0**
KURK Kurchatov 29.58 31 P **P 11 04 55.5 -1.5**
KURK 11 08 01.6
KURK 11 11 42.1
KURK *i* 11 15 34.2
ITM Ithomi 29.60 298 IAmb IAmb 11 05 58.3
comp=Z,118nm,1.4s
TURR Turia 29.70 317 ⇑P **P 11 04 58.0 -0.2**
OZUR 29.86 317 ⇑P **P 11 05 00.1 +0.5**
MTUR Matau 29.90 315 ⇓P **P 11 05 01.3 +1.3**
MTUR Matau 29.90 315 P **P 11 05 01.3 +1.3**
SVE Sverdlovsk 29.90 6 *e*P **P 11 05 00.6 +0.8**
SVE *e*S **S 11 09 57.1 +0.5**
SVE *e* 11 11 45.9
SVE pmax pmax
comp=Z,76nm,0.8s
SVE MLR MLR
comp=Z,9μm,12.0s
DOPR Dopca 30.04 316 ⇓P **P 11 05 02.4 +1.2**
VAY Valandovo 30.11 306 *i* P **P 11 05 02.3 +0.5**
LODK Lodwar 30.19 222 P **P 11 05 04.8 +2.0**
LODK Lodwar 30.19 222 P **P 11 05 05.8 +3.1**
SNR=18
AK07 Malin Array Si 30.52 327 P **P 11 05 05.2 -0.1**
AK10 Malin Array Si 30.53 327 P **P 11 05 05.3 -0.1**
MALK Mahakanadarawa 30.54 123 P **P 11 05 05.8 0.0**
AK06 Malin Array Si 30.55 327 P **P 11 05 05.4 -0.1**
AK08 Malin Array Si 30.55 327 P **P 11 05 05.5 0.0**
AK05 Malin Array Si 30.57 327 P **P 11 05 05.6 -0.1**
TNR Turnu Rosu 30.59 315 ⇑P **P 11 05 07.4 +1.3**
TNR Turnu Rosu 30.59 315 P **P 11 05 07.3 +1.3**
AKASG Malin Array Be 30.61 327 P **P 11 05 05.5 -0.6**
AKASG Malin Array Be 30.61 327 P **P 11 05 05.9 -0.2**
comp=Z,85nm,0.8s,baz=133,slow=8.2,SNR=88
AKASG PcP **PcP 11 08 04.3 0.0**
comp=Z,24nm,0.9s,baz=102,slow=2.0,SNR=9.1
AKASG S **S 11 10 05.5 -2.3**
comp=Z,2.6nm,0.8s,baz=136,slow=15,SNR=4.4
AKASG ScP **ScP 11 11 45.6 -1.2**
comp=Z,1.3nm,0.6s,baz=102,slow=2.1,SNR=4.6
AKASG LR LR 11 19 24.4
comp=Z,1μm,18.5s,baz=137,slow=40
comp=Z,85nm,0.8s
AKBB Malin Array Si 30.61 327 P **P 11 05 06.0 -0.1**
AKBB Malin Array Si 30.61 327 P **P 11 05 06.0 -0.1**
AKBB pmax pmax
comp=Z,229nm,1.0s
KIEV Kiev 30.61 327 P **P 11 05 05.3 -0.8**
KIEV Kiev 30.61 327 ⇑P **P 11 05 06.7 +0.6**
KIEV Kiev 30.61 327 *i* P **P 11 05 05.8 -0.3**
SNR=49
KIEV Kiev 30.61 327 P **P 11 05 06.7 +0.6**
MDB Medias 30.75 316 ⇑P **P 11 05 09.4 +2.0**
MDB Medias 30.75 316 P **P 11 05 09.3 +2.0**
KMPD K-Podol'skiy 30.76 322 P **P 11 05 06.8 -0.6**
KMPD pP **pP 11 05 11.2 -0.2**
LOT Lotru 30.82 315 ⇑P **P 11 05 08.4 +0.2**
LUBAR Lubar, Ukraine 30.85 325 P **P 11 05 08.3 +0.1**
SRE Strehaia 30.86 313 ⇑P **P 11 05 10.1 +1.7**
SRE Strehaia 30.86 313 P **P 11 05 10.0 +1.7**
ZSN Zaisan 30.90 41 *e*P **P 11 05 08.4 -0.3**
ZSN Zaisan 30.90 41 *e*P **P 11 05 08.4 -0.3**
BURAR Bucovina Array 30.96 319 P **P 11 05 09.8 +0.5**
BURAR Bucovina Array 30.96 319 ⇑P **P 11 05 10.7 +1.4**
BURAR Bucovina Array 30.96 319 P **P 11 05 10.7 +1.4**
OBN Obninsk 30.98 339 P **P 11 05 10.2 +1.0**
OBN Obninsk 30.98 339 P **P 11 05 10.4 +1.2**
comp=Z,309nm,0.6s,baz=60,slow=1.1,SNR=40
OBN S **S 11 10 10.5 -3.0**
comp=Z,21nm,0.4s,baz=89,slow=22,SNR=1.9
OBN LR LR 11 20 20.0
comp=Z,2μm,18.2s,baz=96,slow=42
comp=Z,309nm,0.6s
OBN Obninsk 30.98 339 ⇓P **P 11 05 09.1 -0.2**
OBN Obninsk 30.98 339 *c* *i*P **P 11 05 10.1 +0.8**
OBN *e**PP **pP 11 05 13.1 -0.2**
OBN *e* 11 06 12.8
OBN *e*PPP PPP 11 06 21.7
OBN *e*S **S 11 10 10.6 -2.9**
OBN *e*SS **SnSn 11 11 54.3 +0.5**
OBN *e*SSS SSS 11 12 18.8
OBN pmax pmax
comp=Z,232nm,0.6s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 30.98 339 P **P 11 05 10.3 +1.0**
comp=Z,4μmcomp=Z,427nm,0.7s
WMQ Urumqi 31.10 49 *e*P **P 11 05 11.5 +0.9**
WMQ sP sP 11 05 23.8 +7.6
WMQ S **S 11 10 15.9 0.0**
WMQ pmax pmax
comp=Z,75nm,1.1s
WMQ pmax pmax
comp=Z,590nm,4.1s
WMQ LR LR
comp=Z,7μm,20.1s
WMQ LR LR
comp=Z,5μm,12.9s
WMQ LR LR
comp=Z,5μm,24.1s
MI29 MI29, Kamyanyy 31.11 326 P **P 11 05 10.4 -0.1**
SKO Skopje 31.11 307 *i* P **P 11 05 11.7 +1.0**
MI30 MI30,Zelenitsa 31.14 326 P **P 11 05 10.5 -0.3**
comp=Z,254nm,0.8s
MOS Moscow 31.19 341 *e*P **P 11 05 11.8 +0.7**
MOS *e* 11 06 12.2
MOS *e*S **S 11 10 16.1 -0.7**
MOS *e*SS **SnSn 11 12 02.9 +4.0**
MOS pmax pmax
comp=Z,84nm,0.9s
MOS pmax pmax
comp=Z,300nm,1.6s
DJES Djerdap 31.30 312 ⇓P **P 11 05 13.8 +1.4**
OHR Ohrid 31.33 305 *i* P **P 11 05 13.9 +1.2**
GZR Gura Zlata 31.43 314 ⇑P **P 11 05 14.5 +1.0**
GZR Gura Zlata 31.43 314 P **P 11 05 14.4 +1.0**
HERR Herculane 31.46 313 ⇓P **P 11 05 14.6 +0.9**
BOVS Bovan 31.47 310 ⇑P **P 11 05 14.3 +0.5**
CJR Cluj-Napoca 31.49 317 ⇑P **P 11 05 15.2 +1.2**
CJR Cluj-Napoca 31.49 317 P **P 11 05 15.2 +1.2**
MI28 MI28,Pidlybu 31.52 326 P **P 11 05 14.1 0.0**
KIRV Kirov 31.64 354 P **P 11 05 16.2 +1.2**
comp=Z,85nm,0.6s,baz=215,slow=0.7,SNR=21
KIRV S **S 11 10 22.0 -1.7**
comp=Z,18nm,0.5s,baz=233,slow=20,SNR=4.4
KIRV LR LR 11 20 24.2
comp=Z,2μm,19.9s,baz=162,slow=41
comp=Z,85nm,0.6s
MSEY Mahe Island 31.67 179 P **P 11 05 16.6 +0.9**
MSEY IAmb IAmb 11 05 22.4
comp=Z,56nm,0.9s
MSEY Mahe Island 31.67 179 P **P 11 05 16.6 +0.9**
MSEY pmax pmax
comp=Z,56nm,0.9s
MSEY MLR MLR
comp=Z,3μm,20.0s
MARR Marisel-Cluj 31.77 316 ⇑P **P 11 05 17.6 +1.2**
LSA Lhasa 31.79 77 P **P 11 05 15.6 -1.7**
LSA pmax pmax
comp=Z,47nm,0.9s
MDVR Moldovita 31.88 312 ⇓P **P 11 05 18.6 +1.2**
BMR Baia Mare 32.00 318 ⇑P **P 11 05 19.2 +0.7**
BMR Baia Mare 32.00 318 P **P 11 05 19.1 +0.7**
DRGR 32.07 316 ⇑P **P 11 05 20.2 +1.1**
DRGR 32.07 316 P **P 11 05 20.2 +1.1**
BZS Buzias 32.27 314 ⇓P **P 11 05 22.3 +1.6**
BZS Buzias 32.27 314 P **P 11 05 22.3 +1.6**
IVA Berane 32.48 308 ⇑*i*P **P 11 05 22.4 -0.3**
SIRR Siria 32.50 315 ⇑P **P 11 05 23.9 +1.1**
RNPP5 Staryi Chortor 32.59 325 P **P 11 05 23.5 0.0**
RNPP8 Varash 32.67 326 P **P 11 05 24.1 -0.1**
ULC Ulcinj 32.68 306 ⇑*i*P **P 11 05 24.0 -0.5**
KOME Kolasin 32.74 308 ⇑*i*P **P 11 05 25.0 0.0**
DRME Dracevica, Mon 32.78 307 ⇑*i*P **P 11 05 25.2 -0.2**
PDG Podgorica 32.80 307 IAms_20 IAms_20 11 19 31.8
comp=Z,3μm,18.0s
PDG Podgorica 32.80 307 ⇓P **P 11 05 26.0 +0.6**
PDG Podgorica 32.80 307 ⇑*i*P **P 11 05 25.3 -0.2**
KMBO Kilima Mbogo 32.93 214 P **P 11 05 28.1 +1.0**
comp=Z,64nm,0.4s,baz=33,slow=13,SNR=4.0
comp=Z,64nm,0.4s
PLE Pljevlja 32.97 309 ⇑*i*P **P 11 05 27.3 +0.2**
SHL Shillong 32.99 84 P **P 11 05 27.1 -0.5**
SHL Shillong 32.99 84 *e*P **P 11 05 31.3 +3.7**
SHL Shillong 32.99 84 P **P 11 05 27.1 -0.5**
SHL pmax pmax
comp=Z,24nm,0.7s
BUM Brajici-Budva 33.02 307 ⇑*i*P **P 11 05 27.2 -0.3**
RUDO Rudo 33.07 309 *e*P **P 11 05 24.9 -2.9**
CEME Cevo 33.07 307 ⇑*i*P **P 11 05 27.6 -0.3**
NKME Niksic 33.11 307 ⇑*i*P **P 11 05 28.0 -0.2**
UPM Unac-Piva 33.27 308 ⇑*i*P **P 11 05 29.3 -0.5**
HCY Herceg Novi 33.35 307 ⇑*i*P **P 11 05 29.8 -0.5**
KWP Kalwaria Pacla 33.41 321 *e*P **P 11 05 31.6 +0.8**
BRY Bratogost 33.44 308 ⇑*i*P **P 11 05 30.9 -0.3**
KLINJ Klinje 33.48 308 *e*P **P 11 05 30.0 -1.5**
TREB Trebinje 33.52 307 ⇑*i*P **P 11 05 30.9 -0.9**
KIBK Kibwezi 33.60 212 P **P 11 05 33.4 +0.6**
KIBK Kibwezi 33.60 212 P **P 11 05 33.7 +0.9**
KIBK Kibwezi 33.60 212 P **P 11 05 35.4 +2.6**
SNR=38
MNK Minsk 33.76 331 *i* P **P 11 05 32.0 -1.6**
comp=E,55nm,0.9s
MNK *i* P **P 11 05 32.0 -1.6**
comp=N,116nm,0.9s
MNK *i* P **P 11 05 32.0 -1.6**
comp=Z,237nm,0.8s,baz=133
MNK *i* PP **PnPn 11 06 45.3 -0.5**
MNK *i* PPP PPP 11 06 56.4
MNK *i* S **S 11 10 56.9 +0.1**
MNK *i* SS **SnSn 11 13 04.3 +3.1**
MNK *i* SSS SSS 11 13 19.6
MNK *i* LQ LQ 11 16 60.0
MNK *i* LR LR 11 19 06.0
MNK *i* LRM MLR 11 19 56.0
comp=E,1μm,17.7s
MNK *i* LRM MLR 11 20 27.7
comp=Z,3μm,22.3s
MNK *i* LRM MLR 11 20 32.8
comp=N,2μm,20.4s
MNK Minsk 33.76 331 *i* P **P 11 05 32.0 -1.6**
MNK *i* 11 06 45.2
MNK *i* S **S 11 10 56.8 +0.1**
MNK *i* SS **SnSn 11 13 04.3 +3.1**
MNK pmax pmax
comp=N,116nm,0.9s
MNK pmax pmax
comp=Z,237nm,0.8s
MNK pmax pmax
comp=E,55nm,0.9s
MNK MLR MLR
comp=E,1μm,18.0s
MNK MLR MLR
comp=Z,3μm,22.0s
MNK MLR MLR
comp=N,2μm,20.0s
TIP Timpagrande 33.95 300 ⇑P **P 11 05 35.9 +0.3**
STON Ston 34.02 307 ⇑*i*P **P 11 05 35.1 -1.0**
STHS Stebnicka Huta 34.14 320 *e*P **P 11 05 37.3 +0.2**
STHS pmax pmax
comp=Z,10.0nm,1.0s
STHS Stebnicka Huta 34.14 320 *e*P **P 11 05 37.3 +0.2**
KECS Kecovo 34.16 318 *e*P **P 11 05 39.0 +1.7**
KECS pmax pmax
comp=Z,141nm,0.8s
KECS Kecovo 34.16 318 *e*P **P 11 05 39.0 +1.7**
MATE Matera 34.25 303 ⇑P **P 11 05 38.0 -0.1**
MATE Matera 34.25 303 *e*P **P 11 05 37.6 -0.4**
PSZ Piszkesteto 34.28 317 IAmb IAmb 11 05 45.2
comp=Z,64nm,1.0s
PSZ Piszkesteto 34.28 317 ⇑P **P 11 05 39.0 +0.6**
PSZ Piszkesteto 34.28 317 *e*P **P 11 05 39.0 +0.6**
PSZ Piszkesteto 34.28 317 P **P 11 05 38.9 +0.6**
MORH Mrgy, Hungar 34.41 313 ⇑*i*P **P 11 05 40.1 +0.6**
MORH Mrgy, Hungar 34.41 313 ⇑P **P 11 05 40.2 +0.8**
CEL Celeste 34.49 299 IAmb IAmb 11 05 47.2
comp=Z,162nm,1.4s
NACGM Naroch 34.50 331 *e*P **P 11 05 40.9 +0.8**
comp=E,116nm,1.0s
ZALV Zalesovo Beam 34.57 31 P **P 11 05 39.5 -1.2**
comp=E,203nm,0.7s,baz=236,slow=8.6,SNR=263
ZALV PcP **PcP 11 08 14.6 -0.6**
comp=E,6.4nm,0.6s,baz=232,slow=2.8,SNR=1.5
ZALV LR LR 11 20 14.3
comp=E,1μm,18.2s,baz=228,slow=37
ZALV P3KPbc 11 36 39.0
comp=E,0.6nm,0.3s,baz=46,slow=4.3,SNR=4.8
comp=E,203nm,0.7s
NIE Niedzica 34.69 319 *e*P **P 11 05 43.0 +1.1**
NIE *e*L L 11 22 55.5
comp=E,2μm,18.4s
CUC Castrocucco 34.80 302 IAms_20 IAms_20 11 21 30.8
comp=Z,3μm,18.0s
BLY Banja Luka 34.91 310 ⇑*i*P **P 11 05 40.1 -3.7**
BLY Banja Luka 34.91 310 ⇑P **P 11 05 43.5 -0.2**
KOHI KOHIMA 34.93 83 *e*P **P 11 05 46.7 +2.3**
KOHI IAmb IAmb 11 05 48.6
comp=Z,240nm,1.3s
IMP Imphal 34.97 85 *e*P **P 11 05 46.8 +2.2**
IMP IAmb IAmb 11 05 50.3
comp=Z,46nm,1.2s
LANS Liptovska Anna 35.06 318 *e*P **P 11 05 46.6 +1.5**
LANS pmax pmax
comp=Z,119nm,0.8s
LANS Liptovska Anna 35.06 318 *e*P **P 11 05 46.5 +1.5**
SRO Srobarova 35.22 316 *e*P **P 11 05 48.0 +1.6**
SRO pmax pmax
comp=Z,99nm,0.9s
SRO Srobarova 35.22 316 *e*P **P 11 05 48.0 +1.6**
ISAL Salakas 35.22 332 *e*P **P 11 05 47.6 +1.2**
KIJV Kijevo 35.23 309 ⇑*i*P **P 11 05 46.6 0.0**
KLMR Klimovskoe 35.28 347 *e*P **P 11 05 44.3 -2.4**
KLMR *e* 11 07 03.9
KLMR pmax pmax
comp=Z,250nm,1.3s
OJC Ojcow 35.35 320 *e*P **P 11 05 48.1 +0.6**
MOSL Moslavina 35.46 311 ⇑*i*P **P 11 05 48.7 +0.2**
SUW Suwalki 35.57 328 *e*P **P 11 05 49.5 +0.2**
SUW *e*S **S 11 11 22.1 -2.6**
SUW Suwalki 35.57 328 *e*P **P 11 05 49.7 +0.4**
VAE Valguarnera 35.58 297 P **P 11 05 51.2 +1.5**
comp=Z,124nm,0.8s,baz=42,slow=4.0,SNR=16
comp=Z,124nm,0.8s
BEL Belsk 35.58 323 *e*P **P 11 05 50.0 +0.5**
JAVC Velka Javorina 36.02 317 *e*P **P 11 05 54.8 +1.5**
SMOL Smolenice 36.03 316 *e*P **P 11 05 54.1 +0.7**
SMOL pmax pmax
comp=Z,29nm,1.2s
KOGS Kog 36.05 313 *i* P **P 11 05 54.1 +0.5**
KOGS *i* PP PP 11 07 26.7 +11
KOGS *i* PcP **PcP 11 08 20.6 +0.9**
KOGS *e*SS SS 11 14 23.0 +14
MODS Modra-Piesok 36.07 316 *e*P **P 11 05 54.1 +0.3**
MODS pmax pmax
comp=Z,128nm,1.4s
MODS Modra-Piesok 36.07 316 *e*P **P 11 05 54.1 +0.3**
MODS *e*S S 11 11 44.3 +12
ZST Bratislava 36.11 316 *e*P **P 11 05 55.0 +0.9**
ZST pmax pmax
comp=Z,8.0nm,0.7s
ZST Bratislava 36.11 316 *e*P **P 11 05 55.0 +0.9**
PABE Paberze 36.12 330 *e*P **P 11 05 54.6 +0.7**
OKC Ostrava-Krasne 36.13 319 *e*P **P 11 05 55.0 +0.8**
OKC *e*PP PP 11 07 27.3 +11
OKC AMS AMS 11 23 10.0
comp=Z,3μm,16.5s
OKC Ostrava-Krasne 36.13 319 *e*P **P 11 05 55.0 +0.8**
OKC MLR MLR
comp=Z,3μm,16.5s
OZLJ Ozalj 36.32 311 ⇑*i*P **P 11 05 56.5 +0.6**
RONA Rosalia, Austr 36.44 315 *i* P **P 11 05 57.6 +0.6**
comp=Z,43nm,0.8s,SNR=20
MORC Moravsky Berou 36.46 318 IAmb IAmb 11 05 58.8
comp=Z,104nm,0.9s
MORC Moravsky Berou 36.46 318 ⇓P **P 11 05 58.0 +0.9**
MORC Moravsky Berou 36.46 318 *e*P **P 11 05 57.5 +0.4**
MORC *e* 11 06 02.8
MORC Moravsky Berou 36.46 318 P **P 11 05 58.0 +0.9**
PUL Pulkovo 36.74 339 ⇑*i*P **P 11 06 01.1 +1.9**
PUL pmax pmax
comp=Z,139nm,0.8s
ARSA Arzberg 36.78 314 *i* P **P 11 06 00.8 +0.9**
comp=Z,10nm,0.7s,SNR=11
CONA Conrad Observa 36.80 315 *i* P **P 11 05 59.6 -0.5**
comp=Z,37nm,1.0s,SNR=18
VRAC Vranov 36.84 317 P **P 11 06 01.2 +0.9**
comp=Z,63nm,0.8s,baz=108,slow=8.2,SNR=30
VRAC LR LR 11 23 19.5
comp=Z,3μm,18.4s,baz=118,slow=40
comp=Z,63nm,0.8s
VRAC Vranov 36.84 317 ⇓P **P 11 06 01.6 +1.2**
VRAC Vranov 36.84 317 *e*P **P 11 06 00.9 +0.6**
VRAC *e* 11 06 06.0
VRAC Vranov 36.84 317 P **P 11 06 01.5 +1.2**
KRUC Moravsky 36.87 317 *e*P **P 11 06 01.1 +0.5**
KRUC *e* 11 06 06.3
SOKA Soboth 36.92 313 *i* P **P 11 06 01.9 +0.8**
comp=Z,23nm,0.8s,SNR=9.3
VSU Vasula 36.98 336 *d* *i*P **P 11 06 00.3 -1.0**
VSU pmax pmax
comp=Z,325nm,1.1s
AQU L'Aquila 37.00 305 P **P 11 06 01.6 -0.2**
AQU L'Aquila 37.00 305 ⇑*i*P **P 11 06 03.2 +1.4**
KRLC Kraliky 37.03 319 *e*P **P 11 06 02.6 +0.6**
KRLC *e*PP **PnPn 11 07 30.0 +3.4**
KRLC AMS AMS 11 23 30.0
comp=Z,3μm,20.4s
KRLC Kraliky 37.03 319 *e*P **P 11 06 02.6 +0.6**
KRLC *e* 11 07 30.0
KRLC MLR MLR
comp=Z,3μm,20.4s
LJU Ljubljana 37.07 311 *i* P **P 11 06 03.0 +0.7**
LJU *e*PP **PnPn 11 07 33.2 +6.2**
LJU *i* PcP **PcP 11 08 25.5 +2.7**
LJU *e*S **S 11 11 45.8 -2.2**
OBKA Obir 37.19 312 *i* P **P 11 06 02.7 -0.7**
comp=Z,40nm,1.2s,SNR=9.0
BRJN Brijuni 37.30 309 ⇑*i*P **P 11 06 04.6 +0.4**
DPC Dobruska-Polom 37.42 319 *e*P **P 11 06 06.0 +0.8**
DPC *e*PP **PnPn 11 07 38.8 +7.6**
DPC AMS AMS 11 23 50.0
comp=Z,2μm,16.2s
DPC Dobruska-Polom 37.42 319 *e*P **P 11 06 06.0 +0.8**
DPC *e* 11 07 38.8
DPC MLR MLR
comp=Z,2μm,16.2s
TRI Trieste 37.50 311 IAmb IAmb 11 06 06.2
comp=Z,84nm,0.8s
TREC Trest 37.51 317 *e*P **P 11 06 07.6 +1.6**
TREC *e*PP **PnPn 11 07 40.2 +7.9**
TREC AMS AMS 11 23 10.0
comp=Z,3μm,17.8s
TREC Trest 37.51 317 *e*P **P 11 06 07.6 +1.6**
TREC *e* 11 07 40.2
TREC MLR MLR
comp=Z,3μm,17.8s
OSTC Ostas 37.56 319 *e*P **P 11 06 07.3 +0.9**
OSTC *e*PP **PnPn 11 07 37.8 +4.9**
OSTC AMS AMS 11 21 20.0
comp=Z,2μm,29.9s
OSTC Ostas 37.56 319 *e*P **P 11 06 07.3 +0.9**
KSP Ksiaz 37.63 319 *e*P **P 11 06 07.5 +0.5**
KSP *e*L L 11 22 13.4
comp=Z,3μm,24.7s
CESX Cesi 37.65 305 IAmb IAmb 11 06 09.7
comp=Z,138nm,0.9s
CADS Cadrg 37.65 311 *i* P **P 11 06 07.5 +0.2**
UPC Upice 37.66 319 *e*P **P 11 06 08.1 +0.9**
UPC *e*PP **PnPn 11 07 38.2 +4.1**
UPC AMS AMS 11 23 50.0
comp=Z,2μm,15.7s
UPC Upice 37.66 319 *e*P **P 11 06 08.1 +0.9**
UPC *e* 11 07 38.2
UPC MLR MLR
comp=Z,2μm,15.7s
CHVC Chvalec 37.67 319 *e*P **P 11 06 08.4 +1.1**
CHVC *e*PP **PnPn 11 07 41.4 +7.2**
CHVC AMS AMS 11 21 20.0
comp=Z,3μm,28.6s
CHVC Chvalec 37.67 319 *e*P **P 11 06 08.4 +1.1**
SABO M.te Sabotino 37.68 311 IAmb IAmb 11 06 08.9
comp=Z,86nm,0.8s
MOA Molln 37.78 314 *e*P **P 11 06 09.0 +0.6**
comp=Z,60nm,0.9s,SNR=16
MYKA Terra Mystica 37.83 312 *i* P **P 11 06 09.6 +0.8**
comp=Z,25nm,0.7s,SNR=12
MYKA *i* ScP **ScP 11 12 12.8 +0.2**
comp=Z,0.8nm,0.2s
CKRC Cesky Krumlov 38.07 316 *e*P **P 11 06 11.4 +0.6**
CKRC *e*PP **PnPn 11 07 47.1 +8.0**
CKRC AMS AMS 11 23 10.0
comp=Z,2μm,19.6s
CKRC Cesky Krumlov 38.07 316 *e*P **P 11 06 11.4 +0.6**
CKRC *e* 11 07 47.1
CKRC MLR MLR
comp=Z,2μm,19.6s
BIOA Bad Ischl, Aus 38.14 314 *i* P **P 11 06 11.8 +0.4**
comp=Z,77nm,1.3s,SNR=17
KBA Koelnbreinsper 38.15 313 *i* P **P 11 06 12.3 +0.6**
comp=Z,95nm,0.8s,SNR=23
SLIT Slitere, Latvi 38.17 332 *e*P **P 11 06 11.4 0.0**
GKP Gorka Klasztor 38.18 323 *e*P **P 11 06 11.8 +0.3**
GKP Gorka Klasztor 38.18 323 *e*P **P 11 06 12.7 +1.2**
PRU Pruhonice 38.34 318 *e*P **P 11 06 13.9 +1.0**
PRU *e*PP **PnPn 11 07 46.4 +4.1**
PRU AMS AMS 11 23 30.0
comp=Z,2μm,16.3s
PRU Pruhonice 38.34 318 *e*P **P 11 06 13.9 +1.0**
PRU *e* 11 07 46.4
PRU MLR MLR
comp=Z,2μm,16.3s
STAL STALIGIAL 38.35 311 IAmb IAmb 11 06 14.5
comp=Z,90nm,0.9s
ZVC Zvikov 38.35 317 *e*P **P 11 06 14.0 +0.9**
ZVC *e*PP **PnPn 11 07 47.8 +5.3**
ZVC AMS AMS 11 23 50.0
comp=Z,3μm,16.8s
GERES GERESS Array B 38.46 315 P **P 11 06 14.2 0.0**
comp=Z,26nm,0.8s,baz=111,slow=7.4,SNR=33
GERES PcP **PcP 11 08 27.0 -0.1**
comp=Z,10nm,1.0s,baz=114,slow=2.4,SNR=4.6
GERES ScP **ScP 11 12 14.0 -0.9**
comp=Z,3.7nm,0.9s,baz=123,slow=3.6,SNR=5.4
GERES LR LR 11 23 55.0
comp=Z,2μm,20.8s,baz=109,slow=39
comp=Z,26nm,0.8s
PVCC Panska Ves 38.52 318 *e*P **P 11 06 15.2 +0.7**
PVCC *e*PP **PnPn 11 07 47.9 +3.5**
PVCC AMS AMS 11 24 10.0
comp=Z,2μm,17.7s

PVCC Panska Ves 38.52 318 *e*P **P** **11 06 15.2 +0.7**
PVCC *e* 11 07 47.9
PVCC MLR MLR
comp=Z,2μm,17.7s
ABTA Abfaltersbach 38.61 312 *i* P **P** **11 06 16.0 +0.6**
comp=Z,97nm,0.9s,SNR=26
KHC Kasperske Hory 38.63 316 *e*P **P** **11 06 16.0 +0.5**
KHC *e*PP **PnPn** **11 07 51.6 +5.8**
KHC AMS AMS 11 23 30.0
comp=Z,2μm,18.7s
KHC Kasperske Hory 38.63 316 *e*P **P** **11 06 16.0 +0.5**
KHC *e* 11 07 51.6
KHC MLR MLR
comp=Z,2μm,18.7s
LESA Schwarzleotal 38.68 313 *i* P **P** **11 06 16.2 +0.2**
comp=Z,62nm,1.0s,SNR=19
LESA *e*S **S** **11 12 09.4 -3.1**
comp=Z,10nm,1.1s
RICC Richard 38.80 318 *e*P **P** **11 06 17.5 +0.7**
RICC AMS AMS 11 23 50.0
comp=Z,2μm,18.8s
TEOL Teolo 38.84 309 IAmb IAmb 11 06 18.7
comp=Z,90nm,0.9s
TNCH TengChong 38.98 83 P **P** **11 06 20.0 +1.1**
TNCH PP **PnPn** **11 07 52.5 +1.9**
TNCH S **S** **11 12 18.1 +0.4**
TNCH SS **SnSn** **11 15 03.9 -4.8**
TNCH pmax pmax
comp=Z,140nm,0.5s
TNCH pmax pmax
comp=Z,1μm,3.7s
TNCH LR LR
comp=Z,2μm,14.1s
TNCH LR LR
comp=Z,1μm,14.6s
TNCH LR LR
comp=Z,2μm,13.9s
JOF Joensuu 38.99 343 *e*P **P** **11 06 18.8 +0.6**
CTI Castel Tesino 39.01 311 IAmb IAmb 11 06 20.4
comp=Z,124nm,0.9s
GTA Gaotai 39.01 60 P **P** **11 06 18.8 -0.1**
GTA sP sP 11 06 25.1 +0.6
GTA S **S** **11 12 17.3 -0.5**
GTA SS **SnSn** **11 15 05.6 -3.4**
GTA pmax pmax
comp=Z,360nm,0.9s
GTA pmax pmax
comp=Z,920nm,5.5s
GTA LR LR
comp=Z,1μm,12.0s
GTA LR LR
comp=Z,4μm,14.2s
GTA LR LR
comp=Z,4μm,14.9s
BRG Berggiesshubel 39.02 319 *e*P **P** **11 06 19.0 +0.4**
BRG Amp 11 06 20.3
comp=Z,64nm,0.9s
BRG Berggiesshubel 39.02 319 P P 11 06 28.0 +9.4
BRG Amp 11 06 28.8
comp=Z,52nm,0.9s
BRG Berggiesshubel 39.02 319 PP PP 11 07 45.0 -3.0
BRG Berggiesshubel 39.02 319 S **S** **11 12 12.0 -5.3**
MEF Metsahovi 39.07 336 *e*P **P** **11 06 19.4 +0.5**
ZCCA Zocca 39.11 308 IAmb IAmb 11 06 26.1
comp=Z,177nm,0.8s
HSKC Hora Svate Kat 39.22 318 *e*P **P** **11 06 21.0 +0.6**
HSKC *e*PP **PnPn** **11 07 54.8 +1.9**
HSKC AMS AMS 11 25 00.0
comp=Z,2μm,20.0s
WTTA Wattenberg 39.32 312 *i* P **P** **11 06 21.5 0.0**
comp=Z,203nm,0.8s,SNR=42
WTTA *i* ScP **ScP** **11 12 18.2 -0.2**
comp=Z,16nm,0.9s
FINES FINESS Array B 39.38 338 P **P** **11 06 20.8 -0.6**
FINES FINESS Array B 39.38 338 P **P** **11 06 21.6 +0.2**
comp=Z,49nm,0.7s,baz=126,slow=9.7,SNR=52
FINES PP **PP** **11 07 52.0 +0.3**
comp=Z,42nm,0.9s,baz=128,slow=13,SNR=2.5
comp=Z,49nm,0.7s
WATA Walderalm 39.38 313 *e*P **P** **11 06 21.2 -0.7**
comp=Z,152nm,1.2s,SNR=35
WATA *i* ScP **ScP** **11 12 15.8 -2.8**
comp=Z,0.1nm,0.2s
VLC Villacollemand 39.50 307 P **P** **11 06 22.0 -0.7**
SQTA Sankt Quirin 39.59 312 *i* P **P** **11 06 23.5 -0.2**
comp=Z,164nm,0.7s,SNR=44
SQTA *i* ScP **ScP** **11 12 19.3 -0.1**
comp=Z,9.3nm,0.8s
KEST Kesra 39.59 294 P **P** **11 06 26.3 +2.5**
comp=Z,70nm,0.9s,baz=8.5,slow=1.0,SNR=39
comp=Z,70nm,0.9s
KEST Kesra 39.59 294 P **P** **11 06 26.6 +2.8**
SNR=24
MOTA Moosalm 39.69 312 *i* P **P** **11 06 23.9 -0.6**
comp=Z,108nm,0.8s,SNR=46
MOTA *i* ScP **ScP** **11 12 19.0 -0.9**
comp=Z,12nm,0.8s
RUE Ruedersdorf 39.72 321 *e*P **P** **11 06 25.6 +1.1**
CLL Collm 39.73 319 IAmb IAmb 11 06 31.2
comp=Z,106nm,0.9s
CLL Collm 39.73 319 *i* P **P** **11 06 24.5 0.0**
CLL *i* 11 06 29.9
CLL *e*S **S** **11 12 26.0 -1.9**
CLL pmax pmax
comp=Z,101nm,0.9s
CLL MLR MLR
comp=Z,2μm,18.5s
CLL Collm 39.73 319 *i* P **P** **11 06 24.5 0.0**
comp=Z,101nm,0.9s
CLL *i* Pmax 11 06 25.4
CLL *i* x x 11 06 29.9
comp=Z,129nm,1.0s
CLL *e*PP **PnPn** **11 08 01.0 +2.1**
CLL *e*x x 11 11 24.0
CLL *e*S **S** **11 12 26.0 -1.9**
comp=N,300nm,32.7s
CLL *e*S **S** **11 12 26.0 -1.9**
comp=E,700nm,33.3s
CLL *e*SS **SnSn** **11 15 30.0 +4.3**
CLL *e*x x 11 16 25.0
CLL LmV 11 25 00.0
comp=Z,2μm,18.5s
CLL Lmax 11 27 00.0
KNGR Kungurtug, Tuv 39.77 42 ⇓*i*P **P** **11 06 26.0 +1.0**
FETA Feichten 39.86 312 *i* P **P** **11 06 26.1 +0.2**
comp=Z,200nm,0.8s,SNR=54
FETA *e*ScP **ScP** **11 12 18.8 -1.7**
comp=Z,17nm,1.5s
RETA Reutte 39.95 313 *i* P **P** **11 06 26.1 -0.5**
comp=Z,53nm,0.7s,SNR=19
RETA *e*ScP **ScP** **11 12 19.3 -1.4**
comp=Z,18nm,1.4s
GRA1 Grafenberg Arr 40.27 316 IAmb IAmb 11 06 30.7
comp=Z,167nm,0.9s
GRFO Grafenberg 40.27 316 P **P** **11 06 29.3 +0.2**
GRFO IAmb IAmb 11 06 30.7
comp=Z,152nm,0.9s
GRFO Grafenberg 40.27 316 P **P** **11 06 29.3 +0.2**
GRFO pmax pmax
comp=Z,152nm,0.9s
KEF Keuruu 40.30 339 *e*P **P** **11 06 29.5 +0.4**
DAVA Damuels 40.49 312 *e*P **P** **11 06 29.2 -1.9**
comp=Z,353nm,0.5s,SNR=83
DAVA *e*ScP **ScP** **11 12 20.9 -2.0**
comp=Z,11nm,1.0s
RAF Rauma 40.58 336 *e*P **P** **11 06 31.5 +0.1**
TUE Stuetta 40.66 311 IAmb IAmb 11 06 44.4
comp=Z,92nm,0.9s
AAL Aland 40.70 334 *e*P **P** **11 06 32.5 0.0**
RGN Rugen 40.82 324 P **P** **11 06 34.0 +0.5**
CHTO Chiang Mai 41.11 92 P **P** **11 06 36.0 -0.5**
CHTO Chiang Mai 41.11 92 P **P** **11 06 36.0 -0.5**
CHTO pmax pmax
comp=Z,62nm,1.1s
CM31 Chiang Mai Arr 41.23 93 P **P** **11 06 37.9 +0.5**
CM31 Chiang Mai Arr 41.23 93 P **P** **11 06 39.2 +1.7**
SNR=17
CMAR Chiang Mai Arr 41.23 93 P **P** **11 06 38.3 +0.8**
CMAR Chiang Mai Arr 41.23 93 P **P** **11 06 37.6 +0.2**
comp=Z,21nm,0.9s,baz=287,slow=8.2,SNR=85
CMAR PcP **PcP** **11 08 36.8 +0.4**
comp=Z,8.1nm,0.9s,baz=290,slow=6.3,SNR=5.4
CMAR ScP **ScP** **11 12 26.7 +0.5**
comp=Z,3.5nm,0.8s,baz=282,slow=4.8,SNR=6.6
comp=Z,21nm,0.9s
UPP Uppsala 41.46 332 *e*P **P** **11 06 38.9 +0.2**

PZH PanZhiHua 41.51 80 P **P** **11 06 39.5 -0.2**
PZH pP **pP** **11 06 41.3 -2.5**
PZH PP **PP** **11 08 16.0 +0.4**
PZH S **S** **11 12 56.1 +0.8**
PZH pmax pmax
comp=Z,70nm,1.2s
PZH pmax pmax
comp=Z,650nm,4.9s
PZH LR LR
comp=Z,2μm,19.4s
PZH LR LR
comp=Z,1μm,19.2s
PZH LR LR
comp=Z,1μm,19.8s
VAF Ylistaro 41.64 338 *e*P **P** **11 06 40.4 +0.2**
BFO Black Forest 41.74 313 P **P** **11 06 40.6 -0.7**
BFO Black Forest 41.74 313 P **P** **11 06 40.6 -0.7**
BFO pmax pmax
comp=Z,47nm,1.1s
COP Copenhagen 41.77 325 *i* P **P** **11 06 42.5 +1.2**
COP IAmb IAmb 11 06 43.3
comp=Z,397nm,0.9s
LZDM Lanzhou Array 42.03 66 P **P** **11 06 44.3 +0.1**
comp=Z,69nm,0.9s,baz=260,slow=8.3,SNR=39
LZDM LR LR 11 27 42.7
comp=Z,3μm,19.7s,baz=280,slow=41
comp=Z,69nm,0.9s
LZH Lanzhou 42.14 65 *e*P **P** **11 06 44.8 -0.1**
LZH sP sP 11 06 52.1 +1.6
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,670nm,4.8s
LZH LR LR
comp=Z,4μm,19.6s
LZH LR LR
comp=Z,2μm,18.2s
LZH LR LR
comp=Z,3μm,19.6s
BNI Bardonecchia 42.25 308 IAmb IAmb 11 06 56.9
comp=Z,169nm,1.2s
ECH Echery 42.48 313 IAmb IAmb 11 06 48.2
comp=Z,114nm,0.9s
APA Apatity 42.49 348 ⇓*i*P **P** **11 06 45.0 -2.1**
APA *i* 11 08 24.2
APA *i* 11 08 39.1
APA *i* S **S** **11 13 08.7 +0.1**
APA MLR MLR
comp=Z,4μm,15.4s
CD2 Chengdu 42.51 73 P **P** **11 06 48.4 +0.6**
CD2 sP sP 11 06 53.3 -0.1
CD2 PP **PP** **11 08 26.5 +0.2**
CD2 SS SS 11 16 22.8 +3.4
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,500nm,8.3s
CD2 LR LR
comp=Z,6μm,20.0s
CD2 LR LR
comp=Z,3μm,18.6s
CD2 LR LR
comp=Z,2μm,15.2s
LVZ Lovozero 42.56 349 ⇓*e*P **P** **11 06 48.4 +0.7**
LVZ pmax pmax
comp=Z,133nm,2.3s
KMI Kunming 42.69 82 ⇑P **P** **11 06 49.8 +0.3**
KMI PP **PP** **11 08 30.5 +2.0**
KMI S **S** **11 13 13.3 +0.3**
KMI SS **SS** **11 16 21.9 -1.4**
KMI pmax pmax
comp=Z,85nm,1.0s
KMI pmax pmax
comp=Z,840nm,4.7s
KMI LR LR
comp=Z,690nm,15.1s
KMI LR LR
comp=Z,1μm,15.1s
KMI LR LR
comp=Z,2μm,14.6s
SSRD Sdr. Stenderup 43.14 324 *i* P **P** **11 06 54.6 +2.1**
SSRD IAmb IAmb 11 06 59.6
comp=Z,238nm,1.1s
ZAK Zakamensk 43.22 44 *e*P **P** **11 06 52.0 -1.4**
ZAK pmax pmax
comp=Z,45nm,2.2s
HFS Hagfors 43.27 331 P **P** **11 06 53.7 +0.2**
comp=Z,127nm,0.8s,baz=134,slow=8.4,SNR=90
HFS LR LR 11 28 24.5
comp=Z,2μm,20.2s,baz=125,slow=41
comp=Z,127nm,0.8s
WLF Walferdange 43.44 315 P **P** **11 06 54.9 -0.1**
WLF Walferdange 43.44 315 IAmb IAmb 11 06 56.9
comp=Z,137nm,0.9s
WLF Walferdange 43.44 315 *d*P **P** **11 06 55.2 +0.2**
comp=Z,112nm,0.9s
MAHO Mahon 43.63 300 P **P** **11 06 56.8 +0.2**
MAHO IAmb IAmb 11 07 08.7
comp=Z,122nm,0.9s
BTNL Ternell 43.66 316 *d*P **P** **11 06 57.4 +0.5**
comp=Z,39nm,0.9s
BHOU Houvegnez 43.69 316 *d*P **P** **11 06 57.8 +0.8**
comp=Z,40nm,0.8s
SJUU Sjulsmark 43.70 341 *e*P **P** **11 06 57.5 +0.6**
MEM Membach 43.74 316 *d*P **P** **11 06 58.3 +0.9**
comp=Z,42nm,0.9s
MUD Monsted U'grnd 43.75 325 *i* P **P** **11 06 58.1 +0.7**
MUD IAmb IAmb 11 06 59.4
comp=Z,98nm,0.8s
STRU Stroemstad 43.85 329 *e*P **P** **11 06 57.9 -0.3**
BEBN Eben Emael 43.99 316 *d*P **P** **11 06 59.8 +0.4**
comp=Z,116nm,0.8s
BSTI Sart Tilman 44.01 316 *d*P **P** **11 07 00.8 +1.2**
RCHB Rochefort 44.13 315 *d*P **P** **11 07 01.5 +0.9**
comp=Z,57nm,1.0s
BCLA Clavier 44.14 316 *d*P **P** **11 07 01.0 +0.4**
comp=Z,56nm,1.1s
BCLA *d*PcP **PcP** **11 08 45.4 -0.1**
BGES Gesves 44.27 315 *d*P **P** **11 07 02.6 +1.0**
comp=Z,78nm,0.9s
IRK Irkutsk 44.29 42 *e*P **P** **11 07 01.4 -0.4**
IRK *e* 11 08 46.8
IRK pmax pmax
comp=Z,116nm,2.2s
BMRD Maredsous 44.45 315 *d*P **P** **11 07 03.5 +0.4**
comp=Z,62nm,1.0s
OSL Oslo 44.48 330 *e*P **P** **11 07 03.6 +0.5**
NC602 NORSAR Array S 44.50 331 *e*P **P** **11 07 03.1 -0.2**
DOU Dourbes 44.52 315 *d*P **P** **11 07 03.2 -0.4**
comp=Z,143nm,0.9s
DOU *d*PcP **PP** **11 08 47.2 -0.2**
SONM Songino Array 44.73 48 P **P** **11 07 05.4 -0.2**
SONM Songino Array 44.73 48 P **P** **11 07 05.9 +0.3**
comp=Z,16nm,0.8s,baz=263,slow=8.3,SNR=60
SONM LR LR 11 26 53.1
comp=Z,3μm,21.6s,baz=262,slow=38
comp=Z,16nm,0.8s
EJON La Jonquera 44.74 304 P **P** **11 07 05.4 -0.2**
ETOS Mallorca 44.75 300 P **P** **11 07 06.0 +0.3**
NB201 NORSAR Array S 44.75 331 IAmb IAmb 11 07 06.3
comp=Z,101nm,0.8s
NB2 NORSAR Subarra 44.78 331 P **P** **11 07 03.8 -1.9**
comp=Z,72nm,0.7s,baz=118,slow=8.6
NB2 NORSAR Subarra 44.78 331 P **P** **11 07 03.8 -1.9**
baz=118,slow=8.6
NOA NORSAR Array B 44.78 331 P **P** **11 07 05.5 -0.1**
comp=Z,78nm,0.8s,baz=118,slow=7.9,SNR=187
NOA PcP **PcP** **11 08 46.6 -1.0**
comp=Z,16nm,0.8s,baz=105,slow=4.1,SNR=3.8
NOA LR LR 11 29 20.7
comp=Z,1μm,19.3s,baz=115,slow=41
comp=Z,78nm,0.8s
HOMB Homborsund 44.79 327 *e*P **P** **11 07 06.0 +0.3**
NC303 NORSAR Array S 44.81 332 IAmb IAmb 11 07 07.4
comp=Z,58nm,0.9s
UCC Uccle 44.81 316 IAmb IAmb 11 07 08.0
comp=Z,87nm,0.9s
UCC Uccle 44.81 316 *d*P **P** **11 07 06.7 +0.8**
comp=Z,60nm,1.0s
UCC *d*PcP **PcP** **11 08 48.2 +0.5**
NAO01 NORSAR Array S 44.83 331 IAmb IAmb 11 07 07.4
comp=Z,100nm,0.8s
TAM Tamanrasset 44.85 276 P **P** **11 07 07.2 +0.3**
TAM IAmb IAmb 11 07 12.2
comp=Z,100nm,0.9s
TAM Tamanrasset 44.85 276 P **P** **11 07 07.2 +0.3**

TAM pmax pmax
comp=Z,100nm,0.9s
TAM MLR MLR
comp=Z,2μm,19.0s
KONO Kongsberg 44.85 329 P **P** **11 07 05.3 -0.9**
KONO IAmb IAmb 11 07 10.6
comp=Z,58nm,0.9s
KONO Kongsberg 44.85 329*c* *i*P **P** **11 07 06.0 -0.2**
KONO pmax pmax
comp=Z,51nm,0.8s
KONO Kongsberg 44.85 329 *e*P **P** **11 07 06.3 +0.1**
NBO00 NORSAR Array S 44.97 331 IAmb IAmb 11 07 08.4
comp=Z,69nm,0.8s
NC204 NORSAR Array S 45.09 332 IAmb IAmb 11 07 09.0
comp=Z,52nm,0.8s
ULN Ulaanbaatar 45.18 48 P **P** **11 07 08.8 -0.4**
ULN Ulaanbaatar 45.18 48 IAMs_20 IAMs_20 11 26 44.0
comp=Z,2μm,22.0s
ULN Ulaanbaatar 45.18 48*c* *i*P **P** **11 07 08.8 -0.4**
ULN pmax pmax
comp=Z,78nm,2.0s
CORI Orista 45.35 303 IAmb IAmb 11 07 13.6
comp=Z,93nm,0.9s
VADS Vadso 45.45 348 *e*P **P** **11 07 11.2 +0.5**
SNART Snartemo 45.45 327 *e*P **P** **11 07 11.6 +0.7**
MLSI Meulaboh, Aceh 45.56 113 P **P** **11 07 12.0 -0.4**
comp=Z,2μmcomp=Z,160nm,1.0s
KEV Kevo 45.60 347 P **P** **11 07 12.8 +0.8**
KEV IAmb IAmb 11 07 13.8
comp=Z,77nm,0.7s
KEV Kevo 45.60 347 P **P** **11 07 12.8 +0.8**
KEV pmax pmax
comp=Z,77nm,0.7s
CLF Chambon-Foret 45.68 312 IAmb IAmb 11 07 30.6
comp=Z,63nm,0.8s
ARA0 ARCESS Array S 45.74 346 *e*P **P** **11 07 14.1 +1.0**
ARCES ARCESS Array B 45.74 346 P **P** **11 07 13.8 +0.7**
ARCES ARCESS Array B 45.74 346 P **P** **11 07 14.0 +0.9**
comp=Z,19nm,0.7s,baz=131,slow=8.2,SNR=36
ARCES PcP **PcP** **11 08 50.9 +0.2**
comp=Z,39nm,0.9s,baz=149,slow=5.1,SNR=8.0
ARCES LR LR 11 29 17.7
comp=Z,2μm,18.3s,baz=150,slow=40
comp=Z,19nm,0.7s
GYA Guiyang 45.82 79 ⇓P **P** **11 07 14.1 -0.4**
GYA S **S** **11 13 55.6 -2.9**
GYA SS **SS** **11 17 22.3 -0.6**
GYA pmax pmax
comp=Z,14nm,1.1s
GYA pmax pmax
comp=Z,790nm,4.4s
GYA LR LR
comp=Z,3μm,22.0s
GYA LR LR
comp=Z,1μm,17.4s
GYA LR LR
comp=Z,690nm,27.9s
KTK1 Kautokeino 45.84 345 *e*P **P** **11 07 14.0 +0.1**
SKAR Skarslia 45.89 330 *e*P **P** **11 07 15.1 +0.7**
EIBI Ibiza 45.90 299 P **P** **11 07 15.6 +0.8**
OPO Ambohidratompo 46.10 190 P **P** **11 07 18.7 +2.0**
comp=Z,36nm,1.1s,baz=18,slow=10,SNR=21
OPO LR LR 11 26 47.8
comp=Z,1μm,18.0s,baz=170,slow=36
comp=Z,36nm,1.1s
DOMB Dombas 46.17 332 *e*P **P** **11 07 17.2 +0.6**
BLS5 Blasjo 46.22 328 *e*P **P** **11 07 18.0 +0.9**
NSS Namsos 46.28 336 *e*P **P** **11 07 17.3 -0.1**
ODD1 Odda 46.33 329 *e*P **P** **11 07 19.3 +1.4**
MOR8 Moi Rana 46.37 339 *e*P **P** **11 07 17.9 -0.2**
XAN Xi'an 46.45 68 ⇑P **P** **11 07 17.9 -1.4**
XAN pP pP 11 07 23.3 -0.1
XAN S **S** **11 14 02.8 -4.4**
XAN pmax pmax
comp=Z,26nm,1.0s
XAN pmax pmax
comp=Z,630nm,5.5s
XAN LR LR
comp=Z,3μm,16.9s
XAN LR LR
comp=Z,5μm,16.5s
XAN LR LR
comp=Z,5μm,17.9s
ABPO Ambohimpanom 46.54 190 P **P** **11 07 20.5 +0.4**
ABPO IAmb IAmb 11 07 23.6
comp=Z,55nm,1.2s
ABPO Ambohimpanom 46.54 190 IAMs_20 IAMs_20 11 23 44.1
comp=Z,2μm,22.0s
ABPO Ambohimpanom 46.54 190 P **P** **11 07 20.5 +0.4**
ABPO pmax pmax
comp=Z,55nm,1.2s
RAUS Rausandaksla 46.66 339 *e*P **P** **11 07 20.4 +0.1**
KMY Karmoy 46.72 327 *e*P **P** **11 07 21.8 +0.9**
LEIR Leirfjorden 46.77 338 *e*P **P** **11 07 21.5 +0.3**
FAUS Fauske 46.85 340 *e*P **P** **11 07 22.3 +0.5**
ELSH Elham, Standar 46.88 316 *e*P **P** **11 07 23.1 +0.9**
ELSH IAmb IAmb 11 07 24.9
comp=Z,226nm,0.8s
BTO Baotou 46.88 59 *e*P **P** **11 07 21.6 -1.0**
BTO pP **pP** **11 07 26.1 -0.6**
BTO sP **sP** **11 07 28.8 +0.6**
BTO S **S** **11 14 09.0 -4.2**
BTO pmax pmax
comp=Z,120nm,1.4s
BTO pmax pmax
comp=Z,1μm,4.1s
BTO LR LR
comp=Z,7μm,15.8s
BTO LR LR
comp=Z,4μm,17.8s
BTO LR LR
comp=Z,6μm,19.6s
JETT Jettan, Norway 46.92 344 *e*P **P** **11 07 23.3 +0.8**
STOK Stokkvaagen 46.93 338 *e*P **P** **11 07 22.9 +0.4**
HAMF Hammerfest 47.00 346 *e*P **P** **11 07 23.2 +0.3**
HYA Hoyanger 47.03 330 *e*P **P** **11 07 24.2 +0.9**
MOL Molde 47.04 332 *e*P **P** **11 07 24.1 +0.8**
VAGH Vaagaholmen 47.08 339 *e*P **P** **11 07 23.7 +0.1**
AKN Aaknes 47.10 332 *e*P **P** **11 07 23.6 -0.3**
KCSI Kotacane, Aceh 47.10 112 P **P** **11 07 26.3 +1.7**
BER Bergen 47.11 329 *e*P **P** **11 07 25.0 +1.0**
ELMS Elmsett, Ipswi 47.13 317 *e*P **P** **11 07 24.7 +0.5**
ELMS IAmb IAmb 11 07 26.8
comp=Z,81nm,0.8s
ASK Askoy 47.21 329 *e*P **P** **11 07 25.7 +0.9**
TRO Tromso 47.34 344 *e*P **P** **11 07 26.3 +0.6**
WACR West Acre 47.46 318 *e*P **P** **11 07 27.2 +0.4**
WACR IAmb IAmb 11 07 29.1
comp=Z,262nm,0.8s
ENH Enshi 47.49 73 IAmb IAmb 11 08 22.8
comp=Z,91nm,1.3s
SUE Sulen 47.62 330 *e*P **P** **11 07 28.4 +0.5**
ECHE Chera 47.67 300 P **P** **11 07 29.2 +0.5**
FOO Floro 47.71 330 *e*P **P** **11 07 29.6 +1.1**
CART Cartagena 47.82 297 P **P** **11 07 29.2 -0.6**
EMUR La Murta 47.99 298 P **P** **11 07 31.6 +0.4**
HHC Hu-ho-hao-te 48.04 58 ⇓*i*P **P** **11 07 32.8 +1.1**
HHC pP sP 11 07 38.1 +0.8
HHC sP pP 11 07 41.4 +5.6
HHC PP **PP** **11 09 23.3 -0.4**
HHC S **S** **11 14 30.3 +0.5**
HHC SS **SS** **11 17 54.5 -4.1**
HHC pmax pmax
comp=Z,88nm,1.0s
HHC pmax pmax
comp=Z,380nm,4.4s
HHC LR LR
comp=Z,3μm,21.9s
HHC LR LR
comp=Z,1μm,18.5s
HHC LR LR
comp=Z,1μm,19.3s
LMK Market Rasen 48.16 319 *e*P **P** **11 07 32.7 +0.5**
LMK IAmb IAmb 11 07 34.0
comp=Z,134nm,0.8s
ETOB Tobarra 48.17 299 P **P** **11 07 33.6 +0.9**
GSI Gunungsitoli 48.22 115 IAmb IAmb 11 07 38.3
comp=Z,78nm,1.0s
GSI Gunungsitoli 48.22 115 P **P** **11 07 34.4 +1.2**
comp=Z,4μmcomp=Z,80nm,1.1s
TLOR Lorca, Murcia 48.36 297 P **P** **11 07 35.0 +0.9**
WOL Wolverton 48.37 316 *e*P **P** **11 07 34.5 +0.7**
WOL IAmb IAmb 11 07 35.8
comp=Z,288nm,0.8s
PSI Prapat 48.46 112 LR LR 11 30 58.6

comp=Z,506nm,19.0s,baz=292,slow=40
KULM Kulim 48.55 108 IAmb IAmb 11 07 41.5
comp=Z,48nm,1.0s
CWF Charnwood Fore 48.62 318 *e*P **P** **11 07 35.9 +0.1**
CWF IAmb IAmb 11 07 37.2
comp=Z,53nm,0.7s
EDA Edea 48.72 250 P **P** **11 07 37.2 +0.1**
EDA IAms_20 IAms_20 11 29 26.8
comp=Z,2μm,18.0s
JSA Saint Aubin 48.73 313 *e*P **P** **11 07 36.6 -0.1**
JSA IAmb IAmb 11 07 38.0
comp=Z,89nm,0.7s
SWN1 Swindon 48.75 316 *e*P **P** **11 07 37.5 +0.7**
SWN1 IAmb IAmb 11 07 38.9
comp=Z,179nm,0.7s
ENIJ Nijar 48.83 297 P **P** **11 07 37.6 -0.1**
TIY Taiyuan 48.91 62 P **P** **11 07 39.0 +0.6**
TIY PP **PP** **11 09 36.6 +4.9**
TIY S **S** **11 14 44.0 +1.9**
TIY pmax pmax
comp=Z,76nm,1.0s
TIY pmax pmax
comp=Z,460nm,3.9s
TIY LR LR
comp=Z,2μm,16.1s
TIY LR LR
comp=Z,2μm,16.8s
TIY LR LR
comp=Z,2μm,17.3s
HPK Haverah Park 49.01 319 *e*P **P** **11 07 38.9 +0.2**
HPK IAmb IAmb 11 07 41.6
comp=Z,60nm,0.8s
STRD Stroud 49.01 316 *e*P **P** **11 07 38.8 0.0**
STRD IAmb IAmb 11 07 40.6
comp=Z,159nm,0.7s
IPM Ipoh 49.30 109 IAmb IAmb 11 07 44.8
comp=Z,37nm,0.8s
LYN LuoYang 49.30 67 ⇑P **P** **11 07 40.9 -0.4**
LYN PP **PP** **11 09 40.0 +4.9**
LYN S **S** **11 14 45.1 -2.4**
LYN pmax pmax
comp=Z,160nm,1.0s
LYN pmax pmax
comp=Z,760nm,4.0s
LYN LR LR
comp=Z,2μm,19.9s
LYN LR LR
comp=Z,3μm,18.9s
LYN LR LR
comp=Z,5μm,16.1s
GULI GuiLin 49.34 79 P **P** **11 07 42.9 +1.2**
GULI PP **PP** **11 09 40.6 +4.9**
GULI S **S** **11 14 47.8 -0.5**
GULI pmax pmax
comp=Z,56nm,1.0s
GULI pmax pmax
comp=Z,560nm,4.3s
GULI LR LR
comp=Z,2μm,20.7s
GULI LR LR
comp=Z,780nm,17.9s
GULI LR LR
comp=Z,1μm,14.6s
EDMD Edmundbyers 49.35 320 *e*P **P** **11 07 41.7 +0.3**
EDMD IAmb IAmb 11 07 42.5
comp=Z,190nm,0.8s
UCM Universidad Co 49.38 301 P **P** **11 07 42.3 +0.4**
MONM Monmouth 49.41 316 *e*P **P** **11 07 41.9 0.0**
MONM IAmb IAmb 11 07 43.1
comp=Z,140nm,0.7s
VOI Vohitsoka 49.44 190 P **P** **11 07 44.1 +1.6**
HLM1 Long Mynd 49.54 317 *e*P **P** **11 07 43.0 +0.2**
HLM1 IAmb IAmb 11 07 44.8
comp=Z,91nm,0.8s
MCH1 Michaelchurch 49.55 316 *e*P **P** **11 07 42.9 0.0**
MCH1 IAmb IAmb 11 07 44.6
comp=Z,211nm,0.7s
LSZ Lusaka 49.59 215 P **P** **11 07 44.7 +0.9**
LSZ IAmb IAmb 11 07 46.8
comp=Z,95nm,1.1s
LSZ Lusaka 49.59 215 IAMs_20 IAMs_20 11 29 53.8
comp=Z,2μm,19.0s
LSZ Lusaka 49.59 215 LR LR 11 28 13.8
comp=Z,2μm,19.1s,baz=31,slow=36
LSZ Lusaka 49.59 215 P **P** **11 07 44.7 +0.9**
LSZ pmax pmax
comp=Z,95nm,1.2s
LSZ MLR MLR
comp=Z,2μm,19.0s
WMELI Melilla 49.62 294 P **P** **11 07 44.7 +1.0**
FOEL Foel Wylfa 49.78 318 *e*P **P** **11 07 45.2 +0.5**
FOEL IAmb IAmb 11 07 46.6
comp=Z,113nm,0.7s
CIT Chita 49.87 44 *e*P **P** **11 07 45.2 -0.2**
CIT *e* 11 09 11.4
CIT pmax pmax
comp=Z,181nm,2.4s
ESY Stoneypath 49.91 322 *e*P **P** **11 07 45.9 +0.3**
KESW Keswick, Cumbr 49.97 320 *e*P **P** **11 07 46.4 +0.4**
KESW IAmb IAmb 11 07 48.2
comp=Z,139nm,0.8s
ESBB Sonseca Array 49.97 300 IAmb IAmb 11 07 57.6
comp=Z,63nm,0.9s
ESDC Sonseca Array 49.97 300 P **P** **11 07 46.3 -0.2**
ESDC IAmb IAmb 11 07 57.6
comp=Z,66nm,1.1s
ESDC Sonseca Array 49.97 300 P **P** **11 07 46.5 0.0**
comp=Z,38nm,0.9s,baz=72,slow=7.3,SNR=108
comp=Z,38nm,0.9s
DRUM Mains of Drumt 50.03 323 *e*P **P** **11 07 46.9 +0.3**
DRUM IAmb IAmb 11 07 47.5
comp=Z,134nm,0.8s
LLW Llanuwychllyn 50.06 317 *e*P **P** **11 07 47.1 +0.3**
LLW IAmb IAmb 11 07 48.5
comp=Z,36nm,0.8s
LRW Lerwick 50.11 327 *e*P **P** **11 07 47.1 +0.1**
LRW IAmb IAmb 11 07 48.9
comp=Z,81nm,0.8s
EKA Eskdalemuir Ar 50.12 321 P **P** **11 07 47.0 -0.2**
comp=Z,44nm,0.8s,baz=110,slow=7.4,SNR=71
comp=Z,44nm,0.8s
MNSI Mandailing Nat 50.14 114 P **P** **11 07 47.6 -0.3**
ESK Eskdalemuir 50.14 321 P **P** **11 07 47.2 -0.2**
ESK IAmb IAmb 11 07 48.3
comp=Z,59nm,1.0s
ESK Eskdalemuir 50.14 321 *e*P **P** **11 07 47.2 -0.2**
ESK IAmb IAmb 11 07 48.6
comp=Z,31nm,0.9s
ESK Eskdalemuir 50.14 321 P **P** **11 07 47.2 -0.2**
ESK pmax pmax
comp=Z,59nm,1.0s
EDI Edinburgh 50.23 322 *e*P **P** **11 07 48.0 0.0**
EDI IAmb IAmb 11 07 50.2
comp=Z,158nm,1.3s
PAB San Pablo 50.28 300 P **P** **11 07 49.1 +0.3**
PAB IAmb IAmb 11 07 50.5
comp=Z,84nm,0.8s
PAB San Pablo 50.28 300 P **P** **11 07 49.1 +0.3**
PAB pmax pmax
comp=Z,84nm,0.9s
PAB MLR MLR
comp=Z,1μm,20.0s
HTL Hartland 50.37 315 *e*P **P** **11 07 49.3 +0.1**
HTL IAmb IAmb 11 07 50.9
comp=Z,64nm,0.7s
SBD Saint Breward 50.47 314 *e*P **P** **11 07 50.3 +0.4**
SBD IAmb IAmb 11 07 52.1
comp=Z,123nm,0.8s
WME Myndd Eilian 50.51 318 *e*P **P** **11 07 50.9 +0.8**
WLF1 Llynfaes 50.55 318 *e*P **P** **11 07 50.8 +0.3**
WLF1 IAmb IAmb 11 07 53.1
comp=Z,79nm,0.7s
MCD Coleburn Disti 50.57 324 *e*P **P** **11 07 50.8 +0.2**
MCD IAmb IAmb 11 07 52.2
comp=Z,81nm,0.7s
WPS Cemaes, Angles 50.62 318 *e*P **P** **11 07 51.3 +0.3**
WPS IAmb IAmb 11 07 52.9
comp=Z,102nm,0.7s
EMAL Malaga-Limoner 50.63 297 P **P** **11 07 50.2 -1.1**
NEWG New Galloway 50.69 320 *e*P **P** **11 07 51.8 +0.3**
NEWG IAmb IAmb 11 07 53.1
comp=Z,37nm,0.8s
HNS HongShan 50.74 63 ⇓P **P** **11 07 52.1 -0.1**
HNS S **S** **11 15 06.3 -1.2**
HNS pmax pmax
comp=Z,48nm,1.1s
HNS pmax pmax
comp=Z,500nm,5.1s
HNS LR LR
comp=Z,2μm,20.7s
HNS LR LR
comp=Z,800nm,20.7s
HNS LR LR
comp=Z,2μm,20.7s
QIZ Qiongzhong 50.75 87 P **P** **11 07 53.6 +1.1**
QIZ S **S** **11 15 07.3 -0.7**
QIZ pmax pmax
comp=Z,43nm,1.2s
QIZ pmax pmax
comp=Z,390nm,4.0s
QIZ LR LR
comp=Z,580nm,18.1s
QIZ LR LR
comp=Z,820nm,17.2s
QIZ LR LR
comp=Z,1μm,21.1s
IOMK Kirk Michael 50.77 319 *e*P **P** **11 07 52.5 +0.4**
CCA1 Carnmenellis 50.79 314 *e*P **P** **11 07 52.6 +0.3**
CCA1 IAmb IAmb 11 07 53.5
comp=Z,68nm,0.8s
INVG Invergeldie, C 50.79 322 *e*P **P** **11 07 52.0 -0.2**
INVG IAmb IAmb 11 07 53.6
comp=Z,75nm,0.7s
CNSH ChangSha 50.86 75 P **P** **11 07 52.4 -0.8**
CNSH S **S** **11 15 03.6 -5.8**
CNSH pmax pmax
comp=Z,130nm,1.0s
CNSH LR LR
comp=Z,1μm,16.5s
CNSH LR LR
comp=Z,2μm,19.2s
CNSH LR LR
comp=Z,2μm,17.9s
GAL1 Galloway 50.93 320 *e*P **P** **11 07 53.7 +0.4**
GAL1 IAmb IAmb 11 07 55.0
comp=Z,89nm,0.8s
PGBU Glenifferbraes 50.94 321 *e*P **P** **11 07 53.7 +0.3**
PGBU IAmb IAmb 11 07 55.8
comp=Z,80nm,0.9s
BOD Bodaibo 50.99 36 *e*P **P** **11 07 52.3 -1.5**
BOD pmax pmax
comp=Z,187nm,0.9s
BIGH Upper Bighouse 51.09 325 *e*P **P** **11 07 54.0 -0.5**
BIGH IAmb IAmb 11 07 55.4
comp=Z,47nm,0.8s
XLT XiLinHaoTe 51.28 54 *e*P **P** **11 07 57.0 +0.7**
XLT pP sP 11 08 01.3 -0.6
XLT sP pP 11 08 03.3 +2.9
XLT S **S** **11 15 16.0 +1.0**
XLT pmax pmax
comp=Z,110nm,1.0s
XLT pmax pmax
comp=Z,600nm,4.0s
XLT LR LR
comp=Z,400nm,22.1s
XLT LR LR
comp=Z,1μm,20.3s
XLT LR LR
comp=Z,3μm,17.4s
MD01 Midelt array s 51.48 292 P **P** **11 07 58.0 -0.1**
CEU Ceuta 51.50 296 P **P** **11 07 56.4 -1.5**
LAWE Loch Awe, Argy 51.51 322 *e*P **P** **11 07 57.6 0.0**
LAWE IAmb IAmb 11 07 59.3
comp=Z,88nm,0.7s
PPI Padang Panjang 51.53 115 P **P** **11 07 57.7 -0.6**
comp=Z,1μmcomp=Z,104nm,1.1s
WHN Wuhan 51.55 71 P **P** **11 07 58.3 -0.1**
WHN sP **pP** **11 08 03.1 +0.6**
WHN S **S** **11 15 18.5 -0.4**
WHN pmax pmax
comp=Z,170nm,1.2s
WHN pmax pmax
comp=Z,1μm,4.6s
WHN LR LR
comp=Z,6μm,16.5s
WHN LR LR
comp=Z,2μm,10.8s
WHN LR LR
comp=Z,5μm,19.9s
BJT Baijiatuau 51.60 59 IAmb IAmb 11 08 00.7
comp=Z,76nm,1.1s
BJT Baijiatuau 51.60 59 IAMs_20 IAMs_20 11 32 26.6
comp=Z,2μm,20.0s
BJI Beijing 51.61 59 P **P** **11 07 58.8 +0.2**
BJI PcP **PcP** **11 09 13.4 +1.0**
BJI S **S** **11 15 19.5 +0.1**
BJI SS **SS** **11 18 58.3 +2.9**
BJI pmax pmax
comp=Z,35nm,1.0s
BJI pmax pmax
comp=Z,270nm,4.1s
BJI LR LR
comp=Z,2μm,20.7s
BJI LR LR
comp=Z,950nm,21.8s
BJI LR LR
comp=Z,2μm,17.0s
TORD Torodi Ar. Bea 51.61 265 P **P** **11 07 55.4 -3.6**
TORD Torodi Ar. Bea 51.61 265 P **P** **11 07 58.9 -0.1**
comp=Z,125nm,0.8s,baz=56,slow=8.4,SNR=33
TORD LR LR 11 32 30.0
comp=Z,3μm,18.1s,baz=71,slow=39
comp=Z,125nm,0.8s
IFR Ifrane 51.67 293 P **P** **11 08 00.6 +1.1**
DSB Dublin 51.73 318 IAmb IAmb 11 08 01.1
comp=Z,72nm,0.7s
DSB Dublin 51.73 318 P **P** **11 07 59.6 +0.3**
DSB Dublin 51.73 318 *e*P **P** **11 07 59.7 +0.4**
DSB IAmb IAmb 11 08 01.0
comp=Z,61nm,0.7s
CLGH Cloghs, Cushen 51.76 320 *e*P **P** **11 07 59.7 +0.2**
ILTH Belurgan, Co L 51.77 319 P **P** **11 08 00.0 +0.4**
ILTH Belurgan, Co L 51.77 319 *e*P **P** **11 07 59.5 -0.2**
KPL Plockton 51.81 323 *e*P **P** **11 07 59.7 -0.1**
KPL IAmb IAmb 11 08 02.2
comp=Z,48nm,0.8s
PDSI Padang 51.84 115 P **P** **11 08 00.3 -0.5**
comp=Z,46nm,1.0s
IWEX Carrickbyrne, 51.90 317 P **P** **11 08 01.2 +0.6**
CNIL Conil 51.98 296 P **P** **11 08 01.3 -0.2**
SFS San Fernando 52.08 296 P **P** **11 08 02.4 +0.2**
MVO Moncorvo 52.18 302 *e*P **P** **11 08 03.8 +0.7**
MVO *i* IAmb IAmb 11 08 05.2
comp=Z,111nm,0.8s
MVO *e*S **S** **11 15 25.3 -2.2**
MVO *e*SS **SKiKP** **11 19 34.3 +7.2**
MVO *e*LR LR 11 19 47.2
MVO *i* IAMs_20 IAMs_20 11 35 34.9
comp=Z,561nm,18.0s
FOMA Nahampoana Res 52.43 189 P **P** **11 08 04.9 +0.2**
FOMA IAmb IAmb 11 08 07.5
comp=Z,139nm,1.3s
PBAR Barrancos 52.51 299 *e*P **P** **11 08 05.7 +0.3**
PBAR *i* IAmb IAmb 11 08 07.1
comp=Z,121nm,1.1s
IDGL Inch Island, C 52.56 320 P **P** **11 08 06.1 +0.6**
IDGL Inch Island, C 52.56 320 *e*P **P** **11 08 05.9 +0.4**
IDGL IAmb IAmb 11 08 08.2
comp=Z,46nm,0.8s
GZH Guangzhou 52.56 81 P **P** **11 08 06.8 +0.8**
GZH S **S** **11 15 35.6 +2.7**
GZH pmax pmax
comp=Z,1μm,4.6s
GZH LR LR
comp=Z,2μm,19.0s
GZH LR LR
comp=Z,980nm,18.4s
GZH LR LR
comp=Z,2μm,14.0s
PMRV Marv??o 52.63 300 *e*P **P** **11 08 06.6 +0.2**
PMRV *i* IAmb IAmb 11 08 12.7
comp=Z,68nm,2.6s
PMRV *e*LR LR 11 19 52.1
PMRV *i* IAMs_20 IAMs_20 11 35 23.0
comp=Z,652nm,18.0s
MTE Manteigas 52.64 301 IAmb IAmb 11 08 18.2
comp=Z,82nm,1.1s
MTE Manteigas 52.64 301 *e*P **P** **11 08 06.9 +0.4**
MTE *i* IAmb IAmb 11 08 17.2
comp=Z,118nm,1.2s
MTE *e*S **S** **11 15 36.5 +2.8**
MTE *e*SS SKiKP 11 19 40.0 +12
MTE *e*LR LR 11 19 50.4
MTE *i* IAMs_20 IAMs_20 11 33 47.6
comp=Z,780nm,16.0s
PCBR Castelo Branco 52.65 301 *e*P **P** **11 08 06.8 +0.4**
PCBR *i* IAmb IAmb 11 08 15.9
comp=Z,125nm,1.5s
PVRL Vila Real 52.69 303 *e*P **P** **11 08 07.6 +0.8**
PVRL *i* IAmb IAmb 11 08 15.8
comp=Z,113nm,1.6s
POLO Lamas de Olo 52.74 303 *e*P **P** **11 08 07.8 +0.7**
POLO *i* IAmb IAmb 11 08 15.0
comp=Z,56nm,2.4s
TIA Tai'an 52.82 64 P **P** **11 08 07.0 -0.8**
TIA PcP **PcP** **11 09 18.4 +1.3**
TIA S **S** **11 15 35.6 -0.6**
TIA pmax pmax
comp=Z,170nm,1.0s
TIA pmax pmax
comp=Z,700nm,4.4s
TIA LR LR
comp=Z,3μm,19.4s
TIA LR LR
comp=Z,2μm,20.4s
TIA LR LR
comp=Z,3μm,16.2s
PESTR Estremoz 52.85 300 *e*P **P** **11 08 08.0 0.0**
PESTR *i* IAmb IAmb 11 08 16.2
comp=Z,54nm,1.6s
PVIS Viseu 52.88 302 *e*P **P** **11 08 09.1 +0.9**
PCAB Cabril 52.88 303 *e*P **P** **11 08 07.5 -0.7**
PCAB *i* IAmb IAmb 11 08 09.4
comp=Z,77nm,1.2s
PCAB *e*PcP **PcP** **11 09 17.7 +0.5**
PGAV Gavieira, Arco 53.04 304 *e*P **P** **11 08 10.5 +1.1**
PGAV *i* IAmb IAmb 11 08 18.6
comp=Z,128nm,1.8s
PGAV *e*S **S** **11 15 43.1 +3.9**
PGAV *e*SS SKiKP 11 19 46.9 +19
PGAV *e*LR LR 11 20 10.1
PGAV *i* IAMs_20 IAMs_20 11 34 56.6
comp=Z,983nm,18.0s
PVAQ Vaqueiros 53.15 298 IAmb IAmb 11 08 24.2
comp=Z,51nm,0.9s
PVAQ Vaqueiros 53.15 298 *e*P **P** **11 08 09.9 -0.2**
PVAQ *i* IAmb IAmb 11 08 18.3
comp=Z,61nm,1.3s
PVAQ *e*S **S** **11 15 39.5 -1.0**
PVAQ *e*LR LR 11 20 13.7
PVAQ *i* IAMs_20 IAMs_20 11 38 17.8
comp=Z,545nm,18.0s
PBEJ Beja 53.18 299 *e*P **P** **11 08 10.5 +0.2**
PBEJ *i* IAmb IAmb 11 08 18.9
comp=Z,90nm,1.6s
PSARD Sardoal 53.20 301 *e*P **P** **11 08 11.1 +0.6**
PSARD *i* IAmb IAmb 11 08 18.7
comp=Z,126nm,1.3s
EVO Evora 53.22 299 *e*P **P** **11 08 11.1 +0.4**
EVO *i* IAmb IAmb 11 08 19.4
comp=Z,114nm,1.5s
PMTG Montargil 53.32 300 *e*P **P** **11 08 11.3 -0.1**
PMTG *i* IAmb IAmb 11 08 19.8
comp=Z,46nm,1.5s
PBDV Barranco-do-Ve 53.34 298 *e*P **P** **11 08 11.5 -0.1**
PBDV *i* IAmb IAmb 11 08 20.0
comp=Z,68nm,1.8s
PBDV *e*PcP **PcP** **11 09 20.9 +1.8**
PCVE Castro Verde 53.37 298 *e*P **P** **11 08 11.8 0.0**
PCVE *i* IAmb IAmb 11 08 20.1
comp=Z,53nm,1.7s
PCAS Casmilo, Conde 53.41 301 *e*P **P** **11 08 12.8 +0.8**
PCAS *i* IAmb IAmb 11 08 21.1
comp=Z,86nm,1.3s
MESJ Messejana 53.48 298 *e*P **P** **11 08 12.8 +0.2**
MESJ IAmb IAmb 11 08 20.6
comp=Z,15nm,0.8s
MESJ *e*S **S** **11 15 46.0 +0.9**
MESJ Messejana 53.48 298 *e*P **P** **11 08 12.9 +0.2**
MESJ *i* IAmb IAmb 11 08 21.1
comp=Z,47nm,1.7s
MESJ *e*PcP **PcP** **11 09 20.4 +0.8**
HKPS Hong Kong Po S 53.51 81 IAmb IAmb 11 08 15.6
comp=Z,88nm,1.1s
IGLA Glengowla, Co 53.53 318 P **P** **11 08 13.0 +0.4**
IGLA Glengowla, Co 53.53 318 *e*P **P** **11 08 13.0 +0.4**
IGLA IAmb IAmb 11 08 14.8
comp=Z,92nm,0.8s
HIA Hailar 53.67 47 IAmb IAmb 11 08 15.6
comp=Z,48nm,0.8s
HIA Hailar 53.67 47 IAMs_20 IAMs_20 11 32 58.6
comp=Z,2μm,20.0s
HILR Hailar Array B 53.67 47 P **P** **11 08 14.2 +0.3**
comp=Z,61nm,0.8s,baz=248,slow=6.2,SNR=57
HILR LR LR 11 32 30.6
comp=Z,2μm,20.1s,baz=100,slow=38
comp=Z,61nm,0.8s
PSBE So Bento 53.70 301 *e*P **P** **11 08 14.9 +0.6**
PSBE *i* IAmb IAmb 11 08 47.1
comp=Z,104nm,1.7s
MATP Matopo 53.84 211 P **P** **11 08 18.0 +2.6**
comp=Z,132nm,1.0s,baz=27,slow=8.6,SNR=131
MATP LR LR 11 32 58.0
comp=Z,2μm,18.1s,baz=39,slow=38
comp=Z,132nm,1.0s
MORF Marmelete 53.90 298 *e*P **P** **11 08 16.0 +0.3**
MORF IAmb IAmb 11 08 16.9
comp=Z,27nm,0.8s
MORF Marmelete 53.90 298 *e*P **P** **11 08 16.3 +0.5**
MORF *i* IAmb IAmb 11 08 17.9
comp=Z,41nm,1.5s
MORF Marmelete 53.90 298 *e*P **P** **11 08 16.0 +0.3**
PTEO Sao Teotonio 53.92 298 *e*P **P** **11 08 16.1 +0.3**
PTEO *i* IAmb IAmb 11 08 23.6
comp=Z,100nm,1.6s
TIO Tiouine 53.96 290 P **P** **11 08 17.2 +0.8**
SPB2 Spitsbergen Ar 53.98 351 IAmb IAmb 11 08 26.1
comp=Z,59nm,0.8s
SPA0 Spitsbergen Ar 53.98 351 *e*P **P** **11 08 16.5 +0.8**
SPITS Spitsbergen Ar 53.98 351 P **P** **11 08 16.5 +0.8**
comp=Z,40nm,0.9s,baz=131,slow=10,SNR=14
SPITS LR LR 11 33 18.0
comp=Z,1μm,21.5s,baz=130,slow=38
comp=Z,40nm,0.9s
SPITS Spitsbergen Ar 53.98 351 P **P** **11 08 16.6 +0.9**
SPITS pmax pmax
comp=Z,151nm,1.5s
VAL Valentia 54.02 316 P **P** **11 08 16.9 +0.7**
PFVI Vila Bisbo 54.06 298 *e*P **P** **11 08 17.1 +0.3**
PFVI *i* IAmb IAmb 11 08 18.6
comp=Z,125nm,1.0s
LIS Lisbon 54.08 300 *e*P **P** **11 08 17.2 +0.2**
LIS IAmb IAmb 11 08 18.9
comp=Z,122nm,1.1s
LIS Lisbon 54.08 300 *e*P **P** **11 08 17.2 +0.2**
PMAFR Mafra 54.15 300 *e*P **P** **11 08 18.3 +0.8**
PMAFR *i* IAmb IAmb 11 08 19.3
comp=Z,146nm,1.3s
MASI Maura Aman, Be 54.59 116 P **P** **11 08 20.2 -0.8**
DSRI Dabo 54.97 112 P **P** **11 08 21.2 -2.5**
comp=Z,1μmcomp=Z,62nm,1.0s
NJ2 Nanjing 55.01 68 ⇓P **P** **11 08 23.8 0.0**
NJ2 pP **pP** **11 08 28.3 +0.4**
NJ2 S **S** **11 16 03.0 -2.8**
NJ2 pmax pmax
comp=Z,90nm,1.1s
NJ2 pmax pmax
comp=Z,390nm,5.5s
NJ2 LR LR
comp=Z,2μm,16.3s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,1μm,24.6s
KBS Kingsbay 55.14 351 P **P** **11 08 24.4 +0.3**
KBS IAmb IAmb 11 08 25.8
comp=Z,64nm,0.9s
KBS Kingsbay 55.14 351 P **P** **11 08 24.4 +0.3**
KBS pmax pmax
comp=Z,64nm,0.9s
KBS Kingsbay 55.14 351 *e*P **P** **11 08 24.9 +0.9**
KSI Kapahiang 55.18 116 P **P** **11 08 26.3 +1.0**
comp=Z,149nm,1.0s
PHDHD Phuduhudu 55.59 215 IAmb IAmb 11 08 37.2
comp=Z,73nm,1.0s
DL2 Dalian 55.94 60 P **P** **11 08 30.8 +0.4**
DL2 S **S** **11 16 18.1 0.0**

DL2				pmax	pmax		
	comp=Z,180nm,1.0s						
DL2				pmax	pmax		
	comp=Z,940nm,3.9s						
DL2				LR	LR		
	comp=Z,4μm,21.5s						
DL2				LR	LR		
	comp=Z,2μm,19.5s						
DL2				LR	LR		
	comp=Z,2μm,15.1s						
XAUDM	**Khaudum**	55.96	219	IAmb	IAmb	11 08 34.5	
	comp=Z,152nm,1.6s						
JMIC	**Jan Mayen**	55.99	339	LR	LR	11 34 37.7	
	comp=Z,715nm,20.0s,baz=104,slow=38						
LHSI	**Lahat**	56.02	116	P	**P**	**11 08 29.5**	**-1.8**
	comp=Z,2μmcomp=Z,83nm,0.9s						
QZH	**Quanzhou**	56.60	77	P	**P**	**11 08 35.3**	**0.0**
QZH				S	**S**	**11 16 29.5**	**+2.2**
QZH				LR	LR		
	comp=Z,3μm,19.0s						
QZH				LR	LR		
	comp=Z,1μm,17.9s						
QZH				LR	LR		
	comp=Z,1μm,15.9s						
ACRG	**Accra**	56.63	258	P	**P**	**11 08 36.2**	**+0.6**
MDSI	**Maura Dua**	56.94	116	P	**P**	**11 08 35.3**	**-2.5**
	comp=Z,1μmcomp=Z,45nm,1.0s						
SNY	**Shenyang**	56.96	56	⇓P	**P**	**11 08 37.1**	**-0.5**
SNY				S	**S**	**11 16 25.0**	**-6.5**
SNY				pmax	pmax		
	comp=Z,69nm,1.0s						
SNY				pmax	pmax		
	comp=Z,340nm,4.2s						
SNY				LR	LR		
	comp=Z,3μm,19.9s						
SNY				LR	LR		
	comp=Z,1μm,19.9s						
SNY				LR	LR		
	comp=Z,2μm,19.4s						
LWLI	**Liwa**	57.16	116	P	**P**	**11 08 41.0**	**+1.5**
SSE	**Sheshan**	57.16	69	P	**P**	**11 08 38.3**	**-0.9**
SSE				S	**S**	**11 16 35.6**	**+1.1**
SSE				pmax	pmax		
	comp=Z,23nm,0.8s						
SSE				pmax	pmax		
	comp=Z,300nm,3.5s						
SSE				LR	LR		
	comp=Z,720nm,15.8s						
SSE				LR	LR		
	comp=Z,610nm,17.9s						
LPHEP	**Lephephe**	57.60	212	P	**P**	**11 08 42.7**	**+0.3**
KASI	**Kota Agung**	57.81	117	P	**P**	**11 08 45.7**	**+1.8**
	comp=Z,1μmcomp=Z,64nm,0.9s						
CN2	**Changchun**	58.03	54	P	**P**	**11 08 44.3**	**-0.9**
CN2				S	**S**	**11 16 41.4**	**-4.2**
CN2				pmax	pmax		
	comp=Z,160nm,1.0s						
CN2				pmax	pmax		
	comp=Z,650nm,3.5s						
CN2				LR	LR		
	comp=Z,3μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
ZEA	**Zeya**	58.20	42	*e*P	**P**	**11 08 46.1**	**-0.1**
ZEA				*e*		11 16 57.8	
ZEA				pmax	pmax		
	comp=E,100nm,4.5s						
ZEA				pmax	pmax		
	comp=Z,300nm,4.4s						
ZEA				pmax	pmax		
	comp=E,30nm,0.8s						
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.9s						
ZEA				MLR	MLR		
	comp=E,1μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,16.0s						
HEH	**HeiHe**	58.58	46	*e*P	**P**	**11 08 47.3**	**-1.6**
HEH				sP	**sP**	**11 08 54.6**	**0.0**
HEH				PP	**PP**	**11 11 02.9**	**+4.7**
HEH				ScP	**ScP**	**11 13 39.5**	**+0.1**
HEH				S	**S**	**11 16 50.1**	**-2.4**
HEH				SS	**SS**	**11 20 43.0**	**-1.9**
HEH				pmax	pmax		
	comp=Z,120nm,0.8s						
HEH				pmax	pmax		
	comp=Z,550nm,4.0s						
HEH				LR	LR		
	comp=Z,4μm,15.1s						
HEH				LR	LR		
	comp=Z,2μm,14.5s						
HEH				LR	LR		
	comp=Z,4μm,13.2s						
POGA	**Pongola**	58.66	204	IAmb	IAmb	11 08 57.1	
	comp=Z,56nm,0.8s						
TSUM	**Tsumeb**	58.67	222	P	**P**	**11 08 51.0**	**+1.0**
TSUM	**Tsumeb**	58.67	222	P	**P**	**11 08 51.8**	**+1.8**
	comp=Z,111nm,1.0s,baz=31,slow=7.0,SNR=80						
TSUM				LR	LR	11 34 20.2	
	comp=Z,2μm,19.0s,baz=48,slow=36						
	comp=Z,111nm,1.0s						
TPUB	**Ta-pu**	58.88	78	IAmb	IAmb	11 09 07.7	
	comp=Z,56nm,0.9s						
SSLB	**Suanglung**	59.00	77	IAmb	IAmb	11 08 55.5	
	comp=Z,86nm,1.2s						
YHNB	**Yeheng**	59.09	76	P	**P**	**11 08 54.6**	**+1.6**
BNX	**BinXian**	59.13	51	⇓P	**P**	**11 08 51.9**	**-0.9**
BNX				pP	**pP**	**11 08 55.1**	**-1.9**
BNX				PP	**PP**	**11 11 01.5**	**-1.7**
BNX				S	**S**	**11 16 56.8**	**-3.0**
BNX				pmax	pmax		
	comp=Z,120nm,0.9s						
BNX				pmax	pmax		
	comp=Z,550nm,3.9s						
BNX				LR	LR		
	comp=Z,3μm,15.7s						
BNX				LR	LR		
	comp=Z,940nm,15.2s						
BNX				LR	LR		
	comp=Z,3μm,16.8s						
LBTB	**Lobatse**	59.14	211	P	**P**	**11 08 54.3**	**+1.2**
	comp=Z,115nm,1.0s,baz=29,slow=7.2,SNR=77						
LBTB				LR	LR	11 34 58.6	
	comp=Z,2μm,19.2s,baz=18,slow=37						
	comp=Z,115nm,1.0s						
YAK	**Yakutsk**	59.22	32	P	**P**	**11 08 52.4**	**-0.7**
YAK	**Yakutsk**	59.22	32	IAms_20	IAms_20	11 35 10.5	
	comp=Z,1μm,21.0s						
YAK	**Yakutsk**	59.22	32	LR	LR	11 35 40.0	
	comp=Z,1μm,19.0s,baz=264,slow=37						
YAK	**Yakutsk**	59.22	32	*e*P	**P**	**11 08 50.1**	**-3.0**
YAK				*e**PP	**pP**	**11 08 57.2**	**-0.1**
YAK				*e*		11 09 39.5	
YAK				*e*S	**S**	**11 16 54.6**	**-5.9**
YAK				*e*SSS	SSS	11 23 17.7	
YAK				pmax	pmax		
	comp=Z,104nm,1.0s						
YAK				pmax	pmax		
	comp=E,35nm,1.2s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				smax	smax		
	comp=N,23nm,1.5s						
YAK				smax	smax		
	comp=E,313nm,5.2s						
YAK				MLR	MLR		
	comp=Z,5μm,15.0s						
YAK				MLR	MLR		
	comp=E,2μm,13.0s						
YAK				MLR	MLR		
	comp=N,802nm,14.0s						
TIXI	**Tiksi**	59.38	21	P	**P**	**11 08 53.5**	**-0.5**
TIXI				IAmb	IAmb	11 08 57.0	
	comp=Z,47nm,0.7s						
TIXI	**Tiksi**	59.38	21	LR	LR	11 35 11.7	
	comp=Z,2μm,21.1s,baz=284,slow=37						
TIXI	**Tiksi**	59.38	21	P	**P**	**11 08 53.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,47nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,1μm,19.0s						
CGJI	**Cibinong**	59.41	117	P	P	11 09 05.4	+10
YULB	**Yu-li**	59.43	78	IAmb	IAmb	11 08 59.3	
	comp=Z,63nm,1.1s						
YULB				IAMs_20	IAMs_20	11 37 41.8	
	comp=Z,1μm,19.0s						
BORG	**Borgarnes**	59.96	331	LR	LR	11 37 17.5	
	comp=Z,690nm,20.2s,baz=101,slow=38						
DAG	**Danmarks Havn**	60.02	345	*i* P	**P**	**11 08 58.0**	**-0.4**
DAG				IAmb	IAmb	11 08 59.6	
	comp=Z,25nm,1.0s						
DBG	**Daneborg**	60.07	342	*i* P	**P**	**11 08 59.7**	**+0.9**
DBG				IAmb	IAmb	11 09 00.6	
	comp=Z,31nm,1.0s						
INCN	**Inchon**	60.08	61	P	**P**	**11 08 59.3**	**-0.2**
INCN	**Inchon**	60.08	61	IAMs_20	IAMs_20	11 38 14.8	
	comp=Z,2μm,18.0s						
INCN	**Inchon**	60.08	61	P	**P**	**11 08 59.3**	**-0.2**
INCN				pmax	pmax		
	comp=Z,125nm,1.0s						
INCN				MLR	MLR		
	comp=Z,2μm,18.0s						
KOOLE	**Kule**	60.17	217	P	**P**	**11 09 00.9**	**+0.6**
DBJI	**Dramaga**	60.22	116	P	**P**	**11 09 01.2**	**+0.5**
	comp=Z,72nm,0.7s						
DBIC	**Dimbokro**	60.23	262	P	**P**	**11 09 01.1**	**+0.3**
DBIC	**Dimbokro**	60.23	262	P	**P**	**11 09 01.2**	**+0.4**
	comp=Z,98nm,0.9s,baz=84,slow=7.6,SNR=50						
DBIC				LR	LR	11 39 16.4	
	comp=Z,903nm,18.2s,baz=77,slow=40						
	comp=Z,98nm,0.9s						
SKJI	**Sukabumi**	60.33	117	P	**P**	**11 08 59.8**	**-1.6**
NOR	**Nord**	60.63	351	*i* P	**P**	**11 09 02.5**	**-0.1**
NOR				IAmb	IAmb	11 09 03.9	
	comp=Z,28nm,0.9s						
MDJ	**Mudanjiang**	60.84	52	P	**P**	**11 09 02.6**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,14nm,1.4s						
MDJ	**Mudanjiang**	60.84	52	IAmb	IAmb	11 09 08.3	
	comp=Z,63nm,1.3s						
MDJ				IAMs_20	IAMs_20	11 36 59.6	
	comp=Z,2μm,21.0s						
TJN	**Taejon**	60.90	62	P	**P**	**11 09 03.8**	**-1.3**
TJN	**Taejon**	60.90	62	P	**P**	**11 09 03.8**	**-1.3**
TJN				pmax	pmax		
	comp=Z,187nm,0.8s						
CNJI	**Cibinong**	60.97	116	P	P	11 09 15.4	+10
KS19	**Wonju Array Si**	61.03	60	P	**P**	**11 09 06.0**	**0.0**
KS19				IAmb	IAmb	11 09 13.1	
	comp=Z,51nm,0.8s						
KSAR	**Wonju Array Be**	61.06	60	P	**P**	**11 09 04.8**	**-1.3**
KSAR	**Wonju Array Be**	61.06	60	P	**P**	**11 09 04.8**	**-1.3**
LEM	**Lembang**	61.07	116	LR	LR	11 37 28.2	
	comp=Z,340nm,19.1s,baz=306,slow=38						
KSRS	**Korea Array**	61.08	60	P	**P**	**11 09 05.5**	**-0.8**
	comp=Z,64nm,1.0s,baz=276,slow=7.3,SNR=89						
KSRS				LR	LR	11 37 42.1	
	comp=Z,448μm,18.0s,baz=270,slow=38						
	comp=Z,64nm,1.0s						
PMAR	**Madeira**	61.49	294	*e*P	**P**	**11 09 10.8**	**+1.4**
PMAR				*i* IAmb	IAmb	11 09 11.4	
	comp=Z,227nm,1.0s						
WIN	**Windhoek**	61.56	220	P	**P**	**11 09 11.3**	**+1.5**
WIN				IAmb	IAmb	11 09 18.5	
	comp=Z,49nm,1.1s						
WIN	**Windhoek**	61.56	220	P	**P**	**11 09 11.3**	**+1.5**
WIN				pmax	pmax		
	comp=Z,49nm,1.1s						
WIN				MLR	MLR		
	comp=Z,4μm,19.0s						
PMOZ	**Porto Moniz, M**	61.69	294	*i* IAMs_20	IAMs_20	11 41 44.3	
	comp=Z,472nm,18.0s						
PSTR	**Posyet**	62.09	54	⇑*i*P	**P**	**11 09 13.5**	**+0.5**
MSHR	**Mys Shultsa**	62.36	54	*c i*P	**P**	**11 09 13.7**	**-1.1**
MSHR				pmax	pmax		
	comp=Z,58nm,1.1s						
BOSA	**Boshof**	62.39	210	P	**P**	**11 09 15.0**	**-0.2**
	comp=Z,72nm,0.9s,baz=29,slow=7.0,SNR=65						
BOSA				LR	LR	11 36 06.8	
	comp=Z,2μm,19.8s,baz=37,slow=36						
	comp=Z,72nm,0.9s						
KPJI	**Karang Pucung**	62.42	115	P	**P**	**11 09 20.2**	**+4.6**
TGY	**Tagaytay City**	62.44	88	LR	LR	11 38 33.8	
	comp=Z,105nm,21.9s,baz=314,slow=38						
USRK	**Ussuriysk Ar.**	62.61	52	P	**P**	**11 09 15.6**	**-0.9**
	comp=Z,17nm,0.6s,baz=276,slow=5.9,SNR=32						
	comp=Z,17nm,0.6s						
VLA	**Vladivostok**	62.77	53	*d i*P	**P**	**11 09 17.1**	**-0.4**
VLA				pmax	pmax		
	comp=Z,81nm,1.0s						
MYLDM	**Lahad Datu**	64.09	98	IAmb	IAmb	11 09 48.1	
	comp=Z,58nm,1.0s						
GRNR	**Gornyy**	64.18	44	⇓*i*P	**P**	**11 09 26.2**	**-0.6**
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
GRNR				MLR	MLR		
	comp=E,750nm,18.0s						
GRNR				MLR	MLR		
	comp=N,930nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,16.0s						
JOW	**Kunigami**	64.32	72	LR	LR	11 40 44.3	
	comp=Z,855nm,18.1s,baz=280,slow=39						
JNU	**Nakatsue**	64.55	64	IAmb	IAmb	11 09 50.8	
	comp=Z,38nm,1.1s						
JNU	**Nakatsue**	64.55	64	P	**P**	**11 09 28.6**	**-1.0**
	comp=Z,18nm,0.9s,baz=12,slow=4.7,SNR=5.8						
JNU				LR	LR	11 41 11.2	
	comp=Z,1μm,19.6s,baz=292,slow=39						
	comp=Z,18nm,0.9s						
SUMG	**Summit**	65.36	341	*i* P	**P**	**11 09 35.3**	**+0.7**
SUMG				IAmb	IAmb	11 09 36.8	
	comp=Z,108nm,0.9s						
TEY	**Ternei**	65.62	50	*e*P	**P**	**11 09 32.0**	**-4.2**
BKB	**Balikpapan**	65.80	105	P	**P**	**11 09 37.4**	**-0.4**
	comp=Z,106nm,1.0s						
NKL	**Nikolayevsk**	66.22	41	*e*P	**P**	**11 09 38.1**	**-1.8**
NKL				pmax	pmax		
	comp=N,53nm,0.8s						
NKL				pmax	pmax		
	comp=E,75nm,0.8s						
NKL				pmax	pmax		
	comp=Z,341nm,1.0s						
KMMI	**Kalianget**	66.38	112	P	P	11 09 49.0	+7.5
ANGG	**Ammassalik, Gr**	66.66	333	*i* P	**P**	**11 09 42.3**	**-0.3**
ANGG				IAmb	IAmb	11 09 43.9	
	comp=Z,65nm,1.1s						
ABJI	**Asem Bagus**	67.01	112	P	**P**	**11 09 44.7**	**-0.8**
	comp=Z,134nm,1.1s						
NEEM	**North Greenlan**	67.09	347	*i* P	**P**	**11 09 45.9**	**+0.4**
NEEM				IAmb	IAmb	11 09 48.5	
	comp=Z,98nm,0.8s						
BBTS	**Babate**	67.23	275	LR	LR	11 41 50.9	
	comp=Z,695nm,18.7s,baz=158,slow=38						
JAGI	**Jajag, Banyuwa**	67.32	113	P	**P**	**11 09 45.2**	**-2.3**
	comp=Z,2μmcomp=Z,74nm,1.0s						
SUR	**Sutherland**	67.59	211	P	**P**	**11 09 49.7**	**+0.7**
MBO	**M'Bour**	67.71	275	P	**P**	**11 09 49.8**	**-0.2**
SRBI	**Singaraja**	67.97	112	P	**P**	**11 09 49.9**	**-1.8**
	comp=Z,95nm,1.1s						
TYV	**Tymovskoe**	67.99	43	*e*P	**P**	**11 09 51.7**	**+0.5**
TYV				*e*S	**S**	**11 18 53.6**	**+3.5**
TYV				pmax	pmax		
	comp=Z,64nm,1.0s						
TYV				pmax	pmax		
	comp=Z,600nm,4.4s						
TYV				smax	smax		
	comp=N,300nm,7.0s						
TYV				smax	smax		
	comp=E,400nm,7.0s						
UGL	**Uglegorsk**	68.13	45	*e*P	**P**	**11 09 50.0**	**-2.1**
INU	**Inuyama**	68.71	60	IAmb	IAmb	11 09 56.7	
	comp=Z,54nm,0.9s						
YSS	**Yuzhno-Sakhali**	69.20	47	P	**P**	**11 09 58.3**	**-0.5**
YSS	**Yuzhno-Sakhali**	69.20	47	*e*P	**P**	**11 09 57.1**	**-1.8**
YSS				*e**SP	**pP**	**11 10 01.9**	**-1.2**
YSS				*e*		11 10 18.3	
YSS				*e*PPP	PPP	11 14 18.1	
YSS				*e*S	**S**	**11 18 56.4**	**-8.2**
YSS				*e*SS	**SS**	**11 23 30.1**	**-0.4**
YSS				pmax	pmax		
	comp=Z,500nm,4.3s						
YSS				pmax	pmax		
	comp=E,200nm,4.2s						
YSS				pmax	pmax		
	comp=Z,120nm,0.9s						
YSS				smax	smax		
	comp=N,200nm,3.5s						
YSS				smax	smax		
	comp=E,300nm,6.6s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,12.0s						
MJB9	**Matsu-Tunnel**	69.24	59	IAmb	IAmb	11 10 07.2	
	comp=Z,40nm,1.1s						
MAJO	**Matsushiro**	69.24	59	P	**P**	**11 09 58.5**	**-0.9**
MAJO				IAmb	IAmb	11 10 06.2	
	comp=Z,38nm,1.1s						
MAJO	**Matsushiro**	69.24	59	P	**P**	**11 09 58.5**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,38nm,1.1s						
MAJO				MLR	MLR		
	comp=Z,800nm,20.0s						
MJAR	**Matsushiro Arr**	69.24	59	P	**P**	**11 09 59.1**	**-0.3**
MJAR	**Matsushiro Arr**	69.24	59	P	**P**	**11 09 58.2**	**-1.1**
	comp=Z,11nm,0.9s,baz=287,slow=7.8,SNR=26						
MJAR				LR	LR	11 43 06.7	
	comp=Z,589nm,19.5s,baz=302,slow=38						
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	69.24	59	P	**P**	**11 09 59.1**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,40nm,1.7s						
MRSI	**Marisa**	69.33	101	P	**P**	**11 10 01.1**	**+0.9**
	comp=Z,2μmcomp=Z,46nm,1.6s						
SEY	**Seymchan**	69.41	29	⇓*e*P	**P**	**11 10 00.2**	**+0.4**
SEY				pmax	pmax		
	comp=Z,92nm,0.9s						
SPSI	**Sidrap Palu**	69.64	106	P	**P**	**11 10 05.2**	**+3.1**
	comp=Z,31nm,1.0s						
KULLO	**Kullorsuaq**	69.66	345	*i* P	**P**	**11 10 01.3**	**+0.1**
KULLO				IAmb	IAmb	11 10 02.7	
	comp=Z,81nm,0.9s						
APSI	**Ampana**	69.75	102	P	**P**	**11 10 04.2**	**+1.5**
	comp=Z,1μmcomp=Z,33nm,1.0s						
DY2G	**Dye2**	69.75	335	*i* P	**P**	**11 10 03.0**	**+0.8**
DY2G				IAmb	IAmb	11 10 04.2	
	comp=Z,122nm,1.0s						
MA2	**Magadan**	69.78	33	P	**P**	**11 10 02.2**	**0.0**
MA2				IAmb	IAmb	11 10 03.4	
	comp=Z,65nm,0.9s						
MA2	**Magadan**	69.78	33	LR	LR	11 40 30.6	
	comp=Z,352nm,18.5s,baz=284,slow=36						
MA2	**Magadan**	69.78	33	P	**P**	**11 10 02.2**	**0.0**
MA2				pmax	pmax		
	comp=Z,65nm,0.9s						
SAATT	**Saattut**	69.86	340	*i* P	**P**	**11 10 02.5**	**0.0**
SAATT				IAmb	IAmb	11 10 04.0	
	comp=Z,106nm,0.9s						
ASAJ	**Asahikawa**	69.98	50	P	**P**	**11 10 03.7**	**-0.1**
	comp=Z,18nm,0.8s,baz=288,slow=8.6,SNR=12						
ASAJ				LR	LR	11 42 21.0	
	comp=Z,2μm,18.8s,baz=296,slow=37						
	comp=Z,18nm,0.8s						
JKA	**Kamikawa-asahi**	69.99	50	IAmb	IAmb	11 10 28.2	
	comp=Z,63nm,1.3s						
BNSI	**Bone**	70.15	106	P	P	11 10 13.0	+7.8
KAPI	**Kappang**	70.16	107	P	**P**	**11 10 04.9**	**-0.4**
KAPI	**Kappang**	70.16	107	LR	LR	11 42 34.0	
	comp=Z,310nm,21.3s,baz=287,slow=37						
KAPI	**Kappang**	70.16	107	P	**P**	**11 10 04.9**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,153nm,1.3s						
KAPI				MLR	MLR		
	comp=Z,400nm,22.0s						
UPNV	**Upernavik**	70.25	343	*i* P	**P**	**11 10 05.3**	**+0.4**
UPNV				IAmb	IAmb	11 10 06.6	
	comp=Z,75nm,0.9s						
SAQQ	**Saqqaq**	70.30	340	*i* P	**P**	**11 10 05.5**	**+0.4**
SAQQ				IAmb	IAmb	11 10 06.8	
	comp=Z,84nm,0.9s						
ILULI	**Ilulissat**	70.36	339	*i* P	**P**	**11 10 05.5**	**-0.1**
ILULI				IAmb	IAmb	11 10 07.0	
	comp=Z,86nm,1.2s						
NIAQ	**Niaqornat**	70.47	341	*i* P	**P**	**11 10 06.7**	**+0.4**
NIAQ				IAmb	IAmb	11 10 07.5	
	comp=Z,32nm,0.9s						
PLAI	**Plampang**	70.50	111	P	**P**	**11 10 04.1**	**-3.2**
	comp=Z,779nmcomp=Z,47nm,1.0s						
BKSI	**Bulukumba**	70.64	107	P	**P**	**11 10 07.2**	**-1.0**
	comp=Z,1μmcomp=Z,49nm,1.1s						
JMM	**Marumori**	70.75	57	IAmb	IAmb	11 10 10.2	
	comp=Z,49nm,0.9s						
LUWI	**Luwuk**	70.79	101	P	**P**	**11 10 08.5**	**-0.6**
	comp=Z,3μmcomp=Z,45nm,0.4s						
TULEG	**Thule**	71.01	348	IAmb	IAmb	11 10 10.8	
	comp=Z,126nm,0.8s						
TULEG	**Thule**	71.01	348	*i* P	**P**	**11 10 09.5**	**0.0**
TULEG				IAmb	IAmb	11 10 10.6	
	comp=Z,137nm,0.9s						
GDH	**Godhavn**	71.13	339	*i* P	**P**	**11 10 11.2**	**+0.9**
GDH				IAmb	IAmb	11 10 11.6	
	comp=Z,48nm,0.9s						
SFJD	**Kangerlussuaq**	71.14	336	P	**P**	**11 10 10.0**	**-0.3**
SFJD				IAmb	IAmb	11 10 11.8	
	comp=Z,43nm,1.0s						
SFJD	**Kangerlussuaq**	71.14	336	P	**P**	**11 10 10.4**	**0.0**
	comp=Z,28nm,0.9s,baz=87,slow=6.4,SNR=7.0						
SFJD				LR	LR	11 43 53.0	
	comp=Z,650nm,19.1s,baz=74,slow=38						
	comp=Z,28nm,0.9s						
SFJD	**Kangerlussuaq**	71.14	336	*i* P	**P**	**11 10 10.3**	**0.0**
SFJD				IAmb	IAmb	11 10 11.6	
	comp=Z,47nm,1.1s						
BSSI	**Bau Bau, Buton**	71.37	107	P	**P**	**11 10 12.7**	**+0.1**
	comp=Z,2μmcomp=Z,113nm,1.0s						
NRS	**Narsarsuaq**	71.39	330	IAmb	IAmb	11 10 13.7	
	comp=Z,94nm,0.9s						
NRS	**Narsarsuaq**	71.39	330	*i* P	**P**	**11 10 12.8**	**+0.8**
NRS				IAmb	IAmb	11 10 13.4	
	comp=Z,89nm,0.9s						
JHJ	**Hachijo jima 2**	71.62	62	LR	LR	11 44 41.3	
	comp=Z,712nm,19.3s,baz=308,slow=38						
YUK	**Yuzh-Kuril'sk**	72.23	49	⇑*e*P	**P**	**11 10 18.1**	**+0.8**
WBSI	**Waikabubak, Su**	72.28	111	P	**P**	**11 10 14.9**	**-3.2**
	comp=Z,2μmcomp=Z,139nm,1.1s						
BILL	**Bilibino**	72.57	22	P	**P**	**11 10 19.1**	**+0.2**
BILL				IAmb	IAmb	11 10 21.1	
	comp=Z,38nm,0.8s						
BILL				IAMs_20	IAMs_20	11 42 44.2	
	comp=Z,1μm,21.0s						
BILL	**Bilibino**	72.57	22	*de*P	**P**	**11 10 19.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,50nm,0.9s						
IVI	**Ivigtut**	72.60	330	*i* P	**P**	**11 10 19.6**	**+0.3**
NUUK	**Nuuk**	72.78	334	*i* P	**P**	**11 10 20.7**	**+0.4**
NUUK				IAmb	IAmb	11 10 21.7	
	comp=Z,76nm,0.9s						
BBSI	**Bau Bau**	72.81	106	P	**P**	**11 10 20.7**	**-0.6**
	comp=Z,90nm,0.9s						
SHEL	**Horse Pasture**	72.88	241	P	**P**	**11 10 22.9**	**+1.3**
SHEL	**Horse Pasture**	72.88	241	P	**P**	**11 10 22.9**	**+1.3**
SHEL				pmax	pmax		
	comp=Z,163nm,0.9s						
BASI	**Baing, Sumba**	73.58	111	P	P	11 10 33.6	+7.8
EDFI	**Ende, Flores**	73.73	109	P	**P**	**11 10 23.3**	**-3.5**
	comp=Z,759nmcomp=Z,58nm,1.8s						
TNTI	**Ternate**	73.97	98	IAmb	IAmb	11 10 32.8	
	comp=Z,106nm,1.1s						
TNTI	**Ternate**	73.97	98	P	**P**	**11 10 28.1**	**0.0**
	comp=Z,2μmcomp=Z,92nm,1.0s						
SANI	**Sanana**	74.09	101	P	**P**	**11 10 28.0**	**-0.8**
MMRI	**Maumere**	74.14	109	P	**P**	**11 10 27.9**	**-1.2**
	comp=Z,93nm,1.2s						
NLAI	**Namlea**	75.63	101	P	**P**	**11 10 40.9**	**+3.2**
	comp=Z,970nmcomp=Z,85nm,1.0s						
GIRL	**Giralia**	75.68	125	P	**P**	**11 10 37.9**	**+0.1**
	comp=Z,58nm,1.2s						
JCJ	**Chichijima**	75.81	67	LR	LR	11 46 06.4	
	comp=Z,577nm,21.1s,baz=2.0,slow=38						
PEA0B	**Petropavlovsk-**	75.84	37	IAmb	IAmb	11 10 38.2	
	comp=Z,49nm,1.1s						
PEA0B	**Petropavlovsk-**	75.84	37	*d i*P	**P**	**11 10 36.3**	**-2.1**
PETK	**Petropavlovsk-**	75.84	37	P	**P**	**11 10 36.1**

comp=Z,200nm,12.5s
PET pmax pmax
comp=Z,300nm,11.6s
PET pmax pmax
comp=Z,21nm,1.1s
PET MLR MLR
comp=Z,1µm,16.0s
PET MLR MLR
comp=Z,1µm,13.0s
SOEI Soe 76.43 109 P **P 11 10 42.0 -0.4**
SOEI Soe 76.43 109 P **P 11 10 41.6 -0.8**
comp=Z,2µmcomp=Z,196nm,1.4s
RES Resolute Bay 76.52 352 LR LR 11 48 06.0
comp=Z,619nm,20.3s,baz=30,slow=39
AAI Ambon 76.80 101 P **P 11 10 48.4 +4.0**
comp=Z,1µmcomp=Z,85nm,1.3s
MSAI Masohi 77.28 100 P **P 11 10 46.0 -1.1**
comp=Z,2µmcomp=Z,102nm,0.9s
SWI Sorong 78.17 97 P **P 11 10 50.8 -1.3**
comp=Z,1µmcomp=Z,124nm,1.0s
MBWA Marble Bar 78.92 121 P **P 11 10 54.7 -1.3**
comp=Z,34nm,1.2s
MBWA Marble Bar 78.92 121 P **P 11 10 55.1 -0.9**
MBWA Marble Bar 78.92 121 IAMs_20 IAMs_20 11 43 04.0
comp=Z,1µm,20.0s
FRB Frobisher Bay 79.17 338 P **P 11 10 57.3 +0.6**
comp=Z,94nm,0.8s,baz=46,slow=5.8,SNR=18
FRB LR LR 11 48 06.8
comp=Z,671nm,19.5s,baz=54,slow=37
comp=Z,94nm,0.8s
PSAC1 Pilbara Seismi 79.19 121 P **P 11 10 55.6 -1.9**
comp=Z,42nm,2.1s
PSA00 Pilbara Seismi 79.24 121 P **P 11 10 56.8 -1.0**
comp=Z,51nm,1.3s
PSA00 Pilbara Seismi 79.24 121 P **P 11 10 57.0 -0.8**
PSA00 Pilbara Seismi 79.24 121 IAmb IAmb 11 10 58.6
comp=Z,73nm,1.3s
PSAB3 Pilbara Seismi 79.26 121 P **P 11 10 57.0 -0.9**
comp=Z,50nm,1.2s
PSAC2 Pilbara Seismi 79.28 121 P **P 11 10 57.1 -0.9**
comp=Z,50nm,1.1s
A19K Wainwright 79.52 12 P **P 11 10 56.8 -1.7**
baz=328
A22K Sinclair Lake 79.83 10 P **P 11 10 58.7 -1.5**
baz=333
B18K Kokolik River 80.10 12 P **P 11 10 59.8 -1.9**
baz=327
C16K Lisburne Hills 80.28 14 P **P 11 11 01.6 -1.1**
baz=324,SNR=7.2
B20K Meade River 80.37 11 P **P 11 11 01.9 -1.2**
baz=331,SNR=6.2
C17K DeLong Mountai 80.57 13 P **P 11 11 02.6 -1.7**
baz=326,SNR=17
B22K Teshekpuk Lake 80.66 9 P **P 11 11 03.2 -1.4**
baz=335
C19K Lookout Ridge 80.73 12 P **P 11 11 03.6 -1.6**
baz=329
C18K Utukok River 80.82 13 IAmb IAmb 11 11 07.1
comp=Z,49nm,0.8s
C18K Utukok River 80.82 13 P **P 11 11 04.1 -1.5**
baz=328
MORW Morawa 80.89 129 P **P 11 11 05.3 -1.3**
comp=Z,43nm,1.4s
MORW Morawa 80.89 129 P **P 11 11 06.0 -0.5**
RDOG Red Dog Mine 80.98 14 IAmb IAmb 11 11 10.6
comp=Z,173nm,2.0s
RDOG IAMs_20 IAMs_20 11 51 08.7
comp=Z,1µm,19.0s
RDOG Red Dog Mine 80.98 14 P **P 11 11 04.9 -1.6**
baz=326
RKPI Ransiki, Papua 81.05 96 P **P 11 11 08.1 +0.3**
comp=Z,72nm,0.9s
A36M Sachs Harbour 81.11 0 P **P 11 11 06.5 -0.5**
baz=360,SNR=12
B21K Ikpikpuk River 81.12 10 IAmb IAmb 11 11 09.3
comp=Z,63nm,0.8s
B21K Ikpikpuk River 81.12 10 P **P 11 11 06.1 -1.1**
baz=334,SNR=14
D17K Noatak River 81.24 14 P **P 11 11 06.6 -1.2**
baz=326,SNR=22
MEEK Meekatharra 81.26 126 P **P 11 11 07.0 -1.6**
comp=Z,33nm,1.1s
C23K Itkillik River 81.51 9 P **P 11 11 08.5 -0.8**
baz=337,SNR=16
C21K Knifeblade Rid 81.52 10 P **P 11 11 08.7 -0.6**
baz=334
D19K Kuna River 81.53 12 IAmb IAmb 11 11 11.1
comp=Z,52nm,0.9s
D19K Kuna River 81.53 12 P **P 11 11 08.5 -1.0**
baz=331
D20K Etivluk River 81.61 11 P **P 11 11 08.9 -1.0**
baz=332
TNA Tin City 81.85 17 P **P 11 11 10.2 -0.9**
baz=322
C24K Franklin Bluff 81.87 8 IAmb IAmb 11 11 21.1
comp=Z,92nm,1.2s
C24K Franklin Bluff 81.87 8 P **P 11 11 10.2 -0.9**
baz=339,SNR=5.7
FITZ Fitzroy Crossi 81.90 115 P **P 11 11 11.0 -1.1**
comp=Z,18nm,1.0s
FITZ Fitzroy Crossi 81.90 115 PKKPbc PKKPbc 11 29 43.4 +1.0
comp=Z,3.3nm,1.0s,baz=173,slow=5.3,SNR=4.2
E18K Tukpahlearik C 81.98 13 IAmb IAmb 11 11 13.2
comp=Z,50nm,0.8s
E18K Tukpahlearik C 81.98 13 P **P 11 11 10.3 -1.5**
baz=328,SNR=21
E17K Hotham Inlet 82.02 14 P **P 11 11 10.8 -1.1**
baz=327,SNR=9.9
E20K Nigu River 82.08 11 P **P 11 11 11.3 -1.1**
baz=332
D22K Ayikyak River 82.09 10 IAmb IAmb 11 11 14.6
comp=Z,64nm,0.9s
D22K Ayikyak River 82.09 10 P **P 11 11 11.5 -0.8**
baz=335,SNR=20
C26K Camden Bay 82.12 7 P **P 11 11 11.2 -1.2**
baz=342
GAMB Gambell 82.20 19 P **P 11 11 12.3 -0.6**
baz=319
E21K Killik River 82.29 10 IAmb IAmb 11 11 14.8
comp=Z,38nm,0.9s
E21K Killik River 82.29 10 P **P 11 11 12.3 -1.1**
baz=334,SNR=12
BLDU Ballidu 82.30 130 P **P 11 11 12.5 -1.4**
comp=Z,74nm,1.2s
D23K Nanushuk River 82.31 9 IAmb IAmb 11 11 15.7
comp=Z,34nm,0.8s
D23K Nanushuk River 82.31 9 P **P 11 11 12.3 -1.2**
baz=337,SNR=8.5
F14K Arctic Creek 82.32 16 P **P 11 11 13.0 -0.6**
baz=324
D24K Happy Valley 82.38 8 IAmb IAmb 11 11 15.9
comp=Z,33nm,0.8s
D24K Happy Valley 82.38 8 P **P 11 11 13.0 -0.8**
baz=339
C27K Jago River 82.53 7 IAmb IAmb 11 11 17.2
comp=Z,50nm,0.9s
C27K Jago River 82.53 7 P **P 11 11 14.1 -0.5**
baz=343,SNR=9.7
D25K Kavik River 82.53 8 IAmb IAmb 11 11 16.8
comp=Z,47nm,0.9s
D25K Kavik River 82.53 8 P **P 11 11 14.1 -0.6**
baz=341,SNR=13
F15K North Star Dit 82.53 15 IAmb IAmb 11 11 16.6
comp=Z,66nm,0.9s
F15K North Star Dit 82.53 15 P **P 11 11 13.8 -0.9**
baz=325
E19K Redstone River 82.61 12 IAmb IAmb 11 11 16.3
comp=Z,30nm,0.7s
E19K Redstone River 82.61 12 P **P 11 11 13.9 -1.2**
baz=331
BAKI Biak 82.61 95 P **P 11 11 16.1 +0.1**
comp=Z,1µmcomp=Z,125nm,1.0s
F17K Baldwin Pennin 82.69 14 IAmb IAmb 11 11 17.0
comp=Z,32nm,0.8s
F17K Baldwin Pennin 82.69 14 P **P 11 11 14.5 -0.9**
baz=328,SNR=10
TOLK Toolik Lake Re 82.76 9 IAmb IAmb 11 11 18.1
comp=Z,50nm,0.8s
TOLK IAMs_20 IAMs_20 11 53 19.7
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 82.76 9 P **P 11 11 14.9 -1.0**
baz=338,SNR=14
MUN Mundaring 82.80 131 P **P 11 11 15.0 -1.5**
comp=Z,41nm,1.2s
F18K Selawik 82.88 13 P **P 11 11 16.0 -0.4**
baz=329,SNR=25
E22K Anaktuvuk Pass 82.91 10 IAmb IAmb 11 11 21.6
comp=Z,44nm,1.2s
E22K IAMs_20 IAMs_20 11 51 39.6
comp=Z,933nm,19.0s
E22K Anaktuvuk Pass 82.91 10 P **P 11 11 16.5 -0.2**
baz=336,SNR=13
F19K Shaleruckik Mo 83.05 12 IAmb IAmb 11 11 18.7
comp=Z,40nm,0.8s
F19K Shaleruckik Mo 83.05 12 P **P 11 11 16.8 -0.6**
baz=331
D27M Malcolm River 83.16 6 P **P 11 11 17.1 -0.8**
baz=346
KNRA Kununurra 83.21 111 P **P 11 11 18.0 -0.9**
comp=Z,105nm,1.1s
F20K Avaraart Lake 83.24 12 IAmb IAmb 11 11 19.6
comp=Z,28nm,0.8s
F20K Avaraart Lake 83.24 12 P **P 11 11 18.4 +0.1**
baz=333
D28M Stokes Point 83.25 5 P **P 11 11 18.8 +0.5**
baz=348
G15K Niukluk 83.27 16 P **P 11 11 18.6 +0.1**
baz=326,SNR=8.4
ANM Nome 83.30 16 IAmb IAmb 11 11 21.2
comp=Z,56nm,1.0s
ANM Nome 83.30 16 P **P 11 11 18.6 0.0**
baz=324
E23K Chandalar 83.30 9 IAmb IAmb 11 11 20.9
comp=Z,46nm,0.8s
E23K IAMs_20 IAMs_20 11 54 08.9
comp=Z,1µm,20.0s
E23K Chandalar 83.30 9 P **P 11 11 18.2 -0.5**
baz=338,SNR=31
G16K Koyuk River 83.33 15 IAmb IAmb 11 11 20.7
comp=Z,41nm,0.9s
G16K Koyuk River 83.33 15 P **P 11 11 18.0 -0.8**
baz=327,SNR=9.6
F22K John River 83.43 10 P **P 11 11 18.8 -0.5**
baz=336,SNR=42
E24K Your Creek 83.44 9 IAmb IAmb 11 11 21.6
comp=Z,45nm,0.9s
E24K Your Creek 83.44 9 P **P 11 11 18.3 -1.2**
baz=339,SNR=22
F21K Alatna River 83.48 11 IAmb IAmb 11 11 22.2
comp=Z,38nm,0.9s
F21K Alatna River 83.48 11 P **P 11 11 19.0 -0.5**
baz=335,SNR=28
G17K Kiwalik Mounta 83.62 14 P **P 11 11 19.3 -1.0**
baz=329,SNR=6.8
G18K Tagagawik 83.70 13 IAmb IAmb 11 11 21.9
comp=Z,32nm,1.0s
G18K Tagagawik 83.70 13 P **P 11 11 19.8 -1.0**
baz=330,SNR=16
C36M Paulatuk 83.76 360 P **P 11 11 19.9 -1.0**
baz=0.8,SNR=5.4
E25K Arctic Village 83.77 8 IAmb IAmb 11 11 23.1
comp=Z,50nm,0.8s
E25K Arctic Village 83.77 8 P **P 11 11 19.8 -1.2**
baz=342,SNR=17
GUMO Guam 83.78 78 LR LR 11 51 54.6
comp=Z,389nm,20.6s,baz=306,slow=38
MTN Manton Dam 83.79 108 P **P 11 11 21.1 -0.9**
comp=Z,29nm,1.1s
MTN Manton Dam 83.79 108 IAmb IAmb 11 11 33.1
comp=Z,42nm,1.3s
E28M Babbage River 83.90 5 IAmb IAmb 11 11 23.9
comp=Z,32nm,0.9s
E28M Babbage River 83.90 5 P **P 11 11 21.0 -0.8**
baz=347,SNR=13
COLD Coldfoot 83.99 10 IAmb IAmb 11 11 25.1
comp=Z,40nm,0.8s
COLD IAMs_20 IAMs_20 11 53 41.1
comp=Z,1µm,20.0s
COLD Coldfoot 83.99 10 P **P 11 11 21.7 -0.5**
baz=338,SNR=29
H16K Elim 83.99 15 P **P 11 11 20.9 -1.3**
baz=327,SNR=7.8
F24K Squaw Lake 84.04 9 IAMs_20 IAMs_20 11 54 42.5
comp=Z,995nm,21.0s
F24K Squaw Lake 84.04 9 P **P 11 11 21.8 -0.7**
baz=340,SNR=10
NWAO Narrogin (SRO) 84.06 132 P **P 11 11 22.3 -0.7**
comp=Z,70nm,1.1s
NWAO Narrogin (SRO) 84.06 132 P **P 11 11 21.7 -1.3**
comp=Z,113nm,1.1s
NWAO Narrogin (SRO) 84.06 132 P **P 11 11 22.2 -0.8**
NWAO Narrogin (SRO) 84.06 132 LR LR 11 43 55.2
comp=Z,248nm,21.0s,baz=335,slow=32
NWAO Narrogin (SRO) 84.06 132 P **P 11 11 22.2 -0.8**
NWAO pmax pmax
comp=Z,71nm,1.1s
G22K Bettles 84.07 10 P **P 11 11 22.1 -0.5**
baz=336
G21K Allakaket 84.11 11 P **P 11 11 21.7 -1.1**
baz=325
E27K Coleen River 84.13 6 IAmb IAmb 11 11 25.1
comp=Z,36nm,1.1s
E27K Coleen River 84.13 6 P **P 11 11 22.6 -0.3**
baz=345,SNR=11
E29M Blow River 84.24 5 IAmb IAmb 11 11 25.4
comp=Z,38nm,1.0s
E29M Blow River 84.24 5 P **P 11 11 22.8 -0.6**
baz=348,SNR=22
F25K Christian Rive 84.26 8 IAmb IAmb 11 11 30.5
comp=Z,104nm,1.8s
F25K Christian Rive 84.26 8 P **P 11 11 23.4 -0.3**
baz=342,SNR=10
H17K Granite Mounta 84.26 14 IAmb IAmb 11 11 25.1
comp=Z,44nm,0.9s
H17K Granite Mounta 84.26 14 P **P 11 11 22.8 -0.9**
baz=329,SNR=21
F26K Sheenjek River 84.34 7 P **P 11 11 23.5 -0.5**
baz=343,SNR=7.3
SCHQ Schefferville 84.34 330 P **P 11 11 24.2 0.0**
comp=Z,1µm,1.0s,baz=50,slow=5.7,SNR=51
SCHQ LR LR 11 51 31.8
comp=Z,5µm,18.7s,baz=54,slow=38
H18K Honhosa River 84.41 14 IAmb IAmb 11 11 25.9
comp=Z,42nm,0.9s
H18K IAMs_20 IAMs_20 11 52 21.4
comp=Z,1µm,20.0s
H18K Honhosa River 84.41 14 P **P 11 11 23.1 -1.2**
baz=331
H19K Roundabout Mou 84.46 13 IAmb IAmb 11 11 26.3
comp=Z,29nm,1.0s
H19K IAMs_20 IAMs_20 11 56 32.8
comp=Z,988nm,18.0s
H19K Roundabout Mou 84.46 13 P **P 11 11 24.4 -0.1**
baz=332,SNR=18
G23K Bananza Creek 84.50 10 IAmb IAmb 11 11 26.9
comp=Z,40nm,0.9s
G23K Bananza Creek 84.50 10 P **P 11 11 24.5 -0.4**
baz=338,SNR=23
BMAR Burnt Mountain 84.54 7 P **P 11 11 25.3 +0.2**
IMAR Indian Mountai 84.55 11 P **P 11 11 25.0 0.0**
INK Inuvik 84.59 3 IAmb IAmb 11 11 26.7
comp=Z,30nm,0.9s
INK Inuvik 84.59 3 LR LR 11 53 02.6
comp=Z,124nm,19.9s,baz=3.5,slow=38
INK Inuvik 84.59 3 P **P 11 11 24.7 -0.5**
baz=352,SNR=16
H20K Anotleneega Mo 84.79 12 P **P 11 11 25.2 -1.1**
baz=334,SNR=16
F28M Old Crow 84.84 6 IAmb IAmb 11 11 28.9
comp=Z,43nm,0.8s
F28M Old Crow 84.84 6 P **P 11 11 26.1 -0.5**
baz=347,SNR=30
KDU Kakadu 84.85 107 P **P 11 11 27.2 -0.2**
comp=Z,72nm,1.0s
G24K Hadweenzic Riv 84.87 9 IAMs_20 IAMs_20 11 55 06.3
comp=Z,933nm,19.0s
G24K Hadweenzic Riv 84.87 9 P **P 11 11 26.3 -0.3**
baz=340,SNR=59
G25K Bearman Lake 84.99 8 P **P 11 11 27.3 +0.1**
baz=341,SNR=9.4
I17K Unalakleet 84.99 15 IAmb IAmb 11 11 29.4
comp=Z,51nm,0.9s
I17K IAMs_20 IAMs_20 11 52 17.0
comp=Z,843nm,20.0s
I17K Unalakleet 84.99 15 P **P 11 11 27.4 +0.2**
baz=329,SNR=6.1
H21K Melozitna Rive 85.02 11 IAmb IAmb 11 11 29.4
comp=Z,37nm,0.9s
H21K IAMs_20 IAMs_20 11 56 28.4
comp=Z,903nm,19.0s
H21K Melozitna Rive 85.02 11 P **P 11 11 27.3 -0.1**
baz=335,SNR=18
H22K Ishtalitna Cre 85.04 11 P **P 11 11 27.4 -0.1**
baz=337
GCSA Galena City Sc 85.07 13 P **P 11 11 27.3 -0.4**
baz=332,SNR=16
G26K Porcupine Rive 85.09 7 IAmb IAmb 11 11 34.2
comp=Z,107nm,1.7s
G26K Porcupine Rive 85.09 7 P **P 11 11 27.8 +0.1**
baz=343,SNR=11
F30M Barrier River 85.16 4 P **P 11 11 27.5 -0.6**
baz=350,SNR=25
J14K Nanvaranak Lak 85.26 17 IAmb IAmb 11 11 30.6
comp=Z,40nm,1.1s
J14K IAMs_20 IAMs_20 11 50 09.8
comp=Z,968nm,19.0s
J14K Nanvaranak Lak 85.26 17 P **P 11 11 28.1 -0.5**
baz=326
FYU Fort Yukon 85.29 8 IAmb IAmb 11 11 31.2
comp=Z,49nm,1.0s
FYU IAMs_20 IAMs_20 11 57 08.4
comp=Z,737nm,19.0s
H23K Yukon River 85.39 10 P **P 11 11 29.3 0.0**
baz=338
F31M Tsiigehtchic 85.44 3 P **P 11 11 28.6 -0.9**
baz=352,SNR=37
G27K Doyon Strip 85.46 7 IAmb IAmb 11 11 32.0
comp=Z,46nm,0.8s
G27K Doyon Strip 85.46 7 P **P 11 11 29.3 -0.4**
baz=345,SNR=51
I20K Naaghedeneel 85.50 12 IAMs_20 IAMs_20 11 56 41.1
comp=Z,976nm,20.0s
I20K Naaghedeneel 85.50 12 P **P 11 11 29.4 -0.4**
baz=334,SNR=9.9
H25L Birch Creek 85.50 8 P **P 11 11 29.5 -0.3**
baz=342,SNR=9.7
J16K Anvik River 85.53 15 IAMs_20 IAMs_20 11 50 08.2
comp=Z,874nm,18.0s
J16K Anvik River 85.53 15 P **P 11 11 29.6 -0.4**
baz=329,SNR=29
I21K Tanana 85.59 11 IAmb IAmb 11 11 32.4
comp=Z,44nm,0.9s
I21K Tanana 85.59 11 P **P 11 11 30.2 -0.1**
baz=336,SNR=22
K13K Kusilvak Mount 85.64 18 IAmb IAmb 11 11 32.3
comp=Z,40nm,1.1s
K13K Kusilvak Mount 85.64 18 P **P 11 11 30.0 -0.5**
baz=325,SNR=7.4
G29M Pine Creek 85.69 5 IAmb IAmb 11 11 32.4
comp=Z,46nm,0.9s
G29M Pine Creek 85.69 5 P **P 11 11 30.0 -0.7**
baz=348,SNR=21
G30M tAoh Zraii Nji 85.75 4 P **P 11 11 29.9 -1.2**
baz=350
J17K VABM Dome 85.78 15 IAmb IAmb 11 11 33.0
comp=Z,38nm,1.0s
J17K VABM Dome 85.78 15 P **P 11 11 30.1 -1.1**
baz=330
G31M Satah River 85.93 4 P **P 11 11 31.1 -0.8**
baz=352,SNR=45
MLY Manley 85.94 11 IAmb IAmb 11 11 33.9
comp=Z,44nm,0.8s
MLY IAMs_20 IAMs_20 11 53 15.8
comp=Z,995nm,20.0s
MLY Manley 85.94 11 P **P 11 11 31.0 -1.1**
baz=337,SNR=43
J19K Poorman 85.99 13 IAmb IAmb 11 11 34.3
comp=Z,65nm,0.9s
J19K IAMs_20 IAMs_20 11 51 52.3
comp=Z,1µm,21.0s
J19K Poorman 85.99 13 P **P 11 11 30.9 -1.4**
baz=333
BLKN Baker Lake 86.02 348 IAmb IAmb 11 11 33.6
comp=Z,62nm,1.3s
H27K Steamboat Moun 86.03 7 IAmb IAmb 11 11 34.8
comp=Z,57nm,0.8s
H27K Steamboat Moun 86.03 7 P **P 11 11 31.8 -0.8**
baz=345,SNR=53
I23K Minto, Yukon-K 86.05 10 IAmb IAmb 11 11 34.6
comp=Z,35nm,0.9s
I23K IAMs_20 IAMs_20 11 55 04.7
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 86.05 10 P **P 11 11 32.1 -0.4**
baz=338,SNR=32
J20K Nowinta River 86.12 12 P **P 11 11 32.2 -0.7**
baz=334,SNR=45
K15K Wolf Creek Mou 86.15 16 IAmb IAmb 11 11 35.5
comp=Z,43nm,0.9s
K15K IAMs_20 IAMs_20 11 50 42.7
comp=Z,855nm,19.0s
K15K Wolf Creek Mou 86.15 16 P **P 11 11 32.9 -0.2**
baz=328,SNR=12
J18K Innoko River 86.24 14 IAmb IAmb 11 11 40.3
comp=Z,30nm,0.9s
J18K Innoko River 86.24 14 P **P 11 11 32.5 -1.0**
baz=332,SNR=17
PRP Porcupine Dome 86.25 8 IAmb IAmb 11 11 35.8
comp=Z,50nm,1.0s
PRP Porcupine Dome 86.25 8 P **P 11 11 33.0 -0.8**
baz=342,SNR=49
EPYK Eagle Plains 86.32 5 IAmb IAmb 11 11 35.2
comp=Z,65nm,0.9s
EPYK Eagle Plains 86.32 5 P **P 11 11 33.3 -0.6**
baz=350,SNR=22
KMBL Kambalda 86.32 128 P **P 11 11 34.1 -0.2**
comp=Z,18nm,1.1s
H29M Whitestone 86.34 5 P **P 11 11 33.2 -0.8**
baz=348,SNR=33
POKR Poker Plat Res 86.37 9 IAmb IAmb 11 11 36.0
comp=Z,41nm,0.9s
POKR IAMs_20 IAMs_20 11 55 06.0
comp=Z,815nm,20.0s
POKR Poker Plat Res 86.37 9 P **P 11 11 33.5 -0.7**
baz=340,SNR=11
M11K Mekoryuk 86.47 19 P **P 11 11 34.6 -0.1**
baz=324
COLA College 86.54 10 P **P 11 11 35.0 0.0**
COLA College 86.54 10 IAMs_20 IAMs_20 11 55 33.5
comp=Z,998nm,19.0s
COLA College 86.54 10 P **P 11 11 35.0 0.0**
COLA pmax pmax
comp=Z,29nm,1.0s
COLA College 86.54 10 P **P 11 11 35.0 0.0**
baz=340
K17K Iditarod 86.55 15 IAmb IAmb 11 11 36.9
comp=Z,59nm,0.9s
K17K IAMs_20 IAMs_20 11 55 15.2
comp=Z,954nm,19.0s
K17K Iditarod 86.55 15 P **P 11 11 34.3 -0.8**
baz=331,SNR=19
NEA2 Nenana 86.62 10 P **P 11 11 33.9 -1.5**
baz=339,SNR=16
I27K Kandik River 86.63 7 P **P 11 11 35.1 -0.4**
baz=345,SNR=32
L14K Kuka Creek 86.66 17 IAMs_20 IAMs_20 11 52 03.9
comp=Z,1µm,20.0s
L14K Kuka Creek 86.66 17 P **P 11 11 35.2 -0.4**
baz=327,SNR=18
L15K Ungalak Mounta 86.69 17 P **P 11 11 35.7 0.0**
baz=328,SNR=5.7
CHUM Lake Minchumin 86.72 12 P **P 11 11 35.5 -0.3**
baz=336,SNR=41
I26K Coal Creek Min 86.75 8 IAmb IAmb 11 11 42.7
comp=Z,34nm,0.8s
I26K Coal Creek Min 86.75 8 P **P 11 11 35.0 -1.0**
baz=344,SNR=28
BPAW Bear Paw Mtn. 86.76 11 IAMs_20 IAMs_20 11 52 27.5
comp=Z,928nm,20.0s
BPAW Bear Paw Mtn. 86.76 11 P **P 11 11 35.3 -0.9**
baz=337,SNR=78
ILAR Eielson Array 86.78 9 P **P 11 11 34.2 -2.0**
ILAR Eielson Array 86.78 9 P **P 11 11 35.2 -0.9**
comp=Z,13nm,0.7s,baz=327,slow=3.6,SNR=128
ILAR PP **PP 11 14 57.2 -0.5**
comp=Z,5.1nm,0.9s,baz=326,slow=6.9,SNR=7.3
ILAR PKKPbc **PKKPbc 11 29 29.8 -1.7**
comp=Z,2.5nm,1.1s,baz=182,slow=2.5,SNR=8.7
ILAR PKPPKP **P'P'df 11 37 37.4 -5.5**
comp=Z,1.2nm,1.0s,baz=178,slow=2.9,SNR=5.2
ILAR LR LR 11 55 27.8
comp=Z,491nm,19.7s,baz=322,slow=39
comp=Z,13nm,0.7s
GENI Genyem 86.86 95 P **P 11 11 38.1 +0.7**
WRH Wood River Hil 86.88 10 IAMs_20 IAMs_20 11 55 29.6
comp=Z,1µm,20.0s
I28M Miner Creek 86.95 6 IAmb IAmb 11 11 38.4
comp=Z,29nm,0.8s
I28M Miner Creek 86.95 6 P **P 11 11 35.9 -1.2**
baz=347,SNR=34
H31M Peel River 87.04 4 P **P 11 11 36.5 -1.0**
baz=352,SNR=46
L17K Donlin 87.06 15 P **P 11 11 37.2 -0.4**
baz=331,SNR=14
HDA Harding Lake 87.11 9 IAmb IAmb 11 11 38.3

comp=Z,26nm,0.7s
HDA IAMs_20 IAMs_20 11 55 49.6
comp=Z,821nm,19.0s
HDA Harding Lake 87.11 9 P **P 11 11 36.6 -1.2**
baz=341,SNR=32
J25K Salcha River, 87.14 9 IAmb IAmb 11 11 39.4
comp=Z,41nm,0.9s
J25K Salcha River, 87.14 9 P **P 11 11 36.4 -1.6**
baz=342,SNR=49
L16K Owhat River 87.15 16 IAmb IAmb 11 11 40.1
comp=Z,48nm,0.9s
L16K Owhat River 87.15 16 P **P 11 11 37.7 -0.3**
baz=330,SNR=19
I29M Ogilvie Camp, 87.19 6 IAmb IAmb 11 11 39.3
comp=Z,42nm,0.9s
I29M Ogilvie Camp, 87.19 6 P **P 11 11 37.0 -1.2**
baz=348
M13K Dall Lake 87.26 18 P **P 11 11 37.6 -0.9**
baz=326
KTH Kantishna Hill 87.28 11 IAmb IAmb 11 11 40.4
comp=Z,30nm,0.9s
KTH IAMs_20 IAMs_20 11 53 32.1
comp=Z,1µm,22.0s
JAY Jayapura 87.30 94 PP **PP 11 15 03.4 -0.6**
comp=Z,22nm,1.0s,baz=120,slow=12,SNR=4.9
JAY LR LR 11 51 54.6
comp=Z,128nm,21.9s,baz=329,slow=36
JAY Jayapura 87.30 94 P **P 11 11 41.0 +1.4**
comp=Z,875nmcomp=Z,40nm,0.8s
L18K Granite Mounta 87.35 14 IAmb IAmb 11 11 48.4
comp=Z,40nm,1.3s
L18K Granite Mounta 87.35 14 P **P 11 11 38.6 -0.4**
baz=332
M14K Bethel 87.35 17 IAmb IAmb 11 11 50.5
comp=Z,77nm,1.3s
M14K Bethel 87.35 17 P **P 11 11 38.1 -0.9**
baz=328,SNR=6.3
MCK McKinley 87.44 10 IAMs_20 IAMs_20 11 54 01.5
comp=Z,824nm,19.0s
MCK McKinley 87.44 10 P **P 11 11 38.0 -1.4**
baz=339,SNR=36
J26L Joseph Creek 87.48 8 P **P 11 11 38.4 -1.3**
baz=344,SNR=102
I30M Mount Dempster 87.48 5 P **P 11 11 38.7 -1.0**
baz=350,SNR=42
TRF Thorofare Moun 87.48 11 IAmb IAmb 11 11 41.2
comp=Z,28nm,0.8s
TRF IAMs_20 IAMs_20 11 54 45.5
comp=Z,905nm,21.0s
TRF Thorofare Moun 87.48 11 P **P 11 11 38.3 -1.5**
baz=338,SNR=17
EGAK Eagle 87.48 7 P **P 11 11 39.0 -0.6**
EGAK Eagle 87.48 7 P **P 11 11 38.5 -1.0**
baz=346,SNR=65
GBN Guysborough 87.59 321 IAmb IAmb 11 11 42.1
comp=Z,59nm,1.1s
WRKA Warakurna 87.63 120 P **P 11 11 40.3 -0.6**
comp=Z,45nm,1.0s
PPLA Purkeypile 87.65 12 P **P 11 11 39.5 -1.1**
baz=336,SNR=7.2
M15K Kasigluk River 87.73 17 P **P 11 11 40.2 -0.6**
baz=329,SNR=9.0
SPIA Saint Paul Isl 87.73 23 P **P 11 11 39.2 -1.7**
baz=321
RND Reindeer 87.76 11 IAMs_20 IAMs_20 11 54 09.9
comp=Z,1µm,20.0s
L19K White Mountain 87.78 14 IAmb IAmb 11 11 42.9
comp=Z,26nm,1.0s
L19K White Mountain 87.78 14 P **P 11 11 40.2 -0.9**
baz=334
M16K Timber Creek 87.88 16 IAmb IAmb 11 11 43.7
comp=Z,30nm,0.9s
M16K Timber Creek 87.88 16 P **P 11 11 41.4 -0.1**
baz=330,SNR=7.6
M17K Holitna River 87.90 15 IAmb IAmb 11 11 43.9
comp=Z,37nm,0.9s
M17K IAMs_20 IAMs_20 11 51 33.0
comp=Z,1µm,21.0s
M17K Holitna River 87.90 15 P **P 11 11 40.9 -0.7**
baz=332,SNR=10
SCRK Sand Creek 87.93 8 IAMs_20 IAMs_20 11 58 32.1
comp=Z,752nm,19.0s
SCRK Sand Creek 87.93 8 P **P 11 11 41.4 -0.4**
baz=343,SNR=61
RIDG Independent Ri 88.04 9 P **P 11 11 42.0 -0.3**
RIDG IAMs_20 IAMs_20 11 58 02.2
comp=Z,746nm,19.0s
RIDG Independent Ri 88.04 9 P **P 11 11 41.5 -0.8**
baz=342,SNR=7.1
J29N Klondike Camp 88.09 6 IAmb IAmb 11 11 44.5
comp=Z,44nm,0.9s
J29N IAMs_20 IAMs_20 11 58 04.2
comp=Z,791nm,20.0s
J29N Klondike Camp 88.09 6 P **P 11 11 41.9 -0.7**
baz=348
K27K Chicken 88.11 7 P **P 11 11 42.1 -0.5**
baz=345
M19K Big River Lodg 88.12 13 IAmb IAmb 11 12 25.6
comp=Z,70nm,1.6s
M19K IAMs_20 IAMs_20 11 52 53.6
comp=Z,1µm,22.0s
M19K Big River Lodg 88.12 13 P **P 11 11 41.3 -1.4**
baz=334
J30M Hart River 88.12 5 IAmb IAmb 11 11 44.6
comp=Z,34nm,1.1s
J30M IAMs_20 IAMs_20 11 57 04.1
comp=Z,908nm,20.0s
J30M Hart River 88.12 5 P **P 11 11 42.2 -0.6**
baz=350,SNR=20
N14K Kuskokwak Cree 88.12 18 P **P 11 11 41.0 -1.7**
baz=328
M18K Stony River 88.19 14 P **P 11 11 42.1 -0.8**
baz=333,SNR=13
DOT Dot Lake 88.23 8 IAmb IAmb 11 11 44.7
comp=Z,25nm,0.9s
DOT IAMs_20 IAMs_20 11 55 43.2
comp=Z,842nm,20.0s
DHY Denali Highway 88.31 10 IAMs_20 IAMs_20 11 57 36.3
comp=Z,720nm,18.0s
DHY Denali Highway 88.31 10 P **P 11 11 42.1 -1.6**
baz=340,SNR=11
N15K Kwethluk River 88.33 17 P **P 11 11 41.7 -2.0**
baz=329
WAT1 Susitna Watana 88.35 11 P **P 11 11 42.6 -1.2**
baz=339
DAWY Dawson 88.36 6 P **P 11 11 43.1 -0.7**
DAWY IAmb IAmb 11 11 45.5
comp=Z,40nm,1.0s
DAWY Dawson 88.36 6 P **P 11 11 43.1 -0.7**
baz=347,SNR=34
N16K Nishlik Lake 88.40 16 P **P 11 11 43.5 -0.5**
baz=330,SNR=5.7
CUT Chulitna 88.45 11 IAmb IAmb 11 12 26.9
comp=Z,42nm,1.0s
CUT Chulitna 88.45 11 P **P 11 11 42.9 -1.3**
baz=338
SKT Skwentna 88.62 12 IAmb IAmb 11 11 46.7
comp=Z,46nm,0.9s
SKT IAMs_20 IAMs_20 11 57 33.6
comp=Z,971nm,19.0s
SKT Skwentna 88.62 12 P **P 11 11 43.6 -1.5**
baz=337,SNR=21
PAX Paxson 88.69 9 IAMs_20 IAMs_20 11 58 08.4
comp=Z,763nm,20.0s
PAX Paxson 88.69 9 P **P 11 11 44.7 -0.8**
baz=342
WAT6 Susitna Watana 88.72 10 P **P 11 11 44.8 -0.8**
baz=340,SNR=12
N17K Nushagak Hills 88.73 15 IAmb IAmb 11 12 10.9
comp=Z,82nm,1.9s
N17K Nushagak Hills 88.73 15 P **P 11 11 44.4 -1.2**
baz=332
K29M Barlow Dome 88.75 6 IAmb IAmb 11 11 47.4
comp=Z,34nm,0.8s
K29M IAMs_20 IAMs_20 11 58 33.7
comp=Z,814nm,20.0s
K29M Barlow Dome 88.75 6 P **P 11 11 45.0 -0.8**
baz=349,SNR=40
O14K Tigyukauivet M 88.81 18 IAMs_20 IAMs_20 11 54 50.7
comp=Z,776nm,20.0s
O14K Tigyukauivet M 88.81 18 P **P 11 11 45.3 -0.6**
baz=328
BATG Bathurst New B 88.88 324 P **P 11 11 46.6 0.0**
BATG IAmb IAmb 11 11 47.6
comp=Z,34nm,1.0s
N18K Kilae Creek 88.90 15 IAMs_20 IAMs_20 11 52 15.2
comp=Z,1µm,22.0s
N18K Kilae Creek 88.90 15 P **P 11 11 45.1 -1.2**
baz=333
L26K Log Cabin Wild 88.92 8 IAMs_20 IAMs_20 11 58 51.5
comp=Z,723nm,19.0s
L26K Log Cabin Wild 88.92 8 P **P 11 11 45.6 -0.9**
baz=344,SNR=5.2
L27K Beaver Creek, 89.08 8 P **P 11 11 47.1 -0.1**
baz=345,SNR=17
BCAR Beaver Creek A 89.08 8 P **P 11 11 47.6 +0.4**
N19K Bonanza Creek 89.09 14 IAmb IAmb 11 11 52.4
comp=Z,25nm,0.8s
N19K IAMs_20 IAMs_20 11 54 09.1
comp=Z,831nm,19.0s
N19K Bonanza Creek 89.09 14 P **P 11 11 46.1 -1.2**
baz=334
M22K Willow 89.09 12 IAMs_20 IAMs_20 11 55 26.0
comp=Z,891nm,20.0s
M22K Willow 89.09 12 P **P 11 11 45.8 -1.4**
baz=338,SNR=12
MAYO Mayo, Yukon 89.12 5 IAmb IAmb 11 12 44.8
comp=Z,38nm,0.9s
MAYO Mayo, Yukon 89.12 5 P **P 11 11 46.6 -0.8**
baz=350,SNR=10
N20K Mount Spurr 89.20 13 P **P 11 11 46.1 -1.8**
baz=336
SPCR Spurr Chakacha 89.20 13 P **P 11 11 46.0 -1.9**
baz=336
HAL Halifax 89.22 321 IAmb IAmb 11 11 55.9
comp=Z,32nm,1.1s
SUA Susitna One 89.24 12 P **P 11 11 47.1 -1.0**
baz=337
O15K Ungalikthiuk R 89.26 17 P **P 11 11 47.6 -0.5**
baz=330
GHO Glory Hole Cre 89.28 11 IAmb IAmb 11 11 56.5
comp=Z,34nm,0.9s
HARP HAARP 89.28 9 P **P 11 11 47.1 -1.0**
baz=342,SNR=7.9
O16K Kokwok River B 89.34 16 P **P 11 11 47.8 -0.6**
baz=331
SML Sawmill 89.35 11 P **P 11 11 48.3 -0.2**
SML IAmb IAmb 11 12 12.8
comp=Z,27nm,0.9s
SML IAMs_20 IAMs_20 11 56 27.8
comp=Z,1µm,21.0s
SML Sawmill 89.35 11 P **P 11 11 47.9 -0.6**
baz=339,SNR=7.7
M24K Tolsona, Glenn 89.41 10 P **P 11 11 48.3 -0.5**
baz=341,SNR=5.5
PMR Palmer 89.41 11 P **P 11 11 47.7 -1.1**
baz=339,SNR=8.3
L29M L29M 89.42 6 IAmb IAmb 11 11 50.7
comp=Z,26nm,0.9s
L29M L29M 89.42 6 P **P 11 11 47.5 -1.3**
baz=348,SNR=22
O17K Koliganek Bris 89.42 16 P **P 11 11 48.4 -0.4**
baz=332
M23K Glacier View 89.46 11 P **P 11 11 48.1 -0.9**
baz=340,SNR=6.5
SCM Sheep Creek Mo 89.49 10 IAMs_20 IAMs_20 11 56 51.5
comp=Z,727nm,19.0s
SCM Sheep Creek Mo 89.49 10 P **P 11 11 48.1 -1.1**
baz=340
M26K Nabesna, AK 89.57 8 P **P 11 11 48.3 -1.3**
baz=344,SNR=6.3
O19K Port Alsworth 89.68 14 IAMs_20 IAMs_20 11 53 09.8
comp=Z,859nm,20.0s
O19K Port Alsworth 89.68 14 P **P 11 11 48.6 -1.4**
baz=334
KNK Knik Glacier 89.70 11 P **P 11 11 49.7 -0.5**
baz=339,SNR=5.4
M27K Edge Creek, AK 89.75 8 IAmb IAmb 11 11 52.7
comp=Z,30nm,0.9s
M27K Edge Creek, AK 89.75 8 P **P 11 11 50.1 -0.4**
baz=345,SNR=20
RC01 Rabbit Creek A 89.77 12 IAmb IAmb 11 11 51.6
comp=Z,34nm,0.8s
RC01 IAMs_20 IAMs_20 11 56 03.2
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 89.77 12 P **P 11 11 50.0 -0.4**
baz=338
O18K Koktuh Hills 89.79 15 P **P 11 11 49.9 -0.7**
baz=333,SNR=5.9
CAPN Captain Cook N 89.81 13 P **P 11 11 50.1 -0.5**
baz=337
P16K Nushagak River 89.85 16 P **P 11 11 50.3 -0.5**
baz=331
WRGLY Wrigley 89.90 359 IAmb IAmb 11 11 53.3
comp=Z,33nm,0.9s
WRGLY Wrigley 89.90 359 P **P 11 11 49.6 -1.3**
baz=1.4
WRA Warramunga Arr 89.93 112 P **P 11 11 50.6 -1.3**
WRA Warramunga Arr 89.93 112 P **P 11 11 51.1 -0.7**
comp=Z,22nm,0.9s,baz=310,slow=4.0,SNR=121
WRA PKKPbc **PKKPbc 11 29 24.2 +1.0**
comp=Z,2.1nm,0.8s,baz=122,slow=2.4,SNR=12
comp=Z,22nm,0.9s
WRA Warramunga Arr 89.93 112 *i* P **P 11 11 51.2 -0.7**
WRA pmax pmax
comp=Z,24nm,0.9s
WRAB Tennant Creek 89.93 112 P **P 11 11 50.3 -1.5**
WRAB IAmb IAmb 11 11 52.5
comp=Z,26nm,0.8s
WRAB Tennant Creek 89.93 112 *c i* P **P 11 11 50.4 -1.5**
WRAB pmax pmax
comp=Z,34nm,0.9s
KLU Klutina 90.03 10 IAMs_20 IAMs_20 11 58 08.8
comp=Z,886nm,20.0s
KLU Klutina 90.03 10 P **P 11 11 50.4 -1.3**
baz=342,SNR=7.8
M29M Somme Creek 90.04 6 P **P 11 11 51.0 -0.8**
baz=348,SNR=19
M30M Mio, Yukon 90.06 5 P **P 11 11 49.3 -2.6**
baz=350,SNR=8.8
WR8 Warramunga Arr 90.06 112 P **P 11 11 51.8 -0.7**
P17K Kvichak River 90.09 16 P **P 11 11 48.9 -3.0**
baz=332
N25K Chitina, Valde 90.12 9 IAMs_20 IAMs_20 11 55 46.1
comp=Z,711nm,20.0s
N25K Chitina, Valde 90.12 9 P **P 11 11 51.2 -1.0**
baz=343
O20K Slope Mountain 90.14 13 P **P 11 11 50.6 -1.7**
baz=336
YKAW3 Yellowknife Wh 90.19 355 IAmb IAmb 11 11 54.3
comp=Z,36nm,0.9s
P18K Big Mountain, 90.20 15 IAMs_20 IAMs_20 11 53 25.6
comp=Z,894nm,20.0s
P18K Big Mountain, 90.20 15 P **P 11 11 51.3 -1.2**
baz=333
SLKM Skilak Lake 90.22 12 IAmb IAmb 11 11 53.6
comp=Z,30nm,0.8s
SLKM IAMs_20 IAMs_20 11 55 28.0
comp=Z,1µm,21.0s
PWL Port Wells 90.24 11 IAmb IAmb 11 11 54.0
comp=Z,25nm,0.9s
PWL IAMs_20 IAMs_20 11 56 32.4
comp=Z,1µm,20.0s
PWL Port Wells 90.24 11 P **P 11 11 51.3 -1.4**
baz=339
YKA Yellowknife Ar 90.26 355 P **P 11 11 51.6 -1.0**
YKA Yellowknife Ar 90.26 355 P **P 11 11 52.0 -0.6**
comp=Z,23nm,0.8s,baz=356,slow=5.4,SNR=85
YKA LR LR 11 57 32.2
comp=Z,308nm,20.8s,baz=3.5,slow=39
comp=Z,23nm,0.8s
YKA Yellowknife Ar 90.26 355 *i* P **P 11 11 52.0 -0.6**
YKA pmax pmax
comp=Z,27nm,0.8s
YKAW1 Yellowknife Wh 90.26 355 IAmb IAmb 11 11 54.6
comp=Z,38nm,0.9s
O22K Cooper Landing 90.34 12 P **P 11 11 51.6 -1.4**
baz=338
GLB Gilahina Butte 90.39 9 IAMs_20 IAMs_20 11 55 57.2
comp=Z,915nm,20.0s
DIV Divide 90.40 10 IAMs_20 IAMs_20 11 55 07.6
comp=Z,708nm,21.0s
P19K Oil Pt 90.41 14 P **P 11 11 52.4 -1.1**
baz=335
GLI Glacier Island 90.43 11 IAMs_20 IAMs_20 11 56 38.4
comp=Z,927nm,19.0s
GLI Glacier Island 90.43 11 P **P 11 11 52.4 -1.1**
baz=340
FORT Forrest 90.44 125 P **P 11 11 54.4 +0.4**
comp=Z,66nm,1.0s
Q16K King Salmon 90.50 16 P **P 11 11 53.1 -0.7**
baz=332
D62A Allapoint, All 90.54 326 P **P 11 11 54.4 +0.1**
D62A IAmb IAmb 11 11 55.6
comp=Z,34nm,0.8s
MCARA McCarthy VSAT 90.55 9 P **P 11 11 55.5 +1.4**
MCARA IAMs_20 IAMs_20 11 58 01.5
comp=Z,915nm,19.0s
MCARA McCarthy VSAT 90.55 9 P **P 11 11 53.2 -0.9**
baz=344,SNR=5.8
M31M Drury Creek, Y 90.61 4 IAMs_20 IAMs_20 11 53 58.9
comp=Z,803nm,22.0s
M31M Drury Creek, Y 90.61 4 P **P 11 11 53.8 -0.6**
baz=352
VRDI Verde Repeater 90.64 9 IAMs_20 IAMs_20 11 59 09.9
comp=Z,687nm,19.0s
FID Port Fidalgo 90.65 10 IAMs_20 IAMs_20 11 56 46.3
comp=Z,912nm,20.0s
GGN Saint George 90.69 323 IAmb IAmb 11 11 57.2
comp=Z,34nm,1.4s
BMRM Bremner River 90.73 9 IAmb IAmb 11 11 57.2
comp=Z,24nm,1.0s
BMRM IAMs_20 IAMs_20 11 58 11.3
comp=Z,844nm,20.0s
BMRM Bremner River 90.73 9 P **P 11 11 53.6 -1.3**
baz=343,SNR=6.0
HOM Homer 90.73 13 P **P 11 11 52.6 -2.4**
baz=336
SEW Seward 90.74 12 IAmb IAmb 11 11 56.3
comp=Z,32nm,0.8s
SEW IAMs_20 IAMs_20 11 55 42.8
comp=Z,1µm,20.0s
SEW Seward 90.74 12 P **P 11 11 53.5 -1.4**
baz=338,SNR=6.3
BRLK Bradley Lake 90.79 13 IAmb IAmb 11 11 56.5
comp=Z,24nm,0.8s
BRSE Bradley Lake S 90.83 13 P **P 11 11 52.8 -2.7**
baz=337
LMQ La Malbaie 90.86 326 IAmb IAmb 11 11 56.6
comp=Z,26nm,0.9s
Q18K Katmai Hardscr 90.92 15 P **P 11 11 53.3 -2.7**
baz=334
CNPM China Poot 90.94 13 IAmb IAmb 11 11 56.6
comp=Z,29nm,0.9s
F64A Sherman 91.00 324 IAmb IAmb 11 11 58.9
comp=Z,28nm,1.0s
LDAQ Lac Daran 91.02 327 IAmb IAmb 11 11 58.0
comp=Z,31nm,1.0s
BARN Barnard Glacie 91.04 8 IAMs_20 IAMs_20 11 58 23.3
comp=Z,710nm,20.0s
YUK8 Steele Glacier 91.04 7 P **P 11 11 55.4 -1.3**
baz=347
Q17K Contact Creek 91.05 16 P **P 11 11 55.0 -1.6**
baz=333
YUK4 Talbot Arm 91.10 7 P **P 11 11 56.0 -0.9**
baz=348,SNR=21
N30M Aishikik Lake 91.14 6 P **P 11 11 56.0 -0.9**
baz=349,SNR=7.5
CRQM Cirque 91.14 9 IAMs_20 IAMs_20 11 58 33.3
comp=Z,782nm,20.0s
CRQE Cirque 91.15 9 P **P 11 11 55.6 -1.4**
baz=344
CTG Chitna Glacier 91.17 8 P **P 11 11 56.0 -1.1**
baz=346,SNR=15
CTGM Chitina Glacie 91.17 8 IAmb IAmb 11 11 59.1
comp=Z,26nm,0.9s
TGL Tana Glacier 91.18 9 IAMs_20 IAMs_20 11 59 27.2
comp=Z,803nm,18.0s
P23K Montague Islan 91.21 11 P **P 11 11 56.2 -0.9**
baz=340
N31M Braeburn, Yuko 91.22 5 P **P 11 11 56.0 -1.2**
baz=350,SNR=8.3
R16K Pilot Point 91.25 17 P **P 11 11 55.7 -1.7**
baz=331
GRNC Granite Creek 91.34 8 IAMs_20 IAMs_20 11 56 45.5
comp=Z,918nm,20.0s
LOGN Logan Glacier 91.35 8 IAmb IAmb 11 11 59.9
comp=Z,33nm,0.8s
AS15 Alice Springs 91.36 116 P **P 11 11 58.2 -0.2**
comp=Z,30nm,0.9s
AS31 Alice Springs 91.37 116 P **P 11 11 58.3 -0.2**
comp=Z,7.6nm,0.7s
ASAR Alice Springs 91.37 116 P **P 11 11 57.0 -1.4**
ASAR Alice Springs 91.37 116 P **P 11 11 56.9 -1.7**
comp=Z,26nm,0.9s,baz=302,slow=4.2,SNR=148
ASAR PKKPbc **PKKPbc 11 29 19.1 -0.8**
comp=Z,2.1nm,0.9s,baz=122,slow=3.7,SNR=10.0
comp=Z,26nm,0.9s
ASAR Alice Springs 91.37 116 P **P 11 11 57.1 -1.4**
ISLE Juniper Island 91.39 8 IAMs_20 IAMs_20 11 57 42.8
comp=Z,824nm,20.0s
AS09 Alice Springs 91.41 116 P **P 11 11 58.6 -0.1**
comp=Z,37nm,0.9s
AS17 Alice Springs 91.44 116 P **P 11 11 58.8 -0.1**
comp=Z,37nm,0.9s
O28M Mount Upton 91.49 7 P **P 11 11 57.1 -1.8**
baz=346,SNR=9.5
R17L Mt. Peulik Vol 91.50 16 P **P 11 11 57.3 -1.3**
baz=332
NIKH Nikolski High 91.52 25 P **P 11 11 57.1 -1.6**
baz=322
YUK6 Outpost Mounta 91.52 6 P **P 11 11 57.4 -1.5**
baz=348,SNR=5.5
Q20K Shuyak Island 91.54 14 P **P 11 11 56.5 -2.2**
baz=336
SYI Shuyak Island 91.54 14 IAmb IAmb 11 11 59.5
comp=Z,34nm,0.9s
SYI IAMs_20 IAMs_20 11 57 53.9
comp=Z,1µm,21.0s
TGTN Hyland Airport 91.57 2 P **P 11 11 57.5 -1.4**
baz=357
S12K Black Hills 91.59 20 P **P 11 11 58.3 -0.7**
baz=328
UNV Unalaska Valle 91.68 23 P **P 11 11 59.0 -0.4**
baz=324
YAH Yahtse 91.70 8 IAmb IAmb 11 12 01.6
comp=Z,29nm,0.8s
TABL Table Mountain 91.70 8 IAMs_20 IAMs_20 11 57 07.9
comp=Z,894nm,19.0s
HYT Haines Junctio 91.72 6 P **P 11 11 58.4 -1.3**
baz=349,SNR=38
N32M Quiet Lake 91.74 4 P **P 11 11 58.2 -1.5**
baz=353
KAIM Kayak Island 91.75 10 P **P 11 11 57.9 -1.7**
baz=343
MESA MESA 91.86 8 P **P 11 11 58.5 -1.9**
baz=345
FALS False Pass 91.88 21 P **P 11 11 58.9 -1.5**
baz=326
O30N Mendenhall 91.90 5 P **P 11 11 58.9 -1.5**
baz=350,SNR=8.9
WHY Whitehorse 92.11 5 P **P 11 12 00.6 -0.9**
baz=351
O29M Mount Kennedy 92.13 7 IAMs_20 IAMs_20 11 57 27.1
comp=Z,676nm,20.0s
O29M Mount Kennedy 92.13 7 P **P 11 11 59.9 -1.7**
baz=348
PCA Pinnacle 92.14 8 IAmb IAmb 11 12 04.5
comp=Z,28nm,0.9s
PCA IAMs_20 IAMs_20 12 00 34.6
comp=Z,942nm,19.0s
PINM Pinnacle 92.15 8 P **P 11 11 59.7 -1.9**
baz=346
KDAK Kodiak Island 92.25 14 P **P 11 12 01.9 -0.1**
KDAK IAmb IAmb 11 12 03.4
comp=Z,28nm,0.9s
KDAK Kodiak Island 92.25 14 LR LR 11 59 17.7
comp=Z,857nm,18.3s,baz=324,slow=39
KDAK Kodiak Island 92.25 14 P **P 11 12 01.9 -0.1**
KDAK pmax pmax
comp=Z,29nm,0.9s
KDAK Kodiak Island 92.25 14 P **P 11 12 00.7 -1.3**
baz=336
BCPM Bancas Point 92.36 7 IAMs_20 IAMs_20 12 00 41.2
comp=Z,830nm,20.0s
SDPT Sand Point 92.37 19 P **P 11 12 01.4 -1.1**
baz=329
P30M Million Dollar 92.47 6 P **P 11 12 01.5 -1.5**
baz=349
G62A West of Eustis 92.56 325 IAmb IAmb 11 12 05.9
comp=Z,22nm,1.0s
OHAK Old Harbor 92.60 15 P **P 11 12 02.0 -1.6**
baz=335
PNL Peninsula 92.66 7 P **P 11 12 02.1 -1.8**
baz=347
P33M Teslin, Yukon 92.70 4 P **P 11 12 03.0 -1.1**
baz=353,SNR=9.6
P29M Windy Craggy 92.88 6 P **P 11 12 03.6 -1.3**
baz=349
WTLY Watson Lake, Y 92.98 2 P **P 11 12 04.4 -1.0**
baz=357,SNR=13
SII Sitkinak Islan 92.99 16 P **P 11 12 03.8 -1.7**
baz=334
KOTAN Kotaneelee Air 93.01 360 P **P 11 12 04.5 -1.0**

SJCC				S	Sn	11 20 30.2	-3.8
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	11 19 52.5	-0.1
URMC				S	Sn	11 20 36.5	-0.4
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	11 19 55.5	-2.5
CRJC				S	Sn	11 20 43.2	-3.4

*IDC **21** 11:21:42.3±0.7, 6°58′N×60°21′E, h0km, mb4.0/16, mbtmp4.0/16, MS4.1/6, Error ellipse: s-maj=18.2km s-min=16.3km az=46.0*
*NEIC **21** 11:21:45.0±1.9, 6°6′N±0°1′×60°18′E±0°06, h10km±1km, mb4.6/19, Error ellipse: s-maj=20.9km s-min=4.4km az=151.0*
ISC 21 11:21:46.2±0.7, 6°6′N±0°1′×60°18′E±0°09, h23km, n64, σ1♀05/54, mb4.3/31, MS4.2/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UOSS	**Minazif**	**18.62**	**349**		**P**	**11 25 59.5**	**-2.7**
UOSS				IAmb	IAmb	11 26 07.7	
	comp=Z,42nm,1.1s						
FURI	**Furi**	**21.42**	**277**	P	**P**	**11 26 34.3**	**+1.1**
FURI	**Furi**	**21.42**	**277**	P	**P**	**11 26 34.4**	**+1.3**
	comp=Z,43nm,0.3s,baz=263,slow=10.0,SNR=4.1						
FURI				LR	LR	11 33 53.2	
	comp=Z,447nm,19.5s,baz=27,slow=34						
RAYN	**Ar Rayn**	**21.95**	**322**		**P**	**11 26 37.1**	**-1.3**
KIBK	**Kibwezi**	**23.82**	**249**		**P**	**11 26 57.1**	**-0.7**
KIBK				IAmb	IAmb	11 27 17.7	
	comp=Z,15nm,1.1s						
LODK	**Lodwar**	**24.92**	**264**		**P**	**11 27 09.3**	**+1.4**
LODK				IAmb	IAmb	11 27 38.2	
	comp=Z,30nm,1.5s						
EVN	**Everest**	**32.98**	**47**		**P**	**11 28 21.9**	**+1.7**
BRDH	**Bariadhala**	**34.26**	**59**	LR	LR	11 41 22.0	
	comp=Z,447nm,20.3s,baz=258,slow=34						
MMAI	**Mount Meron Ar**	**34.92**	**322**	P	**P**	**11 28 37.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=131,slow=8.9,SNR=3.1						
	comp=Z,0.3nm,0.3s						
KSH	**Kashi**	**35.71**	**21**	P	**P**	**11 28 40.4**	**-2.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSA	**Lhasa**	**37.11**	**48**	P	**P**	**11 28 55.0**	**-0.6**
KK31	**Karatay Array**	**37.47**	**12**	P	**P**	**11 28 58.5**	**+0.6**
KK31				IAmb	IAmb	11 29 05.8	
	comp=Z,13nm,1.4s						
KKAR	**Karatay Array**	**37.47**	**12**		**P**	**11 28 58.1**	**+0.2**
ARPR	**Arapgir-MALATY**	**37.86**	**332**	P	**P**	**11 29 02.7**	**+1.1**
ARPR				IAmb	IAmb	11 29 10.7	
	comp=Z,16nm,1.1s						
AAK	**Ala-Archa**	**38.04**	**17**		**P**	**11 29 04.0**	**+1.0**
AAK				IAmb	IAmb	11 29 11.3	
	comp=Z,10nm,1.1s						
LSZ	**Lusaka**	**38.45**	**235**	LR	LR	11 43 54.6	
	comp=Z,303nm,18.6s,baz=13,slow=35						
CMAR	**Chiang Mai Arr**	**39.53**	**69**	P	**P**	**11 29 16.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**39.53**	**69**	P	**P**	**11 29 16.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=259,slow=9.1,SNR=11						
CMAR				LR	LR	11 44 29.5	
	comp=Z,127nm,21.9s,baz=190,slow=35						
	comp=Z,1.2nm,0.3s						
KBZ	**Khabaz**	**39.96**	**340**	P	**P**	**11 29 19.3**	**+0.5**
	comp=Z,4.9nm,1.0s,baz=171,slow=4.5,SNR=6.4						
	comp=Z,4.9nm,1.0s						
BRTR	**Keskin Array B**	**40.69**	**328**		**P**	**11 29 24.5**	**-0.6**
BRTR	**Keskin Array B**	**40.69**	**328**	P	**P**	**11 29 25.1**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=156,slow=10,SNR=6.6						
	comp=Z,2.3nm,1.0s						
BR106	**Keskin Array S**	**40.70**	**328**	P	**P**	**11 29 25.0**	**-0.3**
	comp=Z,2.9nm,1.0s						
ANTO	**Ankara**	**41.24**	**328**	P	**P**	**11 29 30.7**	**+1.1**
	comp=Z,7.4nm,0.7s						
KARP	**Karpathos**	**41.79**	**318**	P	**P**	**11 29 34.4**	**+0.2**
	comp=Z,51nm,1.3s						
AB31	**Akbulak array**	**42.49**	**360**		**P**	**11 29 39.7**	**+0.1**
ABKAR	**Akbulak array**	**42.49**	**360**		**P**	**11 29 38.8**	**-0.8**
MKAR	**Makanchi Array**	**44.31**	**22**	P	**P**	**11 29 54.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=230,slow=7.4,SNR=3.9						
	comp=Z,1.0nm,0.8s						
LBTB	**Lobatse**	**46.06**	**226**	LR	LR	11 46 32.2	
	comp=Z,394nm,18.2s,baz=10,slow=32						
KURBB	**Kurchatov Arra**	**46.46**	**16**	P	**P**	**11 30 10.8**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=215,slow=8.1,SNR=20						
	comp=Z,3.4nm,0.9s						
KURK	**Kurchatov**	**46.57**	**16**		**P**	**11 30 12.5**	**+0.3**
KURK				IAmb	IAmb	11 30 19.4	
	comp=Z,5.4nm,1.1s						
TIRR	**Tirgusor**	**46.78**	**329**	P	**P**	**11 30 14.6**	**+0.7**
	comp=Z,5.4nm,1.2s						
BVAR	**Borovoye Array**	**47.02**	**8**	LR	LR	11 51 25.2	
	comp=Z,264nm,19.5s,baz=214,slow=38						
GTA	**Gaotai**	**48.31**	**41**	*eP*	**P**	**11 30 27.8**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BOSA	**Boshof**	**48.58**	**222**	P	**P**	**11 30 27.0**	**-1.2**
	comp=Z,5.5nm,1.0s,baz=26,slow=22,SNR=11						
	comp=Z,5.5nm,1.0s						
BAL3X	**Bal3x, Balta**	**48.71**	**333**	P	**P**	**11 30 29.1**	**+0.3**
KMPD	**K-Podol'skiy**	**50.62**	**332**	P	**P**	**11 30 44.9**	**+1.6**
AK07	**Malin Array Si**	**50.84**	**335**	P	**P**	**11 30 45.7**	**+0.7**
AK09	**Malin Array Si**	**50.85**	**335**	P	**P**	**11 30 46.3**	**+1.2**
AK08	**Malin Array Si**	**50.88**	**335**	P	**P**	**11 30 46.3**	**+1.0**
AKASG	**Malin Array Be**	**50.94**	**335**	IAmb	IAmb	11 30 45.3	
	comp=Z,4.0nm,1.4s						
AKASG	**Malin Array Be**	**50.94**	**335**	P	**P**	**11 30 45.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=6.6,SNR=12						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**50.94**	**335**	P	**P**	**11 30 45.9**	**+0.2**
KIEV	**Kiev**	**50.94**	**335**	P	**P**	**11 30 45.8**	**0.0**
	comp=Z,37nm,1.2s						
AK11	**Malin Array Si**	**50.95**	**335**	P	**P**	**11 30 46.0**	**+0.2**
AK03	**Malin Array Si**	**50.96**	**335**	P	**P**	**11 30 46.2**	**+0.3**
AK21	**Malin Array Si**	**51.08**	**335**	P	**P**	**11 30 47.4**	**+0.7**
ZAA0	**Zalesovo Array**	**51.24**	**18**	IAmb	IAmb	11 30 54.5	
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**51.24**	**18**		**P**	**11 30 46.4**	**-1.5**
ZALV	**Zalesovo Beam**	**51.24**	**18**	P	**P**	**11 30 47.4**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=224,slow=8.3,SNR=12						
	comp=Z,4.3nm,0.9s						
MI30	**MI30,Zelenitsa**	**51.41**	**334**	P	**P**	**11 30 49.2**	**-0.1**
RNPP5	**Staryi Chortor**	**52.77**	**334**	P	**P**	**11 30 59.7**	**+0.3**
H04N1	**CROZET ISLANDS**	**53.07**	**187**	T	T	12 28 12.3	
	baz=11,slow=75,SNR=521						
H04N2	**CROZET ISLANDS**	**53.08**	**187**	T	T	12 28 11.1	
	baz=11,slow=75,SNR=659						
H04N3	**CROZET ISLANDS**	**53.09**	**187**	T	T	12 28 11.3	
	baz=11,slow=75,SNR=683						
SONM	**Songino Array**	**56.79**	**36**	IAmb	IAmb	11 31 35.8	
	comp=Z,4.5nm,1.1s						
SONM	**Songino Array**	**56.79**	**36**	P	**P**	**11 31 29.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=232,slow=8.8,SNR=7.2						
	comp=Z,1.3nm,0.7s						
CLL	**Collm**	**59.14**	**328**	*eP*	**P**	**11 31 47.0**	**+2.0**
NOA	**NORSAR Array B**	**65.33**	**336**	P	**P**	**11 32 26.6**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=120,slow=7.2,SNR=1.9						
	comp=Z,1.1nm,1.0s						
ESDC	**Sonseca Array**	**65.97**	**310**	P	**P**	**11 32 31.1**	**+0.1**
ESDC				IAmb	IAmb	11 32 38.0	
	comp=Z,6.6nm,1.4s						
ESDC	**Sonseca Array**	**65.97**	**310**	P	**P**	**11 32 30.2**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=86,slow=5.2,SNR=6.9						
	comp=Z,1.8nm,1.0s						
KSRS	**Korea Array**	**68.36**	**52**	P	**P**	**11 32 43.9**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=254,slow=7.4,SNR=5.1						
	comp=Z,0.7nm,0.7s						
MAW	**Mawson**	**74.07**	**179**	P	**P**	**11 33 20.6**	**+0.7**
	comp=Z,2.4nm,1.0s,baz=330,slow=12,SNR=4.5						
	comp=Z,2.4nm,1.0s						
WRA	**Warramunga Arr**	**77.51**	**112**	P	**P**	**11 33 40.3**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=291,slow=4.5,SNR=6.3						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**77.90**	**116**	P	**P**	**11 33 42.4**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=285,slow=5.3,SNR=13						
	comp=Z,2.0nm,1.0s						

HEL 21 11:21:58.7±0.1, 65°86′N×27°59′E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU2	**Taivalkoski**	**0.30**	**120**	PG	Pg	11 22 04.3	-0.2
KU2				SG	Sg	11 22 07.7	-0.7
RANF	**Ranua**	**0.36**	**296**	PG	Pg	11 22 05.2	-0.5
	baz=117						
RANF				SG	Sg	11 22 10.0	-0.4
MSF	**Maaselka**	**0.60**	**84**	PG	Pg	11 22 09.7	-0.4
MSF				SG	Sg	11 22 17.6	-0.2
KU1	**Kurvinen**	**0.87**	**109**	PG	Pg	11 22 14.5	-0.7
KU1				SG	Sg	11 22 25.9	-0.5
OLKF	**Oulanka, Finla**	**0.87**	**57**	PB	Pg	11 22 15.1	-0.3
OLKF				MSG		11 22 25.7	
	comp=Z,1.2nm,0.2s						
OLKF				SB	Sg	11 22 26.6	0.0
KU6	**Riekki**	**0.96**	**79**	PG	Pg	11 22 16.4	-0.6
	baz=264						
KU6				MSG		11 22 28.0	
	comp=Z,1.3nm,0.2s						
KU6				SB	Sg	11 22 29.0	-0.3
RNF	**Rovaniemi**	**0.99**	**320**	PB	Pg	11 22 17.0	-0.6
	baz=142						
RNF				SN	Sn	11 22 35.6	+1.2
OUL	**Oulu**	**1.05**	**223**	PB	Pg	11 22 18.4	-0.4
TOF	**Tornio**	**1.36**	**281**	PN	Pg	11 22 23.3	-1.4
	baz=101						
TOF				MSG		11 22 39.4	
	comp=Z,1.1nm,0.2s						
TOF				SG	Sg	11 22 40.6	-1.5
OBF4	**Vikkela, Lumij**	**1.48**	**226**	PG	Pn	11 22 25.5	-1.1
	baz=47						
OBF4				MSG		11 22 43.3	
	comp=Z,1.2nm,0.2s						
KALU	**Kalix**	**1.74**	**272**	PG	Pb	11 22 31.0	-0.4
KALU				SG	Sn	11 22 52.2	-0.8
RMF	**Romuvaara**	**1.93**	**148**	PG	Pb	11 22 34.5	-0.1
RMF				MSG		11 22 56.0	
	comp=Z,1.1nm,0.2s						
RMF				SG	Sn	11 22 57.7	+0.2
OUF	**Merijarvi**	**1.93**	**220**	PG	Pn	11 22 33.2	+0.5
	baz=37						
OUF				MSG		11 22 56.0	
	comp=Z,1.1nm,0.2s						
OUF				SG	Sn	11 22 57.8	+0.2
OBF0	**Syolatti, Pyha**	**1.97**	**228**	MSG		11 22 57.3	
	comp=Z,1.2nm,0.2s						
OBF0				SG	Sb	11 23 01.0	+0.6
VRF	**Varrio**	**2.06**	**22**	MSG		11 22 59.9	
	comp=Z,1.1nm,0.2s						
VRF				SG	Sg	11 23 03.9	-0.8
PAJU	**Pajala**	**2.15**	**305**	PG	Pn	11 22 35.7	0.0
PAJU				SG	Sb	11 23 04.4	-1.1
ERTU	**Ertsjaerv**	**2.30**	**290**	PG	Pn	11 22 39.2	+1.4
ERTU				SG	Sn	11 23 07.5	+0.8
NIF	**Nilsia**	**2.48**	**178**	PG	Pb	11 22 42.5	-1.6
NIF				MSG		11 23 12.0	
	comp=Z,1.1nm,0.2s						
NIF				SG	Sb	11 23 14.9	-0.3
RAJF	**Raja-Jooseppi**	**2.64**	**6**	SG	Sb	11 23 19.1	-0.7
SUF	**Sumiainen**	**3.22**	**192**	SN	Sn	11 23 29.0	-0.3

HEL 21 11:23:06.4±0.3, 61°83′N×21°68′E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.18**	**90**	PN	Pg	11 23 11.1	+1.2
KPF	**Kankaanpaa**	**0.18**	**90**	PG	Pg	11 23 08.7	-1.3
KPF				SG	Sg	11 23 11.1	-1.2
RAF	**Rauma**	**0.81**	**177**	PB	Pg	11 23 21.5	-0.5
RAF				MSG		11 23 31.8	
	comp=Z,1.5nm,0.2s						
RAF				SB	Sg	11 23 32.5	0.0
VAF	**Ylistaro**	**1.30**	**20**	SG	Sg	11 23 46.9	-1.2
VAF	**Ylistaro**	**1.30**	**20**	PG	Pg	11 23 29.6	-1.7
VAF				MSG		11 23 45.8	
	comp=Z,2.2nm,0.2s						
VAF				SB	Sg	11 23 46.9	-1.2
KEF	**Keuruu**	**1.54**	**76**	PG	Pn	11 23 34.2	-0.9
KEF				MSG		11 23 52.5	
	comp=Z,1.8nm,0.2s						
KEF				SG	Sb	11 23 55.9	0.0
AAL	**Aland**	**1.85**	**207**	SN	Sb	11 24 04.3	-0.5
HUSU	**Husum**	**1.89**	**324**	SB	Sg	11 24 08.0	+0.9
NUR	**Nurmijarvi**	**1.96**	**131**	MSG		11 24 04.7	
	comp=Z,1.5nm,0.2s						
NUR				SG	Sg	11 24 09.5	+0.3
MEF	**Metsahovi**	**2.09**	**140**	MSG		11 24 08.6	
	comp=Z,1.9nm,0.2s						
MEF				SG	Sg	11 24 12.7	-0.9
UMAU	**Umeaa**	**2.11**	**348**	SB	Pn	11 23 43.7	+0.9
UMAU	**Umeaa**	**2.11**	**348**	PG	Pn	11 23 43.7	+0.9
FIA0	**FINESS Array S**	**2.13**	**99**	PB	Pn	11 23 44.0	+0.8
FIA0				MSG		11 24 09.6	
	comp=Z,1.4nm,0.2s						
FIA0				SG	Sb	11 24 12.5	-0.4
TVF	**Tvarminne**	**2.14**	**158**	MSG		11 24 09.9	
	comp=Z,0.5nm,0.2s						
TVF				SG	Sb	11 24 13.8	+0.8
KAF	**Kangasniemi**	**2.20**	**81**	MSG		11 24 11.7	
	comp=Z,1.2nm,0.2s						
KAF				SG	Sb	11 24 14.5	-0.4
SUF	**Sumiainen**	**2.27**	**65**	MSG		11 24 13.5	
	comp=Z,1.2nm,0.2s						
SUF				SB	Sb	11 24 15.5	-1.3
BURU	**Burvik**	**2.76**	**357**	SG	Sb	11 24 28.9	-2.1
TOF	**Tornio**	**4.42**	**14**	SB	Sb	11 25 18.0	-0.6
ERTU	**Ertsjaerv**	**4.75**	**2**	PB	Pn	11 24 24.1	+5.0
ERTU				SB	Sb	11 25 25.4	-2.5

*SOME **21** 11:27:56.4, 41°65N×81°83E, h10km*
NNC 21 11:27:55.7±4.4, 41°62N×82°22E, h0km, mb3.7, mpv3.3, 4C, Error ellipse: s-maj=37.6km s-min=21.9km az=170.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.56**	**308**	Pg	Pn	11 28 35.8	-2.7
	12nm,0.2s						
SHLS				Lg	Lg	11 29 04.0	
	42nm,0.7s						
SHLS	**Shalkode**	**2.56**	**308**	*eP*	Pn	11 28 35.8	-2.7
	6.3nm,0.2s						
SHLS				*eS*	Sn	11 29 04.0	-6.4
	46nm,0.6s						
PDGK	**Podgornoye**	**2.64**	**311**	⇑Pn	Pn	11 28 40.3	+0.6
	7.8nm,0.6s						
PDGK				⇑Sn	Sn	11 29 13.5	+0.9
	47nm,1.0s						
SATY	**Saty**	**3.17**	**298**	Pg	Pn	11 28 49.9	+2.8
	2.7nm,0.1s						
SATY				Lg	Lg	11 29 27.5	
	9.6nm,0.2s						
KPKS	**Kokpek**	**3.20**	**306**	Pg	Pb	11 28 50.9	-2.6
	0.3nm,0.2s						
KPKS				Lg	Lg	11 29 29.5	
	29nm,0.4s						
ARXS	**Arharly**	**4.14**	**310**	Lg	Lg	11 29 58.8	
	6.0nm,0.5s						
ARXS	**Arharly**	**4.14**	**310**	*eP*	Pb	11 29 07.9	-1.6
ARXS				*eS*	Sb	11 29 59.0	-1.0
MK31	**Makanchi Array**	**5.17**	**1**	⇑Pn	Pn	11 29 13.0	-1.4
	9.4nm,1.6s,baz=181,slow=13,SNR=10.0						
MK31				⇑Sn	Sn	11 30 16.6	+1.9
	7.6nm,0.6s,baz=180,slow=25						

*DSN **21** 11:30:02.4±1.3, 27°40N×55°11E, h15km, ML3.2/7, Error ellipse: s-maj=24.5km s-min=6.5km az=38.0*
*OMAN **21** 11:30:04.2±0.6, 27°19N×55°07E, h10km, mb4.9/6, ml3.4/18, Error ellipse: s-maj=5.9km s-min=2.7km az=17.0*
*TEH **21** 11:30:04.2, 27°11N×55°06E, h18km±17km*
ISC 21 11:30:04.0±1.3, 27°17N±0°05×55°07E±0°03, h3km±12km, n56, σ0♀78/73, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.79**	**309**	Pg	**Pg**	**11 30 19.6**	**+0.3**
BNDS	**Bandar-Abbas**	**1.01**	**76**	Pg	**Pb**	**11 30 24.0**	**-0.3**
GENO	**Geno**	**1.01**	**76**	Pg	**Pn**	**11 30 24.3**	**-1.0**
IBND	**Bandar-abas**	**1.34**	**78**	Pg	**Pg**	**11 30 29.7**	**0.0**
SHME	**Shamm**	**1.47**	**139**	P	**Pn**	**11 30 30.6**	**-0.8**
	SNR=5.6						
SHME				S	**Sg**	**11 30 52.3**	**+1.0**
SHME	**Shamm**	**1.47**	**139**	*eP*	**Pn**	**11 30 30.2**	**-1.2**
	SNR=9.4						
SHME				S	**Sb**	**11 30 51.3**	**+0.2**
BANOM	**Banah**	**1.66**	**138**	P	**Pn**	**11 30 33.8**	**-0.2**
BANOM				S	**Sg**	**11 30 57.4**	**+0.1**
BANOM	**Banah**	**1.66**	**138**	*eP*	**Pn**	**11 30 33.0**	**-1.1**
	SNR=20						
BANOM				S	**Sg**	**11 30 57.6**	**+0.3**
LMD1	**Lamerd**	**1.70**	**276**	Pg	**Pb**	**11 30 35.4**	**-0.6**
JHRM	**Jahrom**	**1.88**	**316**	Pn	**Pb**	**11 30 37.7**	**-1.3**
MASF	**Masafi**	**2.04**	**151**	P	**Pn**	**11 30 39.7**	**+0.4**
	SNR=8.6						
MASF				S	**Sn**	**11 31 05.9**	**+0.7**
MSFE	**Esma-Masafi**	**2.05**	**151**	*eP*	**Pn**	**11 30 39.3**	**-0.1**
	SNR=15						
MDH	**Madha**	**2.16**	**149**	P	**Pn**	**11 30 41.5**	**+0.6**
	SNR=10.0						
MDH				S	**Sn**	**11 31 07.7**	**-0.5**
MDH	**Madha**	**2.16**	**149**	P	**Pn**	**11 30 40.7**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.23**	**166**	P	**Pn**	**11 30 41.9**	**0.0**
UOSS	**Minazif**	**2.44**	**155**	P	**Pn**	**11 30 44.7**	**-0.1**
UOSS	**Minazif**	**2.44**	**155**	Pn	**Pn**	**11 30 43.8**	**-0.9**
UOSS	**Minazif**	**2.44**	**155**	P	**Pn**	**11 30 44.5**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.46**	**169**	P	**Pn**	**11 30 45.9**	**+0.9**
FAQ				S	**Sn**	**11 31 16.0**	**+0.5**
HATD	**Hatta, Dubai**	**2.52**	**157**	P	**Pn**	**11 30 46.1**	**+0.3**
	SNR=11						
HATD				S	**Sn**	**11 31 17.3**	**+0.3**
HATD	**Hatta, Dubai**	**2.52**	**157**	*eP*	**Pn**	**11 30 45.5**	**-0.3**
	SNR=11						
ASHO	**Ashiyiah**	**2.63**	**160**	P	**Pn**	**11 30 47.6**	**+0.3**
	SNR=80						
ASHO				S	**Sn**	**11 31 20.3**	**+0.5**
ASHO	**Ashiyiah**	**2.63**	**160**	*eP*	**Pn**	**11 30 47.4**	**0.0**
	SNR=35						
NGRK	**Negar Kerman**	**2.87**	**30**	Pn	**Pn**	**11 30 51.3**	**+0.3**
JRN	**Qarnain Island**	**2.98**	**223**	P	**Pn**	**11 30 52.7**	**+0.5**
ALNE	**Al Ain**	**3.16**	**169**	P	**Pn**	**11 30 55.1**	**+0.4**
ALNE				S	**Sn**	**11 31 33.8**	**+0.9**
SOHO	**SOHO**	**3.30**	**156**	P	**Pn**	**11 30 55.8**	**-0.7**
SOHO				S	**Sn**	**11 31 37.7**	**+1.5**
KHGB	**Koh Gabri**	**3.43**	**21**	Pn	**Pn**	**11 30 59.5**	**+0.9**
CHMN	**Cheshme madani**	**3.45**	**38**	Pn	**Pn**	**11 30 59.7**	**+0.7**
MZWR	**Madinat Zayed**	**3.56**	**198**	P	**Pn**	**11 31 00.8**	**+0.7**
KBAM	**BAM**	**3.57**	**56**	Pn	**Pn**	**11 31 01.1**	**+0.7**
GHWR	**Ruwais**	**3.75**	**212**	P	**Pn**	**11 31 02.4**	**-0.4**
SHMA	**Al-Shehemyia**	**3.90**	**251**	P	**Pn**	**11 31 05.4**	**+0.6**
	SNR=11						
ZRDN	**Zarand Kerman**	**4.00**	**18**	Pn	**Pn**	**11 31 07.2**	**+0.8**
ARQ	**Araqi**	**4.03**	**161**	P	**Pn**	**11 31 07.1**	**+0.4**
	SNR=6.9						
HOQ	**Hoqain**	**4.11**	**150**	P	**Pn**	**11 31 07.2**	**-0.4**
HOQ				S	**Sn**	**11 31 56.7**	**+0.4**
IMEH	**Mehriz**	**4.23**	**355**	Pn	**Pn**	**11 31 10.4**	**+0.9**
SAKB	**Bahrain**	**4.23**	**255**	S	**Sn**	**11 31 59.2**	**+0.1**
TRNA	**Turayna**	**4.23**	**236**	P	**Pn**	**11 31 09.2**	**-0.2**
	SNR=13						
MZR	**Muzera**	**4.39**	**200**	P	**Pn**	**11 31 11.0**	**-0.6**
MZR				S	**Sn**	**11 32 03.9**	**+0.7**
UMZA	**Um Al Zommool**	**4.43**	**179**	P	**Pn**	**11 31 12.3**	**+0.1**
UMZA				S	**Sn**	**11 32 04.8**	**+0.5**
SMRA	**Abu-Samra**	**4.52**	**239**	P	**Pn**	**11 31 13.5**	**+0.1**
	SNR=12						
SMRA				S	**Sn**	**11 32 06.4**	**+0.1**
SMDO	**Samad**	**4.90**	**146**	P	**Pn**	**11 31 19.0**	**+0.3**
SMDO				S	**Sn**	**11 32 16.0**	**0.0**
WSAR	**Wadi Sarin**	**5.07**	**140**	P	**Pn**	**11 31 20.8**	**-0.1**
	SNR=14						
WSAR				S	**Sn**	**11 32 19.7**	**-0.3**
CHBR	**Chabahar**	**5.10**	**107**	Pn	**Pn**	**11 31 21.4**	**0.0**
IRAM	**Rameshe h**	**5.18**	**334**	Pn	**Pn**	**11 31 22.8**	**+0.1**
TPRV	**Parvadeh(Tabas**	**6.01**	**13**	Pn	**Pn**	**11 31 34.2**	**+0.3**
JLN	**Jalan Banı Buh**	**6.37**	**141**	P	**Pn**	**11 31 38.0**	**-0.8**
TKDS	**Koohdasht(Taba**	**6.67**	**15**	Pn	**Pn**	**11 31 43.5**	**+0.6**
MHTO	**MHTO**	**6.70**	**156**	P	**Pn**	**11 31 42.8**	**-0.5**
	SNR=5.7						
DQM	**DQM**	**7.55**	**162**	P	**Pn**	**11 31 53.7**	**-1.3**
DOK	**Doka**	**8.55**	**186**	P	**Pn**	**11 32 07.0**	**-1.8**
	SNR=7.7						
SHAO	**Shalim**	**9.12**	**177**	P	**Pn**	**11 32 15.0**	**-1.5**
	SNR=9.7						
WHFO	**Wadi Hawf**	**9.28**	**188**	P	**Pn**	**11 32 17.2**	**-1.6**
	SNR=16						
DMTO	**DMTO**	**9.41**	**181**	P	**Pn**	**11 32 18.2**	**-2.3**
ABTO	**Aybut**	**9.90**	**190**	P	**Pn**	**11 32 25.3**	**-2.0**
	SNR=6.0						

*IDC **21** 11:43:03.6±4.8, 7°67S×128°84E, h170km±41km, mb3.2/2, mbtmp3.6/6, MS3.8/1, Error ellipse: s-maj=45.1km s-min=22.1km az=49.0*
ISC 21 11:43:00.7±1.4, 7°7S±0°1×129°0E±0°1, h131km, n7, σ2♀03/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.87**	**244**	P	**Pn**	**11 44 26.7**	**+1.2**
	8.1nm,0.3s,baz=96,slow=19,SNR=1.2						
BATI				S	**Sn**	**11 45 31.7**	**+0.1**
	37nm,0.5s,baz=262,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**10.88**	**197**	P	**Pn**	**11 45 33.5**	**+0.7**
	0.7nm,0.3s,baz=17,slow=12,SNR=18						
FITZ				S	**Sn**	**11 47 30.2**	**-2.7**
	2.0nm,0.5s,baz=187,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**13.25**	**158**	P	**Pn**	**11 46 05.9**	**+2.0**
	0.2nm,0.3s,baz=343,slow=13,SNR=13						
WRA				S	**Sn**	**11 48 28.0**	**-2.2**
	0.5nm,0.3s,baz

121A	Cookes Peak, D	3.71	275			Pn	11 59 56.8	+1.9
SMWD	Samnorwood	3.87	42			Pn	11 59 59.5	+2.6
SMWD					IAmb_Lg		12 01 07.8	
	comp=Z,16nm,0.7s							
BRDY	Brady	3.88	103			Pn	11 59 58.4	+1.4
RTBA	Rita Blanca	4.20	7		IAmb_Lg		12 01 14.6	
	comp=Z,13nm,0.8s							
PLPT	Palo Pinto	4.33	81			Pn	12 00 03.2	0.0
PLPT					IAmb_Lg		12 01 24.6	
	comp=Z,15nm,0.8s							
WMOK	Wichita Mounta	4.58	56		IAmb_Lg		12 01 25.0	
	comp=Z,11nm,0.9s							
KSCO	Kaye Shedlock'	6.76	5		IAmb_Lg		12 02 29.8	
	comp=Z,7.3nm,0.8s							

*SJA **21** 12:02:40.2±0.7,30°.65S×71°.47W,h27km±2km,ML4.1, MW4.1*
*GUC **21** 12:02:42.0±0.8,30°.71S×71°.37W,h49km±3km,ML4.3*
*NEIC **21** 12:02:43.1±1.7,30°.71S±0°.02×71°.33W±0°.10,h47km±6km, mb4.5/8,ML4.3(GUC),Error ellipse: s-maj=12.2km s-min=1.2km az=103.0*
*IDC **21** 12:02:46.0±2.9,30°.65S×71°.20W,h82km±23km,mb4.0/7, mbtmp4.1/12,Error ellipse: s-maj=24.4km s-min=16.2km az=99.0*

ISC 21 12:02:42.4±0.8,30°.66S±0°.03×71°.40W±0°.04,h43km±7km, n108,σ2$21/122,mb4.3/8,5C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.20	266		Pn	12 02 50.4	+0.5
CO06	Fray Jorge	0.20	266	↑iP	Pn	12 02 50.5	+0.5
CO06				IAML		12 02 58.4	
	comp=E,25μm,0.1s						
CO03	El Pedregal	0.64	106		Pn	12 02 54.4	-0.7
CO03	El Pedregal	0.64	106	↓iP	Pn	12 02 54.5	-0.7
CO03				eS	Sn	12 03 03.5	-0.8
CO03				IAML		12 03 04.0	
	comp=E,25μm,0.2s						
CO03	El Pedregal	0.64	106	eP	Pn	12 02 54.2	-0.9
CO03				IAML		12 03 04.6	
	comp=Z,5μm,0.2s						
CO03				eS	Sn	12 03 04.7	+0.4
CO02	Combarbal	0.64	148		Pn	12 02 54.5	-0.8
CO02	Combarbal	0.64	148	↓iP	Pn	12 02 54.4	-0.8
CO02				eS	Sn	12 03 03.2	-1.3
CO02	Combarbal	0.64	148	eP	Pn	12 02 54.1	-1.2
CO02				IAML		12 03 04.0	
	comp=Z,21μm,0.7s						
GO04	Tololo Observa	0.71	47		Pn	12 02 56.6	+0.3
GO04	Tololo Observa	0.71	47	eP	Pn	12 02 56.2	0.0
GO04				eS	Sn	12 03 07.1	+0.8
GO04	Tololo Observa	0.71	47	eP	Pn	12 02 56.0	-0.3
GO04				IAML		12 03 08.6	
	comp=Z,26μm,0.2s						
CO05	La Serena	0.75	11		Pn	12 02 57.3	+0.7
CO05	La Serena	0.75	11	eP	Pn	12 02 57.2	+0.7
CO05				eS	Sn	12 03 07.8	+0.9
CO01	Juntas del Tor	1.32	59		Pn	12 03 05.5	+0.9
CO01	Juntas del Tor	1.32	59	i P	Pn	12 03 05.5	+0.9
CO01				eS	Sn	12 03 22.9	+1.8
CO01	Juntas del Tor	1.32	59	eP	Pn	12 03 05.6	+1.1
CO01				eS	Sn	12 03 23.2	+2.1
CO01				IAML		12 03 27.1	
	comp=Z,2μm,0.1s						
CO04	Los Peladeros	1.43	165	eP	Pn	12 03 05.3	-0.8
CO04				IAML		12 03 25.4	
	comp=N,13μm,0.3s						
AROD	Rodeo	1.74	74	eP	Pn	12 03 12.8	+2.4
AROD				eS	Sn	12 03 36.0	+4.5
LCO	Las Campanas	1.75	21		Pn	12 03 11.4	+0.9
LCO	Las Campanas	1.75	21	eP	Pn	12 03 11.1	+0.5
LCO	Las Campanas	1.75	21	eP	Pn	12 03 11.4	+0.9
LCO				eS	Sn	12 03 34.6	+2.8
LCO				IAML		12 03 36.3	
	comp=Z,5μm,0.2s						
VA06	Catapilco	1.90	177		Pn	12 03 12.0	-0.2
VA06	Catapilco	1.90	177	eP	Pn	12 03 11.7	-0.6
VA06				IAML		12 03 41.0	
	comp=E,4μm,0.4s						
ACCO	Cerro Coronel	2.02	89	eP	Pn	12 03 16.9	+2.7
ACCO				eS	Sn	12 03 29.8	-8.5
ACDV	Cuesta del Vie	2.03	77	eP	Pn	12 03 16.8	+2.6
ACDV				eS	Sn	12 03 30.2	-8.3
ACDV				IAML		12 03 30.6	
	comp=Z,848nm,0.5s						
VA03	San Esteban	2.22	161		Pn	12 03 16.9	+0.1
VA03	San Esteban	2.22	161	eP	Pn	12 03 16.8	+0.1
VA03				IAML		12 03 51.5	
	comp=E,3μm,0.4s						
VA03	San Esteban	2.22	161	eP	Pn	12 03 16.9	+0.1
VA03				eS	Sn	12 03 43.6	+0.6
VA03				IAML		12 03 58.0	
	comp=Z,1μm,0.3s						
ROCH	El Roble	2.33	172	↑eP	Pn	12 03 17.7	-0.7
ROCH				IAML		12 03 53.4	
	comp=N,2μm,0.4s						
ROC1	El Roble	2.33	172	eP	Pn	12 03 18.0	-0.5
ROC1				eS	Sn	12 03 50.3	+4.3
VA01	Torpederas	2.37	185		Pn	12 03 17.5	-1.2
VA01	Torpederas	2.37	185	eP	Pn	12 03 16.9	-1.8
VA01	Torpederas	2.37	185	eP	Pn	12 03 17.4	-1.2
VA01				eS	Sn	12 03 53.2	+6.8
VA01				IAML		12 03 55.8	
	comp=Z,434nm,0.5s						
AC04	Llanos de Chal	2.46	7		Pn	12 03 21.6	+1.6
AC04	Llanos de Chal	2.46	7	eP	Pn	12 03 21.1	+1.1
AC04				eS	Sn	12 03 59.5	+11
AC04				IAML		12 04 00.8	
	comp=Z,784nm,0.6s						
ZON	Zonda	2.50	111	eP	Pn	12 03 22.4	+1.9
ZON				eS	Sn	12 03 56.6	+6.7
ZON				IAML		12 04 20.3	
	comp=Z,424nm,1.0s						
PEL	Peldehue	2.55	166		Pn	12 03 21.0	-0.3
PEL	Peldehue	2.55	166	eP	Pn	12 03 21.4	+0.1
PEL				IAML		12 04 05.0	
	comp=E,1μm,0.3s						
PEL	Peldehue	2.55	166	eP	Pn	12 03 21.4	+0.1
PEL				IAML		12 04 06.6	
	comp=Z,782nm,0.3s						
SJA	San Juan	2.59	110	eP	Pn	12 03 22.9	+1.1
SJA				eS	Sn	12 03 40.7	-11
SJA				IAML		12 03 42.3	
	comp=Z,497nm,0.3s						
MT02	Curacav	2.60	175		Pn	12 03 21.9	0.0
MT02	Curacav	2.60	175	eP	Pn	12 03 21.3	-0.7
MT02	Curacav	2.60	175	eP	Pn	12 03 21.4	-0.6
MT02				eS	Sn	12 03 56.5	+4.2
MT02				IAML		12 04 02.7	
	comp=Z,856nm,0.7s						
RTLL	Cerro Villicun	2.60	106	eP	Pn	12 03 23.8	+1.8
RTLL				eS	Sn	12 03 40.5	-12
RTLL				IAML		12 03 41.4	
	comp=Z,1μm,0.4s						
MT10	Hacienda Santa	2.71	164	eP	Pn	12 03 23.4	-0.1
AGUA	GUANDACOL	2.78	66	eP	Pn	12 03 28.6	+4.1
MT05	Renca	2.78	168		Pn	12 03 24.6	+0.1
MT05	Renca	2.78	168	↑eP	Pn	12 03 24.4	-0.1
MT05	Renca	2.78	168	eP	Pn	12 03 24.7	+0.2
MT05				IAML		12 04 12.5	
	comp=Z,705nm,0.8s						
MT14	Cerro Calıın	2.83	165	eP	Pn	12 03 25.6	+0.5
MT16	CCHEN	2.86	165		Pn	12 03 26.1	+0.6
MT16	CCHEN	2.86	165	eP	Pn	12 03 25.8	+0.3
CFA	Coronel Fontan	2.87	110	P	Pn	12 03 27.5	+1.8
	comp=Z,170nm,0.3s,baz=290,slow=9.0,SNR=395						
CFA				S	Sn	12 04 00.6	+1.5
	comp=Z,79nm,0.3s,baz=214,slow=14,SNR=4.2						
CFA	Coronel Fontan	2.87	110	eP	Pn	12 03 27.6	+1.8
CFA				eS	Sn	12 04 05.7	+6.6
ASAL	Salagasta	2.92	132	eP	Pn	12 03 28.5	+2.1
MT03	Universidad Ad	2.92	165		Pn	12 03 26.9	+0.4
MT03	Universidad Ad	2.92	165	eP	Pn	12 03 26.9	+0.4
MT03	Universidad Ad	2.92	165	eP	Pn	12 03 27.2	+0.8
MT03				eS	Sn	12 04 03.4	+3.0
MT03				IAML		12 04 14.4	
	comp=Z,755nm,0.3s						
MT04	Ro Olivares	2.94	159	↓eP	Pn	12 03 28.1	+1.3
MT04	Ro Olivares	2.94	159	eP	Pn	12 03 27.9	+1.1
MT04				eS	Sn	12 04 04.7	+3.7
MT04				IAML		12 04 09.6	
	comp=Z,676nm,0.6s						
MT08	Bocatoma Ro	3.02	157		Pn	12 03 29.5	+1.6
MT08	Bocatoma Ro	3.02	157	eP	Pn	12 03 29.8	+2.0
MT08	Bocatoma Ro	3.02	157	eP	Pn	12 03 29.9	+2.0
MT08				eS	Sn	12 04 07.1	+4.2
MT08				IAML		12 04 22.5	
	comp=Z,476nm,0.7s						
ARCO	CERRO ARCO	3.03	137	eP	Pn	12 03 30.9	+2.9
ARCO				IAML		12 04 17.9	
	comp=Z,455nm,0.3s						
MT15	Las Vizcachas	3.03	166	IAML		12 04 19.4	
	comp=N,2μm,0.2s						
MT09	Talagante	3.13	174	↑eP	Pn	12 03 29.0	-0.3
MT12	Pirque	3.15	167	↓eP	Pn	12 03 29.5	0.0
MT01	Popeta	3.20	178	eP	Pn	12 03 29.3	-0.8
LMEL	Las Melosas	3.34	163	eP	Pn	12 03 33.4	+1.2
VCA	Vinchina	3.38	56	↓eP	Pn	12 03 36.4	+3.7
AC06	Mina Casimiro	3.42	16		Pn	12 03 34.5	+1.3
BO01	Tunca	3.73	176		Pn	12 03 37.1	-0.3
BO01	Tunca	3.73	176	eP	Pn	12 03 37.3	-0.1
BO01				IAML		12 04 42.5	
	comp=Z,192nm,0.5s						
AC02	Maricunga	4.30	28		Pn	12 03 47.6	+1.9
GO05	Hualane	4.36	186	↑eP	Pn	12 03 44.0	-2.1
AC01	Pan de Azucar	4.55	9	eP	Pn	12 03 48.0	-0.8
AC01				IAML		12 05 05.4	
	comp=Z,184nm,0.4s						
TCA	Tanti	5.88	98	eP	Pn	12 04 06.5	-0.6
H03N1	Juan Fernandez	6.95	245	T	T	12 11 10.4	
	baz=73,slow=72,SNR=1950						
H03N3	Juan Fernandez	6.97	244	T	T	12 11 10.0	
	baz=73,slow=72,SNR=1489						
H03N2	Juan Fernandez	6.97	245	T	T	12 11 17.6	
	baz=73,slow=72,SNR=1523						
PLCA	Paso Flores	10.07	176	P	Pn	12 05 06.1	+1.6
	comp=Z,1.1nm,0.7s,baz=10,slow=11,SNR=3.4						
TRQA	Tornquist	10.72	136		Pn	12 05 12.1	-1.2
CPUP	Villa Florida	13.11	74	P	Pn	12 05 45.8	-0.1
	comp=Z,0.2nm,0.3s,baz=99,slow=10,SNR=4.7						
LPAZ	La Paz	14.62	13		Pn	12 06 08.6	+1.6
LPAZ	La Paz	14.62	13	P	Pn	12 06 08.4	+1.4
	comp=Z,2.2nm,0.7s,baz=170,slow=6.9,SNR=8.3						
SIV	San Ignacio	17.39	35	P	Pn	12 06 42.5	+0.5
	comp=Z,3.2nm,0.6s,baz=204,slow=7.6,SNR=18						
BDFB	Brasilia	26.11	60	P	P	12 08 11.2	-1.3
BDFB				IAmb	IAmb	12 08 11.8	
	comp=Z,5.8nm,0.6s						
BDFB	Brasilia	26.11	60	P	P	12 08 10.6	-1.9
	comp=Z,4.8nm,0.5s,baz=247,slow=7.3,SNR=8.1						
	comp=Z,4.8nm,0.5s						
RUSC	La Rusia	36.38	357	P	P	12 09 44.2	+1.0
RUSC				IAmb	IAmb	12 09 45.2	
	comp=Z,4.9nm,0.7s						
BAUV	El Baul	39.51	5	P	P	12 10 08.6	-0.4
BAUV				IAmb	IAmb	12 10 19.4	
	comp=Z,16nm,1.4s						
SNAA	Sanae	54.48	159	P	P	12 12 04.1	-1.2
SNAA	Sanae	54.48	159	P	P	12 12 03.7	-1.6
	comp=Z,1.3nm,0.6s,baz=269,slow=10.0,SNR=16						
	comp=Z,1.3nm,0.6s						
QSPA	South Pole Qui	59.57	180	P	P	12 12 43.1	+1.7
QSPA				IAmb	IAmb	12 13 06.1	
	comp=Z,6.9nm,1.5s						
QSPA	South Pole Qui	59.57	180	P	P	12 12 42.5	+1.1
	comp=Z,1.3nm,0.8s,baz=83,slow=0.6,SNR=8.5						
	comp=Z,1.3nm,0.8s						
SAND	Sanderson	67.00	331	P	P	12 13 31.6	+0.8
TXAR	Lajitas Array	67.11	330	P	P	12 13 32.4	+0.8
TXAR	Lajitas Array	67.11	330	P	P	12 13 32.1	+0.5
	comp=Z,0.4nm,0.6s,baz=154,slow=8.6,SNR=4.8						
	comp=Z,0.4nm,0.6s						
DBIC	Dimbokro	73.61	72	P	P	12 14 10.7	-0.9
	comp=Z,4.1nm,0.5s,baz=249,slow=5.3,SNR=9.0						
	comp=Z,4.1nm,0.5s						
MAW	Mawson	76.22	164	P	P	12 14 24.6	-1.2
	comp=Z,1.9nm,0.6s,baz=220,slow=8.4,SNR=8.7						
	comp=Z,1.9nm,0.6s						
TORD	Torodi Ar. Bea	82.57	70	P	P	12 14 58.8	-2.4
	comp=Z,3.9nm,0.4s,baz=258,slow=5.7,SNR=9.0						
	comp=Z,3.9nm,0.4s						
WRA	Warramunga Arr	123.93	210	PKP	PKPdf	12 21 33.9	-2.6
	comp=Z,0.3nm,0.8s,baz=165,slow=1.6,SNR=4.8						
H11S2	WAKE ISLAND Hyl	26.30	271	T	T	14 40 25.3	
	baz=115,slow=75,SNR=56						
H11S1	WAKE ISLAND Hyl	26.31	271	T	T	14 40 25.9	
	baz=115,slow=75,SNR=68						
H11S3	WAKE ISLAND Hyl	26.32	271	T	T	14 40 26.7	
	baz=115,slow=75,SNR=47						
KURBB	Kurchatov Arra	150.02	40	PKPbc	PKPdf	12 22 25.1	+2.3
	comp=Z,0.5nm,0.3s,baz=306,slow=3.2,SNR=1.9						
KURK	Kurchatov	150.02	39		PKPdf	12 22 25.1	+2.3
ZALV	Zalesovo Beam	151.09	30		PKPbc	12 22 28.9	-1.3
ZALV	Zalesovo Beam	151.09	30	PKPbc	PKPbc	12 22 29.1	-1.1
	comp=Z,4.3nm,0.5s,baz=305,slow=3.3,SNR=18						

*IDC **21** 12:06:30.2±0.9,27°.11N×55°.03E,h0km,mb4.0/19, mbtmp4.0/23,ML4.0/3,MS3.8/1,Error ellipse: s-maj=22.7km s-min=14.8km az=175.0*
*DSN **21** 12:06:31.6±1.0,27°.44N×55°.09E,h15km,ML3.9/10,Error ellipse: s-maj=15.3km s-min=4.9km az=32.0*
*TEH **21** 12:06:32.1,27°.08N×55°.00E,h19km±19km*
*NEIC **21** 12:06:32.9±1.5,27°.2N±0°.1×54°.94E±0°.09,h10km±1km, mb4.3/15,Error ellipse: s-maj=18.5km s-min=13.2km az=19.0*
*THR **21** 12:06:32.8±0.0,27°.26N×55°.16E,h8km±10km,ML4.0*
*OMAN **21** 12:06:33.6±0.5,27°.26N×55°.02E,h15km,mb4.4/7, ml4.0/20,Error ellipse: s-maj=5.7km s-min=2.9km az=23.0*

ISC 21 12:06:33.7±1.2,27°.25N±0°.04×55°.03E±0°.03,h17km±8km, n139,σ1$29/146,mb4.1/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.72	306	Pg	Pb	12 06 47.9	0.0
BNDS	Bandar-Abbas	1.03	81	Pg	Pg	12 06 52.6	-1.1
BNDS	Bandar-Abbas	1.03	81	IAML		12 07 12.2	
	comp=Z,3μm,1.0s						
GENO	Geno	1.03	81	Pg	Pg	12 06 52.7	-0.9
IBND	Bandar-abas	1.36	81	Pg	Pb	12 06 58.8	+0.1
SHME	Shamm	1.55	140	P	Pn	12 07 00.4	-0.1
SHME				S	Sn	12 07 21.6	+1.3
	SNR=6.5						
SHME	Shamm	1.55	140	eP	Pn	12 07 00.2	-0.3
	SNR=50						
SHME				S	Sb	12 07 22.1	+0.8
LMD1	Lamerd	1.66	274	Pg	Pn	12 07 03.2	+1.1
LMD1	Lamerd	1.66	274	ePn	Pg	12 07 04.6	-1.1
LMD1				eSg	Sg	12 07 30.0	+2.6
LMD1				IAML		12 07 33.7	
	comp=Z,4μm,1.0s						
BANOM	Banah	1.74	139	P	Pn	12 07 03.5	+0.3
BANOM				S	Sb	12 07 28.4	+1.6
BANOM	Banah	1.74	139	eP	Pn	12 07 03.1	-0.1
	SNR=49						
BANOM				S	Sb	12 07 27.6	+0.8
JHRM	Jahrom	1.80	315	Pn	Pg	12 07 07.5	-0.8
MASF	Masafi	2.12	151	P	Pn	12 07 09.5	+1.1
	SNR=11						
MASF				S	Sn	12 07 35.8	+1.3
MSFE	Esma-Masafi	2.13	151	eP	Pn	12 07 09.0	+0.4
	SNR=11						
MDH	Madha	2.25	149	P	Pn	12 07 10.7	+0.6
	SNR=17						
MDH	Madha	2.25	149	eP	Pn	12 07 10.1	-0.1
	SNR=18						
NAZ	Nazwa, Dubai	2.32	166	P	Pn	12 07 13.1	+2.0
KHNJ	Kahnooj	2.48	73	Pn	Pn	12 07 13.7	+0.4
UOSS	Minazif	2.52	155		Pn	12 07 14.4	+0.5
UOSS	Minazif	2.52	155	P	Pn	12 07 14.4	+0.5
UOSS	Minazif	2.52	155	Pn	Pn	12 07 13.8	-0.1
UOSS	Minazif	2.52	155	eP	Pn	12 07 14.4	+0.5
	SNR=12						
FAQ	Al Faqa, Dubai	2.54	168	P	Pn	12 07 15.7	+1.6
FAQ	Al Faqa, Dubai	2.54	168	eP	Pn	12 07 15.0	+0.8
	SNR=6.3						
HATD	Hatta, Dubai	2.60	157	P	Pn	12 07 16.3	+1.2
	SNR=24						
HATD				S	Sn	12 07 48.7	+2.3
HATD	Hatta, Dubai	2.60	157	eP	Pn	12 07 15.7	+0.7
	SNR=24						
ASUD	Al Ashush, Dub	2.62	174	P	Pn	12 07 17.2	+1.9
	SNR=5.3						
ASUD	Al Ashush, Dub	2.62	174	eP	Pn	12 07 17.1	+1.8
	SNR=14						
ASHO	Ashiyiah	2.71	160	P	Pn	12 07 17.5	+0.9
	SNR=30						
ASHO	Ashiyiah	2.71	160	eP	Pn	12 07 17.0	+0.5
	SNR=87						
NGRK	Negar Kerman	2.82	32	Pn	Pn	12 07 20.0	+1.6
ALNE	Al Ain	3.24	168	P	Pn	12 07 24.8	+1.0
	SNR=6.9						
ALNE	Al Ain	3.24	168	i P	Pn	12 07 24.6	+0.7
	SNR=6.9						
KHGB	Koh Gabri	3.37	22	Pn	Pn	12 07 28.3	+2.5
SOHO	SOHO	3.38	156	P	Pn	12 07 25.5	-0.2
SOHO				S	Sn	12 08 07.5	+2.0
CHMN	Cheshme madani	3.42	40	Pn	Pn	12 07 29.0	+2.4
DSBU	Dashti - Bushe	3.52	289	Pn	Pn	12 07 28.8	+1.1
KBAM	BAM	3.56	57	Pn	Pn	12 07 30.5	+2.2
MZWR	Madinat Zayed	3.62	197	P	Pn	12 07 30.4	+1.4
KRM1	Kerman Provinc	3.79	31	Pn	Pn	12 07 33.3	+1.7
GHWR	Ruwais	3.80	211	P	Pn	12 07 32.1	+0.6
SHMA	Al-Shehemyia	3.90	250	P	Pn	12 07 34.2	+1.4
	SNR=51						
ZRDN	Zarand Kerman	3.94	19	Pn	Pn	12 07 35.7	+2.2
ARQ	Araqi	4.12	161	P	Pn	12 07 36.2	+0.3
	SNR=20						
ARQ				S	Sn	12 08 25.9	+2.2
IMEH	Mehriz	4.15	355	Pn	Pn	12 07 39.0	+2.5
HOQ	Hoqain	4.19	150	P	Pn	12 07 37.7	+0.8
HOQ	Hoqain	4.19	150	Pn	Pn	12 07 35.2	-1.7
SAKB	Bahrain	4.22	254	P	Pn	12 07 37.4	+0.2
SAKB				S	Sn	12 08 27.6	+1.5
TRNA	Turayna	4.25	235	P	Pn	12 07 38.7	+1.1
	SNR=13						
TRNA				S	Sn	12 08 28.4	+1.6
IBAF	Bafgh	4.36	6	Pn	Pn	12 07 41.1	+1.8
MZR	Muzera	4.45	199	P	Pn	12 07 40.5	+0.1
	SNR=8.4						
MZR				S	Sn	12 08 33.9	+2.0
UMZA	Um Al Zommool	4.51	178	P	Pn	12 07 41.6	+0.3
UMZA				S	Sn	12 08 34.8	+1.4
SMRA	Abu-Samra	4.53	238	P	Pn	12 07 43.0	+1.4
	SNR=13						
SMRA				S	Sn	12 08 35.1	+1.3
BIDO	Bidbid	4.65	142	P	Pn	12 07 43.5	+0.3
KLNJ	Kolanjah	4.81	322	Pn	Pn	12 07 47.6	+1.9
KLNJ	Kolanjah	4.81	322	ePn	Pn	12 07 48.1	+2.4
KLNJ				IAML		12 08 48.4	
	comp=Z,120nm,1.0s						
SMDO	Samad	4.99	146	P	Pn	12 07 49.0	+1.1
	SNR=12						
ICHK	Chekchek	5.01	354	Pn	Pn	12 07 50.5	+2.1
IRAM	Ramesheh	5.10	334	Pn	Pn	12 07 51.9	+2.3
YZKH	Yazd	5.14	356	ePn	Pn	12 07 52.1	+2.1
YZKH				IAML		12 07 53.5	
	comp=Z,74nm,1.0s						
WSAR	Wadi Sarin	5.15	140	P	Pn	12 07 50.3	+0.2
	SNR=16						
CHBR	Chabahar	5.16	107	Pn	Pn	12 07 50.2	0.0
CHBR	Chabahar	5.16	107	ePn	Pn	12 07 50.7	+0.6
CHBR				IAML		12 08 04.1	
	comp=Z,82nm,1.0s						
ZHSF	Zahedan	5.58	64	Pn	Pn	12 07 57.8	+1.7
IBRJ	Brojen	5.69	326	Pn	Pn	12 07 59.7	+2.0
IGAR	Gharneh	5.76	334	Pn	Pn	12 08 00.6	+1.9
NGCH	Negor - Chabah	5.79	108	P	Pn	12 07 59.6	+0.7
NGCH	Negor - Chabah	5.79	108	Pn	Pn	12 07 58.9	+0.1
NASN	Na'in	5.86	341	ePn	Pn	12 08 01.8	+1.7
NASN				IAML		12 08 03.8	
	comp=Z,46nm,1.0s						
BSRN	Basiran	5.90	36	ePn	Pn	12 08 01.5	+1.0
BSRN				IAML		12 10 01.1	
	comp=Z,35nm,1.0s						
TPRV	Parvadeh(Tabas	5.94	14	Pn	Pn	12 08 03.1	+2.1
ANAR	Anarak	6.03	350	Pn	Pn	12 08 03.9	+1.6
JLN	Jalan Bani Buh	6.45	141	P	Pn	12 08 07.9	0.0
IPIR	Pirpir	6.50	327	Pn	Pn	12 08 10.6	+1.7
SRVN	Saravan	6.55	87	Pn	Pn	12 08 10.7	+1.2
SRVN	Saravan	6.55	87	ePn	Pn	12 08 10.7	+1.2
SRVN				IAML		12 08 12.5	
	comp=Z,75nm,1.0s						
TKDS	Koohdasht(Taba	6.60	15	Pn	Pn	12 08 12.1	+2.0
TABS	Tabas	6.63	15	ePn	Pn	12 08 12.3	+1.8
TABS				IAML		12 10 27.2	
	comp=Z,48nm,1.0s						
IKLH	Kolahrood	6.75	335	Pn	Pn	12 08 13.4	+1.1
KBD	Kabd	6.75	288	P	Pn	12 08 12.9	+0.9
KBD				S	Sn	12 09 28.7	+0.1
MHTO	MHTO	6.78	156	P	Pn	12 08 12.4	-0.1
	SNR=13						
ISFB	Sefidab	7.48	342	Pn	Pn	12 08 23.7	+1.6
DQM	DQM	7.64	162	P	Pn	12 08 23.3	-1.0
KHMZ	Khomeyn	7.81	327	ePn	Pn	12 08 28.3	+1.5
KHMZ				IAML		12 10 00.7	
	comp=Z,51nm,1.0s						
SHRT	Shahrakht	7.83	34	ePn	Pn	12 08 29.1	+2.2
SHRT				IAML		12 08 30.3	
	comp=Z,15nm,1.0s						
ASAO	Ashtian	8.45	331	ePn	Pn	12 08 37.3	+1.7
DOK	Doka	8.63	186	P	Pn	12 08 37.2	-0.6
	SNR=9.4						
IDMV	Damavand	8.69	344	Pn	Pn	12 08 40.8	+1.8
DAMV	Damavand	8.76	343	ePn	Pn	12 08 41.8	+2.0
SHAO	Shalim	9.20	176	P	Pn	12 08 44.0	-1.6
	SNR=16						
WHFO	Wadi Hawf	9.36	187	P	Pn	12 08 47.1	-0.8
	SNR=13						
RAYN	Ar Rayn	9.38	249		Pn	12 08 46.4	-1.8
RAYN	Ar Rayn	9.38	249	Pn	Pn	12 08 46.6	-1.6
DMTO	DMTO	9.48	180	P	Pn	12 08 47.9	-1.7
RBK	Rabkut	9.73	185	P	Pn	12 08 51.9	-1.0
ABTO	Aybut	9.

ZAA0	**Zalesovo Array**	**34.51**	**31**	P	**P**	**12 13 20.5**	**-0.3**
ZAA0				IAmb	IAmb	12 13 21.0	
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**34.51**	**31**	P	**P**	**12 13 20.3**	**-0.5**
ZALV	**Zalesovo Beam**	**34.51**	**31**	P	**P**	**12 13 20.5**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=241,slow=8.8,SNR=15						
	comp=Z,2.7nm,0.5s						
CUC	**Castrocucco**	**34.77**	**302**	P	**P**	**12 13 22.8**	**-0.6**
CUC				IAmb	IAmb	12 13 25.7	
	comp=Z,6.5nm,0.6s						
VRAC	**Vranov**	**36.80**	**317**	LR	LR	12 32 05.1	
	comp=Z,123nm,18.1s,baz=58,slow=42						
FINES	**FINESS Array B**	**39.31**	**338**	P	**P**	**12 14 01.5**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=151,slow=8.7,SNR=5.9						
	comp=Z,2.3nm,0.9s						
HFS	**Hagfors**	**43.21**	**331**	P	**P**	**12 14 32.5**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=109,slow=8.0,SNR=5.2						
	comp=Z,0.7nm,0.4s						
NB2	**NORSAR Subarra**	**44.73**	**331**	P	**P**	**12 14 44.6**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=118,slow=8.6						
NOA	**NORSAR Array B**	**44.73**	**331**	P	**P**	**12 14 44.7**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=119,slow=8.0,SNR=4.2						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**45.67**	**346**	P	**P**	**12 14 53.7**	**+0.5**
	comp=Z,7.0nm,1.1s,baz=138,slow=7.7,SNR=1.9						
	comp=Z,7.0nm,1.1s						
ESDC	**Sonseca Array**	**49.95**	**300**	IAmb	IAmb	12 15 29.9	
	comp=Z,1.9nm,1.4s						
ESDC	**Sonseca Array**	**49.95**	**300**	P	**P**	**12 15 25.9**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=48,slow=7.5,SNR=5.6						
	comp=Z,0.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**50.07**	**321**	P	**P**	**12 15 27.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=105,slow=8.3,SNR=2.9						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.63**	**265**	IAmb	IAmb	12 16 17.4	
	comp=Z,5.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**51.63**	**265**	P	**P**	**12 15 38.9**	**-0.9**
	comp=Z,5.4nm,0.3s,baz=70,slow=7.4,SNR=14						
	comp=Z,5.4nm,0.3s						
DBIC	**Dimbokro**	**60.25**	**262**	IAmb	IAmb	12 16 42.1	
	comp=Z,32nm,1.5s						
DBIC	**Dimbokro**	**60.25**	**262**	P	**P**	**12 16 40.6**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=60,slow=6.8,SNR=1.9						
	comp=Z,3.2nm,0.9s						
KSRS	**Korea Array**	**61.04**	**60**	P	**P**	**12 16 46.5**	**0.0**
	comp=Z,0.4nm,0.4s,baz=266,slow=7.2,SNR=2.3						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**89.94**	**112**	P	**P**	**12 19 31.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=302,slow=4.6,SNR=7.1						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**91.39**	**116**	P	**P**	**12 19 37.9**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=301,slow=5.8,SNR=6.7						
	comp=Z,0.9nm,0.9s						

*IDC **21** 12:10:59.0±2.2, 6°.69N×60°.57E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=61.1km s-min=27.9km az=65.0*
*NEIC **21** 12:10:59.1±1.7, 6°.6N±0°.1×60°.16E±0°.09, h10km±1km, mb4.2/11, Error ellipse: s-maj=20.1km s-min=15.7km az=184.0*

ISC 21 12:10:60.0±0.7, **6°.57N**±0°.09×**60°.09E**±0°.08, **h23**km, **n34**, σ1.9**15**/32, **mb4.0**/14, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.08**	**202**	Pn	**Pn**	**12 13 49.8**	**-1.0**
MNGI	**Mangalore**	**15.84**	**65**	*e*P	**Pn**	**12 14 40.5**	**-1.2**
MNGI				IAmb	IAmb	12 16 36.5	
	comp=Z,122nm,0.1s						
MNGI				*e*S	**Sn**	**12 17 37.3**	**+0.6**
UOSS	**Minazif**	**18.65**	**349**	P	**P**	**12 15 13.5**	**-2.8**
UOSS				IAmb	IAmb	12 15 42.8	
	comp=Z,5.9nm,0.7s						
AKL	**Akola**	**21.60**	**48**	*e*P	**P**	**12 15 50.4**	**+1.9**
AKL				IAmb	IAmb	12 18 19.4	
	comp=Z,17nm,1.8s						
AKL				*e*S	**S**	**12 19 47.5**	**+0.5**
RAYN	**Ar Rayn**	**21.93**	**322**	P	**P**	**12 15 52.7**	**+0.7**
KIBK	**Kibwezi**	**23.71**	**249**	P	**P**	**12 16 11.7**	**+1.1**
KIBK				IAmb	IAmb	12 16 32.3	
	comp=Z,10nm,1.3s						
LODK	**Lodwar**	**24.82**	**264**	P	**P**	**12 16 21.3**	**+0.4**
LODK				IAmb	IAmb	12 16 36.0	
	comp=Z,5.0nm,1.2s						
PBA	**Port Blair**	**32.62**	**79**	IAmb	IAmb	12 17 30.1	
	comp=Z,3.2nm,1.0s						
PBA				*e*P	**P**	**12 17 30.8**	**+0.4**
PBA				*e*S	**S**	**12 22 43.8**	**-1.4**
CMBY	**CAMPBELL BAY**	**33.60**	**87**	*e*P	**P**	**12 17 40.0**	**+1.0**
CMBY				*e*S	**S**	**12 23 00.1**	**-0.4**
KKAR	**Karatay Array**	**37.53**	**13**	P	**P**	**12 18 12.2**	**-0.1**
ARPR	**Arapgir-MALATY**	**37.86**	**332**	P	**P**	**12 18 16.3**	**+0.9**
ARPR				IAmb	IAmb	12 18 24.5	
	comp=Z,4.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.64**	**69**	P	**P**	**12 18 28.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=260,slow=6.8,SNR=4.9						
	comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	**39.97**	**341**	P	**P**	**12 18 35.6**	**+2.8**
	comp=Z,0.7nm,0.5s,baz=196,slow=7.4,SNR=1.8						
	comp=Z,0.7nm,0.5s						
BR131	**Keskin Array S**	**40.68**	**328**	P	**P**	**12 18 37.7**	**-1.2**
BRTR	**Keskin Array B**	**40.68**	**328**	P	**P**	**12 18 39.4**	**+0.5**
AB31	**Abkulak array**	**42.54**	**360**	P	**P**	**12 18 53.9**	**+0.2**
ABKAR	**Abkulak array**	**42.54**	**360**	P	**P**	**12 18 53.8**	**0.0**
MKAR	**Makanchi Array**	**44.39**	**22**	P	**P**	**12 19 08.8**	**-0.1**
MKAR	**Makanchi Array**	**44.39**	**22**	P	**P**	**12 19 09.3**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=211,slow=7.1,SNR=2.5						
	comp=Z,0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**46.53**	**16**	P	**P**	**12 19 26.4**	**+0.7**
	comp=Z,1.9nm,0.2s,baz=213,slow=8.0,SNR=1.8						
	comp=Z,1.9nm,0.2s						
KURK	**Kurchatov**	**46.64**	**16**	P	**P**	**12 19 26.4**	**-0.1**
KURK	**Kurchatov**	**46.64**	**16**	IAmb	IAmb	12 19 51.3	
	comp=Z,1.9nm,1.0s						
ZALV	**Zalesovo Beam**	**51.31**	**18**	P	**P**	**12 20 02.0**	**-0.3**
ZALV	**Zalesovo Beam**	**51.31**	**18**	P	**P**	**12 20 03.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=227,slow=5.9,SNR=5.5						
	comp=Z,0.3nm,0.3s						
H04N1	**CROZET ISLANDS**	**53.02**	**187**	T	T	13 17 27.8	
	baz=11,slow=75,SNR=540						
H04N2	**CROZET ISLANDS**	**53.02**	**187**	T	T	13 17 26.4	
	baz=11,slow=75,SNR=554						
H04N3	**CROZET ISLANDS**	**53.03**	**187**	T	T	13 17 26.8	
	baz=11,slow=75,SNR=527						
SONM	**Songino Array**	**56.88**	**36**	IAmb	IAmb	12 20 58.8	
	comp=Z,2.5nm,1.5s						
SONM	**Songino Array**	**56.88**	**36**	P	**P**	**12 20 42.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=232,slow=6.4,SNR=1.2						
	comp=Z,0.4nm,0.6s						
FIA1	**FINESS Array S**	**60.30**	**342**	P	**P**	**12 21 05.9**	**-0.7**
FINES	**FINESS Array B**	**60.30**	**342**	P	**P**	**12 21 05.8**	**-0.8**
ASAR	**Alice Springs**	**77.97**	**116**	P	**P**	**12 22 58.0**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=303,slow=6.1,SNR=6.7						
	comp=Z,1.0nm,1.0s						
STKA	**Stephens Creek**	**86.27**	**123**	IAmb	IAmb	12 24 01.2	
	comp=Z,36nm,1.5s						
STKA	**Stephens Creek**	**86.27**	**123**	P	**P**	**12 23 41.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=330,slow=8.1,SNR=3.4						
	comp=Z,0.6nm,0.3s						

*IDC **21** 12:14:40.4±1.7, 6°.58N×60°.02E, h0km, mb3.8/10, mbtmp3.8/10, MS3.4/5, Error ellipse: s-maj=43.5km s-min=24.1km az=25.0*
*NEIC **21** 12:14:43.6±0.9, 6°.75N±0°.05×60°.1E±0°.1, h10km±1km, mb4.2/12, Error ellipse: s-maj=22.9km s-min=9.2km az=274.0*

ISC 21 12:14:44.7±1.1, **6°.7N**±0°.2×**60°.1E**±0°.1, **h23**km, **n33**, σ0.8**71**/23, **mb3.9**/12, **MS3.5**/5, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UOSS	**Minazif**	**18.49**	**349**	P	**P**	**12 18 59.0**	**-0.3**
UOSS				IAmb	IAmb	12 19 01.1	
	comp=Z,32nm,1.5s						
RAYN	**Ar Rayn**	**21.80**	**322**	P	**P**	**12 19 35.4**	**0.0**
KIBK	**Kibwezi**	**23.77**	**248**	P	**P**	**12 19 56.9**	**+1.0**
KIBK				IAmb	IAmb	12 20 16.3	
	comp=Z,7.7nm,1.1s						
EVN	**Everest**	**32.97**	**47**	P	**P**	**12 21 18.6**	**-0.1**
MMAI	**Mount Meron Ar**	**34.77**	**322**	P	**P**	**12 21 32.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=115,slow=10,SNR=1.8						
	comp=Z,0.4nm,0.3s						
KKAR	**Karatay Array**	**37.37**	**13**	P	**P**	**12 21 55.5**	**-0.2**
CM31	**Chiang Mai Arr**	**39.58**	**69**	P	**P**	**12 22 15.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**39.58**	**69**	P	**P**	**12 22 14.7**	**0.0**
CMAR	**Chiang Mai Arr**	**39.58**	**69**	P	**P**	**12 22 15.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=259,slow=9.1,SNR=7.3						
CMAR				LR	LR	12 38 14.3	
	comp=Z,17nm,18.2s,baz=245,slow=36						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**40.54**	**328**	P	**P**	**12 22 21.6**	**-0.9**
BRTR	**Keskin Array B**	**40.54**	**328**	P	**P**	**12 22 23.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=140,slow=9.7,SNR=4.3						
	comp=Z,0.7nm,0.7s						
AB31	**Abkulak array**	**42.38**	**360**	P	**P**	**12 22 37.9**	**+0.6**
ABKAR	**Abkulak array**	**42.38**	**360**	P	**P**	**12 22 37.4**	**+0.2**
MKAR	**Makanchi Array**	**44.24**	**22**	P	**P**	**12 22 52.5**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=211,slow=9.2,SNR=3.1						
MKAR				LR	LR	12 42 33.0	
	comp=Z,66nm,20.2s,baz=208,slow=38						
	comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**46.38**	**16**	P	**P**	**12 23 08.7**	**-0.4**
	comp=Z,2.3nm,0.2s,baz=215,slow=8.6,SNR=5.9						
	comp=Z,2.3nm,0.2s						
KURK	**Kurchatov**	**46.49**	**16**	P	**P**	**12 23 08.7**	**-1.3**
KURK	**Kurchatov**	**46.49**	**16**	IAmb	IAmb	12 23 11.0	
	comp=Z,2.3nm,0.9s						
BOSA	**Boshof**	**48.60**	**222**	LR	LR	12 40 55.9	
	comp=Z,41nm,20.7s,baz=26,slow=32						
AKASG	**Malin Array Be**	**50.80**	**335**	IAmb	IAmb	12 24 17.4	
	comp=Z,2.8nm,1.1s						
AKASG	**Malin Array Be**	**50.80**	**335**	P	**P**	**12 23 43.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=129,slow=6.4,SNR=4.8						
	comp=Z,0.2nm,0.3s						
ZAA0	**Zalesovo Array**	**51.16**	**19**	P	**P**	**12 23 46.2**	**+0.4**
ZALV	**Zalesovo Beam**	**51.16**	**19**	P	**P**	**12 23 45.9**	**+0.1**
ZALV	**Zalesovo Beam**	**51.16**	**19**	P	**P**	**12 23 45.6**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=236,slow=6.9,SNR=5.9						
	comp=Z,2.0nm,0.8s						
KIRV	**Kirov**	**52.38**	**353**	LR	LR	12 47 45.1	
	comp=Z,50nm,19.4s,baz=77,slow=38						
H04N1	**CROZET ISLANDS**	**53.18**	**187**	T	T	13 21 10.6	
	baz=11,slow=75,SNR=410						
H04N2	**CROZET ISLANDS**	**53.18**	**187**	T	T	13 21 10.9	
	baz=11,slow=75,SNR=469						
H04N3	**CROZET ISLANDS**	**53.19**	**187**	T	T	13 21 09.0	
	baz=11,slow=75,SNR=413						
SONM	**Songino Array**	**56.75**	**36**	IAmb	IAmb	12 24 58.8	
	comp=Z,2.9nm,1.4s						
SONM	**Songino Array**	**56.75**	**36**	P	**P**	**12 24 27.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=224,slow=8.2,SNR=4.3						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**63.66**	**336**	LR	LR	12 57 24.7	
	comp=Z,27nm,18.8s,baz=16,slow=40						
ESDC	**Sonseca Array**	**65.83**	**310**	IAmb	IAmb	12 25 38.4	
	comp=Z,2.2nm,1.3s						
ESDC	**Sonseca Array**	**65.83**	**310**	P	**P**	**12 25 28.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=96,slow=6.4,SNR=3.3						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**78.04**	**116**	P	**P**	**12 26 41.0**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=276,slow=4.9,SNR=4.4						
	comp=Z,0.8nm,1.0s						

*KOLA **21** 12:17:05.2, 67°.66N×33°.82E, h0km, ML1.3, Error ellipse: s-maj=2.8km s-min=1.7km az=150.0, Khibiny, mines Kirovsk, Yukspor*

HEL 21 12:17:05.4±0.3, **67°.71N**×**33°.77E**, **h0**km, **ML1.2**, **Suspected explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.20**	**224**	P	Pg	12 17 08.2	-1.0
APA0	**Apatity Array**	**0.32**	**250**	P	Pg	12 17 10.8	-0.7
APA0				S	Sg	12 17 15.4	-0.1
LVZ	**Lovozero**	**0.38**	**61**	S	Sg	12 17 18.0	+0.3
LVZ	**Lovozero**	**0.38**	**61**	PG	Pg	12 17 12.2	-0.5
LVZ				SG	Sg	12 17 17.7	0.0
KVDA	**Kovda**	**1.08**	**199**	P	Pg	12 17 23.3	-2.8
KVDA				S	Sg	12 17 37.9	-2.3
VRF	**Varrio**	**1.58**	**273**	PG	Pn	12 17 34.4	-0.3
VRF				MSG		12 17 52.8	
	comp=Z,1.9nm,0.2s						
VRF				SG	Sn	12 17 55.7	-0.1
RAJF	**Raja-Jooseppi**	**2.19**	**293**	PG	Pn	12 17 44.0	+1.0
RAJF				SG	Sb	12 18 12.7	-0.6
OLKF	**Oulanka, Finla**	**2.21**	**233**	PG	Pb	12 17 45.0	-1.3
OLKF				MSG		12 18 11.0	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sb	12 18 13.1	-1.0
KU6	**Riekki**	**2.29**	**224**	PG	Pn	12 17 45.0	+0.7
	baz=44						
KU6				MSG		12 18 13.0	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sn	12 18 14.1	+1.0
MSF	**Maaselka**	**2.60**	**228**	SN	Sn	12 18 17.8	-3.2
KEV	**Kevo**	**3.21**	**313**	PN	Pn	12 17 57.8	+0.9
KEV				SN	Sn	12 18 37.5	+1.8
RANF	**Ranua**	**3.24**	**241**	SG	Sb	12 18 44.1	+0.5
ARA0	**ARCESS Array S**	**3.53**	**305**	PN	Pn	12 18 01.7	+0.3
ARCES	**ARCESS Array B**	**3.53**	**305**	P	Pn	12 18 01.6	+0.1
ARCES				S	Sn	12 18 43.5	-0.4
PAJU	**Pajala**	**4.18**	**265**	SG	Sb	12 19 12.5	+2.0
LANU	**Lannavaara**	**4.46**	**280**	SG	Sg	12 19 24.5	-4.1

*THE **21** 12:21:39.6, 42°.N±1°.×24°.2E±1°.0, h3km±3km, M2.2/7, MLh2.2/7*
*SOF **21** 12:21:39.3, 41°.70N±0°.01×24°.21E, h13km±1km, MD2.6/9*
*ATH **21** 12:21:39.0, 41°.71N×24°.22E, h3km±1km, ML2.5/7, Manual Solution by S.Koutrakis First location: 2019/10/21 12:25:17, This location: 2019/10/21 12:56:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*BEO **21** 12:21:40.5±0.4, 41°.69N×24°.21E, h3km±2km, ML2.5/4*

ISC 21 12:21:39.6±1.1, **41°.70N**±0°.02×**24°.22E**±0°.02, **h3**km±9km, **n40**, σ0.9**53**/76, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomishta**	**0.39**	**247**	*i* Pg	**Pg**	**12 21 47.1**	**+0.1**
MMB				Sg	**Sg**	**12 21 52.7**	**+0.7**
MMB	**Musomishta**	**0.39**	**247**	P	**Pg**	**12 21 47.1**	**+0.1**
MMB				S	**Sg**	**12 21 52.7**	**+0.7**
RZN	**Rozhen**	**0.39**	**90**	*i* Pg	**Pg**	**12 21 47.4**	**+0.3**
RZN				Sg	**Sg**	**12 21 52.6**	**+0.4**
RZN	**Rozhen**	**0.39**	**90**	P	**Pg**	**12 21 47.3**	**+0.3**
RZN				S	**Sg**	**12 21 52.6**	**+0.4**
PLD	**Plovdiv**	**0.59**	**41**	Pg	**Pg**	**12 21 51.0**	**0.0**
PLD				Sg	**Sg**	**12 21 58.9**	**+0.1**
PLD	**Plovdiv**	**0.59**	**41**	P	**Pg**	**12 21 51.0**	**0.0**
PLD				S	**Sg**	**12 21 58.9**	**+0.1**
PLD	**Plovdiv**	**0.59**	**41**	*e*Pg	**Pg**	**12 21 50.9**	**0.0**
PLD				*e*Sg	**Sg**	**12 21 58.9**	**+0.1**
KAVA	**Kavala**	**0.73**	**163**	P	**Pg**	**12 21 53.4**	**-0.3**
KAVA				S	**Sg**	**12 22 03.6**	**+0.4**
KAVA	**Kavala**	**0.73**	**163**	P	**Pg**	**12 21 53.3**	**-0.3**
KAVA				S	**Sg**	**12 22 03.2**	**0.0**
SRS	**Serrai**	**0.75**	**219**	P	**Pg**	**12 21 54.0**	**+0.1**
SRS				S	**Sb**	**12 22 05.1**	**-0.8**
SRS	**Serrai**	**0.75**	**219**	*e*Pg	**Pg**	**12 21 54.0**	**+0.1**
SRS				*e*Sg	**Sg**	**12 22 04.5**	**+0.8**
SRS	**Serrai**	**0.75**	**219**	P	**Pg**	**12 21 53.8**	**-0.1**
SRS				S	**Sg**	**12 22 04.5**	**+0.8**
KKB	**Krupnik**	**0.83**	**280**	*i* Pg	**Pg**	**12 21 55.4**	**-0.1**
KKB				Sg	**Sg**	**12 22 06.1**	**-0.2**
KKB	**Krupnik**	**0.83**	**280**	P	**Pg**	**12 21 55.4**	**-0.1**
KDZ	**Kurdzhali**	**0.84**	**94**	Pg	**Pg**	**12 21 55.9**	**+0.2**
KDZ				Sg	**Sg**	**12 22 06.8**	**+0.2**
KDZ	**Kurdzhali**	**0.84**	**94**	S	**Sg**	**12 22 06.5**	**-0.1**
PLNA	**Plana**	**0.98**	**323**	P	**Pg**	**12 21 58.3**	**0.0**
PLNA				Sg	**Sg**	**12 22 11.6**	**+0.6**
DIM	**Dimitrovgrad**	**1.07**	**71**	*e*P	**Pg**	**12 21 59.9**	**-0.2**
DIM				*e*S	**Sb**	**12 22 14.7**	**-0.4**
SOH	**Sokhos**	**1.09**	**217**	P	**Pg**	**12 22 00.3**	**-0.2**
SOH				S	**Sb**	**12 22 16.2**	**+0.4**
SOH	**Sokhos**	**1.09**	**217**	P	**Pg**	**12 22 00.0**	**-0.5**
KNT	**Kendrikon**	**1.13**	**242**	P	**Pg**	**12 22 01.0**	**-0.3**
KNT				S	**Sg**	**12 22 15.9**	**0.0**
RDO	**Rodhopi**	**1.13**	**119**	P	**Pg**	**12 22 01.0**	**-0.2**
RDO				S	**Sg**	**12 22 15.7**	**-0.3**
VTS	**Vitosha**	**1.18**	**322**	*i* P	**Pg**	**12 22 01.4**	**-0.7**
VTS				Sg	**Sg**	**12 22 16.8**	**-0.6**
VTS	**Vitosha**	**1.18**	**322**	*e*Pg	**Pg**	**12 22 01.4**	**-0.7**
VTS				*e*Sg	**Sg**	**12 22 17.0**	**-0.4**
VAY	**Valandovo**	**1.30**	**254**	*i* Pn	**Pb**	**12 22 05.0**	**+0.4**
VAY				*i* Sn	**Sn**	**12 22 23.5**	**+1.1**
BLSH	**Balsha**	**1.35**	**329**	P	**Pb**	**12 22 05.8**	**+0.2**
BLSH				S	**Sg**	**12 22 22.3**	**-0.8**
OUR	**Ouranopolis**	**1.38**	**188**	P	**Pn**	**12 22 04.8**	**-0.8**
OUR				S	**Sg**	**12 22 23.3**	**-0.4**
HORT	**Hortiatis**	**1.39**	**218**	P	**Pn**	**12 22 05.4**	**-0.5**
HORT				S	**Sn**	**12 22 24.7**	**0.0**
THE	**Thessaloniki**	**1.43**	**222**	P	**Pn**	**12 22 05.9**	**-0.4**
THE				S	**Sn**	**12 22 25.6**	**+0.1**
PLG	**Polygyros**	**1.45**	**204**	P	**Pn**	**12 22 06.2**	**-0.5**
PLG				S	**Sn**	**12 22 26.4**	**+0.2**
BOSS	**Bosilegrad**	**1.52**	**302**	*e*Pg	**Pb**	**12 22 08.3**	**-0.1**
BOSS				*e*Sg	**Sg**	**12 22 29.3**	**+0.8**
SMTH	**Samothraki Isl**	**1.57**	**141**	P	**Pn**	**12 22 08.8**	**+0.4**
SMTH				S	**Sn**	**12 22 29.4**	**+0.2**
ALN	**Alexandroupoli**	**1.59**	**120**	P	**Pn**	**12 22 09.1**	**+0.5**
ALN				S	**Sb**	**12 22 30.1**	**0.0**
MPEP	**Malo Peshtene**	**1.69**	**348**	P	**Pg**	**12 22 12.1**	**0.0**
MPEP				S	**Sg**	**12 22 34.9**	**+0.9**
ZAPS	**Zavoj**	**1.96**	**324**	*e*Pn	**Pn**	**12 22 14.6**	**+0.8**
ZAPS				*e*Sn	**Sb**	**12 22 41.1**	**+0.2**
BARS	**Barje**	**2.11**	**303**	*e*Pn	**Pn**	**12 22 16.0**	**+0.3**
BARS				*e*Sn	**Sn**	**12 22 43.1**	**+0.7**
ZAGS	**Zajecar**	**2.57**	**326**	*e*Pn	**Pb**	**12 22 24.5**	**-1.8**
ZAGS				*e*Sg	**Sg**	**12 23 02.3**	**+0.1**
SELS	**Selova**	**2.75**	**305**	*e*Pn	**Pn**	**12 22 24.7**	**+0.1**
SELS				*e*Sn	**Sn**	**12 23 00.2**	**+1.8**
MDVR	**Moldovita**	**3.59**	**330**	*e*Pn	**Pn**	**12 22 35.6**	**-0.5**
GZR	**Gura Zlata**	**3.84**	**345**	*e*Pn	**Pn**	**12 22 39.3**	**-0.3**
GZR				*e*Sn	**Sn**	**12 23 25.1**	**-0.1**

*AEIC **21** 12:24:21.6±0.3, 53°.9N±0°.1×165°.5W±0°.1, h59km±9km, Error ellipse: s-maj=17.9km s-min=6.5km az=149.0*

NEIC 21 12:24:21.2±0.6, **53°.7N**±0°.3×**165°.4W**±0°.2, **h55**km±39km, **ML2.7**/8, **ML2.4**(AEIC), **Error ellipse: s-maj=44.7km s-min=6.0km az=152.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.44**	**340**		Pn	12 24 31.9	-0.3
AHB	**Akutan Harbor**	**0.46**	**331**		Pn	12 24 32.3	0.0
AHB					Sn	12 24 40.2	-0.1
AKUT	**Akutan**	**0.46**	**335**		Pn	12 24 32.3	0.0
AKUT				IAML		12 24 40.7	
	comp=E,390nm,0.5s						
AKUT				IAML		12 24 41.5	
	comp=N,480nm,0.3s						
AKUT	**Akutan**	**0.46**	**335**		Sn	12 24 40.5	+0.2
AKBBA	**Akutan Broad B**	**0.48**	**323**		Pn	12 24 32.5	-0.1
AKBBA					Sn	12 24 41.1	+0.3
ZRO	**Akutan Zero**	**0.49**	**320**		Pn	12 24 32.7	0.0
AKMO	**Akutan Morgan**	**0.50**	**318**		Pn	12 24 32.8	0.0
AKMO					Sn	12 24 41.7	+0.5
AKLV	**Akutan Long Va**	**0.54**	**326**		Pn	12 24 32.9	-0.4
AKLV					Sn	12 24 41.6	-0.4
AKRB	**Akutan Reef Bi**	**0.56**	**318**		Pn	12 24 33.3	-0.1
UNV	**Unalaska Valle**	**0.64**	**282**		Pn	12 24 34.9	+0.5
UNV	**Unalaska Valle**	**0.64**	**282**		Sn	12 24 45.0	+0.9
MNAT	**Makushin Natee**	**0.76**	**283**		Pn	12 24 36.3	+0.4
MREP	**Makushin Rep't**	**0.78**	**277**		Pn	12 24 36.9	+0.7
MSW	**Makushin Switc**	**0.82**	**284**		Pn	12 24 36.9	+0.2
SSBA	**Shishaldin**	**1.31**	**36**		Pn	12 24 43.1	-0.1
ISNN	**Isanotski Nort**	**1.48**	**40**		Pn	12 24 46.0	+0.5
FALS	**False Pass**	**1.65**	**45**		Pn	12 24 47.6	-0.1
NIKH	**Nikolski High**	**2.18**	**251**	Pn	Pn	12 24 54.4	-0.6
NIKH				IAML		12 25 34.5	
	comp=N,35nm,0.8s						
NIKH				IAML		12 25 36.0	
	comp=E,34nm,0.7s						

RSNC 21 12:25:44.2±0.0, **7°.N**±2°.×**7°.3W**±°., **h149**km±2km, **M2.6**, **mb3.6**, **ML2.4**, **MLv3.0**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**200**	P	Pn	12 26 04.3	-0.4
BARC				S	Sn	12 26 20.1	-0.2
PAMC	**Pamplona, Colo**	**0.68**	**37**	P	Pn	12 26 07.2

comp=N,1μm,0.1s
HMH IAML 12 59 21.0
comp=E,1μm,0.3s
MHA Mahukona 0.44 347 Pb 12 59 15.0 -1.0
MLH Mauna Loa 0.47 124 Pb 12 59 15.6 -1.1
MLH Sb 12 59 22.0 -1.4
MLH Mauna Loa 0.47 124 IAML 12 59 22.7
comp=E,703nm,0.3s
MLH IAML 12 59 23.5
comp=N,1μm,0.1s
AIN Ainahou 0.50 140 Pb 12 59 15.9 -1.3
AIN Sb 12 59 22.9 -1.3
AIN Ainahou 0.50 140 IAML 12 59 23.4
comp=N,643nm,0.5s
AIN IAML 12 59 25.8
comp=E,566nm,0.2s
KHU Kahuku 0.54 161 Pb 12 59 16.4 -1.5
KHU Sb 12 59 23.2 -2.1
RSD Rainshed 0.57 121 Pb 12 59 16.9 -1.5
RSD Sb 12 59 24.4 -1.8
UWE Uwekahuna 0.58 125 Pb 12 59 16.9 -1.7
UWE Sb 12 59 24.7 -1.8
WRMHI West Rim 0.59 127 Pb 12 59 16.8 -1.8
WRMHI Sb 12 59 24.7 -1.9
OBL Observatory Le 0.59 125 Pb 12 59 16.9 -1.8
OBL Sb 12 59 24.6 -2.1
UWB Uwekahuna Bluf 0.59 124 Pb 12 59 16.8 -1.9
UWB Sb 12 59 24.5 -2.2
SBLHI Steaming Bluff 0.60 123 Pb 12 59 16.9 -2.0
SDHHI Sand Hill 0.60 128 Pb 12 59 17.0 -1.8
SDHHI Sb 12 59 24.4 -2.6
HATHI Halema'uma'u T 0.61 123 Pb 12 59 17.0 -2.0
HATHI Sb 12 59 24.9 -2.3
HATHI Halema'uma'u T 0.61 123 IAML 12 59 30.7
comp=N,302nm,0.6s
HATHI IAML 12 59 37.5
comp=E,393nm,0.7s
RIM Rim 0.61 126 Pb 12 59 17.1 -1.9
RIM Sb 12 59 25.3 -2.1
BYL Byron's Ledge 0.61 124 Pb 12 59 17.1 -2.0
BYL Sb 12 59 25.0 -2.4
BYL Byron's Ledge 0.61 124 IAML 12 59 40.2
comp=E,355nm,0.4s
KKO Keanakako'i 0.62 126 Pb 12 59 17.2 -2.0
KKO Sb 12 59 25.2 -2.3
HTC Hot Caves 0.64 144 Pb 12 59 17.8 -1.7
HLP Hilina Pali 0.65 135 Pb 12 59 17.9 -1.8
HLP Sb 12 59 25.8 -2.6
HLP Hilina Pali 0.65 135 IAML 12 59 26.9
comp=N,414nm,1.7s
HLP IAML 12 59 39.8
comp=E,418nm,1.0s
PUH Pauahi 0.67 125 Pb 12 59 17.6 -2.4
PUH Sb 12 59 26.1 -2.8
KNHH Kane Nui o Ham 0.70 122 Pb 12 59 18.3 -2.3
HPO Honuapo 0.71 161 Pb 12 59 18.7 -1.8
STCH Steam Cracks 0.74 120 Pb 12 59 18.7 -2.4
STCH Sb 12 59 27.5 -3.3
STCH Steam Cracks 0.74 120 IAML 12 59 27.7
comp=E,8.2nm,0.1s
STCH IAML 12 59 30.7
comp=N,473nm,0.1s
NPOC North of Pu'u 0.74 119 Pb 12 59 18.8 -2.5
NPOC Sb 12 59 28.0 -3.1
JCUZ Jacuzzi 0.76 119 Pb 12 59 19.0 -2.5
JCUZ Sb 12 59 28.4 -2.9
JOKA Jonika Flow 0.82 113 Pb 12 59 19.7 -2.7
JOKA Sb 12 59 29.4 -3.6
JOKA Jonika Flow 0.82 113 IAML 12 59 34.9
comp=N,266nm,1.1s
JOKA IAML 12 59 36.0
comp=E,186nm,0.3s
HLK Haleakala 1.08 337 Pn 12 59 23.8 -3.1
HLK Sb 12 59 35.8 -5.0
HLK Haleakala 1.08 337 IAML 12 59 46.2
comp=E,223nm,2.8s
HLK IAML 12 59 48.1
comp=N,156nm,3.7s
KHLH Kahului Airpor 1.28 333 Pn 12 59 26.4 -2.9

IDC 21 13:07:17.0±1.6, 0°.27N×125°.74E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=161.9km s-min=22.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.78**	**158**	P	P	13 12 09.7	-1.0
	1.6nm,0.7s,baz=339,slow=10,SNR=11						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**25.08**	**162**	P	P	13 12 44.0	+0.6
	1.8nm,0.7s,baz=330,slow=10,SNR=28						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**59.86**	**327**	P	P	13 17 24.5	-0.1
	0.2nm,0.3s,baz=117,slow=7.0,SNR=5.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.14**	**329**	P	P	13 17 53.1	0.0
	0.2nm,0.5s,baz=125,slow=5.6,SNR=2.2						
	0.2nm,0.5s						

*IDC **21** 13:16:15.3±0.8, 27°.13N×55°.09E, h0km, mb3.8/18, mbtmp3.9/19, ML4.7/1, Error ellipse: s-maj=19.4km s-min=17.8km az=26.0*
*NEIC **21** 13:16:17.8±1.4, 27°.24N±0°.09×55°.06E±0°.10, h10km±1km, mb4.5/22, Error ellipse: s-maj=16.1km s-min=12.5km az=44.0*
*DSN **21** 13:16:19.0±1.5, 27°.27N×55°.11E, h15km, ML3.4/11, Error ellipse: s-maj=18.4km s-min=5.9km az=20.0*
*TEH **21** 13:16:19.2, 27°.12N×55°.10E, h19km±14km*
*OMAN **21** 13:16:19.8±0.1, 27°.14N×55°.09E, h11km, mb4.4/6, ml3.5/18, Error ellipse: s-maj=1.3km s-min=0.6km az=16.0*
ISC 21 13:16:20.0±1.1, 27°.14N±0°.03×55°.07E±0°.03, h29km±9km, n117, σ1§60/130, mb4.0/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.81**	**311**	Pg	**Pn**	**13 16 35.2**	**-0.5**
BNDS	**Bandar-Abbas**	**1.01**	**75**	Pg	**Pb**	**13 16 37.8**	**-1.2**
GENO	**Geno**	**1.01**	**75**	Pg	**Pn**	**13 16 38.3**	**-0.1**
IBND	**Bandar-abas**	**1.34**	**76**	Pg	**Pb**	**13 16 44.3**	**-0.2**
IBND				Sg	**Sb**	**13 17 02.6**	**+1.3**
SHME	**Shamm**	**1.45**	**138**	P	**Pb**	**13 16 45.7**	**-0.6**
SHME				S	**Sb**	**13 17 05.4**	**+1.1**
SHME	**Shamm**	**1.45**	**138**	*e*P	**Pb**	**13 16 45.3**	**-1.0**
	SNR=16						
SHME				S	**Sb**	**13 17 05.4**	**+1.1**
BANOM	**Banah**	**1.64**	**137**	P	**Pb**	**13 16 48.5**	**-1.1**
BANOM				S	**Sb**	**13 17 11.4**	**+1.7**
BANOM	**Banah**	**1.64**	**137**	*e*P	**Pn**	**13 16 48.1**	**+1.2**
	SNR=52						
BANOM				S	**Sb**	**13 17 11.2**	**+1.5**
LMD1	**Lamerd**	**1.71**	**277**	Pg	**Pb**	**13 16 51.7**	**+0.9**
JHRM	**Jahrom**	**1.90**	**316**	Pn	**Pb**	**13 16 52.8**	**-1.3**
MASF	**Masafi**	**2.01**	**151**	P	**Pb**	**13 16 54.6**	**-1.4**
	SNR=13						
MASF				S	**Sb**	**13 17 19.4**	**-1.2**
MSFE	**Esma-Masafi**	**2.02**	**151**	*e*P	**Pb**	**13 16 54.4**	**-1.8**
	SNR=13						
MDH	**Madha**	**2.14**	**149**	P	**Pn**	**13 16 56.0**	**+2.2**
MDH				S	**Sb**	**13 17 23.7**	**-0.5**
MDH	**Madha**	**2.14**	**149**	P	**Pn**	**13 16 55.1**	**+1.3**
NAZ	**Nazwa, Dubai**	**2.21**	**166**	P	**Pb**	**13 16 58.0**	**-1.3**
NAZ	**Nazwa, Dubai**	**2.21**	**166**	P	**Pb**	**13 16 57.5**	**-1.7**
UOSS	**Minazif**	**2.41**	**155**		**Pn**	**13 16 59.2**	**+1.7**
UOSS	**Minazif**	**2.41**	**155**	P	**Pn**	**13 16 59.6**	**+2.1**
UOSS	**Minazif**	**2.41**	**155**	*e*P	**Pn**	**13 16 59.6**	**+2.1**
	SNR=6.7						
FAQ	**Al Faqa, Dubai**	**2.43**	**169**	P	**Pb**	**13 17 00.8**	**-2.2**
FAQ	**Al Faqa, Dubai**	**2.43**	**169**	P	**Pb**	**13 17 00.8**	**-2.2**
HATD	**Hatta, Dubai**	**2.49**	**157**	P	**Pn**	**13 17 01.2**	**+2.6**
	SNR=10						
HATD				S	**Sb**	**13 17 32.3**	**-2.1**
HATD	**Hatta, Dubai**	**2.49**	**157**	*e*P	**Pn**	**13 17 01.1**	**+2.4**
	SNR=10						
ASUD	**Al Ashush, Dub**	**2.51**	**175**	P	**Pb**	**13 17 02.8**	**-1.7**
AJN	**Ajban**	**2.57**	**182**	P	**Pn**	**13 17 02.0**	**+2.3**
AJN				S	**Sn**	**13 17 33.5**	**+3.6**
ASHO	**Ashiyiah**	**2.60**	**160**	P	**Pn**	**13 17 02.5**	**+2.3**
	SNR=65						
ASHO				S	**Sb**	**13 17 35.5**	**-2.1**
ASHO	**Ashiyiah**	**2.60**	**160**	*e*P	**Pn**	**13 17 02.5**	**+2.3**
	SNR=65						
NGRK	**Negar Kerman**	**2.89**	**30**	Pn	**Pn**	**13 17 06.4**	**+1.9**
ALNE	**Al Ain**	**3.13**	**169**	P	**Pn**	**13 17 09.7**	**+2.3**
SOHO	**SOHO**	**3.27**	**156**	P	**Pn**	**13 17 10.8**	**+1.4**
SOHO	**SOHO**	**3.27**	**156**	*i* P	**Pn**	**13 17 10.4**	**+1.1**
	SNR=8.5						
KHGB	**Koh Gabri**	**3.45**	**21**	Pn	**Pn**	**13 17 14.4**	**+2.3**
CHMN	**Cheshme madani**	**3.47**	**38**	Pn	**Pn**	**13 17 14.5**	**+2.0**
MZWR	**Madinat Zayed**	**3.53**	**198**	P	**Pn**	**13 17 14.9**	**+2.0**
KBAM	**BAM**	**3.59**	**56**	Pn	**Pn**	**13 17 15.3**	**+1.5**
SHMA	**Al-Shehemyia**	**3.90**	**252**	P	**Pn**	**13 17 20.1**	**+2.1**
	SNR=8.4						
ARQ	**Araqi**	**4.01**	**161**	P	**Pn**	**13 17 22.0**	**+2.5**
	SNR=18						
ARQ				S	**Sn**	**13 18 08.4**	**+2.9**
TRNA	**Turayna**	**4.22**	**236**	P	**Pn**	**13 17 24.4**	**+2.0**
	SNR=8.4						
TRNA				S	**Sn**	**13 18 14.0**	**+3.3**
SAKB	**Bahrain**	**4.22**	**255**	P	**Pn**	**13 17 24.8**	**+2.4**
IMEH	**Mehriz**	**4.25**	**355**	Pn	**Pn**	**13 17 25.6**	**+2.5**
UMZA	**Um Al Zommool**	**4.41**	**179**	P	**Pn**	**13 17 26.9**	**+1.9**
IBAF	**Bafgh**	**4.46**	**5**	Pn	**Pn**	**13 17 27.5**	**+1.7**
SMRA	**Abu-Samra**	**4.51**	**239**	P	**Pn**	**13 17 28.4**	**+2.0**
	SNR=7.4						
SMRA				S	**Sn**	**13 18 21.6**	**+3.8**
BIDO	**Bidbid**	**4.54**	**142**	P	**Pn**	**13 17 27.9**	**+1.1**
SMDO	**Samad**	**4.88**	**146**	P	**Pn**	**13 17 33.9**	**+2.4**
	SNR=6.2						
SMDO				S	**Sn**	**13 18 30.8**	**+3.7**
KLNJ	**Kolanjah**	**4.91**	**323**	Pn	**Pn**	**13 17 34.2**	**+1.9**
WSAR	**Wadi Sarin**	**5.05**	**140**	P	**Pn**	**13 17 35.1**	**+1.4**
	SNR=18						
CHBR	**Chabahar**	**5.09**	**106**	Pn	**Pn**	**13 17 35.5**	**+1.1**
ICHK	**Chekchek**	**5.12**	**354**	Pn	**Pn**	**13 17 37.0**	**+2.0**
IRAM	**Ramesheh**	**5.21**	**334**	Pn	**Pn**	**13 17 38.2**	**+2.0**
JMDO	**Jabal Madar**	**5.49**	**149**	P	**Pn**	**13 17 41.2**	**+1.3**
ZHSF	**Zahedan**	**5.59**	**63**	Pn	**Pn**	**13 17 43.9**	**+2.5**
NGCH	**Negor - Chabah**	**5.73**	**107**	P	**Pn**	**13 17 44.9**	**+1.8**
NGCH				S	**Sn**	**13 18 49.8**	**+1.9**
NGCH	**Negor - Chabah**	**5.73**	**107**	Pn	**Pn**	**13 17 44.7**	**+1.7**
IGAR	**Gharneh**	**5.87**	**334**	Pn	**Pn**	**13 17 47.2**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.03**	**13**	Pn	**Pn**	**13 17 49.6**	**+2.2**
ANAR	**Anarak**	**6.14**	**349**	Pn	**Pn**	**13 17 50.4**	**+1.4**
IKOO	**Kooshah**	**6.28**	**32**	Pn	**Pn**	**13 17 52.8**	**+1.9**
JLN	**Jalan Bani Buh**	**6.34**	**141**	P	**Pn**	**13 17 52.7**	**+1.1**
SRVN	**Saravan**	**6.52**	**86**	Pn	**Pn**	**13 17 56.1**	**+1.9**
MHTO	**MHTO**	**6.67**	**156**	P	**Pn**	**13 17 57.5**	**+1.4**
TKDS	**Koohdasht(Taba**	**6.69**	**15**	Pn	**Pn**	**13 17 58.7**	**+2.2**
KBD	**Kabd**	**6.82**	**289**	P	**Pn**	**13 18 00.1**	**+1.9**
IKLH	**Kolahrood**	**6.86**	**335**	Pn	**Pn**	**13 18 00.9**	**+2.0**
DQM	**DQM**	**7.53**	**162**	P	**Pn**	**13 18 08.4**	**+0.6**
ISFB	**Sefidab**	**7.59**	**342**	Pn	**Pn**	**13 18 10.3**	**+1.5**
DOK	**Doka**	**8.53**	**186**	P	**Pn**	**13 18 22.0**	**+0.4**
	SNR=5.1						
SHAO	**Shalim**	**9.09**	**177**	P	**Pn**	**13 18 30.0**	**+0.7**
	SNR=8.9						
WHFO	**Wadi Hawf**	**9.26**	**188**	P	**Pn**	**13 18 31.8**	**+0.2**
	SNR=15						
RAYN	**Ar Rayn**	**9.38**	**250**		**Pn**	**13 18 32.6**	**-0.6**
RAYN	**Ar Rayn**	**9.38**	**250**	P	**Pn**	**13 18 34.6**	**+1.4**
DMTO	**DMTO**	**9.38**	**181**	P	**Pn**	**13 18 33.2**	**-0.1**
ABTO	**Aybut**	**9.88**	**190**	P	**Pn**	**13 18 40.7**	**+0.5**
GNI	**Garni**	**15.55**	**329**		**Pn**	**13 19 56.8**	**-0.6**
GNI				IAmb	IAmb	13 20 16.7	
	comp=Z,11nm,0.4s						
GNI	**Garni**	**15.55**	**329**	Pn	**Pn**	**13 19 58.2**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=140,slow=17,SNR=2.0						
	comp=Z,9.4nm,0.3s						
MARD	**Mardin**	**15.77**	**314**	Pn	**Pn**	**13 19 58.1**	**-2.1**
MARD				IAmb	IAmb	13 20 14.7	
	comp=Z,10nm,0.5s						
BR131	**Keskin Array S**	**21.79**	**311**	P	**P**	**13 21 09.0**	**-0.8**
BRTR	**Keskin Array B**	**21.79**	**311**	P	**P**	**13 21 08.5**	**-1.2**
BRTR	**Keskin Array B**	**21.79**	**311**	P	**P**	**13 21 09.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=129,slow=12,SNR=8.1						
	comp=Z,0.5nm,0.5s						
AAK	**Ala-Archa**	**22.12**	**41**	P	**P**	**13 21 12.3**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=222,slow=15,SNR=4.1						
	comp=Z,1.7nm,0.4s						
AB31	**Akbulak array**	**22.40**	**8**		**P**	**13 21 15.9**	**-0.1**
ABKAR	**Akbulak array**	**22.40**	**8**		**P**	**13 21 15.9**	**-0.1**
ILGA	**Ilgaz**	**22.40**	**314**	P	**P**	**13 21 17.0**	**+0.6**
ILGA				IAmb	IAmb	13 21 46.8	
	comp=Z,7.2nm,0.6s						
AKTO	**Aktyubinsk**	**23.37**	**5**	P	**P**	**13 21 25.2**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=163,slow=6.0,SNR=6.0						
	comp=Z,2.3nm,0.4s						
MKAR	**Makanchi Array**	**29.05**	**40**	P	**P**	**13 22 17.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=222,slow=8.3,SNR=1.9						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**29.48**	**31**	P	**P**	**13 22 21.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=234,slow=7.9,SNR=2.2						
	comp=Z,0.3nm,0.6s						
KURK	**Kurchatov**	**29.59**	**31**	P	**P**	**13 22 21.0**	**-1.4**
AKASG	**Malin Array Be**	**30.67**	**327**	P	**P**	**13 22 30.8**	**-1.1**
AKASG	**Malin Array Be**	**30.67**	**327**	P	**P**	**13 22 31.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=96,slow=8.0,SNR=5.5						
	comp=Z,0.4nm,0.4s						
AKBB	**Malin Array Si**	**30.67**	**327**	P	**P**	**13 22 31.4**	**-0.4**
AKBB				IAmb	IAmb	13 22 32.4	
	comp=Z,7.8nm,1.4s						
KIEV	**Kiev**	**30.67**	**327**	P	**P**	**13 22 31.3**	**-0.6**
KIEV				IAmb	IAmb	13 22 32.4	
	comp=Z,7.1nm,1.4s						
KEK	**Kerkira**	**31.80**	**302**	P	**P**	**13 22 42.4**	**+0.4**
KEK				IAmb	IAmb	13 23 08.7	
	comp=Z,10nm,0.9s						
ZAA0	**Zalesovo Array**	**34.58**	**31**	P	**P**	**13 23 06.1**	**0.0**
ZAA0				IAmb	IAmb	13 23 06.7	
	comp=Z,2.2nm,0.5s						
ZALV	**Zalesovo Beam**	**34.58**	**31**	P	**P**	**13 23 05.9**	**-0.1**
ZALV	**Zalesovo Beam**	**34.58**	**31**	P	**P**	**13 23 06.2**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=244,slow=9.7,SNR=9.7						
	comp=Z,2.1nm,0.4s						
FINES	**FINESS Array B**	**39.43**	**338**	P	**P**	**13 23 46.8**	**-0.4**
FINES	**FINESS Array B**	**39.43**	**338**	P	**P**	**13 23 47.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=138,slow=8.7,SNR=5.4						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**43.33**	**331**	P	**P**	**13 24 18.8**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=126,slow=7.5,SNR=11						
	comp=Z,0.8nm,0.4s						
NC405	**NORSAR Array S**	**44.66**	**332**	P	**P**	**13 24 29.3**	**-0.6**
NC405				IAmb	IAmb	13 24 59.6	
	comp=Z,11nm,1.2s						
NOA	**NORSAR Array B**	**44.84**	**331**	P	**P**	**13 24 30.3**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=120,slow=7.4,SNR=1.7						
	comp=Z,0.4nm,0.6s						
KEV	**Kevo**	**45.65**	**347**	P	**P**	**13 24 37.0**	**-0.5**
ARCES	**ARCESS Array B**	**45.79**	**346**	P	**P**	**13 24 39.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=146,slow=8.9,SNR=1.1						
	comp=Z,1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**50.17**	**321**	P	**P**	**13 25 11.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=99,slow=7.8,SNR=4.8						
	comp=Z,0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.66**	**265**	IAmb	IAmb	13 26 08.2	
	comp=Z,5.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.66**	**265**	P	**P**	**13 25 24.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=56,slow=9.0,SNR=11						
KSRS	**Korea Array**	**61.06**	**60**	P	**P**	**13 26 30.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=287,slow=8.1,SNR=2.5						
	comp=Z,0.6nm,0.5s						
BOSA	**Boshof**	**62.38**	**210**	P	**P**	**13 26 40.0**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=133,slow=19,SNR=1.6						
	comp=Z,3.5nm,1.0s						
ANGG	**Ammassalik, Gr**	**66.72**	**333**	P	**P**	**13 27 07.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**81.84**	**115**	IAmb	IAmb	13 28 48.3	
	comp=Z,3.8nm,1.5s						
FITZ	**Fitzroy Crossi**	**81.84**	**115**	P	**P**	**13 28 36.5**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=292,slow=5.4,SNR=3.0						
	comp=Z,1.8nm,0.9s						
D25K	**Kavik River**	**82.56**	**8**	P	**P**	**13 28 39.4**	**-0.5**
D25K				IAmb	IAmb	13 29 12.2	
	comp=Z,13nm,1.2s						
K15K	**Wolf Creek Mou**	**86.17**	**16**	P	**P**	**13 28 58.1**	**-0.2**
ILAR	**Eielson Array**	**86.81**	**9**	P	**P**	**13 29 01.0**	**-0.3**
	comp=Z,0.2nm,0.9s,baz=329,slow=4.9,SNR=1.7						
	comp=Z,0.2nm,0.9s						
J26L	**Joseph Creek**	**87.51**	**8**	P	**P**	**13 29 05.0**	**+0.2**
J26L				IAmb	IAmb	13 29 06.0	
	comp=Z,1.5nm,1.0s						
WRA	**Warramunga Arr**	**89.87**	**112**	P	**P**	**13 29 16.0**	**-0.6**
WRA	**Warramunga Arr**	**89.87**	**112**	P	**P**	**13 29 16.5**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=304,slow=4.3,SNR=2.3						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**91.31**	**116**	P	**P**	**13 29 23.4**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=320,slow=5.9,SNR=5.1						
	comp=Z,0.5nm,1.0s						

*IDC **21** 13:17:39.3±0.6, 6°.59N×60°.19E, h0km, mb4.2/24, mbtmp4.1/25, ML3.1/1, MS3.7/18, Error ellipse: s-maj=15.9km s-min=14.6km az=32.0*
*NEIC **21** 13:17:41.9±1.6, 6°.7N±0°.1×60°.3E±0°.1, h10km±1km, mb4.5/36, Error ellipse: s-maj=19.3km s-min=17.3km az=145.0*
ISC 21 13:17:39.9±0.4, 6°.53N±0°.06×60°.42E±0°.06, h10km, n92, σ2§33/81, mb4.4/46, MS3.7/20, 1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.17**	**204**		**Pn**	**13 20 30.2**	**-3.4**
MSEY				Sn	**Sn**	**13 22 44.2**	**-5.3**
MNGI	**Mangalore**	**15.56**	**65**	*e*P	**Pn**	**13 21 16.3**	**-3.3**
MNGI				IAmb	IAmb	13 22 48.6	
	comp=Z,1.2nm,0.3s						
MNGI				*e*S	**Sn**	**13 24 09.0**	**-3.1**
KAD	**Karad**	**17.20**	**50**	*e*P	**Pn**	**13 21 33.9**	**-6.6**
KAD				IAmb	IAmb	13 21 47.5	
	comp=Z,4.8nm,0.5s						
KAD				*e*S	**Sn**	**13 24 45.8**	**-6.1**
POO	**Poona**	**17.71**	**46**	*e*P	**Pn**	**13 21 40.2**	**-6.7**
POO				*e*S	**Sn**	**13 24 58.5**	**-5.9**
ATD	**Arta Tunnel**	**18.04**	**287**	P	**Pn**	**13 21 49.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=7.0,SNR=4.1						
ATD				LR	LR	13 27 30.2	
	comp=Z,7.5nm,20.0s,baz=110,slow=33						
	comp=Z,0.2nm,0.3s						
UOSS	**Minazif**	**18.75**	**348**		**P**	**13 21 57.9**	**-1.2**
UOSS				IAmb	IAmb	13 22 08.2	
	comp=Z,25nm,1.0s						
FURI	**Furi**	**21.67**	**278**	LR	LR	13 29 51.8	
	comp=Z,207nm,21.6s,baz=153,slow=34						
RAYN	**Ar Rayn**	**22.16**	**321**	P	**P**	**13 22 34.0**	**-2.3**
KIBK	**Kibwezi**	**24.01**	**249**		**P**	**13 22 55.2**	**-0.1**
KIBK				IAmb	IAmb	13 22 57.6	
	comp=Z,10nm,0.9s						
LODK	**Lodwar**	**25.15**	**264**		**P**	**13 23 05.9**	**+0.2**
LODK				IAmb	IAmb	13 23 22.4	
	comp=Z,12nm,1.1s						
OPO	**Ambohidratompo**	**28.15**	**207**	LR	LR	13 31 58.9	
	comp=Z,186nm,21.0s,baz=178,slow=31						
PBA	**Port Blair**	**32.31**	**79**	*e*P	P	13 24 04.6	-4.9
PBA				IAmb	IAmb	13 24 29.5	
	comp=Z,4.0nm,1.0s						
PBA				*e*S	**S**	**13 29 20.4**	**-3.1**
CMBY	**CAMPBELL BAY**	**33.28**	**87**	*e*P	P	13 24 13.4	-4.6
CMBY				IAmb	IAmb	13 24 51.4	
	comp=Z,1.2nm,0.3s						
CMBY				*e*S	**S**	**13 29 33.6**	**-5.0**
GAR	**Garm**	**33.54**	**14**	P	**P**	**13 24 21.5**	**+1.4**
GAR				IAmb	IAmb	13 24 28.7	
	comp=Z,9.4nm,1.1s						
MMAI	**Mount Meron Ar**	**35.14**	**322**	P	**P**	**13 24 34.0**	**0.0**
	comp=Z,0.3nm,0.2s,baz=114,slow=9.9,SNR=1.8						
	comp=Z,0.3nm,0.2s						
KSH	**Kashi**	**35.71**	**21**	P	**P**	**13 24 36.6**	**-2.3**
KSH				pP	sP	13 24 42.8	+0.9
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GNI	**Garni**	**36.31**	**340**	P	**P**	**13 24 46.6**	**+2.5**
	comp=Z,8.9nm,0.5s,baz=252,slow=18,SNR=4.2						
LSA	**Lhasa**	**36.99**	**48**		**P**	**13 24 51.1**	**+0.8**
KK31	**Karatay Array**	**37.50**	**12**	P	**P**	**13 24 54.6**	**+0.6**
KK31				IAmb	IAmb	13 25 02.9	
	comp=Z,7.9nm,1.1s						
KKAR	**Karatay Array**	**37.50**	**12**		**P**	**13 24 54.7**	**+0.8**
ARPR	**Arapgir-MALATY**	**38.05**	**332**	P	**P**	**13 24 57.7**	**-1.2**
ARPR				IAmb	IAmb	13 25 28.1	
	comp=Z,25nm,1.5s						
AAK	**Ala-Archa**	**38.06**	**17**	P	**P**	**13 24 58.7**	**-0.2**
AAK				IAmb	IAmb	13 25 08.4	
	comp=Z,12nm,1.1s						
AAK	**Ala-Archa**	**38.06**	**17**	P	**P**	**13 25 01.7**	**+2.9**
	comp=Z,3.5nm,0.8s,baz=190,slow=11,SNR=5.4						
AAK				LR	LR	13 42 02.3	
	comp=Z,87nm,18.7s,baz=200,slow=38						
	comp=Z,3.5nm,0.8s						
LSZ	**Lusaka**	**38.59**	**236**	P	**P**	**13 25 04.9**	**+1.3**
LSZ				IAmb	IAmb	13 25 19.6	
	comp=Z,15nm,1.3s						
LSZ	**Lusaka**	**38.59**	**236**	LR	LR	13 39 09.8	
	comp=Z,206nm,20.3s,baz=52,slow=34						
CMAR	**Chiang Mai Arr**	**39.34**	**69**	P	**P**	**13 25 12.9**	**+3.0**
	comp=Z,1.3nm,0.8s,baz=255,slow=9.3,SNR=10						
CMAR				PcP	**PcP**	**13 27 20.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=248,slow=3.0,SNR=2.7						
CMAR				LR	LR	13 40 27.8	
	comp=Z,63nm,20.5s,baz=260,slow=35						
	comp=Z,1.3nm,0.8s						
CHTO	**Chiang Mai**	**39.42**	**68**	P	**P**	**13 25 11.0**	**+0.5**
KBZ	**Khabaz**	**40.12**	**340**	P	**P**	**13 25 16.3**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=114,slow=7.9,SNR=4.8						
	comp=Z,1.8nm,0.7s						
BRTR	**Keskin Array B**	**40.88**	**328**	P	**P**	**13 25 21.4**	**-1.2**
BRTR	**Keskin Array B**	**40.88**	**328**	P	**P**	**13 25 20.8**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=155,slow=9.0,SNR=4.9						
	comp=Z,0.9nm,0.7s						
MATP	**Matopo**	**41.25**	**229**	LR	LR	13 40 04.6	
	comp=Z,143nm,20.1s,baz=53,slow=33						
KSANE	**Kasane**	**42.38**	**235**	P	**P**	**13 25 36.4**	**+1.5**
KSANE				IAmb	IAmb	13 25 37.6	
	comp=Z,8.9nm,0.9

comp=Z,14nm,1.2s
BURAR **Bucovina Array 50.76 330** P **P** **13 26 40.4 +0.1**
BUR08 **Bucovina Ar. S 50.79 330** P **P** **13 26 40.5 -0.1**
BUR08 IAmb IAmb 13 27 09.1
comp=Z,6.1nm,1.4s
AKASG **Malin Array Be 51.12 335** P **P** **13 26 41.5 -1.3**
comp=Z,0.2nm,0.3s,baz=140,slow=7.3,SNR=6.7
comp=Z,0.2nm,0.3s
ZAA0 **Zalesovo Array 51.25 18** **P** **13 26 43.0 -0.8**
ZAA0 IAmb IAmb 13 26 51.6
comp=Z,9.5nm,1.0s
ZALV **Zalesovo Beam 51.25 18** **P** **13 26 43.0 -0.8**
ZALV **Zalesovo Beam 51.25 18** P **P** **13 26 44.4 +0.7**
comp=Z,4.2nm,0.9s,baz=220,slow=6.7,SNR=16
ZALV LR LR 13 48 27.3
comp=Z,44nm,21.9s,baz=190,slow=36
comp=Z,4.2nm,0.9s
CUC **Castrocucco 51.99 317** P **P** **13 26 48.7 -0.9**
H04N1 **CROZET ISLANDS 53.02 188** T T 14 24 12.8
baz=11,slow=75,SNR=914
H04N2 **CROZET ISLANDS 53.02 187** T T 14 24 08.3
baz=11,slow=75,SNR=800
H04N3 **CROZET ISLANDS 53.03 188** T T 14 24 06.1
baz=11,slow=75,SNR=830
SONM **Songino Array 56.72 35** P **P** **13 27 25.1 +1.0**
SONM IAmb IAmb 13 27 32.9
comp=Z,4.3nm,1.1s
SONM **Songino Array 56.72 35** P **P** **13 27 25.9 +1.8**
comp=Z,1.8nm,0.7s,baz=227,slow=6.8,SNR=6.2
comp=Z,1.8nm,0.7s
HHC **Hu-ho-hao-te 56.88 45** *e*P **P** **13 27 26.9 +1.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.4s
HNS **HongShan 57.98 50** ⇓P **P** **13 27 35.3 +2.3**
HNS pmax pmax
comp=Z,6.0nm,1.1s
TORD **Torodi Ar. Bea 58.13 281** IAmb IAmb 13 27 36.3
comp=Z,5.6nm,0.7s
TORD **Torodi Ar. Bea 58.13 281** P **P** **13 27 34.2 -0.2**
comp=Z,5.8nm,0.5s,baz=85,slow=5.1,SNR=4.8
comp=Z,5.8nm,0.5s
TIA **Tai'an 59.50 52** P P 13 27 51.8 +8.2
TIA pmax pmax
comp=Z,7.0nm,0.9s
NJ2 **Nanjing 59.91 57** *e*P **P** **13 27 48.1 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
DBIC **Dimbokro 64.79 274** P **P** **13 28 19.5 0.0**
DBIC **Dimbokro 64.79 274** P **P** **13 28 18.9 -0.6**
comp=Z,9.0nm,1.0s,baz=307,slow=5.5,SNR=4.2
comp=Z,9.0nm,1.0s
HILR **Hailar Array B 65.43 38** P **P** **13 28 24.1 +1.0**
comp=Z,1.0nm,0.3s,baz=186,slow=5.8,SNR=2.4
comp=Z,1.0nm,0.3s
NOA **NORSAR Array B 65.50 336** P **P** **13 28 23.4 +0.1**
comp=Z,0.9nm,0.9s,baz=122,slow=7.0,SNR=2.6
comp=Z,0.9nm,0.9s
MD31 **MD31 65.66 303** P **P** **13 28 24.5 -0.5**
MD31 IAmb IAmb 13 28 45.2
comp=Z,6.2nm,1.4s
ESDC **Sonseca Array 66.21 310** IAmb IAmb 13 28 38.2
comp=Z,3.3nm,1.1s
ESDC **Sonseca Array 66.21 310** P **P** **13 28 27.6 -0.8**
comp=Z,0.8nm,0.7s,baz=94,slow=6.1,SNR=6.2
comp=Z,0.8nm,0.7s
KSRS **Korea Array 68.23 52** P **P** **13 28 41.3 +0.3**
comp=Z,1.4nm,0.8s,baz=261,slow=7.1,SNR=5.7
comp=Z,1.4nm,0.8s
EKA **Eskdalemuir Ar 69.80 327** P **P** **13 28 49.8 -0.7**
comp=Z,1.0nm,0.7s,baz=100,slow=7.6,SNR=2.3
comp=Z,1.0nm,0.7s
HEH **HeiHe 70.37 39** *e*P **P** **13 28 56.3 +2.2**
MAW **Mawson 73.97 179** P **P** **13 29 16.9 +1.7**
comp=Z,3.9nm,0.9s,baz=359,slow=9.4,SNR=6.9
comp=Z,3.9nm,0.9s
WRA **Warramunga Arr 77.26 112** P **P** **13 29 36.6 +1.5**
WRA **Warramunga Arr 77.26 112** P **P** **13 29 37.0 +1.9**
comp=Z,2.7nm,1.1s,baz=285,slow=4.6,SNR=6.9
comp=Z,2.7nm,1.1s
ASAR **Alice Springs 77.65 116** P **P** **13 29 38.9 +1.6**
ASAR **Alice Springs 77.65 116** P **P** **13 29 39.5 +2.2**
comp=Z,3.6nm,1.0s,baz=285,slow=5.2,SNR=19
ASAR LR LR 13 58 21.8
comp=Z,44nm,21.6s,baz=300,slow=31
comp=Z,3.6nm,1.0s
AS31 **Alice Springs 77.65 116** P **P** **13 29 38.6 +1.3**
GUMO **Guam 83.12 77** LR LR 14 04 11.9
comp=Z,33nm,21.9s,baz=264,slow=34
STKA **Stephens Creek 85.97 123** IAmb IAmb 13 30 25.3
comp=Z,14nm,1.8s
STKA **Stephens Creek 85.97 123** P **P** **13 30 23.1 +2.2**
comp=Z,1.5nm,0.7s,baz=300,slow=23,SNR=4.6
STKA LR LR 14 04 32.7
comp=Z,51nm,20.2s,baz=202,slow=33
comp=Z,1.5nm,0.7s

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*IDC **21** 13:47:12.2±0.7, 43°.40N×127°.03W, h0km, mb4.0/19, mbtmp4.1/27, ML4.0/8, MS3.9/59, Error ellipse: s-maj=17.7km s-min=8.6km az=36.0*
*NEIC **21** 13:47:14.0±1.6, 43°.29N±0°.06×127°.0W±0°.1, h10km±1km, mb4.6/168, ML3.8/119, Error ellipse: s-maj=14.5km s-min=10.0km az=244.0*
*GCMT **21** 13:47:16.0±0.2, 43°.28N±0°.01×127°.20W±0°.02, h18km±1km, MW4.8/109, Moment Tensor Solution. s27, c28; s109, c166; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.54±.08; Mθθ=0.58±.06; Mφφ=1.11±.06; Mrθ=0.13±.16; Mφφ=-2.09±.06; Mφr=0.19±.15; Best double couple: M0=2.27100×1016 NP1:φs=101.00000°, δ83.00000°, λ=-175.00000°. NP2:φs=11.00000°, δ85.00000°, λ=-7.00000°. Principal axes: T 2.5230, Plg2.0000°, Azm56.0000°; N -0.5070, Plg81.0000°, Azm157.0000°; P -2.0190, Plg8.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 13:47:13.5±0.5, 43°.31N±0°.07×126°.99W±0°.07, h10km, n476, σ0.99/344, mb4.5/80, MS3.9/57, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.99**	**102**			**Pn**	**13 47 46.0**	**-1.4**
KEBM					IAML		13 48 11.9	
	comp=E,1μm,1.1s							
KEBM					IAML		13 48 17.3	
	comp=N,1μm,1.4s							
J01E	**Myrtle Point**	**2.24**	**93**			**Pn**	**13 47 49.3**	**-1.3**
J01E					IAML		13 48 21.6	
	comp=E,532nm,0.2s							
J01E					IAML		13 48 32.2	
	comp=N,327nm,1.4s							
KBO	**Bosley Butte**	**2.31**	**117**			**Pn**	**13 47 50.6**	**-1.2**
KBO					IAML		13 48 21.5	
	comp=E,400nm,2.3s							
KBO					IAML		13 48 23.3	
	comp=N,306nm,2.2s							
I02E	**Swisshome, OR**	**2.41**	**70**			**Pn**	**13 47 52.3**	**-0.7**
I02E					IAML		13 48 11.4	
	comp=N,274nm,0.7s							
I02E					IAML		13 48 11.7	
	comp=E,320nm,0.8s							
K02D	**Willamette Mer**	**2.51**	**103**			**Pn**	**13 47 53.1**	**-1.4**
I03D	**Drain, OR**	**2.68**	**80**			**Pn**	**13 47 56.0**	**-0.7**
I03D					IAML		13 48 32.1	
	comp=E,337nm,1.6s							
I03D					IAML		13 48 34.3	
	comp=N,248nm,0.7s							
KSXB	**Camp Six Broad**	**2.73**	**122**			**Pn**	**13 47 56.6**	**-1.0**
L02F	**Cave Junction**	**2.78**	**114**			**Pn**	**13 47 57.5**	**-0.7**
L02F					IAML		13 48 35.7	
	comp=E,226nm,2.4s							
L02F					IAML		13 48 37.9	
	comp=N,192nm,1.9s							
KRMB	**Red Mountain**	**2.90**	**127**			**Pn**	**13 47 58.3**	**-1.5**
COR	**Corvallis**	**2.95**	**63**			**Pn**	**13 48 00.7**	**+0.2**
COR					IAML		13 48 42.9	
	comp=N,272nm,1.1s							
COR					IAML		13 48 44.3	
	comp=N,269nm,0.8s							
BUCK	**Buck Mountain**	**3.03**	**72**			**Pn**	**13 48 01.8**	**+0.2**
BUCK					IAML		13 48 44.9	
	comp=N,219nm,0.7s							
BUCK					IAML		13 48 48.5	
	comp=E,225nm,1.0s							
KRPM	**Rodgers**	**3.08**	**133**			**Pn**	**13 48 02.3**	**+0.1**
BBOR	**Butler Butte**	**3.18**	**96**			**Pn**	**13 48 03.4**	**-0.4**
BBOR					IAML		13 48 45.6	
	comp=E,208nm,1.1s							
BBOR					IAML		13 48 51.5	
	comp=N,193nm,1.6s							
G03D	**McMinnville, O**	**3.28**	**53**			**Pn**	**13 48 05.1**	**+0.1**
G03D					IAML		13 48 47.4	
	comp=E,333nm,0.8s							
H04D	**Lebanon**	**3.30**	**67**			**Pn**	**13 48 05.3**	**0.0**
H04D					IAML		13 48 35.4	
	comp=N,309nm,0.8s							
JCC	**Jacoby Creek,**	**3.32**	**137**			**Pn**	**13 48 05.5**	**-0.1**
I04A	**Tendick Farm,**	**3.36**	**80**			**Pn**	**13 48 06.2**	**0.0**
I04A					IAML		13 48 50.7	
	comp=N,183nm,0.6s							
I04A					IAML		13 48 53.2	
	comp=E,202nm,0.7s							
YBH	**Yreka Blue Hor**	**3.53**	**115**			**Pn**	**13 48 08.9**	**+0.3**
YBH	**Yreka Blue Hor**	**3.53**	**115**	Pn		**Pn**	**13 48 09.3**	**+0.8**
	comp=E,1.4nm,0.3s,baz=333,slow=8.6,SNR=220							
YBH					Sn	**Sn**	**13 48 48.7**	**-1.7**
	comp=E,0.2nm,0.3s,baz=259,slow=4.4,SNR=7.7							
	comp=E,4.1nm,0.3s							
L04D	**Klamath Falls**	**3.62**	**106**			**Pn**	**13 48 10.1**	**+0.3**
L04D					IAML		13 48 59.3	
	comp=E,305nm,1.4s							
L04D					IAML		13 49 11.6	
	comp=N,178nm,2.0s							
H04A	**Detroit Lake**	**3.73**	**67**			**Pn**	**13 48 40.6**	
	comp=E,221nm,0.7s							
H04A					IAML		13 49 00.1	
	comp=N,176nm,0.4s							
WIFE	**Three Sisters-**	**3.83**	**77**			**Pn**	**13 48 43.3**	
	comp=E,195nm,1.3s							
WIFE					IAML		13 49 05.3	
	comp=N,143nm,0.8s							
RADR	**Rader Ridge**	**3.85**	**35**			**Pn**	**13 49 09.8**	
	comp=N,271nm,2.0s							
KMRM	**Mail Ridge**	**3.94**	**140**			**Pn**	**13 48 14.3**	**+0.2**
BRIC	**Briceland Vine**	**3.94**	**143**			**Pn**	**13 48 44.1**	
	comp=E,88nm,1.6s							
BRIC					IAML		13 49 03.3	
	comp=N,68nm,4.5s							
N02D	**Trinity Center**	**3.95**	**125**			**Pn**	**13 48 14.6**	**+0.3**
E03A	**Lebam**	**4.05**	**36**			**Pn**	**13 48 16.1**	**+0.6**
M03C	**McCloud**	**4.14**	**118**			**Pn**	**13 48 17.6**	**+0.7**
M03C					IAML		13 49 11.5	
	comp=E,147nm,2.0s							
M03C					IAML		13 49 24.5	
	comp=N,116nm,2.1s							
J05D	**Fort Rock, OR**	**4.20**	**88**			**Pn**	**13 48 17.9**	**+0.1**
J05D					IAML		13 49 27.2	
	comp=N,85nm,2.0s							
J05D					IAML		13 49 56.2	
	comp=E,87nm,2.2s							
I05D	**Terrebonne, OR**	**4.22**	**74**			**Pn**	**13 48 49.3**	
	comp=N,107nm,0.7s							
I05D					IAML		13 49 16.5	
	comp=E,124nm,1.1s							
PINE	**Pine Mountain**	**4.42**	**82**			**Pn**	**13 48 21.3**	**+0.4**
PINE					IAML		13 49 04.6	
	comp=E,80nm,1.2s							
PINE					IAML		13 49 05.3	
	comp=N,81nm,1.0s							
KCPM	**Cahto Peak**	**4.43**	**144**			**Pn**	**13 49 06.5**	
	comp=E,55nm,1.7s							
KCPM					IAML		13 49 30.2	
	comp=N,51nm,2.3s							
O02D	**Mt. Diablo Mer**	**4.43**	**133**			**Pn**	**13 48 21.8**	**+0.9**
WISH	**Wishkah**	**4.44**	**30**			**Pn**	**13 48 21.5**	**+0.7**
K05A	**Summer Lake**	**4.51**	**95**			**Pn**	**13 48 22.3**	**+0.2**
K05A					IAML		13 49 43.2	
	comp=E,66nm,1.9s							
K05A					IAML		13 49 47.1	
	comp=N,81nm,1.9s							
NLWA	**Neilton Lookou**	**4.64**	**27**			**Pn**	**13 48 24.2**	**+0.5**
HATC	**Hat Creek Radi**	**4.81**	**119**		IAML		13 49 47.1	
	comp=N,135nm,2.2s							
HATC					IAML		13 49 56.4	
	comp=E,109nm,2.6s							
O03E	**Paynes Creek**	**4.91**	**126**		IAML		13 49 05.3	
	comp=E,44nm,1.6s							
G06A	**Carlson Farm,**	**4.95**	**65**		IAML		13 49 07.9	
	comp=N,66nm,1.0s							
G06A					IAML		13 49 11.5	
	comp=E,49nm,1.5s							
LON	**Longmire**	**5.03**	**45**		IAML		13 49 30.3	
	comp=N,90nm,0.6s							
LON					IAML		13 49 36.6	
	comp=E,61nm,1.7s							
GNW	**Green Mountain**	**5.17**	**33**		IAML		13 49 34.5	
	comp=N,106nm,0.7s							
HOPS	**Hopland Field**	**5.23**	**144**		IAML		13 49 32.0	
	comp=E,27nm,2.3s							
D05A	**Enumclaw**	**5.25**	**41**		IAML		13 49 38.6	
	comp=E,100nm,0.9s							
NVAR	**Mina Array Bea**	**8.19**	**124**			**Pn**	**13 49 15.9**	**+3.3**
	comp=E,1.6nm,0.3s,baz=293,slow=14,SNR=26							
NVAR					LR	LR	13 51 37.1	
	comp=E,183nm,18.8s,baz=305,slow=32							
	comp=E,2.6nm,0.4s							
NEW	**Newport**	**8.49**	**51**	Pn		**Pn**	**13 49 17.4**	**+0.9**
	comp=E,3.5nm,0.3s,baz=220,slow=11,SNR=64							
NEW					LR	LR	13 52 37.0	
	comp=E,2μm,20.9s,baz=240,slow=38							
	comp=E,41nm,0.8s							
BBB	**Bella Bella**	**8.91**	**356**	Pn		**Pn**	**13 49 21.4**	**-0.9**
	comp=E,1.8nm,0.3s,baz=177,slow=10.0,SNR=7.6							
	comp=E,36nm,1.1s							
ELK	**Elko**	**9.11**	**102**	Pn		**Pn**	**13 49 29.4**	**+4.1**
	comp=E,0.4nm,0.3s,baz=291,slow=12,SNR=26							
ELK					LR	LR	13 52 53.7	
	comp=E,482nm,21.1s,baz=284,slow=37							
	comp=E,6.5nm,0.7s							
OVMT	**Ovando**	**10.57**	**64**			**Pn**	**13 49 44.9**	**-0.2**
YHL	**Hebgen Lake**	**11.48**	**77**			**Pn**	**13 49 58.1**	**+0.4**
BELC	**Belle Mtn. Jos**	**12.64**	**134**			**Pn**	**13 50 14.4**	**+0.9**
PFO	**Pinyon Flats O**	**12.71**	**136**			**Pn**	**13 50 13.9**	**-0.5**
PFO	**Pinyon Flats O**	**12.71**	**136**	Pn		**Pn**	**13 50 18.1**	**+3.7**
	comp=E,0.2nm,0.3s,baz=326,slow=13,SNR=6.7							
PFO					LR	LR	13 55 02.3	
	comp=E,683nm,19.9s,baz=335,slow=37							
	comp=E,4.9nm,0.8s							
PDAR	**Pinedale Array**	**12.77**	**86**			**Pn**	**13 50 15.5**	**+0.2**
PDAR	**Pinedale Array**	**12.77**	**86**	Pn		**Pn**	**13 50 18.1**	**+2.8**
	comp=E,0.2nm,0.3s,baz=278,slow=12,SNR=23							
PDAR					LR	LR	13 55 34.8	
	comp=E,619nm,18.6s,baz=266,slow=39							
	comp=E,12nm,0.9s							
U35K	**Hyder**	**12.77**	**352**	P		**Pn**	**13 50 15.7**	**+0.7**
	baz=170							
CRAG	**Craig**	**12.80**	**344**	P		**Pn**	**13 50 16.7**	**+1.3**
	baz=159							
EGMT	**Eagleton**	**12.94**	**63**			**Pn**	**13 50 17.4**	**0.0**
WRAK	**Wrangell Islan**	**13.57**	**347**	P		**Pn**	**13 50 26.8**	**+1.0**
	baz=163							
T35M	**Bob Quinn**	**13.85**	**353**	P		**Pn**	**13 50 30.5**	**+0.8**
	baz=170							
T33K	**Petersburg**	**14.04**	**346**	P		**Pn**	**13 50 33.7**	**+1.3**
	baz=162							
PV23	**Carpenter Ridg**	**14.43**	**104**	Pn		**Pn**	**13 50 38.5**	**+0.4**
SIT	**Sitka**	**14.75**	**342**	P		**Pn**	**13 50 43.5**	**+1.6**
	baz=155							
S34M	**Telegraph Cree**	**14.85**	**351**	P		**Pn**	**13 50 43.9**	**+0.5**
	baz=168,SNR=6.0							
S32K	**Killisnoo**	**14.96**	**344**	P		**Pn**	**13 50 45.9**	**+1.0**
	baz=158							
DLBC	**Dease Lake**	**15.27**	**354**	Pn		**P**	**13 50 53.1**	**-0.8**
	comp=E,0.7nm,0.3s,baz=95,slow=20,SNR=4.0							
DLBC					LR	LR	13 56 12.6	
	comp=E,3μm,18.2s,baz=153,slow=36							
DLBC	**Dease Lake**	**15.27**	**354**	P		**Pn**	**13 50 50.4**	**+1.4**
	baz=172,SNR=5.1							
MVCO	**Mesa Verde**	**15.36**	**107**	P		**P**	**13 50 54.5**	**-0.8**
TOAD	**Toad River Com**	**15.60**	**3**	P		**Pn**	**13 50 54.3**	**+0.9**
	baz=185							
R32K	**Eaglecrest**	**15.71**	**345**	P		**Pn**	**13 50 55.7**	**+1.0**
	baz=159							
214A	**Organ Pipe Nat**	**15.93**	**131**	IAmb		IAmb	13 51 04.4	
	comp=Z,56nm,1.4s							
Q32M	**Nakina River**	**16.01**	**350**	P		**Pn**	**13 50 59.8**	**+1.0**
	baz=166,SNR=5.4							
R33M	**Jennings River**	**16.30**	**353**	P		**Pn**	**13 51 03.1**	**+0.7**
	baz=170							
RSSD	**Black Hills**	**16.61**	**79**	P		**P**	**13 51 08.6**	**-0.5**
DGMT	**Dagmar**	**16.66**	**64**	IAmb		IAmb	13 51 17.5	
	comp=Z,69nm,0.9s							
P32M	**Atlin**	**16.82**	**348**	P		**Pn**	**13 51 10.1**	**+1.1**
	baz=163							
TUC	**Tucson**	**16.84**	**125**			**P**	**13 51 09.8**	**-1.7**
WTLY	**Watson Lake, Y**	**16.87**	**357**	P		**Pn**	**13 51 11.1**	**+1.5**
	baz=175							
KOTAN	**Kotaneelee Air**	**16.94**	**5**	P		**Pn**	**13 51 11.6**	**+1.1**
	baz=187,SNR=6.0							
SKAG	**Skagway**	**16.97**	**345**	P		**Pn**	**13 51 11.8**	**+1.1**
	baz=159							
PLBC	**Pleasant Camp**	**17.17**	**344**	P		**P**	**13 51 14.6**	**-0.3**
	baz=156							
SDCO	**Great Sand Dun**	**17.24**	**102**	IAmb		IAmb	13 51 17.8	
	comp=Z,20nm,0.9s							
P33M	**Teslin, Yukon**	**17.30**	**350**	P		**P**	**13 51 17.9**	**+1.5**
P33M	**Teslin, Yukon**	**17.30**	**350**	P		**P**	**13 51 16.6**	**+0.1**
	baz=166							
P29M	**Windy Craggy**	**17.62**	**342**			**P**	**13 51 20.4**	**+0.5**
P29M	**Windy Craggy**	**17.62**	**342**	P		**P**	**13 51 20.5**	**+0.5**
	baz=153							
DUN6	**Lazy B Ranch**	**17.70**	**121**	IAmb		IAmb	13 51 27.2	
	comp=Z,57nm,1.0s							
P30M	**Million Dollar**	**17.90**	**344**	P		**P**	**13 51 23.8**	**+0.7**
	baz=156							
ANMO	**Albuquerque**	**17.95**	**111**	P		**P**	**13 51 25.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.6,SNR=9.4							
ANMO					LR	LR	13 58 05.2	
	comp=Z,405nm,20.0s,baz=30,slow=36							
	comp=Z,9.4nm,1.0s							
WHY	**Whitehorse**	**18.02**	**347**	P		**P**	**13 51 25.0**	**+0.5**
	baz=161							
PNL	**Peninsula**	**18.06**	**339**	P		**P**	**13 51 25.9**	**+1.1**
	baz=150							
Y22D	**IRIS PASSCAL I**	**18.14**	**114**	P		**Pn**	**13 51 24.7**	**-1.0**
	baz=306							
N32M	**Quiet Lake**	**18.24**	**351**	P		**P**	**13 51 27.6**	**+0.8**
	baz=166							
O30N	**Mendenhall**	**18.33**	**346**	P		**Pn**	**13 51 28.7**	**+1.0**
	baz=158							
O29M	**Mount Kennedy**	**18.42**	**342**	P		**Pn**	**13 51 29.5**	**+0.6**
	baz=152							
PINM	**Pinnacle**	**18.65**	**339**	P		**Pn**	**13 51 32.0**	**+0.4**
	baz=148							
HYT	**Haines Junctio**	**18.65**	**344**			**P**	**13 51 31.7**	**+0.3**
HYT	**Haines Junctio**	**18.65**	**344**	P		**Pn**	**13 51 32.0**	**+0.3**
	baz=155							
YUK6	**Outpost Mounta**	**18.94**	**343**	P		**Pn**	**13 51 35.3**	**0.0**
	baz=154							
N31M	**Braeburn, Yuko**	**18.95**	**347**	P		**Pn**	**13 51 35.3**	**+0.1**
	baz=160							
N30M	**Aishikik Lake**	**19.16**	**345**	IAmb		IAmb	13 51 43.0	
	comp=Z,31nm,1.4s							
N30M	**Aishikik Lake**	**19.16**	**345**	P		**P**	**13 51 37.5**	**+0.7**
	baz=157							
MESA	**MESA**	**19.18**	**337**	P		**P**	**13 51 37.0**	**-0.3**
	baz=145							
O28M	**Mount Upton**	**19.21**	**340**	P		**P**	**13 51 37.2**	**-0.5**
	baz=150							
YUK4	**Talbot Arm**	**19.36**	**343**	P		**P**	**13 51 39.9**	**+0.6**
	baz=154							
M31M	**Drury Creek, Y**	**19.43**	**350**	P		**P**	**13 51 39.6**	**-0.2**
	baz=164							
BGLC	**Bering Glacier**	**19.53**	**335**	P		**P**	**13 51 41.0**	**+0.1**
	baz=142							
YUK8	**Steele Glacier**	**19.56**	**341**	P		**P**	**13 51 41.5**	**0.0**
	baz=151							
WAX	**Waxell Ridge**	**19.67**	**336**	IAmb		IAmb	13 51 47.9	
	comp=Z,31nm,1.0s							
CTG	**Chitna Glacier**	**19.67**	**339**	P		**P**	**13 51 43.1**	**+0.5**
	baz=148							
KAIM	**Kayak Island**	**19.74**	**333**	P		**Pn**	**13 51 44.4**	**-0.3**
	baz=140							
RTBA	**Rita Blanca**	**19.80**	**102**	IAmb		IAmb	13 51 48.5	
	comp=Z,23nm,1.0s							
FFC	**Flin Flon**	**19.87**	**46**			Pn	13 51 46.7	+0.5
FFC					IAmb	IAmb	13 51 47.7	
	comp=Z,46nm,0.9s							
CRQE	**Cirque**	**19.98**	**337**	P		Pn	13 51 47.0	-0.7
	baz=144							
WRGLY	**Wrigley**	**20.06**	**5**	IAmb		IAmb	13 51 53.5	
	comp=Z,56nm,1.1s							
WRGLY	**Wrigley**	**20.06**	**5**	P		**P**	**13 51 47.1**	**+0.5**
	baz=187,SNR=5.8							
M30M	**Minto, Yukon**	**20.14**	**347**	P		**P**	**13 51 47.8**	**+0.2**
	baz=159,SNR=7.1							
M29M	**Somme Creek**	**20.32**	**345**	P		**P**	**13 51 50.0**	**+0.3**
	baz=155							
MCARA	**McCarthy VSAT**	**20.48**	**338**	IAmb		IAmb	13 52 13.1	
	comp=Z,13nm,1.0s							
MCARA	**McCarthy VSAT**	**20.48**	**338**	P		**P**	**13 51 51.5**	**+0.3**
	baz=145							
YKA	**Yellowknife Ar**	**20.55**	**16**	P		**P**	**13 51 53.9**	**+2.0**
YKA	**Yellowknife Ar**	**20.55**	**16**	P		**P**	**13 51 52.6**	**+0.7**
	comp=Z,8.9nm,0.8s,baz=215,slow=10,SNR=20							
YKA					LR	LR	13 59 09.8	
	comp=Z,145nm,19.0s,baz=54,slow=35							
	comp=Z,8.9nm,0.8s							
YKAW1	**Yellowknife Wh**	**20.56**	**17**	P		**P**	**13 51 53.4**	**+1.3**
YKAW1					IAmb	IAmb	13 52 03.4	
	comp=Z,22nm,1.0s							
BMRM	**Bremner River**	**20.61**	**335**	P		**P**	**13 51 52.7**	**+0.1**
	baz=141							
YKAW3	**Yellowknife Wh**	**20.61**	**16**	P		**P**	**13 51 53.8**	**+1.3**
YKAW3					IAmb	IAmb	13 51 57.7	
	comp=Z,25nm,0.9s							
P23K	**Montague Islan**	**20.82**	**330**	P		**P**	**13 51 55.4**	**+0.5**
	baz=134							
L29M	**L29M**	**20.87**	**346**	P		**P**	**13 51 55.9**	**+0.4**
	baz=157							
MAYO	**Mayo, Yukon**	**20.97**	**349**	P		**P**	**13 51 57.1**	**+0.6**
	baz=162							
CBKS	**Cedar Bluff**	**20.99**	**93**	IAmb		IAmb	13 52 00.9	
	comp=Z,44nm,1.0s							
M27K	**Edge Creek, AK**	**21.00**	**340**	IAmb		IAmb	13 52 04.7	
	comp=Z,22nm,1.2s							
M27K	**Edge Creek, AK**	**21.00**	**340**	P		**P**	**13 51 57.9**	**+0.9**
	baz=148							
DIV	**Divide**	**21.09**	**334**	IAmb		IAmb	13 52 04.3	
	comp=Z,18nm,1.0s							
N25K	**Chitina, Valde**	**21.11**	**336**	IAmb		IAmb	13 52 01.9	
	comp=Z,18nm,1.1s							
N25K	**Chitina, Valde**	**21.11**	**336**	P		**P**	**13 51 58.3**	**+0.2**
	baz=142							
AMTX	**Amarillo**	**21.31**	**105**	IAmb		IAmb	13 52 04.5	
	comp=Z,21nm,0.8s							
M26K	**Nabesna, AK**	**21.31**	**339**	P		**P**	**13 52 01.0**	**+0.7**
	baz=146							
GLI	**Glacier Island**	**21.34**	**332**	P		**P**	**13 52 00.8**	**+0.2**
	baz=136							
KLU	**Klutina**	**21.42**	**335**	IAmb		IAmb	13 52 04.8	
	comp=Z,17nm,1.0s							
KLU	**Klutina**	**21.42**	**335**	P		**P**	**13 52 02.2**	**+0.8**
	baz=140							
K29M	**Barlow Dome**	**21.45**	**347**	P		**P**	**13 52 02.3**	**+0.5**
	baz=159,SNR=6.2							
VHRN	**Van Horn**	**21.48**	**118**	IAmb		IAmb	13 52 15.1	
	comp=Z,13nm,1.0s							
BCAR	**Beaver Creek A**	**21.58**	**342**	P		**P**	**13 52 05.4**	**+2.2**
L27K	**Beaver Creek,**	**21.59**	**342**	IAmb		IAmb	13 52 06.3	
	comp=Z,12nm,0.9s							
L27K	**Be

	baz=147					
F33A	5 Mile Ranch,	21.95	73	IAmb	IAmb	13 52 13.0
	comp=Z,41nm,1.0s					
SYI	Shuyak Island	21.95	323	IAmb	IAmb	13 52 10.0
	comp=Z,46nm,1.1s					
Q20K	Shuyak Island	21.95	323	P	P	13 52 07.0 0.0
	baz=123,SNR=5.2					
J30M	Hart River	21.96	349	IAmb	IAmb	13 52 13.9
	comp=Z,10nm,0.9s					
J30M	Hart River	21.96	349	P	P	13 52 08.0 +0.7
	baz=162,SNR=15					
M24K	Tolsona, Glenn	21.97	336	P	P	13 52 07.5 +0.2
	baz=140					
DAWY	Dawson	21.98	345	IAmb	IAmb	13 52 12.7
	comp=Z,36nm,1.4s					
DAWY	Dawson	21.98	345	P	P	13 52 07.7 +0.4
	baz=155,SNR=13					
ECSD	EROS Data Cent	21.98	78	IAmb	IAmb	13 52 10.4
	comp=Z,18nm,0.8s					
BRLK	Bradley Lake	21.99	327	IAmb	IAmb	13 52 13.8
	comp=Z,33nm,1.3s					
O22K	Cooper Landing	22.00	329	P	P	13 52 08.2 +0.6
	baz=131					
SCM	Sheep Creek Mo	22.12	334	IAmb	IAmb	13 52 16.4
	comp=Z,54nm,1.3s					
SCM	Sheep Creek Mo	22.12	334	P	P	13 52 09.1 +0.2
	baz=138					
J29N	Klondike Camp	22.13	347	P	P	13 52 09.5 +0.5
	baz=158					
KNK	Knik Glacier	22.19	332	IAmb	IAmb	13 52 12.8
	comp=Z,20nm,0.7s					
KNK	Knik Glacier	22.19	332	P	P	13 52 09.9 +0.3
	baz=135					
CHIR	Chirikof Islan	22.21	314	P	P	13 52 10.5 +0.6
	baz=112					
M23K	Glacier View	22.22	334	P	P	13 52 10.1 +0.2
	baz=137,SNR=5.2					
SMWD	Samnorwood	22.22	103	IAmb	IAmb	13 52 21.3
	comp=Z,17nm,0.9s					
HOM	Homer	22.23	326	P	P	13 52 10.7 +0.6
	baz=126					
ULM	Lac du Bonnet	22.29	61	P	P	13 52 12.2 +1.3
	comp=Z,51nm,0.9s,baz=263,slow=9.9,SNR=24					
ULM				LR	LR	14 01 09.4
	comp=Z,638nm,18.8s,baz=266,slow=38					
	comp=Z,51nm,0.9s					
RC01	Rabbit Creek A	22.41	330	P	P	13 52 12.1 +0.1
	baz=132					
POST	Post	22.41	109	IAmb	IAmb	13 52 16.6
	comp=Z,12nm,1.0s					
SML	Sawmill	22.43	333	IAmb	IAmb	13 52 16.5
	comp=Z,22nm,1.0s					
SML	Sawmill	22.43	333	P	P	13 52 11.9 -0.4
	baz=136					
PAX	Paxson	22.44	338	P	P	13 52 12.2 -0.2
	baz=143					
K27K	Chicken	22.48	343	P	P	13 52 13.2 +0.4
	baz=150					
PMR	Palmer	22.54	332	IAmb	IAmb	13 52 15.6
	comp=Z,12nm,1.0s					
PMR	Palmer	22.54	332	P	P	13 52 14.4 +1.0
	baz=134					
I30M	Mount Dempster	22.58	350	P	P	13 52 14.2 +0.3
	baz=162,SNR=6.1					
GHO	Glory Hole Cre	22.60	332	IAmb	IAmb	13 52 22.4
	comp=Z,16nm,0.9s					
ALPN	Alpine	22.62	117	IAmb	IAmb	13 52 23.1
	comp=Z,24nm,1.5s					
Q19K	Cape Douglas,	22.67	323	P	P	13 52 15.2 +0.4
	baz=122					
CAPN	Captain Cook N	22.72	329	P	P	13 52 16.4 +1.1
	baz=129					
WAT6	Susitna Watana	22.80	335	P	P	13 52 16.9 +0.5
	baz=138					
SCRK	Sand Creek	22.88	341	P	P	13 52 17.5 +0.4
	baz=147					
O20K	Slope Mountain	22.88	326	P	P	13 52 17.5 +0.5
	baz=126					
P19K	Oil Pt	22.89	325	P	P	13 52 17.4 +0.3
	baz=124					
RIDG	Independent Ri	22.90	339	P	P	13 52 17.0 -0.2
	baz=145					
H31M	Peel River	22.91	352	IAmb	IAmb	13 52 27.3
	comp=Z,12nm,0.7s					
H31M	Peel River	22.91	352	P	P	13 52 17.7 +0.4
	baz=166,SNR=8.2					
EGAK	Eagle	22.95	344	P	P	13 52 17.9 +0.2
	baz=153					
I29M	Ogilvie Camp,	22.99	348	P	P	13 52 18.2 +0.1
	baz=158					
M22K	Willow	23.00	331	IAmb	IAmb	13 52 34.0
	comp=Z,28nm,0.9s					
M22K	Willow	23.00	331	P	P	13 52 18.1 0.0
	baz=133					
SUA	Susitna One	23.02	330	P	P	13 52 19.0 +0.4
	baz=131					
ILSW	Iliamna Southw	23.04	326	IAmb	IAmb	13 52 22.0
	comp=Z,22nm,1.0s					
DHY	Denali Highway	23.07	336	IAmb	IAmb	13 52 22.8
	comp=Z,44nm,1.4s					
DHY	Denali Highway	23.07	336	P	P	13 52 18.8 -0.2
	baz=140,SNR=7.1					
Q18K	Katmai Hardscr	23.14	321	P	P	13 52 19.9 +0.1
	baz=119					
J26L	Joseph Creek	23.23	342	IAmb	IAmb	13 52 27.7
	comp=Z,20nm,1.5s					
J26L	Joseph Creek	23.23	342	P	P	13 52 20.6 +0.1
	baz=148					
APMT	Aspermont	23.23	106	IAmb	IAmb	13 52 25.4
	comp=Z,15nm,1.4s					
WAT1	Susitna Watana	23.24	335	P	P	13 52 20.6 -0.1
	baz=137					
TX31	Lajitas Ar. Si	23.30	119	IAmb	IAmb	13 52 35.5
	comp=Z,8.5nm,0.9s					
TXAR	Lajitas Array	23.30	119	P	P	13 52 21.4 -0.2
TXAR	Lajitas Array	23.30	119	P	P	13 52 22.2 +0.6
	comp=Z,1.1nm,0.7s,baz=298,slow=7.7,SNR=16					
TXAR				LR	LR	14 01 36.9
	comp=Z,150nm,21.6s,baz=302,slow=37					
	comp=Z,1.1nm,0.7s					
R17L	Mt. Peulik Vol	23.31	318	P	P	13 52 21.5 +0.1
	baz=115					
SPU	Mount Spurr	23.33	329	IAmb	IAmb	13 52 29.0
	comp=Z,9.5nm,1.0s					
I28M	Miner Creek	23.34	346	P	P	13 52 21.1 -0.6
	baz=156					
SGCY	Sterling City	23.34	111	IAmb	IAmb	13 52 26.6
	comp=Z,11nm,1.0s					
SPCR	Spurr Chakacha	23.40	329	P	P	13 52 22.6 +0.3
	baz=128					
CUT	Chulitna	23.50	333	P	P	13 52 23.4 +0.3
	baz=134					
LPIG	La Paz	23.57	139	LR	LR	14 00 43.9
	comp=Z,270nm,20.3s,baz=326,slow=34					
P18K	Big Mountain,	23.61	323	P	P	13 52 24.5 +0.1
	baz=120					
EPLO	Experimental L	23.63	63	P	P	13 52 25.7 +1.0
EPLO				IAmb	IAmb	13 52 26.3
	comp=Z,19nm,0.8s					
O19K	Port Alsworth	23.65	325	IAmb	IAmb	13 52 26.8
	comp=Z,14nm,0.9s					
O19K	Port Alsworth	23.65	325	P	P	13 52 24.6 -0.1
	baz=123					
SKT	Skwentna	23.65	331	P	P	13 52 24.0 -0.7
	baz=131					
EPYK	Eagle Plains	23.72	350	P	P	13 52 27.1 +1.6
EPYK				IAmb	IAmb	13 52 30.3
	comp=Z,19nm,0.8s					
EPYK	Eagle Plains	23.72	350	P	P	13 52 25.5 +0.1
	baz=162,SNR=9.2					
J25K	Salcha River,	23.75	340	P	P	13 52 25.6 -0.1
	baz=145					
RND	Reindeer	23.76	335	P	P	13 52 27.5 +1.7
RND				IAmb	IAmb	13 52 28.3
	comp=Z,9.9nm,0.9s					
I27K	Kandik River	23.78	345	P	P	13 52 26.0 -0.1
	baz=153					
H29M	Whitestone	23.80	349	IAmb	IAmb	13 52 30.9
	comp=Z,16nm,0.8s					
H29M	Whitestone	23.80	349	P	P	13 52 26.3 +0.2
	baz=159,SNR=7.6					
I26K	Coal Creek Min	23.83	343	P	P	13 52 26.4 0.0
	baz=150					
O18K	Koktuh Hills	23.84	324	P	P	13 52 26.8 +0.2
	baz=121					
R16K	Pilot Point	23.88	317	P	P	13 52 27.0 0.0
	baz=114					
Q16K	King Salmon	23.91	320	P	P	13 52 27.0 -0.2
	baz=117					
OZNA	Ozona	23.94	113	IAmb	IAmb	13 52 34.6
	comp=Z,35nm,1.5s					
HDA	Harding Lake	23.99	339	P	P	13 52 27.2 -0.7
	baz=142					
G31M	Satah River	24.00	353	P	P	13 52 27.1 -0.8
	baz=167					
MCK	McKinley	24.03	336	IAmb	IAmb	13 52 37.6
	comp=Z,15nm,1.1s					
MCK	McKinley	24.03	336	P	P	13 52 27.6 -0.7
	baz=138					
CHNA	Chernabura Isl	24.04	310	P	P	13 52 27.7 -0.8
	baz=105					
N19K	Bonanza Creek	24.06	326	P	P	13 52 29.0 +0.3
	baz=124					
I37A	Lemond, Waseca	24.22	77	P	P	13 52 31.8 +1.5
TRF	Thorofare Moun	24.24	334	P	P	13 52 30.8 +0.3
	baz=135					
G30M	tAoh Zraii Nji	24.25	351	P	P	13 52 30.9 +0.4
	baz=163					
ILAR	Eielson Array	24.26	339	P	P	13 52 31.0 +0.6
ILAR	Eielson Array	24.26	339	P	P	13 52 29.6 -0.9
	comp=Z,4.2nm,0.8s,baz=129,slow=7.6,SNR=4.4					
ILAR				LR	LR	14 00 25.1
	comp=Z,302nm,21.6s,baz=146,slow=33					
	comp=Z,4.2nm,0.8s					
QUOK	Quay	24.26	97	IAmb	IAmb	13 52 37.1
	comp=Z,22nm,1.1s					
H27K	Steamboat Moun	24.33	346	IAmb	IAmb	13 52 49.4
	comp=Z,9.7nm,1.3s					
H27K	Steamboat Moun	24.33	346	P	P	13 52 31.1 0.0
	baz=154					
WRH	Wood River Hil	24.35	338	IAmb	IAmb	13 52 35.7
	comp=Z,31nm,1.3s					
CCB	Clear Creek Bu	24.40	338	IAmb	IAmb	13 52 36.0
	comp=Z,16nm,1.4s					
G29M	Pine Creek	24.41	349	IAmb	IAmb	13 52 41.3
	comp=Z,20nm,0.7s					
G29M	Pine Creek	24.41	349	P	P	13 52 32.3 +0.5
	baz=160					
F31M	Tsiigehtchic	24.46	354	IAmb	IAmb	13 52 39.9
	comp=Z,9.8nm,1.1s					
F31M	Tsiigehtchic	24.46	354	P	P	13 52 32.3 0.0
	baz=168					
PPLA	Purkeypile	24.48	332	P	P	13 52 32.6 -0.1
	baz=131					
PRP	Porcupine Dome	24.53	341	P	P	13 52 33.2 +0.1
	baz=146					
DEOK	Depew	24.56	97	IAmb	IAmb	13 52 37.8
	comp=Z,27nm,1.2s					
N18K	Kilae Creek	24.57	325	P	P	13 52 33.9 +0.6
	baz=122					
COLA	College	24.59	339	P	P	13 52 33.3 -0.1
	baz=141					
O17K	Koliganek Bris	24.63	322	P	P	13 52 33.5 -0.3
	baz=118					
M19K	Big River Lodg	24.66	329	P	P	13 52 34.3 +0.2
	baz=126					
SDPT	Sand Point	24.67	311	P	P	13 52 34.7 +0.5
	baz=105					
POKR	Poker Plat Res	24.68	339	P	P	13 52 34.8 +0.6
	baz=142					
P16K	Nushagak River	24.69	320	P	P	13 52 35.1 +0.7
	baz=116					
NEA2	Nenana	24.71	337	P	P	13 52 34.9 +0.3
	baz=139,SNR=8.6					
F30M	Barrier River	24.81	352	P	P	13 52 36.1 +0.6
	baz=164					
G27K	Doyon Strip	24.87	346	P	P	13 52 36.9 +0.9
	baz=154					
BPAW	Bear Paw Mtn.	24.92	335	P	P	13 52 37.4 +1.0
	baz=135					
M18K	Stony River	24.98	327	P	P	13 52 37.9 +0.9
	baz=124					
O16K	Kokwok River B	24.99	322	P	P	13 52 38.1 +1.0
	baz=117					
L19K	White Mountain	25.00	329	P	P	13 52 37.8 +0.6
	baz=126					
N17K	Nushagak Hills	25.04	324	P	P	13 52 38.1 +0.6
	baz=120					
EYMN	Ely	25.11	67	P	P	13 52 39.0 +0.7
BRDY	Brady	25.17	109	IAmb	IAmb	13 52 41.7
	comp=Z,7.0nm,0.9s					
CHUM	Lake Minchumin	25.19	334	P	P	13 52 39.5 +0.7
	baz=133					
I23K	Minto, Yukon-K	25.22	338	IAmb	IAmb	13 52 42.1
	comp=Z,15nm,1.0s					
I23K	Minto, Yukon-K	25.22	338	P	P	13 52 40.0 +0.9
	baz=139,SNR=5.4					
DRIO	Del Rio	25.23	115	IAmb	IAmb	13 52 44.3
	comp=Z,12nm,0.9s					
H25L	Birch Creek	25.23	342	P	P	13 52 39.7 +0.5
	baz=146,SNR=5.8					
P38A	Dawn	25.24	87	P	P	13 52 39.1 -0.4
INK	Inuvik	25.30	354	LR	LR	14 02 26.6
	comp=Z,284nm,20.2s,baz=152,slow=36					
INK	Inuvik	25.30	354	P	P	13 52 40.4 +0.7
	baz=169					
F28M	Old Crow	25.32	348	P	P	13 52 40.7 +0.6
	baz=158					
G26K	Porcupine Rive	25.39	345	P	P	13 52 41.4 +0.7
	baz=150					
MLY	Manley	25.52	337	IAmb	IAmb	13 52 45.8
	comp=Z,13nm,0.8s					
MLY	Manley	25.52	337	P	P	13 52 41.9 0.0
	baz=137					
M17K	Holitna River	25.59	326	P	P	13 52 43.5 +1.0
	baz=121					
S12K	Black Hills	25.63	311	P	P	13 52 43.6 +0.6
	baz=104					
N16K	Nishlik Lake	25.70	323	P	P	13 52 44.3 +0.8
	baz=118					
G25K	Bearman Lake	25.71	343	P	P	13 52 43.9 +0.4
	baz=147					
L18K	Granite Mounta	25.72	328	P	P	13 52 44.2 +0.5
	baz=124					
H23K	Yukon River	25.78	339	P	P	13 52 45.1 +0.8
	baz=140					
E29M	Blow River	25.79	351	IAmb	IAmb	13 52 49.5
	comp=Z,15nm,1.2s					
E29M	Blow River	25.79	351	P	P	13 52 44.8 +0.5
	baz=162					
U38A	Gravette	25.83	94	IAmb	IAmb	13 52 49.6
	comp=Z,22nm,0.9s					
G24K	Hadweenzic Riv	25.96	341	IAmb	IAmb	13 53 27.4
	comp=Z,31nm,1.4s					
G24K	Hadweenzic Riv	25.96	341	P	P	13 52 46.6 +0.7
	baz=144					
J20K	Nowinta River	25.99	333	P	P	13 52 46.5 +0.4
	baz=130					
I21K	Tanana	25.99	336	P	P	13 52 46.4 +0.3
	baz=135					
M16K	Timber Creek	26.04	324	P	P	13 52 46.9 +0.3
	baz=118					
F26K	Sheenjek River	26.11	345	P	P	13 52 47.5 +0.3
	baz=151					
E27K	Coleen River	26.11	348	P	P	13 52 47.5 +0.3
	baz=155					
C36M	Paulatuk	26.15	2	P	P	13 52 47.6 +0.1
	baz=185					
N15K	Kwethluk River	26.15	322	P	P	13 52 48.6 +1.0
	baz=115					
E28M	Babbage River	26.20	350	P	P	13 52 48.7 +0.7
	baz=159					
FALS	False Pass	26.20	309	P	P	13 52 48.7 +0.6
	baz=101					
F25K	Christian Rive	26.31	344	P	P	13 52 49.7 +0.6
	baz=148					
L17K	Donlin	26.32	327	P	P	13 52 49.9 +0.8
	baz=121					
O14K	Tigyukauivet M	26.33	319	P	P	13 52 50.0 +0.8
	baz=112					
H22K	Ishtalitna Cre	26.33	338	P	P	13 52 50.0 +0.7
	baz=137					
P40A	Paris	26.35	86	IAmb	IAmb	13 52 55.6
	comp=Z,23nm,1.0s					
J19K	Poorman	26.37	332	P	P	13 52 50.1 +0.5
	baz=128					
J18K	Innoko River	26.44	330	P	P	13 52 50.2 -0.1
	baz=126					
I20K	Naaghedeneel	26.50	334	P	P	13 52 51.0 +0.3
	baz=131					
L16K	Owhat River	26.59	325	P	P	13 52 51.6 +0.1
	baz=119					
G23K	Bananza Creek	26.59	340	P	P	13 52 51.4 -0.2
	baz=140					
K17K	Iditarod	26.62	328	P	P	13 52 52.3 +0.4
	baz=122					
R40A	Maddies Statio	26.63	89	IAmb	IAmb	13 52 57.8
	comp=Z,19nm,1.1s					
M15K	Kasigluk River	26.64	323	P	P	13 52 52.3 +0.2
	baz=115					
F24K	Squaw Lake	26.73	342	P	P	13 52 52.6 -0.2
	baz=145					
E25K	Arctic Village	26.75	345	P	P	13 52 52.6 -0.4
	baz=149					
N14K	Kuskokwak Cree	26.78	320	P	P	13 52 53.4 +0.1
	baz=113					
D28M	Stokes Point	26.79	351	P	P	13 52 53.1 -0.2
	baz=161					
D27M	Malcolm River	26.99	349	P	P	13 52 54.9 -0.3
	baz=157					
COLD	Coldfoot	27.04	340	P	P	13 52 55.3 -0.2
	baz=141					
H20K	Anotleneega Mo	27.09	335	P	P	13 52 56.0 -0.1
	baz=131					
G22K	Bettles	27.13	339	P	P	13 52 56.3 -0.1
	baz=138					
M14K	Bethel	27.23	322	P	P	13 52 56.2 -1.1
	baz=114					
GCSA	Galena City Sc	27.27	332	P	P	13 52 57.2 -0.4
	baz=127					
J17K	VABM Dome	27.29	329	P	P	13 52 57.4 -0.4
	baz=122					
E24K	Your Creek	27.31	343	P	P	13 52 57.4 -0.7
	baz=144					
G21K	Allakaket	27.38	337	P	P	13 52 58.5 -0.2
	baz=135					
L15K	Ungalak Mounta	27.42	324	P	P	13 52 58.8 -0.3
	baz=116					
CCM	Cathedral Cave	27.47	89		P	13 52 59.0 -0.7
CCM				IAmb	IAmb	13 53 09.0
	comp=Z,10nm,0.8s					
E23K	Chandalar	27.55	342	P	P	13 52 59.5 -0.8
	baz=143					
H19K	Roundabout Mou	27.61	334	P	P	13 53 00.2 -0.5
	baz=129					
K15K	Wolf Creek Mou	27.72	325	P	P	13 53 00.8 -0.9
	baz=117					
M13K	Dall Lake	27.74	321	P	P	13 53 01.5 -0.3
	baz=112					
C27K	Jago River	27.75	347	P	P	13 53 01.4 -0.6
	baz=153					
F22K	John River	27.75	339	P	P	13 53 01.8 -0.2
	baz=138					
L14K	Kuka Creek	27.80	323	P	P	13 53 02.4 0.0
	baz=114					
J16K	Anvik River	27.82	328	P	P	13 53 02.5 -0.1
	baz=120					
UNV	Unalaska Valle	27.84	306	P	P	13 53 02.7 -0.2
	baz=96					
F21K	Alatna River	27.88	338	P	P	13 53 03.1 -0.1
	baz=136					
D25K	Kavik River	27.93	345	P	P	13 53 02.0 -1.6
	baz=149					
TOLK	Toolik Lake Re	28.01	343	P	P	13 53 03.2 -1.1
	baz=143					
H18K	Honhosa River	28.02	332	P	P	13 53 03.6 -0.8
	baz=126					
FVM	French Village	28.09	88	IAmb	IAmb	13 53 13.5
	comp=Z,16nm,1.1s					
E22K	Anaktuvuk Pass	28.13	341	P	P	13 53 04.7 -0.7
	baz=139					
I17K	Unalakleet	28.16	329	P	P	13 53 04.7 -0.9
	baz=121					
C26K	Camden Bay	28.20	347	P	P	13 53 05.4 -0.5
	baz=152					
D24K	Happy Valley	28.27	344	P	P	13 53 05.4 -1.1
	baz=145					
F20K	Avaraart Lake	28.39	337	P	P	13 53 06.4 -1.3
	baz=132					
H17K	Granite Mounta	28.43	331	P	P	13 53 06.5 -1.6
	baz=124					
D23K	Nanushuk River	28.51	342	P	P	13 53 07.1 -1.7
	baz=142					
G18K	Tagagawik	28.56	333	P	P	13 53 07.9 -1.3
	baz=127					
C24K	Franklin Bluff	28.71	344	P	P	13 53 08.3 -2.1
	baz=146					
J14K	Nanvaranak Lak	28.76	325	P	P	13 53 09.4 -1.5
	baz=115					
A36M	Sachs Harbour	28.77	1	P	P	13 53 09.1 -1.9
	baz=183					
F19K	Shaleruckik Mo	28.86	335	P	P	13 53 10.1 -1.7
	baz=129					
E21K	Killik River	28.90	340	P	P	13 53 10.6 -1.6
	baz=137					
K13K	Kusilvak Mount	28.90	323	P	P	13 53 10.6 -1.6
	baz=113					
D22K	Ayikyak River	28.91	341	P	P	13 53 10.7 -1.6
	baz=139					
G17K	Kiwalik Mounta	29.01	332	P	P	13 53 11.7 -1.5
	baz=124					
M11K	Mekoryuk	29.06	320	P	P	13 53 12.4 -1.2
	baz=108					
E19K	Redstone River	29.10	336	P	P	13 53 12.2 -1.8
	baz=131					
H16K	Elim	29.12	329	P	P	13 53 12.6 -1.6
	baz=120					
NIKH	Nikolski High	29.18	304	P	P	13 53 12.4 -2.4
	baz=92					
C23K	Itkillik River	29.19	343	P	P	13 53 12.5 -2.2
	baz=143					
F18K	Selawik	29.30	334	P	P	13 53 13.7 -2.0
	baz=126					
E20K	Nigu River	29.35	338	P	P	13 53 14.1 -2.1
	baz=133					
G16K	Koyuk River	29.55	331	P	P	13 53 16.2 -1.7
	baz=121					
C21K	Knifeblade Rid	29.62	340	P	P	13 53 16.7 -1.9
	baz=136					
F17K	Baldwin Pennin	29.74	333	P	P	13 53 18.0 -1.6
	baz=124					
D20K	Etivluk River	29.77	339	P	P	13 53 18.5 -1.5
	baz=133					
P08K	Saint George I	29.91	311	P	P	13 53 20.2 -1.0
	baz=98					
B21K	Ikpikpuk River	29.92	341	P	P	13 53 19.7 -1.4
	baz=137					
G15K	Niukluk	29.97	329	P	P	13 53 20.7 -0.9
	baz=118					
D19K	Kuna River	30.04	338	P	P	13 53 21.3 -0.9
	baz=131					
E18K	Tukpahlearik C	30.09	335	P	P	13 53 21.8 -1.0
	baz=126					
B22K	Teshekpuk Lake	30.19	343	P	P	13 53 22.8 -0.8
	baz=140					
ANM	Nome	30.28	328	P	P	13 53 23.5 -1.0
	baz=116					
E17K	Hotham Inlet	30.29	334	P	P	13 53 23.6 -0.9
	baz=124					
SPIA	Saint Paul Isl	30.37	312	P	P	13 53 24.4 -0.9
	baz=98					
F15K	North Star Dit	30.54	330	P	P	13 53 25.7 -1.0
	baz=119					
C19K	Lookout Ridge	30.84	338	P	P	13 53 27.6 -1.8
	baz=130					
C18K	Utukok River	31.01	336	P	P	13 53 29.5 -1.5
	baz=127					
A22K	Sinclair Lake	31.03	343	P	P	13 53 29.8 -1.2
	baz=138					
D17K	Noatak River	31.03	334	P	P	13 53 29.8 -1.2
	baz=124					
F14K	Arctic Creek	31.05	329	P	P	13 53 30.0 -1.2
	baz=116					
RDOG	Red Dog Mine	31.18	335	P	P	13 53 31.4 -0.9
	baz=124					
C17K	DeLong Mountai	31.50	335	P	P	13 53 33.9 -1.3
	baz=124					
B18K	Kokolik River	31.62	337	P	P	13 53 35.4 -0.8
	baz=127					
A21K	Barrow	31.63	342	P	P	13 53 35.4 -0.8
	baz=136					
TNA	Tin City	31.69	329	P	P	13 53 35.8 -1.0
	baz=114					
A19K	Wainwright	31.95	339	P	P	13 53 38.4 -0.6
	baz=129					
C16K	Lisburne Hills	32.06	334	P	P	13 53 39.1 -0.9
	baz=121					
GAMB	Gambell	32.57	324	P	P	13 53 43.9 -0.6
	baz=107					
TKL	Tuckaleechee C	33.91	88	LR	LR	14 08 13.6
	comp=Z,488nm,20.6s,baz=300,slow=37					
SADO	Sadowa	34.04	71	LR	LR	14 07 42.8
	comp=Z,3µm,21.6s,baz=330,slow=36					
RES	Resolute Bay	34.59	14	LR	LR	14 09 10.3

comp=Z,159nm,20.2s,baz=342,slow=38
CMIG Matias Romero 37.72 124 LR LR 14 10 43.4
comp=Z,133nm,21.5s,baz=352,slow=37
FRB Frobisher Bay 38.55 37 LR LR 14 10 48.6
comp=Z,392nm,18.3s,baz=269,slow=37
SHEM Shemya Is, Ala 39.49 305 LR LR 14 08 08.1
comp=Z,73nm,21.1s,baz=285,slow=32
SCHQ Schefferville 39.86 52 LR LR 14 11 25.5
comp=Z,5μm,19.4s,baz=286,slow=36
APG El Apazote 42.04 121 LR LR 14 12 43.6
comp=Z,12nm,21.7s,baz=94,slow=36
SEY Seymchan 48.54 323 P **P 13 55 56.3 0.0**
comp=Z,1.7nm,0.7s,baz=117,slow=12,SNR=5.7
SEY LR LR 14 16 01.0
comp=Z,247nm,18.3s,baz=85,slow=36
comp=Z,1.7nm,0.7s
PETK Petropavlovsk- 48.94 309 P **P 13 55 59.2 -0.4**
comp=Z,2.8nm,0.9s,baz=80,slow=13,SNR=7.6
PETK LR LR 14 14 05.4
comp=Z,74nm,19.8s,baz=123,slow=33
comp=Z,2.8nm,0.9s
JTS Las Juntas de 49.09 119 LR LR 14 18 02.2
comp=Z,56nm,20.7s,baz=310,slow=38
MA2 Magadan 50.32 319 LR LR 14 15 51.3
comp=Z,146nm,20.3s,baz=80,slow=34
TAOE Nuku Hiva Isla 53.28 196 *e*LR LR 14 11 47.7
comp=Z,82nm,24.0s
TIXI Tiksi 53.72 338 LR LR 14 20 03.3
comp=Z,132nm,20.1s,baz=70,slow=37
SJG San Juan 56.67 96 LR LR 14 21 07.7
comp=Z,84nm,21.3s,baz=150,slow=36
SPITS Spitsbergen Ar 56.77 8 LR LR 14 22 38.0
comp=Z,36nm,18.2s,baz=306,slow=38
BORG Borgarnes 57.80 29 LR LR 14 20 17.7
comp=Z,150nm,18.2s,baz=307,slow=34
JMIC Jan Mayen 57.88 20 LR LR 14 20 53.0
comp=Z,86nm,19.4s,baz=162,slow=35
YAK Yakutsk 58.44 327 LR LR 14 20 54.8
comp=Z,48nm,20.5s,baz=51,slow=35
H11N3 WAKE ISLAND Hy 59.48 269 T T 15 01 25.5
baz=51,slow=75,SNR=480
H11N2 WAKE ISLAND Hy 59.48 269 T T 15 01 24.1
baz=51,slow=75,SNR=313
H11N1 WAKE ISLAND Hy 59.50 269 T T 15 01 29.4
baz=51,slow=75,SNR=309
SDV Santo Domingo 59.70 108 LR LR 14 26 57.5
comp=Z,79nm,18.2s,baz=342,slow=40
ROSC El Rosal 60.11 114 LR LR 14 27 13.1
comp=Z,26nm,20.7s,baz=269,slow=40
H11S1 WAKE ISLAND Hy 60.40 268 T T 15 02 37.4
baz=50,slow=75,SNR=1701
H11S2 WAKE ISLAND Hy 60.41 268 T T 15 02 33.2
baz=50,slow=75,SNR=2268
H11S3 WAKE ISLAND Hy 60.42 268 T T 15 02 38.8
baz=50,slow=75,SNR=1162
BAUV El Baul 61.47 106 **P 13 57 30.7 +0.2**
PPT Papeete 64.03 204 LR LR 14 17 50.9
comp=Z,61nm,21.9s,baz=62,slow=29
PPT2 Papeete2 64.05 204 *e*LQ LQ 14 14 07.1
comp=Z,138nm,24.2s
PPT2 *e*LR LR 14 16 34.4
comp=Z,92nm,30.8s
PPT2 *e*LR LR 14 16 54.2
comp=Z,158nm,28.2s
ARCES ARCESS Array B 65.66 10 LR LR 14 28 56.9
comp=Z,48nm,18.2s,baz=356,slow=38
HEH HeiHe 66.54 318 *e*P **P 13 58 02.8 -0.6**
HEH pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 69.15 301 IAmb IAmb 13 58 21.8
comp=Z,6.1nm,1.5s
MJAR Matsushiro Arr 69.15 301 P **P 13 58 20.1 +0.1**
comp=Z,1.0nm,0.7s,baz=43,slow=4.6,SNR=1.7
comp=Z,1.0nm,0.7s
TBI Tubuai 69.47 202 *e*LR LR 14 19 21.0
comp=Z,556nm,26.5s
NOA NORSAR Array B 70.60 20 P **P 13 58 28.2 -0.3**
comp=Z,0.7nm,0.7s,baz=328,slow=5.9,SNR=3.0
NOA LR LR 14 28 26.1
comp=Z,32nm,19.0s,baz=325,slow=35
comp=Z,0.7nm,0.7s
RAR Rarotonga 70.93 212 LR LR 14 21 33.5
comp=Z,86nm,19.5s,baz=32,slow=29
HFS Hagfors 72.00 19 P **P 13 58 37.5 +0.5**
comp=Z,2.7nm,0.8s,baz=350,slow=7.5,SNR=4.9
HFS LR LR 14 29 04.2
comp=Z,93nm,19.7s,baz=334,slow=35
comp=Z,2.7nm,0.8s
FINES FINESS Array B 73.34 13 P **P 13 58 44.8 -0.1**
comp=Z,1.8nm,1.0s,baz=324,slow=9.4,SNR=4.2
comp=Z,1.8nm,1.0s
KSRS Korea Array 74.77 307 P **P 13 58 54.0 +0.3**
KSRS Korea Array 74.77 307 P **P 13 58 54.0 +0.3**
comp=Z,0.6nm,0.6s,baz=48,slow=7.6,SNR=1.6
SONM Songino Array 77.78 326 IAmb IAmb 13 59 21.8
comp=Z,3.5nm,1.2s
SONM Songino Array 77.78 326 P **P 13 59 10.7 -0.1**
comp=Z,1.1nm,0.7s,baz=54,slow=2.6,SNR=3.8
SONM LR LR 14 32 58.1
comp=Z,75nm,21.9s,baz=38,slow=35
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 79.36 342 P **P 13 59 18.6 -0.6**
comp=Z,0.4nm,0.4s,baz=26,slow=8.2,SNR=3.9
ZALV LR LR 14 35 34.8
comp=Z,43nm,20.7s,baz=33,slow=37
comp=Z,0.4nm,0.4s
LPAZ La Paz 80.09 123 P **P 13 59 24.1 -0.3**
comp=Z,1.2nm,0.7s,baz=218,slow=10,SNR=3.6
LPAZ LR LR 14 36 21.8
comp=Z,30nm,18.0s,baz=22,slow=37
comp=Z,1.2nm,0.7s
ARTI Arti 80.57 357 LR LR 14 36 50.1
comp=Z,41nm,20.7s,baz=28,slow=37
HHC Hu-ho-hao-te 81.00 319 *e*P **P 13 59 27.0 -1.5**
GERES GERESS Array B 81.95 25 P **P 13 59 33.6 +0.2**
comp=Z,0.3nm,0.3s,baz=21,slow=8.4,SNR=4.0
GERES LR LR 14 37 49.1
comp=Z,77nm,18.2s,baz=332,slow=37
comp=Z,0.3nm,0.3s
VRAC Vranov 82.40 23 LR LR 14 38 09.6
comp=Z,50nm,18.6s,baz=326,slow=37
ESDC Sonseca Array 82.67 41 IAmb IAmb 13 59 52.9
comp=Z,3.3nm,1.4s
ESDC Sonseca Array 82.67 41 P **P 13 59 37.5 +0.3**
comp=Z,0.7nm,0.7s,baz=346,slow=5.1,SNR=4.8
ESDC LR LR 14 33 10.8
comp=Z,105nm,19.7s,baz=318,slow=33
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 82.88 350 LR LR 14 41 27.2
comp=Z,67nm,18.1s,baz=22,slow=39
KURK Kurchatov 83.74 344 P **P 13 59 41.8 -0.7**
KURK Kurchatov 83.74 344 IAmb IAmb 13 59 51.2
comp=Z,3.6nm,1.1s
KURBB Kurchatov Arra 83.84 344 P **P 13 59 41.8 -1.2**
comp=Z,0.6nm,0.6s,baz=17,slow=4.8,SNR=4.3
KURBB LR LR 14 40 45.3
comp=Z,45nm,18.1s,baz=170,slow=38
comp=Z,0.6nm,0.6s
NJ2 Nanjing 83.84 309 *e*P **P 13 59 43.8 +0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 84.11 15 IAmb IAmb 14 00 07.5
comp=Z,3.4nm,1.2s
AKASG Malin Array Be 84.11 15 P **P 13 59 44.6 +0.3**
comp=Z,0.3nm,0.4s,baz=337,slow=3.9,SNR=4.4
comp=Z,0.3nm,0.4s
HNR Honiara 84.34 252 LR LR 14 31 07.3
comp=Z,67nm,19.3s,baz=38,slow=31
AKTO Aktyubinsk 86.54 357 LR LR 14 40 47.4
comp=Z,50nm,20.6s,baz=292,slow=37
MKAR Makanchi Array 86.61 340 P **P 13 59 54.9 -2.1**
comp=Z,0.3nm,0.6s,baz=32,slow=8.5,SNR=1.6
MKAR LR LR 14 39 23.8
comp=Z,66nm,21.8s,baz=357,slow=36
comp=Z,0.3nm,0.6s
GTA Gaotai 87.42 326 *e*P **P 14 00 01.3 +0.1**
GTA sP pwP 14 00 07.9 -0.2
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=N,160nm,22.2s
GTA LR LR
comp=E,62nm,21.1s
GTA LR LR
comp=Z,160nm,20.4s
MDT Midelt 87.74 45 LR LR 14 38 08.3
comp=Z,54nm,18.0s,baz=22,slow=35
WMQ Urumqi 87.87 336 *e*P **P 14 00 06.1 +2.9**
WMQ LR LR
comp=Z,130nm,18.7s
MLR Muntele Rosu 88.36 19 LR LR 14 39 49.9
comp=Z,117nm,18.5s,baz=340,slow=36
LZDM Lanzhou Array 88.61 321 P **P 14 00 07.3 +0.1**
comp=Z,0.8nm,0.3s,baz=38,slow=5.9,SNR=1.3
comp=Z,0.8nm,0.3s
DZM Mont Dzumac 89.20 238 LR LR 14 31 23.3
comp=Z,102nm,20.4s,baz=32,slow=30
KEST Kesra 91.85 34 LR LR 14 40 19.9
comp=Z,86nm,19.9s,baz=271,slow=35
VAE Valguarnera 92.28 30 LR LR 14 42 09.4
comp=Z,91nm,18.4s,baz=316,slow=36
AAK Ala-Archa 92.29 344 LR LR 14 45 01.9
comp=Z,52nm,18.0s,baz=29,slow=38
BDFB Brasilia 92.79 109 LR LR 14 46 14.8
comp=Z,67nm,18.9s,baz=298,slow=38
KBZ Khabaz 92.88 7 LR LR 14 45 52.7
comp=Z,39nm,18.4s,baz=26,slow=38
CPUP Villa Florida 94.23 122 LR LR 14 45 58.8
comp=Z,14nm,18.1s,baz=215,slow=37
URZ Urewera 95.70 221 LR LR 14 35 31.3
comp=Z,93nm,20.5s,baz=58,slow=30
PZH PanZhiHua 97.36 317 P Pdif 14 00 48.1 +0.6
DAV Davao City (W) 97.67 287 LR LR 14 36 01.7
comp=Z,32nm,21.5s,baz=238,slow=30

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*NEIC **21** 13:49:31.8±1.4, 65°.63N±0°.02×165°.18W±0°.04, h7km±4km, Error ellipse: s-maj=3.5km s-min=2.1km az=197.0*
*NEIC **21** 13:49:31, 65°.60N×165°.24W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.17; $M_{\theta\theta}$1.97; $M_{\phi\phi}$-1.80; $M_{r\theta}$-0.79; $M_{\theta\phi}$-0.42; $M_{\phi r}$-0.79; Fault plane solution: $M_0$2.24000×10^{14} NP1:ϕ_s52.00000°, δ86.00000°, λ-150.00000°. NP2:ϕ_s320.00000°, δ60.00000°, λ-5.00000°. Principal axes: T 2.2370, Plg17.0000°, Azm182.0000°; N 0.0003, Plg60.0000°, Azm60.0000°; P -2.2373, Plg24.0000°, Azm280.0000°;*
AEIC 21 13:49:32.0±1.3, 65°.59N±0°.03×165°.21W±0°.03, h10km±3km, ML3.4, mb_Lg3.2/33(NEIC), ML3.5/72(NEIC), Mwr3.5/16(SLM) Error ellipse: s-maj=4.3km s-min=1.1km az=204.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F15K	**North Star Dit**	**0.26**	**62**	Pg	Pg	13 49 37.5	+0.1
F14K	**Arctic Creek**	**0.48**	**257**		Pg	13 49 41.6	+0.3
F14K					Sg	13 49 47.8	+0.2
G15K	**Niukluk**	**0.77**	**140**		Pg	13 49 46.4	-0.5
G15K					Sg	13 49 57.1	+0.1
ANM	**Nome**	**1.03**	**184**	Pg	Pg	13 49 51.5	-0.3
ANM				IAmb_Lg		13 50 04.6	
	comp=Z,144nm,1.1s						
ANM				IAML		13 50 08.0	
	comp=E,1μm,0.5s						
ANM	**Nome**	**1.03**	**184**		Sb	13 50 05.8	+0.5
TNA	**Tin City**	**1.13**	**270**		Pn	13 49 53.8	+0.1
TNA				IAML		13 50 13.7	
	comp=E,948nm,0.7s						
TNA				IAML		13 50 13.7	
	comp=N,1μm,0.5s						
TNA	**Tin City**	**1.13**	**270**		Sg	13 50 08.7	+0.4
TNA					Sn	13 50 09.1	-0.2
G16K	**Koyuk River**	**1.21**	**98**		Pn	13 49 54.5	-0.4
G16K				IAML		13 50 13.4	
	comp=N,809nm,0.6s						
G16K	**Koyuk River**	**1.21**	**98**		Sb	13 50 10.6	+0.1
H16K	**Elim**	**1.58**	**126**		Pn	13 49 59.9	0.0
H16K					Sg	13 50 21.6	-1.0
H16K					Sb	13 50 21.0	-0.1
F17K	**Baldwin Pennin**	**1.83**	**60**		Pn	13 50 03.8	+0.4
F17K				IAmb_Lg		13 50 33.5	
	comp=Z,111nm,1.0s						
F17K				IAML		13 50 35.5	
	comp=N,489nm,0.8s						
F17K				IAML		13 50 35.6	
	comp=E,470nm,0.9s						
G17K	**Kiwalik Mounta**	**1.90**	**91**		Pn	13 50 04.1	-0.2
G17K					Sn	13 50 28.8	+0.5
G17K					Sb	13 50 30.1	-0.3
E17K	**Hotham Inlet**	**2.03**	**41**		Pn	13 50 05.6	-0.6
E17K					Pb	13 50 06.2	-2.6
D17K	**Noatak River**	**2.28**	**21**		Pn	13 50 09.8	+0.1
D17K					Pb	13 50 10.2	-3.0
D17K					Sn	13 50 38.9	+1.2
H17K	**Granite Mounta**	**2.32**	**104**		Pn	13 50 10.8	+0.6
H17K				IAML		13 50 47.6	
	comp=E,287nm,0.6s						
F18K	**Selawik**	**2.48**	**63**		Pn	13 50 12.4	+0.1
F18K					Pb	13 50 12.9	-3.7
I17K	**Unalakleet**	**2.58**	**129**		Pn	13 50 15.2	+1.4
I17K	**Unalakleet**	**2.58**	**129**		Sn	13 50 46.2	+1.1
E18K	**Tukpahlearik C**	**2.61**	**43**	Pn	Pn	13 50 14.5	+0.4
E18K				IAML		13 51 05.4	
	comp=E,155nm,0.8s						
RDOG	**Red Dog Mine**	**2.64**	**19**	Pn	Pn	13 50 14.9	+0.4
C16K	**Lisburne Hills**	**2.70**	**359**		Pn	13 50 15.8	+0.4
C16K					Sn	13 50 48.9	+0.9
C16K	**Lisburne Hills**	**2.70**	**359**	IAML		13 51 06.6	
	comp=E,142nm,0.7s						
G18K	**Tagagawik**	**2.73**	**81**		Pn	13 50 15.6	-0.2
G18K				IAmb_Lg		13 51 00.3	
	comp=Z,97nm,0.8s						
H18K	**Honhosa River**	**2.90**	**96**		Pn	13 50 18.7	+0.6
H18K				IAML		13 51 06.7	
	comp=N,247nm,0.8s						
H18K				IAML		13 51 08.9	
	comp=E,197nm,1.0s						
J14K	**Nanvaranak Lak**	**2.94**	**165**		Pn	13 50 19.8	+1.1
J14K				IAmb_Lg		13 51 12.1	
	comp=Z,118nm,0.7s						
J14K				IAML		13 51 14.7	
	comp=E,199nm,0.8s						
J14K				IAML		13 51 19.4	
	comp=N,161nm,0.8s						
C17K	**DeLong Mountai**	**3.01**	**14**		Pn	13 50 20.9	+1.2
J16K	**Anvik River**	**3.06**	**137**		Pn	13 50 21.4	+1.1
J16K				IAmb_Lg		13 51 14.0	
	comp=Z,121nm,0.8s						
J16K				IAML		13 51 15.1	
	comp=E,212nm,0.8s						
F19K	**Shaleruckik Mo**	**3.26**	**64**	Pn	Pn	13 50 22.9	-0.2
F19K				IAmb_Lg		13 51 18.6	
	comp=Z,59nm,0.9s						
GAMB	**Gambell**	**3.33**	**240**	Pn	Pn	13 50 25.2	+1.2
GAMB				IAML		13 51 29.1	
	comp=E,157nm,0.7s						
J17K	**VABM Dome**	**3.45**	**127**		Pn	13 50 27.4	+1.7
C18K	**Utukok River**	**3.45**	**25**	Pn	Pn	13 50 26.7	+1.0
H19K	**Roundabout Mou**	**3.64**	**87**		Pn	13 50 29.0	+0.7
H19K				IAML		13 51 31.0	
	comp=E,79nm,0.5s						
H19K				IAML		13 51 32.8	
	comp=N,86nm,0.8s						
K13K	**Kusilvak Mount**	**3.68**	**176**		Pn	13 50 30.1	+1.4
K13K				IAML		13 51 37.1	
	comp=N,124nm,0.8s						
K13K				IAmb_Lg		13 51 37.4	
	comp=Z,88nm,0.9s						
K15K	**Wolf Creek Mou**	**3.68**	**152**	Pn	Pn	13 50 30.4	+1.5
E19K	**Redstone River**	**3.70**	**56**	Pn	Pn	13 50 30.2	+1.0
E19K				IAML		13 51 35.5	
	comp=E,61nm,0.8s						
E19K				IAML		13 51 39.4	
	comp=N,66nm,0.8s						
E19K				IAmb_Lg		13 51 39.6	
	comp=Z,51nm,0.8s						
D19K	**Kuna River**	**4.03**	**40**	Pn	Pn	13 50 34.3	+0.6
D19K				IAmb_Lg		13 51 46.3	
	comp=Z,60nm,1.3s						
D19K				IAML		13 51 53.0	
	comp=N,48nm,0.9s						
F20K	**Avaraart Lake**	**4.10**	**65**	IAML		13 51 44.5	
	comp=N,45nm,0.7s						
F20K				IAmb_Lg		13 51 51.4	
	comp=Z,58nm,1.1s						
K17K	**Iditarod**	**4.18**	**130**		Pn	13 50 37.0	+1.3
K17K				IAmb_Lg		13 51 53.7	
	comp=Z,41nm,0.7s						
J18K	**Innoko River**	**4.24**	**116**		Pn	13 50 38.2	+1.6
J18K				IAmb_Lg		13 51 50.5	
	comp=Z,69nm,1.1s						
J18K				IAML		13 51 51.5	
	comp=E,42nm,0.8s						
J18K				IAML		13 51 51.5	
	comp=N,50nm,0.8s						
L15K	**Ungalak Mounta**	**4.26**	**155**		Pn	13 50 37.8	+1.0
H20K	**Anotleneega Mo**	**4.30**	**87**		Pn	13 50 38.2	+0.9
J19K	**Poorman**	**4.40**	**107**	IAML		13 51 57.7	
	comp=N,45nm,0.9s						
J19K				IAML		13 52 00.2	
	comp=E,40nm,1.0s						
J19K				IAmb_Lg		13 52 01.5	
	comp=Z,60nm,1.1s						
L14K	**Kuka Creek**	**4.41**	**164**		Pn	13 50 40.1	+1.2
L14K				IAmb_Lg		13 52 00.1	
	comp=Z,39nm,0.8s						
I20K	**Naaghedeneel**	**4.59**	**95**	Pn	Pn	13 50 42.5	+1.2
L16K	**Owhat River**	**4.66**	**144**		Pn	13 50 43.5	+1.2
L16K				IAmb_Lg		13 52 06.8	
	comp=Z,35nm,1.0s						
L16K				IAML		13 52 21.9	
	comp=N,30nm,1.2s						
IMAR	**Indian Mountai**	**4.74**	**80**	Pn	Pn	13 50 44.6	+1.2
IM05	**Indian Mountai**	**4.75**	**80**		Pn	13 50 44.4	+0.9
G21K	**Allakaket**	**4.86**	**74**	IAML		13 52 14.3	
	comp=E,48nm,0.9s						
J20K	**Nowinta River**	**4.92**	**102**	IAML		13 52 22.5	
	comp=N,27nm,0.7s						
J20K				IAML		13 52 23.2	
	comp=E,27nm,1.2s						
F21K	**Alatna River**	**4.99**	**66**	IAML		13 52 22.2	
	comp=E,29nm,0.8s						
F21K				IAML		13 52 22.3	
	comp=N,24nm,1.1s						
L18K	**Granite Mounta**	**5.06**	**128**	IAmb_Lg		13 52 26.6	
	comp=Z,42nm,1.1s						
M14K	**Bethel**	**5.07**	**162**	IAmb_Lg		13 52 21.3	
	comp=Z,30nm,0.8s						
H21K	**Melozitna Rive**	**5.14**	**84**	IAML		13 52 22.0	
	comp=E,20nm,0.8s						
H21K				IAML		13 52 23.2	
	comp=N,20nm,0.9s						
K20K	**Telida**	**5.31**	**110**	IAML		13 52 31.1	
	comp=E,27nm,1.2s						
K20K				IAML		13 52 33.4	
	comp=N,28nm,1.1s						
L19K	**White Mountain**	**5.71**	**122**		Pn	13 50 58.0	+1.3
CHUM	**Lake Minchumin**	**5.78**	**101**		Pn	13 50 58.9	+1.3
M18K	**Stony River**	**5.87**	**130**		Pn	13 50 59.9	+1.0
N16K	**Nishlik Lake**	**5.91**	**147**		Pn	13 51 00.1	+0.7
SPNN	**North Nagishla**	**7.02**	**121**		Pn	13 51 16.2	+1.4
STLK	**Strandline Lak**	**7.24**	**118**		Pn	13 51 19.0	+1.2
CKL	**Chakachamna La**	**7.26**	**121**		Pn	13 51 19.4	+1.4
SLKM	**Skilak Lake**	**8.49**	**120**		Pn	13 51 37.2	+2.4

IDC 21 13:52:04.5±2.1, 3°.03N×127°.26E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=120.6km s-min=25.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.05**	**184**	P	P	13 56 50.5	+0.2
	0.8nm,0.5s,baz=5.3,slow=8.9,SNR=6.0						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**23.86**	**163**	P	P	13 57 19.4	-0.4
	0.6nm,0.5s,baz=342,slow=9.9,SNR=6.7						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**27.31**	**167**	P	P	13 57 50.8	-0.4
	0.2nm,0.5s,baz=340,slow=8.3,SNR=13						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.43**	**325**	P	P	14 02 02.8	+0.7
	0.2nm,0.5s,baz=114,slow=8.4,SNR=1.3						
	0.2nm,0.5s						

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*IDC **21** 13:53:03.1±0.8, 6°.75N×124°.84E, h0km, mb4.1/11, mbtmp4.2/12, ML4.8/1, MS3.2/4, Error ellipse: s-maj=15.0km s-min=9.9km az=144.0*
*NEIC **21** 13:53:05.7±1.7, 6°.73N±0°.04×124°.97E±0°.04, h10km±1km, mb4.5/14, Error ellipse: s-maj=7.8km s-min=6.4km az=312.0*
*DJA **21** 13:53:07.3±0.5, 7°N±4°×12°5E±°, h10km, M4.6/16, mb4.8/16, mB5.1/8, MLv4.8/11, Mw(mB)4.4/8*
ISC 21 13:53:05.8±0.5, 6°.84N±0°.06×125°.09E±0°.07, h13km, n51, σ1§49/46, mb4.2/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**65**		**Pn**	**13 53 19.0**	**-0.2**
DAV					**Sn**	**13 53 29.2**	**+1.1**
DAV	**Davao City (W)**	**0.54**	**65**	Pg	**Pn**	**13 53 19.1**	**-0.1**
	3μm,0.3s,baz=248,slow=3.7,SNR=131						
DAV				Lg	Lg	13 53 28.8	
	3μm,0.3s,baz=4.6,slow=23,SNR=7.5						
DAV				LR	LR	13 53 52.8	
	comp=Z,2μm,20.6s,baz=40,slow=62						
DAV	**Davao City (W)**	**0.54**	**65**	P	**Pg**	**13 53 16.0**	**-0.4**
SGSI	**Sangihe**	**3.17**	**172**	P	**Pn**	**13 53 57.7**	**+2.3**
SGSI				S	**Sn**	**13 54 35.7**	**+2.7**
KMSI	**Cibinong**	**6.32**	**190**	P	**Pn**	**13 54 39.1**	**+0.3**
	3μm271nm,0.8s						
TNTI	**Ternate**	**6.45**	**159**	Pn	**Pn**	**13 54 39.7**	**-0.8**
TNTI	**Ternate**	**6.45**	**159**	P	**Pn**	**13 54 41.0**	**+0.5**
	738nm23nm,0.8s						
MRSI	**Marisa**	**7.06**	**207**	P	**Pn**	**13 54 49.1**	**+0.2**
	0.5nm1μm88nm,0.9s						
TOLI2	**Tolitoli**	**7.13**	**217**		**Pn**	**13 54 47.9**	**-2.0**
LUWI	**Luwuk**	**8.16**	**197**		**Pn**	**13 55 01.8**	**-2.3**
LUWI	**Luwuk**	**8.16**	**197**	P	**Pn**	**13 55 06.0**	**+1.9**
	1μm112nm,0.8s						
APSI	**Ampana**	**8.43**	**204**	P	**Pn**	**13 55 09.6**	**+1.9**
	966nm74nm,0.8s						
SANI	**Sanana**	**8.88**	**174**	P	**Pn**	**13 55 14.8**	**+0.9**
	32nm,0.8s						
I39PW	**PALAU INFRASON**	**9.41**	**85**	I	I	14 52 01.6	
	baz=266,slow=298,SNR=1.2						
SWI	**Sorong**	**9.82**	**141**	P	**Pn**	**13 55 28.9**	**+2.0**
	10nm,0.9s						
NLAI	**Namlea**	**10.21**	**169**	P	**Pn**	**13 55 33.3**	**+1.1**
	722nm41nm,0.8s						
AAI	**Ambon**	**10.91**	**163**	P	**Pn**	**13 55 43.2**	**+1.4**
KAPI	**Kappang**	**12.93**	**204**	LR	LR	14 01 22.7	
	comp=Z,117nm,20.5s,baz=48,slow=39						
BATI	**Baumata**	**17.00**	**185**	Pn	**Pn**	**13 57 00.8**	**-2.6**
	3.2nm,0.3s,baz=236,slow=3.8,SNR=5.4						
	19nm,0.8s						
JAY	**Jayapura**	**18.15**	**120**	LR	LR	14 02 41.3	
	comp=Z,55nm,20.8s,baz=286,slow=32						
JOW	**Kunigami**	**20.11**	**8**	IAmb	IAmb	13 57 42.2	
	comp=Z,35nm,1.1s						
JOW	**Kunigami**	**20.11**	**8**	P	**P**	**13 57 39.8**	**+0.3**
	comp=Z,117nm,0.4s,baz=12,slow=16,SNR=2.7						
	comp=Z,11nm,0.4s						
MTN	**Manton Dam**	**20.46**	**163**		**P**	**13 57 43.2**	**-0.1**
MTN				IAmb	IAmb	13 57 55.8	
	comp=Z,9.2nm,0.8s						
KNRA	**Kununurra**	**22.67**	**171**		**P**	**13 58 05.9**	**-1.1**
KNRA				IAmb	IAmb	13 58 09.0	
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.79**	**179**		**P**	**13 58 26.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.79**	**179**	P	**P**	**13 58 26.9**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=5.6,slow=6.9,SNR=40						
	comp=Z,4.9nm,0.5s						
JCJ	**Chichijima**	**25.88**	**37**	LR	LR	14 07 28.4	
	comp=Z,85nm,21.3s,baz=188,slow=33						
CMAR	**Chiang Mai Arr**	**27.95**	**297**	P	**P**	**13 58 57.5**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=116,slow=8.9,SNR=4.8						
CMAR				LR	LR	14 10 47.6	
	comp=Z,30nm,18.1s,baz=125,slow=38						
WB0	**Warramunga Arr**	**27.98**	**161**	P	**P**	**13 58 54.8**	**-1.7**
WB0				IAmb	IAmb	13 59 05.3	
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**28.13**	**161**	P	**P**	**13 58 55.3**	**-2.5**
WRA	**Warramunga Arr**	**28.13**	**161**	P	**P**	**13 58 56.2**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=331,slow=11,SNR=10						
	comp=Z,1.3nm,0.6s						
WR8	**Warramunga Arr**	**28.20**	**161**	P	**P**	**13 58 56.7**	**-1.7**
WR8				IAmb	IAmb	13 59 38.3	
	comp=Z,14nm,1.5s						
AS31	**Alice Springs**	**31.52**	**164**		**P**	**13 59 26.4**	**-1.4**
ASAR	**Alice Springs**	**31.52**	**164**	P	**P**	**13 59 26.6**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=338,slow=6.9,SNR=37						
	comp=Z,1.0nm,0.6s						
LZH	**Lanzhou**	**35.01**	**329**	*e*P	**P**	**14 00 01.4**	**+3.1**
LZH				pP	sP	14 00 07.1	+3.1
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
HHC	**Hu-ho-hao-te**	**35.95**	**342**	*e*P	P	14 00 13.1	+6.8
HHC				pmax	pmax		

comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,56nm,4.3s
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,79nm,4.8s
FORT Forrest 37.52 176 P P 14 00 18.6 -1.0
FORT IAmb IAmb 14 00 38.5
comp=Z,7.7nm,0.8s
USRK Ussuriysk Ar. 37.70 8 P P 14 00 21.2 +0.2
comp=Z,3.5nm,0.8s,baz=156,slow=7.9,SNR=5.3
comp=Z,3.5nm,0.8s
BBOO Buckleboo 40.79 166 P 14 00 46.2 -0.8
STKA Stephens Creek 41.60 159 P **P 14 00 53.5 -0.1**
STKA Stephens Creek 41.60 159 P **P 14 00 53.3 -0.4**
comp=Z,1.3nm,0.4s,baz=342,slow=6.2,SNR=7.0
comp=Z,1.3nm,0.4s
TOO Toolangi 48.12 158 P P 14 01 46.0 +0.5
TOO IAmb IAmb 14 02 04.6
comp=Z,7.7nm,1.4s
PETK Petropavlovsk- 53.22 24 P **P 14 02 25.1 +1.2**
comp=Z,1.8nm,0.9s,baz=217,slow=2.5,SNR=5.9
comp=Z,1.8nm,0.9s
MKAR Makanchi Array 54.08 325 P **P 14 02 28.3 -2.1**
comp=Z,0.4nm,0.7s,baz=130,slow=6.3,SNR=2.2
comp=Z,0.4nm,0.7s
KURBB Kurchatov Arra 58.25 327 P P 14 02 58.3 -1.7
comp=Z,0.3nm,0.2s,baz=127,slow=5.1,SNR=4.7
comp=Z,0.3nm,0.2s
KURK Kurchatov 58.25 327 P **P 14 02 58.3 -1.7**
KURK Kurchatov 58.25 327 IAmb IAmb 14 03 35.6
comp=Z,1.5nm,0.8s
KKAR Karatay Array 59.86 316 P P 14 03 12.0 +0.7
BVAR Borovoye Array 63.84 327 P **P 14 03 37.7 -0.2**
comp=Z,0.7nm,0.5s,baz=115,slow=7.2,SNR=2.3
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 68.72 320 P P 14 04 09.9 +0.7
QSPA South Pole Qui 96.73 180 P P 14 06 34.1 -1.7
comp=Z,1.2nm,1.0s,baz=252,slow=9.6,SNR=2.6
comp=Z,1.2nm,1.0s

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*IDC **21** 14:02:03.7±0.7,55°.29S×26°.45W,h0km,mb4.0/8, mbtmp4.0/9,ML4.1/1,MS3.2/3,Error ellipse: s-maj=28.3km s-min=18.2km az=72.0*
*NEIC **21** 14:02:05.1±1.6,55°.4S±0°.1×26°.6W±0°.2,h10km±1km, mb4.6/16,Error ellipse: s-maj=19.0km s-min=15.0km az=358.0*
ISC 21 14:02:04.8±0.6,55°.37S±0°.10×26°.6W±0°.1,h10km,n43, σ0s87/31,mb4.5/12,MS3.2/3,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.82**	**277**	Pn	**Pn**	**14 03 30.1**	**-0.9**
VNA1	**Neumayer--Stat**	**17.31**	**159**	⇑P	**P**	**14 06 07.7**	**+0.2**
	comp=Z,4.2nm,0.4s						
VNA3	**Neumayer Olymp**	**17.53**	**162**	⇑P	**P**	**14 06 09.8**	**-0.2**
	comp=Z,1.6nm,0.2s						
SNAA	**Sanae**	**19.24**	**157**	⇑P	**P**	**14 06 28.0**	**-0.8**
	comp=Z,68nm,0.6s						
SNAA	**Sanae**	**19.24**	**157**	P	**P**	**14 06 28.7**	**-0.1**
SNAA	**Sanae**	**19.24**	**157**	P	**P**	**14 06 29.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=315,slow=13,SNR=17						
	comp=Z,1.7nm,0.4s						
TROLL	**Troll, Antarti**	**20.71**	**155**	⇑P	**P**	**14 06 43.0**	**-2.0**
	comp=Z,94nm,0.7s						
BELA	**Belgrano 2**	**22.78**	**184**	P	**P**	**14 07 04.7**	**-2.2**
TRQA	**Tornquist**	**29.37**	**291**	P	**P**	**14 08 07.8**	**-0.1**
TRQA				IAmb	IAmb	14 08 20.8	
	comp=Z,14nm,1.4s						
PLCA	**Paso Flores**	**32.22**	**278**	LR	LR	14 22 47.3	
	comp=Z,32nm,18.3s,baz=107,slow=38						
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**14 08 57.5**	**+1.5**
QSPA				IAmb	IAmb	14 09 17.2	
	comp=Z,7.2nm,1.4s						
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**14 08 57.7**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=188,slow=1.7,SNR=13						
QSPA				LR	LR	14 24 42.5	
	comp=Z,40nm,18.1s,baz=199,slow=39						
	comp=Z,1.5nm,0.8s						
CPUP	**Villa Florida**	**36.62**	**310**	P	**P**	**14 09 11.0**	**-0.1**
CPUP	**Villa Florida**	**36.62**	**310**	P	**P**	**14 09 11.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=355,slow=8.6,SNR=2.8						
	comp=Z,0.5nm,0.8s						
MT02	**Curacav**	**37.90**	**287**	P	**P**	**14 09 22.1**	**+0.2**
MT02				IAmb	IAmb	14 09 37.0	
	comp=Z,19nm,1.2s						
GO04	**Tololo Observa**	**40.09**	**290**	P	**P**	**14 09 40.2**	**-0.4**
CO06	**Fray Jorge**	**40.15**	**289**	P	**P**	**14 09 40.5**	**-0.3**
CO06				IAmb	IAmb	14 09 50.9	
	comp=Z,28nm,1.1s						
MAW	**Mawson**	**40.50**	**144**	P	**P**	**14 09 44.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=236,slow=5.2,SNR=1.9						
	comp=Z,0.9nm,0.7s						
PB14	**IPOC Station P**	**44.34**	**296**	P	**P**	**14 10 15.0**	**-0.4**
BOSA	**Boshof**	**45.48**	**76**	IAmb	IAmb	14 11 02.9	
	comp=Z,5.3nm,1.1s						
BOSA	**Boshof**	**45.48**	**76**	P	**P**	**14 10 23.0**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=270,slow=2.0,SNR=1.9						
	comp=Z,2.6nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.25**	**16**	T	T	15 02 34.7	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.25**	**16**	T	T	15 02 36.6	
	baz=31						
VNDA	**Vanda**	**47.27**	**182**	P	**P**	**14 10 37.5**	**0.0**
VNDA	**Vanda**	**47.27**	**182**	P	**P**	**14 10 37.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=187,slow=5.7,SNR=10						
	comp=Z,1.0nm,0.7s						
H04S2	**CROZET ISLANDS**	**47.52**	**114**	T	T	15 02 39.5	
	baz=231,slow=74						
H04S3	**CROZET ISLANDS**	**47.53**	**114**	T	T	15 02 34.4	
	baz=231						
H04S1	**CROZET ISLANDS**	**47.54**	**114**	T	T	15 02 34.8	
	baz=231,slow=74						
H10N1	**ASCENSION HYDR**	**48.37**	**16**	T	T	15 03 14.0	
	baz=194						
H10N3	**ASCENSION HYDR**	**48.37**	**16**	T	T	15 04 19.2	
	baz=194						
H10N2	**ASCENSION HYDR**	**48.38**	**16**	T	T	15 03 49.8	
	baz=194						
LPAZ	**La Paz**	**50.26**	**304**	P	**P**	**14 11 02.2**	**+0.4**
LPAZ				IAmb	IAmb	14 11 42.1	
	comp=Z,4.3nm,1.4s						
LPAZ	**La Paz**	**50.26**	**304**	P	**P**	**14 11 02.5**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=118,slow=4.6,SNR=4.8						
	comp=Z,1.4nm,0.7s						
MATP	**Matopo**	**53.76**	**72**	LR	LR	14 30 27.2	
	comp=Z,21nm,18.9s,baz=14,slow=32						
DBIC	**Dimbokro**	**64.41**	**24**	P	**P**	**14 12 40.6**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=332,slow=5.4,SNR=2.6						
	comp=Z,4.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**72.30**	**29**	IAmb	IAmb	14 13 48.9	
	comp=Z,6.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.30**	**29**	P	**P**	**14 13 30.3**	**0.0**
	comp=Z,3.6nm,0.4s,baz=202,slow=5.3,SNR=3.6						
	comp=Z,3.6nm,0.4s						
BAUV	**El Baul**	**72.78**	**317**	P	**P**	**14 13 33.6**	**+0.4**
BAUV				IAmb	IAmb	14 13 36.0	
	comp=Z,9.1nm,1.1s						
NWAO	**Narrogin (SRO)**	**86.76**	**150**	P	**P**	**14 14 48.1**	**-0.8**
INK	**Inuvik**	**145.49**	**321**	PKPbc	**PKPab**	**14 21 42.0**	**+0.3**
	comp=Z,8.0nm,1.3s,baz=149,slow=5.9,SNR=1.6						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**14 21 54.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=106,slow=2.5,SNR=5.6						
SONM	**Songino Array**	**150.34**	**85**	PKPbc	**PKPbc**	**14 21 56.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=219,slow=4.4,SNR=1.3						
KDAK	**Kodiak Island**	**150.81**	**297**	PKPbc	**PKPbc**	**14 21 56.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=58,slow=3.8,SNR=5.5						

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*NNC **21** 14:06:58.7±3.2,42°.12N×85°.24E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=27.2km s-min=15.0km az=149.0*
*MOS **21** 14:06:58.8±1.1,42°.08N×84°.51E,h10km,mb5.4/5,Error ellipse: s-maj=9.9km s-min=6.8km az=121.0*
*IDC **21** 14:06:59.1±0.6,42°.10N×84°.53E,h0km,mb3.9/16, mbtmp3.8/22,ML3.3/5,MS2.9/1,Error ellipse: s-maj=17.7km s-min=10.2km az=54.0*
*NEIC **21** 14:07:00.8±1.2,42°.08N±0°.07×84°.5E±0°.1,h10km±1km, mb5.1/33,Error ellipse: s-maj=12.9km s-min=12.0km az=121.0*
*SOME **21** 14:07:03.2,42°.23N×84°.25E,h5km*
ISC 21 14:07:00.1±0.4,42°.05N±0°.04×84°.53E±0°.03,h10km,n124, σ2s12/137,mb4.8/31,8C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.92**	**52**	Pn	**Pb**	**14 07 52.0**	**-0.4**
WMQ				Sn	**Sb**	**14 08 27.9**	**-0.3**
WMQ				smax	smax		
	comp=N,260nm,0.7s						
WMQ				smax	smax		
	comp=E,400nm,0.9s						
SHLS	**Shalkode**	**3.90**	**288**	Pg	**Pb**	**14 08 06.1**	**-3.1**
	comp=E,45nm,0.2s						
SHLS				Lg	Lg	14 08 51.8	
	comp=E,369nm,0.5s						
SHLS	**Shalkode**	**3.90**	**288**	*e*P	**Pb**	**14 08 06.1**	**-3.1**
	comp=E,45nm,0.2s						
SHLS				*e*S	**Sn**	**14 08 51.0**	**+4.8**
	comp=E,369nm,0.5s						
PDGK	**Podgornoye**	**3.93**	**291**	⇑Pn	**Pb**	**14 08 05.9**	**-3.7**
	comp=E,6.8nm,0.3s						
PDGK				⇑Sn	**Sb**	**14 08 59.9**	**+2.6**
	comp=E,246nm,0.8s						
PDGK	**Podgornoye**	**3.93**	**291**	P	**Pn**	**14 08 02.7**	**+2.0**
KPKS	**Kokpek**	**4.53**	**290**	Pg	**Pg**	**14 08 23.9**	**-3.1**
	comp=E,0.3nm,0.2s						
KPKS				Lg	Lg	14 09 21.6	
	comp=E,99nm,0.5s						
PRZ	**Przheval'sk**	**4.57**	**278**	Pn	**Pn**	**14 08 09.9**	**+0.4**
PRZ	**Przheval'sk**	**4.57**	**278**	P	**Pn**	**14 08 09.9**	**+0.4**
SATY	**Saty**	**4.64**	**285**	Pg	**Pg**	**14 08 26.2**	**-2.7**
	comp=E,17nm,0.2s						
SATY				Lg	Lg	14 09 25.4	
	comp=E,88nm,0.2s						
KURS	**Kuram**	**4.90**	**289**	Pg	**Pb**	**14 08 29.2**	**+3.1**
	comp=E,14nm,0.4s						
KURS				Lg	Lg	14 09 30.0	
	comp=E,43nm,0.6s						
KAPS	**Kapalarasan**	**4.96**	**313**	Pg	**Pb**	**14 08 30.2**	**+3.2**
	comp=E,12nm,0.2s						
KAPS				Lg	Lg	14 09 32.7	
	comp=E,114nm,0.2s						
MK31	**Makanchi Array**	**5.01**	**342**	⇑Pn	**Pn**	**14 08 18.2**	**+2.8**
	comp=E,1.3nm,0.3s,baz=154,slow=14,SNR=257						
MK31				⇑Pg	**Pg**	**14 08 32.3**	**-3.7**
	comp=E,8.6nm,0.3s,baz=153,slow=17,SNR=43						
MK31				⇓Lg	Lg	14 09 40.1	
	comp=E,54nm,0.5s,baz=151,slow=26						
MK31	**Makanchi Array**	**5.01**	**342**	P	**Pn**	**14 08 17.0**	**+1.6**
MKAR	**Makanchi Array**	**5.01**	**342**		**Pn**	**14 08 16.3**	**+0.9**
MKAR	**Makanchi Array**	**5.01**	**342**	Pn	**Pn**	**14 08 17.2**	**+1.9**
	comp=E,1.0nm,0.3s,baz=159,slow=14,SNR=29						
MKAR				Pg	**Pb**	**14 08 31.9**	**+4.0**
	comp=E,14nm,0.3s,baz=160,slow=17,SNR=40						
MKAR				Sn	**Sn**	**14 09 14.4**	**+1.1**
	comp=E,11nm,0.3s,baz=160,slow=15,SNR=5.7						
MKAR				Lg	Lg	14 09 36.3	
	comp=E,32nm,0.3s,baz=149,slow=27,SNR=8.4						
MKAR				LR	LR	14 10 28.7	
	comp=E,122nm,19.9s,baz=154,slow=42						
	comp=E,2.2nm,0.3s						
TARG	**Taragay, Kyrgy**	**5.03**	**269**		**Pn**	**14 08 17.4**	**+1.3**
TARG	**Taragay, Kyrgy**	**5.03**	**269**	P	**Pn**	**14 08 17.4**	**+1.3**
MAKZ	**Makanchi**	**5.10**	**340**		**Pn**	**14 08 17.6**	**+1.0**
MAKZ	**Makanchi**	**5.10**	**340**	⇑Pn	**Pn**	**14 08 19.1**	**+2.5**
	comp=E,2.7nm,0.5s						
MAKZ				⇑Pg	**Pg**	**14 08 33.7**	**-4.0**
	comp=E,32nm,0.7s						
MAKZ				⇑Lg	Lg	14 09 44.6	
	comp=E,91nm,1.0s						
MAKZ	**Makanchi**	**5.10**	**340**	P	**Pn**	**14 08 17.6**	**+1.0**
TDK	**Taldyqorghan**	**5.34**	**306**	Pg	**Pb**	**14 08 35.7**	**+2.1**
	comp=E,67nm,0.3s						
TDK	**Taldyqorghan**	**5.34**	**306**	*e*P	**Pb**	**14 08 35.7**	**+2.1**
	comp=E,67nm,0.3s						
TDK				*e*S	**Sb**	**14 09 42.3**	**+4.5**
	comp=E,164nm,0.5s						
ARXS	**Arharly**	**5.36**	**296**	*e*P	**Pb**	**14 08 36.9**	**+2.9**
ARXS				*e*S	**Sb**	**14 09 44.2**	**+5.9**
ZSN	**Zaisan**	**5.41**	**2**	*e*P	**Pg**	**14 08 41.2**	**-2.5**
	comp=E,8.8nm,0.4s						
ZSN				*e*S	**Sg**	**14 09 51.7**	**-2.0**
	comp=E,154nm,0.6s						
KDJ	**Kajisay**	**5.47**	**273**	Pn	**Pn**	**14 08 23.2**	**+1.3**
KDJ	**Kajisay**	**5.47**	**273**	P	**Pn**	**14 08 23.2**	**+1.3**
MDOK	**Medeo**	**5.63**	**284**	Pg	**Pb**	**14 08 42.9**	**+4.2**
	comp=E,7.4nm,0.4s						
MDOK				Lg	Lg	14 09 54.7	
	comp=E,55nm,0.7s						
TNSS	**Tian-Shan**	**5.69**	**283**	Pg	**Pb**	**14 08 44.0**	**+4.3**
	comp=E,5.2nm,0.3s						
TNSS				Lg	Lg	14 09 56.5	
	comp=E,5.8nm,0.3s						
TNSS	**Tian-Shan**	**5.69**	**283**	*e*P	**Pb**	**14 08 44.0**	**+4.3**
	comp=E,5.2nm,0.3s						
TNSS				*e*S	**Sg**	**14 09 56.5**	**-6.3**
	comp=E,5.8nm,0.3s						
CHKK	**Chushkaly**	**5.82**	**291**	*e*P	**Pb**	**14 08 46.1**	**+4.4**
	comp=E,4.0nm,0.1s						
CHKK				*e*S	**Sg**	**14 10 00.0**	**-7.0**
	comp=E,34nm,0.2s						
KTBS	**Karatobe**	**6.00**	**289**	Pg	**Pg**	**14 08 51.0**	**-4.0**
	comp=E,9.8nm,0.4s						
KTBS				Lg	Lg	14 10 08.0	
	comp=E,26nm,0.5s						
MTBS	**Maitube**	**6.08**	**283**	*e*P	**Pg**	**14 08 52.5**	**-4.0**
	comp=E,3.6nm,0.2s						
MTBS				*e*S	**Sg**	**14 10 10.7**	**-4.5**
	comp=E,44nm,0.5s						
KST	**Kastek**	**6.41**	**282**	Pg	**Pg**	**14 08 58.7**	**-4.1**
	comp=E,8.0nm,0.4s						
KST				Lg	Lg	14 10 21.3	
	comp=E,36nm,0.9s						
KST	**Kastek**	**6.41**	**282**	*e*P	**Pg**	**14 08 58.7**	**-4.1**
	comp=E,8.7nm,0.3s						
KST				*e*S	**Sg**	**14 10 21.3**	**-4.5**
	comp=E,36nm,0.9s						
DGS	**Degeres**	**6.57**	**283**	Pg	**Pg**	**14 09 01.9**	**-4.0**
	comp=E,5.6nm,0.3s						
DGS				Lg	Lg	14 10 26.7	
	comp=E,37nm,0.4s						
KRBS	**Karabastau**	**6.71**	**287**	Pg	Pg	14 09 03.4	-5.2
	comp=E,4.7nm,0.3s						
KRBS				Lg	Lg	14 10 29.3	
	comp=E,4.0nm,0.4s						
KSH	**Kashi**	**6.97**	**252**	P	Pn	14 08 51.3	+8.9
KSH				S	Sb	14 10 15.3	-9.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**7.46**	**278**		**Pn**	**14 08 49.5**	**+0.3**
AAK	**Ala-Archa**	**7.46**	**278**	Pn	**Pn**	**14 08 51.3**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=110,slow=10.0,SNR=8.3						
AAK				Lg	Lg	14 10 55.5	
	comp=Z,1.2nm,0.3s,baz=252,slow=18,SNR=1.6						
	comp=Z,2.5nm,0.4s						
ARSB	**Arslanbob**	**8.67**	**269**	Pn	**Pn**	**14 09 06.0**	**+0.2**
ARSB	**Arslanbob**	**8.67**	**269**	P	**Pn**	**14 09 06.0**	**+0.2**
KURBB	**Kurchatov Arra**	**9.52**	**336**	Pn	**Pn**	**14 09 17.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=2.4						
KURBB				Sn	**Sn**	**14 11 02.4**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=154,slow=17,SNR=4.1						
KURBB				Lg	Lg	14 11 59.7	
	comp=Z,0.9nm,0.3s,baz=52,slow=24,SNR=6.4						
	comp=Z,1.2nm,0.2s						
KURBB	**Kurchatov Arra**	**9.52**	**336**	⇑Lg	Lg	14 12 05.7	
	comp=Z,63nm,0.7s						
KURK	**Kurchatov**	**9.58**	**337**		**Pn**	**14 09 17.8**	**-0.2**
KURK	**Kurchatov**	**9.58**	**337**	⇓Lg	Lg	14 12 07.9	
	comp=Z,24nm,0.8s						
KURK	**Kurchatov**	**9.58**	**337**	P	**Pn**	**14 09 17.4**	**-0.6**
KURK						14 11 02.4	
GOMU	**GeErMu**	**9.89**	**123**	Pn	**Pn**	**14 09 22.1**	**-0.6**
GOMU				Pg		14 10 04.6	
GOMU				Sn	**Sn**	**14 11 11.5**	**-2.5**
GOMU				Sg		14 11 52.6	
GOMU				smax	smax		
	comp=N,470nm,0.5s						
GOMU				smax	smax		
	comp=E,270nm,0.6s						
GAR	**Garm**	**11.24**	**259**		**Pn**	**14 09 41.8**	**+0.9**
GTA	**Gaotai**	**11.89**	**98**	*e*P	**Pn**	**14 09 49.0**	**-0.9**
GTA				pP		14 09 52.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAA0	**Zalesovo Array**	**11.91**	**1**	Pn	**Pn**	**14 09 50.1**	**+0.3**
ZALV	**Zalesovo Beam**	**11.91**	**1**		**Pn**	**14 09 50.6**	**+0.7**
ZALV	**Zalesovo Beam**	**11.91**	**1**	Pn	**Pn**	**14 09 50.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=182,slow=14,SNR=7.1						
ZALV				Sn	**Sn**	**14 12 00.4**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=174,slow=26,SNR=5.0						
ZALV				Lg	Lg	14 13 16.2	
	baz=192,slow=26						
	comp=Z,1.0nm,0.3s						
CHGR	**Chuyangaron**	**12.21**	**259**		**Pn**	**14 09 53.9**	**-0.2**
CHGR	**Chuyangaron**	**12.21**	**259**	P	**Pn**	**14 09 53.9**	**-0.2**
NIL	**Nilore**	**12.23**	**230**		**Pn**	**14 09 54.1**	**-0.3**
NIL	**Nilore**	**12.23**	**230**	P	**Pn**	**14 09 54.1**	**-0.3**
EVN	**Everest**	**14.18**	**172**	P	**P**	**14 10 30.3**	**+1.1**
BVAR	**Borovoye Array**	**14.52**	**324**	Pn	**Pn**	**14 10 24.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=2.6						
BVAR				Lg	Lg	14 14 39.5	
	baz=122,slow=19,SNR=3.0						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**16.50**	**62**		**Pn**	**14 10 51.7**	**-0.1**
SONM	**Songino Array**	**16.50**	**62**	Pn	**Pn**	**14 10 51.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=253,slow=13,SNR=6.7						
SONM	**Songino Array**	**16.50**	**62**	P	**Pn**	**14 10 51.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AB31	**Akbulak array**	**18.59**	**301**		**P**	**14 11 16.5**	**-0.7**
AB31	**Akbulak array**	**18.59**	**301**	P	**P**	**14 11 15.4**	**-1.8**
ABKAR	**Akbulak array**	**18.59**	**301**	P	**P**	**14 11 16.6**	**-0.6**
AKTO	**Aktyubinsk**	**20.08**	**304**	P	**P**	**14 11 34.1**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=98,slow=11,SNR=7.2						
	comp=Z,2.6nm,0.6s						
ARTI	**Arti**	**22.12**	**319**	P	**P**	**14 11 54.5**	**-1.0**
ARTI				IAmb	IAmb	14 12 03.5	
	comp=Z,13nm,0.4s						
ARTI	**Arti**	**22.12**	**319**	P	**P**	**14 11 54.2**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=123,slow=6.9,SNR=6.6						
	comp=Z,2.0nm,0.4s						
ARTI	**Arti**	**22.12**	**319**	P	**P**	**14 11 54.5**	**-1.0**
ARTI				pmax	pmax		
	comp=Z,13nm,0.4s						
HYB	**Hyderabad**	**25.08**	**194**	*e*P	**P**	**14 12 25.6**	**+0.8**
HYB				IVmB_BB		14 12 31.8	
	comp=Z,230nm,4.0s						
HYB				*e*S	**S**	**14 16 51.1**	**+1.7**
CM31	**Chiang Mai Arr**	**26.53**	**148**	P	**P**	**14 12 37.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**26.53**	**148**	P	**P**	**14 12 38.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.53**	**148**	P	**P**	**14 12 39.9**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=324,slow=8.9,SNR=15						
	comp=Z,1.4nm,0.7s						
YAK	**Yakutsk**	**33.27**	**38**	P	**P**	**14 13 37.4**	**+0.1**
TATO	**Taipei**	**34.88**	**107**	P	**P**	**14 13 51.9**	**+0.2**
BRTR	**Keskin Array B**	**38.09**	**284**	P	**P**	**14 14 19.2**	**+0.1**
BRTR	**Keskin Array B**	**38.09**	**284**	P	**P**	**14 14 20.3**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=81,slow=9.5,SNR=5.4						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**39.43**	**320**	P	**P**	**14 14 29.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=94,slow=12,SNR=6.1						
	comp=Z,0.9nm,0.5s						
KEV	**Kevo**	**40.12**	**333**	P	**P**	**14 14 36.1**	**+0.6**
KEV				IAmb	IAmb	14 14 42.4	
	comp=Z,69nm,1.4s						
KEV	**Kevo**	**40.12**	**333**	P	**P**	**14 14 36.1**	**+0.6**
KEV				pmax	pmax		
	comp=Z,69nm,1.4s						
ARCES	**ARCESS Array B**	**40.58**	**332**	P	**P**	**14 14 40.0**	**+0.6**
ARCES				IAmb	IAmb	14 14 47.1	
	comp=Z,111nm,1.9s						
ARCES	**ARCESS Array B**	**40.58**	**332**	P	**P**	**14 14 40.3**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=91,slow=6.5,SNR=14						
	comp=Z,1.2nm,0.4s						
JMZ	**Minamidaito 2**	**41.45**	**98**	P	**P**	**14 14 47.9**	**+0.8**
JHJ2	**Mitsune**	**44.05**	**83**	P	**P**	**14 15 08.2**	**+0.2**
HFS	**Hagfors**	**45.57**	**319**	P	**P**	**14 15 20.3**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=109,slow=8.6,SNR=16						
	comp=Z,1.0nm,0.4s						
IDI	**Anoyia**	**46.23**	**282**	P	**P**	**14 15 24.9**	**-0.7**
IDI				IAmb	IAmb	14 15 59.8	
	comp=Z,26nm,1.1s						
NC405	**NORSAR Array S**	**46.36**	**320**	P	**P**	**14 15 26.8**	**+0.7**
NC405				IAmb	IAmb	14 15 27.6	
	comp=Z,17nm,1.1s						
NC602	**NORSAR Array S**	**46.51**	**320**	P	**P**	**14 15 27.4**	**+0.1**
NC602				IAmb	IAmb	14 17 03.8	
	comp=Z,12nm,1.2s						
NB2	**NORSAR Subarra**	**46.61**	**320**	P	**P**	**14 15 28.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=79,slow=7.9						
NOA	**NORSAR Array B**	**46.61**	**320**	P	**P**	**14 15 28.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=79,slow=7.8,SNR=7.6						
	comp=Z,1.4nm,0.5s						
NC204	**NORSAR Array S**	**46.78**	**320**	P	**P**	**14 15 29.9**	**+0.5**
NC204				IAmb	IAmb	14 16 37.1	
	comp=Z,33nm,1.6s						
ATD	**Arta Tunnel**	**47.34**	**242**	P	**P**	**14 15 33.8**	**-0.6**
ATD				IAmb	IAmb	14 16 41.2	
	comp=Z,42nm,1.5s						
CLL	**Collm**	**48.12**	**307**	*e*P	**P**	**14 15 40.0**	**+0.1**
PETK	**Petropavlovsk-**	**48.52**	**50**	P	**P**	**14 15 43.5**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=276,slow=5.7,SNR=1.6						
	comp=Z,1.0nm,1.0s						
EKA	**Eskdalemuir Ar**	**55.61**	**316**	P	**P**	**14 16 35.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=67,slow=7.8,SNR=2.0						
	comp=Z,0.4nm,0.4s						
D19K	**Kuna River**	**60.39**	**22**	P	**P**	**14 17 10.0**	**+0.9**
D19K				IAmb	IAmb	14 18 49.9	
	comp=Z,42nm,1.8s						
B21K	**Ikpikpuk River**	**60.58**	**20**	P	**P**	**14 17 11.4**	**+1.1**
H17K	**Granite Mounta**	**62.17**	**26**	P	**P**	**14 17 21.1**	**0.0**
H17K				IAmb	IAmb	14 17 57.2	
	comp=Z,30nm,1.7s						
E24K	**Your Creek**	**63.25**	**20**	P	**P**	**14 17 29.1**	**

mbtmp3.3/4, MS3.7/1, Error ellipse: s-maj=120.4km s-min=28.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.25**	**184**	P	P	14 23 57.5	+1.1
	1.9nm,0.9s,baz=17,slow=11,SNR=6.5 1.9nm,0.9s						
PMG	**Port Moresby**	**24.20**	**124**	LR	LR	14 33 30.7	
	comp=Z,171nm,18.8s,baz=164,slow=36						
WRA	**Warramunga Arr**	**25.09**	**164**	P	P	14 24 24.4	+0.1
	0.1nm,0.3s,baz=341,slow=10,SNR=1.8 0.1nm,0.3s						
ASAR	**Alice Springs**	**28.54**	**167**	P	P	14 24 54.4	-1.0
	0.3nm,0.7s,baz=337,slow=7.3,SNR=5.3 0.3nm,0.7s						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	14 28 47.7	+0.1
	0.3nm,0.4s,baz=120,slow=7.1,SNR=2.0 0.3nm,0.4s						

*IDC **21** 14:24:52.8±0.8, 3°.22S×135°.90E, h0km, mb4.0/11, mbtmp4.1/14, ML2.4/2, MS3.2/7, Error ellipse: s-maj=23.6km s-min=17.1km az=72.0*
*NEIC **21** 14:24:54.6±0.9, 3°.32S±0°.03×135°.89E±0°.07, h10km±1km, mb4.6/22, Error ellipse: s-maj=11.4km s-min=5.0km az=267.0*
*DJA **21** 14:24:56.0±0.4, 3°S±4°×13°6E±°, h12km±3km, M4.5/9, mB5.1/1, mb4.8/2, MLv4.3/9, Mw(mB)4.5/1*
ISC 21 14:24:54.1±0.5, 3°.29S±0°.05×135°.88E±0°.04, h10km, n71, σ1°71/66, mb4.4/19, MS3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.10**	**6**	P	**Pn**	**14 25 29.7**	**+0.4**
BAKI				S	**Sn**	**14 25 52.7**	**-2.8**
KMPI	**Kaimana, Papua**	**2.20**	**260**	P	**Pn**	**14 25 31.5**	**+0.7**
KMPI				S	**Sn**	**14 25 59.8**	**+1.7**
RKPI	**Ransiki, Papua**	**2.45**	**316**	P	**Pn**	**14 25 34.8**	**+0.6**
SMPI	**Sarmi**	**3.11**	**66**	P	**Pn**	**14 25 43.1**	**-0.1**
SMPI				S	**Sn**	**14 26 22.0**	**+1.6**
FAKI	**Fak Fak**	**3.65**	**276**	**Pn**	**Pn**	**14 25 51.2**	**+0.6**
FAKI	**Fak Fak**	**3.65**	**276**	P	**Pn**	**14 25 51.4**	**+0.8**
FAKI	**Fak Fak**	**3.65**	**276**	P	**Pn**	**14 25 51.0**	**+0.3**
FAKI				S	**Sn**	**14 26 34.1**	**+0.3**
GENI	**Genyem**	**4.34**	**81**	P	Pn	14 25 49.7	-10
JAY	**Jayapura**	**4.88**	**81**	**Pn**	**Pn**	**14 26 08.6**	**+0.9**
	1.3nm,0.3s,baz=234,slow=9.6,SNR=9.4						
JAY				Sn	**Sn**	**14 27 05.5**	**+1.3**
	0.8nm,0.3s,baz=116,slow=17,SNR=1.6 4.3nm,0.3s						
JAY	**Jayapura**	**4.88**	**81**	P	**Pn**	**14 26 10.5**	**+2.9**
SWI	**Sorong**	**5.21**	**297**	P	**Pn**	**14 26 12.1**	**-0.1**
	0.7nm2µm79nm,0.4s						
BNDI	**Bandanaira**	**6.09**	**258**	P	**Pn**	**14 26 26.5**	**+2.3**
SANI	**Sanana**	**9.96**	**277**	P	**Pn**	**14 27 18.4**	**+1.0**
DRS	**Darwin Rock St**	**10.34**	**208**	P	**Pn**	**14 27 23.4**	**+0.9**
MTN	**Manton Dam**	**10.59**	**206**		**Pn**	**14 27 25.8**	**-0.2**
PMG	**Port Moresby**	**12.74**	**119**	Pn	**Pn**	**14 27 55.8**	**+0.3**
	0.2nm,0.3s,baz=148,slow=23,SNR=2.0 6.9nm,0.8s						
COEN	**Coen**	**12.81**	**146**	Pn	**Pn**	**14 27 55.8**	**-0.7**
COEN	**Coen**	**12.81**	**146**	P	Pn	14 27 50.9	-5.6
SOEI	**Soe**	**13.20**	**240**	Pn	**Pn**	**14 28 01.4**	**-0.5**
BATI	**Baumata**	**13.94**	**240**	Pn	**Pn**	**14 28 13.1**	**+1.2**
	22nm,0.8s,baz=39,slow=6.3,SNR=3.9						
KNRA	**Kununurra**	**14.16**	**209**		Pn	14 28 12.5	-2.5
TOLI2	**Tolitoli**	**15.71**	**286**	Pn	**Pn**	**14 28 36.3**	**+0.5**
KAPI	**Kappang**	**16.18**	**263**	LR	LR	14 36 08.7	
	comp=Z,35nm,18.9s,baz=64,slow=42						
RABL	**Rabaul**	**16.27**	**94**	Pn	**Pn**	**14 28 42.3**	**-0.7**
WB0	**Warramunga Arr**	**16.44**	**185**		**Pn**	**14 28 41.1**	**-4.0**
WB0				IAmb	IAmb	14 28 49.2	
	comp=Z,15nm,0.5s						
WRAB	**Tennant Creek**	**16.61**	**185**	Pn	**Pn**	**14 28 44.0**	**-3.3**
WRAB				IAmb	IAmb	14 28 51.8	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**16.61**	**185**	P	**Pn**	**14 28 43.4**	**-3.8**
WR8	**Warramunga Arr**	**16.62**	**185**		**Pn**	**14 28 44.1**	**-3.3**
WR8				IAmb	IAmb	14 28 51.8	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**16.62**	**185**		**Pn**	**14 28 43.8**	**-3.6**
WRA	**Warramunga Arr**	**16.62**	**185**	Pn	**Pn**	**14 28 43.6**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=359,slow=13,SNR=21						
WRA				Sn	Sn	14 31 36.7	-15
	comp=Z,0.5nm,0.3s,baz=7.7,slow=22,SNR=6.0						
WRA				Lg	Lg	14 33 35.6	
	baz=3.3,slow=27						
WB1	**Warramunga Ar.**	**16.64**	**185**	P	**Pn**	**14 28 43.7**	**-3.9**
FITZ	**Fitzroy Crossi**	**17.81**	**214**	Pn	**Pn**	**14 28 59.1**	**-3.1**
FITZ	**Fitzroy Crossi**	**17.81**	**214**	P	**Pn**	**14 28 59.4**	**-2.9**
	comp=Z,3.2nm,0.4s,baz=41,slow=10,SNR=36						
FITZ				S	Sn	14 32 06.3	-15
	comp=Z,4.7nm,0.4s,baz=214,slow=18,SNR=6.6						
FITZ				Lg	Lg	14 34 17.9	
	comp=Z,0.1nm,0.3s,baz=191,slow=11,SNR=1.4						
FITZ				LR	LR	14 36 34.4	
	comp=Z,85nm,21.4s,baz=354,slow=39						
FITZ	**Fitzroy Crossi**	**17.81**	**214**	P	**Pn**	**14 28 59.2**	**-3.1**
GUMO	**Guam**	**18.99**	**28**	LR	LR	14 37 41.1	
	comp=Z,17nm,18.5s,baz=238,slow=41						
AS31	**Alice Springs**	**20.35**	**185**		**P**	**14 29 32.0**	**+1.1**
AS31				IAmb	IAmb	14 29 33.2	
	comp=Z,7.0nm,0.5s						
ASAR	**Alice Springs**	**20.35**	**185**		**P**	**14 29 32.0**	**+1.2**
ASAR	**Alice Springs**	**20.35**	**185**	P	**P**	**14 29 31.8**	**+0.9**
	comp=Z,10nm,0.5s,baz=6.2,slow=11,SNR=286						
ASAR				S	S	14 33 06.2	-13
	comp=Z,2.2nm,1.0s,baz=4.2,slow=28,SNR=4.1 comp=Z,10nm,0.5s						
MBWA	**Marble Bar**	**23.71**	**220**	P	**P**	**14 30 05.7**	**-0.8**
MBWA				IAmb	IAmb	14 30 42.2	
	comp=Z,55nm,1.5s						
PSA00	**Pilbara Seismi**	**23.94**	**219**	P	**P**	**14 30 08.6**	**-0.1**
PSA00				IAmb	IAmb	14 30 10.8	
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**28.94**	**170**	P	**P**	**14 30 53.1**	**-0.6**
STKA	**Stephens Creek**	**28.94**	**170**	P	**P**	**14 30 54.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=359,slow=12,SNR=3.8						
STKA				LR	LR	14 43 58.0	
	comp=Z,130nm,19.3s,baz=27,slow=40 comp=Z,1.1nm,0.7s						
BBOO	**Buckleboo**	**29.37**	**180**	P	**P**	**14 30 56.9**	**-0.6**
BBOO				IAmb	IAmb	14 31 24.2	
	comp=Z,23nm,1.5s						
YOJ	**Yonaguni jima**	**30.29**	**336**	P	**P**	**14 31 06.2**	**+0.5**
MJAR	**Matsushiro Arr**	**39.69**	**3**	P	P	14 32 23.0	-3.6
	comp=Z,0.4nm,0.6s,baz=180,slow=9.5,SNR=1.0						
CMAR	**Chiang Mai Arr**	**42.31**	**302**	P	**P**	**14 32 47.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=113,slow=6.6,SNR=5.5 comp=Z,0.3nm,0.3s						
FUNA	**Funafuti**	**43.37**	**99**	P	**P**	**14 32 56.3**	**-0.9**
JTM	**Tenmabayashi**	**44.12**	**6**	P	**P**	**14 33 02.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**47.40**	**356**	P	**P**	**14 33 28.7**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=159,slow=6.5,SNR=1.6 comp=Z,1.1nm,0.5s						
ASAJ	**Asahikawa**	**47.58**	**7**	P	**P**	**14 33 28.5**	**-1.5**
	comp=Z,4.0nm,0.9s,baz=180,slow=31,SNR=1.8 comp=Z,4.0nm,0.9s						
JKA	**Kamikawa-asahi**	**47.58**	**7**	P	**P**	**14 33 28.5**	**-1.5**
JKA	**Kamikawa-asahi**	**47.58**	**7**	IAmb	IAmb	14 33 36.1	
	comp=Z,20nm,1.4s						
GTA	**Gaotai**	**53.90**	**326**	*eP*	**P**	**14 34 20.3**	**+2.3**
GTA				pP	sP	14 34 25.6	+3.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SHEM	**Shemya Is, Ala**	**64.42**	**25**	LR	LR	14 59 21.6	
	comp=Z,22nm,21.8s,baz=285,slow=32						
MKAR	**Makanchi Array**	**68.55**	**324**	P	**P**	**14 35 56.9**	**-0.2**
MKAR	**Makanchi Array**	**68.55**	**324**	P	**P**	**14 35 57.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=116,slow=7.8,SNR=7.1 comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.04**	**331**	P	**P**	**14 36 13.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=121,slow=5.6,SNR=2.3 comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**72.59**	**326**	P	**P**	**14 36 22.3**	**+0.7**
KURK	**Kurchatov**	**72.59**	**326**	IAmb	IAmb	14 37 05.5	
	comp=Z,3.6nm,0.3s						
KURBB	**Kurchatov Arra**	**72.59**	**326**	P	**P**	**14 36 22.3**	**+0.7**
	comp=Z,2.1nm,0.2s,baz=114,slow=5.6,SNR=1.4 comp=Z,2.1nm,0.2s						
VNDA	**Vanda**	**75.47**	**174**	P	**P**	**14 36 38.0**	**0.0**
VNDA	**Vanda**	**75.47**	**174**	P	**P**	**14 36 38.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=314,slow=12,SNR=2.1						
VNDA				LR	LR	15 09 03.0	
	comp=Z,40nm,19.0s,baz=330,slow=35						
	comp=Z,0.4nm,0.7s						
AKTO	**Aktyubinsk**	**84.81**	**321**	LR	LR	15 20 12.7	
	comp=Z,18nm,18.1s,baz=290,slow=39						
QSPA	**South Pole Qui**	**86.66**	**180**	P	**P**	**14 37 38.0**	**0.0**
QSPA				IAmb	IAmb	14 37 41.6	
	comp=Z,4.9nm,1.2s						
QSPA	**South Pole Qui**	**86.66**	**180**	P	**P**	**14 37 39.1**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=177,slow=0.3,SNR=6.9 comp=Z,2.2nm,1.0s						
CCB	**Clear Creek Bu**	**87.12**	**25**	P	**P**	**14 37 39.3**	**-0.7**
CCB				IAmb	IAmb	14 37 44.4	
	comp=Z,2.0nm,0.9s						
H24K	**Noodor Dome**	**87.38**	**24**	P	**P**	**14 37 41.0**	**-0.3**
H24K				IAmb	IAmb	14 38 17.3	
	comp=Z,5.7nm,1.4s						
ILAR	**Eielson Array**	**87.53**	**25**	P	**P**	**14 37 41.7**	**-0.3**
ILAR	**Eielson Array**	**87.53**	**25**	P	**P**	**14 37 40.5**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=278,slow=5.1,SNR=5.2 comp=Z,0.5nm,0.7s						
BCAR	**Beaver Creek A**	**89.43**	**27**	P	**P**	**14 37 51.5**	**+0.4**
G30M	**tAoh Zraii Nji**	**92.18**	**23**	P	**P**	**14 38 04.4**	**+0.6**
G30M				IAmb	IAmb	14 38 08.9	
	comp=Z,7.8nm,1.4s						

*JMA **21** 14:34:19.4±0.2, 32°N±2°×13°8E±°, h370km, MV3.4/28, FAR S OFF TOKAI DISTRICT*
*IDC **21** 14:34:22.1±0.7, 32°.49N×137°.95E, h357km±7km, mb3.4/19, mbtmp4.1/24, Error ellipse: s-maj=15.5km s-min=10.1km az=69.0*
*NEIC **21** 14:34:22.5±1.1, 32°.52N±0°.06×137°.93E±0°.09, h359km±7km, mb4.1/39, Error ellipse: s-maj=13.7km s-min=3.8km az=126.0*
ISC 21 14:34:23.3±0.6, 32°.59N±0°.07×138°.03E±0°.07, h376km, n105, σ1°92/101, mb4.0/41, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**1.38**	**338**	*eP*	**Pn**	**14 35 10.9**	**-2.2**
TTO2	**TONANKAI O.B.S**	**1.42**	**324**	*eP*	**Pn**	**14 35 10.8**	**-2.4**
TTO1	**TONANKAI O.B.S**	**1.47**	**315**	*eP*	**Pn**	**14 35 10.6**	**-2.8**
JHJ	**Hachijo jima 2**	**1.57**	**70**	P	**Pn**	**14 35 12.1**	**-2.2**
	95nm,0.5s,baz=102,slow=24,SNR=0.9						
JHJ				S	**S**	**14 35 52.3**	**-3.2**
	104nm,0.3s,baz=223,slow=22,SNR=2.4						
JHJ2	**Mitsune**	**1.59**	**70**	Pn	**Pn**	**14 35 12.3**	**-2.1**
JIE	**Ise**	**2.11**	**329**	*eP*	**Pn**	**14 35 14.8**	**-2.8**
JTNC	**Tanabenakahech**	**2.37**	**302**	*eP*	**Pn**	**14 35 16.0**	**-3.5**
JWY	**Kouya**	**2.61**	**309**	*eP*	**Pn**	**14 35 18.8**	**-2.6**
JOD2	**Odawara 2**	**2.81**	**18**	*eS*	**S**	**14 36 07.2**	**-4.0**
INU	**Inuyama**	**2.88**	**343**	Pn	**Pn**	**14 35 21.2**	**-2.3**
JGF	**Kuroka**	**3.06**	**350**	Pn	**Pn**	**14 35 22.6**	**-2.5**
JYTA	**Yamagatataniai**	**3.19**	**341**	*eP*	**Pn**	**14 35 24.0**	**-2.1**
BSO1	**Boso 1**	**3.21**	**49**	*eP*	**Pn**	**14 35 22.3**	**-3.4**
BSO1				S	**S**	**14 36 10.9**	**-5.4**
JAI	**Aioi**	**3.23**	**293**	*eP*	**Pn**	**14 35 23.4**	**-3.2**
JWT	**Wachi**	**3.46**	**322**	*eP*	**Pn**	**14 35 26.1**	**-2.5**
JWT				*eS*	**S**	**14 36 17.0**	**-4.5**
JRY	**Ryogami san**	**3.50**	**12**	*eS*	**S**	**14 36 17.9**	**-4.3**
JMN	**Monobe**	**3.66**	**289**		**Pn**	**14 35 27.7**	**-2.9**
JMN	**Monobe**	**3.66**	**289**	*eP*	**Pn**	**14 35 27.9**	**-2.6**
MJAR	**Matsushiro Arr**	**3.95**	**2**	P	**Pn**	**14 35 31.0**	**-2.2**
	4.6nm,0.7s,baz=181,slow=9.7,SNR=5.2						
MAJO	**Matsushiro**	**3.95**	**2**	Pn	**Pn**	**14 35 31.1**	**-2.1**
MJB9	**Matsu-Tunnel**	**3.95**	**2**	Pn	**Pn**	**14 35 32.0**	**-1.3**
JTO	**Tosashimizu**	**4.41**	**275**	*eP*	**Pn**	**14 35 35.1**	**-2.8**
JHS	**Saijyo**	**4.75**	**302**	*eP*	**Pn**	**14 35 39.3**	**-2.1**
JMM	**Marumori**	**5.73**	**22**	Pn	**Pn**	**14 35 49.6**	**-2.3**
JNU	**Nakatsue**	**6.04**	**277**		**Pn**	**14 35 52.3**	**-3.2**
JNU	**Nakatsue**	**6.04**	**277**	P	**Pn**	**14 35 53.0**	**-2.5**
	13nm,0.7s,baz=68,slow=3.4,SNR=9.2						
CBIJ	**Chichi jima**	**6.55**	**146**	*eP*	Pn	14 35 55.3	-6.0
CBIJ				*eS*	S	14 37 11.1	-10
JCJ	**Chichijima**	**6.55**	**146**		Pn	14 35 54.3	-7.0
JCJ	**Chichijima**	**6.55**	**146**	P	Pn	14 35 53.1	-8.2
	26nm,0.3s,baz=299,slow=22,SNR=10						
JCJ				S	S	14 37 08.5	-13
	60nm,0.4s,baz=290,slow=22,SNR=7.2						
KSRS	**Korea Array**	**9.60**	**303**	P	**Pn**	**14 36 35.9**	**-0.6**
	7.7nm,0.7s,baz=116,slow=12,SNR=24						
KSAR	**Wonju Array Be**	**9.62**	**303**		**Pn**	**14 36 35.3**	**-1.4**
KS19	**Wonju Array Si**	**9.66**	**303**		**Pn**	**14 36 35.7**	**-1.5**
INCN	**Inchon**	**10.54**	**301**	P	**Pn**	**14 36 46.7**	**-0.8**
ASAJ	**Asahikawa**	**12.05**	**16**	P	**Pn**	**14 37 05.0**	**-0.1**
	5.4nm,1.0s,baz=225,slow=9.9,SNR=8.1						
JKA	**Kamikawa-asahi**	**12.05**	**16**	P	**Pn**	**14 37 05.1**	**0.0**
USRK	**Ussuriysk Ar.**	**12.52**	**340**	P	**P**	**14 37 09.2**	**-0.1**
	20nm,0.7s,baz=160,slow=11,SNR=26						
HEH	**HeiHe**	**19.33**	**339**	*eP*	**P**	**14 38 21.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**20.27**	**271**	P	**P**	**14 38 30.5**	**-1.4**
HILR	**Hailar Array B**	**21.75**	**327**	P	**P**	**14 38 45.9**	**+0.7**
	comp=Z,5.3nm,0.4s,baz=131,slow=11,SNR=9.1 comp=Z,5.3nm,0.4s						
PETK	**Petropavlovsk-**	**24.92**	**29**	P	**P**	**14 39 14.3**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=242,slow=4.9,SNR=1.4 comp=Z,0.9nm,1.0s						
SONM	**Songino Array**	**28.31**	**312**	P	**P**	**14 39 44.4**	**+0.5**
SONM	**Songino Array**	**28.31**	**312**	P	**P**	**14 39 44.8**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=115,slow=8.4,SNR=8.1 comp=Z,2.7nm,0.7s						
GTA	**Gaotai**	**31.48**	**293**	*eP*	**P**	**14 40 11.4**	**-0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ZAA0	**Zalesovo Array**	**43.01**	**316**	P	**P**	**14 41 47.2**	**+0.2**
ZALV	**Zalesovo Beam**	**43.01**	**316**	P	**P**	**14 41 47.1**	**+0.1**
ZALV	**Zalesovo Beam**	**43.01**	**316**	P	**P**	**14 41 47.4**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=79,slow=7.7,SNR=6.8 comp=Z,1.2nm,0.4s						
EVN	**Everest**	**44.13**	**278**		**P**	**14 41 56.6**	**-0.3**
MKAR	**Makanchi Array**	**44.27**	**306**	P	**P**	**14 41 57.2**	**+0.1**
MKAR	**Makanchi Array**	**44.27**	**306**	P	**P**	**14 41 57.5**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=85,slow=10,SNR=40 comp=Z,3.2nm,0.5s						
MAKZ	**Makanchi**	**44.49**	**306**	P	**P**	**14 41 59.2**	**+0.4**
MAKZ				IAmb	IAmb	14 41 59.6	
	comp=Z,4.9nm,0.5s						
MTN	**Manton Dam**	**45.65**	**189**	P	**P**	**14 42 07.2**	**-0.9**
MTN				IAmb	IAmb	14 42 46.3	
	comp=Z,12nm,1.4s						
KURK	**Kurchatov**	**46.62**	**311**	P	**P**	**14 42 15.7**	**+0.6**
KURK	**Kurchatov**	**46.62**	**311**	IAmb	IAmb	14 42 16.4	
	comp=Z,9.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.67**	**311**	P	**P**	**14 42 15.7**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=90,slow=7.5,SNR=22 comp=Z,3.3nm,0.4s						
K15K	**Wolf Creek Mou**	**48.05**	**33**	P	**P**	**14 42 28.2**	**+2.4**
K15K				IAmb	IAmb	14 42 59.5	
	comp=Z,24nm,1.5s						
KNRA	**Kununurra**	**48.80**	**192**	P	**P**	**14 42 31.4**	**-0.6**
KNRA				IAmb	IAmb	14 42 58.2	
	comp=Z,13nm,1.4s						
M16K	**Timber Creek**	**49.10**	**35**	P	**P**	**14 42 36.1**	**+2.2**
M16K				IAmb	IAmb	14 43 02.6	
	comp=Z,20nm,1.4s						
C18K	**Utukok River**	**49.48**	**25**	P	**P**	**14 42 39.1**	**+2.5**
C18K				IAmb	IAmb	14 42 43.9	
	comp=Z,9.3nm,1.2s						
AAK	**Ala-Archa**	**50.26**	**301**	P	**P**	**14 42 43.4**	**+0.5**
K20K	**Telida**	**51.57**	**32**	P	**P**	**14 42 54.4**	**+2.4**
K20K				IAmb	IAmb	14 42 55.5	
	comp=Z,8.7nm,1.5s						
BVAR	**Borovoye Array**	**51.60**	**315**	P	**P**	**14 42 52.7**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=100,slow=7.7,SNR=14 comp=Z,4.7nm,0.6s						
KDAK	**Kodiak Island**	**52.28**	**39**	P	**P**	**14 42 59.1**	**+1.9**
KDAK				IAmb	IAmb	14 43 37.9	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**52.35**	**184**	P	**P**	**14 42 57.6**	**-0.7**
WRA	**Warramunga Arr**	**52.35**	**184**	P	**P**	**14 42 57.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=0.2,slow=7.8,SNR=17 comp=Z,0.4nm,0.3s						
WR8	**Warramunga Arr**	**52.35**	**184**	P	**P**	**14 42 57.8**	**-0.5**
KK31	**Karatay Array**	**53.03**	**302**	IAmb	IAmb	14 43 04.2	
	comp=Z,5.4nm,0.8s						
KKAR	**Karatay Array**	**53.03**	**302**		**P**	**14 43 03.1**	**+0.1**
NIL	**Nilore**	**53.44**	**290**	P	**P**	**14 43 06.6**	**+0.5**
NIL				IAmb	IAmb	14 43 07.7	
	comp=Z,8.3nm,0.7s						
F24K	**Squaw Lake**	**54.28**	**27**	P	**P**	**14 43 14.1**	**+2.5**
F24K				IAmb	IAmb	14 43 51.6	
	comp=Z,6.8nm,1.4s						
H24K	**Noodor Dome**	**54.29**	**29**	P	**P**	**14 43 14.5**	**+2.9**
SCM	**Sheep Creek Mo**	**54.70**	**34**	P	**P**	**14 43 17.0**	**+2.3**
SCM				IAmb	IAmb	14 43 32.0	
	comp=Z,23nm,1.3s						
ILAR	**Eielson Array**	**54.73**	**30**	P	**P**	**14 43 16.8**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=288,slow=7.0,SNR=6.3 comp=Z,0.5nm,0.7s						
SCRK	**Sand Creek**	**56.05**	**31**	P	**P**	**14 43 26.4**	**+2.2**
ASAR	**Alice Springs**	**56.08**	**185**	P	**P**	**14 43 24.3**	**-0.5**
ASAR	**Alice Springs**	**56.08**	**185**	P	**P**	**14 43 24.6**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=12,slow=14,SNR=10 comp=Z,0.6nm,0.8s						
J26L	**Joseph Creek**	**56.18**	**31**	P	**P**	**14 43 26.8**	**+1.7**
M27K	**Edge Creek, AK**	**57.19**	**33**	P	**P**	**14 43 34.6**	**+2.4**
M27K				IAmb	IAmb	14 43 46.1	
	comp=Z,9.4nm,1.5s						
ARTI	**Arti**	**58.00**	**320**		**P**	**14 43 38.3**	**+0.6**
AB31	**Akbulak array**	**58.73**	**311**	IAmb	IAmb	14 43 44.1	
	comp=Z,7.7nm,0.6s						
ABKAR	**Akbulak array**	**58.73**	**311**		**P**	**14 43 43.3**	**+0.5**
G31M	**Satah River**	**59.61**	**27**	P	**P**	**14 43 50.6**	**+2.2**
G31M				IAmb	IAmb	14 44 24.3	
	comp=Z,8.3nm,1.4s						
H31M	**Peel River**	**59.82**	**28**	P	**P**	**14 43 52.5**	**+2.5**
H31M				IAmb	IAmb	14 43 57.4	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**64.20**	**177**	P	**P**	**14 44 18.8**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=5.8,slow=7.9,SNR=3.3 comp=Z,1.9nm,0.9s						
ARCES	**ARCESS Array B**	**67.17**	**339**	IAmb	IAmb	14 44 46.2	
	comp=Z,27nm,1.4s						
ARCES	**ARCESS Array B**	**67.17**	**339**	P	**P**	**14 44 38.7**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=52,slow=7.9,SNR=7.9 comp=Z,1.6nm,0.6s						
FIA1	**FINESS Array S**	**71.43**	**332**	P	**P**	**14 45 04.0**	**+0.6**
FINES	**FINESS Array B**	**71.43**	**332**	P	**P**	**14 45 04.3**	**+0.9**
FINES	**FINESS Array B**	**71.43**	**332**	P	**P**	**14 45 03.7**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=67,slow=5.2,SNR=16 comp=Z,1.2nm,0.4s						
KBZ	**Khabaz**	**71.67**	**310**	P	**P**	**14 45 06.3**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=85,slow=4.1,SNR=9.7 comp=Z,3.4nm,0.7s						
AKASG	**Malin Array Be**	**76.08**	**322**	P	**P**	**14 45 30.7**	**+0.4**
AKASG	**Malin Array Be**	**76.08**	**322**	P	**P**	**14 45 31.0**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=53,slow=5.3,SNR=6.6 comp=Z,1.1nm,0.4s						
AKBB	**Malin Array Si**	**76.08**	**322**	P	**P**	**14 45 30.9**	**+0.6**
AKBB				IAmb	IAmb	14 46 07.9	
	comp=Z,7.4nm,1.4s						
KIEV	**Kiev**	**76.09**	**322**	P	**P**	**14 45 30.9**	**+0.6**
KIEV				IAmb	IAmb	14 46 07.9	
	comp=Z,6.7nm,1.4s						
NC405	**NORSAR Array S**	**76.95**	**336**	P	**P**	**14 45 36.1**	**+1.1**
HFS	**Hagfors**	**76.95**	**335**	P	**P**	**14 45 35.7**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=82,slow=3.3,SNR=11 comp=Z,1.4nm,0.4s						
NC204	**NORSAR Array S**	**77.15**	**337**	P	**P**	**14 45 37.4**	**+1.2**
NB2	**NORSAR Subarra**	**77.17**	**336**	P	**P**	**14 45 36.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**77.17**	**336**	P	**P**	**14 45 37.1**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=44,slow=5.6,SNR=5.4 comp=Z,1.3nm,0.7s						
BRTR	**Keskin Array B**	**79.67**	**311**		**P**	**14 45 51.0**	**+0.7**
BRTR	**Keskin Array B**	**79.67**	**311**	P	**P**	**14 45 51.7**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=123,slow=4.0,SNR=8.3 comp=Z,1.8nm,0.8s						
RAYN	**Ar Rayn**	**79.71**	**291**	P	**P**	**14 45 50.6**	**-0.1**
RAYN				IAmb	IAmb	14 45 52.2	
	comp=Z,2.7nm,0.6s						
WCT	**Wildcat Mounta**	**81.94**	**51**	P	**P**	**14 46 02.0**	**-0.1**
WCT				IAmb	IAmb	14 46 02.7	
	comp=Z,2.5nm,0.6s						
CLL	**Collm**	**83.50**	**329**	*eP*	**P**	**14 46 10.0**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.80**	**168**		**Pb**	**14 40 53.2**	**-0.5**
AGPR					**Sn**	**14 41 03.9**	**-0.5**
AGPR	**Aguadilla, PR**	**0.80**	**168**	*e*P	**Pb**	**14 40 53.2**	**-0.5**
AGPR	**Aguadilla, PR**	**0.80**	**168**	*e*S	**Sn**	**14 41 03.9**	**-0.5**
AGPR	**Aguadilla, PR**	**0.80**	**168**	*e*Pg	**Pn**	**14 40 53.9**	**+0.4**
AGPR				*e*Sg	**Sn**	**14 41 04.2**	**-0.2**
AGPR				IAML		14 41 06.8	
	comp=N,737nm,0.2s						
IDE	**Isla Desecheo**	**0.88**	**192**		**Pn**	**14 40 54.9**	**+0.2**
IDE					**Sn**	**14 41 06.2**	**-0.3**
IDE	**Isla Desecheo**	**0.88**	**192**	*e*P	**Pn**	**14 40 54.9**	**+0.2**
IDE	**Isla Desecheo**	**0.88**	**192**	*e*S	**Sn**	**14 41 06.2**	**-0.3**
AOPR	**Arecibo Observ**	**1.03**	**151**		**Pn**	**14 40 56.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.03**	**151**	*e*P	**Pn**	**14 40 56.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.03**	**151**	*e*S	**Sn**	**14 41 10.6**	**+0.4**
AOPR	**Arecibo Observ**	**1.03**	**151**	*e*Pg	**Pb**	**14 40 57.2**	**-0.5**
AOPR				*e*Sg	**Sn**	**14 41 10.7**	**+0.5**
AOPR				IAML		14 41 22.9	
	comp=N,632nm,0.7s						
PRSN	**Puerto Rico Se**	**1.04**	**173**	*e*Pg	**Pb**	**14 40 58.0**	**+0.2**
PRSN				*e*Sg	**Sb**	**14 41 11.5**	**+0.5**
PRSN				IAML		14 41 14.6	
	comp=N,2μm,0.3s						
EMPR	**Esperanza - Ma**	**1.05**	**137**		**Pb**	**14 40 59.7**	**+1.7**
EMPR					**Sb**	**14 41 11.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.05**	**137**		**Pb**	**14 40 59.1**	**+1.2**
EMPR	**Esperanza - Ma**	**1.05**	**137**	*e*P	**Pb**	**14 40 59.7**	**+1.7**
EMPR	**Esperanza - Ma**	**1.05**	**137**	*e*S	**Sb**	**14 41 11.9**	**+0.5**
LSP	**Las Mesas**	**1.09**	**170**		**Pn**	**14 40 57.8**	**+0.3**
LSP					**Sn**	**14 41 11.2**	**-0.4**
LSP	**Las Mesas**	**1.09**	**170**	*e*P	**Pn**	**14 40 57.8**	**+0.3**
LSP	**Las Mesas**	**1.09**	**170**	*e*S	**Sn**	**14 41 11.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.13**	**152**		**Pn**	**14 40 58.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**		**Pn**	**14 41 00.1**	**+0.3**
CRPR				IAML		14 41 20.8	
	comp=E,348nm,0.5s						
CRPR				IAML		14 41 22.1	
	comp=N,396nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.25**	**173**		**Sn**	**14 41 15.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*e*P	**Pn**	**14 41 00.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*e*S	**Sn**	**14 41 15.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*e*Pg	**Pb**	**14 41 01.2**	**-0.2**
CRPR				*e*Sg	**Sb**	**14 41 17.9**	**+0.8**
CRPR				IAML		14 41 22.0	
	comp=N,447nm,0.3s						
ECPR	**Experimental S**	**1.27**	**137**	*e*P	**Pb**	**14 41 00.9**	**-0.8**
ECPR	**Experimental S**	**1.27**	**137**	*e*S	**Sb**	**14 41 17.9**	**+0.1**
PCDR	**Punta Cana, DR**	**1.27**	**235**	*e*Pg	**Pb**	**14 41 01.9**	**+0.2**
PCDR				IAML		14 41 26.7	
	comp=N,423nm,1.1s						
MLPR	**Magueyes Islan**	**1.30**	**170**	*e*P	**Pn**	**14 41 00.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.30**	**170**	*e*S	**Sn**	**14 41 17.1**	**+0.4**
MLPR	**Magueyes Islan**	**1.30**	**170**	*e*Pg	**Pn**	**14 41 01.1**	**+0.7**
MLPR				*e*Sg	**Sb**	**14 41 17.7**	**-0.7**
MLPR				IAML		14 41 21.4	
	comp=N,110nm,0.7s						
CELP	**Cerrillos**	**1.35**	**150**		**Pn**	**14 41 01.9**	**+0.7**
CELP					**Sb**	**14 41 19.0**	**-0.9**
CELP	**Cerrillos**	**1.35**	**150**	IAML		14 41 20.1	
	comp=E,308nm,0.3s						
CELP	**Cerrillos**	**1.35**	**150**	*e*P	**Pn**	**14 41 01.9**	**+0.7**
CELP	**Cerrillos**	**1.35**	**150**	*e*S	**Sb**	**14 41 19.0**	**-0.9**
CELP	**Cerrillos**	**1.35**	**150**	*e*Pg	**Pb**	**14 41 02.1**	**-0.9**
CELP				*e*Sg	**Sb**	**14 41 19.4**	**-0.5**
CELP				IAML		14 41 19.9	
	comp=N,524nm,0.3s						
OBIP	**Obispado Ponce**	**1.36**	**152**		**Pn**	**14 41 02.1**	**+0.8**
OBIP					**Sb**	**14 41 19.4**	**-0.9**
OBIP	**Obispado Ponce**	**1.36**	**152**	IAML		14 41 20.6	
	comp=N,415nm,0.5s						
OBIP				IAML		14 41 21.5	
	comp=E,307nm,0.4s						
OBIP	**Obispado Ponce**	**1.36**	**152**	*e*P	**Pn**	**14 41 02.1**	**+0.8**
OBIP	**Obispado Ponce**	**1.36**	**152**	*e*S	**Sb**	**14 41 19.4**	**-0.9**
GCPR	**Guaynabo City**	**1.47**	**129**		**Pn**	**14 41 03.8**	**+0.9**
GCPR	**Guaynabo City**	**1.47**	**129**		**Sb**	**14 41 22.7**	**-0.8**
GCPR	**Guaynabo City**	**1.47**	**129**	*e*P	**Pb**	**14 41 04.4**	**-0.7**
GCPR	**Guaynabo City**	**1.47**	**129**	*e*S	**Sb**	**14 41 22.7**	**-0.8**
HIDR	**Higuey Centro**	**1.51**	**244**	*e*Pg	**Pb**	**14 41 05.3**	**-0.4**
HIDR				*e*Sg	**Sb**	**14 41 26.4**	**+1.9**
HIDR				IAML		14 41 33.4	
	comp=N,326nm,0.3s						
MIDR	**Miches**	**1.69**	**261**	*e*P	**Pb**	**14 41 07.7**	**-1.2**
MIDR	**Miches**	**1.69**	**261**	*e*S	**Sn**	**14 41 27.7**	**+1.1**
MIDR	**Miches**	**1.69**	**261**	*e*Pg	**Pb**	**14 41 09.4**	**+0.5**
MIDR				*e*Sg	**Sb**	**14 41 29.8**	**0.0**
MIDR				IAML		14 41 37.4	
	comp=N,123nm,0.7s						
IGPR	**InterUniversit**	**1.70**	**139**		**Pb**	**14 41 07.5**	**-1.4**
IGPR					**Sb**	**14 41 28.3**	**-1.6**
IGPR	**InterUniversit**	**1.70**	**139**	*e*P	**Pb**	**14 41 07.5**	**-1.4**
IGPR	**InterUniversit**	**1.70**	**139**	*e*S	**Sb**	**14 41 28.3**	**-1.6**
PDPR	**Patillas Dam,**	**1.71**	**136**		**Pn**	**14 41 07.6**	**+1.5**
PDPR				IAML		14 41 35.0	
	comp=E,135nm,0.1s						
PDPR				IAML		14 41 35.5	
	comp=N,187nm,0.2s						
PDPR	**Patillas Dam,**	**1.71**	**136**	*e*P	**Pn**	**14 41 07.5**	**+1.3**
PDPR	**Patillas Dam,**	**1.71**	**136**	*e*S	**Sn**	**14 41 28.3**	**+1.3**
SMDR	**Samana, DR**	**1.80**	**271**	*e*Pg	**Pb**	**14 41 09.5**	**-1.2**
SMDR				*e*Sg	**Sb**	**14 41 32.5**	**-0.4**
SMDR				IAML		14 41 43.2	
	comp=N,93nm,0.6s						
DR12	**Loma Pena Alta**	**2.04**	**257**		**Pb**	**14 41 13.6**	**-1.2**
HATOM	**Hato Mayor del**	**2.04**	**257**	*e*Pg	**Pb**	**14 41 14.4**	**-0.4**
HATOM				*e*Sg	**Sb**	**14 41 40.6**	**+0.8**
HATOM				IAML		14 41 47.8	
	comp=N,94nm,0.5s						
NADR	**Nagua**	**2.43**	**273**	*e*Pg	**Pb**	**14 41 20.3**	**-1.2**
NADR				*e*Sg	**Sb**	**14 41 50.8**	**-0.3**
NADR				IAML		14 42 10.9	
	comp=N,527nm,0.5s						
DR08	**Loma La Naviza**	**2.61**	**264**	*e*Pg	**Pb**	**14 41 23.0**	**-1.5**
DR08				IAML		14 42 03.0	
	comp=N,1μm,0.2s						
BANI	**BANI**	**3.04**	**254**		**Pn**	**14 41 26.7**	**+2.2**
BANI	**BANI**	**3.04**	**254**	*e*Pg	**Pb**	**14 41 30.1**	**-1.8**
BANI				IAML		14 42 20.5	
	comp=N,163nm,0.3s						
ABDR	**Alto Bandera**	**3.20**	**263**	*e*Pg	**Pb**	**14 41 34.2**	**-0.4**
ABDR				IAML		14 42 35.3	
	comp=N,0.3nm,0.8s						
MCDR	**Montecristi**	**4.17**	**279**	*e*Pg	**Pb**	**14 41 48.7**	**-2.5**
MCDR				IAML		14 42 59.6	
	comp=N,47nm,1.6s						

*IDC **21** 14:50:18.1±0.7,3.75N×64.05E,h0km,mb4.1/19, mbtmp4.1/19,MS3.5/31,Error ellipse: s-maj=23.3km s-min=15.1km az=44.0*
*NEIC **21** 14:50:20.0±2.3,3.6N±0.1×64.02E±0.08,h10km±1km, mb4.6/49,Error ellipse: s-maj=18.9km s-min=13.4km az=159.0*

ISC 21 14:50:20.7±0.5,3.52N±0.07×64.04E±0.06,h23km,n111, σ1§19/90,mb4.4/41,MS3.4/31,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**9.44**	**108**	Pn	**Pn**	**14 52 31.4**	**-4.0**
HMDM	**Hanimaadhoo**	**9.67**	**70**	Pn	**Pn**	**14 52 36.7**	**-1.8**
MSEY	**Mahe Island**	**11.80**	**226**	Pn	**Pn**	**14 53 06.0**	**-1.8**
MNGI	**Mangalore**	**14.19**	**48**	*e*P	**Pn**	**14 53 40.2**	**-0.2**
MNGI				IAmb	IAmb	14 55 45.4	
	comp=Z,9.0nm,0.1s						
MNGI				*e*S	**Sn**	**14 56 16.9**	**-0.4**
KAD	**Karad**	**16.94**	**35**	*e*P	**Pn**	**14 54 14.8**	**-1.6**
KAD				IAmb	IAmb	14 54 45.5	
	comp=Z,8.4nm,0.2s						
KAD				*e*S	**Sn**	**14 57 24.5**	**+0.2**
POO	**Poona**	**17.75**	**32**	*e*P	**Pn**	**14 54 25.6**	**-0.8**
POO				IAmb	IAmb	14 55 17.7	
	comp=Z,8.4nm,0.2s						
POO				*e*S	**Sn**	**14 57 42.9**	**-0.8**
HYB	**Hyderabad**	**19.84**	**45**	*e*P	**P**	**14 54 50.4**	**+0.2**
HYB				IVmB_BB		14 54 52.5	
	comp=Z,150nm,2.0s						
HYB				*e*S	**Sn**	**14 58 34.1**	**-0.3**
ATD	**Arta Tunnel**	**22.45**	**292**	P	**P**	**14 55 14.5**	**-3.9**
ATD				IAmb	IAmb	14 55 15.5	
	comp=Z,33nm,1.5s						
UOSS	**Minazif**	**22.60**	**341**		**P**	**14 55 18.9**	**-0.9**
UOSS				IAmb	IAmb	14 55 23.1	
	comp=Z,17nm,1.2s						
VIS	**Vishakhapatnam**	**23.60**	**52**	*e*P	**P**	**14 55 29.6**	**-0.5**
VIS				IAmb	IAmb	14 55 55.5	
	comp=Z,8.8nm,0.7s						
VIS				*e*S	**S**	**14 59 46.1**	**+2.8**
FURI	**Furi**	**25.76**	**283**	LR	LR	15 04 55.0	
	comp=Z,48nm,20.6s,baz=114,slow=34						
RAYN	**Ar Rayn**	**26.77**	**320**	P	**P**	**14 55 59.6**	**+0.5**
OPO	**Ambohidratompo**	**27.52**	**217**	LR	LR	15 04 30.6	
	comp=Z,101nm,19.8s,baz=180,slow=31						
LODK	**Lodwar**	**28.62**	**271**	P	**P**	**14 56 17.3**	**+1.5**
HRA	**Herat**	**30.76**	**357**	P	**P**	**14 56 35.7**	**+1.0**
NIL	**Nilore**	**31.19**	**15**		**P**	**14 56 39.8**	**+1.5**
NIL				IAmb	IAmb	14 56 41.2	
	comp=Z,6.6nm,0.8s						
KBL	**Kabul**	**31.22**	**8**	P	**P**	**14 56 40.6**	**+1.9**
KBL				IAmb	IAmb	14 56 42.2	
	comp=Z,3.9nm,0.9s						
BRDH	**Bariadhala**	**32.83**	**52**	LR	LR	15 11 40.2	
	comp=Z,162nm,18.4s,baz=280,slow=39						
SHL	**Shillong**	**34.59**	**48**	P	**P**	**14 57 09.5**	**+1.2**
GAR	**Garm**	**35.78**	**8**	P	**P**	**14 57 18.9**	**+0.7**
GAR				IAmb	IAmb	14 57 20.2	
	comp=Z,11nm,1.1s						
LSA	**Lhasa**	**36.58**	**42**	P	**P**	**14 57 26.8**	**+1.2**
LSA				IAmb	IAmb	14 57 34.0	
	comp=Z,7.7nm,1.3s						
CMAR	**Chiang Mai Arr**	**37.24**	**64**		**P**	**14 57 32.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**37.24**	**64**	P	**P**	**14 57 31.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=258,slow=9.2,SNR=10.0						
CMAR				PcP	**PcP**	**14 59 52.1**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=247,slow=4.8,SNR=4.3						
CMAR				LR	LR	15 12 08.4	
	comp=Z,41nm,19.5s,baz=235,slow=35						
	comp=Z,0.4nm,0.3s						
CHTO	**Chiang Mai**	**37.36**	**63**		**P**	**14 57 33.7**	**+1.8**
KSH	**Kashi**	**37.44**	**15**	P	**P**	**14 57 30.1**	**-2.3**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EIL	**Elat**	**37.89**	**316**	LR	LR	15 11 19.7	
	comp=Z,46nm,18.2s,baz=153,slow=33						
ASF	**Jabal al Asfar**	**38.23**	**321**	LR	LR	15 12 18.7	
	comp=Z,46nm,18.1s,baz=153,slow=35						
MMAI	**Mount Meron Ar**	**39.73**	**321**	LR	LR	15 13 17.1	
	comp=Z,33nm,18.2s,baz=150,slow=35						
AAK	**Ala-Archa**	**40.05**	**12**	LR	LR	15 16 07.9	
	comp=Z,24nm,18.6s,baz=203,slow=39						
LSZ	**Lusaka**	**40.10**	**241**	LR	LR	15 12 14.3	
	comp=Z,126nm,18.7s,baz=346,slow=33						
GNI	**Garni**	**40.43**	**337**	LR	LR	15 14 29.3	
	comp=Z,40nm,20.5s,baz=141,slow=36						
ARPR	**Arapgir-MALATY**	**42.42**	**330**	P	**P**	**14 58 13.6**	**-0.3**
ARPR				IAmb	IAmb	14 58 17.9	
	comp=Z,11nm,1.3s						
KBZ	**Khabaz**	**44.20**	**338**	P	**P**	**14 58 28.6**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=173,slow=5.7,SNR=5.7						
KBZ				LR	LR	15 18 09.7	
	comp=Z,24nm,18.3s,baz=64,slow=38						
	comp=Z,3.3nm,0.9s						
BRTR	**Keskin Array B**	**45.35**	**327**	P	**P**	**14 58 36.7**	**-0.7**
BRTR	**Keskin Array B**	**45.35**	**327**	P	**P**	**14 58 36.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=146,slow=9.6,SNR=4.6						
	comp=Z,0.6nm,0.7s						
AB31	**Akbulak array**	**45.71**	**356**		**P**	**14 58 39.5**	**-0.4**
ABKAR	**Akbulak array**	**45.71**	**356**		**P**	**14 58 39.8**	**-0.1**
MKAR	**Makanchi Array**	**45.93**	**17**	P	**P**	**14 58 40.8**	**-0.9**
MKAR	**Makanchi Array**	**45.93**	**17**	P	**P**	**14 58 41.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=208,slow=6.8,SNR=4.8						
MKAR				LR	LR	15 16 46.2	
	comp=Z,30nm,21.0s,baz=212,slow=35						
	comp=Z,0.9nm,0.7s						
SBUM	**Sibu**	**48.13**	**90**		**P**	**14 58 59.0**	**-0.4**
SBUM				IAmb	IAmb	14 59 02.2	
	comp=Z,7.2nm,1.0s						
KURBB	**Kurchatov Arra**	**48.51**	**12**	P	**P**	**14 59 00.3**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=213,slow=8.5,SNR=5.6						
KURBB				LR	LR	15 20 02.7	
	comp=Z,41nm,18.9s,baz=172,slow=37						
	comp=Z,0.7nm,0.8s						
KURK	**Kurchatov**	**48.62**	**12**	P	**P**	**14 59 02.1**	**-0.4**
KURK				IAmb	IAmb	14 59 24.0	
	comp=Z,6.5nm,1.5s						
BOSA	**Boshof**	**49.07**	**227**	LR	LR	15 17 38.3	
	comp=Z,52nm,19.3s,baz=26,slow=33						
BVAR	**Borovoye Array**	**49.63**	**5**	LR	LR	15 21 13.7	
	comp=Z,66nm,19.1s,baz=191,slow=38						
TSUM	**Tsumeb**	**50.95**	**242**	LR	LR	15 18 55.3	
	comp=Z,76nm,20.0s,baz=138,slow=34						
RDO	**Rodhopi**	**50.96**	**323**	P	**P**	**14 59 20.6**	**+0.1**
RDO				IAmb	IAmb	14 59 23.1	
	comp=Z,15nm,1.4s						
TIRR	**Tirgusor**	**51.42**	**328**	P	**P**	**14 59 23.9**	**-0.1**
TIRR				IAmb	IAmb	14 59 25.4	
	comp=Z,5.1nm,1.1s						
ARTI	**Arti**	**52.91**	**356**	LR	LR	15 22 08.4	
	comp=Z,30nm,21.1s,baz=198,slow=36						
ZALV	**Zalesovo Beam**	**53.08**	**15**	P	**P**	**14 59 34.8**	**-1.3**
ZALV	**Zalesovo Beam**	**53.08**	**15**	P	**P**	**14 59 35.3**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=212,slow=7.0,SNR=12						
ZALV				LR	LR	15 21 56.1	
	comp=Z,40nm,21.1s,baz=185,slow=36						
	comp=Z,2.4nm,0.7s						
MLR	**Muntele Rosu**	**53.42**	**327**	P	**P**	**14 59 40.8**	**+1.8**
BURAR	**Bucovina Array**	**55.18**	**329**	P	**P**	**14 59 51.6**	**-0.1**
BUR08	**Bucovina Ar. S**	**55.20**	**329**	P	**P**	**14 59 52.5**	**+0.6**
BUR08				IAmb	IAmb	15 00 07.7	
	comp=Z,4.9nm,1.1s						
AKASG	**Malin Array Be**	**55.38**	**334**	P	**P**	**14 59 51.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=122,slow=6.6,SNR=5.6						
AKASG				LR	LR	15 26 57.3	
	comp=Z,20nm,18.7s,baz=68,slow=40						
	comp=Z,0.2nm,0.4s						
AKBB	**Malin Array Si**	**55.38**	**334**	P	**P**	**14 59 52.5**	**-0.4**
AKBB				IAmb	IAmb	15 00 01.7	
	comp=Z,6.3nm,1.3s						
KIEV	**Kiev**	**55.38**	**334**	P	**P**	**14 59 52.3**	**-0.6**
KIEV				IAmb	IAmb	15 00 01.7	
	comp=Z,6.2nm,1.4s						
KIRV	**Kirov**	**56.10**	**351**	LR	LR	15 25 58.5	
	comp=Z,40nm,18.8s,baz=77,slow=38						
CUC	**Castrocucco**	**56.64**	**317**	P	**P**	**15 00 01.9**	**-0.3**
CUC				IAmb	IAmb	15 00 05.0	
	comp=Z,8.3nm,1.3s						
ACER	**Acerenza**	**56.92**	**318**	P	**P**	**15 00 05.1**	**+1.0**
SONM	**Songino Array**	**57.18**	**33**	P	**P**	**15 00 06.1**	**+0.1**
SONM				IAmb	IAmb	15 00 07.9	
	comp=Z,5.8nm,1.5s						
SONM	**Songino Array**	**57.18**	**33**	P	**P**	**15 00 05.4**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=228,slow=7.7,SNR=6.8						
SONM				LR	LR	15 24 33.5	
	comp=Z,94nm,20.7s,baz=232,slow=36						
	comp=Z,1.3nm,0.7s						
ULN	**Ulaanbaatar**	**57.56**	**33**	P	**P**	**15 00 09.2**	**+0.4**
NACB	**Ninganchiao**	**59.08**	**64**	P	**P**	**15 00 18.9**	**-0.7**
NRCA	**Norcia**	**59.73**	**319**	P	**P**	**15 00 25.1**	**+1.2**
NRCA				IAmb	IAmb	15 00 26.8	
	comp=Z,6.6nm,1.0s						
MODS	**Modra-Piesok**	**59.91**	**326**	*e*P	**P**	**15 00 25.4**	**+0.5**
CESX	**Cesi**	**59.98**	**318**	P	**P**	**15 00 27.3**	**+1.8**
ARSA	**Arzberg**	**60.33**	**324**	P	**P**	**15 00 27.8**	**0.0**
ARSA				IAmb	IAmb	15 00 35.0	
	comp=Z,4.8nm,1.2s						
SUW	**Suwalki**	**60.35**	**334**	P	**P**	**15 00 27.2**	**-0.5**
MORC	**Moravsky Berou**	**60.54**	**327**	P	**P**	**15 00 29.0**	**-0.2**
MORC				IAmb	IAmb	15 00 36.6	
	comp=Z,10nm,1.5s						
H01W3	**Cape Leeuwin H**	**60.55**	**134**	T	T	16 06 09.9	
	baz=299						
H01W2	**Cape Leeuwin H**	**60.55**	**134**	T	T	16 06 36.1	
	baz=299,slow=74						
H01W1	**Cape Leeuwin H**	**60.57**	**134**	T	T	16 06 03.7	
	baz=299,slow=74						
GERES	**GERESS Array B**	**62.18**	**325**	LR	LR	15 29 48.5	
	comp=Z,25nm,18.4s,baz=117,slow=38						
TORD	**Torodi Ar. Bea**	**62.28**	**283**	IAmb	IAmb	15 00 49.4	
	comp=Z,4.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**62.28**	**283**	P	**P**	**15 00 41.9**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=112,slow=5.2,SNR=4.1						
	comp=Z,4.1nm,0.3s						
CLL	**Collm**	**63.80**	**327**	P	**P**	**15 00 51.1**	**+0.1**
CLL				IAmb	IAmb	15 00 52.5	
	comp=Z,5.9nm,1.1s						
CLL	**Collm**	**63.80**	**327**	*i* P	**P**	**15 00 51.5**	**+0.5**
	comp=Z,11nm,1.5s						
FITZ	**Fitzroy Crossi**	**64.36**	**112**	P	**P**	**15 00 56.2**	**+0.9**
FINES	**FINESS Array B**	**64.43**	**341**	P	**P**	**15 00 54.4**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=90,slow=6.5,SNR=4.3						
	comp=Z,1.2nm,0.7s						
SENIN	**Lac Senin/Sane**	**64.97**	**320**		**P**	**15 00 58.8**	**-0.2**
BFO	**Black Forest**	**65.12**	**323**	P	**P**	**15 00 59.7**	**-0.1**
JOW	**Kunigami**	**65.48**	**62**	LR	LR	15 31 37.0	
	comp=Z,34nm,18.1s,baz=170,slow=38						
KSRS	**Korea Array**	**67.26**	**51**	P	**P**	**15 01 12.4**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=261,slow=6.1,SNR=1.7						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**68.19**	**335**	P	**P**	**15 01 18.8**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=114,slow=6.6,SNR=8.5						
	comp=Z,3.3nm,0.6s						
NB2	**NORSAR Subarra**	**69.71**	**336**	P	**P**	**15 01 28.2**	**-0.3**
	comp=Z,1.9nm,1.1s,baz=122,slow=6.2						
NOA	**NORSAR Array B**	**69.71**	**336**	P	**P**	**15 01 27.6**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=115,slow=6.9,SNR=4.3						
NOA				LR	LR	15 33 31.0	
	comp=Z,22nm,21.9s,baz=335,slow=37						
	comp=Z,0.8nm,0.9s						
MDT	**Midelt**	**70.19**	**304**	LR	LR	15 33 24.3	
	comp=Z,23nm,18.3s,baz=30,slow=37						
ARCES	**ARCESS Array B**	**70.63**	**347**	P	**P**	**15 01 33.3**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=140,slow=5.7,SNR=6.1						
	comp=Z,1.8nm,0.7s						
ESBB	**Sonseca Array**	**70.89**	**311**	P	**P**	**15 01 36.5**	**+0.3**
ESDC	**Sonseca Array**	**70.89**	**311**		**P**	**15 01 36.5**	**+0.2**
ESDC	**Sonseca Array**	**70.89**	**311**	P	**P**	**15 01 36.5**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=87,slow=5.2,SNR=12						
	comp=Z,2.0nm,0.9s						
MAW	**Mawson**	**70.97**	**180**	P	**P**	**15 01 38.4**	**+2.4**
	comp=Z,2.4nm,1.1s,baz=183,slow=17,SNR=1.5						
	comp=Z,2.4nm,1.1s						
WRA	**Warramunga Arr**	**72.79**	**112**	P	**P**	**15 01 49.6**	**+1.6**
	comp=Z,4.0nm,0.7s,baz=289,slow=5.4,SNR=24						
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**72.80**	**112**	P	**P**	**15 01 49.4**	**+1.4**
WB0	**Warramunga Arr**	**72.81**	**112**		**P**	**15 01 49.5**	**+1.4**
WB0				IAmb	IAmb	15 01 50.7	
	comp=Z,5.2nm,0.8s						
WR8	**Warramunga Arr**	**72.94**	**112**		**P**	**15 01 50.3**	**+1.4**
ASAR	**Alice Springs**	**73.10**	**116**		**P**	**15 01 51.0**	**+1.2**
ASAR	**Alice Springs**	**73.10**	**116**	P	**P**	**15 01 51.4**	**+1.6**
	comp=Z,3.6nm,0.8s,baz=287,slow=5.5,SNR=52						
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**73.10**	**116**		**P**	**15 01 50.7**	**+0.9**
YAK	**Yakutsk**	**75.65**	**26**	LR	LR	15 36 12.2	
	comp=Z,56nm,20.1s,baz=253,slow=36						
SPITS	**Spitsbergen Ar**	**78.57**	**351**	LR	LR	15 39 56.7	
	comp=Z,28nm,18.9s,baz=111,slow=38						
TIXI	**Tiksi**	**78.92**	**17**	LR	LR	15 39 46.2	
	comp=Z,31nm,18.1s,baz=216,slow=38						
INKA	**Innaminka**	**79.91**	**119**	P	**P**	**15 02 27.9**	**-0.3**
STKA	**Stephens Creek**	**81.32**	**123**	P	**P**	**15 02 35.7**	**0.0**
STKA	**Stephens Creek**	**81.32**	**123**	P	**P**	**15 02 37.0**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=309,slow=6.5,SNR=4.8						
	comp=Z,2.6nm,0.9s						
MA2	**Magadan**	**85.33**	**31**	LR	LR	15 41 56.5	
	comp=Z,69nm,21.3s,baz=269,slow=36						
PETK	**Petropavlovsk-**	**89.42**	**37**	LR	LR	15 44 58.8	
	comp=Z,45nm,20.0s,baz=257,slow=37						
VNDA	**Vanda**	**95.11**	**168**	LR	LR	15 40 31.7	
	comp=Z,46nm,20.0s,baz=280,slow=32						
PDAR	**Pinedale Array**	**133.57**	**353**	PKP	**PKiKP**	**15 09 37.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=80,slow=3.6,SNR=5.0						
TXAR	**Lajitas Array**	**145.27**	**341**		**PKPab**	**15 09 57.4**	**+0.2**
TXAR	**Lajitas Array**	**145.27**	**341**	PKPbc	**PKPdf**	**15 09 58.2**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=62,slow=3.0,SNR=30						

*DSN **21** 15:03:36.5±1.0,27.45N×55.07E,h15km,ML2.9/9,Error ellipse: s-maj=13.7km s-min=4.7km az=25.0*
*TEH **21

IDC 21 15:10:12.0±8.9, 35°51S×178°65W, h60km±83km, mb3.0/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=100.5km s-min=54.2km az=156.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.37**	**230**	P	Pn	15 11 15.9	+0.2
	3.8nm,0.3s,baz=56,slow=18,SNR=35						
URZ				S	Sn	15 12 05.9	+0.5
	17nm,0.3s,baz=202,slow=21,SNR=12						
	8.8nm,0.3s						
ASAR	**Alice Springs**	**42.55**	**273**	P	P	15 18 02.0	0.0
	0.2nm,0.4s,baz=117,slow=7.5,SNR=7.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.00**	**278**	P	P	15 18 13.4	-0.2
	0.2nm,0.4s,baz=117,slow=7.9,SNR=12						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**149.68**	**337**	PKPbc	PKPbc	15 29 53.4	-0.5
	1.9nm,1.0s,baz=46,slow=4.0,SNR=3.7						

*NEIC **21** 15:13:06.3±1.5, 14°86S±0°08×173°30W±0°03, h10km±1km, mb4.8/17, Error ellipse: s-maj=13.4km s-min=5.8km az=183.0*
*IDC **21** 15:13:08.0±0.6, 14°90S×173°84W, h0km, mb4.2/13, mbtmp4.2/13, MS3.5/7, Error ellipse: s-maj=28.3km s-min=15.8km az=124.0*

ISC 21 15:13:07.0±0.5, 14°82S±0°09×173°34W±0°08, h10km, n79, σ1§66/57, mb4.6/25, MS3.6/7, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.77**	**59**	Pn	**Pn**	**15 13 37.3**	**-0.4**
AFI				Sn	**Sn**	**15 13 56.1**	**-4.2**
FUTU	**Fugatoga**	**4.66**	**276**	Pn	**Pn**	**15 14 17.3**	**-0.1**
NIUE	**Niue**	**5.34**	**143**		**Pn**	**15 14 25.4**	**-1.5**
DZM	**Mont Dzumac**	**20.48**	**246**	P	Pn	15 17 46.2	-1.1
	6.4nm,0.9s,baz=223,slow=22,SNR=2.4						
DZM				LR	LR	15 24 12.7	
	comp=Z,120nm,18.8s,baz=38,slow=33						
PPT2	**Papeete2**	**22.98**	**100**	*e*P	P	15 18 02.5	-10
	34nm,24.2s						
PPT2				*e*LR	LR	15 23 43.2	
	36nm,23.2s						
TBI	**Tubuai**	**24.08**	**114**	*e*LQ	LQ	15 24 16.5	
	340nm,27.8s						
URZ	**Urewera**	**24.82**	**198**	P	**P**	**15 18 30.9**	**+1.5**
	9.7nm,0.9s,baz=25,slow=13,SNR=2.4						
	9.7nm,0.9s						
HNR	**Honiara**	**26.65**	**279**	LR	LR	15 27 01.5	
	comp=Z,43nm,20.2s,baz=179,slow=32						
TAOE	**Nuku Hiva Isla**	**32.99**	**83**	*e*LR	LR	15 28 24.2	
	30nm,21.7s						
ARMA	**Armidale**	**35.69**	**238**	P	**P**	**15 20 03.1**	**-2.8**
ARMA				IAmb	IAmb	15 20 19.5	
	comp=Z,11nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**38.50**	**329**	T	T	16 01 26.6	
	baz=149,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	16 01 38.6	
	baz=149,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	16 01 29.1	
	baz=149,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**39.44**	**330**	T	T	16 02 43.7	
	baz=150,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**39.45**	**330**	T	T	16 02 38.0	
	baz=150,slow=76,SNR=38						
H11N2	**WAKE ISLAND Hy**	**39.46**	**330**	T	T	16 02 43.7	
	baz=150,slow=76,SNR=25						
STKA	**Stephens Creek**	**44.38**	**239**	IAmb	IAmb	15 21 23.4	
	comp=Z,81nm,1.9s						
STKA	**Stephens Creek**	**44.38**	**239**	P	**P**	**15 21 16.4**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=99,slow=12,SNR=4.3						
	comp=Z,2.0nm,0.8s						
WR8	**Warramunga Arr**	**49.88**	**256**	P	**P**	**15 21 59.2**	**-1.8**
WR8				IAmb	IAmb	15 22 02.2	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**49.99**	**257**		**P**	**15 22 00.3**	**-1.6**
WB0				IAmb	IAmb	15 22 26.2	
	comp=Z,27nm,1.9s						
WRA	**Warramunga Arr**	**50.03**	**256**		**P**	**15 21 59.9**	**-2.3**
WRA	**Warramunga Arr**	**50.03**	**256**	P	**P**	**15 22 01.3**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=90,slow=7.0,SNR=17						
	comp=Z,1.9nm,0.8s						
AS31	**Alice Springs**	**50.34**	**251**		**P**	**15 22 02.5**	**-2.0**
ASAR	**Alice Springs**	**50.35**	**251**		**P**	**15 22 02.6**	**-2.0**
ASAR	**Alice Springs**	**50.35**	**251**	P	**P**	**15 22 03.0**	**-1.5**
	comp=Z,11nm,0.8s,baz=86,slow=8.1,SNR=138						
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**63.95**	**186**	P	**P**	**15 23 39.1**	**-0.8**
VNDA				IAmb	IAmb	15 25 31.5	
	comp=Z,8.6nm,1.9s						
VNDA	**Vanda**	**63.95**	**186**	P	**P**	**15 23 40.6**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=7.9,slow=6.1,SNR=6.4						
	comp=Z,1.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**72.10**	**342**	P	**P**	**15 24 29.1**	**-2.2**
PETK	**Petropavlovsk-**	**72.10**	**342**	P	**P**	**15 24 33.3**	**+1.9**
	comp=Z,2.4nm,1.0s,baz=161,slow=5.3,SNR=4.3						
	comp=Z,2.4nm,1.0s						
PFO	**Pinyon Flats O**	**72.49**	**47**	LR	LR	15 47 11.6	
	comp=Z,59nm,20.1s,baz=204,slow=28						
NVAR	**Mina Array Bea**	**73.86**	**42**	P	P	15 24 47.3	+4.9
	comp=Z,1.4nm,0.9s,baz=227,slow=9.0,SNR=6.6						
NVAR				LR	LR	15 49 16.5	
	comp=Z,36nm,20.7s,baz=292,slow=29						
	comp=Z,1.4nm,0.9s						
YHNB	**Yeheng**	**74.79**	**301**	P	**P**	**15 24 47.1**	**-0.8**
QSPA	**South Pole Qui**	**75.22**	**180**	P	**P**	**15 24 52.7**	**+2.9**
	comp=Z,4.4nm,0.9s,baz=42,slow=1.6,SNR=16						
	comp=Z,4.4nm,0.9s						
K15K	**Wolf Creek Mou**	**77.43**	**6**		**P**	**15 25 02.7**	**+0.7**
GHO	**Glory Hole Cre**	**78.75**	**12**	P	**P**	**15 25 09.6**	**+0.1**
BARN	**Barnard Glacie**	**79.74**	**15**	P	**P**	**15 25 14.1**	**-0.9**
BARN				IAmb	IAmb	15 25 19.8	
	comp=Z,17nm,1.3s						
NJ2	**Nanjing**	**79.87**	**307**	*e*P	**P**	**15 25 15.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TXAR	**Lajitas Array**	**80.24**	**56**	P	P	15 25 23.6	+5.2
	comp=Z,2.6nm,1.1s,baz=224,slow=5.2,SNR=9.9						
	comp=Z,2.6nm,1.1s						
ANMO	**Albuquerque**	**80.39**	**50**	LR	LR	15 51 55.9	
	comp=Z,37nm,20.1s,baz=62,slow=29						
MLY	**Manley**	**81.44**	**9**		**P**	**15 25 23.0**	**-1.0**
MLY				IAmb	IAmb	15 25 29.5	
	comp=Z,13nm,1.4s						
CCB	**Clear Creek Bu**	**81.59**	**11**		**P**	**15 25 24.7**	**0.0**
CCB				IAmb	IAmb	15 25 28.7	
	comp=Z,17nm,1.4s						
PDAR	**Pinedale Array**	**81.80**	**42**	P	P	15 25 31.0	+4.4
	comp=Z,0.9nm,0.7s,baz=212,slow=5.0,SNR=8.2						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**81.87**	**11**	P	**P**	**15 25 29.1**	**+3.0**
	comp=Z,3.0nm,1.1s,baz=218,slow=5.6,SNR=12						
	comp=Z,3.0nm,1.1s						
PRP	**Porcupine Dome**	**82.80**	**11**		**P**	**15 25 29.7**	**-1.5**
PRP				IAmb	IAmb	15 25 36.5	
	comp=Z,11nm,1.1s						
TIA	**Tai'an**	**82.88**	**310**	P	**P**	**15 25 33.3**	**+1.2**
TIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HEH	**HeiHe**	**82.96**	**326**	*e*P	P	15 25 25.8	-6.4
E22K	**Anaktuvuk Pass**	**84.19**	**8**		**P**	**15 25 38.0**	**-0.2**
HNS	**HongShan**	**85.13**	**311**	⇓P	P	15 25 48.9	+5.4
HNS				pmax	pmax		
	comp=Z,2μm,0.8s						
H03S2	**Juan Fernandez**	**85.47**	**124**	T	T	17 00 12.6	
	baz=252,slow=75,SNR=8.4						
H03S1	**Juan Fernandez**	**85.48**	**124**	T	T	17 00 11.5	
	baz=252,slow=75,SNR=7.2						
H03S3	**Juan Fernandez**	**85.49**	**124**	T	T	17 00 13.6	
	baz=252,slow=75,SNR=6.8						
MAW	**Mawson**	**88.35**	**199**	P	**P**	**15 25 59.8**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=180,slow=7.9,SNR=6.7						
	comp=Z,2.2nm,0.7s						
YAK	**Yakutsk**	**88.61**	**337**	LR	LR	15 57 48.4	
	comp=Z,10nm,21.4s,baz=166,slow=30						
HHC	**Hu-ho-hao-te**	**88.68**	**313**	*e*P	**P**	**15 26 00.9**	**0.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
YKA	**Yellowknife Ar**	**89.55**	**23**	P	**P**	**15 26 07.9**	**+3.6**
	comp=Z,1.4nm,0.9s,baz=246,slow=5.0,SNR=2.7						
	comp=Z,1.4nm,0.9s						
PZH	**PanZhiHua**	**92.07**	**297**	P	**P**	**15 26 17.3**	**+0.3**
LZH	**Lanzhou**	**92.93**	**306**	*e*P	**P**	**15 26 21.3**	**+0.4**
LZH				sP	pwP	15 26 28.5	-0.7
LZH				pmax	pmax		
	comp=Z,15nm,0.8s						
ULM	**Lac du Bonnet**	**93.45**	**39**	LR	LR	16 01 32.7	
	comp=Z,31nm,18.6s,baz=342,slow=31						
HFS	**Hagfors**	**134.47**	**355**	PKP	**PKiKP**	**15 32 28.0**	**+1.5**
	comp=Z,2.5nm,1.0s,baz=343,slow=4.5,SNR=2.4						
KHC	**Kasperske Hory**	**145.32**	**352**	*e*PKP	**PKiKP**	**15 32 48.0**	**-1.1**
GERES	**GERESS Array B**	**145.58**	**352**	PKPbc	**PKiKP**	**15 32 48.6**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=356,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**145.75**	**322**	PKPbc	**PKiKP**	**15 32 48.5**	**-2.0**
	comp=Z,2.2nm,0.8s,baz=126,slow=2.1,SNR=12						
CONA	**Conrad Observa**	**146.12**	**349**	*e*pPKP	**PKiKP**	**15 32 50.2**	**-0.7**
	comp=Z,20nm,2.2s						
RONA	**Rosalia, Austr**	**146.26**	**348**	*i* PKiKP	**PKiKP**	**15 32 50.2**	**-0.9**
	comp=Z,8.2nm,1.1s						
BIOA	**Bad Ischl, Aus**	**146.72**	**351**	*i* PKiKP	**PKiKP**	**15 32 50.9**	**-1.1**
	comp=Z,7.6nm,1.1s						
ARSA	**Arzberg**	**146.84**	**349**	*i* pPKP	**PKiKP**	**15 32 51.2**	**-1.1**
	comp=Z,6.0nm,1.1s						
LESA	**Schwarzleotal**	**147.11**	**352**	*e*PKiKP	**PKPab**	**15 32 51.5**	**-0.5**
	comp=Z,10nm,1.4s						
RETA	**Reutte**	**147.26**	**355**	*e*PKiKP	**PKPab**	**15 32 52.2**	**-0.3**
	comp=Z,9.7nm,0.9s						
WATA	**Walderalm**	**147.33**	**354**	*i* PKiKP	**PKPab**	**15 32 52.2**	**-0.7**
	comp=Z,10nm,1.2s						
KBA	**Koelnbreinsper**	**147.36**	**352**	*e*pPKP	**PKPab**	**15 32 52.6**	**-0.5**
	comp=Z,4.5nm,0.9s						
MOTA	**Moosalm**	**147.37**	**354**	*i* PKiKP	**PKPab**	**15 32 52.0**	**-1.1**
	comp=Z,13nm,1.2s						
WTTA	**Wattenberg**	**147.39**	**354**	*i* PKiKP	**PKPab**	**15 32 52.6**	**-0.7**
	comp=Z,18nm,1.6s						
SOKA	**Soboth**	**147.48**	**349**	*e*PKP	**PKPbc**	**15 32 51.8**	**+0.3**
	comp=Z,8.7nm,1.0s						
SQTA	**Sankt Quirin**	**147.48**	**354**	*e*pPKP	**PKiKP**	**15 32 53.5**	**-0.3**
	comp=Z,6.1nm,0.9s						
DAVA	**Damuels**	**147.52**	**356**	*e*PKiKP	**PKPab**	**15 32 52.8**	**-1.0**
	comp=Z,14nm,1.1s						
FETA	**Feichten**	**147.72**	**355**	*e*PKP	**PKiKP**	**15 32 52.8**	**-1.5**
	comp=Z,8.1nm,1.2s						
MYKA	**Terra Mystica**	**147.76**	**351**	*i* PKiKP	**PKiKP**	**15 32 53.1**	**-1.1**
	comp=Z,4.8nm,0.8s						
ABTA	**Abfaltersbach**	**147.80**	**352**	*i* PKP	**PKPbc**	**15 32 52.2**	**-0.2**
	comp=Z,11nm,1.0s						
ESDC	**Sonseca Array**	**153.55**	**19**	PKPbc	**PKiKP**	**15 33 11.4**	**+4.9**
	comp=Z,0.3nm,0.3s,baz=328,slow=2.8,SNR=2.2						
ESDC				PKPab	**sPKPab**	**15 33 21.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=4.4,SNR=4.7						

*IDC **21** 15:31:42.7±5.6, 15°56S×167°85E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=134.0km s-min=33.3km az=27.0*
*NEIC **21** 15:31:59.2±1.4, 15°7S±0°1×167°9E±0°1, h148km±6km, mb4.4/14, Error ellipse: s-maj=19.0km s-min=14.1km az=180.0*

ISC 21 15:31:59.7±1.0, 15°7S±0°1×167°8E±0°2, h150km, n21, σ1§29/22, mb4.3/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.59**	**293**		**Pn**	**15 32 21.5**	**-0.1**
SANVU				Sn	**Sn**	**15 32 39.4**	**+1.3**
BFZ	**Birch Farm**	**25.98**	**165**	P	**P**	**15 37 15.0**	**-3.4**
STKA	**Stephens Creek**	**28.76**	**231**	P	**P**	**15 37 42.2**	**-1.2**
STKA				IAmb	IAmb	15 37 46.1	
	comp=Z,33nm,1.4s						
STKA	**Stephens Creek**	**28.76**	**231**	P	**P**	**15 37 43.4**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=54,slow=12,SNR=4.1						
	comp=Z,2.0nm,0.7s						
WR8	**Warramunga Arr**	**31.92**	**257**	P	**P**	**15 38 10.7**	**-0.7**
WR8				IAmb	IAmb	15 38 48.0	
	comp=Z,8.4nm,1.4s						
WB0	**Warramunga Arr**	**32.02**	**258**	P	**P**	**15 38 11.6**	**-0.6**
WB0				IAmb	IAmb	15 38 32.4	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**15 38 11.8**	**-0.9**
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**15 38 12.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=87,slow=8.5,SNR=10						
	comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**32.80**	**251**	P	**P**	**15 38 18.9**	**-0.1**
ASAR	**Alice Springs**	**32.80**	**251**	P	**P**	**15 38 18.6**	**-0.5**
ASAR	**Alice Springs**	**32.80**	**251**	P	**P**	**15 38 19.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=81,slow=8.7,SNR=69						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**33.39**	**234**	P	**P**	**15 38 25.0**	**+1.0**
BBOO				IAmb	IAmb	15 38 28.4	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**37.52**	**265**	P	**P**	**15 38 59.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.32**	**260**	P	**P**	**15 39 23.2**	**+0.4**
FITZ				IAmb	IAmb	15 39 59.7	
	comp=Z,4.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.32**	**260**	P	**P**	**15 39 23.4**	**+0.7**
	comp=Z,2.3nm,0.4s,baz=76,slow=9.0,SNR=24						
	comp=Z,2.3nm,0.4s						
PSA00	**Pilbara Seismi**	**45.65**	**255**	P	**P**	**15 40 04.8**	**-0.8**
PSA00				IAmb	IAmb	15 40 15.7	
	comp=Z,24nm,1.2s						
JMM	**Marumori**	**58.99**	**335**	P	**P**	**15 41 43.1**	**-0.4**
VNDA	**Vanda**	**61.92**	**181**	P	**P**	**15 42 04.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=353,slow=6.5,SNR=2.0						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**74.35**	**180**	P	**P**	**15 43 22.6**	**+1.9**
QSPA				IAmb	IAmb	15 43 33.9	
	comp=Z,4.4nm,1.4s						
QSPA	**South Pole Qui**	**74.35**	**180**	P	**P**	**15 43 23.4**	**+2.7**
	comp=Z,1.0nm,1.0s,baz=45,slow=8.6,SNR=5.3						
	comp=Z,1.0nm,1.0s						
K13K	**Kusilvak Mount**	**80.38**	**13**	P	**P**	**15 43 53.7**	**-0.3**
K13K				IAmb	IAmb	15 44 04.9	
	comp=Z,21nm,1.5s						

*NEIC **21** 15:34:44.4±1.1, 7°27N±0°09×126°96E±0°08, h70km±7km, mb4.7/18, Error ellipse: s-maj=13.9km s-min=11.0km az=206.0*
*IDC **21** 15:34:46.7±1.9, 7°24N×126°72E, h95km±18km, mb3.6/11, mbtmp3.9/11, MS2.9/1, Error ellipse: s-maj=29.9km s-min=15.8km az=75.0*

ISC 21 15:34:42.3±0.5, 7°32N±0°07×127°02E±0°08, h52km, n45, σ1§04/38, mb4.4/21, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.45**	**260**		**Pn**	**15 35 07.9**	**+1.7**
DAV	**Davao City (W)**	**1.45**	**260**	P	**Pn**	**15 35 07.6**	**+1.5**
	819nm,0.4s,baz=241,slow=2.9,SNR=13						
DAV				S	**Sn**	**15 35 25.1**	**+1.0**
	566nm,0.4s,baz=339,slow=7.0,SNR=5.6						
TNTI	**Ternate**	**6.51**	**177**	Pn	**Pn**	**15 36 16.7**	**+1.1**
TOLI2	**Tolitoli**	**8.75**	**226**	Pn	**Pn**	**15 36 46.0**	**-0.4**
FAKI	**Fak Fak**	**11.43**	**153**	Pn	**Pn**	**15 37 23.6**	**+0.6**
SBUM	**Sibu**	**15.51**	**253**	P	**P**	**15 38 22.2**	**+0.8**
SOEI	**Soe**	**17.18**	**189**	P	**Pn**	**15 38 38.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.47**	**295**	LR	LR	15 52 55.3	
	comp=Z,24nm,19.3s,baz=155,slow=37						
MJAR	**Matsushiro Arr**	**30.83**	**18**	P	**P**	**15 40 53.5**	**0.0**
	0.8nm,0.6s,baz=190,slow=6.9,SNR=5.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**31.52**	**168**	P	**P**	**15 40 59.3**	**-0.4**
	0.5nm,0.4s,baz=342,slow=8.8,SNR=26						
	0.5nm,0.4s						
FORT	**Forrest**	**37.89**	**179**	P	**P**	**15 41 54.7**	**+0.2**
FORT				IAmb	IAmb	15 41 59.6	
	comp=Z,18nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**40.14**	**70**	T	T	16 25 40.5	
	baz=262,slow=76						
H11S1	**WAKE ISLAND Hy**	**40.15**	**70**	T	T	16 25 43.8	
	baz=262,slow=76						
H11S2	**WAKE ISLAND Hy**	**40.16**	**70**	T	T	16 25 42.7	
	baz=262,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.57**	**68**	T	T	16 26 14.1	
	baz=265,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.58**	**68**	T	T	16 26 28.2	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.59**	**68**	T	T	16 26 20.6	
	baz=265,slow=75						
BBOO	**Buckleboo**	**40.82**	**168**	P	**P**	**15 42 18.4**	**-0.5**
BBOO				IAmb	IAmb	15 42 28.6	
	comp=Z,20nm,1.4s						
NWAO	**Narrogin (SRO)**	**41.09**	**193**	P	**P**	**15 42 21.2**	**+0.1**
NWAO				IAmb	IAmb	15 42 35.9	
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**41.39**	**161**	P	**P**	**15 42 23.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=337,slow=15,SNR=3.0						
	comp=Z,1.2nm,0.8s						
CAN	**Canberra**	**47.20**	**155**	P	**P**	**15 43 09.5**	**-0.6**
CAN				IAmb	IAmb	15 43 10.3	
	comp=Z,25nm,1.5s						
PETK	**Petropavlovsk-**	**52.03**	**23**	P	**P**	**15 43 48.8**	**+2.2**
PETK	**Petropavlovsk-**	**52.03**	**23**	P	**P**	**15 43 49.1**	**+2.5**
	comp=Z,1.0nm,0.5s,baz=207,slow=4.6,SNR=19						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**54.82**	**324**	P	**P**	**15 44 06.3**	**-0.9**
MKAR	**Makanchi Array**	**54.82**	**324**	P	**P**	**15 44 06.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=116,slow=7.1,SNR=16						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**55.01**	**324**	P	**P**	**15 44 07.9**	**-0.7**
MAKZ				IAmb	IAmb	15 44 39.0	
	comp=Z,10nm,1.3s						
ZALV	**Zalesovo Beam**	**57.56**	**332**	P	**P**	**15 44 24.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=135,slow=9.2,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**58.91**	**326**	P	**P**	**15 44 35.0**	**-1.0**
KURK				IAmb	IAmb	15 44 41.6	
	comp=Z,1.8nm,1.1s						
KURBB	**Kurchatov Arra**	**58.91**	**326**	P	**P**	**15 44 34.8**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=124,slow=7.3,SNR=6.8						
	comp=Z,0.6nm,0.7s						
KKAR	**Karatay Array**	**60.85**	**316**	P	**P**	**15 44 48.8**	**-0.8**
P08K	**Saint George I**	**69.47**	**32**	P	**P**	**15 45 45.5**	**+0.4**
AB31	**Akbulak array**	**69.59**	**320**	P	**P**	**15 45 45.2**	**-0.8**
ABKAR	**Akbulak array**	**69.59**	**320**	P	**P**	**15 45 45.0**	**-1.1**
C18K	**Utukok River**	**76.63**	**21**	P	**P**	**15 46 28.1**	**+0.8**
C18K				IAmb	IAmb	15 46 52.5	
	comp=Z,14nm,1.4s						
SLKM	**Skilak Lake**	**80.11**	**30**	P	**P**	**15 46 47.4**	**+0.7**
SLKM				IAmb	IAmb	15 47 13.5	
	comp=Z,22nm,1.4s						
MCK	**McKinley**	**80.85**	**27**	P	**P**	**15 46 50.2**	**-0.3**
MCK				IAmb	IAmb	15 46 52.7	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**81.77**	**26**	P	**P**	**15 46 55.4**	**+0.1**
ILAR	**Eielson Array**	**81.77**	**26**	P	**P**	**15 46 55.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=257,slow=4.8,SNR=12						
	comp=Z,0.8nm,0.6s						
FOMA	**Nahampoana Res**	**84.11**	**244**	P	**P**	**15 47 07.1**	**-1.1**
G29M	**Pine Creek**	**85.27**	**23**	P	**P**	**15 47 13.7**	**+0.4**
G29M				IAmb	IAmb	15 47 22.2	
	comp=Z,13nm,1.5s						
VNDA	**Vanda**	**86.93**	**173**	IAmb	IAmb	15 47 22.3	
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda**	**86.93**	**173**	P	**P**	**15 47 20.8**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=269,slow=4.8,SNR=4.2						
	comp=Z,1.0nm,0.9s						
SPB2	**Spitsbergen Ar**	**87.04**	**349**	P	**P**	**15 47 22.1**	**+0.3**
FINES	**FINESS Array B**	**88.83**	**332**	P	**P**	**15 47 28.9**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=11,slow=1.9,SNR=5.3						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**94.99**	**333**	P	**P**	**15 47 58.1**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=39,slow=9.4,SNR=2.0						
	comp=Z,1.4nm,0.9s						

*IDC **21** 15:37:27.7±0.7, 8°91S×128°44E, h0km, mb4.0/10, mbtmp4.1/13, ML3.5/3, MS3.1/7, Error ellipse: s-maj=28.0km s-min=17.0km az=72.0*
*NEIC **21** 15:37:29.0±1.8, 9°11S±0°06×128°47E±0°06, h10km±1km, mb4.3/10, Error ellipse: s-maj=11.9km s-min=9.2km az=322.0*
*DJA **21** 15:37:30.5±1.4, 9°S±2°×12°9E±°, h17km±12km, M4.5/23, mb4.5/23, mB5.2/5, MLv4.4/12, Mw(mB)4.5/5*

ISC 21 15:37:29.0±0.5, 9°17S±0°05×128°63E±0°04, h10km, n71, σ2§32/70, mb4.1/14, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.89**	**66**		**Pn**	**15 38 17.3**	**+2.1**
SAUI				Sn	**Sn**	**15 38 53.1**	**+3.0**
SAUI	**Saumlaki**	**2.89**	**66**	P	**Pn**	**15 38 18.7**	**+3.5**
AUDHS	**Darwin High Sc**	**3.90**	**147**	P	**Pn**	**15 38 32.7**	**+3.6**
DRS	**Darwin Rock St**	**3.93**	**146**	P	**Pn**	**15 38 31.7**	**+2.2**
SOEI	**Soe**	**4.34**	**262**		**Pn**	**15 38 33.8**	**-1.5**
SOEI	**Soe**	**4.34**	**262**	P	**Pn**	**15 38 38.0**	**+2.7**
SOEI				S	**Sn**	**15 39 28.9**	**+2.9**
MTN	**Manton Dam**	**4.40**	**146**		**Pn**	**15 38 37.5**	**+1.6**
BNDI	**Bandanaira**	**4.79**	**15**	P	**Pn**	**15 38 42.3**	**+1.0**
BATI	**Baumata**	**5.00**	**258**	Pn	**Pn**	**15 38 42.7**	**-1.6**
	6.8nm,0.3s,baz=118,slow=11,SNR=2.3						
BATI				Sn	**Sn**	**15 39 45.2**	**+3.0**
	9.7nm,0.3s,baz=155,slow=16,SNR=2.4						
	23nm,0.4s						
BATI	**Baumata**	**5.00**	**258**	P	**Pn**	**15 38 45.4**	**+1.1**
	0.3nm75nm,0.9s						
BATI				S	**Sn**	**15 39 45.1**	**+2.9**
	0.3nm75nm,0.9s						
AAI	**Ambon**	**5.47**	**355**	P	**Pn**	**15 38 48.0**	**-2.6**
	46nm,0.8s						
NLAI	**Namlea**	**6.09**	**345**	P	**Pn**	**15 38 59.4**	**+0.2**
	0.1nm853nm42nm,0.9s						
KNRA	**Kununurra**	**6.47**	**179**		**Pn**	**15 39 05.6**	**+1.3**
EDFI	**Ende, Flores**	**6.87**	**273**	P	**Pn**	**15 39 12.8**	**+2.8**
	0.1nm16nm,0.6s						
BBSI	**Bau Bau

STKA	**Stephens Creek**	**25.60 154**	P	**P**	**15 42 58.4**	**-0.2**
STKA			IAmb	IAmb	15 43 22.4	
	comp=Z,38nm,0.9s					
STKA	**Stephens Creek**	**25.60 154**	P	**P**	**15 43 00.8**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=325,slow=12,SNR=5.3					
STKA			LR	LR	15 54 07.2	
	comp=Z,80nm,20.1s,baz=138,slow=39					
	comp=Z,1.9nm,0.8s					
SANVU	**Saraoutou**	**38.16 103**	P	**P**	**15 44 49.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**40.15 313**	P	**P**	**15 45 02.9**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=142,slow=7.5,SNR=5.2					
	comp=Z,0.4nm,0.3s					
LZH	**Lanzhou**	**50.71 334**	*e*P	**P**	**15 46 33.8**	**+4.6**
LZH			sP	pwP	15 46 40.9	+6.5
LZH			pmax	pmax		
	comp=Z,14nm,1.1s					
HHC	**Hu-ho-hao-te**	**52.20 344**	*e*P	P	15 46 46.4	+6.1
HHC			pmax	pmax		
	comp=Z,15nm,0.7s					
HHC			pmax	pmax		
	comp=Z,120nm,5.1s					
GTA	**Gaotai**	**55.24 333**	*e*P	**P**	**15 47 00.0**	**-2.6**
GTA			pmax	pmax		
	comp=Z,1.0nm,1.0s					
SONM	**Songino Array**	**60.08 343**	IAmb	IAmb	15 47 49.0	
	comp=Z,1.7nm,0.6s					
SONM	**Songino Array**	**60.08 343**	P	**P**	**15 47 34.4**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=150,slow=6.0,SNR=2.9					
	comp=Z,0.6nm,0.3s					
PETK	**Petropavlovsk-**	**66.80 19**	P	**P**	**15 48 20.3**	**-0.4**
PETK	**Petropavlovsk-**	**66.80 19**	P	**P**	**15 48 20.0**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=181,slow=4.3,SNR=21					
	comp=Z,2.7nm,0.6s					
MKAR	**Makanchi Array**	**69.31 328**	P	**P**	**15 48 35.1**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=124,slow=8.3,SNR=8.4					
	comp=Z,0.5nm,0.5s					
VNDA	**Vanda**	**70.47 173**	IAmb	IAmb	15 48 47.5	
	comp=Z,2.2nm,1.4s					
VNDA	**Vanda**	**70.47 173**	P	**P**	**15 48 44.6**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=317,slow=6.3,SNR=1.5					
VNDA			LR	LR	16 18 06.6	
	comp=Z,25nm,18.9s,baz=328,slow=34					
	comp=Z,0.4nm,0.8s					
ZALV	**Zalesovo Beam**	**72.94 335**	P	**P**	**15 48 56.7**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=142,slow=5.4,SNR=4.1					
	comp=Z,0.6nm,0.5s					
KURBB	**Kurchatov Arra**	**73.66 329**	P	**P**	**15 49 01.3**	**-1.5**
	comp=Z,2.1nm,0.2s,baz=140,slow=5.8,SNR=3.0					
	comp=Z,2.1nm,0.2s					
KURK	**Kurchatov**	**73.67 330**	P	**P**	**15 49 01.3**	**-1.6**
KURK	**Kurchatov**	**73.67 330**	IAmb	IAmb	15 49 03.0	
	comp=Z,1.7nm,0.7s					
BVAR	**Borovoye Array**	**79.18 328**	P	**P**	**15 49 32.5**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=233,slow=42,SNR=3.3					
	comp=Z,1.3nm,0.7s					
QSPA	**South Pole Qui**	**80.82 180**	P	**P**	**15 49 43.4**	**+0.4**
QSPA			IAmb	IAmb	15 50 03.0	
	comp=Z,4.3nm,1.4s					
QSPA	**South Pole Qui**	**80.82 180**	P	**P**	**15 49 46.4**	**+3.5**
	comp=Z,1.3nm,0.9s,baz=82,slow=1.5,SNR=5.3					
	comp=Z,1.3nm,0.9s					
LPAZ	**La Paz**	**149.75 147**	PKPbc	**PKiKP**	**15 57 22.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=224,slow=3.9,SNR=3.5					

DJA 21 15:46:58.0±0.4, 9°S±3°×12°4E±°, h111km±5km, M3.8/13, mb4.0/6, MLv3.7/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.72**	**155**	P	Pn	15 47 17.6	+0.8
SOEI				S	Sn	15 47 31.6	+0.7
BATI	**Baumate**	**1.14**	**195**	P	Pn	15 47 21.3	+0.5
BATI				S	Sn	15 47 39.5	+1.5
MMRI	**Maumere**	**1.76**	**285**	P	Pn	15 47 28.1	0.0
EDFI	**Ende, Flores**	**2.27**	**279**	P	Pn	15 47 35.0	+0.4
BASI	**Baing, Sumba**	**3.52**	**251**	P	Pn	15 47 51.3	+0.4
WSI	**Waingapu**	**3.66**	**261**	P	Pn	15 47 52.5	-0.3
WBSI	**Waikabubak, Su**	**4.54**	**263**	P	Pn	15 48 03.5	-1.2
PLAI	**Plampang**	**6.12**	**272**	P	Pn	15 48 26.2	+0.2
	0.1nm14nm,1.0s						
TWSI	**Taliwang, Sumb**	**7.00**	**272**	P	Pn	15 48 37.9	-0.1
	0.1nm21nm,1.1s						
SAUI	**Saumlaki**	**7.34**	**82**	P	Pn	15 48 43.3	+0.7

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*AEIC **21** 16:00:03.5±0.3, 52°.5N±0°.1×164°.2W±0°.1, h3km±9km, Error ellipse: s-maj=18.7km s-min=9.4km az=157.0*

NEIC 21 16:00:00.8±0.6, 52°.59N±0°.08×164°.2W±0°.1, h10km±2km, ML2.5/10, ML2.5(AEIC), Error ellipse: s-maj=14.2km s-min=10.0km az=163.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.79**	**331**		Pn	16 00 31.6	0.0
AKSA					Sn	16 00 53.3	-1.0
AHB	**Akutan Harbor**	**1.81**	**328**		Pn	16 00 32.1	+0.2
AKUT	**Akutan**	**1.81**	**329**	Pn	Pn	16 00 31.8	-0.1
AKUT				IAML		16 01 00.7	
	comp=E,25nm,1.2s						
AKUT				IAML		16 01 06.6	
	comp=N,21nm,1.1s						
AKBBA	**Akutan Broad B**	**1.83**	**326**		Pn	16 00 32.5	+0.3
AKBBA					Sn	16 00 55.2	-0.3
ZRO	**Akutan Zero**	**1.84**	**325**		Pn	16 00 32.7	+0.3
AKMO	**Akutan Morgan**	**1.85**	**325**		Pn	16 00 32.8	+0.3
AKMO					Sn	16 00 55.3	-0.7
UNV	**Unalaska Valle**	**1.87**	**313**		Pn	16 00 32.7	-0.1
AKGG	**Akutan Green G**	**1.93**	**327**		Pn	16 00 33.8	+0.1
MNAT	**Makushin Natee**	**1.97**	**312**		Pn	16 00 34.2	0.0
MGOD	**Makushin Gods**	**2.01**	**308**		Pn	16 00 34.6	-0.1
MSW	**Makushin Switc**	**2.04**	**312**		Pn	16 00 35.1	0.0
MSW					Sn	16 00 59.8	-0.8
FALS	**False Pass**	**2.32**	**11**	Pn	Pn	16 00 38.6	-0.3
OKTU	**Okmok Mt. Tuli**	**2.45**	**290**		Pn	16 00 40.6	-0.2
OKSP	**Okmok Steeple**	**2.56**	**287**		Pn	16 00 42.0	-0.3
DT1	**Dutton Round H**	**2.77**	**24**		Pn	16 00 44.8	-0.3
DT1					Sn	16 01 15.9	-2.5
NIKH	**Nikolski High**	**2.85**	**280**		Pn	16 00 46.0	-0.3
NIKH	**Nikolski High**	**2.85**	**280**	IAML		16 02 09.8	
	comp=E,17nm,0.9s						
NIKH				IAML		16 02 38.4	
	comp=N,15nm,0.8s						
CLCO	**Concord Point,**	**3.36**	**275**		Pn	16 00 53.2	-0.1
SDPT	**Sand Point**	**3.53**	**37**		Pn	16 00 55.8	+0.2
SDPT	**Sand Point**	**3.53**	**37**	IAML		16 01 35.2	
	comp=E,23nm,0.9s						
SDPT				IAML		16 01 40.4	
	comp=N,28nm,1.2s						

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*NEIC **21** 16:09:15.3±1.2, 35°.14N±0°.02×95°.37W±0°.02, h5km±1km, mb_Lg3.1/94, ML3.1/8, ML3.3/12, Error ellipse: s-maj=3.5km s-min=2.9km az=132.0*

NEIC 21 16:09:15.3±1.1, 35°.13N±0°.01×95°.35W±0°.02, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.9km az=122.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	16 09 31.7	-0.1
TUL3					Sg	16 09 43.2	+0.3
RLO	**Rose Lookout**	**1.06**	**14**		Pg	16 09 35.4	-0.4
RLO					Sg	16 09 49.8	+0.2
RLO				IAML		16 09 55.7	
	comp=E,667nm,0.2s						
RLO				IAML		16 09 56.9	
	comp=N,666nm,0.2s						
DEOK	**Depew**	**1.18**	**307**		Pg	16 09 37.5	-0.4
DEOK				Sg	Sg	16 09 52.3	-0.8
DEOK				IAML		16 09 54.7	
	comp=E,723nm,0.1s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	16 09 42.0	-0.4
OK052					Sg	16 10 02.2	-0.2
QUOK	**Quay**	**1.52**	**314**		Pn	16 09 43.0	-0.2
QUOK					Sg	16 10 04.0	-0.1
U38A	**Gravette**	**1.52**	**31**		Pn	16 09 43.2	0.0
U38A					Sb	16 10 03.7	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pn	16 09 44.3	+0.4
MIAR					Sb	16 10 05.4	+0.3
HHAR	**Hobbs**	**1.62**	**45**		Pn	16 09 44.9	+0.2
HHAR					Sb	16 10 06.8	+0.3
FNO	**Franklin**	**1.68**	**275**		Pn	16 09 45.8	+0.3
FNO					Sg	16 10 09.2	-0.2
ADOK	**Arcadia Dam**	**1.73**	**288**		Pn	16 09 46.2	+0.1
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pn	16 09 46.5	+0.4
OKCSW					Sg	16 10 10.6	-0.3
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	16 09 47.3	-0.5
OKCFA					Sg	16 10 10.9	-0.4
OK048	**Pawnee Station**	**1.82**	**315**		Pn	16 09 47.8	+0.4
OK051	**E0350 and S346**	**1.83**	**319**		Pn	16 09 48.1	+0.7
OK029	**Liberty Lake**	**1.84**	**292**		Pn	16 09 48.0	+0.3
LOOK	**Love County**	**1.89**	**234**		Pb	16 09 49.6	-0.7
LOOK				IAmb_Lg		16 10 19.6	
	comp=Z,102nm,0.9s						
Z38A	**Mt. Pleasant**	**1.89**	**171**		Pn	16 09 49.2	+1.0
T35A	**Sooner Cattle**	**2.01**	**332**	IAmb_Lg		16 10 22.2	
	comp=Z,72nm,0.7s						
X34A	**Smith Ranch, M**	**2.11**	**256**		Pn	16 09 52.3	+1.0
X34A				IAmb_Lg		16 10 26.8	
	comp=Z,69nm,0.8s						
X40A	**Basin Creek Fa**	**2.17**	**107**	IAmb_Lg		16 10 28.3	
	comp=Z,123nm,0.8s						
WLAR	**White Oak Lake**	**2.34**	**127**		Pn	16 09 55.9	+1.4
WLAR				IAmb_Lg		16 10 28.8	
	comp=Z,79nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	16 09 56.0	+0.9
Z35A				IAmb_Lg		16 10 35.2	
	comp=Z,58nm,1.0s						
TREL	**Terrell**	**2.47**	**195**		Pn	16 09 56.5	+0.3
TREL				IAmb_Lg		16 10 32.4	
	comp=Z,93nm,1.1s						
UALR	**University of**	**2.50**	**97**		Pn	16 09 57.4	+0.8
UALR				IAmb_Lg		16 10 38.7	
	comp=Z,51nm,0.9s						
WHAR	**Wooly Hollow**	**2.51**	**86**		Pn	16 09 57.4	+0.5
WHAR				IAmb_Lg		16 10 35.7	
	comp=Z,54nm,0.9s						
FCAR	**Ozark Folk Cen**	**2.74**	**73**	IAmb_Lg		16 10 46.7	
	comp=Z,42nm,0.8s						
Z41A	**Richland Creek**	**2.82**	**131**	IAmb_Lg		16 10 47.1	
	comp=Z,49nm,0.9s						
237A	**Washetta, Mont**	**3.15**	**187**	IAmb_Lg		16 10 59.0	
	comp=Z,77nm,1.1s						
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		16 11 02.5	
	comp=Z,53nm,0.9s						
NOKA	**Waynoka**	**3.27**	**298**	IAmb_Lg		16 11 05.6	
	comp=Z,37nm,0.9s						
NATX	**Nacogdoches**	**3.41**	**170**	IAmb_Lg		16 11 12.5	
	comp=Z,39nm,0.7s						
LCAR	**Lake Charles**	**3.54**	**73**	IAmb_Lg		16 11 08.8	
	comp=Z,40nm,1.0s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		16 11 29.3	
	comp=Z,43nm,0.7s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		16 11 30.6	
	comp=Z,46nm,0.7s						
143A	**Socs Landing,**	**4.08**	**125**	IAmb_Lg		16 11 31.3	
	comp=Z,44nm,0.7s						
KSU1	**Kansas State U**	**4.09**	**346**	IAmb_Lg		16 11 26.8	
	comp=Z,59nm,0.7s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		16 11 38.0	
	comp=Z,40nm,0.7s						
ABTX	**Abilene, Hawle**	**4.36**	**236**	IAmb_Lg		16 11 44.2	
	comp=Z,38nm,1.1s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		16 11 46.1	
	comp=Z,46nm,0.7s						
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		16 11 50.1	
	comp=Z,36nm,0.8s						
435B	**Jarrell**	**4.73**	**204**	IAmb_Lg		16 11 57.4	
	comp=Z,22nm,0.9s						
DKNS	**Dickens**	**4.83**	**254**	IAmb_Lg		16 12 02.0	
	comp=Z,33nm,1.1s						
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		16 11 53.8	
	comp=Z,39nm,0.9s						
CBKS	**Cedar Bluff**	**5.08**	**318**	IAmb_Lg		16 12 01.3	
	comp=Z,41nm,0.7s						
CGM3	**Cape Girardeau**	**5.08**	**63**	IAmb_Lg		16 11 57.3	
	comp=Z,31nm,0.7s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		16 12 00.9	
	comp=Z,47nm,0.7s						
SLM	**Saint Louis**	**5.39**	**48**	IAmb_Lg		16 12 07.6	
	comp=Z,39nm,0.8s						
POST	**Post**	**5.50**	**250**	IAmb_Lg		16 12 22.5	
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**5.96**	**220**	IAmb_Lg		16 12 39.5	
	comp=Z,19nm,0.7s						
RTBA	**Rita Blanca**	**6.14**	**284**	IAmb_Lg		16 12 35.4	
	comp=Z,18nm,1.1s						
OZNA	**Ozona**	**6.42**	**231**	IAmb_Lg		16 12 46.5	
	comp=Z,15nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.46**	**44**	IAmb_Lg		16 12 55.8	
	comp=Z,35nm,0.8s						
OLIL	**Olney**	**6.83**	**56**	IAmb_Lg		16 12 57.6	
	comp=Z,32nm,0.8s						
KSCO	**Kaye Shedlock'**	**6.99**	**306**	IAmb_Lg		16 13 10.3	
	comp=Z,27nm,0.8s						
T25A	**Trinidad**	**7.60**	**288**	IAmb_Lg		16 13 26.2	
	comp=Z,22nm,0.8s						
L40A	**Anamosa**	**7.64**	**24**	IAmb_Lg		16 13 20.5	
	comp=Z,30nm,0.9s						
SFIN	**Lafayette**	**8.37**	**49**	IAmb_Lg		16 13 40.5	
	comp=Z,27nm,0.8s						

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*IDC **21** 16:23:26.9±2.2, 16°.02S×167°.72E, h158km±17km, mb3.8/14, mbtmp4.2/15, Error ellipse: s-maj=23.3km s-min=13.3km az=78.0*

*NEIC **21** 16:23:27.4±1.9, 16°.04S±0°.08×167°.7E±0°.1, h161km±6km, mb4.3/22, Error ellipse: s-maj=16.7km s-min=10.9km az=78.0*

*NOU **21** 16:24:28.0, 20°.67S×167°.61E, h0km, MLv2.6/5, Loyalty Islands*

ISC 21 16:23:25.6±0.7, 16°.00S±0°.06×167°.8E±0°.1, h150km, n53, σ1§71/54, mb4.3/24, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.79**	**314**	Pn	**Pn**	**16 23 51.0**	**+2.3**
SANVU				Sn	**Sn**	**16 24 10.7**	**+4.4**
MARNC	**Mare, Loyalty**	**5.45**	**178**	P	**Pn**	**16 24 45.0**	**0.0**
YATNC	**Mamie plateau,**	**6.08**	**188**	P	**Pn**	**16 24 55.7**	**+2.3**
DZM	**Mont Dzumac**	**6.17**	**192**	P	**Pn**	**16 24 55.6**	**+1.0**
	9.2nm,0.3s,baz=63,slow=10,SNR=74						
DZM				S	**Sn**	**16 26 05.9**	**+1.6**
	5.6nm,0.5s,baz=137,slow=20,SNR=1.3						
ONTNC	**Ouen Toro**	**6.40**	**191**	Pn	**Pn**	**16 25 01.2**	**+3.6**
ONTNC	**Ouen Toro**	**6.40**	**191**	P	**Pn**	**16 25 02.1**	**+4.6**
OUENC	**Ouen Island, N**	**6.44**	**188**	P	**Pn**	**16 25 01.1**	**+2.9**
PINNC	**Pines Island,**	**6.58**	**183**	Pn	**Pn**	**16 25 01.2**	**+1.2**
PINNC	**Pines Island,**	**6.58**	**183**	P	**Pn**	**16 25 02.7**	**+2.7**
EIDS	**Eidsvold**	**18.18**	**236**	Pn	**P**	**16 27 28.3**	**+1.4**
EIDS				IAmb	IAmb	16 27 58.9	
	comp=Z,16nm,1.3s						
ARMA	**Armidale**	**20.61**	**223**	P	**P**	**16 27 52.0**	**-1.2**
ARMA				IAmb	IAmb	16 27 57.7	
	comp=Z,8.8nm,1.1s						
COEN	**Coen**	**23.86**	**272**	P	**P**	**16 28 22.7**	**-2.7**
INKA	**Innaminka**	**27.62**	**240**	P	**P**	**16 28 58.3**	**-0.7**
INKA				IAmb	IAmb	16 29 00.7	
	comp=Z,3.2nm,0.6s						
STKA	**Stephens Creek**	**28.58**	**232**		**P**	**16 29 07.3**	**-0.3**
STKA	**Stephens Creek**	**28.58**	**232**	P	**P**	**16 29 07.8**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=44,slow=8.8,SNR=11						
	comp=Z,4.0nm,0.7s						
TOO	**Toolangi**	**29.15**	**218**	P	**P**	**16 29 11.7**	**-0.9**
TOO				IAmb	IAmb	16 29 14.0	
	comp=Z,6.3nm,1.4s						
JAY	**Jayapura**	**29.85**	**294**	P	**P**	**16 29 19.2**	**+0.2**
	comp=Z,8.6nm,1.0s,baz=104,slow=12,SNR=1.6						
	comp=Z,8.6nm,1.0s						
WR8	**Warramunga Arr**	**31.88**	**258**	P	**P**	**16 29 35.6**	**-1.2**
WR8				IAmb	IAmb	16 29 38.6	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**32.03**	**258**	P	**P**	**16 29 36.6**	**-1.5**
WRA	**Warramunga Arr**	**32.03**	**258**	P	**P**	**16 29 37.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=85,slow=8.2,SNR=19						
WRA				ScP	**ScP**	**16 35 53.2**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=94,slow=3.2,SNR=4.3						
	comp=Z,1.5nm,0.6s						
AS31	**Alice Springs**	**32.71**	**251**		**P**	**16 29 42.1**	**-2.0**
ASAR	**Alice Springs**	**32.72**	**251**	P	**P**	**16 29 42.0**	**-2.1**
ASAR	**Alice Springs**	**32.72**	**251**	P	**P**	**16 29 44.0**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=79,slow=8.8,SNR=91						
ASAR				ScP	**ScP**	**16 35 55.2**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=85,slow=3.0,SNR=5.5						
	comp=Z,3.3nm,0.5s						
BBOO	**Buckleboo**	**33.22**	**234**	P	**P**	**16 29 48.3**	**0.0**
BBOO				IAmb	IAmb	16 30 05.2	
	comp=Z,14nm,1.3s						
MTN	**Manton Dam**	**35.61**	**270**	P	**P**	**16 30 08.5**	**-0.7**
MTN				IAmb	IAmb	16 30 31.1	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**37.51**	**265**		**P**	**16 30 24.6**	**-0.7**
KNRA				IAmb	IAmb	16 30 25.8	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**39.10**	**241**	P	**P**	**16 30 38.2**	**-0.2**
FORT				IAmb	IAmb	16 30 39.1	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**40.29**	**261**		**P**	**16 30 48.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**48.54**	**240**	P	**P**	**16 31 51.8**	**-1.9**
MJAR	**Matsushiro Arr**	**59.26**	**332**	IAmb	IAmb	16 33 12.4	
	comp=Z,4.3nm,1.0s						
MJAR	**Matsushiro Arr**	**59.26**	**332**	P	**P**	**16 33 10.8**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=172,slow=8.9,SNR=9.2						
	comp=Z,1.8nm,0.7s						
VNDA	**Vanda**	**61.61**	**181**	P	**P**	**16 33 26.4**	**-0.2**
VNDA	**Vanda**	**61.61**	**181**	P	**P**	**16 33 26.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=12,slow=4.9,SNR=13						
	comp=Z,0.8nm,0.5s						
SBA	**Scott Base**	**61.87**	**180**	P	**P**	**16 33 29.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**68.24**	**333**	P	**P**	**16 34 11.2**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=139,slow=8.0,SNR=7.9						
	comp=Z,2.1nm,0.7s						
BNX	**BinXian**	**71.49**	**331**	⇑P	**P**	**16 34 30.3**	**+0.5**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**16 34 46.6**	**+1.9**
QSPA				IAmb	IAmb	16 34 47.7	
	comp=Z,8.2nm,0.9s						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**16 34 46.7**	**+1.9**
	comp=Z,7.1nm,0.7s,baz=317,slow=0.7,SNR=28						
	comp=Z,7.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**75.93**	**294**	P	**P**	**16 34 56.8**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=122,slow=4.6,SNR=5.4						
	comp=Z,0.4nm,0.4s						
PZH	**PanZhiHua**	**76.81**	**303**	P	P	16 34 57.5	-3.7
HHC	**Hu-ho-hao-te**	**76.88**	**320**	*e*P	**P**	**16 34 58.4**	**-2.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,4.4s						
MAW	**Mawson**	**80.90**	**202**	P	**P**	**16 35 23.0**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=251,slow=15,SNR=2.9						
	comp=Z,2.3nm,1.0s						
SONM	**Songino Array**	**83.82**	**323**	IAmb	IAmb	16 35 39.9	
	comp=Z,1.5nm,1.2s						
SONM	**Songino Array**	**83.82**	**323**	P	**P**	**16 35 38.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.4,SNR=3.5						
	comp=Z,0.4nm,0.4s						
BELA	**Belgrano 2**	**85.42**	**175**	P	**P**	**16 35 44.1**	**-1.6**
ILAR	**Eielson Array**	**87.58**	**18**	P	**P**	**16 35 57.5**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=231,slow=5.7,SNR=2.1						
	comp=Z,0.3nm,0.8s						
TROLL	**Troll, Antarti**	**91.64**	**185**	⇑P	**P**	**16 36 14.4**	**-1.0**
	comp=Z,179nm,0.5s						
SNAA	**Sanae**	**92.31**	**183**	⇑P	**P**	**16 36 17.1**	**-1.4**
	comp=Z,66nm,0.8s						
SNAA	**Sanae**	**92.31**	**183**	P	**P**	**16 36 17.3**	**-1.1**
SNAA				IAmb	IAmb	16 36 19.7	
	comp=Z,4.0nm,1.2s						
SNAA	**Sanae**	**92.31**	**183**	P	**P**	**16 36 17.1**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=193,slow=7.4,SNR=22						
	comp=Z,1.7nm,0.6s						
VNA3	**Neumayer Olymp**	**92.95**	**181**	⇑P	**P**	**16 36 19.9**	**-1.5**
	comp=Z,2.6nm,0.4s						
MKAR	**Makanchi Array**	**98.47**	**316**	P	**P**	**16 36 47.2**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=131,slow=4.0,SNR=2.2						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**121.61**	**345**	PKP	**PKPdf**	**16 41 60.0**	**-0.8**
	comp=Z,4.6nm,1.0s,baz=66,slow=6.8,SNR=5.4						

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*IDC **21** 16:26:08.1±4.5, 5°.89S×148°.54E, h53km±37km, mb3.7/7, mbtmp4.0/9, ML4.2/1, MS3.2/2, Error ellipse: s-maj=46.4km s-min=20.2km az=89.0*

*NEIC **21** 16:26:10.8±1.3, 5°.97S±0°.08×148°.55E±0°.10, h66km±3km, mb4.5/30, Error ellipse: s-maj=15.9km s-min=8.9km az=126.0*

ISC 21 16:26:09.9±0.5, 5°.97S±0°.07×148°.49E±0°.09, h65km, n48, σ1§23/49, mb4.4/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.66**	**201**		**Pn**	**16 27 05.0**	**+0.9**
PMG	**Port Moresby**	**3.66**	**201**	P	**Pn**	**16 27 05.3**	**+1.2**
	95nm,0.8s,baz=75,slow=4.1,SNR=26						
PMG				S	**Sn**	**16 27 46.3**	**+0.3**
	261nm,0.7s,baz=15,slow=16,SNR=17						
RABL	**Rabaul**	**4.07**	**64**	Pn	**Pn**	**16 27 09.3**	**-0.4**
WB0	**Warramunga Arr**	**19.39**	**224**	P	**P**	**16 30 31.3**	**+0.5**
WR8	**Warramunga Arr**	**19.44**	**223**	P	**P**	**16 30 31.9**	**+0.5**
WRA	**Warramunga Arr**	**19.55**	**223**	P	**P**	**16 30 32.6**	**+0.1**
WRA	**Warramunga Arr**	**19.55**	**223**	P	**P**	**16 30 33.0**	**+0.6**
	0.7nm,0.3s,baz=49,slow=11,SNR=24						
WRA				S	**S**	**16 34 03.7**	**-6.3**
	0.8nm,0.8s,baz=47,slow=22,SNR=5.3						
WRA				LR	LR	16 37 41.5	
	comp=Z,38nm,21.0s,baz=203,slow=35						
	3.3nm,0.5s						
SANVU	**Saraoutou**	**20.64**	**119**	P	**P**	**16 30 44.2**	**-0.1**
SANVU				IAmb	IAmb	16 31 03.9	
	comp=Z,36nm,1.2s						
KNRA	**K

comp=Z,5.0nm,1.0s
D22K Ayikyak River 84.82 18 P **P 16 38 37.9 +0.9**
D22K IAmb IAmb 16 39 16.9
comp=Z,17nm,1.4s
ILAR Eielson Array 84.88 23 P **P 16 38 36.0 -1.4**
comp=Z,1.0nm,0.8s,baz=255,slow=4.7,SNR=8.6
comp=Z,1.0nm,0.8s
B22K Teshekpuk Lake 85.37 17 P **P 16 38 40.0 +0.3**
J25K Salcha River, 85.40 23 P **P 16 38 39.8 -0.3**
J25K IAmb IAmb 16 38 41.2
comp=Z,4.3nm,1.2s
M27K Edge Creek, AK 85.98 26 P **P 16 38 43.9 +0.8**
M27K IAmb IAmb 16 39 26.8
comp=Z,8.0nm,1.4s
D25K Kavik River 87.02 19 P **P 16 38 48.4 +0.4**
L29M L29M 87.86 26 P **P 16 38 53.0 +0.8**
L29M IAmb IAmb 16 38 53.5
comp=Z,3.7nm,0.9s
I30M Mount Dempster 89.21 24 P **P 16 38 58.5 0.0**
I30M IAmb IAmb 16 39 23.8
comp=Z,4.4nm,1.3s
TORD Torodi Ar. Bea 146.52 285 PKPbc **PKPdf 16 45 44.4 +0.9**
comp=Z,2.7nm,0.3s,baz=64,slow=2.8,SNR=3.1
BDFB Brasilia 153.01 143 PKPbc **PKPbc 16 45 59.8 -1.4**
comp=Z,1.4nm,0.3s,baz=120,slow=6.9,SNR=4.1

DJA 21 16:26:31.8±0.7,7°N±3°×12°5E±°,h10km,M4.3/6,mB4.8/1, mb4.6/4,MLv4.2/6,Mw(mB)4.0/1,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.10**	**174**	P	Pn	16 27 20.6	-0.3
SGSI				S	Sn	16 27 59.2	+1.2
MRSI	**Marisa**	**7.06**	**207**	P	Pn	16 28 10.4	-4.9
LBMI	**Labuha**	**7.73**	**163**	P	Pn	16 28 23.5	-1.0

WEL 21 16:40:33.3±1.0,32°S±17°×18°0W±4°2,h259km±21km, mB4.6/4,ML4.5/9,MLv4.4/7,Mw(mB)3.8/4,Error ellipse: s-maj=59.5km s-min=5.4km az=111.7,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.34**	**32**	S	S	16 42 11.7	-3.5
WMGZ	**Waiomatatini S**	**5.84**	**193**	P	Pn	16 42 01.7	+2.2
WMGZ				S	S	16 43 10.9	+2.2
HAZ	**Te Kaha**	**5.92**	**198**	P	Pn	16 42 02.1	+1.6
HAZ				S	S	16 43 12.9	+2.5
PKGZ	**Pakihiroa**	**5.96**	**195**	P	Pn	16 42 04.0	+3.0
PKGZ				S	S	16 43 14.9	+3.5
PUZ	**Puketiti**	**6.12**	**193**	P	Pn	16 42 05.3	+2.3
PUZ				S	S	16 43 17.6	+2.7
RUGZ	**Raukumara Rang**	**6.15**	**198**	P	Pn	16 42 05.4	+2.0
RUGZ				S	S	16 43 15.0	-0.8
MWZ	**Matawai**	**6.53**	**198**	P	Pn	16 42 08.4	+0.2
MWZ				S	S	16 43 26.5	+2.1
URZ	**Urewera**	**6.58**	**201**	P	Pn	16 42 09.3	+0.6
URZ				S	S	16 43 26.7	+1.3
MUGZ	**Murupara**	**6.88**	**202**	P	Pn	16 42 13.8	+1.2
MUGZ				S	S	16 43 32.8	+0.5
RAHZ	**Arahi**	**7.20**	**199**	P	Pn	16 42 17.0	+0.5
RAHZ				S	S	16 43 37.8	-1.8
MTHZ	**Maungataniwha**	**7.21**	**200**	P	Pn	16 42 17.3	+0.7
MTHZ				S	S	16 43 40.5	+0.7
NMHZ	**Naumai**	**7.45**	**200**	P	Pn	16 42 20.0	+0.4
NMHZ				S	S	16 43 44.4	-0.9
ARHZ	**Aropaoanui**	**7.55**	**198**	P	Pn	16 42 20.5	-0.4
ARHZ				S	S	16 43 42.0	-5.4
BKZ	**Black Stump Fm**	**7.60**	**201**	P	Pn	16 42 20.2	-1.4
BKZ				S	S	16 43 47.1	-1.7
TWVZ	**Taurewa**	**7.88**	**207**	P	Pn	16 42 26.5	+1.3
PXZ	**Pawanui**	**8.30**	**197**	P	Pn	16 42 29.0	-1.3
PXZ				S	S	16 43 58.8	-6.1
BFZ	**Birch Farm**	**9.08**	**199**	P	Pn	16 42 37.6	-2.5
BFZ				S	S	16 44 15.2	-7.5

*MDD **21** 16:47:32.9±0.6,36°.45N×4°.96E,h10km,Mb4.4/31, M_mb3.9/31,Error ellipse: s-maj=5.4km s-min=4.3km az=126.0*
*CRAAG **21** 16:47:32.7,36°.58N×4°.72E,Ml3.7,Algerie 04km NE Seddouk*

ISC 21 16:47:33.5±1.3,36°63N±0°.05×4°75E±0°.03,h11km±11km, n47,σ1s60/66,15C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCHA	**Tamokra**	**0.21**	**203**	P	**Pg**	**16 47 37.0**	**-1.0**
ATKB	**Taksebt**	**0.51**	**275**	P	**Pg**	**16 47 43.5**	**0.0**
CAZD	**Ain Tagrout**	**0.56**	**144**	P	**Pg**	**16 47 43.9**	**-0.5**
SET	**Setif**	**0.67**	**129**	P	**Pb**	**16 47 47.0**	**-0.4**
CKHR	**Kef el Ahmar**	**0.86**	**135**	P	**Pb**	**16 47 51.4**	**+0.8**
DFRA	**Djebel Bou Aff**	**0.91**	**95**	P	**Pb**	**16 47 51.3**	**-0.1**
AKET	**Djebel Ketaf**	**0.91**	**231**	P	**Pg**	**16 47 50.7**	**-0.4**
ADJB	**Djebel Djouab**	**1.16**	**247**	P	**Pg**	**16 47 55.2**	**-0.7**
CBHR	**Beni Haroun da**	**1.22**	**92**	P	**Pg**	**16 47 56.3**	**-0.7**
ABSD	**Ouled Sidi Bra**	**1.27**	**201**	P	**Pg**	**16 47 56.9**	**-1.1**
COAT	**Oued Athmania**	**1.29**	**107**	P	**Pb**	**16 47 59.0**	**+1.1**
CASM	**Ain Smara**	**1.45**	**104**	P	**Pg**	**16 48 02.7**	**+1.4**
CTEI	**Djebel Teioual**	**1.45**	**112**	P	**Pg**	**16 48 03.2**	**+1.8**
ADOR	**Douera**	**1.48**	**272**	P	**Pg**	**16 48 02.8**	**+0.9**
CKTS	**El Kantara**	**1.59**	**151**	P	**Pg**	**16 48 03.7**	**-0.4**
CAEH	**'Ain El Ouahch**	**1.69**	**84**	P	**Pb**	**16 48 04.8**	**+0.1**
CTGD	**Timgad**	**1.81**	**127**	P	**Pg**	**16 48 08.5**	**+0.4**
AFRS	**Ain Fares**	**1.92**	**187**	P	**Pn**	**16 48 06.1**	**-0.1**
CMAH	**Djebel Manchou**	**2.15**	**89**	P	**Pn**	**16 48 10.1**	**+0.8**
ABSA	**Djebel Ababsia**	**2.23**	**98**	P	**Pn**	**16 48 11.9**	**+1.5**
MAHO	**Mahon**	**3.29**	**353**	Pn	**Pn**	**16 48 24.4**	**-0.5**
ETOS	**Mallorca**	**3.49**	**335**	Pn	**Pn**	**16 48 28.4**	**+0.6**
ETOS				Sn	**Sn**	**16 49 06.5**	**-2.5**
ETOS	**Mallorca**	**3.49**	**335**	Pn	**Pn**	**16 48 28.4**	**+0.6**
ETOS				⇑iVmb_VC		16 48 31.6	
830nm,SNR=3.7							
ETOS				Sn	**Sn**	**16 49 05.6**	**-3.4**
EIBI	**Ibiza**	**3.61**	**313**	Pn	**Pn**	**16 48 30.5**	**+1.1**
EIBI				Sn	**Sn**	**16 49 10.1**	**-1.9**
EIBI	**Ibiza**	**3.61**	**313**	Pn	**Pn**	**16 48 30.3**	**+1.0**
EIBI				⇑iVmb_VC		16 48 37.0	
798nm,SNR=2.6							
EIBI				Sn	**Sn**	**16 49 09.7**	**-2.3**
EBEN2	**Beniarda presa**	**4.42**	**299**	Pn	**Pn**	**16 48 41.8**	**+1.2**
EBEN2				⇑iVmb_VC		16 48 44.4	
659nm,SNR=1.3							
EBEN2				Sn	**Sn**	**16 49 29.8**	**-2.3**
ECOL	**Islas Columbre**	**4.57**	**317**	Pn	**Pn**	**16 48 43.1**	**+0.5**
ECOL				Sn	**Sn**	**16 49 33.0**	**-2.7**
AFON	**Font Roja**	**4.67**	**297**	Pn	**Pn**	**16 48 45.5**	**+1.5**
AFON				⇑iVmb_VC		16 48 55.0	
355nm,SNR=1.6							
AFON				Sn	**Sn**	**16 49 39.8**	**+1.5**
CART	**Cartagena**	**4.70**	**283**	Pn	**Pn**	**16 48 44.9**	**+0.6**
CART				Sn	**Sn**	**16 49 35.9**	**-2.9**
EMUR	**La Murta**	**4.93**	**286**	Pn	**Pn**	**16 48 48.8**	**+1.2**
EMUR				⇑iVmb_VC		16 48 55.8	
176nm,SNR=2.0							
DGI	**Dorgali Grotta**	**5.30**	**44**	Pn	**Pn**	**16 48 52.1**	**-0.5**
DGI				Sn	**Sn**	**16 49 53.3**	**-0.3**
EVIV	**Cofrentes, Val**	**5.34**	**301**	Pn	**Pn**	**16 48 54.8**	**+1.6**
EVIV				⇑iVmb_VC		16 48 55.7	
495nm,SNR=3.2							
EVIV				Sn	**Sn**	**16 49 55.2**	**+0.5**
ETOB	**Tobarra**	**5.39**	**294**	Pn	**Pn**	**16 48 55.6**	**+1.6**
ETOB				Sn	**Sn**	**16 49 54.3**	**-1.7**
ETOB	**Tobarra**	**5.39**	**294**	Pn	**Pn**	**16 48 55.4**	**+1.5**
ETOB				⇑iVmb_VC		16 49 05.0	
217nm,SNR=1.4							
ETOB				Sn	**Sn**	**16 49 56.3**	**+0.2**
ECHE	**Chera**	**5.39**	**305**	Pn	**Pn**	**16 48 55.1**	**+1.1**
ECHE				Sn	**Sn**	**16 49 53.1**	**-3.0**
ECHE	**Chera**	**5.39**	**305**	Pn	**Pn**	**16 48 55.4**	**+1.4**
ECHE				⇑iVmb_VC		16 49 01.6	
303nm,SNR=2.2							
ECHE				Sn	**Sn**	**16 49 56.9**	**+0.9**
EPOB	**Poblet**	**5.52**	**330**	Pn	**Pn**	**16 48 56.0**	**+0.3**
EPOB				⇑iVmb_VC		16 49 03.2	
215nm,SNR=2.1							
EPOB				Sn	**Sn**	**16 49 54.8**	**-4.4**
ERTA	**Horta de San J**	**5.53**	**323**	Pn	**Pn**	**16 48 57.1**	**+1.3**
ERTA				⇑iVmb_VC		16 48 59.4	
180nm,SNR=1.5							
ERTA				Sn	**Sn**	**16 50 00.3**	**+0.9**
EMOS	**Mosqueruela**	**5.54**	**314**	Pn	**Pn**	**16 48 56.9**	**+0.8**
EMOS				⇑iVmb_VC		16 48 57.6	
289nm,SNR=2.0							
EMOS				Sn	**Sn**	**16 49 58.1**	**-1.7**
EJON	**La Jonquera**	**5.99**	**347**	Pn	**Pn**	**16 49 02.2**	**+0.1**
EJON	**La Jonquera**	**5.99**	**347**	Pn	**Pn**	**16 49 02.7**	**+0.5**
EJON				⇑iVmb_VC		16 49 04.9	
259nm,SNR=1.5							
EQES	**Quesada**	**6.35**	**283**	Pn	**Pn**	**16 49 10.2**	**+3.0**
EQES				⇑iVmb_VC		16 49 16.0	
181nm,SNR=3.5							
EQES				Sn	**Sn**	**16 50 21.8**	**+2.0**
ESAC	**San Caprasio**	**6.51**	**323**	Pn	**Pn**	**16 49 10.7**	**+1.4**
ELGU	**Los Guajares,**	**6.73**	**275**	Pn	**Pn**	**16 49 12.2**	**-0.2**
ELGU	**Los Guajares,**	**6.73**	**275**	Pn	**Pn**	**16 49 14.9**	**+2.6**
ELGU				⇑iVmb_VC		16 49 15.7	
147nm,SNR=2.7							
ELGU				Sn	**Sn**	**16 50 30.0**	**+0.9**
ETOR	**Torete**	**6.77**	**310**	Pn	**Pn**	**16 49 16.2**	**+3.3**
ETOR				⇑iVmb_VC		16 49 22.6	
155nm,SNR=1.7							
EORO	**Oroz-Betelu**	**7.81**	**325**	Pn	**Pn**	**16 49 28.4**	**+1.4**

*NEIC **21** 16:52:37.4±0.5,19°.23N±0°.02×155°.49W±0°.03,h39km±5km, Error ellipse: s-maj=4.1km s-min=3.3km az=96.0*

HVO 21 16:52:38.7±0.6,19°21N±0°.07×155°46W±0°.09,h33km±8km, ML2.5/35,ML2.6/42(NEIC),Error ellipse: s-maj=16.1km s-min=3.1km az=128.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**67**		Pb	16 52 44.0	-0.3
KHU	**Kahuku**	**0.15**	**282**		Pb	16 52 44.4	-0.8
KHU					Sb	16 52 48.5	-1.1
HPO	**Honuapo**	**0.15**	**217**		Pb	16 52 44.2	-0.6
HPO					Sb	16 52 48.4	-0.7
AIN	**Ainahou**	**0.16**	**359**		Pb	16 52 44.5	-0.6
HLP	**Hilina Pali**	**0.16**	**60**		Pb	16 52 44.5	-0.5
HLP				IAML		16 52 49.2	
comp=N,637nm,0.1s							
HLP				IAML		16 52 49.3	
comp=E,789nm,0.3s							
SDHHI	**Sand Hill**	**0.23**	**41**		Pn	16 52 45.0	-0.5
SDHHI					Sb	16 52 49.7	-1.0
WRMHI	**West Rim**	**0.24**	**38**		Pn	16 52 45.0	-0.6
WRMHI					Sn	16 52 49.8	+0.7
RIM	**Rim**	**0.25**	**44**		Pn	16 52 45.1	-0.7
RIM					Sn	16 52 49.9	+0.5
KKO	**Keanakako'i**	**0.26**	**44**		Pn	16 52 45.1	-0.8
KKO					Sn	16 52 49.8	-0.2
UWE	**Uwekahuna**	**0.26**	**37**		Pn	16 52 45.1	-0.8
UWE					Sn	16 52 50.0	0.0
UWE	**Uwekahuna**	**0.26**	**37**	IAML		16 52 51.1	
comp=N,726nm,0.3s							
UWE				IAML		16 52 55.7	
comp=E,863nm,0.4s							
OBL	**Observatory Le**	**0.26**	**39**		Pn	16 52 45.1	-0.9
OBL					Sn	16 52 49.9	-0.2
UWB	**Uwekahuna Bluf**	**0.27**	**39**		Pn	16 52 45.1	-1.0
UWB					Sn	16 52 49.6	-0.9
BYL	**Byron's Ledge**	**0.27**	**43**		Pn	16 52 45.2	-1.0
BYL					Sn	16 52 50.1	-0.4
BYL	**Byron's Ledge**	**0.27**	**43**	IAML		16 52 50.8	
comp=E,365nm,0.2s							
BYL				IAML		16 52 58.5	
comp=N,291nm,0.8s							
PUH	**Pauahi**	**0.28**	**55**		Pn	16 52 45.3	-1.0
PUH					Sn	16 52 50.2	-0.5
PUH	**Pauahi**	**0.28**	**55**	IAML		16 52 50.3	
comp=E,468nm,0.2s							
PUH				IAML		16 52 51.9	
comp=N,459nm,0.3s							
SBLHI	**Steaming Bluff**	**0.28**	**40**		Pn	16 52 45.2	-1.1
SBLHI					Sn	16 52 50.1	-0.6
HATHI	**Halema'uma'u T**	**0.28**	**42**		Pn	16 52 45.2	-1.1
HATHI					Sn	16 52 50.0	-0.8
HATHI	**Halema'uma'u T**	**0.28**	**42**	IAML		16 52 50.6	
comp=E,625nm,0.4s							
HATHI				IAML		16 52 50.7	
comp=N,419nm,0.2s							
MLH	**Mauna Loa**	**0.29**	**13**		Pn	16 52 45.6	-0.9
RSD	**Rainshed**	**0.30**	**34**		Pb	16 52 45.5	-1.2
RSD					Sn	16 52 50.5	-1.1
RSD	**Rainshed**	**0.30**	**34**	IAML		16 52 50.9	
comp=N,334nm,0.3s							
RSD				IAML		16 52 51.6	
comp=E,417nm,0.1s							
MWH	**Mokuaweoweo**	**0.30**	**334**		Pn	16 52 45.7	-1.2
MWH					Sn	16 52 51.0	-1.0
MWH	**Mokuaweoweo**	**0.30**	**334**	IAML		16 52 51.4	
comp=N,693nm,0.3s							
MWH				IAML		16 52 51.4	
comp=E,675nm,0.4s							
KNHH	**Kane Nui o Ham**	**0.32**	**59**		Pb	16 52 45.7	-1.1
STCH	**Steam Cracks**	**0.36**	**61**		Pb	16 52 46.1	-1.2
STCH					Sb	16 52 51.8	-1.4
STCH	**Steam Cracks**	**0.36**	**61**	IAML		16 52 52.0	
comp=E,19nm,0.1s							
STCH				IAML		16 52 52.7	
comp=N,706nm,0.1s							
ALEP	**Alea Permanent**	**0.37**	**331**		Pb	16 52 46.2	-1.5
ALEP					Sn	16 52 51.8	-2.1
NPOC	**North of Pu'u**	**0.37**	**61**		Pb	16 52 46.3	-1.2
NPOC					Sb	16 52 52.0	-1.5
JCUZ	**Jacuzzi**	**0.38**	**63**		Pb	16 52 46.4	-1.2
JCUZ					Sb	16 52 52.1	-1.5
HMH	**Humu'ula Sheep**	**0.39**	**356**		Pb	16 52 46.9	-1.0
HMH				IAML		16 52 53.5	
comp=E,310nm,0.4s							
HMH				IAML		16 53 05.2	
comp=N,272nm,0.2s							
HMH	**Humu'ula Sheep**	**0.39**	**356**		Sb	16 52 53.0	-1.3
JOKA	**Jonika Flow**	**0.48**	**63**		Pb	16 52 47.5	-1.6
JOKA					Pn	16 52 54.1	+4.8
JOKA	**Jonika Flow**	**0.48**	**63**	IAML		16 52 54.6	
comp=E,373nm,0.4s							
JOKA				IAML		16 52 54.7	
comp=N,454nm,0.3s							
POHA	**Pohakuloa**	**0.55**	**352**		Sb	16 52 55.4	-2.8
POHA	**Pohakuloa**	**0.55**	**352**		Pb	16 52 48.2	-2.0
POHA				IAML		16 52 58.2	
comp=N,148nm,3.0s							
POHA				IAML		16 53 03.3	
comp=N,141nm,0.9s							
HUH	**Hualalai**	**0.59**	**323**		Pn	16 52 49.3	-1.7
HUH					Sb	16 52 57.1	-2.2
HPAH	**Hawaii Prepara**	**0.84**	**344**		Pn	16 52 52.1	-2.2
HPAH					Sn	16 53 01.6	-3.9
HPAH	**Hawaii Prepara**	**0.84**	**344**	IAML		16 53 02.4	
comp=E,132nm,0.3s							
MHA	**Mahukona**	**1.06**	**337**		Pn	16 52 55.1	-2.0
MHA					Sn	16 53 07.0	-3.7

*GCG **21** 17:07:47.8±2.7,14°.99N×94°.56W,h35km±427km,MD4.2*
*MEX **21** 17:07:48.2±0.8,15°.10N×94°.47W,h18km±9km,MD4.1*

ISC 21 17:07:39.7±1.5,15°02N±0°.05×94°49W±0°.02,h8km±11km, n28,σ2s04/52,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.41**	**61**	*eP*	**Pg**	**17 08 08.8**	**+2.1**
PCIG				*eS*	**Sg**	**17 08 25.1**	**+0.1**
NILT	**Santiago Nilte**	**1.55**	**356**	*eP*	**Pg**	**17 08 10.8**	**+1.4**
NILT				*eS*	**Sb**	**17 08 27.9**	**-0.5**
HUIG	**Huatulco**	**1.73**	**296**	*eP*	**Pg**	**17 08 14.8**	**+1.8**
HUIG				*eS*	**Sb**	**17 08 33.4**	**-0.3**
HUIG	**Huatulco**	**1.73**	**296**	*eP*	**Pg**	**17 08 14.7**	**+1.8**
HUIG				*eS*	**Sn**	**17 08 33.2**	**+0.7**
CMIG	**Matias Romero**	**2.10**	**350**	*eP*	**Pg**	**17 08 19.6**	**-0.4**
CMIG				*eS*	**Sb**	**17 08 42.6**	**-1.8**
PATR	**El Naranjo**	**2.18**	**87**	*eP*	**Pb**	**17 08 20.4**	**+0.7**
PATR				*eS*	**Sn**	**17 08 45.6**	**+1.6**
TGIG		**2.19**	**37**	*eP*	**Pg**	**17 08 21.5**	**-0.3**
TGIG				*eS*	**Sb**	**17 08 45.3**	**-1.8**
TGIG		**2.19**	**37**	*eP*	**Pg**	**17 08 22.2**	**+0.4**
TGIG				*eS*	**Sb**	**17 08 47.3**	**+0.2**
PAVE	**Pavencul**	**2.24**	**85**	*eP*	**Pb**	**17 08 21.7**	**+1.0**
PAVE				*eS*	**Sb**	**17 08 47.3**	**-1.4**
CHUJ	**Union Juarez**	**2.30**	**88**	*eP*	**Pb**	**17 08 22.0**	**+0.2**
CHUJ				*eS*	**Sn**	**17 08 48.5**	**+1.6**
UXUV	**UXUV**	**2.31**	**8**	*eP*	**Pg**	**17 08 23.6**	**-0.6**
UXUV				*eS*	**Sb**	**17 08 49.8**	**-0.7**
CCIG	**Comitan**	**2.59**	**61**	*eP*	**Pg**	**17 08 28.5**	**-1.0**
CCIG				*eS*	**Sb**	**17 08 59.2**	**+0.4**
CCIG	**Comitan**	**2.59**	**61**	*eP*	**Pg**	**17 08 29.3**	**-0.2**
CCIG				*eS*	**Sb**	**17 08 59.8**	**+1.0**
PEIG	**Puerto Escondi**	**2.74**	**291**	*eP*	**Pb**	**17 08 29.2**	**+0.2**
PEIG				*eS*	**Sn**	**17 08 57.8**	**+0.4**
NEUV	**Arroyo Zacate**	**2.96**	**335**	*eP*	**Pb**	**17 08 32.0**	**-0.9**
NEUV				*eS*	**Sn**	**17 09 05.2**	**+2.3**
VHO	**Vista Hermosa**	**2.97**	**314**	*eP*	**Pb**	**17 08 34.3**	**+1.2**
VHO				*eS*	**Sb**	**17 09 06.7**	**-3.0**
STG2	**El Palmar, Qui**	**3.07**	**100**	*eP*	**Pn**	**17 08 29.3**	**+0.6**
STG2				*eS*	**Sn**	**17 09 00.5**	**-5.2**
QUIS	**Sacapulas**	**3.29**	**85**	*eP*	**Pb**	**17 08 39.4**	**+0.8**
QUIS				*eS*	**Sb**	**17 09 18.6**	**-0.4**
YOIG	**Yosondua**	**3.46**	**302**	*eP*	**Pb**	**17 08 41.6**	**+0.1**
YOIG				*eS*	**Sn**	**17 09 19.3**	**+3.6**
PNIG	**Pinotepa**	**3.76**	**292**	*eP*	**Pb**	**17 08 44.3**	**-2.2**
PNIG				*eS*	**Sn**	**17 09 22.1**	**-0.5**
TXIG	**Tlaxiaco**	**3.86**	**306**	*eP*	**Pb**	**17 08 47.5**	**-0.7**
TXIG				*eS*	**Sn**	**17 09 28.5**	**+3.2**
TOIG	**Toxpalan**	**3.93**	**322**	*eP*	**Pb**	**17 08 45.8**	**-3.7**
TOIG				*eS*	**Sn**	**17 09 30.9**	**+3.8**
HLIG	**Huajuapan de L**	**4.24**	**312**	*eP*	**Pb**	**17 08 52.4**	**-2.2**
HLIG				*eS*	**Sn**	**17 09 36.2**	**+1.6**
FTIG	**Fresnillo de T**	**4.53**	**310**	*eP*	**Pb**	**17 08 56.9**	**-2.7**
FTIG				*eS*	**Sn**	**17 09 43.5**	**+1.8**
MGIG	**Malinaltepec**	**4.55**	**300**	*eP*	**Pb**	**17 08 56.9**	**-3.1**
MGIG				*eS*	**Sn**	**17 09 46.0**	**+3.6**
CRIG	**Cruz Grande**	**4.78**	**292**	*eP*	Pb	17 08 58.6	-5.3
CRIG				*eS*	**Sn**	**17 09 44.1**	**-3.8**
PETF	**Flores**	**4.83**	**66**	*eP*	Pn	17 08 58.7	+5.8
JAYA	**Jayaque - finc**	**5.07**	**105**	*eP*	**Pb**	**17 09 05.8**	**-3.1**

IDC 21 17:11:19.1±5.8,8°05S×157°60E,h0km,mb3.9/3, mbtmp3.9/4,ML4.1/1,MS2.3/1,Error ellipse: s-maj=121.7km s-min=25.1km az=10.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**121**	Pn	Pn	17 12 04.2	+0.5
30nm,0.3s,baz=236,slow=9.3,SNR=12							
HNR				Sn	Sn	17 12 36.6	-0.5
108nm,0.3s,baz=279,slow=17,SNR=11							
HNR				LR	LR	17 12 43.9	
comp=Z,55nm,20.7s,baz=9.0,slow=32							
140nm,0.4s							
WRA	**Warramunga Arr**	**25.44**	**240**	P	P	17 16 49.1	+0.2
1.8nm,0.6s,baz=67,slow=9.6,SNR=17							
1.8nm,0.6s							
ASAR	**Alice Springs**	**27.51**	**233**	P	P	17 17 06.5	-1.1
0.5nm,0.8s,baz=62,slow=8.7,SNR=5.3							
0.5nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.86**	**19**	T	T	17 45 58.6	
baz=198,slow=74,SNR=5.0							
H11S2	**WAKE ISLAND Hy**	**27.86**	**19**	T	T	17 45 40.7	
baz=198							
H11S1	**WAKE ISLAND Hy**	**27.88**	**19**	T	T	17 45 58.6	
baz=198							
STKA	**Stephens Creek**	**28.00**	**210**	P	P	17 17 12.7	+0.8
1.6nm,0.6s,baz=19,slow=12,SNR=4.6							
1.6nm,0.6s							

IDC 21 17:13:07.3±4.0,6°49N×59°92E,h0km,mb3.6/5, mbtmp3.6/5,MS3.5/1,Error ellipse: s-maj=100.7km s-min=39.8km az=72.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**39.81**	**69**	P	P	17 20 42.4	-0.2
0.3nm,0.4s,baz=254,slow=9.5,SNR=6.8							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**44.52**	**22**	P	P	17 21 21.1	+0.3
0.5nm,0.7s,baz=199,slow=8.5,SNR=2.9							
0.5nm,0.7s							
TSUM	**Tsumeb**	**48.90**	**238**	LR	LR	17 43 16.9	
comp=Z,41nm,18.1s,baz=37,slow=37							
ZALV	**Zalesovo Beam**	**51.44**	**19**	P	P	17 22 13.4	-0.7
1.4nm,0.8s,baz=223,slow=8.1,SNR=7.9							
1.4nm,0.8s							
H04N1	**CROZET ISLANDS**	**52.92**	**187**	T	T	18 19 39.8	
baz=11,slow=76,SNR=89							
H04N2	**CROZET ISLANDS**	**52.92**	**187**	T	T	18 19 38.0	
baz=11,slow=76,SNR=102							
H04N3	**CROZET ISLANDS**	**52.93**	**187**	T	T	18 19 38.2	
baz=11,slow=76,SNR=79							
SONM	**Songino Array**	**57.04**	**36**	P	P	17 22 55.5	+0.3
0.6nm,0.8s,baz=232,slow=7.1,SNR=4.4							
0.6nm,0.8s							
ASAR	**Alice Springs**	**78.08**	**116**	P	P	17 25 08.8	+0.1
0.6nm,0.9s,baz=283,slow=6.6,SNR=4.9							
0.6nm,0.9s							

*MOS **21** 17:17:48.6±0.9,33°.22N×138°.10E,h302km,mb3.9/12, Error ellipse: s-maj=12.4km s-min=6.7km az=103.3*
*JMA **21** 17:17:48.9±0.1,33°N±1°×13°8E±°,h311km,MV3.7/37, FAR S OFF TOKAI DISTRICT*
*NIED **21** 17:17:48.9,33°.28N×138°.20E,h311km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.46; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.39; $M_{r\theta}$0.14; $M_{\theta\phi}$-0.60; $M_{\phi r}$-0.81; Fault plane solution: $M_0$1.10000×10^{15} NP1:ϕ_s71.00000°, δ36.00000°,λ154.00000°. NP2:ϕ_s183.00000°,δ75.00000°, λ57.00000°.*
*NEIC **21** 17:17:50.2±1.3,33°.20N±0°.08×138°.02E±0°.08, h294km±9km,mb4.1/38 Error ellipse: s-maj=13.7km s-min=7.2km az=149.0*
*IDC **21** 17:17:50.3±0.5,33

MJB9 Matsu-Tunnel 3.23 1 Pn 17 18 49.8 +1.6
JAG Ashikaga 3.29 19 *e*P **Pn 17 18 47.8 -1.1**
JAG *e*S **S 17 19 32.4 -3.4**
JMN Monobe 3.58 278 Pn 17 18 51.0 -1.0
JMN Monobe 3.58 278 *e*P **Pn 17 18 52.2 +0.2**
JHS Saijyo 4.49 293 *e*P **Pn 17 19 02.4 +0.5**
JHS *e*S **S 17 19 59.8 +0.4**
JMM Marumori 5.04 25 Pn 17 19 06.5 -1.6
JNU Nakatsue 6.08 270 P **Pn 17 19 20.4 -0.1**
comp=Z,5.8nm,0.7s,baz=152,slow=5.5,SNR=4.8
JCJ Chichijima 7.12 149 Pn **Pn 17 19 29.6 -3.5**
JCJ Chichijima 7.12 149 P Pn 17 19 27.5 -5.6
comp=Z,31nm,0.4s,baz=0.1,slow=20,SNR=13
JCJ S S 17 20 44.0 -12
comp=Z,53nm,0.3s,baz=283,slow=23,SNR=8.5
KSRS Korea Array 9.30 299 P **Pn 17 20 01.0 +1.3**
comp=Z,16nm,0.8s,baz=110,slow=13,SNR=47
KSAR Wonju Array Be 9.33 299 Pn **Pn 17 20 00.3 +0.3**
KSAR Wonju Array Be 9.33 299 P **Pn 17 20 00.3 +0.3**
KS19 Wonju Array Si 9.37 299 Pn 17 20 00.8 +0.3
ERM Erimo 9.56 23 Pn **Pn 17 20 02.2 -0.5**
ERM Erimo 9.56 23 P **Pn 17 20 02.2 -0.5**
MSHR Mys Shultsa 10.76 331⇑ *e*P **Pn 17 20 17.6 +0.1**
ASAJ Asahikawa 11.34 17 P **Pn 17 20 23.2 -1.2**
comp=Z,2.2nm,0.4s,baz=224,slow=17,SNR=13
ASAJ S **S 17 22 23.4 -7.6**
comp=Z,1.7nm,0.5s,baz=282,slow=31,SNR=1.3
ASAJ Asahikawa 11.34 17 P **Pn 17 20 23.4 -1.1**
JKA Kamikawa-asahi 11.34 17 Pn **Pn 17 20 23.4 -1.1**
USRK Ussuriysk Ar. 11.88 338 P **Pn 17 20 30.8 -0.2**
comp=Z,2.1nm,0.4s,baz=137,slow=12,SNR=8.2
MDJ Mudanjiang 13.09 332 Pn 17 20 45.4 -0.3
YSS Yuzhno-Sakhali 14.07 13 P **Pn 17 20 58.4 +1.0**
YSS Yuzhno-Sakhali 14.07 13 *e*P **Pn 17 20 57.9 +0.5**
YSS *e*S **S 17 23 32.4 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS smax smax
comp=N,10.0nm,1.0s
HEH HeiHe 18.69 338 *e*P **P 17 21 46.4 -0.5**
HILR Hailar Array B 21.20 325 P **P 17 22 11.5 -1.2**
comp=N,3.8nm,0.4s,baz=126,slow=11,SNR=7.3
comp=N,3.8nm,0.4s
ZEA Zeya 21.84 342 *e*P **P 17 22 19.9 +1.5**
PEA0B Petropavlovsk- 24.25 29⇓ *e*P **P 17 22 41.6 +1.4**
PETK Petropavlovsk- 24.25 29 P **P 17 22 42.0 +1.8**
comp=N,0.8nm,0.6s,baz=234,slow=2.6,SNR=4.5
comp=N,0.8nm,0.6s
PETK Petropavlovsk- 24.25 29 P **P 17 22 42.0 +1.8**
XAN Xi'an 24.29 280⇑P **P 17 22 40.3 -0.6**
XAN pP pP 17 22 44.1 -50
XAN pmax pmax
comp=Z,13nm,0.7s
ENH Enshi 24.51 271 P 17 22 41.5 -1.4
ULN Ulaanbaatar 27.50 311 P 17 23 08.3 -1.2
ULN Ulaanbaatar 27.50 311⇓ *e*P **P 17 23 11.3 +1.8**
ULN pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 27.90 311 P **P 17 23 13.0 -0.1**
SONM IAmb IAmb 17 23 16.8
comp=Z,3.4nm,0.8s
SONM Songino Array 27.90 311 P **P 17 23 12.6 -0.5**
comp=Z,3.8nm,0.7s,baz=134,slow=8.9,SNR=20
comp=Z,3.8nm,0.7s
SONM Songino Array 27.90 311 P **P 17 23 13.0 -0.1**
SONM pmax pmax
comp=Z,3.0nm,0.8s
LZDM Lanzhou Array 28.38 285 P **P 17 23 18.0 +0.4**
comp=Z,2.7nm,0.4s,baz=59,slow=8.6,SNR=1.7
comp=Z,2.7nm,0.4s
CM31 Chiang Mai Arr 38.00 257 P **P 17 24 39.6 -0.5**
CMAR Chiang Mai Arr 38.00 257 P **P 17 24 39.0 -1.1**
comp=Z,0.6nm,0.5s,baz=53,slow=7.4,SNR=9.9
comp=Z,0.6nm,0.5s
CMAR Chiang Mai Arr 38.00 257 *e*P **P 17 24 39.6 -0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 42.56 316 P **P 17 25 15.9 -0.9**
ZALV Zalesovo Beam 42.56 316 P **P 17 25 16.4 -0.3**
comp=Z,1.3nm,0.5s,baz=90,slow=8.8,SNR=7.1
comp=Z,1.3nm,0.5s
MK31 Makanchi Array 43.93 305 *de*P **P 17 25 27.6 -0.2**
MKAR Makanchi Array 43.93 305 P **P 17 25 27.5 -0.3**
MKAR Makanchi Array 43.93 305 P **P 17 25 27.8 -0.1**
comp=Z,0.7nm,0.3s,baz=85,slow=9.7,SNR=16
comp=Z,0.7nm,0.3s
MKAR Makanchi Array 43.93 305 P **P 17 25 27.5 -0.3**
EVN Everest 44.12 277 P **P 17 25 29.5 -0.8**
MAKZ Makanchi 44.15 305 P **P 17 25 29.5 0.0**
MAKZ Makanchi 44.15 305 P **P 17 25 29.5 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 46.21 311⇑ *i*P **P 17 25 45.5 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 46.27 311 P **P 17 25 45.8 -0.2**
comp=Z,2.1nm,0.3s,baz=88,slow=6.8,SNR=9.2
comp=Z,2.1nm,0.3s
MTN Manton Dam 46.38 189 P **P 17 25 46.1 -1.0**
MTN IAmb IAmb 17 25 47.7
comp=Z,8.9nm,1.2s
J14K Nanvaranak Lak 46.55 33 P **P 17 25 50.2 +2.3**
J14K IAmb IAmb 17 26 17.9
comp=Z,13nm,1.4s
C16K Lisburne Hills 47.21 25 P **P 17 25 54.3 +1.3**
O15K Ungalikthiuk R 47.88 38 P **P 17 26 00.2 +2.0**
F17K Baldwin Pennin 48.27 28 P **P 17 26 03.1 +2.2**
F17K IAmb IAmb 17 26 05.0
comp=Z,13nm,1.3s
L16K Owhat River 48.28 34 P **P 17 26 02.9 +1.7**
L16K IAmb IAmb 17 26 46.5
comp=Z,9.0nm,1.3s
M16K Timber Creek 48.46 35 P **P 17 26 04.4 +1.8**
J17K VABM Dome 48.66 32 P **P 17 26 06.5 +2.4**
J17K IAmb IAmb 17 26 16.6
comp=Z,10nm,1.3s
E18K Tukpahlearik C 48.73 27 P **P 17 26 06.8 +2.4**
E18K IAmb IAmb 17 26 22.4
comp=Z,13nm,1.4s
C18K Utukok River 48.79 25 P **P 17 26 06.8 +1.8**
C18K IAmb IAmb 17 26 14.9
comp=Z,16nm,1.5s
K17K Iditarod 48.94 33 P **P 17 26 08.0 +1.8**
K17K IAmb IAmb 17 26 38.0
comp=Z,15nm,1.5s
H18K Honhosa River 49.21 30 P **P 17 26 10.0 +1.8**
H18K IAmb IAmb 17 26 39.5
comp=Z,15nm,1.4s
N17K Nushagak Hills 49.29 36 P **P 17 26 11.1 +2.3**
C19K Lookout Ridge 49.46 25 P **P 17 26 12.4 +2.3**
GSI Gunungsitoli 49.58 239 P **P 17 26 10.8 -0.8**
D19K Kuna River 49.86 26 P **P 17 26 14.8 +1.7**
D19K IAmb IAmb 17 26 19.1
comp=Z,15nm,1.4s
E19K Redstone River 50.01 27 P **P 17 26 16.4 +2.2**
E19K IAmb IAmb 17 26 17.9
comp=Z,14nm,1.5s
J19K Poorman 50.26 32 P **P 17 26 18.0 +2.0**
J19K IAmb IAmb 17 26 33.2
comp=Z,11nm,1.5s
BVAR Borovoye Array 51.16 314 P **P 17 26 22.7 -0.2**
comp=Z,1.4nm,0.5s,baz=104,slow=6.1,SNR=6.7
comp=Z,1.4nm,0.5s
BORK Borovoye 51.20 314⇓ *e*P **P 17 26 22.9 -0.3**
BORK pmax pmax
comp=Z,5.0nm,1.4s
BPAW Bear Paw Mtn. 52.30 32 P **P 17 26 32.6 +1.4**
KTH Kantishna Hill 52.33 32 P **P 17 26 32.5 +1.1**
KTH IAmb IAmb 17 27 05.4
comp=Z,9.9nm,1.4s
SUA Susitna One 52.44 35 P **P 17 26 34.3 +2.0**
D23K Nanushuk River 52.61 25 P **P 17 26 36.3 +3.0**
D23K IAmb IAmb 17 27 18.8
comp=Z,8.3nm,1.1s
KKAR Karatay Array 52.72 302 P **P 17 26 34.4 -0.2**
KKAR Karatay Array 52.72 302 P **P 17 26 34.4 -0.2**
WB0 Warramunga Arr 52.90 184 P **P 17 26 34.8 -1.2**
TOLK Toolik Lake Re 52.99 26 P **P 17 26 38.0 +1.9**
WRA Warramunga Arr 53.08 184 P **P 17 26 36.1 -1.2**
WRA Warramunga Arr 53.08 184 P **P 17 26 36.4 -0.9**
comp=Z,1.4nm,0.5s,baz=0.8,slow=7.6,SNR=34
WRA PcP **PcP 17 27 42.0 +0.7**
comp=Z,0.3nm,0.7s,baz=2.2,slow=4.3,SNR=1.6
comp=Z,1.4nm,0.5s
WR8 Warramunga Arr 53.08 184 P **P 17 26 36.4 -0.9**
WR8 IAmb IAmb 17 26 46.3
comp=Z,8.9nm,1.4s
RND Reindeer 53.26 32 P **P 17 26 39.5 +1.3**
RND IAmb IAmb 17 26 40.0
comp=Z,7.5nm,1.0s
RND Reindeer 53.26 32 P **P 17 26 39.5 +1.3**
RND pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 53.58 34 P **P 17 26 41.9 +1.5**
SML IAmb IAmb 17 26 55.3
comp=Z,7.2nm,1.1s
SCM Sheep Creek Mo 54.05 34 P **P 17 26 45.7 +1.8**
SCM IAmb IAmb 17 26 46.2
comp=Z,8.2nm,0.8s
SCM Sheep Creek Mo 54.05 34 P **P 17 26 45.7 +1.8**
SCM pmax pmax
comp=Z,8.0nm,0.8s
ILAR Eielson Array 54.06 31 P **P 17 26 44.5 +0.6**
comp=Z,0.8nm,0.8s,baz=284,slow=6.0,SNR=8.0
comp=Z,0.8nm,0.8s
DOT Dot Lake 55.38 32 P **P 17 26 54.3 +1.0**
SCRK Sand Creek 55.38 32 P **P 17 26 54.1 +0.7**
MCARA McCarthy VSAT 56.14 35 P **P 17 27 01.1 +2.5**
MCARA IAmb IAmb 17 27 05.8
comp=Z,7.1nm,1.0s
BCAR Beaver Creek A 56.47 33 P **P 17 27 03.1 +2.1**
ASAR Alice Springs 56.80 185 P **P 17 27 02.9 -0.8**
comp=Z,0.9nm,0.6s,baz=18,slow=10,SNR=39
ASAR PcP **PcP 17 27 56.1 +0.5**
comp=Z,0.2nm,0.8s,baz=1.8,slow=5.3,SNR=4.1
comp=Z,0.9nm,0.6s
ARTI Arti 57.51 320 *c i*P **P 17 27 08.2 -0.1**
ARTI 17 27 56.4
ARTI S **S 17 34 42.6 +1.2**
ARTI SS **SS 17 38 34.0 -2.0**
ARTI pmax pmax
comp=Z,8.0nm,1.4s
ARCES ARCESS Array B 66.52 339 P **P 17 28 08.2 +0.5**
comp=Z,1.8nm,0.7s,baz=58,slow=6.9,SNR=5.9
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 66.52 339 *e*P **P 17 28 09.4 +1.8**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 69.46 323 *e*P **P 17 28 26.9 +0.9**
OBN *e* 17 28 46.5
OBN *e**PP **pP 17 29 34.7 +0.8**
OBN pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 70.84 332 P **P 17 28 34.4 +0.2**
comp=Z,1.5nm,0.4s,baz=54,slow=6.1,SNR=29
comp=Z,1.5nm,0.4s
AKASG Malin Array Be 75.57 322 P **P 17 29 01.3 -0.6**
comp=Z,0.3nm,0.4s,baz=49,slow=6.1,SNR=2.3
comp=Z,0.3nm,0.4s
HFS Hagfors 76.34 335 P **P 17 29 06.1 +0.1**
comp=Z,1.1nm,0.8s,baz=56,slow=7.8,SNR=1.4
comp=Z,1.1nm,0.8s
NOA NORSAR Array B 76.55 336 P **P 17 29 07.1 -0.2**
comp=Z,0.4nm,0.7s,baz=45,slow=5.5,SNR=1.9
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 79.39 51 P **P 17 29 25.1 +1.6**
comp=Z,0.9nm,0.6s,baz=299,slow=6.0,SNR=6.0
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 82.20 43 P **P 17 29 38.9 +0.7**
comp=Z,0.6nm,0.7s,baz=52,slow=3.5,SNR=8.1
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 94.54 51 P **P 17 30 37.1 -0.1**
comp=Z,0.5nm,0.6s,baz=305,slow=4.4,SNR=5.2
comp=Z,0.5nm,0.6s
LPAZ La Paz 150.87 61 PKPbc **PKPbc 17 37 08.4 -0.1**
comp=Z,0.8nm,0.4s,baz=357,slow=5.6,SNR=4.2

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*IDC **21** 17:26:33.1±0.7,33°.48N×81°.46E,h0km,mb4.0/15, mbtmp4.0/17,ML3.4/2,MS3.1/4,Error ellipse: s-maj=24.2km s-min=13.9km az=46.0*
*NEIC **21** 17:26:35.2±1.1,33°.47N±0°.09×81°.41E±0°.08,h10km±1km, mb4.0/13,Error ellipse: s-maj=16.4km s-min=9.7km az=203.0*
*NDI **21** 17:26:39.4±2.4,33°.53N×81°.51E,h15km±44km,ML4.0, MW4.0*
ISC 21 17:26:34.8±0.5,33°.51N±0°.04×81°.42E±0°.04,h10km,n64, σ1§90/72,mb4.1/17,MS3.1/3,Xizang

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**3.34**	**209**	*e*P	**Pb**	**17 27 33.6**	**-0.7**
JOSI				*e*S	**Sb**	**17 28 11.0**	**-4.1**
JOSI				IAML		17 28 23.9	
	comp=E,632nm,1.0s						
JOSI				IAML		17 28 28.5	
	comp=N,624nm,0.6s						
ALCI	**Alchi Leh**	**3.59**	**282**	*e*P	**Pb**	**17 27 36.4**	**-2.4**
LGTI	**Lohaghat**	**4.17**	**194**	*e*P	**Pb**	**17 27 44.8**	**-3.4**
LGTI				*e*S	**Sn**	**17 28 30.8**	**+3.6**
LGTI				IAML		17 28 38.7	
	comp=N,417nm,0.5s						
LGTI				IAML		17 28 42.2	
	comp=E,612nm,1.2s						
DDI	**Dehra Dun**	**4.27**	**223**	*e*P	Pn	17 27 44.8	+4.8
DDI				*e*S	**Sn**	**17 28 32.0**	**+2.0**
DDI				IAML		17 28 42.2	
	comp=N,377nm,0.2s						
DDI				IAML		17 28 43.7	
	comp=E,310nm,0.7s						
SMLA	**Simla**	**4.31**	**238**	*e*P	**Pn**	**17 27 44.8**	**+4.3**
SMLA				*e*S	**Sn**	**17 28 33.5**	**+2.7**
SMLA				IAML		17 28 37.7	
	comp=E,287nm,0.6s						
SMLA				IAML		17 28 38.9	
	comp=N,359nm,0.7s						
TSSA	**Tissa**	**4.47**	**263**	*e*P	**Pn**	**17 27 47.1**	**+4.3**
TSSA				*e*S	**Sn**	**17 28 37.8**	**+2.8**
TSSA				IAML		17 28 46.7	
	comp=N,598nm,0.6s						
TSSA				IAML		17 28 47.2	
	comp=E,664nm,0.7s						
DHRM	**DHARAMSHALA**	**4.49**	**255**	*e*P	Pn	17 27 48.1	+5.0
DHRM				*e*S	**Sn**	**17 28 38.4**	**+2.9**
DHRM				IAML		17 28 46.2	
	comp=E,450nm,0.1s						
DHRM				IAML		17 28 50.6	
	comp=N,334nm,0.1s						
BHK	**Bhakra**	**4.71**	**245**	*e*P	**Pn**	**17 27 46.7**	**+0.6**
BHK				*e*S	**Sn**	**17 28 34.3**	**-6.5**
BHK				IAML		17 28 49.5	
	comp=N,299nm,0.6s						
BHK				IAML		17 28 52.8	
	comp=E,361nm,0.5s						
DANN	**Dangsing**	**5.52**	**158**	Pn	**Pn**	**17 27 59.1**	**+1.7**
	baz=160,slow=0.0						
DANN				Sn	**Sn**	**17 29 05.7**	**+4.6**
	baz=160,slow=0.0						
JMU	**Jammu**	**5.53**	**264**	*e*P	**Pn**	**17 28 00.0**	**+2.8**
JMU				*e*S	**Sn**	**17 29 03.6**	**+2.8**
JMU				IAML		17 29 15.0	
	comp=N,142nm,0.6s						
JMU				IAML		17 29 15.2	
	comp=E,137nm,0.4s						
GKN	**Gorkha**	**6.14**	**152**	Pn	**Pn**	**17 28 07.8**	**+2.0**
	baz=155,slow=0.0						
KKN	**Kakani**	**6.60**	**149**	Pn	**Pn**	**17 28 14.2**	**+2.1**
	baz=151,slow=0.0						
KKN				Sn	**Sn**	**17 29 28.8**	**+1.3**
	baz=151,slow=0.0						
DMN	**Daman**	**6.68**	**151**	Pn	**Pn**	**17 28 14.8**	**+1.5**
	baz=153,slow=0.0						
DMN				Sn	**Sn**	**17 29 31.9**	**+2.2**
	comp=E,36nm,0.8s,baz=153,slow=0.0						
GUN	**Gumba**	**6.77**	**144**	Pn	**Pn**	**17 28 16.3**	**+1.7**
	baz=147,slow=0.0						
NIL	**Nilore**	**6.82**	**273**		**Pn**	**17 28 15.8**	**+0.9**
PKI	**Pulchoki**	**6.84**	**149**	Pn	**Pn**	**17 28 16.8**	**+1.2**
	baz=151,slow=0.0						
PKI				Sn	**Sn**	**17 29 36.2**	**+2.5**
	baz=151,slow=0.0						
EVN	**Everest**	**7.22**	**139**		**Pn**	**17 28 22.1**	**+1.0**
RAMN	**Ramite**	**7.92**	**144**	Pn	**Pn**	**17 28 31.3**	**+1.0**
	baz=147,slow=0.0						
RAMN				Sn	**Sn**	**17 30 00.1**	**-0.1**
	comp=E,39nm,0.8s,baz=147,slow=0.0						
ODAN	**Odare**	**8.40**	**140**	Pn	**Pn**	**17 28 37.6**	**+0.7**
	baz=143,slow=0.0						
ODAN				Sn	**Sn**	**17 30 11.5**	**-0.4**
	baz=143,slow=0.0						
TARG	**Taragay, Kyrgy**	**8.69**	**342**	Pn	**Pn**	**17 28 43.7**	**+2.7**
LSA	**Lhasa**	**9.12**	**112**	Pn	**Pn**	**17 28 45.8**	**-1.3**
BOOM	**Boomskoye usch**	**9.95**	**336**	Pn	**Pn**	**17 28 58.9**	**+0.8**
GAR	**Garm**	**10.51**	**305**		**Pn**	**17 29 05.6**	**0.0**
AAK	**Ala-Archa**	**10.62**	**331**	LR	LR	17 33 54.0	
	comp=E,32nm,19.2s,baz=140,slow=41						
CHGR	**Chuyangaron**	**11.17**	**301**	Pn	**Pn**	**17 29 14.8**	**+0.1**
WMQ	**Urumqi**	**11.40**	**24**	*e*P	Pn	17 29 26.0	+8.2
KK31	**Karatay Array**	**12.84**	**321**		**Pn**	**17 29 36.3**	**-1.1**
KKAR	**Karatay Array**	**12.84**	**321**	Pn	**Pn**	**17 29 38.5**	**+1.1**
MKAR	**Makanchi Array**	**13.29**	**3**	Pn	**Pn**	**17 29 43.3**	**-0.2**
MKAR	**Makanchi Array**	**13.29**	**3**	Pn	**Pn**	**17 29 43.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=177,slow=13,SNR=7.6						
	comp=E,0.9nm,0.5s						
MAKZ	**Makanchi**	**13.29**	**2**	Pn	**Pn**	**17 29 43.8**	**+0.2**
GTA	**Gaotai**	**15.92**	**63**	*e*P	**P**	**17 30 23.6**	**+0.9**
GTA				sP	sP	17 30 29.6	+0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KURBB	**Kurchatov Arra**	**17.23**	**354**	P	**Pn**	**17 30 35.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=173,slow=10,SNR=7.7						
	comp=Z,1.1nm,0.2s						
KURK	**Kurchatov**	**17.32**	**354**	Pn	**Pn**	**17 30 36.4**	**-0.2**
KURK				IAmb	IAmb	17 30 46.1	
	comp=Z,6.7nm,1.1s						
ZAA0	**Zalesovo Array**	**20.58**	**6**		**P**	**17 31 15.1**	**+1.4**
ZAA0				IAmb	IAmb	17 31 22.6	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**20.58**	**6**		**P**	**17 31 14.3**	**+0.7**
ZALV	**Zalesovo Beam**	**20.58**	**6**	P	**P**	**17 31 13.3**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=188,slow=9.9,SNR=14						
	comp=Z,3.2nm,0.7s						
BVAR	**Borovoye Array**	**21.05**	**341**	P	**P**	**17 31 19.0**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=134,slow=8.3,SNR=7.7						
	comp=Z,6.9nm,0.7s						
CHTO	**Chiang Mai**	**21.43**	**129**		**P**	**17 31 22.2**	**-1.0**
CHTO				IAmb	IAmb	17 31 26.8	
	comp=Z,4.3nm,0.9s						
CM31	**Chiang Mai Arr**	**21.69**	**129**	P	**P**	**17 31 25.2**	**-0.8**
CM31				IAmb	IAmb	17 31 26.4	
	comp=Z,7.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.69**	**129**	P	**P**	**17 31 25.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**21.69**	**129**	P	**P**	**17 31 25.6**	**-0.4**
	comp=Z,6.1nm,0.6s,baz=310,slow=11,SNR=74						
	comp=Z,6.1nm,0.6s						
AB31	**Akbulak array**	**22.41**	**321**		**P**	**17 31 33.5**	**+0.1**
AB31				IAmb	IAmb	17 31 40.3	
	comp=Z,4.1nm,0.9s						
ABKAR	**Akbulak array**	**22.41**	**321**		**P**	**17 31 33.5**	**+0.1**
SONM	**Songino Array**	**23.61**	**45**	P	**P**	**17 31 46.7**	**+0.7**
SONM	**Songino Array**	**23.61**	**45**	P	**P**	**17 31 46.2**	**+0.3**
	comp=Z,2.0nm,1.1s,baz=239,slow=9.6,SNR=6.8						
	comp=Z,2.0nm,1.1s						
KSRS	**Korea Array**	**37.78**	**70**	P	**P**	**17 33 50.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=280,slow=8.7,SNR=1.6						
	comp=Z,0.5nm,0.7s						
MMAI	**Mount Meron Ar**	**38.24**	**282**	LR	LR	17 52 52.3	
	comp=Z,27nm,18.3s,baz=244,slow=41						
AKASG	**Malin Array Be**	**41.43**	**311**	P	**P**	**17 34 22.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=80,slow=8.1,SNR=6.6						
	comp=Z,0.3nm,0.3s						
ELL	**Elmali**	**41.84**	**290**	P	**P**	**17 34 24.9**	**-0.2**
MLR	**Muntele Rosu**	**43.64**	**303**		**P**	**17 34 39.9**	**+0.2**
MLR				IAmb	IAmb	17 34 47.6	
	comp=Z,5.7nm,1.0s						
BURAR	**Bucovina Array**	**44.02**	**306**	P	**P**	**17 34 43.5**	**+0.8**
FINES	**FINESS Array B**	**44.75**	**326**	P	**P**	**17 34 48.5**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=108,slow=8.5,SNR=8.1						
	comp=Z,1.5nm,0.6s						
ARCES	**ARCESS Array B**	**47.23**	**337**	P	**P**	**17 35 06.4**	**-1.2**
	comp=Z,4.4nm,1.0s,baz=107,slow=8.7,SNR=1.5						
	comp=Z,4.4nm,1.0s						
DAV	**Davao City (W)**	**48.54**	**113**	LR	LR	17 55 49.9	
	comp=Z,38nm,19.5s,baz=148,slow=36						
TOLI2	**Tolitoli**	**48.97**	**123**	P	**P**	**17 35 20.9**	**-0.8**
HFS	**Hagfors**	**50.64**	**323**	P	**P**	**17 35 33.7**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=99,slow=9.6,SNR=4.4						
	comp=Z,1.6nm,0.7s						
GERES	**GERESS Array B**	**51.55**	**309**	P	**P**	**17 35 41.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=72,slow=4.3,SNR=5.7						
	comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B**	**51.85**	**324**	P	**P**	**17 35 42.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=89,slow=7.1,SNR=3.6						
NOA				LR	LR	17 58 47.0	
	comp=Z,18nm,18.7s,baz=260,slow=37						
	comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**66.34**	**303**	P	**P**	**17 37 24.0**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=86,slow=7.0,SNR=4.6						
	comp=Z,0.8nm,0.9s						
WRA	**Warramunga Arr**	**73.28**	**128**	P	**P**	**17 38 05.7**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=324,slow=6.2,SNR=35						
	comp=Z,3.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.37**	**276**	P	**P**	**17 38 13.2**	**0.0**
	comp=Z,2.4nm,0.3s,baz=47,slow=6.2,SNR=6.1						
	comp=Z,2.4nm,0.3s						
ASAR	**Alice Springs**	**75.69**	**131**	P	**P**	**17 38 20.2**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=319,slow=5.9,SNR=111						
	comp=Z,2.8nm,0.5s						
QSPA	**South Pole Qui**	**123.30**	**180**	PKP	**PKiKP**	**17 45 31.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=128,slow=7.4,SNR=1.8						

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*IDC **21** 17:45:43.7±1.9,16°.41S×121°.33E,h0km,mb3.4/1, mbtmp3.7/6,ML3.6/4,Error ellipse: s-maj=38.6km s-min=23.0km az=40.0*
*AUST **21** 17:45:45.2±0.3,16°.5S±3°×12°1E±°,h10km,ML3.2/5,Error ellipse: s-maj=9.0km s-min=6.7km az=78.2*
ISC 21 17:45:44.2±0.8,16°.23S±0°.05×121°.35E±0°.06,h10km,n29, σ2§33/32,Western Australia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.92**	**154**	P	**Pn**	**17 46 20.8**	**+4.0**
CAAN	**Eighty Mile Be**	**3.02**	**177**	P	**Pn**	**17 46 36.5**	**+4.4**
CAAN				S	**Sn**	**17 47 11.1**	**+2.6**
FITZ	**Fitzroy Crossi**	**4.50**	**115**	P	**Pn**	**17 46 54.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**4.50**	**115**	S	**Sn**	**17 47 44.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**4.50**	**115**	Pn	**Pn**	**17 46 54.5**	**+2.0**
	0.8nm,0.3s,baz=296,slow=9.3,SNR=126						
FITZ				Sn	**Sn**	**17 47 44.4**	**-0.6**
	4.9nm,0.3s,baz=151,slow=19,SNR=6.2						
	2.4nm,0.3s						
MBWA	**Marble Bar**	**5.14**	**197**	P	**Pn**	**17 47 04.6**	**+3.3**
MBWA				S	**Sn**	**17 47 58.8**	**-1.9**
PSAC1	**Pilbara Seismi**	**5.48**	**195**	P	**Pn**	**17 47 08.2**	**+2.3**
PSAC1				S	**Sn**	**17 48 05.8**	**-3.2**
PSA00	**Pilbara Seismi**	**5.50**	**195**	P	**Pn**	**17 47 09.0**	**+2.7**
PSA00				S	**Sn**	**17 48 06.7**	**-3.0**
BATI	**Baumata**	**6.39**	**21**	Pn	**Pn**	**17 47 20.7**	**+2.2**
	3.3nm,0.3s,baz=220,slow=13,SNR=2.4						
BATI				Sn	**Sn**	**17 48 30.0**	**-1.6**
	2.7nm,0.3s,baz=322,slow=22,SNR=2.1						
	9.6nm,0.4s						
SOEI	**Soe**	**7.03**	**24**	P	Pn	17 47 24.0	-3.4
KNRA	**Kununurra**	**7.15**	**87**	P	**Pn**	**17 47 30.8**	**+1.9**
MMRI	**Maumere**	**7.59**	**7**	P	**Pn**	**17 47 34.6**	**-0.4**
PLAI	**Plampang**	**8.14**	**334**	P	**Pn**	**17 47 41.0**	**-1.5**
TWSI	**Taliwang, Sumb**	**8.63**	**329**	P	**Pn**	**17 47 47.5**	**-1.6**
GIRL	**Giralia**	**9.26**	**225**	P	**Pn**	**17 47 59.6**	**+1.8**
DRS	**Darwin Rock St**	**9.99**	**69**	P	**Pn**	**17 48 08.4**	**+0.6**
MTN	**Manton Dam**	**10.05**	**72**	P	**Pn**	**17 48 09.3**	**+0.7**
MEEK	**Meekatharra**	**10.67**	**193**	P	**Pn**	**17 48 18.7**	**+1.5**
AUKAT	**Katherine High**	**10.69**	**82**	P	**Pn**	**17 48 18.5**	**+1.1**
WRKA	**Warakurna**	**10.91**	**145**	P	**Pn**	**17 48 22.1**	**+1.6**
KDU	**Kakadu**	**11.33**	**73**	P	**Pn**	**17 48 26.3**	**+0.1**
LAROZ	**Larrimah, NT**	**11.43**	**88**	P	**Pn**	**17 48 28.2**	**+0.6**
WRA	**Warramunga Arr**	**12.89**	**109**	Pn	**Pn**	**17 48 46.8**	**-0.8**
	0.6nm,0.3s,baz=281,slow=15,SNR=34

baz=104,slow=75,SNR=5.9
MKAR Makanchi Array 71.90 333 P P 17 57 09.5 +2.0
0.2nm,0.4s,baz=157,slow=6.3,SNR=1.6
0.2nm,0.4s

*IDC **21** 17:51:14.6±0.9,2°.29N×126°.48E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=53.4km s-min=15.5km az=69.0*
*DJA **21** 17:51:19.3±0.8,2°N±2°×12°7E±°, h13km±7km, M3.8/10, MLv3.8/10*
ISC 21 17:51:21.7±0.8, 2°.38N±0°.08×126°.7E±0°.1, h55km, n13, σ1°.09/15, mb3.7/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.72**	**319**	P	**Pn**	**17 51 48.7**	**-0.6**
SGSI				S	**Sn**	**17 52 10.8**	**+0.5**
TNTI	**Ternate**	**1.75**	**156**	P	**Pn**	**17 51 50.8**	**+1.2**
KMSI	**Cibinong**	**3.23**	**236**	P	**Pn**	**17 52 11.5**	**+1.6**
SANI	**Sanana**	**4.45**	**189**	P	**Pn**	**17 52 25.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**20.38**	**183**	P	**P**	**17 55 52.3**	**-1.7**
	1.5nm,0.8s,baz=16,slow=7.4,SNR=2.3						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**23.43**	**162**	P	**P**	**17 56 24.8**	**-1.4**
	1.4nm,0.5s,baz=339,slow=11,SNR=8.5						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**26.83**	**165**	P	**P**	**17 56 56.1**	**-1.1**
	0.3nm,0.5s,baz=349,slow=14,SNR=5.2						
ASAR				PcP	**PcP**	**18 00 19.6**	**+0.7**
	0.1nm,0.4s,baz=342,slow=2.1,SNR=5.1						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.52**	**302**	P	**P**	**17 57 38.2**	**-0.6**
	0.9nm,0.7s,baz=114,slow=7.0,SNR=9.5						
	0.9nm,0.7s						
KSRS	**Korea Array**	**34.92**	**2**	P	**P**	**17 58 09.2**	**+1.0**
	0.8nm,0.7s,baz=180,slow=9.8,SNR=5.1						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**36.90**	**159**	P	**P**	**17 58 25.8**	**+0.5**
	1.1nm,0.6s,baz=290,slow=6.4,SNR=2.8						
	1.1nm,0.6s						
SONM	**Songino Array**	**48.55**	**342**	P	**P**	**17 59 60.0**	**+0.4**
	0.4nm,0.6s,baz=169,slow=8.1,SNR=2.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.62**	**326**	P	**P**	**18 01 12.8**	**-0.4**
	0.5nm,0.4s,baz=118,slow=7.6,SNR=9.4						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.84**	**328**	P	**P**	**18 01 41.7**	**0.0**
	0.7nm,0.6s,baz=126,slow=6.3,SNR=7.5						
	0.7nm,0.6s						

DJA 21 17:56:24.8±0.2, 1°S±2°×12°2E±°, h10km, M4.1/15, mB4.8/1, mb4.3/4, MLv3.9/15, Mw(mB)4.1/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.23**	**167**	P	Pg	17 56 29.3	-0.2
MRSI	**Marisa**	**1.21**	**16**	P	Pn	17 56 45.7	-2.1
MRSI				S	Sn	17 57 05.0	+0.8
LUWI	**Luwuk**	**1.22**	**107**	P	Pg	17 56 48.4	+0.1
LUWI				S	Sn	17 57 05.0	+0.4
MPSI	**Mapaga**	**1.98**	**301**	P	Pn	17 56 57.6	-0.9
KMSI	**Cibinong**	**2.69**	**62**	P	Pn	17 57 08.9	+0.7
KMSI				S	Sn	17 57 42.9	+2.0
KDI	**Kendari**	**3.40**	**163**	P	Pn	17 57 17.8	-0.2
SPSI	**Sidrap Palu**	**3.73**	**209**	P	Pn	17 57 23.4	+0.9
BNSI	**Bone**	**3.98**	**202**	P	Pn	17 57 27.1	+1.2
SANI	**Sanana**	**4.59**	**107**	P	Pn	17 57 32.4	-1.9
BKSI	**Bulukumba**	**4.83**	**198**	P	Pn	17 57 37.8	+0.2
BBSI	**Bau Bau**	**4.86**	**169**	P	Pn	17 57 38.4	+0.3
BSSI	**Bau Bau, Buton**	**5.53**	**192**	P	Pn	17 57 47.5	+0.3
	63nm,1.5s						
NLAI	**Namlea**	**6.05**	**115**	P	Pn	17 57 53.8	-0.6
	0.1nm825nm20nm,0.5s						

*NOU **21** 18:02:12.6, 44°.89S×167°.89E, h32km, MLv3.9/10, South Island, New Zealand*
*WEL **21** 18:02:13.0±0.7, 45°S±4°×16°8E±°, h53km±9km, M3.8/13, ML3.9/9, MLv3.8/13, Error ellipse: s-maj=7.2km s-min=4.9km az=123.7, confirmed*
ISC 21 18:02:11.3±1.5, 44°.90S±0°.04×167°.74E±0°.05, h84km±9km, n53, σ0°.94/60, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.26**	**30**	P	**Pn**	**18 02 23.8**	**-0.1**
MSZ				S	**Sn**	**18 02 32.9**	**-0.3**
GLNY	**Glenorchy**	**0.47**	**86**	P	**Pn**	**18 02 25.4**	**+0.1**
TAFS	**Te Anau Fire S**	**0.52**	**182**	P	**Pn**	**18 02 25.4**	**-0.2**
MLZ	**Mavora Lakes**	**0.54**	**151**	P	**Pn**	**18 02 25.7**	**-0.1**
MLZ				S	**Sn**	**18 02 36.0**	**-0.7**
DCZ	**Deep Cove**	**0.70**	**216**	P	**Pn**	**18 02 26.2**	**-1.2**
MOSS	**Mossburn Schoo**	**0.85**	**156**	P	**Pn**	**18 02 29.3**	**+0.4**
WKZ	**Wanaka**	**0.91**	**86**	P	**Pn**	**18 02 30.6**	**+1.0**
WHZ	**Wether Hill Ro**	**1.01**	**172**	P	**Pn**	**18 02 30.5**	**-0.2**
RLNS	**Resolution Isl**	**1.09**	**223**	P	**Pn**	**18 02 30.9**	**-0.9**
JCZ	**Jackson Bay**	**1.11**	**43**	P	**Pn**	**18 02 32.4**	**+0.3**
JCZ	**Jackson Bay**	**1.11**	**43**	P	**Pn**	**18 02 32.3**	**+0.3**
JCZ				S	**Sn**	**18 02 49.6**	**+2.0**
EAZ	**Earnscleugh**	**1.16**	**107**	P	**Pn**	**18 02 33.6**	**+1.1**
EAZ				S	**Sn**	**18 02 48.7**	**+0.3**
MECS	**Makarora Emerg**	**1.26**	**58**	P	**Pn**	**18 02 35.0**	**+1.3**
RRKS	**Rarakau**	**1.27**	**189**	P	**Pn**	**18 02 34.0**	**+0.2**
ORPS	**Orepuki**	**1.39**	**179**	P	**Pn**	**18 02 35.6**	**+0.2**
PYZ	**Puysegur Point**	**1.47**	**210**	P	**Pn**	**18 02 36.9**	**+0.5**
PYZ	**Puysegur Point**	**1.47**	**210**	S	**Sn**	**18 02 57.5**	**+2.1**
PYZ	**Puysegur Point**	**1.47**	**210**	P	**Pn**	**18 02 36.6**	**+0.2**
TUZ	**Tuapeka**	**1.70**	**129**	P	**Pn**	**18 02 40.2**	**+0.9**
TUZ				S	**Sn**	**18 03 00.1**	**-0.5**
TWAS	**Twizel Area Sc**	**1.80**	**70**	P	**Pn**	**18 02 41.1**	**+0.4**
LBZ	**Lake Benmore**	**1.82**	**75**	P	**Pn**	**18 02 41.0**	**+0.1**
LBZ				S	**Sn**	**18 03 02.7**	**-0.7**
SYZ	**Scrubby Hill**	**1.91**	**150**	P	**Pn**	**18 02 42.2**	**+0.1**
SYZ	**Scrubby Hill**	**1.91**	**150**	S	**Sn**	**18 03 05.4**	**-0.1**
SYZ	**Scrubby Hill**	**1.91**	**150**	P	**Pn**	**18 02 42.4**	**+0.3**
APZ	**The Paps**	**1.94**	**175**	P	**Pn**	**18 02 42.5**	**-0.1**
FOZ	**Fox Glacier**	**2.02**	**48**	P	**Pn**	**18 02 43.2**	**-0.4**
ODZ	**Otahua Downs**	**2.06**	**95**	P	**Pn**	**18 02 44.2**	**+0.1**
ODZ	**Otahua Downs**	**2.06**	**95**	S	**Sn**	**18 03 07.5**	**-1.7**
ODZ	**Otahua Downs**	**2.06**	**95**	P	**Pn**	**18 02 44.4**	**+0.3**
ODZ				S	**Sn**	**18 03 07.2**	**-2.0**
HHSZ	**Highcliff Hill**	**2.24**	**117**	P	**Pn**	**18 02 47.6**	**+1.1**
TMZ	**Timaru**	**2.38**	**79**	P	**Pn**	**18 02 48.1**	**-0.4**
ARCZ	**Arundel**	**2.64**	**70**	P	**Pn**	**18 02 51.1**	**-0.8**
RPZ	**Rata Peaks**	**2.65**	**65**	P	**Pn**	**18 02 51.5**	**-0.6**
RPZ	**Rata Peaks**	**2.65**	**65**	S	**Sn**	**18 03 22.7**	**-0.7**
RPZ	**Rata Peaks**	**2.65**	**65**	P	**Pn**	**18 02 51.5**	**-0.6**
WVZ	**Waitaha Valley**	**2.83**	**51**	P	**Pn**	**18 02 54.0**	**-0.3**
MHCZ	**Mount Hutt**	**3.07**	**65**	P	**Pn**	**18 02 56.6**	**-1.1**
OXZ	**Oxford**	**3.47**	**65**	P	**Pn**	**18 03 02.1**	**-0.9**
AKCZ	**Akaroa Harbour**	**3.84**	**76**	P	**Pn**	**18 03 07.4**	**-0.7**
LTZ	**Lake Taylor**	**3.90**	**59**	P	**Pn**	**18 03 07.2**	**-1.7**
AMCZ	**Amberley**	**3.93**	**66**	P	**Pn**	**18 03 08.4**	**-1.0**
OKCZ	**Okains Bay**	**3.99**	**75**	P	**Pn**	**18 03 10.1**	**0.0**
GVZ	**Greta Valley S**	**4.28**	**65**	P	**Pn**	**18 03 12.9**	**-1.2**
DSZ	**Denniston Nort**	**4.32**	**45**	P	**Pn**	**18 03 14.2**	**-0.5**
THZ	**Tophouse**	**4.90**	**52**	P	**Pn**	**18 03 21.2**	**-1.3**
MRNZ	**Matariki Terra**	**5.07**	**48**	P	**Pn**	**18 03 24.8**	**0.0**
QRZ	**Quartz Range**	**5.38**	**42**	P	**Pn**	**18 03 28.6**	**-0.4**
QRZ	**Quartz Range**	**5.38**	**42**	P	**Pn**	**18 03 28.5**	**-0.4**
TKNZ	**Takaka Hill**	**5.44**	**47**	P	**Pn**	**18 03 30.6**	**+0.8**
NNZ	**Nelson**	**5.53**	**50**	P	**Pn**	**18 03 31.9**	**+0.9**
TUWZ	**Tuamarina**	**5.71**	**55**	P	**Pn**	**18 03 34.7**	**+1.3**
TCW	**Tory Channel**	**6.04**	**55**	P	**Pn**	**18 03 40.4**	**+2.4**
DUWZ	**D'Urville Isla**	**6.11**	**50**	P	**Pn**	**18 03 40.7**	**+1.7**

*NEIC **21** 18:11:28.2±2.0, 31°.43N±0°.08×51°.3E±0°.2, h10km±1km, mb4.2/8, Error ellipse: s-maj=25.3km s-min=6.8km az=238.0*
*IDC **21** 18:11:28.3±5.3, 31°.51N×51°.08E, h0km, mb4.0/6, mbtmp3.9/7, ML3.2/1, Error ellipse: s-maj=108.0km s-min=41.6km az=116.0*
*TEH **21** 18:11:28.1, 31°.47N×51°.34E, h5km*
*OMAN **21** 18:11:37.0±0.4, 30°.75N×51°.44E, h10km, mb4.7/12, ms2.3/3, Error ellipse: s-maj=7.2km s-min=1.2km az=7.0*
ISC 21 18:11:28.0±0.6, 31°.42N±0°.03×51°.37E±0°.04, h10km, n68, σ2°.64/87, mb4.0/9, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.45**	**155**	Pg	**Pg**	**18 11 38.2**	**+1.2**
KLNJ				Sg	**Sb**	**18 11 46.5**	**+1.2**
IBRJ	**Brojen**	**0.50**	**349**	Pg	**Pg**	**18 11 37.2**	**-0.6**
ZNGN	**Zangian**	**0.82**	**328**	Pg	**Pg**	**18 11 43.5**	**-0.5**
ZNGN				Sg	**Sg**	**18 11 56.6**	**+1.8**
IRAM	**Ramesheh**	**0.95**	**66**	Pg	**Pg**	**18 11 47.1**	**+0.8**
JHBN	**Jahan bin**	**1.01**	**324**	Pg	**Pg**	**18 11 46.8**	**-0.6**
IGAR	**Gharneh**	**1.14**	**30**	Pg	**Pn**	**18 11 50.2**	**0.0**
ABEH	**Behbahan**	**1.26**	**230**	Pg	**Pg**	**18 11 54.1**	**+1.9**
IPIR	**Pirpir**	**1.32**	**342**	Pg	**Pn**	**18 11 53.9**	**+1.0**
IZEF	**Zefreh**	**1.68**	**29**	Pg	**Pn**	**18 12 01.1**	**+3.3**
KAZ2	**Kazeron-Fars-I**	**1.82**	**172**	Pn	**Pb**	**18 12 03.2**	**+1.7**
IKLH	**Kolahrood**	**1.90**	**5**	Pn	**Pn**	**18 12 03.3**	**+2.4**
SHI	**Shiraz**	**2.03**	**151**	Pn	**Pb**	**18 12 06.4**	**+1.3**
QAMS	**Qamsar**	**2.31**	**1**	Pn	**Pn**	**18 12 09.2**	**+2.7**
ANAR	**Anarak**	**2.67**	**48**	Pn	**Pn**	**18 12 15.2**	**+4.0**
ICHK	**Chekchek**	**2.71**	**72**	Pn	**Pn**	**18 12 15.8**	**+3.8**
ISFB	**Sefidab**	**3.02**	**14**	Pn	**Pn**	**18 12 18.6**	**+2.7**
BDRS	**Dareh Seyedi**	**3.28**	**321**	Pn	**Pn**	**18 12 22.3**	**+2.5**
IQOM	**Qom**	**3.42**	**356**	Pn	**Pn**	**18 12 24.0**	**+2.3**
IVRN	**Varamin**	**3.58**	**5**	Pn	**Pn**	**18 12 26.5**	**+2.8**
IBAF	**Bafgh**	**3.59**	**86**	Pn	**Pn**	**18 12 28.0**	**+4.1**
HAGD	**Aghdareh**	**3.87**	**332**	Pn	**Pn**	**18 12 29.6**	**+1.7**
KBD	**Kabd**	**3.89**	**236**	P	**Pn**	**18 12 31.1**	**+3.3**
KBD				S	**Sn**	**18 13 16.4**	**+2.9**
IDMV	**Damavand**	**4.18**	**7**	Pn	**Pn**	**18 12 35.0**	**+2.8**
HGHA	**Hamedan- Ghaye**	**4.57**	**333**	Pn	**Pn**	**18 12 39.4**	**+2.0**
SNQR	**Sonqor, Kerman**	**4.65**	**319**	Pn	**Pn**	**18 12 40.2**	**+1.6**
TPRV	**Parvadeh(Tabas**	**4.78**	**69**	Pn	**Pn**	**18 12 44.2**	**+3.9**
NGRK	**Negar Kerman**	**4.95**	**110**	Pn	**Pn**	**18 12 47.2**	**+4.3**
IGHG	**Ghaleghazi**	**4.97**	**307**	Pn	**Pn**	**18 12 45.7**	**+2.7**
TKDS	**Koohdasht(Taba**	**5.33**	**64**	Pn	**Pn**	**18 12 51.8**	**+4.0**
SAKB	**Bahrain**	**5.47**	**188**	P	**Pn**	**18 12 52.2**	**+2.6**
SAKB				S	**Sn**	**18 13 47.7**	**-4.9**
SHMA	**Al-Shehemyia**	**5.55**	**184**	P	**Pn**	**18 12 52.0**	**+1.2**
	SNR=22						
SMRA	**Abu-Samra**	**6.67**	**184**	P	**Pn**	**18 13 07.5**	**+1.5**
	SNR=6.0						
SMRA				S	**Sn**	**18 14 15.9**	**-6.2**
BANOM	**Banah**	**6.98**	**140**	P	**Pn**	**18 13 11.0**	**+0.6**
BANOM				S	**Sn**	**18 14 23.9**	**-6.0**
MASF	**Masafi**	**7.36**	**144**	P	**Pn**	**18 13 17.0**	**+1.5**
	SNR=5.3						
MASF				S	**Sn**	**18 14 32.7**	**-6.5**
NAZ	**Nazwa, Dubai**	**7.44**	**148**	P	**Pn**	**18 13 18.7**	**+2.0**
MDH	**Madha**	**7.49**	**143**	P	**Pn**	**18 13 18.1**	**+0.8**
MDH				S	**Sn**	**18 14 38.7**	**-3.6**
UOSS	**Minazif**	**7.73**	**145**	Pn	**Pn**	**18 13 20.8**	**+0.1**
UOSS				Sn	**Sn**	**18 14 45.6**	**-2.8**
UOSS	**Minazif**	**7.73**	**145**	P	**Pn**	**18 13 22.8**	**+2.1**
UOSS				P	**Pn**	**18 13 22.8**	**+2.1**
UOSS				S	Sn	18 14 41.2	-7.2
UOSS				S	Sn	18 14 41.2	-7.2
HATD	**Hatta, Dubai**	**7.80**	**146**	P	**Pn**	**18 13 23.6**	**+1.9**
HATD				P	**Pn**	**18 13 23.6**	**+1.9**
HATD				S	**Sn**	**18 14 48.0**	**-2.0**
HATD				S	**Sn**	**18 14 48.0**	**-2.0**
ASHO	**Ashiyiah**	**7.88**	**147**	P	**Pn**	**18 13 24.2**	**+1.3**
	SNR=8.0						
ASHO				S	**Sn**	**18 14 50.4**	**-1.8**
ALNE	**Al Ain**	**8.30**	**151**	P	**Pn**	**18 13 29.8**	**+1.3**
ALNE				S	Sn	18 14 54.7	-7.6
SOHO	**SOHO**	**8.58**	**147**	P	**Pn**	**18 13 32.7**	**+0.4**
SOHO				P	**Pn**	**18 13 32.7**	**+0.4**
SOHO				S	**Sn**	**18 15 05.7**	**-3.5**
SOHO				S	**Sn**	**18 15 05.7**	**-3.5**
MZR	**Muzera**	**8.59**	**167**	P	**Pn**	**18 13 33.2**	**+0.7**
MZR				S	**Sn**	**18 15 06.6**	**-2.9**
ARQ	**Araqi**	**9.26**	**149**	P	**Pn**	**18 13 41.8**	**+0.1**
	SNR=5.2						
ARQ				S	**Sn**	**18 15 21.1**	**-4.9**
UMZA	**Um Al Zommool**	**9.31**	**158**	P	**Pn**	**18 13 41.8**	**-0.5**
UMZA				S	**Sn**	**18 15 24.0**	**-3.0**
RAYN	**Ar Rayn**	**9.43**	**215**		**Pn**	**18 13 43.8**	**-0.3**
SMDO	**Samad**	**10.23**	**143**	P	**Pn**	**18 13 54.9**	**-0.2**
SMDO				S	**Sn**	**18 15 44.9**	**-5.0**
WSAR	**Wadi Sarin**	**10.39**	**140**	P	**Pn**	**18 13 58.2**	**+1.0**
WSAR				S	**Sn**	**18 15 49.9**	**-3.9**
MARD	**Mardin**	**10.54**	**307**		Pn	18 13 57.0	-2.3
MHTO	**MHTO**	**11.96**	**149**	P	**Pn**	**18 14 18.1**	**-0.5**
MHTO				S	**Sn**	**18 16 25.3**	**-6.7**
DOK	**Doka**	**12.99**	**168**	P	**Pn**	**18 14 31.9**	**-0.8**
DOK				S	Sn	18 16 49.4	-8.0
WHFO	**Wadi Hawf**	**13.62**	**170**	P	**Pn**	**18 14 40.0**	**-1.4**
	SNR=18						
DMTO	**DMTO**	**14.02**	**166**	P	**Pn**	**18 14 44.9**	**-2.0**
DMTO				⇑S	Sn	18 17 14.5	-8.1
BRTR	**Keskin Array B**	**16.62**	**305**	Pn	**Pn**	**18 15 21.8**	**+0.6**
	0.1nm,0.3s,baz=122,slow=13,SNR=4.3						
	0.6nm,0.7s						
ITM	**Ithomi**	**24.93**	**291**	P	**P**	**18 16 49.9**	**-1.5**
AKASG	**Malin Array Be**	**25.32**	**326**	IAmb	IAmb	18 17 02.8	
	comp=Z,2.2nm,1.1s						
AKASG	**Malin Array Be**	**25.32**	**326**	P	**P**	**18 16 54.9**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=136,slow=9.1,SNR=12						
	comp=Z,1.9nm,0.5s						
AKBB	**Malin Array Si**	**25.32**	**326**	P	**P**	**18 16 54.0**	**-0.8**
AKBB				IAmb	IAmb	18 16 55.2	
	comp=Z,2.4nm,0.6s						
KIEV	**Kiev**	**25.33**	**326**	P	**P**	**18 16 54.2**	**-0.6**
KIEV				IAmb	IAmb	18 16 55.2	
	comp=Z,2.2nm,0.6s						
BURAR	**Bucovina Array**	**25.68**	**317**	P	**P**	**18 16 58.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**25.71**	**317**		**P**	**18 16 57.8**	**-0.7**
BUR08				IAmb	IAmb	18 17 28.0	
	comp=Z,9.1nm,1.4s						
FINES	**FINESS Array B**	**34.27**	**339**	P	**P**	**18 18 13.5**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=137,slow=8.1,SNR=3.8						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**38.02**	**330**	P	**P**	**18 18 45.3**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.5,SNR=5.2						
	comp=Z,0.5nm,0.4s						
NOA	**NORSAR Array B**	**39.54**	**330**	P	**P**	**18 18 59.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=110,slow=10,SNR=2.2						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**40.87**	**346**	IAmb	IAmb	18 19 16.2	
	comp=Z,39nm,1.5s						
ARCES	**ARCESS Array B**	**40.87**	**346**	P	**P**	**18 19 10.7**	**+0.9**
	comp=Z,4.2nm,1.0s,baz=153,slow=8.5,SNR=1.8						
	comp=Z,4.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**48.99**	**260**	IAmb	IAmb	18 20 26.7	
	comp=Z,4.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**48.99**	**260**	P	**P**	**18 20 15.0**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=63,slow=9.6,SNR=4.1						
	comp=Z,3.4nm,0.3s						

NNC 21 18:24:15.0±4.3, 49°.73N×88°.55E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=33.1km s-min=21.5km az=78.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.11**	**237**	Pn	Pn	18 25 32.7	0.0
	2.5nm,0.9s,baz=46,slow=12,SNR=3.9						
MK31				⇑Sn	Sn	18 26 33.5	+1.0
	2.9nm,1.1s,baz=56,slow=24						
MAKZ	**Makanchi**	**5.27**	**239**	⇓Pn	Pn	18 25 34.7	-0.4
	6.3nm,1.6s						
MAKZ				⇓Sn	Sn	18 26 37.9	+1.4
	8.1nm,1.9s						
KURK	**Kurchatov**	**6.45**	**283**	⇑Pn	Pn	18 25 51.7	+0.5
	3.9nm,2.5s						
KURK				⇑Sn	Sn	18 27 06.1	+0.7
	1.2nm,1.2s						
KURBB	**Kurchatov Arra**	**6.50**	**282**	⇑Pn	Pn	18 25 52.6	+0.8
	3.7nm,1.5s,baz=89,slow=15						
KURBB				⇓Sn	Sn	18 27 07.4	+0.8
	4.2nm,1.1s						

*ATH **21** 18:24:55.5, 34°.61N×23°.57E, h26km±4km, ML3.4/4, Manual Solution by M.Kolligri First location: 2019/10/22 09:59:48, This location: 2019/10/22 09:59:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 74 km; Longitude uncertainty: 20 km*
*THE **21** 18:24:59.5, 35°N±15°×2°4E±°, h20km±15km, M2.9/9, MLh2.9/9*
*IDC **21** 18:25:00.9±2.4, 35°.07N×23°.81E, h58km±14km, mb3.5/8, mbtmp3.7/13, MS2.8/1, Error ellipse: s-maj=38.9km s-min=17.8km az=12.0*
*AFAD **21** 18:25:09.0, 34°.34N×25°.39E, h20km, ML2.8*
ISC 21 18:24:58.6±1.3, 34°.78N±0°.09×23°.90E±0°.06, h55km±9km, n45, σ2°.32/57, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.17**	**70**	P	**Pn**	**18 25 05.7**	**-1.6**
GVD	**Gavdhos**	**0.17**	**70**	P	**Pn**	**18 25 05.5**	**-1.8**
CHAN	**Chania**	**0.74**	**9**	P	**Pn**	**18 25 13.2**	**+0.1**
CHAN	**Chania**	**0.74**	**9**	P	**Pn**	**18 25 13.5**	**+0.4**
CHAN				S	**Sn**	**18 25 26.4**	**+2.7**
IDI	**Anoyia**	**0.96**	**58**	P	**Pn**	**18 25 18.1**	**+2.2**
IDI	**Anoyia**	**0.96**	**58**	P	**Pn**	**18 25 18.2**	**+2.3**
	60nm,0.6s,baz=244,slow=14,SNR=71						
IDI				S	**Sn**	**18 25 30.8**	**+2.0**
	94nm,0.5s,baz=172,slow=23,SNR=6.5						
IDI	**Anoyia**	**0.96**	**58**	P	**Pn**	**18 25 17.9**	**+1.9**
ANKY	**Antikythira Is**	**1.19**	**336**	P	**Pn**	**18 25 19.1**	**+0.2**
ANKY				S	**Sn**	**18 25 34.5**	**+0.4**
ANKY	**Antikythira Is**	**1.19**	**336**	P	**Pn**	**18 25 17.9**	**-1.1**
NPS	**Neapolis**	**1.49**	**71**	P	**Pn**	**18 25 26.4**	**+3.4**
NPS				S	**Sn**	**18 25 46.4**	**+5.0**
KTHA	**Kythira Island**	**1.62**	**335**	P	**Pn**	**18 25 25.4**	**+0.5**
SNT5	**Nea Kammeni, S**	**2.03**	**37**	P	**Pn**	**18 25 31.4**	**+1.0**
THR3	**Thira Island,**	**2.03**	**37**	P	**Pn**	**18 25 32.1**	**+1.7**
THERA	**Ancient Thera,**	**2.04**	**39**	P	**Pn**	**18 25 31.7**	**+1.1**
VLI	**Veliai**	**2.08**	**338**	P	**Pn**	**18 25 31.1**	**-0.1**
VLI				S	**Sn**	**18 25 56.7**	**+0.7**
PYL	**PYLOS**	**2.74**	**321**	P	**Pn**	**18 25 38.8**	**-1.3**
KARP	**Karpathos**	**2.78**	**73**	P	**Pn**	**18 25 43.3**	**+2.6**
PTL	**Penteli**	**3.26**	**360**	P	**Pn**	**18 25 47.2**	**-0.1**
PTL	**Penteli**	**3.26**	**360**	P	**Pn**	**18 25 47.0**	**-0.2**
DION	**Dionisos Attik**	**3.29**	**1**	P	**Pn**	**18 25 47.7**	**0.0**
TURN	**Turunc**	**4.06**	**59**	P	**Pn**	**18 25 59.3**	**+1.2**
TURN				S	**Sn**	**18 26 41.3**	**-3.0**
SABU	**Mula-Dalaman**	**4.60**	**62**	P	**Pn**	**18 26 06.8**	**+1.2**
SABU				S	**Sn**	**18 26 53.1**	**-4.6**
SABU				*i* IAML		18 27 37.0	
	comp=N,13nm,1.2s						
IZZE	**Mula-Seydike**	**4.64**	**68**	P	**Pn**	**18 26 07.3**	**+1.1**
IZZE				S	Sn	18 26 50.9	-8.0
IZZE				*i* IAML		18 27 06.0	
	comp=N,19nm,0.6s						
IZZE				*i* IAML		18 27 07.0	
	comp=E,21nm,0.5s						
ESEN	**Aydn-Nazilli**	**4.69**	**49**	P	**Pn**	**18 26 03.8**	**-3.0**
ESEN				S	Sn	18 26 45.8	-14
DNZT	**Denizli-Tavas-**	**4.84**	**58**	P	**Pn**	**18 26 11.4**	**+2.3**
DNZT				S	**Sn**	**18 27 00.3**	**-3.6**
DNZT				*i* IAML		18 27 31.0	
	comp=N,11nm,2.2s						
AKAS	**Kas**	**4.88**	**71**	P	**Pn**	**18 26 10.6**	**+1.1**
AKAS				S	Sn	18 26 55.2	-10
CAEL	**Denizli, Camel**	**4.98**	**60**	P	**Pn**	**18 26 11.4**	**+0.4**
KNIK	**Mula-Seydike**	**5.05**	**64**	P	**Pn**	**18 26 11.2**	**-0.7**
KNIK				S	Sn	18 27 00.3	-8.7
GOLH	**Golhisar**	**5.20**	**60**	P	**Pn**	**18 26 16.5**	**+2.5**
GOLH				S	**Sn**	**18 27 06.6**	**-6.1**
GOLH				*i* IAML		18 27 26.0	
	comp=E,18nm,1.1s						
GOLH				*i* IAML		18 28 02.0	
	comp=N,17nm,2.1s						
AKUM	**Antalya-Kumluc**	**5.48**	**72**	P	**Pn**	**18 26 16.5**	**-1.1**
AKUM				S	**Sn**	**18 27 12.7**	**-6.5**
AKUM				*i* IAML		18 27 22.0	
	comp=E,10nm,0.6s						
AKUM				*i* IAML		18 27 24.0	
	comp=N,13nm,0.7s						
BRTR	**Keskin Array B**	**9.20**	**55**	P	**Pn**	**18 27 10.8**	**+2.1**
	0.4nm,0.5s,baz=246,slow=14,SNR=2.6						
MMAI	**Mount Meron Ar**	**9.73**	**97**	P	**Pn**	**18 27 19.6**	**+3.7**
	0.4nm,0.3s,baz=289,slow=14,SNR=2.4						
MMAI				S	**Sn**	**18 28 58.8**	**-4.9**
	1.0nm,0.3s,baz=

MAKZ	**Makanchi**	**5.02 356**	⇑Pn	Pn	18 38 15.1	-1.1
MAKZ			Sn	Sn	18 39 16.0	+1.1

DJA 21 18:50:51.3±0.5, 9°S±4°×12°0E±°, h29km±6km, M3.7/12, mB5.8/1, mb4.2/3, MLv3.5/12, Mw(mB)5.4/1, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.33**	**146**	P	Pn	18 51 01.5	+1.3
WBSI	**Waikabubak, Su**	**0.75**	**251**	P	Pb	18 51 05.9	0.0
WBSI				S	Sb	18 51 15.9	0.0
BASI	**Baing, Sumba**	**0.94**	**151**	P	Pb	18 51 09.0	-0.1
EDFI	**Ende, Flores**	**1.69**	**68**	P	Pn	18 51 17.5	-1.4
MMRI	**Maumere**	**2.23**	**71**	P	Pn	18 51 25.6	-0.8
PLAI	**Plampang**	**2.37**	**283**	P	Pn	18 51 28.4	+0.1
BSSI	**Bau Bau, Buton**	**3.25**	**7**	P	Pn	18 51 39.6	-0.8
TWSI	**Taliwang, Sumb**	**3.25**	**281**	P	Pn	18 51 41.3	+0.9
BATI	**Baumata**	**3.59**	**103**	P	Pn	18 51 47.0	+1.9
BKSI	**Bulukumba**	**4.04**	**0**	P	Pn	18 51 51.7	+0.4
SOEI	**Soe**	**4.12**	**95**	P	Pn	18 51 51.8	-0.6
JAGI	**Jajag, Banyuwa**	**5.96**	**278**	P	Pn	18 52 17.9	+0.3
	0.1nm21nm,1.7s						
BBKI	**Banjar Baru**	**7.88**	**318**	P	Pn	18 52 43.8	-0.2

IDC 21 19:18:55.6±8.9, 22°58S×170°82E, h76km±58km, mb3.4/3, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=94.8km s-min=61.1km az=177.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.09**	**276**	P	Pn	19 19 55.5	-0.3
	12nm,0.3s,baz=118,slow=11,SNR=519						
DZM				S	Sn	19 20 43.3	+0.8
	baz=0.0,slow=19						
	32nm,0.3s						
ASAR	**Alice Springs**	**33.91**	**261**	P	P	19 25 31.5	-0.1
	1.0nm,0.7s,baz=82,slow=9.7,SNR=21						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**34.05**	**267**	P	P	19 25 32.1	-0.8
	0.3nm,0.4s,baz=99,slow=8.4,SNR=6.2						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**81.22**	**294**	P	P	19 31 04.3	+0.6
	0.5nm,0.7s,baz=135,slow=4.7,SNR=4.8						
	0.5nm,0.7s						

*AEIC **21** 19:24:10.2±0.9, 52°85N±0°07×167°40W±0°08, h32km±8km, Error ellipse: s-maj=11.9km s-min=4.1km az=149.0*
NEIC 21 19:24:10.3±0.7, 52°84N±0°02×167°38W±0°05, h35km±2km, ML2.7/8, ML2.5(AEIC), Error ellipse: s-maj=5.4km s-min=3.3km az=77.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.66**	**331**		Pn	19 24 22.9	-0.2
OKSP	**Okmok Steeple**	**0.69**	**307**		Pn	19 24 23.2	-0.4
OKCE	**Okmok Cone E**	**0.76**	**322**		Pn	19 24 24.6	+0.2
OKNC	**Okmok New Cone**	**0.77**	**324**		Pn	19 24 24.8	+0.2
OKNC					Sn	19 24 35.5	+0.6
NIKH	**Nikolski High**	**0.91**	**279**		Sn	19 24 38.2	-0.1
NIKH	**Nikolski High**	**0.91**	**279**		Pn	19 24 25.8	-0.7
NIKH				IAML		19 24 41.3	
	comp=N,320nm,0.5s						
NIKH				IAML		19 24 46.7	
	comp=E,337nm,0.6s						
MGOD	**Makushin Gods**	**1.00**	**17**		Pn	19 24 27.5	-0.4
MREP	**Makushin Rep't**	**1.05**	**21**		Pn	19 24 28.3	-0.2
MNAT	**Makushin Natee**	**1.13**	**21**		Pn	19 24 29.4	-0.2
MSW	**Makushin Switc**	**1.14**	**18**		Pn	19 24 29.7	0.0
MSW					Sn	19 24 44.1	+0.1
UNV	**Unalaska Valle**	**1.14**	**27**		Pn	19 24 29.3	-0.3
CLCO	**Concord Point,**	**1.43**	**269**		Pn	19 24 33.7	+0.1
CLCO					Sn	19 24 51.7	+0.6
AKMO	**Akutan Morgan**	**1.50**	**32**		Pn	19 24 35.0	+0.4
AKMO					Sn	19 24 53.8	+0.8
ZRO	**Akutan Zero**	**1.51**	**33**		Pn	19 24 35.4	+0.6
AKRB	**Akutan Reef Bi**	**1.51**	**31**		Pn	19 24 35.6	+0.7
AKRB					Sn	19 24 54.2	+0.9
AKBBA	**Akutan Broad B**	**1.53**	**34**		Pn	19 24 35.8	+0.7
AKLV	**Akutan Long Va**	**1.58**	**32**		Pn	19 24 36.2	+0.5
AHB	**Akutan Harbor**	**1.58**	**35**		Pn	19 24 36.5	+0.7
AKGG	**Akutan Green G**	**1.59**	**31**		Pn	19 24 36.6	+0.7
AKUT	**Akutan**	**1.61**	**36**	Pn	Pn	19 24 35.9	-0.3
AKUT				IAML		19 25 00.4	
	comp=E,67nm,0.3s						
AKUT				IAML		19 25 06.5	
	comp=N,71nm,0.8s						
WEBT	**Westdahl Beart**	**2.35**	**41**		Pn	19 24 46.9	+0.5
SPIA	**Saint Paul Isl**	**4.65**	**340**	Pn	Pn	19 25 20.1	+2.2
ADK	**Adak**	**5.78**	**264**	Pn	Pn	19 25 33.5	0.0
ADK				Sn	Sn	19 26 39.2	+0.7

IDC 21 19:59:32.1±2.8, 3°56S×133°34E, h0km, mb4.1/2, mbtmp3.7/5, ML3.3/3, MS2.8/3, Error ellipse: s-maj=133.0km s-min=26.2km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**13.10**	**324**	LR	LR	20 08 06.1	
	comp=Z,27nm,18.1s,baz=156,slow=39						
PMG	**Port Moresby**	**14.90**	**114**	LR	LR	20 10 54.8	
	comp=Z,46nm,19.4s,baz=354,slow=46						
FITZ	**Fitzroy Crossi**	**16.30**	**207**	Pn	Pn	20 03 21.8	-0.8
	0.1nm,0.3s,baz=28,slow=8.9,SNR=7.0						
FITZ				Sn	Sn	20 06 13.2	-11
	0.1nm,0.3s,baz=260,slow=23,SNR=1.2						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**16.31**	**177**	Pn	Pn	20 03 20.8	-1.9
	0.1nm,0.3s,baz=359,slow=13,SNR=9.5						
WRA				Sn	Sn	20 06 12.1	-12
	baz=352,slow=24,SNR=2.3						
	1.1nm,1.2s						
ASAR	**Alice Springs**	**20.00**	**178**	P	Pn	20 04 07.6	-0.5
	0.1nm,0.3s,baz=5.7,slow=10,SNR=15						
	1.3nm,0.8s						
JOW	**Kunigami**	**30.61**	**351**	LR	LR	20 18 21.9	
	comp=Z,22nm,19.7s,baz=131,slow=37						
MKAR	**Makanchi Array**	**67.28**	**325**	P	P	20 10 28.9	+0.2
	0.6nm,0.8s,baz=108,slow=7.9,SNR=3.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**71.41**	**327**	P	P	20 10 54.0	-0.2
	1.2nm,0.2s,baz=117,slow=5.3,SNR=2.1						
	1.2nm,0.2s						

*IDC **21** 20:13:55.2±1.7, 27°86S×178°72W, h266km±17km, mb3.0/3, mbtmp3.6/3, Error ellipse: s-maj=38.7km s-min=28.9km az=178.0*
ISC 21 20:13:53.9±1.2, 27°8S±0°2×178°8W±0°3, h250km, n11, σ1§75/11, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.66**	**152**	P	**Pn**	**20 14 35.3**	**+1.9**
	818nm,0.2s,baz=120,slow=8.5,SNR=42						
RAO				S	**S**	**20 15 02.9**	**-1.7**
	507nm,0.3s,baz=45,slow=22,SNR=5.5						
URZ	**Urewera**	**11.00**	**197**	P	Pn	20 16 18.4	-6.4
	24nm,1.2s,baz=262,slow=4.7,SNR=9.6						
ASAR	**Alice Springs**	**42.60**	**264**	P	**P**	**20 21 26.6**	**+0.6**
	0.3nm,0.6s,baz=92,slow=8.1,SNR=5.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.35**	**270**	P	**P**	**20 21 32.0**	**0.0**
	0.4nm,0.4s,baz=106,slow=7.9,SNR=5.7						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**62.32**	**180**	P	**P**	**20 23 49.1**	**-0.6**
	0.6nm,0.6s,baz=173,slow=5.9,SNR=3.2						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**142.45**	**341**	PKP	**PKPdf**	**20 32 52.9**	**-3.3**
	2.5nm,1.0s,baz=47,slow=2.5,SNR=6.6						
NB2	**NORSAR Subarra**	**146.06**	**351**	PKP	**PKPdf**	**20 33 04.1**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=19,slow=2.7						
NOA	**NORSAR Array B**	**146.06**	**351**	PKPbc	**PKPdf**	**20 33 02.6**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=14,slow=2.8,SNR=2.2						
HFS	**Hagfors**	**146.55**	**349**	PKPbc	**PKPdf**	**20 33 05.0**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=40,slow=2.5,SNR=5.0						
AKASG	**Malin Array Be**	**148.78**	**325**	PKPbc	**PKPbc**	**20 33 11.4**	**0.0**
	comp=Z,0.9nm,0.4s,baz=42,slow=3.1,SNR=8.2						
BRTR	**Keskin Array B**	**150.67**	**302**	PKPbc	**PKPbc**	**20 33 15.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=133,slow=6.1,SNR=3.7						

*IDC **21** 20:22:34.9±5.4, 6°46S×75°80W, h96km±49km, mb3.5/5, mbtmp3.7/7, Error ellipse: s-maj=70.0km s-min=19.8km az=61.0*
*VAO **21** 20:23:03.9±0.4, 6°74S×73°35W, h126km±6km, mb4.0*
ISC 21 20:22:35.2±0.8, 6°5S±0°1×75°9W±0°1, h100km, n26, σ1§66/23, mb3.6/5, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.37**	**112**	*eP*	**Pn**	**20 23 28.9**	**+3.0**
OTAV	**Otavalo**	**7.15**	**339**	*eP*	Pn	20 25 06.3	+49
TEFE	**Tefe**	**11.56**	**76**	*eP*	**Pn**	**20 25 14.5**	**-2.6**
LPAZ	**La Paz**	**12.35**	**143**	P	**Pn**	**20 25 28.3**	**+0.2**
	0.6nm,0.5s,baz=348,slow=9.2,SNR=2.2						
LPAZ	**La Paz**	**12.35**	**143**	*eP*	**P**	**20 25 34.7**	**-1.5**
MACA	**Manacapuru-AM**	**15.47**	**78**	*eP*	**Pn**	**20 26 06.1**	**-1.9**
SDV	**Santo Domingo**	**16.12**	**19**	*eP*	P	20 26 39.5	+22
VILB	**Vilhena**	**16.72**	**114**	*eP*	**Pn**	**20 26 21.6**	**-1.9**
SIV	**San Ignacio**	**17.30**	**124**	P	**Pn**	**20 26 30.5**	**-0.1**
	0.9nm,0.4s,baz=312,slow=12,SNR=4.5						
BOAV	**Boa Vista**	**17.67**	**61**	*eP*	**Pn**	**20 26 39.1**	**+4.0**
PDRB	**Porto dos Gac**	**19.57**	**106**	*eP*	**P**	**20 26 55.5**	**+0.1**
ITTB	**Itaituba**	**20.14**	**85**	*eP*	Pn	20 27 02.1	-2.2
CLDB	**Colider**	**20.31**	**104**	*eP*	**P**	**20 27 03.3**	**-0.1**
NPGB	**Novo Progresso**	**20.37**	**93**	*eP*	**P**	**20 27 04.0**	**0.0**
SALV	**Santo Antonio**	**21.87**	**117**	*eP*	**P**	**20 27 21.8**	**+1.8**
SNDB	**Serra Nova Dou**	**24.85**	**104**	*eP*	**P**	**20 27 50.1**	**+1.6**
CPUP	**Villa Florida**	**26.50**	**140**	P	**P**	**20 28 02.4**	**-0.9**
	1.1nm,0.6s,baz=213,slow=17,SNR=12						
	1.1nm,0.6s						
TXAR	**Lajitas Array**	**44.53**	**324**	P	**P**	**20 30 37.2**	**0.0**
	0.4nm,0.6s,baz=144,slow=7.3,SNR=4.7						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**57.79**	**331**	P	**P**	**20 32 16.2**	**-0.1**
	0.2nm,0.5s,baz=118,slow=7.8,SNR=2.1						
	0.2nm,0.5s						
SNAA	**Sanae**	**78.58**	**162**	P	**P**	**20 34 24.9**	**-0.6**
	1.6nm,1.1s,baz=267,slow=9.1,SNR=8.8						
	1.6nm,1.1s						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**20 34 54.0**	**+1.5**
	1.7nm,0.9s,baz=164,slow=1.2,SNR=6.8						
	1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**130.14**	**15**	PKP	**PKiKP**	**20 41 33.8**	**-0.5**
	0.5nm,0.4s,baz=264,slow=1.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**131.08**	**21**	PKP	**PKiKP**	**20 41 35.9**	**-0.4**
	0.3nm,0.8s,baz=335,slow=1.8,SNR=4.6						
ASAR	**Alice Springs**	**138.26**	**223**	PKP	**PKPdf**	**20 41 48.3**	**-1.4**
	0.1nm,0.5s,baz=109,slow=1.4,SNR=4.9						
WRA	**Warramunga Arr**	**140.35**	**228**	PKP	**PKPdf**	**20 41 54.5**	**+0.9**
	0.3nm,0.4s,baz=119,slow=1.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**147.65**	**221**	PKPbc	**PKPbc**	**20 42 08.0**	**-1.0**
	1.9nm,0.6s,baz=129,slow=2.7,SNR=5.8						

*CNRM **21** 20:31:04.0, 36°30N×9°88W, h80km, ML2.2*
*SFS **21** 20:31:18.6, 36°44N×8°04W, h26km, ML2.4/8, ML2.5/8, MLv2.0/8*
*IGIL **21** 20:31:19.2, 36°41N×8°07W, h32km, ML1.3*
*MDD **21** 20:31:19.2±0.9, 36°56N×8°01W, h20km±6km, mb_Lg2.2/10, Error ellipse: s-maj=6.9km s-min=5.9km az=27.0*
INMG 21 20:31:19.5±1.4, 36°43N×8°07W, h31km±9km, ML1.4, Error ellipse: s-maj=4.9km s-min=4.0km az=23.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Faro, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.82**	**8**	Pg	Pn	20 31 33.5	-1.4
PBDV				Sg	Sn	20 31 43.6	-2.4
PBDV	**Barranco-do-Ve**	**0.82**	**8**	*eP*	Pn	20 31 33.5	-1.4
PBDV				*eS*	Sn	20 31 44.1	-1.9
PBDV				*i* IAML		20 31 46.4	
PBDV				*i* IAML		20 31 46.9	
PBDV				*i* IAML		20 31 49.9	
PFVI	**Vila Bisbo**	**0.93**	**319**	Pg	Pn	20 31 35.6	-0.8
PFVI				Sg	Sn	20 31 46.6	-2.0
PFVI	**Vila Bisbo**	**0.93**	**319**	*eP*	Pn	20 31 35.4	-1.0
PFVI				*eS*	Sn	20 31 47.1	-1.5
PFVI				*i* IAML		20 31 49.3	
PFVI				*i* IAML		20 31 51.8	
PFVI				*i* IAML		20 31 51.9	
PFVI	**Vila Bisbo**	**0.93**	**319**	P	Pn	20 31 26.0	-10
PFVI	**Vila Bisbo**	**0.93**	**319**	S	Sn	20 31 41.4	-7.3
MORF	**Marmelete**	**0.99**	**332**	*eP*	Pn	20 31 36.0	-1.3
MORF				*eS*	Sn	20 31 47.9	-2.3
MORF				IAML		20 31 49.4	
	comp=E,7.5nm,0.2s						
MORF	**Marmelete**	**0.99**	**332**	*eP*	Pn	20 31 36.0	-1.2
MORF				*eS*	Sn	20 31 47.9	-2.3
MORF				*i* IAML		20 31 48.5	
MORF				*i* IAML		20 31 49.2	
MORF				*i* IAML		20 31 50.6	
PVAQ	**Vaqueiros**	**1.01**	**16**	*eP*	Pn	20 31 36.0	-1.5
PVAQ				*eS*	Sn	20 31 48.4	-2.3
PVAQ				*i* IAML		20 31 52.6	
PVAQ				*i* IAML		20 31 54.7	
PVAQ				*i* IAML		20 32 05.2	
PVAQ	**Vaqueiros**	**1.01**	**16**	P	Pn	20 31 36.3	-1.2
PVAQ	**Vaqueiros**	**1.01**	**16**	S	Sb	20 32 02.2	+11
EGRO	**El Granado**	**1.20**	**23**	Pn	Pn	20 31 38.7	-1.4
EGRO				Sn	Sn	20 31 52.8	-2.4
EGRO	**El Granado**	**1.20**	**23**	Pg	Pn	20 31 37.7	-2.4
EGRO				Sg	Sn	20 31 52.7	-2.5
EGRO				*i* IVmb_Lg		20 32 00.6	
PCVE	**Castro Verde**	**1.20**	**1**	Pn	Pn	20 31 38.9	-1.2
PCVE				Sn	Sn	20 31 53.0	-2.3
PCVE	**Castro Verde**	**1.20**	**1**	*eP*	Pn	20 31 39.0	-1.2
PCVE				*eS*	Sn	20 31 53.2	-2.1
PCVE				*i* IAML		20 31 53.5	
PCVE				*i* IAML		20 31 54.2	
PCVE				*i* IAML		20 31 54.2	
PTEO	**Sao Teotonio**	**1.23**	**335**	*eP*	Pn	20 31 39.3	-1.2
PTEO				*eS*	Sn	20 31 53.8	-2.3
PTEO				*i* IAML		20 31 55.4	
PTEO				*i* IAML		20 31 58.4	
PTEO				*i* IAML		20 31 59.5	
MESJ	**Messejana**	**1.41**	**355**	*eP*	Pn	20 31 41.9	-1.1
MESJ				*eS*	Sn	20 31 58.1	-2.5
MESJ				IAML		20 31 59.4	
	comp=N,2.4nm,0.2s						
MESJ	**Messejana**	**1.41**	**355**	*eP*	Pn	20 31 41.9	-1.1
MESJ				*eS*	Sn	20 31 58.5	-2.0
MESJ				*i* IAML		20 32 02.0	
MESJ				*i* IAML		20 32 02.1	
MESJ				*i* IAML		20 32 08.2	
EMIN	**Mina Concepcio**	**1.74**	**40**	Sn	Sn	20 32 06.3	-2.4
EMIN	**Mina Concepcio**	**1.74**	**40**	Pn	Pn	20 31 45.0	-2.6
EMIN				Sn	Sn	20 32 04.9	-3.7
EMIN				*i* IVmb_Lg		20 32 12.3	
ESPR	**Espera**	**1.83**	**76**	Pn	Pn	20 31 47.3	-1.5
ESPR				Sn	Sn	20 32 08.4	-2.5
ESPR				*i* IVmb_Lg		20 32 09.7	
PBAR	**Barrancos**	**1.92**	**25**	Pn	Pn	20 31 48.5	-1.6
PBAR				Sn	Sn	20 32 10.6	-2.7
PBAR	**Barrancos**	**1.92**	**25**	*eP*	Pn	20 31 48.6	-1.5
PBAR				*eS*	Sn	20 32 10.7	-2.5
PBAR				*i* IAML		20 32 13.2	
PBAR				*i* IAML		20 32 14.3	
PBAR				*i* IAML		20 32 16.5	
E1302	**La Puebla de C**	**2.37**	**72**	Pn	Pn	20 31 55.0	-1.2
E1302				Sn	Sn	20 32 22.0	-2.3
E1302				*i* IVmb_Lg		20 32 24.7	
PESTR	**Estremoz**	**2.46**	**9**	Sn	Sn	20 32 23.7	-2.8
EBAD	**Badajoz**	**2.47**	**20**	Pn	Pn	20 31 55.9	-1.6
EBAD				Sn	Sn	20 32 24.2	-2.4
EBAD	**Badajoz**	**2.47**	**20**	Pn	Pn	20 31 55.4	-2.1
EBAD				Sn	Sn	20 32 22.8	-3.8
EBAD				*i* IVmb_Lg		20 32 25.1	
PMTG	**Montargil**	**2.63**	**357**	*eP*	Pn	20 31 58.4	-1.5
PMTG				*eS*	Sn	20 32 27.9	-2.9
PMTG				*i* IAML		20 32 30.0	
PMTG				*i* IAML		20 32 30.0	
PMTG				*i* IAML		20 32 31.3	
ECAB	**El Cabril**	**2.68**	**51**	Pn	Pn	20 31 58.3	-2.2
ECAB				Sn	Sn	20 32 27.2	-4.6
ECAB	**El Cabril**	**2.68**	**51**	Pn	Pn	20 31 58.9	-1.5
ECAB				Sn	Sn	20 32 26.8	-5.0
ECAB				*i* IVmb_Lg		20 32 32.4	
PMAFR	**Mafra**	**2.70**	**339**	*eS*	Sn	20 32 30.4	-1.9
PMRV	**Marv??o**	**3.04**	**10**	*eP*	Pn	20 32 04.4	-1.0
PMRV				*eS*	Sn	20 32 37.8	-3.0
PMRV				*i* IAML		20 32 38.7	
PMRV				*i* IAML		20 32 40.6	
PMRV				*i* IAML		20 32 43.6	
PSARD	**Sardoal**	**3.16**	**359**	*eP*	Pn	20 32 06.1	-1.1
PSARD				*eS*	Sn	20 32 41.0	-2.8
PSARD				*i* IAML		20 32 42.2	
PSARD				*i* IAML		20 32 42.7	
PSARD				*i* IAML		20 32 44.1	
EADA	**Adamuz**	**3.28**	**57**	Pn	Pn	20 32 07.0	-1.7
EADA				Sn	Sn	20 32 42.6	-4.1
EADA	**Adamuz**	**3.28**	**57**	Pn	Pn	20 32 07.0	-1.8
EADA				Sn	Sn	20 32 42.8	-3.9
EADA				*i* IVmb_Lg		20 32 44.8	
PCBR	**Castelo Branco**	**3.43**	**8**	*eS*	Sn	20 32 47.9	-2.6
PCAS	**Casmilo, Conde**	**3.63**	**355**	*eS*	Sn	20 32 53.3	-2.0
IFR	**Ifrane**	**3.78**	**139**	Pn	Pn	20 32 13.8	-2.0
EPLA	**Plasencia**	**3.95**	**23**	Pn	Pn	20 32 15.3	-2.7
EPLA				Sn	Sn	20 32 58.7	-4.6
EPLA				*i* IVmb_Lg		20 33 06.2	
PSIM	**Granatula de C**	**4.17**	**54**	Pn	Pn	20 32 19.5	-1.6
PSIM				Sn	Sn	20 33 02.2	-6.5
PAB	**San Pablo**	**4.28**	**42**	Pn	Pn	20 32 21.1	-1.4
PAB				Sn	Sn	20 33 05.0	-6.4
PAB				*i* IVmb_Lg		20 33 13.4	
MD31	**MD31**	**4.48**	**142**	P	Pn	20 32 22.4	-2.9
MD31	**MD31**	**4.48**	**142**	S	Sb	20 33 24.7	-6.4
MDT	**Midelt**	**4.60**	**141**	P	Pn	20 32 24.7	-2.2
MDT	**Midelt**	**4.60**	**141**	S	Sb	20 33 27.7	-6.9
UCM	**Universidad Co**	**5.42**	**43**	Pn	Pn	20 32 36.8	-1.4

IDC 21 20:38:53.0±6.5, 20°53S×177°07W, h543km±50km, mb3.0/3, mbtmp4.1/4, Error ellipse: s-maj=83.8km s-min=24.7km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.71**	**185**	P	P	20 40 58.1	+0.6
	178nm,0.4s,baz=81,slow=21,SNR=2.5						
URZ	**Urewera**	**18.37**	**195**	P	P	20 42 33.3	-1.1
	6.2nm,0.3s,baz=5.0,slow=3.7,SNR=6.7						
ASAR	**Alice Springs**	**45.36**	**257**	P	P	20 46 23.8	+0.5
	1.2nm,0.5s,baz=93,slow=8.3,SNR=17						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**45.46**	**262**	P	P	20 46 23.4	-0.7
	0.7nm,0.3s,baz=97,slow=7.7,SNR=17						
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**69.54**	**180**	P	P	20 49 07.5	+0.3
	0.3nm,0.4s,baz=53,slow=1.3,SNR=8.8						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**136.05**	**344**	PKP	PKPdf	20 57 10.9	-1.1
	3.4nm,1.1s,baz=57,slow=5.1,SNR=4.0						

*IDC **21** 20:49:06.6±1.9, 6°39S×143°59E, h0km, mb3.7/3, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=54.5km s-min=26.0km az=108.0*
ISC 21 20:49:12.2±1.5, 6°50S±0°08×143°3E±0°2, h35km, n6, σ2§25/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.73**	**327**	**Pn**	**Pn**	**20 50 21.2**	**+0.1**
	0.7nm,0.3s,baz=118,slow=8.2,SNR=4.5						
JAY				Sn	**Sn**	**20 51 14.2**	**-0.6**
	0.4nm,0.3s,baz=164,slow=18,SNR=2.1						
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**15.96**	**212**	Pn	**Pn**	**20 52 53.5**	**-0.7**
	0.1nm,0.3s,baz=34,slow=13,SNR=7.2						
WRA				Sn	**Sn**	**20 55 46.7**	**-3.5**
	0.1nm,0.3s,baz=32,slow=26,SNR=1.1						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**19.32**	**207**	P	**P**	**20 53 37.0**	**+2.4**
	0.3nm,0.3s,baz=31,slow=11,SNR=39						
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.74**	**235**	P	**P**	**20 53 52.0**	**+2.1**
	2.0nm,0.6s,baz=59,slow=9.5,SNR=8.8						
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**75.57**	**322**	P	**P**	**21 00 53.9**	**+0.5**
	0.5nm,0.6s,baz=108,slow=7.2,SNR=4.4						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**21 01 54.0**	**-1.4**
	0.5nm,0.6s,baz=256,slow=5.6,SNR=4.1						
	0.5nm,0.6s						

*NEIC **21** 20:50:37.6±1.4, 15°47S±0°07×74°76W±0°09, h51km±6km, mb4.7/66, Error ellipse: s-maj=14.0km s-min=8.6km az=62.0*
*IDC **21** 20:50:38.6±0.5, 15°32S×74°53W, h56km±4km, mb4.1/12, mbtmp4.3/15, MS3.6/37, Error ellipse: s-maj=20.3km s-min=9.8km az=58.0*
*VAO **21** 20:50:39.3±0.8, 15°35S×74°58W, h62km±6km, mb4.9*
*RSNC **21** 20:50:42.9±1.5, 15°S±15°×7°4W±°, h0km, M4.4, mB5.1, mb4.8, ML4.8, Mw(mB)4.4*
ISC 21 20:50:38.2±0.5, 15°47S±0°05×74°58W±0°06, h54km±4km, h54km:pP-P, n214, σ1§88/187, mb4.7/46, MS3.6/33, 4C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.11**	**327**		**Pn**	**20 51 36.8**	**-1.7**
NNA	**Nana**	**4.11**	**327**	P	**Pn**	**20 51 37.5**	**-1.0**
	412nm,0.4s,baz=150,slow=11,SNR=31						
NNA				S	**Sn**	**20 52 25.5**	**+0.1**
	746nm,0.3s,baz=200,slow=15,SNR=5.1						
NNA	**Nana**	**4.11**	**327

SLOR IAmb IAmb 20 54 19.3
comp=Z,56nm,0.7s
TEFE Tefe 15.40 40 *eP* **Pn 20 54 11.8 -0.4**
PTLC Puerto Leguiza 15.55 359 P **Pn 20 54 12.8 -1.3**
comp=Z,1μcomp=Z,62nm,0.6s
CO03 El Pedregal 15.70 168 Pn **Pn 20 54 14.5 -1.6**
CO03 IAmb IAmb 20 54 23.1
comp=Z,40nm,1.1s
OTAV Otavalo 16.07 346 Pn **P 20 54 26.9 +3.0**
OTAV Otavalo 16.07 346 *eP* **Pn 20 54 20.2 -1.1**
OTAV Otavalo 16.07 346 P **P 20 54 25.9 +2.1**
comp=Z,27nm,0.8s
BONI La Bonita 16.09 349 P **P 20 54 23.9 +0.1**
comp=Z,35nm,0.9s
PAC1 Pacto, Paraso 16.18 345 P **P 20 54 28.4 +3.6**
comp=Z,590nmcomp=Z,26nm,0.4s
GCUF Volcan Galeras 16.82 350 P **P 20 54 33.4 +1.3**
comp=Z,25nm,1.1s
SGC2 Sao Gabriel da 16.98 27 P **Pn 20 54 30.9 -1.3**
comp=Z,47nm,0.7s
FLOC Florencia 16.98 356 **P 20 54 33.1 -0.3**
FLOC IAmb IAmb 20 55 04.7
comp=Z,38nm,0.9s
FLOC Florencia 16.98 356 P **P 20 54 35.6 +2.1**
comp=Z,47nm,0.7s
CFA Coronel Fontan 17.07 161 P **Pn 20 54 34.2 +1.0**
comp=Z,9.0nm,0.8s,baz=340,slow=10,SNR=16
CFA LR LR 21 01 14.0
comp=Z,66nm,19.3s,baz=0.5,slow=37
CRUC La Cruz 17.09 352 P **P 20 54 39.2 +4.1**
MACC Macarena, Meta 17.52 2 P **Pn 20 54 38.9 0.0**
comp=Z,43nm,0.8s
BDQN Bodoquena, MS 17.66 109 *eP* **P 20 54 42.3 +1.4**
PEL Peldehue 17.94 169 **P 20 54 42.5 -1.5**
PEL IAmb IAmb 20 54 47.5
comp=Z,78nm,1.5s
POPC Popayan, Colom 18.02 353 P **Pn 20 54 48.4 +3.2**
comp=Z,19nm,0.9s
H03N1 Juan Fernandez 18.31 192 T T 21 13 33.8
baz=13,slow=74,SNR=3055
H03N2 Juan Fernandez 18.32 192 T T 21 13 34.1
baz=13,slow=74,SNR=2532
H03N3 Juan Fernandez 18.33 192 T T 21 13 32.7
baz=13,slow=74,SNR=5701
MACA Manacapuru-AM 18.36 50 *eP* **Pn 20 54 48.5 -0.6**
MT09 Talagante 18.51 171 P **P 20 54 48.5 -1.8**
MT01 Popeta 18.56 171 P **P 20 54 50.9 +0.2**
MT01 IAmb IAmb 20 55 05.4
comp=Z,58nm,1.5s
URMC La Uribe, Meta 18.60 1 P **Pn 20 54 56.9 +4.8**
comp=Z,875nmcomp=Z,40nm,1.0s
GR1C Gorgona, Isla 18.70 349 P **Pn 20 55 00.3 +7.1**
CLDB Colider 18.85 78 *eP* **Pn 20 54 54.4 -0.7**
PP1B Ponte de Pedra 19.00 99 *eP* **Pn 20 54 56.8 -0.1**
PRAC Prado 19.07 359 P **Pn 20 55 04.0 +6.3**
comp=Z,42nm,0.7s
ORTC Ortega, Tolima 19.27 358 P **Pn 20 55 06.0 +5.9**
comp=Z,944nmcomp=Z,83nm,0.9s
CPUP Villa Florida 19.38 127 **Pn 20 55 00.7 -0.5**
CPUP Villa Florida 19.38 127 P **Pn 20 55 00.8 -0.5**
comp=Z,1.9nm,0.9s,baz=207,slow=9.0,SNR=11
CPUP LR LR 21 03 52.4
comp=Z,30nm,21.2s,baz=162,slow=41
YOTC Yotoco, Valle 19.41 355 P Pn 20 55 12.4 +11
comp=Z,25nm,0.9s
AMBA Amambai (Brazi 19.91 115 *eP* **Pn 20 55 08.1 +0.5**
ROSC El Rosal 20.18 1 P **P 20 55 09.8 +0.8**
comp=Z,9.1nm,0.4s,baz=162,slow=9.9,SNR=6.3
ROSC LR LR 21 03 38.5
comp=Z,338nm,18.6s,baz=219,slow=39
ML02 Panimavida 20.40 173 **P 20 55 11.4 +0.6**
GUY2C Guyana, Caldas 20.58 358 P **P 20 55 14.6 +1.3**
comp=Z,488nmcomp=Z,36nm,0.7s
SPBC San Pablo de B 21.00 1 P Pn 20 55 24.4 +3.8
comp=Z,1μcomp=Z,23nm,1.6s
CBOC Ciudad Bolivar 21.25 356 P **P 20 55 22.5 +2.3**
comp=Z,29nm,0.8s
RUSC La Rusia 21.28 4 P **P 20 55 21.4 +0.5**
RUSC La Rusia 21.28 4 P **P 20 55 21.4 +0.5**
comp=Z,885nmcomp=Z,87nm,1.3s
BI02 San Fabin de 21.31 173 **P 20 55 19.5 -1.1**
BI02 IAmb IAmb 20 55 28.1
comp=Z,41nm,0.9s
HELC Santa Helena 21.55 357 P P 20 55 33.4 +10
comp=Z,18nm,1.1s
ITTB Itaituba 21.57 61 *eP* **P 20 55 23.2 -0.3**
PTBC PUERTO BERRIO, 21.87 0 P **P 20 55 32.5 +5.8**
comp=Z,352nmcomp=Z,20nm,0.8s
ARAG Araguaiana, MT 21.93 94 *eP* **P 20 55 27.2 -0.2**
PSAL Palomas, Salto 21.96 138 *eP* **P 20 55 29.0 +1.5**
BOAV Boa Vista 22.55 39 P **P 20 55 33.5 -0.5**
BOAV IAmb IAmb 20 55 42.9
comp=Z,27nm,0.8s
BOAV Boa Vista 22.55 39 *eP* **P 20 55 33.9 -0.1**
BOAV Boa Vista 22.55 39 P **P 20 55 33.7 -0.4**
comp=Z,37nm,0.8s
PAMC Pamplona, Colo 22.74 5 P **P 20 55 40.4 +3.9**
SNDB Serra Nova Dou 22.88 84 *eP* **P 20 55 36.4 -1.2**
PTGB Pitanga 23.03 117 *eP* **P 20 55 39.1 +0.1**
ITRB Iturama 23.46 104 *eP* **P 20 55 44.1 +0.9**
OCAC Ocana 23.59 3 P **P 20 55 50.8 +6.3**
comp=Z,1μcomp=Z,68nm,0.7s
MAL2 Monte Alegre, 24.15 58 **P 20 55 47.0 -2.6**
MAL2 IAmb IAmb 20 56 29.3
comp=Z,28nm,0.8s
CPSB Cacapava Do Su 24.43 131 *eP* **P 20 55 52.8 +0.9**
SDV Santo Domingo 24.52 9 P **P 20 55 52.6 -0.4**
SDV IAmb IAmb 20 56 24.4
comp=Z,15nm,0.8s
SDV Santo Domingo 24.52 9 LR LR 21 06 06.9
comp=Z,220nm,19.8s,baz=216,slow=38
SDV Santo Domingo 24.52 9 *eP* **P 20 55 52.1 -1.0**
SDV Santo Domingo 24.52 9 P **P 20 55 54.9 +1.9**
comp=Z,19nm,0.8s
LR05 Currie 24.77 175 **P 20 55 57.1 +2.2**
PLTB Pedras Altas 25.07 134 P **P 20 55 57.9 +0.1**
PLTB IAmb IAmb 20 55 59.5
comp=Z,19nm,1.1s
TRQA Tornquist 25.10 156 P **P 20 55 58.0 0.0**
TRQA IAmb IAmb 20 55 59.7
comp=Z,24nm,1.4s
ARGC Ariguani, Magd 25.17 1 P P 20 56 07.5 +8.7
comp=Z,73nm,1.0s
SJCC San Jacinto, C 25.21 359 P P 20 56 09.3 +10
comp=Z,77nm,0.9s
IPMB Ipameri, GO 25.37 99 *eP* **P 20 56 01.2 +0.6**
PLCA Paso Flores 25.41 173 **P 20 56 00.4 -0.5**
PLCA Paso Flores 25.41 173 P **P 20 56 01.5 +0.7**
comp=Z,7.0nm,0.7s,baz=351,slow=10.0,SNR=13
PLCA PcP **PcP 20 59 32.9 +0.9**
comp=Z,2.5nm,0.6s,baz=319,slow=3.0,SNR=4.8
PLCA LR LR 21 04 11.4
comp=Z,118nm,20.4s,baz=352,slow=32
comp=Z,7.0nm,0.7s
PLCA Paso Flores 25.41 173 *eP* **P 20 56 00.6 -0.2**
BDFB Brasilia 25.59 94 **P 20 56 03.0 +0.2**
BDFB Brasilia 25.59 94 P **P 20 56 03.3 +0.6**
comp=Z,8.1nm,0.6s,baz=255,slow=12,SNR=13
BDFB LR LR 21 07 13.7
comp=Z,131nm,20.9s,baz=311,slow=39
comp=Z,8.1nm,0.6s
PRPB Paraua pebas 25.99 72 *eP* **P 20 56 06.0 -0.3**
RCLB Rio Claro- Sao 26.47 109 *eP* **P 20 56 11.7 +1.1**
PMNB Patos De Minas 27.07 100 *eP* **P 20 56 16.7 +0.6**
URIC Uribia, Colomb 27.12 6 P **P 20 56 23.2 +6.8**
SMTB Santa Maria do 27.17 79 *eP* **P 20 56 16.9 -0.1**
JTS Las Juntas de 27.59 337 LR LR 21 06 11.4
comp=Z,75nm,19.1s,baz=152,slow=34
DIAM Diamantina, MG 29.69 100 *eP* **P 20 56 40.3 +0.8**
MDP Montagnes des 29.83 48 LR LR 21 09 06.5
comp=Z,306nm,19.1s,baz=224,slow=37
GUA01 Guaratinga, BA 33.41 97 *eP* **P 20 57 12.0 -0.1**
RPN Rapa Nui 34.28 244 LR LR 21 07 23.4
comp=Z,215nm,21.7s,baz=182,slow=29
SJG San Juan 34.39 14 LR LR 21 13 49.1
comp=Z,87nm,20.4s,baz=176,slow=41
NBAN Anadia - AL 37.79 86 *eP* **P 20 57 49.6 -0.1**
CMIG Matias Romero 38.06 327 P **P 20 57 50.1 -1.7**
comp=Z,2.4nm,0.8s,baz=99,slow=7.2,SNR=3.6
CMIG LR LR 21 10 38.2
comp=Z,109nm,21.2s,baz=180,slow=32
comp=Z,2.4nm,0.8s
Z47A Carrollton 50.09 345 P **P 20 59 24.8 -3.0**
HNDO Hondo 50.70 332 **P 20 59 30.1 -2.5**
TKL Tuckaleechee C 51.59 350 LR LR 21 23 30.7
comp=Z,54nm,19.3s,baz=142,slow=38

WLAR White Oak Lake 51.98 340 **P 20 59 41.3 -0.8**
T57A Hurt 52.38 355 P **P 20 59 42.9 -2.0**
T57A IAmb IAmb 21 00 09.7
comp=Z,9.6nm,0.9s
TXAR Lajitas Array 52.66 328 P **P 20 59 46.1 -1.3**
comp=Z,1.5nm,0.5s,baz=154,slow=10,SNR=15
TXAR pP **pP 21 00 00.8 -1.5**
comp=Z,4.1nm,0.7s,baz=154,slow=8.7,SNR=15
TXAR LR LR 21 19 42.7
comp=Z,16nm,21.0s,baz=125,slow=33
comp=Z,1.5nm,0.5s
TX31 Lajitas Ar. Si 52.66 328 IAmb IAmb 21 00 01.4
comp=Z,5.7nm,0.8s
OZNA Ozona 52.72 331 P **P 20 59 46.5 -1.2**
OZNA IAmb IAmb 21 00 01.1
comp=Z,7.6nm,1.0s
MIAR Mount Ida 52.92 340 **P 20 59 46.7 -2.3**
MIAR IAmb IAmb 21 00 03.8
comp=Z,4.8nm,0.7s
ABTX Abilene, Hawle 53.50 334 P **P 20 59 51.8 -1.6**
MNHN Monahans 53.84 330 P **P 20 59 53.3 -2.7**
MNHN IAmb IAmb 21 00 10.3
comp=Z,7.8nm,0.6s
APMT Aspermont 54.31 334 P **P 20 59 57.6 -1.7**
SN07 Snyder 07 54.45 333 P **P 20 59 58.7 -1.6**
SN07 IAmb IAmb 21 00 15.5
comp=Z,12nm,1.2s
VHRN Van Horn 54.51 328 **P 20 59 58.3 -2.6**
VHRN IAmb IAmb 21 00 15.2
comp=Z,4.4nm,0.8s
WCI Wyandotte Cave 54.54 349 P **P 20 59 58.0 -2.8**
WCI IAmb IAmb 21 00 12.9
comp=Z,12nm,0.9s
TUL3 Leonard 54.91 339 **P 21 00 01.2 -2.4**
DKNS Dickens 54.95 333 P **P 21 00 02.1 -1.9**
DKNS IAmb IAmb 21 00 17.4
comp=Z,8.8nm,0.9s
MNTX Cornudas Mount 55.44 328 **P 21 00 06.0 -1.5**
MNTX IAmb IAmb 21 00 46.7
comp=Z,6.7nm,0.8s
SMWD Samnorwood 55.89 335 P **P 21 00 09.5 -1.2**
SBM South Baldy 58.16 328 P **P 21 00 25.1 -2.1**
ANMO Albuquerque 58.57 329 **P 21 00 28.2 -1.6**
ANMO Albuquerque 58.57 329 LR LR 21 25 15.0
comp=Z,47nm,18.1s,baz=216,slow=36
SADO Sadowa 60.10 356 LR LR 21 29 15.9
comp=Z,237nm,19.4s,baz=262,slow=39
W18A Petrified Fore 60.37 327 P **P 21 00 41.5 -0.7**
W18A IAmb IAmb 21 00 60.0
comp=Z,8.6nm,1.0s
SDCO Great Sand Dun 60.39 332 P **P 21 00 41.4 -1.0**
SDCO IAmb IAmb 21 00 59.6
comp=Z,6.6nm,0.9s
X16A Lo Mia Camp, P 60.75 325 **P 21 00 43.8 -1.1**
X16A IAmb IAmb 21 01 16.6
comp=Z,4.8nm,1.1s
PFO Pinyon Flats O 63.06 321 LR LR 21 25 28.5
comp=Z,29nm,20.1s,baz=87,slow=33
CCUT Cedar City 64.12 326 **P 21 01 05.4 -2.0**
TAOE Nuku Hiva Isla 64.24 268 *e*LR LR 21 20 12.6
comp=Z,132nm,30.3s
WCT Wildcat Mounta 65.38 324 P **P 21 01 15.2 -0.1**
WCT IAmb IAmb 21 01 33.8
comp=Z,9.0nm,1.4s
BELA Belgrano 2 65.45 171 **P 21 01 16.1 +0.9**
BELA IAmb IAmb 21 01 17.2
comp=Z,8.2nm,0.7s
SPR3 Spring Creek 3 65.70 327 **P 21 01 16.8 -0.9**
PDAR Pinedale Array 66.27 333 P **P 21 01 20.4 -0.8**
comp=Z,0.4nm,0.5s,baz=141,slow=8.9,SNR=4.8
PDAR pP **pP 21 01 35.9 -0.6**
comp=Z,0.7nm,0.7s,baz=170,slow=7.0,SNR=3.7
PDAR LR LR 21 31 39.1
comp=Z,29nm,18.7s,baz=154,slow=37
comp=Z,0.4nm,0.5s
HWUT Hardware Ranch 66.28 330 P **P 21 01 20.1 -1.1**
VNA3 Neumayer Olymp 67.47 162 ⇑P **P 21 01 27.7 -0.5**
comp=Z,6.6nm,0.8s
NVAR Mina Array Bea 67.47 324 P **P 21 01 27.9 -0.9**
comp=Z,0.3nm,0.5s,baz=119,slow=6.2,SNR=5.3
NVAR pP **pP 21 01 43.9 -0.4**
comp=Z,0.6nm,0.7s,baz=157,slow=7.9,SNR=3.5
comp=Z,0.3nm,0.5s
VNA1 Neumayer--Stat 67.72 161 ⇑P **P 21 01 31.4 +1.7**
comp=Z,14nm,0.9s
ULM Lac du Bonnet 68.07 345 LR LR 21 33 47.3
comp=Z,35nm,18.5s,baz=159,slow=38
YNE Yellowstone No 68.26 334 IAmb IAmb 21 01 34.5
comp=Z,7.9nm,0.9s
WELL Weller Preserv 68.87 323 IAmb IAmb 21 01 47.0
comp=Z,4.6nm,0.7s
SNAA Sanae 69.69 161 ⇑P **P 21 01 43.1 +1.0**
comp=Z,275nm,0.6s
SNAA Sanae 69.69 161 **P 21 01 41.7 -0.4**
SNAA IAmb IAmb 21 01 43.7
comp=Z,13nm,0.7s
SNAA Sanae 69.69 161 P **P 21 01 42.9 +0.9**
comp=Z,10nm,0.6s,baz=278,slow=7.0,SNR=148
SNAA LR LR 21 29 02.9
comp=Z,36nm,21.7s,baz=348,slow=33
comp=Z,10nm,0.6s
SCHQ Schefferville 70.34 5 LR LR 21 34 22.1
comp=Z,315nm,18.4s,baz=218,slow=37
TROLL Troll, Antarti 71.41 161 ⇑P **P 21 01 53.9 +1.3**
comp=Z,234nm,0.5s
PPT2 Papeete2 71.48 256 *e*LR LR 21 23 37.0
comp=Z,57nm,24.5s
PPT2 *e*LR LR 21 23 41.8
comp=Z,136nm,30.8s
PPT Papeete 71.48 256 LR LR 21 27 46.2
comp=Z,36nm,18.5s,baz=146,slow=31
F10A Beach Ranch, E 72.27 330 IAmb IAmb 21 02 17.3
comp=Z,5.6nm,0.7s
DBIC Dimbokro 72.46 78 P **P 21 01 59.4 -0.3**
comp=Z,3.1nm,0.6s,baz=202,slow=2.0,SNR=4.3
DBIC LR LR 21 33 24.4
comp=Z,68nm,18.1s,baz=326,slow=35
comp=Z,3.1nm,0.6s
NEW Newport 73.89 332 LR LR 21 36 06.4
comp=Z,19nm,19.6s,baz=132,slow=37
QSPA South Pole Qui 74.68 180 P **P 21 02 14.7 +2.7**
comp=Z,6.3nm,0.5s,baz=232,slow=0.3,SNR=83
comp=Z,6.3nm,0.5s
RAR Rarotonga 80.17 251 LR LR 21 29 06.4
comp=Z,42nm,21.3s,baz=146,slow=29
TORD Torodi Ar. Bea 80.62 74 P **P 21 02 42.8 -3.0**
comp=Z,7.1nm,0.9s,baz=260,slow=4.5,SNR=37
VNDA Vanda 81.79 191 **P 21 02 51.3 +0.3**
VNDA Vanda 81.79 191 P **P 21 02 52.3 +1.3**
comp=Z,3.1nm,0.9s,baz=124,slow=5.7,SNR=18
VNDA LR LR 21 31 38.0
comp=Z,43nm,20.4s,baz=136,slow=30
comp=Z,3.1nm,0.9s
MDT Midelt 82.24 53 LR LR 21 36 37.4
comp=Z,22nm,21.6s,baz=238,slow=34
YKA Yellowknife Ar 83.80 343 LR LR 21 43 54.1
comp=Z,37nm,18.5s,baz=63,slow=38
SFJD Kangerlussuaq 84.12 9 LR LR 21 43 42.6
comp=Z,31nm,18.3s,baz=176,slow=38
ESDC Sonseca Array 85.50 47 P **P 21 03 09.6 -1.0**
comp=Z,0.6nm,0.7s,baz=247,slow=5.2,SNR=10
ESDC pP **pP 21 03 26.4 -0.2**
comp=Z,0.8nm,0.5s,baz=256,slow=5.1,SNR=5.4
ESDC LR LR 21 40 47.0
comp=Z,33nm,18.1s,baz=258,slow=35
comp=Z,0.6nm,0.7s
TSUM Tsumeb 87.00 109 LR LR 21 39 26.6
comp=Z,19nm,20.4s,baz=84,slow=34
TAM Tamanrasset 87.09 66 P **P 21 03 18.8 -0.1**
P33M Teslin, Yukon 88.64 335 **P 21 03 24.3 -1.1**
P33M pP **pP 21 03 39.8 -1.4**
MAW Mawson 91.56 165 P **P 21 03 39.0 +0.2**
comp=Z,2.4nm,0.7s,baz=204,slow=3.8,SNR=5.7
MAW LR LR 21 41 58.5
comp=Z,53nm,22.0s,baz=151,slow=34
comp=Z,2.4nm,0.7s
L29M L29M 92.34 336 **P 21 03 41.5 -1.0**
L29M pP **pP 21 03 56.3 -2.0**
L29M IAmb IAmb 21 03 58.2
comp=Z,5.0nm,0.8s
INK Inuvik 93.51 341 LR LR 21 50 20.7
comp=Z,34nm,18.3s,baz=31,slow=38
ILAR Eielson Array 96.55 336 LR LR 21 50 19.2
comp=Z,56nm,21.8s,baz=296,slow=37
KDAK Kodiak Island 96.69 328 LR LR 21 46 04.2
comp=Z,31nm,19.1s,baz=117,slow=34
LSZ Lusaka 97.83 108 LR LR 21 47 12.6
comp=Z,17nm,18.5s,baz=240,slow=35
AK14 Malin Array Si 110.47 41 P **Pdif 21 05 06.5 +2.5**
KBZ Khabaz 120.34 48 PKP **PKPdf 21 09 23.2 -0.4**
comp=Z,1.6nm,0.8s,baz=194,slow=4.2,SNR=4.8
H11N3 WAKE ISLAND Hyl21.50 284 T T 23 22 08.6
baz=97,slow=74,SNR=113
H11N2 WAKE ISLAND Hyl21.52 284 T T 23 22 16.4
baz=97,slow=74,SNR=160
H11N1 WAKE ISLAND Hyl21.52 284 T T 23 22 20.4
baz=97,slow=74,SNR=88
STKA Stephens Creek 121.52 216 PKP **PKPdf 21 09 25.8 -0.6**
comp=Z,0.6nm,0.5s,baz=87,slow=5.3,SNR=5.6
H11S2 WAKE ISLAND Hyl21.55 282 T T 23 22 11.9
baz=99,slow=75,SNR=18
H11S1 WAKE ISLAND Hyl21.56 282 T T 23 22 21.1
baz=99,slow=75,SNR=9.8
H11S3 WAKE ISLAND Hyl21.57 282 T T 23 22 26.4
baz=99,slow=75,SNR=19
AKTO Aktyubinsk 128.40 37 PKP **PKPdf 21 09 38.1 -0.8**
comp=Z,0.7nm,0.7s,baz=240,slow=4.1,SNR=3.7
ASAR Alice Springs 132.16 216 PKP **PKPdf 21 09 46.5 -0.5**
comp=Z,2.1nm,0.6s,baz=124,slow=1.9,SNR=28
ASAR pPKP **pPKPdf 21 10 02.6 -0.5**
comp=Z,1.0nm,0.5s,baz=121,slow=1.8,SNR=5.4
WRA Warramunga Arr 134.76 220 PKP **PKPdf 21 09 51.6 -0.3**
comp=Z,4.4nm,0.7s,baz=135,slow=2.0,SNR=24
WRA pPKP **pPKPdf 21 10 08.1 0.0**
comp=Z,2.5nm,0.5s,baz=135,slow=1.9,SNR=7.2
ZALV Zalesovo Beam 138.36 18 PKP **PKPdf 21 09 57.6 +0.1**
comp=Z,2.9nm,0.6s,baz=301,slow=1.9,SNR=16
ZALV pPKP **pPKPdf 21 10 13.3 -0.5**
comp=Z,2.5nm,0.7s,baz=308,slow=2.0,SNR=5.8
KURBB Kurchatov Arra 138.78 26 PKP **PKPdf 21 09 59.1 +0.8**
comp=Z,1.0nm,0.6s,baz=308,slow=2.8,SNR=9.7
KURBB pPKP **pPKPdf 21 10 14.4 -0.3**
comp=Z,0.8nm,0.8s,baz=301,slow=2.2,SNR=4.0
MKAR Makanchi Array 143.31 27 PKP PKPbc 21 10 04.0 +0.2
comp=Z,0.7nm,0.6s,baz=324,slow=3.4,SNR=5.5
HILR Hailar Array B 144.06 344 PKP **PKPab 21 10 04.7 -0.8**
comp=Z,1.5nm,0.5s,baz=85,slow=3.3,SNR=3.9
MJAR Matsushiro Arr 144.09 312 PKP **PKPab 21 10 05.3 -0.7**
comp=Z,2.1nm,0.7s,baz=71,slow=2.3,SNR=5.5
SONM Songino Array 147.72 359 PKPbc **PKPbc 21 10 16.9 -0.3**
comp=Z,4.3nm,0.7s,baz=325,slow=1.3,SNR=23
SONM pPKPbc **pPKPdf 21 10 32.8 +2.0**
comp=Z,5.2nm,0.6s,baz=341,slow=1.9,SNR=13
KSRS Korea Array 150.40 322 PKP **PKPdf 21 10 19.2 +0.4**
comp=Z,3.1nm,0.9s,baz=114,slow=0.9,SNR=5.1
KSRS PKPbc **PKPbc 21 10 23.6 -0.4**
comp=Z,3.4nm,0.9s,baz=356,slow=2.0,SNR=7.0

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*IDC **21** 20:57:34.9±1.9, 40°.65N×51°.91E, h0km, mb4.0/10, mbtmp4.0/17, ML3.6/6, MS3.0/10, Error ellipse: s-maj=33.0km s-min=10.4km az=165.0*
*TIF **21** 20:57:38.2, 40°.48N×51°.89E, h147km±6km*
*AZER **21** 20:57:40.0, 40°.45N×51°.87E, h25km, mb4.7, ml3.8*
ISC 21 20:57:40.5±1.2, **40°.59N**±0°.05×**51°.98E**±0°.07, **h66**km±13km, **n82**, σ1.974/111, **mb3.9**/10, **2C-2D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.40**	**263**	Sn	**Sn**	**20 58 20.4**	**-1.3**
NDR	**Nardaran**	**1.52**	**270**	Pg	**Pn**	**20 58 08.2**	**+2.7**
NDR				Sn	**Sn**	**20 58 21.6**	**-2.8**
GOBA	**Gobu**	**1.73**	**264**	Sn	**Sn**	**20 58 30.2**	**+0.8**
GBS	**Qobustan**	**2.32**	**270**	Pn	**Pn**	**20 58 19.0**	**+2.6**
GBS				Sn	**Sn**	**20 58 46.3**	**+2.5**
ATGJ	**Altiaghaj**	**2.33**	**278**	Pn	**Pn**	**20 58 17.9**	**+1.3**
ATGJ				Sn	**Sn**	**20 58 46.2**	**+2.0**
ALIB	**&Aumlli-Bayram**	**2.36**	**255**	Pn	**Pn**	**20 58 20.0**	**+3.0**
ALIB				Sn	**Sn**	**20 58 46.0**	**+1.2**
SIZA	**Siyzn**	**2.39**	**283**	Pn	**Pn**	**20 58 19.3**	**+2.0**
SIZA				Sn	**Sn**	**20 58 48.0**	**+2.4**
PQL	**Pirkuli**	**2.58**	**275**	Pn	**Pn**	**20 58 21.5**	**+1.4**
PQL				Sn	**Sn**	**20 58 50.5**	**0.0**
QUBA	**Quba, Azerbaij**	**2.75**	**287**	Pn	**Pn**	**20 58 23.7**	**+1.5**
QUBA				Sn	**Sn**	**20 58 56.6**	**+2.3**
SAAT	**Saatly**	**2.82**	**256**	Sn	**Sn**	**20 58 59.5**	**+3.6**
IML	**Ismayilli**	**2.90**	**275**	Pn	**Pn**	**20 58 25.1**	**+0.9**
IML				Sn	**Sn**	**20 58 59.2**	**+1.3**
KDMR	**Kurdemir**	**2.90**	**267**	Pn	**Pn**	**20 58 25.2**	**+0.9**
KDMR				Sn	**Sn**	**20 58 59.4**	**+1.4**
QSAR	**Qusar**	**2.96**	**289**	Pn	**Pn**	**20 58 26.3**	**+1.2**
QSAR				Sn	**Sn**	**20 59 00.5**	**+1.1**
XNQ	**Khinaliq**	**2.97**	**282**	Pn	**Pn**	**20 58 26.2**	**+0.9**
XNQ				Sn	**Sn**	**20 59 00.5**	**+0.5**
GLBA	**Cliilabad**	**3.07**	**245**	Pn	**Pn**	**20 58 27.7**	**+1.1**
GLBA				Sn	**Sn**	**20 59 02.0**	**-0.2**
LKRN	**Lenkeran, Azer**	**3.11**	**234**	Pn	**Pn**	**20 58 27.3**	**+0.3**
LKRN				Sn	**Sn**	**20 59 02.0**	**-0.9**
QBL	**Gabala**	**3.17**	**278**	Pn	**Pn**	**20 58 28.3**	**+0.4**
QBL				Sn	**Sn**	**20 59 04.5**	**0.0**
ASTR	**Astara**	**3.19**	**232**	Pn	**Pn**	**20 58 28.2**	**-0.1**
ASTR				Sn	**Sn**	**20 59 03.8**	**-1.4**
ZRD	**Zardab**	**3.29**	**266**	Pn	**Pn**	**20 58 30.3**	**+0.7**
ZRD				Sn	**Sn**	**20 59 09.1**	**+1.5**
YRD	**Yardimli**	**3.33**	**241**	Pn	**Pn**	**20 58 30.2**	**-0.1**
YRD				Sn	**Sn**	**20 59 06.6**	**-2.3**
LRK	**Lerik**	**3.42**	**236**	Pn	**Pn**	**20 58 31.6**	**0.0**
LRK				Sn	**Sn**	**20 59 09.2**	**-1.7**
BLQ	**Beylaqan**	**3.50**	**257**	Pn	**Pn**	**20 58 32.8**	**+0.4**
BLQ				Sn	**Sn**	**20 59 11.1**	**-1.6**
SEKA	**Sheki**	**3.68**	**281**	Pn	**Pn**	**20 58 35.5**	**+0.6**
SEKA				Sn	**Sn**	**20 59 18.5**	**+1.4**
BRDA	**Brd**	**3.68**	**266**	Pn	**Pn**	**20 58 35.8**	**+0.9**
BRDA				Sn	**Sn**	**20 59 19.1**	**+2.1**
MNGR	**Mingechevir, A**	**3.73**	**274**	Pn	**Pn**	**20 58 36.3**	**+0.8**
MNGR				Sn	**Sn**	**20 59 19.3**	**+1.2**
QRD	**Qoradiz**	**3.75**	**254**	Pn	**Pn**	**20 58 35.7**	**-0.2**
QRD				Sn	**Sn**	**20 59 17.4**	**-1.4**
AGDM	**Agdam**	**3.75**	**264**	Pn	**Pn**	**20 58 35.9**	**-0.1**
AGDM				Sn	**Sn**	**20 59 18.6**	**-0.3**
ZKTA	**Zakatala**	**4.18**	**286**	Pn	**Pn**	**20 58 43.2**	**+1.4**
ZKTA				Sn	**Sn**	**20 59 31.0**	**+1.6**
VSHL	**Vashlovani**	**4.28**	**280**	P	**Pn**	**20 58 44.0**	**+0.9**
VSHL				S	**Sn**	**20 59 32.8**	**+1.1**
GANJ	**Ganja**	**4.31**	**273**	Pn	**Pn**	**20 58 42.5**	**-1.0**
GANJ				Sn	**Sn**	**20 59 30.1**	**-2.4**
GDB	**GEDABAY**	**4.74**	**274**	Pn	**Pn**	**20 58 48.8**	**-0.7**
GDB				Sn	**Sn**	**20 59 40.9**	**-2.3**
ORD	**Ordubad**	**4.90**	**252**	Pn	**Pn**	**20 58 52.4**	**+0.7**
ORD				Sn	**Sn**	**20 59 45.5**	**-1.7**
QZX	**Qazax, Azerbai**	**5.04**	**277**	Pn	**Pn**	**20 58 53.1**	**-0.3**
QZX				Sn	**Sn**	**20 59 48.9**	**-1.4**
DGRG	**David-gareji**	**5.07**	**282**	P	**Pn**	**20 58 54.3**	**+0.3**
DGRG				S	**Sn**	**20 59 50.9**	**-0.3**
NAX	**Nakhchivan**	**5.19**	**256**	Pn	**Pn**	**20 58 55.0**	**-0.6**
NAX				Sn	**Sn**	**20 59 52.7**	**-1.4**
SHTL	**Shatili**	**5.52**	**294**	P	**Pn**	**20 59 01.0**	**+0.9**
SHTL				S	**Sn**	**21 00 01.9**	**-0.3**
HYR	**Heyderabad**	**5.53**	**263**	Pn	**Pn**	**20 59 02.3**	**+2.0**
HYR				Sn	**Sn**	**21 00 02.9**	**+0.3**
GNI	**Garni**	**5.55**	**268**	Pn	**Pn**	**20 59 01.8**	**+1.2**
	1.0nm,0.3s,baz=22,slow=19,SNR=2.2						
GNI				Sn	**Sn**	**21 00 05.2**	**+2.1**
	1.1nm,0.3s,baz=31,slow=18,SNR=3.7						
	3.1nm,0.4s						
TRLG	**Trialeti**	**6.03**	**282**	P	**Pn**	**20 59 06.6**	**-0.6**
KBZ	**Khabaz**	**7.44**	**298**	Pn	**Pn**	**20 59 25.2**	**-1.0**
	0.4nm,0.3s,baz=138,slow=1.9,SNR=12						
KBZ				Sn	**Sn**	**21 00 41.6**	**-7.5**
	2.5nm,0.3s,baz=162,slow=16,SNR=6.6						
	1.0nm,0.3s						
KVAR	**Kislovodsk Arr**	**7.66**	**299**	Pn	**Pn**	**20 59 28.1**	**-1.3**
	baz=100,slow=22						
	1.4nm,0.3s						
AB31	**Akbulak array**	**10.33**	**30**	⇓P	Pn	21 00 01.0	-4.8
	4.4nm,0.7s,baz=203,slow=13						
AB31				⇑S	Sn	21 01 48.3	-12
	12nm,0.3s,baz=205,slow=24						
AKTO	**Aktyubinsk**	**10.71**	**21**	Pn	Pn	21 00 08.1	-2.8
	2.0nm,0.3s,baz=203,slow=7.6,SNR=33						
AKTO				Sn	Sn	21 01 58.9	-10
	13nm,0.3s,baz=224,slow=23,SNR=22						
AKTO				LR	LR	21 05 22.4	
	comp=Z,55nm,20.3s,baz=336,slow=44						
	6.5nm,0.5s						
AKTO	**Aktyubinsk**	**10.71**	**21**	⇓P	**Pn**	**21 00 10.6**	**-0.4**
	2.9nm,0.5s						
AKTO				⇑S	**Sn**	**21 02 04.4**	**-4.7**
	72nm,0.8s						
BELG	**Belogornoye**	**12.18**	**347**	Pn	Pn	21 00 27.1	-3.7
	0.9nm,0.3s,baz=297,slow=3.7,SNR=8.2						

BELG			Sn	Sn	21 02 31.6	-13
	6.2nm,0.3s,baz=149,slow=22,SNR=18					
	7.3nm,0.6s					
BRTR	**Keskin Array B**	**14.06 272**	Sn	**Sn**	**21 03 26.5**	**-4.5**
	0.1nm,0.3s,baz=98,slow=27,SNR=1.3					
MMAI	**Mount Meron Ar**	**15.27 246**	LR	LR	21 07 41.3	
	comp=Z,28nm,18.8s,baz=27,slow=40					
AAK	**Ala-Archa**	**16.95 76**	LR	LR	21 07 47.4	
	comp=Z,27nm,20.5s,baz=281,slow=36					
BAL3X	**Bal3x, Balta**	**17.59 302**	P	**P**	**21 01 35.7**	**-5.5**
BVAR	**Borovoye Array**	**17.64 39**	P	**P**	**21 01 40.5**	**-1.2**
	0.1nm,0.3s,baz=233,slow=12,SNR=15					
BVAR			S	Sn	21 04 46.1	-11
	4.9nm,0.6s,baz=229,slow=21,SNR=6.6					
BVAR			LR	LR	21 09 49.6	
	comp=Z,52nm,18.6s,baz=238,slow=42					
	6.3nm,0.6s					
EIL	**Elat**	**17.65 237**	LR	LR	21 08 50.3	
	comp=Z,20nm,21.5s,baz=154,slow=38					
AK09	**Malin Array Si**	**18.71 310**	P	**P**	**21 01 53.0**	**-0.4**
AK10	**Malin Array Si**	**18.72 310**	P	**P**	**21 01 53.1**	**-0.5**
AK10			pP	**Pn**	**21 01 54.3**	**-0.3**
AK07	**Malin Array Si**	**18.73 310**	P	**P**	**21 01 53.2**	**-0.4**
AK08	**Malin Array Si**	**18.73 310**	P	**P**	**21 01 53.5**	**-0.2**
AK06	**Malin Array Si**	**18.75 310**	P	**P**	**21 01 53.5**	**-0.3**
AK05	**Malin Array Si**	**18.76 310**	P	**P**	**21 01 53.6**	**-0.4**
AK05			pP	**Pn**	**21 01 54.8**	**-0.3**
AK02	**Malin Array Si**	**18.77 310**	P	**P**	**21 01 53.5**	**-0.6**
AKASG	**Malin Array Be**	**18.78 310**	P	**P**	**21 01 52.8**	**-1.4**
	3.8nm,0.5s,baz=114,slow=11,SNR=12					
AKBB	**Malin Array Si**	**18.78 310**	P	**P**	**21 01 53.9**	**-0.3**
KIEV	**Kiev**	**18.78 310**	P	**P**	**21 01 53.8**	**-0.4**
AK03	**Malin Array Si**	**18.79 310**	P	**P**	**21 01 54.0**	**-0.3**
AK12	**Malin Array Si**	**18.79 310**	P	**P**	**21 01 53.9**	**-0.5**
AK04	**Malin Array Si**	**18.82 310**	P	**P**	**21 01 54.3**	**-0.3**
AK18	**Malin Array Si**	**18.88 310**	P	**P**	**21 01 54.7**	**-0.6**
AK19	**Malin Array Si**	**18.91 310**	P	**P**	**21 01 54.9**	**-0.7**
AK20	**Malin Array Si**	**18.92 310**	P	**P**	**21 01 54.9**	**-0.8**
BISRR	**Bisoca**	**19.08 293**	P	P	21 01 44.4	-13
	17nm,2.3s					
LUBAR	**Lubar, Ukraine**	**19.36 307**	P	**P**	**21 01 57.4**	**-3.2**
KURBB	**Kurchatov Arra**	**21.00 53**	P	**P**	**21 02 20.3**	**+1.9**
	2.2nm,0.2s,baz=254,slow=11,SNR=8.9					
KURBB			LR	LR	21 11 45.9	
	comp=Z,66nm,18.9s,baz=173,slow=40					
	2.2nm,0.2s					
MKAR	**Makanchi Array**	**22.68 64**	P	**P**	**21 02 38.5**	**+2.1**
	1.5nm,0.9s,baz=260,slow=7.2,SNR=7.7					
	1.5nm,0.9s					
ZALV	**Zalesovo Beam**	**25.71 48**	P	**P**	**21 03 06.2**	**+1.9**
	2.6nm,0.6s,baz=269,slow=11,SNR=12					
ZALV			LR	LR	21 15 09.4	
	comp=Z,19nm,19.3s,baz=282,slow=41					
	2.6nm,0.6s					
FINES	**FINESS Array B**	**26.16 332**	P	**P**	**21 03 08.6**	**+0.3**
	2.2nm,0.5s,baz=139,slow=13,SNR=25					
	2.2nm,0.5s					
GERES	**GERESS Array B**	**28.18 300**	P	**P**	**21 03 27.8**	**+1.2**
	0.3nm,0.5s,baz=104,slow=9.7,SNR=3.6					
	0.3nm,0.5s					
HFS	**Hagfors**	**30.65 323**	P	**P**	**21 03 48.3**	**0.0**
	1.3nm,0.6s,baz=106,slow=9.4,SNR=6.0					
	1.3nm,0.6s					
NOA	**NORSAR Array B**	**32.12 323**	P	**P**	**21 04 01.8**	**+0.6**
	0.4nm,0.6s,baz=113,slow=8.9,SNR=1.0					
	0.4nm,0.6s					
ARCES	**ARCESS Array B**	**32.17 343**	P	**P**	**21 04 02.6**	**+1.1**
	4.3nm,1.0s,baz=144,slow=8.8,SNR=5.6					
	4.3nm,1.0s					
EKA	**Eskdalemuir Ar**	**38.68 311**	P	**P**	**21 04 58.2**	**+0.7**
	1.0nm,0.5s,baz=101,slow=9.0,SNR=6.8					
	1.0nm,0.5s					
SONM	**Songino Array**	**38.97 61**	LR	LR	21 22 33.6	
	comp=Z,26nm,19.9s,baz=30,slow=38					
SPITS	**Spitsbergen Ar**	**40.37 349**	P	**P**	**21 05 13.3**	**+2.0**
	7.3nm,0.9s,baz=206,slow=9.6,SNR=1.3					
	7.3nm,0.9s					
TIXI	**Tiksi**	**47.97 25**	LR	LR	21 27 39.4	
	comp=Z,32nm,18.7s,baz=346,slow=38					
YAK	**Yakutsk**	**49.60 37**	LR	LR	21 29 09.9	
	comp=Z,32nm,18.2s,baz=311,slow=38					

DJA **21** *20:59:29.8±0.5,10°S±5°×12°4E±°,h35km±8km,M3.7/8,*
mB4.5/1,mb4.0/2,MLv3.6/8,Mw(mB)3.7/1,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.47**	**339**	P	Pn	20 59 41.2	+1.0
SOEI				S	Sn	20 59 49.4	+2.0
BATI	**Baumata**	**0.77**	**269**	P	Pn	20 59 45.2	+1.1
BATI				S	Sn	20 59 56.5	+2.0
MMRI	**Maumere**	**2.67**	**305**	P	Pn	21 00 11.4	+1.0
EDFI	**Ende, Flores**	**3.07**	**298**	P	Pn	21 00 15.8	-0.2
BASI	**Baing, Sumba**	**3.80**	**269**	P	Pn	21 00 26.1	+0.2
WBSI	**Waikabubak, Su**	**5.00**	**276**	P	Pn	21 00 42.4	-0.1
	0.1nm15nm,1.0s						
TWSI	**Taliwang, Sumb**	**7.60**	**280**	P	Pn	21 01 17.8	-0.3

NEIC **21** *20:59:51.8±1.5,7°0S±0°1×154°3E±0°1,h10km±2km,*
mb5.0/23,Error ellipse: s-maj=24.7km s-min=16.4km
az=107.0
IDC **21** *20:59:54.5±6.9,7°64S×154°95E,h49km±54km,mb3.6/7,*
mbtmp3.9/8,ML2.2/1,Error ellipse: s-maj=87.5km
s-min=27.3km az=122.0
ISC 21 20:59:52.2±1.2,7°1S±0°1×154°1E±0°2,h10km,n38,
σ1§38/39,mb4.8/21,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.44**	**326**	Pn	**Pn**	**21 00 46.5**	**+0.6**
PMG	**Port Moresby**	**7.24**	**251**	Pn	**Pn**	**21 01 36.8**	**-1.4**
PMG	**Port Moresby**	**7.24**	**251**	P	Pn	21 01 47.9	+10
	1.9nm,0.3s,baz=143,slow=20,SNR=2.3						
	7.8nm,0.5s						
COEN	**Coen**	**12.73**	**237**	Pn	**Pn**	**21 02 54.8**	**+1.4**
WB0	**Warramunga Arr**	**22.91**	**235**	P	**P**	**21 04 56.4**	**-0.2**
WR8	**Warramunga Arr**	**22.92**	**234**	P	**P**	**21 04 56.2**	**-0.4**
WRA	**Warramunga Arr**	**23.04**	**234**	IAmb	IAmb	21 05 07.8	
	comp=Z,0.6nm,1.4s						
WRA	**Warramunga Arr**	**23.04**	**234**	P	**P**	**21 04 58.6**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=58,slow=9.4,SNR=9.6						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**25.46**	**227**	P	**P**	**21 05 20.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=60,slow=9.0,SNR=8.4						
	comp=Z,0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.80**	**246**	P	**P**	**21 06 01.4**	**+1.7**
	comp=Z,2.9nm,1.0s,baz=73,slow=13,SNR=2.1						
	comp=Z,2.9nm,1.0s						
ERM	**Erimo**	**49.86**	**349**	P	**P**	**21 08 44.0**	**-1.7**
PETK	**Petropavlovsk-**	**60.02**	**3**	P	**P**	**21 09 59.6**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=188,slow=8.4,SNR=2.8						
	comp=Z,1.1nm,0.6s						
GTA	**Gaotai**	**68.18**	**317**	*e*P	P	21 10 59.5	+6.3
GTA				sP	pwP	21 11 07.1	+5.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HYB	**Hyderabad**	**78.45**	**289**	*e*P	**P**	**21 11 53.6**	**-0.4**
HYB				*e*pP	**sP**	**21 11 57.0**	**+0.8**
HYB				*e*PP	**PP**	**21 14 51.1**	**-0.5**
HYB				*e*S	**S**	**21 21 46.6**	**-4.1**
L18K	**Granite Mounta**	**78.71**	**21**	P	**P**	**21 11 54.6**	**+0.1**
CNPM	**China Poot**	**79.20**	**25**	P	**P**	**21 11 56.7**	**-0.6**
L19K	**White Mountain**	**79.36**	**22**	P	**P**	**21 11 57.0**	**-1.1**
L19K				IAmb	IAmb	21 12 02.2	
	comp=Z,30nm,1.8s						
SLKM	**Skilak Lake**	**80.18**	**25**	P	**P**	**21 12 01.8**	**-0.8**
SLKM				IAmb	IAmb	21 12 02.0	
	comp=Z,9.9nm,0.7s						
SUA	**Susitna One**	**80.50**	**24**	P	**P**	**21 12 03.0**	**-1.5**
SUA				IAmb	IAmb	21 12 57.9	
	comp=Z,25nm,1.3s						
RC01	**Rabbit Creek A**	**80.70**	**24**	P	**P**	**21 12 04.1**	**-1.3**
RC01				IAmb	IAmb	21 13 13.0	
	comp=Z,20nm,1.2s						
PPLA	**Purkeypile**	**80.77**	**22**	P	**P**	**21 12 04.6**	**-1.3**
PPLA				IAmb	IAmb	21 13 07.2	
	comp=Z,27nm,1.6s						
J20K	**Nowinta River**	**80.84**	**20**	P	**P**	**21 12 04.9**	**-1.2**
J20K				IAmb	IAmb	21 13 24.8	
	comp=Z,16nm,1.6s						
PWL	**Port Wells**	**81.15**	**25**	P	**P**	**21 12 06.7**	**-1.1**
PWL				IAmb	IAmb	21 12 07.5	
	comp=Z,9.8nm,0.7s						
SML	**Sawmill**	**81.65**	**24**	P	**P**	**21 12 08.8**	**-1.7**
SML				IAmb	IAmb	21 13 50.6	
	comp=Z,26nm,1.6s						
IMAR	**Indian Mountai**	**82.09**	**19**	P	**P**	**21 12 12.1**	**-0.6**
MLY	**Manley**	**82.53**	**21**	P	**P**	**21 12 13.3**	**-1.8**
MLY				IAmb	IAmb	21 15 21.4	
	comp=Z,14nm,1.6s						
MKAR	**Makanchi Array**	**82.87**	**319**	P	**P**	**21 12 19.7**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=113,slow=5.9,SNR=3.4						
	comp=Z,0.8nm,0.8s						
BERG	**Berg Lake**	**82.89**	**26**	P	**P**	**21 12 15.4**	**-1.6**
CCB	**Clear Creek Bu**	**83.37**	**22**	P	**P**	**21 12 17.1**	**-2.2**
CCB				IAmb	IAmb	21 13 44.5	
	comp=Z,21nm,1.8s						
ZALV	**Zalesovo Beam**	**83.74**	**326**	P	**P**	**21 12 22.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=125,slow=7.2,SNR=2.8						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**83.77**	**22**	P	**P**	**21 12 19.0**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=252,slow=5.9,SNR=6.6						
	comp=Z,0.6nm,0.6s						
MENT	**Mentasta**	**84.08**	**24**	P	**P**	**21 12 21.9**	**-1.1**
MENT				IAmb	IAmb	21 14 30.0	
	comp=Z,19nm,1.9s						
SCRK	**Sand Creek**	**84.47**	**23**	P	**P**	**21 12 24.0**	**-1.1**
SCRK				IAmb	IAmb	21 13 23.9	
	comp=Z,21nm,2.0s						
BMAR	**Burnt Mountain**	**85.92**	**20**	P	**P**	**21 12 32.5**	**+0.3**
K29M	**Barlow Dome**	**86.99**	**24**	P	**P**	**21 12 37.1**	**-0.6**
K29M				IAmb	IAmb	21 12 49.7	
	comp=Z,7.4nm,1.1s						
E27K	**Coleen River**	**87.28**	**20**	P	**P**	**21 12 38.9**	**+0.1**
J30M	**Hart River**	**87.75**	**24**	P	**P**	**21 12 40.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**152.18**	**285**	PKPbc	**PKPbc**	**21 19 48.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=63,slow=4.3,SNR=3.0						
TORD				PKPab	**PKPab**	**21 19 59.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=58,slow=4.1,SNR=3.4						

ISN **21** *21:05:45.0±0.5,36°31N×45°23E,h7km±2km,ML3.2*
TEH **21** *21:05:45.6,36°25N×45°33E,h11km±29km*
AFAD **21** *21:05:48.0,36°17N×45°08E,h13km±32km,ML2.8*
ISC 21 21:05:46.8±1.3,36°31N±0°04×45°24E±0°03,h15km±11km,
n24,σ1§95/36,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.59**	**39**	Pg	**Pg**	**21 05 57.0**	**-1.4**
MAHB				Sg	**Sg**	**21 06 06.1**	**-0.1**
IKRK	**Kirkuk**	**1.17**	**219**	*e*Pg	**Pn**	**21 06 07.5**	**-1.1**
IKRK				*e*Sg	**Sb**	**21 06 23.0**	**-0.7**
YOVA	**Hakkari_Yksek**	**1.48**	**329**	P	**Pg**	**21 06 15.9**	**+0.6**
YOVA				S	**Sg**	**21 06 36.0**	**+1.3**
IAZR	**Azarshahr**	**1.48**	**23**	Pg	**Pb**	**21 06 14.1**	**-0.1**
CUKT	**Cukurca**	**1.61**	**306**	P	Pn	21 06 03.5	-11
CUKT				S	**Sn**	**21 06 26.9**	**-8.5**
MSL	**Mosul**	**1.72**	**274**	*e*Pn	**Pn**	**21 06 16.7**	**+0.4**
MSL				*e*Sn	**Sb**	**21 06 40.0**	**+0.4**
HAKT	**HAKKARI**	**1.75**	**316**	P	**Pb**	**21 06 19.1**	**+0.4**
HAKT				S	**Sg**	**21 06 44.3**	**+1.2**
HAKT				*i* IAML		21 06 48.0	
	comp=N,126nm,0.4s						
HAKT				*i* IAML		21 06 49.0	
	comp=E,139nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**1.82**	**171**	Pg	**Pn**	**21 06 17.7**	**0.0**
IDHR	**Dehrash**	**1.86**	**150**	Pg	**Pn**	**21 06 17.6**	**-0.8**
IHSH	**Hashtrud**	**1.90**	**58**	Pn	**Pn**	**21 06 19.1**	**+0.2**
ITBZ	**Tabriz**	**2.05**	**20**	Pn	**Pb**	**21 06 23.4**	**-0.4**
GLG1	**Gilan-e-Gharb**	**2.26**	**166**	Pn	**Pn**	**21 06 23.7**	**-0.1**
IMRD	**Marand**	**2.42**	**9**	Pn	**Pn**	**21 06 27.8**	**+1.7**
SNQR	**Sonqor, Kerman**	**2.43**	**126**	Pn	**Pn**	**21 06 26.5**	**+0.3**
IHRS	**Heris**	**2.46**	**35**	Pn	**Pn**	**21 06 28.0**	**+1.4**
SIRN	**Sırnak**	**2.56**	**298**	P	**Pn**	**21 06 29.8**	**+2.0**
SIRN				S	**Sb**	**21 07 01.5**	**-2.2**
SIRN				*i* IAML		21 07 13.0	
	comp=N,49nm,0.6s						
SIRN				*i* IAML		21 07 25.0	
	comp=E,45nm,0.7s						
PERV	**Siirt/Pervari-**	**2.71**	**308**	P	**Pb**	**21 06 32.8**	**-2.2**
PERV				S	**Sb**	**21 07 10.3**	**+2.3**
PERV				*i* IAML		21 07 23.0	
	comp=N,45nm,0.6s						
PERV				*i* IAML		21 07 29.0	
	comp=E,44nm,0.6s						
BHD	**Baghdad**	**3.12**	**193**	*e*Pn	**Pn**	**21 06 36.5**	**+1.1**
BHD				*e*Sn	**Sn**	**21 07 14.0**	**+1.6**
SRTM	**Siirt_Merkez**	**3.14**	**303**	P	**Pn**	**21 06 37.5**	**+1.7**
SRTM				S	**Sb**	**21 07 22.0**	**+1.6**
SRTM				*i* IAML		21 07 43.0	
	comp=N,30nm,0.7s						
IBDR	**Badra**	**3.25**	**170**	*e*Pn	**Pn**	**21 06 38.0**	**+0.8**
IBDR				*e*Sn	**Sn**	**21 07 17.0**	**+1.4**
MIDY	**Mardin/Midyat-**	**3.27**	**291**	P	**Pn**	**21 06 38.1**	**+0.5**
MIDY				S	**Sn**	**21 07 17.6**	**+1.3**
MIDY				*i* IAML		21 07 45.0	
	comp=E,26nm,0.5s						
MIDY				*i* IAML		21 07 46.0	
	comp=N,27nm,0.4s						
JIR1	**Jirandeh**	**3.69**	**83**	Pn	**Pn**	**21 06 44.2**	**+0.7**
RAFI	**Al-Rafai**	**4.63**	**171**	*e*Pn	**Pn**	**21 06 57.5**	**+1.2**
RAFI				*e*Sn	**Sn**	**21 07 50.5**	**+0.7**
JHBN	**Jahan bin**	**6.06**	**131**	Pn	**Pn**	**21 07 15.6**	**-0.6**

ATH **21** *21:20:37.2,40°55N×20°73E,h4km±1km,ML2.1/8,Manual*
Solution by M.Kolligri First location: 2019/10/21 21:21:56,
This location: 2020/07/06 06:12:43 ML Amplitudes are
expressed in micrometers, All distances are expressed in
degrees Latitude uncertainty: 1 km; Longitude uncertainty:
1 km
TIR **21** *21:20:38.0,40°57N×20°82E,h16km±1km,Md2.8/2,Ml2.3/3*
SKO **21** *21:20:40.1,40°57N×20°75E,h19km,ML2.2*
ISC 21 21:20:37.6±1.0,40°60N±0°03×20°76E±0°04,h11km±5km,
n28,σ1§15/42,3C-1D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.03**	**37**	⇓*i*Pg	**Pg**	**21 20 40.3**	**+0.6**
KBN				Sg	**Sg**	**21 20 41.3**	**0.0**
KBN				AML	AML	21 20 42.7	
	9.1nm,0.3s						
KBN				AMd		21 21 51.9	
NEST	**Nestorio**	**0.28**	**130**	⇑*i*Pg	**Pg**	**21 20 43.1**	**-0.4**
NEST				Sg	**Sg**	**21 20 47.3**	**0.0**
NEST				AML	AML	21 20 47.7	
	1.6nm,0.2s						
NEST				AML	AML	21 20 50.6	
	2.4nm,0.4s						
NEST				AMd		21 22 00.7	
NEST	**Nestorio**	**0.28**	**130**	P	**Pg**	**21 20 42.8**	**-0.6**
NEST				S	**Sg**	**21 20 46.7**	**-0.7**
LMS2	**Laimos Florina**	**0.37**	**51**	P	**Pb**	**21 20 45.7**	**-0.6**
LMS2				S	**Sb**	**21 20 51.4**	**-0.8**
PENT	**Pentalofos**	**0.49**	**144**	P	**Pg**	**21 20 46.2**	**-1.1**
PENT				S	**Sg**	**21 20 53.4**	**-0.5**
OHR	**Ohrid**	**0.51**	**3**	*i* Pg	**Pn**	**21 20 50.2**	**-0.8**
OHR				*i* Sg	**Sn**	**21 20 59.7**	**-0.1**
OHR				*e*Lg	Lg	21 20 59.8	
	comp=N,58nm,0.6s						
OHR				*e*Lg	Lg	21 20 60.0	
	comp=E,131nm,0.5s						
KZN	**Kozani**	**0.82**	**110**	P	**Pg**	**21 20 52.5**	**-1.0**
KZN				S	**Sb**	**21 21 05.4**	**+0.3**
IGT	**Igoumenitsa**	**1.11**	**197**	⇑*e*Pn	**Pn**	**21 20 59.2**	**0.0**
IGT				Sn	**Sn**	**21 21 14.5**	**-0.1**
IGT				AML	AML	21 21 21.9	
	comp=E,0.2nm,0.5s						
IGT	**Igoumenitsa**	**1.11**	**197**	*i* Pg	**Pn**	**21 20 59.8**	**+0.6**
IGT				*i* Sn	**Sn**	**21 21 19.6**	**+5.1**
IGT	**Igoumenitsa**	**1.11**	**197**	P	**Pb**	**21 20 58.0**	**-1.0**
TETR	**Tetrakomo, Epi**	**1.31**	**162**	P	**Pb**	**21 21 02.4**	**0.0**
THL	**Klokotos Trika**	**1.41**	**137**	⇑*e*Pn	**Pn**	**21 21 03.4**	**+0.2**
THL				Sn	**Sb**	**21 21 21.1**	**-0.8**
THL	**Klokotos Trika**	**1.41**	**137**	P	**Pn**	**21 21 03.3**	**0.0**
THL				S	**Sn**	**21 21 22.8**	**+1.0**
LIT	**Litokhoron**	**1.41**	**110**	*i* Pn	**Pg**	**21 21 04.1**	**-0.6**
LIT				*i* Sn	**Sg**	**21 21 23.9**	**+0.9**
LIT	**Litokhoron**	**1.41**	**110**	P	**Pb**	**21 21 04.0**	**0.0**
VAY	**Valandovo**	**1.55**	**62**	*i* Pn	**Pg**	**21 21 07.0**	**-0.3**
VAY				*i* Sn	**Sg**	**21 21 30.2**	**+2.8**
THE	**Thessaloniki**	**1.68**	**88**	*i* Pn	**Pg**	**21 21 09.3**	**-0.5**
KNT	**Kendrikon**	**1.71**	**70**	*i* Pn	**Pb**	**21 21 08.5**	**-0.6**
KNT	**Kendrikon**	**1.71**	**70**	P	**Pb**	**21 21 08.8**	**-0.4**
HORT	**Hortiatis**	**1.78**	**89**	P	**Pn**	**21 21 08.3**	**-0.1**
LKD2	**Lefkada island**	**1.81**	**183**	P	**Pb**	**21 21 09.2**	**-1.6**
EVR	**Evrytania**	**1.86**	**154**	P	**Pn**	**21 21 09.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.90**	**146**	P	**Pn**	**21 21 10.6**	**+0.5**
MAKR				S	**Sn**	**21 21 34.9**	**+0.9**
SOH	**Sokhos**	**1.98**	**83**	*i* Pn	**Pb**	**21 21 12.7**	**-1.1**
SOH	**Sokhos**	**1.98**	**83**	P	**Pb**	**21 21 13.5**	**-0.2**
PLG	**Polygyros**	**2.06**	**95**	P	**Pn**	**21 21 12.3**	**+0.1**
PVO	**Paravola**	**2.06**	**163**	P	**Pb**	**21 21 15.0**	**-0.1**
FSK	**Fiskardo**	**2.14**	**184**	P	**Pb**	**21 21 15.3**	**-1.2**

IDC **21** *21:50:15.4±1.9,0°89N×124°32E,h0km,mb3.4/3,*
mbtmp3.5/3,Error ellipse: s-maj=194.3km s-min=26.0km
az=63.0
DJA **21** *21:50:19.9±0.3,2°N±3°×12°5E±°,h10km,M3.6/10,*
MLv3.6/10
ISC 21 21:50:23.1±1.2,1°55N±0°08×125°50E±0°08,h84km,n8,
σ1§79/8,mb3.4/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.80**	**237**	P	**Pn**	**21 50 51.4**	**-1.1**
TNTI	**Ternate**	**2.02**	**112**	P	**Pn**	**21 50 55.1**	**-0.3**
SGSI	**Sangihe**	**2.12**	**1**	P	**Pn**	**21 50 55.3**	**-1.5**
LUWI	**Luwuk**	**3.75**	**227**	P	**Pn**	**21 51 17.7**	**-1.0**
APSI	**Ampana**	**4.56**	**238**	P	**Pn**	**21 51 29.6**	**-0.1**
WRA	**Warramunga Arr**	**23.05**	**158**	P	**P**	**21 55 19.1**	**-2.5**
	0.5nm,0.4s,baz=332,slow=11,SNR=6.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.36**	**162**	P	**P**	**21 55 52.6**	**+1.0**
	0.5nm,0.4s,baz=345,slow=11,SNR=18						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**58.66**	**327**	P	**P**	**22 00 13.9**	**+2.1**
	0.1nm,0.3s,baz=123,slow=7.4,SNR=4.5						
	0.1nm,0.3s						

JMA **21** *22:18:10.3±0.1,24°3N±0°5×121°6E±1°0,h23km±1km,*
MV2.7/9,TAIWAN REGION
TAP **21** *22:18:10.1,24°3N×121°64E,h23km,ML3.6,B*
ISC 21 22:18:10.4±0.8,24°33N±0°01×121°65E±0°01,h19km±1km,
n135,σ0§70/222,8C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.08**	**91**	⇑*i*P	**Pg**	**22 18 14.7**	**+0.7**
EAHA				*i* S	**Sg**	**22 18 17.6**	**+1.2**
EHP	**Heping Village**	**0.09**	**104**	P	**Pg**	**22 18 14.8**	**+0.8**
EHP				S	**Sg**	**22 18 18.1**	**+1.5**
ENA	**Nanau**	**0.13**	**40**	⇑*i*P	**Pg**	**22 18 15.1**	**+0.6**
ENA				S	**Sg**	**22 18 18.4**	**+1.2**
EWUT	**Wuta**	**0.16**	**45**	P	**Pg**	**22 18 15.4**	**+0.5**
EWUT				S	**Sg**	**22 18 18.9**	**+0.8**
NACB	**Ninganchiao**	**0.16**	**198**	P	**Pg**	**22 18 15.1**	**+0.2**
NACB	**Ninganchiao**	**0.16**	**198**	S	**Sg**	**22 18 18.9**	**+0.9**
NACB	**Ninganchiao**	**0.16**	**198**	⇑*i*P	**Pg**	**22 18 15.1**	**+0.2**
NACB				S	**Sg**	**22 18 18.6**	**+0.6**
ETL	**Fush Village**	**0.17**	**188**	P	**Pg**	**22 18 15.3**	**+0.2**
ETL				S	**Sg**	**22 18 19.1**	**+0.9**
ETLH	**Xiulin Townshi**	**0.20**	**231**	⇑*i*P	**Pg**	**22 18 15.9**	**+0.4**
ETLH				*i* S	**Sg**	**22 18 19.8**	**+0.9**
LATG	**Datong**	**0.23**	**331**	⇓P	**Pb**	**22 18 16.1**	**+0.3**
LATG				S	**Sb**	**22 18 19.9**	**+0.5**
TWD	**Chiawan**	**0.25**	**191**	⇑*i*P	**Pb**	**22 18 16.3**	**+0.1**
TWD				S	**Sg**	**22 18 20.5**	**+0.2**
NNSB	**Datong**	**0.26**	**292**	⇓*i*P	**Pb**	**22 18 16.6**	**+0.1**
NNSB				S	**Sb**	**22 18 20.7**	**+0.2**
NNS	**Nan Shan**	**0.28**	**293**	⇓*i*P	**Pg**	**22 18 16.7**	**0.0**
NNS				S	**Sb**	**22 18 20.8**	**-0.2**
ESAO	**Su ao**	**0.30**	**36**	*i* P	**Pg**	**22 18 17.2**	**+0.1**
ESAO				S	**Sg**	**22 18 21.6**	**0.0**
NDS	**Dongshan**	**0.31**	**11**	P	**Pg**	**22 18 17.3**	**+0.1**
NDS				S	**Sb**	**22 18 22.2**	**+0.2**
ENTT	**Nioudou**	**0.32**	**346**	⇓*i*P	**Pg**	**22 18 17.5**	**+0.1**
ENTT				*i* S	**Sg**	**22 18 22.4**	**+0.4**
TWC	**Suao**	**0.33**	**33**	⇑*i*P	**Pg**	**22 18 17.8**	**+0.2**
TWC				S	**Sb**	**22 18 22.9**	**+0.1**
HWA	**Hwalien**	**0.35**	**187**	*e*P	**Pg**	**22 18 18.4**	**+0.4**
HWA				*e*S	**Sb**	**22 18 24.7**	**+1.3**
LXIB	**Xiulin Townshi**	**0.38**	**215**	⇑*i*P	**Pg**	**22 18 18.1**	**-0.3**
LXIB				S	**Sg**	**22 18 24.3**	**+0.5**
TWE	**Neicheng**	**0.39**	**2**	⇓*i*P	**Pg**	**22 18 18.6**	**+0.1**
TWE				S	**Sg**	**22 18 24.1**	**0.0**
ETM	**Tongmen**	**0.39**	**202**	⇓*i*P	**Pg**	**22 18 18.2**	**-0.4**
ETM				S	**Sg**	**22 18 24.5**	**+0.4**
**WHF

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YM01				eS	Sb	22 18 36.6	-0.1
SMLT	**Sun Moon Lake**	**0.82**	**237**	eP	Pb	22 18 26.2	+0.1
TNOU	**National Taiwa**	**0.82**	**8**	eP	Pb	22 18 26.2	+0.1
TNOU				eS	Sb	22 18 36.3	-0.5
ZUZH	**Zhuzihu**	**0.83**	**353**	eP	Pb	22 18 26.4	0.0
ZUZH				eS	Sb	22 18 37.7	+0.5
SSLB	**Suanglung**	**0.83**	**230**	P	Pb	22 18 26.0	-0.3
SSLB	**Suanglung**	**0.83**	**230**	S	Sb	22 18 37.0	-0.2
SSLB	**Suanglung**	**0.83**	**230**	eP	Pb	22 18 26.0	-0.3
SSLB				eS	Sb	22 18 37.1	-0.1
TYC	**Yuchr**	**0.84**	**240**	eP	Pb	22 18 26.5	+0.1
TYC				eS	Sg	22 18 38.0	0.0
NTST	**Danshui**	**0.85**	**348**	eP	Pb	22 18 27.0	+0.5
NTST				eS	Sg	22 18 39.0	+0.6
YM08	**YM08**	**0.86**	**356**	eP	Pb	22 18 26.6	-0.1
YM08				eS	Sb	22 18 37.4	-0.4
HGSD	**Ruisui**	**0.86**	**194**	eP	Pb	22 18 26.1	-0.6
ANP	**Anpu**	**0.86**	**352**	eP	Pb	22 18 26.7	-0.1
ANP				eS	Sb	22 18 37.9	-0.1
EHY	**Hungye**	**0.87**	**200**	eP	Pb	22 18 26.4	-0.6
EHYH	**Wanrong**	**0.88**	**199**	eP	Pb	22 18 26.4	-0.6
TCU	**Taichung**	**0.91**	**259**	eP	Pn	22 18 29.1	+0.9
TCU				eS	Sn	22 18 42.0	+1.2
WDJ	**Dajia District**	**0.92**	**271**	eP	Pg	22 18 28.9	+0.5
WDJ				eS	Sn	22 18 41.8	+0.7
TWY	**Chenhua**	**0.94**	**357**	eP	Pg	22 18 29.1	+0.3
WHYT	**Xinyi Township**	**0.96**	**229**	eP	Pb	22 18 28.9	+0.3
WHYT				eS	Sn	22 18 43.2	+0.9
YULB	**Yu-li**	**0.99**	**199**	P	Pb	22 18 28.3	-0.6
YULB	**Yu-li**	**0.99**	**199**	S	Sg	22 18 42.5	-0.2
YULB	**Yu-li**	**0.99**	**199**	eP	Pb	22 18 26.4	-2.6
YULB				eS	Sb	22 18 40.8	-0.8
WNT	**Mingjian**	**0.99**	**243**	eP	Pg	22 18 30.0	+0.3
WNT				eS	Sn	22 18 44.5	+1.7
ECBN	**Changbin**	**1.03**	**190**	eP	Pb	22 18 28.2	-1.3
TWF1	**Yuli**	**1.03**	**198**	eP	Pb	22 18 29.3	-0.3
WCHH	**Zhanghua**	**1.03**	**256**	eP	Pn	22 18 30.3	+0.5
WCHH				eS	Sg	22 18 44.5	+0.5
WCH1	**Changhua City**	**1.04**	**256**	eP	Pn	22 18 30.2	+0.3
WCH1				eS	Sg	22 18 45.1	+0.8
ALS	**Alishan**	**1.12**	**224**	eP	Pn	22 18 31.4	-0.1
ALS				eS	Sg	22 18 47.8	+0.7
CHN5	**Tsauling**	**1.15**	**231**	eP	Pb	22 18 32.4	+0.7
CHN5				eS	Sg	22 18 48.1	+0.2
CHKH	**Chenggong**	**1.16**	**192**	eP	Pn	22 18 29.8	-1.8
FULB	**Fuli**	**1.17**	**196**	eP	Pn	22 18 31.5	-0.3
WGK	**Gukeng**	**1.18**	**237**	eP	Pg	22 18 33.4	+0.1
JYNG	**Yonagunijimaku**	**1.19**	**84**	P	Pn	22 18 32.0	0.0
JYNG				eS	Sn	22 18 48.3	+0.7
WDLH	**Douliu**	**1.20**	**238**	eP	Pb	22 18 33.3	+0.7
WDLH				eS	Sg	22 18 49.7	+0.3
YOJ	**Yonaguni jima**	**1.25**	**84**	eP	Pn	22 18 32.7	-0.2
YOJ				eS	Sg	22 18 50.4	-0.5
ELDTW	**Lidau**	**1.28**	**207**	eP	Pn	22 18 32.1	-1.2
WCKO	**Fanlu**	**1.31**	**227**	eP	Pg	22 18 35.4	-0.2
WCKO				eS	Sg	22 18 53.8	+1.0
WTK	**Tuku**	**1.32**	**241**	eP	Pb	22 18 34.8	+0.2
WTK				eS	Sg	22 18 52.7	-0.5
CHN2	**Minshiung**	**1.34**	**234**	eS	Sg	22 18 54.1	+0.3
TPUB	**Ta-pu**	**1.39**	**223**	P	Pb	22 18 35.9	+0.1
TPUB	**Ta-pu**	**1.39**	**223**	S	Sg	22 18 55.4	0.0
TPUB	**Ta-pu**	**1.39**	**223**	eP	Pb	22 18 35.7	-0.1
TPUB				eS	Sg	22 18 54.6	-0.8
EDH	**Donghe**	**1.39**	**193**	eP	Pn	22 18 33.7	-1.0
EDH				eS	Sn	22 18 51.1	-1.5
CHY	**Chiayi**	**1.40**	**234**	eP	Pb	22 18 36.6	+0.7
CHY				eS	Sg	22 18 55.1	-0.4
STYH	**Taoyuan**	**1.41**	**215**	eP	Pn	22 18 35.6	+0.6
WSF	**Szhu**	**1.48**	**242**	eS	Sb	22 18 56.7	+1.1
TWK	**Hsinying**	**1.50**	**225**	eP	Pb	22 18 38.1	+0.4
TWK				eS	Sg	22 18 58.3	-0.7
SNST	**Tainan City**	**1.53**	**224**	eP	Pb	22 18 38.8	+0.6
SNST				eS	Sb	22 18 58.7	+1.5
WSL	**Shuilin Townsh**	**1.53**	**239**	eP	Pb	22 18 38.2	+0.1
WSL				eS	Sb	22 18 58.6	+1.4
CHN1	**Nanshi**	**1.54**	**222**	eP	Pb	22 18 38.6	+0.3
CHN1				eS	Sg	22 18 59.1	-1.0
TWG	**Pinlang**	**1.59**	**200**	eP	Pb	22 18 39.1	-0.1
TWGBT	**Beinan**	**1.59**	**199**	P	Pb	22 18 39.1	-0.2
TWGBT	**Beinan**	**1.59**	**199**	eP	Pn	22 18 37.5	-0.1
CHN8	**Yiju**	**1.64**	**234**	eP	Pb	22 18 39.5	-0.6
CHN8				eS	Sb	22 19 02.2	+1.8
SCST	**Cishan**	**1.79**	**217**	eS	Sb	22 19 05.8	+1.2
ECL	**Taimali**	**1.84**	**200**	eP	Pb	22 18 43.0	-0.4
TSCK	**Chigu Township**	**1.86**	**231**	eP	Pn	22 18 42.7	+1.5
TSCK				eS	Sb	22 19 06.7	+0.1
IRIF	**Iriomote-Funau**	**1.90**	**89**	eP	Pb	22 18 43.4	-1.0
MASBT	**Mashibuluo**	**1.95**	**209**	eP	Pn	22 18 43.1	+0.6
PNG	**Penghu**	**2.06**	**249**	eP	Pn	22 18 43.5	-0.5
PHUB	**P'eng-hu**	**2.07**	**247**	eP	Pn	22 18 43.4	-0.7
PHUB				eS	Sn	22 19 08.5	-0.9
WDGT	**Dungji**	**2.11**	**240**	eP	Pn	22 18 44.7	-0.1
WDGT				eS	Sn	22 19 12.1	+1.6
JKRS	**Kuro-shima**	**2.15**	**92**	eP	Pn	22 18 46.5	+1.2
SCZT	**Fangliau**	**2.17**	**206**	eP	Pn	22 18 46.9	+1.4
JIJ	**Ishigaki jima**	**2.27**	**89**	eP	Pn	22 18 47.1	+0.1
JIJ				eS	Sn	22 19 14.1	-0.3
VCHM	**Qimei**	**2.32**	**242**	eS	Sn	22 19 15.5	-0.1
MATB	**Ma-tsu**	**2.38**	**320**	eP	Pn	22 18 47.1	-1.4
PTMZ	**Houxiangcun**	**2.41**	**288**	eP	Pn	22 18 47.8	-1.0
XPSS	**Dashiqiu**	**2.91**	**333**	eP	Pn	22 18 54.2	-1.5
KNM	**Kinmen**	**2.94**	**272**	eP	Pn	22 18 57.1	+1.0
KNM				eS	Sn	22 19 31.0	+0.2
MHZQ	**Yeshan**	**2.96**	**307**	eP	Pn	22 18 55.1	-1.2
KNMB	**Chin-men Tao**	**2.98**	**273**	eP	Pn	22 18 55.9	-0.8
KNMB				eS	Sn	22 19 29.5	-2.4
AXDP	**Jialang**	**3.40**	**280**	eP	Pn	22 19 01.8	-0.6
AXDP				eS	Sn	22 19 39.2	-3.0

*NIC **21** 22:23:08.3, 36°.36N×29°.20E, h15km±3km, Ml2.6/13*
*ISK **21** 22:23:08.5, 36°.47N×29°.07E, h12km, ML3.0/24*
*ATH **21** 22:23:08.8, 36°.44N×29°.16E, h29km±4km, ML2.8/6, Manual Solution by M.Kolligri First location: 2019/10/21 22:24:36, This location: 2019/10/22 05:09:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **21** 22:23:08.0, 36°.46N×29°.08E, h26km, ML2.8*
*GII **21** 22:23:13.3±0.0, 36°.160N±0°.002×29°.327E±0°.001, h40km, Mws2.9, confirmed*

ISC 21 22:23:08.5±0.9, **36°.43N**±0°.02×**29°.13E**±0°.02, **h26**km±6km, **n111**, σ1°**30**/149, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.08**	**83**	P	Pb	22 23 12.9	-0.2
IZZE				S	Sb	22 23 17.1	+0.9
SABU	**Mula-Dalaman**	**0.42**	**342**	P	Pb	22 23 16.2	-1.2
SABU				S	Sb	22 23 22.4	-1.0
SABU				*i* IAML		22 23 26.0	
	comp=N,686nm,0.5s						
AKAS	**Kas**	**0.43**	**116**	Pg	Pn	22 23 18.8	-0.3
AKAS	**Kas**	**0.43**	**116**	P	Pn	22 23 18.3	-0.9
AKAS				S	Sn	22 23 25.6	-0.7
AKAS				*i* IAML		22 23 30.0	
	comp=N,995nm,0.4s						
AKAS				*i* IAML		22 23 31.0	
	comp=E,1μm,0.4s						
KSL	**Kastellorizon**	**0.46**	**127**	P	Pb	22 23 18.4	+0.4
KSL				S	Sb	22 23 24.1	-0.5
KSL				AML	AML	22 23 31.5	
	1.5nm,0.5s						
KSL				AML	AML	22 23 34.1	
	2.0nm,0.6s						
KSL	**Kastellorizon**	**0.46**	**127**	P	Pb	22 23 18.4	+0.4
KSL				S	Sn	22 23 25.9	-0.9
CAME	**Cameli-Denizli**	**0.54**	**15**	Pg	Pb	22 23 19.2	-0.2
DALY	**Dalyan (Mula)**	**0.54**	**316**	Pg	Pb	22 23 18.6	-0.8
KNIK	**Mula-Seydike**	**0.55**	**41**	P	Pb	22 23 19.0	-0.7
KNIK				S	Sb	22 23 26.8	-0.5
DEMR	**Demre-Antalya**	**0.66**	**106**	Pg	Pn	22 23 22.9	+0.8
ELL	**Elmali**	**0.71**	**63**	Pg	Pn	22 23 22.8	-0.1
ELL	**Elmali**	**0.71**	**63**	P	Pn	22 23 22.3	-0.6
ELL				S	Sn	22 23 31.9	-1.2
ELL				AML	AML	22 23 38.6	
	2.4nm,0.5s						
ELL				AML	AML	22 23 44.2	
	2.5nm,0.6s						
ELL	**Elmali**	**0.71**	**63**	P	Pn	22 23 22.5	-0.4
ELL				S	Sb	22 23 31.1	-0.5
CAEL	**Denizli, Camel**	**0.71**	**13**	P	Pb	22 23 21.7	-0.7
CAEL				S	Sb	22 23 32.1	+0.2
CAEL				*i* IAML		22 23 42.0	
	comp=E,348nm,0.7s						
TURN	**Turunc**	**0.79**	**296**	Pg	Pb	22 23 23.3	-0.2
TURN	**Turunc**	**0.79**	**296**	P	Pb	22 23 23.7	+0.2
TURN				S	Sb	22 23 34.0	+0.1
ARG	**Arkhangelos**	**0.83**	**256**	Pg	Pb	22 23 24.1	-0.2
ARG	**Arkhangelos**	**0.83**	**256**	P	Pb	22 23 24.4	+0.1
ARG				S	Sn	22 23 38.6	+2.7
ARG				AML	AML	22 23 40.7	
	0.8nm,0.3s						
ARG				AML	AML	22 23 41.2	
	0.6nm,0.6s						
ARG	**Arkhangelos**	**0.83**	**256**	P	Pb	22 23 24.2	-0.1
ARG				S	Sn	22 23 36.6	+0.7
DNZT	**Denizli-Tavas-**	**0.85**	**355**	P	Pb	22 23 24.0	-0.7
DNZT				S	Sb	22 23 35.8	0.0
GOLH	**Golhisar**	**0.88**	**23**	P	Pb	22 23 24.9	-0.3
GOLH				S	Sn	22 23 38.0	+0.6
GOLH				*i* IAML		22 23 45.0	
	comp=E,270nm,1.0s						
YER	**Yerkesik**	**0.98**	**317**	Pg	Pn	22 23 26.8	+0.2
AKUM	**Antalya-Kumluc**	**0.99**	**96**	P	Pb	22 23 28.2	+1.3
AKUM				S	Sn	22 23 44.5	+4.7
AKUM				*i* IAML		22 23 49.0	
	comp=E,201nm,0.5s						
AKUM				*i* IAML		22 23 50.0	
	comp=N,174nm,0.6s						
MULA	**Mugla, Merkez-**	**1.05**	**322**	P	Pn	22 23 27.7	+0.1
MULA				S	Sn	22 23 41.7	+0.2
MULA				*i* IAML		22 23 45.0	
	comp=E,378nm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.05**	**351**	P	Pb	22 23 27.8	-0.3
TAVA				S	Sb	22 23 41.3	-0.2
TAVA				*i* IAML		22 23 45.0	
	comp=N,199nm,0.5s						
APMY	**Acipayam-Deniz**	**1.05**	**8**	Pg	Pb	22 23 28.1	0.0
KORT	**Korkueli**	**1.14**	**59**	Pn	Pb	22 23 30.9	+1.3
KORT	**Korkueli**	**1.14**	**59**	P	Pb	22 23 30.5	+0.9
KORT				S	Sb	22 23 47.8	+3.8
KORT				*i* IAML		22 23 53.0	
	comp=N,211nm,0.7s						
KORT				*i* IAML		22 23 54.0	
	comp=E,201nm,0.7s						
KEMT	**Kemer-ANTALYA**	**1.17**	**81**	Pn	Pb	22 23 31.7	+1.8
DNIZ	**Denizli-Tavas-**	**1.20**	**357**	P	Pn	22 23 30.0	+0.3
DNIZ				S	Sb	22 23 46.5	+0.7
DNIZ				*i* IAML		22 23 50.0	
	comp=N,334nm,0.4s						
DATC	**Datca-Mugla**	**1.22**	**286**	Pn	Pb	22 23 31.2	+0.3
DAT	**Datca**	**1.28**	**284**	Pn	Pb	22 23 32.2	+0.2
DAT	**Datca**	**1.28**	**284**	P	Pn	22 23 31.3	+0.5
DAT				S	Sb	22 23 49.3	+1.3
DAT				*i* IAML		22 23 55.0	
	comp=N,281nm,0.3s						
DAT				*i* IAML		22 23 55.0	
	comp=E,174nm,0.4s						
ANTB	**Antalya**	**1.32**	**69**	Pn	Pb	22 23 33.6	+1.1
INCE	**Denizli-Bozkur**	**1.33**	**16**	P	Pb	22 23 32.3	-0.5
INCE				S	Sn	22 23 48.4	0.0
INCE				*i* IAML		22 23 53.0	
	comp=E,227nm,1.3s						
YAZI	**Mula-Dat§a-**	**1.37**	**281**	P	Pn	22 23 32.5	+0.6
YAZI				S	Sb	22 23 50.8	+0.3
MLSB	**Milas**	**1.39**	**309**	Pn	Pb	22 23 33.5	-0.2
MLSB				Sn	Sb	22 23 51.6	+0.6
BUCA	**Burdur, Bucak-**	**1.46**	**52**	P	Pb	22 23 35.8	+0.8
BRDR	**BURDUR-Merkez**	**1.47**	**30**	P	Pb	22 23 34.9	-0.3
BDRM	**Kayabasi**	**1.49**	**296**	P	Pb	22 23 35.2	-0.3
BDRM				S	Sb	22 23 55.1	+1.1
BDRM				*i* IAML		22 23 58.0	
	comp=E,187nm,0.3s						
ESEN	**Aydn-Nazilli**	**1.50**	**336**	P	Pb	22 23 35.0	-0.6
ESEN				*i* IAML		22 23 57.0	
	comp=E,205nm,0.8s						
AYDN	**Tasoluk**	**1.58**	**321**	P	Pb	22 23 36.5	-0.6
AYDN				*i* IAML		22 24 00.0	
	comp=E,152nm,0.7s						
AYDN				*i* IAML		22 24 02.0	
	comp=N,231nm,0.3s						
BODT	**Bodrum**	**1.59**	**294**	Pn	Pn	22 23 36.3	+1.4
YKAV	**Yalikavak-Bodr**	**1.64**	**296**	Pn	Pb	22 23 37.1	-0.9
YKAV				Sn	Sb	22 23 58.1	-0.1
BASM	**Basmaki-Afyon**	**1.66**	**26**	Pn	Pb	22 23 37.9	-0.6
NAZL	**Nazilli-Aydin**	**1.67**	**337**	Pn	Pb	22 23 37.5	-1.1
ISP	**Isparta**	**1.79**	**38**	Pn	Pb	22 23 39.9	-0.7
AYDB	**Zeytinkoy-Aydi**	**1.81**	**327**	Pn	Pn	22 23 38.8	+0.7
KARP	**Karpathos**	**1.82**	**242**	P	Pn	22 23 38.8	+0.7
KARP				S	Sb	22 24 03.5	+0.1
KARP				AML	AML	22 24 04.1	
	0.3nm,0.4s						
KARP				AML	AML	22 24 04.6	
	0.2nm,0.2s						
KARP	**Karpathos**	**1.82**	**242**	P	Pn	22 23 38.8	+0.7
KARP				S	Sn	22 24 00.9	+0.6
DDIM	**Aydin, Didim**	**1.83**	**305**	P	Pb	22 23 40.7	-0.5
KIRA	**zmir-Kiraz**	**1.86**	**342**	P	Pn	22 23 38.5	-0.3
PASA	**Karahalli, USA**	**1.94**	**8**	P	Pn	22 23 40.0	+0.1
IZMR	**zmir-demi**	**1.95**	**332**	P	Pn	22 23 40.7	+0.9
GCAM	**G?zelcaml?**	**1.98**	**311**	Pn	Pn	22 23 41.9	+1.7
GCAM	**G?zelcaml?**	**1.98**	**311**	P	Pn	22 23 41.7	+1.5
GCAM				*i* IAML		22 24 09.0	
	comp=N,141nm,0.5s						
GCAM				*i* IAML		22 24 14.0	
	comp=E,128nm,0.5s						
KZIL	**AFYON_Kizioren**	**2.00**	**24**	P	Pn	22 23 41.7	+1.0
ODEM	**Odemis-Izmir**	**2.03**	**336**	Pn	Pn	22 23 42.6	+1.6
BAGO	**Egridir - ISPA**	**2.05**	**40**	P	Pb	22 23 43.1	-1.9
KULA	**Kula-Manisa**	**2.12**	**350**	Pn	Pn	22 23 43.5	+1.2
SMG	**Samos**	**2.23**	**306**	P	Pn	22 23 44.4	+0.6
SMG				S	Sn	22 24 11.1	+0.5
SHUT	**Suhut-Afyon**	**2.41**	**28**	Pn	Pn	22 23 48.2	+1.9
AKMS	**Akamas**	**2.97**	**117**	P	Pn	22 23 53.5	-0.3
AKMS				S	Sn	22 24 28.6	0.0
AKMS				AML	AML	22 24 30.9	
	0.2nm,0.4s						
AKMS				AML	AML	22 24 31.2	
	0.2nm,0.3s						
AKMS	**Akamas**	**2.97**	**117**	P	Pn	22 23 53.6	-0.3
AKMS				S	Sn	22 24 29.0	+0.4
NPS	**Neapolis**	**3.08**	**249**	P	Pn	22 23 55.8	+0.4
ALFC	**Alefka**	**3.10**	**113**	P	Pn	22 23 56.2	+0.6
ALFC				S	Sn	22 24 32.8	+0.9
ALFC				AML	AML	22 24 36.6	
	0.1nm,0.2s						
ALFC				AML	AML	22 24 37.1	
	0.1nm,0.3s						
ALFC	**Alefka**	**3.10**	**113**	P	Pn	22 23 55.4	-0.2
CHOS	**Chios island**	**3.13**	**310**	P	Pn	22 23 57.9	+1.7
NATA	**Nata**	**3.25**	**119**	P	Pn	22 23 57.7	-0.1
NATA				S	Sn	22 24 36.2	+0.5
NATA				AML	AML	22 24 41.3	
	0.2nm,0.3s						
NATA				AML	AML	22 24 43.0	
	0.2nm,0.4s						
NATA	**Nata**	**3.25**	**119**	P	Pn	22 23 57.5	-0.3
TROD	**Troodos**	**3.38**	**115**	P	Pn	22 24 00.2	+0.4
TROD				S	Sn	22 24 40.7	+1.5
TROD				AML	AML	22 24 48.5	
	0.1nm,0.3s						
TROD				AML	AML	22 24 48.8	
	0.1nm,0.5s						
XYLS	**Xyliatos**	**3.49**	**113**	P	Pn	22 24 01.3	+0.2
XYLS				S	Sn	22 24 41.9	+0.3
XYLS				AML	AML	22 24 45.1	
XYLS				AML	AML	22 24 46.3	
APOL	**The Sanctuary**	**3.52**	**119**	P	Pn	22 24 01.1	-0.3
APOL				S	Sn	22 24 43.4	+1.2
APOL				AML	AML	22 24 45.2	
	0.1nm,0.3s						
APOL				AML	AML	22 24 45.3	
	0.1nm,0.4s						
IDI	**Anoyia**	**3.62**	**253**	P	Pn	22 24 03.1	+0.1
CSS	**Mathiatis**	**3.72**	**112**	P	Pn	22 24 04.8	+0.6
CSS				S	Sn	22 24 48.3	+1.0
CSS				AML	AML	22 24 53.7	
CSS				AML	AML	22 24 55.8	
CSS	**Mathiatis**	**3.72**	**112**	P	Pn	22 24 05.4	+1.2
CSS	**Mathiatis**	**3.72**	**112**	S	Sn	22 24 46.6	-0.7
CSS	**Mathiatis**	**3.72**	**112**	P	Pn	22 24 04.9	+0.6
ASGA	**Asgata**	**3.74**	**115**	P	Pn	22 24 05.0	+0.6
ASGA				S	Sn	22 24 48.8	+1.2
ASGA				AML	AML	22 24 51.5	
ASGA				AML	AML	22 24 53.9	
	0.1nm,0.4s						
MVOU	**Mavrovouni**	**3.93**	**110**	P	Pn	22 24 07.4	+0.3
MVOU				S	Sn	22 24 53.9	+1.5
MVOU				AML	AML	22 24 55.5	
MVOU				AML	AML	22 24 57.6	
MVOU	**Mavrovouni**	**3.93**	**110**	P	Pn	22 24 07.7	+0.6
OFRI	**`Ofer**	**6.15**	**126**	P	Pn	22 24 38.0	+0.4
OFRI	**`Ofer**	**6.15**	**126**	S	Sn	22 25 44.5	-2.6
MMAOB	**Mount Meron ar**	**6.19**	**122**	P	Pn	22 24 38.5	+0.3
MMAOB	**Mount Meron ar**	**6.19**	**122**	S	Sn	22 25 45.8	-2.4
GEM	**Giv'at Ha'Em**	**6.26**	**119**	P	Pn	22 24 39.6	+0.4
GEM	**Giv'at Ha'Em**	**6.26**	**119**	S	Sn	22 25 47.7	-2.2
NATI	**Neve Ativ**	**6.29**	**118**	P	Pn	22 24 39.7	+0.2
NATI	**Neve Ativ**	**6.29**	**118**	S	Sn	22 25 48.7	-1.7
KSHT	**Keshet**	**6.49**	**120**	P	Pn	22 24 43.0	+0.7
KSHT	**Keshet**	**6.49**	**120**	S	Sn	22 25 53.7	-1.9
MMLI	**Mount Malkishu**	**6.55**	**126**	P	Pn	22 24 43.6	+0.5
MMLI	**Mount Malkishu**	**6.55**	**126**	S	Sn	22 25 53.9	-3.1
SALP	**Salfit**	**6.64**	**129**	P	Pn	22 24 45.0	+0.6
SALP	**Salfit**	**6.64**	**129**	S	Sn	22 25 56.8	-2.5
KZIT	**Kziot**	**7.04**	**140**	P	Pn	22 24 50.5	+0.6
KZIT	**Kziot**	**7.04**	**140**	S	Sn	22 26 05.7	-3.4
YTIR	**Yattir**	**7.09**	**134**	P	Pn	22 24 51.2	+0.6
YTIR	**Yattir**	**7.09**	**134**	S	Sn	22 26 07.3	-3.2
DSI	**Dead Sea**	**7.10**	**131**	P	Pn	22 24 50.9	+0.2
DSI	**Dead Sea**	**7.10**	**131**	S	Sn	22 26 07.7	-2.9
MSBI	**Mazada**	**7.27**	**133**	P	Pn	22 24 53.6	+0.6
MSBI	**Mazada**	**7.27**	**133**	S	Sn	22 26 11.8	-2.8
PRNI	**Paran**	**7.80**	**139**	P	Pn	22 25 00.5	+0.2
PRNI	**Paran**	**7.80**	**139**	S	Sn	22 26 24.6	-3.2
HRFI	**Mount Harif**	**8.07**	**140**	P	Pn	22 25 04.5	+0.5
HRFI	**Mount Harif**	**8.07**	**140**	S	Sn	22 26 31.0	-3.4
MBRI	**Mt Berech**	**8.20**	**142**	P	Pn	22 25 06.7	+0.8
MBRI	**Mt Berech**	**8.20**	**142**	S	Sn	22 26 34.2	-3.6
EIL	**Elat**	**8.32**	**142**	P	Pn	22 25 07.9	+0.5
EIL	**Elat**	**8.32**	**142**	S	Sn	22 26 36.9	-3.8

*UPP **21** 22:26:36.1±1.3, 69°.46N×17°.03E, h0km, ML2.2, Presumed earthquake*
*BER **21** 22:26:37.2±2.9, 69°.56N×16°.78E, h0km, ML2.3, ML2.2(UPP), Suspected explosion*
*IDC **21** 22:26:38.9±2.0, 69°.38N×17°.67E, h0km, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=21.8km s-min=8.5km az=144.0*
*HEL **21** 22:26:44.8, 69°.35N×17°.11E, h10km, ML2.1, ML2.2(UPP), Confirmed Earthquake*

ISC 21 22:26:36.6±1.0, **69°.42N**±0°.04×**16°.98E**±0°.04, **h0**km, **n87**, σ1°**42**/105, **Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**0.72**	**72**	eP	Pb	22 26 51.2	-0.7
TRO				*e*		22 26 51.8	
TRO	**Tromso**	**0.72**	**72**	*i* P	Pb	22 26 51.2	-0.7
TRO				*i* S	Sb	22 27 01.6	-0.7
TRO	**Tromso**	**0.72**	**72**	*i* P	Pn	22 26 58.0	+4.0
TRO				*i* S	Sn	22 27 06.6	+1.0
JETT	**Jettan, Norway**	**1.22**	**82**	eP	Pb	22 27 00.1	-0.4
JETT				*i*		22 27 06.5	
JETT				*i*		22 27 13.8	
JETT	**Jettan, Norway**	**1.22**	**82**	eP	Pb	22 27 00.1	-0.4
JETT				*i*		22 27 06.5	
JETT				*i* S	Sg	22 27 13.8	-1.8
JETT	**Jettan, Norway**	**1.22**	**82**	*i* P	Pn	22 27 06.5	+5.7
KIF	**Kilpisjarvi**	**1.43**	**105**	eP	Pn	22 27 03.7	0.0
KIF				*e*		22 27 14.8	
KIF				*e*		22 27 22.1	
KIF				*i*		22 27 28.6	
KIF	**Kilpisjarvi**	**1.43**	**105**	ePN	Pn	22 27 03.7	0.0
KIF				eS	Sg	22 27 22.2	-0.2
KIF				MSG		22 27 23.3	
	comp=Z,16nm,0.1s						
KIF	**Kilpisjarvi**	**1.43**	**105**	eP	Pb	22 27 09.9	+5.9
KIF				eSG	Sn	22 27 28.3	+5.2
KIF				MSG		22 27 28.9	
	comp=Z,69nm,0.1s						
STEI	**Steigen**	**1.63**	**204**	eP	Pn	22 27 05.7	-0.8
STEI				*e*		22 27 29.8	
STEI	**Steigen**	**1.63**	**204**	eP	Pn	22 27 05.6	-0.8
STEI				eSG	Sn	22 27 27.5	-0.6
STEI	**Steigen**	**1.63**	**204**	ePG	Pg	22 27 13.1	+5.3
STEI				eSN	Sg	22 27 35.9	+7.1
KOVU	**Salmi**	**1.67**	**135**	P	Pn	22 27 06.9	-0.2
KOVU				S	Sb	22 27 30.2	+0.5
KOVU	**Salmi**	**1.67**	**135**	P	Pn	22 27 06.9	-0.2
KOVU		

RAUS	Rausandaksla	3.20	202	*e*P	Pn	22 27 27.9	-0.1
PAJU	Pajala	3.32	134	P	Pn	22 27 29.5	-0.2
PAJU	Pajala	3.32	134	P	Pn	22 27 29.5	-0.2
PAJU	Pajala	3.32	134	*e*P	Pn	22 27 29.5	-0.2
PAJU	Pajala	3.32	134	*e*SG	Sg	22 28 26.6	+3.5
PAJU				MSG		22 28 31.4	
	comp=Z,8.0nm,0.1s						
MOR8	Moi Rana	3.41	198	*e*P	Pn	22 27 29.4	-1.5
MOR8	Moi Rana	3.41	198	*e*P	Pn	22 27 29.4	-1.5
STOK	Stokkvaagen	3.45	208	*e*P	Pn	22 27 31.6	+0.2
STOK	Stokkvaagen	3.45	208	*e*P	Pn	22 27 31.6	+0.2
ERTU	Ertsjaerv	3.48	143	P	Pn	22 27 31.8	-0.2
ERTU	Ertsjaerv	3.48	143	P	Pn	22 27 31.8	-0.2
ERTU	Ertsjaerv	3.48	143	*e*P	Pn	22 27 31.8	-0.2
ERTU	Ertsjaerv	3.48	143	MSG		22 28 29.4	
	comp=Z,2.6nm,0.1s						
KEV	Kevo	3.53	80	*e*P	Pn	22 27 31.1	-1.5
KEV	Kevo	3.53	80	*e*P	Pn	22 27 32.5	0.0
KEV				MSG		22 28 28.3	
	comp=Z,1.4nm,0.1s						
KEV	Kevo	3.53	80	*e*SB	Sg	22 28 30.1	+0.3
KEV				MSG		22 28 34.5	
	comp=Z,5.9nm,0.2s						
HARU	Harads	3.61	153	P	Pn	22 27 33.5	-0.1
HARU	Harads	3.61	153	P	Pn	22 27 33.5	-0.1
HARU	Harads	3.61	153	*e*P	Pn	22 27 33.5	-0.1
LEIR	Leirfjorden	3.63	206	*e*P	Pn	22 27 35.1	+1.1
LEIR	Leirfjorden	3.63	206	*e*P	Pn	22 27 35.1	+1.1
SJUU	Sjulsmark	4.32	153	P	Pn	22 27 43.0	-0.4
SJUU	Sjulsmark	4.32	153	P	Pn	22 27 43.0	-0.4
SJUU	Sjulsmark	4.32	153	*e*P	Pn	22 27 43.0	-0.4
KALU	Kalix	4.33	143	P	Pn	22 27 43.1	-0.4
KALU	Kalix	4.33	143	P	Pn	22 27 43.1	-0.4
KALU	Kalix	4.33	143	*e*P	Pn	22 27 43.1	-0.4
VADS	Vadso	4.36	75	*e*S	Sn	22 28 35.8	+0.6
VADS	Vadso	4.36	75	*e*S	Sn	22 28 35.8	+0.6
TOF	Tornio	4.37	137	MSG		22 28 51.4	
	comp=Z,1.0nm,0.1s						
BURU	Burvik	5.16	158	*e*P	Pn	22 27 55.5	+0.6
UMAU	Umeaa	5.75	163	*e*P	Pn	22 28 02.9	-0.2
NOA	NORSAR Array B	8.75	199	Pn	Pn	22 28 43.9	-0.4
	baz=9.0,slow=13,SNR=5.3						
NOA				Sn	Sn	22 30 21.4	-2.1
	baz=60,slow=20						
NOA				Lg	Lg	22 31 16.0	
	baz=46,slow=21,SNR=4.2						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	8.85	150	Pn	Pn	22 28 44.0	-1.5
	comp=Z,0.1nm,0.3s,baz=339,slow=15,SNR=6.8						
FINES				Sn	Sn	22 30 19.6	-6.1
	comp=Z,0.1nm,0.3s,baz=341,slow=24,SNR=1.5						
FINES				Lg	Lg	22 31 12.3	
	comp=Z,0.3nm,0.3s,baz=340,slow=28,SNR=4.2						
	comp=Z,2.9nm,1.0s						
HFS	Hagfors	9.43	190	Pn	Pn	22 28 53.4	-0.1
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=6.3						
HFS				Lg	Lg	22 31 36.6	
	comp=Z,0.2nm,0.3s,baz=14,slow=30,SNR=1.9						
	comp=Z,2.1nm,0.9s						

*NNC **21** 22:26:49.2±4.9, 42.°00N×69.°74E, h0km, mb4.2, mpv4.0,*
Error ellipse: s-maj=48.5km s-min=36.7km az=168.0
*KRNET **21** 22:26:58.1±0.1, 42.°21N×71.°25E, h30km, mb3.4*
*SOME **21** 22:26:59.0, 42.°28N×71.°33E, h15km*
*ISU **21** 22:26:59, 42.°32N×71.°28E, h18km*
*KNET **21** 22:26:59.3±0.6, 42.°58N×71.°36E, h10km±4km, ml3.1, Error ellipse: s-maj=8.6km s-min=6.1km az=6.0*

ISC 21 22:26:57.4±1.1, **42.°31N**±0.°02×**71.°33E**±0.°02, **h3**km±10km, **n63**, σ1§70/103, **30C-31D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	Taraz	0.58	360	*e*P	Pb	22 27 10.5	+0.2
	164nm,0.2s						
DZA				*e*S	Sb	22 27 18.3	-0.6
	2μm,0.1s						
ARK	Arkit	0.69	137	⇑*i*P	Pg	22 27 11.2	+0.5
ARK				⇑*i*S	Sg	22 27 20.6	+0.9
TRKS	Terek-Say	0.79	191	⇑*i*P	Pg	22 27 12.6	0.0
TRKS				⇑*i*S	Sg	22 27 22.9	0.0
PSK	Pskem	0.81	242	P	Pg	22 27 12.4	-0.6
PSK				S	Sg	22 27 23.6	+0.1
IUG	Iuzhnay	0.98	261	P	Pb	22 27 17.1	0.0
	118nm,0.1s						
IUG				S	Sb	22 27 29.8	-0.7
	774nm,0.4s						
KK31	Karatay Array	1.00	323	P	Pg	22 27 16.6	0.0
	12nm,0.2s,baz=142,slow=16,SNR=262						
KK31				⇑S	Sg	22 27 30.3	+0.8
	31nm,0.2s,baz=144,slow=33						
KSNS	Kasansay	1.16	173	P	Pn	22 27 20.6	+0.1
KSNS				S	Sn	22 27 36.7	-0.2
CHRV	Charvak	1.23	238	P	Pg	22 27 19.9	-1.0
CHRV				S	Sg	22 27 36.4	-0.5
CHMG	Chimgan	1.25	233	P	Pg	22 27 20.3	-1.0
CHMG				S	Sg	22 27 37.4	0.0
CHM	Chimkent	1.28	271	*e*P	Pb	22 27 22.5	+0.3
	91nm,0.3s						
CHM				*e*S	Sg	22 27 38.9	+0.2
	504nm,0.4s						
BRLS	Borolday	1.32	304	P	Pn	22 27 22.4	-0.3
	12nm,0.2s						
BRLS				S	Sg	22 27 39.2	-0.5
	64nm,0.2s						
BRLS	Borolday	1.32	304	*e*P	Pn	22 27 22.4	-0.3
	12nm,0.2s						
BRLS				*e*S	Sg	22 27 39.2	-0.5
	64nm,0.2s						
NAM	Namangan	1.34	169	S	Sn	22 27 41.7	+0.4
MRKS	Merke	1.47	72	*e*P	Pg	22 27 25.7	+0.2
	22nm,0.2s						
MRKS				*e*S	Sn	22 27 44.4	-0.1
	67nm,0.2s						
ARSB	Arslanbob	1.58	128	⇑*e*P	Pn	22 27 26.3	-0.1
ARSB				⇑*i*S	Sn	22 27 46.8	-0.6
TGS	TashGRES	1.62	237	P	Pg	22 27 30.6	+2.2
TGS				S	Sg	22 27 54.0	+4.6
EKS2	Erkin-Say	1.84	78	⇑P	Pb	22 27 32.3	+0.5
	17nm,0.1s,SNR=23						
EKS2				⇓S	Sg	22 27 57.9	+1.3
	23nm,0.2s						
EKS2	Erkin-Say	1.84	78	⇓*i*P	Pb	22 27 31.3	-0.5
EKS2				⇓*i*S	Sb	22 27 55.2	-0.1
TSTA	Tashata	1.93	153	P	Pb	22 27 33.6	+0.3
TSTA				S	Sg	22 28 00.2	+0.7
FRG	Fergana	1.96	170	S	Sg	22 28 01.1	+0.6
NZBK	Nazarbek	1.98	237	P	Pg	22 27 37.3	+1.9
NZBK				S	Sg	22 28 03.4	+2.3
CHMI	Chimion	2.04	176	P	Pb	22 27 35.5	+0.3
CHMI				S	Sg	22 28 03.5	+0.4
OHH	Osh	2.09	148	⇑*i*P	Pn	22 27 32.8	-0.6
OHH				⇑*i*S	Sn	22 27 58.0	-1.9
SALK	Salom-Alik	2.35	127	⇓*i*P	Pn	22 27 37.2	+0.2
SALK				⇓*i*S	Sn	22 28 05.5	-0.9
AAK	Ala-Archa	2.36	81	⇓P	Pb	22 27 40.3	-0.4
	22nm,0.2s,SNR=30						
AAK				⇑S	Sg	22 28 13.1	-0.1
	28nm,0.3s						
AAK	Ala-Archa	2.36	81	⇑Pn	Pb	22 27 40.8	+0.1
	6.5nm,0.4s						
AAK				⇓Sn	Sg	22 28 13.2	-0.1
	9.7nm,0.5s						
AAK	Ala-Archa	2.36	81	⇓*i*P	Pn	22 27 38.4	+1.2
AAK				⇓*i*S	Sn	22 28 07.8	+1.1
UCH	Uchtor	2.36	91	⇓P	Pb	22 27 41.7	+0.9
	4.8nm,0.2s,SNR=14						
UCH				⇑S	Sg	22 28 13.9	+0.5
	48nm,0.3s						
UCH	Uchtor	2.36	91	⇓*i*P	Pn	22 27 38.4	+0.9
UCH				⇓*i*S	Sn	22 28 07.8	+0.6
FRU1	Bishkek	2.49	77	⇓*i*P	Pn	22 27 40.1	+1.3
FRU1				⇓*i*S	Sn	22 28 10.7	+1.0
USP	Ospenovka	2.52	67	⇑P	Pn	22 27 41.2	+2.0
	10nm,0.1s,SNR=29						
USP				⇑S	Sb	22 28 14.4	-0.3
	32nm,0.2s						
USP	Ospenovka	2.52	67	⇓*i*P	Pn	22 27 40.8	+1.5
USP				⇓*i*S	Sn	22 28 11.8	+1.3
CHMS	Chumysh	2.61	74	⇓P	Pb	22 27 43.9	-1.0
	16nm,0.2s,SNR=5.3						
CHMS				⇓S	Sb	22 28 18.3	+0.9
	28nm,0.2s						
CHMS	Chumysh	2.61	74	⇓*i*P	Pn	22 27 41.9	+1.4
CHMS				⇓*i*S	Sn	22 28 13.9	+1.1
SGDS	Sogindy	2.68	64	Pg	Pb	22 27 47.1	+1.0
	5.4nm,0.1s						
SGDS				Lg	Lg	22 28 20.7	
	16nm,0.2s						
KBK	Karagaybulak	2.70	81	⇓P	Pb	22 27 45.1	-1.3
	12nm,0.2s,SNR=15						
KBK				⇑S	Sb	22 28 20.8	+0.9
	74nm,0.4s						
KBK	Karagaybulak	2.70	81	⇓*i*P	Pn	22 27 43.1	+1.3
KBK				⇓*i*S	Sn	22 28 15.9	+0.9
DRK	Karamyk	2.85	173	⇑*i*P	Pn	22 27 43.1	-0.9
DRK				⇑*i*S	Sn	22 28 15.7	-3.2
TKM2	Tokmak 2	3.21	78	⇑P	Pn	22 27 51.5	+2.6
	6.9nm,0.3s,SNR=7.5						
TKM2	Tokmak 2	3.21	78	⇓*i*P	Pn	22 27 50.4	+1.6
TKM2				⇓*i*S	Sn	22 28 28.2	+0.6
GAR	Garm	3.40	193	⇓*i*P	Pn	22 27 50.3	-1.1
GAR				⇓*i*S	Sn	22 28 28.2	-4.0
DGS	Degeres	3.40	73	Lg	Lg	22 28 44.2	
	36nm,0.4s						
BOOM	Boomskoye usch	3.42	85	⇓*i*P	Pn	22 27 53.1	+1.4
BOOM				⇓*i*S	Sn	22 28 33.0	+0.2
JNKS	Jany-Kuch	3.47	110	⇑*e*P	Pn	22 27 53.2	+0.7
JNKS				⇑*e*S	Sn	22 28 34.1	-0.1
KRBS	Karabastau	3.47	65	Lg	Lg	22 28 44.2	
	3.4nm,0.3s						
KST	Kastek	3.49	76	Lg	Lg	22 28 47.1	
	24nm,0.4s						
KST	Kastek	3.49	76	*e*P	Pb	22 28 02.2	+2.2
	5.2nm,0.2s						
KST				*e*S	Sg	22 28 47.1	-2.5
	24nm,0.4s						
BXML	Bakhmal	3.62	225	S	Sg	22 28 58.5	+4.8
ULHL	Ulahol	3.64	89	⇑*e*P	Pn	22 27 56.2	+1.3
ULHL				⇑*i*S	Sn	22 28 38.4	0.0
MTBS	Maitube	3.84	76	*e*P	Pg	22 28 09.8	-1.3
	14nm,0.3s						
MTBS				*e*S	Sg	22 29 00.1	-0.7
	20nm,0.5s						
CHGR	Chuyangaron	4.01	205	⇑*i*P	Pn	22 27 58.6	-1.1
CHGR				⇑*i*S	Sn	22 28 42.6	-4.6
KTBS	Karatobe	4.17	69	Lg	Lg	22 29 07.7	
	23nm,0.5s						
TNSS	Tian-Shan	4.20	78	*e*P	Pg	22 28 15.8	-2.2
	3.5nm,0.3s						
TNSS				*e*S	Sg	22 29 10.6	-1.8
	4.8nm,0.4s						
MDOK	Medeo	4.30	77	Lg	Lg	22 29 12.1	
	7.2nm,0.5s						
KDJ	Kajisay	4.35	90	⇑*i*P	Pn	22 28 06.0	+1.5
KDJ				⇑*i*S	Sn	22 28 55.3	-0.4
CHKK	Chushkaly	4.42	68	*e*P	Pg	22 28 19.1	-3.0
	4.5nm,0.1s						
CHKK				*e*S	Sg	22 29 16.1	-3.3
	16nm,0.4s						
TMD	Tamdy-Bulak	5.02	266	S	Sg	22 29 35.7	-2.8
ARXS	Arharly	5.11	66	Pg	Pg	22 28 32.1	-3.2
	2.4nm,0.4s						
ARXS	Arharly	5.11	66	*e*P	Pg	22 28 32.1	-3.2
	2.4nm,0.4s						
ARXS				*e*S	Sg	22 29 38.7	-2.8
	13nm,0.5s						
KPKS	Kokpek	5.52	75	Pg	Pg	22 28 40.8	-2.4
	0.4nm,0.1s						
PDGK	Podgornoye	6.08	78	⇓Pn	Pb	22 28 37.9	-6.2
	27nm,2.4s						
PDGK				⇑Sn	Sb	22 30 03.3	+5.9
	19nm,1.4s						
MAKZ	Makanchi	8.83	56	⇓Pn	Pn	22 29 13.6	+7.8
	7.7nm,1.4s						
MAKZ				Sn	Sn	22 31 07.1	+21
MK31	Makanchi Array	9.02	56	⇑Pn	Pn	22 29 16.0	+7.6
	3.9nm,1.1s,baz=244,slow=16,SNR=16						
MK31				⇑Sn	Sn	22 31 11.8	+21
	0.9nm,0.6s,baz=245,slow=25						

IDC 21 22:41:34.3±1.3, **2.°87S**×**150.°69E, h0**km, **mb3.8**/5, **mbtmp3.8**/5, **MS3.5**/15, **Error ellipse: s-maj=67.9km s-min=26.0km az=121.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	17.34	341	LR	LR	22 51 54.8	
	comp=Z,65nm,19.9s,baz=128,slow=36						
WRA	Warramunga Arr	23.30	222	P	P	22 46 44.0	-0.1
	2.2nm,0.9s,baz=50,slow=11,SNR=11						
WRA				LR	LR	22 56 59.0	
	comp=Z,72nm,21.6s,baz=98,slow=40						
	2.2nm,0.9s						
ASAR	Alice Springs	26.29	217	P	P	22 47 12.4	+0.6
	1.3nm,1.0s,baz=53,slow=8.9,SNR=8.6						
ASAR				LR	LR	22 57 17.4	
	comp=Z,118nm,18.7s,baz=18,slow=36						
	1.3nm,1.0s						
BATI	Baumata	27.81	254	LR	LR	22 59 44.8	
	comp=Z,159nm,20.1s,baz=80,slow=39						
STKA	Stephens Creek	30.10	196	LR	LR	22 59 38.8	
	comp=Z,70nm,19.6s,baz=22,slow=36						
MJAR	Matsushiro Arr	40.90	345	LR	LR	23 03 35.1	
	comp=Z,174nm,18.8s,baz=183,slow=32						
PETK	Petropavlovsk-	56.08	5	LR	LR	23 10 36.5	
	comp=Z,48nm,20.9s,baz=165,slow=31						
SHEM	Shemya Is, Ala	58.80	16	LR	LR	23 14 22.3	
	comp=Z,64nm,18.8s,baz=321,slow=34						
MA2	Magadan	62.26	0	LR	LR	23 19 31.1	
	comp=Z,27nm,18.9s,baz=197,slow=37						
SONM	Songino Array	63.58	328	LR	LR	23 18 32.2	
	comp=Z,43nm,21.4s,baz=166,slow=35						
VNDA	Vanda	74.83	178	P	P	22 53 15.9	-0.2
	0.7nm,1.0s,baz=327,slow=6.1,SNR=6.4						
	0.7nm,1.0s						
KDAK	Kodiak Island	75.43	28	LR	LR	23 20 14.4	
	comp=Z,33nm,20.9s,baz=268,slow=31						
MKAR	Makanchi Array	77.50	319	LR	LR	23 27 07.7	
	comp=Z,25nm,21.0s,baz=124,slow=35						
ZALV	Zalesovo Beam	78.39	327	LR	LR	23 27 36.4	
	comp=Z,20nm,21.5s,baz=131,slow=35						
ILAR	Eielson Array	81.18	23	P	P	22 53 51.0	-0.7
	0.4nm,0.7s,baz=252,slow=5.5,SNR=8.9						
ILAR				LR	LR	23 27 33.7	
	comp=Z,32nm,19.3s,baz=232,slow=34						
	0.4nm,0.7s						
QSPA	South Pole Qui	87.08	180	P	P	22 54 22.7	+0.9
	1.1nm,0.9s,baz=2.3,slow=1.0,SNR=6.0						
	1.1nm,0.9s						
NEW	Newport	93.58	42	LR	LR	23 34 33.1	
	comp=Z,20nm,18.3s,baz=302,slow=34						

*TAP **21** 23:06:02.6, 24.°33N×121.°64E, h24km, ML3.5, B*
*JMA **21** 23:06:03.0±0.1, 24.°3N±0.°6×12.°2E±.°, h22km±2km,*
TAIWAN REGION

ISC 21 23:06:03.1±0.8, **24.°33N**±0.°01×**121.°65E**±0.°02, **h19**km±1km, **n110**, σ0§55/173, **1C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	Aohua	0.09	89	*i*P	Pg	23 06 07.3	+0.6
EAHA				S	Sg	23 06 10.3	+1.2
EHP	Heping Village	0.09	101	P	Pg	23 06 07.4	+0.7
EHP				*i*S	Sg	23 06 10.8	+1.6
ENA	Nanau	0.13	41	*i*P	Pg	23 06 07.7	+0.5
ENA				*i*S	Sg	23 06 10.9	+0.9
NACB	Ninganchiao	0.16	197	P	Pg	23 06 07.7	+0.2
NACB	Ninganchiao	0.16	197	S	Sg	23 06 11.5	+1.0
NACB	Ninganchiao	0.16	197	⇑*i*P	Pg	23 06 07.7	+0.2
NACB				*i*S	Sg	23 06 11.3	+0.7
EWUT	Wuta	0.17	46	P	Pg	23 06 08.1	+0.4
EWUT				S	Sg	23 06 11.4	+0.6
ETL	Fush Village	0.17	187	*i*P	Pg	23 06 07.8	+0.2
ETL				*i*S	Sg	23 06 11.6	+0.8
LATG	Datong	0.23	332	*i*P	Pb	23 06 08.7	+0.2
LATG				*i*S	Sb	23 06 12.6	+0.4
TWD	Chiawan	0.25	191	*i*P	Pb	23 06 08.9	+0.1
TWD				*i*S	Sg	23 06 13.4	+0.7
NNSB	Datong	0.26	293	⇓*i*P	Pb	23 06 09.2	0.0
NNSB				*i*S	Sb	23 06 13.4	+0.2
NNS	Nan Shan	0.27	294	*i*P	Pb	23 06 09.3	-0.1
NNS				*i*S	Sb	23 06 13.7	0.0
ESAO	Su ao	0.31	36	*i*P	Pg	23 06 09.7	-0.1
ESAO				*i*S	Sg	23 06 14.3	0.0
NDS	Dongshan	0.31	12	P	Pg	23 06 09.9	0.0
NDS				S	Sg	23 06 14.8	+0.2
ENTT	Nioudou	0.32	347	*i*P	Pg	23 06 10.1	0.0
ENTT				*i*S	Sg	23 06 15.0	+0.2
TWC	Suao	0.34	33	*i*P	Pg	23 06 10.3	0.0
TWC				*i*S	Sg	23 06 15.4	+0.3
HWA	Hwalien	0.35	186	*i*P	Pg	23 06 10.9	+0.4
HWA				*i*S	Sb	23 06 17.0	+0.9
LXIB	Xiulin Townshi	0.37	215	*i*P	Pg	23 06 10.6	-0.4
LXIB				S	Sb	23 06 17.0	+0.2
ETM	Tongmen	0.39	201	P	Pg	23 06 10.7	-0.5
ETM				S	Sg	23 06 17.0	+0.3
TWE	Neicheng	0.39	3	*i*P	Pg	23 06 11.1	-0.2
TWE				*i*S	Sg	23 06 16.7	-0.1
WHF	Hehuan Shan	0.39	243	*i*P	Pg	23 06 11.6	+0.1
WHF				*i*S	Sg	23 06 17.2	0.0
YHNB	Yeheng	0.42	324	P	Pg	23 06 11.5	-0.3
YHNB	Yeheng	0.42	324	S	Sg	23 06 17.7	-0.1
YHNB	Yeheng	0.42	324	⇓*i*P	Pg	23 06 11.6	-0.2
YHNB				*i*S	Sg	23 06 17.6	-0.1
FUSB	Fushanzhiwuyua	0.43	353	⇓*i*P	Pg	23 06 11.8	-0.3
FUSB				*i*S	Sg	23 06 17.6	-0.5
NSK	Sanguang	0.43	323	⇓*i*P	Pg	23 06 11.8	-0.3
NSK				*i*S	Sg	23 06 17.9	-0.3
TWT	Tachien	0.44	260	*i*P	Pg	23 06 12.5	+0.3
TWT				*i*S	Sg	23 06 18.5	+0.3
TDCB	Techi	0.45	261	⇓*i*P	Pg	23 06 12.4	0.0
TDCB				S	Sg	23 06 18.4	-0.3
TEYL	Yanliau Villag	0.46	186	P	Pg	23 06 12.3	-0.2
TEYL				*e*S	Sb	23 06 19.6	+0.5
NWLT	Wulai	0.47	344	*e*P	Pg	23 06 12.2	-0.4
NWLT				S	Sg	23 06 18.7	-0.3
SHUL	Shoufeng	0.54	188	P	Pb	23 06 13.9	-0.1
SHUL				S	Sg	23 06 22.5	+1.2
ESL	Shilin	0.55	201	P	Pb	23 06 13.3	-0.7
ESL				S	Sb	23 06 20.9	-0.6
NTC	Toucheng	0.55	18	*e*P	Pb	23 06 14.1	0.0
NTC				*e*S	Sg	23 06 22.1	+0.5
OWD	Renai	0.57	229	P	Pb	23 06 13.8	-0.7
OWD				S	Sb	23 06 21.8	-0.4
NFF	Wufeng Townshi	0.57	302	P	Pb	23 06 14.2	-0.3
NFF				S	Sb	23 06 22.1	-0.1
EGS		0.58	27	*i*P	Pb	23 06 14.6	+0.1
EGS				*i*S	Sg	23 06 22.6	+0.2
WUSB	Renai	0.59	235	P	Pb	23 06 14.5	-0.3
WUSB				S	Sb	23 06 22.6	-0.2
KSHI	Guanxi Townshi	0.62	316	*e*P	Pg	23 06 15.7	+0.3
KSHI				*e*S	Sg	23 06 24.5	+0.8
TEGC	Jichi Village	0.62	189	*e*P	Pb	23 06 15.4	+0.1
WHP	Taichung City	0.64	266	*i*S	Sb	23 06 24.1	-0.2
NHDH	Xindian Distri	0.64	350	P	Pb	23 06 15.8	+0.1
NHDH				*e*S	Sb	23 06 24.2	-0.1
TWA	Mucha	0.65	355	*e*P	Pg	23 06 16.3	+0.3
TWA				S	Sg	23 06 24.4	-0.2
WARBT	Fenglin Townsh	0.65	201	*e*P	Pb	23 06 14.6	-1.2
WARBT				*e*S	Sb	23 06 23.5	-1.0
LIOB	Emei	0.66	299	*i*P	Pb	23 06 16.1	+0.2
LIOB				S	Sg	23 06 25.3	+0.4
NSTT	Nanjuang	0.66	297	P	Pb	23 06 15.2	-0.8
NSTT				*i*S	Sb	23 06 24.6	-0.2
TATO	Taipei	0.66	347	P	Pb	23 06 15.9	-0.1
TATO	Taipei	0.66	347	S	Sb	23 06 24.3	-0.5
TIPB	Shuangxi	0.66	14	P	Pb	23 06 15.7	-0.3
TIPB				*i*S	Sb	23 06 24.2	-0.6
EGFH	Guangfu	0.69	197	*e*S	Sb	23 06 25.5	0.0
NHY	Taipei	0.71	354	*e*P	Pg	23 06 17.7	+0.6
NHY				*e*S	Sg	23 06 27.5	+0.9
WCS	Beigang Elemen	0.72	248	*e*P	Pb	23 06 16.5	-0.6
VWDT	VWDT	0.73	219	*i*P	Pb	23 06 17.2	-0.1
VWDT				*e*S	Sg	23 06 27.9	+0.6
TWB1	Santiao Chiao	0.75	25	*e*P	Pb	23 06 17.4	-0.1
TWB1				S	Sb	23 06 26.9	-0.4
NWF	Wu-fen Shan	0.75	9	P	Pb	23 06 17.7	+0.1
NWF				*i*S	Sb	23 06 27.8	+0.3
WFSB	Wu-fen Shan	0.75	9	*e*P	Pb	23 06 17.8	+0.2
WFSB				*i*S	Sg	23 06 27.9	+0.1
SBCB	Hsinchu	0.76	308	*e*P	Pn	23 06 18.8	-0.1
SBCB				*e*S	Sn	23 06 30.2	+0.4
NCUH	Zhongli	0.76	327	*e*P	Pg	23 06 18.4	+0.4
NCUH				*e*S	Sn	23 06 29.4	-0.6
HSN	Hsinchu	0.78	308	P	Pg	23 06 18.5	+0.1
HSN				*i*S	Sn	23 06 29.9	-0.3
SXI1	Grass Mountain	0.79	15	*i*P	Pb	23 06 18.4	0.0
SXI1				*e*S	Sb	23 06 29.1	+0.3
TWQ1	Liyutan	0.80	272	*e*P	Pn	23 06 19.4	0.0
TWS1	Kuangyinshan	0.80	345	*i*P	Pb	23 06 18.7	+0.3
TWS1				*i*S	Sg	23 06 29.9	+0.5
NMLH	Miaoli	0.81	285	*e*P	Pg	23 06 19.5	+0.6
NSY	Sanyi	0.81	276	*e*P	Pn	23 06 19.2	+0.6
SMLT	Sun Moon Lake	0.81	237	*e*P	Pb	23 06 18.8	+0.1
SMLT				*e*S	Sb	23 06 29.8	+0.5
YM01	YM01	0.82	355	P	Pb	23 06 19.1	+0.3
YM01				S	Sb	23 06 29.6	+0.1
TNOU	National Taiwa	0.83	8	*e*P	Pb	23 06 19.0	+0.2
SSLB	Suanglung	0.83	230	P	Pb	23 06 18.5	-0.5
SSLB	Suanglung	0.83	230	S	Sb	23 06 29.6	-0.2
SSLB	Suanglung	0.83	230	*i*P	Pb	23 06 18.8	-0.2
SSLB				*e*S	Sb	23 06 29.8	0.0

TGY	**Tagaytay City**	0.29	43	P		Pn	23 21 08.6	-0.3
	1μm,0.4s,baz=241,slow=2.9,SNR=24							
TGY				S		Sn	23 21 21.3	-0.4
	4μm,0.4s,baz=351,slow=23,SNR=9.5							
MYLDM	**Lahad Datu**	8.93	194			Pn	23 22 59.2	+1.2
SBUM	**Sibu**	14.14	217	P		P	23 24 11.4	+0.7
CMAR	**Chiang Mai Arr**	21.41	285	P		P	23 25 30.3	0.0
	2.3nm,0.3s,baz=103,slow=9.6,SNR=7.4							
	2.3nm,0.3s							
JCJ	**Chichijima**	23.96	53	P		P	23 25 54.9	-0.3
JCJ				IAmb		IAmb	23 26 02.5	
	comp=Z,118nm,1.1s							
SONM	**Songino Array**	35.88	343	P		P	23 27 40.4	-0.1
SONM				IAmb		IAmb	23 27 42.1	
	comp=Z,1.7nm,0.8s							
SONM	**Songino Array**	35.88	343	P		P	23 27 40.3	-0.1
	comp=Z,1.9nm,0.6s,baz=164,slow=9.8,SNR=11							
	comp=Z,1.9nm,0.6s							
WRA	**Warramunga Arr**	36.19	158	P		P	23 27 41.3	-1.9
	comp=Z,0.3nm,0.5s,baz=333,slow=9.1,SNR=2.1							
WRA				pP		pP	23 28 06.6	-3.4
	comp=Z,0.6nm,0.6s,baz=336,slow=8.8,SNR=4.5							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	39.49	161	pP		pP	23 28 35.6	-2.4
	comp=Z,0.4nm,0.5s,baz=342,slow=8.4,SNR=3.2							
MKAR	**Makanchi Array**	45.90	323	P		P	23 29 02.7	+0.3
MKAR	**Makanchi Array**	45.90	323	P		P	23 29 03.0	+0.5
	comp=Z,1.5nm,0.5s,baz=109,slow=8.2,SNR=12							
	comp=Z,1.5nm,0.5s							
MAKZ	**Makanchi**	46.09	323	P		P	23 29 04.5	+0.6
TARG	**Taragay, Kyrgy**	46.34	315	P		P	23 29 04.6	-1.8
ZALV	**Zalesovo Beam**	48.90	333	P		P	23 29 24.8	-0.7
ZALV	**Zalesovo Beam**	48.90	333	P		P	23 29 25.0	-0.5
	comp=Z,2.0nm,0.3s,baz=124,slow=7.1,SNR=14							
	comp=Z,2.0nm,0.3s							
KURBB	**Kurchatov Arra**	50.05	326	P		P	23 29 34.6	+0.4
	comp=Z,4.2nm,0.8s,baz=126,slow=7.8,SNR=24							
	comp=Z,4.2nm,0.8s							
KURK	**Kurchatov**	50.05	326	P		P	23 29 34.5	+0.2
KURK				IAmb		IAmb	23 29 35.3	
	comp=Z,10nm,0.6s							
KURK	**Kurchatov**	50.05	326	P		P	23 29 34.6	+0.4
GAR	**Garm**	50.83	309	P		P	23 29 40.4	-0.1
GAR				IAmb		IAmb	23 29 46.0	
	comp=Z,9.6nm,1.0s							
KKAR	**Karatay Array**	51.87	314	P		P	23 29 48.1	0.0
BVAR	**Borovoye Array**	55.63	326	P		P	23 30 15.4	+0.2
	comp=Z,0.8nm,0.3s,baz=118,slow=8.3,SNR=7.6							
	comp=Z,0.8nm,0.3s							
SHEM	**Shemya Is, Ala**	57.20	35	P		P	23 30 27.2	+0.9
SMY	**Shemya**	57.20	35	P		P	23 30 26.8	+0.5
MARNC	**Mare, Loyalty**	58.23	126	P		P	23 30 34.1	+0.1
MARNC				IAmb		IAmb	23 30 43.1	
	comp=Z,72nm,1.1s							
AB31	**Akbulak array**	60.61	319	P		P	23 30 49.9	-0.1
AB31				IAmb		IAmb	23 30 50.3	
	comp=Z,1.9nm,0.6s							
ABKAR	**Akbulak array**	60.61	319	P		P	23 30 49.8	-0.2
MSVF	**Nonsavu**	64.69	117	P		P	23 31 20.2	+2.6
MSVF				IAmb		IAmb	23 31 38.1	
	comp=Z,14nm,1.1s							
ARCES	**ARCESS Array B**	78.92	339	P		P	23 32 41.1	-0.6
ARCES	**ARCESS Array B**	78.92	339	P		P	23 32 40.9	-0.9
	comp=Z,0.8nm,0.4s,baz=83,slow=5.7,SNR=5.4							
	comp=Z,0.8nm,0.4s							
BMAR	**Burnt Mountain**	79.08	23	P		P	23 32 43.5	+0.7

*SDD **21** 23:27:49.8±1.7, 19°.23N×67°.12W, h22km±54km, MD3.7, ML3.0, MW3.4*
*OSPL **21** 23:27:50.6±0.4, 19°.16N×67°.41W, h13km±3km, ML2.8*
*NEIC **21** 23:27:50.0±1.5, 19°.14N±0°.03×67°.23W±0°.03, h10km±1km, ML3.0/15, Md2.9/15(RSPR), Error ellipse: s-maj=5.8km s-min=3.6km az=48.0*
*RSPR **21** 23:27:51.7, 19°.14N×67°.35W, h10km±31km, MD2.9/15*

ISC 21 23:27:48.3±1.4, 19°.18N±0°.06×67°.20W±0°.03, h3km±10km, n68, σ0°.75/87, 27C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	0.71	173		Pn	23 28 04.0	-1.2
AGPR					Sb	23 28 13.7	+0.2
AGPR	**Aguadilla, PR**	0.71	173	⇓*e*P	Pn	23 28 04.0	-1.2
AGPR	**Aguadilla, PR**	0.71	173	⇓*e*Pg	Pn	23 28 03.9	-1.2
AGPR				⇑*e*Sg	Sb	23 28 13.6	+0.2
AGPR				IAML		23 28 19.4	
	comp=N,572nm,0.2s						
AGPR	**Aguadilla, PR**	0.71	173	*i* P	Pn	23 28 04.0	-1.2
AGPR				*e*S	Sb	23 28 13.5	0.0
AGPR				IAML		23 28 16.3	
	comp=Z,395nm,0.5s						
IDE	**Isla Desecheo**	0.82	198		Pn	23 28 06.1	-0.7
IDE					Sb	23 28 17.7	+0.9
IDE	**Isla Desecheo**	0.82	198	⇑*e*P	Pn	23 28 06.1	-0.7
IDE	**Isla Desecheo**	0.82	198	*e*S	Sb	23 28 17.7	+0.9
AOPR	**Arecibo Observ**	0.93	153		Pn	23 28 07.2	-1.1
AOPR					Sg	23 28 19.2	+1.1
AOPR	**Arecibo Observ**	0.93	153	⇑*e*P	Pn	23 28 07.7	-0.6
AOPR	**Arecibo Observ**	0.93	153	*e*S	Sb	23 28 19.9	+0.1
AOPR	**Arecibo Observ**	0.93	153	⇑*e*Pg	Pb	23 28 06.9	-0.1
AOPR				⇑*e*Sg	Sg	23 28 18.7	+0.5
AOPR				IAML		23 28 29.5	
	comp=N,598nm,0.2s						
EMPR	**Esperanza - Ma**	0.94	137		Pn	23 28 09.7	+1.3
EMPR					Sn	23 28 22.7	+0.3
EMPR	**Esperanza - Ma**	0.94	137	Pg	Pn	23 28 08.3	-0.1
EMPR	**Esperanza - Ma**	0.94	137	⇓*e*P	Pn	23 28 09.7	+1.3
EMPR	**Esperanza - Ma**	0.94	137	*e*S	Sn	23 28 22.7	+0.3
PRSN	**Puerto Rico Se**	0.95	177		Pn	23 28 07.8	-0.8
PRSN					Sb	23 28 20.4	-0.1
PRSN	**Puerto Rico Se**	0.95	177	⇑*e*P	Pn	23 28 07.8	-0.8
PRSN	**Puerto Rico Se**	0.95	177	*e*S	Sb	23 28 20.4	-0.1
LSP	**Las Mesas**	1.00	174		Pn	23 28 08.5	-0.7
LSP					Sb	23 28 22.1	+0.2
LSP	**Las Mesas**	1.00	174	⇓*e*P	Pn	23 28 08.5	-0.7
LSP	**Las Mesas**	1.00	174	*e*S	Sb	23 28 22.1	+0.2
UUPR	**Utuado, UPR, P**	1.02	153		Pn	23 28 09.2	-0.4
UUPR	**Utuado, UPR, P**	1.02	153		Sb	23 28 23.1	+0.6
UUPR	**Utuado, UPR, P**	1.02	153		Pn	23 28 09.8	+0.2
UUPR				Sg	Sb	23 28 22.6	0.0
UUPR	**Utuado, UPR, P**	1.02	153	⇑*e*P	Pn	23 28 09.2	-0.4
UUPR	**Utuado, UPR, P**	1.02	153	*e*S	Sb	23 28 23.1	+0.6
CRPR	**Cabo Rojo, PR**	1.17	176		Pn	23 28 11.0	-0.5
CRPR	**Cabo Rojo, PR**	1.17	176		Sg	23 28 25.6	-0.1
CRPR				IAML		23 28 27.0	
	comp=N,376nm,0.4s						
CRPR				IAML		23 28 30.5	
	comp=E,308nm,0.5s						
CRPR	**Cabo Rojo, PR**	1.17	176	⇑*e*P	Pn	23 28 11.0	-0.5
CRPR	**Cabo Rojo, PR**	1.17	176	⇓*e*Pg	Pn	23 28 10.8	-0.6
CRPR				⇑*e*Sg	Sg	23 28 26.0	+0.3
CRPR				IAML		23 28 26.9	
	comp=N,423nm,0.4s						
CRPR	**Cabo Rojo, PR**	1.17	176	*i* P	Pn	23 28 10.9	-0.6
CRPR				*e*S	Sg	23 28 26.2	+0.4
CRPR				IAML		23 28 27.6	
	comp=Z,212nm,0.3s						
ECPR	**Experimental S**	1.17	137	⇓*e*P	Pn	23 28 12.4	+0.9
ECPR	**Experimental S**	1.17	137	*e*S	Sn	23 28 28.5	+0.5
MLPR	**Magueyes Islan**	1.21	173	⇓*e*P	Pn	23 28 11.6	-0.5
MLPR	**Magueyes Islan**	1.21	173	*e*S	Sg	23 28 27.0	-0.2
MLPR	**Magueyes Islan**	1.21	173	⇓*e*Pg	Pb	23 28 11.4	-0.4
MLPR				⇑*e*Sg	Sg	23 28 27.0	-0.2
MLPR				IAML		23 28 27.6	
	comp=N,80nm,0.4s						
CELP	**Cerrillos**	1.24	151		Pn	23 28 12.4	-0.2
CELP					Sg	23 28 28.8	+0.5
CELP	**Cerrillos**	1.24	151	IAML		23 28 31.6	
	comp=E,303nm,0.8s						
CELP				IAML		23 28 32.1	
	comp=N,343nm,0.3s						
CELP	**Cerrillos**	1.24	151	⇑*e*P	Pn	23 28 12.4	-0.2
CELP	**Cerrillos**	1.24	151	*e*S	Sg	23 28 28.8	+0.5
CELP	**Cerrillos**	1.24	151	⇓*e*Pg	Pn	23 28 11.9	-0.7
CELP				⇑*e*Sg	Sg	23 28 28.1	-0.2
CELP				IAML		23 28 32.0	
	comp=N,350nm,0.3s						
OBIP	**Obispado Ponce**	1.26	153		Pb	23 28 12.4	-0.3
OBIP					Sg	23 28 29.1	+0.3
OBIP	**Obispado Ponce**	1.26	153	IAML		23 28 35.0	
	comp=E,262nm,0.5s						
OBIP				IAML		23 28 35.1	
	comp=N,246nm,0.6s						
OBIP	**Obispado Ponce**	1.26	153	⇑*e*P	Pb	23 28 12.4	-0.3
OBIP	**Obispado Ponce**	1.26	153	*e*S	Sg	23 28 29.1	+0.3
PCDR	**Punta Cana, DR**	1.29	240	⇑*e*Sg	Sn	23 28 32.3	+1.2
PCDR				IAML		23 28 33.5	
	comp=N,318nm,0.6s						
GCPR	**Guaynabo City**	1.37	129		Pb	23 28 14.5	0.0
GCPR					Sb	23 28 31.9	-0.5
GCPR	**Guaynabo City**	1.37	129	⇑*e*P	Pb	23 28 14.5	0.0
GCPR	**Guaynabo City**	1.37	129	*e*S	Sb	23 28 31.9	-0.5
SJG	**San Juan**	1.46	136		Pg	23 28 16.5	+0.3
SJG	**San Juan**	1.46	136	IAML		23 28 37.3	
	comp=N,206nm,0.3s						
SJG				IAML		23 28 37.5	
	comp=N,156nm,0.4s						
SJG	**San Juan**	1.46	136	⇑*e*P	Pg	23 28 16.5	+0.3
SJG	**San Juan**	1.46	136	*e*S	Sn	23 28 35.8	+0.7
SJG	**San Juan**	1.46	136	⇑*e*Pg	Pg	23 28 15.9	-0.3
SJG	**San Juan**	1.46	136	*i* P	Pg	23 28 16.6	+0.4
SJG				IAML		23 28 36.8	
	comp=Z,90nm,0.6s						
HIDR	**Higuey Centro**	1.54	248	⇑*e*P	Pg	23 28 21.0	+3.0
HIDR	**Higuey Centro**	1.54	248	⇑*e*Pg	Pg	23 28 17.3	-0.7
HIDR				⇑*e*Sg	Sg	23 28 39.8	+1.8
HIDR				IAML		23 28 45.5	
	comp=N,350nm,0.2s						
IGPR	**InterUniversit**	1.59	139		Pg	23 28 18.0	-0.8
IGPR					Sb	23 28 38.7	-0.1
IGPR	**InterUniversit**	1.59	139	⇑*e*P	Pg	23 28 18.0	-0.8
IGPR	**InterUniversit**	1.59	139	*e*S	Sb	23 28 38.7	-0.1
PDPR	**Patillas Dam,**	1.61	136		Pg	23 28 18.6	-0.5
PDPR				Sn	Sn	23 28 38.4	-0.4
PDPR				IAML		23 28 42.9	
	comp=E,111nm,0.5s						
PDPR	**Patillas Dam,**	1.61	136	⇓*e*P	Pg	23 28 18.4	-0.7
PDPR	**Patillas Dam,**	1.61	136	*e*S	Sb	23 28 39.2	-0.1
MIDR	**Miches**	1.76	264	⇑*e*Pg	Pg	23 28 21.0	-0.9
MIDR				⇑*e*Sg	Sg	23 28 45.3	+0.6
MIDR				IAML		23 28 51.6	
	comp=N,112nm,0.4s						
SMDR	**Samana, DR**	1.88	274	⇑*e*Sg	Sg	23 28 49.0	+0.3
SMDR				IAML		23 28 56.4	
	comp=N,124nm,0.6s						
DR12	**Loma Pena Alta**	2.10	260		Pb	23 28 25.5	-1.4
HATOM	**Hato Mayor del**	2.10	260	⇑*e*Pg	Pb	23 28 25.9	-1.1
HATOM				⇑*e*Sg	Sg	23 28 54.9	-0.7
HATOM				IAML		23 28 59.9	
	comp=N,103nm,0.7s						
SDDR	**Presa de Saban**	3.87	268		Pb	23 28 57.2	0.0

*IDC **21** 23:45:21.0±2.0, 24°.18S×66°.95W, h172km±27km, mb4.3/1, mbtmp3.8/7, Error ellipse: s-maj=34.4km s-min=20.5km az=103.0*

ISC 21 23:45:20.4±0.9, 24°.19S±0°.07×67°.0W±0°.1, h181km, n7, σ2°.77/10, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	7.48	188	P	Pn	23 47 07.3	+0.5
	0.5nm,0.4s,baz=325,slow=12,SNR=1.4						
CFA				S	Sn	23 48 26.2	-4.8
	1.0nm,0.4s,baz=114,slow=20,SNR=5.5						
LPAZ	**La Paz**	7.94	352	P	Pn	23 47 14.4	+1.0
	1.5nm,0.4s,baz=149,slow=6.4,SNR=12						
LPAZ				S	Sn	23 48 40.5	-2.4
	1.7nm,0.8s,baz=54,slow=19,SNR=3.8						
CPUP	**Villa Florida**	8.96	106	P	Pn	23 47 27.0	+0.7
	0.2nm,0.3s,baz=308,slow=8.7,SNR=3.1						
SIV	**San Ignacio**	9.84	35	P	Pn	23 47 37.6	-0.4
	0.8nm,0.3s,baz=211,slow=10,SNR=7.7						
SIV				S	Sn	23 49 23.7	-4.0
	0.4nm,0.6s,baz=131,slow=20,SNR=1.6						
PLCA	**Paso Flores**	16.78	190	P	P	23 49 05.5	+1.5
	1.4nm,1.0s,baz=356,slow=11,SNR=1.1						
BDFB	**Brasilia**	19.71	68	P	P	23 49 38.1	+1.9
	9.3nm,0.8s,baz=243,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	76.59	69	P	P	23 56 52.6	+1.3
	3.5nm,0.4s,baz=252,slow=6.0,SNR=2.5						
	3.5nm,0.4s						

*BJI **21** 23:49:02.1, 2°.68S×99°.86E, h10km, mB5.6/59, mb5.5/91, Ms5.6/94, Ms7 5.5/91*
*NEIC **21** 23:49:04.5±1.9, 2°.64S±0°.06×99°.59E±0°.06, h10km±1km, mb5.6/256, Ms_20 5.3/276, Mww5.2/12, Error ellipse: s-maj=10.7km s-min=9.6km az=226.0*
*NEIC **21** 23:49:04.5, 2°.63S×99°.59E, h22km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}6.69; $M_{\theta\theta}$-3.83; $M_{\phi\phi}$-2.86; $M_{r\theta}$5.10; $M_{\theta\phi}$3.78; $M_{\phi r}$-2.92; Fault plane solution: $M_0$9.09000×10^{16} NP1: ϕ_s319.61000°, δ25.59000°, λ104.43000°. NP2: ϕ_s123.69000°, δ65.27000°, λ83.20000°. Principal axes: T 8.9137, Plg69.0000°, Azm20.0000°; N 0.3353, Plg6.0000°, Azm127.0000°; P -9.2490, Plg20.0000°, Azm219.0000°;*
*MOS **21** 23:49:04.4±2.5, 2°.60S×99°.50E, h10km, mb5.8/98, MS5.0/26 Error ellipse: s-maj=6.8km s-min=3.9km az=112.1*
*NEIC **21** 23:49:04.5, 2°.63S×99°.59E, h22km*
*IDC **21** 23:49:05.3±0.4, 2°.30S×99°.88E, h0km, mb5.2/34, mbtmp5.2/36, ML4.3/2, MS5.0/52, Error ellipse: s-maj=13.4km s-min=10.1km az=56.0*
*DJA **21** 23:49:08.1±0.3, 2°.S±1°.×10°.0E±°., h17km±2km, M5.3/114, mb5.3/114, mB5.8/79, MLv5.7/29, Mw(mB)5.3/79, MwMwp5.2/32, Mwp5.4/32*
*GCMT **21** 23:49:10.5±0.1, 2°.43S±0°.01×99°.64E±0°.01, h12km, MW5.4/118, Moment Tensor Solution. s118, c201; s115, c202; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.57±.01; $M_{\theta\theta}$-0.32±.01; $M_{\phi\phi}$-0.25±.01; $M_{r\theta}$1.17±.03; $M_{\theta\phi}$0.32±.01; $M_{\phi r}$-1.15±.03; Best double couple: $M_0$1.74300×10^{17} NP1:ϕ_s309.00000°, δ10.00000°, λ85.00000°. NP2:ϕ_s134.00000°, δ80.00000°, λ91.00000°. Principal axes: T 1.7250, Plg55.0000°, Azm45.0000°; N 0.0360, Plg1.0000°, Azm314.0000°; P -1.7610, Plg35.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 23:49:07.1±0.3, 2°.50S±0°.03×99°.66E±0°.04, h22km±2km, h22km:pP-P, n1019, σ1°87/975, mb5.5/277, MS5.2/241, 43C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	0.43	127	P	Pn	23 49 18.0	0.0
SISI	**Saibi**	1.30	334	P	Pb	23 49 30.7	-0.2
PDSI	**Padang**	1.77	27	P	Pn	23 49 36.0	-0.4
KRJI	**Kerinci**	1.84	77	P	Pn	23 49 37.5	0.0
PPI	**Padang Panjang**	2.16	20	P	Pn	23 49 42.2	+0.4
MASI	**Maura Aman, Be**	2.65	104	P	Pn	23 49 48.5	0.0
PBSI	**Pulau Batu**	2.80	330	P	Pn	23 49 51.1	+0.6
KSI	**Kapahiang**	3.14	111	P	Pn	23 49 55.9	+0.6
MNSI	**Mandailing Nat**	3.28	359	P	Pn	23 49 56.9	-0.2
MNAI	**Manna**	3.77	119		Pn	23 50 03.4	-0.5
MNAI	**Manna**	3.77	119	P	Pn	23 50 04.7	+0.8
MNAI	**Manna**	3.77	119	S	Sn	23 50 47.6	0.0
MNAI	**Manna**	3.77	119	P	Pn	23 50 04.4	+0.5
LHSI	**Lahat**	4.07	109	P	Pn	23 50 09.8	+1.7
GSI	**Gunungsitoli**	4.32	331	Pn	Pn	23 50 11.2	-0.3
GSI	**Gunungsitoli**	4.32	331	P	Pn	23 50 11.6	+0.1
GSI	**Gunungsitoli**	4.32	331	S	Sn	23 51 00.4	-0.8
GSI	**Gunungsitoli**	4.32	331	P	Pn	23 50 11.6	+0.1
MDSI	**Maura Dua**	4.92	114	P	Pn	23 50 20.6	+0.9
LWLI	**Liwa**	5.05	120	P	Pn	23 50 22.9	+1.3
PMBI	**Palembang**	5.12	95	Pn	Pn	23 50 21.5	-1.0
PMBI	**Palembang**	5.12	95	P	Pn	23 50 22.4	-0.1
DSRI	**Dabo**	5.31	68	P	Pn	23 50 24.6	-0.5
	4.5nm22μm9μm411nm,0.6s						
PSI	**Prapat**	5.32	352	Pn	Pn	23 50 23.7	-1.6
	7.8nm,0.3s,baz=154,slow=11,SNR=39						
	40nm,0.4s						
BTDF	**Bukit Timah Da**	5.62	47	P	Pn	23 50 29.9	+0.5
KASI	**Kota Agung**	5.68	122	P	Pn	23 50 30.6	+0.4
KLI	**Kotabumi**	5.69	115	P	Pn	23 50 31.6	+1.3
SNSI	**Sinabang, Aceh**	5.91	326	P	Pn	23 50 33.8	+0.4
	4.6nm10μm6μm534nm,1.0s						
TPRI	**Tanjung Pinang**	5.93	55	P	Pn	23 50 34.0	+0.4
MYKOM	**Kota Tinggi**	5.97	45		Pn	23 50 33.8	-0.4
MYKOM	**Kota Tinggi**	5.97	45	P	Pn	23 50 36.0	+1.8
BLSI	**Bandar Lampung**	6.25	117	P	Pn	23 50 39.2	+1.1
	2.2nm370nm,1.0s						
KCSI	**Kotacane, Aceh**	6.28	342	P	Pn	23 50 37.4	-1.0
	2.5nm8μm4μm164nm,0.9s						
PPBI	**Pangkal Pinang**	6.48	87	P	Pn	23 50 40.2	-0.9
IPM	**Ipoh**	7.07	11		Pn	23 50 49.9	+0.6
IPM	**Ipoh**	7.07	11	P	Pn	23 50 51.4	+2.1
CGJI	**Cibinong**	7.26	124	P	Pn	23 50 50.6	-1.4
	1.8nm5μm414nm,0.8s						
SBJI	**Serang**	7.38	119	P	Pn	23 50 54.1	+0.5
	2.6nm8μm602nm,1.2s						
MLSI	**Meulaboh, Aceh**	7.47	334	P	Pn	23 50 55.6	+0.8
	2.8nm8μm6μm512nm,1.1s						
KULM	**Kulim**	7.80	7	Pn	Pn	23 50 58.6	-0.8
KULM	**Kulim**	7.80	7	P	Pn	23 51 00.2	+0.8
TPI	**Tanjungpandan**	7.99	92	P	Pn	23 51 02.3	+0.4
	8μm112nm,1.1s						
DBJI	**Dramaga**	8.13	120	P	Pn	23 51 04.3	+0.4
	533nm,1.5s						
LHMI	**Lhok Sumawe**	8.14	341		Pn	23 51 03.5	-0.6
LHMI	**Lhok Sumawe**	8.14	341	P	Pn	23 51 06.8	+2.7
LHMI	**Lhok Sumawe**	8.14	341	P	Pn	23 51 05.0	+0.9
	9μm4μm151nm,1.1s						
SKJI	**Sukabumi**	8.20	123	P	Pn	23 51 05.9	+1.1
CNJI	**Cibinong**	8.84	123	P	Pn	23 51 12.2	-1.4
	2μm200nm,1.0s						
LEM	**Lembang**	9.02	119	Pn	Pn	23 51 17.3	+1.2
	5.8nm,0.3s,baz=234,slow=7.6,SNR=19						
LEM				Sn	Sn	23 53 00.4	+3.2
	1.1nm,0.3s,baz=267,slow=19,SNR=1.4						
LEM				LR	LR	23 55 24.8	
	comp=Z,9μm,19.0s,baz=236,slow=42						
	151nm,0.9s						
LEM	**Lembang**	9.02	119	P	Pn	23 51 17.7	+1.5
COCO	**West Island**	10.03	196	Pn	Pn	23 51 23.7	-6.1
COCO	**West Island**	10.03	196	P	Pn	23 51 33.0	+3.1
COCO	**West Island**	10.03	196	P	Pn	23 51 23.7	-6.2
KPJI	**Karang Pucung**	10.40	118	P	Pn	23 51 35.5	+0.5
SMRI	**Semarang**	11.65	113	Pn	Pn	23 51 50.6	-1.5
SMRI	**Semarang**	11.65	113	P	Pn	23 51 54.5	+2.4
SMRI	**Semarang**	11.65	113	P	Pn	23 51 53.5	+1.4
YOGI	**Yogyakarta**	11.83	117	P	Pn	23 51 54.3	-0.3
	224nm,0.9s						
UGM	**Wanagama**	12.07	117	Pn	Pn	23 51 56.3	-1.7
UGM	**Wanagama**	12.07	117	P	Pn	23 51 57.9	-0.1
UGM	**Wanagama**	12.07	117	P	Pn	23 51 57.7	-0.3
	166nm,0.9s						
STKI	**Sintang**	12.08	78	P	Pn	23 51 57.9	-0.2
	164nm,1.0s						
NGJI	**Ngawi**	12.71	113	P	Pn	23 52 07.3	+0.7
	248nm,1.1s						
PCJI	**Pacitan**	12.78	117	P	Pn	23 52 06.2	-1.4
	103nm,1.1s						
TBJI	**Tambak Boyo**	12.88	110	P	Pn	23 52 09.6	+0.7
	5μm213nm,1.2s						
BWJI	**Bawean**	13.38	105	P	Pn	23 52 16.5	+0.7
	464nm,1.6s						
SBUM	**Sibu**	13.48	69		Pn	23 52 16.6	-0.6
SBUM	**Sibu**	13.48	69	P	Pn	23 52 18.6	+1.4
GRJI	**Gresik**	13.50	109	P	Pn	23 52 17.9	+0.5
	248nm,0.8s						
BLJI	**Banyuglugur**	14.82	111	P	Pn	23 52 35.6	+0.2
	3μm91nm,1.0s						
KMMI	**Kalianget**	14.95	108	P	Pn	23 52 37.1	-0.1
	3μm222nm,1.2s						
BBKI	**Banjar Baru**	15.19	94	P	Pn	23 52 40.9	+0.5
MTKI	**Muara Teweh, K**	15.30	84	P	Pn	23 52 40.7	-1.2
	267nm,1.1s						
ABJI	**Asem Bagus**	15.43	110	P	Pn	23 52 43.4	-0.2
	3μm167nm,1.0s						
JAGI	**Jajag, Banyuwa**	15.59	113		Pn	23 52 42.1	-3.5
JAGI	**Jajag, Banyuwa**	15.59	113	P	Pn	23 52 42.8	-2.8
	116nm,0.9s						
PBA	**Port Blair**	15.66	334	Pn	Pn	23 52 45.8	-0.8
SRBI	**Singaraja**	16.44	110	P	Pn	23 52 56.7	+0.1
	2μm118nm,1.1s						
DLV	**Lat**	16.82	31	Pn	Pn	23 53 00.9	-0.6
DLV	**Lat**	16.82	31	P	P	23 53 03.5	-0.1
BKB	**Balikpapan**	17.27	86		Pn	23 53 06.3	-0.7
BKB				IAmb	IAmb	23 53 10.9	
	comp=Z,1μm,1.5s						
BKB	**Balikpapan**	17.27	86	P	P	23 53 09.4	+1.1
BKB	**Balikpapan**	17.27	86	P	P	23 53 08.2	-0.1
	comp=Z,6μmcomp=Z,7μmcomp=Z,468nm,1.1s						
SGKI	**Sangatta, Kali**	18.04	84	P	P	23 53 19.3	+2.4
	comp=Z,6μmcomp=Z,7μmcomp=Z,438nm,0.9s						
TWSI	**Taliwang,

KMSI	Cibinong	24.50	83	P	P	23 54 25.2	+0.1
GIRL	Giralia	24.51	146	P	P	23 54 30.6	+5.5
BATI	Baumata	25.03	109	P	P	23 54 27.7	-2.2
	comp=Z,15nm,0.3s,baz=34,slow=3.6,SNR=7.8						
BATI	Baumata	25.03	109	P	P	23 54 29.8	-0.1
	comp=Z,62nm,1.1s						
SOEI	Soe	25.48	107	P	P	23 54 30.6	-3.5
SOEI				IAmb	IAmb	23 54 53.2	
	comp=Z,80nm,0.9s						
SOEI				IAMs_20	IAMs_20	00 05 52.8	
	comp=Z,8μm,21.0s						
SOEI	Soe	25.48	107	P	P	23 54 35.1	+1.0
SOEI	Soe	25.48	107	P	P	23 54 31.5	-2.6
	comp=Z,105nm,0.9s						
BRDH	Bariadhala	26.22	343	LR	LR	00 07 56.7	
	comp=Z,5μm,18.8s,baz=154,slow=43						
SANI	Sanana	26.31	90	P	P	23 54 40.8	-0.7
SANI	Sanana	26.31	90	P	P	23 54 40.8	-0.7
	comp=Z,1μmcomp=Z,101nm,1.7s						
SGSI	Sangihe	26.57	77	P	P	23 54 44.3	+0.5
	comp=Z,2μmcomp=Z,240nm,1.4s						
TGY	Tagaytay City	26.77	51	LR	LR	00 06 37.1	
	comp=Z,3μm,19.7s,baz=243,slow=40						
KAAM	Kaadhehdhoo	26.83	276	IAMs_20	IAMs_20	00 04 09.0	
	comp=Z,7μm,20.0s						
MBWA	Marble Bar	26.94	135	P	P	23 54 43.5	-3.6
MBWA	Marble Bar	26.94	135	P	P	23 54 44.8	-2.3
MBWA				P	P	23 54 44.8	-2.3
PSAC1	Pilbara Seismi	27.24	136	P	P	23 54 54.7	+4.9
PSA00	Pilbara Seismi	27.29	136	P	P	23 54 47.6	-2.6
PSA00	Pilbara Seismi	27.29	136	P	P	23 54 48.3	-1.9
PSA00				IAmb	IAmb	23 55 16.5	
	comp=Z,18nm,1.2s						
PSA00	Pilbara Seismi	27.29	136	P	P	23 54 52.6	+2.3
TNCH	TengChong	27.39	358	P	P	23 54 51.9	+0.6
TNCH				S	S	23 59 32.3	+1.8
TNCH				pmax	pmax		
	comp=Z,180nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,930nm,4.7s						
TNCH				LR	LR		
	comp=Z,5μm,11.6s						
TNCH				LR	LR		
	comp=Z,5μm,12.3s						
TNCH				LR	LR		
	comp=Z,8μm,18.2s						
NLAI	Namlea	27.41	92	P	P	23 54 52.2	+0.8
	comp=Z,2μmcomp=Z,1μmcomp=Z,44nm,1.4s						
H08S2	Diego Garcia H	27.53	258	T	T	00 23 39.8	
	baz=80,slow=75,SNR=2472						
DGAR	Diego Garcia	27.54	259	P	P	23 54 47.1	-5.4
DGAR				IAmb	IAmb	23 54 51.6	
	comp=Z,197nm,1.2s						
DGAR	Diego Garcia	27.54	259	P	P	23 54 47.1	-5.4
DGAR				pmax	pmax		
	comp=Z,197nm,1.3s						
DGAR				MLR	MLR		
	comp=Z,4μm,20.0s						
H08S3	Diego Garcia H	27.54	258	T	T	00 23 38.5	
	baz=80,slow=75						
H08S1	Diego Carcia H	27.55	258	T	T	00 23 42.2	
	baz=80,slow=75,SNR=937						
DAV	Davao City (W)	27.56	70	P	P	23 54 52.5	-0.2
DAV	Davao City (W)	27.56	70	P	P	23 54 51.3	-1.4
	comp=Z,107nm,0.3s,baz=304,slow=3.6,SNR=1.5						
DAV				LR	LR	00 07 02.9	
	comp=Z,3μm,20.2s,baz=218,slow=40						
	comp=Z,107nm,0.3s						
KMI	Kunming	27.62	6	⇑P	P	23 54 53.8	+0.4
KMI				pmax	pmax		
	comp=Z,37nm,1.4s						
KMI				pmax	pmax		
	comp=Z,470nm,7.4s						
KMI				LR	LR		
	comp=Z,5μm,14.0s						
KMI				LR	LR		
	comp=Z,4μm,26.1s						
KMI				LR	LR		
	comp=Z,4μm,16.9s						
TNTI	Ternate	27.89	84	P	P	23 54 53.6	-2.1
TNTI				IAmb	IAmb	23 55 07.0	
	comp=Z,150nm,1.5s						
TNTI	Ternate	27.89	84	P	P	23 54 54.6	-1.1
TNTI	Ternate	27.89	84	P	P	23 54 54.5	-1.1
	comp=Z,1μmcomp=Z,63nm,1.6s						
HKPS	Hong Kong Po S	28.40	29	P	P	23 55 00.1	0.0
SZP	Santa	28.59	45	P	P	23 55 02.6	+0.8
GZH	Guangzhou	28.72	27	P	P	23 55 09.0	+6.1
GZH				S	S	00 00 05.4	+14
GZH				pmax	pmax		
	comp=Z,72nm,1.5s						
GZH				LR	LR		
	comp=Z,6μm,14.8s						
GZH				LR	LR		
	comp=Z,2μm,13.2s						
GZH				LR	LR		
	comp=Z,8μm,14.6s						
HYB	Hyderabad	28.73	314	*e*P	P	23 55 02.2	-1.0
HYB				IVmB_BB		23 55 05.8	
	comp=Z,303nm,1.7s						
HYB				*e*PcP	PcP	23 58 11.8	-1.6
HYB				*e*S	S	23 59 52.9	+1.4
HYB				IVMs_BB	IVMs_BB	00 07 60.0	
	comp=Z,999nm,18.3s						
SHL	Shillong	28.90	345	P	P	23 55 04.4	-0.4
SHL	Shillong	28.90	345	P	P	23 55 05.9	+1.1
	SNR=50						
SHL	Shillong	28.90	345	P	P	23 55 04.4	-0.4
SHL				pmax	pmax		
	comp=Z,261nm,1.3s						
PZH	PanZhiHua	28.91	4	P	P	23 55 04.4	-0.3
PZH				pmax	pmax		
	comp=Z,20nm,1.4s						
PZH				pmax	pmax		
	comp=Z,250nm,7.8s						
PZH				LR	LR		
	comp=Z,5μm,17.1s						
PZH				LR	LR		
	comp=Z,6μm,16.7s						
PZH				LR	LR		
	comp=Z,7μm,16.5s						
MSAI	Masohi	29.24	92	P	P	23 55 07.9	+0.2
	comp=Z,46nm,0.7s						
GULI	GuiLin	29.51	20	P	P	23 55 11.1	+1.1
GULI				pmax	pmax		
	comp=Z,56nm,1.6s						
GULI				pmax	pmax		
	comp=Z,160nm,5.2s						
GULI				LR	LR		
	comp=Z,3μm,17.5s						
GULI				LR	LR		
	comp=Z,6μm,18.3s						
GULI				LR	LR		
	comp=Z,5μm,19.3s						
GYA	Guiyang	29.57	13	⇓P	P	23 55 10.8	+0.2
GYA				S	S	00 00 06.3	+1.6
GYA				pmax	pmax		
	comp=Z,60nm,1.5s						
GYA				pmax	pmax		
	comp=Z,300nm,4.1s						
GYA				LR	LR		
	comp=Z,3μm,17.5s						
GYA				LR	LR		
	comp=Z,6μm,14.2s						
GYA				LR	LR		
	comp=Z,5μm,18.7s						
FITZ	Fitzroy Crossi	29.82	123	P	P	23 55 09.5	-3.2
FITZ	Fitzroy Crossi	29.82	123	LR	LR	00 08 42.6	
	comp=Z,4μm,21.0s,baz=304,slow=40						
MEEK	Meekatharra	30.11	145	P	P	23 55 18.2	+2.9
	comp=Z,52nm,1.1s						
MEEK	Meekatharra	30.11	145	P	P	23 55 17.8	+2.5
MORW	Morawa	30.67	151	P	P	23 55 15.1	-5.1
MORW	Morawa	30.67	151	P	P	23 55 23.7	+3.5
KNRA	Kununurra	31.51	116	P	P	23 55 26.3	-1.4
	comp=Z,109nm,0.9s						
KNRA	Kununurra	31.51	116	P	P	23 55 25.9	-1.8
KNRA				IAmb	IAmb	23 55 27.9	
	comp=Z,89nm,0.9s						
KNMB	Chin-men Tao	32.40	33	P	P	23 55 32.9	-2.5
KNMB				IAMs_20	IAMs_20	00 08 40.3	
	comp=Z,4μm,20.0s						
DRS	Darwin Rock St	32.46	109	P	P	23 55 35.9	-0.2
FAKI	Fak Fak	32.55	91	P	P	23 55 32.9	-4.0
FAKI				IAmb	IAmb	23 55 37.4	
	comp=Z,92nm,1.2s						
FAKI	Fak Fak	32.55	91	P	P	23 55 36.0	-1.0
FAKI	Fak Fak	32.55	91	P	P	23 55 35.4	-1.6
	comp=Z,989nmcomp=Z,76nm,1.6s						
TWG	Pinlang	32.70	39	P	P	23 55 37.0	-1.2
TWG				IAmb	IAmb	23 56 00.6	
	comp=Z,123nm,1.4s						
EVN	Everest	32.71	339	P	P	23 55 38.7	-0.1
EVN				IAmb	IAmb	23 55 58.2	
	comp=Z,71nm,1.1s						
TPUB	Ta-pu	32.79	37	P	P	23 55 38.2	-0.7
TPUB	Ta-pu	32.79	37	P	P	23 55 39.8	+0.9
MTN	Manton Dam	32.79	110	P	P	23 55 36.4	-2.6
MTN	Manton Dam	32.79	110	P	P	23 55 35.9	-3.2
QZH	Quanzhou	32.89	33	P	P	23 55 39.5	-0.2
QZH				S	S	00 01 00.6	+4.2
QZH				LR	LR		
	comp=Z,3μm,19.8s						
QZH				LR	LR		
	comp=Z,4μm,17.1s						
QZH				LR	LR		
	comp=Z,6μm,15.7s						
LSA	Lhasa	33.04	346	P	P	23 55 39.9	-1.6
LSA				pmax	pmax		
	comp=Z,83nm,1.0s						
LSA	Lhasa	33.04	346	IAmb	IAmb	23 55 44.7	
	comp=Z,71nm,0.9s						
LSA	Lhasa	33.04	346	P	P	23 55 43.6	+2.1
LSA				P	P	23 55 43.6	+2.1
LSA	Lhasa	33.04	346	*i*P	P	23 55 43.3	+1.8
	SNR=15						
CNSH	ChangSha	33.07	22	P	P	23 55 40.6	-0.6
CNSH				S	S	00 01 04.0	+4.9
CNSH				pmax	pmax		
	comp=Z,100nm,1.6s						
CNSH				LR	LR		
	comp=Z,10μm,17.2s						
CNSH				LR	LR		
	comp=Z,5μm,13.1s						
CNSH				LR	LR		
	comp=Z,12μm,16.0s						
AUMAZ	Mazenod Senior	33.16	154	P	P	23 55 45.1	+3.1
MUN	Mundaring	33.20	154	P	P	23 55 45.8	+3.4
MUN	Mundaring	33.20	154	P	P	23 55 46.5	+4.1
YULB	Yu-li	33.27	38	P	P	23 55 42.2	-0.8
YULB				IAmb	IAmb	23 55 45.8	
	comp=Z,116nm,1.2s						
YULB	Yu-li	33.27	38	P	P	23 55 44.3	+1.2
SSLB	Suanglung	33.35	37	P	P	23 55 42.8	-1.0
SSLB	Suanglung	33.35	37	P	P	23 55 44.6	+0.8
CD2	Chengdu	33.45	6	P	P	23 55 44.3	-0.4
CD2				sP	pP	23 55 48.9	-2.5
CD2				S	S	00 01 11.5	+6.4
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,420nm,5.3s						
CD2				LR	LR		
	comp=Z,9μm,18.6s						
CD2				LR	LR		
	comp=Z,12μm,18.0s						
CD2				LR	LR		
	comp=Z,7μm,17.2s						
ENH	Enshi	33.91	15	IAMs_20	IAMs_20	00 11 20.3	
	comp=Z,4μm,18.0s						
KDU	Kakadu	34.01	109	P	P	23 55 46.8	-2.8
NACB	Ninganchiao	34.03	38	P	P	23 55 48.2	-1.5
NACB				IAmb	IAmb	23 55 52.2	
	comp=Z,105nm,1.1s						
NACB	Ninganchiao	34.03	38	P	P	23 55 50.6	+0.9
YHNB	Yeheng	34.26	37	P	P	23 55 51.2	-0.6
YHNB				IAmb	IAmb	23 55 53.5	
	comp=Z,112nm,1.2s						
YHNB	Yeheng	34.26	37	P	P	23 55 52.8	+1.0
NWAO	Narrogin (SRO)	34.46	153	P	P	23 55 56.4	+3.0
	comp=Z,124nm,1.3s						
NWAO	Narrogin (SRO)	34.46	153	P	P	23 55 56.8	+3.5
NWAO	Narrogin (SRO)	34.46	153	P	P	23 55 49.8	-3.6
NWAO				IAmb	IAmb	23 56 06.1	
	comp=Z,64nm,1.0s						
NWAO	Narrogin (SRO)	34.46	153	IAMs_20	IAMs_20	00 08 35.3	
	comp=Z,4μm,21.0s						
NWAO	Narrogin (SRO)	34.46	153	LR	LR	00 08 57.7	
	comp=Z,4μm,21.5s,baz=320,slow=34						
NWAO	Narrogin (SRO)	34.46	153	P	P	23 55 56.2	+2.8
NWAO	Narrogin (SRO)	34.46	153	P	P	23 55 49.8	-3.6
NWAO				pmax	pmax		
	comp=Z,64nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,4μm,21.0s						
TATO	Taipei	34.56	36	P	P	23 55 52.3	-2.0
TATO				IAmb	IAmb	23 55 55.8	
	comp=Z,166nm,1.1s						
TATO	Taipei	34.56	36	P	P	23 55 54.9	+0.6
H01W3	Cape Leeuwin H	34.92	159	T	T	00 33 06.8	
	baz=335,slow=76,SNR=448						
H01W2	Cape Leeuwin H	34.93	159	T	T	00 32 55.5	
	baz=335,slow=76,SNR=394						
H01W1	Cape Leeuwin H	34.93	159	T	T	00 33 12.4	
	baz=335,slow=76,SNR=392						
YOJ	Yonaguni jima	35.11	39	P	P	23 55 56.9	-2.1
YOJ				IAmb	IAmb	23 56 09.8	
	comp=Z,187nm,1.2s						
YOJ	Yonaguni jima	35.11	39	P	P	23 55 56.9	-2.1
YOJ				pmax	pmax		
	comp=Z,187nm,1.2s						
WRKA	Warakurna	35.54	132	P	P	23 56 04.4	+1.6
	comp=Z,15nm,1.6s						
KMBL	Kambalda	35.55	146	P	P	23 56 05.0	+2.2
	comp=Z,24nm,1.2s						
WHN	Wuhan	35.72	22	⇑P	P	23 56 04.1	-0.1
WHN				sP	sP	23 56 12.8	-0.9
WHN				PcP	PcP	23 58 33.9	+1.7
WHN				pmax	pmax		
	comp=Z,450nm,1.3s						
WHN				LR	LR		
	comp=Z,20μm,15.1s						
WHN				LR	LR		
	comp=Z,15μm,13.6s						
WHN				LR	LR		
	comp=Z,32μm,16.1s						
BAKI	Biak	36.45	89	P	P	23 56 10.7	0.0
	comp=Z,45nm,0.8s						
XAN	Xi'an	37.38	13	⇑P	P	23 56 17.3	-1.1
XAN				pP	pP	23 56 23.9	-1.2
XAN				S	S	00 02 00.4	-4.9
XAN				ScP	ScP	00 02 16.9	-6.4
XAN				pmax	pmax		
	comp=Z,200nm,1.2s						
XAN				pmax	pmax		
	comp=Z,910nm,4.9s						
XAN				LR	LR		
	comp=Z,14μm,13.1s						
XAN				LR	LR		
	comp=Z,5μm,16.3s						
XAN				LR	LR		
	comp=Z,19μm,16.0s						
WB0	Warramunga Arr	38.01	119	P	P	23 56 22.1	-1.8
WB0				IAmb	IAmb	23 56 25.8	
	comp=Z,179nm,0.9s						
WRA	Warramunga Arr	38.03	120	P	P	23 56 22.3	-1.8
WRA	Warramunga Arr	38.03	120	P	P	23 56 24.0	-0.1
	comp=Z,118nm,0.9s,baz=296,slow=9.5,SNR=241						
WRA				PcP	PcP	23 58 40.9	+1.4
	comp=Z,10nm,0.8s,baz=297,slow=2.6,SNR=5.6						
WRA				S	S	00 02 12.8	-2.9
	comp=Z,2.3nm,1.0s,baz=297,slow=14,SNR=6.4						
WRA				LR	LR	00 13 57.6	
	comp=Z,2μm,21.0s,baz=300,slow=39						
	comp=Z,118nm,0.9s						
WRAB	Tennant Creek	38.04	120	P	P	23 56 22.0	-2.1
WRAB				IAmb	IAmb	23 56 26.2	
	comp=Z,128nm,0.8s						
WRAB	Tennant Creek	38.04	120	P	P	23 56 24.5	+0.3
WRAB	Tennant Creek	38.04	120	*ce*P	P	23 56 24.4	+0.3
WRAB				pmax	pmax		
	comp=Z,169nm,0.9s						
WR8	Warramunga Arr	38.18	120	P	P	23 56 24.4	-0.9
LZDM	Lanzhou Array	38.44	5	P	P	23 56 26.9	-0.7
	comp=Z,11nm,0.6s,baz=175,slow=7.4,SNR=24						
LZDM				PcP	PcP	23 58 42.6	+1.9
	comp=Z,21nm,0.8s,baz=132,slow=2.1,SNR=11						
LZDM				LR	LR	00 13 26.5	
	comp=Z,3μm,18.9s,baz=170,slow=38						
	comp=Z,11nm,0.6s						
LZH	Lanzhou	38.59	5	*e*P	P	23 56 28.9	+0.2
LZH				sP	pP	23 56 36.0	+0.5
LZH				PP	PnPn	23 58 01.9	+2.6
LZH				S	S	00 02 24.1	+0.3
LZH				sS	sS	00 02 38.5	+3.5
LZH				pmax	pmax		
	comp=Z,130nm,1.3s						
LZH				pmax	pmax		
	comp=Z,730nm,6.5s						
LZH				LR	LR		
	comp=Z,3μm,18.9s						
LZH				LR	LR		
	comp=Z,6μm,18.6s						
LZH				LR	LR		
	comp=Z,7μm,15.5s						
LYN	LuoYang	38.77	17	⇑P	P	23 56 30.0	-0.1
LYN				pP	sP	23 56 39.4	-0.1
LYN				PcP	PcP	23 58 43.3	+1.9
LYN				S	S	00 02 24.4	-1.9
LYN				sS	sS	00 02 39.6	+2.3
LYN				pmax	pmax		
	comp=Z,330nm,1.3s						
LYN				pmax	pmax		
	comp=Z,870nm,5.2s						
LYN				LR	LR		
	comp=Z,6μm,17.9s						
LYN				LR	LR		
	comp=Z,6μm,13.7s						
LYN				LR	LR		
	comp=Z,8μm,14.1s						
FORT	Forrest	38.88	139	P	P	23 56 33.0	+1.9
	comp=Z,21nm,0.9s						
FORT	Forrest	38.88	139	P	P	23 56 27.8	-3.2
NJ2	Nanjing	38.89	26	⇑P	P	23 56 31.1	0.0
NJ2				sP	sP	23 56 39.5	-1.1
NJ2				S	S	00 02 34.3	+6.1
NJ2				pmax	pmax		
	comp=Z,77nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,700nm,4.4s						
NJ2				LR	LR		
	comp=Z,4μm,18.0s						
NJ2				LR	LR		
	comp=Z,4μm,15.9s						
NJ2				LR	LR		
	comp=Z,5μm,16.1s						
SSE	Sheshan	39.20	30	P	P	23 56 34.8	+1.2
SSE				pmax	pmax		
	comp=Z,43nm,1.6s						
SSE				pmax	pmax		
	comp=Z,190nm,3.5s						
SSE				LR	LR		
	comp=Z,2μm,14.9s						
SSE				LR	LR		
	comp=Z,2μm,15.1s						
AUALC	St Philip's Co	39.23	125	P	P	23 56 35.2	+1.1
ASAR	Alice Springs	39.23	125	P	P	23 56 33.5	-0.7
ASAR	Alice Springs	39.23	125	P	P	23 56 34.4	+0.2
	comp=Z,34nm,0.8s,baz=301,slow=7.8,SNR=155						
ASAR				PcP	PcP	23 58 45.4	+2.2
	comp=Z,13nm,0.9s,baz=296,slow=2.6,SNR=8.9						
ASAR				S	S	00 02 31.5	-2.3
	comp=Z,9.7nm,1.2s,baz=301,slow=14,SNR=12						
ASAR				LR	LR	00 14 14.8	
	comp=Z,3μm,21.1s,baz=301,slow=38						
	comp=Z,34nm,0.8s						
AS31	Alice Springs	39.23	125	P	P	23 56 32.9	-1.3
JOW	Kunigami	40.16	42	P	P	23 56 40.3	-1.5
JOW				IAmb	IAmb	23 56 44.7	
	comp=Z,170nm,1.5s						
JOW	Kunigami	40.16	42	P	P	23 56 40.6	-1.1
	comp=Z,19nm,0.6s,baz=244,slow=8.2,SNR=5.3						
	comp=Z,19nm,0.6s						
JOW	Kunigami	40.16	42	P	P	23 56 42.7	+0.9
JAY	Jayapura	41.00	91	P	P	23 56 48.1	-0.8
	comp=Z,7.6nm,0.7s,baz=223,slow=17,SNR=4.4						
	comp=Z,7.6nm,0.7s						
JAY	Jayapura	41.00	91	P	P	23 56 48.2	-0.8
	comp=Z,474nmcomp=Z,26nm,1.2s						
GTA	Gaotai	41.71	0	P	P	23 56 55.5	+1.0
GTA				sP	sP	23 57 02.9	-1.0
GTA				PP	PnPn	23 58 39.1	+2.9
GTA				PcP	PcP	23 58 53.0	+2.1
GTA				PcS	PcS	00 02 41.3	-1.1
GTA				S	S	00 03 22.8	+12
GTA				ScS	ScS	00 06 55.1	-1.7
GTA				pmax	pmax		
	comp=Z,110nm,1.4s						
GTA				pmax	pmax		
	comp=Z,820nm,6.2s						
GTA				LR	LR		
	comp=Z,4μm,16.4s						
GTA				LR	LR		
	comp=Z,2μm,16.4s						
GTA				LR	LR		
	comp=Z,4μm,16.4s						
TIY	Taiyuan	41.73	15	P	P	23 56 55.1	+0.5
TIY				PcS	PcS	00 02 42.0	-0.4
TIY				pmax	pmax		
	comp=Z,44nm,0.9s						
TIY				pmax	pmax		
	comp=Z,510nm,5.3s						
TIY				LR	LR		
	comp=Z,3μm,19.3s						
TIY				LR	LR		
	comp=Z,4μm,15.9s						
TIY				LR	LR		
	comp=Z,5μm,13.5s						
TIA	Tai'an	41.82	21	P	P	23 56 55.3	0.0
TIA				PcP	PcP	23 58 53.1	+1.9
TIA				S	S	00 03 10.0	-1.9
TIA				pmax	pmax		
	comp=Z,51nm,1.0s						
TIA				pmax	pmax		
	comp=Z,670nm,4.6s						
TIA				LR	LR		
	comp=Z,11μm,15.1s						
TIA				LR	LR		
	comp=Z,3μm,13.5s						
TIA				LR	LR		
	comp=Z,15μm,14.5s						
HNS	HongShan	42.09	18	⇓P	P	23 56 57.6	+0.2
HNS				S	S	00 03 20.3	+4.6
HNS				pmax	pmax		
	comp=Z,110nm,1.5s						
HNS				LR	LR		
	comp=Z,3μm,13.5s						
HNS				LR	LR		
	comp=Z,2μm,15.9s						
HNS				LR	LR		
	comp=Z,3μm,14.7s						
QIS	Mount Isa	42.87	118	P	P	23 57 04.8	+0.7
NIL	Nilore	43.74	328	P	P	23 57 10.7	-0.3
NIL				IAmb	IAmb	23 57 12.9	
	comp=Z,100nm,0.9s						
NIL	Nilore	43.74	328	P	P	23 57 11.9	+0.9
NIL				P	P	23 57 11.9	+0.9
NIL	Nilore	43.74	328	P	P	23 57 10.7	-0.3
NIL				pmax	pmax		
	comp=Z,100nm,1.0s						
NIL				MLR	MLR		
	comp=Z,1μm,20.0s						
BTO	Baotou	43.93	11	*e*P	P	23 57 13.4	+0.9
BTO				pP	sP	23 57 23.4	+1.4
BTO				S	S	00 03 43.3	+0.3
BTO				sS	sS	00 04 00.4	+6.1
BTO				SS	SS	00 06 51.9	-8.2
BTO				pmax	pmax		
	comp=Z,120nm,1.7s						
BTO				pmax	pmax		
	comp=Z,1μm,7.5s						
BTO				LR	LR		
	comp=Z,16μm,15.1s						
BTO				LR	LR		
	comp=Z,9μm,15.1s						
BTO				LR	LR		
	comp=Z,20μm,16.7s						
COEN	Coen	44.45	107	P	P	23 57 13.6	-3.4
HHC	Hu-ho-hao-te	44.49	13	*e*P	P	23 57 17.4	+0.4
HHC				sP	sP	23 57 26.9	+0.4
HHC				PP	PP	23 59 03.8	+2.7
HHC				pmax	pmax		
	comp=Z,56nm,1.6s						
HHC				pmax	pmax		
	comp=Z,320nm,5.3s						
HHC				LR	LR		
	comp=Z,7μm,14.7s						
HHC				LR	LR		

	comp=Z,3μm,15.1s					
HHC				LR	LR	
	comp=Z,7μm,15.1s					
BJT	**Baijiatuau**	**44.94**	**18**	IAmb	IAmb	23 57 22.5
	comp=Z,148nm,1.1s					
BJI	**Beijing**	**44.96**	**18**	P	**P**	**23 57 20.9 +0.3**
BJI				PcP	**PcP**	**23 59 03.5 +1.8**
BJI				sS	**sS**	**00 04 12.4 +3.7**
BJI				ScS	**ScS**	**00 07 17.8 +1.1**
BJI				pmax	pmax	
	comp=Z,63nm,1.4s					
BJI				pmax	pmax	
	comp=Z,440nm,4.3s					
BJI				LR	LR	
	comp=Z,2μm,15.4s					
BJI				LR	LR	
	comp=Z,920nm,15.5s					
BJI				LR	LR	
	comp=Z,3μm,16.6s					
BBOO	**Buckleboo**	**45.52**	**136**	P	**P**	**23 57 23.8 -1.4**
BBOO	**Buckleboo**	**45.52**	**136**	P	**P**	**23 57 22.4 -2.9**
BBOO	**Buckleboo**	**45.52**	**136**	P	**P**	**23 57 27.0 +1.8**
DL2	**Dalian**	**45.91**	**24**	P	**P**	**23 57 28.1 0.0**
DL2				sP	**sP**	**23 57 37.3 -0.4**
DL2				PP	**PP**	**23 59 19.4 +3.4**
DL2				S	**S**	**00 04 16.8 +5.4**
DL2				SS	**ScS**	**00 07 25.0 +2.1**
DL2				pmax	pmax	
	comp=Z,180nm,1.3s					
DL2				pmax	pmax	
	comp=Z,1μm,4.9s					
DL2				LR	LR	
	comp=Z,3μm,16.6s					
DL2				LR	LR	
	comp=Z,3μm,15.7s					
DL2				LR	LR	
	comp=Z,3μm,15.4s					
JNU	**Nakatsue**	**46.10**	**37**	P	**P**	**23 57 28.9 -0.9**
JNU	**Nakatsue**	**46.10**	**37**	LR	LR	00 18 04.9
	comp=Z,2μm,18.3s,baz=240,slow=38					
JNU	**Nakatsue**	**46.10**	**37**	P	**P**	**23 57 29.7 -0.1**
JLN	**Jalan Bani Buh**	**46.32**	**304**	P	**P**	**23 57 33.3 +1.7**
JLN				P	**P**	**23 57 33.3 +1.7**
JLN				P	**P**	**23 57 34.0 +2.3**
JLN				P	**P**	**23 57 34.0 +2.3**
MTSU	**Mount Surprise**	**46.43**	**113**	P	**P**	**23 57 32.0 -0.6**
	comp=Z,54nm,0.9s					
MTSU	**Mount Surprise**	**46.43**	**113**	P	**P**	**23 57 32.8 +0.2**
NGCH	**Negor - Chabah**	**46.48**	**309**	P	**P**	**23 57 36.8 +4.0**
TJN	**Taejon**	**46.51**	**31**	P	**P**	**23 57 31.7 -1.2**
TJN	**Taejon**	**46.51**	**31**	P	**P**	**23 57 32.9 0.0**
TJN	**Taejon**	**46.51**	**31**	*c iP*	**P**	**23 57 32.6 -0.3**
INKA	**Innaminka**	**46.56**	**127**	P	**P**	**23 57 33.7 +0.2**
WHYH	**Whyalla**	**46.71**	**135**	P	**P**	**23 57 36.6 +2.0**
KBL	**Kabul**	**46.74**	**325**	P	**P**	**23 57 34.6 -0.4**
KBL	**Kabul**	**46.74**	**325**	P	**P**	**23 57 36.3 +1.2**
	SNR=14					
KBL				P	**P**	**23 57 36.3 +1.2**
	SNR=14					
KBL	**Kabul**	**46.74**	**325**	P	**P**	**23 57 34.6 -0.4**
KBL				pmax	pmax	
	comp=Z,26nm,1.2s					
INCN	**Inchon**	**47.00**	**30**	P	**P**	**23 57 35.5 -1.2**
INCN				IAmb	IAmb	23 57 37.2
	comp=Z,112nm,1.2s					
INCN	**Inchon**	**47.00**	**30**	P	**P**	**23 57 36.8 +0.1**
INCN	**Inchon**	**47.00**	**30**	P	**P**	**23 57 35.5 -1.2**
INCN				pmax	pmax	
	comp=Z,112nm,1.3s					
INCN				MLR	MLR	
	comp=Z,2μm,19.0s					
HJU	**Haeju**	**47.00**	**28**	P	**P**	**23 57 35.8 -0.9**
HJU				AmB		
	comp=Z,825nm,1.6s					
HJU				AMS	AMS	
	comp=Z,3μm,12.2s					
MHTO	**MHTO**	**47.03**	**302**	P	**P**	**23 57 40.0 +2.8**
KSH	**Kashi**	**47.14**	**335**	P	**P**	**23 57 37.8 -0.2**
KSH				sP	pP	23 57 44.5 0.0
KSH				S	**S**	**00 04 25.4 -4.0**
KSH				SS	**SS**	**00 07 50.4 -6.5**
KSH				pmax	pmax	
	comp=Z,27nm,1.2s					
KSH				pmax	pmax	
	comp=Z,400nm,6.2s					
KSH				LR	LR	
	comp=Z,2μm,18.2s					
KSH				LR	LR	
	comp=Z,1μm,17.5s					
KSH				LR	LR	
	comp=Z,2μm,17.9s					
WMQ	**Urumqi**	**47.35**	**348**	⇑P	**P**	**23 57 41.3 +1.9**
WMQ				sP	sP	23 57 50.8 +1.9
WMQ				S	**S**	**00 04 32.8 +0.7**
WMQ				ScS	**ScS**	**00 07 31.8 -0.5**
WMQ				pmax	pmax	
	comp=Z,290nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,1μm,3.7s					
WMQ				LR	LR	
	comp=Z,1μm,16.1s					
WMQ				LR	LR	
	comp=Z,2μm,17.3s					
WMQ				LR	LR	
	comp=Z,1μm,24.2s					
WSAR	**Wadi Sarin**	**47.45**	**305**	LR	LR	00 16 47.6
	comp=Z,8.1nm,18.7s,baz=137,slow=35					
JMDO	**Jabal Madar**	**47.50**	**304**	P	**P**	**23 57 43.1 +2.1**
JMDO				P	**P**	**23 57 43.1 +2.1**
AUJCS	**Jamestown Cent**	**47.54**	**134**	P	**P**	**23 57 43.5 +2.4**
KSAR	**Wonju Array Be**	**47.59**	**31**	P	**P**	**23 57 40.7 -0.6**
KSAR	**Wonju Array Be**	**47.59**	**31**	P	**P**	**23 57 40.7 -0.6**
GUMO	**Guam**	**47.60**	**69**	LR	LR	00 17 29.3
	comp=Z,779nm,21.8s,baz=229,slow=36					
KSRS	**Korea Array**	**47.62**	**31**	P	**P**	**23 57 41.2 -0.3**
	comp=Z,67nm,0.9s,baz=225,slow=8.5,SNR=143					
KSRS				PcP	**PcP**	**23 59 12.2 +1.2**
	comp=Z,1.7nm,0.6s,baz=224,slow=3.6,SNR=4.7					
KSRS				LR	LR	00 17 49.5
	comp=Z,695μm,21.2s,baz=215,slow=36					
	comp=Z,67nm,0.9s					
KS19	**Wonju Array Si**	**47.63**	**31**	P	**P**	**23 57 41.0 -0.6**
MANU	**Manus Island**	**47.66**	**90**	P	**P**	**23 57 40.1 -2.2**
PMG	**Port Moresby**	**47.69**	**100**	P	**P**	**23 57 39.7 -2.8**
PMG				IAmb	IAmb	23 57 43.2
	comp=Z,34nm,0.9s					
PMG	**Port Moresby**	**47.69**	**100**	LR	LR	00 21 27.2
	comp=Z,936nm,20.2s,baz=268,slow=41					
PMG	**Port Moresby**	**47.69**	**100**	*c iP*	**P**	**23 57 41.3 -1.2**
PMG				pmax	pmax	
	comp=Z,38nm,0.9s					
PYAG	**Pyongyang**	**47.82**	**28**	P	**P**	**23 57 42.3 -0.8**
PYAG				S	**S**	**00 04 39.6 +0.8**
PYAG				AmB		
	comp=Z,178nm,1.0s					
PYAG				AMS	AMS	
	comp=Z,3μm,16.0s					
SMDO	**Samad**	**47.85**	**304**	P	**P**	**23 57 45.9 +2.2**
SMDO				P	**P**	**23 57 45.9 +2.2**
HTT	**Hallett**	**47.88**	**134**	P	**P**	**23 57 45.1 +1.4**
	comp=Z,31nm,1.0s					
HTT	**Hallett**	**47.88**	**134**	P	**P**	**23 57 45.7 +1.9**
SHAO	**Shalim**	**47.93**	**297**	P	**P**	**23 57 47.9 +3.6**
SHAO				P	**P**	**23 57 47.9 +3.6**
BIDO	**Bidbid**	**47.99**	**305**	P	**P**	**23 57 47.7 +3.0**
BIDO				P	**P**	**23 57 47.7 +3.0**
JMN	**Monobe**	**48.35**	**39**	P	**P**	**23 57 46.7 -0.7**
JMN	**Monobe**	**48.35**	**39**	P	**P**	**23 57 48.2 +0.8**
AUMAR	**Marden Senior**	**48.46**	**136**	P	**P**	**23 57 50.3 +2.2**
XLT	**XiLinHaoTe**	**48.49**	**16**	*eP*	**P**	**23 57 48.6 +0.3**
XLT				pP	sP	23 57 57.9 0.0
XLT				PP	**PP**	**23 59 35.0 -6.2**
XLT				pmax	pmax	
	comp=Z,100nm,1.1s					
CTA	**Charters Tower**	**48.69**	**115**	LR	LR	00 20 32.8
	comp=Z,48nm,21.2s,baz=276,slow=39					
HOQ	**Hoqain**	**48.69**	**305**	P	**P**	**23 57 54.5 +4.4**
HOQ				P	**P**	**23 57 54.5 +4.4**
KDJ	**Kajisay**	**48.88**	**338**	P	**P**	**23 57 52.0 +0.6**
KDJ	**Kajisay**	**48.88**	**338**	P	**P**	**23 57 52.0 +0.6**
KDJ				pmax	pmax	
	comp=Z,240nm,1.2s					
QLP	**Quilpie**	**48.96**	**124**	P	**P**	**23 57 53.2 +1.2**
	comp=Z,0.0nmcomp=Z,86nm,1.3s					
QLP	**Quilpie**	**48.96**	**124**	P	**P**	**23 57 53.6 +1.5**
SHLS	**Shalkode**	**48.96**	**340**	*eP*	**P**	**23 57 51.2 -0.9**
	comp=Z,58nm,1.1s					
SHLS				*eS*	**S**	**00 04 55.0 -0.1**
SHLS	**Shalkode**	**48.96**	**340**	*eP*	**P**	**23 57 51.1 -0.9**
SHLS				*eS*	**S**	**00 04 55.0 -0.1**
SHLS				pmax	pmax	
	comp=Z,58nm,1.1s					
TV1H	**Townsville Har**	**48.98**	**113**	P	**P**	**23 57 53.2 +0.8**
DRK	**Karamyk**	**49.00**	**331**	P	**P**	**23 57 53.0 +0.5**
DRK	**Karamyk**	**49.00**	**331**	P	**P**	**23 57 53.0 +0.5**
DRK				pmax	pmax	
	comp=Z,189nm,1.1s					
RBK	**Rabkut**	**49.02**	**296**	P	**P**	**23 57 56.2 +3.4**
RBK				P	**P**	**23 57 56.2 +3.4**
AUMBR	**Murray Bridge**	**49.04**	**136**	P	**P**	**23 57 54.8 +2.3**
STKA	**Stephens Creek**	**49.07**	**131**	P	**P**	**23 57 51.8 -1.1**
STKA	**Stephens Creek**	**49.07**	**131**	P	**P**	**23 57 54.5 +1.6**
	comp=Z,56nm,0.8s,baz=306,slow=7.7,SNR=82					
STKA				LR	LR	00 19 53.4
	comp=Z,3μm,21.4s,baz=295,slow=38					
	comp=Z,56nm,0.8s					
STKA	**Stephens Creek**	**49.07**	**131**	P	**P**	**23 57 54.6 +1.7**
SNY	**Shenyang**	**49.17**	**24**	⇑P	**P**	**23 57 52.6 -0.8**
SNY				pmax	pmax	
	comp=Z,55nm,1.4s					
SNY				pmax	pmax	
	comp=Z,340nm,2.8s					
SNY				LR	LR	
	comp=Z,2μm,14.7s					
SNY				LR	LR	
	comp=Z,2μm,14.7s					
SNY				LR	LR	
	comp=Z,3μm,13.7s					
ARQ	**Araqi**	**49.23**	**304**	P	**P**	**23 57 57.0 +2.7**
SATY	**Saty**	**49.24**	**339**	*eP*	**P**	**23 57 54.2 +0.1**
	comp=Z,60nm,1.1s					
SATY				*eS*	**S**	**00 05 00.8 +1.8**
SATY	**Saty**	**49.24**	**339**	*eP*	**P**	**23 57 54.2 +0.1**
SATY				*eS*	**S**	**00 05 00.8 +1.8**
SATY				pmax	pmax	
	comp=Z,60nm,1.1s					
ULHL	**Ulahol**	**49.34**	**337**	P	**P**	**23 57 55.3 +0.4**
	SNR=8.6					
HHU	**Hamhung**	**49.35**	**28**	P	**P**	**23 57 53.9 -0.9**
HHU				S	**S**	**00 05 01.3 +1.0**
HHU				AmB		
	comp=Z,378nm,1.4s					
HHU				AMS	AMS	
	comp=Z,3μm,14.7s					
GAR	**Garm**	**49.35**	**330**	P	**P**	**23 57 54.1 -0.9**
GAR				IAmb	IAmb	23 58 16.1
	comp=Z,80nm,1.1s					
DOK	**Doka**	**49.47**	**297**	P	**P**	**23 57 58.8 +2.7**
DOK				P	**P**	**23 57 58.8 +2.7**
KPKS	**Kokpek**	**49.50**	**340**	*eP*	**P**	**23 57 56.1 0.0**
KPKS	**Kokpek**	**49.50**	**340**	*eP*	**P**	**23 57 56.1 0.0**
WHFO	**Wadi Hawf**	**49.55**	**296**	P	**P**	**23 57 59.6 +2.8**
WHFO				P	**P**	**23 57 59.6 +2.8**
SOHO	**SOHO**	**49.57**	**305**	P	**P**	**23 57 59.5 +2.6**
SOHO				P	**P**	**23 57 59.5 +2.6**
BOOM	**Boomskoye usch**	**49.66**	**337**	P	**P**	**23 57 58.1 +0.7**
BOOM				IAmb	IAmb	23 58 00.5
	comp=Z,138nm,1.2s					
BOOM	**Boomskoye usch**	**49.66**	**337**	P	**P**	**23 57 58.1 +0.7**
BOOM				pmax	pmax	
	comp=Z,138nm,1.2s					
CHGR	**Chuyangaron**	**49.69**	**329**	P	**P**	**23 57 56.7 -0.9**
CHGR	**Chuyangaron**	**49.69**	**329**	P	**P**	**23 57 56.7 -0.9**
CHGR				pmax	pmax	
	comp=Z,224nm,1.3s					
TNSS	**Tian-Shan**	**49.74**	**338**	*eP*	**P**	**23 57 58.2 -0.2**
TNSS	**Tian-Shan**	**49.74**	**338**	*eP*	**P**	**23 57 58.1 -0.2**
ABTO	**Aybut**	**49.79**	**295**	P	**P**	**23 58 01.3 +2.6**
ABTO				P	**P**	**23 58 01.3 +2.6**
MDOK	**Medeo**	**49.82**	**338**	*eP*	**P**	**23 57 58.6 +0.1**
MDOK				*eS*	**S**	**00 05 08.9 +1.7**
MDOK	**Medeo**	**49.82**	**338**	*eP*	**P**	**23 57 58.6 +0.1**
MDOK				*eS*	**S**	**00 05 08.8 +1.7**
AAA	**Alma-Ata**	**49.91**	**338**	*eP*	**P**	**23 57 59.4 +0.2**
	comp=Z,44nm,0.8s					
AAA	**Alma-Ata**	**49.91**	**338**	*eP*	**P**	**23 57 59.3 +0.2**
AAA				pmax	pmax	
	comp=Z,44nm,0.8s					
ARSB	**Arslanbob**	**49.92**	**334**	P	**P**	**23 57 59.9 +0.5**
ARSB	**Arslanbob**	**49.92**	**334**	P	**P**	**23 57 59.9 +0.5**
ARSB				pmax	pmax	
	comp=Z,258nm,1.2s					
UCH	**Uchtor**	**50.01**	**336**	P	**P**	**23 58 02.6 +2.2**
	SNR=8.8					
UMZA	**Um Al Zommool**	**50.11**	**302**	P	**P**	**23 58 03.6 +2.6**
UMZA				P	**P**	**23 58 03.6 +2.6**
TKM2	**Tokmak 2**	**50.16**	**337**	P	**P**	**23 58 02.8 +1.6**
	SNR=69					
ALNE	**Al Ain**	**50.18**	**304**	P	**P**	**23 58 04.2 +2.7**
	SNR=8.3					
ALNE				P	**P**	**23 58 04.2 +2.7**
	SNR=8.3					
ALNE	**Al Ain**	**50.18**	**304**	*i* P	**P**	**23 58 03.9 +2.4**
	SNR=14					
KBK	**Karagaybulak**	**50.19**	**336**	P	**P**	**23 58 04.3 +2.9**
	SNR=50					
UOSS	**Minazif**	**50.20**	**306**	P	**P**	**23 57 58.8 -2.8**
UOSS	**Minazif**	**50.20**	**306**	P	**P**	**23 58 03.6 +2.0**
UOSS				P	**P**	**23 58 03.6 +2.0**
UOSS	**Minazif**	**50.20**	**306**	P	**P**	**23 58 03.1 +1.5**
ASHO	**Ashiyiah**	**50.20**	**305**	P	**P**	**23 58 04.5 +2.8**
ASHO				P	**P**	**23 58 04.5 +2.8**
ASHO	**Ashiyiah**	**50.20**	**305**	*i* P	**P**	**23 58 03.4 +1.7**
	SNR=6.7					
HATD	**Hatta, Dubai**	**50.20**	**305**	P	**P**	**23 58 04.7 +3.1**
HATD				P	**P**	**23 58 04.7 +3.1**
HATD	**Hatta, Dubai**	**50.20**	**305**	P	**P**	**23 58 04.2 +2.5**
MDH	**Madha**	**50.28**	**306**	P	**P**	**23 58 03.8 +1.6**
AAK	**Ala-Archa**	**50.36**	**336**	P	**P**	**23 58 02.7 0.0**
AAK				IAmb	IAmb	23 58 24.2
	comp=Z,63nm,1.2s					
AAK	**Ala-Archa**	**50.36**	**336**	IAMs_20	IAMs_20	00 22 11.8
	comp=Z,3μm,21.0s					
AAK	**Ala-Archa**	**50.36**	**336**	LR	LR	00 22 32.9
	comp=Z,2μm,20.4s,baz=151,slow=40					
AAK	**Ala-Archa**	**50.36**	**336**	P	**P**	**23 58 04.5 +1.8**
AAK				P	**P**	**23 58 04.5 +1.8**
AAK	**Ala-Archa**	**50.36**	**336**	P	**P**	**23 58 05.3 +2.6**
	SNR=14					
AAK	**Ala-Archa**	**50.36**	**336**	*i* P	**P**	**23 58 05.2 +2.5**
	SNR=19					
AAK	**Ala-Archa**	**50.36**	**336**	*c iP*	**P**	**23 58 04.5 +1.8**
AAK				pmax	pmax	
	comp=Z,110nm,2.5s					
MASF	**Masafi**	**50.43**	**306**	P	**P**	**23 58 06.5 +3.2**
JCJ	**Chichijima**	**50.45**	**51**	LR	LR	00 19 12.9
	comp=Z,768nm,20.5s,baz=248,slow=36					
FRU1	**Bishkek**	**50.45**	**336**	P	**P**	**23 58 04.0 +0.7**
FRU1				IAmb	IAmb	23 58 06.7
	comp=Z,109nm,1.1s					
FRU1	**Bishkek**	**50.45**	**336**	P	**P**	**23 58 04.0 +0.7**
FRU1				pmax	pmax	
	comp=Z,109nm,1.1s					
ARXS	**Arharly**	**50.45**	**340**	*eP*	**P**	**23 58 04.5 +1.2**
SONM	**Songino Array**	**50.47**	**6**	P	**P**	**23 58 03.7 +0.3**
SONM	**Songino Array**	**50.47**	**6**	P	**P**	**23 58 04.3 +0.9**
	comp=Z,158nm,0.9s,baz=189,slow=7.7,SNR=388					
SONM				PcP	**PcP**	**23 59 23.0 +1.6**
	comp=Z,18nm,0.9s,baz=193,slow=4.6,SNR=2.1					
	comp=Z,158nm,0.9s					
CHMS	**Chumysh**	**50.56**	**336**	P	**P**	**23 58 06.1 +2.1**
	SNR=11					
BANOM	**Banah**	**50.56**	**307**	P	**P**	**23 58 06.5 +2.2**
BANOM				P	**P**	**23 58 06.5 +2.2**
BANOM				P	**P**	**23 58 07.1 +2.7**
BANOM				P	**P**	**23 58 07.1 +2.7**
ULN	**Ulaanbaatar**	**50.57**	**6**	P	**P**	**23 58 04.6 +0.4**
ULN	**Ulaanbaatar**	**50.57**	**6**	P	**P**	**23 58 05.1 +0.9**
ULN				P	**P**	**23 58 05.1 +0.9**
ULN	**Ulaanbaatar**	**50.57**	**6**	P	**P**	**23 58 05.1 +0.9**
EKS2	**Erkin-Say**	**50.67**	**335**	P	**P**	**23 58 07.8 +2.8**
	SNR=35					
SHME	**Shamm**	**50.75**	**307**	P	**P**	**23 58 08.4 +2.7**
SHME				P	**P**	**23 58 08.4 +2.7**
ASUD	**Al Ashush, Dub**	**50.77**	**305**	P	**P**	**23 58 09.1 +3.2**
ASUD				P	**P**	**23 58 09.1 +3.2**
ASUD	**Al Ashush, Dub**	**50.77**	**305**	P	**P**	**23 58 08.2 +2.3**
HRA	**Herat**	**50.82**	**320**	P	**P**	**23 58 05.2 -1.2**
USP	**Ospenovka**	**50.88**	**336**	P	**P**	**23 58 08.6 +2.1**
	SNR=92					
TDK	**Taldyqorghan**	**50.95**	**341**	*eP*	**P**	**23 58 07.3 +0.3**
	comp=Z,59nm,1.1s					
TDK	**Taldyqorghan**	**50.95**	**341**	*eP*	**P**	**23 58 07.2 +0.3**
TDK				pmax	pmax	
	comp=Z,59nm,1.1s					
SGDS	**Sogindy**	**50.99**	**337**	*eP*	**P**	**23 58 07.7 +0.4**
INU	**Inuyama**	**51.37**	**39**	P	**P**	**23 58 08.8 -1.4**
INU				IAmb	IAmb	23 58 13.5
	comp=Z,55nm,1.1s					
INU	**Inuyama**	**51.37**	**39**	P	**P**	**23 58 11.6 +1.4**
ZSN	**Zaisan**	**51.41**	**347**	*eP*	**P**	**23 58 10.5 +0.2**
	comp=Z,91nm,1.2s					
ZSN				*eS*	**S**	**00 05 30.8 +2.0**
ZSN	**Zaisan**	**51.41**	**347**	*eP*	**P**	**23 58 10.5 +0.2**
ZSN				*eS*	**S**	**00 05 30.8 +2.0**
ZSN				pmax	pmax	
	comp=Z,91nm,1.2s					
MK31	**Makanchi Array**	**51.42**	**345**	*c iP*	**P**	**23 58 11.4 +1.0**
MKAR	**Makanchi Array**	**51.42**	**345**	P	**P**	**23 58 10.8 +0.4**
MKAR	**Makanchi Array**	**51.42**	**345**	P	**P**	**23 58 11.4 +1.0**
	comp=Z,83nm,0.7s,baz=148,slow=7.7,SNR=302					
	comp=Z,83nm,0.7s					
MAKZ	**Makanchi**	**51.52**	**345**	P	**P**	**23 58 11.6 +0.4**
MAKZ				IAmb	IAmb	23 58 13.7
	comp=Z,96nm,1.1s					
MAKZ	**Makanchi**	**51.52**	**345**	P	**P**	**23 58 12.9 +1.8**
CN2	**Changchun**	**51.58**	**24**	P	**P**	**23 58 11.1 -0.5**
CN2				PcP	**PcP**	**23 59 25.8 +0.4**
CN2				S	**S**	**00 05 27.0 -4.2**
CN2				pmax	pmax	
	comp=Z,150nm,1.1s					
CN2				LR	LR	
	comp=Z,680nm,19.0s					
CN2				LR	LR	
	comp=Z,2μm,19.0s					
CN2				LR	LR	
	comp=Z,1μm,17.0s					
MZR	**Muzera**	**51.65**	**302**	P	**P**	**23 58 15.1 +2.6**
	SNR=6.4					
MZR				P	**P**	**23 58 15.1 +2.6**
	SNR=6.4					
MZR	**Muzera**	**51.65**	**302**	*i* P	**P**	**23 58 15.3 +2.7**
	SNR=14					
JGF	**Kuroka**	**51.75**	**39**	P	**P**	**23 58 12.0 -1.1**
JGF				IAmb	IAmb	23 58 22.9
	comp=Z,69nm,1.3s					
JGF	**Kuroka**	**51.75**	**39**	P	**P**	**23 58 13.1 0.0**
IUG	**Iuzhnay**	**51.92**	**332**	*eP*	**P**	**23 58 14.8 +0.4**
	comp=Z,77nm,1.2s					
IUG	**Iuzhnay**	**51.92**	**332**	*eP*	**P**	**23 58 14.7 +0.4**
IUG				pmax	pmax	
	comp=Z,77nm,1.2s					
CMSA	**Cobar Meteorol**	**52.06**	**129**	P	**P**	**23 58 17.5 +2.0**
KK31	**Karatay Array**	**52.45**	**333**	P	**P**	**23 58 17.7 -0.4**
KK31	**Karatay Array**	**52.45**	**333**	P	**P**	**23 58 17.7 -0.4**
KK31				pmax	pmax	
	comp=Z,66nm,1.5s					
KKAR	**Karatay Array**	**52.45**	**333**	P	**P**	**23 58 18.1 -0.1**
KKAR	**Karatay Array**	**52.45**	**333**	P	**P**	**23 58 18.1 -0.1**
GHWR	**Ruwais**	**52.54**	**303**	P	**P**	**23 58 21.5 +2.4**
GHWR				P	**P**	**23 58 21.5 +2.4**
BRLS	**Borolday**	**52.70**	**333**	⇑*i P*	**P**	**23 58 19.5 -0.5**
BRLS	**Borolday**	**52.70**	**333**	*c iP*	**P**	**23 58 19.5 -0.5**
ZAK	**Zakamensk**	**52.77**	**3**	*eP*	**P**	**23 58 19.9 -0.6**
ZAK				pmax	pmax	
	comp=Z,58nm,1.5s					
MAJO	**Matsushiro**	**52.87**	**39**	P	**P**	**23 58 20.0 -1.5**
MAJO				IAmb	IAmb	23 58 22.4
	comp=Z,81nm,1.1s					
MAJO	**Matsushiro**	**52.87**	**39**	P	**P**	**23 58 20.9 -0.5**
MAJO	**Matsushiro**	**52.87**	**39**	P	**P**	**23 58 21.1 -0.3**
MJB9	**Matsu-Tunnel**	**52.87**	**39**	P	**P**	**23 58 17.6 -3.8**
MJB9				IAmb	IAmb	23 58 23.8
	comp=Z,76nm,1.1s					
MJAR	**Matsushiro Arr**	**52.87**	**39**	P	**P**	**23 58 20.1 -1.3**
MJAR				IAmb	IAmb	23 58 22.4
	comp=Z,58nm,1.2s					
MJAR	**Matsushiro Arr**	**52.87**	**39**	P	**P**	**23 58 20.4 -1.1**
	comp=Z,80nm,1.1s,baz=219,slow=7.5,SNR=65					
	comp=Z,80nm,1.1s					
KNGR	**Kungurtug, Tuv**	**52.93**	**358**	*ceP*	**P**	**23 58 22.5 +0.8**
PSTR	**Posyet**	**53.02**	**29**	⇑*i P*	**P**	**23 58 23.1 +0.8**
AULRC	**Lightning Ridg**	**53.07**	**125**	P	**P**	**23 58 24.1 +1.1**
BRAT	**Ballarat**	**53.49**	**136**	P	**P**	**23 58 29.2 +3.3**
ABPO	**Ambohimpanom**	**53.82**	**248**	P	**P**	**23 58 26.7 -2.2**
ABPO	**Ambohimpanom**	**53.82**	**248**	IAMs_20	IAMs_20	00 17 39.2
	comp=Z,3μm,18.0s					
ABPO	**Ambohimpanom**	**53.82**	**248**	P	**P**	**23 58 26.7 -2.2**
ABPO				pmax	pmax	
	comp=Z,16nm,1.3s					
JSD	**Sado**	**53.85**	**38**	P	**P**	**23 58 27.1 -1.4**
JSD				IAmb	IAmb	23 58 29.0
	comp=Z,35nm,0.8s					
JSD	**Sado**	**53.85**	**38**	P	**P**	**23 58 28.3 -0.2**
VLA	**Vladivostok**	**53.89**	**29**	*d iP*	**P**	**23 58 29.3 +0.6**
VLA				pmax	pmax	
	comp=Z,235nm,1.5s					
BNX	**BinXian**	**53.96**	**24**	⇑P	**P**	**23 58 28.8 -0.4**
BNX				S	**S**	**00 06 03.5 -0.2**
BNX				pmax	pmax	
	comp=Z,130nm,1.7s					
BNX				pmax	pmax	
	comp=Z,950nm,5.2s					
BNX				LR	LR	
	comp=Z,2μm,16.1s					
BNX				LR	LR	
	comp=Z,2μm,16.4s					
BNX				LR	LR	
	comp=Z,4μm,17.6s					
MDJ	**Mudanjiang**	**53.98**	**26**	P	**P**	**23 58 29.4 0.0**
MDJ				S	**S**	**00 06 09.8 +5.8**
MDJ				pmax	pmax	
	comp=Z,63nm,1.3s					
MDJ				LR	LR	
	comp=Z,3μm,17.5s					
MDJ				LR	LR	
	comp=Z,4μm,18.2s					
MDJ				LR	LR	
	comp=Z,4μm,22.0s					
MDJ	**Mudanjiang**	**53.98**	**26**	P	**P**	**23 58 28.8 -0.6**
MDJ				IAmb	IAmb	23 58 32.2
	comp=Z,72nm,1.1s					
MDJ				IAMs_20	IAMs_20	00 21 46.6
	comp=Z,3μm,21.0s					
EIDS	**Eidsvold**	**54.40**	**120**	P	**P**	**23 58 30.2 -2.6**
EIDS				IAmb	IAmb	23 58 35.1
	comp=Z,34nm,0.8s					
EIDS	**Eidsvold**	**54.40**	**120**	P	**P**	**23 58 34.1 +1.3**
HIA	**Hailar**	**54.42**	**16**	P	**P**	**23 58 31.6 -0.9**
HIA				IAmb	IAmb	23 58 33.8
	comp=Z,87nm,1.2s					
HIA	**Hailar**	**54.42**	**16**	IAMs_20	IAMs_20	00 26 13.2
	comp=Z,3μm,18.0s					
HIA	**Hailar**	**54.42**	**16**	P	**P**	**23 58 31.6 -0.9**
HIA				pmax	pmax	
	comp=Z,87nm,1.2s					
HIA				MLR	MLR	
	comp=Z,3μm,18.0s					
SMRA	**Abu-Samra**	**54.56**	**303**	P	**P**	**23 58 36.2 +2.2**
TOO	**Toolangi**	**54.59**

comp=Z,50nm,0.9s,baz=162,slow=6.9,SNR=207
KURBB LR LR 00 27 39.7
comp=Z,1μm,18.8s,baz=159,slow=42
comp=Z,50nm,0.9s
KURK Kurchatov 55.99 344 P **P 23 58 44.0 +0.2**
KURK Kurchatov 55.99 344 P **P 23 58 45.4 +1.6**
KURK P **P 23 58 45.4 +1.6**
KURK Kurchatov 55.99 344 P **P 23 58 44.2 +0.4**
AUPHS Peel High Scho 56.02 126 P **P 23 58 46.7 +2.3**
AUMTS Mt Stromlo 56.13 132 P **P 23 58 47.2 +2.0**
CAN Canberra 56.13 132 P **P 23 58 42.6 -2.6**
CAN IAmb IAmb 23 58 48.9
comp=Z,73nm,1.1s
CAN IAMs_20 IAMs_20 00 24 11.1
comp=Z,3μm,21.0s
CAN Canberra 56.13 132 P **P 23 58 47.3 +2.1**
CAN Canberra 56.13 132 P **P 23 58 42.6 -2.6**
CAN pmax pmax
comp=Z,73nm,1.1s
CAN MLR MLR
comp=Z,3μm,21.0s
AUSIS Research Schoo 56.19 132 P **P 23 58 48.6 +2.9**
ARMA Armidale 56.39 125 P **P 23 58 44.2 -3.0**
ARMA IAmb IAmb 23 58 51.2
comp=Z,70nm,1.4s
ARMA Armidale 56.39 125 P **P 23 58 50.0 +2.8**
CNB Canberra Magne 56.40 132 P **P 23 58 49.7 +2.6**
BRZS Berezniki 57.21 340 *e*P **P 23 58 53.0 +0.4**
BRZS Berezniki 57.21 340 *e*P **P 23 58 52.9 +0.4**
JTM Tenmabayashi 57.26 37 P **P 23 58 52.1 -1.0**
JTM Tenmabayashi 57.26 37 P **P 23 58 53.5 +0.5**
ZAA0 Zalesovo Array 57.60 350 P **P 23 58 55.0 -0.1**
ZALV Zalesovo Beam 57.60 350 P **P 23 58 55.1 0.0**
ZALV Zalesovo Beam 57.60 350 P **P 23 58 55.5 +0.4**
comp=Z,110nm,0.9s,baz=163,slow=5.6,SNR=197
ZALV LR LR 00 26 17.6
comp=Z,863nm,18.3s,baz=172,slow=39
comp=Z,110nm,0.9s
HEH HeiHe 57.70 21 *e*P **P 23 58 56.1 +0.2**
HEH sP **sP 23 59 05.1 -0.2**
HEH pmax pmax
comp=Z,120nm,1.3s
HEH pmax pmax
comp=Z,1μm,5.4s
HEH LR LR
comp=Z,2μm,18.8s
HEH LR LR
comp=Z,3μm,18.1s
HEH LR LR
comp=Z,4μm,20.4s
ATD Arta Tunnel 58.18 285 LR LR 00 20 39.7
comp=Z,53nm,18.6s,baz=90,slow=32
RAYN Ar Rayn 58.69 299 P **P 23 59 02.3 -1.1**
RAYN Ar Rayn 58.69 299 IAMs_20 IAMs_20 00 27 32.0
comp=Z,2μm,19.0s
RAYN Ar Rayn 58.69 299 P **P 23 59 05.7 +2.3**
RAYN Ar Rayn 58.69 299 *i* P **P 23 59 05.2 +1.8**
SNR=20
RAYN Ar Rayn 58.69 299 P **P 23 59 05.7 +2.3**
KBD Kabd 58.85 306 P **P 23 59 06.5 +2.0**
ERM Erimo 59.26 37 P **P 23 59 06.2 -0.7**
ERM IAmb IAmb 23 59 27.7
comp=Z,42nm,1.0s
ERM Erimo 59.26 37 P **P 23 59 06.3 -0.7**
ERM pmax pmax
comp=Z,42nm,1.0s
PATS Pohnpei 59.27 81 P **P 23 59 05.7 -1.8**
PATS Pohnpei 59.27 81 P **P 23 59 07.4 -0.2**
H04N2 CROZET ISLANDS 60.20 216 T T 01 04 36.2
baz=59,slow=75
H04N1 CROZET ISLANDS 60.21 216 T T 01 04 36.7
baz=59,slow=75
ASAJ Asahikawa 60.21 34 LR LR 00 26 44.3
comp=Z,728nm,18.4s,baz=244,slow=38
ASAJ Asahikawa 60.21 34 P **P 23 59 12.7 -0.8**
ASAJ pmax pmax
comp=Z,181nm,1.4s
H04N3 CROZET ISLANDS 60.21 216 T T 01 04 35.3
baz=59,slow=75
JKA Kamikawa-asahi 60.22 34 P **P 23 59 12.7 -0.8**
HNR Honiara 60.28 99 LR LR 00 27 01.3
comp=Z,267nm,20.4s,baz=249,slow=38
H04S1 CROZET ISLANDS 60.49 216 T T 01 04 58.1
baz=57,slow=75,SNR=9201
H04S3 CROZET ISLANDS 60.50 216 T T 01 04 57.8
baz=57,slow=75,SNR=9075
H04S2 CROZET ISLANDS 60.50 216 T T 01 04 59.8
baz=57,slow=75,SNR=7813
BVAR Borovoye Array 60.54 340 P **P 23 59 15.7 +0.1**
comp=Z,25nm,0.8s,baz=141,slow=7.3,SNR=84
comp=Z,25nm,0.8s
BORK Borovoye 60.58 340 *d i* P **P 23 59 15.1 -0.7**
BORK pmax pmax
comp=Z,51nm,1.0s
ZEA Zeya 60.58 18 *e*P **P 23 59 16.5 +0.7**
ZEA *e*S **S 00 07 30.9 +0.3**
ZEA *e*SS **SS 00 11 34.5 +5.2**
ZEA pmax pmax
comp=N,200nm,5.4s
ZEA pmax pmax
comp=Z,500nm,4.7s
ZEA pmax pmax
comp=E,30nm,1.7s
ZEA pmax pmax
comp=N,30nm,1.5s
ZEA pmax pmax
comp=Z,80nm,1.5s
ZEA smax smax
comp=E,200nm,8.6s
ZEA smax smax
comp=N,300nm,9.1s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=N,1μm,16.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
BOD Bodaibo 61.23 9 *e*P **P 23 59 20.4 +0.3**
BOD pmax pmax
comp=Z,248nm,1.6s
KIBK Kibwezi 61.56 269 P **P 23 59 20.9 -2.5**
KIBK Kibwezi 61.56 269 P **P 23 59 27.8 +4.4**
SNR=7.1
GRNR Gornyy 61.66 26⇑ *i*P **P 23 59 24.0 +0.8**
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=E,2μm,17.0s
GRNR MLR MLR
comp=N,450nm,18.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
FURI Furi 61.83 281 LR LR 00 21 25.8
comp=Z,792nm,21.7s,baz=96,slow=31
AB31 Akbulak array 61.92 332 P **P 23 59 24.8 -0.2**
ABKAR Akbulak array 61.92 332 P **P 23 59 24.8 -0.2**
YSS Yuzhno-Sakhali 62.08 32 P **P 23 59 26.2 +0.1**
YSS Yuzhno-Sakhali 62.08 32 P **P 23 59 26.8 +0.7**
YSS Yuzhno-Sakhali 62.08 32 *ce*P **P 23 59 26.8 +0.7**
YSS *e**PP **sP 23 59 35.0 -0.5**
YSS *e* 00 01 42.8
YSS *e*S **S 00 07 47.8 -2.0**
YSS *e*PPS PPS 00 08 06.2
YSS pmax pmax
comp=Z,800nm,4.4s
YSS pmax pmax
comp=Z,140nm,1.3s
YSS pmax pmax
comp=N,50nm,1.0s
YSS pmax pmax
comp=E,60nm,1.1s
YSS pmax pmax
comp=E,900nm,19.0s
KMBO Kilima Mbogo 62.39 270 P **P 23 59 33.1 +4.0**
comp=E,1.5nm,0.3s,baz=80,slow=8.2,SNR=6.6
KMBO LR LR 00 23 19.6
comp=E,1μm,19.4s,baz=91,slow=33
comp=E,1.5nm,0.3s
KUR Kuril'sk 63.91 36⇓ *e*P **P 23 59 39.7 +1.4**
KUR pmax pmax
comp=Z,364nm,1.2s
CASY Casey 64.11 175 IAMs_20 IAMs_20 00 21 44.4
comp=Z,2μm,20.0s
AKT Akhty 64.26 319 *e*P **P 23 59 39.0 -1.9**
AKT *e* 00 00 13.6
AKT *e* 00 02 00.7
AKT *e*S **S 00 08 16.4 -1.2**
AKT pmax pmax
comp=Z,62nm,1.3s
LODK Lodwar 64.54 275 P **P 23 59 42.5 -0.7**
LODK IAMs_20 IAMs_20 00 25 50.6
comp=Z,1μm,19.0s
LODK Lodwar 64.54 275 P P 23 59 48.2 +5.0
SNR=6.5
TYV Tymovskoe 64.56 29 *e*P **P 23 59 43.8 +1.4**
TYV *e*S **S 00 08 18.9 -1.8**
TYV pmax pmax
comp=Z,800nm,5.0s
TYV pmax pmax
comp=Z,64nm,1.6s
TYV smax smax
comp=N,200nm,6.0s
TYV smax smax
comp=E,400nm,6.0s
TYV MLR MLR
comp=Z,2μm,15.0s
MAK Makhachkala 65.14 320 *c i*P **P 23 59 41.9 -4.5**
MAK *e*S **S 00 08 22.6 -5.4**
MAK *e*SS **SS 00 12 40.2 -0.6**
MAK pmax pmax
comp=Z,102nm,1.1s
GNI Garni 65.66 316 P **P 23 59 48.4 -1.6**
GNI IAmb IAmb 00 00 03.1
comp=Z,84nm,1.4s
GNI Garni 65.66 316 LR LR 00 29 46.6
comp=Z,452nm,20.9s,baz=114,slow=37
GNI Garni 65.66 316 P **P 23 59 52.1 +2.1**
GNI Garni 65.66 316 P **P 23 59 51.1 +1.1**
GNI Garni 65.66 316 *de*P **P 23 59 50.1 +0.1**
GNI pmax pmax
comp=Z,65nm,1.4s
GURO Guroymak-BITLI 66.89 314 P **P 23 59 57.3 -0.7**
GURO IAmb IAmb 00 00 01.1
comp=Z,31nm,1.0s
SVE Sverdlovsk 67.02 338 *de*P **P 23 59 59.2 +1.0**
SVE *e*S **S 00 08 51.8 +1.3**
SVE pmax pmax
comp=Z,131nm,1.1s
SVE MLR MLR
comp=Z,1μm,19.0s
MARD Mardin 67.33 312 P **P 00 00 00.6 -0.2**
MARD IAmb IAmb 00 00 03.6
comp=Z,42nm,0.8s
DZM Mont Dzumac 67.57 113 LR LR 00 31 36.8
comp=Z,1μm,20.2s,baz=282,slow=38
ARTI Arti 67.57 337 P **P 23 59 59.8 -2.0**
ARTI Arti 67.57 337 LR LR 00 32 52.5
comp=Z,1μm,18.7s,baz=130,slow=39
ARTI Arti 67.57 337 *c i*P **P 00 00 01.9 +0.2**
ARTI 00 00 28.7
ARTI 00 02 27.1
ARTI S **S 00 08 59.1 +1.9**
ARTI pmax pmax
comp=Z,84nm,0.9s
ARTI MLR MLR
comp=Z,1μm,18.0s
ONTNC Ouen Toro 67.61 113 P **P 00 00 01.3 -1.3**
ONTNC IAmb IAmb 00 00 06.7
comp=Z,47nm,1.1s
SANVU Saraoutou 67.69 106 P **P 00 00 01.3 -1.9**
SANVU IAmb IAmb 00 00 05.3
comp=Z,70nm,1.0s
SANVU Saraoutou 67.69 106 P **P 00 00 04.8 +1.5**
NCK Nalchik 67.91 319 *de*P **P 00 00 06.4 +2.2**
NCK pmax pmax
comp=Z,68nm,1.2s
OUENC Ouen Island, N 67.97 113 P **P 00 00 06.7 +1.7**
YATNC Mamie plateau, 67.98 113 P **P 00 00 07.0 +2.0**
YAK Yakutsk 68.31 15 P **P 00 00 05.9 -0.3**
YAK Yakutsk 68.31 15 IAMs_20 IAMs_20 00 32 39.1
comp=Z,2μm,19.0s
YAK Yakutsk 68.31 15 LR LR 00 32 46.3
comp=Z,2μm,19.6s,baz=210,slow=38
YAK Yakutsk 68.31 15 *c i*P **P 00 00 05.4 -0.8**
YAK *e**PP **sP 00 00 14.0 -1.7**
YAK *e* 00 00 31.3
YAK *e* 00 02 35.7
YAK *e*PPP PPP 00 04 14.5
YAK *e*S **S 00 09 03.4 -2.3**
YAK *e*SS **SS 00 13 26.8 -2.5**
YAK pmax pmax
comp=Z,216nm,1.1s
YAK pmax pmax
comp=N,73nm,1.3s
YAK pmax pmax
comp=E,56nm,1.3s
YAK pmax pmax
comp=Z,66nm,2.3s
YAK pmax pmax
comp=N,80nm,3.3s
YAK pmax pmax
comp=E,60nm,2.4s
YAK smax smax
comp=N,141nm,4.4s
YAK smax smax
comp=E,68nm,3.2s
YAK MLR MLR
comp=Z,3μm,21.0s
YAK MLR MLR
comp=E,1μm,19.0s
YAK MLR MLR
comp=N,1μm,18.0s
KBZ Khabaz 68.47 319 P **P 00 00 08.9 +1.3**
comp=N,42nm,0.9s,baz=115,slow=5.4,SNR=68
comp=N,42nm,0.9s
KOPT Kop Dagi 68.56 315 P **P 00 00 08.2 -0.5**
KOPT IAmb IAmb 00 00 32.2
comp=Z,48nm,1.3s
ASF Jabal al Asfar 68.61 306 LR LR 00 31 08.6
comp=Z,2μm,18.3s,baz=141,slow=37
SHA1 Shidzhatmaz 68.63 319 *de*P **P 00 00 09.5 +0.6**
KIV Kislovodsk 68.70 319 P **P 00 00 09.3 0.0**
KIV Kislovodsk 68.70 319 P **P 00 00 11.3 +2.0**
KIV P **P 00 00 11.3 +2.0**
KIV Kislovodsk 68.70 319 *i* P **P 00 00 10.8 +1.6**
SNR=7.6
KIV Kislovodsk 68.70 319 *e*P **P 00 00 10.4 +1.2**
KIV *e*S **S 00 09 12.1 +0.8**
KIV pmax pmax
comp=Z,65nm,1.0s
KIV pmax pmax
comp=Z,29nm,2.9s
GOF Gofitskoye 68.96 321 *ce*P **P 00 00 12.1 +1.4**
GHAJ Ghor Haditha 69.44 305 P **P 00 00 12.4 -1.5**
GHAJ IAmb IAmb 00 00 17.6
comp=Z,34nm,1.1s
EIL Elat 69.51 303 LR LR 00 30 40.6
comp=Z,3μm,18.4s,baz=118,slow=36
MAW Mawson 69.72 194 P **P 00 00 18.7 +3.8**
comp=Z,3.3nm,0.9s,baz=309,slow=7.2,SNR=5.5
MAW LR LR 00 23 57.5
comp=Z,1μm,21.7s,baz=30,slow=30
comp=Z,3.3nm,0.9s
ARPR Arapgir-MALATY 69.77 313 P **P 00 00 15.5 -0.5**
ARPR IAmb IAmb 00 00 19.3
comp=Z,46nm,1.1s
GAZ Gaziantep 69.94 311 P **P 00 00 17.8 +0.7**
GAZ IAmb IAmb 00 00 20.4
comp=Z,53nm,1.0s
BELG Belogornoye 69.98 329 *c i*P **P 00 00 17.1 +0.3**
BELG pmax pmax
comp=Z,24nm,1.0s
MMAI Mount Meron Ar 70.06 306 P **P 00 00 20.8 +3.0**
comp=Z,16nm,1.0s,baz=106,slow=8.7,SNR=22
MMAI LR LR 00 31 57.7
comp=Z,2μm,18.5s,baz=106,slow=37
comp=Z,16nm,1.0s
VSLR Vesyoloye 70.24 318 *d i*P **P 00 00 20.3 +1.7**
VSLR pmax pmax
comp=Z,93nm,1.2s
LABN Labinsk 70.27 319 *e*P **P 00 00 15.7 -3.1**
LABN *e**PP **pP 00 00 19.7 -5.9**
LABN *e*S **S 00 09 29.6 0.0**
LABN pmax pmax
comp=Z,36nm,1.0s
SOC Sochi 70.50 318 *e*P **P 00 00 19.0 -1.2**
SOC *e* 00 02 53.4
SOC *e*S **S 00 09 34.0 +1.7**
SOC pmax pmax
comp=Z,40nm,0.8s
ERBR Yeremizino-Bor 70.87 320 *e*P **P 00 00 18.3 -4.1**
ERBR *e**PP **pP 00 00 22.6 -6.7**
ERBR *e*S **S 00 09 34.1 -2.5**
ERBR pmax pmax
comp=Z,86nm,1.1s
SKR Severo-Kuril's 71.47 34 *e*P **P 00 00 26.9 +1.0**
SKR pmax pmax
comp=Z,200nm,3.6s
SKR pmax pmax
comp=Z,265nm,1.0s
SKR MLR MLR
comp=Z,600nm,16.0s
LSZ Lusaka 71.48 255 P **P 00 00 25.2 -1.6**
LSZ IAmb IAmb 00 00 43.7
comp=Z,43nm,1.4s
LSZ Lusaka 71.48 255 IAMs_20 IAMs_20 00 27 58.7
comp=Z,1μm,19.0s
LSZ Lusaka 71.48 255 LR LR 00 28 20.1
comp=Z,1μm,19.0s,baz=91,slow=33
LSZ Lusaka 71.48 255 P **P 00 00 25.2 -1.6**
LSZ pmax pmax
comp=Z,43nm,1.4s
MATP Matopo 71.48 249 LR LR 00 28 22.2
comp=Z,1μm,19.1s,baz=82,slow=33
BNN Bunyan 71.51 312 P **P 00 00 26.4 -0.3**
CSS Mathiatis 72.26 308 P **P 00 00 30.7 -0.3**
CSS IAmb IAmb 00 00 34.1
comp=Z,52nm,1.2s
CSS IAMs_20 IAMs_20 00 33 54.3
comp=Z,1μm,18.0s
ANN Anapa 72.49 319 *e*P **P 00 00 30.3 -1.8**
ANN *e**PP **pP 00 00 34.5 -4.5**
ANN *e* 00 03 13.8
ANN *e*S **S 00 09 56.7 +1.5**
ANN *e*SS **SS 00 14 35.9 +1.6**
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=Z,386nm,17.0s
ANN MLR MLR
comp=N,648nm,19.0s
DCZ Deep Cove 72.54 137 P **P 00 00 30.9 -1.6**
DCZ IAmb IAmb 00 00 47.7
comp=Z,84nm,1.4s
VRH Novokhopyorsk 72.55 326 *e*P **P 00 00 33.0 +0.7**
VRH pmax pmax
comp=Z,139nm,0.9s
MREMI Moremi 72.63 247 P **P 00 00 30.9 -2.7**
KIRV Kirov 72.68 335 *ce*P **P 00 00 34.0 +1.0**
MLZ Mavora Lakes 73.18 137 P **P 00 00 35.0 -1.4**
BR131 Keskin Array S 73.41 313 P **P 00 00 37.1 -0.8**
BR131 Keskin Array S 73.41 313 P **P 00 00 39.1 +1.2**
BR131 Keskin Array S 73.41 313 *c i*P **P 00 00 38.5 +0.5**
BRTR Keskin Array B 73.41 313 P **P 00 00 37.4 -0.5**
BRTR Keskin Array B 73.41 313 P **P 00 00 38.4 +0.4**
comp=Z,18nm,0.9s,baz=132,slow=6.8,SNR=94
comp=Z,18nm,0.9s
BRTR Keskin Array B 73.41 313 *i* P **P 00 00 39.0 +1.0**
BRTR pmax pmax
comp=Z,19nm,0.9s
PEA0B Petropavlovsk- 73.48 32 *c i*P **P 00 00 37.7 -0.2**
PETK Petropavlovsk- 73.48 32 P **P 00 00 38.1 +0.2**
PETK Petropavlovsk- 73.48 32 P **P 00 00 37.8 -0.1**
comp=Z,19nm,0.8s,baz=217,slow=2.9,SNR=25
comp=Z,19nm,0.8s
PETK Petropavlovsk- 73.48 32 P **P 00 00 38.1 +0.2**
MA2 Magadan 73.62 24 P **P 00 00 37.9 -0.6**
MA2 IAMs_20 IAMs_20 00 39 13.0
comp=Z,1μm,18.0s
MA2 Magadan 73.62 24 LR LR 00 35 26.9
comp=Z,1μm,18.8s,baz=239,slow=38
MA2 Magadan 73.62 24 P **P 00 00 39.9 +1.3**
MA2 Magadan 73.62 24 *c i*P **P 00 00 39.1 +0.5**
MA2 pmax pmax
comp=Z,181nm,1.7s
ILGA Ilgaz 73.77 314 P **P 00 00 39.5 -0.6**
ILGA IAmb IAmb 00 00 43.2
comp=Z,67nm,1.2s
VORD Divnogorie 73.82 325 *e*P **P 00 00 38.5 -1.3**
VORD pmax pmax
comp=Z,80nm,1.0s
BZK Bozkurt 73.85 315 P **P 00 00 39.5 -0.8**
PET Petropavlovsk 73.96 33 P **P 00 00 40.7 0.0**
PET Petropavlovsk 73.96 33 P **P 00 00 41.4 +0.8**
PET Petropavlovsk 73.96 33 *e*P **P 00 00 41.1 +0.5**
PET *e*S **S 00 10 16.4 +4.9**
PET pmax pmax
comp=Z,108nm,1.2s
PET pmax pmax
comp=Z,200nm,11.6s
VSR Storozhevoye 74.00 325 *e*P **P 00 00 36.6 -4.3**
VSR pmax pmax
comp=Z,100nm,0.9s
ANTO Ankara 74.08 313 P **P 00 00 41.9 +0.1**
ANTO IAmb IAmb 00 00 43.9
comp=Z,40nm,0.9s
ANTO Ankara 74.08 313 P **P 00 00 43.4 +1.7**
ANTO P **P 00 00 43.4 +1.7**
ANTO Ankara 74.08 313 P **P 00 00 41.9 +0.1**
ANTO pmax pmax
comp=Z,40nm,1.0s
ANTO MLR MLR
comp=Z,600nm,19.0s
LPHEP Lephephe 74.15 247 P **P 00 00 40.1 -2.4**
LPHEP IAmb IAmb 00 00 59.5
comp=Z,57nm,1.4s
LBZ Lake Benmore 74.39 135 P **P 00 00 40.4 -3.0**
KHWEE KHWEE 74.43 248 P **P 00 00 41.4 -2.9**
KHWEE IAmb IAmb 00 00 57.0
comp=Z,46nm,0.9s
KSANE Kasane 74.48 252 P **P 00 00 43.1 -1.5**
KSANE IAmb IAmb 00 01 01.8
comp=Z,61nm,1.4s
LBTB Lobatse 74.51 245 P **P 00 00 41.9 -2.7**
LBTB Lobatse 74.51 245 LR LR 00 29 02.9
comp=Z,2μm,19.1s,baz=84,slow=32
LBTB Lobatse 74.51 245 P **P 00 00 41.9 -2.7**
LBTB pmax pmax
comp=Z,24nm,1.3s
LPSR Galich'ya Gora 74.72 327 *e*P **P 00 00 46.1 +1.0**
LPSR pmax pmax
comp=Z,113nm,0.9s
SIM Simferopol' 74.75 318 *e*P **P 00 00 46.9 +1.5**
SIM *e* 00 01 00.0
SIM *e*S **S 00 10 23.0 +2.3**
SIM pmax pmax
comp=Z,61nm,1.1s
SIM pmax pmax
comp=Z,110nm,5.9s
RPZ Rata Peaks 74.87 135 P **P 00 00 44.3 -1.9**
RPZ Rata Peaks 74.87 135 LR LR 00 35 23.1
comp=Z,813nm,19.4s,baz=286,slow=37
INZ Inchbonnie 74.96 134 P **P 00 00 44.6 -2.1**
INZ IAmb IAmb 00 00 49.6
comp=Z,51nm,1.0s
BOSA Boshof 75.12 241 P **P 00 00 51.2 +3.1**
comp=Z,4.1nm,0.8s,baz=55,slow=5.6,SNR=6.2
BOSA LR LR 00 30 09.2
comp=Z,1μm,18.3s,baz=80,slow=33
comp=Z,4.1nm,0.8s
ISP Isparta 75.21 310 P **P 00 00 48.1 -0.3**
ISP Isparta 75.21 310 P **P 00 00 48.1 -0.3**
ISP pmax pmax
comp=Z,43nm,1.3s
ISP MLR MLR
comp=Z,500nm,18.0s
KDWAN Kaudwane 75.25 247 P **P 00 00 46.4 -2.6**
ELL Elmali 75.41 309 P **P 00 00 48.7 -0.9**
ELL IAmb IAmb 00 01 02.1
comp=Z,90nm,1.4s
ELL Elmali 75.41 309 P **P 00 00 48.7 -0.9**
ELL pmax pmax
comp=Z,91nm,1.4s
MDUB Mudurnu 75.42 313 P **P 00 00 49.7 +0.1**
AKAS Kas 75.53 308 P **P 00 00 47.3 -3.0**
LTZ Lake Taylor 75.57 133 P **P 00 00 47.8 -2.5**
MRNZ Matariki Terra 75.69 132 P **P 00 00 49.2 -1.7**
BORA Eskisehir 75.81 312 P **P 00 00 50.1 -1.7**
THZ Tophouse 75.86 132 P **P 00 00 49.8 -2.2**
THZ IAmb IAmb 00 00 56.5
comp=Z,47nm,1.2s
SEY Seymchan 76.22 22 LR LR 00 37 26.9
comp=Z,1000nm,18.9s,baz=241,slow=38
SEY Seymchan 76.22 22⇓ *i*P **P 00 00 54.3 +0.8**
SEY pmax pmax
comp=Z,104nm,1.3s

TIXI Tiksi 76.40 9 P **P** **00 00 53.4 -1.0**
TIXI Tiksi 76.40 9 LR LR 00 37 47.8
comp=Z,3µm,20.0s,baz=230,slow=38
TIXI Tiksi 76.40 9*c i*P **P** **00 00 53.5 -0.8**
TIXI pmax pmax
comp=Z,132nm,1.3s
MOS Moscow 76.75 329 *e*P **P** **00 00 54.6 -2.0**
MOS *e* 00 01 06.5
MOS *e* 00 03 48.0
MOS *e*S **S** **00 10 37.5 -4.9**
MOS pmax pmax
comp=Z,233nm,1.4s
MOS MLR MLR
comp=Z,700nm,21.0s
MANT Manisa 76.88 310 P **P** **00 00 55.6 -2.5**
OBN Obninsk 77.04 328 P **P** **00 00 58.4 +0.2**
OBN Obninsk 77.04 328 LR LR 00 39 58.8
comp=Z,457nm,19.4s,baz=66,slow=40
OBN Obninsk 77.04 328*c i*P **P** **00 00 59.4 +1.1**
OBN *i* 00 01 07.1
OBN *e* 00 03 52.4
OBN *e*PPP PPP 00 05 40.7
OBN *e*S **S** **00 10 48.8 +3.2**
OBN *e*SS **SS** **00 15 46.1 +3.1**
OBN pmax pmax
comp=Z,192nm,1.2s
OBN MLR MLR
comp=Z,479nm,18.0s
BHW Baring Head 77.26 132 IAMs_20 IAMs_20 00 35 10.3
comp=Z,1µm,21.0s
TOZ Tahuroa Road 77.28 128 P **P** **00 00 58.5 -1.6**
TOZ IAmb IAmb 00 01 06.3
comp=Z,53nm,1.2s
SYO Syowa Base 77.29 199⇑*e*pP pP 00 01 03.2 -3.0
SYO Syowa Base 77.29 199⇓*e*PcP **PcP** **00 01 09.6 -0.4**
KARP Karpathos 77.30 307 IAMs_20 IAMs_20 00 40 17.7
comp=Z,1µm,19.0s
KLMR Klimovskoe 78.13 334 *e*P **P** **00 01 04.0 -0.3**
KLMR *e* 00 01 13.0
KLMR pmax pmax
comp=Z,171nm,1.4s
XAUDM Khaudum 78.14 252 P **P** **00 01 02.3 -3.1**
MSVF Nonsavu 78.18 107 P **P** **00 01 04.7 -0.9**
MSVF IAmb IAmb 00 01 08.3
comp=Z,69nm,1.4s
MSVF Nonsavu 78.18 107 P **P** **00 01 04.7 -0.9**
MSVF pmax pmax
comp=Z,69nm,1.5s
BFZ Birch Farm 78.20 131 P **P** **00 01 02.8 -2.4**
BFZ IAmb IAmb 00 01 08.1
comp=Z,61nm,0.9s
BKZ Black Stump Fm 78.21 129 P **P** **00 01 05.0 -0.3**
BKZ Black Stump Fm 78.21 129 P **P** **00 01 07.2 +1.9**
PSN Preselentsi 78.46 315 P **P** **00 01 07.5 +1.0**
TIRR Tirgusor 78.48 316 P **P** **00 01 06.0 -0.6**
TIRR IAmb IAmb 00 01 09.0
comp=Z,47nm,0.9s
TIRR Tirgusor 78.48 316 P **P** **00 01 06.0 -0.6**
TIRR pmax pmax
comp=Z,47nm,0.9s
RTZ Ruatahuna 78.53 129 P **P** **00 01 05.6 -1.5**
URZ Urewera 78.60 128 LR LR 00 36 34.6
comp=Z,1µm,21.1s,baz=286,slow=36
IDI Anoyia 79.06 306 LR LR 00 41 05.0
comp=Z,317nm,18.6s,baz=107,slow=39
ALN Alexandroupoli 79.32 312 P **P** **00 01 10.8 -0.5**
ALN Alexandroupoli 79.32 312 P **P** **00 01 10.8 -0.5**
ALN pmax pmax
comp=Z,35nm,1.0s
JMB Yambol 79.33 314 P **P** **00 01 12.2 +0.9**
KOOLE Kule 79.33 247 P **P** **00 01 10.6 -1.3**
AKASG Malin Array Be 79.67 322 P **P** **00 01 13.1 +0.1**
AKASG Malin Array Be 79.67 322 P **P** **00 01 13.6 +0.6**
comp=Z,7.9nm,0.9s,baz=89,slow=4.7,SNR=36
AKASG PP **PP** **00 04 12.7 -1.4**
comp=Z,0.3nm,0.3s,baz=105,slow=6.7,SNR=4.9
comp=Z,7.9nm,0.9s
AKASG Malin Array Be 79.67 322 *i* P **P** **00 01 14.0 +1.0**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 79.67 322 P **P** **00 01 12.6 -0.3**
AKBB Malin Array Si 79.67 322*ce*P **P** **00 01 13.4 +0.4**
AKBB pmax pmax
comp=Z,49nm,1.8s
KIEV Kiev 79.68 322 P **P** **00 01 12.9 -0.1**
KIEV Kiev 79.68 322 *i* P **P** **00 01 14.1 +1.1**
SNR=6.8
KIEV Kiev 79.68 322 P **P** **00 01 12.9 -0.1**
KIEV pmax pmax
comp=Z,28nm,1.2s
RDO Rodhopi 79.75 312 P **P** **00 01 12.7 -0.8**
SZH Strazhitsa 79.90 315 P **P** **00 01 15.2 +0.8**
MLR Muntele Rosu 80.43 317 P **P** **00 01 16.8 -0.6**
MLR Muntele Rosu 80.43 317 LR LR 00 42 10.7
comp=Z,509nm,19.0s,baz=68,slow=40
MLR Muntele Rosu 80.43 317 P **P** **00 01 16.8 -0.6**
MLR pmax pmax
comp=Z,168nm,1.3s
PVL Pavlikeni 80.44 314 P **P** **00 01 19.0 +1.7**
MMB Musomishta 81.15 313 P **P** **00 01 22.0 +0.8**
BURAR Bucovina Array 81.41 319 P **P** **00 01 23.8 +1.3**
BURAR IAmb IAmb 00 01 26.5
comp=Z,43nm,0.9s
BUR08 Bucovina Ar. S 81.43 319 P **P** **00 01 23.1 +0.5**
BUR08 IAmb IAmb 00 01 26.4
comp=Z,65nm,1.1s
MPEP Malo Peshtene 81.51 314 P **P** **00 01 24.1 +1.1**
MNK Minsk 81.55 326 *i* P **P** **00 01 23.1 +0.2**
MNK *i* 00 04 31.2
MNK *i* PPP PPP 00 06 21.0
MNK *i* S **S** **00 11 35.8 +2.2**
MNK *i* SS **SS** **00 16 53.0 +2.3**
MNK *i* SSS SSS 00 20 19.7
MNK pmax pmax
comp=Z,65nm,1.0s
MNK pmax pmax
comp=E,18nm,1.0s
MNK pmax pmax
comp=N,45nm,1.1s
PLNA Plana 81.57 313 P **P** **00 01 25.0 +1.5**
KKB Krupnik 81.66 313 P **P** **00 01 25.4 +1.5**
TSUM Tsumeb 81.70 251 LR LR 00 34 26.0
comp=N,2µm,19.0s,baz=142,slow=33
VTS Vitosha 81.73 314 P **P** **00 01 25.4 +1.0**
VNDA Vanda 81.74 169 P **P** **00 01 25.9 +2.4**
comp=N,3.2nm,1.1s,baz=298,slow=6.0,SNR=8.6
VNDA LR LR 00 36 16.4
comp=N,877nm,18.1s,baz=316,slow=35
comp=N,3.2nm,1.1s
BLSH Balsha 81.75 314 P **P** **00 01 27.1 +2.8**
ITM Ithomi 81.76 308 P **P** **00 01 22.2 -2.3**
ITM IAmb IAmb 00 01 26.9
comp=Z,67nm,1.3s
LIT Litokhoron 81.82 311 P **P** **00 01 25.2 +0.4**
LIT IAmb IAmb 00 01 26.6
comp=Z,54nm,1.0s
LIT Litokhoron 81.82 311 P **P** **00 01 25.2 +0.4**
LIT pmax pmax
comp=Z,54nm,1.0s
PUL Pulkovo 81.90 331⇓*i*P **P** **00 01 26.9 +2.3**
PUL pmax pmax
comp=Z,129nm,1.0s
VAY Valandovo 81.98 312 *i* P **P** **00 01 26.6 +1.1**
WIN Windhoek 82.18 248 IAMs_20 IAMs_20 00 38 29.8
comp=Z,1µm,19.0s
TRAN Tran 82.20 314 P **P** **00 01 25.0 -1.7**
SBA Scott Base 82.83 169 P **P** **00 01 28.4 -0.8**
SBA Scott Base 82.83 169 P **P** **00 01 28.4 -0.8**
SBA pmax pmax
comp=Z,12nm,1.0s
SKO Skopje 82.93 313 *i* P **P** **00 01 31.5 +1.1**
OHR Ohrid 83.26 312 *i* P **P** **00 01 33.7 +1.4**
VSU Vasula 83.27 330⇓*i*P **P** **00 01 32.6 +0.8**
VSU pmax pmax
comp=Z,73nm,1.0s
APA Apatity 83.44 339⇓*i*P **P** **00 01 31.9 -0.6**
APA *i* 00 04 41.9
APA *i* S **SKSac** **00 11 54.8 +1.5**
KWP Kalwaria Pacla 83.47 320 *e*P **P** **00 01 35.1 +2.0**
BILL Bilibino 83.74 20 P **P** **00 01 33.9 -0.2**
BILL IAMs_20 IAMs_20 00 44 40.1
comp=Z,1µm,18.0s
BILL Bilibino 83.74 20*c i*P **P** **00 01 34.1 0.0**
BILL pmax pmax
comp=Z,38nm,1.6s
PABE Paberze 83.99 326 P **P** **00 01 35.2 -0.3**
SUW Suwalki 84.10 325 *e*P **P** **00 01 37.8 +1.6**
SUW Suwalki 84.10 325 P **P** **00 01 35.9 -0.3**
SUW Suwalki 84.10 325 P **P** **00 01 35.9 -0.3**
STHS Stebnicka Huta 84.37 320 *e*P **P** **00 01 39.0 +1.3**
STHS pmax pmax
comp=Z,30nm,1.0s
FIA1 FINESS Array S 84.40 332 P **P** **00 01 37.8 +0.3**
FINES FINESS Array B 84.40 332 P **P** **00 01 37.8 +0.3**
FINES FINESS Array B 84.40 332 P **P** **00 01 38.8 +1.3**
comp=Z,22nm,0.8s,baz=104,slow=8.0,SNR=42
FINES LR LR 00 43 45.6
comp=Z,403nm,20.3s,baz=103,slow=39
comp=Z,22nm,0.8s
FINES FINESS Array B 84.40 332 *i* P **P** **00 01 39.4 +1.9**
FINES pmax pmax
comp=Z,22nm,0.8s
PDG Podgorica 84.60 313 P **P** **00 01 38.0 -1.0**
PDG IAmb IAmb 00 01 41.4
comp=Z,44nm,1.1s
KECS Kecovo 84.70 319 *e*P **P** **00 01 41.6 +2.2**
KECS pmax pmax
comp=Z,47nm,1.5s
NIE Niedzica 84.98 320 *e*P **P** **00 01 43.5 +2.7**
PSZ Piszkesteto 84.99 318 P **P** **00 01 39.9 -1.1**
PSZ IAmb IAmb 00 01 43.9
comp=Z,32nm,1.1s
PSZ Piszkesteto 84.99 318 P **P** **00 01 39.9 -1.1**
PSZ pmax pmax
comp=Z,32nm,1.1s
KLINJ Klinje 85.19 314 *e*P **P** **00 01 44.3 +2.2**
OJC Ojcow 85.43 321 P **P** **00 01 41.3 -1.7**
OJC Ojcow 85.43 321 P **P** **00 01 41.3 -1.7**
LANS Liptovska Anna 85.47 320 *e*P **P** **00 01 45.8 +2.5**
LANS pmax pmax
comp=Z,7.0nm,1.2s
MORH Mrgy, Hungar 85.58 317⇑*i*P **P** **00 01 44.6 +0.8**
STON Ston 85.80 313⇑*i*P **P** **00 01 45.2 +0.2**
SRO Srobarova 86.03 318 *e*P **P** **00 01 48.8 +2.8**
SRO pmax pmax
comp=Z,45nm,1.2s
BLY Banja Luka 86.40 315⇑*i*P **P** **00 01 49.5 +1.6**
OKC Ostrava-Krasne 86.42 320 *e*P **P** **00 01 50.6 +2.7**
OKC Ostrava-Krasne 86.42 320 *e*P **P** **00 01 50.6 +2.7**
JAVC Velka Javorina 86.60 319 *e*P **P** **00 01 51.8 +2.9**
CEL Celeste 86.64 308 P **P** **00 01 48.9 -0.4**
CEL IAmb IAmb 00 02 03.3
comp=Z,87nm,1.3s
STEB Steborice 86.68 320 *e*P **P** **00 01 51.2 +2.0**
STEB *e*pP **sP** **00 02 00.3 +1.6**
SMOL Smolenice 86.71 319 *e*P **P** **00 01 51.3 +1.9**
SMOL pmax pmax
comp=Z,13nm,1.6s
MODS Modra-Piesok 86.79 319 *e*P **P** **00 01 51.5 +1.7**
MODS pmax pmax
comp=Z,86nm,1.3s
MORC Moravsky Berou 86.80 320 P **P** **00 01 48.9 -1.0**
MORC IAmb IAmb 00 01 53.1
comp=Z,31nm,1.1s
MORC Moravsky Berou 86.80 320 *e*P **P** **00 01 52.0 +2.1**
MORC *e* 00 02 01.9
MORC Moravsky Berou 86.80 320 P **P** **00 01 48.9 -1.0**
MORC pmax pmax
comp=Z,31nm,1.1s
MOSL Moslavina 86.81 316⇑*i*P **P** **00 01 51.3 +1.4**
ARCES ARCESS Array B 86.83 340 P **P** **00 01 49.1 -0.4**
ARCES IAmb IAmb 00 01 52.5
comp=Z,75nm,1.1s
ARCES ARCESS Array B 86.83 340 LR LR 00 44 50.6
comp=Z,1µm,20.4s,baz=108,slow=39
ARCES ARCESS Array B 86.83 340 P **P** **00 01 49.1 -0.4**
ARCES pmax pmax
comp=Z,75nm,1.1s
ACER Acerenza 86.86 311 P **P** **00 01 49.8 -0.6**
KIJV Kijevo 86.87 314⇑*i*P **P** **00 01 51.5 +1.2**
CUC Castrocucco 86.88 310 P **P** **00 01 50.0 -0.5**
ZST Bratislava 86.89 318 *e*P **P** **00 01 53.1 +2.9**
ZST pmax pmax
comp=Z,10.0nm,1.5s
BEHE Becsehely 86.90 317 P **P** **00 01 51.5 +1.2**
BEHE IAmb IAmb 00 01 54.0
comp=Z,29nm,1.1s
BEHE Becsehely 86.90 317⇑*i*P **P** **00 01 52.6 +2.3**
SGRT San Giovanni R 87.11 312 P **P** **00 01 50.1 -1.4**
SGRT IAmb IAmb 00 01 54.5
comp=Z,32nm,1.2s
KOGS Kog 87.25 317 *e*P **P** **00 01 53.7 +1.7**
KRLC Kraliky 87.33 320 *e*P **P** **00 01 54.3 +1.9**
KRLC Kraliky 87.33 320 *e*P **P** **00 01 54.3 +1.9**
VRAC Vranov 87.36 319 *e*P **P** **00 01 54.2 +1.7**
VRAC *e* 00 02 04.5
RONA Rosalia, Austr 87.37 318 *i* PcP **PcP** **00 01 54.5 -0.2**
comp=Z,14nm,1.5s,SNR=6.8
KRUC Moravsky 87.46 319 *e*P **P** **00 01 54.8 +1.8**
KRUC *e* 00 02 04.8
QSPA South Pole Qui 87.46 180 P **P** **00 01 56.2 +3.4**
comp=Z,2.6nm,0.8s,baz=296,slow=0.9,SNR=8.1
QSPA LR LR 00 37 47.5
comp=Z,2µm,19.2s,baz=316,slow=33
comp=Z,2.6nm,0.8s
DPC Dobruska-Polom 87.66 320 *e*P **P** **00 01 56.5 +2.5**
DPC *e*pP **sP** **00 02 05.7 +2.2**
DPC AMS AMS 00 50 00.0
comp=Z,500nm,18.0s
DPC Dobruska-Polom 87.66 320 *e*P **P** **00 01 56.5 +2.5**
DPC *e**PP **sP** **00 02 05.7 +2.2**
DPC MLR MLR
comp=Z,500nm,18.0s
CONA Conrad Observa 87.68 318 *i* PcP **PcP** **00 01 55.7 -0.4**
comp=Z,14nm,1.3s,SNR=8.1
OZLJ Ozalj 87.71 316⇑*i*P **P** **00 01 55.6 +1.4**
KIWB Kanaga Island 87.73 38 P **P** **00 01 53.5 -0.7**
OSTC Ostas 87.75 321 *e*P **P** **00 01 56.3 +1.9**
OSTC *e*pP **sP** **00 02 05.7 +1.8**
OSTC AMS AMS 00 48 40.0
comp=Z,700nm,18.8s
OSTC Ostas 87.75 321 *e*P **P** **00 01 56.3 +1.9**
OSTC *e* 00 01 56.3
OSTC MLR MLR
comp=Z,700nm,18.8s
ARSA Arzberg 87.84 317 P **P** **00 01 54.4 -0.5**
ARSA IAmb IAmb 00 01 58.3
comp=Z,40nm,1.3s
ARSA Arzberg 87.84 317 *i* PcP **PcP** **00 01 56.7 0.0**
comp=Z,30nm,1.3s,SNR=15
CHVC Chvalec 87.85 321 *e*P **P** **00 01 57.2 +2.3**
CHVC Chvalec 87.85 321 *e*P **P** **00 01 57.2 +2.3**
UPC Upice 87.87 321 *e*P **P** **00 01 57.6 +2.7**
UPC Upice 87.87 321 *e*P **P** **00 01 57.6 +2.7**
PAOL Paolisi 87.92 311 P **P** **00 01 54.8 -0.7**
PAOL IAmb IAmb 00 02 08.3
comp=Z,75nm,1.4s
AFI Afiamalu 88.01 104 P **P** **00 01 54.7 -1.7**
AFI Afiamalu 88.01 104 P **P** **00 01 54.7 -1.7**
AFI pmax pmax
comp=Z,108nm,1.2s
SOKA Soboth 88.11 317 *i* PcP **PcP** **00 01 58.3 +0.3**
comp=Z,40nm,1.2s,SNR=25
VISS Visnje 88.16 316 *e*P **P** **00 01 58.0 +1.5**
LJU Ljubljana 88.40 316 *e*P **P** **00 01 59.4 +1.8**
LJU *i* 00 02 08.0
LJU *e*S **S** **00 12 42.0 0.0**
OBKA Obir 88.43 316 *i* pP **P** **00 01 59.8 +2.0**
comp=Z,25nm,1.3s,SNR=13
MOA Molln 88.74 318 *i* PcP **PcP** **00 02 00.3 -0.4**
comp=Z,9.7nm,1.0s,SNR=7.3
PRU Pruhonice 88.76 320 *e*P **P** **00 02 01.5 +2.4**
PRU AMS AMS 00 49 30.0
comp=Z,500nm,17.5s
PRU Pruhonice 88.76 320 *e*P **P** **00 02 01.5 +2.4**
PRU MLR MLR
comp=Z,500nm,17.5s
PVCC Panska Ves 88.79 321 *e*P **P** **00 02 02.1 +2.8**
PVCC AMS AMS 00 48 20.0
comp=Z,500nm,18.2s
PVCC Panska Ves 88.79 321 *e*P **P** **00 02 02.1 +2.8**
PVCC MLR MLR
comp=Z,500nm,18.2s
CKRC Cesky Krumlov 88.80 319 *e*P **P** **00 02 01.7 +2.3**
CKRC *e*pP **sP** **00 02 11.2 +2.3**
CKRC AMS AMS 00 50 20.0
comp=Z,500nm,23.5s
CKRC Cesky Krumlov 88.80 319 *e*P **P** **00 02 01.7 +2.3**
CKRC MLR MLR
comp=Z,500nm,23.5s
BRJN Brijuni 88.85 315⇑*i*P **P** **00 02 01.1 +1.5**
AQU L'Aquila 88.90 312⇑*i*P **P** **00 02 01.8 +1.7**
TRI Trieste 88.91 316 P **P** **00 01 58.8 -1.1**
TRI IAmb IAmb 00 02 02.3
comp=Z,24nm,1.1s
TRI Trieste 88.91 316 P **P** **00 01 58.8 -1.1**
TRI pmax pmax
comp=Z,24nm,1.1s
CAMP Campotosto 88.91 312 P **P** **00 01 59.2 -1.0**
CAMP IAmb IAmb 00 02 03.2
comp=Z,44nm,1.2s
ZVC Zvikov 88.93 319 *e*P **P** **00 02 01.9 +1.9**
ZVC AMS AMS 00 53 20.0
comp=Z,500nm,18.3s
GUMA Gualdo di Mace 89.00 313 P **P** **00 01 59.7 -0.8**
GUMA IAmb IAmb 00 02 03.8
comp=Z,61nm,1.1s
SABO M.te Sabotino 89.04 316 P **P** **00 01 58.6 -2.0**
SABO IAmb IAmb 00 02 03.4
comp=Z,45nm,1.3s
MYKA Terra Mystica 89.06 317 *i* PcP **PcP** **00 02 02.2 -0.1**
comp=Z,37nm,1.7s,SNR=13
NRCA Norcia 89.15 313 P **P** **00 02 00.6 -0.7**
NRCA IAmb IAmb 00 02 04.3
comp=Z,40nm,1.0s
BIOA Bad Ischl, Aus 89.15 318 *i* PcP **PcP** **00 02 02.3 -0.2**
comp=Z,20nm,1.2s,SNR=12
FDMO Fiordimonte 89.18 313 P **P** **00 02 00.2 -1.2**
GEC2 GERESS Array S 89.20 319 P **P** **00 02 01.3 -0.1**
GEC2 IAmb IAmb 00 02 04.7
comp=Z,72nm,1.4s
GERES GERESS Array B 89.20 319 P **P** **00 02 03.3 +1.9**
comp=Z,11nm,0.9s,baz=86,slow=4.1,SNR=79
comp=Z,11nm,0.9s
BRG Berggiesshubel 89.22 321⇓*i*P **P** **00 02 04.0 +2.7**
BRG Amp 00 02 04.9
comp=Z,41nm,1.2s
BRG Berggiesshubel 89.22 321 S **S** **00 12 53.0 +3.6**
BRG Berggiesshubel 89.22 321 PP PP 00 05 45.3 +13
BRG Berggiesshubel 89.22 321 Amp 00 05 47.8
comp=Z,11nm,1.6s
KBA Koelnbreinsper 89.30 317 *i* PcP **PcP** **00 02 03.1 -0.3**
comp=Z,15nm,1.1s,SNR=7.6
KHC Kasperske Hory 89.31 319 *e*P **P** **00 02 03.2 +1.4**
KHC *e*pP **sP** **00 02 12.7 +1.4**
KHC AMS AMS 00 50 40.0
comp=Z,700nm,17.5s
KHC Kasperske Hory 89.31 319 *e*P **P** **00 02 03.2 +1.4**
KHC MLR MLR
comp=Z,700nm,17.5s
HSKC Hora Svate Kat 89.52 321 *e*P **P** **00 02 05.4 +2.7**
CESX Cesi 89.53 312 P **P** **00 02 01.6 -1.3**
NIUE Niue 89.58 109 P **P** **00 02 02.4 -1.2**
MURB Monte Urbino 89.61 313 P **P** **00 02 03.3 -0.1**
MURB IAmb IAmb 00 02 24.2
comp=Z,33nm,1.1s
EDA Edea 89.67 274 IAMs_20 IAMs_20 00 40 22.4
comp=Z,1µm,18.0s
STAL STALIGIAL 89.68 316 P **P** **00 02 03.9 +0.3**
DEL Delary 89.74 326 *i* P **P** **00 02 05.6 +2.0**
LESA Schwarzleotal 89.78 317 *i* PcP **PcP** **00 02 05.2 -0.2**
comp=Z,11nm,0.7s,SNR=7.0
CLL Collm 89.84 321 P **P** **00 02 03.6 -0.5**
CLL IAmb IAmb 00 02 07.3
comp=Z,30nm,1.1s
CLL Collm 89.84 321 *i* P **P** **00 02 05.3 +1.1**
CLL *e*S **S** **00 12 51.0 -4.2**
CLL pmax pmax
comp=Z,42nm,1.2s
CLL MLR MLR
comp=Z,500nm,18.0s
ABTA Abfaltersbach 89.85 317 *i* PcP **PcP** **00 02 05.7 0.0**
comp=Z,24nm,1.2s,SNR=8.4
LUNU Lund 89.91 326 *i* P **P** **00 02 06.2 +1.9**
HFS Hagfors 90.14 330 P **P** **00 02 07.1 +1.7**
comp=Z,24nm,1.1s,baz=98,slow=2.1,SNR=10
HFS LR LR 00 46 56.1
comp=Z,700nm,20.0s,baz=90,slow=38
comp=Z,24nm,1.1s
BJUU Bjuv 90.18 326 *i* P **P** **00 02 07.8 +2.2**
TEOL Teolo 90.35 315 P **P** **00 02 06.6 -0.1**
TEOL IAmb IAmb 00 02 20.0
comp=Z,72nm,1.3s
CTI Castel Tesino 90.40 316 P **P** **00 02 07.0 -0.1**
CTI Castel Tesino 90.40 316 P **P** **00 02 07.0 -0.1**
CTI pmax pmax
comp=Z,69nm,1.0s
FABU Falkenberg 90.41 327 *i* P **P** **00 02 08.6 +2.0**
BORU Boraas 90.43 328 *i* P **P** **00 02 08.9 +2.2**
WTTA Wattenberg 90.48 317 *i* PcP **PcP** **00 02 08.8 +0.2**
comp=Z,41nm,1.1s,SNR=20
WATA Walderalm 90.52 317 *i* PcP **PcP** **00 02 08.5 -0.3**
comp=Z,32nm,1.2s,SNR=15
OSSC Osservatorio P 90.56 313 P **P** **00 02 05.2 -2.5**
SQTA Sankt Quirin 90.77 317 *i* PcP **PcP** **00 02 10.2 +0.4**
comp=Z,19nm,0.8s,SNR=8.9
ZCCA Zocca 90.79 314 P **P** **00 02 06.6 -2.3**
ZCCA IAmb IAmb 00 02 17.4
comp=Z,57nm,1.1s
MOTA Moosalm 90.84 317 *i* PcP **PcP** **00 02 10.4 +0.2**
comp=Z,40nm,1.1s,SNR=19
ONAU Onsala 90.87 327 *i* P **P** **00 02 10.6 +1.8**
GRA1 Grafenberg Arr 90.88 320 P **P** **00 02 08.3 -0.8**
GRF Grafenberg Arr 90.88 320 P **P** **00 02 08.3 -0.8**
GRF pmax pmax
comp=Z,72nm,1.3s
GRFO Grafenberg 90.88 320 P **P** **00 02 08.8 -0.2**
GRFO IAmb IAmb 00 02 22.7
comp=Z,67nm,1.3s
GRFO Grafenberg 90.88 320 P **P** **00 02 08.9 -0.2**
GRFO pmax pmax
comp=Z,67nm,1.3s
SPB2 Spitsbergen Ar 91.05 348 P **P** **00 02 08.4 -0.9**
SPITS Spitsbergen Ar 91.05 348 P **P** **00 02 09.3 0.0**
comp=Z,36nm,1.0s,baz=166,slow=11,SNR=4.4
SPITS LR LR 00 51 13.0
comp=Z,1µm,19.1s,baz=94,slow=41
comp=Z,36nm,1.0s
RETA Reutte 91.08 317 *i* PcP **PcP** **00 02 11.6 +0.4**
comp=Z,39nm,1.2s,SNR=14
FETA Feichten 91.08 317 *i* pP **P** **00 02 12.1 +1.8**
comp=Z,29nm,1.1s,SNR=9.7
PRMA PARMA 91.28 315 P **P** **00 02 10.5 -0.5**
NB201 NORSAR Array S 91.38 331 P **P** **00 02 10.7 -0.4**
NB201 IAmb IAmb 00 02 18.2
comp=Z,30nm,1.4s
FUORN Ofenpass-Fuorn 91.39 316 P **P** **00 02 11.7 -0.1**
FUORN IAmb IAmb 00 02 15.3
comp=Z,50nm,1.1s
NB2 NORSAR Subarra 91.42 331 P **P** **00 02 13.0 +1.6**
comp=Z,2.0nm,0.8s,baz=94,slow=4.6
NB2 NORSAR Subarra 91.42 331 P **P** **00 02 13.0 +1.6**
baz=94,slow=4.6
NOA NORSAR Array B 91.42 331 P **P** **00 02 12.1 +0.7**
comp=Z,5.0nm,0.9s,baz=94,slow=4.7,SNR=8.1
comp=Z,5.0nm,0.9s
SNAA Sanae 91.56 198⇑P P 00 02 19.4 +7.5
comp=Z,76nm,0.9s
SNAA Sanae 91.56 198 P **P** **00 02 10.3 -1.6**
SNAA IAMs_20 IAMs_20 00 35 40.3
comp=Z,937nm,21.0s
SNAA Sanae 91.56 198 P **P** **00 02 15.8 +3.9**
comp=Z,1.0nm,0.9s,baz=70,slow=1.6,SNR=3.9
SNAA LR LR 00 36 02.8
comp=Z,951nm,21.5s,baz=58,slow=31
NAO01 NORSAR Array S 91.57 331 P **P** **00 02 11.1 -1.0**
NBO00 NORSAR Array S 91.63 331 P **P** **00 02 11.5 -0.8**
NBO00 IAmb IAmb 00 02 15.4
comp=Z,63nm,1.4s
DAVA Damuels 91.67 317 *i* pP **P** **00 02 14.7 +1.7**
comp=Z,59nm,1.0s,SNR=22
KEST Kesra 91.70 306 P **P** **00 02 13.0 -0.3**
KEST Kesra 91.70 306 P **P** **00 02 16.6 +3.2**
comp=Z,35nm,1.0s,baz=336,slow=1.1,SNR=23
comp=Z,35nm,1.0s
KEST Kesra 91.70 306 P **P** **00 02 17.1 +3.8**
KEST P **P** **00 02 17.1 +3.8**
VSL Villasalto 91.80 309 P **P** **00 02 12.3 -1.3**
VSL IAmb IAmb 00 02 26.7
comp=Z,30nm,1.0s
MSSA Maissana 91.83 314 P **P** **00 02 12.1 -1.6**
MSSA IAmb IAmb 00 02 25.1
comp=Z,28nm,1.0s
TUE Stuetta 92.02 316 P **P** **00 02 14.1 -0.6**

KONO Kongsberg 92.17 329 P **P** **00 02 14.8 0.0**
KONO IAmb IAmb 00 02 28.8
comp=Z,48nm,1.5s
KONO Kongsberg 92.17 329 P **P** **00 02 14.8 0.0**
KONO pmax pmax
comp=Z,48nm,1.5s
STU Stuttgart 92.17 319 P **P** **00 02 15.4 +0.3**
STU IAmb IAmb 00 02 18.2
comp=Z,21nm,1.1s
STU Stuttgart 92.17 319 P **P** **00 02 15.4 +0.3**
STU pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 92.74 318 P **P** **00 02 17.2 -0.6**
BFO IAmb IAmb 00 02 30.3
comp=Z,36nm,1.5s
BFO Black Forest 92.74 318 P **P** **00 02 17.2 -0.6**
BFO pmax pmax
comp=Z,36nm,1.5s
NIKH Nikolski High 92.87 37 P **P** **00 02 17.1 -1.1**
TNA Tin City 93.26 25 IAMs_20 IAMs_20 00 48 22.2
comp=Z,740nm,20.0s
SENIN Lac Senin/Sane 93.43 316 P **P** **00 02 20.3 -0.9**
ECH Echery 93.52 318 P **P** **00 02 20.2 -1.2**
ECH Echery 93.52 318 P **P** **00 02 20.2 -1.2**
ECH pmax pmax
comp=Z,14nm,1.2s
C16K Lisburne Hills 94.16 22 IAMs_20 IAMs_20 00 45 33.7
comp=Z,1µm,20.0s
ANM Nome 94.38 26 IAMs_20 IAMs_20 00 49 25.8
comp=Z,863nm,19.0s
F15K North Star Dit 94.61 24 P **P** **00 02 24.7 -1.2**
F15K IAmb IAmb 00 02 28.0
comp=Z,37nm,1.4s
F15K IAMs_20 IAMs_20 00 50 30.7
comp=Z,744nm,18.0s
TAM Tamanrasset 94.78 293 P **P** **00 02 26.4 -1.4**
TAM IAMs_20 IAMs_20 00 41 57.2
comp=Z,798nm,21.0s
TAM Tamanrasset 94.78 293 P **P** **00 02 26.4 -1.4**
TAM pmax pmax
comp=Z,10.0nm,0.2s
K13K Kusilvak Mount 94.88 28 P **P** **00 02 27.6 +0.4**
K13K IAmb IAmb 00 02 30.1
comp=Z,36nm,1.2s
K13K IAMs_20 IAMs_20 00 49 46.9
comp=Z,639nm,18.0s
UCC Uccle 95.29 321 P **P** **00 02 29.5 +0.2**
UCC Uccle 95.29 321 P **P** **00 02 29.5 +0.2**
UCC pmax pmax
comp=Z,15nm,1.4s
G16K Koyuk River 95.59 25 P **P** **00 02 29.5 -0.9**
G16K IAmb IAmb 00 02 32.5
comp=Z,33nm,1.1s
G16K IAMs_20 IAMs_20 00 51 11.6
comp=Z,865nm,19.0s
L14K Kuka Creek 95.86 29 IAMs_20 IAMs_20 00 50 23.0
comp=Z,641nm,18.0s
F17K Baldwin Pennin 95.92 24 IAMs_20 IAMs_20 00 52 18.1
comp=Z,951nm,20.0s
E18K Tukpahlearik C 96.04 23 P **P** **00 02 32.1 -0.3**
E18K IAmb IAmb 00 02 34.6
comp=Z,17nm,1.1s
E18K IAMs_20 IAMs_20 00 52 19.3
comp=Z,1µm,19.0s
C19K Lookout Ridge 96.16 21 P **P** **00 02 31.6 -1.4**
K15K Wolf Creek Mou 96.30 28 **P** **00 02 33.8 +0.1**
K15K IAmb IAmb 00 02 36.3
comp=Z,21nm,1.2s
K15K IAMs_20 IAMs_20 00 51 33.7
comp=Z,949nm,18.0s
I17K Unalakleet 96.48 26 P **P** **00 02 34.9 +0.4**
I17K IAmb IAmb 00 02 37.0
comp=Z,35nm,1.1s
I17K IAMs_20 IAMs_20 00 51 10.4
comp=Z,631nm,18.0s
J16K Anvik River 96.61 27 P **P** **00 02 34.5 -0.6**
J16K IAMs_20 IAMs_20 00 52 45.6
comp=Z,794nm,18.0s
H17K Granite Mounta 96.67 25 P **P** **00 02 35.6 +0.3**
H17K IAmb IAmb 00 02 37.6
comp=Z,29nm,1.2s
H17K IAMs_20 IAMs_20 00 51 48.3
comp=Z,913nm,18.0s
D19K Kuna River 96.79 21 P **P** **00 02 34.9 -1.0**
D19K IAMs_20 IAMs_20 00 52 06.2
comp=Z,1µm,18.0s
CLF Chambon-Foret 96.81 318 P **P** **00 02 35.3 -1.1**
CLF IAmb IAmb 00 02 39.4
comp=Z,25nm,1.3s
G18K Tagagawik 97.04 24 IAMs_20 IAMs_20 00 55 25.9
comp=Z,660nm,19.0s
F19K Shaleruckik Mo 97.23 23 P **P** **00 02 36.7 -1.1**
F19K IAmb IAmb 00 02 39.4
comp=Z,20nm,1.2s
F19K IAMs_20 IAMs_20 00 51 20.6
comp=Z,1µm,20.0s
J17K VABM Dome 97.27 26 P Pdif 00 02 38.5 +0.3
J17K IAmb IAmb 00 02 56.4
comp=Z,29nm,1.2s
H18K Honhosa River 97.29 25 P Pdif 00 02 38.8 +0.6
H18K IAmb IAmb 00 02 46.4
comp=Z,33nm,1.4s
H18K IAMs_20 IAMs_20 00 51 22.6
comp=Z,668nm,18.0s
D20K Etivluk River 97.29 21 P Pdif 00 02 38.4 +0.2
E19K Redstone River 97.32 22 P **P** **00 02 38.0 -0.3**
E19K IAmb IAmb 00 02 40.1
comp=Z,19nm,1.1s
E19K IAMs_20 IAMs_20 00 53 06.2
comp=Z,982nm,20.0s
L16K Owhat River 97.34 28 IAMs_20 IAMs_20 00 52 09.1
comp=Z,698nm,19.0s
O15K Ungalikthiuk R 97.53 31 IAMs_20 IAMs_20 00 51 32.4
comp=Z,756nm,20.0s
M16K Timber Creek 97.69 29 IAMs_20 IAMs_20 00 54 48.4
comp=Z,821nm,19.0s
K17K Iditarod 97.73 27 P Pdif 00 02 41.1 +0.9
K17K IAMs_20 IAMs_20 00 53 59.3
comp=Z,927nm,18.0s
F20K Avaraart Lake 97.97 23 IAMs_20 IAMs_20 00 51 45.3
comp=Z,1µm,20.0s
H19K Roundabout Mou 98.01 24 P Pdif 00 02 41.5 +0.1
H19K IAMs_20 IAMs_20 00 53 05.6
comp=Z,650nm,19.0s
E21K Killik River 98.30 21 IAMs_20 IAMs_20 00 49 19.0
comp=Z,976nm,20.0s
J18K Innoko River 98.30 26 IAMs_20 IAMs_20 00 53 27.3
comp=Z,681nm,19.0s
TORD Torodi Ar. Bea 98.32 283 LR LR 00 45 29.1
comp=Z,662nm,19.2s,baz=88,slow=34
P16K Nushagak River 98.49 31 IAMs_20 IAMs_20 00 54 56.7
comp=Z,664nm,18.0s
L18K Granite Mounta 98.56 27 P Pdif 00 02 43.9 0.0
L18K IAmb IAmb 00 02 46.2
comp=Z,17nm,1.2s
L18K IAMs_20 IAMs_20 00 55 40.6
comp=Z,1µm,18.0s
N17K Nushagak Hills 98.63 29 IAMs_20 IAMs_20 00 55 19.2
comp=Z,804nm,19.0s
D22K Ayikyak River 98.64 20 P Pdif 00 02 44.2 0.0
D22K IAmb IAmb 00 02 54.8
comp=Z,25nm,1.4s
J19K Poorman 98.67 26 P **P** **00 02 44.2 -0.2**
J19K IAmb IAmb 00 02 46.7
comp=Z,20nm,1.1s
DAG Danmarks Havn 98.70 348 *i* P Pdif 00 02 44.6 +0.3
DAG IAmb IAmb 00 02 45.9
comp=Z,17nm,1.2s
F21K Alatna River 98.78 22 P Pdif 00 02 45.4 +0.5
F21K IAmb IAmb 00 02 46.6
comp=Z,11nm,1.1s
F21K IAMs_20 IAMs_20 00 53 24.9
comp=Z,938nm,22.0s
RAR Rarotonga 98.93 112 LR LR 00 47 39.5
comp=Z,325nm,21.2s,baz=263,slow=36
G21K Allakaket 98.95 23 P **P** **00 02 45.5 -0.1**
G21K IAmb IAmb 00 02 47.6
comp=Z,29nm,1.2s
I20K Naaghedeneel 98.98 25 P Pdif 00 02 45.8 +0.1
I20K IAMs_20 IAMs_20 00 55 11.3
comp=Z,992nm,18.0s
IMAR Indian Mountai 98.99 23 P Pdif 00 02 46.1 +0.4
E22K Anaktuvuk Pass 99.15 21 IAMs_20 IAMs_20 00 52 58.8
comp=Z,1µm,20.0s
J20K Nowinta River 99.26 25 P **Pdif** **00 02 46.7 -0.3**
J20K IAmb IAmb 00 03 06.1
comp=Z,21nm,1.3s
J20K IAMs_20 IAMs_20 00 53 29.8
comp=Z,833nm,18.0s
D23K Nanushuk River 99.31 20 P **Pdif** **00 02 45.2 -1.9**
D23K IAmb IAmb 00 02 54.5
comp=Z,24nm,1.5s
EKB Eskdalemuir 99.36 326 P **Pdif** **00 02 45.9 -1.8**
L19K White Mountain 99.40 27 P **Pdif** **00 02 46.8 -1.0**
L19K IAmb IAmb 00 03 06.6
comp=Z,15nm,1.3s
L19K IAMs_20 IAMs_20 00 55 11.0
comp=Z,973nm,19.0s
H21K Melozitna Rive 99.45 24 P **Pdif** **00 02 47.7 -0.2**
H21K IAmb IAmb 00 02 50.3
comp=Z,25nm,1.4s
H21K IAMs_20 IAMs_20 00 55 44.4
comp=Z,712nm,18.0s
K20K Telida 99.49 26 Pdif **Pdif** **00 02 47.2 -0.9**
K20K IAmb IAmb 00 02 50.5
comp=Z,22nm,1.1s
O18K Koktuh Hills 99.73 30 IAMs_20 IAMs_20 00 52 55.8
comp=Z,765nm,19.0s
N19K Bonanza Creek 99.88 29 IAMs_20 IAMs_20 00 50 19.1
comp=Z,733nm,21.0s
I21K Tanana 99.91 24 Pdif **Pdif** **00 02 49.4 -0.4**
COLD Coldfoot 100.01 22 IAMs_20 IAMs_20 00 54 14.4
comp=Z,1µm,20.0s
G23K Bananza Creek 100.23 22 IAMs_20 IAMs_20 00 55 29.3
comp=Z,910nm,20.0s
M20K Styx River 100.26 27 IAMs_20 IAMs_20 00 55 47.2
comp=Z,805nm,18.0s
PPLA Purkeypile 100.43 26 IAMs_20 IAMs_20 00 55 05.7
comp=Z,625nm,20.0s
MLY Manley 100.46 24 IAMs_20 IAMs_20 00 56 34.2
comp=Z,629nm,20.0s
BPAW Bear Paw Mtn. 100.62 25 IAMs_20 IAMs_20 00 54 20.7
comp=Z,938nm,19.0s
H23K Yukon River 100.69 23 IAMs_20 IAMs_20 00 55 25.4
comp=Z,882nm,20.0s
P19K Oil Pt 100.75 30 IAMs_20 IAMs_20 00 53 44.3
comp=Z,696nm,19.0s
F24K Squaw Lake 100.76 21 IAMs_20 IAMs_20 00 54 08.1
comp=Z,1µm,20.0s
SKT Skwentna 100.97 27 IAMs_20 IAMs_20 00 56 11.0
comp=Z,826nm,22.0s
I23K Minto, Yukon-K 100.98 24 IAMs_20 IAMs_20 00 53 50.8
comp=Z,631nm,20.0s
G24K Hadweenzic Riv 101.20 22 IAMs_20 IAMs_20 00 54 59.6
comp=Z,1µm,20.0s
BWN Browne 101.24 25 IAMs_20 IAMs_20 00 54 04.8
comp=Z,572nm,18.0s
NEA2 Nenana 101.27 24 IAMs_20 IAMs_20 00 54 39.8
comp=Z,815nm,18.0s
C27K Jago River 101.39 19 IAMs_20 IAMs_20 00 52 18.7
comp=Z,1µm,20.0s
WRH Wood River Hil 101.71 24 IAMs_20 IAMs_20 00 55 10.4
comp=Z,971nm,21.0s
RND Reindeer 101.73 25 IAMs_20 IAMs_20 00 55 08.1
comp=Z,848nm,19.0s
POKR Poker Plat Res 101.76 23 IAMs_20 IAMs_20 00 55 59.7
comp=Z,890nm,18.0s
CNPM China Poot 101.77 29 IAMs_20 IAMs_20 00 55 53.1
comp=Z,821nm,21.0s
CCB Clear Creek Bu 101.77 24 IAMs_20 IAMs_20 00 56 03.0
comp=Z,650nm,18.0s
SLKM Skilak Lake 101.99 28 IAMs_20 IAMs_20 00 54 50.8
comp=Z,687nm,21.0s
RC01 Rabbit Creek A 102.05 28 IAMs_20 IAMs_20 00 56 49.4
comp=Z,768nm,21.0s
ESDC Sonseca Array 102.08 310 PP **PP** **00 07 13.7 +1.7**
comp=Z,0.4nm,0.9s,baz=72,slow=7.6,SNR=2.1
FYU Fort Yukon 102.08 22 IAMs_20 IAMs_20 00 55 38.1
comp=Z,1µm,20.0s
ILAR Eielson Array 102.10 24 PP **PP** **00 07 08.0 -3.2**
comp=Z,2.0nm,0.9s,baz=283,slow=7.3,SNR=7.4
O22K Cooper Landing 102.23 28 IAMs_20 IAMs_20 00 55 16.3
comp=Z,930nm,18.0s
PRP Porcupine Dome 102.36 23 IAMs_20 IAMs_20 00 56 36.7
comp=Z,821nm,18.0s
D27M Malcolm River 102.43 19 IAMs_20 IAMs_20 00 57 19.0
comp=Z,1µm,19.0s
G26K Porcupine Rive 102.46 21 IAMs_20 IAMs_20 00 54 55.9
comp=Z,969nm,19.0s
SEW Seward 102.47 29 IAMs_20 IAMs_20 00 57 23.7
comp=Z,812nm,18.0s
KNK Knik Glacier 102.54 27 IAMs_20 IAMs_20 00 56 35.4
comp=Z,846nm,18.0s
J25K Salcha River, 102.76 24 IAMs_20 IAMs_20 00 56 33.0
comp=Z,770nm,18.0s
PWL Port Wells 102.77 28 IAMs_20 IAMs_20 00 56 38.6
comp=Z,682nm,19.0s
E28M Babbage River 103.18 19 IAMs_20 IAMs_20 00 55 05.1
comp=Z,1µm,22.0s
RIDG Independent Ri 103.30 24 IAMs_20 IAMs_20 00 54 26.5
comp=Z,678nm,21.0s
PAX Paxson 103.33 25 IAMs_20 IAMs_20 00 55 58.2
comp=Z,750nm,20.0s
GLI Glacier Island 103.33 28 IAMs_20 IAMs_20 00 56 46.5
comp=Z,634nm,19.0s
I26K Coal Creek Min 103.36 23 IAMs_20 IAMs_20 00 54 27.8
comp=Z,727nm,20.0s
J26L Joseph Creek 103.53 23 IAMs_20 IAMs_20 00 58 36.1
comp=Z,932nm,18.0s
SCRK Sand Creek 103.56 24 IAMs_20 IAMs_20 00 59 35.3
comp=Z,706nm,20.0s
H27K Steamboat Moun 103.58 21 IAMs_20 IAMs_20 00 55 30.7
comp=Z,1µm,20.0s
DOT Dot Lake 103.66 24 IAMs_20 IAMs_20 00 59 32.9
comp=Z,629nm,20.0s
FID Port Fidalgo 103.66 28 IAMs_20 IAMs_20 00 57 04.9
comp=Z,815nm,19.0s
HIN Hinchbrook I 103.77 28 IAMs_20 IAMs_20 00 54 07.1
comp=Z,623nm,20.0s
E29M Blow River 103.82 19 IAMs_20 IAMs_20 00 55 34.0
comp=Z,849nm,20.0s
DIV Divide 103.86 27 IAMs_20 IAMs_20 00 57 23.2
comp=Z,652nm,20.0s
L26K Log Cabin Wild 104.20 25 IAMs_20 IAMs_20 00 55 06.0
comp=Z,635nm,20.0s
EGAK Eagle 104.35 23 IAMs_20 IAMs_20 00 59 12.2
comp=Z,735nm,19.0s
I28M Miner Creek 104.52 22 IAMs_20 IAMs_20 00 59 17.3
comp=Z,768nm,20.0s
M26K Nabesna, AK 104.60 25 IAMs_20 IAMs_20 00 56 57.7
comp=Z,646nm,18.0s
GLB Gilahina Butte 104.62 26 IAMs_20 IAMs_20 00 57 40.6
comp=Z,621nm,18.0s
HMT Hamilton 104.84 28 IAMs_20 IAMs_20 00 59 36.6
comp=Z,1µm,19.0s
MCARA McCarthy VSAT 104.99 26 IAMs_20 IAMs_20 01 00 48.7
comp=Z,569nm,18.0s
G30M tAoh Zraii Nji 105.08 20 IAMs_20 IAMs_20 00 55 39.3
comp=Z,1µm,22.0s
M27K Edge Creek, AK 105.09 25 IAMs_20 IAMs_20 00 57 11.7
comp=Z,879nm,19.0s
A36M Sachs Harbour 105.15 13 IAMs_20 IAMs_20 00 57 00.8
comp=Z,670nm,20.0s
I29M Ogilvie Camp, 105.16 22 IAMs_20 IAMs_20 00 56 31.3
comp=Z,1µm,21.0s
J29N Klondike Camp 105.63 22 IAMs_20 IAMs_20 01 01 21.7
comp=Z,995nm,19.0s
BARN Barnard Glacie 105.73 26 IAMs_20 IAMs_20 00 58 19.1
comp=Z,551nm,19.0s
G31M Satah River 105.77 19 IAMs_20 IAMs_20 00 58 14.2
comp=Z,926nm,18.0s
CTGM Chitina Glacie 105.91 26 IAMs_20 IAMs_20 00 57 16.9
comp=Z,662nm,19.0s
K29M Barlow Dome 106.19 23 IAMs_20 IAMs_20 00 58 46.6
comp=Z,988nm,21.0s
J30M Hart River 106.28 22 IAMs_20 IAMs_20 00 57 17.9
comp=Z,1µm,22.0s
L29M L29M 106.31 24 IAMs_20 IAMs_20 01 00 22.6
comp=Z,862nm,21.0s
H31M Peel River 106.35 20 IAMs_20 IAMs_20 01 00 01.7
comp=Z,997nm,18.0s
M29M Somme Creek 106.48 24 IAMs_20 IAMs_20 00 59 00.4
comp=Z,861nm,19.0s
O28M Mnt Upton 106.50 26 IAMs_20 IAMs_20 00 56 18.5
comp=Z,737nm,22.0s
M30M Minto, Yukon 107.10 24 IAMs_20 IAMs_20 00 55 19.6
comp=Z,748nm,22.0s
O29M Mount Kennedy 107.42 26 IAMs_20 IAMs_20 00 58 36.4
comp=Z,1µm,21.0s
N30M Aishikik Lake 107.52 25 IAMs_20 IAMs_20 01 00 06.8
comp=Z,989nm,20.0s
TBI Tubuai 108.06 115 *e*PP **PKiKP** **00 07 37.7 +3.6**
comp=Z,507nm,34.2s
TBI *e*S 00 15 14.6
comp=Z,2µm,32.8s
TBI *e*SS SS 00 23 04.6 -4.7
comp=Z,2µm,24.5s
TBI Tubuai 108.06 115 *e*LR LR 00 39 06.8
comp=Z,1µm,28.2s
TBI *e*LR LR 00 39 11.6
comp=Z,3µm,28.0s
M31M Drury Creek, Y 108.25 24 IAMs_20 IAMs_20 01 00 02.1
comp=Z,1µm,20.0s
O30N Mendenhall 108.28 25 IAMs_20 IAMs_20 01 00 22.0
comp=Z,948nm,21.0s
PPT2 Papeete2 108.95 109 *e*PP PP 00 07 54.1 -9.3
comp=Z,81nm,25.8s
PPT2 *e*S 00 15 20.6
comp=Z,294nm,28.0s
PPT2 *e*SS SS 00 23 11.6 -10
comp=Z,89nm,24.8s
PPT2 Papeete2 108.95 109 *e*LR LR 00 39 24.2
comp=Z,637nm,24.8s
PPT2 *e*LR LR 00 39 30.5
comp=Z,882nm,24.8s
TAOE Nuku Hiva Isla 119.33 102 *e*LR LR 00 44 20.2
comp=Z,645nm,23.4s
SCHQ Schefferville 126.69 350 PKP **PKiKP** **00 08 09.8 +0.6**
comp=Z,68nm,0.8s,baz=41,slow=2.4,SNR=5.1
MOD Modoc Plateau 126.90 37 IAMs_20 IAMs_20 01 00 57.2
comp=Z,448nm,21.0s
BOZ Bozeman (W) 129.07 28 IAMs_20 IAMs_20 01 11 52.6
comp=Z,765nm,21.0s
NVAR Mina Array Bea 130.20 39 PKP **PKiKP** **00 08 16.9 -0.1**
comp=Z,2.2nm,0.8s,baz=255,slow=1.2,SNR=12
NVAR PP **PP** **00 10 27.3 -1.5**
comp=Z,1.5nm,0.9s,baz=282,slow=7.4,SNR=5.2
ULM Lac du Bonnet 130.63 13 PKP **PKiKP** **00 08 17.2 -0.1**
comp=Z,13nm,0.9s,baz=312,slow=3.4,SNR=4.2
PDAR Pinedale Array 132.18 29 PKhKP PKPpre 00 08 17.1
comp=Z,1.0nm,0.8s,baz=45,slow=2.3,SNR=4.3
PDAR PP **PP** **00 10 40.5 -0.7**
comp=Z,1.4nm,1.0s,baz=342,slow=3.9,SNR=3.9
TPNV Topopah Spring 132.39 40 IAMs_20 IAMs_20 01 16 38.7
comp=Z,410nm,20.0s
BSUT Blindstream Ca 133.21 32 PKPdf **PKPdf** **00 08 21.3 -0.8**
SHPR Sheep Range 133.35 39 PKPdf **PKPdf** **00 08 22.1 -0.1**
RSSD Black Hills 133.54 24 PKPpre PKPpre 00 08 09.8
RSSD PKPdf **PKPdf** **00 08 21.4 -1.0**
RSSD Black Hills 133.54 24 PKiKP **PKPdf** **00 08 21.4 -1.0**
ECSD EROS Data Cent 136.47 17 PKPdf **PKPdf** **00 08 27.0 -0.6**
ECSD IAMs_20 IAMs_20 01 12 54.3
comp=Z,716nm,21.0s
G40A Rib Lake 136.53 10 PKPdf **PKPdf** **00 08 25.3 -2.4**
113A Mohawk Valley, 136.54 42 PKPdf **PKPdf** **00 08 27.0 -1.0**
ANMO Albuquerque 139.61 34 PKPpre PKPpre 00 08 24.1
ANMO PKPdf **PKPdf** **00 08 32.6 -1.3**
DUN6 Lazy B Ranch 139.72 39 PKPdf **PKPdf** **00 08 28.8 -5.3**
CCM Cathedral Cave 143.23 14 PKPbc 00 08 37.5 +0.6
CCM Cathedral Cave 143.23 14 PKiKP PKPbc 00 08 37.6 +0.6
BDFB Brasilia 143.30 240 PKP **PKPdf** **00 08 41.1 +0.2**
comp=Z,1.5nm,0.4s,baz=98,slow=2.4,SNR=4.3
DEOK Depew 143.60 22 PKPbc 00 08 39.4 +1.3
CPUP Villa Florida 143.72 216 PKP **PKPdf** **00 08 41.3 +0.1**
comp=Z,0.7nm,0.6s,baz=243,slow=0.3,SNR=6.3
WCI Wyandotte Cave 144.03 8 PKPbc 00 08 40.1 +0.9
WCI Wyandotte Cave 144.03 8 PKiKP PKPbc 00 08 40.1 +0.8
TXAR Lajitas Array 145.30 37 PKPbc **PKPdf** **00 08 44.9 +0.8**
comp=Z,109nm,0.7s,baz=288,slow=1.4,SNR=552
Z47A Carrollton 148.61 13 IAMs_20 IAMs_20 01 17 40.3
comp=Z,628nm,21.0s
HKT Hockley 148.99 27 **PKPbc** **00 08 52.8 -1.2**
HKT Hockley 148.99 27 PKiKP **PKPbc** **00 08 52.8 -1.2**
SALV Santo Antonio 149.54 232 *e*P **PKPdf** **00 08 52.0 +0.7**
NHSC New Hope 149.55 360 **PKiKP** **00 08 56.9 +0.4**
ZAIG Zacatecas 150.49 45 **PKiKP** **00 09 00.4 +1.3**
PTLB Tontes e Lacer 152.47 229 **PKPdf** **00 08 58.4 +2.7**
MAL2 Monte Alegre, 153.47 260 **PKPdf** **00 09 00.6 +3.2**
LPAZ La Paz 157.77 212 PKP **PKPdf** **00 09 05.5 +1.8**
comp=Z,3.3nm,1.0s,baz=207,slow=2.3,SNR=9.7
SJG San Juan 159.16 319 IAMs_20 IAMs_20 01 37 29.8
comp=Z,420nm,20.0s
ROSC El Rosal 173.56 291 PKP **PKPdf** **00 09 17.4 +0.9**
comp=Z,5.0nm,0.4s,baz=11,slow=4.2,SNR=5.0

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*IDC **21** 23:49:24.6±0.9, 8°.36N×126°.07E, h145km±9km, mb3.8/15, mbtmp4.3/17, Error ellipse: s-maj=26.2km s-min=12.1km az=84.0*
*NEIC **21** 23:49:24.3±1.2, 8°.34N±0°.09×126°.1E±0°.1, h133km±7km, mb4.4/101, Error ellipse: s-maj=17.1km s-min=12.5km az=96.0*
ISC 21 23:49:24.9±0.4, 8°.29N±0°.06×126°.06E±0°.09, h150km, n134, σ0s94/134, mb4.3/67, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.30**	**201**		**Pn**	**23 49 50.8**	**-1.6**
DAV					**Sn**	**23 50 11.3**	**-2.2**
DAV	**Davao City (W)**	**1.30**	**201**	P	**Pn**	**23 49 51.5**	**-1.0**
	365nm,0.4s,baz=40,slow=3.8,SNR=8.1						
DAV				S	**Sn**	**23 50 13.9**	**+0.3**
	992nm,0.7s,baz=54,slow=19,SNR=30						
MYLDM	**Lahad Datu**	**8.11**	**248**		**Pn**	**23 51 20.2**	**+0.4**
TOLI2	**Tolitoli**	**8.85**	**217**		**Pn**	**23 51 28.7**	**-1.1**
BATI	**Baumata**	**18.52**	**187**	P	**Pn**	**23 53 31.4**	**-0.6**
	53nm,0.8s,baz=261,slow=3.5,SNR=9.8						
JOW	**Kunigami**	**18.57**	**6**	IAmb	IAmb	23 53 32.4	
	comp=Z,19nm,0.7s						
JOW	**Kunigami**	**18.57**	**6**	P	**P**	**23 53 30.9**	**+0.5**
	comp=Z,14nm,0.6s,baz=172,slow=8.5,SNR=3.6						
WRA	**Warramunga Arr**	**29.21**	**164**	P	**P**	**23 55 12.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=345,slow=8.8,SNR=5.3						
	comp=Z,0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**30.23**	**20**	P	**P**	**23 55 19.6**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=199,slow=9.8,SNR=2.9						
	comp=Z,1.9nm,0.8s						
JMM	**Marumori**	**32.33**	**22**	P	**P**	**23 55 39.4**	**-0.4**
ASAR	**Alice Springs**	**32.67**	**167**	P	**P**	**23 55 44.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=351,slow=6.8,SNR=5.6						
	comp=Z,0.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.15**	**7**	P	**P**	**23 56 12.5**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=196,slow=9.2,SNR=5.9						
	comp=Z,5.2nm,0.7s						
HNR	**Honiara**	**38.07**	**117**	P	**P**	**23 56 28.6**	**-0.7**
MORW	**Morawa**	**38.37**	**194**	P	**P**	**23 56 32.1**	**+0.5**
LSA	**Lhasa**	**39.03**	**308**	P	**P**	**23 56 35.4**	**-2.4**
HILR	**Hailar Array B**	**41.47**	**354**	P	**P**	**23 56 57.1**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=148,slow=8.5,SNR=2.1						
	comp=Z,0.9nm,0.3s						
EVN	**Everest**	**41.85**	**303**	P	**P**	**23 57 01.6**	**+0.5**
BBOO	**Buckleboo**	**41.96**	**167**	P	**P**	**23 57 01.7**	**+0.6**
BBOO				IAmb	IAmb	23 57 02.5	
	comp=Z,5.3nm,1.0s						
STKA	**Stephens Creek**	**42.61**	**160**	P	**P**	**23 57 07.4**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=352,slow=8.6,SNR=4.2						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**42.80**	**341**	P	**P**	**23 57 07.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=155,slow=9.4,SNR=4.3						
	comp=Z,0.6nm,0.5s						
PEA0B	**Petropavlovsk-**	**51.52**	**24**	P	**P**	**23 58 15.5**	**+0.3**
PEA0B				IAmb	IAmb	23 58 18.7	
	comp=Z,7.6nm,1.1s						
PETK	**Petropavlovsk-**	**51.52**	**24**	P	**P**	**23 58 15.7**	**+0.5**
PETK	**Petropavlovsk-**	**51.52**	**24**	P	**P**	**23 58 16.0**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=209,slow=3.6,SNR=8.4						
	comp=Z,1.5nm,0.4s						
MAKZ	**Makanchi**	**53.67**	**324**	P	**P**	**23 58 31.5**	**+0.3**
ZALV	**Zalesovo Beam**	**56.26**	**332**	P	**P**	**23 58 49.4**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=123,slow=7.3,SNR=16						
	comp=Z,2.2nm,0.3s						
THZ	**Tophouse**	**65.71**	**143**	P	**P**	**23 59 54.5**	**+0.9**
LTZ	**Lake Taylor**	**65.97**	**144**	P	**P**	**23 59 57.1**	**+1.9**
BFZ	**Birch Farm**	**67.11**	**141**	P	**P**	**00 00 02.7**	**+0.3**
L14K	**Kuka Creek**	**73.82**	**28**	P	**P**	**00 00 43.8**	**+1.0**
L14K				IAmb	IAmb	00 00 53.4	
	comp=Z,10.0nm,1.1s						
KIP	**Kipapa**	**73.97**	**70**	P	**P**	**00 00 43.5**	**-0.9**
M14K	**Bethel**	**74.04**	**29**	P	**P**	**00 00 44.6**	**+0.6**
M14K				IAmb	IAmb	00 00 54.6	
	comp=Z,8.7nm,1.1s						
O14K	**Tigyukauivet M**	**74.09**	**31**	P	**P**	**00 00 44.2**	**-0.1**
C16K	**Lisburne Hills**	**74.50**	**21**	P	**P**	**00 00 47.5**	**+0.9**
C16K				IAmb	IAmb	00 00 48.4	
	comp=Z,8.7nm,1.0s						
K15K	**Wolf Creek Mou**	**74.55**	**28**	P	**P**	**00 00 48.1**	**+1.0**
L16K	**Owhat River**	**75.40**	**28**	P	**P**	**00 00 53.2**	**+1.3**
L16K				IAmb	IAmb	00 00 57.0	
	comp=Z,5.8nm,1.1s						

F17K	**Baldwin Pennin**	75.56	23	P	P	00 00 53.8	+1.2
F17K				IAmb	IAmb	00 01 07.8	
comp=Z,7.1nm,1.1s							
J17K	**VABM Dome**	75.87	27	P	P	00 00 55.6	+1.1
E18K	**Tukpahlearik C**	76.02	22	P	P	00 00 56.3	+1.0
E18K				IAmb	IAmb	00 01 03.4	
comp=Z,5.6nm,1.1s							
K17K	**Iditarod**	76.11	27	P	P	00 00 57.6	+1.8
K17K				IAmb	IAmb	00 00 58.2	
comp=Z,7.7nm,1.1s							
M17K	**Holitna River**	76.31	29	P	P	00 00 57.5	+0.5
M17K				IAmb	IAmb	00 00 58.1	
comp=Z,7.3nm,1.1s							
CHIR	**Chirikof Islan**	76.63	35	P	P	00 00 59.5	+0.5
C19K	**Lookout Ridge**	76.74	21	P	P	00 01 00.8	+1.4
C19K				IAmb	IAmb	00 01 01.8	
comp=Z,8.3nm,0.9s							
L18K	**Granite Mounta**	76.78	28	P	P	00 01 00.1	+0.5
L18K				IAmb	IAmb	00 01 01.9	
comp=Z,6.6nm,1.2s							
J18K	**Innoko River**	76.93	27	P	P	00 01 00.6	+0.1
D19K	**Kuna River**	77.15	22	P	P	00 01 02.0	+0.3
D19K				IAmb	IAmb	00 01 03.8	
comp=Z,9.6nm,1.0s							
E19K	**Redstone River**	77.30	23	P	P	00 01 03.5	+1.0
E19K				IAmb	IAmb	00 01 05.1	
comp=Z,6.8nm,0.9s							
H19K	**Roundabout Mou**	77.33	25	P	P	00 01 03.8	+1.1
H19K				IAmb	IAmb	00 01 04.4	
comp=Z,4.7nm,0.8s							
SII	**Sitkinak Islan**	77.49	34	P	P	00 01 03.8	0.0
L19K	**White Mountain**	77.62	28	P	P	00 01 05.3	+0.8
N19K	**Bonanza Creek**	77.67	30	P	P	00 01 05.9	+1.1
N19K				IAmb	IAmb	00 01 07.2	
comp=Z,2.6nm,0.6s							
D20K	**Etivluk River**	77.73	21	P	P	00 01 05.7	+0.8
D20K				IAmb	IAmb	00 01 06.9	
comp=Z,11nm,1.0s							
B20K	**Meade River**	77.75	20	P	P	00 01 05.8	+0.9
B20K				IAmb	IAmb	00 01 06.9	
comp=Z,6.0nm,0.7s							
RAYN	**Ar Rayn**	78.12	292	P	P	00 01 08.7	+0.7
RAYN				IAmb	IAmb	00 01 09.6	
comp=Z,3.6nm,0.8s							
J20K	**Nowinta River**	78.14	26	P	P	00 01 08.2	+0.9
P19K	**Oil Pt**	78.20	31	P	P	00 01 09.0	+1.3
M20K	**Styx River**	78.41	29	P	P	00 01 09.7	+0.9
KDAK	**Kodiak Island**	78.43	33	P	P	00 01 09.4	+0.5
KDAK				IAmb	IAmb	00 01 19.8	
comp=Z,9.9nm,1.1s							
B21K	**Ikpikpuk River**	78.56	21	P	P	00 01 10.3	+0.9
B21K				IAmb	IAmb	00 01 26.9	
comp=Z,4.0nm,0.9s							
SYI	**Shuyak Island**	78.58	32	P	P	00 01 09.3	-0.4
SYI				IAmb	IAmb	00 01 11.7	
comp=Z,14nm,1.1s							
G21K	**Allakaket**	78.64	24	P	P	00 01 10.3	+0.4
H21K	**Melozitna Rive**	78.84	25	P	P	00 01 11.4	+0.4
H21K				IAmb	IAmb	00 01 13.0	
comp=Z,3.9nm,1.0s							
PPLA	**Purkeypile**	78.92	28	P	P	00 01 11.8	+0.2
STLK	**Strandline Lak**	79.00	29	P	P	00 01 11.5	-0.6
B22K	**Teshekpuk Lake**	79.06	20	P	P	00 01 12.5	+0.4
I21K	**Tanana**	79.15	25	P	P	00 01 13.3	+0.6
I21K				IAmb	IAmb	00 01 15.1	
comp=Z,5.0nm,1.0s							
D22K	**Ayikyak River**	79.17	21	P	P	00 01 12.9	+0.2
D22K				IAmb	IAmb	00 01 19.4	
comp=Z,6.2nm,1.1s							
SKT	**Skwentna**	79.17	28	P	P	00 01 12.5	-0.4
CNPM	**China Poot**	79.21	31	P	P	00 01 12.7	-0.5
CNPM				IAmb	IAmb	00 01 22.1	
comp=Z,4.9nm,1.0s							
BRLK	**Bradley Lake**	79.40	31	P	P	00 01 13.8	-0.4
BRLK				IAmb	IAmb	00 01 17.3	
comp=Z,7.0nm,0.8s							
E22K	**Anaktuvuk Pass**	79.43	22	P	P	00 01 14.2	0.0
BPAW	**Bear Paw Mtn.**	79.52	26	P	P	00 01 15.3	+0.5
BPAW				IAmb	IAmb	00 01 16.3	
comp=Z,4.3nm,0.8s							
KTH	**Kantishna Hill**	79.52	27	P	P	00 01 15.7	+0.8
SLKM	**Skilak Lake**	79.75	30	P	P	00 01 17.7	+1.6
SLKM				IAmb	IAmb	00 01 18.9	
comp=Z,14nm,1.2s							
GURO	**Guroymak-BITLI**	80.23	308	P	P	00 01 21.1	+1.8
TOLK	**Toolik Lake Re**	80.28	22	P	P	00 01 19.3	+0.4
TOLK				IAmb	IAmb	00 01 20.4	
comp=Z,4.0nm,0.7s							
RND	**Reindeer**	80.45	27	P	P	00 01 20.3	+0.5
RND				IAmb	IAmb	00 01 20.5	
comp=Z,2.9nm,0.7s							
D24K	**Happy Valley**	80.57	21	P	P	00 01 21.5	+1.2
D24K				IAmb	IAmb	00 01 23.8	
comp=Z,7.2nm,0.8s							
KNK	**Knik Glacier**	80.62	29	P	P	00 01 21.1	+0.3
KNK				IAmb	IAmb	00 01 21.9	
comp=Z,5.2nm,0.6s							
E24K	**Your Creek**	80.67	22	P	P	00 01 22.3	+1.4
SML	**Sawmill**	80.68	29	P	P	00 01 21.5	+0.4
SML				IAmb	IAmb	00 01 22.2	
comp=Z,6.3nm,0.8s							
PWL	**Port Wells**	80.68	30	P	P	00 01 21.7	+0.6
PWL				IAmb	IAmb	00 01 22.0	
comp=Z,7.5nm,0.6s							
WRH	**Wood River Hil**	80.79	26	P	P	00 01 21.8	+0.3
H24K	**Noodor Dome**	80.89	25	P	P	00 01 23.2	+1.1
F24K	**Squaw Lake**	80.89	23	P	P	00 01 23.3	+1.2
F24K				IAmb	IAmb	00 01 25.3	
comp=Z,4.2nm,0.8s							
CCB	**Clear Creek Bu**	80.92	26		P	00 01 22.1	-0.1
CCB				IAmb	IAmb	00 01 24.6	
comp=Z,2.6nm,0.6s							
G24K	**Hadweenzic Riv**	81.05	24	P	P	00 01 23.8	+0.9
G24K				IAmb	IAmb	00 01 24.7	
comp=Z,5.0nm,0.9s							
DHY	**Denali Highway**	81.12	27	P	P	00 01 24.2	+0.7
DHY				IAmb	IAmb	00 01 26.7	
comp=Z,2.7nm,0.7s							
SCM	**Sheep Creek Mo**	81.16	29	P	P	00 01 23.8	+0.1
SCM				IAmb	IAmb	00 01 25.1	
comp=Z,3.3nm,0.7s							
GLI	**Glacier Island**	81.29	30	P	P	00 01 25.0	+0.8
HDA	**Harding Lake**	81.29	26	P	P	00 01 23.9	-0.3
HDA				IAmb	IAmb	00 01 25.1	
comp=Z,3.2nm,0.6s							
IL31		81.31	26	P	P	00 01 24.4	+0.2
ILAR	**Eielson Array**	81.31	26	P	P	00 01 24.2	-0.1
ILAR	**Eielson Array**	81.31	26	P	P	00 01 23.2	-1.1
comp=Z,1.2nm,0.7s,baz=247,slow=4.7,SNR=19							
comp=Z,1.2nm,0.7s							
D25K	**Kavik River**	81.45	21	P	P	00 01 25.9	+0.9
D25K				IAmb	IAmb	00 01 43.3	
comp=Z,9.9nm,1.1s							
M24K	**Tolsona, Glenn**	81.69	28	P	P	00 01 27.3	+0.8
M24K				IAmb	IAmb	00 01 29.0	
comp=Z,3.7nm,0.7s							
F25K	**Christian Rive**	81.75	23	P	P	00 01 28.0	+1.4
K24K	**Donnelly Dome**	81.82	27	P	P	00 01 27.4	+0.3
KLU	**Klutina**	81.84	29	P	P	00 01 28.0	+0.8
PRP	**Porcupine Dome**	81.86	25	P	P	00 01 28.4	+1.0
J25K	**Salcha River,**	81.96	26	P	P	00 01 28.0	+0.2
BMAR	**Burnt Mountain**	82.17	23	P	P	00 01 30.3	+1.5
C27K	**Jago River**	82.38	21	P	P	00 01 30.4	+0.7
C27K				IAmb	IAmb	00 01 32.9	
comp=Z,5.2nm,0.9s							
N25K	**Chitina, Valde**	82.46	29	P	P	00 01 32.0	+1.5
G26K	**Porcupine Rive**	82.50	23	P	P	00 01 31.6	+1.2
SCRK	**Sand Creek**	82.60	26	P	P	00 01 32.0	+0.8
GLB	**Gilahina Butte**	82.85	29	P	P	00 01 33.3	+0.8
I26K	**Coal Creek Min**	82.87	25	P	P	00 01 33.0	+0.6
I26K				IAmb	IAmb	00 01 34.3	
comp=Z,3.5nm,0.9s							
LVZ	**Lovozero**	82.92	338	P	P	00 01 32.2	-0.5
LVZ	**Lovozero**	82.92	338	pmax	pmax		
comp=Z,44nm,1.5s							
LVZ	**Lovozero**	82.92	338⇑	*e*P	P	00 01 32.2	-0.5
L26K	**Log Cabin Wild**	82.95	27	P	P	00 01 34.0	+1.0
VRDI	**Verde Repeater**	83.04	29	P	P	00 01 33.4	-0.2
VRDI				IAmb	IAmb	00 01 37.3	
comp=Z,4.9nm,1.1s							
GRNC	**Granite Creek**	83.91	30	P	P	00 01 39.3	+1.2
GRNC				IAmb	IAmb	00 01 55.9	
comp=Z,9.2nm,1.1s							
BARN	**Barnard Glacie**	83.92	29	P	P	00 01 39.6	+1.5
YAH	**Yahtse**	83.95	30	P	P	00 01 39.5	+1.1
E28M	**Babbage River**	83.96	22	P	P	00 01 39.2	+1.3
CTGM	**Chitina Glacie**	84.09	29	P	P	00 01 40.6	+1.7
TABL	**Table Mountain**	84.24	30	P	P	00 01 41.6	+1.9
LOGN	**Logan Glacier**	84.27	29	P	P	00 01 41.5	+1.7
LOGN				IAmb	IAmb	00 01 50.7	
comp=Z,4.5nm,0.9s							
E29M	**Blow River**	84.59	22	P	P	00 01 42.7	+1.6
O28M	**Mount Upton**	84.67	29	P	P	00 01 42.4	+0.4
O28M				IAmb	IAmb	00 01 44.3	
comp=Z,5.7nm,1.1s							
PCA	**Pinnacle**	84.72	30	P	P	00 01 43.5	+1.5
SPITS	**Spitsbergen Ar**	85.91	349	P	P	00 01 47.3	-0.2
comp=Z,22nm,1.2s,baz=128,slow=11,SNR=1.4							
comp=Z,22nm,1.2s							
ARCES	**ARCESS Array B**	85.97	340	P	P	00 01 47.3	-0.6
comp=Z,24nm,0.8s,baz=85,slow=6.6,SNR=8.3							
MMAI	**Mount Meron Ar**	86.09	303	P	P	00 01 50.5	+1.1
comp=Z,0.8nm,0.5s,baz=130,slow=3.4,SNR=1.2							
comp=Z,0.8nm,0.5s							
BRTR	**Keskin Array B**	86.62	309	P	P	00 01 52.1	+0.2
BRTR	**Keskin Array B**	86.62	309	P	P	00 01 51.6	-0.3
comp=Z,1.3nm,0.6s,baz=128,slow=4.3,SNR=5.4							
comp=Z,1.3nm,0.6s							
WHY	**Whitehorse**	87.26	29	P	P	00 01 55.7	+1.2
WHY				IAmb	IAmb	00 01 56.4	
comp=Z,4.8nm,0.7s							
FINES	**FINESS Array B**	87.53	332	P	P	00 01 55.5	-0.1
comp=Z,3.8nm,0.3s,baz=67,slow=3.5,SNR=35							
comp=Z,3.8nm,0.3s							
CSS	**Mathiatis**	87.53	305	P	P	00 01 56.6	+0.3
AKASG	**Malin Array Be**	87.96	321	P	P	00 01 57.3	-0.5
comp=Z,3.6nm,0.6s,baz=68,slow=5.0,SNR=8.3							
comp=Z,3.6nm,0.6s							
TXAR	**Lajitas Array**	119.27	50	PKP	PKiKP	00 07 57.5	+0.3
comp=Z,0.3nm,0.5s,baz=278,slow=0.9,SNR=4.5							
DBIC	**Dimbokro**	128.85	285	PKP	PKPdf	00 08 15.8	+0.1
comp=Z,3.6nm,0.8s,baz=0,0,slow=0.0,SNR=3.9							
PLCA	**Paso Flores**	144.47	158	PKP	PKPdf	00 08 45.0	+1.1
comp=Z,2.0nm,0.6s,baz=244,slow=4.5,SNR=6.5							

*IDC **22** 00:00:08.5±3.0, 8°.40S×117°.06E, h0km, mb3.3/4, mbtmp3.5/5, ML3.1/1, MS4.3/1, Error ellipse: s-maj=176.1km s-min=22.9km az=54.0*
*DJA **22** 00:00:10.0±0.2, 8°S±3°×11°7E±°, h10km, M3.8/13, MLv3.8/13*
ISC 22 00:00:09.9±0.8, 8°.33S±0°.06×117°.15E±0°.04, h10km, n18, σ0s82/21, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	0.48	214	P	Pg	00 00 19.5	+0.1
TWSI				S	Sb	00 00 27.6	-0.2
PLAI	**Plampang**	0.79	129	P	Pg	00 00 24.9	-0.3
PLAI				S	Sg	00 00 37.0	+1.5
SRBI	**Singaraja**	1.94	277	P	Pn	00 00 42.6	-0.3
DNP	**Denpasar**	1.95	260	P	Pn	00 00 43.0	-0.2
DNP				S	Sn	00 01 08.6	+0.8
WBSI	**Waikabubak, Su**	2.56	121	P	Pn	00 00 52.2	+0.6
JAGI	**Jajag, Banyuwa**	2.97	267	P	Pn	00 00 57.5	+0.3
WSI	**Waingapu**	3.38	113	P	Pn	00 01 02.5	-0.3
BLJI	**Banyuglugur**	3.57	279	P	Pn	00 01 04.8	-0.7
BASI	**Baing, Sumba**	3.87	119	P	Pn	00 01 09.5	0.0
BSSI	**Bau Bau, Buton**	3.96	57	P	Pn	00 01 10.5	-0.3
BKSI	**Bulukumba**	4.20	45	P	Pn	00 01 13.8	-0.3
EDFI	**Ende, Flores**	4.51	96	P	Pn	00 01 19.0	+0.6
FITZ	**Fitzroy Crossi**	12.74	140	Pn	Pn	00 03 10.7	-0.6
0.1nm,0.3s,baz=340,slow=10,SNR=1.3							
FITZ				Sn	Sn	00 05 30.8	-2.5
0.2nm,0.3s,baz=277,slow=19,SNR=2.0							
1.7nm,0.8s							
WRA	**Warramunga Arr**	20.25	127	P	P	00 04 45.9	+0.3
0.9nm,0.6s,baz=301,slow=12,SNR=10.0							
0.9nm,0.6s							
ASAR	**Alice Springs**	22.14	135	P	P	00 05 06.4	+0.4
0.5nm,0.6s,baz=313,slow=10.0,SNR=7.0							
0.5nm,0.6s							
JAY	**Jayapura**	24.14	77	LR	LR	00 17 45.1	
comp=Z,712nm,20.7s,baz=280,slow=44							
SONM	**Songino Array**	56.73	351	P	P	00 09 54.5	+0.5
0.3nm,0.6s,baz=170,slow=7.0,SNR=2.4							
0.3nm,0.6s							
MKAR	**Makanchi Array**	63.05	334	P	P	00 10 37.5	+0.2
0.4nm,0.7s,baz=148,slow=8.8,SNR=1.7							
0.4nm,0.7s							

*NEIC **22** 00:03:54.5±1.6, 2°.45S±0°.05×99°.75E±0°.04, h10km±1km, mb4.9/65, Error ellipse: s-maj=10.5km s-min=5.5km az=143.0*
*DJA **22** 00:03:55.9±0.5, 2°S±3°×10°0E±°, h25km±4km, M4.9/25, mB5.3/5, mb4.9/24, MLv4.9/25, Mw(mB)4.8/5*
*IDC **22** 00:03:58.0±0.6, 2°.40S×99°.84E, h32km±3km, mb4.4/24, mbtmp4.6/26, ML4.1/2, Error ellipse: s-maj=19.1km s-min=9.4km az=54.0*
ISC 22 00:03:57.3±0.4, 2°.41S±0°.05×99°.80E±0°.06, h30km, n171, σ1s09/170, mb4.8/64, 2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	0.41	150	P	Pb	00 04 06.5	+0.2
PPSI				S	Sn	00 04 14.1	+0.3
SISI	**Saibi**	1.29	326	P	Pn	00 04 19.1	-0.1
PDSI	**Padang**	1.62	24	P	Pn	00 04 23.9	0.0
KRJI	**Kerinci**	1.69	79	P	Pb	00 04 26.2	-1.5
PPI	**Padang Panjang**	2.02	17	P	Pn	00 04 30.3	+0.9
MASI	**Maura Aman, Be**	2.54	107	P	Pn	00 04 37.8	+1.3
PBSI	**Pulau Batu**	2.79	327	P	Pn	00 04 39.8	-0.1
KSI	**Kapahiang**	3.05	114	P	Pn	00 04 43.8	+0.3
MNSI	**Mandailing Nat**	3.19	356	P	Pn	00 04 46.0	+0.6
MNAI	**Manna**	3.70	122		Pn	00 04 52.5	+0.1
MNAI	**Manna**	3.70	122	P	Pn	00 04 52.9	+0.5
LHSI	**Lahat**	3.97	111	P	Pn	00 04 58.0	+1.8
SBSI	**Sibolga**	4.03	347	P	Pn	00 04 53.4	-3.7
GSI	**Gunungsitoli**	4.30	329		Pn	00 04 59.5	-1.3
GSI	**Gunungsitoli**	4.30	329	P	Pn	00 04 59.6	-1.2
MDSI	**Maura Dua**	4.83	115	P	Pn	00 05 09.3	+1.3
LWLI	**Liwa**	4.98	122	P	Pn	00 05 11.0	+0.9
DSRI	**Dabo**	5.14	68	P	Pn	00 05 13.1	+0.8
0.6nm46nm,0.5s							
PSI	**Prapat**	5.25	350	Pn	Pn	00 05 12.3	-1.5
1.3nm,0.3s,baz=164,slow=12,SNR=6.6							
PSI				Sn	Sn	00 06 03.0	-10
1.3nm,0.3s,baz=150,slow=17,SNR=5.7							
4.2nm,0.3s							
KASI	**Kota Agung**	5.61	124	P	Pn	00 05 18.5	-0.3
TPRI	**Tanjung Pinang**	5.76	55	P	Pn	00 05 21.9	+1.1
1.0nm83nm,0.7s							
MYKOM	**Kota Tinggi**	5.81	44		Pn	00 05 21.9	+0.5
SNSI	**Sinabang, Aceh**	5.91	324	P	Pn	00 05 21.4	-1.5
0.7nm108nm,0.9s							
KCSI	**Kotacane, Aceh**	6.23	341	P	Pn	00 05 26.6	-0.6
PPBI	**Pangkal Pinang**	6.33	88	P	Pn	00 05 29.4	+0.7
IPM	**Ipoh**	6.95	10		Pn	00 05 38.1	+1.0
CGJI	**Cibinong**	7.21	126	P	Pn	00 05 39.0	-1.7
0.5nm100nm,0.7s							
MLSI	**Meulaboh, Aceh**	7.45	333	P	Pn	00 05 42.3	-1.7
0.3nm84nm,1.0s							
KULM	**Kulim**	7.69	6		Pn	00 05 47.8	+0.5
TPI	**Tanjungpandan**	7.85	93	P	Pn	00 05 51.4	+1.9
DBJI	**Dramaga**	8.06	121	P	Pn	00 05 52.0	-0.4
118nm,0.8s							
CNJI	**Cibinong**	8.77	124	P	Pn	00 06 02.2	0.0
1μm6nm,0.9s							
LEM	**Lembang**	8.94	120	Pn	Pn	00 06 05.1	+0.4
9.1nm,0.3s,baz=250,slow=15,SNR=5.0							
33nm,0.6s							
KPJI	**Karang Pucung**	10.33	119	P	Pn	00 06 24.8	+1.3
SMRI	**Semarang**	11.56	114	P	Pn	00 06 41.5	+1.1
87nm,1.2s							
SBUM	**Sibu**	13.32	69		Pn	00 07 04.1	-0.3
TWSI	**Taliwang, Sumb**	18.12	111	P	P	00 08 06.8	-0.2
18nm,0.7s							
PLAI	**Plampang**	18.98	110	P	P	00 08 16.7	+0.1
43nm,0.9s							
KAPI	**Kappang**	20.07	98	P	P	00 08 28.6	+0.1
KAPI				IAmb	IAmb	00 08 32.6	
comp=Z,39nm,1.0s							
KAPI	**Kappang**	20.07	98	P	P	00 08 28.4	0.0
comp=Z,31nm,1.0s,baz=287,slow=12,SNR=4.8							
comp=Z,31nm,1.0s							
MYLDM	**Lahad Datu**	20.14	68		P	00 08 28.9	-0.3
MYLDM				IAmb	IAmb	00 08 32.2	
comp=Z,42nm,0.9s							
BKSI	**Bulukumba**	20.48	99	P	P	00 08 33.5	+0.6
CM31	**Chiang Mai Arr**	20.75	358	P	P	00 08 35.2	-0.5
CMAR	**Chiang Mai Arr**	20.75	358	P	P	00 08 35.2	-0.5
CMAR	**Chiang Mai Arr**	20.75	358	P	P	00 08 35.5	-0.3
comp=Z,10nm,0.9s,baz=187,slow=10,SNR=52							
comp=Z,10nm,0.9s							
CHTO	**Chiang Mai**	21.10	358		P	00 08 37.7	-1.8
TOLI2	**Tolitoli**	21.26	81		P	00 08 40.3	-1.0
TOLI2				IAmb	IAmb	00 08 45.6	
comp=Z,28nm,0.8s							
LUWI	**Luwuk**	23.00	87	P	P	00 08 57.0	-2.8
LUWI				IAmb	IAmb	00 09 21.3	
comp=Z,54nm,0.8s							
SLVN	**Son La**	23.93	9	P	P	00 09 08.4	-0.5
H08S2	**Diego Garcia H**	27.69	258	T	T	00 38 27.7	
baz=80,slow=75,SNR=371							
H08S3	**Diego Garcia H**	27.70	258	T	T	00 38 28.3	
baz=80,slow=75,SNR=1135							
H08S1	**Diego Garcia H**	27.71	258	T	T	00 38 29.1	
baz=80,slow=75,SNR=161							
PZH	**PanZhiHua**	28.80	4	P	P	00 09 58.8	+5.9
SHL	**Shillong**	28.85	345	P	P	00 09 53.2	-0.2
SHL				IAmb	IAmb	00 10 11.3	
comp=Z,21nm,1.1s							
FITZ	**Fitzroy Crossi**	29.75	123	P	P	00 10 00.5	-0.9
comp=Z,5.6nm,0.9s,baz=333,slow=5.5,SNR=8.3							
comp=Z,5.6nm,0.9s							
KNRA	**Kununurra**	31.43	117	P	P	00 10 14.0	-2.2
KNRA				IAmb	IAmb	00 10 15.5	
comp=Z,14nm,0.8s							
KNMB	**Chin-men Tao**	32.24	33	P	P	00 10 22.9	-0.3
TPUB	**Ta-pu**	32.63	37	P	P	00 10 26.9	+0.2
EVN	**Everest**	32.67	338	P	P	00 10 27.8	+0.1
EVN				IAmb	IAmb	00 10 49.5	
comp=Z,9.9nm,0.9s							
LSA	**Lhasa**	32.98	346	P	P	00 10 30.6	+0.4
LSA				IAmb	IAmb	00 10 32.5	
comp=Z,8.1nm,0.6s							
SSLB	**Suanglung**	33.19	37	P	P	00 10 30.8	-0.8
ENH	**Enshi**	33.78	15	P	P	00 10 35.5	-1.1
ENH				IAmb	IAmb	00 10 36.9	
comp=Z,12nm,0.8s							
H01W3	**Cape Leeuwin H**	34.96	159	T	T	00 47 44.4	
baz=335,slow=76,SNR=51							
H01W2	**Cape Leeuwin H**	34.97	159	T	T	00 47 46.2	
baz=335,slow=76,SNR=45							
H01W1	**Cape Leeuwin H**	34.97	159	T	T	00 47 44.8	
baz=335,slow=76,SNR=51							
WB0	**Warramunga Arr**	37.94	120		P	00 11 11.2	-1.3
WB0				IAmb	IAmb	00 11 13.4	
comp=Z,26nm,0.8s							
WRA	**Warramunga Arr**	37.96	120		P	00 11 12.0	-0.6
WRA	**Warramunga Arr**	37.96	120	P	P	00 11 12.5	-0.2
comp=Z,21nm,0.8s,baz=301,slow=9.2,SNR=85							
WRA				PcP	PcP	00 13 28.8	+0.5
comp=Z,1.6nm,0.8s,baz=296,slow=2.9,SNR=4.6							
comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	37.97	120	P	P	00 11 11.8	-1.0
WRAB				IAmb	IAmb	00 11 14.2	
comp=Z,26nm,0.7s							
WR8	**Warramunga Arr**	38.10	120		P	00 11 13.0	-0.9
LZH	**Lanzhou**	38.48	5	*e*P	P	00 11 17.6	+0.7
LZH				sP	pP	00 11 26.3	+0.5
LZH				pmax	pmax		
comp=Z,13nm,1.5s							
LYN	**LuoYang**	38.64	17	P	P	00 11 18.4	+0.3
LYN				sP	pP	00 11 27.8	+0.9
LYN				pmax	pmax		
comp=Z,44nm,0.8s							
NJ2	**Nanjing**	38.74	26	*e*P	P	00 11 21.3	+2.3
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
AS31	**Alice Springs**	39.18	126		P	00 11 22.0	-0.8
ASAR	**Alice Springs**	39.18	126	P	P	00 11 23.0	+0.2
ASAR	**Alice Springs**	39.18	126	P	P	00 11 22.8	-0.1
comp=Z,6.6nm,0.7s,baz=298,slow=8.1,SNR=42							
ASAR				PcP	PcP	00 13 32.8	+0.8
comp=Z,1.7nm,0.7s,baz=314,slow=2.8,SNR=5.7							
ASAR				S	S	00 17 21.0	-0.4
comp=Z,1.0nm,0.8s,baz=302,slow=15,SNR=6.7							
comp=Z,6.6nm,0.7s							
ROCAM	**Rodrigues Isla**	39.55	241	P	P	00 11 24.3	-1.6
GTA	**Gaotai**	41.61	0	P	P	00 11 43.8	+1.0
GTA				sP	pP	00 11 53.0	+1.2
GTA				pmax	pmax		
comp=Z,11nm,1.5s							
TIA	**Tai'an**	41.68	21	P	P	00 11 43.1	-0.2
TIA				pmax	pmax		
comp=Z,10.0nm,0.5s							
HNS	**HongShan**	41.95	18	⇓P	P	00 11 46.1	+0.6
HNS				pmax	pmax		
comp=Z,15nm,1.0s							
NIL	**Nilore**	43.74	327	P	P	00 11 59.4	-0.7
NIL				IAmb	IAmb	00 12 18.6	
comp=Z,12nm,0.8s							
HHC	**Hu-ho-hao-te**	44.37	13	*e*P	P	00 12 07.4	+2.3
HHC				pmax	pmax		
comp=Z,11nm,0.8s							
HHC				pmax	pmax		
comp=Z,260nm,6.3s							
HHC				LR	LR		
comp=N,590nm,16.0s				

comp=Z,14nm,0.8s,baz=198,slow=7.5,SNR=15
comp=Z,21nm,0.8s
ULN Ulaanbaatar 50.46 6 P P 00 12 53.0 +0.5
ULN IAmb IAmb 00 12 54.4
comp=Z,22nm,0.9s
MKAR Makanchi Array 51.36 345 P 00 12 59.3 +0.1
MKAR Makanchi Array 51.36 345 P P 00 12 59.9 +0.7
comp=Z,12nm,0.7s,baz=147,slow=8.1,SNR=69
MKAR pP **pP 00 13 09.7 +1.5**
comp=Z,9.9nm,0.8s,baz=150,slow=8.2,SNR=7.4
comp=Z,12nm,0.7s
MAKZ Makanchi 51.46 344 P P 00 12 59.1 -0.7
KK31 Karatay Array 52.42 333 P P 00 13 07.0 -0.1
KKAR Karatay Array 52.42 333 P P 00 13 06.6 -0.5
MJAR Matsushiro Arr 52.71 39 P 00 13 08.3 -1.0
MJAR IAmb IAmb 00 13 09.2
comp=Z,17nm,1.4s
MJAR Matsushiro Arr 52.71 39 P P 00 13 08.6 -0.8
comp=Z,11nm,1.0s,baz=217,slow=7.3,SNR=12
comp=Z,11nm,1.0s
BNX BinXian 53.82 24 ||P P 00 13 17.6 +0.3
BNX pmax pmax
comp=Z,18nm,0.8s
MDJ Mudanjiang 53.84 26 P P 00 13 18.5 +1.1
MDJ pmax pmax
comp=Z,15nm,1.0s
HIA Hailar 54.28 16 P P 00 13 19.8 -0.9
HIA IAmb IAmb 00 13 21.6
comp=Z,6.4nm,0.7s
EIDS Eidsvold 54.33 120 P P 00 13 20.7 -0.7
EIDS IAmb IAmb 00 13 22.6
comp=Z,8.9nm,0.8s
HILR Hailar Array B 54.55 16 P P 00 13 23.2 +0.6
comp=Z,3.8nm,0.6s,baz=181,slow=10,SNR=10
comp=Z,3.8nm,0.6s
USRK Ussuriysk Ar. 54.60 28 P P 00 13 23.8 +0.7
comp=Z,40nm,0.8s,baz=223,slow=5.9,SNR=45
USRK pP **pP 00 13 32.6 +0.5**
comp=Z,18nm,0.8s,baz=219,slow=6.7,SNR=8.2
comp=Z,40nm,0.8s
KURBB Kurchatov Arra 55.88 344 P P 00 13 32.5 +0.4
comp=Z,5.5nm,0.8s,baz=162,slow=7.0,SNR=44
comp=Z,5.5nm,0.8s
KURK Kurchatov 55.94 344 P P 00 13 32.4 -0.2
KURK IAmb IAmb 00 13 50.7
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 57.53 350 P 00 13 43.5 -0.3
ZAA0 IAmb IAmb 00 14 00.9
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 57.53 350 P 00 13 43.5 -0.2
ZALV Zalesovo Beam 57.53 350 P P 00 13 44.0 +0.3
comp=Z,11nm,0.8s,baz=174,slow=5.7,SNR=37
ZALV pP **pP 00 13 54.5 +1.5**
comp=Z,6.1nm,0.8s,baz=169,slow=5.9,SNR=5.9
comp=Z,11nm,0.8s
HEH HeiHe 57.56 21 *e*P **P 00 13 44.4 +0.3**
HEH pmax pmax
comp=Z,13nm,1.2s
TAU Tasmania Unive 58.40 140 P P 00 13 49.4 -0.7
RAYN Ar Rayn 58.76 299 P P 00 13 52.5 -0.6
H04N2 CROZET ISLANDS 60.36 216 T T 01 19 28.5
baz=59,slow=74,SNR=4427
H04N1 CROZET ISLANDS 60.37 216 T T 01 19 29.0
baz=59,slow=74,SNR=4859
H04N3 CROZET ISLANDS 60.38 216 T T 01 19 27.7
baz=59,slow=74,SNR=3752
BVAR Borovoye Array 60.49 340 P P 00 14 04.0 -0.4
comp=Z,3.0nm,0.8s,baz=139,slow=9.8,SNR=13
comp=Z,3.0nm,0.8s
H04S1 CROZET ISLANDS 60.65 216 T T 01 19 46.5
baz=57,slow=75,SNR=1546
H04S3 CROZET ISLANDS 60.66 216 T T 01 19 46.1
baz=57,slow=75,SNR=1877
H04S2 CROZET ISLANDS 60.66 216 T T 01 19 46.2
baz=57,slow=75,SNR=1065
AB31 Akbulak array 61.90 332 P 00 14 13.4 -0.5
AB31 IAmb IAmb 00 14 32.0
comp=Z,11nm,0.8s
ABKAR Akbulak array 61.90 332 P 00 14 13.1 -0.8
YSS Yuzhno-Sakhali 61.93 32 P P 00 14 13.3 -0.9
GURO Guroymak-BITLI 66.93 314 P P 00 14 46.7 -0.6
GURO IAmb IAmb 00 15 03.6
comp=Z,5.2nm,0.9s
MARD Mardin 67.37 312 P P 00 14 49.0 -1.1
MARD IAmb IAmb 00 15 06.5
comp=Z,6.7nm,0.6s
ARTI Arti 67.54 337 P P 00 14 49.3 -1.3
ARTI IAmb IAmb 00 14 51.1
comp=Z,11nm,0.6s
YAK Yakutsk 68.18 15 P P 00 14 54.1 -0.4
KBZ Khabaz 68.48 319 P P 00 14 57.5 +0.7
comp=Z,3.6nm,0.9s,baz=118,slow=6.8,SNR=7.5
comp=Z,3.6nm,0.9s
ARPR Arapgir-MALATY 69.81 313 P P 00 15 06.0 +0.7
GAZ Gaziantep 69.98 311 P P 00 15 06.1 -0.3
BNN Bunyan 71.55 312 P P 00 15 15.5 -0.4
TOKA Tokat 71.58 314 P P 00 15 15.8 -0.1
PETK Petropavlovsk- 73.33 32 P P 00 15 25.1 -1.0
PETK Petropavlovsk- 73.33 32 P P 00 15 25.7 -0.3
comp=Z,4.7nm,0.8s,baz=198,slow=4.2,SNR=8.9
comp=Z,4.7nm,0.8s
BR131 Keskin Array S 73.45 313 P P 00 15 26.0 -1.3
BRTR Keskin Array B 73.45 313 P P 00 15 26.0 -1.3
BRTR Keskin Array B 73.45 313 P P 00 15 26.9 -0.4
comp=Z,1.5nm,0.8s,baz=119,slow=6.7,SNR=12
comp=Z,1.5nm,0.8s
MA2 Magadan 73.48 24 P P 00 15 27.2 +0.4
ANTO Ankara 74.11 313 P P 00 15 29.9 -1.2
ANTO IAmb IAmb 00 16 12.5
comp=Z,14nm,1.5s
TIXI Tiksi 76.28 9 P 00 15 41.9 -0.9
TIXI IAmb IAmb 00 15 47.2
comp=Z,13nm,0.9s
BKZ Black Stump Fm 78.17 129 P P 00 15 54.1 -0.1
AKASG Malin Array Be 79.68 322 P P 00 16 00.9 -1.1
comp=Z,0.3nm,0.4s,baz=92,slow=4.6,SNR=1.7
comp=Z,0.3nm,0.4s
MLR Muntele Rosu 80.46 317 P P 00 16 06.7 +0.1
MLR IAmb IAmb 00 16 08.9
comp=Z,14nm,1.4s
BURAR Bucovina Array 81.43 319 P P 00 16 11.2 -0.5
BUR08 Bucovina Ar. S 81.45 319 P P 00 16 11.3 -0.5
BUR08 IAmb IAmb 00 16 51.3
comp=Z,15nm,1.4s
VNDA Vanda 81.80 169 P P 00 16 14.5 +1.5
comp=Z,0.2nm,0.5s,baz=310,slow=6.0,SNR=1.9
VNDA pP **pP 00 16 23.1 +0.6**
comp=Z,0.8nm,0.8s,baz=264,slow=4.2,SNR=5.3
FINES FINESS Array B 84.38 332 P **P 00 16 27.2 +0.7**
comp=Z,5.5nm,0.9s,baz=116,slow=4.4,SNR=6.9
FINES pP **pP 00 16 36.3 +0.3**
comp=Z,3.7nm,0.8s,baz=107,slow=6.6,SNR=3.7
comp=Z,5.5nm,0.9s
ARCES ARCESS Array B 86.78 340 P P 00 16 39.6 +1.3
comp=Z,3.4nm,0.8s,baz=105,slow=4.5,SNR=1.8
comp=Z,3.4nm,0.8s
GERES GERESS Array B 89.22 319 P P 00 16 52.1 +1.6
comp=Z,0.7nm,0.7s,baz=116,slow=3.1,SNR=7.2
comp=Z,0.7nm,0.7s
EKA Eskdalemuir Ar 99.34 326 P **Pdif 00 17 36.2 -0.4**
comp=Z,0.7nm,0.7s,baz=95,slow=4.6,SNR=1.6
comp=Z,0.7nm,0.7s
MFID Camas Ranch 128.34 33 PKPdf 00 22 58.8 -2.6
APMT Aspermont 144.02 29 PKPbc 00 23 28.8 +0.3
ALPN Alpine 144.41 36 PKPbc 00 23 29.9 -0.1
LCAR Lake Charles 145.00 16 PKPab 00 23 31.1 -0.3
TXAR Lajitas Array 145.14 37 PKPdf 00 23 33.1 +0.3
TXAR Lajitas Array 145.14 37 PKPbc **PKPdf 00 23 33.8 +1.0**
comp=Z,18nm,0.7s,baz=292,slow=1.1,SNR=238
TXAR pPKPbc **pPKPdf 00 23 42.5 -0.2**
comp=Z,6.2nm,0.6s,baz=277,slow=1.2,SNR=11
OZNA Ozona 145.41 33 PKPab 00 23 33.7 +0.4
HPIG 145.49 43 PKPab 00 23 34.6 +0.8
WVT Waverly 145.71 11 PKPab 00 23 33.8 -0.3
PTLB Pontes e Lacer 152.64 229 PKPab 00 24 02.3 -0.3

NEIC ***22*** *00:06:23.7±1.9, 35°.14N±0°.02×95°.38W±0°.02, h5km±1km, ML2.4/5, ML2.5/12, Error ellipse: s-maj=3.5km s-min=2.9km az=145.0*
NEIC 22 00:06:23.8±1.3, 35°.13N±0°.01×95°.35W±0°.02, h7km±1km, Error ellipse: s-maj=3.3km s-min=2.9km az=115.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**335**	Pg	Pg	00 06 39.9	-0.4
TUL3				Sg	Sg	00 06 51.2	-0.2
TUL3				IAML		00 06 53.3	
115nm,0.2s							
RLO	**Rose Lookout**	**1.07**	**14**	Pg	Pg	00 06 43.5	-0.7
RLO				Sg	Sg	00 06 58.0	-0.1
RLO				IAML		00 07 03.7	
comp=N,100nm,0.2s							
RLO				IAML		00 07 03.8	
comp=E,128nm,0.2s							
DEOK	**Depew**	**1.18**	**308**	Pg	Pg	00 06 45.6	-0.7
DEOK				Sg	Sg	00 07 01.1	-0.5
DEOK				IAML		00 07 05.9	
comp=N,107nm,0.3s							
OK052	**Battle Ridge R**	**1.47**	**306**		Pn	00 06 50.3	-0.4
OK052					Sg	00 07 10.7	-0.3
QUOK	**Quay**	**1.52**	**314**		Pn	00 06 51.5	+0.1
QUOK					Sg	00 07 12.3	-0.3
U38A	**Gravette**	**1.52**	**31**		Pn	00 06 51.6	+0.1
U38A					Sb	00 07 12.0	+0.1
MIAR	**Mount Ida**	**1.57**	**111**		Pn	00 06 52.5	+0.4
HHAR	**Hobbs**	**1.62**	**45**		Pn	00 06 52.9	+0.1
HHAR					Sb	00 07 15.1	+0.3
FNO	**Franklin**	**1.69**	**275**		Pn	00 06 52.1	-1.5
FNO					Sg	00 07 17.4	-0.5
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	00 06 55.4	-0.7
OKCFA					Sg	00 07 19.4	-0.4
OK004	**Okla Sci Mus**	**1.78**	**283**		Pb	00 06 57.3	+0.5
OK048	**Pawnee Station**	**1.82**	**315**	Pn	Pn	00 06 55.0	-0.6
OK029	**Liberty Lake**	**1.84**	**292**	Pn	Pn	00 06 56.0	+0.1
OK029					Sg	00 07 22.1	-0.9
X34A	**Smith Ranch, M**	**2.11**	**256**	Pn	Pn	00 06 58.4	-1.1
X40A	**Basin Creek Fa**	**2.17**	**106**	Pn	Pn	00 07 01.3	+1.1
WLAR	**White Oak Lake**	**2.34**	**127**	Pn	Pn	00 06 59.9	-2.8
Z35A	**Perchaven, San**	**2.39**	**222**	Pn	Pn	00 07 00.8	-2.5
WHAR	**Wooly Hollow**	**2.51**	**85**	Pn	Pn	00 07 01.9	-3.1
CROK	**Carrier**	**2.54**	**303**	Pn	Pn	00 07 02.2	-3.3
FCAR	**Ozark Folk Cen**	**2.74**	**73**	Pn	Pn	00 07 07.2	-1.0
WMOK	**Wichita Mounta**	**2.85**	**263**	Pn	Pn	00 07 08.7	-1.0
ABTX	**Abilene, Hawle**	**4.36**	**236**	Pn	Pn	00 07 31.5	+1.0
FVM	**French Village**	**4.88**	**53**	Pn	Pn	00 07 37.3	-0.3

IDC ***22*** *00:14:53.1±1.1, 15°.11N×45°.06W, h0km, mb4.1/6, mbtmp4.2/7, ML4.0/1, MS3.9/17, Error ellipse: s-maj=38.4km s-min=22.1km az=127.0*
NEIC ***22*** *00:14:54.8±2.1, 15°.1N±0°.1×45°.0W±0°.1, h10km±1km, mb4.8/33, Error ellipse: s-maj=18.4km s-min=18.0km az=97.0*
GCMT ***22*** *00:14:55.8±0.4, 14°.93N±0°.04×44°.93W±0°.03, h18km±1km, MW4.9/76, Moment Tensor Solution. s17,c20; s76,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.41±.20; Mθθ0.57±.12; Mφφ1.84±.13; Mrθ-2.16±.38; Mφb-0.04±.09; Mφr0.76±.28; Best double couple: M0=2.91400×10^16 NP1:φb=356.00000°, δ28.00000°, λ-51.00000°. NP2: φs=134.00000°, δ68.00000°, λ-109.00000°. Principal axes: T 2.2070, Plg21.0000°, Azm238.0000°; N 1.4190, Plg17.0000°, Azm141.0000°; P -3.6210, Plg62.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 00:14:54.7±0.5, 15°.08N±0°.08×45°.06W±0°.09, h14km, n64, σ1.9±10/47, mb4.6/16, MS3.9/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.41**	**218**	Pn	**Pn**	**00 17 52.4**	**+1.3**
0.9nm,0.3s,baz=30,slow=14,SNR=26							
MDP				Sn	Sn	00 20 00.4	-8.9
0.2nm,0.3s,baz=12,slow=19,SNR=2.3							
MDP				LR	LR	00 21 36.6	
comp=Z,440nm,22.0s,baz=56,slow=32							
4.0nm,0.4s							
BIM	**Bigot**	**15.49**	**270**	Pn	**Pn**	**00 18 33.5**	**+0.4**
BIM				IAmb	IAmb	00 18 42.7	
comp=Z,54nm,1.0s							
GDHS	**Morne Mazeau,**	**16.13**	**276**	Pn	**Pn**	**00 18 41.5**	**+0.2**
GDHS				IAmb	IAmb	00 18 44.6	
comp=Z,47nm,1.0s							
ANWB	**Willy Bob**	**16.25**	**281**	Pn	**Pn**	**00 18 42.4**	**-0.4**
ANWB				IAmb	IAmb	00 18 59.6	
comp=Z,65nm,1.0s							
MAL2	**Monte Alegre,**	**19.24**	**209**	P	**P**	**00 19 19.0**	**+0.1**
BOAV	**Boa Vista**	**19.79**	**232**	P	**P**	**00 19 25.1**	**+0.3**
SJG	**San Juan**	**20.43**	**281**	P	**P**	**00 19 32.4**	**+0.6**
SJG	**San Juan**	**20.43**	**281**	LR	LR	00 26 36.2	
comp=Z,266nm,20.9s,baz=79,slow=34							
OBIP	**Obispado Ponce**	**20.86**	**281**	P	**P**	**00 19 35.4**	**-1.1**
OBIP				IAmb	IAmb	00 19 39.8	
comp=Z,31nm,1.4s							
AOPR	**Arecibo Observ**	**21.03**	**282**	P	**P**	**00 19 36.2**	**-2.1**
AOPR				IAmb	IAmb	00 20 09.9	
comp=Z,18nm,0.8s							
RCBR	**Riachuelo**	**22.67**	**156**	P	**P**	**00 19 54.8**	**-1.1**
RCBR	**Riachuelo**	**22.67**	**156**	LR	LR	00 26 19.3	
comp=Z,91nm,21.7s,baz=349,slow=30							
BAUV	**El Baul**	**23.28**	**257**	P	**P**	**00 20 02.3**	**0.0**
BAUV				IAmb	IAmb	00 20 12.1	
comp=Z,18nm,1.0s							
SDV	**Santo Domingo**	**25.75**	**259**	LR	LR	00 32 09.6	
comp=Z,98nm,18.3s,baz=64,slow=40							
BBTS	**Babate**	**27.57**	**87**	LR	LR	00 28 32.1	
comp=Z,285nm,20.6s,baz=80,slow=30							
ROSC	**El Rosal**	**30.52**	**254**	LR	LR	00 35 05.0	
comp=Z,133nm,19.0s,baz=51,slow=40							
BDFB	**Brasilia**	**30.67**	**186**	P	**P**	**00 21 09.2**	**0.0**
BDFB	**Brasilia**	**30.67**	**186**	P	**P**	**00 21 09.9**	**+0.7**
comp=Z,3.8nm,0.8s,baz=2.2,slow=8.5,SNR=5.9							
BDFB				LR	LR	00 32 41.7	
comp=Z,149nm,20.3s,baz=26,slow=35							
comp=Z,3.8nm,0.8s							
060A	**Indiantown**	**34.91**	**296**	P	**P**	**00 21 47.5**	**+1.4**
PRVC	**Isla de Provid**	**35.21**	**272**	P	**P**	**00 21 48.8**	**0.0**
CPNY	**Central Park**	**35.87**	**321**	P	**P**	**00 21 51.5**	**-2.7**
CPNY				IAmb	IAmb	00 22 24.6	
comp=Z,48nm,1.5s							
BRU2	**Volcan**	**37.30**	**265**	P	**P**	**00 22 05.1**	**-1.9**
BRU2				IAmb	IAmb	00 22 16.7	
comp=Z,32nm,1.3s							
656A	**Willston**	**37.31**	**299**	P	**P**	**00 22 06.9**	**+0.1**
656A				IAmb	IAmb	00 22 16.9	
comp=Z,78nm,1.3s							
L59A	**Walton**	**37.36**	**322**	P	**P**	**00 22 06.9**	**-0.2**
L59A				IAmb	IAmb	00 22 41.7	
comp=Z,34nm,1.3s							
H10N3	**ASCENSION HYDR**	**37.90**	**125**	T	T	01 02 16.0	
baz=307,slow=74,SNR=82							
H10N2	**ASCENSION HYDR**	**37.90**	**125**	T	T	01 02 15.9	
baz=307,slow=74,SNR=141							
H10N1	**ASCENSION HYDR**	**37.92**	**125**	T	T	01 02 15.9	
baz=307,slow=74,SNR=134							
LPAZ	**La Paz**	**38.61**	**217**	P	**P**	**00 22 18.3**	**-0.2**
LPAZ	**La Paz**	**38.61**	**217**	P	**P**	**00 22 19.2**	**+0.8**
comp=Z,2.6nm,0.8s,baz=23,slow=7.5,SNR=7.0							
LPAZ				LR	LR	00 38 16.2	
comp=Z,141nm,18.0s,baz=26,slow=36							
comp=Z,2.6nm,0.8s							
J57A	**Williamstown**	**38.66**	**323**	P	**P**	**00 22 18.8**	**+0.9**
J57A				IAmb	IAmb	00 22 22.0	
comp=Z,26nm,1.4s							
ATAH	**Atahualpa**	**39.74**	**239**	LR	LR	00 38 49.6	
comp=Z,191nm,20.1s,baz=118,slow=36							
TKL	**Tuckaleechee C**	**40.19**	**308**	LR	LR	00 36 54.8	
comp=Z,177nm,19.2s,baz=96,slow=33							
SADO	**Sadowa**	**41.29**	**323**	LR	LR	00 36 15.3	
comp=Z,2μm,20.0s,baz=84,slow=31							
NNA	**Nana**	**41.40**	**231**	LR	LR	00 39 31.9	
comp=Z,169nm,20.9s,baz=92,slow=36							
ESDC	**Sonseca Array**	**43.43**	**48**	P	**P**	**00 22 56.9**	**-0.5**
ESDC	**Sonseca Array**	**43.43**	**48**	P	**P**	**00 22 57.2**	**-0.1**
comp=Z,0.7nm,1.0s,baz=256,slow=8.6,SNR=2.2							
comp=Z,0.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**45.32**	**86**	P	**P**	**00 23 13.8**	**+1.0**
comp=Z,4.5nm,0.4s,baz=286,slow=7.0,SNR=7.4							
comp=Z,4.5nm,0.4s							
KEST	**Kesra**	**52.57**	**56**	LR	LR	00 44 19.0	
comp=Z,990nm,19.1s,baz=54,slow=34							
TXAR	**Lajitas Array**	**55.57**	**295**	LR	LR	00 49 36.2	
comp=Z,31nm,18.4s,baz=22,slow=38							
HWUT	**Hardware Ranch**	**62.62**	**309**	P	**P**	**00 25 18.6**	**-0.5**
HWUT				IAmb	IAmb	00 25 28.8	
comp=Z,3.6nm,1.0s							
PIX	**Pinacate**	**64.01**	**298**	P	**P**	**00 25 28.7**	**+0.5**
PGC	**Sidney**	**71.19**	**317**	P	**P**	**00 26 14.1**	**+0.9**
MCCM	**Marconi Confer**	**71.35**	**306**	P	**P**	**00 26 14.2**	**-0.2**
FARB	**Farallon Islan**	**71.48**	**305**	P	**P**	**00 26 15.8**	**+0.6**
L02F	**Cave Junction**	**71.58**	**310**	P	**P**	**00 26 16.2**	**+0.5**
L02F				IAmb	IAmb	00 26 16.5	
comp=Z,7.4nm,1.3s							
LBTB	**Lobatse**	**79.54**	**119**	LR	LR	00 56 59.7	
comp=Z,104nm,19.1s,baz=358,slow=32							
MATP	**Matopo**	**80.40**	**114**	LR	LR	00 59 19.6	
comp=Z,77nm,18.1s,baz=20,slow=33							
ILAR	**Eielson Array**	**81.44**	**335**	P	**P**	**00 27 11.1**	**-0.1**
ILAR	**Eielson Array**	**81.44**	**335**	P	**P**	**00 27 12.0**	**+0.8**
comp=Z,1.8nm,1.0s,baz=72,slow=5.6,SNR=6.6							
comp=Z,1.8nm,1.0s							
FURI	**Furi**	**81.73**	**83**	LR	LR	01 02 52.5	
comp=Z,174nm,18.8s,baz=346,slow=35							
SNAA	**Sanae**	**91.09**	**168**	P	**P**	**00 27 57.3**	**-1.2**
SNAA				IAmb	IAmb	00 27 58.3	
comp=Z,5.7nm,1.5s							
SNAA	**Sanae**	**91.09**	**168**	P	**P**	**00 27 58.1**	**-0.4**
comp=Z,1.1nm,1.0s,baz=340,slow=4.2,SNR=2.2							
comp=Z,1.1nm,1.0s							
GAMB	**Gambell**	**91.40**	**339**	P	**P**	**00 28 02.1**	**+1.9**
AKUT	**Akutan**	**94.66**	**329**	P	**P**	**00 28 14.6**	**-0.7**
ZAA0	**Zalesovo Array**	**99.06**	**27**	P	**Pdif**	**00 28 36.6**	**+1.3**
ZAA0				IAmb	IAmb	00 29 01.0	
comp=Z,4.0nm,1.2s							
ZALV	**Zalesovo Beam**	**99.06**	**27**	P	**Pdif**	**00 28 36.6**	**+1.2**
GAR	**Garm**	**99.24**	**46**	P	**Pdif**	**00 28 38.0**	**+1.4**
GAR				IAmb	IAmb	00 28 55.4	
comp=Z,2.7nm,1.0s							
KS19	**Wonju Array Si**	**127.28**	**7**	PKPdf	**PKPdf**	**00 33 59.1**	**-0.3**
MJAR	**Matsushiro Arr**	**128.56**	**357**	PKPdf	**PKPdf**	**00 34 02.7**	**+0.7**
CTZ	**Chatham Island**	**129.99**	**225**	PKPdf	**PKiKP**	**00 34 05.8**	**+0.7**
JSG	**Sagara**	**130.42**	**356**	PKPdf	**PKPdf**	**00 34 05.5**	**0.0**
MQZ	**McQueen's Vall**	**137.07**	**221**	PKPdf	**PKPdf**	**00 34 15.4**	**-2.2**
KHZ	**Kahutara**	**137.12**	**223**	PKPdf	**PKPdf**	**00 34 15.5**	**-2.2**
KNMB	**Chin-men Tao**	**137.50**	**23**	PKPdf	**PKPdf**	**00 34 17.2**	**-1.8**

SDD ***22*** *00:39:57.5±2.6, 19°.13N×67°.02W, h22km±78km, MD3.7, ML3.2, MW3.4*
OSPL ***22*** *00:39:58.4±0.4, 19°.10N×67°.18W, h20km±2km, ML2.9*
NEIC ***22*** *00:39:58.7±2.5, 18°.97N±0°.03×67°.12W±0°.02, h10km±1km, ML2.9/17, Md3.0/18(RSPR), Error ellipse: s-maj=5.4km s-min=3.1km az=180.0*
RSPR ***22*** *00:40:00.4, 18°.99N×67°.14W, h10km±31km, MD3.0/18*
ISC 22 00:39:58.0±1.3, 19°.01N±0°.05×67°.11W±0°.02, h12km±9km, n69, σ0.65/87, 16C-19D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.54**	**180**		**Pb**	**00 40 09.8**	**+0.4**
AGPR					**Sb**	**00 40 18.4**	**+1.3**
AGPR	**Aguadilla, PR**	**0.54**	**180**	‖*i*P	**Pb**	**00 40 09.8**	**+0.4**
AGPR	**Aguadilla, PR**	**0.54**	**180**	‖*e*Pg	**Pb**	**00 40 09.8**	**+0.4**
AGPR				‖*e*Sg	**Sb**	**00 40 18.3**	**+1.3**
AGPR				IAML		00 40 19.0	
comp=N,2μm,0.3s							
AGPR	**Aguadilla, PR**	**0.54**	**180**	*i* P	**Pb**	**00 40 09.8**	**+0.4**
AGPR				*e*S	**Sb**	**00 40 18.3**	**+1.2**
AGPR				IAML		00 40 20.8	
comp=Z,549nm,0.2s							
IDE	**Isla Desecheo**	**0.71**	**209**		**Pb**	**00 40 12.2**	**-0.1**
IDE					**Sb**	**00 40 23.1**	**+1.1**
IDE	**Isla Desecheo**	**0.71**	**209**	‖*i*P	**Pb**	**00 40 12.2**	**-0.1**
IDE	**Isla Desecheo**	**0.71**	**209**	*e*S	**Sb**	**00 40 23.1**	**+1.1**
AOPR	**Arecibo Observ**	**0.74**	**153**		**Pb**	**00 40 12.9**	**0.0**
AOPR				IAML		00 40 32.1	
comp=N,858nm,0.4s							
AOPR	**Arecibo Observ**	**0.74**	**153**	⇑*i*P	**Pb**	**00 40 13.1**	**+0.2**
AOPR	**Arecibo Observ**	**0.74**	**153**	⇑*e*Pg	**Pg**	**00 40 12.7**	**+0.3**
AOPR				⇑*e*Sg	**Sb**	**00 40 23.2**	**+0.3**
AOPR				IAML		00 40 37.5	
comp=N,808nm,0.3s							
EMPR	**Esperanza - Ma**	**0.76**	**134**		**Pn**	**00 40 14.7**	**0.0**
EMPR					**Sn**	**00 40 27.1**	**+1.1**
EMPR	**Esperanza - Ma**	**0.76**	**134**	Pg	**Pg**	**00 40 13.1**	**+0.2**
EMPR	**Esperanza - Ma**	**0.76**	**134**	‖*e*P	**Pn**	**00 40 14.7**	**0.0**
EMPR	**Esperanza - Ma**	**0.76**	**134**	*e*S	**Sn**	**00 40 27.1**	**+1.1**
PRSN	**Puerto Rico Se**	**0.79**	**182**		**Pb**	**00 40 13.6**	**-0.1**
PRSN					**Sn**	**00 40 25.4**	**-1.2**
PRSN	**Puerto Rico Se**	**0.79**	**182**	‖*i*P	**Pb**	**00 40 13.6**	**-0.1**
PRSN	**Puerto Rico Se**	**0.79**	**182**	*e*S	**Sn**	**00 40 25.4**	**-1.2**
PRSN	**Puerto Rico Se**	**0.79**	**182**	‖*e*Pg	**Pb**	**00 40 13.6**	**-0.1**
PRSN				‖*e*Sg	**Sb**	**00 40 25.3**	**+1.0**
PRSN				IAML		00 40 28.4	
comp=N,2μm,0.2s							
LSP	**Las Mesas**	**0.83**	**178**		**Pb**	**00 40 14.4**	**0.0**
LSP					**Sn**	**00 40 26.9**	**-0.8**
LSP	**Las Mesas**	**0.83**	**178**	⇑*i*P	**Pb**	**00 40 14.4**	**0.0**
LSP	**Las Mesas**	**0.83**	**178**	*e*S	**Sn**	**00 40 26.9**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.84**	**154**	Pg	**Pg**	**00 40 14.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.84**	**154**		**Sg**	**00 40 25.2**	**0.0**
UUPR	**Utuado, UPR, P**	**0.84**	**154**	⇑*e*P	**Pg**	**00 40 14.1**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.84**	**154**	*e*S	**Sg**	**00 40 25.2**	**0.0**
ECPR	**Experimental S**	**0.99**	**134**	‖*e*P	**Pn**	**00 40 18.1**	**+0.4**
ECPR	**Experimental S**	**0.99**	**134**	*e*S	**Sn**	**00 40 31.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.99**	**180**		**Pg**	**00 40 16.8**	**-0.5**
CRPR					**Sb**	**00 40 30.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.99**	**180**	IAML		00 40 31.3	
comp=N,322nm,0.4s							
CRPR	**Cabo Rojo, PR**	**0.99**	**180**	‖*i*P	**Pg**	**00 40 16.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.99**	**180**	‖*e*Pg	**Pg**	**00 40 16.7**	**-0.5**
CRPR				‖*e*Sg	**Sb**	**00 40 30.9**	**+0.6**
CRPR				IAML		00 40 31.2	
comp=N,356nm,0.3s							
CRPR	**Cabo Rojo, PR**	**0.99**	**180**	*i* P	**Pg**	**00 40 16.7**	**-0.5**
CRPR				*e*S	**Sb**	**00 40 30.7**	**+0.5**
CRPR				IAML		00 40 31.2	
comp=Z,289nm,0.3s							
MLPR	**Magueyes Islan**	**1.03**	**176**	‖*i*P	**Pg**	**00 40 17.4**	**-0.6**
MLPR	**Magueyes Islan**	**1.03**	**176**	*e*S	**Sb**	**00 40 31.9**	**+0.5**
MLPR	**Magueyes Islan**	**1.03**	**176**	‖*e*Pg	**Pg**	**00 40 17.3**	**-0.6**
MLPR				‖*e*Sg	**Sb**	**00 40 31.7**	**+0.3**
MLPR				IAML		00 40 39.1	
comp=N,98nm,0.2s							
CELP	**Cerrillos**	**1.06**	**151**		**Pg**	**00 40 17.9**	**-0.5**
CELP					**Sb

comp=N,184nm,0.3s
PDPR Patillas Dam, 1.43 133 ⇓*e*P Pn 00 40 24.3 +0.5
PDPR Patillas Dam, 1.43 133 *e*S Sg 00 40 43.7 -0.3
HIDR Higuey Centro 1.58 255 ⇓*e*P Pn 00 40 24.7 -1.1
HIDR Higuey Centro 1.58 255 *e*S Sn 00 40 45.5 -0.6
HIDR Higuey Centro 1.58 255 ⇑*e*Sg Sg 00 40 50.4 +1.6
HIDR IAML 00 40 51.6
comp=N,276nm,0.3s
MIDR Miches 1.83 270 ⇓*i*P Pn 00 40 29.4 +0.1
MIDR Miches 1.83 270 ⇑*e*Pg Pn 00 40 28.2 -1.2
MIDR ⇑*e*Sg Sb 00 40 54.6 +0.1
MIDR IAML 00 40 58.2
comp=N,97nm,0.4s
SMDR Samana, DR 1.98 278 ⇓*e*P Pn 00 40 31.6 +0.2
DR12 Loma Pena Alta 2.16 265 Pn 00 40 33.5 -0.5
HATOM Hato Mayor del 2.16 265 *e*Sg Sg 00 41 06.5 -1.0
HATOM IAML 00 41 06.5
comp=N,73nm,0.3s
DR08 Loma La Naviza 2.75 270 ⇑*e*Sg Sb 00 41 21.7 +0.7
DR08 IAML 00 41 22.5
comp=N,1μm,0.2s
SC01 Santiago de lo 3.44 278 Pb 00 40 59.6 +0.7
SDDR Presa de Saban 3.95 270 Pn 00 40 59.0 +0.4

TIR ***22*** *00:53:05.3, 40°.52N×20°.57E, h31km, Md2.6/2, Ml2.4/3*
SKO ***22*** *00:53:11.2, 40°.43N×20°.74E, h0km, ML2.1*
ISC 22 00:53:06.6±1.7, 40°.44N±0°.05×20°.56E±0°.09, h10km±11km, n8, σ1§02/13, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.25**	**43**		**Pg**	**00 53 11.2**	**-0.6**
KBN				Sn	**Sg**	**00 53 15.2**	**-0.1**
KBN				AML	AML	00 53 16.2	
	4.2nm,0.4s						
KBN				AMd		00 54 08.8	
NEST	**Nestorio**	**0.37**	**93**	⇑*i*Pg	**Pg**	**00 53 13.9**	**-0.1**
NEST				Sg	**Sb**	**00 53 20.6**	**-0.7**
NEST				AML	AML	00 53 20.9	
	1.5nm,0.2s						
NEST				AML	AML	00 53 24.1	
	1.6nm,0.3s						
NEST				AMd		00 54 12.9	
OHR	**Ohrid**	**0.70**	**15**	*i* Pg	**Pn**	**00 53 23.8**	**+1.2**
OHR				*i* Sg	**Sn**	**00 53 32.7**	**-0.7**
OHR				*e*Lg	Lg	00 53 33.2	
	comp=E,99nm,0.5s						
OHR				*e*Lg	Lg	00 53 33.7	
	comp=N,50nm,0.8s						
IGT	**Igoumenitsa**	**0.92**	**191**	Pn	**Pb**	**00 53 24.5**	**-0.1**
IGT				AML	AML	00 53 58.2	
	comp=N,0.1nm,0.5s						
THL	**Klokotos Trika**	**1.42**	**128**	P	**Pn**	**00 53 31.3**	**-1.0**
THL				Sn	**Sg**	**00 53 52.5**	**+0.3**
LIT	**Litokhoron**	**1.52**	**102**	*i* Pn	**Pg**	**00 53 37.7**	**+2.1**
VAY	**Valandovo**	**1.76**	**59**	*i* Pg	**Pg**	**00 53 40.9**	**+0.5**
VAY				*i* Sg	**Sg**	**00 54 03.8**	**+0.6**
KNT	**Kendrikon**	**1.92**	**67**	*i* Pn	**Pg**	**00 53 42.8**	**-0.5**

DJA ***22*** *00:56:56.8±0.6, 2°.S±4°×13°.9E±°, h21km±6km, M4.2/6, mb4.5/2, MLv4.1/6*
IDC ***22*** *00:56:59.0±3.1, 2°.89S×138°.66E, h87km±40km, mb3.3/6, mbtmp3.7/9, MS3.4/6, Error ellipse: s-maj=39.9km s-min=17.5km az=120.0*
ISC 22 00:56:56.6±0.7, 2°.97S±0°.07×138°.55E±0°.04, h62km, n19, σ2§23/21, mb3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.98**	**10**	P	Pn	00 57 05.3	-9.3
GENI	**Genyem**	**1.66**	**77**	P	**Pn**	**00 57 22.7**	**-0.8**
GENI				S	**Sn**	**00 57 41.4**	**-2.5**
JAY	**Jayapura**	**2.20**	**78**	P	**Pn**	**00 57 31.9**	**+1.0**
	47nm,0.6s,baz=264,slow=7.1,SNR=13						
JAY				S	**Sn**	**00 57 58.2**	**+1.1**
	76nm,0.6s,baz=253,slow=14,SNR=2.7						
JAY				LR	LR	00 58 47.3	
	comp=Z,511nm,19.3s,slow=52						
JAY	**Jayapura**	**2.20**	**78**	P	**Pn**	**00 57 31.4**	**+0.5**
SRPI	**Serui, Papua**	**2.55**	**295**	P	**Pn**	**00 57 36.8**	**+1.2**
BAKI	**Biak**	**3.01**	**306**	P	**Pn**	**00 57 39.5**	**-2.4**
BAKI				S	**Sn**	**00 58 15.2**	**-1.6**
RKPI	**Ransiki, Papua**	**4.60**	**288**	P	**Pn**	**00 58 04.1**	**+0.4**
SOEI	**Soe**	**15.71**	**244**	P	**P**	**01 00 43.1**	**+5.9**
	51nm,1.0s						
WRA	**Warramunga Arr**	**17.36**	**193**	P	**P**	**01 00 55.5**	**+0.1**
	1.2nm,0.6s,baz=14,slow=12,SNR=12						
WRA				S	**Sn**	**01 04 03.8**	**-3.7**
	3.0nm,1.1s,baz=13,slow=23,SNR=2.6						
WRA				LR	LR	01 08 08.8	
	comp=Z,140nm,21.9s,baz=46,slow=38						
GUMO	**Guam**	**17.61**	**21**	LR	LR	01 06 51.3	
	comp=Z,62nm,20.2s,baz=197,slow=34						
FITZ	**Fitzroy Crossi**	**19.65**	**219**	P	**Pn**	**01 01 21.9**	**-0.5**
	1.0nm,0.6s,baz=39,slow=12,SNR=7.3						
FITZ				S	**S**	**01 04 56.6**	**-2.5**
	4.0nm,1.0s,baz=58,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**21.06**	**192**	P	**P**	**01 01 38.2**	**+2.4**
	1.7nm,0.7s,baz=22,slow=11,SNR=14						
ASAR				S	**S**	**01 05 25.4**	**-1.6**
	0.2nm,0.5s,baz=16,slow=22,SNR=1.4						
ASAR				LR	LR	01 09 24.5	
	comp=Z,114nm,18.8s,baz=340,slow=35						
	1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.42**	**300**	P	**P**	**01 05 03.5**	**+1.7**
	0.7nm,0.3s,baz=112,slow=6.9,SNR=6.8						
	0.7nm,0.3s						
ASAJ	**Asahikawa**	**47.01**	**4**	LR	LR	01 24 33.0	
	comp=Z,93nm,19.4s,baz=173,slow=35						
PETK	**Petropavlovsk-**	**58.15**	**13**	LR	LR	01 27 59.6	
	comp=Z,44nm,21.5s,baz=137,slow=32						
MKAR	**Makanchi Array**	**69.89**	**323**	P	**P**	**01 08 00.7**	**-0.4**
	0.3nm,0.6s,baz=117,slow=6.9,SNR=4.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**73.84**	**325**	P	**P**	**01 08 23.0**	**-1.7**
	0.2nm,0.7s,baz=124,slow=5.8,SNR=5.2						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**79.43**	**325**	P	**P**	**01 08 55.7**	**-0.5**
	0.7nm,0.5s,baz=110,slow=6.3,SNR=4.9						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**86.13**	**24**	P	**P**	**01 09 29.8**	**-0.8**
	0.2nm,0.5s,baz=252,slow=4.9,SNR=2.6						
	0.2nm,0.5s						

DSN ***22*** *01:00:00.8±0.9, 27°.29N×55°.17E, h10km, ML2.6/8, Error ellipse: s-maj=15.6km s-min=5.2km az=36.0*
OMAN ***22*** *01:00:02.3±0.2, 27°.29N×55°.39E, h10km, ml2.9/14, Error ellipse: s-maj=4.7km s-min=3.1km az=256.0*
TEH ***22*** *01:00:03.1, 27°.24N×55°.16E, h15km±29km*
ISC 22 01:00:03.2±0.9, 27°.18N±0°.04×55°.18E±0°.05, h10km, n37, σ1§07/49, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.87**	**305**	Pg	**Pb**	**01 00 19.3**	**-1.1**
BNDS	**Bandar-Abbas**	**0.91**	**76**	Pg	**Pg**	**01 00 20.6**	**-0.2**
GENO	**Geno**	**0.91**	**76**	Pg	**Pg**	**01 00 20.3**	**-0.5**
IBND	**Bandar-abas**	**1.24**	**77**	Pg	**Pn**	**01 00 26.4**	**-0.2**
SHME	**Shamm**	**1.42**	**142**	P	**Pn**	**01 00 28.0**	**-1.0**
	SNR=5.3						
SHME				S	**Sn**	**01 00 49.0**	**+1.3**
SHME	**Shamm**	**1.42**	**142**	P	**Pn**	**01 00 27.6**	**-1.4**
SHME				S	**Sn**	**01 00 48.7**	**+1.0**
BANOM	**Banah**	**1.60**	**141**	P	**Pn**	**01 00 31.1**	**-0.5**
BANOM				S	**Sn**	**01 00 53.2**	**+0.8**
BANOM	**Banah**	**1.60**	**141**	P	**Pn**	**01 00 30.7**	**-0.9**
BANOM				S	**Sn**	**01 00 53.1**	**+0.8**
UMQ	**Umm Al-Quwin**	**1.70**	**165**	P	**Pb**	**01 00 35.5**	**+1.0**
UMQ				S	**Sn**	**01 00 56.4**	**+1.7**
LMD1	**Lamerd**	**1.80**	**276**	Pg	**Pb**	**01 00 35.2**	**-1.1**
MASF	**Masafi**	**2.00**	**154**	P	**Pn**	**01 00 37.3**	**+0.2**
	SNR=6.8						
MASF				S	**Sn**	**01 01 03.6**	**+1.3**
MSFE	**Esma-Masafi**	**2.01**	**154**	P	**Pn**	**01 00 36.0**	**-1.3**
MDH	**Madha**	**2.12**	**151**	P	**Pn**	**01 00 38.6**	**-0.2**
MDH				S	**Sn**	**01 01 03.7**	**-1.5**
MDH	**Madha**	**2.12**	**151**	P	**Pn**	**01 00 38.3**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.22**	**169**	P	**Pn**	**01 00 39.3**	**-0.8**
NAZ				S	**Sn**	**01 01 09.8**	**+2.2**
QIR1	**Qir**	**2.29**	**305**	Pn	**Pn**	**01 00 41.2**	**+0.1**
UOSS	**Minazif**	**2.41**	**157**	P	**Pn**	**01 00 42.8**	**+0.2**
UOSS	**Minazif**	**2.41**	**157**	P	**Pn**	**01 00 42.1**	**-0.5**
HATD	**Hatta, Dubai**	**2.49**	**160**	P	**Pn**	**01 00 43.6**	**-0.2**
HATD				S	**Sn**	**01 01 14.3**	**-0.1**
HATD	**Hatta, Dubai**	**2.49**	**160**	P	**Pn**	**01 00 43.4**	**-0.4**
ASUD	**Al Ashush, Dub**	**2.54**	**177**	P	**Pn**	**01 00 47.1**	**+2.6**
ASHO	**Ashiyiah**	**2.61**	**162**	P	**Pn**	**01 00 45.2**	**-0.2**
	SNR=35						
ASHO				S	**Sn**	**01 01 19.1**	**+1.9**
ASHO	**Ashiyiah**	**2.61**	**162**	P	**Pn**	**01 00 45.1**	**-0.4**
AJN	**Ajban**	**2.61**	**184**	P	**Pb**	**01 00 49.1**	**-1.0**
ALNE	**Al Ain**	**3.15**	**170**	P	**Pn**	**01 00 51.9**	**-1.0**
SOHO	**SOHO**	**3.27**	**158**	P	**Pn**	**01 00 52.8**	**-1.6**
SOHO	**SOHO**	**3.27**	**158**	P	**Pn**	**01 00 53.2**	**-1.3**
KHGB	**Koh Gabri**	**3.39**	**19**	Pn	**Pn**	**01 00 57.2**	**+0.9**
CHMN	**Cheshme madani**	**3.39**	**37**	Pn	**Pn**	**01 00 57.0**	**+0.6**
KBAM	**BAM**	**3.49**	**55**	Pn	**Pn**	**01 00 59.1**	**+1.4**
KRM1	**Kerman Provinc**	**3.79**	**29**	Pn	**Pn**	**01 01 02.1**	**+0.2**
HOQ	**Hoqain**	**4.07**	**151**	P	**Pn**	**01 01 07.0**	**+1.5**
HOQ				S	**Sn**	**01 01 52.7**	**-0.5**
IMEH	**Mehriz**	**4.23**	**353**	Pn	**Pn**	**01 01 08.1**	**+0.2**
IBAF	**Bafgh**	**4.41**	**4**	Pn	**Pn**	**01 01 10.2**	**-0.2**
MZR	**Muzera**	**4.43**	**201**	P	**Pn**	**01 01 11.9**	**+1.4**
SMDO	**Samad**	**4.86**	**147**	P	**Pn**	**01 01 15.3**	**-1.1**
SMDO				S	**Sn**	**01 02 12.5**	**-0.3**
JMDO	**Jabal Madar**	**5.47**	**150**	P	**Pn**	**01 01 24.1**	**-0.7**

NDI ***22*** *01:06:03.5±2.3, 8°.05N×94°.47E, h172km, ML4.6, MW4.6*
IDC ***22*** *01:06:09.4±0.9, 7°.86N×94°.44E, h178km±8km, mb3.9/23, mbtmp4.4/24, Error ellipse: s-maj=17.8km s-min=11.2km az=64.0*
NEIC ***22*** *01:06:10.5±1.1, 8°.05N±0°.05×94°.4E±0°.1, h172km±6km, mb4.8/48, Error ellipse: s-maj=14.5km s-min=7.8km az=89.0*
ISC 22 01:06:09.5±0.6, 8°.06N±0°.06×94°.38E±0°.07, h172km±5km, h173km; pP-P, n144, σ1§47/146, mb4.4/62, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.13**	**203**	*e*P	Pn	01 06 29.8	-7.7
CMBY				*e*S	Sn	01 06 49.6	-9.4
CMBY				IAML		01 07 00.6	
	comp=N,3μm,0.3s						
CMBY				IAML		01 07 00.7	
	comp=E,7μm,0.5s						
LHMI	**Lhok Sumawe**	**3.79**	**138**		**Pn**	**01 07 07.3**	**-0.4**
LHMI				Sn	**Sn**	**01 07 54.4**	**+1.1**
PBA	**Port Blair**	**3.92**	**336**	*e*S	Sn	01 07 47.8	-8.5
PBA				IAML		01 08 05.3	
	comp=E,2μm,0.4s						
PBA				IAML		01 08 06.2	
	comp=N,2μm,0.3s						
DGPR	**DIGLIPUR**	**5.29**	**344**	*e*P	Pn	01 07 21.0	-6.1
DGPR				*e*S	Sn	01 08 19.2	-8.8
DGPR				IAML		01 08 32.1	
	comp=E,2μm,0.2s						
DGPR				IAML		01 08 33.9	
	comp=N,3μm,0.1s						
KULM	**Kulim**	**6.81**	**113**	Pn	**Pn**	**01 07 45.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**11.25**	**23**		**Pn**	**01 08 46.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**11.25**	**23**	P	**Pn**	**01 08 48.1**	**+2.6**
	comp=N,2.0nm,0.3s,baz=217,slow=13,SNR=8.0						
IMP	**Imphal**	**16.69**	**359**	*e*P	**P**	**01 09 46.7**	**-6.2**
IMP				IAmb	IAmb	01 09 58.5	
	comp=Z,18nm,0.2s						
IMP				*e*S	**S**	**01 12 53.6**	**-4.4**
KOHI	**KOHIMA**	**17.57**	**359**	*e*P	**P**	**01 09 56.4**	**-6.3**
KOHI				IAmb	IAmb	01 10 07.9	
	comp=Z,18nm,0.6s						
KOHI				*e*S	**S**	**01 13 11.0**	**-5.6**
HYB	**Hyderabad**	**18.01**	**303**	*e*P	**Pn**	**01 10 08.9**	**-0.4**
HYB				IVmB_BB		01 10 10.2	
	comp=Z,114nm,1.3s						
HYB				*e*pP	**pP**	**01 10 35.5**	**-0.8**
HYB				*e*S	**S**	**01 13 23.6**	**-1.7**
HYB				IVMs_BB	IVMs_BB	01 16 04.7	
	comp=Z,196nm,3.9s						
PZH	**PanZhiHua**	**19.64**	**20**	P	**Pn**	**01 10 27.3**	**-1.2**
EVN	**Everest**	**21.05**	**341**		**P**	**01 10 40.2**	**-0.5**
GYA	**Guiyang**	**21.71**	**31**	⇓P	**P**	**01 10 48.8**	**+1.6**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**21.75**	**352**		**P**	**01 10 48.1**	**+0.2**
MYLDM	**Lahad Datu**	**24.13**	**95**	P	**P**	**01 11 10.3**	**+0.6**
DGAR	**Diego Garcia**	**26.72**	**235**	P	**P**	**01 11 33.9**	**+0.8**
H08S3	**Diego Garcia H**	**26.82**	**235**	T	T	01 37 51.0	
	baz=57,SNR=104						
H08S2	**Diego Garcia H**	**26.82**	**235**	T	T	01 38 04.3	
	baz=57,slow=74,SNR=34						
H08S1	**Diego Garcia H**	**26.84**	**235**	T	T	01 37 53.8	
	baz=57,slow=74,SNR=3.5						
LZDM	**Lanzhou Array**	**29.05**	**16**	P	**P**	**01 11 54.6**	**+0.6**
	comp=Z,4.3nm,0.4s,baz=189,slow=8.6,SNR=8.1						
	comp=Z,4.3nm,0.4s						
WHN	**Wuhan**	**29.15**	**37**	P	**P**	**01 11 50.3**	**-4.2**
LZH	**Lanzhou**	**29.21**	**16**	*e*P	**P**	**01 11 55.8**	**+0.6**
LZH				sP	sP	01 12 50.4	+0.2
LZH				pmax	pmax		
	comp=Z,19nm,0.9s						
GTA	**Gaotai**	**31.60**	**8**	P	**P**	**01 12 17.4**	**+1.3**
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
NJ2	**Nanjing**	**32.98**	**40**	*e*P	**P**	**01 12 29.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
HNS	**HongShan**	**34.54**	**29**	⇓P	**P**	**01 12 43.1**	**+1.6**
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**35.17**	**322**		**P**	**01 12 47.0**	**-0.2**
KBL				IAmb	IAmb	01 12 49.1	
	comp=Z,6.2nm,0.7s						
HHC	**Hu-ho-hao-te**	**36.06**	**22**	*e*P	**P**	**01 12 57.9**	**+3.3**
HHC				sP	sP	01 13 52.8	+2.8
HHC				S	**S**	**01 18 25.1**	**+4.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,7.6s						
WMQ	**Urumqi**	**36.10**	**352**	*e*P	**P**	**01 12 57.1**	**+2.2**
DRK	**Karamyk**	**37.27**	**331**	P	**P**	**01 13 05.9**	**+0.9**
SHLS	**Shalkode**	**37.34**	**342**	*e*P	**P**	**01 13 04.0**	**-1.3**
GAR	**Garm**	**37.65**	**329**		**P**	**01 13 08.7**	**+0.6**
GAR				IAmb	IAmb	01 13 08.8	
	comp=Z,14nm,0.4s						
CHGR	**Chuyangaron**	**38.00**	**327**		**P**	**01 13 11.1**	**+0.2**
CHGR				IAmb	IAmb	01 13 12.3	
	comp=Z,16nm,0.8s						
TNSS	**Tian-Shan**	**38.06**	**339**	*e*P	**P**	**01 13 11.1**	**-0.7**
SIMJ	**Simiganj**	**38.08**	**327**	P	**P**	**01 13 12.0**	**+0.2**
SIMJ				IAmb	IAmb	01 13 12.6	
	comp=Z,8.2nm,0.6s						
SIMJ	**Simiganj**	**38.08**	**327**	P	**P**	**01 13 11.9**	**+0.2**
SIMJ				x	x	01 14 09.4	
MDOK	**Medeo**	**38.13**	**339**	*e*P	**P**	**01 13 11.7**	**-0.4**
ARSB	**Arslanbob**	**38.19**	**334**		**P**	**01 13 13.9**	**+1.3**
ARSB				IAmb	IAmb	01 13 14.6	
	comp=Z,11nm,0.7s						
SGDS	**Sogindy**	**39.27**	**337**	*e*P	**P**	**01 13 21.1**	**-0.4**
MKAR	**Makanchi Array**	**39.97**	**347**		**P**	**01 13 27.5**	**+0.4**
MKAR	**Makanchi Array**	**39.97**	**347**	P	**P**	**01 13 27.8**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=160,slow=9.6,SNR=44						
	comp=Z,6.4nm,0.7s						
ZSN	**Zaisan**	**40.09**	**350**	*e*P	**P**	**01 13 28.2**	**+0.1**
IUG	**Iuzhnay**	**40.18**	**332**	*e*P	**P**	**01 13 28.5**	**-0.6**
	comp=Z,6.9nm,0.7s						
KK31	**Karatay Array**	**40.71**	**333**	P	**P**	**01 13 34.5**	**+1.2**
KKAR	**Karatay Array**	**40.71**	**333**	P	**P**	**01 13 33.8**	**+0.5**
SONM	**Songino Array**	**40.94**	**12**	P	**P**	**01 13 35.8**	**+0.6**
SONM	**Songino Array**	**40.94**	**12**	P	**P**	**01 13 36.0**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=196,slow=9.0,SNR=20						
	comp=Z,4.4nm,0.8s						
ULN	**Ulaanbaatar**	**41.11**	**13**	P	**P**	**01 13 37.2**	**+0.6**
KSRS	**Korea Array**	**42.17**	**41**	P	**P**	**01 13 46.7**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=231,slow=9.1,SNR=5.0						
	comp=Z,1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**44.43**	**346**	P	**P**	**01 14 04.0**	**+0.9**
	comp=Z,3.8nm,0.4s,baz=167,slow=6.8,SNR=32						
	comp=Z,3.8nm,0.4s						
KURK	**Kurchatov**	**44.49**	**346**		**P**	**01 14 04.5**	**+0.9**
KURK	**Kurchatov**	**44.49**	**346**	P	**P**	**01 14 04.5**	**+0.9**
BRZS	**Berezniki**	**45.55**	**340**	*e*P	**P**	**01 14 11.9**	**0.0**
ZAA0	**Zalesovo Array**	**46.41**	**352**		**P**	**01 14 19.2**	**+0.6**
ZAA0				IAmb	IAmb	01 14 20.2	
	comp=Z,8.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.41**	**352**		**P**	**01 14 19.3**	**+0.7**
ZALV	**Zalesovo Beam**	**46.41**	**352**	P	**P**	**01 14 19.4**	**+0.8**
	comp=Z,6.6nm,0.4s,baz=183,slow=7.9,SNR=48						
	comp=Z,6.6nm,0.4s						
HILR	**Hailar Array B**	**46.50**	**23**	P	**P**	**01 14 20.5**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=178,slow=13,SNR=4.1						
	comp=Z,1.7nm,0.4s						
BNX	**BinXian**	**47.09**	**31**	⇑P	**P**	**01 14 24.4**	**+0.4**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**01 14 30.4**	**-2.4**
WRA				PcP	**PcP**	**01 15 56.8**	**-0.7**
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**01 14 29.8**	**-2.9**
	comp=Z,0.6nm,0.5s,baz=306,slow=8.5,SNR=8.9						
WRA				pP	**pP**	**01 15 10.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=303,slow=8.9,SNR=4.3						
WRA				sP	**sP**	**01 15 28.5**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=303,slow=7.6,SNR=2.7						
WRA				PcP	**PcP**	**01 15 56.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=310,slow=3.2,SNR=6.2						
	comp=Z,0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**48.87**	**48**	PcP	**PcP**	**01 15 59.6**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=255,slow=7.5,SNR=4.7						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**01 14 38.3**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=134,slow=8.3,SNR=18						
	comp=Z,3.8nm,0.7s						
BORK	**Borovoye**	**48.94**	**341**	P	**P**	**01 14 38.3**	**+0.3**
BORK				pP	**pP**	**01 15 16.4**	**+1.0**
RAYN	**Ar Rayn**	**49.23**	**294**		**P**	**01 14 41.6**	**+0.8**
RAYN	**Ar Rayn**	**49.23**	**294**	P	**P**	**01 14 43.0**	**+2.2**
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**01 14 44.3**	**-1.2**
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**01 14 42.6**	**-2.9**
	comp=Z,0.6nm,0.5s,baz=305,slow=7.3,SNR=6.1						
ASAR				pP	**pP**	**01 15 25.0**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=309,slow=7.1,SNR=4.3						
ASAR				PcP	**PcP**	**01 16 02.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=310,slow=3.7,SNR=5.3						
	comp=Z,0.6nm,0.5s						
AB31	**Akbulak array**	**50.19**	**331**		**P**	**01 14 48.2**	**+0.6**
AB31				IAmb	IAmb	01 14 49.5	
	comp=Z,35nm,1.4s						
ABKAR	**Akbulak array**	**50.19**	**331**		**P**	**01 14 48.6**	**+1.1**
HEH	**HeiHe**	**50.23**	**27**	*e*P	**P**	**01 14 47.9**	**0.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARTI	**Arti**	**55.86**	**337**		**P**	**01 15 29.5**	**+0.6**
ARTI				IAmb	IAmb	01 15 30.1	
	comp=Z,13nm,0.6s						
ARTI	**Arti**	**55.86**	**337**	P	**P**	**01 15 29.3**	**+0.4**
ARTI				x	x	01 16 10.5	
KBZ	**Khabaz**	**57.12**	**318**	PcP	**PcP**	**01 16 28.6**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=60,slow=1.9,SNR=4.9						
YAK	**Yakutsk**	**59.75**	**18**	P	**P**	**01 15 56.0**	**+0.1**
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**01 16 14.3**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=129,slow=7.0,SNR=8.0						
	comp=Z,0.9nm,0.7s						
H04N2	**CROZET ISLAND**	**66.00**	**211**	T	T	02 25 39.0	
	baz=49,slow=75,SNR=58						
H04N1	**CROZET ISLANDS**	**66.01**	**211**	T	T	02 25 47.3	
	baz=49,slow=75,SNR=43						
H04N3	**CROZET ISLANDS**	**66.02**	**211**	T	T	02 25 38.1	
	baz=49,slow=75,SNR=52						
TIXI	**Tiksi**	**67.01**	**11**		**P**	**01 16 43.1**	**-0.3**
TIXI	**Tiksi**	**67.01**	**11**	P	**P**	**01 16 42.9**	**-0.5**
AKASG	**Malin Array Be**	**68.16**	**322**	P	**P**	**01 16 51.4**	**+0.4**
AKASG	**Malin Array Be**	**68.16**	**322**	P	**P**	**01 16 50.2**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=90,slow=5.7,SNR=7.8						
	comp=Z,0.9nm,0.4s						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**01 17 17.9**	**-0.2**
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**01 17 18.4**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=99,slow=5.1,SNR=30						
	comp=Z,2.8nm,0.4s						
OJC	**Ojcow**	**73.99**	**320**		**P**	**01 17 26.7**	**+0.6**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**01 17 33.4**	**+0.8**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**01 17 33.1**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=85,slow=6.5,SNR=19						
	comp=Z,2.3nm,0.5s						
MORC	**Moravsky Berou**	**75.39**	**319**	P	**P**	**01 17 35.1**	**+0.8**
SOKA	**Soboth**	**76.88**	**316**	*i* P	**P**	**01 17 43.8**	**+1.0**
	comp=Z,3.5nm,1.0s						
OBKA	**Obir**	**77.21**	**316**	*i* P	**P**	**01 17 45.7**	**+1.1**
	comp=Z,1.9nm,0.7s						
GEC2	**GERESS Array S**	**77.85**	**318**		**P**	**01 17 48.9**	**+0.7**
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**01 17 49.1**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=85,slow=4.3,SNR=16						
	comp=Z,2.2nm,0.8s						
BIOA	**Bad Ischl, Aus**	**77.86**	**317**	*i* P	**P**	**01 17 48.8**	**+0.6**
	comp=Z,1.3nm,0.4s						
KBA	**Koelnbreinsper**

BPAW	**Bear Paw Mtn.**	**93.22**	**24**		**P**	**01 19 05.1**	**+0.9**
BPAW				IAmb	IAmb	01 19 05.6	
	comp=Z,4.8nm,0.8s						
SKT	**Skwentna**	**93.91**	**26**		**P**	**01 19 07.4**	**+0.1**
SKT				IAmb	IAmb	01 19 08.3	
	comp=Z,11nm,1.0s						
G26K	**Porcupine Rive**	**94.46**	**20**	P	**P**	**01 19 10.7**	**+1.0**
G26K				IAmb	IAmb	01 19 11.6	
	comp=Z,6.0nm,0.8s						
SUA	**Susitna One**	**94.47**	**26**	P	**P**	**01 19 10.3**	**+0.2**
ILAR	**Eielson Array**	**94.49**	**22**	P	**P**	**01 19 09.1**	**-0.8**
ILAR	**Eielson Array**	**94.49**	**22**	P	**P**	**01 19 09.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=284,slow=4.3,SNR=9.3						
	comp=Z,0.7nm,0.7s						
M22K	**Willow**	**94.61**	**26**	P	**P**	**01 19 10.7**	**+0.3**
RC01	**Rabbit Creek A**	**95.07**	**26**	P	**P**	**01 19 12.7**	**+0.1**
RC01				IAmb	IAmb	01 19 13.4	
	comp=Z,6.5nm,0.7s						
NVAR	**Mina Array Bea**	**124.64**	**31**		**PKPdf**	**01 24 47.6**	**-1.7**
NVAR	**Mina Array Bea**	**124.64**	**31**	PKP	**PKPdf**	**01 24 47.1**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=278,slow=1.5,SNR=4.4						
PDAR	**Pinedale Array**	**124.91**	**21**	PKP	**PKPdf**	**01 24 48.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=294,slow=3.6,SNR=1.5						
TXAR	**Lajitas Array**	**138.96**	**24**	PKhKP	PKPpre	01 25 07.8	
	comp=Z,0.1nm,0.5s,baz=309,slow=0.9,SNR=1.7						
TXAR				PKP	**PKPdf**	**01 25 15.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=211,slow=1.1,SNR=5.5						
PLCA	**Paso Flores**	**144.80**	**200**		PKPbc	01 25 25.8	+0.1
PLCA	**Paso Flores**	**144.80**	**200**	PKP	PKPbc	01 25 25.7	0.0
	comp=Z,0.8nm,0.6s,baz=101,slow=5.2,SNR=1.5						
CPUP	**Villa Florida**	**147.56**	**232**		**PKPbc**	**01 25 33.7**	**-0.4**
CPUP	**Villa Florida**	**147.56**	**232**	PKPbc	**PKPbc**	**01 25 33.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=307,slow=2.5,SNR=3.3						
CFA	**Coronel Fontan**	**151.52**	**212**	PKPbc	**PKPbc**	**01 25 42.4**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=207,slow=0.8,SNR=4.3						

*NNC **22** 01:14:40.0±1.0, 44°.64N×81°.49E, h2km±5km, mb3.5, mpv3.4, Error ellipse: s-maj=7.9km s-min=3.1km az=122.0*
*SOME **22** 01:14:40.9, 44°.63N×81°.50E, h30km*
ISC 22 01:14:38.5±1.8, 44°.58N±0°.05×81°.56E±0°.06, h2km±13km, n25, σ1§64/33, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.72**	**295**	P	**Pg**	**01 15 11.5**	**+0.1**
	19nm,0.1s						
KAPS				S	**Sg**	**01 15 33.2**	**-0.5**
	148nm,0.2s						
PDGK	**Podgornoye**	**1.95**	**231**	⇑Pn	**Pn**	**01 15 14.0**	**+1.3**
	4.7nm,0.3s						
PDGK				⇑Sn	**Sb**	**01 15 40.6**	**+0.9**
	48nm,0.5s						
SHLS	**Shalkode**	**2.08**	**228**	P	**Pn**	**01 15 14.0**	**-0.5**
	46nm,0.2s						
SHLS				S	**Sn**	**01 15 38.2**	**-2.9**
	194nm,0.3s						
SHLS	**Shalkode**	**2.08**	**228**	*e*P	**Pn**	**01 15 15.1**	**+0.5**
	29nm,0.2s						
SHLS				*e*S	**Sn**	**01 15 39.4**	**-1.8**
	194nm,0.2s						
MAKZ	**Makanchi**	**2.24**	**7**	⇓Pn	**Pn**	**01 15 17.2**	**+0.6**
	1.2nm,0.2s						
MAKZ				⇓Sn	**Sb**	**01 15 45.8**	**-2.1**
	19nm,0.3s						
MK31	**Makanchi Array**	**2.27**	**13**	⇑Pn	**Pn**	**01 15 17.7**	**+0.7**
	0.9nm,0.2s,baz=193,slow=14,SNR=467						
MK31				⇑Sn	**Sb**	**01 15 47.0**	**-1.6**
	8.1nm,0.2s,baz=194,slow=26,SNR=10.0						
TDK	**Taldyqorghan**	**2.29**	**282**	Pg	**Pb**	**01 15 21.1**	**+0.7**
	27nm,0.2s						
TDK				Lg	Lg	01 15 49.6	
	176nm,0.3s						
TDK	**Taldyqorghan**	**2.29**	**282**	*e*P	**Pb**	**01 15 20.8**	**+0.4**
	10nm,0.1s						
TDK				*e*S	**Sb**	**01 15 49.0**	**-0.1**
	182nm,0.2s						
KPKS	**Kokpek**	**2.36**	**243**	Pg	**Pb**	**01 15 23.1**	**+1.4**
	3.7nm,0.2s						
KPKS				Lg	Lg	01 15 52.7	
	72nm,0.2s						
KURS	**Kuram**	**2.68**	**247**	Pg	**Pb**	**01 15 27.8**	**+0.6**
	3.4nm,0.3s						
KURS				Lg	Lg	01 16 01.3	
	14nm,0.4s						
ARXS	**Arharly**	**2.70**	**263**	Pg	**Pb**	**01 15 28.8**	**+1.2**
	4.6nm,0.3s						
ARXS				Lg	Lg	01 16 02.6	
	49nm,0.3s						
ARXS	**Arharly**	**2.70**	**263**	*e*P	**Pb**	**01 15 28.6**	**+1.0**
ARXS				*e*S	**Sb**	**01 16 02.6**	**+1.4**
SATY	**Saty**	**2.75**	**237**	Pg	**Pb**	**01 15 29.5**	**+1.1**
	3.8nm,0.2s						
SATY				Lg	Lg	01 16 04.1	
	63nm,0.1s						
CHKK	**Chushkaly**	**3.37**	**259**	Pg	**Pb**	**01 15 40.9**	**+2.0**
	2.2nm,0.2s						
CHKK				Lg	Lg	01 16 23.4	
	22nm,0.2s						
CHKK	**Chushkaly**	**3.37**	**259**	*e*P	**Pb**	**01 15 39.7**	**+0.8**
	1.2nm,0.1s						
CHKK				*e*S	**Sb**	**01 16 21.5**	**+1.1**
	22nm,0.2s						
MDOK	**Medeo**	**3.56**	**248**	Pg	**Pg**	**01 15 47.7**	**+1.0**
	3.2nm,0.2s						
MDOK				Lg	Lg	01 16 35.4	
	22nm,0.6s						
KTBS	**Karatobe**	**3.62**	**258**	Pg	**Pb**	**01 15 44.7**	**+1.5**
	1.3nm,0.3s						
KTBS				Lg	Lg	01 16 30.3	
	11nm,0.4s						
ZSN	**Zaisan**	**3.67**	**38**	Pg	**Pb**	**01 15 45.6**	**+1.5**
	3.5nm,0.3s						
ZSN				Lg	Lg	01 16 31.6	
	14nm,0.4s						
KUU	**Kurty**	**3.82**	**261**	Pg	**Pn**	**01 15 40.7**	**+2.4**
	3.8nm,0.1s						
KUU				Lg	Lg	01 16 23.4	
	6.6nm,0.1s						
KST	**Kastek**	**4.34**	**251**	Pg	**Pg**	**01 16 00.5**	**-1.1**
	2.3nm,0.3s						
KST				Lg	Lg	01 16 56.7	
	10nm,0.6s						
KST	**Kastek**	**4.34**	**251**	*e*P	**Pb**	**01 15 58.6**	**+3.1**
	0.8nm,0.2s						
KST				*e*S	**Sg**	**01 16 53.9**	**-3.8**
	11nm,0.2s						
DGS	**Degeres**	**4.39**	**254**	Pg	**Pg**	**01 16 00.8**	**-1.9**
	1.9nm,0.5s						
DGS				Lg	Lg	01 16 57.5	
	11nm,0.4s						
SEM	**Semipalatinsk**	**5.89**	**352**	Pg	**Pg**	**01 16 32.2**	**+0.8**
	2.4nm,0.2s						
SEM				Lg	Lg	01 17 51.6	
	9.0nm,0.2s						
KURBB	**Kurchatov Arra**	**6.38**	**342**	⇑Lg	Lg	01 18 00.9	
	10nm,0.6s						
KURK	**Kurchatov**	**6.45**	**343**	⇑Lg	Lg	01 18 00.5	
	2.7nm,0.6s						

*KOLA **22** 01:16:56.3, 84°.37N×38°.19E, h0km, ML2.1, Error ellipse: s-maj=415.1km s-min=78.6km az=110.0, Arctic Ocean*
FCIAR 22 01:16:56.0, 85°.24N×12°.95E, h10km, station ZFI2 has station magnitude of 4.10 station OMEGA has station magnitude of 4.10, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.97**	**118**	*e*P	Pn	01 18 21.4	-2.8
ZFI2				*e*S	Sn	01 19 25.1	-7.3
	72nm,2.5s						
OMEGA	**Omega**	**6.00**	**118**	*e*P	Pn	01 18 21.4	-3.2
OMEGA				*e*S	Sn	01 19 25.1	-8.0
	73nm,2.2s						
KBS	**Kingsbay**	**6.36**	**182**	*e*P	Pn	01 18 24.9	-4.6
KBS				*e*S	Sn	01 19 32.9	-9.0
KBS				IAML		01 19 38.1	
	comp=Z,7.0nm,0.4s						
SPA0	**Spitsbergen Ar**	**7.12**	**174**	*e*P	Pn	01 18 35.6	-4.4
SPA0				*e*S	Sn	01 19 50.2	-11
SPA0	**Spitsbergen Ar**	**7.12**	**174**	*e*P	Pn	01 18 36.2	-3.8
SPA0				IAML		01 18 38.4	
	comp=Z,12nm,0.4s						
SPA0				*e*S	Sn	01 19 51.2	-10
SPITS	**Spitsbergen Ar**	**7.12**	**174**	P	Pn	01 18 36.2	-3.8
SPITS				S	Sn	01 19 52.2	-8.6
BRBB	**Barentsburg B**	**7.19**	**178**	P	Pn	01 18 37.5	-3.5
BRBB				S	Sn	01 19 54.8	-7.7
BRBB	**Barentsburg B**	**7.19**	**178**	*e*P	Pn	01 18 38.2	-2.8
HSPB	**Hornsund (broa**	**8.30**	**176**	P	Pn	01 18 53.2	-2.9
HSPB				S	Sn	01 20 21.8	-7.9
HSPB	**Hornsund (broa**	**8.30**	**176**	*e*P	Pn	01 18 52.3	-3.8
HSPB				*e*S	Sn	01 20 18.3	-11
HSPB	**Hornsund (broa**	**8.30**	**176**	*e*P	Pn	01 18 52.9	-3.2

*BJI **22** 01:30:36.2, 18°.93N×95°.47E, h10km, mB4.8/15, mb4.6/59, Ms4.5/38, Ms7 4.2/37*
*MOS **22** 01:30:38.1±0.9, 19°.21N×95°.60E, h10km, mb5.0/35, Error ellipse: s-maj=10.7km s-min=4.8km az=121.7*
*IDC **22** 01:30:38.5±0.5, 19°.19N×95°.56E, h0km, mb4.6/25, mbtmp4.5/27, ML4.3/2, MS3.6/27, Error ellipse: s-maj=17.9km s-min=10.9km az=47.0*
*BKK **22** 01:30:39.1±0.9, 19°N±6°×9°6E±°, h7km, M5.2/11, MLv5.2/11*
*NEIC **22** 01:30:40.7±1.7, 19°.26N±0°.06×95°.70E±0°.06, h10km±1km, mb4.9/140, Mwr4.3/11, Error ellipse: s-maj=10.9km s-min=9.3km az=204.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.74; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-2.76; $M_{r\theta}$-0.23; $M_{\theta\phi}$1.66; $M_{\phi r}$-2.14; Fault plane solution: $M_0$3.86000×10^{15} NP1:φs174.17000°, δ63.27000°, λ111.30000°. NP2:φs313.25000°, δ33.68000°, λ54.19000°. Principal axes: T 3.6414, Plg65.0000°, Azm122.0000°; N 0.4119, Plg19.0000°, Azm344.0000°; P -4.0533, Plg16.0000°, Azm249.0000°;*
*NEIC **22** 01:30:41, 19°.26N×95°.68E, h10km*
*DJA **22** 01:30:45.1±0.4, 19°N±3°×9°5E±°, h41km±5km, M5.5/17, mb4.9/17, mB6.0/2, MLv5.8/5, Mw(mB)5.6/2, MwMwp5.7/1, Mwp5.8/1*
ISC 22 01:30:40.6±0.6, 19°.18N±0°.04×95°.57E±0°.03, h14km±3km, n453, σ1§30/429, mb4.8/163, MS3.8/37, 40C-36D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**2.45**	**114**	P	**Pn**	**01 31 19.2**	**-1.0**
MHMT				S	**Sb**	**01 31 56.6**	**+2.1**
CHTO	**Chiang Mai**	**3.21**	**96**		**Pn**	**01 31 28.5**	**-2.2**
CHTO	**Chiang Mai**	**3.21**	**96**	P	**Pn**	**01 31 29.4**	**-1.3**
CM31	**Chiang Mai Arr**	**3.27**	**102**		**Pn**	**01 31 30.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**3.27**	**102**		**Pn**	**01 31 29.2**	**-2.4**
CMAR	**Chiang Mai Arr**	**3.27**	**102**	Pn	**Pn**	**01 31 30.4**	**-1.1**
	5.8nm,0.3s,baz=278,slow=14,SNR=57						
CMAR				P*g*	**Pb**	**01 31 40.1**	**+1.5**
	67nm,0.3s,baz=278,slow=16,SNR=38						
CMAR				Lg	Lg	01 32 19.6	
	113nm,0.3s,baz=280,slow=30,SNR=12						
CMAR				LR	LR	01 32 26.0	
	comp=Z,196nm,18.7s,baz=285,slow=33						
	20nm,0.5s						
CM02	**Chiang Mai Arr**	**3.28**	**102**	P	**Pn**	**01 31 30.4**	**-1.3**
CM09	**Chiang Mai Arr**	**3.32**	**102**	P	**Pn**	**01 31 31.2**	**-1.0**
CMAI	**Chiengmai2**	**3.36**	**77**	P	**Pn**	**01 31 32.5**	**-0.4**
LAMP	**Lampang**	**3.90**	**99**	P	**Pb**	**01 31 46.4**	**-2.9**
BRDH	**Bariadhala**	**5.06**	**314**	Pn	**Pn**	**01 31 59.6**	**+3.5**
	24nm,0.3s,baz=87,slow=6.8,SNR=7.4						
BRDH				Sn	**Sn**	**01 33 01.6**	**+7.2**
	11nm,0.3s,baz=90,slow=20,SNR=1.3						
BRDH				LR	LR	01 34 41.5	
	comp=Z,391nm,20.8s,baz=120,slow=48						
KHLT	**Khaolaem Dam**	**5.23**	**146**	P	**Pn**	**01 31 57.2**	**-1.2**
TNCH	**TengChong**	**6.43**	**25**	Pn	**Pn**	**01 32 13.8**	**-1.4**
TNCH				Sg	**Sg**	**01 34 01.0**	**-6.2**
TNCH				LR	LR		
	comp=Z,4μm,6.8s						
SHL	**Shillong**	**7.21**	**332**		**Pn**	**01 32 26.6**	**+0.7**
PBA	**Port Blair**	**7.96**	**200**	Pn	**Pn**	**01 32 38.1**	**+2.2**
SLVN	**Son La**	**8.11**	**73**		**Pn**	**01 32 37.9**	**-0.3**
PANO	**Nakornpanom**	**8.83**	**102**	P	**Pn**	**01 32 49.9**	**+2.0**
KMI	**Kunming**	**8.89**	**47**	⇑P*g*	**Pg**	**01 33 30.0**	**-1.0**
KMI				Sg	**Sg**	**01 35 27.8**	**+1.6**
KMI				smax	smax		
	comp=N,170nm,1.5s						
KMI				smax	smax		
	comp=E,82nm,1.2s						
KMI				LR	LR		
	comp=N,1μm,8.4s						
KMI				LR	LR		
	comp=E,920nm,8.2s						
KMI				LR	LR		
	comp=Z,1μm,10.4s						
PZH	**PanZhiHua**	**9.25**	**37**	P	Pn	01 32 59.5	+5.8
PZH				S	**Sn**	**01 34 40.1**	**+2.4**
PZH				pmax	pmax		
	comp=Z,20nm,1.5s						
PZH				pmax	pmax		
	comp=Z,40nm,4.8s						
PZH				LR	LR		
	comp=Z,2μm,7.7s						
PZH				LR	LR		
	comp=Z,1μm,6.7s						
PZH				LR	LR		
	comp=Z,3μm,8.4s						
RAMN	**Ramite**	**11.31**	**315**	Pn	**Pn**	**01 33 24.8**	**+2.7**
	baz=275,slow=0.0						
RAMN				Sn	**Sn**	**01 35 28.9**	**+0.4**
	baz=275,slow=0.0						
EVN	**Everest**	**11.86**	**319**		**Pn**	**01 33 29.1**	**-0.9**
GUN	**Gumba**	**12.43**	**316**	Pn	**Pn**	**01 33 33.3**	**-4.2**
	baz=279,slow=0.0						
PKI	**Pulchoki**	**12.52**	**314**	Pn	**Pn**	**01 33 38.6**	**-0.1**
	baz=278,slow=0.0						
PKI				Sn	**Sn**	**01 35 54.5**	**-3.7**
	comp=Z,35nm,0.8s,baz=278,slow=0.0						
GYA	**Guiyang**	**12.53**	**53**	⇓P	**Pn**	**01 33 43.3**	**+4.6**
GYA				S	**Sn**	**01 36 01.9**	**+3.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,100nm,4.1s						
GYA				LR	LR		
	comp=Z,1μm,9.0s						
GYA				LR	LR		
	comp=Z,1μm,7.8s						
GYA				LR	LR		
	comp=Z,2μm,8.1s						
DMN	**Daman**	**12.75**	**313**	Pn	**Pn**	**01 33 42.5**	**+0.7**
	baz=278,slow=0.0						
GKN	**Gorkha**	**13.32**	**313**	Pn	**Pn**	**01 33 48.8**	**-0.7**
	baz=279,slow=0.0						
QIZ	**Qiongzhong**	**13.49**	**88**	P	**Pn**	**01 33 50.8**	**-1.0**
QIZ				S	**Sn**	**01 36 19.1**	**-2.5**
QIZ				pmax	pmax		
	comp=Z,190nm,5.8s						
QIZ				LR	LR		
	comp=Z,840nm,12.9s						
QIZ				LR	LR		
	comp=Z,780nm,11.0s						
CD2	**Chengdu**	**13.83**	**31**	*e*P	**Pn**	**01 33 54.4**	**-2.0**
CD2				S	**Sn**	**01 36 28.0**	**-1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,1μm,7.7s						
CD2				LR	LR		
	comp=Z,2μm,7.6s						
CD2				LR	LR		
	comp=Z,2μm,8.1s						
DANN	**Dangsing**	**14.14**	**312**	Pn	**Pn**	**01 33 58.9**	**-2.0**
	baz=281,slow=0.0						
DANN				Sn	**Sn**	**01 36 30.7**	**-7.1**
	comp=Z,56nm,1.1s,baz=281,slow=0.0						
GULI	**GuiLin**	**14.98**	**63**	P	**P**	**01 34 21.1**	**+3.5**
GULI				S	**S**	**01 37 15.4**	**-0.3**
GULI				pmax	pmax		
	comp=Z,12nm,1.0s						
GULI				pmax	pmax		
	comp=Z,140nm,4.8s						
GULI				LR	LR		
	comp=N,730nm,6.1s						
GULI				LR	LR		
	comp=E,580nm,5.8s						
GULI				LR	LR		
	comp=Z,660nm,12.2s						
HYB	**Hyderabad**	**16.25**	**267**	*e*Pn	**P**	**01 34 30.5**	**-1.2**
HYB				*ep*P	**pP**	**01 34 36.3**	**+0.5**
HYB				*e*S	**S**	**01 37 45.1**	**+3.3**
ENH	**Enshi**	**16.77**	**46**		**P**	**01 34 37.3**	**-0.1**
LZDM	**Lanzhou Array**	**18.19**	**22**	P	**P**	**01 34 54.2**	**+0.9**
	baz=200,slow=12						
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**18.36**	**22**	⇓P	**P**	**01 34 57.9**	**+2.9**
LZH				pP	sP	01 35 03.8	+2.9
LZH				sS	S	01 38 26.4	+1.8
LZH				pmax	pmax		
	comp=Z,39nm,1.3s						
LZH				pmax	pmax		
	comp=Z,250nm,4.5s						
LZH				LR	LR		
	comp=Z,410nm,14.1s						
LZH				LR	LR		
	comp=Z,2μm,11.0s						
LZH				LR	LR		
	comp=Z,710nm,13.7s						
XAN	**Xi'an**	**18.99**	**36**	⇓P	**Pn**	**01 35 04.4**	**+1.9**
XAN				pP	sP	01 35 09.5	+1.8
XAN				S	**S**	**01 38 42.4**	**+5.2**
XAN				pmax	pmax		
	comp=Z,41nm,0.8s						
XAN				pmax	pmax		
	comp=Z,210nm,4.9s						
XAN				LR	LR		
	comp=Z,560nm,8.9s						
XAN				LR	LR		
	comp=Z,520nm,9.4s						
XAN				LR	LR		
	comp=Z,640nm,9.6s						
WHN	**Wuhan**	**20.42**	**53**	P	Pn	01 35 19.0	-0.6
WHN				LR	LR		
	comp=Z,830nm,7.3s						
WHN				LR	LR		
	comp=Z,1μm,8.6s						
WHN				LR	LR		
	comp=Z,2μm,10.5s						
GTA	**Gaotai**	**20.49**	**9**	P	Pn	01 35 19.8	-0.7
GTA				sP	sP	01 35 26.4	+2.2
GTA				S	**S**	**01 39 09.3**	**+1.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				LR	LR		
	comp=Z,310nm,14.2s						
GTA				LR	LR		
	comp=Z,160nm,10.2s						
GTA				LR	LR		
	comp=Z,290nm,11.6s						
LYN	**LuoYang**	**21.44**	**41**	P	**P**	**01 35 30.6**	**+2.2**
LYN				S	**S**	**01 39 29.6**	**+3.6**
LYN				pmax	pmax		
	comp=Z,62nm,0.7s						
LYN				LR	LR		
	comp=Z,600nm,11.4s						
LYN				LR	LR		
	comp=Z,680nm,10.4s						
LYN				LR	LR		
	comp=Z,920nm,10.4s						
NJ2	**Nanjing**	**24.54**	**54**	*e*P	**P**	**01 35 58.4**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				LR	LR		
	comp=Z,810nm,18.0s						
NJ2				LR	LR		
	comp=Z,470nm,12.3s						
NJ2				LR	LR		
	comp=Z,330nm,15.2s						
NIL	**Nilore**	**24.57**	**310**		**P**	**01 35 59.5**	**-0.8**
HNS	**HongShan**	**24.68**	**39**	⇓P	**P**	**01 36 02.4**	**+1.2**
HNS				*e*S	**S**	**01 40 25.6**	**+3.1**
HNS				pmax	pmax		
	comp=Z,20nm,1.2s						
HNS				LR	LR		
	comp=Z,480nm,9.6s						
HNS				LR	LR		
	comp=Z,360nm,6.7s						
HNS				LR	LR		
	comp=Z,410nm,10.4s						
BTO	**Baotou**	**24.69**	**27**	*e*P	**P**	**01 36 02.5**	**+1.1**
BTO				pP	**sP**	**01 36 06.8**	**-0.7**
BTO				sP	**pP**	**01 36 09.6**	**+3.9**
BTO				PP	**PnPn**	**01 36 38.8**	**+5.6**
BTO				S	**S**	**01 40 21.3**	**-1.5**
BTO				sS	**sS**	**01 40 29.3**	**-0.6**
BTO				SS		01 41 16.0	
BTO				pmax	pmax		
	comp=Z,78nm,0.8s						
BTO				pmax	pmax		
	comp=Z,250nm,4.6s						
BTO				LR	LR		
	comp=Z,1μm,13.1s						
BTO				LR	LR		
	comp=Z,2μm,13.1s						
BTO				LR	LR		
	comp=Z,580nm,11.3s						
TIA	**Tai'an**	**25.44**	**44**	P	**P**	**01 36 08.4**	**+0.3**
TIA				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ	**Urumqi**	**25.45**	**347**	*e*P	**P**	**01 36 11.5**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**25.57**	**29**	⇓*i*P	**P**	**01 36 11.0**	**+1.6**
HHC				pP	pP	01 36 14.4	+0.7
HHC				S	**S**	**01 40 38.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.1s						
HHC				LR	LR		
	comp=Z,460nm,13.0s						
HHC				LR	LR		
	comp=Z,520nm,11.5s						
HHC				LR	LR		
	comp=Z,280nm,11.1s						
MYLDM	**Lahad Datu**	**26.33**	**119**	P	**P**	**01 36 16.4**	**+0.1**
MYLDM				IAmb	IAmb	01 36 22.3	
	comp=Z,24nm,1.1s						
KSH	**Kashi**	**26.40**	**324**	P	**P**	**01 36 16.8**	**-0.1**
KSH				pmax	pmax		
	comp=Z,25nm,0.8s						
TARG	**Taragay, Kyrgy**	**27.09**	**330**	P	**P**	**01 36 23.9**	**+0.5**
BJI	**Beijing**	**27.32**	**36**	P	**P**	**01 36 26.3**	**+1.3**
BJI				S	**S**	**01 41 05.1**	**+0.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BJI				LR	LR		
	comp=Z,150nm,11.2s						
BJI				LR	LR		
	comp=Z,120nm,10.4s						
BJI				LR	LR		
	comp=Z,210nm,11.9s						
SHLS	**Shalkode**	**27.49**	**334**	*e*P	**P**	**01 36 25.4**	**-1.4**
SHLS	**Shalkode**	**27.49**	**334**	*e*P	**P**	**01 36 25.3**	**-1.4**
SATY	**Saty**	**27.86**	**332**	*e*P	**P**	**01 36 30.3**	**+0.2**
SATY	**Saty**	**27.86**	**332**	*e*P	**P**	**01 36 30.2**	**+0.2**
KBL	**Kabul**	**28.07**	**308**	P	**P**	**01 36 32.8**	**+0.8**
KBL				IAmb	IAmb	01 36 37.3	
	comp=Z,39nm,1.5s						
TNSS	**Tian-Shan**	**28.51**	**331**	*e*P	**P**	**01 36 36.1**	**0.0**
TNSS	**Tian-Shan**	**28.51**	**331**	*e*P	**P**	**01 36 36.0**	**0.0**
MDOK	**Medeo**	**28.56**	**331**	*e*P	**P**	**01 36 36.4**	**+0.1**
MDOK	**Medeo**	**28.56**	**331**	*e*P	**P**	**01 36 36.3**	**+0.1**
AAA	**Alma-Ata**	**28.65**	**331**	*e*P	**P**	**01 36 37.2**	**+0.2**
	comp=Z,23nm,1.1s						
AAA	**Alma-Ata**	**28.65**	**331**	*e*P	**P**	**01 36 37.2**	**+0.2**
AAA				pmax	pmax		
	comp=Z,23nm,1.1s						
DRK	**Karamyk**	**28.81**	**320**	P	**P**	**01 36 38.7**	**+0.1**
ARSB	**Arslanbob**	**29.30**	**324**	P	**P**	**01 36 43.0**	**+0.2**
AAK	**Ala-Archa**	**29.40**	**327**		**P**	**01 36 43.3**	**-0.5**
AAK	**Ala-Archa**	**29.40**	**327**	P	**P**	**01 36 44.4**	**+0.7**
	comp=Z,8.4nm,0.8s,baz=113,slow=12,SNR=6.1						
AAK				LR	LR	01 51 40.3	
	comp=Z,98nm,18.7s,baz=140,slow=43						
	comp=Z,8.4nm,0.8s						
GAR	**Garm**	**29.45**	**317**		**P**	**01 36 43.8**	**-0.4**
GAR				IAmb	IAmb	01 36 45.4	
	comp=Z,22nm,0.8s						
ZSN	**Zaisan**	**29.52**	**345**	*e*P	**P**	**01 36 45.0**	**+0.3**
ZSN	**Zaisan**	**29.52**	**345**	*e*P	**P**	**01 36 44.9**	**+0.3**
MK31	**Makanchi Array**	**29.62**	**341**	*c i*P	**P**	**01 36 45.1**	**-0.4**
MKAR	**Makanchi Array**	**29.62**	**341**		**P**	**01 36 44.4**	**-1.1**

MKAR Makanchi Array 29.62 341 *i* P **P 01 36 45.5 0.0**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 29.91 15 P **P 01 36 48.3 +0.2**
SONM Songino Array 29.91 15 P **P 01 36 48.6 +0.4**
comp=Z,4.1nm,0.7s,baz=202,slow=8.5,SNR=15
SONM LR LR 01 49 23.2
comp=Z,147nm,18.7s,baz=176,slow=38
comp=Z,4.1nm,0.7s
SGDS Sogindy 29.93 329 *eP* **P 01 36 48.4 +0.1**
CHGR Chuyangaron 30.01 316 **P 01 36 48.9 -0.3**
ULN Ulaanbaatar 30.10 16 **P 01 36 49.6 -0.2**
ULN Ulaanbaatar 30.10 16⇓ *iP* **P 01 36 50.7 +0.8**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SIMJ Simiganj 30.11 316 P **P 01 36 49.9 -0.2**
SIMJ IAmb IAmb 01 36 53.8
comp=Z,24nm,1.1s
JOW Kunigami 30.99 70 P **P 01 36 56.2 -1.6**
JOW Kunigami 30.99 70 LR LR 01 50 57.7
comp=Z,89nm,18.9s,baz=224,slow=39
DZA Taraz 31.26 324 *eP* **P 01 37 00.4 +0.4**
comp=Z,5.6nm,0.7s
DZA Taraz 31.26 324 *eP* **P 01 37 00.4 +0.4**
DZA pmax pmax
comp=Z,6.0nm,0.7s
KNGR Kungurtug, Tuv 31.39 2⇓ *eP* **P 01 37 02.5 +1.3**
IUG Iuzhnay 31.51 322 *eP* **P 01 37 02.5 +0.2**
comp=Z,20nm,1.1s
IUG Iuzhnay 31.51 322 *eP* **P 01 37 02.5 +0.2**
IUG pmax pmax
comp=Z,20nm,1.1s
KK31 Karatay Array 31.85 324 **P 01 37 04.5 -0.7**
KKAR Karatay Array 31.85 324 **P 01 37 04.6 -0.6**
BRLS Borolday 32.18 323 *eP* **P 01 37 07.9 -0.3**
BRLS Borolday 32.18 323 *eP* **P 01 37 07.8 -0.3**
KSRS Korea Array 33.58 50 LR LR 01 51 54.8
comp=Z,56μm,18.1s,baz=230,slow=38
KAPI Kappang 33.84 133 P **P 01 37 21.0 -1.8**
KURBB Kurchatov Arra 34.17 341 P **P 01 37 24.9 -0.4**
comp=Z,6.3nm,0.6s,baz=152,slow=8.2,SNR=64
KURBB PcP **PcP 01 40 02.4 +0.2**
comp=Z,2.9nm,0.7s,baz=165,slow=2.3,SNR=15
KURBB ScP **ScP 01 43 46.5 -0.4**
comp=Z,0.5nm,0.8s,baz=154,slow=3.1,SNR=4.5
comp=Z,6.3nm,0.6s
KURK Kurchatov 34.23 341 **P 01 37 25.1 -0.7**
KURK IAmb IAmb 01 37 26.2
comp=Z,9.0nm,0.7s
KURK **PcP 01 40 02.4 +0.1**
KURK **ScP 01 43 47.7 +0.6**
KURK Kurchatov 34.23 341 P **P 01 37 24.9 -0.9**
KURK 01 40 02.4
BKSI Bulukumba 34.31 133 P **P 01 37 27.9 +1.0**
comp=Z,19nm,0.9s
JNU Nakatsue 34.42 59 LR LR 01 52 24.0
comp=Z,133nm,18.0s,baz=252,slow=38
ZAA0 Zalesovo Array 35.68 349 **P 01 37 37.0 -1.3**
ZAA0 IAmb IAmb 01 37 39.2
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 35.68 349 **P 01 37 38.0 -0.3**
ZALV **PcP 01 40 05.4 -1.1**
ZALV Zalesovo Beam 35.68 349 P **P 01 37 38.2 -0.1**
comp=Z,8.0nm,0.6s,baz=172,slow=8.8,SNR=26
ZALV PcP **PcP 01 40 08.2 +1.7**
comp=Z,1.3nm,0.4s,baz=174,slow=4.2,SNR=2.7
ZALV LR LR 01 52 13.4
comp=Z,36nm,18.2s,baz=324,slow=36
comp=Z,8.0nm,0.6s
HIA Hailar 35.75 27⇓ *iP* **P 01 37 40.1 +1.1**
HIA pmax pmax
comp=Z,4.0nm,0.5s
HILR Hailar Array B 35.97 27 P **P 01 37 41.6 +0.6**
comp=Z,4.1nm,0.6s,baz=216,slow=7.3,SNR=5.9
comp=Z,4.1nm,0.6s
BNX BinXian 37.30 38⇑ P **P 01 37 52.4 +0.1**
BNX pmax pmax
comp=Z,28nm,0.8s
VLA Vladivostok 38.73 44⇓ *eP* **P 01 38 05.5 +1.1**
VLA pmax pmax
comp=Z,33nm,0.6s
BVAR Borovoye Array 39.02 336 P **P 01 38 06.4 -0.3**
comp=Z,2.9nm,0.8s,baz=132,slow=9.9,SNR=7.1
BVAR PcP **PcP 01 40 17.1 +0.4**
comp=Z,2.9nm,0.7s,baz=165,slow=2.2,SNR=7.8
BVAR LR LR 01 56 21.7
comp=Z,73nm,20.2s,baz=141,slow=40
comp=Z,2.9nm,0.8s
BORK Borovoye 39.06 336⇓ *eP* **P 01 38 05.9 -1.1**
BORK pmax pmax
comp=Z,4.0nm,0.7s
USRK Ussuriysk Ar. 39.29 42 P **P 01 38 08.9 -0.2**
comp=Z,6.6nm,0.9s,baz=193,slow=3.5,SNR=5.7
comp=Z,6.6nm,0.9s
HEH HeiHe 40.02 32 *eP* **P 01 38 15.9 +0.9**
SOEI Soe 40.33 133 **P 01 38 17.3 -0.9**
SOEI PP **PP 01 39 51.2 +0.1**
SOEI Soe 40.33 133 P **P 01 38 17.6 -0.6**
MJAR Matsushiro Arr 41.10 56 LR LR 01 57 07.4
comp=Z,69nm,18.3s,baz=326,slow=39
AB31 Akbulak array 41.41 325 **P 01 38 26.6 +0.1**
ABKAR Akbulak array 41.41 325 **P 01 38 25.1 -1.4**
ZEA Zeya 42.23 28 *eP* **P 01 38 36.1 +3.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,100nm,13.0s
AKTO Aktyubinsk 43.09 325 LR LR 01 59 27.4
comp=Z,112nm,19.0s,baz=181,slow=40
JCJ Chichijima 43.39 71 LR LR 01 57 40.2
comp=Z,38nm,21.2s,baz=124,slow=37
SVE Sverdlovsk 45.67 334 *eP* **P 01 39 00.7 -0.1**
SVE pmax pmax
comp=Z,17nm,0.9s
AKT Akhty 46.20 309 *eP* **P 01 39 05.4 +0.1**
AKT pmax pmax
comp=Z,9.0nm,0.7s
ASAJ Asahikawa 46.32 47 LR LR 01 58 59.0
comp=Z,50nm,20.1s,baz=192,slow=37
ARTI Arti 46.36 332 P **P 01 39 05.6 -0.6**
ARTI IAmb IAmb 01 39 06.3
comp=Z,8.1nm,0.8s
ARTI Arti 46.36 332 LR LR 02 01 04.5
comp=Z,159nm,18.7s,baz=152,slow=39
ARTI Arti 46.36 332*c iP* **P 01 39 05.6 -0.6**
ARTI 01 40 42.1
ARTI S **S 01 45 53.9 +0.9**
ARTI SS **SS 01 49 16.5 -2.1**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 46.65 285 P **P 01 39 09.6 +0.6**
YSS Yuzhno-Sakhali 47.32 43 *eP* **P 01 39 14.0 +0.2**
YSS *e*S **S 01 46 04.9 -2.1**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,200nm,14.0s
KNRA Kununurra 47.61 134 P **P 01 39 15.8 -0.6**
KNRA IAmb IAmb 01 39 17.4
comp=Z,8.3nm,0.8s
GNI Garni 48.14 307 LR LR 02 04 38.4
comp=Z,32nm,18.6s,baz=68,slow=42
YAK Yakutsk 48.94 21 LR LR 02 01 25.1
comp=Z,62nm,18.7s,baz=343,slow=38
YAK Yakutsk 48.94 21⇑ *eP* **P 01 39 25.5 -0.6**
YAK pmax pmax
comp=Z,23nm,0.8s
NCK Nalchik 49.63 311⇑ *eP* **P 01 39 31.4 -0.4**
NCK pmax pmax
comp=Z,11nm,1.3s
BELG Belogornoye 49.76 323⇑ *eP* **P 01 39 32.1 -0.4**
GURO Guroymak-BITLI 49.98 305 **P 01 39 34.9 +0.2**
GURO IAmb IAmb 01 39 37.5
comp=Z,11nm,0.8s
KBZ Khabaz 50.18 311 P **P 01 39 36.4 +0.5**
comp=Z,3.7nm,0.9s,baz=124,slow=7.0,SNR=6.3
KBZ LR LR 02 06 39.9
comp=Z,35nm,19.4s,baz=53,slow=43
comp=Z,3.7nm,0.9s
KBZ Khabaz 50.18 311⇑ *eP* **P 01 39 36.4 +0.5**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz 50.35 311*ceP* **P 01 39 38.4 +0.9**
KIV Kislovodsk 50.37 312 **P 01 39 37.7 +0.2**
KIV IAmb IAmb 01 39 41.9
comp=Z,20nm,1.0s
KIV Kislovodsk 50.37 312⇑ P **P 01 39 38.8 +1.3**
KIV Kislovodsk 50.37 312 *eP* **P 01 39 38.4 +0.9**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,22nm,16.0s
KIV Kislovodsk 50.37 312 P **P 01 39 38.5 +0.9**
comp=Z,16nm,1.0s
MARD Mardin 50.83 303 P **P 01 39 41.6 +0.5**
MARD IAmb IAmb 01 39 43.3
comp=Z,7.3nm,0.7s
KIRV Kirov 51.60 331*deP* **P 01 39 46.0 -0.3**
VRH Novokhopyorsk 52.80 320 *eP* **P 01 39 53.1 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
ARPR Arapgir-MALATY 52.90 305 **P 01 39 57.0 +0.4**
ARPR IAmb IAmb 01 40 02.5
comp=Z,12nm,1.0s
ASF Jabal al Asfar 53.86 296 LR LR 02 06 47.5
comp=Z,39nm,19.0s,baz=144,slow=40
WB0 Warramunga Arr 54.29 133 P **P 01 40 06.3 -0.4**
VSR Storozhevoye 54.35 320 *eP* **P 01 40 04.7 -2.1**
VSR pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 54.37 134 P **P 01 40 06.9 -0.4**
WRA PcP **PcP 01 41 09.9 -1.3**
WRA Warramunga Arr 54.37 134 P **P 01 40 07.4 +0.1**
comp=Z,6.1nm,0.9s,baz=322,slow=7.6,SNR=28
WRA PcP **PcP 01 41 10.7 -0.5**
comp=Z,1.1nm,0.8s,baz=310,slow=4.7,SNR=5.7
comp=Z,6.1nm,0.9s
WR8 Warramunga Arr 54.49 133 P **P 01 40 07.3 -0.8**
WR8 IAmb IAmb 01 40 09.2
comp=Z,6.5nm,0.8s
LPSR Galich'ya Gora 54.85 321 *eP* **P 01 40 07.4 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FURI Furi 55.92 268 LR LR 02 04 26.1
comp=Z,36nm,18.6s,baz=67,slow=36
TIXI Tiksi 55.95 12⇓ *iP* **P 01 40 16.9 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 56.24 30⇑ *eP* **P 01 40 20.1 -0.2**
MA2 pmax pmax
comp=Z,29nm,1.1s
KIRS Kirsehir-Merke 56.34 305 ⇓P **P 01 40 22.2 +0.8**
BR104 Keskin Array S 56.57 305 P **P 01 40 23.3 +0.1**
comp=Z,3.2nm,1.0s
BRTR Keskin Array B 56.57 305 P **P 01 40 23.2 0.0**
BRTR **PcP 01 41 18.8 -0.9**
BRTR Keskin Array B 56.57 305 P **P 01 40 23.2 0.0**
comp=Z,1.3nm,0.8s,baz=120,slow=8.1,SNR=9.9
BRTR PcP **PcP 01 41 19.4 -0.3**
comp=Z,1.1nm,0.9s,baz=127,slow=4.6,SNR=3.8
comp=Z,1.3nm,0.8s
ILGA Ilgaz 56.58 307 P **P 01 40 23.9 +0.6**
ILGA IAmb IAmb 01 40 27.7
comp=Z,15nm,0.9s
BR105 Keskin Array S 56.59 305 P **P 01 40 23.4 +0.1**
comp=Z,2.7nm,1.0s
BR106 Keskin Array S 56.59 305 P **P 01 40 23.4 +0.1**
comp=Z,2.2nm,0.9s
AS31 Alice Springs 56.67 137 **P 01 40 24.4 +0.6**
ASAR Alice Springs 56.67 137 P **P 01 40 23.9 0.0**
comp=Z,2.6nm,0.6s,baz=318,slow=7.1,SNR=51
ASAR PcP **PcP 01 41 19.6 -0.4**
comp=Z,1.1nm,0.8s,baz=312,slow=3.9,SNR=5.1
comp=Z,2.6nm,0.6s
OBN Obninsk 56.84 324 *eP* **P 01 40 24.5 -0.1**
OBN pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 57.10 331 *eP* **P 01 40 24.7 -1.7**
KLMR pmax pmax
comp=Z,20nm,1.4s
ANTO Ankara 57.23 306 **P 01 40 27.4 -0.3**
ANTO IAmb IAmb 01 40 29.0
comp=Z,9.6nm,1.1s
ANTO PcP **PcP 01 41 23.8 +1.6**
ANTO Ankara 57.23 306 ⇑P **P 01 40 28.9 +1.1**
ANTO Ankara 57.23 306 P **P 01 40 28.8 +1.1**
ANTO Ankara 57.23 306 P **P 01 40 28.3 +0.5**
comp=Z,4.4nm,1.6s
PETK Petropavlovsk- **58.20 39** LR LR 02 06 45.3
comp=Z,69nm,18.9s,baz=268,slow=37
PMG Port Moresby 58.23 115⇑ *eP* **P 01 40 33.3 -1.7**
PMG pmax pmax
comp=Z,36nm,1.2s
PET Petropavlovsk 58.76 39⇑ *eP* **P 01 40 38.3 +0.2**
PET pmax pmax
comp=Z,27nm,1.8s
BORA Eskisehir 59.03 305 **P 01 40 40.2 -0.2**
BORA IAmb IAmb 01 40 43.6
comp=Z,7.8nm,1.0s
ELL Elmali 59.51 302 **P 01 40 43.9 +0.1**
BAL3X Bal3x, Balta 59.97 315 P **P 01 40 46.0 -0.6**
AK09 Malin Array Si 60.41 318 P **P 01 40 48.7 -0.8**
AK10 Malin Array Si 60.42 318 P **P 01 40 48.7 -0.9**
AK08 Malin Array Si 60.43 318 P **P 01 40 48.7 -0.9**
AK07 Malin Array Si 60.45 318 P **P 01 40 49.1 -0.7**
AKASG Malin Array Be 60.45 318 P **P 01 40 48.5 -1.3**
AKASG Malin Array Be 60.45 318 P **P 01 40 48.8 -1.1**
comp=Z,3.1nm,0.5s,baz=82,slow=6.4,SNR=18
comp=Z,3.1nm,0.5s
AKASG Malin Array Be 60.45 318 *i* P **P 01 40 49.0 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 60.45 318 P **P 01 40 48.9 -0.9**
AKBB Malin Array Si 60.45 318*c iP* **P 01 40 48.8 -1.0**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 60.45 318 P **P 01 40 48.8 -1.0**
AK03 Malin Array Si 60.46 318 P **P 01 40 48.7 -1.2**
AK06 Malin Array Si 60.46 318 P **P 01 40 48.7 -1.2**
AK01 Malin Array Si 60.46 318 P **P 01 40 48.9 -1.0**
AK02 Malin Array Si 60.46 318 P **P 01 40 49.0 -0.9**
KIEV Kiev 60.46 318 P **P 01 40 49.1 -0.8**
KIEV IAmb IAmb 01 40 52.2
comp=Z,14nm,1.1s
KIEV Kiev 60.46 318 ⇑P **P 01 40 49.2 -0.8**
KIEV Kiev 60.46 318 P **P 01 40 49.1 -0.8**
KIEV Kiev 60.46 318 P **P 01 40 48.8 -1.1**
comp=Z,70nm,1.3s
AK11 Malin Array Si 60.48 318 P **P 01 40 49.1 -1.0**
AK04 Malin Array Si 60.49 318 P **P 01 40 49.0 -1.1**
AK12 Malin Array Si 60.49 318 P **P 01 40 49.1 -1.0**
AK14 Malin Array Si 60.52 318 P **P 01 40 49.2 -1.1**
OPO Ambohidratompo 60.52 235 LR LR 02 05 35.0
comp=Z,39nm,18.1s,baz=182,slow=35
AK16 Malin Array Si 60.52 318 P **P 01 40 49.1 -1.2**
AK18 Malin Array Si 60.55 318 P **P 01 40 49.5 -1.0**
AK22 Malin Array Si 60.55 318 P **P 01 40 49.4 -1.1**
AK21 Malin Array Si 60.57 318 P **P 01 40 49.6 -1.1**
AK19 Malin Array Si 60.59 318 P **P 01 40 49.7 -1.1**
TIRR Tirgusor 60.62 311 P **P 01 40 51.2 +0.2**
TIRR IAmb IAmb 01 40 52.1
comp=Z,5.2nm,0.8s
TIRR Tirgusor 60.62 311 ⇓P **P 01 40 51.4 +0.3**
TIRR Tirgusor 60.62 311 P **P 01 40 51.3 +0.3**
TIRR Tirgusor 60.62 311 P **P 01 40 51.0 -0.1**
comp=Z,9.7nm,2.2s
TPGR Topolog 60.62 311 ⇓P **P 01 40 51.5 +0.3**
SORM Soroca 60.82 315 ⇓P **P 01 40 52.1 -0.2**
SORM Soroca 60.82 315 P **P 01 40 52.1 -0.2**
CFR Carcaliu 60.83 312 ⇑P **P 01 40 52.5 0.0**
CFR Carcaliu 60.83 312 P **P 01 40 52.5 0.0**
VLDR Vladesti 60.89 312 ⇓P **P 01 40 53.6 +0.7**
SCTR Scanteiesti 60.95 312 ⇑P **P 01 40 53.9 +0.6**
HARR Harsova 60.97 311 ⇑P **P 01 40 53.7 +0.2**
HARR Harsova 60.97 311 P **P 01 40 53.6 +0.2**
ICOR Ion Corvin 61.05 310 ⇓P **P 01 40 54.9 +0.9**
LUBAR Lubar, Ukraine 61.32 317 P **P 01 40 54.6 -1.2**
JOF Joensuu 61.43 332 *eP* **P 01 40 55.6 -0.6**
MI28 Mi28,Pidlybu 61.45 318 P **P 01 40 56.2 -0.4**
NDNU Novodnistrovsk 61.50 315 P **P 01 40 56.2 -0.8**
PANC Panciu 61.54 312 ⇑P **P 01 40 58.6 +1.2**
MNK Minsk 61.67 322 *i* P **P 01 40 57.2 -0.8**
MNK *i* 01 43 13.0
MNK *i* PPP PPP 01 44 38.4
MNK *i* S **S 01 49 20.6 +0.6**
MNK *i* 01 50 48.9
MNK *i* SS **SS 01 53 23.5 +2.2**
MNK pmax pmax
comp=Z,25nm,0.9s
MNK pmax pmax
comp=N,28nm,1.1s
MNK pmax pmax
comp=E,10.0nm,1.0s
VRI Vrincioaia 61.84 312 ⇑P **P 01 41 00.5 +1.1**
VRI Vrincioaia 61.84 312 P **P 01 41 00.4 +1.1**
VRI Vrincioaia 61.84 312 P **P 01 41 00.2 +0.8**
comp=E,17nm,1.2s
BISRR Bisoca 61.84 312 ⇑P **P 01 40 59.4 -0.1**
PLOR5 Plostina Array 61.88 312 P **P 01 41 00.8 +1.1**
comp=E,39nm,0.9s
PLOR Plostina 61.89 312 ⇑P **P 01 41 00.9 +1.1**
PLOR Plostina 61.89 312 P **P 01 41 00.8 +1.1**
TESR Tescani 61.91 313 ⇑P **P 01 41 00.0 +0.2**
TESR Tescani 61.91 313 P **P 01 40 59.6 -0.2**
APA Apatity 61.91 337⇓ *eP* **P 01 41 04.0 +4.6**
APA *e* 01 41 33.7
APA *e* 01 43 13.8
APA MLR MLR
comp=Z,2μm,5.6s
ISR Istrita 61.96 311 ⇑P **P 01 41 01.2 +0.9**
ISR Istrita 61.96 311 P **P 01 41 01.1 +0.9**
KMPD K-Podol'skiy 62.10 315 P **P 01 40 59.1 -1.9**
HORU Horodok 62.15 316 P **P 01 41 00.7 -0.7**
TURR Turia 62.34 313 ⇓P **P 01 41 03.5 +0.8**
MLR Muntele Rosu 62.38 312 **P 01 41 04.0 +0.8**
MLR Muntele Rosu 62.38 312 LR LR 02 13 59.6
comp=Z,80nm,18.6s,baz=338,slow=42
MLR Muntele Rosu 62.38 312 ⇓P **P 01 41 03.7 +0.6**
MLR Muntele Rosu 62.38 312 P **P 01 41 03.7 +0.6**
MLR Muntele Rosu 62.38 312 P **P 01 41 03.8 +0.6**
comp=Z,18nm,1.0s
RNPP5 Staryi Chortor 62.60 318 P **P 01 41 03.9 -0.4**
RNPP9 Sopachiv 62.60 319 P **P 01 41 03.8 -0.6**
RDO Rodhopi 62.76 307 P **P 01 41 06.0 +0.4**
RDO IAmb IAmb 01 41 09.3
comp=Z,9.2nm,1.0s
DOPR Dopca 62.77 312 ⇓P **P 01 41 06.3 +0.6**
VSU Vasula 62.80 327⇓ *eP* **P 01 41 03.7 -1.8**
VSU pmax pmax
comp=Z,29nm,1.4s
BURAR Bucovina Array 62.91 314 ⇑P **P 01 41 07.0 +0.4**
BURAR Bucovina Array 62.91 314 P **P 01 41 07.0 +0.4**
BUR08 Bucovina Ar. S 62.92 314 **P 01 41 06.9 +0.2**
ARR Arges 63.31 312 ⇓P **P 01 41 09.3 0.0**
PLVB Pleven 63.36 310 ⇓P **P 01 41 10.3 +0.8**
FINES FINESS Array B 63.55 330 P **P 01 41 10.2 -0.3**
FINES FINESS Array B 63.55 330 P **P 01 41 09.9 -0.5**
comp=Z,5.7nm,0.7s,baz=105,slow=7.0,SNR=26
comp=Z,5.7nm,0.7s
FINES FINESS Array B 63.55 330 *i* P **P 01 41 10.0 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
MORS Morshin 63.81 316 P **P 01 41 12.4 0.0**
PABE Paberze 64.01 323 P **P 01 41 13.3 -0.3**
PABE Paberze 64.01 323 *eP* **P 01 41 12.5 -1.1**
CJR Cluj-Napoca 64.01 313 ⇑P **P 01 41 15.1 +1.2**
CJR Cluj-Napoca 64.01 313 P **P 01 41 15.0 +1.2**
KEF Keuruu 64.22 331 *eP* **P 01 41 13.7 -1.1**
MARR Marisel-Cluj 64.34 313 ⇓P **P 01 41 17.0 +0.9**
SUW Suwalki 64.38 321 *eP* **P 01 41 16.1 +0.1**
SUW Suwalki 64.38 321 P **P 01 41 14.7 -1.4**
SUW Suwalki 64.38 321 *eP* **P 01 41 15.6 -0.4**
DEV Deva 64.51 312 ⇓P **P 01 41 18.4 +1.3**
DEV Deva 64.51 312 P **P 01 41 18.3 +1.3**
KWP Kalwaria Pacla 64.58 317 *eP* **P 01 41 18.0 +0.4**
KWP Kalwaria Pacla 64.58 317 P **P 01 41 17.8 +0.3**
comp=Z,41nm,1.0s
DRGR 64.62 313 ⇓P **P 01 41 18.8 +0.9**
DRGR 64.62 313 P **P 01 41 18.8 +0.9**
HERR Herculane 64.89 311 ⇑P **P 01 41 20.5 +1.0**
SURR Surduc 65.06 312 ⇑P **P 01 41 21.6 +0.9**
LIT Litokhoron 65.13 306 **P 01 41 20.7 -0.6**
LIT IAmb IAmb 01 41 21.6
comp=Z,8.2nm,0.7s
BILL Bilibino 65.16 23⇑ *iP* **P 01 41 18.9 -2.0**
BILL pmax pmax
comp=Z,5.0nm,1.5s
ARCES ARCESS Array B 65.23 339 P **P 01 41 21.5 +0.2**
ARCES ARCESS Array B 65.23 339 P **P 01 41 21.1 -0.2**
comp=Z,7.9nm,0.9s,baz=60,slow=3.2,SNR=7.2
comp=Z,7.9nm,0.9s
VAF Ylistaro 65.33 331 *eP* **P 01 41 22.1 +0.1**
SIRR Siria 65.36 313 ⇓P **P 01 41 23.2 +0.6**
MDVR Moldovita 65.39 311 ⇑P **P 01 41 23.7 +0.7**
BZS Buzias 65.42 312 ⇑P **P 01 41 23.2 +0.1**
BZS Buzias 65.42 312 P **P 01 41 23.1 +0.1**
BOVS Bovan 65.47 310 ⇓P **P 01 41 23.7 +0.4**
NIE Niedzica 66.16 316 *eP* **P 01 41 28.3 +0.6**
NIE Niedzica 66.16 316 P **P 01 41 28.4 +0.6**
comp=Z,7.8nm,0.9s
OJC Ojcow 66.45 317 *eP* **P 01 41 29.8 +0.2**
OJC Ojcow 66.45 317 **P 01 41 31.0 +1.4**
PSZ Piszkesteto 66.49 315 ⇑P **P 01 41 29.9 0.0**
PSZ Piszkesteto 66.49 315 *eP* **P 01 41 29.9 0.0**
PSZ Piszkesteto 66.49 315 P **P 01 41 29.9 0.0**
LANS Liptovska Anna 66.71 316 *eP* **P 01 41 32.4 +1.1**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 66.71 316 *eP* **P 01 41 32.4 +1.1**
RUDO Rudo 67.16 310 *eP* **P 01 41 33.5 -0.7**
STKA Stephens Creek 67.25 138 **P 01 41 35.3 +0.5**
STKA Stephens Creek 67.25 138 P **P 01 41 35.3 +0.5**
comp=Z,4.2nm,0.7s,baz=327,slow=7.1,SNR=13
comp=Z,4.2nm,0.7s
PDG Podgorica 67.35 309 **P 01 41 35.2 -0.2**
PDG IAmb IAmb 01 41 35.9
comp=Z,7.6nm,0.7s
PDG Podgorica 67.35 309 ⇑P **P 01 41 35.2 -0.2**
MORH Mrgy, Hungar 67.45 313 ⇑*iP* **P 01 41 35.7 -0.3**
MORH Mrgy, Hungar 67.45 313 ⇑P **P 01 41 36.0 0.0**
MORH Mrgy, Hungar 67.45 313 P **P 01 41 35.6 -0.4**
SRO Srobarova 67.56 315 *eP* **P 01 41 37.4 +0.8**
SRO pmax pmax
comp=Z,10.0nm,0.8s
SRO Srobarova 67.56 315 *eP* **P 01 41 37.4 +0.8**
UPP Uppsala 67.57 328 *eP* **P 01 41 36.0 -0.4**
STEB Steborice 67.77 317 *eP* **P 01 41 38.0 0.0**
MAUC Maruska 67.77 316 *eP* **P 01 41 38.9 +0.9**
JAVC Velka Javorina 67.91 316 *eP* **P 01 41 39.9 +1.0**
MORC Moravsky Berou 67.93 317 **P 01 41 39.1 +0.1**
MORC Moravsky Berou 67.93 317 ⇓P **P 01 41 39.7 +0.6**
MORC Moravsky Berou 67.93 317 *eP* **P 01 41 39.4 +0.4**
MORC Moravsky Berou 67.93 317 P **P 01 41 39.6 +0.6**
TREB Trebinje 67.99 309 *eP* **P 01 41 39.1 -0.4**
SHEM Shemya Is, Ala 68.07 40 LR LR 02 13 31.3
comp=Z,73nm,20.1s,baz=32,slow=38
MODS Modra-Piesok 68.21 315 *eP* **P 01 41 41.1 +0.3**
MODS pmax pmax
comp=Z,9.0nm,1.1s
MODS Modra-Piesok 68.21 315 *eP* **P 01 41 41.1 +0.3**
MODS *e* 02 11 34.8
KRLC Kraliky 68.40 317 *eP* **P 01 41 42.1 +0.1**
KRLC Kraliky 68.40 317 *eP* **P 01 41 42.1 +0.1**
STON Ston 68.45 309 *eP* **P 01 41 41.0 -1.3**
VRAC Vranov 68.58 316 *eP* **P 01 41 43.5 +0.4**
BLY Banja Luka 68.61 311 ⇑*iP* **P 01 41 43.6 +0.3**
BLY Banja Luka 68.61 311 ⇓P **P 01 41 43.7 +0.3**
KSP Ksiaz 68.65 318 *eP* **P 01 41 44.4 +0.9**
DPC Dobruska-Polom 68.67 317 *eP* **P 01 41 44.6 +0.9**
DPC Dobruska-Polom 68.67 317 *eP* **P 01 41 44.6 +0.9**
OSTC Ostas 68.72 318 *eP* **P 01 41 44.6 +0.6**
OSTC Ostas 68.72 318 *eP* **P 01 41 44.6 +0.6**
KRUC Moravsky 68.73 316 *eP* **P 01 41 43.4 -0.6**
MOSL Moslavina 68.82 312 ⇑*iP* **P 01 41 44.5 -0.2**
CHVC Chvalec 68.82 318 *eP* **P 01 41 44.8 +0.2**
CHVC Chvalec 68.82 318 *eP* **P 01 41 44.8 +0.2**
RONA Rosalia, Austr 68.92 315 *eP* **P 01 41 46.0 +0.7**
comp=Z,6.7nm,1.5s
CONA Conrad Observa 69.19 315 *eP* **P 01 41 47.9 +0.9**
comp=Z,3.7nm,0.8s
KIJV Kijevo 69.25 311 ⇑*iP* **P 01 41 46.9 -0.4**
HFS Hagfors 69.54 328 P **P 01 41 48.5 -0.3**
comp=Z,5.8nm,0.5s,baz=107,slow=5.1,SNR=34
comp=Z,5.8nm,0.5s
GCIS Gornji Cirnik 69.58 313 *iP* **P 01 41 49.8 +0.5**
OZLJ Ozalj 69.72 313 *eP* **P 01 41 50.9 +0.8**
PVCC Panska Ves 69.77 318 *eP* **P 01 41 51.5 +1.1**
PVCC Panska Ves 69.77 318 *eP* **P 01 41 51.5 +1.1**
PRU Pruhonice 69.85 317 *eP* **P 01 41 51.6 +0.7**
PRU Pruhonice 69.85 317 *eP* **P 01 41 51.6 +0.7**
SOKA Soboth 69.89 314 *eP* **P 01 41 51.6 +0.2**
comp=Z,4.5nm,0.7s,SNR=6.2

LUNU Lund 69.98 323 *i* P **P 01 41 51.6 +0.1**
RICC Richard 70.07 318 *e*P **P 01 41 52.7 +0.5**
CKRC Cesky Krumlov 70.12 316 *e*P **P 01 41 53.3 +0.6**
CKRC Cesky Krumlov 70.12 316 *e*P **P 01 41 53.3 +0.6**
ZVC Zvikov 70.13 317 *e*P **P 01 41 53.2 +0.5**
BRG Berggiesshubel 70.13 318 *i* P **P 01 41 53.2 +0.6**
BRG Amp 01 41 54.0
comp=Z,8.1nm,0.7s
BRG Berggiesshubel 70.13 318 P **P 01 41 55.8 +3.2**
BRG Amp 01 41 56.5
comp=Z,6.5nm,0.7s
GBRS Gornja Briga 70.19 312 *i* P **P 01 41 53.7 +0.6**
CUC Castrocucco 70.23 307 **P 01 41 53.2 -0.4**
CUC IAmb IAmb 01 41 57.5
comp=Z,5.5nm,0.7s
OBKA Obir 70.24 314 *e*P **P 01 41 53.8 +0.3**
comp=Z,6.0nm,0.9s
FABU Falkenberg 70.27 325 *i* P **P 01 41 53.0 -0.3**
MOA Molln 70.27 315 *e*P **P 01 41 53.5 -0.1**
comp=Z,9.0nm,0.9s,SNR=8.1
GBAS Gorenja Brezov 70.39 313 *i* P **P 01 41 54.6 +0.3**
CEL Celeste 70.44 305 **P 01 41 55.1 +0.3**
HSKC Hora Svate Kat 70.49 318 *e*P **P 01 41 55.4 +0.6**
GEC2 GERESS Array S 70.52 316 **P 01 41 55.6 +0.5**
GERES GERESS Array B 70.52 316 P **P 01 41 55.5 +0.3**
comp=Z,7.0nm,0.7s,baz=74,slow=6.0,SNR=60
comp=Z,7.0nm,0.7s
COP Copenhagen 70.54 323 *i* P **P 01 41 54.8 -0.2**
COP IAmb IAmb 01 41 56.8
comp=Z,47nm,1.0s
KHC Kasperske Hory 70.57 316 *e*P **P 01 41 55.0 -0.4**
KHC Kasperske Hory 70.57 316 *e*P **P 01 41 55.5 +0.1**
KHC pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 70.67 319 IAmb IAmb 01 41 59.5
comp=Z,8.7nm,1.1s
CLL Collm 70.67 319 *i* P **P 01 41 55.8 -0.1**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 70.67 319 *i* P **P 01 41 55.8 -0.1**
comp=Z,7.0nm,1.0s
CLL LmV 02 16 00.0
comp=Z,100nm,20.2s
NB2 NORSAR Subarra 70.70 329 P **P 01 41 55.2 -0.8**
comp=Z,3.7nm,0.7s,baz=85,slow=6.2
NOA NORSAR Array B 70.70 329 P **P 01 41 55.2 -0.8**
comp=Z,3.4nm,0.7s,baz=86,slow=6.1,SNR=12
NOA LR LR 02 15 36.6
comp=Z,50nm,18.0s,baz=315,slow=38
comp=Z,3.4nm,0.7s
BIOA Bad Ischl, Aus 70.71 315 *i* P **P 01 41 56.1 -0.2**
comp=Z,3.0nm,0.9s
TRI Trieste 70.89 313 P **P 01 41 56.8 -0.5**
KBA Koelnbreinsper 70.99 314 P **P 01 41 57.7 -0.4**
comp=Z,5.0nm,0.9s,SNR=7.0
BRJN Brijuni 71.02 312 *e*P P 01 41 50.6 -7.5
LESA Schwarzleotal 71.39 315 *e*P **P 01 42 00.0 -0.5**
comp=Z,7.6nm,0.6s,SNR=13
ABTA Abfaltersbach 71.60 314 *i* P **P 01 42 00.7 -1.0**
comp=Z,6.9nm,1.2s
CAMP Campotosto 71.62 310 IAmb IAmb 01 42 05.5
comp=Z,15nm,1.1s
AQU L'Aquila 71.66 309 *e*P **P 01 42 01.4 -0.8**
NRCA Norcia 71.79 310 IAmb IAmb 01 42 06.7
comp=Z,14nm,1.0s
WTTA Wattenberg 72.11 315 *i* P **P 01 42 04.3 -0.6**
comp=Z,13nm,1.4s,SNR=5.1
WATA Walderalm 72.14 315 *e*P **P 01 42 04.2 -0.9**
comp=Z,3.7nm,0.9s
CESX Cesi 72.22 310 IAmb IAmb 01 42 09.4
comp=Z,10nm,1.0s
MUD Monsted U'grnd 72.27 324 *i* P **P 01 42 06.1 +0.7**
MUD IAmb IAmb 01 42 07.2
comp=Z,18nm,0.9s
SQTA Sankt Quirin 72.41 315 *e*P **P 01 42 06.1 -0.6**
comp=Z,7.7nm,0.7s,SNR=6.9
MOTA Moosalm 72.46 315 *e*P **P 01 42 06.3 -0.7**
comp=Z,11nm,0.8s,SNR=9.6
RETA Reutte 72.66 315 *e*P **P 01 42 07.8 -0.3**
comp=Z,12nm,0.7s,SNR=16
FETA Feichten 72.77 314 *i* P **P 01 42 08.5 -0.4**
comp=Z,5.4nm,0.8s,SNR=9.0
OSSC Osservatorio P 73.02 311 IAmb IAmb 01 42 12.6
comp=Z,14nm,1.0s
DAVA Damuels 73.29 315 *e*P **P 01 42 11.7 -0.3**
comp=Z,9.5nm,0.8s
LSZ Lusaka 74.61 248 **P 01 42 20.2 +0.2**
WLF Walferdange 75.26 318 *d*P **P 01 42 22.6 -0.5**
comp=Z,7.8nm,1.1s
BCLA Clavier 75.63 319 *d*P **P 01 42 24.3 -1.0**
BMRD Maredsous 75.99 319 *d*P **P 01 42 27.3 0.0**
KEST Kesra 76.08 303 P **P 01 42 28.8 +0.6**
comp=Z,8.4nm,0.9s,baz=109,slow=2.0,SNR=7.3
comp=Z,8.4nm,0.9s
MATP Matopo 76.58 243 LR LR 02 12 21.3
comp=Z,38nm,20.3s,baz=336,slow=33
DAG Danmarks Havn 76.79 348 *i* P **P 01 42 30.6 -0.8**
DAG IAmb IAmb 01 42 34.0
comp=Z,4.7nm,0.8s
E18K Tukpahlearik C 77.64 23 IAmb IAmb 01 42 37.3
comp=Z,10.0nm,0.8s
D19K Kuna River 78.13 21 IAmb IAmb 01 42 44.6
comp=Z,12nm,1.1s
D20K Etivluk River 78.56 21 IAmb IAmb 01 42 44.9
comp=Z,9.5nm,0.8s
H17K Granite Mounta 78.78 25 IAmb IAmb 01 42 43.8
comp=Z,7.7nm,0.7s
E19K Redstone River 78.84 22 IAmb IAmb 01 42 46.2
comp=Z,6.2nm,0.7s
L14K Kuka Creek 78.85 29 IAmb IAmb 01 42 46.3
comp=Z,9.9nm,0.8s
J16K Anvik River 79.09 27 IAmb IAmb 01 42 45.7
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 79.28 325 P **P 01 42 46.1 +0.6**
comp=Z,4.3nm,0.6s,baz=79,slow=6.2,SNR=16
comp=Z,4.3nm,0.6s
H18K Honhosa River 79.31 24 IAmb IAmb 01 42 46.3
comp=Z,6.4nm,0.8s
F20K Avaraart Lake 79.54 22 IAmb IAmb 01 42 47.4
comp=Z,6.9nm,0.7s
E21K Killik River 79.55 21 IAmb IAmb 01 42 50.1
comp=Z,12nm,0.8s
D22K Ayikyak River 79.78 20 IAmb IAmb 01 42 51.8
comp=Z,8.6nm,0.8s
H19K Roundabout Mou 79.90 24 IAmb IAmb 01 42 52.5
comp=Z,9.6nm,0.9s
F21K Alatna River 80.26 22 IAmb IAmb 01 42 53.9
comp=Z,9.7nm,0.8s
K17K Iditarod 80.28 27 IAmb IAmb 01 42 54.6
comp=Z,13nm,0.8s
D23K Nanushuk River 80.38 20 IAmb IAmb 01 42 52.8
comp=Z,12nm,0.8s
G21K Allakaket 80.57 22 IAmb IAmb 01 42 55.4
comp=Z,7.9nm,0.8s
LBTB Lobatse 81.00 240 LR LR 02 17 05.0
comp=Z,52nm,18.4s,baz=333,slow=34
E23K Chandalar 81.17 20 IAmb IAmb 01 43 00.7
comp=Z,7.1nm,0.8s
H21K Melozitna River 81.21 23 IAmb IAmb 01 42 57.1
comp=Z,10.0nm,0.8s
D25K Kavik River 81.53 18 IAmb IAmb 01 42 58.7
comp=Z,13nm,0.8s
NEEM North Greenlan 81.61 353 *i* P **P 01 42 57.4 -0.7**
NEEM IAmb IAmb 01 43 02.1
comp=Z,7.6nm,0.9s
K20K Telida 81.77 25 IAmb IAmb 01 43 02.6
comp=Z,6.6nm,0.8s
F24K Squaw Lake 82.01 20 IAmb IAmb 01 43 03.7
comp=Z,6.1nm,0.7s
MLY Manley 82.27 23 IAmb IAmb 01 43 05.0
comp=Z,6.6nm,0.8s
H23K Yukon River 82.31 22 IAmb IAmb 01 43 03.1
comp=Z,5.5nm,0.8s
BPAW Bear Paw Mtn. 82.63 24 IAmb IAmb 01 43 07.1
comp=Z,6.8nm,0.6s
F25K Christian Rive 82.70 20 IAmb IAmb 01 43 05.5
comp=Z,9.3nm,0.9s
TAM Tamanrasset 82.82 292 IAmb IAmb 01 43 08.6
comp=Z,3.7nm,0.6s
BOSA Boshof 82.86 237 P **P 01 43 05.5 +0.3**
BOSA Boshof 82.86 237 P **P 01 43 05.7 +0.5**
comp=Z,5.9nm,1.0s,baz=57,slow=6.1,SNR=5.1
BOSA LR LR 02 14 29.0
comp=Z,75nm,19.9s,baz=346,slow=32
comp=Z,5.9nm,1.0s
NEA2 Nenana 83.11 23 IAmb IAmb 01 43 08.2
comp=Z,6.5nm,1.1s
F26K Sheenjek River 83.12 19 IAmb IAmb 01 43 07.3
comp=Z,8.3nm,0.7s
BMAR Burnt Mountain 83.13 20 P **P 01 43 06.4 +0.5**
COLA College 83.41 23 *i*eP **P 01 43 07.1 -0.2**
COLA pmax pmax
comp=Z,7.0nm,0.9s
SKT Skwentna 83.44 26 IAmb IAmb 01 43 14.4
comp=Z,5.9nm,1.0s
SUMG Summit 83.48 347 **P 01 43 07.7 -0.3**
SUMG Summit 83.48 347 *i* P **P 01 43 07.4 -0.7**
RND Reindeer 83.80 24 IAmb IAmb 01 43 11.9
comp=Z,6.6nm,1.0s
IL31 83.82 22 IAmb IAmb 01 43 12.2
comp=Z,4.1nm,0.8s
ILAR Eielson Array 83.82 22 P **P 01 43 08.3 -1.1**
comp=Z,2.6nm,0.7s,baz=303,slow=4.9,SNR=22
comp=Z,2.6nm,0.7s
J25K Salcha River, 84.45 22 IAmb IAmb 01 43 14.8
comp=Z,5.3nm,1.0s
E29M Blow River 84.56 17 IAmb IAmb 01 43 13.6
comp=Z,6.6nm,0.9s
H27K Steamboat Moun 84.81 20 IAmb IAmb 01 43 18.2
comp=Z,4.9nm,0.8s
I26K Coal Creek Min 84.83 21 IAmb IAmb 01 43 15.5
comp=Z,8.5nm,1.1s
ESDC Sonseca Array 85.02 310 P **P 01 43 16.4 +0.3**
ESDC Sonseca Array 85.02 310 P **P 01 43 16.5 +0.4**
comp=Z,2.0nm,0.8s,baz=52,slow=4.4,SNR=15
comp=Z,2.0nm,0.8s
J26L Joseph Creek 85.15 22 IAmb IAmb 01 43 17.0
comp=Z,9.0nm,0.9s
SCRK Sand Creek 85.31 22 IAmb IAmb 01 43 20.2
comp=Z,6.1nm,0.8s
G30M tAoh Zraii Nji 85.97 18 IAmb IAmb 01 43 20.4
comp=Z,6.2nm,0.8s
MENT Mentasta 86.01 23 IAmb IAmb 01 43 24.6
comp=Z,7.1nm,1.0s
L26K Log Cabin Wild 86.10 23 P **P 01 43 20.1 -0.9**
N25K Chitina, Valde 86.44 25 P **P 01 43 22.7 0.0**
N25K IAmb IAmb 01 43 26.5
comp=Z,7.5nm,0.8s
L27K Beaver Creek, 86.63 23 IAmb IAmb 01 43 25.4
comp=Z,12nm,1.4s
M27K Edge Creek, AK 87.04 23 IAmb IAmb 01 43 27.9
comp=Z,7.4nm,1.0s
TORD Torodi Ar. Bea 89.34 284 P **P 01 43 37.2 -0.1**
TORD IAmb IAmb 01 43 47.7
comp=Z,5.5nm,0.8s
TORD Torodi Ar. Bea 89.34 284 P **P 01 43 38.0 +0.6**
comp=Z,2.8nm,0.3s,baz=54,slow=7.4,SNR=8.6
comp=Z,2.8nm,0.3s
PDAR Pinedale Array 114.16 20 PKP **PKiKP 01 49 18.9 -1.3**
comp=Z,0.4nm,0.6s,baz=219,slow=1.9,SNR=4.7
NVAR Mina Array Bea 114.47 29 PKP PKPdf 01 49 21.0 +0.1
comp=Z,0.3nm,0.5s,baz=307,slow=3.5,SNR=4.2
TXAR Lajitas Array 128.32 22 **PKPdf 01 49 46.6 -0.9**
TXAR Lajitas Array 128.32 22 PKP **PKPdf 01 49 47.5 -0.1**
comp=Z,0.9nm,0.5s,baz=197,slow=0.7,SNR=26
BDFB Brasilia 145.12 270 **PKPbc 01 50 17.7 -0.6**
BDFB Brasilia 145.12 270 PKPbc **PKPdf 01 50 18.7 -0.1**
comp=Z,11nm,1.0s,baz=113,slow=3.2,SNR=13
CPUP Villa Florida 154.05 249 PKPbc **PKPbc 01 50 40.2 -0.3**
comp=Z,1.0nm,0.6s,baz=328,slow=2.4,SNR=9.9

WEL 22 01:34:11.3±0.9, 32°S±7°×18°0E±1°8, h241km±22km, mB4.6/2, MLv4.5/8, Mw(mB)3.8/2, Error ellipse: s-maj=25.1km s-min=5.2km az=108.7, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.30**	**42**	P	Pn	01 35 06.2	-0.4
GLKZ				S	S	01 35 50.6	+0.4
MXZ	**Matakaoa Point**	**5.90**	**190**	P	Pn	01 35 39.2	+1.3
MXZ				S	S	01 36 49.4	+2.4
OUZ	**Omahuta**	**6.07**	**234**	P	Pn	01 35 40.3	+0.3
WMGZ	**Waiomatatini S**	**6.13**	**188**	P	Pn	01 35 41.9	+1.1
WMGZ				S	S	01 36 53.0	+0.6
HAZ	**Te Kaha**	**6.17**	**193**	P	Pn	01 35 41.9	+0.6
HAZ				S	S	01 36 54.5	+1.2
PKGZ	**Pakihiroa**	**6.23**	**191**	P	Pn	01 35 39.1	-3.0
PKGZ				S	S	01 36 55.6	+1.0
RUGZ	**Raukumara Rang**	**6.40**	**193**	P	Pn	01 35 45.2	+1.0
PUZ	**Puketiti**	**6.40**	**189**	P	Pn	01 35 45.2	+1.0
PUZ				S	S	01 36 58.2	-0.5
TWGZ	**Tauwhareparae**	**6.55**	**191**	P	Pn	01 35 47.2	+1.1
TWGZ				S	S	01 37 01.4	-0.6
MWZ	**Matawai**	**6.78**	**194**	P	Pn	01 35 50.3	+1.3
URZ	**Urewera**	**6.80**	**196**	P	Pn	01 35 46.3	-2.9
URZ				S	S	01 37 06.9	-0.8
CNGZ	**Carnagh Statio**	**6.82**	**189**	P	Pn	01 35 50.4	+1.0
RIGZ	**Rimuhau**	**7.10**	**191**	P	Pn	01 35 51.9	-1.2
RIGZ				S	S	01 37 12.6	-2.1

JMA ***22*** *01:42:32.7±0.2, 33°.1N±0°.4×141°.0E±0°.8, h52km, MV3.9/37, E OFF HACHIJOJIMA ISLAND*
IDC ***22*** *01:42:33.7±2.3, 33°.04N×140°.86E, h62km±19km, mb3.6/7, mbtmp3.8/8, MS2.3/1, Error ellipse: s-maj=32.0km s-min=19.1km az=79.0*
ISC 22 01:42:32.8±1.5, 33°.11N±0°.06×140°.97E±0°.09, h55km±14km, n31, σ0.66/35, mb4.1/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**271**	P	**Pn**	**01 42 50.5**	**+0.3**
JHJ2				*e*S	**Sn**	**01 43 03.2**	**+0.1**
JHCJ	**Hachijojimakas**	**0.99**	**268**	*e*P	**Pn**	**01 42 50.3**	**-0.2**
JHCJ				*e*S	**Sn**	**01 43 03.0**	**-0.5**
JHJ	**Hachijo jima 2**	**1.00**	**271**	P	**Pn**	**01 42 50.6**	**0.0**
	1μm,0.2s,baz=80,slow=23,SNR=87						
JHJ				S	**Sn**	**01 43 03.2**	**-0.6**
	2μm,0.3s,baz=53,slow=20,SNR=6.0						
JAOM	**Aogashimamukai**	**1.20**	**238**	P	**Pn**	**01 42 54.0**	**+0.5**
JAOM				*e*S	**Sn**	**01 43 08.6**	**-0.1**
JMKN	**Mikurajimanish**	**1.39**	**304**	*e*P	**Pn**	**01 42 56.0**	**0.0**
JMKN				*e*S	**Sn**	**01 43 13.2**	**-0.1**
JMYK	**Miyake Tsubota**	**1.52**	**309**	*e*P	**Pn**	**01 42 58.1**	**+0.5**
JMYK				*e*S	**Sn**	**01 43 16.5**	**+0.1**
BSO1	**Boso 1**	**1.54**	**0**	P	**Pn**	**01 42 58.0**	**+0.5**
BSO1				*e*S	**Sn**	**01 43 16.7**	**+0.6**
BSO3	**Boso 3**	**1.73**	**347**	*e*P	**Pn**	**01 43 00.4**	**+0.1**
BSO3				*e*S	**Sn**	**01 43 21.1**	**-0.1**
JIM2	**Oshima 3**	**2.05**	**322**	*e*S	**Sn**	**01 43 29.3**	**-0.2**
JIZS	**Izushimoda**	**2.37**	**313**	*e*P	**Pn**	**01 43 09.9**	**+0.7**
JIZS				*e*S	**Sn**	**01 43 37.1**	**0.0**
JOD2	**Odawara 2**	**2.66**	**325**	P	**Pn**	**01 43 13.4**	**+0.2**
JOD2				*e*S	**Sn**	**01 43 42.7**	**-1.5**
TK02	**Tokai 2**	**2.81**	**288**	*e*P	**Pn**	**01 43 16.3**	**+1.2**
JYN	**Shimob**	**3.12**	**321**	*e*P	**Pn**	**01 43 20.6**	**+1.0**
TTO2	**TONANKAI O.B.S**	**3.36**	**282**	*e*P	**Pn**	**01 43 23.7**	**+1.2**
JRY	**Ryogami san**	**3.37**	**330**	*e*P	**Pn**	**01 43 23.6**	**+0.6**
JAG	**Ashikaga**	**3.54**	**340**	*e*P	**Pn**	**01 43 25.1**	**-0.1**
JAG				*e*S	**Sn**	**01 44 04.6**	**-1.3**
MJAR	**Matsushiro Arr**	**4.11**	**327**	P	**Pn**	**01 43 34.0**	**+0.9**
	8.6nm,0.4s,baz=198,slow=9.2,SNR=23						
JCJ	**Chichijima**	**6.08**	**170**	LR	LR	01 46 22.8	
	comp=Z,31nm,21.8s,baz=152,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.68**	**113**	T	T	02 17 08.3	
	baz=306,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**26.69**	**114**	T	T	02 16 58.0	
	baz=306,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	02 17 08.0	
	baz=306,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**27.25**	**116**	T	T	02 17 45.0	
	baz=307,slow=75,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**27.25**	**116**	T	T	02 17 49.0	
	baz=307,slow=75,SNR=2.5						
H11S2	**WAKE ISLAND Hy**	**27.26**	**116**	T	T	02 17 45.1	
	baz=307,slow=75,SNR=2.2						
SONM	**Songino Array**	**29.85**	**310**	P	**P**	**01 48 35.4**	**+0.4**
	0.4nm,0.5s,baz=99,slow=9.2,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.99**	**305**	P	**P**	**01 50 50.3**	**-0.3**
	0.4nm,0.5s,baz=92,slow=10,SNR=6.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**48.21**	**311**	P	**P**	**01 51 07.0**	**-0.7**
	0.8nm,0.4s,baz=89,slow=7.6,SNR=5.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**53.13**	**188**	P	**P**	**01 51 44.6**	**-0.5**
	2.8nm,0.4s,baz=4.6,slow=7.6,SNR=58						
	2.8nm,0.4s						
ASAR	**Alice Springs**	**56.86**	**188**	P	**P**	**01 52 11.2**	**-0.8**
	0.9nm,0.5s,baz=14,slow=11,SNR=14						
	0.9nm,0.5s						
PDAR	**Pinedale Array**	**80.69**	**45**	P	**P**	**01 54 40.1**	**-0.2**
	0.2nm,0.5s,baz=312,slow=3.6,SNR=2.1						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**92.80**	**52**	P	**P**	**01 55 40.8**	**+0.9**
	0.5nm,0.7s,baz=296,slow=4.0,SNR=7.2						
	0.5nm,0.7s						

OMAN ***22*** *02:34:46.2±0.1, 27°.78N×55°.28E, h10km, ml3.7/17, Error ellipse: s-maj=4.8km s-min=2.9km az=227.0*
IDC ***22*** *02:34:48.6±1.0, 27°.11N×55°.12E, h0km, mb3.9/10, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=28.0km s-min=21.0km az=19.0*
DSN ***22*** *02:34:50.3±2.0, 27°.37N×55°.08E, h10km, ML3.1/10, Error ellipse: s-maj=25.1km s-min=6.3km az=18.0*
NEIC ***22*** *02:34:51.2±1.9, 27°.21N±0°.09×54°.97E±0°.09, h10km±1km, mb4.1/13, Error ellipse: s-maj=16.8km s-min=12.3km az=38.0*
TEH ***22*** *02:34:52.4, 27°.21N×55°.05E, h18km±13km*
ISC 22 02:34:52.2±1.2, 27°.19N±0°.03×55°.01E±0°.03, h19km±8km, n97, σ1.51/108, mb3.9/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.74**	**311**	Pg	**Pn**	**02 35 06.9**	**-0.9**
GENO	**Geno**	**1.06**	**78**	Pg	**Pg**	**02 35 11.7**	**-1.1**
GENO				Sg	**Sb**	**02 35 26.9**	**+1.2**
IBND	**Bandar-abas**	**1.39**	**79**	Pg	**Pb**	**02 35 17.6**	**0.0**
SHME	**Shamm**	**1.52**	**138**	P	**Pn**	**02 35 19.3**	**+0.8**
	SNR=19						
SHME				S	**Sg**	**02 35 43.5**	**+2.1**
SHME	**Shamm**	**1.52**	**138**	*e*P	**Pn**	**02 35 19.1**	**+0.7**
	SNR=18						
LMD1	**Lamerd**	**1.65**	**276**	Pg	**Pg**	**02 35 24.0**	**+0.1**
BANOM	**Banah**	**1.71**	**137**	P	**Pn**	**02 35 22.0**	**+0.9**
BANOM				S	**Sg**	**02 35 47.7**	**+0.3**
BANOM	**Banah**	**1.71**	**137**	*e*P	**Pn**	**02 35 21.9**	**+0.9**
	SNR=37						
BANOM				S	**Sb**	**02 35 45.0**	**+0.7**
JHRM	**Jahrom**	**1.83**	**316**	Pn	**Pb**	**02 35 24.8**	**-0.3**
MASF	**Masafi**	**2.08**	**150**	P	**Pn**	**02 35 28.1**	**+1.9**
	SNR=24						
MASF				S	**Sb**	**02 35 55.9**	**+0.9**
MSFE	**Esma-Masafi**	**2.09**	**150**	*e*P	**Pn**	**02 35 27.9**	**+1.5**
	SNR=24						
MDH	**Madha**	**2.21**	**148**	P	**Pn**	**02 35 29.2**	**+1.3**
	SNR=9.8						
MDH				S	**Sg**	**02 36 01.5**	**-1.8**
MDH	**Madha**	**2.21**	**148**	*e*P	**Pn**	**02 35 29.2**	**+1.3**
	SNR=9.7						
NAZ	**Nazwa, Dubai**	**2.27**	**165**	P	**Pb**	**02 35 31.6**	**-0.9**
	SNR=6.1						
NAZ				S	**Sg**	**02 36 05.2**	**0.0**
NAZ	**Nazwa, Dubai**	**2.27**	**165**	P	**Pb**	**02 35 31.0**	**-1.5**
UOSS	**Minazif**	**2.48**	**154**		**Pn**	**02 35 32.8**	**+1.2**
UOSS				Sn	**Sn**	**02 36 02.0**	**+0.7**
UOSS	**Minazif**	**2.48**	**154**	P	**Pn**	**02 35 32.9**	**+1.2**
UOSS				S	**Sb**	**02 36 09.1**	**+2.8**
FAQ	**Al Faqa, Dubai**	**2.49**	**168**	P	**Pb**	**02 35 35.7**	**-0.6**
FAQ				S	**Sg**	**02 36 11.7**	**-0.6**
KHNJ	**Kahnooj**	**2.51**	**72**	Pn	**Pn**	**02 35 32.7**	**+0.6**
HATD	**Hatta, Dubai**	**2.56**	**156**	P	**Pn**	**02 35 34.4**	**+1.6**
	SNR=14						
HATD	**Hatta, Dubai**	**2.56**	**156**	*e*P	**Pn**	**02 35 34.0**	**+1.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.57**	**173**	P	**Pb**	**02 35 37.5**	**-0.2**
ASUD				S	**Sg**	**02 36 15.0**	**+0.2**
ASHO	**Ashiyiah**	**2.67**	**159**	P	**Pn**	**02 35 36.1**	**+1.9**
	SNR=41						
ASHO				S	**Sb**	**02 36 12.6**	**+0.8**
ASHO	**Ashiyiah**	**2.67**	**159**	*e*P	**Pn**	**02 35 36.1**	**+1.9**
	SNR=31						
NGRK	**Negar Kerman**	**2.88**	**31**	Pn	**Pn**	**02 35 38.9**	**+1.4**
JRN	**Qarnain Island**	**2.96**	**221**	P	**Pn**	**02 35 40.9**	**+2.7**
KRBR	**Kerman**	**3.18**	**29**	Pn	**Pn**	**02 35 43.2**	**+1.6**
ALNE	**Al Ain**	**3.19**	**168**	P	**Pn**	**02 35 43.6**	**+2.2**
SOHO	**SOHO**	**3.34**	**155**	P	**Pn**	**02 35 43.9**	**+0.5**
SOHO	**SOHO**	**3.34**	**155**	P	**Pn**	**02 35 43.9**	**+0.5**
KHGB	**Koh Gabri**	**3.43**	**22**	Pn	**Pn**	**02 35 47.2**	**+2.2**
CHMN	**Cheshme madani**	**3.47**	**39**	Pn	**Pn**	**02 35 47.6**	**+2.0**
DSBU	**Dashti - Bushe**	**3.52**	**290**	Pn	**Pn**	**02 35 48.4**	**+2.4**
MZWR	**Madinat Zayed**	**3.56**	**197**	P	**Pn**	**02 35 50.3**	**+3.8**
KBAM	**BAM**	**3.61**	**57**	Pn	**Pn**	**02 35 49.1**	**+1.8**
KRM1	**Kerman Provinc**	**3.85**	**30**	Pn	**Pn**	**02 35 52.3**	**+1.5**
SHMA	**Al-Shehemyia**	**3.86**	**251**	P	**Pn**	**02 35 53.0**	**+2.4**
ARQ	**Araqi**	**4.07**	**160**	P	**Pn**	**02 35 56.0**	**+2.4**
	SNR=13						
HOQ	**Hoqain**	**4.15**	**149**	P	**Pn**	**02 35 57.1**	**+2.5**
HOQ	**Hoqain**	**4.15**	**149**	Pn	**Pn**	**02 35 57.0**	**+2.4**
IMEH	**Mehriz**	**4.20**	**355**	Pn	**Pn**	**02 35 57.5**	**+1.9**
IBAF	**Bafgh**	**4.42**	**6**	Pn	**Pn**	**02 36 00.1**	**+1.6**
UMZA	**Um Al Zommool**	**4.46**	**178**	P	**Pn**	**02 36 00.2**	**+1.4**
SMRA	**Abu-Samra**	**4.48**	**238**	P	**Pn**	**02 36 01.3**	**+2.2**
KLNJ	**Kolanjah**	**4.84**	**323**	Pn	**Pn**	**02 36 06.5**	**+2.1**
SMDO	**Samad**	**4.95**	**145**	P	**Pn**	**02 36 04.5**	**-1.2**
SMDO				S	**Sn**	**02 37 04.9**	**+2.4**
ICHK	**Chekchek**	**5.07**	**354**	Pn	**Pn**	**02 36 09.2**	**+1.7**
WSAR	**Wadi Sarin**	**5.12**	**139**	P	**Pn**	**02 36 06.0**	**-2.0**
IRAM	**Ramesheh**	**5.14**	**334**	Pn	**Pn**	**02 36 10.6**	**+2.1**
CHBR	**Chabahar**	**5.16**	**107**	Pn	**Pn**	**02 36 09.4**	**+0.9**
JMDO	**Jabal Madar**	**5.56**	**149**	P	**Pn**	**02 36 14.7**	**+0.7**
IGAR	**Gharneh**	**5.80**	**334**	Pn	**Pn**	**02 36 19.5**	**+1.9**
BSRN	**Basiran**	**5.96**	**36**	Pn	**Pn**	**02 36 21.2**	**+1.5**
TPRV	**Parvadeh(Tabas**	**6.00**	**14**	Pn	**Pn**	**02 36 22.0**	**+1.9**
NHDN	**Nehbandan**	**6.08**	**45**	Pn	**Pn**	**02 36 22.9**	**+1.6**
ANAR	**Anarak**	**6.08**	**350**	Pn	**Pn**	**02 36 23.0**	**+1.7**
IZEF	**Zefreh**	**6.15**	**338**	Pn	**Pn**	**02 36 23.4**	**+1.1**
IKOO	**Kooshah**	**6.27**	**33**	Pn	**Pn**	**02 36 25.6**	**+1.6**
JLN	**Jalan Bani Buh**	**6.42**	**140**	P	**Pn**	**02 36 25.6**	**-0.2**
IPIR	**Pirpir**	**6.54**	**328**	Pn	**Pn**	**02 36 29.6**	**+1.8**
SRVN	**Saravan**	**6.58**	**86**	Pn	**Pn**	**02 36 29.9**	**+1.7**
TKDS	**Koohdasht(Taba**	**6.66**	**15**	Pn	**Pn**	**02 36 31.1**	**+1.8**
IKLH	**Kolahrood**	**6.79**	**335**	Pn	**Pn**	**02 36 32.4**	**+1.2**
TNSJ	**Nastanj**	**6.89**	**11**	Pn	**Pn**	**02 36 33.8**	**+1.4**
ISFB	**Sefidab**	**7.53**	**342**	Pn	**Pn**	**02 36 43.1**	**+2.0**
DQM	**DQM**	**7.59**	**162**	P	**Pn**	**02 36 41.5**	**-0.4**
SHAO	**Shalim**	**9.14**	**176**	*i* P	**Pn**	**02 37 03.4**	**+0.3**
	SNR=8.0						
RAYN	**Ar Rayn**	**9.34**	**249**		**Pn**	**02 37 04.9**	**-1.0**
RAYN	**Ar Rayn**	**9.34**	**249**	*i* P	**Pn**	**02 37 05.1**	**-0.9**
	SNR=7.4						
GAR	**Garm**	**17.39**	**44**		**P**	**02 38 55.6**	**+0.5**
MMAI	**Mount Meron Ar**	**17.92**	**294**	P	**P**	**02 39 01.0**	**-0.1**
	0.5nm,0.3s,baz=128,slow=11,SNR=1.3						
	0.3nm,0.2s						
KBZ	**Khabaz**	**19.19**	**332**	P	**Pn**	**02 39 19.3**	**+3.5**
	0.7nm,0.5s,baz=194,slow=4.2,SNR=1.3						
BRTR	**Keskin Array B**	**21.71**	**311**	P	**P**	**02 39 40.1**	**-2.3**
**BRTR

HFS	**Hagfors**	43.26 331	P	P	02 42 51.7	-0.5
	comp=Z,1.5nm,0.7s,baz=108,slow=14,SNR=4.3					
	comp=Z,1.5nm,0.7s					
SSB	**Saint Sauveur**	43.77 308	P	P	02 42 56.8	+0.1
NC405	**NORSAR Array S**	44.59 332	P	P	02 43 01.3	-1.6
TORD	**Torodi Ar. Bea**	51.60 265	P	P	02 43 57.5	-0.3
TORD	**Torodi Ar. Bea**	51.60 265	P	P	02 43 57.9	+0.1
	comp=Z,3.8nm,0.4s,baz=57,slow=9.8,SNR=6.8					
	comp=Z,3.8nm,0.4s					
FITZ	**Fitzroy Crossi**	81.91 115	IAmb	IAmb	02 47 48.8	
	comp=Z,2.3nm,1.5s					
FITZ	**Fitzroy Crossi**	81.91 115	P	P	02 47 10.5	-0.5
	comp=Z,1.3nm,0.6s,baz=326,slow=3.6,SNR=2.2					
	comp=Z,1.3nm,0.6s					
WRA	**Warramunga Arr**	89.94 112	P	P	02 47 49.1	-1.6
	comp=Z,0.5nm,0.7s,baz=309,slow=3.9,SNR=4.6					
	comp=Z,0.5nm,0.7s					
ASAR	**Alice Springs**	91.38 116	P	P	02 47 55.9	-1.5
	comp=Z,0.4nm,0.6s,baz=303,slow=4.9,SNR=4.5					
	comp=Z,0.4nm,0.6s					

IDC 22 02:39:33.0±9.2, 5.75S×150.97E, h76km±61km, mb3.8/4, mbtmp4.1/5, ML2.2/1, MS3.3/1, Error ellipse: s-maj=70.5km s-min=63.5km az=160.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.24	226	P	Pn	02 40 49.4	+0.6
	5.8nm,0.3s,baz=10.0,slow=5.1,SNR=8.5						
PMG				S	Sn	02 41 48.3	+0.5
	29nm,0.3s,baz=64,slow=21,SNR=6.5						
	26nm,0.4s						
WRA	**Warramunga Arr**	21.46	227	P	P	02 44 15.2	-0.1
	2.5nm,0.5s,baz=52,slow=10,SNR=33						
	2.5nm,0.5s						
DZM	**Mont Dzumac**	22.07	139	LR	LR	02 51 45.4	
	comp=Z,72nm,19.5s,baz=268,slow=33						
ASAR	**Alice Springs**	24.23	221	P	P	02 44 43.5	+0.6
	2.3nm,0.6s,baz=57,slow=9.0,SNR=28						
	2.3nm,0.6s						
STKA	**Stephens Creek**	27.43	198	P	P	02 45 10.8	-0.9
	2.3nm,1.0s,baz=50,slow=13,SNR=3.2						
	2.3nm,1.0s						
FITZ	**Fitzroy Crossi**	27.60	241	P	P	02 45 13.5	+0.1
	2.2nm,0.5s,baz=62,slow=8.7,SNR=3.1						
	2.2nm,0.5s						

IDC 22 02:54:23.9±2.5, 1.99N×100.95W, h0km, mb3.9/5, mbtmp3.9/5, MS3.3/9, Error ellipse: s-maj=113.4km s-min=25.1km az=54.0
NEIC 22 02:54:25.6±1.1, 2.0N±0.1×100.97W±0.05, h10km±1km, mb4.4/29, Error ellipse: s-maj=26.1km s-min=4.5km az=195.0
ISC 22 02:54:25.7±1.0, 2.1N±0.2×100.9W±0.2, h10km, n52, σ0.73/40, mb4.3/20, MS3.2/7, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	10.92	105	Pn	Pn	02 57 03.0	+0.8
CMIG	**Matias Romero**	16.01	21	LR	LR	03 02 48.2	
	comp=Z,132nm,19.9s,baz=167,slow=31						
JTS	**Las Juntas de**	17.77	62	LR	LR	03 03 16.9	
	comp=Z,62nm,19.0s,baz=277,slow=30						
H06E1	**SOCORRO T-PHASE**	19.29	330	T	T	03 18 39.2	
	SNR=4.1						
OTAV	**Otavalo**	22.48	94	P	P	02 59 25.5	-0.5
LPIG	**La Paz**	23.70	338	LR	LR	03 06 46.0	
	comp=Z,55nm,20.9s,baz=220,slow=31						
TXAR	**Lajitas Array**	27.21	355	P	P	03 00 09.7	-0.2
TXAR	**Lajitas Array**	27.21	355	P	P	03 00 10.8	+0.8
	2.0nm,0.7s,baz=174,slow=11,SNR=26						
TXAR				PcP	PcP	03 03 30.4	+0.1
	0.2nm,0.6s,baz=167,slow=4.5,SNR=4.0						
TXAR				LR	LR	03 09 46.9	
	comp=Z,54nm,18.8s,baz=94,slow=34						
	2.0nm,0.7s						
TX31	**Lajitas Ar. Si**	27.21	355	P	P	03 00 10.7	+0.7
SAND	**Sanderson**	27.72	358	P	P	03 00 14.9	+0.4
SAND				IAmb	IAmb	03 00 16.1	
	comp=Z,4.0nm,0.9s						
ALPN	**Alpine**	28.24	355	P	P	03 00 20.2	+1.0
ANMO	**Albuquerque**	33.09	352	LR	LR	03 13 30.2	
	comp=Z,149nm,18.5s,baz=264,slow=34						
R40A	**Maddies Statio**	36.86	11	P	P	03 01 33.6	-0.7
R40A				IAmb	IAmb	03 01 34.3	
	comp=Z,5.8nm,0.7s						
TKL	**Tuckaleechee C**	36.95	23	LR	LR	03 17 22.1	
	comp=Z,33nm,18.0s,baz=113,slow=37						
LPAZ	**La Paz**	37.13	121	P	P	03 01 37.3	-0.4
LPAZ	**La Paz**	37.13	121	P	P	03 01 37.7	+0.1
	comp=Z,0.5nm,0.5s,baz=303,slow=6.6,SNR=6.4						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	39.52	338	P	P	03 01 58.3	+1.2
NVAR	**Mina Array Bea**	39.52	338	P	P	03 01 59.2	+2.1
	comp=Z,0.7nm,0.7s,baz=156,slow=8.2,SNR=6.0						
NVAR				LR	LR	03 16 40.9	
	comp=Z,21nm,18.1s,baz=110,slow=34						
	comp=Z,0.7nm,0.7s						
HWUT	**Hardware Ranch**	40.49	348	P	P	03 02 05.4	+0.4
H03N2	**Juan Fernandez**	40.96	152	T	T	03 45 56.6	
	baz=328,slow=78,SNR=22						
H03N1	**Juan Fernandez**	40.97	152	T	T	03 46 00.8	
	baz=328,slow=78,SNR=23						
H03N3	**Juan Fernandez**	40.98	152	T	T	03 45 48.5	
	baz=328,slow=78,SNR=28						
PD31	**Pinedale Array**	41.23	350	P	P	03 02 11.2	+0.1
PDAR	**Pinedale Array**	41.23	350	P	P	03 02 10.9	-0.2
PDAR	**Pinedale Array**	41.23	350	P	P	03 02 11.2	+0.1
	comp=Z,1.7nm,0.6s,baz=146,slow=9.0,SNR=22						
PDAR				LR	LR	03 18 16.7	
	comp=Z,30nm,19.8s,baz=70,slow=35						
	comp=Z,1.7nm,0.6s						
LOHW	**Long Hollow**	42.23	349	P	P	03 02 19.0	-0.3
F07A	**Phinny Hill Vi**	46.71	342	P	P	03 02 56.3	+1.5
PLCA	**Paso Flores**	50.81	150	LR	LR	03 19 28.4	
	comp=Z,72nm,20.7s,baz=224,slow=30						
IL31		70.71	341	P	P	03 05 41.7	+0.1
IL31				IAmb	IAmb	03 05 43.4	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	70.71	341	P	P	03 05 41.5	-0.2
ILAR	**Eielson Array**	70.71	341	P	P	03 05 41.0	-0.7
	comp=Z,1.2nm,0.7s,baz=153,slow=4.9,SNR=19						
	comp=Z,1.2nm,0.7s						
PRP	**Porcupine Dome**	70.77	342	P	P	03 05 41.5	-0.6
PRP				IAmb	IAmb	03 05 44.8	
	comp=Z,2.7nm,1.0s						
TRF	**Thorofare Moun**	71.06	339	P	P	03 05 43.9	-0.1
TRF				IAmb	IAmb	03 05 44.8	
	comp=Z,2.6nm,1.0s						
M20K	**Styx River**	71.23	337	P	P	03 05 44.6	-0.3
M20K				IAmb	IAmb	03 05 59.5	
	comp=Z,3.8nm,1.2s						
PPLA	**Purkeypile**	71.43	338	P	P	03 05 46.1	-0.2
PPLA				IAmb	IAmb	03 05 46.8	
	comp=Z,9.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	71.69	339	P	P	03 05 47.3	-0.3
BPAW				IAmb	IAmb	03 05 50.5	
	comp=Z,3.4nm,1.3s						
H24K	**Noodor Dome**	71.72	342	P	P	03 05 47.7	-0.1
H24K				IAmb	IAmb	03 06 17.3	
	comp=Z,9.2nm,1.5s						
PMSA	**Palmer Station**	71.95	164	P	P	03 05 49.0	0.0
D27M	**Malcolm River**	72.15	346	P	P	03 05 49.2	-1.1
G24K	**Hadweenzic Riv**	72.15	342	P	P	03 05 50.4	+0.1
G24K				IAmb	IAmb	03 05 53.9	
	comp=Z,6.7nm,1.4s						
O16K	**Kokwok River B**	72.15	333	P	P	03 05 50.0	-0.4
MLY	**Manley**	72.16	340	P	P	03 05 50.0	-0.4
MLY				IAmb	IAmb	03 05 53.9	
	comp=Z,3.5nm,1.3s						
F25K	**Christian Rive**	72.20	344	P	P	03 05 51.0	+0.3
H23K	**Yukon River**	72.25	341	P	P	03 05 51.1	+0.2
H23K				IAmb	IAmb	03 05 51.5	
	comp=Z,5.7nm,1.4s						
K20K	**Telida**	72.40	338	P	P	03 05 50.8	-1.1
K20K				IAmb	IAmb	03 05 53.4	
	comp=Z,4.3nm,1.1s						
L18K	**Granite Mounta**	72.83	336	P	P	03 05 53.6	-0.9
L18K				IAmb	IAmb	03 06 10.0	
	comp=Z,6.8nm,1.3s						
J20K	**Nowinta River**	72.88	338	P	P	03 05 54.1	-0.5
J20K				IAmb	IAmb	03 06 01.9	
	comp=Z,4.7nm,1.3s						
D25K	**Kavik River**	73.57	345	P	P	03 05 57.9	-0.8
AKUT	**Akutan**	73.81	326	P	P	03 05 59.3	-1.1
H11S2	**WAKE ISLAND Hy**	91.65	288	T	T	04 49 18.1	
	baz=85,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	91.66	288	T	T	04 49 22.3	
	baz=85,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hy**	91.67	288	T	T	04 49 22.2	
	baz=85,slow=74,SNR=14						

IDC 22 02:58:26.3±0.7, 18.68S×172.54W, h0km, mb4.1/9, mbtmp4.1/9, MS3.5/7, Error ellipse: s-maj=38.7km s-min=18.4km az=143.0
NEIC 22 02:58:27.2±1.8, 19.02S±0.10×172.20W±0.07, h10km±1km, mb4.5/30, Error ellipse: s-maj=16.5km s-min=11.2km az=186.0
ISC 22 02:58:26.9±0.4, 19.0S±0.1×172.16W±0.06, h10km, n98, σ1.58/79, mb4.5/23, MS3.5/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	2.11	91		Pn	02 59 02.4	+0.1
AFI	**Afiamalu**	5.11	4		Pn	02 59 32.3	-11
MSVF	**Nonsavu**	9.39	276	Pn	Pn	03 00 40.2	-2.2
RAR	**Rarotonga**	11.83	103		Pn	03 01 16.7	+0.9
RAR	**Rarotonga**	11.83	103	Pn	Pn	03 01 15.9	+0.1
	1.9nm,0.3s,baz=231,slow=2.7,SNR=8.0						
RAR				Sn	Sn	03 03 19.8	-8.1
	0.5nm,0.3s,baz=90,slow=20,SNR=1.7						
MARNC	**Mare, Loyalty**	18.75	259	P	P	03 02 44.9	-1.2
PINNC	**Pines Island,**	19.39	256	P	P	03 02 52.9	-0.3
PINNC				IAmb	IAmb	03 02 59.5	
	comp=Z,37nm,1.0s						
DZM	**Mont Dzumac**	20.26	258	P	P	03 03 03.6	+0.8
	comp=Z,13nm,0.7s,baz=73,slow=17,SNR=8.4						
PPT2	**Papeete2**	21.48	90	eS	S	03 07 10.4	-4.1
	comp=Z,132nm,23.0s						
PPT2				eLR	LR	03 08 21.3	
	comp=Z,136nm,22.5s						
PPT2				eLR	LR	03 08 29.2	
	comp=Z,125nm,20.8s						
TBI	**Tubuai**	21.58	105	eS	S	03 07 07.5	-8.7
	comp=Z,578nm,22.0s						
TBI				eLR	LR	03 08 32.0	
	comp=Z,442nm,23.2s						
BFZ	**Birch Farm**	23.75	202	P	P	03 03 37.8	-1.7
TAOE	**Nuku Hiva Isla**	32.62	76	eLR	LR	03 13 20.5	
	comp=Z,90nm,25.8s						
EIDS	**Eidsvold**	34.53	253	P	P	03 05 15.2	-0.5
EIDS				IAmb	IAmb	03 05 23.8	
	comp=Z,6.8nm,1.1s						
ARMA	**Armidale**	34.65	244	P	P	03 05 16.4	-0.4
RKT	**Rikitea**	34.87	103	eLR	LR	03 14 41.7	
	comp=Z,14μm,37.0s						
COEN	**Coen**	43.04	270	P	P	03 06 27.1	-0.1
COEN				IAmb	IAmb	03 06 38.7	
	comp=Z,8.8nm,1.0s						
STKA	**Stephens Creek**	43.37	244	P	P	03 06 29.3	-0.4
STKA				IAmb	IAmb	03 06 35.9	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	43.37	244	P	P	03 06 28.9	-0.8
	comp=Z,1.4nm,0.4s,baz=350,slow=20,SNR=11						
	comp=Z,1.4nm,0.4s						
H11N3	**WAKE ISLAND Hy**	43.65	331	T	T	03 52 36.5	
	baz=150,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	43.65	331	T	T	03 52 37.5	
	baz=150,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	43.66	331	T	T	03 52 38.3	
	baz=150,slow=76,SNR=14						
INKA	**Innaminka**	43.87	250	P	P	03 06 32.6	-1.1
MGBR	**Mount Gambier**	45.05	235	P	P	03 06 41.2	-1.7
BBOO	**Buckleboo**	48.11	243	P	P	03 07 06.9	-0.3
BBOO				IAmb	IAmb	03 07 20.9	
	comp=Z,8.9nm,1.1s						
WR8	**Warramunga Arr**	50.11	260	P	P	03 07 20.6	-2.0
WR8				IAmb	IAmb	03 07 23.1	
	comp=Z,5.8nm,1.1s						
AS31	**Alice Springs**	50.21	255		P	03 07 22.4	-1.0
ASAR	**Alice Springs**	50.21	255		P	03 07 22.1	-1.3
ASAR	**Alice Springs**	50.21	255	P	P	03 07 22.6	-0.8
	comp=Z,5.8nm,0.8s,baz=92,slow=7.7,SNR=55						
	comp=Z,5.8nm,0.8s						
WB0	**Warramunga Arr**	50.24	260		P	03 07 22.2	-1.4
WRA	**Warramunga Arr**	50.26	260		P	03 07 21.8	-2.1
WRA	**Warramunga Arr**	50.26	260	P	P	03 07 21.3	-2.6
	comp=Z,5.3nm,0.6s,baz=97,slow=8.6,SNR=42						
	comp=Z,5.3nm,0.6s						
MTN	**Manton Dam**	54.69	268	P	P	03 07 55.6	-1.0
FORT	**Forrest**	54.91	245	P	P	03 07 58.6	+0.5
FORT				IAmb	IAmb	03 08 01.6	
	comp=Z,7.2nm,0.8s						
KNRA	**Kununurra**	56.27	264	P	P	03 08 06.6	-1.5
KNRA				IAmb	IAmb	03 08 11.0	
	comp=Z,4.2nm,0.8s						
RPN	**Rapa Nui**	57.85	111	LR	LR	03 26 09.1	
	comp=Z,43nm,21.8s,baz=218,slow=28						
FITZ	**Fitzroy Crossi**	58.69	260	P	P	03 08 23.3	-1.8
VNDA	**Vanda**	59.90	186	P	P	03 08 33.5	+0.9
VNDA	**Vanda**	59.90	186	P	P	03 08 35.6	+3.0
	comp=Z,0.9nm,1.0s,baz=328,slow=4.4,SNR=3.3						
	comp=Z,0.9nm,1.0s						
JCJ	**Chichijima**	63.74	315	LR	LR	03 31 32.8	
	comp=Z,31nm,20.6s,baz=137,slow=31						
DAV	**Davao City (W)**	66.59	287	LR	LR	03 35 51.6	
	comp=Z,28nm,19.1s,baz=280,slow=34						
KIWB	**Kanaga Island**	70.72	357	P	P	03 09 43.0	+0.1
QSPA	**South Pole Qui**	71.03	180	P	P	03 09 48.7	+3.8
QSPA				IAmb	IAmb	03 09 52.6	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	71.03	180	P	P	03 09 52.1	+7.2
	comp=Z,3.1nm,1.0s,baz=46,slow=0.9,SNR=8.4						
MJAR	**Matsushiro Arr**	72.47	320	LR	LR	03 35 45.7	
	comp=Z,26nm,20.2s,baz=168,slow=31						
ELS	**Elsinore Mount**	73.93	45	P	P	03 10 02.9	+0.3
ELS				IAmb	IAmb	03 10 03.7	
	comp=Z,4.3nm,1.1s						
LPIG	**La Paz**	73.97	57	LR	LR	03 34 00.6	
	comp=Z,51nm,19.6s,baz=288,slow=29						
JNU	**Nakatsue**	75.14	313	LR	LR	03 35 17.9	
	comp=Z,30nm,20.7s,baz=80,slow=30						
NVAR	**Mina Array Bea**	76.26	41	P	P	03 10 16.6	+0.5
	comp=Z,0.7nm,0.7s,baz=247,slow=6.9,SNR=7.3						
	comp=Z,0.7nm,0.7s						
K15K	**Wolf Creek Mou**	81.50	5	P	P	03 10 43.7	-0.3
K15K				IAmb	IAmb	03 10 47.3	
	comp=Z,7.4nm,1.1s						
TX31	**Lajitas Ar. Si**	81.67	55	P	P	03 10 46.6	+0.7
TXAR	**Lajitas Array**	81.67	55	P	P	03 10 48.0	+2.2
	comp=Z,0.7nm,0.7s,baz=217,slow=7.9,SNR=11						
	comp=Z,0.7nm,0.7s						
H03S2	**Juan Fernandez**	82.22	123	T	T	04 41 38.1	
	baz=250,slow=75,SNR=46						
H03S1	**Juan Fernandez**	82.23	123	T	T	04 41 45.0	
	baz=250,slow=75,SNR=43						
H03S3	**Juan Fernandez**	82.24	123	T	T	04 41 41.1	
	baz=250,slow=75,SNR=31						
H03N2	**Juan Fernandez**	82.34	123	T	T	04 41 43.5	
	baz=257,slow=73,SNR=9.4						
H03N3	**Juan Fernandez**	82.34	123	T	T	04 41 45.0	
	baz=257,slow=73,SNR=7.8						
H03N1	**Juan Fernandez**	82.35	123	T	T	04 41 44.3	
	baz=257,slow=73,SNR=9.6						
NJ2	**Nanjing**	83.30	307	eP	P	03 10 53.3	-0.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BW06	**Boulder Array**	84.19	41	P	P	03 10 58.5	-0.3
BW06				IAmb	IAmb	03 11 01.8	
	comp=Z,3.0nm,0.9s						
PD31	**Pinedale Array**	84.19	41	P	P	03 10 58.4	-0.4
PD31				IAmb	IAmb	03 10 59.8	
	comp=Z,2.6nm,0.9s						
PDAR	**Pinedale Array**	84.19	41	P	P	03 10 59.0	+0.2
	comp=Z,1.7nm,0.8s,baz=213,slow=3.9,SNR=16						
	comp=Z,1.7nm,0.8s						
YHL	**Hebgen Lake**	84.34	39		P	03 11 00.2	+0.6
WRH	**Wood River Hil**	85.29	10		P	03 11 02.6	-1.0
WRH				IAmb	IAmb	03 11 03.6	
	comp=Z,5.5nm,1.1s						
ILAR	**Eielson Array**	85.78	11	P	P	03 11 04.4	-1.5
	comp=Z,0.4nm,0.6s,baz=224,slow=5.9,SNR=18						
	comp=Z,0.4nm,0.6s						
J26L	**Joseph Creek**	86.15	12	P	P	03 11 08.1	+0.1
J26L				IAmb	IAmb	03 11 16.5	
	comp=Z,3.8nm,1.0s						
SNAA	**Sanae**	89.23	177	P	P	03 11 22.6	-0.2
SNAA				IAmb	IAmb	03 11 29.1	
	comp=Z,3.0nm,1.1s						
SNAA	**Sanae**	89.23	177	P	P	03 11 25.2	+2.5
	comp=Z,1.3nm,0.9s,baz=140,slow=2.4,SNR=4.1						
	comp=Z,1.3nm,0.9s						
HHC	**Hu-ho-hao-te**	92.35	312	eP	P	03 11 38.4	+0.6
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
PZH	**PanZhiHua**	94.95	296	P	P	03 11 51.3	+1.2
SONM	**Songino Array**	98.33	318	LR	LR	03 52 25.9	
	comp=Z,12nm,19.8s,baz=128,slow=33						
KURK	**Kurchatov**	116.64	318		PKPdf	03 17 11.3	+0.1
KURBB	**Kurchatov Arra**	116.70	318	PKP	PKPdf	03 17 11.3	0.0
	comp=Z,0.3nm,0.3s,baz=61,slow=2.7,SNR=4.2						
OSTC	**Ostas**	147.85	350	ePKP	PKiKP	03 18 13.5	-0.6
DPC	**Dobruska-Polom**	148.04	350	ePKP	PKiKP	03 18 14.0	-0.5
STEB	**Steborice**	148.17	348	ePKP	PKPbc	03 18 13.5	+0.5
KRLC	**Kraliky**	148.22	349	ePKP	PKPbc	03 18 14.1	+0.9
KRLC				epPKP	sPKPab	03 18 19.7	+1.5
PRU	**Pruhonice**	148.66	352	ePKP	PKiKP	03 18 15.6	-0.1
KHC	**Kasperske Hory**	149.63	353	ePKP	PKiKP	03 18 17.7	-0.1
BRTR	**Keskin Array B**	149.69	318		PKPbc	03 18 17.9	+0.5
BRTR	**Keskin Array B**	149.69	318	PKPbc	PKiKP	03 18 18.1	-0.2
	comp=Z,2.9nm,0.7s,baz=142,slow=2.2,SNR=20						
CKRC	**Cesky Krumlov**	149.84	351	ePKP	PKiKP	03 18 18.2	0.0
GERES	**GERESS Array B**	149.89	352	PKPbc	PKPbc	03 18 17.9	+0.4
	comp=Z,0.9nm,0.6s,baz=14,slow=2.8,SNR=8.6						
CONA	**Conrad Observa**	150.45	349	i PKiKP	PKiKP	03 18 20.3	+0.7
	comp=Z,3.8nm,1.0s						
RONA	**Rosalia, Austr**	150.59	348	i PKiKP	PKiKP	03 18 20.4	+0.6
	comp=Z,3.1nm,0.7s						
MOA	**Molln**	150.79	351	i PKiKP	PKiKP	03 18 20.5	+0.3
	comp=Z,1.3nm,0.5s						
BIOA	**Bad Ischl, Aus**	151.03	352	ePKiKP	PKiKP	03 18 21.6	+0.9
	comp=Z,1.4nm,0.6s						
RETA	**Reutte**	151.53	356	i pPKP	PKiKP	03 18 23.2	+1.4
	comp=Z,2.4nm,0.7s						
WATA	**Walderalm**	151.61	355	i PKiKP	PKiKP	03 18 22.3	+0.2
	comp=Z,1.5nm,0.5s						
MOTA	**Moosalm**	151.64	355	i PKiKP	PKiKP	03 18 22.5	+0.3
	comp=Z,5.2nm,1.0s						
KBA	**Koelnbreinsper**	151.67	352	i PKiKP	PKiKP	03 18 22.5	+0.2
	comp=Z,1.8nm,0.6s						
WTTA	**Wattenberg**	151.68	355	i PKiKP	PKiKP	03 18 22.9	+0.6
	comp=Z,5.5nm,0.6s						
MMAI	**Mount Meron Ar**	151.70	305	PKPbc	PKiKP	03 18 23.6	+1.0
	comp=Z,0.6nm,0.2s,baz=40,slow=2.5,SNR=4.3						
SQTA	**Sankt Quirin**	151.76	355	i PKiKP	PKiKP	03 18 22.9	+0.6
	comp=Z,2.2nm,0.5s						
DAVA	**Damuels**	151.78	357	i PKiKP	PKiKP	03 18 23.3	+0.8
	comp=Z,3.0nm,0.7s						
SOKA	**Soboth**	151.81	349	i PKiKP	PKPbc	03 18 22.4	+0.3
	comp=Z,2.7nm,0.9s						
FETA	**Feichten**	151.99	356	i PKiKP	PKiKP	03 18 23.7	+0.8
	comp=Z,3.4nm,0.8s						
OBKA	**Obir**	152.05	350	i pPKP	PKiKP	03 18 24.0	+1.0
	comp=Z,1.2nm,0.6s						
ABTA	**Abfaltersbach**	152.10	353	i PKiKP	PKPbc	03 18 23.2	+0.5
	comp=Z,4.7nm,0.6s						

NAO 22 03:07:44.4±1.1, 71.69N×2.29W, ML3.2
IDC 22 03:07:47.1±1.8, 71.61N×1.19W, h0km, mb3.6/2, mbtmp3.8/7, ML2.9/5, MS3.4/19, Error ellipse: s-maj=36.8km s-min=20.0km az=64.0
BER 22 03:07:47.6±3.6, 71.84N×2.07W, h10km, Mw4.0, ML3.2(NAO), Confirmed Earthquake
ISC 22 03:07:44.7±1.1, 71.8N±0.1×1.83W±0.09, h10km, n55, σ1.90/41, MS3.3/15, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	5.92	304	Pn	Pn	03 09 10.1	-2.2
DBG	**Daneborg**	5.92	304	Pn	Pn	03 09 10.1	-2.2
DBG	**Daneborg**	5.92	304	i P	Pn	03 09 10.2	-2.2
DBG				eS	Sn	03 10 08.8	-11
DAG	**Danmarks Havn**	6.74	325	eP	Pn	03 09 22.1	-1.3
DAG	**Danmarks Havn**	6.74	325	eP	Pn	03 09 22.4	-1.1
DAG				i S	Sn	03 10 28.3	-12
HSPB	**Hornsund (broa**	6.98	34	Pn	Pn	03 09 29.6	+2.9
HSPB	**Hornsund (broa**	6.98	34	eP	Pn	03 09 29.3	+2.6
TRO	**Tromso**	7.19	98	Pn	Pn	03 09 29.0	-0.6
TRO				Sn	Sn	03 10 47.1	-4.1
TRO	**Tromso**	7.19	98	eP	Pn	03 09 29.6	0.0
TRO				Sn	Sn	03 10 47.1	-4.1
VAGH	**Vaagaholmen**	7.37	126	eP	Pn	03 09 32.4	+0.3
FAUS	**Fauske**	7.42	118	eP	Pn	03 09 34.1	+1.2
FAUS				IAML		03 09 34.9	
	comp=Z,4.0nm,0.6s						
STOK	**Stokkvaagen**	7.62	129	eP	Pn	03 09 36.3	+0.8
JETT	**Jettan, Norway**	7.69	96	Pn	Pn	03 09 37.0	+0.5
JETT	**Jettan, Norway**	7.69	96	Pn	Pn	03 09 37.0	+0.5
JETT				IAML		03 09 38.1	
	comp=Z,7.9nm,0.4s						
RAUS	**Rausandaksla**	7.79	126	eP	Pn	03 09 36.7	-1.2
LEIR	**Leirfjorden**	7.82	129	eP	Pn	03 09 38.9	+0.6
SPA0	**Spitsbergen Ar**	7.91	28	Pn	Pn	03 09 43.0	+3.5
	baz=215,slow=14						
SPA0	**Spitsbergen Ar**	7.91	28	Pn	Pn	03 09 43.0	+3.5
	baz=215,slow=14						
SPITS	**Spitsbergen

	comp=Z,48nm,19.0s,baz=208,slow=35					
MLR	Muntele Rosu	29.50	138	LR	LR	03 25 46.0
	comp=Z,79nm,19.0s,baz=354,slow=37					
SCHQ	Schefferville	31.66	273	LR	LR	03 27 18.3
	comp=Z,414nm,20.0s,baz=9.5,slow=37					
AKTO	Aktyubinsk	33.82	97	LR	LR	03 27 24.3
	comp=Z,34nm,20.3s,baz=234,slow=35					
ILAR	Eielson Array	41.64	338	P	P	03 15 37.8 +5.3
	comp=Z,0.5nm,0.9s,baz=28,slow=7.9,SNR=5.0					
	comp=Z,0.5nm,0.9s					
MMAI	Mount Meron Ar	43.53	132	LR	LR	03 35 26.3
	comp=Z,24nm,18.0s,baz=296,slow=38					
ULM	Lac du Bonnet	44.47	294	LR	LR	03 33 16.5
	comp=Z,42nm,18.3s,baz=342,slow=34					
MKAR	Makanchi Array	44.61	77	LR	LR	03 35 48.1
	comp=Z,30nm,19.5s,baz=318,slow=38					
PDAR	Pinedale Array	55.12	301	LR	LR	03 43 01.6
	comp=Z,38nm,18.2s,baz=5.5,slow=38					
NVAR	Mina Array Bea	61.47	307	LR	LR	03 43 20.7
	comp=Z,22nm,21.6s,baz=272,slow=35					
ANMO	Albuquerque	61.57	295	LR	LR	03 43 27.2
	comp=Z,39nm,18.9s,baz=104,slow=35					
TXAR	Lajitas Array	66.02	291	LR	LR	03 47 12.4
	comp=Z,45nm,18.2s,baz=26,slow=36					

BEO ***22*** *03:10:18.4±0.3, 43°.10N×17°.78E, h8km±2km, ML2.2/14*
RHSSO ***22*** *03:10:18.3±0.2, 43°.10N×17°.83E, h6km±2km, ML2.5/8*
PDG ***22*** *03:10:18.8±0.2, 43°.08N×17°.85E, h7km±1km, ML2.5/11,*
Error ellipse: s-maj=1.4km s-min=0.9km az=90.0
ISC 22 03:10:18.3±1.0, 43°.11N±0°.02×17°.82E±0°.02, h7km±9km, n50, σ0s86/88, 4C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.25	201	⇓iPg	Pg	03 10 23.2	-0.1
STON				eSg	Sg	03 10 27.2	+0.6
STON	Ston	0.25	201	i Pg	Pg	03 10 23.2	-0.1
STON				Sg	Sg	03 10 27.4	+0.7
STON	Ston	0.25	201	ePg	Pg	03 10 23.1	-0.1
STON				eSg	Sg	03 10 27.1	+0.5
TREB	Trebinje	0.55	135	⇑iPg	Pg	03 10 28.1	-0.8
TREB				eSg	Sg	03 10 36.1	0.0
TREB	Trebinje	0.55	135	ePg	Pg	03 10 27.9	-1.0
TREB				eSg	Sg	03 10 36.7	+0.6
KLINJ	Klinje	0.56	84	ePg	Pg	03 10 28.4	-0.7
KLINJ				eSg	Sg	03 10 37.2	+0.8
BRY	Bratogost	0.56	111	⇑iPg	Pg	03 10 28.6	-0.6
BRY				eSg	Sb	03 10 38.1	-0.8
MAKA	Makarska	0.61	287	ePg	Pg	03 10 29.5	-0.6
RICI	Ricice	0.64	308	ePg	Pg	03 10 29.9	-0.6
LSTV	Lastovo	0.76	244	i Pg	Pg	03 10 31.8	-1.2
LSTV				Sg	Sg	03 10 42.6	-0.3
UPM	Unac-Piva	0.80	83	⇓iPg	Pg	03 10 33.7	+0.1
UPM				i Sg	Sb	03 10 46.2	+0.6
HCY	Herceg Novi	0.82	143	⇓iPg	Pg	03 10 32.9	-1.2
HCY				i Sg	Sb	03 10 46.9	+0.7
NKME	Niksic	0.90	112	⇓iPg	Pg	03 10 34.8	-0.7
NKME				i Sg	Sb	03 10 48.3	-0.1
CEME	Cevo	0.98	125	⇓iPg	Pg	03 10 35.7	-1.4
CEME				i Sg	Sn	03 10 52.3	-0.4
HVAR	Hvar	1.01	274	ePg	Pg	03 10 36.5	-1.1
BUM	Brajici-Budva	1.13	135	⇓iPg	Pg	03 10 38.7	-1.2
BUM				i Sg	Sn	03 10 56.4	+0.1
PLE	Pljevlja	1.17	79	ePg	Pg	03 10 40.7	+0.1
PLE				eSg	Sn	03 10 58.1	+0.8
PLE	Pljevlja	1.17	79	ePg	Pg	03 10 39.6	-1.0
PLE				eSg	Sn	03 10 58.6	+1.3
RUDO	Rudo	1.24	65	⇑iPg	Pb	03 10 40.4	-1.6
RUDO				eSg	Sg	03 10 57.7	-0.3
RUDO	Rudo	1.24	65	ePg	Pb	03 10 40.4	-1.6
RUDO				eSg	Sg	03 10 57.7	-0.3
PDG	Podgorica	1.25	122	ePg	Pn	03 10 41.3	-0.9
PDG				eSg	Sn	03 10 59.3	0.0
PDG	Podgorica	1.25	122	⇓iPg	Pn	03 10 41.7	-0.5
PDG				eSg	Sn	03 10 59.7	+0.4
KOME	Kolasin	1.27	101	ePg	Pb	03 10 42.6	+0.1
KOME	Kolasin	1.27	101	⇓iPg	Pn	03 10 42.3	-0.2
KOME				i Sg	Sn	03 11 01.8	+2.0
DRME	Dracevica, Mon	1.36	132	⇓iPg	Pn	03 10 42.9	-0.8
DRME				i Sg	Sg	03 11 05.2	+3.1
KIJV	Kijevo	1.37	311	ePg	Pn	03 10 42.7	-1.1
KIJV				eSg	Sb	03 11 02.1	+0.2
KIJV	Kijevo	1.37	311	ePg	Pn	03 10 43.4	-0.4
BBLS	Lazi&#263i	1.38	56	ePg	Pn	03 10 43.6	-0.4
BBLS				eSg	Sg	03 11 02.8	+0.2
BEY	Berane	1.54	98	ePg	Pg	03 10 47.6	-0.1
IVA	Berane	1.54	98	⇑iPg	Pb	03 10 46.9	-0.2
IVA				i Sg	Sg	03 11 10.7	+3.0
ULC	Ulcinj	1.55	137	ePg	Pn	03 10 45.6	-0.8
SJES	Sjenica	1.58	84	ePg	Pb	03 10 48.2	+0.3
SJES				eSg	Sg	03 11 10.3	+1.3
ZIRJ	Zirje	1.68	290	ePn	Pn	03 10 48.5	+0.4
ZIRJ				Sn	Sb	03 11 11.5	+0.7
BLY	Banja Luka	1.70	344	ePn	Pn	03 10 48.6	+0.2
BLY				eSn	Sn	03 11 10.7	+0.3
BLY	Banja Luka	1.70	344	ePg	Pb	03 10 49.9	0.0
BLY				eSg	Sg	03 11 13.7	+0.7
MORI	Morici	1.72	297	ePn	Pn	03 10 49.5	+0.9
MORI				Sn	Sb	03 11 12.7	+0.8
IVAS	Ivanjica	1.76	74	ePg	Pn	03 10 49.7	+0.4
IVAS				eSg	Sg	03 11 14.8	-0.1
DIVS	Divibare	1.86	57	eSg	Sg	03 11 17.6	-0.4
TEKS	Tekeris	1.90	40	ePg	Pb	03 10 53.5	+0.3
TRUS	Trudelj	2.18	58	ePn	Pn	03 10 55.6	+0.6
TRUS				eSn	Sn	03 11 21.8	-0.4
DUGI	Dugi Otok	2.20	295	ePn	Pn	03 10 55.7	+0.5
GOCS	Kraljevo Serbi	2.27	77	ePn	Pn	03 10 56.9	+0.6
GOCS				eSn	Sb	03 11 26.4	-1.6
SELS	Selova	2.41	86	ePn	Pn	03 10 58.9	+0.7
SELS				eSn	Sn	03 11 29.1	+1.1
MOSL	Moslavina	2.62	343	ePn	Pn	03 11 01.1	+0.1
MOSL				eSn	Sn	03 11 33.1	0.0
BARS	Barje	2.94	94	ePn	Pn	03 11 05.4	-0.1
BARS				eSn	Sn	03 11 40.3	-0.8
OZLJ	Ozalj	3.02	327	ePn	Pn	03 11 07.4	+0.9
OZLJ				eSn	Sn	03 11 42.9	0.0
BOJS	Bojanci	3.02	323	ePn	Pn	03 11 06.6	+0.1
ZAGS	Zajecar	3.29	76	eSn	Sn	03 11 49.2	-0.3
BRJN	Brijuni	3.44	303	ePn	Pn	03 11 12.4	+0.1
BRJN				eSn	Sn	03 11 53.3	0.0
ZAPS	Zavoj	3.52	86	ePn	Pn	03 11 13.9	+0.5
ZAPS				eSn	Sn	03 11 55.4	+0.1

CATAC ***22*** *03:18:59.4±1.0, 13°N±4°×9°0W±°, h3km±5km, M3.6/8,*
MLv3.6/8, Error ellipse: s-maj=9.1km s-min=6.6km az=35.4,
confirmed
SNET ***22*** *03:19:00.2±3.1, 12°.70N×90°.37W, h11km, ML3.4*
GCG ***22*** *03:19:02.5±1.8, 12°.73N×90°.31W, h50km±191km, MD4.3,*
ML3.6
IDC ***22*** *03:19:07.0±14.0, 13°.90N×89°.43W, h0km, mb3.3/2,*
mbtmp3.4/2, Error ellipse: s-maj=289.3km s-min=53.3km
az=179.0
ISC 22 03:18:57.9±2.1, 12°.57N±0°.08×90°.34W±0°.10, h10km, n41, σ1s12/44, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	1.31	14	P	Pn	03 19 21.3	-1.0
JAYA	Jayaque - finc	1.38	39	eP	Pn	03 19 22.9	-0.6
JAYA				eS	Sn	03 19 39.9	-2.0
JAYA	Jayaque - finc	1.38	39	eP	Pn	03 19 22.8	-0.6
JAYA	Jayaque - finc	1.38	39	P	Pn	03 19 22.8	-0.7
CEVE	Cerro Verde	1.43	29	eP	Pn	03 19 24.1	-0.1
CEVE				eS	Sg	03 19 46.9	+2.8
CEVE	Cerro Verde	1.43	29	S	Sn	03 19 41.9	-1.3
CEVE	Cerro Verde	1.43	29	P	Pn	03 19 24.1	-0.1
NUBE	Las Nubes	1.43	22	i P	Pn	03 19 23.7	-0.4
NUBE				i S	Sn	03 19 42.4	-0.7
NUBE	Las Nubes	1.43	22	P	Pn	03 19 23.9	-0.2
NUBE	Las Nubes	1.43	22	S	Sn	03 19 41.3	-1.9
PMON	Piamonte	1.51	41	S	Sn	03 19 43.9	-1.0
PMON	Piamonte	1.51	41	P	Pn	03 19 24.6	-0.5
LOAL	Lomas de Alarc	1.52	21	S	Sn	03 19 44.5	-0.7
LOAL	Lomas de Alarc	1.52	21	P	Pn	03 19 25.9	+0.7
BOQS	Boqueron	1.55	41	eP	Pn	03 19 25.5	-0.3
LOMA	Loma Larga	1.56	47	S	Sn	03 19 45.2	-1.0
LOMA	Loma Larga	1.56	47	P	Pn	03 19 25.5	-0.4
LFU	La Fuente	1.67	45	eP	Pn	03 19 27.4	0.0
PAVA	Las Pavas	1.77	50	P	Pn	03 19 28.9	+0.1
PAVA	Las Pavas	1.77	50	S	Sn	03 19 50.4	-1.1
UESV	Universidad de	1.84	55	P	Pn	03 19 29.4	-0.3
SCLA	Alcaldia de Sa	1.93	54	S	Sn	03 19 55.7	+0.5
SCLA	Alcaldia de Sa	1.93	54	P	Pn	03 19 30.9	0.0
MTO3	Montecristo	2.05	27	eP	Pn	03 19 33.1	+0.4
MTO3	Montecristo	2.05	27	P	Pn	03 19 33.1	+0.4
MTO3	Montecristo	2.05	27	S	Sn	03 19 58.8	+0.3
LLGN	La Laguna	2.08	40	P	Pn	03 19 33.3	+0.2
LLGN	La Laguna	2.08	40	S	Sn	03 19 59.3	+0.2
PACA	Pacayal	2.16	65	S	Sn	03 20 01.7	+0.8
ESQI	Esquipulas	2.20	26	eP	Pn	03 19 37.0	+2.3
ESQI	Esquipulas	2.20	26	P	Pn	03 19 35.6	+0.9
ESQI	Esquipulas	2.20	26	S	Sn	03 20 02.3	+0.2
BLLM	Bellamira	2.22	67	eP	Pn	03 19 35.6	+0.7
APG	El Apazote	2.43	357	i P	Pn	03 19 40.5	+2.6
SARH	Santa Rosa de	2.68	35	P	Pn	03 19 42.0	+0.8
CSGN	Cosiguina Volc	2.74	81	P	Pn	03 19 43.1	+1.1
CSGN				S	Sn	03 20 15.3	0.0
PKGN	Cerro Pekin	3.28	88	P	Pn	03 19 50.4	+1.1
PKGN				S	Sn	03 20 26.6	-1.9
CNGA	Al SSO del Vol	3.55	91	P	Pn	03 19 54.7	+1.6
TXAR	Lajitas Array	20.78	325	P	Pn	03 23 44.0	+2.2
	0.8nm,0.8s,baz=141,slow=8.3,SNR=11						
	0.8nm,0.8s						
NVAR	Mina Array Bea	35.80	321	P	P	03 26 04.3	+6.6
	0.5nm,0.7s,baz=129,slow=8.7,SNR=5.0						
	0.5nm,0.7s						
SCHQ	Schefferville	46.02	19	P	P	03 27 19.8	-1.7
	18nm,0.8s,baz=233,slow=10,SNR=5.7						

SNET ***22*** *03:41:07.0±0.8, 12°.67N×87°.86W, h76km±999km, ML3.1*
CATAC 22 03:41:08.9±0.4, 13°N±3°×88°8W±°, h43km±4km, M3.0/12, MLv3.0/12, Error ellipse: s-maj=7.7km s-min=2.6km az=30.1, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.44	47	P	Pn	03 41 20.2	+1.1
POTN	Potosi Cosigui	0.49	49	P	Pn	03 41 20.5	+0.7
POTN				S	Sn	03 41 30.5	+3.1
CNCH	Conchagua	0.60	5	eP	Pn	03 41 21.5	+0.2
CNCH				eS	Sn	03 41 33.9	+3.8
CNCH	Conchagua	0.60	5	P	Pn	03 41 21.6	+0.3
CNCH	Conchagua	0.60	5	S	Sn	03 41 32.3	+2.3
BLLM	Bellamira	0.83	336	eP	Pn	03 41 24.3	-0.1
CNRM	Centro Naciona	0.84	341	S	Sn	03 41 37.3	+1.7
LCY	Lacayo	0.84	332	eP	Pn	03 41 24.6	+0.1
RANC	El Ranchito	0.85	333	eP	Pn	03 41 24.6	-0.1
PKGN	Cerro Pekin	0.89	90	P	Pn	03 41 25.7	+0.6
PKGN				S	Sn	03 41 38.8	+2.0
PACA	Pacayal	0.90	332	eP	Pn	03 41 25.3	0.0
PACA	Pacayal	0.90	332	P	Pn	03 41 25.7	+0.5
PACA	Pacayal	0.90	332	S	Sn	03 41 38.2	+1.1
TECA	Tecapa	1.01	324	eP	Pn	03 41 26.7	-0.1
TECA				eS	Sn	03 41 41.2	+1.1
POLN	Al Sur del Vol	1.05	91	P	Pn	03 41 26.4	-0.9
POLN				S	Sn	03 41 41.0	+0.2
CNGA	Al SSO del Vol	1.17	99	P	Pn	03 41 29.0	+0.1
CNGA				S	Sn	03 41 44.9	+1.0
CNGN	Cerro Negro	1.18	98	S	Sn	03 41 44.8	+0.9
CNGN	Cerro Negro	1.18	98	P	Pn	03 41 28.9	-0.1
TECO	Alcaldia de Te	1.22	315	eP	Pn	03 41 29.0	-0.6
TECO	Alcaldia de Te	1.22	315	S	Sn	03 41 45.1	+0.2
TECO	Alcaldia de Te	1.22	315	P	Pn	03 41 29.3	-0.4
UESV	Universidad de	1.30	318	S	Sn	03 41 47.7	+0.9
UESV	Universidad de	1.30	318	P	Pn	03 41 30.5	-0.1
SCLA	Alcaldia de Sa	1.31	321	eP	Pn	03 41 31.4	+0.6
SCLA	Alcaldia de Sa	1.31	321	P	Pn	03 41 31.4	+0.6
SCLA	Alcaldia de Sa	1.31	321	S	Sn	03 41 47.9	+0.7
MOM2	El Cardon	1.39	100	P	Pn	03 41 31.9	0.0
MOM2				S	Sn	03 41 50.0	+0.9
PAVA	Las Pavas	1.45	315	S	Sn	03 41 51.5	+0.8
MARCA	Marcala la Paz	1.48	355	S	Sn	03 41 51.6	+0.1
MARCA	Marcala la Paz	1.48	355	P	Pn	03 41 32.7	-0.6
TGUH	Tegucigalpa,Un	1.50	24	P	Pn	03 41 33.1	-0.4
TGUH				S	Sn	03 41 51.9	0.0
LIMN	Finca el Limon	1.53	75	P	Pn	03 41 33.5	-0.5
LIMN				S	Sn	03 41 52.9	+0.2
APQ3	Volcan Apoyequ	1.54	105	S	Sn	03 41 53.4	+0.7
RCVN	Varillal2	1.88	61	S	Sn	03 42 02.2	+0.8
RCVN	Varillal2	1.88	61	P	Pn	03 41 38.3	-0.5

IDC 22 03:42:21.1±1.5, 2°.56S×138°.30E, h0km, mb3.6/2, mbtmp3.5/5, ML3.4/3, MS2.7/1, Error ellipse: s-maj=30.3km s-min=24.6km az=152.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.41	89	Pn	Pn	03 43 01.8	0.0
	5.9nm,0.3s,baz=226,slow=10,SNR=19						
JAY				Sn	Sn	03 43 32.1	0.0
	2.9nm,0.3s,baz=162,slow=20,SNR=1.8						
	17nm,0.3s						
GUMO	Guam	17.32	22	LR	LR	03 51 13.1	
	comp=Z,25nm,22.0s,baz=268,slow=31						
WRA	Warramunga Arr	17.71	192	P	Pn	03 46 29.5	+0.1
	0.2nm,0.3s,baz=4.5,slow=12,SNR=6.5						
	0.3nm,0.3s						
FITZ	Fitzroy Crossi	19.81	218	P	Pn	03 46 55.4	+0.5
	baz=49,slow=11,SNR=2.1						
	1.6nm,0.9s						
ASAR	Alice Springs	21.41	191	P	P	03 47 09.6	-1.3
	0.8nm,0.6s,baz=19,slow=11,SNR=13						
	0.8nm,0.6s						
MKAR	Makanchi Array	69.42	323	P	P	03 53 31.2	+0.1
	1.3nm,1.0s,baz=112,slow=7.1,SNR=4.2						
	1.3nm,1.0s						

HEL 22 04:01:11.4±0.2, 67°.78N×20°.20E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.73	67	PG	Pg	04 01 24.4	-1.0
LANU				SG	Sg	04 01 33.8	-1.1
KIF	Kilpisjarvi	1.25	10	PG	Pg	04 01 34.8	-0.6
	baz=195						
KIF				MSG		04 01 50.3	
	comp=Z,1.3nm,0.2s						
PAJU	Pajala	1.36	123	PG	Pg	04 01 36.0	-1.3
	baz=303						
HEF	Hetta	1.45	62	PG	Pn	04 01 37.3	-1.5
	baz=246						
HEF				MSG		04 01 55.0	
	comp=Z,1.3nm,0.2s						
HEF				SG	Sg	04 01 56.1	-1.7
ERTU	Ertsjaerv	1.46	147	PN	Pn	04 01 38.3	-0.6
ERTU				SN	Sb	04 01 58.5	+0.2
KTK1	Kautokeino	1.68	41	SN	Sg	04 02 05.6	+0.5
KALU	Kalix	2.30	146	SG	Sg	04 02 24.2	-0.9
TOF	Tornio	2.36	134	PG	Pn	04 01 52.8	+1.5
TOF				MSG		04 02 21.1	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	04 02 25.0	+0.8
RNF	Rovaniemi	2.55	115	PG	Pn	04 01 55.7	+1.7
ARA0	ARCESS Array S	2.62	45	SB	Sb	04 02 30.0	-2.0

SOF ***22*** *04:12:44.2, 40°.28N±0°.03×24°.13E±0°.02, h10km±1km,*
MD3.6/12
ISK ***22*** *04:12:45.7, 40°.34N×24°.22E, h5km, ML3.5/22*
ATH ***22*** *04:12:46.4, 40°.34N×24°.08E, h14km, ML3.3/12, Manual*
Solution by K.Orfanogiannaki First location: 2019/10/22
04:13:58, This location: 2019/10/22 04:51:32 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 0 km
THE ***22*** *04:12:46.6, 40°N±1°×24°4E±°, h10km±1km, M3.3/14,*
MLh3.3/14
AFAD ***22*** *04:12:48.1, 40°.04N×24°.13E, h21km±1km, MW3.7*
BEO ***22*** *04:12:48.3±0.6, 40°.40N×24°.13E, h19km±3km, ML3.5/23*
ISC 22 04:12:46.4±0.8, 40°.33N±0°.02×24°.10E±0°.01, h12km±5km, n160, σ1s27/207, 18C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.09	271	P	Pg	04 12 49.4	+0.1
OUR				S	Sg	04 12 50.9	-0.3
OUR	Ouranopolis	0.09	271	P	Pg	04 12 49.3	+0.1
OUR				S	Sg	04 12 50.9	-0.3
PLG	Polygyros	0.51	275	P	Pg	04 12 56.3	-0.1
PLG				S	Sg	04 13 02.8	-0.3
PLG	Polygyros	0.51	275	P	Pg	04 12 56.2	-0.1
PLG				S	Sg	04 13 02.7	-0.4
PLN1	Chaniotis	0.53	231	P	Pg	04 12 56.8	0.0
PLN1				S	Sg	04 13 03.6	-0.2
THS1	Thassos, Thass	0.54	41	P	Pg	04 12 57.3	+0.3
THS1				S	Sg	04 13 04.6	+0.4
KAVA	Kavala	0.73	25	P	Pb	04 13 01.0	-0.1
KAVA				S	Sb	04 13 11.0	0.0
KAVA	Kavala	0.73	25	P	Pn	04 13 00.8	-0.2
KAVA				S	Sb	04 13 10.7	-0.3
HORT	Hortiatis	0.81	289	P	Pg	04 13 01.6	-0.5
HORT				S	Sg	04 13 12.6	-0.1
HORT	Hortiatis	0.81	289	P	Pg	04 13 01.4	-0.7
HORT				S	Sg	04 13 12.8	+0.1
LMN1	MIRINA LIMNOU	0.86	122	P	Pb	04 13 03.8	+0.5
LMN1				S	Sb	04 13 15.6	+0.8
SRS	Serrai	0.88	334	P	Pg	04 13 03.4	+0.1
SRS				S	Sg	04 13 15.1	+0.4
SRS	Serrai	0.88	334	ePg	Pg	04 13 03.1	-0.2
SRS				eSg	Sg	04 13 14.9	+0.1
SRS	Serrai	0.88	334	P	Pg	04 13 03.2	-0.2
SRS				S	Sg	04 13 14.9	+0.1
XANC	Avdira	0.91	45	P	Pb	04 13 04.2	0.0
XANC				S	Sb	04 13 16.9	+0.7
THE	Thessaloniki	0.92	289	P	Pg	04 13 03.1	-1.0
LIA	Limnos Island	0.94	117	P	Pb	04 13 04.8	+0.3
LIA				S	Sb	04 13 17.6	+0.8
LIA	Limnos Island	0.94	117	P	Pb	04 13 04.7	+0.3
LIA				S	Sb	04 13 17.5	+0.7
SMTH	Samothraki Isl	1.10	82	P	Pg	04 13 06.9	-0.6
SMTH				S	Sn	04 13 23.0	+0.3
SMTH	Samothraki Isl	1.10	82	P	Pg	04 13 06.7	-0.8
SMTH				S	Sb	04 13 21.9	+0.3
AOS	Alonnisos	1.17	189	P	Pg	04 13 07.9	-1.1
AOS				S	Sb	04 13 25.0	+1.3
KNT	Kendrikon	1.23	312	P	Pb	04 13 09.3	-0.3
KNT				S	Sg	04 13 26.0	-0.2
MMB	Musomishta	1.24	348	i P	Pb	04 13 09.5	-0.3
MMB	Musomishta	1.24	348	P	Pb	04 13 09.4	-0.3
LIT	Litokhoron	1.26	260	P	Pn	04 13 09.3	-0.5
LIT				S	Sb	04 13 27.1	+0.9
RDO	Rodhopi	1.36	53	Pn	Pn	04 13 10.9	-0.2
RDO	Rodhopi	1.36	53	P	Pn	04 13 10.7	-0.4
RDO				S	Sn	04 13 30.0	+0.9
RDO	Rodhopi	1.36	53	P	Pn	04 13 10.5	-0.6
GADA	Gvkgeada	1.38	95	Pn	Pn	04 13 11.2	-0.2
GADA				Sn	Sg	04 13 30.6	-0.3
GADA	Gvkgeada	1.38	95	P	Pn	04 13 11.2	-0.2
GOAD	anakkale-G¶	1.39	96	P	Pn	04 13 11.5	-0.1
GOAD				S	Sb	04 13 30.0	0.0
RZN	Rozhen	1.44	19	i P	Pn	04 13 12.4	-0.1
VAY	Valandovo	1.53	311	i Pn	Pn	04 13 14.2	+0.8
VAY				i Sn	Sg	04 13 37.4	+1.9
BOZC	Bozcaada	1.57	108	Pn	Pn	04 13 14.7	+0.6
BOZC	Bozcaada	1.57	108	P	Pn	04 13 14.0	-0.1
BOZC				S	Sn	04 13 32.8	-1.5
ENZZ	Sultanice-Enez	1.58	79	Pn	Pn	04 13 14.5	+0.4
ALN	Alexandroupoli	1.58	69	Pn	Pn	04 13 13.4	-0.8
KDZ	Kurdzhali	1.60	35	i P	Pn	04 13 14.2	-0.2
KDZ	Kurdzhali	1.60	35	Pn	Pn	04 13 15.1	+0.7
KDZ				Sn	Sb	04 13 36.6	+0.6
KDZ	Kurdzhali	1.60	35	S	Sg	04 13 37.4	-0.5
ECEA	Canakkale, Ece	1.61	100	P	Pn	04 13 14.9	+0.4
ECEA				S	Sb	04 13 36.2	-0.1
ENEZ	Enez	1.61	75	Pn	Pn	04 13 15.1	+0.5
CAVK	Edirne/Enez-Ca	1.61	77	P	Pg	04 13 17.6	+0.2
CAVK				S	Sg	04 13 37.6	-0.7
CAVK	Edirne/Enez-Ca	1.61	77	⇑P	Pg	04 13 18.1	+0.7
KKB	Krupnik	1.68	334	i P	Pn	04 13 16.2	+0.7
KYMI	Kymi, Euboea I	1.70	180	P	Pn	04 13 15.1	-0.7
SIGR	SIGRI	1.75	129	Pn	Pn	04 13 17.0	+0.5
CNKL	anakkale-Mer	1.77	98	P	Pn	04 13 16.8	+0.1
CNKL				S	Sn	04 13 40.0	+0.8
KOCA	Canakkale, Ayv	1.77	117	P	Pn	04 13 16.1	-0.7
KOCA				S	Sn	04 13 38.8	-0.4
EZN	Ezine	1.78	106	Pn	Pn	04 13 17.2	+0.3
EZN	Ezine	1.78	106	⇑P	Pn	04 13 17.4	+0.6
THL	Klokotos Trika	1.78	245	P	Pn	04 13 16.6	-0.3
KZN	Kozani	1.78	270	P	Pn	04 13 17.1	+0.1
GPNR	Gulpinar-Canak	1.79	119	Pn	Pn	04 13 17.9	+0.9
GELI	Tayfur-Gelibol	1.81	87	Pn	Pn	04 13 17.6	+0.3
COMU	Canakkale	1.83	97	Pn	Pn	04 13 18.1	+0.5
EZNE	Ezine-Canakkal	1.83	108	Pn	Pn	04 13 18.3	+0.7
ATAL	Atalanti	1.84	207	P	Pn	04 13 16.9	-0.9
ERIK	Erikli-Kesan	1.87	79	Pn	Pn	04 13 18.6	+0.5
PLD	Plovdiv	1.88	15	i Pg	Pg	04 13 21.8	-0.6
PLD				Sg	Sg	04 13 47.6	+0.9
PLD	Plovdiv

KEK	Kerkira	3.36 261	Pn	Pn	04 13 42.8	+4.1
CTYL	Yalikoy Yolu	3.37 69	⇑P	Pn	04 13 41.8	+3.0
BLKB	Belogradchik	3.46 343	*e*Sn	Sn	04 14 18.9	-1.9
LOZB	Loznitsa	3.56 31	⇑P	Pb	04 13 45.8	-3.5
SELS	Selova	3.65 323	*e*Pn	Pn	04 13 42.6	0.0
SELS			*e*Sn	Sn	04 14 25.5	0.0
ZAGS	Zajecar	3.75 339	*e*Pn	Pn	04 13 43.9	0.0
ZAGS			*e*Sn	Sn	04 14 27.2	-0.7
BOVS	Bovan	3.75 332	⇓P	Pn	04 13 44.7	+0.7
BOVS	Bovan	3.75 332	*e*Pn	Pn	04 13 44.3	+0.3
BOVS			*e*Sn	Sn	04 14 27.1	-1.0
GOCS	Kraljevo Serbi	4.03 324	*e*Pn	Pn	04 13 47.9	0.0
BEY	Berane	4.05 310	*e*Pn	Pn	04 13 49.3	+1.1
BORS2	Bor- Borsko je	4.06 338	*e*Pn	Pn	04 13 47.4	-0.9
DRME	Dracevica, Mon	4.14 298	*e*Pn	Pn	04 13 51.4	+2.0
PDG	Podgorica	4.21 301	⇓P	Pn	04 13 50.1	-0.1
SJES	Sjenica	4.25 315	*e*Pn	Pn	04 13 51.6	+0.6
KOME	Kolasin	4.26 308	*e*Pn	Pn	04 13 52.5	+1.4
GRUS	Gruza	4.36 326	*e*Pn	Pn	04 13 52.1	-0.2
IVAS	Ivanjica	4.38 319	*e*Pn	Pn	04 13 52.7	0.0
KUBS	Kucevo	4.46 337	*e*Pn	Pn	04 13 52.7	-1.0
TRUS	Trudelj	4.76 326	*e*Pn	Pn	04 13 57.1	-0.7
MDVR	Moldovita	4.78 339	⇓P	Pn	04 13 58.5	+0.2
MDVR	Moldovita	4.78 339	*e*Pn	Pn	04 13 58.1	-0.1
BBLS	Lazi&#263i	4.97 317	*e*Pn	Pn	04 14 01.4	+0.6
ISR	Istrita	5.11 20	⇑P	Pn	04 14 06.5	+3.7
LOT	Lotru	5.12 357	⇑P	Pn	04 14 05.8	+2.9
GZR	Gura Zlata	5.15 350	⇑P	Pn	04 14 04.0	+0.7
GZR	Gura Zlata	5.15 350	*e*Pn	Pn	04 14 02.9	-0.4
GZR			*e*Sn	Sn	04 15 01.0	-1.7
VRSS	Vrsac	5.21 338	*e*Pn	Pn	04 14 03.2	-0.8
TIRR	Tirgusor	5.21 36	⇓P	Pn	04 14 07.6	+3.6
TNR	Turnu Rosu	5.32 1	⇑P	Pn	04 14 10.2	+4.6
MLR	Muntele Rosu	5.33 14	⇓P	Pn	04 14 09.5	+3.7
MLR	Muntele Rosu	5.33 14	*e*Pn	Pn	04 14 06.6	+0.8
TEKS	Tekeris	5.40 323	*e*Pn	Pn	04 14 06.4	-0.3
TPGR	Topolog	5.53 34	⇑P	Pn	04 14 13.7	+5.3
BZS	Buzias	5.59 342	⇑P	Pn	04 14 11.9	+2.7
BZS	Buzias	5.59 342	*e*Pn	Pn	04 14 08.9	-0.3
SURR	Surduc	5.61 346	⇑P	Pn	04 14 13.5	+4.0
CFR	Carcaliu	5.68 30	⇓P	Pn	04 14 14.4	+4.0
DOPR	Dopca	5.71 9	⇑P	Pn	04 14 12.4	+1.5
PLOR	Plostina	5.82 18	⇓P	Pn	04 14 17.6	+5.2
VRI	Vrincioaia	5.85 18	⇓P	Pn	04 14 15.1	+2.2
TURR	Turia	5.89 13	⇑P	Pn	04 14 15.4	+2.0
OZUR		5.89 11	⇑P	Pn	04 14 17.3	+3.9
TESR	Tescani	6.45 16	⇑P	Pn	04 14 22.7	+1.6
DRGR		6.54 352	⇑P	Pn	04 14 25.9	+3.5
BURAR	Bucovina Array	7.32 6	⇑P	Pn	04 14 34.5	+1.3

IDC ***22*** *04:18:36.6±0.3, 15°.34S×173°.19W, h0km, mb5.3/25, mbtmp5.3/27, ML4.9/2, MS5.6/66, Error ellipse: s-maj=14.4km s-min=12.4km az=136.0*
IPGP ***22*** *04:18:38.0, 15°.20S×173°.05W, h33km, Mw5.9, Fault plane solution: NP1:φs85.00000°, δ18.00000°, λ89.00000°. NP2:φs266.00000°, δ72.00000°, λ90.00000°.*
BJI ***22*** *04:18:38.2, 14°.63S×172°.86W, h9km, mB5.9/64, mb5.3/62, Ms5.8/82, Ms7 5.7/79*
NEIC ***22*** *04:18:41.9, 15°.48S×172°.91W, h12km, Moment Tensor Solution. Duration: 32s0 Moment tensor: Scale 10^17Nm; Mrr-0.59; Mθθ-0.03; Mφφ0.62; Mrθ-8.27; Mφφ-1.20; Mφr4.16; Fault plane solution: M0 9.36000×10^17 NP1:φs3.76000°, δ6.51000°, λ-22.89000°. NP2:φs116.51000°, δ87.47000°, λ-96.00000°. Principal axes: T 9.5849, Plg42.0000°, Azm212.0000°; N -0.4762, Plg6.0000°, Azm117.0000°; P -9.1087, Plg47.0000°, Azm20.0000°;*
ISC-PP ***22*** *04:18:41, 15°.17S×173°.01W, h25km, Mwppsm6.4, Moment Tensor Solution. s25 Moment tensor: Scale 10^18Nm; Mrr0.03±.14; Mθθ-0.67±.16; Mφφ0.65±.18; Mrθ-0.22±.29; Mφφ0.12±.14; Mφr-0.02±.15; Fault plane solution: M0 5.31000×10^18 NP1:φs43.20000°, δ70.10000°, λ356.50000°. NP2:φs134.40000°, δ86.70000°, λ-160.00000°.*
MOS ***22*** *04:18:41.5±1.1, 14°.95S×173°.03W, h32km, mb5.7/57, MS5.9/22 Error ellipse: s-maj=8.6km s-min=7.2km az=86.4*
NOU ***22*** *04:18:41.7, 15°.37S×173°.07W, h39km, mb5.6/93, Tonga Islands*
NEIC ***22*** *04:18:41.9, 15°.18S×173°.01W, h12km*
NEIC ***22*** *04:18:42.0±1.8, 15°.17S±0°.06×173°.01W±0°.07, h29km±1km, mb5.8/787, Ms_20 5.9/786, Mww5.9/12, Error ellipse: s-maj=11.8km s-min=9.8km az=136.0*
GCMT ***22*** *04:18:45.0±0.1, 15°.15S×173°.10W, h47km, MW5.9/163, Moment Tensor Solution. s153,c338; s163,c372; Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr3.58±.05; Mθθ-2.70±.05; Mφφ-0.87±.05; Mrθ-7.78±.09; Mφθ-1.32±.04; Mφr-0.65±.05; Best double couple: M0 8.53600×10^17 NP1:φs50.00000°, δ14.00000°, λ58.00000°. NP2:φs263.00000°, δ79.00000°, λ97.00000°. Principal axes: T 8.8340, Plg56.0000°, Azm182.0000°; N -0.5940, Plg7.0000°, Azm81.0000°; P -8.2390, Plg33.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 04:18:40.1±0.4, 15°.32S±0°.03×173°.06W±0°.03, h25km±2km, h25km:pP-P, n1772, σ1°52/1446, mb5.8/467, MS5.9/515, 85C-82D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.87	42		Pn	04 19 06.7	-3.9
AFI	Afiamalu	1.87	42	P	Pn	04 19 06.8	-3.9
AFI				S	Sn	04 19 25.3	-8.2
AFI	Afiamalu	1.87	42	P	Pn	04 19 06.7	-3.9
NIUE	Niue	4.78	142	P	Pn	04 19 50.4	-0.1
NIUE				S	Sn	04 20 42.0	-3.2
NIUE	Niue	4.78	142	Pn	Pn	04 19 50.6	0.0
NIUE	Niue	4.78	142	P	Pn	04 19 50.9	+0.3
NIUE	Niue	4.78	142	P	Pn	04 19 51.0	+0.5
NIUE				S	Sn	04 20 40.8	-4.4
FUTU	Fugatoga	5.00	281	Pn	Pn	04 19 53.1	-0.5
FUTU	Fugatoga	5.00	281	P	Pn	04 19 54.9	+1.3
MSVF	Nonsavu	8.86	253	Pn	Pn	04 20 50.4	+3.7
MSVF	Nonsavu	8.86	253	P	Pn	04 20 46.2	-0.5
MSVF	Nonsavu	8.86	253	P	Pn	04 20 50.4	+3.7
FUNA	Funafuti	10.15	311	Pn	Pn	04 21 01.7	-2.6
FUNA	Funafuti	10.15	311	P	Pn	04 21 04.1	-0.2
RAR	Rarotonga	13.91	117	Pn	Pn	04 21 53.8	-1.8
RAR	Rarotonga	13.91	117	Pn	Pn	04 21 54.5	-1.2
	10nm,0.3s,baz=258,slow=8.2,SNR=29						
RAR				Sn	Sn	04 24 18.5	-11
	4.7nm,0.3s,baz=0.4,slow=17,SNR=1.6						
RAR				LR	LR	04 26 02.2	
	comp=Z,25μm,19.7s,baz=314,slow=32						
	126nm,0.9s						
RAR	Rarotonga	13.91	117	P	Pn	04 21 54.5	-1.2
RAR	Rarotonga	13.91	117	P	Pn	04 21 55.1	-0.6
RAO	Raoul Island	14.57	197		Pn	04 22 05.0	+0.3
RAO	Raoul Island	14.57	197	Pn	Pn	04 22 02.0	-2.7
	36nm,0.3s,baz=108,slow=20,SNR=2.2						
RAO				Sn	Sn	04 24 36.7	-8.8
	30nm,0.3s,baz=78,slow=20,SNR=1.8						
	160nm,0.4s						
RAO	Raoul Island	14.57	197	P	Pn	04 22 05.0	+0.3
GLKZ	Green Lake	14.58	197	P	Pn	04 22 02.2	-2.7
MARNC	Mare, Loyalty	18.95	248	P	P	04 22 57.8	-1.8
MARNC	Mare, Loyalty	18.95	248	P	Pn	04 22 59.8	-0.5
MARNC	Mare, Loyalty	18.95	248	S	S	04 26 32.4	-1.0
SANVU	Saraoutou	19.04	267		Pn	04 23 01.2	-0.2
SANVU				IAmb	IAmb	04 23 14.0	
	comp=Z,675nm,1.3s						
SANVU	Saraoutou	19.04	267	P	Pn	04 23 01.5	+0.2
SANVU	Saraoutou	19.04	267	S	S	04 26 35.0	-0.1
PINNC	Pines Island,	19.80	246		P	04 23 08.5	-0.3
PINNC	Pines Island,	19.80	246	P	P	04 23 08.5	-0.3
PINNC	Pines Island,	19.80	246	S	Sn	04 26 51.2	-1.2
YATNC	Mamie plateau,	20.13	248	P	Pn	04 23 13.8	-0.6
OUENC	Ouen Island, N	20.28	247	P	P	04 23 13.5	-0.5
DZM	Mont Dzumac	20.53	248	P	P	04 23 15.7	-1.2
	comp=Z,142nm,0.9s,baz=238,slow=20,SNR=30						
DZM				LR	LR	04 30 01.4	
	comp=Z,18μm,19.0s,baz=82,slow=34						
	comp=Z,142nm,0.9s						
ONTNC	Ouen Toro	20.59	247	P	P	04 23 16.6	-0.8
ONTNC				IAmb	IAmb	04 23 26.7	
	comp=Z,306nm,0.8s						
ONTNC	Ouen Toro	20.59	247	P	Pn	04 23 18.6	-1.1
TARA	Tarawa	21.61	319	P	P	04 23 27.1	-1.3
TARA				IAmb	IAmb	04 23 32.1	
	comp=Z,574nm,1.1s						
TARA	Tarawa	21.61	319	P	P	04 23 28.7	+0.3
NFK	Norfolk Island	22.23	229	P	P	04 23 34.5	-0.5
	comp=Z,0.0nmcomp=Z,708nm,0.8s						
NFK	Norfolk Island	22.23	229	P	P	04 23 35.3	+0.4
PAE	Paea	22.63	99	*e*P	P	04 23 36.8	-2.5
	comp=Z,75nm,1.2s						
PAE	Paea	22.63	99	*e*PKP1	P	04 23 43.3	+4.0
	comp=Z,382nm,25.0s						
PAE				*e*LR	LR	04 28 59.4	
	comp=Z,4μm,23.4s						
PPT	Papeete	22.63	99	P	P	04 23 40.3	+0.9
	comp=Z,82nm,1.0s,baz=307,slow=13,SNR=12						
PPT				LR	LR	04 30 01.2	
	comp=Z,10μm,21.1s,baz=272,slow=30						
	comp=Z,82nm,1.0s						
PPT2	Papeete2	22.63	99	*e*P	P	04 23 38.6	-0.8
	comp=Z,183nm,1.1s						
PPT2				*e*S	S	04 27 40.4	-5.7
	comp=Z,34μm,28.5s						
PPT2				*e*LR	LR	04 28 58.0	
	comp=Z,21μm,26.5s						
PPT2				*e*LR	LR	04 29 10.2	
	comp=Z,17μm,22.8s						
PPTF	Pamatai, Papee	22.64	99	P	P	04 23 39.3	-0.2
PPTF	Pamatai, Papee	22.64	99	P	P	04 23 39.7	+0.2
TIAR	Tiarei	22.85	99	*e*P	P	04 23 42.0	+0.3
	comp=Z,382nm,1.0s						
TIAR				*e*LR	LR	04 29 09.0	
	comp=Z,31μm,25.5s						
TVO	Taravao	22.95	99	*e*PKP1	P	04 23 43.1	+0.4
	comp=Z,130nm,1.3s						
TVO				*e*LR	LR	04 29 08.3	
	comp=Z,4μm,23.0s						
OUZ	Omahuta	23.15	209	IAMs_20	IAMs_20	04 30 49.7	
	comp=Z,36μm,20.0s						
OUZ	Omahuta	23.15	209	P	P	04 23 46.0	+1.4
OUZ	Omahuta	23.15	209	S	S	04 27 53.5	-1.2
OUZ	Omahuta	23.15	209	P	P	04 23 47.4	+2.8
XMAS	Kiritimati	23.16	43	P	P	04 23 43.9	-1.0
XMAS				IAmb	IAmb	04 23 48.5	
	comp=Z,211nm,0.9s						
XMAS	Kiritimati	23.16	43	P	P	04 23 46.3	+1.4
XMAS	Kiritimati	23.16	43	S	S	04 27 55.3	+0.2
GRZ	Great Barrier	23.23	204	P	P	04 23 47.5	+2.1
WCZ	Waipu Caves	23.42	206	P	P	04 23 48.5	+1.3
MXZ	Matakaoa Point	23.44	197	P	P	04 23 48.4	+1.1
MXZ				IAmb	IAmb	04 24 08.6	
	comp=Z,346nm,1.3s						
MXZ				IAMs_20	IAMs_20	04 32 29.6	
	comp=Z,33μm,20.0s						
MXZ	Matakaoa Point	23.44	197	P	P	04 23 48.5	+1.1
MXZ	Matakaoa Point	23.44	197	P	P	04 23 49.7	+2.3
KUZ	Kuaotunu	23.56	203	P	P	04 23 49.7	+1.1
KUZ	Kuaotunu	23.56	203	P	P	04 23 50.4	+1.8
TBI	Tubuai	23.63	113	*e*P	P	04 23 48.6	-0.8
	comp=Z,315nm,1.0s						
TBI				*e*S	S	04 27 58.0	-4.6
	comp=Z,106μm,29.8s						
TBI				*e*LR	LR	04 29 27.9	
	comp=Z,41μm,25.8s						
TBI				*e*LR	LR	04 29 31.0	
	comp=Z,150μm,24.8s						
HAZ	Te Kaha	23.77	198	P	P	04 23 53.0	+2.4
PKGZ	Pakihiroa	23.79	198	P	P	04 23 53.9	+3.1
PUZ	Puketiti	23.93	197	P	P	04 23 53.3	+1.1
TWGZ	Tauwhareparae	24.10	197	P	P	04 23 56.7	+2.9
PMOR	Pomariorio Ree	24.29	93	*e*P	P	04 23 55.9	+0.2
	comp=Z,725nm,1.1s						
PMOR				*e*LR	LR	04 29 43.7	
	comp=Z,14μm,22.9s						
MWZ	Matawai	24.38	198	P	P	04 23 57.4	+1.0
EDRZ	Edgecumbe	24.42	200	P	P	04 24 00.9	+4.2
URZ	Urewera	24.44	199	P	P	04 23 55.8	-1.1
	comp=Z,144nm,0.6s,baz=324,slow=8.3,SNR=27						
URZ				LR	LR	04 32 17.8	
	comp=Z,28μm,20.4s,baz=26,slow=34						
	comp=Z,144nm,0.6s						
URZ	Urewera	24.44	199	P	P	04 23 56.0	-0.9
URZ	Urewera	24.44	199	S	S	04 28 14.5	-0.9
URZ	Urewera	24.44	199	P	P	04 23 56.3	-0.6
TOZ	Tahuroa Road	24.51	202	P	P	04 23 57.5	0.0
TOZ				IAMs_20	IAMs_20	04 31 57.8	
	comp=Z,42μm,21.0s						
TOZ	Tahuroa Road	24.51	202	P	P	04 23 59.3	+1.8
VAH	Vaihoa	24.53	93	*e*P	P	04 23 58.0	+0.1
	comp=Z,115nm,1.0s						
RAGZ	Rawiri	24.57	198	P	P	04 23 58.7	+0.7
RIGZ	Rimuhau	24.66	197	P	P	04 24 00.8	+2.0
MUGZ	Murupara	24.75	199	P	P	04 23 58.5	-1.1
HSRZ	Hossack Road	24.77	200	P	P	04 23 59.9	0.0
RTZ	Ruatahuna	24.81	199	P	P	04 23 59.1	-1.2
RTZ				IAmb	IAmb	04 24 13.7	
	comp=Z,142nm,0.8s						
RTZ	Ruatahuna	24.81	199	P	P	04 24 00.1	-0.2
PRGZ	Paritu Road	24.82	197	P	P	04 24 03.3	+2.9
HRRZ	Handcock Road	24.83	200	P	P	04 24 01.7	+1.3
SNGZ	Shannon Statio	24.85	198	P	P	04 24 02.1	+1.5
KNZ	Kokohu	24.98	197	P	P	04 24 04.1	+2.5
TLZ	Tolley Road	25.03	202	P	P	04 24 03.9	+1.7
MHGZ	Mahia Peninsul	25.03	197	P	P	04 24 04.6	+2.4
RAHZ	Arahi	25.05	198	P	P	04 24 02.7	+0.3
MTHZ	Maungataniwha	25.07	199	P	P	04 24 02.7	+0.1
WHHZ	Waihua	25.16	198	P	P	04 24 05.6	+2.3
WATZ	Wairara	25.30	201	P	P	04 24 07.0	+2.3
NMHZ	Naumai	25.30	199	P	P	04 24 06.3	+1.5
ARHZ	Aropaoanui	25.40	198	P	P	04 24 08.6	+3.1
RATZ	Rangitukua	25.43	201	P	P	04 24 07.5	+1.6
HIZ	Hauiti	25.44	202	P	P	04 24 06.8	+0.9
HIZ				IAmb	IAmb	04 24 36.7	
	comp=Z,404nm,1.3s						
HIZ				IAMs_20	IAMs_20	04 32 28.4	
	comp=Z,30μm,22.0s						
HIZ	Hauiti	25.44	202	P	P	04 24 07.1	+1.2
HIZ	Hauiti	25.44	202	P	P	04 24 08.6	+2.7
BKZ	Black Stump Fm	25.46	199	P	P	04 24 06.3	+0.1
BKZ	Black Stump Fm	25.46	199	P	P	04 24 05.5	-0.7
BKZ	Black Stump Fm	25.46	199	P	P	04 24 05.8	-0.4
RITZ	Rihia Road	25.50	200	P	P	04 24 07.5	+1.0
MCHZ	McNeill Hill	25.66	199	P	P	04 24 09.9	+2.0
WTVZ	West Tongariro	25.71	201	P	P	04 24 09.7	+1.1
NNVZ	North Ngauruho	25.72	201	P	P	04 24 08.0	-0.7
KWHZ	Kaweka Forest	25.72	199	P	P	04 24 10.4	+1.8
CKHZ	Cape Kidnapper	25.74	198	P	P	04 24 09.9	+1.3
NGZ	Ngauruhoe	25.77	201	P	P	04 24 10.1	+1.0
COVZ	Chateau Observ	25.81	201	P	P	04 24 07.8	-1.6
FWVZ	Far West T-bar	25.85	201	P	P	04 24 10.1	+0.2
MAVZ	Matarangi	25.86	201	P	P	04 24 10.7	+0.6
WHVZ	Whangaehu Hut	25.87	201	P	P	04 24 09.5	-0.5
TRVZ	Turoa	25.89	201	P	P	04 24 10.2	-0.2
WNVZ	Wahianoa	25.90	200	P	P	04 24 09.6	-0.7
KAHZ	Kahuranaki	25.92	198	P	P	04 24 11.8	+1.4
MOVZ	Moawhango	25.92	200	P	P	04 24 10.1	-0.3
KRHZ	Kereru	25.94	199	P	P	04 24 10.2	-0.3
PKVZ	Pokaka	25.95	201	P	P	04 24 11.9	+1.2
VRZ	Vera Road	26.02	202	P	P	04 24 13.0	+1.9
PXZ	Pawanui	26.14	198	P	P	04 24 13.8	+1.5
PNHZ	Pukenui	26.24	199	P	P	04 24 14.8	+1.6
WPHZ	Waipukurau	26.30	198	P	P	04 24 15.8	+2.0
NEZ	North Egmont	26.39	203	P	P	04 24 17.8	+3.2
PRHZ	Porangahau	26.43	198	P	P	04 24 16.7	+1.9
KHEZ	Kahui Hut	26.44	203	P	P	04 24 15.6	+0.5
KHEZ	Kahui Hut	26.44	203	P	P	04 24 17.7	+2.6
TSZ	Takapari Road	26.45	199	P	P	04 24 15.5	+0.4
DVHZ	Dannevirke	26.60	199	P	P	04 24 16.4	0.0
ANWZ	Angora Road	26.66	198	P	P	04 24 18.8	+2.0
BFZ	Birch Farm	26.93	198	P	P	04 24 18.9	-0.5
BFZ				IAmb	IAmb	04 24 22.8	
	comp=Z,308nm,0.9s						
BFZ				IAMs_20	IAMs_20	04 33 49.9	
	comp=Z,29μm,22.0s						
BFZ	Birch Farm	26.93	198	P	P	04 24 19.7	+0.3
BFZ	Birch Farm	26.93	198	P	P	04 24 20.7	+1.4
HNR	Honiara	27.00	279	LR	LR	04 33 02.5	
	comp=Z,14μm,20.7s,baz=126,slow=32						
SAVO	Savo Central	27.20	280	P	P	04 24 22.6	+0.5
SNZO	South Karori	27.98	200	IAMs_20	IAMs_20	04 35 30.8	
	comp=Z,27μm,20.0s						
SNZO	South Karori	27.98	200	P	P	04 24 27.9	-0.9
QRZ	Quartz Range	28.33	203	P	P	04 24 32.4	+0.5
NNZ	Nelson	28.36	202	IAMs_20	IAMs_20	04 36 39.7	
	comp=Z,23μm,19.0s						
NNZ	Nelson	28.36	202	P	P	04 24 30.1	-2.0
THZ	Tophouse	29.01	202	IAMs_20	IAMs_20	04 34 50.9	
	comp=Z,34μm,22.0s						
THZ	Tophouse	29.01	202	P	P	04 24 37.7	-0.3
KHZ	Kahutara	29.36	200	P	P	04 24 40.3	-0.8
KHZ	Kahutara	29.36	200	P	P	04 24 40.2	-0.8
DSZ	Denniston Nort	29.40	203	IAMs_20	IAMs_20	04 36 17.3	
	comp=Z,32μm,18.0s						
DSZ	Denniston Nort	29.40	203	P	P	04 24 42.2	+0.8
GVZ	Greta Valley S	30.02	201	P	P	04 24 46.1	-0.9
LHI	Lord Howe Isla	30.12	233	P	P	04 24 46.8	-1.1
	comp=Z,0.0nmcomp=Z,94nm,1.1s						
LHI	Lord Howe Isla	30.12	233	P	P	04 24 46.3	-1.5
LTZ	Lake Taylor	30.12	202	IAMs_20	IAMs_20	04 35 37.5	
	comp=Z,33μm,22.0s						
LTZ	Lake Taylor	30.12	202	P	P	04 24 46.1	-1.8
INZ	Inchbonnie	30.38	203	IAMs_20	IAMs_20	04 36 58.2	
	comp=Z,32μm,18.0s						
INZ	Inchbonnie	30.38	203	P	P	04 24 49.2	-0.8
OXZ	Oxford	30.68	202	IAMs_20	IAMs_20	04 36 05.3	
	comp=Z,24μm,21.0s						
MQZ	McQueen's Vall	30.80	200	P	P	04 24 53.3	-0.5
WVZ	Waitaha Valley	30.95	203	P	P	04 24 54.7	-0.3
RPZ	Rata Peaks	31.38	202	P	P	04 25 00.6	+1.7
RPZ				IAMs_20	IAMs_20	04 37 07.6	
	comp=Z,25μm,19.0s						
RPZ	Rata Peaks	31.38	202	P	P	04 24 59.2	+0.3
	comp=Z,44nm,0.6s,baz=320,slow=1.3,SNR=19						
RPZ				LR	LR	04 37 28.7	
	comp=Z,25μm,18.2s,baz=48,slow=36						
	comp=Z,44nm,0.6s						
RPZ	Rata Peaks	31.38	202	P	P	04 24 59.7	+0.8
RPZ	Rata Peaks	31.38	202	P	P	04 24 59.4	+0.5
FOZ	Fox Glacier	31.69	204	IAMs_20	IAMs_20	04 38 49.9	
	comp=Z,18μm,18.0s						
FOZ	Fox Glacier	31.69	204	P	P	04 25 00.1	-1.5
TMZ	Timaru	31.97	202	P	P	04 25 03.7	-0.4
JOHN	Johnston Islan	32.04 6		IAMs_20	IAMs_20	04 34 19.3	
	comp=Z,24μm,22.0s						
LBZ	Lake Benmore	32.27	203	IAMs_20	IAMs_20	04 36 51.3	
	comp=Z,27μm,22.0s						
JCZ	Jackson Bay	32.55	205	P	P	04 25 09.5	+0.2
JCZ	Jackson Bay	32.55	205	P	P	04 25 07.9	-1.4
ODZ	Otahua Downs	32.67	202	IAMs_20	IAMs_20	04 38 33.9	
	comp=Z,22μm,18.0s						
ODZ	Otahua Downs	32.67	202	P	P	04 25 09.3	-0.9
ODZ	Otahua Downs	32.67	202	P	P	04 25 09.6	-0.7
TAOE	Nuku Hiva Isla	32.78	83	*e*PKP1	P	04 25 12.4	+0.7
	comp=Z,314nm,26.5s						
TAOE	Nuku Hiva Isla	32.78	83	*e*PP	PP	04 26 24.9	-1.1
	comp=Z,216nm,24.3s						
TAOE				*e*S	S	04 30 28.8	+1.3
	comp=Z,837nm,27.2s						
TAOE				*e*SS	SS	04 32 51.6	+2.5
	comp=Z,4μm,24.8s						
TAOE				*e*LR	LR	04 33 43.2	
	comp=Z,9μm,22.3s						
WKZ	Wanaka	33.09	204	IAMs_20	IAMs_20	04 38 26.9	
	comp=Z,19μm,21.0s						
WKZ	Wanaka	33.09	204	P	P	04 25 12.8	-1.1
EAZ	Earnscleugh	33.32	203	P	P	04 25 14.6	-1.3
MLZ	Mavora Lakes	33.89	204	IAMs_20	IAMs_20	04 38 49.1	
	comp=Z,18μm,20.0s						
MLZ	Mavora Lakes	33.89	204	P	P	04 25 20.3	-0.6
DCZ	Deep Cove	34.36	205	P	P	04 25 24.3	-0.6
SYZ	Scrubby Hill	34.49	202	P	P	04 25 26.7	+0.7
TW1H	Toowoomba 1 Ha	34.63	244	P	P	04 25 26.4	-1.2
EIDS	Eidsvold	34.98	248	P	P	04 25 28.3	-2.2
	comp=Z,20nm,1.3s						
EIDS	Eidsvold	34.98	248	P	P	04 25 28.0	-2.5
EIDS	Eidsvold	34.98	248	P	P	04 25 28.8	-1.8
APZ	The Paps	35.16	203	P	P	04 25 31.7	-0.2
AUNRC	North Rockhamp	35.20	251	P	P	04 25 31.5	-0.9
ARMA	Armidale	35.66	239	P	P	04 25 34.4	-2.1
	comp=Z,0.0nmcomp=Z,59nm,0.7s						
ARMA	Armidale	35.66	239	P	P	04 25 33.8	-2.8
ARMA	Armidale	35.66	239	P	P	04 25 34.8	-1.7
PATS	Pohnpei	35.91	306	P	P	04 25 39.4	+0.8
PATS				IAmb	IAmb	04 25 49.7	
	comp=Z,248nm,1.3s						
PATS	Pohnpei	35.91	306	P	P	04 25 40.1	+1.5
AUPHS	Peel High Scho	36.47	238	P	P	04 25 41.5	-1.8
RKT	Rikitea	36.70	108	*e*S	S	04 31 26.6	-1.0
	comp=Z,12μm,28.5s						
RKT				*e*SS	SS	04 34 09.7	+1.2
	comp=Z,31μm,28.0s						
RKT				*e*LR	LR	04 35 39.0	
	comp=Z,63μm,23.8s			

GLAD	Gladstone	42.29	225	P	P	04 26 30.7	-1.0
COEN	Coen	42.32	266	P	P	04 26 30.9	-1.3
	comp=Z,0.0nmcomp=Z,50nm,0.8s						
COEN	Coen	42.32	266	P	P	04 26 30.6	-1.7
COEN	Coen	42.32	266	P	P	04 26 32.2	-0.1
TOO	Toolangi	42.77	231	P	P	04 26 34.0	-1.8
	comp=Z,0.0nmcomp=Z,92nm,1.2s						
TOO	Toolangi	42.77	231	P	P	04 26 33.7	-2.0
TOO	Toolangi	42.77	231	P	P	04 26 33.7	-2.0
TOO				pmax	pmax		
	comp=Z,94nm,1.1s						
CORO	Coronation Par	43.08	225	P	P	04 26 37.8	-0.2
MOO	Moorlands	43.48	223	P	P	04 26 40.3	-1.0
	comp=Z,70nm,1.2s						
MOO	Moorlands	43.48	223	P	P	04 26 40.6	-0.7
MOO	Moorlands	43.48	223	P	P	04 26 40.7	-0.7
MIDW	Midway	43.48	354	P	P	04 26 39.1	-2.3
MIDW				IAmb	IAmb	04 26 42.7	
	comp=Z,351nm,1.6s						
MIDW				IAMs_20	IAMs_20	04 40 52.4	
	comp=Z,16µm,20.0s						
TAU	Tasmania Unive	43.60	223	P	P	04 26 40.9	-1.4
BRAT	Ballarat	43.94	231	P	P	04 26 44.0	-1.0
STKA	Stephens Creek	44.36	240	P	P	04 26 46.7	-1.9
	comp=Z,443nm,0.8s						
STKA	Stephens Creek	44.36	240	P	P	04 26 45.8	-2.8
STKA					PcP	04 28 32.3	-0.1
STKA	Stephens Creek	44.36	240	P	P	04 26 46.8	-1.9
	comp=Z,80nm,0.8s,baz=82,slow=8.8,SNR=109						
STKA				PcP	PcP	04 28 33.0	+0.6
	comp=Z,12nm,0.7s,baz=128,slow=5.2,SNR=2.4						
STKA				LR	LR	04 42 29.1	
	comp=Z,5µm,22.0s,baz=77,slow=32						
STKA				PKP2ab	P'P'ab	04 59 40.9	-0.6
	comp=Z,0.6nm,0.3s,baz=332,slow=9.2,SNR=3.1						
	comp=Z,80nm,0.8s						
STKA	Stephens Creek	44.36	240	P	P	04 26 47.1	-1.5
INKA	Innaminka	44.48	246	P	P	04 26 48.6	-0.9
INKA				ScP	ScP	04 32 27.7	+4.2
QIS	Mount Isa	45.22	256	P	P	04 26 53.1	-2.5
	comp=Z,0.0nmcomp=Z,30nm,1.5s						
QIS	Mount Isa	45.22	256	P	P	04 26 53.6	-2.0
ARPS	Mount Arapiles	45.30	233	P	P	04 26 53.7	-2.3
	comp=Z,51nm,1.2s						
MGBR	Mount Gambier	46.53	232	P	P	04 27 05.0	-0.7
HTT	Hallett	46.87	238	P	P	04 27 06.5	-2.0
	comp=Z,36nm,0.7s						
HTT	Hallett	46.87	238	P	P	04 27 06.5	-2.0
JAY	Jayapura	47.30	281	LR	LR	04 45 23.4	
	comp=Z,8µm,20.5s,baz=94,slow=34						
WHYH	Whyalla	47.91	239	P	P	04 27 15.1	-1.4
BBOO	Buckleboo	49.14	240	P	P	04 27 23.7	-2.3
	comp=Z,61nm,0.8s						
BBOO	Buckleboo	49.14	240	P	P	04 27 22.9	-3.1
BBOO	Buckleboo	49.14	240	P	P	04 27 24.0	-2.0
WR8	Warramunga Arr	50.03	257	P	P	04 27 30.2	-2.8
WR8				IAmb	IAmb	04 27 34.6	
	comp=Z,127nm,1.4s						
WB0	Warramunga Arr	50.15	257	P	P	04 27 31.1	-2.8
WB0				IAmb	IAmb	04 27 41.8	
	comp=Z,295nm,1.9s						
WB2	Warramunga Arr	50.17	257	P	P	04 27 31.1	-3.0
WRAB	Tennant Creek	50.17	257	P	P	04 27 30.3	-3.7
WRAB				IAmb	IAmb	04 27 42.0	
	comp=Z,281nm,1.9s						
WRAB	Tennant Creek	50.17	257	P	P	04 27 31.7	-2.4
WRAB	Tennant Creek	50.17	257	*c iP*	P	04 27 31.0	-3.1
WRAB				pmax	pmax		
	comp=Z,69nm,1.1s						
WRAB	Tennant Creek	50.17	257	P	P	04 27 31.1	-2.9
WRA	Warramunga Arr	50.18	257	P	P	04 27 31.0	-3.1
WRA					PcP	04 28 52.1	-1.2
WRA					ScP	04 32 47.6	-0.1
WRA	Warramunga Arr	50.18	257	P	P	04 27 31.6	-2.6
	comp=Z,25nm,0.4s,baz=91,slow=6.9,SNR=232						
WRA				PcP	PcP	04 28 53.7	+0.4
	comp=Z,16nm,0.9s,baz=89,slow=4.0,SNR=6.0						
WRA				ScP	ScP	04 32 50.5	+2.7
	comp=Z,0.8nm,0.8s,baz=88,slow=3.8,SNR=4.9						
WRA				PKiKP	PKiKP	04 35 37.4	-1.6
	comp=Z,1.8nm,0.9s,baz=84,slow=1.2,SNR=6.4						
WRA				LR	LR	04 47 26.4	
	comp=Z,4µm,19.8s,baz=98,slow=35						
	comp=Z,25nm,0.4s						
AS31	Alice Springs	50.45	252	P	P	04 27 33.5	-2.6
ASAR	Alice Springs	50.45	252	P	P	04 27 33.2	-3.0
ASAR	Alice Springs	50.45	252	P	P	04 27 33.6	-2.5
	comp=Z,55nm,0.5s,baz=88,slow=8.3,SNR=267						
ASAR				S	S	04 34 39.9	-8.7
	comp=Z,2.3nm,1.0s,baz=82,slow=16,SNR=6.8						
ASAR				PKiKP	PKiKP	04 35 38.7	-0.5
	comp=Z,0.6nm,0.6s,baz=76,slow=1.8,SNR=4.1						
ASAR				LR	LR	04 48 01.5	
	comp=Z,4µm,18.5s,baz=93,slow=35						
ASAR				PKPPKP	P'P'df	04 58 25.7	-2.2
	comp=Z,1.4nm,1.2s,baz=222,slow=2.1,SNR=4.6						
ASAR				PKP2ab	P'P'ab	04 59 11.3	-3.9
	comp=Z,0.8nm,0.9s,baz=291,slow=2.9,SNR=5.6						
	comp=Z,55nm,0.5s						
GUMO	Guam	50.57	302	LR	LR	04 46 56.8	
	comp=Z,3µm,19.1s,baz=113,slow=34						
KDU	Kakadu	52.81	266	P	P	04 27 51.9	-1.9
	comp=Z,19nm,0.7s						
MTN	Manton Dam	54.07	265	P	P	04 28 00.5	-2.6
	comp=Z,0.0nmcomp=Z,44nm,0.8s						
MTN	Manton Dam	54.07	265	P	P	04 28 00.5	-2.6
FAKI	Fak Fak	55.23	277	P	P	04 28 11.2	-0.4
WRKA	Warakurna	55.53	250	P	P	04 28 11.4	-2.2
	comp=Z,0.0nmcomp=Z,57nm,1.1s						
FORT	Forrest	55.75	243	P	P	04 28 12.5	-2.5
	comp=Z,0.0nmcomp=Z,68nm,0.6s						
FORT	Forrest	55.75	243	P	P	04 28 12.5	-2.5
FORT				IAmb	IAmb	04 28 14.6	
	comp=Z,49nm,0.7s						
KNRA	Kununurra	55.91	261	P	P	04 28 13.8	-2.6
	comp=Z,28nm,0.9s						
KNRA	Kununurra	55.91	261	P	P	04 28 14.4	-1.9
FITZ	Fitzroy Crossi	58.55	258	P	P	04 28 33.2	-1.9
	comp=Z,4.4nm,1.1s						
FITZ	Fitzroy Crossi	58.55	258	P	P	04 28 34.0	-1.0
FITZ	Fitzroy Crossi	58.55	258	LR	LR	04 54 07.5	
	comp=Z,3µm,18.2s,baz=96,slow=36						
DRV	Dumont d'Urvil	59.78	200	P	P	04 28 43.6	+0.9
DRV				pP	sP	04 28 53.6	+0.7
RPN	Rapa Nui	60.01	113	LR	LR	04 47 51.6	
	comp=Z,4µm,21.2s,baz=267,slow=29						
JCJ	Chichijima	60.54	314	LR	LR	04 49 57.3	
	comp=Z,7µm,21.2s,baz=132,slow=31						
KMBL	Kambalda	61.05	242	P	P	04 28 49.0	-3.1
	comp=Z,19nm,1.4s						
SOEI	Soe	61.26	267	P	P	04 28 53.5	-0.4
SOEI	Soe	61.26	267	P	P	04 28 53.3	-0.6
BATI	Baumata	61.75	267	LR	LR	04 53 55.3	
	comp=Z,5µm,21.6s,baz=122,slow=34						
SBA	Scott Base	63.35	185	P	P	04 29 10.7	+4.0
SBA	Scott Base	63.35	185	P	P	04 29 10.7	+4.0
SBA				pmax	pmax		
	comp=Z,230nm,1.1s						
SBA	Scott Base	63.35	185	P	P	04 29 10.2	+3.5
VNDA	Vanda	63.49	186	P	P	04 29 09.3	+1.7
VNDA	Vanda	63.49	186	P	P	04 29 10.2	+2.7
	comp=Z,116nm,1.1s,baz=6.9,slow=6.7,SNR=230						
VNDA				LR	LR	04 56 15.5	
	comp=Z,2µm,18.0s,baz=16,slow=36						
VNDA				PKPPKP	P'P'df	04 58 02.4	-4.8
	comp=Z,0.6nm,0.8s,baz=277,slow=5.1,SNR=2.6						
VNDA				PKP2bc	P'P'bc	04 58 12.2	-1.8
	comp=Z,0.4nm,0.7s,baz=247,slow=5.8,SNR=3.9						
VNDA	Vanda	63.49	186	P	P	04 29 09.3	+1.7
VNDA				pmax	pmax		
	comp=Z,167nm,1.1s						
VNDA	Vanda	63.49	186	P	P	04 29 10.3	+2.7
PSAC2	Pilbara Seismi	63.49	253	P	P	04 29 06.4	-2.2
	comp=Z,44nm,0.9s						
PSA00	Pilbara Seismi	63.54	253	P	P	04 29 07.6	-1.3
PSA00				IAmb	IAmb	04 29 33.9	
	comp=Z,65nm,1.2s						
PSA00	Pilbara Seismi	63.54	253	P	P	04 29 07.4	-1.6
PSA00				IAmb	IAmb	04 29 13.2	
	comp=Z,22nm,1.0s						
PSA00	Pilbara Seismi	63.54	253	P	P	04 29 08.2	-0.7
MBWA	Marble Bar	63.70	254	P	P	04 29 08.1	-1.9
	comp=Z,41nm,1.3s						
MBWA	Marble Bar	63.70	254	P	P	04 29 08.1	-1.9
MBWA	Marble Bar	63.70	254	IAMs_20	IAMs_20	04 59 03.6	
	comp=Z,6µm,18.0s						
MBWA	Marble Bar	63.70	254	P	P	04 29 09.7	-0.3
EDFI	Ende, Flores	63.96	268	P	P	04 29 05.6	-6.3
	comp=Z,948nmcomp=Z,70nm,0.7s						
MEEK	Meekatharra	64.15	248	P	P	04 29 11.1	-1.8
	comp=Z,49nm,1.2s						
MEEK	Meekatharra	64.15	248	P	P	04 29 12.2	-0.7
DAV	Davao City (W)	64.73	286	LR	LR	04 55 51.6	
	comp=Z,3µm,18.9s,baz=84,slow=35						
NWAO	Narrogin (SRO)	64.94	241	P	P	04 29 16.3	-1.7
NWAO	Narrogin (SRO)	64.94	241	P	P	04 29 17.2	-0.7
NWAO				IAmb	IAmb	04 29 29.4	
	comp=Z,200nm,1.9s						
NWAO	Narrogin (SRO)	64.94	241	LR	LR	04 55 08.0	
	comp=Z,5µm,21.1s,baz=90,slow=34						
NWAO	Narrogin (SRO)	64.94	241	P	P	04 29 17.3	-0.7
NWAO	Narrogin (SRO)	64.94	241	P	P	04 29 17.2	-0.7
NWAO				pmax	pmax		
	comp=Z,200nm,2.0s						
RKGY	Rocky Gully	65.09	239	P	P	04 29 17.8	-1.1
	comp=Z,85nm,1.2s						
BLDU	Ballidu	65.52	243	P	P	04 29 20.0	-1.7
	comp=Z,28nm,1.0s						
BLDU	Ballidu	65.52	243	P	P	04 29 20.7	-1.0
MUN	Mundaring	65.86	242	P	P	04 29 22.5	-1.4
	comp=Z,52nm,1.8s						
MUN	Mundaring	65.86	242	P	P	04 29 23.5	-0.4
JHJ	Hachijo jima 2	65.94	318	LR	LR	04 54 58.1	
	comp=Z,2µm,19.4s,baz=104,slow=33						
MORW	Morawa	66.22	245	P	P	04 29 24.9	-1.3
	comp=Z,21nm,1.0s						
MORW	Morawa	66.22	245	P	P	04 29 25.6	-0.7
MORW	Morawa	66.22	245	P	P	04 29 26.0	-0.2
KAPI	Kappang	66.71	271	LR	LR	04 57 01.2	
	comp=Z,1µm,21.6s,baz=107,slow=35						
KAPI	Kappang	66.71	271	P	P	04 29 29.2	-0.4
KIWB	Kanaga Island	66.99	357	P	P	04 29 30.0	-0.5
ADK	Adak	67.00	358	P	P	04 29 30.0	-0.5
ADK	Adak	67.00	358	IAMs_20	IAMs_20	04 52 14.6	
	comp=Z,8µm,21.0s						
ADK	Adak	67.00	358	P	P	04 29 30.0	-0.5
ADK				pmax	pmax		
	comp=Z,197nm,1.3s						
TOLI2	Tolitoli	67.37	278	P	P	04 29 32.7	-1.1
PLAI	Plampang	67.72	267	P	P	04 29 34.8	-1.2
PLAI	Plampang	67.72	267	P	P	04 29 28.8	-7.2
NIKH	Nikolski High	68.11	3	P	P	04 29 37.7	+0.1
NIKH	Nikolski High	68.11	3	P	P	04 29 36.9	-0.6
	baz=184						
NIKH				S	S	04 38 36.8	+1.1
	baz=184						
GIRL	Giralia	68.56	251	P	P	04 29 39.6	-1.5
	comp=Z,39nm,1.9s						
CCD	Concordia, Ant	68.62	194	P	P	04 29 42.4	+1.3
CCD				PcP	PcP	04 30 08.2	+2.2
SHEM	Shemya Is, Ala	68.67	352	LR	LR	04 52 54.6	
	comp=Z,16µm,21.9s,baz=158,slow=30						
JGF	Kuroka	69.05	318	P	P	04 29 43.8	-0.1
JGF				IAmb	IAmb	04 29 53.6	
	comp=Z,136nm,1.6s						
MJAR	Matsushiro Arr	69.09	320	P	P	04 29 43.4	-0.7
MJAR				IAmb	IAmb	04 29 45.0	
	comp=Z,84nm,1.5s						
MJAR	Matsushiro Arr	69.09	320	P	P	04 29 43.8	-0.3
	comp=Z,22nm,1.1s,baz=155,slow=6.2,SNR=22						
MJAR				LR	LR	04 54 31.1	
	comp=Z,9µm,21.7s,baz=104,slow=31						
	comp=Z,22nm,1.1s						
MAJO	Matsushiro	69.10	320	P	P	04 29 42.9	-1.3
MAJO				IAmb	IAmb	04 29 45.3	
	comp=Z,89nm,1.3s						
MAJO	Matsushiro	69.10	320	IAMs_20	IAMs_20	04 53 55.7	
	comp=Z,10µm,22.0s						
MAJO	Matsushiro	69.10	320 ⇑	*i P*	P	04 29 44.1	-0.1
MAJO				pmax	pmax		
	comp=Z,81nm,1.4s						
MJB9	Matsu-Tunnel	69.10	320	P	P	04 29 43.9	-0.3
MJB9				IAmb	IAmb	04 29 46.7	
	comp=Z,90nm,1.3s						
UNV	Unalaska Valle	69.12	4	P	P	04 29 43.3	-0.5
UNV				IAmb	IAmb	04 29 44.3	
	comp=Z,149nm,1.5s						
UNV	Unalaska Valle	69.12	4	P	P	04 29 42.7	-1.1
	baz=187						
UNV				S	S	04 38 46.6	-1.0
	baz=187						
ERM	Erimo	69.88	327	IAMs_20	IAMs_20	04 54 28.9	
	comp=Z,9µm,21.0s						
KUR	Kuril'sk	69.91	332	P	P	04 29 47.9	-1.0
KUR				*i S*	S	04 38 58.1	+0.8
KUR				pmax	pmax		
	comp=Z,2µm,6.7s						
KUR				MLR	MLR		
	comp=N,5µm,18.0s						
KUR				MLR	MLR		
	comp=Z,5µm,18.0s						
YUK	Yuzh-Kuril'sk	69.96	330	P	P	04 29 49.8	+0.5
YUK				*e*		04 32 30.1	
YUK				*eS*	S	04 38 54.4	-3.5
JSD	Sado	70.01	321	P	P	04 29 49.6	-0.2
JTM	Tenmabayashi	70.17	325	P	P	04 29 51.2	+0.6
JTM				IAmb	IAmb	04 30 00.1	
	comp=Z,138nm,1.1s						
JMN	Monobe	70.24	315	P	P	04 29 51.9	+0.6
JMN				IAmb	IAmb	04 30 02.1	
	comp=Z,95nm,1.1s						
FALS	False Pass	70.38	6	IAMs_20	IAMs_20	04 55 52.1	
	comp=Z,7µm,20.0s						
FALS	False Pass	70.38	6	P	P	04 29 50.2	-1.4
	baz=190						
CASY	Casey	70.61	205	P	P	04 29 53.1	+0.1
CASY				IAmb	IAmb	04 29 54.7	
	comp=Z,149nm,1.1s						
FARB	Farallon Islan	70.64	40	IAMs_20	IAMs_20	04 54 04.1	
	comp=Z,7µm,20.0s						
JOW	Kunigami	70.71	306	LR	LR	04 54 55.2	
	comp=Z,6µm,21.9s,baz=115,slow=31						
HULI	Fort Hunter Li	70.75	42	IAMs_20	IAMs_20	04 53 39.0	
	comp=Z,9µm,20.0s						
MYLDM	Lahad Datu	70.76	281	P	P	04 29 54.9	+0.1
FORD	Fort Ord Natur	70.79	42	IAMs_20	IAMs_20	04 53 19.2	
	comp=Z,7µm,20.0s						
CNBA	Chernabura Isl	70.80	8	P	P	04 29 53.5	-0.6
CNBA				IAmb	IAmb	04 30 04.6	
	comp=Z,110nm,1.3s						
CHNA	Chernabura Isl	70.81	8	P	P	04 29 53.6	-0.6
	baz=194						
CHNA				S	S	04 39 06.9	-0.5
	baz=194						
JRSC	Jasper Ridge	70.94	41	IAMs_20	IAMs_20	04 53 34.0	
	comp=Z,7µm,20.0s						
MCCM	Marconi Confer	70.99	40	IAMs_20	IAMs_20	04 54 25.4	
	comp=Z,7µm,20.0s						
SAO	San Andreas Ge	71.05	42	P	P	04 29 56.7	+0.6
SAO				IAMs_20	IAMs_20	04 53 38.1	
	comp=Z,8µm,20.0s						
SAO	San Andreas Ge	71.05	42	P	P	04 29 56.7	+0.6
SAO				pmax	pmax		
	comp=Z,47nm,1.2s						
SKR	Severo-Kuril's	71.07	340	*eP*	P	04 29 54.0	-1.8
SKR				*eS*	S	04 39 06.6	-3.9
SKR				pmax	pmax		
	comp=Z,106nm,1.5s						
SKR				pmax	pmax		
	comp=Z,900nm,9.7s						
SKR				MLR	MLR		
	comp=Z,4µm,17.0s						
PKD	Bear Valley Ra	71.16	43	P	P	04 29 56.3	-0.5
SDPT	Sand Point	71.20	8	P	P	04 29 56.3	-0.3
SDPT				IAmb	IAmb	04 29 58.9	
	comp=Z,140nm,1.1s						
SDPT	Sand Point	71.20	8	P	P	04 29 56.7	+0.2
SDPT	Sand Point	71.20	8	P	P	04 29 55.8	-0.7
	baz=193						
SDPT				S	S	04 39 11.0	-0.9
	baz=193						
MHC	Mount Hamilton	71.28	41	P	P	04 29 57.2	-0.4
MHC				IAMs_20	IAMs_20	04 54 05.0	
	comp=Z,8µm,20.0s						
MHC	Mount Hamilton	71.28	41	P	P	04 29 57.2	-0.4
MHC				pmax	pmax		
	comp=Z,38nm,1.1s						
S12K	Black Hills	71.36	7	P	P	04 29 56.2	-1.4
S12K				IAmb	IAmb	04 29 59.8	
	comp=Z,77nm,0.9s						
S12K				IAMs_20	IAMs_20	04 53 49.0	
	comp=Z,8µm,22.0s						
S12K	Black Hills	71.36	7	P	P	04 29 57.0	-0.6
	baz=191,SNR=5.5						
S12K				S	S	04 39 13.1	-0.7
	baz=191						
CVS	Carmenet Viney	71.38	40	IAMs_20	IAMs_20	04 54 35.6	
	comp=Z,8µm,20.0s						
HOPS	Hopland Field	71.40	39	IAMs_20	IAMs_20	04 53 39.2	
	comp=Z,9µm,21.0s						
TGY	Tagaytay City	71.51	291	LR	LR	04 56 14.4	
	comp=Z,6µm,21.4s,baz=120,slow=32						
KCPM	Cahto Peak	71.53	38	IAMs_20	IAMs_20	04 54 22.6	
	comp=Z,10µm,20.0s						
CCX	Cicese	71.55	48	P	P	04 29 59.0	-0.3
OSI	Osito Audit: C	71.61	45	IAMs_20	IAMs_20	04 53 43.9	
	comp=Z,9µm,21.0s						
JKA	Kamikawa-asahi	71.65	328	P	P	04 29 59.7	+0.1
JKA				IAmb	IAmb	04 30 02.8	
	comp=Z,128nm,1.4s						
ASAJ	Asahikawa	71.65	328	LR	LR	04 58 25.4	
	comp=Z,2µm,20.2s,baz=152,slow=33						
ASAJ	Asahikawa	71.65	328	P	P	04 29 59.7	+0.1
ASAJ				pmax	pmax		
	comp=Z,128nm,1.4s						
KMPM	Mount Pierce	71.68	37	P	P	04 30 00.6	+0.7
KMPM				IAmb	IAmb	04 30 12.6	
	comp=Z,78nm,1.0s						
KMPM				IAMs_20	IAMs_20	04 54 27.4	
	comp=Z,9µm,20.0s						
P08K	Saint George I	71.71	2	P	P	04 29 59.1	-0.5
	baz=184						
MNRC	McLaughlin Min	71.72	39	P	P	04 30 00.5	+0.3
MNRC				IAmb	IAmb	04 30 10.8	
	comp=Z,77nm,1.1s						
MNRC				IAMs_20	IAMs_20	04 53 58.5	
	comp=Z,7µm,20.0s						
PASC	Pasadena Art C	71.73	46	P	P	04 30 00.6	+0.3
PASC				IAMs_20	IAMs_20	04 53 58.2	
	comp=Z,8µm,20.0s						
CPE	Camp Elliot	71.78	47	P	P	04 30 00.1	-0.5
CPE				IAMs_20	IAMs_20	04 53 57.7	
	comp=Z,7µm,20.0s						
KMRM	Mail Ridge	71.80	38	P	P	04 30 00.6	-0.1
KMRM				IAmb	IAmb	04 30 11.7	
	comp=Z,108nm,0.8s						
MWC	Mount Wilson	71.85	46	P	P	04 29 59.9	-1.3
MWC				IAMs_20	IAMs_20	04 54 12.3	
	comp=Z,8µm,20.0s						
MWC	Mount Wilson	71.85	46	P	P	04 29 59.9	-1.3
MWC				pmax	pmax		
	comp=Z,91nm,1.5s						
DPP	Dos Picos Cty	71.96	47	P	P	04 30 00.6	-1.1
BAR	Barrett	71.98	48	P	P	04 30 02.1	+0.2
BAR				IAMs_20	IAMs_20	04 54 33.9	
	comp=Z,7µm,20.0s						
JCC	Jacoby Creek,	71.99	37	IAMs_20	IAMs_20	04 55 53.6	
	comp=Z,8µm,20.0s						
JNU	Nakatsue	71.99	313	P	P	04 30 01.1	-0.8
JNU	Nakatsue	71.99	313	LR	LR	04 56 08.6	
	comp=Z,3µm,21.5s,baz=122,slow=31						
VES	Vestal, Richgr	72.06	44	P	P	04 30 02.1	-0.1
VES				IAmb	IAmb	04 30 16.0	
	comp=Z,155nm,1.5s						
VES				IAMs_20	IAMs_20	04 54 08.8	
	comp=Z,7µm,21.0s						
TPO	Tropico Hills	72.09	45	P	P	04 30 02.7	+0.2
TPO				IAmb	IAmb	04 30 06.4	
	comp=Z,135nm,1.6s						
BFSC	Mount Baldy Ra	72.13	46	P	P	04 30 02.4	-0.5
BFSC				IAMs_20	IAMs_20	04 54 40.8	
	comp=Z,9µm,20.0s						
ESJX	Sierra Juarez	72.14	49	P	P	04 30 03.1	0.0
LEGD	La Grand CA	72.16	42	P	P	04 30 02.9	+0.2
KHMM	Horse Mountain	72.20	37	P	P	04 30 02.8	-0.3
KHMM				IAMs_20	IAMs_20	04 55 03.2	
	comp=Z,9µm,20.0s						
KRPM	Rodgers	72.21	37	P	P	04 30 04.3	+1.2
KRPM				IAmb	IAmb	04 30 16.2	
	comp=Z,293nm,2.0s						
KRPM				IAMs_20	IAMs_20	04 55 22.5	
	comp=Z,8µm,19.0s						
SPIA	Saint Paul Isl	72.27	2	P	P	04 30 02.3	-0.6
SPIA				IAMs_20	IAMs_20	04 55 25.0	
	comp=Z,5µm,20.0s						
SPIA	Saint Paul Isl	72.27	2	P	P	04 30 02.7	-0.2
	baz=183						
PET	Petropavlovsk	72.31	343	*eP*	P	04 30 02.6	-0.7
PET				*eS*	S	04 39 26.8	+2.1
PET				pmax	pmax		
	comp=Z,69nm,1.3s						
PET				pmax	pmax		
	comp=Z,800nm,12.0s						
PET				MLR	MLR		
	comp=Z,3µm,17.0s						
PET				MLR	MLR		
	comp=Z,3µm,17.0s						
PET	Petropavlovsk	72.31	343	P	P	04 30 02.9	-0.4
	comp=Z,1µmcomp=Z,69nm,1.8s						
PET	Petropavlovsk	72.31	343	P	P	04 30 03.1	-0.2
O02D	Mt. Diablo Mer	72.31	38	P	P	04 30 03.7	-0.1
SUTB	Sutter Butte	72.33	39	P	P	04 30 03.9	+0.1
KHBM	Hayfork Bally	72.36	38	P	P	04 30 03.9	-0.3
ISA	Isabella, Lake	72.37	44	P	P	04 30 04.3	+0.1
ISA				IAMs_20	IAMs_20	04 54 09.0	
	comp=Z,10µm,21.0s						
ISA	Isabella, Lake	72.37	44	P	P	04 30 04.3	+0.1
ISA				pmax	pmax		
	comp=Z,46nm,1.2s						
CHIR	Chirikof Islan	72.38	10	P	P	04 30 04.2	+0.6
CHIR	Chirikof Islan	72.38	10	P	P	04 30 03.1	-0.6
	baz=198						
CHIR				S	S	04 39 27.4	+1.9
	baz=198						
DNR	Dunn Ranch,Anz	72.48	47	P	P	04 30 04.5	-0.4
DNR				IAmb	IAmb	04 30 18.3	
	comp=Z,120nm,1.5s						
CMB	Columbia Colle	72.49	41	P	P	04 30 05.2	+0.4
CMB				IAMs_20	IAMs_20	04 54 43.0	
	comp=Z,6µm,20.0s						
CMB	Columbia Colle	72.49	41	P	P	04 30 05.2	+0.4
CMB				pmax	pmax		
	comp=Z,21nm,0.9s						
YUH	Yuha Desert	72.50	48	P	P	04 30 04.8	-0.1
YUH				IAmb	IAmb	04 30 17.3	
	com

comp=Z,9µm,20.0s
O03E Paynes Creek 72.98 39 P **P 04 30 07.1 -0.6**
O03E IAmb IAmb 04 30 18.9
comp=Z,150nm,1.5s
O03E IAMs_20 IAMs_20 04 54 50.8
comp=Z,8µm,21.0s
WSHM Spangler Hills 72.99 45 P **P 04 30 08.0 +0.1**
WSHM IAMs_20 IAMs_20 04 54 48.6
comp=Z,9µm,20.0s
CCCA Chr Cany lake 73.04 45 P **P 04 30 08.5 +0.4**
CCCA IAmb IAmb 04 30 14.3
comp=Z,92nm,1.3s
M02C Callahan 73.04 37 P **P 04 30 08.3 +0.2**
M02C IAMs_20 IAMs_20 04 54 09.4
comp=Z,8µm,22.0s
CLC China Lake 73.04 44 P **P 04 30 08.4 +0.2**
CLC China Lake 73.04 44 P **P 04 30 08.4 +0.2**
CLC pmax pmax
comp=Z,80nm,1.5s
CWC Cottonwood Cre 73.07 44 P **P 04 30 08.1 -0.3**
L02F Cave Junction 73.09 36 P **P 04 30 08.5 +0.3**
MDPB Devils Postpil 73.09 42 P **P 04 30 08.6 0.0**
KEBM Edson Butte 73.15 35 IAMs_20 IAMs_20 04 55 52.2
comp=Z,5µm,20.0s
BELC Belle Mtn. Jos 73.16 47 P **P 04 30 09.2 +0.2**
BELC IAMs_20 IAMs_20 04 54 51.1
comp=Z,8µm,20.0s
MPMC Manual Prospec 73.25 44 P **P 04 30 09.3 -0.2**
GSC Goldstone, Bar 73.30 45 P **P 04 30 09.5 -0.2**
GSC Goldstone, Bar 73.30 45 P **P 04 30 09.5 -0.2**
GSC pmax pmax
comp=Z,60nm,1.3s
SII Sitkinak Islan 73.33 11 P **P 04 30 09.0 -0.4**
SII Sitkinak Islan 73.33 11 P **P 04 30 09.8 +0.5**
SII Sitkinak Islan 73.33 11 P **P 04 30 09.4 0.0**
baz=199,SNR=5.7
YBH Yreka Blue Hor 73.34 37 P **P 04 30 10.6 +0.8**
YBH Yreka Blue Hor 73.34 37 LR LR 04 54 40.1
comp=Z,573nm,22.0s,baz=266,slow=30
YBH Yreka Blue Hor 73.34 37 P **P 04 30 10.6 +0.8**
YBH pmax pmax
comp=Z,48nm,0.9s
BC3 Big Chuckawall 73.36 47 P **P 04 30 10.4 +0.3**
BC3 IAMs_20 IAMs_20 04 55 37.5
comp=Z,7µm,20.0s
WAKR Walker 73.37 41 P **P 04 30 10.4 +0.2**
M03C McCloud 73.39 38 P **P 04 30 10.0 -0.2**
M03C IAmb IAmb 04 30 13.8
comp=Z,72nm,1.0s
K02D Willamette Mer 73.41 36 P **P 04 30 10.7 +0.5**
GLA Glamis 73.49 48 P **P 04 30 11.3 +0.5**
GLA IAMs_20 IAMs_20 04 54 50.1
comp=Z,7µm,21.0s
GLA Glamis 73.49 48 P **P 04 30 11.4 +0.5**
GLA pmax pmax
comp=Z,45nm,1.0s
HATC Hat Creek Radi 73.50 38 P **P 04 30 11.3 +0.5**
HATC IAmb IAmb 04 30 19.6
comp=Z,77nm,0.9s
HATC IAMs_20 IAMs_20 04 55 17.8
comp=Z,8µm,20.0s
YSS Yuzhno-Sakhali 73.58 330 P **P 04 30 10.6 -0.4**
YSS IAMs_20 IAMs_20 04 56 34.6
comp=Z,5µm,20.0s
YSS Yuzhno-Sakhali 73.58 330 *e*P **P 04 30 11.3 +0.3**
YSS *e**SP **pwP 04 30 20.8 -0.2**
YSS *e* 04 32 54.8
YSS *e*S **S 04 39 38.7 -0.8**
YSS *e*PS **PnS 04 40 19.5 +5.2**
YSS *e*SS **SS 04 44 22.6 -0.7**
YSS pmax pmax
comp=Z,400nm,6.7s
YSS pmax pmax
comp=Z,50nm,1.1s
BEKR Beckworth 73.60 40 P **P 04 30 11.3 -0.2**
QSM Queen of Sheba 73.62 45 P **P 04 30 10.8 -0.7**
DSP Deep Springs 73.67 43 P **P 04 30 11.9 +0.2**
PIX Pinacate 73.73 50 P **P 04 30 12.2 -0.1**
R16K Pilot Point 73.75 9 P **P 04 30 11.4 -0.3**
baz=196
IRM Iron Mountain 73.84 47 IAMs_20 IAMs_20 04 55 32.2
comp=Z,8µm,20.0s
GRAC Grapevine Rang 73.85 44 P **P 04 30 13.7 +0.8**
GRAC IAmb IAmb 04 30 26.7
comp=Z,98nm,1.2s
L04D Klamath Falls 73.88 37 IAmb IAmb 04 30 16.8
comp=Z,94nm,1.0s
DANC Danby, Needles 73.93 46 P **P 04 30 14.4 +1.0**
DANC IAmb IAmb 04 30 17.1
comp=Z,116nm,1.2s
DANC IAMs_20 IAMs_20 04 55 37.5
comp=Z,7µm,20.0s
SHOC Shoshone, Teco 73.99 45 IAMs_20 IAMs_20 04 56 19.9
comp=Z,8µm,20.0s
R17L Mt. Peulik Vol 73.99 9 P **P 04 30 13.2 +0.1**
baz=197
R17L S **SKiKP 04 39 40.8 +0.6**
baz=197
PLK4 Peulik 4 73.99 9 IAmb IAmb 04 30 22.2
comp=Z,78nm,0.8s
NVAR Mina Array Bea 74.05 42 P **P 04 30 14.7 +0.5**
NVAR Mina Array Bea 74.05 42 P **P 04 30 15.4 +1.2**
comp=Z,23nm,0.9s,baz=228,slow=8.9,SNR=82
NVAR LR LR 04 55 38.8
comp=Z,8µm,20.9s,baz=250,slow=30
NVAR PKPPKP **P'P'df 04 57 50.5 +5.4**
comp=Z,0.3nm,0.6s,baz=43,slow=3.9,SNR=4.1
comp=Z,23nm,0.9s
BBOR Butler Butte 74.09 36 IAmb IAmb 04 30 18.0
comp=Z,194nm,2.0s
113A Mohawk Valley, 74.11 49 P **P 04 30 14.4 0.0**
OHAK Old Harbor 74.12 11 P **P 04 30 14.4 +0.5**
OHAK Old Harbor 74.12 11 P **P 04 30 14.0 +0.1**
baz=200,SNR=11
OHAK S **S 04 39 45.6 +0.4**
baz=200
I03D Drain, OR 74.23 35 P **P 04 30 15.6 +0.8**
I03D IAmb IAmb 04 30 18.6
comp=Z,96nm,1.2s
MTPC Mountain Pass 74.26 46 P **P 04 30 16.5 +1.1**
K04D Chiloquin, OR 74.45 37 IAmb IAmb 04 30 25.9
comp=Z,65nm,0.9s
NEE2 Needles Airpor 74.53 47 IAMs_20 IAMs_20 04 55 34.4
comp=Z,6µm,20.0s
TPH Tonopah 74.55 43 IAmb IAmb 04 30 20.8
comp=Z,73nm,1.1s
Q17K Contact Creek 74.67 9 P **P 04 30 16.7 -0.5**
baz=197
Q17K S **S 04 39 50.0 -1.6**
baz=197
ACHA Angle Creek He 74.71 10 IAmb IAmb 04 30 20.5
comp=Z,252nm,2.0s
QSPA South Pole Qui 74.72 180 P **P 04 30 21.1 +3.5**
QSPA South Pole Qui 74.72 180 IAMs_20 IAMs_20 05 05 05.5
comp=Z,7µm,18.0s
QSPA South Pole Qui 74.72 180 P **P 04 30 22.1 +4.5**
comp=Z,189nm,1.0s,baz=39,slow=1.8,SNR=364
QSPA PKPPKP **P'P'df 04 57 47.3 -1.0**
comp=Z,2.5nm,1.1s,baz=342,slow=6.5,SNR=4.0
QSPA LR LR 04 59 45.8
comp=Z,1µm,19.6s,baz=46,slow=33
QSPA South Pole Qui 74.72 180 P P 04 30 22.9 +5.2
KDAK Kodiak Island 74.78 11 P **P 04 30 17.4 -0.4**
KDAK Kodiak Island 74.78 11 LR LR 04 56 01.5
comp=Z,11µm,21.9s,baz=213,slow=30
KDAK Kodiak Island 74.78 11*d*/P **P 04 30 18.1 +0.4**
KDAK pmax pmax
comp=Z,248nm,1.5s
KDAK Kodiak Island 74.78 11 P **P 04 30 18.2 +0.4**
baz=200
KDAK S **S 04 39 52.4 -0.2**
baz=200
KDAK Kodiak Island 74.78 11 P **P 04 30 18.1 +0.4**
COR Corvallis 74.83 34 IAMs_20 IAMs_20 04 56 33.6
comp=Z,6µm,20.0s
O14K Tigyukauivet M 74.93 6 IAMs_20 IAMs_20 04 57 46.4
comp=Z,8µm,20.0s
O14K Tigyukauivet M 74.93 6 P **P 04 30 18.1 -0.4**
baz=192
Q16K King Salmon 74.95 9 P **P 04 30 18.4 -0.3**
baz=196,SNR=6.6
Q16K S **S 04 39 54.2 -0.2**
baz=196
K05A Summer Lake 75.01 37 P **P 04 30 19.4 -0.3**
K05A IAmb IAmb 04 30 30.1
comp=Z,127nm,1.1s

O15K Ungalikthiuk R 75.02 7 IAmb IAmb 04 30 22.0
comp=Z,98nm,1.2s
O15K Ungalikthiuk R 75.02 7 P **P 04 30 18.7 -0.4**
baz=193,SNR=6.0
O15K S **S 04 39 54.3 -0.9**
baz=193
H04D Lebanon 75.10 35 P **P 04 30 20.6 +0.7**
H04D IAmb IAmb 04 30 42.2
comp=Z,75nm,1.0s
P16K Nushagak River 75.11 8 IAMs_20 IAMs_20 04 57 18.1
comp=Z,7µm,20.0s
P16K Nushagak River 75.11 8 P **P 04 30 19.4 -0.2**
baz=195,SNR=7.6
P16K S **S 04 39 57.5 +1.4**
baz=195
J05D Fort Rock, OR 75.16 36 IAmb IAmb 04 30 24.4
comp=Z,96nm,1.0s
Q18K Katmai Hardscr 75.18 10 P **P 04 30 19.8 -0.4**
baz=198,SNR=13
Q18K S **S 04 39 55.5 -1.7**
baz=198
G03D McMinnville, O 75.25 34 IAmb IAmb 04 30 30.9
comp=Z,117nm,1.0s
TPUB Ta-pu 75.34 300 IAmb IAmb 04 30 41.3
comp=Z,86nm,1.0s
TEY Ternei 75.44 326 *e*P **P 04 30 21.7 -0.1**
TEY *e* 04 40 00.9
TEY pmax pmax
comp=N,100nm,7.8s
TEY pmax pmax
comp=Z,100nm,14.5s
P17K Kvichak River 75.48 9 P **P 04 30 21.2 -0.5**
baz=197
P17K S **S 04 39 59.6 -0.7**
baz=197
H04A Detroit Lake 75.50 35 IAmb IAmb 04 30 25.4
comp=Z,73nm,1.0s
N14K Kuskokwak Cree 75.55 6 IAMs_20 IAMs_20 04 57 14.6
comp=Z,6µm,21.0s
N14K Kuskokwak Cree 75.55 6 P **P 04 30 22.0 0.0**
baz=191
N14K S **S 04 40 00.3 -0.7**
baz=191
Q20K Shuyak Island 75.59 11 P **P 04 30 22.6 +0.2**
baz=201,SNR=13
Q20K S **S 04 40 01.7 +0.1**
baz=201
SYI Shuyak Island 75.59 11 IAmb IAmb 04 30 24.1
comp=Z,159nm,1.1s
SYI IAMs_20 IAMs_20 04 55 54.9
comp=Z,8µm,22.0s
O16K Kokwok River B 75.64 8 IAmb IAmb 04 30 23.2
comp=Z,117nm,1.4s
O16K IAMs_20 IAMs_20 04 56 10.0
comp=Z,8µm,22.0s
O16K Kokwok River B 75.64 8 P **P 04 30 21.8 -0.9**
baz=195,SNR=9.3
O16K S **S 04 40 01.4 -0.6**
baz=195
PINE Pine Mountain 75.64 36 IAmb IAmb 04 30 33.7
comp=Z,124nm,1.0s
M11K Mekoryuk 75.65 4 P **P 04 30 23.5 +0.9**
baz=187
Q19K Cape Douglas, 75.67 10 IAmb IAmb 04 30 56.0
comp=Z,90nm,1.1s
Q19K Cape Douglas, 75.67 10 P **P 04 30 22.6 -0.3**
baz=199
Q19K S **S 04 40 03.0 +0.5**
baz=199
G04A Mulino 75.67 34 P **P 04 30 23.5 +0.3**
G04A IAmb IAmb 04 30 34.0
comp=Z,146nm,1.0s
I05D Terrebonne, OR 75.76 36 IAmb IAmb 04 30 27.4
comp=Z,138nm,1.3s
P18K Big Mountain, 75.85 9 IAMs_20 IAMs_20 04 56 15.8
comp=Z,8µm,22.0s
P18K Big Mountain, 75.85 9 P **P 04 30 23.6 -0.3**
baz=198,SNR=24
P18K S **S 04 40 04.7 +0.1**
baz=198
M13K Dall Lake 75.88 5 IAMs_20 IAMs_20 05 01 02.4
comp=Z,5µm,19.0s
M13K Dall Lake 75.88 5 P **P 04 30 24.7 +0.8**
baz=190,SNR=8.1
O17K Koliganek Bris 75.95 8 P **P 04 30 24.3 -0.1**
baz=196,SNR=27
O17K S **S 04 40 04.3 -1.1**
baz=196
N15K Kwethluk River 75.95 7 IAmb IAmb 04 30 39.0
comp=Z,156nm,1.9s
N15K Kwethluk River 75.95 7 P **P 04 30 24.3 -0.1**
baz=193
N15K S **S 04 40 05.3 -0.3**
baz=193
E03A Lebam 75.96 33 P **P 04 30 25.7 +0.9**
E03A IAmb IAmb 04 30 34.9
comp=Z,113nm,1.0s
TUC Tucson 76.09 51 P **P 04 30 26.1 +0.2**
TUC Tucson 76.09 51 IAMs_20 IAMs_20 04 55 26.7
comp=Z,6µm,21.0s
TUC Tucson 76.09 51 P **P 04 30 26.1 +0.2**
TUC pmax pmax
comp=Z,33nm,0.9s
TUC Tucson 76.09 51 P **P 04 30 27.8 +1.8**
HOOD Mount Hood Mea 76.20 35 IAmb IAmb 04 30 36.5
comp=Z,69nm,0.9s
O18K Koktuh Hills 76.30 9 IAMs_20 IAMs_20 04 57 55.5
comp=Z,6µm,20.0s
O18K Koktuh Hills 76.30 9 P **P 04 30 26.4 0.0**
baz=198,SNR=26
O18K S **S 04 40 10.4 +1.0**
baz=198
G05A Wamic 76.33 35 IAmb IAmb 04 30 43.4
comp=Z,103nm,1.0s
M14K Bethel 76.34 6 IAMs_20 IAMs_20 04 58 10.5
comp=Z,5µm,20.0s
M14K Bethel 76.34 6 P **P 04 30 27.3 +0.8**
baz=191,SNR=38
M14K S **S 04 40 11.8 +2.2**
baz=191
KSRS Korea Array 76.34 315 P **P 04 30 28.5 +1.4**
comp=Z,7.9nm,0.9s,baz=127,slow=6.1,SNR=27
KSRS LR LR 04 58 14.2
comp=Z,2097µm,21.9s,baz=115,slow=31
comp=Z,7.9nm,0.9s
KSAR Wonju Array Be 76.36 315 P **P 04 30 27.8 +0.6**
KSAR Wonju Array Be 76.36 315 P **P 04 30 27.8 +0.6**
KS19 Wonju Array Si 76.40 315 IAmb IAmb 04 30 30.8
comp=Z,175nm,1.9s
M15K Kasigluk River 76.41 6 P **P 04 30 27.2 +0.2**
baz=192,SNR=28
M15K S **S 04 40 09.9 -0.6**
baz=192
N16K Nishlik Lake 76.41 7 P **P 04 30 27.1 +0.1**
baz=194
N16K S **S 04 40 09.6 -1.0**
baz=194
P19K Oil Pt 76.43 10 P **P 04 30 27.3 +0.1**
baz=200,SNR=6.3
P19K S **S 04 40 10.8 0.0**
baz=200
TYV Tymovskoe 76.43 333 *e*P **P 04 30 27.5 +0.1**
TYV *e*S **S 04 40 09.2 -1.9**
TYV pmax pmax
comp=Z,58nm,1.5s
TYV pmax pmax
comp=Z,1µm,7.1s
TYV smax smax
comp=N,1µm,9.1s
TYV smax smax
comp=E,2µm,9.1s
I07A Izee 76.64 37 IAmb IAmb 04 30 31.8
comp=Z,98nm,1.5s
N17K Nushagak Hills 76.66 8 IAmb IAmb 04 30 30.5
comp=Z,127nm,1.9s
N17K IAMs_20 IAMs_20 04 56 30.1
comp=Z,6µm,22.0s
N17K Nushagak Hills 76.66 8 P **P 04 30 28.5 0.0**
baz=196,SNR=7.9
N17K S **S 04 40 13.3 +0.1**
baz=196
CNPM China Poot 76.67 11 IAmb IAmb 04 30 30.1
comp=Z,201nm,1.4s
G06A Carlson Farm, 76.71 35 IAmb IAmb 04 30 31.6
comp=Z,174nm,1.6s
HOM Homer 76.72 11 P **P 04 30 29.3 +0.5**
baz=201
HOM S **S 04 40 15.1 +1.2**

baz=201
O19K Port Alsworth 76.76 9 IAMs_20 IAMs_20 04 58 09.8
comp=Z,8µm,20.0s
O19K Port Alsworth 76.76 9 P **P 04 30 28.8 -0.2**
baz=199,SNR=31
O19K S **S 04 40 15.1 +0.7**
baz=199
319A Douglas 76.78 52 IAmb IAmb 04 30 36.2
comp=Z,61nm,1.0s
J08A Circle Bar Ran 76.81 38 IAmb IAmb 04 30 33.4
comp=Z,109nm,1.3s
L14K Kuka Creek 76.85 5 IAmb IAmb 04 30 31.8
comp=Z,182nm,1.2s
L14K Kuka Creek 76.85 5 P **P 04 30 30.4 +1.0**
baz=190
L14K S **S 04 40 17.6 +2.4**
baz=190
M16K Timber Creek 76.92 7 IAmb IAmb 04 30 32.3
comp=Z,197nm,1.4s
M16K Timber Creek 76.92 7 P **P 04 30 30.8 +0.9**
baz=194
M16K S **S 04 40 17.1 +1.0**
baz=194
O20K Slope Mountain 76.94 10 P **P 04 30 30.1 0.0**
baz=200,SNR=5.5
O20K S **S 04 40 16.9 +0.5**
baz=200
VLA Vladivostok 76.95 322‖*e*P **P 04 30 31.8 +1.3**
VLA pmax pmax
comp=Z,19nm,0.8s
SPR3 Spring Creek 3 76.95 43 P **P 04 30 30.6 -0.5**
BRLK Bradley Lake 76.95 11 IAmb IAmb 04 30 31.7
comp=Z,135nm,1.2s
BRSE Bradley Lake S 76.96 11 P **P 04 30 30.4 +0.2**
baz=202,SNR=23
BRSE S **S 04 40 17.7 +1.0**
baz=202
B04A Port Angeles 76.98 32 P **P 04 30 31.5 +0.9**
B04A IAmb IAmb 04 30 35.4
comp=Z,108nm,1.4s
N18K Kilae Creek 76.99 9 IAMs_20 IAMs_20 04 57 02.8
comp=Z,7µm,22.0s
N18K Kilae Creek 76.99 9 P **P 04 30 30.0 -0.3**
baz=197,SNR=11
N18K S **S 04 40 16.3 -0.6**
baz=197
U15A North Rim 77.01 46 IAmb IAmb 04 30 44.4
comp=Z,75nm,1.1s
GNW Green Mountain 77.01 32 IAmb IAmb 04 30 33.3
comp=Z,97nm,1.4s
LON Longmire 77.02 33 IAmb IAmb 04 30 34.1
comp=Z,171nm,1.9s
CLRS Cowichan Lake 77.18 31 IAmb IAmb 04 30 47.9
comp=Z,285nm,1.9s
WUAZ Wupatki 77.20 47 IAMs_20 IAMs_20 04 57 18.1
comp=Z,5µm,20.0s
D05A Enumclaw 77.20 33 P **P 04 30 33.0 +1.2**
K13K Kusilvak Mount 77.29 4 IAmb IAmb 04 30 34.4
comp=Z,122nm,1.3s
K13K IAMs_20 IAMs_20 04 58 10.6
comp=Z,6µm,21.0s
K13K Kusilvak Mount 77.29 4 P **P 04 30 32.5 +0.6**
baz=188,SNR=11
K13K S **S 04 40 23.6 +3.6**
baz=188
L15K Ungalak Mounta 77.29 6 P **P 04 30 32.8 +0.9**
baz=191
L15K S **S 04 40 22.2 +2.1**
baz=191
ELK Elko 77.31 41 P **P 04 30 33.0 +0.1**
ELK IAmb IAmb 04 30 36.4
comp=Z,104nm,1.6s
ELK IAMs_20 IAMs_20 04 57 58.5
comp=Z,6µm,20.0s
ELK Elko 77.31 41 LR LR 04 58 19.3
comp=Z,6µm,20.4s,baz=226,slow=31
ELK Elko 77.31 41 P **P 04 30 33.0 +0.1**
ELK pmax pmax
comp=Z,104nm,1.6s
N19K Bonanza Creek 77.33 9 IAMs_20 IAMs_20 04 57 45.7
comp=Z,8µm,21.0s
N19K Bonanza Creek 77.33 9 P **P 04 30 31.7 -0.6**
baz=198,SNR=24
N19K S **S 04 40 20.0 -0.7**
baz=198
PSTR Posyet 77.33 321‖*e*P **P 04 30 33.3 +0.7**
CBB Campbell River 77.40 29 IAmb IAmb 04 30 35.4
comp=Z,116nm,1.2s
M17K Holitna River 77.47 8 IAmb IAmb 04 30 35.4
comp=Z,112nm,1.2s
M17K IAMs_20 IAMs_20 04 58 11.6
comp=Z,9µm,21.0s
M17K Holitna River 77.47 8 P **P 04 30 33.9 +0.9**
baz=195,SNR=20
M17K S **S 04 40 24.6 +2.5**
baz=195
USRK Ussuriysk Ar. 77.52 323 P **P 04 30 34.6 +0.9**
comp=Z,9.7nm,0.9s,baz=106,slow=6.2,SNR=24
comp=Z,9.7nm,0.9s
L16K Owhat River 77.53 7 IAmb IAmb 04 30 35.8
comp=Z,149nm,1.3s
L16K IAMs_20 IAMs_20 04 58 04.1
comp=Z,8µm,21.0s
L16K Owhat River 77.53 7 P **P 04 30 34.3 +1.0**
baz=193,SNR=26
L16K S **S 04 40 24.1 +1.4**
baz=193
SEW Seward 77.55 12 IAmb IAmb 04 30 34.6
comp=Z,86nm,1.1s
SEW IAMs_20 IAMs_20 04 56 49.6
comp=Z,9µm,22.0s
SEW Seward 77.55 12 P **P 04 30 33.4 0.0**
baz=203,SNR=24
SEW S **S 04 40 23.6 +0.7**
baz=203
MID Middleton Isla 77.59 14 IAMs_20 IAMs_20 04 57 14.9
comp=Z,7µm,21.0s
BBB Bella Bella 77.67 26 LR LR 04 58 29.1
comp=Z,5µm,19.9s,baz=230,slow=31
G08A Pilot Rock 77.68 36 IAmb IAmb 04 30 38.0
comp=Z,110nm,1.2s
QZH Quanzhou 77.70 300 P **P 04 30 35.9 +0.8**
QZH S **S 04 40 25.9 -0.1**
QZH pmax pmax
comp=Z,85nm,0.8s
QZH pmax pmax
comp=Z,1µm,4.3s
QZH LR LR
comp=Z,3µm,24.4s
QZH LR LR
comp=Z,4µm,24.4s
SLKM Skilak Lake 77.77 11 IAMs_20 IAMs_20 04 58 47.6
comp=Z,8µm,20.0s
M18K Stony River 77.78 8 P **P 04 30 34.7 0.0**
baz=197,SNR=21
M18K S **S 04 40 27.2 +1.8**
baz=197
A04D Lummi Island 77.82 31 IAmb IAmb 04 30 38.6
comp=Z,138nm,1.0s
CAPN Captain Cook N 77.84 11 P **P 04 30 36.3 +1.2**
baz=202
CAPN S **S 04 40 28.4 +2.4**
baz=202
O22K Cooper Landing 77.84 12 IAmb IAmb 04 31 03.3
comp=Z,140nm,0.9s
O22K IAMs_20 IAMs_20 04 57 23.4
comp=Z,8µm,22.0s
O22K Cooper Landing 77.84 12 P **P 04 30 35.0 -0.1**
baz=203,SNR=8.9
O22K S **S 04 40 26.1 0.0**
baz=203
P23K Montague Islan 77.87 13 P **P 04 30 35.3 0.0**
baz=205,SNR=7.9
P23K S **S 04 40 26.8 +0.4**
baz=205
K15K Wolf Creek Mou 77.89 5 IAMs_20 IAMs_20 05 01 45.7
comp=Z,6µm,20.0s
K15K Wolf Creek Mou 77.89 5 P **P 04 30 36.9 +1.5**
baz=191,SNR=47
K15K S **S 04 40 29.6 +3.0**
baz=191
E07A Sunnyside 77.95 34 IAmb IAmb 04 30 38.7
comp=Z,117nm,1.3s
LEM Lembang 77.97 266 LR LR 05 05 28.4
comp=Z,2µm,21.0s,baz=164,slow=36
HAWA Hanford 78.03 35 IAmb IAmb 04 30 39.0
comp=Z,136nm,1.4s
HAWA IAMs_20 IAMs_20 04 57 03.1

	comp=Z,6µm,22.0s					
N20K	**Mount Spurr**	**78.06**	**10**	P	**P**	**04 30 35.9 -0.5**
	baz=200					
SPCR	**Spurr Chakacha**	**78.06**	**10**	P	**P**	**04 30 35.9 -0.5**
	baz=200,SNR=14					
SPCR				S	**S**	**04 40 27.9 -0.7**
	baz=200					
L17K	**Donlin**	**78.08**	**7**	P	**P**	**04 30 38.1 +1.8**
	baz=194,SNR=43					
L17K				S	**S**	**04 40 31.8 +3.2**
	baz=194					
CRAG	**Craig**	**78.14**	**22**	P	**P**	**04 30 36.3 -0.5**
	baz=219					
SSE	**Sheshan**	**78.18**	**307**	P	**P**	**04 30 37.3 -0.3**
SSE				S	**S**	**04 40 32.1 +1.2**
SSE				pmax	pmax	
	comp=Z,7.0nm,0.6s					
SSE				pmax	pmax	
	comp=Z,410nm,8.9s					
SSE				LR	LR	
	comp=Z,640nm,20.0s					
SSE				LR	LR	
	comp=Z,520nm,19.9s					
WAH2	**Wahluke Slope**	**78.23**	**34**	IAmb	IAmb	04 30 40.0
	comp=Z,122nm,1.4s					
E08A	**Dider Farm, El**	**78.34**	**35**	IAmb	IAmb	04 30 40.8
	comp=Z,119nm,1.3s					
L18K	**Granite Mounta**	**78.36**	**8**	IAMs_20	IAMs_20	04 58 50.0
	comp=Z,7µm,21.0s					
L18K	**Granite Mounta**	**78.36**	**8**	P	**P**	**04 30 39.2 +1.3**
	baz=196,SNR=59					
L18K				S	**S**	**04 40 33.6 +2.0**
	baz=196					
FIS	**Fire Island**	**78.36**	**11**	IAMs_20	IAMs_20	04 57 34.1
	comp=Z,7µm,22.0s					
BMO	**Blue Mountains**	**78.36**	**37**	IAmb	IAmb	04 30 40.8
	comp=Z,92nm,1.4s					
BMO				IAMs_20	IAMs_20	04 58 35.2
	comp=Z,5µm,20.0s					
M19K	**Big River Lodg**	**78.38**	**9**	IAmb	IAmb	04 30 39.2
	comp=Z,133nm,1.6s					
M19K				IAMs_20	IAMs_20	04 57 22.8
	comp=Z,7µm,22.0s					
M19K	**Big River Lodg**	**78.38**	**9**	P	**P**	**04 30 37.6 -0.4**
	baz=198					
M19K				S	**S**	**04 40 31.4 -0.5**
	baz=198					
RC01	**Rabbit Creek A**	**78.40**	**11**	IAmb	IAmb	04 30 39.6
	comp=Z,183nm,1.3s					
RC01				IAMs_20	IAMs_20	04 59 18.1
	comp=Z,6µm,21.0s					
RC01	**Rabbit Creek A**	**78.40**	**11**	P	**P**	**04 30 38.0 -0.1**
	baz=203,SNR=32					
RC01				S	**S**	**04 40 32.4 +0.3**
	baz=203					
STLK	**Strandline Lak**	**78.41**	**10**	IAmb	IAmb	04 30 38.8
	comp=Z,82nm,1.2s					
MFID	**Camas Ranch**	**78.42**	**39**	IAMs_20	IAMs_20	04 58 25.8
	comp=Z,5µm,20.0s					
HIN	**Hinchinbrook I**	**78.43**	**13**	IAmb	IAmb	04 30 39.6
	comp=Z,178nm,1.2s					
PWL	**Port Wells**	**78.46**	**12**	IAmb	IAmb	04 30 39.7
	comp=Z,177nm,1.3s					
PWL				IAMs_20	IAMs_20	04 59 21.8
	comp=Z,8µm,20.0s					
PWL	**Port Wells**	**78.46**	**12**	P	**P**	**04 30 38.2 -0.3**
	baz=204,SNR=26					
PWL				S	**S**	**04 40 33.3 +0.5**
	baz=204					
KAIM	**Kayak Island**	**78.48**	**14**	P	**P**	**04 30 39.5 +0.9**
	baz=208,SNR=7.3					
M20K	**Styx River**	**78.55**	**9**	P	**P**	**04 30 38.4 -0.7**
	baz=200					
M20K				S	**S**	**04 40 32.0 -1.9**
	baz=200					
SUA	**Susitna One**	**78.56**	**11**	IAmb	IAmb	04 30 40.2
	comp=Z,58nm,0.8s					
SUA	**Susitna One**	**78.56**	**11**	P	**P**	**04 30 39.1 -0.1**
	baz=202					
L19K	**White Mountain**	**78.58**	**9**	IAMs_20	IAMs_20	05 03 03.7
	comp=Z,5µm,19.0s					
L19K	**White Mountain**	**78.58**	**9**	P	**P**	**04 30 39.0 -0.2**
	baz=198					
L19K				S	**S**	**04 40 33.6 -0.4**
	baz=198					
DUG	**Dugway, Tooele**	**78.58**	**43**	IAMs_20	IAMs_20	04 57 50.2
	comp=Z,7µm,21.0s					
V35K	**Ketchikan**	**78.59**	**23**	IAMs_20	IAMs_20	04 57 55.4
	comp=Z,8µm,21.0s					
V35K	**Ketchikan**	**78.59**	**23**	P	**P**	**04 30 39.2 -0.1**
	baz=221					
V35K				S	**S**	**04 40 36.3 +2.0**
	baz=221					
SIT	**Sitka**	**78.64**	**20**	IAmb	IAmb	04 30 41.6
	comp=Z,89nm,1.4s					
SIT	**Sitka**	**78.64**	**20**	P	**P**	**04 30 40.1 +0.6**
	baz=217					
SIT				S	**S**	**04 40 36.3 +1.6**
	baz=217					
K17K	**Iditarod**	**78.64**	**7**	IAMs_20	IAMs_20	05 00 11.5
	comp=Z,8µm,20.0s					
K17K	**Iditarod**	**78.64**	**7**	P	**P**	**04 30 41.0 +1.5**
	baz=194,SNR=35					
K17K				S	**S**	**04 40 39.3 +4.7**
	baz=194					
U33K	**Whale Pass**	**78.65**	**22**	IAMs_20	IAMs_20	04 58 04.9
	comp=Z,6µm,20.0s					
U33K	**Whale Pass**	**78.65**	**22**	P	**P**	**04 30 40.8 +1.3**
	baz=219					
EYAK	**Cordova Ski Ar**	**78.73**	**13**	IAmb	IAmb	04 30 41.4
	comp=Z,105nm,1.3s					
EYAK	**Cordova Ski Ar**	**78.73**	**13**	P	**P**	**04 30 40.3 +0.3**
EYAK	**Cordova Ski Ar**	**78.73**	**13**	P	**P**	**04 30 39.9 0.0**
	baz=207,SNR=9.7					
EYAK				S	**S**	**04 40 36.2 +0.6**
	baz=207					
GLI	**Glacier Island**	**78.74**	**13**	IAmb	IAmb	04 30 41.1
	comp=Z,156nm,1.1s					
GLI	**Glacier Island**	**78.74**	**13**	P	**P**	**04 30 40.0 0.0**
	baz=206,SNR=19					
GLI				S	**S**	**04 40 36.0 +0.2**
	baz=206					
FID	**Port Fidalgo**	**78.75**	**13**	IAmb	IAmb	04 30 50.8
	comp=Z,107nm,1.2s					
D08A	**Wollman Farm,**	**78.76**	**34**	IAmb	IAmb	04 30 43.1
	comp=Z,142nm,1.3s					
SUCK	**Suckling Hills**	**78.77**	**14**	IAmb	IAmb	04 30 42.4
	comp=Z,198nm,1.4s					
RAGM	**Ragged Mountai**	**78.83**	**14**	IAmb	IAmb	04 30 42.2
	comp=Z,111nm,1.2s					
GAMB	**Gambell**	**78.86**	**1**	IAmb	IAmb	04 30 54.8
	comp=Z,127nm,1.3s					
GAMB				IAMs_20	IAMs_20	05 00 58.1
	comp=Z,5µm,20.0s					
GAMB	**Gambell**	**78.86**	**1**	P	**P**	**04 30 41.7 +1.1**
	baz=181					
GAMB				S	**S**	**04 40 37.5 +0.8**
	baz=181					
E09A	**Wood Farm, Sta**	**78.86**	**35**	IAmb	IAmb	04 30 43.2
	comp=Z,116nm,1.4s					
HMT	**Hamilton**	**78.89**	**14**	IAmb	IAmb	04 30 42.5
	comp=Z,145nm,1.3s					
SKT	**Skwentna**	**78.91**	**10**	IAmb	IAmb	04 30 41.4
	comp=Z,143nm,1.5s					
SKT	**Skwentna**	**78.91**	**10**	P	**P**	**04 30 39.9 -1.1**
	baz=201,SNR=32					
SKT				S	**S**	**04 40 35.7 -1.8**
	baz=201					
BGLC	**Bering Glacier**	**78.93**	**15**	P	**P**	**04 30 42.1 +1.1**
	baz=209					
M22K	**Willow**	**78.94**	**11**	P	**P**	**04 30 41.1 0.0**
	baz=202,SNR=38					
M22K				S	**S**	**04 40 38.6 +0.8**
	baz=202					
KNK	**Knik Glacier**	**78.95**	**12**	IAmb	IAmb	04 30 42.6
	comp=Z,211nm,1.5s					
KNK				IAMs_20	IAMs_20	04 57 44.6
	comp=Z,8µm,22.0s					
KNK	**Knik Glacier**	**78.95**	**12**	P	**P**	**04 30 41.1 -0.1**
	baz=204,SNR=23					
KNK				S	**S**	**04 40 38.3 +0.3**
	baz=204					
J16K	**Anvik River**	**78.95**	**6**	IAMs_20	IAMs_20	04 59 30.7
	comp=Z,6µm,20.0s					
J16K	**Anvik River**	**78.95**	**6**	P	**P**	**04 30 42.6 +1.4**
	baz=192,SNR=54					
J16K				S	**S**	**04 40 43.3 +5.4**
	baz=192					
PMR	**Palmer**	**78.98**	**11**	IAmb	IAmb	04 30 43.4
	comp=Z,219nm,1.4s					
PMR	**Palmer**	**78.98**	**11**	P	**P**	**04 30 41.4 +0.1**
PMR	**Palmer**	**78.98**	**11**	P	**P**	**04 30 41.3 0.0**
	baz=204,SNR=47					
PMR				S	**S**	**04 40 38.5 +0.3**
	baz=204					
L20K	**Farewell, AK**	**79.00**	**9**	P	**P**	**04 30 41.1 -0.4**
	baz=199,SNR=36					
L20K				S	**S**	**04 40 38.3 -0.3**
	baz=199					
F10A	**Beach Ranch, E**	**79.06**	**36**	IAmb	IAmb	04 30 44.3
	comp=Z,117nm,1.3s					
BERG	**Berg Lake**	**79.07**	**14**	IAmb	IAmb	04 30 43.7
	comp=Z,118nm,1.1s					
S31K	**Pelican**	**79.08**	**19**	P	**P**	**04 30 42.6 +0.7**
	baz=216,SNR=7.1					
WRAK	**Wrangell Islan**	**79.16**	**22**	IAmb	IAmb	04 30 46.5
	comp=Z,75nm,1.1s					
WRAK	**Wrangell Islan**	**79.16**	**22**	IAMs_20	IAMs_20	04 58 31.4
	comp=Z,7µm,21.0s					
WRAK	**Wrangell Islan**	**79.16**	**22**	P	**P**	**04 30 43.5 +1.2**
	baz=220					
WRAK				S	**S**	**04 40 45.8 +5.5**
	baz=220					
MDJ	**Mudanjiang**	**79.17**	**322**	P	**P**	**04 30 43.8 +1.0**
MDJ				S	**S**	**04 40 43.6 +2.6**
MDJ				pmax	pmax	
	comp=Z,37nm,1.9s					
MDJ				pmax	pmax	
	comp=Z,1µm,8.9s					
MDJ				LR	LR	
	comp=Z,5µm,23.7s					
MDJ				LR	LR	
	comp=Z,6µm,23.4s					
MDJ				LR	LR	
	comp=Z,13µm,21.3s					
MDJ	**Mudanjiang**	**79.17**	**322**	IAmb	IAmb	04 30 54.9
	comp=Z,136nm,1.7s					
GHO	**Glory Hole Cre**	**79.19**	**11**	IAMs_20	IAMs_20	05 02 58.9
	comp=Z,5µm,20.0s					
TMUT	**Trail Mountain**	**79.19**	**44**	IAmb	IAmb	04 30 47.6
	comp=Z,95nm,1.0s					
S32K	**Killisnoo**	**79.21**	**20**	IAMs_20	IAMs_20	04 57 52.8
	comp=Z,6µm,20.0s					
S32K	**Killisnoo**	**79.21**	**20**	P	**P**	**04 30 42.6 -0.1**
	baz=218					
J17K	**VABM Dome**	**79.22**	**6**	IAMs_20	IAMs_20	05 00 08.7
	comp=Z,8µm,20.0s					
J17K	**VABM Dome**	**79.22**	**6**	P	**P**	**04 30 43.8 +1.2**
	baz=194					
J17K				S	**S**	**04 40 46.5 +5.8**
	baz=194					
GRNR	**Gornyy**	**79.24**	**330⇓**	*iP*	**P**	**04 30 43.2 +0.2**
GRNR				pmax	pmax	
	comp=Z,20nm,1.2s					
PLID	**Pearl Lake**	**79.26**	**37**	IAmb	IAmb	04 30 54.4
	comp=Z,124nm,1.6s					
PLID				IAMs_20	IAMs_20	04 58 54.9
	comp=Z,7µm,20.0s					
MESA	**MESA**	**79.31**	**15**	P	**P**	**04 30 44.3 +0.8**
	baz=210,SNR=13					
MESA				S	**S**	**04 40 43.5 +1.2**
	baz=210					
SML	**Sawmill**	**79.33**	**12**	IAmb	IAmb	04 30 44.7
	comp=Z,124nm,1.4s					
SML				IAMs_20	IAMs_20	04 58 28.8
	comp=Z,7µm,22.0s					
SML	**Sawmill**	**79.33**	**12**	P	**P**	**04 30 43.4 +0.1**
	baz=204,SNR=16					
SML				S	**S**	**04 40 41.9 -0.3**
	baz=204					
HLID	**Hailey**	**79.36**	**39**	IAmb	IAmb	04 30 47.1
	comp=Z,119nm,1.4s					
HLID				IAMs_20	IAMs_20	04 58 44.6
	comp=Z,5µm,22.0s					
BMRM	**Bremner River**	**79.36**	**14**	P	**P**	**04 30 43.7 +0.2**
	baz=208,SNR=47					
BMRM				S	**S**	**04 40 41.4 -1.1**
	baz=208					
M23K	**Glacier View**	**79.44**	**12**	P	**P**	**04 30 43.6 -0.3**
	baz=205,SNR=12					
M23K				S	**S**	**04 40 42.4 -0.8**
	baz=205					
CRQM	**Cirque**	**79.52**	**14**	IAmb	IAmb	04 30 54.0
	comp=Z,149nm,1.0s					
CUT	**Chulitna**	**79.52**	**11**	P	**P**	**04 30 44.1 -0.2**
	baz=202,SNR=35					
CUT				S	**S**	**04 40 42.6 -1.4**
	baz=202					
YAH	**Yahtse**	**79.52**	**15**	IAmb	IAmb	04 30 46.6
	comp=Z,171nm,1.2s					
CRQE	**Cirque**	**79.53**	**14**	P	**P**	**04 30 45.1 +0.6**
	baz=209,SNR=23					
CRQE				S	**S**	**04 40 43.5 -0.9**
	baz=209					
I17K	**Unalakleet**	**79.54**	**6**	IAmb	IAmb	04 30 47.3
	comp=Z,181nm,1.4s					
I17K				IAMs_20	IAMs_20	04 58 57.1
	comp=Z,5µm,21.0s					
I17K	**Unalakleet**	**79.54**	**6**	P	**P**	**04 30 45.6 +1.3**
	baz=192,SNR=5.8					
I17K				S	**S**	**04 40 47.7 +3.6**
	baz=192					
KLU	**Klutina**	**79.54**	**13**	IAmb	IAmb	04 30 53.8
	comp=Z,76nm,1.1s					
KLU	**Klutina**	**79.54**	**13**	P	**P**	**04 30 44.7 +0.2**
	baz=207,SNR=29					
KLU				S	**S**	**04 40 43.6 -0.9**
	baz=207					
PNL	**Peninsula**	**79.55**	**17**	P	**P**	**04 30 45.0 +0.5**
PNL	**Peninsula**	**79.55**	**17**	P	**P**	**04 30 45.1 +0.6**
	baz=213,SNR=18					
PNL				S	**S**	**04 40 43.6 -0.9**
	baz=213					
SCM	**Sheep Creek Mo**	**79.56**	**12**	IAMs_20	IAMs_20	04 58 01.6
	comp=Z,8µm,22.0s					
SCM	**Sheep Creek Mo**	**79.56**	**12**	P	**P**	**04 30 44.9 +0.3**
	baz=205,SNR=51					
SCM				S	**S**	**04 40 42.8 -1.8**
	baz=205					
SRU	**San Rafael Swe**	**79.56**	**45**	IAmb	IAmb	04 30 49.0
	comp=Z,92nm,1.2s					
J18K	**Innoko River**	**79.56**	**7**	IAMs_20	IAMs_20	04 59 36.7
	comp=Z,7µm,20.0s					
J18K	**Innoko River**	**79.56**	**7**	P	**P**	**04 30 45.3 +0.8**
	baz=196					
J18K				S	**S**	**04 40 46.3 +1.9**
	baz=196					
C09A	**Chrisman Ranch**	**79.56**	**34**	IAmb	IAmb	04 30 47.1
	comp=Z,107nm,1.4s					
ISLE	**Juniper Island**	**79.58**	**15**	IAmb	IAmb	04 30 46.5
	comp=Z,176nm,1.2s					
P17A	**Butcher Ranch,**	**79.59**	**44**	IAmb	IAmb	04 30 49.5
	comp=Z,134nm,1.3s					
TGL	**Tana Glacier**	**79.59**	**15**	IAmb	IAmb	04 30 46.5
	comp=Z,178nm,1.2s					
U35K	**Hyder**	**79.63**	**23**	P	**P**	**04 30 45.7 +0.8**
	baz=222					
PPLA	**Purkeypile**	**79.66**	**10**	P	**P**	**04 30 45.7 +0.5**
	baz=200,SNR=6.6					
PPLA				S	**S**	**04 40 41.0 -4.8**
	baz=200					
PCA	**Pinnacle**	**79.68**	**16**	IAmb	IAmb	04 30 47.0
	comp=Z,121nm,1.4s					
PINM	**Pinnacle**	**79.68**	**16**	P	**P**	**04 30 45.7 +0.4**
	baz=212,SNR=7.9					
PINM				S	**S**	**04 40 45.8 -0.2**
	baz=212					
BCPM	**Bancas Point**	**79.73**	**16**	IAmb	IAmb	04 30 47.3
	comp=Z,193nm,1.3s					
TABL	**Table Mountain**	**79.74**	**15**	IAmb	IAmb	04 30 47.5
	comp=Z,200nm,1.3s					
K20K	**Telida**	**79.81**	**9**	IAmb	IAmb	04 30 48.3
	comp=Z,111nm,1.0s					
K20K				IAMs_20	IAMs_20	04 58 52.3
	comp=Z,6µm,22.0s					
GRNC	**Granite Creek**	**79.84**	**15**	IAmb	IAmb	04 30 48.0
	comp=Z,154nm,1.2s					
ANM	**Nome**	**79.86**	**3**	IAMs_20	IAMs_20	05 01 55.6
	comp=Z,6µm,20.0s					
ANM	**Nome**	**79.86**	**3**	P	**P**	**04 30 47.1 +1.0**
	baz=188					
ANM				S	**S**	**04 40 50.3 +2.8**
	baz=188					
VRDI	**Verde Repeater**	**79.86**	**14**	IAmb	IAmb	04 30 48.0
	comp=Z,164nm,1.2s					
VRDI				IAMs_20	IAMs_20	04 59 18.7
	comp=Z,8µm,20.0s					
R32K	**Eaglecrest**	**79.87**	**20**	IAMs_20	IAMs_20	04 59 15.2
	comp=Z,8µm,20.0s					
R32K	**Eaglecrest**	**79.87**	**20**	P	**P**	**04 30 46.9 +0.6**
	baz=218					
MNTX	**Cornudas Mount**	**79.91**	**53**	IAmb	IAmb	04 30 51.2
	comp=Z,182nm,1.8s					
N25K	**Chitina, Valde**	**79.93**	**13**	IAmb	IAmb	04 30 48.2
	comp=Z,195nm,1.4s					
N25K	**Chitina, Valde**	**79.93**	**13**	P	**P**	**04 30 47.0 +0.4**
	baz=208,SNR=47					
N25K				S	**S**	**04 40 47.1 -1.4**
	baz=208					
GLB	**Gilahina Butte**	**79.97**	**14**	IAmb	IAmb	04 30 48.3
	comp=Z,180nm,1.3s					
GLB				IAMs_20	IAMs_20	04 57 47.5
	comp=Z,8µm,22.0s					
P29M	**Windy Craggy**	**79.99**	**17**	IAmb	IAmb	04 30 49.2
	comp=Z,210nm,1.4s					
P29M	**Windy Craggy**	**79.99**	**17**	P	**P**	**04 30 47.6 +0.7**
	baz=214,SNR=25					
P29M				S	**S**	**04 40 49.8 +0.6**
	baz=214					
BESE	**Bessie Mountai**	**80.01**	**19**	IAmb	IAmb	04 30 49.2
	comp=Z,117nm,1.3s					
BESE				IAMs_20	IAMs_20	04 58 57.8
	comp=Z,8µm,20.0s					
PV05	**Paradox Valley**	**80.04**	**46**	IAmb	IAmb	04 30 51.6
	comp=Z,108nm,1.1s					
M24K	**Tolsona, Glenn**	**80.04**	**12**	IAMs_20	IAMs_20	04 59 50.5
	comp=Z,7µm,20.0s					
M24K	**Tolsona, Glenn**	**80.04**	**12**	P	**P**	**04 30 47.9 +0.7**
	baz=206,SNR=52					
M24K				S	**S**	**04 40 50.4 +0.7**
	baz=206					
MVCO	**Mesa Verde**	**80.05**	**47**	IAMs_20	IAMs_20	04 59 59.4
	comp=Z,6µm,20.0s					
MCARA	**McCarthy VSAT**	**80.10**	**14**	IAmb	IAmb	04 30 57.5
	comp=Z,89nm,1.0s					
MCARA				IAMs_20	IAMs_20	05 00 26.0
	comp=Z,7µm,20.0s					
MCARA	**McCarthy VSAT**	**80.10**	**14**	P	**P**	**04 30 47.8 +0.3**
	baz=209,SNR=22					
MCARA				S	**S**	**04 40 48.6 -1.5**
	baz=209					
LOGN	**Logan Glacier**	**80.11**	**15**	IAmb	IAmb	04 30 49.4
	comp=Z,172nm,1.3s					
CTG	**Chitna Glacier**	**80.14**	**15**	P	**P**	**04 30 48.1 +0.2**
	baz=211,SNR=33					
CTG				S	**S**	**04 40 48.0 -3.0**
	baz=211					
H16K	**Elim**	**80.14**	**5**	P	**P**	**04 30 48.5 +0.9**
	baz=191,SNR=11					
H16K				S	**S**	**04 40 52.1 +1.7**
	baz=191					
BARN	**Barnard Glacie**	**80.15**	**15**	IAmb	IAmb	04 30 50.4
	comp=Z,175nm,1.1s					
CTGM	**Chitina Glacie**	**80.15**	**15**	IAmb	IAmb	04 30 49.6
	comp=Z,160nm,1.3s					
WAT6	**Susitna Watana**	**80.15**	**12**	P	**P**	**04 30 48.1 +0.2**
	baz=205,SNR=75					
WAT6				S	**S**	**04 40 47.8 -3.3**
	baz=205					
MA2	**Magadan**	**80.19**	**342**	P	**P**	**04 30 47.6 -0.4**
MA2	**Magadan**	**80.19**	**342**	LR	LR	05 01 32.6
	comp=Z,3µm,20.6s,baz=136,slow=32					
MA2	**Magadan**	**80.19**	**342**	P	**P**	**04 30 47.6 -0.4**
MA2				pmax	pmax	
	comp=Z,93nm,1.5s					
MA2	**Magadan**	**80.19**	**342**	P	**P**	**04 30 47.8 -0.2**
	comp=Z,1µmcomp=Z,50nm,1.4s					
J19K	**Poorman**	**80.21**	**8**	IAmb	IAmb	04 30 50.5
	comp=Z,110nm,1.3s					
J19K				IAMs_20	IAMs_20	05 00 58.8
	comp=Z,7µm,20.0s					
J19K	**Poorman**	**80.21**	**8**	P	**P**	**04 30 48.9 +0.9**
	baz=197,SNR=33					
J19K				S	**S**	**04 40 53.9 +2.7**
	baz=197					
PV10	**Paradox Valley**	**80.22**	**46**	IAmb	IAmb	04 30 51.7
	comp=Z,155nm,1.1s					
WAT1	**Susitna Watana**	**80.23**	**11**	P	**P**	**04 30 48.2 0.0**
	baz=204					
WAT1				S	**S**	**04 40 50.5 -1.0**
	baz=204					
PV14	**Lion Creek, Pa**	**80.23**	**46**	IAmb	IAmb	04 30 52.5
	comp=Z,70nm,1.0s					
PV17	**East Wray Mesa**	**80.23**	**46**	IAmb	IAmb	04 30 51.9
	comp=Z,94nm,1.2s					
PV18	**Skein Mesa, Pa**	**80.25**	**46**	IAmb	IAmb	04 30 52.0
	comp=Z,167nm,1.2s					
PLBC	**Pleasant Camp**	**80.25**	**18**	P	**P**	**04 30 49.2 +0.9**
	baz=216,SNR=20					
PLBC				S	**S**	**04 40 52.9 +1.1**
	baz=216					
PV13	**Radium Mtn., P**	**80.27**	**46**	IAmb	IAmb	04 30 52.2
	comp=Z,88nm,1.2s					
O28M	**Mount Upton**	**80.27**	**16**	IAmb	IAmb	04 30 50.5
	comp=Z,106nm,1.2s					
O28M	**Mount Upton**	**80.27**	**16**	P	**P**	**04 30 49.4 +0.6**
	baz=212,SNR=29					
O28M				S	**S**	**04 40 51.3 -1.3**
	baz=212					
PV16	**Nyswonger Mesa**	**80.27**	**46**	IAmb	IAmb	04 30 52.2
	comp=Z,92nm,1.3s					
PV23	**Carpenter Ridg**	**80.27**	**46**	IAmb	IAmb	04 30 52.4
	comp=Z,158nm,1.0s					
PV03	**Paradox Valley**	**80.29**	**46**	IAmb	IAmb	04 30 52.3
	comp=Z,84nm,1.2s					
TX31	**Lajitas Ar. Si**	**80.29**	**56**	IAmb	IAmb	04 30 53.0
	comp=Z,91nm,1.2s					
TXAR	**Lajitas Array**	**80.29**	**56**	P	**P**	**04 30 50.4 +1.0**
TXAR	**Lajitas Array**	**80.29**	**56**	P	**P**	**04 30 51.2 +1.8**
	comp=Z,32nm,1.0s,baz=224,slow=5.2,SNR=151					
TXAR				PKKPbc	**PKKPbc**	**04 49 35.2 +2.3**
	comp=Z,0.3nm,0.5s,baz=144,slow=2.8,SNR=5.5					
TXAR				LR	LR	05 00 32.4
	comp=Z,3µm,19.3s,baz=251,slow=31					
	comp=Z,32nm,1.0s					
PV11	**David Mesa, Pa**	**80.30**	**46**	IAmb	IAmb	04 30 53.1
	comp=Z,140nm,1.3s					
O29M	**Mount Kennedy**	**80.31**	**17**	IAmb	IAmb	04 30 51.0
	comp=Z,169nm,1.4s					
O29M	**Mount Kennedy**	**80.31**	**17**	P	**P**	**04 30 49.6 +0.8**
	baz=214,SNR=34					
O29M				S	**S**	**04 40 53.8 +1.1**
	baz=214					
PV04	**Paradox Valley**	**80.32**	**46**	IAmb	IAmb	04 30 52.5
	comp=Z,85nm,1.1s					
T35M	**Bob Quinn**	**80.34**	**22**	IAMs_20	IAMs_20	04 59 19.7
	comp=Z,8µm,20.0s					
T35M	**Bob Quinn**	**80.34**	**22**	P	**P**	**04 30 49.9 +1.1**
	baz=222,SNR=5.3					
PV02	**Paradox Valley**	**80.35**	**46**	IAmb	IAmb	04 30 52.6
	comp=Z,167nm,1.2s					
PV21	**Cone Mtn., Par**	**80.35**	**46**	IAmb	IAmb	04 31 00.6
	comp=Z,84nm,1.0s					
G15K	**Niukluk**	**80.37**	**4**	P	**P**	**04 30 50.0 +1.2**
	baz=189,SNR=16					
G15K				S	**S**	**04 40 56.0 +3.2**
	baz=189					
NJ2	**Nanjing**	**80.38**	**307**	*eP*	**P**	**04 30 50.4 +0.8**
NJ2				sP	**pwP**	**04 30 59.8 -0.2**
NJ2				S	**S**	**04 40 56.3 +2.0**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,1µm,6.2s					
NJ2				LR	LR	
	comp=Z,1µm,23.7s					
NJ2				LR	LR	
	comp=Z,2µm,20.8s					
NJ2				LR	LR	
	comp=Z,3µm,22.7s					
PV01	**Paradox Valley**	**80.43**	**46**	IAmb	IAmb	04 30 53.0
	comp=Z,82nm,1.1s					
NEW	**Newport**	**80.46**	**34**	IAMs_20	IAMs_20	04 58 26.4
	comp=Z,5µm,22.0s					
NEW	**Newport**	**80.46**	**34**	LR	LR	04 58 48.1
	comp=Z,5µm,21.7s,baz=226,slow=30					
KTH	**Kantishna Hill**	**80.48**	**10**	IAmb	IAmb	04 30 51.0
	comp=Z,218nm,1.4s					
TRF	**Thorofare Moun**	**80.49**	**10**	IAmb	IAmb	04 30 59.7
	comp=Z,122nm,0.9s					
TRF	**Thorofare Moun**	**80.49**	**10**	P	**P**	**04 30 49.5 -0.3**
	baz=202,SNR=64					
TRF				S	**S**	**04 40 52.8 -1.8**
	baz=202					

ANMO	**Albuquerque**	**80.50**	**50**	P	**P**	**04 30 51.5 +1.0**
ANMO	comp=Z,147nm,1.6s			IAmb	IAmb	04 30 55.8
ANMO	comp=Z,5μm,21.0s			IAMs_20	IAMs_20	04 58 32.5
ANMO	**Albuquerque**	**80.50**	**50**	LR	LR	04 59 05.1
	comp=Z,6μm,21.1s,baz=326,slow=30					
ANMO	**Albuquerque**	**80.50**	**50**	*d iP*	**P**	**04 30 52.4 +1.9**
ANMO	comp=Z,58nm,1.2s			pmax	pmax	
HARP	**HAARP**	**80.52**	**13**	P	**P**	**04 30 50.3 +0.6**
HARP	baz=207,SNR=19			S	**S**	**04 40 53.5 -1.0**
SKAG	**Skagway**	**80.56**	**18**	IAmb	IAmb	04 30 52.6
	comp=Z,105nm,1.3s					
SKAG	**Skagway**	**80.56**	**18**	P	**P**	**04 30 51.2 +1.2**
SKAG	baz=217,SNR=17			S	**S**	**04 40 55.8 +0.7**
CHUM	**Lake Minchumin**	**80.57**	**9**	P	**P**	**04 30 49.3 -0.6**
CHUM	baz=200,SNR=65			S	**S**	**04 40 51.7 -3.2**
J20K	**Nowinta River**	**80.58**	**8**	IAMs_20	IAMs_20	04 59 14.7
	comp=Z,6μm,22.0s					
J20K	**Nowinta River**	**80.58**	**8**	P	**P**	**04 30 50.7 +0.7**
J20K	baz=198,SNR=89			S	**S**	**04 40 54.7 -0.3**
P30M	**Million Dollar**	**80.62**	**17**	P	**P**	**04 30 51.3 +1.0**
P30M	baz=215			S	**S**	**04 40 56.4 +0.6**
H17K	**Granite Mounta**	**80.64**	**6**	IAMs_20	IAMs_20	04 59 31.3
	comp=Z,7μm,22.0s					
H17K	**Granite Mounta**	**80.64**	**6**	P	**P**	**04 30 51.1 +0.8**
H17K	baz=193,SNR=16			S	**S**	**04 40 57.1 +1.4**
DHY	**Denali Highway**	**80.67**	**12**	IAmb	IAmb	04 30 52.0
	comp=Z,108nm,1.3s					
DHY	**Denali Highway**	**80.67**	**12**	P	**P**	**04 30 50.8 +0.1**
DHY	baz=205,SNR=31			S	**S**	**04 40 54.3 -2.1**
F14K	**Arctic Creek**	**80.72**	**3**	P	**P**	**04 30 51.9 +1.2**
F14K	baz=187,SNR=12			S	**S**	**04 40 58.4 +2.0**
S34M	**Telegraph Cree**	**80.73**	**21**	IAmb	IAmb	04 30 53.4
	comp=Z,100nm,1.2s					
S34M				IAMs_20	IAMs_20	05 00 47.9
	comp=Z,6μm,20.0s					
S34M	**Telegraph Cree**	**80.73**	**21**	P	**P**	**04 30 51.8 +0.9**
	baz=221,SNR=10.0					
ALPN	**Alpine**	**80.73**	**55**	IAmb	IAmb	04 30 54.9
	comp=Z,96nm,1.2s					
TNA	**Tin City**	**80.73**	**2**	IAmb	IAmb	04 30 53.1
	comp=Z,210nm,1.4s					
TNA	**Tin City**	**80.73**	**2**	P	**P**	**04 30 52.0 +1.2**
TNA	baz=185,SNR=8.9			S	**S**	**04 40 58.8 +2.2**
GCSA	**Galena City Sc**	**80.78**	**7**	P	**P**	**04 30 52.2 +1.2**
	baz=196,SNR=20					
GCSA				S	**S**	**04 41 00.5 +3.4**
	baz=196					
YUK8	**Steele Glacier**	**80.82**	**16**	P	**P**	**04 30 52.0 +0.3**
YUK8	baz=212,SNR=31			S	**S**	**04 41 00.7 +2.4**
G16K	**Koyuk River**	**80.88**	**5**	IAmb	IAmb	04 30 53.9
	comp=Z,115nm,1.4s					
G16K				IAMs_20	IAMs_20	05 01 54.6
	comp=Z,4μm,20.0s					
G16K	**Koyuk River**	**80.88**	**5**	P	**P**	**04 30 52.4 +0.8**
	baz=190,SNR=13					
G16K				S	**S**	**04 41 00.7 +2.6**
	baz=190					
YUK6	**Outpost Mounta**	**80.90**	**16**	P	**P**	**04 30 52.9 +0.8**
	baz=214,SNR=20					
YUK6				S	**S**	**04 40 59.4 +0.2**
	baz=214					
PAX	**Paxson**	**80.96**	**12**	IAmb	IAmb	04 30 54.0
	comp=Z,172nm,1.6s					
PAX	**Paxson**	**80.96**	**12**	P	**P**	**04 30 51.8 -0.3**
PAX	baz=207,SNR=45			S	**S**	**04 40 55.9 -3.5**
	baz=207					
BPAW	**Bear Paw Mtn.**	**80.98**	**10**	IAMs_20	IAMs_20	04 59 20.3
	comp=Z,6μm,22.0s					
BPAW	**Bear Paw Mtn.**	**80.98**	**10**	P	**P**	**04 30 51.1 -1.0**
BPAW	baz=202,SNR=31			S	**S**	**04 40 55.7 -3.7**
	baz=202					
MCK	**McKinley**	**80.99**	**11**	P	**P**	**04 30 52.2 0.0**
MCK	baz=204,SNR=106			S	**S**	**04 40 57.8 -1.7**
	baz=204					
M26K	**Nabesna, AK**	**80.99**	**14**	P	**P**	**04 30 52.6 +0.3**
M26K	baz=209,SNR=107			S	**S**	**04 40 59.0 -0.7**
	baz=209					
AHID	**Auburn Hatcher**	**81.00**	**41**	IAmb	IAmb	04 30 55.6
	comp=Z,94nm,1.3s					
H18K	**Honhosa River**	**81.00**	**6**	IAmb	IAmb	04 30 54.1
	comp=Z,89nm,1.2s					
H18K				IAMs_20	IAMs_20	05 00 53.9
	comp=Z,8μm,20.0s					
H18K	**Honhosa River**	**81.00**	**6**	P	**P**	**04 30 52.9 +0.6**
	baz=194,SNR=18					
H18K				S	**S**	**04 41 02.0 +2.4**
	baz=194					
F15K	**North Star Dit**	**81.04**	**4**	IAmb	IAmb	04 30 54.6
	comp=Z,79nm,1.2s					
F15K				IAMs_20	IAMs_20	05 02 20.8
	comp=Z,6μm,20.0s					
F15K	**North Star Dit**	**81.04**	**4**	P	**P**	**04 30 53.1 +0.7**
	baz=188,SNR=8.7					
F15K				S	**S**	**04 41 02.2 +2.3**
	baz=188					
HYT	**Haines Junctio**	**81.04**	**17**	IAmb	IAmb	04 30 55.0
	comp=Z,140nm,1.2s					
HYT	**Haines Junctio**	**81.04**	**17**	P	**P**	**04 30 53.8 +1.1**
HYT	baz=215,SNR=55			S	**S**	**04 41 01.0 +0.6**
	baz=215					
BNX	**BinXian**	**81.08**	**322**	⇑P	**P**	**04 30 53.5 +0.5**
BNX				S	**S**	**04 41 02.3 +1.3**
BNX	comp=Z,37nm,1.3s			pmax	pmax	
BNX	comp=Z,1μm,8.8s			pmax	pmax	
BNX	comp=Z,3μm,22.7s			LR	LR	
BNX	comp=Z,5μm,21.7s			LR	LR	
BNX	comp=Z,9μm,22.5s			LR	LR	
I20K	**Naaghedeneel**	**81.12**	**8**	IAmb	IAmb	04 30 55.7
	comp=Z,126nm,1.1s					
I20K				IAMs_20	IAMs_20	04 59 42.1
	comp=Z,7μm,22.0s					
I20K	**Naaghedeneel**	**81.12**	**8**	P	**P**	**04 30 53.8 +1.0**
	baz=198,SNR=22					
I20K				S	**S**	**04 41 03.8 +3.1**
	baz=198					
G17K	**Kiwalik Mounta**	**81.13**	**5**	P	**P**	**04 30 53.9 +1.0**
	baz=192,SNR=20					
G17K				S	**S**	**04 41 03.2 +2.5**
	baz=192					
Q32M	**Nakina River**	**81.14**	**20**	IAmb	IAmb	04 30 55.6
	comp=Z,97nm,1.4s					
Q32M				IAMs_20	IAMs_20	04 58 52.9
	comp=Z,6μm,21.0s					
Q32M	**Nakina River**	**81.14**	**20**	P	**P**	**04 30 54.2 +0.9**
	baz=220,SNR=8.9					
YUK4	**Talbot Arm**	**81.16**	**16**	P	**P**	**04 30 54.3 +0.9**
	baz=214,SNR=24					
YUK4				S	**S**	**04 41 03.9 +2.2**
	baz=214					
P32M	**Atlin**	**81.17**	**19**	P	**P**	**04 30 54.1 +0.8**
	baz=218,SNR=13					
M27K	**Edge Creek, AK**	**81.22**	**14**	IAMs_20	IAMs_20	05 00 23.6
	comp=Z,8μm,20.0s					
M27K	**Edge Creek, AK**	**81.22**	**14**	P	**P**	**04 30 54.6 +1.0**
	baz=210,SNR=110					
M27K				S	**S**	**04 41 02.8 +0.7**
	baz=210					
CN2	**Changchun**	**81.24**	**320**	⇑P	**P**	**04 30 54.8 +0.8**
CN2				*e*P	PcP	04 30 59.3 -0.8
CN2				*e*S	**S**	**04 41 03.1 +0.3**
CN2	comp=Z,30nm,1.2s			pmax	pmax	
CN2	comp=Z,900nm,4.0s			pmax	pmax	
CN2	comp=Z,400nm,22.0s			LR	LR	
CN2	comp=Z,700nm,22.0s			LR	LR	
CN2	comp=Z,1μm,23.0s			LR	LR	
MENT	**Mentasta**	**81.30**	**13**	IAmb	IAmb	04 31 03.7
	comp=Z,73nm,0.9s					
DL2	**Dalian**	**81.36**	**314**	P	**P**	**04 30 56.0 +1.3**
DL2				S	**SKSac**	**04 41 12.0 -0.6**
DL2	comp=Z,77nm,1.1s			pmax	pmax	
DL2	comp=Z,2μm,4.6s			pmax	pmax	
DL2	comp=Z,7μm,17.5s			LR	LR	
DL2	comp=Z,4μm,19.2s			LR	LR	
DL2	comp=Z,2μm,20.0s			LR	LR	
O30N	**Mendenhall**	**81.40**	**17**	IAmb	IAmb	04 30 56.7
	comp=Z,196nm,1.4s					
O30N	**Mendenhall**	**81.40**	**17**	P	**P**	**04 30 55.5 +1.1**
	baz=216,SNR=45					
O30N				S	**S**	**04 41 03.7 -0.1**
	baz=216					
MSO	**Missoula**	**81.42**	**37**	IAmb	IAmb	04 30 57.5
	comp=Z,124nm,1.2s					
MSO				IAMs_20	IAMs_20	04 59 29.1
	comp=Z,7μm,21.0s					
DLMT	**Dillon**	**81.42**	**38**	IAmb	IAmb	04 30 57.9
	comp=Z,99nm,1.2s					
DLMT				IAMs_20	IAMs_20	05 01 15.2
	comp=Z,7μm,20.0s					
SNY	**Shenyang**	**81.44**	**318**	⇑P	**P**	**04 30 56.3 +1.3**
SNY				S	**S**	**04 41 08.3 +3.3**
SNY	comp=Z,45nm,1.4s			pmax	pmax	
SNY	comp=Z,710nm,5.3s			pmax	pmax	
SNY	comp=Z,900nm,19.7s			LR	LR	
SNY	comp=Z,1μm,18.3s			LR	LR	
SNY	comp=Z,2μm,18.6s			LR	LR	
L26K	**Log Cabin Wild**	**81.46**	**13**	IAmb	IAmb	04 30 56.7
	comp=Z,123nm,1.3s					
L26K	**Log Cabin Wild**	**81.46**	**13**	P	**P**	**04 30 55.6 +0.8**
	baz=209,SNR=18					
L26K				S	**S**	**04 41 03.5 -0.9**
	baz=209					
TPAW	**Teton Pass**	**81.46**	**41**	IAmb	IAmb	04 30 58.4
	comp=Z,101nm,1.2s					
S22A	**4UR Ranch, Cre**	**81.47**	**47**	IAmb	IAmb	04 31 00.1
	comp=Z,223nm,1.6s					
FXWY	**Fox Creek**	**81.49**	**40**	IAmb	IAmb	04 30 58.5
	comp=Z,103nm,1.4s					
DLBC	**Dease Lake**	**81.51**	**21**	LR	LR	05 00 56.0
	comp=Z,46μm,19.8s,baz=216,slow=31					
DLBC	**Dease Lake**	**81.51**	**21**	P	**P**	**04 30 55.9 +0.8**
	baz=222,SNR=9.8					
DLBC				S	**S**	**04 41 05.7 +0.6**
	baz=222					
SNOW	**Snow King Moun**	**81.57**	**41**	IAmb	IAmb	04 31 02.2
	comp=Z,128nm,1.2s					
H19K	**Roundabout Mou**	**81.58**	**7**	IAmb	IAmb	04 30 57.7
	comp=Z,163nm,1.3s					
H19K				IAMs_20	IAMs_20	05 00 50.1
	comp=Z,8μm,21.0s					
H19K	**Roundabout Mou**	**81.58**	**7**	P	**P**	**04 30 56.3 +1.0**
	baz=196,SNR=42					
H19K				S	**S**	**04 41 07.4 +2.0**
	baz=196					
O20A	**White River Ci**	**81.59**	**45**	IAmb	IAmb	04 31 00.1
	comp=Z,204nm,1.7s					
WHY	**Whitehorse**	**81.66**	**18**	IAmb	IAmb	04 30 58.1
	comp=Z,202nm,1.4s					
WHY	**Whitehorse**	**81.66**	**18**	P	**P**	**04 30 56.9 +0.9**
	baz=217,SNR=22					
WHY				S	**S**	**04 41 07.4 +0.7**
	baz=217					
N30M	**Aishikik Lake**	**81.68**	**17**	IAmb	IAmb	04 30 59.7
	comp=Z,104nm,1.6s					
N30M	**Aishikik Lake**	**81.68**	**17**	P	**P**	**04 30 56.4 +0.4**
	baz=215,SNR=17					
N30M				S	**S**	**04 41 06.1 -0.7**
	baz=215					
G18K	**Tagagawik**	**81.70**	**6**	IAmb	IAmb	04 31 05.7
	comp=Z,80nm,1.0s					
G18K				IAMs_20	IAMs_20	05 02 38.3
	comp=Z,7μm,20.0s					
G18K	**Tagagawik**	**81.70**	**6**	P	**P**	**04 30 56.4 +0.5**
	baz=194					
G18K				S	**S**	**04 41 07.7 +1.0**
	baz=194					
H20K	**Anotleneega Mo**	**81.74**	**8**	P	**P**	**04 30 57.0 +0.9**
	baz=198,SNR=37					
H20K				S	**S**	**04 41 09.6 +2.5**
	baz=198					
LOHW	**Long Hollow**	**81.74**	**41**	IAmb	IAmb	04 30 59.7
	comp=Z,101nm,1.4s					
NEA2	**Nenana**	**81.76**	**10**	IAmb	IAmb	04 31 06.9
	comp=Z,68nm,1.0s					
NEA2	**Nenana**	**81.76**	**10**	P	**P**	**04 30 55.6 -0.6**
	baz=203,SNR=48					
NEA2				S	**S**	**04 41 04.5 -2.9**
	baz=203					
RIDG	**Independent Ri**	**81.78**	**12**	IAmb	IAmb	04 30 58.0
	comp=Z,179nm,1.3s					
RIDG	**Independent Ri**	**81.78**	**12**	P	**P**	**04 30 56.6 +0.1**
	baz=207,SNR=73					
RIDG				S	**S**	**04 41 06.6 -1.1**
	baz=207					
MNHN	**Monahans**	**81.81**	**54**	IAmb	IAmb	04 31 00.0
	comp=Z,84nm,1.2s					
L27K	**Beaver Creek,**	**81.84**	**14**	P	**P**	**04 30 57.1 +0.4**
	baz=210,SNR=28					
L27K				S	**S**	**04 41 07.2 -1.1**
	baz=210					
I21K	**Tanana**	**81.84**	**9**	IAmb	IAmb	04 30 58.2
	comp=Z,102nm,1.2s					
I21K				IAMs_20	IAMs_20	05 00 49.2
	comp=Z,6μm,21.0s					
I21K	**Tanana**	**81.84**	**9**	P	**P**	**04 30 56.7 0.0**
	baz=200					
BCAR	**Beaver Creek A**	**81.85**	**14**	P	**P**	**04 30 57.2 +0.3**
DOT	**Dot Lake**	**81.86**	**13**	IAmb	IAmb	04 30 58.4
	comp=Z,195nm,1.3s					
MLY	**Manley**	**81.89**	**9**	IAmb	IAmb	04 31 06.4
	comp=Z,89nm,1.0s					
MLY	**Manley**	**81.89**	**9**	P	**P**	**04 30 56.6 -0.3**
	baz=202,SNR=104					
MLY				S	**S**	**04 41 06.3 -2.5**
	baz=202					
R33M	**Jennings River**	**81.91**	**20**	IAMs_20	IAMs_20	04 59 49.1
	comp=Z,5μm,20.0s					
R33M	**Jennings River**	**81.91**	**20**	P	**P**	**04 30 58.3 +1.0**
	baz=221,SNR=18					
R33M				S	**S**	**04 41 09.6 +0.2**
	baz=221					
P33M	**Teslin, Yukon**	**81.94**	**19**	IAMs_20	IAMs_20	05 00 38.9
	comp=Z,8μm,20.0s					
P33M	**Teslin, Yukon**	**81.94**	**19**	P	**P**	**04 30 57.8 +0.4**
	baz=219,SNR=12					
P33M				S	**S**	**04 41 10.9 +1.4**
	baz=219					
YPP	**Pitchstone Pla**	**81.95**	**40**	IAmb	IAmb	04 31 02.4
	comp=Z,161nm,1.8s					
YHB	**Horse Butte**	**81.95**	**39**	IAmb	IAmb	04 31 01.4
	comp=Z,145nm,1.2s					
HDA	**Harding Lake**	**81.97**	**11**	IAmb	IAmb	04 31 07.0
	comp=Z,117nm,1.0s					
HDA				IAMs_20	IAMs_20	04 59 46.4
	comp=Z,5μm,22.0s					
HDA	**Harding Lake**	**81.97**	**11**	P	**P**	**04 30 57.3 -0.1**
	baz=205,SNR=101					
HDA				S	**S**	**04 41 07.3 -2.2**
	baz=205					
BW06	**Boulder Array**	**81.99**	**42**	IAmb	IAmb	04 31 00.6
	comp=Z,97nm,1.4s					
BW06				IAMs_20	IAMs_20	05 01 29.4
	comp=Z,7μm,20.0s					
PD31	**Pinedale Array**	**81.99**	**42**	IAmb	IAmb	04 31 00.6
	comp=Z,88nm,1.3s					
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**04 30 58.8 +0.6**
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**04 30 59.0 +0.7**
	comp=Z,22nm,0.9s,baz=222,slow=2.0,SNR=106					
PDAR				PKKPbc	**PKKPbc**	**04 49 29.4 -0.6**
	comp=Z,0.7nm,0.7s,baz=80,slow=3.8,SNR=7.9					
PDAR				LR	LR	05 01 40.5
	comp=Z,4μm,19.7s,baz=229,slow=32					
	comp=Z,22nm,0.9s					
F17K	**Baldwin Pennin**	**82.00**	**5**	IAmb	IAmb	04 31 07.6
	comp=Z,103nm,0.9s					
F17K				IAMs_20	IAMs_20	05 01 18.2
	comp=Z,4μm,20.0s					
F17K	**Baldwin Pennin**	**82.00**	**5**	P	**P**	**04 30 58.5 +1.1**
	baz=192,SNR=21					
F17K				S	**S**	**04 41 11.0 +1.3**
	baz=192					
YFT	**Old Faithful**	**82.02**	**40**	IAmb	IAmb	04 31 12.7
	comp=Z,130nm,1.5s					
YMR	**Madison River**	**82.05**	**40**	IAmb	IAmb	04 31 02.0
	comp=Z,165nm,1.2s					
N31M	**Braeburn, Yuko**	**82.07**	**17**	IAmb	IAmb	04 31 00.1
	comp=Z,141nm,1.1s					
N31M	**Braeburn, Yuko**	**82.07**	**17**	P	**P**	**04 30 58.5 +0.6**
	baz=216,SNR=34					
N31M				S	**S**	**04 41 11.6 +0.9**
	baz=216					
BOZ	**Bozeman (W)**	**82.12**	**38**	IAmb	IAmb	04 31 02.4
	comp=Z,210nm,1.6s					
BOZ				IAMs_20	IAMs_20	05 00 56.8
	comp=Z,6μm,20.0s					
M29M	**Somme Creek**	**82.13**	**15**	IAmb	IAmb	04 31 00.2
	comp=Z,89nm,1.2s					
M29M	**Somme Creek**	**82.13**	**15**	P	**P**	**04 30 59.0 +0.6**
	baz=214,SNR=53					
M29M				S	**S**	**04 41 11.1 -0.4**
	baz=214					
SCRK	**Sand Creek**	**82.17**	**12**	IAmb	IAmb	04 31 08.1
	comp=Z,75nm,0.9s					
SCRK	**Sand Creek**	**82.17**	**12**	P	**P**	**04 30 59.0 +0.4**
	baz=208,SNR=93					
SCRK				S	**S**	**04 41 11.8 0.0**
	baz=208					
H21K	**Melozitna Rive**	**82.17**	**8**	IAmb	IAmb	04 31 09.1
	comp=Z,99nm,1.0s					
H21K				IAMs_20	IAMs_20	05 00 49.2
	comp=Z,6μm,21.0s					
H21K	**Melozitna Rive**	**82.17**	**8**	P	**P**	**04 30 59.2 +0.8**
	baz=200,SNR=55					
H21K				S	**S**	**04 41 12.2 +0.6**
	baz=200					
I23K	**Minto, Yukon-K**	**82.22**	**10**	IAmb	IAmb	04 30 59.9
	comp=Z,159nm,1.3s					
I23K	**Minto, Yukon-K**	**82.22**	**10**	P	**P**	**04 30 58.5 -0.1**
	baz=203,SNR=63					
I23K				S	**S**	**04 41 09.9 -2.1**
	baz=203					
COLA	**College**	**82.23**	**11**	P	**P**	**04 30 58.0 -0.6**
COLA	**College**	**82.23**	**11**	P	**P**	**04 30 58.5 -0.2**
COLA	**College**	**82.23**	**11**	*d iP*	**P**	**04 30 58.4 -0.2**
COLA	comp=Z,290nm,1.2s			pmax	pmax	
COLA	**College**	**82.23**	**11**	P	**P**	**04 30 58.6 0.0**
	baz=204					
COLA				S	**S**	**04 41 11.2 -0.9**
	baz=204					
COLA	**College**	**82.23**	**11**	P	**P**	**04 30 58.6 0.0**
YNR	**Norris Junctio**	**82.25**	**40**	IAmb	IAmb	04 31 04.3
	comp=Z,171nm,1.5s					
ODSA	**Odessa**	**82.28**	**54**	IAmb	IAmb	04 31 04.5
	comp=Z,97nm,1.0s					
F18K	**Selawik**	**82.29**	**5**	P	**P**	**04 30 59.4 +0.4**
	baz=193,SNR=21					
F18K				S	**S**	**04 41 13.8 +1.1**
	baz=193					
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**04 30 58.6 -0.6**
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**04 30 58.8 -0.3**
	comp=Z,35nm,1.0s,baz=228,slow=5.8,SNR=142					
ILAR				PKKP	**PKKPdf**	**04 49 16.2 -4.6**
	comp=Z,0.6nm,1.0s,baz=304,slow=2.0,SNR=1.9					
ILAR				PKKPbc	**PKKPbc**	**04 49 27.2 -2.8**
	comp=Z,0.3nm,0.6s,baz=348,slow=3.8,SNR=4.3					
ILAR				LR	LR	05 00 53.7
	comp=Z,4μm,21.8s,baz=200,slow=31					
	comp=Z,35nm,1.0s					
IMAR	**Indian Mountai**	**82.35**	**8**	P	**P**	**04 30 59.6 +0.2**
SDCO	**Great Sand Dun**	**82.42**	**48**	IAMs_20	IAMs_20	05 01 45.2
	comp=Z,4μm,19.0s					
HAYD	**Hayden**	**82.44**	**45**	IAmb	IAmb	04 31 03.7
	comp=Z,76nm,1.2s					
HAYD				IAMs_20	IAMs_20	05 01 16.5
	comp=Z,4μm,20.0s					
J25K	**Salcha River,**	**82.45**	**12**	IAmb	IAmb	04 31 09.5
	comp=Z,110nm,1.0s					
J25K				IAMs_20	IAMs_20	05 02 56.2
	comp=Z,4μm,20.0s					
J25K	**Salcha River,**	**82.45**	**12**	P	**P**	**04 31 00.3 +0.3**
	baz=207,SNR=72					
J25K				S	**S**	**04 41 14.0 -0.7**
	baz=207					
POKR	**Poker Plat Res**	**82.52**	**11**	P	**P**	**04 31 00.3 +0.1**
	baz=205,SNR=39					
POKR				S	**S**	**04 41 13.4 -1.8**
	baz=205					
SEY	**Seymchan**	**82.53**	**345**	LR	LR	05 02 43.0
	comp=Z,7μm,20.9s,baz=160,slow=32					
SEY	**Seymchan**	**82.53**	**345**	*ce*P	**P**	**04 31 00.0 -0.3**
SEY	comp=Z,110nm,1.7s			pmax	pmax	
E17K	**Hotham Inlet**	**82.59**	**4**	P	**P**	**04 31 01.5 +1.0**
	baz=191,SNR=30					
E17K				S	**S**	**04 41 16.7 +1.0**
	baz=191					
YMP	**Mirror Lake Pl**	**82.59**	**40**	IAmb	IAmb	04 31 16.5
	comp=Z,61nm,1.1s					
N32M	**Quiet Lake**	**82.59**	**18**	IAmb	IAmb	04 31 02.9
	comp=Z,103nm,1.2s					
N32M	**Quiet Lake**	**82.59**	**18**	P	**P**	**04 31 01.5 +0.8**
	baz=219					
N32M				S	**S**	**04 41 16.9 +0.8**
	baz=219					
H22K	**Ishtalitna Cre**	**82.60**	**9**	P	**P**	**04 31 01.0 +0.4**
	baz=201					
H22K				S	**SKSac**	**04 41 17.7 -2.2**
	baz=201					
K27K	**Chicken**	**82.62**	**13**	IAmb	IAmb	04 31 04.0
	comp=Z,163nm,1.4s					
K27K	**Chicken**	**82.62**	**13**	P	**P**	**04 31 01.8 +1.1**
	baz=210					
K27K				S	**SKSac**	**04 41 18.5 -1.5**
	baz=210					
M30M	**Minto, Yukon**	**82.68**	**16**	IAmb	IAmb	04 31 02.9
	comp=Z,101nm,1.3s					
M30M	**Minto, Yukon**	**82.68**	**16**	P	**P**	**04 31 01.3 +0.1**
	baz=215,SNR=34					
M30M				S	**SKSac**	**04 41 18.6 -2.0**
	baz=215					
F19K	**Shaleruckik Mo**	**82.70**	**6**	IAmb	IAmb	04 31 11.4
	comp=Z,95nm,0.8s					
F19K				IAMs_20	IAMs_20	05 03 56.7
	comp=Z,7μm,20.0s					
F19K	**Shaleruckik Mo**	**82.70**	**6**	P	**P**	**04 31 01.6 +0.5**
	baz=195					
F19K				S	**S**	**04 41 18.2 +1.3**
	baz=195					
J26L	**Joseph Creek**	**82.72**	**12**	IAmb	IAmb	04 31 11.6
	comp=Z,143nm,1.1s					
J26L	**Joseph Creek**	**82.72**	**12**	P	**P**	**04 31 02.3 +0.9**
	baz=209,SNR=82					
J26L				S	**S**	**04 41 17.9 +0.5**
	baz=209					
L29M	**L29M**	**82.77**	**15**	P	**P**	**04 31 02.6 +1.0**
	baz=214,SNR=122					
L29M				S	**S**	**04 41 18.4 +0.5**
	baz=214					
DRIO	**Del Rio**	**82.78**	**57**	IAmb	IAmb	04 31 05.2
	comp=Z,118nm,1.0s					
H23K	**Yukon River**	**82.82**	**10**	IAmb	IAmb	04 31 02.9
	comp=Z,80nm,1.4s					
H23K				IAMs_20	IAMs_20	05 00 28.4
	comp=Z,8μm,22.0s					
H23K	**Yukon River**	**82.82**	**10**	P	**P**	**04 31 01.5 -0.3**
	baz=203					

H23K				S	**S**	**04 41 16.3**	**-1.9**	
	baz=203							
G21K	**Allakaket**	**82.89**	**8**	IAMs_20	IAMs_20	05 01 09.0		
	comp=Z,6μm,22.0s							
G21K	**Allakaket**	**82.89**	**8**	P	**P**	**04 31 03.1**	**+1.0**	
	baz=199,SNR=49							
G21K				S	**SKSac**	**04 41 20.3**	**-1.4**	
	baz=199							
OZNA	**Ozona**	**82.94**	**55**	IAmb	IAmb	04 31 09.8		
	comp=Z,53nm,1.0s							
T25A	**Trinidad**	**82.94**	**49**	IAmb	IAmb	04 31 06.0		
	comp=Z,77nm,1.1s							
E18K	**Tukpahlearik C**	**83.02**	**5**	IAMs_20	IAMs_20	05 06 31.1		
	comp=Z,5μm,19.0s							
E18K	**Tukpahlearik C**	**83.02**	**5**	P	**P**	**04 31 03.7**	**+0.9**	
	baz=192,SNR=31							
E18K				S	**SKSac**	**04 41 21.3**	**-1.1**	
	baz=192							
M31M	**Drury Creek, Y**	**83.04**	**17**	IAmb	IAmb	04 31 04.5		
	comp=Z,69nm,1.3s							
M31M	**Drury Creek, Y**	**83.04**	**17**	P	**P**	**04 31 03.0**	**0.0**	
	baz=217,SNR=26							
M31M				S	**S**	**04 41 19.0**	**-1.6**	
	baz=217							
H24K	**Noodor Dome**	**83.10**	**10**	P	**P**	**04 31 02.5**	**-0.8**	
	baz=204							
H24K				S	**S**	**04 41 19.7**	**-1.5**	
	baz=204							
D17K	**Noatak River**	**83.11**	**4**	P	**P**	**04 31 04.3**	**+1.1**	
	baz=190,SNR=15							
D17K				S	**SKSac**	**04 41 24.1**	**+1.0**	
	baz=190							
F20K	**Avaraart Lake**	**83.13**	**7**	IAmb	IAmb	04 31 13.4		
	comp=Z,56nm,1.0s							
F20K	**Avaraart Lake**	**83.13**	**7**	P	**P**	**04 31 04.1**	**+0.8**	
	baz=197,SNR=28							
F20K				S	**SKSac**	**04 41 22.3**	**-0.8**	
	baz=197							
WTLY	**Watson Lake, Y**	**83.18**	**21**	P	**P**	**04 31 04.7**	**+0.9**	
	baz=223							
QIZ	**Qiongzhong**	**83.19**	**292**	P	**P**	**04 31 05.8**	**+1.1**	
QIZ				S	**SKSac**	**04 41 26.8**	**+1.1**	
QIZ				SS	**SS**	**04 46 47.9**	**-1.0**	
QIZ				pmax	pmax			
	comp=Z,330nm,6.1s							
QIZ				LR	LR			
	comp=Z,600nm,16.9s							
QIZ				LR	LR			
	comp=Z,1μm,22.2s							
QIZ				LR	LR			
	comp=Z,3μm,24.5s							
Q24A	**Divide**	**83.20**	**47**	IAmb	IAmb	04 31 07.8		
	comp=Z,60nm,1.1s							
PRP	**Porcupine Dome**	**83.23**	**11**	IAMs_20	IAMs_20	05 05 59.9		
	comp=Z,5μm,19.0s							
PRP	**Porcupine Dome**	**83.23**	**11**	P	**P**	**04 31 04.7**	**+0.6**	
	baz=207,SNR=130							
PRP				S	**S**	**04 41 21.8**	**-0.9**	
	baz=207							
ISCO	**Idaho Springs**	**83.24**	**46**	IAMs_20	IAMs_20	05 02 05.8		
	comp=Z,5μm,20.0s							
DAWY	**Dawson**	**83.27**	**14**	P	**P**	**04 31 04.3**	**+0.2**	
DAWY	**Dawson**	**83.27**	**14**	P	**P**	**04 31 04.8**	**+0.6**	
	baz=213,SNR=91							
DAWY				S	**S**	**04 41 22.8**	**-0.1**	
	baz=213							
SGCY	**Sterling City**	**83.32**	**54**	IAmb	IAmb	04 31 09.7		
	comp=Z,53nm,1.0s							
RLMT	**Red Lodge**	**83.32**	**40**	IAmb	IAmb	04 31 08.1		
	comp=Z,132nm,1.1s							
WHN	**Wuhan**	**83.33**	**304**	P	**P**	**04 31 07.3**	**+2.1**	
WHN				S	**SKSac**	**04 41 27.3**	**+1.2**	
WHN				SS	**SS**	**04 46 46.3**	**-4.3**	
WHN				pmax	pmax			
	comp=Z,2μm,11.1s							
WHN				LR	LR			
	comp=Z,3μm,20.0s							
WHN				LR	LR			
	comp=Z,7μm,20.5s							
WHN				LR	LR			
	comp=Z,8μm,20.9s							
E19K	**Redstone River**	**83.36**	**6**	IAmb	IAmb	04 31 14.8		
	comp=Z,101nm,0.9s							
E19K				IAMs_20	IAMs_20	05 01 38.4		
	comp=Z,7μm,21.0s							
E19K	**Redstone River**	**83.36**	**6**	P	**P**	**04 31 05.5**	**+1.0**	
	baz=195							
833A	**Chaparral WMA,**	**83.38**	**58**	IAmb	IAmb	04 31 08.7		
	comp=Z,76nm,0.9s							
TIA	**Tai'an**	**83.41**	**310**	P	**P**	**04 31 06.5**	**+1.0**	
TIA				S	**S**	**04 41 24.3**	**-1.1**	
TIA				SS	**SS**	**04 46 48.1**	**-3.6**	
TIA				pmax	pmax			
	comp=Z,21nm,1.1s							
TIA				pmax	pmax			
	comp=Z,880nm,4.8s							
TIA				LR	LR			
	comp=Z,1μm,18.5s							
TIA				LR	LR			
	comp=Z,3μm,18.2s							
TIA				LR	LR			
	comp=Z,5μm,20.6s							
EGAK	**Eagle**	**83.47**	**13**	IAmb	IAmb	04 31 07.1		
	comp=Z,118nm,1.2s							
EGAK	**Eagle**	**83.47**	**13**	P	**P**	**04 31 05.8**	**+0.7**	
	baz=211,SNR=46							
RDOG	**Red Dog Mine**	**83.47**	**4**	IAmb	IAmb	04 31 15.4		
	comp=Z,63nm,1.0s							
RDOG				IAMs_20	IAMs_20	05 07 45.1		
	comp=Z,5μm,19.0s							
RDOG	**Red Dog Mine**	**83.47**	**4**	P	**P**	**04 31 06.3**	**+1.2**	
	baz=190,SNR=7.9							
I26K	**Coal Creek Min**	**83.51**	**12**	IAMs_20	IAMs_20	05 01 29.5		
	comp=Z,6μm,20.0s							
I26K	**Coal Creek Min**	**83.51**	**12**	P	**P**	**04 31 06.3**	**+1.0**	
	baz=209							
HBVL	**Hebbronville**	**83.53**	**60**	IAmb	IAmb	04 31 10.7		
	comp=Z,105nm,1.1s							
HEH	**HeiHe**	**83.53**	**326**	*e*P	**P**	**04 31 05.5**	**-0.2**	
HEH				pP	**PcP**	**04 31 11.1**	**+1.1**	
HEH				S	**S**	**04 41 24.8**	**-1.2**	
HEH				pmax	pmax			
	comp=Z,21nm,1.7s							
HEH				pmax	pmax			
	comp=Z,1μm,5.3s							
HEH				LR	LR			
	comp=Z,2μm,20.3s							
HEH				LR	LR			
	comp=Z,2μm,20.7s							
HEH				LR	LR			
	comp=Z,2μm,20.6s							
K29M	**Barlow Dome**	**83.53**	**15**	IAmb	IAmb	04 31 07.9		
	comp=Z,93nm,1.1s							
K29M	**Barlow Dome**	**83.53**	**15**	P	**P**	**04 31 06.7**	**+1.0**	
	baz=214,SNR=74							
G22K	**Bettles**	**83.54**	**8**	P	**P**	**04 31 06.4**	**+0.9**	
	baz=201							
CMIG	**Matias Romero**	**83.54**	**70**	LR	LR	05 02 07.9		
	comp=Z,2μm,18.6s,baz=252,slow=31							
TOAD	**Toad River Com**	**83.55**	**23**	P	**P**	**04 31 06.2**	**+0.5**	
	baz=226,SNR=52							
C16K	**Lisburne Hills**	**83.56**	**3**	IAmb	IAmb	04 31 07.5		
	comp=Z,96nm,1.4s							
C16K				IAMs_20	IAMs_20	05 02 41.3		
	comp=Z,6μm,21.0s							
C16K	**Lisburne Hills**	**83.56**	**3**	P	**P**	**04 31 06.4**	**+1.0**	
	baz=188							
F21K	**Alatna River**	**83.56**	**8**	IAmb	IAmb	04 31 15.5		
	comp=Z,59nm,0.9s							
F21K				IAMs_20	IAMs_20	05 01 51.6		
	comp=Z,6μm,21.0s							
F21K	**Alatna River**	**83.56**	**8**	P	**P**	**04 31 06.1**	**+0.5**	
	baz=199,SNR=25							
G23K	**Bananza Creek**	**83.56**	**9**	IAmb	IAmb	04 31 07.7		
	comp=Z,142nm,1.3s							
G23K	**Bananza Creek**	**83.56**	**9**	P	**P**	**04 31 06.1**	**+0.4**	
	baz=202,SNR=54							
CNSH	**ChangSha**	**83.61**	**301**	P	**P**	**04 31 07.3**	**+0.6**	
CNSH				S	**SKSac**	**04 41 28.8**	**+0.7**	
CNSH				pmax	pmax			
	comp=Z,1μm,11.9s							
CNSH				LR	LR			
	comp=Z,1μm,19.2s							
CNSH				LR	LR			
	comp=Z,2μm,19.2s							
CNSH				LR	LR			
	comp=Z,3μm,23.4s							
LIRD	**Liard River Hi**	**83.62**	**22**	P	**P**	**04 31 06.9**	**+0.8**	
	baz=225,SNR=17							
MAYO	**Mayo, Yukon**	**83.75**	**16**	P	**P**	**04 31 07.6**	**+1.0**	
	baz=216							
JCT	**Junction City**	**83.83**	**56**	IAmb	IAmb	04 31 11.3		
	comp=Z,56nm,0.9s							
JCT				IAMs_20	IAMs_20	05 02 06.2		
	comp=Z,4μm,19.0s							
H25L	**Birch Creek**	**83.85**	**11**	P	**P**	**04 31 08.6**	**+1.6**	
	baz=206,SNR=19							
J29N	**Klondike Camp**	**83.87**	**14**	IAMs_20	IAMs_20	05 00 12.8		
	comp=Z,8μm,22.0s							
J29N	**Klondike Camp**	**83.87**	**14**	P	**P**	**04 31 08.7**	**+1.3**	
	baz=214,SNR=19							
RTBA	**Rita Blanca**	**83.87**	**50**	IAmb	IAmb	04 31 10.0		
	comp=Z,94nm,1.0s							
C17K	**DeLong Mountai**	**83.87**	**4**	P	**P**	**04 31 07.7**	**+0.5**	
	baz=190							
K22A	**Casper**	**83.90**	**43**	IAMs_20	IAMs_20	05 02 27.1		
	comp=Z,5μm,20.0s							
SN07	**Snyder 07**	**83.95**	**53**	IAmb	IAmb	04 31 10.6		
	comp=Z,104nm,1.1s							
G24K	**Hadweenzic Riv**	**83.96**	**10**	P	**P**	**04 31 09.1**	**+1.4**	
	baz=205							
F22K	**John River**	**84.00**	**8**	P	**P**	**04 31 08.8**	**+1.0**	
	baz=200							
COLD	**Coldfoot**	**84.02**	**9**	IAMs_20	IAMs_20	05 04 05.5		
	comp=Z,4μm,20.0s							
COLD	**Coldfoot**	**84.02**	**9**	P	**P**	**04 31 08.9**	**+1.0**	
	baz=202,SNR=46							
BELA	**Belgrano 2**	**84.03**	**172**	IAmb	IAmb	04 31 10.6		
	comp=Z,78nm,1.1s							
AMTX	**Amarillo**	**84.04**	**52**	IAMs_20	IAMs_20	05 01 16.4		
	comp=Z,4μm,20.0s							
I27K	**Kandik River**	**84.09**	**13**	P	**P**	**04 31 08.9**	**+0.5**	
	baz=210,SNR=42							
PMSA	**Palmer Station**	**84.11**	**156**	P	**P**	**04 31 10.3**	**+1.7**	
PMSA				IAmb	IAmb	04 31 46.6		
	comp=Z,105nm,1.3s							
PMSA	**Palmer Station**	**84.11**	**156**	LR	LR	04 59 49.4		
	comp=Z,5μm,21.4s,baz=233,slow=29							
DKNS	**Dickens**	**84.15**	**53**	IAmb	IAmb	04 31 12.7		
	comp=Z,122nm,1.2s							
C18K	**Utukok River**	**84.18**	**4**	IAmb	IAmb	04 31 10.7		
	comp=Z,71nm,1.2s							
C18K				IAMs_20	IAMs_20	05 05 29.8		
	comp=Z,5μm,20.0s							
C18K	**Utukok River**	**84.18**	**4**	P	**P**	**04 31 09.2**	**+0.5**	
	baz=192							
FYU	**Fort Yukon**	**84.23**	**11**	IAMs_20	IAMs_20	05 02 34.1		
	comp=Z,7μm,20.0s							
E20K	**Nigu River**	**84.24**	**6**	P	**P**	**04 31 10.2**	**+1.1**	
	baz=196,SNR=56							
G25K	**Bearman Lake**	**84.25**	**10**	P	**P**	**04 31 10.2**	**+1.1**	
	baz=206,SNR=9.4							
MMPY	**Sheldon Lake,**	**84.28**	**18**	P	**P**	**04 31 10.2**	**+0.8**	
	baz=220,SNR=45							
D19K	**Kuna River**	**84.28**	**5**	P	**P**	**04 31 10.3**	**+1.1**	
	baz=194							
I28M	**Miner Creek**	**84.31**	**13**	IAmb	IAmb	04 31 13.1		
	comp=Z,92nm,1.2s							
I28M	**Miner Creek**	**84.31**	**13**	P	**P**	**04 31 10.0**	**+0.4**	
	baz=212,SNR=43							
KVTX	**Kingsville**	**84.34**	**60**	IAMs_20	IAMs_20	05 07 36.0		
	comp=Z,4μm,18.0s							
J30M	**Hart River**	**84.44**	**15**	IAmb	IAmb	04 31 12.3		
	comp=Z,105nm,1.3s							
J30M	**Hart River**	**84.44**	**15**	P	**P**	**04 31 11.0**	**+0.7**	
	baz=215,SNR=36							
EGMT	**Eagleton**	**84.47**	**37**	IAMs_20	IAMs_20	05 02 38.7		
	comp=Z,6μm,20.0s							
BILL	**Bilibino**	**84.48**	**352**	P	**P**	**04 31 09.9**	**-0.3**	
BILL				IAmb	IAmb	04 31 20.2		
	comp=Z,70nm,1.1s							
BILL	**Bilibino**	**84.48**	**352**	*de*P	**P**	**04 31 10.2**	**0.0**	
BILL				pmax	pmax			
	comp=Z,68nm,1.1s							
I29M	**Ogilvie Camp,**	**84.61**	**14**	P	**P**	**04 31 11.0**	**+0.1**	
	baz=214,SNR=68							
D20K	**Etivluk River**	**84.64**	**6**	IAMs_20	IAMs_20	05 04 23.2		
	comp=Z,7μm,20.0s							
D20K	**Etivluk River**	**84.64**	**6**	P	**P**	**04 31 12.0**	**+0.9**	
	baz=196							
F24K	**Squaw Lake**	**84.64**	**9**	IAmb	IAmb	04 31 23.2		
	comp=Z,86nm,1.2s							
F24K	**Squaw Lake**	**84.64**	**9**	P	**P**	**04 31 12.0**	**+0.9**	
	baz=204,SNR=24							
E22K	**Anaktuvuk Pass**	**84.64**	**8**	P	**P**	**04 31 12.1**	**+1.0**	
	baz=201,SNR=47							
H27K	**Steamboat Moun**	**84.65**	**12**	IAMs_20	IAMs_20	05 01 56.3		
	comp=Z,7μm,21.0s							
H27K	**Steamboat Moun**	**84.65**	**12**	P	**P**	**04 31 12.0**	**+0.8**	
	baz=210,SNR=42							
E21K	**Killik River**	**84.66**	**7**	P	**P**	**04 31 11.7**	**+0.5**	
	baz=198							
ABTX	**Abilene, Hawle**	**84.75**	**54**	IAMs_20	IAMs_20	05 02 46.3		
	comp=Z,5μm,20.0s							
C19K	**Lookout Ridge**	**84.75**	**5**	IAMs_20	IAMs_20	05 03 09.9		
	comp=Z,7μm,21.0s							
C19K	**Lookout Ridge**	**84.75**	**5**	P	**P**	**04 31 12.8**	**+1.2**	
	baz=193,SNR=18							
BRDY	**Brady**	**84.77**	**56**	IAmb	IAmb	04 31 15.9		
	comp=Z,120nm,1.2s							
GULI	**GuiLin**	**84.77**	**298**	P	**P**	**04 31 16.6**	**+3.9**	
GULI				S	**SKSac**	**04 41 36.9**	**+1.2**	
GULI				pmax	pmax			
	comp=Z,12nm,1.4s							
GULI				LR	LR			
	comp=Z,1μm,22.4s							
GULI				LR	LR			
	comp=Z,920nm,19.4s							
GULI				LR	LR			
	comp=Z,2μm,37.3s							
G26K	**Porcupine Rive**	**84.83**	**11**	IAMs_20	IAMs_20	05 01 38.2		
	comp=Z,5μm,22.0s							
G26K	**Porcupine Rive**	**84.83**	**11**	P	**P**	**04 31 13.2**	**+1.2**	
	baz=208,SNR=110							
B18K	**Kokolik River**	**84.84**	**4**	P	**P**	**04 31 12.8**	**+0.8**	
	baz=191							
KOTAN	**Kotaneelee Air**	**84.87**	**22**	P	**P**	**04 31 13.1**	**+0.8**	
	baz=227,SNR=20							
E23K	**Chandalar**	**84.87**	**9**	P	**P**	**04 31 13.3**	**+0.9**	
	baz=203,SNR=30							
I30M	**Mount Dempster**	**84.95**	**15**	P	**P**	**04 31 13.3**	**+0.5**	
	baz=215,SNR=74							
H03S2	**Juan Fernandez**	**84.97**	**124**	T	T	06 05 11.9		
	baz=252,slow=75,SNR=38							
H03S1	**Juan Fernandez**	**84.98**	**124**	T	T	06 05 09.1		
	baz=252,slow=75,SNR=40							
H03S3	**Juan Fernandez**	**84.98**	**124**	T	T	06 05 14.2		
	baz=252,slow=75,SNR=27							
KSCO	**Kaye Shedlock'**	**85.00**	**47**	IAMs_20	IAMs_20	05 01 33.5		
	comp=Z,4μm,21.0s							
E24K	**Your Creek**	**85.06**	**9**	IAMs_20	IAMs_20	05 02 34.0		
	comp=Z,6μm,21.0s							
E24K	**Your Creek**	**85.06**	**9**	P	**P**	**04 31 14.0**	**+0.8**	
	baz=204							
F25K	**Christian Rive**	**85.08**	**10**	IAmb	IAmb	04 31 16.0		
	comp=Z,90nm,1.2s							
F25K	**Christian Rive**	**85.08**	**10**	P	**P**	**04 31 14.5**	**+1.2**	
	baz=206,SNR=36							
BMAR	**Burnt Mountain**	**85.11**	**11**	P	**P**	**04 31 14.9**	**+1.4**	
G27K	**Doyon Strip**	**85.12**	**12**	IAmb	IAmb	04 31 15.9		
	comp=Z,71nm,1.2s							
G27K				IAMs_20	IAMs_20	05 02 51.8		
	comp=Z,7μm,20.0s							
G27K	**Doyon Strip**	**85.12**	**12**	P	**P**	**04 31 14.6**	**+1.0**	
	baz=210,SNR=42							
SMWD	**Samnorwood**	**85.22**	**52**	IAmb	IAmb	04 31 17.1		
	comp=Z,66nm,1.2s							
D22K	**Ayikyak River**	**85.23**	**7**	IAMs_20	IAMs_20	05 02 25.7		
	comp=Z,6μm,21.0s							
D22K	**Ayikyak River**	**85.23**	**7**	P	**P**	**04 31 15.2**	**+1.1**	
	baz=200,SNR=29							
C21K	**Knifeblade Rid**	**85.26**	**6**	P	**P**	**04 31 15.3**	**+1.2**	
	baz=198,SNR=23							
H29M	**Whitestone**	**85.31**	**13**	P	**P**	**04 31 14.9**	**+0.4**	
	baz=213,SNR=51							
H29M				S	**S**	**04 41 41.3**	**-1.9**	
	baz=213							
TOLK	**Toolik Lake Re**	**85.42**	**8**	IAmb	IAmb	04 31 25.1		
	comp=Z,80nm,0.9s							
TOLK				IAMs_20	IAMs_20	05 06 36.6		
	comp=Z,5μm,20.0s							
TOLK	**Toolik Lake Re**	**85.42**	**8**	P	**P**	**04 31 15.9**	**+0.9**	
	baz=203,SNR=20							
TOLK				S	**S**	**04 41 43.1**	**-1.2**	
	baz=203							
F26K	**Sheenjek River**	**85.43**	**11**	P	**P**	**04 31 16.6**	**+1.5**	
	baz=208							
F26K				S	**S**	**04 41 45.4**	**+1.1**	
	baz=208							
ZEA	**Zeya**	**85.53**	**329**	*e*P	**P**	**04 31 15.8**	**0.0**	
ZEA				*e*S	**SKSac**	**04 41 41.4**	**+2.2**	
ZEA				*e*		04 50 50.7		
ZEA				pmax	pmax			
	comp=N,10.0nm,1.3s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.5s							
ZEA				pmax	pmax			
	comp=E,200nm,12.2s							
ZEA				pmax	pmax			
	comp=N,200nm,5.4s							
ZEA				pmax	pmax			
	comp=Z,600nm,10.8s							
ZEA				smax	smax			
	comp=N,500nm,13.4s							
ZEA				smax	smax			
	comp=E,1μm,10.4s							
E25K	**Arctic Village**	**85.56**	**10**	P	**P**	**04 31 16.9**	**+1.2**	
	baz=206,SNR=58							
E25K				S	**S**	**04 41 47.3**	**+1.6**	
	baz=206							
D23K	**Nanushuk River**	**85.57**	**8**	P	**P**	**04 31 16.9**	**+1.2**	
	baz=202							
D23K				S	**S**	**04 41 48.8**	**+3.1**	
	baz=202							
BJT	**Baijiatuau**	**85.65**	**313**	IAmb	IAmb	04 31 20.1		
	comp=Z,160nm,1.8s							
BJI	**Beijing**	**85.66**	**313**	P	**P**	**04 31 18.3**	**+1.6**	
BJI				SKS	**SKSac**	**04 41 40.0**	**-0.7**	
BJI				S	**SKKSac**	**04 41 52.0**	**+4.4**	
BJI				SS	**SS**	**04 47 22.9**	**-1.7**	
BJI				pmax	pmax			
	comp=Z,23nm,1.8s							
BJI				pmax	pmax			
	comp=Z,570nm,5.7s							
BJI				LR	LR			
	comp=Z,450nm,19.3s							
BJI				LR	LR			
	comp=Z,750nm,23.0s							
BJI				LR	LR			
	comp=Z,2μm,24.4s							
HNS	**HongShan**	**85.66**	**310**	⇓P	**P**	**04 31 17.0**	**+0.2**	
HNS				SKS	**SKSac**	**04 41 41.8**	**+1.0**	
HNS				S	**ScS**	**04 41 53.1**	**-4.2**	
HNS				SS	**SS**	**04 47 27.6**	**+2.8**	
HNS				pmax	pmax			
	comp=Z,40nm,1.4s							
HNS				pmax	pmax			
	comp=Z,1μm,8.0s							
HNS				LR	LR			
	comp=Z,1μm,21.2s							
HNS				LR	LR			
	comp=Z,2μm,19.4s							
HNS				LR	LR			
	comp=Z,3μm,19.1s							
A19K	**Wainwright**	**85.72**	**4**	P	**P**	**04 31 16.9**	**+0.6**	
	baz=192							
B21K	**Ikpikpuk River**	**85.72**	**6**	IAmb	IAmb	04 31 18.6		
	comp=Z,130nm,1.5s							
B21K	**Ikpikpuk River**	**85.72**	**6**	P	**P**	**04 31 17.1**	**+0.7**	
	baz=198,SNR=7.2							
B21K				S	**S**	**04 41 48.3**	**+1.4**	
	baz=198							
USHA	**Ushuaia**	**85.80**	**146**	LR	LR	05 00 34.3		
	comp=Z,9μm,21.8s,baz=251,slow=29							
EPYK	**Eagle Plains**	**85.81**	**14**	IAMs_20	IAMs_20	05 01 47.2		
	comp=Z,6μm,22.0s							
EPYK	**Eagle Plains**	**85.81**	**14**	P	**P**	**04 31 17.6**	**+0.6**	
	baz=215,SNR=38							
EPYK				S	**S**	**04 41 48.5**	**+0.3**	
	baz=215							
EPYK				S	**SKKSac**	**04 41 51.1**	**+3.3**	
	baz=215							
AY03	**Cochrane**	**85.82**	**138**	IAMs_20	IAMs_20	05 00 41.7		
	comp=Z,6μm,19.0s							
B20K	**Meade River**	**85.84**	**5**	IAMs_20	IAMs_20	05 04 03.7		
	comp=Z,6μm,20.0s							
B20K	**Meade River**	**85.84**	**5**	P	**P**	**04 31 17.6**	**+0.7**	
	baz=195,SNR=7.5							
B20K				S	**S**	**04 41 51.3**	**+3.1**	
	baz=195							
H31M	**Peel River**	**85.93**	**15**	IAmb	IAmb	04 31 37.5		
	comp=Z,86nm,1.2s							
H31M	**Peel River**	**85.93**	**15**	P	**P**	**04 31 17.6**	**0.0**	
	baz=217,SNR=20							
H31M				S	**S**	**04 41 49.3**	**0.0**	
	baz=217							
G29M	**Pine Creek**	**85.97**	**13**	P	**P**	**04 31 18.1**	**+0.4**	
	baz=214							
G29M				S	**S**	**04 41 49.9**	**+0.2**	
	baz=214							
D24K	**Happy Valley**	**86.00**	**8**	IAmb	IAmb	04 31 28.2		
	comp=Z,75nm,1.1s							
D24K	**Happy Valley**	**86.00**	**8**	P	**P**	**04 31 18.7**	**+0.9**	
	baz=203							
D24K				S	**S**	**04 41 51.2**	**+1.4**	
	baz=203							
F28M	**Old Crow**	**86.17**	**12**	IAmb	IAmb	04 31 29.3		
	comp=Z,59nm,0.9s							
F28M	**Old Crow**	**86.17**	**12**	P	**P**	**04 31 19.6**	**+0.8**	
	baz=212,SNR=34							
F28M				S	**S**	**04 41 52.6**	**+1.0**	
	baz=212							
RSSD	**Black Hills**	**86.18**	**42**	P	**P**	**04 31 19.2**	**-0.4**	
RSSD				IAmb	IAmb	04 31 22.1		
	comp=Z,88nm,1.1s							
RSSD	**Black Hills**	**86.18**	**42**	P	**P**	**04 31 19.2**	**-0.4**	
RSSD				pmax	pmax			
	comp=Z,87nm,1.1s							
RSSD	**Black Hills**	**86.18**	**42**	P	**P**	**04 31 20.1**	**+0.5**	
OGNE	**Ogallala**	**86.20**	**46**	IAMs_20	IAMs_20	05 02 03.2		
	comp=Z,4μm,22.0s							
WHTX	**Lake Whitney,**	**86.25**	**56**	IAMs_20	IAMs_20	05 02 52.1		
	comp=Z,5μm,20.0s							
LYN	**LuoYang**	**86.28**	**307**	⇑P	**P**	**04 31 21.9**	**+1.9**	
LYN				sP	pwP	04 31 30.8	+0.4	
LYN				SKS	**SKSac**	**04 41 42.3**	**-2.5**	
LYN				S	**ScS**	**04 42 00.8**	**-1.8**	
LYN				SS	**SS**	**04 47 29.0**	**-5.0**	
LYN				pmax	pmax			
	comp=Z,56nm,0.9s							
LYN				pmax	pmax			
	comp=Z,1μm,5.4s							
LYN				LR	LR			
	comp=Z,2μm,19.8s							
LYN				LR	LR			
	comp=Z,3μm,19.6s							
LYN				LR	LR			
	comp=Z,4μm,21.8s							
E27K	**Coleen River**	**86.33**	**11**	IAMs_20	IAMs_20	05 07 55.7		
	comp=Z,4μm,19.0s							
E27K	**Coleen River**	**86.33**	**11**	P	**P**	**04 31 20.6**	**+1.1**	
	baz=210							
E27K				S	**S**	**04 41 55.4**	**+2.3**	
	baz=210							
GO07	**Milladeo Hill,**	**86.36**	**134**	IAmb	IAmb	04 31 24.8		
	comp=Z,74nm,0.9s							
GO07				IAMs_20	IAMs_20	05 00 07.0		
	comp=Z,6μm,22.0s							
C23K	**Itkillik River**	**86.39**	**8**	P	**P**	**04 31 20.5**	**+0.8**	
	baz=202							
C23K				S	**S**	**04 41 55.7**	**+2.2**	
	baz=202							
G30M	**tAoh Zraii Nji**	**86.43**

comp=Z,4μm,21.0s
C24K Franklin Bluff 86.54 8 P P 04 31 21.0 +0.6
baz=204
C24K S **S 04 41 57.3 +2.3**
baz=204
COYC Coyhaique 86.68 136 IAmb IAmb 04 31 26.2
comp=Z,53nm,1.0s
COYC Coyhaique 86.68 136 P P 04 31 24.9 +3.0
NOKA Waynoka 86.77 51 IAmb IAmb 04 31 25.4
comp=Z,48nm,0.8s
G31M Satah River 86.84 14 P P 04 31 22.0 +0.1
baz=217,SNR=39
G31M S **S 04 41 57.3 -0.7**
baz=217
OK038 West end E0370 86.86 51 IAmb IAmb 04 31 26.0
comp=Z,68nm,1.0s
OK038 IAMs_20 IAMs_20 05 02 15.0
comp=Z,6μm,22.0s
HKT Hockley 86.86 58 P P 04 31 24.2 +1.3
HKT IAmb IAmb 04 31 27.2
comp=Z,133nm,1.4s
HKT Hockley 86.86 58 *i* P **P 04 31 24.4 +1.6**
HKT pmax pmax
comp=Z,119nm,1.4s
HKT Hockley 86.86 58 P P 04 31 24.4 +1.6
Z35A Perchaven, San 86.88 54 IAMs_20 IAMs_20 05 03 52.7
comp=Z,5μm,20.0s
APG El Apazote 86.98 74 LR LR 05 03 47.4
comp=Z,177nm,18.6s,baz=228,slow=31
CBKS Cedar Bluff 86.99 49 IAmb IAmb 04 31 26.5
comp=Z,61nm,1.1s
A22K Sinclair Lake 87.01 6 P P 04 31 23.0 +0.3
baz=197
A22K S **S 04 41 59.6 +0.1**
baz=197
F30M Barrier River 87.04 13 IAmb IAmb 04 31 43.9
comp=Z,41nm,0.9s
F30M IAMs_20 IAMs_20 05 02 11.6
comp=Z,6μm,22.0s
F30M Barrier River 87.04 13 P P 04 31 23.4 +0.4
baz=216,SNR=11
F30M S **S 04 42 00.7 +0.6**
baz=216
E28M Babbage River 87.08 12 IAmb IAmb 04 31 33.8
comp=Z,47nm,1.1s
E28M IAMs_20 IAMs_20 05 06 00.7
comp=Z,6μm,20.0s
E28M Babbage River 87.08 12 P P 04 31 23.7 +0.6
baz=212,SNR=15
E28M S **S 04 42 01.7 +1.3**
baz=212
ENH Enshi 87.16 302 IAmb IAmb 04 31 34.7
comp=Z,42nm,1.1s
LOOK Love County 87.16 54 IAmb IAmb 04 31 27.6
comp=Z,60nm,0.9s
WRGLY Wrigley 87.19 20 IAmb IAmb 04 31 25.6
comp=Z,79nm,1.2s
WRGLY Wrigley 87.19 20 P P 04 31 24.4 +0.7
baz=227,SNR=12
WRGLY S **S 04 41 59.9 -1.6**
baz=227
C27K Jago River 87.22 10 IAmb IAmb 04 31 27.9
comp=Z,108nm,1.9s
C27K Jago River 87.22 10 P P 04 31 24.6 +0.8
baz=208
C27K S **S 04 42 02.1 +0.4**
baz=208
E29M Blow River 87.23 12 P P 04 31 24.1 +0.2
baz=214,SNR=14
E29M S **S 04 41 59.8 -2.0**
baz=214
IPM Ipoh 87.24 275 IAmb IAmb 04 31 35.6
comp=Z,57nm,1.4s
C26K Camden Bay 87.28 9 P P 04 31 25.1 +1.1
baz=207
C26K S **S 04 42 02.4 +0.2**
baz=207
XLT XiLinHaoTe 87.30 317 *e*P **P 04 31 25.8 +1.0**
XLT sP sP 04 31 34.0 -1.1
XLT SKS **SKSac 04 41 50.8 -0.1**
XLT S **ScS 04 42 08.9 -1.9**
XLT pmax pmax
comp=Z,38nm,1.9s
XLT pmax pmax
comp=Z,930nm,5.7s
XLT LR LR
comp=Z,3μm,24.3s
XLT LR LR
comp=Z,4μm,27.4s
HIA Hailar 87.34 323 IAmb IAmb 04 31 36.5
comp=Z,110nm,1.8s
HIA Hailar 87.34 323 IAMs_20 IAMs_20 05 04 25.1
comp=Z,7μm,21.0s
D27M Malcolm River 87.36 11 IAmb IAmb 04 31 28.0
comp=Z,100nm,1.6s
D27M IAMs_20 IAMs_20 05 03 30.9
comp=Z,6μm,22.0s
D27M Malcolm River 87.36 11 P P 04 31 25.2 +0.7
baz=211
D27M S **S 04 42 03.6 +0.5**
baz=211
F31M Tsiigehtchic 87.38 14 P P 04 31 25.0 +0.5
baz=218,SNR=91
F31M S **S 04 42 01.1 -2.1**
baz=218
CROK Carrier 87.44 51 IAmb IAmb 04 31 29.2
comp=Z,45nm,1.1s
TIY Taiyuan 87.45 310 P P 04 31 27.4 +1.7
TIY PP **PP 04 34 55.1 +4.3**
TIY SKS **SKSac 04 41 53.0 +0.9**
TIY S **ScS 04 42 10.6 -1.8**
TIY pmax pmax
comp=Z,47nm,1.4s
TIY pmax pmax
comp=Z,850nm,4.9s
TIY LR LR
comp=Z,1μm,20.6s
TIY LR LR
comp=Z,1μm,20.6s
TIY LR LR
comp=Z,3μm,25.2s
LL01 San Ignacio de 87.46 133 IAMs_20 IAMs_20 05 03 42.2
comp=Z,4μm,21.0s
HILR Hailar Array B 87.46 323 P P 04 31 26.4 +0.9
comp=Z,30nm,0.9s,baz=126,slow=7.5,SNR=19
HILR LR LR 05 04 51.5
comp=Z,6μm,22.0s,baz=85,slow=32
comp=Z,30nm,0.9s
R32A Long Quarter, 87.59 49 IAMs_20 IAMs_20 05 03 51.3
comp=Z,6μm,20.0s
LL02 Futaleuf 87.60 134 IAmb IAmb 04 31 30.3
comp=Z,57nm,1.1s
LL02 IAMs_20 IAMs_20 05 01 29.8
comp=Z,6μm,22.0s
KAN08 Anthony NE Sta 87.71 51 IAmb IAmb 04 31 30.0
comp=Z,50nm,1.0s
MTO3 Montecristo 87.83 75 IAmb IAmb 04 31 31.6
comp=Z,68nm,1.1s
KAN01 Argonia South 87.84 51 IAmb IAmb 04 31 30.7
comp=Z,51nm,0.9s
D28M Stokes Point 87.85 12 P P 04 31 27.1 +0.3
baz=213
D28M S **S 04 42 09.8 +2.1**
baz=213
LL03 Petrohue 87.86 132 IAMs_20 IAMs_20 05 01 33.8
comp=Z,5μm,22.0s
MAW Mawson 87.97 199 P P 04 31 28.8 +1.2
comp=Z,54nm,0.7s,baz=132,slow=6.4,SNR=65
MAW LR LR 05 06 47.0
comp=Z,8μm,22.0s,baz=119,slow=33
comp=Z,54nm,0.7s
PETF Flores 88.08 72 IAmb IAmb 04 31 32.0
comp=Z,30nm,0.6s
INK Inuvik 88.11 14 LR LR 05 03 52.3
comp=Z,6μm,21.8s,baz=208,slow=31
INK Inuvik 88.11 14 P P 04 31 28.0 0.0
baz=218,SNR=29
INK S **S 04 42 10.7 +0.5**
baz=218
OK052 Battle Ridge R 88.15 52 IAmb IAmb 04 31 33.3
comp=Z,74nm,1.7s
OK048 Pawnee Station 88.19 52 IAMs_20 IAMs_20 05 03 05.3
comp=Z,4μm,22.0s
GYA Guiyang 88.30 298 ⇓P **P 04 31 32.8 +2.7**
GYA SKS **SKSac 04 41 56.4 -1.4**
GYA S **S 04 42 15.6 +1.6**
GYA SS **SS 04 48 06.8 +2.7**
GYA pmax pmax
comp=Z,17nm,1.0s
GYA pmax pmax
comp=Z,700nm,10.9s
GYA LR LR
comp=Z,520nm,22.1s
GYA LR LR
comp=Z,920nm,22.0s
GYA LR LR
comp=Z,1μm,21.9s
OK051 E0350 and S346 88.30 52 IAMs_20 IAMs_20 05 05 57.2
comp=Z,4μm,20.0s
K30B Basset 88.54 45 IAMs_20 IAMs_20 05 03 43.1
comp=Z,6μm,22.0s
Z38A Mt. Pleasant 88.64 55 IAMs_20 IAMs_20 05 04 59.4
comp=Z,6μm,20.0s
BI05 Punta Hualpn 88.64 128 IAMs_20 IAMs_20 05 01 50.8
comp=Z,7μm,20.0s
T35A Sooner Cattle 88.69 51 IAmb IAmb 04 31 33.4
comp=Z,48nm,0.9s
T35A IAMs_20 IAMs_20 05 03 54.4
comp=Z,5μm,21.0s
XAN Xi'an 88.86 306 ⇑P **P 04 31 34.1 +1.6**
XAN pP pP 04 31 39.3 -0.7
XAN SKS **SKSac 04 41 55.4 -5.3**
XAN S **SKKSac 04 42 14.4 +2.3**
XAN SS **SS 04 48 12.3 +0.5**
XAN pmax pmax
comp=Z,30nm,1.0s
XAN LR LR
comp=Z,3μm,22.7s
XAN LR LR
comp=Z,3μm,20.6s
XAN LR LR
comp=Z,4μm,20.8s
TUL3 Leonard 88.89 52 IAmb IAmb 04 31 36.8
comp=Z,32nm,0.9s
BGNE Belgrade 89.08 47 IAMs_20 IAMs_20 05 06 00.6
comp=Z,6μm,20.0s
YAK Yakutsk 89.17 337 IAMs_20 IAMs_20 05 04 12.4
comp=Z,4μm,22.0s
YAK Yakutsk 89.17 337 LR LR 05 04 52.6
comp=Z,3μm,21.6s,baz=122,slow=31
YAK Yakutsk 89.17 337 *e*P **P 04 31 31.5 -1.7**
YAK *e**PP **pP 04 31 41.0 +0.5**
YAK *e* 04 35 01.8
YAK *e*S **SKSac 04 41 58.2 -2.9**
YAK *e**SS **SKKSac 04 42 14.7 +1.7**
YAK *e*SP **SPn 04 43 19.5 -4.5**
YAK *e*PS PS 04 43 57.4 +29
YAK *e*SS **SS 04 48 11.7 -3.3**
YAK *e*SSS SSS 04 51 46.8
YAK pmax pmax
comp=Z,31nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=Z,561nm,6.1s
YAK pmax pmax
comp=N,77nm,3.0s
YAK pmax pmax
comp=E,80nm,2.7s
YAK smax smax
comp=E,265nm,4.1s
YAK smax smax
comp=N,45nm,2.3s
YAK pmax pmax
comp=E,5μm,35.0s
HHC Hu-ho-hao-te 89.22 313 ⇑*i*P **P 04 31 36.0 +1.9**
HHC sP pwP 04 31 44.8 +0.3
HHC SKS **SKSac 04 42 02.4 -0.2**
HHC S **S 04 42 23.4 +1.3**
HHC SS **SS 04 48 20.1 +3.2**
HHC pmax pmax
comp=E,57nm,1.8s
HHC pmax pmax
comp=E,980nm,8.7s
HHC LR LR
comp=E,620nm,19.3s
HHC LR LR
comp=E,1μm,18.4s
HHC LR LR
comp=E,2μm,20.2s
PLCA Paso Flores 89.32 132 IAmb IAmb 04 31 40.5
comp=Z,50nm,1.4s
PLCA Paso Flores 89.32 132 P **P 04 31 36.2 +1.6**
comp=Z,14nm,1.1s,baz=243,slow=5.2,SNR=14
PLCA LR LR 05 02 52.3
comp=Z,5μm,21.0s,baz=250,slow=30
comp=Z,14nm,1.1s
PLCA Paso Flores 89.32 132 *e*P **P 04 31 36.3 +1.6**
PLCA Paso Flores 89.32 132 P **P 04 31 36.0 +1.3**
E28A Huff 89.34 41 IAmb IAmb 04 31 35.8
comp=Z,51nm,1.2s
E28A IAMs_20 IAMs_20 05 07 09.8
comp=Z,5μm,19.0s
KSU1 Kansas State U 89.37 49 IAMs_20 IAMs_20 05 04 35.8
comp=Z,7μm,21.0s
RLO Rose Lookout 89.56 52 IAmb IAmb 04 31 38.2
comp=Z,42nm,1.1s
TGUH Tegucigalpa,Un 89.69 75 IAmb IAmb 04 31 40.3
comp=Z,97nm,1.4s
YKA Yellowknife Ar 89.90 23 P **P 04 31 36.5 0.0**
YKA Yellowknife Ar 89.90 23 P **P 04 31 37.4 +0.8**
comp=Z,21nm,1.0s,baz=250,slow=5.0,SNR=23
YKA LR LR 05 05 21.6
comp=Z,7μm,20.5s,baz=236,slow=31
comp=Z,21nm,1.0s
YKAW3 Yellowknife Wh 89.93 23 IAmb IAmb 04 31 38.6
comp=Z,50nm,1.1s
YKAW1 Yellowknife Wh 89.94 23 IAmb IAmb 04 31 38.7
comp=Z,66nm,1.2s
BI02 San Fabin de 90.13 128 IAmb IAmb 04 31 42.2
comp=Z,59nm,1.1s
BI02 IAMs_20 IAMs_20 05 02 58.2
comp=Z,6μm,20.0s
MIAR Mount Ida 90.16 54 IAMs_20 IAMs_20 05 07 12.7
comp=Z,4μm,20.0s
ML02 Panimavida 90.31 127 IAMs_20 IAMs_20 05 02 32.1
comp=Z,4μm,21.0s
TEIG Tepich 90.45 69 P **P 04 31 41.6 +1.5**
L34A Svendsen Farm, 90.53 47 IAMs_20 IAMs_20 05 05 07.7
comp=Z,5μm,21.0s
N35A Tabor 90.67 48 IAMs_20 IAMs_20 05 05 43.6
comp=Z,5μm,21.0s
X40A Basin Creek Fa 90.72 54 IAmb IAmb 04 31 45.7
comp=Z,70nm,1.7s
JTS Las Juntas de 90.87 80 P **P 04 31 43.0 +0.8**
JTS Las Juntas de 90.87 80 LR LR 05 03 16.2
comp=Z,2μm,20.2s,baz=249,slow=29
JTS Las Juntas de 90.87 80 *c i*P **P 04 31 44.6 +2.3**
JTS pmax pmax
comp=Z,163nm,1.1s
BO01 Tunca 91.02 126 IAmb IAmb 04 31 46.1
comp=Z,58nm,1.1s
BO01 IAMs_20 IAMs_20 05 02 12.8
comp=Z,6μm,21.0s
VA01 Torpederas 91.03 125 IAMs_20 IAMs_20 05 02 20.2
comp=Z,5μm,21.0s
MT01 Popeta 91.06 125 IAMs_20 IAMs_20 05 02 13.0
comp=Z,5μm,21.0s
BO02 Sierra Bellavi 91.13 126 IAmb IAmb 04 31 46.9
comp=Z,39nm,1.1s
BO02 IAMs_20 IAMs_20 05 02 17.6
comp=Z,5μm,21.0s
C36M Paulatuk 91.20 16 P **P 04 31 42.3 -0.1**
baz=227
C36M S **S 04 42 39.1 +0.3**
baz=227
UALR University of 91.20 54 IAmb IAmb 04 31 46.2
comp=Z,74nm,1.1s
KMI Kunming 91.29 296 P **P 04 31 44.3 0.0**
KMI SKS **SKSac 04 42 16.1 +0.5**
KMI pmax pmax
comp=Z,440nm,5.4s
KMI LR LR
comp=Z,670nm,21.3s
KMI LR LR
comp=Z,2μm,26.0s
KMI LR LR
comp=Z,2μm,23.7s
545A Edgard 91.29 59 IAMs_20 IAMs_20 05 08 16.1
comp=Z,6μm,22.0s
MT09 Talagante 91.30 125 IAmb IAmb 04 31 47.5
comp=Z,70nm,1.1s
MT09 IAMs_20 IAMs_20 05 02 09.2
comp=Z,5μm,22.0s
MT02 Curacav 91.35 125 IAMs_20 IAMs_20 05 02 08.6
comp=Z,6μm,22.0s
VA06 Catapilco 91.45 124 IAMs_20 IAMs_20 05 03 12.3
comp=Z,6μm,20.0s
BO04 La Punta 91.53 126 IAmb IAmb 04 31 48.6
comp=Z,58nm,1.4s
BO04 IAMs_20 IAMs_20 05 02 17.2
comp=Z,6μm,22.0s
HDC Heredia 91.59 80 *e*P **P 04 31 47.7 +2.0**
MT05 Renca 91.62 125 IAMs_20 IAMs_20 05 02 17.8
comp=Z,5μm,22.0s
FCAR Ozark Folk Cen 91.71 53 IAmb IAmb 04 31 48.6
comp=Z,62nm,1.2s
PEL Peldehue 91.75 125 IAMs_20 IAMs_20 05 02 21.3
comp=Z,5μm,22.0s
MT03 Universidad Ad 91.77 125 IAmb IAmb 04 32 09.6
comp=Z,54nm,1.1s
MT03 IAMs_20 IAMs_20 05 02 22.7
comp=Z,5μm,22.0s
MT16 CCHEN 91.78 125 IAMs_20 IAMs_20 05 02 23.0
comp=Z,5μm,22.0s
P38A Dawn 91.80 49 IAmb IAmb 04 31 48.4
comp=Z,35nm,0.8s
P38A IAMs_20 IAMs_20 05 06 10.5
comp=Z,6μm,21.0s
FFC Flin Flon 91.86 33 P P 04 31 45.5 -0.4
FFC IAmb IAmb 04 31 47.3
comp=Z,54nm,1.3s
FFC Flin Flon 91.86 33 IAMs_20 IAMs_20 05 06 44.9
comp=Z,4μm,21.0s
FFC Flin Flon 91.86 33 P P 04 31 45.5 -0.4
FFC pmax pmax
comp=Z,54nm,1.3s
LMEL Las Melosas 91.89 126 IAMs_20 IAMs_20 05 02 39.8
comp=Z,5μm,22.0s
SIUN Universidad Ur 91.94 76 IAmb IAmb 04 31 50.3
comp=Z,38nm,1.1s
VA03 San Esteban 91.98 125 IAmb IAmb 04 31 50.9
comp=Z,66nm,1.1s
VA03 IAMs_20 IAMs_20 05 02 38.3
comp=Z,5μm,21.0s
CD2 Chengdu 92.05 301 P **P 04 31 48.6 +1.2**
CD2 sP pP 04 31 53.8 -1.1
CD2 PP **PP 04 35 32.0 +4.4**
CD2 SKS **SKSac 04 42 16.5 -2.8**
CD2 S **ScS 04 42 51.0 +0.2**
CD2 pmax pmax
comp=Z,690nm,6.8s
CD2 LR LR
comp=Z,4μm,22.0s
CD2 LR LR
comp=Z,3μm,23.5s
CD2 LR LR
comp=Z,3μm,21.6s
CIT Chita 92.07 324 *e*P **P 04 31 48.4 +1.4**
CIT *e* 04 31 56.4
CIT *e* 04 32 03.2
CIT pmax pmax
comp=Z,154nm,2.0s
CO02 Combarbal 92.14 123 IAMs_20 IAMs_20 05 03 01.4
comp=Z,5μm,21.0s
MT08 Bocatoma Ro 92.17 125 IAMs_20 IAMs_20 05 02 49.3
comp=Z,5μm,21.0s
R40A Maddies Statio 92.32 51 IAMs_20 IAMs_20 05 07 04.6
comp=Z,4μm,20.0s
CO05 La Serena 92.36 122 IAMs_20 IAMs_20 05 03 13.5
comp=Z,5μm,22.0s
N38A Joes South For 92.38 48 IAMs_20 IAMs_20 05 07 46.8
comp=Z,5μm,21.0s
CO03 El Pedregal 92.51 123 IAmb IAmb 04 31 53.5
comp=Z,41nm,1.1s
CO03 IAMs_20 IAMs_20 05 02 51.3
comp=Z,4μm,21.0s
LCAR Lake Charles 92.51 53 IAmb IAmb 04 31 51.4
comp=Z,58nm,1.1s
PZH PanZhiHua 92.53 297 P P 04 31 50.9 +1.0
PZH pP **sP 04 31 59.3 -0.7**
PZH SKS **SKSac 04 42 19.4 -2.9**
PZH S **S 04 42 50.8 -2.2**
PZH SS **SS 04 49 08.6 +3.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,250nm,7.1s
PZH LR LR
comp=Z,1μm,23.3s
PZH LR LR
comp=Z,2μm,23.0s
PZH LR LR
comp=Z,2μm,22.6s
ATAH Atahualpa 92.60 98 LR LR 05 05 34.1
comp=Z,5μm,18.7s,baz=257,slow=30
GO04 Tololo Observa 92.64 122 IAMs_20 IAMs_20 05 04 22.8
comp=Z,4μm,20.0s
SCIA State Center 92.73 47 IAmb IAmb 04 31 52.6
comp=Z,50nm,0.8s
SCIA IAMs_20 IAMs_20 05 06 59.2
comp=Z,6μm,21.0s
SYO Syowa Base 92.74 191 ⇑*i*P **P 04 31 50.0 +0.2**
SYO Syowa Base 92.74 191 ⇑*i*PcP **PcP 04 31 51.4 +0.9**
A36M Sachs Harbour 92.75 13 P **P 04 31 50.3 +0.7**
baz=226
A36M S **S 04 42 52.4 -0.3**
baz=226
NNA Nana 92.75 103 LR LR 05 03 09.5
comp=Z,525nm,18.3s,baz=248,slow=29
EFI East Falkland 92.77 146 IAMs_20 IAMs_20 05 05 19.6
comp=Z,6μm,20.0s
EFI East Falkland 92.77 146 ⇑*e*P **P 04 31 51.6 +1.3**
EFI pmax pmax
comp=Z,66nm,1.2s
TROLL Troll, Antarti 92.83 179 ⇑P **P 04 31 51.6 +1.2**
comp=Z,3μm,1.2s
P40A Paris 92.86 50 IAMs_20 IAMs_20 05 06 44.7
comp=Z,6μm,21.0s
VNA3 Neumayer Olymp 92.90 175 ⇑P **P 04 31 51.7 +1.2**
comp=Z,43nm,1.0s
CMAR Chiang Mai Arr 92.91 288 P **P 04 31 51.9 +0.3**
CMAR Chiang Mai Arr 92.91 288 P **P 04 31 52.8 +1.2**
comp=Z,2.0nm,0.3s,baz=99,slow=2.8,SNR=18
CMAR PKKPbc **PKKPbc 04 49 02.9 +0.9**
comp=Z,1.7nm,0.3s,baz=282,slow=4.8,SNR=6.9
CMAR LR LR 05 08 40.5
comp=Z,2μm,21.6s,baz=110,slow=32
comp=Z,2.0nm,0.3s
SNAA Sanae 92.96 177 ⇑P **P 04 31 51.8 +0.9**
comp=Z,643nm,1.0s
SNAA Sanae 92.96 177 IAMs_20 IAMs_20 05 07 33.4
comp=Z,5μm,22.0s
SNAA Sanae 92.96 177 P **P 04 31 51.8 +0.9**
comp=Z,43nm,1.1s,baz=201,slow=4.2,SNR=65
SNAA PP **PP 04 35 36.6 +3.6**
comp=Z,12nm,1.3s,baz=216,slow=7.7,SNR=3.7
SNAA LR LR 05 08 06.8
comp=Z,4μm,21.8s,baz=213,slow=32
comp=Z,43nm,1.1s
SNAA Sanae 92.96 177 *c i*P **P 04 31 51.9 +1.0**
SNAA pmax pmax
comp=Z,88nm,1.3s
CHTO Chiang Mai 93.00 289 P **P 04 31 52.2 +0.2**
CHTO Chiang Mai 93.00 289 P **P 04 31 52.2 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
AGMN Agassiz Nation 93.02 41 IAmb IAmb 04 31 53.0
comp=Z,84nm,1.4s
AGMN IAMs_20 IAMs_20 05 08 33.2
comp=Z,6μm,20.0s
CCM Cathedral Cave 93.02 51 P **P 04 31 50.6 -1.1**
CCM IAmb IAmb 04 31 52.9
comp=Z,49nm,1.1s
CCM Cathedral Cave 93.02 51 P **P 04 31 50.6 -1.1**
CCM pmax pmax
comp=Z,49nm,1.1s
AC04 Llanos de Chal 93.06 120 IAMs_20 IAMs_20 05 03 11.9
comp=Z,4μm,21.0s
LCO Las Campanas 93.10 121 P **P 04 31 53.2 +0.5**
LCO Las Campanas 93.10 121 IAMs_20 IAMs_20 05 03 03.1
comp=Z,6μm,22.0s
LCO Las Campanas 93.10 121 P **P 04 31 53.2 +0.5**
LCO pmax pmax
comp=Z,78nm,1.0s
Y45A Yeager Farm, C 93.15 56 IAMs_20 IAMs_20 05 07 49.9
comp=Z,5μm,20.0s
146A Union 93.20 57 IAmb IAmb 04 31 56.8
comp=Z,54nm,1.0s
I37A Lemond, Waseca 93.26 45 IAMs_20 IAMs_20 05 06 26.9

comp=Z,5μm,22.0s
PBMO Poplar Bluff 93.28 53 IAmb IAmb 04 31 54.8
comp=Z,48nm,1.1s
CO01 Juntas del Tor 93.28 122 IAMs_20 IAMs_20 05 04 53.8
comp=Z,4μm,20.0s
VNA2 Neumayer--Watz 93.40 175 ⇑P **P 04 31 54.5 +1.6**
comp=Z,34nm,0.7s,baz=186,slow=3.3
OXF Oxford 93.44 55 IAMs_20 IAMs_20 05 08 35.5
comp=Z,4μm,19.0s
LZH Lanzhou 93.45 306 *e*P **P 04 31 55.8 +1.9**
LZH sP sP 04 32 03.5 -0.6
LZH PP **PP 04 35 41.8 +3.2**
LZH SKS **SKSac 04 42 25.5 -1.6**
LZH S **ScS 04 43 07.8 +5.4**
LZH SS **SS 04 49 15.3 -2.9**
LZH pmax pmax
comp=Z,22nm,1.4s
LZH pmax pmax
comp=Z,320nm,7.6s
LZH LR LR
comp=Z,1μm,19.6s
LZH LR LR
comp=Z,940nm,20.3s
LZH LR LR
comp=Z,3μm,19.9s
LZDM Lanzhou Array 93.53 306 P **P 04 31 56.0 +1.5**
comp=Z,1.0nm,0.3s,baz=67,slow=11,SNR=5.4
LZDM LR LR 05 10 55.5
comp=Z,2μm,20.5s,baz=90,slow=34
comp=Z,1.0nm,0.3s
VNA1 Neumayer--Stat 93.60 175 ⇑P **P 04 31 55.5 +1.7**
comp=Z,112nm,1.2s
ULM Lac du Bonnet 93.67 39 P **P 04 31 53.6 -0.8**
comp=Z,24nm,1.0s,baz=259,slow=5.0,SNR=9.3
ULM LR LR 05 08 57.7
comp=Z,8μm,19.5s,baz=250,slow=32
comp=Z,24nm,1.0s
ULM Lac du Bonnet 93.67 39 *d i*P **P 04 31 53.8 -0.5**
ZON Zonda 93.89 124 IAmb IAmb 04 31 59.1
comp=Z,37nm,1.3s
AC06 Mina Casimiro 93.94 120 IAmb IAmb 04 32 00.9
comp=Z,90nm,1.6s
AC06 IAMs_20 IAMs_20 05 03 37.2
comp=Z,6μm,21.0s
SLM Saint Louis 93.95 51 IAmb IAmb 04 31 57.8
comp=Z,45nm,0.8s
GO03 Copiapo 93.96 120 IAMs_20 IAMs_20 05 03 37.8
comp=Z,5μm,21.0s
SPMN Marine on St. 94.03 44 IAmb IAmb 04 31 58.6
comp=Z,62nm,1.1s
AC01 Pan de Azucar 94.13 118 IAMs_20 IAMs_20 05 05 19.3
comp=Z,4μm,20.0s
Z47A Carrollton 94.15 57 IAmb IAmb 04 32 00.2
comp=Z,32nm,1.1s
L40A Anamosa 94.20 48 IAMs_20 IAMs_20 05 08 03.0
comp=Z,4μm,20.0s
CFA Coronel Fontan 94.22 124 LR LR 05 04 42.0
comp=Z,3μm,21.1s,baz=248,slow=29
S44A Carbondale 94.43 52 IAmb IAmb 04 32 00.4
comp=Z,43nm,0.9s
SIUC Southern Illin 94.47 52 IAmb IAmb 04 32 00.5
comp=Z,51nm,0.9s
OTAV Otavalo 94.50 91 *e*P **P 04 32 02.0 +2.3**
ULN Ulaanbaatar 94.60 318 P **P 04 31 59.0 +0.1**
ULN Ulaanbaatar 94.60 318 IAMs_20 IAMs_20 05 08 36.5
comp=Z,4μm,22.0s
ULN Ulaanbaatar 94.60 318 *c i*P **P 04 31 59.8 +0.9**
ULN pmax pmax
comp=Z,20nm,1.2s
PLAL Pickwick Lake 94.62 55 IAmb IAmb 04 32 02.0
comp=Z,40nm,0.8s
P43A Skaggs, Pawnee 94.76 50 IAMs_20 IAMs_20 05 07 53.1
comp=Z,6μm,22.0s
PB14 IPOC Station P 94.79 117 IAMs_20 IAMs_20 05 04 03.9
comp=Z,4μm,21.0s
PAF Port-aux-Franc 94.88 216 IAMs_20 IAMs_20 05 07 11.3
comp=Z,6μm,21.0s
Q44A Meyer Farm, Va 94.94 51 IAmb IAmb 04 32 03.4
comp=Z,40nm,0.8s
Q44A IAMs_20 IAMs_20 05 07 05.8
comp=Z,5μm,22.0s
TNCH TengChong 94.96 294 P **P 04 32 04.4 +3.3**
TNCH SKS **SKSac 04 42 37.8 +2.1**
TNCH S **ScS 04 43 15.9 +0.4**
TNCH SS **SS 04 49 44.9 +4.6**
TNCH pmax pmax
comp=Z,400nm,3.8s
TNCH LR LR
comp=Z,1μm,22.1s
TNCH LR LR
comp=Z,680nm,21.0s
TNCH LR LR
comp=Z,2μm,22.1s
SONM Songino Array 95.01 318 P **P 04 32 00.4 -0.4**
SONM Songino Array 95.01 318 P **P 04 32 01.1 +0.3**
comp=Z,2.2nm,0.8s,baz=131,slow=2.2,SNR=11
SONM PP **PP 04 35 46.8 -3.6**
comp=Z,1.1nm,0.8s,baz=108,slow=4.8,SNR=3.8
SONM LR LR 05 09 57.3
comp=Z,2μm,21.7s,baz=94,slow=32
comp=Z,2.2nm,0.8s
TIXI Tiksi 95.02 344 P **P 04 31 59.5 -0.6**
TIXI IAMs_20 IAMs_20 05 10 50.7
comp=Z,5μm,20.0s
TIXI Tiksi 95.02 344 LR LR 05 11 02.3
comp=Z,5μm,20.9s,baz=132,slow=33
TIXI Tiksi 95.02 344 ‖ *i*P **P 04 31 59.7 -0.3**
TIXI pmax pmax
comp=Z,12nm,1.1s
WVT Waverly 95.11 54 P **P 04 32 01.3 0.0**
WVT IAmb IAmb 04 32 03.3
comp=Z,24nm,0.9s
WVT Waverly 95.11 54 IAMs_20 IAMs_20 05 08 40.8
comp=Z,4μm,20.0s
WVT Waverly 95.11 54 P **P 04 32 01.3 0.0**
WVT pmax pmax
comp=Z,24nm,0.9s
AC02 Maricunga 95.14 119 P **P 04 32 02.2 -0.2**
AC02 IAMs_20 IAMs_20 05 04 47.1
comp=Z,6μm,20.0s
I40A Norwalk 95.14 46 IAMs_20 IAMs_20 05 09 21.8
comp=Z,6μm,20.0s
E38A The Farm, Brul 95.27 43 IAMs_20 IAMs_20 05 09 09.0
comp=Z,6μm,20.0s
L42A Oliver, Polo 95.30 48 IAMs_20 IAMs_20 05 09 37.0
comp=Z,3μm,20.0s
X48A Hartselle 95.30 56 IAMs_20 IAMs_20 05 09 03.9
comp=Z,4μm,20.0s
250A Grady 95.31 58 IAmb IAmb 04 32 05.8
comp=Z,46nm,1.1s
OLIL Olney 95.58 52 IAmb IAmb 04 32 05.2
comp=Z,39nm,1.0s
Y49A Blount Mountai 95.66 57 IAmb IAmb 04 32 07.3
comp=Z,31nm,1.2s
Y49A IAMs_20 IAMs_20 05 10 08.5
comp=Z,4μm,20.0s
EYMN Ely 95.69 42 IAMs_20 IAMs_20 05 08 34.0
comp=Z,4μm,22.0s
USIN University of 95.72 52 IAmb IAmb 04 32 06.0
comp=Z,49nm,1.0s
V48A Smith Brothers 95.81 55 IAMs_20 IAMs_20 05 10 37.1
comp=Z,4μm,20.0s
G40A Rib Lake 95.81 45 IAmb IAmb 04 32 05.9
comp=Z,53nm,1.1s
T47A Sharon Grove 95.90 53 IAmb IAmb 04 32 07.0
comp=Z,28nm,0.9s
M44A Midewin, Midew 96.31 49 IAMs_20 IAMs_20 05 10 55.9
comp=Z,3μm,20.0s
SWET Sewanee 96.38 55 IAmb IAmb 04 32 08.6
comp=Z,35nm,0.9s
K43A Burlington 96.43 48 IAMs_20 IAMs_20 05 08 07.1
comp=Z,6μm,22.0s
TRQA Tornquist 96.47 132 IAMs_20 IAMs_20 05 06 21.8
comp=Z,3μm,22.0s
P46A Rosedale 96.48 51 IAMs_20 IAMs_20 05 08 13.6
comp=Z,6μm,22.0s
152A Waverly Hall 96.75 58 IAmb IAmb 04 32 11.8
comp=Z,90nm,2.0s
SFIN Lafayette 96.75 50 IAmb IAmb 04 32 11.3
comp=Z,28nm,1.0s
SFIN IAMs_20 IAMs_20 05 09 35.7
comp=Z,6μm,20.0s
U49A Red Boiling Sp 96.81 54 IAmb IAmb 04 32 11.2
comp=Z,44nm,0.9s
U49A IAMs_20 IAMs_20 05 09 12.8
comp=Z,4μm,21.0s
WCI Wyandotte Cave 96.83 52 IAMs_20 IAMs_20 05 09 49.0
comp=Z,4μm,20.0s
W50A Signal Mountai 96.87 56 IAmb IAmb 04 32 11.0
comp=Z,25nm,0.9s
W50A IAMs_20 IAMs_20 05 10 24.4
comp=Z,4μm,20.0s
PB11 IPOC Station P 97.03 113 IAMs_20 IAMs_20 05 05 04.3
comp=Z,4μm,22.0s
X51A Calhoun 97.08 56 IAmb IAmb 04 32 13.8
comp=Z,24nm,0.8s
X51A IAMs_20 IAMs_20 05 08 59.1
comp=Z,4μm,21.0s
H43A Windswept, Lux 97.27 46 IAMs_20 IAMs_20 05 12 30.1
comp=Z,4μm,20.0s
GTA Gaotai 97.39 309 *e*P Pdif 04 32 13.1 +1.2
GTA pP pP 04 32 18.4 -0.9
GTA PP **PP 04 36 15.8 +6.7**
GTA SKS **SKSac 04 42 45.1 -2.7**
GTA S **ScS 04 43 36.5 +1.4**
GTA sS pS 04 43 43.1 -1.2
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA LR LR
comp=Z,820nm,20.7s
GTA LR LR
comp=Z,3μm,21.4s
GTA LR LR
comp=Z,5μm,21.4s
GO01 Chusmiza 97.47 113 IAMs_20 IAMs_20 05 05 18.0
comp=Z,4μm,22.0s
Y52A Lilburn 97.56 57 IAmb IAmb 04 32 15.8
comp=Z,22nm,0.9s
Y52A IAMs_20 IAMs_20 05 10 19.8
comp=Z,4μm,21.0s
T50A Nancy 97.67 54 IAMs_20 IAMs_20 05 10 00.3
comp=Z,3μm,20.0s
R49A Shelbyville 97.70 53 IAmb IAmb 04 32 16.5
comp=Z,18nm,0.9s
R49A IAMs_20 IAMs_20 05 11 12.2
comp=Z,4μm,20.0s
P48A Milroy 97.78 51 IAMs_20 IAMs_20 05 09 06.1
comp=Z,4μm,22.0s
N47A Urbana 97.91 50 IAMs_20 IAMs_20 05 11 00.3
comp=Z,6μm,20.0s
W52A Murphy 97.95 56 IAMs_20 IAMs_20 05 11 06.9
comp=Z,3μm,19.0s
O48B Farmland 98.16 51 IAMs_20 IAMs_20 05 09 58.2
comp=Z,6μm,21.0s
BLKN Baker Lake 98.17 25 IAmb IAmb 04 32 16.1
comp=Z,42nm,1.1s
TKL Tuckaleechee C 98.20 55 LR LR 05 12 03.8
comp=Z,3μm,19.2s,baz=285,slow=33
R50A Paris 98.35 53 IAmb IAmb 04 32 19.0
comp=Z,25nm,1.3s
R50A IAMs_20 IAMs_20 05 11 52.2
comp=Z,3μm,20.0s
TZTN Tazewell 98.57 55 IAmb IAmb 04 32 18.8
comp=Z,32nm,1.4s
TZTN IAMs_20 IAMs_20 05 12 14.3
comp=Z,4μm,20.0s
O49A Covington 98.76 51 IAmb IAmb 04 32 19.2
comp=Z,24nm,1.0s
O49A IAMs_20 IAMs_20 05 10 16.0
comp=Z,6μm,22.0s
S51A Beattyville 98.77 53 IAMs_20 IAMs_20 05 10 16.6
comp=Z,3μm,21.0s
IMP Imphal 98.95 293 *e*P Pdif 04 32 19.4 +0.4
IMP IAMs_20 IAMs_20 04 43 14.3
comp=Z,4μm,19.6s
V53A Saluda 98.96 56 IAMs_20 IAMs_20 05 13 03.8
comp=Z,3μm,20.0s
KOHI KOHIMA 99.00 294 *e*P Pdif 04 32 19.5 +0.2
KOHI IAMs_20 IAMs_20 04 43 15.7
comp=Z,5μm,19.1s
N49A Columbus Grove 99.03 50 IAmb IAmb 04 32 20.7
comp=Z,26nm,0.9s
J47A Sunmer 99.06 48 IAMs_20 IAMs_20 05 10 19.7
comp=Z,4μm,20.0s
LPAZ La Paz 99.52 110 P **Pdif 04 32 24.0 +1.5**
comp=Z,2.4nm,0.8s,baz=231,slow=2.3,SNR=7.8
LPAZ LR LR 05 10 15.1
comp=Z,1μm,18.8s,baz=250,slow=31
comp=Z,2.4nm,0.8s
LPAZ La Paz 99.52 110 *e*P **Pdif 04 32 23.5 +1.0**
P51A Williamsport 99.57 52 IAmb IAmb 04 32 24.0
comp=Z,25nm,1.2s
ZIRO ZIRO 99.61 296 *e*P **Pdif 04 32 23.4 +1.3**
ZIRO IAMs_20 IAMs_20 04 46 23.7
comp=Z,5μm,21.8s
ITAN ITANAGAR 99.64 296 *e*P **Pdif 04 32 22.2 +0.2**
ROSC El Rosal 99.67 88 LR LR 05 09 52.7
comp=Z,2μm,18.9s,baz=244,slow=31
ACSO Alum Creek Sta 99.78 51 IAMs_20 IAMs_20 05 10 48.1
comp=Z,5μm,22.0s
U54A Nelsons Funny 99.93 55 IAMs_20 IAMs_20 05 13 25.2
comp=Z,3μm,20.0s
SILR SILCHAR 99.95 293 *e*P **Pdif 04 32 21.6 -1.8**
SILR IAMs_20 IAMs_20 04 43 19.8
comp=Z,2μm,19.3s
KMSC Kings Mountain 100.03 56 IAMs_20 IAMs_20 05 11 34.3
comp=Z,4μm,21.0s
Q52A Bidwell 100.07 52 IAMs_20 IAMs_20 05 12 17.8
comp=Z,3μm,20.0s
V55A Taylorsville 100.27 56 IAMs_20 IAMs_20 05 11 12.5
comp=Z,3μm,22.0s
TEZP TEZPUR 100.34 295 *e*P **Pdif 04 32 26.9 +1.8**
TEZP IAMs_20 IAMs_20 04 46 30.5
comp=Z,3μm,20.0s
S54A Dingess, Beckl 100.58 54 IAMs_20 IAMs_20 05 11 02.3
comp=Z,3μm,21.0s
O52A Adamsville 100.62 51 IAMs_20 IAMs_20 05 11 37.5
comp=Z,4μm,21.0s
P53A Whipple 100.84 52 IAMs_20 IAMs_20 05 10 50.1
comp=Z,5μm,22.0s
U56A King 101.03 55 IAMs_20 IAMs_20 05 11 46.5
comp=Z,4μm,21.0s
W57A Gilead 101.11 57 IAMs_20 IAMs_20 05 12 15.9
comp=Z,3μm,21.0s
BLA Blacksburg 101.16 54 IAMs_20 IAMs_20 05 13 43.9
comp=Z,4μm,20.0s
Q54A Coxs Mills 101.17 53 IAMs_20 IAMs_20 05 13 12.9
comp=Z,4μm,21.0s
KNGR Kungurtug, Tuv 101.32 319 ‖ *e*P **Pdif 04 32 30.3 +1.3**
KNGR pmax pmax
comp=Z,8.0nm,1.2s
HOPE Hope Point 101.43 156 IAMs_20 IAMs_20 05 10 06.0
comp=Z,3μm,21.0s
N53A Lisbon 101.50 51 IAMs_20 IAMs_20 05 12 53.4
comp=Z,4μm,21.0s
R55A Marlinton 101.59 53 IAMs_20 IAMs_20 05 12 05.2
comp=Z,4μm,21.0s
O54A Avella 101.73 51 IAMs_20 IAMs_20 05 12 31.7
comp=Z,5μm,21.0s
V58A Windy Hill, Pi 101.94 56 IAMs_20 IAMs_20 05 14 18.6
comp=Z,3μm,20.0s
T57A Hurt 102.04 55 IAMs_20 IAMs_20 05 14 22.2
comp=Z,4μm,20.0s
MCWV Mont Chateau 102.04 52 IAMs_20 IAMs_20 05 12 00.0
comp=Z,6μm,22.0s
Y60A Bolivia 102.35 58 IAMs_20 IAMs_20 05 15 29.6
comp=Z,4μm,20.0s
ERPA Erie 102.35 50 IAMs_20 IAMs_20 05 12 56.9
comp=Z,4μm,20.0s
Q56A Snyder Ridge, 102.44 53 IAMs_20 IAMs_20 05 14 00.6
comp=Z,3μm,20.0s
COBR COOCHBEHAR 103.21 294 *e*P **Pdif 04 32 40.1 +2.2**
COBR IAMs_20 IAMs_20 04 43 37.0
comp=Z,4μm,22.6s
R58B Mineral 103.28 54 IAMs_20 IAMs_20 05 12 57.9
comp=Z,4μm,22.0s
P57A Homestead Farm 103.41 52 IAMs_20 IAMs_20 05 13 05.3
comp=Z,4μm,22.0s
SSPA Standing Stone 103.68 51 IAMs_20 IAMs_20 05 14 12.3
comp=Z,4μm,20.0s
CBN Corbin Frederi 103.71 54 IAMs_20 IAMs_20 05 13 09.3
comp=Z,4μm,22.0s
V61A Roper 103.97 56 IAMs_20 IAMs_20 05 14 25.4
comp=Z,3μm,21.0s
J55A Hilton 104.11 49 IAMs_20 IAMs_20 05 12 55.2
comp=Z,4μm,22.0s
M57A Sunshine Farm, 104.35 51 IAMs_20 IAMs_20 05 15 28.9
comp=Z,5μm,20.0s
N58A Sunbury 104.59 51 IAMs_20 IAMs_20 05 15 10.4
comp=Z,4μm,20.0s
K57A Scipio Center 104.98 49 IAMs_20 IAMs_20 05 15 56.5
comp=Z,5μm,20.0s
CPUP Villa Florida 105.07 123 Pdiff **Pdif 04 32 45.7 -0.5**
comp=Z,0.4nm,0.7s,baz=119,slow=3.6,SNR=3.9
BINY Binghamton 105.31 50 IAMs_20 IAMs_20 05 14 50.2
comp=Z,4μm,20.0s
R61A Willards 105.31 54 IAMs_20 IAMs_20 05 14 16.8
comp=Z,5μm,21.0s
J57A Williamstown 105.44 49 IAMs_20 IAMs_20 05 13 33.6
comp=Z,5μm,22.0s
SDDR Presa de Saban 105.73 74 IAMs_20 IAMs_20 05 13 03.1
comp=Z,3μm,20.0s
P61A Hammonton 105.90 53 IAMs_20 IAMs_20 05 16 44.3
comp=Z,4μm,20.0s
L59A Walton 106.00 50 IAMs_20 IAMs_20 05 14 50.6
comp=Z,5μm,20.0s
LONY Lake Ozonia 106.58 47 IAMs_20 IAMs_20 05 15 40.6
comp=Z,5μm,21.0s
PAL Palisades 106.72 51 IAMs_20 IAMs_20 05 16 34.8
comp=Z,5μm,20.0s
WMQ Urumqi 107.06 312 Pdif **Pdif 04 32 55.3 +0.6**
WMQ LR LR
comp=Z,980nm,24.2s
WMQ LR LR
comp=Z,980nm,23.5s
WMQ LR LR
comp=Z,1μm,19.3s
TRY Troy 107.07 50 IAMs_20 IAMs_20 05 16 21.8
comp=Z,4μm,20.0s
WSPT Westport, CT 107.17 51 IAMs_20 IAMs_20 05 17 35.8
comp=Z,4μm,19.0s
L61B Northampton 107.77 50 IAMs_20 IAMs_20 05 16 24.4
comp=Z,5μm,20.0s
J61A Chester 107.93 49 IAMs_20 IAMs_20 05 15 21.6
comp=Z,5μm,21.0s
M63A Gales Ferry 108.16 51 IAMs_20 IAMs_20 05 15 47.8
comp=Z,5μm,21.0s
ZALV Zalesovo Beam 109.37 322 PKiKP **PKiKP 04 37 07.5 -0.5**
comp=Z,2.4nm,0.7s,baz=97,slow=1.6,SNR=9.7
G62A West of Eustis 109.49 47 IAMs_20 IAMs_20 05 20 26.6
comp=Z,4μm,19.0s
PKME Peaks-Kenny Pk 110.37 47 IAMs_20 IAMs_20 05 17 43.8
comp=Z,3μm,21.0s
MK31 Makanchi Array 111.01 315 ‖ *i*PKiKP **PKiKP 04 37 10.9 -0.5**
MKAR Makanchi Array 111.01 315 **Pdif 04 33 11.7 -0.4**
MKAR Makanchi Array 111.01 315 Pdiff **Pdif 04 33 12.3 +0.1**
comp=Z,0.1nm,0.3s,baz=72,slow=6.8,SNR=2.0
MKAR PKiKP **PKiKP 04 37 11.3 -0.1**
comp=Z,3.6nm,0.7s,baz=64,slow=2.8,SNR=19
MKAR PKKPbc **PKKPbc 04 48 09.1 -0.8**
comp=Z,1.2nm,0.9s,baz=252,slow=3.6,SNR=4.8
MKAR PKKPab **PKKPab 04 48 20.6 +2.9**
comp=Z,1.5nm,0.7s,baz=264,slow=5.1,SNR=8.4
F64A Sherman 111.04 46 IAMs_20 IAMs_20 05 17 23.5
comp=Z,3μm,21.0s
MAKZ Makanchi 111.22 315 IAMs_20 IAMs_20 05 18 41.0
comp=Z,3μm,22.0s
KOD Kodaikanal 111.29 275 *e*P **PKiKP 04 37 13.2 0.0**
G65A Princeton 111.59 47 IAMs_20 IAMs_20 05 18 53.1
comp=Z,4μm,21.0s
HYB Hyderabad 111.64 283 *e*PKiKP **PKiKP 04 37 13.8 +0.4**
HYB *e*PPKiKP **pPKiKP 04 37 23.8 +3.0**
HYB *e*PP **PP 04 37 55.2 -0.2**
HYB *e*SKSdf **SKSdf 04 44 23.5 -0.8**
SCHQ Schefferville 111.72 37 PP **PP 04 37 52.1 -2.8**
comp=Z,86nm,1.0s,baz=270,slow=14,SNR=3.9
SABA Saba 113.01 77 IAMs_20 IAMs_20 05 21 36.3
comp=Z,2μm,18.0s
KURK Kurchatov 113.30 319 IAMs_20 IAMs_20 05 23 37.3
comp=Z,3μm,20.0s
KURK Kurchatov 113.30 319 *c i*PKiKP **PKiKP 04 37 15.9 +0.4**
KURBB Kurchatov Arra 113.36 319 PKiKP **PKiKP 04 37 15.7 +0.1**
comp=Z,5.9nm,0.8s,baz=91,slow=1.8,SNR=25
KURBB PP **PP 04 38 02.4 -4.3**
comp=Z,1.3nm,0.8s,baz=84,slow=2.9,SNR=5.2
KURBB PKKPbc **PKKPbc 04 48 01.6 -0.5**
comp=Z,1.7nm,1.0s,baz=263,slow=3.9,SNR=9.2
ROCAM Rodrigues Isla 114.48 240 IAMs_20 IAMs_20 05 20 25.6
comp=Z,3μm,18.0s
KSH Kashi 115.69 307 PKP **PKiKP 04 37 22.8 +2.1**
KSH PP **PP 04 38 29.9 +6.1**
KSH SS SS 04 54 22.8 -0.2
KSH AMB AMB
comp=Z,340nm,8.2s
KSH LR LR
comp=Z,1μm,18.5s
KSH LR LR
comp=Z,2μm,19.6s
KSH LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 116.69 310 **PKPdf 04 37 21.4 -1.2**
AAK Ala-Archa 116.69 310 IAMs_20 IAMs_20 05 23 49.1
comp=Z,2μm,22.0s
AAK Ala-Archa 116.69 310 PKIKP **PKPdf 04 37 21.4 -1.2**
MAL2 Monte Alegre, 117.16 100 **PKPdf 04 37 23.9 -0.2**
BDFB Brasilia 117.61 117 PKP **PKiKP 04 37 25.6 +0.6**
comp=Z,3.8nm,0.9s,baz=200,slow=2.4,SNR=7.8
BVAR Borovoye Array 118.03 322 PKP **PKPdf 04 37 24.2 -0.3**
comp=Z,11nm,0.8s,baz=90,slow=1.7,SNR=26
BORK Borovoye 118.06 322 ‖ *i*PKIKP **PKiKP 04 37 24.9 +0.2**
KK31 Karatay Array 119.56 311 *i* PKIKP **PKiKP 04 37 27.9 -0.1**
KKAR Karatay Array 119.56 311 **PKPdf 04 37 27.1 -0.8**
KKAR Karatay Array 119.56 311 PKIKP **PKPdf 04 37 27.1 -0.8**
KBL Kabul 121.40 301 **PKPdf 04 37 31.9 -0.1**
KBL Kabul 121.40 301 PKIKP **PKPdf 04 37 31.9 -0.1**
SVE Sverdlovsk 122.24 328 *i* PKIKP **PKiKP 04 37 32.7 0.0**
SVE pmax pmax
comp=Z,37nm,1.3s
SVE MLR MLR
comp=Z,3μm,20.0s
ARTI Arti 123.56 329 **PKPdf 04 37 34.9 -0.2**
ARTI Arti 123.56 329 *i* PKIKP **PKPdf 04 37 34.8 -0.3**
ARTI 04 39 17.0
ARTI 04 44 46.3
ARTI SS SS 04 56 00.8 -1.7
ARTI MLR MLR
comp=Z,4μm,20.0s
FOMA Nahampoana Res 124.07 225 IAMs_20 IAMs_20 05 24 06.6
comp=Z,3μm,19.0s
KEV Kevo 124.17 352 IAMs_20 IAMs_20 05 31 29.0
comp=Z,3μm,20.0s
ARCES ARCESS Array B 124.58 352 **PKiKP 04 37 37.1 +0.1**
ARCES ARCESS Array B 124.58 352 PKP **PKPdf 04 37 35.5 -1.2**
comp=Z,5.8nm,0.6s,baz=3.9,slow=2.8,SNR=22
ARCES ARCESS Array B 124.58 352 PKIKP **PKiKP 04 37 37.1 +0.1**
APA Apatity 125.03 348 *i* PKIKP PKPdf 04 37 28.2 -9.4
APA *i* 04 39 24.4
APA *i* SS SS 04 56 35.9 +16
AB31 Akbulak array 125.37 320 *i* PKIKP **PKPdf 04 37 38.8 0.0**
ABKAR Akbulak array 125.37 320 **PKPdf 04 37 38.3 -0.5**
VOI Vohitsoka 126.19 228 IAMs_20 IAMs_20 05 27 00.1
comp=Z,2μm,20.0s
KIRV Kirov 126.62 334 ‖ *e*PKIKP **PKiKP 04 37 41.3 0.0**
ABPO Ambohimpanom 127.69 231 IAMs_20 IAMs_20 05 27 22.8
comp=Z,3μm,20.0s
MSEY Mahe Island 127.99 251 IAMs_20 IAMs_20 05 26 48.3
comp=Z,3μm,21.0s
KLMR Klimovskoe 128.83 340 *e*PKIKP **PKPdf 04 37 43.4 -1.6**
KLMR pmax pmax
comp=Z,60nm,1.6s
KLMR MLR MLR
comp=Z,3μm,21.0s
BELG Belogornoye 130.99 328 *d i*PKIKP **PKiKP 04 37 51.3 +1.0**
FINES FINESS Array B 131.94 348 **PKPdf 04 37 51.0 +0.1**
FINES FINESS Array B 131.94 348 PKhKP PKPpre 04 37 44.4
comp=Z,3.4nm,0.8s,baz=318,slow=3.9,SNR=3.8
FINES PKP **PKiKP 04 37 51.7 -0.3**
comp=Z,6.4nm,0.7s,baz=90,slow=3.8,SNR=11
RCBR Riachuelo 132.64 113 IAMs_20 IAMs_20 05 28 21.9
comp=Z,3μm,22.0s
BOSA Boshof 132.87 202 **PKiKP 04 37 54.9 -0.2**
BOSA Boshof 132.87 202 PKP **PKiKP 04 37 56.0 +0.9**
comp=Z,15nm,0.9s,baz=158,slow=1.9,SNR=14
MOS Moscow 133.31 337 *e*PKIKP **PKiKP 04 37 54.3 -0.6**
MOS *e* 04 40 22.7
OBN Obninsk 134.18 337 *i* PKIKP **PKPdf 04 37 54.7 -0.6**
OBN *i* 04 40 24.3
OBN *i* SS SS 04 58 47.0 +34
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,3μm,20.0s
NB2 NORSAR Subarra 134.25 357 PKPdf **PKiKP 04 37 56.1 -0.6**
comp=Z,4.4nm,1.1s,baz=6.6,slow=1.8
NOA NORSAR Array B 134.25 357 PKP **PKPdf 04 37 55.9 +0.6**
comp=Z,2.2nm,0.8s,baz=13,slow=4.1,SNR=4.8
VSU Vasula 134.48 346 ‖ *e*PKIKP **PKiKP 04 37 58.1 +1.0**
VRH Novokhopyorsk 134.65 330 *e*PKIKP **PKPdf 04 37 56.3 0.0**
VRH pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 134.99 355 PKhKP PKPpre 04 37 45.6
comp=Z,1.5nm,0.6s,baz=135,slow=0.8,SNR=1.7

HFS PKP **PKiKP** **04 37 58.0 -0.2**
comp=Z,6.6nm,0.8s,baz=103,slow=1.9,SNR=4.9
HFS **Hagfors** **134.99 355** PKIKP **PKiKP** **04 37 58.0 -0.2**
LPSR **Galich'ya Gora** **135.01 333** *e*PKIKP **PKPdf** **04 37 54.1 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MAK **Makhachkala** **135.76 317** *e*P **Pdif** **04 35 03.5 +1.3**
MAK *e* 04 45 08.4
MAK *e*SS SS 04 58 30.1 -3.4
MAK pmax pmax
comp=Z,162nm,1.3s
VSR **Storozhevoye** **135.85 331** *e*PKIKP **PKPdf** **04 37 53.4 -5.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD **Divnogorie** **135.96 331** *e*PKIKP **PKPdf** **04 37 53.4 -5.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
AKT **Akhty** **136.24 315** *e*PKIKP **PKPdf** **04 37 57.7 -2.1**
AKT *e* 04 45 07.7
AKT pmax pmax
comp=Z,33nm,1.1s
AKT MLR MLR
comp=Z,4μm,20.0s
MNK **Minsk** **137.64 342** *i* PKIKP **PKiKP** **04 38 03.4 -0.3**
MNK *i* 04 40 47.3
MNK *i* PPP PPP 04 43 46.8
MNK *i* 04 45 13.8
MNK *i* SS SS 04 58 58.7 +4.4
MNK *i* SSS SSS 05 04 05.2
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=E,16nm,0.9s
MNK MLR MLR
comp=E,2μm,21.0s
MNK MLR MLR
comp=Z,3μm,20.0s
MNK MLR MLR
comp=N,1μm,20.0s
NCK **Nalchik** **138.03 319**⇑*e*PKIKP **PKiKP** **04 38 04.5 -0.4**
KBZ **Khabaz** **138.34 320**⇓*e*PKIKP **PKiKP** **04 38 05.7 +0.2**
KIV **Kislovodsk** **138.35 321** IAMs_20 IAMs_20 05 44 06.7
comp=Z,3μm,21.0s
KIV **Kislovodsk** **138.35 321** *e*PKIKP **PKPdf** **04 38 04.0 +0.4**
KIV *e* 04 40 52.5
KIV *e*SS SS 04 59 05.0 +0.7
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,1μm,24.0s
SHA1 **Shidzhatmaz** **138.49 320**⇑*e*PKIKP **PKiKP** **04 38 05.3 -0.8**
ERBR **Yeremizino-Bor** **138.67 324** *e*PKIKP **PKPdf** **04 38 02.4 -1.6**
ERBR pmax pmax
comp=Z,6.0nm,0.6s
ERBR pmax pmax
comp=Z,60nm,1.0s
ERBR MLR MLR
comp=Z,4μm,21.0s
GNI **Garni** **138.86 314** **PKPdf** **04 38 05.3 +0.6**
GNI **Garni** **138.86 314** IAMs_20 IAMs_20 05 42 26.2
comp=Z,2μm,21.0s
GNI **Garni** **138.86 314** PKP **PKiKP** **04 38 05.8 -1.1**
comp=Z,7.1nm,0.4s,baz=163,slow=5.4,SNR=6.2
GNI **Garni** **138.86 314**⇓*e*PKIKP **PKiKP** **04 38 06.7 -0.2**
LABN **Labinsk** **139.15 323** *i* PKIKP **PKPdf** **04 38 05.4 +0.5**
LABN *e* 04 40 55.4
LABN *e* 04 45 12.9
LABN pmax pmax
comp=Z,26nm,0.6s
LABN MLR MLR
comp=Z,5μm,22.0s
VSLR **Vesyoloye** **140.23 322**⇓*e*PKIKP **PKiKP** **04 38 08.6 -0.8**
SOC **Sochi** **140.35 322** *e*PKHKP PKPpre 04 38 02.3
SOC *e*SSS SSS 05 04 43.2
SOC MLR MLR
comp=Z,3μm,21.0s
AKASG **Malin Array Be** **140.40 338** **PKPdf** **04 38 07.7 +0.7**
AKASG **Malin Array Be** **140.40 338** PKhKP PKPpre 04 38 00.5
comp=Z,4.8nm,0.7s,baz=38,slow=3.0,SNR=12
AKASG **Malin Array Be** **140.40 338** PKIKP **PKPdf** **04 38 07.7 +0.7**
KIEV **Kiev** **140.41 338** ⇓P **PKPdf** **04 38 01.9 -5.1**
KIEV **Kiev** **140.41 338** ⇓PKHKP PKPpre 04 38 01.9
AK12 **Malin Array Si** **140.47 338** PKP **PKPdf** **04 38 06.5 -0.6**
RGN **Rugen** **140.54 354** IAMs_20 IAMs_20 05 37 50.8
comp=Z,3μm,21.0s
ANN **Anapa** **140.93 325** *i* PKIKP **PKPdf** **04 38 09.0 +0.9**
ANN *e* 04 41 08.1
ANN *e* 04 45 12.3
ANN *e*SS SS 04 59 34.6 +0.6
ANN pmax pmax
comp=Z,25nm,1.1s
ANN MLR MLR
comp=Z,2μm,22.0s
CALA **Caldeira** **141.05 47** *e*PKP **PKPdf** **04 38 07.7 -1.0**
SRBC **Serra Branca** **141.30 46** *e*PKP **PKiKP** **04 38 11.1 -0.7**
ROSA **Rosais** **141.31 46** *e*PKP **PKiKP** **04 38 11.6 -0.2**
SIM **Simferopol'** **142.60 328** *e*PKIKP **PKPdf** **04 38 10.0 -1.1**
SIM pmax pmax
comp=Z,20nm,1.2s
SIM pmax pmax
comp=Z,286nm,17.6s
SORM **Soroca** **142.82 336** ⇑P **PKPdf** **04 38 09.1 -2.2**
SORM **Soroca** **142.82 336** ⇑PKIKP **PKPdf** **04 38 09.1 -2.2**
RAYN **Ar Rayn** **142.82 289** IAMs_20 IAMs_20 05 46 09.3
comp=Z,2μm,20.0s
MARD **Mardin** **142.90 313** **PKPdf** **04 38 11.0 -1.0**
LSZ **Lusaka** **143.05 216** PKPbc 04 38 09.9 +0.3
LSZ **Lusaka** **143.05 216** PKHKP PKPpre 04 38 10.0
PSET **Sete Cidades** **143.48 46** *e*PKP **PKPdf** **04 38 11.8 -1.1**
XAUDM **Khaudum** **143.49 203** **PKPdf** **04 38 12.3 -1.3**
CMLA **Cha da Macela** **143.64 46** **PKPdf** **04 38 13.0 -0.2**
CMLA IAMs_20 IAMs_20 05 35 42.7
comp=Z,3μm,21.0s
CMLA **Cha da Macela** **143.64 46** *e*PKP **PKiKP** **04 38 15.3 -1.3**
CMLA **Cha da Macela** **143.64 46** PKIKP **PKPdf** **04 38 13.0 -0.2**
ARPR **Arapgir-MALATY** **143.70 317** IAMs_20 IAMs_20 05 46 19.8
comp=Z,2μm,20.0s
CLL **Collm** **143.78 354** IAMs_20 IAMs_20 05 45 21.2
comp=Z,2μm,20.0s
CLL **Collm** **143.78 354**⇓*e*PKIKP PKPab 04 38 10.0 +0.2
CLL *i* 04 38 17.5
CLL pmax pmax
comp=Z,13nm,0.7s
CLL pmax pmax
comp=Z,13nm,0.8s
CLL pmax pmax
comp=Z,18nm,1.0s
CLL MLR MLR
comp=Z,2μm,20.3s
STHS **Stebnicka Huta** **144.05 344** *e*PKIKP PKPbc 04 38 12.1 +0.6
STHS **Stebnicka Huta** **144.05 344** *e*PKP PKPbc 04 38 12.1 +0.6
CHVC **Chvalec** **144.06 350** AMS AMS 05 40 20.0
comp=Z,5μm,22.2s
OSTC **Ostas** **144.06 350** *e*PKP **PKPdf** **04 38 13.9 +0.3**
OSTC AMS AMS 05 40 40.0
comp=Z,5μm,24.3s
OSTC **Ostas** **144.06 350** *e*PKIKP **PKPdf** **04 38 13.9 +0.3**
OSTC MLR MLR
comp=Z,5μm,24.3s
BRG **Berggiesshubel** **144.09 352** *e*PKP **PKPdf** **04 38 12.9 -0.6**
BRG Amp 04 38 18.6
comp=Z,10nm,1.0s
TSUM **Tsumeb** **144.13 197** **PKPdf** **04 38 14.0 -0.8**
UPC **Upice** **144.15 350** AMS AMS 05 40 20.0
comp=Z,4μm,21.2s
MEZ **Mezhgor'ye** **144.20 341** PKP **PKPdf** **04 38 13.3 -0.5**
DPC **Dobruska-Polom** **144.25 350** *e*PKP PKPbc 04 38 12.7 +0.6
DPC AMS AMS 05 40 50.0
comp=Z,4μm,20.8s
DPC **Dobruska-Polom** **144.25 350** *e*PKIKP PKPbc 04 38 12.7 +0.6
DPC **Dobruska-Polom** **144.25 350** PKP **PKPdf** **04 38 13.3 -0.6**
NIE **Niedzica** **144.29 345** PKP **PKPdf** **04 38 13.6 -0.4**
PVCC **Panska Ves** **144.35 352** AMS AMS 05 40 30.0
comp=Z,4μm,19.6s
STEB **Steborice** **144.37 348** *e*PKP **PKPdf** **04 38 13.7 -0.4**
OKC **Ostrava-Krasne** **144.39 348** AMS AMS 05 41 10.0
comp=Z,3μm,18.5s
RICC **Richard** **144.40 352** AMS AMS 05 40 00.0
comp=Z,4μm,21.0s
HSKC **Hora Svate Kat** **144.42 353** AMS AMS 05 43 30.0
comp=Z,3μm,18.9s
BURAR **Bucovina Array** **144.42 339** **PKPdf** **04 38 13.7 -0.6**
BURAR **Bucovina Array** **144.42 339** ⇑P PKPbc 04 38 13.3 +0.5
BURAR **Bucovina Array** **144.42 339** ⇑PKIKP PKPbc 04 38 13.3 +0.5
KRLC **Kraliky** **144.43 349** *e*PKP PKPbc 04 38 13.4 +0.7
KRLC AMS AMS 05 38 30.0
comp=Z,5μm,23.5s
KRLC **Kraliky** **144.43 349** *e*PKIKP PKPbc 04 38 13.4 +0.7
KRLC MLR MLR
comp=Z,5μm,23.5s
MUKU **Mukachevo** **144.51 342** PKP **PKPdf** **04 38 13.6 -0.7**
BRIU **Brid** **144.51 341** PKP PKPbc 04 38 13.6 +0.7
HOLU **Holmets** **144.53 342** PKP PKPbc 04 38 13.6 +0.6
UCC **Uccle** **144.55 3** *d*PKPdf PKPbc 04 38 13.5 +0.5
MORC **Moravsky Berou** **144.57 348** ⇓P **PKPdf** **04 38 14.1 -0.4**
MORC **Moravsky Berou** **144.57 348** *e*PKP **PKPdf** **04 38 14.1 -0.4**
MORC **Moravsky Berou** **144.57 348** ⇓PKIKP **PKPdf** **04 38 14.1 -0.4**
KIBK **Kibwezi** **144.57 243** PKPbc 04 38 14.8 +0.5
BEBN **Eben Emael** **144.60 1** *d*PKPdf **PKPdf** **04 38 14.1 -0.3**
KORU **Korolevo** **144.64 341** PKP PKPbc 04 38 13.8 +0.5
LANS **Liptovska Anna** **144.74 346** *e*PKIKP **PKPdf** **04 38 16.2 +1.4**
LANS **Liptovska Anna** **144.74 346** *e*PKP **PKPdf** **04 38 16.1 +1.3**
TRSU **Trosnyk** **144.75 341** PKP **PKPdf** **04 38 14.5 -0.2**
VLDR **Vladesti** **144.78 334** ⇓P **PKPdf** **04 38 15.7 +0.9**
MEM **Membach** **144.80 1** *d*PKPdf PKPbc 04 38 13.8 0.0
BSTI **Sart Tilman** **144.81 2** *d*PKPdf PKPbc 04 38 14.2 +0.4
TESR **Tescani** **144.81 336** ⇓P **PKPdf** **04 38 14.6 -0.4**
BTNL **Ternell** **144.82 1** *d*PKPdf **PKPab** **04 38 13.0 -0.8**
PRU **Pruhonice** **144.88 351** *e*PKP **PKPdf** **04 38 15.8 +0.9**
PRU AMS AMS 05 41 00.0
comp=Z,5μm,20.0s
PRU **Pruhonice** **144.88 351** *e*PKIKP **PKPdf** **04 38 15.8 +0.9**
PRU MLR MLR
comp=Z,5μm,20.0s
GHRR **144.88 335** ⇑P **PKPdf** **04 38 16.1 +1.1**
ATD **Arta Tunnel** **144.90 268** IAMs_20 IAMs_20 05 39 21.3
comp=Z,2μm,20.0s
ATD **Arta Tunnel** **144.90 268** PKP **PKPdf** **04 38 17.5 +1.4**
comp=Z,1.7nm,0.9s,baz=350,slow=2.2,SNR=15
MAUC **Maruska** **144.90 348** *e*PKP **PKPab** **04 38 13.8 -0.4**
SCTR **Scanteiesti** **144.95 334** ⇓P **PKPdf** **04 38 16.2 +1.1**
BMR **Baia Mare** **144.95 340** ⇓P PKPbc 04 38 14.5 +0.1
BMR **Baia Mare** **144.95 340** ⇓PKIKP PKPbc 04 38 14.5 +0.1
TLCR **144.98 333** ⇓P **PKPdf** **04 38 15.9 +0.7**
TLCR **144.98 333** ⇓PKIKP **PKPdf** **04 38 15.9 +0.7**
BGES **Gesves** **145.00 2** *d*PKPdf PKPbc 04 38 14.5 +0.1
BHOU **Houvegnez** **145.05 1** *d*PKPdf **PKPdf** **04 38 15.1 -0.1**
ONER **Baraj Valea Uz** **145.06 336** ⇓P **PKPdf** **04 38 16.5 +1.1**
BMRD **Maredsous** **145.07 2** *d*PKPdf **PKPab** **04 38 15.0 +0.3**
COSR **Cosmesti PH** **145.09 335** ⇑P **PKPdf** **04 38 17.1 +1.7**
KECS **Kecovo** **145.10 344** *e*PKIKP **PKPdf** **04 38 16.1 +0.7**
KECS **Kecovo** **145.10 344** *e*PKP **PKPdf** **04 38 16.1 +0.7**
NEGRR **Negrea** **145.11 334** ⇑P **PKPdf** **04 38 16.3 +0.9**
PANC **Panciu** **145.14 335** ⇓P **PKPdf** **04 38 16.5 +1.0**
IZVR **Izvoarele** **145.15 334** ⇓P **PKPdf** **04 38 16.7 +1.1**
TUDR **145.15 334** ⇓P **PKPdf** **04 38 17.2 +1.7**
SCHLR **Schela** **145.18 334** ⇓P **PKiKP** **04 38 18.1 -1.4**
VRAC **Vranov** **145.20 349** ⇑P **PKPdf** **04 38 16.2 +0.6**
VRAC **Vranov** **145.20 349** *e*PKP **PKPdf** **04 38 16.0 +0.5**
VRAC **Vranov** **145.20 349** ⇑PKIKP **PKPdf** **04 38 16.2 +0.6**
RCHB **Rochefort** **145.23 2** *d*PKPdf **PKPdf** **04 38 15.5 0.0**
DOU **Dourbes** **145.27 3** *d*PKPdf **PKPbc** **04 38 15.3 0.0**
ODBI **Odobesti** **145.27 335** ⇓P **PKPdf** **04 38 17.5 +1.8**
JURR **Jurilovca** **145.28 332** ⇑P **PKPdf** **04 38 17.1 +1.4**
CFR **Carcaliu** **145.28 333** ⇑P **PKPdf** **04 38 16.2 +0.5**
CFR **Carcaliu** **145.28 333** ⇑PKIKP **PKPdf** **04 38 16.2 +0.5**
CIDE **Kastamonu/Cide** **145.31 325** ⇓P **PKPbc** **04 38 15.6 -0.1**
VRI **Vrincioaia** **145.31 335** ⇓P **PKPdf** **04 38 16.3 +0.4**
VRI **Vrincioaia** **145.31 335** ⇓PKIKP **PKPdf** **04 38 16.3 +0.4**
PLOR **Plostina** **145.36 336** ⇓P **PKPdf** **04 38 16.6 +0.6**
PLOR **Plostina** **145.36 336** ⇓PKIKP **PKPdf** **04 38 16.6 +0.6**
TREC **Trest** **145.41 350** AMS AMS 05 40 20.0
comp=Z,5μm,21.5s
TPGR **Topolog** **145.41 333** ⇓P **PKPab** **04 38 17.1 +1.0**
JAVC **Velka Javorina** **145.42 347** *e*PKP **PKPab** **04 38 17.5 +1.4**
TURR **Turia** **145.44 336** ⇓P **PKPab** **04 38 17.6 +1.3**
ZVC **Zvikov** **145.47 352** *e*PKP **PKPab** **04 38 16.7 +0.5**
ZVC AMS AMS 05 41 10.0
comp=Z,5μm,22.4s
KRUC **Moravsky** **145.47 349** *e*PKP **PKPab** **04 38 16.3 +0.1**
OZUR **145.49 337** ⇓P **PKPab** **04 38 17.3 +0.8**
GRA1 **Grafenberg Arr** **145.55 355** IAMs_20 IAMs_20 05 42 58.0
comp=Z,3μm,20.0s
GRFO **Grafenberg** **145.55 355** IAMs_20 IAMs_20 05 42 58.0
comp=Z,3μm,20.0s
BOSR **Bodos** **145.56 337** ⇑P **PKPab** **04 38 18.1 +1.4**
BISRR **Bisoca** **145.58 335** ⇑P **PKPab** **04 38 17.6 +0.7**
MESR **Meseseni** **145.59 341** ⇑P **PKiKP** **04 38 21.3 +1.0**
GRER **145.61 335** ⇑P **PKiKP** **04 38 18.8 -1.6**
TIRR **Tirgusor** **145.72 332** IAMs_20 IAMs_20 05 46 40.0
comp=Z,2μm,20.0s
TIRR **Tirgusor** **145.72 332** ⇑P **PKPab** **04 38 18.1 +0.8**
TIRR **Tirgusor** **145.72 332** ⇑PKIKP **PKPab** **04 38 18.1 +0.8**
WLF **Walferdange** **145.75 1** **PKPab** **04 38 18.0 +0.8**
WLF **Walferdange** **145.75 1** *d*PKPdf **PKPab** **04 38 17.8 +0.6**
WLF **Walferdange** **145.75 1** PKIKP **PKPab** **04 38 18.0 +0.8**
WLF MLR MLR
comp=Z,5μm,21.0s
DOPR **Dopca** **145.75 337** ⇓P **PKPab** **04 38 18.6 +1.2**
CJR **Cluj-Napoca** **145.76 339** ⇓P **PKPab** **04 38 18.0 +0.6**
CJR **Cluj-Napoca** **145.76 339** ⇓PKIKP **PKPab** **04 38 18.0 +0.6**
HARR **Harsova** **145.76 333** ⇑P **PKPab** **04 38 18.3 +0.9**
HARR **Harsova** **145.76 333** ⇑PKIKP **PKPab** **04 38 18.3 +0.9**
PSZ **Piszkesteto** **145.78 344** ⇓P **PKPab** **04 38 18.5 +1.0**
PSZ **Piszkesteto** **145.78 344** ⇓PKIKP **PKPab** **04 38 18.5 +1.0**
SMOL **Smolenice** **145.79 348** *e*PKIKP **PKPab** **04 38 18.7 +1.3**
SMOL *e* 04 38 28.1
TLBR **Topalu** **145.82 333** ⇑P **PKPab** **04 38 18.6 +1.0**
NEHR **Nehoiu** **145.85 335** ⇑P **PKPab** **04 38 18.5 +0.8**
KHC **Kasperske Hory** **145.85 352** *e*PKP **PKPab** **04 38 18.1 +0.4**
KHC *ex* x 04 48 26.3
KHC AMS AMS 05 41 20.0
comp=Z,4μm,21.2s
KHC **Kasperske Hory** **145.85 352** *e*PKIKP **PKPab** **04 38 18.1 +0.4**
KHC MLR MLR
comp=Z,4μm,21.2s
KHC **Kasperske Hory** **145.85 352** PKP **PKPdf** **04 38 16.8 +0.1**
KMBO **Kilima Mbogo** **145.87 244** PKPbc **PKPab** **04 38 19.7 +0.6**
comp=Z,72nm,1.0s,baz=98,slow=3.5,SNR=49
EFOR **EFORIE** **145.92 332** ⇓P **PKPab** **04 38 19.1 +1.1**
MLR **Muntele Rosu** **145.94 336** ⇓P **PKPab** **04 38 18.6 +0.4**
MLR **Muntele Rosu** **145.94 336** ⇓PKP2 **PKPab** **04 38 18.6 +0.4**
MLR **Muntele Rosu** **145.94 336** PKP **PKPdf** **04 38 17.0 -0.1**
MFTR **Murfatlar** **145.94 332** ⇑P **PKPab** **04 38 18.3 +0.2**
MARR **Marisel-Cluj** **145.95 340** ⇓P **PKPab** **04 38 18.5 +0.3**
MODS **Modra-Piesok** **145.96 348** *e*PKP2 **PKPab** **04 38 19.4 +1.3**
MODS **Modra-Piesok** **145.96 348** *e*PKP **PKPab** **04 38 19.4 +1.3**
MODS *e* 04 38 28.6
MODS *e* 04 38 38.6
ISR **Istrita** **146.00 335** ⇓P **PKPab** **04 38 18.8 +0.4**
ISR **Istrita** **146.00 335** ⇓PKP2 **PKPab** **04 38 18.8 +0.4**
ISR **Istrita** **146.00 335** PKP **PKPbc** **04 38 17.5 -0.4**
CKRC **Cesky Krumlov** **146.05 351** *e*PKP **PKPab** **04 38 18.7 +0.3**
CKRC AMS AMS 05 42 00.0
comp=Z,5μm,19.9s
CKRC **Cesky Krumlov** **146.05 351** *e*PKP2 **PKPab** **04 38 18.7 +0.3**
CKRC MLR MLR
comp=Z,5μm,19.9s
AMRR **Amara** **146.08 334** ⇑P **PKiKP** **04 38 21.1 -0.2**
AMRR **Amara** **146.08 334** ⇑PKP2 **PKiKP** **04 38 21.1 -0.2**
GERES **GERESS Array B** **146.11 352** PKPbc **PKPbc** **04 38 18.2 +0.1**
comp=Z,11nm,0.6s,baz=22,slow=4.3,SNR=81
MANR **Mangalia** **146.14 331** ⇑P **PKPab** **04 38 18.7 -0.1**
ZST **Bratislava** **146.16 348** *e*PKP2 **PKiKP** **04 38 22.1 +0.7**
ZST **Bratislava** **146.16 348** *e*PKP **PKiKP** **04 38 22.1 +0.7**
SRO **Srobarova** **146.26 346** *e*PKP2 **PKiKP** **04 38 20.4 -1.2**
SRO **Srobarova** **146.26 346** *e*PKP **PKiKP** **04 38 20.4 -1.2**
SRO *e* 04 38 28.6
SRO *e* 04 38 39.7
BRTR **Keskin Array B** **146.31 321** **PKPbc** **04 38 19.2 +0.1**
BRTR **Keskin Array B** **146.31 321** PKPbc **PKPab** **04 38 20.1 +0.3**
comp=Z,39nm,0.7s,baz=137,slow=1.5,SNR=98
LEHL **Lehliu** **146.41 334** ⇑P **PKPab** **04 38 20.3 +0.5**
TNR **Turnu Rosu** **146.44 338** ⇑P **PKPab** **04 38 20.4 +0.4**
TNR **Turnu Rosu** **146.44 338** ⇑PKP2 **PKPab** **04 38 20.4 +0.4**
SULR **146.48 335** ⇓P **PKPab** **04 38 20.4 +0.3**
PSN **Preselentsi** **146.49 332** *i* P **PKiKP** **04 38 21.3 -0.9**
KIRS **Kirsehir-Merke** **146.50 320** ⇑P **PKPbc** **04 38 19.6 0.0**
ARR **Arges** **146.54 337** ⇑P **PKPbc** **04 38 19.6 +0.1**
CONA **Conrad Observa** **146.66 349** *i* PKP **PKPbc** **04 38 20.1 +0.3**
comp=Z,171nm,2.0s,SNR=42
DEV **Deva** **146.72 340** ⇑P **PKiKP** **04 38 21.9 -0.7**
DEV **Deva** **146.72 340** ⇑PKP2 **PKiKP** **04 38 21.9 -0.7**
ANTO **Ankara** **146.72 322** **PKPdf** **04 38 18.8 +0.3**
ANTO **Ankara** **146.72 322** IAMs_20 IAMs_20 05 56 13.9
comp=Z,2μm,20.0s
ANTO **Ankara** **146.72 322** ⇑P **PKiKP** **04 38 22.5 -0.4**
ANTO **Ankara** **146.72 322** ⇑PKP2 **PKiKP** **04 38 22.5 -0.4**
SIRR **Siria** **146.78 341** ⇑P **PKPbc** **04 38 19.5 -0.6**
LOT **Lotru** **146.79 338** ⇓P **PKPdf** **04 38 18.6 +0.1**
RONA **Rosalia, Austr** **146.80 348** *i* PKP **PKPbc** **04 38 20.3 +0.1**
comp=Z,56nm,1.3s,SNR=26
SGRR **Singureni** **146.97 335** ⇑P **PKiKP** **04 38 22.7 -0.5**
MOA **Molln** **147.01 351** *i* PKP **PKPbc** **04 38 20.7 0.0**
comp=Z,41nm,1.0s,SNR=15
BFO **Black Forest** **147.07 358** **PKPdf** **04 38 19.4 +0.6**
BFO **Black Forest** **147.07 358** PKIKP **PKPdf** **04 38 19.4 +0.6**
BFO MLR MLR
comp=Z,3μm,21.0s
SURR **Surduc** **147.09 340** ⇓P **PKPbc** **04 38 21.0 +0.1**
SAHE **Sakarya_HENDEK** **147.17 325** ⇑P **PKPab** **04 38 22.8 -0.2**
NEF **NEVSHA** **147.17 332** *i* P **PKPab** **04 38 23.1 +0.2**
GZR **Gura Zlata** **147.19 339** ⇓P **PKPbc** **04 38 20.3 -1.0**
GZR **Gura Zlata** **147.19 339** ⇓PKIKP **PKPbc** **04 38 20.3 -1.0**
PRD **Provadia** **147.19 332** *i* P **PKPab** **04 38 22.6 -0.4**
BIOA **Bad Ischl, Aus** **147.25 352** *i* PKP **PKPbc** **04 38 21.3 0.0**
comp=Z,49nm,1.1s,SNR=30
RAZG **Razgrad** **147.27 333** ⇓P **PKPab** **04 38 22.5 -0.8**
COPA **Copaceanca** **147.35 335** ⇓P **PKiKP** **04 38 23.9 -0.1**
BZS **Buzias** **147.37 341** ⇓P **PKPdf** **04 38 20.1 +0.8**
BZS **Buzias** **147.37 341** ⇓PKIKP **PKPdf** **04 38 20.1 +0.8**
ARSA **Arzberg** **147.38 349** *i* PKP **PKPbc** **04 38 21.0 -0.8**
comp=Z,70nm,1.6s,SNR=21
LOZB **Loznitsa** **147.39 333** ⇑P **PKPab** **04 38 23.0 -0.8**
SILT **Sile** **147.60 327** ⇓P **PKPab** **04 38 24.6 -0.1**
LESA **Schwarzleotal** **147.64 353** *i* PKP **PKPbc** **04 38 21.4 -1.1**
comp=Z,74nm,1.6s,SNR=36
SRE **Strehaia** **147.67 338** ⇑P **PKPab** **04 38 25.1 +0.3**
SRE **Strehaia** **147.67 338** ⇑PKP2 **PKPab** **04 38 25.1 +0.3**
MORH **Mrgy, Hungar** **147.68 345**⇑*i* P **PKPdf** **04 38 19.9 +0.1**
MORH **Mrgy, Hungar** **147.68 345** ⇑P **PKPdf** **04 38 20.7 +0.9**
BANR **Banloc** **147.73 341** ⇑P **PKPdf** **04 38 19.9 0.0**
SZH **Strazhitsa** **147.74 333** *i* P **PKiKP** **04 38 24.4 -0.4**
HERR **Herculane** **147.76 339** ⇓P **PKPbc** **04 38 23.3 +0.5**
RETA **Reutte** **147.77 355** *i* PKP **PKPbc** **04 38 22.4 -0.5**
comp=Z,78nm,1.5s,SNR=27
VLAD **Vladila** **147.79 336** ⇑P **PKiKP** **04 38 24.4 -0.5**
WATA **Walderalm** **147.85 354** *i* PKP **PKPdf** **04 38 21.7 +1.5**
comp=Z,52nm,1.2s,SNR=21
BEHE **Becsehely** **147.88 347**⇑*i* P **PKPdf** **04 38 21.3 +1.2**
MOTA **Moosalm** **147.89 355** *i* PKP **PKPbc** **04 38 22.4 -0.9**
comp=Z,77nm,1.4s,SNR=34
KBA **Koelnbreinsper** **147.89 352** *i* PKP **PKPdf** **04 38 21.6 +1.2**
comp=Z,33nm,1.2s,SNR=19
WTTA **Wattenberg** **147.91 354** *i* PKP **PKPbc** **04 38 22.0 -1.4**
comp=Z,31nm,0.8s,SNR=27
SQTA **Sankt Quirin** **148.00 355** *i* PKP **PKPbc** **04 38 22.1 -1.5**
comp=Z,65nm,1.5s,SNR=22
ASF **Jabal al Asfar** **148.01 307** PKPbc **PKPbc** **04 38 22.5 -1.6**
comp=Z,20nm,0.8s,baz=204,slow=0.1,SNR=11
SOKA **Soboth** **148.02 349** *i* PKP **PKPdf** **04 38 21.8 +1.3**
comp=Z,56nm,1.1s,SNR=43
DAVA **Damuels** **148.04 356** *i* PKP **PKPbc** **04 38 22.4 -1.3**
comp=Z,63nm,1.1s,SNR=33
ELND **Elena** **148.06 333** ⇑P **PKPdf** **04 38 21.9 +1.4**
MDVR **Moldovita** **148.08 340** ⇑P **PKPdf** **04 38 21.4 +0.8**
PVL **Pavlikeni** **148.20 334** *i* P **PKPbc** **04 38 24.1 +0.1**
PLVB **Pleven** **148.21 335** ⇑P **PKiKP** **04 38 25.4 -0.4**
FETA **Feichten** **148.24 355** *i* PKP **PKPdf** **04 38 22.5 +1.6**
comp=Z,55nm,1.3s,SNR=12
OBKA **Obir** **148.26 350** *i* PKP **PKPdf** **04 38 22.1 +1.2**
comp=Z,23nm,1.0s,SNR=12
MYKA **Terra Mystica** **148.29 351** *i* PKP **PKPdf** **04 38 21.9 +1.0**
comp=Z,53nm,1.5s,SNR=28
PHSR **Pinarhisar** **148.32 330** ⇑P **PKiKP** **04 38 25.4 -0.6**
ABTA **Abfaltersbach** **148.33 353** *i* PKP **PKPdf** **04 38 22.1 +1.2**
comp=Z,55nm,1.1s,SNR=25
FURI **Furi** **148.35 262** IAMs_20 IAMs_20 06 00 15.8
comp=Z,2μm,21.0s
VALD **Valchedram** **148.42 337** *i* P **PKPbc** **04 38 22.9 -1.7**
MPEP **Malo Peshtene** **148.59 336** *i* P **PKiKP** **04 38 27.2 +0.6**
FUORN **Ofenpass-Fuorn** **148.67 356** IAMs_20 IAMs_20 05 42 44.7
comp=Z,2μm,21.0s
MOSL **Moslavina** **148.69 347**⇑*i* P **PKPdf** **04 38 22.9 +1.4**
MMAI **Mount Meron Ar** **148.78 309** PKPbc **PKiKP** **04 38 27.2 -0.2**
comp=Z,52nm,0.9s,baz=47,slow=3.7,SNR=49
OZLJ **Ozalj** **148.96 348** *e*P **PKPdf** **04 38 23.1 +1.2**
BAND **Balkesir-Ban** **148.99 328** ⇓P **PKPbc** **04 38 24.7 -1.5**
BOVS **Bovan** **149.10 339** ⇓P **PKPbc** **04 38 25.0 -1.4**
PLD **Plovdiv** **149.18 334** *i* P **PKiKP** **04 38 28.0 +0.2**
BLSH **Balsha** **149.19 336** *i* P **PKPbc** **04 38 25.1 -1.6**
CSS **Mathiatis** **149.29 314** IAMs_20 IAMs_20 05 47 17.3
comp=Z,2μm,22.0s
KDZ **Kurdzhali** **149.34 332** *i* P **PKPab** **04 38 30.0 -1.6**
ISP **Isparta** **149.39 322** IAMs_20 IAMs_20 05 54 03.6
comp=Z,1μm,20.0s
GHAJ **Ghor Haditha** **149.40 306** IAMs_20 IAMs_20 05 48 10.8
comp=Z,2μm,20.0s
VTS **Vitosha** **149.41 336** *i* P **PKPab** **04 38 30.5 -1.6**
BLY **Banja Luka** **149.41 346**⇑*i* P **PKPdf** **04 38 23.8 +1.1**
BLY **Banja Luka** **149.41 346** ⇑P **PKPbc** **04 38 27.6 +0.5**
RZN **Rozhen** **149.55 333** *i* P **PKPdf** **04 38 24.4 +1.1**
LODK **Lodwar** **149.62 250** IAMs_20 IAMs_20 05 40 03.5
comp=Z,2μm,21.0s
RUDO **Rudo** **149.87 342** *e*P **PKPbc** **04 38 28.3 0.0**
BRJN **Brijuni** **149.96 350**⇑*i* P **PKPbc** **04 38 27.8 -0.6**
MMB **Musomishta** **150.10 334** *i* P **PKiKP** **04 38 30.3 +0.5**
KKB **Krupnik** **150.10 335** *i* P **PKiKP** **04 38 31.3 +1.5**
EZN **Ezine** **150.28 329** ⇑P **PKiKP** **04 38 30.2 +0.1**
EZN **Ezine** **150.28 329** ⇑PKIKP **PKiKP** **04 38 30.2 +0.1**
KLJV **Kijevo** **150.30 346**⇑*i* P **PKPdf** **04 38 24.1 0.0**
KLINJ **Klinje** **150.51 343** *e*P **PKPdf** **04 38 24.7 +0.1**
EIL **Elat** **150.55 304** PKP **PKPdf** **04 38 25.2 +0.3**
comp=Z,16nm,0.9s,baz=351,slow=2.7,SNR=9.5
EIL PKPbc **PKiKP** **04 38 31.5 +0.4**
comp=Z,71nm,0.9s,baz=70,slow=0.6,SNR=24
SKO **Skopje** **150.65 338** *i* P **PKPdf** **04 38 26.7 +1.9**
PCAB **Cabril** **150.69 23** *e*PKPdf **PKPdf** **04 38 26.7 +1.9**
VAY **Valandovo** **150.77 335** *i* P **PKPdf** **04 38 26.2 +1.3**
PDG **Podgorica** **150.98 341** IAMs_20 IAMs_20 05 43 29.9
comp=Z,3μm,22.0s
PDG **Podgorica** **150.98 341** ⇑P **PKPdf** **04 38 26.0 +0.8**
TREB **Trebinje** **151.00 343** *e*P **PKPbc** **04 38 30.8 -0.2**
STON **Ston** **151.03 344**⇑*i* P **PKPdf** **04 38 24.2 -1.0**
POLO **Lamas de Olo** **151.07 23** *e*PKPdf **PKiKP** **04 38 31.9 0.0**
PVRL **Vila Real** **151.19 23** *e*PKPdf **PKiKP** **04 38 33.0 +0.9**
MVO **Moncorvo** **151.54 22** *e*PKPdf **PKiKP** **04 38 33.1 +0.3**
MVO *e*LR LR 05 29 22.6
MVO *i* IAMs_20 IAMs_20 05 38 46.4
com

comp=Z,4μm,20.6s
MESJ Messejana 153.87 28 *e*PKPdf PKPdf 04 38 32.1 +2.5
MESJ *i* tx tx 04 38 51.0
MESJ Messejana 153.87 28 *e*PKIKP PKPdf 04 38 29.2 -0.4
PBEJ Beja 153.87 27 *i* tx tx 04 38 51.8
PTEO Sao Teotonio 153.87 29 *e*PKPdf PKiKP 04 38 38.2 +0.6
PTEO *i* tx tx 04 38 51.1
PAB San Pablo 153.92 20 IAMs_20 IAMs_20 05 53 45.3
comp=Z,2μm,20.0s
ESDC Sonseca Array 153.93 19 PKPdf 04 38 28.9 -0.8
ESDC Sonseca Array 153.93 19 PKP PKPdf 04 38 31.1 +1.4
comp=Z,1.8nm,0.9s,baz=336,slow=3.1,SNR=9.5
ESDC PKPbc PKiKP 04 38 37.9 +0.1
comp=Z,1.6nm,0.6s,baz=327,slow=2.4,SNR=14
ESDC PKPab PKPab 04 38 50.0 -0.8
comp=Z,17nm,0.9s,baz=337,slow=4.1,SNR=11
MORF Marmelete 154.10 29 *e*PKPdf PKPdf 04 38 29.6 -0.4
MORF IAMs_20 IAMs_20 05 41 33.6
comp=Z,4μm,23.3s
PBAR Barrancos 154.10 26 *e*PKPdf PKPdf 04 38 31.4 +1.4
PBAR *i* tx tx 04 38 47.8
PFVI Vila Bisbo 154.15 30 *i* tx tx 04 38 46.2
PVAQ Vaqueiros 154.45 28 *i* tx tx 04 38 54.4
PVAQ *e*LR LR 05 30 44.8
PVAQ *i* IAMs_20 IAMs_20 05 42 11.3
comp=Z,3μm,20.0s
PBDV Barranco-do-Ve 154.49 28 *i* tx tx 04 38 41.5
MAHO Mahon 155.41 5 IAMs_20 IAMs_20 05 57 20.9
comp=Z,2μm,20.0s
WDD Wied Dalam 158.47 343 IAMs_20 IAMs_20 05 48 38.8
comp=Z,2μm,22.0s
KEST Kesra 159.56 354 PKPdf 04 38 36.6 -0.5
KEST PKPab 04 39 15.4 +0.3
KEST Kesra 159.56 354 PKP PKPdf 04 38 35.6 -1.5
comp=Z,7.1nm,1.1s,baz=51,slow=6.5,SNR=3.4
KEST PKPab PKPab 04 39 15.5 +0.3
comp=Z,14nm,0.9s,baz=2.7,slow=4.3,SNR=7.4
DBIC Dimbokro 165.58 125 PKPdf 04 38 42.8 -0.8
DBIC PKPab 04 39 42.6 +0.5
DBIC Dimbokro 165.58 125 PKP PKPdf 04 38 43.2 -0.4
comp=Z,17nm,1.0s,baz=282,slow=2.2,SNR=8.8
DBIC PKPab PKPab 04 39 43.9 +1.7
comp=Z,22nm,0.9s,baz=246,slow=6.6,SNR=8.8
TORD Torodi Ar. Bea 174.47 112 PKPdf 04 38 47.8 -0.8
TORD PKPab 04 40 21.7 +0.1
TORD Torodi Ar. Bea 174.47 112 PKP PKPdf 04 38 48.6 0.0
comp=Z,2.5nm,0.2s,baz=12,slow=2.1,SNR=4.1
TORD PKPab PKPab 04 40 22.4 +0.8
comp=Z,6.5nm,0.8s,baz=266,slow=3.2,SNR=9.6
TORD PP PP 04 44 10.9 -3.0
comp=Z,2.0nm,1.0s,baz=272,slow=4.0,SNR=4.3

*IDC **22** 04:33:16.3±2.9, 27°.10N×55°.12E, h0km, mb4.0/9, mbtmp3.9/12, ML3.8/3, Error ellipse: s-maj=54.3km s-min=30.3km az=153.0*
*NEIC **22** 04:33:18.9±1.9, 27°.18N±0°.07×54°.97E±0°.09, h10km±1km, mb4.3/14, Error ellipse: s-maj=13.9km s-min=11.2km az=63.0*
*TEH **22** 04:33:19.1, 27°.08N×55°.06E, h20km±14km*
*DSN **22** 04:33:19.8±1.4, 27°.23N×55°.13E, h10km, ML3.4/9, Error ellipse: s-maj=21.6km s-min=6.7km az=29.0*
*OMAN **22** 04:33:23.7±1.1, 26°.84N×55°.00E, h10km, mb4.7/5, ml3.3/16, Error ellipse: s-maj=10.7km s-min=5.7km az=19.0*
ISC 22 04:33:19.2±1.3, **27°.16N**±0°.04×**55°.03E**±0°.03, **h15**km±9km, **n108**, σ1§**78**/126, **mb4.1**/14, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.77**	**311**	Pg	**Pn**	**04 33 35.1**	**-0.5**
BNDS	**Bandar-Abbas**	**1.04**	**77**	Pg	**Pg**	**04 33 38.5**	**-0.9**
GENO	**Geno**	**1.04**	**77**	Pg	**Pg**	**04 33 39.0**	**-0.4**
IBND	**Bandar-abas**	**1.37**	**78**	Pg	**Pn**	**04 33 44.7**	**+1.0**
SHME	**Shamm**	**1.49**	**138**	P	**Pn**	**04 33 46.2**	**+0.9**
SHME				S	**Sg**	**04 34 08.1**	**+1.0**
SHME	**Shamm**	**1.49**	**138**	*e*P	**Pn**	**04 33 46.2**	**+0.9**
	SNR=31						
SHME				S	**Sn**	**04 34 05.9**	**+1.5**
LMD1	**Lamerd**	**1.67**	**277**	Pg	**Pg**	**04 33 51.4**	**+0.1**
BANOM	**Banah**	**1.68**	**137**	P	**Pn**	**04 33 49.6**	**+1.6**
BANOM				S	**Sb**	**04 34 12.6**	**+1.9**
BANOM	**Banah**	**1.68**	**137**	*e*P	**Pn**	**04 33 49.2**	**+1.2**
	SNR=42						
BANOM				S	**Sb**	**04 34 12.5**	**+1.9**
UMQ	**Umm Al-Quwin**	**1.72**	**161**	S	**Sb**	**04 34 12.9**	**+1.0**
JHRM	**Jahrom**	**1.86**	**316**	Pn	**Pg**	**04 33 52.9**	**-2.0**
MASF	**Masafi**	**2.05**	**150**	P	**Pn**	**04 33 55.3**	**+2.2**
	SNR=10						
MASF				S	**Sn**	**04 34 18.8**	**+0.4**
MSFE	**Esma-Masafi**	**2.06**	**150**	*e*P	**Pn**	**04 33 55.0**	**+1.8**
	SNR=22						
MDH	**Madha**	**2.17**	**148**	P	**Pn**	**04 33 56.7**	**+1.9**
	SNR=8.9						
MDH				S	**Sn**	**04 34 23.5**	**+2.0**
MDH	**Madha**	**2.17**	**148**	*e*P	**Pn**	**04 33 56.4**	**+1.6**
	SNR=15						
NAZ	**Nazwa, Dubai**	**2.24**	**165**	P	**Pb**	**04 33 58.8**	**-0.4**
NAZ				S	**Sn**	**04 34 24.4**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.24**	**165**	P	**Pn**	**04 33 58.1**	**+2.5**
UOSS	**Minazif**	**2.44**	**154**		**Pn**	**04 33 59.8**	**+1.2**
UOSS				Sn	**Sn**	**04 34 29.2**	**+1.0**
UOSS	**Minazif**	**2.44**	**154**	P	**Pn**	**04 34 01.0**	**+2.5**
UOSS	**Minazif**	**2.44**	**154**	*e*P	**Pn**	**04 33 60.0**	**+1.4**
	SNR=9.1						
KHNJ	**Kahnooj**	**2.50**	**71**	Pn	**Pn**	**04 34 00.4**	**+1.1**
HATD	**Hatta, Dubai**	**2.53**	**157**	P	**Pn**	**04 34 02.2**	**+2.6**
	SNR=8.0						
HATD	**Hatta, Dubai**	**2.53**	**157**	*e*P	**Pn**	**04 34 01.7**	**+2.0**
	SNR=6.9						
AJN	**Ajban**	**2.59**	**181**	P	**Pn**	**04 34 03.3**	**+2.9**
ASHO	**Ashiyiah**	**2.63**	**159**	P	**Pn**	**04 34 03.5**	**+2.3**
	SNR=64						
ASHO				S	**Sn**	**04 34 34.1**	**+1.2**
ASHO	**Ashiyiah**	**2.63**	**159**	*e*P	**Pn**	**04 34 03.0**	**+1.8**
	SNR=64						
NGRK	**Negar Kerman**	**2.89**	**31**	Pn	**Pn**	**04 34 06.8**	**+1.8**
ALNE	**Al Ain**	**3.16**	**168**	P	**Pn**	**04 34 11.0**	**+2.6**
ALNE				S	**Sn**	**04 34 46.7**	**+0.9**
KRBR	**Kerman**	**3.19**	**28**	Pn	**Pn**	**04 34 11.0**	**+1.9**
SOHO	**SOHO**	**3.30**	**155**	*i* P	**Pn**	**04 34 11.5**	**+1.2**
	SNR=9.2						
KHGB	**Koh Gabri**	**3.44**	**21**	Pn	**Pn**	**04 34 15.1**	**+2.6**
CHMN	**Cheshme madani**	**3.48**	**39**	Pn	**Pn**	**04 34 15.5**	**+2.4**
KBAM	**BAM**	**3.60**	**56**	Pn	**Pn**	**04 34 16.2**	**+1.7**
SHMA	**Al-Shehemyia**	**3.87**	**251**	P	**Pn**	**04 34 21.6**	**+3.4**
	SNR=18						
SHMA				S	**Sn**	**04 35 06.7**	**+3.4**
ZRDN	**Zarand Kerman**	**4.01**	**19**	Pn	**Pn**	**04 34 22.6**	**+2.2**
ARQ	**Araqi**	**4.04**	**160**	P	**Pn**	**04 34 23.0**	**+2.5**
	SNR=13						
HOQ	**Hoqain**	**4.12**	**149**	P	**Pn**	**04 34 23.7**	**+2.1**
HOQ				S	**Sn**	**04 35 08.7**	**-0.8**
HOQ	**Hoqain**	**4.12**	**149**	Pn	**Pn**	**04 34 21.5**	**-0.1**
SAKB	**Bahrain**	**4.20**	**255**	P	**Pn**	**04 34 26.8**	**+4.2**
SAKB				S	**Sn**	**04 35 15.2**	**+3.8**
IMEH	**Mehriz**	**4.23**	**355**	Pn	**Pn**	**04 34 25.5**	**+2.2**
UMZA	**Um Al Zommool**	**4.43**	**178**	P	**Pn**	**04 34 28.1**	**+2.3**
UMZA				S	**Sn**	**04 35 17.1**	**0.0**
IBAF	**Bafgh**	**4.44**	**6**	Pn	**Pn**	**04 34 28.5**	**+2.4**
SMRA	**Abu-Samra**	**4.49**	**239**	P	**Pn**	**04 34 30.0**	**+3.4**
	SNR=12						
KLNJ	**Kolanjah**	**4.88**	**323**	Pn	**Pn**	**04 34 34.5**	**+2.3**
SMDO	**Samad**	**4.91**	**146**	P	**Pn**	**04 34 35.3**	**+2.7**
	SNR=5.9						
SMDO				S	**Sn**	**04 35 28.8**	**-0.4**
WSAR	**Wadi Sarin**	**5.08**	**139**	P	**Pn**	**04 34 36.7**	**+1.9**
	SNR=16						
WSAR				S	**Sn**	**04 35 32.6**	**-0.8**
CHBR	**Chabahar**	**5.13**	**106**	Pn	**Pn**	**04 34 35.9**	**+0.5**
IRAM	**Ramesheh**	**5.18**	**334**	Pn	**Pn**	**04 34 38.5**	**+2.2**
JMDO	**Jabal Madar**	**5.53**	**149**	P	**Pn**	**04 34 43.0**	**+2.1**
JMDO				S	**Sn**	**04 35 42.5**	**-1.7**
NGCH	**Negor - Chabah**	**5.77**	**107**	P	**Pn**	**04 34 46.2**	**+2.0**
NGCH	**Negor - Chabah**	**5.77**	**107**	Pn	**Pn**	**04 34 45.2**	**+1.0**
IGAR	**Gharneh**	**5.84**	**334**	Pn	**Pn**	**04 34 47.5**	**+2.1**
BSRN	**Basiran**	**5.97**	**36**	Pn	**Pn**	**04 34 49.2**	**+2.1**
TPRV	**Parvadeh(Tabas**	**6.02**	**13**	Pn	**Pn**	**04 34 50.1**	**+2.4**
ANAR	**Anarak**	**6.11**	**350**	Pn	**Pn**	**04 34 51.4**	**+2.3**
IKOO	**Kooshah**	**6.28**	**32**	Pn	**Pn**	**04 34 53.6**	**+2.1**
JLN	**Jalan Bani Buh**	**6.38**	**140**	P	**Pn**	**04 34 53.3**	**+0.6**
JLN				S	**Sn**	**04 36 03.3**	**-2.0**
SRVN	**Saravan**	**6.56**	**86**	Pn	**Pn**	**04 34 56.3**	**+1.1**
IPIR	**Pirpir**	**6.57**	**328**	Pn	**Pn**	**04 34 57.8**	**+2.2**
MHTO	**MHTO**	**6.71**	**156**	P	**Pn**	**04 34 58.3**	**+1.2**
	SNR=9.0						
MHTO				S	**Sn**	**04 36 11.7**	**-1.5**
IKLH	**Kolahrood**	**6.83**	**335**	Pn	**Pn**	**04 35 00.7**	**+1.8**
ISFB	**Sefidab**	**7.56**	**342**	Pn	**Pn**	**04 35 10.8**	**+1.9**
DOK	**Doka**	**8.54**	**186**	P	**Pn**	**04 35 23.0**	**+0.6**
	SNR=12						
DOK				S	**Sn**	**04 36 53.7**	**-4.8**
SHAO	**Shalim**	**9.11**	**176**	P	**Pn**	**04 35 31.0**	**+0.8**
	SNR=7.6						
SHAO				S	**Sn**	**04 37 10.1**	**-2.4**
WHFO	**Wadi Hawf**	**9.27**	**187**	P	**Pn**	**04 35 33.1**	**+0.7**
	SNR=16						
RAYN	**Ar Rayn**	**9.35**	**249**		**Pn**	**04 35 32.4**	**-1.1**
RAYN	**Ar Rayn**	**9.35**	**249**	P	**Pn**	**04 35 32.4**	**-1.1**
DMTO	**DMTO**	**9.40**	**180**	P	**Pn**	**04 35 34.2**	**+0.1**
DMTO				S	**Sn**	**04 37 17.6**	**-2.0**
HRA	**Herat**	**9.50**	**39**	Pn	**Pn**	**04 35 36.5**	**+0.9**
ABTO	**Aybut**	**9.89**	**190**	P	**Pn**	**04 35 42.0**	**+1.1**
	SNR=18						
GNI	**Garni**	**15.52**	**329**	Pn	**Pn**	**04 36 56.7**	**-0.8**
GNI				IAmb	IAmb	04 37 05.2	
	comp=Z,16nm,0.6s						
GNI	**Garni**	**15.52**	**329**	Pn	**P**	**04 37 04.3**	**+2.4**
	comp=Z,3.4nm,0.3s,baz=131,slow=9.3,SNR=4.3						
MARD	**Mardin**	**15.73**	**314**	Pn	**Pn**	**04 36 57.3**	**-3.0**
MARD				IAmb	IAmb	04 37 06.7	
	comp=Z,14nm,0.8s						
ASF	**Jabal al Asfar**	**16.53**	**292**	Pn	**Pn**	**04 37 10.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=116,slow=5.8,SNR=3.6						
	comp=Z,2.4nm,0.8s						
KOPT	**Kop Dagi**	**17.61**	**320**		**Pn**	**04 37 23.7**	**-0.5**
MMAI	**Mount Meron Ar**	**17.95**	**294**	P	**P**	**04 37 29.3**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=105,slow=14,SNR=1.4						
	comp=Z,0.6nm,0.3s						
KBZ	**Khabaz**	**19.23**	**332**	P	**Pn**	**04 37 45.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=3.5						
	comp=Z,1.7nm,0.8s						
BNN	**Bunyan**	**19.83**	**311**	P	**P**	**04 37 48.8**	**-0.6**
TOKA	**Tokat**	**20.21**	**315**	P	**P**	**04 37 54.0**	**+0.5**
BR131	**Keskin Array S**	**21.75**	**311**	P	**P**	**04 38 08.3**	**-1.9**
BR131				IAmb	IAmb	04 38 17.4	
	comp=Z,4.1nm,0.8s						
BR131	**Keskin Array S**	**21.75**	**311**	PKHKP	PKPpre	04 38 08.3	
BR131	**Keskin Array S**	**21.75**	**311**	pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**21.75**	**311**	P	**P**	**04 38 10.2**	**0.0**
BRTR	**Keskin Array B**	**21.75**	**311**	P	**P**	**04 38 11.8**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=131,slow=13,SNR=11						
	comp=Z,1.7nm,0.8s						
AB31	**Akbulak array**	**22.39**	**8**	P	**P**	**04 38 16.4**	**-0.4**
AB31				IAmb	IAmb	04 38 20.2	
	comp=Z,12nm,1.3s						
ABKAR	**Akbulak array**	**22.39**	**8**	P	**P**	**04 38 14.9**	**-1.8**
ISP	**Isparta**	**23.18**	**303**	P	**P**	**04 38 23.5**	**-1.9**
ISP	**Isparta**	**23.18**	**303**	PKIKP	**P**	**04 38 23.5**	**-1.9**
ISP	**Isparta**	**23.18**	**303**	pmax	pmax		
	comp=Z,124nm,1.4s						
ELL	**Elmali**	**23.31**	**300**	P	**P**	**04 38 25.2**	**-1.5**
ELL	**Elmali**	**23.31**	**300**	PKIKP	**P**	**04 38 25.2**	**-1.5**
ELL	**Elmali**	**23.31**	**300**	pmax	pmax		
	comp=Z,109nm,1.4s						
AKASG	**Malin Array Be**	**30.63**	**327**	P	**P**	**04 39 31.2**	**-1.4**
AKASG				IAmb	IAmb	04 39 35.0	
	comp=Z,2.4nm,1.1s						
AKASG	**Malin Array Be**	**30.63**	**327**	P	**P**	**04 39 31.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=109,slow=6.7,SNR=5.4						
	comp=Z,0.9nm,0.4s						
AKBB	**Malin Array Si**	**30.63**	**327**	P	**P**	**04 39 32.6**	**0.0**
AKBB				IAmb	IAmb	04 39 33.6	
	comp=Z,5.6nm,0.7s						
KIEV	**Kiev**	**30.63**	**327**	P	**P**	**04 39 32.6**	**0.0**
KIEV				IAmb	IAmb	04 39 33.6	
	comp=Z,5.0nm,0.7s						
ZALV	**Zalesovo Beam**	**34.58**	**31**	P	**P**	**04 40 06.6**	**-0.5**
ZALV	**Zalesovo Beam**	**34.58**	**31**	P	**P**	**04 40 07.4**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=231,slow=9.2,SNR=4.7						
	comp=Z,1.7nm,0.5s						
FINES	**FINESS Array B**	**39.39**	**338**	P	**P**	**04 40 48.2**	**+0.3**
FINES	**FINESS Array B**	**39.39**	**338**	P	**P**	**04 40 48.0**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=138,slow=15,SNR=4.0						
	comp=Z,2.3nm,0.8s						
HFS	**Hagfors**	**43.29**	**331**	P	**P**	**04 41 20.0**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=125,slow=7.8,SNR=5.9						
	comp=Z,3.2nm,0.9s						
NB2	**NORSAR Subarra**	**44.80**	**331**	P	**P**	**04 41 31.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=116,slow=7.9						
NOA	**NORSAR Array B**	**44.80**	**331**	P	**P**	**04 41 31.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=118,slow=7.8,SNR=4.3						
	comp=Z,1.1nm,0.7s						
ESDC	**Sonseca Array**	**49.99**	**300**	P	**P**	**04 42 12.5**	**-0.4**
ESDC	**Sonseca Array**	**49.99**	**300**	P	**P**	**04 42 13.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.4,SNR=6.1						
	comp=Z,0.5nm,0.5s						
EKA	**Eskdalemuir Ar**	**50.14**	**321**	P	**P**	**04 42 13.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=106,slow=7.6,SNR=5.3						
	comp=Z,0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.62**	**265**	P	**P**	**04 42 24.4**	**-1.0**
TORD				IAmb	IAmb	04 42 30.0	
	comp=Z,4.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**51.62**	**265**	P	**P**	**04 42 25.7**	**+0.3**
	comp=Z,4.3nm,0.4s,baz=59,slow=9.1,SNR=4.6						
	comp=Z,4.3nm,0.4s						

*RSPR **22** 04:38:54.4, 19°.55N×64°.65W, h25km±17km, MD3.6/8*
NEIC 22 04:38:52.8±1.3, **19°.4N**±0°.1×**64°.5W**±0°.1, **h35**km±2km, **ML2.3**/13, **Md3.6**/8(RSPR), **4C-7D, Error ellipse: s-maj=23.9km s-min=15.6km az=134.0, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.89**	**234**		Pn	04 39 22.0	-0.7
GCPR					Sn	04 39 44.5	-0.8
GCPR	**Guaynabo City**	**1.89**	**234**	↑*e*P	Pn	04 39 22.0	-0.7
GCPR	**Guaynabo City**	**1.89**	**234**	*e*S	Sn	04 39 44.5	-0.8
PDPR	**Patillas Dam,**	**2.04**	**227**	Pn	Pn	04 39 24.5	-0.1
PDPR				IAML		04 39 51.7	
	comp=E,22nm,0.2s						
PDPR				IAML		04 39 55.4	
	comp=N,19nm,0.2s						
PDPR	**Patillas Dam,**	**2.04**	**227**	↑*e*P	Pn	04 39 24.9	+0.4
PDPR	**Patillas Dam,**	**2.04**	**227**	*e*S	Sn	04 39 48.7	0.0
SJG	**San Juan**	**2.06**	**231**		Pn	04 39 24.9	-0.1
SJG	**San Juan**	**2.06**	**231**	IAML		04 39 57.3	
	comp=N,20nm,0.2s						
SJG				IAML		04 39 58.5	
	comp=N,19nm,0.3s						
SJG	**San Juan**	**2.06**	**231**	↑*e*P	Pn	04 39 24.9	-0.1
SJG	**San Juan**	**2.06**	**231**	*e*S	Sn	04 39 48.6	-0.9
ECPR	**Experimental S**	**2.11**	**239**	↑*i*P	Pn	04 39 25.1	-0.5
ECPR	**Experimental S**	**2.11**	**239**	*e*S	Sn	04 39 49.5	-1.1
IGPR	**InterUniversit**	**2.13**	**227**		Pn	04 39 26.1	+0.2
IGPR					Sn	04 39 50.8	-0.3
IGPR	**InterUniversit**	**2.13**	**227**	↑*e*P	Pn	04 39 26.1	+0.2
IGPR	**InterUniversit**	**2.13**	**227**	*e*S	Sn	04 39 50.8	-0.3
CELP	**Cerrillos**	**2.41**	**236**		Pn	04 39 29.6	-0.2
CELP					Sn	04 39 58.4	+0.3
CELP	**Cerrillos**	**2.41**	**236**	IAML		04 40 07.0	
	comp=E,14nm,2.1s						
CELP	**Cerrillos**	**2.41**	**236**	↓*e*P	Pn	04 39 29.6	-0.2
CELP	**Cerrillos**	**2.41**	**236**	*e*S	Sn	04 39 58.4	+0.3
AOPR	**Arecibo Observ**	**2.42**	**244**		Pn	04 39 29.4	-0.5
AOPR	**Arecibo Observ**	**2.42**	**244**	↓*e*P	Pn	04 39 29.4	-0.5
UUPR	**Utuado, UPR, P**	**2.43**	**242**	Pn	Pn	04 39 29.1	-1.0
UUPR	**Utuado, UPR, P**	**2.43**	**242**	↓*e*P	Pn	04 39 30.5	+0.4
OBIP	**Obispado Ponce**	**2.45**	**236**		Pn	04 39 30.2	-0.1
OBIP					Sn	04 39 59.4	+0.3
OBIP	**Obispado Ponce**	**2.45**	**236**	IAML		04 40 08.0	
	comp=E,17nm,0.5s						
OBIP				IAML		04 40 10.8	
	comp=N,16nm,1.3s						
OBIP	**Obispado Ponce**	**2.45**	**236**	↓*e*P	Pn	04 39 30.2	-0.1
OBIP	**Obispado Ponce**	**2.45**	**236**	*e*S	Sn	04 39 59.4	+0.3
LSP	**Las Mesas**	**2.78**	**244**		Pn	04 39 35.4	+0.6
LSP	**Las Mesas**	**2.78**	**244**	↓*e*P	Pn	04 39 35.4	+0.6
MLPR	**Magueyes Islan**	**2.84**	**240**	↓*e*P	Pn	04 39 35.7	0.0
MLPR	**Magueyes Islan**	**2.84**	**240**	*e*S	Sn	04 40 08.5	-0.2
CRPR	**Cabo Rojo, PR**	**2.88**	**241**		Pn	04 39 38.2	+2.0
CRPR					Sn	04 40 07.9	-1.6
CRPR	**Cabo Rojo, PR**	**2.88**	**241**	↓*e*P	Pn	04 39 38.2	+2.0
CRPR	**Cabo Rojo, PR**	**2.88**	**241**	*e*S	Sn	04 40 07.9	-1.6
DR12	**Loma Pena Alta**	**4.69**	**263**	Pn	Pn	04 40 01.1	0.0

IDC 22 04:49:10.6±5.5, **4°.61S×151°.68E, h0km, mb3.7**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=159.7km s-min=35.2km az=105.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**226**	P	P	04 54 15.3	+0.7
	2.6nm,0.5s,baz=50,slow=9.6,SNR=46						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**25.56**	**220**	P	P	04 54 40.4	-1.0
	0.3nm,0.5s,baz=40,slow=11,SNR=2.4						
	0.3nm,0.5s						
SONM	**Songino Array**	**65.58**	**328**	P	P	04 59 56.5	+0.1
	0.3nm,0.4s,baz=144,slow=5.2,SNR=2.0						
	0.3nm,0.4s						

*GCG **22** 05:10:07.1±1.3, 15°.57N×95°.06W, h36km±999km, MD4.5, ML3.6*
*MEX **22** 05:10:08.8±1.1, 15°.63N×95°.05W, h16km±13km, MD4.2*
*CATAC **22** 05:10:10.4±1.2, 16°.N±4°.×9°.5W±°, h21km±12km, M4.5/4, MLv4.5/4, Error ellipse: s-maj=11.6km s-min=7.2km az=57.0, confirmed*
ISC 22 05:10:04.3±1.3, **15°.72N**±0°.04×**95°.08W**±0°.02, **h10**km±11km, **n43**, σ2§**39**/69, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.95**	**28**	*e*P	**Pn**	**05 10 23.6**	**-0.2**
NILT				*e*S	**Sb**	**05 10 34.7**	**-1.0**
HUIG	**Huatulco**	**0.99**	**273**	*e*P	**Pg**	**05 10 24.7**	**+1.2**
HUIG				*i* S	**Sg**	**05 10 36.8**	**+0.3**
HUIG	**Huatulco**	**0.99**	**273**	*i* P	**Pg**	**05 10 24.6**	**+1.2**
HUIG				IAML		05 10 47.3	
	comp=N,315nm,0.5s						
CMIG	**Matias Romero**	**1.38**	**8**	*e*P	**Pg**	**05 10 30.8**	**-0.1**
CMIG				*e*S	**Sb**	**05 10 47.2**	**-0.8**
PCIG		**1.79**	**90**	*e*P	**Pn**	**05 10 35.9**	**+0.6**
PCIG				*i* S	**Sn**	**05 10 54.1**	**-3.9**
UXUV	**UXUV**	**1.83**	**29**	*i* P	**Pb**	**05 10 37.8**	**-0.1**
UXUV				*i* S	**Sn**	**05 10 59.2**	**+0.2**
PEIG	**Puerto Escondi**	**2.01**	**278**	*e*P	**Pn**	**05 10 39.0**	**+0.6**
PEIG				*i* S	**Sn**	**05 11 00.8**	**-2.8**
OXLC	**Oaxaca**	**2.06**	**311**	*e*P	**Pg**	**05 10 43.8**	**-0.1**
OXLC				*e*S	**Sn**	**05 11 06.6**	**+1.6**
OXBJ	**Oaxaca**	**2.08**	**311**	*e*S	**Sn**	**05 11 04.8**	**-0.6**
VHO	**Vista Hermosa**	**2.08**	**311**	*e*P	**Pn**	**05 10 40.6**	**+1.1**
VHO				*e*S	**Sn**	**05 11 07.3**	**+1.6**
NEUV	**Arroyo Zacate**	**2.10**	**341**	*e*P	**Pb**	**05 10 41.7**	**-0.9**
NEUV				*i* S	**Sb**	**05 11 08.8**	**0.0**
TGIG		**2.15**	**60**	*e*P	**Pn**	**05 10 42.1**	**+1.7**
TGIG				*i* S	**Sn**	**05 11 07.9**	**+0.7**
TGIG		**2.15**	**60**	*e*P	**Pn**	**05 10 42.0**	**+1.6**
TGIG				*e*S	**Sn**	**05 11 08.2**	**+1.0**
TGIG				IAML		05 11 09.8	
	comp=N,636nm,0.5s						
TGBT	**Tuxtla Gutierr**	**2.18**	**61**	*e*P	**Pb**	**05 10 43.4**	**-0.5**
TGBT				*e*S	**Sb**	**05 11 09.3**	**-1.7**
YOIG	**Yosondua**	**2.63**	**296**	*e*P	**Pn**	**05 10 50.1**	**+3.0**
YOIG				*e*S	**Sn**	**05 11 20.1**	**+0.9**
PMUV	**Sontecomapan**	**2.81**	**359**	*e*P	**Pn**	**05 10 49.8**	**+0.3**
PMUV				*i* S	**Sn**	**05 11 19.7**	**-3.8**
CCIG	**Comitan**	**2.88**	**78**	*e*P	**Pn**	**05 10 52.5**	**+1.9**
CCIG				IAML		05 11 35.3	
	comp=N,384nm,0.4s						
CCIG	**Comitan**	**2.88**	**78**	S	**Sn**	**05 11 27.8**	**+2.4**
CCIG	**Comitan**	**2.88**	**78**	P	**Pn**	**05 10 52.5**	**+1.9**
TXIG	**Tlaxiaco**	**3.00**	**301**	*e*P	**Pn**	**05 10 55.6**	**+3.3**
TXIG				*i* S	**Sn**	**05 11 28.2**	**-0.2**
PNIG	**Pinotepa**	**3.01**	**283**	*e*P	**Pn**	**05 10 53.7**	**+1.6**
PNIG				*e*S	**Sn**	**05 11 24.6**	**-3.7**
TOIG	**Toxpalan**	**3.04**	**321**	*e*P	**Pb**	**05 10 58.0**	**-0.6**
TOIG				*i* S	**Sn**	**05 11 31.9**	**+2.8**
HLIG	**Huajuapan de L**	**3.35**	**309**	*e*P	**Pn**	**05 11 00.9**	**+3.9**
HLIG				*i* S	**Sn**	**05 11 38.4**	**+1.4**
TPIG	**Tehuac#an**	**3.46**	**321**	*e*P	**Pb**	**05 11 03.4**	**-2.6**
TPIG				*i* S	**Sn**	**05 11 42.7**	**+3.0**
HUEH	**Huehuetenango**	**3.47**	**96**	P

JAGI	Jajag, Banyuwa	7.70	290	P	Pn	05 12 25.7	+1.6	
JAGI	Jajag, Banyuwa	7.70	290	P	Pn	05 12 24.3	+0.1	
FITZ	Fitzroy Crossi	7.96	150		Pn	05 12 27.7	+0.1	
FITZ	Fitzroy Crossi	7.96	150	Pn	Pn	05 12 27.4	-0.1	
6.7nm,0.3s,baz=344,slow=9.3,SNR=192								
FITZ				Sn	Sn	05 13 50.5	-7.2	
17nm,0.3s,baz=202,slow=19,SNR=12								
19nm,0.4s								
FITZ	Fitzroy Crossi	7.96	150	P	Pn	05 12 27.5	-0.1	
KNRA	Kununurra	8.37	123		Pn	05 12 33.9	+0.6	
DRS	Darwin Rock St	9.31	99	P	Pn	05 12 47.2	+1.0	
MTN	Manton Dam	9.59	101		Pn	05 12 51.0	+1.0	
MBWA	Marble Bar	10.04	189		Pn	05 12 55.5	-0.7	
MBWA	Marble Bar	10.04	189	P	Pn	05 12 55.9	-0.3	
PSA00	Pilbara Seismi	10.43	188		Pn	05 12 59.8	-1.8	
PSA00	Pilbara Seismi	10.43	188	P	Pn	05 13 00.6	-1.0	
GIRL	Giralia	13.32	210	Pn	Pn	05 13 39.7	-1.3	
WB0	Warramunga Arr	15.08	126		Pn	05 14 02.6	-2.5	
WB0				IAmb	IAmb	05 14 18.7		
comp=Z,8.1nm,0.8s								
WRA	Warramunga Arr	15.13	127		Pn	05 14 04.0	-1.8	
WRA	Warramunga Arr	15.13	127	Pn	Pn	05 14 03.0	-2.8	
comp=Z,1.0nm,0.3s,baz=297,slow=13,SNR=34								
WRA				Sn	Sn	05 16 39.0	-15	
comp=Z,1.9nm,0.3s,baz=307,slow=25,SNR=12								
comp=Z,3.7nm,0.5s								
WRAB	Tennant Creek	15.14	127		Pn	05 14 03.5	-2.4	
WR8	Warramunga Arr	15.27	126		Pn	05 14 05.2	-2.3	
WR8				IAmb	IAmb	05 14 27.4		
comp=Z,12nm,0.9s								
MEEK	Meekatharra	15.59	190	P	Pn	05 14 10.4	-1.4	
AS31	Alice Springs	17.14	138		Pn	05 14 30.5	-1.1	
ASAR	Alice Springs	17.14	138	Pn	Pn	05 14 31.7	0.0	
ASAR	Alice Springs	17.14	138	P	Pn	05 14 30.2	-1.4	
comp=Z,1.0nm,0.3s,baz=314,slow=12,SNR=111								
ASAR				S	Sn	05 17 29.2	-13	
comp=Z,6.6nm,0.8s,baz=312,slow=24,SNR=8.7								
comp=Z,6.3nm,0.6s								
MORW	Morawa	18.49	195		P	05 14 47.8	-0.2	
MORW				IAmb	IAmb	05 14 49.4		
comp=Z,18nm,0.6s								
MORW	Morawa	18.49	195	P	P	05 14 47.6	-0.5	
FORT	Forrest	20.42	164	P	Pn	05 15 11.0	-0.3	
FORT				IAmb	IAmb	05 15 23.5		
comp=Z,8.8nm,0.7s								
NWAO	Narrogin (SRO)	21.98	190	P	P	05 15 25.7	-0.2	
NWAO				IAmb	IAmb	05 15 34.6		
comp=Z,13nm,0.8s								
NWAO	Narrogin (SRO)	21.98	190	P	P	05 15 27.0	+1.1	
comp=Z,5.4nm,0.7s,baz=63,slow=6.8,SNR=2.3								
NWAO				S	S	05 19 17.6	-11	
comp=Z,5.2nm,0.4s,baz=144,slow=8.8,SNR=4.2								
comp=Z,5.4nm,0.7s								
BBOO	Buckleboo	25.35	150		P	05 16 00.1	+1.1	
STKA	Stephens Creek	27.72	141	P	P	05 16 20.8	+0.3	
comp=Z,0.6nm,0.3s,baz=324,slow=14,SNR=1.8								
comp=Z,0.6nm,0.3s								
CMAR	Chiang Mai Arr	36.91	323	P	P	05 17 41.6	+0.6	
comp=Z,0.8nm,0.3s,baz=143,slow=8.7,SNR=4.7								
comp=Z,0.8nm,0.3s								
H08S2	Diego Garcia H	48.40	270	T	T	06 11 11.3		
baz=98,slow=75,SNR=21								
H08S3	Diego Garcia H	48.42	270	T	T	06 11 13.2		
baz=98,slow=75,SNR=37								
H08S1	Diego Carcia H	48.42	270	T	T	06 11 13.0		
baz=98,slow=75,SNR=5.2								
KSRS	Korea Array	48.77	7	P	P	05 19 15.1	-1.8	
comp=Z,1.6nm,0.8s,baz=184,slow=7.7,SNR=4.8								
comp=Z,1.6nm,0.8s								
MJAR	Matsushiro Arr	50.03	18	IAmb	IAmb	05 19 47.4		
comp=Z,5.8nm,1.2s								
MJAR	Matsushiro Arr	50.03	18	P	P	05 19 25.9	-0.8	
comp=Z,2.3nm,0.7s,baz=184,slow=8.5,SNR=4.6								
comp=Z,2.3nm,0.7s								
EVN	Everest	51.39	320	P	P	05 19 36.8	-1.0	
USRK	Ussuriysk Ar.	55.96	9	P	P	05 20 11.9	+1.8	
comp=Z,1.3nm,0.4s,baz=112,slow=6.5,SNR=4.3								
SONM	Songino Array	60.28	348	IAmb	IAmb	05 20 53.3		
comp=Z,3.2nm,1.2s								
SONM	Songino Array	60.28	348	P	P	05 20 39.8	-0.7	
comp=Z,0.6nm,0.5s,baz=128,slow=47,SNR=2.6								
comp=Z,0.6nm,0.5s								
MKAR	Makanchi Array	67.52	332	P	P	05 21 27.6	-0.6	
MKAR	Makanchi Array	67.52	332	P	P	05 21 28.2	0.0	
comp=Z,2.5nm,0.7s,baz=145,slow=7.5,SNR=20								
comp=Z,2.5nm,0.7s								
H04N2	CROZET ISLANDS	67.93	225	T	T	06 35 59.9		
baz=82,slow=76,SNR=13								
H04N1	CROZET ISLANDS	67.95	225	T	T	06 36 02.4		
baz=82,slow=76,SNR=11								
H04N3	CROZET ISLANDS	67.95	225	T	T	06 35 58.7		
baz=82,slow=76,SNR=8.8								
VNDA	Vanda	69.46	171	IAmb	IAmb	05 22 09.5		
comp=Z,3.7nm,1.4s								
VNDA	Vanda	69.46	171	P	P	05 21 41.4	+1.6	
comp=Z,0.5nm,0.7s,baz=296,slow=8.4,SNR=1.7								
comp=Z,0.5nm,0.7s								
ZALV	Zalesovo Beam	71.96	338	P	P	05 21 54.1	-1.2	
comp=Z,1.5nm,0.3s,baz=136,slow=6.1,SNR=5.2								
comp=Z,1.5nm,0.3s								
KURBB	Kurchatov Arra	72.01	333	P	P	05 21 54.7	-1.0	
comp=Z,0.9nm,0.7s,baz=148,slow=5.5,SNR=11								
comp=Z,0.9nm,0.7s								
KURK	Kurchatov	72.04	333	P	P	05 21 54.7	-1.1	
KURK	Kurchatov	72.04	333	IAmb	IAmb	05 21 59.1		
comp=Z,2.0nm,0.8s								
QSPA	South Pole Qui	78.81	180	P	P	05 22 36.5	+1.8	
QSPA	South Pole Qui	78.81	180	P	P	05 22 38.8	+4.1	
comp=Z,2.6nm,1.0s,baz=326,slow=1.1,SNR=13								
AB31	Akbulak array	80.75	324	P	P	05 22 45.5	+0.2	
ABKAR	Akbulak array	80.75	324	P	P	05 22 45.4	+0.1	
SNAA	Sanae	89.54	195	IAmb	IAmb	05 23 32.2		
comp=Z,2.4nm,1.0s								
SNAA	Sanae	89.54	195	P	P	05 23 31.0	+1.8	
comp=Z,1.3nm,0.9s,baz=70,slow=6.4,SNR=4.9								
comp=Z,1.3nm,0.9s								
ILAR	Eielson Array	100.74	26	P	Pdif	05 24 19.4	-0.8	
comp=Z,0.2nm,0.6s,baz=252,slow=5.6,SNR=5.0								
TORD	Torodi Ar. Bea	121.22	279	PKP	PKiKP	05 29 26.2	+0.1	
comp=Z,0.6nm,0.6s,baz=31,slow=5.1,SNR=4.0								
LPAZ	La Paz	151.09	161	PKPdf	PKPdf	05 30 18.3	-2.9	
LPAZ	La Paz	151.09	161	PKPbc	PKiKP	05 30 28.4	+0.9	
comp=Z,1.0nm,0.7s,baz=131,slow=5.6,SNR=3.7								
LPAZ				PKPab	PKPab	05 30 36.8	+2.5	
comp=Z,1.6nm,0.6s,baz=37,slow=2.1,SNR=6.4								

ROM ***22*** *05:12:28.2±0.2, 44°.523N×0°.008×6°.75E±0°.01, h8km±1km, ML1.1/10, Error ellipse: s-maj=1.1km s-min=0.5km az=218.0*
GEN ***22*** *05:12:28.7, 44°.53N×6°.80E, h3km, Ml0.9*
LDG ***22*** *05:12:29.1±0.1, 44°.54N×6°.77E, h2km, Md2.1/2, Ml2.1/9, Error ellipse: s-maj=1.3km s-min=0.9km az=58.0*
STR 22 05:12:29.1±0.2, 45°N±2°×°±°, h5km, MLv1.6/24, 1C, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.06	137	P	Pg	05 12 30.6	-0.1
SURF				S	Sg	05 12 31.7	-0.1
SURF	Saint Ours	0.06	137	Pg	Pg	05 12 30.6	-0.1
SURF				Sg	Sg	05 12 31.7	-0.1
CREF	Crivoux	0.10	285	Pg	Pg	05 12 30.8	-0.5
OGAG	Argentiere	0.17	246	Pg	Pg	05 12 34.9	+2.4
OGAG				Sg	Sg	05 12 39.8	+5.0
MBDF	Montbardon	0.20	3	*e*Pg	Pg	05 12 32.9	-0.3
MBDF				*e*Sg	Sg	05 12 35.9	0.0
15nm,0.2s							
PZZ	Stroppo	0.26	93	P	Pg	05 12 34.2	0.0
PZZ				S	Sg	05 12 38.1	+0.6
PZZ	Stroppo	0.26	93	⇑P	Pg	05 12 34.2	0.0
PZZ				S	Sg	05 12 38.4	+0.8
PZZ				AML	AML		
comp=E,266μm,0.3s							
PZZ				AML	AML		
comp=N,298μm,0.4s							
PZZ				AML	AML		
comp=E,266μm,0.3s							
PZZ				AML	AML		
comp=N,245μm,0.2s							
PZZ	Stroppo	0.26	93	Pg	Pg	05 12 34.1	-0.1
PZZ				Sg	Sg	05 12 38.2	+0.6
ISO	Isola	0.40	148	P	Pg	05 12 37.1	+0.2
ISO				S	Sg	05 12 42.3	+0.3

ISO	Isola	0.40	148	Pg	Pg	05 12 36.5	-0.3
ISO				Sg	Sg	05 12 41.8	-0.2
RRL	Rocca Remolon	0.40	3	P	Pg	05 12 36.8	-0.1
RRL				S	Sg	05 12 43.2	+1.0
RRL	Rocca Remolon	0.40	3	P	Pg	05 12 36.8	-0.1
RRL				S	Sg	05 12 42.8	+0.6
RRL				AML	AML		
comp=E,32μm,0.2s							
RRL				AML	AML		
comp=N,26μm,0.3s							
RRL	Rocca Remolon	0.40	3	Pg	Pg	05 12 36.7	-0.2
RRL				Sg	Sg	05 12 42.8	+0.6
ENAUX	Enaux	0.41	178	Pg	Pg	05 12 37.4	+0.3
BHB	Bricherasio	0.48	48	P	Pg	05 12 38.3	-0.1
BHB				S	Sg	05 12 45.1	+0.5
BHB	Bricherasio	0.48	48	P	Pg	05 12 38.3	-0.1
BHB				S	Sg	05 12 45.4	+0.7
BHB				AML	AML		
comp=E,28μm,0.1s							
BHB				AML	AML		
comp=N,34μm,0.3s							
BHB	Bricherasio	0.48	48	Pg	Pg	05 12 38.2	-0.2
BHB				Sg	Sg	05 12 45.3	+0.6
STV	Sant Anna di V	0.49	124	P	Pg	05 12 38.5	0.0
STV				S	Sg	05 12 45.4	+0.4
STV	Sant Anna di V	0.49	124	P	Pg	05 12 38.5	0.0
STV				S	Sg	05 12 45.4	+0.4
STV				AML	AML		
comp=E,20μm,0.1s							
STV				AML	AML		
comp=N,18μm,0.1s							
STV	Sant Anna di V	0.49	124	Pg	Pg	05 12 38.6	0.0
STV				Sg	Sg	05 12 45.4	+0.4
ENR	Entracque	0.56	122	P	Pg	05 12 39.8	-0.1
ENR	Entracque	0.56	122	P	Pg	05 12 39.8	-0.1
ENR				AML	AML		
comp=E,26μm,0.2s							
ENR				AML	AML		
comp=N,35μm,0.1s							
ENR	Entracque	0.56	122	Pg	Pg	05 12 39.7	-0.2
ENR				Sg	Sg	05 12 48.0	+0.8
SPIF	crte de Spivo	0.58	143	Pg	Pg	05 12 40.0	-0.3
SPIF				Sg	Sg	05 12 47.6	-0.2
SALSA	La sagne	0.64	184	Pg	Pg	05 12 42.0	+0.5
MVIF	Mont Vial	0.69	155	P	Pb	05 12 43.1	-0.5
MVIF				S	Sb	05 12 53.1	-0.5
MVIF	Mont Vial	0.69	155	Pg	Pg	05 12 42.2	-0.1
MVIF				Sg	Sg	05 12 52.2	+1.0
TURF	col de Turini	0.71	140	P	Pg	05 12 43.2	+0.4
TURF				S	Sb	05 12 53.3	-1.0
TURF	col de Turini	0.71	140	Pg	Pg	05 12 42.6	-0.2
TURF				Sg	Sg	05 12 52.7	+0.7
RSP	Reno Superiore	0.72	30	P	Pg	05 12 42.8	-0.2
RSP				S	Sg	05 12 54.4	0.0
RSP	Reno Superiore	0.72	30	P	Pg	05 12 42.9	-0.1
RSP				S	Sb	05 12 53.5	-1.1
RSP	Reno Superiore	0.72	30	Pg	Pg	05 12 42.9	-0.1
RSP				Sg	Sg	05 12 52.9	+0.5
ORIF	Oris-en-Rattie	0.74	303	*e*Pg	Pg	05 12 42.5	-0.8
ORIF				*e*Sg	Sg	05 12 52.4	-0.5
comp=N,5.6nm,0.2s							
ORIF	Oris-en-Rattie	0.74	303	P	Pg	05 12 42.6	-0.7
ORIF				S	Sg	05 12 52.4	-0.5
CALF	Calern	0.78	171	Pg	Pg	05 12 43.7	-0.3
CALF				Sg	Sb	05 12 55.3	-0.8
SAOF	Saorge	0.79	133	P	Pg	05 12 44.4	+0.3
SAOF				S	Sg	05 12 55.2	+0.8
SAOF	Saorge	0.79	133	P	Pg	05 12 43.9	-0.3
SAOF	Saorge	0.79	133	Pg	Pg	05 12 43.8	-0.4
SAOF				Sg	Sg	05 12 54.4	0.0
TRIGF	Trigance	0.81	198	Pg	Pg	05 12 44.7	0.0
SBF	Sospel	0.82	143	*e*Pg	Pg	05 12 44.5	-0.3
SBF				*e*Sg	Sg	05 12 56.1	+0.6
comp=N,3.8nm,0.2s							
ESCA	l'Escarene	0.82	147	P	Pg	05 12 44.6	-0.3
ESCA				S	Sg	05 12 55.7	+0.2
ESCA	l'Escarene	0.82	147	Pg	Pg	05 12 44.6	-0.3
ESCA				Sg	Sg	05 12 55.8	+0.3
GBOS	Grotte di Boss	0.83	110	P	Pg	05 12 44.5	-0.4
GBOS				S	Sg	05 12 55.5	-0.1
GBOS	Grotte di Boss	0.83	110	Pg	Pg	05 12 44.6	-0.4
MGRO	Montegrosso	0.90	122	Pg	Pg	05 12 46.1	-0.2
MON	Monaco	0.93	149	Pg	Pg	05 12 46.7	-0.2
LPG	La Plagne	0.97	360	*e*Pg	Pb	05 12 48.3	-0.4
LPG				*e*Sg	Sg	05 13 00.0	-0.5
comp=N,2.0nm,0.2s							
LPL	La Plagne	0.99	359	*e*Pg	Pg	05 12 48.5	+0.3
LPL				*e*Sg	Sg	05 13 00.9	-0.2
comp=N,1.6nm,0.2s							
SMRF	Simiane la Rot	1.01	238	*e*Pg	Pb	05 12 49.4	+0.3
SMRF				*e*Sg	Sb	05 13 02.5	-0.2
comp=N,2.8nm,0.2s							
GRN	Grenoble	1.02	315	Pg	Pg	05 12 48.5	-0.1
GRN				Sg	Sb	05 13 02.6	-0.4
RORO	Rocca Rossa	1.02	113	Pg	Pg	05 12 47.9	-0.8
RUSF	Rustrel	1.08	238	Pg	Pn	05 12 50.8	-0.2
CANO	Canova, Maglio	1.11	106	Pg	Pg	05 12 49.5	-0.8
ARTF	Artigues	1.16	217	Pg	Pn	05 12 52.1	+0.1
LMR	La Mourre	1.20	189	*e*Pg	Pg	05 12 51.2	-0.9
LMR				*e*Sg	Sg	05 13 07.8	+0.1
comp=N,8.6nm,0.4s							
PCP	Piancastagn	1.28	89	Pn	Pg	05 12 52.5	-1.1
OGSM	Saint Maurice	1.32	326	Pn	Pb	05 12 54.4	0.0
VIVF	Saint-Julien-l	1.52	283	*e*Pn	Pn	05 12 55.8	-1.2
VIVF	Saint-Julien-l	1.52	283	*e*Pg	Pg	05 12 58.1	-0.2
VIVF				*e*Sg	Sn	05 13 16.6	-0.7
comp=N,1.2nm,0.2s							
PGF	Pioggiola	2.56	140	*e*Pn	Pn	05 13 10.7	-0.6
PGF				*e*Sn	Sn	05 13 40.8	-2.1
comp=N,0.8nm,0.2s							

KRNET ***22*** *05:49:06.2±0.1, 41°.02N×73°.19E, h24km, mb3.3*
SOME ***22*** *05:49:07.8, 41°.20N×73°.25E, h10km*
ISU ***22*** *05:49:07, 41°.11N×73°.19E, h22km*
NNC ***22*** *05:49:08.3±1.7, 41°.19N×73°.28E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=13.7km s-min=6.5km az=166.0*
KNET ***22*** *05:49:08.8±0.4, 41°.24N×73°.25E, h15km±2km, ml2.7, Error ellipse: s-maj=4.3km s-min=3.2km az=101.0*
ISC 22 05:49:06.9±1.2, 41°.04N±0°.03×73°.34E±0°.02, h22km±5km, n52, σ1°82/81, 28C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.39	316	⇓*e*P	Pb	05 49 13.5	-1.7
ARSB				⇓*e*S	Sb	05 49 18.6	-2.3
SALK	Salom-Alik	0.40	114	⇑*e*P	Pn	05 49 16.3	-1.2
SALK				⇑*e*S	Sn	05 49 23.4	-1.0
OHH	Osh	0.67	219	⇑*e*P	Pb	05 49 17.7	-2.3
OHH				⇑*e*S	Sb	05 49 25.8	-3.1
TSTA	Tashata	0.80	235	P	Pn	05 49 22.0	-1.0
TSTA				S	Sb	05 49 33.0	+0.3
ARK	Arkit	1.28	306	⇑*e*P	Pb	05 49 28.7	-1.7
ARK				⇑*e*S	Sb	05 49 44.7	-1.8
FRG	Fergana	1.36	241	P	Pb	05 49 32.8	+1.1
FRG				S	Sb	05 49 51.1	+2.5
KSNS	Kasansay	1.38	275	P	Pb	05 49 34.9	+2.8
KSNS				S	Sb	05 49 53.1	+3.8
UCH	Uchtor	1.47	36	⇓P	Pb	05 49 34.1	+0.2
4.6nm,0.1s,SNR=6.8							
UCH				⇓S	Sb	05 49 54.3	+2.0
51nm,0.4s							
CHMI	Chimion	1.59	241	P	Pb	05 49 35.9	+0.4
CHMI				S	Sb	05 49 57.1	+2.0
EKS2	Erkin-Say	1.65	11	⇓P	Pb	05 49 36.3	-0.4
7.3nm,0.1s,SNR=31							
EKS2				⇓S	Sb	05 49 57.2	+0.1
22nm,0.2s							
EKS2	Erkin-Say	1.65	11	⇑*e*P	Pb	05 49 36.8	+0.1
EKS2				⇑*e*S	Sb	05 49 59.0	+1.9
MRKS	Merke	1.70	357	P	Pb	05 49 37.4	-0.2
32nm,0.3s							
MRKS				S	Sb	05 49 59.4	+0.8
65nm,0.2s							
MRKS	Merke	1.70	357	*e*P	Pb	05 49 37.4	-0.2
24nm,0.2s							
MRKS				*e*S	Sb	05 49 59.2	+0.5
132nm,0.3s							
TRKS	Terek-Say	1.73	287	⇑*e*P	Pn	05 49 35.0	-0.8
TRKS				⇑*e*S	Sn	05 49 55.9	-1.4
JNKS	Jany-Kuch	1.75	89	⇓*e*P	Pb	05 49 39.2	+0.8
JNKS				⇓*e*S	Sb	05 50 03.3	+3.3

AAK	Ala-Archa	1.81	28	⇑P	Pb	05 49 40.0	+0.6
12nm,0.2s,SNR=17							
AAK				⇓S	Sb	05 50 03.7	+1.9
54nm,0.3s							
AAK	Ala-Archa	1.81	28	⇓P	Pb	05 49 39.8	+0.3
7.8nm,0.5s							
AAK				⇑S	Sb	05 50 03.1	+1.3
14nm,0.5s							
AAK	Ala-Archa	1.81	28	⇑*e*P	Pb	05 49 39.5	0.0
AAK				⇑*e*S	Sb	05 50 03.7	+1.9
MINT	Mingtut	1.89	253	S	Sb	05 50 07.8	+3.9
CHDK	Chadak	1.96	269	P	Pb	05 49 42.3	+0.3
CHDK				S	Sb	05 50 07.6	+1.6
KBK	Karagaybulak	2.01	36	⇑P	Pb	05 49 44.0	+1.1
18nm,0.2s							
KBK				⇑S	Sb	05 50 10.2	+2.7
152nm,0.3s							
KBK	Karagaybulak	2.01	36	⇑*e*P	Pb	05 49 42.4	-0.5
KBK				⇑*e*S	Sb	05 50 08.7	+1.2
FRU1	Bishkek	2.01	28	⇓*e*P	Pb	05 49 42.4	-0.4
FRU1				⇑*e*S	Sb	05 50 08.7	+1.3
CHMS	Chumysh	2.22	28	⇓P	Pb	05 49 46.6	+0.2
7.9nm,0.2s,SNR=8.1							
CHMS	Chumysh	2.22	28	⇓*e*P	Pb	05 49 45.1	-1.2
CHMS				⇓*e*S	Sb	05 50 13.2	-0.2
USP	Ospenovka	2.38	21	⇓P	Pb	05 49 47.9	-1.2
10nm,0.3s,SNR=10							
USP				⇓S	Sb	05 50 18.6	+0.5
43nm,0.3s							
USP	Ospenovka	2.38	21	⇓*e*P	Pb	05 49 47.1	-2.0
USP				⇓*e*S	Sb	05 50 16.8	-1.3
BOOM	Boomskoye usch	2.42	52	⇓*e*P	Pb	05 49 48.4	-1.5
BOOM				⇓*e*S	Sb	05 50 19.1	-0.3
ULHL	Ulahol	2.48	60	⇑*e*P	Pb	05 49 49.5	-1.4
ULHL				⇑*e*S	Sb	05 50 20.8	-0.3
TKM2	Tokmak 2	2.52	41	⇑P	Pb	05 49 50.7	-0.8
7.4nm,0.2s,SNR=12							
TKM2				⇑S	Sb	05 50 24.0	+1.8
54nm,0.6s							
TKM2	Tokmak 2	2.52	41	⇑*e*P	Pb	05 49 49.7	-1.9
TKM2				⇑*e*S	Sb	05 50 21.1	-1.1
CHRV	Charvak	2.62	284	S	Sb	05 50 27.5	+2.5
IUG	Iuzhnay	2.72	295	Pg	Pb	05 49 55.2	+0.3
26nm,0.3s							
IUG				Lg	Lg	05 50 29.4	
67nm,0.3s							
KST	Kastek	2.79	43	Pg	Pb	05 49 57.4	+1.2
4.1nm,0.3s							
KST				Lg	Lg	05 50 33.2	
21nm,0.4s							
KST	Kastek	2.79	43	*e*P	Pb	05 49 57.4	+1.2
3.3nm,0.3s							
KST				*e*S	Sb	05 50 33.2	+3.2
28nm,0.5s							
KK31	Karatay Array	2.95	315	Pg	Pb	05 49 59.1	+0.4
1.6nm,0.3s,baz=127,slow=17,SNR=11							
KK31				Lg	Lg	05 50 35.2	
7.1nm,0.3s,baz=126,slow=29,SNR=14							
KDJ	Kajisay	3.08	68	⇓*e*P	Pb	05 49 57.8	-3.2
KDJ				⇓*e*S	Sb	05 50 35.4	-2.8
GAR	Garm	3.09	230	⇑*e*P	Pn	05 49 54.9	+0.4
GAR				⇑*e*S	Sn	05 50 30.1	-0.8
MTBS	Maitube	3.10	47	Pg	Pb	05 50 02.3	+0.8
3.0nm,0.2s							
MTBS				Lg	Lg	05 50 42.0	
26nm,0.3s							
MTBS	Maitube	3.10	47	*e*P	Pb	05 50 02.3	+0.8
1.1nm,0.1s							
MTBS				*e*S	Sb	05 50 42.0	+3.1
26nm,0.3s							
BRLS	Borolday	3.28	308	Pg	Pb	05 50 04.5	+0.1
4.0nm,0.4s							
BRLS				Lg	Lg	05 50 45.5	
18nm,0.3s							
BRLS	Borolday	3.28	308	*e*P	Pb	05 50 04.7	+0.3
3.1nm,0.2s							
BRLS				*e*S	Sb	05 50 45.8	+1.9
12nm,0.4s							
TNSS	Tian-Shan	3.34	52	*e*P	Pb	05 50 08.3	+2.6
0.3nm,0.2s							
TNSS				*e*S	Sb	05 50 52.0	+5.9
3.1nm,0.2s							
MDOK	Medeo	3.48	51	Pg	Pb	05 50 10.2	+2.3
3.5nm,0.2s							
MDOK				Lg	Lg	05 50 55.5	
12nm,0.7s							
KUU	Kurty	3.61	37	Pg	Pb	05 50 04.5	-5.5
4.9nm,0.0s							
KUU				Lg	Lg	05 50 45.7	
44nm,0.4s							
KTBS	Karatobe	3.64	42	Pg	Pb	05 50 13.6	+3.1
3.0nm,0.4s							
KTBS				Lg	Lg	05 51 00.7	
24nm,0.5s							
CHKK	Chushkaly	3.89	43	Pg	Pb	05 50 17.5	+2.7
3.3nm,0.2s							
CHKK				Lg	Lg	05 51 07.7	
22nm,0.3s							
CHKK	Chushkaly	3.89	43	*e*P	Pb	05 50 18.6	+3.7
1.9nm,0.1s							
CHKK				*e*S	Sb	05 51 09.5	+7.9
26nm,0.3s							
CHGR	Chuyangaron	4.01	235	⇓*e*P	Pn	05 50 07.4	+0.3
CHGR				⇓*e*S	Sn	05 50 51.9	-1.5
ARXS	Arharly	4.58

comp=E,3μm,0.3s
JNK Nakash 0.90 320 ⇓iP Pn 05 51 44.5 -0.4
JNK ⇓S Sn 05 51 56.0 -0.8
JNSB Nemuroshibetsu 0.95 337 ⇓iP Pn 05 51 45.5 -0.1
JNSB ⇓eS Sn 05 51 58.1 +0.1
JRA Rausu 1.08 344 ⇓iP Pn 05 51 47.3 -0.1
JRA ⇓S Sn 05 52 01.7 +0.7
YUK Yuzh-Kuril'sk 1.16 12c iPN Pn 05 51 48.3 -0.2
YUK iS Sn 05 52 02.5 -0.6
YUK pmax pmax
comp=N,398nm,0.2s
YUK pmax pmax
comp=Z,1μm,0.2s
YUK smax smax
comp=E,2μm,0.1s
YUK smax smax
comp=N,5μm,0.3s
YUK Yuzh-Kuril'sk 1.16 12 iP Pn 05 51 47.9 -0.6
YUK AMB AMB 05 51 48.6
comp=N,1μm,0.3s
YUK iS Sn 05 52 02.8 -0.3
YUK A A 05 52 03.6
comp=N,2μm,0.3s
YUK A A 05 52 03.6
comp=N,4μm,0.3s
RUSJ Misakicho 1.22 351 ⇓iPN Pn 05 51 49.7 +0.4
RUSJ iS Sn 05 52 06.0 +1.4
JOB Onbets 1.24 271 ⇓iP Pn 05 51 48.8 -0.8
JAR Ashorobuto 1.34 288 ⇓iP Pn 05 51 50.5 -0.4
JAR ⇓S Sn 05 52 07.5 -0.1
JCH Churui 1.62 261 P Pn 05 51 53.8 -0.9
ERM Erimo 1.96 244 Pn 05 52 01.2 +1.8
ERM Erimo 1.96 244 PN **Pn 05 52 01.2 +1.8**
JKA Kamikawa-asahi 2.45 301 Pn 05 52 07.5 +1.4
ASAJ Asahikawa 2.45 301 P **Pn 05 52 07.9 +1.7**
comp=N,64nm,0.4s,baz=112,slow=9.0,SNR=37
ASAJ S **Sn 05 52 40.8 +5.9**
comp=N,137nm,0.7s,baz=8.8,slow=30,SNR=11
KUR Kuril'sk 2.88 35 ePN **Pn 05 52 14.4 +2.3**
KUR eS **Sn 05 52 47.9 +2.5**
KUR pmax pmax
comp=Z,51nm,0.3s
KUR smax smax
comp=N,199nm,0.5s
KUR smax smax
comp=E,121nm,0.4s
KUR Kuril'sk 2.88 35 eP **Pn 05 52 12.4 +0.3**
KUR AMB AMB 05 52 17.2
comp=E,50nm,0.3s
KUR eS **Sn 05 52 45.0 -0.4**
KUR A A 05 52 53.0
comp=E,230nm,0.3s
KUR A A 05 52 53.0
comp=E,180nm,0.3s
JTM Tenmabayashi 3.94 239 Pn 05 52 27.2 +0.5
YSS Yuzhno-Sakhali 4.51 335 eP **Pn 05 52 35.0 +0.6**
JMM Marumori 6.19 217 Pn **Pn 05 52 55.4 -2.1**
MJA0 Matsu Arr-Jizo 8.47 224 ePN Pn 05 53 38.6 +10
MJA0 pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 8.49 224 P **Pn 05 53 27.4 -1.7**
comp=Z,1.4nm,0.6s,baz=27,slow=13,SNR=4.0
SONM Songino Array 27.72 294 IAmb IAmb 05 57 13.5
comp=Z,1.6nm,0.9s
SONM Songino Array 27.72 294 P **P 05 57 12.9 -0.5**
comp=Z,1.7nm,0.7s,baz=87,slow=9.0,SNR=6.3
comp=Z,1.7nm,0.7s
SONM Songino Array 27.72 294 eP **P 05 57 13.3 -0.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.28 135 T T 06 28 19.9
baz=328,slow=75,SNR=463
H11N1 WAKE ISLAND Hy 29.29 135 T T 06 28 21.6
baz=328,slow=75,SNR=275
H11N3 WAKE ISLAND Hy 29.30 135 T T 06 28 21.3
baz=328,slow=75,SNR=317
H11S1 WAKE ISLAND Hy 30.21 137 T T 06 29 29.9
baz=329,slow=76,SNR=448
H11S3 WAKE ISLAND Hy 30.21 137 T T 06 29 28.0
baz=329,slow=76,SNR=365
H11S2 WAKE ISLAND Hy 30.23 137 T T 06 29 35.8
baz=329,slow=76,SNR=276
G18K Tagagawik 38.01 33 P **P 05 58 42.3 -0.4**
G18K IAmb IAmb 05 59 15.3
comp=Z,6.9nm,1.2s
H18K Honhosa River 38.02 35 P **P 05 58 42.8 0.0**
H18K IAmb IAmb 05 59 16.9
comp=Z,12nm,1.4s
H19K Roundabout Mou 38.86 34 P **P 05 58 50.8 +1.0**
H19K IAmb IAmb 05 59 27.7
comp=Z,6.0nm,1.2s
D20K Etivluk River 39.27 29 P **P 05 58 53.1 -0.1**
D20K IAmb IAmb 05 59 29.2
comp=Z,10nm,1.4s
B20K Meade River 39.34 27 P **P 05 58 53.7 -0.1**
K20K Telida 39.73 38 P **P 05 58 56.3 -0.9**
K20K IAmb IAmb 05 59 00.0
comp=Z,7.1nm,1.4s
BPAW Bear Paw Mtn. 41.12 37 P **P 05 59 08.9 +0.3**
BPAW IAmb IAmb 05 59 22.8
comp=Z,5.6nm,1.4s
E24K Your Creek 42.19 31 P **P 05 59 18.0 +0.6**
E24K IAmb IAmb 05 59 56.0
comp=Z,5.5nm,1.1s
ILAR Eielson Array 42.87 36 P **P 05 59 23.1 +0.2**
comp=Z,0.3nm,0.8s,baz=276,slow=5.5,SNR=4.1
comp=Z,0.3nm,0.8s
MKAR Makanchi Array 43.93 298 P **P 05 59 31.2 -0.5**
comp=Z,0.8nm,0.5s,baz=78,slow=9.4,SNR=9.2
comp=Z,0.8nm,0.5s
C27K Jago River 43.94 28 P **P 05 59 31.7 +0.3**
H27K Steamboat Moun 44.98 33 P **P 05 59 41.5 +1.7**
H27K IAmb IAmb 06 00 01.8
comp=Z,4.5nm,1.3s
KURK Kurchatov 45.02 304 P **P 05 59 40.3 0.0**
KURK Kurchatov 45.02 304 IAmb IAmb 05 59 40.7
comp=Z,1.4nm,0.7s
KURK Kurchatov 45.02 304 P **P 05 59 40.3 0.0**
KURK Kurchatov 45.02 304 eP **P 05 59 40.3 0.0**
KURBB Kurchatov Arra 45.11 304 P **P 05 59 40.3 -0.6**
comp=Z,1.3nm,0.8s,baz=72,slow=9.0,SNR=8.2
comp=Z,1.3nm,0.8s
BCAR Beaver Creek A 45.30 38 P **P 05 59 43.7 +1.3**
I28M Miner Creek 45.73 34 P **P 05 59 47.2 +1.4**
G31M Satah River 47.73 32 P **P 06 00 01.9 +0.7**
INK Inuvik 47.73 30 P **P 06 00 01.5 +0.2**
INK IAmb IAmb 06 00 21.2
comp=Z,10nm,1.4s
INK Inuvik 47.73 30 P **P 06 00 01.5 +0.2**
INK pmax pmax
comp=Z,10.0nm,1.4s
H31M Peel River 47.94 33 P **P 06 00 04.3 +1.3**
H31M IAmb IAmb 06 00 30.3
comp=Z,7.9nm,1.4s
AB31 Akbulak array 56.67 309 P **P 06 01 07.6 -0.3**
ABKAR Akbulak array 56.67 309 P **P 06 01 07.7 -0.2**
FIA1 FINESS Array S 65.09 333 P **P 06 02 04.0 -0.8**
FINES FINESS Array B 65.09 333 P **P 06 02 04.5 -0.4**
comp=Z,3.3nm,0.5s,baz=45,slow=7.9,SNR=26
comp=Z,3.3nm,0.5s
NVAR Mina Array Bea 69.04 57 P **P 06 02 32.0 +1.3**
comp=Z,0.3nm,0.7s,baz=318,slow=5.2,SNR=3.0
comp=Z,0.3nm,0.7s
NOA NORSAR Array B 69.96 338 P **P 06 02 35.1 -0.6**
comp=Z,0.6nm,0.6s,baz=37,slow=4.4,SNR=3.9
comp=Z,0.6nm,0.6s
HFS Hagfors 70.01 337 P **P 06 02 35.3 -0.7**
comp=Z,1.1nm,0.3s,baz=43,slow=8.9,SNR=10
comp=Z,1.1nm,0.3s
AKASG Malin Array Be 71.55 323 IAmb IAmb 06 02 45.8
comp=Z,2.8nm,1.2s
AKASG Malin Array Be 71.55 323 P **P 06 02 44.5 -1.0**
comp=Z,1.0nm,0.4s,baz=42,slow=6.0,SNR=8.2
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.55 323 eP **P 06 02 44.7 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
H03N2 Juan Fernandez 144.15 90 T T 08 52 15.4
baz=301,slow=77,SNR=21
H03N3 Juan Fernandez 144.17 90 T T 08 52 15.0
baz=301,slow=77,SNR=17
H03N1 Juan Fernandez 144.17 90 T T 08 52 08.7
baz=301,slow=77,SNR=18

PRU 22 06:02:51.3, 51.°44N×16.°20E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	06 03 02.2	-0.5
KSP				*e*Sg	Sg	06 03 10.9	+0.4
CHVC	**Chvalec**	**0.86**	**186**	*e*PG	Pg	06 03 07.0	-0.7
CHVC				*e*SG	Sg	06 03 18.9	+0.1
CHVC	**Chvalec**	**0.86**	**186**	*e*	Sg	06 03 18.9	+0.1
CHVC	**Chvalec**	**0.86**	**186**	*e*P	Pg	06 03 07.0	-0.7
OSTC	**Ostas**	**0.89**	**179**	*e*PG	Pg	06 03 07.8	-0.4
OSTC				*e*SG	Sg	06 03 20.1	+0.4
OSTC	**Ostas**	**0.89**	**179**	*e*	Sg	06 03 20.1	+0.4
OSTC	**Ostas**	**0.89**	**179**	*e*P	Pg	06 03 07.8	-0.4
UPC	**Upice**	**0.94**	**187**	*e*PG	Pg	06 03 08.5	-0.8
UPC				*e*SG	Sg	06 03 21.2	-0.3
UPC	**Upice**	**0.94**	**187**	*e*	Sg	06 03 21.2	-0.3
UPC	**Upice**	**0.94**	**187**	*e*P	Pg	06 03 08.5	-0.8
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	Pg	06 03 11.1	-1.1
DPC				*e*SG	Sg	06 03 26.0	-0.4
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*	Sg	06 03 26.0	-0.4
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*P	Pg	06 03 11.1	-1.1
PVCC	**Panska Ves**	**1.38**	**229**	*e*SG	Sg	06 03 35.3	-0.2
KRLC	**Kraliky**	**1.42**	**165**	*e*PG	Pn	06 03 17.2	-1.1
KRLC				*e*SG	Sg	06 03 36.4	-0.3
KRLC	**Kraliky**	**1.42**	**165**	*e*	Sg	06 03 36.4	-0.3
KRLC	**Kraliky**	**1.42**	**165**	*e*P	Pn	06 03 17.2	-1.1
BRG	**Berggiesshubel**	**1.53**	**249**	Pg	Pn	06 03 18.6	-1.3
BRG				Sg	Sg	06 03 38.5	-1.9
BRG				Amp		06 03 39.5	
PRU	**Pruhonice**	**1.80**	**217**	*e*SG	Sn	06 03 47.0	0.0
STEB	**Steborice**	**1.81**	**146**	*e*SG	Sb	06 03 48.2	-0.3
MORC	**Moravsky Berou**	**1.87**	**152**	*e*PN	Pn	06 03 22.8	-1.8
MORC				*e*SG	Sn	06 03 47.0	-2.0
CLL	**Collm**	**2.01**	**267**	*e*P	Pn	06 03 26.0	-0.4
CLL	**Collm**	**2.01**	**267**	*e*Pg	Pn	06 03 26.0	+0.4
CLL				*e*Sg		06 03 53.0	
OKC	**Ostrava-Krasne**	**2.03**	**142**	*e*SG	Sb	06 03 55.4	+0.7
VRAC	**Vranov**	**2.15**	**173**	*e*PN	Pn	06 03 27.2	-1.2
VRAC				*e*SG	Sb	06 03 58.2	-0.1
ZVC	**Zvikov**	**2.38**	**213**	*e*SG	Sg	06 04 07.0	-0.7
KRUC	**Moravsky**	**2.38**	**177**	*e*SG	Sg	06 04 07.3	-0.5
KHC	**Kasperske Hory**	**2.86**	**217**	*e*SG	Sg	06 04 21.4	-1.7
LANS	**Liptovska Anna**	**3.10**	**136**	*e*SG	Sg	06 04 32.0	+1.0
MODS	**Modra-Piesok**	**3.15**	**167**	*e*SG	Sg	06 04 34.8	+2.4

*AFAD **22** 06:11:03.6, 40.°02N×39.°71E, h7km±2km, ML1.9*
*ISK **22** 06:11:03.7, 39.°96N×39.°83E, h8km, ML2.5/7*
ISC 22 06:11:03.3±0.9, 39.°99N±0.°03×39.°74E±0.°03, h12km±9km, n16, σ0°78/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.40**	**182**	Pg	**Pg**	**06 11 11.2**	**-0.1**
ERZN				Sg	**Sg**	**06 11 17.7**	**+1.1**
KELT	**Kelkit**	**0.41**	**294**	P	**Pg**	**06 11 11.4**	**0.0**
KELT				*i* IAML	**S**	**06 11 17.0**	**+0.1**
KELT	comp=N,264nm,0.3s			*i* IAML	**S**	**06 11 17.0**	**+0.1**
KELT	comp=E,113nm,0.4s			S	**S**	**06 11 17.0**	**+0.1**
BAYB	**BAYBURT**	**0.48**	**55**	P	**Pg**	**06 11 12.8**	**0.0**
BAYB				S	**Sb**	**06 11 20.0**	**-1.0**
BAYB				*i* IAML		06 11 20.0	
BAYB	comp=N,117nm,0.2s			*i* IAML		06 11 20.0	
BAYB	comp=E,130nm,0.4s						
BAYT	**Aydintepe-Bayb**	**0.51**	**37**	Pg	**Pg**	**06 11 13.5**	**+0.2**
BAYT				Sg	**Sb**	**06 11 21.0**	**-0.8**
GUMT	**Gumushane**	**0.51**	**337**	Pg	**Pb**	**06 11 15.5**	**+1.1**
KOPT	**Kop Dagi**	**0.58**	**87**	P	**Pb**	**06 11 15.5**	**-0.1**
KOPT				S	**Sn**	**06 11 26.1**	**-1.2**
KOPT				*i* IAML		06 11 28.0	
KOPT	comp=E,129nm,0.5s			*i* IAML		06 11 29.0	
KOPT	comp=N,117nm,0.4s						
ALUC	**Giresun/Alucra**	**0.83**	**296**	P	**Pg**	**06 11 18.7**	**-0.5**
ALUC				S	**Sg**	**06 11 29.8**	**-0.3**
ALUC				*i* IAML		06 11 31.0	
ALUC	comp=N,50nm,0.2s			*i* IAML		06 11 34.0	
ALUC	comp=E,64nm,0.3s						
YEDI	**Yedisu-Bingol**	**0.83**	**131**	Pg	**Pg**	**06 11 18.8**	**-0.5**
MACK	**Trabzon**	**0.96**	**1**	P	**Pg**	**06 11 21.7**	**0.0**
MACK				S	**Sg**	**06 11 34.4**	**+0.2**
KRIK	**Erzurum-spir**	**0.97**	**69**	P	**Pg**	**06 11 21.9**	**-0.1**
KRIK				*i* IAML		06 11 35.0	
KRIK	comp=N,23nm,1.2s			*i* IAML		06 11 38.0	
KRIK	comp=E,22nm,0.6s						
KTUT	**Trabzon**	**1.00**	**1**	Pg	**Pn**	**06 11 23.8**	**+0.6**
IZDR	**Rize**	**1.01**	**38**	P	**Pg**	**06 11 21.9**	**-0.9**
IZDR				S	**Sg**	**06 11 35.3**	**-0.8**
IZDR				*i* IAML		06 11 36.0	
IZDR	comp=N,34nm,0.3s			*i* IAML		06 11 36.0	
IZDR	comp=E,32nm,0.2s						
EDAM	**Erzurum-Paland**	**1.18**	**94**	Pn	**Pg**	**06 11 25.4**	**-0.5**
EDAM				Sn	**Sg**	**06 11 40.9**	**-0.4**
SUSE	**Susehri**	**1.20**	**281**	P	**Pg**	**06 11 25.0**	**-1.4**
SUSE				S	**Sg**	**06 11 40.8**	**-1.3**
SUSE				*i* IAML		06 11 46.0	
SUSE	comp=N,36nm,0.7s			*i* IAML		06 11 48.0	
SUSE	comp=E,23nm,0.4s						
BNGB	**Bingl**	**1.23**	**144**	Pn	**Pg**	**06 11 27.1**	**+0.2**
CHOM	**Cayeli-Rize**	**1.35**	**35**	Pn	**Pb**	**06 11 29.1**	**+0.5**
CHOM				Sn	**Sn**	**06 11 47.7**	**+1.7**

*NEIC **22** 06:47:01.9, 65.°60N×165.°22W, h11km*
*AEIC **22** 06:47:01.4±2.5, 65.°58N±0.°03×165.°21W±0.°05, h8km±2km, ML3.8, mb_Lg3.5/38(NEIC), ML3.9/70(NEIC), Mwr3.8/15(NEIC), Error ellipse: s-maj=3.9km s-min=2.9km az=182.0*
*NEIC **22** 06:47:02.5±2.6, 65.°59N±0.°02×165.°20W±0.°05, h10km±1km, Error ellipse: s-maj=4.6km s-min=3.0km az=228.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.66; $M_{\theta\theta}$5.66; $M_{\phi\phi}$-4.99; $M_{r\theta}$-4.13; $M_{\theta\phi}$-1.85; $M_{\phi r}$~1.78; Fault plane solution: $M_0$7.23000×10^{14} NP1: ϕ_s56.74000°, δ88.97000°, λ-141.53000°. NP2: ϕ_s325.92000°, δ51.54000°, λ-1.32000°. Principal axes: T 7.7577, Plg25.0000°, Azm184.0000°; N -1.1981, Plg52.0000°, Azm58.0000°; P -6.5596, Plg27.0000°, Azm288.0000°;*
*IDC **22** 06:47:02.9±1.1, 65.°72N×165.°74W, h0km, mb3.7/7, mbtmp3.8/9, ML3.6/2 Error ellipse: s-maj=30.0km s-min=12.7km az=22.0*
ISC 22 06:47:02.4±0.6, 65.°60N±0.°04×165.°17W±0.°03, h10km, n120, σ1°§21/103, mb3.7/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F15K	**North Star Dit**	**0.24**	**64**		**Pg**	**06 47 07.0**	**-0.4**
F15K					**Sg**	**06 47 10.4**	**-0.3**
F15K	**North Star Dit**	**0.24**	**64**	IAML		06 47 10.7	
F15K	comp=N,10μm,0.5s			IAML		06 47 14.8	
F15K	comp=E,5μm,1.4s						
F14K	**Arctic Creek**	**0.50**	**255**		**Pg**	**06 47 10.8**	**-1.3**
F14K					**Sg**	**06 47 17.4**	**-1.3**
G15K	**Niukluk**	**0.78**	**142**		**Pg**	**06 47 15.9**	**-1.5**
ANM	**Nome**	**1.05**	**185**		**Pg**	**06 47 20.8**	**-1.7**
ANM	**Nome**	**1.05**	**185**		**Sg**	**06 47 34.2**	**-1.9**
ANM	**Nome**	**1.05**	**185**	IAmb_Lg		06 47 35.1	
ANM	comp=Z,383nm,0.8s			IAML		06 47 38.4	
ANM	comp=N,2μm,0.4s			IAML		06 47 40.3	
ANM	comp=E,2μm,0.5s						
TNA	**Tin City**	**1.14**	**269**		**Pb**	**06 47 23.0**	**-1.2**
TNA				IAmb_Lg		06 47 36.5	
TNA	**Tin City**	**1.14**	**269**		**Sg**	**06 47 38.1**	**-1.1**
TNA	comp=Z,334nm,0.8s						
TNA	**Tin City**	**1.14**	**269**	IAML		06 47 43.2	
TNA	comp=N,5μm,0.6s			IAML		06 47 43.5	
G16K	comp=E,3μm,0.5s **Koyuk River**	**1.19**	**99**		**Pb**	**06 47 23.8**	**-1.3**
G16K	**Koyuk River**	**1.19**	**99**		**Sg**	**06 47 40.1**	**-0.7**
G16K	**Koyuk River**	**1.19**	**99**	IAmb_Lg		06 47 38.7	
G16K	comp=Z,85nm,0.9s **Koyuk River**	**1.19**	**99**	IAML		06 47 42.3	
G16K	comp=E,1μm,0.7s			IAML		06 47 42.9	
H16K	comp=N,1μm,0.5s **Elim**	**1.57**	**127**		**Pn**	**06 47 29.4**	**-0.9**
H16K					**Sb**	**06 47 51.3**	**-0.3**
F17K	**Baldwin Pennin**	**1.81**	**61**		**Pn**	**06 47 32.0**	**-1.6**
F17K					**Pb**	**06 47 32.2**	**-3.4**
F17K	**Baldwin Pennin**	**1.81**	**61**	IAML		06 48 05.0	
F17K	comp=E,829nm,1.0s			IAML		06 48 07.6	
G17K	comp=N,1μm,0.9s **Kiwalik Mounta**	**1.88**	**91**		**Pn**	**06 47 33.6**	**-1.0**
G17K					**Sb**	**06 48 00.3**	**-0.1**
G17K					**Sg**	**06 48 01.1**	**-1.8**
E17K	**Hotham Inlet**	**2.01**	**41**		**Pn**	**06 47 35.3**	**-1.0**
E17K					**Sb**	**06 48 04.0**	**+0.1**
D17K	**Noatak River**	**2.26**	**21**		**Pn**	**06 47 39.3**	**-0.5**
H17K	**Granite Mounta**	**2.31**	**104**		**Pn**	**06 47 40.2**	**-0.3**
H17K				IAML		06 48 17.2	
F18K	comp=E,568nm,0.6s **Selawik**	**2.46**	**64**		**Pn**	**06 47 41.9**	**-0.6**
I17K	**Unalakleet**	**2.58**	**130**		**Pn**	**06 47 44.6**	**+0.5**
I17K				IAML		06 48 32.4	
E18K	comp=E,775nm,0.7s **Tukpahlearik C**	**2.58**	**43**		**Pn**	**06 47 43.6**	**-0.7**
E18K	**Tukpahlearik C**	**2.58**	**43**	IAmb_Lg		06 48 26.5	
E18K	comp=Z,173nm,0.8s			IAML		06 48 29.3	
E18K	comp=N,440nm,0.7s			IAML		06 48 35.3	
RDOG	comp=E,380nm,0.8s **Red Dog Mine**	**2.62**	**19**		**Pn**	**06 47 43.6**	**-1.1**
C16K	**Lisburne Hills**	**2.68**	**359**		**Pn**	**06 47 46.1**	**+0.5**
C16K				IAmb_Lg		06 48 25.4	
C16K	comp=Z,151nm,0.9s			IAML		06 48 36.0	
G18K	comp=E,385nm,0.8s **Tagagawik**	**2.71**	**81**		**Pn**	**06 47 45.3**	**-0.6**
G18K				IAmb_Lg		06 48 35.3	
H18K	comp=Z,226nm,1.0s **Honhosa River**	**2.89**	**96**		**Pn**	**06 47 47.8**	**-0.6**
H18K	**Honhosa River**	**2.89**	**96**	IAML		06 48 38.9	
H18K	comp=E,465nm,1.4s			IAML		06 48 40.8	
C17K	comp=N,528nm,0.9s **DeLong Mountai**	**2.99**	**14**		**Pn**	**06 47 50.3**	**+0.5**
J16K	**Anvik River**	**3.06**	**138**		**Pn**	**06 47 50.7**	**-0.1**
J16K				IAmb_Lg		06 48 41.8	
J16K	comp=Z,195nm,0.8s			IAML		06 48 43.4	
F19K	comp=E,405nm,1.2s **Shaleruckik Mo**	**3.24**	**64**		**Pn**	**06 47 52.5**	**-0.7**
F19K	**Shaleruckik Mo**	**3.24**	**64**	IAML		06 48 45.8	
F19K	comp=E,203nm,0.7s			IAmb_Lg		06 48 54.1	
GAMB	comp=Z,154nm,0.8s **Gambell**	**3.35**	**240**		**Pn**	**06 47 55.3**	**+0.5**
C18K	**Utukok River**	**3.43**	**25**		**Pn**	**06 47 57.7**	**+1.8**
J17K	**VABM Dome**	**3.44**	**127**	IAML		06 48 55.3	
J17K	comp=N,299nm,0.9s			IAML		06 48 57.3	
H19K	comp=E,213nm,1.1s **Roundabout Mou**	**3.63**	**87**		**Pn**	**06 47 58.2**	**-0.3**
H19K				IAmb_Lg		06 48 58.2	
H19K	comp=Z,99nm,0.8s			IAML		06 49 08.7	
H19K	comp=E,150nm,1.1s			IAML		06 49 12.8	
E19K	comp=N,190nm,0.7s **Redstone River**	**3.68**	**56**		**Pn**	**06 47 59.2**	**-0.1**
E19K	**Redstone River**	**3.68**	**56**	IAML		06 49 06.3	
E19K	comp=E,239nm,0.6s			IAmb_Lg		06 49 08.0	
E19K	comp=Z,131nm,0.9s			IAML		06 49 10.1	
K15K	comp=N,194nm,1.3s **Wolf Creek Mou**	**3.69**	**153**		**Pn**	**06 48 00.9**	**+1.4**
K13K	**Kusilvak Mount**	**3.69**	**176**		**Pn**	**06 47 60.0**	**+0.5**
K13K				IAML		06 49 06.5	
D19K	comp=N,241nm,1.0s **Kuna River**	**4.01**	**40**		**Pn**	**06 48 04.6**	**+0.8**
D19K	**Kuna River**	**4.01**	**40**	IAmb_Lg		06 49 15.8	
D19K	comp=Z,119nm,1.1s			IAML		06 49 22.5	
D19K	comp=N,113nm,1.2s			IAML		06 49 24.3	
D19K	comp=E,118nm,1.1s			IAML		06 49 25.0	
F20K	comp=N,147nm,1.5s **Avaraart Lake**	**4.08**	**65**	IAmb_Lg		06 49 22.4	
C19K	comp=Z,111nm,0.8s **Lookout Ridge**	**4.12**	**29**	IAmb_Lg		06 49 18.0	
K17K	comp=Z,87nm,1.1s **Iditarod**	**4.18**	**131**		**Pn**	**06 48 06.3**	**+0.2**
K17K	**Iditarod**	**4.18**	**131**	IAmb_Lg		06 49 18.6	
K17K	comp=Z,151nm,1.3s			IAML		06 49 26.7	
K17K	comp=N,213nm,1.3s			IAML		06 49 29.7	
J18K	comp=E,190nm,1.2s **Innoko River**	**4.24**	**117**		**Pn**	**06 48 07.2**	**+0.3**
J18K				IAmb_Lg		06 49 18.8	
J18K	comp=Z,96nm,1.0s			IAML		06 49 25.4	
J18K	comp=E,88nm,1.1s			IAML		06 49 25.0	
H20K	comp=N,147nm,1.5s **Anotleneega Mo**	**4.28**	**87**		**Pn**	**06 48 07.9**	**+0.3**
J19K	**Poorman**	**4.39**	**107**	IAmb_Lg		06 49 29.6	
J19K	comp=Z,118nm,1.1s			IAML		06 49 30.4	
L14K	comp=N,93nm,1.3s **Kuka Creek**	**4.42**	**164**		**Pn**	**06 48 09.6**	**+0.2**
L14K				IAmb_Lg		06 49 25.6	
E20K	comp=Z,73nm,0.7s **Nigu River**	**4.42**	**49**		**Pn**	**06 48 10.2**	**+0.7**
D20K	**Etivluk River**	**4.57**	**43**		**Pn**	**06 48 12.3**	**+0.8**
D20K	**Etivluk River**	**4.57**	**43**	IAML		06 49 36.6	
D20K	comp=E,84nm,1.2s			IAML		06 49 58.5	
I20K	comp=N,89nm,1.3s **Naaghedeneel**	**4.58**	**95**		**Pn**	**06 48 12.1**	**+0.5**
L17K	**Donlin**	**4.62**	**136**		**Pn**	**06 48 12.6**	**+0.4**
L16K	**Owhat River**	**4.66**	**144**		**Pn**	**06 48 13.3**	**+0.6**
L16K				IAML		06 49 52.0	
G21K	comp=N,72nm,1.2s **Allakaket**	**4.84**	**74**		**Pn**	**06 48 15.6**	**+0.4**
G21K	**Allakaket**	**4.84**	**74**	IAML		06 49 53.1	
J20K	comp=N,111nm,1.1s **Nowinta River**	**4.91**	**102**	IAML		06 49 53.2	
F21K	comp=E,61nm,1.3s **Alatna River**	**4.97**	**66**	IAML		06 49 50.8	
F21K	comp=E,81nm,0.9s			IAML		06 49 52.3	
L18K	comp=N,62nm,1.1s **Granite Mounta**	**5.05**	**128**		**Pn**	**06 48 19.2**	**+1.1**
M14K	**Bethel**	**5.08**	**162**		**Pn**	**06 48 18.9**	**+0.4**
M14K				IAmb_Lg		06 49 54.2	
M11K	comp=Z,91nm,1.1s **Mekoryuk**	**5.26**	**186**		**Pn**	**06 48 20.9**	**-0.1**
K20K	**Telida**	**5.30**	**110**		**Pn**	**06 48 22.1**	**+0.5**
B20K	**Meade River**	**5.36**	**31**		**Pn**	**06 48 23.2**	**+0.9**
B20K	**Meade River**	**5.36**	**31**	IAML		06 50 35.9	
B20K	comp=E,66nm,1.4s			IAML		06 50 37.6	
M17K	comp=N,56nm,2.4s **Holitna River**	**5.46**	**137**		**Pn**	**06 48 25.1**	**+1.4**
B21K	**Ikpikpuk River**	**5.70**	**40**		**Pn**	**06 48 27.7**	**+0.7**
L19K	**White Mountain**	**5.70**	**122**		**Pn**	**06 48 27.5**	**+0.4**
CHUM	**Lake Minchumin**	**5.77**	**102**		**Pn**	**06 48 28.5**	**+0.6**
D22K	**Ayikyak River**	**5.85**	**50**		**Pn**	**06 48 30.6**	**+1.5**
M18K	**Stony River**	**5.87**	**130**		**Pn**	**06 48 30.0**	**+0.6**
N14K	**Kuskokwak Cree**	**5.92**	**163**		**Pn**	**06 48 30.6**	**+0.6**
N14K	**Kuskokwak Cree**	**5.92**	**163**	IAmb_Lg		06 50 23.9	
N15K	comp=Z,76nm,1.0s **Kwethluk River**	**5.93**	**155**	IAmb_Lg		06 50 15.8	
M19K	comp=Z,63nm,1.1s **Big River Lodg**	**6.05**	**123**		**Pn**	**06 48 32.8**	**+1.0**

MLY	Manley	6.08	89			Pn	06 48 33.1 +0.9
BPAW	Bear Paw Mtn.	6.23	98			Pn	06 48 34.5 +0.2
N17K	Nushagak Hills	6.25	141			Pn	06 48 35.6 +1.1
PPLA	Purkeypile	6.27	110			Pn	06 48 35.8 +0.8
H23K	Yukon River	6.45	81			Pn	06 48 37.5 +0.1
KTH	Kantishna Hill	6.47	102			Pn	06 48 38.1 +0.5
B22K	Teshekpuk Lake	6.48	38			Pn	06 48 38.2 +0.5
N18K	Kilae Creek	6.49	135			Pn	06 48 39.3 +1.5
M20K	Styx River	6.51	119			Pn	06 48 39.6 +1.3
A22K	Sinclair Lake	6.60	30			Pn	06 48 39.3 0.0
TRF	Thorofare Moun	6.77	102			Pn	06 48 42.5 +0.7
O16K	Kokwok River B	6.86	148	IAmb	Lg		06 50 47.5
	comp=Z,44nm,1.3s						
NEA2	Nenana	6.87	91			Pn	06 48 43.4 +0.3
O17K	Koliganek Bris	6.93	144			Pn	06 48 45.0 +1.1
C23K	Itkillik River	6.96	46			Pn	06 48 45.5 +1.2
L22K	Petersville	7.03	109			Pn	06 48 46.9 +1.7
SKT	Skwentna	7.04	115			Pn	06 48 46.7 +1.2
SPWE	Spurr West	7.12	122			Pn	06 48 48.0 +1.3
STLK	Strandline Lak	7.24	119			Pn	06 48 49.2 +1.0
SPU	Mount Spurr	7.37	121			Pn	06 48 51.5 +1.6
RND	Reindeer	7.38	100			Pn	06 48 51.1 +1.1
C24K	Franklin Bluff	7.50	49			Pn	06 48 52.3 +0.7
WAT7	Susitna Watana	7.63	104			Pn	06 48 54.8 +1.2
M22K	Willow	7.72	113			Pn	06 48 56.0 +1.3
ILAR	Eielson Array	7.73	88	Pn		Pn	06 48 55.1 +0.3
	comp=Z,0.7nm,0.3s,baz=282,slow=14,SNR=26						
ILAR				Sn		Sn	06 50 21.2 -1.2
	comp=Z,0.4nm,0.3s,baz=288,slow=18,SNR=3.3						
ILAR				Lg	Lg		06 51 16.4
	comp=Z,0.1nm,0.3s,baz=279,slow=24,SNR=4.4						
	comp=Z,1.8nm,0.3s						
SML	Sawmill	8.38	109			Pn	06 49 04.1 +0.3
CNPM	China Poot	8.85	127			Pn	06 49 11.8 +1.6
SEW	Seward	9.04	120			Pn	06 49 15.0 +2.2
KDAK	Kodiak Island	9.84	137			Pn	06 49 23.6 -0.1
KDAK	Kodiak Island	9.84	137	Pn		Pn	06 49 25.9 +2.2
	comp=Z,0.6nm,0.3s,baz=31,slow=5.6,SNR=16						
	comp=Z,5.7nm,0.6s						
G29M	Pine Creek	10.98	71			Pn	06 49 39.6 +0.3
PDAR	Pinedale Array	37.98	99	P		P	06 54 24.2 +3.9
	comp=Z,0.4nm,0.7s,baz=311,slow=8.3,SNR=3.7						
	comp=Z,0.4nm,0.7s						
NVAR	Mina Array Bea	38.18	112	P		P	06 54 21.4 -0.6
NVAR	Mina Array Bea	38.18	112	P		P	06 54 25.6 +3.6
	comp=Z,1.2nm,0.9s,baz=305,slow=7.6,SNR=8.2						
	comp=Z,1.2nm,0.9s						
I37A	Lemond, Waseca	43.65	83			P	06 55 04.2 -2.5
ZALV	Zalesovo Beam	49.48	313	P		P	06 55 52.8 +0.6
	comp=Z,0.5nm,0.3s,baz=42,slow=6.7,SNR=2.0						
	comp=Z,0.5nm,0.3s						
TXAR	Lajitas Array	51.95	103	P		P	06 56 14.6 +3.2
	comp=Z,0.4nm,0.8s,baz=326,slow=6.0,SNR=3.6						
	comp=Z,0.4nm,0.8s						
FINES	FINESS Array B	52.98	353	P		P	06 56 19.2 +0.7
	comp=Z,1.4nm,0.6s,baz=15,slow=7.9,SNR=5.9						
	comp=Z,1.4nm,0.6s						
KURK	Kurchatov	54.16	315	P		P	06 56 28.5 +1.3
KURBB	Kurchatov Arra	54.26	315	P		P	06 56 28.5 +0.5
	comp=Z,1.3nm,0.2s,baz=34,slow=6.7,SNR=2.3						
	comp=Z,1.3nm,0.2s						
MKAR	Makanchi Array	56.52	310	P		P	06 56 44.2 -0.2
	comp=Z,0.3nm,0.7s,baz=46,slow=5.0,SNR=2.5						
	comp=Z,0.3nm,0.7s						
KSH	Kashi	65.07	312	P		P	06 57 46.6 +3.8

*UCR **22** 07:07:38.5±1.4, 10°.30N×86°.25W, h7km±9km, MW4.3*
*CATAC **22** 07:07:39.1±0.5, 10°N±2°×8°6W±°, h10km±2km, M3.9/20, MLv3.9/20, Error ellipse: s-maj=5.9km s-min=3.6km az=32.8, confirmed*
*IDC **22** 07:07:40.8±1.5, 10°.86N×85°.92W, h0km, mb3.6/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=88.8km s-min=10.5km az=35.0*
ISC 22 07:07:39.6±1.6, 10°.33N±0°.04×86°.18W±0°.05, h6km±10km, n129, σ0°86/140, mb3.6/3, 40C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.59	97	⇑iP	Pb	07 07 52.0	-0.3
SACU				eS	Sb	07 08 00.9	0.0
DELF	Filadelfia	0.63	80	⇑iP	Pb	07 07 53.0	+0.1
DELF				eS	Sb	07 08 03.1	+1.1
JUD3	Juan Diaz 3	0.65	105	⇑eP	Pb	07 07 52.9	-0.5
JUD3				eS	Sb	07 08 02.6	-0.1
ALIBA	Liberia Airpor	0.67	68	⇑iP	Pb	07 07 54.4	+0.6
ELI1	Hacienda Flor	0.69	63	P	Pn	07 07 54.9	-0.9
ELI1	Hacienda Flor	0.69	63	S	Sg	07 08 03.2	+1.3
ELI1	Hacienda Flor	0.69	63	⇑iP	Pb	07 07 54.8	+0.8
NICO	Nicoya	0.75	105	⇑eP	Pb	07 07 54.2	-0.8
ERIA	Liberia	0.79	68	eP	Pg	07 07 55.1	+0.4
PLVR	Palo Verde	0.81	89	⇑eP	Pb	07 07 55.8	-0.4
LAPC	Finca la Perla	0.85	60	⇑iP	Pg	07 07 56.4	+0.4
GPS3	Bodega del ICE	0.90	62	⇓iP	Pn	07 07 59.6	+0.7
GPS2	Hotel Rincn d	0.91	63	⇑iP	Pb	07 07 57.6	-0.3
LCRUZ	La Cruz	0.92	36	⇑eP	Pb	07 07 57.8	-0.1
VRLE	La Escondida,	0.92	61	⇑eP	Pg	07 07 57.5	+0.2
BAGA	Bagaces	0.92	78	⇑iP	Pb	07 07 57.8	-0.2
GPS1	Guardaparques	0.93	62	⇑iP	Pg	07 07 57.7	+0.3
VORI	VORI	0.95	60	⇑iP	Pg	07 07 58.0	+0.1
BUAI	Buenos Aires	0.99	57	⇑eP	Pg	07 07 58.9	+0.3
PEJA	Penjamo Buenos	1.02	57	eP	Pg	07 07 59.4	+0.3
CUI	Cuipilapa	1.05	72	⇑iP	Pg	07 07 59.6	-0.1
MESS	Mesas	1.05	67	⇑iP	Pg	07 07 59.5	-0.2
HORNC	Hornillas	1.05	69	⇑iP	Pg	07 07 59.5	-0.3
CARN	Rivas	1.06	37	P	Pg	07 08 00.0	0.0
CARN				S	Sb	07 08 14.9	+0.2
CARN	Rivas	1.06	37	⇑iP	Pg	07 08 00.1	+0.1
CNAS	Canas	1.07	85	⇑eP	Pn	07 08 01.0	-0.1
INVE	Universidad In	1.11	83	⇑iP	Pg	07 08 00.4	-0.5
MOTZ	Rio Naranjo	1.14	72	⇑iP	Pg	07 08 01.1	-0.4
VMAR	Armenia, Volca	1.15	66	⇑iP	Pg	07 08 01.3	-0.4
JCR1	Jicaral	1.16	115	eP	Pg	07 08 00.2	-1.6
TIMP	Tierras Morena	1.17	78	⇑iP	Pg	07 08 01.1	-0.9
TILA	Tilaran	1.20	83	⇑iP	Pg	07 08 01.6	-1.0
JUNT	Juntas	1.20	92	⇑eP	Pg	07 08 01.4	-1.3
JTS	Las Juntas de	1.21	92	Pg	Pg	07 08 01.4	-1.3
	30nm,0.3s,baz=296,slow=17,SNR=77						
JTS				Lg	Lg	07 08 17.9	
	50nm,0.3s,baz=216,slow=19,SNR=6.6						
JTS				LR	LR	07 08 19.7	
	comp=Z,122nm,19.6s,baz=87,slow=35						
JTS	Las Juntas de	1.21	92	P	Pg	07 08 01.5	-1.3
JTS				S	Sg	07 08 18.4	0.0
JTS	Las Juntas de	1.21	92	⇑eP	Pg	07 08 01.4	-1.3
TENO	El Achiote	1.24	73	⇑iP	Pn	07 08 01.6	-1.8
CHIK	Chiripa	1.25	85	⇑eP	Pn	07 08 02.3	-1.5
UPAL	Upala	1.28	64	P	Pn	07 08 03.1	-0.8
UPAL	Upala	1.28	64	S	Sb	07 08 20.6	-0.1
UPAL	Upala	1.28	64	⇑eP	Pn	07 08 03.1	-0.8
OMEN	Al SSO del Vol	1.29	25	P	Pn	07 08 02.5	-1.6
OMEN				S	Sb	07 08 21.0	-0.1
QUEB	Quebradon, Cot	1.29	77	⇑eP	Pn	07 08 03.3	-1.0
CBL1	Cabuya	1.30	125	eP	Pg	07 08 06.8	+2.2
MORN	Al O del Volca	1.31	23	P	Pn	07 08 03.8	-0.7
MTEVE	Monteverde	1.33	91	⇑iP	Pn	07 08 03.5	-1.4
CONN	Concepcion	1.34	24	P	Pn	07 08 03.8	-1.0
TABAC	Tabacon	1.40	83	eP	Pn	07 08 05.0	-0.7
CASO	Castillo	1.43	86	⇑iP	Pn	07 08 05.3	-0.7
ARE1	Arenal 1	1.44	85	⇑eP	Pn	07 08 06.0	-0.3
VARE2	V. Arenal	1.44	85	⇑eP	Pn	07 08 05.9	-0.4
CEDE	Laguna Cedeo	1.46	84	⇑iP	Pn	07 08 06.3	-0.2
VACR	Volcan Arenal	1.48	85	⇑eP	Pn	07 08 06.4	-0.4
FORC	Fortuna	1.49	85	eP	Pn	07 08 06.5	-0.5
ARZA	Esparza	1.53	103	eP	Pn	07 08 05.7	-1.7
SOCE	Pocosol	1.54	88	P	Pn	07 08 06.9	-0.6
SOCE	Pocosol	1.54	88	S	Sn	07 08 27.1	-0.8
SOCE	Pocosol	1.54	88	eP	Pn	07 08 07.0	-0.6
NANN	Nandasmo	1.60	2	P	Pn	07 08 08.5	+0.1
NANN	Nandasmo	1.60	2	S	Sn	07 08 29.4	0.0
SABN	Sabanita	1.61	1	P	Pn	07 08 08.6	0.0
MAS3	Al N del Volca	1.68	0	P	Pn	07 08 08.6	-0.9
OROT	Orotina	1.68	104	eP	Pn	07 08 07.9	-1.6
QUEU	Ciudad Quesada	1.72	90	⇑eP	Pn	07 08 09.9	-0.2
PALD	Palmares	1.74	99	⇑eP	Pn	07 08 09.5	-0.9
ZARE	Zarcero	1.77	95	eP	Pg	07 08 13.1	-0.4
UNAN	Cigeo UNAN	1.77	357	P	Pn	07 08 10.1	-0.6
UNAN				S	Sb	07 08 35.4	+0.6
VPL2	V. Platanar	1.77	91	eP	Pn	07 08 10.2	-0.7
ABCN	Banco Central	1.78	356	P	Pn	07 08 10.0	-0.9
ABCN	Banco Central	1.78	356	S	Sn	07 08 33.8	-0.1
VPL1	V. Platanar	1.79	92	eP	Pn	07 08 10.5	-0.7
COVE	Coope Vega, Sa	1.79	77	P	Pn	07 08 09.7	-1.3
COVE	Coope Vega, Sa	1.79	77	S	Sn	07 08 34.4	+0.3
TISN	Laguna Tiscapa	1.80	357	P	Pn	07 08 10.4	-0.7
MGAN	Managua	1.80	358	eP	Pn	07 08 10.4	-0.8
ATEO	Atenas	1.80	101	⇑eP	Pn	07 08 10.1	-1.2
WILN	Americas 2	1.81	360	P	Pn	07 08 10.5	-0.8
WILN				S	Sn	07 08 34.4	-0.3
COPN	Copaltepe	1.88	348	P	Pn	07 08 11.4	-0.9
COPN	Copaltepe	1.88	348	eP	Pn	07 08 10.5	-1.7
APQN	BB Volcan Apoy	1.88	356	P	Pn	07 08 12.1	-0.1
APQN	BB Volcan Apoy	1.88	356	S	Sn	07 08 36.9	+0.6
ITAL	Pital	1.88	86	eP	Pn	07 08 11.5	-0.8
PURI	Puriscal	1.90	105	eP	Pn	07 08 12.0	-0.6
VPS8	V Poas	1.91	94	eP	Pn	07 08 12.6	-0.4
BELE	Belen	1.99	100	eP	Pn	07 08 13.4	-0.5
SANTA	Santa Ana	2.00	101	eP	Pb	07 08 16.4	-0.1
PAR1A	Puntarenas Pro	2.03	111	eP	Pn	07 08 14.1	-0.3
HEME	Heredia, Merce	2.04	99	eP	Pn	07 08 14.6	+0.1
ACOS	Acosta	2.06	105	eP	Pn	07 08 14.9	+0.1
HDC	Heredia	2.06	99	eP	Pn	07 08 14.3	-0.6
PICV	PH. Pirrs	2.08	110	eP	Pn	07 08 14.3	-0.8
DOMI	Santo Domingo	2.08	99	eP	Pn	07 08 15.6	+0.4
MOM2	El Cardon	2.11	352	P	Pn	07 08 14.5	-0.9
MOM2				S	Sn	07 08 41.9	-0.1
LUJA	Lujan	2.11	101	eP	Pn	07 08 16.3	+0.7
SJS	Escuela Geolog	2.13	100	eP	Pn	07 08 16.4	+0.6
AMPA	Desamparados	2.13	102	eP	Pn	07 08 16.3	+0.5
ECI	Escuela Centro	2.13	100	eP	Pn	07 08 16.4	+0.6
SJS3	Mercedes San J	2.13	100	eP	Pn	07 08 16.4	+0.6
CNGA	Al SSO del Vol	2.21	347	P	Pn	07 08 15.8	-1.0
CNGN	Cerro Negro	2.21	347	P	Pn	07 08 15.9	-0.9
CNGN	Cerro Negro	2.21	347	eP	Pn	07 08 15.4	-1.5
LLNJ	Naranjito	2.22	112	eP	Pb	07 08 20.5	+0.4
CVIMO	Finca Echandi	2.22	98	eP	Pn	07 08 17.2	+0.1
PITB	Pirrs, San	2.23	107	eP	Pn	07 08 16.6	-0.5
PIEC	Cerro El Cedra	2.30	108	eP	Pn	07 08 17.8	-0.5
VICA	Volcano Irazu	2.32	98	eP	Pn	07 08 18.3	-0.5
PILE	Guapiles	2.35	93	eP	Pn	07 08 19.8	+1.0
PCAYA	Pacayas	2.37	100	eP	Pn	07 08 18.3	-0.9
POLN	Al Sur del Vol	2.38	345	P	Pn	07 08 17.6	-1.6
POLN				S	Sn	07 08 49.3	+0.5
CVTQ	Turrialba Volc	2.40	98	eP	Pn	07 08 19.0	-0.7
VTR0	Volcan Turrial	2.40	97	eP	Pn	07 08 19.2	-0.6
CVTR	Volcan Turrial	2.40	97	eP	Pn	07 08 19.5	-0.3
CARI	Cariari	2.40	89	eP	Pg	07 08 25.2	-0.5
CVTV	Tajo	2.41	98	eP	Pn	07 08 19.7	-0.2
TRT2	Tortugero	2.41	85	eP	Pn	07 08 18.3	-1.3
ABRB	Las Abras (San	2.45	97	eP	Pn	07 08 20.1	-0.1
RESJ	San Isidro (Tu	2.52	97	eP	Pn	07 08 21.7	+0.6
BUS1	Rivas	2.52	108	eP	Pn	07 08 20.8	-0.6
LCOCO	El Coco	2.59	95	eP	Pn	07 08 23.9	+1.8
SAJE	San Jermim	2.81	110	eP	Pb	07 08 30.6	+0.3
EDPE	Pejibaye, P	2.82	114	eP	Pb	07 08 31.4	+1.0
VERH	Veragua Rainfo	2.97	98	eP	Pn	07 08 27.1	-0.2
DRK0	Durika	3.08	110	eP	Pn	07 08 27.0	-2.0
ALCO	Alturas Coton,	3.57	112	eP	Pn	07 08 37.4	+1.6
CMIG	Matias Romero	10.80	309	Pn	Pn	07 10 14.1	-0.7
	0.2nm,0.3s,baz=145,slow=16,SNR=5.1						
	2.1nm,0.8s						
TXAR	Lajitas Array	24.99	322	P	P	07 13 04.4	0.0
	1.2nm,0.6s,baz=138,slow=9.0,SNR=17						
TXAR				PcP	PcP	07 16 41.0	+1.3
	0.3nm,0.8s,baz=109,slow=4.3,SNR=4.0						
	1.2nm,0.6s						
H06E1	SOCORRO T-PHAS	25.36	292	T	T	07 39 25.4	
	SNR=6.0						
PDAR	Pinedale Array	38.22	332	P	P	07 14 58.2	-2.3
	0.2nm,0.6s,baz=143,slow=8.8,SNR=2.2						
	0.2nm,0.6s						
NVAR	Mina Array Bea	40.11	320	P	P	07 15 17.9	+1.4
	1.1nm,0.8s,baz=138,slow=8.0,SNR=9.3						
NVAR				PcP	PcP	07 17 22.2	+1.1
	0.4nm,0.6s,baz=110,slow=2.8,SNR=3.9						
	1.1nm,0.8s						

*IDC **22** 07:09:28.8±1.3, 20°.33N×121°.97E, h0km, mb3.9/7, mbtmp4.0/7, MS3.5/2, Error ellipse: s-maj=60.1km s-min=17.9km az=59.0*
*NEIC **22** 07:09:38.8±2.2, 20°.2N±0°.1×121°.7E±0°.2, h70km±11km, mb4.5/10, Error ellipse: s-maj=29.3km s-min=13.4km az=76.0*
ISC 22 07:09:35.7±0.8, 20°.05N±0°.08×121°.7E±0°.2, h40km, n31, σ1°53/23, mb4.3/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.81	349		Pn	07 10 18.9	+0.8
YULB	Yu-li	3.34	354	Pn	Pn	07 10 27.1	+1.6
TPUB	Ta-pu	3.37	344		Pn	07 10 27.4	+1.6
SSLB	Suanglung	3.77	350		Pn	07 10 33.8	+2.4
NACB	Ninganchiao	4.10	359	Pn	Pn	07 10 37.3	+1.4
NACB					Sn	07 11 21.6	-1.1
YHNB	Yeheng	4.60	357		Pn	07 10 44.8	+2.0
JCJ	Chichijima	20.07	66	LR	LR	07 21 28.2	
	comp=Z,65nm,18.8s,baz=126,slow=37						
CMAR	Chiang Mai Arr	21.49	270	P	P	07 14 22.6	+1.4
	1.0nm,0.3s,baz=75,slow=8.0,SNR=4.2						
	1.0nm,0.3s						
WB0	Warramunga Arr	41.50	162	P	P	07 17 17.3	-1.8
WB0				IAmb	IAmb	07 17 19.3	
	comp=Z,4.9nm,0.8s						
WRAB	Tennant Creek	41.64	162	P	P	07 17 19.6	-0.7
WRAB				IAmb	IAmb	07 17 20.3	
	comp=Z,4.6nm,0.8s						
WRA	Warramunga Arr	41.65	162	IAmb	IAmb	07 17 21.7	
	comp=Z,0.2nm,0.6s						
WRA	Warramunga Arr	41.65	162	P	P	07 17 19.5	-0.9
	comp=Z,4.2nm,0.6s,baz=342,slow=9.0,SNR=39						
	comp=Z,4.2nm,0.6s						
MKAR	Makanchi Array	41.66	319	P	P	07 17 17.6	-2.6
MKAR	Makanchi Array	41.66	319	P	P	07 17 19.0	-1.2
	comp=Z,0.5nm,0.5s,baz=112,slow=9.6,SNR=5.1						
	comp=Z,0.5nm,0.5s						
WR8	Warramunga Arr	41.71	162	P	P	07 17 19.9	-0.9
WR8				IAmb	IAmb	07 17 21.5	
	comp=Z,6.4nm,0.7s						
H11N1	WAKE ISLAND Hy	42.45	82	T	T	08 03 14.5	
	baz=278,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	42.45	84	T	T	08 02 42.2	
	baz=280,slow=75,SNR=7.8						
H11N2	WAKE ISLAND Hy	42.46	82	T	T	08 03 14.7	
	baz=278,slow=75,SNR=4.7						
H11S1	WAKE ISLAND Hy	42.46	84	T	T	08 02 50.2	
	baz=280,slow=75,SNR=9.5						
H11N3	WAKE ISLAND Hy	42.47	82	T	T	08 03 15.7	
	baz=278,slow=75,SNR=7.8						
H11S2	WAKE ISLAND Hy	42.47	84	T	T	08 02 45.3	
	baz=280,slow=75,SNR=7.4						
ZALV	Zalesovo Beam	43.97	329	P	P	07 17 35.9	-2.8
	comp=Z,0.5nm,0.3s,baz=128,slow=11,SNR=1.6						
	comp=Z,0.5nm,0.3s						
AS31	Alice Springs	45.07	164	P	P	07 17 48.1	+0.2
ASAR	Alice Springs	45.07	164	P	P	07 17 48.0	+0.1
	comp=Z,3.6nm,0.6s,baz=345,slow=7.0,SNR=50						
	comp=Z,3.6nm,0.6s						
AAK	Ala-Archa	45.43	311	LR	LR	07 39 20.1	
	comp=Z,106nm,18.1s,baz=66,slow=39						
KURBB	Kurchatov Arra	45.58	322	P	P	07 17 50.5	-1.2
	comp=Z,0.6nm,0.5s,baz=125,slow=7.4,SNR=5.2						
	comp=Z,0.6nm,0.5s						
FORT	Forrest	50.91	173	P	P	07 18 33.3	+0.4
FORT				IAmb	IAmb	07 18 33.9	
	comp=Z,9.9nm,0.7s						
NWAO	Narrogin (SRO)	52.85	185	P	P	07 18 47.2	-0.2
BBOO	Buckleboo	54.34	165	P	P	07 18 59.0	+0.7
BBOO				IAmb	IAmb	07 18 59.5	
	comp=Z,15nm,1.4s						
STKA	Stephens Creek	55.06	159	P	P	07 19 04.7	+1.2
	comp=Z,0.9nm,0.5s,baz=338,slow=9.1,SNR=4.0						
	comp=Z,0.9nm,0.5s						
TOO	Toolangi	61.56	159	P	P	07 19 49.8	+0.9
TOO				IAmb	IAmb	07 19 51.3	
	comp=Z,1.8nm,0.8s						

*TEH **22** 07:14:08.5, 39°.38N×51°.98E, h50km*
*TIF **22** 07:14:08.5, 39°.31N×51°.84E, h44km±5km*
*AZER **22** 07:14:09.1, 39°.30N×51°.82E, h56km, ml3.0*
ISC 22 07:14:12.6±5.5, 39°.33N±0°.05×51°.92E±0°.06, h38km±7km, n37, σ3°04/50, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIB	&Aumlli-Bayram	2.34 287		Pn	Pn	07 14 48.5	0.0
ALIB				Sn	Sn	07 15 10.2	-5.7
ASTR	Astara	2.56 254		Pn	Pn	07 14 47.6	-3.9
ASTR				Sn	Sn	07 15 18.4	-2.9
GLBA	Ciilabad	2.74 269		Pn	Pn	07 14 51.7	-2.3
GLBA				Sn	Sn	07 15 23.5	-2.3
GLBA	Ciilabad	2.74 269		Pn	Pn	07 14 51.7	-2.3
ATGJ	Altiaghaj	2.75 305		Pn	Pn	07 14 51.9	-2.5
ATGJ				Sn	Sn	07 15 25.3	-1.1
ATGJ	Altiaghaj	2.75 305		Pn	Pn	07 14 51.8	-2.5
LRK	Lerik	2.87 257		Pn	Pn	07 14 53.2	-2.7
LRK				Sn	Sn	07 15 25.9	-3.5
YRD	Yardimli	2.89 263		Pn	Pn	07 14 53.6	-2.7
YRD				Sn	Sn	07 15 26.0	-3.9
MZPU	Pul - Mazandar	2.90 186		Pn	Pn	07 14 54.2	-2.1
SIZA	Siyzn	2.90 308		Pn	Pn	07 14 54.1	-2.2
SIZA				Sn	Sn	07 15 27.1	-2.8
IPRN	Peran	3.10 174		Pn	Pn	07 14 56.8	-2.3
GRMI	Germi	3.18 262		Pn	Pn	07 14 57.6	-2.5
IGLO	Ghaloghah	3.20 151		Pn	Pn	07 14 57.8	-2.7
IALA	Alasht	3.31 167		Pn	Pn	07 15 00.1	-2.1
QUBA	Quba, Azerbaij	3.31 309		Sn	Sn	07 15 37.7	-2.3
BLQ	Beylaqan	3.40 278		Pn	Pn	07 15 00.2	-2.9
BLQ				Sn	Sn	07 15 37.6	-4.4
IKIA	Kiasar	3.41 155		Pn	Pn	07 15 01.6	-1.8
XNQ	Khinaliq	3.43 304		Pn	Pn	07 15 00.4	-3.3
XNQ				Sn	Sn	07 15 40.1	-3.1
QBL	Gabala	3.52 299		Sn	Sn	07 15 42.5	-2.7
QSAR	Qusar	3.55 309		Pn	Pn	07 15 02.9	-2.3
QSAR				Sn	Sn	07 15 44.1	-1.7
QRD	Qoradiz	3.57 274		Sn	Sn	07 15 44.0	-2.3
MRVT	Maraveh tapeh	3.67 116		Pn	Pn	07 15 03.5	-3.3
IFIR	Firoozkooh	3.74 170		Pn	Pn	07 15 06.8	-1.2
IHRS	Heris	3.94 257		Pn	Pn	07 15 08.8	-1.9
ILAS	Lasjerd	4.02 168		Pn	Pn	07 15 10.4	-1.4
QABG	Abgarm-Qazvin	4.06 208		Pn	Pn	07 15 11.6	-0.8
IVRN	Varamin	4.33 182		Pn	Pn	07 15 14.8	-1.1
GANJ	Ganja	4.50 289		Pn	Pn	07 15 14.4	-3.8
GANJ				Sn	Sn	07 16 05.0	-4.3
ORD	Ordubad	4.63 267		Sn	Sn	07 16 06.7	-5.8
VSHL	Vashlovani	4.63 296		P	Pn	07 15 17.4	-2.7
VSHL				S	Sn	07 16 10.8	-1.7
ZKTA	Zakatala	4.66 301		Sn	Sn	07 16 09.6	-3.5
GDB	GEDABAY	4.94 288		Pn	Pn	07 15 21.6	-2.7
GDB				Sn	Sn	07 16 14.1	-6.1
ISFR	Sfrayin	5.30 113		Pn	Pn	07 15 26.6	-2.8
SBZV	Sabzevar	5.37 121		Pn	Pn	07 15 28.3	-2.0
SHTL	Shatili	6.11 305		P	Pn	07 15 38.5	-1.8
AB31	Akbulak array	11.46	27	⇓Pn	Pn	07 16 50.5	-3.1
	0.1nm,0.3s,baz=209,slow=13,SNR=4.1						
AB31				⇑Sn	Sn	07 18 48.3	-12
	1.1nm,0.6s,baz=212,slow=22,SNR=4.9						
AKTO	Aktyubinsk	11.91	19	⇓Pn	Pn	07 16 58.8	-0.9
	1.1nm,0.8s						
AKTO				⇑Sn	Sn	07 18 54.8	-16
	2.9nm,0.9s						

DJA 22 07:20:09.4±0.3, 0°S±3°×12°5E±°, h10km, M3.9/13, mb3.9/1, MLv3.8/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.20	313	P	Pb	07 20 29.3	-2.9
SANI	Sanana	2.12	148	P	Pn	07 20 44.7	-0.3
LUWI	Luwuk	2.23	249	P	Pn	07 20 47.1	+0.6

0.9nm,0.5s
BBOO Buckleboo 32.88 240 P **P 07 28 45.5 +0.3**
BBOO IAmb IAmb 07 28 57.6
comp=Z,8.7nm,1.3s
WR8 Warramunga Arr 33.25 263 P **P 07 28 48.0 -0.6**
WB0 Warramunga Arr 33.37 264 P **P 07 28 48.0 -1.6**
WB0 IAmb IAmb 07 28 51.5
comp=Z,4.5nm,1.1s
WRAB Tennant Creek 33.39 263 P **P 07 28 48.0 -1.9**
WRAB IAmb IAmb 07 29 12.7
comp=Z,6.5nm,1.2s
WRA Warramunga Arr 33.40 263 P **P 07 28 49.8 -0.2**
comp=Z,0.4nm,0.6s,baz=91,slow=8.5,SNR=7.5
comp=Z,0.4nm,0.6s
AS31 Alice Springs 33.61 257 P **P 07 28 52.0 +0.3**
AS31 IAmb IAmb 07 29 00.3
comp=Z,1.0nm,0.7s
ASAR Alice Springs 33.61 257 P **P 07 28 52.1 +0.4**
comp=Z,1.3nm,0.6s,baz=86,slow=8.9,SNR=20
comp=Z,1.3nm,0.6s
FITZ Fitzroy Crossi 41.80 265 IAmb IAmb 07 30 06.2
comp=Z,0.9nm,0.8s
FITZ Fitzroy Crossi 41.80 265 P **P 07 30 01.7 +0.7**
comp=Z,2.9nm,0.7s,baz=122,slow=7.0,SNR=8.6
comp=Z,2.9nm,0.7s
MJAR Matsushiro Arr 63.43 332 P **P 07 32 40.2 -0.5**
comp=Z,1.6nm,0.8s,baz=151,slow=11,SNR=4.1
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 70.37 180 P **P 07 33 24.8 +0.3**
QSPA IAmb IAmb 07 33 35.1
comp=Z,5.8nm,1.1s
PFO Pinyon Flats O 87.90 53 LR LR 08 05 43.0
comp=Z,120nm,21.1s,baz=243,slow=30
SONM Songino Array 87.94 323 IAmb IAmb 07 35 02.2
comp=Z,2.4nm,1.2s
SONM Songino Array 87.94 323 P **P 07 35 02.0 +1.3**
comp=Z,1.0nm,0.7s,baz=150,slow=6.2,SNR=3.7
comp=Z,1.0nm,0.7s
GERES GERESS Array B 145.17 332 PKPbc **PKPbc 07 41 45.6 -2.3**
comp=Z,0.3nm,0.3s,baz=329,slow=1.1,SNR=3.7

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*IDC **22** 08:05:57.6±0.6, 42°.41N×144°.49E, h0km, mb4.3/19, mbtmp4.2/24, ML3.5/4, MS3.7/21, Error ellipse: s-maj=15.1km s-min=14.9km az=31.0*
*SKHL **22** 08:05:59.8±0.2, 42°.10N×144°.50E, h40km±4km, mb5.7/4*
*BJI **22** 08:06:00.7, 42°.09N×144°.08E, h14km, mB4.8/8, mb4.3/25, Ms4.1/12, Ms7 3.9/13*
*MOS **22** 08:06:01.3±0.9, 42°.35N×144°.45E, h38km, mb4.3/11, Error ellipse: s-maj=8.9km s-min=5.8km az=84.6*
*JMA **22** 08:06:01.1±0.1, 42°.4N±0°.3×144°.5E±0°.6, h31km±2km, MD4.4/39, MV4.6/39, SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
*NIED **22** 08:06:01.1, 42°.37N×144°.45E, h31km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr4.40; Mθθ-0.51; Mφφ-3.89; Mrθ1.16; Mθφ-1.99; Mφr-2.04; Fault plane solution: M0 5.18000×10^15 NP1:φs44.00000°, δ40.00000°, λ123.00000°. NP2:φs184.00000°, δ57.00000°, λ65.00000°.*
*NEIC **22** 08:06:03.5±1.9, 42°.32N±0°.06×144°.4E±0°.1, h36km±6km, mb4.6/178 Error ellipse: s-maj=12.2km s-min=8.2km az=116.0*
ISC 22 08:06:02.7±0.7, 42°.37N±0°.04×144°.45E±0°.03, h32km±4km, n499, σ1$00/415, mb4.6/118, MS3.9/26, 5C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.66**	**16**	P	**Pn**	**08 06 13.8**	**-1.9**
JAK				*e*S	**Sb**	**08 06 24.2**	**-0.4**
JAK	**Akkeshi**	**0.66**	**16**	A	A	08 06 13.8	
comp=N,23nm,0.8s,comp=E,25nm,2.1s							
JOB	**Onbets**	**0.70**	**320**	⇓P	**Pn**	**08 06 14.9**	**-1.4**
JOB	**Onbets**	**0.70**	**320**	A	A	08 06 14.9	
comp=N,53nm,1.8s,comp=E,44nm,2.4s							
AKK	**Akkeshi**	**0.71**	**24**	*e*P	**Pn**	**08 06 15.1**	**-1.4**
JCH	**Churui**	**0.84**	**288**	⇓P	**Pn**	**08 06 16.7**	**-1.5**
JCH				⇓*e*S	**Sn**	**08 06 28.3**	**-1.1**
JCH	**Churui**	**0.84**	**288**	A	A	08 06 16.7	
comp=N,24nm,1.1s,comp=E,12nm,3.9s							
JTHR	**Tokachihiroo**	**0.85**	**265**	⇓P	**Pn**	**08 06 17.0**	**-1.5**
JTHR				⇓*e*S	**Sn**	**08 06 29.2**	**-0.6**
JTHR	**Tokachihiroo**	**0.85**	**265**	A	A	08 06 17.0	
comp=N,30nm,3.2s,comp=E,33nm,3.1s							
JKHN	**Kushirohamanak**	**0.89**	**36**	P	**Pn**	**08 06 17.7**	**-1.2**
JKHN				*e*S	**Sn**	**08 06 30.6**	**-0.1**
JKHN	**Kushirohamanak**	**0.89**	**36**	A	A	08 06 17.7	
comp=N,25nm,1.0s,comp=E,23nm,2.6s							
JEM	**Erimo**	**1.02**	**250**	P	**Pn**	**08 06 19.7**	**-1.0**
JEM	**Erimo**	**1.02**	**250**	S	**Sn**	**08 06 34.1**	**+0.2**
JEM	**Erimo**	**1.02**	**250**	⇓P	**Pn**	**08 06 19.1**	**-1.6**
JEM				⇓*e*S	**Sn**	**08 06 33.5**	**-0.4**
JEM	**Erimo**	**1.02**	**250**	A	A	08 06 19.1	
comp=N,26nm,1.2s,comp=E,19nm,5.4s							
ERM	**Erimo**	**1.02**	**250**		**Pn**	**08 06 19.4**	**-1.3**
ERM	**Erimo**	**1.02**	**250**	P	**Pn**	**08 06 19.8**	**-0.9**
ERM	**Erimo**	**1.02**	**250**	S	**Sn**	**08 06 34.2**	**+0.3**
ERM	**Erimo**	**1.02**	**250**	PN	**Pn**	**08 06 19.4**	**-1.3**
JAR	**Ashorobuto**	**1.05**	**332**	⇓P	**Pn**	**08 06 19.5**	**-1.7**
JAR	**Ashorobuto**	**1.05**	**332**	A	A	08 06 19.5	
comp=N,13nm,1.2s,comp=E,11nm,3.3s							
JNK	**Nakash**	**1.23**	**9**	*e*P	**Pn**	**08 06 21.8**	**-1.9**
JNK				*e*S	**Sn**	**08 06 37.2**	**-2.0**
JNBK	**Urakawa-nobuka**	**1.26**	**267**	*e*P	**Pn**	**08 06 21.9**	**-2.0**
JNBK	**Urakawa-nobuka**	**1.26**	**267**	A	A	08 06 21.9	
comp=N,13nm,3.2s,comp=E,19nm,1.5s							
NMR	**Nemuro--Hokkai**	**1.38**	**43**	*e*PN	**Pn**	**08 06 24.3**	**-1.3**
NMR				*e*S	**Sn**	**08 06 41.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.38**	**43**	*e*P	**Pn**	**08 06 24.0**	**-1.6**
NMR				*e*S	**Sn**	**08 06 42.4**	**-0.3**
NEM2	**Nemuro 2**	**1.38**	**43**	*e*P	**Pn**	**08 06 23.7**	**-1.9**
JNSB	**Nemuroshibetsu**	**1.47**	**16**	A	A	08 06 26.1	
comp=N,13nm,1.1s,comp=E,17nm,1.2s							
JSHD	**Hidakashinhida**	**1.47**	**272**	A	A	08 06 26.2	
comp=N,12nm,1.5s,comp=E,12nm,1.8s							
JFR	**Furan**	**1.58**	**301**	*e*P	**Pn**	**08 06 27.3**	**-1.1**
JFR	**Furan**	**1.58**	**301**	A	A	08 06 27.3	
comp=N,10.0nm,1.6s,comp=E,9.0nm,1.7s							
GLVR	**Golovnino**	**1.58**	**29**	*e*PN	**Pn**	**08 06 27.4**	**-1.0**
GLVR				*e*S	**Sn**	**08 06 48.2**	**+0.4**
GLVR				pmax	pmax		
comp=N,388nm,0.3s							
GLVR				pmax	pmax		
comp=E,300nm,0.3s							
GLVR				pmax	pmax		
comp=Z,2μm,0.3s							
GLVR				smax	smax		
comp=N,12μm,1.4s							
GLVR				smax	smax		
comp=E,11μm,1.8s							
GLVR				smax	smax		
comp=N,5μm,0.3s							
GLVR				smax	smax		
comp=E,7μm,0.4s							
GLVR	**Golovnino**	**1.58**	**29**	*e*P	**Pn**	**08 06 27.5**	**-1.0**
GLVR				AMB	AMB	08 06 29.3	
comp=E,2μm,0.3s							
GLVR				*e*S	**Sn**	**08 06 48.2**	**+0.4**
GLVR				A	A	08 06 52.2	
comp=E,5μm,0.4s							
GLVR				A	A	08 06 52.2	
comp=E,7μm,0.4s							
JBT2	**Biratori 2**	**1.59**	**286**	A	A	08 06 28.1	
comp=N,4.0nm,4.3s,comp=E,4.0nm,2.7s							
JTKR	**Abashiri--Toko**	**1.65**	**340**	A	A	08 06 28.9	
comp=N,3.0nm,1.2s,comp=E,5.0nm,1.8s							
JMP	**Maruseppu**	**1.82**	**335**	A	A	08 06 31.4	
comp=N,12nm,0.8s,comp=E,11nm,0.9s							
RUSJ	**Misakicho**	**1.83**	**18**	*e*PN	**Pn**	**08 06 31.3**	**-0.6**
RUSJ				*e*S	**Sn**	**08 06 53.9**	**-0.1**
JIAM	**Iburiatsuma**	**1.89**	**279**	A	A	08 06 32.4	
comp=N,16nm,1.2s,comp=E,18nm,2.3s							
YUK	**Yuzh-Kuril'sk**	**1.96**	**31**	*e*PN	**Pn**	**08 06 32.1**	**-1.6**
YUK				*e*S	**Sn**	**08 06 56.8**	**-0.4**
YUK				pmax	pmax		
comp=N,289nm,0.3s							
YUK				pmax	pmax		
comp=E,364nm,0.3s							
YUK				pmax	pmax		
comp=Z,2μm,0.3s							
YUK				smax	smax		
comp=N,6μm,0.4s							
YUK				smax	smax		
comp=N,6μm,1.2s							
YUK				smax	smax		
comp=E,5μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.96**	**31**	*e*P	**Pn**	**08 06 32.5**	**-1.2**
YUK				AMB	AMB	08 06 34.8	
comp=E,2μm,0.4s							
YUK				*e*S	**Sn**	**08 06 57.0**	**-0.2**
YUK				A	A	08 07 00.8	
comp=E,6μm,0.5s							
YUK				A	A	08 07 00.8	
comp=E,5μm,0.5s							
JKA	**Kamikawa-asahi**	**2.21**	**323**		**Pn**	**08 06 37.0**	**0.0**
JKA	**Kamikawa-asahi**	**2.21**	**323**	*e*P	**Pn**	**08 06 37.5**	**+0.4**
ASAJ	**Asahikawa**	**2.21**	**323**	Pn	**Pn**	**08 06 37.5**	**+0.4**
comp=E,17nm,0.3s,baz=187,slow=15,SNR=35							
ASAJ				Sn	**Sb**	**08 07 07.1**	**-1.8**
comp=E,69nm,0.3s,baz=304,slow=22,SNR=12							
ASAJ				LR	LR	08 07 48.1	
comp=E,1μm,18.1s,baz=162,slow=50							
comp=E,96nm,0.3s							
JEW	**Eniwo**	**2.26**	**283**	A	A	08 06 37.9	
comp=N,6.0nm,2.3s,comp=E,6.0nm,1.2s							
JISS	**Ishikarishitsu**	**2.41**	**293**	A	A	08 06 39.9	
comp=N,10.0nm,2.2s,comp=E,7.0nm,3.6s							
JHR	**Hokuryu**	**2.42**	**306**	A	A	08 06 40.1	
comp=N,6.0nm,1.8s,comp=E,5.0nm,5.6s							
JAHD	**Aomorihigashid**	**2.57**	**246**	A	A	08 06 42.1	
comp=N,8.0nm,1.4s,comp=E,8.0nm,1.4s							
JTM	**Tenmabayashi**	**2.98**	**239**		**Pn**	**08 06 47.4**	**-0.3**
JTM	**Tenmabayashi**	**2.98**	**239**	P	**Pn**	**08 06 48.0**	**+0.3**
JTM	**Tenmabayashi**	**2.98**	**239**	S	**Sn**	**08 07 22.7**	**+0.3**
KUR	**Kuril'sk**	**3.79**	**40**	*e*PN	**Pn**	**08 06 58.9**	**+0.2**
KUR				*e*S	**Sn**	**08 07 42.8**	**+0.6**
KUR				pmax	pmax		
comp=Z,275nm,1.0s							
KUR				smax	smax		
comp=E,332nm,1.2s							
KUR				smax	smax		
comp=N,217nm,0.8s							
KUR				MLR	MLR		
comp=Z,2μm,12.0s							
KUR	**Kuril'sk**	**3.79**	**40**	*e*P	**Pn**	**08 06 58.9**	**+0.2**
KUR				AMB	AMB	08 07 00.9	
comp=Z,430nm,0.5s							
KUR				*e*S	**Sn**	**08 07 41.8**	**-0.4**
KUR				A	A	08 07 50.5	
comp=Z,460nm,0.4s							
KUR				A	A	08 07 50.5	
comp=Z,690nm,0.4s							
YSS	**Yuzhno-Sakhali**	**4.74**	**346**	Pn	**Pn**	**08 07 13.3**	**+1.5**
YSS	**Yuzhno-Sakhali**	**4.74**	**346**	P	Pb	08 07 19.0	-6.0
YSS	**Yuzhno-Sakhali**	**4.74**	**346**	*e*PN	**Pn**	**08 07 12.6**	**+0.7**
YSS				pmax	pmax		
comp=Z,20nm,1.1s							
YSS				MLR	MLR		
comp=Z,900nm,16.0s							
YSS				MLR	MLR		
comp=N,600nm,15.0s							
YSS				MLR	MLR		
comp=E,1μm,15.0s							
YSS	**Yuzhno-Sakhali**	**4.74**	**346**	*e*P	**Pn**	**08 07 13.2**	**+1.3**
YSS				AMB	AMB	08 07 17.4	
comp=E,20nm,0.7s							
YSS				*e*S	**Sn**	**08 08 08.0**	**+2.3**
YSS				A	A	08 08 09.1	
comp=E,50nm,0.7s							
YSS				A	A	08 08 09.1	
comp=E,30nm,0.7s							
JMM	**Marumori**	**5.29**	**213**		**Pn**	**08 07 18.3**	**-1.2**
TEY	**Ternei**	**6.28**	**298**	*e*PN	**Pn**	**08 07 34.4**	**+1.4**
JSD	**Sado**	**6.41**	**230**		**Pn**	**08 07 34.8**	**0.0**
JSD	**Sado**	**6.41**	**230**	P	**Pn**	**08 07 35.1**	**+0.3**
MAJO	**Matsushiro**	**7.55**	**222**		**Pn**	**08 07 50.3**	**-0.2**
MAJO	**Matsushiro**	**7.55**	**222**	P	**Pn**	**08 07 53.4**	**+2.8**
MAJO	**Matsushiro**	**7.55**	**222**	PN	**Pn**	**08 07 50.3**	**-0.2**
MJAR	**Matsushiro Arr**	**7.55**	**222**		**Pn**	**08 07 50.2**	**-0.3**
MJAR	**Matsushiro Arr**	**7.55**	**222**	Pn	**Pn**	**08 07 51.6**	**+1.0**
comp=E,0.3nm,0.3s,baz=29,slow=13,SNR=23							
MJAR				LR	LR	08 11 28.9	
comp=E,621nm,19.4s,baz=96,slow=44							
comp=E,10nm,0.7s							
MJB9	**Matsu-Tunnel**	**7.55**	**222**		**Pn**	**08 07 50.5**	**0.0**
TYV	**Tymovskoe**	**8.59**	**352**	*e*PN	**Pn**	**08 08 06.5**	**+1.9**
TYV				pmax	pmax		
comp=Z,14nm,1.1s							
TYV				pmax	pmax		
comp=Z,100nm,2.9s							
TYV				MLR	MLR		
comp=Z,600nm,13.0s							
TYV	**Tymovskoe**	**8.59**	**352**	*e*P	**Pn**	**08 08 06.5**	**+1.9**
TYV				AMB	AMB	08 08 08.2	
comp=Z,10.0nm,1.0s							
TYV				*e*S	**Sn**	**08 09 41.0**	**+0.7**
TYV				A	A	08 09 41.9	
comp=Z,10.0nm,1.0s							
TYV				A	A	08 09 41.9	
comp=Z,10.0nm,1.0s							
JGF	**Kuroka**	**8.72**	**222**	Pn	**Pn**	**08 08 07.4**	**+0.8**
INU	**Inuyama**	**9.09**	**222**	Pn	**Pn**	**08 08 12.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.27**	**286**	Pn	**Pn**	**08 08 15.5**	**+1.5**
comp=Z,0.2nm,0.3s,baz=106,slow=11,SNR=5.2							
MSHR	**Mys Shultsa**	**9.82**	**276**	*e*PN	**Pn**	**08 08 19.0**	**-2.6**
MSHR				pmax	pmax		
comp=Z,27nm,1.7s							
JMN	**Monobe**	**11.98**	**227**	Pn	**Pn**	**08 08 52.0**	**+0.8**
PAU	**Pauzhetka**	**12.41**	**39**	*e*P	**Pn**	**08 08 56.2**	**-0.6**
BNX	**BinXian**	**12.71**	**291**	⇑P	**Pn**	**08 09 00.9**	**-0.2**
BNX				pmax	pmax		
comp=Z,6.0nm,1.2s							
KSRS	**Korea Array**	**13.60**	**254**	Pn	**Pn**	**08 09 14.6**	**+1.4**
comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=6.6							
comp=Z,2.0nm,0.9s							
PEA0B	**Petropavlovsk-**	**13.94**	**35**	Pn	**Pn**	**08 09 17.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**13.94**	**35**	P	**Pn**	**08 09 17.1**	**-0.7**
PETK	**Petropavlovsk-**	**13.94**	**35**	Pn	**Pn**	**08 09 14.6**	**-3.2**
PETK	**Petropavlovsk-**	**13.94**	**35**	Pn	**Pn**	**08 09 14.4**	**-3.3**
comp=Z,0.4nm,0.3s,baz=163,slow=9.4,SNR=10							
PETK				LR	LR	08 14 38.0	
comp=Z,184nm,19.3s,baz=233,slow=38							
comp=Z,4.9nm,0.9s							
PETK	**Petropavlovsk-**	**13.94**	**35**	P	**Pn**	**08 09 14.6**	**-3.2**
JNU	**Nakatsue**	**14.14**	**234**	LR	LR	08 15 07.5	
comp=Z,363nm,19.7s,baz=50,slow=39							
HEH	**HeiHe**	**14.15**	**310**	*e*P	**Pn**	**08 09 22.8**	**+2.2**
HEH				LR	LR		
comp=Z,350nm,19.4s							
HEH				LR	LR		
comp=Z,470nm,17.1s							
HEH				LR	LR		
comp=Z,570nm,18.4s							
PET	**Petropavlovsk**	**14.29**	**37**	*i* P	**Pn**	**08 09 23.3**	**+0.7**
PET	**Petropavlovsk**	**14.29**	**37**	*e*P	**Pn**	**08 09 21.3**	**-1.3**
ZEA	**Zeya**	**16.12**	**321**	*e*P	**P**	**08 09 49.7**	**0.0**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
ZEA				MLR	MLR		
comp=E,300nm,14.0s							
ZEA				MLR	MLR		
comp=N,200nm,13.0s							
ZEA				MLR	MLR		
comp=Z,300nm,15.0s							
MA2	**Magadan**	**17.67**	**11**	LR	LR	08 16 24.2	
comp=Z,139nm,21.1s,baz=166,slow=36							
MA2	**Magadan**	**17.67**	**11**	*e*P	**P**	**08 10 06.9**	**+0.1**
MA2				pmax	pmax		
comp=Z,42nm,1.7s							
HILR	**Hailar Array B**	**18.56**	**301**	P	**P**	**08 10 16.2**	**-0.5**
comp=Z,1.0nm,0.4s,baz=109,slow=12,SNR=4.2							
JOW	**Kunigami**	**20.37**	**226**	P	**P**	**08 10 33.9**	**-2.7**
JOW	**Kunigami**	**20.37**	**226**	LR	LR	08 19 01.8	
comp=Z,130nm,20.5s,baz=57,slow=38							
SEY	**Seymchan**	**21.12**	**10**	P	**P**	**08 10 41.5**	**-2.9**
comp=Z,8.2nm,1.0s,baz=195,slow=9.6,SNR=7.8							
SEY				LR	LR	08 18 45.5	
comp=Z,131nm,20.1s,baz=182,slow=36							
comp=Z,8.2nm,1.0s							
SEY	**Seymchan**	**21.12**	**10**	*i* P	**P**	**08 10 41.8**	**-2.6**
SEY				pmax	pmax		
comp=Z,9.0nm,1.1s							
YAK	**Yakutsk**	**21.57**	**341**	LR	LR	08 19 40.9	
comp=Z,70nm,19.7s,baz=140,slow=38							
YAK	**Yakutsk**	**21.57**	**341**	*e*P	**P**	**08 10 48.6**	**-0.6**
YAK				*e*		08 11 09.9	
YAK				*e*S	**S**	**08 14 47.1**	**+0.8**
YAK				*e**SS	**sS**	**08 15 01.6**	**+2.2**
YAK				*e*SS	**SnSn**	**08 15 13.7**	**+2.8**
YAK				pmax	pmax		
comp=Z,16nm,0.9s							
YAK				pmax	pmax		
comp=N,4.0nm,1.0s							
YAK				pmax	pmax		
comp=E,4.0nm,1.1s							
YAK				pmax	pmax		
comp=Z,122nm,3.5s							
YAK				pmax	pmax		
comp=N,99nm,3.0s							
YAK				pmax	pmax		
comp=E,65nm,3.5s							
YAK				smax	smax		
comp=E,69nm,2.5s							
YAK				smax	smax		
comp=N,32nm,2.1s							
TIA	**Tai'an**	**21.97**	**263**	P	**P**	**08 10 50.8**	**-2.9**
TIA				pmax	pmax		
comp=N,4.0nm,0.4s							
NJ2	**Nanjing**	**22.76**	**251**	*e*P	**P**	**08 11 00.4**	**-1.7**
NJ2				pmax	pmax		
comp=N,15nm,0.5s							
NJ2				LR	LR		
comp=N,250nm,13.3s							
NJ2				LR	LR		
comp=N,320nm,15.2s							
NJ2				LR	LR		
comp=N,540nm,13.3s							
HNS	**HongShan**	**23.29**	**268**	⇓P	**P**	**08 11 08.4**	**+0.9**
HNS				*e*S	**S**	**08 15 20.9**	**+3.2**
HNS				LR	LR		
comp=N,280nm,14.3s							
HNS				LR	LR		
comp=N,310nm,15.9s							
HHC	**Hu-ho-hao-te**	**24.55**	**278**	*e*P	**P**	**08 11 19.4**	**-0.1**
HHC				S	**S**	**08 15 34.1**	**-4.1**
HHC				pmax	pmax		
comp=N,22nm,0.7s							
HHC				pmax	pmax		
comp=N,100nm,5.9s							
HHC				LR	LR		
comp=N,190nm,13.5s							
HHC				LR	LR		
comp=N,280nm,15.8s							
HHC				LR	LR		
comp=N,310nm,18.8s							
BTO	**Baotou**	**25.75**	**278**	*e*P	**P**	**08 11 28.3**	**-2.0**
BTO				pP	**pP**	**08 11 37.5**	**-1.7**
BTO				sP	**sP**	**08 11 41.8**	**-1.2**
BTO				S	**S**	**08 15 50.9**	**-6.4**
BTO				sS	**pS**	**08 16 09.4**	**+2.1**
BTO				SS	**SnSn**	**08 16 55.1**	**+1.5**
BTO				pmax	pmax		
comp=N,18nm,1.4s							
BTO				pmax	pmax		
comp=N,190nm,8.8s							
BTO				LR	LR		
comp=N,290nm,15.4s							
BTO				LR	LR		
comp=N,520nm,17.3s							
BTO				LR	LR		
comp=N,470nm,18.6s							
ULN	**Ulaanbaatar**	**26.77**	**295**	*i* P	**P**	**08 11 39.0**	**-0.6**
ULN				pmax	pmax		
comp=Z,5.0nm,1.1s							
ULN	**Ulaanbaatar**	**26.77**	**295**	*e*P	**P**	**08 11 39.0**	**-0.6**
WHN	**Wuhan**	**26.79**	**254**	P	**P**	**08 11 41.8**	**+2.1**
SONM	**Songino Array**	**27.21**	**295**		**P**	**08 11 44.0**	**+0.5**
SONM	**Songino Array**	**27.21**	**295**	P	**P**	**08 11 44.4**	**+0.9**
comp=Z,1.9nm,0.6s,baz=79,slow=7.2,SNR=9.0							
comp=Z,1.9nm,0.6s							
BILL	**Bilibino**	**28.25**	**17**	*i* P	**P**	**08 11 55.9**	**+3.5**
BILL				pmax	pmax		
comp=Z,4.0nm,1.1s							
ZAK	**Zakamensk**	**29.20**	**300**	*e*P	**P**	**08 12 00.9**	**-0.3**
ZAK				pmax	pmax		
comp=Z,9.0nm,1.8s							
H11N2	**WAKE ISLAND Hy**	**29.48**	**133**	T	T	08 43 22.9	
baz=326,slow=75,SNR=2116							
H11N1	**WAKE ISLAND Hy**	**29.49**	**133**	T	T	08 43 21.5	
baz=326,slow=75,SNR=1599							
H11N3	**WAKE ISLAND Hy**	**29.50**	**133**	T	T	08 43 21.2	
baz=326,slow=75,SNR=1180							
TIXI	**Tiksi**	**30.35**	**350**	LR	LR	08 25 25.7	
comp=Z,112nm,20.9s,baz=196,slow=38							
H11S1	**WAKE ISLAND Hy**	**30.38**	**135**	T	T	08 44 26.3	
baz=327,slow=76,SNR=1872							
H11S3	**WAKE ISLAND Hy**	**30.38**	**135**	T	T	08 44 28.9	
baz=327,slow=76,SNR=1053							
H11S2	**WAKE ISLAND Hy**	**30.40**	**135**	T	T	08 44 26.7	
baz=327,slow=76,SNR=1187							
LZH	**Lanzhou**	**31.84**	**272**	*e*P	**P**	**08 12 22.8**	**-1.9**
LZH				sP	sP	08 12 38.3	+0.8
LZH				pmax	pmax		
comp=Z,24nm,0.6s							
LZH				LR	LR		
comp=Z,140nm,17.9s							
LZH				LR	LR		
comp=Z,250nm,16.5s							
LZH				LR	LR		
comp=Z,180nm,15.5s							
SPIA	**Saint Paul Isl**	**32.12**	**47**	P	**P**	**08 12 27.2**	**+0.5**
baz=262							
P08K	**Saint George I**	**32.43**	**48**	P	**P**	**08 12 29.4**	**0.0**
baz=264							
NIKH	**Nikolski High**	**32.64**	**55**	P	**P**	**08 12 31.4**	**+0.1**
baz=270							
GAMB	**Gambell**	**32.97**	**34**	P	**P**	**08 12 34.7**	**+0.6**
baz=251							
GTA	**Gaotai**	**33.58**	**280**	*e*P	**P**	**08 12 41.4**	**+1.5**
GTA				pP	sP	08 12 52.8	+0.2
GTA				pmax	pmax		
comp=Z,5.0nm,0.9s							
GTA				LR	LR		
comp=Z,170nm,16.0s							
GTA				LR	LR		
comp=Z,130nm,17.5s							
GTA				LR	LR		
comp=Z,230nm,16.0s							
K13K	**Kusilvak Mount**	**35.65**	**39**	P	**P**	**08 12 57.7**	**+0.5**
baz=261							
F14K	**Arctic Creek**	**35.70**	**33**	P	**P**	**08 12 57.5**	**-0.1**
baz=254							
M13K	**Dall Lake**	**36.07**	**42**	P	**P**	**08 13 01.1**	**+0.2**
baz=264							
F15K	**North Star Dit**	**36.43**	**33**	P	**P**	**08 13 04.1**	**+0.2**
baz=256							
L14K	**Kuka Creek**	**36.50**	**40**	P	**P**	**08 13 05.0**	**+0.4**
baz=264							
G15K	**Niukluk**	**36.51**	**34**	P	**P**	**08 13 04.7**	**+0.1**
baz=257							
S12K	**Black Hills**	**36.58**	**50**	P	**P**	**08 13 05.1**	**-0.2**
baz=272							
M14K	**Bethel**	**36.79**	**41**	P	**P**	**08 13 07.0**	**0.0**
baz=265							
N14K	**Kuskokwak Cree**	**36.86**	**43**	P	**P**	**08 13 07.2**	**-0.4**
baz=266							
C16K	**Lisburne Hills**	**36.90**	**28**	P	**P**	**08 13 07.5**	**-0.4**
baz=252							
O14K	**Tigyukauivet M**	**37.04**	**44**	P	**P**	**08 13 09.0**	**-0.2**
baz=268							
L15K	**Ungalak Mounta**	**37.10**	**40**	P	**P**	**08 13 09.7**	**0.0**
baz=264							
K15K	**Wolf Creek Mou**	**37.15**	**39**	P	**P**	**08 13 10.4**	**+0.2**
baz=263							
H16K	**Elim**	**37.19**	**35**	P	**P**	**08 13 09.9**	**-0.5**
baz=260							
G16K	**Koyuk River**	**37.29**	**34**	P	**P**	**08 13 11.3**	**0.0**
baz=258							
QIZ	**

baz=267
J16K **Anvik River** 37.70 37 P P 08 13 14.8 +0.1
baz=263
RDOG **Red Dog Mine** 37.70 29 P P 08 13 14.6 -0.1
baz=254
C17K **DeLong Mountai** 37.73 29 P P 08 13 15.0 0.0
baz=254
I17K **Unalakleet** 37.74 36 P P 08 13 14.9 -0.1
baz=262
O15K **Ungalikthiuk R** 37.77 44 P P 08 13 15.1 -0.3
baz=269
G17K **Kiwalik Mounta** 38.01 34 P P 08 13 17.3 0.0
baz=260
CHNA **Chernabura Isl** 38.04 51 P P 08 13 17.2 -0.4
baz=275
L16K **Owhat River** 38.06 40 P 08 13 18.5 +0.7
L16K IAmb IAmb 08 13 21.1
comp=Z,12nm,1.1s
L16K **Owhat River** 38.06 40 P P 08 13 17.7 -0.1
baz=266
PZH **PanZhiHua** 38.18 259 P P 08 13 19.3 -0.1
H17K **Granite Mounta** 38.22 35 P P 08 13 18.9 -0.3
baz=262
M16K **Timber Creek** 38.27 41 P P 08 13 19.7 +0.1
baz=267
N16K **Nishlik Lake** 38.34 42 P P 08 13 20.3 0.0
baz=268
J17K **VABM Dome** 38.39 37 P P 08 13 20.8 +0.2
baz=264
E18K **Tukpahlearik C** 38.40 31 P P 08 13 20.5 -0.2
baz=258
B18K **Kokolik River** 38.45 27 P P 08 13 20.5 -0.5
baz=254
C18K **Utukok River** 38.47 29 P P 08 13 21.1 -0.2
C18K **Utukok River** 38.47 29 P P 08 13 20.6 -0.7
baz=256
F18K **Selawik** 38.61 32 P P 08 13 22.2 -0.1
baz=260
L17K **Donlin** 38.65 39 P P 08 13 22.9 +0.2
baz=267
K17K **Iditarod** 38.69 38 P P 08 13 23.4 +0.4
baz=266
G18K **Tagagawik** 38.89 33 P P 08 13 25.2 +0.5
G18K IAmb IAmb 08 13 25.6
comp=Z,23nm,1.4s
G18K **Tagagawik** 38.89 33 P P 08 13 25.1 +0.4
baz=262,SNR=6.3
H18K **Honhosa River** 38.91 34 IAmb IAmb 08 13 26.1
comp=Z,10nm,0.8s
H18K **Honhosa River** 38.91 34 P P 08 13 24.8 -0.1
baz=263
DAV **Davao City (W)** 38.91 211 LR LR 08 28 11.0
comp=Z,60nm,20.7s,baz=117,slow=34
A19K **Wainwright** 38.93 26 P P 08 13 24.8 -0.1
baz=254
M17K **Holitna River** 39.02 40 P 08 13 26.9 +1.1
M17K **Holitna River** 39.02 40 P P 08 13 26.1 +0.3
baz=268
C19K **Lookout Ridge** 39.15 28 P P 08 13 26.9 0.0
baz=257
O17K **Koliganek Bris** 39.17 43 P P 08 13 27.2 +0.1
baz=271
F19K **Shaleruckik Mo** 39.38 32 P P 08 13 29.0 +0.2
baz=261
L18K **Granite Mounta** 39.41 39 P 08 13 30.3 +1.2
L18K IAmb IAmb 08 13 33.1
comp=Z,15nm,1.2s
L18K **Granite Mounta** 39.41 39 P P 08 13 29.0 -0.1
baz=268
Q16K **King Salmon** 39.42 45 P P 08 13 29.3 +0.1
baz=272
J18K **Innoko River** 39.46 37 P P 08 13 29.7 +0.2
baz=266
GCSA **Galena City Sc** 39.49 35 P P 08 13 29.9 +0.2
baz=265
D19K **Kuna River** 39.54 29 IAmb IAmb 08 13 31.9
comp=Z,17nm,1.1s
D19K **Kuna River** 39.54 29 P P 08 13 29.6 -0.6
baz=259
E19K **Redstone River** 39.69 31 P P 08 13 31.8 +0.4
baz=261
H19K **Roundabout Mou** 39.75 34 P 08 13 32.3 +0.5
H19K **Roundabout Mou** 39.75 34 P P 08 13 32.0 +0.2
baz=264,SNR=12
N18K **Kilae Creek** 39.77 42 P P 08 13 32.4 +0.3
baz=270
M18K **Stony River** 39.80 40 P P 08 13 33.0 +0.7
baz=270
Q17K **Contact Creek** 39.85 45 P P 08 13 33.4 +0.5
baz=273
J19K **Poorman** 39.98 36 P P 08 13 33.8 0.0
baz=267
O18K **Koktuh Hills** 40.12 43 P P 08 13 35.2 +0.1
baz=272
D20K **Etivluk River** 40.12 29 IAmb IAmb 08 13 44.0
comp=Z,16nm,1.1s
D20K **Etivluk River** 40.12 29 P P 08 13 34.9 -0.1
baz=260
P18K **Big Mountain,** 40.13 44 P P 08 13 35.5 +0.3
baz=273
B20K **Meade River** 40.18 27 P P 08 13 35.1 -0.3
baz=258
E20K **Nigu River** 40.20 30 P P 08 13 35.8 +0.1
baz=261
F20K **Avaraart Lake** 40.21 32 P P 08 13 35.9 +0.2
baz=263
L19K **White Mountain** 40.26 39 P P 08 13 36.4 +0.2
baz=270
ZAA0 **Zalesovo Array** 40.27 308 P 08 13 36.1 -0.2
ZALV **Zalesovo Beam** 40.27 308 P 08 13 36.8 +0.5
ZALV **Zalesovo Beam** 40.27 308 P P 08 13 35.9 -0.4
comp=Z,3.9nm,0.7s,baz=83,slow=7.1,SNR=9.5
ZALV LR LR 08 31 21.1
comp=Z,93nm,19.4s,baz=94,slow=38
comp=Z,3.9nm,0.7s
ZALV **Zalesovo Beam** 40.27 308 P P 08 13 36.8 +0.5
Q18K **Katmai Hardscr** 40.28 45 P P 08 13 36.4 -0.1
baz=274
H20K **Anotleneega Mo** 40.39 34 P P 08 13 37.1 -0.2
baz=266,SNR=6.3
N19K **Bonanza Creek** 40.45 41 P P 08 13 38.0 +0.1
baz=272
I20K **Naaghedeneel** 40.52 35 P P 08 13 38.6 +0.4
baz=267
O19K **Port Alsworth** 40.55 42 P P 08 13 38.8 +0.2
baz=272
J20K **Nowinta River** 40.63 36 P P 08 13 39.6 +0.4
baz=268
A21K **Barrow** 40.64 25 P P 08 13 38.8 -0.3
baz=257
R18K **Karluk** 40.66 46 P P 08 13 39.4 -0.1
baz=275
L20K **Farewell, AK** 40.72 39 P P 08 13 40.3 +0.3
baz=270
WMQ **Urumqi** 40.77 292 *e*P P 08 13 42.5 +1.8
WMQ LR LR
comp=Z,170nm,19.5s
C21K **Knifeblade Rid** 40.85 29 P P 08 13 41.5 +0.6
baz=262
IMAR **Indian Mountai** 40.90 33 P P 08 13 41.7 +0.3
SII **Sitkinak Islan** 40.91 48 P P 08 13 41.4 -0.3
baz=277
B21K **Ikpikpuk River** 40.98 28 P P 08 13 42.0 0.0
baz=261
G21K **Allakaket** 41.03 33 IAmb IAmb 08 13 43.8
comp=Z,15nm,1.1s
G21K **Allakaket** 41.03 33 P P 08 13 42.8 +0.3
baz=266
E21K **Killik River** 41.04 30 P P 08 13 42.4 -0.2
baz=263
M20K **Styx River** 41.08 40 P P 08 13 43.2 +0.2
baz=272
F21K **Alatna River** 41.10 32 P P 08 13 43.3 +0.3
baz=265
H21K **Melozitna Rive** 41.27 34 P P 08 13 43.3 -1.1
H21K **Melozitna Rive** 41.27 34 P P 08 13 44.2 -0.2
baz=267
OHAK **Old Harbor** 41.33 47 P P 08 13 44.7 -0.2
baz=277
O20K **Slope Mountain** 41.41 42 P P 08 13 46.0 +0.3
baz=274
CHUM **Lake Minchumin** 41.43 37 P P 08 13 45.4 -0.4
baz=270
B22K **Teshekpuk Lake** 41.50 27 P P 08 13 45.9 -0.3
baz=262
PPLA **Purkeypile** 41.50 38 P 08 13 47.5 +1.0
PPLA **Purkeypile** 41.50 38 P P 08 13 46.3 -0.2
baz=271

SPCR **Spurr Chakacha** 41.55 41 P P 08 13 46.7 -0.2
baz=273
D22K **Ayikyak River** 41.56 29 P P 08 13 46.7 -0.1
baz=264
I21K **Tanana** 41.59 35 P P 08 13 47.6 +0.5
baz=269
SPU **Mount Spurr** 41.62 41 P P 08 13 48.4 +1.0
F22K **John River** 41.63 31 P P 08 13 46.9 -0.4
baz=266
KDAK **Kodiak Island** 41.64 46 P P 08 13 47.3 -0.3
baz=277
Q20K **Shuyak Island** 41.65 45 P P 08 13 47.4 -0.3
baz=276
E22K **Anaktuvuk Pass** 41.81 30 P P 08 13 48.3 -0.6
baz=266
G22K **Bettles** 41.85 32 P P 08 13 48.9 -0.3
baz=267
H22K **Ishtalitna Cre** 41.86 34 P P 08 13 49.2 -0.1
baz=268
BPAW **Bear Paw Mtn.** 42.02 36 P P 08 13 50.6 0.0
baz=271
MLY **Manley** 42.12 35 P P 08 13 51.3 -0.2
baz=270,SNR=7.5
D23K **Nanushuk River** 42.29 29 P P 08 13 53.1 +0.3
baz=266
TRF **Thorofare Moun** 42.34 37 P P 08 13 53.5 0.0
baz=272
COLD **Coldfoot** 42.38 32 IAmb IAmb 08 13 53.7
comp=Z,16nm,1.4s
COLD **Coldfoot** 42.38 32 P P 08 13 52.9 -0.6
baz=268
C23K **Itkillik River** 42.39 28 P P 08 13 53.2 -0.3
baz=265
CUT **Chulitna** 42.40 39 P P 08 13 53.8 +0.1
baz=273
G23K **Bananza Creek** 42.43 32 P P 08 13 53.5 -0.5
baz=269
H23K **Yukon River** 42.62 34 IAmb IAmb 08 13 57.2
comp=Z,12nm,0.8s
H23K **Yukon River** 42.62 34 P P 08 13 55.2 -0.3
baz=270
E23K **Chandalar** 42.63 30 P P 08 13 55.9 +0.2
baz=268
TOLK **Toolik Lake Re** 42.67 30 P P 08 13 56.0 0.0
baz=267
I23K **Minto, Yukon-K** 42.70 35 P P 08 13 56.1 0.0
baz=271
RC01 **Rabbit Creek A** 42.75 41 P P 08 13 56.7 +0.1
baz=275
NEA2 **Nenana** 42.84 36 IAmb IAmb 08 13 59.9
comp=Z,16nm,1.2s
NEA2 **Nenana** 42.84 36 P P 08 13 57.6 +0.3
baz=272,SNR=9.8
MCK **McKinley** 42.94 37 IAmb IAmb 08 14 03.2
comp=Z,13nm,1.2s
MCK **McKinley** 42.94 37 P P 08 13 58.1 +0.1
baz=273
D24K **Happy Valley** 42.97 29 P P 08 13 57.7 -0.6
baz=267
RND **Reindeer** 42.99 37 IAmb IAmb 08 14 00.5
comp=Z,14nm,1.1s
PMR **Palmer** 43.00 40 P P 08 13 58.4 -0.1
baz=275
C24K **Franklin Bluff** 43.04 28 P P 08 13 58.9 +0.1
baz=267
E24K **Your Creek** 43.05 30 P P 08 13 59.2 +0.2
baz=269
GHO **Glory Hole Cre** 43.08 40 IAmb IAmb 08 14 02.7
comp=Z,8.9nm,0.8s
WAT1 **Susitna Watana** 43.17 38 P P 08 13 59.6 -0.4
baz=274
F24K **Squaw Lake** 43.28 31 P P 08 14 01.1 +0.3
baz=270
H24K **Noodor Dome** 43.30 34 IAmb IAmb 08 14 02.9
comp=Z,9.0nm,0.9s
H24K **Noodor Dome** 43.30 34 P P 08 14 01.0 -0.1
baz=272
KNK **Knik Glacier** 43.33 40 P P 08 14 01.6 +0.3
KNK IAmb IAmb 08 14 05.0
comp=Z,17nm,1.1s
KNK **Knik Glacier** 43.33 40 P P 08 14 02.3 +1.0
baz=276
COLA **College** 43.35 35 P P 08 14 00.8 -0.5
COLA IAmb IAmb 08 14 04.1
comp=Z,8.5nm,0.8s
COLA **College** 43.35 35 *i* P P 08 14 01.4 +0.1
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA **College** 43.35 35 P P 08 14 01.7 +0.3
baz=273
SML **Sawmill** 43.35 40 P P 08 14 01.9 +0.4
baz=276,SNR=7.6
G24K **Hadweenzic Riv** 43.44 32 P P 08 14 02.2 +0.1
baz=271
PWL **Port Wells** 43.45 41 P P 08 14 02.4 +0.1
baz=277
MK31 **Makanchi Array** 43.48 298 *i* P P 08 14 02.4 -0.3
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 43.48 298 P P 08 14 02.4 -0.3
comp=Z,0.6nm,0.4s,baz=85,slow=8.2,SNR=6.8
MKAR LR LR 08 34 03.6
comp=Z,101nm,19.2s,baz=46,slow=39
comp=Z,0.6nm,0.4s
MKAR **Makanchi Array** 43.48 298 *i* P P 08 14 02.5 -0.2
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR **Makanchi Array** 43.48 298 *e*P P 08 14 02.5 -0.2
POKR **Poker Plat Res** 43.52 35 P P 08 14 02.7 -0.1
baz=273
WAT6 **Susitna Watana** 43.56 38 P P 08 14 02.7 -0.6
baz=275
M23K **Glacier View** 43.64 40 P P 08 14 03.9 +0.1
baz=276
MAKZ **Makanchi** 43.68 298 P 08 14 04.1 -0.2
MAKZ **Makanchi** 43.68 298 P P 08 14 04.1 -0.2
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
DHY **Denali Highway** 43.68 38 IAmb IAmb 08 14 06.5
comp=Z,10.0nm,1.1s
DHY **Denali Highway** 43.68 38 P P 08 14 03.9 -0.3
baz=275
HDA **Harding Lake** 43.77 36 P P 08 14 04.9 +0.2
baz=274
IL31 43.77 35 IAmb IAmb 08 14 06.7
comp=Z,7.2nm,0.7s
ILAR **Eielson Array** 43.77 35 P 08 14 04.6 -0.1
ILAR **Eielson Array** 43.77 35 P P 08 14 04.5 -0.3
comp=Z,5.9nm,0.8s,baz=266,slow=5.8,SNR=58
comp=Z,5.9nm,0.8s
SCM **Sheep Creek Mo** 43.83 40 IAmb IAmb 08 14 09.6
comp=Z,13nm,1.1s
SCM **Sheep Creek Mo** 43.83 40 P P 08 14 05.2 -0.1
baz=276
D25K **Kavik River** 43.85 29 P P 08 14 05.4 0.0
baz=270
G25K **Bearman Lake** 43.99 32 P P 08 14 06.9 +0.5
baz=272
H25L **Birch Creek** 44.12 33 P P 08 14 07.6 +0.1
baz=273
F25K **Christian Rive** 44.14 31 P P 08 14 07.9 +0.2
baz=272
E25K **Arctic Village** 44.15 30 P P 08 14 07.8 0.0
baz=272
PRP **Porcupine Dome** 44.29 34 IAmb IAmb 08 14 11.1
comp=Z,9.9nm,0.9s
PRP **Porcupine Dome** 44.29 34 P P 08 14 09.0 -0.1
baz=274,SNR=12
M24K **Tolsona, Glenn** 44.34 39 P P 08 14 10.0 +0.6
baz=277
FYU **Fort Yukon** 44.34 33 IAmb IAmb 08 14 11.2
comp=Z,14nm,0.9s
J25K **Salcha River,** 44.43 35 P P 08 14 10.3 +0.2
baz=275
KLU **Klutina** 44.53 40 IAmb IAmb 08 14 15.1
comp=Z,10nm,1.0s
KLU **Klutina** 44.53 40 P P 08 14 11.2 +0.2
baz=278
PAX **Paxson** 44.56 38 P P 08 14 11.6 +0.4
baz=277
Q23K **Middleton Isla** 44.64 43 P P 08 14 11.9 +0.1
baz=280
DIV **Divide** 44.66 40 P 08 14 12.7 +0.7
DIV IAmb IAmb 08 14 16.2
comp=Z,12nm,1.0s
KURK **Kurchatov** 44.67 304 P 08 14 11.8 -0.3
KURK IAmb IAmb 08 14 28.6
comp=Z,7.6nm,1.1s

KURK **Kurchatov** 44.67 304 P P 08 14 12.5 +0.4
KURK **Kurchatov** 44.67 304 *e*P P 08 14 12.5 +0.4
F26K **Sheenjek River** 44.70 31 P P 08 14 13.0 +0.8
baz=273
RIDG **Independent Ri** 44.75 37 P P 08 14 12.9 +0.2
baz=277
KURBB **Kurchatov Arra** 44.75 304 P P 08 14 12.5 -0.3
comp=Z,2.5nm,0.7s,baz=74,slow=8.8,SNR=15
comp=Z,2.5nm,0.7s
EYAK **Cordova Ski Ar** 44.76 41 P P 08 14 12.7 +0.1
baz=279
HARP **HAARP** 44.77 39 P P 08 14 12.8 0.0
baz=278
C27K **Jago River** 44.78 28 P P 08 14 13.2 +0.4
baz=272
G26K **Porcupine Rive** 44.89 32 IAmb IAmb 08 14 15.5
comp=Z,6.6nm,0.9s
G26K **Porcupine Rive** 44.89 32 P P 08 14 14.0 +0.3
baz=274
SCRK **Sand Creek** 45.10 36 IAmb IAmb 08 14 17.0
comp=Z,9.5nm,0.9s
SCRK **Sand Creek** 45.10 36 P P 08 14 15.7 +0.2
baz=277,SNR=17
N25K **Chitina, Valde** 45.15 40 P P 08 14 16.4 +0.5
baz=279
J26L **Joseph Creek** 45.22 35 P P 08 14 16.6 +0.1
baz=277
CMAR **Chiaiaq Mai Arr** 45.23 253 P P 08 14 19.8 +2.8
comp=Z,0.7nm,0.3s,baz=56,slow=9.0,SNR=1.0
CMAR LR LR 08 34 57.4
comp=Z,148nm,18.2s,baz=50,slow=38
BMRM **Bremner River** 45.24 40 IAmb IAmb 08 14 19.4
comp=Z,9.7nm,1.0s
BMRM **Bremner River** 45.24 40 P P 08 14 16.9 +0.3
baz=280
I26K **Coal Creek Min** 45.30 34 P P 08 14 17.2 +0.2
baz=276
L26K **Log Cabin Wild** 45.51 37 IAmb IAmb 08 14 22.1
comp=Z,8.5nm,1.1s
L26K **Log Cabin Wild** 45.51 37 P P 08 14 19.0 +0.3
baz=278
KAIM **Kayak Island** 45.52 42 P P 08 14 18.7 -0.1
baz=281
E27K **Coleen River** 45.63 30 P P 08 14 19.3 -0.3
baz=275
G27K **Doyon Strip** 45.74 32 P P 08 14 20.4 -0.1
baz=276
M26K **Nabesna, AK** 45.77 38 IAmb IAmb 08 14 25.4
comp=Z,9.3nm,1.0s
M26K **Nabesna, AK** 45.77 38 P P 08 14 20.9 +0.2
baz=279
H27K **Steamboat Moun** 45.86 33 IAmb IAmb 08 14 24.6
comp=Z,6.8nm,0.9s
H27K **Steamboat Moun** 45.86 33 P P 08 14 21.2 -0.2
baz=277,SNR=5.7
I27K **Kandik River** 45.90 34 P P 08 14 21.8 0.0
baz=278
K27K **Chicken** 45.92 36 P P 08 14 22.0 +0.1
baz=279
MCARA **McCarthy VSAT** 45.93 40 IAmb IAmb 08 14 26.3
comp=Z,10nm,0.9s
MCARA **McCarthy VSAT** 45.93 40 P P 08 14 22.5 +0.6
baz=280
CRQE **Cirque** 46.01 41 P P 08 14 22.3 -0.5
baz=281
BGLC **Bering Glacier** 46.04 41 P P 08 14 22.5 -0.3
baz=281
L27K **Beaver Creek,** 46.19 37 IAmb IAmb 08 14 27.8
comp=Z,9.3nm,1.1s
L27K **Beaver Creek,** 46.19 37 P P 08 14 24.0 -0.1
baz=280,SNR=8.8
BCAR **Beaver Creek A** 46.21 37 P P 08 14 25.0 +0.8
EGAK **Eagle** 46.21 35 P 08 14 24.9 +0.8
EGAK IAmb IAmb 08 14 25.7
comp=Z,7.6nm,0.9s
EGAK **Eagle** 46.21 35 P P 08 14 23.9 -0.2
baz=279,SNR=6.6
M27K **Edge Creek, AK** 46.29 38 P P 08 14 25.2 +0.3
baz=280
F28M **Old Crow** 46.34 31 P P 08 14 25.2 +0.1
baz=277
E28M **Babbage River** 46.35 29 P P 08 14 24.8 -0.4
baz=276
I28M **Miner Creek** 46.62 34 IAmb IAmb 08 14 31.5
comp=Z,12nm,1.1s
I28M **Miner Creek** 46.62 34 P P 08 14 27.3 -0.2
baz=279,SNR=10
BARN **Barnard Glacie** 46.64 40 IAmb IAmb 08 14 32.5
comp=Z,6.8nm,0.8s
CTG **Chitna Glacier** 46.81 40 P P 08 14 29.0 -0.1
baz=282
CTGM **Chitina Glacie** 46.81 40 IAmb IAmb 08 14 33.8
comp=Z,9.3nm,0.9s
E29M **Blow River** 46.98 30 IAmb IAmb 08 14 31.7
comp=Z,7.1nm,1.1s
E29M **Blow River** 46.98 30 P P 08 14 29.6 -0.5
baz=278
DAWY **Dawson** 47.08 36 P P 08 14 30.6 -0.5
baz=281
H29M **Whitestone** 47.13 33 P P 08 14 31.1 -0.2
baz=280
G29M **Pine Creek** 47.15 32 P P 08 14 31.7 +0.1
baz=279
I29M **Ogilvie Camp,** 47.30 34 P P 08 14 32.9 +0.1
baz=280
O28M **Mount Upton** 47.40 40 P P 08 14 33.9 +0.1
baz=283
PINM **Pinnacle** 47.53 41 P P 08 14 34.5 -0.1
baz=284
EPYK **Eagle Plains** 47.76 32 P P 08 14 36.6 +0.3
baz=281
M29M **Somme Creek** 47.83 38 P P 08 14 37.2 +0.2
baz=283
L29M **L29M** 47.83 37 P P 08 14 37.5 +0.7
baz=283
G30M **tAoh Zraii Nji** 47.84 31 P P 08 14 37.1 +0.2
baz=281
F30M **Barrier River** 47.89 31 P P 08 14 37.8 +0.6
baz=281,SNR=7.0
K29M **Barlow Dome** 47.94 36 IAmb IAmb 08 15 02.7
comp=Z,6.0nm,1.1s
K29M **Barlow Dome** 47.94 36 P P 08 14 37.4 -0.3
baz=282
YUK4 **Talbot Arm** 48.00 39 P P 08 14 38.8 +0.4
baz=284
PNL **Peninsula** 48.05 41 P P 08 14 38.4 -0.1
baz=285
I30M **Mount Dempster** 48.12 34 P P 08 14 39.4 +0.2
baz=282,SNR=8.7
YUK6 **Outpost Mounta** 48.23 40 P P 08 14 39.7 -0.5
baz=284
J30M **Hart River** 48.28 35 P P 08 14 41.0 +0.5
baz=283
O29M **Mount Kennedy** 48.29 41 P P 08 14 41.1 +0.6
baz=285
M30M **Minto, Yukon** 48.55 37 P P 08 14 43.0 +0.5
baz=284
INK **Inuvik** 48.59 29 IAmb IAmb 08 14 44.7
comp=Z,9.8nm,1.3s
INK **Inuvik** 48.59 29 LR LR 08 36 31.6
comp=Z,107nm,19.3s,baz=42,slow=38
INK **Inuvik** 48.59 29 P P 08 14 43.1 +0.5
baz=282
G31M **Satah River** 48.60 31 P P 08 14 43.2 +0.5
baz=282
HYT **Haines Junctio** 48.66 40 P P 08 14 43.6 +0.2
baz=285,SNR=21
F31M **Tsiigehtchic** 48.69 31 P P 08 14 43.4 +0.1
baz=282
N30M **Aishikik Lake** 48.70 39 P P 08 14 44.0 +0.4
baz=285
MAYO **Mayo, Yukon** 48.70 36 P P 08 14 43.3 -0.2
baz=284
H31M **Peel River** 48.82 33 P P 08 14 44.8 +0.3
baz=283
BVAR **Borovoye Array** 48.85 310 P P 08 14 44.6 -0.2
comp=Z,2.7nm,0.4s,baz=75,slow=11,SNR=17
comp=Z,2.7nm,0.4s
P29M **Windy Craggy** 48.87 41 P P 08 14 45.5 +0.6
baz=286,SNR=5.1
BORK **Borovoye** 48.88 310 *ce*P P 08 14 45.0 -0.1
BORK pmax pmax
comp=Z,7.0nm,1.3s
P30M **Million Dollar** 49.11 40 P P 08 14 47.0 +0.2
baz=286
N31M **Braeburn, Yuko** 49.29 39 P P 08 14 48.2 +0.1
baz=286
O30N **Mendenhall** 49.35 39 P P 08 14 49.2 +0.6

baz=286
PLBC Pleasant Camp 49.59 41 P P 08 14 50.4 0.0
baz=287
M31M Drury Creek, Y 49.73 37 P P 08 14 51.3 -0.2
baz=286
WHY Whitehorse 49.95 39 P P 08 14 53.1 -0.2
baz=287
A36M Sachs Harbour 50.44 24 P P 08 14 56.4 -0.3
baz=286
N32M Quiet Lake 50.64 38 P P 08 14 58.4 0.0
baz=288
P32M Atlin 50.84 41 P P 08 14 59.4 -0.4
baz=289
R32K Eaglecrest 50.87 42 P P 08 14 59.5 -0.6
baz=289
MMPY Sheldon Lake, 50.99 36 P P 08 15 00.8 -0.2
baz=288
P33M Teslin, Yukon 51.06 40 IAmb IAmb 08 15 03.7
comp=Z,13nm,1.2s
P33M Teslin, Yukon 51.06 40 P P 08 15 01.4 -0.1
baz=289
S32K Killisnoo 51.12 43 P P 08 15 01.9 0.0
baz=290
C36M Paulatuk 51.62 27 P P 08 15 05.7 +0.2
baz=289
R33M Jennings River 52.22 40 P P 08 15 10.2 -0.1
baz=291
KK31 Karatay Array 52.60 298 *i* P **P 08 15 17.8 +4.5**
WRGLY Wrigley 54.10 34 P P 08 15 24.3 +0.4
baz=294
ARTI Arti 54.10 317 P 08 15 23.3 -0.8
ARTI Arti 54.10 317 *c i* P **P 08 15 23.0 -1.1**
ARTI S **S 08 22 58.8 +0.6**
ARTI SS **SS 08 26 36.4 -3.0**
ARTI pmax pmax
comp=Z,12nm,1.4s
LIRD Liard River Hi 54.51 39 P P 08 15 27.9 +0.9
baz=295
KOTAN Kotaneelee Air 55.14 38 P P 08 15 32.1 +0.5
baz=296
TOAD Toad River Com 55.15 39 P P 08 15 32.4 +0.7
baz=296
SPITS Spitsbergen Ar 55.76 349 P P 08 15 34.3 -1.4
comp=Z,20nm,1.1s,baz=46,slow=6.2,SNR=1.9
comp=Z,20nm,1.1s
AB31 Akbulak array 56.38 308 IAmb IAmb 08 15 56.3
comp=Z,5.9nm,1.0s
AB31 Akbulak array 56.38 308 *eP* **P 08 15 39.8 -0.7**
ABKAR Akbulak array 56.38 308 P 08 15 40.5 -0.1
YKA Yellowknife Ar 58.04 32 *i* P **P 08 15 55.2 +3.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 59.84 339 P P 08 16 04.1 -0.4
comp=Z,2.4nm,0.8s,baz=22,slow=5.8,SNR=1.4
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 62.69 191 P P 08 16 23.2 -1.1
comp=Z,1.1nm,0.9s,baz=7.3,slow=6.7,SNR=9.3
comp=Z,1.1nm,0.9s
NEW Newport 64.73 47 IAmb IAmb 08 16 38.8
comp=Z,6.8nm,1.1s
FINES FINESS Array B 65.19 332 P 08 16 39.3 -1.0
comp=Z,5.9nm,0.7s,baz=38,slow=8.3,SNR=8.8
comp=Z,5.9nm,0.7s
FINES FINESS Array B 65.19 332 *i* P **P 08 16 39.5 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.7s
OBN Obninsk 65.24 323 *i* P **P 08 16 41.1 +0.4**
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 65.24 323 *eP* **P 08 16 41.1 +0.4**
L04D Klamath Falls 65.27 55 P 08 16 42.4 +1.1
ASAR Alice Springs 66.42 191 P P 08 16 48.5 -0.1
comp=Z,0.6nm,0.7s,baz=6.3,slow=5.0,SNR=8.7
ASAR LR LR 08 44 42.1
comp=Z,20nm,21.7s,baz=279,slow=35
comp=Z,0.6nm,0.7s
J08A Circle Bar Ran 66.88 52 IAmb IAmb 08 16 53.5
comp=Z,8.6nm,1.1s
PLID Pearl Lake 67.25 49 IAmb IAmb 08 16 54.8
comp=Z,5.1nm,1.1s
WVOR Wild Horse Val 67.34 53 IAmb IAmb 08 16 56.2
comp=Z,6.3nm,1.1s
MFID Camas Ranch 68.37 51 P 08 17 01.6 +0.6
MFID IAmb IAmb 08 17 03.5
comp=Z,7.0nm,1.3s
PAHR Pah Rah Range 68.55 55 IAmb IAmb 08 17 03.8
comp=Z,6.6nm,0.9s
CMB Columbia Colle 68.95 57 IAmb IAmb 08 17 06.3
comp=Z,6.9nm,1.2s
DLMT Dillon 68.96 47 IAmb IAmb 08 17 06.3
comp=Z,7.7nm,0.9s
KIV Kislovodsk 69.19 311 *eP* **P 08 17 05.7 -0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,155nm,17.0s
KIV Kislovodsk 69.19 311 *eP* **P 08 17 05.7 -0.4**
KBZ Khabaz 69.21 311 P P 08 17 07.5 +1.4
comp=Z,0.9nm,0.4s,baz=68,slow=5.0,SNR=3.6
comp=Z,0.9nm,0.4s
BOZ Bozeman (W) 69.34 47 IAmb IAmb 08 17 08.4
comp=Z,7.3nm,0.8s
NACGM Naroch 69.55 327 *eP* **P 08 17 07.9 -0.1**
comp=Z,8.0nm,0.8s,baz=44
RYN Ryan 69.74 56 IAmb IAmb 08 17 11.5
comp=Z,6.7nm,1.0s
NVAR Mina Array Bea 69.99 56 P P 08 17 12.1 +0.8
NVAR Mina Array Bea 69.99 56 P P 08 17 11.9 +0.6
comp=Z,4.2nm,0.8s,baz=284,slow=6.3,SNR=33
comp=Z,4.2nm,0.8s
YHL Hebgen Lake 70.06 47 IAmb IAmb 08 17 12.8
comp=Z,12nm,1.4s
NV11 Mina Array Sit 70.08 56 IAmb IAmb 08 17 13.6
comp=Z,6.5nm,1.1s
NB2 NORSAR Subarra 70.16 338 P P 08 17 11.3 -0.4
comp=Z,1.1nm,0.5s,baz=34,slow=6.2
NOA NORSAR Array B 70.16 338 P P 08 17 10.2 -1.4
comp=Z,3.3nm,0.8s,baz=35,slow=6.1,SNR=7.6
NOA LR LR 08 52 07.0
comp=Z,58nm,18.4s,baz=355,slow=40
comp=Z,3.3nm,0.8s
HFS Hagfors 70.18 336 P P 08 17 11.1 -0.6
comp=Z,4.3nm,0.7s,baz=56,slow=11,SNR=6.1
comp=Z,4.3nm,0.7s
YMR Madison River 70.29 47 IAmb IAmb 08 17 14.8
comp=Z,5.6nm,0.9s
H17A Grant Village 70.68 47 IAmb IAmb 08 17 18.6
comp=Z,7.5nm,0.9s
DSP Deep Springs 70.86 57 IAmb IAmb 08 17 18.6
comp=Z,9.0nm,1.0s
TPH Tonopah 70.88 56 IAmb IAmb 08 17 18.4
comp=Z,8.1nm,0.9s
FXWY Fox Creek 70.93 48 IAmb IAmb 08 17 19.1
comp=Z,4.4nm,0.9s
TPAW Teton Pass 71.07 48 IAmb IAmb 08 17 20.1
comp=Z,8.8nm,1.1s
SNOW Snow King Moun 71.19 48 IAmb IAmb 08 17 20.9
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 71.50 323 P P 08 17 18.6 -1.3
comp=Z,0.4nm,0.4s,baz=41,slow=7.6,SNR=4.6
AKASG LR LR 08 52 24.8
comp=Z,112nm,21.7s,baz=350,slow=39
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 71.50 323 *i* P **P 08 17 19.7 -0.2**
AKBB Malin Array Si 71.50 323 P P 08 17 19.7 -0.2
KIEV Kiev 71.51 323 P P 08 17 19.7 -0.3
MPMC Manual Prospec 71.99 58 IAmb IAmb 08 17 25.0
comp=Z,5.5nm,1.1s
S11A Rachel 72.05 55 IAmb IAmb 08 17 25.6
comp=Z,8.8nm,0.9s
CLC China Lake 72.08 58 IAmb IAmb 08 17 25.3
comp=Z,6.9nm,1.2s
DUG Dugway, Tooele 72.16 52 IAmb IAmb 08 17 26.1
comp=Z,6.4nm,1.1s
TPNV Topopah Spring 72.19 56 IAmb IAmb 08 17 26.3
comp=Z,9.0nm,0.9s
WSHM Spangler Hills 72.28 58 IAmb IAmb 08 17 26.5
comp=Z,10nm,1.2s
PD31 Pinedale Array 72.31 48 P P 08 17 25.1 -0.2
PDAR Pinedale Array 72.31 48 P P 08 17 25.2 -0.1
PDAR Pinedale Array 72.31 48 P P 08 17 25.4 +0.2
comp=Z,1.5nm,0.7s,baz=280,slow=1.2,SNR=17
comp=Z,1.5nm,0.7s
GWY Greenwater Val 72.42 57 IAmb IAmb 08 17 27.5
comp=Z,8.0nm,1.0s
QSM Queen of Sheba 72.44 57 IAmb IAmb 08 17 27.5
comp=Z,10nm,1.0s
RDMU Red Mountain 73.77 50 IAmb IAmb 08 17 35.6
comp=Z,10nm,1.0s
P17A Butcher Ranch, 73.83 51 IAmb IAmb 08 17 36.0
comp=Z,13nm,1.5s
V12A Nelson 73.84 56 IAmb IAmb 08 17 37.0
comp=Z,7.2nm,1.3s
P18A Preston Nutter 74.01 51 IAmb IAmb 08 17 37.2
comp=Z,8.4nm,1.4s
PFO Pinyon Flats O 74.21 59 LR LR 08 43 42.3
comp=Z,30nm,20.6s,baz=344,slow=30
KNB Kanab 74.23 54 IAmb IAmb 08 17 38.9
comp=Z,7.2nm,1.1s
IRM Iron Mountain 74.68 58 IAmb IAmb 08 17 40.8
comp=Z,6.7nm,1.3s
U15A North Rim 74.94 54 IAmb IAmb 08 17 43.0
comp=Z,6.2nm,1.0s
PV23 Carpenter Ridg 75.52 51 IAmb IAmb 08 17 45.2
comp=Z,6.7nm,0.9s
PV18 Skein Mesa, Pa 75.72 51 IAmb IAmb 08 17 46.7
comp=Z,9.0nm,0.9s
PV13 Radium Mtn., P 75.83 51 IAmb IAmb 08 17 47.3
comp=Z,6.0nm,1.0s
WUAZ Wupatki 76.10 55 IAmb IAmb 08 17 49.5
comp=Z,8.0nm,1.0s
X16A Lo Mia Camp, P 76.80 55 IAmb IAmb 08 17 53.5
comp=Z,5.0nm,0.9s
CLL Collm 77.60 331 *eP* **P 08 17 55.0 -0.3**
CLL *i* 08 18 01.0
CLL Collm 77.60 331 *eP* **P 08 17 55.0 -0.3**
GERES GERESS Array B 79.37 329 LR LR 08 56 26.4
comp=Z,157nm,18.3s,baz=18,slow=38
ANMO Albuquerque 79.42 52 P 08 18 06.9 +1.0
ANMO Albuquerque 79.42 52 P P 08 18 06.9 +1.0
ANMO pmax pmax
comp=Z,6.0nm,1.4s
SCHQ Schefferville 79.56 18 LR LR 08 56 08.5
comp=Z,528nm,19.1s,baz=332,slow=38
PPT Papeete 85.05 119 LR LR 08 48 56.4
comp=Z,52nm,21.0s,baz=314,slow=30
PPT2 Papeete2 85.06 119 *eLR* LR 08 45 25.6
PPT2 *eLR* LR 08 45 34.5
comp=Z,118nm,24.2s
TX31 Lajitas Ar. Si 85.07 54 IAmb IAmb 08 18 36.8
comp=Z,3.1nm,0.9s
TXAR Lajitas Array 85.07 54 P P 08 18 36.2 +0.8
comp=Z,1.8nm,0.8s,baz=301,slow=3.2,SNR=18
comp=Z,1.8nm,0.8s
TAOE Nuku Hiva Isla 85.30 106 *eLR* LR 08 45 36.0
comp=Z,92nm,22.3s
KEST Kesra 92.11 325 LR LR 09 05 59.5
comp=Z,82nm,18.4s,baz=351,slow=39
QSPA South Pole Qui 132.10 180 PKP PKiKP 08 25 14.0 +1.0
comp=Z,1.1nm,1.1s,baz=303,slow=4.2,SNR=2.0
H03N2 Juan Fernandez 144.95 90 T T 11 07 38.6
baz=301,slow=77,SNR=45
H03N3 Juan Fernandez 144.96 90 T T 11 07 43.4
baz=301,slow=77,SNR=37
H03N1 Juan Fernandez 144.97 90 T T 11 07 39.2
baz=301,slow=77,SNR=34
SNAA Sanae 146.53 198 PKPdf 08 25 38.1 +0.1
SNAA Sanae 146.53 198 PKPbc PKPbc 08 25 38.9 -0.6
comp=Z,3.2nm,1.0s,baz=141,slow=2.2,SNR=8.9
SNAA Sanae 146.53 198 PKP2 PKPdf 08 25 38.1 +0.1
BDFB Brasilia 151.29 26 PKPbc PKPbc 08 25 52.9 -0.5
comp=Z,0.9nm,0.4s,baz=0.0,slow=1.0,SNR=3.7
CFA Coronel Fontan 151.93 78 PKPbc PKPbc 08 25 53.8 -0.5
comp=Z,1.2nm,0.7s,baz=322,slow=3.2,SNR=3.9

*DSN **22** 08:19:04.7±1.1, 27°.29N×55°.24E, h15km, ML2.5/4, Error ellipse: s-maj=23.6km s-min=6.5km az=44.0*
*TEH **22** 08:19:05.5, 27°.24N×55°.12E, h17km±36km*
ISC 22 08:19:06.0±1.1, 27°.16N±0°.05×55°.12E±0°.04, h17km, n18, σ0s62/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.84	308	Pg	Pb	08 19 21.1	-1.1
BNDS	Bandar-Abbas	0.96	75	Pg	Pb	08 19 23.7	-0.6
GENO	Geno	0.96	75	Pg	Pb	08 19 23.2	-1.2
IBND	Bandar-abas	1.29	77	Pg	Pb	08 19 29.6	-0.3
SHME	Shamm	1.43	140	P	Pn	08 19 30.5	-0.7
SHME				S	Sb	08 19 51.0	+0.8
BANOM	Banah	1.62	139	P	Pn	08 19 33.5	-0.3
BANOM				S	Sn	08 19 54.7	+0.4
LMD1	Lamerd	1.75	276	Pg	Pb	08 19 38.0	+0.2
MSFE	Esma-Masafi	2.02	152	P	Pn	08 19 39.5	+0.2
UOSS	Minazif	2.41	156	P	Pn	08 19 44.4	-0.3
ASHO	Ashiyiah	2.60	161	P	Pn	08 19 47.7	+0.3
NGRK	Negar Kerman	2.85	29	Pn	Pn	08 19 51.0	-0.1
KRBR	Kerman	3.16	27	Pn	Pn	08 19 55.9	+0.6
KHGB	Koh Gabri	3.42	20	Pn	Pn	08 19 59.2	+0.4
CHMN	Cheshme madani	3.43	38	Pn	Pn	08 19 59.8	+0.7
KBAM	BAM	3.54	55	Pn	Pn	08 20 01.2	+0.9
IMEH	Mehriz	4.24	354	Pn	Pn	08 20 10.3	+0.2
IBAF	Bafgh	4.43	5	Pn	Pn	08 20 12.3	-0.4
IRAM	Ramesheh	5.21	333	Pn	Pn	08 20 23.4	0.0

*NEIC **22** 08:19:56.9±1.6, 42°.23S±0°.03×75°.4W±0°.1, h10km±1km, mb4.2/5, ML3.6(GUC), Error ellipse: s-maj=16.8km s-min=3.1km az=281.0*
*GUC **22** 08:19:58.1±0.7, 42°.31S×75°.36W, h20km, ML3.9*
*IDC **22** 08:19:58.7±1.6, 41°.63S×75°.55W, h0km, mb3.8/5, mbtmp3.8/7, ML3.9/2, MS3.1/2, Error ellipse: s-maj=39.8km s-min=32.0km az=4.0*
ISC 22 08:19:55.2±2.1, 42°.24S±0°.06×75°.36W±0°.06, h3km±13km, n45, σ1s24/52, mb4.2/7, 3C-1D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL06	Loncomilla	1.29	90	*eP*	Pg	08 20 20.1	+0.2
LL06				*eS*	Sg	08 20 36.5	-0.2
LL06				IAML		08 20 40.9	
comp=E,5μm,0.3s							
GO07	Milladeo Hill,	1.53	126		Pn	08 20 24.1	+0.7
GO07	Milladeo Hill,	1.53	126	*eP*	Pn	08 20 23.2	-0.2
GO07				*eS*	Sn	08 20 41.4	-2.3
GO07				IAML		08 20 49.0	
comp=E,6μm,0.5s							
LL05	Los Muermos	1.64	60		Pn	08 20 26.1	+1.2
LL05	Los Muermos	1.64	60	*eP*	Pn	08 20 25.9	+0.9
LL05			⇓	*eS*	Sb	08 20 47.1	0.0
LL05				IAML		08 20 49.6	
comp=E,6μm,0.2s							
LL01	San Ignacio de	2.19	95		Pn	08 20 33.9	+1.4
LL01	San Ignacio de	2.19	95⇑	*eP*	Pn	08 20 33.8	+1.3
LL01				*eS*	Sn	08 21 00.8	+0.6
LL01				IAML		08 21 03.9	
comp=E,589nm,0.1s							
VNTQ	Ventisquero	2.24	108⇑	*eP*	Pn	08 20 34.4	+1.2
VNTQ				*eS*	Sn	08 21 01.4	0.0
VNTQ				IAML		08 21 04.4	
comp=E,259nm,0.2s							
PDRA	Piedra	2.31	106⇑	*eP*	Pn	08 20 35.6	+1.2
PDRA				*eS*	Sn	08 21 04.0	+0.6
PDRA				IAML		08 21 06.4	
comp=N,692nm,0.1s							
LL03	Petrohue	2.47	65		Pn	08 20 37.4	+1.0
LL03	Petrohue	2.47	65	*eP*	Pn	08 20 37.2	+0.8
LL03				*eS*	Sn	08 21 08.1	+1.0
LL03				IAML		08 21 10.0	
comp=E,2μm,0.2s							
LL02	Futaleuf	2.76	111		Pn	08 20 41.1	+0.8
LL02	Futaleuf	2.76	111	*i* P	Pn	08 20 41.6	+1.3
LL02				*i* S	Sn	08 21 15.1	+0.9
LL02				IAML		08 21 18.7	
comp=N,219nm,0.5s							
LR04	Corral	2.77	33		Pn	08 20 41.4	+0.9
MGDN	Magdalena	2.98	144	*eP*	Pn	08 20 43.6	+0.3
MGDN				*eS*	Sn	08 21 18.9	-0.7
LR05	Currie	3.23	53		Pn	08 20 47.9	+1.1
LR03	Panguipulli	3.46	42		Pn	08 20 51.5	+1.5
PLCA	Paso Flores	3.92	69		Pn	08 20 58.7	+2.4
PLCA	Paso Flores	3.92	69	Pn	Pn	08 20 58.9	+2.6
comp=N,4.6nm,0.3s,baz=249,slow=9.0,SNR=285							
PLCA				Sn	Sb	08 21 50.5	-2.3
comp=N,3.1nm,0.3s,baz=274,slow=21,SNR=5.5							
PLCA				LR	LR	08 22 44.2	
comp=N,73nm,21.5s,baz=244,slow=43							
comp=N,13nm,0.3s							
COYC	Coyhaique	4.09	146		Pn	08 21 00.1	+1.5
AY03	Cochrane	5.39	159		Pn	08 21 18.9	+2.4

BO02 Sierra Bellavi 8.25 27 Pn Pn 08 21 56.6 +0.7
BO01 Tunca 8.52 25 Pn Pn 08 21 58.4 -1.1
H03S1 Juan Fernandez 8.83 340 Pn Pn 08 22 02.9 -0.6
baz=146,slow=7.7
H03S1 T T 08 31 24.7
baz=159,slow=72,SNR=22
H03S2 Juan Fernandez 8.84 340 Pn Pn 08 22 02.5 -1.2
baz=146,slow=7.7
H03S2 T T 08 31 21.0
baz=159,slow=72,SNR=26
H03S3 Juan Fernandez 8.85 340 Pn Pn 08 22 03.1 -0.7
baz=146,slow=7.7
H03S3 T T 08 31 26.6
baz=159,slow=72,SNR=28
MT09 Talagante 9.12 24 Pn Pn 08 22 08.0 +0.1
H03N3 Juan Fernandez 9.21 341 Pn Pn 08 22 08.0 -0.7
H03N1 Juan Fernandez 9.22 341 Pn Pn 08 22 07.7 -1.0
H03N2 Juan Fernandez 9.22 341 Pn Pn 08 22 08.0 -0.9
LMEL Las Melosas 9.31 28 Pn Pn 08 22 09.9 -0.6
VA03 San Esteban 10.20 24 Pn Pn 08 22 21.7 -0.9
CO02 Combarbal 11.55 19 Pn Pn 08 22 40.2 -0.9
CFA Coronel Fontan 12.04 30 Pn Pn 08 22 46.7 -1.1
comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=2.0
CFA Sn Sn 08 24 49.7 -13
baz=343,slow=19,SNR=0.9
comp=N,0.4nm,0.3s
CPUP Villa Florida 21.70 49 P P 08 24 45.7 -1.5
CPUP Villa Florida 21.70 49 P P 08 24 49.0 +1.7
comp=N,1.4nm,0.9s,baz=90,slow=9.5,SNR=11
comp=N,1.4nm,0.9s
BDFB Brasilia 35.42 50 IAmb IAmb 08 27 14.0
comp=Z,8.2nm,1.4s
BDFB Brasilia 35.42 50 P P 08 26 53.0 +0.3
comp=Z,1.2nm,0.4s,baz=209,slow=13,SNR=1.9
comp=Z,1.2nm,0.4s
SNAA Sanae 45.10 155 P P 08 28 10.8 -1.4
SNAA IAmb IAmb 08 28 14.3
comp=Z,3.5nm,1.1s
BOAV Boa Vista 46.42 21 P P 08 28 21.4 -1.7
BOAV IAmb IAmb 08 28 55.2
comp=Z,2.7nm,1.2s
QSPA South Pole Qui 48.01 180 P P 08 28 36.5 +1.2
TXAR Lajitas Array 75.85 335 P P 08 31 43.2 +0.5
comp=Z,0.2nm,0.7s,baz=152,slow=4.8,SNR=2.1
comp=Z,0.2nm,0.7s
TKL Tuckaleechee C 77.90 353 LR LR 09 04 28.0
comp=Z,38nm,18.1s,baz=278,slow=34
BOSA Boshof 78.54 118 P P 08 32 04.8 +6.6
comp=Z,2.2nm,0.5s,baz=224,slow=6.0,SNR=6.9
comp=Z,2.2nm,0.5s
NVAR Mina Array Bea 89.29 328 P P 08 32 53.8 +1.1
comp=Z,0.3nm,0.7s,baz=175,slow=2.6,SNR=2.4
comp=Z,0.3nm,0.7s

IDC 22 08:21:53.0±1.2, 23°.95N×141°.80E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=57.4km s-min=24.7km az=98.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.23	190	P	P	08 30 04.2	0.0
1.5nm,0.7s,baz=10,slow=8.6,SNR=13							
1.5nm,0.7s							
ASAR	Alice Springs	47.95	190	P	P	08 30 33.2	-0.3
0.3nm,0.6s,baz=17,slow=11,SNR=7.5							
0.3nm,0.6s							
MKAR	Makanchi Array	52.24	312	P	P	08 31 05.9	-0.1
0.2nm,0.5s,baz=90,slow=5.8,SNR=2.4							
0.2nm,0.5s							
ILAR	Eielson Array	60.64	28	P	P	08 32 05.4	-0.1
0.6nm,0.8s,baz=256,slow=5.7,SNR=7.8							
0.6nm,0.8s							

*IDC **22** 08:24:36.4±3.9, 2°.69S×99°.59E, h0km, mb3.7/5, mbtmp3.7/5, MS3.7/2, Error ellipse: s-maj=167.3km s-min=22.7km az=57.0*
*DJA **22** 08:24:41.3±0.4, 2°.5±4°×10°.0E±°, h27km±5km, M3.6/6, MLv3.6/6*
ISC 22 08:24:41.7±1.3, 2°.46S±0°.06×99°.79E±0°.09, h33km±8km, n25, σ0s75/17, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.37	144	P	Pb	08 24 50.7	+0.3
PPSI				S	Sn	08 24 57.9	+1.0
SISI	Saibi	1.33	328	P	Pn	08 25 03.6	-0.4
SISI				S	Sb	08 25 22.6	-0.2
PDSI	Padang	1.68	24	P	Pn	08 25 08.8	-0.1
PDSI				S	Sn	08 25 29.2	-0.1
PPI	Padang Panjang	2.08	17	P	Pn	08 25 14.9	+0.5
PPI				S	Sn	08 25 38.5	-0.7
MASI	Maura Aman, Be	2.54	106	P	Pn	08 25 19.7	-1.0
MASI				S	Sn	08 25 50.6	+0.1
PBSI	Pulau Batu	2.83	328	P	Pn	08 25 24.0	-0.7
H08S2	Diego Garcia H	27.67	258	T	T	08 59 13.2	
baz=80,slow=76,SNR=83							
H08S3	Diego Garcia H	27.67	258	T	T	08 59 13.6	
baz=80,slow=76,SNR=118							
H08S1	Diego Carcia H	27.68	258	T	T	08 59 14.6	
baz=80,slow=76,SNR=33							
H01W3	Cape Leeuwin H	34.91	159	T	T	09 08 36.0	
baz=335,slow=76,SNR=2.0							
H01W2	Cape Leeuwin H	34.92	159	T	T	09 08 37.0	
baz=335,slow=76,SNR=8.1							
H01W1	Cape Leeuwin H	34.93	159	T	T	09 08 37.2	
baz=335,slow=76,SNR=2.4							
WRA	Warramunga Arr	37.94	120	P	P	08 31 56.5	-0.1
0.9nm,0.6s,baz=303,slow=9.0,SNR=12							
0.9nm,0.6s							
ASAR	Alice Springs	39.15	125	P	P	08 32 06.7	-0.1
0.3nm,0.5s,baz=298,slow=7.4,SNR=6.7							
0.3nm,0.5s							
STKA	Stephens Creek	49.00	131	P	P	08 33 24.1	-1.5
0.3nm,0.4s,baz=315,slow=16,SNR=1.4							
0.3nm,0.4s							
SONM	Songino Array	50.42	6	P	P	08 33 37.0	+0.8
0.7nm,0.6s,baz=174,slow=7.2,SNR=3.8							
0.7nm,0.6s							
MKAR	Makanchi Array	51.41	345	P	P	08 33 44.1	+0.5
0.8nm,0.6s,baz=141,slow=7.5,SNR=5.6							
MKAR				LR	LR	08 59 44.8	
comp=Z,35nm,20.8s,baz=328,slow=41							
0.8nm,0.6s							
H04N2	CROZET ISLANDS	60.30	216	T	T	09 40 09.1	
baz=59,slow=76,SNR=156							
H04N1	CROZET ISLANDS	60.32	216	T	T	09 40 09.5	
baz=59,slow=76,SNR=196							
H04N3	CROZET ISLANDS	60.32	216	T	T	09 40 08.2	
baz=59,slow=76,SNR=132							
H04S1	CROZET ISLANDS	60.59	216	T	T	09 40 30.9	
baz=57,slow=75,SNR=46							
H04S3	CROZET ISLANDS	60.61	216	T	T	09 40 30.6	
baz=57,slow=75,SNR=75							
H04S2	CROZET ISLANDS	60.61	216	T	T	09 40 31.9	
baz=57,slow=75,SNR=59							
FINES	FINESS Array B	84.42	332	LR	LR	09 16 21.9	
comp=Z,78nm,18.9s,baz=254,slow=37							
TXAR	Lajitas Array	145.19	38	PKPbc	PKPdf	08 44 17.8	+0.9
1.0nm,0.6s,baz=203,slow=1.4,SNR=17							

*IDC **22** 08:27:22.6±1.3, 13°.20S×66°.91E, h0km, mb3.8/5, mbtmp3.8/6, ML3.5/1, MS3.1/1, Error ellipse: s-maj=37.6km s-min=33.4km az=153.0*
ISC 22 08:27:24.1±1.2, 13°.2S±0°.3×66°.9E±0°.2, h10km, n13, σ0s37/7, mb3.8/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	19.70	252	P	P	08 31 54.1	+0.1
baz=63,slow=11,SNR=1.8							
1.8nm,0.8s							
H04N2	CROZET ISLANDS	35.24	198	T	T	09 11 20.0	
baz=26,slow=75,SNR=25							
H04N1	CROZET ISLANDS	35.25	198	T	T	09 11 18.3	
baz=26,slow=75,SNR=27							
H04N3	CROZET ISLANDS	35.26	198	T	T	09 11 18.3	
baz=26,slow=75,SNR=25							
CMAR	Chiang Mai Arr	44.58	46	P	P	08 35 36.9	+0.1
1.2nm,0.3s,baz=220,slow=6.4,SNR=6.6							
CMAR				LR	LR	08 51 22.8	
comp=Z,22nm,20.7s,baz=225,slow=32							
1.2nm,0.3s							
H01W3	Cape Leeuwin H	47.70	125	T	T	09 27 12.9	
baz=284,slow=75,SNR=31							

H01W2	Cape Leeuwin H	47.70	125	T	T		09 27 13.0	
	baz=284,slow=75,SNR=31							
H01W1	Cape Leeuwin H	47.72	125	T	T		09 27 14.1	
	baz=284,slow=75,SNR=33							
MKAR	Makanchi Array	61.30	12	P	P		08 37 39.7	-0.1
	0.4nm,0.6s,baz=199,slow=8.3,SNR=5.2							
	0.4nm,0.6s							
ASAR	Alice Springs	63.92	110	P	P		08 37 58.0	+0.1
	0.5nm,0.9s,baz=279,slow=6.2,SNR=5.4							
	0.5nm,0.9s							
KURBB	Kurchatov Arra	64.37	8	P	P		08 38 00.5	+0.5
	0.2nm,0.3s,baz=206,slow=7.5,SNR=2.0							
	0.2nm,0.3s							
ZALV	Zalesovo Beam	68.61	11	P	P		08 38 27.0	-0.2
	1.2nm,0.6s,baz=214,slow=7.0,SNR=4.9							
	1.2nm,0.6s							
PDAR	Pinedale Array	150.39	355	PKPbc	PKPbc		08 47 15.9	-0.5
	0.7nm,0.8s,baz=80,slow=1.7,SNR=6.1							

*ASRS **22** 08:28:06.0±1.0, 54°.66N×83°.61E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:28:06.9±1.7, 54°.65N×83°.71E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=16.6km s-min=10.1km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.95	137	I	I	08 33 35.4	
	0.2nm,1.0s,baz=318,slow=335,SNR=10						
ZALV	Zalesovo Beam	0.95	137	Pg	Pg	08 28 24.8	-0.4
	3.2nm,0.3s,baz=322,slow=18,SNR=22						
ZALV				Lg	Lg	08 28 39.8	
	8.7nm,0.3s,baz=318,slow=32,SNR=26						
KURBB	Kurchatov Arra	5.12	220	Pn	Pn	08 29 26.5	+1.7
	0.1nm,0.3s,baz=40,slow=13,SNR=4.4						
KURBB				Lg	Lg	08 30 47.8	
	0.1nm,0.3s,baz=43,slow=32,SNR=6.2						
	0.7nm,0.5s						
MKAR	Makanchi Array	7.92	187	Pn	Pn	08 30 01.7	-1.5
	0.2nm,0.3s,baz=10.0,slow=12,SNR=5.1						
MKAR				Sn	Sn	08 31 36.0	+2.6
	0.1nm,0.3s,baz=11,slow=24,SNR=2.5						
MKAR				Lg	Lg	08 32 18.1	
	0.1nm,0.3s,baz=12,slow=29,SNR=2.9						
	0.3nm,0.3s						
BVAR	Borovoye Array	8.05	264	Pn	Pn	08 30 04.0	-0.9
	0.1nm,0.3s,baz=74,slow=14,SNR=4.7						
	1.0nm,0.4s						

TRN 22 08:43:17.2, 17°.39N×60°.98W, h7km, MD3.5, South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.82	290	eP	Pn	08 43 35.6	+0.5
ANWB				eS	Sn	08 43 49.0	+1.5
DSDZ	La Diserade, G	1.07	184	eP	Pn	08 43 39.6	+1.0
DSDZ				eS	Sn	08 43 57.3	+3.5
MBWH	Windy Hill	1.32	241	eP	Pg	08 43 45.0	+2.4
MBWH				eS	Sn	08 44 05.7	+5.6
MLYT	Lee's Yard	1.34	240	eP	Pg	08 43 45.0	+2.2
DHSZ	Broadband at M	1.34	214	eP	Pg	08 43 44.1	+1.2
DHSZ				eS	Sn	08 44 03.0	+2.6
MMLZ	Guadeloupe Bro	1.49	206	eP	Pg	08 43 46.3	+0.5
MMLZ				eS	Sg	08 44 07.8	+2.6
SKI	Saint Kitts	1.68	268	eP	Pg	08 43 49.7	+0.2
SKI				eS	Sg	08 44 13.0	+1.6
DSLB	Salisbury	1.98	192	eP	Pb	08 43 53.5	-0.2
DSLB				eS	Sg	08 44 20.2	-0.8
BIM	Bigot	2.86	182	eP	Pn	08 44 04.6	+1.4
BIM				eS	Sn	08 44 40.1	+2.2

*MEX **22** 09:00:03.9±0.7, 15°.26N×93°.66W, h63km±12km, MD4.2*
*GCG **22** 09:00:03.5±1.7, 15°.30N×93°.59W, h36km±688km, MD4.8, ML4.0*
*CATAC **22** 09:00:03.6±0.4, 15°N±3°×9°4W±°, h41km±8km, M4.4/7, MLv4.4/7, Error ellipse: s-maj=7.4km s-min=3.6km az=49.1, confirmed*

ISC 22 09:00:02.2±1.2, 15°.25N±0°.04×93°.68W±0°.03, h56km±18km, n41, σ1°78/58, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.63	44	eP	Pn	09 00 15.9	+0.5
PCIG				i S	Sn	09 00 25.3	+0.3
PATR	El Naranjo	1.40	95	eP	Pn	09 00 25.6	-0.1
PATR				i S	Sn	09 00 42.8	-0.5
THIG		1.41	104	eP	Pn	09 00 25.5	0.0
THIG				eS	Sn	09 00 42.2	-0.8
THIG				IAML		09 00 45.7	
	comp=E,4μm,0.4s						
PAVE	Pavencul	1.45	92	eP	Pn	09 00 26.6	+0.3
PAVE				eS	Sn	09 00 44.2	-0.2
CHUJ	Union Juarez	1.52	96	eP	Pn	09 00 27.1	-0.3
CHUJ				i S	Sn	09 00 46.0	-0.3
SMCA	Catarina	1.60	104	eP	Pn	09 00 28.1	-0.1
SMCA				eS	Sn	09 00 46.6	-1.1
SMCA				IAML		09 00 47.1	
	comp=E,4μm,0.1s						
TGIG		1.61	19	eP	Pn	09 00 29.0	+0.7
TGIG				i S	Sn	09 00 46.6	-1.5
TGIG		1.61	19	eP	Pn	09 00 28.8	+0.5
TGIG				eS	Sn	09 00 47.4	-0.7
TGIG				IAML		09 01 00.4	
	comp=E,588nm,0.2s						
CCIG	Comitan	1.80	55	eP	Pn	09 00 32.0	+1.0
CCIG				i S	Sn	09 00 49.6	-3.4
CCIG	Comitan	1.80	55	eP	Pn	09 00 32.1	+1.0
CCIG				IAML		09 01 00.6	
	comp=N,2μm,0.5s						
CCIG	Comitan	1.80	55	S	Sn	09 00 54.0	+1.0
CCIG	Comitan	1.80	55	P	Pn	09 00 32.1	+1.0
RTAL	Retalhuleu	2.05	110	eP	Pn	09 00 34.8	+0.5
RTAL				eS	Sn	09 00 57.9	-0.9
RTAL	Retalhuleu	2.05	110	S	Sn	09 00 58.7	0.0
RTAL	Retalhuleu	2.05	110	P	Pn	09 00 34.8	+0.5
CMIG	Matias Romero	2.17	328	eP	Pn	09 00 37.0	+1.1
CMIG				i S	Sn	09 01 00.9	-0.7
HUIG	Huatulco	2.40	283	eP	Pn	09 00 39.2	+0.1
HUIG				i S	Sn	09 01 04.1	-3.2
HUIG	Huatulco	2.40	283	eP	Pn	09 00 40.5	+1.5
ESSG	Sabana Grande	2.89	107	eP	Pn	09 00 47.0	+1.3
APG	El Apazote	3.11	94	eP	Pn	09 00 50.2	+1.2
NEUV	Arroyo Zacate	3.19	321	eP	Pn	09 00 51.1	+1.3
NEUV				i S	Sn	09 01 25.8	-0.8
FG16	Alotenango, Sa	3.21	107	eP	Pn	09 00 47.1	-3.3
PEIG	Puerto Escondi	3.42	283	eP	Pn	09 00 53.4	+0.3
PEIG				eS	Sn	09 01 26.8	-5.8
VHO	Vista Hermosa	3.45	302	eP	Pn	09 00 57.3	+3.7
VHO				eS	Sn	09 01 36.9	+3.5
FAME	Alcaldia de Sa	3.81	111	S	Sn	09 01 40.7	-1.4
FAME	Alcaldia de Sa	3.81	111	P	Pn	09 00 59.3	+0.9
NUBE	Las Nubes	4.00	109	eP	Pn	09 01 03.4	+2.2
NUBE	Las Nubes	4.00	109	S	Sn	09 01 46.9	-0.1
NUBE	Las Nubes	4.00	109	P	Pn	09 01 03.0	+1.8
PETF	Flores	4.02	65	eP	Pn	09 01 02.1	+0.8
PETF				eS	Sn	09 01 45.0	-2.2
PETF	Flores	4.02	65	eP	Pn	09 01 02.3	+1.0
PETF	Flores	4.02	65	P	Pn	09 01 02.0	+0.7
PETF	Flores	4.02	65	S	Sn	09 01 45.8	-1.4
CEVE	Cerro Verde	4.17	109	S	Sn	09 01 53.4	+2.2
CEVE	Cerro Verde	4.17	109	P	Pn	09 01 06.0	+2.4
JAYA	Jayaque - finc	4.39	111	eP	Pn	09 01 07.6	+1.1
JAYA	Jayaque - finc	4.39	111	P	Pn	09 01 08.5	+2.0
JAYA	Jayaque - finc	4.39	111	S	Sn	09 01 54.7	-1.8
SCIG	Sabancuy	4.40	32	i P	Pn	09 01 07.0	+0.6
SCIG				eS	Sn	09 01 52.0	-4.3
SCIG	Sabancuy	4.40	32	S	Sn	09 01 57.1	+0.7
SCIG	Sabancuy	4.40	32	P	Pn	09 01 06.4	0.0

NNC 22 09:11:25.1±6.0, 43°.52N×87°.64E, h28km±32km, mb3.6, mpv3.1, 4C-3D, Error ellipse: s-maj=44.4km s-min=26.0km az=159.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	5.00	313	⇓Pn	Pn	09 12 38.6	+0.3
	0.6nm,0.6s,baz=131,slow=14,SNR=6.5						
MK31				⇑Pg	Pb	09 12 58.7	+6.8
	1.8nm,0.7s,baz=137,slow=15,SNR=4.6						
MK31				⇑Lg	Lg	09 14 03.7	
	1.7nm,0.5s,baz=133,slow=27,SNR=4.4						
MAKZ	Makanchi	5.18	311	Pn	Pn	09 12 39.5	-1.2
	1.2nm,0.5s						
MAKZ				⇑Lg	Lg	09 14 06.7	
	4.0nm,0.9s						
PDGK	Podgornoye	5.94	271	⇓Pn	Pn	09 12 50.3	-0.9
	4.8nm,0.7s						
PDGK				⇑Sn	Sn	09 13 59.8	+1.5
	6.5nm,0.7s						
PDGK				⇓Lg	Lg	09 14 32.0	
	9.0nm,0.7s						

*IDC **22** 09:36:38.6±1.0, 15°.65S×173°.26W, h0km, mb3.9/8, mbtmp3.9/9, ML3.1/1, MS3.4/7, Error ellipse: s-maj=45.7km s-min=19.7km az=149.0*
*NEIC **22** 09:36:39.5±0.7, 15°.34S±0°.08×172°.99W±0°.06, h10km±1km, mb4.5/12, Error ellipse: s-maj=13.6km s-min=9.2km az=4.0*

ISC 22 09:36:43.2±0.6, 15°.6S±0°.1×173°.13W±0°.09, h29km, n39, σ1°08/24, mb4.2/13, MS3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.15	38		Pn	09 37 11.0	-6.2
NIUE	Niue	4.59	139		Pn	09 37 50.7	0.0
RAR	Rarotonga	13.83	116	Pn	Pn	09 39 56.2	-1.2
	0.9nm,0.3s,baz=27,slow=9.0,SNR=2.3						
RAR				LR	LR	09 44 02.8	
	comp=Z,98nm,18.8s,baz=292,slow=32						
	6.0nm,0.7s						
MARNC	Mare, Loyalty	18.78	249		Pn	09 41 01.7	+0.8
PINNC	Pines Island,	19.61	246	P	P	09 41 09.5	+0.1
PINNC				IAmb	IAmb	09 41 20.9	
	comp=Z,60nm,1.3s						
PPT	Papeete	22.65	98	LR	LR	09 48 03.7	
	comp=Z,44nm,19.9s,baz=264,slow=30						
PPT2	Papeete2	22.65	98	eS	S	09 45 37.6	-11
	comp=Z,46nm,24.0s						
PPT2				eLR	LR	09 46 59.9	
	comp=Z,126nm,25.0s						
PPT2				eLR	LR	09 47 11.9	
	comp=Z,112nm,24.5s						
TBI	Tubuai	23.57	113	eLR	LR	09 47 30.8	
	comp=Z,704nm,28.0s						
TBI				eLR	LR	09 47 33.0	
	comp=Z,1μm,30.8s						
HNR	Honiara	26.98	280	LR	LR	09 50 52.7	
	comp=Z,89nm,19.4s,baz=110,slow=32						
TAOE	Nuku Hiva Isla	32.89	82	eLR	LR	09 51 51.7	
	comp=Z,66nm,24.7s						
H11S2	WAKE ISLAND Hy	39.29	329	T	T	10 25 29.9	
	baz=149,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	39.31	329	T	T	10 25 40.5	
	baz=149,slow=76,SNR=24						
H11S1	WAKE ISLAND Hy	39.31	329	T	T	10 25 33.1	
	baz=149,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	40.24	330	T	T	10 26 40.8	
	baz=150,slow=76,SNR=30						
H11N1	WAKE ISLAND Hy	40.24	330	T	T	10 26 43.6	
	baz=150,slow=76,SNR=20						
H11N2	WAKE ISLAND Hy	40.26	330	T	T	10 26 44.7	
	baz=150,slow=76,SNR=24						
STKA	Stephens Creek	44.15	240	P	P	09 44 49.7	+0.2
STKA	Stephens Creek	44.15	240	P	P	09 44 47.1	-2.4
	comp=Z,2.2nm,0.8s,baz=79,slow=10,SNR=6.8						
	comp=Z,2.2nm,0.8s						
BBOO	Buckleboo	48.92	240	P	P	09 45 27.1	+0.2
BBOO				IAmb	IAmb	09 45 37.4	
	comp=Z,12nm,1.4s						
WR8	Warramunga Arr	49.90	257	P	P	09 45 33.7	-0.9
WR8				IAmb	IAmb	09 45 43.0	
	comp=Z,4.1nm,1.1s						
WB0	Warramunga Arr	50.01	257	P	P	09 45 35.1	-0.3
WB0				IAmb	IAmb	09 45 37.2	
	comp=Z,2.8nm,0.8s						
WRA	Warramunga Arr	50.05	257	P	P	09 45 34.8	-0.9
WRA	Warramunga Arr	50.05	257	P	P	09 45 34.5	-1.2
	comp=Z,1.1nm,0.6s,baz=93,slow=6.9,SNR=32						
WRA				PcP	PcP	09 46 55.6	+0.2
	comp=Z,0.5nm,0.6s,baz=89,slow=3.5,SNR=5.5						
WRA				LR	LR	10 04 31.6	
	comp=Z,63nm,19.1s,baz=207,slow=34						
	comp=Z,1.1nm,0.6s						
AS31	Alice Springs	50.29	252	P	P	09 45 36.7	-0.8
ASAR	Alice Springs	50.29	252	P	P	09 45 36.5	-1.0
	comp=Z,2.6nm,0.6s,baz=88,slow=8.4,SNR=44						
	comp=Z,2.6nm,0.6s						
FORT	Forrest	55.55	243	P	P	09 46 16.2	+0.1
FORT				IAmb	IAmb	09 46 37.8	
	comp=Z,6.2nm,0.9s						
JCJ	Chichijima	60.70	314	LR	LR	10 08 21.5	
	comp=Z,26nm,20.1s,baz=124,slow=31						
VNDA	Vanda	63.18	186	P	P	09 47 09.2	+1.1
CASY	Casey	70.31	205	P	P	09 47 54.8	+1.1
PETK	Petropavlovsk-	72.93	342	P	P	09 48 08.9	-0.6
	comp=Z,2.2nm,0.8s,baz=90,slow=6.5,SNR=3.8						
	comp=Z,2.2nm,0.8s						
NVAR	Mina Array Bea	74.32	42	P	P	09 48 20.9	+2.5
	comp=Z,0.3nm,0.7s,baz=243,slow=4.8,SNR=2.3						
	comp=Z,0.3nm,0.7s						
QSPA	South Pole Qui	74.42	180	P	P	09 48 18.1	-0.3
QSPA				IAmb	IAmb	09 48 38.3	
	comp=Z,5.5nm,1.4s						
QSPA	South Pole Qui	74.42	180	P	P	09 48 23.6	+5.2
	comp=Z,1.4nm,0.7s,baz=44,slow=1.9,SNR=11						
MA2	Magadan	80.46	342	LR	LR	10 24 32.4	
	comp=Z,16nm,18.6s,baz=137,slow=36						
TXAR	Lajitas Array	80.52	56	P	P	09 48 54.2	+1.1
	comp=Z,0.7nm,1.0s,baz=248,slow=5.7,SNR=4.5						
	comp=Z,0.7nm,1.0s						
PDAR	Pinedale Array	82.26	42	P	P	09 49 01.6	-0.6
	comp=Z,0.5nm,0.9s,baz=220,slow=7.5,SNR=2.9						
	comp=Z,0.5nm,0.9s						
ILAR	Eielson Array	82.62	11	P	P	09 49 02.2	-1.0
	comp=Z,0.4nm,0.8s,baz=237,slow=6.3,SNR=8.3						
	comp=Z,0.4nm,0.8s						
SEY	Seymchan	82.81	345	LR	LR	10 24 03.7	
	comp=Z,25nm,19.0s,baz=82,slow=34						
BRTR	Keskin Array B	146.50	321	PKPbc	PKPab	09 56 23.0	-0.1
	comp=Z,1.2nm,0.7s,baz=63,slow=0.3,SNR=7.0						

*IDC **22** 09:37:09.3±2.5, 44°.75S×168°.27E, h0km, mb3.5/3, mbtmp3.5/3, MS3.3/1, Error ellipse: s-maj=104.9km s-min=29.8km az=56.0*
*WEL **22** 09:37:23.2±0.9, 45°S±4°×16°8E±°, h79km±7km, M4.0/7, ML4.2/7, MLv4.0/7, Error ellipse: s-maj=6.2km s-min=3.5km az=133.3, confirmed*
*NOU **22** 09:37:23.4, 45°.04S×167°.69E, h103km, MLv4.0/13, South Island, New Zealand*

ISC 22 09:37:22.7±0.8, 45°.04S±0°.04×167°.49E±0°.04, h97km±6km, n54, σ1°07/66, mb3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFS	Te Anau Fire S	0.41	157	P	Pn	09 37 37.4	-0.2
TAFS				S	Sn	09 37 47.9	-0.8
MSZ	Milford Sound	0.48	40	P	Pn	09 37 38.4	+0.4
MSZ				S	Sn	09 37 49.3	-0.2
DCZ	Deep Cove	0.49	209	P	Pn	09 37 37.2	-0.9
DCZ				S	Sn	09 37 47.7	-1.9
GLNY	Glenorchy	0.67	75	P	Pn	09 37 39.9	+0.3
GLNY				S	Sn	09 37 51.9	-0.4
MOSS	Mossburn Schoo	0.82	141	P	Pn	09 37 41.3	+0.2
MOSS				S	Sn	09 37 54.7	-0.1
QTPS	Queenstown Pol	0.83	90	P	Pn	09 37 41.7	+0.6
QTPS				S	Sn	09 37 55.0	+0.1
RLNS	Resolution Isl	0.86	221	P	Pn	09 37 40.1	-1.5
RLNS				S	Sn	09 37 53.6	-2.1
WHZ	Wether Hill Ro	0.91	160	P	Pn	09 37 41.6	-0.4
WHZ				S	Sn	09 37 55.1	-1.4
WKZ	Wanaka	1.10	80	P	Pn	09 37 44.9	+0.9
WKZ				S	Sn	09 38 00.4	+0.2
RRKS	Rarakau	1.11	181	P	Pn	09 37 44.0	-0.1
RRKS				S	Sn	09 37 59.3	-1.0
PYZ	Puysegur Point	1.27	207	P	Pn	09 37 46.7	+0.7
PYZ	Puysegur Point	1.27	207	P	Pn	09 37 45.9	0.0
PYZ				S	Sn	09 38 02.2	-1.3
EAZ	Earnscleugh	1.30	99	P	Pn	09 37 46.9	+0.6
EAZ				S	Sn	09 38 04.0	-0.3
JCZ	Jackson Bay	1.33	44	P	Pn	09 37 47.3	+0.4
JCZ	Jackson Bay	1.33	44	S	Sn	09 38 05.5	+0.4
JCZ	Jackson Bay	1.33	44	P	Pn	09 37 47.1	+0.2
JCZ				S	Sn	09 38 04.5	-0.6
GODC	Gore District	1.47	137	P	Pn	09 37 48.2	-0.2
GODC				S	Sn	09 38 08.4	+0.5
TUZ	Tuapeka	1.76	122	P	Pn	09 37 52.4	+0.4
TUZ				S	Sn	09 38 12.9	-1.5
APZ	The Paps	1.83	169	P	Pn	09 37 52.4	-0.6
APZ				S	Sn	09 38 14.7	-1.3
SYZ	Scrubby Hill	1.89	143	P	Pn	09 37 53.8	+0.1
SYZ	Scrubby Hill	1.89	143	P	Sn	09 38 17.4	+0.1
SYZ	Scrubby Hill	1.89	143	P	Pn	09 37 53.7	-0.1
LBZ	Lake Benmore	2.03	72	P	Pn	09 37 55.1	-0.4
LBZ				S	Sn	09 38 19.0	-1.5
ODZ	Otahua Downs	2.23	91	P	Pn	09 37 58.1	-0.1
ODZ	Otahua Downs	2.23	91	S	Sn	09 38 23.5	-1.9
ODZ	Otahua Downs	2.23	91	P	Pn	09 37 58.1	-0.1
ODZ				S	Sn	09 38 22.6	-2.7
FOZ	Fox Glacier	2.25	49	P	Pn	09 37 58.0	-0.3
TMZ	Timaru	2.59	77	P	Pn	09 38 02.1	-0.8
TMZ				S	Sn	09 38 30.7	-3.0
ARCZ	Arundel	2.85	69	P	Pn	09 38 05.4	-1.0
RPZ	Rata Peaks	2.87	64	P	Pn	09 38 05.9	-0.8
RPZ	Rata Peaks	2.87	64	S	Sn	09 38 38.5	-2.1
RPZ	Rata Peaks	2.87	64	P	Pn	09 38 05.8	-0.8
WVZ	Waitaha Valley	3.05	51	P	Pn	09 38 09.0	-0.1
MHCZ	Mount Hutt	3.29	64	P	Pn	09 38 10.9	-1.4
OXZ	Oxford	3.69	64	P	Pn	09 38 16.8	-0.8
MQZ	McQueen's Vall	3.93	72	P	Pn	09 38 19.8	-1.1
LTZ	Lake Taylor	4.12	59	P	Pn	09 38 21.8	-1.7
OKCZ	Okains Bay	4.20	74	P	Pn	09 38 24.4	-0.2
KHZ	Kahutara	5.10	61	P	Pn	09 38 36.9	+0.2
KHZ	Kahutara	5.10	61	S	Sn	09 39 32.3	-2.1
QRZ	Quartz Range	5.60	43	P	Pn	09 38 43.6	+0.1
QRZ	Quartz Range	5.60	43	S	Sn	09 39 45.0	-1.5
ASAR	Alice Springs	34.61	297	P	P	09 44 02.8	+0.3
	0.3nm,0.9s,baz=143,slow=6.3,SNR=1.4						
	0.3nm,0.9s						
WRA	Warramunga Arr	37.10	301	P	P	09 44 24.6	+0.8
	0.6nm,0.8s,baz=137,slow=7.9,SNR=6.2						
	0.6nm,0.8s						
H01W1	Cape Leeuwin H	41.45	265	T	T	10 29 05.1	
	baz=120,slow=75,SNR=26						
H01W2	Cape Leeuwin H	41.46	265	T	T	10 29 06.2	
	baz=120,slow=75,SNR=30						
H01W3	Cape Leeuwin H	41.47	265	T	T	10 29 00.3	
	baz=120,slow=75,SNR=26						
KAPI	Kappang	57.57	299	LR	LR	10 12 09.6	
	comp=Z,26nm,19.0s,baz=63,slow=36						
SNAA	Sanae	63.40	183	P	P	09 47 42.3	+1.0
	0.6nm,0.6s,baz=215,slow=8.1,SNR=8.9						
	0.6nm,0.6s						
H08S2	Diego Garcia H	88.17	261	T	T	11 27 06.2	
	baz=135,slow=76,SNR=6.8						
H08S1	Diego Carcia H	88.18	261	T	T	11 27 09.2	
	baz=135,slow=76,SNR=4.3						
H08S3	Diego Garcia H	88.19	261	T	T	11 27 12.5	
	baz=135,slow=76,SNR=8.3						
TORD	Torodi Ar. Bea	145.99	205	PKPbc	PKPdf	09 56 51.6	+1.1
	3.7nm,0.3s,baz=176,slow=4.0,SNR=3.6						
FINES	FINESS Array B	152.22	320	PKPbc	PKPbc	09 57 05.9	+0.1
	1.9nm,0.9s,baz=77,slow=8.2,SNR=4.7						

*IDC **22** 09:57:30.2±8.7, 6°.45S×130°.08E, h104km±89km, mb3.9/2, mbtmp4.3/6, ML4.2/4, Error ellipse: s-maj=70.8km s-min=29.5km az=34.0*
*DJA **22** 09:57:33.8±0.3, 7°S±2°×13°0E±°, h168km±6km, M4.3/14, mB4.8/5, mb4.4/7, MLv4.4/14, Mw(mB)4.0/5*

ISC 22 09:57:33.4±0.9, 6°.63S±0°.06×129°.95E±0°.07, h146km, n17, σ2°66/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.90	135	P	Pn	09 58 09.1	+2.1
SAUI				S	Sn	09 58 37.3	+4.4
BNDI	Bandanaira	2.10	359	P	Pn	09 58 09.2	-0.2
AAI	Ambon	3.41	329	P	Pn	09 58 24.0	-1.8
MSAI	Masohi	3.42	343	P	Pn	09 58 26.5	+0.5
NLAI	Namlea	4.41	320	P	Pn	09 58 39.7	+0.8
KMPI	Kaimana, Papua	4.76	52	P	Pn	09 58 43.6	0.0
SWI	Sorong	5.88	13	P	Pn	09 58 55.9	-2.5
SANI	Sanana	6.03	319	P	Pn	09 59 01.3	+0.9
	0.1nm19nm,0.8s						
SOEI	Soe	6.43	241	P	Pn	09 59 08.4	+2.5
	0.3nm67nm,0.8s						
RKPI	Ransiki, Papua	6.60	40	P	Pn	09 59 08.1	-0.1
	52nm,0.4s						
BATI	Baumata	7.16	240	P	Pn	09 59 15.6	-0.1
	8.5nm,0.3s,baz=205,slow=3.5,SNR=5.1						
BATI				S	Sn	10 00 38.6	+2.7
	27nm,0.4s,baz=90,slow=19,SNR=2.0						
	53nm,0.6s						
BATI	Baumata	7.16	240	P	Pn	09 59 18.2	+2.5
FITZ	Fitzroy Crossi	12.15	200	P	Pn	10 00 21.8	0.0
	0.6nm,0.3s,baz=24,slow=11,SNR=31						
FITZ				S	Sn	10 02 31.4	-4.6
	9.3nm,0.6s,baz=86,slow=13,SNR=8.6						
	3.8nm,0.6s						
WRA	Warramunga Arr	13.90	163	P	Pn	10 00 42.8	-1.5
	1.1nm,0.3s,baz=343,slow=13,SNR=35						
WRA				S	Sn	10 03 12.0	-6.3
	1.6nm,0.5s,baz=342,slow=22,SNR=7.1						
	4.5nm,0.5s						
ASAR	Alice Springs	17.36	168	P	Pn	10 01 29.3	+2.4
	0.6nm,0.3s,baz=340,slow=9.4,SNR=67						
ASAR				S	S	10 04 36.7	-2.8
	0.7nm,0.7s,baz=346,slow=26,SNR=4.6						
	4.2nm,0.6s						
MKAR	Makanchi Array	67.89	327	P	P	10 08 17.2	+1.1
	1.7nm,0.6s,baz=121,slow=7.8,SNR=17						
	1.7nm,0.6s						
KURBB	Kurchatov Arra	72.17	328	P	P	10 08 43.2	+1.1
	0.7nm,0.2s,baz=122,slow=5.3,SNR=1.6						
	0.7nm,0.2s						

*NNC **22** 10:00:14.3±9.0, 52°.15N×75°.50E, h0km, mb

s-maj=14.5km s-min=10.0km az=150.0, Kostomuksha, Karelia

HEL 22 10:09:18.9±0.1, 64°.66N×30°.07E, h0km, ML2.0, Suspected explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.45**	**188**	PG	Pg	10 09 27.1	-0.3
KU6	**Riekki**	**1.37**	**357**	PN	Pg	10 09 45.0	-0.2
KU6				MSG		10 10 00.4	
	comp=Z,10.0nm,0.2s						
NIF	**Nilsia**	**1.62**	**219**	PN	Pn	10 09 48.8	+0.2
	baz=32						
NIF				MSG		10 10 07.4	
	comp=Z,16nm,0.2s						
OUL	**Oulu**	**1.83**	**285**	PG	Pn	10 09 51.5	-0.1
	baz=97						
JOF	**Joensuu**	**1.83**	**162**	*e*P	Pn	10 09 48.6	-3.0
JOF	**Joensuu**	**1.83**	**162**	PG	Pn	10 09 51.7	+0.1
JOF				SG	Sn	10 10 15.6	+0.1
RANF	**Ranua**	**1.94**	**316**	PG	Pb	10 09 54.1	-0.9
	baz=130						
RANF				SG	Sn	10 10 18.0	0.0
OBF4	**Vikkela, Lumij**	**2.13**	**276**	PB	Pn	10 09 56.4	+0.7
	baz=92						
OBF4				MSG		10 10 22.1	
	comp=Z,11nm,0.2s						
OUF	**Merijarvi**	**2.33**	**265**	PB	Pn	10 09 59.6	+1.2
OUF				MSG		10 10 27.6	
	comp=Z,14nm,0.2s						
KVDA	**Kovda**	**2.35**	**28**	P	Pn	10 09 52.5	-6.2
KVDA				S	Sn	10 10 18.1	-10
OBF0	**Syolatti, Pyha**	**2.52**	**269**	PG	Pb	10 10 03.6	-1.3
OBF0				MSG		10 10 33.3	
	comp=Z,8.4nm,0.2s						
RNF	**Rovaniemi**	**2.58**	**321**	PN	Pn	10 10 01.2	-0.6
	baz=135						
RNF				SB	Sn	10 10 35.8	+1.9
SUF	**Sumiainen**	**2.61**	**224**	PB	Pn	10 10 03.7	+1.4
SUF				MSG		10 10 36.1	
	comp=Z,4.4nm,0.2s						
TOF	**Tornio**	**2.80**	**303**	PB	Pn	10 10 07.1	+2.3
TOF				MSG		10 10 41.0	
	comp=Z,2.8nm,0.2s						
TOF				SG	Sb	10 10 44.6	+0.2
KAF	**Kangasniemi**	**3.06**	**215**	PG	Pb	10 10 12.6	-1.7
KAF				MSG		10 10 49.1	
	comp=Z,5.9nm,0.2s						
KALU	**Kalix**	**3.07**	**296**	P	Pn	10 10 08.3	-0.2
KALU				S	Sb	10 10 50.4	-1.8
KALU	**Kalix**	**3.07**	**296**	PB	Pn	10 10 11.0	+2.5
KALU				SG	Sb	10 10 53.7	+1.5
VRF	**Varrio**	**3.11**	**357**	PN	Pn	10 10 09.6	+0.5
VRF				SN	Sn	10 10 46.4	-0.5
VRF				MSG		10 10 50.1	
	comp=Z,2.9nm,0.2s						
APA0	**Apatity Array**	**3.19**	**21**	P	Pn	10 10 04.0	-6.2
APA0				S	Sn	10 10 40.4	-8.5
RUF	**Ruokolahti**	**3.29**	**189**	PN	Pn	10 10 10.6	-1.0
	baz=6.0						
KEF	**Keuruu**	**3.42**	**225**	*e*P	Pn	10 10 11.4	-2.0
KEF	**Keuruu**	**3.42**	**225**	PN	Pn	10 10 15.3	+1.9
VAF	**Ylistaro**	**3.65**	**247**	*e*P	Pn	10 10 14.9	-1.7
VAF	**Ylistaro**	**3.65**	**247**	PB	Pb	10 10 20.6	-3.6
SJUU	**Sjulsmark**	**3.68**	**287**	P	Pn	10 10 15.9	-1.1
SJUU	**Sjulsmark**	**3.68**	**287**	*e*P	Pn	10 10 15.4	-1.5
FIA0	**FINESS Array S**	**3.70**	**211**	PN	Pn	10 10 17.6	+0.3
	baz=28						
PAJU	**Pajala**	**3.71**	**313**	PG	Pb	10 10 25.5	+0.2
PAJU				SG	Sb	10 11 13.2	+2.3
BURU	**Burvik**	**3.74**	**273**	P	Pn	10 10 16.1	-1.7
BURU				S	Sn	10 11 06.2	+3.7
LVZ	**Lovozero**	**3.74**	**28**	SB	Sb	10 11 08.0	-3.7
ERTU	**Ertsjaerv**	**3.78**	**304**	P	Pn	10 10 17.2	-1.2
ERTU	**Ertsjaerv**	**3.78**	**304**	PN	Pn	10 10 17.7	-0.7
RAJF	**Raja-Jooseppi**	**3.90**	**350**	PB	Pb	10 10 24.9	-3.5
RAJF				SB	Sb	10 11 11.8	-4.2
ODEU	**Stanfors**	**4.05**	**271**	P	Pn	10 10 20.8	-1.2
HARU	**Harads**	**4.09**	**296**	P	Pn	10 10 21.8	-0.8
HEF	**Hetta**	**4.55**	**329**	SG	Sb	10 11 36.9	+2.1
LANU	**Lannavaara**	**4.70**	**320**	*e*P	Pn	10 10 29.4	-1.7
LANU	**Lannavaara**	**4.70**	**320**	PN	Pn	10 10 30.9	-0.1
LANU				SG	Sb	10 11 43.6	+4.4
ARCES	**ARCESS Array B**	**5.21**	**342**	P	Pn	10 10 32.9	-5.1
ARCES				S	Sn	10 11 31.7	-7.0

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*DNK **22** 10:11:28.2±0.4, 58°.68N×12°.37E, h0km, ML1.8(UPP), Explosion*

UPP 22 10:11:27.9±0.0, 58°.69N×12°.38E, h0km, ML1.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANU	**Vaenersborg**	**0.25**	**219**	P	Pg	10 11 32.9	+0.2
VANU				S	Sg	10 11 36.1	+0.1
VANU	**Vaenersborg**	**0.25**	**219**	P	Pg	10 11 32.9	+0.2
VANU				S	Sg	10 11 36.1	+0.1
NASU	**Vaermlandsnaes**	**0.49**	**60**	P	Pg	10 11 37.2	0.0
NASU	**Vaermlandsnaes**	**0.49**	**60**	P	Pg	10 11 37.2	0.0
STRU	**Stroemstad**	**0.71**	**300**	P	Pg	10 11 41.4	-0.1
STRU	**Stroemstad**	**0.71**	**300**	*e*P	Pg	10 11 41.3	-0.2
STRU	**Stroemstad**	**0.71**	**300**	P	Pg	10 11 41.4	-0.1
FINU	**Finntorp**	**0.72**	**4**	P	Pg	10 11 41.3	-0.4
FINU	**Finntorp**	**0.72**	**4**	P	Pg	10 11 41.3	-0.4
TJOU	**Tjoern**	**0.77**	**211**	P	Pg	10 11 42.3	-0.3
TJOU	**Tjoern**	**0.77**	**211**	P	Pg	10 11 42.3	-0.3
FKPU	**Falk**	**0.89**	**126**	P	Pg	10 11 44.5	-0.4
FKPU	**Falk**	**0.89**	**126**	P	Pg	10 11 44.5	-0.4
BORU	**Boraas**	**1.08**	**169**	P	Pg	10 11 47.8	-0.8
BORU	**Boraas**	**1.08**	**169**	P	Pg	10 11 47.8	-0.8
ASKU	**Askersund**	**1.29**	**80**	P	Pg	10 11 52.1	-0.6
ASKU	**Askersund**	**1.29**	**80**	P	Pg	10 11 52.1	-0.6
ONAU	**Onsala**	**1.32**	**191**	P	Pg	10 11 51.9	-1.2
ONAU	**Onsala**	**1.32**	**191**	P	Pg	10 11 51.9	-1.2
UDD	**Uddeholm**	**1.54**	**24**	P	Pn	10 11 56.0	-0.6
UDD	**Uddeholm**	**1.54**	**24**	P	Pn	10 11 56.0	-0.6

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*IDC **22** 10:29:49.7±4.6, 6°.80S×130°.06E, h111km±51km, mb3.8/7, mbtmp4.2/11, Error ellipse: s-maj=36.2km s-min=26.2km az=25.0*

*NEIC **22** 10:29:51.1±0.5, 6°.66S±0°.06×129°.94E±0°.09, h120km±7km, mb4.0/5, Error ellipse: s-maj=13.0km s-min=8.5km az=84.0*

*DJA **22** 10:29:52.2±0.2, 7°.S±2°×13°.0E±°, h139km±5km, M4.4/16, mB4.8/7, mb4.4/13, MLv4.8/16, Mw(mB)4.0/7, MwMwp4.5/1, Mwp4.9/1*

ISC 22 10:29:52.3±0.6, 6°.96S±0°.05×130°.02E±0°.06, h150km, n47, σ2°18/51, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.63**	**129**		**Pn**	**10 30 23.1**	**-0.2**
SAUI				Sn	**Sn**	**10 30 47.4**	**+0.4**
SAUI	**Saumlaki**	**1.63**	**129**	P	**Pn**	**10 30 24.8**	**+1.5**
SAUI				S	**Sn**	**10 30 49.4**	**+2.4**
BNDI	**Bandanaira**	**2.42**	**357**	P	**Pn**	**10 30 28.7**	**-3.8**
MSAI	**Masohi**	**3.75**	**343**	P	**Pn**	**10 30 48.0**	**-1.3**
FAKI	**Fak Fak**	**4.58**	**29**	Pn	Pn	10 30 55.3	-5.0
FAKI	**Fak Fak**	**4.58**	**29**	P	Pn	10 30 55.0	-5.3
NLAI	**Namlea**	**4.70**	**322**	P	**Pn**	**10 30 58.3**	**-3.5**
KMPI	**Kaimana, Papua**	**4.92**	**48**	P	**Pn**	**10 31 02.4**	**-2.3**
MTN	**Manton Dam**	**5.95**	**169**		**Pn**	**10 31 20.7**	**+2.2**
SWI	**Sorong**	**6.18**	**12**	P	**Pn**	**10 31 16.7**	**-4.8**
	1.2nm2μm29nm,0.4s						
SANI	**Sanana**	**6.32**	**320**	P	**Pn**	**10 31 22.6**	**-0.7**
	0.2nm49nm,0.7s						
SOEI	**Soe**	**6.33**	**244**		**Pn**	**10 31 24.4**	**+0.7**
SOEI	**Soe**	**6.33**	**244**	P	**Pn**	**10 31 25.3**	**+1.7**
	0.4nm67nm,0.9s						
RKPI	**Ransiki, Papua**	**6.81**	**38**	P	**Pn**	**10 31 26.9**	**-3.1**
BATI	**Baumata**	**7.07**	**242**	P	**Pn**	**10 31 33.8**	**+0.5**
	44nm,0.4s,baz=98,slow=1.8,SNR=4.3						
BATI				S	**Sn**	**10 32 51.5**	**-1.0**
	62nm,0.6s,baz=77,slow=19,SNR=7.5						
BATI	**Baumata**	**7.07**	**242**	P	**Pn**	**10 31 33.9**	**+0.6**
TNTI	**Ternate**	**8.12**	**341**	Pn	**Pn**	**10 31 44.8**	**-2.6**
TNTI	**Ternate**	**8.12**	**341**	P	**Pn**	**10 31 44.5**	**-2.9**
	0.2nm1μm41nm,0.7s						
BAKI	**Biak**	**8.35**	**47**	P	**Pn**	**10 31 49.8**	**-0.6**
EDFI	**Ende, Flores**	**8.44**	**257**	P	**Pn**	**10 31 52.8**	**+1.0**
	632nm32nm,0.8s						
KNRA	**Kununurra**	**8.76**	**188**		**Pn**	**10 31 57.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.87**	**201**	Pn	**Pn**	**10 32 38.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.87**	**201**	P	**Pn**	**10 32 36.9**	**-0.1**
	2.0nm,0.4s,baz=31,slow=11,SNR=45						
FITZ				S	**Sn**	**10 34 42.4**	**-5.9**
	13nm,0.4s,baz=27,slow=20,SNR=7.8						
PLAI	**Plampang**	**12.27**	**260**	P	**Pn**	**10 32 40.8**	**-1.4**
	30nm,1.6s						
WB0	**Warramunga Arr**	**13.43**	**162**		**Pn**	**10 32 57.4**	**+0.3**
WRAB	**Tennant Creek**	**13.57**	**162**		**Pn**	**10 32 57.9**	**-0.9**
WRA	**Warramunga Arr**	**13.57**	**162**		**Pn**	**10 32 58.2**	**-0.7**
WRA	**Warramunga Arr**	**13.57**	**162**	P	**Pn**	**10 32 58.9**	**-0.1**
	4.4nm,0.5s,baz=338,slow=15,SNR=80						
WRA				S	**Sn**	**10 35 23.9**	**-5.4**
	1.9nm,0.3s,baz=6.3,slow=23,SNR=12						
WR8	**Warramunga Arr**	**13.64**	**162**		**Pn**	**10 32 59.9**	**+0.2**
AS31	**Alice Springs**	**17.03**	**168**		**Pn**	**10 33 44.6**	**+2.9**
ASAR	**Alice Springs**	**17.03**	**168**		**Pn**	**10 33 44.7**	**+3.1**
ASAR	**Alice Springs**	**17.03**	**168**	P	**Pn**	**10 33 44.0**	**+2.3**
	3.6nm,0.9s,baz=352,slow=13,SNR=34						
ASAR				S	**S**	**10 36 48.5**	**-2.6**
	2.9nm,0.7s,baz=344,slow=26,SNR=8.8						
PSA00	**Pilbara Seismi**	**17.55**	**213**	P	**Pn**	**10 33 49.3**	**+1.5**
PSA00				IAmb	IAmb	10 33 51.1	
	comp=Z,27nm,1.4s						
PSA00	**Pilbara Seismi**	**17.55**	**213**		**Pn**	**10 33 49.2**	**+1.5**
PSA00				IAmb	IAmb	10 33 52.5	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.72**	**310**	P	**P**	**10 37 11.0**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=124,slow=8.7,SNR=5.7						
	comp=Z,1.8nm,0.3s						
MJAR	**Matsushiro Arr**	**43.94**	**10**	P	**P**	**10 37 43.2**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=188,slow=9.0,SNR=5.5						
	comp=Z,1.8nm,0.7s						
LZH	**Lanzhou**	**49.37**	**332**	*e*P	**P**	**10 38 29.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,22nm,1.6s						
HHC	**Hu-ho-hao-te**	**50.51**	**342**	*e*P	**P**	**10 38 38.4**	**+3.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
USRK	**Ussuriysk Ar.**	**50.95**	**2**	P	**P**	**10 38 38.9**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=170,slow=6.5,SNR=6.2						
	comp=Z,1.3nm,0.5s						
SONM	**Songino Array**	**58.41**	**342**	P	**P**	**10 39 32.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=159,slow=5.7,SNR=2.4						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**10 40 36.1**	**-0.5**
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**10 40 37.8**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=113,slow=8.7,SNR=24						
	comp=Z,2.9nm,0.5s						
MAKZ	**Makanchi**	**68.38**	**327**	P	**P**	**10 40 38.6**	**+0.9**
KURBB	**Kurchatov Arra**	**72.48**	**328**	P	**P**	**10 41 03.5**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=126,slow=5.0,SNR=11						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**78.03**	**328**	P	**P**	**10 41 34.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=104,slow=6.1,SNR=3.0						
	comp=Z,0.5nm,0.4s						
AB31	**Akbulak array**	**82.48**	**322**	P	**P**	**10 41 58.5**	**+0.4**
AB31				IAmb	IAmb	10 42 33.5	
	comp=Z,1.9nm,1.2s						
ABKAR	**Akbulak array**	**82.48**	**322**	P	**P**	**10 41 58.7**	**+0.6**

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*JMA **22** 10:36:45.2±0.4, 46°.N±1°×14°.2E±°, h17km±3km, MV2.9/30, SOUTH SAKHALIN*

*SKHL **22** 10:36:47.2±0.2, 46°.10N×141°.90E, h13km±1km, mb4.0/4*

ISC 22 10:36:47.3±1.2, 46°.12N±0°.04×141°.86E±0°.09, h13km±11km, n7, σ0°74/13, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel`sk**	**0.56**	**360**	*e*Pg	**Pg**	**10 36 58.3**	**+0.1**
NEVR				AMB	AMB	10 36 58.5	
	550nm,0.3s						
NEVR				*e*Sg	**Sg**	**10 37 06.2**	**+0.6**
NEVR				A	A	10 37 06.6	
	2μm,0.3s						
NEVR				A	A	10 37 06.6	
	2μm,0.3s						
JWK2	**Keihoku**	**0.81**	**178**	P	**Pn**	**10 37 04.0**	**-0.4**
JWK2				S	**Sn**	**10 37 16.7**	**+0.4**
JRBN	**Rebuntou**	**0.89**	**219**	P	**Pg**	**10 37 03.8**	**-0.8**
JRBN				S	**Sb**	**10 37 16.5**	**+0.1**
YSS	**Yuzhno-Sakhali**	**1.04**	**36**	*e*Pg	**Pn**	**10 37 07.4**	**-0.2**
YSS				AMB	AMB	10 37 08.5	
	40nm,0.4s						
YSS				*e*Sg	**Sn**	**10 37 21.6**	**-0.4**
YSS				A	A	10 37 22.5	
	210nm,0.4s						
YSS				A	A	10 37 22.5	
	110nm,0.4s						
JRR	**Rishiri**	**1.06**	**202**	*e*P	**Pg**	**10 37 07.5**	**-0.2**
JRR				*e*S	**Sn**	**10 37 23.9**	**+1.5**
JSE	**Soyaes**	**1.27**	**156**	P	**Pb**	**10 37 10.6**	**-0.5**
JSE				S	**Sg**	**10 37 29.2**	**+1.0**
JYG	**Yagishiri**	**1.72**	**190**	S	**Sb**	**10 37 40.5**	**+0.2**

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*NOU **22** 11:02:52.3, 16°.22S×171°.17W, h53km, mb4.8/11, Samoa Islands Region*

*IDC **22** 11:03:00.4±0.6, 14°.95S×173°.52W, h0km, mb4.1/12, mbtmp4.1/12, MS4.1/53, Error ellipse: s-maj=27.8km s-min=16.4km az=129.0*

*NEIC **22** 11:03:02.3±2.1, 15°.05S±0°.08×172°.84W±0°.07, h10km±1km, mb4.9/92, Error ellipse: s-maj=14.5km s-min=10.2km az=139.0*

*GCMT **22** 11:03:07.3±0.3, 15°.10S±0°.02×172°.79W±0°.01, h12km, MW5.0/94, Moment Tensor Solution. s16,c16; s94,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.07; $M_{\theta\theta}$-0.23±.08; $M_{\phi\phi}$0.26±.07; $M_{r\theta}$-4.43±.16; $M_{\theta\phi}$-1.18±.04; $M_{\phi r}$0.88±.18; Best double couple: $M_0$4.67200×10^{16} NP1:ϕ_s8.00000°, δ15.00000°, λ-3.00000°. NP2: ϕ_s101.00000°, δ89.00000°, λ-105.00000°. Principal axes: T 4.7680, Plg42.0000°, Azm205.0000°; N -0.1910, Plg15.0000°, Azm101.0000°; P -4.5770, Plg44.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 11:03:02.1±0.4, 15°.11S±0°.07×172°.71W±0°.06, h10km, n388, σ1°05/296, mb4.9/61, MS4.3/52, 2C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.49**	**37**	Pn	**Pn**	**11 03 28.4**	**-0.7**
AFI				Sn	**Sn**	**11 03 46.4**	**-2.2**
AFI	**Afiamalu**	**1.49**	**37**	P	**Pn**	**11 03 28.7**	**-0.3**
NIUE	**Niue**	**4.76**	**146**		**Pn**	**11 04 14.0**	**+0.1**
FUTU	**Fugatoga**	**5.30**	**278**	Pn	**Pn**	**11 04 18.2**	**-3.1**
MSVF	**Nonsavu**	**9.25**	**252**		**Pn**	**11 05 14.6**	**-1.0**
MSVF	**Nonsavu**	**9.25**	**252**	P	**Pn**	**11 05 19.2**	**+3.6**
RAR	**Rarotonga**	**13.71**	**118**		**Pn**	**11 06 17.4**	**+0.8**
RAR	**Rarotonga**	**13.71**	**118**	Pn	**Pn**	**11 06 17.0**	**+0.4**
	1.4nm,0.3s,baz=258,slow=7.9,SNR=11						
RAR				Sn	**Sn**	**11 08 43.9**	**-5.0**
	0.8nm,0.3s,baz=128,slow=19,SNR=1.8						
RAR				LR	LR	11 10 12.6	
	comp=Z,614nm,19.4s,baz=292,slow=30						
RAO	**Raoul Island**	**14.88**	**198**	LR	LR	11 11 33.7	
	comp=Z,1μm,20.9s,baz=338,slow=35						
MARNC	**Mare, Loyalty**	**19.35**	**248**	P	**P**	**11 07 24.6**	**-3.2**
MARNC	**Mare, Loyalty**	**19.35**	**248**	P	**P**	**11 07 23.9**	**-4.0**
PINNC	**Pines Island,**	**20.20**	**245**	P	**P**	**11 07 34.3**	**-2.8**
PINNC				IAmb	IAmb	11 07 47.9	
	comp=Z,101nm,1.5s						
YATNC	**Mamie plateau,**	**20.52**	**247**	P	**P**	**11 07 36.6**	**-4.1**
OUENC	**Ouen Island, N**	**20.67**	**246**	P	**P**	**11 07 39.5**	**-2.8**
DZM	**Mont Dzumac**	**20.93**	**248**	P	**P**	**11 07 39.6**	**-5.6**
	comp=Z,2.9nm,0.5s,baz=330,slow=20,SNR=6.1						
	comp=Z,2.9nm,0.5s						
PPT	**Papeete**	**22.33**	**99**	LR	LR	11 16 12.0	
	comp=Z,178nm,18.0s,baz=272,slow=34						
PPT2	**Papeete2**	**22.33**	**100**	*e*P	**P**	**11 08 00.3**	**0.0**
	comp=Z,55nm,25.8s						
PPT2				*e*S	**S**	**11 12 01.6**	**-4.4**
	comp=Z,1μm,27.8s						
PPT2				*e*LR	LR	11 13 17.6	
	comp=Z,413nm,25.5s						
PPT2				*e*LR	LR	11 13 19.3	
	comp=Z,335nm,26.2s						
TBI	**Tubuai**	**23.41**	**114**	*e*S	**S**	**11 12 26.2**	**+1.5**
	comp=Z,4μm,30.2s						
TBI				*e*LR	LR	11 13 51.9	
	comp=Z,805nm,26.2s						
TBI				*e*LR	LR	11 13 53.0	
	comp=Z,3μm,24.0s						
URZ	**Urewera**	**24.75**	**199**	LR	LR	11 17 13.9	
	comp=Z,766nm,18.7s,baz=26,slow=35						
HNR	**Honiara**	**27.30**	**279**	LR	LR	11 17 24.9	
	comp=Z,384nm,21.2s,baz=117,slow=33						
TAOE	**Nuku Hiva Isla**	**32.42**	**83**	*e*S	**S**	**11 14 50.6**	**+3.1**
	comp=Z,69nm,42.2s						
TAOE				*e*LR	LR	11 18 01.6	
	comp=Z,258nm,27.7s						
H11S2	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	11 51 06.4	
	baz=146,slow=76,SNR=147						
H11S3	**WAKE ISLAND Hy**	**39.08**	**328**	T	T	11 51 03.6	
	baz=146,slow=76,SNR=129						
H11S1	**WAKE ISLAND Hy**	**39.08**	**328**	T	T	11 50 58.1	
	baz=146,slow=76,SNR=62						
PMG	**Port Moresby**	**39.58**	**273**	LR	LR	11 24 18.0	
	comp=Z,162nm,21.1s,baz=336,slow=33						
H11N3	**WAKE ISLAND Hy**	**40.00**	**329**	T	T	11 52 13.5	
	baz=147,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**40.00**	**329**	T	T	11 52 11.0	
	baz=147,slow=76,SNR=34						
H11N2	**WAKE ISLAND Hy**	**40.01**	**329**	T	T	11 52 19.8	
	baz=147,slow=76,SNR=23						
STKA	**Stephens Creek**	**44.76**	**240**	P	P	11 11 09.4	-6.7
	comp=Z,1.1nm,0.7s,baz=105,slow=13,SNR=3.7						
STKA				LR	LR	11 27 26.0	
	comp=Z,142nm,20.4s,baz=37,slow=33						
	comp=Z,1.1nm,0.7s						
JAY	**Jayapura**	**47.59**	**281**	LR	LR	11 29 45.6	
	comp=Z,179nm,19.6s,baz=84,slow=34						
WR8	**Warramunga Arr**	**50.41**	**256**	P	P	11 11 54.9	-5.2
WR8				IAmb	IAmb	11 12 05.6	
	comp=Z,21nm,1.7s						
WB0	**Warramunga Arr**	**50.52**	**257**	P	P	11 11 55.5	-5.5
WRA	**Warramunga Arr**	**50.56**	**256**	P	P	11 11 55.1	-6.2
WRA	**Warramunga Arr**	**50.56**	**256**	P	P	11 11 55.2	-6.1
	comp=Z,1.4nm,0.7s,baz=96,slow=6.1,SNR=30						
WRA				LR	LR	11 33 01.2	
	comp=Z,147nm,18.8s,baz=156,slow=36						
	comp=Z,1.4nm,0.7s						
GUMO	**Guam**	**50.74**	**302**	LR	LR	11 30 05.6	
	comp=Z,53nm,20.1s,baz=126,slow=32						
AS31	**Alice Springs**	**50.84**	**252**	P	P	11 11 57.8	-5.6
ASAR	**Alice Springs**	**50.84**	**252**	P	P	11 11 57.4	-6.0
ASAR	**Alice Springs**	**50.84**	**252**	P	P	11 11 57.2	-6.1
	comp=Z,4.6nm,0.6s,baz=89,slow=7.4,SNR=52						
ASAR				LR	LR	11 31 54.3	
	comp=Z,298nm,21.5s,baz=94,slow=35						
	comp=Z,4.6nm,0.6s						
FORT	**Forrest**	**56.14**	**243**	P	P	11 12 35.6	-6.6
FORT				IAmb	IAmb	11 13 38.2	
	comp=Z,18nm,1.4s						
JCJ	**Chichijima**	**60.64**	**314**	LR	LR	11 33 57.6	
	comp=Z,186nm,21.3s,baz=94,slow=31						
SBA	**Scott Base**	**63.59**	**185**		**P**	**11 13 32.9**	**+0.3**
VNDA	**Vanda**	**63.73**	**186**		**P**	**11 13 33.4**	**-0.2**
VNDA	**Vanda**	**63.73**	**186**	P	**P**	**11 13 33.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=352,slow=6.8,SNR=7.8						
VNDA				LR	LR	11 40 48.0	
	comp=Z,64nm,18.0s,baz=18,slow=36						
	comp=Z,0.7nm,0.7s						
DAV	**Davao City (W)**	**65.00**	**285**	LR	LR	11 40 33.0	
	comp=Z,63nm,18.3s,baz=136,slow=35						
NWAO	**Narrogin (SRO)**	**65.34**	**240**	LR	LR	11 39 33.5	
	comp=Z,158nm,21.2s,baz=104,slow=34						
JHJ	**Hachijo jima 2**	**66.00**	**317**	LR	LR	11 37 15.0	
	comp=Z,111nm,20.6s,baz=98,slow=31						
KAPI	**Kappang**	**67.04**	**271**	LR	LR	11 43 24.5	
	comp=Z,20nm,18.2s,baz=70,slow=37						
NIKH	**Nikolski High**	**67.88**	**3**	P	**P**	**11 14 00.1**	**-0.4**
	baz=184						
SHEM	**Shemya Is, Ala**	**68.51**	**351**	LR	LR	11 37 25.9	
	comp=Z,418nm,21.5s,baz=116,slow=30						
MJAR	**Matsushiro Arr**	**69.15**	**319**	LR	LR	11 38 19.2	
	comp=Z,266nm,21.8s,baz=125,slow=31						
CHNA	**Chernabura Isl**	**70.55**	**8**	P	**P**	**11 14 17.3**	**+0.3**
	baz=194						
JOW	**Kunigami**	**70.85**	**306**	LR	LR	11 39 05.4	
	comp=Z,167nm,21.1s,baz=118,slow=31						
SDPT	**Sand Point**	**70.94**	**7**	P	**P**	**11 14 19.4**	**+0.1**
	baz=193						
S12K	**Black Hills**	**71.11**	**6**	P	**P**	**11 14 20.3**	**-0.1**
	baz=191						
P08K	**Saint George I**	**71.48**	**2**	P	**P**	**11 14 23.1**	**+0.5**
	baz=183						
ASAJ	**Asahikawa**	**71.65**	**328**	LR	LR	11 40 36.5	
	comp=Z,68nm,21.8s,baz=156,slow=32						
SPIA	**Saint Paul Isl**	**72.04**	**1**	P	**P**	**11 14 26.5**	**+0.5**
	baz=183						
JNU	**Nakatsue**	**72.09**	**313**	LR	LR	11 38 51.0	
	comp=Z,119nm,20.9s,baz=125,slow=30						
CHIR	**Chirikof Islan**	**72.11**	**10**	P	**P**	**11 14 26.5**	**+0.1**
	baz=197						
PFO	**Pinyon Flats O**	**72.23**	**47**	LR	LR	11 38 32.5	
	comp=Z,317nm,20.1s,baz=254,slow=29						
LPIG	**La Paz**	**72.32**	**58**	LR	LR	11 37 15.0	
	comp=Z,218nm,20.

N17K	Nushagak Hills	76.40	8	P	P	11 14 51.1	-0.3
	baz=196						
HOM	Homer	76.44	11	P	P	11 14 51.7	+0.2
	baz=201						
O19K	Port Alsworth	76.50	9	P	P	11 14 51.8	0.0
	baz=198						
L14K	Kuka Creek	76.61	5	P	P	11 14 52.5	0.0
	baz=190						
M16K	Timber Creek	76.67	7	P	P	11 14 52.9	0.0
	baz=194						
O20K	Slope Mountain	76.67	10	P	P	11 14 53.1	+0.1
	baz=200						
BRSE	Bradley Lake S	76.69	11	P	P	11 14 52.7	-0.4
	baz=202						
N18K	Kilae Creek	76.73	8	P	P	11 14 53.1	-0.1
	baz=197						
ELK	Elko	76.92	41	LR	LR	11 40 40.9	
	comp=Z,227nm,21.1s,baz=214,slow=29						
L15K	Ungalak Mounta	77.05	5	P	P	11 14 55.7	+0.8
	baz=191						
K13K	Kusilvak Mount	77.05	4	P	P	11 14 55.6	+0.6
	baz=188						
N19K	Bonanza Creek	77.06	9	P	P	11 14 55.2	0.0
	baz=198						
M17K	Holitna River	77.22	7	P	P	11 14 56.7	+0.7
	baz=195						
SEW	Seward	77.27	12	P	P	11 14 56.6	+0.4
	baz=203						
L16K	Owhat River	77.28	6	P	P	11 14 56.6	+0.3
	baz=193						
Q23K	Middleton Isla	77.31	13	P	P	11 14 56.7	+0.2
	baz=206						
G08A	Pilot Rock	77.31	36	P	P	11 14 58.2	+1.2
G08A				IAmb	IAmb	11 15 16.6	
	comp=Z,11nm,1.3s						
BBB	Bella Bella	77.33	26	LR	LR	11 42 57.8	
	comp=Z,204nm,18.2s,baz=194,slow=31						
SLKM	Skilak Lake	77.50	11	P	P	11 14 58.1	+0.5
SLKM				IAmb	IAmb	11 14 59.6	
	comp=Z,17nm,1.1s						
O22K	Cooper Landing	77.56	11	P	P	11 14 57.9	0.0
	baz=203						
K15K	Wolf Creek Mou	77.65	5	P	P	11 14 58.6	+0.2
	baz=191						
SPCR	Spurr Chakacha	77.79	10	P	P	11 14 59.7	+0.5
	baz=200						
L17K	Donlin	77.82	7	P	P	11 14 58.9	-0.4
	baz=194						
L18K	Granite Mounta	78.10	8		P	11 15 01.2	+0.4
L18K	Granite Mounta	78.10	8	P	P	11 15 00.7	-0.2
	baz=196						
RC01	Rabbit Creek A	78.13	11	P	P	11 15 00.6	-0.5
	baz=203						
STLK	Strandline Lak	78.14	10	P	P	11 15 01.2	+0.1
PWL	Port Wells	78.18	12	P	P	11 15 01.0	-0.4
	baz=204						
KAIM	Kayak Island	78.19	14	P	P	11 15 01.3	-0.1
	baz=208						
V35K	Ketchikan	78.26	23	P	P	11 15 01.8	-0.1
	baz=220						
M20K	Styx River	78.28	9	P	P	11 15 01.8	-0.2
	baz=199						
L19K	White Mountain	78.31	8	P	P	11 15 01.9	-0.2
	baz=198						
SIT	Sitka	78.32	20	P	P	11 15 01.6	-0.6
	baz=217						
U33K	Whale Pass	78.32	21	P	P	11 15 02.1	-0.1
	baz=219						
K17K	Iditarod	78.39	7	P	P	11 15 02.2	-0.2
	baz=194						
EYAK	Cordova Ski Ar	78.45	13	P	P	11 15 02.6	-0.2
	baz=207						
GLI	Glacier Island	78.45	12	P	P	11 15 03.1	+0.2
GLI				IAmb	IAmb	11 15 04.6	
	comp=Z,11nm,0.9s						
GLI	Glacier Island	78.45	12	P	P	11 15 02.4	-0.5
	baz=205						
SKT	Skwentna	78.64	10	P	P	11 15 03.1	-0.8
	baz=201						
GAMB	Gambell	78.64	0	P	P	11 15 03.4	-0.3
	baz=181						
KNK	Knik Glacier	78.67	12	P	P	11 15 03.2	-0.9
	baz=204						
M22K	Willow	78.67	11	P	P	11 15 04.5	+0.5
M22K	Willow	78.67	11	P	P	11 15 03.7	-0.3
	baz=202						
PMR	Palmer	78.70	11	P	P	11 15 04.1	0.0
PMR	Palmer	78.70	11	P	P	11 15 04.3	+0.1
	baz=203						
J16K	Anvik River	78.71	6	P	P	11 15 03.7	-0.5
	baz=192						
L20K	Farewell, AK	78.74	9	P	P	11 15 04.4	-0.1
	baz=199						
S31K	Pelican	78.76	19	P	P	11 15 04.2	-0.4
	baz=216						
WRAK	Wrangell Islan	78.83	22	P	P	11 15 05.3	+0.3
	baz=220						
S32K	Killisnoo	78.90	20	P	P	11 15 06.0	+0.6
	baz=218						
GHO	Glory Hole Cre	78.91	11	IAmb	IAmb	11 15 07.3	
	comp=Z,10nm,0.9s						
DIV	Divide	78.96	13		P	11 15 04.8	-0.9
DIV				IAmb	IAmb	11 15 07.7	
	comp=Z,10nm,0.9s						
J17K	VABM Dome	78.97	6	P	P	11 15 05.4	-0.2
	baz=194						
MESA	MESA	79.02	15	P	P	11 15 05.8	-0.4
	baz=210						
SML	Sawmill	79.05	12	P	P	11 15 06.4	+0.2
	baz=204						
BMRM	Bremner River	79.08	14	IAmb	IAmb	11 15 08.5	
	comp=Z,21nm,1.1s						
BMRM	Bremner River	79.08	14	P	P	11 15 06.3	0.0
	baz=208						
M23K	Glacier View	79.16	12	P	P	11 15 06.8	0.0
	baz=205						
CRQE	Cirque	79.24	14	P	P	11 15 07.3	0.0
	baz=209						
CUT	Chulitna	79.25	10	P	P	11 15 07.4	+0.2
	baz=202						
PNL	Peninsula	79.25	16	P	P	11 15 07.4	+0.1
	baz=213						
KLU	Klutina	79.26	13	P	P	11 15 07.7	+0.3
	baz=206						
SCM	Sheep Creek Mo	79.28	12	IAmb	IAmb	11 15 09.4	
	comp=Z,9.2nm,0.8s						
SCM	Sheep Creek Mo	79.28	12	P	P	11 15 07.4	0.0
	baz=205						
R31K	City Hall, Gus	79.28	19	P	P	11 15 07.2	-0.2
	baz=216						
I17K	Unalakleet	79.29	5	P	P	11 15 07.6	+0.2
	baz=192						
J18K	Innoko River	79.30	7		P	11 15 08.5	+1.0
J18K				IAmb	IAmb	11 15 10.2	
	comp=Z,11nm,0.9s						
J18K	Innoko River	79.30	7	P	P	11 15 07.4	-0.1
	baz=196,SNR=7.1						
PINM	Pinnacle	79.38	16	P	P	11 15 07.8	-0.3
	baz=212						
PPLA	Purkeypile	79.39	9	P	P	11 15 07.9	-0.2
	baz=200						
GRNC	Granite Creek	79.55	15	P	P	11 15 08.7	-0.5
K20K	Telida	79.55	8	IAmb	IAmb	11 15 11.2	
	comp=Z,14nm,1.3s						
VRDI	Verde Repeater	79.57	14		P	11 15 09.9	+0.7
ANM	Nome	79.62	3	P	P	11 15 09.6	+0.4
	baz=187						
N25K	Chitina, Valde	79.64	13		P	11 15 09.5	0.0
N25K	Chitina, Valde	79.64	13	P	P	11 15 09.6	+0.2
	baz=208						
P29M	Windy Craggy	79.68	17	P	P	11 15 10.1	+0.4
	baz=214						
M24K	Tolsona, Glenn	79.76	12	IAmb	IAmb	11 16 06.8	
	comp=Z,16nm,0.9s						
M24K	Tolsona, Glenn	79.76	12	P	P	11 15 10.4	+0.3
	baz=206						
MCARA	McCarthy VSAT	79.81	14	IAmb	IAmb	11 17 53.5	
	comp=Z,18nm,1.3s						
MCARA	McCarthy VSAT	79.81	14	P	P	11 15 10.9	+0.6
	baz=209						
CTG	Chitna Glacier	79.85	15	P	P	11 15 11.2	+0.5
	baz=211						
CTGM	Chitina Glacie	79.85	15	IAmb	IAmb	11 15 12.4	
	comp=Z,27nm,1.6s						
WAT6	Susitna Watana	79.88	11	P	P	11 15 11.1	+0.3
	baz=204						
TXAR	Lajitas Array	79.89	56	P	P	11 15 13.9	+2.3
	comp=Z,1.2nm,1.0s,baz=235,slow=4.4,SNR=7.4						
TXAR				LR	LR	11 43 52.2	
	comp=Z,97nm,18.3s,baz=262,slow=30						
	comp=Z,1.2nm,1.0s						
H16K	Elim	79.90	5	P	P	11 15 11.6	+0.9
	baz=190						
PLBC	Pleasant Camp	79.94	18	P	P	11 15 12.0	+1.0
	baz=216						
J19K	Poorman	79.95	8	P	P	11 15 11.6	+0.6
	baz=197						
WAT1	Susitna Watana	79.95	11	P	P	11 15 11.2	+0.1
	baz=204						
O28M	Mount Upton	79.98	16	P	P	11 15 11.8	+0.2
	baz=212						
O29M	Mount Kennedy	80.01	16	P	P	11 15 11.9	+0.4
	baz=213						
T35M	Bob Quinn	80.01	22	P	P	11 15 12.0	+0.4
	baz=222						
NEW	Newport	80.09	34	LR	LR	11 43 06.8	
	comp=Z,166nm,19.4s,baz=228,slow=30						
ANMO	Albuquerque	80.10	50	LR	LR	11 42 06.1	
	comp=Z,244nm,21.8s,baz=336,slow=29						
G15K	Niukluk	80.13	4	P	P	11 15 11.4	-0.5
	baz=189						
KTH	Kantishna Hill	80.21	10	IAmb	IAmb	11 15 20.0	
	comp=Z,45nm,2.0s						
TRF	Thorofare Moun	80.22	10	P	P	11 15 12.0	-0.6
	baz=202						
HARP	HAARP	80.23	13	P	P	11 15 13.0	+0.5
	baz=207						
SKAG	Skagway	80.25	18	P	P	11 15 13.4	+0.7
	baz=216						
CHUM	Lake Minchumin	80.30	9	P	P	11 15 13.4	+0.5
	baz=200,SNR=5.8						
P30M	Million Dollar	80.31	17	P	P	11 15 13.2	+0.1
	baz=215						
J20K	Nowinta River	80.32	8	IAmb	IAmb	11 15 15.4	
	comp=Z,14nm,1.0s						
J20K	Nowinta River	80.32	8	P	P	11 15 13.6	+0.6
	baz=198						
H17K	Granite Mounta	80.39	5	P	P	11 15 14.2	+0.8
	baz=193						
DHY	Denali Highway	80.40	11	P	P	11 15 14.1	+0.5
	baz=205						
S34M	Telegraph Cree	80.41	21	P	P	11 15 14.3	+0.7
	baz=221						
RND	Reindeer	80.43	11	IAmb	IAmb	11 15 15.8	
	comp=Z,34nm,1.7s						
F14K	Arctic Creek	80.48	3	P	P	11 15 14.1	+0.3
	baz=186						
GCSA	Galena City Sc	80.52	7	P	P	11 15 14.5	+0.5
	baz=196						
YUK8	Steele Glacier	80.52	15	P	P	11 15 14.1	-0.3
	baz=212						
NJ2	Nanjing	80.53	307	eP	P	11 15 15.3	+0.5
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
G16K	Koyuk River	80.64	4	P	P	11 15 14.6	0.0
	baz=190						
PAX	Paxson	80.68	12	P	P	11 15 15.3	+0.2
	baz=207						
M26K	Nabesna, AK	80.71	14	IAmb	IAmb	11 15 18.1	
	comp=Z,17nm,1.2s						
M26K	Nabesna, AK	80.71	14	P	P	11 15 15.2	0.0
	baz=209						
BPAW	Bear Paw Mtn.	80.71	9	P	P	11 15 15.0	-0.1
	baz=201						
MCK	McKinley	80.71	10	IAmb	IAmb	11 15 17.4	
	comp=Z,13nm,0.8s						
MCK	McKinley	80.71	10	P	P	11 15 15.8	+0.7
	baz=203,SNR=14						
HYT	Haines Junctio	80.74	17	IAmb	IAmb	11 15 24.7	
	comp=Z,19nm,1.6s						
HYT	Haines Junctio	80.74	17	P	P	11 15 16.2	+0.7
	baz=214						
H18K	Honhosa River	80.76	6	P	P	11 15 16.5	+1.2
	baz=194						
I20K	Naaghedeneel	80.86	8	P	P	11 15 16.0	+0.1
	baz=198						
YUK4	Talbot Arm	80.86	16	P	P	11 15 17.2	+0.9
	baz=213						
G17K	Kiwalik Mounta	80.88	5	P	P	11 15 16.2	+0.3
	baz=192						
M27K	Edge Creek, AK	80.93	14	P	P	11 15 16.5	0.0
	baz=210						
O30N	Mendenhall	81.09	17	IAmb	IAmb	11 15 39.1	
	comp=Z,23nm,1.8s						
O30N	Mendenhall	81.09	17	P	P	11 15 17.8	+0.6
	baz=216						
L26K	Log Cabin Wild	81.18	13	P	P	11 15 18.4	+0.8
	baz=209						
DLBC	Dease Lake	81.19	21	LR	LR	11 45 36.3	
	comp=Z,2μm,18.3s,baz=216,slow=31						
DLBC	Dease Lake	81.19	21	P	P	11 15 18.1	+0.2
	baz=222						
H19K	Roundabout Mou	81.33	7	IAmb	IAmb	11 15 21.1	
	comp=Z,13nm,1.1s						
H19K	Roundabout Mou	81.33	7	P	P	11 15 18.6	+0.3
	baz=196						
WHY	Whitehorse	81.35	18	P	P	11 15 18.5	-0.2
	baz=217						
N30M	Aishikik Lake	81.38	16	P	P	11 15 18.3	-0.5
	baz=215						
G18K	Tagagawik	81.45	6	IAmb	IAmb	11 15 34.7	
	comp=Z,16nm,1.3s						
G18K	Tagagawik	81.45	6	P	P	11 15 18.7	-0.3
	baz=194						
H20K	Anotleneega Mo	81.48	7	P	P	11 15 18.7	-0.5
	baz=198						
NEA2	Nenana	81.49	10	P	P	11 15 19.4	+0.2
	baz=203,SNR=7.9						
RIDG	Independent Ri	81.50	12	IAmb	IAmb	11 15 51.9	
	comp=Z,17nm,1.5s						
RIDG	Independent Ri	81.50	12	P	P	11 15 19.6	+0.3
	baz=207						
WRH	Wood River Hil	81.54	11	IAmb	IAmb	11 15 21.4	
	comp=Z,20nm,1.1s						
L27K	Beaver Creek,	81.55	14	P	P	11 15 19.5	-0.1
	baz=210						
BCAR	Beaver Creek A	81.56	14	P	P	11 15 20.0	+0.3
I21K	Tanana	81.58	9	P	P	11 15 20.2	+0.6
	baz=200						
DOT	Dot Lake	81.58	12	IAmb	IAmb	11 15 21.8	
	comp=Z,8.6nm,0.9s						
R33M	Jennings River	81.59	20	P	P	11 15 20.6	+0.5
	baz=221						
PDAR	Pinedale Array	81.60	42	P	P	11 15 22.4	+1.7
	comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=7.7						
PDAR				LR	LR	11 46 47.2	
	comp=Z,156nm,18.6s,baz=236,slow=32						
	comp=Z,0.7nm,0.7s						
MLY	Manley	81.62	9	P	P	11 15 19.8	-0.2
	baz=202,SNR=8.4						
HDA	Harding Lake	81.69	11	IAmb	IAmb	11 15 23.5	
	comp=Z,9.5nm,0.9s						
HDA	Harding Lake	81.69	11	P	P	11 15 20.6	+0.3
	baz=205,SNR=6.5						
CCB	Clear Creek Bu	81.75	11	IAmb	IAmb	11 15 22.7	
	comp=Z,13nm,0.8s						
F17K	Baldwin Pennin	81.76	5	P	P	11 15 21.0	+0.4
	baz=191						
N31M	Braeburn, Yuko	81.76	17	P	P	11 15 21.3	+0.5
	baz=216						
M29M	Somme Creek	81.83	15	P	P	11 15 21.7	+0.5
	baz=213						
SCRK	Sand Creek	81.88	12	IAmb	IAmb	11 15 23.1	
	comp=Z,29nm,1.9s						
SCRK	Sand Creek	81.88	12	P	P	11 15 21.5	0.0
	baz=208,SNR=9.6						
H21K	Melozitna River	81.91	8	IAmb	IAmb	11 15 23.4	
	comp=Z,24nm,1.6s						
H21K	Melozitna Rive	81.91	8	P	P	11 15 21.6	+0.2
	baz=200						
I23K	Minto, Yukon-K	81.95	10	P	P	11 15 21.7	+0.1
	baz=203,SNR=5.7						
COLA	College	81.95	10	P	P	11 15 21.8	+0.2
COLA	College	81.95	10	P	P	11 15 21.3	-0.3
	baz=204						
ILAR	Eielson Array	82.03	11		P	11 15 22.2	+0.1
ILAR	Eielson Array	82.03	11	P	P	11 15 21.6	-0.5
	comp=Z,2.5nm,0.8s,baz=226,slow=5.2,SNR=34						
ILAR				LR	LR	11 43 42.5	
	comp=Z,195nm,21.9s,baz=208,slow=30						
	comp=Z,2.5nm,0.8s						
F18K	Selawik	82.05	5	P	P	11 15 22.3	+0.3
	baz=193						
IMAR	Indian Mountai	82.09	8	P	P	11 15 23.2	+0.8
J25K	Salcha River,	82.17	12	IAmb	IAmb	11 15 25.0	
	comp=Z,9.0nm,1.0s						
J25K	Salcha River,	82.17	12	P	P	11 15 23.1	+0.2
	baz=207						
POKR	Poker Plat Res	82.25	11	P	P	11 15 23.6	+0.3
	baz=205,SNR=6.4						
H22K	Ishtalitna Cre	82.33	9	P	P	11 15 23.9	+0.2
	baz=201						
E17K	Hotham Inlet	82.35	4	P	P	11 15 24.1	+0.5
	baz=191						
M30M	Minto, Yukon	82.38	16	P	P	11 15 25.0	+1.0
	baz=215						
SEY	Seymchan	82.41	345	LR	LR	11 46 53.4	
	comp=Z,189nm,21.1s,baz=136,slow=32						
J26L	Joseph Creek	82.43	12	IAmb	IAmb	11 15 27.2	
	comp=Z,8.9nm,0.9s						
J26L	Joseph Creek	82.43	12	P	P	11 15 24.8	+0.5
	baz=208						
F19K	Shaleruckik Mo	82.45	6	P	P	11 15 24.6	+0.4
	baz=195						
L29M	L29M	82.48	15	IAmb	IAmb	11 15 27.3	
	comp=Z,14nm,0.9s						
L29M	L29M	82.48	15	P	P	11 15 24.8	+0.3
	baz=214,SNR=10						
H23K	Yukon River	82.55	9	P	P	11 15 25.5	+0.7
	baz=203						
G21K	Allakaket	82.63	8	P	P	11 15 26.1	+0.9
	baz=199						
M31M	Drury Creek, Y	82.73	17	P	P	11 15 26.3	+0.4
	baz=217						
E18K	Tukpahlearik C	82.78	5	P	P	11 15 25.7	-0.2
	baz=192						
H24K	Noodor Dome	82.83	10	P	P	11 15 26.1	-0.2
	baz=204						
D17K	Noatak River	82.87	4	P	P	11 15 26.6	+0.2
	baz=189						
F20K	Avaraart Lake	82.88	7	P	P	11 15 27.0	+0.6
	baz=197						
RLMT	Red Lodge	82.94	40	IAmb	IAmb	11 16 00.4	
	comp=Z,18nm,1.6s						
PRP	Porcupine Dome	82.96	11	IAmb	IAmb	11 15 29.4	
	comp=Z,13nm,1.0s						
PRP	Porcupine Dome	82.96	11	P	P	11 15 27.5	+0.5
	baz=206,SNR=11						
DAWY	Dawson	82.97	14	IAmb	IAmb	11 15 29.7	
	comp=Z,6.7nm,0.9s						
DAWY	Dawson	82.97	14	P	P	11 15 27.6	+0.5
	baz=212,SNR=7.3						
E19K	Redstone River	83.11	6	P	P	11 15 28.2	+0.5
	baz=195						
CMIG	Matias Romero	83.15	70	LR	LR	11 44 29.5	
	comp=Z,86nm,19.4s,baz=236,slow=30						
EGAK	Eagle	83.19	13	P	P	11 15 28.9	+0.9
	baz=211						
TOAD	Toad River Com	83.22	23	P	P	11 15 29.3	+0.9
	baz=226						
I26K	Coal Creek Min	83.23	12	P	P	11 15 28.8	+0.5
	baz=209,SNR=5.1						
K29M	Barlow Dome	83.24	15	P	P	11 15 29.1	+0.5
	baz=214						
G22K	Bettles	83.28	8	P	P	11 15 29.4	+0.9
	baz=201						
G23K	Bananza Creek	83.30	9	P	P	11 15 29.0	+0.3
	baz=202						
F21K	Alatna River	83.31	7	P	P	11 15 29.4	+0.7
	baz=199						
MAYO	Mayo, Yukon	83.45	16	P	P	11 15 30.5	+1.0
	baz=216						
H25L	Birch Creek	83.58	11	P	P	11 15 31.0	+1.0
	baz=206						
J29N	Klondike Camp	83.58	14	IAmb	IAmb	11 15 33.3	
	comp=Z,11nm,0.9s						
C17K	DeLong Mountai	83.64	4	P	P	11 15 31.5	+1.2
	baz=189						
G24K	Hadweenzic Riv	83.69	10	P	P	11 15 31.6	+0.9
	baz=204						
F22K	John River	83.74	8	P	P	11 15 31.8	+0.8
	baz=200						
COLD	Coldfoot	83.75	9	P	P	11 15 32.1	+1.2
	baz=202						
I27K	Kandik River	83.80	12	P	P	11 15 32.4	+1.1
	baz=210						
C18K	Utukok River	83.94	4	P	P	11 15 32.9	+1.0
	baz=191						
MMPY	Sheldon Lake,	83.97	18	P	P	11 15 33.1	+0.9
	baz=220						
E20K	Nigu River	83.99	6	P	P	11 15 33.0	+0.8
	baz=196						
I28M	Miner Creek	84.03	13	P	P	11 15 33.3	+0.8
	baz=212						
D19K	Kuna River	84.04	5	P	P	11 15 33.3	+0.9
	baz=194						
J30M	Hart River	84.14	15	P	P	11 15 33.8	+0.6
	baz=215						
PMSA	Palmer Station	84.17	156	LR	LR	11 44 00.3	
	comp=Z,184nm,20.4s,baz=258,slow=29						
APMT	Aspermont	84.24	53		P	11 15 34.5	+0.2
APMT				IAmb	IAmb	11 15 37.1	
	comp=Z,9.0nm,1.0s						
I29M	Ogilvie Camp,	84.32	14	P	P	11 15 34.7	+0.8
	baz=213						
H27K	Steamboat Moun	84.37	12	IAmb	IAmb	11 15 43.3	
	comp=Z,16nm,1.6s						
H27K	Steamboat Moun	84.37	12	P	P	11 15 35.4	+1.2
	baz=210						
F24K	Squaw Lake	84.37	9	P	P	11 15 35.2	+1.0
	baz=204						
E22K	Anaktuvuk Pass	84.38	8	P	P	11 15 35.3	+1.1
	baz=200						
D20K	Etivluk River	84.39	6	P	P	11 15 34.8	+0.6
	baz=196						
E21K	Killik River	84.41	7	IAmb	IAmb	11 15 37.0	
	comp=Z,11nm,0.9s						
E21K	Killik River	84.41	7	P	P	11 15 35.2	+0.9
	baz=198						
C19K	Lookout Ridge	84.51	5	P	P	11 15 35.5	+0.6
	baz=193						
KOTAN	Kotaneelee Air	84.54	22	P	P	11 15 35.8	+0.7
	baz=227						
G26K	Porcupine Rive	84.56	11	P	P	11 15 35.8	+0.7
G26K	Porcupine Rive	84.56	11	P	P	11 15 36.0	+0.9
	baz=208,SNR=11						
B18K	Kokolik River	84.60	4	P	P	11 15 35.8	+0.5
	baz=191						
E23K	Chandalar	84.61	9	IAmb	IAmb	11 15 38.2	
	comp=Z,13nm,1.1s						
E23K	Chandalar	84.61	9	P	P	11 15 35.7	+0.2
	baz=202						
I30M	Mount Dempster	84.66	15	P	P	11 15 36.2	+0.4
	baz=215,SNR=6.0						
E24K	Your Creek	84.79	9	P	P	11 15 36.9	+0.6
	baz=204						
F25K	Christian Rive	84.81	10	P	P	11 15 37.2	+0.8
	baz=206						
BMAR	Burnt Mountain	84.84	11	P	P	11 15 37.7	+1.1
G27K	Doyon Strip	84.84	12	P	P	11 15 37.2	+0.6
	baz=210						
D22K	Ayikyak River	84.98	7	P	P	11 15 37.8	+0.7
	baz=200						
C21K	Knifeblade Rid	85.00	6	P	P	11 15 37.6	+0.3
	baz=197						
H29M	Whitestone	85.03	13	P	P	11 15 38.0	+0.5
	baz=213						
F26K	Sheenjek River	85.16	11	P	P	11 15 39.1	+1.0
	baz=208						
TOLK	Toolik Lake Re	85.16	8	P	P	11 15 39.2	+1.1
	baz=202						
E25K	Arctic Village	85.29	10	IAmb	IAmb	11 15 41.8	
	comp=Z,7.4nm,0.9s						
E25K	Arctic Village	85.29	10	P	P	11 15 39.2	+0.4
	baz=206						
D23K	Nanushuk River	85.31	8	P	P	11 15 39.6	+0.8
	baz=201						
EPYK	Eagle Plains	85.53	14	IAmb	IAmb	11 15 42.4	
	comp=Z,10.0nm,1.0s						
EPYK	Eagle Plains	85.53	14	P	P	11 15 40.6	+0.6
	baz=215						
B20K	Meade River	85.59	5	P	P	11 15 40.5	+0.4
	baz=195						
H31M	Peel River	85.63	15	P	P	11 15 41.3	+0.8
	baz=217						
G29M	Pine Creek	85.69	13	P	P	11 15 41.2	+0.5
	baz=214						
D24K	Happy Valley	85.74	8	P	P	11 15 41.8	+0.9
	baz=203						
F28M	Old Crow	85.89	12	P	P	11 15 42.0	+0.3
	baz=212						
E27K	Coleen River	86.05	11	IAmb	IAmb	11 16 10.6	
	comp=Z,9.1nm,1.1s						
E27K	Coleen River	86.05	11	P	P	11 15 43.3	+0.7

	baz=210						
C23K	**Itkillik River**	86.14	8	P	P	11 15 43.2	+0.3
	baz=201						
G30M	**tAoh Zraii Nji**	86.14	14	IAmb	IAmb	11 15 45.3	
	comp=Z,13nm,1.1s						
G30M	**tAoh Zraii Nji**	86.14	14	P	P	11 15 43.5	+0.4
	baz=215						
D25K	**Kavik River**	86.25	9	P	P	11 15 43.5	0.0
	baz=206						
C24K	**Franklin Bluff**	86.28	8	P	P	11 15 43.6	0.0
	baz=203						
B22K	**Teshekpuk Lake**	86.28	6	P	P	11 15 44.0	+0.5
	baz=199						
G31M	**Satah River**	86.55	14	P	P	11 15 45.2	+0.3
	baz=217						
F30M	**Barrier River**	86.76	13	P	P	11 15 46.1	+0.1
	baz=216						
A22K	**Sinclair Lake**	86.76	6	P	P	11 15 46.4	+0.5
	baz=197						
A21K	**Barrow**	86.92	5	P	P	11 15 47.1	+0.5
	baz=196						
E29M	**Blow River**	86.95	12	P	P	11 15 47.3	+0.4
	baz=214						
D27M	**Malcolm River**	87.09	11	P	P	11 15 48.4	+0.7
	baz=211						
F31M	**Tsiigehtchic**	87.09	14	P	P	11 15 48.2	+0.6
	baz=218						
D28M	**Stokes Point**	87.58	11	P	P	11 15 50.6	+0.7
	baz=213						
INK	**Inuvik**	87.83	14	LR	LR	11 48 22.9	
	comp=Z,175nm,20.4s,baz=179,slow=31						
INK	**Inuvik**	87.83	14	P	P	11 15 51.7	+0.6
	baz=218						
MAW	**Mawson**	88.28	198	P	P	11 15 52.5	-1.0
	comp=Z,2.6nm,0.6s,baz=137,slow=9.1,SNR=7.3						
MAW				LR	LR	11 55 28.4	
	comp=Z,243nm,18.1s,baz=100,slow=36						
	comp=Z,2.6nm,0.6s						
YAK	**Yakutsk**	89.11	337	LR	LR	11 49 24.6	
	comp=Z,75nm,21.4s,baz=120,slow=31						
PLCA	**Paso Flores**	89.21	132	LR	LR	11 47 13.2	
	comp=Z,129nm,19.4s,baz=227,slow=30						
HHC	**Hu-ho-hao-te**	89.32	313	*e*P	P	11 15 59.6	+0.6
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
YKA	**Yellowknife Ar**	89.57	23	LR	LR	11 49 51.0	
	comp=Z,242nm,18.7s,baz=242,slow=31						
BTO	**Baotou**	90.34	312	*e*P	P	11 16 06.8	+3.1
BTO				pP	pwP	11 16 11.6	-2.1
BTO				sP	sP	11 16 13.9	+8.6
BTO	**Baotou**	90.34	312	S	S	11 27 01.8	+3.3
BTO	**Baotou**	90.34	312	sS	sS	11 27 07.3	+7.3
BTO	**Baotou**	90.34	312	SS	SS	11 33 06.0	+7.1
BTO				pmax	pmax		
	comp=Z,26nm,0.4s						
BTO				pmax	pmax		
	comp=Z,320nm,6.3s						
JTS	**Las Juntas de**	90.50	80	LR	LR	11 47 01.8	
	comp=Z,72nm,21.1s,baz=320,slow=29						
C36M	**Paulatuk**	90.90	15	P	P	11 16 06.0	+0.5
	baz=226						
ATAH	**Atahualpa**	92.30	98	LR	LR	11 50 12.9	
	comp=Z,120nm,18.4s,baz=238,slow=30						
A36M	**Sachs Harbour**	92.46	13	P	P	11 16 12.8	+0.1
	baz=226						
PZH	**PanZhiHua**	92.74	297	P	P	11 16 15.8	+0.6
TROLL	**Troll, Antarti**	93.03	179	⇑P	P	11 16 15.3	-0.4
	comp=Z,36nm,0.6s						
VNA3	**Neumayer Olymp**	93.08	175	⇑P	P	11 16 14.2	-1.6
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	93.16	288	LR	LR	11 52 10.3	
	comp=Z,37nm,21.6s,baz=85,slow=32						
SNAA	**Sanae**	93.16	177	LR	LR	11 52 07.6	
	comp=Z,115nm,21.6s,baz=194,slow=32						
ULM	**Lac du Bonnet**	93.29	39	LR	LR	11 53 16.4	
	comp=Z,258nm,19.6s,baz=234,slow=32						
LZH	**Lanzhou**	93.59	306	*e*P	P	11 16 16.8	-2.2
LZH				pP	sP	11 16 21.1	+0.6
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
TIXI	**Tiksi**	94.90	344	LR	LR	11 55 33.7	
	comp=Z,136nm,20.8s,baz=184,slow=33						
SONM	**Songino Array**	95.08	318	LR	LR	11 53 22.8	
	comp=Z,143nm,22.0s,baz=78,slow=32						
TKL	**Tuckaleechee C**	97.80	55	LR	LR	11 56 40.7	
	comp=Z,116nm,18.3s,baz=298,slow=33						
BRDH	**Bariadhala**	100.78	291	LR	LR	11 58 22.6	
	comp=Z,51nm,21.0s,baz=160,slow=33						
KHC	**Kasperske Hory**	145.68	353	*e*PKP	PKPab	11 22 41.5	0.0
GERES	**GERESS Array B**	145.95	352	PKPbc	PKPdf	11 22 41.7	+0.2
	comp=Z,0.3nm,0.4s,baz=350,slow=2.2,SNR=8.7						
BRTR	**Keskin Array B**	146.35	322		PKPdf	11 22 42.6	+0.1
BRTR	**Keskin Array B**	146.35	322	PKPbc	PKPdf	11 22 43.0	+0.5
	comp=Z,2.6nm,0.7s,baz=103,slow=1.9,SNR=10						
ESDC	**Sonseca Array**	153.61	20	PKPab	PKPab	11 23 14.3	+0.3
	comp=Z,1.4nm,0.9s,baz=338,slow=2.8,SNR=4.1						

DJA 22 11:03:55.6±0.6, 1°S±2°×12°8E±°, h14km±4km, M4.2/13, mB5.1/1, mb4.6/5, MLv4.0/13, Mw(mB)4.5/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.77	334	P	Pn	11 04 25.6	-0.2
TNTI				S	Sb	11 04 49.6	-0.2
SANI	**Sanana**	2.48	241	P	Pn	11 04 34.7	-0.9
SANI				S	Sn	11 05 05.4	-0.4
NLAI	**Namlea**	2.62	204	P	Pn	11 04 37.9	+0.3
NLAI				S	Sn	11 05 09.8	+0.6
MSAI	**Masohi**	2.63	163	P	Pn	11 04 39.0	+1.4
SWI	**Sorong**	3.11	91	P	Pn	11 04 44.5	+0.2
FAKI	**Fak Fak**	4.60	117	P	Pn	11 05 03.0	-1.7
LUWI	**Luwuk**	5.38	268	P	Pn	11 05 14.8	-0.7
	80nm,0.8s						
APSI	**Ampana**	6.50	269	P	Pn	11 05 31.0	+0.1
SPSI	**Sidrap Palu**	8.94	249	P	Pn	11 06 04.8	+0.4

*WEL **22** 11:07:46.2±1.2, 38°S±8°×17°6E±°, h178km±11km, M2.4/7, ML2.6/6, MLv2.4/7, Error ellipse: s-maj=10.4km s-min=9.6km az=177.8, confirmed*

ISC 22 11:07:40.4±2.4, 38°17S±0°07×175°95E±0°07, h220km±14km, n47, σ1°60/54, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	0.56	321	P	Pn	11 08 12.2	+2.1
MRHZ	**Matea Rd**	0.76	151	P	Pn	11 08 11.0	+0.1
URZ	**Urewera**	0.92	96	P	Pn	11 08 12.7	+1.0
URZ				S	S	11 08 34.0	-2.1
HIZ	**Hauiti**	0.92	248	P	Pn	11 08 14.2	+2.4
HIZ	**Hauiti**	0.92	248	P	Pn	11 08 13.7	+1.9
TMVZ	**Te Maari**	0.96	191	P	Pn	11 08 13.7	+1.5
MTHZ	**Maungataniwha**	0.98	134	P	Pn	11 08 13.5	+1.4
MTHZ				S	S	11 08 35.1	-1.9
TWVZ	**Taurewa**	0.98	204	P	Pn	11 08 13.6	+1.3
COVZ	**Chateau Observ**	1.07	197	P	Pn	11 08 13.7	+0.9
BKZ	**Black Stump Fm**	1.08	157	P	Pn	11 08 13.9	+1.1
BKZ	**Black Stump Fm**	1.08	157	P	Pn	11 08 14.0	+1.1
BKZ				S	S	11 08 35.6	-2.6
FWVZ	**Far West T-bar**	1.12	196	P	Pn	11 08 14.6	+1.3
NMHZ	**Naumai**	1.14	144	P	Pn	11 08 15.6	+2.3
NMHZ				S	S	11 08 38.6	-0.4
WHVZ	**Whangaehu Hut**	1.15	194	P	Pn	11 08 14.7	+1.2
RAHZ	**Arahi**	1.16	130	P	Pn	11 08 15.2	+1.9
RAHZ				S	S	11 08 38.1	-1.0
WNVZ	**Wahianoa**	1.19	193	P	Pn	11 08 14.8	+1.2
MKAZ	**Moumakai**	1.23	329	P	Pn	11 08 16.5	+2.6
MOVZ	**Moawhango**	1.24	187	P	Pn	11 08 14.9	+0.9
SNGZ	**Shannon Statio**	1.25	120	P	Pn	11 08 15.8	+1.8
SNGZ				S	S	11 08 38.9	-1.2
MWZ	**Matawai**	1.25	98	P	Pn	11 08 15.5	+1.5
MWZ				S	S	11 08 38.5	-1.7
WHHZ	**Waihua**	1.35	132	P	Pn	11 08 16.7	+2.0
ARHZ	**Aropaoanui**	1.36	143	P	Pn	11 08 16.8	+2.0
KUZ	**Kuaotunu**	1.44	353	P	Pn	11 08 14.1	-1.4
HAZ	**Te Kaha**	1.51	75	P	Pn	11 08 16.4	+0.4
KNZ	**Kokohu**	1.60	123	P	Pn	11 08 18.5	+1.8
PRGZ	**Paritu Road**	1.69	117	P	Pn	11 08 19.5	+1.9
DREZ	**Durham Road**	1.70	233	P	Pn	11 08 18.8	+1.2
CKHZ	**Cape Kidnapper**	1.73	150	P	Pn	11 08 19.7	+1.9
WAZ	**Wanganui**	1.75	205	P	Pn	11 08 19.4	+1.4
PNHZ	**Pukenui**	1.75	174	P	Pn	11 08 19.3	+1.2
KAHZ	**Kahuranaki**	1.77	156	P	Pn	11 08 20.1	+1.8
CNGZ	**Carnagh Statio**	1.81	101	P	Pn	11 08 21.2	+2.6
PUZ	**Puketiti**	1.82	88	P	Pn	11 08 17.5	-1.3
TSZ	**Takapari Road**	1.89	180	P	Pn	11 08 20.4	+1.1
WPHZ	**Waipukurau**	1.93	169	P	Pn	11 08 21.0	+1.3
WMGZ	**Waiomatatini S**	1.98	81	P	Pn	11 08 22.9	+2.7
PXZ	**Pawanui**	1.99	159	P	Pn	11 08 21.7	+1.4
DVHZ	**Dannevirke**	2.13	175	P	Pn	11 08 22.6	+0.9
PRHZ	**Porangahau**	2.16	166	P	Pn	11 08 23.1	+1.1
POWZ	**Post Office Ro**	2.22	184	P	Pn	11 08 23.4	+0.8
ANWZ	**Angora Road**	2.32	170	P	Pn	11 08 24.9	+1.2
MRZ	**Mangatainoka R**	2.50	186	P	Pn	11 08 26.1	+0.5
BFZ	**Birch Farm**	2.52	175	P	Pn	11 08 26.8	+1.1
BFZ	**Birch Farm**	2.52	175	P	Pn	11 08 26.5	+0.8
OGWZ	**Otaki Gorge**	2.71	193	P	Pn	11 08 28.4	+0.6
SNZO	**South Karori**	3.28	197	P	Pn	11 08 35.6	+1.4
KHZ	**Kahutara**	4.62	203	P	Pn	11 08 50.2	-0.3

*SOF **22** 11:19:48.8, 41°74N±0°01×21°90E±0°02, h6km±4km, MD3.2/8*
*BEO **22** 11:19:55.9±0.4, 41°83N×22°30E, h8km±3km, ML2.7/8*
*SKO **22** 11:19:55.1, 41°76N×22°28E, h15km, ML3.1*
*THE **22** 11:19:57.5, 42°N±3°×2°2E±°, h13km±4km, M2.5/9, MLh2.5/9*

ISC 22 11:19:53.6±1.1, 41°79N±0°02×22°20E±0°02, h1km±10km, n57, σ0°95/90, 12C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	0.54	149	⇑*i*Pg	Pb	11 20 04.9	-0.9
VAY				*i* Sg	Sg	11 20 12.0	+1.1
VAY				*e*Lg	Lg	11 20 12.1	
	comp=E,2μm,0.3s						
VAY				*e*Lg	Lg	11 20 12.4	
	comp=N,3μm,0.5s						
SKO	**Skopje**	0.60	288	*i* Pg	Pn	11 20 08.9	-0.3
SKO				*i* Sg	Sn	11 20 18.4	-1.2
KKB	**Krupnik**	0.69	85	P	Pg	11 20 07.8	+0.9
KKB				S	Sg	11 20 16.5	+0.6
KKB	**Krupnik**	0.69	85	*i* Pg	Pg	11 20 07.4	+0.5
KKB				*i* Sg	Sg	11 20 16.8	+0.9
KKB	**Krupnik**	0.69	85	*i* Pg	Pg	11 20 07.7	+0.9
KKB				Sg	Sb	11 20 18.8	+0.2
BOSS	**Bosilegrad**	0.74	16	*e*Pg	Pg	11 20 08.4	+0.6
BOSS				*e*Sg	Sg	11 20 17.8	+0.4
KNT	**Kendrikon**	0.81	140	P	Pb	11 20 09.9	-0.6
KNT				S	Sg	11 20 19.3	-0.4
KNT	**Kendrikon**	0.81	140	⇓*i*Pg	Pb	11 20 09.9	-0.6
KNT				*i* Sg	Sg	11 20 20.3	+0.6
BARS	**Barje**	1.07	345	*i* Pg	Pn	11 20 15.3	-0.5
BARS				*i* Sg	Sn	11 20 30.0	-1.3
BARS	**Barje**	1.07	345	*e*Pg	Pb	11 20 14.3	-0.6
BARS				*e*Sg	Sn	11 20 29.9	-1.3
TRAN	**Tran**	1.10	17	Pg	Pg	11 20 12.7	-2.0
TRAN				Sg	Sg	11 20 28.9	0.0
VTS	**Vitosha**	1.13	42	*i* Pg	Pg	11 20 15.1	-0.2
VTS				Sg	Sn	11 20 32.6	-0.4
VTS	**Vitosha**	1.13	42	*e*Pg	Pg	11 20 15.0	-0.2
VTS				*e*Sg	Sg	11 20 29.1	-0.9
PLNA	**Plana**	1.14	52	*i* Pg	Pg	11 20 16.0	+0.5
PLNA				Sg	Sn	11 20 33.5	+0.3
MMB	**Musomishta**	1.18	101	*i* Pg	Pg	11 20 16.3	0.0
MMB				Sg	Sn	11 20 34.3	+0.2
MMB	**Musomishta**	1.18	101	P	Pg	11 20 16.1	-0.2
MMB				S	Sg	11 20 30.5	-1.0
SRS	**Serrai**	1.24	122	P	Pg	11 20 17.3	-0.1
SRS				S	Sg	11 20 31.9	-1.5
SRS	**Serrai**	1.24	122	*i* Pg	Pn	11 20 18.0	-0.1
SRS				*i* Sg	Sn	11 20 34.9	-0.6
SRS	**Serrai**	1.24	122	*e*Pg	Pn	11 20 17.7	-0.4
SRS				*e*Sg	Sb	11 20 34.3	0.0
OHR	**Ohrid**	1.25	238	*i* Pg	Pn	11 20 19.4	+1.1
OHR				*i* Sg	Sn	11 20 37.3	+1.4
OHR				*e*Lg	Lg	11 20 38.0	
	comp=N,101nm,0.8s						
OHR				*e*Lg	Lg	11 20 40.7	
	comp=E,78nm,0.4s						
THE	**Thessaloniki**	1.29	153	P	Pn	11 20 18.6	-0.1
THE				S	Sg	11 20 34.3	-0.6
THE	**Thessaloniki**	1.29	153	*i* Pg	Pn	11 20 18.7	-0.1
THE				*i* Sg	Sn	11 20 36.1	-0.5
BLSH	**Balsha**	1.34	36	*e*Pg	Pn	11 20 19.4	-0.1
BLSH				Sg	Sn	11 20 38.8	+0.9
HORT	**Hortiatis**	1.37	150	P	Pb	11 20 19.9	0.0
HORT				S	Sg	11 20 37.2	-0.3
ZAPS	**Zavoj**	1.52	12	*e*Pg	Pb	11 20 22.4	-0.2
ZAPS				*e*Sg	Sn	11 20 41.3	-1.2
NEST	**Nestorio**	1.62	213	P	Pg	11 20 25.1	+0.4
SELS	**Selova**	1.64	331	*e*Pg	Pg	11 20 25.3	+0.3
SELS				*e*Sg	Sg	11 20 48.4	+2.1
PLG	**Polygyros**	1.69	146	P	Pn	11 20 23.6	-0.8
LIT	**Litokhoron**	1.70	173	P	Pb	11 20 24.9	-0.7
LIT	**Litokhoron**	1.70	173	⇓*i*Pn	Pg	11 20 26.4	+0.3
BLKB	**Belogradchik**	1.87	11	*e*Pg	Pg	11 20 29.3	-0.1
BLKB				*e*Sg	Sb	11 20 52.2	-0.3
BOVS	**Bovan**	1.88	349	⇑P	Pg	11 20 29.1	-0.6
BOVS	**Bovan**	1.88	349	*e*Pg	Pg	11 20 29.3	-0.4
BOVS				*e*Sg	Sg	11 20 54.9	+0.8
RZN	**Rozhen**	1.90	92	*i* P	Pb	11 20 28.5	-0.7
RZN				S	Sb	11 20 54.0	+0.5
PLD	**Plovdiv**	1.93	78	S	Sb	11 20 55.3	+1.1
PLD	**Plovdiv**	1.93	78	*i* Pn	Pb	11 20 28.6	-1.0
PLD	**Plovdiv**	1.93	78	*e*Pn	Pn	11 20 25.4	-2.2
PLD				*e*Sg	Sb	11 20 54.4	+0.2
MPEP	**Malo Peshtene**	1.94	35	P	Pg	11 20 31.4	+0.7
MPEP				S	Sg	11 20 56.4	+0.6
ZAGS	**Zajecar**	2.03	1	*e*Pn	Pb	11 20 30.2	-1.0
GOCS	**Kraljevo Serbi**	2.03	332	*e*Pn	Pb	11 20 30.3	-1.0
GOCS				*e*Sg	Sg	11 21 00.4	+1.7
PDG	**Podgorica**	2.29	287	⇑P	Pg	11 20 37.2	-0.1
BORS2	**Bor- Borsko je**	2.31	357	*e*Pn	Pb	11 20 35.1	-0.9
BORS2				*e*Sn	Sn	11 21 02.8	+1.0
IVAS	**Ivanjica**	2.34	321	*e*Pn	Pb	11 20 35.4	-1.2
KDZ	**Kurdzhali**	2.35	93	*e*P	Pb	11 20 36.6	-0.2
KDZ				S	Sg	11 21 09.7	+0.5
PLVB	**Pleven**	2.40	47	⇑P	Pg	11 20 39.6	0.0
KUBS	**Kucevo**	2.65	352	*e*Pn	Pn	11 20 35.9	-1.6
ELND	**Elena**	2.95	66	⇑P	Pn	11 20 42.3	+0.7
SRE	**Strehaia**	2.97	14	⇓P	Pg	11 20 49.6	-0.9
HERR	**Herculane**	3.10	3	⇑P	Pn	11 20 44.0	+0.4
GZR	**Gura Zlata**	3.63	6	⇑P	Pn	11 20 51.1	+0.1
LOT	**Lotru**	3.83	17	⇓P	Pn	11 20 55.0	+1.1
BZS	**Buzias**	3.85	354	⇑P	Pn	11 20 53.1	-0.9
SURR	**Surduc**	3.97	359	⇑P	Pn	11 20 56.4	+0.8
MLR	**Muntele Rosu**	4.59	35	⇑P	Pn	11 21 06.8	+2.5
MARR	**Marisel-Cluj**	4.93	7	⇑P	Pn	11 21 11.5	+2.5
DRGR		5.02	4	⇑P	Pn	11 21 15.5	+5.4
VRI	**Vrincioaia**	5.23	37	⇓P	Pn	11 21 15.3	+2.4

*UPP **22** 11:37:32.0±0.1, 67°88N×20°17E, h0km, ML2.9, Confirmed Induced event*
*DNK **22** 11:37:32.5±0.7, 67°88N×20°14E, h0km, ML2.9(UPP), Suspected explosion*

ISC 22 11:37:32.3±1.4, 67°87N±0°06×20°16E±0°04, h0km, n10, σ0°30/12, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.11	37	P	Pg	11 37 33.9	-0.5
KUA				S	Sg	11 37 35.9	+0.1
KUA	**Kurravaara**	0.11	37	P	Pg	11 37 33.9	-0.5
KUA				S	Sg	11 37 35.9	+0.1
KOVU	**Salmi**	0.36	360	P	Pg	11 37 39.1	-0.1
KOVU	**Salmi**	0.36	360	*e*P	Pb	11 37 41.8	+0.3
KOVU	**Salmi**	0.36	360	P	Pg	11 37 39.1	-0.1
NIKU	**Nikkaluokta**	0.43	270	P	Pg	11 37 40.2	-0.3
NIKU	**Nikkaluokta**	0.43	270	P	Pg	11 37 40.2	-0.3
LANU	**Lannavaara**	0.71	75	P	Pg	11 37 45.9	-0.1
LANU	**Lannavaara**	0.71	75	P	Pg	11 37 45.9	-0.1
SALU	**Saltoluokta**	0.80	233	*e*P	Pg	11 37 47.5	-0.1

*SOME **22** 11:54:54.8, 41°13N×81°20E, h5km*
*NNC **22** 11:54:57.7±2.2, 42°27N×82°82E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=18.1km s-min=9.6km az=151.0*

ISC 22 11:54:53.6±4.0, 41°8N±0°2×82°6E±0°1, h13km, n5, σ0°99/8, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	2.67	301	*e*P	Pn	11 55 37.0	+0.5
	3.2nm,0.1s						
SHLS				*e*S	Sn	11 56 07.7	-1.1
	14nm,0.3s						
PDGK	**Podgornoye**	2.75	305	⇑Pn	Pb	11 55 42.2	-0.4
	8.1nm,0.8s						
PDGK				⇑Sn	Sb	11 56 16.4	+0.2
	26nm,0.8s						
ARXS	**Arharly**	4.24	306	*e*P	Pb	11 56 07.7	-0.2
ARXS				*e*S	Sb	11 57 00.2	+1.2
MK31	**Makanchi Array**	4.98	358	⇑Pg	Pb	11 56 21.3	+0.6
	0.2nm,0.3s,baz=181,slow=16,SNR=5.3						
MK31				⇑Lg	Lg	11 57 22.4	
	6.0nm,0.8s,baz=179,slow=26,SNR=6.4						
MAKZ	**Makanchi**	5.01	355	⇓Pg	Pb	11 56 20.0	-1.2
	0.5nm,0.5s						
MAKZ				⇑Lg	Lg	11 57 23.7	
	4.4nm,0.8s						

*SJA **22** 12:05:38.8±0.6, 40°24S×72°15W, h115km±3km, ML3.1, MW3.5*
*GUC **22** 12:05:40.8±0.7, 40°25S×71°97W, h129km±4km, ML3.5*

ISC 22 12:05:38.9±1.6, 40°23S±0°04×71°94W±0°06, h134km±9km, n22, σ2°08/27, 1D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR05	**Currie**	0.05	270	*e*P	Pn	12 05 58.4	+1.4
LR05				*e*S	Sn	12 06 12.0	+1.3
LR05				IAML		12 06 13.6	
	comp=N,409nm,0.5s						
LR05	**Currie**	0.05	270	*e*S	Sn	12 06 07.5	-3.2
LR03	**Panguipulli**	0.68	332	*e*P	Pn	12 06 00.7	+1.2
LR03				*e*S	Sn	12 06 16.5	+1.4
LR03				IAML		12 06 21.8	
	comp=N,557nm,0.5s						
LR03	**Panguipulli**	0.68	332	*e*P	Pn	12 05 56.6	-2.9
LR03				*e*S	Sn	12 06 11.4	-3.8
LR03				IAML		12 06 18.7	
	comp=Z,404nm,0.4s						
GO06	**Curarrehue**	0.74	29	*e*P	Pn	12 06 00.6	+0.4
GO06				*e*S	Sn	12 06 01.2	-15
GO06				IAML		12 06 01.6	
	comp=Z,310nm,0.2s						
LL03	**Petrohue**	0.97	201	*e*P	Pn	12 06 03.1	+1.2
LL03				IAML		12 06 29.4	
	comp=E,174nm,0.2s						
LL03	**Petrohue**	0.97	201	*e*P	Pn	12 06 08.1	+6.2
LL03				*e*S	Sn	12 06 16.4	-3.1
LL03				IAML		12 06 33.6	
	comp=Z,114nm,0.1s						
LR02	**Universidad Au**	1.09	292	*e*P	Pn	12 06 04.7	+1.6
LR02				*e*S	Sn	12 06 22.9	+1.6
LR02				IAML		12 06 24.5	
	comp=N,4μm,0.4s						
PLCA	**Paso Flores**	1.17	116	*e*P	Pn	12 06 04.6	+0.8
PLCA				*e*S	Sn	12 06 23.8	+0.9
LR04	**Corral**	1.20	287	⇓*i*P	Pn	12 06 05.8	+1.8
LR04				*e*S	Sn	12 06 24.0	+0.9
LR04				IAML		12 06 24.8	
	comp=E,3μm,0.3s						
LR04	**Corral**	1.20	287	*e*P	Pn	12 06 05.2	+1.1
LR04				IAML		12 06 27.9	
	comp=Z,466nm,0.1s						
LC01	**Cunco**	1.33	2	*e*P	Pn	12 06 06.7	+1.2
LC01				IAML		12 06 31.9	
	comp=E,454nm,0.1s						
LL05	**Los Muermos**	1.66	224	*e*P	Pn	12 06 09.4	+0.4
LL05				IAML		12 06 33.4	
	comp=N,1μm,0.1s						
LC02	**Puerto Saavedr**	1.82	322	IAML		12 06 42.7	
	comp=N,2μm,0.5s						
LL01	**San Ignacio de**	2.18	189	*e*P	Pn	12 06 17.3	+2.1
LL01				*e*S	Sn	12 06 41.5	-1.6
BI04	**Isla Mocha**	2.36	320	IAML		12 06 49.4	
	comp=E,767nm,0.2s						
CANA	**Caviahue**	2.44	16	*e*P	Pn	12 06 21.1	+2.4
LL02	**Futaleuf**	2.96	179	*e*S	Sn	12 06 45.3	-15
GO07	**Milladeo Hill,**	3.16	204	*e*P	Pn	12 06 27.8	+0.1
GO07	**Milladeo Hill,**	3.16	204	*e*P	Pn	12 06 27.2	-0.4
BI02	**San Fabin de**	3.60	9	*e*P	Pn	12 06 35.0	+1.4
BI02				IAML		12 07 32.0	
	comp=Z,11nm,3.5s						
GO05	**Hualane**	5.21	0	*e*P	Pn	12 06 55.7	+0.8
GO05				*e*S	Sn	12 07 49.6	-4.5
GO05				IAML		12 07 55.0	
	comp=Z,26nm,3.7s						

*IDC **22** 12:08:15.8±1.6, 59°38N×23°77E, h0km, mb3.3/1, mbtmp3.2/5, ML2.4/4, MS3.6/1, Error ellipse: s-maj=20.8km s-min=8.8km az=150.0*
*EST **22** 12:08:15.3±0.1, 59°31N×23°63E, h0km, ML1.9(HEL), Explosion*
*HEL **22** 12:08:15.4±0.1, 59°31N×23°66E, h0km, ML2.3, Explosion*
*LVSN **22** 12:08:16.5±1.7, 59°38N×23°66E, h0km±33km, ML2.3*

ISC 22 12:08:13.9±0.7, 59°34N±0°02×23°63E±0°02, h0km, n40, σ0°79/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	0.13	181	*e*P	Pg	12 08 16.9	+0.5
EE01				*e*S	Sg	12 08 18.2	+0.2
EE06	**Soera, Palade,**	0.54	228	*e*P	P

AAL	Aland	2.02	296	eP	Pb	12 08 51.1	-0.4
AAL	Aland	2.02	296	ePB	Pb	12 08 51.3	-0.3
AAL				eS	Sb	12 09 16.9	-0.3
EE04	Vaivara Sinima	2.18	87	ePG	Pb	12 08 53.9	-0.2
EE04				eSG	Sb	12 09 22.4	+0.7
VJF	Virojoki	2.32	57	eP	Pn	12 08 54.2	+0.9
VJF				ePB	Pb	12 08 56.0	-0.5
VJF				eSG	Sg	12 09 27.4	-0.9
VJF				MSG		12 09 28.6	
	comp=Z,6.9nm,0.2s						
FIA0	FINESS Array S	2.44	29	ePB	Pb	12 08 58.6	0.0
FIA0				eSG	Sb	12 09 30.5	+1.3
FINES	FINESS Array B	2.44	29	Pn	Pb	12 08 57.2	-1.5
	comp=Z,3.9nm,0.3s,baz=208,slow=14,SNR=68						
FINES				Lg	Lg	12 09 29.3	
	comp=Z,11nm,0.3s,baz=213,slow=20,SNR=45						
	comp=Z,6.9nm,0.3s						
FIA1	FINESS Array S	2.44	29	ePB	Pb	12 08 58.7	+0.1
EE07	Piusa Caves, O	2.51	125	ePB	Pb	12 08 59.1	-0.7
EE07				eSB	Sb	12 09 30.7	-0.5
KPF	Kankaanpaa	2.62	344	ePB	Pb	12 09 00.6	-1.1
KPF				eSB	Sb	12 09 34.2	-0.2
KEF	Keuruu	2.91	12	eP	Pn	12 09 03.1	+1.7
KEF	Keuruu	2.91	12	ePB	Pb	12 09 05.1	-1.4
KAF	Kangasniemi	3.08	24	eSB	Sb	12 09 48.0	+0.3
RUF	Ruokolahti	3.37	49	ePB	Pb	12 09 13.4	-1.1
RUF				eSG	Sg	12 09 59.5	-2.6
SUF	Sumiainen	3.61	19	eSG	Sg	12 10 07.7	-2.1
HFS	Hagfors	5.09	283	Pn	Pn	12 09 32.4	+1.0
	comp=Z,0.5nm,0.3s,baz=90,slow=14,SNR=11						
HFS				Sn	Sn	12 10 30.6	-0.1
	comp=Z,0.9nm,0.3s,baz=95,slow=26,SNR=7.1						
HFS				Lg	Lg	12 10 50.0	
	comp=Z,1.3nm,0.3s,baz=99,slow=28,SNR=6.1						
	comp=Z,1.1nm,0.3s						
NOA	NORSAR Array B	6.42	291	Pn	Pn	12 09 49.0	-0.8
	baz=102,slow=11,SNR=3.2						
	comp=Z,0.6nm,0.6s						
ARCES	ARCESS Array B	10.27	4	Pn	Pn	12 10 42.3	-0.1
	comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=7.4						
	comp=Z,0.6nm,0.3s						
ESDC	Sonseca Array	26.29	234	LR	LR	12 25 33.0	
	comp=Z,126nm,18.2s,baz=352,slow=39						
MKAR	Makanchi Array	36.19	84	P	P	12 15 18.7	+0.8
	comp=Z,0.1nm,0.3s,baz=318,slow=6.5,SNR=4.3						
	comp=Z,0.1nm,0.3s						

IDC 22 12:15:49.3±4.3, 16°.64S×178°.17W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=188.6km s-min=33.0km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.45	240	P	P	12 23 21.6	+0.1
	1.7nm,1.0s,baz=83,slow=8.1,SNR=3.4						
	1.7nm,1.0s						
WRA	Warramunga Arr	45.10	258	P	P	12 24 07.8	+0.1
	0.3nm,0.5s,baz=93,slow=6.8,SNR=9.1						
	0.3nm,0.5s						
ASAR	Alice Springs	45.37	253	P	P	12 24 09.3	-0.5
	1.6nm,0.5s,baz=86,slow=9.3,SNR=46						
	1.6nm,0.5s						
ILAR	Eielson Array	84.61	13	P	P	12 28 24.1	0.0
	0.2nm,0.4s,baz=224,slow=4.9,SNR=7.2						
	0.2nm,0.4s						

IDC 22 12:23:04.6±1.0, 36°.68N×27°.28E, h0km, mb4.1/5, mbtmp4.0/9, ML2.3/2, MS3.4/1, Error ellipse: s-maj=27.0km s-min=16.0km az=153.0
ISK 22 12:23:05.1, 36°.74N×27°.19E, h10km, ML3.9/27
THE 22 12:23:06.7, 36°.7N±1°.0×2°.7E±°, h15km±2km, M3.6/15, MLh3.6/15
ATH 22 12:23:06.3, 36°.77N×27°.35E, h76km±4km, ML3.6/6, Manual Solution by A.Papageorgiou First location: 2019/10/22 12:24:21, This location: 2019/10/22 12:58:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
AFAD 22 12:23:07.0, 36°.76N×27°.35E, h6km±6km, ML3.5

ISC 22 12:23:06.3±0.8, 36°.73N±0°.02×27°.25E±0°.02, h15km±5km, n88, σ1§24/114, mb3.9/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.16	219	P	Pg	12 23 10.2	-0.1
NISR				S	Sg	12 23 13.7	+0.7
YAZI	Mula-Dat§a-	0.17	108	P	Pg	12 23 10.0	-0.6
DAT	Datca	0.26	91	Pg	Pb	12 23 11.8	-1.1
DAT	Datca	0.26	91	P	Pg	12 23 11.5	-0.6
DAT				S	Sb	12 23 17.4	+0.2
DATC	Datca-Mugla	0.33	85	Pg	Pb	12 23 13.1	-0.9
DATC				Sg	Sb	12 23 18.3	-0.8
BODT	Bodrum	0.33	8	Pg	Pg	12 23 13.0	-0.2
BODT	Bodrum	0.33	8	P	Pb	12 23 13.5	-0.5
BODT				S	Sb	12 23 18.7	-0.5
YKAV	Yalikavak-Bodr	0.39	4	Pg	Pg	12 23 13.3	-1.0
YKAV				Sg	Sg	12 23 18.8	-0.9
DIDI	Didim-Aydin	0.64	359	Pg	Pg	12 23 18.0	-0.9
ASTA	Astypalaia	0.74	256	P	Pn	12 23 22.6	+0.3
TURN	Turunc	0.80	87	Pg	Pb	12 23 21.9	0.0
TURN				Sg	Sn	12 23 34.5	-0.2
RODB	Rodos	0.83	110	P	Pb	12 23 22.6	+0.1
RODB				S	Sb	12 23 34.6	+1.2
RDI1	Rhodes Town Ha	0.83	109	P	Pb	12 23 22.5	0.0
RDI1				S	Sn	12 23 35.1	-0.4
ARG	Arkhangelos	0.88	126	Pg	Pb	12 23 23.2	0.0
ARG				Sg	Sn	12 23 36.6	0.0
ARG	Arkhangelos	0.88	126	P	Pb	12 23 22.9	-0.4
ARG				S	Sn	12 23 36.5	0.0
ARG	Arkhangelos	0.88	126	P	Pb	12 23 22.7	-0.5
ARG				S	Sb	12 23 35.4	+0.7
RGE1	Gennadi, Rhode	0.89	142	P	Pb	12 23 23.3	-0.2
RGE1				S	Sn	12 23 36.3	-0.7
YER	Yerkesik	0.92	64	Pg	Pn	12 23 24.8	0.0
YER	Yerkesik	0.92	64	P	Pb	12 23 24.5	+0.5
YER				S	Sn	12 23 38.5	+0.7
GCAM	G?zelcaml?	0.96	359	Pg	Pg	12 23 24.0	-1.0
GCAM				Sg	Sb	12 23 37.9	+0.5
SMG	Samos	1.03	341	P	Pg	12 23 25.5	-0.8
SMG				S	Sb	12 23 39.8	+0.6
SMG	Samos	1.03	341	P	Pg	12 23 25.2	-1.1
SMG				S	Sg	12 23 39.4	-0.3
DALY	Dalyan (Mula)	1.13	85	Pn	Pn	12 23 27.9	+0.3
KRL1	Karlovasi Samo	1.15	338	P	Pg	12 23 27.0	-1.4
KRL1				S	Sg	12 23 42.8	-0.6
KARP	Karpathos	1.19	183	Pn	Pn	12 23 28.2	-0.3
KARP				Sn	Sn	12 23 45.3	+1.0
KARP	Karpathos	1.19	183	P	Pb	12 23 27.8	-0.8
KARP				S	Sn	12 23 44.6	+0.3
KARP	Karpathos	1.19	183	P	Pn	12 23 28.2	-0.3
KARP				S	Sn	12 23 45.1	+0.8
AYDB	Zeytinkoy-Aydi	1.31	23	Pn	Pn	12 23 29.8	-0.5
GMLD	Gumuldur	1.37	349	Pn	Pn	12 23 30.9	0.0
ESEN	Aydn-Nazilli	1.38	39	P	Pn	12 23 31.2	+0.2
SABU	Mula-Dalaman	1.38	86	P	Pg	12 23 32.2	-0.8
SABU				S	Sg	12 23 50.9	-0.1
THERA	Ancient Thera,	1.48	256	P	Pn	12 23 32.2	-0.2
THERA				S	Sg	12 23 52.5	-1.4
NAZL	Nazilli-Aydin	1.48	34	Pn	Pn	12 23 31.9	-0.6
IZZE	Mula-Seydike	1.62	100	P	Pg	12 23 36.3	-1.2
IZZE				S	Sg	12 23 59.5	+1.0
IZZE				*i* IAML		12 24 03.0	
	comp=E,1μm,0.4s						
BLCB	Balcova	1.66	354	Pn	Pn	12 23 35.0	+0.1
BLCB	Balcova	1.66	354	P	Pn	12 23 34.1	-0.8
CAME	Cameli-Denizli	1.66	82	Pn	Pb	12 23 35.9	-0.8
ODEM	Odemis-Izmir	1.67	23	Pn	Pn	12 23 35.6	+0.4
URLA	Izmir	1.71	342	Pn	Pn	12 23 34.8	-0.8
APMY	Acipayam-Denizl	1.80	65	Pn	Pn	12 23 37.9	+1.0
ZKR	Zakros	1.82	208	Pn	Pn	12 23 37.2	+0.1
ZKR	Zakros	1.82	208	P	Pb	12 23 37.7	-1.6
TNSA	Tinos	1.85	296	P	Pn	12 23 37.0	-0.5
KNIK	Mula-Seydike	1.87	86	P	Pb	12 23 40.4	+0.2
CHOS	Chios island	1.90	330	Pn	Pn	12 23 38.3	-0.1
CHOS	Chios island	1.90	330	P	Pn	12 23 37.6	-0.8
CHOS	Chios island	1.90	330	P	Pn	12 23 37.5	-0.8
AKAS	Kas	1.96	104	Pn	Pn	12 23 40.3	+1.1
KSL	Kastellorizon	1.97	106	P	Pn	12 23 40.3	+1.1
KSL	Kastellorizon	1.97	106	P	Pn	12 23 37.7	-1.5
GOMA	Golmarmara-Man	2.04	15	Pn	Pn	12 23 40.7	+0.5
KULA	Kula-Manisa	2.10	32	Pn	Pn	12 23 41.7	+0.6
ELL	Elmali	2.14	89	Pn	Pn	12 23 42.6	+1.0
AKS	Akhisar	2.19	12	Pn	Pn	12 23 42.8	+0.6
DEMR	Demre-Antalya	2.20	102	Pn	Pn	12 23 43.5	+1.2
GORD	Gordes-Manisa	2.29	18	Pn	Pn	12 23 44.3	+0.6
IDI	Anoyia	2.40	234	P	Pn	12 23 45.2	+0.1
IDI				S	Sn	12 24 15.1	+0.9
IDI	Anoyia	2.40	234	Pn	Pn	12 23 45.4	+0.2
	4.0nm,0.3s,baz=330,slow=6.5,SNR=16						
IDI				Sn	Sn	12 24 15.6	+1.3
	16nm,0.3s,baz=347,slow=18,SNR=6.9						
	8.1nm,0.3s						
IDI	Anoyia	2.40	234	P	Pn	12 23 44.9	-0.3
SOMA	Soma-Manisa	2.43	5	Pn	Pn	12 23 46.0	+0.5
PRK	Paraskevi	2.62	343	P	Pn	12 23 47.4	-0.8
PRK				S	Sn	12 24 18.9	-0.8
PRK	Paraskevi	2.62	343	P	Pn	12 23 46.3	-1.9
SIGR	SIGRI	2.71	336	P	Pn	12 23 49.3	0.0
BUCA	Burdur, Bucak-	2.71	76	P	Pb	12 23 52.2	-2.4
BUHA	Balikesir, Bur	2.77	357	P	Pn	12 23 50.5	+0.4
ISP	Isparta	2.83	66	P	Pn	12 23 47.8	-3.2
DION	Dionisos Attik	2.96	298	P	Pn	12 23 53.8	+1.0
VLY	Voula,Athens	2.97	293	P	Pn	12 23 54.0	+1.0
PTL	Penteli	3.00	297	P	Pn	12 23 54.0	+0.6
KYMI	Kymi, Euboea I	3.14	308	P	Pn	12 23 55.6	+0.3
VLI	Veliai	3.46	271	P	Pn	12 24 00.4	+0.7
LIA	Limnos Island	3.55	333	P	Pn	12 24 01.0	+0.1
BILE	Bilecik/Merkez	4.00	30	P	Pg	12 24 20.3	-2.6
KURT	Yalova, Merkez	4.15	21	P	Pg	12 24 24.6	-1.1
KONT	Konya--Tatoy	4.25	72	P	Pn	12 24 15.5	+4.9
SUSU	Bolu-G¶lynk-	4.57	37	P	Pb	12 24 29.0	+2.7
SAHE	Sakarya_HENDEK	4.98	33	P	Pg	12 24 42.2	+0.4
ARMN	Kirklareli, Me	5.13	1	P	Pn	12 24 22.4	-0.1
KERG	Konya-Eregli	5.54	81	P	Pn	12 24 31.3	+2.9
BRTR	Keskin Array B	5.85	57	Pn	Pn	12 24 34.4	+1.7
	0.8nm,0.3s,baz=240,slow=15,SNR=12						
	1.7nm,0.3s						
MMAI	Mount Meron Ar	7.66	117	Pn	Pn	12 24 57.2	-0.2
	3.8nm,0.4s,baz=304,slow=14,SNR=9.6						
MMAI				Sn	Sn	12 26 21.1	-2.9
	6.9nm,0.3s,baz=307,slow=23,SNR=5.9						
EIL	Elat	9.55	135	Pn	Pn	12 25 21.7	-1.6
	4.3nm,0.4s,baz=214,slow=2.7,SNR=7.7						
EIL				Sn	Sn	12 27 02.6	-7.8
	4.6nm,0.3s,baz=348,slow=2.3,SNR=12						
GERES	GERESS Array B	15.63	325	LR	LR	12 32 50.3	
	comp=Z,142nm,18.4s,baz=358,slow=37						
ESDC	Sonseca Array	24.64	286	P	P	12 28 27.0	+0.7
	1.5nm,0.8s,baz=81,slow=9.2,SNR=6.5						
	1.5nm,0.8s						
FINES	FINESS Array B	24.74	359	P	P	12 28 28.1	+1.1
	8.1nm,1.2s,baz=153,slow=12,SNR=3.6						
	8.1nm,1.2s						
TORD	Torodi Ar. Bea	32.80	231	P	P	12 29 39.8	+0.6
	1.8nm,0.3s,baz=29,slow=11,SNR=1.1						
	1.8nm,0.3s						
KURBB	Kurchatov Arra	38.82	52	P	P	12 30 31.0	+0.5
	0.6nm,0.4s,baz=277,slow=8.7,SNR=4.3						
	0.6nm,0.4s						
MKAR	Makanchi Array	41.50	58	P	P	12 30 53.7	+0.9
	2.5nm,0.6s,baz=278,slow=7.0,SNR=29						
	2.5nm,0.6s						

IDC 22 12:38:40.4±1.9, 10°.61S×117°.17E, h0km, mb3.6/5, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=89.0km s-min=20.9km az=51.0
DJA 22 12:38:45.9±1.1, 11°.S±6°.×11°.7E±°, h21km±12km, M4.1/14, mB5.0/1, mb4.4/4, MLv4.0/14, Mw(mB)4.2/1

ISC 22 12:38:45.0±0.9, 10°.83S±0°.07×117°.45E±0°.06, h35km, n20, σ1§74/24, mb3.8/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.02	9	P	Pn	12 39 15.6	-0.9
TWSI	Taliwang, Sumb	2.15	345	P	Pn	12 39 16.8	-1.6
WBSI	Waikabubak, Su	2.25	58	P	Pn	12 39 21.0	+1.3
WBSI				S	Sn	12 39 48.5	+2.2
WSI	Waingapu	3.03	68	P	Pn	12 39 30.7	+0.2
DNP	Denpasar	3.08	314	P	Pn	12 39 33.5	+2.4
BASI	Baing, Sumba	3.13	79	P	Pn	12 39 32.8	+0.9
SRBI	Singaraja	3.51	321	P	Pn	12 39 38.5	+1.4
JAGI	Jajag, Banyuwa	4.01	306	P	Pn	12 39 45.3	+1.4
ABJI	Asem Bagus	4.38	313	P	Pn	12 39 49.4	+0.4
EDFI	Ende, Flores	4.66	64	P	Pn	12 39 54.0	+1.0
EDFI				S	Sn	12 40 46.8	+0.8
BSSI	Bau Bau, Buton	5.54	33	P	Pn	12 40 07.3	+2.2
	0.3nm1μm86nm,0.8s						
BSSI				S	Sn	12 41 07.1	-0.5
	0.3nm1μm86nm,0.8s						
BKSI	Bulukumba	6.08	26	P	Pn	12 40 13.7	+1.3
	0.1nm22nm,1.1s						
PCJI	Pacitan	6.72	292	P	Pn	12 40 21.2	0.0
FITZ	Fitzroy Crossi	10.72	133	Pn	Pn	12 41 18.4	+2.2
	0.2nm,0.3s,baz=334,slow=10,SNR=11						
FITZ				Sn	Sn	12 43 11.8	-3.2
	0.3nm,0.3s,baz=202,slow=11,SNR=3.2						
	1.2nm,0.4s						
WRA	Warramunga Arr	18.62	121	P	Pn	12 43 02.9	+2.8
	0.1nm,0.3s,baz=290,slow=13,SNR=1.8						
	0.1nm,0.4s						
ASAR	Alice Springs	20.21	131	P	Pn	12 43 22.4	+3.2
	1.0nm,0.8s,baz=312,slow=11,SNR=14						
ASAR				S	S	12 46 59.9	-2.3
	0.3nm,0.8s,baz=306,slow=23,SNR=2.5						
	1.0nm,0.8s						
KSRS	Korea Array	49.03	11	P	P	12 47 27.6	-0.8
	1.4nm,0.8s,baz=188,slow=7.0,SNR=5.6						
	1.4nm,0.8s						
MKAR	Makanchi Array	65.41	334	P	P	12 49 22.8	-1.3
	0.4nm,0.5s,baz=138,slow=6.7,SNR=5.6						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	69.94	335	P	P	12 49 51.7	-0.8
	0.2nm,0.3s,baz=152,slow=6.1,SNR=4.5						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	70.22	340	P	P	12 49 52.6	-1.6
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.3						
	0.4nm,0.4s						

IDC 22 12:46:47.4±2.7, 16°.96S×177°.76W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=292.0km s-min=34.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.42	259	P	P	12 55 08.4	+0.1
	0.4nm,0.5s,baz=94,slow=7.1,SNR=16						
	0.4nm,0.5s						
ASAR	Alice Springs	45.65	253	P	P	12 55 09.8	-0.3
	1.2nm,0.6s,baz=86,slow=8.8,SNR=15						
	1.2nm,0.6s						
TXAR	Lajitas Array	84.97	57	P	P	12 59 25.1	0.0
	0.2nm,0.5s,baz=203,slow=3.5,SNR=2.4						
	0.2nm,0.5s						

NEIC 22 12:58:34.8±1.4, 59°.6S±0°.1×27°.0W±0°.2, h38km±9km, mb4.4/19, Error ellipse: s-maj=19.9km s-min=15.3km az=220.0
IDC 22 12:58:37.8±9.7, 59°.06S×25°.62W, h74km±86km, mb3.7/3, mbtmp4.0/4, ML3.7/1, MS3.1/1, Error ellipse: s-maj=115.8km s-min=32.1km az=65.0

ISC 22 12:58:34.0±0.6, 59°.5S±0°.1×27°.1W±0°.1, h30km, n43, σ1§28/38, mb4.4/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.65	153	⇑P	Pn	13 01 46.2	+1.0
	comp=Z,9.9nm,0.6s						
VNA3	Neumayer Olymp	13.79	156	⇑P	Pn	13 01 48.2	+1.1
	comp=Z,12nm,0.8s						
VNA2	Neumayer--Watz	14.05	153	⇑P	Pn	13 01 52.3	+1.7
	comp=Z,5.1nm,0.9s,baz=315,slow=14						
SNAA	Sanae	15.64	151	⇑P	P	13 02 13.6	-2.2
	comp=Z,61nm,0.8s						
SNAA	Sanae	15.64	151		Pn	13 02 10.4	-1.6
SNAA	Sanae	15.64	151	P	P	13 02 13.8	-2.0
	comp=Z,0.3nm,0.3s,baz=308,slow=16,SNR=18						
	comp=Z,2.4nm,0.7s						
TROLL	Troll, Antarti	17.21	149	⇑P	P	13 02 33.7	+0.5
	comp=Z,87nm,0.8s						
PMSA	Palmer Station	17.89	237	P	Pn	13 02 39.8	-0.4
PMSA				IAmb	IAmb	13 02 56.3	
	comp=Z,29nm,1.0s						
BELA	Belgrano 2	18.67	185	P	P	13 02 47.5	-1.6
MG01	Puerto William	22.18	264	P	P	13 03 26.4	-0.8
QSPA	South Pole Qui	30.78	180	P	P	13 04 46.3	-0.3
QSPA				IAmb	IAmb	13 04 52.8	
	comp=Z,2.5nm,1.1s						
QSPA	South Pole Qui	30.78	180	P	P	13 04 48.4	+1.9
	comp=Z,2.8nm,1.1s,baz=222,slow=2.4,SNR=4.1						
QSPA				LR	LR	13 17 33.8	
	comp=Z,34nm,18.5s,baz=203,slow=36						
	comp=Z,2.8nm,1.1s						
BI05	Punta Hualpn	37.21	287	P	P	13 05 42.6	+0.3
BO02	Sierra Bellavi	37.62	291	P	P	13 05 43.5	-2.4
BO02				IAmb	IAmb	13 05 50.0	
	comp=Z,10nm,1.1s						
VA03	San Esteban	39.17	293	P	P	13 05 59.4	+0.4
SBA	Scott Base	42.67	184	P	P	13 06 25.7	-1.4
VNDA	Vanda	43.16	183	P	P	13 06 31.2	+0.1
VNDA	Vanda	43.16	183	P	P	13 06 34.6	+3.5
	comp=Z,1.5nm,1.1s,baz=192,slow=6.3,SNR=4.5						
	comp=Z,1.5nm,1.1s						
H04S2	CROZET ISLANDS	46.17	111	T	T	13 57 07.1	
	baz=225,slow=75,SNR=161						
H04S3	CROZET ISLANDS	46.18	111	T	T	13 57 08.2	
	baz=225,slow=75,SNR=139						
H04S1	CROZET ISLANDS	46.19	111	T	T	13 57 14.4	
	baz=225,slow=75,SNR=117						
PTLB	Pontes e Lacer	49.84	318		P	13 07 24.4	+0.3
PTLB				IAmb	IAmb	13 07 27.0	
	comp=Z,5.1nm,1.0s						
CASY	Casey	50.67	159	P	P	13 07 29.5	-0.3
H10S2	ASCENSION HYDR	51.26	16	T	T	14 02 59.3	
	baz=188,slow=74,SNR=1120						
H10S3	ASCENSION HYDR	51.27	16	T	T	14 02 59.7	
	baz=32,slow=74,SNR=1351						
H10N1	ASCENSION HYDR	52.38	16	T	T	14 04 23.6	
	baz=188,slow=75,SNR=114						
H10N3	ASCENSION HYDR	52.38	16	T	T	14 04 23.5	
	baz=188,slow=75,SNR=1030						
H10N2	ASCENSION HYDR	52.40	16	T	T	14 04 24.8	
	baz=188,slow=75,SNR=308						
LPAZ	La Paz	52.45	307		P	13 07 45.0	+0.6
LPAZ				IAmb	IAmb	13 08 00.7	
	comp=Z,3.0nm,1.1s						
LPAZ	La Paz	52.45	307	P	P	13 07 46.1	+1.6
	comp=Z,1.6nm,0.7s,baz=139,slow=8.3,SNR=5.4						
	comp=Z,1.6nm,0.7s						
VILB	Vilhena	52.53	318	P	P	13 07 44.8	+0.4
VILB				IAmb	IAmb	13 07 50.4	
	comp=Z,7.5nm,1.0s						
MREMI	Moremi	52.98	70	P	P	13 07 46.7	-1.0
COHC	Cochancay	69.54	303	P	P	13 09 39.6	-0.1
SLOR	San Lorenzo -	70.78	304	P	P	13 09 47.9	0.0
OTAV	Otavalo	71.63	305	P	P	13 09 51.9	-1.2
OTAV				IAmb	IAmb	13 10 15.6	
	comp=Z,2.3nm,0.6s						
RUSC	La Rusia	74.63	312	P	P	13 10 10.5	-0.2
RUSC				IAmb	IAmb	13 10 16.4	
	comp=Z,4.1nm,1.1s						
N32M	Quiet Lake	145.11	305	PKPbc	PKPdf	13 18 08.0	+1.2
HYT	Haines Junctio	146.81	303	PKPdf	PKPbc	13 18 11.4	-0.3
F31M	Tsiigehtchic	148.19	315	PKPdf	PKPdf	13 18 12.8	+1.0
F31M				PKPbc	PKPbc	13 18 15.7	+0.6
F31M				PKPab	PKPab	13 18 18.4	+0.2
K29M	Barlow Dome	148.19	308	PKPbc	PKPbc	13 18 16.4	+1.0
K29M				PKPab	PKPab	13 18 20.1	+1.5
RIDG	Independent Ri	151.16	305	PKPbc	PKiKP	13 18 23.1	0.0
ILAR	Eielson Array	152.33	307		PKiKP	13 18 25.5	+0.1
ILAR	Eielson Array	152.33	307	PKPbc	PKPbc	13 18 24.0	-1.2
	comp=Z,0.8nm,0.8s,baz=128,slow=1.1,SNR=7.1						

IDC 22 13:02:50.9±1.1, 17°.96S×172°.66W, h0km, mb3.8/6, mbtmp3.9/7, ML3.2/1, MS3.2/4, Error ellipse: s-maj=58.1km s-min=21.7km az=154.0
NEIC 22 13:02:51.4±0.8, 17°.52S±0°.08×172°.5W±0°.1, h10km±1km, mb4.5/14, Error ellipse: s-maj=20.5km s-min=12.1km az=246.0

ISC 22 13:02:53.2±0.7, 17°.8S±0°.1×172°.53W±0°.09, h21km, n31, σ1§24/24, mb4.4/13, MS3.0/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.77	118		Pn	13 03 35.4	-1.1
AFI	Afiamalu	3.94	11		Pn	13 03 45.3	-7.2
RAR	Rarotonga	12.50	108		Pn	13 05 49.1	-0.8
RAR	Rarotonga	12.50	108	Pn	Pn	13 05 50.0	+0.1
	1.3nm,0.3s,baz=287,slow=9.9,SNR=4.1						
RAR				LR	LR	13 10 08.6	
	comp=Z,85nm,18.5s,baz=252,slow=35						
	6.6nm,0.5s						
PPT	Papeete	21.87	93	LR	LR	13 14 45.4	
	comp=Z,52nm,18.9s,baz=270,slow=32						
SNZO	South Karori	25.86	202	P	P	13 08 24.7	+1.4
HNR	Honiara	27.98	284	LR	LR	13 18 45.2	
	comp=Z,30nm,18.2s,baz=108,slow=34						
ARMA	Armidale	34.89	242	P	P	13 09 44.0	+0.5
ARMA				IAmb	IAmb	13 10 19.8	
	comp=Z,11nm,1.4s						
TOO	Toolangi	41.65	233	P	P	13 10 41.3	+1.1
STKA	Stephens Creek	43.61	242	IAmb	IAmb	13 10 58.2	
	comp=Z,31nm,1.4s						
STKA	Stephens Creek	43.61	242	P	P	13 10 55.4	-0.8
	comp=Z,0.9nm,0.5s,baz=78,slow=14,SNR=3.7						
	comp=Z,0.9nm,0.5s						
MGBR	Mount Gambier

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.90**	**323**	P	**Pn**	**13 14 06.9**	**+0.7**
PLAI	**Plampang**	**0.90**	**323**	S	**Sn**	**13 14 19.2**	**+0.2**
PLAI	**Plampang**	**0.90**	**323**	P	**Pn**	**13 14 06.8**	**+0.6**
WBSI	**Waikabubak, Su**	**1.05**	**95**	P	**Pn**	**13 14 09.6**	**+1.4**
TWSI	**Taliwang, Sumb**	**1.64**	**299**	P	**Pn**	**13 14 17.2**	**+1.4**
WSI	**Waingapu**	**1.95**	**94**	P	**Pn**	**13 14 22.0**	**+2.1**
BASI	**Baing, Sumba**	**2.31**	**107**	P	**Pn**	**13 14 28.0**	**+3.1**
DNP	**Denpasar**	**3.20**	**285**	P	**Pn**	**13 14 38.8**	**+1.9**
SRBI	**Singaraja**	**3.41**	**295**	P	**Pn**	**13 14 40.7**	**+0.9**
EDFI	**Ende, Flores**	**3.41**	**77**	P	**Pn**	**13 14 42.0**	**+2.0**
MMRI	**Maumere**	**3.97**	**77**		**Pn**	**13 14 48.7**	**+1.2**
MMRI	**Maumere**	**3.97**	**77**	P	**Pn**	**13 14 51.6**	**+4.2**
MMRI	**Maumere**	**3.97**	**77**	P	**Pn**	**13 14 50.3**	**+2.9**
BSSI	**Bau Bau, Buton**	**4.01**	**32**	P	**Pn**	**13 14 50.0**	**+2.0**
JAGI	**Jajag, Banyuwa**	**4.26**	**284**		**Pn**	**13 14 51.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.26**	**284**	P	**Pn**	**13 14 51.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.26**	**284**	S	**Sn**	**13 15 39.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.26**	**284**	P	**Pn**	**13 14 51.1**	**-0.4**
ABJI	**Asem Bagus**	**4.41**	**293**	P	**Pn**	**13 14 56.5**	**+3.0**
BKSI	**Bulukumba**	**4.56**	**23**	P	**Pn**	**13 14 57.7**	**+2.1**
KAPI	**Kappang**	**4.72**	**17**		**Pn**	**13 14 58.0**	**+0.1**
KAPI	**Kappang**	**4.72**	**17**	P	**Pn**	**13 15 00.4**	**+2.6**
	47nm,0.3s,baz=192,slow=6.9,SNR=33						
KAPI				S	**Sn**	**13 15 50.6**	**-0.7**
	71nm,0.3s,baz=149,slow=12,SNR=4.3						
KAPI	**Kappang**	**4.72**	**17**	P	**Pn**	**13 15 00.0**	**+2.2**
KMMI	**Kalianget**	**4.98**	**300**	P	**Pn**	**13 15 04.4**	**+3.1**
	168nm,0.7s						
BLJI	**Banyuglugur**	**5.01**	**291**	P	**Pn**	**13 15 02.4**	**+0.7**
BATI	**Baumata**	**5.30**	**98**	P	**Pn**	**13 15 08.6**	**+2.9**
	705nm,0.4s,baz=280,slow=3.1,SNR=32						
BATI				S	**Sn**	**13 16 05.7**	**+0.2**
	208nm,0.5s,baz=203,slow=24,SNR=5.6						
BATI	**Baumata**	**5.30**	**98**	P	**Pn**	**13 15 08.0**	**+2.3**
BNSI	**Bone**	**5.41**	**19**	P	**Pn**	**13 15 11.3**	**+4.1**
	2.0nm2μm186nm,0.7s						
SPSI	**Sidrap Palu**	**5.73**	**15**	P	**Pn**	**13 15 14.6**	**+3.0**
	0.9nm78nm,0.6s						
BBSI	**Bau Bau**	**5.83**	**46**	P	**Pn**	**13 15 16.2**	**+3.3**
SOEI	**Soe**	**5.86**	**92**		**Pn**	**13 15 13.9**	**+0.4**
SOEI	**Soe**	**5.86**	**92**	P	**Pn**	**13 15 17.3**	**+3.8**
SOEI	**Soe**	**5.86**	**92**	P	**Pn**	**13 15 16.7**	**+3.2**
	2.4nm4μm371nm,0.9s						
GRJI	**Gresik**	**6.35**	**294**	P	**Pn**	**13 15 21.6**	**+1.5**
	1.3nm188nm,1.1s						
BWJI	**Bawean**	**6.71**	**303**	P	**Pn**	**13 15 26.9**	**+1.9**
BBKI	**Banjar Baru**	**6.97**	**330**	P	**Pn**	**13 15 31.1**	**+2.5**
	1.5nm387nm,1.0s						
NGJI	**Ngawi**	**7.13**	**287**	P	**Pn**	**13 15 34.2**	**+3.5**
	1.5nm155nm,0.7s						
PCJI	**Pacitan**	**7.19**	**280**	P	**Pn**	**13 15 32.0**	**+0.4**
	2μm122nm,0.7s						
UGM	**Wanagama**	**7.88**	**281**	Pn	**Pn**	**13 15 40.3**	**-0.8**
UGM	**Wanagama**	**7.88**	**281**	P	**Pn**	**13 15 41.4**	**+0.3**
UGM	**Wanagama**	**7.88**	**281**	S	**Sn**	**13 17 11.1**	**+2.2**
UGM	**Wanagama**	**7.88**	**281**	P	**Pn**	**13 15 42.8**	**+1.7**
	155nm,0.7s						
APSI	**Ampana**	**9.20**	**21**	P	**Pn**	**13 16 02.4**	**+3.4**
	30nm,1.0s						
MTKI	**Muara Teweh, K**	**9.21**	**338**	P	**Pn**	**13 16 01.8**	**+2.6**
	107nm,0.8s						
LUWI	**Luwuk**	**9.54**	**28**	Pn	**Pn**	**13 16 03.9**	**+0.2**
LUWI	**Luwuk**	**9.54**	**28**	P	**Pn**	**13 16 08.0**	**+4.3**
	2μm54nm,0.8s						
KPJI	**Karang Pucung**	**9.55**	**283**	P	**Pn**	**13 16 05.6**	**+1.7**
	62nm,0.6s						
MRSI	**Marisa**	**10.59**	**20**	P	**Pn**	**13 16 22.1**	**+4.0**
	2μm29nm,1.0s						
SANI	**Sanana**	**10.65**	**46**	P	**Pn**	**13 16 23.0**	**+4.1**
SANI	**Sanana**	**10.65**	**46**	P	**Pn**	**13 16 22.2**	**+3.3**
	744nm65nm,1.4s						
NLAI	**Namlea**	**10.73**	**55**	P	Pn	13 16 25.8	+5.8
BBJI	**Bungbulang**	**10.76**	**280**	P	**Pn**	**13 16 19.8**	**-0.7**
TOLI2	**Tolitoli**	**10.87**	**13**	P	**Pn**	**13 16 23.2**	**+1.3**
LEM	**Lembang**	**10.94**	**284**	P	**Pn**	**13 16 19.8**	**-3.2**
	5.6nm,0.3s,baz=323,slow=20,SNR=1.9						
LEM				S	**Sn**	**13 18 21.2**	**-2.7**
	12nm,0.5s,baz=330,slow=20,SNR=1.4						
	16nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.07**	**141**	P	**Pn**	**13 16 24.6**	**0.0**
	2.0nm,0.3s,baz=332,slow=8.3,SNR=80						
FITZ				S	**Sn**	**13 18 19.1**	**-7.6**
	58nm,0.7s,baz=193,slow=16,SNR=14						
FITZ				LR	LR	13 21 09.8	
	comp=Z,99nm,18.9s,baz=342,slow=39						
	11nm,0.6s						
MBWA	**Marble Bar**	**11.62**	**173**		**Pn**	**13 16 31.0**	**-1.1**
MBWA	**Marble Bar**	**11.62**	**173**	P	**Pn**	**13 16 31.4**	**-0.7**
KNRA	**Kununurra**	**11.86**	**122**		**Pn**	**13 16 35.8**	**+0.4**
PSA00	**Pilbara Seismi**	**12.04**	**173**		**Pn**	**13 16 36.6**	**-1.3**
PSA00	**Pilbara Seismi**	**12.04**	**173**	P	**Pn**	**13 16 38.2**	**+0.4**
DRS	**Darwin Rock St**	**12.67**	**104**	P	**Pn**	**13 16 47.1**	**+0.7**
MTN	**Manton Dam**	**12.98**	**106**		**Pn**	**13 16 49.5**	**-1.1**
SBUM	**Sibu**	**13.38**	**333**		**Pn**	**13 16 55.2**	**-0.9**
KASI	**Kota Agung**	**14.28**	**285**	P	**P**	**13 17 10.9**	**-2.3**
	58nm,1.2s						
MYLDM	**Lahad Datu**	**14.63**	**1**		**P**	**13 17 16.5**	**-0.6**
MYLDM	**Lahad Datu**	**14.63**	**1**	P	**P**	**13 17 16.1**	**-1.0**
MDSI	**Maura Dua**	**14.91**	**289**	P	**P**	**13 17 18.9**	**-1.3**
	16nm,1.0s						
FAKI	**Fak Fak**	**15.32**	**65**	Pn	**Pn**	**13 17 20.8**	**-0.6**
FAKI	**Fak Fak**	**15.32**	**65**	P	**P**	**13 17 24.5**	**-0.2**
SWI	**Sorong**	**15.49**	**57**	P	**P**	**13 17 25.2**	**-1.4**
	51nm,1.7s						
MEEK	**Meekatharra**	**17.00**	**179**	P	**P**	**13 17 45.1**	**+1.8**
MASI	**Maura Aman, Be**	**17.20**	**291**	P	**Pn**	**13 17 44.6**	**-0.4**
	74nm,1.0s						
RKPI	**Ransiki, Papua**	**17.67**	**64**	P	**P**	**13 17 52.8**	**+2.0**
	3μm40nm,1.0s						
WB0	**Warramunga Arr**	**18.55**	**125**	P	**P**	**13 18 00.3**	**-0.2**
WRA	**Warramunga Arr**	**18.60**	**126**	P	**Pn**	**13 18 02.6**	**+0.7**
	0.7nm,0.3s,baz=298,slow=13,SNR=32						
WRA				S	**S**	**13 21 19.5**	**-10**
	6.1nm,0.7s,baz=293,slow=21,SNR=8.3						
	2.3nm,0.6s						
WRAB	**Tennant Creek**	**18.60**	**125**	P	**P**	**13 18 01.2**	**+0.3**
WRAB	**Tennant Creek**	**18.60**	**125**	P	**Pn**	**13 18 03.3**	**+1.3**
MORW	**Morawa**	**19.54**	**186**	P	**Pn**	**13 18 14.4**	**+1.4**
BAKI	**Biak**	**19.54**	**66**	P	**Pn**	**13 18 13.0**	**-0.1**
	79nm,0.8s						
AS31	**Alice Springs**	**20.46**	**135**		**P**	**13 18 21.9**	**+0.6**
ASAR	**Alice Springs**	**20.46**	**135**	P	Pn	13 18 23.9	0.0
	5.5nm,0.6s,baz=305,slow=9.8,SNR=34						
ASAR				S	**S**	**13 22 04.7**	**-2.0**
	5.7nm,0.8s,baz=306,slow=22,SNR=8.7						
	5.5nm,0.6s						
BLDU	**Ballidu**	**21.01**	**184**	P	**P**	**13 18 29.4**	**+2.3**
MUN	**Mundaring**	**22.40**	**185**	P	**P**	**13 18 43.9**	**+1.9**
GENI	**Genyem**	**22.78**	**74**	P	**P**	**13 18 49.8**	**+3.7**
KULM	**Kulim**	**22.97**	**309**	P	**P**	**13 18 50.1**	**+2.0**
QIS	**Mount Isa**	**23.25**	**121**	P	**P**	**13 18 52.5**	**+1.7**
NWAO	**Narrogin (SRO)**	**23.29**	**182**	P	**P**	**13 18 57.1**	**+6.2**
	10nm,1.0s,baz=312,slow=7.1,SNR=4.0						
NWAO				S	**S**	**13 22 58.0**	**-0.1**
	16nm,0.5s,baz=29,slow=10,SNR=7.1						
NWAO	**Narrogin (SRO)**	**23.29**	**182**	P	**P**	**13 18 53.2**	**+2.3**
KCSI	**Kotacane, Aceh**	**24.25**	**301**	P	**P**	**13 18 57.8**	**-2.1**
	34nm,1.1s						
COEN	**Coen**	**24.71**	**103**	P	**P**	**13 19 04.7**	**+0.6**
COEN				IAmb	IAmb	13 19 19.3	
	comp=Z,22nm,0.7s						
COEN	**Coen**	**24.71**	**103**	P	**P**	**13 19 06.6**	**+2.5**
BBOO	**Buckleboo**	**28.35**	**147**	P	**P**	**13 19 39.9**	**+3.2**
PMG	**Port Moresby**	**28.43**	**92**	LR	LR	13 33 17.7	
	comp=Z,51nm,18.3s,baz=264,slow=41						
HTT	**Hallett**	**30.40**	**144**	P	**P**	**13 19 58.3**	**+3.4**
STKA	**Stephens Creek**	**30.96**	**139**	IAmb	IAmb	13 21 10.3	
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**30.96**	**139**	P	**P**	**13 20 02.4**	**+2.5**
	comp=Z,1.1nm,0.5s,baz=321,slow=11,SNR=4.1						
	comp=Z,1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.77**	**325**		**P**	**13 20 22.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**33.77**	**325**	P	**P**	**13 20 24.1**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=149,slow=6.5,SNR=22						
CMAR				PcP	**PcP**	**13 23 04.3**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=173,slow=3.4,SNR=6.4						
CMAR				ScP	**ScP**	**13 26 42.6**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=169,slow=3.4,SNR=8.6						
CMAR				LR	LR	13 35 13.9	
	comp=Z,49nm,19.4s,baz=135,slow=38						
	comp=Z,2.6nm,0.8s						
SLVN	**Son La**	**33.80**	**335**	P	**P**	**13 20 24.4**	**-0.4**
CHTO	**Chiang Mai**	**34.06**	**326**		**P**	**13 20 26.0**	**-1.0**
PZH	**PanZhiHua**	**39.29**	**336**	P	**P**	**13 21 13.3**	**+1.7**
TNCH	**TengChong**	**39.42**	**331**	*e*P	**P**	**13 21 12.6**	**-0.2**
TNCH				pmax	pmax		
	comp=Z,24nm,1.0s						
WHN	**Wuhan**	**40.05**	**355**	P	**P**	**13 21 17.3**	**-0.3**
ENH	**Enshi**	**40.49**	**348**	IAmb	IAmb	13 21 21.7	
	comp=Z,20nm,0.9s						
ENH	**Enshi**	**40.49**	**348**	P	**P**	**13 21 20.7**	**-0.7**
ENH				pP	**pP**	**13 21 37.2**	**-0.7**
HNR	**Honiara**	**41.03**	**93**	LR	LR	13 39 30.9	
	comp=Z,25nm,19.0s,baz=329,slow=38						
NJ2	**Nanjing**	**41.37**	**1**	*e*P	**P**	**13 21 29.3**	**+0.8**
NJ2				pP	**pP**	**13 21 41.3**	**-3.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHL	**Shillong**	**43.37**	**324**		**P**	**13 21 43.1**	**-2.0**
SHL				IAmb	IAmb	13 21 44.2	
	comp=Z,18nm,0.8s						
XAN	**Xi'an**	**44.26**	**349**	⇓P	**P**	**13 21 51.3**	**-0.6**
XAN				pmax	pmax		
	comp=Z,24nm,0.9s						
H08S2	**Diego Garcia H**	**45.34**	**269**	T	T	14 11 41.2	
	baz=96,slow=75,SNR=7.3						
H08S3	**Diego Garcia H**	**45.35**	**269**	T	T	14 11 37.2	
	baz=96,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**45.35**	**269**	T	T	14 11 37.5	
	baz=96,slow=75,SNR=5.6						
TIA	**Tai'an**	**45.53**	**359**	P	**P**	**13 22 00.8**	**-1.1**
TIA				pmax	pmax		
	comp=Z,11nm,0.6s						
HNS	**HongShan**	**46.83**	**356**	⇓P	**P**	**13 22 11.4**	**-0.6**
HNS				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSAR	**Wonju Array Be**	**47.60**	**10**		**P**	**13 22 17.8**	**-0.2**
KSRS	**Korea Array**	**47.61**	**10**	P	**P**	**13 22 17.6**	**-0.5**
	comp=Z,13nm,1.0s,baz=186,slow=8.2,SNR=30						
KSRS				PcP	**PcP**	**13 23 47.8**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=198,slow=2.9,SNR=4.6						
	comp=Z,13nm,1.0s						
KS19	**Wonju Array Si**	**47.65**	**10**	P	**P**	**13 22 18.1**	**-0.4**
BJI	**Beijing**	**49.38**	**358**	P	**P**	**13 22 31.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**49.52**	**21**	IAmb	IAmb	13 22 38.7	
	comp=Z,24nm,2.0s						
MJAR	**Matsushiro Arr**	**49.52**	**21**	P	**P**	**13 22 30.9**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=184,slow=7.7,SNR=5.1						
MJAR				LR	LR	13 47 02.9	
	comp=Z,39nm,18.1s,baz=350,slow=40						
	comp=Z,1.9nm,0.7s						
BTO	**Baotou**	**50.49**	**352**	*e*P	**P**	**13 22 40.9**	**+0.6**
BTO				pP	**pwP**	**13 22 59.8**	**+0.6**
BTO				sP	**sP**	**13 23 08.5**	**+3.7**
BTO				pmax	pmax		
	comp=Z,66nm,0.9s						
BTO				pmax	pmax		
	comp=Z,310nm,5.3s						
HHC	**Hu-ho-hao-te**	**50.53**	**353**	*e*P	**P**	**13 22 43.8**	**+3.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
SNY	**Shenyang**	**51.35**	**5**	⇓P	**P**	**13 22 45.4**	**-1.1**
SNY				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ	**Mudanjiang**	**54.87**	**10**	P	**P**	**13 23 11.9**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,69nm,0.7s						
MDJ	**Mudanjiang**	**54.87**	**10**	P	**P**	**13 23 11.7**	**-0.7**
MDJ	**Mudanjiang**	**54.87**	**10**	P	**P**	**13 23 11.9**	**-0.5**
MDJ				sP	**sP**	**13 23 37.0**	**0.0**
USRK	**Ussuriysk Ar.**	**54.91**	**12**	P	**P**	**13 23 12.3**	**-0.4**
	comp=Z,18nm,0.6s,baz=191,slow=6.6,SNR=23						
	comp=Z,18nm,0.6s						
BNX	**BinXian**	**55.64**	**8**	⇓P	**P**	**13 23 16.8**	**-1.1**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
ULN	**Ulaanbaatar**	**58.03**	**351**		**P**	**13 23 33.9**	**-1.1**
SONM	**Songino Array**	**58.11**	**351**		**P**	**13 23 34.7**	**-0.8**
SONM				IAmb	IAmb	13 23 35.7	
	comp=Z,6.5nm,0.7s						
SONM	**Songino Array**	**58.11**	**351**	P	**P**	**13 23 34.8**	**-0.7**
	comp=Z,7.8nm,0.7s,baz=170,slow=9.1,SNR=10						
	comp=Z,7.8nm,0.7s						
HILR	**Hailar Array B**	**58.87**	**1**	P	**P**	**13 23 40.5**	**-0.1**
	comp=Z,14nm,0.8s,baz=181,slow=9.9,SNR=10.0						
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**59.96**	**335**	*e*P	**P**	**13 23 50.5**	**+2.1**
WMQ				pP	pwP	13 24 07.8	-0.2
WMQ				pmax	pmax		
	comp=Z,36nm,0.9s						
WMQ				LR	LR		
	comp=Z,140nm,13.7s						
HEH	**HeiHe**	**60.08**	**7**	*e*P	**P**	**13 23 48.3**	**-0.6**
HEH				pmax	pmax		
	comp=Z,28nm,0.7s						
MAW	**Mawson**	**68.50**	**200**	LR	LR	13 52 51.3	
	comp=Z,43nm,19.6s,baz=111,slow=34						
KURBB	**Kurchatov Arra**	**69.17**	**334**	P	**P**	**13 24 47.0**	**-1.2**
	comp=Z,5.7nm,0.6s,baz=147,slow=5.6,SNR=27						
	comp=Z,5.7nm,0.6s						
KURK	**Kurchatov**	**69.20**	**334**		**P**	**13 24 46.7**	**-1.6**
KURK				IAmb	IAmb	13 24 47.7	
	comp=Z,7.7nm,0.8s						
ZAA0	**Zalesovo Array**	**69.32**	**340**		**P**	**13 24 46.6**	**-2.4**
ZAA0				IAmb	IAmb	13 24 47.8	
	comp=Z,12nm,0.7s						
ZALV	**Zalesovo Beam**	**69.32**	**340**		**P**	**13 24 46.6**	**-2.4**
ZALV	**Zalesovo Beam**	**69.32**	**340**	P	**P**	**13 24 46.9**	**-2.1**
	comp=Z,13nm,0.6s,baz=146,slow=4.8,SNR=25						
	comp=Z,13nm,0.6s						
PETK	**Petropavlovsk-**	**70.84**	**24**	P	**P**	**13 24 57.5**	**-0.9**
	comp=Z,6.7nm,0.7s,baz=260,slow=2.9,SNR=13						
	comp=Z,6.7nm,0.7s						
BVAR	**Borovoye Array**	**74.47**	**332**	P	**P**	**13 25 18.5**	**-1.4**
	comp=Z,8.3nm,0.7s,baz=130,slow=6.7,SNR=11						
	comp=Z,8.3nm,0.7s						
SYO	**Syowa Base**	**77.10**	**201**	⇓*e*P	**P**	**13 25 36.2**	**+1.5**
AB31	**Akbulak array**	**77.63**	**325**	P	**P**	**13 25 35.8**	**-2.2**
AB31				IAmb	IAmb	13 25 37.6	
	comp=Z,7.9nm,1.2s						
ABKAR	**Akbulak array**	**77.63**	**325**	P	**P**	**13 25 35.7**	**-2.3**
RAYN	**Ar Rayn**	**78.35**	**296**		**P**	**13 25 41.7**	**-0.9**
RAYN				IAmb	IAmb	13 25 42.9	
	comp=Z,7.9nm,0.7s						
RAYN	**Ar Rayn**	**78.35**	**296**	P	**P**	**13 25 41.9**	**-0.7**
RAYN				pP	**pP**	**13 25 59.8**	**-0.7**
AKTO	**Aktyubinsk**	**79.30**	**326**	P	**P**	**13 25 45.7**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=89,slow=4.2,SNR=3.1						
	comp=Z,3.1nm,0.7s						
QSPA	**South Pole Qui**	**80.45**	**180**	IAmb	IAmb	13 26 20.3	
	comp=Z,14nm,1.6s						
QSPA	**South Pole Qui**	**80.45**	**180**	P	P	13 25 58.3	+5.0
	comp=Z,0.9nm,0.7s,baz=326,slow=1.6,SNR=8.4						
TIXI	**Tiksi**	**81.33**	**3**		**P**	**13 25 55.8**	**-1.7**
TIXI				IAmb	IAmb	13 25 57.0	
	comp=Z,8.3nm,0.9s						
TIXI	**Tiksi**	**81.33**	**3**	P	**P**	**13 25 56.3**	**-1.2**
KBZ	**Khabaz**	**86.20**	**315**	P	**P**	**13 26 21.4**	**-1.6**
	comp=Z,3.4nm,0.8s,baz=246,slow=0.8,SNR=7.5						
	comp=Z,3.4nm,0.8s						
LSZ	**Lusaka**	**87.66**	**255**	LR	LR	14 01 37.3	
	comp=Z,28nm,18.1s,baz=182,slow=33						
LSZ	**Lusaka**	**87.66**	**255**	P	**P**	**13 26 33.1**	**+2.1**
LSZ				pP	**pwP**	**13 26 51.3**	**-0.8**
LSZ				x	**sP**	**13 26 55.1**	**-1.2**
LBTB	**Lobatse**	**88.47**	**245**	LR	LR	13 58 31.2	
	comp=Z,29nm,20.0s,baz=86,slow=30						
SNAA	**Sanae**	**90.29**	**196**	P	**P**	**13 26 44.7**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=24,slow=10.0,SNR=2.6						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**91.98**	**310**	P	**P**	**13 26 50.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=124,slow=6.7,SNR=7.8						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**121.88**	**51**		**PKPdf**	**13 32 35.0**	**-1.1**
NVAR	**Mina Array Bea**	**121.88**	**51**	PKP	**PKiKP**	**13 32 37.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=329,slow=3.2,SNR=4.1						
PDAR	**Pinedale Array**	**126.77**	**43**	PKP	**PKiKP**	**13 32 46.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=337,slow=3.6,SNR=2.1						
BDFB	**Brasilia**	**151.55**	**209**	PKPbc	**PKiKP**	**13 33 38.8**	**+1.8**
	comp=Z,1.5nm,0.4s,baz=124,slow=3.6,SNR=3.3						

IDC ***22*** *13:19:11.2±1.0, 35°.89N×77°.80E, h0km, mb4.0/7, mbtmp4.1/12, ML3.5/4, Error ellipse: s-maj=35.2km s-min=14.9km az=62.0*
NEIC ***22*** *13:19:17.1±1.9, 36°.15N±0°.09×78°.3E±0°.1, h36km±2km, mb4.4/12, Error ellipse: s-maj=13.8km s-min=11.6km az=217.0*
NNC ***22*** *13:19:28.1±6.3, 36°.92N×77°.88E, h0km, mb4.7, mpv4.2, Error ellipse: s-maj=53.6km s-min=34.1km az=156.0*
ISC 22 13:19:21.4±0.5, 36°.17N±0°.04×78°.05E±0°.06, h88km, n69, σ2=14/86, mb4.2/13, 7C-2D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCI	**Alchi Leh**	**2.08**	**200**	*e*P	**Pn**	**13 19 58.3**	**+3.4**
ALCI				*e*S	**Sn**	**13 20 21.6**	**+1.2**
ALCI				IAML		13 20 31.1	
	comp=E,603nm,0.7s						
ALCI				IAML		13 20 34.5	
	comp=N,558nm,0.6s						
SRNI	**Srinagar**	**3.34**	**233**	*e*S	**Sn**	**13 20 52.9**	**+2.8**
SRNI				IAML		13 20 53.3	
	comp=E,3μm,0.2s						
SRNI				IAML		13 20 53.9	
	comp=N,3μm,0.1s						
TSSA	**Tissa**	**3.68**	**206**	*e*P	**Pn**	**13 20 19.3**	**+3.1**
TSSA				*e*S	**Sn**	**13 20 58.7**	**0.0**
TSSA				IAML		13 21 03.3	
	comp=N,1μm,0.3s						
TSSA				IAML		13 21 04.9	
	comp=E,2μm,0.4s						
KSH	**Kashi**	**3.72**	**334**	Pn	**Pn**	**13 20 17.3**	**+0.6**
KSH				Sn	**Sn**	**13 20 57.9**	**-1.6**
KSH				smax	smax		
	comp=N,690nm,0.5s						
KSH				smax	smax		
	comp=E,310nm,0.5s						
DHRM	**DHARAMSHALA**	**4.17**	**201**	*e*P	**Pn**	**13 20 25.0**	**+2.0**
DHRM				*e*S	**Sn**	**13 21 10.7**	**0.0**
DHRM				IAML		13 21 14.2	
	comp=E,672nm,0.3s						
DHRM				IAML		13 21 17.4	
	comp=N,636nm,0.4s						
JMU	**Jammu**	**4.32**	**218**	*e*P	**Pn**	**13 20 28.2**	**+3.5**
JMU				*e*S	**Sn**	**13 21 14.4**	**+0.4**
JMU				IAML		13 21 14.8	
	comp=E,1μm,0.5s						
JMU				IAML		13 21 15.0	
	comp=N,2μm,0.5s						
TLWR	**Talawar**	**4.55**	**203**	*e*P	**Pn**	**13 20 31.2**	**+3.2**
TLWR				*e*S	**Sn**	**13 21 18.3**	**-1.3**
TLWR				IAML		13 21 22.1	
	comp=N,572nm,0.9s						
TLWR				IAML		13 21 23.1	
	comp=E,264nm,0.1s						
NIL	**Nilore**	**4.68**	**239**	Pn	**Pn**	**13 20 30.8**	**+1.2**
NIL				Sn	**Sn**	**13 21 20.3**	**-2.4**
TARG	**Taragay, Kyrgy**	**5.55**	**358**		**Pn**	**13 20 44.4**	**+2.6**
JOSI	**Joshimath**	**5.74**	**167**	*e*P	**Pn**	**13 20 45.4**	**+1.0**
JOSI				*e*S	**Sn**	**13 21 45.1**	**-3.8**
JOSI				IAML		13 21 52.5	
	comp=N,306nm,0.7s						
JOSI				IAML		13 21 53.1	
	comp=E,217nm,0.4s						
DDI	**Dehra Dun**	**5.84**	**180**	*e*P	**Pn**	**13 20 47.1**	**+1.6**
DDI				*e*S	**Sn**	**13 21 47.6**	**-3.3**
DDI				IAML		13 21 52.6	
	comp=N,657nm,0.3s						
DDI				IAML		13 21 55.0	
	comp=E,894nm,0.2s						
KDJ	**Kajisay**	**5.99**	**354**	Pn	**Pn**	**13 20 50.9**	**+3.4**
PRZ	**Przheval'sk**	**6.31**	**2**	Pn	**Pn**	**13 20 55.3**	**+3.4**
ARSB	**Arslanbob**	**6.49**	**324**		**Pn**	**13 20 54.5**	**+0.1**
BOOM	**Boomskoye usch**	**6.52**	**346**		**Pn**	**13 20 55.2**	**+0.5**
GAR	**Garm**	**6.76**	**297**	Pn	**Pn**	**13 20 56.9**	**-1.1**
PTH	**Pithoragarh**	**6.85**	**164**	*e*P	**Pn**	**13 20 59.8**	**+0.4**
PTH				*e*S	**Sn**	**13 22 09.5**	**-6.5**
PTH				IAML		13 22 22.1	
	comp=N,60nm,0.2s						
PTH				IAML		13 22 22.7	
	comp=E,70nm,0.3s						
AAK	**Ala-Archa**	**7.02**	**338**		**Pn**	**13 21 03.7**	**+2.2**
AAK	**Ala-Archa**	**7.02**	**338**

comp=Z,1.6nm,0.7s
HHC Hu-ho-hao-te 26.54 70 *e*P **P 13 24 50.5 -0.4**
HHC pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 40.99 325 P **P 13 26 56.2 +1.0**
comp=Z,6.2nm,1.0s,baz=120,slow=11,SNR=5.5
comp=Z,6.2nm,1.0s
ARCES ARCESS Array B 43.68 336 P **P 13 27 18.0 +0.9**
comp=Z,3.2nm,0.9s,baz=104,slow=8.4,SNR=6.6
comp=Z,3.2nm,0.9s
RND Reindeer 73.98 20 P **P 13 30 48.0 +1.1**
RND IAmb IAmb 13 30 52.4
comp=Z,5.4nm,1.3s
H29M Whitestone 74.15 14 P **P 13 30 48.8 +1.0**
H29M IAmb IAmb 13 31 18.1
comp=Z,4.7nm,1.2s
DHY Denali Highway 74.65 20 P **P 13 30 51.7 +0.8**
DHY IAmb IAmb 13 31 02.6
comp=Z,5.3nm,1.4s
RIDG Independent Ri 74.77 18 P **P 13 30 52.4 +0.8**
RIDG IAmb IAmb 13 31 02.8
comp=Z,8.7nm,1.4s
BCAR Beaver Creek A 76.10 17 P **P 13 31 00.6 +1.5**
WB0 Warramunga Arr 77.01 126 P **P 13 31 05.6 +0.8**
WRA Warramunga Arr 77.10 127 P **P 13 31 06.1 +0.8**
comp=Z,1.0nm,0.8s,baz=319,slow=6.5,SNR=14
comp=Z,1.0nm,0.8s
WB2 Warramunga Arr 77.11 127 P **P 13 31 05.9 +0.5**
WB2 IAmb IAmb 13 31 41.5
comp=Z,6.3nm,1.4s
WR8 Warramunga Arr 77.22 126 P **P 13 31 06.0 +0.1**
WR8 IAmb IAmb 13 31 09.0
comp=Z,7.8nm,1.4s
NWAO Narrogin (SRO) 77.90 147 P **P 13 31 09.2 -0.2**
ASAR Alice Springs 79.52 129 P **P 13 31 19.1 +0.5**
comp=Z,1.3nm,0.9s,baz=313,slow=5.5,SNR=9.5
comp=Z,1.3nm,0.9s
QSPA South Pole Qui 125.96 180 PKPdf **PKiKP 13 38 14.7 +2.1**
QSPA South Pole Qui 125.96 180 PKP **PKiKP 13 38 14.1 +1.5**
comp=Z,0.8nm,0.8s,baz=170,slow=1.5,SNR=5.4
EFI East Falkland 145.38 229 PKPbc 13 38 49.1 +0.6
GO01 Chusmiza 146.91 291 PKPbc 13 38 55.7 +1.0
PB02 IPOC Station P 148.41 289 PKiKP 13 38 59.6 -0.2
PB03 IPOC Station P 148.71 288 PKPbc 13 38 59.8 +0.8

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*KRNET **22** 13:33:46.7±0.1,39°.80N×72°.55E,h15km,mb2.9*
*ISU **22** 13:33:46,39°.82N×72°.47E,h2km*
*SOME **22** 13:33:51.5,40°.02N×72°.55E,h5km*
*NNC **22** 13:33:53.4±5.7,40°.01N×72°.56E,h0km,mb3.5,mpv3.0,*
Error ellipse: s-maj=42.7km s-min=24.9km az=167.0
ISC 22 13:33:46.6±1.5,**39°.78N**±0°.05×**72°.58E**±0°.05,**h4**km±17km,
n14,σ1§10/24,10C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.67**	**244**	⇑*e*P	**Pg**	**13 33 59.4**	**-0.1**
DRK				⇑*e*S	**Sg**	**13 34 09.1**	**+0.9**
OHH	**Osh**	**0.76**	**12**	⇑*i*P	**Pg**	**13 34 01.0**	**-0.2**
OHH				⇑*i*S	**Sb**	**13 34 12.0**	**-1.3**
TSTA	**Tashata**	**0.80**	**354**	P	**Pg**	**13 34 02.3**	**+0.3**
TSTA				S	**Sb**	**13 34 14.5**	**+0.1**
FRG	**Fergana**	**0.85**	**314**	S	**Sg**	**13 34 14.5**	**+0.5**
CHMI	**Chimion**	**0.95**	**301**	P	**Pg**	**13 34 04.3**	**-0.5**
CHMI				S	**Sg**	**13 34 17.5**	**+0.4**
SALK	**Salom-Alik**	**1.46**	**40**	⇑*i*P	**Pg**	**13 34 14.3**	**-0.2**
SALK				⇑*i*S	**Sg**	**13 34 34.6**	**+1.2**
ARSB	**Arslanbob**	**1.57**	**11**	⇓*e*P	**Pb**	**13 34 16.2**	**-0.2**
ARSB				⇓*e*S	**Sg**	**13 34 37.7**	**+0.5**
GAR	**Garm**	**1.92**	**247**	⇑*i*P	**Pb**	**13 34 22.0**	**-0.3**
GAR				⇑*i*S	**Sg**	**13 34 47.8**	**-0.4**
TRKS	**Terek-Say**	**2.06**	**328**	⇑*i*P	**Pb**	**13 34 23.3**	**-1.5**
TRKS				⇑*i*S	**Sb**	**13 34 50.1**	**-0.8**
MRKS	**Merke**	**3.00**	**9**	Pg	**Pg**	**13 34 44.2**	**0.0**
	3.9nm,0.4s						
MRKS				Lg	Lg	13 35 21.7	
	12nm,0.5s						
MRKS	**Merke**	**3.00**	**9**	*e*P	**Pg**	**13 34 43.9**	**-0.3**
	3.2nm,0.5s						
MRKS				*e*S	**Sg**	**13 35 21.7**	**-1.3**
	13nm,0.4s						
IUG	**Iuzhnay**	**3.05**	**322**	Pg	**Pg**	**13 34 45.3**	**+0.2**
	7.4nm,0.6s						
IUG				Lg	Lg	13 35 23.2	
	18nm,0.5s						
BRLS	**Borolday**	**3.85**	**328**	Pg	**Pg**	**13 34 58.4**	**-1.9**
	2.3nm,0.8s						
BRLS				Lg	Lg	13 35 47.5	
	5.7nm,0.9s						
BRLS	**Borolday**	**3.85**	**328**	*e*P	**Pb**	**13 34 57.2**	**+2.1**
	0.2nm,0.1s						
BRLS				*e*S	**Sb**	**13 35 44.5**	**+2.4**
	3.4nm,0.4s						

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*SOF **22** 13:35:59.6,41°.78N±0°.02×22°.20E±0°.05,h20km±20km,*
MD2.7/6
*SKO **22** 13:36:01.4,41°.79N×22°.26E,h15km,ML2.8*
*BEO **22** 13:36:01.9±0.4,41°.79N×22°.25E,h0km±2km,ML1.9/13*
ISC 22 13:36:01.4±1.0,**41°.80N**±0°.02×**22°.25E**±0°.02,**h13**km±9km,
n34,σ0§81/65,1C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.54**	**153**	⇑*i*Pg	**Pg**	**13 36 11.8**	**-0.1**
VAY				*i*Sg	**Sg**	**13 36 18.8**	**-0.2**
VAY				*e*Lg	Lg	13 36 19.0	
	comp=E,2μm,0.6s						
VAY				*e*Lg	Lg	13 36 19.2	
	comp=N,1μm,0.6s						
SKO	**Skopje**	**0.63**	**286**	*i*Pg	**Pn**	**13 36 16.1**	**0.0**
SKO				*i*Sg	**Sb**	**13 36 23.6**	**+0.6**
KKB	**Krupnik**	**0.66**	**86**	*i*Pg	**Pb**	**13 36 14.6**	**-0.2**
KKB				Sg	**Sb**	**13 36 23.4**	**-0.5**
KKB	**Krupnik**	**0.66**	**86**	*i*Pg	**Pb**	**13 36 14.8**	**0.0**
KKB				*i*Sg	**Sb**	**13 36 23.5**	**-0.3**
BOSS	**Bosilegrad**	**0.71**	**14**	*e*Pg	**Pg**	**13 36 15.2**	**-0.1**
BOSS				*e*Sg	**Sg**	**13 36 24.7**	**0.0**
KNT	**Kendrikon**	**0.80**	**142**	*i*Pg	**Pg**	**13 36 16.7**	**-0.2**
KNT				*i*Sg	**Sb**	**13 36 27.4**	**-0.6**
BARS	**Barje**	**1.06**	**343**	*i*Pg	**Pb**	**13 36 21.3**	**-0.4**
BARS				*i*Sg	**Sg**	**13 36 36.4**	**+0.6**
BARS	**Barje**	**1.06**	**343**	*e*Pg	**Pb**	**13 36 21.3**	**-0.4**
BARS				*e*Sg	**Sb**	**13 36 35.9**	**+0.3**
VTS	**Vitosha**	**1.10**	**42**	*i*Pg	**Pb**	**13 36 21.9**	**-0.4**
VTS				Sg	**Sn**	**13 36 38.1**	**+0.3**
VTS	**Vitosha**	**1.10**	**42**	*e*Pg	**Pb**	**13 36 22.0**	**-0.4**
VTS				*e*Sg	**Sg**	**13 36 37.0**	**+0.1**
PLNA	**Plana**	**1.10**	**52**	*i*Pg	**Pg**	**13 36 22.8**	**+0.1**
PLNA				Sg	**Sn**	**13 36 38.1**	**+0.2**
MMB	**Musomishta**	**1.15**	**102**	*i*Pg	**Pn**	**13 36 23.2**	**-0.1**
MMB				Sg	**Sn**	**13 36 38.3**	**-0.7**
MMB	**Musomishta**	**1.15**	**102**	*i*Pg	**Pg**	**13 36 23.3**	**-0.3**
MMB				*i*Sg	**Sg**	**13 36 39.0**	**+0.4**
SRS	**Serrai**	**1.22**	**124**	*i*Pg	**Pg**	**13 36 24.7**	**-0.2**
SRS				*i*Sg	**Sg**	**13 36 40.4**	**-0.4**
SRS	**Serrai**	**1.22**	**124**	*e*Pg	**Pg**	**13 36 24.4**	**-0.5**
SRS				*e*Sg	**Sg**	**13 36 40.6**	**-0.1**
SOH	**Sokhos**	**1.28**	**139**	*i*Pg	**Pb**	**13 36 25.5**	**0.0**
SOH				*i*Sg	**Sg**	**13 36 42.7**	**-0.1**
THE	**Thessaloniki**	**1.29**	**155**	*i*Pg	**Pb**	**13 36 25.3**	**-0.2**
OHR	**Ohrid**	**1.29**	**238**	*i*Pg	**Pg**	**13 36 26.4**	**+0.2**
OHR				*i*Sg	**Sg**	**13 36 44.5**	**+1.5**
OHR				*e*Lg	Lg	13 36 45.2	
	comp=N,48nm,0.8s						
OHR				*e*Lg	Lg	13 36 46.1	
	comp=E,35nm,0.5s						
BLSH	**Balsha**	**1.30**	**36**	*i*Pg	**Pg**	**13 36 27.1**	**+0.6**
BLSH				Sg	**Sg**	**13 36 44.8**	**+1.4**
ZAPS	**Zavoj**	**1.50**	**11**	*e*Pg	**Pb**	**13 36 29.2**	**+0.1**
ZAPS				*e*Sg	**Sg**	**13 36 49.6**	**-0.1**
PGB	**Panagyurishte**	**1.60**	**63**	*e*Pg	**Pg**	**13 36 31.9**	**-0.2**
PGB				Sg	**Sg**	**13 36 53.2**	**+0.4**
SELS	**Selova**	**1.65**	**330**	*e*Pg	**Pg**	**13 36 32.6**	**-0.4**
SELS				*e*Sg	**Sg**	**13 36 54.2**	**-0.2**
LIT	**Litokhoron**	**1.71**	**174**	*i*Pn	**Pb**	**13 36 33.0**	**+0.3**
BLKB	**Belogradchik**	**1.85**	**10**	*e*Pn	**Pg**	**13 36 36.2**	**-0.7**
BLKB				*e*Sn	**Sb**	**13 36 59.1**	**+1.0**
RZN	**Rozhen**	**1.87**	**92**	*e*Pg	**Pg**	**13 36 38.1**	**+0.9**
RZN				Sg	**Sg**	**13 37 01.5**	**+0.1**
PLD	**Plovdiv**	**1.90**	**79**	*e*Pg	**Pb**	**13 36 35.1**	**-0.7**
PLD				*e*Sg	**Sb**	**13 36 59.3**	**-0.1**
MPEP	**Malo Peshtene**	**1.90**	**35**	*i*Pg	**Pg**	**13 36 38.3**	**+0.4**
MPEP				Sg	**Sg**	**13 37 03.4**	**+0.8**
ZAGS	**Zajecar**	**2.01**	**360**	*e*Pn	**Pn**	**13 36 36.3**	**+1.3**
ZAGS				*e*Sn	**Sb**	**13 37 04.1**	**+1.3**
GOCS	**Kraljevo Serbi**	**2.03**	**331**	*e*Pg	**Pb**	**13 36 38.0**	**-0.2**
GOCS				*e*Sg	**Sg**	**13 37 07.7**	**+1.0**
BORS2	**Bor- Borsko je**	**2.29**	**356**	*e*Pn	**Pb**	**13 36 40.9**	**-1.8**
BORS2				*e*Sn	**Sb**	**13 37 10.7**	**-0.3**
IVAS	**Ivanjica**	**2.35**	**320**	*e*Pn	**Pb**	**13 36 42.4**	**-1.3**
IVAS				*e*Sn	**Sb**	**13 37 10.8**	**-1.9**
GRUS	**Gruza**	**2.37**	**332**	*e*Pn	**Pn**	**13 36 42.0**	**+2.0**
GRUS				*e*Sn	**Sb**	**13 37 12.3**	**-0.9**
KUBS	**Kucevo**	**2.64**	**351**	*e*Pn	**Pb**	**13 36 46.3**	**-2.3**
KUBS				*e*Sn	**Sb**	**13 37 18.9**	**-2.1**
MDVR	**Moldovita**	**3.00**	**353**	*e*Pn	**Pn**	**13 36 49.1**	**+0.3**

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*HEL **22** 13:41:11.3±0.2,63°.77N×20°.09E,h0km,ML1.7,Explosion*
UPP 22 13:41:11.1±0.1,**63°.76N**×**20°.09E,h0**km,**ML1.5,**
Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**0.29**	**64**	P	Pg	13 41 16.8	+0.1
UMAU				S	Sg	13 41 21.0	+0.6
UMAU	**Umeaa**	**0.29**	**64**	PG	Pg	13 41 16.7	0.0
	baz=250						
UMAU				SG	Sg	13 41 20.8	+0.5
HUSU	**Husum**	**0.57**	**224**	P	Pg	13 41 22.0	0.0
HUSU	**Husum**	**0.57**	**224**	PG	Pg	13 41 22.0	0.0
	baz=40						
HUSU				SG	Sg	13 41 29.3	-0.1
BREU	**Bredtraesk**	**0.69**	**282**	P	Pg	13 41 23.9	-0.3
ODEU	**Stanfors**	**0.71**	**22**	P	Pg	13 41 24.4	-0.3
SVAU	**Svanoeiden**	**0.77**	**343**	P	Pg	13 41 25.8	-0.1
BURU	**Burvik**	**1.00**	**34**	P	Pg	13 41 29.9	-0.4
BURU	**Burvik**	**1.00**	**34**	PG	Pg	13 41 29.6	-0.8
BURU				SB	Sg	13 41 43.8	+0.5
VAF	**Ylistaro**	**1.36**	**121**	*e*P	Pg	13 41 36.4	-0.8
VAF	**Ylistaro**	**1.36**	**121**	PG	Pg	13 41 36.3	-0.9
	baz=303						
VAF				MSG		13 41 52.8	
	comp=Z,5.4nm,0.2s						
VAF				SG	Sg	13 41 54.9	+0.1
SOLU	**Sollefteaa**	**1.37**	**249**	P	Pg	13 41 36.3	-1.0
HEMU	**Hemsoen**	**1.43**	**222**	P	Pn	13 41 36.8	-1.5
HEMU	**Hemsoen**	**1.43**	**222**	PG	Pn	13 41 36.8	-1.4
HEMU				SG	Sg	13 41 55.8	-1.1
SJUU	**Sjulsmark**	**1.88**	**20**	*e*P	Pn	13 41 44.9	+0.6
OBF0	**Syolatti, Pyha**	**1.96**	**66**	PG	Pn	13 41 46.6	+1.0
	baz=253						
OBF0				MSG		13 42 09.9	
	comp=Z,6.9nm,0.2s						
OBF0				SG	Sb	13 42 12.9	+0.2
OUF	**Merijarvi**	**2.13**	**71**	PB	Pn	13 41 47.8	0.0
	baz=253						
OUF				MSG		13 42 14.5	
	comp=Z,5.3nm,0.2s						
OUF				SG	Sb	13 42 16.6	-0.8
KPF	**Kankaanpaa**	**2.13**	**154**	PG	Pb	13 41 49.8	-0.8
KPF				MSG		13 42 15.1	
	comp=Z,3.0nm,0.2s						
KPF				SG	Sb	13 42 18.1	+0.6
OBF4	**Vikkela, Lumij**	**2.43**	**62**	PB	Pn	13 41 52.6	+0.7
OBF4				MSG		13 42 23.1	
	comp=Z,3.1nm,0.2s						
OBF4				SG	Sb	13 42 26.3	+0.2
KALU	**Kalix**	**2.53**	**32**	PB	Pn	13 41 54.7	+1.3
KALU				SB	Sn	13 42 26.3	+1.5
KEF	**Keuruu**	**2.70**	**124**	*e*P	Pn	13 41 56.2	+0.5
KEF	**Keuruu**	**2.70**	**124**	PB	Pb	13 41 58.4	-1.9
	baz=304						
KEF				MSG		13 42 31.4	
	comp=Z,2.5nm,0.2s						
KEF				SG	Sb	13 42 33.5	-0.4
OUL	**Oulu**	**2.85**	**59**	SN	Sn	13 42 33.7	+1.0
RAF	**Rauma**	**2.85**	**163**	*e*P	Pn	13 41 58.9	+1.2
RAF	**Rauma**	**2.85**	**163**	PB	Pb	13 42 00.4	-2.3
RAF				MSG		13 42 35.8	
	comp=Z,2.4nm,0.2s						
RAF				SG	Sb	13 42 38.0	-0.2
SUF	**Sumiainen**	**2.93**	**108**	PG	Pb	13 42 03.0	-1.2
SUF				MSG		13 42 37.8	
	comp=Z,0.9nm,0.2s						
ERTU	**Ertsjaerv**	**2.95**	**17**	PB	Pn	13 42 00.3	+1.2
ERTU				SB	Sn	13 42 36.8	+1.7
TOF	**Tornio**	**2.95**	**36**	PB	Pn	13 42 00.5	+1.4
TOF				SB	Sn	13 42 37.0	+1.9
TOF				MSG		13 42 37.8	
	comp=Z,1.6nm,0.2s						
KAF	**Kangasniemi**	**3.29**	**117**	SG	Sg	13 42 55.0	-1.5
AAL	**Aland**	**3.59**	**181**	*e*P	Pn	13 42 08.4	+0.5
FIA0	**FINESS Array S**	**3.61**	**127**	PG	Pb	13 42 16.5	+0.8
RNF	**Rovaniemi**	**3.80**	**38**	PN	Pn	13 42 11.2	+0.5
	baz=220						
RNF				SN	Sn	13 42 54.7	-1.4
MEF	**Metsahovi**	**4.09**	**148**	PB	Pb	13 42 20.7	-3.1

RSNC 22 13:47:07.0±0.0,**7°N**±2°×**7°3W**±°,**h148**km±2km,**M2.4,mb3.6,**
ML2.2,MLv2.8,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**200**	P	Pn	13 47 27.3	-0.1
BARC	**Barichara**	**0.21**	**200**	P	Pn	13 47 27.2	-0.2
BARC				S	Sn	13 47 42.2	-0.7
PAMC	**Pamplona, Colo**	**0.68**	**37**	P	Pn	13 47 27.7	-2.1
PAMC				P		13 47 28.2	
PAMC				P		13 47 28.4	
PAMC				S	Sn	13 47 47.9	+0.8
PAMC	**Pamplona, Colo**	**0.68**	**37**	P	Pn	13 47 29.9	+0.1
RUSC	**La Rusia**	**0.89**	**178**	P	Pn	13 47 31.3	0.0
RUSC				P		13 47 31.5	
RUSC				P		13 47 31.7	
RUSC				S	Sn	13 47 50.0	+0.2
RUSC	**La Rusia**	**0.89**	**178**	P	Pn	13 47 31.2	-0.1
RUSC				S	Sn	13 47 49.5	-0.3
PTBC	**PUERTO BERRIO,**	**1.36**	**260**	P	Pn	13 47 34.1	-0.9
PTBC				P		13 47 34.3	
PTBC				S	Sn	13 47 54.9	-1.5
PTBC	**PUERTO BERRIO,**	**1.36**	**260**	P	Pn	13 47 33.8	-1.2
PTBC				S	Sn	13 47 54.3	-2.1
OCAC	**Ocana**	**1.45**	**352**	P	Pn	13 47 35.9	-0.2
OCAC				S	Sn	13 47 57.8	-0.6
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	13 47 40.2	-0.3
ZARC				P		13 47 40.6	
ZARC				S	Sn	13 48 06.3	+0.1
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	13 47 40.1	-0.4
ZARC				S	Sn	13 48 05.5	-0.7
ROSC	**El Rosal**	**2.28**	**212**	P	Pn	13 47 47.5	+1.7
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	13 47 49.4	+1.3
HELC				S	Sn	13 48 20.4	+0.7
UREC	**San Jos de Ur**	**2.59**	**292**	P	Pn	13 47 48.1	-1.0
UREC				S	Sn	13 48 19.2	-2.4
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	13 47 52.7	+1.3
GUY2C				P	Sn	13 48 28.6	+3.1
GUY2C				S		13 48 30.7	
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	13 47 52.5	+1.1
GUY2C				S	Sn	13 48 26.5	+1.0
PTGC	**Puerto Gaitan,**	**2.75**	**159**	P	Pn	13 47 50.3	-0.9
PTGC				S	Sn	13 48 23.3	-2.0
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	Pn	13 47 56.0	+1.2
CBOC				S	Sn	13 48 32.4	+0.7
DBBC	**Dabeiba**	**3.09**	**274**	P	Pn	13 47 55.6	+0.1
DBBC				S	Sn	13 48 31.3	-1.6
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	13 48 02.1	+0.5
ORTC				S	Sn	13 48 45.7	+1.7
SJCC	**San Jacinto, C**	**3.70**	**327**	P	Pn	13 48 01.1	-2.3
SJCC				S	Sn	13 48 43.6	-3.6
URMC	**La Uribe, Meta**	**3.74**	**200**	P	Pn	13 48 04.9	+1.0
URMC				S	Sn	13 48 49.2	+1.1
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	13 48 17.9	-2.6

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*IDC **22** 14:03:49.9±0.9,19°.35S×169°.53E,h0km,mb4.2/11,*
mbtmp4.2/13,ML3.8/2,MS3.6/22,Error ellipse:
s-maj=28.1km s-min=18.9km az=79.0
*NEIC **22** 14:03:51.2±1.2,19°.66S±0°.08×169°.81E±0°.09,h13km±3km,*
mb4.6/20,Error ellipse: s-maj=12.2km s-min=10.4km
az=120.0
ISC 22 14:03:50.8±0.5,**19°.63S**±0°.06×**169°.70E**±0°.08,**h10**km,**n75,**
σ1§57/47,mb4.5/22,MS3.7/21,4C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.64**	**215**		**Pn**	**14 04 46.8**	**-0.4**
DZM	**Mont Dzumac**	**3.89**	**231**	Pn	**Pn**	**14 04 51.5**	**+0.6**
	3.8nm,0.3s,baz=125,slow=17,SNR=142						
DZM				Sn	**Sn**	**14 05 33.9**	**-2.8**
	10nm,0.3s,baz=9.2,slow=21,SNR=4.5						
	12nm,0.4s						
ONTNC	**Quen Toro**	**4.04**	**228**		**Pn**	**14 04 53.1**	**+0.4**
SANVU	**Saraoutou**	**4.79**	**330**		**Pn**	**14 05 04.0**	**+0.9**
MSVF	**Nonsavu**	**8.14**	**78**		**Pn**	**14 05 47.7**	**-1.5**
HNR	**Honiara**	**13.85**	**316**	LR	LR	14 12 04.7	
	comp=Z,57nm,19.9s,baz=153,slow=37						
RAO	**Raoul Island**	**14.78**	**133**	LR	LR	14 11 32.7	
	comp=Z,177nm,20.4s,baz=285,slow=31						
ARMA	**Armidale**	**19.56**	**233**	P	**P**	**14 08 18.8**	**-0.1**
URZ	**Urewera**	**19.65**	**162**	P	**Pn**	**14 08 23.8**	**+2.6**
	0.4nm,0.3s,baz=326,slow=7.3,SNR=4.9						
	27nm,0.9s						
BKZ	**Black Stump Fm**	**20.33**	**165**	P	**P**	**14 08 26.1**	**-1.2**
BKZ				IAmb	IAmb	14 08 33.8	
	comp=Z,28nm,0.8s						
MRZ	**Mangatainoka R**	**21.56**	**168**	P	**P**	**14 08 40.5**	**+0.1**
PMG	**Port Moresby**	**24.04**	**292**	P	**P**	**14 09 07.2**	**+0.9**
PMG				IAmb	IAmb	14 09 22.8	
	comp=Z,35nm,1.1s						
STKA	**Stephens Creek**	**28.01**	**239**	P	**P**	**14 09 42.2**	**+0.1**
STKA	**Stephens Creek**	**28.01**	**239**	P	**P**	**14 09 42.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=81,slow=7.4,SNR=6.9						
STKA				LR	LR	14 20 27.2	
	comp=Z,199nm,20.1s,baz=52,slow=36						
	comp=Z,1.1nm,0.7s						
RAR	**Rarotonga**	**28.63**	**98**	LR	LR	14 18 14.8	
	comp=Z,37nm,21.3s,baz=253,slow=30						
WR8	**Warramunga Arr**	**33.09**	**263**	P	**P**	**14 10 26.3**	**-0.8**
WR8				IAmb	IAmb	14 10 43.3	
	comp=Z,5.3nm,1.0s						
WB0	**Warramunga Arr**	**33.20**	**264**	P	**P**	**14 10 27.3**	**-0.9**
WB0				IAmb	IAmb	14 10 33.4	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**33.24**	**263**	IAmb	IAmb	14 10 35.0	
	comp=Z,0.3nm,1.0s						
WRA	**Warramunga Arr**	**33.24**	**263**	P	**P**	**14 10 27.8**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=90,slow=8.5,SNR=21						
WRA				LR	LR	14 22 08.8	
	comp=Z,77nm,18.3s,baz=217,slow=33						
	comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**33.46**	**257**		**P**	**14 10 30.0**	**-0.3**
ASAR	**Alice Springs**	**33.46**	**257**	P	**P**	**14 10 29.7**	**-0.7**
ASAR	**Alice Springs**	**33.46**	**257**	P	**P**	**14 10 30.2**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=85,slow=9.0,SNR=68						
ASAR				LR	LR	14 23 57.4	
	comp=Z,138nm,18.1s,baz=86,slow=36						
	comp=Z,4.3nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**38.00**	**355**	T	T	14 51 26.0	
	baz=181,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**38.01**	**355**	T	T	14 51 24.9	
	baz=181,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.02**	**355**	T	T	14 51 26.1	
	baz=181,slow=76,SNR=7.8						
TBI	**Tubuai**	**38.09**	**103**	*e*LQ	LQ	14 19 55.3	
	comp=Z,1μm,26.5s						
PPT2	**Papeete2**	**38.59**	**94**	*e*LQ	LQ	14 20 06.8	
	comp=Z,318nm,31.2s						
PPT2				*e*LR	LR	14 21 36.0	
	comp=Z,95nm,25.0s						
PPT2				*e*LR	LR	14 21 38.5	
	comp=Z,97nm,25.5s						
PPT	**Papeete**	**38.59**	**94**	LR	LR	14 26 36.9	
	comp=Z,61nm,18.9s,baz=301,slow=35						
FORT	**Forrest**	**39.08**	**245**	P	**P**	**14 11 17.9**	**-0.4**
FORT				IAmb	IAmb	14 11 18.7	
	comp=Z,7.0nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**39.20**	**356**	T	T	14 52 56.3	
	baz=182,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**39.20**	**356**	T	T	14 52 56.7	
	baz=182,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**39.22**	**356**	T	T	14 52 57.7	
	baz=182,slow=76,SNR=6.0						
FAKI	**Fak Fak**	**40.16**	**290**	P	**P**	**14 11 27.2**	**-0.3**
GUMO	**Guam**	**41.08**	**322**	LR	LR	14 26 14.9	
	comp=Z,68nm,21.3s,baz=146,slow=33						
FITZ	**Fitzroy Crossi**	**41.64**	**265**		**P**	**14 11 40.0**	**+0.3**
MBWA	**Marble Bar**	**46.71**	**259**	P	**P**	**14 12 20.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.42**	**243**	LR	LR	14 33 07.0	
	comp=Z,213nm,18.7s,baz=65,slow=36						
TAOE	**Nuku Hiva Isla**	**49.61**	**85**	*e*LR	LR	14 26 45.9	
	comp=Z,42nm,25.1s						
JCJ	**Chichijima**	**53.56**	**329**	LR	LR	14 33 05.5	
	comp=Z,39nm,20.1s,baz=298,slow=33						
VNDA	**Vanda**	**58.05**	**182**	P	**P**	**14 13 41.8**	**-1.9**
VNDA	**Vanda**	**58.05**	**182**	P	**P**	**14 13 47.1**	**+3.4**
	comp=Z,1.5nm,0.9s,baz=0.6,slow=7.8,SNR=6.5						
VNDA				LR	LR	14 35 40.5	
	comp=Z,53nm,18.2s,baz=3.0,slow=33						
	comp=Z,1.5nm,0.9s						
SBA	**Scott Base**	**58.28**	**181**		**P**	**14 13 43.8**	**-1.5**
SBA				IAmb	IAmb	14 13 51.8	
	comp=Z,9.9nm,0.9s						
MJAR	**Matsushiro Arr**	**63.30**	**332**	P	**P**	**14 14 19.4**	**-0.6**
MJAR				IAmb	IAmb	14 14 36.

comp=Z,0.8nm,0.6s
VNA3 Neumayer Olymp 89.36 180 ⇑P P 14 16 42.4 -4.9
comp=Z,3.2nm,0.8s
VNA2 Neumayer--Watz 89.66 181 ⇑P **P 14 16 47.3 -1.4**
comp=Z,3.2nm,0.6s,baz=174,slow=4.8
ILAR Eielson Array 90.47 17 LR LR 14 52 08.5
comp=Z,49nm,18.7s,baz=180,slow=32
DLBC Dease Lake 92.19 27 LR LR 14 53 38.6
comp=Z,569nm,18.5s,baz=250,slow=32
ANMO Albuquerque 96.16 55 LR LR 14 56 41.4
comp=Z,37nm,18.2s,baz=102,slow=33
TXAR Lajitas Array 96.57 61 LR LR 14 54 52.5
comp=Z,28nm,18.2s,baz=5.5,slow=32
MKAR Makanchi Array 102.32 315 P **Pdif 14 17 46.9 +0.3**
comp=Z,0.3nm,0.7s,baz=111,slow=6.3,SNR=4.0
GERES GERESS Array B 145.04 332 PKP **PKPbc 14 23 26.0 -1.9**
comp=Z,1.7nm,0.8s,baz=29,slow=3.0,SNR=8.9

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*UPP **22** 14:13:42.4±0.1, 67°.90N×20°.26E, h0km, ML2.5, Confirmed Induced event*
*HEL **22** 14:13:43.0±0.4, 67°.81N×20°.26E, h0km, ML1.3, Suspected explosion*
ISC 22 14:13:41.5±1.0, **67°.82N**±0°.03×**20°.18E**±0°.04, **h0**km, **n18**, σ0s**77**/26, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**24**	P	**Pg**	**14 13 43.5**	**-0.8**
KUA				S	**Sg**	**14 13 45.0**	**-1.2**
KOVU	**Salmi**	**0.40**	**359**	P	**Pg**	**14 13 49.5**	**+0.4**
LANU	**Lannavaara**	**0.72**	**71**	P	**Pb**	**14 13 55.9**	**-1.1**
LANU	**Lannavaara**	**0.72**	**71**	PG	**Pg**	**14 13 55.5**	**+0.2**
LANU				SG	**Sg**	**14 14 04.8**	**+0.1**
SALU	**Saltoluokta**	**0.78**	**236**	P	**Pb**	**14 13 57.2**	**-0.6**
MASU	**Masugnsbyn**	**0.79**	**117**	P	**Pb**	**14 13 57.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.21**	**11**	PG	**Pn**	**14 14 05.8**	**+0.2**
KIF				SG	**Sg**	**14 14 20.6**	**+0.2**
KIF				MSG		14 14 20.9	
comp=Z,3.5nm,0.2s
PAJU Pajala 1.39 124 SN **Sn 14 14 27.4 +0.3**
HEF Hetta 1.43 64 PG **Pb 14 14 08.6 -0.4**
baz=245
HEF MSG 14 14 25.5
comp=Z,1.3nm,0.2s
HEF SB **Sg 14 14 27.1 -0.3**
ERTU Ertsjaerv 1.50 147 PN **Pg 14 14 10.6 +0.5**
ERTU SN **Sn 14 14 31.0 +1.3**
KTK1 Kautokeino 1.65 42 PG **Pg 14 14 12.9 -0.1**
KTK1 SN **Sg 14 14 35.0 +0.7**
TRO Tromso 1.88 347 SG **Sg 14 14 41.2 -0.4**
KALU Kalix 2.34 146 PG **Pb 14 14 23.5 -0.8**
KALU SG **Sb 14 14 54.0 +0.3**
TOF Tornio 2.39 135 MSG 14 14 53.0
comp=Z,1.2nm,0.2s
TOF SG **Sg 14 14 56.9 -1.3**
RNF Rovaniemi 2.58 115 PG **Pb 14 14 27.6 -0.9**
RNF SG **Sb 14 15 00.8 +0.1**
ARA0 ARCESS Array S 2.60 46 SG **Sb 14 15 01.6 +0.2**
RAJF Raja-Jooseppi 3.11 74 SG **Sb 14 15 16.2 +0.2**
KEV Kevo 3.15 49 SN **Sn 14 15 12.2 +1.7**

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*IDC **22** 14:45:07.6±2.5, 60°.13N×154°.38W, h116km±41km, mb3.8/4, mbtmp4.1/7, Error ellipse: s-maj=55.2km s-min=18.6km az=98.0*
*NEIC **22** 14:45:10.8±0.9, 60°.11N±0°.05×153°.5W±0°.1, h163km±4km, Error ellipse: s-maj=8.6km s-min=7.2km az=105.0*
*AEIC **22** 14:45:11.7±0.9, 60°.09N±0°.04×153°.5W±0°.1, h163km±5km, ML3.3, ML3.6/172(NEIC), Error ellipse: s-maj=8.5km s-min=5.0km az=73.0*
ISC 22 14:45:10.0±0.9, **60°.07N**±0°.04×**153°.45W**±0°.04, **h170**km±6km, **n217**, σ0s**91**/192, **mb4.2**/4, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.17**	**118**		**Pn**	**14 45 32.5**	**-0.3**
ILSW				IAML		14 45 51.6	
comp=E,192nm,1.0s
ILSW IAML 14 45 53.7
comp=N,190nm,0.7s
ILSW Iliamna Southw 0.17 118 **Sn 14 45 49.2 -1.1**
ILS Iliamna Low So 0.22 119 **Pn 14 45 32.7 -0.2**
ILS **Sn 14 45 50.3 0.0**
IVE Iliamna Volcan 0.22 102 **Pn 14 45 32.9 0.0**
IVE **Sn 14 45 49.9 -0.5**
O20K Slope Mountain 0.41 87 **Pn 14 45 33.8 +0.4**
O20K **Sn 14 45 51.3 0.0**
OPT Oil Point 0.43 165 **Pn 14 45 33.9 +0.5**
P19K Oil Pt 0.43 165 **Pn 14 45 33.7 +0.3**
P19K Oil Pt 0.43 165 **Sn 14 45 51.3 0.0**
O19K Port Alsworth 0.46 287 **Pn 14 45 32.9 -0.5**
O19K IAML 14 45 50.2
comp=E,566nm,0.5s
O19K IAML 14 45 50.8
comp=N,528nm,0.5s
RDWB Redoubt West 0.52 35 **Pn 14 45 34.1 +0.2**
RDWB **Sn 14 45 51.0 -1.3**
RDJH Redoubt Jeurge 0.62 31 **Pn 14 45 34.5 +0.1**
RDJH **Sn 14 45 52.1 -1.1**
DFR Drift River 0.65 35 **Pn 14 45 34.5 0.0**
DFR **Sn 14 45 52.1 -1.3**
AUL Augustine Lava 0.69 179 **Pn 14 45 35.1 +0.5**
AUL **Sn 14 45 53.6 +0.2**
AUW Augustine West 0.70 181 **Pn 14 45 35.2 +0.5**
AU22 Augustine Moun 0.70 176 **Sn 14 45 53.4 -0.1**
HOM Homer 1.00 113 **Pn 14 45 37.5 +0.9**
HOM IAML 14 45 59.9
comp=N,1μm,0.8s
P18K Big Mountain, 1.13 234 **Pn 14 45 37.6 -0.2**
P18K Big Mountain, 1.13 234 **Sn 14 45 57.7 -1.5**
Q19K Cape Douglas, 1.15 185 **Pn 14 45 38.2 +0.3**
Q19K IAML 14 46 07.7
comp=E,1μm,1.0s
CNPM China Point 1.24 115 **Pn 14 45 39.5 +0.8**
CNPM IAML 14 46 01.4
comp=E,769nm,0.2s
CNPM IAML 14 46 02.0
comp=N,916nm,0.4s
SPCR Spurr Chakacha 1.29 28 **Pn 14 45 39.5 +0.3**
SPU Mount Spurr 1.31 31 **Pn 14 45 39.4 0.0**
BRLK Bradley Lake 1.32 102 **Pn 14 45 40.3 +0.8**
BRLK IAML 14 46 03.3
comp=N,1μm,0.3s
SPNN North Nagishla 1.36 15 **Pn 14 45 40.2 +0.3**
N18K Kilae Creek 1.36 298 **Pn 14 45 39.6 -0.2**
BRSE Bradley Lake S 1.40 102 **Pn 14 45 41.2 +1.0**
SYI Shuyak Island 1.56 159 **Pn 14 45 42.0 +0.3**
KAHC Katmai Hardscr 1.63 210 **Pn 14 45 42.7 +0.1**
STLK Strandline Lak 1.64 28 **Pn 14 45 42.7 +0.2**
STLK IAML 14 46 09.5
comp=E,102nm,0.6s
SLKM Skilak Lake 1.67 73 **Pn 14 45 42.9 +0.1**
SLKM IAML 14 46 06.9
comp=N,599nm,0.3s
SLKM IAML 14 46 08.8
comp=E,670nm,0.3s
KAHG Katmai Hook Gl 1.67 200 **Pn 14 45 43.3 +0.4**
KARR Katmai Rainbow 1.70 203 **Pn 14 45 43.6 +0.4**
KAWH Katmai 1.82 203 **Pn 14 45 44.6 +0.1**
M20K Styx River 1.83 5 **Pn 14 45 45.1 +0.5**
M18K Stony River 1.84 322 **Pn 14 45 44.1 -0.5**
O17K Koliganek Bris 1.86 263 **Pn 14 45 45.1 +0.3**
O22K Cooper Landing 1.90 76 **Pn 14 45 45.3 +0.1**
N17K Nushagak Hills 1.92 286 **Pn 14 45 45.6 +0.2**
KVTA Katmai Vly 10 1.94 210 **Pn 14 45 46.1 +0.4**
KAKN Katmai Knife C 1.96 206 **Pn 14 45 46.2 +0.2**
SEW Seward 2.00 87 **Pn 14 45 46.8 +0.5**
SEW IAML 14 46 13.9
comp=N,315nm,0.5s
SEW IAML 14 46 23.8
comp=E,216nm,0.6s
KABU Katmai Buttres 2.03 208 **Pn 14 45 47.3 +0.5**
ACHA Angle Creek He 2.10 208 **Pn 14 45 47.7 +0.1**
RC01 Rabbit Creek A 2.10 59 **Pn 14 45 47.3 -0.1**
RC01 IAML 14 46 16.4
comp=E,560nm,0.4s
RC01 IAML 14 46 16.4
comp=N,585nm,0.2s
SKT Skwentna 2.14 25 **Pn 14 45 48.3 +0.5**
SKT IAML 14 46 18.1
comp=N,310nm,0.6s
SKT IAML 14 46 18.1
comp=E,335nm,0.3s
ANCK Angle Creek 2.15 210 **Pn 14 45 48.5 +0.4**
Q16K King Salmon 2.15 231 **Pn 14 45 48.7 +0.6**
CNTC Contact Creek 2.20 216 **Pn 14 45 49.0 +0.2**
L19K White Mountain 2.23 343 **Pn 14 45 48.4 -0.6**
KDAK Kodiak Island 2.33 169 **Pn 14 45 49.5 -0.6**
KDAK IAML 14 46 21.4
comp=E,525nm,0.4s
KDAK IAML 14 46 22.7
comp=E,365nm,0.6s
KDAK Kodiak Island 2.33 169 P **Pn 14 45 49.3 -0.8**
comp=E,15nm,0.3s,baz=350,slow=9.4,SNR=249
KDAK S **Sn 14 46 18.4 -2.8**
comp=E,214nm,0.4s,baz=109,slow=18,SNR=25
M22K Willow 2.35 42 **Pn 14 45 50.2 0.0**
M17K Holitna River 2.37 306 **Pn 14 45 50.5 -0.1**
O16K Kokwok River B 2.39 261 **Pn 14 45 51.2 +0.4**
P16K Nushagak River 2.54 248 **Pn 14 45 53.3 +0.8**
P16K Nushagak River 2.54 248 IAML 14 46 28.1
comp=E,159nm,1.1s
P16K IAML 14 46 29.2
comp=N,124nm,0.9s
PMR Palmer 2.61 52 **Pn 14 45 52.5 -0.8**
PMR IAML 14 46 26.8
comp=E,246nm,0.5s
PMR IAML 14 46 27.0
comp=N,220nm,0.3s
PMR Palmer 2.61 52 P **Pn 14 45 52.7 -0.6**
PMR Palmer 2.61 52 S **Sn 14 46 24.6 -2.4**
PWL Port Wells 2.66 70 **Pn 14 45 53.5 -0.5**
PWL Port Wells 2.66 70 IAML 14 46 29.5
comp=E,371nm,0.5s
PWL IAML 14 46 29.6
comp=N,369nm,0.3s
L18K Granite Mounta 2.67 325 **Pn 14 45 53.9 -0.2**
L18K IAML 14 46 28.0
comp=N,46nm,0.9s
N16K Nishlik Lake 2.68 281 **Pn 14 45 54.7 +0.4**
PLK2 Peulik 2 2.75 214 **Pn 14 45 55.7 +0.6**
L22K Petersville 2.79 26 **Pn 14 45 55.7 +0.1**
GHO Glory Hole Cre 2.79 50 **Pn 14 45 55.0 -0.7**
GHO Glory Hole Cre 2.79 50 IAML 14 46 30.3
comp=N,325nm,0.4s
KNK Knik Glacier 2.80 59 **Pn 14 45 55.0 -0.7**
KNK Knik Glacier 2.80 59 IAML 14 46 30.7
comp=E,384nm,0.6s
KNK IAML 14 46 31.4
comp=N,370nm,0.3s
PLK3 Peulik 3 2.80 213 **Pn 14 45 56.1 +0.4**
PLK1 Peulik 1 2.80 217 **Pn 14 45 56.1 +0.5**
OHAK Old Harbor 2.85 178 **Pn 14 45 55.4 -0.9**
OHAK IAML 14 46 31.4
comp=N,307nm,0.4s
OHAK IAML 14 46 31.8
comp=E,270nm,0.4s
OHAK Old Harbor 2.85 178 P **Pn 14 45 55.2 -1.1**
OHAK Old Harbor 2.85 178 S **Sn 14 46 29.6 -2.7**
PLK4 Peulik 4 2.87 213 **Pn 14 45 57.0 +0.4**
PLK4 Peulik 4 2.87 213 IAML 14 46 36.4
comp=N,40nm,1.1s
PLK4 IAML 14 46 55.9
comp=E,42nm,1.1s
M16K Timber Creek 2.89 292 **Pn 14 45 57.2 +0.5**
PPLA Purkeypile 2.90 11 **Pn 14 45 57.7 +0.6**
PPLA IAML 14 47 04.6
comp=E,32nm,1.1s
P23K Montague Islan 3.03 89 **Pn 14 45 59.6 +1.1**
SML Sawmill 3.05 53 **Pn 14 45 57.9 -0.9**
SML IAML 14 46 35.2
comp=N,180nm,0.6s
SML IAML 14 46 36.8
comp=E,186nm,0.4s
L17K Donlin 3.14 313 **Pn 14 45 59.8 0.0**
GLI Glacier Island 3.25 73 **Pn 14 46 00.1 -1.1**
GLI Glacier Island 3.25 73 IAML 14 46 44.4
comp=N,238nm,0.5s
K20K Telida 3.32 355 **Pn 14 46 02.4 +0.4**
N15K Kwethluk River 3.33 275 **Pn 14 46 03.0 +0.8**
L16K Owhat River 3.38 302 **Pn 14 46 03.2 +0.4**
SCM Sheep Creek Mo 3.47 57 **Pn 14 46 03.8 -0.3**
SCM Sheep Creek Mo 3.47 57 IAML 14 46 47.4
comp=N,239nm,0.9s
HIN Hinchinbrook I 3.48 82 **Pn 14 46 04.8 +0.6**
FID Port Fidalgo 3.52 76 **Pn 14 46 03.9 -0.8**
SII Sitkinak Islan 3.54 187 P **Pn 14 46 04.3 -0.6**
SII Sitkinak Islan 3.54 187 S **Sn 14 46 44.8 -2.8**
K17K Iditarod 3.54 321 **Pn 14 46 04.9 +0.1**
K17K Iditarod 3.54 321 IAML 14 46 47.9
comp=N,23nm,1.2s
K17K IAML 14 46 48.3
comp=E,44nm,1.1s
WAT7 Susitna Watana 3.55 37 **Pn 14 46 04.9 -0.1**
WAT1 Susitna Watana 3.63 38 **Pn 14 46 05.9 -0.1**
M15K Kasigluk River 3.65 283 **Pn 14 46 06.8 +0.6**
MID Middleton Isla 3.65 97 **Pn 14 46 07.0 +0.8**
MID Middleton Isla 3.65 97 IAML 14 46 58.2
comp=E,74nm,1.1s
MID IAML 14 46 59.9
comp=N,69nm,0.9s
KTH Kantishna Hill 3.70 18 **Pn 14 46 06.8 -0.1**
KTH Kantishna Hill 3.70 18 IAML 14 46 58.6
comp=N,30nm,0.6s
KTH IAML 14 47 23.6
comp=E,30nm,0.8s
TRF Thorofare Moun 3.71 22 **Pn 14 46 07.2 0.0**
TRF Thorofare Moun 3.71 22 IAML 14 46 55.3
comp=N,54nm,0.6s
TRF IAML 14 46 55.7
comp=E,51nm,0.7s
WAT6 Susitna Watana 3.73 45 **Pn 14 46 07.0 -0.4**
J18K Innoko River 3.75 337 **Pn 14 46 07.2 -0.3**
EYAK Cordova Ski Ar 3.86 79 **Pn 14 46 09.6 +0.7**
EYAK Cordova Ski Ar 3.86 79 IAML 14 46 55.8
comp=N,68nm,0.9s
EYAK IAML 14 46 56.3
comp=E,92nm,0.5s
EYAK Cordova Ski Ar 3.86 79 P **Pn 14 46 09.6 +0.7**
EYAK Cordova Ski Ar 3.86 79 S **Sn 14 46 54.1 -0.8**
CHUM Lake Minchumin 3.87 7 **Pn 14 46 09.3 +0.3**
DIV Divide 3.93 71 **Pn 14 46 09.7 -0.2**
DIV Divide 3.93 71 IAML 14 46 59.3
comp=E,144nm,0.5s
KLU Klutina 3.96 66 **Pn 14 46 10.1 -0.1**
RND Reindeer 4.00 31 **Pn 14 46 10.5 -0.2**
RND Reindeer 4.00 31 IAML 14 46 59.4
comp=N,40nm,0.7s
RND IAML 14 47 00.0
comp=E,45nm,0.3s
O14K Tigyukauivet M 4.05 262 **Pn 14 46 12.2 +0.9**
M24K Tolsona, Glenn 4.08 57 **Pn 14 46 11.9 +0.1**
N14K Kuskokwak Cree 4.14 272 **Pn 14 46 13.0 +0.6**
N14K Kuskokwak Cree 4.14 272 IAML 14 47 37.3
comp=E,18nm,1.1s
N14K IAML 14 48 25.8
comp=N,19nm,1.2s
DHY Denali Highway 4.19 41 **Pn 14 46 13.2 0.0**
DHY Denali Highway 4.19 41 IAML 14 47 03.8
comp=E,129nm,0.5s
DHY IAML 14 47 05.0
comp=N,138nm,0.5s
BPAW Bear Paw Mtn. 4.21 15 **Pn 14 46 13.1 -0.3**
BPAW Bear Paw Mtn. 4.21 15 IAML 14 47 03.0
comp=N,17nm,0.5s
MCK McKinley 4.25 28 **Pn 14 46 14.0 0.0**
MCK McKinley 4.25 28 IAML 14 47 04.8
comp=E,26nm,0.6s
MCK IAML 14 47 08.6
comp=N,32nm,0.6s
M14K Bethel 4.28 283 **Pn 14 46 14.9 +0.7**
GOAT Goat Mountain 4.37 79 **Pn 14 46 15.8 +0.3**
RAGM Ragged Mountai 4.39 82 **Pn 14 46 16.5 +0.8**
CHIR Chirikof Islan 4.41 196 **Pn 14 46 14.8 -1.3**
CHIR Chirikof Islan 4.41 196 IAML 14 47 06.1
comp=N,62nm,0.5s
CHIR IAML 14 48 55.3
comp=E,49nm,0.7s
CHIR Chirikof Islan 4.41 196 P **Pn 14 46 16.1 +0.1**
BMRM Bremner River 4.46 74 **Pn 14 46 16.9 +0.1**
K15K Wolf Creek Mou 4.51 303 **Pn 14 46 17.9 +0.7**
BWN Browne 4.53 23 **Pn 14 46 17.7 +0.3**
BWN Browne 4.53 23 IAML 14 47 34.5
comp=E,43nm,0.8s
BWN IAML 14 48 03.7
comp=N,43nm,0.9s
KAIM Kayak Island 4.54 88 **Pn 14 46 19.1 +1.4**
KAIM Kayak Island 4.54 88 IAML 14 47 15.0
comp=E,56nm,0.9s
KAIM IAML 14 47 15.6
comp=N,51nm,1.2s
HMT Hamilton 4.59 83 IAML 14 47 16.1
comp=N,107nm,0.4s
N25K Chitina, Valde 4.60 67 **Pn 14 46 18.9 +0.4**
HARP HAARP 4.64 56 **Pn 14 46 19.5 +0.5**
J16K Anvik River 4.69 317 **Pn 14 46 19.1 -0.5**
L14K Kuka Creek 4.71 290 **Pn 14 46 20.7 +0.8**
L14K Kuka Creek 4.71 290 IAML 14 49 29.7
comp=N,9.2nm,1.1s
NICHA Nichawak Mount 4.74 84 **Pn 14 46 21.3 +1.0**
I20K Naaghedeneel 4.77 355 IAML 14 47 02.7
comp=N,27nm,0.9s
I20K IAML 14 47 44.2
comp=E,32nm,1.2s
PAX Paxson 4.80 49 **Pn 14 46 21.6 +0.5**
PAX Paxson 4.80 49 IAML 14 47 15.5
comp=N,82nm,0.4s
PAX IAML 14 47 18.3
comp=E,64nm,0.5s
SUCK Suckling Hills 4.84 86 **Pn 14 46 23.0 +1.4**
SUCK Suckling Hills 4.84 86 IAML 14 47 21.0
comp=E,28nm,0.5s
SUCK IAML 14 47 21.2
comp=N,74nm,0.5s
GLB Gilahina Butte 4.92 70 IAML 14 47 19.6
comp=N,81nm,0.7s
GLB IAML 14 47 21.2
comp=E,71nm,0.7s
VNSG Veniaminof 6 4.95 220 **Pn 14 46 23.1 -0.1**
GCSA Galena City Sc 4.96 343 **Pn 14 46 22.9 -0.2**
NEA2 Nenana 4.98 22 **Pn 14 46 22.7 -0.6**
NEA2 Nenana 4.98 22 IAML 14 47 20.8
comp=N,9.5nm,0.7s
NEA2 IAML 14 47 21.9
comp=E,11nm,0.8s
VRDI Verde Repeater 5.05 72 **Pn 14 46 25.3 +0.8**
VRDI Verde Repeater 5.05 72 IAML 14 47 23.8
comp=E,40nm,0.6s
WRH Wood River Hil 5.08 27 **Pn 14 46 24.1 -0.6**
WRH Wood River Hil 5.08 27 IAML 14 47 22.1
comp=N,14nm,0.7s
WRH IAML 14 47 29.9
comp=E,13nm,0.5s
KHIT Khitrov Hills 5.09 81 **Pn 14 46 25.8 +0.8**
MLY Manley 5.14 13 **Pn 14 46 24.8 -0.6**
WAX Waxell Ridge 5.29 81 **Pn 14 46 28.6 +1.1**
CCB Clear Creek Bu 5.29 27 **Pn 14 46 26.9 -0.5**
CCB Clear Creek Bu 5.29 27 IAML 14 47 28.8
comp=N,9.8nm,0.3s
CCB IAML 14 47 57.8
comp=E,14nm,1.0s
SNH Sunshine Point 5.31 84 IAML 14 47 30.8
comp=N,64nm,1.2s
SNH IAML 14 47 31.4
comp=E,56nm,0.6s
TGL Tana Glacier 5.31 78 **Pn 14 46 29.0 +1.2**
TGL Tana Glacier 5.31 78 IAML 14 47 32.1
comp=E,64nm,0.3s
HDA Harding Lake 5.31 32 **Pn 14 46 27.5 -0.2**
HDA Harding Lake 5.31 32 IAML 14 47 26.8
comp=N,52nm,0.5s
I23K Minto, Yukon-K 5.44 19 **Pn 14 46 28.9 -0.4**
BARK Barkley Ridge 5.47 82 **Pn 14 46 31.4 +1.5**
MENT Mentasta 5.48 54 **Pn 14 46 30.6 +0.8**
MENT Mentasta 5.48 54 P **Pn 14 46 30.7 +0.8**
COLA College 5.48 26 P **Pn 14 46 29.5 -0.3**
PTPK Patty Peak 5.52 74 **Pn 14 46 32.4 +1.7**
H18K Honhosa River 5.59 338 **Pn 14 46 31.2 0.0**
IL31 5.62 30 **Pn 14 46 31.5 -0.2**
ILAR Eielson Array 5.62 30 P **Pn 14 46 31.6 -0.1**
comp=N,18nm,0.4s,baz=221,slow=13,SNR=298
ILAR S **Sn 14 47 31.9 -4.0**
comp=N,7.1nm,0.7s,baz=220,slow=23,SNR=10
BAGL Bagley Icefiel 5.67 81 **Pn 14 46 34.2 +1.8**
DOT Dot Lake 5.71 47 **Pn 14 46 33.3 +0.3**
POKR Poker Plat Res 5.78 26 **Pn 14 46 33.8 0.0**
GRNC Granite Creek 5.84 78 **Pn 14 46 36.4 +1.6**
YAH Yahtse 5.84 82 **Pn 14 46 36.4 +1.5**
SCRK Sand Creek 5.93 45 **Pn 14 46 35.9 0.0**
RKAV Rock Avalanche 6.04 83 **Pn 14 46 39.5 +2.0**
H23K Yukon River 6.05 15 **Pn 14 46 36.9 -0.5**
CTGM Chitina Glacie 6.05 76 **Pn 14 46 39.2 +1.6**
CHNA Chernabura Isl 6.21 215 P **Pn 14 46 37.9 -1.6**
LOGN Logan Glacier 6.21 78 **Pn 14 46 41.0 +1.4**
CNBA Chernabura Isl 6.21 215 **Pn 14 46 37.3 -2.3**
L27K Beaver Creek, 6.31 57 **Pn 14 46 41.9 +1.0**
H24K Noodor Dome 6.32 21 **Pn 14 46 40.5 -0.5**
G21K Allakaket 6.48 360 **Pn 14 46 43.2 +0.2**
PRP Porcupine Dome 6.56 30 **Pn 14 46 43.9 -0.4**
G23K Bananza Creek 6.84 11 **Pn 14 46 47.5 -0.4**
DT1 Dutton Round H 6.87 228 **Pn 14 46 48.5 +0.2**
PNL Peninsula 7.09 87 **Pn 14 46 52.5 +1.4**
PNL Peninsula 7.09 87 P **Pn 14 46 52.3 +1.2**
H25L Birch Creek 7.11 26 **Pn 14 46 50.7 -0.6**
G24K Hadweenzic Riv 7.18 19 **Pn 14 46 51.3 -1.0**
COLD Coldfoot 7.33 10 **Pn 14 46 53.9 -0.4**
G25K Bearman Lake 7.48 23 **Pn 14 46 55.6 -0.7**
I27K Kandik River 7.75 39 **Pn 14 46 60.0 +0.1**
F24K Squaw Lake 7.87 16 **Pn 14 47 01.0 -0.5**
G26K Porcupine Rive 8.14 28 **Pn 14 47 04.0 -0.9**
F25K Christian Rive 8.30 21 **Pn 14 47 06.1 -1.0**
K29M Barlow Dome 8.40 56 **Pn 14 47 10.6 +2.1**
G27K Doyon Strip 8.57 33 **Pn 14 47 09.9 -0.8**
F26K Sheenjek River 8.68 24 **Pn 14 47 11.0 -1.1**
TOLK Toolik Lake Re 8.77 9 **Pn 14 47 14.2 +0.9**
E25K Arctic Village 8.78 20 **Pn 14 47 12.7 -0.8**
D20K Etivluk River 8.79 352 **Pn 14 47 14.4 +0.9**
INK Inuvik 11.92 38 P **Pn 14 47 55.8 +1.4**
comp=N,5.2nm,0.6s,baz=236,slow=13,SNR=26
ZALV Zalesovo Beam 57.19 323 P **P 14 54 40.4 +1.8**
comp=N,2.1nm,0.6s,baz=30,slow=7.0,SNR=7.8
comp=N,2.1nm,0.6s
KURK Kurchatov 61.85 325 P **P 14 55 12.2 +1.7**
BVAR Borovoye Array 61.90 332 P **P 14 55 12.0 +1.2**
comp=N,2.2nm,0.6s,baz=22,slow=5.1,SNR=11
comp=N,2.2nm,0.6s
KURBB Kurchatov Arra 61.96 325 P **P 14 55 12.2 +1.0**
comp=N,1.2nm,0.4s,baz=27,slow=6.5,SNR=1.9
comp=N,1.2nm,0.4s
MKAR Makanchi Array 64.24 321 P **P 14 55 27.4 +1.0**
comp=N,0.5nm,0.5s,baz=36,slow=7.6,SNR=8.3
comp=N,0.5nm,0.5s

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*CATAC **22** 14:46:25.9±0.5, 13°.N±3°.×8°.9W±°, h27km±2km, M4.2/14, MLv4.2/14, Error ellipse: s-maj=7.4km s-min=3.6km az=15.6, confirmed*
*SNET **22** 14:46:26.0±0.8, 13°.06N×89°.02W, h48km±8km, ML4.1*
*GCG **22** 14:46:28.1±0.8, 13°.21N×89°.07W, h53km±7km, MD3.9*
ISC 22 14:46:26.5±1.8, **13°.03N**±0°.09×**89°.04W**±0°.04, **h42**km±20km, **n81**, σ0s**45**/86, **5C-9D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.53**	**329**	*e*P	**Pn**	**14 46 37.9**	**+0.1**
LALI	**Alcalda de L**	**0.53**	**329**	*i*P	**Pn**	**14 46 38.1**	**+0.3**
LALI				*i*S	**Sn**	**14 46 45.5**	**-0.3**
LALI	**Alcalda de L**	**0.53**	**329**	P	**Pn**	**14 46 37.4**	**-0.4**
TECO	**Alcaldia de Te**	**0.57**	**26**	||*i*P	**Pn**	**14 46 37.8**	**-0.5**
TECO				*e*S	**Sn**	**14 46 46.5**	**-0.1**
TECO	**Alcaldia de Te**	**0.57**	**26**	S	**Sn**	**14 46 47.0**	**+0.4**
TECO	**Alcaldia de Te**	**0.57**	**26**	||P	**Pn**	**14 46 37.8**	**-0.5**
LFRS	**El Faro**	**0.59**	**358**	⇑*e*P	**Pn**	**14 46 38.3**	**-0.4**
PANCS	**Alcalda de**	**0.60**	**347**	*e*P	**Pn**	**14 46 38.2**	**-0.4**
PANCS	**Alcalda de**	**0.60**	**347**	S	**Sn**	**14 46 47.2**	**-0.1**
PANCS	**Alcalda de**	**0.60**	**347**	||P	**Pn**	**14 46 38.3**	**-0.4**
SNVI	**San Vicente**	**0.61**	**19**	*e*P	**Pn**	**14 46 38.6**	**-0.4**
LOMA	**Loma Larga**	**0.63**	**348**	*e*P	**Pn**	**14 46 38.8**	**-0.4**
LOMA	**Loma Larga**	**0.63**	**348**	P	**Pn**	**14 46 38.8**	**-0.4**
LOMA	**Loma Larga**	**0.63**	**348**	S	**Sn**	**14 46 48.7**	**+0.5**
UESV	**Universidad de**	**0.65**	**22**	*e*P	**Pn**	**14 46 39.0**	**-0.4**
UESV	**Universidad de**	**0.65**	**22**	P	**Pn**	**14 46 39.0**	**-0.4**
UESV	**Universidad de**	**0.65**	**22**	S	**Sn**	**14 46 49.2**	**+0.5**
PAVA	**Las Pavas**	**0.69**	**8**	*e*P	**Pn**	**14 46 39.7**	**-0.3**
PAVA	**Las Pavas**	**0.69**	**8**	S	**Sn**	**14 46 50.2**	**+0.5**
PAVA	**Las Pavas**	**0.69**	**8**	||P	**Pn**	**14 46 39.7**	**-0.3**
UDBS	**Universidad Do**	**0.69**	**351**	*e*P	**Pn**	**14 46 39.8**	**-0.1**
UDBS	**Universidad Do**	**0.69**	**351**	P	**Pn**	**14 46 39.9**	**-0.1**

UDBS	Universidad Do	0.69	351	S	Sn	14 46 49.8	+0.2
IGN	Direccin Gen	0.69	350	eP	Pn	14 46 39.8	-0.2
IGN	Direccin Gen	0.69	350	⇑P	Pn	14 46 40.0	0.0
IGN	Direccin Gen	0.69	350	S	Sn	14 46 49.7	0.0
MAGS	Ministerio de	0.69	340	eP	Pn	14 46 39.7	-0.3
TECA	Tecapa	0.70	48	⇓iP	Pn	14 46 39.8	-0.3
LBRS	Las Brisas	0.71	360	eP	Pn	14 46 40.1	-0.1
UESS	Universidad de	0.71	347	eP	Pn	14 46 40.1	-0.1
PMON	Piamonte	0.73	339	eP	Pn	14 46 40.2	-0.3
PMON	Piamonte	0.73	339	P	Pn	14 46 40.2	-0.3
PMON	Piamonte	0.73	339	S	Sn	14 46 50.7	0.0
SCLA	Alcaldia de Sa	0.74	24	eP	Pn	14 46 40.3	-0.2
SCLA	Alcaldia de Sa	0.74	24	S	Sn	14 46 51.8	+1.1
SCLA	Alcaldia de Sa	0.74	24	P	Pn	14 46 40.3	-0.2
JAYA	Jayaque - finc	0.74	327	eP	Pn	14 46 40.2	-0.5
JAYA	Jayaque - finc	0.74	327	iP	Pn	14 46 40.2	-0.5
JAYA				iS	Sn	14 46 50.5	-0.4
JAYA	Jayaque - finc	0.74	327	S	Sn	14 46 51.3	+0.4
JAYA	Jayaque - finc	0.74	327	P	Pn	14 46 40.2	-0.5
BOQS	Boqueron	0.74	342	eP	Pn	14 46 40.6	-0.2
PIC2	El Picacho	0.74	344	eP	Pn	14 46 40.8	0.0
PQSS	Presa 15 de Se	0.76	38	eP	Pn	14 46 40.6	-0.2
PQSS	Presa 15 de Se	0.76	38	S	Sn	14 46 51.3	+0.3
PQSS	Presa 15 de Se	0.76	38	P	Pn	14 46 40.6	-0.2
PACA	Pacayal	0.82	58	eP	Pn	14 46 41.7	-0.1
PACA				eS	Sn	14 46 54.3	+1.4
PACA	Pacayal	0.82	58	S	Sn	14 46 53.9	+1.0
PACA	Pacayal	0.82	58	P	Pn	14 46 41.3	-0.5
LCY	Lacayo	0.83	61	eP	Pn	14 46 41.5	-0.3
RANC	El Ranchito	0.84	61	eP	Pn	14 46 41.6	-0.3
BLLM	Bellamira	0.88	62	eP	Pn	14 46 42.2	-0.4
CEVE	Cerro Verde	0.98	325	eP	Pn	14 46 44.0	0.0
CEVE	Cerro Verde	0.98	325	P	Pn	14 46 44.0	0.0
CEVE	Cerro Verde	0.98	325	S	Sn	14 46 58.3	+1.5
SBLS	San Blas	0.99	325	eP	Pn	14 46 44.0	-0.1
SNJE	San Jose	1.00	327	eP	Pn	14 46 44.0	-0.2
RTR	El Retiro	1.05	326	eP	Pn	14 46 45.0	+0.1
UNIC	Universidad Ca	1.07	333	P	Pn	14 46 45.0	-0.1
UNIC	Universidad Ca	1.07	333	S	Sn	14 46 59.4	+0.6
CAHU	Cacacuatique	1.09	47	eP	Pn	14 46 45.0	-0.6
NUBE	Las Nubes	1.13	320	⇑eP	Pn	14 46 45.7	-0.3
NUBE	Las Nubes	1.13	320	iP	Pn	14 46 45.6	-0.3
NUBE				iS	Sn	14 47 00.2	-0.2
NUBE	Las Nubes	1.13	320	⇑P	Pn	14 46 45.7	-0.3
LLGN	La Laguna	1.13	5	S	Sn	14 47 00.1	-0.3
LLGN	La Laguna	1.13	5	P	Pn	14 46 45.3	-0.7
CNCH	Conchagua	1.20	78	eP	Pn	14 46 46.3	-0.7
CNCH	Conchagua	1.20	78	S	Sn	14 47 02.5	+0.3
CNCH	Conchagua	1.20	78	⇓P	Pn	14 46 46.3	-0.7
LOAL	Lomas de Alarc	1.20	323	eP	Pn	14 46 47.0	+0.1
LOAL	Lomas de Alarc	1.20	323	P	Pn	14 46 47.1	+0.1
LOAL	Lomas de Alarc	1.20	323	S	Sn	14 47 02.6	+0.5
FAME	Alcaldia de Sa	1.25	311	⇓P	Pn	14 46 47.3	-0.2
FAME	Alcaldia de Sa	1.25	311	S	Sn	14 47 03.3	+0.1
RBDL	Robledal	1.25	330	⇓eP	Pn	14 46 47.4	-0.3
MTO3	Montecristo	1.40	347	⇓iP	Pn	14 46 49.1	-0.7
MTO3	Montecristo	1.40	347	iP	Pn	14 46 49.1	-0.7
MTO3	Montecristo	1.40	347	P	Pn	14 46 49.1	-0.7
MTO3	Montecristo	1.40	347	S	Sn	14 47 06.7	-0.5
ESQI	Esquipulas	1.55	349	eP	Pn	14 46 51.4	-0.4
SARH	Santa Rosa de	1.76	9	iP	Pn	14 46 54.6	0.0
APG	El Apazote	2.40	325	iP	Pn	14 47 03.7	+0.1

*ASRS **22** 14:58:30.7±0.5, 47°N±3°×9°3E±°, h8km, MLh3.6/9, Error ellipse: s-maj=6.5km s-min=3.5km az=0.8, confirmed*
ISC 22 14:58:32.5±1.8, **47.18N**±0.10×**92.81E**±0.04, **h10**km, **n15**, σ2°48/28, **2C-2D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	Chagan-Uzun	4.16	316	Pn	Pn	14 59 34.0	-2.1
CUR				Pg	Pb	14 59 47.3	+1.5
CUR				Sg	Sg	15 00 45.9	0.0
TEL	Teeli	4.21	337	Pn	Pn	14 59 37.5	+0.8
TEL				Pg	Pg	14 59 51.0	-2.1
TEL				Sg	Sg	15 00 50.4	+2.8
DGZ	Jazzator, Alta	4.38	307	Pn	Pn	14 59 36.6	-2.5
DGZ				Pg	Pb	14 59 50.3	+0.8
DGZ				Sg	Sg	15 00 49.1	-3.9
KNGR	Kungurtug, Tuv	4.62	40	Pg	Pb	14 59 53.7	0.0
KNGR				Sg	Sg	15 01 04.2	+3.4
AKAR	Aktash	4.66	314	Pn	Pn	14 59 41.6	-1.3
AKAR				Pg	Pb	14 59 57.0	+2.7
AKAR				Sg	Sg	15 01 00.9	-0.9
ULGR	Ulagan, Altay	4.70	319	Pn	Pn	14 59 46.0	+2.4
ULGR				Sg	Sg	15 01 02.8	-0.5
CHBI	Chibit, Altay	4.71	314	Pn	Pn	14 59 46.0	+2.4
CHBI				Pg	Pg	14 59 59.3	-3.3
CHBI				Sg	Sg	15 01 02.2	-1.3
ARDR	Aradan	5.42	4	Sg	Sg	15 01 26.2	-0.1
TDJR	Todzha	5.64	21	Pg	Pb	15 00 11.6	+0.6
TDJR				Sg	Sg	15 01 37.2	+3.7
ARTR	Artybash	5.86	324	Sg	Sg	15 01 40.9	+0.4
ELDR	Elanda	5.98	315	Pg	Pb	15 00 21.2	+4.5
ELDR				Sg	Sg	15 01 41.1	-3.1
MK31	Makanchi Array	7.21	271	⇓Pg	Pn	15 00 22.3	+4.4
	0.3nm,0.5s,baz=90,slow=17						
MK31				⇑Lg	Lg	15 02 05.9	
	0.8nm,0.4s,baz=96,slow=28,SNR=3.6						
ELT	Eltsovka	7.40	328	Sg	Sg	15 02 32.0	+2.1
MAKZ	Makanchi	7.42	271	⇑Pg	Pn	15 00 22.2	+1.5
	0.6nm,0.7s						
MAKZ				⇓Lg	Lg	15 02 13.4	
	1.9nm,0.8s						
ZAK	Zakamensk	7.62	61	Sg	Sg	15 02 33.1	-3.8

*IDC **22** 15:17:03.8±3.7, 10°43N×88°01W, h0km, mb3.3/2, mbtmp3.4/3, ML3.7/1, MS2.6/1, Error ellipse: s-maj=113.5km s-min=25.6km az=22.0*
*UCR **22** 15:17:09.9±1.6, 11°35N×87°24W, h15km±25km, MW4.4*
*CATAC **22** 15:17:10.6±0.6, 11°N±3°×8°7W±°, h28km±6km, M3.9/15, MLv3.9/15, Error ellipse: s-maj=6.8km s-min=3.1km az=43.1, confirmed*
ISC 22 15:17:09.5±1.4, **11°39N**±0°03×**87°20W**±0°05, **h15**km±9km, **n84**, σ0°80/100, **2C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.99	37	P	Pg	15 17 28.5	-0.1
COPN				S	Sn	15 17 42.7	+0.1
COPN	Copaltepe	0.99	37	⇓iP	Pn	15 17 29.0	+0.1
CRUN	El Crucero	1.06	56	P	Pb	15 17 29.7	0.0
UNAN	Cigeo UNAN	1.16	51	P	Pg	15 17 31.8	-0.1
UNAN				S	Sn	15 17 47.1	+0.3
SABN	Sabanita	1.16	61	P	Pb	15 17 31.3	0.0
APQ2	Apoyeque	1.18	47	P	Pn	15 17 31.4	0.0
TISN	Laguna Tiscapa	1.18	50	P	Pb	15 17 31.8	+0.2
APYN	Apoyeque	1.18	45	P	Pb	15 17 31.8	+0.1
APYN				S	Sg	15 17 47.6	-0.1
MAS3	Al N del Volca	1.19	58	P	Pn	15 17 31.5	-0.1
MAS3				S	Sg	15 17 47.8	-0.1
MASN	Masaya	1.19	60	P	Pb	15 17 32.1	+0.3
NANN	Nandasmo	1.19	62	S	Sn	15 17 48.1	+0.5
NANN	Nandasmo	1.19	62	P	Pg	15 17 32.6	+0.2
APQ3	Volcan Apoyequ	1.20	43	P	Pb	15 17 32.0	+0.1
APQ3				S	Sg	15 17 48.5	+0.3
NADN	Granada	1.20	72	eP	Pn	15 17 31.4	-0.3
MGAN	Managua	1.20	51	P	Pn	15 17 32.0	+0.2
MGAN	Managua	1.20	51	S	Sg	15 17 48.7	+0.4
MGAN	Managua	1.20	51	eP	Pb	15 17 32.2	+0.2
CNGA	Al SSO del Vol	1.20	24	P	Pb	15 17 32.2	+0.1
CNGA				S	Sg	15 17 48.7	+0.2
APQN	BB Volcan Apoy	1.21	47	P	Pn	15 17 31.0	-1.0
CNGN	Cerro Negro	1.21	24	P	Pn	15 17 32.2	+0.2
CNGN	Cerro Negro	1.21	24	S	Sb	15 17 47.7	0.0
CNGN	Cerro Negro	1.21	24	eP	Pn	15 17 31.9	0.0
WILN	Americas 2	1.25	52	P	Pn	15 17 32.5	0.0
WILN				S	Sg	15 17 49.8	-0.2
MOM2	El Cardon	1.26	34	P	Pb	15 17 33.0	+0.1
MOM2				S	Sg	15 17 50.0	-0.1
PKGN	Cerro Pekin	1.29	10	P	Pb	15 17 33.6	0.0
PKGN				S	Sn	15 17 50.7	+0.6
POLN	Al Sur del Vol	1.31	17	P	Pn	15 17 33.5	+0.1
POLN				S	Sn	15 17 51.2	+0.6
CRIN	San Cristobal	1.31	6	P	Pb	15 17 33.9	-0.1
CRIN	San Cristobal	1.31	6	eP	Pb	15 17 33.9	-0.1
MORN	Al O del Volca	1.53	84	P	Pn	15 17 35.9	-0.4
OMEN	Al SSO del Vol	1.55	85	P	Pn	15 17 35.3	-1.3
OMEN				S	Sn	15 17 56.4	0.0
CONN	Concepcion	1.55	83	P	Pn	15 17 36.0	-0.6
CONN				S	Sn	15 17 56.5	-0.1
LCRUZ	La Cruz	1.57	101	eP	Pn	15 17 36.4	-0.4
CSGN	Cosiguina Volc	1.62	347	P	Pn	15 17 37.8	+0.2
CSGN				S	Sb	15 17 59.2	-0.3
CSGN	Cosiguina Volc	1.62	347	⇑eP	Pn	15 17 37.9	+0.2
POTN	Potosi Cosigui	1.63	349	P	Pn	15 17 38.0	+0.3
POTN				S	Sn	15 17 59.1	+0.6
POTN	Potosi Cosigui	1.63	349	eP	Pn	15 17 38.2	+0.5
CARN	Rivas	1.66	97	P	Pn	15 17 37.7	-0.4
CARN				S	Sn	15 17 59.0	-0.1
CARN	Rivas	1.66	97	eP	Pn	15 17 38.6	+0.6
ELI1	Hacienda Flor	1.78	114	eP	Pn	15 17 40.0	+0.3
ALIBA	Liberia Airpor	1.80	116	eP	Pn	15 17 40.6	+0.5
LAPC	Finca la Perla	1.84	109	eP	Pn	15 17 40.2	-0.4
LIMN	Finca el Limon	1.85	26	P	Pn	15 17 41.2	+0.3
LIMN				S	Sn	15 18 04.4	+0.2
VRLE	La Escondida,	1.90	108	eP	Pn	15 17 41.1	-0.3
BUAI	Buenos Aires	1.90	105	eP	Pn	15 17 41.9	+0.5
GPS1	Guardaparques	1.91	108	eP	Pn	15 17 41.7	0.0
GPS2	Hotel Rincn d	1.92	109	eP	Pn	15 17 42.9	+1.2
MATN	Matagalpa	1.98	39	S	Sn	15 18 07.6	+0.5
JUD3	Juan Diaz 3	2.03	126	eP	Pn	15 17 42.5	-0.8
MESS	Mesas	2.07	108	eP	Pn	15 17 44.4	+0.6
PLVR	Palo Verde	2.09	119	eP	Pg	15 17 48.4	-1.1
HORNC	Hornillas	2.09	108	eP	Pn	15 17 45.2	+1.1
NICO	Nicoya	2.12	126	eP	Pb	15 17 48.5	+0.8
CUI	Cuipilapa	2.12	110	⇑eP	Pn	15 17 44.6	+0.1
VMAR	Armenia, Volca	2.12	105	eP	Pn	15 17 44.0	-0.5
MOTZ	Rio Naranjo	2.20	108	eP	Pn	15 17 46.3	+0.7
TENO	El Achiote	2.28	107	eP	Pn	15 17 46.6	-0.1
INVE	Universidad In	2.28	113	eP	Pb	15 17 51.3	+0.9
TIMP	Tierras Morena	2.29	110	eP	Pn	15 17 47.6	+0.8
TILA	Tilaran	2.37	112	eP	Pb	15 17 52.7	+0.7
QUEB	Quebradon, Cot	2.38	108	eP	Pn	15 17 48.9	+0.8
RCPN	Sur Rio San Ju	2.38	27	P	Pn	15 17 49.4	+1.1
RCVN	Varillal2	2.39	24	P	Pn	15 17 49.3	+0.9
JTS	Las Juntas de	2.46	116	Pn	Pb	15 17 53.8	+0.3
	10nm,0.3s,baz=267,slow=13,SNR=22						
JTS				Sn	Sg	15 18 29.4	+0.8
	15nm,0.3s,baz=184,slow=23,SNR=5.0						
JTS				LR	LR	15 19 01.6	
	comp=Z,104nm,21.9s,baz=292,slow=39						
	26nm,0.4s						
JTS	Las Juntas de	2.46	116	eP	Pb	15 17 53.6	+0.1
TABAC	Tabacon	2.54	110	eP	Pb	15 17 55.1	+0.1
JCR1	Jicaral	2.56	126	eP	Pn	15 17 50.2	-0.3
MTEVE	Monteverde	2.56	114	eP	Pb	15 17 55.9	+0.6
ARE1	Arenal 1	2.60	110	eP	Pn	15 17 53.2	+2.1
VARE2	V. Arenal	2.60	110	eP	Pb	15 17 56.0	0.0
CEDE	Laguna Cedeo	2.61	110	eP	Pb	15 17 56.1	+0.1
FORC	Fortuna	2.65	110	eP	Pb	15 17 55.2	-1.5
CBL1	Cabuya	2.74	131	eP	Pg	15 18 00.6	-1.4
ACOS	Acosta	3.38	118	eP	Pn	15 18 03.9	+2.0
VICA	Volcano Irazu	3.58	113	eP	Pn	15 18 07.6	+2.7
PIEC	Cerro El Cedra	3.64	119	eP	Pn	15 18 07.2	+1.6
CVTQ	Turrialba Volc	3.64	112	eP	Pn	15 18 07.7	+2.0
ABRB	Las Abras (San	3.69	112	eP	Pn	15 18 06.7	+0.5
BUS1	Rivas	3.85	118	eP	Pn	15 18 10.2	+1.6
CEUA	Cerro Uatsi, L	4.54	112	eP	Pn	15 18 60.6	+2.7
CMIG	Matias Romero	9.36	308	Pn	Pn	15 19 25.1	+1.1
	0.9nm,0.3s,baz=153,slow=9.9,SNR=6.5						
TXAR	Lajitas Array	23.55	322	P	P	15 22 20.1	+0.5
	0.7nm,0.6s,baz=130,slow=9.5,SNR=8.5						
	0.7nm,0.6s						
H06E1	SOCORRO T-PHAS	24.04	291	T	T	15 47 19.8	
	SNR=13						
PDAR	Pinedale Array	36.82	332	P	P	15 24 16.6	-0.7
	0.2nm,0.5s,baz=144,slow=7.9,SNR=2.2						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	149.73	348	PKPbc	PKPbc	15 36 58.0	-1.9
	0.5nm,0.6s,baz=11,slow=4.4,SNR=5.0						

*NNC **22** 15:21:40.8±0.3, 42°24N×79°23E, h22km±6km, mb4.3, mpv2.6, Error ellipse: s-maj=4.8km s-min=1.1km az=174.0*
*SOME **22** 15:21:40.3, 42°25N×79°17E, h10km*
ISC 22 15:21:40.7±3.8, **42°3N**±0°2×**79°0E**±0°1, **h10**km, **n4**, σ0°59/8, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.94	330	P	Pb	15 21 59.8	+0.7
	1.2nm,0.1s						
SATY				S	Sn	15 22 13.9	+0.3
	2.6nm,0.1s						
SHLS	Shalkode	0.96	19	P	Pn	15 22 00.1	-0.3
	5.1nm,0.3s						
SHLS				S	Sn	15 22 14.5	+0.2
	6.3nm,0.4s						
SHLS	Shalkode	0.96	19	eP	Pn	15 22 00.2	-0.3
	2.1nm,0.2s						
SHLS				eS	Sn	15 22 14.5	+0.2
	4.1nm,0.2s						
KPKS	Kokpek	1.25	348	P	Pn	15 22 03.4	-0.9
	0.3nm,0.1s						
KPKS				S	Sb	15 22 20.2	-0.3
	7.6nm,0.3s						

*IDC **22** 15:34:53.2±3.3, 9°90N×78°04W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=138.9km s-min=62.0km az=73.0*
*CATAC **22** 15:34:59.3±0.3, 10°N±2°×7°8W±°, h91km±10km, M3.7/11, mb3.6/4, mB4.6/2, MLv3.8/11, Mw(mB)3.9/2, Error ellipse: s-maj=4.9km s-min=2.8km az=14.2, confirmed*
*RSNC **22** 15:35:00.9±0.3, 10°N±2°×7°8W±°, h66km±33km, M3.4, mB4.9, mb4.2, ML3.1, Mw(mB)4.2*
*UPA **22** 15:35:03.1±1.3, 10°03N×78°24W, h28km±7km, MW4.1*
ISC 22 15:35:01.4±1.6, **10°17N**±0°04×**78°21W**±0°03, **h36**km±2km, **n68**, σ1°58/101, **1C-6D, North of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	Canitas, Panam	1.15	215	⇓iP	Pn	15 35 20.4	-0.6
CNTA3				eS	Sn	15 35 33.9	-1.6
TOTI	Torti	1.23	185	⇓iP	Pn	15 35 21.8	-0.3
TOTI				eS	Sn	15 35 36.1	-1.4
UPD2	Meteti	1.62	173	⇓iP	Pn	15 35 27.2	-0.2
UPD2				eS	Sn	15 35 44.6	-2.5
UPA	Univ. de Panam	1.76	228	⇑iP	Pn	15 35 29.4	+0.1
UPA				eS	Sn	15 35 49.8	-0.6
FRIJ	El Hiral	1.77	238	⇓iP	Pn	15 35 28.9	-0.5
FRIJ				eS	Sn	15 35 50.0	-0.6
FLAM	Flamenco Islan	1.81	227	eP	Pn	15 35 30.5	+0.5
FLAM				eS	Sn	15 35 49.9	-1.7
GAMB1	Gamboa	1.81	235	iP	Pn	15 35 29.8	-0.1
GAMB1				eS	Sn	15 35 50.7	-1.0
ARRA3	Arraijan, Pana	1.86	230	eP	Pn	15 35 31.4	+0.7
ARRA3				eS	Sn	15 35 52.1	-0.8
MLIR	Monte Lirio	1.86	241	eP	Pn	15 35 30.9	+0.1
MLIR				eS	Sn	15 35 51.9	-1.1
BCIP	Isla Barro Col	1.89	238	⇓iP	Pn	15 35 31.0	-0.1
BCIP				eS	Sn	15 35 52.7	-0.9
BCIP	Isla Barro Col	1.89	238	P	Pn	15 35 31.0	-0.1
BCIP	Isla Barro Col	1.89	238	P	Pn	15 35 30.9	-0.1
BCIP				S	Sn	15 35 51.5	-2.1
CHOR3	La Chorrera	1.98	231	eP	Pn	15 35 33.2	+0.8
CHOR3				eS	Sn	15 35 55.1	-0.9
ZANG	Zanguenga, Cho	2.03	234	eP	Pn	15 35 34.5	+1.5
ZANG				eS	Sn	15 35 57.4	+0.2
APAC	Apartado, Choc	2.77	144	P	Pn	15 35 43.7	+0.5
APAC				S	Sn	15 36 15.5	+0.1
SJCC	San Jacinto, C	3.00	95	eP	Pn	15 35 47.4	+1.0
SJCC				eS	Sn	15 36 22.9	+1.8
SJCC	San Jacinto, C	3.00	95	P	Pn	15 35 47.2	+0.8
SJCC				S	Sn	15 36 21.5	+0.4
SJCC	San Jacinto, C	3.00	95	P	Pn	15 35 46.9	+0.5
SJCC				S	Sn	15 36 19.8	-1.3
PTAC	Punta Ardita,	3.03	172	eP	Pn	15 35 47.2	+0.5
PTAC				eS	Sn	15 36 20.1	-1.6
PTAC	Punta Ardita,	3.03	172	P	Pn	15 35 47.1	+0.3
PTAC				S	Sn	15 36 20.6	-1.2
CHIT3	Chitre	3.10	225	eP	Pn	15 35 48.1	+0.4
CHIT3				eS	Sn	15 36 22.6	-0.9
AZU	Azuero	3.12	221	eP	Pn	15 35 48.2	+0.2
AZU				eS	Sn	15 36 22.6	-1.5
STIA3	Santiago, Vera	3.41	233	eP	Pn	15 35 53.2	+1.1
STIA3				eS	Sn	15 36 30.5	-0.8
MESA3	La Mesa, Verag	3.56	236	eP	Pn	15 35 54.6	+0.6
UREC	San Jos de Ur	3.57	132	eP	Pn	15 35 53.8	-0.5
UREC				eS	Sn	15 36 34.2	-1.1
UREC	San Jos de Ur	3.57	132	P	Pn	15 35 53.7	-0.6
UREC				S	Sn	15 36 32.8	-2.5
DBBC	Dabeiba	3.70	148	P	Pn	15 35 56.2	+0.1
DBBC				S	Sn	15 36 37.1	-1.5
GMAL	Guarumal, Vera	3.82	232	eP	Pn	15 35 58.7	+0.9
GMAL				eS	Sn	15 36 39.8	-1.7
CACAO	El Cacao, Vera	3.84	223	eP	Pn	15 35 58.5	+0.6
CACAO				eS	Sn	15 36 39.7	-2.0
SMRC	Santa Marta, M	4.04	75	P	Pn	15 36 00.3	-0.4
SMRC				S	Sn	15 36 42.8	-4.0
ZARC	Zaragoza, Cauc	4.25	128	P	Pn	15 36 03.3	-0.3
ZARC				S	Sn	15 36 49.4	-2.5
PRVC	Isla de Provid	4.44	316	eP	Pn	15 36 09.6	+3.4
PRVC				eS	Sn	15 36 52.8	-3.9
PRVC	Isla de Provid	4.44	316	P	Pn	15 36 05.6	-0.6
SERC	Banco Serrana,	4.61	333	P	Pn	15 36 07.1	-1.4
SERC				S	Sn	15 36 55.7	-5.0
BRU2	Volcan	4.63	253	S	Sn	15 36 59.6	-1.9
HELC	Santa Helena	4.76	146	S	Sn	15 37 05.1	0.0
CBOC	Ciudad Bolivar	4.80	153	P	Pn	15 36 12.5	+1.2
CDITO	Canoas	4.87	251	S	Sn	15 37 05.7	-1.5
DRK0	Durika	5.04	260	⇓iP	Pn	15 36 16.1	+1.4
DRK0	Durika	5.04	260	S	Sn	15 37 08.8	-3.1
PTBC	PUERTO BERRIO,	5.17	134	P	Pn	15 36 15.4	-0.9
PTBC				S	Sn	15 37 10.1	-4.7
OCAC	Ocana	5.19	111	P	Pn	15 36 13.0	-3.7
	26nm,0.4s						
OCAC				S	Sn	15 37 13.4	-2.1
	26nm,0.4s						
PTJ1	Puerto Jimnez	5.28	253	S	Sn	15 37 16.4	-1.0
CRJC	Cerrejon, Guaj	5.31	80	P	Pn	15 36 15.7	-2.5
	3µm15nm,0.8s						
TRT2	Tortugero	5.45	275	S	Sn	15 37 18.1	-3.5
GUY2C	Guyana, Caldas	5.66	150	P	Pn	15 36 25.7	+2.3
URIC	Uribia, Colomb	6.29	75	P	Pn	15 36 31.3	-0.4
	6.8nm,1.0s						
URI	Uribia	6.30	75	P	Pn	15 36 31.4	-0.4
URI				S	Sn	15 37 40.4	-2.0
RUSC	La Rusia	6.62	130	P	Pn	15 36 35.3	-1.3
RUSC				S	Sn	15 37 51.4	+0.3
JTS	Las Juntas de	6.64	272	eP	Pn	15 36 38.1	+1.6
MTDJ	Mount Denham	8.04	5	iP	Pn	15 36 56.2	+0.4
MTDJ				IAmb	IAmb	15 37 15.0	
	comp=Z,41nm,1.4s						
MTDJ	Mount Denham	8.04	5	P	Pn	15 36 56.0	+0.2
CBCY	The Bluff, Cay	9.63	351	iP	Pn	15 37 16.6	-0.9
CBCY				IAmb	IAmb	15 37 21.0	
	comp=Z,74nm,1.0s						
CHIV	Chivirico	9.91	10	iP	Pn	15 37 22.3	+1.1
CHIV				IAmb	IAmb	15 37 23.6	
	comp=Z,11nm,1.0s						
CHIV				IVmB_BB		15 37 32.9	
	comp=Z,740nm,1.0s						
MARVS	Santiago de Cu	10.03	13	iP	Pn	15 37 23.7	+0.8
MARVS				IVmB_BB		15 38 20.5	
	comp=Z,860nm,1.0s						
RCC	Rio Carpintero	10.07	14	iP	Pn	15 37 24.9	+1.4
RCC				IAmb	IAmb	15 37 25.5	
	comp=Z,14nm,0.6s						
YAR	Yar	10.30	10	iP	Pn	15 37 27.2	+0.5
YAR				IAmb	IAmb	15 37 30.2	
	comp=Z,11nm,0.8s						
QMBU	Quimbuelo	10.50	18	iP	Pn	15 37 29.4	0.0
QMBU				IAmb	IAmb	15 37 37.1	
	comp=Z,13nm,1.0s						
SABCS	La Quijada	10.52	15	iP	Pn	15 37 31.4	+1.8
SABCS				IAmb	IAmb	15 37 34.1	
	comp=Z,27nm,0.5s						
PINC	Pinares de May	10.52	13	iP	Pn	15 37 30.8	+1.1
MASC	Masc	10.66	21	iP	Pn	15 37 32.3	+0.7
MASC				IAmb	IAmb	15 37 33.5	
	comp=Z,17nm,0.7s						
NMDO	Nuevo Mundo	10.79	16	iP	Pn	15 37 34.5	+1.1
NMDO				IAmb	IAmb	15 37 38.4	
	comp=Z,18nm,0.8s						
NMDO				IVmB_BB		15 38 21.3	
	comp=Z,2µm,1.0s						
HLGC	Holguin	10.86	11	iP	Pn	15 37 36.8	+2.4
HLGC				IAmb	IAmb	15 37 37.5	
	comp=Z,24

KKAR	Karatay Array	62.92	3	P	P	16 00 39.6	+0.9
WRA	Warramunga Arr	63.45	103	P	P	16 00 41.8	-1.0
WRA	Warramunga Arr	63.45	103	P	P	16 00 42.9	+0.1
	comp=Z,3.3nm,0.9s,baz=260,slow=6.1,SNR=18						
	comp=Z,3.3nm,0.9s						
WRAB	Tennant Creek	63.47	103	P	P	16 00 41.6	-1.3
WB0	Warramunga Arr	63.54	103	P	P	16 00 43.0	-0.4
WR8	Warramunga Arr	63.60	103	P	P	16 00 42.9	-0.9
WR8				IAmb	IAmb	16 00 50.2	
	comp=Z,6.7nm,1.1s						
SNAA	Sanae	64.63	199	P	P	16 00 48.2	-1.5
SNAA				IAmb	IAmb	16 00 56.6	
	comp=Z,4.7nm,1.1s						
SNAA	Sanae	64.63	199	P	P	16 00 49.3	-0.5
	comp=Z,1.3nm,1.0s,baz=60,slow=6.3,SNR=4.2						
	comp=Z,1.3nm,1.0s						
ARG	Arkhangelos	66.59	327	P	P	16 01 01.3	-1.4
BRTR	Keskin Array B	66.82	333	P	P	16 01 05.4	+1.1
	comp=Z,1.2nm,0.7s,baz=148,slow=7.3,SNR=9.1						
	comp=Z,1.2nm,0.7s						
KBZ	Khabaz	66.98	342	P	P	16 01 07.0	+1.9
	comp=Z,1.7nm,0.8s,baz=193,slow=5.5,SNR=4.0						
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	68.03	12	P	P	16 01 11.8	+0.1
MKAR	Makanchi Array	68.03	12	P	P	16 01 12.6	+0.8
	comp=Z,1.5nm,0.8s,baz=180,slow=6.1,SNR=10.0						
	comp=Z,1.5nm,0.8s						
AB31	Akbulak array	69.19	356	P	P	16 01 19.1	+0.3
ABKAR	Akbulak array	69.19	356	P	P	16 01 19.1	+0.3
QSPA	South Pole Qui	70.10	180	P	P	16 01 25.1	+0.6
QSPA				IAmb	IAmb	16 01 35.1	
	comp=Z,9.5nm,1.4s						
QSPA	South Pole Qui	70.10	180	P	P	16 01 26.5	+2.0
	comp=Z,2.4nm,1.1s,baz=141,slow=1.4,SNR=6.4						
	comp=Z,2.4nm,1.1s						
KURBB	Kurchatov Arra	71.14	8	P	P	16 01 31.6	+0.9
	comp=Z,1.4nm,0.8s,baz=206,slow=6.5,SNR=10.0						
	comp=Z,1.4nm,0.8s						
KURK	Kurchatov	71.24	8	P	P	16 01 31.6	+0.3
KURK	Kurchatov	71.24	8	IAmb	IAmb	16 01 33.0	
	comp=Z,2.7nm,0.9s						
VNDA	Vanda	71.79	167	IAmb	IAmb	16 01 36.4	
	comp=Z,6.3nm,1.5s						
VNDA	Vanda	71.79	167	P	P	16 01 34.2	-0.3
	comp=Z,0.7nm,0.9s,baz=293,slow=7.0,SNR=3.7						
	comp=Z,0.7nm,0.9s						
BVAR	Borovoye Array	72.81	3	P	P	16 01 41.4	+0.6
	comp=Z,1.9nm,0.8s,baz=168,slow=7.6,SNR=8.5						
	comp=Z,1.9nm,0.8s						
DBIC	Dimbokro	74.83	283	IAmb	IAmb	16 02 01.3	
	comp=Z,17nm,1.2s						
DBIC	Dimbokro	74.83	283	P	P	16 01 57.3	+3.8
	comp=Z,8.7nm,1.1s,baz=148,slow=9.2,SNR=4.1						
CEL	Celeste	74.84	321	P	P	16 01 53.1	+0.1
CEL				IAmb	IAmb	16 02 02.7	
	comp=Z,7.9nm,0.9s						
ZAA0	Zalesovo Array	75.36	11		P	16 01 55.4	-0.2
ZAA0				IAmb	IAmb	16 01 57.0	
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	75.36	11		P	16 01 55.4	-0.2
ZALV	Zalesovo Beam	75.36	11	P	P	16 01 56.2	+0.6
	comp=Z,3.2nm,0.8s,baz=216,slow=4.8,SNR=14						
	comp=Z,3.2nm,0.8s						
ARTI	Arti	76.40	355	P	P	16 02 01.9	+0.4
AKASG	Malin Array Be	77.63	337	IAmb	IAmb	16 02 15.3	
	comp=Z,5.6nm,1.4s						
AKASG	Malin Array Be	77.63	337	P	P	16 02 09.1	+0.5
	comp=Z,1.3nm,0.7s,baz=134,slow=4.7,SNR=6.0						
	comp=Z,1.3nm,0.7s						
AKBB	Malin Array Si	77.63	337	P	P	16 02 08.4	-0.2
AKBB				IAmb	IAmb	16 02 25.2	
	comp=Z,4.0nm,1.1s						
KIEV	Kiev	77.63	337	P	P	16 02 08.0	-0.6
KIEV				IAmb	IAmb	16 02 25.2	
	comp=Z,3.9nm,1.1s						
NRCA	Norcia	79.42	323	P	P	16 02 18.4	-0.3
NRCA				IAmb	IAmb	16 02 20.9	
	comp=Z,5.3nm,1.3s						
MANU	Manus Island	80.86	89	P	P	16 02 25.0	-2.2
MANU				IAmb	IAmb	16 02 31.7	
	comp=Z,17nm,1.2s						
KSRS	Korea Array	81.36	45	P	P	16 02 29.9	+0.7
	comp=Z,1.2nm,0.8s,baz=237,slow=5.4,SNR=4.8						
	comp=Z,1.2nm,0.8s						
MJAR	Matsushiro Arr	88.05	50	IAmb	IAmb	16 03 04.8	
	comp=Z,2.5nm,1.0s						
MJAR	Matsushiro Arr	88.05	50	P	P	16 03 03.8	+0.8
	comp=Z,1.9nm,0.8s,baz=231,slow=4.3,SNR=6.0						
	comp=Z,1.9nm,0.8s						
TXAR	Lajitas Array	167.03	318	PKPab	PKPab	16 11 22.5	-0.3
	comp=Z,0.2nm,0.4s,baz=77,slow=5.6,SNR=4.6						

*IDC **22** 16:05:06.8±1.1, 20°.02S×66°.39E, h0km, mb4.1/7, mbtmp4.1/7, MS3.8/22, Error ellipse: s-maj=37.4km s-min=23.3km az=68.0*
*NEIC **22** 16:05:08.3±1.9, 20°.1S±0°.1×66°.26E±0°.10, h10km±1km, mb4.6/19, Error ellipse: s-maj=20.0km s-min=14.8km az=165.0*
*GCMT **22** 16:05:12.3±0.4, 20°.33S±0°.04×66°.50E±0°.03, h22km±1km, MW4.8/78, Moment Tensor Solution. s16,c17; s78,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.19±.18; $M_{\theta\theta}$1.03±.12; $M_{\phi\phi}$1.16±.11; $M_{r\theta}$-0.88±.19; $M_{\theta\phi}$-0.72±.06; $M_{\phi r}$-0.86±.17; Best double couple: $M_0$2.24900×10^{16} NP1:ϕ_s118.00000°, δ48.00000°, λ-120.00000°. NP2: ϕ_s338.00000°, δ50.00000°, λ-61.00000°. Principal axes: T 1.8160, Plg1.0000°, Azm48.0000°; N 0.8670, Plg22.0000°, Azm139.0000°; P -2.6830, Plg68.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:05:08.7±0.6, 20°.1S±0°.1×66°.29E±0°.10, h16km, n53, σ0s85/29, mb4.4/14, MS3.9/22, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	Rodrigues Isla	2.77	277	Pn	Pn	16 05 51.7	-0.8
H08S1	Diego Carcia H	13.78	27	T	T	16 22 26.3	
	baz=204,slow=76,SNR=54						
H08S2	Diego Garcia H	13.78	27	T	T	16 22 29.0	
	baz=204,slow=76,SNR=75						
H08S3	Diego Garcia H	13.79	27	T	T	16 22 32.1	
	baz=204,slow=76,SNR=138						
DGAR	Diego Garcia	13.98	26	Pn	Pn	16 08 25.5	-0.7
ABPO	Ambohimpanom	18.00	270		P	16 09 19.0	0.0
H04N2	CROZET ISLANDS	28.57	201	T	T	16 41 01.0	
	baz=30,slow=75,SNR=92						
H04N1	CROZET ISLANDS	28.58	201	T	T	16 41 00.6	
	baz=30,slow=75,SNR=80						
H04N3	CROZET ISLANDS	28.59	201	T	T	16 40 59.3	
	baz=30,slow=75,SNR=81						
LSZ	Lusaka	36.56	271	LR	LR	16 25 25.5	
	comp=Z,161nm,21.3s,baz=124,slow=33						
GRHM	Grahamstown, E	37.76	241	P	P	16 12 24.8	+0.6
LBTB	Lobatse	37.79	255	LR	LR	16 25 17.7	
	comp=Z,171nm,18.9s,baz=88,slow=32						
BOSA	Boshof	38.17	249	LR	LR	16 25 36.1	
	comp=Z,140nm,19.5s,baz=48,slow=32						
FURI	Furi	39.63	314	LR	LR	16 27 29.1	
	comp=Z,108nm,18.4s,baz=96,slow=34						
GRTLG	Ghanzi	42.07	260	P	P	16 12 59.5	-0.8
GRTLG				IAmb	IAmb	16 13 02.3	
	comp=Z,9.9nm,1.4s						
LEM	Lembang	42.17	78	LR	LR	16 27 04.2	
	comp=Z,146nm,18.5s,baz=226,slow=31						
SUR	Sutherland	42.29	244	P	P	16 13 01.4	-0.7
SUR				IAmb	IAmb	16 13 26.9	
	comp=Z,14nm,1.3s						
TSUM	Tsumeb	45.75	262	LR	LR	16 31 06.4	
	comp=Z,240nm,19.5s,baz=138,slow=34						
MAW	Mawson	47.52	182	P	P	16 13 44.4	+1.6
	comp=Z,2.2nm,0.6s,baz=327,slow=7.4,SNR=6.7						
MAW				LR	LR	16 28 37.2	
	comp=Z,70nm,21.2s,baz=28,slow=30						
	comp=Z,2.2nm,0.6s						
BRDH	Bariadhala	49.21	31	LR	LR	16 32 59.1	
	comp=Z,126nm,20.2s,baz=205,slow=34						
CMAR	Chiang Mai Arr	49.95	42	P	P	16 14 01.3	-0.9
CMAR	Chiang Mai Arr	49.95	42	P	P	16 14 03.0	+0.8
	comp=Z,0.9nm,0.9s,baz=238,slow=8.8,SNR=7.6						
CMAR				LR	LR	16 33 12.7	
	comp=Z,127nm,19.2s,baz=225,slow=34						
	comp=Z,0.9nm,0.9s						
EVN	Everest	51.76	23	P	P	16 14 16.3	-0.1
KBL	Kabul	54.42	3	P	P	16 14 36.5	+1.1
KBL				IAmb	IAmb	16 14 38.2	
	comp=Z,5.1nm,1.1s						
EIL	Elat	57.99	328	LR	LR	16 36 34.1	
	comp=Z,64nm,19.7s,baz=178,slow=33						
ASF	Jabal al Asfar	59.13	331	LR	LR	16 39 21.8	
	comp=Z,42nm,18.6s,baz=144,slow=35						
ASAR	Alice Springs	62.31	107	P	P	16 15 30.4	-0.3
	comp=Z,2.1nm,0.9s,baz=267,slow=5.4,SNR=11						
ASAR				LR	LR	16 38 31.8	
	comp=Z,146nm,21.3s,baz=284,slow=32						
	comp=Z,2.1nm,0.9s						
AS31	Alice Springs	62.31	107	P	P	16 15 30.2	-0.6
KK31	Karatay Array	63.03	3	P	P	16 15 35.7	+0.8
KK31				IAmb	IAmb	16 15 37.2	
	comp=Z,7.4nm,1.4s						
KKAR	Karatay Array	63.03	3	P	P	16 15 35.9	+0.9
WRA	Warramunga Arr	63.48	103	P	P	16 15 38.8	+0.3
WRA	Warramunga Arr	63.48	103	P	P	16 15 38.9	+0.4
	comp=Z,4.1nm,1.0s,baz=260,slow=5.7,SNR=12						
WRA				LR	LR	16 38 57.9	
	comp=Z,91nm,21.6s,baz=249,slow=32						
	comp=Z,4.1nm,1.0s						
WRAB	Tennant Creek	63.49	103	P	P	16 15 38.4	-0.2
WB0	Warramunga Arr	63.57	103	P	P	16 15 39.0	-0.2
WB0				IAmb	IAmb	16 15 40.5	
	comp=Z,7.6nm,1.1s						
DAV	Davao City (W)	64.24	71	LR	LR	16 41 09.7	
	comp=Z,54nm,20.0s,baz=192,slow=34						
BR131	Keskin Array S	66.89	333	P	P	16 16 00.7	+0.4
BRTR	Keskin Array B	66.89	333	P	P	16 16 01.6	+1.2
	comp=Z,0.9nm,0.8s,baz=165,slow=5.1,SNR=5.7						
	comp=Z,0.9nm,0.8s						
STKA	Stephens Creek	67.51	117	LR	LR	16 40 50.2	
	comp=Z,106nm,21.8s,baz=211,slow=32						
MKAR	Makanchi Array	68.15	12	LR	LR	16 44 36.4	
	comp=Z,103nm,18.5s,baz=246,slow=35						
BORA	Eskisehir	68.42	331	P	P	16 16 10.9	+1.0
BORA				IAmb	IAmb	16 16 27.4	
	comp=Z,8.5nm,0.9s						
AB31	Akbulak array	69.30	356	P	P	16 16 14.8	-0.2
AB31				IAmb	IAmb	16 16 16.2	
	comp=Z,2.2nm,0.8s						
ABKAR	Akbulak array	69.30	356	P	P	16 16 14.8	-0.2
QSPA	South Pole Qui	69.99	180	LR	LR	16 43 26.0	
	comp=Z,44nm,18.8s,baz=252,slow=33						
BVAR	Borovoye Array	72.93	3	P	P	16 16 35.1	-1.8
	comp=Z,2.4nm,1.0s,baz=176,slow=8.9,SNR=5.8						
	comp=Z,2.4nm,1.0s						
DBIC	Dimbokro	74.80	283	LR	LR	16 48 24.5	
	comp=Z,99nm,18.2s,baz=172,slow=35						
ZAA0	Zalesovo Array	75.47	11	P	P	16 16 51.4	-0.3
ZALV	Zalesovo Beam	75.47	11	P	P	16 16 51.6	-0.2
ZALV	Zalesovo Beam	75.47	11	P	P	16 16 52.1	+0.4
	comp=Z,2.2nm,0.9s,baz=197,slow=4.6,SNR=5.1						
	comp=Z,2.2nm,0.9s						
EIDS	Eidsvold	77.12	112	P	P	16 17 00.2	-1.7
PMG	Port Moresby	78.30	96	LR	LR	16 48 57.9	
	comp=Z,75nm,20.7s,baz=192,slow=34						
JNU	Nakatsue	81.23	50	LR	LR	16 52 55.7	
	comp=Z,90nm,19.4s,baz=226,slow=35						
GUMO	Guam	84.19	73	LR	LR	16 51 34.8	
	comp=Z,14nm,19.5s,baz=226,slow=33						
MJAR	Matsushiro Arr	88.16	50	LR	LR	16 54 55.5	
	comp=Z,57nm,21.7s,baz=259,slow=34						

*IDC **22** 16:06:39.9±0.8, 10°.30N×126°.28E, h0km, mb4.2/13, mbtmp4.2/13, MS3.2/3, Error ellipse: s-maj=32.9km s-min=17.7km az=79.0*
*NEIC **22** 16:06:45.2±0.9, 10°.24N±0°.08×126°.3E±0°.1, h35km±2km, mb4.8/29, Error ellipse: s-maj=17.6km s-min=13.9km az=255.0*

ISC 22 16:06:45.3±0.4, 10°.23N±0°.06×126°.3E±0°.1, h42km, n56, σ0s68/54, mb4.5/26, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.22	193	LR	LR	16 08 52.1	
	comp=Z,368nm,19.5s,baz=25,slow=40						
MYLDM	Lahad Datu	9.22	238	Pn	Pn	16 08 55.9	0.0
TNTI	Ternate	9.45	174	Pn	Pn	16 08 59.7	+0.6
TPUB	Ta-pu	14.09	338	P	P	16 10 08.8	-0.4
GUMO	Guam	18.46	78	LR	LR	16 17 20.6	
	comp=Z,80nm,20.1s,baz=232,slow=35						
BATI	Baumata	20.47	187	P	P	16 11 19.7	0.0
	27nm,0.6s,baz=352,slow=1.5,SNR=7.3						
	27nm,0.6s						
JCJ	Chichijima	22.48	40	LR	LR	16 18 59.4	
	comp=Z,44nm,21.2s,baz=242,slow=33						
MTN	Manton Dam	23.42	168	P	P	16 11 51.5	+0.6
KNRA	Kununurra	25.85	175	P	P	16 12 11.2	-1.9
KSRS	Korea Array	27.14	3	P	P	16 12 24.1	-0.5
	1.4nm,0.8s,baz=187,slow=13,SNR=5.6						
	1.4nm,0.8s						
CMAR	Chiang Mai Arr	27.72	290	P	P	16 12 30.6	+0.6
	0.8nm,0.6s,baz=97,slow=7.7,SNR=9.8						
	0.8nm,0.6s						
COEN	Coen	29.28	145	P	P	16 12 43.8	-0.1
COEN				IAmb	IAmb	16 12 51.7	
	comp=Z,39nm,1.5s						
MBWA	Marble Bar	31.86	192	P	P	16 13 06.0	-0.6
MBWA				IAmb	IAmb	16 13 06.9	
	comp=Z,9.2nm,0.9s						
PSA00	Pilbara Seismi	32.23	191	P	P	16 13 09.6	-0.3
PSA00				IAmb	IAmb	16 13 11.1	
	comp=Z,8.2nm,1.0s						
USRK	Ussuriysk Ar.	34.20	7	P	P	16 13 27.3	+0.5
	comp=Z,1.5nm,0.8s,baz=191,slow=5.9,SNR=4.2						
	comp=Z,1.5nm,0.8s						
ERM	Erimo	34.95	22	P	P	16 13 34.0	+0.8
MORW	Morawa	40.31	194	P	P	16 14 19.4	+0.7
MORW				IAmb	IAmb	16 15 02.4	
	comp=Z,26nm,1.5s						
FORT	Forrest	40.81	178	P	P	16 14 22.8	0.0
BBOO	Buckleboo	43.80	168	P	P	16 14 47.1	-0.1
STKA	Stephens Creek	44.35	161	IAmb	IAmb	16 15 07.3	
	comp=Z,13nm,0.9s						
STKA	Stephens Creek	44.35	161	P	P	16 14 53.6	+2.1
	comp=Z,1.1nm,0.4s,baz=336,slow=10.0,SNR=4.5						
	comp=Z,1.1nm,0.4s						
SANVU	Saraoutou	47.87	122	P	P	16 15 19.1	-0.4
PETK	Petropavlovsk-	49.66	24	P	P	16 15 33.1	+0.4
PETK	Petropavlovsk-	49.66	24	P	P	16 15 33.3	+0.6
	comp=Z,3.1nm,0.9s,baz=236,slow=8.7,SNR=4.5						
	comp=Z,3.1nm,0.9s						
MKAR	Makanchi Array	52.09	323	P	P	16 15 50.5	-0.7
MKAR	Makanchi Array	52.09	323	P	P	16 15 51.4	+0.2
	comp=Z,1.4nm,0.6s,baz=125,slow=7.8,SNR=11						
MKAR				PcP	PcP	16 17 03.3	+0.5
	comp=Z,1.4nm,0.8s,baz=112,slow=5.8,SNR=5.0						
	comp=Z,1.4nm,0.6s						
MAKZ	Makanchi	52.28	323	P	P	16 15 51.7	-0.9
MAKZ				IAmb	IAmb	16 16 34.0	
	comp=Z,6.4nm,1.2s						
ZAA0	Zalesovo Array	54.68	331		P	16 16 10.4	+0.3
ZAA0				IAmb	IAmb	16 16 53.2	
	comp=Z,7.2nm,1.2s						
ZALV	Zalesovo Beam	54.68	331		P	16 16 10.2	+0.1
ZALV	Zalesovo Beam	54.68	331	P	P	16 16 10.5	+0.4
	comp=Z,3.2nm,0.7s,baz=117,slow=7.1,SNR=15						
	comp=Z,3.2nm,0.7s						
KURK	Kurchatov	56.12	326		P	16 16 20.3	-0.2
KURK				IAmb	IAmb	16 16 22.8	
	comp=Z,4.6nm,0.9s						
KURK	Kurchatov	56.12	326	P	P	16 16 20.6	+0.1
KURBB	Kurchatov Arra	56.13	325	P	P	16 16 20.7	+0.2
	comp=Z,1.2nm,0.5s,baz=124,slow=6.7,SNR=7.7						
	comp=Z,1.2nm,0.5s						
BVAR	Borovoye Array	61.72	325	P	P	16 16 59.0	-0.4
	comp=Z,1.2nm,0.7s,baz=132,slow=4.3,SNR=3.6						
BVAR				PcP	PcP	16 17 40.7	+0.4
	comp=Z,2.6nm,0.8s,baz=108,slow=4.7,SNR=5.8						
	comp=Z,1.2nm,0.7s						
GSTR	Great Sitkin T	62.35	36	P	P	16 17 03.0	-0.6
TCW	Tory Channel	67.57	143	P	P	16 17 36.5	-1.1
SNZO	South Karori	67.89	143	P	P	16 17 38.6	-1.0
NIUE	Niue	69.25	115	P	P	16 17 48.0	-0.5
C18K	Utukok River	74.18	21	P	P	16 18 17.7	+0.3
C18K				IAmb	IAmb	16 18 20.9	
	comp=Z,22nm,1.5s						
PLK4	Peulik 4	74.64	33	P	P	16 18 20.8	+0.5
D19K	Kuna River	75.26	22	P	P	16 18 24.3	+0.7
D19K				IAmb	IAmb	16 18 26.4	
	comp=Z,15nm,1.5s						
B21K	Ikpikpuk River	76.67	21	P	P	16 18 32.5	+1.0
B21K				IAmb	IAmb	16 18 37.3	
	comp=Z,24nm,1.5s						
RAYN	Ar Rayn	77.62	292	P	P	16 18 37.2	-0.8
RAYN	Ar Rayn	77.62	292	P	P	16 18 37.6	-0.3
BPAW	Bear Paw Mtn.	77.68	26	P	P	16 18 37.7	+0.3
C23K	Itkillik River	78.07	21	P	P	16 18 40.2	+0.8
C23K				IAmb	IAmb	16 19 22.8	
	comp=Z,22nm,1.2s						
PWL	Port Wells	78.88	30	P	P	16 18 43.3	-0.8
PWL				IAmb	IAmb	16 19 15.7	
	comp=Z,13nm,1.3s						
BMAR	Burnt Mountain	80.29	23	P	P	16 18 52.4	+0.8
LVZ	Lovozero	81.23	337	P	P	16 18 56.2	-0.5
I28M	Miner Creek	82.33	25	P	P	16 19 03.3	+0.7
I28M				IAmb	IAmb	16 19 03.6	
	comp=Z,8.8nm,1.4s						
ARCES	ARCESS Array B	84.25	340	P	P	16 19 11.7	-0.6
ARCES	ARCESS Array B	84.25	340	P	P	16 19 11.2	-1.0
	comp=Z,6.2nm,0.8s,baz=79,slow=6.5,SNR=9.6						
	comp=Z,6.2nm,0.8s						
ILGA	Ilgaz	85.31	311	P	P	16 19 18.2	-0.3
ILGA				IAmb	IAmb	16 19 37.1	
	comp=Z,8.6nm,0.6s						
FINES	FINESS Array B	85.95	332	P	P	16 19 21.0	+0.1
FINES	FINESS Array B	85.95	332	P	P	16 19 21.2	+0.3
	comp=Z,3.9nm,0.9s,baz=357,slow=3.8,SNR=6.4						
	comp=Z,3.9nm,0.9s						
VNDA	Vanda	89.88	173	P	P	16 19 39.9	+0.6
	comp=Z,0.5nm,0.6s,baz=322,slow=7.5,SNR=7.5						
	comp=Z,0.5nm,0.6s						

CATAC 22 16:10:18.9±1.1, 11°N±6°×87°W±°, h26km±7km, M3.6/21, MLv3.6/21, Error ellipse: s-maj=16.0km s-min=3.9km az=42.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.94	37	P	Pb	16 10 36.6	+0.1
CRUN	El Crucero	1.01	57	P	Pn	16 10 37.2	-0.4
UNAN	Cigeo UNAN	1.11	52	P	Pn	16 10 38.5	-0.3
SABN	Sabanita	1.11	62	P	Pb	16 10 46.1	+6.5
TISN	Laguna Tiscapa	1.13	51	P	Pn	16 10 39.3	+0.2
APYN	Apoyeque	1.13	45	P	Pb	16 10 40.0	+0.1
MAS3	Al N del Volca	1.14	58	P	Pn	16 10 38.6	-0.6
NANN	Nandasmo	1.14	63	P	Pb	16 10 40.1	+0.1
APQ3	Volcan Apoyequ	1.15	43	P	Pn	16 10 39.0	-0.3
MGAN	Managua	1.15	51	P	Pn	16 10 39.2	-0.1
CNGA	Al SSO del Vol	1.15	23	P	Pn	16 10 39.2	-0.2
NADN	Granada	1.16	74	P	Pn	16 10 38.8	-0.6
APQN	BB Volcan Apoy	1.16	47	P	Pn	16 10 38.5	-1.0
CNGN	Cerro Negro	1.16	23	P	Pn	16 10 39.4	-0.1
WILN	Americas 2	1.20	53	P	Pn	16 10 40.1	0.0
MOM2	El Cardon	1.21	33	P	Pn	16 10 40.3	+0.2
PKGN	Cerro Pekin	1.25	8	P	Pn	16 10 40.7	0.0
POLN	Al Sur del Vol	1.26	16	P	Pn	16 10 40.8	-0.1
CRIN	San Cristobal	1.27	5	P	Pn	16 10 41.3	+0.3
MORN	Al O del Volca	1.49	85	P	Pn	16 10 43.2	-0.9
OMEN	Al SSO del Vol	1.51	87	P	Pn	16 10 42.4	-1.9
CONN	Concepcion	1.52	85	P	Pn	16 10 44.5	+0.1
CSGN	Cosiguina Volc	1.59	346	P	Pn	16 10 45.3	-0.1
CSGN				S	Sn	16 11 06.0	+0.8
POTN	Potosi Cosigui	1.60	348	P	Pn	16 10 45.4	-0.1
POTN				S	Sn	16 11 05.6	+0.3
CARN	Rivas	1.63	98	P	Pb	16 10 47.3	-1.0
CARN				S	Sn	16 11 06.4	+0.3
LIMN	Finca el Limon	1.80	26	P	Pn	16 10 48.2	-0.2
MATN	Matagalpa	1.92	39	P	Pn	16 10 49.2	-0.8
CNCH	Conchagua	1.95	340	P	Pn	16 10 50.0	-0.5
CNCH				S	Sn	16 11 14.9	+0.6

*IDC **22** 16:12:03.4±0.6, 20°.03S×66°.41E, h0km, mb4.2/17, mbtmp4.2/17, Error ellipse: s-maj=23.8km s-min=14.4km az=79.0*
*NEIC **22** 16:12:05.1±2.0, 20°.09S±0°.10×66°.39E±0°.09, h10km±1km, mb4.6/42, Error ellipse: s-maj=16.4km s-min=13.8km az=167.0*

ISC 22 16:12:05.7±0.5, 20°.05S±0°.08×66°.42E±0°.08, h16km, n68, σ0s82/58, mb4.5/34, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	Rodrigues Isla	2.89	275	Pn	Pn	16 12 51.6	+0.5
RER	Riviere de l'E	10.06	262	Pn	Pn	16 14 30.3	+0.6
H08S1	Diego Carcia H	13.66	26	T	T	16 29 22.0	
	baz=204,slow=76,SNR=10.0						
H08S2	Diego Garcia H	13.66	26	T	T	16 29 23.7	
	baz=204,slow=76,SNR=11						
H08S3	Diego Garcia H	13.68	26	T	T	16 29 25.4	
	baz=204,slow=76,SNR=10						
DGAR	Diego Garcia	13.86	26	Pn	Pn	16 15 20.0	-1.6
AIS	Amsterdam Isla	20.16	154	P	P	16 16 37.8	-1.6
H04N2	CROZET ISLANDS	28.68	201	T	T	16 48 00.8	
	baz=30,slow=74,SNR=21						
H04N1	CROZET ISLANDS	28.69	201	T	T	16 48 00.5	
	baz=30,slow=74,SNR=22						
H04N3	CROZET ISLANDS	28.70	201	T	T	16 47 59.4	
	baz=30,slow=74,SNR=19						
KIBK	Kibwezi	32.83	299	P	P	16 18 39.2	+0.3
LODK	Lodwar	38.40	304	P	P	16 19 26.0	-0.8
KSANE	Kasane	39.03	266	P	P	16 19 30.5	-1.6
KSANE				IAmb	IAmb	16 19

MKAR Makanchi Array 68.06 12 P P 16 23 04.7 +0.3
comp=Z,1.9nm,0.8s,baz=202,slow=6.3,SNR=11
comp=Z,1.9nm,0.8s
BORA Eskisehir 68.42 331 P **P 16 23 07.0 +0.1**
AB31 Akbulak array 69.23 355 P 16 23 11.0 -0.6
AB31 IAmb IAmb 16 23 12.2
comp=Z,4.2nm,0.8s
ABKAR Akbulak array 69.23 355 P 16 23 11.3 -0.3
QSPA South Pole Qui 70.06 180 P **P 16 23 16.0 -0.8**
QSPA IAmb IAmb 16 23 42.9
comp=Z,4.7nm,1.2s
QSPA South Pole Qui 70.06 180 P **P 16 23 18.9 +2.1**
comp=Z,1.3nm,0.8s,baz=248,slow=2.4,SNR=6.5
comp=Z,1.3nm,0.8s
KURBB Kurchatov Arra 71.17 8 P **P 16 23 23.9 +0.5**
comp=Z,1.9nm,0.8s,baz=207,slow=6.8,SNR=12
comp=Z,1.9nm,0.8s
KURK Kurchatov 71.27 8 P **P 16 23 23.5 -0.6**
KURK IAmb IAmb 16 23 25.3
comp=Z,3.0nm,0.9s
VNDA Vanda 71.74 167 P **P 16 23 26.6 -0.1**
comp=Z,0.4nm,0.8s,baz=304,slow=7.5,SNR=2.4
comp=Z,0.4nm,0.8s
BVAR Borovoye Array 72.85 3 P **P 16 23 33.4 -0.1**
comp=Z,2.7nm,0.7s,baz=160,slow=4.7,SNR=7.0
comp=Z,2.7nm,0.7s
MLR Muntele Rosu 74.89 332 P **P 16 23 45.5 -0.3**
MLR IAmb IAmb 16 23 53.5
comp=Z,14nm,1.5s
ZAA0 Zalesovo Array 75.38 11 P 16 23 46.9 -1.3
ZAA0 IAmb IAmb 16 23 49.2
comp=Z,8.4nm,1.2s
ZALV Zalesovo Beam 75.38 11 P 16 23 47.9 -0.3
ZALV Zalesovo Beam 75.38 11 P **P 16 23 48.4 +0.2**
comp=Z,4.2nm,0.8s,baz=196,slow=5.2,SNR=18
comp=Z,4.2nm,0.8s
SONM Songino Array 76.50 26 IAmb IAmb 16 23 56.4
comp=Z,3.2nm,1.1s
SONM Songino Array 76.50 26 P **P 16 23 53.4 -1.5**
comp=Z,1.5nm,0.7s,baz=199,slow=8.5,SNR=4.0
comp=Z,1.5nm,0.7s
BURAR Bucovina Array 76.85 333 P **P 16 23 58.0 +1.2**
BUR08 Bucovina Ar. S 76.88 333 P **P 16 23 57.8 +0.8**
AKASG Malin Array Be 77.69 337 IAmb IAmb 16 24 17.4
comp=Z,5.0nm,1.2s
AKASG Malin Array Be 77.69 337 P **P 16 24 01.4 0.0**
comp=Z,1.5nm,0.7s,baz=138,slow=4.6,SNR=7.6
comp=Z,1.5nm,0.7s
AKBB Malin Array Si 77.69 337 P **P 16 24 01.0 -0.4**
AKBB IAmb IAmb 16 24 08.2
comp=Z,4.3nm,1.1s
KIEV Kiev 77.69 337 P **P 16 24 01.3 -0.1**
KIEV IAmb IAmb 16 24 08.2
comp=Z,3.9nm,1.1s
INTR Introdacqua 78.52 323 P **P 16 24 05.9 -0.4**
INTR IAmb IAmb 16 24 12.8
comp=Z,5.4nm,0.9s
CAMP Campotosto 79.14 323 P **P 16 24 10.7 +0.9**
CAMP IAmb IAmb 16 24 17.2
comp=Z,6.3nm,1.1s
NRCA Norcia 79.50 323 P **P 16 24 10.1 -1.5**
NRCA IAmb IAmb 16 24 12.8
comp=Z,5.9nm,1.2s
MJAR Matsushiro Arr 88.02 50 IAmb IAmb 16 25 02.3
comp=Z,7.6nm,1.5s
MJAR Matsushiro Arr 88.02 50 P **P 16 24 55.6 +0.2**
comp=Z,2.4nm,0.8s,baz=234,slow=5.0,SNR=5.5
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 167.10 318 PKPab **PKPab 16 33 14.7 -0.9**
comp=Z,0.6nm,0.7s,baz=55,slow=4.8,SNR=6.2

CATAC 22 16:12:22.5±0.8, 11°N±4°×8°7W±°, h30km±10km, M3.4/19, MLv3.4/19, Error ellipse: s-maj=10.5km s-min=4.4km az=31.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.10**	**34**	P	Pb	16 12 42.6	-0.2
UNAN	**Cigeo UNAN**	**1.25**	**48**	P	Pn	16 12 44.0	0.0
NADN	**Granada**	**1.26**	**68**	P	Pn	16 12 44.2	0.0
NADN				S	Sb	16 13 01.5	-0.1
NANN	**Nandasmo**	**1.27**	**58**	S	Sn	16 13 01.0	+0.7
MAS3	**AI N del Volca**	**1.27**	**54**	P	Pn	16 12 43.8	-0.5
TISN	**Laguna Tiscapa**	**1.28**	**47**	P	Pn	16 12 44.3	0.0
APYN	**Apoyeque**	**1.29**	**42**	S	Sb	16 13 01.7	-0.5
MGAN	**Managua**	**1.29**	**48**	P	Pn	16 12 44.7	+0.1
APQN	**BB Volcan Apoy**	**1.31**	**44**	S	Sn	16 13 01.8	+0.5
APQN	**BB Volcan Apoy**	**1.31**	**44**	P	Pn	16 12 44.1	-0.6
CNGA	**AI SSO del Vol**	**1.32**	**23**	P	Pn	16 12 44.9	-0.1
CNGN	**Cerro Negro**	**1.33**	**23**	P	Pn	16 12 44.9	-0.2
WILN	**Americas 2**	**1.35**	**49**	P	Pn	16 12 45.4	+0.1
MOM2	**El Cardon**	**1.37**	**32**	P	Pn	16 12 45.3	-0.2
MOM2				S	Sn	16 13 02.8	0.0
HOYN	**AI Sur del Vol**	**1.38**	**16**	P	Pn	16 12 45.4	-0.4
HERN	**Volcan Telica**	**1.39**	**16**	P	Pn	16 12 44.9	-1.0
PKGN	**Cerro Pekin**	**1.41**	**10**	P	Pn	16 12 46.4	+0.2
POLN	**AI Sur del Vol**	**1.43**	**16**	P	Pn	16 12 46.1	-0.3
MORN	**AI O del Volca**	**1.57**	**80**	P	Pn	16 12 48.6	+0.2
OMEN	**AI SSO del Vol**	**1.58**	**81**	P	Pn	16 12 47.9	-0.7
CONN	**Concepcion**	**1.59**	**79**	S	Sn	16 13 08.8	+0.5
CSGN	**Cosiguina Volc**	**1.73**	**349**	P	Pn	16 12 51.0	+0.4
POTN	**Potosi Cosigui**	**1.74**	**351**	P	Pn	16 12 50.7	-0.1
LIMN	**Finca el Limon**	**1.97**	**25**	P	Pn	16 12 53.6	-0.4
CNCH	**Conchagua**	**2.08**	**343**	P	Pn	16 12 56.2	+0.7
CNCH	**Conchagua**	**2.08**	**343**	S	Sn	16 13 20.6	0.0
MATN	**Matagalpa**	**2.08**	**37**	S	Sn	16 13 20.9	+0.4
MATN	**Matagalpa**	**2.08**	**37**	P	Pn	16 12 54.4	-1.1
PACA	**Pacayal**	**2.44**	**334**	P	Pn	16 13 00.5	+0.1

*IDC **22** 16:15:36.5±2.4, 2°.87S×79°.63W, h64km±22km, mb3.6/8, mbtmp4.1/13, MS3.2/6, Error ellipse: s-maj=32.9km s-min=13.7km az=65.0*
*IGQ **22** 16:15:36.6±0.1, 3°S±1°×8°0W±°, h29km±1km, MLv4.7/50*
*NEIC **22** 16:15:38.7±1.9, 2°.90S±0°.06×79°.66W±0°.09, h75km±6km, mb4.6/79, Error ellipse: s-maj=12.6km s-min=8.6km az=96.0*
*VAO **22** 16:15:41.2±0.6, 2°.90S×79°.19W, h83km±5km, mb4.7*
ISC 22 16:15:35.6±0.6, 2°.98S±0°.03×79°.86W±0°.04, h55km±5km, n251, σ1§65/249, mb4.5/38, MS3.2/4, 42C-11D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PU03	**PU03**	**0.10**	**37**	⇓P	**Pn**	**16 15 43.3**	**-0.7**
PU02	**PU02**	**0.25**	**310**	⇓P	**Pn**	**16 15 45.0**	**+0.2**
ACH2	**Ecuador-Machal**	**0.28**	**169**	S	**Sn**	**16 15 52.9**	**+1.0**
ACH2				⇓P	**Pn**	**16 15 44.8**	**-0.2**
ACH1	**Ecuador-Univer**	**0.30**	**189**	S	**Sn**	**16 15 52.0**	**-0.1**
ACH1				⇑P	**Pn**	**16 15 45.1**	**-0.1**
ISPG	**Isla Puna-Puer**	**0.30**	**273**	⇑P	**Pn**	**16 15 46.5**	**+1.2**
PU01	**PU01**	**0.41**	**296**	⇑P	Pn	16 15 48.7	+2.5
PCRA	**Pucara 2**	**0.42**	**122**	S	**Sn**	**16 15 56.1**	**+1.1**
PCRA				⇓P	**Pn**	**16 15 47.2**	**+0.3**
MORR	**Playas El Morr**	**0.58**	**306**	S	**Sn**	**16 15 58.1**	**+0.9**
MORR				⇑P	**Pn**	**16 15 48.4**	**+0.3**
ARNL	**Arenillas**	**0.60**	**200**	S	**Sn**	**16 15 58.5**	**+1.0**
ARNL				⇑P	**Pn**	**16 15 48.6**	**+0.3**
APLA	**Playas - Guaya**	**0.63**	**303**	S	**Sn**	**16 15 58.8**	**+0.6**
APLA				P	**Pn**	**16 15 48.8**	**+0.1**
GYE1	**Ecuador-Trinit**	**0.73**	**356**	⇓P	**Pn**	**16 15 49.1**	**-0.9**
PU07	**PU07**	**0.76**	**34**	⇑P	**Pn**	**16 15 50.3**	**-0.1**
MILO	**Milagro-Astudi**	**0.77**	**24**	⇑P	**Pn**	**16 15 51.8**	**+1.4**
COHC	**Cochancay**	**0.80**	**50**		**Pn**	**16 15 51.2**	**+0.5**
COHC				Sn	**Sn**	**16 16 03.0**	**+1.1**
COHC	**Cochancay**	**0.80**	**50**	⇑P	**Pn**	**16 15 51.3**	**+0.5**
COHC	**Cochancay**	**0.80**	**50**	P	**Pn**	**16 15 51.3**	**+0.5**
COHC				S	**Sn**	**16 16 03.5**	**+1.6**
GYE3	**Ecuador-Guayaq**	**0.82**	**358**	P	**Pn**	**16 15 50.6**	**-0.5**
AC07	**Ecuador-Guayaq**	**0.83**	**352**	⇓P	**Pn**	**16 15 51.1**	**-0.3**
ACUE	**Ecuador-Cuenca**	**0.91**	**85**	P	**Pn**	**16 15 54.5**	**+1.9**
AGUAY	**Guayaquil**	**0.93**	**355**	⇑P	**Pn**	**16 15 51.8**	**-0.7**
LAMO	**ALAMOR**	**1.03**	**189**	⇓P	**Pn**	**16 15 55.0**	**+0.9**
AZOG	**Ecuador-Azogue**	**1.04**	**77**	P	**Pn**	**16 15 55.8**	**+1.5**
ALJ1	**Ecuador-Loja-U**	**1.20**	**146**	P	**Pn**	**16 15 57.2**	**+0.8**
ALIBE	**La Libertad**	**1.23**	**307**	P	**Pn**	**16 15 56.5**	**0.0**
GONZ	**Gonzanam**	**1.33**	**159**	⇓P	**Pn**	**16 15 59.4**	**+1.1**
BOSC	**San Juan Bosco**	**1.38**	**97**	⇑P	**Pn**	**16 16 01.0**	**+2.3**
AMCR	**Ecuador-Macara**	**1.38**	**184**	P	**Pn**	**16 15 59.3**	**+0.6**
MCRA	**Macar, Loja**	**1.38**	**184**	⇓P	**Pn**	**16 15 59.0**	**+0.4**
MCRA	**Macar, Loja**	**1.38**	**184**	P	**Pn**	**16 15 59.0**	**+0.4**
MCRA				S	**Sn**	**16 16 16.1**	**+0.2**
MONB	**Balzapamba Mon**	**1.38**	**29**	⇑P	**Pn**	**16 15 57.7**	**-1.0**
AZAM	**Ecuador-Zamora**	**1.41**	**140**	P	**Pn**	**16 16 01.2**	**+2.1**
JSCH	**Cashca Tororas**	**1.54**	**35**	⇑P	**Pn**	**16 16 00.5**	**-0.6**
CHSH	**Refugio Sur-Vo**	**1.78**	**34**	⇑P	**Pn**	**16 16 04.7**	**+0.1**
ZUMB	**Zumba**	**2.00**	**159**	⇓P	**Pn**	**16 16 09.6**	**+2.4**
BIL2	**Estacion Bilba**	**2.04**	**42**	⇑P	**Pn**	**16 16 09.6**	**+1.8**
BPAT	**Tungurahua Vol**	**2.05**	**44**	⇑P	**Pn**	**16 16 09.4**	**+1.2**
BBIL	**Ulba Tungurahu**	**2.05**	**42**	P	**Pn**	**16 16 09.3**	**+1.3**
JUI6	**Juive**	**2.08**	**42**	⇑P	**Pn**	**16 16 10.1**	**+1.6**
ISPT	**Isla de la Pla**	**2.09**	**325**	⇓P	**Pn**	**16 16 07.4**	**-0.9**
PECV	**Mancha de Ca P**	**2.20**	**355**	P	**Pn**	**16 16 10.1**	**+0.2**
PUYO	**Puyo, Santa Ro**	**2.36**	**51**	⇑P	**Pn**	**16 16 14.2**	**+2.1**
APUY	**Puyo**	**2.40**	**51**	P	**Pn**	**16 16 14.5**	**+1.9**
PIS1	**Pisayambo**	**2.42**	**38**	⇑P	**Pn**	**16 16 15.6**	**+2.5**
ILLI	**Illinizas Sur**	**2.52**	**27**	P	**Pn**	**16 16 16.3**	**+1.7**
PIAT	**Ana Tenorio**	**2.54**	**39**	P	**Pn**	**16 16 16.6**	**+1.8**
PIAT	**Ana Tenorio**	**2.54**	**39**	P	**Pn**	**16 16 16.6**	**+1.8**
VCES	**Cotopaxi**	**2.62**	**34**	⇑P	**Pn**	**16 16 18.0**	**+2.0**
SLOR	**San Lorenzo -**	**2.62**	**31**		**Pn**	**16 16 17.5**	**+1.5**
SLOR	**San Lorenzo -**	**2.62**	**31**	⇑P	**Pn**	**16 16 18.1**	**+2.1**
PKYU	**Pakayacu**	**2.63**	**60**	⇑P	**Pn**	**16 16 17.6**	**+2.0**
BMOR	**Cotopaxi Volca**	**2.64**	**32**	⇑P	**Pn**	**16 16 18.3**	**+2.0**
CAMI	**Rancho Maria**	**2.66**	**31**	P	**Pn**	**16 16 19.2**	**+2.6**
SUCR	**Mariscal Sucre**	**2.70**	**30**	P	**Pn**	**16 16 19.4**	**+2.3**
BREF	**Cotopaxi Volca**	**2.70**	**32**	⇑P	**Pn**	**16 16 19.6**	**+2.4**
BTAM	**Cotopaxi Volca**	**2.72**	**33**	⇑P	**Pn**	**16 16 19.5**	**+2.1**
TAMB	**Tambo**	**2.72**	**33**	P	**Pn**	**16 16 19.4**	**+2.0**
BVC2	**Cotopaxi Volca**	**2.73**	**32**	P	**Pn**	**16 16 19.8**	**+2.3**
VC1	**Cotopaxi 1**	**2.75**	**32**	⇑P	**Pn**	**16 16 19.9**	**+2.2**
PITA	**Cotopaxi Volc**	**2.80**	**31**	P	**Pn**	**16 16 20.9**	**+2.5**
TOMA	**Boca Toma-Volc**	**2.85**	**30**	P	**Pn**	**16 16 21.2**	**+2.2**
ARDO	**Archidona, Ten**	**2.86**	**46**	⇑P	**Pn**	**16 16 20.2**	**+1.4**
ANTM	**Antisana-La Mi**	**2.93**	**34**	P	**Pn**	**16 16 22.0**	**+1.7**
ANTG	**Antisana-Guama**	**2.94**	**33**	⇑P	**Pn**	**16 16 22.1**	**+1.6**
ANTS	**Antisana-Sarah**	**2.99**	**34**	⇑P	**Pn**	**16 16 23.2**	**+2.0**
JUA2	**San Juan 2**	**3.03**	**25**	P	**Pn**	**16 16 23.6**	**+2.1**
ANTI	**Antisana**	**3.04**	**34**	⇑P	**Pn**	**16 16 23.4**	**+1.6**
GGPC	**Guagua Pichinc**	**3.06**	**24**	⇑P	**Pn**	**16 16 24.1**	**+2.0**
TERV	**Terraza Guagua**	**3.06**	**24**	⇑P	**Pn**	**16 16 24.2**	**+2.1**
PINO	**Pino**	**3.08**	**24**	⇑P	**Pn**	**16 16 24.2**	**+1.9**
YANA	**Yana**	**3.13**	**24**	P	**Pn**	**16 16 24.7**	**+1.8**
APR2	**Miler**	**3.17**	**16**	P	**Pn**	**16 16 24.0**	**+0.9**
BV15	**Puerto Quito-O**	**3.19**	**12**	⇑P	**Pn**	**16 16 22.6**	**-0.7**
PULU	**Pululahua**	**3.28**	**25**	P	**Pn**	**16 16 27.3**	**+2.3**
PAC1	**Pacto, Paraso**	**3.40**	**18**	P	**Pn**	**16 16 27.1**	**+0.7**
PAC1	**Pacto, Paraso**	**3.40**	**18**	P	**Pn**	**16 16 26.4**	**0.0**
PAC1				S	**Sn**	**16 17 05.1**	**-0.5**
OTAV	**Otavalo**	**3.50**	**24**		**Pn**	**16 16 28.9**	**+0.9**
OTAV	**Otavalo**	**3.50**	**24**	⇑P	**Pn**	**16 16 29.4**	**+1.5**
OTAV	**Otavalo**	**3.50**	**24**	eP	**Pn**	**16 16 29.5**	**+1.5**
OTAV	**Otavalo**	**3.50**	**24**	P	**Pn**	**16 16 29.8**	**+1.8**
CAYR	**Refugio Cayamb**	**3.51**	**32**	P	**Pn**	**16 16 30.5**	**+2.2**
ANGU	**Angureal**	**3.54**	**32**	⇑P	**Pn**	**16 16 30.7**	**+2.1**
CUSE	**Cuicocha Este**	**3.58**	**24**	P	**Pn**	**16 16 30.8**	**+1.7**
CUSE	**Cuicocha Este**	**3.58**	**24**	P	**Pn**	**16 16 30.8**	**+1.7**
CUSE				S	**Sn**	**16 17 15.1**	**+4.7**
CUSW	**Cuicocha Oeste**	**3.58**	**25**	P	Pn	16 16 37.6	+8.5
CUIC	**Cuicocha-Domo**	**3.59**	**25**	⇑P	**Pn**	**16 16 31.0**	**+1.8**
COTA	**Cotacachi**	**3.63**	**25**	P	**Pn**	**16 16 31.7**	**+1.8**
REVS	**Reventador Sur**	**3.63**	**38**	⇑P	**Pn**	**16 16 31.1**	**+1.5**
LAV4	**Lava4-Reventad**	**3.64**	**38**	P	**Pn**	**16 16 31.4**	**+1.7**
IMBA	**Imbabura, San**	**3.64**	**27**	P	**Pn**	**16 16 32.6**	**+2.7**
REVN	**San Rafael**	**3.66**	**38**	⇑P	**Pn**	**16 16 31.4**	**+1.5**
URCU	**Urcuqui**	**3.76**	**25**	P	**Pn**	**16 16 33.3**	**+1.8**
YAHU	**Yahuarcocha**	**3.78**	**28**	P	**Pn**	**16 16 34.7**	**+2.8**
CASC	**Dorado de Casc**	**4.00**	**39**	⇑P	**Pn**	**16 16 36.1**	**+1.6**
LITE1	**Lita**	**4.04**	**22**	P	**Pn**	**16 16 36.5**	**+1.4**
RVRD	**Rio Verde**	**4.05**	**7**	P	**Pn**	**16 16 35.4**	**+0.2**
BONI	**La Bonita**	**4.13**	**34**	P	**Pn**	**16 16 38.2**	**+1.6**
BONI	**La Bonita**	**4.13**	**34**	P	**Pn**	**16 16 38.4**	**+1.9**
LNGL	**El Angel-Carch**	**4.14**	**27**	P	**Pn**	**16 16 39.8**	**+3.0**
CHL1	**Volcjn Chiles**	**4.21**	**27**	P	**Pn**	**16 16 39.1**	**+1.3**
TULM	**Tulcn-Chalpat**	**4.22**	**29**	P	**Pn**	**16 16 40.3**	**+2.5**
TULM	**Tulcn-Chalpat**	**4.22**	**29**	P	**Pn**	**16 16 40.4**	**+2.5**
CHMA	**Chilma**	**4.22**	**25**	P	**Pn**	**16 16 39.7**	**+1.9**
ECEN	**Cerro Negro**	**4.23**	**27**	P	**Pn**	**16 16 39.8**	**+1.8**
CHL2	**Volcjn Chiles**	**4.23**	**27**	P	**Pn**	**16 16 40.1**	**+1.9**
SNLR	**San Lorenzo-Es**	**4.37**	**13**	P	**Pn**	**16 16 39.8**	**+0.3**
ATAH	**Atahualpa**	**4.38**	**161**	P	**Pn**	**16 16 42.5**	**+2.5**
ATAH				S	**Sn**	**16 17 35.5**	**+5.6**
GCUF	**Volcan Galeras**	**4.88**	**31**	P	**Pn**	**16 16 48.8**	**+1.8**
CRUC	**La Cruz**	**5.38**	**33**	P	**Pn**	**16 16 56.3**	**+2.6**
PTLC	**Puerto Leguiza**	**5.96**	**58**	P	Pn	16 16 57.7	-3.6
GR1C	**Gorgona, Isla**	**6.18**	**16**	P	**Pn**	**16 17 03.5**	**-0.9**
GR1C				S	**Sn**	**16 18 15.1**	**+1.3**
FLOC	**Florencia**	**6.19**	**43**		**Pn**	**16 17 03.6**	**-0.9**
FLOC	**Florencia**	**6.19**	**43**	P	**Pn**	**16 17 03.9**	**-0.6**
FLOC	**Florencia**	**6.19**	**43**	P	**Pn**	**16 17 03.7**	**-0.8**
1μm119nm,1.1s							
POPC	**Popayan, Colom**	**6.35**	**30**	P	**Pn**	**16 17 06.7**	**-0.1**
497nm24nm,0.5s							
YOTC	**Yotoco, Valle**	**7.76**	**27**	P	**Pn**	**16 17 24.5**	**-1.7**
MACC	**Macarena, Meta**	**7.88**	**50**	P	**Pn**	**16 17 27.9**	**+0.2**
1μm77nm,0.6s							
ORTC	**Ortega, Tolima**	**8.26**	**34**	P	**Pn**	**16 17 35.9**	**+3.0**
616nm60nm,0.9s							
URMC	**La Uribe, Meta**	**8.27**	**42**	P	**Pn**	**16 17 32.6**	**-0.5**
911nm45nm,0.8s							
PRAC	**Prado**	**8.31**	**37**	P	**Pn**	**16 17 33.7**	**+0.1**
49nm,1.1s							
CZSB	**Cruzeiro do Su**	**8.54**	**124**		**Pn**	**16 17 36.4**	**-0.4**
CZSB	**Cruzeiro do Su**	**8.54**	**124**	eP	**Pn**	**16 17 35.7**	**-1.1**
CZSB	**Cruzeiro do Su**	**8.54**	**124**	P	**Pn**	**16 17 36.3**	**-0.4**
2μm135nm,0.5s							
GUVC	**San Jose del G**	**9.08**	**53**	P	**Pn**	**16 17 43.8**	**-0.3**
GUY2C	**Guyana, Caldas**	**9.31**	**29**	P	**Pn**	**16 17 46.7**	**-1.0**
NNA	**Nana**	**9.43**	**162**	P	**Pn**	**16 17 49.4**	**+0.4**
45nm,0.4s,baz=306,slow=10,SNR=18							
NNA				S	**Sn**	**16 19 30.5**	**-3.2**
20nm,0.4s,baz=230,slow=17,SNR=2.8							
NNA	**Nana**	**9.43**	**162**	P	**Pn**	**16 17 49.4**	**+0.4**
57nm,0.5s							
PAYG	**Puerto Ayora**	**10.66**	**282**	Pn	**Pn**	**16 18 08.7**	**+2.9**
PTBC	**PUERTO BERRIO,**	**10.89**	**30**	P	**Pn**	**16 18 10.3**	**+1.4**
181nm4.4nm,0.8s							
RUSC	**La Rusia**	**11.12**	**38**		**Pn**	**16 18 10.2**	**-2.2**
RUSC	**La Rusia**	**11.12**	**38**	P	**Pn**	**16 18 14.4**	**+2.0**
27nm,0.9s							
HDC	**Heredia**	**13.58**	**342**	eP	**P**	**16 18 51.9**	**-1.2**
SJCC	**San Jacinto, C**	**13.62**	**20**	P	**P**	**16 18 54.3**	**+0.8**
JTS	**Las Juntas de**	**14.13**	**339**	P	**Pn**	**16 18 53.1**	**+0.1**
8.1nm,0.8s,baz=146,slow=9.3,SNR=5.3							
JTS				LR	LR	16 23 43.1	
comp=Z,57nm,18.4s,baz=148,slow=34							
SDV	**Santo Domingo**	**14.96**	**38**		**Pn**	**16 19 03.2**	**-0.9**
SDV	**Santo Domingo**	**14.96**	**38**	P	**Pn**	**16 19 01.2**	**-2.9**
4.1nm,0.5s,baz=227,slow=11,SNR=2.9							
SDV				LR	LR	16 25 49.4	
comp=Z,192nm,21.9s,baz=238,slow=42							
SDV	**Santo Domingo**	**14.96**	**38**	eP	**Pn**	**16 19 01.9**	**-2.1**
SDV	**Santo Domingo**	**14.96**	**38**	P	**P**	**16 19 07.8**	**-0.7**
42nm,1.0s							
TEFE	**Tefe**	**15.21**	**92**	eP	**Pn**	**16 19 02.9**	**-4.3**
CRJC	**Cerrejon, Guaj**	**15.55**	**26**	P	**Pn**	**16 19 13.4**	**+1.8**
33nm,0.7s							
URIC	**Uribia, Colomb**	**16.56**	**28**	P	**Pn**	**16 19 22.3**	**-1.9**
BAUV	**El Baul**	**16.71**	**45**		**Pn**	**16 19 24.0**	**-2.2**
LPAZ	**La Paz**	**17.55**	**140**		**Pn**	**16 19 37.6**	**+0.4**
LPAZ	**La Paz**	**17.55**	**140**	P	**Pn**	**16 19 38.6**	**+1.4**
3.4nm,0.6s,baz=331,slow=14,SNR=20							
LPAZ	**La Paz**	**17.55**	**140**	eP	**Pn**	**16 19 35.5**	**-1.6**
LPAZ	**La Paz**	**17.55**	**140**	P	**Pn**	**16 19 38.8**	**+1.6**
PB18	**Visviri**	**17.73**	**146**		**Pn**	**16 19 40.3**	**+1.0**
PB18				IAmb	IAmb	16 19 45.2	
comp=Z,29nm,0.7s							
AP01	**Chacalluta**	**17.91**	**149**		**P**	**16 19 41.6**	**+0.6**
PB12	**IPOC Station P**	**18.12**	**150**	P	**P**	**16 19 44.1**	**+0.7**
PB12				IAmb	IAmb	16 19 47.1	
comp=Z,27nm,1.0s							
PB16	**IPOC Station P**	**18.32**	**147**		**P**	**16 19 47.0**	**+0.9**
PB16				IAmb	IAmb	16 19 50.4	
comp=Z,24nm,0.9s							
MACA	**Manacapuru-AM**	**19.15**	**91**	P	**P**	**16 19 52.8**	**-1.9**
MACA	**Manacapuru-AM**	**19.15**	**91**	eP	**P**	**16 19 51.0**	**-3.7**
GO01	**Chusmiza**	**19.59**	**149**	P	**P**	**16 20 01.0**	**+1.1**
GO01				IAmb	IAmb	16 20 07.5	
comp=Z,37nm,1.2s							
MTO3	**Montecristo**	**19.67**	**332**	P	**Pn**	**16 20 02.9**	**+0.5**
BOAV	**Boa Vista**	**20.06**	**75**		**P**	**16 20 03.0**	**-1.6**
BOAV				IAmb	IAmb	16 20 09.0	
comp=Z,19nm,0.8s							
BOAV	**Boa Vista**	**20.06**	**75**	eP	**P**	**16 20 00.8**	**-3.8**
PB01	**IPOC Station P**	**20.60**	**151**	P	**P**	**16 20 12.3**	**+1.8**
PB02	**IPOC Station P**	**20.65**	**153**	P	**P**	**16 20 12.6**	**+1.6**
PB02				IAmb	IAmb	16 20 13.3	
comp=Z,31nm,0.7s							
PB03	**IPOC Station P**	**21.34**	**153**	IAmb	IAmb	16 20 26.1	
comp=Z,41nm,1.5s							
VILB	**Vilhena**	**21.83**	**118**	eP	**P**	**16 20 20.8**	**-2.9**
PB05	**IPOC Station P**	**21.86**	**155**	P	**P**	**16 20 24.6**	**+0.6**
PB05				IAmb	IAmb	16 20 30.9	
comp=Z,27nm,1.0s							
PTLB	**Pontes e Lacer**	**23.88**	**123**		**P**	**16 20 44.9**	**+0.5**
PTLB	**Pontes e Lacer**	**23.88**	**123**	eP	**P**	**16 20 43.1**	**-1.2**
ITTB	**Itaituba**	**24.12**	**94**	eP	**P**	**16 20 44.1**	**-2.5**
GO02	**Mina Guanaco**	**24.17**	**157**	P	**P**	**16 20 48.4**	**+1.2**
GO02				IAmb	IAmb	16 20 49.7	
comp=Z,20nm,0.9s							
PDRB	**Porto dos Gac**	**24.48**	**112**	eP	**P**	**16 20 48.0**	**-1.9**
CELP	**Cerrillos**	**24.68**	**32**	P	**P**	**16 20 51.5**	**-0.1**
CELP				IAmb	IAmb	16 20 56.2	
comp=Z,17nm,1.1s							
NPGB	**Novo Progresso**	**24.74**	**100**	eP	**P**	**16 20 49.0**	**-3.2**
CMIG	**Matias Romero**	**24.85**	**324**	LR	LR	16 28 24.9	
comp=Z,55nm,22.0s,baz=181,slow=31							
PDPR	**Patillas Dam,**	**24.93**	**33**	P	**P**	**16 20 53.6**	**-0.3**
CLDB	**Colider**	**25.13**	**109**	eP	**P**	**16 20 53.6**	**-2.1**
LCO	**Las Campanas**	**27.31**	**162**	P	**P**	**16 21 16.5**	**+0.9**
LCO				IAmb	IAmb	16 21 22.6	
comp=Z,9.9nm,1.0s							
MDP	**Montagnes des**	**28.36**	**74**	LR	LR	16 34 41.7	
comp=Z,22nm,18.7s,baz=288,slow=41							
BDQN	**Bodoquena, MS**	**28.45**	**129**	eP	**P**	**16 21 23.5**	**-2.0**
MURT	**Porto Murtinho**	**28.50**	**132**	eP	**P**	**16 21 25.5**	**-0.6**
CO03	**El Peregal**	**29.03**	**164**	P	**P**	**16 21 31.9**	**+1.1**
AQDB	**Aquidarana**	**29.28**	**128**	eP	**P**	**16 21 31.7**	**-1.2**
SNDB	**Serra Nova Dou**	**29.67**	**109**	eP	**P**	**16 21 34.0**	**-2.5**
ARAG	**Araguaiana, MT**	**30.37**	**116**	eP	**P**	**16 21 40.6**	**-2.1**
AMBA	**Amambai (Brazi**	**31.20**	**132**	eP	**P**	**16 21 48.4**	**-1.6**
CPUP	**Villa Florida**	**31.72**	**139**	P	**P**	**16 21 52.2**	**-2.2**
comp=Z,0.3nm,0.6s,baz=173,slow=9.6,SNR=3.7							
comp=Z,0.3nm,0.6s							
CPUP	**Villa Florida**	**31.72**	**139**	eP	**P**	**16 21 53.6**	**-0.8**
LMEL	**Las Melosas**	**32.00**	**165**	P	**P**	**16 21 59.0**	**+2.0**
LMEL				IAmb	IAmb	16 21 59.5	
comp=Z,11nm,0.9s							
IPMB	**Ipameri, GO**	**34.42**	**118**	eP	**P**	**16 22 15.4**	**-2.7**
PTGB	**Pitanga**	**34.42**	**131**	eP	**P**	**16 22 17.4**	**-0.7**
SDBA

comp=Z,6.0nm,1.0s
QSPA South Pole Qui 87.09 180 P **P 16 28 18.2 +2.8**
comp=Z,3.3nm,0.7s,baz=146,slow=1.5,SNR=25
VNDA Vanda 93.01 191 P **P 16 28 43.6 +0.9**
VNDA Vanda 93.01 191 P **P 16 28 43.5 +0.8**
comp=Z,0.3nm,0.7s,baz=103,slow=4.9,SNR=3.3
comp=Z,0.3nm,0.7s
BVAR Borovoye Array 124.40 21 PKP **PKPdf 16 34 28.6 0.0**
comp=Z,0.6nm,0.5s,baz=277,slow=3.8,SNR=3.6
ZALV Zalesovo Beam 127.67 11 PKP **PKPdf 16 34 34.0 -0.8**
comp=Z,1.2nm,0.6s,baz=297,slow=1.3,SNR=6.0
KURBB Kurchatov Arra 129.15 18 PKP **PKPdf 16 34 37.4 -0.4**
comp=Z,1.5nm,0.7s,baz=324,slow=2.3,SNR=16
MKAR Makanchi Array 133.69 17 PKP **PKPdf 16 34 45.5 -1.0**
comp=Z,0.4nm,0.6s,baz=350,slow=3.4,SNR=4.7
ASAR Alice Springs 137.78 229 PKhKP PKPpre 16 34 42.9
comp=Z,0.4nm,0.8s,baz=121,slow=3.6,SNR=3.5
ASAR PKP **PKPdf 16 34 53.5 -1.3**
comp=Z,0.6nm,0.7s,baz=114,slow=1.9,SNR=6.8
WRA Warramunga Arr 139.42 234 PKhKP PKPpre 16 34 49.6
comp=Z,0.3nm,0.7s,baz=117,slow=2.1,SNR=3.8
WRA PKP **PKPdf 16 34 56.8 -1.1**
comp=Z,0.7nm,0.7s,baz=119,slow=1.7,SNR=8.3
FITZ Fitzroy Crossi 147.28 229 PKPbc **PKPdf 16 35 13.8 +2.1**
comp=Z,6.8nm,0.8s,baz=182,slow=4.0,SNR=12
CMAR Chiang Mai Arr 164.58 4 PKP **PKPdf 16 35 33.6 -0.7**
comp=Z,0.4nm,0.4s,baz=294,slow=2.6,SNR=4.1

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*NEIC **22** 16:41:39.4±1.4, 37°.8N±0°.1×92°.3E±0°.2, h10km±1km, mb4.1/10, Error ellipse: s-maj=31.3km s-min=15.0km az=230.0*
*IDC **22** 16:41:43.8±4.8, 37°.76N×92°.35E, h45km±52km, mb3.4/4, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=149.6km s-min=23.8km az=59.0*
ISC 22 16:41:42.6±0.7, 37°.8N±0°.1×92°.3E±0°.1, h35km, n22, σ0§52/23, mb4.2/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.63**	**324**		**Pn**	**16 44 26.1**	**+0.1**
MKAR	**Makanchi Array**	**11.63**	**324**	P	**Pn**	**16 44 26.9**	**+1.0**
	1.4nm,0.3s,baz=134,slow=14,SNR=28						
MKAR				S	**Sn**	**16 46 33.1**	**-1.3**
	1.8nm,0.4s,baz=134,slow=26,SNR=5.1						
	1.6nm,0.3s						
MAKZ	**Makanchi**	**11.79**	**323**	Pn	**Pn**	**16 44 28.1**	**0.0**
TARG	**Taragay, Kyrgy**	**11.80**	**294**	Pn	**Pn**	**16 44 29.5**	**+0.8**
BOOM	**Boomskoye usch**	**13.34**	**296**	Pn	**Pn**	**16 44 49.2**	**-0.3**
AAK	**Ala-Archa**	**14.41**	**295**	P	**P**	**16 45 10.8**	**+0.3**
KURBB	**Kurchatov Arra**	**16.13**	**327**	P	**P**	**16 45 29.9**	**+0.5**
	0.2nm,0.3s,baz=133,slow=13,SNR=20						
	1.6nm,0.8s						
KURK	**Kurchatov**	**16.16**	**327**	Pn	**Pn**	**16 45 26.9**	**0.0**
KURK				IAmb	IAmb	16 45 36.5	
	comp=Z,3.4nm,0.8s						
GAR	**Garm**	**17.24**	**281**		**Pn**	**16 45 40.7**	**-0.1**
GAR				IAmb	IAmb	16 46 02.5	
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.13**	**161**	P	**P**	**16 46 13.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=334,slow=10,SNR=4.3						
	comp=Z,0.4nm,0.3s						
AB31	**Akbulak array**	**25.89**	**307**	P	**P**	**16 47 11.2**	**+0.2**
LVZ	**Lovozero**	**43.49**	**332**	P	**P**	**16 49 41.4**	**-0.7**
LVZ				IAmb	IAmb	16 50 14.6	
	comp=Z,28nm,1.2s						
FINES	**FINESS Array B**	**46.46**	**323**	P	**P**	**16 50 06.3**	**+0.6**
FINES	**FINESS Array B**	**46.46**	**323**	P	**P**	**16 50 06.0**	**+0.3**
	comp=Z,7.7nm,1.1s,baz=100,slow=7.2,SNR=5.4						
	comp=Z,7.7nm,1.1s						
KNRA	**Kununurra**	**63.28**	**140**	P	**P**	**16 52 07.8**	**-0.1**
KNRA				IAmb	IAmb	16 52 14.4	
	comp=Z,10.0nm,1.2s						
C24K	**Franklin Bluff**	**64.03**	**20**	P	**P**	**16 52 12.3**	**+0.2**
EBR	**Ebro Roquetas**	**67.74**	**305**	P	**P**	**16 52 36.5**	**-0.1**
WRA	**Warramunga Arr**	**69.74**	**138**	P	**P**	**16 52 48.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=333,slow=5.8,SNR=5.0						
	comp=Z,0.2nm,0.6s						
AS31	**Alice Springs**	**72.59**	**140**	P	**P**	**16 53 06.2**	**-0.2**
AS31				IAmb	IAmb	16 53 17.2	
	comp=Z,1.6nm,1.4s						
ASAR	**Alice Springs**	**72.59**	**140**	P	**P**	**16 53 06.4**	**0.0**
ASAR	**Alice Springs**	**72.59**	**140**	P	**P**	**16 53 06.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=324,slow=5.7,SNR=13						
	comp=Z,0.6nm,0.7s						
CAN	**Canberra**	**89.77**	**137**	P	**P**	**16 54 37.4**	**+0.1**

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*IDC **22** 16:46:29.0±0.7, 20°.04S×66°.45E, h0km, mb4.2/14, mbtmp4.2/14, MS4.4/11, Error ellipse: s-maj=28.6km s-min=17.1km az=88.0*
*GCMT **22** 16:46:30.7±0.3, 20°.14S±0°.02×66°.22E±0°.02, h12km, MW5.0/108, Moment Tensor Solution. s38,c46; s108,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.51±.09; $M_{\theta\theta}$1.26±.10; $M_{\phi\phi}$2.24±.09; $M_{r\theta}$-0.38±.32; $M_{r\phi}$-1.36±.08; $M_{\theta\phi}$1.23±.33; Best double couple: M_o3.58900×10^{16} NP1:ϕ_s320.00000°, δ35.00000°, λ-99.00000°. NP2:ϕ_s151.00000°, δ55.00000°, λ-84.00000°. Principal axes: T 3.4130, Plg10.0000°, Azm236.0000°; N 0.3410, Plg5.0000°, Azm327.0000°; P -3.7640, Plg79.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 16:46:30.7±1.6, 20°.06S±0°.05×66°.32E±0°.09, h10km±1km, mb4.6/44 Error ellipse: s-maj=14.1km s-min=9.2km az=90.0*
ISC 22 16:46:31.0±0.5, 20°.03S±0°.08×66°.33E±0°.08, h16km, n80, σ0§87/61, mb4.5/33, MS4.3/11, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.80**	**275**	Pn	**Pn**	**16 47 15.3**	**+0.2**
RER	**Riviere de l'E**	**9.97**	**262**	Pn	**Pn**	**16 48 53.7**	**-0.2**
H08S1	**Diego Carcia H**	**13.68**	**27**	T	T	17 03 46.6	
	baz=204,slow=76,SNR=46						
H08S2	**Diego Garcia H**	**13.69**	**27**	T	T	17 03 46.5	
	baz=204,slow=76,SNR=111						
H08S3	**Diego Garcia H**	**13.70**	**27**	T	T	17 03 47.5	
	baz=204,slow=76,SNR=240						
ABPO	**Ambohimpanom**	**18.03**	**270**		**Pn**	**16 50 40.4**	**-0.9**
MSEY	**Mahe Island**	**18.56**	**324**	P	**P**	**16 50 47.2**	**-0.2**
KAAM	**Kaadhehdhoo**	**21.42**	**19**	P	**P**	**16 51 17.8**	**-0.7**
H04N2	**CROZET ISLANDS**	**28.67**	**201**	T	T	17 22 22.1	
	baz=30,slow=75,SNR=114						
H04N1	**CROZET ISLANDS**	**28.67**	**201**	T	T	17 22 27.7	
	baz=30,slow=75,SNR=79						
H04N3	**CROZET ISLANDS**	**28.68**	**201**	T	T	17 22 21.2	
	baz=30,slow=75,SNR=68						
KIBK	**Kibwezi**	**32.74**	**299**	P	**P**	**16 53 03.9**	**+0.4**
KIBK				IAmb	IAmb	16 53 07.4	
	comp=Z,8.9nm,1.5s						
LSZ	**Lusaka**	**36.59**	**271**	LR	LR	17 06 46.3	
	comp=Z,382nm,19.0s,baz=118,slow=33						
LBTB	**Lobatse**	**37.85**	**255**	LR	LR	17 08 37.9	
	comp=Z,509nm,18.1s,baz=88,slow=35						
BOSA	**Boshof**	**38.24**	**249**	LR	LR	17 07 52.2	
	comp=Z,448nm,19.3s,baz=84,slow=34						
LHMI	**Lhok Sumawe**	**39.20**	**53**	P	**P**	**16 53 56.6**	**-2.1**
FURI	**Furi**	**39.59**	**314**	LR	LR	17 09 08.4	
	comp=Z,346nm,19.1s,baz=147,slow=34						
LEM	**Lembang**	**42.12**	**78**	LR	LR	17 09 34.5	
	comp=Z,450nm,20.5s,baz=228,slow=33						
XAUDM	**Khaudum**	**42.40**	**264**	P	**P**	**16 54 24.9**	**-0.3**
H01W2	**Cape Leeuwin H**	**44.52**	**120**	T	T	17 42 08.5	
	baz=279						
H01W3	**Cape Leeuwin H**	**44.52**	**120**	T	T	17 42 12.8	
	baz=279						
H01W1	**Cape Leeuwin H**	**44.54**	**120**	T	T	17 42 08.2	
	baz=279,SNR=3.6						
UOSS	**Minazif**	**45.78**	**347**	P	**P**	**16 54 51.7**	**-0.3**
TSUM	**Tsumeb**	**45.79**	**262**	P	**P**	**16 54 52.5**	**-0.1**
TSUM				IAmb	IAmb	16 55 00.4	
	comp=Z,13nm,1.4s						
TSUM	**Tsumeb**	**45.79**	**262**	LR	LR	17 12 18.7	
	comp=Z,779nm,20.1s,baz=92,slow=34						
NWAO	**Narrogin (SRO)**	**46.93**	**117**	LR	LR	17 10 34.8	
	comp=Z,300nm,19.6s,baz=296,slow=31						
MAW	**Mawson**	**47.61**	**182**	P	**P**	**16 55 05.9**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=315,slow=5.7,SNR=2.9						
MAW				LR	LR	17 10 41.0	
	comp=Z,203nm,19.6s,baz=344,slow=30						
	comp=Z,3.1nm,0.9s						
RAYN	**Ar Rayn**	**47.82**	**334**	P	**P**	**16 55 08.1**	**+0.1**

KSM	**Kuching**	**48.11**	**69**	P	**P**	**16 55 10.5**	**0.0**
BRDH	**Bariadhala**	**49.12**	**31**	LR	LR	17 15 19.2	
	comp=Z,552nm,20.9s,baz=211,slow=35						
CMAR	**Chiang Mai Arr**	**49.87**	**42**		**P**	**16 55 24.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**49.87**	**42**	P	**P**	**16 55 25.6**	**+1.7**
	comp=Z,2.4nm,1.0s,baz=238,slow=8.2,SNR=13						
CMAR				LR	LR	17 14 43.5	
	comp=Z,588nm,20.1s,baz=225,slow=34						
	comp=Z,2.4nm,1.0s						
SBUM	**Sibu**	**50.26**	**69**	P	**P**	**16 55 27.9**	**+0.9**
SBUM				IAmb	IAmb	16 55 29.3	
	comp=Z,6.6nm,1.0s						
EVN	**Everest**	**51.66**	**23**		**P**	**16 55 37.9**	**-0.1**
EVN				IAmb	IAmb	16 55 46.0	
	comp=Z,6.5nm,1.1s						
SHL	**Shillong**	**51.68**	**30**	P	**P**	**16 55 38.7**	**+1.0**
SHL				IAmb	IAmb	16 55 40.1	
	comp=Z,9.8nm,0.9s						
NIL	**Nilore**	**53.79**	**7**	P	**P**	**16 55 53.2**	**+0.3**
NIL				IAmb	IAmb	16 56 24.4	
	comp=Z,7.9nm,1.1s						
LSA	**Lhasa**	**54.93**	**27**	P	**P**	**16 56 03.0**	**+1.2**
LSA				IAmb	IAmb	16 56 04.2	
	comp=Z,6.4nm,1.4s						
TOLI2	**Tolitoli**	**57.32**	**75**	P	**P**	**16 56 17.6**	**-1.1**
TOLI2				IAmb	IAmb	16 56 19.9	
	comp=Z,6.8nm,1.1s						
GHAJ	**Ghor Haditha**	**58.97**	**329**	P	**P**	**16 56 30.3**	**+0.5**
ARSB	**Arslanbob**	**61.35**	**6**	P	**P**	**16 56 46.9**	**+0.6**
ARSB				IAmb	IAmb	16 56 47.8	
	comp=Z,5.8nm,1.0s						
MARD	**Mardin**	**61.91**	**337**	P	**P**	**16 56 50.9**	**+0.8**
MARD				IAmb	IAmb	16 56 58.1	
	comp=Z,6.8nm,1.1s						
ASAR	**Alice Springs**	**62.30**	**107**		**P**	**16 56 52.1**	**-0.9**
ASAR	**Alice Springs**	**62.30**	**107**	P	**P**	**16 56 52.0**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=267,slow=5.3,SNR=16						
	comp=Z,2.7nm,0.9s						
AS31	**Alice Springs**	**62.31**	**107**		**P**	**16 56 52.6**	**-0.4**
KK31	**Karatay Array**	**62.94**	**3**	P	**P**	**16 56 57.3**	**+0.7**
KKAR	**Karatay Array**	**62.94**	**3**	P	**P**	**16 56 57.4**	**+0.7**
WRA	**Warramunga Arr**	**63.47**	**103**		**P**	**16 57 00.6**	**-0.2**
WRA	**Warramunga Arr**	**63.47**	**103**	P	**P**	**16 57 00.9**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=260,slow=5.9,SNR=18						
	comp=Z,4.3nm,0.9s						
WRAB	**Tennant Creek**	**63.48**	**103**	P	**P**	**16 57 00.3**	**-0.6**
WR8	**Warramunga Arr**	**63.62**	**103**	P	**P**	**16 57 01.5**	**-0.3**
SNAA	**Sanae**	**64.61**	**199**		**P**	**16 57 08.6**	**+1.1**
SNAA	**Sanae**	**64.61**	**199**	P	**P**	**16 57 07.2**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=48,slow=4.3,SNR=4.5						
	comp=Z,1.2nm,0.8s						
ENH	**Enshi**	**65.00**	**41**	P	**P**	**16 57 10.9**	**+0.3**
ENH				IAmb	IAmb	16 57 12.0	
	comp=Z,9.7nm,1.2s						
BRTR	**Keskin Array B**	**66.83**	**333**	P	**P**	**16 57 23.9**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=160,slow=7.7,SNR=5.8						
	comp=Z,1.0nm,0.8s						
INKA	**Innaminka**	**67.57**	**113**	P	**P**	**16 57 26.2**	**-1.0**
INKA				IAmb	IAmb	16 57 28.5	
	comp=Z,6.0nm,1.3s						
MKAR	**Makanchi Array**	**68.06**	**12**	P	**P**	**16 57 29.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=208,slow=6.9,SNR=7.3						
	comp=Z,1.4nm,0.8s						
BORA	**Eskisehir**	**68.36**	**331**	P	**P**	**16 57 32.8**	**+1.0**
AB31	**Akbulak array**	**69.21**	**356**		**P**	**16 57 37.0**	**+0.3**
AB31				IAmb	IAmb	16 57 48.7	
	comp=Z,5.1nm,1.3s						
ABKAR	**Akbulak array**	**69.21**	**356**		**P**	**16 57 37.0**	**+0.3**
QSPA	**South Pole Qui**	**70.08**	**180**		**P**	**16 57 43.2**	**+1.0**
QSPA	**South Pole Qui**	**70.08**	**180**	P	**P**	**16 57 44.3**	**+2.0**
	comp=Z,1.9nm,1.1s,baz=278,slow=16,SNR=5.8						
	comp=Z,1.9nm,1.1s						
KURBB	**Kurchatov Arra**	**71.16**	**8**	P	**P**	**16 57 49.3**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=202,slow=6.5,SNR=11						
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**71.27**	**8**	P	**P**	**16 57 49.3**	**0.0**
KURK	**Kurchatov**	**71.27**	**8**	IAmb	IAmb	16 57 50.7	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**71.78**	**167**	P	**P**	**16 57 51.6**	**-0.7**
VNDA				IAmb	IAmb	16 58 03.8	
	comp=Z,5.4nm,1.2s						
BVAR	**Borovoye Array**	**72.83**	**3**	P	**P**	**16 57 59.2**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=130,slow=4.6,SNR=7.9						
	comp=Z,2.4nm,0.8s						
DBIC	**Dimbokro**	**74.81**	**283**	P	**P**	**16 58 09.2**	**-2.0**
DBIC				IAmb	IAmb	16 58 24.2	
	comp=Z,11nm,1.1s						
ZAA0	**Zalesovo Array**	**75.38**	**11**	P	**P**	**16 58 12.4**	**-1.1**
ZAA0				IAmb	IAmb	16 58 14.6	
	comp=Z,7.1nm,1.0s						
ZALV	**Zalesovo Beam**	**75.38**	**11**		**P**	**16 58 13.1**	**-0.4**
ZALV	**Zalesovo Beam**	**75.38**	**11**	P	**P**	**16 58 13.9**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=206,slow=5.3,SNR=14						
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**76.52**	**26**	P	**P**	**16 58 19.9**	**-0.4**
SONM	**Songino Array**	**76.52**	**26**	P	**P**	**16 58 20.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=205,slow=5.3,SNR=6.1						
	comp=Z,1.7nm,0.8s						
BURAR	**Bucovina Array**	**76.79**	**333**	P	**P**	**16 58 21.9**	**0.0**
BUR08	**Bucovina Ar. S**	**76.82**	**333**	P	**P**	**16 58 22.7**	**+0.7**
BUR08				IAmb	IAmb	16 58 54.6	
	comp=Z,6.9nm,1.5s						
AKASG	**Malin Array Be**	**77.64**	**337**	P	**P**	**16 58 24.2**	**-2.3**
AKASG				IAmb	IAmb	16 58 25.4	
	comp=Z,4.5nm,0.9s						
INTR	**Introdacqua**	**78.45**	**323**	P	**P**	**16 58 31.7**	**+0.4**
INTR				IAmb	IAmb	16 58 33.0	
	comp=Z,15nm,1.4s						
KSRS	**Korea Array**	**81.39**	**45**	P	**P**	**16 58 46.3**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=280,slow=7.5,SNR=4.3						
	comp=Z,1.3nm,1.0s						
PMSA	**Palmer Station**	**87.33**	**199**	LR	LR	17 32 07.7	
	comp=Z,268nm,18.1s,baz=115,slow=31						
MJAR	**Matsushiro Arr**	**88.07**	**50**	P	**P**	**16 59 21.2**	**+0.3**
MJAR				IAmb	IAmb	16 59 50.4	
	comp=Z,5.2nm,1.4s						
MJAR	**Matsushiro Arr**	**88.07**	**50**	P	**P**	**16 59 21.8**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=216,slow=5.3,SNR=5.8						
	comp=Z,3.8nm,1.0s						

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*IDC **22** 16:48:28.6±1.1, 20°.18S×66°.28E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=38.9km s-min=22.0km az=67.0*
*NEIC **22** 16:48:29.2±1.8, 20°.26S±0°.10×66°.09E±0°.07, h10km±1km, mb4.6/25, Error ellipse: s-maj=18.5km s-min=7.6km az=211.0*
ISC 22 16:48:28.5±0.6, 20°.3S±0°.1×66°.08E±0°.08, h10km, n49, σ1§18/43, mb4.5/22, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.60**	**281**	Pn	**Pn**	**16 49 10.3**	**-0.3**
H08S1	**Diego Carcia H**	**14.01**	**27**	T	T	17 05 59.2	
	baz=202						
H08S2	**Diego Garcia H**	**14.01**	**27**	T	T	17 05 59.2	
	baz=202						
H08S3	**Diego Garcia H**	**14.03**	**27**	T	T	17 05 58.1	
	baz=202						
VOI	**Vohitsoka**	**18.07**	**261**	Pn	**Pn**	**16 52 38.0**	**-2.0**
H04N2	**CROZET ISLANDS**	**28.35**	**201**	T	T	17 24 22.9	
	baz=30,slow=74,SNR=9.2						
H04N1	**CROZET ISLANDS**	**28.36**	**201**	T	T	17 24 23.7	
	baz=30,slow=74,SNR=9.2						
H04N3	**CROZET ISLANDS**	**28.37**	**201**	T	T	17 24 22.7	
	baz=30,slow=74,SNR=8.6						
LPHEP	**Lephephe**	**37.38**	**258**	P	**P**	**16 55 41.1**	**-0.8**
LPHEP				IAmb	IAmb	16 56 15.5	
	comp=Z,34nm,1.4s						
MYKOM	**Kota Tinggi**	**43.03**	**64**	P	**P**	**16 56 28.7**	**0.0**
TSUM	**Tsumeb**	**45.52**	**263**	P	**P**	**16 56 48.1**	**-0.7**
TSUM				IAmb	IAmb	16 57 04.5	
	comp=Z,4.3nm,1.0s						
UOSS	**Minazif**	**45.97**	**347**	P	**P**	**16 56 50.5**	**-1.4**
MAW	**Mawson**	**47.36**	**182**	P	**P**	**16 57 05.4**	**+3.1**
	comp=Z,2.9nm,0.7s,baz=358,slow=7.4,SNR=4.4						
	comp=Z,2.9nm,0.7s						
RAYN	**Ar Rayn**	**47.94**	**334**	P	**P**	**16 57 08.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**50.21**	**42**	P	**P**	**16 57 24.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**50.21**	**42**	P	**P**	**16 57 26.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=238,slow=7.6,SNR=5.6						
	comp=Z,0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**56.03**	**99**	P	**P**	**16 58 06.5**	**-1.5**
MYLDM	**Lahad Datu**	**57.37**	**70**	P	**P**	**16 58 16.8**	**-0.7**
TOLI2	**Tolitoli**	**57.61**	**75**	P	**P**	**16 58 17.9**	**-1.3**
TOLI2				IAmb	IAmb	16 58 28.8	
ARSB	**Arslanbob**	**61.62**	**6**	P	**P**	**16 58 47.3**	**+0.8**
ASAR	**Alice Springs**	**62.46**	**107**	P	**P**	**16 58 52.4**	**-0.1**
ASAR	**Alice Springs**	**62.46**	**107**	P	**P**	**16 58 52.2**	**-0.3**
	comp=Z,3.8nm,1.0s,baz=257,slow=6.2,SNR=10.0						
	comp=Z,3.8nm,1.0s						
AS31	**Alice Springs**	**62.46**	**107**	P	**P**	**16 58 52.5**	**0.0**
AAK	**Ala-Archa**	**63.08**	**7**	P	**P**	**16 58 55.8**	**-0.5**
AAK				IAmb	IAmb	16 58 58.9	
	comp=Z,8.0nm,1.4s						
HKPS	**Hong Kong Po S**	**63.18**	**51**	P	**P**	**16 58 58.1**	**+1.0**
WRA	**Warramunga Arr**	**63.65**	**103**		**P**	**16 59 00.6**	**+0.2**
WRA	**Warramunga Arr**	**63.65**	**103**	P	**P**	**16 59 00.8**	**+0.3**
	comp=Z,6.5nm,1.1s,baz=257,slow=5.8,SNR=10						
	comp=Z,6.5nm,1.1s						
WRAB	**Tennant Creek**	**63.66**	**103**	P	**P**	**16 59 00.5**	**0.0**
WRAB				IAmb	IAmb	16 59 02.7	
	comp=Z,9.6nm,1.1s						
WR8	**Warramunga Arr**	**63.79**	**103**	P	**P**	**16 59 00.9**	**-0.4**
WR8				IAmb	IAmb	16 59 03.5	
	comp=Z,5.6nm,1.1s						
BNN	**Bunyan**	**65.29**	**334**	P	**P**	**16 59 11.2**	**+0.4**
BNN				IAmb	IAmb	16 59 13.9	
	comp=Z,4.0nm,1.1s						
BRTR	**Keskin Array B**	**66.94**	**333**	P	**P**	**16 59 23.2**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=161,slow=7.9,SNR=4.7						
	comp=Z,1.1nm,0.8s						
INKA	**Innaminka**	**67.69**	**112**	P	**P**	**16 59 24.6**	**-1.8**
INKA				IAmb	IAmb	16 59 29.4	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**68.35**	**12**	P	**P**	**16 59 29.8**	**-0.2**
MKAR	**Makanchi Array**	**68.35**	**12**	P	**P**	**16 59 30.5**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=184,slow=3.6,SNR=4.4						
	comp=Z,1.8nm,1.0s						
AB31	**Akbulak array**	**69.44**	**356**		**P**	**16 59 37.4**	**+0.7**
AB31				IAmb	IAmb	16 59 39.0	
	comp=Z,4.5nm,1.0s						
ABKAR	**Akbulak array**	**69.44**	**356**	P	**P**	**16 59 37.4**	**+0.7**
KURBB	**Kurchatov Arra**	**71.44**	**8**	P	**P**	**16 59 49.0**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=196,slow=6.8,SNR=4.8						
	comp=Z,1.4nm,1.0s						
KURK	**Kurchatov**	**71.55**	**8**	P	**P**	**16 59 50.4**	**+0.9**
KURK				IAmb	IAmb	16 59 56.5	
	comp=Z,6.2nm,1.3s						
BVAR	**Borovoye Array**	**73.09**	**3**	P	**P**	**16 59 59.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=167,slow=7.2,SNR=4.8						
	comp=Z,1.6nm,0.8s						
ZAA0	**Zalesovo Array**	**75.67**	**11**		**P**	**17 00 14.0**	**+0.3**
ZAA0				IAmb	IAmb	17 00 20.5	
	comp=Z,7.0nm,1.2s						
ZALV	**Zalesovo Beam**	**75.67**	**11**		**P**	**17 00 13.7**	**+0.1**
ZALV	**Zalesovo Beam**	**75.67**	**11**	P	**P**	**17 00 14.2**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=204,slow=3.3,SNR=6.9						
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**76.84**	**27**	P	**P**	**17 00 18.6**	**-2.1**
SONM	**Songino Array**	**76.84**	**27**	P	**P**	**17 00 22.5**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=205,slow=6.4,SNR=2.7						
	comp=Z,0.8nm,0.5s						
KSAR	**Wonju Array Be**	**81.70**	**45**	P	**P**	**17 00 45.4**	**-1.9**
JSG	**Sagara**	**87.56**	**52**	P	**P**	**17 01 16.2**	**-0.8**
MJAR	**Matsushiro Arr**	**88.41**	**50**	P	**P**	**17 01 19.3**	**-1.7**
MJAR				IAmb	IAmb	17 01 23.1	
	comp=Z,2.5nm,0.9s						
MJAR	**Matsushiro Arr**	**88.41**	**50**	P	**P**	**17 01 23.3**	**+2.2**
	comp=Z,3.4nm,1.0s,baz=225,slow=4.5,SNR=4.0						
	comp=Z,3.4nm,1.0s						
DSB	**Dublin**	**96.05**	**325**	P	**P**	**17 01 56.2**	**+0.3**

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*IDC **22** 16:50:00.6±0.8, 20°.03S×66°.37E, h0km, mb4.1/13, mbtmp4.1/13, Error ellipse: s-maj=29.2km s-min=19.3km az=75.0*
*NEIC **22** 16:50:02.2±1.6, 20°.02S±0°.07×66°.4E±0°.1, h10km±1km, mb4.6/30, Error ellipse: s-maj=19.1km s-min=5.3km az=236.0*
*GCMT **22** 16:50:05.2±0.2, 20°.00S±0°.03×66°.14E±0°.02, h22km, MW5.1/103, Moment Tensor Solution. s29,c30; s103,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.03±.28; $M_{\theta\theta}$2.29±.16; $M_{\phi\phi}$3.73±.17; $M_{r\theta}$0.69±.28; $M_{\theta\phi}$-1.25±.08; $M_{r\phi}$1.28±.25; Best double couple: M_o5.39500×10^{16} NP1:ϕ_s322.00000°, δ41.00000°, λ-103.00000°. NP2:ϕ_s160.00000°, δ50.00000°, λ-79.00000°. Principal axes: T 4.5110, Plg4.0000°, Azm242.0000°; N 1.7580, Plg9.0000°, Azm332.0000°; P -6.2790, Plg80.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 16:50:03.0±0.5, 19°.97S±0°.08×66°.5E±0°.1, h16km, n55, σ1§17/49, mb4.5/26, Mauritius-Reunion region

| Code |

QSPA	South Pole Qui	70.14	180	P	P	17 01 18.9	+4.2
	comp=Z,3.9nm,1.0s,baz=247,slow=1.2,SNR=5.0						
KURBB	Kurchatov Arra	71.08	8	P	P	17 01 20.4	+0.1
	comp=Z,1.4nm,0.8s,baz=248,slow=11,SNR=7.7						
	comp=Z,1.4nm,0.8s						
KURK	Kurchatov	71.19	8	P	P	17 01 21.3	+0.5
KURK				IAmb	IAmb	17 01 29.3	
	comp=Z,5.8nm,1.1s						
BVAR	Borovoye Array	72.76	2	P	P	17 01 30.6	+0.3
	comp=Z,2.2nm,0.8s,baz=163,slow=5.4,SNR=7.5						
	comp=Z,2.2nm,0.8s						
TIRR	Tirgusor	72.93	333	P	P	17 01 30.2	-1.2
TIRR				IAmb	IAmb	17 01 44.5	
	comp=Z,8.4nm,1.1s						
MLR	Muntele Rosu	74.83	332	P	P	17 01 41.5	-1.3
ZAA0	Zalesovo Array	75.29	11		P	17 01 44.8	-0.2
ZAA0				IAmb	IAmb	17 01 53.3	
	comp=Z,11nm,1.4s						
ZALV	Zalesovo Beam	75.29	11		P	17 01 44.8	-0.2
ZALV	Zalesovo Beam	75.29	11	P	P	17 01 45.6	+0.6
	comp=Z,3.4nm,0.8s,baz=204,slow=4.3,SNR=9.2						
	comp=Z,3.4nm,0.8s						
SONM	Songino Array	76.41	26	P	P	17 01 52.0	+0.3
SONM	Songino Array	76.41	26	P	P	17 01 52.5	+0.8
	comp=Z,1.9nm,0.9s,baz=216,slow=4.8,SNR=5.3						
	comp=Z,1.9nm,0.9s						
ULN	Ulaanbaatar	76.71	27	P	P	17 01 54.0	+0.6
ULN				IAmb	IAmb	17 02 07.2	
	comp=Z,5.4nm,1.3s						
BURAR	Bucovina Array	76.78	333	P	P	17 01 51.8	-2.0
AKASG	Malin Array Be	77.63	337	P	P	17 01 57.5	-0.8
AKASG	Malin Array Be	77.63	337	P	P	17 01 58.4	0.0
	comp=Z,0.2nm,0.3s,baz=137,slow=4.7,SNR=5.0						
	comp=Z,0.2nm,0.3s						
NRCA	Norcia	79.44	323	P	P	17 02 09.0	+0.3
NRCA				IAmb	IAmb	17 02 16.3	
	comp=Z,8.4nm,1.3s						
GEC2	GERESS Array S	83.04	328	P	P	17 02 27.5	-0.1
GEC2				IAmb	IAmb	17 02 55.5	
	comp=Z,3.8nm,1.2s						
MJAR	Matsushiro Arr	87.94	50	P	P	17 02 50.9	-1.4
MJAR	Matsushiro Arr	87.94	50	P	P	17 02 53.5	+1.2
	comp=Z,2.5nm,0.9s,baz=233,slow=4.8,SNR=5.0						
	comp=Z,2.5nm,0.9s						

*IDC **22** 16:58:50.4±1.4, 34°.79S×179°.57W, h0km, mb3.9/3, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=39.4km s-min=32.9km az=65.0*
*NEIC **22** 16:58:52.7±1.1, 34°.9S±0°.1×179°.6W±0°.2, h10km±1km, mb4.4/17, Error ellipse: s-maj=23.0km s-min=17.8km az=112.0*
*WEL **22** 16:58:59.7±0.8, 35°.S±7°.×18°.0W±°, h163km±16km, M4.2/23, mB4.5/1, ML4.4/16, MLv4.2/23, Mw(mB)3.6/1, Error ellipse: s-maj=12.0km s-min=8.8km az=109.1, confirmed*
ISC 22 16:58:56.5±0.8, 35°.03S±0°.06×179°.69W±0°.10, h43km, n75, σ1s50/91, mb4.2/11, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.00	212	Pn	Pn	16 59 41.7	+0.1
MXZ	Matakaoa Point	3.00	212	P	Pn	16 59 42.3	+0.7
MXZ				S	Sn	17 00 16.5	+0.2
WMGZ	Waiomatatini S	3.18	208	P	Pn	16 59 45.2	+1.2
WMGZ				S	Sn	17 00 21.2	+0.6
PKGZ	Pakihiroa	3.35	212	P	Pn	16 59 47.2	+0.8
PKGZ				S	Sn	17 00 25.5	+0.4
HAZ	Te Kaha	3.40	216	P	Pn	16 59 46.8	-0.3
HAZ				S	Sn	17 00 27.8	+1.7
PUZ	Puketiti	3.46	208	P	Pn	16 59 49.1	+1.3
RUGZ	Raukumara Rang	3.62	215	P	Pn	16 59 51.3	+1.1
TWGZ	Tauwhareparae	3.66	210	P	Pn	16 59 51.1	+0.4
TWGZ				S	Sn	17 00 32.2	-0.3
CNGZ	Carnagh Statio	3.84	205	P	Pn	16 59 54.2	+1.1
CNGZ				S	Sn	17 00 37.0	+0.1
TKGZ	Te Karaka	3.94	209	P	Pn	16 59 55.2	+0.8
TKGZ				S	Sn	17 00 38.5	-0.8
MWZ	Matawai	3.98	213	P	Pn	16 59 55.6	+0.4
MWZ				S	Sn	17 00 39.0	-1.6
URZ	Urewera	4.12	218	Pn	Pn	16 59 56.7	-0.3
	7.9nm,0.3s,baz=246,slow=3.9,SNR=65						
URZ				Sn	Sn	17 00 42.0	-1.9
	12nm,0.3s,baz=161,slow=24,SNR=7.9						
	24nm,0.3s						
URZ	Urewera	4.12	218	P	Pn	16 59 57.1	+0.1
URZ				S	Sn	17 00 42.3	-1.7
OPRZ	Ohinepanea	4.13	226	P	Pn	16 59 56.8	-0.3
RIGZ	Rimuhau	4.20	208	P	Pn	16 59 58.4	+0.4
RIGZ				S	Sn	17 00 44.6	-1.3
PRGZ	Paritu Road	4.34	206	P	Pn	16 59 58.6	-1.4
SNGZ	Shannon Statio	4.44	212	P	Pn	17 00 01.8	+0.5
SNGZ				S	Sn	17 00 50.8	-1.0
MUGZ	Murupara	4.46	219	P	Pn	17 00 01.8	+0.1
MUGZ				S	Sn	17 00 50.7	-1.6
RTZ	Ruatahuna	4.46	216		Pn	17 00 01.5	-0.2
KNZ	Kokohu	4.51	207	P	Pn	17 00 01.8	-0.4
KNZ				S	Sn	17 00 51.6	-1.8
MHGZ	Mahia Peninsul	4.54	204	P	Pn	17 00 02.1	-0.7
MKAZ	Moumakai	4.66	242	P	Pn	17 00 05.2	+0.9
RAHZ	Arahi	4.66	213	P	Pn	17 00 05.4	+1.0
RAHZ				S	Sn	17 00 55.4	-1.8
MTHZ	Maungataniwha	4.72	215	P	Pn	17 00 04.0	-1.2
MBAZ	Motutapu North	4.72	247	P	Pn	17 00 06.1	+0.8
TOZ	Tahuroa Road	4.72	234		Pn	17 00 05.6	+0.4
TOZ	Tahuroa Road	4.72	234	P	Pn	17 00 06.1	+0.8
ALRZ	Allen Road	4.75	221	P	Pn	17 00 06.7	+1.0
MRHZ	Matea Rd	4.91	218	P	Pn	17 00 07.7	-0.2
WCZ	Waipu Caves	4.95	258	P	Pn	17 00 09.2	+0.8
ARHZ	Aropaoanui	4.99	211	P	Pn	17 00 08.8	0.0
AWAZ	Awhitu Peninsu	5.02	245	P	Pn	17 00 09.6	+0.3
BKZ	Black Stump Fm	5.13	215	P	Pn	17 00 11.1	+0.1
BKZ				S	Sn	17 01 05.7	-3.2
CKHZ	Cape Kidnapper	5.29	208	P	Pn	17 00 12.1	-0.9
CKHZ				S	Sn	17 01 09.0	-3.7
KWHZ	Kaweka Forest	5.37	214	P	Pn	17 00 14.6	+0.4
KWHZ				S	Sn	17 01 12.9	-1.9
KAHZ	Kahuranaki	5.49	209	P	Pn	17 00 14.6	-1.1
KAHZ				S	Sn	17 01 13.1	-4.5
TMVZ	Te Maari	5.49	221	P	Pn	17 00 15.2	-0.7
TMVZ				S	Sn	17 01 14.8	-3.1
OUZ	Omahuta	5.51	266	P	Pn	17 00 16.5	+0.5
OTVZ	Oturere	5.55	221	P	Pn	17 00 15.8	-0.9
NNVZ	North Ngauruho	5.55	221	P	Pn	17 00 17.6	+0.8
HIZ	Hauiti	5.59	230	P	Pn	17 00 18.8	+1.6
NGZ	Ngauruhoe	5.59	221	P	Pn	17 00 16.7	-0.6
NGZ				S	Sn	17 01 17.7	-2.6
PNHZ	Pukenui	5.87	213	P	Pn	17 00 19.3	-1.7
PNHZ				S	Sn	17 01 20.7	-6.3
ODZ	Otahua Downs	12.44	214	Pn	Pn	17 01 49.7	-1.1
AFI	Afiamalu	22.21	21	P	P	17 03 46.6	-2.8
SANVU	Saraoutou	22.78	326	P	P	17 03 52.5	-2.9
SANVU				IAmb	IAmb	17 03 58.5	
	comp=Z,27nm,0.8s						
INKA	Innaminka	34.38	271	P	P	17 05 40.1	+0.6
INKA				IAmb	IAmb	17 06 14.6	
	comp=Z,2.7nm,1.5s						
BBOO	Buckleboo	36.56	261	P	P	17 05 59.5	+1.2
BBOO				IAmb	IAmb	17 06 14.0	
	comp=Z,10nm,1.5s						
COEN	Coen	39.45	293	P	P	17 06 24.5	+1.7
RABL	Rabaul	40.25	313	P	P	17 06 28.6	-0.8
RABL				IAmb	IAmb	17 06 30.7	
	comp=Z,8.5nm,0.6s						
AS31	Alice Springs	41.67	273	P	P	17 06 41.6	+0.4
ASAR	Alice Springs	41.67	273	P	P	17 06 41.0	-0.1
ASAR	Alice Springs	41.67	273	P	P	17 06 41.6	+0.5
	comp=Z,1.5nm,0.5s,baz=114,slow=7.4,SNR=59						
	comp=Z,1.5nm,0.5s						
WR8	Warramunga Arr	42.95	278	P	P	17 06 52.3	+0.8
WR8				IAmb	IAmb	17 06 57.8	
	comp=Z,6.3nm,1.4s						
WRAB	Tennant Creek	43.08	278	P	P	17 06 53.2	+0.6
WRAB				IAmb	IAmb	17 07 02.2	
	comp=Z,4.3nm,1.0s						
WRA	Warramunga Arr	43.09	278	P	P	17 06 53.3	+0.6
WRA	Warramunga Arr	43.09	278	P	P	17 06 53.2	+0.6
	comp=Z,1.0nm,0.5s,baz=118,slow=7.7,SNR=34						
	comp=Z,1.0nm,0.5s						
WB0	Warramunga Arr	43.13	278	P	P	17 06 53.6	+0.6
WB0				IAmb	IAmb	17 06 54.9	
	comp=Z,6.8nm,1.2s						
SBA	Scott Base	43.33	184	P	P	17 06 56.2	+2.4
MTN	Manton Dam	49.50	284	P	P	17 07 43.0	-0.1
KNRA	Kununurra	49.83	279	P	P	17 07 46.0	+0.5
KNRA				IAmb	IAmb	17 08 28.2	
	comp=Z,12nm,1.3s						
FITZ	Fitzroy Crossi	51.11	274	P	P	17 07 55.7	+0.6
MBWA	Marble Bar	54.46	268	P	P	17 08 19.6	-0.3
QSPA	South Pole Qui	55.09	180	P	P	17 08 25.7	+1.7
QSPA				IAmb	IAmb	17 08 41.9	
	comp=Z,4.2nm,1.2s						
QSPA	South Pole Qui	55.09	180	P	P	17 08 26.1	+2.1
	comp=Z,0.6nm,0.7s,baz=226,slow=1.0,SNR=6.8						
	comp=Z,0.6nm,0.7s						
H03S2	Juan Fernandez	79.10	124	T	T	18 39 07.3	
	baz=233,slow=74,SNR=4.9						
H03S1	Juan Fernandez	79.11	124	T	T	18 39 04.3	
	baz=233,slow=74,SNR=4.0						
H03S3	Juan Fernandez	79.11	124	T	T	18 39 13.2	
	baz=233,slow=74,SNR=4.0						
H03N3	Juan Fernandez	79.32	123	T	T	18 39 26.3	
	baz=237,slow=72,SNR=6.6						
H03N2	Juan Fernandez	79.32	123	T	T	18 39 17.1	
	baz=237,slow=72,SNR=5.0						
H03N1	Juan Fernandez	79.33	123	T	T	18 39 23.8	
	baz=237,slow=72,SNR=6.7						
KURK	Kurchatov	123.15	312		PKiKP	17 17 47.9	-0.2
KURBB	Kurchatov Arra	123.18	312	PKP	PKiKP	17 17 47.9	-0.3
	comp=Z,0.3nm,0.4s,baz=118,slow=2.1,SNR=5.5						
FINES	FINESS Array B	148.90	336	PKPbc	PKPbc	17 18 39.0	+0.3
	comp=Z,3.8nm,0.8s,baz=45,slow=3.0,SNR=7.5						
BRTR	Keskin Array B	153.20	290	PKPbc	PKPbc	17 18 48.4	-1.3
	comp=Z,0.4nm,0.5s,baz=116,slow=1.6,SNR=4.1						

IDC 22 17:03:58.3±2.8, 29°.67N×107°.30E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=525.7km s-min=23.8km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.88	318	P	P	17 09 33.4	+1.7
	0.5nm,0.8s,baz=130,slow=8.5,SNR=2.2						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	30.05	322	P	P	17 10 07.2	-1.7
	0.2nm,0.6s,baz=113,slow=7.1,SNR=1.7						
	0.2nm,0.6s						
WRA	Warramunga Arr	55.78	149	P	P	17 13 37.6	+0.4
	0.3nm,0.7s,baz=336,slow=7.8,SNR=5.0						
	0.3nm,0.7s						
ASAR	Alice Springs	58.87	151	P	P	17 13 58.6	-0.5
	0.3nm,0.8s,baz=334,slow=8.1,SNR=6.0						
	0.3nm,0.8s						

*GCG **22** 17:13:21.9±2.1, 14°.97N×89°.58W, h0km±7km, MD3.9, ML3.6, MW3.4, Fault plane solution: NP1:φs82.35000°, δ80.15000°, λ-1.75000°.*
*SNET **22** 17:13:22.7±1.8, 14°.98N×89°.61W, h3km, ML3.5*
*CATAC **22** 17:13:23.0±0.2, 15°.N±1°.×9°.0W±°, h3km±1km, M3.6/14, MLv3.6/14, Error ellipse: s-maj=2.7km s-min=2.1km az=33.1, confirmed*
ISC 22 17:13:22.6±1.2, 14°.98N±0°.03×89°.60W±0°.02, h3km±10km, n71, σ0s57/76, 4C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	Esquipulas	0.48	149	↑eP	Pg	17 13 32.4	+0.5
ESQI				eS	Sg	17 13 39.4	+1.2
ESQI	Esquipulas	0.48	149	P	Pg	17 13 32.5	+0.5
MTO3	Montecristo	0.62	158	eP	Pg	17 13 34.8	+0.3
MTO3	Montecristo	0.62	158	iP	Pg	17 13 34.7	+0.1
MTO3	Montecristo	0.62	158	S	Sg	17 13 43.4	+0.9
MTO3	Montecristo	0.62	158	P	Pg	17 13 34.8	+0.3
JUAM	Asuncion Mita	0.65	189	iP	Pg	17 13 34.8	-0.3
JUAM				IAML		17 13 46.7	
	comp=N,3μm,0.7s						
SARH	Santa Rosa de	0.83	104	↑iP	Pg	17 13 38.9	+0.3
SARH				iS	Sb	17 13 51.2	-0.2
SARH	Santa Rosa de	0.83	104	P	Pg	17 13 38.9	+0.3
SARH	Santa Rosa de	0.83	104	S	Sb	17 13 50.6	-0.8
APG	El Apazote	0.84	272	↑iP	Pg	17 13 37.5	-1.3
RBDL	Robledal	0.86	186	↓iP	Pg	17 13 39.1	-0.1
GCG4	OSOP	0.98	247	iS	Sn	17 13 59.3	+1.3
LOAL	Lomas de Alarc	0.99	190	eP	Pg	17 13 41.6	0.0
LOAL	Lomas de Alarc	0.99	190	S	Sb	17 13 55.6	-0.4
LOAL	Lomas de Alarc	0.99	190	P	Pg	17 13 41.4	-0.2
UNIC	Universidad Ca	0.99	177	P	Pg	17 13 41.3	-0.3
UNIC	Universidad Ca	0.99	177	S	Sb	17 13 55.5	-0.5
LLGN	La Laguna	1.03	142	eP	Pb	17 13 42.8	-0.3
LLGN	La Laguna	1.03	142	S	Sb	17 13 56.7	-0.3
LLGN	La Laguna	1.03	142	P	Pg	17 13 42.4	+0.1
PCG5	San Vicente Pa	1.07	225	iP	Pn	17 13 45.0	+0.4
RTR	El Retiro	1.07	182	eP	Pg	17 13 43.3	0.0
NUBE	Las Nubes	1.08	189	eP	Pg	17 13 43.1	-0.3
NUBE	Las Nubes	1.08	189	↓iP	Pg	17 13 43.1	-0.3
NUBE	Las Nubes	1.08	189	P	Pg	17 13 43.1	-0.3
NUBE	Las Nubes	1.08	189	S	Sb	17 13 58.4	-0.3
SNJE	San Jose	1.10	180	eP	Pg	17 13 43.6	-0.2
SBLS	San Blas	1.13	181	eP	Pg	17 13 44.0	-0.3
CEVE	Cerro Verde	1.14	181	eP	Pg	17 13 44.7	+0.2
CEVE	Cerro Verde	1.14	181	P	Pg	17 13 44.8	+0.2
CEVE	Cerro Verde	1.14	181	S	Sb	17 14 00.1	-0.4
FG8	Yepocapa, Chim	1.18	233	↓iP	Pn	17 13 48.9	+2.8
CEDA	San Andres	1.18	170	S	Sb	17 14 01.3	-0.2
FAME	Alcaldia de Sa	1.20	200	P	Pg	17 13 45.0	-0.6
FAME	Alcaldia de Sa	1.20	200	S	Sb	17 14 01.7	-0.2
IZABA	Izabal, Puerto	1.23	52	S	Sb	17 14 02.7	-0.1
BOQS	Boqueron	1.27	166	eP	Pg	17 13 47.3	+0.2
PMON	Piamonte	1.29	168	eP	Pg	17 13 46.7	-0.7
PMON	Piamonte	1.29	168	S	Sb	17 14 04.4	-0.2
PMON	Piamonte	1.29	168	P	Pg	17 13 46.6	-0.7
JAYA	Jayaque - finc	1.32	174	eP	Pg	17 13 47.5	-0.5
JAYA	Jayaque - finc	1.32	174	↑iP	Pg	17 13 47.5	-0.5
JAYA				iS	Sg	17 14 05.1	-0.1
JAYA	Jayaque - finc	1.32	174	P	Pg	17 13 47.5	-0.5
UDBS	Universidad Do	1.33	161	S	Sg	17 14 05.4	+0.1
UTEC	Universidad Te	1.33	163	S	Sb	17 14 05.5	-0.1
ESSG	Sabana Grande	1.33	244	iP	Pn	17 13 47.7	-0.5
ESSG				IAML		17 14 12.8	
	comp=E,460nm,2.0s						
LOMA	Loma Larga	1.39	163	eP	Pn	17 13 48.9	-0.1
LOMA	Loma Larga	1.39	163	P	Pn	17 13 49.0	-0.1
LOMA	Loma Larga	1.39	163	S	Sg	17 14 07.2	-0.1
PAVA	Las Pavas	1.41	153	eP	Pn	17 13 49.2	-0.1
PAVA	Las Pavas	1.41	153	P	Pn	17 13 49.2	-0.1
PAVA	Las Pavas	1.41	153	S	Sg	17 14 07.8	-0.2
PANCS	Alcalda de	1.42	163	S	Sg	17 14 08.0	-0.2
LFRS	El Faro	1.44	159	eP	Pn	17 13 49.9	+0.1
QUIS	Sacapulas	1.48	282	iP	Pn	17 13 49.6	-0.7
LALI	Alcalda de L	1.50	170	S	Sn	17 14 10.5	-0.1
SCLA	Alcaldia de Sa	1.52	146	eP	Pn	17 13 51.1	+0.4
SCLA	Alcaldia de Sa	1.52	146	P	Pn	17 13 50.7	0.0
SCLA	Alcaldia de Sa	1.52	146	S	Sn	17 14 11.0	-0.1
UESV	Universidad de	1.55	149	S	Sn	17 14 11.7	0.0
TECO	Alcaldia de Te	1.64	151	S	Sn	17 14 14.0	+0.1
PQSS	Presa 15 de Se	1.68	143	S	Sn	17 14 15.3	+0.4
SOKI	Kika Raxquin	1.75	265	iP	Pb	17 13 55.6	-0.1
SOKI				iS	Sg	17 14 19.6	+0.6
HUEH	Huehuetenango	1.87	281	iP	Pn	17 13 56.6	+0.9
HUEH				iS	Sg	17 14 23.5	+0.7
HUEH	Huehuetenango	1.87	281	S	Sn	17 14 20.6	+0.6
PACA	Pacayal	1.94	140	eP	Pb	17 13 58.0	-0.8
PACA	Pacayal	1.94	140	S	Sb	17 14 22.7	-0.7
PETF	Flores	1.94	352	iP	Pn	17 13 56.5	-0.1
PETF	Flores	1.94	352	S	Sn	17 14 22.0	+0.5
PETF	Flores	1.94	352	P	Pn	17 13 56.6	+0.1

*NEIC **22** 17:16:03.7±1.4, 19°.52N±0°.04×64°.52W±0°.06, h10km±2km, ML3.2/21, Md3.4/14(RSPR), Error ellipse: s-maj=10.9km s-min=5.8km az=291.0*
*RSPR **22** 17:16:06.0, 19°.58N×64°.48W, h78km±14km, MD3.4/14*
ISC 22 17:16:04.2±2.6, 19°.7N±0°.2×64°.46W±0°.06, h27km, n48, σ0s80/49, 13C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	2.00	222	Pn	Pn	17 16 36.3	+0.1
GCPR	Guaynabo City	2.04	229		Pn	17 16 36.2	-0.5
GCPR	Guaynabo City	2.04	229	↑eP	Pn	17 16 37.1	+0.4
PDPR	Patillas Dam,	2.20	223		Pn	17 16 38.3	-0.6
PDPR				IAML		17 17 15.5	
	comp=E,94nm,0.9s						
PDPR	Patillas Dam,	2.20	223	↑eP	Pn	17 16 38.9	0.0
PDPR	Patillas Dam,	2.20	223	eS	Sn	17 17 05.1	-0.1
SJG	San Juan	2.21	227		Pn	17 16 38.1	-1.0
SJG				IAML		17 17 18.1	
	comp=E,83nm,0.7s						
SJG	San Juan	2.21	227	↑eP	Pn	17 16 41.1	+2.0
SJG	San Juan	2.21	227	eS	Sn	17 17 04.9	-0.8
ECPR	Experimental S	2.24	234	↑eP	Pn	17 16 39.9	+0.4
ECPR	Experimental S	2.24	234	eS	Sn	17 17 05.9	-0.3
EMPR	Esperanza - Ma	2.28	240		Pn	17 16 39.2	-0.9
EMPR	Esperanza - Ma	2.28	240	↓eP	Pn	17 16 40.0	0.0
EMPR	Esperanza - Ma	2.28	240	eS	Sn	17 17 07.0	-0.3
IGPR	InterUniversit	2.29	223	↑eP	Pn	17 16 40.1	-0.1
SABA	Saba	2.32	150	Pn	Pn	17 16 40.8	+0.2
SABA				IAML		17 17 26.0	
	comp=E,482nm,0.8s						
SABA				IAML		17 17 38.8	
	comp=N,232nm,0.6s						
AOPR	Arecibo Observ	2.53	240		Pn	17 16 43.2	-0.3
AOPR				IAML		17 17 21.0	
	comp=N,190nm,0.4s						
AOPR	Arecibo Observ	2.53	240	↑eP	Pn	17 16 43.5	-0.1
AOPR	Arecibo Observ	2.53	240	eS	Sn	17 17 13.2	-0.4
AOPR	Arecibo Observ	2.53	240	eP	Pn	17 16 43.4	-0.2
AOPR				eS	Sn	17 17 12.0	-1.5
CELP	Cerrillos	2.55	232		Pn	17 16 43.3	-0.5
CELP				IAML		17 17 19.8	
	comp=N,63nm,0.5s						
CELP	Cerrillos	2.55	232	↑eP	Pn	17 16 43.9	+0.2
CELP	Cerrillos	2.55	232	eS	Sn	17 17 13.5	-0.4
UUPR	Utuado, UPR, P	2.55	237	Pn	Pn	17 16 43.4	-0.5
UUPR	Utuado, UPR, P	2.55	237	↑eP	Pn	17 16 44.6	+0.8
UUPR	Utuado, UPR, P	2.55	237	eS	Sn	17 17 14.4	+0.3
OBIP	Obispado Ponce	2.59	232		Pn	17 16 43.7	-0.6
OBIP				IAML		17 17 25.8	
	comp=N,72nm,0.8s						
OBIP				IAML		17 17 27.5	
	comp=E,68nm,0.7s						
OBIP	Obispado Ponce	2.59	232	↑eP	Pn	17 16 44.6	+0.3
OBIP	Obispado Ponce	2.59	232	eS	Sn	17 17 14.2	-0.7
AGPR	Aguadilla, PR	2.77	245	↑eP	Pn	17 16 47.3	+0.5
AGPR	Aguadilla, PR	2.77	245	eS	Sn	17 17 19.5	+0.1
LSP	Las Mesas	2.89	240	↑eP	Pn	17 16 48.9	+0.4
LSP	Las Mesas	2.89	240	eS	Sn	17 17 22.3	0.0
MLPR	Magueyes Islan	2.97	236	↑eP	Pn	17 16 49.5	0.0
MLPR	Magueyes Islan	2.97	236	eS	Sn	17 17 25.0	+0.8
CRPR	Cabo Rojo, PR	3.00	237	Pn	Pn	17 16 49.1	-0.8
CRPR				IAML		17 17 40.7	
	comp=E,58nm,0.6s						
CRPR				IAML		17 17 49.2	
	comp=N,64nm,1.1s						
CRPR	Cabo Rojo, PR	3.00	237	↑eP	Pn	17 16 51.3	+1.4
CRPR	Cabo Rojo, PR	3.00	237	eS	Sn	17 17 25.9	+0.9
IDE	Isla Desecheo	3.12	247	↓eP	Pn	17 16 51.6	0.0
IDE	Isla Desecheo	3.12	247	eS	Sn	17 17 27.6	-0.4
ANWB	Willy Bob	3.21	127	eP	Pn	17 16 51.9	-1.0
ANWB				eS	Sn	17 17 17.1	-13
GDHS	Morne Mazeau,	4.22	142	Pn	Pn	17 17 04.3	-2.6
GDHS				IAML		17 17 43.5	
	comp=N,103nm,0.5s						
CBE	Ff, Capester	4.47	142	Pn	Pn	17 17 11.4	+1.1
DR12	Loma Pena Alta	4.73	260	Pn	Pn	17 17 13.4	-0.4
MAGL	Barre de l'ile	4.76	140	Pn	Pn	17 17 15.1	+0.9
BIM	Bigot	6.04	147	Pn	Pn	17 17 32.3	+0.4
MPOM	Morne Pois Mar	6.21	146	Pn	Pn	17 17 35.3	+1.1
SDDR	Presa de Saban	6.49	265		Pn	17 17 39.2	+1.3

IDC 22 17:21:59.5±36.0, 20°.03S×67°.58E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1243.0km s-min=47.7km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.19	22	T	T	17 39 43.1	
	baz=204						
H08S2	Diego Garcia H	13.20	22	T	T	17 39 38.2	
	baz=204						
H08S3	Diego Garcia H	13.21	22	T	T	17 39 39.2	
	baz=204						
H04N2	CROZET ISLANDS	29.11	203	T	T	17 57 40.4	
	baz=30,slow=75,SNR=5.9						
H04N1	CROZET ISLANDS	29.12	203	T	T	17 57 45.5	
	baz=30,slow=75,SNR=6.9						
H04N3	CROZET ISLANDS	29.13	203	T	T	17 57 44.1	
	baz=30,slow=75,SNR=6.3						
ASAR	Alice Springs	61.18	107	P	P	17 32 16.7	+0.2
	0.2nm,0.7s,baz=254,slow=6.8,SNR=5.3						
	0.2nm,0.7s						
WRA	Warramunga Arr	62.33	103	P	P	17 32 23.9	-0.3

H04S3 CROZET ISLANDS 61.95 213 T T 18 58 24.6
baz=54,slow=76,SNR=83
H04S2 CROZET ISLANDS 61.96 213 T T 18 58 26.0
baz=54,slow=76,SNR=67

*IDC **22** 17:54:18.0±0.7,24°.33N×127°.28E,h0km,mb3.8/11, mbtmp3.8/14,ML3.7/3,MS3.2/4,Error ellipse: s-maj=26.7km s-min=14.3km az=76.0*
*NEIC **22** 17:54:19.8±2.1,24°.39N±0°.07×127°.33E±0°.07,h16km±3km, mb4.4/25,Error ellipse: s-maj=10.9km s-min=8.5km az=144.0*
*JMA **22** 17:54:21.5±0.3,25°.N±1°.×12°.7E±°,h84km,MV3.6/28, NEAR MIYAKOJIMA ISLAND*
*NIED **22** 17:54:21.5,24°.50N×127°.22E,h84km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=8.90; $M_{\theta\theta}$=6.25; $M_{\phi\phi}$=2.65; $M_{r\theta}$=0.59; $M_{\theta\phi}$=3.39; $M_{r\phi}$=-4.39; Fault plane solution: M_0=9.52000×10^14^ NP1: ϕ_s=256.00000°,δ42.00000°,λ-60.00000°. NP2:ϕ_s=39.00000°, δ54.00000°,λ-114.00000°.*

ISC 22 17:54:16.7±1.9,24°.39N±0°.04×127°.28E±0°.04,h1km±12km, n93,σ1§86/112,mb4.2/23,MS3.5/3,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.75**	**282**	P	**Pg**	**17 54 50.0**	**-0.2**
JOGS				eS	**Sb**	**17 55 10.1**	**-2.0**
JJT3	**Tamagusuku3**	**1.80**	**14**	eP	**Pb**	**17 54 50.2**	**-0.4**
JJT3				eS	**Sb**	**17 55 11.6**	**-2.1**
JMJ2	**Miyako jima3**	**1.81**	**281**	eP	**Pb**	**17 54 50.8**	**+0.1**
JMJ2				eS	**Sn**	**17 55 11.5**	**-1.3**
JMJ	**Miyako jima 2**	**1.86**	**283**	P	**Pb**	**17 54 50.8**	**-0.7**
JIKM	**Ikemajima**	**1.93**	**286**	eP	**Pb**	**17 54 52.0**	**-0.6**
JIKM				eS	**Sn**	**17 55 14.4**	**-1.2**
JIRB	**Irabujima**	**1.97**	**283**	eP	**Pb**	**17 54 52.5**	**-0.9**
JIRB				eS	**Sn**	**17 55 14.3**	**-2.3**
JKE	**Kume jima 2**	**1.98**	**347**	eP	**Pb**	**17 54 52.8**	**-0.8**
JKE				eS	**Sb**	**17 55 15.9**	**-2.8**
JAGN	**Aguni-jima**	**2.19**	**359**	eP	**Pb**	**17 54 55.6**	**-1.5**
JAGN				eS	**Sb**	**17 55 20.7**	**-4.0**
JNTH	**Nagotoyohara**	**2.22**	**17**	eP	**Pn**	**17 54 55.4**	**+0.7**
JNTH				eS	**Sn**	**17 55 20.4**	**-2.4**
JTJ	**Tarama**	**2.36**	**277**	eP	**Pn**	**17 54 57.8**	**+1.1**
JTJ				eS	**Sn**	**17 55 23.8**	**-2.5**
JOW	**Kunigami**	**2.59**	**20**	P	**Pn**	**17 55 00.3**	**+0.5**
JOW	**Kunigami**	**2.59**	**20**	Pn	**Pn**	**17 55 00.8**	**+1.0**
	29nm,0.3s,baz=195,slow=12,SNR=60						
JOW				Sn	**Sn**	**17 55 29.1**	**-2.9**
	55nm,0.3s,baz=119,slow=23,SNR=21						
	68nm,0.2s						
JOW	**Kunigami**	**2.59**	**20**	P	**Pn**	**17 55 00.8**	**+1.0**
JOW	**Kunigami**	**2.59**	**20**	P	**Pn**	**17 55 00.6**	**+0.7**
JOW				eS	**Sn**	**17 55 29.8**	**-2.2**
JIH	**Iheya**	**2.70**	**13**	eP	**Pn**	**17 55 02.5**	**+1.2**
JIH				eS	**Sn**	**17 55 32.2**	**-2.5**
JISG	**Ishigakijimahi**	**2.71**	**275**	eP	**Pn**	**17 55 02.7**	**+1.1**
JISG				eS	**Sn**	**17 55 31.9**	**-3.2**
JIJ	**Ishigaki jima**	**2.86**	**270**	eP	**Pn**	**17 55 04.6**	**+1.0**
JIJ				eS	**Sn**	**17 55 34.7**	**-4.0**
JKRS	**Kuro-shima**	**2.99**	**268**	eP	**Pn**	**17 55 06.8**	**+1.4**
JOKE	**Okinoerabujima**	**3.17**	**21**	eS	**Sn**	**17 55 43.3**	**-3.2**
HATJ	**Hateruma jima**	**3.19**	**265**	eP	**Pn**	**17 55 08.8**	**+0.7**
IRIF	**Iriomote-Funau**	**3.24**	**270**	eP	**Pn**	**17 55 09.7**	**+1.0**
IRIF				eS	**Sn**	**17 55 45.7**	**-2.3**
JTK	**Tokunoshima**	**3.70**	**24**	eP	**Pn**	**17 55 16.4**	**+1.3**
JMZ	**Minamidaito 2**	**3.84**	**68**	Pn	**Pn**	**17 55 15.5**	**-1.6**
JMZ				Sn	**Sn**	**17 55 57.8**	**-5.2**
JMZ	**Minamidaito 2**	**3.84**	**68**	P	**Pn**	**17 55 16.3**	**-0.8**
JMZ	**Minamidaito 2**	**3.84**	**68**	eP	**Pn**	**17 55 15.7**	**-1.4**
YOJ	**Yonaguni jima**	**3.89**	**272**	Pn	**Pn**	**17 55 16.8**	**-0.9**
YOJ				Sn	**Sn**	**17 55 58.8**	**-5.4**
JKDJ	**Kitadaitoujima**	**3.95**	**66**	eP	**Pn**	**17 55 17.6**	**-0.9**
JYNG	**Yonagunijimaku**	**3.95**	**272**	eS	**Sn**	**17 56 00.5**	**-5.2**
JAM	**Amami Oshima**	**4.51**	**27**	P	**Pn**	**17 55 27.4**	**+1.2**
JZK	**Kikaishima**	**4.59**	**31**	eP	**Pn**	**17 55 29.4**	**+2.0**
JTAJ	**Takarajima**	**5.04**	**19**	eP	**Pn**	**17 55 35.4**	**+1.8**
NACB	**Ninganchiao**	**5.19**	**269**		**Pn**	**17 55 35.4**	**-0.2**
NACB				Sn	**Sn**	**17 56 29.2**	**-7.0**
NACB	**Ninganchiao**	**5.19**	**269**	P	**Pn**	**17 55 35.5**	**-0.2**
YHNB	**Yeheng**	**5.39**	**274**	Pn	**Pn**	**17 55 39.9**	**+1.5**
YULB	**Yu-li**	**5.57**	**261**		**Pn**	**17 55 40.0**	**-0.8**
YULB	**Yu-li**	**5.57**	**261**	P	**Pn**	**17 55 40.0**	**-0.8**
SSLB	**Suanglung**	**5.81**	**265**		**Pn**	**17 55 43.8**	**-0.4**
SSLB	**Suanglung**	**5.81**	**265**	P	**Pn**	**17 55 44.2**	**0.0**
TWG	**Pinlang**	**5.91**	**256**	Pn	**Pn**	**17 55 45.0**	**-0.4**
TPUB	**Ta-pu**	**6.19**	**261**		**Pn**	**17 55 50.2**	**+0.9**
TPUB	**Ta-pu**	**6.19**	**261**	P	**Pn**	**17 55 50.2**	**+0.9**
KNMB	**Chin-men Tao**	**8.11**	**272**	Pn	**Pn**	**17 56 15.8**	**+0.2**
JNU	**Nakatsue**	**9.25**	**19**		**Pn**	**17 56 32.7**	**+1.3**
JNU	**Nakatsue**	**9.25**	**19**	Pn	**Pn**	**17 56 33.4**	**+2.0**
	1.3nm,0.3s,baz=209,slow=11,SNR=13						
	9.2nm,0.5s						
JNU	**Nakatsue**	**9.25**	**19**	P	**Pn**	**17 56 33.5**	**+2.1**
JMN	**Monobe**	**10.94**	**30**	Pn	**Pn**	**17 56 54.3**	**-0.3**
JMN	**Monobe**	**10.94**	**30**	P	**Pn**	**17 56 56.1**	**+1.5**
JCJ	**Chichijima**	**13.70**	**76**	LR	LR	18 01 48.5	
	comp=Z,43nm,19.6s,baz=284,slow=33						
JSG	**Sagara**	**13.95**	**40**	P	**Pn**	**17 57 37.5**	**+1.8**
MJAR	**Matsushiro Arr**	**15.33**	**35**		**Pn**	**17 57 55.9**	**+1.6**
MJAR	**Matsushiro Arr**	**15.33**	**35**	Pn	**Pn**	**17 57 55.0**	**+0.7**
	baz=216,slow=7.7,SNR=1.3						
	0.5nm,0.7s						
JKA	**Kamikawa-asahi**	**23.32**	**29**	P	**P**	**17 59 24.4**	**-2.0**
JKA				IAmb	IAmb	17 59 33.4	
	comp=Z,7.8nm,1.0s						
TOLI2	**Tolitoli**	**23.98**	**196**	P	**P**	**17 59 30.0**	**-3.0**
TOLI2				IAmb	IAmb	17 59 34.9	
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.00**	**263**	P	**P**	**17 59 58.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**27.00**	**263**	P	**P**	**18 00 02.4**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=8.1,SNR=2.6						
CMAR				LR	LR	18 12 23.2	
	comp=Z,21nm,18.8s,baz=90,slow=40						
	comp=Z,0.2nm,0.3s						
ULN	**Ulaanbaatar**	**28.39**	**331**	P	**P**	**18 00 12.1**	**-0.7**
ULN				IAmb	IAmb	18 00 33.6	
	comp=Z,8.6nm,1.5s						
SONM	**Songino Array**	**28.67**	**330**	P	**P**	**18 00 15.5**	**+0.3**
SONM	**Songino Array**	**28.67**	**330**	P	**P**	**18 00 18.3**	**+3.0**
	comp=Z,0.6nm,0.6s,baz=147,slow=11,SNR=6.9						
	comp=Z,0.6nm,0.6s						
EVN	**Everest**	**36.38**	**285**	P	**P**	**18 01 24.3**	**+0.8**
EVN				IAmb	IAmb	18 01 27.2	
	comp=Z,6.3nm,1.3s						
KNRA	**Kununurra**	**39.85**	**178**	P	**P**	**18 01 52.8**	**+0.7**
KNRA				IAmb	IAmb	18 02 34.6	
	comp=Z,18nm,1.5s						
COEN	**Coen**	**41.16**	**156**	P	**P**	**18 02 03.5**	**+0.6**
MKAR	**Makanchi Array**	**42.15**	**314**	P	**P**	**18 02 11.7**	**+0.9**
MKAR	**Makanchi Array**	**42.15**	**314**	P	**P**	**18 02 11.9**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=100,slow=9.7,SNR=13						
	comp=Z,0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.26**	**182**	P	**P**	**18 02 11.4**	**-0.5**
MAKZ	**Makanchi**	**42.36**	**314**	P	**P**	**18 02 13.0**	**+0.5**
MAKZ				IAmb	IAmb	18 02 25.8	
	comp=Z,12nm,1.4s						
ZALV	**Zalesovo Beam**	**43.21**	**324**	P	**P**	**18 02 20.0**	**+0.7**
ZALV	**Zalesovo Beam**	**43.21**	**324**	P	**P**	**18 02 21.1**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=110,slow=8.8,SNR=3.6						
ZALV				LR	LR	18 23 12.7	
	comp=Z,64nm,19.1s,baz=262,slow=40						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**44.44**	**170**	P	**P**	**18 02 29.7**	**+0.2**
WB0				IAmb	IAmb	18 02 35.5	
	comp=Z,7.9nm,1.4s						
WRAB	**Tennant Creek**	**44.59**	**171**	P	**P**	**18 02 31.3**	**+0.6**
WRAB				IAmb	IAmb	18 02 31.9	
	comp=Z,4.6nm,0.9s						
WRA	**Warramunga Arr**	**44.60**	**171**	P	**P**	**18 02 30.5**	**-0.3**
WRA	**Warramunga Arr**	**44.60**	**171**	P	**P**	**18 02 31.4**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=352,slow=8.6,SNR=19						
WRA				PcP	**PcP**	**18 04 14.3**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=359,slow=3.7,SNR=1.6						
	comp=Z,3.1nm,0.7s						
WR8	**Warramunga Arr**	**44.64**	**170**	P	**P**	**18 02 31.7**	**+0.6**
WR8				IAmb	IAmb	18 02 32.8	
	comp=Z,4.7nm,0.8s						
KDJ	**Kajisay**	**44.80**	**306**	P	**P**	**18 02 33.4**	**+0.9**
KURK	**Kurchatov**	**45.58**	**318**	P	**P**	**18 02 38.7**	**+0.4**
KURK				IAmb	IAmb	18 02 45.6	
	comp=Z,7.4nm,1.5s						
KURBB	**Kurchatov Arra**	**45.61**	**318**	P	**P**	**18 02 39.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=106,slow=8.2,SNR=7.6						
	comp=Z,1.4nm,0.6s						
AS31	**Alice Springs**	**48.20**	**172**	P	**P**	**18 02 59.3**	**+0.2**
ASAR	**Alice Springs**	**48.20**	**172**	P	**P**	**18 02 59.0**	**-0.1**
ASAR	**Alice Springs**	**48.20**	**172**	P	**P**	**18 03 00.3**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=353,slow=9.1,SNR=16						
ASAR				PcP	**PcP**	**18 04 26.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=18,slow=4.0,SNR=1.8						
ASAR				LR	LR	18 26 40.5	
	comp=Z,43nm,18.1s,baz=206,slow=40						
	comp=Z,1.1nm,0.7s						
KKAR	**Karatay Array**	**49.79**	**307**	P	**P**	**18 03 10.7**	**-0.5**
BVAR	**Borovoye Array**	**51.09**	**319**	P	**P**	**18 03 22.5**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=101,slow=8.0,SNR=4.5						
	comp=Z,0.6nm,0.5s						
KBL	**Kabul**	**51.10**	**296**	P	**P**	**18 03 21.9**	**+0.5**
KBL				IAmb	IAmb	18 03 24.6	
	comp=Z,5.0nm,0.8s						
FORT	**Forrest**	**54.86**	**179**	P	**P**	**18 03 49.0**	**+0.2**
AB31	**Akbulak array**	**57.29**	**314**	P	**P**	**18 04 08.0**	**+1.9**
AB31				IAmb	IAmb	18 04 09.0	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**57.29**	**314**	P	**P**	**18 04 07.5**	**+1.4**
BBOO	**Buckleboo**	**57.50**	**171**	P	**P**	**18 04 07.2**	**-0.4**
STKA	**Stephens Creek**	**57.60**	**166**	P	**P**	**18 04 09.0**	**+0.6**
STKA	**Stephens Creek**	**57.60**	**166**	P	**P**	**18 04 09.3**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=339,slow=5.0,SNR=4.6						
	comp=Z,1.8nm,0.7s						
D19K	**Kuna River**	**61.90**	**24**	P	**P**	**18 04 37.9**	**+0.2**
D20K	**Etivluk River**	**62.47**	**24**	P	**P**	**18 04 41.3**	**-0.1**
ILAR	**Eielson Array**	**66.45**	**28**	P	**P**	**18 05 08.0**	**+0.5**
ILAR	**Eielson Array**	**66.45**	**28**	P	**P**	**18 05 11.2**	**+3.7**
	comp=Z,0.1nm,0.5s,baz=238,slow=5.2,SNR=1.6						
	comp=Z,0.1nm,0.5s						
FINES	**FINESS Array B**	**74.03**	**331**	P	**P**	**18 05 54.9**	**+0.9**
FINES	**FINESS Array B**	**74.03**	**331**	P	**P**	**18 05 55.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=80,slow=2.1,SNR=5.7						
	comp=Z,2.3nm,0.8s						

*SNET **22** 18:10:22.0±1.8,14°.99N×89°.61W,h3km±9km,ML3.6*
*CATAC **22** 18:10:23.7±0.2,15°.N±1°.×9°.0W±°,h1km,M3.7/20, MLv3.7/20,Error ellipse: s-maj=3.4km s-min=2.5km az=33.6,confirmed*
*GCG **22** 18:10:24.2±2.3,14°.89N×89°.62W,h6km±19km,MD4.0, ML3.8*

ISC 22 18:10:22.4±1.1,14°.99N±0°.03×89°.62W±0°.02,h18km±6km, n75,σ0§87/82,3C-3D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESQI	**Esquipulas**	**0.50**	**148**	⇑eP	**Pb**	**18 10 32.6**	**-0.2**
ESQI				eS	**Sg**	**18 10 39.6**	**+0.2**
ESQI	**Esquipulas**	**0.50**	**148**	P	**Pb**	**18 10 32.5**	**-0.3**
ESQI	**Esquipulas**	**0.50**	**148**	⇑S	**Sb**	**18 10 40.0**	**+0.2**
MTO3	**Montecristo**	**0.64**	**157**	eP	**Pb**	**18 10 34.9**	**-0.2**
MTO3	**Montecristo**	**0.64**	**157**	iP	**Pb**	**18 10 34.9**	**-0.2**
MTO3	**Montecristo**	**0.64**	**157**	⇑P	**Pb**	**18 10 34.9**	**-0.2**
MTO3	**Montecristo**	**0.64**	**157**	S	**Sg**	**18 10 43.7**	**+0.1**
JUAM	**Asuncion Mita**	**0.65**	**187**	iP	**Pb**	**18 10 35.1**	**-0.2**
JUAM				iS	**Sg**	**18 10 42.5**	**-1.6**
JUAM				IAML		18 10 47.0	
	comp=N,3μm,1.1s						
APG	**El Apazote**	**0.82**	**271**	iP	**Pg**	**18 10 37.7**	**-0.8**
SARH	**Santa Rosa de**	**0.86**	**104**	iP	**Pn**	**18 10 39.1**	**-0.5**
SARH				iS	**Sn**	**18 10 51.4**	**-0.4**
SARH	**Santa Rosa de**	**0.86**	**104**	P	**Pn**	**18 10 39.1**	**-0.5**
RBDL	**Robledal**	**0.87**	**184**	⇓eP	**Pg**	**18 10 39.3**	**-0.1**
LOAL	**Lomas de Alarc**	**1.00**	**189**	P	**Pg**	**18 10 41.7**	**-0.1**
LOAL	**Lomas de Alarc**	**1.00**	**189**	S	**Sg**	**18 10 55.3**	**+0.4**
UNIC	**Universidad Ca**	**1.00**	**176**	P	**Pn**	**18 10 41.4**	**-0.2**
UNIC	**Universidad Ca**	**1.00**	**176**	S	**Sb**	**18 10 55.1**	**+0.9**
LLGN	**La Laguna**	**1.05**	**141**	eP	**Pg**	**18 10 42.6**	**-0.1**
LLGN	**La Laguna**	**1.05**	**141**	P	**Pg**	**18 10 43.0**	**+0.2**
LLGN	**La Laguna**	**1.05**	**141**	S	**Sn**	**18 10 56.9**	**+0.3**
PCG5	**San Vicente Pa**	**1.06**	**224**	iP	**Pg**	**18 10 45.1**	**+2.0**
RTR	**El Retiro**	**1.08**	**181**	eP	**Pg**	**18 10 43.4**	**-0.1**
NUBE	**Las Nubes**	**1.09**	**188**	eP	**Pg**	**18 10 43.3**	**-0.3**
NUBE	**Las Nubes**	**1.09**	**188**	iP	**Pg**	**18 10 43.5**	**-0.1**
NUBE				iS	**Sb**	**18 10 57.1**	**+0.2**
NUBE	**Las Nubes**	**1.09**	**188**	P	**Pg**	**18 10 43.3**	**-0.3**
NUBE	**Las Nubes**	**1.09**	**188**	S	**Sg**	**18 10 58.5**	**+0.6**
SNJE	**San Jose**	**1.11**	**179**	eP	**Pg**	**18 10 43.8**	**-0.3**
SBLS	**San Blas**	**1.14**	**180**	eP	**Pg**	**18 10 44.2**	**-0.4**
CEVE	**Cerro Verde**	**1.15**	**180**	eP	**Pg**	**18 10 44.6**	**-0.2**
CEVE	**Cerro Verde**	**1.15**	**180**	P	**Pg**	**18 10 44.8**	**0.0**
FG8	**Yepocapa, Chim**	**1.17**	**232**	iP	**Pg**	**18 10 48.9**	**+3.9**
CEDA	**San Andres**	**1.20**	**170**	eP	**Pg**	**18 10 45.6**	**0.0**
CEDA	**San Andres**	**1.20**	**170**	P	**Pg**	**18 10 45.8**	**+0.2**
CEDA	**San Andres**	**1.20**	**170**	S	**Sg**	**18 11 02.2**	**+0.9**
FAME	**Alcaldia de Sa**	**1.20**	**199**	⇓P	**Pg**	**18 10 45.1**	**-0.5**
IZABA	**Izabal, Puerto**	**1.24**	**53**	S	**Sg**	**18 11 04.2**	**+1.5**
BOQS	**Boqueron**	**1.29**	**165**	eP	**Pg**	**18 10 47.2**	**-0.2**
PMON	**Piamonte**	**1.30**	**167**	eP	**Pg**	**18 10 46.9**	**-0.7**
PMON	**Piamonte**	**1.30**	**167**	P	**Pg**	**18 10 46.9**	**-0.7**
PMON	**Piamonte**	**1.30**	**167**	S	**Sg**	**18 11 05.2**	**+0.5**
ESSG	**Sabana Grande**	**1.32**	**243**	iP	**Pg**	**18 10 47.9**	**0.0**
ESSG				iS	**Sg**	**18 11 05.6**	**+0.5**
ESSG				IAML		18 11 11.8	
	comp=N,667nm,1.5s						
JAYA	**Jayaque - finc**	**1.33**	**173**	eP	**Pg**	**18 10 47.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.33**	**173**	iP	**Pg**	**18 10 47.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.33**	**173**	P	**Pg**	**18 10 47.6**	**-0.7**
LOMA	**Loma Larga**	**1.40**	**162**	eP	**Pg**	**18 10 49.1**	**-0.5**
LOMA	**Loma Larga**	**1.40**	**162**	P	**Pg**	**18 10 49.0**	**-0.5**
LOMA	**Loma Larga**	**1.40**	**162**	S	**Sg**	**18 11 08.4**	**+0.6**
PAVA	**Las Pavas**	**1.43**	**152**	eP	**Pg**	**18 10 49.3**	**-0.7**
PAVA	**Las Pavas**	**1.43**	**152**	⇓P	**Pg**	**18 10 49.5**	**-0.5**
PAVA	**Las Pavas**	**1.43**	**152**	S	**Sg**	**18 11 09.6**	**+0.9**
QUIS	**Sacapulas**	**1.46**	**282**	iP	**Pg**	**18 10 49.5**	**-1.0**
QUIS				iS	**Sg**	**18 11 09.3**	**-0.3**
QUIS				IAML		18 11 15.0	
	comp=E,3μm,1.0s						
LFRS	**El Faro**	**1.46**	**158**	eP	**Pg**	**18 10 50.2**	**-0.4**
LALI	**Alcalda de L**	**1.52**	**169**	P	**Pg**	**18 10 50.7**	**-1.0**
LALI	**Alcalda de L**	**1.52**	**169**	S	**Sg**	**18 11 11.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.54**	**146**	eP	**Pg**	**18 10 51.3**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.54**	**146**	P	**Pg**	**18 10 51.5**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.54**	**146**	S	**Sg**	**18 11 13.0**	**+0.8**
UESV	**Universidad de**	**1.57**	**149**	S	**Sg**	**18 11 13.5**	**+0.5**
TECO	**Alcaldia de Te**	**1.65**	**151**	S	**Sg**	**18 11 15.8**	**-0.1**
TECO	**Alcaldia de Te**	**1.65**	**151**	P	**Pg**	**18 10 53.2**	**-1.1**
SOKI	**Kika Raxquin**	**1.73**	**265**	iP	**Pg**	**18 10 55.0**	**-0.9**
SOKI				iS	**Sg**	**18 11 17.5**	**-1.0**
SOKI				IAML		18 11 23.1	
	comp=N,904nm,1.3s						
TECA	**Tecapa**	**1.84**	**144**	eP	**Pb**	**18 10 56.0**	**+0.4**
HUEH	**Huehuetenango**	**1.85**	**280**	eP	**Pg**	**18 10 56.6**	**-1.5**
HUEH	**Huehuetenango**	**1.85**	**280**	iP	**Pg**	**18 10 56.5**	**-1.5**
HUEH				IAML		18 11 28.5	
	comp=N,2μm,0.9s						
HUEH	**Huehuetenango**	**1.85**	**280**	P	**Pg**	**18 10 57.1**	**-0.9**
PETF	**Flores**	**1.93**	**353**	iP	**Pg**	**18 11 00.2**	**+0.6**
PETF				IAML		18 11 26.3	
	comp=E,2μm,0.9s						
PETF	**Flores**	**1.93**	**353**	P	**Pg**	**18 11 00.1**	**+0.5**
PACA	**Pacayal**	**1.96**	**140**	P	**Pb**	**18 10 58.2**	**+0.5**
PACA	**Pacayal**	**1.96**	**140**	S	**Sg**	**18 11 25.9**	**+0.2**
LCY	**Lacayo**	**2.02**	**140**	eP	**Pb**	**18 10 59.1**	**+0.4**
BLLM	**Bellamira**	**2.04**	**139**	eP	**Pb**	**18 10 59.2**	**+0.2**
RTAL	**Retalhuleu**	**2.06**	**257**	P	**Pg**	**18 11 00.3**	**-1.7**
RTAL	**Retalhuleu**	**2.06**	**257**	S	**Sg**	**18 11 31.8**	**+2.9**
CNCH	**Conchagua**	**2.43**	**134**	P	**Pb**	**18 11 05.8**	**+0.1**
CNCH	**Conchagua**	**2.43**	**134**	S	**Sg**	**18 11 40.3**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.45**	**112**	P	**Pb**	**18 11 06.5**	**+0.4**

DJA 22 18:22:53.9±0.3,9°.S±6°.×11°.8E±°,h92km±5km,M3.8/13, mb3.8/2,MLv3.8/13,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.17**	**19**	P	Pn	18 23 08.2	+1.1
PLAI				S	Sn	18 23 18.8	+2.0
TWSI	**Taliwang, Sumb**	**0.86**	**287**	P	Pn	18 23 13.3	+1.0
WBSI	**Waikabubak, Su**	**1.77**	**112**	P	Pn	18 23 23.6	+0.3
DNP	**Denpasar**	**2.50**	**277**	P	Pn	18 23 33.3	+0.5
SRBI	**Singaraja**	**2.64**	**290**	P	Pn	18 23 33.8	-0.8
BASI	**Baing, Sumba**	**3.07**	**114**	P	Pn	18 23 39.7	-0.7
JAGI	**Jajag, Banyuwa**	**3.56**	**278**	P	Pn	18 23 46.5	-0.6
EDFI	**Ende, Flores**	**3.93**	**87**	P	Pn	18 23 52.5	+0.3
BSSI	**Bau Bau, Buton**	**3.94**	**44**	P	Pn	18 23 52.2	0.0
BKSI	**Bulukumba**	**4.36**	**33**	P	Pn	18 23 57.5	-0.3
MMRI	**Maumere**	**4.48**	**86**	P	Pn	18 24 00.4	+0.9
BATI	**Baumata**	**5.98**	**102**	P	Pn	18 24 18.7	-1.3
	0.1nm13nm,0.8s						

*IDC **22** 18:45:51.1±0.6,6°.63N×124°.91E,h0km,mb4.1/19, mbtmp4.1/21,ML4.6/3,MS3.0/3,Error ellipse: s-maj=11.9km s-min=8.9km az=133.0*
*NEIC **22** 18:45:53.6±1.6,6°.73N±0°.06×124°.99E±0°.06,h13km, mb4.5/43,Error ellipse: s-maj=9.4km s-min=7.1km az=146.0*
*DJA **22** 18:45:55.4±0.4,7°.N±3°.×12°.5E±°,h10km,M4.8/13, mb5.0/13,mB5.1/9,MLv5.0/11,Mw(mB)4.5/9*

ISC 22 18:45:52.9±0.4,6°.71N±0°.05×125°.01E±0°.06,h10km,n103, σ1§49/98,mb4.3/40,MS3.0/5,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.67**	**58**		**Pg**	**18 46 06.8**	**+0.9**
DAV	**Davao City (W)**	**0.67**	**58**	Pg	**Pg**	**18 46 06.9**	**+1.0**
	2μm,0.3s,baz=252,slow=19,SNR=121						
DAV				Lg	Lg	18 46 17.8	
	2μm,0.3s,baz=174,slow=24,SNR=9.6						
DAV	**Davao City (W)**	**0.67**	**58**	P	**Pg**	**18 46 03.0**	**-2.9**
SGSI	**Sangihe**	**3.05**	**170**	P	**Pn**	**18 46 43.4**	**+2.2**
SGSI				S	**Sn**	**18 47 20.2**	**+2.4**
KMSI	**Cibinong**	**6.18**	**190**	P	**Pn**	**18 47 27.7**	**+3.4**
TNTI	**Ternate**	**6.35**	**158**		**Pn**	**18 47 26.3**	**-0.4**
TNTI	**Ternate**	**6.35**	**158**	P	**Pn**	**18 47 29.3**	**+2.6**
	57nm,0.6s						
MYLDM	**Lahad Datu**	**6.65**	**257**		**Pn**	**18 47 31.6**	**+0.9**
MRSI	**Marisa**	**6.91**	**206**	P	**Pn**	**18 47 35.4**	**+1.1**
	1μm106nm,0.6s						
TOLI2	**Tolitoli**	**6.98**	**217**		**Pn**	**18 47 33.3**	**-2.0**
LUWI	**Luwuk**	**8.02**	**196**		**Pn**	**18 47 52.9**	**+3.3**
LUWI	**Luwuk**	**8.02**	**196**	P	Pn	18 47 55.1	+5.5
APSI	**Ampana**	**8.28**	**204**	P	**Pn**	**18 47 57.4**	**+4.2**
	829nm66nm,0.7s						
TGY	**Tagaytay City**	**8.37**	**332**	Pn	**Pn**	**18 47 53.9**	**-0.5**
	36nm,0.3s,baz=138,slow=12,SNR=1.9						
SANI	**Sanana**	**8.76**	**174**	P	**Pn**	**18 48 01.5**	**+1.8**
	0.2nm682nm46nm,0.8s						
I39PW	**PALAU INFRASON**	**9.50**	**84**	I	I	19 47 07.4	
	baz=266,slow=306,SNR=0.9						
NLAI	**Namlea**	**10.10**	**168**	P	**Pn**	**18 48 19.2**	**+1.1**
	829nm75nm,0.8s						
AAI	**Ambon**	**10.81**	**163**	P	**Pn**	**18 48 28.7**	**+0.9**
	40nm,0.7s						
FAKI	**Fak Fak**	**11.99**	**143**	Pn	**Pn**	**18 48 44.7**	**+0.7**
BNSI	**Bone**	**12.07**	**204**	P	**Pn**	**18 48 48.5**	**+3.3**
KAPI	**Kappang**	**12.77**	**204**	Pn	**Pn**	**

comp=Z,8.0nm,0.6s
STKA Stephens Creek 41.51 159 P P 18 53 39.8 -0.7
STKA Stephens Creek 41.51 159 P P 18 53 40.0 -0.5
comp=Z,2.6nm,0.6s,baz=335,slow=2.8,SNR=8.0
comp=Z,2.6nm,0.6s
EVN Everest 41.87 305 P P 18 53 42.8 -1.5
EVN IAmb IAmb 18 53 59.9
comp=Z,15nm,1.5s
HILR Hailar Array B 42.93 355 P P 18 53 51.7 -0.2
comp=Z,1.7nm,0.4s,baz=145,slow=3.6,SNR=3.6
comp=Z,1.7nm,0.4s
HEH HeiHe 43.45 2 *e*P **P 18 53 55.3 -0.7**
HEH pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 43.78 343 P P 18 53 58.8 -0.1
SONM Songino Array 43.95 342 P P 18 54 00.2 -0.1
SONM Songino Array 43.95 342 P P 18 54 01.8 +1.5
comp=Z,0.4nm,0.4s,baz=147,slow=8.2,SNR=4.9
comp=Z,0.4nm,0.4s
WMQ Urumqi 49.32 325 *e*P **P 18 54 44.3 +1.9**
WMQ LR LR
comp=Z,210nm,24.3s
DZM Mont Dzumac 49.66 126 P P 18 54 45.4 0.0
comp=Z,2.0nm,0.5s,baz=274,slow=14,SNR=1.7
comp=Z,2.0nm,0.5s
PEA0B Petropavlovsk- 53.38 24 P P 18 55 13.0 +0.4
PETK Petropavlovsk- 53.38 24 P P 18 55 12.7 +0.1
PETK Petropavlovsk- 53.38 24 P P 18 55 12.9 +0.3
comp=Z,2.2nm,0.6s,baz=224,slow=7.5,SNR=5.2
comp=Z,2.2nm,0.6s
MKAR Makanchi Array 54.15 325 P P 18 55 17.9 -0.5
MKAR Makanchi Array 54.15 325 P P 18 55 18.4 0.0
comp=Z,1.0nm,0.7s,baz=118,slow=7.6,SNR=8.9
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 57.17 333 P P 18 55 39.1 -0.8
ZALV Zalesovo Beam 57.17 333 P P 18 55 38.9 -1.0
comp=Z,0.3nm,0.3s,baz=123,slow=7.7,SNR=1.7
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 58.32 327 P P 18 55 47.9 -0.2
comp=Z,1.5nm,0.2s,baz=126,slow=6.1,SNR=4.2
comp=Z,1.5nm,0.2s
KURK Kurchatov 58.32 327 P P 18 55 48.2 +0.1
KURK IAmb IAmb 18 56 00.6
comp=Z,5.7nm,1.1s
GAR Garm 58.66 312 P P 18 55 50.3 -0.5
KK31 Karatay Array 59.90 316 P P 18 55 58.5 -0.7
KK31 IAmb IAmb 18 56 03.9
comp=Z,2.8nm,1.0s
KKAR Karatay Array 59.90 316 P P 18 55 58.2 -1.0
BVAR Borovoye Array 63.90 327 P P 18 56 26.2 +0.3
comp=Z,1.1nm,0.6s,baz=87,slow=6.1,SNR=5.3
comp=Z,1.1nm,0.6s
AB31 Akbulak array 68.77 320 P P 18 56 55.7 -1.5
AB31 IAmb IAmb 18 57 13.7
comp=Z,2.3nm,1.0s
ABKAR Akbulak array 68.77 320 P P 18 56 55.7 -1.5
BELG Belogornoye 77.02 322 LR LR 19 34 04.8
comp=Z,371nm,19.2s,baz=95,slow=38
RAYN Ar Rayn 77.75 293 P P 18 57 50.0 -0.8
RAYN IAmb IAmb 18 57 52.5
comp=Z,2.3nm,0.8s
B20K Meade River 79.57 20 P P 18 58 00.2 +0.4
BPAW Bear Paw Mtn. 81.38 26 P 18 58 09.5 -0.2
BPAW IAmb IAmb 18 58 18.9
comp=Z,8.0nm,1.0s
F24K Squaw Lake 82.74 23 IAmb IAmb 18 58 29.4
comp=Z,9.0nm,1.4s
ILAR Eielson Array 83.17 26 P P 18 58 18.4 -0.7
ILAR Eielson Array 83.17 26 P P 18 58 18.9 -0.2
comp=Z,0.9nm,1.0s,baz=249,slow=6.0,SNR=4.1
comp=Z,0.9nm,1.0s
RIDG Independent Ri 84.10 27 P P 18 58 23.5 -0.4
VNDA Vanda 86.58 172 P P 18 58 34.8 -1.1
comp=Z,0.6nm,0.9s,baz=296,slow=6.5,SNR=3.9
comp=Z,0.6nm,0.9s
TXAR Lajitas Array 121.07 50 PKP **PKPdf 19 04 46.4 -0.4**
comp=Z,0.3nm,0.8s,baz=18,slow=1.5,SNR=2.0

NEIC ***22*** *18:48:59.7±1.6, 23°.23N±0°.09×143°.2E±0°.2, h84km±8km, mb4.5/15, Error ellipse: s-maj=23.1km s-min=12.9km az=76.0*
IDC ***22*** *18:49:03.2±2.9, 23°.20N×142°.97E, h108km±27km, mb3.8/12, mbtmp4.1/14, Error ellipse: s-maj=47.5km s-min=13.3km az=80.0*
JMA ***22*** *18:49:09.3±0.3, 24°.N±1°×14°.2E±°, h142km, MV4.5/9, IOTO ISLANDS REGION*
ISC 22 18:49:01.4±0.9, 23°.28N±0°.06×143°.0E±0°.2, h100km, n47, σ1§43/46, mb4.3/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.42**	**348**	*e*P	Pn	18 49 56.7	+4.0
JHH2				*e*S	**Sn**	**18 50 33.1**	**+0.7**
CBIJ	**Chichi jima**	**3.87**	**349**	*e*P	Pn	18 50 02.8	+4.0
CBIJ				*e*S	**Sn**	**18 50 43.4**	**+0.2**
JCJ	**Chichijima**	**3.87**	**349**		**Pn**	**18 49 57.8**	**-1.0**
JCJ					**Sn**	**18 50 43.6**	**+0.4**
JCJ	**Chichijima**	**3.87**	**349**	P	**Pn**	**18 50 02.0**	**+3.2**
96nm,0.5s,baz=158,slow=18,SNR=25							
JCJ				S	**Sn**	**18 50 44.1**	**+0.9**
157nm,0.4s,baz=256,slow=22,SNR=17							
BSO4	**Boso 4**	**11.89**	**349**	*e*S	**Sn**	**18 53 55.9**	**-2.2**
JGF	**Kuroka**	**13.21**	**340**	Pn	**Pn**	**18 52 05.2**	**+0.1**
MJAR	**Matsushiro Arr**	**13.84**	**344**		**Pn**	**18 52 11.3**	**-2.0**
MJAR	**Matsushiro Arr**	**13.84**	**344**	P	**P**	**18 52 14.9**	**-3.3**
0.5nm,0.5s,baz=192,slow=10,SNR=3.3							
JMM	**Marumori**	**14.66**	**353**	Pn	**Pn**	**18 52 23.1**	**-0.6**
KSRS	**Korea Array**	**19.16**	**321**	P	**Pn**	**18 53 21.6**	**+2.8**
2.1nm,0.6s,baz=134,slow=12,SNR=7.6							
KSAR	**Wonju Array Be**	**19.17**	**321**	P	**P**	**18 53 14.5**	**-2.5**
KS19	**Wonju Array Si**	**19.22**	**321**	P	**P**	**18 53 14.6**	**-3.0**
YHNB	**Yeheng**	**19.79**	**278**	P	**Pn**	**18 53 25.5**	**-1.0**
YHNB				IAmb	IAmb	18 54 04.4	
comp=Z,53nm,1.4s							
YULB	**Yu-li**	**19.91**	**275**	P	**Pn**	**18 53 27.8**	**0.0**
YULB				IAmb	IAmb	18 54 08.7	
comp=Z,16nm,1.1s							
SSLB	**Suanglung**	**20.20**	**276**	P	Pn	18 53 29.0	-2.1
SSLB				IAmb	IAmb	18 53 45.8	
comp=Z,36nm,1.5s							
H11N1	**WAKE ISLAND Hy**	**22.52**	**95**	T	T	19 18 06.1	
baz=287							
H11N2	**WAKE ISLAND Hy**	**22.52**	**94**	T	T	19 18 07.3	
baz=287							
H11N3	**WAKE ISLAND Hy**	**22.54**	**94**	T	T	19 18 08.6	
baz=287							
KNRA	**Kununurra**	**41.14**	**201**	P	**P**	**18 56 34.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**41.31**	**272**	P	**P**	**18 56 36.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**41.31**	**272**	P	**P**	**18 56 37.5**	**+0.1**
comp=Z,0.4nm,0.5s,baz=71,slow=9.0,SNR=4.7							
comp=Z,0.4nm,0.5s							
WB0	**Warramunga Arr**	**43.60**	**192**	P	**P**	**18 56 55.0**	**-0.9**
WR8	**Warramunga Arr**	**43.76**	**192**	P	**P**	**18 56 56.7**	**-0.5**
WR8				IAmb	IAmb	18 57 24.0	
comp=Z,4.9nm,1.1s							
WRA	**Warramunga Arr**	**43.78**	**192**	P	**P**	**18 56 57.5**	**+0.2**
comp=Z,1.2nm,0.4s,baz=11,slow=8.6,SNR=14							
comp=Z,1.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**44.48**	**204**	P	**P**	**18 57 02.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**44.48**	**204**	P	**P**	**18 57 03.1**	**+0.2**
comp=Z,1.1nm,0.6s,baz=68,slow=3.4,SNR=6.0							
comp=Z,1.1nm,0.6s							
KULM	**Kulim**	**44.53**	**253**	P	**P**	**18 57 03.5**	**+0.1**
ASAR	**Alice Springs**	**47.49**	**191**	P	**P**	**18 57 25.1**	**-1.5**
ASAR	**Alice Springs**	**47.49**	**191**	P	**P**	**18 57 26.3**	**-0.3**
comp=Z,0.3nm,0.4s,baz=12,slow=7.5,SNR=7.7							
comp=Z,0.3nm,0.4s							
EVN	**Everest**	**50.49**	**288**	P	**P**	**18 57 49.8**	**-0.5**
EVN				IAmb	IAmb	18 58 26.1	
comp=Z,4.7nm,1.5s							
ZALV	**Zalesovo Beam**	**52.86**	**321**	P	**P**	**18 58 05.7**	**-1.0**
ZALV	**Zalesovo Beam**	**52.86**	**321**	P	**P**	**18 58 07.5**	**+0.8**
comp=Z,0.9nm,0.4s,baz=108,slow=6.4,SNR=7.2							
comp=Z,0.9nm,0.4s							
MKAR	**Makanchi Array**	**53.50**	**312**	P	**P**	**18 58 12.7**	**+1.2**
MKAR				PcP	**PcP**	**18 59 18.1**	**+0.9**
MKAR	**Makanchi Array**	**53.50**	**312**	P	**P**	**18 58 13.3**	**+1.7**
comp=Z,2.0nm,0.5s,baz=87,slow=9.5,SNR=23							
comp=Z,2.0nm,0.5s							
MAKZ	**Makanchi**	**53.72**	**312**	P	**P**	**18 58 13.9**	**+0.8**
MAKZ				IAmb	IAmb	18 58 48.1	
comp=Z,9.3nm,1.2s							
STKA	**Stephens Creek**	**54.86**	**181**	P	**P**	**18 58 22.3**	**+0.8**
comp=Z,0.8nm,0.3s,baz=338,slow=7.5,SNR=2.9							
comp=Z,0.8nm,0.3s							

FORT	**Forrest**	**55.63**	**196**	P	**P**	**18 58 26.2**	**-0.7**
FORT				IAmb	IAmb	18 59 04.8	
comp=Z,5.8nm,1.1s							
BBOO	**Buckleboo**	**56.17**	**187**	P	**P**	**18 58 30.3**	**-0.5**
KURK	**Kurchatov**	**56.20**	**316**		**P**	**18 58 32.0**	**+1.2**
KURK				IAmb	IAmb	18 58 33.0	
comp=Z,6.2nm,1.0s							
KURBB	**Kurchatov Arra**	**56.25**	**316**	P	**P**	**18 58 32.6**	**+1.3**
comp=Z,5.2nm,0.6s,baz=94,slow=7.8,SNR=45							
comp=Z,5.2nm,0.6s							
BOOM	**Boomskoye usch**	**58.01**	**307**	P	**P**	**18 58 45.7**	**+1.7**
BVAR	**Borovoye Array**	**61.35**	**319**	P	**P**	**18 59 08.2**	**+1.7**
comp=Z,3.1nm,0.4s,baz=93,slow=7.8,SNR=11							
comp=Z,3.1nm,0.4s							
KKAR	**Karatay Array**	**61.94**	**308**	P	**P**	**18 59 11.0**	**+0.3**
KBZ	**Khabaz**	**81.14**	**314**	P	**P**	**19 01 07.8**	**+1.8**
comp=Z,2.3nm,0.8s,baz=131,slow=5.2,SNR=6.4							
comp=Z,2.3nm,0.8s							
FINES	**FINESS Array B**	**81.68**	**334**	P	**P**	**19 01 08.9**	**+0.5**
FINES	**FINESS Array B**	**81.68**	**334**	P	**P**	**19 01 09.4**	**+1.0**
comp=Z,1.4nm,0.5s,baz=52,slow=6.0,SNR=14							
comp=Z,1.4nm,0.5s							
HFS	**Hagfors**	**87.20**	**337**	P	**P**	**19 01 36.5**	**+0.2**
comp=Z,2.6nm,0.8s,baz=45,slow=6.3,SNR=5.3							
comp=Z,2.6nm,0.8s							

RSPR ***22*** *18:54:30.0, 19°.66N×64°.78W, h62km±18km, MD3.5/5*
NEIC 22 18:54:25.3±0.8, 19°.6N±0°.1×64°.68W±0°.09, h10km±2km, ML2.3/7, Md3.6/5(RSPR)**, 4C-2D, Error ellipse: s-maj=26.3km s-min=4.3km az=325.0, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.84**	**217**	Pn	Pb	18 54 58.4	-0.7
PDPR	**Patillas Dam,**	**2.04**	**219**	Pn	Pn	18 54 59.1	-0.6
PDPR				IAML		18 55 39.1	
comp=E,13nm,0.5s							
PDPR	**Patillas Dam,**	**2.04**	**219**⇑	*e*P	Pn	18 55 01.0	+1.3
PDPR	**Patillas Dam,**	**2.04**	**219**	*e*S	Sn	18 55 24.8	-0.5
ECPR	**Experimental S**	**2.05**	**231**⇑	*e*P	Pn	18 55 01.1	+1.1
ECPR	**Experimental S**	**2.05**	**231**	*e*S	Sn	18 55 24.4	-1.2
AOPR	**Arecibo Observ**	**2.33**	**237**		Sn	18 55 33.3	+0.7
AOPR	**Arecibo Observ**	**2.33**	**237**		Pn	18 55 03.6	-0.3
AOPR				IAML		18 55 40.9	
comp=N,34nm,1.0s							
AOPR	**Arecibo Observ**	**2.33**	**237**⇓	*e*P	Pn	18 55 04.8	+0.9
AOPR	**Arecibo Observ**	**2.33**	**237**	*e*S	Sn	18 55 33.3	+0.7
CELP	**Cerrillos**	**2.37**	**230**		Pn	18 55 04.1	-0.1
CELP				IAML		18 55 49.6	
comp=E,11nm,1.8s							
CELP				IAML		18 56 24.4	
comp=N,14nm,2.1s							
CELP	**Cerrillos**	**2.37**	**230**⇑	*e*P	Pn	18 55 05.1	+0.8
MLPR	**Magueyes Islan**	**2.78**	**234**⇑	*e*P	Pn	18 55 10.3	+0.5
MLPR	**Magueyes Islan**	**2.78**	**234**	*e*S	Sn	18 55 43.1	-0.3
CRPR	**Cabo Rojo, PR**	**2.81**	**235**		Sn	18 55 43.5	-0.6
CRPR	**Cabo Rojo, PR**	**2.81**	**235**		Pn	18 55 10.3	0.0
CRPR				IAML		18 55 47.1	
comp=E,22nm,2.0s							
CRPR	**Cabo Rojo, PR**	**2.81**	**235**⇓	*e*P	Pn	18 55 11.1	+0.8
CRPR	**Cabo Rojo, PR**	**2.81**	**235**	*e*S	Sn	18 55 43.5	-0.6
DR12	**Loma Pena Alta**	**4.52**	**260**	Pn	Pn	18 55 33.6	-0.2

IDC 22 19:05:01.4±1.3, 57°.14S×26°.30W, h0km, mb4.0/3, mbtmp3.9/4, ML3.5/1, 4C, Error ellipse: s-maj=81.1km s-min=27.5km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.60**	**157**	⇑P	Pn	19 08 41.0	-1.2
comp=Z,0.5nm,0.3s							
VNA3	**Neumayer Olymp**	**15.79**	**160**	⇑P	Pn	19 08 43.3	-1.5
comp=Z,0.8nm,0.3s							
VNA2	**Neumayer--Watz**	**15.99**	**157**	⇑P	Pn	19 08 46.2	-1.2
comp=Z,0.6nm,0.2s,baz=320,slow=13							
SNAA	**Sanae**	**17.54**	**155**	⇑P	Pn	19 09 06.8	-0.2
comp=Z,10nm,0.3s							
SNAA	**Sanae**	**17.54**	**155**	P	Pn	19 09 06.6	-0.5
comp=Z,0.2nm,0.3s,baz=323,slow=15,SNR=12							
comp=Z,0.5nm,0.4s							
QSPA	**South Pole Qui**	**33.10**	**180**	P	P	19 11 39.8	+1.0
comp=Z,1.1nm,0.6s,baz=185,slow=6.0,SNR=8.5							
comp=Z,1.1nm,0.6s							
VNDA	**Vanda**	**45.50**	**182**	P	P	19 13 20.9	-0.8
comp=Z,0.4nm,0.6s,baz=183,slow=7.2,SNR=7.3							
comp=Z,0.4nm,0.6s							
H04S2	**CROZET ISLANDS**	**46.66**	**113**	T	T	20 04 14.4	
baz=226							
H04S3	**CROZET ISLANDS**	**46.67**	**113**	T	T	20 04 26.8	
baz=226							
H04S1	**CROZET ISLANDS**	**46.68**	**113**	T	T	20 04 30.9	
baz=226							
H10N1	**ASCENSION HYDR**	**50.03**	**15**	T	T	20 08 56.2	
baz=191,slow=71,SNR=7.8							
H10N3	**ASCENSION HYDR**	**50.04**	**15**	T	T	20 08 56.6	
baz=191,slow=71,SNR=11							
H10N2	**ASCENSION HYDR**	**50.05**	**15**	T	T	20 09 03.9	
baz=191,slow=71,SNR=8.7							
TORD	**Torodi Ar. Bea**	**73.78**	**28**	P	P	19 16 37.5	+0.2
comp=Z,1.5nm,0.3s,baz=198,slow=5.9,SNR=2.0							
comp=Z,1.5nm,0.3s							
ILAR	**Eielson Array**	**151.20**	**310**	PKPbc	PKPbc	19 24 54.6	-0.4
comp=Z,0.6nm,0.5s,baz=122,slow=1.2,SNR=7.8							

MOS ***22*** *19:15:26.8±1.3, 2°.87S×138°.37E, h10km, mb5.4/42, MS5.0/11, Error ellipse: s-maj=9.3km s-min=5.4km az=107.9*
IDC ***22*** *19:15:27.0±0.5, 2°.68S×138°.25E, h0km, mb4.7/19, mbtmp4.7/26, ML4.1/4, MS4.9/37, Error ellipse: s-maj=13.9km s-min=10.8km az=72.0*
BJI ***22*** *19:15:28.2, 2°.78S×138°.56E, h19km, mB5.5/48, mb5.1/86, Ms5.2/83, Ms7 5.1/81*
ISC-PP ***22*** *19:15:28, 2°.87S×138°.30E, h16km, Mwppsm6.1, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr0.02±.25; Mθθ-0.13±.35; Mφφ0.13±.22; Mrθ0.39±.19; Mrφ0.08±.28; Mθφ-0.57±.20; Fault plane solution: M0 1.82000×10^18 NP1:φs184.00000°, δ58.30000°, λ355.20000°. NP2:φs276.50000°, δ85.90000°, λ-148.20000°.*
NEIC ***22*** *19:15:28.9±1.4, 2°.87S±0°.07×138°.30E±0°.05, h10km±1km, mb5.5/263, Ms_20 5.4/541, Mww5.5/19 Error ellipse: s-maj=12.2km s-min=8.9km az=162.0*
NEIC ***22*** *19:15:29.1, 2°.86S×138°.28E, h20km*
NEIC ***22*** *19:15:29.1, 2°.76S×138°.38E, h20km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr2.09; Mθθ-0.77; Mφφ-1.32; Mrθ-0.06; Mθφ1.17; Mφr-0.08; Fault plane solution: M0 2.17000×10^17 NP1: φs318.83000°, δ44.66000°, λ85.99000°. NP2: φs144.46000°, δ45.47000°, λ93.96000°. Principal axes: T 2.0960, Plg87.0000°, Azm134.0000°; N 0.1477, Plg3.0000°, Azm322.0000°; P -2.2437, Plg0.0000°, Azm232.0000°;*
DJA ***22*** *19:15:30.5±0.1, 3°.S±2°×13°.9E±°, h10km, M5.2/91, mB5.7/61, mb5.2/91, MLv5.4/10, Mw5.4/109, Mw(mB)5.2/61, MwMwp5.2/37, Mwp5.4/37*
GCMT ***22*** *19:15:34.9±0.1, 2°.52S±0°.01×138°.35E±0°.01, h12km, MW5.5/139, Moment Tensor Solution. s117, c198; s139, c268; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.58±.03; Mθθ-0.56±.02; Mφφ-1.02±.02; Mrθ0.71±.06; Mθφ1.37±.02; Mφr0.02±.05; Best double couple: M0 2.05200×10^17 NP1:φs343.00000°, δ43.00000°, λ125.00000°. NP2:φs119.00000°, δ56.00000°, λ62.00000°. Principal axes: T 1.8740, Plg66.0000°, Azm334.0000°; N 0.3610, Plg23.0000°, Azm135.0000°; P -2.2310, Plg7.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 19:15:30.2±0.2, 2°.92S±0°.03×138°.40E±0°.04, h16km, h16km:pP-P, n1029, σ1§72/782, mb5.4/227, MS5.3/345, 26C-4D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.98**	**19**	P	Pb	19 15 40.0	-8.7
GENI	**Genyem**	**1.80**	**80**	P	**Pn**	**19 15 59.7**	**-0.9**
JAY	**Jayapura**	**2.34**	**80**	Pn	**Pn**	**19 16 07.0**	**-1.0**
10nm,0.3s,baz=241,slow=8.5,SNR=87							
JAY				Lg	Lg	19 16 45.3	
65nm,0.3s,baz=89,slow=19,SNR=4.7							
73nm,0.3s							
JAY	**Jayapura**	**2.34**	**80**	P	**Pn**	**19 16 06.7**	**-1.4**
BAKI	**Biak**	**2.86**	**307**	P	**Pn**	**19 16 13.7**	**-1.5**
RKPI	**Ransiki, Papua**	**4.44**	**288**	P	**Pn**	**19 16 37.4**	**+0.5**
KMPI	**Kaimana, Papua**	**4.74**	**261**	P	**Pn**	**19 16 45.5**	**+4.5**
MMPI	**Merauke**	**5.85**	**160**	P	Pb	19 17 04.6	-7.3
FAKI	**Fak Fak**	**6.14**	**270**		**Pn**	**19 16 59.2**	**-1.1**
FAKI	**Fak Fak**	**6.14**	**270**	P	**Pn**	**19 17 02.5**	**+2.2**
FAKI	**Fak Fak**	**6.14**	**270**	P	**Pn**	**19 17 03.8**	**+3.5**
1.4nm3μm290nm,1.1s							
BNDI	**Bandanaira**	**8.62**	**259**	P	**Pn**	**19 17 37.6**	**+3.2**
BNDI	**Bandanaira**	**8.62**	**259**	P	Pn	19 17 39.5	+5.1
8μm384nm,1.3s							
MANU	**Manus Island**	**9.01**	**85**		**Pn**	**19 17 41.2**	**+1.6**
MSAI	**Masohi**	**9.46**	**267**	P	**Pn**	**19 17 48.7**	**+2.8**
12μm3μm321nm,1.0s							
AAI	**Ambon**	**10.21**	**265**	P	**Pn**	**19 18 00.3**	**+4.1**
12μm3μm272nm,1.2s							
PMG	**Port Moresby**	**10.83**	**127**		**Pn**	**19 18 06.0**	**+1.3**
PMG	**Port Moresby**	**10.83**	**127**	Pn	**Pn**	**19 18 08.2**	**+3.5**
13nm,0.9s,baz=312,slow=14,SNR=2.3							
PMG				LR	LR	19 23 55.3	
comp=Z,18μm,21.2s,baz=302,slow=46							
PMG	**Port Moresby**	**10.83**	**127**	P	**Pn**	**19 18 06.0**	**+1.3**
NLAI	**Namlea**	**11.28**	**268**	P	**Pn**	**19 18 14.5**	**+3.6**
10μm4μm313nm,1.6s							
KDU	**Kakadu**	**11.34**	**211**	P	**Pn**	**19 18 15.8**	**+4.2**
comp=Z,0.0nmcomp=Z,79nm,0.8s							
TNTI	**Ternate**	**11.62**	**288**		**Pn**	**19 18 13.2**	**-2.3**
TNTI	**Ternate**	**11.62**	**288**	P	**Pn**	**19 18 16.2**	**+0.7**
TNTI	**Ternate**	**11.62**	**288**	P	**Pn**	**19 18 17.9**	**+2.4**
comp=Z,1μmcomp=Z,66nm,1.2s							
COEN	**Coen**	**11.94**	**157**	P	Pn	19 18 25.9	+6.0
comp=Z,0.0nmcomp=Z,79nm,0.6s							
COEN	**Coen**	**11.94**	**157**		**Pn**	**19 18 20.3**	**+0.4**
DRS	**Darwin Rock St**	**12.02**	**218**	P	P	19 18 28.9	-4.9
AUDHS	**Darwin High Sc**	**12.06**	**218**	P	P	19 18 29.0	-5.4
MTN	**Manton Dam**	**12.20**	**216**	P	**Pn**	**19 18 27.6**	**+4.1**
comp=Z,0.0nmcomp=Z,150nm,0.8s							
MTN	**Manton Dam**	**12.20**	**216**		**Pn**	**19 18 22.0**	**-1.4**
SANI	**Sanana**	**12.43**	**274**	P	**Pn**	**19 18 26.1**	**-0.4**
SANI	**Sanana**	**12.43**	**274**	P	**Pn**	**19 18 27.0**	**+0.5**
comp=Z,5μmcomp=Z,2μmcomp=Z,198nm,1.3s							
RABL	**Rabaul**	**13.80**	**96**		**Pn**	**19 18 46.0**	**+0.7**
SGSI	**Sangihe**	**14.44**	**297**	P	**Pn**	**19 18 56.7**	**+2.6**
comp=Z,4μmcomp=Z,5μmcomp=Z,183nm,2.3s							
KMSI	**Cibinong**	**14.82**	**283**	P	**Pn**	**19 19 00.5**	**+1.2**
SOEI	**Soe**	**15.59**	**244**		**Pn**	**19 19 09.2**	**-0.3**
SOEI	**Soe**	**15.59**	**244**	P	P	**19 19 13.0**	**-0.8**
SOEI	**Soe**	**15.59**	**244**	P	P	**19 19 14.8**	**+1.0**
comp=Z,7μmcomp=Z,5μmcomp=Z,440nm,1.1s							
LUWI	**Luwuk**	**15.72**	**277**		**Pn**	**19 19 11.2**	**-0.1**
LUWI				IAmb	IAmb	19 19 15.5	
comp=Z,582nm,1.4s							
LUWI	**Luwuk**	**15.72**	**277**	P	**Pn**	**19 19 13.0**	**+1.8**
LUWI	**Luwuk**	**15.72**	**277**	P	**Pn**	**19 19 12.3**	**+1.1**
KNRA	**Kununurra**	**15.83**	**216**	P	P	**19 19 15.6**	**-0.7**
comp=Z,0.0nmcomp=Z,135nm,0.8s							
KNRA	**Kununurra**	**15.83**	**216**		**Pn**	**19 19 13.5**	**+1.0**
BBSI	**Bau Bau**	**15.99**	**260**	P	P	**19 19 18.4**	**+0.4**
comp=Z,297nm,1.3s							
DAV	**Davao City (W)**	**16.19**	**308**	P	**Pn**	**19 19 17.0**	**-0.2**
DAV				IAmb	IAmb	19 19 21.2	
comp=Z,148nm,0.4s							
DAV	**Davao City (W)**	**16.19**	**308**	Pn	**Pn**	**19 19 13.0**	**-4.2**
comp=Z,90nm,0.3s,baz=135,slow=4.3,SNR=1.0							
DAV				LR	LR	19 26 14.2	
comp=Z,3μm,18.7s,baz=171,slow=41							
DAV	**Davao City (W)**	**16.19**	**308**	P	**Pn**	**19 19 13.4**	**-3.8**
DAV	**Davao City (W)**	**16.19**	**308**	P	P	**19 19 26.0**	**+5.7**
MTSU	**Mount Surprise**	**16.20**	**159**	P	P	19 19 27.9	+7.5
BATI	**Baumata**	**16.32**	**243**	Pn	**Pn**	**19 19 20.7**	**+1.9**
comp=Z,11nm,0.3s,baz=48,slow=16,SNR=12							
BATI				Sn	**Sn**	**19 22 20.3**	**+0.5**
baz=72,slow=19							
BATI	**Baumata**	**16.32**	**243**	P	P	**19 19 22.7**	**+0.9**
MRSI	**Marisa**	**16.79**	**281**	P	**Pn**	**19 19 26.0**	**+1.2**
comp=Z,2μmcomp=Z,186nm,1.1s							
APSI	**Ampana**	**16.86**	**276**	P	P	**19 19 29.4**	**+1.7**
comp=Z,6μmcomp=Z,409nm,1.2s							
MMRI	**Maumere**	**17.04**	**250**		**Pn**	**19 19 25.8**	**-2.2**
MMRI	**Maumere**	**17.04**	**250**	P	P	**19 19 32.8**	**+3.0**
MMRI	**Maumere**	**17.04**	**250**	P	P	**19 19 32.1**	**+2.3**
comp=Z,4μmcomp=Z,2μmcomp=Z,115nm,1.5s							
WB0	**Warramunga Arr**	**17.19**	**193**	P	**Pn**	**19 19 29.3**	**-0.6**
WR8	**Warramunga Arr**	**17.35**	**192**	P	**Pn**	**19 19 32.1**	**+0.2**
WRAB	**Tennant Creek**	**17.36**	**193**	P	**Pn**	**19 19 32.6**	**+0.6**
WRAB	**Tennant Creek**	**17.36**	**193**	P	**Pn**	**19 19 32.6**	**+0.6**
WRAB				pmax	pmax		
comp=Z,197nm,2.0s							
WRA	**Warramunga Arr**	**17.38**	**193**	P	**Pn**	**19 19 29.8**	**-2.4**
WRA	**Warramunga Arr**	**17.38**	**193**	P	**Pn**	**19 19 32.5**	**+0.3**
comp=Z,1.2nm,0.3s,baz=16,slow=12,SNR=41							
WRA				S	**Sn**	**19 22 44.2**	**-1.2**
comp=Z,24nm,0.9s,baz=11,slow=23,SNR=5.3							
comp=Z,3.3nm,0.6s							
WRA	**Warramunga Arr**	**17.38**	**193**	P	**Pn**	**19 19 29.8**	**-2.4**
WRA				S	**Sn**	**19 22 44.2**	**-1.2**
WRA				pmax	pmax		
comp

comp=Z,0.0nmcomp=Z,190nm,1.5s
PATS Pohnpei 22.12 64 P P 19 20 25.0 -0.2
PATS IAmb IAmb 19 20 37.2
comp=Z,301nm,1.3s
PATS IAMs_20 IAMs_20 19 27 03.3
comp=Z,12µm,19.0s
PATS Pohnpei 22.12 64 P P 19 20 30.1 +4.9
TWSI Taliwang, Sumb 22.16 254 P P 19 20 29.2 +3.5
HNR Honiara 22.37 108 P P 19 20 28.9 +1.1
HNR IAmb IAmb 19 20 35.9
comp=Z,189nm,0.9s
HNR Honiara 22.37 108 P P 19 20 29.0 +1.1
HNR pmax pmax
comp=Z,189nm,0.9s
HNR MLR MLR
comp=Z,4µm,20.0s
BBKI Banjar Baru 23.52 268 P P 19 20 43.1 +3.2
comp=Z,3µmcomp=Z,405nm,1.5s
MTKI Muara Teweh, K 23.57 274 P P 19 20 42.1 +1.8
comp=Z,3µmcomp=Z,3µmcomp=Z,149nm,1.7s
SRBI Singaraja 23.63 257 P P 19 20 43.5 +2.6
comp=Z,2µmcomp=Z,72nm,1.1s
WRKA Warakurna 24.05 203 P P 19 20 48.0 +3.2
comp=Z,43nm,0.9s
TGY Tagaytay City 24.20 315 LR LR 19 30 47.6
comp=Z,3µm,19.2s,baz=121,slow=38
KMMI Kalianget 24.67 260 P P 19 20 54.1 +3.5
comp=Z,5µmcomp=Z,253nm,1.6s
JAGI Jajag, Banyuwa 24.74 256 P P 19 20 49.6 -1.6
JAGI Jajag, Banyuwa 24.74 256 P P 19 20 56.3 +5.1
JAGI Jajag, Banyuwa 24.74 256 P P 19 20 52.2 +1.0
comp=Z,1µmcomp=Z,59nm,1.0s
INKA Innaminka 24.78 175 P P 19 20 51.6 +0.2
EIDS Eidsvold 25.44 152 P P 19 20 57.5 +0.1
EIDS IAmb IAmb 19 21 29.1
comp=Z,126nm,1.6s
MBWA Marble Bar 25.66 224 P P 19 21 03.8 +4.3
comp=Z,61nm,1.0s
MBWA Marble Bar 25.66 224 P P 19 20 58.2 -1.3
MBWA Marble Bar 25.66 224 P P 19 21 03.3 +3.8
MBWA P P 19 21 03.3 +3.8
MBWA Marble Bar 25.66 224 P P 19 21 05.7 +6.2
PSAC2 Pilbara Seismi 25.82 223 P P 19 21 05.7 +4.8
comp=Z,43nm,0.9s
PSAC1 Pilbara Seismi 25.86 223 P P 19 21 05.5 +4.2
comp=Z,40nm,2.2s
PSA00 Pilbara Seismi 25.87 223 P P 19 21 06.1 +4.8
comp=Z,27nm,0.8s
PSA00 Pilbara Seismi 25.87 223 P P 19 21 00.1 -1.3
PSA00 Pilbara Seismi 25.87 223 P P 19 20 59.9 -1.4
PSA00 IAmb IAmb 19 21 28.2
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 25.87 223 P P 19 21 08.4 +7.0
SBUM Sibu 26.70 281 P P 19 21 06.6 -2.4
SBUM Sibu 26.70 281 P P 19 21 10.9 +1.9
AULRC Lightning Ridg 27.89 162 P P 19 21 28.9 +9.4
KSM Kuching 28.41 278 P P 19 21 22.7 -1.7
KSM Kuching 28.41 278 P P 19 21 27.0 +2.6
STKA Stephens Creek 28.96 174 P P 19 21 33.0 +4.1
comp=Z,54nm,0.9s
STKA Stephens Creek 28.96 174 P P 19 21 28.2 -0.8
STKA Stephens Creek 28.96 174 P P 19 21 31.8 +2.8
comp=Z,0.8nm,0.4s,baz=5.4,slow=10,SNR=5.2
STKA LR LR 19 34 30.2
comp=Z,4µm,18.0s,baz=342,slow=39
comp=Z,0.8nm,0.4s
STKA Stephens Creek 28.96 174 P P 19 21 28.2 -0.8
STKA pmax pmax
comp=Z,134nm,1.1s
FORT Forrest 29.38 198 P P 19 21 31.7 -1.0
FORT IAmb IAmb 19 22 37.4
comp=Z,49nm,0.8s
KPJI Karang Pucung 29.66 260 P P 19 21 38.2 +2.8
comp=Z,25nm,1.2s
BBOO Buckleboo 29.82 184 P P 19 21 41.1 +4.5
comp=Z,15nm,1.0s
BBOO Buckleboo 29.82 184 P P 19 21 36.5 -0.1
JCJ Chichijima 30.06 7 LR LR 19 32 34.2
comp=Z,3µm,19.5s,baz=164,slow=34
ARMA Armidale 30.08 157 P P 19 21 37.0 -2.1
TPI Tanjungpandan 30.70 270 P P 19 21 46.9 +2.2
comp=Z,27nm,1.4s
YULB Yu-li 31.01 328 P P 19 21 45.0 -2.3
YULB IAmb IAmb 19 22 14.9
comp=Z,58nm,1.4s
YULB Yu-li 31.01 328 P P 19 21 47.6 +0.3
YOJ Yonaguni jima 31.06 332 P P 19 21 45.5 -2.1
YOJ IAmb IAmb 19 21 49.8
comp=Z,106nm,1.3s
YOJ Yonaguni jima 31.06 332 P P 19 21 45.5 -2.1
YOJ pmax pmax
comp=Z,106nm,1.3s
JOW Kunigami 31.15 342 P P 19 21 46.7 -1.7
JOW IAmb IAmb 19 21 51.6
comp=Z,56nm,1.0s
JOW Kunigami 31.15 342 P P 19 21 45.0 -3.4
comp=Z,27nm,1.0s,baz=167,slow=6.3,SNR=5.1
comp=Z,27nm,1.0s
TPUB Ta-pu 31.29 327 P P 19 21 47.9 -1.8
NACB Ninganchiao 31.50 330 P P 19 21 49.2 -2.4
NACB IAmb IAmb 19 21 53.9
comp=Z,80nm,1.0s
NACB Ninganchiao 31.50 330 P P 19 21 50.6 -0.9
SSLB Suanglung 31.52 328 P P 19 21 50.1 -1.6
SSLB IAMs_20 IAMs_20 19 33 15.3
comp=Z,5µm,19.0s
SSLB Suanglung 31.52 328 P P 19 21 52.5 +0.8
YHNB Yeheng 32.02 330 P P 19 21 55.2 -1.0
YHNB IAmb IAmb 19 22 12.1
comp=Z,82nm,1.2s
YHNB Yeheng 32.02 330 P P 19 21 56.7 +0.5
TATO Taipei 32.22 330 P P 19 21 56.7 -1.2
TATO Taipei 32.22 330 P P 19 21 57.6 -0.2
DLV Lat 33.20 297 P P 19 22 04.7 -2.1
DLV IAmb IAmb 19 22 21.5
comp=Z,86nm,1.7s
DZM Mont Dzumac 33.23 127 LR LR 19 36 38.3
comp=Z,3µm,19.6s,baz=318,slow=38
ONTNC Ouen Toro 33.36 128 P P 19 22 07.8 -0.1
ONTNC IAmb IAmb 19 23 06.5
comp=Z,54nm,1.2s
KNMB Chin-men Tao 33.45 326 P P 19 22 07.8 -0.9
PMBI Palembang 33.58 269 P P 19 22 08.8 -1.1
MORW Morawa 33.59 217 P P 19 22 08.3 -1.5
MORW Morawa 33.59 217 P P 19 22 17.8 +8.0
QZH Quanzhou 33.72 326 P P 19 22 08.8 -2.1
QZH S S **19 27 29.1 -4.7**
QZH LR LR
comp=Z,2µm,21.3s
QZH LR LR
comp=Z,3µm,22.3s
QZH LR LR
comp=Z,4µm,24.0s
ARPS Mount Arapiles 33.83 175 P P 19 22 16.3 +4.5
comp=Z,11nm,0.7s
KASI Kota Agung 33.90 264 P P 19 22 15.1 +2.4
comp=Z,34nm,0.8s
TPRI Tanjung Pinang 34.07 276 P P 19 22 16.2 +2.0
comp=Z,76nm,1.4s
MDSI Maura Dua 34.18 266 P P 19 22 16.2 +1.1
comp=Z,75nm,1.2s
BLDU Ballidu 34.34 214 P P 19 22 22.3 +6.0
MGBR Mount Gambier 34.70 177 P P 19 22 17.7 -1.6
MGBR IAmb IAmb 19 22 49.1
comp=Z,115nm,1.6s
LHSI Lahat 34.82 268 P P 19 22 22.8 +2.1
comp=Z,2µmcomp=Z,116nm,1.4s
BRAT Ballarat 34.84 172 P P 19 22 30.7 +10
MYKOM Kota Tinggi 34.85 277 P 19 22 18.1 -2.9
MYKOM IAmb IAmb 19 22 25.8
comp=Z,89nm,1.2s
MYKOM Kota Tinggi 34.85 277 P P 19 22 23.5 +2.5
BTDF Bukit Timah Da 34.87 277 P P 19 22 24.1 +2.9
TOO Toolangi 35.09 170 P P 19 22 21.6 -1.2
TOO Toolangi 35.09 170 P P 19 22 21.6 -1.2
TOO pmax pmax
comp=Z,13nm,1.3s
QIZ Qiongzhong 35.56 309 P P 19 22 26.4 -0.6
QIZ PP **PP 19 23 49.9 +2.0**
QIZ S S **19 28 00.9 -1.5**
QIZ pmax pmax
comp=Z,30nm,1.1s
QIZ LR LR
comp=Z,620nm,14.7s
QIZ LR LR
comp=Z,2µm,18.6s
QIZ LR LR
comp=Z,2µm,20.6s
QIZ Qiongzhong 35.56 309 P P 19 22 23.9 -3.1
QIZ IAmb IAmb 19 22 31.9
comp=Z,65nm,1.3s
QIZ Qiongzhong 35.56 309 P P 19 22 27.3 +0.3
GZH Guangzhou 35.57 318 P P 19 22 27.8 +0.8
GZH S **S 19 28 06.3 +3.9**
GZH LR LR
comp=Z,2µm,17.6s
GZH LR LR
comp=Z,2µm,13.7s
GZH LR LR
comp=Z,3µm,18.2s
NWAO Narrogin (SRO) 35.84 211 P P 19 22 28.0 -1.2
NWAO IAmb IAmb 19 22 44.3
comp=Z,148nm,1.9s
NWAO Narrogin (SRO) 35.84 211 LR LR 19 38 20.5
comp=Z,6µm,19.7s,baz=31,slow=38
NWAO Narrogin (SRO) 35.84 211 P P 19 22 34.0 +4.8
NWAO Narrogin (SRO) 35.84 211 P P 19 22 28.0 -1.2
NWAO pmax pmax
comp=Z,148nm,2.0s
NWAO MLR MLR
comp=Z,11µm,18.0s
MASI Maura Aman, Be 36.10 269 P P 19 22 34.1 +2.3
JNU Nakatsue 36.55 349 IAmb IAmb 19 22 35.5
comp=Z,88nm,1.1s
JNU Nakatsue 36.55 349 LR LR 19 37 14.6
comp=Z,3µm,18.4s,baz=166,slow=36
JNU Nakatsue 36.55 349 P P 19 22 35.0 -0.3
JMN Monobe 36.70 354 P P 19 22 34.6 -2.0
JMN IAmb IAmb 19 22 50.5
comp=Z,60nm,1.1s
JMN Monobe 36.70 354 P P 19 22 37.3 +0.7
KRJI Kerinci 36.91 270 P P 19 22 40.8 +2.1
BKNI Bangkinang 37.48 274 P P 19 22 40.9 -2.6
BKNI Bangkinang 37.48 274 P P 19 22 46.8 +3.3
BKNI Bangkinang 37.48 274 P P 19 22 45.5 +2.0
SSE Sheshan 37.59 335 P P 19 22 43.5 -0.6
SSE S **S 19 28 34.4 +1.3**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.0s
SSE LR LR
comp=Z,660nm,17.9s
SSE LR LR
comp=Z,770nm,18.1s
PDSI Padang 37.96 272 P P 19 22 48.8 +1.2
comp=Z,48nm,1.1s
IPM Ipoh 38.06 281 IAmb IAmb 19 22 52.7
comp=Z,84nm,1.3s
IPM Ipoh 38.06 281 P P 19 22 50.6 +2.2
PPI Padang Panjang 38.06 273 P P 19 22 49.9 +1.5
comp=Z,1µmcomp=Z,89nm,1.3s
KULM Kulim 38.58 282 P P 19 22 50.7 -2.1
KULM Kulim 38.58 282 P P 19 22 55.3 +2.6
MNSI Mandailing Nat 38.98 275 P P 19 22 58.2 +2.1
comp=Z,27nm,1.0s
GULI GuiLin 39.05 318 P P 19 22 57.8 +1.2
GULI S **S 19 28 57.0 +1.5**
GULI pmax pmax
comp=Z,28nm,1.1s
GULI LR LR
comp=Z,2µm,23.0s
GULI LR LR
comp=Z,790nm,18.1s
GULI LR LR
comp=Z,2µm,17.8s
MJAR Matsushiro Arr 39.26 360 P P 19 22 57.0 -1.1
MJAR Matsushiro Arr 39.26 360 P P 19 22 55.4 -2.8
comp=Z,3.0nm,0.7s,baz=180,slow=8.8,SNR=8.8
MJAR LR LR 19 38 18.1
comp=Z,2µm,18.4s,baz=168,slow=35
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 39.26 360 P P 19 22 57.0 -1.1
MJAR pmax pmax
comp=Z,19nm,1.6s
MAJO Matsushiro 39.26 360 P P 19 22 55.8 -2.3
MAJO Matsushiro 39.26 360 P P 19 22 55.8 -2.3
MAJO pmax pmax
comp=Z,79nm,2.0s
MAJO MLR MLR
comp=Z,2µm,21.0s
MJB9 Matsu-Tunnel 39.26 360 P P 19 22 57.2 -0.9
NJ2 Nanjing 39.42 333 ⇑P **P 19 22 59.5 0.0**
NJ2 sP **pP 19 23 05.9 +1.4**
NJ2 S **S 19 29 01.3 +0.6**
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 LR LR
comp=Z,2µm,18.9s
NJ2 LR LR
comp=Z,2µm,18.0s
NJ2 LR LR
comp=Z,2µm,18.0s
CNSH ChangSha 39.45 323 P P 19 22 59.4 -0.4
CNSH S **S 19 28 59.1 -2.2**
CNSH pmax pmax
comp=Z,70nm,1.4s
CNSH LR LR
comp=Z,1µm,22.0s
CNSH LR LR
comp=Z,2µm,21.3s
CNSH LR LR
comp=Z,3µm,23.4s
WHN Wuhan 40.42 327 ⇑P **P 19 23 08.5 +0.6**
WHN sP **sP 19 23 15.0 +0.1**
WHN S **S 19 29 17.5 +1.7**
WHN pmax pmax
comp=Z,190nm,1.0s
WHN LR LR
comp=Z,3µm,14.3s
WHN LR LR
comp=Z,2µm,12.1s
WHN LR LR
comp=Z,6µm,22.6s
TJN Taejon 40.43 346 P P 19 23 07.1 -0.7
TJN Taejon 40.43 346 *i* P **P 19 23 07.1 -0.7**
JMM Marumori 40.64 3 P P 19 23 08.5 -1.0
JMM Marumori 40.64 3 P P 19 23 09.6 0.0
JSD Sado 40.75 360 P P 19 23 09.4 -1.1
JSD Sado 40.75 360 P P 19 23 09.8 -0.7
KCSI Kotacane, Aceh 41.10 279 P P 19 23 14.5 +0.7
comp=Z,514nmcomp=Z,35nm,1.3s
KSAR Wonju Array Be 41.33 347 P P 19 23 13.7 -1.5
KSAR Wonju Array Be 41.33 347 P P 19 23 13.7 -1.5
KSRS Korea Array 41.33 347 P P 19 23 11.5 -3.7
comp=Z,16nm,0.9s,baz=167,slow=9.7,SNR=34
comp=Z,16nm,0.9s
SLVN Son La 41.48 307 P P 19 23 14.7 -2.2
SLVN Son La 41.48 307 P P 19 23 17.4 +0.5
MSVF Nonsavu 41.57 114 IAMs_20 IAMs_20 19 39 57.6
comp=Z,4µm,21.0s
MSVF Nonsavu 41.57 114 P P 19 23 26.6 +9.0
INCN Inchon 41.66 346 P P 19 23 16.7 -1.3
INCN IAmb IAmb 19 23 20.8
comp=Z,108nm,1.4s
INCN Inchon 41.66 346 P P 19 23 17.9 -0.1
INCN Inchon 41.66 346 P P 19 23 16.7 -1.3
INCN pmax pmax
comp=Z,108nm,1.4s
INCN MLR MLR
comp=Z,3µm,19.0s
LHMI Lhok Sumawe 42.19 281 P P 19 23 24.7 +2.0
LHMI Lhok Sumawe 42.19 281 P P 19 23 24.1 +1.4
GYA Guiyang 42.35 316 ⇓P **P 19 23 24.8 +0.9**
GYA S **S 19 29 43.3 -1.5**
GYA pmax pmax
comp=Z,21nm,1.0s
GYA pmax pmax
comp=Z,150nm,3.1s
GYA LR LR
comp=Z,1µm,20.5s
GYA LR LR
comp=Z,1µm,23.4s
GYA LR LR
comp=Z,2µm,20.3s
SNSI Sinabang, Aceh 42.38 277 P P 19 23 25.9 +1.6
MLSI Meulaboh, Aceh 42.56 279 P P 19 23 26.8 +1.1
ENH Enshi 43.03 322 P P 19 23 30.4 +1.1
TIA Tai'an 43.71 335 P P 19 23 33.5 -1.1
TIA S **S 19 30 02.5 -1.7**
TIA pmax pmax
comp=Z,23nm,0.8s
TIA pmax pmax
comp=Z,310nm,7.2s
TIA LR LR
comp=Z,1µm,16.5s
TIA LR LR
comp=Z,950nm,15.1s
TIA LR LR
comp=Z,2µm,18.5s
CM31 Chiang Mai Arr 44.27 300 IAmb IAmb 19 23 44.2
comp=Z,107nm,1.4s
CM31 Chiang Mai Arr 44.27 300 P P 19 23 40.6 +1.2
SNR=42
CM31 P **P 19 23 40.6 +1.2**
SNR=42
CMAR Chiang Mai Arr 44.27 300 P P 19 23 36.9 -2.6
CMAR Chiang Mai Arr 44.27 300 P P 19 23 37.4 -2.0
comp=Z,21nm,1.1s,baz=122,slow=5.9,SNR=64
CMAR LR LR 19 43 52.1
comp=Z,699nm,18.6s,baz=125,slow=39
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 44.27 300 *i* P **P 19 23 40.5 +1.1**
CMAR pmax pmax
comp=Z,46nm,1.2s
DL2 Dalian 44.40 341 P P 19 23 40.0 -0.1
DL2 S **S 19 30 15.8 +1.6**
DL2 pmax pmax
comp=Z,30nm,1.3s
DL2 pmax pmax
comp=Z,320nm,4.7s
DL2 LR LR
comp=Z,1µm,17.8s
DL2 LR LR
comp=Z,920nm,19.3s
DL2 LR LR
comp=Z,2µm,19.6s
CHTO Chiang Mai 44.42 301 P P 19 23 38.6 -2.0
CHTO IAmb IAmb 19 23 45.0
comp=Z,82nm,1.5s
CHTO Chiang Mai 44.42 301 P P 19 23 41.3 +0.7
CHTO P **P 19 23 41.3 +0.7**
CHTO Chiang Mai 44.42 301 P P 19 23 42.3 +1.7
CHTO Chiang Mai 44.42 301 P P 19 23 38.7 -2.0
CHTO pmax pmax
comp=Z,82nm,1.5s
CHTO MLR MLR
comp=Z,2µm,18.0s
KMI Kunming 44.42 311 ⇑P **P 19 23 41.3 +0.5**
KMI S **S 19 30 15.9 +0.5**
KMI pmax pmax
comp=Z,25nm,1.1s
KMI pmax pmax
comp=Z,240nm,8.7s
KMI LR LR
comp=Z,1µm,19.2s
KMI LR LR
comp=Z,1µm,19.4s
KMI LR LR
comp=Z,2µm,21.8s
LYN LuoYang 44.54 329⇑*i*P **P 19 23 41.1 -0.2**
LYN sP pP 19 23 47.3 +1.0
LYN PP **PP 19 25 30.6 +5.2**
LYN S **S 19 30 15.5 -0.9**
LYN pmax pmax
comp=Z,140nm,1.1s
LYN pmax pmax
comp=Z,460nm,4.5s
LYN LR LR
comp=Z,1µm,16.7s
LYN LR LR
comp=Z,690nm,18.2s
LYN LR LR
comp=Z,2µm,19.9s
HNS HongShan 45.75 333 ⇑P **P 19 23 50.3 -0.6**
HNS S **S 19 30 31.9 -1.9**
HNS SS **ScS 19 33 47.1 +0.4**
HNS pmax pmax
comp=Z,380nm,5.5s
HNS LR LR
comp=Z,2µm,18.8s
HNS LR LR
comp=Z,2µm,18.2s
HNS LR LR
comp=Z,3µm,19.1s
MSHR Mys Shultsa 45.76 353*ce*P **P 19 23 49.7 -1.2**
MSHR pmax pmax
comp=Z,16nm,1.3s
PZH PanZhiHua 45.93 312 P P 19 23 52.5 -0.2
PZH S **S 19 30 34.0 -3.0**
PZH ScS **ScS 19 33 46.8 -1.8**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,220nm,8.1s
PZH LR LR
comp=Z,1µm,20.4s
PZH LR LR
comp=Z,1µm,21.9s
PZH LR LR
comp=Z,2µm,21.8s
XAN Xi'an 46.07 325 ⇑P **P 19 23 53.3 -0.3**
XAN pP pP 19 23 59.5 +0.9
XAN S **S 19 30 37.1 -1.6**
XAN pmax pmax
comp=Z,110nm,1.5s
XAN pmax pmax
comp=Z,540nm,3.5s
XAN LR LR
comp=Z,2µm,20.6s
XAN LR LR
comp=Z,990nm,17.1s
XAN LR LR
comp=Z,3µm,18.5s
VLA Vladivostok 46.20 353 *i* P **P 19 23 54.6 +0.2**
VLA pmax pmax
comp=Z,33nm,1.0s
SNY Shenyang 46.53 345 ⇑P **P 19 23 56.5 -0.4**
SNY S **S 19 30 51.5 +6.6**
SNY pmax pmax
comp=Z,36nm,1.4s
SNY pmax pmax
comp=Z,350nm,4.6s
SNY LR LR
comp=Z,1µm,18.0s
SNY LR LR
comp=Z,2µm,18.8s
SNY LR LR
comp=Z,2µm,18.4s
ASAJ Asahikawa 46.98 4 LR LR 19 44 08.5
comp=Z,706nm,19.1s,baz=190,slow=37
JKA Kamikawa-asahi 46.98 4 IAmb IAmb 19 24 05.2
comp=Z,32nm,1.0s
CD2 Chengdu 47.13 318 P P 19 24 02.3 +0.4
CD2 S **S 19 30 50.3 -3.6**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,260nm,4.0s
CD2 LR LR
comp=Z,2µm,16.9s
CD2 LR LR
comp=Z,2µm,17.5s
CD2 LR LR
comp=Z,2µm,17.8s
USRK Ussuriysk Ar. 47.26 354 P P 19 24 00.8 -1.8
comp=Z,17nm,1.1s,baz=186,slow=9.6,SNR=19
comp=Z,17nm,1.1s
BJT Baijiatuau 47.35 337 IAmb IAmb 19 24 04.2
comp=Z,65nm,1.5s
BJT Baijiatuau 47.35 337 P P 19 24 04.5 +1.1
BJI Beijing 47.36 337 P P 19 24 02.6 -0.9
BJI S **S 19 30 57.6 +0.8**
BJI sS **sS 19 31 05.8 +0.6**
BJI pmax pmax
comp=Z,14nm,1.3s
BJI LR LR
comp=Z,910nm,18.1s
BJI LR LR
comp=Z,360nm,18.8s
BJI LR LR
comp=Z,1µm,19.5s
TNCH TengChong 47.62 308 P P 19 24 05.8 -0.2
TNCH pP pP 19 24 08.9 -2.2
TNCH sP sP 19 24 11.3 -1.8
TNCH PP **PP 19 25 57.0 -0.8**

TNCH				S	S	19 31 01.3	-0.1
TNCH				SS	SS	19 34 18.5	-11
TNCH				pmax	pmax		
	comp=Z,22nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,230nm,4.6s						
TNCH				LR	LR		
	comp=Z,610nm,17.8s						
TNCH				LR	LR		
	comp=Z,650nm,16.4s						
TNCH				LR	LR		
	comp=Z,1μm,16.4s						
CN2	**Changchun**	**47.95**	**347**	*e*P	**P**	**19 24 07.5**	**-0.5**
CN2				*es*P	pP	19 24 14.0	+1.0
CN2				*e*S	**S**	**19 31 02.8**	**-2.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
MDJ	**Mudanjiang**	**47.98**	**352**	IAmb	IAmb	19 24 16.1	
	comp=Z,40nm,1.0s						
MDJ	**Mudanjiang**	**47.98**	**352**	P	**P**	**19 24 09.2**	**+1.0**
QRZ	**Quartz Range**	**48.68**	**145**	IAMs_20	IAMs_20	19 45 49.0	
	comp=Z,4μm,18.0s						
RAO	**Raoul Island**	**49.03**	**127**	LR	LR	19 43 20.9	
	comp=Z,898nm,21.2s,baz=305,slow=34						
INZ	**Inchbonnie**	**49.38**	**148**	IAMs_20	IAMs_20	19 47 51.3	
	comp=Z,3μm,18.0s						
NNZ	**Nelson**	**49.42**	**145**	IAMs_20	IAMs_20	19 46 20.6	
	comp=Z,4μm,19.0s						
BNX	**BinXian**	**49.42**	**350**	⇑P	**P**	**19 24 18.8**	**-0.5**
BNX				S	**S**	**19 31 26.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,45nm,1.4s						
BNX				pmax	pmax		
	comp=Z,470nm,7.0s						
BNX				LR	LR		
	comp=Z,1μm,18.6s						
BNX				LR	LR		
	comp=Z,640nm,16.6s						
BNX				LR	LR		
	comp=Z,2μm,19.7s						
THZ	**Tophouse**	**49.51**	**146**	IAMs_20	IAMs_20	19 46 04.0	
	comp=Z,5μm,20.0s						
YSS	**Yuzhno-Sakhali**	**49.81**	**4**	P	**P**	**19 24 20.6**	**-1.6**
YSS				IAmb	IAmb	19 24 24.5	
	comp=Z,53nm,1.3s						
YSS	**Yuzhno-Sakhali**	**49.81**	**4**	P	**P**	**19 24 22.1**	**-0.1**
YSS	**Yuzhno-Sakhali**	**49.81**	**4**	*e*P	**P**	**19 24 21.2**	**-1.0**
YSS				*e*S	**S**	**19 31 24.8**	**-6.3**
YSS				pmax	pmax		
	comp=Z,200nm,4.7s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,200nm,7.8s						
YSS				MLR	MLR		
	comp=Z,700nm,20.0s						
YSS				MLR	MLR		
	comp=N,500nm,17.0s						
LTZ	**Lake Taylor**	**49.86**	**148**	IAMs_20	IAMs_20	19 45 17.0	
	comp=Z,4μm,20.0s						
URZ	**Urewera**	**49.86**	**140**	LR	LR	19 45 05.2	
	comp=Z,2μm,21.1s,baz=311,slow=36						
RPZ	**Rata Peaks**	**49.87**	**149**	IAMs_20	IAMs_20	19 44 47.2	
	comp=Z,4μm,22.0s						
LBZ	**Lake Benmore**	**49.91**	**150**	IAMs_20	IAMs_20	19 49 13.3	
	comp=Z,3μm,19.0s						
HHC	**Hu-ho-hao-te**	**49.98**	**333**	⇓*i*P	**P**	**19 24 24.4**	**+0.6**
HHC				pP	pP	19 24 29.6	+0.7
HHC				S	**S**	**19 31 33.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,310nm,5.9s						
HHC				LR	LR		
	comp=Z,2μm,18.9s						
HHC				LR	LR		
	comp=Z,1μm,17.6s						
HHC				LR	LR		
	comp=Z,2μm,18.8s						
RTZ	**Ruatahuna**	**49.98**	**140**	IAMs_20	IAMs_20	19 44 36.9	
	comp=Z,3μm,22.0s						
BKZ	**Black Stump Fm**	**50.00**	**141**	IAMs_20	IAMs_20	19 45 22.2	
	comp=Z,3μm,19.0s						
OXZ	**Oxford**	**50.11**	**148**	IAMs_20	IAMs_20	19 45 12.6	
	comp=Z,3μm,20.0s						
GVZ	**Greta Valley S**	**50.39**	**147**	IAMs_20	IAMs_20	19 49 01.3	
	comp=Z,4μm,19.0s						
LZH	**Lanzhou**	**50.46**	**323**	⇑P	**P**	**19 24 28.3**	**+0.7**
LZH				pP	sP	19 24 34.9	+0.2
LZH				sP	pP	19 24 39.0	+6.3
LZH				PP	**PP**	**19 26 27.3**	**+3.9**
LZH				S	**S**	**19 31 40.4**	**-0.6**
LZH				pmax	pmax		
	comp=Z,97nm,1.2s						
LZH				LR	LR		
	comp=Z,1μm,21.3s						
LZH				LR	LR		
	comp=Z,2μm,20.3s						
LZH				LR	LR		
	comp=Z,3μm,21.6s						
LZDM	**Lanzhou Array**	**50.46**	**323**	P	**P**	**19 24 26.3**	**-1.5**
	comp=Z,3.8nm,0.4s,baz=126,slow=10.0,SNR=8.5						
LZDM				LR	LR	19 45 35.2	
	comp=Z,1μm,20.1s,baz=115,slow=36						
	comp=Z,3.8nm,0.4s						
BTO	**Baotou**	**50.49**	**332**	*e*P	**P**	**19 24 29.3**	**+1.6**
BTO				pP	**pP**	**19 24 33.8**	**+1.1**
BTO				sP	**sP**	**19 24 36.3**	**+1.6**
BTO				S	**S**	**19 31 45.1**	**+4.0**
BTO				sS	**sS**	**19 31 51.0**	**+1.5**
BTO				pmax	pmax		
	comp=Z,60nm,1.4s						
BTO				pmax	pmax		
	comp=Z,420nm,7.2s						
BTO				LR	LR		
	comp=Z,4μm,20.9s						
BTO				LR	LR		
	comp=Z,2μm,19.0s						
BTO				LR	LR		
	comp=Z,6μm,18.6s						
XLT	**XiLinHaoTe**	**50.73**	**339**	*e*P	**P**	**19 24 28.3**	**-1.1**
XLT				S	**S**	**19 31 44.1**	**-0.3**
XLT				pmax	pmax		
	comp=Z,24nm,1.6s						
XLT				pmax	pmax		
	comp=Z,290nm,5.0s						
XLT				LR	LR		
	comp=Z,1μm,21.3s						
XLT				LR	LR		
	comp=Z,2μm,20.8s						
IMP	**Imphal**	**51.20**	**305**	*e*P	**P**	**19 24 34.4**	**+1.2**
IMP				IAmb	IAmb	19 24 39.4	
	comp=Z,15nm,0.5s						
IMP				*e*S	**S**	**19 31 49.2**	**-2.2**
KOHI	**KOHIMA**	**51.46**	**306**	*e*P	**P**	**19 24 32.6**	**-2.7**
KOHI				IAML		19 24 37.6	
	comp=Z,79nm,0.5s						
KOHI				*e*S	**S**	**19 31 53.6**	**-1.5**
ITAN	**ITANAGAR**	**52.42**	**308**	*e*P	**P**	**19 24 40.0**	**-2.2**
ITAN				IAmb	IAmb	19 24 44.4	
	comp=Z,26nm,1.4s						
ITAN				*e*S	**S**	**19 32 07.9**	**0.0**
TEZP	**TEZPUR**	**52.91**	**307**	*e*P	**P**	**19 24 44.5**	**-1.4**
TEZP				IAmb	IAmb	19 24 47.0	
	comp=Z,30nm,0.4s						
TEZP				*e*S	**S**	**19 32 13.8**	**-0.9**
SHL	**Shillong**	**53.20**	**305**	IAmb	IAmb	19 24 51.1	
	comp=Z,104nm,1.3s						
SHL	**Shillong**	**53.20**	**305**	P	**P**	**19 24 48.5**	**+0.3**
	SNR=31						
SHL	**Shillong**	**53.20**	**305**	*e*P	**P**	**19 24 45.2**	**-3.0**
SHL				IAmb	IAmb	19 24 50.6	
	comp=Z,32nm,1.9s						
SHL				*e*S	**S**	**19 32 16.5**	**-2.5**
GRNR	**Gornyy**	**53.51**	**358**	*e*P	**P**	**19 24 53.6**	**+3.8**
GRNR				MLR	MLR		
	comp=E,380nm,18.0s						
GRNR				MLR	MLR		
	comp=N,460nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,750nm,17.0s						
TYV	**Tymovskoe**	**53.70**	**3**	*e*P	**P**	**19 24 51.1**	**-0.1**
TYV				*e*S	**S**	**19 32 24.8**	**+0.2**
TYV				pmax	pmax		
	comp=Z,15nm,1.2s						
TYV				pmax	pmax		
	comp=Z,500nm,4.7s						
TYV				smax	smax		
	comp=N,700nm,10.1s						
TYV				smax	smax		
	comp=E,300nm,10.1s						
HEH	**HeiHe**	**53.80**	**351**	*e*P	**P**	**19 24 51.3**	**-0.7**
HEH				pP	**pP**	**19 24 57.8**	**+0.7**
HEH				S	**S**	**19 32 28.3**	**+2.3**
HEH				sS	**sS**	**19 32 36.4**	**+2.0**
HEH				pmax	pmax		
	comp=E,32nm,1.9s						
HEH				pmax	pmax		
	comp=E,390nm,5.2s						
HEH				LR	LR		
	comp=E,640nm,16.9s						
HEH				LR	LR		
	comp=E,1μm,18.8s						
HEH				LR	LR		
	comp=E,2μm,17.8s						
TAWA	**Tawang**	**54.09**	**307**	*e*P	**P**	**19 24 52.8**	**-2.2**
TAWA				IAmb	IAmb	19 25 04.8	
	comp=Z,26nm,0.6s						
TAWA				*e*S	**S**	**19 32 28.4**	**-3.0**
HIA	**Hailar**	**54.44**	**345**	IAmb	IAmb	19 25 02.0	
	comp=Z,44nm,1.2s						
HIA	**Hailar**	**54.44**	**345**	P	**P**	**19 24 57.7**	**+1.0**
HILR	**Hailar Array B**	**54.70**	**345**	P	**P**	**19 24 57.1**	**-1.5**
	comp=Z,26nm,0.9s,baz=150,slow=12,SNR=20						
	comp=Z,26nm,0.9s						
GTA	**Gaotai**	**55.05**	**324**	P	**P**	**19 25 02.3**	**+0.8**
GTA				pP	pP	19 25 07.4	+0.8
GTA				S	**S**	**19 32 47.1**	**+3.6**
GTA				pmax	pmax		
	comp=Z,52nm,1.3s						
GTA				pmax	pmax		
	comp=Z,380nm,6.1s						
GTA				LR	LR		
	comp=Z,790nm,19.3s						
GTA				LR	LR		
	comp=Z,1μm,22.2s						
GTA				LR	LR		
	comp=Z,2μm,24.0s						
LSA	**Lhasa**	**55.60**	**309**	P	**P**	**19 25 03.8**	**-2.2**
LSA				pmax	pmax		
	comp=Z,20nm,1.2s						
LSA	**Lhasa**	**55.60**	**309**	IAmb	IAmb	19 25 25.2	
	comp=Z,52nm,1.3s						
GOMU	**GeErMu**	**56.26**	**318**	P	**P**	**19 25 11.3**	**+0.8**
GOMU				pP	pP	19 25 14.5	-1.1
GOMU				sP	sP	19 25 19.1	+1.5
GOMU				S	**S**	**19 33 02.1**	**+1.9**
GOMU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GOMU				LR	LR		
	comp=Z,410nm,15.3s						
GOMU				LR	LR		
	comp=Z,970nm,15.0s						
GOMU				LR	LR		
	comp=Z,1μm,15.9s						
ZEA	**Zeya**	**57.22**	**352**	*e*P	**P**	**19 25 16.2**	**-0.3**
ZEA				*e*S	**S**	**19 33 13.3**	**+1.7**
ZEA				*es*SS	**SS**	**19 37 03.3**	**+2.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,200nm,9.0s						
ZEA				smax	smax		
	comp=N,300nm,11.1s						
ULN	**Ulaanbaatar**	**57.52**	**335**	P	**P**	**19 25 17.6**	**-1.4**
ULN				IAmb	IAmb	19 25 20.8	
	comp=Z,88nm,1.9s						
ULN	**Ulaanbaatar**	**57.52**	**335**	IAMs_20	IAMs_20	19 50 12.3	
	comp=Z,2μm,20.0s						
ULN	**Ulaanbaatar**	**57.52**	**335**	P	**P**	**19 25 19.7**	**+0.7**
ULN				P	**P**	**19 25 19.7**	**+0.7**
ULN	**Ulaanbaatar**	**57.52**	**335**	*ce*P	**P**	**19 25 18.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,64nm,2.5s						
SONM	**Songino Array**	**57.78**	**335**	P	**P**	**19 25 19.8**	**-0.9**
SONM				IAmb	IAmb	19 25 28.5	
	comp=Z,50nm,1.5s						
SONM	**Songino Array**	**57.78**	**335**	P	**P**	**19 25 18.6**	**-2.1**
	comp=Z,7.2nm,1.0s,baz=148,slow=7.5,SNR=22						
SONM				LR	LR	19 50 32.1	
	comp=Z,3μm,19.1s,baz=142,slow=37						
	comp=Z,7.2nm,1.0s						
PETK	**Petropavlovsk-**	**58.14**	**14**	P	**P**	**19 25 22.2**	**-0.8**
PETK	**Petropavlovsk-**	**58.14**	**14**	P	**P**	**19 25 20.0**	**-3.0**
	comp=Z,18nm,1.2s,baz=194,slow=5.5,SNR=7.2						
PETK				LR	LR	19 46 53.2	
	comp=Z,894nm,21.9s,baz=200,slow=33						
	comp=Z,18nm,1.2s						
PET	**Petropavlovsk**	**58.29**	**14**	*e*P	**P**	**19 25 26.9**	**+2.9**
PET				*e*S	**S**	**19 33 30.2**	**+4.7**
PET				*es*SS	**SS**	**19 37 24.0**	**+6.2**
PET				pmax	pmax		
	comp=Z,200nm,5.8s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
PET				MLR	MLR		
	comp=Z,700nm,15.0s						
PET	**Petropavlovsk**	**58.29**	**14**	P	**P**	**19 25 24.2**	**+0.2**
	comp=Z,19nm,2.3s						
EVN	**Everest**	**58.30**	**305**	P	**P**	**19 25 23.6**	**-1.9**
EVN				IAmb	IAmb	19 25 33.6	
	comp=Z,76nm,1.2s						
ZAK	**Zakamensk**	**61.04**	**335**	*e*P	**P**	**19 25 43.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,91nm,1.4s						
TLY	**Talaya**	**61.88**	**336**	P	**P**	**19 25 47.4**	**-1.4**
TLY				IAmb	IAmb	19 25 55.8	
	comp=Z,29nm,1.1s						
TLY	**Talaya**	**61.88**	**336**	P	**P**	**19 25 49.8**	**+1.0**
TLY				P	**P**	**19 25 49.8**	**+1.0**
TLY	**Talaya**	**61.88**	**336**	*ce*P	**P**	**19 25 49.1**	**+0.3**
TLY				pmax	pmax		
	comp=Z,47nm,1.7s						
IRK	**Irkutsk**	**62.07**	**337**	*e*P	**P**	**19 25 48.7**	**-1.3**
IRK				pmax	pmax		
	comp=Z,109nm,2.2s						
HYB	**Hyderabad**	**62.36**	**291**	*e*P	P	19 25 47.4	-5.2
HYB				*ep*P	pP	19 25 54.0	-3.8
HYB				IVmB_BB		19 25 55.1	
	comp=Z,297nm,1.2s						
HYB				*e*PcP	**PcP**	**19 26 30.4**	**-1.8**
HYB				*e*PP	**PP**	**19 28 07.7**	**-2.3**
HYB				*e*S	**S**	**19 34 17.5**	**-1.6**
HYB				IVMs_BB	IVMs_BB	19 51 56.4	
	comp=Z,215nm,4.0s						
MOY	**Mondy**	**62.97**	**335**	*e*P	**P**	**19 25 57.1**	**+1.0**
MOY				pmax	pmax		
	comp=Z,98nm,1.8s						
SHEM	**Shemya Is, Ala**	**63.06**	**23**	LR	LR	19 49 11.3	
	comp=Z,1μm,20.5s,baz=242,slow=32						
MA2	**Magadan**	**63.07**	**7**	LR	LR	19 51 14.9	
	comp=Z,367nm,20.6s,baz=196,slow=34						
MA2	**Magadan**	**63.07**	**7**	*ce*P	**P**	**19 25 56.1**	**-0.5**
MA2				pmax	pmax		
	comp=Z,67nm,1.7s						
MA2	**Magadan**	**63.07**	**7**	P	**P**	**19 25 56.0**	**-0.5**
	comp=Z,43nm,1.1s						
BOD	**Bodaibo**	**63.64**	**346**	*e*P	**P**	**19 25 59.8**	**-0.5**
BOD				pmax	pmax		
	comp=Z,58nm,1.6s						
WMQ	**Urumqi**	**64.98**	**322**	*e*P	**P**	**19 26 10.6**	**+1.1**
WMQ				sP	sP	19 26 16.6	-0.1
WMQ				pmax	pmax		
	comp=Z,61nm,1.1s						
WMQ				LR	LR		
	comp=Z,2μm,18.5s						
WMQ				LR	LR		
	comp=Z,760nm,21.3s						
WMQ				LR	LR		
	comp=Z,450nm,22.3s						
YAK	**Yakutsk**	**65.12**	**355**		**P**	**19 26 08.8**	**-1.1**
YAK	**Yakutsk**	**65.12**	**355**	LR	LR	19 53 15.2	
	comp=Z,1μm,19.0s,baz=168,slow=35						
YAK	**Yakutsk**	**65.12**	**355**	*c i*P	**P**	**19 26 09.0**	**-0.9**
YAK				*e*		19 26 39.2	
YAK				*e*		19 28 32.2	
YAK				*e*PPP	PPP	19 30 04.7	
YAK				*e*S	**S**	**19 34 49.6**	**-2.1**
YAK				*e*		19 36 00.2	
YAK				*e*SS	**SS**	**19 39 01.3**	**-3.0**
YAK				pmax	pmax		
	comp=Z,132nm,1.4s						
YAK				pmax	pmax		
	comp=N,65nm,1.6s						
YAK				pmax	pmax		
	comp=E,19nm,1.5s						
YAK				pmax	pmax		
	comp=Z,93nm,4.1s						
YAK				pmax	pmax		
	comp=E,216nm,3.5s						
YAK				pmax	pmax		
	comp=N,184nm,3.2s						
YAK				smax	smax		
	comp=N,278nm,3.8s						
YAK				smax	smax		
	comp=E,131nm,3.7s						
CASY	**Casey**	**66.20**	**192**	IAMs_20	IAMs_20	19 55 17.9	
	comp=Z,2μm,20.0s						
SEY	**Seymchan**	**66.53**	**7**	LR	LR	19 53 00.9	
	comp=Z,554nm,21.4s,baz=192,slow=34						
SEY	**Seymchan**	**66.53**	**7**	*e*P	**P**	**19 26 18.3**	**-0.7**
SEY				pmax	pmax		
	comp=Z,29nm,1.7s						
ZSN	**Zaisan**	**68.55**	**324**	*e*P	**P**	**19 26 32.5**	**+0.3**
	comp=Z,23nm,1.2s						
ZSN	**Zaisan**	**68.55**	**324**	*e*P	**P**	**19 26 32.4**	**+0.3**
ZSN				pmax	pmax		
	comp=Z,23nm,1.2s						
MK31	**Makanchi Array**	**69.76**	**323**	*ce*P	**P**	**19 26 38.7**	**-1.0**
MKAR	**Makanchi Array**	**69.76**	**323**	P	**P**	**19 26 38.3**	**-1.4**
MKAR	**Makanchi Array**	**69.76**	**323**	P	**P**	**19 26 36.6**	**-3.1**
	comp=Z,44nm,0.9s,baz=110,slow=4.5,SNR=63						
	comp=Z,44nm,0.9s						
MAKZ	**Makanchi**	**69.96**	**322**	P	**P**	**19 26 39.9**	**-1.0**
MAKZ	**Makanchi**	**69.96**	**322**	P	**P**	**19 26 39.9**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,73nm,1.0s						
SHLS	**Shalkode**	**69.96**	**318**	*e*P	**P**	**19 26 39.7**	**-1.5**
	comp=Z,23nm,1.4s						
SHLS	**Shalkode**	**69.96**	**318**	*e*P	**P**	**19 26 39.6**	**-1.5**
SHLS				pmax	pmax		
	comp=Z,23nm,1.4s						
TARG	**Taragay, Kyrgy**	**70.52**	**316**	P	**P**	**19 26 42.3**	**-2.6**
TARG				IAmb	IAmb	19 26 58.5	
	comp=Z,36nm,1.0s						
TARG	**Taragay, Kyrgy**	**70.52**	**316**	P	**P**	**19 26 42.3**	**-2.6**
TARG				pmax	pmax		
	comp=Z,36nm,1.0s						
SATY	**Saty**	**70.63**	**318**	⇑*i*P	**P**	**19 26 45.4**	**+0.1**
	comp=Z,21nm,1.0s						
SATY	**Saty**	**70.63**	**318**	*c i*P	**P**	**19 26 45.3**	**+0.1**
SATY				pmax	pmax		
	comp=Z,21nm,1.0s						
KSH	**Kashi**	**71.00**	**314**	P	**P**	**19 26 49.8**	**+2.3**
KSH				S	**S**	**19 36 08.8**	**+5.5**
KSH				pmax	pmax		
	comp=Z,31nm,1.2s						
KSH				LR	LR		
	comp=Z,550nm,15.5s						
KSH				LR	LR		
	comp=Z,690nm,15.8s						
KSH				LR	LR		
	comp=Z,1μm,24.0s						
NIKH	**Nikolski High**	**71.02**	**31**	IAMs_20	IAMs_20	19 58 01.9	
	comp=Z,1μm,19.0s						
NIKH	**Nikolski High**	**71.02**	**31**	P	**P**	**19 26 47.6**	**+0.5**
	baz=237						
NIL	**Nilore**	**71.20**	**307**		**P**	**19 26 46.7**	**-2.0**
NIL				IAmb	IAmb	19 26 56.7	
	comp=Z,42nm,1.1s						
NIL	**Nilore**	**71.20**	**307**	P	**P**	**19 26 49.7**	**+0.9**
NIL				P	**P**	**19 26 49.7**	**+0.9**
NIL	**Nilore**	**71.20**	**307**	P	**P**	**19 26 46.7**	**-2.0**
NIL				pmax	pmax		
	comp=Z,42nm,1.2s						
TDK	**Taldyqorghan**	**71.42**	**320**	⇑*i*P	**P**	**19 26 50.2**	**+0.4**
	comp=Z,18nm,0.8s						
TDK	**Taldyqorghan**	**71.42**	**320**	*c i*P	**P**	**19 26 50.2**	**+0.4**
TDK				pmax	pmax		
	comp=Z,18nm,0.8s						
MDOK	**Medeo**	**71.58**	**317**	*e*P	**P**	**19 26 51.1**	**+0.1**
MDOK	**Medeo**	**71.58**	**317**	*e*P	**P**	**19 26 51.1**	**+0.1**
TNSS	**Tian-Shan**	**71.61**	**317**	*e*P	**P**	**19 26 51.2**	**-0.3**
TNSS	**Tian-Shan**	**71.61**	**317**	*e*P	**P**	**19 26 51.2**	**-0.3**
AAA	**Alma-Ata**	**71.69**	**317**	*e*P	**P**	**19 26 51.9**	**+0.3**
AAA	**Alma-Ata**	**71.69**	**317**	*e*P	**P**	**19 26 51.8**	**+0.3**
ZALV	**Zalesovo Beam**	**71.96**	**330**	P	**P**	**19 26 49.8**	**-3.1**
	comp=Z,9.1nm,0.7s,baz=109,slow=5.7,SNR=33						
ZALV				LR	LR	20 00 00.4	
	comp=Z,452nm,18.3s,baz=117,slow=37						
	comp=Z,9.1nm,0.7s						
PPT	**Papeete**	**71.99**	**107**	LR	LR	19 55 48.0	
	comp=Z,421nm,20.9s,baz=276,slow=34						
PPT2	**Papeete2**	**71.99**	**107**	*e*P	**P**	**19 26 49.6**	**-4.3**
	comp=Z,86nm,23.0s						
PPT2				*e*S	**S**	**19 36 14.4**	**-1.0**
	comp=Z,497nm,27.5s						
PPT2				*es*SS	**SS**	**19 40 50.8**	**-1.6**
	comp=Z,696nm,25.8s						
PPT2				*e*LQ	LQ	19 45 54.5	
	comp=Z,2μm,34.0s						
PPT2				*e*LR	LR	19 48 50.8	
	comp=Z,1μm,24.8s						
PPT2				*e*LR	LR	19 48 51.9	
	comp=Z,1μm,25.8s						
BOOM	**Boomskoye usch**	**72.09**	**316**	IAmb	IAmb	19 27 02.3	
	comp=Z,37nm,1.0s						
TBI	**Tubuai**	**72.46**	**113**	*e*S	**S**	**19 36 20.8**	**+0.4**
	comp=Z,1μm,27.8s						
TBI				*es*SS	**SS**	**19 40 59.1**	**-0.1**
	comp=Z,3μm,29.2s						
TBI				*e*LQ	LQ	19 46 06.1	
	comp=Z,13μm,39.5s						
TBI				*e*LR	LR	19 49 05.5	
	comp=Z,1μm,33.2s						
TBI				*e*LR	LR	19 49 08.3	
	comp=Z,4μm,23.0s						
TKM2	**Tokmak 2**	**72.48**	**317**	P	**P**	**19 26 57.1**	**+0.6**
	SNR=16						
UNV	**Unalaska Valle**	**72.67**	**31**	IAMs_20	IAMs_20	20 01 27.8	
	comp=Z,2μm,21.0s						
UNV	**Unalaska Valle**	**72.67**	**31**	P	**P**	**19 26 57.9**	**+0.8**
	baz=239						
P08K	**Saint George I**	**72.70**	**27**	P	**P**	**19 26 58.4**	**+1.2**
	baz=236						
SPIA	**Saint Paul Isl**	**72.71**	**26**	P	**P**	**19 26 58.3**	**+1.1**
	baz=235						
KBK	**Karagaybulak**	**72.83**	**316**	P	**P**	**19 26 59.8**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**72.98**	**316**	P	**P**	**19 27 02.2**	**+2.4**
	SNR=9.8						
CHMS	**Chumysh**	**73.09**	**317**	P	**P**	**19 27 00.4**	**+0.5**
	SNR=5.9						
AAK	**Ala-Archa**	**73.14**	**316**	P	**P**	**19 26 56.6**	**-3.7**
AAK				IAmb	IAmb	19 27 04.2	
	comp=Z,33nm,1.2s						
AAK	**Ala-Archa**	**73.14**	**316**	LR	LR	20 02 26.0	
	comp=Z,793nm,18.3s,baz=109,slow=39						
AAK	**Ala-Archa**	**73.14**	**316**	P	**P**	**19 27 01.7**	**+1.3**
AAK				P	**P**	**19 27 01.7**	**+1.3**
AAK	**Ala-Archa**	**73.14**	**316**	P	**P**	**19 27 01.6**	**+1.3**
	SNR=17						
AAK	**Ala-Archa**	**73.14**	**316**	*ce*P	**P**	**19 27 00.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,34nm,1.3s						
SGDS	**Sogindy**	**73.33**	**317**	*e*P	**P**	**19 27 01.6**	**+0.3**
USP	**Ospenovka**	**73.36**	**317**	P	**P**	**19 27 02.5**	**+1.1**
	SNR=41						
BILL	**Bilibino**	**73.43**	**11**	P	**P**	**19 27 00.8**	**-0.5**
BILL				IAmb	IAmb	19 27 08.5	
	comp=Z,49nm,1.5s						
BILL	**Bilibino**	**73.43**	**11**	*ce*P	**P**	**19 27 01.5**	**+0.2**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
EKS2	**Erkin-Say**	**73.64**	**316**	P	**P**	**19 27 04.3**	**+1.0**
	SNR=14						
KURK	**Kurchatov**	**73.71**	**325**	P	**P**	**19 27 01.2**	**-2.1**
KURK				IAmb	IAmb	19 27 10.6	

comp=Z,76nm,1.3s
KURK Kurchatov 73.71 325 P **P** **19 27 03.8 +0.5**
KURK P **P** **19 27 03.8 +0.5**
KURK Kurchatov 73.71 325 *ce*P **P** **19 27 03.7 +0.4**
KURK pmax pmax
comp=Z,70nm,1.3s
KURBB Kurchatov Arra 73.72 325 P **P** **19 27 00.1 -3.3**
comp=Z,26nm,1.1s,baz=124,slow=5.0,SNR=66
comp=Z,26nm,1.1s
TIXI Tiksi 74.69 357 P **P** **19 27 06.8 -1.8**
TIXI IAmb IAmb 19 27 15.7
comp=Z,55nm,1.2s
TIXI Tiksi 74.69 357 LR LR 19 59 41.7
comp=Z,1µm,19.3s,baz=184,slow=36
TIXI Tiksi 74.69 357 P **P** **19 27 06.8 -1.8**
TIXI pmax pmax
comp=Z,55nm,1.3s
TIXI MLR MLR
comp=Z,1µm,19.0s
FALS False Pass 74.75 31 IAMs_20 IAMs_20 20 04 16.5
comp=Z,2µm,20.0s
FALS False Pass 74.75 31 P **P** **19 27 10.0 +0.7**
baz=242
KBL Kabul 74.80 307 P **P** **19 27 10.7 +0.3**
SNR=9.1
KBL P **P** **19 27 10.7 +0.3**
SNR=9.1
GAR Garm 75.00 312 IAmb IAmb 19 27 22.0
comp=Z,55nm,0.9s
DZA Taraz 75.42 316 *e*P **P** **19 27 13.9 +0.4**
comp=Z,14nm,1.2s
DZA Taraz 75.42 316 *e*P **P** **19 27 13.9 +0.4**
DZA pmax pmax
comp=Z,14nm,1.2s
VNDA Vanda 75.60 175 P **P** **19 27 13.3 -0.5**
VNDA Vanda 75.60 175 P **P** **19 27 14.2 +0.4**
comp=Z,1.6nm,0.6s,baz=324,slow=6.5,SNR=12
VNDA LR LR 20 00 48.0
comp=Z,2µm,19.7s,baz=351,slow=36
comp=Z,1.6nm,0.6s
S12K Black Hills 75.83 30 IAMs_20 IAMs_20 20 03 07.1
comp=Z,1µm,20.0s
S12K Black Hills 75.83 30 P **P** **19 27 16.3 +0.8**
baz=243
KK31 Karatay Array 76.06 316 IAmb IAmb 19 27 25.0
comp=Z,70nm,1.4s
KKAR Karatay Array 76.06 316 P **P** **19 27 14.8 -2.3**
KKAR Karatay Array 76.06 316 P **P** **19 27 14.8 -2.3**
GAMB Gambell 76.09 20 P **P** **19 27 18.3 +1.5**
baz=232
IUG Iuzhnay 76.11 315 ⇑ *i*P **P** **19 27 17.9 +0.3**
comp=Z,26nm,1.4s
IUG Iuzhnay 76.11 315 *c i*P **P** **19 27 17.8 +0.2**
IUG pmax pmax
comp=Z,26nm,1.4s
M11K Mekoryuk 76.25 25 IAMs_20 IAMs_20 19 56 11.7
comp=Z,2µm,21.0s
M11K Mekoryuk 76.25 25 P **P** **19 27 18.9 +1.1**
baz=238
SBA Scott Base 76.37 174 IAMs_20 IAMs_20 20 03 36.8
comp=Z,2µm,18.0s
SDPT Sand Point 76.47 31 P **P** **19 27 20.3 +1.2**
baz=244
BRLS Borolday 76.51 315 *e*P **P** **19 27 20.3 +0.5**
comp=Z,14nm,1.3s
BRLS Borolday 76.51 315 *e*P **P** **19 27 20.2 +0.5**
BRLS pmax pmax
comp=Z,15nm,1.3s
CNBA Chernabura Isl 76.71 32 IAMs_20 IAMs_20 19 57 36.6
comp=Z,2µm,20.0s
CHNA Chernabura Isl 76.71 32 P **P** **19 27 21.4 +0.9**
baz=245
BRZS Berezniki 76.91 323 *e*P **P** **19 27 22.1 +0.3**
BRZS Berezniki 76.91 323 *e*P **P** **19 27 22.0 +0.3**
M13K Dall Lake 77.48 26 P **P** **19 27 25.9 +1.2**
baz=241
K13K Kusilvak Mount 77.70 24 IAMs_20 IAMs_20 19 58 00.0
comp=Z,1µm,21.0s
K13K Kusilvak Mount 77.70 24 P **P** **19 27 27.1 +1.2**
baz=239
O14K Tigyukauivet M 77.85 27 IAMs_20 IAMs_20 19 57 00.3
comp=Z,1µm,21.0s
O14K Tigyukauivet M 77.85 27 P **P** **19 27 28.0 +1.3**
baz=243
N14K Kuskokwak Cree 77.97 26 IAMs_20 IAMs_20 19 56 53.4
comp=Z,1µm,22.0s
N14K Kuskokwak Cree 77.97 26 P **P** **19 27 28.4 +1.0**
baz=242
L14K Kuka Creek 78.22 25 P **P** **19 27 30.0 +1.2**
baz=241
M14K Bethel 78.24 26 P **P** **19 27 30.0 +1.1**
baz=242,SNR=9.2
TNA Tin City 78.46 20 P **P** **19 27 31.2 +1.2**
baz=235
O15K Ungalikthiuk R 78.48 28 P **P** **19 27 31.4 +1.1**
baz=244
M15K Kasigluk River 78.77 26 P **P** **19 27 32.5 +0.7**
baz=243
N15K Kwethluk River 78.80 27 IAMs_20 IAMs_20 19 57 39.2
comp=Z,1µm,21.0s
N15K Kwethluk River 78.80 27 P **P** **19 27 33.0 +1.0**
baz=244
ANM Nome 78.81 21 P **P** **19 27 32.7 +0.7**
baz=238
R16K Pilot Point 78.87 30 P **P** **19 27 33.5 +1.1**
baz=246
L15K Ungalak Mounta 78.88 25 P **P** **19 27 33.4 +1.0**
baz=242
F14K Arctic Creek 78.96 20 P **P** **19 27 33.9 +1.1**
baz=237
K15K Wolf Creek Mou 79.16 24 IAmb IAmb 19 27 38.9
comp=Z,58nm,1.3s
K15K Wolf Creek Mou 79.16 24 P **P** **19 27 35.3 +1.3**
baz=242
CHIR Chirikof Islan 79.19 32 P **P** **19 27 35.4 +1.2**
baz=248
P16K Nushagak River 79.27 28 IAMs_20 IAMs_20 20 00 04.9
comp=Z,1µm,20.0s
P16K Nushagak River 79.27 28 P **P** **19 27 35.7 +1.1**
baz=246
BVAR Borovoye Array 79.31 325 P **P** **19 27 32.5 -2.4**
comp=Z,19nm,0.9s,baz=110,slow=6.5,SNR=48
comp=Z,19nm,0.9s
BORK Borovoye 79.35 325 *ce*P **P** **19 27 35.9 +0.7**
BORK pmax pmax
comp=Z,57nm,1.3s
O16K Kokwok River B 79.46 28 P **P** **19 27 35.2 -0.5**
O16K IAmb IAmb 19 27 44.0
comp=Z,54nm,1.4s
O16K IAMs_20 IAMs_20 20 06 35.8
comp=Z,1µm,19.0s
O16K Kokwok River B 79.46 28 P **P** **19 27 37.0 +1.3**
baz=246,SNR=6.3
R17L Mt. Peulik Vol 79.50 30 P **P** **19 27 36.9 +0.9**
baz=247
PLK4 Peulik 4 79.50 30 IAMs_20 IAMs_20 19 55 55.1
comp=Z,2µm,22.0s
N16K Nishlik Lake 79.52 27 P **P** **19 27 37.1 +1.1**
baz=245,SNR=7.1
G15K Niukluk 79.52 21 P **P** **19 27 37.2 +1.3**
baz=239
M16K Timber Creek 79.67 26 IAmb IAmb 19 27 43.0
comp=Z,91nm,1.5s
M16K Timber Creek 79.67 26 P **P** **19 27 37.9 +1.1**
baz=244,SNR=6.8
F15K North Star Dit 79.68 21 IAmb IAmb 19 27 46.2
comp=Z,49nm,1.3s
F15K North Star Dit 79.68 21 P **P** **19 27 37.6 +0.9**
baz=238
L16K Owhat River 79.75 25 IAmb IAmb 19 27 44.7
comp=Z,16nm,1.8s
L16K Owhat River 79.75 25 P **P** **19 27 38.2 +1.0**
baz=244,SNR=11
Q17K Contact Creek 79.97 29 P **P** **19 27 39.5 +0.9**
baz=248
O17K Koliganek Bris 79.99 28 P **P** **19 27 39.8 +1.2**
baz=246,SNR=14
J16K Anvik River 80.00 24 IAmb IAmb 19 27 47.5
comp=Z,50nm,1.2s
J16K IAMs_20 IAMs_20 19 59 21.8
comp=Z,2µm,20.0s
J16K Anvik River 80.00 24 P **P** **19 27 40.0 +1.4**
baz=243
H16K Elim 80.01 22 P **P** **19 27 39.7 +1.2**
baz=241
P17K Kvichak River 80.07 28 P **P** **19 27 40.0 +1.0**
baz=247
SII Sitkinak Islan 80.20 31 P **P** **19 27 39.9 +0.1**
baz=250
ACHA Angle Creek He 80.23 29 P **P** **19 27 38.0 -2.0**
ACHA IAmb IAmb 19 27 48.6
comp=Z,48nm,1.4s
I17K Unalakleet 80.24 23 IAMs_20 IAMs_20 20 00 11.1
comp=Z,1µm,20.0s
I17K Unalakleet 80.24 23 P **P** **19 27 40.5 +0.7**
baz=242
N17K Nushagak Hills 80.25 27 IAmb IAmb 19 27 47.2
comp=Z,73nm,1.5s
N17K IAMs_20 IAMs_20 19 58 34.9
comp=Z,1µm,21.0s
N17K Nushagak Hills 80.25 27 P **P** **19 27 40.7 +0.8**
baz=246,SNR=9.6
G16K Koyuk River 80.34 21 IAmb IAmb 19 27 48.5
comp=Z,72nm,1.5s
G16K Koyuk River 80.34 21 P **P** **19 27 41.2 +1.0**
baz=241
R18K Karluk 80.42 30 P **P** **19 27 41.1 +0.2**
baz=249
L17K Donlin 80.44 25 P **P** **19 27 41.1 +0.2**
baz=245,SNR=9.2
M17K Holitna River 80.50 26 IAmb IAmb 19 27 47.2
comp=Z,42nm,1.1s
M17K Holitna River 80.50 26 P **P** **19 27 41.1 -0.2**
baz=246,SNR=9.8
Q18K Katmai Hardscr 80.55 29 P **P** **19 27 41.1 -0.6**
baz=248
J17K VABM Dome 80.66 24 IAmb IAmb 19 27 51.0
comp=Z,52nm,1.2s
J17K IAMs_20 IAMs_20 19 58 42.3
comp=Z,1µm,20.0s
J17K VABM Dome 80.66 24 P **P** **19 27 43.1 +1.0**
baz=244
K17K Iditarod 80.69 25 **P** **19 27 41.4 -0.8**
K17K IAmb IAmb 19 27 51.1
comp=Z,82nm,1.2s
K17K Iditarod 80.69 25 P **P** **19 27 43.6 +1.3**
baz=245,SNR=11
P18K Big Mountain, 80.72 28 IAMs_20 IAMs_20 20 00 58.2
comp=Z,2µm,20.0s
P18K Big Mountain, 80.72 28 P **P** **19 27 43.2 +0.7**
baz=248
C16K Lisburne Hills 80.82 18 P **P** **19 27 43.0 +0.2**
baz=237
OHAK Old Harbor 80.89 31 IAmb IAmb 19 27 51.7
comp=Z,62nm,1.3s
OHAK Old Harbor 80.89 31 P **P** **19 27 44.0 +0.6**
baz=250
O18K Koktuh Hills 80.90 28 IAMs_20 IAMs_20 20 07 18.0
comp=Z,1µm,19.0s
O18K Koktuh Hills 80.90 28 P **P** **19 27 43.7 +0.2**
baz=248
N18K Kilae Creek 80.90 27 IAmb IAmb 19 27 52.1
comp=Z,62nm,1.4s
N18K Kilae Creek 80.90 27 P **P** **19 27 43.8 +0.3**
baz=247,SNR=8.8
G17K Kiwalik Mounta 81.01 22 P **P** **19 27 44.7 +0.8**
baz=242
H17K Granite Mounta 81.03 22 IAMs_20 IAMs_20 19 59 51.9
comp=Z,1µm,21.0s
H17K Granite Mounta 81.03 22 P **P** **19 27 44.5 +0.4**
baz=243
TAOE Nuku Hiva Isla 81.12 98 *e*S **S** **19 37 56.5 +0.9**
TAOE comp=Z,195nm,29.0s *e*SS **SS** **19 43 14.3 +3.5**
comp=Z,374nm,34.9s
TAOE *e*LR LR 19 53 06.3
comp=Z,2µm,22.2s
L18K Granite Mounta 81.16 25 IAmb IAmb 19 27 53.5
comp=Z,76nm,1.5s
L18K IAMs_20 IAMs_20 19 58 51.7
comp=Z,1µm,22.0s
L18K Granite Mounta 81.16 25 P **P** **19 27 45.8 +1.0**
baz=246,SNR=9.0
D17K Noatak River 81.24 19 P **P** **19 27 46.3 +1.2**
baz=240,SNR=11
F17K Baldwin Pennin 81.25 21 P **P** **19 27 45.2 +0.1**
F17K Baldwin Pennin 81.25 21 P **P** **19 27 45.8 +0.7**
baz=242
M18K Stony River 81.25 26 P **P** **19 27 46.0 +0.7**
baz=247,SNR=12
Q19K Cape Douglas, 81.31 29 IAMs_20 IAMs_20 20 06 21.0
comp=Z,1µm,20.0s
Q19K Cape Douglas, 81.31 29 P **P** **19 27 46.1 +0.4**
baz=250
E17K Hotham Inlet 81.36 20 P **P** **19 27 46.2 +0.5**
baz=241,SNR=12
O19K Port Alsworth 81.44 28 IAMs_20 IAMs_20 19 59 13.3
comp=Z,1µm,22.0s
O19K Port Alsworth 81.44 28 P **P** **19 27 46.4 +0.2**
baz=249
KDAK Kodiak Island 81.44 30 P **P** **19 27 45.4 -0.9**
KDAK IAmb IAmb 19 27 54.5
comp=Z,88nm,1.4s
KDAK Kodiak Island 81.44 30 IAMs_20 IAMs_20 19 59 54.6
comp=Z,2µm,21.0s
KDAK Kodiak Island 81.44 30 LR LR 20 00 37.2
comp=Z,2µm,20.1s,baz=241,slow=33
KDAK Kodiak Island 81.44 30 P **P** **19 27 45.4 -0.9**
KDAK pmax pmax
comp=Z,88nm,1.4s
KDAK MLR MLR
comp=Z,2µm,21.0s
KDAK Kodiak Island 81.44 30 P **P** **19 27 46.8 +0.5**
baz=251
RDOG Red Dog Mine 81.48 19 IAmb IAmb 19 27 51.5
comp=Z,31nm,1.0s
RDOG Red Dog Mine 81.48 19 P **P** **19 27 46.9 +0.5**
baz=240
N19K Bonanza Creek 81.59 27 IAmb IAmb 19 27 55.6
comp=Z,96nm,1.5s
N19K Bonanza Creek 81.59 27 P **P** **19 27 48.0 +0.8**
baz=249,SNR=9.2
C17K DeLong Mountai 81.61 19 P **P** **19 27 47.9 +0.9**
baz=240
J18K Innoko River 81.66 24 P **P** **19 27 47.0 -0.4**
J18K Innoko River 81.66 24 P **P** **19 27 47.9 +0.5**
baz=246
H18K Honhosa River 81.71 22 P **P** **19 27 47.5 -0.2**
H18K Honhosa River 81.71 22 P **P** **19 27 48.1 +0.4**
baz=244
WSAR Wadi Sarin 81.76 294 P **P** **19 27 49.1 +0.3**
P19K Oil Pt 81.76 28 IAMs_20 IAMs_20 20 00 19.8
comp=Z,2µm,20.0s
P19K Oil Pt 81.76 28 P **P** **19 27 48.4 +0.3**
baz=250
MAW Mawson 81.81 202 P **P** **19 27 47.7 -0.4**
comp=Z,2.5nm,1.0s,baz=93,slow=8.2,SNR=6.0
MAW LR LR 20 03 28.6
comp=Z,800nm,18.2s,baz=66,slow=35
comp=Z,2.5nm,1.0s
Q20K Shuyak Island 81.81 30 P **P** **19 27 48.4 +0.1**
baz=251
SYI Shuyak Island 81.81 30 IAMs_20 IAMs_20 19 59 27.3
comp=Z,1µm,21.0s
F18K Selawik 81.89 21 P **P** **19 27 49.1 +0.6**
baz=243
G18K Tagagawik 81.93 22 P **P** **19 27 49.1 +0.3**
baz=244
E18K Tukpahlearik C 81.94 20 IAmb IAmb 19 27 57.6
comp=Z,48nm,1.3s
E18K Tukpahlearik C 81.94 20 P **P** **19 27 49.2 +0.4**
baz=242
L19K White Mountain 81.94 26 IAmb IAmb 19 27 57.4
comp=Z,55nm,1.3s
L19K IAMs_20 IAMs_20 19 58 44.2
comp=Z,1µm,22.0s
L19K White Mountain 81.94 26 P **P** **19 27 49.4 +0.4**
baz=248,SNR=13
GCSA Galena City Sc 82.11 23 P **P** **19 27 50.3 +0.6**
baz=246
O20K Slope Mountain 82.20 28 P **P** **19 27 50.4 0.0**
baz=250
BIDO Bidbid 82.25 294 P **P** **19 27 52.5 +1.1**
SMDO Samad 82.27 294 P **P** **19 27 52.5 +0.9**
J19K Poorman 82.31 24 IAmb IAmb 19 28 00.8
comp=Z,30nm,1.1s
J19K IAMs_20 IAMs_20 19 59 43.0
comp=Z,1µm,21.0s
J19K Poorman 82.31 24 P **P** **19 27 51.2 +0.4**
baz=247,SNR=15
C18K Utukok River 82.33 19 IAmb IAmb 19 28 05.4
comp=Z,80nm,1.6s
C18K Utukok River 82.33 19 P **P** **19 27 51.6 +0.7**
baz=241
L20K Farewell, AK 82.47 26 P **P** **19 27 52.4 +0.6**
baz=249,SNR=11
B18K Kokolik River 82.49 18 P **P** **19 27 52.5 +0.9**
baz=241
HOM Homer 82.52 29 IAMs_20 IAMs_20 20 00 22.9
comp=Z,1µm,22.0s
HOM Homer 82.52 29 P **P** **19 27 52.8 +0.8**
baz=251
M20K Styx River 82.59 26 IAmb IAmb 19 27 57.7
comp=Z,36nm,1.1s
M20K IAMs_20 IAMs_20 19 59 38.1
comp=Z,1µm,22.0s
M20K Styx River 82.59 26 P **P** **19 27 53.2 +0.8**
baz=250,SNR=22
H19K Roundabout Mou 82.60 22 IAmb IAmb 19 28 00.7
comp=Z,42nm,1.4s
H19K Roundabout Mou 82.60 22 P **P** **19 27 53.5 +1.2**
baz=246,SNR=8.1
F19K Shaleruckik Mo 82.66 21 P **P** **19 27 53.2 +0.6**
baz=245
CNPM China Poot 82.68 29 IAMs_20 IAMs_20 20 00 19.1
comp=Z,1µm,21.0s
K20K Telida 82.71 25 P **P** **19 27 52.4 -0.6**
K20K IAmb IAmb 19 28 01.5
comp=Z,57nm,1.4s
K20K Telida 82.71 25 P **P** **19 27 53.6 +0.7**
baz=249,SNR=8.5
SPCR Spurr Chakacha 82.77 27 P **P** **19 27 54.0 +0.7**
baz=251
J20K Nowinta River 82.98 24 IAmb IAmb 19 28 02.9
comp=Z,72nm,1.5s
J20K IAMs_20 IAMs_20 19 59 41.7
comp=Z,1µm,20.0s
J20K Nowinta River 82.98 24 P **P** **19 27 55.1 +0.8**
baz=248,SNR=13
BRSE Bradley Lake S 82.98 29 P **P** **19 27 54.7 +0.3**
baz=252
HOQ Hoqain 83.00 294 P **P** **19 27 55.7 +0.4**
SNR=7.1
HOQ P **P** **19 27 55.7 +0.4**
SNR=7.1
C19K Lookout Ridge 83.06 19 P **P** **19 27 55.0 +0.3**
baz=243
I20K Naaghedeneel 83.08 23 IAmb IAmb 19 28 03.2
comp=Z,66nm,1.4s
I20K IAMs_20 IAMs_20 19 59 45.2
comp=Z,2µm,21.0s
I20K Naaghedeneel 83.08 23 P **P** **19 27 55.3 +0.5**
baz=248
CAPN Captain Cook N 83.11 28 P **P** **19 27 56.1 +1.2**
baz=252
E19K Redstone River 83.12 20 IAmb IAmb 19 28 04.2
comp=Z,54nm,1.1s
E19K Redstone River 83.12 20 P **P** **19 27 55.8 +0.8**
baz=245
A19K Wainwright 83.12 17 P **P** **19 27 55.4 +0.6**
baz=241
H20K Anotleneega Mo 83.19 23 P **P** **19 27 56.2 +0.8**
baz=248
D19K Kuna River 83.26 19 P **P** **19 27 56.4 +0.7**
baz=244,SNR=9.4
SKT Skwentna 83.33 27 P **P** **19 27 56.2 0.0**
baz=251,SNR=6.1
PPLA Purkeypile 83.35 26 P **P** **19 27 55.8 -0.7**
PPLA IAmb IAmb 19 28 04.0
comp=Z,57nm,1.4s
PPLA Purkeypile 83.35 26 P **P** **19 27 56.8 +0.3**
baz=250
SLKM Skilak Lake 83.47 28 IAMs_20 IAMs_20 20 02 52.9
comp=Z,1µm,20.0s
F20K Avaraart Lake 83.48 21 IAmb IAmb 19 28 02.8
comp=Z,54nm,1.4s
F20K Avaraart Lake 83.48 21 P **P** **19 27 57.8 +1.0**
baz=247
CHUM Lake Minchumin 83.63 25 P **P** **19 27 58.4 +0.8**
baz=250,SNR=14
FIS Fire Island 83.66 28 IAMs_20 IAMs_20 20 00 12.0
comp=Z,2µm,20.0s
ARQ Araqi 83.69 294 P **P** **19 27 59.4 +0.5**
ARQ P **P** **19 27 59.4 +0.5**
O22K Cooper Landing 83.69 28 P **P** **19 27 58.3 +0.3**
baz=253
SEW Seward 83.71 29 P **P** **19 27 57.3 -0.8**
SEW IAMs_20 IAMs_20 20 01 34.4
comp=Z,1µm,20.0s
SEW Seward 83.71 29 P **P** **19 27 58.4 +0.3**
baz=253
SOHO SOHO 83.77 295 P **P** **19 27 58.7 -0.5**
SOHO P **P** **19 27 58.7 -0.5**
IMAR Indian Mountai 83.81 22 P **P** **19 27 58.1 -0.4**
E20K Nigu River 83.81 20 P **P** **19 27 59.3 +0.7**
baz=246
D20K Etivluk River 83.86 19 P **P** **19 27 59.4 +0.7**
baz=246
RC01 Rabbit Creek A 83.87 28 IAmb IAmb 19 28 02.5
comp=Z,35nm,1.0s
RC01 IAMs_20 IAMs_20 20 01 01.5
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 83.87 28 P **P** **19 27 58.5 -0.4**
baz=253
M22K Willow 83.89 27 P **P** **19 27 58.7 -0.3**
baz=252
CUT Chulitna 84.03 26 IAMs_20 IAMs_20 20 10 03.6
comp=Z,1µm,19.0s
CUT Chulitna 84.03 26 P **P** **19 27 59.8 +0.1**
baz=252
H21K Melozitna Rive 84.05 23 IAmb IAmb 19 28 07.9
comp=Z,24nm,1.3s
H21K IAMs_20 IAMs_20 20 01 47.8
comp=Z,2µm,20.0s
H21K Melozitna Rive 84.05 23 P **P** **19 28 00.1 +0.3**
baz=250,SNR=10
G21K Allakaket 84.09 22 P **P** **19 28 00.3 +0.3**
baz=249
UOSS Minazif 84.15 295 P **P** **19 27 58.6 -2.6**
UOSS IAmb IAmb 19 28 04.6
comp=Z,47nm,1.9s
UOSS Minazif 84.15 295 P **P** **19 28 00.3 -0.8**
BANOM Banah 84.16 296 P **P** **19 28 01.0 -0.3**
HATD Hatta, Dubai 84.20 295 P **P** **19 28 00.4 -1.0**
HATD P **P** **19 28 00.4 -1.0**
I21K Tanana 84.21 23 IAmb IAmb 19 28 12.8
comp=Z,24nm,1.2s
I21K IAMs_20 IAMs_20 20 01 21.8
comp=Z,2µm,20.0s
I21K Tanana 84.21 23 P **P** **19 28 01.3 +0.8**
baz=250
B20K Meade River 84.22 18 P **P** **19 28 01.4 +0.8**
baz=245
MASF Masafi 84.23 296 P **P** **19 28 02.2 +0.6**
MASF P **P** **19 28 02.2 +0.6**
ASHO Ashiyiah 84.25 295 P **P** **19 28 00.9 -0.9**
BPAW Bear Paw Mtn. 84.26 25 IAmb IAmb 19 28 07.7
comp=Z,31nm,1.5s
BPAW Bear Paw Mtn. 84.26 25 P **P** **19 28 01.5 +0.7**
baz=251,SNR=12
PMR Palmer 84.30 27 IAmb IAmb 19 28 08.1
comp=Z,34nm,1.2s
PMR Palmer 84.30 27 P **P** **19 28 01.1 +0.1**
baz=253
SHME Shamm 84.32 296 P **P** **19 28 03.2 +1.2**
TRF Thorofare Moun 84.34 25 IAmb IAmb 19 28 08.4
comp=Z,45nm,1.4s
TRF Thorofare Moun 84.34 25 P **P** **19 28 01.1 -0.4**
baz=252
F21K Alatna River 84.36 21 P **P** **19 28 01.5 +0.2**
baz=249
GHO Glory Hole Cre 84.44 27 IAmb IAmb 19 28 07.8
comp=Z,38nm,1.4s
PWL Port Wells 84.46 28 IAMs_20 IAMs_20 20 06 27.1
comp=Z,1µm,20.0s
PWL Port Wells 84.46 28 P **P** **19 28 02.2 +0.2**
baz=254,SNR=12
ALNE Al Ain 84.47 294 P **P** **19 28 03.0 +0.2**
SNR=5.6
ALNE P **P** **19 28 03.0 +0.2**
SNR=5.6
KNK Knik Glacier 84.56 28 IAMs_20 IAMs_20 20 01 21.6
comp=Z,2µm,20.0s
KNK Knik Glacier 84.56 28 P **P** **19 28 02.4 0.0**
baz=254,SNR=8.6
C21K Knifeblade Rid 84.64 19 P **P** **19 28 03.1 +0.4**
baz=247
E21K Killik River 84.64 20 IAmb IAmb 19 28 11.0
comp=Z,52nm,1.5s
E21K Killik River 84.64 20 P **P** **19 28 02.9 +0.1**
baz=248
NAZ Nazwa, Dubai 84.64 295 P **P** **19 28 04.3 +0.7**
MLY Manley 84.66 24 IAmb IAmb 19 28 09.2

baz=265
WHY Whitehorse 90.91 29 IAmb IAmb 19 28 40.8
comp=Z,39nm,1.3s
WHY Whitehorse 90.91 29 P **P** **19 28 33.1 -0.1**
baz=266
R32K Eaglecrest 90.93 32 IAMs_20 IAMs_20 20 05 41.5
comp=Z,1μm,19.0s
R32K Eaglecrest 90.93 32 P **P** **19 28 33.6 +0.4**
baz=266
F30M Barrier River 91.08 22 **P** **19 28 32.5 -1.1**
F30M IAMs_20 IAMs_20 20 06 38.5
comp=Z,1μm,22.0s
F30M Barrier River 91.08 22 P **P** **19 28 33.8 +0.1**
baz=265
M31M Drury Creek, Y 91.26 28 IAmb IAmb 19 28 43.5
comp=Z,35nm,1.9s
M31M IAMs_20 IAMs_20 20 04 53.8
comp=Z,1μm,22.0s
M31M Drury Creek, Y 91.26 28 P **P** **19 28 34.7 0.0**
baz=266
P32M Atlin 91.42 31 P **P** **19 28 35.5 0.0**
baz=267
H31M Peel River 91.52 24 IAMs_20 IAMs_20 20 06 41.2
comp=Z,1μm,21.0s
H31M Peel River 91.52 24 P **P** **19 28 35.5 -0.3**
baz=266
CRAG Craig 91.52 35 P **P** **19 28 35.9 -0.1**
baz=267
U33K Whale Pass 91.56 34 P **P** **19 28 35.8 -0.3**
baz=267
G31M Satah River 91.62 23 IAMs_20 IAMs_20 20 07 01.8
comp=Z,2μm,20.0s
G31M Satah River 91.62 23 P **P** **19 28 36.3 +0.2**
baz=267
N32M Quiet Lake 91.82 29 IAmb IAmb 19 28 52.1
comp=Z,18nm,1.1s
N32M Quiet Lake 91.82 29 P **P** **19 28 37.3 0.0**
baz=267
F31M Tsiigehtchic 91.85 23 IAmb IAmb 19 28 43.3
comp=Z,31nm,1.4s
F31M IAMs_20 IAMs_20 20 07 02.0
comp=Z,2μm,20.0s
F31M Tsiigehtchic 91.85 23 P **P** **19 28 37.4 +0.2**
baz=267
P33M Teslin, Yukon 91.91 30 **P** **19 28 35.5 -2.3**
P33M IAMs_20 IAMs_20 20 10 11.3
comp=Z,1μm,20.0s
P33M Teslin, Yukon 91.91 30 P **P** **19 28 38.2 +0.4**
baz=268
KIRV Kirov 91.94 328 LR LR 20 10 37.9
comp=Z,847nm,21.7s,baz=88,slow=36
KIRV Kirov 91.94 328 *i* P **P** **19 28 38.2 +0.4**
INK Inuvik 91.98 22 LR LR 20 08 47.3
comp=Z,598nm,19.6s,baz=220,slow=35
INK Inuvik 91.98 22 P **P** **19 28 38.1 +0.3**
baz=267
WRAK Wrangell Islan 92.00 34 P **P** **19 28 38.2 0.0**
baz=268
Q32M Nakina River 92.14 31 P **P** **19 28 39.0 0.0**
baz=268
V35K Ketchikan 92.38 35 P **P** **19 28 39.3 -0.6**
baz=268
S34M Telegraph Cree 92.71 32 IAMs_20 IAMs_20 20 07 33.6
comp=Z,1μm,21.0s
S34M Telegraph Cree 92.71 32 P **P** **19 28 41.3 -0.1**
baz=269
MMPY Sheldon Lake, 92.73 28 P **P** **19 28 41.6 +0.1**
baz=269
BELG Belogornoye 92.76 322 LR LR 20 15 36.7
comp=Z,270nm,18.0s,baz=86,slow=39
BELG Belogornoye 92.76 322 *i* P **P** **19 28 41.6 -0.2**
BELG pmax pmax
comp=Z,11nm,1.5s
R33M Jennings River 92.82 31 P **P** **19 28 42.0 -0.1**
baz=269
DLBC Dease Lake 93.30 32 LR LR 20 07 57.0
comp=Z,9μm,19.3s,baz=264,slow=34
RAYN Ar Rayn 93.80 293 **P** **19 28 43.5 -3.8**
RAYN Ar Rayn 93.80 293 P **P** **19 28 43.5 -3.8**
RAYN pmax pmax
comp=Z,12nm,1.8s
BBB Bella Bella 94.44 38 LR LR 20 06 02.5
comp=Z,1μm,19.4s,baz=273,slow=32
GNI Garni 94.66 310 LR LR 20 14 46.2
comp=Z,293nm,21.6s,baz=92,slow=38
A36M Sachs Harbour 94.73 18 P **P** **19 28 50.9 +0.5**
baz=275
C36M Paulatuk 95.38 21 IAMs_20 IAMs_20 20 07 04.0
comp=Z,886nm,21.0s
TOAD Toad River Com 95.79 31 P **P** **19 28 54.9 -0.7**
baz=274
ATD Arta Tunnel 96.01 281 LR LR 20 11 46.0
comp=Z,7.0nm,21.2s,baz=66,slow=35
KIV Kislovodsk 96.13 314 *e*P **P** **19 28 56.3 -1.3**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,321nm,20.0s
SHA1 Shidzhatmaz 96.16 314 *i* P **P** **19 28 57.7 -0.2**
KRMB Red Mountain 97.69 49 IAMs_20 IAMs_20 20 11 52.7
comp=Z,2μm,20.0s
KSXB Camp Six Broad 97.70 48 IAMs_20 IAMs_20 20 02 01.8
comp=Z,1μm,21.0s
KHMM Horse Mountain 97.86 49 IAMs_20 IAMs_20 20 02 51.1
comp=Z,2μm,20.0s
COR Corvallis 97.96 46 IAMs_20 IAMs_20 20 09 27.3
comp=Z,1μm,20.0s
KHBM Hayfork Bally 98.26 50 IAMs_20 IAMs_20 20 11 59.8
comp=Z,1μm,20.0s
APA Apatity 98.39 338 *e*P Pdif 19 29 14.3 +7.2
APA MLR MLR
comp=Z,3μm,5.8s
YBH Yreka Blue Hor 98.58 48 LR LR 20 06 44.5
comp=Z,62nm,21.2s,baz=296,slow=31
MCCM Marconi Confer 98.66 52 IAMs_20 IAMs_20 20 14 23.7
comp=Z,1μm,18.0s
SPITS Spitsbergen Ar 99.13 350 LR LR 20 16 00.3
comp=Z,510nm,19.1s,baz=45,slow=37
OBN Obninsk 99.15 325 *i* P **Pdif** **19 29 10.6 -0.1**
OBN *i* 19 33 10.7
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,827nm,22.0s
JRSC Jasper Ridge 99.21 53 IAMs_20 IAMs_20 20 12 26.4
comp=Z,2μm,21.0s
HATC Hat Creek Radi 99.58 49 IAMs_20 IAMs_20 20 13 01.8
comp=Z,1μm,19.0s
FURI Furi 100.04 278 LR LR 20 17 35.8
comp=Z,153nm,18.6s,baz=99,slow=37
TROLL Troll, Antarti 100.06 193 P **Pdif** **19 29 18.7 +4.0**
WELL Weller Preserv 100.33 52 IAMs_20 IAMs_20 20 13 17.0
comp=Z,996nm,18.0s
ARCES ARCESS Array B 100.60 341 P **Pdif** **19 29 14.6 -2.4**
comp=Z,11nm,1.1s,baz=71,slow=5.3,SNR=5.4
CMB Columbia Colle 100.63 52 IAMs_20 IAMs_20 20 21 16.9
comp=Z,904nm,20.0s
SNAA Sanae 101.44 192 P **Pdif** **19 29 22.4 +1.7**
comp=Z,1.2nm,0.9s,baz=152,slow=5.8,SNR=6.5
WVOR Wild Horse Val 101.53 47 IAMs_20 IAMs_20 20 09 59.2
comp=Z,870nm,20.0s
NEW Newport 101.80 41 IAMs_20 IAMs_20 20 11 08.4
comp=Z,1μm,20.0s
BMO Blue Mountains 102.18 45 IAMs_20 IAMs_20 20 15 54.0
comp=Z,835nm,20.0s
NVAR Mina Array Bea 102.23 51 P **Pdif** **19 29 26.0 +0.8**
comp=Z,1.6nm,1.0s,baz=234,slow=5.0,SNR=4.0
ISA Isabella, Lake 102.36 54 IAMs_20 IAMs_20 20 15 39.1
comp=Z,1μm,20.0s
PASC Pasadena Art C 102.74 56 IAMs_20 IAMs_20 20 06 26.1
comp=Z,1μm,20.0s
MWC Mount Wilson 102.84 56 IAMs_20 IAMs_20 20 06 29.8
comp=Z,1μm,20.0s
BRTR Keskin Array B 103.20 310 PP **PKiKP** **19 33 47.2 -1.8**
comp=Z,0.7nm,0.8s,baz=76,slow=6.1,SNR=3.9
MFID Camas Ranch 103.45 46 IAMs_20 IAMs_20 20 18 22.6
comp=Z,1μm,19.0s
TPNV Topopah Spring 104.01 53 IAMs_20 IAMs_20 20 16 58.5
comp=Z,1μm,18.0s
SHOC Shoshone, Teco 104.12 54 IAMs_20 IAMs_20 20 16 47.5
comp=Z,1μm,18.0s
MSO Missoula 104.17 42 IAMs_20 IAMs_20 20 18 13.3
comp=Z,1μm,18.0s
MNK Minsk 104.19 326 *i* P **Pdif** **19 29 31.6 -1.6**
MNK *i* 19 33 49.2
MNK *i* PPP PPP 19 36 00.8
MNK *i* 19 40 56.1
MNK *i* S 19 41 21.9
MNK *i* SS **SS** **19 48 39.2 -0.2**
MNK *i* SSS SSS 19 52 35.3
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK MLR MLR
comp=E,569nm,20.0s
MNK MLR MLR
comp=N,763nm,18.0s
ELK Elko 104.28 49 IAMs_20 IAMs_20 20 17 33.1
comp=Z,1μm,19.0s
AKASG Malin Array Be 104.34 322 Pdiff **Pdif** **19 29 33.1 -0.8**
comp=Z,0.2nm,0.3s,baz=70,slow=2.8,SNR=4.8
AKASG PP **PKiKP** **19 33 48.4 -2.1**
comp=Z,1.6nm,0.8s,baz=68,slow=6.4,SNR=5.1
HLID Hailey 104.44 46 IAMs_20 IAMs_20 20 18 31.8
comp=Z,1μm,20.0s
DANC Danby, Needles 104.99 55 IAMs_20 IAMs_20 20 14 21.8
comp=Z,1μm,20.0s
IRM Iron Mountain 105.25 56 IAMs_20 IAMs_20 20 08 24.5
comp=Z,1μm,20.0s
DLMT Dillon 105.38 44 IAMs_20 IAMs_20 20 16 06.4
comp=Z,1μm,19.0s
NEE2 Needles Airpor 105.60 55 IAMs_20 IAMs_20 20 08 46.8
comp=Z,1μm,18.0s
BOZ Bozeman (W) 106.00 43 IAMs_20 IAMs_20 20 16 25.7
comp=Z,1μm,20.0s
DUG Dugway, Tooele 106.20 49 IAMs_20 IAMs_20 20 19 17.8
comp=Z,822nm,19.0s
EGMT Eagleton 106.68 41 IAMs_20 IAMs_20 20 14 04.4
comp=Z,1μm,20.0s
FXWY Fox Creek 106.84 45 IAMs_20 IAMs_20 20 19 45.2
comp=Z,1μm,21.0s
HWUT Hardware Ranch 106.87 47 IAMs_20 IAMs_20 20 19 11.3
comp=Z,1μm,19.0s
TPAW Teton Pass 106.92 45 IAMs_20 IAMs_20 20 19 26.4
comp=Z,924nm,20.0s
AHID Auburn Hatcher 106.97 46 IAMs_20 IAMs_20 20 17 29.8
comp=Z,887nm,18.0s
SNOW Snow King Moun 107.07 45 IAMs_20 IAMs_20 20 19 40.4
comp=Z,1μm,20.0s
LOHW Long Hollow 107.14 45 IAMs_20 IAMs_20 20 19 44.3
comp=Z,1μm,21.0s
BW06 Boulder Array 108.08 46 IAMs_20 IAMs_20 20 15 30.1
comp=Z,908nm,21.0s
LSZ Lusaka 108.64 253 IAMs_20 IAMs_20 20 16 56.1
comp=Z,847nm,22.0s
TUC Tucson 109.12 57 IAMs_20 IAMs_20 20 08 51.3
comp=Z,1μm,21.0s
FFC Flin Flon 109.12 32 IAMs_20 IAMs_20 20 15 16.8
comp=Z,1μm,20.0s
LAO LASA Array 109.36 41 IAMs_20 IAMs_20 20 15 03.2
comp=Z,1μm,20.0s
O20A White River Ci 109.64 48 IAMs_20 IAMs_20 20 17 15.9
comp=Z,1μm,19.0s
MVCO Mesa Verde 110.08 51 IAMs_20 IAMs_20 20 19 47.2
comp=Z,1μm,20.0s
DGMT Dagmar 110.11 39 IAMs_20 IAMs_20 20 21 59.7
comp=Z,1μm,20.0s
K22A Casper 110.27 45 IAMs_20 IAMs_20 20 19 37.2
comp=Z,889nm,20.0s
HAYD Hayden 110.28 48 IAMs_20 IAMs_20 20 21 21.5
comp=Z,639nm,19.0s
RSSD Black Hills 111.59 43 IAMs_20 IAMs_20 20 13 10.8
comp=Z,863nm,22.0s
ANMO Albuquerque 112.18 53 IAMs_20 IAMs_20 20 22 05.8
comp=Z,892nm,20.0s
E28A Huff 112.99 40 IAMs_20 IAMs_20 20 21 53.2
comp=Z,1μm,20.0s
T25A Trinidad 113.28 51 IAMs_20 IAMs_20 20 19 34.4
comp=Z,966nm,20.0s
MNTX Cornudas Mount 113.74 57 IAMs_20 IAMs_20 20 12 20.7
comp=Z,1μm,22.0s
OGNE Ogallala 113.98 46 IAMs_20 IAMs_20 20 20 58.3
comp=Z,1μm,19.0s
GERES GERESS Array B 114.43 323 PP **PP** **19 35 05.7 +0.1**
comp=Z,0.8nm,1.0s,baz=57,slow=7.2,SNR=3.7
SUSD Miller 114.91 42 IAMs_20 IAMs_20 20 18 45.4
comp=Z,1μm,20.0s
K30B Basset 115.11 44 IAMs_20 IAMs_20 20 23 10.9
comp=Z,690nm,19.0s
TXAR Lajitas Array 115.67 59 PP **PP** **19 35 15.2 -0.1**
comp=Z,0.1nm,0.3s,baz=258,slow=7.5,SNR=3.5
TXAR PKKPab **PKKPab** **19 44 52.9 +2.6**
comp=Z,0.2nm,0.3s,baz=109,slow=4.4,SNR=5.3
AMTX Amarillo 116.00 52 IAMs_20 IAMs_20 20 23 54.9
comp=Z,1μm,19.0s
F33A 5 Mile Ranch, 116.09 39 IAMs_20 IAMs_20 20 21 24.1
comp=Z,991nm,20.0s
CBKS Cedar Bluff 116.33 48 IAMs_20 IAMs_20 20 30 23.8
comp=Z,979nm,18.0s
BGNE Belgrade 116.58 45 IAMs_20 IAMs_20 20 20 36.0
comp=Z,829nm,21.0s
ECSD EROS Data Cent 116.75 42 IAMs_20 IAMs_20 20 24 26.8
comp=Z,1μm,20.0s
R32A Long Quarter, 117.22 48 IAMs_20 IAMs_20 20 30 09.3
comp=Z,1μm,19.0s
L34A Svendsen Farm, 117.60 43 IAMs_20 IAMs_20 20 33 30.8
comp=Z,993nm,21.0s
ABTX Abilene, Hawle 118.25 54 IAMs_20 IAMs_20 20 14 51.6
comp=Z,952nm,21.0s
WMOK Wichita Mounta 118.33 52 IAMs_20 IAMs_20 20 25 50.4
comp=Z,997nm,19.0s
KSU1 Kansas State U 118.52 47 IAMs_20 IAMs_20 20 17 10.6
comp=Z,1μm,22.0s
SPMN Marine on St. 118.56 39 IAMs_20 IAMs_20 20 22 40.4
comp=Z,1μm,21.0s
JCT Junction City 118.68 57 IAMs_20 IAMs_20 20 15 28.4
comp=Z,916nm,22.0s
Z35A Perchaven, San 119.97 53 IAMs_20 IAMs_20 20 25 29.9
comp=Z,935nm,20.0s
WHTX Lake Whitney, 120.20 54 IAMs_20 IAMs_20 20 16 01.4
comp=Z,800nm,21.0s
P38A Dawn 120.52 45 IAMs_20 IAMs_20 20 27 33.2
comp=Z,868nm,18.0s
N41A Harden Midland 121.90 43 IAMs_20 IAMs_20 20 21 37.5
comp=Z,1μm,22.0s
R40A Maddies Statio 121.96 46 IAMs_20 IAMs_20 20 24 51.6
comp=Z,1μm,20.0s
L42A Oliver, Polo 122.09 41 IAMs_20 IAMs_20 20 24 05.1
comp=Z,1μm,20.0s
HKT Hockley 122.13 56 IAMs_20 IAMs_20 20 27 20.5
comp=Z,884nm,20.0s
NATX Nacogdoches 122.54 54 IAMs_20 IAMs_20 20 17 39.1
comp=Z,1μm,21.0s
CCM Cathedral Cave 122.80 46 IAMs_20 IAMs_20 20 27 44.6
comp=Z,1μm,21.0s
E46A Sault Ste Mari 123.01 34 IAMs_20 IAMs_20 20 23 32.3
comp=Z,1μm,21.0s
P43A Skaggs, Pawnee 123.30 43 IAMs_20 IAMs_20 20 22 09.5
comp=Z,894nm,20.0s
Q44A Meyer Farm, Va 123.99 44 IAMs_20 IAMs_20 20 30 12.8
comp=Z,1μm,20.0s
SFIN Lafayette 124.58 41 IAMs_20 IAMs_20 20 25 31.0
comp=Z,1μm,20.0s
P46A Rosedale 124.88 42 IAMs_20 IAMs_20 20 28 49.2
comp=Z,792nm,20.0s
T45A Paducah 125.11 46 IAMs_20 IAMs_20 20 27 42.8
comp=Z,1μm,20.0s
OXF Oxford 125.63 49 IAMs_20 IAMs_20 20 30 13.1
comp=Z,1μm,22.0s
VBMS Vicksburg 125.68 52 IAMs_20 IAMs_20 20 30 56.9
comp=Z,1μm,20.0s
P48A Milroy 126.15 42 IAMs_20 IAMs_20 20 24 42.7
comp=Z,914nm,18.0s
T47A Sharon Grove 126.22 45 IAMs_20 IAMs_20 20 27 23.0
comp=Z,1μm,22.0s
U49A Red Boiling Sp 127.38 45 IAMs_20 IAMs_20 20 25 15.8
comp=Z,815nm,20.0s
Q51A Peebles 127.75 41 IAMs_20 IAMs_20 20 31 23.9
comp=Z,961nm,20.0s
T50A Nancy 127.79 44 IAMs_20 IAMs_20 20 30 22.4
comp=Z,846nm,20.0s
LRAL Lakeview Retre 128.07 49 IAMs_20 IAMs_20 20 31 52.8
comp=Z,868nm,20.0s
O52A Adamsville 128.11 39 IAMs_20 IAMs_20 20 28 34.6
comp=Z,830nm,21.0s
X51A Calhoun 128.97 47 IAMs_20 IAMs_20 20 31 30.2
comp=Z,768nm,19.0s
CART Cartagena 129.28 318 IAMs_20 IAMs_20 20 36 28.3
comp=Z,552nm,19.0s
V53A Saluda 129.88 44 IAMs_20 IAMs_20 20 27 47.9
comp=Z,963nm,21.0s
Y52A Lilburn 129.88 47 IAMs_20 IAMs_20 20 31 57.4
comp=Z,861nm,20.0s
U54A Nelsons Funny 130.12 43 IAMs_20 IAMs_20 20 27 00.9
comp=Z,1μm,21.0s
J59A Piesco 130.18 31 IAMs_20 IAMs_20 20 32 47.7
comp=Z,1μm,21.0s
GOGA Godfrey 130.53 47 IAMs_20 IAMs_20 20 34 24.7
comp=Z,922nm,20.0s
BLA Blacksburg 130.67 41 IAMs_20 IAMs_20 20 40 06.4
comp=Z,743nm,19.0s
KMSC Kings Mountain 131.19 44 IAMs_20 IAMs_20 20 29 38.4
comp=Z,866nm,20.0s
TEIG Tepich 131.37 66 IAMs_20 IAMs_20 20 24 50.9
comp=Z,600nm,22.0s
MTE Manteigas 131.65 325 IAMs_20 IAMs_20 20 38 00.6
comp=Z,823nm,20.0s
R58B Mineral 131.87 39 IAMs_20 IAMs_20 20 34 29.6
comp=Z,986nm,20.0s
W57A Gilead 132.10 43 IAMs_20 IAMs_20 20 37 11.6
comp=Z,880nm,18.0s
656A Willston 133.10 52 IAMs_20 IAMs_20 20 27 36.6
comp=Z,851nm,21.0s
W59A Clinton 133.15 42 IAMs_20 IAMs_20 20 29 59.1
comp=Z,934nm,19.0s
TGUH Tegucigalpa,Un 133.59 73 IAMs_20 IAMs_20 20 29 29.6
comp=Z,692nm,18.0s
DWPF Disney Wildern 134.53 53 IAMs_20 IAMs_20 20 33 46.4
comp=Z,862nm,21.0s
VA03 San Esteban 135.16 145 IAMs_20 IAMs_20 20 36 53.0
comp=Z,768nm,21.0s
061Z Ochoppi 135.91 55 IAMs_20 IAMs_20 20 35 48.5
comp=Z,722nm,20.0s
HDC Heredia 137.22 78 IAMs_20 IAMs_20 20 30 42.3
comp=Z,812nm,21.0s
BCIP Isla Barro Col 141.50 79 IAMs_20 IAMs_20 20 32 13.8
comp=Z,762nm,20.0s
MTDJ Mount Denham 141.66 64 IAMs_20 IAMs_20 20 42 00.3
comp=Z,461nm,21.0s
OTAV Otavalo 143.08 93 IAMs_20 IAMs_20 20 38 30.2
comp=Z,393nm,18.0s
GTBY Guantanamo Bay 143.19 60 IAMs_20 IAMs_20 20 43 48.2
comp=Z,575nm,19.0s
TA01 Diego Aracena 143.53 131 IAMs_20 IAMs_20 20 43 04.1
comp=Z,574nm,21.0s
GRTK Grand Turk 145.86 55 IAMs_20 IAMs_20 20 38 25.9
comp=Z,705nm,21.0s
SDDR Presa de Saban 146.87 59 IAMs_20 IAMs_20 20 38 39.5
comp=Z,602nm,20.0s
CPUP Villa Florida 147.18 153 PKPbc **PKPbc** **19 35 13.7 +0.2**
comp=Z,6.3nm,1.1s,baz=259,slow=0.5,SNR=15
ROSC El Rosal 147.31 86 PKPbc **PKPbc** **19 35 14.1 -0.6**
comp=Z,14nm,0.7s,baz=290,slow=9.9,SNR=8.1
LPAZ La Paz 147.57 127 **PKPdf** **19 35 09.3 -3.7**
LPAZ PKPbc **PKPbc** **19 35 15.4 -0.2**
LPAZ La Paz 147.57 127 PKPbc **PKPdf** **19 35 14.5 +1.6**
comp=Z,13nm,1.1s,baz=295,slow=0.8,SNR=21
LPAZ La Paz 147.57 127 PKHKP PKPpre 19 35 09.3
LPAZ 19 35 15.4
RUSC La Rusia 148.48 84 **PKPdf** **19 35 11.4 -3.0**
RUSC **PKPbc** **19 35 17.7 -0.2**
DR12 Loma Pena Alta 148.58 58 **PKPdf** **19 35 10.7 -3.2**
DR12 **PKPbc** **19 35 18.3 +0.8**
SDV Santo Domingo 150.54 77 PKPdf **PKPdf** **19 35 13.1 -4.2**
SDV **PKPbc** **19 35 18.7 -4.0**
SDV IAMs_20 IAMs_20 20 41 36.1
comp=Z,575nm,21.0s
PDPR Patillas Dam, 151.75 56 **PKPdf** **19 35 21.0 +2.3**
BAUV El Baul 153.05 76 **PKPdf** **19 35 18.2 -2.6**
BAUV **sPKPbc** **19 35 36.1 +0.6**
SABA Saba 154.23 54 IAMs_20 IAMs_20 20 45 02.6
comp=Z,685nm,21.0s
SEUS St. Eustatius 154.51 54 IAMs_20 IAMs_20 20 44 46.0
comp=Z,731nm,21.0s
ANWB Willy Bob 155.37 52 IAMs_20 IAMs_20 20 44 28.4
comp=Z,713nm,20.0s
GDHS Morne Mazeau, 156.14 55 IAMs_20 IAMs_20 20 38 27.1
comp=Z,590nm,22.0s
ABD La Joyeuse, An 156.26 54 IAMs_20 IAMs_20 20 49 24.4
comp=Z,672nm,20.0s
GDSD La Dsirade Is 156.69 54 IAMs_20 IAMs_20 20 45 22.7
comp=Z,692nm,21.0s
MAGL Barre de l'ile 156.70 55 IAMs_20 IAMs_20 20 38 30.3
comp=Z,777nm,22.0s
BIM Bigot 157.60 58 IAMs_20 IAMs_20 20 58 09.7
comp=Z,535nm,21.0s
ILAM Ilet Lapin Mar 157.64 57 IAMs_20 IAMs_20 20 38 14.5
comp=Z,559nm,20.0s
MPOM Morne Pois Mar 157.82 58 IAMs_20 IAMs_20 20 45 18.3
comp=Z,573nm,20.0s

JMA 22 19:22:14.5±0.3, 38°.6N±0°.4×14°.2E±°, h16km, MV1.2/16, E
OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.60**	**292**	*e*S	Sg	19 22 34.4	+0.2
JIKH	**Ishinomakikobu**	**0.62**	**244**	P	Pg	19 22 26.5	-0.2
JIKH				S	Sg	19 22 34.8	-0.2
OFUJ	**Ofunato**	**0.64**	**321**	S	Sg	19 22 35.1	-0.3
JIO	**Ouri**	**0.66**	**259**	*e*P	Pg	19 22 27.1	-0.5
JIO				*e*S	Sg	19 22 35.9	-0.5

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*IDC **22** 19:22:54.9±0.8, 2°.62S×138°.30E, h0km, mb4.1/10, mbtmp4.1/13, ML3.7/3, Error ellipse: s-maj=22.5km s-min=17.6km az=73.0*
*NEIC **22** 19:22:56.4±1.9, 2°.64S±0°.08×138°.33E±0°.05, h10km±1km, mb4.5/18, Error ellipse: s-maj=14.7km s-min=6.5km az=155.0*
ISC 22 19:22:59.1±0.5, 2°.62S±0°.08×138°.29E±0°.06, h32km, n44, σ1°30/44, mb4.2/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.42**	**88**	Pn	**Pn**	**19 23 35.3**	**-1.2**
	14nm,0.3s,baz=219,slow=11,SNR=14						
JAY				Sn	**Sn**	**19 24 06.1**	**+1.1**
	17nm,0.3s,baz=73,slow=20,SNR=4.7						
	59nm,0.4s						
FAKI	**Fak Fak**	**6.04**	**267**	Pn	**Pn**	**19 24 27.8**	**+1.6**
SAUI	**Saumlaki**	**8.76**	**232**	Pn	**Pn**	**19 25 04.1**	**+0.4**
MANU	**Manus Island**	**9.09**	**87**	Pn	**Pn**	**19 25 07.5**	**-0.7**
PMG	**Port Moresby**	**11.10**	**128**		**Pn**	**19 25 34.6**	**-1.1**
PMG	**Port Moresby**	**11.10**	**128**	Pn	**Pn**	**19 25 38.9**	**+3.1**
	0.8nm,0.3s,baz=302,slow=13,SNR=1.7						
COEN	**Coen**	**12.26**	**157**	Pn	**Pn**	**19 25 50.5**	**-1.2**
MTN	**Manton Dam**	**12.39**	**214**	Pn	**Pn**	**19 25 52.5**	**-0.8**
RABL	**Rabaul**	**13.94**	**97**	Pn	Pn	19 26 09.9	-4.7
SOEI	**Soe**	**15.63**	**242**	Pn	**Pn**	**19 26 36.9**	**-0.4**
SOEI				IAmb	IAmb	19 26 50.8	
	comp=Z,67nm,1.4s						
KNRA	**Kununurra**	**16.02**	**215**	Pn	**Pn**	**19 26 41.6**	**-0.6**
KNRA				IAmb	IAmb	19 27 10.2	
	comp=Z,93nm,1.4s						
WB0	**Warramunga Arr**	**17.47**	**192**		**Pn**	**19 27 00.1**	**-0.3**
WR8	**Warramunga Arr**	**17.63**	**192**	P	**Pn**	**19 27 02.0**	**-0.4**
WR8				IAmb	IAmb	19 27 36.0	
	comp=Z,73nm,1.2s						
WRA	**Warramunga Arr**	**17.65**	**192**	P	**Pn**	**19 26 59.1**	**-3.5**
WRA	**Warramunga Arr**	**17.65**	**192**	P	**Pn**	**19 27 02.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=15,slow=12,SNR=4.6						
	comp=Z,4.6nm,0.9s						
TOLI2	**Tolitoli**	**17.89**	**282**	P	**Pn**	**19 27 04.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.76**	**218**	P	**P**	**19 27 26.8**	**+0.2**
FITZ				IAmb	IAmb	19 27 33.9	
	comp=Z,19nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.76**	**218**	P	**P**	**19 27 27.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=0.9						
	comp=Z,15nm,0.9s						
MYLDM	**Lahad Datu**	**21.23**	**291**	P	**P**	**19 27 41.3**	**-1.3**
MYLDM				IAmb	IAmb	19 28 03.7	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**21.35**	**191**	P	**P**	**19 27 42.1**	**-1.8**
AS31				IAmb	IAmb	19 27 48.1	
	comp=Z,29nm,1.4s						
ASAR	**Alice Springs**	**21.35**	**191**	P	**P**	**19 27 45.1**	**+1.2**
ASAR	**Alice Springs**	**21.35**	**191**	P	**P**	**19 27 43.4**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=17,slow=11,SNR=4.9						
	comp=Z,4.2nm,0.6s						
PSA00	**Pilbara Seismi**	**26.02**	**222**	P	**P**	**19 28 28.8**	**-0.7**
JMN	**Monobe**	**36.39**	**354**	P	**P**	**19 29 58.8**	**-1.8**
KULM	**Kulim**	**38.41**	**282**	P	**P**	**19 30 16.4**	**-1.6**
MJAR	**Matsushiro Arr**	**38.95**	**360**	P	**P**	**19 30 21.0**	**-1.3**
KSRS	**Korea Array**	**41.01**	**347**	P	**P**	**19 30 40.3**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=175,slow=14,SNR=2.5						
	comp=Z,1.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.02**	**300**	P	**P**	**19 31 05.7**	**+1.6**

CMAR Chiang Mai Arr 44.02 300 P P 19 31 05.4 +1.2
comp=Z,0.9nm,0.6s,baz=118,slow=6.7,SNR=7.3
comp=Z,0.9nm,0.6s
CHTO Chiang Mai 44.17 300 P **P** 19 31 05.2 -0.2
CHTO IAmb IAmb 19 31 12.5
comp=Z,6.5nm,1.4s
EVN Everest 58.04 305 P P 19 32 49.7 -0.4
MKAR Makanchi Array 69.46 323 P P 19 34 05.1 +0.7
MKAR Makanchi Array 69.46 323 P P 19 34 04.9 +0.6
comp=Z,2.8nm,0.7s,baz=115,slow=7.3,SNR=12
comp=Z,2.8nm,0.7s
ZALV Zalesovo Beam 71.64 330 P P 19 34 17.1 -0.4
ZALV Zalesovo Beam 71.64 330 P P 19 34 17.8 +0.4
comp=Z,1.0nm,0.6s,baz=124,slow=8.0,SNR=4.7
comp=Z,1.0nm,0.6s
KURK Kurchatov 73.40 325 P P 19 34 27.9 -0.1
KURK IAmb IAmb 19 34 34.5
comp=Z,2.7nm,0.8s
KURBB Kurchatov Arra 73.41 325 P P 19 34 28.3 +0.3
comp=Z,1.4nm,0.3s,baz=116,slow=4.9,SNR=4.7
comp=Z,1.4nm,0.3s
VNDA Vanda 75.91 175 P P 19 34 42.4 +0.3
VNDA Vanda 75.91 175 P P 19 34 42.2 +0.1
comp=Z,1.1nm,0.9s,baz=345,slow=3.3,SNR=6.3
comp=Z,1.1nm,0.9s
BVAR Borovoye Array 78.99 325 P P 19 35 00.9 +1.1
comp=Z,1.7nm,0.7s,baz=117,slow=7.9,SNR=5.2
comp=Z,1.7nm,0.7s
ILAR Eielson Array 85.92 24 P P 19 35 35.7 0.0
ILAR Eielson Array 85.92 24 P P 19 35 37.5 +1.8
comp=Z,0.8nm,0.8s,baz=273,slow=4.9,SNR=5.9
comp=Z,0.8nm,0.8s
QSPA South Pole Qui 87.33 180 P P 19 35 44.6 +1.9
QSPA IAmb IAmb 19 35 47.8
comp=Z,2.8nm,0.9s
QSPA South Pole Qui 87.33 180 P P 19 35 45.4 +2.6
comp=Z,2.6nm,0.9s,baz=25,slow=0.8,SNR=5.0
comp=Z,2.6nm,0.9s

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*MOS **22** 19:24:23.1±0.9,2.˙62S×138.˙25E,h12km,mb5.3/38,Error ellipse: s-maj=9.6km s-min=5.6km az=108.6*
*NEIC **22** 19:24:23.4,2.˙73S×138.˙31E,h16km*
*NEIC **22** 19:24:23.3±2.2,2.˙74S±0.˙06×138.˙31E±0.˙06,h10km±1km, mb5.4/228,Mww5.2/15,Error ellipse: s-maj=10.9km s-min=8.9km az=145.0*
*NEIC **22** 19:24:23.4,2.˙43S×138.˙31E,h16km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; M_{rr}7.63; $M_{\theta\theta}$-3.65; $M_{\phi\phi}$-3.98; $M_{r\theta}$2.02; $M_{\theta\phi}$1.94; $M_{\phi r}$0.06; Fault plane solution: $M_0$7.18000×10^16^ NP1: ϕ_s324.61000°,δ39.88000°,λ103.31000°. NP2: ϕ_s127.48000°,δ51.39000°,λ79.11000°. Principal axes: T 7.9946, Plg80.0000°, Azm349.0000°; N -2.1019, Plg8.0000°, Azm134.0000°; P -5.8927, Plg6.0000°, Azm225.0000°;*
*IDC **22** 19:24:23.9±0.4,2.˙63S×138.˙33E,h0km,mb4.8/21, mbtmp4.9/28,ML4.6/5,MS4.9/3 Error ellipse: s-maj=12.8km s-min=10.2km az=71.0*
*BJI **22** 19:24:24.2,2.˙93S×138.˙67E,h36km,mB5.4/21,mb5.1/77, Ms5.1/27,Ms7 4.9/26*
*GCMT **22** 19:24:28.4±0.2,2.˙61S±0.˙01×138.˙37E±0.˙01,h15km, MW5.2/126,Moment Tensor Solution. s42,c54; s126,c201; Duration: 1s0 Moment tensor: Scale 10^16^ Nm; M_{rr}7.05±.33; $M_{\theta\theta}$-3.70±.19; $M_{\phi\phi}$-3.35±.19; $M_{r\theta}$1.35±.32; $M_{\theta\phi}$4.01±.10; $M_{\phi r}$-0.20±.35; Best double couple: $M_0$7.42500×10^16^ NP1:ϕ_s320.00000°,δ41.00000°, λ100.00000°. NP2:ϕ_s127.00000°,δ50.00000°,λ81.00000°. Principal axes: T 7.2260, Plg82.0000°, Azm346.0000°; N 0.3970, Plg7.0000°, Azm133.0000°; P -7.6240, Plg4.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **22** 19:24:29.7±0.2,3˙S±3˙×13˙8E±˙,h38km±2km,M5.3/64, mB5.8/16,mb5.2/64,MLv5.3/9,Mw5.2/81,Mw(mB)5.3/16, MwMwp6.3/2,Mwp6.2/2*

ISC 22 19:24:24.3±0.3,2.74S±0.˙04×138.˙41E±0.˙04,h10km,n650,
σ1§42/553,mb5.3/203,MS4.9/12,12C-2D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.77**	**85**	P	**Pb**	**19 24 58.7**	**+2.0**
GENI	**Genyem**	**1.77**	**85**	P	**Pn**	**19 24 58.2**	**+3.3**
JAY	**Jayapura**	**2.31**	**85**	Pn	**Pn**	**19 25 05.4**	**+3.0**
80nm,0.3s,baz=245,slow=8.1,SNR=24							
JAY				Lg	Lg	19 25 38.5	
95nm,0.3s,baz=100,slow=20,SNR=6.9							
1μm,0.9s							
JAY	**Jayapura**	**2.31**	**85**	P	**Pn**	**19 25 05.2**	**+2.8**
BAKI	**Biak**	**2.77**	**304**	P	**Pn**	**19 25 10.4**	**+1.7**
RKPI	**Ransiki, Papua**	**4.40**	**286**	P	**Pn**	**19 25 32.7**	**+1.5**
KMPI	**Kaimana, Papua**	**4.78**	**259**	P	**Pn**	**19 25 40.2**	**+3.7**
MMPI	**Merauke**	**6.02**	**161**	P	Pn	19 25 58.8	+5.3
FAKI	**Fak Fak**	**6.15**	**268**		**Pn**	**19 25 53.4**	**-1.9**
FAKI	**Fak Fak**	**6.15**	**268**	P	**Pn**	**19 25 59.1**	**+3.8**
FAKI	**Fak Fak**	**6.15**	**268**	P	**Pn**	**19 25 57.7**	**+2.4**
1.2nm200nm,0.9s							
BNDI	**Bandanaira**	**8.67**	**258**	P	**Pn**	**19 26 31.9**	**+2.1**
404nm,1.6s							
SAUI	**Saumlaki**	**8.79**	**233**	Pn	**Pn**	**19 26 30.8**	**-0.7**
MANU	**Manus Island**	**8.98**	**86**		**Pn**	**19 26 34.8**	**+0.7**
MSAI	**Masohi**	**9.48**	**266**	P	**Pn**	**19 26 43.1**	**+2.0**
170nm,0.8s							
AAI	**Ambon**	**10.24**	**264**	P	**Pn**	**19 26 54.9**	**+3.5**
146nm,1.7s							
PMG	**Port Moresby**	**10.93**	**128**		**Pn**	**19 27 00.8**	**-0.1**
PMG	**Port Moresby**	**10.93**	**128**	Pn	**Pn**	**19 27 04.9**	**+4.0**
9.6nm,0.7s,baz=319,slow=11,SNR=7.4							
PMG				LR	LR	19 32 37.5	
comp=Z,8μm,18.2s,baz=314,slow=45							
NLAI	**Namlea**	**11.30**	**267**	P	**Pn**	**19 27 09.0**	**+3.0**
147nm,1.1s							
KDU	**Kakadu**	**11.50**	**210**	P	**Pn**	**19 27 10.0**	**+1.3**
comp=Z,94nm,1.1s							
TNTI	**Ternate**	**11.57**	**287**		Pn	19 27 07.3	-2.4
TNTI	**Ternate**	**11.57**	**287**	P	**Pn**	**19 27 12.4**	**+2.7**
COEN	**Coen**	**12.10**	**157**	P	**Pn**	**19 27 19.5**	**+2.6**
comp=Z,115nm,1.2s							
COEN	**Coen**	**12.10**	**157**		**Pn**	**19 27 17.5**	**+0.5**
COEN	**Coen**	**12.10**	**157**	P	**Pn**	**19 27 20.2**	**+3.3**
DRS	**Darwin Rock St**	**12.17**	**217**	P	Pn	19 27 23.2	+5.4
MTN	**Manton Dam**	**12.35**	**215**	P	**Pn**	**19 27 22.4**	**+2.1**
comp=Z,152nm,0.7s							
MTN	**Manton Dam**	**12.35**	**215**		**Pn**	**19 27 17.9**	**-2.5**
SANI	**Sanana**	**12.43**	**273**	P	**Pn**	**19 27 21.0**	**-0.4**
comp=Z,83nm,1.0s							
RABL	**Rabaul**	**13.81**	**96**		**Pn**	**19 27 39.3**	**-1.0**
SGSI	**Sangihe**	**14.37**	**296**	P	**Pn**	**19 27 51.5**	**+3.6**
comp=Z,3μmcomp=Z,219nm,1.6s							
KMSI	**Cibinong**	**14.79**	**283**	P	**Pn**	**19 27 56.4**	**+2.7**
SOEI	**Soe**	**15.68**	**243**		**Pn**	**19 28 02.5**	**-3.1**
SOEI	**Soe**	**15.68**	**243**	P	**P**	**19 28 10.5**	**+0.8**
SOEI	**Soe**	**15.68**	**243**	P	**Pn**	**19 28 07.9**	**+2.3**
LUWI	**Luwuk**	**15.72**	**276**		**Pn**	**19 28 04.0**	**-2.0**
LUWI				IAmb	IAmb	19 28 07.4	
comp=Z,208nm,1.3s							
LUWI	**Luwuk**	**15.72**	**276**	P	**Pn**	**19 28 06.6**	**+0.6**
comp=Z,5μmcomp=Z,342nm,1.3s							
KNRA	**Kununurra**	**15.99**	**216**	P	**Pn**	**19 28 11.0**	**+1.6**
comp=Z,178nm,1.0s							
KNRA	**Kununurra**	**15.99**	**216**	Pn	**Pn**	**19 28 08.4**	**-1.0**
BBSI	**Bau Bau**	**16.03**	**260**	P	**Pn**	**19 28 13.3**	**+3.3**
comp=Z,282nm,1.1s							
MTSU	**Mount Surprise**	**16.36**	**160**	P	**P**	**19 28 18.7**	**+1.6**
BATI	**Baumata**	**16.41**	**242**	Pn	**Pn**	**19 28 15.2**	**+0.2**
comp=Z,1.0nm,0.3s,baz=86,slow=12,SNR=6.1							
comp=Z,36nm,0.8s							
BATI	**Baumata**	**16.41**	**242**	P	**Pn**	**19 28 15.4**	**+0.5**
MRSI	**Marisa**	**16.77**	**281**	P	**Pn**	**19 28 21.7**	**+2.3**
comp=Z,104nm,1.0s							
APSI	**Ampana**	**16.85**	**276**	P	**Pn**	**19 28 22.8**	**+2.4**
comp=Z,6μmcomp=Z,369nm,1.4s							
MMRI	**Maumere**	**17.12**	**249**		**Pn**	**19 28 21.2**	**-2.7**
MMRI	**Maumere**	**17.12**	**249**	P	**Pn**	**19 28 24.8**	**+1.0**
comp=Z,74nm,1.0s							
WB0	**Warramunga Arr**	**17.37**	**193**		**Pn**	**19 28 25.2**	**-1.8**
WB9	**Warramunga Arr**	**17.40**	**193**	P	**Pn**	**19 28 28.8**	**+1.5**
comp=Z,190nm,0.8s							
GUMO	**Guam**	**17.44**	**21**		**Pn**	**19 28 27.2**	**-0.6**
GUMO	**Guam**	**17.44**	**21**	P	**Pn**	**19 28 28.5**	**+0.7**
comp=Z,0.4nm,0.3s,baz=193,slow=4.3,SNR=13							
GUMO				LR	LR	19 34 48.7	
comp=Z,2μm,18.4s,baz=194,slow=36							
comp=Z,292nm,1.1s							
WR0	**Warramunga Arr**	**17.53**	**192**	P	**Pn**	**19 28 29.7**	**+0.8**
comp=Z,216nm,1.0s							
WR8	**Warramunga Arr**	**17.53**	**192**	P	**Pn**	**19 28 28.1**	**-0.9**
WRAB	**Tennant Creek**	**17.54**	**193**	P	**Pn**	**19 28 29.0**	**-0.1**
WRAB	**Tennant Creek**	**17.54**	**193**	P	**Pn**	**19 28 29.0**	**-0.1**
WRAB				pmax	pmax		
comp=Z,62nm,0.8s							
WB2	**Warramunga Arr**	**17.55**	**193**	P	**Pn**	**19 28 30.3**	**+1.1**
comp=Z,200nm,1.5s							
WRA	**Warramunga Arr**	**17.55**	**193**	P	**Pn**	**19 28 26.7**	**-2.5**
WRA	**Warramunga Arr**	**17.55**	**193**	P	**Pn**	**19 28 30.4**	**+1.1**
comp=Z,5.2nm,0.3s,baz=14,slow=12,SNR=21							
comp=Z,39nm,0.8s							
EDFI	**Ende, Flores**	**17.67**	**250**	P	**Pn**	**19 28 32.1**	**+1.3**
QIS	**Mount Isa**	**17.75**	**176**	P	**Pn**	**19 28 34.2**	**+2.5**
TOLI2	**Tolitoli**	**18.03**	**282**	P	**Pn**	**19 28 34.3**	**-0.9**
BSSI	**Bau Bau, Buton**	**18.18**	**259**	P	**Pn**	**19 28 39.5**	**+2.5**
comp=Z,3μmcomp=Z,97nm,1.3s							
BNSI	**Bone**	**18.34**	**264**	P	**P**	**19 28 43.1**	**+4.1**
comp=Z,3μmcomp=Z,103nm,1.1s							
BNSI				pP	sP	19 28 53.5	+10
comp=Z,3μmcomp=Z,103nm,1.1s							
BKSI	**Bulukumba**	**18.42**	**261**	P	**P**	**19 28 41.5**	**+1.6**
SPSI	**Sidrap Palu**	**18.65**	**266**	P	**P**	**19 28 45.1**	**+2.7**
comp=Z,4μmcomp=Z,61nm,1.0s							
KAPI	**Kappang**	**18.75**	**263**	P	**P**	**19 28 42.1**	**-1.5**
KAPI	**Kappang**	**18.75**	**263**	P	**P**	**19 28 44.1**	**+0.5**
comp=Z,5.3nm,0.3s,baz=7.1,slow=8.7,SNR=3.7							
BASI	**Baing, Sumba**	**19.20**	**246**	P	**P**	**19 28 48.9**	**+0.4**
comp=Z,174nm,1.0s							
WSI	**Waingapu**	**19.27**	**248**	P	**P**	**19 28 51.5**	**+2.3**
comp=Z,234nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.74**	**218**	P	**P**	**19 28 52.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.74**	**218**	P	**P**	**19 28 55.8**	**+1.4**
comp=Z,1.6nm,0.3s,baz=55,slow=5.3,SNR=7.4							
comp=Z,25nm,1.0s							
WBSI	**Waikabubak, Su**	**20.10**	**249**	P	**P**	**19 28 58.1**	**-0.3**
comp=Z,110nm,0.9s							
SGKI	**Sangatta, Kali**	**20.91**	**276**	P	Pn	19 29 11.4	+1.7
AS31	**Alice Springs**	**21.25**	**191**	P	**P**	**19 29 09.9**	**-0.9**
ASAR	**Alice Springs**	**21.26**	**191**	P	**P**	**19 29 08.9**	**-1.9**
ASAR					**S**	**19 33 04.0**	**-3.2**
ASAR	**Alice Springs**	**21.26**	**191**	P	**P**	**19 29 12.2**	**+1.3**
comp=Z,100nm,1.1s,baz=9.4,slow=8.5,SNR=19							
comp=Z,100nm,1.1s							
ASAR	**Alice Springs**	**21.26**	**191**	P	**P**	**19 29 08.9**	**-1.9**
ASAR				S	**S**	**19 33 04.0**	**-3.2**
MYLDM	**Lahad Datu**	**21.39**	**292**	P	**P**	**19 29 09.9**	**-2.4**
MYLDM				IAmb	IAmb	19 29 28.5	
comp=Z,161nm,1.2s							
BKB	**Balikpapan**	**21.55**	**273**	P	**P**	**19 29 11.8**	**-2.2**
BKB				IAmb	IAmb	19 29 23.6	
comp=Z,336nm,1.2s							
BKB	**Balikpapan**	**21.55**	**273**	P	**P**	**19 29 16.1**	**+2.1**
PATS	**Pohnpei**	**22.03**	**64**	P	**P**	**19 29 21.3**	**+2.1**
comp=Z,188nm,1.4s							
PATS	**Pohnpei**	**22.03**	**64**	P	**P**	**19 29 17.9**	**-1.3**
PATS				IAmb	IAmb	19 29 37.4	
comp=Z,202nm,1.1s							
TWSI	**Taliwang, Sumb**	**22.22**	**254**	P	**P**	**19 29 21.5**	**+0.2**
HNR	**Honiara**	**22.41**	**108**	P	**P**	**19 29 21.9**	**-1.5**
HNR				IAmb	IAmb	19 29 34.3	
comp=Z,178nm,0.8s							
HNR	**Honiara**	**22.41**	**108**	P	**P**	**19 29 25.4**	**+2.0**
comp=Z,144nm,0.9s,baz=255,slow=20,SNR=4.3							
comp=Z,144nm,0.9s							
BBKI	**Banjar Baru**	**23.54**	**268**	P	**P**	**19 29 37.6**	**+2.6**
comp=Z,5μmcomp=Z,287nm,1.6s							
MTKI	**Muara Teweh, K**	**23.57**	**274**	P	**P**	**19 29 36.8**	**+1.5**
comp=Z,68nm,1.4s							
KMMI	**Kalianget**	**24.72**	**259**	P	**P**	**19 29 48.7**	**+2.7**
comp=Z,157nm,1.0s							
JAGI	**Jajag, Banyuwa**	**24.79**	**256**	P	**P**	**19 29 43.9**	**-2.9**
JAGI	**Jajag, Banyuwa**	**24.79**	**256**	P	**P**	**19 29 45.7**	**-1.0**
comp=Z,56nm,1.1s							
JAGI				pP	**sP**	**19 29 55.8**	**+4.8**
comp=Z,56nm,1.1s							
INKA	**Innaminka**	**24.96**	**175**	P	**P**	**19 29 45.6**	**-2.5**
EIDS	**Eidsvold**	**25.60**	**153**	P	**P**	**19 29 54.7**	**+0.9**
comp=Z,67nm,0.9s							
EIDS	**Eidsvold**	**25.60**	**153**	P	**P**	**19 29 52.4**	**-1.5**
MBWA	**Marble Bar**	**25.80**	**223**	P	**P**	**19 29 56.7**	**+0.9**
comp=Z,49nm,1.3s							
MBWA	**Marble Bar**	**25.80**	**223**	P	**P**	**19 29 52.4**	**-3.4**
PSAC2	**Pilbara Seismi**	**25.96**	**222**	P	**P**	**19 29 58.3**	**+1.0**
comp=Z,38nm,1.4s							
PSAC1	**Pilbara Seismi**	**26.01**	**223**	P	**P**	**19 29 58.4**	**+0.8**
comp=Z,45nm,1.0s							
PSA00	**Pilbara Seismi**	**26.01**	**223**	P	**P**	**19 29 54.8**	**-2.8**
PSA00	**Pilbara Seismi**	**26.01**	**223**	P	**P**	**19 29 55.7**	**-2.0**
PSA00				IAmb	IAmb	19 30 12.5	
comp=Z,115nm,1.6s							
PSAB3	**Pilbara Seismi**	**26.02**	**222**	P	**P**	**19 29 58.1**	**+0.4**
comp=Z,41nm,0.8s							
SBUM	**Sibu**	**26.68**	**281**	P	**P**	**19 30 00.1**	**-3.7**
SMRI	**Semarang**	**28.18**	**260**	P	P	19 30 14.8	-2.6
SMRI				IAmb	IAmb	19 30 41.8	
comp=Z,123nm,1.1s							
KSM	**Kuching**	**28.40**	**278**	P	P	19 30 16.3	-3.0
STKA	**Stephens Creek**	**29.14**	**174**	P	**P**	**19 30 23.9**	**-1.7**
STKA				IAmb	IAmb	19 31 30.5	
comp=Z,110nm,0.9s							
STKA	**Stephens Creek**	**29.14**	**174**	P	**P**	**19 30 26.8**	**+1.2**
comp=Z,5.0nm,0.8s,baz=353,slow=6.9,SNR=9.4							
comp=Z,5.0nm,0.8s							
FORT	**Forrest**	**29.56**	**198**		**P**	**19 30 27.7**	**-1.6**
FORT				IAmb	IAmb	19 31 30.1	
comp=Z,58nm,0.9s							
JCJ	**Chichijima**	**29.88**	**7**	LR	LR	19 41 18.9	
comp=Z,2μm,18.4s,baz=149,slow=34							
BBOO	**Buckleboo**	**30.00**	**184**	P	**P**	**19 30 30.7**	**-2.5**
ARMA	**Armidale**	**30.24**	**157**	P	P	19 30 32.2	-3.3
TWG	**Pinlang**	**30.52**	**327**	P	P	19 30 33.9	-4.0
TWG				IAmb	IAmb	19 31 01.1	
comp=Z,117nm,2.0s							
YULB	**Yu-li**	**30.86**	**328**	P	P	19 30 38.4	-2.6
YOJ	**Yonaguni jima**	**30.90**	**332**	P	P	19 30 37.9	-3.3
YOJ				IAmb	IAmb	19 30 42.3	
comp=Z,57nm,0.9s							
YOJ	**Yonaguni jima**	**30.90**	**332**	P	P	19 30 37.9	-3.3
YOJ				pmax	pmax		
comp=Z,57nm,0.9s							
JOW	**Kunigami**	**30.98**	**342**	P	P	19 30 38.8	-3.2
JOW				IAmb	IAmb	19 30 46.6	
comp=Z,67nm,1.3s							
SANVU	**Saraoutou**	**31.05**	**116**	P	P	19 30 40.0	-2.7
NACB	**Ninganchiao**	**31.35**	**329**	P	P	19 30 41.3	-3.9
SSLB	**Suanglung**	**31.37**	**328**	P	P	19 30 42.0	-3.4
SSLB				IAmb	IAmb	19 30 51.0	
comp=Z,67nm,1.4s							
TATO	**Taipei**	**32.07**	**330**	P	P	19 30 48.0	-3.6
MORW	**Morawa**	**33.74**	**217**	P	P	19 31 01.7	-4.5
MORW				IAmb	IAmb	19 31 24.7	
comp=Z,93nm,1.5s							
ARPS	**Mount Arapiles**	**34.01**	**175**	P	**P**	**19 31 09.5**	**+1.1**
comp=Z,0.0nmcomp=Z,21nm,0.9s							
TPRI	**Tanjung Pinang**	**34.06**	**276**	P	**P**	**19 31 10.6**	**+1.4**
comp=Z,45nm,1.1s							
MDSI	**Maura Dua**	**34.20**	**266**	P	**P**	**19 31 11.0**	**+0.6**
comp=Z,54nm,1.4s							
PINNC	**Pines Island,**	**34.40**	**127**	P	P	19 31 08.5	-3.5
PINNC				IAmb	IAmb	19 31 15.1	
comp=Z,100nm,1.3s							
MYKOM	**Kota Tinggi**	**34.84**	**277**	P	P	19 31 12.3	-3.6
MYKOM				IAmb	IAmb	19 31 24.7	
comp=Z,50nm,1.1s							
LHSI	**Lahat**	**34.84**	**267**	P	**P**	**19 31 17.8**	**+1.9**
comp=Z,86nm,1.6s							
MGBR	**Mount Gambier**	**34.88**	**177**	P	P	19 31 12.6	-3.3
MGBR				IAmb	IAmb	19 31 24.4	
comp=Z,130nm,1.9s							
TOO	**Toolangi**	**35.27**	**170**	P	**P**	**19 31 20.7**	**+1.4**
comp=Z,5.5nm,1.0s							
TOO	**Toolangi**	**35.27**	**170**	P	**P**	**19 31 17.3**	**-2.0**
TOO	**Toolangi**	**35.27**	**170**	P	**P**	**19 31 17.3**	**-2.0**
TOO				pmax	pmax		
comp=Z,11nm,1.3s							
QIZ	**Qiongzhong**	**35.46**	**309**	P	**P**	**19 31 20.8**	**-0.3**
QIZ				S	**S**	**19 36 56.8**	**+0.3**
QIZ				pmax	pmax		
comp=Z,21nm,1.5s							
NWAO	**Narrogin (SRO)**	**36.00**	**211**	P	**P**	**19 31 23.3**	**-2.3**
NWAO				IAmb	IAmb	19 32 30.8	
comp=Z,52nm,1.2s							
NWAO	**Narrogin (SRO)**	**36.00**	**211**	P	**P**	**19 31 23.3**	**-2.3**
NWAO				pmax	pmax		
comp=Z,52nm,1.3s							
MASI	**Maura Aman, Be**	**36.12**	**268**	P	**P**	**19 31 28.1**	**+1.1**
JNU	**Nakatsue**	**36.37**	**349**	P	**P**	**19 31 27.3**	**-1.5**
JNU				IAmb	IAmb	19 31 30.0	
comp=Z,73nm,1.0s							
JNU	**Nakatsue**	**36.37**	**349**	P	**P**	**19 31 28.1**	**-0.7**
comp=Z,52nm,0.9s,baz=148,slow=4.3,SNR=17							
comp=Z,52nm,0.9s							
JMN	**Monobe**	**36.52**	**354**	P	**P**	**19 31 28.5**	**-1.6**
JMN				IAmb	IAmb	19 31 31.7	
comp=Z,51nm,1.1s							
KRJI	**Kerinci**	**36.92**	**270**	P	**P**	**19 31 34.4**	**+0.5**
BKNI	**Bangkinang**	**37.48**	**274**	P	P	19 31 36.3	-2.2
INU	**Inuyama**	**37.91**	**358**	P	**P**	**19 31 40.2**	**-1.6**
PDSI	**Padang**	**37.97**	**272**	P	**P**	**19 31 42.9**	**+0.2**
comp=Z,26nm,1.6s							
IPM	**Ipoh**	**38.03**	**281**	P	P	19 31 40.5	-2.7
PPI	**Padang Panjang**	**38.06**	**273**	P	**P**	**19 31 44.2**	**+0.8**
comp=Z,58nm,1.1s							
JGF	**Kuroka**	**38.15**	**359**	P	**P**	**19 31 42.2**	**-1.7**
KULM	**Kulim**	**38.55**	**282**	P	P	19 31 45.1	-2.4
JYT	**Yasato**	**38.80**	**2**	P	**P**	**19 31 47.9**	**-1.4**
GULI	**GuiLin**	**38.93**	**317**	P	**P**	**19 31 53.1**	**+2.5**
GULI				S	**S**	**19 37 54.8**	**+5.6**
GULI				pmax	pmax		
comp=Z,36nm,1.5s							
GULI				pmax	pmax		
comp=Z,380nm,12.8s							
GULI				LR	LR		
comp=Z,620nm,17.2s							
GULI				LR	LR		
comp=Z,810nm,14.7s							
GULI				LR	LR		
comp=Z,1μm,15.7s							
MJAR	**Matsushiro Arr**	**39.08**	**360**	P	P	19 31 49.5	-2.2
MJAR	**Matsushiro Arr**	**39.08**	**360**	P	**P**	**19 31 50.8**	**-0.9**
comp=Z,2.4nm,0.7s,baz=179,slow=8.3,SNR=7.0							
comp=Z,2.4nm,0.7s							
MAJO	**Matsushiro**	**39.08**	**360**	P	**P**	**19 31 49.8**	**-1.9**
MAJO	**Matsushiro**	**39.08**	**360**	P	**P**	**19 31 49.8**	**-1.9**
MAJO				pmax	pmax		
comp=Z,53nm,1.9s							
MJB9	**Matsu-Tunnel**	**39.08**	**360**	P	**P**	**19 31 50.0**	**-1.7**
NJ2	**Nanjing**	**39.26**	**333**	⇑P	**P**	**19 31 54.3**	**+1.1**
NJ2				pmax	pmax		
comp=Z,23nm,0.6s							
CNSH	**ChangSha**	**39.31**	**323**	P	**P**	**19 31 55.3**	**+1.6**
CNSH				pmax	pmax		
comp=Z,55nm,1.6s							
TJN	**Taejon**	**40.26**	**346**	P	P	19 31 59.3	-2.1
TJN	**Taejon**	**40.26**	**346**	*i* P	**P**	**19 32 00.6**	**-0.8**
WHN	**Wuhan**	**40.28**	**327**	⇑P	**P**	**19 32 03.1**	**+1.4**
WHN				pmax	pmax		
comp=Z,120nm,0.9s							
JMM	**Marumori**	**40.46**	**3**	P	**P**	**19 32 01.6**	**-1.5**
JSD	**Sado**	**40.57**	**360**	P	P	19 32 01.5	-2.5
KCSI	**Kotacane, Aceh**	**41.09**	**278**	P	**P**	**19 32 08.1**	**-0.6**
KSAR	**Wonju Array Be**	**41.15**	**347**	P	P	19 32 06.3	-2.6
KSAR	**Wonju Array Be**	**41.15**	**347**	P	P	19 32 06.3	-2.5
KSRS	**Korea Array**	**41.16**	**347**	P	**P**	**19 32 08.9**	**0.0**
comp=Z,12nm,0.8s,baz=162,slow=9.4,SNR=39							
comp=Z,12nm,0.8s							
KS19	**Wonju Array Si**	**41.22**	**347**	P	P	19 32 06.4	-3.0
SLVN	**Son La**	**41.38**	**307**		P	19 32 08.6	-2.4
INCN	**Inchon**	**41.48**	**346**	P	**P**	**19 32 09.7**	**-1.9**
INCN				IAmb	IAmb	19 32 16.2	
comp=Z,89nm,1.4s							
INCN	**Inchon**	**41.48**	**346**	P	**P**	**19 32 09.7**	**-1.9**
INCN				pmax	pmax		
comp=Z,89nm,1.5s							
LHMI	**Lhok Sumawe**	**42.17**	**281**	P	P	19 32 14.7	-2.8
GYA	**Guiyang**	**42.23**	**315**	⇑P	**P**	**19 32 18.8**	**+0.8**
GYA				pmax	pmax		
comp=Z,13nm,0.9s							
ENH	**Enshi**	**42.90**	**322**	P	**P**	**19 32 21.9**	**-1.3**
TIA	**Tai'an**	**43.55**	**335**	P	**P**	**19 32 28.3**	**-0.1**
TIA				pmax	pmax		
comp=Z,19nm,0.7s							
CM31	**Chiang Mai Arr**	**44.19**	**300**	IAmb	IAmb	19 32 42.4	
comp=Z,108nm,1.2s							
CMAR	**Chiang Mai Arr**	**44.19**	**300**	P	**P**	**19 32 32.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**44.19**	**300**	P	**P**	**19 32 34.1**	**+0.3**
comp=Z,4.7nm,0.8s,baz=122,slow=6.2,SNR=28							
comp=Z,4.7nm,0.8s							
KMI	**Kunming**	**44.31**	**311**	P	**P**	**19 32 36.4**	**+1.4**
KMI				pmax	pmax		
comp=Z,52nm,1.3s							
KMI				LR	LR		
comp=Z,570nm,20.8s							
KMI				LR	LR		
comp=Z,1μm,17.3s							
KMI				LR	LR		
comp=Z,1μm,17.8s							
**

MDJ				LR	LR		
	comp=Z,3μm,17.2s						
BNX	**BinXian**	**49.25**	**350**	⇑P	**P**	**19 33 13.3**	**+0.3**
BNX				pmax	pmax		
	comp=Z,43nm,1.5s						
YSS	**Yuzhno-Sakhali**	**49.63**	**4**	P	**P**	**19 33 15.0**	**-0.9**
YSS	**Yuzhno-Sakhali**	**49.63**	**4**	*e*P	**P**	**19 33 15.8**	**-0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.82**	**333**	⇑*i*P	**P**	**19 33 18.3**	**+0.7**
HHC				S	**S**	**19 40 24.6**	**-2.8**
HHC				pmax	pmax		
	comp=Z,29nm,1.2s						
HHC				pmax	pmax		
	comp=Z,260nm,5.9s						
HHC				LR	LR		
	comp=Z,2μm,17.7s						
HHC				LR	LR		
	comp=Z,1μm,17.7s						
HHC				LR	LR		
	comp=Z,2μm,18.1s						
RPZ	**Rata Peaks**	**50.02**	**149**	P	**P**	**19 33 17.2**	**-1.8**
LZH	**Lanzhou**	**50.32**	**323**	*e*P	**P**	**19 33 22.8**	**+1.2**
LZH				pP	sP	19 33 29.5	+3.4
LZH				pmax	pmax		
	comp=Z,79nm,1.0s						
LZH				LR	LR		
	comp=Z,430nm,14.4s						
LZH				LR	LR		
	comp=Z,350nm,16.3s						
LZH				LR	LR		
	comp=Z,470nm,15.6s						
LZDM	**Lanzhou Array**	**50.32**	**323**	P	**P**	**19 33 23.0**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=140,slow=9.2,SNR=5.9						
	comp=Z,2.1nm,0.3s						
BTO	**Baotou**	**50.34**	**332**	*e*P	**P**	**19 33 23.6**	**+2.1**
BTO				pP	sP	19 33 36.3	+10
BTO				sP	pP	19 33 41.3	+17
BTO				pmax	pmax		
	comp=Z,52nm,0.7s						
BTO				pmax	pmax		
	comp=Z,660nm,8.1s						
HEH	**HeiHe**	**53.63**	**351**	*e*P	**P**	**19 33 45.5**	**-0.2**
HEH				pmax	pmax		
	comp=Z,28nm,1.8s						
HIA	**Hailar**	**54.26**	**345**	IAmb	IAmb	19 33 53.4	
	comp=Z,50nm,1.4s						
HILR	**Hailar Array B**	**54.53**	**345**	P	**P**	**19 33 52.9**	**+0.5**
	comp=Z,24nm,0.9s,baz=149,slow=12,SNR=20						
	comp=Z,24nm,0.9s						
GTA	**Gaotai**	**54.91**	**324**	P	**P**	**19 33 57.0**	**+1.5**
GTA				S	**S**	**19 41 38.8**	**+1.5**
GTA				pmax	pmax		
	comp=Z,34nm,1.4s						
LSA	**Lhasa**	**55.50**	**309**	P	P	19 33 57.8	-2.5
LSA	**Lhasa**	**55.50**	**309**	IAmb	IAmb	19 34 09.2	
	comp=Z,43nm,1.0s						
GOMU	**GeErMu**	**56.13**	**318**	P	**P**	**19 34 05.0**	**+0.3**
GOMU				S	**S**	**19 41 58.8**	**+4.6**
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				LR	LR		
	comp=Z,330nm,15.6s						
GOMU				LR	LR		
	comp=Z,470nm,15.8s						
GOMU				LR	LR		
	comp=Z,680nm,15.2s						
ZEA	**Zeya**	**57.04**	**352**	*e*P	**P**	**19 34 10.8**	**+0.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ULN	**Ulaanbaatar**	**57.37**	**335**	P	**P**	**19 34 11.0**	**-1.9**
ULN	**Ulaanbaatar**	**57.37**	**335**	*i* P	**P**	**19 34 12.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**57.62**	**335**	P	**P**	**19 34 12.7**	**-2.0**
SONM	**Songino Array**	**57.62**	**335**	P	**P**	**19 34 15.5**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=154,slow=7.9,SNR=15						
	comp=Z,5.3nm,0.9s						
SONM	**Songino Array**	**57.62**	**335**	P	**P**	**19 34 12.7**	**-2.0**
SONM				pmax	pmax		
	comp=Z,33nm,1.4s						
PEA0B	**Petropavlovsk-**	**57.96**	**14**	*i* P	**P**	**19 34 17.5**	**+0.7**
PETK	**Petropavlovsk-**	**57.96**	**14**	P	**P**	**19 34 15.0**	**-1.8**
PETK	**Petropavlovsk-**	**57.96**	**14**	P	**P**	**19 34 17.9**	**+1.1**
	comp=Z,9.3nm,0.9s,baz=171,slow=5.3,SNR=8.4						
	comp=Z,9.3nm,0.9s						
PET	**Petropavlovsk**	**58.11**	**14**	*i* P	**P**	**19 34 17.1**	**-0.7**
PET				pmax	pmax		
	comp=Z,24nm,1.3s						
CIT	**Chita**	**58.48**	**342**	*e*P	**P**	**19 34 21.8**	**+1.2**
CIT				*e*		19 34 31.0	
CIT				*e*		19 35 05.4	
CIT				pmax	pmax		
	comp=Z,180nm,1.8s						
ZAK	**Zakamensk**	**60.88**	**335**	*e*P	**P**	**19 34 37.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,75nm,1.5s						
TLY	**Talaya**	**61.72**	**336**	*i* P	**P**	**19 34 42.1**	**-0.7**
TLY				pmax	pmax		
	comp=Z,14nm,1.0s						
IRK	**Irkutsk**	**61.90**	**337**	*e*P	**P**	**19 34 44.6**	**+0.6**
IRK				pmax	pmax		
	comp=Z,85nm,2.2s						
HYB	**Hyderabad**	**62.30**	**291**	*e*P	P	19 34 45.0	-2.3
HYB				*e*pP	pP	19 34 48.2	-2.4
HYB				IVmB_BB		19 34 48.6	
	comp=Z,226nm,2.5s						
HYB				*e*PcP	**PcP**	**19 35 24.8**	**-2.3**
HYB				*e*PP	**PP**	**19 37 01.7**	**-2.8**
HYB				*e*S	**S**	**19 43 12.4**	**-1.7**
MOY	**Mondy**	**62.81**	**335**	*e*P	**P**	**19 34 50.8**	**+0.6**
MOY				pmax	pmax		
	comp=Z,79nm,1.9s						
MA2	**Magadan**	**62.89**	**7**	*i* P	**P**	**19 34 50.2**	**-0.2**
MA2				pmax	pmax		
	comp=Z,28nm,1.1s						
MA2	**Magadan**	**62.89**	**7**	P	**P**	**19 34 50.8**	**+0.4**
	comp=Z,50nm,2.1s						
BOD	**Bodaibo**	**63.47**	**346**	*e*P	**P**	**19 34 54.3**	**+0.1**
BOD				pmax	pmax		
	comp=Z,52nm,1.6s						
WMQ	**Urumqi**	**64.84**	**322**	*e*P	**P**	**19 35 05.3**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,31nm,0.7s						
WMQ				LR	LR		
	comp=Z,1μm,17.9s						
WMQ				LR	LR		
	comp=Z,870nm,17.9s						
WMQ				LR	LR		
	comp=Z,630nm,19.5s						
YAK	**Yakutsk**	**64.94**	**355**	P	**P**	**19 35 01.9**	**-1.9**
YAK	**Yakutsk**	**64.94**	**355**	*c i* P	**P**	**19 35 04.1**	**+0.3**
YAK				*e**PP	**sP**	**19 35 11.5**	**+3.2**
YAK				*e*		19 35 35.9	
YAK				*e*		19 37 27.1	
YAK				*e*PPP	PPP	19 39 00.0	
YAK				*e*S	**S**	**19 43 43.4**	**-1.8**
YAK				*e**SS	sS	19 43 59.5	+8.8
YAK				*e*		19 44 55.2	
YAK				*e*SS	**SS**	**19 47 57.8**	**+0.6**
YAK				pmax	pmax		
	comp=Z,105nm,0.9s						
YAK				pmax	pmax		
	comp=N,41nm,1.4s						
YAK				pmax	pmax		
	comp=E,12nm,1.3s						
YAK				pmax	pmax		
	comp=Z,82nm,3.4s						
YAK				pmax	pmax		
	comp=N,208nm,3.2s						
YAK				pmax	pmax		
	comp=E,82nm,3.0s						
YAK				smax	smax		
	comp=E,169nm,5.4s						
YAK				smax	smax		
	comp=N,160nm,5.0s						
KIWB	**Kanaga Island**	**66.10**	**28**	P	P	19 35 08.5	-3.1
SEY	**Seymchan**	**66.34**	**7**	*i* P	**P**	**19 35 12.8**	**-0.1**
SEY				pmax	pmax		
	comp=Z,53nm,1.8s						
ZSN	**Zaisan**	**68.41**	**324**	*e*P	**P**	**19 35 25.7**	**-0.7**
	comp=Z,14nm,1.3s						
ZSN	**Zaisan**	**68.41**	**324**	*e*P	**P**	**19 35 25.6**	**-0.7**
ZSN				pmax	pmax		
	comp=Z,14nm,1.3s						
MK31	**Makanchi Array**	**69.63**	**323**	*i* P	**P**	**19 35 33.2**	**-0.7**
MKAR	**Makanchi Array**	**69.63**	**323**	P	**P**	**19 35 32.6**	**-1.4**
MKAR	**Makanchi Array**	**69.63**	**323**	P	**P**	**19 35 35.0**	**+1.1**
	comp=Z,12nm,0.7s,baz=113,slow=7.8,SNR=45						
	comp=Z,12nm,0.7s						
MAKZ	**Makanchi**	**69.82**	**322**		**P**	**19 35 34.8**	**-0.4**
MAKZ	**Makanchi**	**69.82**	**322**	P	**P**	**19 35 34.8**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,100nm,0.9s						
SHLS	**Shalkode**	**69.83**	**318**	*e*P	P	19 35 32.8	-2.6
	comp=Z,16nm,1.3s						
SHLS	**Shalkode**	**69.83**	**318**	*e*P	P	19 35 32.8	-2.6
SHLS				pmax	pmax		
	comp=Z,16nm,1.3s						
TARG	**Taragay, Kyrgy**	**70.39**	**316**	IAmb	IAmb	19 35 48.0	
	comp=Z,42nm,1.1s						
SATY	**Saty**	**70.50**	**318**	*e*P	**P**	**19 35 38.6**	**-0.9**
	comp=Z,11nm,0.9s						
SATY	**Saty**	**70.50**	**318**	*e*P	**P**	**19 35 38.6**	**-0.9**
SATY				pmax	pmax		
	comp=Z,11nm,0.9s						
NIKH	**Nikolski High**	**70.85**	**31**	P	**P**	**19 35 40.9**	**-0.4**
	baz=237						
KSH	**Kashi**	**70.88**	**313**	P	**P**	**19 35 44.3**	**+2.4**
KSH				pmax	pmax		
	comp=Z,63nm,1.1s						
KSH				LR	LR		
	comp=Z,560nm,16.1s						
KSH				LR	LR		
	comp=Z,940nm,17.2s						
KSH				LR	LR		
	comp=Z,1μm,19.6s						
KDJ	**Kajisay**	**70.98**	**316**	P	**P**	**19 35 42.0**	**-0.5**
KDJ	**Kajisay**	**70.98**	**316**	P	**P**	**19 35 42.0**	**-0.5**
KDJ				pmax	pmax		
	comp=Z,64nm,1.0s						
TDK	**Taldyqorghan**	**71.28**	**320**	*e*P	**P**	**19 35 43.2**	**-1.0**
	comp=Z,13nm,0.9s						
TDK	**Taldyqorghan**	**71.28**	**320**	*e*P	**P**	**19 35 43.1**	**-1.0**
TDK				pmax	pmax		
	comp=Z,13nm,0.9s						
MDOK	**Medeo**	**71.46**	**317**	*e*P	**P**	**19 35 44.3**	**-1.1**
MDOK	**Medeo**	**71.46**	**317**	*e*P	**P**	**19 35 44.3**	**-1.1**
TNSS	**Tian-Shan**	**71.48**	**317**	*e*P	**P**	**19 35 44.3**	**-1.5**
TNSS	**Tian-Shan**	**71.48**	**317**	*e*P	**P**	**19 35 44.3**	**-1.5**
AAA	**Alma-Ata**	**71.57**	**317**	*e*P	**P**	**19 35 45.0**	**-1.0**
	comp=Z,14nm,0.9s						
AAA	**Alma-Ata**	**71.57**	**317**	*e*P	**P**	**19 35 44.9**	**-1.0**
AAA				pmax	pmax		
	comp=Z,14nm,0.9s						
ZAA0	**Zalesovo Array**	**71.81**	**330**	P	**P**	**19 35 44.9**	**-2.1**
ZAA0				IAmb	IAmb	19 35 54.0	
	comp=Z,23nm,1.0s						
ZALV	**Zalesovo Beam**	**71.81**	**330**	P	**P**	**19 35 44.9**	**-2.1**
ZALV	**Zalesovo Beam**	**71.81**	**330**	P	**P**	**19 35 46.6**	**-0.4**
	comp=Z,6.3nm,0.8s,baz=110,slow=6.1,SNR=19						
	comp=Z,6.3nm,0.8s						
BOOM	**Boomskoye usch**	**71.97**	**316**	P	**P**	**19 35 47.9**	**-0.6**
BOOM				IAmb	IAmb	19 35 56.9	
	comp=Z,56nm,1.0s						
BOOM	**Boomskoye usch**	**71.97**	**316**	P	**P**	**19 35 47.9**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,56nm,1.0s						
PPT2	**Papeete2**	**72.04**	**108**	*e*LR	LR	19 57 44.2	
	comp=Z,654nm,24.8s						
PPT2				*e*LR	LR	19 57 45.6	
	comp=Z,493nm,24.8s						
UNV	**Unalaska Valle**	**72.51**	**31**	P	**P**	**19 35 51.1**	**-0.1**
	baz=239						
TBI	**Tubuai**	**72.52**	**113**	*e*LR	LR	19 57 58.8	
	comp=Z,1μm,28.5s						
TBI				*e*LR	LR	19 58 00.3	
	comp=Z,3μm,26.5s						
P08K	**Saint George I**	**72.53**	**27**	P	**P**	**19 35 51.3**	**0.0**
	baz=236						
SPIA	**Saint Paul Isl**	**72.54**	**26**	P	**P**	**19 35 51.8**	**+0.5**
	baz=235						
AAK	**Ala-Archa**	**73.02**	**316**		**P**	**19 35 54.4**	**-0.3**
AAK				IAmb	IAmb	19 36 03.3	
	comp=Z,49nm,1.3s						
AAK	**Ala-Archa**	**73.02**	**316**	P	**P**	**19 35 54.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,49nm,1.3s						
SGDS	**Sogindy**	**73.21**	**317**	*e*P	**P**	**19 35 54.8**	**-0.9**
	comp=Z,18nm,1.0s						
BILL	**Bilibino**	**73.25**	**11**	P	P	19 35 52.7	-2.6
BILL	**Bilibino**	**73.25**	**11**	*i* P	**P**	**19 35 55.7**	**+0.4**
BILL				pmax	pmax		
	comp=Z,15nm,1.0s						
KURK	**Kurchatov**	**73.57**	**325**		**P**	**19 35 57.2**	**-0.3**
KURK				IAmb	IAmb	19 36 05.2	
	comp=Z,55nm,1.1s						
KURK	**Kurchatov**	**73.57**	**325**	P	**P**	**19 35 57.8**	**+0.3**
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**19 35 57.8**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=126,slow=5.0,SNR=28						
	comp=Z,4.7nm,0.6s						
TIXI	**Tiksi**	**74.51**	**357**	P	P	19 36 00.2	-2.5
TIXI	**Tiksi**	**74.51**	**357**	*i* P	**P**	**19 36 02.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,18nm,1.2s						
FALS	**False Pass**	**74.58**	**31**	P	**P**	**19 36 03.7**	**+0.4**
	baz=242						
DZA	**Taraz**	**75.30**	**316**	*e*P	**P**	**19 36 07.1**	**-0.8**
	comp=Z,12nm,1.2s						
DZA	**Taraz**	**75.30**	**316**	*e*P	**P**	**19 36 07.0**	**-0.8**
DZA				pmax	pmax		
	comp=Z,11nm,1.2s						
S12K	**Black Hills**	**75.67**	**30**	P	**P**	**19 36 10.6**	**+0.9**
S12K	**Black Hills**	**75.67**	**30**	P	**P**	**19 36 09.8**	**+0.2**
	baz=243						
VNDA	**Vanda**	**75.78**	**175**		**P**	**19 36 10.5**	**+0.6**
VNDA	**Vanda**	**75.78**	**175**	P	**P**	**19 36 11.8**	**+1.9**
	comp=Z,7.6nm,0.9s,baz=320,slow=6.0,SNR=34						
	comp=Z,7.6nm,0.9s						
GAMB	**Gambell**	**75.91**	**21**	P	**P**	**19 36 11.2**	**+0.4**
	baz=232						
KK31	**Karatay Array**	**75.94**	**316**	IAmb	IAmb	19 36 19.6	
	comp=Z,65nm,1.2s						
KKAR	**Karatay Array**	**75.94**	**316**	P	**P**	**19 36 10.9**	**-0.6**
KKAR	**Karatay Array**	**75.94**	**316**	P	**P**	**19 36 10.9**	**-0.6**
IUG	**Iuzhnay**	**76.00**	**315**	*e*P	**P**	**19 36 11.0**	**-1.0**
	comp=Z,16nm,1.2s						
IUG	**Iuzhnay**	**76.00**	**315**	*e*P	**P**	**19 36 10.9**	**-1.0**
IUG				pmax	pmax		
	comp=Z,16nm,1.2s						
M11K	**Mekoryuk**	**76.08**	**25**	P	**P**	**19 36 11.9**	**+0.1**
	baz=238						
SDPT	**Sand Point**	**76.31**	**31**	P	**P**	**19 36 13.4**	**+0.1**
	baz=244						
BRLS	**Borolday**	**76.39**	**315**	*e*P	**P**	**19 36 13.5**	**-0.6**
	comp=Z,16nm,1.1s						
BRLS	**Borolday**	**76.39**	**315**	*e*P	**P**	**19 36 13.5**	**-0.6**
BRLS				pmax	pmax		
	comp=Z,16nm,1.1s						
CHNA	**Chernabura Isl**	**76.55**	**32**	P	**P**	**19 36 14.9**	**+0.3**
	baz=245						
M13K	**Dall Lake**	**77.31**	**26**		**P**	**19 36 19.3**	**+0.5**
M13K	**Dall Lake**	**77.31**	**26**	P	**P**	**19 36 19.3**	**+0.5**
	baz=241						
K13K	**Kusilvak Mount**	**77.53**	**24**		**P**	**19 36 20.5**	**+0.4**
K13K				IAmb	IAmb	19 36 29.0	
	comp=Z,68nm,1.2s						
K13K	**Kusilvak Mount**	**77.53**	**24**	P	**P**	**19 36 20.4**	**+0.4**
	baz=239						
O14K	**Tigyukauivet M**	**77.68**	**27**	P	**P**	**19 36 21.5**	**+0.6**
	baz=243						
N14K	**Kuskokwak Cree**	**77.80**	**26**	P	**P**	**19 36 22.2**	**+0.6**
	baz=242						
L14K	**Kuka Creek**	**78.05**	**25**		**P**	**19 36 23.4**	**+0.5**
L14K	**Kuka Creek**	**78.05**	**25**	P	**P**	**19 36 23.6**	**+0.7**
	baz=241,SNR=8.1						
M14K	**Bethel**	**78.07**	**26**	P	**P**	**19 36 23.9**	**+0.8**
	baz=242,SNR=8.2						
TNA	**Tin City**	**78.28**	**20**	P	**P**	**19 36 25.4**	**+1.2**
	baz=235						
O15K	**Ungalikthiuk R**	**78.31**	**28**	P	**P**	**19 36 25.4**	**+1.0**
	baz=244						
M15K	**Kasigluk River**	**78.60**	**26**	P	**P**	**19 36 27.0**	**+1.0**
	baz=243						
N15K	**Kwethluk River**	**78.63**	**27**	P	**P**	**19 36 27.0**	**+0.8**
	baz=244						
ANM	**Nome**	**78.64**	**21**	P	**P**	**19 36 26.8**	**+0.6**
	baz=238						
R16K	**Pilot Point**	**78.71**	**30**	P	**P**	**19 36 27.2**	**+0.6**
	baz=246						
L15K	**Ungalak Mounta**	**78.71**	**25**	P	**P**	**19 36 27.3**	**+0.7**
	baz=242						
F14K	**Arctic Creek**	**78.79**	**20**	P	**P**	**19 36 27.8**	**+0.9**
	baz=237						
K15K	**Wolf Creek Mou**	**78.99**	**24**		**P**	**19 36 27.9**	**-0.3**
K15K				IAmb	IAmb	19 36 37.1	
	comp=Z,61nm,1.2s						
K15K	**Wolf Creek Mou**	**78.99**	**24**	P	**P**	**19 36 28.7**	**+0.6**
	baz=242						
CHIR	**Chirikof Islan**	**79.03**	**32**	P	**P**	**19 36 28.9**	**+0.4**
	baz=248						
P16K	**Nushagak River**	**79.10**	**28**	P	**P**	**19 36 29.4**	**+0.6**
	baz=246						
BVAR	**Borovoye Array**	**79.16**	**325**	P	**P**	**19 36 29.8**	**+0.5**
	comp=Z,14nm,0.7s,baz=111,slow=8.1,SNR=28						
	comp=Z,14nm,0.7s						
BORK	**Borovoye**	**79.21**	**325**	*i* P	**P**	**19 36 29.0**	**-0.5**
BORK				pmax	pmax		
	comp=Z,17nm,1.0s						
O16K	**Kokwok River B**	**79.29**	**28**	IAmb	IAmb	19 36 38.5	
	comp=Z,82nm,1.4s						
O16K	**Kokwok River B**	**79.29**	**28**	P	**P**	**19 36 30.5**	**+0.7**
	baz=246						
R17L	**Mt. Peulik Vol**	**79.33**	**30**	P	**P**	**19 36 30.9**	**+0.7**
	baz=247						
G15K	**Niukluk**	**79.35**	**21**	P	**P**	**19 36 30.4**	**+0.4**
	baz=239						
N16K	**Nishlik Lake**	**79.35**	**27**	P	**P**	**19 36 30.8**	**+0.6**
	baz=245						
F15K	**North Star Dit**	**79.50**	**21**	P	**P**	**19 36 31.1**	**+0.2**
F15K				IAmb	IAmb	19 36 39.6	
	comp=Z,46nm,1.3s						
F15K	**North Star Dit**	**79.50**	**21**	P	**P**	**19 36 31.8**	**+0.9**
	baz=238						
M16K	**Timber Creek**	**79.50**	**26**	IAmb	IAmb	19 36 39.8	
	comp=Z,59nm,1.2s						
M16K	**Timber Creek**	**79.50**	**26**	P	**P**	**19 36 31.6**	**+0.6**
	baz=244,SNR=8.5						
L16K	**Owhat River**	**79.58**	**25**	IAmb	IAmb	19 36 40.0	
	comp=Z,66nm,1.4s						
L16K	**Owhat River**	**79.58**	**25**	P	**P**	**19 36 32.0**	**+0.6**
	baz=244						
Q16K	**King Salmon**	**79.60**	**29**	P	**P**	**19 36 31.4**	**-0.1**
	baz=247						
Q17K	**Contact Creek**	**79.81**	**29**	P	**P**	**19 36 33.0**	**+0.2**
	baz=248						
O17K	**Koliganek Bris**	**79.83**	**28**	P	**P**	**19 36 33.2**	**+0.5**
	baz=246						
J16K	**Anvik River**	**79.83**	**24**		**P**	**19 36 32.8**	**+0.1**
J16K				IAmb	IAmb	19 36 41.9	
	comp=Z,57nm,1.4s						
J16K	**Anvik River**	**79.83**	**24**	P	**P**	**19 36 33.5**	**+0.8**
	baz=243						
H16K	**Elim**	**79.84**	**22**	P	**P**	**19 36 33.3**	**+0.6**
	baz=241						
P17K	**Kvichak River**	**79.90**	**28**	P	**P**	**19 36 32.1**	**-1.0**
	baz=247						
SII	**Sitkinak Islan**	**80.04**	**31**	P	**P**	**19 36 33.3**	**-0.7**
	baz=250						
ACHA	**Angle Creek He**	**80.06**	**29**	IAmb	IAmb	19 36 41.0	
	comp=Z,67nm,1.7s						
I17K	**Unalakleet**	**80.07**	**23**	P	**P**	**19 36 34.0**	**0.0**
	baz=242						
N17K	**Nushagak Hills**	**80.09**	**27**		**P**	**19 36 33.9**	**-0.3**
N17K				IAmb	IAmb	19 36 43.2	
	comp=Z,53nm,1.2s						
N17K	**Nushagak Hills**	**80.09**	**27**	P	**P**	**19 36 34.2**	**0.0**
	baz=246						
G16K	**Koyuk River**	**80.17**	**21**	P	**P**	**19 36 34.5**	**+0.1**
G16K				IAmb	IAmb	19 36 43.0	
	comp=Z,54nm,1.3s						
G16K	**Koyuk River**	**80.17**	**21**	P	**P**	**19 36 34.6**	**+0.1**
	baz=241						
L17K	**Donlin**	**80.27**	**25**	P	**P**	**19 36 35.1**	**0.0**
	baz=245						
M17K	**Holitna River**	**80.33**	**26**		**P**	**19 36 34.6**	**-0.9**
M17K				IAmb	IAmb	19 36 44.8	
	comp=Z,37nm,1.1s						
M17K	**Holitna River**	**80.33**	**26**	P	**P**	**19 36 35.7**	**+0.2**
	baz=246,SNR=7.2						
Q18K	**Katmai Hardscr**	**80.38**	**29**	P	**P**	**19 36 36.1**	**+0.1**
	baz=248						
J17K	**VABM Dome**	**80.49**	**24**	IAmb	IAmb	19 36 45.4	
	comp=Z,68nm,1.4s						
J17K	**VABM Dome**	**80.49**	**24**	P	**P**	**19 36 36.6**	**+0.3**
	baz=244						
K17K	**Iditarod**	**80.52**	**25**		**P**	**19 36 35.9**	**-0.5**
K17K				IAmb	IAmb	19 36 45.5	
	comp=Z,84nm,1.2s						
K17K	**Iditarod**	**80.52**	**25**	P	**P**	**19 36 36.9**	**+0.5**
	baz=245,SNR=5.8						
P18K	**Big Mountain,**	**80.55**	**28**	P	**P**	**19 36 36.6**	**-0.1**
	baz=248						
C16K	**Lisburne Hills**	**80.64**	**18**	P	**P**	**19 36 36.2**	**-0.7**
	baz=237						
OHAK	**Old Harbor**	**80.73**	**31**	IAmb	IAmb	19 36 46.0	
	comp=Z,57nm,1.2s						
OHAK	**Old Harbor**	**80.73**	**31**	P	**P**	**19 36 36.7**	**-1.0**
	baz=250						
O18K	**Koktuh Hills**	**80.73**	**28**	P	**P**	**19 36 37.5**	**-0.2**
	baz=248						
N18K	**Kilae Creek**	**80.74**	**27**	IAmb	IAmb	19 36 46.6	
	comp=Z,58nm,1.4s						
N18K	**Kilae Creek**	**80.74**	**27**	P	**P**	**19 36 37.1**	**-0.6**
	baz=247						
G17K	**Kiwalik Mounta**	**80.84**	**22**	P	**P**	**19 36 37.6**	**-0.5**
	baz=242						
H17K	**Granite Mounta**	**80.86**	**22**		**P**	**19 36 37.4**	**-0.8**
H17K				IAmb	IAmb	19 36 47.1	
	comp=Z,69nm,1.6s						
H17K	**Granite Mounta**	**80.86**	**22**	P	**P**	**19 36 38.3**	**+0.1**
	baz=243						
L18K	**Granite Mounta**	**80.99**	**25**	IAmb	IAmb	19 36 48.0	
	comp=Z,54nm,1.3s						
L18K	**Granite Mounta**	**80.99**	**25**	P	**P**	**19 36 39.0**	**0.0**
	baz=246						
D17K	**Noatak River**	**81.07**	**19**	P	**P**	**19 36 39.8**	**+0.6**
	baz=240						
F17K	**Baldwin Pennin**	**81.07**	**21**	P	**P**	**19 36 39.2**	**-0.1**
F17K				IAmb	IAmb	19 36 48.0	
	comp=Z,38nm,1.3s						
F17K	**Baldwin Pennin**	**81.07**	**21**	P	**P**	**19 36 39.4**	**+0.1**
	baz=242						
M18K	**Stony River**	**81.08**	**26**	P	**P**	**19 36 39.1**	**-0.3**
	baz=247,SNR=13						
TAOE	**Nuku Hiva Isla**	**81.14**	**98**	*e*LR	LR	20 02 00.9	
	comp=Z,891nm,23.9s						
Q19K	**Cape Douglas,**	**81.14**	**29**	P	**P**	**19 36 39.8**	**-0.1**
	baz=250						
E17K	**Hotham Inlet**	**81.18**	**20**	P	**P**	**19 36 40.3**	**+0.4**
	baz=241,SNR=11						
O19K	**Port Alsworth**	**81.28**	**28**	P	**P**	**19 36 40.1**	**-0.3**
	baz=249						
KDAK	**Kodiak Island**	**81.28**	**30**	P	**P**	**19 36 39.3**	**-1.3**
KDAK				IAmb	IAmb	19 36 48.9	
	comp=Z,63nm,1.4s						
KDAK	**Kodiak Island**	**81.28**	**30**	*i* P	**P**	**19 36 40.5**	**-0.1**
KDAK				pmax	pmax		
	comp=Z,19nm,0.9s						
KDAK	**Kodiak Island**	**81.28**	**30**	P	**P**	**19 36 41.1**	**+0.5**
	baz=251						
RDOG	**Red Dog Mine**	**81.31**	**19**	P	**P**	**19 36 41.3**	**+0.8**
	baz=240						
N19K	**Bonanza Creek**

MAW	**Mawson**	81.98	202	P	P	19 36 45.2	+1.1	
	comp=Z,9.4nm,0.9s,baz=57,slow=6.7,SNR=14							
	comp=Z,9.4nm,0.9s							
O20K	**Slope Mountain**	82.03	28	P	P	19 36 44.4	-0.2	
	baz=250							
J19K	**Poorman**	82.14	24	IAmb	IAmb	19 36 53.7		
	comp=Z,40nm,1.3s							
J19K	**Poorman**	82.14	24	P	P	19 36 44.6	-0.5	
	baz=247							
C18K	**Utukok River**	82.15	19	IAmb	IAmb	19 36 53.7		
	comp=Z,30nm,1.2s							
C18K	**Utukok River**	82.15	19	P	P	19 36 45.0	-0.1	
	baz=241							
L20K	**Farewell, AK**	82.30	26	P	P	19 36 45.6	-0.3	
	baz=249							
B18K	**Kokolik River**	82.31	18	P	P	19 36 45.8	0.0	
	baz=241							
M20K	**Styx River**	82.42	26	IAmb	IAmb	19 36 57.6		
	comp=Z,45nm,1.3s							
M20K	**Styx River**	82.42	26	P	P	19 36 46.1	-0.5	
	baz=250							
H19K	**Roundabout Mou**	82.43	22	IAmb	IAmb	19 36 55.2		
	comp=Z,87nm,1.7s							
H19K	**Roundabout Mou**	82.43	22	P	P	19 36 46.4	-0.1	
	baz=246							
F19K	**Shaleruckik Mo**	82.48	21	P	P	19 36 46.5	-0.2	
F19K				IAmb	IAmb	19 36 56.1		
	comp=Z,41nm,1.8s							
F19K	**Shaleruckik Mo**	82.48	21	P	P	19 36 47.1	+0.4	
	baz=245							
K20K	**Telida**	82.54	25	IAmb	IAmb	19 36 55.9		
	comp=Z,64nm,1.4s							
K20K	**Telida**	82.54	25	P	P	19 36 47.5	+0.4	
	baz=249,SNR=10.0							
SPCR	**Spurr Chakacha**	82.60	27	P	P	19 36 47.6	0.0	
	baz=251							
J20K	**Nowinta River**	82.81	24	P	P	19 36 48.4	-0.1	
	baz=248							
BRSE	**Bradley Lake S**	82.82	29	P	P	19 36 48.5	-0.2	
	baz=252							
C19K	**Lookout Ridge**	82.88	19	P	P	19 36 49.2	+0.3	
	baz=243							
I20K	**Naaghedeneel**	82.91	23	P	P	19 36 49.0	0.0	
	baz=248							
E19K	**Redstone River**	82.94	21		P	19 36 49.4	+0.2	
E19K				IAmb	IAmb	19 36 58.7		
	comp=Z,39nm,1.2s							
E19K	**Redstone River**	82.94	21	P	P	19 36 48.8	-0.3	
	baz=245							
A19K	**Wainwright**	82.94	17	P	P	19 36 48.9	-0.1	
	baz=241							
H20K	**Anotleneega Mo**	83.02	23	P	P	19 36 49.3	-0.3	
	baz=248							
D19K	**Kuna River**	83.09	19	IAmb	IAmb	19 36 58.2		
	comp=Z,29nm,1.1s							
D19K	**Kuna River**	83.09	19	P	P	19 36 49.6	-0.4	
	baz=244							
SKT	**Skwentna**	83.16	27	IAmb	IAmb	19 36 57.8		
	comp=Z,30nm,1.4s							
SKT	**Skwentna**	83.16	27	P	P	19 36 50.2	-0.2	
	baz=251							
PPLA	**Purkeypile**	83.18	26	P	P	19 36 50.0	-0.6	
	baz=250							
F20K	**Avaraart Lake**	83.31	21	IAmb	IAmb	19 37 01.5		
	comp=Z,32nm,1.2s							
F20K	**Avaraart Lake**	83.31	21	P	P	19 36 50.4	-0.7	
	baz=247							
CHUM	**Lake Minchumin**	83.46	25	P	P	19 36 51.6	-0.3	
	baz=250,SNR=14							
SEW	**Seward**	83.55	29	P	P	19 36 52.3	-0.1	
	baz=253							
IMAR	**Indian Mountai**	83.63	22	P	P	19 36 52.3	-0.5	
E20K	**Nigu River**	83.64	20	P	P	19 36 52.4	-0.4	
	baz=246,SNR=7.3							
D20K	**Etivluk River**	83.68	19	P	P	19 36 52.6	-0.4	
	baz=246							
RC01	**Rabbit Creek A**	83.70	28	P	P	19 36 50.8	-2.4	
RC01	**Rabbit Creek A**	83.70	28	P	P	19 36 52.7	-0.5	
	baz=253							
CUT	**Chulitna**	83.86	26	P	P	19 36 54.2	+0.3	
	baz=252							
H21K	**Melozitna Rive**	83.88	23	P	P	19 36 53.9	-0.1	
	baz=250							
G21K	**Allakaket**	83.92	22	P	P	19 36 54.1	-0.1	
	baz=249							
KTH	**Kantishna Hill**	83.94	25	IAmb	IAmb	19 37 02.4		
	comp=Z,47nm,1.4s							
I21K	**Tanana**	84.04	23	IAmb	IAmb	19 37 08.7		
	comp=Z,44nm,1.6s							
I21K	**Tanana**	84.04	23	P	P	19 36 54.4	-0.4	
	baz=250							
B20K	**Meade River**	84.05	18	P	P	19 36 54.6	-0.2	
	baz=245							
BPAW	**Bear Paw Mtn.**	84.09	25	IAmb	IAmb	19 37 08.3		
	comp=Z,28nm,1.6s							
BPAW	**Bear Paw Mtn.**	84.09	25	P	P	19 36 54.6	-0.5	
	baz=251							
PMR	**Palmer**	84.13	27	IAmb	IAmb	19 37 02.7		
	comp=Z,52nm,1.4s							
PMR	**Palmer**	84.13	27	P	P	19 36 54.8	-0.6	
	baz=253							
TRF	**Thorofare Moun**	84.17	25	P	P	19 36 55.4	-0.3	
	baz=252							
F21K	**Alatna River**	84.19	21	P	P	19 36 55.9	+0.4	
	baz=249							
GHO	**Glory Hole Cre**	84.28	27	IAmb	IAmb	19 37 09.8		
	comp=Z,61nm,1.6s							
PWL	**Port Wells**	84.29	28	P	P	19 36 56.3	0.0	
	baz=254							
KNK	**Knik Glacier**	84.39	28	P	P	19 36 56.3	-0.4	
	baz=254,SNR=11							
C21K	**Knifeblade Rid**	84.46	19	P	P	19 36 56.9	0.0	
	baz=247							
E21K	**Killik River**	84.46	20	P	P	19 36 57.0	0.0	
	baz=248							
MLY	**Manley**	84.49	24	P	P	19 36 57.0	-0.2	
	baz=252,SNR=10							
P23K	**Montague Islan**	84.51	29	P	P	19 36 57.6	+0.3	
	baz=255							
AB31	**Akbulak array**	84.55	320		P	19 36 55.9	-1.8	
ABKAR	**Akbulak array**	84.55	320		P	19 36 56.3	-1.5	
SML	**Sawmill**	84.56	27	P	P	19 36 57.7	+0.1	
	baz=254,SNR=11							
B21K	**Ikpikpuk River**	84.70	19	P	P	19 36 58.7	+0.7	
	baz=248							
WAT1	**Susitna Watana**	84.75	26	P	P	19 36 58.2	-0.3	
	baz=254							
F22K	**John River**	84.76	21	P	P	19 36 58.8	+0.4	
	baz=250							
A21K	**Barrow**	84.77	17	P	P	19 36 58.5	+0.2	
	baz=245							
RND	**Reindeer**	84.78	26	IAmb	IAmb	19 37 06.9		
	comp=Z,43nm,1.2s							
G22K	**Bettles**	84.81	22	P	P	19 36 58.8	+0.2	
	baz=251							
MCK	**McKinley**	84.84	25	P	P	19 36 56.5	-2.4	
MCK				IAmb	IAmb	19 37 12.2		
	comp=Z,42nm,1.5s							
MCK	**McKinley**	84.84	25	P	P	19 36 56.5	-2.4	
MCK				pmax	pmax			
	comp=Z,42nm,1.5s							
MCK	**McKinley**	84.84	25	P	P	19 36 58.6	-0.3	
	baz=253							
Q23K	**Middleton Isla**	84.88	30	P	P	19 36 59.0	-0.1	
	baz=256							
GLI	**Glacier Island**	84.88	28	P	P	19 36 58.4	-0.8	
GLI				IAmb	IAmb	19 37 07.4		
	comp=Z,29nm,1.1s							
GLI	**Glacier Island**	84.88	28	P	P	19 36 59.0	-0.2	
	baz=255							
SCM	**Sheep Creek Mo**	85.02	27	P	P	19 36 59.2	-0.7	
	baz=255							
NEA2	**Nenana**	85.03	24	IAmb	IAmb	19 37 08.9		
	comp=Z,24nm,1.3s							
NEA2	**Nenana**	85.03	24	P	P	19 36 59.7	-0.1	
	baz=253							
WAT6	**Susitna Watana**	85.04	27	P	P	19 36 59.4	-0.7	
	baz=254							
D22K	**Ayikyak River**	85.06	20	P	P	19 36 59.5	-0.4	
	baz=249,SNR=5.3							
I23K	**Minto, Yukon-K**	85.08	24	IAmb	IAmb	19 37 09.7		
	comp=Z,34nm,1.3s							
I23K	**Minto, Yukon-K**	85.08	24	P	P	19 36 59.7	-0.3	
	baz=253,SNR=7.9							
E22K	**Anaktuvuk Pass**	85.11	21	P	P	19 36 60.0	-0.3	
	baz=250,SNR=11							
A22K	**Sinclair Lake**	85.12	18	P	P	19 36 59.8	-0.3	
	baz=247							
H23K	**Yukon River**	85.21	23	P	P	19 37 00.6	-0.2	
	baz=252							
G23K	**Bananza Creek**	85.30	22	IAmb	IAmb	19 37 11.3		
	comp=Z,20nm,1.1s							
G23K	**Bananza Creek**	85.30	22	P	P	19 37 01.6	+0.4	
	baz=252,SNR=7.8							
DHY	**Denali Highway**	85.33	26	P	P	19 37 00.4	-1.2	
DHY				IAmb	IAmb	19 37 10.5		
	comp=Z,27nm,1.1s							
DHY	**Denali Highway**	85.33	26	P	P	19 37 01.4	-0.1	
	baz=255,SNR=12							
B22K	**Teshekpuk Lake**	85.35	18	P	P	19 37 01.2	-0.1	
	baz=248							
COLD	**Coldfoot**	85.39	22	IAmb	IAmb	19 37 10.6		
	comp=Z,50nm,1.6s							
COLD	**Coldfoot**	85.39	22	P	P	19 37 01.4	-0.2	
	baz=252,SNR=6.9							
WRH	**Wood River Hil**	85.40	25	IAmb	IAmb	19 37 10.4		
	comp=Z,30nm,1.2s							
EYAK	**Cordova Ski Ar**	85.44	29	P	P	19 37 01.9	-0.1	
	baz=256							
DIV	**Divide**	85.57	28	IAmb	IAmb	19 37 15.4		
	comp=Z,47nm,1.2s							
CCB	**Clear Creek Bu**	85.57	24	IAmb	IAmb	19 37 10.8		
	comp=Z,24nm,1.1s							
KLU	**Klutina**	85.58	28	P	P	19 37 02.6	-0.2	
	baz=256							
SVE	**Sverdlovsk**	85.60	327	*e*P	P	19 37 06.9	+4.0	
SVE				pmax	pmax			
	comp=Z,38nm,2.3s							
COLA	**College**	85.61	24	*i* P	P	19 37 02.7	0.0	
COLA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
COLA	**College**	85.61	24	P	P	19 37 02.4	-0.3	
	baz=254							
M24K	**Tolsona, Glenn**	85.62	27	IAmb	IAmb	19 37 13.2		
	comp=Z,50nm,1.4s							
M24K	**Tolsona, Glenn**	85.62	27	P	P	19 37 02.6	-0.3	
	baz=256							
D23K	**Nanushuk River**	85.78	20	P	P	19 37 03.2	-0.3	
	baz=251							
POKR	**Poker Plat Res**	85.85	24	P	P	19 37 03.1	-0.9	
	baz=254							
E23K	**Chandalar**	85.86	21	P	P	19 37 03.6	-0.5	
	baz=252							
HDA	**Harding Lake**	85.86	25	P	P	19 37 03.3	-0.7	
	baz=255							
H24K	**Noodor Dome**	85.87	23	IAmb	IAmb	19 37 12.4		
	comp=Z,46nm,1.4s							
H24K	**Noodor Dome**	85.87	23	P	P	19 37 03.9	-0.2	
	baz=254,SNR=10							
KAIM	**Kayak Island**	85.95	29	P	P	19 37 04.3	-0.2	
	baz=258							
ILAR	**Eielson Array**	85.98	24		P	19 37 02.9	-1.7	
ILAR	**Eielson Array**	85.98	24	P	P	19 37 04.1	-0.5	
	comp=Z,7.6nm,0.7s,baz=262,slow=4.5,SNR=44							
	comp=Z,7.6nm,0.7s							
TOLK	**Toolik Lake Re**	86.06	20	P	P	19 37 05.0	+0.1	
	baz=252,SNR=15							
C23K	**Itkillik River**	86.08	19	P	P	19 37 04.2	-0.7	
	baz=251,SNR=7.2							
BMRM	**Bremner River**	86.08	28	IAmb	IAmb	19 37 23.9		
	comp=Z,33nm,1.3s							
BMRM	**Bremner River**	86.08	28	P	P	19 37 04.5	-0.8	
	baz=257							
PAX	**Paxson**	86.14	26	P	P	19 37 04.5	-1.0	
	baz=256							
HARP	**HAARP**	86.15	27	P	P	19 37 04.7	-0.8	
	baz=257							
K24K	**Donnelly Dome**	86.21	26	IAmb	IAmb	19 37 16.6		
	comp=Z,22nm,1.2s							
K24K	**Donnelly Dome**	86.21	26	P	P	19 37 04.9	-0.9	
	baz=256							
N25K	**Chitina, Valde**	86.23	28	IAmb	IAmb	19 37 14.4		
	comp=Z,60nm,1.9s							
N25K	**Chitina, Valde**	86.23	28	P	P	19 37 05.2	-0.8	
	baz=257							
G24K	**Hadweenzic Riv**	86.26	23	P	P	19 37 05.6	-0.4	
	baz=254							
E24K	**Your Creek**	86.27	21	IAmb	IAmb	19 37 14.7		
	comp=Z,29nm,1.4s							
E24K	**Your Creek**	86.27	21	P	P	19 37 05.6	-0.4	
	baz=253							
F24K	**Squaw Lake**	86.33	22	P	P	19 37 05.7	-0.7	
	baz=254							
D24K	**Happy Valley**	86.47	20	P	P	19 37 06.3	-0.6	
	baz=253							
J25K	**Salcha River,**	86.58	25	IAmb	IAmb	19 37 15.0		
	comp=Z,41nm,1.4s							
J25K	**Salcha River,**	86.58	25	P	P	19 37 07.0	-0.6	
	baz=256							
RIDG	**Independent Ri**	86.60	26	IAmb	IAmb	19 37 15.5		
	comp=Z,31nm,1.2s							
RIDG	**Independent Ri**	86.60	26	P	P	19 37 06.9	-0.9	
	baz=257,SNR=7.2							
C24K	**Franklin Bluff**	86.68	19	P	P	19 37 07.5	-0.4	
	baz=253							
PRP	**Porcupine Dome**	86.73	24	P	P	19 37 07.4	-1.1	
	baz=256							
CRQM	**Cirque**	86.74	29	IAmb	IAmb	19 37 16.9		
	comp=Z,53nm,1.4s							
ARTI	**Arti**	86.74	327	*c i* P	P	19 37 08.3	-0.2	
ARTI				S	SKSac	19 47 34.2	-1.2	
ARTI				pmax	pmax			
	comp=Z,30nm,3.7s							
CRQE	**Cirque**	86.76	29	P	P	19 37 07.4	-1.2	
	baz=259							
H25L	**Birch Creek**	86.79	23	P	P	19 37 07.8	-0.7	
	baz=256							
G25K	**Bearman Lake**	86.81	23	P	P	19 37 07.8	-0.8	
	baz=256							
DOT	**Dot Lake**	86.92	26	P	P	19 37 07.6	-1.7	
DOT				IAmb	IAmb	19 37 17.2		
	comp=Z,30nm,1.4s							
MENT	**Mentasta**	86.92	27	IAmb	IAmb	19 37 16.7		
	comp=Z,24nm,1.4s							
MCARA	**McCarthy VSAT**	86.92	28	P	P	19 37 08.4	-0.8	
	baz=259							
SCRK	**Sand Creek**	87.02	26	P	P	19 37 09.4	-0.5	
	baz=258							
M26K	**Nabesna, AK**	87.14	27	P	P	19 37 09.2	-1.1	
	baz=259							
F25K	**Christian Rive**	87.18	22	IAmb	IAmb	19 37 19.7		
	comp=Z,36nm,1.4s							
F25K	**Christian Rive**	87.18	22	P	P	19 37 09.8	-0.7	
	baz=256,SNR=15							
QSPA	**South Pole Qui**	87.21	180		P	19 37 10.8	+0.1	
QSPA				IAmb	IAmb	19 37 17.5		
	comp=Z,15nm,0.8s							
QSPA	**South Pole Qui**	87.21	180	P	P	19 37 14.5	+3.8	
	comp=Z,13nm,0.8s,baz=334,slow=2.2,SNR=27							
	comp=Z,13nm,0.8s							
MESA	**MESA**	87.21	29	P	P	19 37 09.6	-1.4	
	baz=260							
J26L	**Joseph Creek**	87.31	25	IAmb	IAmb	19 37 19.4		
	comp=Z,46nm,1.3s							
J26L	**Joseph Creek**	87.31	25	P	P	19 37 10.2	-1.0	
	baz=258							
E25K	**Arctic Village**	87.34	21	P	P	19 37 10.7	-0.6	
	baz=256,SNR=18							
D25K	**Kavik River**	87.35	20	P	P	19 37 10.0	-1.2	
	baz=255							
BARN	**Barnard Glacie**	87.51	29	IAmb	IAmb	19 37 21.1		
	comp=Z,52nm,1.4s							
BMAR	**Burnt Mountain**	87.54	22	P	P	19 37 12.1	-0.2	
M27K	**Edge Creek, AK**	87.64	27	IAmb	IAmb	19 37 21.4		
	comp=Z,51nm,1.5s							
M27K	**Edge Creek, AK**	87.64	27	P	P	19 37 11.8	-1.2	
	baz=260,SNR=6.8							
CTG	**Chitna Glacier**	87.65	29	P	P	19 37 12.2	-0.7	
	baz=260,SNR=8.9							
I26K	**Coal Creek Min**	87.65	24	IAmb	IAmb	19 37 20.5		
	comp=Z,28nm,1.4s							
I26K	**Coal Creek Min**	87.65	24	P	P	19 37 12.1	-0.6	
	baz=258							
TABL	**Table Mountain**	87.65	29	IAmb	IAmb	19 37 25.2		
	comp=Z,35nm,1.3s							
G26K	**Porcupine Rive**	87.74	23	P	P	19 37 12.8	-0.3	
	baz=258							
F26K	**Sheenjek River**	87.76	22	P	P	19 37 12.6	-0.7	
	baz=257,SNR=13							
L27K	**Beaver Creek,**	87.79	27	IAmb	IAmb	19 37 22.1		
	comp=Z,40nm,1.6s							
L27K	**Beaver Creek,**	87.79	27	P	P	19 37 13.1	-0.3	
	baz=260,SNR=11							
BCAR	**Beaver Creek A**	87.81	27		P	19 37 13.2	-0.4	
K27K	**Chicken**	87.86	26	P	P	19 37 13.1	-0.6	
	baz=259							
C26K	**Camden Bay**	88.00	20	P	P	19 37 13.5	-0.7	
	baz=257							
PINM	**Pinnacle**	88.03	30	P	P	19 37 13.7	-1.0	
	baz=261							
O28M	**Mount Upton**	88.17	29	IAmb	IAmb	19 37 28.9		
	comp=Z,50nm,1.8s							
O28M	**Mount Upton**	88.17	29	P	P	19 37 15.1	-0.6	
	baz=261							
I27K	**Kandik River**	88.34	24	P	P	19 37 16.2	+0.1	
	baz=260							
C27K	**Jago River**	88.34	20	P	P	19 37 15.5	-0.4	
	baz=258							
EGAK	**Eagle**	88.38	25	IAmb	IAmb	19 37 24.4		
	comp=Z,50nm,1.4s							
EGAK	**Eagle**	88.38	25	P	P	19 37 15.5	-0.7	
	baz=260,SNR=7.5							
PNL	**Peninsula**	88.40	30	P	P	19 37 15.8	-0.6	
	baz=262							
YUK8	**Steele Glacier**	88.45	29	P	P	19 37 16.3	-0.7	
	baz=262							
H27K	**Steamboat Moun**	88.48	24	P	P	19 37 16.6	-0.1	
	baz=260,SNR=19							
G27K	**Doyon Strip**	88.54	23	IAmb	IAmb	19 37 26.1		
	comp=Z,42nm,1.6s							
G27K	**Doyon Strip**	88.54	23	P	P	19 37 16.2	-0.8	
	baz=260,SNR=5.2							
E27K	**Coleen River**	88.81	22	P	P	19 37 17.6	-0.6	
	baz=260							
O29M	**Mount Kennedy**	88.89	30	IAmb	IAmb	19 37 32.5		
	comp=Z,40nm,1.6s							
O29M	**Mount Kennedy**	88.89	30	P	P	19 37 18.2	-0.7	
	baz=263							
YUK4	**Talbot Arm**	89.00	29	P	P	19 37 18.6	-0.8	
	baz=263							
I28M	**Miner Creek**	89.00	24	P	P	19 37 18.4	-0.9	
	baz=261,SNR=10							
DAWY	**Dawson**	89.03	26		P	19 37 19.1	-0.2	
DAWY				IAmb	IAmb	19 37 28.7		
	comp=Z,42nm,1.3s							
DAWY	**Dawson**	89.03	26	P	P	19 37 18.6	-0.7	
	baz=262,SNR=10							
YUK6	**Outpost Mounta**	89.08	29	P	P	19 37 18.4	-1.5	
	baz=263							
D27M	**Malcolm River**	89.22	21	P	P	19 37 18.8	-1.4	
	baz=260							
M29M	**Somme Creek**	89.22	28	IAmb	IAmb	19 37 29.2		
	comp=Z,47nm,1.9s							
M29M	**Somme Creek**	89.22	28	P	P	19 37 19.0	-1.4	
	baz=263,SNR=7.5							
P29M	**Windy Craggy**	89.23	30	IAmb	IAmb	19 37 29.9		
	comp=Z,18nm,1.1s							
P29M	**Windy Craggy**	89.23	30	P	P	19 37 19.1	-1.2	
	baz=263							
F28M	**Old Crow**	89.36	22	P	P	19 37 19.8	-1.0	
	baz=261							
L29M	**L29M**	89.46	27	IAmb	IAmb	19 37 30.4		
	comp=Z,74nm,1.8s							
L29M	**L29M**	89.46	27	P	P	19 37 20.1	-1.3	
	baz=263							
HYT	**Haines Junctio**	89.48	29	IAmb	IAmb	19 37 29.2		
	comp=Z,73nm,2.0s							
HYT	**Haines Junctio**	89.48	29	P	P	19 37 20.2	-1.5	
	baz=264,SNR=6.2							
J29N	**Klondike Camp**	89.59	26	P	P	19 37 20.9	-1.1	
	baz=263							
E28M	**Babbage River**	89.63	21	P	P	19 37 20.5	-1.5	
	baz=262							
I29M	**Ogilvie Camp,**	89.66	25	P	P	19 37 20.9	-1.4	
	baz=263,SNR=8.6							
P30M	**Million Dollar**	89.67	30	P	P	19 37 20.8	-1.6	
	baz=264							
H29M	**Whitestone**	89.75	24	P	P	19 37 21.4	-1.2	
	baz=263							
N30M	**Aishikik Lake**	89.75	29	IAmb	IAmb	19 37 30.6		
	comp=Z,53nm,1.9s							
N30M	**Aishikik Lake**	89.75	29	P	P	19 37 21.4	-1.4	
	baz=264							
K29M	**Barlow Dome**	89.82	26	P	P	19 37 22.0	-1.2	
	baz=264,SNR=6.2							
S31K	**Pelican**	89.83	32	P	P	19 37 21.7	-1.4	
	baz=265							
PLBC	**Pleasant Camp**	89.91	31	P	P	19 37 21.5	-2.0	
	baz=265							
G29M	**Pine Creek**	89.97	23	IAmb	IAmb	19 37 31.6		
	comp=Z,27nm,1.6s							
G29M	**Pine Creek**	89.97	23	P	P	19 37 22.5	-1.1	
	baz=263							
M30M	**Minto, Yukon**	90.01	27	P	P	19 37 22.5	-1.5	
	baz=264							
O30N	**Mendenhall**	90.17	29	P	P	19 37 23.2	-1.5	
	baz=265							
E29M	**Blow River**	90.20	22	P	P	19 37 23.4	-1.3	
	baz=263							
SIT	**Sitka**	90.24	33	P	P	19 37 23.6	-1.4	
	baz=265							
N31M	**Braeburn, Yuko**	90.38	29	P	P	19 37 24.3	-1.4	
	baz=265							
J30M	**Hart River**	90.41	25	IAmb	IAmb	19 37 34.6		
	comp=Z,40nm,1.6s							
J30M	**Hart River**	90.41	25	P	P	19 37 24.7	-1.2	
	baz=265							
EPYK	**Eagle Plains**	90.43	24	P	P	19 37 24.8	-1.1	
	baz=264							
SKAG	**Skagway**	90.43	31	P	P	19 37 25.6	-0.3	
	baz=265							
I30M	**Mount Dempster**	90.45	25	P	P	19 37 25.6	-0.5	
	baz=265							
SYO	**Syowa Base**	90.62	201⇓	*e*pP	P	19 37 28.2	+1.6	
S32K	**Killisnoo**	90.68	33	P	P	19 37 26.4	-0.7	
	baz=266							
G30M	**tAoh Zraii Nji**	90.68	23	P	P	19 37 26.6	-0.4	
	baz=265							
WHY	**Whitehorse**	90.75	29	P	P	19 37 27.3	-0.2	
	baz=266							
F30M	**Barrier River**	90.91	22	P	P	19 37 27.2	-0.8	
	baz=265							
M31M	**Drury Creek, Y**	91.09	28	P	P	19 37 28.0	-1.0	
	baz=266							
P32M	**Atlin**	91.26	31	P	P	19 37 29.2	-0.7	
	baz=267							
H31M	**Peel River**	91.35	24	P	P	19 37 29.0	-1.1	
	baz=266							
CRAG	**Craig**	91.36	35	P	P	19 37 29.9	-0.4	
	baz=267							
G31M	**Satah River**	91.44	23	P	P	19 37 30.4	-0.1	
	baz=266							
N32M	**Quiet Lake**	91.66	29	P	P	19 37 30.9	-0.8	
	baz=267							
F31M	**Tsiigehtchic**	91.68	23	P	P	19 37 31.1	-0.4	
	baz=267							
P33M	**Teslin, Yukon**	91.75	30	P	P	19 37 31.2	-0.9	
	baz=268							
KIRV	**Kirov**	91.79	328	*i* P	P	19 37 31.8	-0.4	
INK	**Inuvik**	91.81	22	P	P	19 37 31.6	-0.5	
	baz=267							
WRAK	**Wrangell Islan**	91.84	34	P	P	19 37 31.4	-1.1	
	baz=268							
Q32M	**Nakina River**	91.98	31	P	P	19 37 32.4	-1.0	
	baz=268							
V35K	**Ketchikan**	92.22	35	P	P	19 37 33.4	-0.9	
	baz=268							
AKT	**

SNAA	**Sanae**	**101.62 192**			**Pdif**	**19 38 14.5**	**-2.2**
SNAA	**Sanae**	**101.62 192**	P		**Pdif**	**19 38 18.4**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=158,slow=6.7,SNR=5.4						
NVAR	**Mina Array Bea**	**102.11 51**			**Pdif**	**19 38 16.6**	**-3.1**
NVAR	**Mina Array Bea**	**102.11 51**	P		**Pdif**	**19 38 21.1**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=302,slow=6.2,SNR=3.9						
AKASG	**Malin Array Be**	**104.20 322**	PP		**PP**	**19 42 46.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=68,slow=6.2,SNR=4.2						
TXAR	**Lajitas Array**	**115.57 59**			**PKPdf**	**19 43 04.5**	**-3.0**
TXAR	**Lajitas Array**	**115.57 59**	PKP		**PKPdf**	**19 43 07.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=337,slow=3.5,SNR=4.2						
TXAR			PKKPbc		**PKKPbc**	**19 53 41.4**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=100,slow=5.2,SNR=4.3						
EFI	**East Falkland**	**124.01 168**	*i* PKIKP		**PKPdf**	**19 43 23.0**	**0.0**
PLCA	**Paso Flores**	**129.29 152**	PKP		**PKPdf**	**19 43 35.8**	**+2.2**
	comp=Z,2.7nm,0.9s,baz=184,slow=2.0,SNR=4.5						
DBIC	**Dimbokro**	**143.19 277**	PKP		**PKPdf**	**19 44 02.3**	**+2.4**
	comp=Z,5.5nm,0.9s,baz=101,slow=5.2,SNR=4.0						
ROSC	**El Rosal**	**147.28 85**	PKPbc		**PKPdf**	**19 44 10.5**	**+3.1**
	comp=Z,9.0nm,0.5s,baz=346,slow=6.9,SNR=5.3						
CPUP	**Villa Florida**	**147.34 153**	PKPdf		**PKPdf**	**19 44 02.4**	**-4.3**
CPUP					**PKPbc**	**19 44 07.0**	**-2.1**
CPUP	**Villa Florida**	**147.34 153**	PKPbc		**PKPdf**	**19 44 10.1**	**+3.4**
	comp=Z,2.9nm,0.8s,baz=89,slow=2.2,SNR=12						
CPUP	**Villa Florida**	**147.34 153**	PKHKP		PKPpre	19 44 02.4	
CPUP						19 44 07.0	
LPAZ	**La Paz**	**147.67 127**	PKPdf		PKPdf	19 44 01.8	-6.4
LPAZ					**PKPbc**	**19 44 09.3**	**-1.6**
LPAZ	**La Paz**	**147.67 127**	PKPbc		**PKPbc**	**19 44 12.3**	**+1.3**
	comp=Z,15nm,0.8s,baz=263,slow=0.4,SNR=16						
LPAZ	**La Paz**	**147.67 127**	PKHKP		PKPpre	19 44 01.8	
LPAZ						19 44 09.4	
RUSC	**La Rusia**	**148.45 83**			**PKPdf**	**19 44 04.4**	**-5.1**
RUSC			PKPab		**pPKPdf**	**19 44 12.4**	**-0.6**
SJG	**San Juan**	**151.49 56**	PKPdf		PKPdf	19 44 07.9	-5.6
SJG					pPKPdf	19 44 14.6	-2.4
SJG	**San Juan**	**151.49 56**	PKIKP		PKPdf	19 44 07.9	-5.6
SJG						19 44 14.6	
PDPR	**Patillas Dam,**	**151.64 56**			**PKPdf**	**19 44 13.5**	**-0.2**

*IDC **22** 19:26:53.8±0.8, 2°.60S×138°.40E, h0km, mb4.3/11, mbtmp4.3/14, ML4.3/3, MS4.5/1, Error ellipse: s-maj=19.5km s-min=16.0km az=12.0*
*NEIC **22** 19:26:54.3±1.4, 2°.84S±0°.10×138°.38E±0°.07, h10km±1km, mb4.8/29, Error ellipse: s-maj=16.2km s-min=11.5km az=180.0*
ISC 22 19:26:57.7±0.5, **2°.83S**±0°.07×**138°.42E**±0°.06, **h35km, n55,** σ1§**36/54, mb4.6**/19, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**82**	Pn	**Pn**	**19 27 35.1**	**+1.9**
	40nm,0.3s,baz=234,slow=10,SNR=8.2						
JAY				Lg	Lg	19 28 05.9	
	15nm,0.3s,baz=305,slow=19,SNR=1.2						
	79nm,0.3s						
FAKI	**Fak Fak**	**6.17**	**269**	Pn	**Pn**	**19 28 28.6**	**+2.3**
PMG	**Port Moresby**	**10.87**	**127**	Pn	**Pn**	**19 29 27.6**	**-3.2**
SOEI	**Soe**	**15.66**	**243**	Pn	**Pn**	**19 30 34.4**	**-1.6**
SOEI				IAmb	IAmb	19 31 08.0	
	comp=Z,70nm,0.9s						
KNRA	**Kununurra**	**15.93**	**216**	Pn	**Pn**	**19 30 38.3**	**-1.0**
BATI	**Baumata**	**16.39**	**243**	Pn	**P**	**19 30 50.3**	**+2.5**
	comp=Z,7.7nm,0.3s,baz=63,slow=3.3,SNR=6.7						
WR8	**Warramunga Arr**	**17.45**	**192**	P	**Pn**	**19 30 57.9**	**-0.6**
WR8				IAmb	IAmb	19 31 20.0	
	comp=Z,54nm,1.1s						
WRAB	**Tennant Creek**	**17.46**	**193**	P	**Pn**	**19 30 57.6**	**-1.0**
WRAB				IAmb	IAmb	19 31 27.4	
	comp=Z,63nm,1.1s						
WRA	**Warramunga Arr**	**17.47**	**193**	P	**P**	**19 31 01.5**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=14,slow=12,SNR=2.1						
	comp=Z,7.1nm,0.5s						
TOLI2	**Tolitoli**	**18.07**	**282**	P	**Pn**	**19 31 02.4**	**-3.7**
FITZ	**Fitzroy Crossi**	**19.68**	**219**	P	**P**	**19 31 22.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.68**	**219**	P	**Pn**	**19 31 26.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=1.5						
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**21.17**	**192**	P	**P**	**19 31 39.2**	**-1.0**
ASAR	**Alice Springs**	**21.18**	**192**	P	**P**	**19 31 39.9**	**-0.3**
ASAR	**Alice Springs**	**21.18**	**192**	P	**P**	**19 31 42.0**	**+1.8**
	comp=Z,9.8nm,0.6s,baz=15,slow=10,SNR=4.3						
	comp=Z,9.8nm,0.6s						
KSRS	**Korea Array**	**41.25**	**347**	P	**P**	**19 34 38.9**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=161,slow=9.1,SNR=4.7						
	comp=Z,2.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.25**	**300**	P	**P**	**19 35 02.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.25**	**300**	P	**P**	**19 35 04.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=116,slow=6.3,SNR=4.6						
	comp=Z,1.1nm,0.6s						
DSZ	**Denniston Nort**	**48.96**	**147**	P	**P**	**19 35 41.1**	**+0.3**
RAO	**Raoul Island**	**49.06**	**127**	LR	LR	19 52 25.3	
	comp=Z,501nm,21.9s,baz=274,slow=31						
TUWZ	**Tuamarina**	**49.94**	**145**	P	**P**	**19 35 47.7**	**-0.5**
HILR	**Hailar Array B**	**54.62**	**345**	P	**P**	**19 36 23.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=157,slow=7.8,SNR=2.4						
	comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**57.70**	**335**	P	**P**	**19 36 44.4**	**-0.6**
SONM	**Songino Array**	**57.70**	**335**	P	**P**	**19 36 44.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=150,slow=8.3,SNR=3.0						
	comp=Z,1.5nm,0.7s						
EVN	**Everest**	**58.27**	**305**	P	**P**	**19 36 49.8**	**-0.2**
EVN				IAmb	IAmb	19 36 57.6	
	comp=Z,8.3nm,0.8s						
TLY	**Talaya**	**61.81**	**336**	P	**P**	**19 37 13.3**	**+0.3**
YAK	**Yakutsk**	**65.02**	**355**	P	**P**	**19 37 33.9**	**-0.1**
MKAR	**Makanchi Array**	**69.71**	**323**	P	**P**	**19 38 03.6**	**-0.5**
MKAR	**Makanchi Array**	**69.71**	**323**	P	**P**	**19 38 04.8**	**+0.8**
	comp=Z,3.9nm,0.6s,baz=113,slow=8.0,SNR=10						
	comp=Z,3.9nm,0.6s						
MAKZ	**Makanchi**	**69.90**	**322**	P	**P**	**19 38 04.8**	**-0.4**
ZALV	**Zalesovo Beam**	**71.89**	**330**	P	**P**	**19 38 15.9**	**-1.2**
ZALV	**Zalesovo Beam**	**71.89**	**330**	P	**P**	**19 38 16.5**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=126,slow=5.9,SNR=3.2						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**73.65**	**325**	P	**P**	**19 38 26.9**	**-0.8**
KURBB	**Kurchatov Arra**	**73.66**	**325**	P	**P**	**19 38 28.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=120,slow=6.1,SNR=2.3						
	comp=Z,1.8nm,0.7s						
TIXI	**Tiksi**	**74.60**	**357**	P	**P**	**19 38 32.7**	**-0.1**
TIXI				IAmb	IAmb	19 38 42.7	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**75.69**	**175**	P	**P**	**19 38 39.9**	**+0.8**
S12K	**Black Hills**	**75.73**	**30**	P	**P**	**19 38 40.2**	**+0.6**
CHGR	**Chuyangaron**	**75.74**	**311**	P	**P**	**19 38 39.8**	**-0.4**
KKAR	**Karatay Array**	**76.01**	**316**	P	**P**	**19 38 41.2**	**-0.3**
L14K	**Kuka Creek**	**78.12**	**25**	P	**P**	**19 38 52.5**	**-0.4**
M14K	**Bethel**	**78.14**	**26**	P	**P**	**19 38 53.7**	**+0.7**
BVAR	**Borovoye Array**	**79.24**	**325**	P	**P**	**19 38 59.5**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=98,slow=5.9,SNR=4.8						
	comp=Z,2.7nm,0.6s						
L16K	**Owhat River**	**79.65**	**25**	P	**P**	**19 39 01.3**	**-0.1**
N17K	**Nushagak Hills**	**80.16**	**27**	P	**P**	**19 39 03.1**	**-1.1**
N17K				IAmb	IAmb	19 39 09.5	
	comp=Z,21nm,1.4s						
L19K	**White Mountain**	**81.84**	**26**	P	**P**	**19 39 14.3**	**+1.2**
L19K				IAmb	IAmb	19 39 15.7	
	comp=Z,6.6nm,1.0s						
E19K	**Redstone River**	**83.02**	**20**		**P**	**19 39 19.4**	**+0.2**
E19K				IAmb	IAmb	19 39 33.3	
	comp=Z,6.7nm,1.1s						
ABKAR	**Akbulak array**	**84.62**	**320**	P	**P**	**19 39 27.3**	**-0.4**
SML	**Sawmill**	**84.63**	**27**	P	**P**	**19 39 27.5**	**0.0**
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**19 39 33.2**	**-1.3**
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**19 39 33.8**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=262,slow=4.5,SNR=5.1						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**87.12**	**180**	P	**P**	**19 39 41.7**	**+1.8**
QSPA				IAmb	IAmb	19 39 48.5	
	comp=Z,5.1nm,0.9s						
QSPA	**South Pole Qui**	**87.12**	**180**	P	**P**	**19 39 44.5**	**+4.6**
	comp=Z,5.4nm,1.0s,baz=249,slow=2.2,SNR=3.3						
	comp=Z,5.4nm,1.0s						
F26K	**Sheenjek River**	**87.84**	**22**	P	**P**	**19 39 44.1**	**+0.9**
F26K				IAmb	IAmb	19 39 55.1	
	comp=Z,5.3nm,1.2s						
I28M	**Miner Creek**	**89.07**	**24**	P	**P**	**19 39 49.3**	**+0.2**
I28M				IAmb	IAmb	19 39 51.8	
	comp=Z,11nm,1.4s						
HYT	**Haines Junctio**	**89.55**	**29**	P	**P**	**19 39 52.5**	**+1.0**
HYT				IAmb	IAmb	19 39 59.4	
	comp=Z,6.5nm,1.3s						

*JMA **22** 19:32:29.1±0.2, 24°.N±2°.×122°.4E±0°.6, h26km±4km, MV2.4/12, NW OFF ISHIGAKIJIMA IS*
*TAP **22** 19:32:29.3, 24°.08N×122°.44E, h26km, ML3.1, C*
ISC 22 19:32:29.1±0.9, **24°.02N**±0°.02×**122°.44E**±0°.02, **h28**km±7km, **n96,** σ0§**91**/157, **2C-4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.15**	**311**	*e*P	**Pb**	**19 32 34.3**	**+0.1**
EOS4				*e*S	**Sb**	**19 32 37.7**	**0.0**
EOS3	**EOS3**	**0.29**	**337**	⇓*i*P	**Pb**	**19 32 36.3**	**+0.1**
EOS3				*e*S	**Sn**	**19 32 41.2**	**-1.5**
EOS2	**EOS2**	**0.44**	**334**	⇓*i*P	**Pn**	**19 32 38.9**	**-0.6**
EOS2				*e*S	**Sn**	**19 32 45.8**	**-0.7**
JYNG	**Yonagunijimaku**	**0.63**	**47**	P	**Pb**	**19 32 41.1**	**-0.5**
JYNG				*e*S	**Sb**	**19 32 49.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.68**	**50**	P	**Pb**	**19 32 42.0**	**-0.4**
YOJ				*e*S	**Sb**	**19 32 50.6**	**-1.0**
YOJ	**Yonaguni jima**	**0.68**	**50**	⇓*i*P	**Pb**	**19 32 42.1**	**-0.4**
YOJ				*e*S	**Sb**	**19 32 50.8**	**-0.8**
EAHA	**Aohua**	**0.71**	**296**	*e*P	**Pb**	**19 32 42.9**	**-0.1**
ENA	**Nanau**	**0.76**	**302**	*e*P	**Pb**	**19 32 43.4**	**-0.4**
ENA				*e*S	**Sn**	**19 32 54.1**	**-0.4**
ETL	**Fush Village**	**0.76**	**281**	*e*P	**Pn**	**19 32 44.0**	**0.0**
TWD	**Chiawan**	**0.78**	**275**	*e*P	**Pb**	**19 32 43.4**	**-0.7**
TWD				*e*S	**Sb**	**19 32 54.1**	**-0.1**
ESAO	**Su ao**	**0.78**	**315**	*e*P	**Pb**	**19 32 43.6**	**-0.5**
ESAO				*e*S	**Sb**	**19 32 53.3**	**-1.0**
TEYL	**Yanliau Villag**	**0.79**	**259**	*e*S	**Sb**	**19 32 55.0**	**+0.4**
NACB	**Ninganchiao**	**0.79**	**281**	*e*P	**Pb**	**19 32 43.8**	**-0.6**
TWC	**Suao**	**0.80**	**317**	*e*P	**Pb**	**19 32 43.7**	**-0.8**
TWC				*e*S	**Sb**	**19 32 53.3**	**-1.6**
ETM	**Tongmen**	**0.87**	**267**	*e*P	**Pb**	**19 32 44.7**	**-1.0**
ETLH	**Xiulin Townshi**	**0.90**	**282**	*e*P	**Pb**	**19 32 45.6**	**-0.6**
ETLH				*e*S	**Sn**	**19 32 57.9**	**-0.2**
NDS	**Dongshan**	**0.90**	**313**	*e*P	**Pn**	**19 32 46.3**	**+0.3**
NDS				*e*S	**Sn**	**19 32 58.3**	**+0.3**
LXIB	**Xiulin Townshi**	**0.94**	**270**	*e*P	**Pn**	**19 32 46.2**	**-0.4**
EGS		**0.94**	**331**	*e*P	**Pb**	**19 32 46.7**	**-0.3**
EGS				*e*S	**Sb**	**19 32 58.2**	**-0.9**
ESL	**Shilin**	**0.95**	**258**	*e*P	**Pn**	**19 32 45.6**	**-0.9**
LATG	**Datong**	**0.98**	**302**	*e*P	**Pn**	**19 32 47.0**	**-0.1**
TWE	**Neicheng**	**0.99**	**315**	⇑*i*P	**Pb**	**19 32 47.5**	**-0.3**
TWE				*e*S	**Sn**	**19 33 00.1**	**-0.2**
ENTT	**Nioudou**	**1.01**	**308**	*e*P	**Pb**	**19 32 47.8**	**-0.3**
ENTT				*e*S	**Sn**	**19 33 01.1**	**+0.4**
WARBT	**Fenglin Townsh**	**1.01**	**253**	*e*P	**Pn**	**19 32 46.4**	**-1.1**
WARBT				*e*S	**Sb**	**19 33 00.3**	**-0.8**
NNSB	**Datong**	**1.05**	**293**	*e*P	**Pn**	**19 32 48.1**	**0.0**
NNSB				*e*S	**Sn**	**19 33 01.9**	**0.0**
NNS	**Nan Shan**	**1.06**	**293**	*e*P	**Pn**	**19 32 48.4**	**+0.1**
NNS				*e*S	**Sn**	**19 33 02.2**	**0.0**
TWB1	**Santiao Chiao**	**1.07**	**337**	*e*P	**Pn**	**19 32 48.2**	**-0.1**
TWB1				*e*S	**Sn**	**19 33 02.4**	**+0.3**
HGSD	**Ruisui**	**1.07**	**241**	*e*P	**Pn**	**19 32 47.5**	**-0.8**
HGSD				*e*S	**Sn**	**19 33 01.2**	**-1.1**
FUSB	**Fushanzhiwuyua**	**1.07**	**314**	⇑*i*P	**Pb**	**19 32 48.9**	**-0.2**
FUSB				*e*S	**Sn**	**19 33 03.4**	**+1.1**
WHF	**Hehuan Shan**	**1.08**	**277**	*e*P	**Pn**	**19 32 48.6**	**-0.3**
WHF				*e*S	**Sb**	**19 33 02.8**	**-0.7**
TIPB	**Shuangxi**	**1.10**	**329**	*e*P	**Pb**	**19 32 49.6**	**0.0**
TIPB				*e*S	**Sb**	**19 33 03.2**	**-0.4**
EHYH	**Wanrong**	**1.13**	**243**	*e*P	**Pn**	**19 32 48.8**	**-0.3**
EHYH				*e*S	**Sn**	**19 33 03.6**	**-0.2**
NWLT	**Wulai**	**1.14**	**312**	*e*P	**Pb**	**19 32 50.1**	**-0.2**
EHY	**Hungye**	**1.15**	**244**	*e*P	**Pn**	**19 32 48.9**	**-0.5**
EHY				*e*S	**Sn**	**19 33 03.2**	**-0.9**
ECBN	**Changbin**	**1.15**	**233**	*e*P	**Pn**	**19 32 49.0**	**-0.3**
ECBN				*e*S	**Sn**	**19 33 03.0**	**-1.1**
OWD	**Renai**	**1.16**	**267**	*e*P	**Pn**	**19 32 49.6**	**-0.1**
YHNB	**Yeheng**	**1.17**	**304**	*e*P	**Pb**	**19 32 50.1**	**-0.6**
TWT	**Tachien**	**1.18**	**282**	*e*P	**Pb**	**19 32 51.1**	**+0.1**
NSK	**Sanguang**	**1.19**	**304**	*e*P	**Pn**	**19 32 50.2**	**+0.3**
SXI1	**Grass Mountain**	**1.19**	**334**	P	**Pn**	**19 32 50.0**	**0.0**
SXI1				*e*S	**Sb**	**19 33 06.5**	**+0.4**
TDCB	**Techi**	**1.20**	**281**	*e*P	**Pb**	**19 32 50.8**	**-0.5**
NWF	**Wu-fen Shan**	**1.21**	**330**	*e*P	**Pb**	**19 32 51.1**	**-0.3**
NWF				*e*S	**Sb**	**19 33 06.6**	**-0.1**
WFSB	**Wu-fen Shan**	**1.21**	**330**	*e*P	**Pb**	**19 32 50.4**	**-0.9**
WFSB				*e*S	**Sb**	**19 33 06.8**	**+0.3**
WUSB	**Renai**	**1.21**	**269**	*e*P	**Pn**	**19 32 50.4**	**+0.1**
WUSB				*e*S	**Sb**	**19 33 06.7**	**-0.2**
IRIF	**Iriomote-Funau**	**1.22**	**75**	P	**Pb**	**19 32 51.0**	**-0.5**
IRIF				S	**Sb**	**19 33 06.7**	**-0.1**
VWDT	**VWDT**	**1.22**	**258**	*e*P	**Pn**	**19 32 50.4**	**+0.1**
VWDT				*e*S	**Sn**	**19 33 06.2**	**+0.3**
YULB	**Yu-li**	**1.22**	**239**	⇓*i*P	**Pn**	**19 32 50.0**	**-0.4**
YULB				*e*S	**Sn**	**19 33 05.2**	**-0.8**
TWA	**Mucha**	**1.23**	**321**	*e*P	**Pb**	**19 32 51.0**	**-0.8**
TWA				*e*S	**Sb**	**19 33 08.2**	**+0.8**
TWF1	**Yuli**	**1.24**	**238**	*e*P	**Pn**	**19 32 50.3**	**-0.4**
TWF1				*e*S	**Sn**	**19 33 06.5**	**0.0**
HATJ	**Hateruma jima**	**1.25**	**88**	*e*S	**Sb**	**19 33 07.6**	**-0.1**
NHDH	**Xindian Distri**	**1.26**	**318**	*e*P	**Pb**	**19 32 52.2**	**0.0**
NHY	**Taipei**	**1.29**	**322**	*e*P	**Pb**	**19 32 53.5**	**+0.7**
NHY				*e*S	**Sb**	**19 33 10.1**	**+1.2**
FULB	**Fuli**	**1.33**	**232**	*e*P	**Pn**	**19 32 51.3**	**-0.6**
NFF	**Wufeng Townshi**	**1.35**	**297**	*e*P	**Pb**	**19 32 53.6**	**-0.3**
NFF				*e*S	**Sb**	**19 33 12.2**	**+1.4**
YM01	**YM01**	**1.37**	**325**	*e*P	**Pb**	**19 32 53.5**	**-0.7**
KSHI	**Guanxi Townshi**	**1.38**	**303**	*e*P	**Pb**	**19 32 54.2**	**-0.1**
SSLB	**Suanglung**	**1.38**	**261**	*e*P	**Pn**	**19 32 53.1**	**+0.6**
WHP	**Taichung City**	**1.39**	**281**	*e*P	**Pb**	**19 32 55.0**	**+0.4**
WHP				*e*S	**Sb**	**19 33 13.6**	**+1.6**
YM08	**YM08**	**1.40**	**326**	*e*P	**Pb**	**19 32 54.0**	**-0.6**
WCS	**Beigang Elemen**	**1.40**	**272**	*e*P	**Pn**	**19 32 53.7**	**+0.9**
ZUZH	**Zhuzihu**	**1.40**	**324**	*e*P	**Pb**	**19 32 53.9**	**-0.8**
ZUZH				*e*S	**Sb**	**19 33 11.9**	**-0.2**
ANP	**Anpu**	**1.43**	**324**	*e*P	**Pb**	**19 32 54.7**	**-0.6**
LIOB	**Emei**	**1.44**	**296**	*e*P	**Pb**	**19 32 55.2**	**-0.2**
LIOB				*e*S	**Sb**	**19 33 14.3**	**+1.0**
JKRS	**Kuro-shima**	**1.45**	**81**	*e*P	**Pn**	**19 32 54.5**	**+1.0**
JKRS				*e*S	**Sb**	**19 33 13.3**	**-0.1**
NSTT	**Nanjuang**	**1.45**	**295**	*e*P	**Pb**	**19 32 55.1**	**-0.3**
NSTT				*e*S	**Sb**	**19 33 14.2**	**+0.7**
ELDTW	**Lidau**	**1.55**	**238**	*e*P	**Pn**	**19 32 54.4**	**-0.6**
TWQ1	**Liyutan**	**1.56**	**282**	*e*P	**Pb**	**19 32 57.5**	**+0.1**
ALS	**Alishan**	**1.58**	**252**	*e*P	**Pn**	**19 32 56.4**	**+0.7**
ALS				*e*S	**Sn**	**19 33 15.5**	**+0.2**
JIJ	**Ishigaki jima**	**1.59**	**77**	*e*P	**Pn**	**19 32 55.8**	**+0.4**
JIJ				*e*S	**Sn**	**19 33 15.4**	**+0.4**
LDUT	**Ludao**	**1.61**	**214**	*e*P	**Pn**	**19 32 54.7**	**-1.0**
LDUT				*e*S	**Sn**	**19 33 12.7**	**-2.9**
WNT	**Mingjian**	**1.61**	**265**	*e*P	**Pb**	**19 32 58.2**	**-0.1**
WNT				*e*S	**Sb**	**19 33 19.0**	**+0.8**
TCU	**Taichung**	**1.62**	**275**	*e*P	**Pb**	**19 32 57.8**	**-0.6**
TCU				*e*S	**Sb**	**19 33 19.2**	**+0.8**
PCYT	**Pengchaiyu**	**1.64**	**348**	*e*P	**Pn**	**19 32 56.4**	**+0.3**
CHN5	**Tsauling**	**1.67**	**256**	*e*P	**Pn**	**19 32 58.2**	**+1.6**
CHN5				*e*S	**Sb**	**19 33 19.4**	**-0.5**
WCHH	**Zhanghua**	**1.72**	**272**	*e*S	**Sb**	**19 33 21.6**	**+0.2**
WCH1	**Changhua City**	**1.73**	**272**	*e*S	**Sb**	**19 33 22.1**	**+0.4**
STYH	**Taoyuan**	**1.75**	**241**	*e*P	**Pn**	**19 32 58.3**	**+0.7**
STYH				*e*S	**Sn**	**19 33 20.4**	**+1.5**
WGK	**Gukeng**	**1.75**	**259**	*e*P	**Pb**	**19 33 00.6**	**-0.1**
WGK				*e*S	**Sb**	**19 33 22.1**	**-0.1**
WDLH	**Douliu**	**1.77**	**260**	*e*P	**Pb**	**19 33 00.6**	**-0.4**
WDLH				*e*S	**Sb**	**19 33 23.5**	**+0.7**
WCKO	**Fanlu**	**1.78**	**251**	*e*P	**Pb**	**19 33 00.5**	**-0.6**
WCKO				*e*S	**Sb**	**19 33 23.1**	**0.0**
JISG	**Ishigakijimahi**	**1.80**	**71**	*e*P	**Pn**	**19 32 58.4**	**+0.2**
JISG				*e*S	**Sn**	**19 33 20.9**	**+0.8**
TPUB	**Ta-pu**	**1.81**	**247**	*e*P	**Pn**	**19 32 59.9**	**+1.5**
TPUB				*e*S	**Sn**	**19 33 22.6**	**+2.1**
CHN1	**Nanshi**	**1.94**	**245**	*e*P	**Pb**	**19 33 02.7**	**-1.2**
CHN1				*e*S	**Sb**	**19 33 26.8**	**-1.0**
TWK	**Hsinying**	**1.94**	**248**	*e*P	**Pn**	**19 33 02.4**	**+2.1**
TWK				*e*S	**Sb**	**19 33 27.0**	**-0.8**
WSF	**Szhu**	**2.07**	**260**	*e*S	**Sb**	**19 33 30.2**	**-1.1**
WSL	**Shuilin Townsh**	**2.09**	**257**	*e*P	**Pb**	**19 33 04.9**	**-1.5**
WSL				*e*S	**Sn**	**19 33 29.9**	**+2.5**
SSD	**Sandimen**	**2.09**	**233**	*e*P	**Pn**	**19 33 04.2**	**+1.9**
SSD				*e*S	**Sb**	**19 33 31.8**	**-0.2**
SCST	**Cishan**	**2.12**	**238**	*e*P	**Pb**	**19 33 06.0**	**-0.8**
JTJ	**Tarama**	**2.15**	**73**	*e*S	**Sn**	**19 33 30.0**	**+1.1**
CHN8	**Yiju**	**2.15**	**252**	*e*S	**Sb**	**19 33 32.0**	**-1.7**
MASBT	**Mashibuluo**	**2.17**	**230**	*e*P	**Pn**	**19 33 04.3**	**+0.8**
MASBT				*e*S	**Sb**	**19 33 33.9**	**-0.5**
EAST	**Anshuo**	**2.19**	**222**	*e*P	**Pn**	**19 33 03.8**	**0.0**
TSCK	**Chigu Township**	**2.33**	**249**	*e*S	**Sn**	**19 33 35.7**	**+2.4**
SCZT	**Fangliau**	**2.35**	**226**	*e*P	**Pn**	**19 33 07.2**	**+1.4**
SCZT				*e*S	**Sn**	**19 33 37.0**	**+3.3**
HEN	**Hengchun**	**2.55**	**218**	*e*P	**Pn**	**19 33 11.3**	**+2.8**
PTMZ	**Houxiangcun**	**3.19**	**289**	*e*P	**Pn**	**19 33 17.3**	**-0.1**
PTMZ				*e*S	**Sn**	**19 33 52.2**	**-2.3**

IDC 22 19:32:37.0±5.7, **2°.40S**×**138°.18E, h0**km, **mb3.8**/2, **mbtmp3.9**/4, **ML3.7**/2, **Error ellipse: s-maj=115.5km s-min=34.1km az=146.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.52**	**93**	Pn	Pn	19 33 19.5	+0.2
	4.9nm,0.3s,baz=275,slow=12,SNR=10						
	19nm,0.4s						
WRA	**Warramunga Arr**	**17.83**	**192**	P	Pn	19 36 46.3	-0.4
	0.5nm,0.3s,baz=17,slow=12,SNR=6.2						
	6.7nm,0.9s						
ASAR	**Alice Springs**	**21.54**	**191**	P	P	19 37 27.1	-0.9
	3.9nm,0.8s,baz=15,slow=10.0,SNR=5.4						
	3.9nm,0.8s						
VNDA	**Vanda**	**76.13**	**175**	P	P	19 44 26.9	+0.6
	0.6nm,0.7s,baz=336,slow=7.8,SNR=2.6						
	0.6nm,0.7s						

IDC 22 19:38:07.8±1.6, **2°.61S**×**138°.41E, h0**km, **mb3.5**/2, **mbtmp3.5**/4, **ML3.0**/2, **Error ellipse: s-maj=32.5km s-min=19.0km az=174.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.29**	**88**	Pn	Pb	19 38 48.6	-1.6
	1.4nm,0.3s,baz=287,slow=19,SNR=2.1						
JAY				Lg	Lg	19 39 20.0	
	0.5nm,0.3s,baz=114,slow=22,SNR=2.4						
	5.3nm,0.4s						
WRA	**Warramunga Arr**	**17.68**	**193**	P	Pn	19 42 15.8	0.0
	0.1nm,0.3s,baz=16,slow=12,SNR=1.8						
	2.4nm,1.2s						
ASAR	**Alice Springs**	**21.39**	**191**	P	P	19 42 56.4	-0.8
	1.2nm,1.1s,baz=14,slow=10,SNR=2.9						
	1.2nm,1.1s						
MKAR	**Makanchi Array**	**69.52**	**322**	P	P	19 49 18.6	0.

0.3nm,0.3s,baz=134,slow=6.7,SNR=1.8
0.3nm,0.3s
VNDA Vanda 75.83 175 P P 20 01 07.9 +1.4
0.4nm,0.6s,baz=326,slow=7.1,SNR=5.7
0.4nm,0.6s
BVAR Borovoye Array 79.17 325 P P 20 01 26.0 +0.4
0.7nm,0.7s,baz=104,slow=4.7,SNR=3.7
0.7nm,0.7s

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*IDC **22** 19:52:29.6±1.1,2°.58S×138°.29E, h0km, mb3.7/4, mbtmp3.7/6, ML3.5/2, MS4.0/1, Error ellipse: s-maj=26.4km s-min=17.4km az=6.0*
*DJA **22** 19:52:34.3±0.4,3°.5±5°×13°.8E±°, h10km, M4.0/7, mb4.2/1, MLv3.8/7*
ISC 22 19:52:33.7±0.9, 2°.7S±0°.1×138°.51E±0°.08, h32km, n13, σ1§08/12, mb3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.68**	**17**	P	**Pn**	**19 52 46.9**	**-0.3**
GENI	**Genyem**	**1.65**	**88**	P	**Pb**	**19 53 05.4**	**+1.8**
JAY	**Jayapura**	**2.19**	**87**	Pn	**Pb**	**19 53 12.1**	**-0.6**
3.7nm,0.3s,baz=243,slow=11,SNR=9.5							
JAY				Lg	Lg	19 53 45.2	
3.0nm,0.3s,baz=135,slow=20,SNR=4.5							
12nm,0.4s							
JAY	**Jayapura**	**2.19**	**87**	P	**Pb**	**19 53 12.8**	**0.0**
BAKI	**Biak**	**2.81**	**301**	P	**Pn**	**19 53 17.6**	**+1.2**
RKPI	**Ransiki, Papua**	**4.48**	**285**	P	**Pn**	**19 53 39.4**	**0.0**
FAKI	**Fak Fak**	**6.26**	**267**	P	**Pn**	**19 54 03.8**	**-0.1**
WRA	**Warramunga Arr**	**17.66**	**193**	P	**Pn**	**19 56 36.7**	**-0.7**
0.3nm,0.3s,baz=16,slow=13,SNR=8.0							
0.8nm,0.6s							
ASAR	**Alice Springs**	**21.36**	**192**	P	**P**	**19 57 19.1**	**+0.5**
1.5nm,0.6s,baz=12,slow=10,SNR=6.8							
1.5nm,0.6s							
LEM	**Lembang**	**31.06**	**261**	LR	LR	20 12 31.0	
comp=Z,231nm,18.7s,baz=220,slow=39							
MKAR	**Makanchi Array**	**69.62**	**322**	P	**P**	**20 03 38.2**	**-1.8**
0.9nm,0.9s,baz=114,slow=7.7,SNR=5.7							
0.9nm,0.9s							
KURBB	**Kurchatov Arra**	**73.56**	**325**	P	**P**	**20 04 04.3**	**+0.7**
0.5nm,0.8s,baz=110,slow=6.2,SNR=4.1							
0.5nm,0.8s							
BVAR	**Borovoye Array**	**79.15**	**325**	P	**P**	**20 04 36.1**	**+0.9**
0.6nm,0.5s,baz=114,slow=6.2,SNR=4.0							
0.6nm,0.5s							

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*IDC **22** 19:53:40.5±1.0,2°.61S×138°.43E, h0km, mb3.7/7, mbtmp3.8/11, ML3.8/4, Error ellipse: s-maj=26.9km s-min=22.2km az=97.0*
*NEIC **22** 19:53:44.8±0.6,2°.8S±0°.1×138°.35E±0°.03, h41km±10km, mb4.0/9, Error ellipse: s-maj=16.9km s-min=4.3km az=178.0*
*DJA **22** 19:53:45.8±1.0,2°.5±8°×13°.8E±°, h23km±11km, M4.0/7, mb4.0/1, MLv3.9/7*
ISC 22 19:53:44.0±0.7, 2°.72S±0°.07×138°.37E±0°.05, h32km, n33, σ1§56/33, mb3.7/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.80**	**26**	P	**Pn**	**19 53 56.8**	**-2.2**
GENI	**Genyem**	**1.81**	**86**	P	**Pn**	**19 54 15.0**	**+2.1**
JAY	**Jayapura**	**2.35**	**85**	Pn	**Pn**	**19 54 21.2**	**+0.8**
7.5nm,0.3s,baz=279,slow=9.9,SNR=5.5							
JAY				Lg	Lg	19 54 49.6	
3.5nm,0.3s,baz=269,slow=21,SNR=1.4							
24nm,0.4s							
JAY	**Jayapura**	**2.35**	**85**	P	**Pn**	**19 54 21.5**	**+1.1**
BAKI	**Biak**	**2.72**	**304**	P	**Pn**	**19 54 26.6**	**+1.2**
RKPI	**Ransiki, Papua**	**4.35**	**286**	P	**Pn**	**19 54 50.0**	**+2.0**
FAKI	**Fak Fak**	**6.11**	**268**	Pn	**Pn**	**19 55 12.1**	**0.0**
FAKI	**Fak Fak**	**6.11**	**268**	P	**Pn**	**19 55 10.7**	**-1.5**
COEN	**Coen**	**12.14**	**157**	Pn	**Pn**	**19 56 33.7**	**-1.1**
MTN	**Manton Dam**	**12.35**	**215**	Pn	**Pn**	**19 56 36.7**	**-1.0**
SOEI	**Soe**	**15.65**	**243**	Pn	**Pn**	**19 57 21.2**	**-1.3**
KNRA	**Kununurra**	**15.98**	**216**		**Pn**	**19 57 25.6**	**-0.9**
KNRA				IAmb	IAmb	19 57 42.4	
comp=Z,30nm,1.4s							
BATI	**Baumata**	**16.39**	**242**	Pn	**Pn**	**19 57 34.0**	**+2.2**
comp=Z,1.4nm,0.3s,baz=135,slow=1.4,SNR=1.9							
comp=Z,12nm,0.6s							
WB0	**Warramunga Arr**	**17.39**	**193**		**Pn**	**19 57 43.8**	**-0.5**
WB0				IAmb	IAmb	19 58 25.0	
comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**19 57 43.8**	**-2.8**
WRA	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**19 57 47.6**	**+1.0**
comp=Z,0.5nm,0.3s,baz=17,slow=12,SNR=5.8							
comp=Z,1.0nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.73**	**218**	P	**P**	**19 58 09.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**19.73**	**218**	P	**P**	**19 58 14.4**	**+3.3**
comp=Z,0.2nm,0.3s,baz=37,slow=10,SNR=2.0							
comp=Z,1.4nm,0.5s							
AS31	**Alice Springs**	**21.27**	**191**	P	**P**	**19 58 26.1**	**-1.7**
AS31				IAmb	IAmb	19 58 40.8	
comp=Z,2.5nm,0.6s							
ASAR	**Alice Springs**	**21.27**	**191**	P	**P**	**19 58 26.4**	**-1.4**
ASAR	**Alice Springs**	**21.27**	**191**	P	**P**	**19 58 29.0**	**+1.1**
comp=Z,1.7nm,0.6s,baz=13,slow=10,SNR=5.5							
comp=Z,1.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**	**20 01 49.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**	**20 01 52.3**	**+2.3**
comp=Z,0.2nm,0.4s,baz=126,slow=5.9,SNR=7.4							
comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**69.58**	**323**	P	**P**	**20 04 49.1**	**-0.9**
MKAR	**Makanchi Array**	**69.58**	**323**	P	**P**	**20 04 51.1**	**+1.0**
comp=Z,0.9nm,0.6s,baz=106,slow=7.5,SNR=5.3							
comp=Z,0.9nm,0.6s							
MAKZ	**Makanchi**	**69.78**	**322**	P	**P**	**20 04 49.9**	**-1.4**
ZALV	**Zalesovo Beam**	**71.77**	**330**	P	**P**	**20 05 02.8**	**-0.3**
ZALV	**Zalesovo Beam**	**71.77**	**330**	P	**P**	**20 05 04.3**	**+1.2**
comp=Z,0.2nm,0.3s,baz=120,slow=8.5,SNR=1.9							
comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**73.53**	**325**	P	**P**	**20 05 15.2**	**+1.5**
comp=Z,0.3nm,0.7s,baz=117,slow=5.3,SNR=6.2							
comp=Z,0.3nm,0.7s							
VNDA	**Vanda**	**75.80**	**175**	P	**P**	**20 05 25.8**	**-0.6**
VNDA				IAmb	IAmb	20 05 47.5	
comp=Z,3.2nm,1.5s							
SBA	**Scott Base**	**76.58**	**174**	P	**P**	**20 05 30.2**	**-0.5**
BVAR	**Borovoye Array**	**79.12**	**325**	P	**P**	**20 05 46.0**	**+0.6**
comp=Z,0.7nm,0.5s,baz=99,slow=7.4,SNR=4.3							
comp=Z,0.7nm,0.5s							
ILAR	**Eielson Array**	**85.98**	**24**	P	**P**	**20 06 20.7**	**-0.2**
comp=Z,0.4nm,0.8s,baz=253,slow=4.8,SNR=3.1							
comp=Z,0.4nm,0.8s							

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*IDC **22** 19:56:52.3±1.2,2°.78S×138°.39E, h0km, mb3.6/4, mbtmp3.6/6, ML3.5/2, MS3.9/1, Error ellipse: s-maj=27.9km s-min=17.8km az=177.0*
*DJA **22** 19:56:54.6±0.4,3°.5±5°×13°.8E±°, h10km, M3.8/6, mb4.3/1, MLv3.5/6*
ISC 22 19:56:55.4±0.9, 2°.7S±0°.1×138°.58E±0°.08, h32km, n12, σ1§53/12, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.74**	**10**	P	**Pn**	**19 57 08.2**	**-1.5**
GENI	**Genyem**	**1.59**	**85**	P	**Pb**	**19 57 25.9**	**+1.6**
JAY	**Jayapura**	**2.14**	**84**	Pn	**Pb**	**19 57 32.6**	**-0.9**
4.9nm,0.3s,baz=213,slow=12,SNR=7.2							
JAY				Lg	Lg	19 58 05.8	
2.4nm,0.3s,baz=333,slow=18,SNR=2.5							
8.5nm,0.3s							
JAY	**Jayapura**	**2.14**	**84**	P	**Pb**	**19 57 32.6**	**-0.9**
BAKI	**Biak**	**2.90**	**302**	P	**Pn**	**19 57 38.6**	**-0.8**
RKPI	**Ransiki, Papua**	**4.56**	**285**	P	**Pn**	**19 58 01.4**	**-0.8**
FAKI	**Fak Fak**	**6.32**	**268**	P	**Pn**	**19 58 25.2**	**-1.3**
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**20 00 58.4**	**-0.1**
0.3nm,0.3s,baz=15,slow=12,SNR=4.8							
WRA				LR	LR	20 08 03.2	
comp=Z,346nm,18.2s,baz=7.0,slow=38							
0.8nm,0.4s							
ASAR	**Alice Springs**	**21.30**	**192**	P	**P**	**20 01 39.0**	**-0.6**
1.8nm,0.7s,baz=21,slow=11,SNR=4.4							
1.8nm,0.7s							
MKAR	**Makanchi Array**	**69.72**	**322**	P	**P**	**20 08 02.4**	**+0.1**
0.5nm,0.8s,baz=101,slow=7.6,SNR=2.1							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**73.66**	**325**	P	**P**	**20 08 28.6**	**+2.7**
0.2nm,0.3s,baz=129,slow=7.3,SNR=2.9							
0.2nm,0.3s							
BVAR	**Borovoye Array**	**79.25**	**325**	P	**P**	**20 08 59.5**	**+2.0**
0.5nm,0.6s,baz=107,slow=4.8,SNR=3.7							
0.5nm,0.6s							

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*IDC **22** 20:03:03.4±1.2,3°.06S×138°.58E, h0km, mb3.6/3, mbtmp3.5/6, ML3.1/3, MS3.7/1, Error ellipse: s-maj=27.8km s-min=16.6km az=158.0*
*DJA **22** 20:03:04.8±0.9,2°.5±8°×13°.8E±°, h14km±9km, M3.6/6, mb4.2/1, MLv3.3/6*
ISC 22 20:03:03.7±0.9, 2°.76S±0°.09×138°.39E±0°.06, h10km, n12, σ2§41/11, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.83**	**23**	P	**Pb**	**20 03 16.4**	**-3.8**
GENI	**Genyem**	**1.78**	**85**	P	**Pn**	**20 03 35.1**	**+0.5**
JAY	**Jayapura**	**2.32**	**84**	Pn	**Pn**	**20 03 41.4**	**-0.6**
2.2nm,0.3s,baz=224,slow=9.8,SNR=14							
JAY				Lg	Lg	20 04 12.4	
1.5nm,0.3s,baz=0.0,slow=20,SNR=2.5							
5.4nm,0.3s							
JAY	**Jayapura**	**2.32**	**84**	P	**Pn**	**20 03 42.3**	**+0.2**
BAKI	**Biak**	**2.76**	**304**	P	**Pn**	**20 03 47.5**	**-0.6**
FAKI	**Fak Fak**	**6.14**	**268**	P	**Pn**	**20 04 33.6**	**-0.9**
WRA	**Warramunga Arr**	**17.53**	**193**	P	**Pn**	**20 07 06.9**	**-1.5**
0.1nm,0.3s,baz=14,slow=12,SNR=5.8							
0.6nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.71**	**218**	P	**P**	**20 07 32.5**	**-1.0**
baz=23,slow=10,SNR=1.9							
1.0nm,0.7s							
ASAR	**Alice Springs**	**21.23**	**191**	P	**P**	**20 07 48.7**	**-1.4**
0.5nm,0.5s,baz=18,slow=11,SNR=6.4							
0.5nm,0.5s							
HILR	**Hailar Array B**	**54.54**	**345**	LR	LR	20 34 31.7	
comp=Z,77nm,20.5s,baz=5.0,slow=34							
MKAR	**Makanchi Array**	**69.63**	**323**	P	**P**	**20 14 17.3**	**+3.9**
1.1nm,0.9s,baz=131,slow=6.1,SNR=5.2							
1.1nm,0.9s							
BVAR	**Borovoye Array**	**79.17**	**325**	P	**P**	**20 15 11.9**	**+3.1**
0.6nm,0.7s,baz=102,slow=4.9,SNR=3.5							
0.6nm,0.7s							

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*IDC **22** 20:06:54.2±1.1,2°.49S×138°.39E, h0km, mb3.4/4, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=23.7km s-min=17.1km az=3.0*
*DJA **22** 20:06:58.6±0.9,2°.5±8°×13°.8E±°, h17km±10km, M3.8/7, mb4.3/1, MLv3.5/7*
ISC 22 20:06:58.7±0.8, 2°.49S±0°.09×138°.43E±0°.06, h32km, n12, σ1§11/12, mb3.4/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**30**	P	**Pb**	**20 07 09.0**	**-1.5**
GENI	**Genyem**	**1.74**	**93**	P	**Pn**	**20 07 28.4**	**+1.7**
JAY	**Jayapura**	**2.28**	**91**	Pn	**Pn**	**20 07 34.5**	**+0.4**
2.8nm,0.3s,baz=214,slow=14,SNR=7.4							
JAY				Lg	Lg	20 08 07.8	
0.9nm,0.3s,baz=66,slow=23,SNR=1.3							
5.2nm,0.3s							
JAY	**Jayapura**	**2.28**	**91**	P	**Pn**	**20 07 34.9**	**+0.8**
BAKI	**Biak**	**2.65**	**299**	P	**Pn**	**20 07 40.5**	**+1.2**
FAKI	**Fak Fak**	**6.18**	**266**	P	**Pn**	**20 08 28.1**	**+0.2**
WRA	**Warramunga Arr**	**17.80**	**193**	P	**Pn**	**20 11 04.2**	**+0.1**
0.1nm,0.3s,baz=18,slow=12,SNR=5.7							
0.4nm,0.5s							
FITZ	**Fitzroy Crossi**	**19.94**	**218**	P	**P**	**20 11 28.6**	**+0.4**
baz=42,slow=12,SNR=2.2							
2.1nm,0.9s							
ASAR	**Alice Springs**	**21.50**	**191**	P	**P**	**20 11 43.2**	**-1.8**
0.3nm,0.5s,baz=20,slow=11,SNR=8.1							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**69.45**	**322**	P	**P**	**20 18 04.3**	**+0.4**
0.6nm,0.6s,baz=103,slow=7.6,SNR=5.9							
0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**73.39**	**325**	P	**P**	**20 18 28.1**	**+0.5**
0.1nm,0.4s,baz=133,slow=4.1,SNR=1.9							
0.1nm,0.4s							
BVAR	**Borovoye Array**	**78.97**	**325**	P	**P**	**20 18 59.6**	**+0.3**
0.4nm,0.5s,baz=104,slow=6.3,SNR=4.3							
0.4nm,0.5s							

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*IDC **22** 20:09:13.2±1.0,2°.59S×138°.44E, h0km, mb3.7/5, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=22.7km s-min=16.7km az=174.0*
*DJA **22** 20:09:17.7±0.4,2°.5±3°×13°.8E±°, h10km, M3.9/6, mb4.4/1, MLv3.7/6*
ISC 22 20:09:17.8±0.8, 2°.54S±0°.09×138°.50E±0°.05, h32km, n13, σ1§64/14, mb3.7/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**21**	P	**Pn**	**20 09 27.8**	**-2.0**
GENI	**Genyem**	**1.66**	**92**	P	**Pb**	**20 09 48.0**	**+0.2**
JAY	**Jayapura**	**2.20**	**90**	Pn	**Pn**	**20 09 53.4**	**+1.3**
4.6nm,0.3s,baz=272,slow=12,SNR=13							
JAY				Lg	Lg	20 10 24.9	
5.9nm,0.3s,baz=174,slow=19,SNR=4.7							
12nm,0.3s							
JAY	**Jayapura**	**2.20**	**90**	P	**Pn**	**20 09 54.8**	**+2.7**
BAKI	**Biak**	**2.74**	**299**	P	**Pn**	**20 10 02.2**	**+2.6**
BAKI				S	**Sn**	**20 10 32.5**	**+0.8**
FAKI	**Fak Fak**	**6.26**	**266**	P	**Pn**	**20 10 47.9**	**-0.1**
WRA	**Warramunga Arr**	**17.77**	**193**	P	**Pn**	**20 13 20.6**	**-2.3**
0.2nm,0.3s,baz=13,slow=12,SNR=7.0							
0.7nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.96**	**218**	P	**Pn**	**20 13 48.1**	**-1.2**
baz=49,slow=11,SNR=1.6							
1.4nm,0.9s							
ASAR	**Alice Springs**	**21.47**	**192**	P	**P**	**20 14 02.5**	**-1.4**
1.3nm,0.9s,baz=22,slow=10.0,SNR=5.8							
1.3nm,0.9s							
MKAR	**Makanchi Array**	**69.53**	**322**	P	**P**	**20 20 24.4**	**+0.9**
1.2nm,0.8s,baz=108,slow=7.6,SNR=6.4							
1.2nm,0.8s							
VNDA	**Vanda**	**75.97**	**175**	P	**P**	**20 21 00.8**	**-0.4**
0.7nm,0.9s,baz=322,slow=5.0,SNR=3.6							
0.7nm,0.9s							
BVAR	**Borovoye Array**	**79.05**	**325**	P	**P**	**20 21 18.9**	**+0.1**
0.8nm,0.7s,baz=127,slow=3.8,SNR=5.4							
0.8nm,0.7s							
ILAR	**Eielson Array**	**85.76**	**24**	P	**P**	**20 21 53.8**	**+0.2**
0.3nm,0.6s,baz=271,slow=5.9,SNR=2.3							
0.3nm,0.6s							

ISC 22 20:16:25.4±1.7, 2°.86S×138°.43E, h0km, mb3.1/2, mbtmp3.1/4, ML2.5/2, Error ellipse: s-maj=38.4km s-min=32.6km az=113.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**81**	Pn	Pn	20 17 02.5	-2.1
0.6nm,0.3s,baz=194,slow=12,SNR=1.7							
4.1nm,0.5s							
WRA	**Warramunga Arr**	**17.44**	**193**	P	P	20 20 31.3	-0.4
baz=1.5,slow=13,SNR=1.4							
0.5nm,1.0s							
ASAR	**Alice Springs**	**21.14**	**192**	P	P	20 21 11.6	-0.6
0.6nm,1.1s,baz=9.9,slow=11,SNR=2.3							
0.6nm,1.1s							
MKAR	**Makanchi Array**	**69.74**	**323**	P	P	20 27 38.3	+0.9
0.3nm,0.8s,baz=111,slow=7.9,SNR=1.3							
0.3nm,0.8s							

ISC 22 20:16:46.2±1.3, 2°.83S×138°.51E, h0km, mb3.5/3, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=29.0km s-min=17.5km az=173.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.21**	**82**	Pn	Pb	20 17 25.8	-1.4
2.7nm,0.3s,baz=220,slow=8.3,SNR=10							
JAY				Lg	Lg	20 17 55.5	
1.7nm,0.3s,baz=95,slow=20,SNR=3.6							
16nm,0.6s							
WRA	**Warramunga Arr**	**17.49**	**193**	P	Pn	20 20 51.9	+0.1
0.1nm,0.3s,baz=14,slow=13,SNR=6.3							
0.8nm,0.7s							
ASAR	**Alice Springs**	**21.18**	**192**	P	P	20 21 33.2	-0.3
0.7nm,0.8s,baz=16,slow=11,SNR=4.1							
0.7nm,0.8s							
MKAR	**Makanchi Array**	**69.77**	**323**	P	P	20 27 58.1	-0.3
0.9nm,0.8s,baz=101,slow=7.5,SNR=5.2							
0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**73.71**	**325**	P	P	20 28 22.3	+0.2
0.7nm,1.0s,baz=115,slow=5.7,SNR=2.8							
0.7nm,1.0s							

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*UPA **22** 20:20:59.8±1.1, 8°.93N×84°.11W, h5km±5km, MW4.2*
*UCR **22** 20:20:59.4±0.9, 8°.86N×84°.09W, h0km±4km, MW4.2*
*CATAC **22** 20:21:00.7±0.6, 9°N±3°×8°4W±°, h5km±2km, M4.0/7, MLv4.0/7, Error ellipse: s-maj=7.8km s-min=3.4km az=51.8, confirmed*
ISC 22 20:20:59.5±1.3, 8°.85N±0°.03×84°.12W±0°.04, h9km±10km, n130, σ0§54/142, 6C-20D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.53**	**62**	||P	**Pg**	**20 21 09.7**	**0.0**
OCHAL	**Ojochal**	**0.53**	**62**	S	**Sg**	**20 21 17.1**	**+0.4**
QUEP	**Quepos**	**0.58**	**355**	*eP*	**Pb**	**20 21 12.2**	**+0.3**
QUEP				*eS*	**Sb**	**20 21 21.1**	**+1.0**
LLNJ	**Naranjito**	**0.62**	**2**	*eP*	**Pb**	**20 21 12.2**	**-0.4**
LLNJ				*eS*	**Sb**	**20 21 22.6**	**+1.3**
LLNJ	**Naranjito**	**0.62**	**2**	||*eP*	**Pb**	**20 21 12.1**	**-0.4**
EDPE	**Pejibaye, P**	**0.62**	**61**	*eP*	**Pg**	**20 21 11.4**	**-0.1**
EDPE	**Pejibaye, P**	**0.62**	**61**	||*eP*	**Pg**	**20 21 11.4**	**-0.1**
PANP	**Palmar Norte**	**0.66**	**81**	*eP*	**Pg**	**20 21 12.3**	**+0.1**
PAR1A	**Puntarenas Pro**	**0.75**	**350**	*eP*	**Pb**	**20 21 15.4**	**+0.7**
PICV	**PH. Pirrs**	**0.77**	**354**	*eP*	**Pb**	**20 21 15.1**	**-0.2**
PICV				*eS*	**Sb**	**20 21 27.0**	**+1.1**
PICV	**PH. Pirrs**	**0.77**	**354**	*eP*	**Pb**	**20 21 14.9**	**-0.3**
SAJE	**San Jernim**	**0.78**	**51**	*eP*	**Pg**	**20 21 13.9**	**-0.6**
PIEC	**Cerro El Cedra**	**0.78**	**12**	||*eP*	**Pg**	**20 21 14.6**	**0.0**
BUS1	**Rivas**	**0.79**	**28**	||*eP*	**Pg**	**20 21 14.3**	**-0.4**
RAZU	**San Marcos de**	**0.81**	**7**	*eP*	**Pb**	**20 21 16.4**	**+0.5**
PITB	**Pirrs, San**	**0.81**	**7**	*eP*	**Pg**	**20 21 15.5**	**+0.3**
JIME	**Puerto Jimenez**	**0.84**	**112**	⇑*eP*	**Pb**	**20 21 16.7**	**+0.3**
PTJ1	**Puerto Jimnez**	**0.86**	**111**	*eP*	**Pb**	**20 21 17.2**	**+0.4**
PTJ1	**Puerto Jimnez**	**0.86**	**111**	P	**Pb**	**20 21 17.1**	**+0.4**
PTJ1	**Puerto Jimnez**	**0.86**	**111**	*eP*	**Pb**	**20 21 17.0**	**+0.3**
LCR2	**La Lucha 2**	**0.89**	**7**	S	**Sb**	**20 21 29.8**	**+0.4**
LCR2	**La Lucha 2**	**0.89**	**7**	P	**Pg**	**20 21 16.9**	**+0.2**
PIRO	**Carate, Puerto**	**0.89**	**120**	*eP*	**Pb**	**20 21 17.3**	**0.0**
PIRO	**Carate, Puerto**	**0.89**	**120**	S	**Sb**	**20 21 29.3**	**+0.1**
PIRO	**Carate, Puerto**	**0.89**	**120**	P	**Pg**	**20 21 16.8**	**+0.1**
PIRO	**Carate, Puerto**	**0.89**	**120**	*eP*	**Pb**	**20 21 17.1**	**-0.1**
PIRO	**Carate, Puerto**	**0.89**	**120**	⇑*eP*	**Pb**	**20 21 17.2**	**0.0**
ACOS	**Acosta**	**0.94**	**357**	*eP*	**Pb**	**20 21 16.8**	**-0.8**
ACOS	**Acosta**	**0.94**	**357**	*eP*	**Pg**	**20 21 17.5**	**-0.1**
EDP2	**Potrero Grande**	**0.94**	**80**	*eP*	**Pg**	**20 21 17.4**	**-0.3**
DRK0	**Durika**	**0.95**	**65**	||*iP*	**Pg**	**20 21 17.2**	**-0.7**
DRK0				*eS*	**Sb**	**20 21 31.5**	**+0.3**
DRK0	**Durika**	**0.95**	**65**	S	**Sg**	**20 21 30.7**	**+0.4**
DRK0	**Durika**	**0.95**	**65**	P	**Pg**	**20 21 17.3**	**-0.7**
DRK0	**Durika**	**0.95**	**65**	*eP*	**Pg**	**20 21 17.1**	**-0.9**
DRK0	**Durika**	**0.95**	**65**	||*eP*	**Pg**	**20 21 17.1**	**-0.7**
FITO	**Golfito**	**0.98**	**103**	*eP*	**Pg**	**20 21 17.4**	**-0.9**
REPA	**Paraso**	**1.00**	**14**	*eP*	**Pg**	**20 21 18.5**	**-0.3**
REPA	**Paraso**	**1.00**	**14**	*eP*	**Pg**	**20 21 18.4**	**-0.3**
PURI	**Puriscal**	**1.01**	**349**	*eP*	**Pb**	**20 21 19.4**	**+0.1**
AMPA	**Desamparados**	**1.04**	**3**	*eP*	**Pg**	**20 21 19.0**	**-0.6**
AMPA	**Desamparados**	**1.04**	**3**	*eP*	**Pg**	**20 21 19.0**	**-0.6**
TRIO	**Tres Rios**	**1.05**	**7**	*eP*	**Pg**	**20 21 18.4**	**-1.5**
LUJA	**Lujan**	**1.07**	**2**	*eP*	**Pg**	**20 21 19.8**	**-0.3**
SANTA	**Santa Ana**	**1.07**	**356**	*eP*	**Pg**	**20 21 19.9**	**-0.3**
SANTA	**Santa Ana**	**1.07**	**356**	*eP*	**Pg**	**20 21 19.6**	**-0.7**
ECI	**Escuela Centro**	**1.08**	**3**	*eP*	**Pg**	**20 21 19.8**	**-0.5**
ECI	**Escuela Centro**	**1.08**	**3**	*eP*	**Pg**	**20 21 19.9**	**-0.4**
PAVB	**Pavas, San Jos**	**1.08**	**360**	*eP*	**Pg**	**20 21 19.9**	**-0.5**
SJS3	**Mercedes San J**	**1.08**	**3**	*eP*	**Pg**	**20 21 20.3**	**0.0**
LUPE	**Guadalupe**	**1.09**	**3**	*eP*	**Pg**	**20 21 20.3**	**-0.2**
VINA	**Juan Vinas**	**1.10**	**19**	*eP*	**Pg**	**20 21 20.4**	**-0.3**
PCAYA	**Pacayas**	**1.10**	**16**	*eP*	**Pg**	**20 21 20.5**	**-0.2**
PCAYA	**Pacayas**	**1.10**	**16**	*eP*	**Pg**	**20 21 20.6**	**-0.2**
BELE	**Belen**	**1.12**	**356**	*eP*	**Pg**	**20 21 20.5**	**-0.5**
BELE	**Belen**	**1.12**	**356**	*eP*	**Pg**	**20 21 20.7**	**-0.4**
CORON	**Coronado**	**1.12**	**6**	*eP*	**Pg**	**20 21 21.1**	**-0.1**
CORON	**Coronado**	**1.12**	**6**	*eP*	**Pg**	**20 21 21.0**	**-0.1**
HEME	**Heredia, Merce**	**1.14**	**359**	*eP*	**Pn**	**20 21 22.3**	**+0.5**
HEME	**Heredia, Merce**	**1.14**	**359**	*eP*	**Pn**	**20 21 22.2**	**+0.4**
HDC	**Heredia**	**1.14**	**0**	*eP*	**Pg**	**20 21 21.3**	**-0.2**
ATEO	**Atenas**	**1.15**	**347**	*eP*	**Pg**	**20 21 21.3**	**-0.3**
ATEO	**Atenas**	**1.15**	**347**	*eP*	**Pg**	**20 21 21

*LDG **22** 20:30:05.1±0.1, 45.°60N×3.°67E, h5km, MI1.5/8, Error ellipse: s-maj=1.1km s-min=0.9km az=84.0*
STR 22 20:30:05.4±0.0, **45.°59N**±0.°09×**3.°67E**±0.°09, **h1km, MLv1.1/5, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLDF	**La Plantade**	**0.38**	**355**	Pg	Pg	20 30 12.6	-0.2
PLDF				Sg	Sg	20 30 17.7	0.0
AGO	**Saint Agoulin**	**0.60**	**321**	Pg	Pg	20 30 16.6	-0.3
AGO				Sg	Sg	20 30 24.4	-0.2
FRNF	**Fournols**	**0.80**	**256**	Pg	Pg	20 30 20.8	-0.1
FRNF				Sg	Sg	20 30 30.6	-0.6
VERF	**Verneugheol**	**0.84**	**281**	Pg	Pg	20 30 21.0	-0.6
VERF				Sg	Sg	20 30 32.0	-0.5
VIVF	**Saint-Julien-l**	**1.02**	**135**	*e*Pg	Pg	20 30 24.5	-0.5
VIVF				*e*Sg	Sg	20 30 37.4	-0.8
	0.8nm,0.2s						
SMF	**Signal de Mont**	**1.06**	**7**	*e*Pg	Pg	20 30 25.7	-0.1
SMF				*e*Sg	Sg	20 30 38.7	-0.9
	1.9nm,0.4s						
BGF	**Bois d'Agland**	**1.12**	**330**	*e*Pg	Pg	20 30 26.5	-0.5
BGF				*e*Sg	Sg	20 30 40.4	-1.2
	1.1nm,0.2s						
LEUC	**Leucamp**	**1.14**	**224**	Pg	Pg	20 30 26.9	-0.4
LEUC				Sg	Sg	20 30 41.6	-0.5
AVF	**Avril sur Loir**	**1.22**	**350**	*e*Pg	Pg	20 30 27.0	-1.9
AVF				*e*Sg	Sg	20 30 43.4	-1.3
	0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**1.23**	**305**	*e*Pg	Pg	20 30 28.0	-1.1
TCF				*e*Sg	Sg	20 30 44.2	-0.9
	0.5nm,0.3s						
CAF	**Calviac**	**1.31**	**240**	*e*Pg	Pg	20 30 29.5	-1.1
CAF				*e*Sg	Sg	20 30 46.3	-1.2
	1.0nm,0.2s						
OGSM	**Saint Maurice**	**1.43**	**88**	Pg	Pn	20 30 31.6	-0.8
OGSM				Sn	Sg	20 30 50.9	-0.4
SSF	**Saint Saulge**	**1.48**	**356**	*e*Pg	Pn	20 30 32.7	-0.5
SSF				*e*Sg	Sg	20 30 51.3	-1.6
	0.7nm,0.2s						
TRBF	**Trabuc cave**	**1.50**	**172**	Pg	Pn	20 30 33.1	-0.3
TRBF				Sn	Sb	20 30 52.3	-1.2
LOR	**Lormes**	**1.69**	**4**	*e*Pg	Pn	20 30 36.4	+0.3
LOR				*e*Sg	Sn	20 30 57.6	-0.7
	1.0nm,0.2s						

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*IDC **22** 20:30:16.1±1.1, 2.°57S×138.°35E, h0km, mb3.5/4, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=23.5km s-min=17.1km az=179.0*
*DJA **22** 20:30:20.8±0.5, 2.°5±8.°×13.°8E±.°, h10km, M3.7/5, mb4.2/1, MLv3.5/5*
ISC 22 20:30:20.8±0.8, **2.°55S**±0.°09×**138.°41E**±0.°06, **h32km, n12, σ1§45/12, mb3.5/4, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.64**	**29**	P	**Pb**	**20 30 31.8**	**-1.8**
GENI	**Genyem**	**1.76**	**91**	P	**Pb**	**20 30 52.8**	**+0.3**
JAY	**Jayapura**	**2.30**	**89**	Pn	**Pn**	**20 30 57.8**	**+1.3**
	2.3nm,0.3s,baz=232,slow=10,SNR=11						
JAY				Lg	Lg	20 31 29.8	
	1.5nm,0.3s,baz=255,slow=22,SNR=1.7 15nm,0.6s						
JAY	**Jayapura**	**2.30**	**89**	P	**Pn**	**20 30 58.0**	**+1.5**
BAKI	**Biak**	**2.67**	**300**	P	**Pn**	**20 31 03.7**	**+2.2**
FAKI	**Fak Fak**	**6.16**	**266**	P	**Pn**	**20 31 50.7**	**+1.1**
WRA	**Warramunga Arr**	**17.73**	**193**	P	**Pn**	**20 34 23.6**	**-1.9**
	0.2nm,0.3s,baz=12,slow=12,SNR=9.3 0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.88**	**218**	P	**P**	**20 34 49.8**	**+0.2**
	0.1nm,0.3s,baz=60,slow=8.1,SNR=3.8 1.4nm,0.9s						
ASAR	**Alice Springs**	**21.44**	**191**	P	**P**	**20 35 05.2**	**-1.2**
	0.9nm,0.8s,baz=16,slow=11,SNR=11 0.9nm,0.8s						
MKAR	**Makanchi Array**	**69.48**	**322**	P	**P**	**20 41 26.9**	**+0.7**
	0.6nm,0.8s,baz=111,slow=7.9,SNR=4.5 0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**73.43**	**325**	P	**P**	**20 41 49.3**	**-0.6**
	0.2nm,0.6s,baz=113,slow=5.0,SNR=2.3 0.2nm,0.6s						
BVAR	**Borovoye Array**	**79.01**	**325**	P	**P**	**20 42 21.9**	**+0.3**
	0.7nm,0.6s,baz=98,slow=4.4,SNR=5.5 0.7nm,0.6s						

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*IDC **22** 20:35:28.9±1.3, 2.°67S×138.°38E, h0km, mb3.5/3, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=29.0km s-min=17.8km az=177.0*
*DJA **22** 20:35:33.7±0.5, 2.°5±5.°×13.°8E±.°, h10km, M3.3/3, MLv3.3/3*
ISC 22 20:35:33.3±0.9, **2.°6S**±0.°1×**138.°45E**±0.°07, **h32km, n9, σ2§38/9, mb3.7/3, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.63**	**25**	P	**Pb**	**20 35 43.3**	**-2.7**
GENI	**Genyem**	**1.72**	**91**	P	**Pn**	**20 36 04.3**	**+3.2**
JAY	**Jayapura**	**2.26**	**89**	Pn	**Pn**	**20 36 09.4**	**+0.9**
	2.7nm,0.3s,baz=235,slow=10.0,SNR=16						
JAY				Lg	Lg	20 36 42.1	
	3.2nm,0.3s,baz=99,slow=23,SNR=4.6 9.4nm,0.4s						
JAY	**Jayapura**	**2.26**	**89**	P	**Pn**	**20 36 10.5**	**+2.0**
BAKI	**Biak**	**2.71**	**300**	P	**Pn**	**20 36 16.8**	**+2.1**
WRA	**Warramunga Arr**	**17.73**	**193**	P	**Pn**	**20 39 36.2**	**-1.7**
	0.1nm,0.3s,baz=12,slow=13,SNR=6.5 0.7nm,0.8s						
ASAR	**Alice Springs**	**21.43**	**191**	P	**P**	**20 40 17.4**	**-1.6**
	0.8nm,0.8s,baz=17,slow=11,SNR=6.0 0.8nm,0.8s						
MKAR	**Makanchi Array**	**69.52**	**322**	P	**P**	**20 46 39.9**	**+0.9**
	0.8nm,0.9s,baz=99,slow=6.3,SNR=2.8 0.8nm,0.9s						
BVAR	**Borovoye Array**	**79.04**	**325**	P	**P**	**20 47 35.1**	**+0.8**
	0.4nm,0.5s,baz=104,slow=6.3,SNR=3.6 0.4nm,0.5s						

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*IDC **22** 20:39:42.7±0.9, 2.°52S×138.°25E, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=29.9km s-min=21.8km az=68.0*
*DJA **22** 20:39:48.5±0.7, 2.°5±8.°×13.°9E±.°, h10km, M3.4/5, MLv3.4/5*
ISC 22 20:39:47.7±0.8, **2.°4S**±0.°1×**138.°3E**±0.°1, **h35km, n14, σ1§90/13, mb3.9/8, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.59**	**50**	P	**Pn**	**20 39 57.0**	**-2.7**
GENI	**Genyem**	**1.92**	**97**	P	**Pn**	**20 40 20.0**	**+2.1**
JAY	**Jayapura**	**2.45**	**93**	Pn	**Pn**	**20 40 23.6**	**-1.6**
	1.8nm,0.3s,baz=223,slow=11,SNR=8.3						
JAY				Lg	Lg	20 40 57.3	
	1.8nm,0.3s,baz=87,slow=20,SNR=3.7 4.2nm,0.3s						
JAY	**Jayapura**	**2.45**	**93**	P	**Pn**	**20 40 25.1**	**-0.1**
BAKI	**Biak**	**2.45**	**299**	P	Pn	20 40 30.6	+5.4
WRA	**Warramunga Arr**	**17.88**	**192**	P	**Pn**	**20 43 52.1**	**-1.7**
	0.1nm,0.3s,baz=17,slow=12,SNR=6.2 0.3nm,0.5s						
ASAR	**Alice Springs**	**21.58**	**191**	P	**P**	**20 44 31.4**	**-3.1**
	1.0nm,0.9s,baz=19,slow=10.0,SNR=9.5 1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.88**	**300**	P	**P**	**20 47 50.8**	**-0.4**
	0.6nm,0.3s,baz=100,slow=9.0,SNR=8.9 0.6nm,0.3s						
MKAR	**Makanchi Array**	**69.25**	**322**	P	**P**	**20 50 53.0**	**+1.7**
	0.7nm,0.6s,baz=106,slow=8.9,SNR=5.9 0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**71.42**	**330**	P	**P**	**20 51 05.2**	**+0.9**
	0.3nm,0.5s,baz=120,slow=8.8,SNR=1.6 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**73.19**	**325**	P	**P**	**20 51 16.2**	**+1.3**
	0.3nm,0.8s,baz=97,slow=7.8,SNR=2.2 0.3nm,0.8s						
BVAR	**Borovoye Array**	**78.78**	**325**	P	**P**	**20 51 48.5**	**+1.7**
	0.8nm,0.6s,baz=108,slow=8.0,SNR=5.7 0.8nm,0.6s						
ILAR	**Eielson Array**	**85.72**	**25**	P	**P**	**20 52 23.3**	**+0.5**
	0.7nm,1.0s,baz=204,slow=4.0,SNR=3.0 0.7nm,1.0s						
QSPA	**South Pole Qui**	**87.57**	**180**	P	**P**	**20 52 33.0**	**+0.9**
	2.2nm,1.0s,baz=1.6,slow=1.1,SNR=4.1 2.2nm,1.0s						

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*KRNET **22** 20:40:10.1±0.1, 42.°35N×78.°52E, h16km, mb2.5*
*SOME **22** 20:40:11.1, 42.°42N×78.°45E, h10km*
*NNC **22** 20:40:11.7±1.2, 42.°50N×78.°56E, h2km±3km, mb2.9, mpv2.5, Error ellipse: s-maj=8.5km s-min=4.3km az=24.0*
ISC 22 20:40:11.3±1.2, **42.°41N**±0.°04×**78.°44E**±0.°05, **h7km±7km, n14, σ1§42/28, 10C, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.08**	**335**	⇑*i*P	**Pg**	**20 40 13.6**	**+0.2**
PRZ				⇑*i*S	**Sg**	**20 40 16.4**	**+1.5**
SATY	**Saty**	**0.65**	**358**	P	**Pg**	**20 40 23.2**	**-0.6**
	1.4nm,0.1s						
SATY				S	**Sg**	**20 40 31.0**	**-1.2**
	17nm,0.2s						
TARG	**Taragay, Kyrgy**	**0.83**	**215**	⇑*i*P	**Pg**	**20 40 26.0**	**-1.4**
TARG				⇑*i*S	**Sg**	**20 40 37.0**	**-1.2**
KDJ	**Kajisay**	**0.98**	**254**	⇑*i*P	**Pg**	**20 40 29.2**	**-0.9**
KDJ				⇑*i*S	**Sb**	**20 40 43.4**	**-0.6**
SHLS	**Shalkode**	**1.06**	**45**	P	**Pn**	**20 40 34.0**	**+1.2**
	2.1nm,0.2s						
SHLS				S	**Sn**	**20 40 50.2**	**+2.4**
	12nm,0.3s						
SHLS	**Shalkode**	**1.06**	**45**	*e*P	**Pn**	**20 40 34.3**	**+1.6**
	0.8nm,0.1s						
SHLS				*e*S	**Sn**	**20 40 50.5**	**+2.7**
	5.8nm,0.1s						
KPKS	**Kokpek**	**1.07**	**9**	P	**Pg**	**20 40 30.0**	**-1.8**
	0.2nm,0.1s						
KPKS				S	**Sg**	**20 40 43.8**	**-1.9**
	6.9nm,0.2s						
KPKS	**Kokpek**	**1.07**	**9**	*e*P	**Pg**	**20 40 30.0**	**-1.8**
	1.2nm,0.1s						
KPKS				*e*S	**Sg**	**20 40 43.1**	**-2.6**
	2.5nm,0.2s						
CHKK	**Chushkaly**	**1.79**	**324**	*e*P	**Pb**	**20 40 44.7**	**+0.2**
	1.4nm,0.0s						
CHKK				*e*S	**Sg**	**20 41 08.2**	**-0.6**
	4.8nm,0.2s						
ARXS	**Arharly**	**1.85**	**346**	P	**Pb**	**20 40 44.3**	**-1.3**
	2.5nm,0.3s						
ARXS				S	**Sb**	**20 41 08.2**	**-0.9**
	4.2nm,0.3s						
ARXS	**Arharly**	**1.85**	**346**	*e*P	**Pb**	**20 40 45.0**	**-0.6**
	0.6nm,0.1s						
ARXS				*e*S	**Sb**	**20 41 08.9**	**-0.1**
	2.9nm,0.3s						
BOOM	**Boomskoye usch**	**1.85**	**273**	⇑*i*P	**Pb**	**20 40 45.4**	**-0.3**
BOOM				⇑*i*S	**Sg**	**20 41 11.1**	**+0.2**
KST	**Kastek**	**1.93**	**290**	*e*P	**Pg**	**20 40 47.6**	**-0.7**
KST				*e*S	**Sg**	**20 41 13.3**	**-0.1**
	3.2nm,0.2s						
TKM2	**Tokmak 2**	**2.16**	**285**	⇑*i*P	**Pb**	**20 40 49.8**	**-1.1**
TKM2				⇑*i*S	**Sb**	**20 41 18.8**	**+0.8**

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*IDC **22** 20:50:16.2±1.1, 2.°68S×138.°26E, h0km, mb3.9/6, mbtmp3.8/9, ML3.3/3, MS3.7/1, Error ellipse: s-maj=29.2km s-min=22.3km az=82.0*
*DJA **22** 20:50:19.9±0.4, 2.°5±5.°×13.°8E±.°, h10km, M4.2/6, mb4.2/1, MLv4.2/6*
ISC 22 20:50:20.7±0.8, **2.°65S**±0.°09×**138.°38E**±0.°06, **h32km, n17, σ1§76/16, mb3.9/6, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**27**	P	**Pb**	**20 50 31.1**	**-3.9**
GENI	**Genyem**	**1.79**	**88**	P	**Pn**	**20 50 50.9**	**+1.6**
JAY	**Jayapura**	**2.33**	**87**	Pn	**Pn**	**20 50 57.7**	**+0.9**
	5.4nm,0.3s,baz=270,slow=10,SNR=26						
JAY				Lg	Lg	20 51 28.2	
	3.5nm,0.3s,baz=348,slow=4.6,SNR=5.9 17nm,0.3s						
JAY	**Jayapura**	**2.33**	**87**	P	**Pn**	**20 50 58.5**	**+1.7**
BAKI	**Biak**	**2.69**	**302**	P	**Pn**	**20 51 03.2**	**+1.4**
FAKI	**Fak Fak**	**6.13**	**267**	P	**Pn**	**20 51 49.0**	**-0.1**
GUMO	**Guam**	**17.37**	**22**	LR	LR	21 00 13.0	
	comp=Z,257nm,20.3s,baz=210,slow=34						
WRA	**Warramunga Arr**	**17.64**	**193**	P	**Pn**	**20 54 22.5**	**-1.7**
	0.2nm,0.3s,baz=13,slow=13,SNR=13 0.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.80**	**218**	P	**P**	**20 54 47.5**	**-1.0**
	baz=31,slow=12,SNR=1.6 2.0nm,1.0s						
ASAR	**Alice Springs**	**21.34**	**191**	P	**P**	**20 55 04.6**	**-0.7**
	1.1nm,0.8s,baz=15,slow=11,SNR=12 1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.12**	**300**	P	**P**	**20 58 26.2**	**-0.2**
	1.7nm,1.1s,baz=124,slow=5.9,SNR=8.7 1.7nm,1.1s						
GTA	**Gaotai**	**54.82**	**324**	*e*P	**P**	**20 59 49.8**	**+1.8**
GTA				pP	pP	20 59 55.0	-2.8
MKAR	**Makanchi Array**	**69.54**	**323**	P	**P**	**21 01 27.2**	**+0.8**
	2.0nm,0.9s,baz=116,slow=6.9,SNR=6.6 2.0nm,0.9s						
KSH	**Kashi**	**70.80**	**313**	P	**P**	**21 01 37.3**	**+2.9**
ZALV	**Zalesovo Beam**	**71.71**	**330**	P	**P**	**21 01 39.0**	**-0.5**
	0.3nm,0.3s,baz=120,slow=7.3,SNR=3.6 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.48**	**325**	P	**P**	**21 01 50.2**	**+0.1**
	0.5nm,0.2s,baz=115,slow=5.1,SNR=4.0 0.5nm,0.2s						
BVAR	**Borovoye Array**	**79.07**	**325**	P	**P**	**21 02 22.3**	**+0.5**
	0.9nm,0.5s,baz=94,slow=7.9,SNR=5.1 0.9nm,0.5s						

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*IDC **22** 20:50:43.3±2.6, 2.°56S×138.°67E, h0km, mb3.9/6, mbtmp3.9/7, ML3.8/1, MS3.3/1, Error ellipse: s-maj=97.9km s-min=25.4km az=85.0*
ISC 22 20:50:49.2±3.0, **2.°7S**±0.°2×**138.°4E**±0.°7, **h32km, n8, σ0§74/7, mb3.8/6, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.63**	**193**	P	**Pn**	**20 54 52.4**	**-0.1**
	0.3nm,0.3s,baz=17,slow=12,SNR=6.5 1.7nm,0.6s						
ASAR	**Alice Springs**	**21.33**	**191**	P	**P**	**20 55 33.7**	**0.0**
	2.1nm,0.6s,baz=17,slow=9.1,SNR=5.8 2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**	**20 58 54.7**	**-0.4**
	0.6nm,0.6s,baz=122,slow=6.2,SNR=4.2 0.6nm,0.6s						
PETK	**Petropavlovsk-**	**57.89**	**14**	LR	LR	21 22 08.1	
	comp=Z,28nm,21.1s,baz=172,slow=33						
MKAR	**Makanchi Array**	**69.56**	**323**	P	**P**	**21 01 55.7**	**+0.7**
	2.0nm,0.9s,baz=120,slow=6.4,SNR=5.6 2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**71.73**	**330**	P	**P**	**21 02 06.9**	**-1.2**
	0.4nm,0.4s,baz=106,slow=5.1,SNR=1.6 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**73.50**	**325**	P	**P**	**21 02 18.3**	**-0.4**
	0.8nm,0.6s,baz=117,slow=5.8,SNR=4.3 0.8nm,0.6s						
BVAR	**Borovoye Array**	**79.09**	**325**	P	**P**	**21 02 50.5**	**+0.1**
	1.5nm,0.6s,baz=102,slow=6.6,SNR=4.8 1.5nm,0.6s						

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*IDC **22** 20:51:09.5±0.7, 2.°57S×138.°36E, h0km, mb4.1/10, mbtmp4.1/13, ML4.0/3, MS3.8/3, Error ellipse: s-maj=17.7km s-min=15.4km az=29.0*
*NEIC **22** 20:51:10.3±2.2, 2.°69S±0.°09×138.°32E±0.°04, h10km±1km, mb4.3/22, Error ellipse: s-maj=16.1km s-min=7.1km az=189.0*
ISC 22 20:51:13.1±0.5, **2.°64S**±0.°07×**138.°33E**±0.°07, **h32km, n47, σ1§33/46, mb4.2/13, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.38**	**87**	Pn	**Pn**	**20 51 50.1**	**+0.2**
	18nm,0.3s,baz=191,slow=12,SNR=11						
JAY				Lg	Lg	20 52 23.6	
	17nm,0.3s,baz=69,slow=19,SNR=3.6 45nm,0.3s						
FAKI	**Fak Fak**	**6.08**	**267**	Pn	**Pn**	**20 52 41.1**	**+0.4**
PMG	**Port Moresby**	**11.05**	**128**	LR	LR	20 59 21.4	
	comp=Z,350nm,19.5s,baz=300,slow=44						
COEN	**Coen**	**12.22**	**157**	Pn	**Pn**	**20 54 03.2**	**-1.8**
MTN	**Manton Dam**	**12.39**	**215**		**Pn**	**20 54 05.7**	**-1.6**
LUWI	**Luwuk**	**15.63**	**276**		**Pn**	**20 54 49.5**	**-1.7**
SOEI	**Soe**	**15.65**	**243**		**Pn**	**20 54 49.6**	**-2.0**
KNRA	**Kununurra**	**16.02**	**215**	P	**Pn**	**20 54 56.9**	**+0.8**
KNRA				IAmb	IAmb	20 55 12.3	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**17.45**	**192**	P	**Pn**	**20 55 12.3**	**-1.9**
WB0				IAmb	IAmb	20 55 32.6	
	comp=Z,17nm,0.9s						
WR8	**Warramunga Arr**	**17.61**	**192**	P	**Pn**	**20 55 15.5**	**-0.7**
WR8				IAmb	IAmb	20 55 34.4	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**17.62**	**192**	P	**Pn**	**20 55 15.8**	**-0.4**
WRAB				IAmb	IAmb	20 55 34.6	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**17.63**	**192**	P	**Pn**	**20 55 13.6**	**-2.8**
WRA	**Warramunga Arr**	**17.63**	**192**	P	**P**	**20 55 17.7**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=12,slow=12,SNR=10 comp=Z,6.6nm,0.8s						
TOLI2	**Tolitoli**	**17.93**	**282**	P	**P**	**20 55 20.1**	**-0.4**
TOLI2				IAmb	IAmb	20 55 26.1	
	comp=Z,24nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.77**	**218**	P	**P**	**20 55 40.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.77**	**218**	P	**P**	**20 55 40.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=5.0						
FITZ				LR	LR	21 03 13.4	
	comp=Z,238nm,18.1s,baz=32,slow=36 comp=Z,5.1nm,0.9s						
AS31	**Alice Springs**	**21.33**	**191**	P	**P**	**20 55 57.5**	**-0.1**
AS31				IAmb	IAmb	20 56 16.0	
	comp=Z,6.4nm,0.6s						
ASAR	**Alice Springs**	**21.33**	**191**	P	**P**	**20 55 57.0**	**-0.6**
ASAR	**Alice Springs**	**21.33**	**191**	P	**P**	**20 55 58.4**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=15,slow=8.2,SNR=4.6						
ASAR				S	**S**	**20 59 54.0**	**+1.0**
	comp=Z,5.9nm,1.2s,baz=12,slow=22,SNR=4.3 comp=Z,8.3nm,0.8s						
PSA00	**Pilbara Seismi**	**26.02**	**222**	P	**P**	**20 56 44.6**	**+1.1**
STKA	**Stephens Creek**	**29.24**	**174**	P	**P**	**20 57 12.5**	**+0.4**
STKA				IAmb	IAmb	20 57 28.3	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**29.24**	**174**	P	**P**	**20 57 14.7**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=360,slow=8.2,SNR=3.7 comp=Z,0.5nm,0.5s						
DZM	**Mont Dzumac**	**33.45**	**128**	LR	LR	21 12 07.0	
	comp=Z,187nm,18.4s,baz=291,slow=38						
JMM	**Marumori**	**40.37**	**3**	P	**P**	**20 58 48.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.07**	**300**	P	**P**	**20 59 19.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.07**	**300**	P	**P**	**20 59 20.1**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=110,slow=7.3,SNR=4.5 comp=Z,0.8nm,0.7s						
CHTO	**Chiang Mai**	**44.22**	**300**		**P**	**20 59 20.7**	**+1.0**
CHTO				IAmb	IAmb	20 59 29.5	
	comp=Z,5.4nm,1.2s						
EVN	**Everest**	**58.09**	**305**	P	**P**	**21 01 03.2**	**-1.3**
XMAS	**Kiritimati**	**64.38**	**86**	P	**P**	**21 01 44.9**	**-1.6**
MKAR	**Makanchi Array**	**69.50**	**323**	P	**P**	**21 02 18.6**	**0.0**
MKAR	**Makanchi Array**	**69.50**	**323**	P	**P**	**21 02 20.2**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=111,slow=5.4,SNR=8.6 comp=Z,1.7nm,0.6s						
MAKZ	**Makanchi**	**69.70**	**322**	P	**P**	**21 02 20.0**	**+0.2**
ZALV	**Zalesovo Beam**	**71.69**	**330**	P	**P**	**21 02 31.0**	**-0.7**
ZALV	**Zalesovo Beam**	**71.69**	**330**	P	**P**	**21 02 33.8**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=144,slow=10,SNR=2.6 comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**73.44**	**325**	P	**P**	**21 02 42.0**	**-0.2**
KURK				IAmb	IAmb	21 02 46.6	
	comp=Z,2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**73.45**	**325**	P	**P**	**21 02 43.5**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=126,slow=5.1,SNR=5.0 comp=Z,0.9nm,0.3s						
ARSB	**Arslanbob**	**73.52**	**314**	P	**P**	**21 02 42.3**	**-0.8**
KK31	**Karatay Array**	**75.81**	**316**	P	**P**	**21 02 55.2**	**-1.0**
KKAR	**Karatay Array**	**75.81**	**316**	P	**P**	**21 02 56.0**	**-0.3**
VNDA	**Vanda**	**75.88**	**175**	P	**P**	**21 02 56.5**	**+0.6**
VNDA				IAmb	IAmb	21 02 58.2	
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**75.88**	**175**	P	**P**	**21 02 57.7**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=326,slow=7.0,SNR=9.7 comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**79.04**	**325**	P	**P**	**21 03 14.8**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=134,slow=6.4,SNR=7.0 comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**21 03 49.0**	**-0.7**
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**21 03 49.3**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=249,slow=6.1,SNR=4.9 comp=Z,1.5nm,1.0s						
QSPA	**South Pole Qui**	**87.30**	**180**	P	**P**	**21 03 58.8**	**+2.3**
QSPA	**South Pole Qui**	**87.30**	**180**	P	**P**	**21 03 59.6**	**+3.1**
	comp=Z,4.3nm,1.0s,baz=360,slow=1.9,SNR=6.8 comp=Z,4.3nm,1.0s						
LPAZ	**La Paz**	**147.79**	**127**	PKPbc	**PKiKP**	**21 10 57.8**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=244,slow=3.2,SNR=3.6						

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*DNK **22** 20:51:24.8±4.9, 78.°58N×6.°46E, h0km±86km, ML1.4*
*KOLA **22** 20:51:27.6, 78.°35N×8.°13E, h0km, ML2.4, Error ellipse: s-maj=14.6km s-min=9.9km az=100.0, Greenland sea, Knipovich ridge, middle*
*BER **22** 20:51:27.6±2.3, 78.°44N×7.°23E, h10km, Mw3.6, ML1.4(DNK), Confirmed Earthquake*
*FCIAR **22** 20:51:48.0, 78.°44N×8.°24E, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 4.10*
ISC 22 20:51:26.6±2.5, **78.°48N**±0.°06×**7.°85E**±0.°10, **h15km±11km, n20, σ1§60/30, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.92**	**59**	P	**Pn**	**20 51 46.0**	**+1.1**
KBS				S	**Sn**	**20 51 58.6**	**+0.6**
KBS	**Kingsbay**	**0.92**	**59**	⇑*i*P	**Pn**	**20 51 46.6**	**+1.6**
KBS				*e*S	**Sn**	**20 51 58.5**	**+0.6**
KBS				IAML		20 51 59.5	
	comp=Z,251nm,0.2s						
KBS	**Kingsbay**	**0.92**	**59**	*i*P	**Pn**	**20 51 46.6**	**+1.6**
KBS				*i*S	**Sn**	**20 51 58.9**	**+0.9**
BRBB	**Barentsburg B**	**1.35**	**104**	P	**Pg**	**20 51 52.4**	**-0.2**
BRBB				S	**Sg**	**20 52 09.6**	**-0.6**
BRBB	**Barentsburg B**	**1.35**	**104**	*e*P	**Pg**	**20 51 52.5**	**-0.1**
BRBB				*e*S	**Sb**	**20 52 08.5**	**-0.2**

mbtmp4.5/23,MS3.2/4,Error ellipse: s-maj=10.8km s-min=9.0km az=118.0
NEIC ***22*** *20:54:18.9±2.2,26°.65N±0°.06×141°.28E±0°.08, h109km±4km,mb4.8/106,Error ellipse: s-maj=10.6km s-min=7.9km az=76.0*
JMA ***22*** *20:54:19.8±0.1,26°.6N±0°.6×14°2E±°,h116km,MD4.9/37, MV4.7/37,NEAR CHICHIJIMA ISLAND*
JMA Felt II J1 at NEAR CHICHIJIMA ISLAND .
NIED ***22*** *20:54:19.8,26°.64N×141°.55E,h116km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.33; Mθθ-1.75; Mφφ-1.58; Mrθ0.61; Mθφ-1.71; Mφr2.93; Fault plane solution: M₀4.48000×10¹⁵ NP1: φs243.00000°,δ29.00000°,λ124.00000°. NP2: φs26.00000°,δ66.00000°,λ73.00000°.*

ISC 22 20:54:18.8±0.5,26°.64N±0°.04×141°.34E±0°.06,h115km±4km, h114km:pP-P,n234,σ1s54/232,mb4.8/91,1C-4D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.75**	**90**	*i* P			**Pn**	**20 54 37.8**	**-0.3**
JHH2				S			**Sn**	**20 54 51.3**	**-1.2**
JHH2	**Haha-jima-NKT2**	**0.75**	**90**	A			A	20 54 37.8	
comp=N,146nm,0.4s,comp=E,145nm,0.4s									
CBIJ	**Chichi jima**	**0.88**	**59**	*i* P			**Pn**	**20 54 39.2**	**-0.1**
CBIJ				S			**Sn**	**20 54 54.0**	**-0.7**
CBIJ	**Chichi jima**	**0.88**	**59**	A			A	20 54 39.2	
comp=N,115nm,0.9s,comp=E,140nm,1.0s									
JCJ	**Chichijima**	**0.88**	**59**				**Pn**	**20 54 39.1**	**-0.1**
JCJ				Sn			**Sn**	**20 54 54.2**	**-0.5**
JCJ	**Chichijima**	**0.88**	**59**	P			**Pn**	**20 54 37.9**	**-1.3**
comp=E,12μm,0.4s,baz=279,slow=8.0,SNR=2035									
JCJ				S			**Sn**	**20 54 51.8**	**-2.9**
comp=E,23μm,0.6s,baz=314,slow=23,SNR=117									
JHCJ	**Hachijojimakas**	**6.55**	**349**	*e*P			**Pn**	**20 55 53.4**	**+0.8**
JHJ2	**Mitsune**	**6.58**	**349**	*e*P			**Pn**	**20 55 54.7**	**+1.6**
JHJ	**Hachijo jima 2**	**6.60**	**349**	LR			LR	20 57 42.5	
comp=E,72nm,18.2s,baz=277,slow=31									
JMKN	**Mikurajimanish**	**7.38**	**349**	*e*P			**Pn**	**20 56 04.7**	**+0.8**
JMYK	**Miyake Tsubota**	**7.55**	**349**	*e*P			**Pn**	**20 56 07.3**	**+1.1**
JSKK	**Shikinejimakit**	**7.88**	**347**	*e*P			**Pn**	**20 56 12.1**	**+1.4**
BSO3	**Boso 3**	**8.16**	**355**	*e*P			**Pn**	**20 56 13.9**	**-0.3**
JHMK	**Hamakita**	**8.71**	**340**	*e*P			**Pn**	**20 56 24.1**	**+2.3**
JNY	**Yasuok**	**9.19**	**342**	*e*P			**Pn**	**20 56 29.6**	**+1.2**
JAO	**Obara**	**9.28**	**339**	*e*P			**Pn**	**20 56 32.4**	**+2.8**
INU	**Inuyama**	**9.44**	**338**				**Pn**	**20 56 32.4**	**+0.7**
INU	**Inuyama**	**9.44**	**338**	P			**Pn**	**20 56 35.6**	**+3.9**
JGF	**Kuroka**	**9.56**	**340**				**Pn**	**20 56 32.3**	**-1.1**
JGF	**Kuroka**	**9.56**	**340**	P			**Pn**	**20 56 34.3**	**+0.9**
JMN	**Monobe**	**9.57**	**319**				**Pn**	**20 56 33.4**	**-0.2**
JMN	**Monobe**	**9.57**	**319**	P			Pn	20 56 38.7	+5.2
JYT	**Yasato**	**9.61**	**354**	*e*P			**Pn**	**20 56 32.5**	**-1.5**
JAG	**Ashikaga**	**9.88**	**351**	*e*P			**Pn**	**20 56 34.8**	**-2.9**
JAG				*e*S			**Sn**	**20 58 20.9**	**-5.9**
MJAR	**Matsushiro Arr**	**10.22**	**346**				**Pn**	**20 56 40.6**	**-1.7**
MJAR	**Matsushiro Arr**	**10.22**	**346**	P			**Pn**	**20 56 41.5**	**-0.8**
comp=E,8.0nm,0.6s,baz=161,slow=11,SNR=28									
MJAR				LR			LR	21 00 31.3	
comp=E,161nm,18.8s,baz=182,slow=37									
MAJO	**Matsushiro**	**10.22**	**346**				**Pn**	**20 56 41.2**	**-1.2**
MAJO	**Matsushiro**	**10.22**	**346**	P			**Pn**	**20 56 43.5**	**+1.1**
MJB9	**Matsu-Tunnel**	**10.23**	**346**				**Pn**	**20 56 40.7**	**-1.7**
JNU	**Nakatsue**	**11.14**	**308**	LR			LR	21 00 10.6	
comp=E,97nm,21.9s,baz=146,slow=32									
JMM	**Marumori**	**11.20**	**358**				**Pn**	**20 56 52.9**	**-2.5**
JSD	**Sado**	**11.66**	**348**				Pn	20 56 57.8	-3.7
GUMO	**Guam**	**13.40**	**165**				**Pn**	**20 57 23.2**	**-1.3**
GUMO	**Guam**	**13.40**	**165**	P			**Pn**	**20 57 27.4**	**+2.9**
comp=E,60nm,0.7s,baz=112,slow=1.8,SNR=6.5									
JTM	**Tenmabayashi**	**14.11**	**359**	Pn			**Pn**	**20 57 30.7**	**-2.8**
ERM	**Erimo**	**15.41**	**5**				**Pn**	**20 57 47.7**	**-2.1**
ERM	**Erimo**	**15.41**	**5**	P			**Pn**	**20 57 50.7**	**+0.8**
JEM	**Erimo**	**15.41**	**5**	P			**Pn**	**20 57 51.4**	**+1.5**
KSRS	**Korea Array**	**15.65**	**317**	P			**Pn**	**20 57 55.7**	**+2.8**
comp=E,6.0nm,1.0s,baz=122,slow=12,SNR=13									
KSRS				LR			LR	21 04 01.5	
comp=E,23μm,18.2s,baz=130,slow=37									
ASAJ	**Asahikawa**	**17.47**	**3**	P			**P**	**20 58 15.6**	**+1.0**
comp=E,14nm,0.6s,baz=187,slow=13,SNR=19									
JKA	**Kamikawa-asahi**	**17.47**	**3**				**P**	**20 58 12.7**	**-1.9**
YHNB	**Yeheng**	**18.11**	**268**	P			**P**	**20 58 19.2**	**-2.7**
YHNB	**Yeheng**	**18.11**	**268**	P			**P**	**20 58 25.0**	**+3.1**
YULB	**Yu-li**	**18.45**	**264**	P			**P**	**20 58 23.2**	**-2.5**
YULB	**Yu-li**	**18.45**	**264**	P			**P**	**20 58 29.0**	**+3.4**
SSLB	**Suanglung**	**18.66**	**266**				**P**	**20 58 24.1**	**-3.9**
SSLB	**Suanglung**	**18.66**	**266**	P			**P**	**20 58 31.6**	**+3.6**
USRK	**Ussuriysk Ar.**	**19.08**	**339**	P			**P**	**20 58 33.2**	**+0.9**
comp=E,3.9nm,0.7s,baz=146,slow=9.5,SNR=6.9									
YSS	**Yuzhno-Sakhali**	**20.30**	**3**	P			**P**	**20 58 43.7**	**-1.8**
NJ2	**Nanjing**	**20.32**	**291**	*e*P			**P**	**20 58 44.9**	**-0.9**
NJ2				pmax			pmax		
comp=E,7.0nm,0.5s									
BNX	**BinXian**	**22.07**	**333**	⇓P			**P**	**20 59 03.5**	**-0.8**
BNX				pmax			pmax		
comp=E,4.0nm,0.7s									
TIA	**Tai'an**	**22.71**	**301**	P			**P**	**20 59 11.5**	**+0.6**
TIA				pmax			pmax		
comp=E,11nm,0.7s									
WHN	**Wuhan**	**23.99**	**286**	⇓P			**P**	**20 59 24.9**	**+2.1**
WHN				pmax			pmax		
comp=E,32nm,0.9s									
H11N2	**WAKE ISLAND Hy**	**24.45**	**101**	T			T	21 24 18.3	
baz=291,slow=74									
H11N1	**WAKE ISLAND Hy**	**24.45**	**101**	T			T	21 24 12.2	
baz=291,slow=74									
H11N3	**WAKE ISLAND Hy**	**24.47**	**101**	T			T	21 24 23.6	
baz=291									
H11S3	**WAKE ISLAND Hy**	**24.74**	**104**	T			T	21 25 17.9	
baz=294,slow=74,SNR=7.3									
H11S1	**WAKE ISLAND Hy**	**24.74**	**104**	T			T	21 24 50.5	
baz=294,slow=74,SNR=4.2									
H11S2	**WAKE ISLAND Hy**	**24.75**	**104**	T			T	21 24 53.5	
baz=294,slow=74,SNR=5.1									
HNS	**HongShan**	**24.92**	**302**	⇓P			**P**	**20 59 30.6**	**-0.6**
HNS				pmax			pmax		
comp=E,8.0nm,0.9s									
HEH	**HeiHe**	**25.89**	**339**	*e*P			**P**	**20 59 39.3**	**-0.5**
HEH				pmax			pmax		
comp=E,5.0nm,0.8s									
HEH				pmax			pmax		
comp=E,220nm,4.7s									
HHC	**Hu-ho-hao-te**	**28.37**	**308**	*e*P			**P**	**21 00 03.6**	**+1.4**
HHC				pP			pP	21 00 23.3	-3.3
HHC				pmax			pmax		
comp=E,14nm,0.7s									
HHC				pmax			pmax		
comp=E,140nm,7.6s									
FAKI	**Fak Fak**	**30.67**	**198**	P			**P**	**21 00 20.9**	**-1.8**
FAKI	**Fak Fak**	**30.67**	**198**	P			P	21 00 16.3	-6.4
GYA	**Guiyang**	**30.97**	**278**	⇓P			**P**	**21 00 26.6**	**+1.2**
GYA				pmax			pmax		
comp=E,11nm,0.7s									
MRSI	**Marisa**	**32.02**	**219**	P			**P**	**21 00 35.7**	**+1.2**
comp=E,425nmcomp=E,56nm,0.8s									
TOLI2	**Tolitoli**	**32.17**	**221**				**P**	**21 00 34.2**	**-1.7**
TOLI2				IAmb			IAmb	21 00 40.4	
comp=Z,11nm,0.8s									
TOLI2	**Tolitoli**	**32.17**	**221**	P			**P**	**21 00 33.3**	**-2.6**
LUWI	**Luwuk**	**32.84**	**216**	P			**P**	**21 00 39.9**	**-1.7**
LUWI	**Luwuk**	**32.84**	**216**	P			P	21 00 38.2	-3.4
LZH	**Lanzhou**	**33.20**	**296**	*e*P			**P**	**21 00 45.8**	**+0.9**
LZH				pP			pP	21 01 08.8	-0.6
LZH				sP			pwP	21 01 17.3	+3.8
LZH				pmax			pmax		
comp=Z,37nm,1.3s									
LZDM	**Lanzhou Array**	**33.31**	**296**	P			**P**	**21 00 46.5**	**+0.5**
comp=Z,13nm,0.6s,baz=151,slow=6.4,SNR=9.5									
comp=Z,13nm,0.6s									
SLVN	**Son La**	**34.52**	**269**				**P**	**21 00 56.5**	**+0.2**
SLVN				IAmb			IAmb	21 00 59.8	
comp=Z,8.2nm,0.8s									
PZH	**PanZhiHua**	**35.32**	**279**	P			**P**	**21 01 03.8**	**+0.6**
GTA	**Gaotai**	**36.76**	**301**	*e*P			**P**	**21 01 15.6**	**+0.2**
GTA				pmax			pmax		
comp=Z,4.0nm,0.9s									
SPSI	**Sidrap Palu**	**36.90**	**218**	P			**P**	**21 01 17.5**	**+1.0**
comp=Z,30nm,1.0s									
TNCH	**TengChong**	**38.45**	**277**	⇑P			**P**	**21 01 30.9**	**+1.1**
TNCH				S			**S**	**21 07 15.3**	**-1.5**
TNCH				pmax			pmax		
comp=Z,19nm,1.0s									
TNCH				pmax			pmax		
comp=Z,180nm,4.1s									
MMRI	**Maumere**	**39.67**	**210**				**P**	**21 01 39.1**	**-0.6**
MMRI	**Maumere**	**39.67**	**210**	P			**P**	**21 01 40.9**	**+1.1**
comp=Z,2μmcomp=Z,75nm,0.8s									
CHTO	**Chiang Mai**	**39.73**	**268**				**P**	**21 01 39.3**	**-1.1**
CHTO				IAmb			IAmb	21 01 42.6	
comp=Z,17nm,0.7s									
CHTO	**Chiang Mai**	**39.73**	**268**	P			**P**	**21 01 41.7**	**+1.4**
CHTO				PcP			**PcP**	**21 03 44.4**	**-0.4**
SOEI	**Soe**	**39.80**	**207**	P			**P**	**21 01 40.9**	**-0.1**
SOEI	**Soe**	**39.80**	**207**	P			**P**	**21 01 41.2**	**+0.2**
comp=Z,47nm,0.8s									
CM31	**Chiang Mai Arr**	**39.85**	**267**	P			**P**	**21 01 40.5**	**-0.9**
CM31				IAmb			IAmb	21 01 43.8	
comp=Z,9.0nm,0.7s									
CMAR	**Chiang Mai Arr**	**39.85**	**267**	P			**P**	**21 01 40.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.85**	**267**	P			**P**	**21 01 42.4**	**+1.1**
comp=Z,6.0nm,0.7s,baz=61,slow=6.6,SNR=52									
CMAR				sP			**pwP**	**21 02 16.7**	**+6.2**
comp=Z,1.1nm,0.7s,baz=66,slow=9.8,SNR=2.2									
comp=Z,6.0nm,0.7s									
EDFI	**Ende, Flores**	**40.02**	**211**	P			**P**	**21 01 43.2**	**+0.4**
COEN	**Coen**	**40.40**	**177**	P			**P**	**21 01 46.4**	**+0.6**
COEN				IAmb			IAmb	21 01 47.5	
comp=Z,27nm,1.0s									
BATI	**Baumata**	**40.45**	**207**	P			**P**	**21 01 45.8**	**-0.4**
comp=Z,46nm,0.5s,baz=306,slow=1.2,SNR=11									
BATI	**Baumata**	**40.45**	**207**	P			**P**	**21 01 45.9**	**-0.4**
comp=Z,71nm,0.9s									
MTN	**Manton Dam**	**40.48**	**195**				**P**	**21 01 45.4**	**-1.0**
MTN				IAmb			IAmb	21 01 46.6	
comp=Z,16nm,0.8s									
GOMU	**GeErMu**	**40.51**	**295**	P			**P**	**21 01 47.8**	**+0.8**
GOMU				pmax			pmax		
comp=Z,8.0nm,0.7s									
MYKOM	**Kota Tinggi**	**43.64**	**242**	P			**P**	**21 02 11.7**	**-0.5**
MYKOM				IAmb			IAmb	21 02 15.4	
comp=Z,12nm,0.8s									
JAGI	**Jajag, Banyuwa**	**43.76**	**221**	P			**P**	**21 02 12.1**	**-1.0**
JAGI				IAmb			IAmb	21 02 14.8	
comp=Z,18nm,0.9s									
KNRA	**Kununurra**	**43.80**	**198**	P			**P**	**21 02 12.5**	**-0.9**
KNRA				IAmb			IAmb	21 02 14.5	
comp=Z,11nm,0.8s									
KULM	**Kulim**	**44.22**	**249**	P			**P**	**21 02 15.6**	**-1.3**
KULM				IAmb			IAmb	21 02 19.2	
comp=Z,11nm,0.9s									
IPM	**Ipoh**	**44.36**	**247**	P			**P**	**21 02 17.9**	**-0.1**
IPM				IAmb			IAmb	21 02 20.1	
comp=Z,14nm,0.7s									
TIXI	**Tiksi**	**45.59**	**355**	P			**P**	**21 02 27.3**	**+0.4**
TIXI	**Tiksi**	**45.59**	**355**	P			**P**	**21 02 28.0**	**+1.1**
KPJI	**Karang Pucung**	**46.13**	**228**	P			**P**	**21 02 33.2**	**+1.3**
comp=Z,43nm,0.9s									
WMQ	**Urumqi**	**46.23**	**306**	*e*P			**P**	**21 02 32.1**	**-0.4**
WRAB	**Tennant Creek**	**46.79**	**189**	P			**P**	**21 02 36.9**	**-0.1**
WRAB	**Tennant Creek**	**46.79**	**189**	P			**P**	**21 02 37.2**	**+0.2**
WR8	**Warramunga Arr**	**46.79**	**189**	P			**P**	**21 02 36.5**	**-0.5**
WRA	**Warramunga Arr**	**46.80**	**189**	P			**P**	**21 02 37.2**	**+0.2**
comp=Z,66nm,0.5s,baz=11,slow=8.8,SNR=294									
WRA				pP			**pP**	**21 03 02.4**	**-0.5**
comp=Z,6.4nm,0.5s,baz=9.3,slow=8.6,SNR=1.2									
WRA				S			**S**	**21 09 14.9**	**-3.9**
comp=Z,2.3nm,1.1s,baz=9.4,slow=14,SNR=4.9									
FITZ	**Fitzroy Crossi**	**47.01**	**201**	P			**P**	**21 02 38.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**47.01**	**201**	P			**P**	**21 02 39.1**	**+0.5**
comp=Z,24nm,0.8s,baz=20,slow=7.0,SNR=36									
comp=Z,24nm,0.8s									
AKUT	**Akutan**	**47.28**	**40**	P			**P**	**21 02 42.3**	**+1.9**
LHMI	**Lhok Sumawe**	**47.37**	**251**	P			**P**	**21 02 41.9**	**+0.3**
MDSI	**Maura Dua**	**47.43**	**235**	P			**P**	**21 02 43.1**	**+1.0**
comp=Z,35nm,1.0s									
MNSI	**Mandailing Nat**	**47.65**	**244**	P			**P**	**21 02 44.8**	**+1.1**
comp=Z,35nm,0.8s									
PBA	**Port Blair**	**47.98**	**262**	P			**P**	**21 02 47.0**	**+0.7**
EVN	**Everest**	**48.13**	**285**	P			**P**	**21 02 47.6**	**-0.5**
EVN				PcP			**PcP**	**21 04 13.4**	**-0.6**
MNAI	**Manna**	**48.25**	**236**	P			**P**	**21 02 48.3**	**-0.1**
SANVU	**Saraoutou**	**48.81**	**146**	P			**P**	**21 02 52.0**	**-0.5**
SANVU	**Saraoutou**	**48.81**	**146**	PcP			**PcP**	**21 04 14.0**	**-1.7**
ZALV	**Zalesovo Beam**	**49.34**	**319**	PcP			**PcP**	**21 04 17.1**	**0.0**
comp=Z,3.8nm,0.9s,baz=106,slow=3.7,SNR=7.8									
ZALV				ScP			**ScP**	**21 07 59.5**	**-2.3**
comp=Z,1.3nm,0.7s,baz=108,slow=4.8,SNR=5.9									
MKAR	**Makanchi Array**	**50.19**	**310**	P			**P**	**21 03 01.9**	**-0.9**
comp=Z,0.4nm,0.5s,baz=103,slow=10,SNR=0.9									
MKAR				ScP			**ScP**	**21 08 04.1**	**-1.6**
comp=Z,1.6nm,0.7s,baz=66,slow=6.0,SNR=7.2									
MAKZ	**Makanchi**	**50.40**	**310**	P			**P**	**21 03 03.2**	**-1.2**
AS31	**Alice Springs**	**50.53**	**189**	P			**P**	**21 03 04.9**	**-0.6**
ASAR	**Alice Springs**	**50.53**	**189**	P			**P**	**21 03 04.8**	**-0.8**
ASAR				PcP			**PcP**	**21 04 22.2**	**+0.3**
ASAR	**Alice Springs**	**50.53**	**189**	P			**P**	**21 03 05.3**	**-0.2**
comp=Z,5.5nm,0.6s,baz=15,slow=14,SNR=36									
ASAR				PcP			**PcP**	**21 04 22.0**	**+0.1**
comp=Z,1.4nm,0.8s,baz=15,slow=4.8,SNR=2.3									
ASAR				S			**S**	**21 10 07.2**	**-3.9**
comp=Z,0.7nm,0.8s,baz=19,slow=18,SNR=2.8									
comp=Z,5.5nm,0.6s									
L14K	**Kuka Creek**	**50.79**	**31**	P			**P**	**21 03 09.8**	**+2.8**
L14K				IAmb			IAmb	21 03 23.3	
comp=Z,32nm,1.6s									
K15K	**Wolf Creek Mou**	**51.59**	**30**	P			**P**	**21 03 13.9**	**+0.9**
MBWA	**Marble Bar**	**51.93**	**206**	P			**P**	**21 03 15.3**	**-0.7**
MBWA	**Marble Bar**	**51.93**	**206**	P			**P**	**21 03 16.3**	**+0.3**
PSA00	**Pilbara Seismi**	**52.26**	**206**	P			**P**	**21 03 18.3**	**-0.1**
PSA00	**Pilbara Seismi**	**52.26**	**206**	P			**P**	**21 03 18.2**	**-0.2**
PSA00				IAmb			IAmb	21 03 19.6	
comp=Z,12nm,0.7s									
EIDS	**Eidsvold**	**52.55**	**169**	P			**P**	**21 03 20.1**	**-0.5**
EIDS				IAmb			IAmb	21 04 31.3	
comp=Z,24nm,1.4s									
KURK	**Kurchatov**	**52.77**	**315**	P			**P**	**21 03 21.3**	**-0.6**
KURK							**pP**	**21 03 46.6**	**-1.8**
KURBB	**Kurchatov Arra**	**52.82**	**315**	P			**P**	**21 03 21.3**	**-1.0**
comp=Z,1.5nm,0.2s,baz=91,slow=8.4,SNR=6.0									
KURBB				pP			**pP**	**21 03 46.6**	**-2.2**
comp=Z,1.3nm,0.6s,baz=90,slow=8.5,SNR=1.9									
comp=Z,1.5nm,0.2s									
K17K	**Iditarod**	**53.14**	**30**	P			**P**	**21 03 27.0**	**+2.6**
K17K				IAmb			IAmb	21 05 06.8	
comp=Z,15nm,0.9s									
C18K	**Utukok River**	**53.75**	**23**	P			**P**	**21 03 30.0**	**+1.1**
INKA	**Innaminka**	**54.07**	**181**	P			**P**	**21 03 31.4**	**-0.2**
INKA				IAmb			IAmb	21 03 32.5	
comp=Z,7.7nm,0.7s									
D19K	**Kuna River**	**54.77**	**23**	P			**P**	**21 03 37.0**	**+0.7**
D19K				IAmb			IAmb	21 05 12.1	
comp=Z,15nm,0.9s									
KSH	**Kashi**	**55.16**	**301**	P			**P**	**21 03 43.1**	**+3.4**
KSH				pmax			pmax		
comp=Z,4.0nm,0.7s									
KDAK	**Kodiak Island**	**55.18**	**37**	P			**P**	**21 03 40.0**	**+0.7**
D20K	**Etivluk River**	**55.36**	**23**	P			**P**	**21 03 42.8**	**+2.3**
D20K				IAmb			IAmb	21 04 14.9	
comp=Z,14nm,0.8s									
AAK	**Ala-Archa**	**55.90**	**305**	LR			LR	21 28 15.3	
comp=Z,69nm,20.2s,baz=344,slow=36									
BPAW	**Bear Paw Mtn.**	**56.63**	**29**	P			**P**	**21 03 51.2**	**+1.6**
BPAW				IAmb			IAmb	21 03 56.4	
comp=Z,11nm,1.6s									
ARSB	**Arslanbob**	**57.18**	**304**	P			**P**	**21 03 54.0**	**-0.1**
ARSB				IAmb			IAmb	21 04 38.4	
comp=Z,15nm,1.7s									
ARMA	**Armidale**	**57.59**	**169**	P			**P**	**21 03 55.8**	**-1.0**
ARMA				IAmb			IAmb	21 03 58.5	
comp=Z,9.8nm,0.9s									
BVAR	**Borovoye Array**	**57.87**	**318**	P			**P**	**21 03 57.7**	**-0.7**
comp=Z,2.7nm,0.6s,baz=90,slow=7.7,SNR=8.5									
BVAR				PcP			**PcP**	**21 04 50.0**	**+0.4**
comp=Z,1.6nm,0.5s,baz=74,slow=5.6,SNR=2.2									
comp=Z,2.7nm,0.6s									
CCB	**Clear Creek Bu**	**58.07**	**29**	P			**P**	**21 04 00.9**	**+1.3**
STKA	**Stephens Creek**	**58.19**	**180**	P			**P**	**21 04 00.4**	**-0.5**
STKA	**Stephens Creek**	**58.19**	**180**	P			**P**	**21 04 00.7**	**-0.2**
comp=Z,5.7nm,0.7s,baz=352,slow=7.2,SNR=22									
comp=Z,5.7nm,0.7s									
ILAR	**Eielson Array**	**58.47**	**29**	P			**P**	**21 04 03.2**	**+0.8**
comp=Z,1.5nm,0.8s,baz=262,slow=5.7,SNR=6.7									
comp=Z,1.5nm,0.8s									
FORT	**Forrest**	**58.49**	**193**	P			**P**	**21 04 02.7**	**-0.2**
KK31	**Karatay Array**	**58.74**	**306**	P			**P**	**21 04 03.9**	**-0.8**
KK31				IAmb			IAmb	21 04 06.3	
comp=Z,4.5nm,0.7s									
KKAR	**Karatay Array**	**58.74**	**306**	P			**P**	**21 04 04.0**	**-0.8**
F25K	**Christian Rive**	**59.19**	**25**	P			**P**	**21 04 09.5**	**+2.0**
F25K				IAmb			IAmb	21 04 42.9	
comp=Z,5.3nm,0.9s									
BBOO	**Buckleboo**	**59.34**	**185**	P			**P**	**21 04 09.0**	**+0.2**
BBOO				IAmb			IAmb	21 04 57.7	
comp=Z,20nm,1.4s									
BMRM	**Bremner River**	**59.38**	**33**	P			**P**	**21 04 10.8**	**+2.0**
BMRM				IAmb			IAmb	21 05 26.7	
comp=Z,14nm,1.3s									
SCRK	**Sand Creek**	**59.69**	**30**	P			**P**	**21 04 12.9**	**+1.9**
SCRK				IAmb			IAmb	21 04 44.2	
comp=Z,9.6nm,0.7s									
MORW	**Morawa**	**60.48**	**205**	P			**P**	**21 04 16.9**	**+0.3**
MORW				IAmb			IAmb	21 04 18.5	
comp=Z,14nm,0.9s									
CHGR	**Chuyangaron**	**60.54**	**301**	P			**P**	**21 04 16.9**	**-0.3**
SIMJ	**Simiganj**	**60.65**	**301**	P			**P**	**21 04 17.8**	**-0.3**
H27K	**Steamboat Moun**	**60.76**	**27**	P			**P**	**21 04 20.9**	**+2.8**
H27K				IAmb			IAmb	21 04 51.9	
comp=Z,9.7nm,1.2s									
KBL	**Kabul**	**61.55**	**297**	P			**P**	**21 04 23.7**	**-0.6**
CAN	**Canberra**	**62.05**	**173**	P			**P**	**21 04 27.4**	**+0.2**
CAN				IAmb			IAmb	21 04 29.0	
comp=Z,12nm,0.7s									
J30M	**Hart River**	**63.01**	**29**	P			**P**	**21 04 36.1**	**+2.7**
NWAO	**Narrogin (SRO)**	**63.52**	**203**	P			**P**	**21 04 37.2**	**+0.3**
TOO	**Toolangi**	**63.99**	**176**	P			**P**	**21 04 40.6**	**+0.7**
ARTI	**Arti**	**64.42**	**322**	P			**P**	**21 04 42.0**	**-0.6**
ARTI				IAmb			IAmb	21 04 44.0	
comp=Z,7.3nm,0.5s									
AB31	**Akbulak array**	**64.87**	**314**	P			**P**	**21 04 44.7**	**-0.9**
ABKAR	**Akbulak array**	**64.87**	**314**	P			**P**	**21 04 44.2**	**-1.4**
MMPY	**Sheldon Lake,**	**65.53**	**30**	P			**P**	**21 04 50.7**	**+1.0**
SPB2	**Spitsbergen Ar**	**70.69**	**350**	P			**P**	**21 05 22.9**	**+1.2**
SPITS	**Spitsbergen Ar**	**70.69**	**350**	P			**P**	**21 05 20.6**	**-1.1**
comp=Z,5.5nm,0.6s,baz=339,slow=8.9,SNR=9.6									
comp=Z,5.5nm,0.6s									
KBS	**Kingsbay**	**70.87**	**351**	P			**P**	**21 05 23.6**	**+0.9**
YKA	**Yellowknife Ar**	**72.90**	**28**	P			**P**	**21 05 35.7**	**+0.7**
YKA	**Yellowknife Ar**	**72.90**	**28**	P			**P**	**21 05 36.5**	**+1.4**
comp=Z,2.4nm,0.8s,baz=301,slow=6.6,SNR=6.3									
comp=Z,2.4nm,0.8s									
QRZ	**Quartz Range**	**73.11**	**156**	P			**P**	**21 05 36.3**	**-0.2**
ARCES	**ARCESS Array B**	**73.72**	**341**	P			**P**	**21 05 40.1**	**+0.3**
ARCES	**ARCESS Array B**	**73.72**	**341**	P			**P**	**21 05 39.8**	**0.0**
comp=Z,3.4nm,0.7s,baz=27,slow=2.7,SNR=8.4									
comp=Z,3.4nm,0.7s									
NNZ	**Nelson**	**73.76**	**155**	P			**P**	**21 05 39.9**	**-0.4**
NEEM	**North Greenlan**	**75.88**	**3**	*i* P			**P**	**21 05 54.2**	**+1.7**
NEEM				IAmb			IAmb	21 05 54.9	
comp=Z,16nm,0.9s									
KBZ	**

BO02	Sierra Bellavi	151.31	114		PKPbc	21 13 57.6	-1.7
PB08	IPOC Station P	151.32	83		PKPbc	21 13 57.7	-2.3

NEIC ***22*** *21:03:58.7±1.1, 36°.93N±0°.01×98°.02W±0°.01, h5km±1km, mb_Lg3.4/132, ML3.9/57, ML3.7/42, Error ellipse: s-maj=2.6km s-min=1.8km az=13.0*
NEIC ***22*** *21:03:58.8±1.0, 36°.93N±0°.01×98°.03W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.5km az=133.0*
IDC ***22*** *21:04:00.6±1.6, 37°.08N×98°.43W, h0km, mbtmp3.6/3, ML4.2/2, Error ellipse: s-maj=22.2km s-min=9.8km az=95.0*
ISC 22 21:03:58.1±0.8, 36°.95N±0°.02×98°.06W±0°.03, h13km±6km, n103, σ1§51/76, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	Manchester OK	0.08	87		Pg	21 04 00.7	-0.2
KAN14				Sg	Sg	21 04 01.9	-1.0
KAN14				IAML		21 04 02.0	
	comp=E,105μm,0.3s						
GC02	Grant County #	0.19	122		Pg	21 04 02.4	-0.1
KAN08	Anthony NE Sta	0.28	14		Pb	21 04 05.2	+0.1
KAN08					Sb	21 04 09.5	-0.2
KAN01	Argonia South	0.31	50		Pg	21 04 05.2	+0.7
KAN01				Sg	Sg	21 04 09.4	+0.5
CROK	Carrier	0.45	172		Pg	21 04 07.3	+0.3
CROK					Sg	21 04 13.2	+0.1
KAN13	South Haven SW	0.47	82		Pg	21 04 07.8	+0.3
KAN13					Sg	21 04 14.0	+0.3
BLOK	Blackwell	0.70	106		Pg	21 04 11.8	0.0
BLOK					Sg	21 04 20.9	-0.2
BLOK				IAML		21 04 22.0	
	comp=N,7μm,0.2s						
BLOK				IAML		21 04 22.9	
	comp=E,7μm,0.2s						
OK038	West end E0370	0.72	229		Pb	21 04 12.7	+0.1
OK038					Sb	21 04 22.9	+0.5
OK038				IAML		21 04 23.3	
	comp=E,7μm,0.4s						
OK038				IAML		21 04 25.6	
	comp=E,7μm,0.4s						
NOKA	Waynoka	0.77	246		Pb	21 04 13.6	+0.3
NOKA					Sb	21 04 24.3	+0.6
OK048	Pawnee Station	1.04	121		Pg	21 04 17.9	-0.4
OK048				IAML		21 04 33.4	
	comp=E,2μm,0.2s						
OK048				IAML		21 04 36.5	
	comp=E,3μm,0.2s						
OK051	E0350 and S346	1.08	114		Pg	21 04 18.5	-0.4
T35A	Sooner Cattle	1.24	91		Pn	21 04 21.6	+0.4
T35A				IAML		21 04 38.6	
	comp=E,2μm,0.2s						
T35A				IAML		21 04 41.3	
	comp=E,2μm,0.2s						
OK029	Liberty Lake	1.25	157		Pn	21 04 21.4	+0.1
OK029					Sb	21 04 37.7	+0.1
OK029				IAML		21 04 43.5	
	comp=E,1μm,0.3s						
QUOK	Quay	1.34	125		Pn	21 04 23.0	+0.5
QUOK					Sb	21 04 40.1	0.0
BCOK	Bluff Creek, N	1.34	164		Pn	21 04 23.2	+0.7
BCOK					Sn	21 04 41.2	+0.9
OK052	Battle Ridge R	1.39	133		Pn	21 04 23.8	+0.6
OK052					Sb	21 04 41.8	+0.2
CSTR	Hydro, Custer	1.40	202		Pg	21 04 24.5	-0.5
CSTR					Sg	21 04 43.4	+0.1
ELIS	Ellis County	1.41	231		Pg	21 04 25.1	-0.1
ADOK	Arcadia Dam	1.41	157		Pn	21 04 24.2	+0.8
R32A	Long Quarter,	1.56	341		Pg	21 04 28.0	0.0
R32A				IAmb_Lg		21 04 50.0	
	comp=Z,267nm,0.8s						
OKCSW	OKLAHOMA CITY	1.62	162		Pn	21 04 27.5	+1.1
DEOK	Depew	1.68	131		Pn	21 04 28.2	+1.1
FNO	Franklin	1.77	162		Pn	21 04 29.9	+1.4
TUL3	Leonard	2.10	119		Pn	21 04 35.0	+2.0
CBKS	Cedar Bluff	2.29	325		Pb	21 04 38.2	-1.1
CBKS				IAmb_Lg		21 05 12.0	
	comp=Z,172nm,0.8s						
WMOK	Wichita Mounta	2.29	195		Pn	21 04 36.9	+1.3
WMOK	Wichita Mounta	2.29	195	IAmb_Lg		21 05 13.6	
	comp=Z,135nm,0.8s						
X34A	Smith Ranch, M	2.35	175		Pn	21 04 38.4	+2.0
X34A				IAmb_Lg		21 05 17.3	
	comp=Z,173nm,0.9s						
KSU1	Kansas State U	2.43	28		Pn	21 04 40.0	+2.5
SMWD	Samnorwood	2.56	224		Pb	21 04 41.7	-2.2
SMWD				IAmb_Lg		21 05 24.0	
	comp=Z,118nm,0.7s						
RLO	Rose Lookout	2.57	107		Pn	21 04 40.8	+1.4
U38A	Gravette	3.00	99		Pn	21 04 46.9	+1.7
U38A				IAmb_Lg		21 05 35.3	
	comp=Z,100nm,0.7s						
LOOK	Love County	3.04	166		Pn	21 04 47.9	+2.1
LOOK				IAmb_Lg		21 05 36.3	
	comp=Z,90nm,0.9s						
WTFS	Witchita Falls	3.20	186		Pn	21 04 50.4	+2.3
HHAR	Hobbs	3.38	100		Pn	21 04 52.1	+1.5
AMTX	Amarillo	3.59	236		Pn	21 04 55.7	+2.2
AMTX				IAmb_Lg		21 05 55.9	
	comp=Z,102nm,0.7s						
Z35A	Perchaven, San	3.67	169		Pn	21 04 56.0	+1.4
RTBA	Rita Blanca	3.79	264		Pn	21 04 59.5	+3.1
FW06	Azle	3.99	174	IAmb_Lg		21 06 10.6	
	comp=Z,66nm,0.8s						
APMT	Aspermont	3.99	206		Pn	21 05 01.0	+2.0
DKNS	Dickens	4.03	216		Pn	21 05 02.2	+2.7
PLPT	Palo Pinto	4.13	183		Pn	21 05 02.4	+1.4
KSCO	Kaye Shedlock'	4.15	301		Pn	21 05 04.6	+3.2
KSCO				IAmb_Lg		21 06 20.3	
	comp=Z,87nm,0.7s						
N35A	Tabor	4.33	25		Pn	21 05 05.0	+1.3
MIAR	Mount Ida	4.37	122		Pn	21 05 05.8	+1.8
MIAR				IAmb_Lg		21 06 18.8	
	comp=Z,100nm,0.9s						
P38A	Dawn	4.45	52		Pn	21 05 07.1	+1.8
P38A				IAmb_Lg		21 06 20.1	
	comp=Z,76nm,0.7s						
BGNE	Belgrade	4.45	359		Pn	21 05 07.6	+2.3
Z38A	Mt. Pleasant	4.46	145	IAmb_Lg		21 06 22.6	
	comp=Z,115nm,0.8s						
SN07	Snyder 07	4.50	212		Pn	21 05 07.7	+1.7
SN07				IAmb_Lg		21 06 32.3	
	comp=Z,64nm,0.8s						
ABTX	Abilene, Hawle	4.51	197		Pn	21 05 07.1	+1.0
ABTX				IAmb_Lg		21 06 21.3	
	comp=Z,57nm,0.8s						
TREL	Terrell	4.51	158		Pn	21 05 07.1	+1.0
TREL				IAmb_Lg		21 06 27.6	
	comp=Z,84nm,1.0s						
MGMO	Mountain Grove	4.63	86	IAmb_Lg		21 06 34.6	
	comp=Z,73nm,0.9s						
R40A	Maddies Statio	4.79	72		Pn	21 05 11.6	+1.7
R40A				IAmb_Lg		21 06 33.7	
	comp=Z,76nm,0.7s						
POST	Post	4.80	217	IAmb_Lg		21 06 38.5	
	comp=Z,88nm,0.8s						
FCAR	Ozark Folk Cen	4.90	101		Pn	21 05 13.8	+2.3
X40A	Basin Creek Fa	4.91	119		Pn	21 05 14.0	+2.4
WHAR	Wooly Hollow	4.96	108	IAmb_Lg		21 06 39.5	
	comp=Z,82nm,0.7s						
OGNE	Ogallala	5.05	323	IAmb_Lg		21 06 49.3	
	comp=Z,112nm,0.8s						
T25A	Trinidad	5.08	274	IAmb_Lg		21 06 49.9	
	comp=Z,85nm,1.0s						
UALR	University of	5.12	113	IAmb_Lg		21 06 50.0	
	comp=Z,88nm,0.8s						
L34A	Svendsen Farm,	5.17	14	IAmb_Lg		21 06 57.6	
	comp=Z,110nm,0.7s						
WLAR	White Oak Lake	5.19	127	IAmb_Lg		21 06 49.0	
	comp=Z,88nm,0.9s						
237A	Washetta, Mont	5.28	159	IAmb_Lg		21 06 50.9	
	comp=Z,56nm,0.9s						
N38A	Joes South For	5.37	43		Pn	21 05 19.5	+1.6
P40A	Paris	5.38	60		Pn	21 05 19.4	+1.3
P40A				IAmb_Lg		21 06 52.9	
	comp=Z,76nm,0.8s						
CCM	Cathedral Cave	5.53	76	IAmb_Lg		21 06 54.3	
	comp=Z,54nm,0.7s						
SGCY	Sterling City	5.63	208		Pn	21 05 23.1	+1.6
SGCY				IAmb_Lg		21 07 11.0	
	comp=Z,72nm,0.9s						
LCAR	Lake Charles	5.63	97	IAmb_Lg		21 06 60.0	
	comp=Z,61nm,0.9s						
Z41A	Richland Creek	5.67	129	IAmb_Lg		21 07 13.4	
	comp=Z,70nm,0.9s						
BRDY	Brady	5.71	188		Pn	21 05 23.8	+1.2
BRDY				IAmb_Lg		21 07 06.6	
	comp=Z,54nm,0.8s						
NATX	Nacogdoches	5.89	151	IAmb_Lg		21 07 18.9	
	comp=Z,41nm,0.7s						
FVM	French Village	6.16	78	Pn	Pn	21 05 30.1	+1.4
FVM				IAmb_Lg		21 07 15.7	
	comp=Z,83nm,0.8s						
SLM	Saint Louis	6.42	72	IAmb_Lg		21 07 19.8	
	comp=Z,80nm,0.8s						
OZNA	Ozona	6.53	204	IAmb_Lg		21 07 35.8	
	comp=Z,41nm,0.9s						
ISCO	Idaho Springs	6.58	298	IAmb_Lg		21 07 42.2	
	comp=Z,36nm,0.8s						
CGM3	Cape Girardeau	6.72	85	IAmb_Lg		21 07 34.1	
	comp=Z,61nm,0.9s						
MNHN	Monahans	6.82	216		Pn	21 05 39.1	+1.2
MNHN				IAmb_Lg		21 07 42.3	
	comp=Z,43nm,0.7s						
ECSD	EROS Data Cent	6.86	9	IAmb_Lg		21 07 38.2	
	comp=Z,50nm,0.9s						
143A	Socs Landing,	6.92	126	IAmb_Lg		21 07 47.6	
	comp=Z,46nm,0.7s						
S44A	Carbondale	7.05	81		Pn	21 05 42.2	+1.2
P43A	Skaggs, Pawnee	7.23	66	IAmb_Lg		21 07 52.6	
	comp=Z,147nm,0.8s						
L40A	Anamosa	7.34	44	IAmb_Lg		21 07 51.6	
	comp=Z,54nm,0.7s						
HNDO	Hondo	7.47	188	IAmb_Lg		21 08 03.5	
	comp=Z,48nm,0.8s						
SUSD	Miller	7.51	355	IAmb_Lg		21 08 17.8	
	comp=Z,47nm,0.8s						
Y45A	Yeager Farm, C	7.60	111	IAmb_Lg		21 08 12.8	
	comp=Z,63nm,0.8s						
EF04	Eagle Ford 04	7.72	178	IAmb_Lg		21 08 09.8	
	comp=Z,44nm,0.8s						
VBMS	Vicksburg	7.81	125	IAmb_Lg		21 08 25.9	
	comp=Z,35nm,0.8s						
DRIO	Del Rio	7.81	197	IAmb_Lg		21 08 12.5	
	comp=Z,31nm,0.7s						
HAYD	Hayden	8.02	299	IAmb_Lg		21 08 23.7	
	comp=Z,26nm,0.7s						
ALPN	Alpine	8.04	217	IAmb_Lg		21 08 26.6	
	comp=Z,34nm,1.0s						
OLIL	Olney	8.08	74	IAmb_Lg		21 08 27.6	
	comp=Z,54nm,0.9s						
L42A	Oliver, Polo	8.22	50	IAmb_Lg		21 08 40.0	
	comp=Z,51nm,0.8s						
JFWS	Jewell Farm	8.45	43	IAmb_Lg		21 08 50.8	
	comp=Z,57nm,0.8s						
RSSD	Black Hills	8.48	329	IAmb_Lg		21 08 40.5	
	comp=Z,28nm,0.9s						
K22A	Casper	8.65	314	IAmb_Lg		21 08 53.3	
	comp=Z,28nm,0.7s						
TXAR	Lajitas Array	8.93	213	Pn	Pn	21 06 08.3	+1.4
	comp=Z,0.6nm,0.3s,baz=32,slow=11,SNR=26						
TXAR				Sn	Sn	21 07 45.6	-1.8
	comp=Z,0.7nm,0.3s,baz=32,slow=16,SNR=4.5						
TXAR				Lg	Lg	21 08 36.9	
	comp=Z,1.3nm,0.3s,baz=33,slow=26,SNR=7.6						
	comp=Z,0.8nm,0.3s						
M44A	Midewin, Midew	8.95	57	IAmb_Lg		21 08 44.9	
	comp=Z,37nm,0.7s						
I40A	Norwalk	8.95	37	IAmb_Lg		21 08 47.4	
	comp=Z,30nm,0.8s						
F33A	5 Mile Ranch,	8.98	8	IAmb_Lg		21 08 44.2	
	comp=Z,30nm,0.9s						
Z47A	Carrollton	9.00	112	IAmb_Lg		21 08 48.3	
	comp=Z,31nm,0.9s						
SPMN	Marine on St.	9.16	24	IAmb_Lg		21 08 58.2	
	comp=Z,24nm,0.7s						
PDAR	Pinedale Array	10.57	307	Pn	Pn	21 06 31.5	+2.1
	comp=Z,0.2nm,0.3s,baz=115,slow=13,SNR=7.1						
PDAR				Sn	Sn	21 08 23.7	-4.1
	comp=Z,0.3nm,0.3s,baz=100,slow=12,SNR=1.5						
PDAR				Lg	Lg	21 09 19.8	
	comp=Z,0.4nm,0.3s,baz=118,slow=28,SNR=2.6						
	comp=Z,0.3nm,0.3s						
ULM	Lac du Bonnet	13.39	6	Pn	Pn	21 07 06.0	-1.6
	comp=Z,3.9nm,0.7s,baz=190,slow=11,SNR=2.1						
ULM				Sn	Sn	21 09 25.6	-11
	comp=Z,0.5nm,0.3s,baz=167,slow=18,SNR=1.5						
ULM				Lg	Lg	21 10 51.2	
	comp=Z,0.6nm,0.3s,baz=119,slow=13,SNR=1.2						

IDC ***22*** *21:06:34.6±1.7, 2°.61S×138°.37E, h0km, mb3.3/2, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=32.2km s-min=18.5km az=171.0*
DJA ***22*** *21:06:40.5±0.7, 1°S±5°×13°9E±°, h10km, M3.2/4, MLv3.2/4*
ISC 22 21:06:38.6±1.0, 2°.54S±0°.08×138°.37E±0°.06, h32km, n8, σ1§34/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.64	32	P	Pn	21 06 50.9	-0.6
SMPI				S	Sb	21 06 59.9	-0.4
GENI	Genyem	1.79	92	P	Pb	21 07 10.1	-0.8
JAY	Jayapura	2.33	89	Pn	Pn	21 07 16.0	+1.2
	3.4nm,0.3s,baz=250,slow=10,SNR=19						
JAY				Lg	Lg	21 07 46.9	
	2.7nm,0.3s,baz=217,slow=20,SNR=4.4						
	14nm,0.4s						
JAY	Jayapura	2.33	89	P	Pn	21 07 16.4	+1.6
BAKI	Biak	2.63	301	P	Pb	21 07 25.0	-0.1
WRA	Warramunga Arr	17.74	193	P	Pn	21 10 41.8	-1.5
	0.1nm,0.3s,baz=4.0,slow=12,SNR=8.9						
	0.5nm,0.6s						
ASAR	Alice Springs	21.44	191	P	P	21 11 23.5	-0.9
	0.4nm,0.5s,baz=14,slow=11,SNR=7.0						
	0.4nm,0.5s						
MKAR	Makanchi Array	69.45	322	P	P	21 17 45.5	+1.6
	0.6nm,0.8s,baz=113,slow=6.9,SNR=2.3						
	0.6nm,0.8s						

GII ***22*** *21:06:37.9±0.0, 34°.277N±0°.003×36°.491E±0°.001, h1km, Mws2.2, confirmed*
GRAL ***22*** *21:06:39.3±0.3, 33°.91N×36°.97E, h0km±127km, MD3.0*
ISC 22 21:06:39.6±1.7, 33°.93N±0°.05×36°.89E±0°.08, h11km, n38, σ1§11/40, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	0.51	308	eP	Pg	21 06 49.5	-0.1
FKH				eS	Sg	21 06 57.1	+0.8
ZAHL	Zahle	0.84	265	eP	Pg	21 06 55.6	-0.3
ZAHL				eS	Sg	21 07 07.5	+0.7
BEIL	Beino	0.85	316	eP	Pg	21 06 55.5	-0.4
HWQ	Hawqa	0.86	294	eP	Pg	21 06 56.0	-0.2
RCY	Rachaya	0.98	244	eP	Pg	21 06 57.8	-0.7
BHL	Bhannes	1.03	269	eP	Pb	21 06 58.9	-0.6
QRWL	Qaraoun	1.08	250	eP	Pb	21 06 59.7	-0.6
SHBL	Chebaa	1.12	239	eP	Pb	21 07 00.2	-0.9
NATI	Neve Ativ	1.17	236	P	Pb	21 07 00.8	-1.0
NATI	Neve Ativ	1.17	236	P	Pb	21 07 00.6	-1.2
NATI	Neve Ativ	1.17	236	S	Sn	21 07 18.4	+0.6
GEM	Giv'at Ha'Em	1.25	235	P	Pn	21 07 02.3	-0.7
GEM	Giv'at Ha'Em	1.25	235	P	Pn	21 07 02.2	-0.8
GEM	Giv'at Ha'Em	1.25	235	S	Sg	21 07 20.7	+0.7
KSHT	Keshet	1.31	224	P	Pn	21 07 03.3	-0.6
KSHT	Keshet	1.31	224	S	Sg	21 07 23.6	+1.9
MMA0B	Mount Meron ar	1.54	234	P	Pn	21 07 07.2	+0.1
MMA0B	Mount Meron ar	1.54	234	S	Sn	21 07 28.1	+1.0
MMC7	Mount Meron ar	1.55	235	P	Pn	21 07 06.9	-0.2
ASF	Jabal al Asfar	1.75	180	P	Pn	21 07 10.6	+0.6
BLGI	Bet Lehem HaGe	1.86	231	P	Pn	21 07 11.4	0.0
BLGI	Bet Lehem HaGe	1.86	231	S	Sn	21 07 36.0	+1.2
MMLI	Mount Malkishu	1.93	220	P	Pn	21 07 13.2	+0.8
MMLI	Mount Malkishu	1.93	220	S	Sb	21 07 40.2	+1.2
QRNJ	Al-Qirein	1.94	215	P	Pn	21 07 13.9	+1.5
OFRI	`Ofer	2.06	231	P	Pb	21 07 16.6	-0.5
OFRI	`Ofer	2.06	231	P	Pn	21 07 14.1	-0.1
OFRI	`Ofer	2.06	231	S	Sn	21 07 40.8	+0.8
SLTI	Sal'it	2.29	223	P	Pn	21 07 18.1	+0.8
SLTI	Sal'it	2.29	223	S	Sb	21 07 48.2	-1.1
DSI	Dead Sea	2.68	209	P	Pn	21 07 24.8	+2.2
DSI	Dead Sea	2.68	209	S	Sb	21 07 59.7	-0.7
GHAJ	Ghor Haditha	2.85	204	P	Pb	21 07 28.0	-2.4
GHAJ	Ghor Haditha	2.85	204	S	Sb	21 08 05.6	+0.3
AMAZ	Amatzia	2.92	215	P	Pn	21 07 27.5	+1.6
AMAZ	Amatzia	2.92	215	S	Sb	21 08 05.0	-2.2
YTIR	Yattir	2.97	211	P	Pn	21 07 28.5	+1.8
YTIR	Yattir	2.97	211	S	Sb	21 08 07.3	-1.5

IDC 22 21:13:18.3±1.7, 2°.60S×138°.45E, h0km, mb3.4/2, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=32.5km s-min=18.6km az=172.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.26	88	Pn	Pn	21 13 56.8	-0.1
	2.1nm,0.3s,baz=270,slow=20,SNR=5.5						
JAY				Lg	Lg	21 14 30.4	
	1.5nm,0.3s,baz=267,slow=19,SNR=3.9						
	12nm,0.8s						
WRA	Warramunga Arr	17.70	193	P	P	21 17 27.3	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=2.5						
	0.4nm,0.7s						
ASAR	Alice Springs	21.40	191	P	P	21 18 06.8	-1.0
	0.9nm,0.9s,baz=20,slow=9.9,SNR=4.4						
	0.9nm,0.9s						
MKAR	Makanchi Array	69.55	322	P	P	21 24 29.3	+0.2
	0.4nm,0.7s,baz=112,slow=8.1,SNR=2.0						
	0.4nm,0.7s						

IDC ***22*** *21:17:42.5±0.7, 2°.71S×138°.34E, h0km, mb4.0/10, mbtmp4.0/14, ML3.7/4, MS3.6/9, Error ellipse: s-maj=15.4km s-min=13.0km az=94.0*
NEIC ***22*** *21:17:45.1±1.4, 2°.7S±0°.1×138°.36E±0°.07, h10km±1km, mb4.3/18, Error ellipse: s-maj=17.5km s-min=11.8km az=176.0*
DJA ***22*** *21:17:47.7±0.4, 2°S±4°×13°9E±°, h10km, M4.0/5, mb4.1/2, MLv4.0/5*
ISC 22 21:17:47.5±0.5, 2°.73S±0°.06×138°.32E±0°.06, h32km, n54, σ1§39/48, mb4.2/20, MS3.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.83	28	P	Pn	21 17 57.8	-5.2
GENI	Genyem	1.85	86	P	Pn	21 18 17.5	+0.4
JAY	Jayapura	2.40	85	Pn	Pn	21 18 24.0	-0.6
	10.0nm,0.3s,baz=264,slow=12,SNR=24						
JAY				Lg	Lg	21 18 56.5	
	11nm,0.3s,baz=297,slow=18,SNR=3.9						
	28nm,0.3s						
JAY	Jayapura	2.40	85	P	Pn	21 18 24.1	-0.5
BAKI	Biak	2.68	305	P	Pb	21 18 32.1	-2.8
FAKI	Fak Fak	6.06	268	Pn	Pn	21 19 17.1	+2.1
PMG	Port Moresby	11.01	127	LR	LR	21 26 07.4	
	comp=Z,393nm,21.4s,baz=306,slow=46						
COEN	Coen	12.15	157	Pn	Pn	21 20 40.0	+1.5
MTN	Manton Dam	12.31	215	Pn	Pn	21 20 41.6	+0.8
SOEI	Soe	15.61	243		Pn	21 21 25.9	+0.4
SOEI				IAmb	IAmb	21 21 45.2	
	comp=Z,37nm,1.1s						
KNRA	Kununurra	15.94	216	Pn	Pn	21 21 30.0	+0.4
KNRA				IAmb	IAmb	21 21 44.4	
	comp=Z,15nm,1.2s						
DAV	Davao City (W)	16.01	307	LR	LR	21 27 55.2	
	comp=Z,75nm,18.3s,baz=152,slow=38						
BATI	Baumata	16.34	242	Pn	Pn	21 21 33.1	-1.6
	comp=Z,2.1nm,0.3s,baz=37,slow=20,SNR=3.9						
	comp=Z,4.3nm,0.3s						
WB0	Warramunga Arr	17.36	192	Pn	Pn	21 21 47.3	-0.3
GUMO	Guam	17.46	22	LR	LR	21 28 05.7	
	comp=Z,161nm,19.0s,baz=184,slow=36						
WRA	Warramunga Arr	17.55	192	P	Pn	21 21 50.3	+0.5
	comp=Z,0.4nm,0.3s,baz=17,slow=12,SNR=14						
WRA				S	Sn	21 24 59.1	-5.4
	comp=Z,1.4nm,1.0s,baz=12,slow=22,SNR=3.5						
WRA				LR	LR	21 29 09.4	
	comp=Z,221nm,18.1s,baz=38,slow=39						
	comp=Z,1.2nm,0.5s						
TOLI2	Tolitoli	17.94	282	P	Pn	21 21 53.7	-1.0
CTA	Charters Tower	18.92	156	LR	LR	21 30 12.1	
	comp=Z,5.9nm,18.9s,baz=325,slow=40						
FITZ	Fitzroy Crossi	19.69	218	P	P	21 22 14.3	0.0
FITZ	Fitzroy Crossi	19.69	218	P	P	21 22 13.4	-0.9
	baz=28,slow=11,SNR=1.6						
FITZ				S	S	21 25 52.4	-2.4
	comp=Z,2.4nm,0.9s,baz=49,slow=20,SNR=2.6						
FITZ				LR	LR	21 30 42.6	
	comp=Z,170nm,20.9s,baz=32,slow=40						
	comp=Z,1.6nm,0.8s						
AS31	Alice Springs	21.25	191	P	P	21 22 31.1	-0.1
ASAR	Alice Springs	21.25	191	P	P	21 22 30.6	-0.5
ASAR	Alice Springs	21.25	191	P	P	21 22 30.1	-1.1
	comp=Z,2.2nm,0.7s,baz=17,slow=11,SNR=11						
ASAR				S	S	21 26 27.9	+2.1
	comp=Z,0.9nm,1.0s,baz=13,slow=25,SNR=3.3						
	comp=Z,2.2nm,0.7s						
MYLDM	Lahad Datu	21.30	292	P	P	21 22 32.1	+0.4
MYLDM				IAmb	IAmb	21 22 47.9	
	comp=Z,30nm,1.4s						
HNR	Honiara	22.50	108	LR	LR	21 31 47.5	
	comp=Z,84nm,19.1s,baz=292,slow=38						
JCJ	Chichijima	29.88	7	LR	LR	21 34 45.2	
	comp=Z,108nm,19.9s,baz=92,slow=34						
JOW	Kunigami	30.95	342	LR	LR	21 34 08.7	
	comp=Z,154nm,19.5s,baz=130,slow=32						
JHJ	Hachijo jima 2	35.68	2	LR	LR	21 35 37.4	
	comp=Z,108nm,19.6s,baz=215,slow=30						
CMAR	Chiang Mai Arr	44.10	300	P	P	21 25 53.4	+0.1
CMAR	Chiang Mai Arr	44.10	300	P	P	21 25 53.0	-0.2
	comp=Z,1.0nm,0.3s,baz=113,slow=8.3,SNR=10						
	comp=Z,1.0nm,0.3s						
LYN	LuoYang	44.33	329	P	P	21 25 55.8	+1.0
LYN				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH	Lanzhou	50.26	323	eP	P	21 26 40.3	-0.8
LZH				pP	pP	21 26 52.5	+1.6
LZH				sP	sP	21 26 59.8	+5.1
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	Shillong	53.02	305	P	P	21 27 01.9	-0.1
GTA	Gaotai	54.85	324	eP	P	21 27 16.1	+1.0
GTA				sP	pP	21 27 24.5	-0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
LSA	Lhasa	55.42	309	P	P	21 27 19.8	0.0
LSA				IAmb	IAmb	21

QSPA	South Pole Qui	87.22	180	P	P	21 30 32.5	+1.9
QSPA	South Pole Qui	87.22	180	P	P	21 30 32.2	+1.6

comp=Z,2.1nm,1.1s,baz=348,slow=0.5,SNR=6.9
comp=Z,2.1nm,1.1s

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*IDC **22** 21:25:56.4±1.0,2°.64S×138°.35E, h0km, mb3.5/5, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=23.9km s-min=16.7km az=176.0*
*DJA **22** 21:26:03.5±1.3,2°.S±11°.×13°.8E±°, h14km±7km, M3.1/4, MLv3.1/4*

ISC 22 21:26:00.4±0.7,2°.54S±0°.07×138°.37E±0°.04,h32km,n12, σ1§63/15,mb3.5/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.65	32	P	Pb	21 26 13.0	-0.3
SMPI				S	Sb	21 26 18.9	-3.2
GENI	Genyem	1.79	92	P	Pb	21 26 32.8	+0.1
JAY	Jayapura	2.33	89	Pn	Pn	21 26 37.3	+0.7
JAY				Lg	Lg	21 27 10.8	
BAKI	Biak	2.63	301	P	Pb	21 26 39.9	-1.9
BAKI				S	Sb	21 27 08.8	-1.5
WRA	Warramunga Arr	17.74	193	P	Pn	21 30 04.0	-1.1
FITZ	Fitzroy Crossi	19.87	218	P	P	21 30 28.1	-1.0
ASAR	Alice Springs	21.44	191	P	P	21 30 45.2	-0.9
CMAR	Chiang Mai Arr	44.06	300	P	P	21 34 06.8	+1.0
MKAR	Makanchi Array	69.45	322	P	P	21 37 06.5	+0.8
BVAR	Borovoye Array	78.98	325	P	P	21 38 03.2	+2.1
ILAR	Eielson Array	85.82	24	P	P	21 38 37.7	+1.2

comp=Z,2.1nm,1.1s,baz=263,slow=8.1,SNR=2.2
5.2nm,0.3s
comp=Z,2.1nm,1.1s,baz=270,slow=19,SNR=11
0.2nm,0.3s,baz=14,slow=12,SNR=9.0
0.4nm,0.5s
baz=42,slow=15,SNR=2.0
2.8nm,1.0s
0.5nm,0.3s,baz=122,slow=7.0,SNR=5.9
0.5nm,0.6s
0.3nm,0.3s,baz=124,slow=6.1,SNR=2.6
0.5nm,0.5s
0.2nm,0.7s,baz=267,slow=5.3,SNR=2.4
0.2nm,0.7s
0.9nm,0.8s,baz=17,slow=11,SNR=8.7
0.9nm,0.8s
0.3nm,0.6s,baz=119,slow=8.3,SNR=1.5
0.3nm,0.6s
0.3nm,0.3s,baz=119,slow=8.3,SNR=1.5
0.3nm,0.6s
0.4nm,0.3s,baz=337,slow=11,SNR=1.3
1.2nm,0.3s,baz=31,slow=22,SNR=7.1
12nm,1.0s
0.8nm,0.4s,baz=98,slow=15,SNR=3.3
0.8nm,0.4s
0.3nm,0.3s,baz=109,slow=8.2,SNR=4.8
0.3nm,0.3s
0.9nm,0.4s,baz=113,slow=7.9,SNR=11
0.9nm,0.4s
baz=235
baz=235
baz=235
3.5nm,0.9s,baz=29,slow=3.2,SNR=4.0

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*IDC **22** 21:34:08.6±0.9,2°.57S×138°.38E, h0km, mb3.8/6, mbtmp3.7/9, ML3.2/3, Error ellipse: s-maj=22.0km s-min=16.7km az=2.0*

ISC 22 21:34:12.6±0.9,2°.7S±0°.1×138°.6E±0°.1,h32km,n9,σ0§20/9, mb3.8/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.07	86	Pn	Pb	21 34 49.5	0.0
JAY				Lg	Lg	21 35 22.2	
WRA	Warramunga Arr	17.69	193	P	Pn	21 38 16.5	-0.2
FITZ	Fitzroy Crossi	19.95	219	P	P	21 38 42.1	0.0
ASAR	Alice Springs	21.39	192	P	P	21 38 57.9	+0.2
MKAR	Makanchi Array	69.70	322	P	P	21 45 19.5	+0.1
ZALV	Zalesovo Beam	71.85	330	P	P	21 45 32.0	-0.2
KURBB	Kurchatov Arra	73.64	325	P	P	21 45 43.1	+0.2
BVAR	Borovoye Array	79.22	325	P	P	21 46 14.4	-0.2
ILAR	Eielson Array	85.81	24	P	P	21 46 48.8	+0.1

baz=264,slow=5.3,SNR=2.8
0.4nm,0.8s

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*BEO **22** 21:37:13.8±1.1,40°.15N×24°.14E, h11km±4km, ML3.5/16*
*SOF **22** 21:37:14.3,40°.31N±0°.01×24°.10E±0°.01, h8km±2km, MD3.4/11*
*ATH **22** 21:37:15.7,40°.32N×24°.09E, h11km±1km, ML3.1/27, Manual Solution by N.Liadopoulou First location: 2019/10/22 21:37:39, This location: 2019/10/23 05:46:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*ISK **22** 21:37:16.9,40°.35N×24°.04E, h7km, ML3.3/34*
*THE **22** 21:37:16.0,40°N±1°.×24°.1E±0°.8, h10km, M3.2/20, MLh3.2/20*

ISC 22 21:37:15.7±0.8,40°.31N±0°.02×24°.08E±0°.01,h12km±5km, n187,σ1§45/221,17C-15D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.08	291	P	Pg	21 37 18.3	0.0
OUR				S	Sg	21 37 20.1	-0.1
OUR	Ouranopolis	0.08	291	P	Pg	21 37 18.8	+0.6
OUR				S	Sg	21 37 20.1	-0.1
PLG	Polygyros	0.49	278	P	Pg	21 37 25.5	+0.2
PLG				S	Sg	21 37 32.1	+0.2
PLG	Polygyros	0.49	278	P	Pg	21 37 25.3	0.0
PLG				S	Sg	21 37 31.8	0.0
PLN1	Chaniotis	0.49	232	P	Pg	21 37 25.8	+0.4
PLN1				S	Sg	21 37 31.9	-0.1
THS1	Thassos, Thass	0.57	41	P	Pg	21 37 26.8	-0.1
THS1				S	Sg	21 37 34.1	-0.4
SOH	Sokhos	0.76	313	P	Pg	21 37 30.1	-0.3
SOH				S	Sb	21 37 41.5	+0.3
SOH	Sokhos	0.76	313	P	Pg	21 37 30.4	0.0
SOH				S	Sg	21 37 39.8	-0.5
KAVA	Kavala	0.77	25	P	Pg	21 37 30.3	-0.3
KAVA				S	Sb	21 37 40.8	-0.7
KAVA	Kavala	0.77	25	P	Pg	21 37 30.3	-0.3
KAVA				S	Sg	21 37 39.7	-0.9
HORT	Hortiatis	0.80	292	P	Pg	21 37 31.1	-0.2
HORT				S	Sg	21 37 41.9	+0.1
HORT	Hortiatis	0.80	292	P	Pg	21 37 30.9	-0.3
DRA2	DRAMA	0.85	3	P	Pb	21 37 32.5	0.0
DRA2				S	Sb	21 37 43.7	-0.3
LMN1	MIRINA LIMNOU	0.86	119	P	Pb	21 37 33.0	+0.2
SRS	Serrai	0.89	336	P	Pg	21 37 32.6	-0.4
SRS				S	Sg	21 37 44.4	-0.2
SRS	Serrai	0.89	336	ePg	Pg	21 37 32.7	-0.3
SRS				eSg	Sn	21 37 47.1	0.0
SRS	Serrai	0.89	336	P	Pg	21 37 32.9	-0.1
THE	Thessaloniki	0.91	291	P	Pg	21 37 32.7	-0.6
THE				S	Sb	21 37 46.3	+0.7
THE	Thessaloniki	0.91	291	P	Pg	21 37 32.7	-0.6
THE				S	Sg	21 37 45.0	-0.2
LIA	Limnos Island	0.94	115	P	Pb	21 37 34.1	+0.2
LIA				S	Sn	21 37 47.3	-0.8
LIA	Limnos Island	0.94	115	P	Pg	21 37 33.5	-0.3
LIA				S	Sg	21 37 45.7	-0.3
XANC	Avdira	0.95	44	P	Pg	21 37 33.6	-0.4
OREA	Oraiokastro	0.98	296	P	Pg	21 37 32.7	-2.0
EFSA	Agios Efstrati	1.03	137	P	Pg	21 37 35.2	-0.5
SMTH	Samothraki Isl	1.12	81	P	Pb	21 37 36.9	-0.2
SMTH				S	Sn	21 37 53.8	+1.1
SMTH	Samothraki Isl	1.12	81	P	Pg	21 37 37.1	-0.2
AOS	Alonnisos	1.14	188	P	Pb	21 37 37.3	-0.2
AOS				S	Sn	21 37 54.2	+1.0
NEO	Neokhori	1.20	214	P	Pb	21 37 37.7	-0.6
NEO				S	Sn	21 37 54.7	+0.2
NEO	Neokhori	1.20	214	P	Pb	21 37 37.5	-0.8
LIT	Litokhoron	1.23	261	P	Pn	21 37 38.2	-0.7
LIT				S	Sn	21 37 56.4	+0.9
LIT	Litokhoron	1.23	261	P	Pn	21 37 38.8	-0.1
KNT	Kendrikon	1.24	314	P	Pn	21 37 38.7	-0.2
KNT	Kendrikon	1.24	314	P	Pn	21 37 38.4	-0.6
MMB	Musomishta	1.27	349	P	Pn	21 37 38.9	-0.5
MMB				S	Sb	21 37 55.4	-0.5
MMB	Musomishta	1.27	349	P	Pn	21 37 39.0	-0.3
MMB				S	Sn	21 37 57.4	+1.0
RDO	Rodhopi	1.39	52	Pn	Pg	21 37 42.2	-0.2
RDO	Rodhopi	1.39	52	P	Pn	21 37 41.0	0.0
RDO				S	Sg	21 38 00.3	-0.2
RDO	Rodhopi	1.39	52	P	Pn	21 37 40.3	-0.7
GADA	Gvkgeada	1.40	94	Pn	Pg	21 37 43.2	+0.6
LRSO	Larissa Observ	1.44	245	P	Pn	21 37 42.0	+0.3
GINA	Giannouli	1.45	244	P	Pn	21 37 42.3	+0.5
RZN	Rozhen	1.48	20	P	Pb	21 37 43.3	+0.1
RZN				S	Sb	21 38 02.2	+0.2
RZN	Rozhen	1.48	20	P	Pn	21 37 42.0	-0.4
ALEX	Alexandroupoli	1.49	68	P	Pb	21 37 43.5	+0.1
VAY	Valandovo	1.53	312	iPn	Pb	21 37 43.8	-0.3
VAY				iSn	Sg	21 38 06.8	+1.8
BOZC	Bozcaada	1.58	106	Pn	Pg	21 37 46.6	+0.5
ENZZ	Sultanice-Enez	1.60	78	Pn	Pg	21 37 46.6	+0.1
ALN	Alexandroupoli	1.61	68	Pn	Pg	21 37 46.5	-0.1
ALN				Sn	Sg	21 38 07.9	+0.4
ALN	Alexandroupoli	1.61	68	P	Pn	21 37 43.6	-0.4
ALN	Alexandroupoli	1.61	68	P	Pn	21 37 43.3	-0.7
KDZ	Kurdzhali	1.63	35	P	Pb	21 37 46.0	+0.2
KDZ				S	Sb	21 38 06.6	+0.2
KDZ	Kurdzhali	1.63	35	Pn	Pb	21 37 45.8	0.0
KDZ	Kurdzhali	1.63	35	P	Pn	21 37 44.1	-0.3
CAVK	Edirne/Enez-Ca	1.64	76	⇓P	Pg	21 37 48.0	+0.9
ENEZ	Enez	1.64	74	Pn	Pg	21 37 47.1	-0.1
ENEZ				Sn	Sg	21 38 09.1	+0.7
AIDA	Aidipsos	1.65	209	P	Pn	21 37 44.7	+0.1
KYMI	Kymi, Euboea I	1.67	179	P	Pn	21 37 44.1	-0.8
KYMI	Kymi, Euboea I	1.67	179	P	Pn	21 37 44.2	-0.7
KKB	Krupnik	1.69	335	S	Sb	21 38 08.9	+0.7
KKB				P	Pn	21 37 45.4	+0.2
SIGR	SIGRI	1.75	128	Pn	Pg	21 37 48.8	-0.5
SIGR	SIGRI	1.75	128	P	Pn	21 37 45.7	-0.2
SIGR	SIGRI	1.75	128	P	Pn	21 37 46.2	+0.2
THL	Klokotos Trika	1.75	246	P	Pn	21 37 45.7	-0.2
THL	Klokotos Trika	1.75	246	P	Pn	21 37 45.8	-0.2
KZN	Kozani	1.77	271	P	Pn	21 37 46.7	+0.4
EZN	Ezine	1.79	105	Pn	Pb	21 37 49.0	+0.6
EZN	Ezine	1.79	105	⇑P	Pb	21 37 47.7	-0.7
EZN				⇑S	Sb	21 38 11.2	+0.4
ATAL	Atalanti	1.81	207	P	Pn	21 37 46.5	-0.2
GELI	Tayfur-Gelibol	1.83	86	Pn	Pg	21 37 49.9	-1.0
EZNE	Ezine-Canakkal	1.84	107	Pn	Pg	21 37 50.2	-0.8
COMU	Canakkale	1.84	96	Pn	Pg	21 37 50.1	-1.0
LKR	Lokris	1.85	207	P	Pn	21 37 47.1	-0.2
AXAR	Agios Charalam	1.89	216	P	Pn	21 37 47.7	-0.2
ERIK	Erikli-Kesan	1.89	78	Pn	Pb	21 37 50.6	+0.4
PLD	Plovdiv	1.91	15	P	Pb	21 37 51.2	+0.7
PLD				S	Sb	21 38 13.8	-0.5
PLD	Plovdiv	1.91	15	Pn	Pb	21 37 49.5	-1.0
PLD	Plovdiv	1.91	15	ePg	Pb	21 37 51.2	+0.7
PLD				eSg	Sg	21 38 16.3	-0.8
MAKR	Makrakomi, Fth	1.98	230	P	Pn	21 37 49.5	+0.3
LPK	Lapseki	2.05	87	Pn	Pb	21 37 53.1	+0.2
DIM	Dimitrovgrad	2.07	33	P	Pn	21 37 48.7	-1.7
DIM				S	Sb	21 38 20.0	+0.9
UKOP	Uzunkopru-Edir	2.11	66	Pn	Pb	21 37 53.7	-0.2
STFN	Stefani	2.17	191	P	Pn	21 37 52.1	+0.3
VIL2	Platees	2.18	197	P	Pn	21 37 52.2	+0.2
PGB	Panagyurishte	2.21	2	P	Pg	21 37 56.9	-1.2
PGB				S	Sg	21 38 26.2	-0.5
PLNA	Plana	2.22	347	P	Pn	21 37 53.3	+0.7
PLNA				S	Sn	21 38 19.9	-0.2
DION	Dionisos Attik	2.23	183	P	Pn	21 37 52.7	+0.2
EVR	Evrytania	2.24	232	P	Pn	21 37 53.2	+0.5
PENT	Pentalofos	2.25	268	P	Pn	21 37 53.9	+0.9
PTL	Penteli	2.26	184	P	Pn	21 37 54.5	+1.5
MAGU	Magoula	2.27	191	P	Pn	21 37 53.0	-0.1
KARY	Karystos	2.29	173	P	Pn	21 37 53.0	-0.4
CANM	Can-anakkale	2.30	96	Pn	Pb	21 37 56.8	-0.3
NEST	Nestorio	2.32	274	P	Pn	21 37 55.1	+1.2
ATHU	Athens Univers	2.35	186	P	Pn	21 37 55.3	+1.1
TETR	Tetrakomo, Epi	2.36	247	P	Pn	21 37 54.6	+0.2
ANX	Ano Chora	2.39	225	P	Pn	21 37 55.6	+0.7
RKY	Sarkoy-Tekirda	2.39	80	Pn	Pb	21 37 57.8	-1.0
VTS	Vitosha	2.40	345	P	Pn	21 37 55.3	+0.3
VTS	Vitosha	2.40	345	ePn	Pn	21 37 55.0	0.0
YAYO	Edremit-Balk	2.40	106	Pn	Pb	21 37 57.8	-1.1
KALE	Kalithea	2.43	219	P	Pn	21 37 55.9	+0.5
LTK	Loutraki	2.44	201	P	Pn	21 37 55.9	+0.4
CHOS	Chios island	2.45	141	Pn	Pb	21 37 58.6	-1.2
CHOS	Chios island	2.45	141	P	Pn	21 37 56.4	+0.7
SERG	Sergoula	2.46	220	P	Pn	21 37 56.2	+0.5
VLY	Voula,Athens	2.46	185	P	Pn	21 37 56.8	+1.1
KRBG	Karabiga-Canak	2.46	87	Pn	Pb	21 37 58.8	-1.1
TRIZ	Trizonia	2.48	219	P	Pn	21 37 56.4	+0.3
BOSS	Bosilegrad	2.50	332	ePn	Pn	21 37 56.7	+0.4
DKL	Dikili	2.50	119	Pn	Pb	21 37 59.8	-0.9
DKL	Dikili	2.50	119	P	Pn	21 37 56.0	-0.3
EFP	Efpalio	2.52	223	P	Pn	21 37 57.2	+0.7
EDRB	Edirne	2.54	52	Pn	Pb	21 37 59.8	-1.4
PVO	Paravola	2.60	230	P	Pn	21 37 58.6	+1.0
SKO	Skopje	2.60	311	iPn	Pn	21 37 58.3	+0.7
AMPL	Ampelaki	2.61	239	P	Pn	21 37 59.1	+1.4
BLSH	Balsha	2.62	347	P	Pn	21 37 58.8	+0.8
BLSH				S	Sb	21 38 37.1	+2.2
OHR	Ohrid	2.62	289	iPn	Pb	21 38 00.5	-2.2
OHR				iSn	Sn	21 38 30.5	+0.8
MRMT	Marmara Adasi	2.70	83	Pn	Pb	21 38 02.9	-1.1
KLV	Kalavryta, Ach	2.71	214	P	Pn	21 37 59.5	+0.3
GUR	Goura	2.72	215	P	Pn	21 37 59.9	+0.4
TRAN	Tran	2.75	337	S	Sn	21 38 34.9	+2.0
MET2	Kameni Chora,	2.75	193	P	Pn	21 37 59.8	+0.1
URLA	Izmir	2.75	134	Pn	Pb	21 38 03.4	-1.5
GONE	Gonen-Balikesi	2.77	94	Pn	Pb	21 38 03.4	-1.9
CRLT	Corlu	2.90	72	Pn	Pb	21 38 05.3	-2.1
SOMA	Soma-Manisa	2.90	112	Pn	Pb	21 38 05.4	-2.0
PHSR	Pinarhisar	2.92	62	Pn	Pb	21 38 05.5	-2.3
PHSR	Pinarhisar	2.92	62	⇑P	Pb	21 38 06.2	-1.7
ELND	Elena	2.95	27	⇓S	Sg	21 38 49.7	-0.7
AXS	Araxos	2.97	226	P	Pn	21 38 03.3	+0.5
IGT	Igoumenitsa	2.98	256	ePg	Pb	21 38 06.5	-2.3
IGT	Igoumenitsa	2.98	256	P	Pn	21 38 04.2	+1.3
DRO	Drossia	2.99	219	P	Pn	21 38 03.4	+0.4
BARS	Barje	3.03	327	ePn	Pn	21 38 03.8	+0.2
MPEP	Malo Peshtene	3.06	355	P	Pb	21 38 09.6	-0.5
MPEP				S	Sb	21 38 50.4	+3.0
PLVB	Pleven	3.11	7	⇓P	Pb	21 38 09.0	-1.9
PLVB				⇓S	Sg	21 38 52.2	-3.3
ZAPS	Zavoj	3.16	340	ePn	Pn	21 38 06.3	+1.0
SLVT	Silivri	3.27	72	Pn	Pb	21 38 10.3	-3.4
KEK	Kerkira	3.34	261	Pn	Pn	21 38 10.9	+3.1
SMG	Samos	3.37	139	P	Pn	21 38 08.6	+0.4
CTYL	Yalikoy Yolu	3.40	69	Pn	Pb	21 38 12.2	-3.7
GORD	Gordes-Manisa	3.46	112	Pn	Pb	21 38 13.3	-3.7
CTKS	Kestanelik-??a	3.49	73	Pn	Pn	21 38 13.5	+3.7
ITM	Ithomi	3.55	209	Pn	Pn	21 38 14.4	+3.7
LOZB	Loznitsa	3.59	31	⇑P	Pb	21 38 16.6	-2.6
SELS	Selova	3.66	324	ePn	Pn	21 38 12.4	+0.2
VLI	Veliai	3.69	194	P	Pn	21 38 13.6	+1.0
VLAD	Vladila	3.70	4	⇓P	Pb	21 38 17.9	-3.1
RAZG	Razgrad	3.73	28	⇑P	Pb	21 38 17.9	-3.7
ZAGS	Zajecar	3.77	339	ePn	Pn	21 38 13.7	+0.1
COPA	Copaceanca	3.92	12	⇓P	Pb	21 38 21.3	-3.4
GOCS	Kraljevo Serbi	4.04	325	ePn	Pn	21 38 17.6	+0.1
DRME	Dracevica, Mon	4.14	299	ePn	Pn	21 38 19.5	+0.7
PDG	Podgorica	4.21	302	⇓P	Pn	21 38 20.4	+0.7
SJES	Sjenica	4.26	315	ePn	Pn	21 38 21.3	+0.7
KOME	Kolasin	4.26	308	ePn	Pn	21 38 21.2	+0.6
GRUS	Gruza	4.37	326	ePn	Pn	21 38 21.7	-0.3
IVAS	Ivanjica	4.39	319	ePn	Pn	21 38 22.1	-0.2
SRE	Strehaia	4.40	352	⇓P	Pn	21 38 26.5	+4.0
KUBS	Kucevo	4.47	337	ePn	Pn	21 38 21.6	-1.8
HERR	Herculane	4.74	346	⇑P	Pn	21 38 30.2	+3.3
TRUS	Trudelj	4.77	326	ePn	Pn	21 38 27.2	-0.3
MDVR	Moldovita	4.80	339	⇑P	Pn	21 38 30.1	+2.2
MDVR	Moldovita	4.80	339	ePn	Pn	21 38 27.8	-0.2
DIVS	Divibare	4.86	323	ePn	Pn	21 38 28.8	+0.1
GZR	Gura Zlata	5.17	350	⇑P	Pn	21 38 36.8	+3.7
VRSS	Vrsac	5.22	338	ePn	Pn	21 38 33.1	-0.6
TIRR	Tirgusor	5.25	36	⇓P	Pn	21 38 38.2	+4.3
MLR	Muntele Rosu	5.36	14	⇑P	Pn	21 38 40.3	+4.6
NEHR	Nehoiu	5.37	17	⇑P	Pn	21 38 40.6	+4.8
TEKS	Tekeris	5.42	323	ePn	Pn	21 38 35.8	-0.6
TPGR	Topolog	5.56	34	⇓P	Pn	21 38 42.8	+4.4
BISRR	Bisoca	5.58	19	⇓P	Pn	21 38 44.2	+5.5
BZS	Buzias	5.61	342	ePn	Pn	21 38 38.1	-0.9
SURR	Surduc	5.63	346	⇑P	Pn	21 38 43.0	+3.7
CFR	Carcaliu	5.71	30	⇑P	Pn	21 38 45.1	+4.8
DOPR	Dopca	5.74	9	⇓P	Pn	21 38 45.6	+4.8
PLOR	Plostina	5.85	18	⇑P	Pn	21 38 46.7	+4.3
VRI	Vrincioaia	5.89	18	⇓P	Pn	21 38 47.2	+4.4
TURR	Turia	5.92	13	⇑P	Pn	21 38 48.3	+5.0
VLDR	Vladesti	6.26	27	⇓P	Pn	21 38 53.2	+5.2
MARR	Marisel-Cluj	6.41	354	⇑P	Pn	21 38 55.1	+5.1
TESR	Tescani	6.48	16	⇓P	Pn	21 38 54.7	+3.7
MORH	Mrgy, Hungar	7.11	328	⇑P	Pn	21 39 02.3	+2.7
MORH	Mrgy, Hungar	7.11	328	ePn	Pn	21 38 59.1	-0.5
BURAR	Bucovina Array	7.35	6	⇓P	Pn	21 39 08.2	+5.1

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*IDC **22** 21:41:53.6±0.4,2°.63S×138°.39E, h0km, mb4.6/20, mbtmp4.6/25, ML4.4/5, MS4.2/22, Error ellipse: s-maj=13.4km s-min=9.9km az=87.0*
*MOS **22** 21:41:54.6±1.0,2°.67S×138°.19E, h15km, mb5.1/38, Error ellipse: s-maj=10.8km s-min=6.0km az=114.6*
*NEIC **22** 21:41:56.2±1.4,2°.60S±0°.08×138°.22E±0°.06, h10km±1km, mb5.1/76, Mww5.1/15, Error ellipse: s-maj=13.4km s-min=10.1km az=176.0*
*NEIC **22** 21:41:56.2,2°.60S×138°.21E, h12km*
*NEIC **22** 21:41:56.2,2°.60S×138°.21E, h12km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}2.44; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-2.39; $M_{r\theta}$-4.30; $M_{\theta\phi}$2.62; $M_{\phi r}$-1.60; Fault plane solution: $M_0$5.81000×10^{16} NP1: ϕ_s175.35000°, δ44.50000°, λ151.70000°. NP2: ϕ_s286.35000°, δ70.59000°, λ49.13000°. Principal axes: T 6.5908, Plg48.0000°, Azm153.0000°; N -2.2152, Plg38.0000°, Azm302.0000°; P -4.3756, Plg16.0000°, Azm45.0000°;*
*DJA **22** 21:41:57.8±0.6,2°.S±2°.×13°.8E±°, h20km±4km, M4.9/50, mb5.0/50, mB5.5/24, MLv5.0/11, Mw(mB)5.0/24, MwMwp4.7/5, Mwp5.0/5*
*BJI **22** 21:41:57.8,2°.88S×138°.47E, h48km, mB5.4/13, mb4.9/67, Ms4.7/27, Ms7 4.5/31*
*GCMT **22** 21:42:00.2±0.2,2°.44S±0°.01×138°.33E±0°.01, h16km, MW5.0/114, Moment Tensor Solution. s46,c61; s114,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.05±.16; $M_{\theta\theta}$-0.45±.10; $M_{\phi\phi}$-2.59±.12; $M_{r\theta}$0.17±.33; $M_{\theta\phi}$3.18±.07; $M_{\phi r}$0.61±.31; Best double couple: $M_0$4.06900×10^{16} NP1:ϕ_s125.00000°, δ45.00000°, λ62.00000°. NP2:ϕ_s342.00000°, δ51.00000°, λ115.00000°. Principal axes: T 3.2410, Plg71.0000°, Azm316.0000°; N 1.6630, Plg19.0000°, Azm146.0000°; P -4.8960, Plg3.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 21:41:55.8±0.3,2°.62S±0°.04×138°.28E±0°.05,h10km,n268, σ1§70/251,mb5.0/98,MS4.3/35,10C-3D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.76	34	P	Pg	21 42 07.3	-3.3
GENI	Genyem	1.89	89	P	Pn	21 42 27.4	-0.8
JAY	Jayapura	2.43	88	Pn	Pn	21 42 34.4	-1.3
JAY				Lg	Lg	21 43 05.3	
JAY	Jayapura	2.43	88	P	Pn	21 42 34.5	-1.1
BAKI	Biak	2.59	303	P	Pn	21 42 38.9	+1.0
RKPI	Ransiki, Papua	4.25	285	P	Pn	21 43 01.4	+0.8
KMPI	Kaimana, Papua	4.68	257	P	Pn	21 43 10.3	+3.7
FAKI	Fak Fak	6.03	267	Pn	Pn	21 43 26.8	+1.6
FAKI	Fak Fak	6.03	267	P	Pn	21 43 27.1	+1.9
MMPI	Merauke	6.17	160	P	Pn	21 43 30.9	+3.8
MANU	Manus Island	9.10	87		Pn	21 44 09.6	+2.2
MSAI	Masohi	9.37	265	P	Pn	21 44 16.0	+5.0
AAI	Ambon	10.12	264	P	Pn	21 44 25.5	+4.1
PMG	Port Moresby	11.11	128		Pn	21 44 38.5	+3.7
PMG	Port Moresby	11.11	128	Pn	Pn	21 44 40.2	+5.3
PMG				LR	LR	21 50 18.2	
MMPI	Merauke	6.17	160	P	Pn	21 43 30.9	+3.8
MANU	Manus Island	9.10	87		Pn	21 44 09.6	+2.2
MSAI	Masohi	9.37	265	P	Pn	21 44 16.0	+5.0
AAI	Ambon	10.12	264	P	Pn	21 44 25.5	+4.1
PMG	Port Moresby	11.11	128		Pn	21 44 38.5	+3.7
FAKI	Fak Fak	6.03	267	P	Pn	21 43 26.8	+1.6
FAKI	Fak Fak	6.03	267	P	Pn	21 43 27.1	+1.9
PMG	Port Moresby	11.11	128	Pn	Pn	21 44 38.5	-0.6
COEN	Coen	12.26	157		Pn	21 44 50.7	+0.1
SANI	Sanana	12.29	272	P	Pn	21 44 52.5	+1.4
MTN	Manton Dam	12.37	214		Pn	21 44 51.2	-1.0
RABL	Rabaul	13.95	97	Pn	Pn	21 45 14.6	+0.8
LUWI	Luwuk	15.58	276		Pn	21 45 33.2	-2.5
LUWI	Luwuk	15.58	276	P	Pn	21 45 39.9	+4.2
SOEI	Soe	15.62	242		Pn	21 45 35.1	-1.2
SOEI				IAmb	IAmb	21 45 44.0	
SOEI	Soe	15.62	242	P	P	21 45 41.9	+1.3
BBSI	Bau Bau	15.92	259	P	Pn	21 45 45.0	+4.8
KNRA	Kununurra	16.00	215		Pn	21 45 40.5	-0.8
BATI	Baumata	16.35	242	Pn

WRA	**Warramunga Arr**	**17.64 192**	P	**Pn**	**21 46 00.0**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=12,slow=12,SNR=30					
	comp=Z,10.0nm,0.9s					
WRA	**Warramunga Arr**	**17.64 192**	P	**Pn**	**21 45 59.1**	**-2.8**
WRA			pmax	pmax		
	comp=Z,3.0nm,1.3s					
TOLI2	**Tolitoli**	**17.88 282**		**Pn**	**21 46 03.8**	**-1.1**
BNSI	**Bone**	**18.22 264**	P	**P**	**21 46 13.4**	**+4.1**
	comp=Z,950nmcomp=Z,50nm,1.4s					
BKSI	**Bulukumba**	**18.31 261**	P	**P**	**21 46 14.4**	**+4.1**
SPSI	**Sidrap Palu**	**18.53 265**	P	**Pn**	**21 46 16.2**	**+3.4**
	comp=Z,3μmcomp=Z,60nm,1.0s					
FITZ	**Fitzroy Crossi**	**19.75 218**	P	**P**	**21 46 24.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.75 218**	P	**P**	**21 46 25.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=45,slow=13,SNR=6.0					
FITZ			S	**S**	**21 50 02.5**	**-6.4**
	comp=Z,25nm,1.0s,baz=45,slow=19,SNR=3.9					
FITZ			LR	LR	21 54 52.2	
	comp=Z,1μm,18.6s,baz=40,slow=39					
	comp=Z,6.4nm,0.8s					
WBSI	**Waikabubak, Su**	**20.02 249**	P	Pn	21 46 33.9	+3.0
	comp=Z,84nm,0.8s					
MYLDM	**Lahad Datu**	**21.23 291**		**P**	**21 46 41.9**	**-0.2**
MYLDM			IAmb	IAmb	21 46 51.7	
	comp=Z,80nm,1.2s					
PLAI	**Plampang**	**21.30 252**	P	**P**	**21 46 43.6**	**+0.7**
	comp=Z,31nm,0.8s					
AS31	**Alice Springs**	**21.34 191**		**P**	**21 46 41.9**	**-1.4**
ASAR	**Alice Springs**	**21.34 191**	P	**P**	**21 46 41.9**	**-1.5**
	comp=Z,20nm,0.8s,baz=10,slow=12,SNR=59					
ASAR			S	**S**	**21 50 40.0**	**-0.6**
	comp=Z,7.9nm,0.9s,baz=12,slow=24,SNR=3.8					
	comp=Z,20nm,0.8s					
PATS	**Pohnpei**	**22.10 65**	P	**P**	**21 46 51.7**	**+0.3**
BBKI	**Banjar Baru**	**23.42 267**	P	**P**	**21 47 07.7**	**+2.3**
MTKI	**Muara Teweh, K**	**23.43 274**	P	**P**	**21 47 07.0**	**+1.5**
TGY	**Tagaytay City**	**23.91 314**	P	**P**	**21 47 11.7**	**+1.5**
	comp=Z,205nm,0.5s,baz=135,slow=1.4,SNR=9.3					
TGY			LR	LR	21 59 11.6	
	comp=Z,385nm,18.4s,baz=112,slow=43					
MBWA	**Marble Bar**	**25.80 223**	P	**P**	**21 47 25.8**	**-1.6**
PSA00	**Pilbara Seismi**	**26.01 222**	P	**P**	**21 47 28.1**	**-1.1**
SBUM	**Sibu**	**26.53 281**		**P**	**21 47 33.1**	**-0.9**
STKA	**Stephens Creek**	**29.27 174**	P	**P**	**21 47 59.4**	**+1.1**
STKA			IAmb	IAmb	21 49 00.5	
	comp=Z,38nm,0.8s					
STKA	**Stephens Creek**	**29.27 174**	P	**P**	**21 47 59.0**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=352,slow=11,SNR=3.1					
	comp=Z,0.7nm,0.3s					
STKA	**Stephens Creek**	**29.27 174**	P	**P**	**21 47 59.4**	**+1.1**
STKA			pmax	pmax		
	comp=Z,38nm,0.9s					
JCJ	**Chichijima**	**29.79 7**	LR	LR	21 58 48.0	
	comp=Z,428nm,19.9s,baz=156,slow=34					
JOW	**Kunigami**	**30.84 342**	LR	LR	22 01 29.3	
	comp=Z,568nm,18.1s,baz=168,slow=38					
DZM	**Mont Dzumac**	**33.50 128**	LR	LR	22 03 00.3	
	comp=Z,363nm,18.3s,baz=341,slow=38					
MORW	**Morawa**	**33.75 217**	P	**P**	**21 48 36.9**	**-0.9**
MORW			IAmb	IAmb	21 49 33.3	
	comp=Z,18nm,1.2s					
MDSI	**Maura Dua**	**34.08 266**	P	**P**	**21 48 41.1**	**+0.2**
	comp=Z,26nm,1.0s					
MYKOM	**Kota Tinggi**	**34.70 277**		**P**	**21 48 44.8**	**-1.4**
MYKOM			IAmb	IAmb	21 48 53.8	
	comp=Z,24nm,1.0s					
LHSI	**Lahat**	**34.72 267**	P	**P**	**21 48 47.3**	**+0.9**
	comp=Z,3μmcomp=Z,47nm,1.7s					
QIZ	**Qiongzhong**	**35.28 309**	P	**P**	**21 48 51.3**	**+0.1**
QIZ			S	**S**	**21 54 23.6**	**-1.8**
QIZ			pmax	pmax		
	comp=Z,15nm,1.6s					
QIZ			LR	LR		
	comp=Z,250nm,15.1s					
QIZ			LR	LR		
	comp=Z,380nm,16.6s					
QIZ			LR	LR		
	comp=Z,410nm,15.3s					
NWAO	**Narrogin (SRO)**	**36.03 211**	LR	LR	22 04 34.7	
	comp=Z,892nm,21.1s,baz=28,slow=38					
JNU	**Nakatsue**	**36.23 349**	LR	LR	22 04 03.5	
	comp=Z,517nm,18.0s,baz=164,slow=37					
BKNI	**Bangkinang**	**37.34 274**	P	**P**	**21 49 07.9**	**-1.0**
IPM	**Ipoh**	**37.89 281**	P	**P**	**21 49 12.3**	**-1.2**
PPI	**Padang Panjang**	**37.93 273**	P	**P**	**21 49 13.3**	**-0.6**
	comp=Z,29nm,0.8s					
KULM	**Kulim**	**38.40 282**	P	**P**	**21 49 16.4**	**-1.5**
MJAR	**Matsushiro Arr**	**38.96 360**	P	**P**	**21 49 22.4**	**+0.1**
MJAR	**Matsushiro Arr**	**38.96 360**	P	P	21 49 19.6	-2.6
	comp=Z,0.5nm,0.3s,baz=179,slow=9.0,SNR=1.8					
MJAR			LR	LR	22 04 42.6	
	comp=Z,228nm,18.6s,baz=174,slow=35					
	comp=Z,0.5nm,0.3s					
MJAR	**Matsushiro Arr**	**38.96 360**	P	**P**	**21 49 22.4**	**+0.1**
MJAR			pmax	pmax		
	comp=Z,8.0nm,1.8s					
NJ2	**Nanjing**	**39.10 333**	⇑P	**P**	**21 49 25.3**	**+1.8**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
NJ2			LR	LR		
	comp=Z,180nm,22.7s					
NJ2			LR	LR		
	comp=Z,360nm,18.0s					
NJ2			LR	LR		
	comp=Z,770nm,18.4s					
CNSH	**ChangSha**	**39.14 323**	P	**P**	**21 49 25.8**	**+2.0**
CNSH			S	**S**	**21 55 20.8**	**-3.0**
CNSH			pmax	pmax		
	comp=Z,29nm,1.3s					
CNSH			LR	LR		
	comp=Z,320nm,16.7s					
CNSH			LR	LR		
	comp=Z,290nm,23.0s					
CNSH			LR	LR		
	comp=Z,630nm,20.3s					
WHN	**Wuhan**	**40.11 327**	P	**P**	**21 49 34.0**	**+2.1**
WHN			pP	**sP**	**21 49 41.8**	**+5.4**
WHN			pmax	pmax		
	comp=Z,100nm,1.2s					
KCSI	**Kotacane, Aceh**	**40.94 278**	P	**P**	**21 49 38.7**	**-0.4**
	comp=Z,12nm,0.9s					
KSRS	**Korea Array**	**41.02 347**	P	**P**	**21 49 38.7**	**-0.6**
	comp=Z,4.9nm,0.9s,baz=171,slow=8.6,SNR=4.5					
	comp=Z,4.9nm,0.9s					
SLVN	**Son La**	**41.21 307**		**P**	**21 49 40.4**	**-0.9**
LHMI	**Lhok Sumawe**	**42.02 281**	P	**P**	**21 49 46.9**	**-1.0**
GYA	**Guiyang**	**42.06 315**	⇓P	**P**	**21 49 49.3**	**+1.1**
GYA			pmax	pmax		
	comp=Z,7.0nm,1.2s					
ENH	**Enshi**	**42.73 322**	P	**P**	**21 49 52.6**	**-0.8**
ENH			IAmb	IAmb	21 50 06.3	
	comp=Z,50nm,1.7s					
TIA	**Tai'an**	**43.39 335**	P	**P**	**21 49 58.6**	**-0.1**
TIA			pmax	pmax		
	comp=Z,9.0nm,1.1s					
CM31	**Chiang Mai Arr**	**44.02 300**	P	**P**	**21 50 03.4**	**-0.7**
CM31			IAmb	IAmb	21 50 11.8	
	comp=Z,36nm,1.2s					
CMAR	**Chiang Mai Arr**	**44.02 300**	P	**P**	**21 50 03.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**44.02 300**	P	**P**	**21 50 04.3**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=115,slow=7.8,SNR=37					
	comp=Z,7.9nm,0.8s					
CMAR	**Chiang Mai Arr**	**44.02 300**	*i* P	**P**	**21 50 04.5**	**+0.4**
CMAR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
KMI	**Kunming**	**44.14 311**	⇑P	**P**	**21 50 05.8**	**+0.6**
KMI			pmax	pmax		
	comp=Z,12nm,1.5s					
KMI			LR	LR		
	comp=Z,200nm,19.0s					
KMI			LR	LR		
	comp=Z,260nm,17.9s					
KMI			LR	LR		
	comp=Z,280nm,21.2s					
CHTO	**Chiang Mai**	**44.17 300**		**P**	**21 50 04.4**	**-0.8**
CHTO			IAmb	IAmb	21 50 11.9	
	comp=Z,60nm,1.8s					
CHTO	**Chiang Mai**	**44.17 300**	P	**P**	**21 50 04.4**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,60nm,1.8s					
LYN	**LuoYang**	**44.22 329**	P	**P**	**21 50 06.0**	**+0.6**
LYN			pP	sP	21 50 15.3	+5.4
LYN			S	**S**	**21 56 45.9**	**+6.9**
LYN			pmax	pmax		
	comp=Z,61nm,0.9s					
LYN			pmax	pmax		
	comp=Z,350nm,7.0s					
LYN			LR	LR		
	comp=Z,350nm,15.5s					
LYN			LR	LR		
	comp=Z,340nm,12.0s					
LYN			LR	LR		
	comp=Z,330nm,17.2s					
HNS	**HongShan**	**45.44 333**	⇓P	**P**	**21 50 14.6**	**-0.4**
HNS			pmax	pmax		
	comp=Z,10.0nm,1.4s					
HNS			LR	LR		
	comp=Z,280nm,20.7s					
HNS			LR	LR		
	comp=Z,340nm,19.1s					
HNS			LR	LR		
	comp=Z,560nm,20.7s					
PZH	**PanZhiHua**	**45.65 312**	P	**P**	**21 50 19.3**	**+2.2**
CD2	**Chengdu**	**46.83 318**	P	**P**	**21 50 27.0**	**+0.8**
CD2			S	**S**	**21 57 18.8**	**+1.9**
CD2			pmax	pmax		
	comp=Z,20nm,0.7s					
CD2			LR	LR		
	comp=Z,450nm,13.5s					
USRK	**Ussuriysk Ar.**	**46.95 354**	P	**P**	**21 50 27.2**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=185,slow=9.7,SNR=6.7					
	comp=Z,4.0nm,0.8s					
BJT	**Baijiatuau**	**47.03 337**	P	**P**	**21 50 27.3**	**-0.2**
BJT			IAmb	IAmb	21 50 31.3	
	comp=Z,16nm,1.3s					
BJT	**Baijiatuau**	**47.03 337**	P	**P**	**21 50 27.3**	**-0.2**
BJT			pmax	pmax		
	comp=Z,16nm,1.3s					
BJI	**Beijing**	**47.05 337**	P	**P**	**21 50 28.5**	**+0.9**
BJI			pmax	pmax		
	comp=Z,5.0nm,1.3s					
TNCH	**TengChong**	**47.35 308**	P	**P**	**21 50 31.9**	**+1.4**
TNCH			pP	sP	21 50 46.1	+11
TNCH			sP	pP	21 50 54.1	+20
TNCH			S	S	21 57 19.1	-5.6
TNCH			sS	sS	21 57 42.5	+12
TNCH			pmax	pmax		
	comp=Z,12nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,91nm,4.2s					
TNCH			LR	LR		
	comp=Z,160nm,9.4s					
TNCH			LR	LR		
	comp=Z,160nm,8.9s					
TNCH			LR	LR		
	comp=Z,210nm,17.4s					
CN2	**Changchun**	**47.63 347**	*e*P	P	21 50 39.3	+7.2
CN2			pmax	pmax		
	comp=Z,20nm,0.7s					
MDJ	**Mudanjiang**	**47.67 352**	P	**P**	**21 50 33.5**	**+1.1**
MDJ			pmax	pmax		
	comp=Z,13nm,1.0s					
MDJ	**Mudanjiang**	**47.67 352**	P	**P**	**21 50 32.4**	**0.0**
MDJ			IAmb	IAmb	21 50 34.3	
	comp=Z,13nm,1.1s					
BNX	**BinXian**	**49.11 350**	⇑P	**P**	**21 50 43.3**	**-0.2**
BNX			pmax	pmax		
	comp=Z,16nm,1.2s					
RAO	**Raoul Island**	**49.30 127**	LR	LR	22 10 42.9	
	comp=Z,238nm,19.1s,baz=234,slow=35					
HHC	**Hu-ho-hao-te**	**49.66 333**	⇓*i*P	**P**	**21 50 50.6**	**+2.6**
HHC			pP	sP	21 51 02.8	+10
HHC			S	**S**	**21 58 00.3**	**+3.5**
HHC			pmax	pmax		
	comp=Z,10.0nm,1.1s					
HHC			pmax	pmax		
	comp=Z,250nm,5.0s					
HHC			LR	LR		
	comp=Z,390nm,18.5s					
HHC			LR	LR		
	comp=Z,210nm,16.8s					
HHC			LR	LR		
	comp=Z,470nm,20.2s					
LZH	**Lanzhou**	**50.16 323**	*e*P	**P**	**21 50 52.4**	**+0.5**
LZH			pP	sP	21 51 02.4	+6.0
LZH			S	**S**	**21 58 07.6**	**+3.7**
LZH			SS	**SS**	**22 01 31.6**	**-5.9**
LZH			pmax	pmax		
	comp=Z,35nm,1.7s					
LZH			pmax	pmax		
	comp=Z,390nm,7.6s					
LZH			LR	LR		
	comp=Z,320nm,16.7s					
LZH			LR	LR		
	comp=Z,510nm,19.9s					
LZH			LR	LR		
	comp=Z,640nm,20.7s					
LZDM	**Lanzhou Array**	**50.16 323**	P	**P**	**21 50 51.3**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=126,slow=7.3,SNR=4.4					
LZDM			LR	LR	22 11 57.6	
	comp=Z,253nm,21.3s,baz=55,slow=36					
	comp=Z,1.7nm,0.3s					
BTO	**Baotou**	**50.17 332**	*e*P	**P**	**21 50 56.0**	**+4.1**
BTO			pP	sP	21 51 08.4	+12
BTO			sP	pP	21 51 13.9	+19
BTO			S	**S**	**21 58 05.5**	**+1.6**
BTO			sS	sS	21 58 28.4	+19
BTO			SS	**SS**	**22 01 36.6**	**-0.9**
BTO			pmax	pmax		
	comp=Z,28nm,1.2s					
BTO			pmax	pmax		
	comp=Z,280nm,4.9s					
BTO			LR	LR		
	comp=Z,850nm,19.0s					
BTO			LR	LR		
	comp=Z,670nm,15.2s					
BTO			LR	LR		
	comp=Z,890nm,18.4s					
RTZ	**Ruatahuna**	**50.28 140**	P	**P**	**21 50 51.8**	**-1.0**
SHL	**Shillong**	**52.93 305**	P	**P**	**21 51 11.9**	**-1.0**
SHL			IAmb	IAmb	21 51 20.8	
	comp=Z,20nm,0.9s					
SHL	**Shillong**	**52.93 305**	P	**P**	**21 51 11.9**	**-1.0**
SHL			pmax	pmax		
	comp=Z,20nm,0.9s					
HIA	**Hailar**	**54.12 345**	P	**P**	**21 51 20.8**	**-0.2**
HIA			IAmb	IAmb	21 51 31.4	
	comp=Z,21nm,1.3s					
HIA	**Hailar**	**54.12 345**	P	**P**	**21 51 20.8**	**-0.2**
HIA			pmax	pmax		
	comp=Z,21nm,1.3s					
HILR	**Hailar Array B**	**54.39 345**	P	**P**	**21 51 22.8**	**-0.1**
	comp=Z,8.5nm,0.8s,baz=144,slow=12,SNR=7.5					
	comp=Z,8.5nm,0.8s					
GTA	**Gaotai**	**54.74 324**	P	**P**	**21 51 27.0**	**+1.1**
GTA			pmax	pmax		
	comp=Z,10.0nm,1.7s					
GTA			LR	LR		
	comp=Z,360nm,17.4s					
GTA			LR	LR		
	comp=Z,230nm,18.5s					
GTA			LR	LR		
	comp=Z,390nm,21.1s					
LSA	**Lhasa**	**55.33 309**	P	P	21 51 29.0	-1.6
LSA	**Lhasa**	**55.33 309**	P	**P**	**21 51 30.3**	**-0.4**
LSA			IAmb	IAmb	21 51 52.9	
	comp=Z,16nm,1.2s					
LSA	**Lhasa**	**55.33 309**	P	**P**	**21 51 30.3**	**-0.4**
LSA			pmax	pmax		
	comp=Z,16nm,1.2s					
ULN	**Ulaanbaatar**	**57.21 335**	P	**P**	**21 51 43.1**	**-0.3**
ULN			IAmb	IAmb	21 51 51.2	
	comp=Z,20nm,1.3s					
ULN	**Ulaanbaatar**	**57.21 335**	*ce*P	**P**	**21 51 45.6**	**+2.2**
ULN			pmax	pmax		
	comp=Z,33nm,2.5s					
SONM	**Songino Array**	**57.46 335**	P	**P**	**21 51 45.0**	**-0.1**
SONM			IAmb	IAmb	21 51 52.1	
	comp=Z,30nm,1.8s					
SONM	**Songino Array**	**57.46 335**	P	**P**	**21 51 45.4**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=148,slow=5.3,SNR=8.1					
SONM			LR	LR	22 17 04.8	
	comp=Z,455nm,19.7s,baz=129,slow=37					
	comp=Z,2.3nm,0.8s					
SONM	**Songino Array**	**57.46 335**	P	**P**	**21 51 45.0**	**-0.1**
SONM			pmax	pmax		
	comp=Z,30nm,1.8s					
PETK	**Petropavlovsk-**	**57.88 14**	P	**P**	**21 51 47.0**	**-0.8**
PETK	**Petropavlovsk-**	**57.88 14**	P	**P**	**21 51 47.4**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=205,slow=9.1,SNR=2.0					
PETK			LR	LR	22 12 22.0	
	comp=Z,91nm,21.0s,baz=194,slow=32					
	comp=Z,1.4nm,0.4s					
PET	**Petropavlovsk**	**58.03 14**	*e*P	**P**	**21 51 50.7**	**+1.9**
PET			*e*S	**S**	**21 59 44.5**	**-4.9**
PET			pmax	pmax		
	comp=Z,20nm,1.1s					
PET			pmax	pmax		
	comp=Z,200nm,6.0s					
PET			pmax	pmax		
	comp=Z,400nm,5.0s					
PET			MLR	MLR		
	comp=Z,200nm,16.0s					
EVN	**Everest**	**58.04 305**	P	**P**	**21 51 49.0**	**-1.2**
EVN			IAmb	IAmb	21 51 54.0	
	comp=Z,23nm,0.8s					
CIT	**Chita**	**58.34 342**	*e*P	**P**	**21 51 53.0**	**+1.9**
CIT			*e*		21 54 02.2	
CIT			pmax	pmax		
	comp=Z,84nm,2.0s					
ZAK	**Zakamensk**	**60.73 335**	*e*P	**P**	**21 52 08.1**	**+0.4**
ZAK			pmax	pmax		
	comp=Z,34nm,1.8s					
TLY	**Talaya**	**61.56 336**	P	**P**	**21 52 13.3**	**0.0**
TLY			IAmb	IAmb	21 52 20.8	
	comp=Z,6.7nm,0.7s					
TLY	**Talaya**	**61.56 336**	*ce*P	**P**	**21 52 15.1**	**+1.8**
TLY			pmax	pmax		
	comp=Z,14nm,1.3s					
HYB	**Hyderabad**	**62.14 291**	*e*P	**P**	**21 52 16.9**	**-0.9**
HYB			*e*pP	**pP**	**21 52 19.4**	**-1.8**
HYB			IVmB_BB		21 52 22.4	
	comp=Z,194nm,3.1s					
HYB			*e*PP	**PP**	**21 54 33.3**	**-1.4**
HYB			IVMs_BB	IVMs_BB	22 29 60.0	
	comp=Z,506nm,14.7s					
HYB	**Hyderabad**	**62.14 291**	IVMs_BB	IVMs_BB	22 29 59.0	
	comp=Z,506nm,14.7s					
HYB	**Hyderabad**	**62.14 291**	*e*P	**P**	**21 52 16.9**	**-0.9**
HYB	**Hyderabad**	**62.14 291**	IVmB_BB		21 52 32.6	
	comp=Z,60nm,2.0s					
HYB	**Hyderabad**	**62.14 291**	*e*PP	PP	21 54 33.5	-1.2
HYB	**Hyderabad**	**62.14 291**	*e*S	**S**	**22 00 42.5**	**-1.1**
MOY	**Mondy**	**62.65 335**	*e*P	**P**	**21 52 20.8**	**+0.1**
MOY			pmax	pmax		
	comp=Z,39nm,3.4s					
SHEM	**Shemya Is, Ala**	**62.84 24**	LR	LR	22 16 44.5	
	comp=Z,314nm,20.6s,baz=262,slow=33					
WMQ	**Urumqi**	**64.67 322**	*e*P	**P**	**21 52 36.9**	**+2.7**
WMQ			pmax	pmax		
	comp=Z,35nm,1.1s					
WMQ			LR	LR		
	comp=Z,120nm,21.3s					
YAK	**Yakutsk**	**64.81 356**	P	**P**	**21 52 34.6**	**+0.1**
YAK	**Yakutsk**	**64.81 356**	LR	LR	22 19 00.8	
	comp=Z,223nm,19.3s,baz=162,slow=34					
YAK	**Yakutsk**	**64.81 356**	*e*P	**P**	**21 52 33.4**	**-1.1**
YAK			*e*		21 53 05.3	
YAK			*e*		21 54 54.1	
YAK			*e*PPP	PPP	21 56 27.9	
YAK			*e*S	**S**	**22 01 11.5**	**-3.8**
YAK			*e**SS	sS	22 01 31.7	+11
YAK			*e*		22 02 24.0	
YAK			*e*SS	**SS**	**22 05 25.5**	**-1.3**
YAK			pmax	pmax		
	comp=Z,36nm,1.0s					
YAK			pmax	pmax		
	comp=N,6.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,2.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,100nm,3.7s					
YAK			pmax	pmax		
	comp=N,297nm,4.4s					
YAK			pmax	pmax		
	comp=E,189nm,3.5s					
YAK			smax	smax		
	comp=E,234nm,4.7s					
YAK			smax	smax		
	comp=N,96nm,3.6s					
SEY	**Seymchan**	**66.25 7**	LR	LR	22 25 12.7	
	comp=N,47nm,18.0s,baz=181,slow=39					
ZSN	**Zaisan**	**68.24 324**	*e*P	**P**	**21 52 57.0**	**+0.1**
ZSN	**Zaisan**	**68.24 324**	*e*P	**P**	**21 52 56.9**	**+0.1**
MK31	**Makanchi Array**	**69.46 323**	*ce*P	**P**	**21 53 04.3**	**-0.2**
MKAR	**Makanchi Array**	**69.46 323**	P	**P**	**21 53 04.0**	**-0.4**
MKAR	**Makanchi Array**	**69.46 323**	P	**P**	**21 53 04.2**	**-0.3**
	comp=N,22nm,0.8s,baz=110,slow=7.8,SNR=58					
	comp=N,22nm,0.8s					
MAKZ	**Makanchi**	**69.66 322**		**P**	**21 53 05.1**	**-0.6**
MAKZ	**Makanchi**	**69.66 322**	P	**P**	**21 53 05.1**	**-0.6**
MAKZ			pmax	pmax		
	comp=Z,43nm,0.9s					
SHLS	**Shalkode**	**69.67 318**	*e*P	P	21 53 04.1	-1.8
	comp=Z,7.9nm,1.0s					
SHLS	**Shalkode**	**69.67 318**	*e*P	P	21 53 04.1	-1.8
SHLS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
TARG	**Taragay, Kyrgy**	**70.22 316**	P	**P**	**21 53 09.7**	**0.0**
TARG			IAmb	IAmb	21 53 17.5	
	comp=Z,18nm,0.9s					
TARG	**Taragay, Kyrgy**	**70.22 316**	P	**P**	**21 53 09.7**	**0.0**
TARG			pmax	pmax		
	comp=Z,18nm,0.9s					
SATY	**Saty**	**70.33 318**	*e*P	**P**	**21 53 10.2**	**+0.1**
	comp=Z,10nm,0.9s					
SATY	**Saty**	**70.33 318**	*e*P	**P**	**21 53 10.1**	**+0.1**
SATY			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KSH	**Kashi**	**70.71 313**	P	**P**	**21 53 13.8**	**+1.4**
KSH			pmax	pmax		
	comp=Z,17nm,0.9s					
NIL	**Nilore**	**70.93 307**		**P**	**21 53 13.4**	**-0.4**
NIL	**Nilore**	**70.93 307**	P	**P**	**21 53 13.4**	**-0.4**
NIL			pmax	pmax		
	comp=Z,42nm,1.7s					
TDK	**Taldyqorghan**	**71.11 320**	*e*P	**P**	**21 53 14.7**	**+0.1**
	comp=Z,6.3nm,0.9s					
TDK	**Taldyqorghan**	**71.11 320**	*e*P	**P**	**21 53 14.7**	**+0.1**
TDK			pmax	pmax		
	comp=Z,6.0nm,0.9s					
MDOK	**Medeo**	**71.29 317**	*e*P	**P**	**21 53 15.8**	**-0.2**
MDOK	**Medeo**	**71.29 317**	*e*P	**P**	**21 53 15.7**	**-0.2**
TNSS	**Tian-Shan**	**71.31 317**	*e*P	**P**	**21 53 16.0**	**-0.4**
TNSS	**Tian-Shan**	**71.31 317**	*e*P	**P**	**21 53 15.9**	**-0.4**
AAA	**Alma-Ata**	**71.40 317**	*e*P	**P**	**21 53 16.6**	**+0.1**
	comp=Z,16nm,1.2s					
AAA	**Alma-Ata**	**71.40 317**	*e*P	**P**	**21 53 16.5**	**+0.1**
AAA			pmax	pmax		
	comp=Z,16nm,1.2s					
ZAA0	**Zalesovo Array**	**71.64 330**		**P**	**21 53 16.6**	**-0.9**
ZALV	**Zalesovo Beam**	**71.64 330**		P	21 53 16.0	-1.6
ZALV	**Zalesovo Beam**	**71.64 330**	P	P	21 53 16.0	-1.6
	comp=Z,4.3nm,0.7s,baz=115,slow=6.1,SNR=17					
	comp=Z,4.3nm,0.7s					
ZALV	**Zalesovo Beam**	**71.64 330**	*i* P	**P**	**21 53 16.6**	**-1.0**
ZALV			pmax	pmax		
	comp=Z,4.0nm,0.7s					
PPT2	**Papeete2**	**72.19 108**	*e*S	S	22 02 37.9	-7.0
	comp=Z,101nm,27.2s					
PPT2			*e*SS	**SS**	**22 07 20.5**	**-2.2**
	comp=Z,150nm,25.0s					
PPT2			*e*LQ	LQ	22 12 22.8	
	comp=Z,622nm,33.8s					
PPT2			*e*LR	LR	22 15 22.7	
	comp=Z,258nm,23.0s					
PPT2			*e*LR	LR	22 15 26.7	
	comp=Z,263nm,31.5s					
TBI	**Tubuai**	**72.68 114**	*e*SS	SS	22 07 30.3	+0.5
	comp=Z,1μm,27.2s					
TBI			*e*LQ	LQ	22 12 39.9	
	comp=Z,3μm,40.2s					
TBI			*e*LR	LR	22 15 41.1	
	comp=Z,1μm,29.5s					
AAK	**Ala-Archa**	**72.84 316**	P	**P**	**21 53 24.7**	**-0.5**
AAK			IAmb	IAmb	21 53 43.1	
	comp=Z,11nm,1.0s					
AAK	**Ala-Archa**	**72.84 316**	*i* P	**P**	**21 53 26.1**	**+0.8**
AAK			pmax	pmax		
	comp=Z,10.0nm,1.2s					
SGDS	**Sogindy**	**73.04 317**	*e*P	**P**	**21 53 26.1**	**-0.1**
BILL	**Bilibino**	**73.16 11**	*i* P	**P**	**21 53 27.8**	**+1.4**
BILL			pmax	pmax		
	comp=Z,7.0nm,1.1s					
KURK	**Kurchatov**	**73.40 325**	P	**P**	**21 53 27.2**	**-0.9**
KURK			IAmb	IAmb	21 53 34.9	
	comp=Z,17nm,0.9s					
KURK	**Kurchatov**	**73.40 325**	P	**P**	**21 53 27.2**	**-0.9**

KURK pmax pmax
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 73.41 325 P **P 21 53 27.3 -0.9**
comp=Z,11nm,0.9s,baz=112,slow=5.6,SNR=42
comp=Z,11nm,0.9s
ARSB Arslanbob 73.47 314 P 21 53 28.1 -0.8
ARSB Arslanbob 73.47 314 P **P 21 53 28.1 -0.8**
ARSB pmax pmax
comp=Z,28nm,0.9s
DRK Karamyk 73.75 312 P **P 21 53 29.7 -1.2**
DRK IAmb IAmb 21 53 34.3
comp=Z,14nm,1.0s
DRK Karamyk 73.75 312 P **P 21 53 29.7 -1.2**
DRK pmax pmax
comp=Z,14nm,1.0s
TIXI Tiksi 74.39 357 P **P 21 53 32.6 -0.9**
TIXI IAmb IAmb 21 53 40.0
comp=Z,35nm,1.5s
TIXI Tiksi 74.39 357 *ce*P **P 21 53 34.3 +0.8**
TIXI pmax pmax
comp=Z,15nm,1.7s
KBL Kabul 74.53 307 P P 21 53 32.9 -2.5
KBL IAmb IAmb 21 53 41.0
comp=Z,14nm,1.2s
KBL Kabul 74.53 307 P P 21 53 32.9 -2.5
KBL pmax pmax
comp=Z,14nm,1.3s
GAR Garm 74.72 312 P **P 21 53 35.4 -0.9**
DZA Taraz 75.13 316 *e*P **P 21 53 38.6 +0.1**
comp=Z,7.4nm,0.7s
DZA Taraz 75.13 316 *e*P **P 21 53 38.5 +0.1**
DZA pmax pmax
comp=Z,7.0nm,0.7s
CHGR Chuyangaron 75.50 311 P 21 53 39.7 -1.0
CHGR Chuyangaron 75.50 311 P **P 21 53 39.7 -1.0**
CHGR pmax pmax
comp=Z,26nm,0.8s
KK31 Karatay Array 75.77 316 P 21 53 41.0 -1.1
KK31 IAmb IAmb 21 53 45.0
comp=Z,14nm,0.9s
KK31 Karatay Array 75.77 316 P **P 21 53 41.0 -1.1**
KK31 pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 75.77 316 P 21 53 41.3 -0.8
KKAR Karatay Array 75.77 316 P **P 21 53 41.3 -0.8**
IUG Iuzhnay 75.82 315 *e*P **P 21 53 42.4 -0.2**
comp=Z,13nm,0.9s
IUG Iuzhnay 75.82 315 *e*P **P 21 53 42.4 -0.2**
IUG pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 75.90 175 P **P 21 53 41.5 -0.7**
VNDA Vanda 75.90 175 P **P 21 53 41.6 -0.6**
comp=Z,2.0nm,0.7s,baz=325,slow=7.2,SNR=23
comp=Z,2.0nm,0.7s
BRLS Borolday 76.22 315 *e*P **P 21 53 44.7 -0.1**
comp=Z,5.1nm,0.9s
BRLS Borolday 76.22 315 *e*P **P 21 53 44.6 -0.1**
BRLS pmax pmax
comp=Z,5.0nm,0.9s
BRZS Berezniki 76.60 323 *e*P **P 21 53 46.7 0.0**
BRZS Berezniki 76.60 323 *e*P **P 21 53 46.7 0.0**
L14K Kuka Creek 78.00 25 P 21 53 53.4 -0.8
M14K Bethel 78.03 26 P **P 21 53 54.3 -0.1**
BVAR Borovoye Array 79.00 325 P **P 21 53 59.5 -0.5**
comp=Z,25nm,0.9s,baz=106,slow=6.4,SNR=39
comp=Z,25nm,0.9s
BORK Borovoye 79.04 325 *ce*P **P 21 53 59.4 -0.8**
BORK pmax pmax
comp=Z,29nm,0.8s
M16K Timber Creek 79.46 26 P 21 54 02.1 -0.2
M16K IAmb IAmb 21 56 27.2
comp=Z,34nm,1.3s
HRA Herat 79.99 305 P **P 21 54 05.5 -0.6**
L18K Granite Mounta 80.94 25 P **P 21 54 10.4 +0.1**
L18K IAmb IAmb 21 54 33.1
comp=Z,51nm,1.9s
KDAK Kodiak Island 81.25 30 P **P 21 54 11.1 -0.8**
KDAK Kodiak Island 81.25 30 P **P 21 54 11.1 -0.8**
comp=Z,6.6nm,0.6s,baz=246,slow=10.0,SNR=6.8
KDAK LR LR 22 23 53.2
comp=Z,170nm,22.0s,baz=181,slow=31
comp=Z,6.6nm,0.6s
TAOE Nuku Hiva Isla 81.28 99 *e*LR LR 22 19 34.3
comp=Z,265nm,26.7s
L19K White Mountain 81.72 26 P **P 21 54 14.3 -0.1**
L19K IAmb IAmb 21 56 38.1
comp=Z,12nm,0.9s
MAW Mawson 82.04 202 P **P 21 54 16.9 +0.9**
comp=Z,4.5nm,1.0s,baz=66,slow=4.4,SNR=6.2
comp=Z,4.5nm,1.0s
KNK Knik Glacier 84.35 28 P **P 21 54 28.6 +0.5**
AB31 Akbulak array 84.38 320 P 21 54 27.8 -0.6
ABKAR Akbulak array 84.38 320 P 21 54 27.6 -0.9
MLY Manley 84.43 24 P 21 54 29.2 +0.7
MLY IAmb IAmb 21 54 36.2
comp=Z,6.7nm,0.8s
NEA2 Nenana 84.98 24 P **P 21 54 30.5 -0.7**
NEA2 IAmb IAmb 21 56 55.2
comp=Z,8.6nm,1.0s
CCB Clear Creek Bu 85.52 25 P 21 54 32.5 -1.3
CCB IAmb IAmb 21 56 56.7
comp=Z,24nm,1.3s
KLU Klutina 85.55 28 P **P 21 54 34.3 +0.1**
KLU IAmb IAmb 21 57 05.8
comp=Z,11nm,1.1s
ILAR Eielson Array 85.93 24 P 21 54 34.0 -1.9
ILAR Eielson Array 85.93 24 P P 21 54 33.8 -2.2
comp=Z,3.4nm,0.8s,baz=262,slow=5.2,SNR=19
ILAR LR LR 22 30 04.7
comp=Z,110nm,21.0s,baz=209,slow=34
comp=Z,3.4nm,0.8s
ILAR Eielson Array 85.93 24 P P 21 54 34.0 -1.9
TOLK Toolik Lake Re 85.99 20 P **P 21 54 36.1 -0.1**
TOLK IAmb IAmb 21 57 00.0
comp=Z,23nm,1.1s
GLB Gilahina Butte 86.52 28 P **P 21 54 38.9 0.0**
GLB IAmb IAmb 21 55 01.0
comp=Z,18nm,1.4s
ARTI Arti 86.58 327 P **P 21 54 38.0 -1.3**
ARTI Arti 86.58 327 P **P 21 54 38.0 -1.3**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
QSPA South Pole Qui 87.32 180 P **P 21 54 43.7 +0.8**
QSPA South Pole Qui 87.32 180 P **P 21 54 44.1 +1.2**
comp=Z,6.7nm,0.8s,baz=330,slow=2.9,SNR=30
comp=Z,6.7nm,0.8s
BMAR Burnt Mountain 87.48 22 P **P 21 54 43.8 +0.3**
BCAR Beaver Creek A 87.76 27 P 21 54 44.2 -0.8
DAWY Dawson 88.98 26 P 21 54 50.9 +0.2
DAWY IAmb IAmb 21 54 57.6
comp=Z,14nm,0.9s
INK Inuvik 91.75 22 P **P 21 55 03.7 +0.3**
comp=Z,3.1nm,0.9s,baz=304,slow=2.8,SNR=4.1
INK LR LR 22 35 50.9
comp=Z,121nm,18.6s,baz=0.5,slow=35
comp=Z,3.1nm,0.9s
DLBC Dease Lake 93.11 32 LR LR 22 34 03.3
comp=Z,1µm,18.9s,baz=252,slow=34
BBB Bella Bella 94.28 38 LR LR 22 32 17.3
comp=Z,181nm,19.8s,baz=243,slow=32
KBZ Khabaz 95.69 314 *i*P **P 21 55 21.6 -0.5**
KBZ pmax pmax
comp=Z,2.0nm,1.1s
KIV Kislovodsk 95.84 314 *e*P **P 21 55 24.5 +1.6**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,90nm,20.0s
YBH Yreka Blue Hor 98.47 48 LR LR 22 33 19.1
comp=Z,13nm,21.4s,baz=281,slow=31
OBN Obninsk 98.84 325 *i*P **P 21 55 36.4 +0.4**
OBN pmax pmax
comp=Z,3.0nm,0.9s
TROLL Troll, Antarti 100.32 193 ⇑P **Pdif 21 55 42.5 0.0**
comp=Z,157nm,1.1s
BRTR Keskin Array B 102.92 310 *i*P **Pdif 21 55 57.2 +2.4**
TXAR Lajitas Array 115.62 59 PKP **PKPdf 22 00 37.0 -2.2**
comp=Z,0.2nm,0.6s,baz=278,slow=2.9,SNR=3.8
TXAR Lajitas Array 115.62 59 PKIKP **PKPdf 22 00 37.0 -2.2**
TORD Torodi Ar. Bea 135.82 286 PKP **PKPdf 22 01 17.5 -0.5**
comp=Z,1.2nm,0.4s,baz=82,slow=2.4,SNR=1.6
DBIC Dimbokro 143.05 278 PKP PKPbc 22 01 30.5 +2.5
comp=Z,3.5nm,0.8s,baz=82,slow=5.4,SNR=3.8
PB08 IPOC Station P 144.84 131 PKPdf **PKPab 22 01 33.1 -0.4**
PB16 IPOC Station P 145.61 128 PKPdf **PKPdf 22 01 35.0 -1.2**
FLOC Florencia 146.08 91 PKPdf **PKPdf 22 01 35.8 -0.7**

ROSC El Rosal 147.40 85 PKPdf 22 01 38.5 -0.7
ROSC El Rosal 147.40 85 PKPbc **PKPdf 22 01 39.5 +0.3**
comp=Z,11nm,0.4s,baz=288,slow=20,SNR=6.1
ROSC El Rosal 147.40 85 P **PKPdf 22 01 39.5 +0.3**
CPUP Villa Florida 147.50 153 PKPbc **PKPdf 22 01 40.8 +2.3**
comp=Z,1.7nm,0.8s,baz=214,slow=3.6,SNR=9.2
LPAZ La Paz 147.84 127 PKPdf 22 01 42.1 +2.0
LPAZ La Paz 147.84 127 PKPbc **PKPdf 22 01 42.5 +2.4**
comp=Z,8.9nm,0.8s,baz=231,slow=4.1,SNR=12
RUSC La Rusia 148.56 83 PKPdf 22 01 40.0 -1.2
SDV Santo Domingo 150.58 77 PKPdf 22 01 47.2 +3.1

IDC ***22*** *21:44:15.2±0.5,2°.62S×138°.40E,h0km,mb4.6/17, mbtmp4.6/22,ML4.6/5,MS4.1/2,Error ellipse: s-maj=14.4km s-min=10.7km az=86.0*
MOS ***22*** *21:44:16.0±0.8,2°.57S×138°.28E,h12km,mb5.2/27,Error ellipse: s-maj=11.4km s-min=6.6km az=111.3*
NEIC ***22*** *21:44:18.3±1.5,2°.54S±0°.08×138°.28E±0°.06,h10km±1km, mb5.0/59,Error ellipse: s-maj=14.1km s-min=10.4km az=178.0*
BJI ***22*** *21:44:19.4,2°.81S×138°.58E,h55km,mB5.1/5,mb4.9/54, Ms4.6/10,Ms7 4.5/12*
ISC 22 21:44:21.1±0.3,2°.66S±0°.04×138°.24E±0°.06,h35km,n382, σ0983/387,mb4.9/75,MS4.5/7,7C-4D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.46**	**87**	Pn	**Pn**	**21 44 56.3**	**-2.5**
	48nm,0.3s,baz=272,slow=8.1,SNR=15						
JAY				Lg	Lg	21 45 28.3	
	12nm,0.3s,baz=311,slow=20,SNR=1.9						
	154nm,0.6s						
FAKI	**Fak Fak**	**5.99**	**267**	Pn	**Pn**	**21 45 48.9**	**+1.6**
MANU	**Manus Island**	**9.14**	**86**	Pn	**Pn**	**21 46 31.7**	**+1.2**
PMG	**Port Moresby**	**11.11**	**127**	Pn	**Pn**	**21 46 58.8**	**+1.2**
PMG	**Port Moresby**	**11.11**	**127**	Pn	**Pn**	**21 46 58.6**	**+1.0**
	0.7nm,0.3s,baz=324,slow=17,SNR=1.9						
PMG	**Port Moresby**	**11.11**	**127**	P	**Pn**	**21 46 58.8**	**+1.2**
COEN	**Coen**	**12.24**	**157**	Pn	**Pn**	**21 47 13.4**	**+0.4**
MTN	**Manton Dam**	**12.32**	**214**	Pn	**Pn**	**21 47 14.4**	**+0.3**
RABL	**Rabaul**	**13.98**	**97**	Pn	**Pn**	**21 47 35.7**	**-1.2**
LUWI	**Luwuk**	**15.54**	**276**	Pn	**Pn**	**21 47 57.6**	**-0.2**
SOEI	**Soe**	**15.57**	**242**	Pn	**P**	**21 48 00.7**	**-1.4**
SOEI				IAmb	IAmb	21 48 11.0	
	comp=Z,134nm,1.0s						
BATI	**Baumata**	**16.30**	**242**	Pn	**P**	**21 48 09.3**	**-0.9**
	comp=Z,9.5nm,0.3s,baz=72,slow=3.2,SNR=1.6						
	comp=Z,34nm,0.5s						
GUMO	**Guam**	**17.43**	**22**		**Pn**	**21 48 20.8**	**-0.9**
GUMO	**Guam**	**17.43**	**22**	P	**Pn**	**21 48 19.4**	**-2.3**
	comp=Z,10nm,0.3s,baz=190,slow=11,SNR=4.6						
	comp=Z,37nm,0.3s						
GUMO	**Guam**	**17.43**	**22**	P	**Pn**	**21 48 20.8**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,345nm,1.4s						
WRAB	**Tennant Creek**	**17.58**	**192**	Pn	**Pn**	**21 48 23.3**	**-0.2**
WRAB	**Tennant Creek**	**17.58**	**192**	P	**Pn**	**21 48 23.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,62nm,1.3s						
WRA	**Warramunga Arr**	**17.59**	**192**		**Pn**	**21 48 23.6**	**-0.1**
WRA	**Warramunga Arr**	**17.59**	**192**	P	**Pn**	**21 48 22.9**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=12,slow=13,SNR=5.5						
WRA				S	**Sn**	**21 51 32.0**	**-6.7**
	comp=Z,7.2nm,1.0s,baz=7.1,slow=21,SNR=2.5						
	comp=Z,3.4nm,0.5s						
WRA	**Warramunga Arr**	**17.59**	**192**	P	**Pn**	**21 48 23.6**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TOLI2	**Tolitoli**	**17.85**	**282**		**P**	**21 48 27.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.70**	**218**	P	**Pn**	**21 48 48.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.70**	**218**	P	**Pn**	**21 48 49.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=1.6						
FITZ				S	**S**	**21 52 23.6**	**-4.3**
	comp=Z,9.1nm,0.9s,baz=102,slow=20,SNR=1.5						
	comp=Z,8.5nm,0.8s						
MYLDM	**Lahad Datu**	**21.20**	**292**	P	**P**	**21 49 05.2**	**+1.3**
AS31	**Alice Springs**	**21.30**	**191**	P	**P**	**21 49 04.2**	**-0.7**
ASAR	**Alice Springs**	**21.30**	**191**	P	**P**	**21 49 04.3**	**-0.6**
ASAR	**Alice Springs**	**21.30**	**191**	P	**P**	**21 49 05.0**	**+0.1**
	comp=Z,8.6nm,0.5s,baz=15,slow=11,SNR=7.1						
ASAR				S	**S**	**21 53 02.7**	**+3.0**
	comp=Z,10nm,1.1s,baz=14,slow=23,SNR=3.4						
	comp=Z,8.6nm,0.5s						
BKB	**Balikpapan**	**21.38**	**273**	P	**P**	**21 49 06.6**	**+0.8**
PATS	**Pohnpei**	**22.15**	**65**	P	**P**	**21 49 12.9**	**-1.1**
PATS				IAmb	IAmb	21 49 15.2	
	comp=Z,128nm,1.2s						
TGY	**Tagaytay City**	**23.91**	**315**	P	**P**	**21 49 30.4**	**-1.6**
	comp=Z,174nm,0.4s,baz=155,slow=19,SNR=3.5						
EIDS	**Eidsvold**	**25.74**	**152**	P	**P**	**21 49 50.0**	**+1.5**
MBWA	**Marble Bar**	**25.75**	**223**	P	**P**	**21 49 48.9**	**+0.3**
MBWA				IAmb	IAmb	21 49 54.9	
	comp=Z,42nm,1.4s						
PSA00	**Pilbara Seismi**	**25.95**	**222**	P	**P**	**21 49 50.6**	**+0.1**
JNU	**Nakatsue**	**36.27**	**350**	P	**P**	**21 51 20.0**	**-1.2**
	comp=Z,19nm,1.0s,baz=187,slow=8.1,SNR=3.7						
	comp=Z,19nm,1.0s						
KULM	**Kulim**	**38.37**	**282**	P	**P**	**21 51 38.8**	**-0.6**
KULM				IAmb	IAmb	21 51 41.6	
	comp=Z,28nm,1.3s						
MJAR	**Matsushiro Arr**	**39.00**	**360**	P	**P**	**21 51 43.2**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=180,slow=8.6,SNR=2.1						
	comp=Z,0.9nm,0.6s						
NJ2	**Nanjing**	**39.12**	**333**	*e*P	**P**	**21 51 47.1**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				LR	LR		
	comp=Z,440nm,22.7s						
NJ2				LR	LR		
	comp=Z,360nm,14.9s						
NJ2				LR	LR		
	comp=Z,700nm,17.6s						
CNSH	**ChangSha**	**39.15**	**323**	P	**P**	**21 51 46.9**	**+1.3**
CNSH				pmax	pmax		
	comp=Z,18nm,1.0s						
WHN	**Wuhan**	**40.12**	**327**	P	**P**	**21 51 55.0**	**+1.3**
WHN				pmax	pmax		
	comp=Z,120nm,1.5s						
KSAR	**Wonju Array Be**	**41.04**	**347**	P	**P**	**21 52 00.4**	**-0.8**
KSAR	**Wonju Array Be**	**41.04**	**347**	P	**P**	**21 52 00.4**	**-0.8**
KSRS	**Korea Array**	**41.05**	**347**	P	**P**	**21 52 00.6**	**-0.6**
	comp=Z,4.9nm,0.9s,baz=162,slow=9.1,SNR=6.5						
	comp=Z,4.9nm,0.9s						
SLVN	**Son La**	**41.21**	**307**	P	**P**	**21 52 02.5**	**-0.3**
TIA	**Tai'an**	**43.41**	**335**	P	**P**	**21 52 19.8**	**-0.7**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CM31	**Chiang Mai Arr**	**44.01**	**300**	P	**P**	**21 52 25.9**	**+0.3**
CM31				IAmb	IAmb	21 52 32.9	
	comp=Z,28nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.01**	**300**	P	**P**	**21 52 25.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.01**	**300**	P	**P**	**21 52 26.2**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=114,slow=7.7,SNR=12						
CMAR				PcP	**PP**	**21 54 09.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=126,slow=3.6,SNR=4.8						
	comp=Z,2.5nm,0.5s						
LYN	**LuoYang**	**44.24**	**329**	P	**P**	**21 52 27.8**	**+0.6**
LYN				pmax	pmax		
	comp=Z,49nm,1.0s						
LYN				LR	LR		
	comp=Z,280nm,10.0s						
LYN				LR	LR		
	comp=Z,350nm,11.1s						
LYN				LR	LR		
	comp=Z,480nm,15.9s						
HNS	**HongShan**	**45.45**	**334**	⇓P	**P**	**21 52 36.6**	**-0.2**
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
HNS				LR	LR		
	comp=Z,250nm,19.1s						
HNS				LR	LR		
	comp=Z,300nm,17.5s						
HNS				LR	LR		
	comp=Z,530nm,18.3s						
PZH	**PanZhiHua**	**45.64**	**312**	P	**P**	**21 52 41.4**	**+2.7**
USRK	**Ussuriysk Ar.**	**46.99**	**354**	P	**P**	**21 52 48.2**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=177,slow=8.4,SNR=5.9						
	comp=Z,5.1nm,0.8s						
BJT	**Baijiatuau**	**47.05**	**337**		**P**	**21 52 48.9**	**-0.4**
BJT				IAmb	IAmb	21 52 51.6	
	comp=Z,7.3nm,0.8s						
BJT	**Baijiatuau**	**47.05**	**337**	P	**P**	**21 52 48.9**	**-0.4**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.8s						

BJI Beijing 47.06 337 P **P 21 52 49.3 -0.1**
BJI pmax pmax
comp=Z,5.0nm,0.7s
CN2 Changchun 47.66 347 *e*P P 21 53 00.3 +6.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 47.70 352 P **P 21 52 54.6 +0.3**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ Mudanjiang 47.70 352 P **P 21 52 53.7 -0.6**
MDJ IAmb IAmb 21 52 56.0
comp=Z,19nm,1.2s
BNX BinXian 49.14 350 ⇑P **P 21 53 04.6 -0.8**
BNX pmax pmax
comp=Z,16nm,1.0s
YSS Yuzhno-Sakhali 49.57 4 *ce*P **P 21 53 06.9 -1.7**
YSS pmax pmax
comp=Z,11nm,1.0s
HHC Hu-ho-hao-te 49.68 333 *e*P **P 21 53 12.4 +2.7**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.9s
HHC LR LR
comp=Z,350nm,18.5s
HHC LR LR
comp=Z,170nm,16.8s
HHC LR LR
comp=Z,490nm,19.3s
URZ Urewera 50.16 140 LR LR 22 16 19.8
comp=Z,308nm,18.2s,baz=312,slow=38
LZDM Lanzhou Array 50.16 323 P **P 21 53 14.0 +0.3**
comp=Z,1.5nm,0.4s,baz=126,slow=14,SNR=1.4
comp=Z,1.5nm,0.4s
LZH Lanzhou 50.16 323 *e*P **P 21 53 14.3 +0.8**
LZH pP pP 21 53 26.0 +1.8
LZH sP sP 21 53 33.3 +4.9
LZH pmax pmax
comp=Z,28nm,1.4s
RTZ Ruatahuna 50.28 140 P **P 21 53 14.6 +0.3**
RTZ IAmb IAmb 21 53 42.3
comp=Z,38nm,1.3s
SHL Shillong 52.92 305 P **P 21 53 34.1 -0.3**
SHL IAmb IAmb 21 53 36.8
comp=Z,18nm,1.0s
SHL Shillong 52.92 305 P **P 21 53 34.1 -0.3**
SHL pmax pmax
comp=Z,18nm,1.0s
HILR Hailar Array B 54.41 345 P **P 21 53 44.5 -0.2**
comp=Z,4.2nm,0.6s,baz=155,slow=8.6,SNR=5.9
comp=Z,4.2nm,0.6s
GTA Gaotai 54.75 324 P **P 21 53 48.8 +1.3**
GTA pmax pmax
comp=Z,10.0nm,1.3s
LSA Lhasa 55.32 309 **P 21 53 52.4 +0.3**
LSA IAmb IAmb 21 53 55.4
comp=Z,7.7nm,0.7s
LSA Lhasa 55.32 309 P **P 21 53 52.4 +0.3**
LSA pmax pmax
comp=Z,8.0nm,0.7s
ZEA Zeya 56.95 352 *e*P **P 21 54 02.3 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 57.23 335 P **P 21 54 04.7 -0.3**
ULN Ulaanbaatar 57.23 335 *ce*P **P 21 54 06.2 +1.1**
ULN pmax pmax
comp=Z,12nm,1.7s
SONM Songino Array 57.48 335 P **P 21 54 06.7 -0.1**
SONM Songino Array 57.48 335 P **P 21 54 07.0 +0.2**
comp=Z,3.0nm,0.8s,baz=146,slow=8.1,SNR=6.8
comp=Z,3.0nm,0.8s
SONM Songino Array 57.48 335 P **P 21 54 07.0 +0.2**
EVN Everest 58.03 305 P **P 21 54 12.3 +0.7**
EVN IAmb IAmb 21 54 14.5
comp=Z,21nm,0.7s
ZAK Zakamensk 60.75 335 *e*P **P 21 54 29.0 -0.3**
ZAK pmax pmax
comp=Z,18nm,1.4s
RAR Rarotonga 62.98 112 LR LR 22 20 41.6
comp=Z,88nm,18.9s,baz=278,slow=35
WMQ Urumqi 64.68 322 *e*P **P 21 54 56.8 +1.1**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ LR LR
comp=Z,140nm,24.0s
YAK Yakutsk 64.85 356 P **P 21 54 55.7 -0.6**
YAK Yakutsk 64.85 356 *e*P **P 21 54 54.9 -1.4**
YAK *e* 21 55 26.1
YAK *e* 21 57 17.2
YAK *e*PPP PPP 21 58 49.9
YAK *e*S **S 22 03 33.6 -1.1**
YAK *e**SS **sS 22 03 53.8 +1.1**
YAK *e*SS **SS 22 07 48.4 +1.6**
YAK pmax pmax
comp=Z,34nm,1.3s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=Z,106nm,3.9s
YAK pmax pmax
comp=N,132nm,3.7s
YAK pmax pmax
comp=E,160nm,3.9s
YAK smax smax
comp=N,183nm,3.5s
YAK smax smax
comp=E,95nm,3.7s
MK31 Makanchi Array 69.47 323 *ce*P **P 21 55 27.0 +1.0**
MKAR Makanchi Array 69.47 323 P **P 21 55 26.6 +0.7**
MKAR Makanchi Array 69.47 323 P **P 21 55 26.4 +0.4**
comp=E,16nm,0.8s,baz=112,slow=7.5,SNR=34
comp=E,16nm,0.8s
MKAR Makanchi Array 69.47 323 P **P 21 55 26.6 +0.7**
MAKZ Makanchi 69.66 322 P **P 21 55 27.6 +0.4**
MAKZ Makanchi 69.66 322 P **P 21 55 27.6 +0.4**
MAKZ pmax pmax
comp=Z,29nm,0.8s
PRZ Przheval'sk 70.11 317 P **P 21 55 30.5 +0.3**
PRZ Przheval'sk 70.11 317 P **P 21 55 30.5 +0.3**
PRZ pmax pmax
comp=Z,32nm,0.8s
KSH Kashi 70.71 313 P **P 21 55 35.4 +1.5**
KSH pmax pmax
comp=Z,13nm,1.1s
KDJ Kajisay 70.81 316 P **P 21 55 35.0 +0.5**
KDJ Kajisay 70.81 316 P **P 21 55 35.0 +0.5**
KDJ pmax pmax
comp=Z,21nm,0.8s
NIKH Nikolski High 70.87 31 P **P 21 55 34.5 +0.1**
baz=237
NIL Nilore 70.92 307 P **P 21 55 36.0 +0.8**
NIL IAmb IAmb 21 55 37.4
comp=Z,9.3nm,0.8s
NIL Nilore 70.92 307 P **P 21 55 36.0 +0.8**
NIL pmax pmax
comp=Z,9.0nm,0.9s
ZAA0 Zalesovo Array 71.66 330 P **P 21 55 38.3 -0.8**
ZAA0 IAmb IAmb 21 55 40.0
comp=Z,6.4nm,0.7s
ZALV Zalesovo Beam 71.66 330 P **P 21 55 38.1 -1.1**
ZALV Zalesovo Beam 71.66 330 P **P 21 55 38.3 -0.9**
comp=Z,6.7nm,0.6s,baz=116,slow=5.8,SNR=16
comp=Z,6.7nm,0.6s
ZALV Zalesovo Beam 71.66 330 *i*P **P 21 55 38.4 -0.7**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 71.80 316 P **P 21 55 40.8 +0.3**
BOOM IAmb IAmb 21 55 43.1
comp=Z,18nm,0.7s
BOOM Boomskoye usch 71.80 316 P **P 21 55 40.8 +0.3**
BOOM pmax pmax
comp=Z,19nm,0.7s
UNV Unalaska Valle 72.53 31 P **P 21 55 44.9 +0.6**
baz=239
P08K Saint George I 72.54 27 P **P 21 55 44.9 +0.6**
baz=236
SPIA Saint Paul Isl 72.55 27 P **P 21 55 44.7 +0.4**
baz=235
AAK Ala-Archa 72.85 316 P **P 21 55 46.9 +0.2**
AAK IAmb IAmb 21 55 49.4
comp=Z,24nm,1.5s
AAK Ala-Archa 72.85 316 *ce*P **P 21 55 48.2 +1.5**
AAK pmax pmax
comp=Z,14nm,1.3s

BILL **Bilibino** 73.21 11 *i* P P 21 55 48.2 +0.1
BILL pmax pmax
comp=Z,7.0nm,1.4s
KURK **Kurchatov** 73.41 325 P P 21 55 48.4 -1.2
KURK IAmb IAmb 21 55 51.4
comp=Z,8.9nm,0.8s
KURK **Kurchatov** 73.41 325 *ce* P P 21 55 50.0 +0.4
KURK pmax pmax
comp=Z,17nm,1.3s
KURBB **Kurchatov Arra** 73.42 325 P P 21 55 49.5 -0.2
comp=Z,7.5nm,0.8s,baz=109,slow=5.0,SNR=18
comp=Z,7.5nm,0.8s
ARSB **Arslanbob** 73.47 314 P P 21 55 50.7 +0.3
ARSB **Arslanbob** 73.47 314 P P 21 55 50.7 +0.3
ARSB pmax pmax
comp=Z,20nm,0.6s
DRK **Karamyk** 73.75 312 P P 21 55 52.1 -0.2
DRK IAmb IAmb 21 55 55.6
comp=Z,16nm,1.2s
DRK **Karamyk** 73.75 312 P P 21 55 52.1 -0.2
DRK pmax pmax
comp=Z,16nm,1.2s
TIXI **Tiksi** 74.43 357 P 21 55 54.4 -0.7
TIXI **Tiksi** 74.43 357 P P 21 55 54.4 -0.7
TIXI pmax pmax
comp=Z,7.0nm,0.8s
FALS **False Pass** 74.60 31 P P 21 55 56.8 +0.3
baz=242
GAR **Garm** 74.72 312 P P 21 55 57.6 -0.1
GAR IAmb IAmb 21 56 00.5
comp=Z,29nm,1.0s
CHGR **Chuyangaron** 75.49 311 P P 21 56 02.4 +0.2
CHGR IAmb IAmb 21 56 04.8
comp=Z,20nm,0.8s
CHGR **Chuyangaron** 75.49 311 P P 21 56 02.4 +0.2
CHGR pmax pmax
comp=Z,20nm,0.8s
S12K **Black Hills** 75.68 30 P P 21 56 02.6 -0.1
baz=243
KK31 **Karatay Array** 75.77 316 P P 21 56 03.4 -0.1
KK31 IAmb IAmb 21 56 05.8
comp=Z,18nm,1.2s
KK31 **Karatay Array** 75.77 316 P P 21 56 03.4 -0.1
KK31 pmax pmax
comp=Z,18nm,1.3s
KKAR **Karatay Array** 75.77 316 P 21 56 03.6 +0.1
KKAR **Karatay Array** 75.77 316 P P 21 56 03.6 +0.1
VNDA **Vanda** 75.87 175 P P 21 56 03.9 +0.4
VNDA **Vanda** 75.87 175 P P 21 56 04.2 +0.8
comp=Z,2.5nm,0.7s,baz=333,slow=6.9,SNR=12
comp=Z,2.5nm,0.7s
GAMB **Gambell** 75.90 21 P P 21 56 04.1 +0.3
baz=232
M11K **Mekoryuk** 76.08 25 P P 21 56 05.0 +0.1
baz=238
SDPT **Sand Point** 76.33 31 P P 21 56 06.4 0.0
baz=244
CHNA **Chernabura Isl** 76.57 32 P P 21 56 07.4 -0.3
baz=245
M13K **Dall Lake** 77.31 26 P P 21 56 11.4 -0.4
baz=241
K13K **Kusilvak Mount** 77.53 24 P P 21 56 13.1 +0.1
baz=239
O14K **Tigyukauivet M** 77.69 27 P P 21 56 13.8 -0.1
baz=243
N14K **Kuskokwak Cree** 77.81 27 P P 21 56 15.0 +0.4
baz=242
L14K **Kuka Creek** 78.05 25 P 21 56 16.0 +0.1
L14K **Kuka Creek** 78.05 25 P P 21 56 16.4 +0.5
baz=241
M14K **Bethel** 78.08 26 P P 21 56 16.9 +0.8
baz=242
TNA **Tin City** 78.27 20 P P 21 56 17.4 +0.4
baz=235
O15K **Ungalikthiuk R** 78.32 28 P P 21 56 18.0 +0.5
baz=244
M15K **Kasigluk River** 78.61 26 P P 21 56 19.5 +0.5
baz=243
ANM **Nome** 78.63 22 P P 21 56 19.5 +0.4
baz=238
N15K **Kwethluk River** 78.63 27 P P 21 56 19.3 +0.1
baz=244
L15K **Ungalak Mounta** 78.72 25 P P 21 56 20.1 +0.5
baz=242
R16K **Pilot Point** 78.72 30 P P 21 56 19.6 -0.1
baz=246
F14K **Arctic Creek** 78.77 21 P P 21 56 20.3 +0.5
baz=237
K15K **Wolf Creek Mou** 78.99 24 P P 21 56 21.4 +0.3
baz=242
BVAR **Borovoye Array** 79.00 325 P P 21 56 21.5 +0.1
comp=Z,15nm,0.6s,baz=109,slow=7.8,SNR=27
comp=Z,15nm,0.6s
CHIR **Chirikof Islan** 79.05 32 P P 21 56 22.1 +0.5
baz=248
BORK **Borovoye** 79.05 325 *ce* P P 21 56 22.3 +0.7
BORK pmax pmax
comp=Z,19nm,0.7s
P16K **Nushagak River** 79.11 28 P P 21 56 21.9 +0.1
baz=246
O16K **Kokwok River B** 79.30 28 P P 21 56 23.2 +0.4
baz=246
G15K **Niukluk** 79.34 21 P P 21 56 23.5 +0.5
baz=239
R17L **Mt. Peulik Vol** 79.35 30 P P 21 56 23.3 +0.1
baz=248
N16K **Nishlik Lake** 79.36 27 P P 21 56 23.7 +0.5
baz=245
F15K **North Star Dit** 79.49 21 P P 21 56 24.3 +0.5
baz=238
M16K **Timber Creek** 79.51 26 P P 21 56 24.4 +0.4
baz=245
L16K **Owhat River** 79.58 25 P P 21 56 24.9 +0.6
baz=244
J16K **Anvik River** 79.83 24 P P 21 56 25.8 +0.1
baz=243
H16K **Elim** 79.83 22 P P 21 56 25.9 +0.3
baz=241
O17K **Koliganek Bris** 79.83 28 P P 21 56 25.7 -0.1
baz=246
P17K **Kvichak River** 79.91 28 P P 21 56 25.6 -0.5
baz=247
SII **Sitkinak Islan** 80.06 31 P P 21 56 27.2 +0.1
baz=250
I17K **Unalakleet** 80.06 23 P P 21 56 26.9 0.0
baz=242
N17K **Nushagak Hills** 80.09 27 P P 21 56 27.2 0.0
baz=246
G16K **Koyuk River** 80.15 21 P P 21 56 27.5 +0.2
baz=241
L17K **Donlin** 80.27 25 P P 21 56 28.2 +0.2
baz=245
M17K **Holitna River** 80.34 26 P P 21 56 28.9 +0.5
baz=246
Q18K **Katmai Hardscr** 80.39 29 P P 21 56 28.4 -0.5
baz=248
J17K **VABM Dome** 80.49 24 P P 21 56 29.5 +0.3
baz=244
K17K **Iditarod** 80.52 25 P P 21 56 29.7 +0.3
baz=245
P18K **Big Mountain,** 80.56 28 P P 21 56 29.7 -0.1
baz=248
C16K **Lisburne Hills** 80.62 18 P P 21 56 30.5 +0.7
baz=238
N18K **Kilae Creek** 80.74 27 P P 21 56 31.0 +0.3
baz=247
O18K **Koktuh Hills** 80.75 28 P P 21 56 30.4 -0.3
baz=248
OHAK **Old Harbor** 80.75 31 P P 21 56 30.8 +0.1
baz=250
G17K **Kiwalik Mounta** 80.83 22 P P 21 56 30.9 -0.1
baz=242
H17K **Granite Mounta** 80.85 22 P P 21 56 31.0 -0.1
baz=243
L18K **Granite Mounta** 80.99 25 P P 21 56 32.1 +0.1
baz=246
D17K **Noatak River** 81.05 19 P P 21 56 32.8 +0.7
baz=240
F17K **Baldwin Pennin** 81.06 21 P P 21 56 32.9 +0.8
baz=242
M18K **Stony River** 81.08 26 P P 21 56 32.9 +0.5
baz=247,SNR=6.0
Q19K **Cape Douglas,** 81.16 29 P P 21 56 33.2 +0.2
baz=250
E17K **Hotham Inlet** 81.17 20 P P 21 56 33.1 +0.4
baz=241,SNR=5.2
RDOG **Red Dog Mine** 81.29 19 P P 21 56 33.8 +0.4
baz=240

KDAK **Kodiak Island** 81.30 30 P P 21 56 33.3 -0.3
KDAK IAmb IAmb 21 56 35.2
comp=Z,25nm,1.1s
KDAK **Kodiak Island** 81.30 30 P P 21 56 33.3 -0.3
KDAK pmax pmax
comp=Z,25nm,1.1s
KDAK **Kodiak Island** 81.30 30 P P 21 56 33.8 +0.2
baz=251
C17K **DeLong Mountai** 81.41 19 P P 21 56 34.7 +0.6
baz=240
N19K **Bonanza Creek** 81.43 27 P P 21 56 34.9 +0.4
baz=249
H18K **Honhosa River** 81.53 22 P P 21 56 35.5 +0.7
baz=244
P19K **Oil Pt** 81.61 29 P P 21 56 35.3 0.0
baz=250
Q20K **Shuyak Island** 81.67 30 P P 21 56 35.4 -0.2
baz=251
F18K **Selawik** 81.70 21 P P 21 56 35.8 +0.3
baz=243
E18K **Tukpahlearik C** 81.75 20 P P 21 56 36.4 +0.6
baz=242,SNR=6.2
G18K **Tagagawik** 81.75 22 P P 21 56 36.0 +0.1
baz=244
L19K **White Mountain** 81.77 26 P P 21 56 36.5 +0.4
baz=248
M19K **Big River Lodg** 81.87 26 P P 21 56 37.0 +0.4
baz=249
GCSA **Galena City Sc** 81.94 23 P P 21 56 36.5 -0.3
baz=246
O20K **Slope Mountain** 82.04 28 P P 21 56 37.7 +0.1
baz=250
C18K **Utukok River** 82.13 19 P P 21 56 37.9 -0.1
baz=241
J19K **Poorman** 82.14 24 P P 21 56 38.2 +0.3
baz=247
B18K **Kokolik River** 82.29 18 P P 21 56 38.6 -0.1
baz=241
L20K **Farewell, AK** 82.31 26 P P 21 56 38.8 -0.1
baz=249
HOM **Homer** 82.37 29 P P 21 56 39.3 0.0
baz=251
H19K **Roundabout Mou** 82.42 22 P P 21 56 40.0 +0.7
baz=246
M20K **Styx River** 82.42 26 P P 21 56 39.7 +0.1
baz=250
F19K **Shaleruckik Mo** 82.47 21 P P 21 56 40.4 +0.8
baz=245
K20K **Telida** 82.54 25 P P 21 56 41.0 +0.9
baz=249
SPCR **Spurr Chakacha** 82.61 27 P P 21 56 40.3 -0.3
baz=251
J20K **Nowinta River** 82.81 24 P P 21 56 42.2 +0.8
baz=249,SNR=7.8
C19K **Lookout Ridge** 82.86 19 P P 21 56 42.3 +0.6
baz=243
I20K **Naaghedeneel** 82.91 23 P P 21 56 42.0 +0.1
baz=248
E19K **Redstone River** 82.93 21 P P 21 56 42.7 +0.6
baz=245
H20K **Anotleneega Mo** 83.01 23 P P 21 56 43.1 +0.6
baz=248
D19K **Kuna River** 83.07 19 P P 21 56 43.6 +0.8
baz=244
SKT **Skwentna** 83.17 27 P P 21 56 42.0 -1.4
SKT IAmb IAmb 21 56 53.2
comp=Z,8.3nm,1.2s
SKT **Skwentna** 83.17 27 P P 21 56 43.3 -0.1
baz=251
PPLA **Purkeypile** 83.18 26 P P 21 56 43.7 +0.1
baz=250
F20K **Avaraart Lake** 83.30 21 P P 21 56 44.7 +0.8
baz=247
CHUM **Lake Minchumin** 83.46 25 P P 21 56 45.7 +0.9
baz=250,SNR=8.0
SEW **Seward** 83.56 29 P P 21 56 45.6 +0.3
baz=253
E20K **Nigu River** 83.62 20 P P 21 56 46.3 +0.7
baz=246
IMAR **Indian Mountai** 83.63 22 P P 21 56 45.6 0.0
D20K **Etivluk River** 83.66 19 P P 21 56 46.5 +0.7
baz=246
RC01 **Rabbit Creek A** 83.71 28 P P 21 56 46.7 +0.6
baz=253
M22K **Willow** 83.73 27 P P 21 56 46.6 +0.4
baz=252
CUT **Chulitna** 83.87 26 P P 21 56 47.3 +0.4
baz=252
H21K **Melozitna Rive** 83.87 23 P P 21 56 47.5 +0.5
baz=250
G21K **Allakaket** 83.91 22 P P 21 56 48.2 +1.1
baz=249
B20K **Meade River** 84.03 18 P P 21 56 48.4 +0.8
baz=245
I21K **Tanana** 84.03 23 P P 21 56 48.3 +0.6
baz=250
BPAW **Bear Paw Mtn.** 84.08 25 P P 21 56 48.5 +0.5
baz=251
PMR **Palmer** 84.14 27 P P 21 56 48.7 +0.4
baz=253
F21K **Alatna River** 84.17 21 P P 21 56 48.6 +0.1
baz=249
TRF **Thorofare Moun** 84.18 25 P P 21 56 48.8 0.0
baz=252
PWL **Port Wells** 84.30 28 P P 21 56 48.9 -0.4
PWL IAmb IAmb 21 56 50.3
comp=Z,15nm,1.0s
PWL **Port Wells** 84.30 28 P P 21 56 49.2 -0.1
baz=254
AB31 **Akbulak array** 84.38 320 P P 21 56 49.3 -0.6
AB31 IAmb IAmb 21 56 52.3
comp=Z,19nm,1.3s
ABKAR **Akbulak array** 84.38 320 P 21 56 49.3 -0.5
KNK **Knik Glacier** 84.40 28 P P 21 56 49.2 -0.5
KNK **Knik Glacier** 84.40 28 P P 21 56 49.5 -0.2
baz=254,SNR=7.8
C21K **Knifeblade Rid** 84.45 19 P P 21 56 50.0 +0.3
baz=247
E21K **Killik River** 84.45 20 P P 21 56 50.5 +0.7
baz=248
MLY **Manley** 84.48 24 P P 21 56 50.4 +0.3
MLY IAmb IAmb 21 56 53.0
comp=Z,9.8nm,1.1s
MLY **Manley** 84.48 24 P P 21 56 50.9 +0.8
baz=252,SNR=7.0
H22K **Ishtalitna Cre** 84.51 23 P P 21 56 50.9 +0.7
baz=251
P23K **Montague Islan** 84.52 29 P P 21 56 50.2 -0.1
baz=255
SML **Sawmill** 84.56 27 P P 21 56 51.1 +0.6
baz=254,SNR=5.7
B21K **Ikpikpuk River** 84.68 19 P P 21 56 51.6 +0.7
baz=248
F22K **John River** 84.75 21 P P 21 56 51.3 0.0
baz=250
WAT1 **Susitna Watana** 84.75 26 P P 21 56 50.7 -0.7
baz=254
G22K **Bettles** 84.80 22 P P 21 56 51.2 -0.3
baz=251
M23K **Glacier View** 84.84 27 P P 21 56 51.8 -0.1
baz=255
MCK **McKinley** 84.84 25 P P 21 56 51.6 -0.3
baz=253,SNR=6.7
NEA2 **Nenana** 85.03 24 P P 21 56 53.0 +0.2
baz=253,SNR=5.7
SCM **Sheep Creek Mo** 85.03 27 P P 21 56 52.3 -0.7
SCM **Sheep Creek Mo** 85.03 27 P P 21 56 52.3 -0.7
SCM pmax pmax
comp=Z,41nm,1.3s
SCM **Sheep Creek Mo** 85.03 27 P P 21 56 53.1 +0.2
baz=255
WAT6 **Susitna Watana** 85.04 27 P P 21 56 53.2 +0.1
baz=254,SNR=6.5
D22K **Ayikyak River** 85.05 20 P P 21 56 53.6 +0.8
baz=249
I23K **Minto, Yukon-K** 85.08 24 P P 21 56 53.6 +0.6
baz=253,SNR=7.4
E22K **Anaktuvuk Pass** 85.09 21 P P 21 56 53.9 +0.8
baz=250,SNR=7.1
A22K **Sinclair Lake** 85.10 18 P P 21 56 53.5 +0.6
baz=247
H23K **Yukon River** 85.20 23 P P 21 56 54.5 +0.8
baz=253
G23K **Bananza Creek** 85.29 22 P P 21 56 54.3 +0.2
baz=252
B22K **Teshekpuk Lake** 85.33 18 P P 21 56 55.0 +0.9
baz=249
DHY **Denali Highway** 85.33 26 P P 21 56 53.9 -0.6

DHY **Denali Highway** 85.33 26 P P 21 56 54.3 -0.2
baz=255,SNR=14
COLD **Coldfoot** 85.38 22 P P 21 56 55.0 +0.5
baz=252
KLU **Klutina** 85.59 28 P P 21 56 56.4 +0.6
baz=256,SNR=5.4
COLA **College** 85.61 24 *i* P P 21 56 56.4 +0.8
COLA pmax pmax
comp=Z,5.0nm,0.9s
M24K **Tolsona, Glenn** 85.63 27 P P 21 56 56.1 +0.2
baz=256
D23K **Nanushuk River** 85.76 20 P P 21 56 56.3 0.0
baz=251
E23K **Chandalar** 85.85 21 P P 21 56 57.2 +0.3
baz=252,SNR=18
POKR **Poker Plat Res** 85.85 24 P P 21 56 56.9 0.0
baz=255
H24K **Noodor Dome** 85.86 23 P P 21 56 57.4 +0.4
baz=254
HDA **Harding Lake** 85.86 25 P P 21 56 56.9 0.0
baz=255
KAIM **Kayak Island** 85.96 30 P P 21 56 58.2 +0.7
baz=258
ILAR **Eielson Array** 85.98 25 P P 21 56 55.7 -1.8
ILAR **Eielson Array** 85.98 25 P P 21 56 55.4 -2.1
comp=Z,4.5nm,0.7s,baz=260,slow=5.3,SNR=15
comp=Z,4.5nm,0.7s
ILAR **Eielson Array** 85.98 25 P P 21 56 55.7 -1.8
TOLK **Toolik Lake Re** 86.04 20 P P 21 56 58.2 +0.4
baz=252,SNR=6.8
C23K **Itkillik River** 86.06 19 P P 21 56 58.5 +0.7
baz=251
BMRM **Bremner River** 86.10 28 P P 21 56 57.5 -0.8
BMRM IAmb IAmb 21 57 09.8
comp=Z,21nm,1.3s
BMRM **Bremner River** 86.10 28 P P 21 56 58.4 +0.2
baz=257
PAX **Paxson** 86.15 26 P P 21 56 59.0 +0.5
baz=256
HARP **HAARP** 86.16 27 P P 21 56 59.2 +0.7
baz=257
K24K **Donnelly Dome** 86.21 26 P P 21 56 59.1 +0.4
baz=256
N25K **Chitina, Valde** 86.24 28 P P 21 56 59.6 +0.6
baz=257
G24K **Hadweenzic Riv** 86.25 23 P P 21 56 59.9 +1.0
baz=254
E24K **Your Creek** 86.26 21 P P 21 56 59.3 +0.4
baz=253
F24K **Squaw Lake** 86.32 22 P P 21 56 59.9 +0.7
baz=254
D24K **Happy Valley** 86.45 20 P P 21 57 00.8 +1.0
baz=253
J25K **Salcha River,** 86.58 25 P P 21 57 01.0 +0.4
baz=256
ARTI **Arti** 86.59 327 *d i* P P 21 57 00.6 -0.1
ARTI S SKSac 22 07 26.0 +1.4
ARTI pmax pmax
comp=Z,19nm,2.1s
RIDG **Independent Ri** 86.60 26 P P 21 57 01.4 +0.8
baz=257
C24K **Franklin Bluff** 86.66 20 P P 21 57 01.9 +1.1
baz=253
VRDI **Verde Repeater** 86.70 28 P P 21 57 00.8 -0.6
VRDI IAmb IAmb 21 57 02.5
comp=Z,11nm,1.2s
CRQE **Cirque** 86.78 29 P P 21 57 02.2 +0.5
baz=259
H25L **Birch Creek** 86.79 23 P P 21 57 01.9 +0.5
baz=256
G25K **Bearman Lake** 86.80 23 P P 21 57 01.9 +0.4
baz=256
TGL **Tana Glacier** 86.90 29 P P 21 57 01.9 -0.3
TGL IAmb IAmb 21 57 03.9
comp=Z,17nm,1.1s
MCARA **McCarthy VSAT** 86.93 28 P P 21 57 02.8 +0.5
baz=259
SCRK **Sand Creek** 87.02 26 P P 21 57 02.9 +0.1
baz=258
L26K **Log Cabin Wild** 87.11 27 P P 21 57 03.2 +0.1
baz=258
M26K **Nabesna, AK** 87.14 27 P P 21 57 04.1 +0.7
baz=259
F25K **Christian Rive** 87.17 22 P P 21 57 04.2 +0.8
baz=256
MESA **MESA** 87.23 30 P P 21 57 04.2 +0.3
baz=260
QSPA **South Pole Qui** 87.28 180 P P 21 57 06.5 +2.4
QSPA **South Pole Qui** 87.28 180 P P 21 57 04.9 +0.8
comp=Z,8.3nm,0.9s,baz=342,slow=3.7,SNR=8.7
comp=Z,8.3nm,0.9s
J26L **Joseph Creek** 87.31 25 P P 21 57 04.5 +0.4
baz=258
E25K **Arctic Village** 87.33 21 P P 21 57 04.4 +0.3
baz=256,SNR=5.7
D25K **Kavik River** 87.34 20 P P 21 57 04.5 +0.3
baz=255
BMAR **Burnt Mountain** 87.53 22 P P 21 57 05.6 +0.5
I26K **Coal Creek Min** 87.65 24 P P 21 57 06.6 +1.0
baz=258
M27K **Edge Creek, AK** 87.65 27 P P 21 57 06.6 +0.7
baz=260
CTG **Chitna Glacier** 87.66 29 P P 21 57 06.3 +0.3
baz=260
G26K **Porcupine Rive** 87.73 23 P P 21 57 06.5 +0.6
baz=258
F26K **Sheenjek River** 87.76 22 P P 21 57 07.1 +1.0
baz=258
L27K **Beaver Creek,** 87.80 27 P P 21 57 06.7 +0.3
baz=260
BCAR **Beaver Creek A** 87.81 27 P 21 57 07.1 +0.5
K27K **Chicken** 87.86 26 P P 21 57 07.0 +0.3
baz=260
C26K **Camden Bay** 87.98 20 P P 21 57 07.6 +0.5
baz=257
PINM **Pinnacle** 88.05 30 P P 21 57 08.3 +0.5
baz=261
O28M **Mount Upton** 88.18 29 P P 21 57 08.9 +0.2
baz=261
C27K **Jago River** 88.32 20 P P 21 57 09.1 +0.3
baz=258
I27K **Kandik River** 88.33 24 P P 21 57 09.3 +0.3
baz=260
PNL **Peninsula** 88.42 30 P P 21 57 09.7 +0.3
baz=262
YUK8 **Steele Glacier** 88.46 29 P P 21 57 09.9 -0.1
baz=262
H27K **Steamboat Moun** 88.48 24 P P 21 57 10.4 +0.8
baz=260,SNR=17
G27K **Doyon Strip** 88.53 23 P P 21 57 10.3 +0.4
baz=260
E27K **Colleen River** 88.80 22 P P 21 57 11.7 +0.6
baz=260
O29M **Mount Kennedy** 88.91 30 P P 21 57 12.5 +0.6
baz=263
I28M **Miner Creek** 89.00 24 P P 21 57 12.3 +0.1
baz=261,SNR=8.7
YUK4 **Talbot Arm** 89.01 29 P P 21 57 12.9 +0.5
baz=263
DAWY **Dawson** 89.03 26 P 21 57 12.8 +0.5
DAWY **Dawson** 89.03 26 P P 21 57 12.7 +0.5
baz=262,SNR=12
YUK6 **Outpost Mounta** 89.09 29 P P 21 57 12.8 -0.1
baz=263
D27M **Malcolm River** 89.20 21 P P 21 57 13.5 +0.4
baz=260
M29M **Somme Creek** 89.23 28 P P 21 57 13.8 +0.5
baz=263,SNR=6.2
P29M **Windy Craggy** 89.25 30 P P 21 57 13.6 +0.3
baz=264
F28M **Old Crow** 89.35 22 P P 21 57 14.1 +0.5
baz=262
L29M **L29M** 89.47 27 P P 21 57 14.8 +0.4
baz=263,SNR=8.5
HYT **Haines Junctio** 89.50 29 P P 21 57 14.9 +0.3
baz=264,SNR=5.1
J29N **Klondike Camp** 89.59 26 P P 21 57 14.8 -0.1
baz=263
E28M **Babbage River** 89.62 21 P P 21 57 15.4 +0.5
baz=262
I29M **Ogilvie Camp,** 89.66 25 P P 21 57 15.6 +0.4
baz=263,SNR=6.2
P30M **Million Dollar** 89.69 30 P P 21 57 15.7 +0.2
baz=264
H29M **Whitestone** 89.74 24 P P 21 57 15.7 +0.2
baz=263
N30M **Aishikik Lake** 89.77 29 P P 21 57 15.8 0.0
baz=264

K29M	Barlow Dome	89.82	26	P	P	21 57 16.3	+0.2
	baz=264,SNR=9.8						
PLBC	Pleasant Camp	89.92	31	P	P	21 57 16.1	-0.4
	baz=265						
G29M	Pine Creek	89.97	23	P	P	21 57 16.6	+0.1
	baz=263						
M30M	Minto, Yukon	90.02	27	P	P	21 57 17.1	+0.2
	baz=264						
O30N	Mendenhall	90.18	29	P	P	21 57 17.7	0.0
	baz=265						
E29M	Blow River	90.19	22	P	P	21 57 17.4	-0.1
	baz=263						
SIT	Sitka	90.27	33	P	P	21 57 17.8	-0.3
	baz=266						
N31M	Braeburn, Yuko	90.39	29	P	P	21 57 18.6	-0.1
	baz=265						
J30M	Hart River	90.42	25	P	P	21 57 18.3	-0.6
	baz=265,SNR=6.1						
I30M	Mount Dempster	90.45	25	P	P	21 57 18.8	-0.2
	baz=265						
SYO	Syowa Base	90.64	201⇓	eP	P	21 57 21.0	+1.4
SYO	Syowa Base	90.64	201⇓	ePcP	PcP	21 57 23.3	+2.6
G30M	tAoh Zraii Nji	90.68	23	P	P	21 57 19.6	-0.3
	baz=265						
S32K	Killisnoo	90.70	33	P	P	21 57 19.9	-0.2
	baz=266						
WHY	Whitehorse	90.77	29	P	P	21 57 19.9	-0.7
	baz=266						
F30M	Barrier River	90.90	22	P	P	21 57 21.0	+0.1
	baz=265						
M31M	Drury Creek, Y	91.10	28	P	P	21 57 21.5	-0.4
	baz=266						
P32M	Atlin	91.28	31	P	P	21 57 22.7	-0.2
	baz=267						
H31M	Peel River	91.34	24	P	P	21 57 22.9	-0.1
	baz=266						
CRAG	Craig	91.40	35	P	P	21 57 23.2	-0.1
	baz=267						
U33K	Whale Pass	91.43	34	P	P	21 57 23.7	+0.2
	baz=267						
G31M	Satah River	91.44	23	P	P	21 57 23.1	-0.2
	baz=267						
N32M	Quiet Lake	91.67	29	P	P	21 57 24.6	0.0
	baz=268						
INK	Inuvik	91.80	22	P	P	21 57 23.0	-1.9
	comp=Z,1.9nm,0.8s,baz=249,slow=5.5,SNR=4.0						
	comp=Z,1.9nm,0.8s						
INK	Inuvik	91.80	22	P	P	21 57 25.0	0.0
	baz=267						
R33M	Jennings River	92.68	31	P	P	21 57 28.6	-0.8
	baz=269						
OBN	Obninsk	98.85	325	*i* P	P	21 57 57.4	0.0
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TORD	Torodi Ar. Bea	135.79	286	PKP	PKPdf	22 03 37.0	-2.1
	comp=Z,1.7nm,0.4s,baz=85,slow=3.7,SNR=3.3						
CPUP	Villa Florida	147.48	153	PKPbc	PKPdf	22 04 00.1	+0.4
	comp=Z,0.7nm,0.7s,baz=270,slow=1.0,SNR=3.6						
LPAZ	La Paz	147.85	127	PKPbc	PKPdf	22 04 01.8	+0.5
	comp=Z,4.2nm,0.8s,baz=225,slow=1.4,SNR=4.6						

NIED ***22*** *21:45:45.2, 31°.47N×128°.84E, h7km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.74; $M_{\theta\theta}$0.92; $M_{\phi\phi}$-0.17; $M_{r\theta}$0.34; $M_{\theta\phi}$3.10; $M_{\phi r}$-0.58; Fault plane solution: $M_0$3.25000×10^{14} NP1: ϕ_s274.00000°, δ77.00000°, λ-11.00000°. NP2:ϕ_s6.00000°, δ79.00000°, λ-167.00000°.*

JMA 22 21:45:45.2±0.3, 31°.5N±0°.6×128°.8E±0°.7, h7km±2km, MV3.8/28, SW OFF KYUSHU, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.78	74	*i* P	Pg	21 45 59.8	-0.4
JSJ				S	Sg	21 46 10.1	-0.1
JFU	Fukue jima 2	1.19	356	P	Pg	21 46 07.7	-0.4
JFU				S	Sn	21 46 25.0	+0.3
JSU	Suzuyama	1.38	88	P	Pn	21 46 10.5	-0.5
JKC	Kuchinoerabu	1.53	130	P	Pb	21 46 13.6	-0.4
JTZ	Takazaki	1.96	77	P	Pn	21 46 18.8	-0.1

NEIC ***22*** *21:47:56.6±1.4, 17°.41N±0°.03×68°.91W±0°.04, h10km±2km, ML2.1/9, Md3.4/10(RSPR), Error ellipse: s-maj=6.2km s-min=4.7km az=290.0*
RSPR ***22*** *21:48:00.6, 17°.96N×68°.79W, h135km±5km, MD3.4/10*
SDD ***22*** *21:48:00.0±2.0, 17°.62N×68°.80W, h5km±35km, MD2.7, ML2.0, MW2.1*

ISC 22 21:48:00.2±2.8, 17°.6N±0°.1×68°.81W±0°.06, h18km±6km, n35, σ1§02/50, 20C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	1.28	335	Pn	Pn	21 48 23.8	+0.5
DR12				Sn	Sb	21 48 41.1	+1.2
HATOM	Hato Mayor del	1.28	335	⇑*i* P	Pn	21 48 23.4	+0.2
HATOM				⇑*i* S	Sb	21 48 40.3	+0.4
HATOM				IAML		21 48 45.0	
	comp=N,17nm,0.4s						
MIDR	Miches	1.37	350⇑	eP	Pn	21 48 24.1	-0.4
MIDR	Miches	1.37	350⇑	*i* P	Pn	21 48 23.2	-1.2
MIDR				⇑*i* S	Sb	21 48 41.0	-1.5
MIDR				IAML		21 48 44.8	
	comp=N,23nm,0.1s						
IDE	Isla Desecheo	1.48	59		Pb	21 48 27.4	+0.2
IDE					Sg	21 48 49.2	+1.1
IDE	Isla Desecheo	1.48	59⇑	eP	Pb	21 48 27.4	+0.2
IDE	Isla Desecheo	1.48	59	eS	Sg	21 48 49.2	+1.1
CRPR	Cabo Rojo, PR	1.66	77		Pn	21 48 29.8	+1.3
CRPR				Sn	Sb	21 48 52.1	+1.1
CRPR	Cabo Rojo, PR	1.66	77⇑	eP	Pb	21 48 30.1	-0.2
CRPR	Cabo Rojo, PR	1.66	77	eS	Sb	21 48 51.7	+0.7
CRPR	Cabo Rojo, PR	1.66	77⇑	*i* P	Pn	21 48 28.7	+0.2
CRPR				⇑*i* S	Sn	21 48 49.3	-0.2
CRPR				IAML		21 48 58.5	
	comp=N,18nm,1.1s						
MLPR	Magueyes Islan	1.72	78⇓	eP	Pb	21 48 30.8	-0.5
MLPR	Magueyes Islan	1.72	78	eS	Sg	21 48 54.4	-1.3
MLPR	Magueyes Islan	1.72	78⇑	*i* P	Pn	21 48 28.5	-0.7
MLPR				*i* S	Sn	21 48 49.0	-1.7
MLPR				IAML		21 48 58.5	
	comp=N,1.6nm,0.8s						
AGPR	Aguadilla, PR	1.82	62		Pn	21 48 30.5	-0.2
AGPR					Sb	21 48 55.4	-0.1
AGPR	Aguadilla, PR	1.82	62⇑	eP	Pn	21 48 30.5	-0.2
AGPR	Aguadilla, PR	1.82	62	eS	Sb	21 48 55.4	-0.1
AGPR	Aguadilla, PR	1.82	62	*i* P	Pn	21 48 30.3	-0.3
AGPR				⇑*i* S	Sn	21 48 52.1	-1.2
AGPR				IAML		21 48 52.6	
	comp=N,48nm,1.3s						
AOPR	Arecibo Observ	2.08	70		Pn	21 48 33.7	-0.7
AOPR					Sn	21 49 00.1	+0.2
AOPR	Arecibo Observ	2.08	70⇑	eP	Pn	21 48 34.0	-0.3
AOPR	Arecibo Observ	2.08	70⇑	*i* P	Pn	21 48 32.6	-1.7
AOPR				⇑*i* S	Sn	21 49 00.3	+0.5
AOPR				IAML		21 49 05.8	
	comp=N,54nm,0.2s						
UUPR	Utuado, UPR, P	2.09	72		Sn	21 49 01.7	+1.8
UUPR	Utuado, UPR, P	2.09	72	eS	Sn	21 49 01.7	+1.8
OBIP	Obispado Ponce	2.14	78		Pn	21 48 34.5	-0.6
OBIP					Sn	21 49 02.1	+0.9
OBIP				IAML		21 49 06.0	
	comp=N,10nm,1.2s						
OBIP				IAML		21 50 02.6	
	comp=E,10nm,0.9s						
OBIP	Obispado Ponce	2.14	78⇑	eP	Pn	21 48 36.1	+1.1
OBIP	Obispado Ponce	2.14	78	eS	Sn	21 49 02.9	+1.7
CELP	Cerrillos	2.17	78		Pn	21 48 35.6	+0.1
CELP					Sn	21 49 03.2	+1.2
CELP				IAML		21 49 08.4	
	comp=N,11nm,0.3s						
CELP				IAML		21 49 08.9	
	comp=E,12nm,0.4s						
CELP	Cerrillos	2.17	78⇑	eP	Pn	21 48 35.8	+0.3
CELP	Cerrillos	2.17	78	eS	Sn	21 49 03.5	+1.5
CELP	Cerrillos	2.17	78⇑	*i* P	Pn	21 48 35.2	-0.3
CELP				⇑*i* S	Sn	21 48 59.9	-2.1
CELP				IAML		21 49 20.1	
	comp=N,10.0nm,2.0s						
ECPR	Experimental S	2.43	73⇓	eP	Pn	21 48 38.1	-0.9
ECPR	Experimental S	2.43	73	eS	Sn	21 49 06.6	-1.8
PDPR	Patillas Dam,	2.69	81	Pn	Pn	21 48 41.4	-1.1
PDPR				Sn	Sn	21 49 14.2	-0.4
PDPR				IAML		21 49 17.0	
	comp=E,8.6nm,1.2s						
PDPR	Patillas Dam,	2.69	81⇑	eP	Pn	21 48 42.1	-0.5
PDPR	Patillas Dam,	2.69	81	eS	Sn	21 49 14.8	+0.2

IDC 22 21:54:06.7±1.6, 23°.86S×178°.94W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=48.3km s-min=31.0km az=14.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.99	260	P	P	22 02 08.5	+0.4
	1.5nm,0.7s,baz=101,slow=7.5,SNR=16						
	1.5nm,0.7s						
WRA	Warramunga Arr	43.37	266	P	P	22 02 10.5	-0.6
	2.4nm,0.5s,baz=103,slow=8.0,SNR=86						
	2.4nm,0.5s						
QSPA	South Pole Qui	66.22	180	P	P	22 04 57.1	+0.8
	1.0nm,0.7s,baz=37,slow=5.1,SNR=11						
	1.0nm,0.7s						
SNAA	Sanae	84.69	179	P	P	22 06 40.3	-1.8
	1.0nm,1.0s,baz=202,slow=14,SNR=2.5						
	1.0nm,1.0s						
TXAR	Lajitas Array	89.59	58	P	P	22 07 06.9	+0.3
	0.3nm,0.7s,baz=242,slow=3.7,SNR=2.8						
	0.3nm,0.7s						

IDC ***22*** *22:03:56.3±0.5, 2°.65S×138°.38E, h0km, mb4.3/15, mbtmp4.3/19, ML4.0/3, MS4.1/2, Error ellipse: s-maj=15.1km s-min=12.7km az=61.0*
NEIC ***22*** *22:03:58.4±1.1, 2°.67S±0°.07×138°.33E±0°.07, h10km±1km, mb4.6/45, Error ellipse: s-maj=12.0km s-min=11.0km az=173.0*
DJA ***22*** *22:04:02.6±0.8, 2°.S±7°.×13°.9E±°., h17km±9km, M4.5/6, mB5.0/2, mb4.6/5, MLv4.4/6, Mw(mB)4.3/2*

ISC 22 22:04:01.6±0.5, 2°.58S±0°.07×138°.45E±0°.06, h32km, n101, σ1§56/86, mb4.5/46, MS4.9/3, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.64	24	P	Pb	22 04 12.0	-2.5
GENI	Genyem	1.71	90	P	Pn	22 04 31.2	+1.9
JAY	Jayapura	2.25	88	Pn	Pn	22 04 37.9	+1.2
	20nm,0.3s,baz=276,slow=12,SNR=34						
JAY				Lg	Lg	22 05 09.2	
	19nm,0.3s,baz=186,slow=19,SNR=6.5						
	80nm,0.5s						
JAY	Jayapura	2.25	88	P	Pn	22 04 39.0	+2.3
BAKI	Biak	2.72	300	P	Pn	22 04 43.1	-0.1
RKPI	Ransiki, Papua	4.40	284	P	Pn	22 05 07.4	+1.1
FAKI	Fak Fak	6.21	267		Pn	22 05 30.4	-0.7
FAKI	Fak Fak	6.21	267	P	Pn	22 05 35.1	+4.0
	0.2nm925nm43nm,0.8s						
MANU	Manus Island	8.92	87	Pn	Pn	22 06 07.8	-0.6
PMG	Port Moresby	10.99	128	Pn	Pn	22 06 35.9	-0.9
PMG	Port Moresby	10.99	128	Pn	Pn	22 06 40.5	+3.7
	2.1nm,0.3s,baz=308,slow=14,SNR=3.7						
NLAI	Namlea	11.36	266	P	Pn	22 06 44.7	+2.9
COEN	Coen	12.23	158	Pn	Pn	22 06 53.7	-0.1
MTN	Manton Dam	12.51	215		Pn	22 06 54.6	-2.9
LUWI	Luwuk	15.75	275	Pn	Pn	22 07 37.6	-3.6
SOEI	Soe	15.80	243		Pn	22 07 41.9	-0.1
SOEI				IAmb	IAmb	22 08 03.7	
	comp=Z,43nm,0.8s						
KNRA	Kununurra	16.14	216		Pn	22 07 43.9	-2.4
BATI	Baumata	16.53	242	Pn	Pn	22 07 48.0	-3.3
	comp=Z,9.8nm,0.4s,baz=86,slow=19,SNR=7.8						
GUMO	Guam	17.28	21	LR	LR	22 14 10.5	
	comp=Z,205nm,18.2s,baz=212,slow=35						
WB0	Warramunga Arr	17.54	193		Pn	22 08 01.6	-2.3
WRA	Warramunga Arr	17.72	193		Pn	22 08 02.7	-3.4
WRA	Warramunga Arr	17.72	193	P	Pn	22 08 03.0	-3.1
	comp=Z,1.2nm,0.3s,baz=9.0,slow=12,SNR=40						
WRA				S	Sn	22 11 09.3	-13
	comp=Z,4.2nm,0.9s,baz=9.5,slow=21,SNR=5.1						
	comp=Z,4.8nm,0.6s						
TOLI2	Tolitoli	18.05	282		Pn	22 08 08.4	-1.7
CTA	Charters Tower	19.00	157	LR	LR	22 16 50.6	
	comp=Z,9.1nm,21.3s,baz=340,slow=41						
FITZ	Fitzroy Crossi	19.89	218	P	P	22 08 28.6	-2.0
FITZ	Fitzroy Crossi	19.89	218	P	P	22 08 27.4	-3.2
	comp=Z,0.1nm,0.3s,baz=41,slow=9.3,SNR=8.7						
FITZ				S	S	22 12 00.2	-13
	comp=Z,13nm,0.9s,baz=140,slow=19,SNR=5.9						
	comp=Z,9.2nm,1.0s						
MYLDM	Lahad Datu	21.37	291		P	22 08 45.0	-1.7
MYLDM				IAmb	IAmb	22 09 08.4	
	comp=Z,40nm,1.2s						
AS31	Alice Springs	21.42	191		P	22 08 44.7	-2.4
ASAR	Alice Springs	21.42	191		P	22 08 44.7	-2.4
ASAR	Alice Springs	21.42	191	P	P	22 08 45.4	-1.7
	comp=Z,14nm,0.9s,baz=20,slow=11,SNR=64						
ASAR				S	S	22 12 39.7	-3.6
	comp=Z,6.3nm,0.9s,baz=14,slow=24,SNR=5.9						
	comp=Z,14nm,0.9s						
INKA	Innaminka	25.12	175	P	P	22 09 22.2	-1.5
EIDS	Eidsvold	25.71	153	P	P	22 09 28.7	-0.5
EIDS				IAmb	IAmb	22 09 39.0	
	comp=Z,10.0nm,0.9s						
MBWA	Marble Bar	25.95	223	P	P	22 09 29.3	-2.1
MBWA				IAmb	IAmb	22 10 00.9	
	comp=Z,13nm,1.1s						
PSA00	Pilbara Seismi	26.16	222	P	P	22 09 30.2	-3.1
STKA	Stephens Creek	29.29	175	P	P	22 10 00.8	-0.5
	comp=Z,0.7nm,0.4s,baz=28,slow=3.8,SNR=3.7						
	comp=Z,0.7nm,0.4s						
FORT	Forrest	29.72	198	P	P	22 10 02.7	-2.4
FORT				IAmb	IAmb	22 10 10.1	
	comp=Z,19nm,1.4s						
NJ2	Nanjing	39.15	333	eP	P	22 11 28.4	+1.9
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WHN	Wuhan	40.17	327	P	P	22 11 36.0	+1.0
WHN				sP	sP	22 11 55.1	+6.6
WHN				pmax	pmax		
	comp=Z,120nm,1.7s						
KSRS	Korea Array	41.01	347	P	P	22 11 42.0	+0.1
	comp=Z,2.5nm,0.8s,baz=159,slow=9.5,SNR=10						
	comp=Z,2.5nm,0.8s						
SLVN	Son La	41.33	307	P	P	22 11 43.6	-1.2
ENH	Enshi	42.80	322	P	P	22 11 55.4	-1.3
ENH				IAmb	IAmb	22 11 59.9	
	comp=Z,14nm,1.3s						
TIA	Tai'an	43.42	335	P	P	22 12 01.4	-0.2
TIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CM31	Chiang Mai Arr	44.15	300	P	P	22 12 06.4	-1.4
CM31				IAmb	IAmb	22 12 15.2	
	comp=Z,16nm,1.4s						
CMAR	Chiang Mai Arr	44.15	300		P	22 12 06.9	-0.9
CMAR	Chiang Mai Arr	44.15	300	P	P	22 12 06.5	-1.2
	comp=Z,1.0nm,0.3s,baz=114,slow=8.5,SNR=16						
CMAR				PcP	PP	22 13 53.1	+2.0
	comp=Z,1.8nm,0.3s,baz=106,slow=4.9,SNR=5.7						
	comp=Z,1.0nm,0.3s						
KMI	Kunming	44.24	311	P	P	22 12 09.3	+0.7
KMI				S	S	22 18 21.8	-19
KMI				SS	SS	22 21 46.3	-13
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KMI				LR	LR		
	comp=N,2μm,13.9s						
KMI				LR	LR		
	comp=E,2μm,16.8s						
KMI				LR	LR		
	comp=Z,2μm,19.5s						
LYN	LuoYang	44.28	329	P	P	22 12 08.6	+0.1
LYN				pmax	pmax		
	comp=Z,28nm,1.2s						
CHTO	Chiang Mai	44.30	300	P	P	22 12 07.7	-1.2
HNS	HongShan	45.48	333	⇓P	P	22 12 18.3	+0.4
HNS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PZH	PanZhiHua	45.75	312	P	P	22 12 22.4	+1.9
USRK	Ussuriysk Ar.	46.93	354	P	P	22 12 30.5	+1.3
	comp=Z,1.4nm,0.6s,baz=182,slow=11,SNR=2.8						
	comp=Z,1.4nm,0.6s						
BJT	Baijiatuan	47.06	337	P	P	22 12 29.6	-0.8
HHC	Hu-ho-hao-te	49.70	333	eP	P	22 12 54.5	+3.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BTO	Baotou	50.22	332	eP	P	22 12 56.6	+1.8
BTO				pP	sP	22 13 09.1	+0.7
BTO				sP	pP	22 13 14.5	+10
BTO				pmax	pmax		
	comp=Z,18nm,1.4s						
BTO				pmax	pmax		
	comp=Z,630nm,7.6s						
LZH	Lanzhou	50.23	323	eP	P	22 12 56.0	+1.0
LZH				sP	sP	22 13 12.0	+3.4
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZDM	Lanzhou Array	50.23	323	P	P	22 12 55.6	+0.4
	comp=Z,1.4nm,0.4s,baz=146,slow=10,SNR=1.7						
	comp=Z,1.4nm,0.4s						
SHL	Shillong	53.05	305		P	22 13 14.5	-1.8
HIA	Hailar	54.12	345	P	P	22 13 23.7	+0.1
HILR	Hailar Array B	54.39	345	P	P	22 13 25.8	+0.3
	comp=Z,3.2nm,0.7s,baz=162,slow=10,SNR=5.7						
	comp=Z,3.2nm,0.7s						
GTA	Gaotai	54.81	324	P	P	22 13 30.0	+1.1
GTA				pP	sP	22 13 42.0	-0.6
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
LSA	Lhasa	55.43	309	P	P	22 13 33.0	-1.0
LSA				IAmb	IAmb	22 13 35.9	
	comp=Z,4.6nm,1.0s						
ULN	Ulaanbaatar	57.24	335	P	P	22 13 46.0	-0.1
ULN				IAmb	IAmb	22 13 47.5	
	comp=Z,3.4nm,0.8s						
SONM	Songino Array	57.49	335	P	P	22 13 47.4	-0.5
SONM				IAmb	IAmb	22 13 55.9	
	comp=Z,4.7nm,1.2s						
SONM	Songino Array	57.49	335	P	P	22 13 46.9	-1.0
	comp=Z,1.7nm,0.8s,baz=159,slow=8.8,SNR=6.6						
	comp=Z,1.7nm,0.8s						
EVN	Everest	58.16	305		P	22 13 52.2	-1.3
WMQ	Urumqi	64.75	322	eP	P	22 14 37.6	+0.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=N,900nm,21.9s						
WMQ				LR	LR		
	comp=E,880nm,19.3s						
WMQ				LR	LR		
	comp=Z,710nm,23.9s						
YAK	Yakutsk	64.78	355	P	P	22 14 36.8	0.0
MKAR	Makanchi Array	69.53	322		P	22 15 07.0	-0.4
MKAR	Makanchi Array	69.53	322	P	P	22 15 07.4	+0.1
	comp=Z,7.9nm,0.9s,baz=118,slow=8.3,SNR=35						
	comp=Z,7.9nm,0.9s						
MAKZ	Makanchi	69.73	322	P	P	22 15 08.4	-0.1
KSH	Kashi	70.81	313	P	P	22 15 16.9	+1.4
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZAA0	Zalesovo Array	71.70	330	P	P	22 15 19.3	-1.1
ZAA0				IAmb	IAmb	22 15 20.6	
	comp=Z,3.5nm,0.9s						
ZALV	Zalesovo Beam	71.70	330	P	P	22 15 19.2	-1.1
ZALV	Zalesovo Beam	71.70	330	P	P	22 15 19.5	-0.9
	comp=Z,2.5nm,0.9s,baz=118,slow=8.3,SNR=9.0						
	comp=Z,2.5nm,0.9s						
AAK	Ala-Archa	72.94	316	P	P	22 15 27.6	-0.7
AAK				IAmb	IAmb	22 15 37.0	
	comp=Z,3.3nm,0.9s						
KURK	Kurchatov	73.46	325	P	P	22 15 30.7	-0.3
KURK				IAmb	IAmb	22 15 38.1	
	comp=Z,8.0nm,1.1s						
KURBB	Kurchatov Arra	73.47	325	P	P	22 15 30.8	-0.2
	comp=Z,3.7nm,1.0s,baz=113,slow=5.6,SNR=20						
	comp=Z,3.7nm,1.0s						
DRK	Karamyk	73.86	312	P	P	22 15 33.2	-0.7
DRK				IAmb	IAmb	22 15 40.9	
	comp=Z,5.6nm,1.0s						
TIXI	Tiksi	74.36	357	P	P	22 15 36.1	+0.4
TIXI				IAmb	IAmb	22 15 37.6	
	comp=Z,3.4nm,0.8s						
GAR	Garm	74.82	311	P	P	22 15 38.2	-1.1
CHGR	Chuyangaron	75.60	311	P	P	22 15 43.5	-0.3
CHGR				IAmb	IAmb	22 16 01.4	
	comp=Z,7.9nm,0.9s						
KK31	Karatay Array	75.86	316	P	P	22 15 44.1	-0.9
KK31				IAmb	IAmb	22 15 47.4	
	comp=Z,7.0nm,1.5s						
KKAR	Karatay Array	75.86	316	P	P	22 15 44.2	-0.8
VNDA	Vanda	75.93	175	P	P	22 15 43.5	-1.3
VNDA	Vanda	75.93	175	P	P	22 15 44.8	0.0
	comp=Z,2.3nm,0.8s,baz=331,slow=6.4,SNR=16						
	comp=Z,2.3nm,0.8s						
BVAR	Borovoye Array	79.06	325	P	P	22 16 02.3	-0.4
	comp=Z,3.5nm,0.7s,baz=103,slow=6.5,SNR=12						
	comp=Z,3.5nm,0.7s						
J20K	Nowinta River	82.65	24	P	P	22 16 22.3	+0.7
J20K				IAmb	IAmb	22 16 42.2	
	comp=Z,6.3nm,1.2s						
C19K	Lookout Ridge	82.72	19	P	P	22 16 22.2	+0.3
D20K	Etivluk River	83.52	19	P	P	22 16 26.5	+0.4
AB31	Akbulak array	84.46	320	P	P	22 16 30.7	-0.5
AB31				IAmb	IAmb	22 16 39.8	
	comp=Z,7.0nm,1.3s						
ABKAR	Akbulak array	84.46	320	P	P	22 16 30.7	-0.6
E22K	Anaktuvuk Pass	84.94	21	P	P	22 16 33.6	+0.2
G23K	Bananza Creek	85.13	22	P	P	22 16 34.7	+0.4
G23K				IAmb	IAmb	22 16 38.1	
	comp=Z,5.0nm,1.2s						
CCB	Clear Creek Bu	85.41	24	P	P	22 16 35.3	-0.3
CCB				IAmb	IAmb	22 16 56.6	
	comp=Z,7.7nm,1.5s						
ILAR	Eielson Array	85.82	24	P	P	22 16 36.4	-1.3
	comp=Z,1.1nm,0.7s,baz=259,slow=5.9,SNR=10						
	comp=Z,1.1nm,0.7s						
QSPA	South Pole Qui	87.36	180	P	P	22 16 45.2	-0.2
	comp=Z,5.2nm,1.0s,baz=350,slow=2.9,SNR=13						
	comp=Z,5.2nm,1.0s						
BMAR	Burnt Mountain	87.38	22	P	P	22 16 46.8	+1.4
BELG	Belogoorye	92.53	322	LR	LR	22 59 17.9	
	comp=Z,296nm,20.8s,baz=98,slow=36						
TORD	Torodi Ar. Bea	135.97	286	PKP	PKPdf	22 23 20.2	-0.3
	comp=Z,1.0nm,0.3s,baz=121,slow=1.1,SNR=2.0						
CPUP	Villa Florida	147.46	153	PKPbc	PKPdf	22 23 41.3	+0.6
	comp=Z,0.4nm,0.7s,baz=239,slow=5.9,SNR=4.4						
LPAZ	La Paz	147.73	126	PKPbc	PKPdf	22 23 43.5	+1.3
	comp=Z,2.4nm,1.0s,baz=256,slow=3.4,SNR=4.0						

IDC ***22*** *22:07:10.1±0.9, 2°.68S×138°.38E, h0km, mb4.0/9, mbtmp4.1/13, ML3.9/4, Error ellipse: s-maj=21.0km s-min=15.9km az=176.0*
NEIC ***22*** *22:07:11.5±2.1, 2°.76S±0°.08×138°.39E±0°.06, h10km±1km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=7.8km az=212.0*

**ISC 22 22:07:14.3±0.7, 2°.85S±0°.09×138

CMAR	Chiang Mai Arr	44.24	300	P	P	22 15 19.7 -0.9
	comp=Z,1.4nm,0.3s,baz=116,slow=8.0,SNR=7.5					
	comp=Z,1.4nm,0.3s					
USRK	Ussuriysk Ar.	47.19	354	P	P	22 15 43.5 0.0
	comp=Z,1.0nm,0.6s,baz=130,slow=7.9,SNR=1.8					
	comp=Z,1.0nm,0.6s					
HILR	Hailar Array B	54.63	345	P	P	22 16 37.6 -1.8
	comp=Z,0.8nm,0.4s,baz=165,slow=6.0,SNR=1.9					
	comp=Z,0.8nm,0.4s					
MKAR	Makanchi Array	69.71	323	P	P	22 18 21.2 +0.6
MKAR	Makanchi Array	69.71	323	P	P	22 18 21.6 +1.0
	comp=Z,1.6nm,0.7s,baz=118,slow=8.0,SNR=8.7					
	comp=Z,1.6nm,0.7s					
MAKZ	Makanchi	69.91	322	P	P	22 18 21.9 0.0
ZALV	Zalesovo Beam	71.90	330	P	P	22 18 34.4 +0.7
	comp=Z,0.3nm,0.3s,baz=127,slow=9.2,SNR=2.2					
	comp=Z,0.3nm,0.3s					
KURBB	Kurchatov Arra	73.66	325	P	P	22 18 45.2 +0.9
	comp=Z,1.6nm,0.2s,baz=117,slow=5.1,SNR=4.9					
	comp=Z,1.6nm,0.2s					
KKAR	Karatay Array	76.01	316	P	P	22 18 58.9 +0.8
BVAR	Borovoye Array	79.25	325	P	P	22 19 16.5 +0.6
	comp=Z,1.0nm,0.6s,baz=107,slow=7.7,SNR=4.3					
	comp=Z,1.0nm,0.6s					
ILAR	Eielson Array	86.08	24	P	P	22 19 52.0 +0.8
	comp=Z,0.4nm,0.9s,baz=263,slow=5.3,SNR=2.7					
	comp=Z,0.4nm,0.9s					
QSPA	South Pole Qui	87.10	180	P	P	22 19 58.3 +1.9
QSPA				IAmb	IAmb	22 20 22.9
	comp=Z,7.8nm,1.4s					
BMAR	Burnt Mountain	87.64	22	P	P	22 19 59.6 +0.8

*IDC **22** 22:10:00.1±3.0, 26°.95N×55°.26E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=68.2km s-min=27.8km az=159.0*
*TEH **22** 22:10:03.8, 27°.11N×55°.06E, h15km±15km*
*NEIC **22** 22:10:03.6±0.7, 27°.28N±0°.10×55°.1E±0°.1, h10km±2km, mb4.1/6, Error ellipse: s-maj=19.6km s-min=13.8km az=46.0*
*OMAN **22** 22:10:06.7±0.1, 27°.00N×55°.05E, h10km, mb4.6/3, ml3.1/21, Error ellipse: s-maj=2.3km s-min=0.9km az=10.0*
*DSN **22** 22:10:07.0±1.5, 27°.12N×55°.25E, h15km, ML3.0/10, Error ellipse: s-maj=18.9km s-min=7.3km az=20.0*
ISC 22 22:10:04.5±1.2, **27°.14N**±0°.03×**55°.10E**±0°.03, **h20**km±5km, **n83**, σ1§**62**/108, **mb3.8**/8, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.83	310	Pg	Pb	22 10 19.8	-0.6
GENO	Geno	0.99	74	Pg	Pb	22 10 23.4	+0.2
GENO				Sg	Sn	22 10 38.3	+1.2
IBND	Bandar-abas	1.32	76	Pg	Pg	22 10 29.4	-0.7
SHME	Shamm	1.43	139	P	Pb	22 10 30.6	+0.1
	SNR=13						
SHME				S	Sg	22 10 52.1	+1.3
SHME	Shamm	1.43	139	eP	Pb	22 10 30.6	+0.1
	SNR=18						
SHME				S	Sb	22 10 49.3	+0.9
BANOM	Banah	1.62	138	P	Pb	22 10 33.6	-0.2
BANOM				S	Sb	22 10 55.1	+1.2
BANOM	Banah	1.62	138	eP	Pb	22 10 33.6	-0.2
	SNR=30						
UMQ	Umm Al-Quwin	1.68	162	P	Pg	22 10 37.2	+0.2
UMQ				S	Sg	22 10 58.3	-0.6
LMD1	Lamerd	1.73	277	Pg	Pb	22 10 35.2	-0.5
JHRM	Jahrom	1.92	316	Pn	Pb	22 10 38.2	-0.7
MASF	Masafi	2.00	151	P	Pb	22 10 39.7	-0.6
	SNR=7.4						
MASF				S	Sb	22 11 03.8	-1.0
MSFE	Esma-Masafi	2.01	151	eP	Pb	22 10 39.7	-0.8
	SNR=7.4						
MDH	Madha	2.12	149	P	Pb	22 10 41.3	-1.1
MDH				S	Sb	22 11 07.7	-0.6
NAZ	Nazwa, Dubai	2.20	166	P	Pb	22 10 43.0	-0.7
NAZ				S	Sn	22 11 08.0	+1.4
NAZ	Nazwa, Dubai	2.20	166	P	Pb	22 10 42.9	-0.7
UOSS	Minazif	2.40	155		Pn	22 10 44.7	+2.0
UOSS	Minazif	2.40	155	P	Pn	22 10 44.8	+2.0
UOSS				S	Sn	22 11 13.8	+2.2
UOSS	Minazif	2.40	155	Pn	Pn	22 10 44.3	+1.6
UOSS	Minazif	2.40	155	eP	Pn	22 10 44.9	+2.1
	SNR=7.6						
FAQ	Al Faqa, Dubai	2.42	169	P	Pn	22 10 44.9	+1.8
FAQ				S	Sn	22 11 11.2	-0.9
FAQ	Al Faqa, Dubai	2.42	169	P	Pb	22 10 46.0	-1.5
KHNJ	Kahnooj	2.45	70	Pn	Pn	22 10 44.4	+0.9
HATD	Hatta, Dubai	2.48	158	P	Pn	22 10 46.3	+2.4
HATD				S	Sb	22 11 17.4	-1.3
HATD	Hatta, Dubai	2.48	158	eP	Pb	22 10 46.4	-2.1
	SNR=11						
ASUD	Al Ashush, Dub	2.51	175	P	Pb	22 10 48.0	-1.0
	SNR=7.8						
ASUD				S	Sn	22 11 14.6	+0.3
ASUD	Al Ashush, Dub	2.51	175	eP	Pb	22 10 47.5	-1.4
	SNR=7.8						
AJN	Ajban	2.57	182	P	Pb	22 10 48.8	-1.1
ASHO	Ashiyiah	2.59	160	P	Pn	22 10 47.9	+2.4
	SNR=64						
ASHO				S	Sb	22 11 21.6	-0.2
ASHO	Ashiyiah	2.59	160	eP	Pn	22 10 47.8	+2.4
	SNR=30						
NGRK	Negar Kerman	2.88	30	Pn	Pn	22 10 51.4	+1.7
ALNE	Al Ain	3.12	169	P	Pn	22 10 55.4	+2.7
ALNE				S	Sb	22 11 34.2	-2.9
ALNE	Al Ain	3.12	169	P	Pn	22 10 55.2	+2.5
KRBR	Kerman	3.19	27	Pn	Pn	22 10 55.9	+2.0
SOHO	SOHO	3.26	156	P	Pn	22 10 56.1	+1.5
KHGB	Koh Gabri	3.45	20	Pn	Pn	22 10 59.3	+1.9
CHMN	Cheshme madani	3.46	38	Pn	Pn	22 10 59.7	+2.0
MZWR	Madinat Zayed	3.54	198	P	Pn	22 11 00.8	+2.4
MZWR				S	Sn	22 11 42.1	+2.5
KBAM	BAM	3.57	55	Pn	Pn	22 11 00.7	+1.7
GHWR	Ruwais	3.74	213	P	Pn	22 11 02.8	+1.6
GHWR				S	Sn	22 11 47.5	+2.8
KRM1	Kerman Provinc	3.86	29	Pn	Pn	22 11 05.3	+2.3
ARQ	Araqi	4.00	161	P	Pn	22 11 08.7	+4.0
ARQ				S	Sn	22 11 54.1	+3.0
ZRDN	Zarand Kerman	4.02	18	Pn	Pn	22 11 07.5	+2.3
HOQ	Hoqain	4.07	150	P	Pn	22 11 08.1	+2.5
HOQ				S	Sn	22 11 52.1	-0.6
TRNA	Turayna	4.24	236	P	Pn	22 11 09.7	+1.8
	SNR=12						
TRNA				S	Sn	22 11 59.1	+2.2
	SNR=6.5						
IMEH	Mehriz	4.26	354	Pn	Pn	22 11 10.8	+2.2
MZR	Muzera	4.37	200	P	Pn	22 11 11.3	+1.4
MZR				S	Sn	22 12 01.2	+1.0
IBAF	Bafgh	4.46	5	Pn	Pn	22 11 12.9	+1.8
SMRA	Abu-Samra	4.52	239	P	Pn	22 11 13.6	+1.7
SMRA				S	Sn	22 12 06.6	+2.6
	SNR=5.4						
SMDO	Samad	4.86	146	P	Pn	22 11 19.2	+2.5
	SNR=10						
SMDO				S	Sn	22 12 14.2	+1.7
	SNR=6.6						
KLNJ	Kolanjah	4.93	322	Pn	Pn	22 11 19.6	+1.8
WSAR	Wadi Sarin	5.03	140	P	Pn	22 11 20.8	+1.8
WSAR				S	Sn	22 12 16.5	-0.1
CHBR	Chabahar	5.07	106	Pn	Pn	22 11 21.0	+1.6
IRAM	Ramesheh	5.22	334	Pn	Pn	22 11 23.3	+1.6
JMDO	Jabal Madar	5.48	149	P	Pn	22 11 26.9	+1.8
JMDO				S	Sn	22 12 28.8	+1.2
NGCH	Negor - Chabah	5.71	107	P	Pn	22 11 30.6	+2.5
TPRV	Parvadeh(Tabas	6.03	13	Pn	Pn	22 11 34.7	+2.0
ZNGN	Zangian	6.18	324	Pn	Pn	22 11 37.0	+2.0
IKOO	Kooshah	6.27	32	Pn	Pn	22 11 37.9	+1.8
JLN	Jalan Bani Buh	6.33	141	P	Pn	22 11 38.0	+1.2
IPIR	Pirpir	6.62	328	Pn	Pn	22 11 42.0	+0.9
MHTO	MHTO	6.66	156	P	Pn	22 11 43.0	+1.6
	SNR=21						
MHTO				S	Sn	22 12 56.2	-0.4
DQM	DQM	7.52	162	P	Pn	22 11 54.0	+0.9
	SNR=6.4						
DOK	Doka	8.53	186	P	Pn	22 12 08.0	+1.1
	SNR=7.1						
SHAO	Shalim	9.08	177	P	Pn	22 12 15.0	+0.4
	SNR=10						
WHFO	Wadi Hawf	9.26	188	P	Pn	22 12 17.0	0.0
	SNR=125						
DMTO	DMTO	9.38	181	P	Pn	22 12 18.6	0.0
RAYN	Ar Rayn	9.39	250		Pn	22 12 19.0	+0.2
ABTO	Aybut	9.88	190	P	Pn	22 12 25.5	-0.1
	SNR=40						
MARD	Mardin	15.79	314	Pn	Pn	22 13 43.9	-1.9
MARD				IAmb	IAmb	22 13 54.4	
	comp=Z,4.9nm,0.5s						
BRTR	Keskin Array B	21.80	311	P	P	22 14 57.8	+2.2
	comp=Z,0.9nm,0.8s,baz=113,slow=11,SNR=5.0						
	comp=Z,0.9nm,0.8s						
AB31	Akbulak array	22.40	8		P	22 15 00.9	-0.8
ABKAR	Akbulak array	22.40	8	P	P	22 15 01.4	-0.3
BVAR	Borovoye Array	28.26	20	P	P	22 15 55.8	-0.5
	comp=Z,0.8nm,0.4s,baz=201,slow=7.7,SNR=4.0						
	comp=Z,0.8nm,0.4s						
MAKZ	Makanchi	28.87	40	P	P	22 16 00.8	-1.0
MKAR	Makanchi Array	29.04	40	P	P	22 16 01.8	-1.5
MKAR	Makanchi Array	29.04	40	P	P	22 16 02.7	-0.7
	comp=Z,0.5nm,0.7s,baz=223,slow=8.9,SNR=1.2						
	comp=Z,0.5nm,0.7s						
AKASG	Malin Array Be	30.68	327	P	P	22 16 16.9	-0.8
	comp=Z,0.7nm,0.6s,baz=137,slow=8.9,SNR=2.1						
	comp=Z,0.7nm,0.6s						
AKBB	Malin Array Si	30.68	327	P	P	22 16 16.5	-1.2
AKBB				IAmb	IAmb	22 16 24.1	
	comp=Z,7.5nm,1.4s						
BURAR	Bucovina Array	31.03	319	P	P	22 16 19.6	-1.5
BURAR				IAmb	IAmb	22 16 25.1	
	comp=Z,1.6nm,1.1s						
ZAA0	Zalesovo Array	34.57	31	P	P	22 16 50.9	-0.9
ZAA0				IAmb	IAmb	22 16 53.0	
	comp=Z,2.3nm,0.9s						
ZALV	Zalesovo Beam	34.57	31	P	P	22 16 50.9	-0.9
ZALV	Zalesovo Beam	34.57	31	P	P	22 16 51.1	-0.6
	comp=Z,1.2nm,0.5s,baz=226,slow=8.6,SNR=5.8						
	comp=Z,1.2nm,0.5s						
TORD	Torodi Ar. Bea	51.68	265	P	P	22 19 09.9	-0.5
	comp=Z,0.9nm,0.3s,baz=57,slow=8.6,SNR=2.0						
	comp=Z,0.9nm,0.3s						

*BJI **22** 22:11:03.9, 2°.57S×99°.97E, h18km, mB5.5/45, mb5.6/93, Ms5.3/87, Ms7 5.2/85*
*IDC **22** 22:11:04.3±0.4, 2°.35S×99°.96E, h0km, mb5.3/44, mbtmp5.3/47, ML4.7/2, MS4.7/43, Error ellipse: s-maj=10.9km s-min=6.8km az=52.0*
*MOS **22** 22:11:05.8±1.0, 2°.29S×99°.93E, h18km, mb5.8/77, MS4.8/20, Error ellipse: s-maj=7.0km s-min=3.8km az=111.4*
*NEIC **22** 22:11:07.1, 2°.33S×100°.14E, h22km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{16}Nm; M_{rr}3.79; $M_{\theta\theta}$-1.93; $M_{\phi\phi}$-1.86; $M_{r\theta}$2.67; $M_{\theta\phi}$2.40; $M_{\phi r}$-0.91; Fault plane solution: $M_0$4.95000×10^{16} NP1: ϕ_s330.50000°, δ30.89000°, λ117.17000°. NP2: ϕ_s119.62000°, δ62.82000°, λ74.72000°. Principal axes: T 4.8475, Plg68.0000°, Azm359.0000°; N 0.1998, Plg14.0000°, Azm127.0000°; P -5.0473, Plg16.0000°, Azm221.0000°;*
*NEIC **22** 22:11:07.1, 2°.43S×99°.84E, h22km*
*NEIC **22** 22:11:07.7±1.6, 2°.38S±0°.07×99°.86E±0°.07, h18km±3km, mb5.6/179, Ms_20 5.2/166, Mww5.1/9, Error ellipse: s-maj=11.2km s-min=7.9km az=46.0*
*DJA **22** 22:11:08.7±0.3, 2°S±2°×10°0E±°, h34km±2km, M5.2/95, mb5.5/95, mB5.7/67, MLv5.8/30, Mw(mB)5.2/67, MwMwp5.0/13, Mwp5.3/13*
*GCMT **22** 22:11:09.7±0.2, 2°.52S±0°.01×99°.57E±0°.01, h25km, MW5.3/97, Moment Tensor Solution. s78,c126; s97,c150; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.49±.02; $M_{\theta\theta}$-0.29±.01; $M_{\phi\phi}$-0.20±.01; $M_{r\theta}$0.64±.02; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$-0.72±.03; Best double couple: $M_0$1.08500×10^{17} NP1:ϕ_s302.00000°, δ14.00000°, λ75.00000°. NP2:ϕ_s137.00000°, δ77.00000°, λ93.00000°. Principal axes: T 1.0980, Plg58.0000°, Azm52.0000°; N -0.0270, Plg3.0000°, Azm317.0000°; P -1.0710, Plg32.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 22:11:07.3±0.3, **2°.45S**±0°.03×**99°.85E**±0°.04, **h21**km±3km, **h21**km:**pP-P**, **n957**, σ1§**40**/940, **mb5.5**/278, **MS5.1**/163, **72C-36D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.35	153	P	Pn	22 11 17.3	+0.1
PPSI				S	Sn	22 11 25.0	+1.4
SISI	Saibi	1.35	326	P	Pn	22 11 30.3	-0.6
PDSI	Padang	1.64	22	P	Pn	22 11 35.3	+0.3
KRJI	Kerinci	1.65	78	P	Pb	22 11 36.8	-0.3
PPI	Padang Panjang	2.05	15	P	Pn	22 11 41.4	+0.8
MASI	Maura Aman, Be	2.48	106	P	Pn	22 11 48.1	+1.5
PBSI	Pulau Batu	2.85	326	P	Pn	22 11 51.3	-0.2
KSI	Kapahiang	2.99	114	P	Pn	22 11 54.8	+1.2
BKNI	Bangkinang	3.00	23		Pn	22 11 55.4	+1.8
BKNI	Bangkinang	3.00	23	P	Pn	22 11 55.9	+2.3
BKNI	Bangkinang	3.00	23	P	Pn	22 11 55.8	+2.2
MNSI	Mandailing Nat	3.23	355	P	Pn	22 11 56.5	-0.3
MNAI	Manna	3.64	122		Pn	22 12 03.6	+1.2
MNAI	Manna	3.64	122	P	Pn	22 12 04.4	+2.0
MNAI	Manna	3.64	122	P	Pn	22 12 03.9	+1.5
LHSI	Lahat	3.92	111	P	Pn	22 12 08.9	+2.7
MDSI	Maura Dua	4.77	115	P	Pn	22 12 20.3	+2.3
LWLI	Liwa	4.92	121	P	Pn	22 12 21.7	+1.6
PMBI	Palembang	4.94	96	Pn	Pn	22 12 20.1	-0.2
PMBI	Palembang	4.94	96	P	Pn	22 12 22.3	+2.0
PMBI	Palembang	4.94	96	P	Pn	22 12 21.4	+1.1
DSRI	Dabo	5.11	68	P	Pn	22 12 24.5	+1.8
	6.3nm11μm12μm919nm,0.8s						
RPSI	Rantau Prapat	5.19	350		Pn	22 12 23.3	-0.5
PSI	Prapat	5.29	350	Pn	Pn	22 12 23.3	-2.0
	95nm,0.7s						
BTDF	Bukit Timah Da	5.45	46	P	Pn	22 12 29.3	+2.0
KLI	Kotabumi	5.54	116	P	Pn	22 12 31.6	+3.0
TPRI	Tanjung Pinang	5.75	55	P	Pn	22 12 33.2	+1.8
MYKOM	Kota Tinggi	5.80	44		Pn	22 12 33.8	+1.6
MYKOM	Kota Tinggi	5.80	44	P	Pn	22 12 34.3	+2.1
SNSI	Sinabang, Aceh	5.97	324	P	Pn	22 12 34.0	-0.5
	4.3nm6μm627nm,1.0s						
BLSI	Bandar Lampung	6.12	119	P	Pn	22 12 38.4	+1.9
	5μm394nm,0.7s						
KCSI	Kotacane, Aceh	6.28	341	P	Pn	22 12 38.0	-0.8
	2.3nm4μm300nm,1.0s						
PPBI	Pangkal Pinang	6.29	88	P	Pn	22 12 41.7	+2.8
IPM	Ipoh	6.98	10		Pn	22 12 49.0	+0.6
IPM	Ipoh	6.98	10	P	Pn	22 12 50.2	+1.8
CGJI	Cibinong	7.14	126	P	Pn	22 12 50.3	-0.4
	1.5nm5μm404nm,1.0s						
SBJI	Serang	7.25	120	P	Pn	22 12 53.9	+1.8
	1.9nm6μm392nm,1.1s						
MLSI	Meulaboh, Aceh	7.50	333	P	Pn	22 12 55.5	-0.1
	2.5nm5μm415nm,0.6s						
TNG	Tangerang	7.72	119	P	Pn	22 13 00.1	+1.5
KULM	Kulim	7.72	6		Pn	22 12 58.8	+0.2
KULM	Kulim	7.72	6	P	Pn	22 12 59.1	+0.5
TPI	Tanjungpandan	7.80	92	P	Pn	22 13 02.2	+2.5
	0.8nm4μm86nm,0.7s						
DBJI	Dramaga	8.00	121	P	Pn	22 13 04.7	+2.3
	8μm665nm,1.2s						
SKJI	Sukabumi	8.07	124	P	Pn	22 13 03.6	+0.2
	5μm363nm,1.1s						
LHMI	Lhok Sumawe	8.16	339		Pn	22 13 03.2	-1.3
LHMI	Lhok Sumawe	8.16	339	P	Pn	22 13 04.7	+0.2
LHMI	Lhok Sumawe	8.16	339	P	Pn	22 13 03.9	-0.6
	4μm297nm,0.9s						
CNJI	Cibinong	8.71	124	P	Pn	22 13 11.4	-0.8
LEM	Lembang	8.88	120	Pn	Pn	22 13 15.1	+0.4
	10nm,0.3s,baz=343,slow=19,SNR=20						
LEM				Sn	Sn	22 14 56.4	+2.2
	baz=0.0,slow=20						
LEM				LR	LR	22 17 23.8	
	comp=Z,4μm,18.8s,baz=264,slow=43						
	192nm,1.0s						
LEM	Lembang	8.88	120	P	Pn	22 13 15.8	+1.2
	3μm275nm,1.0s						
KPJI	Karang Pucung	10.27	119	P	Pn	22 13 34.8	+1.3
	2μm224nm,0.7s						
KSM	Kuching	11.16	70		Pn	22 13 46.5	+0.8
KSM	Kuching	11.16	70	P	Pn	22 13 48.0	+2.3
SMRI	Semarang	11.50	114		Pn	22 13 51.8	+1.4
SMRI	Semarang	11.50	114	P	Pn	22 13 53.3	+2.9
SMRI	Semarang	11.50	114	P	Pn	22 13 52.8	+2.4
UGM	Wanagama	11.93	117		Pn	22 13 55.5	-0.8
UGM	Wanagama	11.93	117	P	Pn	22 13 58.6	+2.2
UGM	Wanagama	11.93	117	P	Pn	22 13 57.5	+1.1
	120nm,0.9s						
NGJI	Ngawi	12.56	113	P	Pn	22 14 07.4	+2.5
	157nm,1.2s						
PCJI	Pacitan	12.64	117	P	Pn	22 14 04.7	-1.3
	106nm,1.2s						
SBUM	Sibu	13.29	69		Pn	22 14 16.4	+1.6
SBUM	Sibu	13.29	69	P	Pn	22 14 17.1	+2.2
BLJI	Banyuglugur	14.66	112	P	Pn	22 14 35.8	+2.1
	2μm101nm,0.8s						
KMMI	Kalianget	14.79	109	P	Pn	22 14 36.2	+0.8
	3μm164nm,1.4s						
BBKI	Banjar Baru	15.01	94	P	Pn	22 14 40.4	+2.1
	7μm359nm,0.9s						
MTKI	Muara Teweh, K	15.11	85	P	Pn	22 14 41.3	+1.6
	276nm,1.2s						
ABJI	Asem Bagus	15.28	111	P	P	22 14 44.3	-2.3
	2μm224nm,0.8s						
JAGI	Jajag, Banyuwa	15.44	113		Pn	22 14 42.1	-1.9
JAGI	Jajag, Banyuwa	15.44	113	P	Pn	22 14 42.1	-1.9
	103nm,0.8s						
PBA	Port Blair	15.69	333		Pn	22 14 45.4	-1.9
SRBI	Singaraja	16.29	111	P	P	22 14 57.0	-0.8
	2μm140nm,1.0s						
DLV	Lat	16.67	31		Pn	22 14 60.0	-0.1
DLV	Lat	16.67	31	P	P	22 15 01.5	-0.8
BKB	Balikpapan	17.08	86		Pn	22 15 04.7	-0.2
BKB				IAmb	IAmb	22 15 10.1	
	comp=Z,961nm,1.5s						
BKB	Balikpapan	17.08	86	P	P	22 15 07.5	+0.9
BKB	Balikpapan	17.08	86	P	P	22 15 07.0	+0.4
	comp=Z,5μmcomp=Z,367nm,1.1s						
TWSI	Taliwang, Sumb	18.06	111	P	P	22 15 18.2	+0.7
	comp=Z,101nm,1.0s						
PLAI	Plampang	18.92	110	P	Pn	22 15 28.1	+0.4
PLAI	Plampang	18.92	110	P	P	22 15 26.5	-0.5
	comp=Z,2μmcomp=Z,208nm,1.0s						
SPSI	Sidrap Palu	19.94	95	P	P	22 15 38.5	+0.3
	comp=Z,2μmcomp=Z,87nm,1.1s						
KAPI	Kappang	20.02	98		P	22 15 37.7	-1.3
KAPI				IAmb	IAmb	22 15 44.1	
	comp=Z,227nm,1.1s						
KAPI	Kappang	20.02	98	P	P	22 15 38.2	-0.8
	comp=Z,2.2nm,0.3s,baz=278,slow=13,SNR=11						
KAPI				S	S	22 19 18.2	-5.1
	comp=Z,10.0nm,0.3s,baz=182,slow=18,SNR=1.2						
	comp=Z,126nm,1.0s						
KAPI	Kappang	20.02	98	P	P	22 15 39.6	+0.6
MYLDM	Lahad Datu	20.11	68	P	Pn	22 15 40.9	-1.0
MYLDM				IAmb	IAmb	22 15 43.8	
	comp=Z,252nm,0.8s						
MYLDM	Lahad Datu	20.11	68	P	Pn	22 15 41.6	-0.3
BNSI	Bone	20.31	96	P	Pn	22 15 43.4	-0.8
	comp=Z,4μmcomp=Z,280nm,1.0s						
BKSI	Bulukumba	20.42	99	P	P	22 15 43.8	+0.4
	comp=Z,4μmcomp=Z,512nm,1.2s						
WBSI	Waikabubak, Su	20.69	111	P	P	22 15 42.7	-3.6
	comp=Z,2μmcomp=Z,258nm,1.2s						
CM31	Chiang Mai Arr	20.79	358	P	P	22 15 45.2	-2.1
CM31				IAmb	IAmb	22 15 48.6	
	comp=Z,181nm,1.0s						
CMAR	Chiang Mai Arr	20.79	358	P	P	22 15 44.1	-3.2
CMAR	Chiang Mai Arr	20.79	358	P	P	22 15 46.2	-1.0
	comp=Z,88nm,0.9s,baz=178,slow=9.6,SNR=222						
CMAR				S	Sn	22 19 43.4	-0.7
	comp=Z,0.9nm,0.3s,baz=187,slow=15,SNR=1.8						
CMAR				PcP	PcP	22 19 57.6	+1.4
	comp=Z,4.7nm,0.9s,baz=190,slow=1.0,SNR=4.4						
CMAR				LR	LR	22 24 13.0	
	comp=Z,3μm,20.4s,baz=165,slow=38						
	comp=Z,88nm,0.9s						
BSSI	Bau Bau, Buton	20.90	101	P	P	22 15 46.6	-2.0
	comp=Z,2μmcomp=Z,139nm,1.1s						
CHTO	Chiang Mai	21.14	358		P	22 15 49.8	-1.3
CHTO	Chiang Mai	21.14	358	P	P	22 15 50.4	-0.7
CHTO	Chiang Mai	21.14	358	P	P	22 15 49.8	-1.3
CHTO				pmax	pmax		
	comp=Z,72nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,3μm,21.0s						
TOLI2	Tolitoli	21.22	81		P	22 15 51.9	-0.1
TOLI2				IAmb	IAmb	22 15 58.3	
	comp=Z,250nm,1.0s						
TOLI2	Tolitoli	21.22	81	P	P	22 15 53.5	+1.5
WSI	Waingapu	21.55	110	P	P	22 15 57.0	+1.5
	comp=Z,7μmcomp=Z,335nm,1.1s						
APSI	Ampana	21.84	86	P	P	22 15 59.4	+0.7
	comp=Z,4μmcomp=Z,439nm,1.1s						
BASI	Baing, Sumba	21.99	111	P	P	22 15 59.2	-1.0
	comp=Z,6μmcomp=Z,427nm,1.0s						
MRSI	Marisa	22.27	83	P	P	22 16 03.2	-0.1
	comp=Z,3μmcomp=Z,3μmcomp=Z,313nm,1.2s						
EDFI	Ende, Flores	22.61	107	P	P	22 16 04.6	-2.4
BBSI	Bau Bau	22.86	98	P	P	22 16 09.7	+0.1
	comp=Z,161nm,0.9s						
LUWI	Luwuk	22.95	87	P	P	22 16 09.8	-0.7
LUWI				IAmb	IAmb	22 16 24.2	
	comp=Z,192nm,0.8s						
LUWI	Luwuk	22.95	87	P	P	22 16 11.0	+0.5
LUWI	Luwuk	22.95	87	P	P	22 16 10.4	-0.1
	comp=Z,3μmcomp=Z,272nm,0.9s						
MMRI	Maumere	23.11	106	P	P	22 16 08.7	-3.4
MMRI	Maumere	23.11	106	P	P	22 16 13.4	+1.3
MMRI	Maumere	23.11	106	P	P	22 16 09.7	-2.4
QIZ	Qiongzhong

comp=Z,4μm,16.9s
DAV Davao City (W) 27.36 70 P **P 22 16 50.1 -1.2**
DAV Davao City (W) 27.36 70 P **P 22 16 49.9 -1.4**
comp=Z,89nm,0.3s,baz=255,slow=12,SNR=7.7
DAV LR LR 22 29 01.6
comp=Z,2μm,20.1s,baz=224,slow=40
comp=Z,89nm,0.3s
KMI Kunming 27.55 6 ⇑P **P 22 16 53.6 +0.5**
KMI S **S 22 21 33.3 -0.2**
KMI pmax pmax
comp=Z,30nm,0.8s
KMI pmax pmax
comp=Z,240nm,4.3s
KMI LR LR
comp=Z,2μm,16.2s
KMI LR LR
comp=Z,3μm,16.3s
KMI LR LR
comp=Z,2μm,23.3s
TNTI Ternate 27.69 84 P **P 22 16 51.3 -3.1**
TNTI IAmb IAmb 22 16 54.9
comp=Z,85nm,1.2s
TNTI Ternate 27.69 84 P **P 22 16 54.9 +0.6**
TNTI Ternate 27.69 84 P **P 22 16 52.7 -1.6**
comp=Z,2μmcomp=Z,62nm,1.2s
IMP Imphal 27.71 348 *e*P P 22 16 39.1 -15
IMP IAmb IAmb 22 17 20.7
comp=Z,117nm,1.0s
IMP *e*S S 22 21 21.0 -15
H08S2 Diego Garcia H 27.73 258 T T 22 45 34.3
baz=80,slow=76,SNR=2637
H08S3 Diego Garcia H 27.73 258 T T 22 45 41.7
baz=80,slow=76,SNR=6880
H08S1 Diego Garcia H 27.75 258 T T 22 45 39.1
baz=80,slow=76,SNR=542
SZP Santa 28.42 45 P **P 22 17 01.3 +0.6**
KOHI KOHIMA 28.55 349 *e*P P 22 16 46.8 -15
KOHI IAmb IAmb 22 17 19.3
comp=Z,102nm,1.0s
KOHI *e*S S 22 21 35.8 -13
HYB Hyderabad 28.82 314 *e*P **P 22 17 04.4 +0.1**
HYB IVmB_BB 22 17 04.4
comp=Z,109nm,0.9s
HYB *e*pP **pP 22 17 10.0 -0.8**
HYB *e*PP **PP 22 18 09.6 -0.1**
HYB *e*PcP **PcP 22 20 15.3 +1.3**
HYB *e*S **S 22 21 54.3 +0.9**
HYB IVMs_BB IVMs_BB 22 30 01.1
comp=Z,506nm,14.8s
PZH PanZhiHua 28.84 4 P **P 22 17 03.5 -1.0**
PZH S **S 22 21 59.9 +6.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,200nm,6.2s
PZH LR LR
comp=Z,3μm,16.9s
PZH LR LR
comp=Z,3μm,14.7s
PZH LR LR
comp=Z,3μm,16.3s
SHL Shillong 28.90 345 P **P 22 17 03.8 -1.3**
SHL IAmb IAmb 22 17 14.0
comp=Z,107nm,0.7s
SHL Shillong 28.90 345 P **P 22 17 03.8 -1.3**
SHL pmax pmax
comp=Z,107nm,0.7s
MSAI Masohi 29.05 92 P **P 22 17 05.7 -0.7**
comp=Z,92nm,0.6s
GULI GuiLin 29.40 20 P **P 22 17 10.6 +1.3**
GULI pP **pP 22 17 16.0 +0.2**
GULI pmax pmax
comp=Z,43nm,1.2s
GULI LR LR
comp=Z,1μm,16.8s
GULI LR LR
comp=Z,3μm,19.0s
GULI LR LR
comp=Z,3μm,19.2s
GYA Guiyang 29.48 12 ⇓P **P 22 17 10.3 +0.1**
GYA pmax pmax
comp=Z,58nm,1.4s
JORH JORHAT 29.52 350 *e*P P 22 16 57.0 -13
JORH IAmb IAmb 22 17 26.1
comp=Z,79nm,0.8s
JORH *e*S S 22 21 49.8 -14
GUWA GUWAHATI 29.54 345 *e*P P 22 16 55.9 -15
GUWA IAmb IAmb 22 17 14.3
comp=Z,81nm,1.0s
GUWA *e*S S 22 21 49.8 -15
FITZ Fitzroy Crossi 29.69 123 P **P 22 17 10.7 -1.3**
FITZ Fitzroy Crossi 29.69 123 P **P 22 17 11.9 -0.2**
comp=Z,33nm,1.0s,baz=293,slow=6.0,SNR=12
FITZ S **S 22 22 02.7 -4.3**
comp=Z,4.6nm,0.9s,baz=339,slow=8.6,SNR=3.0
FITZ LR LR 22 29 35.6
comp=Z,622nm,21.8s,baz=304,slow=38
comp=Z,33nm,1.0s
FITZ Fitzroy Crossi 29.69 123 P **P 22 17 12.5 +0.5**
MEEK Meekatharra 30.05 145 P **P 22 17 16.0 +0.9**
ZIRO ZIRO 30.35 349 *e*P P 22 17 02.6 -15
ZIRO IAmb IAmb 22 17 34.0
comp=Z,92nm,1.2s
ZIRO *e*S S 22 22 03.6 -14
MORW Morawa 30.64 151 P **P 22 17 20.4 +0.1**
TAWA Tawang 30.84 346 *e*P P 22 17 07.1 -15
TAWA IAmb IAmb 22 17 40.3
comp=Z,118nm,0.9s
TAWA *e*S S 22 22 10.6 -15
KNRA Kununurra 31.37 117 P **P 22 17 26.5 -0.4**
comp=Z,96nm,1.0s
KNRA Kununurra 31.37 117 P **P 22 17 25.6 -1.3**
KNRA IAmb IAmb 22 17 27.0
comp=Z,65nm,0.8s
AUDHS Darwin High Sc 32.24 110 P **P 22 17 35.0 +0.4**
FAKI Fak Fak 32.37 92 P **P 22 17 33.8 -2.0**
FAKI IAmb IAmb 22 17 36.6
comp=Z,51nm,0.9s
FAKI Fak Fak 32.37 92 P **P 22 17 36.1 +0.4**
FAKI Fak Fak 32.37 92 P **P 22 17 35.3 -0.4**
comp=Z,78nm,1.2s
TWG Pinlang 32.55 38 P **P 22 17 37.5 +0.4**
TWGBT Beinan 32.55 38 P **P 22 17 38.6 +1.5**
TPUB Ta-pu 32.63 37 P **P 22 17 37.9 0.0**
TPUB Ta-pu 32.63 37 P **P 22 17 38.3 +0.4**
MTN Manton Dam 32.63 110 P **P 22 17 36.3 -1.7**
EVN Everest 32.73 338 P **P 22 17 39.3 -0.1**
EVN IAmb IAmb 22 18 01.7
comp=Z,62nm,0.8s
QZH Quanzhou 32.74 33 P **P 22 17 39.3 +0.5**
QZH pmax pmax
comp=Z,130nm,1.1s
QZH LR LR
comp=Z,2μm,18.9s
QZH LR LR
comp=Z,2μm,16.5s
QZH LR LR
comp=Z,3μm,14.8s
CNSH ChangSha 32.95 22 P **P 22 17 39.8 -0.7**
CNSH S **S 22 22 56.0 -1.6**
CNSH pmax pmax
comp=Z,88nm,1.3s
CNSH LR LR
comp=Z,5μm,15.8s
CNSH LR LR
comp=Z,3μm,13.7s
CNSH LR LR
comp=Z,6μm,16.1s
LSA Lhasa 33.03 346 P **P 22 17 42.7 +0.9**
LSA IAmb IAmb 22 17 44.2
comp=Z,76nm,0.9s
LSA Lhasa 33.03 346 *i*P **P 22 17 42.9 +1.0**
SNR=54
LSA Lhasa 33.03 346 P **P 22 17 42.7 +0.9**
LSA pmax pmax
comp=Z,76nm,0.9s
LSA MLR MLR
comp=Z,600nm,21.0s
YULB Yu-li 33.11 38 P **P 22 17 42.2 +0.1**
YULB IAmb IAmb 22 18 00.5
comp=Z,49nm,0.8s
YULB Yu-li 33.11 38 P **P 22 17 43.4 +1.4**
SSLB Suanglung 33.19 37 P **P 22 17 42.6 -0.2**
SSLB IAmb IAmb 22 17 45.0
comp=Z,122nm,1.1s
SSLB Suanglung 33.19 37 P **P 22 17 43.4 +0.6**

CD2 Chengdu 33.38 6 P **P 22 17 43.3 -1.1**
CD2 S **S 22 23 05.5 +1.1**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 LR LR
comp=Z,5μm,17.0s
CD2 LR LR
comp=Z,6μm,17.2s
CD2 LR LR
comp=Z,4μm,17.5s
ENH Enshi 33.81 15 P **P 22 17 47.0 -1.1**
KDU Kakadu 33.85 109 P **P 22 17 45.7 -2.9**
NACB Ninganchiao 33.87 37 P **P 22 17 48.7 +0.1**
NACB IAmb IAmb 22 17 50.9
comp=Z,100nm,1.1s
NACB Ninganchiao 33.87 37 P **P 22 17 49.9 +1.2**
YHNB Yeheng 34.11 37 P **P 22 17 50.4 -0.4**
YHNB IAmb IAmb 22 18 15.3
comp=Z,104nm,1.1s
YHNB Yeheng 34.11 37 P **P 22 17 51.7 +0.9**
RKPI Ransiki, Papua 34.32 89 P **P 22 17 52.5 -0.3**
comp=Z,123nm,1.2s
TATO Taipei 34.41 36 P **P 22 17 53.2 -0.1**
NWAO Narrogin (SRO) 34.43 154 P **P 22 17 54.6 +1.2**
NWAO IAmb IAmb 22 18 08.5
comp=Z,63nm,1.4s
NWAO Narrogin (SRO) 34.43 154 IAMs_20 IAMs_20 22 30 46.1
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 34.43 154 LR LR 22 30 57.0
comp=Z,2μm,21.4s,baz=316,slow=35
NWAO Narrogin (SRO) 34.43 154 P **P 22 17 53.4 -0.1**
NWAO Narrogin (SRO) 34.43 154 P **P 22 17 54.6 +1.2**
NWAO pmax pmax
comp=Z,63nm,1.4s
NWAO MLR MLR
comp=Z,3μm,20.0s
H01W3 Cape Leeuwin H 34.91 159 T T 22 55 01.8
baz=335,slow=76,SNR=190
H01W2 Cape Leeuwin H 34.92 159 T T 22 55 05.6
baz=335,slow=76,SNR=138
H01W1 Cape Leeuwin H 34.92 159 T T 22 55 08.0
baz=335,slow=76,SNR=128
YOJ Yonaguni jima 34.95 39 P **P 22 17 57.2 -0.8**
YOJ IAmb IAmb 22 18 05.3
comp=Z,70nm,0.8s
YOJ Yonaguni jima 34.95 39 P **P 22 17 59.6 +1.6**
YOJ Yonaguni jima 34.95 39 P **P 22 17 57.2 -0.8**
YOJ pmax pmax
comp=Z,70nm,0.8s
WRKA Warakurna 35.44 132 P **P 22 18 04.3 +1.9**
comp=Z,17nm,1.0s
WHN Wuhan 35.60 22 ⇑P **P 22 18 03.8 +0.3**
WHN sP **sP 22 18 11.1 -1.1**
WHN PcP **PcP 22 20 33.1 +0.9**
WHN pmax pmax
comp=Z,490nm,1.4s
WHN LR LR
comp=Z,12μm,15.7s
WHN LR LR
comp=Z,6μm,13.8s
WHN LR LR
comp=Z,16μm,16.0s
JMJ Miyako jima 2 36.66 41 P **P 22 18 13.5 +0.8**
XAN Xi'an 37.28 12 ⇑P **P 22 18 16.9 -1.0**
XAN pP pP 22 18 23.0 -1.5
XAN sP sP 22 18 27.6 +0.8
XAN S **S 22 24 01.8 -2.5**
XAN pmax pmax
comp=Z,220nm,1.0s
XAN pmax pmax
comp=Z,620nm,3.6s
XAN LR LR
comp=Z,6μm,14.6s
XAN LR LR
comp=Z,2μm,16.7s
XAN LR LR
comp=Z,9μm,13.7s
WB0 Warramunga Arr 37.88 120 P **P 22 18 22.7 -0.5**
WB0 IAmb IAmb 22 18 24.9
comp=Z,127nm,0.8s
WRA Warramunga Arr 37.90 120 P **P 22 18 22.6 -0.8**
WRA Warramunga Arr 37.90 120 P **P 22 18 23.6 +0.2**
comp=Z,95nm,0.8s,baz=295,slow=8.5,SNR=204
WRA PcP **PcP 22 20 40.1 +0.7**
comp=Z,7.0nm,0.8s,baz=298,slow=2.7,SNR=5.0
WRA S **S 22 24 10.5 -3.6**
comp=Z,7.5nm,1.0s,baz=291,slow=16,SNR=6.7
WRA LR LR 22 36 07.5
comp=Z,1μm,20.6s,baz=300,slow=40
comp=Z,95nm,0.8s
WRAB Tennant Creek 37.91 120 P **P 22 18 23.5 +0.1**
WRAB Tennant Creek 37.91 120 *ce*P **P 22 18 23.6 +0.1**
WRAB pmax pmax
comp=Z,156nm,1.0s
LZDM Lanzhou Array 38.37 5 P **P 22 18 27.0 -0.4**
comp=Z,43nm,1.0s,baz=186,slow=12,SNR=24
LZDM PcP **PcP 22 20 41.8 +0.9**
comp=Z,25nm,0.9s,baz=193,slow=5.8,SNR=8.3
LZDM S **S 22 24 20.2 -1.1**
comp=Z,1.2nm,0.3s,baz=152,slow=16,SNR=1.7
comp=Z,43nm,1.0s
LZH Lanzhou 38.51 5 *e*P **P 22 18 28.6 +0.2**
LZH sP pP 22 18 35.6 +0.6
LZH PcP **PcP 22 20 42.1 +0.9**
LZH PcS **PcS 22 24 31.8 +1.3**
LZH pmax pmax
comp=Z,100nm,1.4s
LZH pmax pmax
comp=Z,500nm,4.5s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,3μm,16.3s
LZH LR LR
comp=Z,3μm,17.9s
LYN LuoYang 38.66 17 ⇑*i*P **P 22 18 29.9 +0.4**
LYN sP sP 22 18 38.9 +0.4
LYN PcP **PcP 22 20 42.4 +1.0**
LYN S **S 22 24 28.3 +3.2**
LYN sS sS 22 24 40.3 +5.2
LYN pmax pmax
comp=Z,340nm,1.2s
LYN pmax pmax
comp=Z,280nm,6.1s
LYN LR LR
comp=Z,5μm,14.1s
LYN LR LR
comp=Z,2μm,12.7s
LYN LR LR
comp=Z,4μm,13.7s
GOMU GeErMu 38.73 353 P **P 22 18 31.3 +0.8**
GOMU pP pP 22 18 35.0 -2.0
GOMU sP sP 22 18 38.6 -1.1
GOMU S **S 22 24 30.1 +3.3**
GOMU pmax pmax
comp=Z,48nm,1.3s
GOMU LR LR
comp=Z,800nm,15.7s
GOMU LR LR
comp=Z,890nm,15.6s
GOMU LR LR
comp=Z,810nm,15.5s
NJ2 Nanjing 38.76 26 ⇑P **P 22 18 30.6 +0.3**
NJ2 sP **sP 22 18 38.6 -0.7**
NJ2 pmax pmax
comp=Z,60nm,0.9s
NJ2 pmax pmax
comp=Z,290nm,4.7s
NJ2 LR LR
comp=Z,1μm,13.3s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,3μm,14.3s
FORT Forrest 38.80 140 P **P 22 18 31.2 +0.4**
SSE Sheshan 39.05 30 P **P 22 18 33.1 +0.3**
SSE S **S 22 24 35.4 +4.3**
SSE pmax pmax
comp=Z,83nm,0.9s
SSE pmax pmax
comp=Z,140nm,5.5s
SSE LR LR
comp=Z,650nm,14.8s
SSE LR LR
comp=Z,890nm,14.5s
AS31 Alice Springs 39.12 126 P **P 22 18 32.7 -0.8**

ASAR Alice Springs 39.12 126 P **P 22 18 33.6 0.0**
ASAR Alice Springs 39.12 126 P **P 22 18 34.1 +0.5**
comp=Z,32nm,0.8s,baz=300,slow=8.3,SNR=86
ASAR PcP **PcP 22 20 43.4 +0.2**
comp=Z,12nm,0.9s,baz=299,slow=3.7,SNR=4.8
ASAR S **S 22 24 30.5 -1.9**
comp=Z,6.4nm,0.7s,baz=299,slow=16,SNR=16
ASAR LR LR 22 36 14.1
comp=Z,2μm,21.2s,baz=306,slow=39
comp=Z,32nm,0.8s
JOW Kunigami 39.99 41 P **P 22 18 40.4 -0.3**
JOW IAmb IAmb 22 18 44.1
comp=Z,309nm,1.8s
JOW Kunigami 39.99 41 P **P 22 18 42.0 +1.2**
JAY Jayapura 40.81 91 P **P 22 18 48.8 +1.0**
comp=Z,9.7nm,0.8s,baz=258,slow=20,SNR=2.0
comp=Z,9.7nm,0.8s
TIY Taiyuan 41.62 15 P **P 22 18 54.5 +0.4**
TIY S **S 22 25 12.3 +2.8**
TIY pmax pmax
comp=Z,37nm,0.8s
TIY pmax pmax
comp=Z,260nm,5.1s
TIY LR LR
comp=Z,2μm,15.8s
TIY LR LR
comp=Z,1μm,16.5s
TIY LR LR
comp=Z,2μm,15.1s
GTA Gaotai 41.65 360 P **P 22 18 55.3 +0.9**
GTA sP sP 22 19 02.3 -0.9
GTA PP **PnPn 22 20 34.8 -1.0**
GTA PcP **PcP 22 20 52.8 +1.7**
GTA PcS **PcS 22 24 41.8 -0.8**
GTA sS sS 22 25 28.3 +8.4
GTA ScS **ScS 22 28 54.5 -2.4**
GTA pmax pmax
comp=Z,96nm,1.6s
GTA pmax pmax
comp=Z,510nm,6.4s
GTA LR LR
comp=Z,330nm,14.9s
GTA LR LR
comp=Z,3μm,17.1s
GTA LR LR
comp=Z,2μm,16.7s
TIA Tai'an 41.70 21 P **P 22 18 54.1 -0.6**
TIA PcP **PcP 22 20 52.4 +1.2**
TIA ScP **ScP 22 24 39.9 -0.5**
TIA S **S 22 25 01.8 -8.7**
TIA pmax pmax
comp=Z,70nm,0.7s
TIA pmax pmax
comp=Z,410nm,3.7s
TIA LR LR
comp=Z,2μm,19.9s
TIA LR LR
comp=Z,2μm,17.2s
TIA LR LR
comp=Z,7μm,13.4s
HNS HongShan 41.97 18 ⇑P **P 22 18 57.3 +0.4**
HNS S **S 22 25 22.3 +7.8**
HNS pmax pmax
comp=Z,140nm,0.9s
HNS LR LR
comp=Z,790nm,15.9s
HNS LR LR
comp=Z,2μm,17.5s
HNS LR LR
comp=Z,2μm,13.5s
QIS Mount Isa 42.73 118 P **P 22 19 02.9 -0.5**
comp=Z,73nm,1.3s
QIS Mount Isa 42.73 118 P **P 22 19 03.3 -0.1**
NIL Nilore 43.80 327 P **P 22 19 11.1 -0.7**
NIL IAmb IAmb 22 19 21.7
comp=Z,94nm,0.8s
NIL Nilore 43.80 327 P **P 22 19 11.1 -0.7**
NIL pmax pmax
comp=Z,94nm,0.9s
BTO Baotou 43.84 11 *e*P **P 22 19 13.3 +1.2**
BTO pP **pP 22 19 17.6 -1.1**
BTO sP **sP 22 19 20.4 -0.6**
BTO S **S 22 25 46.9 +4.8**
BTO sS **sS 22 25 52.0 -0.1**
BTO SS **SS 22 28 55.3 -3.4**
BTO pmax pmax
comp=Z,110nm,1.6s
BTO pmax pmax
comp=Z,840nm,7.9s
BTO LR LR
comp=Z,8μm,14.8s
BTO LR LR
comp=Z,4μm,14.8s
BTO LR LR
comp=Z,10μm,15.6s
COEN Coen 44.29 107 P **P 22 19 14.0 -2.0**
HHC Hu-ho-hao-te 44.40 13 ⇑*i*P **P 22 19 17.4 +0.8**
HHC sP sP 22 19 24.8 -0.7
HHC S **S 22 25 52.6 +2.4**
HHC pmax pmax
comp=Z,62nm,0.8s
HHC pmax pmax
comp=Z,260nm,5.9s
HHC LR LR
comp=Z,3μm,16.0s
HHC LR LR
comp=Z,890nm,15.1s
HHC LR LR
comp=Z,3μm,14.5s
BJT Baijiatuau 44.83 18 P **P 22 19 19.9 +0.1**
BJT Baijiatuau 44.83 18 P **P 22 19 20.0 +0.1**
BJT pmax pmax
comp=Z,139nm,0.9s
BJT MLR MLR
comp=Z,800nm,18.0s
BJI Beijing 44.85 18 P **P 22 19 20.8 +0.8**
BJI PcP **PcP 22 21 02.6 +0.9**
BJI S **S 22 25 58.3 +1.8**
BJI pmax pmax
comp=Z,84nm,0.9s
BJI LR LR
comp=Z,920nm,15.3s
BJI LR LR
comp=Z,390nm,14.3s
BJI LR LR
comp=Z,1μm,16.5s
BBOO Buckleboo 45.43 136 P **P 22 19 25.4 +0.6**
comp=Z,31nm,1.1s
BBOO Buckleboo 45.43 136 P **P 22 19 25.5 +0.6**
BBOO Buckleboo 45.43 136 P **P 22 19 26.0 +1.1**
DL2 Dalian 45.78 24 P **P 22 19 27.8 +0.3**
DL2 S **S 22 26 15.0 +5.0**
DL2 pmax pmax
comp=Z,190nm,0.8s
DL2 pmax pmax
comp=Z,380nm,6.6s
DL2 LR LR
comp=Z,1μm,18.7s
DL2 LR LR
comp=Z,1μm,17.5s
DL2 LR LR
comp=Z,2μm,17.1s
JNU Nakatsue 45.94 37 P **P 22 19 28.9 0.0**
JNU Nakatsue 45.94 37 P **P 22 19 29.0 +0.1**
comp=Z,200nm,0.9s,baz=228,slow=11,SNR=50
JNU LR LR 22 40 04.1
comp=Z,798nm,18.1s,baz=238,slow=38
comp=Z,200nm,0.9s
JNU Nakatsue 45.94 37 P **P 22 19 29.0 +0.1**
JTU Tsushima 46.07 34 P **P 22 19 30.3 +0.4**
MTSU Mount Surprise 46.28 113 P **P 22 19 31.9 0.0**
comp=Z,48nm,0.9s
MTSU Mount Surprise 46.28 113 P **P 22 19 31.8 0.0**
TJN Taejon 46.36 31 P **P 22 19 31.7 -0.4**
TJN Taejon 46.36 31 P **P 22 19 32.4 +0.3**
TJN Taejon 46.36 31 P **P 22 19 31.7 -0.4**
TJN pmax pmax
comp=Z,200nm,0.9s
INKA Innaminka 46.45 127 P **P 22 19 33.4 +0.5**
WHYH Whyalla 46.62 135 P **P 22 19 35.9 +1.7**
KBL Kabul 46.81 325 P **P 22 19 34.7 -1.2**
KBL Kabul 46.81 325 P **P 22 19 34.7 -1.2**
KBL pmax pmax
comp=Z,20nm,0.9s
INCN Inchon 46.85 29 P **P 22 19 34.9 -1.1**
INCN IAmb IAmb 22 19 36.5

comp=Z,74nm,0.9s
INCN Inchon 46.85 29 P **P 22 19 35.8 -0.2**
INCN Inchon 46.85 29 P **P 22 19 34.9 -1.1**
INCN pmax pmax
comp=Z,74nm,1.0s
INCN MLR MLR
comp=Z,900nm,19.0s
KSH Kashi 47.17 335 P **P 22 19 37.6 -0.9**
KSH pmax pmax
comp=Z,28nm,0.9s
KSH LR LR
comp=Z,850nm,16.2s
KSH LR LR
comp=Z,870nm,13.4s
KSH LR LR
comp=Z,1μm,20.6s
WMQ Urumqi 47.33 348 ⇑P **P 22 19 41.4 +1.7**
WMQ sP sP 22 19 49.8 +0.8
WMQ S **S 22 26 33.8 +1.5**
WMQ pmax pmax
comp=Z,220nm,0.9s
WMQ pmax pmax
comp=Z,680nm,3.7s
WMQ LR LR
comp=Z,740nm,13.9s
WMQ LR LR
comp=Z,850nm,19.3s
GUMO Guam 47.40 69 LR LR 22 39 28.3
comp=Z,383nm,21.8s,baz=226,slow=36
KSAR Wonju Array Be 47.45 31 P **P 22 19 40.7 +0.1**
KSAR Wonju Array Be 47.45 31 P **P 22 19 40.7 +0.1**
KSRS Korea Array 47.48 31 P **P 22 19 40.9 +0.1**
comp=Z,118nm,0.8s,baz=226,slow=8.4,SNR=309
KSRS LR LR 22 39 48.6
comp=Z,352μm,21.0s,baz=190,slow=36
comp=Z,118nm,0.8s
KS19 Wonju Array Si 47.48 30 P **P 22 19 40.8 -0.1**
PMG Port Moresby 47.52 100 P **P 22 19 40.5 -1.1**
PMG IAmb IAmb 22 20 06.8
comp=Z,32nm,1.1s
PMG Port Moresby 47.52 100 P **P 22 19 40.8 -0.7**
comp=Z,16nm,0.6s,baz=284,slow=4.2,SNR=4.7
PMG LR LR 22 43 04.1
comp=Z,502nm,19.5s,baz=266,slow=40
comp=Z,16nm,0.6s
HTT Hallett 47.79 135 P **P 22 19 44.8 +1.4**
comp=Z,19nm,1.2s
HTT Hallett 47.79 135 P **P 22 19 44.4 +1.0**
JMN Monobe 48.19 39 P **P 22 19 46.7 +0.2**
JMN Monobe 48.19 39 P **P 22 19 46.9 +0.4**
TARG Taragay, Kyrgy 48.31 338 P **P 22 19 48.5 +0.8**
TARG IAmb IAmb 22 20 04.5
comp=Z,77nm,1.0s
TARG Taragay, Kyrgy 48.31 338 P **P 22 19 48.5 +0.8**
TARG pmax pmax
comp=Z,77nm,1.0s
XLT XiLinHaoTe 48.38 16 *e*P **P 22 19 48.4 +0.6**
XLT sP pP 22 19 55.3 +0.8
XLT S **S 22 26 44.6 -2.6**
XLT pmax pmax
comp=Z,130nm,1.0s
XLT LR LR
comp=Z,1μm,14.9s
XLT LR LR
comp=Z,1μm,15.9s
CTA Charters Tower 48.55 115 LR LR 22 43 03.5
comp=Z,24nm,19.9s,baz=268,slow=40
PRZ Przheval'sk 48.75 339 P **P 22 19 51.6 +0.8**
PRZ Przheval'sk 48.75 339 P **P 22 19 51.6 +0.8**
PRZ pmax pmax
comp=Z,183nm,1.2s
QLP Quilpie 48.83 124 P **P 22 19 52.8 +1.3**
comp=Z,86nm,1.1s
QLP Quilpie 48.83 124 P **P 22 19 53.4 +1.9**
KDJ Kajisay 48.89 338 P **P 22 19 52.0 +0.1**
KDJ Kajisay 48.89 338 P **P 22 19 52.0 +0.1**
KDJ pmax pmax
comp=Z,200nm,1.1s
STKA Stephens Creek 48.97 131 P **P 22 19 54.2 +1.7**
comp=Z,282nm,1.0s
STKA Stephens Creek 48.97 131 P **P 22 19 53.1 +0.6**
STKA Stephens Creek 48.97 131 P **P 22 19 54.0 +1.5**
comp=Z,35nm,0.8s,baz=293,slow=10.0,SNR=70
STKA S **S 22 26 57.0 +1.2**
comp=Z,1.7nm,0.9s,baz=336,slow=20,SNR=1.8
STKA LR LR 22 42 03.1
comp=Z,1μm,21.1s,baz=296,slow=38
comp=Z,35nm,0.8s
STKA Stephens Creek 48.97 131 P **P 22 19 53.8 +1.3**
STKA Stephens Creek 48.97 131 P **P 22 19 54.0 +1.5**
STKA S **S 22 26 57.0 +1.2**
SHLS Shalkode 48.97 340 *e*P **P 22 19 50.8 -1.6**
comp=Z,35nm,0.8s
SHLS Shalkode 48.97 340 *e*P **P 22 19 50.8 -1.6**
SHLS pmax pmax
comp=Z,35nm,0.8s
DRK Karamyk 49.04 331 P **P 22 19 53.4 +0.2**
DRK Karamyk 49.04 331 P **P 22 19 53.4 +0.2**
DRK pmax pmax
comp=Z,146nm,0.8s
SNY Shenyang 49.05 23 ⇑P **P 22 19 52.3 -0.5**
SNY pmax pmax
comp=Z,66nm,1.0s
SNY pmax pmax
comp=Z,230nm,5.7s
SNY LR LR
comp=Z,770nm,15.2s
SNY LR LR
comp=Z,1μm,15.1s
SNY LR LR
comp=Z,1μm,17.1s
SATY Saty 49.25 339 *e*P **P 22 19 54.1 -0.5**
comp=Z,45nm,0.9s
SATY Saty 49.25 339 *e*P **P 22 19 54.1 -0.5**
SATY pmax pmax
comp=Z,45nm,0.9s
GAR Garm 49.40 330 P **P 22 19 54.7 -1.1**
GAR IAmb IAmb 22 20 13.5
comp=Z,112nm,1.0s
BOOM Boomskoye usch 49.68 337 P **P 22 19 58.4 +0.5**
BOOM IAmb IAmb 22 20 16.5
comp=Z,117nm,1.1s
BOOM Boomskoye usch 49.68 337 P **P 22 19 58.4 +0.5**
BOOM pmax pmax
comp=Z,117nm,1.1s
CHGR Chuyangaron 49.74 328 P **P 22 19 57.0 -1.2**
CHGR Chuyangaron 49.74 328 P **P 22 19 57.1 -1.2**
CHGR pmax pmax
comp=Z,291nm,1.3s
TNSS Tian-Shan 49.76 338 *e*P **P 22 19 58.0 -0.9**
TNSS Tian-Shan 49.76 338 *e*P **P 22 19 57.9 -0.9**
MDOK Medeo 49.83 338 *e*P **P 22 19 58.6 -0.5**
MDOK Medeo 49.83 338 *e*P **P 22 19 58.5 -0.5**
AAA Alma-Ata 49.92 338 *e*P **P 22 19 59.2 -0.4**
comp=Z,46nm,1.0s
AAA Alma-Ata 49.92 338 *e*P **P 22 19 59.2 -0.4**
AAA pmax pmax
comp=Z,46nm,1.0s
ARSB Arslanbob 49.95 334 P **P 22 20 00.3 +0.3**
ARSB Arslanbob 49.95 334 P **P 22 20 00.3 +0.3**
ARSB pmax pmax
comp=Z,261nm,1.1s
UCH Uchtor 50.04 336 P **P 22 20 01.9 +1.0**
SNR=7.2
TKM2 Tokmak 2 50.18 337 P **P 22 20 02.6 +0.9**
SNR=102
KBK Karagaybulak 50.22 336 P **P 22 20 03.5 +1.5**
SNR=42
JCJ Chichijima 50.27 51 LR LR 22 41 11.8
comp=Z,391nm,20.5s,baz=218,slow=36
ALNE Al Ain 50.30 304 *i* P **P 22 20 03.2 +0.4**
SNR=13
UOSS Minazif 50.32 305 P **P 22 20 02.5 -0.3**
ASHO Ashiyiah 50.32 305 P **P 22 20 03.7 +0.8**
HATD Hatta, Dubai 50.32 305 P **P 22 20 04.3 +1.3**
AAK Ala-Archa 50.38 336 P **P 22 20 03.9 +0.7**
AAK IAmb IAmb 22 20 22.9
comp=Z,43nm,1.0s
AAK Ala-Archa 50.38 336 LR LR 22 44 32.8
comp=Z,1μm,20.5s,baz=150,slow=40
AAK Ala-Archa 50.38 336 P **P 22 20 04.5 +1.2**
SNR=13
AAK Ala-Archa 50.38 336 *i* P **P 22 20 04.1 +0.9**
SNR=14
AAK Ala-Archa 50.38 336 *ce*P **P 22 20 04.5 +1.2**
AAK pmax pmax
comp=Z,48nm,1.7s
SONM Songino Array 50.40 6 P **P 22 20 04.1 +0.9**
SONM Songino Array 50.40 6 P **P 22 20 04.0 +0.7**
comp=Z,196nm,0.8s,baz=188,slow=8.7,SNR=595
SONM PcP **PcP 22 21 21.6 +0.1**
comp=Z,16nm,0.8s,baz=177,slow=3.5,SNR=1.7
comp=Z,196nm,0.8s
FRU1 Bishkek 50.47 336 P **P 22 20 04.2 +0.4**
FRU1 IAmb IAmb 22 20 43.9
comp=Z,108nm,1.1s
FRU1 Bishkek 50.47 336 P **P 22 20 04.2 +0.4**
FRU1 pmax pmax
comp=Z,108nm,1.1s
ULN Ulaanbaatar 50.50 6 P **P 22 20 04.3 +0.3**
ULN Ulaanbaatar 50.50 6 IAMs_20 IAMs_20 22 44 35.7
comp=Z,2μm,18.0s
ULN Ulaanbaatar 50.50 6 P **P 22 20 04.8 +0.8**
MSFE Esma-Masafi 50.54 306 P **P 22 20 05.5 +0.9**
CHMS Chumysh 50.58 336 P **P 22 20 05.7 +1.1**
SNR=8.6
BANOM Banah 50.68 307 P **P 22 20 07.4 +1.8**
EKS2 Erkin-Say 50.70 335 P **P 22 20 06.8 +1.2**
SNR=49
HRA Herat 50.89 319 P **P 22 20 06.2 -1.1**
ASUD Al Ashush, Dub 50.90 305 P **P 22 20 08.3 +1.1**
USP Ospenovka 50.91 336 P **P 22 20 07.7 +0.7**
SNR=81
TDK Taldyqorghan 50.96 340 *e*P **P 22 20 07.1 -0.3**
comp=Z,49nm,0.7s
TDK Taldyqorghan 50.96 340 *e*P **P 22 20 07.1 -0.3**
TDK pmax pmax
comp=Z,49nm,0.7s
SGDS Sogindy 51.01 336 *e*P **P 22 20 07.5 -0.4**
INU Inuyama 51.21 39 P **P 22 20 08.5 -0.9**
INU IAmb IAmb 22 20 12.2
comp=Z,86nm,1.2s
INU Inuyama 51.21 39 P **P 22 20 09.3 -0.1**
ZSN Zaisan 51.40 347 *e*P **P 22 20 10.4 -0.2**
comp=Z,46nm,0.9s
ZSN Zaisan 51.40 347 *e*P **P 22 20 10.4 -0.2**
ZSN pmax pmax
comp=Z,46nm,0.9s
MK31 Makanchi Array 51.41 345 *ce*P **P 22 20 11.6 +0.8**
MKAR Makanchi Array 51.41 345 P **P 22 20 11.3 +0.6**
comp=Z,102nm,0.7s,baz=156,slow=8.4,SNR=428
MKAR S **S 22 27 28.0 -1.4**
comp=Z,1.8nm,1.1s,baz=131,slow=15,SNR=2.7
comp=Z,102nm,0.7s
CN2 Changchun 51.45 24 ⇑P **P 22 20 10.8 -0.2**
CN2 *es*P pP 22 20 17.0 -0.7
CN2 *e*S **S 22 27 29.8 -0.1**
CN2 pmax pmax
comp=Z,130nm,0.9s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
MAKZ Makanchi 51.51 344 P **P 22 20 11.8 +0.3**
MAKZ IAmb IAmb 22 20 29.1
comp=Z,78nm,0.8s
MAKZ Makanchi 51.51 344 P **P 22 20 12.5 +1.0**
JSG Sagara 51.55 41 P **P 22 20 11.6 -0.3**
ARPS Mount Arapiles 51.57 137 P **P 22 20 14.7 +2.6**
comp=Z,14nm,1.9s
JGF Kuroka 51.59 39 P **P 22 20 11.4 -0.9**
JGF IAmb IAmb 22 20 12.8
comp=Z,49nm,0.9s
JGF Kuroka 51.59 39 P **P 22 20 12.2 -0.1**
MZR Muzera 51.78 302 *i* P **P 22 20 14.5 +0.7**
SNR=13
DZA Taraz 51.95 334 *e*P **P 22 20 14.4 -0.4**
DZA Taraz 51.95 334 *e*P **P 22 20 14.4 -0.4**
CMSA Cobar Meteorol 51.95 129 P **P 22 20 16.9 +1.9**
comp=Z,87nm,1.0s
CMSA Cobar Meteorol 51.95 129 P **P 22 20 16.9 +1.9**
IUG Iuzhnay 51.95 332 *e*P **P 22 20 14.6 -0.4**
comp=Z,56nm,1.2s
IUG Iuzhnay 51.95 332 *e*P **P 22 20 14.6 -0.4**
IUG pmax pmax
comp=Z,56nm,1.2s
KK31 Karatay Array 52.48 333 P **P 22 20 18.0 -0.8**
KK31 Karatay Array 52.48 333 P **P 22 20 18.0 -0.8**
KK31 pmax pmax
comp=Z,48nm,1.3s
KKAR Karatay Array 52.48 333 P **P 22 20 18.1 -0.7**
KKAR Karatay Array 52.48 333 P **P 22 20 18.1 -0.7**
ZAK Zakamensk 52.70 3 *e*P **P 22 20 20.5 +0.1**
ZAK pmax pmax
comp=Z,44nm,1.4s
MAJO Matsushiro 52.71 39 P **P 22 20 19.9 -0.7**
MAJO Matsushiro 52.71 39 P **P 22 20 20.1 -0.5**
MJB9 Matsu-Tunnel 52.71 39 P **P 22 20 20.5 -0.1**
MJB9 IAmb IAmb 22 20 23.0
comp=Z,79nm,1.0s
MJAR Matsushiro Arr 52.71 39 P **P 22 20 19.7 -0.9**
MJAR IAmb IAmb 22 20 21.2
comp=Z,96nm,1.1s
MJAR Matsushiro Arr 52.71 39 P **P 22 20 20.0 -0.6**
comp=Z,122nm,1.1s,baz=235,slow=7.7,SNR=120
comp=Z,122nm,1.1s
MJAR Matsushiro Arr 52.71 39 P **P 22 20 20.0 -0.6**
BRLS Borolday 52.73 333 *e*P **P 22 20 19.3 -1.3**
BRLS Borolday 52.73 333 *e*P **P 22 20 19.3 -1.3**
MSHR Mys Shultsa 52.99 29 *ce*P **P 22 20 23.9 +1.4**
MSHR pmax pmax
comp=Z,40nm,0.6s
BRAT Ballarat 53.41 136 P **P 22 20 28.2 +2.5**
JSD Sado 53.69 38 P **P 22 20 26.9 -0.8**
JSD IAmb IAmb 22 20 28.2
comp=Z,63nm,0.8s
JSD Sado 53.69 38 P **P 22 20 26.9 -0.8**
BNX BinXian 53.84 24 ⇑P **P 22 20 28.8 +0.1**
BNX pmax pmax
comp=Z,150nm,0.8s
MDJ Mudanjiang 53.85 26 P **P 22 20 29.3 +0.5**
MDJ pmax pmax
comp=Z,120nm,1.0s
MDJ Mudanjiang 53.85 26 P **P 22 20 28.7 -0.1**
MDJ IAmb IAmb 22 20 31.0
comp=Z,88nm,0.9s
MDJ IAMs_20 IAMs_20 22 43 46.7
comp=Z,1μm,21.0s
MOY Mondy 53.92 1 *e*P **P 22 20 29.0 -0.3**
MOY pmax pmax
comp=Z,57nm,2.2s
ABPO Ambohimpanom 54.02 248 IAMs_20 IAMs_20 22 39 20.6
comp=Z,1μm,20.0s
TLY Talaya 54.02 3 P **P 22 20 30.6 +0.7**
TLY IAmb IAmb 22 20 40.9
comp=Z,39nm,0.9s
TLY Talaya 54.02 3 *ce*P **P 22 20 31.5 +1.6**
TLY pmax pmax
comp=Z,90nm,1.7s
EIDS Eidsvold 54.27 120 P **P 22 20 31.9 -0.3**
EIDS IAmb IAmb 22 20 49.3
comp=Z,32nm,0.9s
EIDS Eidsvold 54.27 120 P **P 22 20 33.0 +0.8**
HIA Hailar 54.31 16 P **P 22 20 31.6 -0.5**
HIA IAmb IAmb 22 20 33.2
comp=Z,85nm,1.0s
HIA Hailar 54.31 16 IAMs_20 IAMs_20 22 48 11.6
comp=Z,1μm,18.0s
HIA Hailar 54.31 16 *i* P **P 22 20 32.2 +0.1**
HIA pmax pmax
comp=Z,70nm,1.0s
TOO Toolangi 54.50 136 P **P 22 20 36.9 +3.1**
HILR Hailar Array B 54.58 16 P **P 22 20 34.2 +0.2**
comp=Z,53nm,0.7s,baz=196,slow=9.3,SNR=65
comp=Z,53nm,0.7s
IRK Irkutsk 54.61 3 *e*P **P 22 20 34.4 +0.2**
IRK pmax pmax
comp=Z,127nm,1.6s
USRK Ussuriysk Ar. 54.62 28 P **P 22 20 34.6 +0.2**
comp=Z,479nm,0.9s,baz=223,slow=5.9,SNR=518
VOI Vohitsoka 55.02 245 P **P 22 20 38.2 +0.4**
VOI IAmb IAmb 22 20 51.3
comp=Z,50nm,1.5s
VOI IAMs_20 IAMs_20 22 40 35.9
comp=Z,1μm,22.0s
JMM Marumori 55.15 39 P **P 22 20 37.7 -0.6**
JMM Marumori 55.15 39 P **P 22 20 38.1 -0.3**
YNG Young 55.16 131 P **P 22 20 40.2 +1.6**
comp=Z,38nm,1.1s
CIT Chita 55.49 10 *e*P **P 22 20 40.0 -0.7**
CIT *e* 22 20 51.4
CIT *e* 22 21 42.0
CIT *e* 22 22 53.0
CIT *e* 22 23 53.6
CIT pmax pmax
comp=Z,274nm,1.6s
AUPHS Peel High Scho 55.90 126 P **P 22 20 45.7 +1.7**
KURBB Kurchatov Arra 55.93 344 P **P 22 20 44.2 +0.5**
comp=Z,48nm,0.8s,baz=161,slow=6.7,SNR=151
KURBB S **S 22 28 31.5 +1.1**
comp=Z,0.5nm,0.6s,baz=161,slow=12,SNR=2.4
comp=Z,48nm,0.8s
KURK Kurchatov 55.99 344 P **P 22 20 44.3 +0.1**
KURK Kurchatov 55.99 344 P **P 22 20 44.2 +0.1**
KURK S **S 22 28 31.5 +0.3**
AUMTS Mt Stromlo 56.03 132 P **P 22 20 45.5 +0.7**
CAN Canberra 56.03 132 P **P 22 20 47.5 +2.7**
CAN Canberra 56.03 132 P **P 22 20 45.0 +0.2**
CAN IAmb IAmb 22 20 48.0
comp=Z,51nm,1.1s
CAN IAMs_20 IAMs_20 22 46 11.3
comp=Z,2μm,19.0s
CAN Canberra 56.03 132 P **P 22 20 46.8 +2.0**
CAN Canberra 56.03 132 P **P 22 20 45.1 +0.2**
CAN pmax pmax
comp=Z,51nm,1.1s
CAN MLR MLR
comp=Z,2μm,19.0s
ARMA Armidale 56.27 125 P **P 22 20 46.6 -0.1**
ARMA Armidale 56.27 125 P **P 22 20 47.6 +0.9**
CNB Canberra Magne 56.30 132 P **P 22 20 48.9 +2.1**
JTM Tenmabayashi 57.11 37 P **P 22 20 52.0 -0.3**
JTM Tenmabayashi 57.11 37 P **P 22 20 52.4 +0.1**
TEY Ternei 57.47 30 ⇓*e*P **P 22 20 53.2 -1.6**
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,30nm,1.3s
ZAA0 Zalesovo Array 57.58 350 P **P 22 20 55.0 -0.3**
ZALV Zalesovo Beam 57.58 350 P **P 22 20 55.1 -0.2**
ZALV Zalesovo Beam 57.58 350 P **P 22 20 55.5 +0.2**
comp=Z,107nm,0.9s,baz=164,slow=5.8,SNR=335
ZALV S **S 22 28 51.6 -0.4**
comp=Z,1.4nm,0.8s,baz=155,slow=18,SNR=4.3
comp=Z,107nm,0.9s
ZALV Zalesovo Beam 57.58 350 *i* P **P 22 20 55.5 +0.2**
ZALV pmax pmax
comp=Z,106nm,0.9s
HEH HeiHe 57.58 21 *e*P **P 22 20 55.8 +0.3**
HEH pP **sP 22 21 04.3 -0.5**
HEH S **S 22 28 55.8 +3.6**
HEH sS **sS 22 29 06.6 +4.1**
HEH ScS **ScS 22 30 39.3 -4.4**
HEH pmax pmax
comp=Z,120nm,1.2s
HEH pmax pmax
comp=Z,340nm,4.8s
HEH LR LR
comp=Z,1μm,22.6s
HEH LR LR
comp=Z,1μm,17.4s
HEH LR LR
comp=Z,2μm,20.6s
ATD Arta Tunnel 58.34 285 P **P 22 21 01.4 -0.1**
RAYN Ar Rayn 58.82 299 P **P 22 21 04.1 -0.6**
RAYN IAmb IAmb 22 21 15.7
comp=Z,42nm,1.6s
RAYN Ar Rayn 58.82 299 *i* P **P 22 21 04.7 0.0**
SNR=13
RAYN Ar Rayn 58.82 299 P **P 22 21 04.9 +0.2**
PATS Pohnpei 59.08 81 P **P 22 21 06.5 -0.1**
comp=Z,65nm,1.5s
PATS Pohnpei 59.08 81 P **P 22 21 05.5 -1.1**
PATS IAmb IAmb 22 21 26.0
comp=Z,76nm,1.1s
PATS Pohnpei 59.08 81 P **P 22 21 06.8 +0.2**
ERM Erimo 59.10 37 P **P 22 21 06.3 +0.1**
ERM IAmb IAmb 22 21 15.1
comp=Z,56nm,0.9s
ERM Erimo 59.10 37 P **P 22 21 06.3 +0.1**
ERM pmax pmax
comp=Z,56nm,1.0s
SAVO Savo Central 59.97 99 P **P 22 21 13.5 +0.7**
ASAJ Asahikawa 60.06 34 P **P 22 21 13.6 +0.8**
comp=Z,119nm,1.2s,baz=237,slow=10,SNR=32
ASAJ LR LR 22 48 43.9
comp=Z,357nm,18.4s,baz=228,slow=38
comp=Z,119nm,1.2s
JKA Kamikawa-asahi 60.06 34 P **P 22 21 13.0 +0.2**
HNR Honiara 60.11 99 LR LR 22 50 43.4
comp=Z,160nm,18.8s,baz=284,slow=40
H04N2 CROZET ISLANDS 60.35 216 T T 23 26 39.8
baz=59,slow=75,SNR=650
H04N1 CROZET ISLANDS 60.36 217 T T 23 26 38.7
baz=59,slow=75,SNR=824
H04N3 CROZET ISLANDS 60.37 216 T T 23 26 38.9
baz=59,slow=75,SNR=798
ZEA Zeya 60.47 18 *e*P **P 22 21 16.3 +0.8**
ZEA *e* 22 21 24.5
ZEA pmax pmax
comp=Z,200nm,2.2s
ZEA pmax pmax
comp=N,30nm,1.7s
ZEA pmax pmax
comp=Z,80nm,1.8s
ZEA MLR MLR
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
BVAR Borovoye Array 60.55 340 P **P 22 21 15.4 -0.6**
comp=Z,25nm,0.8s,baz=142,slow=8.1,SNR=100
BVAR S **S 22 29 34.3 +3.7**
comp=Z,0.9nm,0.8s,baz=146,slow=21,SNR=2.5
comp=Z,25nm,0.8s
BORK Borovoye 60.59 340 *ce*P **P 22 21 15.6 -0.7**
BORK pmax pmax
comp=Z,23nm,0.9s
H04S1 CROZET ISLANDS 60.64 216 T T 23 26 57.9
baz=57,slow=76,SNR=1023
H04S3 CROZET ISLANDS 60.65 216 T T 23 26 58.4
baz=57,slow=76,SNR=1270
H04S2 CROZET ISLANDS 60.66 216 T T 23 26 59.3
baz=57,slow=76,SNR=1456
BOD Bodaibo 61.14 9 *e*P **P 22 21 19.9 0.0**
BOD pmax pmax
comp=Z,155nm,1.3s
GRNR Gornyy 61.52 25 ⇑*i*P **P 22 21 23.3 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,660nm,14.0s
GRNR MLR MLR
comp=Z,940nm,18.0s
KIBK Kibwezi 61.75 269 P **P 22 21 24.8 -0.2**
YSS Yuzhno-Sakhali 61.94 32 P **P 22 21 25.6 +0.1**
YSS Yuzhno-Sakhali 61.94 32 P **P 22 21 25.6 +0.1**
YSS Yuzhno-Sakhali 61.94 32 *oe*P **P 22 21 25.7 +0.2**
YSS *e* 22 23 41.6
YSS *eS* **S 22 29 47.3 -1.1**
YSS pmax pmax
comp=Z,230nm,0.9s
YSS pmax pmax
comp=Z,300nm,4.8s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,600nm,15.0s
AB31 Akbulak array 61.96 332 P **P 22 21 24.9 -0.7**
ABKAR Akbulak array 61.96 332 P **P 22 21 25.1 -0.5**
FURI Furi 62.00 281 LR LR 22 43 26.1
comp=E,425nm,21.8s,baz=93,slow=31
KMBO Kilima Mbogo 62.58 270 P **P 22 21 32.8 +2.0**
comp=E,2.0nm,0.3s,baz=76,slow=5.4,SNR=4.8
KMBO LR LR 22 45 00.2
comp=E,657nm,19.7s,baz=99,slow=32
comp=E,2.0nm,0.3s
AKTO Aktyubinsk 63.67 332 LR LR 22 52 34.3
comp=E,495nm,21.2s,baz=68,slow=39
CASY Casey 64.16 175 P **P 22 21 40.7 +0.8**
CASY IAmb IAmb 22 21 52.0
comp=Z,36nm,1.3s
AKT Akhty 64.34 319 *e*P **P 22 21 41.9 +0.1**
AKT *e* 22 22 15.6

AKT pmax pmax
comp=Z,28nm,0.9s
TYV Tymovskoe 64.42 29 *e*P **P 22 21 43.3 +1.4**
TYV *e*S **S 22 30 19.0 -0.4**
TYV pmax pmax
comp=Z,76nm,1.2s
TYV pmax pmax
comp=Z,400nm,4.3s
TYV smax smax
comp=N,500nm,6.5s
TYV smax smax
comp=E,300nm,6.5s
TYV MLR MLR
comp=Z,1μm,14.0s
LODK Lodwar 64.72 275 P **P 22 21 44.8 +0.1**
MAK Makhachkala 65.21 320 *e*P P 22 21 41.3 -5.9
MAK *e*S **S 22 30 21.9 -7.5**
MAK pmax pmax
comp=Z,83nm,1.0s
MAK MLR MLR
comp=Z,474nm,19.0s
GNI Garni 65.74 316 LR LR 22 51 46.5
comp=Z,217nm,21.4s,baz=110,slow=37
SVE Sverdlovsk 67.04 338*de*P **P 22 21 58.9 +0.2**
SVE pmax pmax
comp=Z,126nm,1.2s
MARD Mardin 67.43 312 P **P 22 22 01.4 -0.4**
SANVU Saraoutou 67.53 106 P **P 22 22 02.1 -0.5**
SANVU IAmb IAmb 22 22 04.4
comp=Z,62nm,1.0s
SANVU Saraoutou 67.53 106 P **P 22 22 03.5 +0.9**
ARTI Arti 67.59 337 P **P 22 22 01.7 -0.5**
ARTI Arti 67.59 337*c i*P **P 22 22 01.8 -0.4**
ARTI 22 22 28.2
ARTI 22 24 26.4
ARTI S **S 22 31 00.2 +2.3**
ARTI pmax pmax
comp=Z,70nm,0.8s
YATNC Mamie plateau, 67.83 113 P **P 22 22 06.4 +2.0**
YAK Yakutsk 68.21 15 P **P 22 22 05.2 -0.7**
YAK Yakutsk 68.21 15 IAMs_20 IAMs_20 22 54 38.4
comp=Z,1μm,18.0s
YAK Yakutsk 68.21 15 P **P 22 22 05.2 -0.7**
comp=Z,206nm,0.8s,baz=216,slow=2.7,SNR=63
YAK S **S 22 31 02.0 -3.0**
comp=Z,9.3nm,0.4s,baz=216,slow=8.7,SNR=1.8
YAK LR LR 22 54 45.7
comp=Z,857nm,19.5s,baz=211,slow=38
comp=Z,206nm,0.8s
YAK Yakutsk 68.21 15*c i*P **P 22 22 04.1 -1.8**
YAK *e**PP **pP 22 22 11.1 -1.7**
YAK *e* 22 22 28.8
YAK *e* 22 24 34.5
YAK *e*PPP PPP 22 26 11.8
YAK *e*S **S 22 31 05.2 +0.3**
YAK *e* 22 32 04.7
YAK *e*SS **SS 22 35 29.5 +1.3**
YAK pmax pmax
comp=Z,275nm,1.0s
YAK pmax pmax
comp=N,82nm,1.4s
YAK pmax pmax
comp=E,73nm,1.4s
YAK pmax pmax
comp=Z,282nm,5.5s
YAK pmax pmax
comp=N,212nm,3.2s
YAK pmax pmax
comp=E,347nm,4.9s
YAK smax smax
comp=E,193nm,4.0s
YAK smax smax
comp=N,238nm,4.3s
YAK MLR MLR
comp=Z,1μm,25.0s
YAK MLR MLR
comp=Z,1μm,22.0s
YAK MLR MLR
comp=E,467nm,19.0s
KBZ Khabaz 68.54 319 P **P 22 22 08.8 +0.4**
comp=E,32nm,0.9s,baz=118,slow=8.4,SNR=72
comp=E,32nm,0.9s
KBZ Khabaz 68.54 319*ce*P **P 22 22 08.8 +0.4**
KBZ pmax pmax
comp=Z,40nm,0.9s
KOPT Kop Dagi 68.66 315 P **P 22 22 09.7 0.0**
KOPT IAmb IAmb 22 22 39.8
comp=Z,21nm,0.9s
ASF Jabal al Asfar 68.73 306 LR LR 22 53 08.7
comp=Z,956nm,18.2s,baz=144,slow=37
KIV Kislovodsk 68.78 319 P **P 22 22 09.8 -0.3**
KIV IAmb IAmb 22 22 26.0
comp=Z,47nm,0.7s
KIV Kislovodsk 68.78 319 ⇓P **P 22 22 10.9 +0.8**
KIV Kislovodsk 68.78 319 *i* P **P 22 22 10.3 +0.2**
SNR=15
KIV Kislovodsk 68.78 319 *e*P **P 22 22 09.4 -0.7**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV Kislovodsk 68.78 319 P **P 22 22 10.5 +0.4**
comp=Z,745nmcomp=Z,47nm,0.9s
GOF Gofitskoye 69.04 321*ce*P **P 22 22 11.9 +0.4**
GHAJ Ghor Haditha 69.56 305 IAMs_20 IAMs_20 22 54 08.4
comp=Z,1μm,18.0s
EIL Elat 69.64 303 LR LR 22 52 40.8
comp=Z,2μm,18.4s,baz=149,slow=36
MAW Mawson 69.82 194 P **P 22 22 17.6 +1.8**
comp=Z,2.1nm,1.1s,baz=29,slow=13,SNR=4.6
MAW LR LR 22 45 57.3
comp=Z,660nm,21.7s,baz=36,slow=30
MAW PKP2bc 22 50 17.7
comp=Z,4.1nm,1.0s,baz=234,slow=6.8,SNR=8.8
ARPR Arapgir-MALATY 69.87 313 P **P 22 22 16.0 -1.0**
BELG Belogornoye 70.03 329 *i* P **P 22 22 17.1 -0.3**
BELG pmax pmax
comp=Z,18nm,0.9s
GAZ Gaziantep 70.05 311 P **P 22 22 18.1 +0.1**
GAZ IAmb IAmb 22 22 55.4
comp=Z,58nm,1.3s
MMAI Mount Meron Ar 70.18 306 P **P 22 22 19.3 +0.4**
comp=Z,7.9nm,0.8s,baz=105,slow=11,SNR=7.2
MMAI LR LR 22 53 48.7
comp=Z,1μm,18.7s,baz=102,slow=36
comp=Z,7.9nm,0.8s
LABN Labinsk 70.35 319 *e*P **P 22 22 18.0 -1.6**
LABN *e* 22 24 52.2
LABN *e*PPP PPP 22 26 33.7
LABN *e*S **S 22 31 28.7 -2.2**
LABN pmax pmax
comp=Z,23nm,0.9s
SOC Sochi 70.58 318 *e*P **P 22 22 19.1 -2.0**
SOC *e* 22 25 01.1
SOC *e*PPP PPP 22 26 34.6
SOC *e*S **S 22 31 33.6 -0.1**
SOC *e*SS **SS 22 36 03.9 -1.7**
SOC pmax pmax
comp=Z,73nm,0.8s
SOC MLR MLR
comp=Z,178nm,12.0s
ERBR Yeremizino-Bor 70.95 320 *e*P **P 22 22 21.6 -1.6**
ERBR *e* 22 24 58.9
ERBR *e*S **S 22 31 34.6 -3.3**
ERBR *e* 22 32 23.4
ERBR pmax pmax
comp=Z,58nm,1.0s
SKR Severo-Kuril's 71.32 34 *e*P **P 22 22 24.4 -1.0**
SKR *e*S **S 22 31 39.9 -2.0**
SKR pmax pmax
comp=Z,100nm,4.8s
SKR pmax pmax
comp=Z,317nm,0.9s
SKR MLR MLR
comp=Z,400nm,18.0s
LSZ Lusaka 71.67 255 P **P 22 22 28.8 +0.4**
LSZ Lusaka 71.67 255 IAMs_20 IAMs_20 22 49 49.4
comp=Z,665nm,19.0s
LSZ Lusaka 71.67 255 LR LR 22 50 20.3
comp=Z,519nm,18.9s,baz=97,slow=33
LSZ Lusaka 71.67 255 P **P 22 22 28.8 +0.4**
LSZ pmax pmax
comp=Z,19nm,1.2s
LSZ MLR MLR
comp=Z,700nm,19.0s
CSS Mathiatis 72.38 308 P **P 22 22 31.9 -0.3**
CSS IAmb IAmb 22 23 10.1
comp=Z,27nm,0.9s
CSS IAMs_20 IAMs_20 22 56 44.7
comp=Z,738nm,18.0s
CSS Mathiatis 72.38 308 P **P 22 22 32.3 +0.2**
comp=Z,24nm,0.9s
VRH Novokhopyorsk 72.61 326 *e*P **P 22 22 32.6 -0.5**
VRH pmax pmax
comp=Z,114nm,0.8s
KIRV Kirov 72.71 335*ce*P **P 22 22 33.9 +0.4**
MREMI Moremi 72.82 247 P **P 22 22 35.6 +0.5**
MREMI IAmb IAmb 22 22 46.8
comp=Z,45nm,1.1s
KIRS Kirsehir-Merke 73.13 312 ⇓P **P 22 22 36.6 0.0**
PEA0B Petropavlovsk- 73.34 32 P **P 22 22 36.8 -0.6**
PEA0B IAmb IAmb 22 22 41.6
comp=Z,40nm,0.8s
PEA0B Petropavlovsk- 73.34 32*ce*P **P 22 22 37.8 +0.4**
PETK Petropavlovsk- 73.34 32 P **P 22 22 36.7 -0.7**
PETK Petropavlovsk- 73.34 32 P **P 22 22 37.0 -0.4**
comp=Z,37nm,0.8s,baz=236,slow=7.6,SNR=25
comp=Z,37nm,0.8s
MA2 Magadan 73.50 24 P **P 22 22 38.2 0.0**
MA2 IAMs_20 IAMs_20 22 57 52.6
comp=Z,693nm,19.0s
MA2 Magadan 73.50 24 P **P 22 22 37.8 -0.4**
comp=Z,82nm,0.8s,baz=240,slow=20,SNR=17
MA2 LR LR 22 57 16.5
comp=Z,546nm,18.9s,baz=251,slow=38
comp=Z,82nm,0.8s
MA2 Magadan 73.50 24 P **P 22 22 38.5 +0.3**
MA2 Magadan 73.50 24*ce*P **P 22 22 39.6 +1.4**
MA2 pmax pmax
comp=Z,121nm,1.0s
MA2 Magadan 73.50 24 P **P 22 22 38.8 +0.6**
comp=Z,149nm,1.0s
BR104 Keskin Array S 73.50 313 P **P 22 22 38.4 -0.5**
comp=Z,201nmcomp=Z,31nm,0.9s
BR131 Keskin Array S 73.51 313 P **P 22 22 38.1 -0.8**
BR131 IAmb IAmb 22 22 54.1
comp=Z,30nm,0.9s
BR131 Keskin Array S 73.51 313 P **P 22 22 38.1 -0.8**
BR131 pmax pmax
comp=Z,30nm,0.9s
BRTR Keskin Array B 73.51 313 P **P 22 22 38.1 -0.8**
BRTR Keskin Array B 73.51 313 P **P 22 22 38.0 -0.9**
comp=Z,13nm,0.8s,baz=129,slow=6.9,SNR=72
comp=Z,13nm,0.8s
BRTR Keskin Array B 73.51 313 P **P 22 22 38.1 -0.8**
BR105 Keskin Array S 73.53 313 P **P 22 22 38.4 -0.6**
comp=Z,217nmcomp=Z,31nm,0.9s
BR106 Keskin Array S 73.53 313 P **P 22 22 38.6 -0.4**
comp=Z,155nmcomp=Z,23nm,0.9s
PET Petropavlovsk 73.81 33 P **P 22 22 40.1 0.0**
PET Petropavlovsk 73.81 33 P **P 22 22 40.5 +0.4**
PET Petropavlovsk 73.81 33 *e*P **P 22 22 40.3 +0.2**
PET *e* 22 22 55.1
PET *e* 22 25 25.4
PET *e*S **S 22 32 11.2 +0.9**
PET *e*SS **SS 22 36 58.0 +3.5**
PET pmax pmax
comp=Z,139nm,0.8s
PET MLR MLR
comp=Z,400nm,17.0s
PET MLR MLR
comp=Z,300nm,13.0s
PET Petropavlovsk 73.81 33 P **P 22 22 40.1 0.0**
comp=Z,2μmcomp=Z,134nm,0.9s
ILGA Ilgaz 73.86 314 P **P 22 22 40.7 -0.3**
ILGA IAmb IAmb 22 23 17.4
comp=Z,44nm,1.1s
VORD Divnogorie 73.88 325 *e*P **P 22 22 38.2 -2.4**
VORD pmax pmax
comp=Z,60nm,0.9s
BZK Bozkurt 73.94 315 ⇑P **P 22 22 42.2 +1.0**
VSR Storozhevoye 74.06 325 *e*P **P 22 22 38.6 -3.0**
VSR pmax pmax
comp=Z,80nm,0.9s
ANTO Ankara 74.18 313 P **P 22 22 42.2 -0.5**
ANTO Ankara 74.18 313 ⇓P **P 22 22 42.8 0.0**
ANTO Ankara 74.18 313 P **P 22 22 42.7 0.0**
ANTO Ankara 74.18 313 P **P 22 22 42.6 -0.1**
comp=Z,16nm,1.1s
KHWEE KHWEE 74.63 248 P **P 22 22 45.3 -0.5**
KHWEE IAmb IAmb 22 23 10.7
comp=Z,35nm,0.5s
KSANE Kasane 74.68 252 P **P 22 22 46.0 -0.1**
KSANE IAmb IAmb 22 22 58.1
comp=Z,50nm,1.4s
LBTB Lobatse 74.70 245 P **P 22 22 46.7 +0.5**
LBTB Lobatse 74.70 245 LR LR 22 50 53.5
comp=Z,973nm,19.5s,baz=86,slow=32
LBTB Lobatse 74.70 245 P **P 22 22 46.7 +0.5**
LBTB pmax pmax
comp=Z,52nm,1.8s
RPZ Rata Peaks 74.78 135 LR LR 22 57 32.0
comp=Z,418nm,19.1s,baz=296,slow=37
LPSR Galich'ya Gora 74.78 326 *e*P **P 22 22 45.7 -0.1**
LPSR pmax pmax
comp=Z,103nm,0.8s
SIM Simferopol' 74.83 318 *e*P **P 22 22 45.6 -0.7**
SIM pmax pmax
comp=Z,51nm,0.8s
SIM MLR MLR
comp=Z,217nm,19.0s
BOSA Boshof 75.31 241 P **P 22 22 49.9 +0.3**
BOSA Boshof 75.31 241 P **P 22 22 50.5 +0.9**
comp=Z,4.9nm,1.0s,baz=58,slow=9.5,SNR=3.6
BOSA LR LR 22 52 09.2
comp=Z,809nm,18.2s,baz=82,slow=33
comp=Z,4.9nm,1.0s
PHDHD Phuduhudu 75.38 250 P **P 22 22 49.8 -0.3**
PHDHD IAmb IAmb 22 23 25.6
comp=Z,22nm,0.5s
KDWAN Kaudwane 75.44 247 P **P 22 22 49.2 -1.2**
KDWAN IAmb IAmb 22 23 02.2
comp=Z,45nm,1.4s
MDUB Mudurnu 75.52 313 P **P 22 22 50.3 -0.2**
MDUB IAmb IAmb 22 22 52.6
comp=Z,68nm,0.9s
ELL Elmali 75.52 309 P **P 22 22 50.3 -0.4**
ELL IAmb IAmb 22 23 25.0
comp=Z,41nm,1.3s
ELL Elmali 75.52 309 P **P 22 22 50.3 -0.4**
ELL pmax pmax
comp=Z,41nm,1.3s
SAHE Sakarya_HENDEK 75.88 313 ⇑P **P 22 22 52.8 +0.4**
BORA Eskisehir 75.91 312 P **P 22 22 52.3 -0.4**
SEY Seymchan 76.09 22 P **P 22 22 53.3 +0.2**
comp=Z,61nm,0.8s,baz=241,slow=6.5,SNR=38
comp=Z,61nm,0.8s
SEY Seymchan 76.09 22*ce*P **P 22 22 53.9 +0.8**
SEY pmax pmax
comp=Z,96nm,1.0s
TIXI Tiksi 76.32 9 P **P 22 22 53.2 -1.0**
TIXI Tiksi 76.32 9 IAMs_20 IAMs_20 22 59 30.9
comp=Z,1μm,20.0s
TIXI Tiksi 76.32 9 P **P 22 22 53.4 -0.9**
comp=Z,68nm,0.7s,baz=216,slow=2.4,SNR=50
TIXI LR LR 22 59 47.5
comp=Z,2μm,20.0s,baz=222,slow=38
comp=Z,68nm,0.7s
TIXI Tiksi 76.32 9 P **P 22 22 54.0 -0.2**
ARG Arkhangelos 76.80 308 P **P 22 22 57.4 -0.3**
ARG IAmb IAmb 22 23 20.8
comp=Z,81nm,1.4s
ARG Arkhangelos 76.80 308 P **P 22 22 57.4 -0.3**
ARG pmax pmax
comp=Z,81nm,1.4s
MOS Moscow 76.80 329 *e*P **P 22 22 55.5 -1.8**
MOS *e* 22 23 07.3
MOS *e*S **S 22 32 38.4 -5.0**
MOS pmax pmax
comp=Z,158nm,1.2s
MOS MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk 77.09 328 P **P 22 22 58.6 -0.3**
OBN Obninsk 77.09 328 ⇓P **P 22 22 59.1 +0.2**
OBN Obninsk 77.09 328*d i*P **P 22 22 59.4 +0.5**
OBN *i* 22 23 07.0
OBN *i* 22 25 49.4
OBN pmax pmax
comp=Z,139nm,1.3s
OBN MLR MLR
comp=Z,357nm,19.0s
OBN Obninsk 77.09 328 P **P 22 22 59.0 +0.1**
comp=Z,53nm,0.8s
SYO Syowa Base 77.40 199⇓*e*P **P 22 23 02.0 +1.6**
SYO Syowa Base 77.40 199⇑*es*P sP 22 23 11.4 +1.7
SYO Syowa Base 77.40 199⇑*e*PcP **PcP 22 23 13.6 +2.8**
KARP Karpathos 77.41 307 P **P 22 23 00.9 -0.4**
KARP Karpathos 77.41 307 P **P 22 23 01.8 +0.5**
comp=Z,166nm,0.8s
NE56 Odesa 77.50 319 P **P 22 23 01.2 -0.2**
MSVF Nonsavu 78.02 108 P **P 22 23 06.1 +1.1**
BKZ Black Stump Fm 78.11 129 P **P 22 23 05.4 +0.3**
BKZ IAmb IAmb 22 23 07.1
comp=Z,80nm,1.0s
BKZ Black Stump Fm 78.11 129 P **P 22 23 06.4 +1.3**
KLMR Klimovskoe 78.16 334 *e*P **P 22 23 03.5 -1.3**
KLMR *e* 22 23 12.4
KLMR pmax pmax
comp=Z,113nm,1.4s
JURR Jurilovca 78.33 317 ⇓P **P 22 23 06.4 +0.3**
RTZ Ruatahuna 78.42 129 P **P 22 23 07.0 +0.1**
RTZ IAmb IAmb 22 23 08.5
comp=Z,111nm,1.1s
TLCR 78.48 317 ⇓P **P 22 23 06.8 -0.1**
TLCR 78.48 317 P **P 22 23 06.8 -0.1**
URZ Urewera 78.49 128 LR LR 22 58 44.1
comp=Z,692nm,20.7s,baz=290,slow=36
TIRR Tirgusor 78.57 316 P **P 22 23 07.4 -0.1**
TIRR IAmb IAmb 22 23 27.5
comp=Z,38nm,0.9s
TIRR Tirgusor 78.57 316 ⇑P **P 22 23 07.7 +0.2**
TIRR Tirgusor 78.57 316 P **P 22 23 07.8 +0.4**
TIRR Tirgusor 78.57 316 P **P 22 23 07.3 -0.1**
comp=Z,50nm,0.8s
TPGR Topolog 78.67 317 ⇓P **P 22 23 08.3 +0.2**
BAL3X Bal3x, Balta 78.72 320 P **P 22 23 07.9 -0.3**
TLBR Topalu 78.84 316 ⇓P **P 22 23 09.3 +0.4**
CFR Carcaliu 78.94 317 ⇓P **P 22 23 09.8 +0.4**
CFR Carcaliu 78.94 317 P **P 22 23 10.1 +0.6**
HARR Harsova 78.96 316 ⇓P **P 22 23 09.4 -0.2**
HARR Harsova 78.96 316 P **P 22 23 10.1 +0.5**
SCTR Scanteiesti 79.17 317 ⇓P **P 22 23 11.4 +0.7**
SUR Sutherland 79.44 238 P **P 22 23 12.9 +0.1**
SUR IAmb IAmb 22 23 24.8
comp=Z,138nm,1.7s
KOOLE Kule 79.53 247 P **P 22 23 12.2 -1.1**
VASR Vaslui 79.55 318 ⇓P **P 22 23 13.5 +0.7**
SORM Soroca 79.58 320 ⇓P **P 22 23 13.1 +0.2**
SORM Soroca 79.58 320 P **P 22 23 13.0 +0.2**
LOZB Loznitsa 79.58 315 ⇓P **P 22 23 13.5 +0.5**
GHRR 79.66 318 ⇓P **P 22 23 14.6 +1.2**
GHRR 79.66 318 P **P 22 23 14.0 +0.6**
AK09 Malin Array Si 79.68 322 P **P 22 23 13.0 -0.4**
RAZG Razgrad 79.68 315 ⇑P **P 22 23 14.0 +0.4**
AK10 Malin Array Si 79.70 322 P **P 22 23 12.8 -0.7**
AKASG Malin Array Be 79.74 322 P **P 22 23 13.3 -0.4**
AKASG Malin Array Be 79.74 322 P **P 22 23 13.1 -0.6**
comp=Z,5.8nm,0.8s,baz=94,slow=4.4,SNR=21
comp=Z,5.8nm,0.8s
AKASG Malin Array Be 79.74 322 P **P 22 23 13.3 -0.4**
AKASG pmax pmax
comp=Z,42nm,1.8s
AKBB Malin Array Si 79.74 322 P **P 22 23 12.7 -1.0**
AKBB IAmb IAmb 22 23 26.1
comp=Z,29nm,0.8s
AKBB Malin Array Si 79.74 322*ce*P **P 22 23 13.5 -0.2**
AKBB Malin Array Si 79.74 322 P **P 22 23 12.9 -0.8**
KIEV Kiev 79.75 322 P **P 22 23 13.1 -0.7**
KIEV IAmb IAmb 22 23 26.1
comp=Z,26nm,0.8s
KIEV Kiev 79.75 322 ⇑P **P 22 23 13.9 +0.1**
KIEV Kiev 79.75 322 P **P 22 23 13.8 +0.1**
KIEV Kiev 79.75 322 P **P 22 23 13.3 -0.4**
comp=Z,171nm,0.8s
PANC Panciu 79.79 317 ⇑P **P 22 23 15.1 +1.0**
AK14 Malin Array Si 79.79 322 P **P 22 23 13.6 -0.4**
ODBI Odobesti 79.83 317 ⇑P **P 22 23 15.8 +1.5**
ELND Elena 79.99 314 ⇑P **P 22 23 15.4 +0.2**
BISRR Bisoca 80.01 317 ⇑P **P 22 23 16.9 +1.5**
BISRR Bisoca 80.01 317 P **P 22 23 15.8 +0.4**
comp=Z,56nm,0.6s
VRI Vrincioaia 80.08 317 ⇓P **P 22 23 16.9 +1.2**
VRI Vrincioaia 80.08 317 P **P 22 23 16.8 +1.2**
VRI Vrincioaia 80.08 317 P **P 22 23 16.3 +0.6**
comp=Z,68nm,1.1s
PLOR5 Plostina Array 80.11 317 P **P 22 23 16.5 +0.6**
comp=Z,49nm,1.1s
PLOR Plostina 80.12 317 ⇓P **P 22 23 17.1 +1.1**
PLOR Plostina 80.12 317 P **P 22 23 17.1 +1.1**
NEHR Nehoiu 80.27 317 ⇑P **P 22 23 17.5 +0.8**
TESR Tescani 80.28 318 ⇓P **P 22 23 17.6 +0.8**
TESR Tescani 80.28 318 P **P 22 23 17.1 +0.3**
comp=Z,65nm,0.8s
NDNU Novodnistrovsk 80.33 320 P **P 22 23 17.1 +0.1**
MI30 MI30,Zelenitsa 80.39 322 P **P 22 23 17.0 -0.2**
comp=Z,57nm,0.8s
LUBAR Lubar, Ukraine 80.43 321 P **P 22 23 16.9 -0.6**
MI29 MI29, Kamyanyy 80.51 322 P **P 22 23 17.3 -0.5**
comp=Z,315nm,0.9s
MLR Muntele Rosu 80.52 317 P **P 22 23 18.2 0.0**
MLR IAmb IAmb 22 23 20.1
comp=Z,72nm,1.1s
MLR Muntele Rosu 80.52 317 LR LR 23 02 38.6
comp=Z,218nm,20.2s,baz=67,slow=38
MLR Muntele Rosu 80.52 317 ⇓P **P 22 23 19.2 +0.9**
MLR Muntele Rosu 80.52 317 P **P 22 23 19.1 +0.9**
MLR Muntele Rosu 80.52 317 P **P 22 23 18.6 +0.4**
comp=Z,70nm,1.3s
TURR Turia 80.60 317 ⇓P **P 22 23 19.1 +0.6**
MI28 Mi28,Pidlybu 80.75 322 P **P 22 23 19.1 -0.1**
OZUR 80.77 317 ⇓P **P 22 23 19.6 +0.2**
KMPD K-Podol'skiy 80.91 320 P **PcP 22 23 20.0 -6.5**
KMPD P **P 22 23 19.6 -0.4**
HUMR Humele 80.97 316 ⇑P **P 22 23 20.6 +0.1**
PLVB Pleven 80.98 314 ⇓P **P 22 23 21.3 +0.8**
DOPR Dopca 81.01 317 ⇓P **P 22 23 21.2 +0.6**
ARR Arges 81.39 316 ⇑P **P 22 23 22.7 -0.1**
BURAR Bucovina Array 81.49 319 P **P 22 23 24.2 +0.9**
BURAR IAmb IAmb 22 23 26.0
comp=Z,31nm,0.9s
BURAR Bucovina Array 81.49 319 ⇑P **P 22 23 24.8 +1.5**
BURAR Bucovina Array 81.49 319 P **P 22 23 24.8 +1.5**
BUR08 Bucovina Ar. S 81.51 319 P **P 22 23 24.2 +0.8**
BUR08 IAmb IAmb 22 23 25.9
comp=Z,34nm,0.9s
MNK Minsk 81.61 326 *i* P **P 22 23 23.9 +0.3**
MNK *i* 22 26 30.1
MNK *i* PPP PPP 22 28 20.3
MNK *i* S **S 22 33 36.6 +2.0**
MNK *i* SS **SS 22 38 54.6 +2.6**
MNK *i* SSS SSS 22 42 22.0
MNK pmax pmax
comp=Z,59nm,1.0s
MNK pmax pmax
comp=E,16nm,1.1s
MNK pmax pmax
comp=N,25nm,1.0s
VNDA Vanda 81.76 169 P **P 22 23 25.0 +1.0**
VNDA Vanda 81.76 169 P **P 22 23 25.2 +1.2**
comp=N,3.6nm,1.2s,baz=298,slow=7.3,SNR=10
VNDA LR LR 22 58 25.0
comp=N,430nm,18.1s,baz=320,slow=35
comp=N,3.6nm,1.2s
TSUM Tsumeb 81.90 251 IAMs_20 IAMs_20 22 55 46.4
comp=Z,923nm,20.0s
TSUM Tsumeb 81.90 251 LR LR 22 56 16.8
comp=Z,853nm,19.1s,baz=143,slow=33
RNPP5 Staryi Chortor 81.92 322 P **P 22 23 25.4 +0.1**
LIT Litokhoron 81.92 311 P **P 22 23 25.6 -0.1**
LIT IAmb IAmb 22 23 26.1
comp=Z,30nm,0.9s
LIT Litokhoron 81.92 311 P **P 22 23 25.6 -0.1**
LIT pmax pmax
comp=Z,30nm,0.9s
PUL Pulkovo 81.94 331*ce*P **P 22 23 27.0 +1.8**
PUL pmax pmax
comp=Z,65nm,0.6s
RNPP9 Sopachiv 81.96 323 P **P 22 23 25.5 0.0**
LOT Lotru 82.00 316 ⇓P **P 22 23 26.2 +0.1**
VAY Valandovo 82.08 312 *i* P **P 22 23 26.3 -0.1**
STNU Starunia 82.20 320 P **P 22 23 27.2 +0.3**
WIN Windhoek 82.37 248 IAMs_20 IAMs_20 22 55 16.6
comp=Z,884nm,21.0s
CJR Cluj-Napoca 82.38 318 ⇓P **P 22 23 29.3 +1.4**
CJR Cluj-Napoca 82.38 318 P **P 22 23 29.3 +1.4**
SHEM Shemya Is, Ala 82.45 36 P **P 22 23 27.6 -0.5**
comp=Z,82nm,0.8s,baz=256,slow=18,SNR=2.6

comp=Z,82nm,0.8s
BMR Baia Mare 82.64 319 ⇑P P 22 23 30.5 +1.3
BMR Baia Mare 82.64 319 P P 22 23 30.5 +1.3
GZR Gura Zlata 82.68 316 ⇓P P 22 23 30.4 +0.8
GZR Gura Zlata 82.68 316 P P 22 23 30.4 +0.8
DEV Deva 82.69 317 ⇑P P 22 23 30.8 +1.4
DEV Deva 82.69 317 P P 22 23 31.4 +1.9
MORS Morshin 82.69 320 P P 22 23 30.0 +0.6
MARR Marisel-Cluj 82.69 317 ⇑P P 22 23 30.8 +1.1
HERR Herculane 82.83 316 ⇑P P 22 23 30.7 +0.4
SBA Scott Base 82.85 169 P P 22 23 30.7 +1.0
SBA Scott Base 82.85 169 P P 22 23 30.7 +1.0
SBA pmax pmax
comp=Z,15nm,1.2s
MESR Meseseni 82.90 318 ⇓P P 22 23 31.6 +1.0
KORU Korolevo 82.98 319 P P 22 23 31.6 +0.7
DRGR 82.99 318 ⇑P P 22 23 32.0 +0.9
DRGR 82.99 318 P P 22 23 32.0 +0.9
SKO Skopje 83.03 313 *i* P **P 22 23 31.1 -0.3**
BRIU Brid 83.09 319 P P 22 23 32.2 +0.7
BOVS Bovan 83.11 314 ⇓P P 22 23 31.9 +0.1
LVZ Lovozero 83.14 340 P P 22 23 31.4 0.0
LVZ Lovozero 83.14 340 P P 22 23 31.8 +0.4
LVZ Lovozero 83.14 340 P P 22 23 31.8 +0.4
comp=Z,62nm,2.6s
SURR Surduc 83.20 316 ⇓P P 22 23 33.0 +0.9
MDVR Moldovita 83.31 315 ⇑P P 22 23 33.5 +0.6
VSU Vasula 83.31 330 *ce*P **P 22 23 32.6 +0.2**
VSU pmax pmax
comp=Z,147nm,2.5s
BERU Beregovo 83.31 319 P P 22 23 33.3 +0.6
MUKU Mukachevo 83.33 319 P P 22 23 33.0 +0.3
OHR Ohrid 83.36 312 *i* P **P 22 23 33.1 -0.1**
APA Apatity 83.45 339 ⇓*i* P **P 22 23 31.6 -1.3**
APA *i* 22 26 50.2
APA *i* S **SKSac 22 33 56.7 +2.8**
APA MLR MLR
comp=Z,6μm,5.8s
BZS Buzias 83.52 316 ⇑P P 22 23 34.4 +0.5
BZS Buzias 83.52 316 P P 22 23 34.3 +0.5
HOLU Holmets 83.54 319 P P 22 23 34.1 +0.3
KWP Kalwaria Pacla 83.55 320 P P 22 23 34.1 +0.2
comp=Z,36nm,1.6s
SIRR Siria 83.61 317 ⇑P P 22 23 35.2 +0.9
BILL Bilibino 83.62 20 P P 22 23 33.6 -0.3
BILL Bilibino 83.62 20 IAMs_20 IAMs_20 23 06 39.6
comp=Z,785nm,18.0s
BILL Bilibino 83.62 20 *ce*P **P 22 23 34.5 +0.7**
BILL pmax pmax
comp=Z,12nm,1.2s
BILL MLR MLR
comp=Z,565nm,18.0s
PABE Paberze 84.04 326 P P 22 23 36.1 -0.1
SUW Suwalki 84.16 325 *e*P **P 22 23 37.2 +0.3**
SUW Suwalki 84.16 325 P P 22 23 36.8 -0.1
SUW Suwalki 84.16 325 P P 22 23 36.8 -0.1
FIA1 FINESS Array S 84.43 332 P P 22 23 38.5 +0.4
FINES FINESS Array B 84.43 332 P P 22 23 38.6 +0.5
FINES FINESS Array B 84.43 332 P P 22 23 38.5 +0.4
comp=Z,18nm,0.8s,baz=101,slow=5.8,SNR=20
FINES LR LR 23 07 19.1
comp=Z,294nm,18.0s,baz=82,slow=40
comp=Z,18nm,0.8s
FINES FINESS Array B 84.43 332 *i* P **P 22 23 38.9 +0.8**
FINES pmax pmax
comp=Z,18nm,0.8s
STHS Stebnicka Huta 84.44 320 *e*P **P 22 23 38.9 +0.4**
STHS *e* 22 23 44.6
STHS pmax pmax
comp=Z,23nm,1.0s
STHS Stebnicka Huta 84.44 320 *e*P **P 22 23 38.9 +0.4**
STHS *e* 22 23 44.6
PDG Podgorica 84.70 313 P P 22 23 39.5 -0.4
PDG IAmb IAmb 22 23 40.9
comp=Z,19nm,0.9s
PDG Podgorica 84.70 313 ⇑P P 22 23 39.8 -0.1
KECS Kecovo 84.78 319 *e*P **P 22 23 41.1 +0.9**
KECS pmax pmax
comp=Z,33nm,0.8s
KECS Kecovo 84.78 319 *e*P **P 22 23 41.0 +0.9**
NIE Niedzica 85.05 320 P P 22 23 42.1 +0.5
comp=Z,12nm,1.2s
PSZ Piszkesteto 85.08 318 P P 22 23 41.8 +0.1
PSZ Piszkesteto 85.08 318 ⇑P P 22 23 42.4 +0.6
PSZ Piszkesteto 85.08 318 P P 22 23 42.3 +0.6
KLINJ Klinje 85.29 313 *e*P **P 22 23 43.4 +0.4**
TREB Trebinje 85.40 313 *e*P P 22 23 52.0 +8.6
OJC Ojcow 85.50 321 P P 22 23 43.5 -0.3
OJC Ojcow 85.50 321 P P 22 23 43.5 -0.3
OJC Ojcow 85.50 321 P P 22 23 44.3 +0.5
comp=Z,27nm,1.0s
LANS Liptovska Anna 85.55 320 *e*P **P 22 23 44.9 +0.9**
LANS *e* 22 23 52.8
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 85.55 320 *e*P **P 22 23 44.8 +0.8**
LANS *e* 22 23 52.8
MORH Mrgy, Hungar 85.67 317 ⇑*i*P **P 22 23 44.6 0.0**
MORH Mrgy, Hungar 85.67 317 ⇑P P 22 23 45.0 +0.4
MORH Mrgy, Hungar 85.67 317 P P 22 23 45.3 +0.7
comp=Z,15nm,1.6s
STON Ston 85.89 313 ⇑*i*P **P 22 23 45.0 -0.8**
SRO Srobarova 86.11 318 *e*P **P 22 23 48.1 +1.3**
SRO pmax pmax
comp=Z,24nm,1.0s
SRO Srobarova 86.11 318 *e*P **P 22 23 48.0 +1.3**
TIP Timpagrande 86.17 309 P P 22 23 47.8 +0.4
comp=Z,15nm,1.1s
MATE Matera 86.38 311 ⇑P P 22 23 48.7 +0.4
KEV Kevo 86.40 341 P P 22 23 48.3 +0.6
KEV Kevo 86.40 341 P P 22 23 48.3 +0.6
KEV pmax pmax
comp=Z,153nm,1.6s
BLY Banja Luka 86.50 315 ⇑*i*P **P 22 23 49.2 +0.4**
BLY Banja Luka 86.50 315 ⇓P **P 22 23 49.7 +0.9**
JAVC Velka Javorina 86.68 319 *e*P **P 22 23 50.6 +0.9**
CEL Celeste 86.75 308 P P 22 23 50.5 +0.3
CEL IAmb IAmb 22 24 02.7
comp=Z,52nm,1.3s
CEL Celeste 86.75 308 P P 22 23 50.9 +0.6
comp=Z,416nmcomp=Z,29nm,1.2s
STEB Steborice 86.75 320 *e*P **P 22 23 50.7 +0.8**
STEB *e*pP **pP 22 23 56.8 -0.2**
ARCES ARCESS Array B 86.84 340 P P 22 23 50.4 +0.5
ARCES ARCESS Array B 86.84 340 P P 22 23 50.6 +0.7
comp=Z,26nm,0.8s,baz=106,slow=5.7,SNR=22
ARCES LR LR 23 06 40.2
comp=Z,527nm,20.7s,baz=100,slow=38
comp=Z,26nm,0.8s
MODS Modra-Piesok 86.87 319 *e*P **P 22 23 51.3 +0.7**
MODS *e* 22 23 59.5
MODS pmax pmax
comp=Z,54nm,1.2s
MODS Modra-Piesok 86.87 319 *e*P **P 22 23 51.3 +0.7**
MODS *e* 22 23 59.5
MORC Moravsky Berou 86.88 320 P P 22 23 50.8 +0.2
MORC Moravsky Berou 86.88 320 ⇑P **P 22 23 51.8 +1.1**
MORC Moravsky Berou 86.88 320 *e*P **P 22 23 51.2 +0.6**
MORC Moravsky Berou 86.88 320 P P 22 23 51.7 +1.1
MOSL Moslavina 86.90 316 ⇑*i*P **P 22 23 50.8 0.0**
KIJV Kijevo 86.96 314 ⇑*i*P **P 22 23 50.4 -0.7**
ACER Acerenza 86.97 311 P P 22 23 51.7 +0.4
ACER IAmb IAmb 22 23 53.6
comp=Z,66nm,1.0s
BEHE Becsehely 86.98 317 P P 22 23 51.5 +0.3
BEHE Becsehely 86.98 317 ⇑*i*P **P 22 23 52.2 +1.1**
KRLC Kraliky 87.41 320 *e*P **P 22 23 54.0 +0.8**
KRLC *e*pP **sP 22 24 03.1 +0.3**
KRLC Kraliky 87.41 320 *e*P **P 22 23 54.0 +0.8**
KRLC *e**PP **sP 22 24 03.1 +0.3**
VRAC Vranov 87.44 319 *e*P **P 22 23 53.3 0.0**
RONA Rosalia, Austr 87.45 318 *e*P **P 22 23 53.8 +0.4**
comp=Z,3.6nm,1.0s
QSPA South Pole Qui 87.52 180 P P 22 23 54.1 +0.6
QSPA IAmb IAmb 22 24 07.7
comp=Z,40nm,1.8s
QSPA South Pole Qui 87.52 180 IAMs_20 IAMs_20 22 59 17.4
comp=Z,769nm,18.0s
QSPA South Pole Qui 87.52 180 P P 22 23 55.8 +2.3
comp=Z,6.3nm,1.1s,baz=312,slow=2.8,SNR=14
QSPA LR LR 22 59 47.1
comp=Z,638nm,19.1s,baz=318,slow=33
comp=Z,6.3nm,1.1s
KRUC Moravsky 87.54 319 *e*P **P 22 23 54.1 +0.4**
GCIS Gornji Cirnik 87.71 316 *i* P **P 22 23 55.4 +0.7**
DPC Dobruska-Polom 87.73 320 *e*P **P 22 23 56.1 +1.4**
DPC *e*pP **sP 22 24 04.7 +0.4**
DPC Dobruska-Polom 87.73 320 *e*P **P 22 23 56.1 +1.4**
DPC *e**PP **sP 22 24 04.7 +0.4**
DPC Dobruska-Polom 87.73 320 P P 22 23 55.2 +0.5
comp=Z,21nm,1.7s
CONA Conrad Observa 87.77 318 *i* P **P 22 23 55.2 +0.2**
comp=Z,9.0nm,1.1s
OZLJ Ozalj 87.80 316 ⇑*i*P **P 22 23 55.5 +0.5**
KSP Ksiaz 87.81 321 P P 22 23 55.6 +0.6
comp=Z,21nm,2.4s
OSTC Ostas 87.82 321 *e*P **P 22 23 56.5 +1.4**
OSTC Ostas 87.82 321 *e*P **P 22 23 56.5 +1.4**
GROS Grobnik 87.86 316 *i* P **P 22 23 56.0 +0.5**
ARSA Arzberg 87.92 317 *e*P **P 22 23 56.3 +0.6**
comp=Z,13nm,1.1s,SNR=5.8
CHVC Chvalec 87.93 321 *e*P **P 22 23 56.9 +1.3**
CHVC *e*pP **sP 22 24 04.9 -0.3**
CHVC Chvalec 87.93 321 *e*P **P 22 23 56.9 +1.3**
CHVC *e**PP **sP 22 24 04.9 -0.3**
PAOL Paolisi 88.03 311 P P 22 23 55.7 -0.6
PAOL IAmb IAmb 22 23 57.9
comp=Z,44nm,1.5s
ZAVS Zavodnje 88.18 316 *i* P **P 22 23 57.6 +0.7**
SOKA Soboth 88.20 317 *e*P **P 22 23 57.8 +0.7**
comp=Z,18nm,1.0s,SNR=14
LJU Ljubljana 88.49 316 *e*P **P 22 23 59.3 +1.0**
OBKA Obir 88.52 316 *e*P **P 22 23 59.4 +0.9**
comp=Z,5.9nm,1.0s,SNR=6.7
MOA Molln 88.83 318 *e*P **P 22 24 00.3 +0.4**
comp=Z,7.8nm,1.0s
PRU Pruhonice 88.83 320 *e*P **P 22 24 00.8 +0.9**
PRU *e*pP **sP 22 24 10.0 +0.5**
PRU Pruhonice 88.83 320 *e*P **P 22 24 00.8 +0.9**
PRU *e**PP **sP 22 24 10.0 +0.5**
CKRC Cesky Krumlov 88.88 319 *e*P **P 22 24 01.5 +1.3**
CKRC *e*pP **pP 22 24 07.2 -0.1**
CKRC Cesky Krumlov 88.88 319 *e*P **P 22 24 01.5 +1.3**
CKRC *e**PP **pP 22 24 07.2 -0.1**
BRJN Brijuni 88.94 315 ⇑*i*P **P 22 23 58.0 -2.5**
TRI Trieste 88.99 316 P P 22 23 59.8 -0.9
TRI Trieste 88.99 316 P P 22 23 59.8 -0.9
TRI pmax pmax
comp=Z,9.0nm,0.9s
AQU L'Aquila 89.00 312 ⇑*i*P **P 22 24 01.5 +0.6**
AQU L'Aquila 89.00 312 P P 22 24 01.5 +0.6
comp=Z,47nm,1.0s
CAMP Campotosto 89.01 312 P P 22 24 01.0 -0.1
CAMP IAmb IAmb 22 24 02.7
comp=Z,21nm,1.0s
ZVC Zvikov 89.01 319 *e*P **P 22 24 01.7 +1.0**
SABO M.te Sabotino 89.13 316 P P 22 24 01.3 -0.1
MYKA Terra Mystica 89.15 317 *e*P **P 22 24 02.0 +0.5**
comp=Z,9.6nm,1.0s,SNR=7.0
BIOA Bad Ischl, Aus 89.23 318 *i* P **P 22 24 02.2 +0.3**
comp=Z,12nm,1.3s,SNR=5.2
FDMO Fiordimonte 89.28 313 P P 22 24 02.3 +0.1
GEC2 GERESS Array S 89.28 319 P P 22 24 02.5 +0.4
GEC2 IAmb IAmb 22 24 04.3
comp=Z,38nm,1.3s
GERES GERESS Array B 89.28 319 P P 22 24 02.7 +0.5
comp=Z,7.9nm,0.9s,baz=89,slow=4.6,SNR=51
comp=Z,7.9nm,0.9s
BRG Berggiesshubel 89.29 321 *i* P **P 22 24 03.5 +1.5**
BRG Amp 22 24 04.4
comp=Z,20nm,1.0s
BRG Berggiesshubel 89.29 321 P P 22 24 12.3 +10
BRG Amp 22 24 16.7
comp=Z,14nm,0.9s
KHC Kasperske Hory 89.39 319 *e*P **P 22 24 03.2 +0.6**
KHC *e*pP **sP 22 24 12.7 +0.5**
KHC Kasperske Hory 89.39 319 *e*P **P 22 24 03.2 +0.6**
KHC *e**PP **sP 22 24 12.7 +0.5**
KHC Kasperske Hory 89.39 319 P P 22 24 03.1 +0.5
comp=Z,6.5nm,0.7s
KBA Koelnbreinsper 89.39 317 *e*P **P 22 24 02.5 -0.2**
comp=Z,7.8nm,1.1s
STAL STALIGIAL 89.77 316 P P 22 24 04.2 -0.1
STAL IAmb IAmb 22 24 16.0
comp=Z,63nm,1.3s
LESA Schwarzleotal 89.87 317 *e*P **P 22 24 04.8 -0.1**
comp=Z,12nm,0.9s,SNR=5.6
CLL Collm 89.91 321 P P 22 24 05.0 +0.1
CLL Collm 89.91 321 *e*P **P 22 24 06.0 +1.1**
CLL *e**PP **sP 22 24 15.0 +0.5**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.5s
CLL Collm 89.91 321 P P 22 24 05.5 +0.6
comp=Z,18nm,1.1s
CLL Collm 89.91 321 *e*P **P 22 24 06.0 +1.1**
comp=Z,16nm,1.0s
CLL *es*P **sP 22 24 15.0 +0.5**
CLL *ex* x 22 24 24.0
CLL *e*S **S 22 35 04.0 +7.7**
comp=N,300nm,20.3s
CLL LmV 23 10 00.0
comp=Z,300nm,19.5s
ABTA Abfaltersbach 89.94 317 *e*P **P 22 24 05.3 0.0**
comp=Z,11nm,1.0s,SNR=6.5
TROLL Troll, Antarti 89.96 198 ⇑P **P 22 24 07.1 +2.2**
comp=Z,257nm,0.8s
HFS Hagfors 90.18 330 P P 22 24 06.5 +0.6
comp=Z,9.0nm,0.9s,baz=104,slow=4.6,SNR=5.0
comp=Z,9.0nm,0.9s
BJUU Bjuv 90.23 326 *i* P **P 22 24 07.5 +1.3**
WTTA Wattenberg 90.56 317 *e*P **P 22 24 08.3 0.0**
comp=Z,21nm,0.9s,SNR=7.7
WATA Walderalm 90.61 317 *e*P **P 22 24 08.2 -0.2**
comp=Z,14nm,0.9s,SNR=7.5
SQTA Sankt Quirin 90.85 317 *e*P **P 22 24 09.7 +0.2**
comp=Z,14nm,0.8s,SNR=6.0
ZCCA Zocca 90.88 314 P P 22 24 10.3 +0.6
ZCCA IAmb IAmb 22 24 26.0
comp=Z,43nm,1.0s
MOTA Moosalm 90.93 317 *e*P **P 22 24 10.1 +0.2**
comp=Z,19nm,1.0s,SNR=7.4
GRA1 Grafenberg Arr 90.96 320 P P 22 24 10.6 +0.7
GRA1 IAmb IAmb 22 24 12.4
comp=Z,25nm,1.0s
GRF Grafenberg Arr 90.96 320 P P 22 24 10.6 +0.7
GRF pmax pmax
comp=Z,25nm,1.0s
GRFO Grafenberg 90.96 320 P P 22 24 10.3 +0.5
GRFO IAmb IAmb 22 24 12.3
comp=Z,24nm,1.0s
GRFO Grafenberg 90.96 320 P P 22 24 10.3 +0.5
GRFO pmax pmax
comp=Z,25nm,1.0s
SPITS Spitsbergen Ar 91.04 348 P P 22 24 09.2 -0.4
comp=Z,21nm,0.8s,baz=113,slow=7.0,SNR=5.4
SPITS LR LR 23 13 02.8
comp=Z,503nm,19.1s,baz=91,slow=41
comp=Z,21nm,0.8s
SPITS Spitsbergen Ar 91.04 348 P P 22 24 09.7 +0.1
SPITS pmax pmax
comp=Z,52nm,1.1s
RETA Reutte 91.17 317 *e*P **P 22 24 11.2 +0.2**
comp=Z,4.4nm,0.6s,SNR=5.8
FETA Feichten 91.17 317 *e*P **P 22 24 11.5 +0.4**
comp=Z,12nm,0.9s,SNR=5.6
NB2 NORSAR Subarra 91.46 331 P P 22 24 12.0 +0.1
comp=Z,16nm,1.1s,baz=92,slow=4.8
NB2 NORSAR Subarra 91.46 331 P P 22 24 12.0 +0.1
baz=92.slow=4.8
NOA NORSAR Array B 91.46 331 P P 22 24 11.5 -0.4
comp=Z,3.9nm,0.9s,baz=94,slow=4.9,SNR=7.3
NOA LR LR 23 09 43.5
comp=Z,187nm,19.1s,baz=80,slow=38
comp=Z,3.9nm,0.9s
FUORN Ofenpass-Fuorn 91.47 316 P P 22 24 13.1 +0.4
FUORN IAmb IAmb 22 24 14.8
comp=Z,34nm,1.0s
SNAA Sanae 91.67 198 ⇑P **P 22 24 11.4 -1.4**
comp=Z,44nm,0.9s
SNAA Sanae 91.67 198 P P 22 24 14.3 +1.5
SNAA Sanae 91.67 198 P P 22 24 14.1 +1.3
comp=Z,3.0nm,1.3s,baz=101,slow=5.2,SNR=3.0
SNAA LR LR 22 58 13.3
comp=Z,496nm,21.6s,baz=84,slow=31
comp=Z,3.0nm,1.3s
SNAA Sanae 91.67 198 P P 22 24 14.3 +1.5
SNAA pmax pmax
comp=Z,13nm,1.6s
DAVA Damuels 91.76 317 *e*PcP **PcP 22 24 14.5 -0.2**
comp=Z,19nm,0.8s,SNR=12
KEST Kesra 91.82 306 P P 22 24 14.2 0.0
KEST Kesra 91.82 306 P P 22 24 15.0 +0.7
comp=Z,24nm,0.9s,baz=94,slow=8.7,SNR=14
comp=Z,24nm,0.9s
TUE Stuetta 92.10 316 P P 22 24 16.0 +0.5
comp=Z,43nm,1.5s
STU Stuttgart 92.25 319 P P 22 24 15.8 -0.1
STU IAmb IAmb 22 26 40.7
comp=Z,11nm,0.6s
STU Stuttgart 92.25 319 P P 22 24 15.8 -0.1
STU pmax pmax
comp=Z,11nm,0.6s
NIKH Nikolski High 92.72 37 IAMs_20 IAMs_20 22 55 50.2
comp=Z,638nm,18.0s
VNA2 Neumayer-Watz 93.29 198 ⇑P P 22 24 28.6 +8.4
comp=Z,2.1nm,0.6s,baz=86,slow=4.3
C16K Lisburne Hills 94.04 22 IAMs_20 IAMs_20 23 07 32.7
comp=Z,693nm,21.0s
K13K Kusilvak Mount 94.74 28 P P 22 24 26.9 0.0
K13K IAmb IAmb 22 24 45.3
comp=Z,43nm,1.2s
RDOG Red Dog Mine 94.97 22 IAMs_20 IAMs_20 23 13 40.6
comp=Z,686nm,18.0s
G16K Koyuk River 95.46 25 P P 22 24 30.5 +0.3
G16K IAmb IAmb 22 24 31.8
comp=Z,25nm,1.0s
C18K Utukok River 95.53 21 IAMs_20 IAMs_20 23 13 10.0
comp=Z,759nm,19.0s
E18K Tukpahlearik C 95.92 23 IAMs_20 IAMs_20 23 14 18.2
comp=Z,629nm,19.0s
D19K Kuna River 96.67 21 P P 22 24 36.0 +0.3
D19K IAmb IAmb 22 25 04.1
comp=Z,25nm,1.1s
B20K Meade River 96.72 20 IAMs_20 IAMs_20 23 12 34.8
comp=Z,1μm,20.0s
D20K Etivluk River 97.17 21 IAMs_20 IAMs_20 23 10 35.3
comp=Z,759nm,21.0s
E19K Redstone River 97.19 22 IAMs_20 IAMs_20 23 14 39.0
comp=Z,463nm,18.0s
B21K Ikpikpuk River 97.67 20 IAMs_20 IAMs_20 23 13 17.1
comp=Z,1μm,20.0s
F20K Avaraart Lake 97.85 23 IAMs_20 IAMs_20 23 13 44.8
comp=Z,567nm,19.0s
H19K Roundabout Mou 97.88 24 IAMs_20 IAMs_20 23 10 19.7
comp=Z,405nm,19.0s
E21K Killik River 98.18 21 IAMs_20 IAMs_20 23 17 29.4
comp=Z,550nm,20.0s
JMIC Jan Mayen 98.23 342 LR LR 23 16 06.3
comp=Z,249nm,19.5s,baz=44,slow=40
TORD Torodi Ar. Bea 98.49 283 P P 22 24 44.7 -0.3
comp=Z,1.7nm,0.4s,baz=78,slow=6.6,SNR=2.3
comp=Z,1.7nm,0.4s
D22K Ayikyak River 98.52 20 IAMs_20 IAMs_20 23 12 26.0
comp=Z,684nm,20.0s
F21K Alatna River 98.66 22 IAMs_20 IAMs_20 23 15 24.8
comp=Z,579nm,19.0s
G21K Allakaket 98.83 23 IAMs_20 IAMs_20 23 16 11.3
comp=Z,619nm,20.0s
I20K Naaghedeneel 98.85 25 IAMs_20 IAMs_20 23 16 50.9
comp=Z,550nm,22.0s
IMAR Indian Mountai 98.87 23 P P 22 24 45.2 -0.4
E22K Anaktuvuk Pass 99.03 21 IAMs_20 IAMs_20 23 14 48.6
comp=Z,603nm,20.0s
D23K Nanushuk River 99.19 20 IAMs_20 IAMs_20 23 14 17.7
comp=Z,941nm,20.0s
EKA Eskdalemuir Ar 99.40 326 P **Pdif 22 24 47.3 -0.9**
comp=Z,1.2nm,0.8s,baz=83,slow=6.5,SNR=2.3
comp=Z,1.2nm,0.8s
C24K Franklin Bluff 99.62 19 IAMs_20 IAMs_20 23 16 45.9
comp=Z,821nm,19.0s
TOLK Toolik Lake Re 99.67 20 IAMs_20 IAMs_20 23 17 00.5
comp=Z,718nm,18.0s
D24K Happy Valley 99.77 20 IAMs_20 IAMs_20 23 15 12.6
comp=Z,1μm,19.0s
E23K Chandalar 99.84 21 IAMs_20 IAMs_20 23 15 32.9
comp=Z,710nm,21.0s
COLD Coldfoot 99.89 22 IAMs_20 IAMs_20 23 16 13.1
comp=Z,601nm,21.0s
CART Cartagena 100.09 308 IAMs_20 IAMs_20 23 15 51.7
comp=Z,373nm,19.0s
G23K Bananza Creek 100.11 22 IAMs_20 IAMs_20 23 15 16.1
comp=Z,498nm,21.0s
M20K Styx River 100.13 27 IAMs_20 IAMs_20 23 17 46.4
comp=Z,501nm,19.0s
E24K Your Creek 100.24 21 IAMs_20 IAMs_20 23 18 35.9
comp=Z,660nm,18.0s
MLY Manley 100.33 24 Pdif 22 24 52.3 +0.1
D25K Kavik River 100.53 19 IAMs_20 IAMs_20 23 15 47.6
comp=Z,712nm,20.0s
F24K Squaw Lake 100.64 21 IAMs_20 IAMs_20 23 15 58.1
comp=Z,644nm,20.0s
G24K Hadweenzic Riv 101.07 22 IAMs_20 IAMs_20 23 16 59.5
comp=Z,507nm,19.0s
H24K Noodor Dome 101.21 23 IAMs_20 IAMs_20 23 17 56.3
comp=Z,609nm,19.0s
E25K Arctic Village 101.25 20 IAMs_20 IAMs_20 23 14 08.0
comp=Z,966nm,21.0s
C27K Jago River 101.27 19 IAMs_20 IAMs_20 23 14 18.6
comp=Z,549nm,19.0s
F25K Christian Rive 101.42 21 IAMs_20 IAMs_20 23 16 13.6
comp=Z,752nm,20.0s
BMAR Burnt Mountain 101.86 21 Pdif **Pdif 22 25 00.5 +1.5**
F26K Sheenjek River 101.91 21 IAMs_20 IAMs_20 23 16 38.5
comp=Z,833nm,21.0s
FYU Fort Yukon 101.96 22 IAMs_20 IAMs_20 23 17 37.8
comp=Z,543nm,18.0s
ILAR Eielson Array 101.97 24 P Pdif 22 24 58.3 -1.1
comp=Z,0.8nm,1.0s,baz=305,slow=5.4,SNR=5.2
ILAR PP **PP 22 29 08.0 -2.5**
comp=Z,1.2nm,0.8s,baz=282,slow=7.2,SNR=5.0
ESDC Sonseca Array 102.18 310 P **Pdif 22 25 01.8 +0.7**
comp=Z,0.9nm,0.9s,baz=106,slow=6.6,SNR=4.3
D27M Malcolm River 102.31 19 IAMs_20 IAMs_20 23 19 18.8
comp=Z,630nm,18.0s
G26K Porcupine Rive 102.34 21 IAMs_20 IAMs_20 23 16 55.8
comp=Z,531nm,20.0s
E28M Babbage River 103.07 19 IAMs_20 IAMs_20 23 19 43.0
comp=Z,520nm,18.0s
G27K Doyon Strip 103.16 21 IAMs_20 IAMs_20 23 17 19.6
comp=Z,562nm,20.0s
J26L Joseph Creek 103.40 23 IAMs_20 IAMs_20 23 20 35.1
comp=Z,558nm,19.0s
F28M Old Crow 103.42 20 IAMs_20 IAMs_20 23 17 28.4
comp=Z,839nm,21.0s
E29M Blow River 103.70 19 IAMs_20 IAMs_20 23 20 18.8
comp=Z,520nm,19.0s
F31M Tsiigehtchic 105.54 19 IAMs_20 IAMs_20 23 19 26.3
comp=Z,679nm,19.0s
BARN Barnard Glacie 105.59 26 IAMs_20 IAMs_20 23 19 07.3
comp=Z,359nm,19.0s
I30M Mount Dempster 105.81 21 IAMs_20 IAMs_20 23 19 12.7
comp=Z,811nm,20.0s
TBI Tubuai 107.92 115 *e*LR LR 23 01 06.3
comp=Z,2μm,28.8s
TBI *e*LR LR 23 01 07.3
comp=Z,1μm,25.2s
PPT2 Papeete2 108.79 109 *e*LR LR 23 01 31.1
comp=Z,444nm,24.8s
PPT2 *e*LR LR 23 01 34.6
comp=Z,343nm,24.8s
MBO M'Bour 116.56 285 IAMs_20 IAMs_20 23 06 39.5
comp=Z,770nm,22.0s
TAOE Nuku Hiva Isla 119.16 101 *e*LR LR 23 06 14.5
comp=Z,377nm,24.7s
KEBM Edson Butte 123.74 38 IAMs_20 IAMs_20 23 26 41.4
comp=Z,738nm,20.0s
HAWA Hanford 124.41 32 PKPdf **PKiKP 22 30 05.8 +0.4**
N02D Trinity Center 125.80 39 PKPdf **PKPdf 22 30 07.9 -0.1**
SCHQ Schefferville 126.66 350 PKP **PKiKP 22 30 09.4 -0.2**
comp=Z,58nm,0.8s,baz=27,slow=9.0,SNR=4.8
MSO Missoula 126.94 29 PKPdf 22 30 09.8 -0.2
PLID Pearl Lake 127.13 31 PKPdf 22 30 10.2 -0.5
PLID IAMs_20 IAMs_20 23 29 04.3
comp=Z,341nm,22.0s
WVOR Wild Horse Val 127.40 35 PKPdf **PKiKP 22 30 11.8 +0.2**
WVOR Wild Horse Val 127.40 35 PKIKP **PKiKP 22 30 11.8 +0.2**
MFID Camas Ranch 128.35 33 PKPdf **PKiKP 22 30 14.0 +0.5**
BOZ Bozeman (W) 128.93 28 PKPdf **PKiKP 22 30 14.7 +0.1**
BOZ Bozeman (W) 128.93 28 PKIKP **PKiKP 22 30 14.7 +0.1**
NVAR Mina Array Bea 130.04 39 PKP **PKPdf 22 30 15.9 -0.5**
comp=Z,1.5nm,0.7s,baz=307,slow=3.3,SNR=8.2
NVAR PP **PP 22 32 25.8 -2.3**
comp=Z,1.3nm,0.8s,baz=307,slow=6.5,SNR=4.1
ELK Elko 130.44 35 PKPdf **PKiKP 22 30 18.2 +0.3**

ELK Elko 130.44 35 PKIKP PKiKP 22 30 18.2 +0.3
ULM Lac du Bonnet 130.53 13 PKP PKPdf 22 30 15.9 -0.7
comp=Z,1.8nm,0.4s,baz=334,slow=5.3,SNR=3.3
HWUT Hardware Ranch 131.87 32 PKPdf 22 30 20.2 +0.5
PDAR Pinedale Array 132.04 29 PKPdf 22 30 20.5 +0.4
PDAR Pinedale Array 132.04 29 PKP PKPdf 22 30 17.8 -2.2
comp=Z,1.1nm,0.9s,baz=319,slow=1.7,SNR=4.1
PDAR PP **PP 22 32 36.8 -3.9**
comp=Z,2.8nm,1.0s,baz=320,slow=7.3,SNR=4.8
O20A White River Ci 134.66 31 IAMs_20 IAMs_20 23 37 48.6
comp=Z,290nm,19.0s
SUSD Miller 134.99 19 IAMs_20 IAMs_20 23 35 44.2
comp=Z,511nm,19.0s
PV07 Paradox Valley 135.71 32 PKPdf PKPdf 22 30 27.2 +0.2
PLCA Paso Flores 136.14 191 PKP PKiKP 22 30 29.8 +0.6
comp=Z,2.7nm,1.0s,baz=162,slow=3.2,SNR=3.4
WUAZ Wupatki 136.18 38 IAMs_20 IAMs_20 23 38 04.6
comp=Z,579nm,21.0s
ECSD EROS Data Cent 136.36 17 IAMs_20 IAMs_20 23 39 50.3
comp=Z,424nm,19.0s
OGNE Ogallala 136.88 24 IAMs_20 IAMs_20 23 40 30.7
comp=Z,735nm,22.0s
BGNE Belgrade 137.96 20 IAMs_20 IAMs_20 23 36 22.8
comp=Z,427nm,19.0s
KSU1 Kansas State U 140.55 20 PKPdf PKPdf 22 30 35.5 -0.2
N51A Ashland 141.65 3 IAMs_20 IAMs_20 23 36 32.5
comp=Z,525nm,20.0s
ACSO Alum Creek Sta 142.30 4 IAMs_20 IAMs_20 23 42 26.7
comp=Z,643nm,21.0s
MNTX Cornudas Mount 142.42 37 IAMs_20 IAMs_20 23 36 48.8
comp=Z,594nm,19.0s
OK051 E0350 and S346 142.77 22 IAMs_20 IAMs_20 23 36 30.3
comp=Z,598nm,22.0s
OK052 Battle Ridge R 143.23 23 IAMs_20 IAMs_20 23 42 20.5
comp=Z,359nm,22.0s
BDFB Brasilia 143.49 239 PKP PKiKP 22 30 43.6 -1.4
comp=Z,3.2nm,0.7s,baz=113,slow=7.7,SNR=4.8
CPUP Villa Florida 143.88 216 PKPbc 22 30 40.4 +0.9
CPUP Villa Florida 143.88 216 PKP PKPdf 22 30 40.8 -1.1
comp=Z,0.6nm,0.5s,baz=90,slow=1.0,SNR=5.3
X34A Smith Ranch, M 144.01 25 PKPbc 22 30 39.6 -0.1
CGM3 Cape Girardeau 144.23 13 PKPab 22 30 39.8 -0.2
SLBS Sierra La Lagu 144.27 51 PKPdf 22 30 42.0 -0.8
ZON Zonda 144.48 197 PKPdf PKPdf 22 30 42.7 -0.2
ZON Zonda 144.48 197 PKiKP PKPdf 22 30 42.7 -0.2
PBMO Poplar Bluff 144.54 14 PKPab 22 30 40.3 -0.8
FCAR Ozark Folk Cen 144.92 17 PKPab 22 30 42.2 -0.4
TXAR Lajitas Array 145.14 38 PKPbc PKPdf 22 30 44.4 +0.2
comp=Z,113nm,0.7s,baz=318,slow=3.3,SNR=938
TXAR PP **PP 22 34 00.9 -1.1**
comp=Z,1.4nm,0.9s,baz=320,slow=7.9,SNR=3.2
T57A Hurt 145.60 359 IAMs_20 IAMs_20 23 46 15.2
comp=Z,591nm,20.0s
CO03 El Pedregal 145.69 195 PKPbc PKPbc 22 30 45.4 0.0
WHTX Lake Whitney, 146.39 27 IAMs_20 IAMs_20 23 41 02.8
comp=Z,476nm,20.0s
JCT Junction City 146.48 32 PKPbc PKPbc 22 30 47.2 -0.5
JCT Junction City 146.48 32 PKP2 PKPbc 22 30 47.2 -0.5
JCT MLR MLR
comp=Z,4μm,21.0s
TKL Tuckaleechee C 146.78 5 PKPbc 22 30 47.5 -0.9
TKL Tuckaleechee C 146.78 5 PKP2 PKPbc 22 30 47.5 -0.9
CPCT Cooper Cave 146.91 7 PKPbc 22 30 48.0 -0.7
AQDB Aquidauana 146.93 225 PKPdf 22 30 47.5 +0.2
Y49A Blount Mountai 148.21 10 IAMs_20 IAMs_20 23 45 08.3
comp=Z,499nm,19.0s
GO03 Copiapo 148.65 197 PKPbc PKPbc 22 30 53.3 -0.4
VBMS Vicksburg 148.82 17 PKPbc PKPbc 22 30 52.9 -1.1
ZAIG Zacatecas 150.32 45 PKPbc 22 30 57.9 -0.4
PTLB Pontes e Lacer 152.65 229 PKPdf 22 30 56.1 -0.3
MAL2 Monte Alegre, 153.66 261 PKPdf PKPdf 22 30 56.8 -1.2
DWPF Disney Wildern 154.45 3 IAMs_20 IAMs_20 23 42 13.4
comp=Z,541nm,19.0s
VILB Vilhena 154.97 232 PKPdf PKPdf 22 30 59.6 -0.3
LPAZ La Paz 157.92 212 PKPdf 22 31 03.3 -1.1
LPAZ La Paz 157.92 212 PKP PKPdf 22 31 05.3 +1.0
comp=Z,2.0nm,0.9s,baz=198,slow=6.4,SNR=6.3
RUSC La Rusia 172.16 296 PKPdf 22 31 14.1 -2.3

*IDC **22** 22:19:40.5±0.8,2°.49S×138°.40E,h0km,mb4.0/8,*
mbtmp3.9/10,ML3.5/2,Error ellipse: s-maj=25.6km
s-min=15.6km az=17.0
*NEIC **22** 22:19:42.4±1.6,2°.65S±0°.05×138°.30E±0°.07,h10km±1km,*
mb4.2/9,Error ellipse: s-maj=13.2km s-min=6.6km
az=292.0
ISC 22 22:19:45.2±0.7,2°.66S±0°.09×138°.27E±0°.08,h32km,n26,
σ1°00/26,mb3.9/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.44**	**87**	Pn	**Pn**	**22 20 21.2**	**-1.6**
	5.5nm,0.3s,baz=270,slow=4.0,SNR=14						
JAY				Lg	Lg	22 20 53.2	
	4.5nm,0.3s,baz=4.3,slow=16,SNR=3.7						
	16nm,0.4s						
FAKI	**Fak Fak**	**6.02**	**267**	Pn	**Pn**	**22 21 10.4**	**-1.7**
COEN	**Coen**	**12.22**	**157**	Pn	**Pn**	**22 22 37.5**	**+0.3**
KNRA	**Kununurra**	**15.97**	**215**	Pn	**Pn**	**22 23 26.8**	**-0.9**
KNRA				IAmb	IAmb	22 23 44.5	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**17.42**	**192**	Pn	**Pn**	**22 23 44.9**	**-1.1**
WB0				IAmb	IAmb	22 24 24.1	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**17.60**	**192**	P	**Pn**	**22 23 47.5**	**-0.7**
WRA	**Warramunga Arr**	**17.60**	**192**	P	**P**	**22 23 49.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=3.7						
	comp=Z,1.6nm,0.7s						
AS31	**Alice Springs**	**21.30**	**191**	P	**P**	**22 24 29.4**	**-0.1**
ASAR	**Alice Springs**	**21.30**	**191**	P	**P**	**22 24 28.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.03**	**300**	P	**P**	**22 27 49.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**44.03**	**300**	P	**P**	**22 27 51.0**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=111,slow=7.6,SNR=5.4						
	comp=Z,1.0nm,0.4s						
EVN	**Everest**	**58.05**	**305**	P	**P**	**22 29 37.8**	**+1.4**
EVN				IAmb	IAmb	22 29 39.7	
	comp=Z,2.9nm,0.7s						
MKAR	**Makanchi Array**	**69.48**	**323**	P	**P**	**22 30 50.7**	**0.0**
MKAR	**Makanchi Array**	**69.48**	**323**	P	**P**	**22 30 51.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=111,slow=8.3,SNR=17						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**69.68**	**322**	P	**P**	**22 30 52.4**	**+0.5**
ZALV	**Zalesovo Beam**	**71.67**	**330**	P	**P**	**22 31 03.1**	**-0.7**
ZALV	**Zalesovo Beam**	**71.67**	**330**	P	**P**	**22 31 03.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=113,slow=3.3,SNR=2.4						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**73.44**	**325**	P	**P**	**22 31 14.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=104,slow=6.9,SNR=4.2						
	comp=Z,0.4nm,0.5s						
VNDA	**Vanda**	**75.87**	**175**	P	**P**	**22 31 28.5**	**+0.5**
VNDA				IAmb	IAmb	22 31 57.0	
	comp=Z,2.3nm,1.4s						
VNDA	**Vanda**	**75.87**	**175**	P	**P**	**22 31 28.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=329,slow=7.8,SNR=3.7						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**79.02**	**325**	P	**P**	**22 31 45.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=104,slow=6.1,SNR=6.6						
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**84.40**	**320**	P	**P**	**22 32 14.9**	**+0.3**
ILAR	**Eielson Array**	**85.97**	**24**	P	**P**	**22 32 20.8**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=257,slow=4.3,SNR=4.7						
	comp=Z,0.6nm,0.8s						
C23K	**Itkillik River**	**86.05**	**19**	P	**P**	**22 32 22.9**	**+0.6**
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**22 32 30.2**	**+1.5**
QSPA				IAmb	IAmb	22 32 56.9	
	comp=Z,4.1nm,1.4s						
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**22 32 30.3**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=347,slow=2.0,SNR=5.1						
	comp=Z,1.1nm,0.8s						

*RSPR **22** 22:23:23.8,19°.05N×66°.64W,h38km±6km,MD2.5/10*
*SDD **22** 22:23:27.1±2.0,18°.84N×66°.73W,h17km±16km,MD2.5,*
ML1.8,MW2.5
ISC 22 22:23:24.0±1.7,18°.94N±0°.07×66°.69W±0°.04,h17km±9km,
n31,σ1°12/38,19C-3D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.49**	**162**	⇑*eP*	**Pg**	**22 23 34.2**	**+0.4**
EMPR	**Esperanza - Ma**	**0.49**	**162**	*eS*	**Sb**	**22 23 43.2**	**+2.2**
AOPR	**Arecibo Observ**	**0.60**	**186**	⇓*eP*	**Pg**	**22 23 36.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.60**	**186**	*eS*	**Sb**	**22 23 45.7**	**+1.6**
AOPR	**Arecibo Observ**	**0.60**	**186**	⇑*iP*	**Pg**	**22 23 35.2**	**-0.6**
AOPR				⇑*iS*	**Sg**	**22 23 43.0**	**-0.9**
AOPR				IAML		22 23 47.4	
	comp=N,112nm,0.2s						
AGPR	**Aguadilla, PR**	**0.62**	**220**	⇑*eP*	**Pg**	**22 23 36.2**	**-0.1**
AGPR	**Aguadilla, PR**	**0.62**	**220**	*eS*	**Sn**	**22 23 46.6**	**-1.0**
AGPR	**Aguadilla, PR**	**0.62**	**220**	⇑*iP*	**Pg**	**22 23 36.5**	**+0.3**
AGPR				⇑*iS*	**Sg**	**22 23 43.9**	**-0.6**
AGPR				IAML		22 23 49.2	
	comp=N,36nm,1.1s						
UUPR	**Utuado, UPR, P**	**0.69**	**182**	⇑*eP*	**Pg**	**22 23 38.2**	**+0.7**
UUPR	**Utuado, UPR, P**	**0.69**	**182**	*eS*	**Sb**	**22 23 48.0**	**+1.3**
ECPR	**Experimental S**	**0.69**	**153**	⇑*eP*	**Pg**	**22 23 36.6**	**-1.0**
ECPR	**Experimental S**	**0.69**	**153**	*eS*	**Sg**	**22 23 47.7**	**+0.8**
LSP	**Las Mesas**	**0.85**	**206**	⇑*eP*	**Pb**	**22 23 40.0**	**-0.3**
LSP	**Las Mesas**	**0.85**	**206**	*eS*	**Sg**	**22 23 52.2**	**+0.4**
GCPR	**Guaynabo City**	**0.85**	**138**	⇑*eP*	**Pb**	**22 23 39.7**	**-0.7**
GCPR	**Guaynabo City**	**0.85**	**138**	*eS*	**Sb**	**22 23 50.6**	**-0.9**
CELP	**Cerrillos**	**0.87**	**173**	⇑*eP*	**Pb**	**22 23 39.5**	**-1.2**
CELP	**Cerrillos**	**0.87**	**173**	*eS*	**Sb**	**22 23 52.0**	**0.0**
CELP	**Cerrillos**	**0.87**	**173**	⇑*iP*	**Pb**	**22 23 41.1**	**+0.4**
CELP				⇑*iS*	**Sb**	**22 23 51.4**	**-0.6**
CELP				IAML		22 23 59.2	
	comp=N,17nm,0.8s						
OBIP	**Obispado Ponce**	**0.90**	**175**	⇓*eP*	**Pb**	**22 23 40.3**	**-0.9**
OBIP	**Obispado Ponce**	**0.90**	**175**	*eS*	**Sb**	**22 23 53.0**	**+0.2**
IDE	**Isla Desecheo**	**0.93**	**233**	⇓*eP*	**Pb**	**22 23 40.5**	**-1.1**
IDE	**Isla Desecheo**	**0.93**	**233**	*eS*	**Sb**	**22 23 54.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.01**	**203**	⇓*eP*	**Pb**	**22 23 42.1**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.01**	**203**	*eS*	**Sn**	**22 23 57.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.01**	**203**	⇑*iP*	**Pb**	**22 23 41.7**	**-1.4**
CRPR				⇑*iS*	**Sb**	**22 23 54.7**	**-1.5**
CRPR				IAML		22 24 14.4	
	comp=N,31nm,1.8s						
MLPR	**Magueyes Islan**	**1.03**	**199**	*iP*	**Pb**	**22 23 43.3**	**0.0**
MLPR				⇑*iS*	**Sb**	**22 23 55.0**	**-1.4**
MLPR				IAML		22 24 02.6	
	comp=N,7.7nm,1.9s						
PDPR	**Patillas Dam,**	**1.12**	**145**	⇑*eP*	**Pb**	**22 23 44.2**	**-0.7**
PDPR	**Patillas Dam,**	**1.12**	**145**	*eS*	**Sb**	**22 23 57.7**	**-1.4**
MIDR	**Miches**	**2.23**	**271**	*iP*	**Pn**	**22 24 02.7**	**+2.5**
MIDR				⇑*iS*	**Sn**	**22 24 25.1**	**-2.3**
MIDR				IAML		22 24 56.4	
	comp=N,9.1nm,0.8s						
HATOM	**Hato Mayor del**	**2.55**	**267**	*iP*	**Pn**	**22 24 05.7**	**+1.1**
HATOM				*iS*	**Sn**	**22 24 34.9**	**-0.5**
HATOM				IAML		22 24 49.6	
	comp=N,11nm,1.4s						

*IDC **22** 22:27:37.8±1.1,2°.62S×138°.35E,h0km,mb3.6/5,*
mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=25.8km
s-min=16.3km az=6.0
ISC 22 22:27:42.4±1.0,2°.7S±0°.1×138°.4E±0°.1,h32km,n7,σ0°53/7,
mb3.5/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.35**	**86**	Pn	**Pn**	**22 28 18.9**	**+0.1**
	2.8nm,0.3s,baz=271,slow=7.0,SNR=10						
JAY				Lg	Lg	22 28 52.0	
	2.7nm,0.3s,baz=300,slow=20,SNR=5.2						
	6.5nm,0.4s						
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**22 31 45.3**	**-0.2**
	0.2nm,0.3s,baz=16,slow=12,SNR=7.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.31**	**191**	P	**P**	**22 32 26.9**	**+0.2**
	1.0nm,0.6s,baz=20,slow=11,SNR=12						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.11**	**300**	P	**P**	**22 35 48.7**	**+0.5**
	0.3nm,0.3s,baz=116,slow=8.9,SNR=4.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**69.54**	**323**	P	**P**	**22 38 48.1**	**-0.1**
	0.5nm,0.7s,baz=114,slow=6.6,SNR=4.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**73.49**	**325**	P	**P**	**22 39 12.5**	**+0.7**
	0.1nm,0.4s,baz=112,slow=4.1,SNR=2.5						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**79.08**	**325**	P	**P**	**22 39 43.0**	**-0.6**
	0.5nm,0.6s,baz=96,slow=5.8,SNR=3.6						
	0.5nm,0.6s						

*IDC **22** 22:31:05.1±0.6,2°.77S×138°.40E,h0km,mb4.2/15,*
mbtmp4.2/18,ML3.9/3,Error ellipse: s-maj=14.5km
s-min=10.8km az=89.0
*NEIC **22** 22:31:08.4±1.1,2°.75S±0°.07×138°.36E±0°.07,h10km±1km,*
mb4.7/40,Error ellipse: s-maj=13.3km s-min=9.9km
az=324.0
*DJA **22** 22:31:09.4±0.4,3°.5±5°×13°.8E±°,h10km,M4.3/5,MLv4.3/5*
ISC 22 22:31:10.6±0.4,2°.71S±0°.05×138°.39E±0°.06,h32km,n89,
σ1°28/85,mb4.7/45,2C-1D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.78**	**24**	P	**Pb**	**22 31 21.1**	**-4.7**
GENI	**Genyem**	**1.78**	**86**	P	**Pn**	**22 31 39.6**	**+0.4**
SRPI	**Serui, Papua**	**2.30**	**291**	P	**Pn**	**22 31 46.7**	**+0.3**
JAY	**Jayapura**	**2.32**	**85**	Pn	**Pn**	**22 31 46.7**	**0.0**
	22nm,0.3s,baz=267,slow=18,SNR=50						
JAY				Lg	Lg	22 32 16.4	
	18nm,0.3s,baz=282,slow=20,SNR=7.2						
	73nm,0.5s						
JAY	**Jayapura**	**2.32**	**85**	P	**Pn**	**22 31 47.1**	**+0.4**
BAKI	**Biak**	**2.73**	**303**	P	**Pn**	**22 31 53.0**	**+0.7**
FAKI	**Fak Fak**	**6.14**	**268**	Pn	**Pn**	**22 32 39.0**	**-0.2**
MANU	**Manus Island**	**8.99**	**86**		**Pn**	**22 33 19.1**	**+0.7**
COEN	**Coen**	**12.14**	**157**	Pn	**Pn**	**22 34 01.5**	**0.0**
MTN	**Manton Dam**	**12.37**	**215**		Pn	22 34 03.3	-1.3
SOEI	**Soe**	**15.68**	**243**		**Pn**	**22 34 47.4**	**-2.1**
SOEI				IAmb	IAmb	22 35 26.8	
	comp=Z,55nm,0.9s						
LUWI	**Luwuk**	**15.70**	**276**	Pn	**Pn**	**22 34 48.6**	**-1.0**
KNRA	**Kununurra**	**16.00**	**216**		**Pn**	**22 34 52.3**	**-1.2**
BATI	**Baumata**	**16.41**	**242**	Pn	**Pn**	**22 35 00.2**	**+1.5**
	comp=Z,10nm,0.3s,baz=97,slow=2.9,SNR=7.7						
WB0	**Warramunga Arr**	**17.40**	**193**		**Pn**	**22 35 09.6**	**-1.5**
WRA	**Warramunga Arr**	**17.58**	**193**		**Pn**	**22 35 11.7**	**-1.7**
WRA	**Warramunga Arr**	**17.58**	**193**	P	**Pn**	**22 35 12.7**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=13,slow=12,SNR=15						
WRA				S	Sn	22 38 18.9	-9.4
	comp=Z,3.3nm,1.1s,baz=13,slow=22,SNR=2.9						
	comp=Z,1.7nm,0.4s						
TOLI2	**Tolitoli**	**18.01**	**282**		**Pn**	**22 35 17.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**19.75**	**218**		**P**	**22 35 36.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**19.75**	**218**	P	**P**	**22 35 37.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=6.6						
FITZ				S	S	22 39 08.7	-10
	comp=Z,10nm,0.9s,baz=90,slow=11,SNR=5.1						
	comp=Z,3.2nm,0.7s						
AS31	**Alice Springs**	**21.28**	**191**		**P**	**22 35 53.4**	**-1.2**
ASAR	**Alice Springs**	**21.28**	**191**	P	**P**	**22 35 52.7**	**-2.0**
ASAR	**Alice Springs**	**21.28**	**191**	P	**P**	**22 35 54.6**	**0.0**
	comp=Z,6.1nm,0.7s,baz=16,slow=11,SNR=29						
ASAR				S	**S**	**22 39 47.7**	**-1.9**
	comp=Z,4.6nm,0.9s,baz=13,slow=23,SNR=7.1						
	comp=Z,6.1nm,0.7s						
MYLDM	**Lahad Datu**	**21.36**	**292**	P	**P**	**22 35 54.9**	**-0.6**
MYLDM				IAmb	IAmb	22 36 18.3	
	comp=Z,30nm,1.0s						
TGY	**Tagaytay City**	**24.05**	**314**	P	**P**	**22 36 22.4**	**-0.9**
	comp=Z,136nm,0.4s,baz=218,slow=12,SNR=3.5						
MBWA	**Marble Bar**	**25.82**	**223**	P	**P**	**22 36 37.4**	**-1.8**
MBWA				IAmb	IAmb	22 36 43.2	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**33.75**	**217**	P	**P**	**22 37 49.1**	**-0.4**
MORW				IAmb	IAmb	22 38 23.6	
	comp=Z,18nm,1.4s						
JNU	**Nakatsue**	**36.34**	**349**	P	**P**	**22 38 10.6**	**-1.2**
	comp=Z,20nm,1.1s,baz=184,slow=13,SNR=4.5						
	comp=Z,20nm,1.1s						
NJ2	**Nanjing**	**39.23**	**333**	*eP*	P	22 38 40.8	+4.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**40.24**	**327**	P	**P**	**22 38 46.3**	**+1.7**
KSRS	**Korea Array**	**41.12**	**347**	P	**P**	**22 38 50.4**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=168,slow=9.5,SNR=9.9						
	comp=Z,3.1nm,0.9s						
SLVN	**Son La**	**41.35**	**307**	P	**P**	**22 38 54.6**	**+0.6**
SLVN				IAmb	IAmb	22 39 00.9	
	comp=Z,21nm,1.4s						
CM31	**Chiang Mai Arr**	**44.16**	**300**	P	**P**	**22 39 16.9**	**+0.1**
CM31				IAmb	IAmb	22 39 24.5	
	comp=Z,20nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.16**	**300**	P	**P**	**22 39 16.8**	**0.0**
	comp=Z,1.2nm,0.3s,baz=115,slow=7.6,SNR=15						
	comp=Z,1.2nm,0.3s						

KMI Kunming 44.28 311 P P 22 39 23.9 +6.0
KMI pmax pmax
comp=Z,14nm,1.3s
CHTO Chiang Mai 44.31 301 P 22 39 18.2 +0.3
CHTO IAmb IAmb 22 39 25.3
comp=Z,14nm,1.3s
LYN LuoYang 44.35 329 P P 22 39 18.3 +0.2
LYN pmax pmax
comp=Z,27nm,1.0s
HNS HongShan 45.56 333 ⇑P P 22 39 33.3 +5.7
HNS pmax pmax
comp=Z,10.0nm,1.0s
PZH PanZhiHua 45.79 312 P P 22 39 33.3 +3.5
XAN Xi'an 45.89 325 ⇓P **P 22 39 30.5 +0.1**
XAN pP pP 22 39 34.6 -5.4
XAN pmax pmax
comp=Z,12nm,1.3s
USRK Ussuriysk Ar. 47.05 354 P P 22 39 39.8 +0.6
comp=Z,0.8nm,0.5s,baz=193,slow=5.9,SNR=2.5
comp=Z,0.8nm,0.5s
BJT Baijiatuau 47.15 337 P P 22 39 40.5 +0.5
BJT IAmb IAmb 22 39 44.1
comp=Z,14nm,1.3s
MDJ Mudanjiang 47.77 352 P P 22 39 45.7 +0.9
MDJ IAmb IAmb 22 39 48.0
comp=Z,5.4nm,0.6s
BNX BinXian 49.21 350 ⇑P **P 22 39 55.8 -0.1**
BNX pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 49.79 333 *eP* P 22 40 05.8 +5.3
HHC pmax pmax
comp=Z,8.0nm,0.8s
LZDM Lanzhou Array 50.29 323 P P 22 40 02.4 -2.3
comp=Z,0.9nm,0.3s,baz=120,slow=8.5,SNR=1.3
comp=Z,0.9nm,0.3s
LZH Lanzhou 50.29 323 *eP* **P 22 40 06.0 +1.5**
LZH pP sP 22 40 18.1 0.0
LZH sP pP 22 40 23.3 +9.1
LZH pmax pmax
comp=Z,13nm,1.1s
SHL Shillong 53.07 305 P P 22 40 25.4 -0.1
HILR Hailar Array B 54.49 345 P P 22 40 35.2 -0.1
comp=Z,1.6nm,0.4s,baz=140,slow=9.2,SNR=4.2
comp=Z,1.6nm,0.4s
GTA Gaotai 54.88 324 P P 22 40 39.9 +1.5
GTA pP pP 22 40 46.0 -2.2
GTA pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 55.46 309 P P 22 40 43.7 +0.5
LSA IAmb IAmb 22 40 51.3
comp=Z,6.1nm,0.9s
SONM Songino Array 57.58 335 P P 22 40 57.6 +0.1
SONM Songino Array 57.58 335 P P 22 40 56.8 -0.7
comp=Z,1.4nm,0.7s,baz=155,slow=7.8,SNR=4.2
comp=Z,1.4nm,0.7s
EVN Everest 58.18 305 P P 22 41 03.1 +0.4
YAK Yakutsk 64.91 355 P P 22 41 47.2 +0.6
MKAR Makanchi Array 69.59 323 P 22 42 16.8 +0.1
MKAR Makanchi Array 69.59 323 P P 22 42 17.4 +0.7
comp=Z,7.8nm,1.0s,baz=112,slow=7.1,SNR=19
comp=Z,7.8nm,1.0s
MAKZ Makanchi 69.79 322 P 22 42 18.4 +0.4
KSH Kashi 70.85 313 P P 22 42 27.3 +2.6
KSH pmax pmax
comp=Z,10.0nm,1.2s
ZAA0 Zalesovo Array 71.77 330 P 22 42 30.7 +0.9
ZALV Zalesovo Beam 71.77 330 P 22 42 30.2 +0.4
ZALV Zalesovo Beam 71.77 330 P P 22 42 29.5 -0.4
comp=Z,1.0nm,0.7s,baz=108,slow=9.3,SNR=5.7
comp=Z,1.0nm,0.7s
AAK Ala-Archa 72.98 316 P P 22 42 38.1 +0.6
AAK IAmb IAmb 22 42 51.6
comp=Z,5.6nm,1.2s
KURK Kurchatov 73.53 325 P 22 42 40.6 +0.3
KURK IAmb IAmb 22 42 48.8
comp=Z,4.5nm,0.9s
KURBB Kurchatov Arra 73.54 325 P P 22 42 40.1 -0.3
comp=Z,2.3nm,0.9s,baz=122,slow=5.3,SNR=13
comp=Z,2.3nm,0.9s
ARSB Arslanbob 73.61 314 P P 22 42 41.8 +0.6
DRK Karamyk 73.89 312 P P 22 42 43.7 +0.6
DRK IAmb IAmb 22 42 51.0
comp=Z,15nm,1.4s
TIXI Tiksi 74.48 357 P P 22 42 44.5 -0.9
comp=Z,1.2nm,0.3s,baz=163,slow=19,SNR=4.4
comp=Z,1.2nm,0.3s
GAR Garm 74.86 312 P 22 42 49.3 +0.7
VNDA Vanda 75.81 175 P P 22 42 54.0 +0.9
VNDA Vanda 75.81 175 P P 22 42 53.4 +0.3
comp=Z,1.4nm,0.8s,baz=325,slow=7.8,SNR=8.4
comp=Z,1.4nm,0.8s
KK31 Karatay Array 75.90 316 P 22 42 54.9 +0.6
KK31 IAmb IAmb 22 43 01.7
comp=Z,11nm,1.2s
KKAR Karatay Array 75.90 316 P P 22 42 55.3 +1.0
BVAR Borovoye Array 79.13 325 P P 22 43 12.2 +0.1
comp=Z,2.2nm,0.6s,baz=104,slow=6.1,SNR=13
comp=Z,2.2nm,0.6s
J19K Poorman 82.12 24 P P 22 43 28.9 +1.1
J19K IAmb IAmb 22 43 31.4
comp=Z,7.9nm,1.2s
K20K Telida 82.52 25 P P 22 43 31.1 +1.0
K20K IAmb IAmb 22 43 37.5
comp=Z,8.4nm,1.2s
AB31 Akbulak array 84.51 320 P P 22 43 40.5 0.0
ABKAR Akbulak array 84.51 320 P P 22 43 40.7 +0.2
ILAR Eielson Array 85.96 24 P P 22 43 45.8 -1.7
comp=Z,1.2nm,0.8s,baz=260,slow=5.7,SNR=9.3
comp=Z,1.2nm,0.8s
F24K Squaw Lake 86.31 22 P P 22 43 50.5 +1.3
F24K IAmb IAmb 22 43 56.9
comp=Z,5.6nm,1.1s
QSPA South Pole Qui 87.24 180 P P 22 43 56.1 +2.2
QSPA IAmb IAmb 22 44 26.2
comp=Z,9.8nm,1.5s
QSPA South Pole Qui 87.24 180 P P 22 43 57.1 +3.3
comp=Z,3.4nm,1.0s,baz=8.7,slow=1.9,SNR=9.8
BMAR Burnt Mountain 87.52 22 P 22 43 56.5 +1.4
G26K Porcupine Rive 87.72 23 P 22 43 57.8 +1.9
G26K IAmb IAmb 22 44 05.6
comp=Z,6.5nm,1.1s
H27K Steamboat Moun 88.46 24 P P 22 44 00.8 +1.2
I28M Miner Creek 88.98 24 P P 22 44 02.7 +0.6
I28M IAmb IAmb 22 44 10.9
comp=Z,6.2nm,1.2s
TORD Torodi Ar. Bea 135.95 286 PKP PKPdf 22 50 30.4 +0.9
comp=

*MOS **22** 22:54:03.0±0.7,2.′61S×138.′25E,h22km,mb5.2/38,Error ellipse: s-maj=9.5km s-min=5.5km az=111.3*
*NEIC **22** 22:54:04.1,2.′80S×138.′41E,h16km,Moment Tensor Solution. Duration: 1ŝ7 Moment tensor: Scale 1016Nm; Mrr2.77; Mθθ0.48; Mϕϕ-3.25; Mrθ-2.85; Mϕθ1.86; Mϕr2.64; Fault plane solution: M0 5.27000×1016 NP1: ϕs184.25000°,δ26.81000°,λ134.39000°. NP2: ϕs316.61000°,δ71.20000°,λ70.53000°. Principal axes: T 4.8916, Plg59.0000°, Azm199.0000°; N 0.6894, Plg18.0000°, Azm323.0000°; P -5.5810, Plg24.0000°, Azm62.0000°;*
*NEIC **22** 22:54:04.1,2.′60S×138.′21E,h16km*
*NEIC **22** 22:54:05.2±1.3,2.′59S±0.′07×138.′28E±0.′05,h22km±3km, mb5.2/112,Mww5.1/15,Error ellipse: s-maj=10.5km s-min=6.7km az=175.0*
*GCMT **22** 22:54:06.2±0.2,2.′46S±0.′02×138.′33E±0.′01,h17km, MW5.0/104,Moment Tensor Solution. s50,c61; s104,c149; Duration: 0 Moment tensor: Scale 1016Nm; Mrr4.08±.20; Mθθ-0.75±.12; Mϕϕ-3.34±.13; Mrθ0.77±.33; Mϕϕ2.57±.07; Mϕr-0.29±.31; Best double couple: M0 4.58600×1016 NP1:ϕs337.00000°,δ42.00000°, λ103.00000°. NP2:ϕs140.00000°,δ50.00000°,λ79.00000°. Principal axes: T 4.2020, Plg81.0000°, Azm354.0000°; N 0.7610, Plg8.0000°, Azm147.0000°; P -4.9690, Plg4.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 22:54:04.6±0.4,2.′67S±0.′04×138.′30E±0.′05,h21km±4km, h21km:pP-P,n576,σ1ŝ21/570,mb5.1/124,MS4.3/50, 15C-15D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.79**	**31**	P	**Pb**	**22 54 15.3**	**-4.3**
GENI	**Genyem**	**1.87**	**88**	P	**Pn**	**22 54 34.9**	**-0.5**
SRPI	**Serui, Papua**	**2.21**	**291**	P	**Pn**	**22 54 39.8**	**-0.2**
JAY	**Jayapura**	**2.41**	**86**	Pn	**Pn**	**22 54 42.9**	**0.0**
	27nm,0.3s,baz=274,slow=15,SNR=61						
JAY				Lg	Lg	22 55 18.0	
	23nm,0.3s,baz=288,slow=20,SNR=6.3						
JAY				LR	LR	22 55 40.5	
	comp=Z,4μm,20.1s,baz=156,slow=42						
	349nm,0.7s						
JAY	**Jayapura**	**2.41**	**86**	P	**Pn**	**22 54 42.1**	**-0.7**
BAKI	**Biak**	**2.64**	**304**	P	**Pn**	**22 54 46.2**	**+0.2**
RKPI	**Ransiki, Papua**	**4.28**	**286**	P	**Pn**	**22 55 09.4**	**+0.9**
KMPI	**Kaimana, Papua**	**4.69**	**258**	P	**Pn**	**22 55 17.7**	**+3.5**
FAKI	**Fak Fak**	**6.05**	**267**		**Pn**	**22 55 34.1**	**+1.2**
FAKI	**Fak Fak**	**6.05**	**267**	P	**Pn**	**22 55 35.0**	**+2.1**
	0.7nm6μm2μm207nm,1.1s						
MANU	**Manus Island**	**9.08**	**86**		**Pn**	**22 56 16.5**	**+2.0**
MSAI	**Masohi**	**9.38**	**266**	P	**Pn**	**22 56 22.0**	**+3.3**
	4μm265nm,1.1s						
AAI	**Ambon**	**10.14**	**264**	P	**Pn**	**22 56 33.1**	**+4.0**
	146nm,0.9s						
PMG	**Port Moresby**	**11.06**	**128**		**Pn**	**22 56 44.7**	**+3.0**
PMG	**Port Moresby**	**11.06**	**128**	Pn	**Pn**	**22 56 46.1**	**+4.4**
	1.5nm,0.3s,baz=318,slow=11,SNR=7.4						
PMG				LR	LR	23 02 46.7	
	comp=Z,3μm,18.7s,baz=305,slow=48						
PMG	**Port Moresby**	**11.06**	**128**	P	**Pn**	**22 56 44.7**	**+3.0**
NLAI	**Namlea**	**11.20**	**267**	P	**Pn**	**22 56 45.7**	**+2.1**
TNTI	**Ternate**	**11.45**	**287**		**Pn**	**22 56 47.7**	**+0.6**
TNTI	**Ternate**	**11.45**	**287**	P	**Pn**	**22 56 50.9**	**+3.9**
	2μm38nm,0.5s						
COEN	**Coen**	**12.21**	**157**		**Pn**	**22 56 57.6**	**+0.2**
SANI	**Sanana**	**12.32**	**273**	P	**Pn**	**22 56 58.1**	**-0.8**
	1μm125nm,1.0s						
MTN	**Manton Dam**	**12.35**	**215**		**Pn**	**22 56 58.3**	**-1.1**
RABL	**Rabaul**	**13.92**	**97**	Pn	**Pn**	**22 57 23.1**	**+2.2**
KMSI	**Cibinong**	**14.67**	**282**	P	**Pn**	**22 57 33.5**	**+2.4**
LUWI	**Luwuk**	**15.60**	**276**		**Pn**	**22 57 42.2**	**-1.2**
LUWI				IAmb	IAmb	22 57 45.4	
	comp=Z,204nm,1.1s						
LUWI	**Luwuk**	**15.60**	**276**	P	**Pn**	**22 57 43.0**	**-0.5**
SOEI	**Soe**	**15.62**	**243**		**Pn**	**22 57 43.4**	**-0.4**
SOEI				IAmb	IAmb	22 57 51.4	
	comp=Z,235nm,1.3s						
SOEI	**Soe**	**15.62**	**243**	P	**P**	**22 57 48.4**	**+0.6**
BBSI	**Bau Bau**	**15.94**	**259**	P	**P**	**22 57 50.8**	**-0.4**
	comp=Z,2μmcomp=Z,236nm,1.0s						
DAV	**Davao City (W)**	**15.96**	**307**	LR	LR	23 04 44.8	
	comp=Z,654nm,18.8s,baz=163,slow=40						
KNRA	**Kununurra**	**15.98**	**215**		**Pn**	**22 57 48.4**	**+0.2**
BATI	**Baumata**	**16.35**	**242**	Pn	**Pn**	**22 57 53.2**	**+0.1**
	comp=Z,7.4nm,0.3s,baz=86,slow=3.5,SNR=10						
	comp=Z,16nm,0.3s						
BATI	**Baumata**	**16.35**	**242**	P	**P**	**22 57 55.0**	**-0.9**
MRSI	**Marisa**	**16.65**	**281**	P	**P**	**22 57 59.4**	**+0.2**
	comp=Z,1μmcomp=Z,151nm,1.2s						
APSI	**Ampana**	**16.73**	**276**	P	**P**	**22 57 59.6**	**-0.5**
	comp=Z,3μmcomp=Z,238nm,1.3s						
MMRI	**Maumere**	**17.04**	**249**	Pn	**Pn**	**22 58 00.7**	**-1.1**
MMRI	**Maumere**	**17.04**	**249**	P	**Pn**	**22 58 02.2**	**+0.4**
	comp=Z,2μmcomp=Z,50nm,1.3s						
GUMO	**Guam**	**17.42**	**22**		**Pn**	**22 58 05.1**	**-1.4**
GUMO				IAmb	IAmb	22 58 11.3	
	comp=Z,211nm,1.1s						
GUMO	**Guam**	**17.42**	**22**	P	**Pn**	**22 58 04.7**	**-1.8**
	comp=Z,53nm,0.3s,baz=180,slow=20,SNR=4.5						
GUMO				LR	LR	23 05 09.0	
	comp=Z,575nm,18.0s,baz=198,slow=38						
GUMO	**Guam**	**17.42**	**22**	P	**Pn**	**22 58 05.1**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,211nm,1.1s						
WB0	**Warramunga Arr**	**17.42**	**192**		**Pn**	**22 58 05.7**	**-0.8**
WR8	**Warramunga Arr**	**17.58**	**192**		**Pn**	**22 58 08.6**	**+0.1**
WRAB	**Tennant Creek**	**17.59**	**192**		**Pn**	**22 58 08.8**	**+0.2**
WRAB	**Tennant Creek**	**17.59**	**192**	*ce*P	**P**	**22 58 09.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,20nm,1.0s						
EDFI	**Ende, Flores**	**17.59**	**249**	P	**Pn**	**22 58 08.8**	**+0.1**
WRA	**Warramunga Arr**	**17.60**	**192**		**Pn**	**22 58 07.8**	**-1.0**
WRA	**Warramunga Arr**	**17.60**	**192**	P	**Pn**	**22 58 07.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=14,slow=12,SNR=21						
WRA				S	**Sn**	**23 01 16.3**	**-8.0**
	comp=Z,14nm,1.0s,baz=12,slow=22,SNR=4.8						
WRA				Lg	Lg	23 03 19.0	
	baz=18,slow=33						
WRA				LR	LR	23 04 57.3	
	comp=Z,848nm,18.0s,baz=12,slow=37						
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**17.60**	**192**	P	**Pn**	**22 58 07.8**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOLI2	**Tolitoli**	**17.91**	**282**		**Pn**	**22 58 11.4**	**-1.2**
BSSI	**Bau Bau, Buton**	**18.09**	**258**	P	**P**	**22 58 18.1**	**+3.0**
	comp=Z,129nm,0.9s						
BNSI	**Bone**	**18.24**	**264**	P	**P**	**22 58 20.2**	**+3.5**
	comp=Z,995nmcomp=Z,88nm,1.2s						
BKSI	**Bulukumba**	**18.32**	**261**	P	**P**	**22 58 19.4**	**+1.7**
	comp=Z,57nm,1.2s						
SPSI	**Sidrap Palu**	**18.54**	**266**	P	**Pn**	**22 58 22.7**	**+2.3**
	comp=Z,3μmcomp=Z,57nm,1.0s						
KAPI	**Kappang**	**18.65**	**262**	P	**P**	**22 58 20.6**	**-0.7**
KAPI	**Kappang**	**18.65**	**262**	P	**P**	**22 58 20.1**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=58,slow=19,SNR=1.8						
	comp=Z,5.3nm,0.5s						
KAPI	**Kappang**	**18.65**	**262**	P	**P**	**22 58 20.6**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,18nm,0.9s						
WSI	**Waingapu**	**19.19**	**248**	P	**Pn**	**22 58 29.6**	**+1.4**
	comp=Z,116nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.73**	**218**	P	**P**	**22 58 32.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.73**	**218**	P	**P**	**22 58 33.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=41,slow=14,SNR=14						
FITZ				S	**S**	**23 02 05.4**	**-9.3**
	comp=Z,13nm,0.8s,baz=7.1,slow=16,SNR=4.1						
FITZ				LR	LR	23 06 57.6	
	comp=Z,693nm,18.7s,baz=42,slow=39						
	comp=Z,8.1nm,0.8s						
MYLDM	**Lahad Datu**	**21.26**	**292**	P	**P**	**22 58 49.3**	**-0.4**
MYLDM				IAmb	IAmb	22 59 02.3	
	comp=Z,189nm,1.4s						
AS31	**Alice Springs**	**21.30**	**191**		**P**	**22 58 49.9**	**-0.3**
ASAR	**Alice Springs**	**21.30**	**191**	P	**P**	**22 58 50.1**	**-0.1**
	comp=Z,18nm,0.7s,baz=14,slow=11,SNR=66						
ASAR				S	**S**	**23 02 44.0**	**-2.1**
	comp=Z,22nm,1.0s,baz=12,slow=25,SNR=7.9						
ASAR				Lg	Lg	23 05 16.1	
	comp=Z,0.1nm,0.3s,baz=7.8,slow=30,SNR=1.8						
ASAR				LR	LR	23 08 24.0	
	comp=Z,733nm,21.1s,baz=15,slow=40						
	comp=Z,18nm,0.7s						
PLAI	**Plampang**	**21.31**	**252**	P	**P**	**22 58 50.4**	**+0.2**
	comp=Z,47nm,0.8s						
BKB	**Balikpapan**	**21.43**	**273**	P	**P**	**22 58 50.5**	**-1.1**
BKB	**Balikpapan**	**21.43**	**273**	P	**P**	**22 58 53.6**	**+2.0**
	comp=Z,4μmcomp=Z,260nm,1.1s						
PATS	**Pohnpei**	**22.10**	**65**	P	**P**	**22 58 58.0**	**-0.7**
TWSI	**Taliwang, Sumb**	**22.14**	**253**	P	**P**	**22 58 59.6**	**+0.4**
BBKI	**Banjar Baru**	**23.44**	**267**	P	**P**	**22 59 14.7**	**+2.0**
MTKI	**Muara Teweh, K**	**23.45**	**274**	P	**P**	**22 59 14.0**	**+1.1**
	comp=Z,82nm,0.7s						
TGY	**Tagaytay City**	**23.96**	**315**	LR	LR	23 09 17.8	
	comp=Z,594nm,19.2s,baz=144,slow=38						
KMMI	**Kalianget**	**24.63**	**259**	P	**P**	**22 59 26.5**	**+2.6**
	comp=Z,125nm,1.2s						
JAGI	**Jajag, Banyuwa**	**24.70**	**256**	P	**P**	**22 59 25.4**	**+0.8**
INKA	**Innaminka**	**25.04**	**175**	P	**P**	**22 59 28.1**	**+0.6**
EIDS	**Eidsvold**	**25.71**	**153**	P	**P**	**22 59 34.2**	**+0.7**
EIDS				IAmb	IAmb	22 59 56.3	
	comp=Z,40nm,1.1s						
MBWA	**Marble Bar**	**25.78**	**223**	P	**P**	**22 59 33.9**	**-0.4**
MBWA				IAmb	IAmb	23 00 10.9	
	comp=Z,42nm,1.2s						
PSA00	**Pilbara Seismi**	**25.99**	**222**	P	**P**	**22 59 36.0**	**-0.1**
PSA00	**Pilbara Seismi**	**25.99**	**222**	P	**P**	**22 59 35.6**	**-0.5**
PSA00				IAmb	IAmb	23 00 08.9	
	comp=Z,62nm,1.5s						
SBUM	**Sibu**	**26.56**	**281**	P	**P**	**22 59 40.0**	**-1.4**
KSM	**Kuching**	**28.28**	**278**	P	**P**	**22 59 55.9**	**-1.0**
STKA	**Stephens Creek**	**29.22**	**174**	P	**P**	**23 00 05.8**	**+0.9**
STKA				IAmb	IAmb	23 01 11.1	
	comp=Z,44nm,0.9s						
STKA	**Stephens Creek**	**29.22**	**174**	P	**P**	**23 00 04.3**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=343,slow=17,SNR=6.3						
	comp=Z,1.5nm,0.6s						
STKA	**Stephens Creek**	**29.22**	**174**	P	**P**	**23 00 05.9**	**+0.9**
STKA				pmax	pmax		
	comp=Z,44nm,0.9s						
FORT	**Forrest**	**29.59**	**198**	P	**P**	**23 00 08.6**	**+0.3**
JCJ	**Chichijima**	**29.83**	**7**	LR	LR	23 11 04.5	
	comp=Z,384nm,19.0s,baz=160,slow=34						
BBOO	**Buckleboo**	**30.06**	**184**	P	**P**	**23 00 13.1**	**+0.7**
LEM	**Lembang**	**30.85**	**261**	LR	LR	23 16 15.0	
	comp=Z,383nm,18.1s,baz=117,slow=43						
JOW	**Kunigami**	**30.89**	**342**	LR	LR	23 11 24.4	
	comp=Z,569nm,19.9s,baz=142,slow=34						
NACB	**Ninganchiao**	**31.24**	**330**	P	**P**	**23 00 20.8**	**-2.1**
PMBI	**Palembang**	**33.49**	**269**	P	**P**	**23 00 43.0**	**+0.1**
MORW	**Morawa**	**33.73**	**217**	P	**P**	**23 00 44.5**	**-0.2**
MORW				IAmb	IAmb	23 00 47.5	
	comp=Z,42nm,1.4s						
KASI	**Kota Agung**	**33.83**	**264**	P	**P**	**23 00 45.1**	**-0.7**
MYKOM	**Kota Tinggi**	**34.72**	**277**	P	**P**	**23 00 53.4**	**-0.2**
MYKOM				IAmb	IAmb	23 00 56.3	
	comp=Z,50nm,1.1s						
QIZ	**Qiongzhong**	**35.33**	**309**	P	**P**	**23 00 57.3**	**-1.4**
QIZ				S	**S**	**23 06 35.1**	**+3.0**
QIZ				pmax	pmax		
	comp=Z,20nm,1.4s						
QIZ				LR	LR		
	comp=Z,170nm,12.5s						
QIZ				LR	LR		
	comp=Z,300nm,13.2s						
QIZ				LR	LR		
	comp=Z,360nm,17.0s						
JHJ	**Hachijo jima 2**	**35.62**	**2**	LR	LR	23 13 22.3	
	comp=Z,370nm,19.5s,baz=160,slow=33						
NWAO	**Narrogin (SRO)**	**36.00**	**211**	LR	LR	23 16 52.1	
	comp=Z,1μm,19.4s,baz=26,slow=38						
JNU	**Nakatsue**	**36.28**	**349**	P	**P**	**23 01 05.2**	**-1.5**
JNU	**Nakatsue**	**36.28**	**349**	LR	LR	23 15 45.2	
	comp=Z,565nm,19.1s,baz=172,slow=36						
JMN	**Monobe**	**36.44**	**354**	P	**P**	**23 01 07.0**	**-1.0**
JMN				IAmb	IAmb	23 01 09.4	
	comp=Z,63nm,1.2s						
BKNI	**Bangkinang**	**37.37**	**274**	P	**P**	**23 01 15.4**	**-0.8**
IPM	**Ipoh**	**37.91**	**281**	P	**P**	**23 01 20.4**	**-0.5**
IPM				IAmb	IAmb	23 01 22.6	
	comp=Z,25nm,1.0s						
KULM	**Kulim**	**38.43**	**282**	P	**P**	**23 01 24.4**	**-0.8**
KULM				IAmb	IAmb	23 01 26.8	
	comp=Z,35nm,1.1s						
GULI	**GuiLin**	**38.80**	**317**	P	**P**	**23 01 28.9**	**+0.7**
GULI				pmax	pmax		
	comp=Z,17nm,1.4s						
MJAR	**Matsushiro Arr**	**39.01**	**360**	P	**P**	**23 01 27.8**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=181,slow=8.5,SNR=5.4						
MJAR				LR	LR	23 16 39.0	
	comp=Z,292nm,18.3s,baz=171,slow=35						
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	**39.15**	**333**	⇑P	**P**	**23 01 31.8**	**+0.8**
NJ2				pP	**pP**	**23 01 35.3**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,26nm,0.8s						
NJ2				LR	LR		
	comp=Z,280nm,20.8s						
NJ2				LR	LR		
	comp=Z,440nm,22.7s						
NJ2				LR	LR		
	comp=Z,760nm,19.6s						
CNSH	**ChangSha**	**39.19**	**323**	P	**P**	**23 01 31.9**	**+0.6**
CNSH				S	**S**	**23 07 31.9**	**+1.3**
CNSH				pmax	pmax		
	comp=Z,26nm,1.2s						
CNSH				LR	LR		
	comp=Z,300nm,15.7s						
CNSH				LR	LR		
	comp=Z,340nm,18.7s						
CNSH				LR	LR		
	comp=Z,470nm,23.0s						
WHN	**Wuhan**	**40.16**	**327**	⇓P	**P**	**23 01 40.3**	**+0.9**
WHN				sP	**sP**	**23 01 47.3**	**-1.3**
WHN				pmax	pmax		
	comp=Z,78nm,1.0s						
WHN				LR	LR		
	comp=Z,850nm,16.0s						
JSD	**Sado**	**40.50**	**360**	P	**P**	**23 01 40.8**	**-1.3**
KSAR	**Wonju Array Be**	**41.06**	**347**		**P**	**23 01 46.3**	**-0.4**
KSAR	**Wonju Array Be**	**41.06**	**347**	P	**P**	**23 01 46.3**	**-0.4**
KSRS	**Korea Array**	**41.07**	**347**	P	**P**	**23 01 46.6**	**-0.1**
	comp=Z,12nm,1.0s,baz=163,slow=9.2,SNR=29						
	comp=Z,12nm,1.0s						
KS19	**Wonju Array Si**	**41.12**	**347**	P	**P**	**23 01 46.6**	**-0.6**
SLVN	**Son La**	**41.26**	**307**	P	**P**	**23 01 47.8**	**-0.9**
INCN	**Inchon**	**41.39**	**346**	P	**P**	**23 01 48.5**	**-1.0**
INCN				IAmb	IAmb	23 01 50.8	
	comp=Z,49nm,1.1s						
INCN	**Inchon**	**41.39**	**346**	P	**P**	**23 01 48.5**	**-1.0**
INCN				pmax	pmax		
	comp=Z,49nm,1.2s						
LHMI	**Lhok Sumawe**	**42.05**	**281**	P	**P**	**23 01 54.2**	**-1.0**
GYA	**Guiyang**	**42.10**	**315**	⇑P	**P**	**23 01 56.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,16nm,1.2s						
ENH	**Enshi**	**42.78**	**322**		**P**	**23 01 59.9**	**-1.0**
ENH				IAmb	IAmb	23 02 08.3	
	comp=Z,40nm,1.4s						
TIA	**Tai'an**	**43.44**	**335**	P	**P**	**23 02 05.3**	**-0.8**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
TIA				LR	LR		
	comp=Z,310nm,16.5s						
TIA				LR	LR		
	comp=Z,330nm,15.8s						
TIA				LR	LR		
	comp=Z,560nm,18.6s						
CM31	**Chiang Mai Arr**	**44.06**	**300**	P	**P**	**23 02 11.0**	**-0.5**
CM31				IAmb	IAmb	23 02 14.7	
	comp=Z,26nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.06**	**300**	P	**P**	**23 02 10.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.06**	**300**	P	**P**	**23 02 11.4**	**-0.1**
	comp=Z,12nm,1.0s,baz=115,slow=7.6,SNR=53						
CMAR				PcP	**PcP**	**23 03 56.2**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=122,slow=3.6,SNR=2.6						
CMAR				LR	LR	23 22 22.1	
	comp=Z,158nm,18.3s,baz=170,slow=39						
	comp=Z,12nm,1.0s						
KMI	**Kunming**	**44.18**	**311**	⇓P	**P**	**23 02 13.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,17nm,1.4s						
KMI				LR	LR		
	comp=Z,210nm,16.0s						
KMI				LR	LR		
	comp=Z,260nm,22.1s						
KMI				LR	LR		
	comp=Z,340nm,20.6s						
CHTO	**Chiang Mai**	**44.21**	**301**	P	**P**	**23 02 11.8**	**-0.8**
CHTO	**Chiang Mai**	**44.21**	**301**	P	**P**	**23 02 11.8**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,17nm,1.2s						
LYN	**LuoYang**	**44.27**	**329**	P	**P**	**23 02 12.9**	**0.0**
LYN				pmax	pmax		
	comp=Z,92nm,1.1s						
LYN				pmax	pmax		
	comp=Z,260nm,7.8s						
LYN				LR	LR		
	comp=Z,300nm,10.8s						
LYN				LR	LR		
	comp=Z,230nm,13.4s						
LYN				LR	LR		
	comp=Z,370nm,14.4s						
HNS	**HongShan**	**45.49**	**333**	⇓P	**P**	**23 02 21.9**	**-0.6**
HNS				S	**S**	**23 09 06.3**	**+3.1**
HNS				pmax	pmax		
	comp=Z,19nm,1.0s						
HNS				LR	LR		
	comp=Z,520nm,19.1s						
HNS				LR	LR		
	comp=Z,320nm,19.1s						
HNS				LR	LR		
	comp=Z,560nm,18.6s						
PZH	**PanZhiHua**	**45.69**	**312**	P	**P**	**23 02 23.6**	**-0.9**
XAN	**Xi'an**	**45.81**	**325**	⇓P	**P**	**23 02 25.0**	**-0.2**
XAN				pP	sP	23 02 33.4	-1.0
XAN				pmax	pmax		
	comp=Z,54nm,0.5s						
ASAJ	**Asahikawa**	**46.73**	**4**	P	**P**	**23 02 31.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,42nm,1.3s						
JKA	**Kamikawa-asahi**	**46.73**	**4**	P	**P**	**23 02 31.9**	**-0.3**
JKA				IAmb	IAmb	23 02 34.8	
	comp=Z,42nm,1.3s						
CD2	**Chengdu**	**46.88**	**318**	P	**P**	**23 02 33.9**	**+0.3**
CD2				S	**S**	**23 09 25.5**	**+2.0**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				LR	LR		
	comp=Z,430nm,12.9s						
CD2				LR	LR		
	comp=Z,400nm,17.2s						
USRK	**Ussuriysk Ar.**	**47.00**	**354**	P	**P**	**23 02 33.7**	**-0.5**
	comp=Z,12nm,1.0s,baz=169,slow=8.5,SNR=12						
	comp=Z,12nm,1.0s						
BJT	**Baijiatuau**	**47.08**	**337**		**P**	**23 02 33.5**	**-1.5**
BJT				IAmb	IAmb	23 02 36.9	
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**47.08**	**337**	P	**P**	**23 02 33.5**	**-1.5**
BJT				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**47.09**	**337**	P	**P**	**23 02 33.9**	**-1.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJI				LR	LR		
	comp=Z,190nm,16.9s						
BJI				LR	LR		
	comp=Z,170nm,19.3s						
BJI				LR	LR		
	comp=Z,260nm,19.8s						
TNCH	**TengChong**	**47.39**	**308**	P	**P**	**23 02 39.9**	**+2.0**
TNCH				pP	pP	23 02 42.8	-1.8
TNCH				S	**S**	**23 09 33.1**	**+1.8**
TNCH				pmax	pmax		
	comp=Z,38nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,150nm,4.6s						
TNCH				LR	LR		
	comp=Z,190nm,7.3s						
TNCH				LR	LR		
	comp=Z,220nm,7.6s						
TNCH				LR	LR		
	comp=Z,190nm,17.3s						
CN2	**Changchun**	**47.68**	**347**	*e*P	P	23 02 44.8	+5.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**47.72**	**352**	P	**P**	**23 02 40.4**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,27nm,0.8s						
MDJ	**Mudanjiang**	**47.72**	**352**		**P**	**23 02 39.2**	**-0.6**
MDJ				IAmb	IAmb	23 02 41.4	
	comp=Z,28nm,1.1s						
BNX	**BinXian**	**49.16**	**350**	⇓P	**P**	**23 02 50.5**	**-0.5**
BNX				pmax	pmax		
	comp=Z,31nm,1.0s						
YSS	**Yuzhno-Sakhali**	**49.57**	**4**	*e*P	**P**	**23 02 53.7**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
HHC	**Hu-ho-hao-te**	**49.71**	**333**	⇓*i*P	**P**	**23 02 58.4**	**+3.0**
HHC				pP	sP	23 03 04.1	-0.6
HHC				S	**S**	**23 10 01.8**	**-1.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
HHC				LR	LR		
	comp=Z,350nm,16.8s						
HHC				LR	LR		
	comp=Z,250nm,12.6s						
HHC				LR	LR		
	comp=Z,430nm,16.0s						
URZ	**Urewera**	**50.11**	**140**	LR	LR	23 25 47.0	
	comp=Z,342nm,18.2s,baz=312,slow=38						
TUWZ	**Tuamarina**	**50.14**	**145**	P	**P**	**23 03 00.5**	**+2.0**
LZDM	**Lanzhou Array**	**50.20**	**323**	P	**P**	**23 02 59.8**	**+0.3**
	comp=Z,8.1nm,0.8s,baz=116,slow=9.9,SNR=12						
LZDM				LR	LR	23 24 14.0	
	comp=Z,214nm,19.4s,baz=35,slow=36						
	comp=Z,8.1nm,0.8s						
LZH	**Lanzhou**	**50.20**	**323**	*e*P	**P**	**23 02 59.8**	**+0.5**
LZH				sP	pP	23 03 06.8	+0.8
LZH				pmax	pmax		
	comp=Z,57nm,1.1s						
LZH				LR	LR		
	comp=Z,320nm,16.8s						
LZH				LR	LR		
	comp=Z,420nm,16.8s						
LZH				LR	LR		
	comp=Z,500nm,18.3s						
BTO	**Baotou**	**50.22**	**332**	*e*P	**P**	**23 03 00.6**	**+1.3**
BTO				S	**S**	**23 10 08.4**	**-2.2**
BTO				sS	sS	23 10 29.6	+8.1
BTO				pmax	pmax		
	comp=Z,24nm,1.0s						
BTO				pmax	pmax		
	comp=Z,570nm,7.6s						
BTO				LR	LR		
	comp=Z,1μm,18.3s						
BTO				LR	LR		
	comp=Z,710nm,15.2s						
BTO				LR	LR		
	comp=Z,1μm,18.6s	

LSA IAmb IAmb 23 03 40.3
comp=Z,20nm,1.2s
LSA Lhasa 55.37 309 P **P** **23 03 38.1 +0.1**
LSA pmax pmax
comp=Z,20nm,1.2s
GOMU GeErMu 56.01 318 P **P** **23 03 42.8 +0.4**
GOMU pP pP 23 03 46.5 -2.6
GOMU sP sP 23 03 50.8 -0.9
GOMU S **S** **23 11 34.5 +4.4**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,110nm,14.4s
GOMU LR LR
comp=Z,230nm,14.0s
GOMU LR LR
comp=Z,190nm,14.9s
ZEA Zeya 56.96 352 *e*P **P** **23 03 48.6 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA pmax pmax
comp=Z,200nm,7.3s
ULN Ulaanbaatar 57.26 335 P **P** **23 03 50.0 -0.8**
ULN Ulaanbaatar 57.26 335*ce*P **P** **23 03 50.8 0.0**
ULN pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 57.51 335 P **P** **23 03 52.1 -0.4**
SONM Songino Array 57.51 335 P **P** **23 03 52.4 -0.1**
comp=Z,6.1nm,1.0s,baz=153,slow=7.9,SNR=13
SONM LR LR 23 28 52.8
comp=Z,583nm,19.4s,baz=134,slow=36
comp=Z,6.1nm,1.0s
PETK Petropavlovsk- 57.92 14 P **P** **23 03 54.5 -0.6**
PETK Petropavlovsk- 57.92 14 P **P** **23 03 54.9 -0.2**
comp=Z,14nm,1.1s,baz=202,slow=6.9,SNR=5.0
PETK LR LR 23 26 57.0
comp=Z,134nm,20.9s,baz=195,slow=34
comp=Z,14nm,1.1s
PET Petropavlovsk 58.07 14 *i*P **P** **23 03 56.8 +0.7**
EVN Everest 58.08 305 P **P** **23 03 56.8 -0.7**
EVN IAmb IAmb 23 03 59.8
comp=Z,25nm,0.8s
CIT Chita 58.38 342 *e*P **P** **23 03 59.0 +0.5**
CIT *e* 23 04 12.8
CIT *e* 23 04 47.0
CIT pmax pmax
comp=Z,99nm,1.6s
ZAK Zakamensk 60.78 335 *e*P **P** **23 04 14.1 -1.0**
ZAK pmax pmax
comp=Z,44nm,1.3s
TLY Talaya 61.61 336 P **P** **23 04 20.1 -0.6**
TLY IAmb IAmb 23 04 28.5
comp=Z,20nm,1.1s
TLY Talaya 61.61 336*ce*P **P** **23 04 22.1 +1.5**
TLY pmax pmax
comp=Z,26nm,1.7s
HYB Hyderabad 62.18 291 *e*P **P** **23 04 23.8 -1.3**
HYB IVmB_BB 23 04 24.4
comp=Z,201nm,1.9s
HYB *e*pP **pP** **23 04 30.3 -1.6**
HYB *e*PP **PP** **23 06 41.5 -0.6**
HYB *e*S **S** **23 12 44.5 -5.4**
HYB IVMs_BB IVMs_BB 23 33 03.1
comp=Z,296nm,4.0s
MOY Mondy 62.70 335 *e*P **P** **23 04 28.7 +0.7**
MOY pmax pmax
comp=Z,47nm,1.6s
MA2 Magadan 62.83 7 LR LR 23 31 48.0
comp=Z,72nm,19.1s,baz=133,slow=36
MA2 Magadan 62.83 7*ce*P **P** **23 04 30.1 +1.5**
MA2 pmax pmax
comp=Z,24nm,1.1s
SHEM Shemya Is, Ala 62.87 24 LR LR 23 27 42.1
comp=Z,246nm,20.5s,baz=284,slow=32
RAR Rarotonga 62.92 112 LR LR 23 29 50.5
comp=Z,85nm,21.6s,baz=282,slow=34
WMQ Urumqi 64.72 322 *e*P **P** **23 04 42.5 +1.0**
WMQ pP pP 23 04 47.8 -0.5
WMQ pmax pmax
comp=Z,47nm,0.9s
YAK Yakutsk 64.86 356 P **P** **23 04 41.2 -0.7**
YAK Yakutsk 64.86 356 LR LR 23 31 45.4
comp=Z,286nm,19.1s,baz=170,slow=35
YAK Yakutsk 64.86 356 *e*P **P** **23 04 41.0 -0.9**
YAK *e**PP **sP** **23 04 51.9 +0.7**
YAK *e* 23 05 13.1
YAK *e* 23 07 03.2
YAK *e*PPP PPP 23 08 35.3
YAK *e*S **S** **23 13 19.5 -2.2**
YAK *e**SS **sS** **23 13 38.4 +5.5**
YAK *e* 23 14 31.6
YAK *e*SS **SS** **23 17 31.9 -1.7**
YAK pmax pmax
comp=Z,69nm,1.2s
YAK pmax pmax
comp=N,34nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,117nm,3.3s
YAK pmax pmax
comp=N,167nm,3.1s
YAK pmax pmax
comp=E,179nm,4.0s
YAK smax smax
comp=E,183nm,4.8s
YAK smax smax
comp=N,199nm,4.3s
SEY Seymchan 66.29 7 LR LR 23 31 21.2
comp=N,120nm,21.7s,baz=190,slow=34
CASY Casey 66.43 192 P **P** **23 04 53.2 +1.2**
CASY IAmb IAmb 23 05 02.0
comp=Z,11nm,1.0s
ZSN Zaisan 68.29 324 *e*P **P** **23 05 04.5 +0.3**
comp=Z,11nm,1.0s
ZSN Zaisan 68.29 324 *e*P **P** **23 05 04.4 +0.3**
ZSN pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 69.51 323 *i*P **P** **23 05 12.4 +0.6**
MKAR Makanchi Array 69.51 323 P **P** **23 05 11.4 -0.4**
MKAR Makanchi Array 69.51 323 P **P** **23 05 11.9 +0.2**
comp=Z,24nm,0.7s,baz=113,slow=7.0,SNR=112
MKAR LR LR 23 37 43.8
comp=Z,116nm,19.1s,baz=110,slow=38
comp=Z,24nm,0.7s
MAKZ Makanchi 69.70 322 P **P** **23 05 12.7 -0.3**
MAKZ Makanchi 69.70 322 P **P** **23 05 12.7 -0.3**
MAKZ pmax pmax
comp=Z,50nm,0.9s
SHLS Shalkode 69.71 318⇓*i*P **P** **23 05 11.7 -1.5**
comp=Z,12nm,1.0s
SHLS Shalkode 69.71 318*d i*P **P** **23 05 11.6 -1.6**
SHLS pmax pmax
comp=Z,12nm,1.0s
PRZ Przheval'sk 70.16 317 P **P** **23 05 15.8 -0.2**
PRZ Przheval'sk 70.16 317 P **P** **23 05 15.8 -0.2**
PRZ pmax pmax
comp=Z,73nm,1.1s
TARG Taragay, Kyrgy 70.27 316 P **P** **23 05 16.7 -0.4**
TARG IAmb IAmb 23 05 28.9
comp=Z,24nm,1.1s
TARG Taragay, Kyrgy 70.27 316 P **P** **23 05 16.7 -0.4**
TARG pmax pmax
comp=Z,24nm,1.1s
SATY Saty 70.38 318⇓*i*P **P** **23 05 17.6 +0.2**
comp=Z,8.9nm,1.0s
SATY Saty 70.38 318*d i*P **P** **23 05 17.5 +0.2**
SATY pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 70.76 313 P **P** **23 05 21.3 +1.6**
KSH pP pP 23 05 27.3 +0.7
KSH pmax pmax
comp=Z,22nm,1.1s
NIKH Nikolski High 70.85 31 P **P** **23 05 20.1 +0.3**
baz=237
NIL Nilore 70.97 307 **P** **23 05 20.3 -0.7**
NIL IAmb IAmb 23 05 26.8
comp=Z,54nm,1.9s
NIL Nilore 70.97 307 P **P** **23 05 20.3 -0.7**
NIL pmax pmax
comp=Z,54nm,1.9s
TDK Taldyqorghan 71.16 320⇓*i*P **P** **23 05 22.3 +0.3**
comp=Z,12nm,0.8s
TDK Taldyqorghan 71.16 320*d i*P **P** **23 05 22.2 +0.3**
TDK pmax pmax
comp=Z,12nm,0.8s

MDOK Medeo 71.33 317 *e*P **P** **23 05 23.6 +0.3**
MDOK Medeo 71.33 317 *e*P **P** **23 05 23.5 +0.3**
TNSS Tian-Shan 71.36 317 *e*P **P** **23 05 23.5 -0.1**
TNSS Tian-Shan 71.36 317 *e*P **P** **23 05 23.5 -0.1**
AAA Alma-Ata 71.44 317 *e*P **P** **23 05 24.1 +0.4**
comp=Z,7.5nm,0.6s
AAA Alma-Ata 71.44 317 *e*P **P** **23 05 24.1 +0.4**
AAA pmax pmax
comp=Z,7.0nm,0.6s
ZAA0 Zalesovo Array 71.69 330 P **P** **23 05 23.6 -1.3**
ZAA0 IAmb IAmb 23 05 25.1
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 71.69 330 P **P** **23 05 23.4 -1.5**
ZALV Zalesovo Beam 71.69 330 P **P** **23 05 23.8 -1.1**
comp=Z,7.1nm,0.6s,baz=114,slow=6.3,SNR=32
ZALV LR LR 23 38 13.4
comp=Z,86nm,18.3s,baz=112,slow=37
comp=Z,7.1nm,0.6s
ZALV Zalesovo Beam 71.69 330 *i*P **P** **23 05 24.0 -0.9**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
PPT Papeete 72.16 107 LR LR 23 34 39.7
comp=Z,66nm,19.6s,baz=327,slow=34
PPT2 Papeete2 72.16 108 *e*LQ LQ 23 24 28.0
PPT2 comp=Z,661nm,34.5s
PPT2 comp=Z,223nm,25.5s *e*LR LR 23 27 27.7
PPT2 comp=Z,333nm,24.5s *e*LR LR 23 27 29.2
TKM2 Tokmak 2 72.23 317 P **P** **23 05 29.1 +0.4**
SNR=21
UNV Unalaska Valle 72.51 31 P **P** **23 05 29.8 +0.1**
baz=239
P08K Saint George I 72.52 27 P **P** **23 05 30.5 +0.8**
baz=236
SPIA Saint Paul Isl 72.53 27 P **P** **23 05 30.2 +0.4**
baz=235
KBK Karagaybulak 72.58 316 P **P** **23 05 31.8 +1.1**
SNR=11
TBI Tubuai 72.65 114 *e*LQ LQ 23 24 40.9
TBI comp=Z,3μm,37.2s
TBI comp=Z,771nm,23.5s *e*LR LR 23 27 54.0
AAK Ala-Archa 72.89 316 P **P** **23 05 32.0 -0.5**
AAK IAmb IAmb 23 05 40.4
comp=Z,36nm,1.2s
AAK Ala-Archa 72.89 316 P **P** **23 05 33.1 +0.5**
SNR=10
AAK Ala-Archa 72.89 316*ce*P **P** **23 05 33.0 +0.5**
AAK pmax pmax
comp=Z,18nm,1.3s
USP Ospenovka 73.11 317 P **P** **23 05 33.7 0.0**
SNR=48
BILL Bilibino 73.20 11 P **P** **23 05 32.6 -1.0**
BILL IAmb IAmb 23 05 34.0
comp=Z,39nm,1.6s
BILL Bilibino 73.20 11*ce*P **P** **23 05 33.9 +0.3**
BILL pmax pmax
comp=Z,17nm,1.3s
EKS2 Erkin-Say 73.40 316 P **P** **23 05 36.2 +0.7**
SNR=20
KURK Kurchatov 73.45 325 P **P** **23 05 34.7 -0.7**
KURK IAmb IAmb 23 05 42.5
comp=Z,32nm,1.1s
KURK Kurchatov 73.45 325*ce*P **P** **23 05 35.3 -0.1**
KURK pmax pmax
comp=Z,38nm,1.2s
KURBB Kurchatov Arra 73.46 325 P **P** **23 05 34.7 -0.8**
comp=Z,19nm,1.0s,baz=114,slow=5.5,SNR=58
KURBB PP **PP** **23 08 15.2 -4.2**
comp=Z,3.7nm,1.2s,baz=117,slow=10,SNR=4.1
comp=Z,19nm,1.0s
DRK Karamyk 73.80 312 P **P** **23 05 38.2 +0.1**
DRK IAmb IAmb 23 05 42.1
comp=Z,34nm,1.4s
DRK Karamyk 73.80 312 P **P** **23 05 38.3 +0.1**
DRK pmax pmax
comp=Z,34nm,1.4s
TIXI Tiksi 74.44 357 P **P** **23 05 39.5 -1.2**
TIXI IAmb IAmb 23 05 43.6
comp=Z,13nm,0.8s
TIXI Tiksi 74.44 357 LR LR 23 38 02.5
comp=Z,247nm,19.5s,baz=202,slow=36
TIXI Tiksi 74.44 357*ce*P **P** **23 05 40.6 -0.2**
TIXI pmax pmax
comp=Z,24nm,1.3s
KBL Kabul 74.58 307 P **P** **23 05 41.2 -1.5**
KBL Kabul 74.58 307 P **P** **23 05 41.2 -1.5**
KBL pmax pmax
comp=Z,6.0nm,1.1s
FALS False Pass 74.58 31 P **P** **23 05 42.5 +0.6**
baz=242
GAR Garm 74.76 312 P **P** **23 05 43.0 -0.5**
DZA Taraz 75.17 316 *e*P **P** **23 05 45.1 -0.6**
comp=Z,7.7nm,0.9s
DZA Taraz 75.17 316 *e*P **P** **23 05 45.9 +0.2**
DZA pmax pmax
comp=Z,8.0nm,0.9s
CHGR Chuyangaron 75.54 311 P **P** **23 05 47.1 -0.9**
CHGR IAmb IAmb 23 05 51.4
comp=Z,44nm,1.0s
CHGR Chuyangaron 75.54 311 P **P** **23 05 47.1 -0.9**
CHGR pmax pmax
comp=Z,44nm,1.0s
S12K Black Hills 75.66 30 P **P** **23 05 47.4 -0.8**
S12K Black Hills 75.66 30 P **P** **23 05 48.5 +0.3**
baz=243
KK31 Karatay Array 75.81 316 P **P** **23 05 48.6 -0.8**
KK31 IAmb IAmb 23 05 56.7
comp=Z,22nm,1.1s
KK31 Karatay Array 75.81 316 P **P** **23 05 48.6 -0.8**
KK31 pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 75.81 316 P **P** **23 05 48.4 -0.9**
KKAR Karatay Array 75.81 316 P **P** **23 05 48.4 -0.9**
VNDA Vanda 75.86 175 P **P** **23 05 49.2 +0.3**
VNDA Vanda 75.86 175 P **P** **23 05 49.3 +0.3**
comp=Z,3.3nm,0.6s,baz=326,slow=7.8,SNR=35
VNDA LR LR 23 39 48.1
comp=Z,424nm,18.1s,baz=344,slow=36
comp=Z,3.3nm,0.6s
IUG Iuzhnay 75.87 315 *e*P **P** **23 05 50.1 +0.2**
comp=Z,9.4nm,0.9s
IUG Iuzhnay 75.87 315 *e*P **P** **23 05 50.0 +0.2**
IUG pmax pmax
comp=Z,9.0nm,0.9s
GAMB Gambell 75.89 21 P **P** **23 05 49.4 +0.1**
baz=232
M11K Mekoryuk 76.06 25 P **P** **23 05 51.0 +0.7**
baz=238
BRLS Borolday 76.26 315⇓*i*P **P** **23 05 52.3 +0.3**
comp=Z,7.7nm,1.0s
BRLS Borolday 76.26 315*d i*P **P** **23 05 52.2 +0.3**
BRLS pmax pmax
comp=Z,8.0nm,1.0s
SDPT Sand Point 76.31 31 P **P** **23 05 52.2 +0.4**
baz=244
CHNA Chernabura Isl 76.55 32 P **P** **23 05 54.2 +1.0**
baz=245
SBA Scott Base 76.63 174 P **P** **23 05 54.3 +1.0**
SBA Scott Base 76.63 174 P **P** **23 05 54.3 +1.0**
SBA pmax pmax
comp=Z,16nm,1.5s
BRZS Berezniki 76.65 323 *e*P **P** **23 05 54.1 +0.2**
BRZS Berezniki 76.65 323 *e*P **P** **23 05 54.1 +0.2**
M13K Dall Lake 77.29 26 P **P** **23 05 58.6 +1.3**
baz=241
K13K Kusilvak Mount 77.51 24 P **P** **23 05 58.9 +0.4**
K13K IAmb IAmb 23 06 01.1
comp=Z,50nm,1.2s
K13K Kusilvak Mount 77.51 24 P **P** **23 05 59.3 +0.8**
baz=239,SNR=6.0
O14K Tigyukauivet M 77.67 27 P **P** **23 06 00.3 +0.9**
baz=243
N14K Kuskokwak Cree 77.79 27 P **P** **23 06 00.6 +0.6**
baz=242
L14K Kuka Creek 78.03 25 P **P** **23 06 01.9 +0.5**
L14K Kuka Creek 78.03 25 P **P** **23 06 01.7 +0.4**
baz=241,SNR=17
M14K Bethel 78.06 26 P **P** **23 06 02.2 +0.6**
M14K IAmb IAmb 23 06 03.4
comp=Z,37nm,0.9s
M14K Bethel 78.06 26 P **P** **23 06 02.1 +0.6**
baz=242,SNR=6.8
O15K Ungalikthiuk R 78.30 28 P **P** **23 06 03.3 +0.4**
baz=244

M15K Kasigluk River 78.59 26 P **P** **23 06 05.1 +0.6**
baz=243
ANM Nome 78.61 22 P **P** **23 06 05.1 +0.5**
baz=238
N15K Kwethluk River 78.61 27 P **P** **23 06 05.4 +0.7**
baz=244
L15K Ungalak Mounta 78.70 25 P **P** **23 06 05.5 +0.4**
baz=242
R16K Pilot Point 78.70 30 P **P** **23 06 05.8 +0.7**
baz=246
F14K Arctic Creek 78.76 20 P **P** **23 06 06.0 +0.7**
baz=237
K15K Wolf Creek Mou 78.97 24 P **P** **23 06 07.2 +0.6**
baz=242
CHIR Chirikof Islan 79.02 32 P **P** **23 06 07.7 +0.7**
baz=248
BVAR Borovoye Array 79.04 325 P **P** **23 06 06.6 -0.6**
comp=Z,23nm,0.8s,baz=112,slow=6.4,SNR=86
BVAR LR LR 23 43 41.3
comp=Z,108nm,18.7s,baz=104,slow=38
comp=Z,23nm,0.8s
BORK Borovoye 79.09 325*ce*P **P** **23 06 06.7 -0.7**
BORK pmax pmax
comp=Z,32nm,0.9s
O16K Kokwok River B 79.28 28 P **P** **23 06 08.9 +0.6**
baz=246
G15K Niukluk 79.32 21 P **P** **23 06 08.9 +0.4**
baz=239
R17L Mt. Peulik Vol 79.33 30 P **P** **23 06 09.4 +0.7**
baz=248
N16K Nishlik Lake 79.34 27 P **P** **23 06 09.3 +0.7**
baz=245
F15K North Star Dit 79.48 21 P **P** **23 06 09.8 +0.5**
baz=238
M16K Timber Creek 79.49 26 P **P** **23 06 09.5 0.0**
M16K Timber Creek 79.49 26 P **P** **23 06 09.7 +0.2**
baz=245,SNR=7.4
L16K Owhat River 79.57 25 P **P** **23 06 10.2 +0.4**
baz=244
Q17K Contact Creek 79.80 29 P **P** **23 06 11.3 -0.1**
baz=248
J16K Anvik River 79.81 24 P **P** **23 06 11.6 +0.5**
baz=243
H16K Elim 79.81 22 P **P** **23 06 11.5 +0.4**
baz=241
O17K Koliganek Bris 79.81 28 P **P** **23 06 11.7 +0.5**
baz=246
P17K Kvichak River 79.89 28 P **P** **23 06 12.1 +0.5**
baz=247
HRA Herat 80.03 305 **P** **23 06 13.0 -0.2**
SII Sitkinak Islan 80.04 31 P **P** **23 06 13.1 +0.6**
baz=250
I17K Unalakleet 80.05 23 P **P** **23 06 13.0 +0.6**
baz=242
N17K Nushagak Hills 80.08 27 **P** **23 06 12.9 +0.2**
N17K IAmb IAmb 23 06 16.1
comp=Z,48nm,1.4s
N17K Nushagak Hills 80.08 27 P **P** **23 06 13.8 +1.2**
baz=246
G16K Koyuk River 80.14 21 P **P** **23 06 14.0 +1.2**
baz=241
L17K Donlin 80.25 25 P **P** **23 06 14.5 +0.9**
baz=245,SNR=6.3
R18K Karluk 80.26 30 P **P** **23 06 14.5 +0.9**
baz=249
M17K Holitna River 80.32 26 P **P** **23 06 14.9 +1.0**
baz=246,SNR=8.2
Q18K Katmai Hardscr 80.37 29 P **P** **23 06 14.6 +0.1**
baz=248
J17K VABM Dome 80.47 24 P **P** **23 06 15.3 +0.6**
baz=244
K17K Iditarod 80.50 25 P **P** **23 06 15.7 +0.8**
baz=245,SNR=9.9
P18K Big Mountain, 80.54 28 P **P** **23 06 15.9 +0.6**
baz=248
C16K Lisburne Hills 80.61 18 P **P** **23 06 16.1 +0.8**
baz=238
N18K Kilae Creek 80.72 27 P **P** **23 06 16.8 +0.6**
baz=247
O18K Koktuh Hills 80.72 28 P **P** **23 06 16.5 +0.4**
baz=248
OHAK Old Harbor 80.73 31 P **P** **23 06 16.8 +0.6**
baz=250
G17K Kiwalik Mounta 80.82 22 P **P** **23 06 17.6 +1.0**
baz=242
H17K Granite Mounta 80.83 22 **P** **23 06 16.9 +0.3**
H17K IAmb IAmb 23 06 20.0
comp=Z,25nm,1.1s
H17K Granite Mounta 80.83 22 P **P** **23 06 17.4 +0.8**
baz=243
L18K Granite Mounta 80.98 25 P **P** **23 06 18.3 +0.9**
baz=246,SNR=8.0
D17K Noatak River 81.04 19 P **P** **23 06 18.5 +0.9**
baz=240
F17K Baldwin Pennin 81.05 21 P **P** **23 06 18.3 +0.6**
baz=242
M18K Stony River 81.07 26 P **P** **23 06 18.7 +0.8**
baz=247,SNR=7.7
Q19K Cape Douglas, 81.14 29 P **P** **23 06 19.2 +0.8**
baz=250
E17K Hotham Inlet 81.15 20 P **P** **23 06 19.1 +0.8**
baz=241
TAOE Nuku Hiva Isla 81.25 98 *e*LR LR 23 31 39.3
comp=Z,359nm,22.2s
O19K Port Alsworth 81.27 28 P **P** **23 06 19.7 +0.8**
baz=249
RDOG Red Dog Mine 81.27 19 P **P** **23 06 18.9 0.0**
RDOG IAmb IAmb 23 06 21.2
comp=Z,34nm,1.2s
RDOG Red Dog Mine 81.27 19 P **P** **23 06 19.7 +0.8**
baz=240
KDAK Kodiak Island 81.28 30 P **P** **23 06 19.4 +0.3**
KDAK Kodiak Island 81.28 30 LR LR 23 39 17.8
comp=Z,297nm,19.3s,baz=234,slow=33
KDAK Kodiak Island 81.28 30 P **P** **23 06 19.4 +0.3**
KDAK pmax pmax
comp=Z,72nm,1.5s
KDAK Kodiak Island 81.28 30 P **P** **23 06 19.6 +0.5**
baz=251
C17K DeLong Mountai 81.40 19 P **P** **23 06 20.0 +0.3**
baz=240
N19K Bonanza Creek 81.41 27 P **P** **23 06 20.2 +0.2**
baz=249,SNR=9.3
H18K Honhosa River 81.52 22 P **P** **23 06 20.9 +0.6**
baz=244
P19K Oil Pt 81.59 29 P **P** **23 06 21.3 +0.5**
baz=250
Q20K Shuyak Island 81.64 30 P **P** **23 06 21.3 +0.2**
baz=251
F18K Selawik 81.69 21 P **P** **23 06 21.9 +0.8**
baz=243
G18K Tagagawik 81.73 22 P **P** **23 06 21.9 +0.5**
baz=244
E18K Tukpahlearik C 81.73 20 P **P** **23 06 21.8 +0.5**
baz=242
L19K White Mountain 81.75 26 P **P** **23 06 21.6 0.0**
baz=248
M19K Big River Lodg 81.85 26 P **P** **23 06 22.7 +0.6**
baz=249
GCSA Galena City Sc 81.92 23 P **P** **23 06 22.8 +0.5**
baz=246
MAW Mawson 82.01 202 P **P** **23 06 23.3 +0.5**
comp=Z,3.6nm,0.8s,baz=68,slow=7.6,SNR=9.2
MAW LR LR 23 41 00.8
comp=Z,122nm,18.9s,baz=65,slow=34
comp=Z,3.6nm,0.8s
O20K Slope Mountain 82.02 28 P **P** **23 06 23.5 +0.4**
baz=250
C18K Utukok River 82.12 19 P **P** **23 06 23.8 +0.4**
baz=241
J19K Poorman 82.12 24 P **P** **23 06 23.9 +0.4**
baz=247
B18K Kokolik River 82.28 18 P **P** **23 06 24.9 +0.7**
baz=241
L20K Farewell, AK 82.29 26 P **P** **23 06 24.3 -0.1**
baz=249
M20K Styx River 82.40 26 P **P** **23 06 25.4 +0.3**
baz=250
H19K Roundabout Mou 82.41 22 P **P** **23 06 25.2 +0.3**
baz=246
F19K Shaleruckik Mo 82.46 21 P **P** **23 06 25.7 +0.6**
baz=245
K20K Telida 82.52 25 P **P** **23 06 26.5 +0.9**
baz=249,SNR=8.9
SPCR Spurr Chakacha 82.59 27 P **P** **23 06 26.4 +0.3**
baz=251
J20K Nowinta River 82.79 24 P **P** **23 06 27.9 +0.9**
baz=249

C19K	Lookout Ridge	82.85	19	P	P	23 06 28.3 +1.0
	baz=243					
I20K	Naaghedeneel	82.89	23	P	P	23 06 28.7 +1.3
	baz=248					
A19K	Wainwright	82.91	17	P	P	23 06 28.3 +0.9
	baz=241					
E19K	Redstone River	82.92	21	P	P	23 06 28.5 +0.9
	baz=245					
H20K	Anotleneega Mo	82.99	23	P	P	23 06 29.0 +1.0
	baz=248					
D19K	Kuna River	83.06	19	P	P	23 06 29.1 +0.8
	baz=244					
SKT	Skwentna	83.15	27		P	23 06 28.0 -0.9
SKT				IAmb	IAmb	23 06 30.0
	comp=Z,27nm,1.4s					
SKT	Skwentna	83.15	27	P	P	23 06 29.6 +0.7
	baz=251					
PPLA	Purkeypile	83.16	26	P	P	23 06 29.7 +0.6
	baz=250					
F20K	Avaraart Lake	83.28	21	P	P	23 06 30.4 +1.0
	baz=247					
SLKM	Skilak Lake	83.29	28		P	23 06 29.4 -0.2
CHUM	Lake Minchumin	83.44	25	P	P	23 06 30.4 +0.1
	baz=250,SNR=14					
O22K	Cooper Landing	83.52	28	P	P	23 06 31.2 +0.4
	baz=253					
SEW	Seward	83.54	29	P	P	23 06 31.2 +0.3
	baz=253					
E20K	Nigu River	83.61	20	P	P	23 06 32.0 +0.9
	baz=246					
IMAR	Indian Mountai	83.61	22	P	P	23 06 31.1 0.0
D20K	Etivluk River	83.65	19	P	P	23 06 32.5 +1.1
	baz=246					
RC01	Rabbit Creek A	83.69	28	P	P	23 06 31.9 +0.2
	baz=253					
M22K	Willow	83.71	27	P	P	23 06 32.4 +0.7
	baz=252					
CUT	Chulitna	83.85	26	P	P	23 06 33.2 +0.8
	baz=252					
H21K	Melozitna Rive	83.86	23	P	P	23 06 33.0 +0.5
	baz=250					
G21K	Allakaket	83.90	22	P	P	23 06 32.7 +0.1
	baz=249					
KTH	Kantishna Hill	83.92	25		P	23 06 32.9 0.0
KTH				IAmb	IAmb	23 06 34.6
	comp=Z,32nm,1.3s					
UOSS	Minazif	83.95	295	P	P	23 06 34.6 +0.7
UOSS				IAmb	IAmb	23 06 39.2
	comp=Z,14nm,1.4s					
B20K	Meade River	84.02	18	P	P	23 06 33.3 +0.2
	baz=245					
I21K	Tanana	84.02	23	P	P	23 06 34.0 +0.8
	baz=250					
BPAW	Bear Paw Mtn.	84.07	25	P	P	23 06 34.5 +0.9
	baz=252					
PMR	Palmer	84.12	27	P	P	23 06 33.8 0.0
PMR	Palmer	84.12	27	P	P	23 06 33.8 0.0
PMR				pmax	pmax	
	comp=Z,41nm,1.4s					
PMR	Palmer	84.12	27	P	P	23 06 34.8 +1.0
	baz=253					
TRF	Thorofare Moun	84.16	25	P	P	23 06 34.4 +0.2
	baz=252,SNR=6.7					
F21K	Alatna River	84.16	21	P	P	23 06 34.8 +0.8
	baz=249					
PWL	Port Wells	84.28	28	P	P	23 06 34.8 +0.1
	baz=254					
KNK	Knik Glacier	84.38	28	P	P	23 06 35.3 +0.1
KNK	Knik Glacier	84.38	28	P	P	23 06 35.5 +0.3
	baz=254,SNR=7.3					
AB31	Akbulak array	84.42	320		P	23 06 34.8 -0.9
AB31				IAmb	IAmb	23 06 38.9
	comp=Z,22nm,1.1s					
ABKAR	Akbulak array	84.42	320		P	23 06 35.1 -0.6
C21K	Knifeblade Rid	84.43	19	P	P	23 06 35.9 +0.6
	baz=247					
E21K	Killik River	84.44	20	P	P	23 06 35.6 +0.3
	baz=248					
MLY	Manley	84.47	24		P	23 06 35.5 -0.1
MLY				IAmb	IAmb	23 06 38.9
	comp=Z,27nm,1.4s					
MLY	Manley	84.47	24	P	P	23 06 35.6 -0.1
	baz=252,SNR=7.7					
H22K	Ishtalitna Cre	84.49	23	P	P	23 06 36.4 +0.7
	baz=251					
P23K	Montague Islan	84.50	29	P	P	23 06 36.3 +0.6
	baz=255					
SML	Sawmill	84.54	27	P	P	23 06 35.8 -0.3
	baz=254,SNR=9.5					
B21K	Ikpikpuk River	84.67	19	P	P	23 06 36.8 +0.4
	baz=248					
WAT1	Susitna Watana	84.73	26	P	P	23 06 36.4 -0.6
	baz=254					
F22K	John River	84.73	21	P	P	23 06 36.7 -0.2
	baz=250					
RND	Reindeer	84.76	26	P	P	23 06 36.0 -1.2
RND	Reindeer	84.76	26	P	P	23 06 36.0 -1.2
RND				pmax	pmax	
	comp=Z,30nm,1.0s					
G22K	Bettles	84.78	22	P	P	23 06 36.7 -0.3
	baz=251					
M23K	Glacier View	84.82	27	P	P	23 06 36.8 -0.6
	baz=255					
MCK	McKinley	84.82	25	P	P	23 06 36.4 -1.0
	baz=253,SNR=11					
GLI	Glacier Island	84.87	28	P	P	23 06 37.7 0.0
	baz=255					
SCM	Sheep Creek Mo	85.01	27		P	23 06 37.9 -0.6
SCM	Sheep Creek Mo	85.01	27	P	P	23 06 37.9 -0.6
SCM				pmax	pmax	
	comp=Z,92nm,1.4s					
SCM	Sheep Creek Mo	85.01	27	P	P	23 06 39.0 +0.6
	baz=255,SNR=7.3					
NEA2	Nenana	85.01	24	P	P	23 06 37.8 -0.5
	baz=253,SNR=10					
WAT6	Susitna Watana	85.02	27	P	P	23 06 38.7 +0.1
	baz=254					
D22K	Ayikyak River	85.04	20	P	P	23 06 38.4 +0.1
	baz=249					
I23K	Minto, Yukon-K	85.06	24	P	P	23 06 38.6 +0.1
	baz=253,SNR=16					
E22K	Anaktuvuk Pass	85.08	21	P	P	23 06 38.6 0.0
	baz=250,SNR=12					
H23K	Yukon River	85.19	23	P	P	23 06 39.8 +0.6
	baz=253					
G23K	Bananza Creek	85.27	22	P	P	23 06 39.9 +0.3
	baz=252,SNR=7.1					
DHY	Denali Highway	85.31	26	P	P	23 06 39.3 -0.7
DHY	Denali Highway	85.31	26	P	P	23 06 39.7 -0.4
	baz=255,SNR=14					
B22K	Teshekpuk Lake	85.32	18	P	P	23 06 39.7 0.0
	baz=249					
COLD	Coldfoot	85.37	22	P	P	23 06 39.7 -0.3
	baz=252					
WRH	Wood River Hil	85.39	25		P	23 06 39.2 -0.9
WRH				IAmb	IAmb	23 06 42.7
	comp=Z,29nm,1.1s					
EYAK	Cordova Ski Ar	85.43	29	P	P	23 06 41.1 +0.7
	baz=256					
KLU	Klutina	85.58	28	P	P	23 06 40.6 -0.7
KLU				IAmb	IAmb	23 06 43.9
	comp=Z,36nm,1.4s					
KLU	Klutina	85.58	28	P	P	23 06 41.6 +0.3
	baz=256					
COLA	College	85.59	24	P	P	23 06 42.0 +0.8
	baz=254					
M24K	Tolsona, Glenn	85.61	27	P	P	23 06 42.2 +0.8
	baz=256					
D23K	Nanushuk River	85.75	20	P	P	23 06 43.0 +1.1
	baz=251					
POKR	Poker Plat Res	85.83	24	P	P	23 06 42.8 +0.4
	baz=255					
E23K	Chandalar	85.83	21	P	P	23 06 42.6 +0.2
	baz=252,SNR=25					
HDA	Harding Lake	85.85	25	P	P	23 06 43.6 +1.1
	baz=255,SNR=6.8					
H24K	Noodor Dome	85.85	23	P	P	23 06 43.0 +0.5
	baz=254					
KAIM	Kayak Island	85.94	30	P	P	23 06 44.0 +1.0
	baz=258					
ILAR	Eielson Array	85.97	24		P	23 06 41.1 -2.0
ILAR	Eielson Array	85.97	24	P	P	23 06 41.2 -1.8
	comp=Z,8.8nm,1.0s,baz=261,slow=5.4,SNR=30					
	comp=Z,8.8nm,1.0s					
TOLK	Toolik Lake Re	86.03	20	P	P	23 06 44.0 +0.7
	baz=252,SNR=14					
C23K	Itkillik River	86.05	19	P	P	23 06 44.3 +1.0
	baz=251					
BMRM	Bremner River	86.08	28	P	P	23 06 43.0 -0.7
BMRM				IAmb	IAmb	23 06 46.1
	comp=Z,32nm,1.2s					
BMRM	Bremner River	86.08	28	P	P	23 06 44.5 +0.8
	baz=257,SNR=7.1					
PAX	Paxson	86.13	26	P	P	23 06 44.7 +0.6
	baz=257					
HARP	HAARP	86.14	27	P	P	23 06 44.4 +0.4
	baz=257					
K24K	Donnelly Dome	86.19	26	P	P	23 06 44.8 +0.6
	baz=256					
N25K	Chitina, Valde	86.22	28	P	P	23 06 45.1 +0.6
	baz=257					
G24K	Hadweenzic Riv	86.24	23	P	P	23 06 45.2 +0.8
	baz=254					
E24K	Your Creek	86.25	21	P	P	23 06 44.8 +0.4
	baz=253					
F24K	Squaw Lake	86.31	22	P	P	23 06 45.6 +0.9
	baz=254,SNR=20					
D24K	Happy Valley	86.44	20	P	P	23 06 46.1 +0.8
	baz=253					
GLB	Gilahina Butte	86.55	28		P	23 06 46.1 0.0
GLB				IAmb	IAmb	23 06 48.4
	comp=Z,14nm,1.0s					
J25K	Salcha River,	86.56	25	P	P	23 06 46.7 +0.7
	baz=256					
RIDG	Independent Ri	86.58	26	P	P	23 06 47.0 +0.8
	baz=257					
ARTI	Arti	86.63	327		P	23 06 45.6 -0.9
ARTI				IAmb	IAmb	23 06 48.7
	comp=Z,12nm,1.2s					
ARTI	Arti	86.63	327	LR	LR	23 48 33.1
	comp=Z,137nm,18.7s,baz=90,slow=38					
ARTI	Arti	86.63	327	*d i* P	P	23 06 46.4 -0.1
ARTI						23 10 06.9
ARTI				S	SKSac	23 17 12.3 +0.3
ARTI				SS	SS	23 23 00.5 -2.9
ARTI				pmax	pmax	
	comp=Z,9.0nm,1.1s					
C24K	Franklin Bluff	86.65	20	P	P	23 06 47.1 +0.9
	baz=253					
PRP	Porcupine Dome	86.71	24	P	P	23 06 47.3 +0.5
	baz=256					
CRQE	Cirque	86.75	29	P	P	23 06 47.8 +0.6
	baz=259,SNR=6.2					
H25L	Birch Creek	86.77	23	P	P	23 06 47.9 +0.9
	baz=256,SNR=10.0					
G25K	Bearman Lake	86.78	23	P	P	23 06 47.1 +0.1
	baz=256,SNR=9.7					
WAX	Waxell Ridge	86.81	29	P	P	23 06 47.8 +0.4
MCARA	McCarthy VSAT	86.91	28	P	P	23 06 48.4 +0.6
	baz=259					
SCRK	Sand Creek	87.00	26	P	P	23 06 48.8 +0.4
	baz=258					
FYU	Fort Yukon	87.07	23	P	P	23 06 48.7 +0.3
L26K	Log Cabin Wild	87.09	27	P	P	23 06 49.1 +0.5
	baz=258					
M26K	Nabesna, AK	87.12	27	P	P	23 06 49.3 +0.4
	baz=259					
F25K	Christian Rive	87.16	22	P	P	23 06 49.5 +0.6
	baz=256					
MESA	MESA	87.20	30	P	P	23 06 49.5 +0.1
	baz=260					
QSPA	South Pole Qui	87.28	180	P	P	23 06 50.8 +1.1
QSPA				IAmb	IAmb	23 07 00.8
	comp=Z,25nm,1.1s					
QSPA	South Pole Qui	87.28	180	P	P	23 06 51.1 +1.4
	comp=Z,17nm,1.0s,baz=338,slow=2.3,SNR=33					
	comp=Z,17nm,1.0s					
J26L	Joseph Creek	87.30	25	P	P	23 06 50.3 +0.6
	baz=258					
E25K	Arctic Village	87.31	21	P	P	23 06 50.4 +0.7
	baz=256,SNR=17					
D25K	Kavik River	87.33	20	P	P	23 06 50.4 +0.7
	baz=255					
GRNC	Granite Creek	87.40	29	P	P	23 06 49.4 -1.0
BARN	Barnard Glacie	87.50	29	P	P	23 06 50.6 -0.3
BMAR	Burnt Mountain	87.52	22		P	23 06 50.7 +0.1
M27K	Edge Creek, AK	87.63	27	P	P	23 06 52.2 +0.8
	baz=260					
I26K	Coal Creek Min	87.63	24	P	P	23 06 51.1 -0.1
	baz=258					
CTG	Chitna Glacier	87.64	29	P	P	23 06 51.9 +0.5
	baz=260,SNR=12					
G26K	Porcupine Rive	87.72	23	P	P	23 06 51.8 +0.3
	baz=258,SNR=23					
F26K	Sheenjek River	87.74	22	P	P	23 06 52.2 +0.5
	baz=258					
L27K	Beaver Creek,	87.78	27	P	P	23 06 52.6 +0.6
	baz=260					
BCAR	Beaver Creek A	87.80	27	P	P	23 06 51.9 -0.2
K27K	Chicken	87.84	26	P	P	23 06 53.0 +0.8
	baz=260					
C26K	Camden Bay	87.97	20	P	P	23 06 53.5 +0.8
	baz=257					
PINM	Pinnacle	88.03	30	P	P	23 06 53.4 +0.2
	baz=261					
O28M	Mount Upton	88.16	29	P	P	23 06 54.5 +0.4
	baz=261					
C27K	Jago River	88.31	20	P	P	23 06 55.5 +1.2
	baz=258					
I27K	Kandik River	88.32	24	P	P	23 06 55.7 +1.2
	baz=260,SNR=6.9					
PNL	Peninsula	88.39	30	P	P	23 06 55.3 +0.3
	baz=262					
YUK8	Steele Glacier	88.44	29	P	P	23 06 56.0 +0.5
	baz=262,SNR=6.5					
H27K	Steamboat Moun	88.46	24	P	P	23 06 55.7 +0.5
	baz=260,SNR=5.3					
G27K	Doyon Strip	88.52	23	P	P	23 06 56.4 +1.0
	baz=260					
E27K	Coleen River	88.78	22	P	P	23 06 57.8 +1.2
	baz=260					
O29M	Mount Kennedy	88.89	30	P	P	23 06 58.2 +0.8
	baz=263					
I28M	Miner Creek	88.98	24	P	P	23 06 58.3 +0.6
	baz=261,SNR=16					
YUK4	Talbot Arm	88.99	29	P	P	23 06 59.4 +1.4
	baz=263,SNR=6.6					
DAWY	Dawson	89.01	26	P	P	23 06 57.9 +0.1
DAWY	Dawson	89.01	26	P	P	23 06 58.7 +0.9
	baz=262,SNR=22					
YUK6	Outpost Mounta	89.07	29	P	P	23 06 59.0 +0.6
	baz=263					
D27M	Malcolm River	89.19	21	P	P	23 06 59.2 +0.6
	baz=260					
M29M	Somme Creek	89.21	28	P	P	23 06 59.9 +1.0
	baz=263,SNR=12					
P29M	Windy Craggy	89.22	30	P	P	23 06 60.0 +1.1
	baz=264					
F28M	Old Crow	89.33	22	P	P	23 07 00.4 +1.2
	baz=262					
L29M	L29M	89.45	27	P	P	23 07 00.7 +0.9
	baz=263,SNR=15					
HYT	Haines Junctio	89.47	29		P	23 06 59.2 -1.0
HYT				IAmb	IAmb	23 07 16.0
	comp=Z,25nm,1.4s					
HYT	Haines Junctio	89.47	29	P	P	23 07 00.6 +0.4
	baz=264					
E28M	Babbage River	89.60	21	P	P	23 07 01.2 +0.8
	baz=262					
I29M	Ogilvie Camp,	89.65	25	P	P	23 07 01.3 +0.6
	baz=263,SNR=12					
P30M	Million Dollar	89.67	30	P	P	23 07 01.3 +0.4
	baz=264					
H29M	Whitestone	89.73	24	P	P	23 07 01.6 +0.5
	baz=263					
N30M	Aishikik Lake	89.74	29	P	P	23 07 02.2 +0.8
	baz=264					
K29M	Barlow Dome	89.80	26	P	P	23 07 02.4 +0.8
	baz=264,SNR=17					
PLBC	Pleasant Camp	89.90	31	P	P	23 07 03.2 +1.3
	baz=265					
G29M	Pine Creek	89.95	23	P	P	23 07 02.9 +0.8
	baz=263					
M30M	Minto, Yukon	90.00	27	P	P	23 07 03.1 +0.6
	baz=264					
O30N	Mendenhall	90.16	29	P	P	23 07 03.9 +0.7
	baz=265					
E29M	Blow River	90.17	22	P	P	23 07 04.0 +0.9
	baz=263					
SIT	Sitka	90.24	33	P	P	23 07 04.4 +0.8
	baz=266					
N31M	Braeburn, Yuko	90.37	29	P	P	23 07 04.7 +0.5
	baz=265					
J30M	Hart River	90.40	25	P	P	23 07 04.9 +0.5
	baz=265,SNR=8.3					
EPYK	Eagle Plains	90.41	24	P	P	23 07 05.5 +1.3
	baz=264					
I30M	Mount Dempster	90.44	25	P	P	23 07 05.1 +0.5
	baz=265					
SYO	Syowa Base	90.65	201	⇑*eP*	P	23 07 06.4 +1.1
SYO	Syowa Base	90.65	201	⇑*es*P	sP	23 07 19.0 +4.3
G30M	tAoh Zraii Nji	90.66	23	P	P	23 07 06.6 +1.1
	baz=265					
S32K	Kilisnoo	90.68	33	P	P	23 07 06.3 +0.7
	baz=266					
WHY	Whitehorse	90.74	29	P	P	23 07 05.7 -0.4
WHY				IAmb	IAmb	23 07 20.5
	comp=Z,18nm,1.2s					
WHY	Whitehorse	90.74	29	P	P	23 07 06.6 +0.6
	baz=266					
R32K	Eaglecrest	90.76	32	P	P	23 07 07.1 +1.1
	baz=266					
F30M	Barrier River	90.89	22	P	P	23 07 07.3 +0.8
	baz=265					
M31M	Drury Creek, Y	91.08	28	P	P	23 07 08.3 +0.8
	baz=266					
P32M	Atlin	91.26	31	P	P	23 07 09.0 +0.7
	baz=267					
H31M	Peel River	91.33	24	P	P	23 07 09.6 +1.1
	baz=266					
G31M	Satah River	91.42	23	P	P	23 07 09.9 +1.0
	baz=267					
N32M	Quiet Lake	91.65	29	P	P	23 07 11.4 +1.3
	baz=268					
F31M	Tsiigehtchic	91.66	23	P	P	23 07 11.4 +1.5
	baz=267					
KIRV	Kirov	91.67	328	LR	LR	23 49 58.8
	comp=Z,170nm,20.4s,baz=83,slow=37					
P33M	Teslin, Yukon	91.74	30	P	P	23 07 12.1 +1.4
	baz=268					
INK	Inuvik	91.78	22	LR	LR	23 47 57.4
	comp=Z,105nm,20.2s,baz=118,slow=35					
INK	Inuvik	91.78	22	P	P	23 07 11.0 +0.5
	baz=267					
WRAK	Wrangell Islan	91.84	34	P	P	23 07 11.4 +0.4
	baz=268					
BELG	Belogornoye	92.51	322	*i* P	P	23 07 13.7 -0.5
BELG				pmax	pmax	
	comp=Z,4.0nm,1.1s					
S34M	Telegraph Cree	92.55	32	P	P	23 07 15.3 +1.0
	baz=269					
MMPY	Sheldon Lake,	92.55	28	P	P	23 07 15.1 +0.7
	baz=269					
R33M	Jennings River	92.65	31	P	P	23 07 15.6 +0.6
	baz=269					
DLBC	Dease Lake	93.14	32	P	P	23 07 18.2 +1.1
	baz=270					
C36M	Paulatuk	95.18	21	P	P	23 07 26.6 +0.5
	baz=276					
KBZ	Khabaz	95.74	314	LR	LR	23 55 20.2
	comp=Z,71nm,20.9s,baz=59,slow=38					
KIV	Kislovodsk	95.89	314	*eP*	P	23 07 30.5 +0.4
KIV				pmax	pmax	
	comp=Z,3.0nm,1.0s					
YBH	Yreka Blue Hor	98.48	48	LR	LR	23 44 54.0
	comp=Z,20nm,21.3s,baz=288,slow=31					
OBN	Obninsk	98.89	325	*i* P	P	23 07 42.8 -0.4
OBN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BELA	Belgrano 2	99.46	182	P	Pdif	23 07 45.0 -0.4
BELA				IAmb	IAmb	23 07 47.5
	comp=Z,4.0nm,1.0s					
FURI	Furi	99.91	279	LR	LR	23 53 29.6
	comp=Z,76nm,19.8s,baz=106,slow=36					
TROLL	Troll, Antarti	100.28	193	⇑P	Pdif	23 07 50.7 +1.4
	comp=Z,144nm,1.0s					
SNAA	Sanae	101.67	192	⇑P	Pdif	23 07 53.8 -1.6
	comp=Z,38nm,0.9s					
SNAA	Sanae	101.67	192	P	Pdif	23 07 54.8 -0.6
	comp=Z,2.5nm,1.0s,baz=164,slow=4.3,SNR=5.3					
TXAR	Lajitas Array	115.63	59	PKP	PKiKP	23 12 45.4 -0.8
	comp=Z,0.4nm,0.9s,baz=298,slow=3.7,SNR=3.5					
TORD	Torodi Ar. Bea	135.85	286	PKP	PKPdf	23 13 24.8 -0.1
	comp=Z,1.8nm,0.5s,baz=85,slow=1.7,SNR=3.0					
PB01	IPOC Station P	144.00	132		PKPbc	23 13 38.1 +0.6
HMBC	Humberstone	144.16	131		PKPbc	23 13 38.1 0.0
PB11	IPOC Station P	144.64	130		PKPab	23 13 39.1 -0.4
FLOC	Florencia	146.06	91	PKPbc	PKPdf	23 13 43.5 +0.1
ROSC	El Rosal	147.38	85		PKPdf	23 13 46.1 +0.1
ROSC	El Rosal	147.38	85	PKPbc	PKPdf	23 13 47.1 +1.0
	comp=Z,6.1nm,0.5s,baz=233,slow=16,SNR=7.8					
CPUP	Villa Florida	147.45	153		PKPdf	23 13 46.4 +1.1
CPUP	Villa Florida	147.45	153	PKPbc	PKPbc	23 13 46.8 -1.0
	comp=Z,2.2nm,0.9s,baz=260,slow=1.2,SNR=13					
LPAZ	La Paz	147.80	127		PKPdf	23 13 47.7 +0.8
LPAZ	La Paz	147.80	127	PKPbc	PKPdf	23 13 47.9 +1.0
	comp=Z,8.9nm,0.8s,baz=234,slow=1.4,SNR=15					
RUSC	La Rusia	148.55	83		PKPdf	23 13 48.9 +0.8
SDV	Santo Domingo	150.57	77		PKPdf	23 13 48.8 -2.1
CRPR	Cabo Rojo, PR	150.79	57		PKPbc	23 13 54.1 -2.4
OBIP	Obispado Ponce	151.20	56		PKPbc	23 13 55.5 -1.9
CELP	Cerrillos	151.20	56		PKPbc	23 13 54.8 -2.7
SJG	San Juan	151.54	56		PKPbc	23 13 55.9 -2.3
SJG	San Juan	151.54	56	PKIKP	PKPbc	23 13 55.9 -2.3
PDPR	Patillas Dam,	151.69	56		PKPbc	23 13 56.6 -1.9
BAUV	El Baul	153.08	76		PKPdf	23 13 53.0 -1.5

NEIC ***22*** *22:59:15.5±0.8, 18°.98N±0°.04×66°.57W±0°.04, h49km±16km, ML2.6/13, Md2.9/14(RSPR), Error ellipse: s-maj=6.3km s-min=5.0km az=147.0*
OSPL ***22*** *22:59:15.9±0.3, 18°.99N×66°.65W, h17km±3km, ML2.4*
RSPR ***22*** *22:59:16.1, 19°.03N×66°.58W, h43km±6km, MD2.9/14*
SDD ***22*** *22:59:16.9±2.6, 18°.96N×66°.47W, h50km±61km, MD3.6, ML2.7, MW3.3*

ISC 22 22:59:17.3±1.7, 18°.90N±0°.08×66°.60W±0°.04, h43km±15km, n58, σ0°.90/78, 25C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	0.42	171	Pn	Pn	22 59 26.6	-0.6
EMPR				Sn	Sn	22 59 35.4	+1.1
EMPR	Esperanza - Ma	0.42	171	⇑*eP*	Pn	22 59 26.6	-0.6
EMPR	Esperanza - Ma	0.42	171	*eS*	Sn	22 59 35.3	+1.1
AOPR	Arecibo Observ	0.57	195		Pn	22 59 28.1	-1.1
AOPR					Sn	22 59 37.9	+0.4
AOPR	Arecibo Observ	0.57	195	⇑*eP*	Pn	22 59 28.3	-0.9
AOPR	Arecibo Observ	0.57	195	*eS*	Sn	22 59 38.9	+1.3
AOPR	Arecibo Observ	0.57	195	⇓*eP*g	Pn	22 59 28.1	-1.1
AOPR				IAML		22 59 42.1	
	comp=N,932nm,0.3s						
ECPR	Experimental S	0.62	159	⇑*eP*	Pn	22 59 28.9	-0.9
ECPR	Experimental S	0.62	159	*eS*	Sn	22 59 39.4	+0.7
AGPR	Aguadilla, PR	0.65	229		Pn	22 59 29.5	-0.7
AGPR					Sn	22 59 40.5	+1.2
AGPR	Aguadilla, PR	0.65	229	⇑*eP*	Pn	22 59 29.5	-0.7
AGPR	Aguadilla, PR	0.65	229	*eS*	Sn	22 59 40.5	+1.2
AGPR	Aguadilla, PR	0.65	229	⇑*eS*g	Sn	22 59 40.9	+1.5
AGPR				IAML		22 59 43.2	
	comp=N,350nm,0.3s						
AGPR	Aguadilla, PR	0.65	229	*i* P	Pn	22 59 28.0	-2.1
AGPR				IAML		22 59 46.8	
	comp=Z,142nm,0.2s						
UUPR	Utuado, UPR, P	0.65	190	Pn	Pn	22 59 29.3	-0.9
UUPR				Sn	Sn	22 59 39.7	+0.3
UUPR	Utuado, UPR, P	0.65	190	⇑*eP*	Pn	22 59 29.4	-0.9
UUPR	Utuado, UPR, P	0.65	190	*eS*	Sn	22 59 40.2	+0.7
GCPR	Guaynabo City	0.76	140		Pn	22 59 30.2	-1.5
GCPR					Sn	22 59 41.7	-0.4
GCPR	Guaynabo City	0.76	140	⇑*eP*	Pn	22 59 30.6	-1.1
GCPR	Guaynabo City	0.76	140	*eS*	Sn	22 59 42.3	+0.2
CELP	Cerrillos	0.82	179		Pn	22 59 31.8	-0.7
CELP					Sn	22 59 43.9	+0.4
CELP				IAML		22 59 49.8	
	comp=E,177nm,0.5s						
CELP				IAML		22 59 52.6	
	comp=N,162nm,0.5s						
CELP	Cerrillos	0.82	179	⇑*eP*	Pn	22 59 31.9	-0.7
CELP	Cerrillos	0.82	179	*eS*	Sn	22 59 44.7	+1.2
CELP	Cerrillos	0.82	179	⇑*eP*g	Pn	22 59 31.9	-0.7
CELP				⇑*eS*g	Sn	22 59 44.1	+0.6
CELP				IAML		22 59 48.8	
	comp=N,147nm,0.2s						
OBIP	Obispado Ponce	0.85	181		Pn	22 59 32.3	-0.5
OBIP				Sn	Sn	22 59 45.3

OBIP	Obispado Ponce	0.85 181	⇑eP	Pn	22 59 32.4	-0.5
OBIP	Obispado Ponce	0.85 181	eS	Sn	22 59 44.5	+0.3
PRSN	Puerto Rico Se	0.85 218		Pn	22 59 33.3	+0.3
PRSN				Sn	22 59 44.6	+0.4
PRSN	Puerto Rico Se	0.85 218	⇑eP	Pn	22 59 33.3	+0.3
PRSN	Puerto Rico Se	0.85 218	eS	Sn	22 59 44.6	+0.4
LSP	Las Mesas	0.86 213		Pn	22 59 32.2	-0.8
LSP				Sn	22 59 44.3	-0.1
LSP	Las Mesas	0.86 213	⇑eP	Pn	22 59 32.2	-0.8
LSP	Las Mesas	0.86 213	eS	Sn	22 59 44.3	-0.1
SJG	San Juan	0.89 152		Pn	22 59 32.9	-0.5
SJG			Sn	Sn	22 59 45.9	+0.8
SJG			IAML		22 59 50.9	
	comp=E,173nm,0.3s					
SJG			IAML		22 59 54.2	
	comp=E,136nm,0.3s					
SJG	San Juan	0.89 152	⇑eP	Pn	22 59 33.6	+0.1
SJG	San Juan	0.89 152	eS	Sn	22 59 44.7	-0.4
SJG	San Juan	0.89 152	⇑ePg	Pn	22 59 33.2	-0.2
SJG			⇑eSg	Sn	22 59 44.7	-0.4
SJG	San Juan	0.89 152	i P	Pn	22 59 33.4	0.0
SJG			eS	Sn	22 59 46.1	+1.0
SJG			IAML		22 59 55.8	
	comp=Z,112nm,0.3s					
IDE	Isla Desecheo	0.98 239		Pn	22 59 32.9	-1.7
IDE				Sn	22 59 46.8	-0.5
IDE	Isla Desecheo	0.98 239	‖eP	Pn	22 59 32.9	-1.7
IDE	Isla Desecheo	0.98 239	eS	Sn	22 59 46.8	-0.5
CRPR	Cabo Rojo, PR	1.01 209		Pn	22 59 34.3	-0.8
CRPR			Sn	Sn	22 59 49.1	+1.0
CRPR	Cabo Rojo, PR	1.01 209	⇑eP	Pn	22 59 34.4	-0.6
CRPR	Cabo Rojo, PR	1.01 209	eS	Sn	22 59 49.1	+1.0
CRPR	Cabo Rojo, PR	1.01 209	‖ePg	Pn	22 59 34.2	-0.8
CRPR			⇑eSg	Sn	22 59 48.2	+0.1
CRPR			IAML		22 59 56.5	
	comp=N,237nm,0.4s					
CRPR	Cabo Rojo, PR	1.01 209	i P	Pn	22 59 34.3	-0.8
CRPR			eS	Sn	22 59 48.2	+0.1
CRPR			IAML		22 59 52.2	
	comp=Z,118nm,0.4s					
MLPR	Magueyes Islan	1.02 205	⇑eP	Pn	22 59 34.6	-0.5
MLPR	Magueyes Islan	1.02 205	eS	Sn	22 59 49.8	+1.5
MLPR	Magueyes Islan	1.02 205	‖ePg	Pn	22 59 34.5	-0.7
MLPR			⇑eSg	Sn	22 59 49.5	+1.2
MLPR			IAML		22 59 53.8	
	comp=N,47nm,0.6s					
PDPR	Patillas Dam,	1.03 148		Pn	22 59 35.1	-0.2
PDPR			IAML		22 59 55.9	
	comp=N,107nm,0.2s					
PDPR	Patillas Dam,	1.03 148	⇑eP	Pn	22 59 35.0	-0.4
PDPR	Patillas Dam,	1.03 148	eS	Sn	22 59 49.1	+0.5
IGPR	InterUniversit	1.04 153		Pn	22 59 35.4	0.0
IGPR				Sn	22 59 49.7	+0.9
IGPR	InterUniversit	1.04 153	⇑eP	Pn	22 59 35.4	0.0
IGPR	InterUniversit	1.04 153	eS	Sn	22 59 49.7	+0.9
MIDR	Miches	2.32 272	⇑ePg	Pn	22 54.6	+1.6
MIDR			IAML		23 00 38.0	
	comp=N,37nm,0.8s					
DR12	Loma Pena Alta	2.64 268		Pn	22 59 56.1	-1.3
HATOM	Hato Mayor del	2.64 268	⇑ePg	Pn	22 59 56.4	-1.0
HATOM			⇑eSg	Sn	23 00 29.9	+1.7
HATOM			IAML		23 00 40.3	
	comp=N,31nm,0.7s					

*LDG **22** 23:07:24.8±0.1, 44°.99N×4°.37E, h5km, Md1.8/1, Ml1.7/1, Error ellipse: s-maj=1.3km s-min=1.0km az=173.0*
STR 22 23:07:25.3±0.0, 44°.99N±0°.08×4°.37E±0°.05, h14km, MLv1.6/15, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIVF	Saint-Julien-l	0.25	122	ePg	Pg	23 07 30.1	-0.6
VIVF				eSg	Sg	23 07 33.5	-0.9
	20nm,0.2s						
TRBF	Trabuc cave	0.93	199	Pg	Pb	23 07 42.5	-0.7
TRBF				Sg	Sb	23 07 54.5	-0.9
LASF	Ste Croix	0.98	202	ePg	Pb	23 07 42.7	-1.4
LASF				eSg	Sb	23 07 55.5	-1.5
	1,6nm,0.2s						
GRN	Grenoble	1.01	75	Pg	Pb	23 07 43.6	-0.9
GRN				Sg	Sb	23 07 57.3	-0.4
PLDF	La Plantade	1.11	332	Pg	Pb	23 07 45.4	-1.0
PLDF				Sg	Sb	23 07 59.7	-1.1
OGSM	Saint Maurice	1.12	56	Pn	Pb	23 07 45.6	-0.9
OGSM				Sn	Sb	23 07 59.1	-1.9
LAJAS	L'Hospitalet-d	1.31	219	Sn	Sn	23 08 06.9	+0.3
LEUC	Leucamp	1.31	261	Pn	Pn	23 07 47.8	-1.5
LEUC				Pg	Pb	23 07 49.4	-0.3
FRNF	Fournols	1.34	288	Pg	Pn	23 07 49.9	+0.3
FRNF				Sn	Sb	23 08 05.8	-1.4
OG35	Corcelles	1.35	38	Pn	Pn	23 07 48.6	-1.2
OG35				Sn	Sn	23 08 06.8	-0.8
OGMY	Moye	1.39	50	Pn	Pn	23 07 49.0	-1.3
OGMY				Sn	Sn	23 08 08.0	-0.6
VERF	Verneugheol	1.53	300	Pn	Pn	23 07 51.2	-1.1
VERF				Sn	Sn	23 08 10.5	-1.5
VERF				Sg	Sg	23 08 13.8	-0.9
SMF	Signal de Mont	1.70	348	ePn	Pn	23 07 52.6	-1.9

*IDC **22** 23:12:23.9±0.4, 73°.98N×73°.77W, h0km, mb4.2/29, mbtmp4.2/34, ML4.3/5, MS3.5/2, Error ellipse: s-maj=13.3km s-min=10.4km az=140.0*
*OTT **22** 23:12:24.1±0.2, 73°.94N×73°.79W, h18km, ML4.9/7, 193km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*NEIC **22** 23:12:25.5±1.9, 73°.93N±0°.09×74°.0W±0°.3, h10km±1km, mb4.6/105, Error ellipse: s-maj=17.9km s-min=12.6km az=320.0*
*DNK **22** 23:12:26.6±4.3, 74°.05N×73°.97W, h35km, ML3.2*
ISC 22 23:12:24.3±0.3, 73°.94N±0°.04×73°.97W±0°.04, h10km, n405, σ1°.83/416, mb4.5/90, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POIN	Pond Inlet	1.69	225		Pn	23 12 53.5	-0.4
POIN				Sn	Sn	23 13 13.0	-2.5
POIN	Pond Inlet	1.69	225	PN	Pn	23 12 53.7	-0.1
POIN				SN	Sn	23 13 14.2	-1.3
POIN				Trac		23 13 15.8	
	comp=Z,649nm,0.2s						
TULEG	Thule	2.93	24		Pn	23 13 08.9	-1.9
TULEG	Thule	2.93	24	eP	Pn	23 13 09.4	-1.4
TULEG				i S	Sn	23 13 39.7	-6.1
TULEG				IAML		23 13 41.8	
	comp=Z,585nm,0.3s						
KULLO	Kullorsuaq	4.60	74	PN	Pn	23 13 32.2	-1.5
KULLO				SN	Sn	23 14 20.8	-6.3
KULLO				Trac		23 14 24.0	
	comp=Z,369nm,0.3s						
KULLO	Kullorsuaq	4.60	74	i P	Pn	23 13 32.0	-1.7
KULLO				i S	Sn	23 14 18.4	-8.6
KULLO				IAML		23 14 22.5	
	comp=Z,687nm,0.7s						
ILON	Igloolik, Nuna	5.21	212	Pn	Pn	23 13 41.4	-0.7
ILON	Igloolik, Nuna	5.21	212	PN	Pn	23 13 41.7	-0.4
ILON				SN	Sn	23 14 37.5	-4.7
ILON				Trac		23 14 52.4	
	comp=Z,178nm,0.3s						
UPNV	Upernavik	5.25	94	i P	Pn	23 13 41.4	-1.2
UPNV				eS	Sn	23 14 34.7	-8.2
UPNV				IAML		23 14 37.8	
	comp=Z,173nm,0.7s						
RES	Resolute Bay	5.71	288	Pn	Pn	23 13 47.8	-1.1
RES	Resolute Bay	5.71	288	Pn	Pn	23 13 48.5	-0.5
	comp=Z,9.4nm,0.3s,baz=90,slow=7.5,SNR=145						
RES				Sn	Sn	23 14 48.7	-5.8
	comp=Z,18nm,0.3s,baz=139,slow=19,SNR=5.5						
	comp=Z,28nm,0.5s						
RES	Resolute Bay	5.71	288	PN	Pn	23 13 48.0	-1.0
RES				SN	Sn	23 14 50.0	-4.5
RES				Trac		23 15 19.1	
	comp=Z,340nm,0.7s						
RES	Resolute Bay	5.71	288	eP	Pn	23 13 48.2	-0.8
RES				eS	Sn	23 14 48.1	-6.4
RES				IAML		23 15 18.7	
	comp=Z,210nm,0.7s						
NUUG	Nuugaatsiaq	6.61	101	i P	Pn	23 14 01.5	+0.2
NUUG				i S	Sn	23 15 08.1	-8.5
NUUG				IAML		23 15 12.4	
	comp=Z,69nm,0.7s						
NEEM	North Greenlan	6.63	47	eP	Pn	23 14 00.3	-1.6
NEEM				i S	Sn	23 15 10.0	-7.5
NEEM				IAML		23 15 24.3	
	comp=Z,107nm,1.3s						
NIAQ	Niaqornat	6.90	107	eP	Pn	23 14 05.4	+0.1
NIAQ				i S	Sn	23 15 16.5	-7.3
NIAQ				IAML		23 15 21.6	
	comp=Z,29nm,0.2s						
SAATT	Saattut	7.44	104	i P	Pn	23 14 12.8	+0.2
SAATT				eS	Sn	23 15 27.2	-10
SAATT				IAML		23 15 35.3	
	comp=Z,40nm,0.4s						
SAQQ	Saqqaq	7.84	109	eP	Pn	23 14 17.9	-0.3
SAQQ				i S	Sn	23 15 36.9	-10
SAQQ				IAML		23 15 40.0	
	comp=Z,28nm,0.5s						
GDH	Godhavn	7.96	116	eP	Pn	23 14 19.4	-0.3
GDH				i S	Sn	23 15 40.0	-10
GDH				IAML		23 15 45.5	
	comp=Z,37nm,0.6s						
ILULI	Ilulissat	8.60	112	PN	Pn	23 14 26.7	-1.8
ILULI				SN	Sn	23 15 57.7	-7.7
ILULI				Trac		23 16 18.5	
	comp=Z,1.1nm,0.0s						
ILULI	Ilulissat	8.60	112	eP	Pn	23 14 28.1	-0.4
ILULI				eS	Sn	23 15 56.0	-9.4
ILULI				IAML		23 16 04.5	
	comp=Z,17nm,0.6s						
SUMG	Summit	10.23	80	Pn	Pn	23 14 47.6	-3.5
SUMG	Summit	10.23	80	i P	Pn	23 14 48.0	-3.1
SUMG				eS	Sn	23 16 32.3	-14
SUMG				IAML		23 16 38.0	
	comp=Z,48nm,0.3s						
SFJD	Kangerlussuaq	10.38	120	Pn	Pn	23 14 50.2	-2.7
SFJD	Kangerlussuaq	10.38	120	Pn	Pn	23 14 49.4	-3.5
	comp=Z,0.5nm,0.3s,baz=328,slow=16,SNR=1.7						
SFJD				Sn	Sn	23 16 38.2	-11
	comp=Z,1.3nm,0.3s,baz=322,slow=15,SNR=1.8						
SFJD	Kangerlussuaq	10.38	120	eP	Pn	23 14 50.4	-2.5
FRB	Frobisher Bay	10.42	167	Pn	Pn	23 14 50.0	-3.4
	comp=Z,1.3nm,0.3s,baz=340,slow=14,SNR=14						
FRB				Sn	Sn	23 16 35.7	-14
	comp=Z,9.8nm,0.3s,baz=282,slow=20,SNR=7.7						
	comp=Z,3.9nm,0.4s						
FRB	Frobisher Bay	10.42	167	PN	Pn	23 14 51.4	-2.0
FRB				SN	Sn	23 16 40.4	-10
FRB				Trac		23 17 06.4	
	comp=Z,23nm,0.3s						
FRB	Frobisher Bay	10.42	167	eP	Pn	23 14 50.6	-2.7
FRB				i S	Sn	23 16 37.6	-12
DY2G	Dye2	11.87	115	eP	Pn	23 15 12.9	-0.5
BLKN	Baker Lake	12.33	230	Pn	Pn	23 15 16.3	-3.2
BLKN	Baker Lake	12.33	230	PN	Pn	23 15 17.4	-2.1
BLKN				SN	Sn	23 17 26.6	-10
BLKN				Trac		23 18 46.7	
	comp=Z,94nm,0.7s						
NOR	Nord	13.55	32	eP	Pn	23 15 30.6	-5.5
DAG	Danmarks Havn	13.80	53	eP	Pn	23 15 39.0	-0.5
DBG	Daneborg	14.30	63	i P	Pn	23 15 40.1	-6.3
KUKN	Kugluktuk,NWT	14.49	266	PN	Pn	23 15 45.4	-3.7
KUKN				SN	Sn	23 18 18.3	-11
KUKN				Trac		23 18 40.1	
	comp=Z,14nm,0.4s						
A36M	Sachs Harbour	14.77	288	Pn	Pn	23 15 49.5	-3.2
A36M	Sachs Harbour	14.77	288	PN	Pn	23 15 50.8	-2.0
A36M				SN	Sn	23 18 25.1	-11
A36M				Trac		23 18 39.3	
	comp=Z,53nm,0.8s						
A36M	Sachs Harbour	14.77	288	P	Pn	23 15 51.0	-1.7
	baz=58						
ANGG	Ammassalik, Gr	14.78	105	Pn	Pn	23 15 55.4	+2.4
SCO	Scoresbysund	15.81	77	i P	Pn	23 16 07.4	+0.9
C36M	Paulatuk	15.98	279	Pn	Pn	23 16 05.0	-3.7
C36M	Paulatuk	15.98	279	P	Pn	23 16 07.9	-0.8
	baz=51						
KUQ	Kuujjuuaa	16.04	169	Pn	Pn	23 16 03.5	-6.0
KUQ				IAmb	IAmb	23 16 11.2	
	comp=Z,58nm,1.4s						
YKAW3	Yellowknife Wh	18.37	253	P	Pn	23 16 32.9	-5.7
YKAW3				IAmb	IAmb	23 16 45.0	
	comp=Z,9.6nm,0.8s						
YKAW1	Yellowknife Wh	18.40	253	P	P	23 16 33.4	-5.6
YKAW1				IAmb	IAmb	23 16 41.4	
	comp=Z,33nm,0.8s						
YKA	Yellowknife Ar	18.42	253	P	P	23 16 33.5	-5.7
YKA	Yellowknife Ar	18.42	253	P	P	23 16 33.7	-5.5
	comp=Z,2.1nm,0.4s,baz=39,slow=12,SNR=33						
YKA				S	Sn	23 19 46.3	-18
	comp=Z,3.1nm,0.5s,baz=29,slow=21,SNR=6.1						
YKA				Lg	Lg	23 21 43.1	
	comp=Z,0.7nm,0.3s,baz=35,slow=30,SNR=4.1						
KBS	Kingsbay	18.88	37	i P	P	23 16 35.4	-8.8
INK	Inuvik	19.26	284		P	23 16 48.3	0.0
INK				IAmb	IAmb	23 16 51.2	
	comp=Z,46nm,1.2s						
INK	Inuvik	19.26	284	P	P	23 16 48.7	+0.3
	comp=Z,1.9nm,0.3s,baz=48,slow=12,SNR=28						
INK				S	Sn	23 20 07.9	-17
	comp=Z,11nm,0.8s,baz=331,slow=11,SNR=5.3						
	comp=Z,15nm,0.9s						
INK	Inuvik	19.26	284	P	P	23 16 47.7	-0.6
	baz=47,SNR=15						
SCHQ	Schefferville	19.40	168	P	P	23 16 46.6	-3.5
SCHQ	Schefferville	19.40	168	P	P	23 16 50.4	+0.4
	comp=Z,6.2nm,0.3s,baz=349,slow=15,SNR=9.1						
SCHQ				S	Sn	23 20 07.6	-21
	comp=Z,59nm,0.7s,baz=60,slow=20,SNR=3.6						
	comp=Z,59nm,0.7s						
F31M	Tsiigehtchic	19.92	282	P	P	23 16 55.1	-0.5
	baz=45,SNR=16						
D28M	Stokes Point	19.95	290	P	P	23 16 55.4	-0.4
	baz=48						
SPITS	Spitsbergen Ar	20.04	37	P	Pn	23 16 58.4	-0.2
	baz=302,slow=8.3						
	comp=Z,6.7nm,0.7s						
WRGLY	Wrigley	20.24	264	P	Pn	23 17 00.3	-0.8
WRGLY	Wrigley	20.24	264	P	P	23 16 59.6	+0.4
	baz=38,SNR=9.5						
F30M	Barrier River	20.36	284	P	P	23 17 01.4	+1.0
F30M	Barrier River	20.36	284	P	P	23 17 00.5	+0.1
	baz=45,SNR=31						
E29M	Blow River	20.37	287	P	Pn	23 17 01.7	-0.9
E29M	Blow River	20.37	287	P	P	23 17 01.1	+0.6
	baz=46,SNR=14						
G31M	Satah River	20.44	281	P	P	23 17 01.2	0.0
G31M	Satah River	20.44	281	P	P	23 17 01.9	+0.7
	baz=44,SNR=24						
D27M	Malcolm River	20.59	291	P	P	23 17 03.8	+0.9
	baz=47						
E28M	Babbage River	20.66	289	P	Pn	23 17 05.8	-0.1
E28M				IAmb	IAmb	23 17 16.3	
	comp=Z,15nm,0.8s						
E28M	Babbage River	20.66	289	P	P	23 17 03.9	+0.3
	baz=46						
G30M	tAoh Zraii Nji	20.93	283	P	P	23 17 07.6	+1.0
G30M				IAmb	IAmb	23 17 29.5	
	comp=Z,36nm,1.0s						
G30M	tAoh Zraii Nji	20.93	283	P	P	23 17 06.9	+0.3
	baz=44,SNR=8.7						
C27K	Jago River	21.03	294	P	P	23 17 07.8	+0.2
	baz=47						
C26K	Camden Bay	21.13	295	P	P	23 17 08.7	0.0
	baz=47						
H31M	Peel River	21.28	279	P	P	23 17 11.2	+0.8
H31M				IAmb	IAmb	23 17 27.4	
	comp=Z,21nm,0.7s						
H31M	Peel River	21.28	279	P	P	23 17 10.9	+0.6
	baz=42,SNR=13						
F28M	Old Crow	21.45	287	P	P	23 17 12.8	+0.7
F28M	Old Crow	21.45	287	P	P	23 17 13.1	+1.0
	baz=44,SNR=8.6						
G29M	Pine Creek	21.46	284	P	P	23 17 13.8	+1.5
G29M				IAmb	IAmb	23 17 37.5	
	comp=Z,26nm,0.9s						
G29M	Pine Creek	21.46	284	P	P	23 17 13.2	+0.9
	baz=43,SNR=11						
E27K	Coleen River	21.49	289	P	P	23 17 13.7	+1.1
	baz=45						
EPYK	Eagle Plains	21.51	282	P	P	23 17 13.8	+1.0
EPYK				IAmb	IAmb	23 17 30.5	
	comp=Z,21nm,0.7s						
EPYK	Eagle Plains	21.51	282	P	P	23 17 13.9	+1.1
	baz=42,SNR=9.9						
D25K	Kavik River	21.92	295	P	P	23 17 17.8	+0.5
	baz=45						
H29M	Whitestone	22.07	283	P	P	23 17 19.6	+0.7
H29M	Whitestone	22.07	283	P	P	23 17 19.5	+0.6
	baz=42						
C24K	Franklin Bluff	22.22	297	P	P	23 17 20.3	-0.1
	baz=45						
I30M	Mount Dempster	22.28	280	P	P	23 17 21.3	0.0
	baz=40,SNR=7.0						
FFC	Flin Flon	22.34	226	P	P	23 17 22.7	+0.9
FFC				IAmb	IAmb	23 17 23.7	
	comp=Z,23nm,0.7s						
G27K	Doyon Strip	22.51	287	P	P	23 17 24.9	+1.2
G27K				IAmb	IAmb	23 17 39.1	
	comp=Z,17nm,1.1s						
G27K	Doyon Strip	22.51	287	P	P	23 17 23.7	+0.1
	baz=42						
F26K	Sheenjek River	22.52	290	P	P	23 17 23.6	0.0
	baz=43						
E25K	Arctic Village	22.57	292	P	P	23 17 25.2	+1.0
E25K	Arctic Village	22.57	292	P	P	23 17 24.1	-0.2
	baz=43						
C23K	Itkillik River	22.61	299	P	P	23 17 24.4	-0.1
	baz=45						
D24K	Happy Valley	22.65	296	P	P	23 17 24.7	-0.4
	baz=44						
I29M	Ogilvie Camp,	22.70	282	P	P	23 17 26.0	+0.4
I29M				IAmb	IAmb	23 17 34.7	
	comp=Z,33nm,1.1s						
I29M	Ogilvie Camp,	22.70	282	P	P	23 17 25.8	+0.2
	baz=40,SNR=11						
J30M	Hart River	22.76	279	P	P	23 17 27.1	+0.7
J30M				IAmb	IAmb	23 17 42.0	
	comp=Z,23nm,0.8s						
J30M	Hart River	22.76	279	P	P	23 17 26.4	0.0
	baz=40,SNR=18						
A22K	Sinclair Lake	22.82	303	P	P	23 17 26.6	-0.1
	baz=45						
BMAR	Burnt Mountain	22.83	290	P	P	23 17 28.6	+1.7
MMPY	Sheldon Lake,	22.90	271	P	P	23 17 27.5	-0.2
MMPY	Sheldon Lake,	22.90	271	P	P	23 17 28.1	+0.4
	baz=37						
H27K	Steamboat Moun	22.91	286	P	P	23 17 29.8	+2.0
H27K				IAmb	IAmb	23 18 01.5	
	comp=Z,14nm,0.9s						
H27K	Steamboat Moun	22.91	286	P	P	23 17 27.7	-0.1
	baz=41,SNR=12						
B22K	Teshekpuk Lake	22.92	301	P	P	23 17 27.7	-0.1
	baz=45						
KOTAN	Kotaneelee Air	22.94	260	P	P	23 17 28.4	+0.3
	baz=33,SNR=10.0						
TGTN	Hyland Airport	22.95	266	P	P	23 17 28.6	+0.4
	baz=35,SNR=8.8						
G26K	Porcupine Rive	22.97	289	P	P	23 17 28.3	-0.1
	baz=42						
F25K	Christian Rive	22.98	291	P	P	23 17 28.6	+0.1
	baz=42,SNR=9.1						
I28M	Miner Creek	23.08	283	P	P	23 17 31.0	+1.4
I28M				IAmb	IAmb	23 18 02.5	
	comp=Z,19nm,0.9s						
I28M	Miner Creek	23.08	283	P	P	23 17 29.8	+0.2
	baz=40						
TOLK	Toolik Lake Re	23.21	296	P	P	23 17 32.3	+1.4
TOLK				IAmb	IAmb	23 18 03.6	
	comp=Z,12nm,0.9s						
TOLK	Toolik Lake Re	23.21	296	P	P	23 17 30.6	-0.3
	baz=43						
D23K	Nanushuk River	23.25	297	P	P	23 17 31.2	-0.1
	baz=43						
E24K	Your Creek	23.36	294	P	P	23 17 32.2	-0.2
	baz=42						
I27K	Kandik River	23.41	285	P	P	23 17 32.6	-0.3
	baz=40,SNR=12						
F24K	Squaw Lake	23.62	293	P	P	23 17 34.9	0.0
	baz=42						
E23K	Chandalar	23.66	295	P	P	23 17 34.5	-0.8
	baz=42						
K29M	Barlow Dome	23.66	279	P	P	23 17 37.2	+1.7
K29M				IAmb	IAmb	23 17 48.8	
	comp=Z,23nm,0.9s						
K29M	Barlow Dome	23.66	279	P	P	23 17 35.5	0.0
	baz=38,SNR=16						
G25K	Bearman Lake	23.72	290	P	P	23 17 35.8	-0.1
	baz=41						
B21K	Ikpikpuk River	23.73	301	P	P	23 17 35.8	-0.1
	baz=43						
D22K	Ayikyak River	23.81	298	IAmb	IAmb	23 18 07.7	
	comp=Z,16nm,1.1s						
D22K	Ayikyak River	23.81	298	P	P	23 17 36.8	0.0
	baz=42						
DAWY	Dawson	24.00	281	P	P	23 17 40.4	+1.7
DAWY				IAmb	IAmb	23 17 56.0	
	comp=Z,21nm,0.9s						
DAWY	Dawson	24.00	281	P	P	23 17 38.1	-0.6
	baz=38,SNR=8.2						
H25L	Birch Creek	24.02	289	P	P	23 17 38.2	-0.5
	baz=40						
B20K	Meade River	24.05	303	P	P	23 17 39.0	+0.1
	baz=43						
I26K	Coal Creek Min	24.05	286	P	P	23 17 39.0	-0.1
	baz=40						
M31M	Drury Creek, Y	24.11	273	P	P	23 17 42.1	+2.5
M31M				IAmb	IAmb	23 18 17.0	
	comp=Z,9.3nm,0.8s						
M31M	Drury Creek, Y	24.11	273	P	P	23 17 39.8	+0.2
	baz=36						
LIRD	Liard River Hi	24.11	261	P	P	23 17 39.9	+0.3
	baz=32						
C21K	Knifeblade Rid	24.11	300	P	P	23 17 39.3	-0.3
	baz=42						
G24K	Hadweenzic Riv	24.13	291	P	P	23 17 39.8	+0.1
	baz=41						
E22K	Anaktuvuk Pass	24.15	296	P	P	23 17 39.6	-0.3
	baz=42						
WTLY	Watson Lake, Y	24.27	265	P	P	23 17 41.4	+0.3
	baz=34						
TOAD	Toad River Com	24.35	260	P	P	23 17 42.4	+0.5
	baz=32,SNR=8.9						
L29M	L29M	24.41	278	P	P	23 17 45.1	+2.6
L29M				IAmb	IAmb	23 17 53.5	
	comp=Z,32nm,1.4s						
L29M	L29M	24.41	278	P	P	23 17 42.9	+0.4
	baz=37						
COLD	Coldfoot	24.43	294	P	P	23 17 44.2	+1.7
COLD	Coldfoot	24.43	294	P	P	23 17 42.7	+0.2
	baz=41						
E21K	Killik River	24.45	298	P	P	23 17 43.1	+0.3
	baz=41						
M30M	Minto, Yukon	24.47	276	P	P	23 17 45.6	+2.7
M30M				IAmb	IAmb	23 18 01.2	
	comp=Z,18nm,1.0s						
M30M	Minto, Yukon	24.47	276	P	P	23 17 42.8	-0.1
	baz=37,SNR=5.5						
PRP	Porcupine Dome	24.52	288	P	P	23 17 46.1	+2.6
PRP				IAmb	IAmb	23 18 01.2	
	comp=Z,12nm,0.9s						
PRP	Porcupine Dome	24.52	288	P	P	23 17 43.4	-0.1
	baz=40,SNR=7.6						
N32M	Quiet Lake	24.60	271	P	P	23 17 43.9	-0.2
	baz=35						
F22K	John River	24.71	296	P	P	23 17 45.1	0.0
	baz=41						
K27K	Chicken	24.76	283	P	P	23 17

baz=40
P33M Teslin, Yukon 25.30 269 P P 23 17 50.9 +0.4
baz=34
SCRK Sand Creek 25.32 284 P P 23 17 53.4 +2.7
SCRK IAmb IAmb 23 18 09.0
comp=Z,9.6nm,1.1s
SCRK Sand Creek 25.32 284 P P 23 17 50.9 +0.2
baz=38
H23K Yukon River 25.34 291 P P 23 17 51.3 +0.5
baz=39
POKR Poker Plat Res 25.34 289 P P 23 17 51.1 +0.3
baz=38
D19K Kuna River 25.41 301 P P 23 17 51.3 -0.1
baz=40
BCAR Beaver Creek A 25.45 281 P P 23 17 55.1 +3.3
N30M Aishikik Lake 25.46 275 P P 23 17 52.3 +0.3
baz=35
L27K Beaver Creek, 25.46 281 P P 23 17 51.9 0.0
baz=37,SNR=29
ILAR Eielson Array 25.47 288 P P 23 17 53.6 +1.7
ILAR Eielson Array 25.47 288 P P 23 17 54.4 +2.5
comp=Z,1.5nm,0.8s,baz=36,slow=8.2,SNR=16
ILAR PcP **PcP 23 21 23.5 +0.4**
comp=Z,0.5nm,0.6s,baz=358,slow=2.1,SNR=5.0
comp=Z,1.5nm,0.8s
R33M Jennings River 25.47 266 P P 23 17 52.2 +0.1
baz=33
WHY Whitehorse 25.50 272 P P 23 17 52.7 +0.3
baz=34
ULM Lac du Bonnet 25.55 214 P P 23 17 54.2 +1.5
comp=Z,4.9nm,0.8s,baz=27,slow=9.0,SNR=1.9
comp=Z,4.9nm,0.8s
B18K Kokolik River 25.60 305 P P 23 17 53.0 0.0
baz=40
COLA College 25.64 289 P P 23 17 53.6 +0.2
baz=38
RIDG Independent Ri 25.74 285 P P 23 17 54.7 +0.3
baz=37
O30N Mendenhall 25.75 273 P P 23 17 54.9 +0.4
baz=34
H22K Ishtalinta Cre 25.76 293 P P 23 17 54.7 +0.2
baz=39,SNR=5.3
HDA Harding Lake 25.77 287 P P 23 17 56.1 +1.5
HDA Harding Lake 25.77 287 P P 23 17 54.7 +0.1
baz=38,SNR=10
CCB Clear Creek Bu 25.81 288 P P 23 17 57.1 +2.1
G21K Allakaket 25.81 295 P P 23 17 55.1 +0.1
baz=39
I23K Minto, Yukon-K 25.82 290 P P 23 17 54.8 -0.2
baz=38
L26K Log Cabin Wild 25.91 282 P P 23 17 55.9 0.0
baz=36
K24K Donnelly Dome 25.94 285 P P 23 17 56.0 -0.3
baz=37
F20K Avaraart Lake 25.95 298 P P 23 17 56.2 0.0
baz=39
VLDQ Val d'Or 25.96 185 P P 23 17 55.5 -0.9
VLDQ IAmb IAmb 23 18 17.6
comp=Z,14nm,0.9s
YUK4 Talbot Arm 25.98 276 P P 23 17 55.6 -1.2
baz=35
E19K Redstone River 26.00 299 P P 23 17 58.2 +1.5
E19K Redstone River 26.00 299 P P 23 17 56.5 -0.2
baz=39
C18K Utukok River 26.02 303 P P 23 17 56.3 -0.6
baz=39
DLBC Dease Lake 26.02 264 P P 23 17 56.6 -0.5
baz=32
M27K Edge Creek, AK 26.05 280 P P 23 17 56.8 -0.5
baz=36
P32M Atlin 26.07 269 P P 23 17 57.1 -0.4
baz=33
HYT Haines Junctio 26.10 274 P P 23 17 58.0 +0.3
HYT Haines Junctio 26.10 274 P P 23 17 57.0 -0.8
baz=34
NEA2 Nenana 26.19 289 P P 23 17 57.8 -0.6
baz=38
Q32M Nakina River 26.20 267 P P 23 17 59.4 +0.6
Q32M IAmb IAmb 23 18 10.9
comp=Z,28nm,1.4s
Q32M Nakina River 26.20 267 P P 23 17 58.5 -0.3
baz=32
YUK6 Outpost Mounta 26.24 275 P P 23 17 58.5 -0.7
baz=34
MLY Manley 26.27 291 P P 23 17 58.7 -0.6
baz=38
IMAR Indian Mountai 26.29 295 P P 23 17 60.0 +0.6
H21K Melozitna Rive 26.31 293 P P 23 17 59.0 -0.5
baz=38
M26K Nabesna, AK 26.32 281 P P 23 17 59.3 -0.4
baz=36
YUK8 Steele Glacier 26.34 277 P P 23 17 59.4 -0.7
baz=35
I21K Tanana 26.48 292 P P 23 18 00.4 -0.6
baz=38
P30M Million Dollar 26.53 273 P P 23 18 01.0 -0.6
baz=34
PAX Paxson 26.53 284 P P 23 18 04.2 +2.6
PAX IAmb IAmb 23 18 14.5
comp=Z,10nm,1.0s
PAX Paxson 26.53 284 P P 23 18 01.0 -0.6
baz=36
C17K DeLong Mountai 26.61 305 P P 23 18 01.4 -0.8
baz=38
F19K Shaleruckik Mo 26.62 299 P P 23 18 01.4 -0.9
baz=38
SKAG Skagway 26.63 271 P P 23 18 02.8 +0.3
baz=33
O29M Mount Kennedy 26.83 275 P P 23 18 04.6 +0.2
baz=34
MCK McKinley 26.84 288 P P 23 18 04.9 +0.6
baz=36
E18K Tukpahlearik C 26.84 301 P P 23 18 04.1 -0.2
baz=38
RDOG Red Dog Mine 26.88 304 P P 23 18 05.0 +0.3
baz=38
O28M Mount Upton 26.89 277 P P 23 18 04.8 -0.3
baz=34
HARP HAARP 26.91 283 P P 23 18 04.7 -0.3
baz=36
PLBC Pleasant Camp 26.92 272 P P 23 18 05.3 +0.2
baz=33
DHY Denali Highway 26.96 286 P P 23 18 05.3 -0.2
baz=36
H20K Anotleneega Mo 26.97 295 P P 23 18 05.9 +0.5
baz=37
CTG Chitna Glacier 27.04 278 P P 23 18 06.4 +0.1
baz=34
BPAW Bear Paw Mtn. 27.09 290 P P 23 18 07.2 +0.7
baz=36
P29M Windy Craggy 27.16 273 P P 23 18 06.9 -0.3
baz=33
MCARA McCarthy VSAT 27.16 280 P P 23 18 06.6 -0.6
baz=35
D17K Noatak River 27.20 303 P P 23 18 07.3 -0.2
baz=38
C16K Lisburne Hills 27.26 306 P P 23 18 08.6 +0.6
baz=37
F18K Selawik 27.27 300 P P 23 18 08.2 +0.2
baz=37
T35M Bob Quinn 27.34 263 P P 23 18 09.1 +0.2
baz=30
H19K Roundabout Mou 27.34 296 P P 23 18 08.6 -0.1
baz=37
E17K Hotham Inlet 27.40 302 P P 23 18 08.6 -0.7
baz=37
N25K Chitina, Valde 27.41 282 P P 23 18 08.8 -0.7
baz=35
R32K Eaglecrest 27.41 268 P P 23 18 08.4 -1.1
baz=32
M24K Tolsona, Glenn 27.42 284 P P 23 18 08.8 -0.8
baz=35
I20K Naaghedeneel 27.43 294 P P 23 18 08.6 -1.0
baz=36
TRF Thorofare Moun 27.43 289 P P 23 18 11.7 +1.9
TRF IAmb IAmb 23 18 32.9
comp=Z,12nm,1.2s
TRF Thorofare Moun 27.43 289 P P 23 18 08.8 -1.0
baz=36
WAT6 Susitna Watana 27.46 285 P P 23 18 08.4 -1.6
baz=35
PINM Pinnacle 27.46 276 P P 23 18 09.5 -0.5
baz=34
WAT1 Susitna Watana 27.47 286 P P 23 18 09.5 -0.6
baz=36
E62A Clayton Lake 27.48 173 P P 23 18 11.2 +1.1
E62A IAmb IAmb 23 18 46.0
comp=Z,22nm,1.4s

PNL Peninsula 27.59 275 P P 23 18 10.1 -1.0
baz=33
G18K Tagagawik 27.59 298 P P 23 18 09.9 -1.2
baz=37
CHUM Lake Minchumin 27.61 291 P P 23 18 10.2 -1.0
baz=36
CRQE Cirque 27.70 279 P P 23 18 11.6 -0.6
baz=34
F17K Baldwin Pennin 27.78 301 P P 23 18 12.0 -0.6
baz=37
J20K Nowinta River 27.84 292 P P 23 18 12.5 -0.8
baz=36
KLU Klutina 27.86 283 P P 23 18 12.8 -0.8
baz=34
BMRM Bremner River 27.94 281 P P 23 18 13.3 -0.9
baz=34
SCM Sheep Creek Mo 27.96 284 P P 23 18 13.5 -0.9
baz=35
ARCES ARCESS Array B 28.00 48 P P 23 18 14.6 0.0
ARCES IAmb IAmb 23 18 57.4
comp=Z,16nm,1.2s
ARCES ARCESS Array B 28.00 48 P P 23 18 14.5 -0.1
comp=Z,3.7nm,0.7s,baz=330,slow=8.4,SNR=10
comp=Z,3.7nm,0.7s
S32K Killisnoo 28.11 268 P P 23 18 15.3 -0.4
baz=31
H18K Honhosa River 28.12 297 P P 23 18 15.1 -0.6
baz=36
S31K Pelican 28.15 270 P P 23 18 15.4 -0.7
baz=31
U35K Hyder 28.20 261 P P 23 18 16.1 -0.4
baz=29
SML Sawmill 28.25 285 P P 23 18 19.5 +2.4
SML Sawmill 28.25 285 P P 23 18 15.9 -1.2
baz=34
BGLC Bering Glacier 28.28 279 P P 23 18 16.0 -1.2
baz=33
PPLA Purkeypile 28.38 289 P P 23 18 20.9 +2.6
PPLA IAmb IAmb 23 18 56.6
comp=Z,16nm,1.2s
PPLA Purkeypile 28.38 289 P P 23 18 16.6 -1.6
baz=35
G17K Kiwalik Mounta 28.40 299 P P 23 18 16.9 -1.3
baz=36
K20K Telida 28.49 291 P P 23 18 17.7 -1.4
baz=35
EYAK Cordova Ski Ar 28.60 281 P P 23 18 19.0 -1.0
baz=34
KNK Knik Glacier 28.61 285 P P 23 18 19.3 -0.9
baz=34
PMR Palmer 28.64 285 P P 23 18 19.7 -0.7
baz=34
GLI Glacier Island 28.69 283 P P 23 18 19.4 -1.4
baz=34
KAIM Kayak Island 28.76 279 P P 23 18 20.4 -1.0
baz=33
U33K Whale Pass 28.88 265 P P 23 18 21.8 -0.8
baz=30
G16K Koyuk River 28.90 300 P P 23 18 21.5 -1.1
baz=35
SKT Skwentna 28.96 288 P P 23 18 25.4 +2.0
SKT Skwentna 28.96 288 P P 23 18 21.5 -1.8
baz=34
PWL Port Wells 29.04 284 P P 23 18 23.0 -1.0
baz=33
V35K Ketchikan 29.15 262 P P 23 18 23.9 -1.1
baz=29
F15K North Star Dit 29.18 302 P P 23 18 24.0 -1.2
baz=35
RC01 Rabbit Creek A 29.23 285 P P 23 18 24.7 -0.9
baz=34
STLK Strandline Lak 29.45 287 P P 23 18 29.7 +2.1
M20K Styx River 29.47 289 P P 23 18 26.7 -1.1
baz=34
H16K Elim 29.49 299 P P 23 18 26.3 -1.6
baz=34
P23K Montague Islan 29.51 282 P P 23 18 26.9 -1.2
baz=33
G15K Niukluk 29.63 301 P P 23 18 27.7 -1.4
baz=34
L19K White Mountain 29.67 291 P P 23 18 27.8 -1.8
baz=34
J17K VABM Dome 29.74 295 P P 23 18 28.0 -2.1
baz=34
F14K Arctic Creek 29.77 303 P P 23 18 29.2 -1.2
baz=34
SPCR Spurr Chakacha 29.80 287 P P 23 18 29.3 -1.5
baz=33
J59A Piesco 30.56 181 P P 23 18 39.8 +2.2
J59A IAmb IAmb 23 18 48.4
comp=Z,11nm,0.9s
LLLB Lillooet 30.78 248 P P 23 18 39.1 -0.3
LLLB IAmb IAmb 23 18 56.2
comp=Z,8.8nm,0.9s
N18K Kilae Creek 31.20 290 P P 23 18 41.6 -1.6
baz=32
L16K Owhat River 31.26 294 P P 23 18 42.0 -1.5
baz=32
K15K Wolf Creek Mou 31.28 296 P P 23 18 42.7 -1.0
baz=32
NC303 NORSAR Array S 31.62 67 P P 23 18 47.6 +0.8
NB2 NORSAR Subarra 31.74 67 P P 23 18 45.4 -2.5
comp=Z,1.3nm,0.8s,baz=345,slow=6.2
NOA NORSAR Array B 31.74 67 P P 23 18 48.0 +0.1
comp=Z,0.4nm,0.6s,baz=322,slow=8.2,SNR=4.5
NOA LR LR 23 30 44.3
comp=Z,88nm,19.9s,baz=10.0,slow=35
comp=Z,0.4nm,0.6s
L59A Walton 31.84 182 P P 23 18 51.2 +2.3
L59A IAmb IAmb 23 19 07.2
comp=Z,6.6nm,0.8s
ECSD EROS Data Cent 32.02 212 P P 23 18 52.0 +1.6
ECSD IAmb IAmb 23 19 02.6
comp=Z,6.3nm,0.8s
PAOC Oil Creek Stat 32.62 188 P P 23 18 55.5 -0.2
M57A Sunshine Farm, 32.72 184 P P 23 18 57.5 +0.9
EKA Eskdalemuir Ar 32.80 85 P P 23 18 57.7 +0.5
comp=Z,2.4nm,0.7s,baz=332,slow=8.9,SNR=8.2
comp=Z,2.4nm,0.7s
HFS Hagfors 33.16 66 P P 23 18 59.5 -0.7
comp=Z,2.7nm,0.9s,baz=321,slow=1.8,SNR=1.5
comp=Z,2.7nm,0.9s
N58A Sunbury 33.21 184 P P 23 19 02.1 +1.3
ACSO Alum Creek Sta 34.06 192 P P 23 19 09.8 +1.6
FINES FINESS Array B 35.02 56 P P 23 19 16.9 +0.6
FINES FINESS Array B 35.02 56 P P 23 19 17.7 +1.4
comp=Z,3.1nm,0.9s,baz=337,slow=9.0,SNR=4.6
comp=Z,3.1nm,0.9s
Q56A Snyder Ridge, 35.07 187 P P 23 19 17.8 +0.8
Q56A IAmb IAmb 23 19 28.6
comp=Z,9.8nm,0.7s
Q54A Coxs Mills 35.19 189 P P 23 19 19.9 +1.8
Q54A IAmb IAmb 23 19 28.7
comp=Z,7.4nm,0.7s
PDAR Pinedale Array 35.26 228 P P 23 19 19.8 +0.9
PDAR Pinedale Array 35.26 228 P P 23 19 21.3 +2.4
comp=Z,0.6nm,0.5s,baz=12,slow=6.4,SNR=9.5
PDAR Lg Lg 23 30 32.8
baz=23,slow=17,SNR=2.2
comp=Z,0.6nm,0.5s
R40A Maddies Statio 36.80 204 P P 23 19 31.1 -0.7
R40A IAmb IAmb 23 19 41.9
comp=Z,8.5nm,0.9s
WIFE Three Sisters- 36.84 243 P P 23 19 31.4 -1.0
WIFE IAmb IAmb 23 19 45.7
comp=Z,9.8nm,0.8s
BBOR Butler Butte 38.16 243 P P 23 19 45.5 +2.1
DUG Dugway, Tooele 38.41 231 P P 23 19 48.9 +3.3
DUG IAmb IAmb 23 19 57.8
comp=Z,12nm,0.7s
T35A Sooner Cattle 38.69 209 P P 23 19 48.4 +0.6
W57A Gilead 38.98 188 P P 23 19 51.1 +0.9
W57A IAmb IAmb 23 20 00.5
comp=Z,7.3nm,0.6s
FCAR Ozark Folk Cen 39.16 204 P P 23 19 52.4 +0.7
PV18 Skein Mesa, Pa 39.48 225 P P 23 19 56.2 +1.5
R11B Troy Canyon, C 40.79 233 P P 23 20 05.7 +0.3
CLL Collm 40.81 74 eP P 23 20 07.0 +1.8
NVAR Mina Array Bea 41.33 236 P P 23 20 10.6 +0.7
NVAR Mina Array Bea 41.33 236 P P 23 20 12.2 +2.3
comp=Z,1.1nm,0.8s,baz=5.5,slow=9.1,SNR=4.0
comp=Z,1.1nm,0.8s
MNK Minsk 41.68 59 i P P 23 20 11.0 -1.4
comp=E,22nm,0.8s
MNK *i* P **P 23 20 11.0 -1.4**
comp=N,12nm,0.8s
MNK *i* P **P 23 20 11.0 -1.4**
comp=Z,5.0nm,0.7s,baz=336
MNK *i* PP **PP 23 21 47.5 -0.9**
MNK *i* PcP **PcP 23 22 07.2 -1.5**
MNK *i* PPP PPP 23 22 15.9
MNK *i* S **S 23 26 28.8 +0.2**
MNK *i* SS **SS 23 29 35.8 +2.4**
MNK *i* SSS SSS 23 30 04.3
MNK *i* LQ LQ 23 35 14.7
MNK *i* LR LR 23 38 07.3
MNK *i* LRM MLR 23 39 35.7
comp=Z,44nm,6.4s
MNK *i* LRM MLR 23 39 41.5
comp=E,68nm,8.2s
MNK *i* LRM MLR 23 39 45.6
comp=N,52nm,6.7s
GERES GERESS Array B 43.24 74 P P 23 20 26.7 +1.4
comp=N,0.4nm,0.4s,baz=339,slow=9.5,SNR=6.6
comp=N,0.4nm,0.4s
Y22A Socorro 43.29 221 P P 23 20 26.5 +0.6
W13A Hualapai Mount 43.54 230 P P 23 20 29.8 +1.9
DAVA Damuels 43.63 79 eP P 23 20 29.8 +1.3
comp=N,2.3nm,0.8s
RETA Reutte 43.69 78 eP P 23 20 29.9 +1.0
comp=N,4.5nm,1.1s
MOTA Moosalm 43.91 78 eP P 23 20 31.8 +1.1
comp=N,8.7nm,1.3s
WATA Walderalm 44.05 77 eP P 23 20 33.0 +1.2
comp=N,5.6nm,1.0s
FETA Feichten 44.10 78 epP pP 23 20 34.2 -0.9
comp=N,2.9nm,1.0s
WTTA Wattenberg 44.13 77 eP P 23 20 33.8 +1.3
comp=N,6.1nm,1.2s
SGCY Sterling City 44.28 214 P P 23 20 34.1 +0.4
CONA Conrad Observa 44.65 73 *i* P **P 23 20 38.2 +1.6**
comp=N,3.0nm,1.0s
KBA Koelnbreinsper 44.76 76 eP P 23 20 38.2 +0.7
comp=N,3.2nm,1.0s
ABTA Abfaltersbach 44.84 77 epP pP 23 20 41.0 0.0
comp=N,2.2nm,0.6s
RONA Rosalia, Austr 44.98 73 *i* pP pP 23 20 41.3 -0.7
comp=N,8.4nm,1.2s
CTI Castel Tesino 45.25 78 P P 23 20 42.6 +1.3
AKASG Malin Array Be 45.51 60 P P 23 20 43.7 +0.5
comp=N,0.8nm,0.5s,baz=336,slow=8.6,SNR=2.8
comp=N,0.8nm,0.5s
SOKA Soboth 45.58 75 eP P 23 20 44.6 +0.6
comp=N,2.5nm,1.0s
OBKA Obir 45.61 75 eP P 23 20 45.0 +0.8
comp=N,5.9nm,1.0s
TEOL Teolo 45.89 78 P P 23 20 47.8 +1.5
ARTI Arti 46.06 35 P P 23 20 48.7 +1.2
ZCCA Zocca 46.63 79 P P 23 20 55.0 +2.8
ESDC Sonseca Array 46.83 96 P P 23 20 55.7 +1.9
ESDC Sonseca Array 46.83 96 P P 23 20 54.9 +1.1
comp=N,3.0nm,0.9s,baz=341,slow=6.9,SNR=15
comp=N,3.0nm,0.9s
PAB San Pablo 46.84 96 P P 23 20 55.2 +1.2
PAB IAmb IAmb 23 21 18.7
comp=Z,6.0nm,1.1s
TX31 Lajitas Ar. Si 47.21 216 P P 23 20 57.5 +0.6
TXAR Lajitas Array 47.21 216 P P 23 20 58.9 +1.9
TXAR Lajitas Array 47.21 216 P P 23 20 59.0 +2.1
comp=Z,3.0nm,1.0s,baz=11,slow=7.9,SNR=17
TXAR PcP **PcP 23 22 30.0 +1.8**
comp=Z,0.2nm,0.5s,baz=25,slow=5.3,SNR=0.9
comp=Z,3.0nm,1.0s
BUR08 Bucovina Ar. S 47.34 65 P P 23 20 58.1 +0.3
BUR08 IAmb IAmb 23 21 19.3
comp=Z,4.3nm,1.1s
BURAR Bucovina Array 47.38 65 P P 23 20 59.4 +1.4
MURB Monte Urbino 48.06 79 P P 23 21 04.7 +1.3
FDMO Fiordimonte 48.42 78 P P 23 21 07.2 +1.1
NRCA Norcia 48.62 78 P P 23 21 08.6 +0.9
NRCA IAmb IAmb 23 21 12.1
comp=Z,8.3nm,0.9s
CAMP Campotosto 48.98 78 P P 23 21 11.5 +1.0
CAMP IAmb IAmb 23 21 13.0
comp=Z,9.9nm,1.1s
PDG Podgorica 50.65 73 P P 23 21 24.1 +1.1
PDG IAmb IAmb 23 21 24.5
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 51.04 27 P P 23 21 27.2 +1.3
comp=Z,4.5nm,0.7s,baz=354,slow=8.7,SNR=22
BVAR PcP **PcP 23 22 42.7 +1.1**
comp=Z,1.0nm,0.6s,baz=355,slow=3.3,SNR=2.3
comp=Z,4.5nm,0.7s
ZAA0 Zalesovo Array 51.59 16 P P 23 21 30.5 +0.5
ZALV Zalesovo Beam 51.59 16 P P 23 21 30.6 +0.6
ZALV Zalesovo Beam 51.59 16 P P 23 21 30.7 +0.7
comp=Z,11nm,0.7s,baz=352,slow=6.7,SNR=53
comp=Z,11nm,0.7s
AB31 Akbulak array 53.20 36 P P 23 21 42.8 +0.9
AB31 IAmb IAmb 23 21 43.9
comp=Z,10nm,1.4s
ABKAR Akbulak array 53.20 36 P P 23 21 42.9 +1.0
KURK Kurchatov 54.25 21 P P 23 21 50.2 +0.6
KURK IAmb IAmb 23 21 51.3
comp=Z,4.9nm,0.7s
KURBB Kurchatov Arra 54.33 21 P P 23 21 50.8 +0.6
comp=Z,4.8nm,0.7s,baz=351,slow=6.6,SNR=43
comp=Z,4.8nm,0.7s
KBZ Khabaz 55.22 52 P P 23 21 58.3 +1.5
comp=Z,2.3nm,0.8s,baz=348,slow=6.5,SNR=7.1
comp=Z,2.3nm,0.8s
HILR Hailar Array B 56.45 349 P P 23 22 06.7 +1.1
comp=Z,4.2nm,0.6s,baz=4.4,slow=7.5,SNR=5.1
comp=Z,4.2nm,0.6s
BRTR Keskin Array B 56.88 61 P P 23 22 10.3 +1.4
BRTR Keskin Array B 56.88 61 P P 23 22 09.8 +1.0
comp=Z,0.8nm,0.6s,baz=341,slow=5.5,SNR=5.7
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 58.48 19 P P 23 22 20.0 +0.1
MKAR Makanchi Array 58.48 19 P P 23 22 19.9 0.0
comp=Z,1.5nm,0.9s,baz=4.2,slow=5.9,SNR=2.9
comp=Z,1.5nm,0.9s
SONM Songino Array 58.52 360 P P 23 22 22.2 +1.9
SONM IAmb IAmb 23 22 23.0
comp=Z,4.1nm,0.9s
SONM Songino Array 58.52 360 P P 23 22 21.7 +1.4
comp=Z,3.2nm,0.8s,baz=355,slow=6.7,SNR=9.5
comp=Z,3.2nm,0.8s
ASAJ Asahikawa 59.66 330 LR LR 23 52 00.4
comp=Z,30nm,18.1s,baz=129,slow=40
KK31 Karatay Array 60.79 29 P P 23 22 37.0 +1.2
KK31 IAmb IAmb 23 22 37.9
comp=Z,4.5nm,0.7s
KKAR Karatay Array 60.79 29 P P 23 22 37.5 +1.6
USRK Ussuriysk Ar. 60.84 339 P P 23 22 37.1 +0.9
comp=Z,4.5nm,0.9s,baz=12,slow=7.4,SNR=5.6
comp=Z,4.5nm,0.9s
AAK Ala-Archa 61.76 26 P P 23 22 44.2 +1.6
AAK IAmb IAmb 23 22 45.7
comp=Z,7.1nm,1.1s
AAK Ala-Archa 61.76 26 P P 23 22 44.5 +1.8
comp=Z,3.5nm,0.8s,baz=338,slow=19,SNR=6.9
comp=Z,3.5nm,0.8s
ARSB Arslanbob 62.87 27 P P 23 22 51.2 +1.2
CHGR Chuyangaron 64.97 31 P P 23 23 05.6 +1.8
KSH Kashi 65.02 25 P P 23 23 08.5 +4.3
KSH pmax pmax
comp=Z,6.0nm,1.1s
HHC Hu-ho-hao-te 65.44 355 eP P 23 23 08.0 +1.1
HHC pmax pmax
comp=Z,9.0nm,0.7s
GTA Gaotai 66.86 5 eP P 23 23 17.1 +1.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 67.69 332 P P 23 23 21.4 +0.2
comp=Z,1.6nm,0.8s,baz=352,slow=7.4,SNR=4.1
comp=Z,1.6nm,0.8s
KSRS Korea Array 67.91 341 P P 23 23 23.2 +0.7
comp=Z,0.8nm,0.5s,baz=1.9,slow=7.4,SNR=5.2
comp=Z,0.8nm,0.5s
LZH Lanzhou 70.25 2 eP P 23 23 39.3 +2.0
LZH sP sP 23 23 46.4 +5.0
LZH pmax pmax
comp=Z,16nm,1.1s
LZDM Lanzhou Array 70.38 2 P P 23 23 39.2 +1.0
comp=Z,1.8nm,0.4s,baz=343,slow=1.5,SNR=3.6
comp=Z,1.8nm,0.4s
TORD Torodi Ar. Bea 73.49 100 P P 23 23 57.5 +0.9
TORD Torodi Ar. Bea 73.49 100 P P 23 23 56.9 +0.2
comp=Z,1.5nm,0.4s,baz=341,slow=7.5,SNR=2.1
comp=Z,1.5nm,0.4s
NJ2 Nanjing 73.94 349 eP P 23 23 58.6 -0.5
NJ2 pmax pmax
comp=Z,14nm,0.5s

EVN	**Everest**	**77.56**	**17**	P	**P**	**23 24 21.5**	**+0.7**
EVN				IAmb	IAmb	23 24 22.7	
	comp=Z,7.5nm,0.9s						
DBIC	**Dimbokro**	**77.91**	**108**	P	**P**	**23 24 22.3**	**+0.3**
DBIC	**Dimbokro**	**77.91**	**108**	P	**P**	**23 24 22.1**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=344,slow=6.1,SNR=4.4						
	comp=Z,6.0nm,0.8s						
PZH	**PanZhiHua**	**79.78**	**4**	P	**P**	**23 24 33.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**87.71**	**7**	P	**P**	**23 25 12.3**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=10,slow=4.5,SNR=1.8						
	comp=Z,1.6nm,0.3s						
WRA	**Warramunga Arr**	**123.80**	**328**	PKP	**PKiKP**	**23 31 22.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=5.6,slow=2.0,SNR=5.3						
ASAR	**Alice Springs**	**127.52**	**327**	PKPdf	**PKPdf**	**23 31 28.7**	**-0.1**
ASAR	**Alice Springs**	**127.52**	**327**	PKP	**PKPdf**	**23 31 28.9**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=3.8,slow=2.8,SNR=7.2						
SNAA	**Sanae**	**151.96**	**140**		**PKiKP**	**23 32 18.0**	**+0.3**
SNAA	**Sanae**	**151.96**	**140**	PKPbc	**PKiKP**	**23 32 17.9**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=282,slow=5.3,SNR=56						
QSPA	**South Pole Qui**	**163.89**	**180**	PKPab	**PKPab**	**23 33 22.2**	**+3.6**
QSPA	**South Pole Qui**	**163.89**	**180**	PKPab	**PKPab**	**23 33 22.0**	**+3.4**
	comp=Z,1.6nm,1.0s,baz=159,slow=3.4,SNR=3.5						
VNDA	**Vanda**	**166.28**	**229**		**PKPab**	**23 33 31.0**	**+2.1**
VNDA	**Vanda**	**166.28**	**229**	PKPab	**PKPab**	**23 33 31.4**	**+2.5**
	comp=Z,0.6nm,1.0s,baz=45,slow=5.7,SNR=2.5						

*NORS **22** 23:13:41.0, 42.°41N×43.°30E, h4km, MPVA3.3*
*AFAD **22** 23:13:42.3, 42.°47N×43.°12E, h22km±1km, ML2.3*
ISC 22 23:13:41.7±1.1, 42.°42N±0.°03×43.°28E±0.°04, h9km±10km, n18, σ0.°92/33, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.52**	**25**	*e*Pg	**Pg**	**23 13 50.9**	**-1.0**
DIGR				*e*Sg	**Sg**	23 13 58.3	-0.6
LACR	**Lac**	**0.85**	**61**	*e*Pg	**Pg**	**23 13 57.2**	**-0.9**
LACR				*e*Sg	**Sg**	23 14 08.9	-0.3
KORR	**Kora**	**0.88**	**41**	*e*Pg	**Pg**	**23 13 58.5**	**-0.1**
KORR				*e*Sg	**Sg**	23 14 11.0	+0.9
LSNR	**Lesken**	**0.94**	**25**	*e*Pg	**Pb**	**23 13 59.4**	**-1.0**
LSNR				*e*Sg	**Sb**	23 14 13.2	+0.3
EPOS	**Posof**	**1.01**	**204**	P	**Pb**	**23 14 00.9**	**-0.5**
EPOS				S	**Sn**	23 14 15.2	-1.4
ARNR	**Ardon**	**1.06**	**44**	*e*Pg	**Pn**	**23 14 02.7**	**-0.1**
ARNR				*e*Sg	**Sn**	23 14 18.2	+0.6
NCK	**Nalchik**	**1.10**	**12**	*e*Pg	**Pg**	**23 14 02.7**	**-0.1**
NCK				*e*Sg	**Sn**	23 14 18.3	-0.4
STDR	**Stavd-Durt**	**1.11**	**31**	*e*Pg	**Pg**	**23 14 04.1**	**+1.2**
STDR				*e*Sg	**Sn**	23 14 20.1	+1.2
AHAN	**Ardahan-Merkez**	**1.35**	**202**	P	**Pg**	**23 14 08.3**	**+0.7**
AHAN				S	**Sg**	23 14 27.5	+2.3
AHAN				*i* IAML		23 14 31.0	
	comp=E,35nm,0.6s						
SHA1	**Shidzhatmaz**	**1.39**	**341**	*e*Pg	**Pb**	**23 14 07.4**	**-0.7**
SHA1				*e*Sg	**Sg**	23 14 26.8	+0.3
KBTC	**Kuba-Taba**	**1.40**	**4**	*e*Pg	**Pg**	**23 14 09.1**	**+0.6**
KBTC				*e*Sg	**Sg**	23 14 29.1	+2.5
DBOC	**Borcka**	**1.62**	**229**	P	**Pb**	**23 14 11.2**	**-0.6**
DBOC				S	**Sg**	23 14 33.3	-0.4
DBOC				*i* IAML		23 14 34.0	
	comp=E,30nm,0.4s						
GOLE	**Ardahan-G¶le**	**1.67**	**198**	P	**Pg**	**23 14 13.6**	**-0.1**
EAK	**Akyaka**	**1.75**	**172**	P	**Pb**	**23 14 14.0**	**-0.2**
DBAD	**Bademkaya**	**1.84**	**221**	P	**Pb**	**23 14 15.0**	**-0.6**
DBAD				S	**Sg**	23 14 39.8	-1.0
DBAD				*i* IAML		23 14 41.0	
	comp=N,29nm,0.3s						
DBAD				*i* IAML		23 14 42.0	
	comp=E,37nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**1.84**	**187**	P	**Pb**	**23 14 16.4**	**+0.6**
DDEM	**Demirkent**	**1.91**	**217**	P	**Pb**	**23 14 16.6**	**-0.2**
DDEM				S	**Sb**	23 14 40.8	-0.1
DDEM				*i* IAML		23 14 43.0	
	comp=N,60nm,0.3s						
DIGO	**Kars**	**2.01**	**178**	P	**Pb**	**23 14 18.5**	**0.0**
DIGO				S	**Sg**	23 14 46.3	0.0
DIGO				*i* IAML		23 14 51.0	
	comp=N,40nm,0.8s						

*KRNET **22** 23:15:57.4±0.1, 42.°19N×78.°47E, h15km, mb2.5*
*SOME **22** 23:15:57.7, 42.°18N×78.°35E, h5km*
*NNC **22** 23:15:58.1±0.9, 42.°19N×78.°39E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=6.2km s-min=3.5km az=165.0*
ISC 22 23:15:59.4±1.2, 42.°24N±0.°04×78.°25E±0.°03, h5km±10km, n27, σ1.9±46/46, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.27**	**25**	⇑*i*P	**Pg**	**23 16 03.9**	**-0.9**
PRZ				⇑*i*S	**Sg**	23 16 08.1	-0.3
TARG	**Taragay, Kyrgy**	**0.61**	**213**	⇑*i*P	**Pg**	**23 16 10.5**	**-0.6**
TARG				⇑*i*S	**Sg**	23 16 19.6	+0.5
KDJ	**Kajisay**	**0.80**	**263**	⇑*i*P	**Pb**	**23 16 15.5**	**-0.5**
KDJ				⇑*i*S	**Sn**	23 16 28.8	-1.2
SATY	**Saty**	**0.83**	**8**	P	**Pg**	**23 16 14.8**	**-0.6**
	4.6nm,0.3s						
SATY				S	**Sb**	23 16 27.6	-0.4
	16nm,0.1s						
TNSS	**Tian-Shan**	**1.25**	**310**	P	**Pg**	**23 16 23.7**	**+0.3**
	1.2nm,0.3s						
TNSS				S	**Sn**	23 16 42.3	+0.9
	2.3nm,0.2s						
TNSS	**Tian-Shan**	**1.25**	**310**	*e*P	**Pg**	**23 16 23.7**	**+0.3**
	0.2nm,0.0s						
TNSS				*e*S	**Sn**	23 16 42.3	+0.9
	1.9nm,0.2s						
KURS	**Kuram**	**1.25**	**357**	P	**Pg**	**23 16 23.8**	**+0.4**
	1.6nm,0.1s						
KURS				S	**Sn**	23 16 42.6	+1.6
	1.5nm,0.2s						
KPKS	**Kokpek**	**1.27**	**15**	P	**Pn**	**23 16 21.5**	**-2.5**
	0.2nm,0.1s						
KPKS				S	**Sb**	23 16 38.7	-1.9
	4.3nm,0.2s						
KPKS	**Kokpek**	**1.27**	**15**	*e*P	**Pn**	**23 16 21.5**	**-2.5**
	0.9nm,0.0s						
KPKS				*e*S	**Sb**	23 16 38.9	-1.7
	1.8nm,0.1s						
MDOK	**Medeo**	**1.28**	**317**	Pg	**Pn**	**23 16 23.6**	**-0.6**
	2.7nm,0.2s						
MDOK				Lg	Lg	23 16 42.1	
	5.9nm,0.4s						
SHLS	**Shalkode**	**1.28**	**44**	P	**Pg**	**23 16 25.5**	**+1.4**
	5.4nm,0.2s						
SHLS				S	**Sn**	23 16 45.3	+3.5
	24nm,0.3s						
SHLS	**Shalkode**	**1.28**	**44**	*e*P	**Pg**	**23 16 25.5**	**+1.4**
	1.7nm,0.1s						
SHLS				*e*S	**Sn**	23 16 45.4	+3.6
	14nm,0.2s						
ULHL	**Ulahol**	**1.49**	**271**	⇓*i*P	**Pg**	**23 16 28.1**	**+0.1**
ULHL				⇓*i*S	**Sg**	23 16 50.3	+3.0
MTBS	**Maitube**	**1.61**	**304**	P	**Pg**	**23 16 30.1**	**-0.2**
	1.8nm,0.1s						
MTBS				S	**Sg**	23 16 53.3	+2.1
	17nm,0.2s						
MTBS	**Maitube**	**1.61**	**304**	*e*P	**Pg**	**23 16 30.1**	**-0.2**
	1.8nm,0.1s						
MTBS				*e*S	**Sg**	23 16 53.3	+2.1
	17nm,0.2s						
BOOM	**Boomskoye usch**	**1.73**	**279**	⇑*i*P	**Pb**	**23 16 32.1**	**+0.3**
BOOM				⇑*i*S	**Sg**	23 16 57.5	+2.5
CHKK	**Chushkaly**	**1.86**	**331**	Pg	**Pb**	**23 16 33.5**	**-0.4**
	8.1nm,0.2s						
CHKK				Lg	Lg	23 16 59.5	
	8.7nm,0.3s						
CHKK	**Chushkaly**	**1.86**	**331**	*e*P	**Pb**	**23 16 33.5**	**-0.4**
	8.1nm,0.2s						
CHKK				*e*S	**Sg**	23 16 59.5	+0.3
	8.7nm,0.3s						
KST	**Kastek**	**1.87**	**296**	Pg	**Pb**	**23 16 34.5**	**+0.3**
	1.7nm,0.3s						
KST				Lg	Lg	23 17 00.9	
	23nm,0.7s						
KST	**Kastek**	**1.87**	**296**	*e*P	**Pb**	**23 16 34.5**	**+0.3**
	1.7nm,0.3s						
KST				*e*S	**Sg**	23 17 00.9	+1.4
	23nm,0.7s						
KTBS	**Karatobe**	**1.87**	**323**	Pg	**Pb**	**23 16 34.5**	**+0.3**
	7.4nm,0.3s						
KTBS				Lg	Lg	23 17 00.7	
	8.8nm,0.3s						
ARXS	**Arharly**	**2.00**	**351**	Pg	**Pb**	**23 16 35.5**	**-0.8**
	6.2nm,0.5s						
ARXS				Lg	Lg	23 17 02.4	
	3.2nm,0.2s						
ARXS	**Arharly**	**2.00**	**351**	*e*P	**Pb**	**23 16 35.5**	**-0.8**
	6.2nm,0.5s						
ARXS				*e*S	**Sg**	23 17 02.5	-1.2
	3.2nm,0.2s						
TKM2	**Tokmak 2**	**2.07**	**290**	⇑*i*P	**Pb**	**23 16 37.1**	**-0.6**
TKM2				⇑*i*S	**Sg**	23 17 06.2	+0.2
DGS	**Degeres**	**2.08**	**300**	Pg	**Pb**	**23 16 38.4**	**+0.6**
	0.9nm,0.2s						
DGS				Lg	Lg	23 17 07.4	
	7.3nm,0.4s						
KRBS	**Karabastau**	**2.38**	**309**	Pg	**Pb**	**23 16 43.4**	**+0.4**
	0.9nm,0.3s						
KRBS				Lg	Lg	23 17 16.3	
	2.5nm,0.3s						
KAPS	**Kapalarasan**	**3.15**	**14**	Pg	**Pb**	**23 16 57.2**	**+1.2**
	1.5nm,0.3s						
KAPS				Lg	Lg	23 17 39.7	
	6.5nm,0.1s						

*IDC **22** 23:25:59.1±2.1, 17.°51N×101.°01W, h0km, mb4.4/7, mbtmp4.2/11, ML3.5/5, MS4.1/22, Error ellipse: s-maj=46.6km s-min=15.8km az=29.0*
*MEX **22** 23:25:59.7±0.6, 17.°13N×101.°41W, h16km±10km, MD4.9*
*NEIC **22** 23:25:59.9±2.1, 17.°32N±0.°10×101.°16W±0.°05, h10km±1km, mb4.4/182, Md4.9/185(MEX), Error ellipse: s-maj=16.5km s-min=7.5km az=187.0*
*GCMT **22** 23:26:03.9±0.4, 17.°31N±0.°02×101.°10W±0.°03, h24km±1km, MW4.9/84, Moment Tensor Solution. s30,c35; s84,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.17; $M_{\theta\theta}$-2.14±.10; $M_{\phi\phi}$-0.39±.10; $M_{r\theta}$1.46±.12; $M_{\theta\phi}$0.98±.06; $M_{\phi r}$-0.82±.13; Best double couple: $M_0$3.05900×10^{16} NP1:ϕ_s291.00000°, δ29.00000°, λ85.00000°. NP2: ϕ_s117.00000°, δ62.00000°, λ93.00000°. Principal axes: T 3.0410, Plg73.0000°, Azm34.0000°; N 0.0390, Plg2.0000°, Azm296.0000°; P -3.0770, Plg17.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 23:25:57.8±1.2, 17.°19N±0.°03×101.°24W±0.°02, h6km±7km, n577, σ1.9±27/659, mb4.4/53, MS4.2/21, 20C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**333**		**Pg**	**23 26 07.5**	**+0.7**
ZIIG					**Sg**	23 26 13.6	+0.7
ZIIG	**Zihuatanejo**	**0.46**	**333**	⇓*i*P	**Pg**	**23 26 07.5**	**+0.7**
ZIIG				*i* S	**Sg**	23 26 13.6	+0.7
ATYC	**Atoyac**	**0.78**	**88**		**Pb**	**23 26 14.1**	**+0.4**
ATYC					**Sb**	23 26 25.3	+0.8
ATYC	**Atoyac**	**0.78**	**88**	*e*P	**Pb**	**23 26 14.1**	**+0.4**
ATYC				*e*S	**Sb**	23 26 25.3	+0.8
CAIG	**El Cayaco**	**0.94**	**99**		**Pg**	**23 26 16.4**	**+0.4**
CAIG					**Sb**	23 26 29.7	+0.3
CAIG	**El Cayaco**	**0.94**	**99**	⇑*e*P	**Pg**	**23 26 16.4**	**+0.4**
CAIG				*e*S	**Sb**	23 26 29.7	+0.3
ARIG	**Puente Sto Nin**	**1.38**	**38**		**Pn**	**23 26 23.1**	**-0.5**
ARIG					**Sg**	23 26 40.8	-1.4
ARIG	**Puente Sto Nin**	**1.38**	**38**	⇑*e*P	**Pn**	**23 26 23.1**	**-0.5**
ARIG				*e*S	**Sg**	23 26 40.8	-1.4
VNTA	**La Mica**	**1.39**	**101**		**Pn**	**23 26 24.3**	**+0.6**
VNTA					**Sn**	23 26 43.5	+1.0
VNTA	**La Mica**	**1.39**	**101**	*e*P	**Pn**	**23 26 24.3**	**+0.6**
VNTA				*e*S	**Sn**	23 26 43.5	+1.0
DAIG	**Los Arroyos**	**1.53**	**96**		**Pn**	**23 26 25.0**	**-0.7**
DAIG					**Sn**	23 26 44.1	-1.8
DAIG	**Los Arroyos**	**1.53**	**96**	*e*P	**Pn**	**23 26 25.0**	**-0.7**
DAIG				*e*S	**Sn**	23 26 44.1	-1.8
MEIG	**Mezcala**	**1.71**	**65**		**Pn**	**23 26 28.3**	**0.0**
MEIG					**Sn**	23 26 49.8	-0.7
MEIG	**Mezcala**	**1.71**	**65**	⇑*e*P	**Pn**	**23 26 28.3**	**0.0**
MEIG				*e*S	**Sn**	23 26 49.8	-0.7
PLIG	**Platanillo**	**2.04**	**54**		**Pn**	**23 26 32.9**	**+0.1**
PLIG					**Sn**	23 26 58.8	+0.1
PLIG	**Platanillo**	**2.04**	**54**	⇑*e*P	**Pn**	**23 26 32.9**	**+0.1**
PLIG				*e*S	**Sn**	23 26 58.8	+0.1
CRIG	**Cruz Grande**	**2.07**	**102**		**Pn**	**23 26 32.7**	**-0.4**
CRIG					**Sg**	23 27 04.8	+0.4
CRIG	**Cruz Grande**	**2.07**	**102**	⇑*e*P	**Pn**	**23 26 32.7**	**-0.4**
CRIG				*e*S	**Sg**	23 27 04.8	+0.4
MMIG	**Aquila**	**2.28**	**299**		**Pn**	**23 26 34.1**	**-1.9**
MMIG					**Sn**	23 27 04.8	+0.4
MMIG	**Aquila**	**2.28**	**299**	⇑*e*P	**Pn**	**23 26 34.1**	**-1.9**
MMIG				*e*S	**Sn**	23 27 04.8	+0.4
URUA	**Uruapan**	**2.35**	**341**		**Pn**	**23 26 38.9**	**+1.7**
URUA					**Sb**	23 27 08.9	-1.2
URUA	**Uruapan**	**2.35**	**341**	*e*P	**Pn**	**23 26 38.9**	**+1.7**
URUA				*e*S	**Sb**	23 27 08.9	-1.2
MAVM	**Malinalco, Edo**	**2.42**	**43**		**Pg**	**23 26 45.4**	**+1.1**
MAVM					**Sn**	23 27 09.6	+1.5
MAVM	**Malinalco, Edo**	**2.42**	**43**	*e*P	**Pg**	**23 26 45.4**	**+1.1**
MAVM				*e*S	**Sn**	23 27 09.6	+1.5
MOIG	**Morelia**	**2.47**	**1**		**Pn**	**23 26 38.0**	**-0.9**
MOIG	**Morelia**	**2.47**	**1**	⇑*e*P	**Pn**	**23 26 38.9**	**+0.1**
MOIG				*e*S	**Sn**	23 27 07.8	-1.7
MGIG	**Malinaltepec**	**2.49**	**89**		**Pn**	**23 26 39.6**	**+0.5**
MGIG					**Sn**	23 27 09.9	0.0
MGIG	**Malinaltepec**	**2.49**	**89**	⇑*e*P	**Pn**	**23 26 39.6**	**+0.5**
MGIG				*e*S	**Sn**	23 27 09.9	0.0
TLIG	**Tlapa**	**2.58**	**81**	*e*P	**Pn**	**23 26 41.0**	**+0.7**
TLIG				*e*S	**Sn**	23 27 11.8	-0.3
HMTT	**Tlapaneco**	**2.63**	**76**		**Pn**	**23 26 41.8**	**+0.9**
HMTT					**Sb**	23 27 17.8	-0.3
HMTT	**Tlapaneco**	**2.63**	**76**	*e*P	**Pn**	**23 26 41.8**	**+0.9**
HMTT				*e*S	**Sb**	23 27 17.8	-0.3
YAIG	**Yautepec**	**2.65**	**51**		**Pn**	**23 26 40.6**	**-0.6**
YAIG					**Sn**	23 27 14.1	+0.3
YAIG	**Yautepec**	**2.65**	**51**	⇑*e*P	**Pn**	**23 26 40.6**	**-0.6**
YAIG				*e*S	**Sn**	23 27 14.1	+0.3
INVM	**La Marquesa**	**2.73**	**40**		**Pn**	**23 26 42.5**	**-0.1**
INVM					**Sn**	23 27 16.5	+0.3
INVM	**La Marquesa**	**2.73**	**40**	*e*P	**Pn**	**23 26 42.5**	**-0.1**
INVM				*e*S	**Sn**	23 27 16.5	+0.3
AOVM	**Tlapan**	**2.75**	**41**		**Pn**	**23 26 41.7**	**-1.3**
AOVM					**Sn**	23 27 16.0	-0.8
AOVM	**Tlapan**	**2.75**	**41**	⇑*e*P	**Pn**	**23 26 41.7**	**-1.3**
AOVM				*e*S	**Sn**	23 27 16.0	-0.8
MZVM		**2.76**	**44**		**Pn**	**23 26 43.0**	**+0.4**
MZVM					**Sn**	23 27 16.4	+0.3
MZVM		**2.76**	**44**	*e*P	**Pn**	**23 26 43.0**	**+0.4**
MZVM				*e*S	**Sn**	23 27 16.4	+0.3
TLVM	**San Miguel Top**	**2.82**	**44**		**Pn**	**23 26 43.4**	**-0.4**
TLVM					**Sn**	23 27 19.0	+0.7
TLVM	**San Miguel Top**	**2.82**	**44**	*e*P	**Pn**	**23 26 43.4**	**-0.4**
TLVM				*e*S	**Sn**	23 27 19.0	+0.7
CJVM	**Cuajimalpa**	**2.85**	**40**		**Pn**	**23 26 43.2**	**-0.8**
CJVM					**Sn**	23 27 18.7	-0.1
CJVM	**Cuajimalpa**	**2.85**	**40**	*e*P	**Pn**	**23 26 43.2**	**-0.8**
CJVM				*e*S	**Sn**	23 27 18.7	-0.1
XCVM	**Xochimilco**	**2.88**	**44**		**Pn**	**23 26 43.9**	**-0.6**
XCVM					**Sn**	23 27 18.5	-1.1
XCVM	**Xochimilco**	**2.88**	**44**	*e*P	**Pn**	**23 26 43.9**	**-0.6**
XCVM				*e*S	**Sn**	23 27 18.5	-1.1
CUP5	**Mexico City**	**2.89**	**42**		**Pb**	**23 26 49.8**	**-0.2**
CUP5					**Sb**	23 27 27.4	+1.6
CUP5	**Mexico City**	**2.89**	**42**	*e*P	**Pb**	**23 26 49.8**	**-0.2**
CUP5				*e*S	**Sb**	23 27 27.4	+1.6
UNM	**Universidad Na**	**2.89**	**42**	Pn	**Pn**	**23 26 43.9**	**-0.8**
UNM	**Universidad Na**	**2.89**	**42**	⇑*e*P	**Pn**	**23 26 45.1**	**+0.5**
UNM				*e*S	**Sn**	23 27 20.6	+0.7
COVM	**Coyoacan**	**2.92**	**42**		**Pn**	**23 26 44.7**	**-0.4**
COVM					**Sn**	23 27 20.0	-0.6
COVM	**Coyoacan**	**2.92**	**42**	*e*P	**Pn**	**23 26 44.3**	**-0.8**
COVM				*e*P	Pb	23 26 44.7	-5.8
COVM				*e*S	**Sn**	23 27 20.0	-0.6
COVM				*e*S	**Sb**	23 27 22.0	-4.6
BJVM	**Benito Juarez**	**2.93**	**42**		**Pn**	**23 26 45.7**	**+0.5**
BJVM					**Sn**	23 27 20.8	-0.1
BJVM	**Benito Juarez**	**2.93**	**42**	*e*P	**Pn**	**23 26 45.7**	**+0.5**
BJVM				*e*S	**Sn**	23 27 20.8	-0.1
MHVM	**Bosque de Chap**	**2.93**	**41**		**Pn**	**23 26 44.9**	**-0.4**
MHVM					**Sn**	23 27 20.4	-0.5
MHVM	**Bosque de Chap**	**2.93**	**41**	*e*P	**Pn**	**23 26 44.9**	**-0.4**
MHVM				*e*S	**Sn**	23 27 20.4	-0.5
CTVM	**Cuauhtemoc**	**2.98**	**41**		**Pn**	**23 26 46.6**	**+0.7**
CTVM					**Sn**	23 27 23.1	+0.9
CTVM	**Cuauhtemoc**	**2.98**	**41**	*e*P	**Pn**	**23 26 46.6**	**+0.7**
CTVM				*e*S	**Sn**	23 27 23.1	+0.9
APVM	**Azcapotzalco**	**2.99**	**40**		**Pn**	**23 26 45.5**	**-0.5**
APVM					**Sn**	23 27 22.4	+0.1
APVM	**Azcapotzalco**	**2.99**	**40**	*e*P	**Pn**	**23 26 45.5**	**-0.5**
APVM				*e*S	**Sn**	23 27 22.4	+0.1
THVM	**De Xico**	**3.01**	**45**		**Pn**	**23 26 46.8**	**+0.4**
THVM					**Sn**	23 27 22.7	-0.2
THVM	**De Xico**	**3.01**	**45**	*e*P	**Pn**	**23 26 46.8**	**+0.4**
THVM				*e*S	**Sn**	23 27 22.7	-0.2
AZVM	**Cuida Lopez Ma**	**3.02**	**38**		**Pn**	**23 26 46.4**	**0.0**
AZVM					**Sn**	23 27 23.0	-0.1
AZVM	**Cuida Lopez Ma**	**3.02**	**38**	*e*P	**Pn**	**23 26 46.4**	**0.0**
AZVM				*e*S	**Sn**	23 27 23.0	-0.1
PPCL	**Tochimilco**	**3.02**	**55**	*e*P	**Pn**	**23 26 46.6**	**+0.1**
PPCL				*e*S	**Sn**	23 27 23.7	+0.5
AMVM	**AMECAMECA**	**3.03**	**50**		**Pn**	**23 26 47.0**	**+0.4**
AMVM					**Sn**	23 27 23.4	+0.1
AMVM	**AMECAMECA**	**3.03**	**50**	*e*P	**Pn**	**23 26 47.0**	**+0.4**
AMVM				*e*S	**Sn**	23 27 23.4	+0.1
PBVM	**Pinon**	**3.03**	**42**		**Pn**	**23 26 46.8**	**+0.4**
PBVM					**Sn**	23 27 22.8	-0.2
PBVM	**Pinon**	**3.03**	**42**	*e*P	**Pn**	**23 26 46.8**	**+0.4**
PBVM				*e*S	**Sn**	23 27 22.8	-0.2
FTIG	**Fresnillo de T**	**3.05**	**76**		**Pn**	**23 26 47.5**	**+0.7**
FTIG					**Sn**	23 27 24.2	+0.6
FTIG	**Fresnillo de T**	**3.05**	**76**	*e*P	**Pn**	**23 26 47.5**	**+0.7**
FTIG				*e*S	**Sn**	23 27 24.2	+0.6
PBXN	**Popocatepetl**	**3.05**	**53**	*e*P	**Pn**	**23 26 47.1**	**0.0**
PBXN				*e*S	**Sn**	23 27 22.7	-1.5
PPPT	**Popocatepetl**	**3.06**	**54**	*e*P	**Pn**	**23 26 46.9**	**-0.3**
PPPT				*e*S	**Sn**	23 27 21.9	-2.5
ACIG	**Acambay**	**3.06**	**25**		**Pn**	**23 26 46.8**	**-0.1**
ACIG					**Sn**	23 27 24.2	+0.3
ACIG	**Acambay**	**3.06**	**25**	*e*P	**Pn**	**23 26 46.8**	**-0.1**
ACIG				*e*S	**Sn**	23 27 24.2	+0.3
PNIG	**Pinotepa**	**3.09**	**104**		**Pn**	**23 26 47.1**	**0.0**
PNIG					**Sn**	23 27 24.0	-0.4
PNIG	**Pinotepa**	**3.09**	**104**	⇑*e*P	**Pn**	**23 26 47.1**	**0.0**
PNIG				*e*S	**Sn**	23 27 24.0	-0.4
TXVM	**Universitario**	**3.14**	**44**		**Pn**	**23 26 48.9**	**+0.8**
TXVM					**Sn**	23 27 26.0	0.0
TXVM	**Universitario**	**3.14**	**44**	*e*P	**Pn**	**23 26 48.9**	**+0.8**
TXVM				*e*S	**Sn**	23 27 26.0	0.0
CDAR	**Ciudad de Arme**	**3.15**	**304**	*e*P	**Pn**	**23 26 47.4**	**-0.6**
CDAR				*e*S	**Sb**	23 27 32.5	-0.5
EZ5V		**3.19**	**316**		**Pn**	**23 26 49.3**	**+0.5**
EZ5V		**3.19**	**316**	*e*P	**Pn**	**23 26 49.3**	**+0.5**
EZ5V				*e*S	**Sb**	23 27 35.8	+1.4
MNGA	**Volcan de Coli**	**3.19**	**315**	*e*P	**Pn**	**23 26 49.2**	**+0.4**
MNGA				*e*S	**Sn**	23 27 31.3	+3.9
COMA	**Comala**	**3.20**	**312**		Pn	23 26 43.7	-5.0
COMA					**Sb**	23 27 35.6	+1.2
COMA	**Comala**	**3.20**	**312**	*e*P	Pn	23 26 43.7	-5.0
COMA				*e*S	**Sb**	23 27 35.6	+1.2
PPSX	**Xalitzintla**	**3.21**	**54**	*e*P	**Pn**	**23 26 50.0**	**+0.9**
PPSX				*e*S	**Sn**	23 27 26.8	-1.0
INCO	**Volcan de Coli**	**3.23**	**316**	*e*P	**Pn**	**23 26 50.2**	**+0.8**
INCO				*e*S	**Sb**	23 27 32.7	-2.8
SOMAC	**Volcano de Col**	**3.24**	**316**	*e*P	**Pn**	**23 26 50.3**	**+0.7**
SOMAC				*e*S	**Sb**	23 27 34.0	-2.0
CEGR	**Campo Tres**	**3.31**	**312**	*e*P	**Pn**	**23 26 50.5**	**+0.2**
CEGR				*e*S	**Sb**	23 27 40.7	+3.1
TXIG	**Tlaxiaco**	**3.32**	**88**		**Pn**	**23 26 51.2**	**+0.6**
TXIG					**Sn**	23 27 30.9	+0.3
TXIG	**Tlaxiaco**	**3.32**	**88**	⇑*e*P	**Pn**	**23 26 51.2**	**+0.6**
TXIG				*e*S	**Sn**	23 27 30.9	+0.3
ZUVM	**ZUMPANGO**	**3.33**	**38**		**Pn**	**23 26 52.3**	**+1.6**
ZUVM					**Sn**	23 27 29.4	-1.3
ZUVM	**ZUMPANGO**	**3.33**	**38**	*e*P	**Pn**	**23 26 52.3**	**+1.6**
ZU

CMIG Sn **Sn** **23 28 32.8 -5.4**
4.4nm,0.3s,baz=270,slow=20,SNR=4.1
CMIG Lg Lg 23 29 05.0
7.6nm,0.3s,baz=233,slow=15,SNR=7.1
6.8nm,0.4s
GTIG Gomez Farias 6.16 18 Pn 23 27 28.7 -0.7
GTIG **Sn 23 28 40.2 0.0**
GTIG Gomez Farias 6.16 18 *e*P **Pn 23 27 28.7 -0.7**
GTIG *e*S **Sn 23 28 40.2 0.0**
TUIG Tuzandepetl 6.56 82 Sn 23 28 52.7 +2.7
TUIG Tuzandepetl 6.56 82 *e*S **Sn 23 28 52.7 +2.7**
UXUV UXUV 6.78 88 Pn 23 27 38.5 +0.5
UXUV **Sn 23 28 57.4 +1.9**
UXUV UXUV 6.78 88 *e*P **Pn 23 27 38.5 +0.5**
UXUV *e*S **Sn 23 28 57.4 +1.9**
TGIG 7.78 92 Pn 23 27 55.2 +3.5
TGIG **Sn 23 29 22.4 +2.2**
TGIG 7.78 92 *e*P **Pn 23 27 55.2 +3.5**
TGIG *e*S **Sn 23 29 22.4 +2.2**
PCIG 7.84 100 Pn 23 27 54.1 +1.6
PCIG **Sn 23 29 22.0 +0.5**
PCIG 7.84 100 *e*P **Pn 23 27 54.1 +1.6**
PCIG *e*S **Sn 23 29 22.0 +0.5**
LNIG Linares 7.84 12 Pn 23 27 51.0 -1.5
LNIG **Sn 23 29 22.6 +1.0**
LNIG Linares 7.84 12 *e*P **Pn 23 27 51.0 -1.5**
LNIG *e*S **Sn 23 29 22.6 +1.0**
PDIG Papasquiaro 8.72 334 Pn 23 28 01.8 -2.9
PDIG **Sn 23 29 45.3 +1.9**
PDIG Papasquiaro 8.72 334 *e*P **Pn 23 28 01.8 -2.9**
PDIG *e*S **Sn 23 29 45.3 +1.9**
CCIG Comitan 8.77 95 Pn **Pn 23 28 06.6 +1.2**
CCIG Comitan 8.77 95 *e*P **Pn 23 28 07.4 +2.0**
CCIG *e*S **Sn 23 29 46.9 +2.2**
PATR El Naranjo 8.90 102 Pn 23 28 09.5 +2.3
PATR **Sn 23 29 50.5 +2.5**
PATR El Naranjo 8.90 102 *e*P **Pn 23 28 09.5 +2.3**
PATR *e*S **Sn 23 29 50.5 +2.5**
PAVE Pavencul 8.93 102 Pn 23 28 11.1 +3.4
PAVE **Sn 23 29 49.9 +1.1**
PAVE Pavencul 8.93 102 *e*P **Pn 23 28 11.1 +3.4**
PAVE *e*S **Sn 23 29 49.9 +1.1**
CHUJ Union Juarez 9.02 102 *e*P **Pn 23 28 11.9 +3.0**
CHUJ *e*S **Sn 23 29 53.5 +2.4**
SSIG Sanalona 9.38 325 Sn 23 29 56.7 -2.6
SSIG Sanalona 9.38 325 *e*S **Sn 23 29 56.7 -2.6**
SLBS Sierra La Lagu 10.40 310 Pn **Pn 23 28 29.2 +1.5**
HPIG 10.53 338 Pn **Pn 23 28 28.9 -0.5**
HPIG 10.53 338 *e*P **Pn 23 28 30.0 +0.6**
HPIG *e*S **Sn 23 30 27.2 -0.6**
APG El Apazote 10.59 100 Pn **Pn 23 28 30.6 +0.3**
0.1nm,0.3s,baz=233,slow=20,SNR=5.5
APG Sn **Sn 23 30 30.1 +0.6**
baz=200,slow=15,SNR=0.8
APG LR LR 23 32 39.2
comp=Z,127nm,19.4s,baz=298,slow=38
MCIG Muzquiz 10.64 359 Pn 23 28 34.5 +3.7
MCIG **Sn 23 30 31.2 +0.9**
MCIG Muzquiz 10.64 359 *e*P **Pn 23 28 34.5 +3.7**
MCIG *e*S **Sn 23 30 31.2 +0.9**
LPIG La Paz 10.92 311 LR LR 23 32 21.5
comp=Z,1µm,21.2s,baz=122,slow=35
CSIG Choix 11.64 327 Pn 23 28 43.5 -1.1
CSIG **Sn 23 30 53.5 -1.5**
CSIG Choix 11.64 327 *e*P **Pn 23 28 43.5 -1.1**
CSIG *e*S **Sn 23 30 53.5 -1.5**
MTO3 Montecristo 11.77 102 Pn **Pn 23 28 47.0 +0.5**
DRIO Del Rio 12.19 3 Pn **Pn 23 28 51.8 -0.2**
TX31 Lajitas Ar. Si 12.29 350 Pn **Pn 23 28 54.6 +1.1**
TXAR Lajitas Array 12.29 350 Pn **Pn 23 28 55.0 +1.5**
TXAR Lajitas Array 12.29 350 Pn **Pn 23 28 55.5 +2.0**
baz=168,slow=6.8,SNR=9.7
TXAR Lg Lg 23 32 18.2
baz=169,slow=17,SNR=5.3
TXAR LR LR 23 33 26.8
comp=Z,439nm,20.1s,baz=166,slow=37
0.4nm,0.7s
HNDO Hondo 12.41 8 Pn **Pn 23 28 55.4 +0.3**
TEIG Tepich 12.65 74 Sn **Sn 23 31 18.0 -1.7**
baz=307,slow=20,SNR=1.4
SAND Sanderson 12.73 357 Pn **Pn 23 29 02.3 +2.8**
JCT Junction City 13.29 5 Pn **Pn 23 29 07.8 +0.6**
OZNA Ozona 13.67 0 Pn **Pn 23 29 13.2 +0.8**
VHRN Van Horn 13.96 347 Pn **Pn 23 29 17.4 +1.1**
MNHN Monahans 14.15 355 Pn **Pn 23 29 18.9 -0.1**
BRDY Brady 14.18 8 Pn **Pn 23 29 17.8 -1.5**
PECS Pecos 14.31 351 P **P 23 29 27.8 -0.7**
SGCY Sterling City 14.66 0 Pn **Pn 23 29 25.5 -0.4**
MNTX Cornudas Mount 14.92 346 P **P 23 29 35.7 +0.6**
WHTX Lake Whitney, 15.13 12 Pn **Pn 23 29 30.5 -1.6**
CLNB Carlsbad 15.19 351 Pn **Pn 23 29 32.1 -1.0**
441A DeRidder 15.36 27 P **P 23 29 39.0 -0.9**
ABTX Abilene, Hawle 15.43 5 Pn 23 29 38.5 +2.3
ABTX IAmb IAmb 23 29 41.3
comp=Z,24nm,0.8s
FW13 Cleburne 15.48 12 Pn **Pn 23 29 34.6 -2.2**
FW13 IAmb IAmb 23 29 41.9
comp=Z,25nm,0.9s
237A Washetta, Mont 15.54 17 Pn **Pn 23 29 36.5 -1.1**
NATX Nacogdoches 15.68 21 P **P 23 29 42.4 -1.2**
PLPT Palo Pinto 15.78 9 P **Pn 23 29 42.2 +1.6**
PLPT IAmb IAmb 23 29 51.6
comp=Z,34nm,0.9s
FW06 Azle 16.06 11 P **Pn 23 29 46.1 +1.8**
FW06 IAmb IAmb 23 29 47.9
comp=Z,61nm,1.5s
APMT Aspermont 16.10 3 Pn 23 29 46.4 +1.6
APMT IAmb IAmb 23 29 49.2
comp=Z,22nm,0.9s
121A Cookes Peak, D 16.38 340 P **P 23 29 51.2 -0.3**
WTFS Witchita Falls 16.69 8 P **Pn 23 29 53.0 +0.7**
MSTX Muleshoe 16.76 356 IAmb IAmb 23 29 55.7
comp=Z,51nm,1.5s
DUN6 Lazy B Ranch 16.86 337 IAmb IAmb 23 29 59.9
comp=Z,72nm,1.4s
Z38A Mt. Pleasant 16.96 18 P **Pn 23 29 55.8 0.0**
Z38A IAmb IAmb 23 30 04.2
comp=Z,69nm,1.3s
JTS Las Juntas de 17.24 111 P **Pn 23 29 59.2 -0.2**
comp=Z,0.3nm,0.3s,baz=308,slow=19,SNR=1.4
JTS S Sn 23 32 53.5 -18
comp=Z,2.7nm,0.3s,baz=221,slow=19,SNR=8.4
comp=Z,1.4nm,0.4s
TUC Tucson 17.35 332 P **P 23 30 02.5 +0.4**
SBM South Baldy 17.54 343 P **P 23 30 05.6 +1.0**
Z41A Richland Creek 17.71 24 P **Pn 23 30 04.3 -0.8**
Z41A IAmb IAmb 23 30 39.0
comp=Z,73nm,1.4s
SMWD Samnorwood 17.86 3 P **Pn 23 30 05.8 -1.2**
ANMO Albuquerque 18.28 346 P **Pn 23 30 12.8 +0.4**
ANMO Albuquerque 18.28 346 P **Pn 23 30 12.9 +0.5**
comp=Z,0.2nm,0.3s,baz=240,slow=12,SNR=12
ANMO Lg Lg 23 35 28.0
comp=Z,0.1nm,0.3s,baz=94,slow=19,SNR=5.2
comp=Z,5.6nm,0.8s
MIAR Mount Ida 18.59 20 P **P 23 30 15.1 -0.6**
X18A Snowflake 18.94 337 P **P 23 30 19.7 -0.2**
OK052 Battle Ridge R 19.14 11 IAmb IAmb 23 30 29.1
comp=Z,25nm,1.1s
113A Mohawk Valley, 19.19 326 P **P 23 30 23.0 +0.7**
RTBA Rita Blanca 19.21 356 P **P 23 30 21.9 -0.8**
RTBA IAmb IAmb 23 30 23.8
comp=Z,36nm,1.4s
TUL3 Leonard 19.26 14 P **P 23 30 20.8 -2.3**
TUL3 IAmb IAmb 23 30 22.8
comp=Z,27nm,0.9s
OK038 West end E0370 19.34 6 IAmb IAmb 23 30 23.9
comp=Z,22nm,0.7s
X16A Lo Mia Camp, P 19.43 334 P **P 23 30 25.2 0.0**
CROK Carrier 19.45 8 P **P 23 30 23.3 -1.9**
CROK IAmb IAmb 23 30 31.3
comp=Z,16nm,0.8s
OK051 E0350 and S346 19.63 11 P **P 23 30 24.6 -2.5**
OK051 IAmb IAmb 23 30 28.4
comp=Z,33nm,1.3s
WHAR Wooly Hollow 19.71 22 P **P 23 30 25.7 -2.3**
WHAR IAmb IAmb 23 30 27.1
comp=Z,31nm,1.5s
GLA Glamis 19.98 325 IAmb IAmb 23 30 38.9
comp=Z,27nm,1.1s
HHAR Hobbs 20.09 17 IAmb IAmb 23 30 37.8
comp=Z,14nm,0.8s
T35A Sooner Cattle 20.09 11 P **P 23 30 29.7 -2.4**
T35A IAmb IAmb 23 30 40.5
comp=Z,49nm,1.5s
U38A Gravette 20.11 16 P **P 23 30 30.7 -1.7**
U38A IAmb IAmb 23 30 40.6
comp=Z,20nm,1.3s
FCAR Ozark Folk Cen 20.31 22 IAmb IAmb 23 30 40.9
comp=Z,18nm,0.8s
YUH Yuha Desert 20.31 322 P **P 23 30 36.0 +1.4**
BLYC Blythe 20.35 327 IAmb IAmb 23 30 37.9
comp=Z,25nm,1.1s
BAR Barrett 20.78 321 P **P 23 30 40.8 +1.1**
BAR IAmb IAmb 23 30 42.8
comp=Z,29nm,1.4s
SDCO Great Sand Dun 20.82 350 P **P 23 30 39.9 -0.4**
SDCO IAmb IAmb 23 30 41.9
comp=Z,18nm,1.0s
MVCO Mesa Verde 20.94 344 IAmb IAmb 23 30 46.3
comp=Z,14nm,0.8s
IRM Iron Mountain 20.99 326 IAmb IAmb 23 30 45.1
comp=Z,36nm,1.2s
NEE2 Needles Airpor 21.20 328 P **P 23 30 45.5 +1.3**
PLAL Pickwick Lake 21.26 31 P **P 23 30 43.0 -1.8**
PLAL IAmb IAmb 23 30 52.2
comp=Z,16nm,1.1s
PFO Pinyon Flats O 21.32 323 P **P 23 30 46.2 +0.6**
PFO IAmb IAmb 23 30 48.7
comp=Z,22nm,1.3s
PFO Pinyon Flats O 21.32 323 P **P 23 30 47.4 +1.8**
comp=Z,9.7nm,1.1s,baz=133,slow=13,SNR=9.5
comp=Z,9.7nm,1.1s
BELC Belle Mtn. Jos 21.34 324 P **P 23 30 46.8 +0.9**
DNR Dunn Ranch,Anz 21.38 323 P **P 23 30 47.2 +0.9**
DNR IAmb IAmb 23 30 49.6
comp=Z,36nm,1.2s
MGMO Mountain Grove 21.40 20 IAmb IAmb 23 31 15.1
comp=Z,29nm,1.3s
PBMO Poplar Bluff 21.73 24 P **P 23 30 47.2 -2.6**
PBMO IAmb IAmb 23 30 54.5
comp=Z,15nm,1.1s
GLAT Glass 21.76 27 P **P 23 30 48.7 -1.5**
KSCO Kaye Shedlock' 21.77 357 P **P 23 30 49.5 -1.0**
PV05 Paradox Valley 21.92 343 P **P 23 30 51.9 -0.3**
PV05 IAmb IAmb 23 31 09.8
comp=Z,19nm,1.4s
PV02 Paradox Valley 21.94 344 IAmb IAmb 23 31 01.3
comp=Z,16nm,1.0s
PV15 Paradox Valley 22.00 345 IAmb IAmb 23 31 10.4
comp=Z,18nm,1.3s
PV03 Paradox Valley 22.02 344 P **P 23 30 53.3 +0.1**
PV18 Skein Mesa, Pa 22.03 344 IAmb IAmb 23 30 56.1
comp=Z,27nm,1.3s
PV12 Saucer Basin, 22.07 344 IAmb IAmb 23 30 56.7
comp=Z,34nm,1.3s
V12A Nelson 22.07 329 P **P 23 30 54.0 +0.3**
PV16 Nyswonger Mesa 22.09 344 P **P 23 30 53.7 -0.2**
PV16 IAmb IAmb 23 31 02.5
comp=Z,17nm,1.2s
PV07 Paradox Valley 22.14 344 P **P 23 30 53.6 -0.9**
PV07 IAmb IAmb 23 30 56.7
comp=Z,15nm,1.2s
PV04 Paradox Valley 22.16 344 IAmb IAmb 23 31 11.9
comp=Z,22nm,1.3s
PV10 Paradox Valley 22.18 344 IAmb IAmb 23 30 56.8
comp=Z,28nm,1.3s
MTPC Mountain Pass 22.23 328 P **P 23 30 56.0 +0.6**
MTPC IAmb IAmb 23 30 59.8
comp=Z,18nm,1.2s
KNB Kanab 22.24 335 P **P 23 30 55.8 +0.3**
KNB IAmb IAmb 23 30 59.5
comp=Z,22nm,1.2s
PV23 Carpenter Ridg 22.25 344 IAmb IAmb 23 31 18.5
comp=Z,15nm,1.0s
PV21 Cone Mtn., Par 22.34 344 IAmb IAmb 23 31 11.3
comp=Z,19nm,1.3s
CGM3 Cape Girardeau 22.48 25 IAmb IAmb 23 31 07.5
comp=Z,11nm,0.9s
GSC Goldstone, Bar 22.75 325 P **P 23 31 00.5 -0.4**
GSC IAmb IAmb 23 31 04.7
comp=Z,17nm,1.3s
SZCU Shurtz Canyon 22.84 335 P **P 23 31 01.7 -0.3**
ISCO Idaho Springs 22.84 351 IAmb IAmb 23 31 33.4
comp=Z,15nm,1.4s
SHPR Sheep Range 22.84 330 IAmb IAmb 23 31 05.3
comp=Z,15nm,1.4s
TPO Tropico Hills 23.24 323 IAmb IAmb 23 31 09.7
comp=Z,14nm,1.1s
QSM Queen of Sheba 23.28 326 IAmb IAmb 23 31 09.4
comp=Z,20nm,1.3s
Q16A Castle Valley 23.32 340 IAmb IAmb 23 31 46.6
comp=Z,11nm,1.1s
WSHM Spangler Hills 23.35 325 IAmb IAmb 23 31 10.9
comp=Z,13nm,1.2s
LRMC Laurel Mtn Rad 23.36 324 P **P 23 31 07.8 +0.5**
LRMC IAmb IAmb 23 31 10.3
comp=Z,27nm,1.5s
PRN Pahroc Range 23.53 332 IAmb IAmb 23 31 12.7
comp=Z,13nm,1.1s
CLC China Lake 23.56 325 P **P 23 31 09.6 +0.4**
O20A White River Ci 23.65 347 IAmb IAmb 23 31 46.2
comp=Z,10nm,1.1s
TMUT Trail Mountain 23.68 340 IAmb IAmb 23 31 12.2
comp=Z,7.4nm,0.7s
ISA Isabella, Lake 23.94 324 P **P 23 31 14.2 +1.3**
ISA IAmb IAmb 23 31 16.9
comp=Z,15nm,1.2s
CWC Cottonwood Cre 24.29 325 P **P 23 31 17.9 +1.7**
VES Vestal, Richgr 24.42 323 P **P 23 31 19.1 +1.9**
T50A Nancy 24.49 33 P **P 23 31 15.5 -2.4**
T50A IAmb IAmb 23 31 25.1
comp=Z,8.8nm,1.0s
GMN Gold Mountain 24.50 328 P **P 23 31 19.0 +0.7**
GMN IAmb IAmb 23 31 22.3
comp=Z,13nm,1.2s
R11B Troy Canyon, C 24.54 332 P **P 23 31 19.0 +0.5**
R11B IAmb IAmb 23 31 21.5
comp=Z,19nm,1.5s
V53A Saluda 24.64 38 IAmb IAmb 23 31 40.6
comp=Z,23nm,1.4s
DSP Deep Springs 24.92 327 P **P 23 31 22.7 +1.0**
DSP IAmb IAmb 23 31 25.6
comp=Z,16nm,1.3s
DUG Dugway, Tooele 25.02 339 IAmb IAmb 23 31 25.8
comp=Z,12nm,1.2s
TPH Tonopah 25.09 329 P **P 23 31 23.4 -0.1**
TPH IAmb IAmb 23 31 26.9
comp=Z,15nm,1.0s
MDPB Devils Postpil 25.70 326 IAmb IAmb 23 31 34.2
comp=Z,13nm,1.1s
NV11 Mina Array Sit 25.83 328 P **P 23 31 31.0 +0.8**
HWUT Hardware Ranch 25.90 342 IAmb IAmb 23 31 39.7
comp=Z,16nm,1.4s
NVAR Mina Array Bea 25.90 328 P **P 23 31 31.9 +1.0**
NVAR Mina Array Bea 25.90 328 P **P 23 31 32.4 +1.5**
comp=Z,13nm,0.8s,baz=141,slow=8.5,SNR=31
comp=Z,13nm,0.8s
RYN Ryan 26.16 328 P **P 23 31 34.6 +1.4**
PD31 Pinedale Array 26.46 346 IAmb IAmb 23 31 53.4
comp=Z,12nm,1.1s
PDAR Pinedale Array 26.46 346 P **P 23 31 35.8 -0.1**
PDAR Pinedale Array 26.46 346 P **P 23 31 35.7 -0.2**
comp=Z,2.3nm,0.9s,baz=151,slow=9.2,SNR=11
comp=Z,2.3nm,0.9s
WAKR Walker 26.54 327 P **P 23 31 37.6 +0.9**
WAKR IAmb IAmb 23 31 42.2
comp=Z,16nm,1.3s
CMB Columbia Colle 26.71 325 IAmb IAmb 23 31 40.0
comp=Z,9.8nm,1.4s
WELL Weller Preserv 27.18 325 IAmb IAmb 23 31 45.0
comp=Z,9.2nm,1.3s
BEKR Beckworth 28.03 328 IAmb IAmb 23 31 53.0
comp=Z,11nm,1.3s
ORV Oroville 28.40 326 P **P 23 31 54.4 +1.3**
ORV IAmb IAmb 23 31 56.2
comp=Z,14nm,1.4s
SJG San Juan 33.42 83 LR LR 23 46 46.1
comp=Z,290nm,20.7s,baz=267,slow=38
V35K Ketchikan 44.57 336 P **P 23 34 10.9 +0.5**
baz=136
RPN Rapa Nui 44.75 190 LR LR 23 48 37.1
comp=Z,214nm,20.6s,baz=272,slow=30
TOAD Toad River Com 45.18 343 P **P 23 34 16.1 +0.8**
baz=147
CRAG Craig 45.27 335 P **P 23 34 16.6 +0.6**
baz=135
T35M Bob Quinn 45.29 338 P **P 23 34 16.5 +0.3**
baz=139
WRAK Wrangell Islan 45.65 336 P **P 23 34 19.1 +0.1**
baz=136
LIRD Liard River Hi 45.89 343 P **P 23 34 21.5 +0.6**
baz=146
SCHQ Schefferville 45.90 27 P **P 23 34 19.8 -1.3**
SCHQ Schefferville 45.90 27 P **P 23 34 19.7 -1.4**
comp=Z,26nm,0.5s,baz=223,slow=6.8,SNR=7.8
SCHQ LR LR 23 55 20.1
comp=Z,3µm,18.7s,baz=264,slow=39
comp=Z,26nm,0.5s
KOTAN Kotaneelee Air 45.94 344 P **P 23 34 21.6 +0.3**
baz=149
YKA Yellowknife Ar 46.21 351 P **P 23 34 23.1 -0.3**
YKA Yellowknife Ar 46.21 351 P **P 23 34 22.9 -0.5**
comp=Z,2.7nm,0.8s,baz=168,slow=6.7,SNR=11
comp=Z,2.7nm,0.8s
S34M Telegraph Cree 46.31 338 P **P 23 34 24.6 +0.4**
baz=139
DLBC Dease Lake 46.33 340 LR LR 23 54 59.4
comp=Z,2µm,18.4s,baz=118,slow=38
DLBC Dease Lake 46.33 340 P **P 23 34 25.6 +1.1**
baz=140,SNR=6.0
TAOE Nuku Hiva Isla 46.36 239 *e*LR LR 23 47 30.9
comp=Z,296nm,25.3s
S32K Killisnoo 47.26 336 P **P 23 34 31.9 +0.4**
baz=134
WTLY Watson Lake, Y 47.26 342 P **P 23 34 32.8 +1.1**
WTLY Watson Lake, Y 47.26 342 P **P 23 34 32.4 +0.7**
baz=143
SIT Sitka 47.26 335 P **P 23 34 32.6 +0.9**
baz=133
R33M Jennings River 47.38 340 P **P 23 34 33.9 +1.1**
baz=140
Q32M Nakina River 47.49 339 P **P 23 34 34.4 +0.7**
baz=138
R32K Eaglecrest 47.80 337 P **P 23 34 37.0 +1.1**
baz=135
TGTN Hyland Airport 48.25 343 P **P 23 34 40.7 +1.3**
baz=144,SNR=6.2
P32M Atlin 48.46 339 P **P 23 34 42.5 +1.5**
baz=137
WRGLY Wrigley 48.50 347 P **P 23 34 42.2 +1.1**
baz=151
P33M Teslin, Yukon 48.61 340 IAmb IAmb 23 35 05.8
comp=Z,6.8nm,1.4s
P33M Teslin, Yukon 48.61 340 P **P 23 34 43.5 +1.3**
baz=138
SKAG Skagway 48.94 338 P **P 23 34 45.7 +1.1**
baz=135
MDP Montagnes des 49.03 98 LR LR 23 57 26.0
comp=Z,190nm,19.2s,baz=294,slow=39
PLBC Pleasant Camp 49.32 337 P **P 23 34 48.9 +1.4**
baz=133
N32M Quiet Lake 49.40 340 P **P 23 34 49.8 +1.6**
baz=138
WHY Whitehorse 49.64 339 P **P 23 34 51.4 +1.3**
baz=136
P29M Windy Craggy 49.95 337 P **P 23 34 53.8 +1.5**
baz=132
MMPY Sheldon Lake, 49.97 342 P **P 23 34 53.3 +0.7**
baz=141,SNR=12
P30M Million Dollar 49.99 338 P **P 23 34 53.6 +0.9**
baz=133
O30N Mendenhall 50.13 339 P **P 23 34 55.2 +1.4**
baz=134
N31M Braeburn, Yuko 50.54 339 P **P 23 34 57.7 +0.9**
baz=135,SNR=6.1
M31M Drury Creek, Y 50.60 341 P **P 23 34 58.9 +1.6**
baz=137,SNR=6.3
PNL Peninsula 50.61 336 P **P 23 34 58.5 +1.1**
baz=130
HYT Haines Junctio 50.67 338 P **P 23 34 59.2 +1.2**
baz=133,SNR=6.4
O29M Mount Kennedy 50.71 337 P **P 23 34 59.0 +0.8**
baz=131
N30M Aishikik Lake 50.96 339 P **P 23 35 01.1 +1.1**
baz=134
YUK6 Outpost Mounta 51.06 338 P **P 23 35 01.5 +0.5**
baz=132
PINM Pinnacle 51.21 336 P **P 23 35 03.2 +1.2**
baz=129
YUK4 Talbot Arm 51.43 338 P **P 23 35 05.0 +1.2**
baz=132
FRB Frobisher Bay 51.62 18 LR LR 23 56 10.8
comp=Z,174nm,20.1s,baz=308,slow=35
O28M Mount Upton 51.62 337 P **P 23 35 05.5 +0.2**
baz=130
M30M Minto, Yukon 51.65 340 P **P 23 35 05.5 +0.3**
baz=135
YUK8 Steele Glacier 51.80 337 P **P 23 35 06.6 0.0**
baz=131
MESA MESA 51.93 336 P **P 23 35 07.7 +0.2**
baz=128
M29M Somme Creek 52.12 339 P **P 23 35 08.8 +0.1**
baz=133
CTG Chitna Glacier 52.18 337 P **P 23 35 10.1 +0.8**
baz=129
BGLC Bering Glacier 52.43 335 P **P 23 35 11.5 +0.6**
baz=126
L29M L29M 52.46 340 P **P 23 35 11.7 +0.5**
baz=134,SNR=9.0
CRQE Cirque 52.73 336 P **P 23 35 13.7 +0.4**
baz=127
K29M Barlow Dome 52.78 341 P **P 23 35 14.3 +0.6**
baz=135,SNR=9.4
J30M Hart River 52.94 342 P **P 23 35 16.4 +1.5**
baz=136
MCARA McCarthy VSAT 53.08 336 P **P 23 35 17.2 +1.5**
baz=127
M27K Edge Creek, AK 53.26 338 P **P 23 35 17.6 +0.4**
baz=129
H31M Peel River 53.30 344 P **P 23 35 18.1 +0.8**
baz=139
I30M Mount Dempster 53.43 342 P **P 23 35 19.5 +1.1**
baz=137
BMRM Bremner River 53.45 335 P **P 23 35 19.8 +1.2**
baz=125
DAWY Dawson 53.53 340 P **P 23 35 19.9 +0.8**
baz=133
BCAR Beaver Creek A 53.68 338 P **P 23 35 20.3 +0.1**
EYAK Cordova Ski Ar 53.68 335 P **P 23 35 20.7 +0.6**
baz=124
L27K Beaver Creek, 53.69 338 P **P 23 35 21.2 +0.9**
baz=129
M26K Nabesna, AK 53.70 337 P **P 23 35 21.7 +1.4**
baz=128
N25K Chitina, Valde 53.82 336 P **P 23 35 21.9 +0.5**
baz=126
C36M Paulatuk 54.04 350 P **P 23 35 23.3 +0.7**
baz=153
P23K Montague Islan 54.08 333 P **P 23 35 24.1 +1.0**
baz=122
I29M Ogilvie Camp, 54.09 342 IAmb IAmb 23 35 25.8
comp=Z,3.8nm,1.0s
I29M Ogilvie Camp, 54.09 342 P **P 23 35 23.5 +0.4**
baz=135
G31M Satah River 54.13 345 P **P 23 35 23.3 -0.1**
G31M Satah River 54.13 345 P **P 23 35 24.0 +0.7**
baz=140,SNR=5.9
L26K Log Cabin Wild 54.21 338 P **P 23 35 24.6 +0.6**
baz=128
KLU Klutina 54.28 335 P **P 23 35 25.4 +0.8**
baz=124
EPYK Eagle Plains 54.36 343 P **P 23 35 26.2 +1.0**
baz=137
K27K Chicken 54.39 339 P **P 23 35 26.6 +1.2**
baz=130
F31M Tsiigehtchic 54.40 345 P **P 23 35 26.2 +0.9**
baz=141
GLI Glacier Island 54.42 334 P **P 23 35 26.2 +0.6**
baz=122
HARP HAARP 54.50 337 P **P 23 35 26.2 +0.1**
baz=125
I28M Miner Creek 54.65 341 P **P 23 35 28.0 +0.7**
baz=133
H03N2 Juan Fernandez 54.67 157 T T 00 34 44.7
baz=334,slow=77
H03N1 Juan Fernandez 54.68 157 T T 00 34 43.8
baz=334,slow=77
G30M tAoh Zraii Nji 54.68 344 P **P 23 35 28.4 +0.9**
baz=138
H03N3 Juan Fernandez 54.69 157 T T 00 34 44.2
baz=334,slow=77
H29M Whitestone 54.72 343 P **P 23 35 28.6 +1.0**
baz=135
M24K Tolsona, Glenn 54.72 336 P **P 23 35 28.8 +0.9**
baz=124
PWL Port Wells 54.92 334 P **P 23 35 30.2 +0.9**

baz=121
PAX Paxson 54.95 337 P **P** 23 35 30.5 +1.0
baz=125
SEW Seward 55.02 333 P **P** 23 35 30.5 +0.7
baz=119
SCRK Sand Creek 55.02 339 P **P** 23 35 30.5 +0.5
baz=128
SCM Sheep Creek Mo 55.03 335 P **P** 23 35 31.1 +1.0
baz=123
INK Inuvik 55.03 346 LR LR 00 01 18.3
comp=Z,269nm,21.6s,baz=134,slow=39
INK Inuvik 55.03 346 P **P** 23 35 30.5 +0.7
baz=141,SNR=6.7
F30M Barrier River 55.04 345 P **P** 23 35 30.6 +0.6
baz=138
G29M Pine Creek 55.12 343 P **P** 23 35 31.4 +0.8
baz=136
M23K Glacier View 55.16 335 P **P** 23 35 32.0 +1.1
baz=122
RIDG Independent Ri 55.18 338 P **P** 23 35 32.1 +1.0
baz=126
J26L Joseph Creek 55.20 339 P **P** 23 35 32.7 +1.4
baz=128,SNR=6.7
KNK Knik Glacier 55.26 335 P **P** 23 35 32.9 +1.2
baz=121
I27K Kandik River 55.27 341 P **P** 23 35 33.0 +1.2
baz=131
KDAK Kodiak Island 55.39 329 P **P** 23 35 33.8 +1.2
baz=115
BRSE Bradley Lake S 55.41 332 P **P** 23 35 33.5 +0.7
baz=118
SML Sawmill 55.41 335 P **P** 23 35 34.3 +1.5
baz=122
OHAK Old Harbor 55.51 329 P **P** 23 35 34.8 +1.4
baz=114
I26K Coal Creek Min 55.57 340 P **P** 23 35 33.8 -0.1
baz=129
WAT6 Susitna Watana 55.60 336 P **P** 23 35 35.5 +1.2
baz=123
RC01 Rabbit Creek A 55.63 334 P **P** 23 35 34.9 +0.6
baz=120
PMR Palmer 55.63 335 P **P** 23 35 34.8 +0.6
baz=121
H27K Steamboat Moun 55.66 341 P **P** 23 35 35.9 +1.3
baz=131
SII Sitkinak Islan 55.70 328 P **P** 23 35 36.0 +1.1
baz=112
DHY Denali Highway 55.73 337 P **P** 23 35 35.6 +0.4
baz=123
J25K Salcha River, 55.88 339 P **P** 23 35 36.9 +0.8
baz=126
WAT1 Susitna Watana 56.05 336 P **P** 23 35 38.5 +1.1
baz=122
G27K Doyon Strip 56.08 342 P **P** 23 35 38.4 +0.9
baz=132
F28M Old Crow 56.12 343 P **P** 23 35 37.8 0.0
F28M Old Crow 56.12 343 P **P** 23 35 38.4 +0.6
baz=134,SNR=6.1
E29M Blow River 56.15 345 P **P** 23 35 39.3 +1.3
baz=136
CHIR Chirikof Islan 56.17 326 P **P** 23 35 39.2 +1.0
baz=111
HDA Harding Lake 56.32 338 P **P** 23 35 39.6 +0.4
baz=125
Q19K Cape Douglas, 56.38 330 P **P** 23 35 40.7 +0.9
baz=114
PRP Porcupine Dome 56.48 340 P **P** 23 35 40.5 0.0
baz=127
P19K Oil Pt 56.50 331 P **P** 23 35 40.9 +0.3
baz=115
CUT Chulitna 56.51 335 P **P** 23 35 41.9 +1.3
baz=120
ILAR Eielson Array 56.51 338 P **P** 23 35 40.4 -0.1
ILAR Eielson Array 56.51 338 P **P** 23 35 40.3 -0.2
comp=Z,2.5nm,1.1s,baz=124,slow=7.0,SNR=14
comp=Z,2.5nm,1.1s
A36M Sachs Harbour 56.57 351 P **P** 23 35 41.6 +0.7
baz=152
MCK McKinley 56.67 337 P **P** 23 35 41.8 0.0
baz=122
E28M Babbage River 56.73 344 P **P** 23 35 43.0 +0.9
baz=135
SPCR Spurr Chakacha 56.73 333 P **P** 23 35 42.9 +0.6
baz=117
G26K Porcupine Rive 56.81 341 P **P** 23 35 43.1 +0.4
baz=129
SKT Skwentna 56.81 334 P **P** 23 35 42.8 0.0
baz=118
POKR Poker Plat Res 56.90 339 P **P** 23 35 43.6 +0.2
baz=124
Q18K Katmai Hardscr 56.92 330 P **P** 23 35 43.8 +0.1
baz=113
E27K Coleen River 56.99 343 P **P** 23 35 44.1 +0.1
baz=132
H25L Birch Creek 57.03 340 P **P** 23 35 44.6 +0.4
baz=127
TRF Thorofare Moun 57.04 336 P **P** 23 35 45.0 +0.4
baz=120
D28M Stokes Point 57.05 345 P **P** 23 35 44.3 +0.1
baz=136
NEA2 Nenana 57.19 338 P **P** 23 35 46.1 +0.7
baz=122
Q17K Contact Creek 57.20 329 P **P** 23 35 46.5 +0.8
baz=112
R17L Mt. Peulik Vol 57.20 328 P **P** 23 35 46.6 +1.0
baz=111
F26K Sheenjek River 57.40 342 P **P** 23 35 48.1 +1.2
baz=129
G25K Bearman Lake 57.42 341 P **P** 23 35 48.3 +1.3
baz=127
M20K Styx River 57.44 334 P **P** 23 35 48.1 +0.8
baz=117
H24K Noodor Dome 57.46 339 P **P** 23 35 48.4 +1.1
baz=124
O18K Koktuh Hills 57.49 331 P **P** 23 35 48.8 +1.1
baz=114
PPLA Purkeypile 57.52 335 P **P** 23 35 49.0 +1.1
baz=118
D27M Malcolm River 57.55 344 P **P** 23 35 48.7 +0.7
baz=134
N19K Bonanza Creek 57.56 332 P **P** 23 35 48.8 +0.6
baz=115
I23K Minto, Yukon-K 57.59 338 P **P** 23 35 48.1 -0.1
baz=122
RES Resolute Bay 57.61 2 LR LR 00 03 26.4
comp=Z,276nm,18.3s,baz=153,slow=39
BPAW Bear Paw Mtn. 57.64 337 P **P** 23 35 48.5 -0.1
baz=120
F25K Christian Rive 57.78 342 P **P** 23 35 49.8 +0.2
baz=128
R16K Pilot Point 57.79 328 P **P** 23 35 49.8 +0.1
baz=110
G24K Hadweenzic Riv 57.82 340 P **P** 23 35 50.1 +0.2
G24K Hadweenzic Riv 57.82 340 P **P** 23 35 50.4 +0.6
baz=125
M19K Big River Lodg 57.98 333 P **P** 23 35 51.3 +0.2
baz=116
CHNA Chernabura Isl 58.01 324 P **P** 23 35 52.0 +0.7
baz=106
L20K Farewell, AK 58.02 334 P **P** 23 35 51.7 +0.4
baz=116
H23K Yukon River 58.02 339 P **P** 23 35 51.8 +0.5
baz=123
MLY Manley 58.03 338 P **P** 23 35 52.2 +0.9
baz=121
CHUM Lake Minchumin 58.04 336 P **P** 23 35 52.1 +0.7
baz=119
E25K Arctic Village 58.08 342 P **P** 23 35 52.6 +0.9
baz=128
N18K Kilae Creek 58.13 332 P **P** 23 35 53.1 +1.0
baz=113
L19K White Mountain 58.30 334 P **P** 23 35 54.3 +1.0
baz=115
O17K Koliganek Bris 58.34 331 P **P** 23 35 54.4 +0.8
baz=112
F24K Squaw Lake 58.43 341 P **P** 23 35 54.5 +0.4
baz=125
M18K Stony River 58.43 333 P **P** 23 35 54.3 +0.1
baz=114
K20K Telida 58.49 335 P **P** 23 35 55.0 +0.4
baz=117
P16K Nushagak River 58.50 330 P **P** 23 35 54.8 +0.2
baz=110
C27K Jago River 58.53 344 P **P** 23 35 54.9 +0.2
baz=131
I21K Tanana 58.56 337 P **P** 23 35 55.2 +0.3
baz=120
SDPT Sand Point 58.64 325 P **P** 23 35 56.1 +0.4
baz=106
N17K Nushagak Hills 58.66 331 P **P** 23 35 56.1 +0.3
baz=112
G23K Bananza Creek 58.67 340 P **P** 23 35 56.5 +0.7
baz=123
H22K Ishtalitna Cre 58.70 338 P **P** 23 35 56.3 +0.3
baz=121
O16K Kokwok River B 58.75 330 P **P** 23 35 56.4 0.0
baz=110
PPT Papeete 58.80 236 LR LR 23 55 05.7
comp=Z,92nm,21.8s,baz=6.5,slow=30
PPT2 Papeete2 58.81 236 *e*LR LR 23 53 10.9
comp=Z,236nm,28.2s
PPT2 *e*LR LR 23 53 17.5
comp=Z,304nm,24.5s
J20K Nowinta River 58.89 336 P **P** 23 35 57.5 +0.1
baz=117
E24K Your Creek 58.94 341 P **P** 23 35 57.7 0.0
baz=125
COLD Coldfoot 59.01 340 P **P** 23 35 58.3 +0.2
baz=123
C26K Camden Bay 59.03 344 P **P** 23 35 58.5 +0.3
baz=130
D25K Kavik River 59.06 343 P **P** 23 35 58.8 +0.3
baz=128
H21K Melozitna Rive 59.09 338 P **P** 23 35 59.3 +0.5
baz=119
L18K Granite Mounta 59.10 333 P **P** 23 35 59.1 +0.4
baz=113
M17K Holitna River 59.11 332 P **P** 23 36 00.1 +1.3
baz=112
E23K Chandalar 59.28 341 P **P** 23 36 00.6 +0.6
baz=124
G22K Bettles 59.28 339 P **P** 23 36 00.8 +0.8
baz=121
I20K Naaghedeneel 59.30 336 P **P** 23 36 00.8 +0.6
baz=117
N16K Nishlik Lake 59.37 331 P **P** 23 36 01.5 +0.8
baz=110
J19K Poorman 59.39 335 P **P** 23 36 01.5 +0.7
baz=115
SFJD Kangerlussuaq 59.44 21 LR LR 00 02 07.3
comp=Z,193nm,20.7s,baz=246,slow=37
O15K Ungalikthiuk R 59.44 329 P **P** 23 36 01.6 +0.3
baz=109
TOLK Toolik Lake Re 59.59 342 P **P** 23 36 02.3 +0.2
baz=124
S12K Black Hills 59.60 325 P **P** 23 36 02.9 +0.5
baz=104
M16K Timber Creek 59.66 332 P **P** 23 36 02.9 +0.2
baz=110
G21K Allakaket 59.76 338 P **P** 23 36 03.6 +0.3
baz=119
L17K Donlin 59.76 333 P **P** 23 36 03.7 +0.3
baz=112
H20K Anotleneega Mo 59.77 337 P **P** 23 36 03.6 +0.2
baz=117
F22K John River 59.80 340 P **P** 23 36 04.5 +0.9
baz=121
N15K Kwethluk River 59.89 330 P **P** 23 36 05.3 +1.0
baz=109
C24K Franklin Bluff 59.95 343 P **P** 23 36 04.9 +0.4
baz=125
K17K Iditarod 59.98 333 P **P** 23 36 05.2 +0.3
baz=112
E22K Anaktuvuk Pass 60.01 340 P **P** 23 36 05.0 -0.1
baz=121
F21K Alatna River 60.10 339 P **P** 23 36 05.8 +0.2
baz=119
D23K Nanushuk River 60.11 342 P **P** 23 36 06.2 +0.5
baz=123
L16K Owhat River 60.13 332 P **P** 23 36 06.1 +0.2
baz=110
FALS False Pass 60.15 324 P **P** 23 36 06.7 +0.6
baz=103
O14K Tigyukauivet M 60.17 329 P **P** 23 36 07.0 +0.8
baz=107
GCSA Galena City Sc 60.21 336 P **P** 23 36 07.0 +0.6
baz=114
M15K Kasigluk River 60.34 331 P **P** 23 36 08.6 +1.3
baz=109
H19K Roundabout Mou 60.38 337 P **P** 23 36 07.8 +0.3
baz=115
J17K VABM Dome 60.56 334 P **P** 23 36 09.0 +0.1
baz=112
C23K Itkillik River 60.57 342 P **P** 23 36 09.0 +0.2
C23K Itkillik River 60.57 342 P **P** 23 36 09.8 +1.0
baz=124
N14K Kuskokwak Cree 60.57 330 P **P** 23 36 09.0 +0.1
baz=107
D22K Ayikyak River 60.67 341 P **P** 23 36 10.7 +1.1
baz=121
F20K Avaraart Lake 60.79 339 P **P** 23 36 11.1 +0.8
baz=117
E21K Killik River 60.86 340 P **P** 23 36 11.5 +0.6
baz=119
H18K Honhosa River 60.95 336 P **P** 23 36 12.0 +0.5
baz=113
M14K Bethel 60.95 331 P **P** 23 36 11.8 +0.3
baz=107
L15K Ungalak Mounta 61.02 332 P **P** 23 36 12.6 +0.6
baz=108
K15K Wolf Creek Mou 61.24 332 P **P** 23 36 14.0 +0.5
baz=109
G18K Tagagawik 61.36 337 P **P** 23 36 15.0 +0.8
baz=113
I17K Unalakleet 61.42 334 P **P** 23 36 15.1 +0.5
baz=110
F19K Shaleruckik Mo 61.42 338 P **P** 23 36 15.2 +0.6
baz=115
L14K Kuka Creek 61.47 331 P **P** 23 36 15.7 +0.7
baz=107
C21K Knifeblade Rid 61.47 341 P **P** 23 36 16.0 +1.0
baz=119
H17K Granite Mounta 61.48 336 P **P** 23 36 15.2 +0.2
baz=112
E19K Redstone River 61.50 339 P **P** 23 36 15.4 +0.3
baz=116
E20K Nigu River 61.50 340 P **P** 23 36 15.4 +0.2
baz=117
M13K Dall Lake 61.51 330 P **P** 23 36 15.7 +0.4
baz=106
B21K Ikpikpuk River 61.64 341 P **P** 23 36 17.1 +1.1
baz=119
B22K Teshekpuk Lake 61.65 342 P **P** 23 36 16.8 +0.7
baz=121
UNV Unalaska Valle 61.73 322 P **P** 23 36 17.9 +1.0
baz=100
D20K Etivluk River 61.85 340 P **P** 23 36 17.6 +0.1
D20K Etivluk River 61.85 340 P **P** 23 36 18.2 +0.7
baz=117
G17K Kiwalik Mounta 61.97 336 P **P** 23 36 19.2 +0.8
baz=111
TBI Tubuai 61.99 231 *e*LR LR 23 54 39.8
comp=Z,769nm,31.2s
TBI *e*LR LR 23 54 44.7
comp=Z,1μm,25.5s
F18K Selawik 62.01 337 P **P** 23 36 19.5 +0.9
baz=113
D19K Kuna River 62.24 340 P **P** 23 36 21.0 +0.8
baz=115
H16K Elim 62.31 335 P **P** 23 36 21.7 +1.1
baz=109
K13K Kusilvak Mount 62.54 332 P **P** 23 36 23.2 +1.0
baz=105
G16K Koyuk River 62.60 336 P **P** 23 36 23.0 +0.4
baz=109
B20K Meade River 62.61 341 P **P** 23 36 23.2 +0.7
baz=117
E18K Tukpahlearik C 62.67 338 P **P** 23 36 24.1 +1.1
baz=112
C19K Lookout Ridge 62.99 340 P **P** 23 36 26.2 +1.0
baz=114
E17K Hotham Inlet 62.99 337 P **P** 23 36 26.2 +1.1
baz=111
NIKH Nikolski High 62.99 321 P **P** 23 36 26.4 +1.0
baz=97
G15K Niukluk 63.15 335 P **P** 23 36 27.1 +0.9
baz=108
C18K Utukok River 63.34 339 P **P** 23 36 28.4 +0.9
baz=112
ANM Nome 63.57 334 P **P** 23 36 29.8 +0.7
baz=106
F15K North Star Dit 63.61 336 P **P** 23 36 30.3 +1.0
baz=107
D17K Noatak River 63.66 338 P **P** 23 36 30.3 +0.8
baz=110
B18K Kokolik River 63.81 340 P **P** 23 36 31.5 +1.0
baz=112
P08K Saint George I 63.88 325 P **P** 23 36 31.9 +0.7
baz=98
A19K Wainwright 63.90 341 P **P** 23 36 31.7 +0.6
baz=113
C17K DeLong Mountai 63.96 339 P **P** 23 36 32.4 +0.8
baz=110
F14K Arctic Creek 64.21 335 P **P** 23 36 33.5 +0.3
baz=106
PLCA Paso Flores 64.30 155 LR LR 00 00 04.1
comp=Z,167nm,19.2s,baz=272,slow=32
SPIA Saint Paul Isl 64.35 326 P **P** 23 36 35.0 +0.8
baz=98
C16K Lisburne Hills 64.65 338 P **P** 23 36 37.2 +1.1
baz=108
TNA Tin City 64.88 335 P **P** 23 36 38.8 +1.3
baz=104
GAMB Gambell 66.09 333 P **P** 23 36 46.0 +0.5
baz=100
RAR Rarotonga 68.90 239 LR LR 23 58 33.4
comp=Z,105nm,21.9s,baz=81,slow=28
BORG Borgarnes 70.30 27 LR LR 00 08 09.5
comp=Z,179nm,18.1s,baz=296,slow=36
SPITS Spitsbergen Ar 78.69 11 LR LR 00 14 02.7
comp=Z,200nm,19.0s,baz=309,slow=37
TIXI Tiksi 85.15 346 P **P** 23 38 33.7 -0.8
TIXI Tiksi 85.15 346 LR LR 00 20 53.6
comp=Z,101nm,19.1s,baz=20,slow=39
NOA NORSAR Array B 85.47 27 LR LR 00 16 55.5
comp=Z,126nm,20.7s,baz=65,slow=36
ARCES ARCESS Array B 85.76 16 P **P** 23 38 38.6 +1.0
ARCES ARCESS Array B 85.76 16 P **P** 23 38 39.2 +1.5
comp=Z,5.8nm,1.0s,baz=330,slow=8.4,SNR=2.2
ARCES LR LR 00 17 40.4
comp=Z,158nm,18.9s,baz=294,slow=36
comp=Z,5.8nm,1.0s
MDT Midelt 86.25 57 LR LR 00 13 44.9
comp=Z,74nm,19.6s,baz=31,slow=33
FINES FINESS Array B 91.19 22 LR LR 00 19 43.2
comp=Z,139nm,20.6s,baz=260,slow=36
YAK Yakutsk 91.43 339 LR LR 00 25 34.7
comp=Z,88nm,18.9s,baz=38,slow=39
AKASG Malin Array Be 99.66 29 LR LR 00 25 33.8
comp=Z,114nm,18.4s,baz=330,slow=36

*IDC **22** 23:35:40.0±1.3, 47°.50N×12°.34E, h0km, mb3.5/4, mbtmp3.5/9, ML3.6/5, MS3.4/3, Error ellipse: s-maj=20.5km s-min=13.5km az=134.0*
*LDG **22** 23:35:40.7±0.2, 47°.59N×12°.29E, h2km, Ml3.8/36, Error ellipse: s-maj=4.5km s-min=3.6km az=31.0*
*BUG **22** 23:35:40.8±0.9, 47°.53N×12°.35E, h1km±4km, MD4.4/13, ML4.4/12*
*VIE **22** 23:35:40.1±0.1, 47°.55N×12°.22E, h12km, mb3.2/24, ml4.0/23, Error ellipse: s-maj=1.0km s-min=0.7km az=164.0 5 km SE of Kufstein felt 5 ems98 SE of Kufstein / Tyrol*
*PDG **22** 23:35:40.9±1.0, 47°.60N×12°.22E, h7km±1km, ML4.1/8, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*PRU **22** 23:35:41.6, 47°.56N×12°.24E, h1km*
*ROM **22** 23:35:41.3±0.0, 47°.55N×12°.18E, h11km, ML3.9/268, Error ellipse: s-maj=0.0km s-min=0.0km az=45.0*
*IPEC **22** 23:35:41.8±0.2, 47°.56N×12°.21E, h13km, ML3.9/13, Error ellipse: s-maj=2.3km s-min=1.0km az=33.0*
*BNS **22** 23:35:41.2±1.3, 47°.52N×12°.20E, h3km, ML3.7*
*MCSM **22** 23:35:42.5±0.2, 48°.N±3°.×1°.2E±°, h10km, mb4.2, mB4.6, MLv4.1, Mw(mB)3.8*
*NEIC **22** 23:35:42.0±2.2, 47°.61N±0°.03×12°.26E±0°.05, h10km±2km, ML3.8/60, ML4.0/23(VIE), Error ellipse: s-maj=7.8km s-min=3.0km az=41.0*
*BGR **22** 23:35:42.3±0.2, 47°.55N×12°.24E, h10km, ML3.8/25, Error ellipse: s-maj=3.3km s-min=2.2km az=173.0*
*BEO **22** 23:35:43.3±0.8, 47°.50N×12°.27E, h0km, ML3.8/11*

ISC 22 23:35:40.7±0.9, 47°.56N±0°.01×12°.19E±0°.01, h8km±7km, n323, σ1°62/453, mb3.5/4, MS4.0/3, 12C-45D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LESA	**Schwarzleotal**	**0.36**	**112**	*i* Pg		**Pg**	**23 35 47.3**	**-0.3**
	592nm,0.2s,SNR=1082							
LESA					*e*Sg	**Sg**	**23 35 51.5**	**-0.8**
	2μm,0.2s							
RJOB	**Jochberg**	**0.45**	**66**	*e*Pg		**Pg**	**23 35 48.7**	**-0.7**
RJOB					*e*Sg	**Sb**	**23 35 56.5**	**-1.2**
WATA	**Walderalm**	**0.47**	**242**	*e*Pg		**Pg**	**23 35 49.2**	**-0.7**
	9.0nm,0.2s,SNR=676							
WATA					*e*Sg	**Sg**	**23 35 57.3**	**+1.2**
	1μm,0.2s							
WATA	**Walderalm**	**0.47**	**242**	*e*Pg		**Pg**	**23 35 49.8**	**-0.1**
WATA					*e*Sg	**Sg**	**23 35 56.9**	**+0.9**
WTTA	**Wattenberg**	**0.48**	**232**	*e*Pg		**Pg**	**23 35 49.9**	**0.0**
	160nm,0.3s,SNR=1793							
WTTA					*e*Sg	**Sg**	**23 35 56.3**	**0.0**
	863nm,0.3s							
WTTA	**Wattenberg**	**0.48**	**232**	*e*Pg		**Pg**	**23 35 50.0**	**0.0**
WTTA					*e*Sg	**Sg**	**23 35 57.1**	**+0.9**
WTTA	**Wattenberg**	**0.48**	**232**	||P	**Pg**	**23 35 50.0**	**0.0**
WTTA					S	**Sg**	**23 35 56.6**	**+0.3**
WTTA					AML	AML		
	comp=E,6860μm,0.4s							
WTTA					AML	AML		
	comp=N,5615μm,1.5s							
WTTA					AML	AML		
	comp=E,6857μm,0.4s							
WTTA					AML	AML		
	comp=N,5518μm,0.5s							
WTTA					AML	AML		
	comp=N,5615μm,0.5s							
RNON	**Nonn-Bad Reich**	**0.49**	**68**	*e*Pg		**Pg**	**23 35 49.8**	**-0.5**
RNON					*e*Sg	**Sg**	**23 35 57.6**	**+0.9**
KW1	**Garching a.d.**	**0.63**	**26**	*e*Pg		**Pb**	**23 35 54.1**	**+0.2**
KW1					*e*Sg	**Sb**	**23 36 04.6**	**+1.7**
PART	**Garmisch-Parte**	**0.73**	**266**	*e*Pg		**Pg**	**23 35 54.3**	**-0.5**
PART					*e*Sg	**Sb**	**23 36 07.3**	**+1.3**
BE1	**Monatshausen**	**0.74**	**299**	*e*Pg		**Pb**	**23 35 55.8**	**-0.1**
BE1					*e*Sg	**Sb**	**23 36 07.6**	**+1.3**
SQTA	**Sankt Quirin**	**0.75**	**243**	*e*Pg		**Pg**	**23 35 54.4**	**-0.6**
	comp=N,2.4nm,0.1s,SNR=725							
SQTA					Sg	**Sg**	**23 36 05.2**	**+0.4**
	comp=N,508nm,0.2s							
MOTA	**Moosalm**	**0.77**	**254**	*e*Pg		**Pg**	**23 35 54.5**	**-0.9**
	comp=N,10nm,0.1s,SNR=356							
MOTA					Sg	**Sg**	**23 36 06.0**	**+0.6**
	comp=N,67nm,0.1s							
ROSI	**Rosskopf**	**0.82**	**220**	||P	**Pg**	**23 35 56.3**	**-0.2**
ROSI					S	**Sg**	**23 36 07.6**	**+0.3**
ROSI					AML	AML		
	comp=N,7540μm,0.8s							
ROSI					AML	AML		
	comp=E,4585μm,0.4s							
ROSI					AML	AML		
	comp=E,4584μm,0.4s							
ROSI					AML	AML		
	comp=N,7539μm,0.8s							
ROSI					AML	AML		
	comp=E,4585μm,1.6s							
ZUGS	**Zugspitze, Sch**	**0.83**	**261**	*e*Pg		**Pg**	**23 35 56.3**	**-0.5**
ZUGS					*e*Sg	**Sn**	**23 36 10.8**	**-0.9**
ABTA	**Abfaltersbach**	**0.84**	**165**	*e*Pg		**Pg**	**23 35 56.5**	**-0.4**
	comp=E,324nm,0.3s,SNR=1090							
ABTA					*e*Sg	**Sg**	**23 36 07.5**	**-0.2**
	comp=E,401nm,0.2s							
FUR	**Furstenfeldbru**	**0.86**	**315**	*e*Pg		**Pb**	**23 35 58.4**	**+0.5**
FUR					*e*Sg	**Sn**	**23 36 12.3**	**+0.2**
BRES	**Bressanone**	**0.92**	**200**	||P	**Pg**	**23 35 58.5**	**+0.2**
BRES					S	**Sg**	**23 36 10.4**	**+0.2**
BRES					AML	AML		
	comp=E,3115μm,0.5s							
BRES					AML	AML		
	comp=N,4095μm,0.5s							
BRES					AML	AML		
	comp=E,3120μm,0.5s							
BRES					AML	AML		
	comp=N,4090μm,0.5s							
BRES					AML	AML		
	comp=E,3118μm,0.5s							
BRES					AML	AML		
	comp=N,4094μm,0.5s							
BRES					AML	AML		
	comp=N,4095μm,1.5s							
KBA	**Koelnbreinsper**	**0.92**	**121**	*e*Pg		**Pg**	**23 35 57.5**	**-0.9**
	comp=N,259nm,0.2s,SNR=578							

KBA eSg Sg 23 36 10.1 -0.3
comp=N,139nm,0.2s
KBA Koelnbreinsper 0.92 121 ePg **Pg 23 35 57.5 -0.9**
KBA eSg **Sg 23 36 10.8 +0.5**
RETA Reutte 0.97 266 ePg **Pg 23 35 58.7 -0.6**
comp=N,5.5nm,0.4s,SNR=64
RETA Sg **Sb 23 36 12.7 -0.1**
comp=N,204nm,0.3s
BIOA Bad Ischl, Aus 0.99 82 ePn **Pg 23 35 58.8 -0.8**
comp=N,16nm,0.2s,SNR=250
DANT Danta di Cador 1.02 167 P **Pg 23 35 59.8 -0.4**
FVI Forni Avoltri 1.04 157 ⇓P **Pg 23 36 00.2 -0.5**
FVI S **Sg 23 36 14.0 -0.2**
FVI AML AML
comp=E,7855μm,0.3s
FVI AML AML
comp=N,5430μm,0.4s
FVI AML AML
comp=E,7858μm,0.3s
FVI AML AML
comp=N,5430μm,0.4s
FETA Feichten 1.13 242 ePn **Pg 23 36 01.4 -1.0**
comp=N,14nm,0.2s,SNR=147
FETA Sg **Sb 23 36 17.9 +0.4**
comp=N,212nm,0.5s
ZOU Zoufplan 1.14 152 P **Pg 23 36 01.8 -0.7**
ZOU S **Sg 23 36 17.4 +0.1**
ZOU AML AML
comp=E,5040μm,0.6s
ZOU AML AML
comp=N,3325μm,0.4s
ZOU AML AML
comp=E,4557μm,0.4s
ZOU AML AML
comp=N,3260μm,0.5s
ZOU AML AML
comp=E,4646μm,0.4s
ZOU AML AML
comp=N,3329μm,0.5s
ZOU AML AML
comp=E,4955μm,0.6s
ZOU AML AML
comp=N,3260μm,0.4s
CLUD Cludinico 1.20 157 ⇓P **Pg 23 36 02.9 -0.8**
CLUD S **Sg 23 36 18.6 -0.6**
CLUD AML AML
comp=N,2565μm,0.6s
CLUD AML AML
comp=N,2540μm,0.6s
CLUD AML AML
comp=E,2140μm,0.5s
CLUD AML AML
comp=E,2222μm,0.5s
CLUD AML AML
comp=N,2540μm,0.6s
CLUD AML AML
comp=E,2140μm,0.5s
CLUD AML AML
comp=N,2562μm,0.6s
CLUD AML AML
comp=E,2220μm,0.5s
PLRO Paularo 1.20 147 P **Pg 23 36 03.0 -0.8**
BOSI Bolzano 1.22 210 P **Pb 23 36 03.8 -0.2**
BOSI AML AML
comp=N,9605μm,0.5s
BOSI AML AML
comp=E,8410μm,0.5s
BOSI AML AML
comp=E,8408μm,0.5s
BOSI AML AML
comp=N,9579μm,0.5s
BOSI AML AML
comp=E,8410μm,1.5s
CIMO Cimolais 1.26 172 P **Pn 23 36 04.1 -0.6**
CIMO AML AML
comp=N,1865μm,0.4s
CIMO AML AML
comp=N,1880μm,0.4s
CIMO AML AML
comp=E,1528μm,0.4s
CIMO AML AML
comp=N,1864μm,0.4s
CIMO AML AML
comp=E,1519μm,0.3s
CIMO AML AML
comp=N,1882μm,0.4s
CIMO AML AML
comp=E,1520μm,0.3s
CIMO AML AML
comp=E,1530μm,0.4s
APPI Appiano 1.27 212 ⇓P **Pn 23 36 04.7 -0.1**
APPI AML AML
comp=E,4505μm,0.3s
APPI AML AML
comp=N,4060μm,0.4s
APPI AML AML
comp=E,4501μm,0.3s
APPI AML AML
comp=N,4061μm,0.5s
APPI AML AML
comp=N,4060μm,1.6s
FUSE Fusea 1.27 154 ⇓P **Pn 23 36 04.2 -0.6**
AGOR Agordo 1.28 184 ⇓P **Pn 23 36 04.9 0.0**
A105A Obersdorf, Sch 1.30 264 Pn **Pg 23 36 06.0 +0.5**
A105A Sg **Sn 23 36 27.0 +4.2**
OBER Oberstdorf 1.30 264 ePn **Pg 23 36 05.8 +0.3**
OBER eSg **Sn 23 36 26.6 +3.8**
STAL STALIGIAL 1.35 164 **Pn 23 36 05.5 -0.3**
STAL Sn **Sn 23 36 24.9 +1.0**
STAL IAML 23 36 31.9
comp=N,2μm,0.4s
STAL STALIGIAL 1.35 164 P **Pn 23 36 05.6 -0.3**
STAL AML AML
comp=E,5780μm,0.6s
STAL AML AML
comp=N,6390μm,1.4s
STAL AML AML
comp=N,5470μm,1.4s
STAL AML AML
comp=E,5780μm,0.7s
STAL AML AML
comp=N,6390μm,1.4s
STAL AML AML
comp=E,6220μm,0.5s
STAL AML AML
comp=E,5781μm,0.7s
STAL AML AML
comp=N,5895μm,0.3s
STAL AML AML
comp=E,6220μm,0.5s
STAL AML AML
comp=N,4973μm,0.4s
STAL AML AML
comp=N,5470μm,0.6s
STAL AML AML
comp=N,6390μm,0.6s
ZIAN Ziano 1.35 199 ⇓P **Pb 23 36 06.4 +0.1**
ZIAN AML AML
comp=E,2650μm,0.5s
ZIAN AML AML
comp=N,3555μm,0.5s
ZIAN AML AML
comp=N,2645μm,0.5s
ZIAN AML AML
comp=E,3660μm,0.5s
ZIAN AML AML
comp=N,2641μm,0.5s
ZIAN AML AML
comp=E,2648μm,0.5s
ZIAN AML AML
comp=N,3552μm,0.5s
ZIAN AML AML
comp=E,3660μm,0.5s
ZIAN AML AML
comp=N,3550μm,0.5s
ACOM Acomizza, Ital 1.36 138 P **Pn 23 36 06.2 0.0**
ACOM AML AML
comp=E,5810μm,0.5s
ACOM AML AML
comp=N,6080μm,0.4s
ACOM AML AML
comp=E,5575μm,0.5s
ACOM AML AML
comp=N,5920μm,0.4s
ACOM AML AML
comp=E,5575μm,0.5s
ACOM AML AML
comp=N,5921μm,0.4s
ACOM AML AML
comp=E,5811μm,0.5s
ACOM AML AML
comp=N,6078μm,0.4s
ACOM AML AML
comp=E,5810μm,1.5s
ACOM AML AML
comp=E,5575μm,1.5s
MYKA Terra Mystica 1.36 133 ePg **Pn 23 36 05.5 -0.6**
comp=E,30nm,0.2s,SNR=155
MYKA eSg **Sb 23 36 24.0 0.0**
comp=E,188nm,0.3s
OZOL Ozolo 1.39 214 P **Pb 23 36 06.9 -0.1**
OZOL AML AML
comp=E,11900μm,0.6s
OZOL AML AML
comp=N,9725μm,0.4s
OZOL AML AML
comp=E,12450μm,0.6s
OZOL AML AML
comp=E,12402μm,0.6s
OZOL AML AML
comp=N,8655μm,0.6s
OZOL AML AML
comp=E,11916μm,0.6s
OZOL AML AML
comp=N,9724μm,0.4s
OZOL AML AML
comp=N,8655μm,0.6s
PTCC Patocco-Chiusa 1.40 145 P **Pn 23 36 06.4 -0.2**
PTCC AML AML
comp=N,2250μm,0.5s
PTCC AML AML
comp=E,2240μm,0.6s
PTCC AML AML
comp=E,2238μm,0.6s
PTCC AML AML
comp=N,2249μm,0.5s
PTCC AML AML
comp=E,2240μm,1.4s
PTCC AML AML
comp=N,2250μm,1.5s
DST2 Trieste 1.41 159 P **Pn 23 36 06.6 0.0**
DST2 AML AML
comp=E,7640μm,0.6s
DST2 AML AML
comp=N,7785μm,1.0s
DST2 AML AML
comp=E,7642μm,0.6s
DST2 AML AML
comp=N,7709μm,0.7s
DST2 AML AML
comp=E,7640μm,1.4s
DST2 AML AML
comp=N,7785μm,1.0s
UBR Ueberruh 1.41 276 ePn **Pg 23 36 08.0 +0.2**
UBR eSg **Sg 23 36 28.8 +2.6**
MOA Molln 1.43 78 ePg **Pb 23 36 07.5 -0.1**
comp=N,44nm,0.2s,SNR=159
MOA Sg **Sg 23 36 27.5 +0.8**
comp=N,249nm,0.2s
MOA Molln 1.43 78 ePg **Pg 23 36 08.2 +0.1**
MOA eSg **Sg 23 36 27.8 +1.1**
MOA Molln 1.43 78 ePn **Pb 23 36 07.7 0.0**
MOA eSg **Sg 23 36 28.9 +2.2**
GEPF Gemona 1.44 153 P **Pn 23 36 07.0 0.0**
GEPF AML AML
comp=N,1800μm,0.7s
GEPF AML AML
comp=E,2240μm,0.5s
GEPF AML AML
comp=E,2240μm,0.5s
GEPF AML AML
comp=N,1712μm,0.7s
GEPF AML AML
comp=E,2240μm,1.5s
PRED Cave del Predi 1.46 139 Pn **Pb 23 36 07.8 -0.3**
PRED Cave del Predi 1.46 139 P **Pn 23 36 07.7 +0.2**
MOSI Grossmontoni 1.47 231 P **Pg 23 36 08.8 0.0**
MOSI AML AML
comp=N,6350μm,0.4s
MOSI AML AML
comp=E,8258μm,0.8s
MOSI AML AML
comp=N,6352μm,0.4s
MOSI AML AML
comp=E,8260μm,0.8s
MOSI AML AML
comp=N,6350μm,1.6s
VINO Villanova 1.50 150 P **Pn 23 36 08.3 +0.3**
VINO AML AML
comp=E,2090μm,0.5s
VINO AML AML
comp=N,2910μm,0.9s
VINO AML AML
comp=E,2092μm,0.5s
VINO AML AML
comp=N,2827μm,0.4s
VINO AML AML
comp=E,2090μm,1.5s
VINO AML AML
comp=N,2910μm,1.1s
CTI Castel Tesino 1.56 194 Pn **Pb 23 36 09.6 -0.2**
NORI Noerdlinger Ri 1.57 319 ePn **Pn 23 36 09.3 +0.5**
DAVA Damuels 1.59 261 ePg **Pg 23 36 11.0 -0.2**
comp=N,4.8nm,0.2s,SNR=130
DAVA Sg **Sg 23 36 33.7 +1.9**
comp=N,123nm,0.2s
DAVA Damuels 1.59 261 ePn **Pg 23 36 11.3 +0.1**
DAVA eSg **Sg 23 36 34.8 +3.0**
FUORN Ofenpass-Fuorn 1.62 235 Pn **Pb 23 36 10.7 -0.3**
GEC2 GERESS Array S 1.64 38 Pn **Pn 23 36 10.2 +0.3**
GEC2 IAML 23 36 35.8
comp=N,818nm,0.3s
GEC2 IAML 23 36 36.5
comp=E,678nm,0.3s
GEC2 GERESS Array S 1.64 38 ePn **Pn 23 36 10.2 +0.3**
GEC2 eSg **Sg 23 36 33.5 +0.2**
GERES GERESS Array B 1.64 38 Pg **Pn 23 36 10.2 +0.3**
comp=E,8.7nm,0.3s,baz=217,slow=14,SNR=480
GERES Lg Lg 23 36 32.0
comp=E,41nm,0.3s,baz=221,slow=28,SNR=24
I26DE FREYUNG INFRAS 1.65 38 I I 23 45 40.0
baz=216,slow=302,SNR=1.5
WET Wettzell 1.65 16 ePn **Pn 23 36 10.2 +0.2**
WET eSg **Sb 23 36 32.9 +0.5**
CADS Cadrg 1.70 141 i Pn **Pb 23 36 12.2 -0.1**
CADS eSn **Sg 23 36 36.0 +0.7**
A108A Ulm, Ringingen 1.77 297 Pn **Pb 23 36 14.0 +0.6**
A108A Sg **Sg 23 36 38.8 +1.2**
A104C Biberach, Ahle 1.80 289 Pn **Pb 23 36 14.0 +0.1**
A104C Sg **Sg 23 36 39.4 +0.9**
A103D Ravensburg, Wa 1.80 279 Pg **Pg 23 36 15.3 +0.1**
A103D Sg **Sg 23 36 39.9 +1.4**
KHC Kasperske Hory 1.82 30 ePN **Pn 23 36 12.8 +0.4**
KHC eSN **Sn 23 36 36.6 +0.8**
KHC eSG **Sg 23 36 39.9 +0.6**
comp=E,813nm,0.3s
KHC Kasperske Hory 1.82 30 Pn **Pn 23 36 12.8 +0.4**
SABO M.te Sabotino 1.85 148 Pn **Pb 23 36 14.9 +0.1**
CKRC Cesky Krumlov 1.90 48 ePN **Pn 23 36 13.5 +0.1**
CKRC eSG **Sb 23 36 40.5 +1.0**
comp=E,748nm,0.5s
OBKA Obir 1.92 122 ePg **Pb 23 36 16.0 0.0**
comp=E,237nm,0.3s,SNR=528
OBKA Sg **Sg 23 36 42.8 +0.3**
comp=E,723nm,0.6s
OBKA Obir 1.92 122 ePg **Pb 23 36 16.1 0.0**
OBKA eSg **Sg 23 36 43.5 +1.0**
PLONS Plons/SG 1.98 256 ePn **Pb 23 36 17.1 +0.1**
A109A Bad Urach, See 2.04 297 Pn **Pb 23 36 17.3 -0.7**
A109A Sg **Sg 23 36 47.1 +1.0**
A106B Goeppingen, Ma 2.04 307 Pn **Pb 23 36 16.8 -1.2**
A102A Sigmaringen, J 2.10 287 Pn **Pb 23 36 17.9 -1.1**
SOKA Soboth 2.13 113 ePg **Pb 23 36 18.5 -1.1**
comp=E,26nm,0.2s,SNR=162
SOKA Sg **Sg 23 36 47.7 -1.4**
comp=E,84nm,0.4s
TRI Trieste 2.15 149 Pn **Pb 23 36 18.7 -1.1**
PERS Pernice 2.20 114 ⇑i Pn **Pb 23 36 19.4 -1.4**
LJU Ljubljana 2.21 133 ePg **Pb 23 36 21.3 +0.5**
ROTZ Rotzenmuhle 2.21 0 ePn **Pn 23 36 15.7 -2.0**
ROTZ eSg **Sb 23 36 50.0 +1.6**
GRFO Grafenberg 2.23 344 Pn **Pn 23 36 17.6 -0.4**
GRFO IAML 23 37 01.1
comp=E,596nm,0.7s
GRFO IAML 23 37 04.0
comp=E,624nm,0.9s
TEOL Teolo 2.23 189 Pn **Pb 23 36 20.5 -0.7**
TUE Stuetta 2.23 242 Pn **Pb 23 36 20.5 -0.8**
TUE Stuetta 2.23 242 Pn **Pb 23 36 20.9 -0.4**
GRA1 Grafenberg Arr 2.23 344 Pn **Pn 23 36 17.3 -0.6**
GRA1 IAML 23 37 03.4
comp=E,710nm,0.5s
GRA1 IAML 23 37 04.1
comp=N,872nm,0.5s
GRF Grafenberg Arr 2.23 344 ePn **Pn 23 36 17.6 -0.4**
GRF eSg **Sg 23 36 53.1 +0.8**
ARSA Arzberg 2.28 97 Pn **Pn 23 36 19.5 +0.8**
ARSA IAML 23 36 56.9
comp=N,361nm,0.8s
ARSA Arzberg 2.28 97 ePn **Pn 23 36 19.8 +1.1**
comp=N,12nm,0.2s,SNR=74
ARSA Sg **Sg 23 36 54.5 +0.5**
comp=N,228nm,0.4s
ARSA Arzberg 2.28 97 ePn **Pb 23 36 21.7 -0.5**
ARSA Arzberg 2.28 97 ePn **Pn 23 36 19.8 +1.1**
ARSA eSg **Sg 23 36 54.4 +0.3**
ZVC Zvikov 2.31 35 ePN **Pn 23 36 19.8 +0.8**
ZVC eSG **Sg 23 36 55.0 +0.3**
STU Stuttgart 2.34 302 Pn **Pn 23 36 20.3 +0.8**
STU IAML 23 37 04.7
comp=E,749nm,0.5s
STU IAML 23 37 05.5
comp=N,784nm,0.5s
STU Stuttgart 2.34 302 eSg **Sg 23 36 57.2 +1.3**
A100A Rottenburg, We 2.37 293 Pn **Pn 23 36 21.7 +1.9**
SKDS Skadanscina 2.37 147 ePg **Pb 23 36 22.1 -1.6**
CEY Cerknica 2.38 139 ePg **Pb 23 36 22.9 -1.0**
CEY eSg **Sg 23 36 57.1 -0.1**
MANZ Manzenberg 2.43 359 ePn **Pn 23 36 20.3 -0.4**
MANZ eSg **Sg 23 36 59.4 +0.7**
CONA Conrad Observa 2.50 80 ePn **Pn 23 36 22.4 +0.6**
comp=N,2.4nm,0.4s,SNR=23
CONA Sg **Sg 23 36 59.4 -1.7**
comp=N,204nm,0.3s
SLE Schleitheim 2.51 276 ePn **Pn 23 36 23.4 +1.6**
A101B Rottweil, Deis 2.52 284 Pn **Pn 23 36 23.8 +1.9**
STAC Stalkov 2.54 54 ePn **Pn 23 36 22.7 +0.4**
baz=236
STAC eSg **Sg 23 37 01.5 -0.9**
comp=N,256nm,0.4s,baz=236
BFO Black Forest 2.71 288 Pn **Pn 23 36 25.8 +1.3**
BFO Black Forest 2.71 288 ePn **Pn 23 36 26.0 +1.4**
BFO eSg **Sg 23 37 08.0 +0.3**
RIY Rijeka 2.74 144 ePn **Pb 23 36 27.5 -2.4**
SULZ Cheisacher 2.76 271 ePn **Pn 23 36 27.2 +1.9**
RONA Rosalia, Austr 2.78 86 ePn **Pn 23 36 26.6 +1.0**
comp=N,3.5nm,0.2s,SNR=24
RONA Sg **Sg 23 37 08.1 -1.9**
comp=N,98nm,0.3s
TREC Trest 2.80 50 ePN **Pn 23 36 26.2 +0.4**
TREC ePG **Pb 23 36 32.4 +1.4**
TREC eSG **Sg 23 37 09.3 -1.3**
CRES Cresnjevec Ost 2.84 126 i Pn **Pn 23 36 27.6 +1.2**
BRJN Brijuni 2.87 157 ePn **Pn 23 36 28.2 +1.5**
PRU Pruhonice 2.89 32 eSG **Sg 23 37 12.7 -0.6**
comp=N,195nm,0.4s
GCIS Gornji Cirnik 2.91 124 i Pn **Pn 23 36 28.7 +1.4**
BOJS Bojanci 2.95 133 ePn **Pn 23 36 29.5 +1.7**
OZLJ Ozalj 2.98 130 ⇑i Pn **Pn 23 36 29.6 +1.4**
KOGS Kog 2.99 110 i Pn **Pn 23 36 29.6 +1.2**
BALST Balsthal 3.06 267 ePn **Pn 23 36 30.9 +1.4**
MOX Moxa 3.11 353 ePn **Pn 23 36 29.4 -0.7**
MOX eSn **Sn 23 37 07.4 -0.1**
MOX eSg **Sg 23 37 22.7 +2.1**
HSKC Hora Svate Kat 3.16 15 eSG **Sg 23 37 20.3 -1.8**
comp=N,332nm,0.6s
KRUC Moravsky 3.18 60 ePn **Pn 23 36 30.8 -0.3**
baz=243
KRUC Moravsky 3.18 60 ePg **Pb 23 36 39.5 +2.0**
baz=243
KRUC eSg **Sg 23 37 21.3 -1.6**
comp=N,260nm,0.6s,baz=243
RICC Richard 3.24 22 ePG **Pg 23 36 40.9 -1.8**
ZCCA Zocca 3.32 195 Pn **Pb 23 36 36.5 -3.3**
ZCCA IAML 23 37 38.7
comp=E,142nm,0.6s
ZCCA IAML 23 37 48.3
comp=N,159nm,1.4s
BEHE Becsehely 3.32 107 Pn **Pn 23 36 34.4 +1.5**
BEHE IAML 23 37 41.9
comp=N,180nm,1.1s
BEHE Becsehely 3.32 107 ePn **Pn 23 36 34.0 +1.1**
ZST Bratislava 3.37 77 ePN **Pn 23 36 35.2 +1.6**
ZST ePG **Pg 23 36 44.3 -0.9**
ZST eSG **Sg 23 37 28.1 -0.7**
ZST ePP 00 16 04.8
CDF Champ du Feu 3.41 286 eP **Pn 23 36 35.8 +1.5**
CDF Champ du Feu 3.41 286 ePg **Pg 23 36 46.6 +0.6**
CDF eSg **Sg 23 37 28.4 -1.7**
comp=N,70nm,0.3s
VRAC Vranov 3.41 58 Pn **Pn 23 36 35.1 +0.9**
comp=N,1.7nm,0.3s,baz=237,slow=14,SNR=7.9
VRAC Lg Lg 23 37 27.9
comp=N,22nm,0.3s,baz=162,slow=20,SNR=33
comp=N,5.1nm,0.5s
VRAC Vranov 3.41 58 ⇓P **Pn 23 36 34.6 +0.4**
VRAC Vranov 3.41 58 ePn **Pn 23 36 34.6 +0.4**
baz=241
VRAC Vranov 3.41 58 ePg **Pb 23 36 43.7 +2.3**
baz=241
VRAC eSg **Sg 23 37 28.5 -1.8**
comp=N,372nm,0.7s,baz=241
RYBC Ceska Rybna 3.42 47 ePn **Pn 23 36 34.4 +0.1**
baz=230
RYBC eSg **Sg 23 37 28.5 -1.8**
comp=N,364nm,0.5s,baz=230
ECH Echery 3.45 283 Pn **Pn 23 36 35.9 +1.2**
ECH IAML 23 37 40.4
comp=N,135nm,1.1s
BRG Berggiesshubel 3.51 18 ePn **Pn 23 36 35.6 +0.1**
BRG Amp 23 36 37.7
comp=Z,6.8nm,0.4s
BRG Berggiesshubel 3.51 18 Pg **Pg 23 36 46.5 -1.4**
BRG Amp 23 36 50.1
comp=Z,43nm,0.4s
BRG Berggiesshubel 3.51 18 Sn **Sn 23 37 17.6 +0.3**
BRG Amp 23 37 19.0
comp=Z,79nm,0.3s
BRG Berggiesshubel 3.51 18 Sg **Sg 23 37 34.2 +0.8**
BRG Amp 23 37 38.4
comp=Z,164nm,0.4s
MODS Modra-Piesok 3.51 75 ePN **Pn 23 36 37.5 +1.9**
MODS ePG **Pg 23 36 47.4 -0.6**
MODS eSG **Sg 23 37 31.0 -2.5**
SENIN Lac Senin/Sane 3.56 252 Pn **Pn 23 36 38.1 +1.7**
HINF Hinteralfeld 3.62 276 eP **Pn 23 36 38.2 +1.2**
HINF eSg **Sg 23 37 36.1 -0.6**
comp=Z,60nm,0.3s
TNS Taunus Mts 3.63 319 ePn **Pn 23 36 38.8 +1.4**
MOSL Moslavina 3.70 120 ⇑i Pn **Pn 23 36 38.5 +0.3**
MSSA Maissana 3.74 211 Pn **Pn 23 36 41.7 +2.9**
MSSA IAML 23 37 29.7
comp=N,170nm,0.7s
MSSA IAML 23 37 30.1
comp=E,134nm,0.8s
CLL Collm 3.79 8 Pn **Pn 23 36 39.2 -0.2**
CLL Collm 3.79 8 Pn **Pn 23 36 39.3 -0.1**
CLL Collm 3.79 8 ePn **Pn 23 36 39.0 -0.4**
CLL ePg **Pg 23 36 52.0 -1.2**
CLL eSg **Sg 23 37 42.0 -0.3**
comp=Z,296nm,0.9s
JAVC Velka Javorina 3.89 68 ePN **Pn 23 36 41.9 +1.1**
NAST IGS Nastaetten 3.89 314 ePn **Pn 23 36 42.3 +1.6**
NAST eSn **Sn 23 37 26.5 -0.1**
comp=Z,212nm,0.2s
DPC Dobruska-Polom 3.90 43 ePN **Pn 23 36 41.0 0.0**
DPC eSG **Sg 23 37 44.1 -1.8**
comp=Z,220nm,0.4s
KRLC Kraliky 3.94 49 eSG **Sg 23 37 46.6 -0.6**
comp=Z,194nm,0.4s
HAU Haudompre 3.96 279 eP **Pn 23 36 43.4 +1.6**
HAU eSg **Sg 23 37 46.0 -1.9**
comp=Z,91nm,0.3s
OSSC Osservatorio P 4.09 190 Pn **Pn 23 36 46.0 +2.5**
OSSC IAML 23 37 36.4
comp=N,68nm,1.6s
OSSC IAML 23 37 37.2

comp=E,94nm,1.4s
KOE Koeppel 4.11 316 *e*Pn **Pn 23 36 45.0 +1.3**
KOE *e*Sn **Sn 23 37 31.3 -0.7**
comp=E,132nm,0.8s
SRO Srobarova 4.14 84 *e*PN **Pn 23 36 44.2 0.0**
BGG Burgeitz 4.16 311 *e*Pn **Pn 23 36 45.2 +0.8**
BGG *e*Sn **Sn 23 37 32.6 -0.6**
comp=E,37nm,0.6s
MORC Moravsky Berou 4.18 56 Pn **Pn 23 36 44.4 -0.4**
MORC IAML 23 37 58.3
comp=E,125nm,0.9s
MORC IAML 23 37 58.4
comp=N,167nm,0.9s
MORC Moravsky Berou 4.18 56 ⇓P **Pn 23 36 44.5 -0.4**
MORC Moravsky Berou 4.18 56 *e*PN **Pn 23 36 44.6 -0.2**
MORC Moravsky Berou 4.18 56 *e*Pn **Pn 23 36 44.5 -0.4**
baz=240
KSP Ksiaz 4.25 38 Pn **Pn 23 36 45.6 -0.1**
CABF La Chapelle 4.28 259 *e*P **Pn 23 36 47.0 +0.8**
CABF *e*Sn **Sn 23 37 33.1 -3.2**
CABF *e*Sg **Sg 23 37 57.2 -0.7**
comp=N,121nm,0.6s
LPG La Plagne 4.28 243 *e*Sn **Sn 23 37 33.9 -2.8**
comp=N,56nm,0.4s
LPL La Plagne 4.29 244 *e*Pn **Pn 23 36 46.1 -0.3**
LPL La Plagne 4.29 244 *e*P **Pn 23 36 49.5 +3.1**
MURB Monte Urbino 4.30 177 Pn **Pn 23 36 48.8 +2.3**
STEB Steborice 4.39 55 *e*SG **Sg 23 37 59.2 -2.4**
PAGF Fort de Pagny 4.45 285 *e*P **Pn 23 36 50.3 +1.8**
baz=103
PAGF Fort de Pagny 4.45 285 *e*Pg **Pg 23 37 04.6 -1.3**
PAGF *e*Sg **Sg 23 38 00.8 -2.7**
comp=N,113nm,0.4s
BLY Banja Luka 4.46 127 *e*Pn **Pn 23 36 49.6 +0.9**
BLY Banja Luka 4.46 127 ⇓P **Pn 23 36 50.4 +1.7**
SLATY Slatina 4.48 126 *e*Pn **Pn 23 36 47.1 -1.7**
WLF Walferdange 4.53 300 Pn **Pn 23 36 51.6 +2.1**
WLF IAML 23 38 08.6
comp=N,66nm,0.7s
WLF IAML 23 38 14.5
comp=E,94nm,0.8s
WLF Walferdange 4.53 300 *d*P **Pn 23 36 51.8 +2.3**
WLF Walferdange 4.53 300 *e*Pn **Pn 23 36 51.9 +2.3**
HILG Hillesheim 4.55 309 *e*Pn **Pn 23 36 51.1 +1.2**
HILG *e*Sn **Sn 23 37 41.5 -1.3**
FDMO Fiordimonte 4.57 172 Pn **Pn 23 36 51.5 +1.4**
FDMO IAML 23 37 48.0
comp=N,73nm,0.7s
FDMO IAML 23 37 49.5
comp=E,88nm,0.7s
GUMA Gualdo di Mace 4.57 169 Pn **Pn 23 36 51.7 +1.6**
BNI Bardonecchia 4.57 239 Pn **Pn 23 36 53.7 +3.5**
KIJV Kijevo 4.62 139 *e*Pn **Pn 23 36 51.8 +1.0**
MORH Mrgy, Hungar 4.62 105 ⇑*i*Pn **Pn 23 36 50.6 -0.2**
MORH Mrgy, Hungar 4.62 105 ⇓P **Pn 23 36 51.3 +0.5**
MORH Mrgy, Hungar 4.62 105 Pn **Pn 23 36 50.9 +0.1**
MORH Sn **Sn 23 37 46.4 +1.7**
STB Steinbach 4.65 313 *e*Pn **Pn 23 36 52.2 +1.0**
STB *e*Sn **Sn 23 37 43.6 -1.7**
MBDF Montbardon 4.71 235 *e*P **Pn 23 36 54.5 +2.3**
MBDF *e*Sn **Sn 23 37 47.2 +0.1**
comp=E,81nm,0.8s
BNS Bensberg 4.73 318 *e*Pn **Pn 23 36 53.4 +1.1**
BNS *e*Sn **Sn 23 37 47.1 -0.2**
NRCA Norcia 4.77 172 Pn **Pn 23 36 54.7 +1.8**
NRCA IAML 23 37 59.1
comp=N,77nm,0.5s
SAVF Savonnieres en 4.85 285 *e*Pn **Pn 23 36 55.5 +1.5**
SFTF Sexfontaines 4.86 280 *e*P **Pn 23 36 55.9 +1.9**
SFTF *e*Sg **Sg 23 38 15.3 -1.2**
comp=N,34nm,0.4s
CASP Castiglione de 4.86 192 Pn **Pn 23 36 56.3 +2.2**
CASP IAML 23 37 54.0
comp=E,41nm,0.5s
CASP IAML 23 37 55.9
comp=N,53nm,0.8s
MEZF Maizieres J'vi 4.88 284 *e*P **Pn 23 36 56.5 +2.1**
MEZF *e*Sg **Sg 23 38 15.8 -1.6**
comp=N,34nm,0.3s
BHOU Houvegnez 4.94 307 *d*P **Pn 23 36 57.0 +1.8**
BHOU *d*S **Sn 23 37 50.5 -2.0**
KLL Kalltalsperre 4.95 311 *e*Pn **Pn 23 36 55.8 +0.5**
KLL *e*Sn **Sn 23 37 51.2 -1.5**
comp=N,34nm,0.6s
CESX Cesi 4.96 177 Pn **Pn 23 36 56.9 +1.4**
CESX IAML 23 37 59.3
comp=N,81nm,0.5s
SBF Sospel 4.97 224 *e*P **Pn 23 36 59.8 +4.1**
SBF *e*Sn **Sn 23 37 51.8 -1.7**
comp=N,68nm,0.5s
DREG Dreilaegerbach 5.00 311 *e*Pn **Pn 23 36 56.9 +0.9**
DREG *e*Sn **Sn 23 37 52.5 -1.3**
BTNL Ternell 5.00 310 *d*P **Pn 23 36 57.6 +1.5**
BTNL *d*S **Sn 23 37 53.0 -1.1**
MEM Membach 5.08 309 *d*P **Pn 23 36 58.6 +1.5**
MEM *d*S **Sn 23 37 54.7 -1.2**
CAMP Campotosto 5.10 170 Pn **Pn 23 36 58.8 +1.3**
CAMP IAML 23 38 04.2
comp=N,58nm,0.7s
CAMP IAML 23 38 05.6
comp=E,51nm,0.6s
LANS Liptovska Anna 5.11 69 *e*PN **Pn 23 37 00.2 +2.7**
LAUG Laupendahl 5.11 320 *e*Pn **Pn 23 36 58.4 +0.9**
LAUG *e*Sn **Sn 23 37 54.9 -1.7**
ORIF Oris-en-Rattie 5.11 241 *e*P **Pn 23 37 00.8 +3.1**
ORIF *e*Sn **Sn 23 37 54.2 -2.7**
comp=E,23nm,0.3s
PSZ Piszkesteto 5.21 83 Pn **Pn 23 37 00.0 +1.0**
PSZ Piszkesteto 5.21 83 ⇓P **Pn 23 36 59.2 +0.2**
AQU L'Aquila 5.28 170 *e*Pn **Pn 23 37 00.8 +0.9**
AQU L'Aquila 5.28 170 Pn **Pn 23 37 02.2 +2.3**
comp=E,0.2nmcomp=E,46nm,0.8s
RCHB Rochefort 5.28 302 *d*P **Pn 23 37 01.7 +1.9**
RCHB *d*S **Sn 23 37 60.0 -0.9**
BSTI Sart Tilman 5.30 307 *d*P **Pn 23 37 02.6 +2.4**
BEBN Eben Emael 5.36 310 *d*P **Pn 23 37 04.0 +3.1**
BEBN *d*S **Sn 23 38 01.8 -1.0**
BCLA Clavier 5.36 305 *d*P **Pn 23 37 02.2 +1.3**
BCLA *d*S **Sn 23 38 01.9 -1.0**
BGES Gesves 5.47 304 *d*P **Pn 23 37 04.6 +2.2**
BGES *d*S **Sn 23 38 04.8 -0.6**
GIVF Givet 5.49 300 *e*P **Pn 23 37 04.7 +2.0**
GIVF *e*Sn **Sn 23 38 04.0 -2.0**
comp=E,29nm,0.3s
PGF Pioggiola 5.50 205 *e*Pn **Pn 23 37 02.3 -0.6**
BMRD Maredsous 5.61 302 *d*P **Pn 23 37 06.6 +2.2**
BMRD *d*S **Sn 23 38 07.7 -1.3**
DOU Dourbes 5.62 300 *d*P **Pn 23 37 06.7 +2.2**
DOU *d*S **Sn 23 38 08.4 -0.9**
KECS Kecovo 5.64 78 *e*PN **Pn 23 37 08.9 +4.1**
LOR Lormes 5.66 270 *e*P **Pn 23 37 06.4 +1.2**
baz=91
LOR *e*Sg **Sg 23 38 40.1 -2.3**
comp=E,22nm,0.4s
INTR Introdacqua 5.68 167 Pn **Pn 23 37 05.9 +0.5**
OJC Ojcow 5.68 59 Pn **Pn 23 37 06.3 +1.0**
NIE Niedzica 5.70 68 Pn **Pn 23 37 05.9 +0.2**
comp=E,0.1nmcomp=E,4.2nm,0.9s
SSB Saint Sauveur 5.76 249 Pn **Pn 23 37 06.3 -0.2**
SMF Signal de Mont 5.77 264 *e*P **Pn 23 37 07.5 +0.8**
SMF *e*Sn **Sn 23 38 11.1 -2.0**
SMF *e*Sg **Sg 23 38 44.9 -1.1**
comp=E,12nm,0.3s
LMR La Mourre 5.81 225 *e*Pn **Pn 23 37 06.6 -0.6**
LMR La Mourre 5.81 225 *e*P **Pn 23 37 09.8 +2.6**
BAIF Baives 5.84 298 *e*P **Pn 23 37 09.8 +2.3**
BAIF *e*Sn **Sn 23 38 12.9 -1.7**
comp=E,8.3nm,0.3s
SMRF Simiane la Rot 5.85 235 *e*P **Pn 23 37 10.1 +2.3**
SMRF *e*Sn **Sn 23 38 14.0 -1.1**
VIVF Saint-Julien-l 5.88 245 *e*Pn **Pn 23 37 08.6 +0.5**
VIVF *e*Sn **Sn 23 38 12.8 -2.8**
comp=E,9.8nm,0.3s
TEKS Tekeris 5.93 118 *e*Pn **Pn 23 37 09.3 +0.5**
SSF Saint Saulge 5.93 268 *e*P **Pn 23 37 10.0 +1.2**
UCC Uccle 6.07 305 Pn **Pn 23 37 12.8 +2.1**
UCC Uccle 6.07 305 *d*P **Pn 23 37 12.9 +2.3**
AVF Avril sur Loir 6.08 266 *e*P **Pn 23 37 11.9 +1.1**
AVF *e*Sg **Sg 23 38 52.5 -3.1**
comp=E,14nm,0.5s
STON Ston 6.09 138 *e*Pn **Pn 23 37 12.6 +1.6**
STON Ston 6.09 138 *e*Pn **Pn 23 37 12.8 +1.8**
BBLS Lazi&#263i 6.26 124 *e*Pn **Pn 23 37 15.1 +1.8**

KLINJ Klinje 6.29 132 *e*Pn **Pn 23 37 14.3 +0.5**
STHS Stebnicka Huta 6.30 69 *e*PN **Pn 23 37 17.6 +3.7**
SGRT San Giovanni R 6.33 155 Pn **Pn 23 37 13.7 -0.7**
UPM Unac-Piva 6.43 130 ⇓*i*Pn **Pn 23 37 18.4 +2.6**
DIVS Divibare 6.46 120 *e*Pn **Pn 23 37 17.3 +1.2**
BRY Bratogost 6.46 134 *e*Pn **Pn 23 37 18.9 +2.7**
BRY *e*Sn **Sn 23 38 34.5 +4.3**
BGF Bois d'Agland 6.46 265 *e*P **Pn 23 37 17.1 +1.0**
BGF *e*Sn **Sn 23 38 25.6 -4.4**
comp=E,66nm,0.5s
HYF Humbligny 6.49 271 *e*P **Pn 23 37 18.2 +1.7**
HYF *e*Sg **Sg 23 39 05.7 -3.2**
TREB Trebinje 6.51 136 *e*Pn **Pn 23 37 18.2 +1.4**
TREB Trebinje 6.51 136 *e*Pn **Pn 23 37 19.1 +2.3**
PLE Pljevlja 6.59 127 ⇑*i*Pn **Pn 23 37 21.0 +3.0**
SIRR Siria 6.61 98 ⇓P **Pn 23 37 18.8 +0.6**
SIRR Siria 6.61 98 *e*Pn **Pn 23 37 18.8 +0.6**
TRUS Trudelj 6.63 117 *e*Pn **Pn 23 37 19.3 +0.9**
CLF Chambon-Foret 6.71 278 Pn **Pn 23 37 21.0 +1.5**
NKME Niksic 6.77 133 *e*Pn **Pn 23 37 23.7 +3.4**
BZS Buzias 6.78 103 ⇑P **Pn 23 37 22.4 +2.0**
BZS Buzias 6.78 103 *e*Pn **Pn 23 37 22.2 +1.8**
LASF Ste Croix 6.78 242 *e*Pn **Pn 23 37 21.8 +1.3**
LASF *e*Sn **Sn 23 38 34.5 -3.5**
comp=E,14nm,0.3s
HCY Herceg Novi 6.79 137 ⇓*i*Pn **Pn 23 37 23.2 +2.6**
HCY *e*Sn **Sn 23 38 40.1 +2.1**
IVAS Ivanjica 6.86 123 *e*Pn **Pn 23 37 22.8 +1.2**
CEME Cevo 6.91 134 ⇑*i*Pn **Pn 23 37 24.8 +2.5**
CEME *e*Sn **Sn 23 38 42.7 +1.5**
TCF Toulx Ste Croi 6.95 263 *e*P **Pn 23 37 23.7 +0.8**
TCF *e*Sn **Sn 23 38 38.0 -4.1**
TCF *e*Sg **Sg 23 39 21.8 -2.0**
comp=E,7.8nm,0.5s
SJES Sjenica 6.96 125 *e*Pn **Pn 23 37 25.3 +2.3**
KOME Kolasin 6.99 130 *e*Pn **Pn 23 37 26.4 +2.9**
KOME Kolasin 6.99 130 ⇓*i*Pn **Pn 23 37 26.3 +2.8**
KOME *e*Sn **Sn 23 38 44.6 +1.4**
GRUS Gruza 7.00 118 *e*Pn **Pn 23 37 25.1 +1.6**
SURR Surduc 7.07 101 ⇓P **Pn 23 37 26.1 +1.6**
BUM Brajici-Budva 7.09 135 ⇑*i*Pn **Pn 23 37 27.0 +2.2**
BUM *e*Sn **Sn 23 38 46.8 +1.3**
PDG Podgorica 7.17 133 Pn **Pn 23 37 28.2 +2.5**
PDG Podgorica 7.17 133 *e*Pn **Pn 23 37 28.8 +3.1**
PDG Podgorica 7.17 133 *e*Pn **Pn 23 37 28.3 +2.6**
PDG *e*Sn **Sn 23 38 49.2 +1.9**
IVA Berane 7.18 128 ⇓*i*Pn **Pn 23 37 28.8 +2.8**
DRGR 7.21 92 ⇓P **Pn 23 37 27.7 +1.2**
DRGR 7.21 92 *e*Pn **Pn 23 37 28.1 +1.6**
GOCS Kraljevo Serbi 7.29 120 *e*Pn **Pn 23 37 29.2 +1.7**
ACER Acerenza 7.29 157 Pn **Pn 23 37 27.1 -0.3**
DRME Dracevica, Mon 7.31 135 *e*Pn **Pn 23 37 30.2 +2.4**
DRME Dracevica, Mon 7.31 135 ⇓*i*Pn **Pn 23 37 30.2 +2.4**
DRME *e*Sn **Sn 23 38 52.0 +1.0**
CAF Calviac 7.50 253 *e*Pn **Pn 23 37 31.2 +0.8**
CAF *e*Sn **Sn 23 38 49.1 -6.5**
comp=E,12nm,0.5s
MARR Marisel-Cluj 7.51 93 ⇓P **Pn 23 37 32.5 +2.0**
GZR Gura Zlata 7.62 103 ⇓P **Pn 23 37 34.3 +2.2**
GZR Gura Zlata 7.62 103 *e*Pn **Pn 23 37 32.5 +0.4**
MATE Matera 7.63 153 ⇑P **Pn 23 37 32.5 +0.4**
SELS Selova 7.63 121 *e*Pn **Pn 23 37 34.6 +2.4**
RJF Les Rejaudoux 7.71 257 *e*Pn **Pn 23 37 34.0 +0.7**
RJF *e*Sn **Sn 23 38 58.1 -2.7**
comp=E,4.0nm,0.2s
RJF *e*Sg **Sg 23 39 48.7 +0.6**
comp=E,10nm,0.6s
BOVS Bovan 7.74 117 ⇑P **Pn 23 37 34.7 +1.1**
BOVS Bovan 7.74 117 *e*Pn **Pn 23 37 34.9 +1.3**
ZAGS Zajecar 7.97 114 *e*Pn **Pn 23 37 37.6 +0.9**
CUC Castrocucco 8.00 160 Pn **Pn 23 37 38.4 +1.1**
LUNU Lund 8.12 5 *i* P **Pn 23 37 38.0 -0.8**
LUNU *i* S **Sn 23 39 06.6 -4.2**
MTLF Montolieu 8.18 243 *e*Pn **Pn 23 37 41.0 +1.3**
LOT Lotru 8.26 101 ⇑P **Pn 23 37 42.5 +1.6**
BARS Barje 8.29 121 *e*Pn **Pn 23 37 43.2 +2.1**
LDF La Druitiere 8.31 282 *e*P **Pn 23 37 43.2 +1.7**
LDF *e*Sg **Sg 23 40 04.8 -2.5**
comp=E,8.2nm,0.4s
LFF La Frestale 8.36 256 *e*Pn **Pn 23 37 42.2 +0.1**
LFF *e*Sn **Sn 23 39 14.1 -2.5**
LFF *e*Sg **Sg 23 40 06.3 -2.5**
comp=E,10nm,0.4s
MFF Saint Martin d 8.48 268 *e*P **Pn 23 37 44.6 +0.9**
MFF Saint Martin d 8.48 268 *e*Pn **Pn 23 37 44.6 +0.9**
MFF *e*Sn **Sn 23 39 15.2 -4.3**
comp=E,1.5nm,0.2s
MFF *e*Sn **Sn 23 39 15.9 -3.6**
comp=E,7.6nm,0.5s
ZAPS Zavoj 8.50 116 *e*Pn **Pn 23 37 45.8 +1.7**
BJUU Bjuv 8.54 3 *i* P **Pn 23 37 42.8 -1.8**
FLN La Foliniere 8.56 283 *e*Sg **Sg 23 40 12.4 -2.8**
comp=E,6.7nm,0.5s
BUR08 Bucovina Ar. S 8.79 85 Pn **Pn 23 37 49.8 +1.6**
GRR Gorron 8.80 280 *e*P **Pn 23 37 49.4 +1.3**
BURAR Bucovina Array 8.81 85 Pn **Pn 23 37 48.0 -0.3**
BURAR Bucovina Array 8.81 85 ⇑P **Pn 23 37 49.9 +1.6**
BOSS Bosilegrad 8.87 121 *e*Pn **Pn 23 37 51.4 +2.3**
DEL Delary 8.98 6 *i* P **Pn 23 37 47.9 -2.7**
DEL *e*S **Sn 23 39 26.9 -5.0**
EPF Esparros 9.50 246 *e*Pn **Pn 23 37 58.4 +0.6**
CEL Celeste 9.68 162 Pn **Pn 23 38 02.6 +2.3**
comp=E,10nm,0.9s
MLR Muntele Rosu 9.71 97 Pn **Pn 23 38 00.6 -0.1**
comp=E,0.1nm,0.3s,baz=292,slow=13,SNR=3.1
comp=E,0.9nm,0.8s
SGMF Saint Gilles 9.93 279 *e*Pn **Pn 23 38 03.0 -0.6**
QUIF Quistinic 10.36 278 *e*Pn **Pn 23 38 10.5 +1.1**
QUIF *e*Sg 23 41 08.7
comp=E,12nm,0.8s
ROSF Rostrenen 10.41 280 *e*Pn **Pn 23 38 08.7 -1.5**
ROSF *e*Sn **Sn 23 40 02.3 -4.6**
comp=E,2.8nm,0.4s
ROSF *e*Sg 23 41 04.5
comp=E,6.1nm,0.7s
SJPF Ste Jean 10.44 250 *e*Pn **Pn 23 38 11.1 +0.5**
LIT Litokhoron 10.53 131 Pn **Pn 23 38 13.5 +1.7**
NACGM Naroch 11.72 46 *e*P **Pn 23 38 27.7 -0.4**
comp=Z,7.0nm,1.0s,baz=237
KEST Kesra 12.01 191 Pn **Pn 23 38 35.5 +3.4**
comp=Z,1.0nm,0.3s,baz=17,slow=3.2,SNR=15
EKA Eskdalemuir Ar 12.32 315 Pn **Pn 23 38 38.2 +2.0**
baz=126,slow=14
EKA Sn **Sn 23 40 50.4 -3.2**
baz=120,slow=26
comp=Z,0.8nm,0.3s
NOA NORSAR Array B 13.52 358 LR LR 23 44 14.9
comp=Z,47nm,18.3s,baz=295,slow=38
ESDC Sonseca Array 14.09 242 Pn **Pn 23 39 00.6 0.0**
comp=Z,0.1nm,0.3s,baz=49,slow=14,SNR=6.0
comp=Z,0.5nm,0.8s
PAB San Pablo 14.40 242 Pn **Pn 23 39 04.8 -0.1**
FINES FINESS Array B 16.02 25 Pn **Pn 23 39 23.1 -3.0**
comp=Z,0.2nm,0.3s,baz=202,slow=10,SNR=6.3
comp=Z,3.8nm,0.8s
ARCES ARCESS Array B 23.00 12 P **P 23 40 46.0 +0.4**
comp=Z,0.6nm,0.7s,baz=201,slow=14,SNR=3.5
comp=Z,0.6nm,0.7s
GNI Garni 24.48 96 LR LR 23 53 05.5
comp=Z,82nm,18.3s,baz=100,slow=43
BVAR Borovoye Array 36.69 59 P **P 23 42 47.1 -0.7**
comp=Z,0.3nm,0.6s,baz=308,slow=7.1,SNR=1.7
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 46.13 64 P **P 23 44 04.8 -0.6**
comp=Z,0.3nm,0.4s,baz=296,slow=6.8,SNR=6.7
comp=Z,0.3nm,0.4s
WMQ Urumqi 50.92 65 *e*PKP P 23 44 48.4 +6.0
WMQ LR LR
comp=Z,150nm,21.1s
MA2 Magadan 67.99 21 LR LR 00 20 00.2
comp=Z,88nm,19.0s,baz=106,slow=39
TXAR Lajitas Array 84.22 308 P **P 23 48 15.1 +2.2**
comp=Z,0.4nm,0.6s,baz=35,slow=7.0,SNR=3.5
comp=Z,0.4nm,0.6s

IDC 22 23:47:50.3±9.9, 19°.06S×176°.03W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=431.4km s-min=40.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.65**	**260**	P	P	23 56 20.8	-0.2
	0.6nm,0.3s,baz=98,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**46.67**	**255**	P	P	23 56 21.5	+0.4
	1.3nm,0.5s,baz=92,slow=7.9,SNR=15						
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.07**	**261**	P	P	23 57 23.9	-0.6
	1.3nm,0.7s,baz=106,slow=7.4,SNR=6.7						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**86.51**	**12**	P	P	00 00 34.7	0.0
	0.2nm,0.6s,baz=191,slow=4.4,SNR=1.8						
	0.2nm,0.6s						

*IDC **23** 00:12:51.0±0.8, 2°.61S×138°.39E, h0km, mb3.8/7, mbtmp3.8/10, ML3.7/3, Error ellipse: s-maj=15.9km s-min=14.0km az=105.0*

ISC 23 00:12:56.0±0.8, 2°.6S±0°.1×138°.4E±0°.1, h32km, n10, σ1§41/11, mb3.6/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.31**	**88**	**Pn**	**Pn**	**00 13 32.1**	**+0.2**
	9.8nm,0.3s,baz=229,slow=11,SNR=24						
JAY				Lg	Lg	00 14 04.2	
	4.9nm,0.3s,baz=104,slow=17,SNR=4.1						
	26nm,0.3s						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	**00 16 59.5**	**-0.5**
	0.4nm,0.3s,baz=17,slow=12,SNR=11						
	1.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.84**	**218**	P	**P**	**00 17 22.6**	**-1.7**
	0.1nm,0.3s,baz=41,slow=9.5,SNR=5.4						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**21.38**	**191**	P	**P**	**00 17 39.6**	**-1.4**
	1.9nm,0.8s,baz=25,slow=10,SNR=14						
ASAR				S	**S**	**00 21 39.9**	**+3.0**
	0.8nm,0.8s,baz=14,slow=20,SNR=4.3						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.11**	**300**	P	**P**	**00 21 02.9**	**+1.2**
	0.6nm,0.3s,baz=110,slow=8.7,SNR=6.6						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**69.51**	**322**	P	**P**	**00 24 01.0**	**-0.5**
	1.7nm,0.7s,baz=113,slow=8.0,SNR=8.4						
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**73.46**	**325**	P	**P**	**00 24 25.4**	**+0.1**
	0.2nm,0.4s,baz=114,slow=6.0,SNR=4.5						
	0.2nm,0.4s						
VNDA	**Vanda**	**75.91**	**175**	P	**P**	**00 24 39.4**	**+0.4**
	0.6nm,0.8s,baz=219,slow=8.3,SNR=6.9						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**79.05**	**325**	P	**P**	**00 24 57.1**	**+0.2**
	1.0nm,0.7s,baz=110,slow=13,SNR=3.1						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**	**00 25 31.8**	**-0.5**
	0.3nm,0.7s,baz=259,slow=5.2,SNR=4.5						
	0.3nm,0.7s						

*IDC **23** 00:22:09.2±0.6, 2°.55S×138°.32E, h0km, mb4.4/15, mbtmp4.4/19, ML3.9/4, MS3.9/31, Error ellipse: s-maj=14.4km s-min=9.2km az=92.0*

*NEIC **23** 00:22:10.9±1.6, 2°.62S±0°.09×138°.32E±0°.06, h10km±1km, mb5.0/82, Error ellipse: s-maj=14.6km s-min=10.4km az=173.0*

*GCMT **23** 00:22:11.9±0.4, 2°.64S±0°.03×138°.42E±0°.04, h21km±1km, MW4.9/58, Moment Tensor Solution. s26,c31; s58,c69; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.4±.20; $M_{\theta\theta}$-1.00±.12; $M_{\phi\phi}$-1.40±.14; $M_{r\theta}$1.11±.24; $M_{r\phi}$0.87±.07; $M_{\theta\phi}$0.80±.24; Best double couple: $M_0$2.53800×10^{16} NP1:ϕ_s342.00000°, δ48.00000°, λ121.00000°. NP2: ϕ_s120.00000°, δ50.00000°, λ60.00000°. Principal axes: T 2.9780, Plg67.0000°, Azm323.0000°; N -0.8710, Plg23.0000°, Azm140.0000°; P -2.0980, Plg1.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **23** 00:22:13.0±0.8, 2°.5S±5°×13°.8E±°, h16km±9km, M4.7/18, mb4.9/18, mB5.3/8, MLv4.6/9, Mw(mB)4.7/8*

ISC 23 00:22:13.6±0.4, 2°.58S±0°.04×138°.41E±0°.05, h32km, n415, σ1§04/371, mb4.9/68, MS4.0/33, 2C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.66**	**27**	P	**Pb**	**00 22 23.0**	**-3.8**
GENI	**Genyem**	**1.75**	**90**	P	**Pb**	**00 22 43.4**	**-1.8**
SRPI	**Serui, Papua**	**2.29**	**288**	P	**Pn**	**00 22 48.5**	**-0.6**
JAY	**Jayapura**	**2.29**	**88**	**Pn**	**Pn**	**00 22 50.3**	**+1.1**
	15nm,0.3s,baz=236,slow=11,SNR=31						
JAY				Lg	Lg	00 23 25.1	
	23nm,0.3s,baz=312,slow=22,SNR=7.4						
	61nm,0.4s						
JAY	**Jayapura**	**2.29**	**88**	P	**Pn**	**00 22 49.6**	**+0.4**
BAKI	**Biak**	**2.69**	**301**	P	**Pn**	**00 22 54.7**	**0.0**
RKPI	**Ransiki, Papua**	**4.37**	**284**	P	**Pn**	**00 23 18.3**	**+0.5**
KMPI	**Kaimana, Papua**	**4.82**	**257**	P	**Pn**	**00 23 28.0**	**+3.9**
FAKI	**Fak Fak**	**6.17**	**267**		**Pn**	**00 23 41.4**	**-1.1**
FAKI	**Fak Fak**	**6.17**	**267**	P	**Pn**	**00 23 42.4**	**-0.2**
MANU	**Manus Island**	**8.96**	**87**	Pn	**Pn**	**00 24 22.4**	**+1.4**
MSAI	**Masohi**	**9.50**	**265**	P	**Pn**	**00 24 30.7**	**+2.3**
AAI	**Ambon**	**10.26**	**264**	P	**Pn**	**00 24 41.5**	**+2.7**
	61nm,0.7s						
PMG	**Port Moresby**	**11.02**	**128**	LR	LR	00 30 44.9	
	comp=Z,1μm,20.7s,baz=307,slow=46						
NLAI	**Namlea**	**11.32**	**266**	P	**Pn**	**00 24 53.2**	**-0.1**
COEN	**Coen**	**12.24**	**158**	Pn	**Pn**	**00 25 04.1**	**-1.8**
SANI	**Sanana**	**12.43**	**272**	P	**Pn**	**00 25 06.4**	**-2.0**
	48nm,0.7s						
MTN	**Manton Dam**	**12.48**	**215**		**Pn**	**00 25 07.5**	**-1.7**
LUWI	**Luwuk**	**15.71**	**275**		**Pn**	**00 25 50.0**	**-2.7**
LUWI				IAmb	IAmb	00 25 58.7	
	comp=Z,155nm,1.1s						
LUWI	**Luwuk**	**15.71**	**275**	P	**Pn**	**00 25 53.6**	**+0.8**
	comp=Z,2μmcomp=Z,139nm,1.2s						
SOEI	**Soe**	**15.76**	**243**		**Pn**	**00 25 51.1**	**-2.4**
SOEI				IAmb	IAmb	00 25 59.4	
	comp=Z,257nm,1.6s						
SOEI	**Soe**	**15.76**	**243**	P	**P**	**00 25 57.1**	**0.0**
	comp=Z,1μmcomp=Z,133nm,0.9s						
DAV	**Davao City (W)**	**16.00**	**307**	LR	LR	00 32 52.0	
	comp=Z,315nm,18.4s,baz=168,slow=40						
BBSI	**Bau Bau**	**16.06**	**259**	P	**P**	**00 25 59.7**	**-0.7**
KNRA	**Kununurra**	**16.11**	**216**		**Pn**	**00 25 55.0**	**-2.9**
BATI	**Baumata**	**16.49**	**242**	Pn	**Pn**	**00 26 01.4**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=266,slow=23,SNR=4.4						
BATI				Sn	**Sn**	**00 29 06.9**	**+1.9**
	comp=Z,3.8nm,0.3s,baz=123,slow=22,SNR=1.6						
	comp=Z,8.2nm,0.3s						
BATI	**Baumata**	**16.49**	**242**	P	**P**	**00 26 06.1**	**+0.9**
MRSI	**Marisa**	**16.75**	**280**	P	**P**	**00 26 08.1**	**+0.1**
	comp=Z,811nmcomp=Z,67nm,1.1s						
APSI	**Ampana**	**16.84**	**275**	P	**P**	**00 26 08.5**	**-0.5**
	comp=Z,1μmcomp=Z,119nm,1.4s						
MMRI	**Maumere**	**17.18**	**249**	Pn	**Pn**	**00 26 07.8**	**-3.6**
GUMO	**Guam**	**17.30**	**22**	LR	LR	00 32 40.7	
	comp=Z,372nm,18.3s,baz=182,slow=36						
WB0	**Warramunga Arr**	**17.53**	**193**	Pn	**Pn**	**00 26 13.4**	**-2.2**
WR8	**Warramunga Arr**	**17.68**	**192**		**Pn**	**00 26 16.3**	**-1.4**
WRAB	**Tennant Creek**	**17.70**	**193**	Pn	**Pn**	**00 26 15.6**	**-2.2**
WRA	**Warramunga Arr**	**17.71**	**193**		**Pn**	**00 26 14.3**	**-3.7**
WRA	**Warramunga Arr**	**17.71**	**193**	P	**Pn**	**00 26 17.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=16,slow=13,SNR=16						
WRA				S	**Sn**	**00 29 37.3**	**+2.9**
	comp=Z,4.1nm,0.9s,baz=10,slow=21,SNR=4.5						
WRA				Lg	Lg	00 31 34.7	
	baz=276,slow=38						
WRA				LR	LR	00 33 14.4	
	comp=Z,330nm,21.7s,baz=12,slow=38						
	comp=Z,4.3nm,0.8s						
EDFI	**Ende, Flores**	**17.73**	**249**	P	**Pn**	**00 26 17.8**	**-0.5**
TOLI2	**Tolitoli**	**18.01**	**282**		**Pn**	**00 26 19.7**	**-1.9**
BNSI	**Bone**	**18

ASAR Lg Lg 00 33 28.9
comp=Z,0.1nm,0.3s,baz=12,slow=28,SNR=1.8
comp=Z,5.7nm,0.6s
HNR Honiara 22.46 109 LR LR 00 37 00.6
comp=Z,276nm,18.7s,baz=222,slow=40
TGY Tagaytay City 23.98 314 LR LR 00 37 16.0
comp=Z,419nm,19.8s,baz=62,slow=38
MBWA Marble Bar 25.92 223 P **P 00 27 41.2 -2.0**
PSA00 Pilbara Seismi 26.13 222 P **P 00 27 43.8 -1.3**
PSA00 Pilbara Seismi 26.13 222 P **P 00 27 45.1 +0.1**
PSA00 IAmb IAmb 00 28 01.5
comp=Z,57nm,1.9s
STKA Stephens Creek 29.29 174 P **P 00 28 14.4 +1.2**
comp=Z,1.0nm,0.7s,baz=11,slow=10,SNR=3.3
STKA LR LR 00 41 19.1
comp=Z,359nm,20.1s,baz=340,slow=39
comp=Z,1.0nm,0.7s
JCJ Chichijima 29.73 7 LR LR 00 39 11.0
comp=Z,230nm,19.9s,baz=120,slow=34
JOW Kunigami 30.84 342 LR LR 00 39 41.4
comp=Z,256nm,18.9s,baz=76,slow=34
DZM Mont Dzumac 33.42 128 LR LR 00 42 46.6
comp=Z,299nm,20.3s,baz=310,slow=37
QIZ Qiongzhong 35.37 309 P **P 00 29 07.1 +0.5**
QIZ S **S 00 34 42.5 +3.3**
QIZ LR LR
comp=N,140nm,14.9s
QIZ LR LR
comp=E,180nm,17.7s
QIZ LR LR
comp=Z,170nm,22.6s
JHJ Hachijo jima 2 35.53 2 LR LR 00 40 35.6
comp=Z,171nm,20.3s,baz=213,slow=31
NWAO Narrogin (SRO) 36.13 211 LR LR 00 45 15.8
comp=Z,875nm,19.3s,baz=40,slow=38
JNU Nakatsue 36.22 349 LR LR 00 44 01.8
comp=Z,224nm,18.3s,baz=158,slow=36
MJAR Matsushiro Arr 38.92 360 LR LR 00 43 48.6
comp=Z,185nm,18.2s,baz=161,slow=33
NJ2 Nanjing 39.13 333 *e*P **P 00 29 40.4 +2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
WHN Wuhan 40.15 327 P **P 00 29 48.1 +1.2**
KSRS Korea Array 41.01 347 P **P 00 29 54.0 +0.3**
comp=Z,4.8nm,0.9s,baz=166,slow=9.8,SNR=12
comp=Z,4.8nm,0.9s
TIA Tai'an 43.41 335 P **P 00 30 13.1 -0.4**
TIA pmax pmax
comp=Z,8.0nm,1.1s
CM31 Chiang Mai Arr 44.12 300 P **P 00 30 18.8 -0.7**
CMAR Chiang Mai Arr 44.12 300 P **P 00 30 18.9 -0.6**
CMAR Chiang Mai Arr 44.12 300 P **P 00 30 19.4 0.0**
comp=Z,2.3nm,0.3s,baz=120,slow=6.0,SNR=19
CMAR LR LR 00 50 29.7
comp=Z,78nm,18.6s,baz=135,slow=39
comp=Z,2.3nm,0.3s
KMI Kunming 44.21 311 P **P 00 30 20.6 +0.2**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI LR LR
comp=Z,200nm,22.3s
LYN LuoYang 44.26 329 P **P 00 30 20.6 +0.3**
LYN pmax pmax
comp=Z,40nm,0.9s
LYN LR LR
comp=N,170nm,11.7s
LYN LR LR
comp=E,220nm,13.4s
LYN LR LR
comp=Z,270nm,10.7s
CHTO Chiang Mai 44.26 300 P **P 00 30 19.9 -0.7**
HNS HongShan 45.46 333 ⇑P **P 00 30 27.0 -2.8**
HNS S **S 00 37 08.6 -0.8**
HNS pmax pmax
comp=Z,10.0nm,1.2s
HNS LR LR
comp=N,230nm,19.1s
HNS LR LR
comp=E,220nm,17.1s
HNS LR LR
comp=Z,350nm,18.3s
PZH PanZhiHua 45.72 312 P **P 00 30 33.8 +1.6**
XAN Xi'an 45.80 325 ⇑P **P 00 30 32.3 -0.4**
XAN pP pP 00 30 37.8 -4.6
XAN pmax pmax
comp=Z,26nm,1.0s
CD2 Chengdu 46.89 318 *e*P **P 00 30 42.0 +0.7**
USRK Ussuriysk Ar. 46.93 354 P **P 00 30 42.0 +0.8**
comp=Z,3.2nm,0.8s,baz=154,slow=8.0,SNR=4.6
comp=Z,3.2nm,0.8s
BJT Baijiatuau 47.05 337 P **P 00 30 41.9 -0.3**
BJT IAmb IAmb 00 30 44.6
comp=Z,8.3nm,0.9s
BJI Beijing 47.06 337 P **P 00 30 42.3 0.0**
BJI pmax pmax
comp=Z,4.0nm,0.7s
TNCH TengChong 47.43 308 P **P 00 30 45.3 -0.4**
TNCH pP pP 00 30 49.5 -6.0
TNCH pmax pmax
comp=Z,90nm,4.0s
BNX BinXian 49.10 350 ⇓P **P 00 30 58.1 +0.1**
BNX pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 49.69 333 *e*P **P 00 31 04.3 +1.6**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.6s
HHC LR LR
comp=N,190nm,16.8s
HHC LR LR
comp=E,180nm,17.7s
HHC LR LR
comp=Z,310nm,16.0s
URZ Urewera 50.10 140 LR LR 00 51 54.2
comp=Z,177nm,20.4s,baz=302,slow=36
LZH Lanzhou 50.20 323 *e*P **P 00 31 07.8 +1.0**
LZH sP pP 00 31 14.8 -1.9
LZH pmax pmax
comp=Z,29nm,1.2s
LZH LR LR
comp=N,190nm,18.2s
LZH LR LR
comp=E,280nm,17.2s
LZH LR LR
comp=Z,280nm,18.9s
LZDM Lanzhou Array 50.20 323 P **P 00 31 07.8 +0.8**
comp=Z,1.6nm,0.3s,baz=130,slow=10,SNR=3.8
comp=Z,1.6nm,0.3s
BKZ Black Stump Fm 50.25 141 P **P 00 31 07.8 +0.8**
SHL Shillong 53.02 305 P **P 00 31 26.9 -1.2**
SHL IAmb IAmb 00 31 31.0
comp=Z,11nm,0.8s
HILR Hailar Array B 54.38 345 P **P 00 31 37.7 +0.2**
comp=Z,1.6nm,0.4s,baz=153,slow=10.0,SNR=7.4
comp=Z,1.6nm,0.4s
GTA Gaotai 54.79 324 P **P 00 31 42.3 +1.6**
GTA pP pP 00 31 47.8 -2.9
GTA pmax pmax
comp=Z,11nm,1.6s
ULN Ulaanbaatar 57.23 335 P **P 00 31 57.9 -0.2**
SONM Songino Array 57.48 335 P **P 00 31 59.9 +0.1**
SONM Songino Array 57.48 335 P **P 00 32 00.2 +0.4**
comp=Z,2.1nm,0.8s,baz=142,slow=7.5,SNR=7.5
SONM LR LR 00 57 09.7
comp=Z,275nm,19.5s,baz=126,slow=37
comp=Z,2.1nm,0.8s
PETK Petropavlovsk- 57.81 14 LR LR 00 53 18.3
comp=Z,72nm,21.4s,baz=186,slow=32
EVN Everest 58.12 305 P **P 00 32 04.9 -0.4**
EVN IAmb IAmb 00 32 07.9
comp=Z,14nm,0.7s
HYB Hyderabad 62.25 291 *e*P **P 00 32 32.3 -0.8**
HYB IVmB_BB 00 32 32.5
comp=Z,247nm,2.3s
HYB *e*S **S 00 40 56.6 -0.7**
HYB IVMs_BB IVMs_BB 00 47 08.0
comp=Z,242nm,3.4s
MA2 Magadan 62.73 7 LR LR 00 58 30.5
comp=Z,26nm,19.8s,baz=96,slow=35
SHEM Shemya Is, Ala 62.75 24 LR LR 00 55 37.7
comp=Z,128nm,20.7s,baz=270,slow=32
WMQ Urumqi 64.73 322 *e*P **P 00 32 49.9 +0.9**
WMQ pP pP 00 32 55.8 -3.3
WMQ pmax pmax
comp=Z,17nm,0.7s
YAK Yakutsk 64.78 355 P **P 00 32 49.6 +0.8**

SEY Seymchan 66.19 7 LR LR 01 00 09.7
comp=Z,49nm,20.9s,baz=192,slow=34
MKAR Makanchi Array 69.51 322 P **P 00 33 19.0 -0.3**
MKAR Makanchi Array 69.51 322 P **P 00 33 19.5 +0.3**
comp=Z,8.0nm,0.6s,baz=115,slow=8.0,SNR=46
comp=Z,8.0nm,0.6s
MAKZ Makanchi 69.71 322 P **P 00 33 20.1 -0.4**
TARG Taragay, Kyrgy 70.29 316 IAmb IAmb 00 33 33.6
comp=Z,7.7nm,0.9s
NIKH Nikolski High 70.72 31 P **P 00 33 27.5 +1.1**
baz=237
KSH Kashi 70.78 313 P **P 00 33 29.0 +1.7**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 70.87 316 IAmb IAmb 00 33 31.1
comp=Z,9.9nm,0.8s
ZAA0 Zalesovo Array 71.68 330 P **P 00 33 30.9 -1.3**
ZALV Zalesovo Beam 71.68 330 P **P 00 33 31.2 -1.0**
ZALV Zalesovo Beam 71.68 330 P **P 00 33 31.6 -0.6**
comp=Z,4.5nm,0.7s,baz=111,slow=6.7,SNR=16
ZALV LR LR 01 06 01.2
comp=Z,36nm,19.8s,baz=76,slow=37
comp=Z,4.5nm,0.7s
PPT2 Papeete2 72.08 108 *e*LR LR 00 55 39.0
comp=Z,60nm,25.5s
UNV Unalaska Valle 72.38 31 P **P 00 33 37.0 +0.6**
baz=239
P08K Saint George I 72.39 27 P **P 00 33 37.6 +1.2**
baz=236
SPIA Saint Paul Isl 72.40 26 P **P 00 33 37.0 +0.5**
baz=235
TBI Tubuai 72.58 114 *e*LR LR 00 55 46.3
comp=Z,364nm,27.5s
AAK Ala-Archa 72.91 316 **P 00 33 39.7 -0.4**
AAK IAmb IAmb 00 33 51.6
comp=Z,6.9nm,1.0s
KURBB Kurchatov Arra 73.45 325 P **P 00 33 42.5 -0.4**
comp=Z,4.2nm,0.8s,baz=116,slow=5.4,SNR=29
comp=Z,4.2nm,0.8s
ARSB Arslanbob 73.54 314 IAmb IAmb 00 33 46.1
comp=Z,11nm,0.8s
TIXI Tiksi 74.36 357 P **P 00 33 47.5 -0.2**
GAR Garm 74.79 311 P **P 00 33 51.0 -0.2**
GAR IAmb IAmb 00 34 01.6
comp=Z,20nm,1.0s
S12K Black Hills 75.53 30 P **P 00 33 55.6 +0.8**
baz=243
CHGR Chuyangaron 75.57 311 IAmb IAmb 00 33 57.9
comp=Z,14nm,0.8s
GAMB Gambell 75.77 21 P **P 00 33 56.9 +0.9**
baz=232
KK31 Karatay Array 75.83 316 IAmb IAmb 00 33 58.8
comp=Z,7.9nm,0.9s
KKAR Karatay Array 75.83 316 P **P 00 33 56.7 -0.2**
VNDA Vanda 75.93 175 P **P 00 33 57.1 +0.3**
VNDA Vanda 75.93 175 P **P 00 33 57.8 +1.0**
comp=Z,1.8nm,0.6s,baz=322,slow=6.3,SNR=9.0
VNDA LR LR 01 07 27.4
comp=Z,197nm,19.6s,baz=349,slow=36
comp=Z,1.8nm,0.6s
M11K Mekoryuk 75.94 25 P **P 00 33 57.8 +0.8**
baz=238
SDPT Sand Point 76.18 31 P **P 00 33 59.6 +1.1**
baz=244
CHNA Chernabura Isl 76.42 32 P **P 00 33 59.9 +0.1**
baz=245
M13K Dall Lake 77.17 26 P **P 00 34 04.6 +0.7**
baz=241
K13K Kusilvak Mount 77.39 24 P **P 00 34 06.6 +1.4**
K13K Kusilvak Mount 77.39 24 P **P 00 34 05.2 0.0**
baz=239
O14K Tigyukauivet M 77.54 27 P **P 00 34 05.7 -0.4**
baz=243
N14K Kuskokwak Cree 77.66 26 P **P 00 34 06.4 -0.4**
baz=242
L14K Kuka Creek 77.91 25 P **P 00 34 08.8 +0.7**
L14K Kuka Creek 77.91 25 P **P 00 34 08.8 +0.7**
baz=241
M14K Bethel 77.93 26 P **P 00 34 09.3 +1.1**
baz=242
TNA Tin City 78.14 20 P **P 00 34 09.9 +0.6**
baz=235
O15K Ungalikthiuk R 78.17 28 P **P 00 34 10.3 +0.6**
baz=244
M15K Kasigluk River 78.46 26 P **P 00 34 11.8 +0.6**
baz=243
N15K Kwethluk River 78.49 27 P **P 00 34 12.7 +1.3**
baz=244
R16K Pilot Point 78.57 30 P **P 00 34 12.9 +1.1**
baz=246
L15K Ungalak Mounta 78.57 25 P **P 00 34 13.1 +1.3**
baz=242
F14K Arctic Creek 78.64 20 P **P 00 34 13.8 +1.7**
baz=237
K15K Wolf Creek Mou 78.84 24 P **P 00 34 14.2 +0.9**
baz=242
CHIR Chirikof Islan 78.89 32 P **P 00 34 13.6 0.0**
baz=248
P16K Nushagak River 78.96 28 P **P 00 34 14.7 +0.8**
baz=246
BVAR Borovoye Array 79.04 325 P **P 00 34 14.6 0.0**
comp=Z,12nm,0.7s,baz=113,slow=7.2,SNR=30
comp=Z,12nm,0.7s
O16K Kokwok River B 79.15 28 P **P 00 34 15.4 +0.4**
baz=246
R17L Mt. Peulik Vol 79.20 30 P **P 00 34 15.7 +0.3**
baz=248
G15K Niukluk 79.20 21 P **P 00 34 16.2 +1.0**
baz=239
N16K Nishlik Lake 79.21 27 P **P 00 34 16.7 +1.3**
baz=245
F15K North Star Dit 79.36 21 P **P 00 34 17.0 +0.9**
baz=238
M16K Timber Creek 79.36 26 P **P 00 34 15.9 -0.3**
baz=244
L16K Owhat River 79.44 25 P **P 00 34 17.6 +1.0**
baz=244
Q16K King Salmon 79.46 29 P **P 00 34 16.9 +0.2**
baz=247
Q17K Contact Creek 79.67 29 P **P 00 34 18.5 +0.4**
baz=248
J16K Anvik River 79.68 24 P **P 00 34 18.2 +0.3**
baz=243
O17K Koliganek Bris 79.69 28 P **P 00 34 18.2 +0.3**
baz=246
H16K Elim 79.69 22 P **P 00 34 18.0 +0.1**
baz=241
P17K Kvichak River 79.76 28 P **P 00 34 18.6 +0.3**
baz=247
SII Sitkinak Islan 79.91 31 P **P 00 34 18.9 -0.3**
baz=250
I17K Unalakleet 79.93 23 P **P 00 34 18.6 -0.5**
baz=242
N17K Nushagak Hills 79.95 27 P **P 00 34 19.7 +0.4**
baz=246
G16K Koyuk River 80.02 21 P **P 00 34 20.0 +0.4**
baz=241
L17K Donlin 80.13 25 P **P 00 34 20.0 -0.3**
baz=245
M17K Holitna River 80.19 26 IAmb IAmb 00 34 24.7
comp=Z,28nm,1.2s
M17K Holitna River 80.19 26 P **P 00 34 21.1 +0.5**
baz=246
Q18K Katmai Hardscr 80.24 29 P **P 00 34 21.2 0.0**
baz=248
J17K VABM Dome 80.35 24 IAmb IAmb 00 37 21.9
comp=Z,35nm,1.5s
J17K VABM Dome 80.35 24 P **P 00 34 21.8 +0.3**
baz=244
K17K Iditarod 80.37 25 IAmb IAmb 00 34 24.8
comp=Z,22nm,1.1s
K17K Iditarod 80.37 25 P **P 00 34 21.7 +0.1**
baz=245
C16K Lisburne Hills 80.50 18 P **P 00 34 22.4 +0.3**
baz=237
N18K Kilae Creek 80.59 27 P **P 00 34 22.7 -0.2**
baz=247
O18K Koktuh Hills 80.60 28 P **P 00 34 22.7 -0.2**
baz=248
OHAK Old Harbor 80.60 31 P **P 00 34 22.7 -0.2**
baz=250
G17K Kiwalik Mounta 80.69 22 P **P 00 34 23.4 +0.1**
baz=242
H17K Granite Mounta 80.71 22 P **P 00 34 23.5 +0.1**
baz=243
L18K Granite Mounta 80.85 25 P **P 00 34 24.1 -0.1**
L18K Granite Mounta 80.85 25 P **P 00 34 24.1 -0.1**
baz=246

D17K Noatak River 80.92 19 P **P 00 34 24.4 0.0**
baz=240
F17K Baldwin Pennin 80.92 21 P **P 00 34 24.4 -0.1**
baz=242
M18K Stony River 80.94 26 P **P 00 34 24.7 0.0**
baz=247
Q19K Cape Douglas, 81.01 29 P **P 00 34 24.4 -0.7**
baz=250
E17K Hotham Inlet 81.03 20 P **P 00 34 24.5 -0.6**
baz=241
O19K Port Alsworth 81.14 28 P **P 00 34 25.5 -0.2**
baz=249
KDAK Kodiak Island 81.14 30 P **P 00 34 24.8 -1.0**
baz=251
TAOE Nuku Hiva Isla 81.15 99 *e*LR LR 00 59 46.6
comp=Z,132nm,22.9s
RDOG Red Dog Mine 81.16 19 P **P 00 34 25.5 -0.2**
baz=240
C17K DeLong Mountai 81.28 19 P **P 00 34 25.6 -0.8**
baz=240
N19K Bonanza Creek 81.29 27 P **P 00 34 25.9 -0.7**
baz=249
J18K Innoko River 81.34 24 P **P 00 34 26.8 0.0**
baz=246
H18K Honhosa River 81.40 22 P **P 00 34 26.4 -0.7**
baz=244
P19K Oil Pt 81.46 29 P **P 00 34 27.3 -0.2**
baz=250
Q20K Shuyak Island 81.51 30 P **P 00 34 27.6 -0.2**
baz=251
F18K Selawik 81.56 21 P **P 00 34 27.7 -0.1**
baz=243
G18K Tagagawik 81.61 22 P **P 00 34 28.1 -0.1**
G18K IAmb IAmb 00 35 28.4
comp=Z,19nm,1.6s
G18K Tagagawik 81.61 22 P **P 00 34 28.2 0.0**
baz=244
E18K Tukpahlearik C 81.61 20 P **P 00 34 27.3 -0.8**
baz=242
L19K White Mountain 81.63 26 P **P 00 34 28.9 +0.5**
L19K IAmb IAmb 00 34 30.6
comp=Z,23nm,1.4s
L19K White Mountain 81.63 26 P **P 00 34 27.5 -0.9**
baz=248
M19K Big River Lodg 81.73 26 P **P 00 34 28.8 -0.1**
baz=249
GCSA Galena City Sc 81.80 23 P **P 00 34 29.0 -0.1**
baz=246
O20K Slope Mountain 81.89 28 P **P 00 34 30.2 +0.4**
baz=250
J19K Poorman 82.00 24 P **P 00 34 31.1 +0.8**
J19K IAmb IAmb 00 34 34.6
comp=Z,10nm,1.2s
J19K Poorman 82.00 24 P **P 00 34 30.8 +0.6**
baz=247
C18K Utukok River 82.00 19 P **P 00 34 30.1 -0.1**
baz=241
MAW Mawson 82.13 202 P **P 00 34 32.1 +1.3**
comp=Z,1.8nm,0.8s,baz=96,slow=12,SNR=4.3
MAW LR LR 01 10 07.4
comp=Z,126nm,18.5s,baz=52,slow=35
comp=Z,1.8nm,0.8s
L20K Farewell, AK 82.16 26 P **P 00 34 31.5 +0.4**
baz=249
B18K Kokolik River 82.16 18 P **P 00 34 31.3 +0.3**
baz=241
HOM Homer 82.22 29 P **P 00 34 31.8 +0.4**
baz=251
M20K Styx River 82.28 26 P **P 00 34 32.1 +0.3**
baz=250
H19K Roundabout Mou 82.28 22 P **P 00 34 32.4 +0.7**
baz=246
F19K Shaleruckik Mo 82.34 21 P **P 00 34 32.8 +0.9**
baz=245
K20K Telida 82.40 25 P **P 00 34 33.1 +0.7**
baz=249
N20K Mount Spurr 82.46 27 P **P 00 34 33.5 +0.7**
baz=251
SPCR Spurr Chakacha 82.46 27 P **P 00 34 33.2 +0.4**
baz=251
J20K Nowinta River 82.67 24 P **P 00 34 34.9 +1.2**
J20K IAmb IAmb 00 34 36.8
comp=Z,20nm,1.4s
J20K Nowinta River 82.67 24 P **P 00 34 34.7 +1.0**
baz=248
BRSE Bradley Lake S 82.68 29 P **P 00 34 34.7 +0.8**
baz=252
C19K Lookout Ridge 82.73 19 P **P 00 34 34.4 +0.3**
baz=243
I20K Naaghedeneel 82.77 23 P **P 00 34 35.0 +0.8**
baz=248
A19K Wainwright 82.79 17 P **P 00 34 35.1 +0.9**
baz=241
E19K Redstone River 82.80 21 P **P 00 34 35.1 +0.8**
baz=245,SNR=5.7
CAPN Captain Cook N 82.81 28 P **P 00 34 35.3 +0.9**
baz=252
H20K Anotleneega Mo 82.87 23 P **P 00 34 35.5 +0.8**
baz=248
D19K Kuna River 82.94 19 P **P 00 34 36.0 +0.9**
baz=244
SKT Skwentna 83.02 27 P **P 00 34 36.1 +0.4**
baz=251
PPLA Purkeypile 83.04 26 P **P 00 34 36.2 +0.3**
baz=250
F20K Avaraart Lake 83.16 21 IAmb IAmb 00 34 39.7
comp=Z,12nm,1.1s
F20K Avaraart Lake 83.16 21 P **P 00 34 37.4 +1.2**
baz=247
CHUM Lake Minchumin 83.32 25 P **P 00 34 38.2 +1.1**
baz=250
O22K Cooper Landing 83.39 28 P **P 00 34 38.5 +1.0**
baz=253
SEW Seward 83.41 29 P **P 00 34 38.4 +0.8**
baz=253
E20K Nigu River 83.49 20 P **P 00 34 38.7 +0.7**
baz=246
IMAR Indian Mountai 83.49 22 P **P 00 34 38.3 +0.3**
D20K Etivluk River 83.53 19 P **P 00 34 38.5 +0.4**
D20K Etivluk River 83.53 19 P **P 00 34 39.4 +1.2**
baz=246
RC01 Rabbit Creek A 83.56 28 P **P 00 34 39.3 +0.9**
baz=253
M22K Willow 83.59 27 P **P 00 34 39.1 +0.6**
baz=252
CUT Chulitna 83.72 26 P **P 00 34 39.9 +0.7**
baz=252
H21K Melozitna Rive 83.73 23 IAmb IAmb 00 34 41.8
comp=Z,12nm,1.4s
H21K Melozitna Rive 83.73 23 P **P 00 34 40.1 +0.8**
baz=250
G21K Allakaket 83.77 22 P **P 00 34 39.7 +0.3**
baz=249
KTH Kantishna Hill 83.80 25 IAmb IAmb 00 34 43.9
comp=Z,20nm,1.4s
I21K Tanana 83.89 23 P **P 00 34 41.1 +1.1**
baz=250
B20K Meade River 83.90 18 P **P 00 34 41.1 +1.2**
baz=245
BPAW Bear Paw Mtn. 83.94 25 P **P 00 34 40.5 +0.2**
baz=251
PMR Palmer 83.99 27 P **P 00 34 40.9 +0.4**
baz=253
TRF Thorofare Moun 84.03 25 P **P 00 34 41.2 +0.2**
baz=252
F21K Alatna River 84.04 21 P **P 00 34 41.8 +1.1**
baz=249
PWL Port Wells 84.15 28 P **P 00 34 42.0 +0.5**
baz=254
KNK Knik Glacier 84.25 28 P **P 00 34 43.0 +1.1**
baz=254
C21K Knifeblade Rid 84.32 19 P **P 00 34 43.2 +1.1**
baz=247
E21K Killik River 84.32 20 P **P 00 34 43.6 +1.4**
baz=248
MLY Manley 84.34 24 P **P 00 34 42.6 +0.2**
MLY IAmb IAmb 00 34 46.7
comp=Z,17nm,1.5s
MLY Manley 84.34 24 P **P 00 34 43.3 +1.0**
baz=252
P23K Montague Islan 84.37 29 P **P 00 34 43.0 +0.5**
baz=255
H22K Ishtalitna Cre 84.37 23 P **P 00 34 43.6 +1.1**
baz=251
SML Sawmill 84.42 27 P **P 00 34 44.2 +1.4**
baz=254
AB31 Akbulak array 84.43 320 P **P 00 34 42.4 -0.7**
ABKAR Akbulak array 84.43 320 P **P 00 34 42.7 -0.4**

B21K	Ikpikpuk River	84.55	19	P	P	00 34 44.7 +1.5
	baz=248					
WAT1	Susitna Watana	84.60	26	P	P	00 34 45.0 +1.3
	baz=254					
F22K	John River	84.61	21	P	P	00 34 45.4 +1.7
	baz=250					
RND	Reindeer	84.64	26	IAmb	IAmb	00 34 47.5
	comp=Z,20nm,1.2s					
MCK	McKinley	84.69	25	IAmb	IAmb	00 34 46.1
	comp=Z,20nm,1.3s					
MCK	McKinley	84.69	25	P	P	00 34 45.3 +1.2
	baz=253					
Q23K	Middleton Isla	84.74	30	P	P	00 34 45.4 +1.0
	baz=256					
GLI	Glacier Island	84.74	28	P	P	00 34 45.4 +0.9
	baz=255					
SCM	Sheep Creek Mo	84.88	27	P	P	00 34 45.6 +0.4
	baz=255					
NEA2	Nenana	84.89	24	IAmb	IAmb	00 34 47.7
	comp=Z,16nm,1.4s					
NEA2	Nenana	84.89	24	P	P	00 34 45.6 +0.5
	baz=253					
WAT6	Susitna Watana	84.89	27	P	P	00 34 45.8 +0.4
	baz=254					
D22K	Ayikyak River	84.92	20	P	P	00 34 45.5 +0.4
	baz=249					
I23K	Minto, Yukon-K	84.93	24	IAmb	IAmb	00 34 48.6
	comp=Z,13nm,1.2s					
I23K	Minto, Yukon-K	84.93	24	P	P	00 34 46.4 +1.2
	baz=253					
E22K	Anaktuvuk Pass	84.96	21	P	P	00 34 46.0 +0.5
	baz=250					
H23K	Yukon River	85.06	23	P	P	00 34 46.7 +0.8
	baz=253					
G23K	Bananza Creek	85.15	22	P	P	00 34 47.1 +0.7
G23K				IAmb	IAmb	00 34 50.1
	comp=Z,7.1nm,1.1s					
G23K	Bananza Creek	85.15	22	P	P	00 34 46.8 +0.4
	baz=252					
DHY	Denali Highway	85.19	26	P	P	00 34 47.0 +0.2
	baz=255					
B22K	Teshekpuk Lake	85.20	18	P	P	00 34 47.0 +0.5
	baz=249					
COLD	Coldfoot	85.24	22	P	P	00 34 46.9 +0.1
	baz=252					
WRH	Wood River Hil	85.26	25	IAmb	IAmb	00 34 49.2
	comp=Z,14nm,1.1s					
EYAK	Cordova Ski Ar	85.30	29	P	P	00 34 47.0 -0.2
	baz=256					
CCB	Clear Creek Bu	85.43	25	IAmb	IAmb	00 34 49.8
	comp=Z,10nm,1.0s					
KLU	Klutina	85.45	28	P	P	00 34 48.3 +0.2
	baz=256					
M24K	Tolsona, Glenn	85.48	27	P	P	00 34 48.2 +0.1
	baz=256					
D23K	Nanushuk River	85.63	20	P	P	00 34 50.4 +1.7
D23K	Nanushuk River	85.63	20	P	P	00 34 49.5 +0.8
	baz=251					
POKR	Poker Plat Res	85.71	24	P	P	00 34 49.8 +0.6
	baz=255					
E23K	Chandalar	85.71	21	P	P	00 34 50.1 +0.8
	baz=252					
HDA	Harding Lake	85.72	25	IAmb	IAmb	00 34 51.6
	comp=Z,8.1nm,1.0s					
HDA	Harding Lake	85.72	25	P	P	00 34 49.5 +0.3
	baz=255					
H24K	Noodor Dome	85.72	23	P	P	00 34 49.9 +0.6
	baz=254					
KAIM	Kayak Island	85.81	29	P	P	00 34 49.9 +0.1
	baz=258					
IL31		85.84	24	IAmb	IAmb	00 34 50.8
	comp=Z,5.0nm,0.9s					
ILAR	Eielson Array	85.84	24	P	P	00 34 49.0 -0.9
	comp=Z,3.1nm,0.8s,baz=260,slow=4.8,SNR=19					
ILAR				LR	LR	01 11 29.8
	comp=Z,24nm,20.0s,baz=204,slow=34					
	comp=Z,3.1nm,0.8s					
AKTO	Aktyubinsk	85.86	321	LR	LR	01 16 00.6
	comp=Z,69nm,18.4s,baz=46,slow=38					
TOLK	Toolik Lake Re	85.91	20	P	P	00 34 50.4 +0.3
	baz=252					
C23K	Itkillik River	85.93	19	P	P	00 34 50.4 +0.3
	baz=251					
BMRM	Bremner River	85.95	28	P	P	00 34 50.3 -0.2
	baz=257					
PAX	Paxson	86.00	26	P	P	00 34 51.5 +0.7
	baz=256					
N25K	Chitina, Valde	86.09	28	P	P	00 34 51.8 +0.6
	baz=257					
G24K	Hadweenzic Riv	86.12	23	P	P	00 34 51.9 +0.7
	baz=254					
E24K	Your Creek	86.12	21	P	P	00 34 52.3 +1.1
	baz=253					
F24K	Squaw Lake	86.19	22	IAmb	IAmb	00 34 55.4
	comp=Z,12nm,1.1s					
F24K	Squaw Lake	86.19	22	P	P	00 34 52.5 +0.9
	baz=254,SNR=6.0					
D24K	Happy Valley	86.32	20	P	P	00 34 53.0 +0.9
	baz=253					
J25K	Salcha River,	86.43	25	P	P	00 34 53.5 +0.6
	baz=256					
RIDG	Independent Ri	86.45	26	P	P	00 34 53.6 +0.6
	baz=257					
C24K	Franklin Bluff	86.53	20	P	P	00 34 53.6 +0.5
	baz=253					
PRP	Porcupine Dome	86.58	24	P	P	00 34 54.0 +0.3
	baz=256					
CRQE	Cirque	86.62	29	P	P	00 34 54.5 +0.6
	baz=259					
H25L	Birch Creek	86.65	23	P	P	00 34 54.7 +1.0
	baz=256					
G25K	Bearman Lake	86.66	23	P	P	00 34 54.2 +0.4
	baz=256					
DOT	Dot Lake	86.78	26	IAmb	IAmb	00 34 57.7
	comp=Z,12nm,1.5s					
SCRK	Sand Creek	86.88	26	P	P	00 34 55.5 +0.4
SCRK				IAmb	IAmb	00 35 25.8
	comp=Z,15nm,1.6s					
SCRK	Sand Creek	86.88	26	P	P	00 34 55.5 +0.4
	baz=258					
L26K	Log Cabin Wild	86.96	27	P	P	00 34 55.9 +0.5
	baz=258					
M26K	Nabesna, AK	86.99	27	P	P	00 34 56.3 +0.7
	baz=259					
F25K	Christian Rive	87.04	22	P	P	00 34 56.8 +1.1
	baz=256					
MESA	MESA	87.07	29	P	P	00 34 56.3 +0.1
	baz=260					
J26L	Joseph Creek	87.17	25	IAmb	IAmb	00 34 58.9
	comp=Z,18nm,1.5s					
J26L	Joseph Creek	87.17	25	P	P	00 34 57.4 +0.9
	baz=258					
E25K	Arctic Village	87.19	21	P	P	00 34 57.4 +0.9
	baz=256,SNR=6.3					
D25K	Kavik River	87.21	20	P	P	00 34 57.3 +0.8
	baz=255					
QSPA	South Pole Qui	87.36	180	P	P	00 34 59.5 +2.1
QSPA				IAmb	IAmb	00 35 01.4
	comp=Z,11nm,1.1s					
BARN	Barnard Glacie	87.37	29	IAmb	IAmb	00 35 00.0
	comp=Z,9.2nm,1.0s					
BMAR	Burnt Mountain	87.40	22	P	P	00 34 58.8 +1.3
M27K	Edge Creek, AK	87.50	27	P	P	00 34 58.3 +0.1
	baz=260					
I26K	Coal Creek Min	87.50	24	IAmb	IAmb	00 35 04.4
	comp=Z,23nm,1.8s					
I26K	Coal Creek Min	87.50	24	P	P	00 34 58.7 +0.8
	baz=258					
CTG	Chitna Glacier	87.51	29	P	P	00 34 57.8 -0.4
	baz=260					
G26K	Porcupine Rive	87.59	23	P	P	00 34 58.9 +0.6
	baz=258,SNR=11					
F26K	Sheenjek River	87.62	22	P	P	00 34 59.0 +0.5
	baz=258,SNR=9.7					
L27K	Beaver Creek,	87.65	27	P	P	00 34 59.1 +0.3
	baz=260					
BCAR	Beaver Creek A	87.67	27	P	P	00 34 59.5 +0.6
K27K	Chicken	87.71	26	P	P	00 34 59.5 +0.5
	baz=260					
C26K	Camden Bay	87.85	20	P	P	00 34 59.9 +0.4
	baz=257					
PINM	Pinnacle	87.90	30	P	P	00 35 00.3 +0.2
	baz=261					
O28M	Mount Upton	88.03	29	P	P	00 35 01.5 +0.5
	baz=261					
C27K	Jago River	88.19	20	P	P	00 35 02.4 +1.3
	baz=258					
I27K	Kandik River	88.19	24	P	P	00 35 02.2 +0.9
	baz=260,SNR=12					
YUK8	Steele Glacier	88.31	29	P	P	00 35 02.8 +0.6
	baz=262					
H27K	Steamboat Moun	88.34	24	P	P	00 35 02.8 +0.8
H27K	Steamboat Moun	88.34	24	P	P	00 35 02.7 +0.7
	baz=260,SNR=11					
G27K	Doyon Strip	88.39	23	P	P	00 35 02.5 +0.3
	baz=260					
E27K	Coleen River	88.66	22	P	P	00 35 04.1 +0.6
	baz=260					
O29M	Mount Kennedy	88.76	30	P	P	00 35 05.0 +0.8
	baz=263					
YUK4	Talbot Arm	88.86	29	P	P	00 35 05.4 +0.7
	baz=263					
I28M	Miner Creek	88.86	24	P	P	00 35 05.1 +0.6
	baz=261,SNR=8.2					
DAWY	Dawson	88.89	26	P	P	00 35 05.8 +1.2
DAWY	Dawson	88.89	26	P	P	00 35 05.1 +0.5
	baz=262,SNR=12					
YUK6	Outpost Mounta	88.94	29	P	P	00 35 05.3 +0.1
	baz=263					
D27M	Malcolm River	89.07	21	P	P	00 35 06.4 +1.0
	baz=260					
M29M	Somme Creek	89.08	28	P	P	00 35 05.9 +0.3
	baz=263,SNR=5.4					
P29M	Windy Craggy	89.09	30	P	P	00 35 06.4 +0.8
	baz=263					
F28M	Old Crow	89.21	22	P	P	00 35 06.3 +0.3
	baz=261					
L29M	L29M	89.32	27	P	P	00 35 07.5 +0.8
L29M				IAmb	IAmb	00 35 09.9
	comp=Z,11nm,1.1s					
L29M	L29M	89.32	27	P	P	00 35 07.5 +0.8
	baz=263,SNR=6.4					
HYT	Haines Junctio	89.34	29	P	P	00 35 07.8 +0.9
	baz=264					
J29N	Klondike Camp	89.44	26	P	P	00 35 07.4 +0.1
	baz=263					
E28M	Babbage River	89.48	21	P	P	00 35 07.0 -0.3
	baz=262					
I29M	Ogilvie Camp,	89.52	25	P	P	00 35 07.6 +0.1
	baz=263,SNR=6.1					
P30M	Million Dollar	89.54	30	P	P	00 35 08.2 +0.4
	baz=264					
H29M	Whitestone	89.60	24	P	P	00 35 08.4 +0.6
	baz=263					
N30M	Aishikik Lake	89.61	29	P	P	00 35 08.9 +0.8
	baz=264					
K29M	Barlow Dome	89.68	26	P	P	00 35 09.2 +0.8
K29M				IAmb	IAmb	00 35 12.7
	comp=Z,9.1nm,1.1s					
K29M	Barlow Dome	89.68	26	P	P	00 35 08.8 +0.4
	baz=264,SNR=5.8					
S31K	Pelican	89.70	32	P	P	00 35 08.6 +0.2
	baz=265					
PLBC	Pleasant Camp	89.77	31	P	P	00 35 08.3 -0.4
	baz=265					
G29M	Pine Creek	89.83	23	P	P	00 35 09.1 +0.2
	baz=263					
M30M	Minto, Yukon	89.87	27	P	P	00 35 09.0 -0.2
	baz=264					
O30N	Mendenhall	90.03	29	P	P	00 35 09.6 -0.4
	baz=265					
E29M	Blow River	90.05	22	P	P	00 35 09.7 -0.2
	baz=263					
SIT	Sitka	90.11	33	P	P	00 35 10.1 -0.2
	baz=266					
N31M	Braeburn, Yuko	90.24	29	P	P	00 35 11.1 +0.1
	baz=265					
J30M	Hart River	90.27	25	P	P	00 35 10.7 -0.4
	baz=265					
EPYK	Eagle Plains	90.28	24	P	P	00 35 10.9 -0.2
	baz=264					
SKAG	Skagway	90.30	31	P	P	00 35 11.0 -0.2
	baz=266					
I30M	Mount Dempster	90.31	25	P	P	00 35 11.1 -0.3
	baz=265					
G30M	tAoh Zraii Nji	90.54	23	P	P	00 35 12.2 -0.1
	baz=265					
S32K	Killisnoo	90.55	33	P	P	00 35 12.1 -0.2
	baz=266					
WHY	Whitehorse	90.61	29	P	P	00 35 12.6 -0.3
	baz=266					
R32K	Eaglecrest	90.63	32	P	P	00 35 12.4 -0.4
	baz=266					
F30M	Barrier River	90.76	22	P	P	00 35 13.5 +0.2
	baz=265					
SYO	Syowa Base	90.77	201	∥es P	sP	00 35 21.1 -6.2
M31M	Drury Creek, Y	90.95	28	P	P	00 35 14.7 +0.4
	baz=266					
P32M	Atlin	91.13	31	P	P	00 35 14.8 -0.3
	baz=267					
H31M	Peel River	91.20	24	P	P	00 35 14.9 -0.4
	baz=266					
CRAG	Craig	91.23	35	P	P	00 35 15.6 -0.1
	baz=267					
U33K	Whale Pass	91.27	34	P	P	00 35 15.5 -0.3
	baz=267					
G31M	Satah River	91.30	23	P	P	00 35 15.8 +0.1
	baz=267					
F31M	Tsiigehtchic	91.53	23	P	P	00 35 16.9 +0.1
	baz=267					
P33M	Teslin, Yukon	91.61	30	P	P	00 35 17.2 -0.3
	baz=268					
INK	Inuvik	91.66	22	P	P	00 35 17.7 +0.4
	baz=267					
WRAK	Wrangell Islan	91.71	34	P	P	00 35 17.5 -0.3
	baz=268					
V35K	Ketchikan	92.09	35	P	P	00 35 18.9 -0.7
	baz=269					
S34M	Telegraph Cree	92.41	32	P	P	00 35 20.9 -0.2
	baz=269					
MMPY	Sheldon Lake,	92.42	28	P	P	00 35 20.8 -0.3
	baz=269					
R33M	Jennings River	92.52	31	P	P	00 35 21.5 -0.3
	baz=269					
T35M	Bob Quinn	92.88	33	P	P	00 35 23.3 0.0
	baz=270					
U35K	Hyder	93.00	34	P	P	00 35 24.0 +0.2
	baz=270					
DLBC	Dease Lake	93.00	32	LR	LR	01 14 43.8
	comp=Z,754nm,19.1s,baz=236,slow=34					
DLBC	Dease Lake	93.00	32	P	P	00 35 24.1 +0.2
	baz=270					
BBB	Bella Bella	94.16	38	LR	LR	01 12 10.9
	comp=Z,76nm,19.1s,baz=246,slow=32					
TOAD	Toad River Com	95.49	31	P	P	00 35 34.7 -0.5
	baz=274					
WRGLY	Wrigley	95.96	27	P	P	00 35 37.5 +0.3
	baz=276					
YBH	Yreka Blue Hor	98.34	48	LR	LR	01 13 31.7
	comp=Z,7.5nm,20.1s,baz=292,slow=31					
OBN	Obninsk	98.89	325	LR	LR	01 22 29.3
	comp=Z,89nm,20.2s,baz=184,slow=37					
FURI	Furi	100.01	279	LR	LR	01 24 13.2
	comp=Z,26nm,18.0s,baz=62,slow=37					
RUSC	La Rusia	148.42	83	PKPdf	PKPdf	00 41 54.2 -1.0
CRPR	Cabo Rojo, PR	150.65	57	PKPbc	PKPbc	00 42 02.8 -0.7
OBIP	Obispado Ponce	151.05	56	PKPbc	PKPbc	00 42 03.7 -0.7

TEH ***23*** *01:08:11.0, 27°.13N×55°.10E, h14km±19km*
DSN ***23*** *01:08:11.9±1.9, 27°.24N×55°.12E, h15km, ML3.4/14, Error ellipse: s-maj=22.1km s-min=6.5km az=17.0*
OMAN ***23*** *01:08:13.5±0.1, 27°.02N×55°.11E, h10km, ml3.5/21, Error ellipse: s-maj=2.5km s-min=1.0km az=32.0*

ISC 23 01:08:11.7±1.3, 27°.13N±0°.04×55°.13E±0°.03, h8km±10km, n80, σ0.9=94/102, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.86	309	Pg	Pg	01 08 27.3	-1.0
BNDS	Bandar-Abbas	0.96	74	Pg	Pg	01 08 29.6	-0.7
GENO	Geno	0.97	74	Pg	Pg	01 08 29.6	-0.7
IBND	Bandar-abas	1.29	75	Pg	Pg	01 08 36.3	-0.3
SHME	Shamm	1.41	140	P	Pn	01 08 37.9	+0.3
SHME				S	Sg	01 08 58.4	+1.5
SHME	Shamm	1.41	140	eP	Pn	01 08 37.8	+0.1
	SNR=8.1						
SHME				S	Sg	01 08 58.4	+1.5
BANOM	Banah	1.59	139	P	Pb	01 08 41.0	-0.5
BANOM				S	Sb	01 09 02.0	+0.2
BANOM	Banah	1.59	139	eP	Pn	01 08 40.7	+0.4
	SNR=28						
BANOM				S	Sg	01 09 02.7	-0.3
UMQ	Umm Al-Quwin	1.67	163	P	Pb	01 08 42.8	+0.1
UMQ				S	Sg	01 09 06.1	+0.7
LMD1	Lamerd	1.76	277	Pg	Pn	01 08 43.2	+0.6
JHRM	Jahrom	1.94	315	Pn	Pn	01 08 45.4	+0.2
MASF	Masafi	1.98	152	P	Pn	01 08 47.0	+1.4
	SNR=14						
MASF				S	Sb	01 09 13.7	+0.8
MSFE	Esma-Masafi	1.99	152	eP	Pn	01 08 46.7	+1.0
	SNR=27						
MDH	Madha	2.10	150	P	Pn	01 08 48.3	+1.0
	SNR=17						
MDH				S	Sn	01 09 14.9	+1.3
MDH	Madha	2.10	150	eP	Pn	01 08 48.0	+0.7
	SNR=17						
NAZ	Nazwa, Dubai	2.19	167	P	Pn	01 08 50.2	+1.8
	SNR=13						
NAZ				S	Sn	01 09 13.8	-1.9
NAZ	Nazwa, Dubai	2.19	167	eP	Pn	01 08 50.0	+1.6
	SNR=13						
UOSS	Minazif	2.38	156	P	Pn	01 08 52.1	+1.0
UOSS				S	Sn	01 09 19.2	-1.2
UOSS	Minazif	2.38	156	Pn	Pn	01 08 51.6	+0.5
UOSS	Minazif	2.38	156	eP	Pn	01 08 51.8	+0.7
	SNR=13						
FAQ	Al Faqa, Dubai	2.41	170	P	Pn	01 08 52.4	+0.9
FAQ				S	Sn	01 09 20.0	-1.2
FAQ	Al Faqa, Dubai	2.41	170	P	Pn	01 08 53.3	+1.7
KHNJ	Kahnooj	2.43	70	Pn	Pn	01 08 51.7	-0.1
HATD	Hatta, Dubai	2.46	158	P	Pn	01 08 53.5	+1.3
	SNR=14						
HATD				S	Sn	01 09 21.9	-0.7
HATD	Hatta, Dubai	2.46	158	eP	Pn	01 08 53.3	+1.0
	SNR=14						
ASUD	Al Ashush, Dub	2.50	176	P	Pn	01 08 54.4	+1.7
ASUD	Al Ashush, Dub	2.50	176	P	Pn	01 08 54.9	+2.2
ASHO	Ashiyiah	2.58	161	P	Pn	01 08 55.2	+1.3
	SNR=54						
ASHO				S	Sn	01 09 25.3	0.0
ASHO	Ashiyiah	2.58	161	eP	Pn	01 08 55.1	+1.3
	SNR=54						
NGRK	Negar Kerman	2.88	29	Pn	Pn	01 08 58.7	+0.5
ALNE	Al Ain	3.11	169	P	Pn	01 09 02.7	+1.6
	SNR=11						
ALNE				S	Sn	01 09 40.0	+1.5
ALNE	Al Ain	3.11	169	i P	Pn	01 09 02.6	+1.4
	SNR=11						
KRBR	Kerman	3.18	26	Pn	Pn	01 09 03.2	+0.8
SOHO	SOHO	3.24	157	P	Pn	01 09 03.2	+0.3
SOHO	SOHO	3.24	157	i P	Pn	01 09 02.9	0.0
	SNR=8.2						
KHGB	Koh Gabri	3.44	20	Pn	Pn	01 09 06.3	+0.3
CHMN	Cheshme madani	3.45	37	Pn	Pn	01 09 07.5	+1.3
MZWR	Madinat Zayed	3.54	199	P	Pn	01 09 07.3	+0.3
KBAM	BAM	3.55	55	Pn	Pn	01 09 08.1	+0.9
DSBU	Dashti - Bushe	3.64	291	Pn	Pn	01 09 08.3	-0.2
GHWR	Ruwais	3.75	213	P	Pn	01 09 10.6	+0.6
GHWR				S	Sn	01 09 54.1	-0.2
KRM1	Kerman Provinc	3.85	29	Pn	Pn	01 09 12.4	+0.9
SHMA	Al-Shehemyia	3.94	252	P	Pn	01 09 13.7	+1.1
	SNR=12						
SHMA				S	Sn	01 09 59.9	+0.9
ARQ	Araqi	3.98	161	P	Pn	01 09 14.1	+1.0
	SNR=16						
ZRDN	Zarand Kerman	4.02	17	Pn	Pn	01 09 14.6	+0.8
HOQ	Hoqain	4.04	150	P	Pn	01 09 13.4	-0.6
HOQ	Hoqain	4.04	150	Pn	Pn	01 09 12.8	-1.2
TRNA	Turayna	4.26	237	P	Pn	01 09 17.3	+0.4
	SNR=11						
TRNA				S	Sn	01 10 06.7	-0.1
IMEH	Mehriz	4.27	354	Pn	Pn	01 09 17.9	+0.6
SAKB	Bahrain	4.27	255	P	Pn	01 09 16.9	-0.2
SAKB				S	Sn	01 10 07.7	+0.5
MZR	Muzera	4.37	200	P	Pn	01 09 18.7	+0.1
	SNR=8.5						
MZR				S	Sn	01 10 09.0	-0.7
MZR	Muzera	4.37	200	i P	Pn	01 09 18.4	-0.1
	SNR=8.5						
UMZA	Um Al Zommool	4.40	180	P	Pn	01 09 19.7	+0.8
UMZA				S	Sn	01 10 09.1	-1.1
IBAF	Bafgh	4.46	5	Pn	Pn	01 09 20.1	+0.2
SMRA	Abu-Samra	4.55	239	P	Pn	01 09 21.3	+0.5
	SNR=8.2						
SMRA				S	Sn	01 10 14.1	+0.2
SMDO	Samad	4.84	146	P	Pn	01 09 26.0	+1.0
	SNR=10						
SMDO				S	Sn	01 10 19.4	-1.9
KLNJ	Kolanjah	4.95	322	Pn	Pn	01 09 27.0	+0.2
WSAR	Wadi Sarin	5.00	140	P	Pn	01 09 27.7	+0.5
WSAR				S	Sn	01 10 24.9	-0.4
CHBR	Chabahar	5.04	106	Pn	Pn	01 09 28.2	+0.6
ICHK	Chekchek	5.14	353	Pn	Pn	01 09 29.5	+0.3
IRAM	Ramesheh	5.24	333	Pn	Pn	01 09 30.7	+0.1
JMDO	Jabal Madar	5.46	150	P	Pn	01 09 33.3	-0.1
IBRJ	Brojen	5.83	326	Pn	Pn	01 09 39.4	+0.6
IGAR	Gharneh	5.90	334	Pn	Pn	01 09 39.9	+0.2
TPRV	Parvadeh(Tabas	6.03	13	Pn	Pn	01 09 42.0	+0.7
ANAR	Anarak	6.16	349	Pn	Pn	01 09 43.2	0.0
ZNGN	Zangian	6.21	324	Pn	Pn	01 09 44.6	+0.5
IKOO	Kooshah	6.26	32	Pn	Pn	01 09 45.7	+1.1
JLN	Jalan Bani Buh	6.30	141	P	Pn	01 09 45.0	-0.1
	SNR=5.2						
IPIR	Pirpir	6.65	327	Pn	Pn	01 09 49.7	-0.3
TKDS	Koohdasht(Taba	6.69	14	Pn	Pn	01 09 51.1	+0.7
KBD	Kabd	6.88	289	P	Pn	01 09 54.5	+1.6
IKLH	Kolahrood	6.89	334	Pn	Pn	01 09 53.4	+0.1
TNSJ	Nastanj	6.93	10	Pn	Pn	01 09 54.0	+0.3
AFRZ	Afriz	7.12	27	Pn	Pn	01 09 56.7	+0.3
DQM	DQM	7.50	162	P	Pn	01 10 01.0	-0.5
	SNR=12						
SHAO	Shalim	9.07	177	P	Pn	01 10 21.9	-1.2
	SNR=8.6						
SHAO	Shalim	9.07	177	i P	Pn	01 10 22.1	-1.0
	SNR=8.4						
DMTO	DMTO	9.37	181	P	Pn	01 10 25.4	-1.8
ABTO	Aybut	9.88	190	P	Pn	01 10 32.7	-1.4
	SNR=26						

IDC ***23*** *01:10:25.7±0.7, 2°.54S×138°.25E, h0km, mb4.1/8, mbtmp4.1/12, ML3.7/3, MS3.5/2, Error ellipse: s-maj=23.8km s-min=13.6km az=90.0*
NEIC ***23*** *01:10:27.6±1.8, 2°.5S±0°.1×138°.22E±0°.03, h10km±1km, mb4.6/31, Error ellipse: s-maj=17.3km s-min=4.2km az=173.0*
DJA ***23*** *01:10:29.3±0.9, 2°S±9°×13°8E±°, h15km±8km, M4.0/6, MLv4.0/6*

ISC 23 01:10:27.5±0.5, 2°.52S±0°.06×138°.29E±0°.05, h10km, n68, σ1.9=29/67, mb4.6/26, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.68	38	P	Pg	01 10 39.3	-1.3
GENI	Genyem	1.88	92	P	Pn	01 11 00.8	+1.1
SRPI	Serui, Papua	2.15	288	P	Pn	01 11 03.8	+0.3
JAY	Jayapura	2.41	90	Pn	Pn	01 11 07.4	+0.3
	8.4nm,0.3s,baz=237,slow=11,SNR=29						
	25nm,0.4s						
JAY	Jayapura	2.41	90	P	Pn	01 11 07.3	+0.2
BAKI	Biak	2.55	301	P	Pn	01 11 09.8	+0.8
FAKI	Fak Fak	6.05	266	Pn	Pn	01 11 55.4	-1.7
FAKI	Fak Fak	6.05	266	P	Pn	01 11 56.1	-1.0
SANI	Sanana	12.30	272	P	Pn	01 13 23.8	+0.9
MTN	Manton Dam	12.46	214	Pn	Pn	01 13 24.2	-1.0
LUWI	Luwuk	15.58	275	Pn	Pn	01 14 06.6	-0.8
SOEI	Soe	15.68	242	Pn	Pn	01 14 09.4	+0.6
SOEI				IAmb	IAmb	01 14 21.4	
	comp=Z,73nm,1.2s						
SOEI	Soe	15.68	242	P	P	01 14 15.9	+2.9
DAV	Davao City (W)	15.87	307	LR	LR	01 21 07.3	
	comp=Z,96nm,18.9s,baz=170,slow=40						
KNRA	Kununurra	16.09	215	Pn	Pn	01 14 11.7	-2.3
KNRA				IAmb	IAmb	01 14 15.0	
	comp=Z,25nm,1.3s						
BATI	Baumata	16.41	242	Pn	Pn	01 14 18.5	+0.3
	comp=Z,23nm,0.4s,baz=297,slow=6.0,SNR=1.9						
APSI	Ampana	16.71	275	P	P	01 14 29.3	+

comp=Z,0.2nm,0.3s,baz=52,slow=16,SNR=6.0
comp=Z,2.7nm,1.0s
AS31 Alice Springs 21.44 191 P **P 01 15 15.3 -0.8**
ASAR Alice Springs 21.44 191 P **P 01 15 14.5 -1.6**
ASAR Alice Springs 21.44 191 P **P 01 15 15.4 -0.7**
comp=Z,2.1nm,0.8s,baz=12,slow=11,SNR=10.0
ASAR S **S 01 19 14.6 +0.4**
comp=Z,2.7nm,1.0s,baz=10,slow=8.6,SNR=1.6
comp=Z,2.1nm,0.8s
CMAR Chiang Mai Arr 43.98 300 P **P 01 18 34.9 -0.6**
comp=Z,0.8nm,0.3s,baz=107,slow=5.6,SNR=6.4
comp=Z,0.8nm,0.3s
CHTO Chiang Mai 44.13 300 P **P 01 18 36.0 -0.7**
CHTO IAmb IAmb 01 18 46.5
comp=Z,2.4nm,0.6s
LYN LuoYang 44.15 329 *e*P **P 01 18 37.1 +0.6**
LYN pmax pmax
comp=Z,13nm,0.7s
URZ Urewera 50.23 140 LR LR 01 41 05.0
comp=Z,83nm,18.3s,baz=292,slow=37
BSWZ Blackbirch Sta 50.41 146 P **P 01 19 26.3 +1.1**
SHL Shillong 52.89 305 P **P 01 19 43.3 -1.0**
GTA Gaotai 54.67 324 *e*P **P 01 19 58.8 +1.7**
GTA sP sP 01 20 28.4 +27
GTA pmax pmax
comp=Z,5.0nm,1.3s
EVN Everest 57.99 305 P **P 01 20 21.4 -0.2**
EVN IAmb IAmb 01 20 23.7
comp=Z,12nm,1.5s
MKAR Makanchi Array 69.39 323 P **P 01 21 35.2 -0.5**
MKAR Makanchi Array 69.39 323 P **P 01 21 35.9 +0.1**
comp=Z,5.5nm,0.9s,baz=108,slow=7.8,SNR=13
comp=Z,5.5nm,0.9s
MAKZ Makanchi 69.58 322 P **P 01 21 37.1 +0.2**
KSH Kashi 70.65 313 P **P 01 21 46.3 +2.5**
KSH pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 71.57 330 P **P 01 21 47.6 -1.2**
ZAA0 IAmb IAmb 01 21 50.0
comp=Z,3.7nm,1.1s
ZALV Zalesovo Beam 71.57 330 P **P 01 21 47.7 -1.2**
ZALV Zalesovo Beam 71.57 330 P **P 01 21 48.4 -0.4**
comp=Z,0.7nm,0.3s,baz=112,slow=6.6,SNR=5.7
comp=Z,0.7nm,0.3s
AAK Ala-Archa 72.78 316 P **P 01 21 57.0 +0.4**
AAK IAmb IAmb 01 21 59.5
comp=Z,5.9nm,1.4s
KURK Kurchatov 73.33 325 P **P 01 21 58.3 -1.1**
KURK IAmb IAmb 01 22 00.9
comp=Z,15nm,1.4s
KURBB Kurchatov Arra 73.34 325 P **P 01 21 59.5 0.0**
comp=Z,2.6nm,0.8s,baz=120,slow=5.1,SNR=14
comp=Z,2.6nm,0.8s
ARSB Arslanbob 73.41 314 P **P 01 21 59.7 -0.6**
ARSB IAmb IAmb 01 22 02.9
comp=Z,14nm,1.2s
GAR Garm 74.66 311 P **P 01 22 07.4 -0.3**
GAR IAmb IAmb 01 22 26.2
comp=Z,12nm,1.2s
CHGR Chuyangaron 75.44 311 P **P 01 22 11.5 -0.6**
CHGR IAmb IAmb 01 22 14.2
comp=Z,11nm,1.1s
KK31 Karatay Array 75.70 316 P **P 01 22 12.3 -1.1**
KK31 IAmb IAmb 01 22 15.7
comp=Z,6.5nm,1.2s
KKAR Karatay Array 75.70 316 P **P 01 22 12.6 -0.9**
VNDA Vanda 76.00 175 P **P 01 22 14.0 -0.5**
VNDA Vanda 76.00 175 P **P 01 22 14.2 -0.2**
comp=Z,0.6nm,0.9s,baz=356,slow=4.1,SNR=4.0
comp=Z,0.6nm,0.9s
BVAR Borovoye Array 78.92 325 P **P 01 22 30.4 -0.9**
comp=Z,5.0nm,0.9s,baz=108,slow=4.8,SNR=16
comp=Z,5.0nm,0.9s
J20K Nowinta River 82.66 24 P **P 01 22 50.4 -0.6**
J20K IAmb IAmb 01 22 55.8
comp=Z,8.9nm,1.4s
E19K Redstone River 82.78 21 P **P 01 22 52.2 +0.6**
D19K Kuna River 82.92 19 P **P 01 22 51.7 -0.7**
AB31 Akbulak array 84.31 320 P **P 01 22 59.2 -0.6**
AB31 IAmb IAmb 01 23 01.1
comp=Z,9.8nm,1.4s
ABKAR Akbulak array 84.31 320 P **P 01 22 58.8 -1.0**
CCB Clear Creek Bu 85.42 25 P **P 01 23 03.4 -1.7**
CCB IAmb IAmb 01 23 07.0
comp=Z,4.7nm,1.0s
E23K Chandalar 85.70 21 P **P 01 23 06.5 -0.1**
IL31 85.84 25 P **P 01 23 06.0 -1.1**
IL31 IAmb IAmb 01 23 22.1
comp=Z,3.2nm,1.4s
ILAR Eielson Array 85.84 25 P **P 01 23 06.0 -1.2**
ILAR Eielson Array 85.84 25 P **P 01 23 06.1 -1.1**
comp=Z,1.4nm,1.0s,baz=250,slow=5.1,SNR=7.2
comp=Z,1.4nm,1.0s
F24K Squaw Lake 86.18 22 P **P 01 23 09.1 +0.2**
F24K IAmb IAmb 01 23 11.5
comp=Z,7.5nm,1.2s
BMAR Burnt Mountain 87.39 22 P **P 01 23 14.2 -0.6**
QSPA South Pole Qui 87.42 180 P **P 01 23 17.1 +2.0**
QSPA IAmb IAmb 01 23 21.4
comp=Z,6.1nm,1.3s
DAWY Dawson 88.89 26 P **P 01 23 22.0 0.0**
LPAZ La Paz 147.89 126 PKPbc **PKPbc 01 30 15.3 +0.5**
comp=Z,2.7nm,1.1s,baz=234,slow=1.0,SNR=6.4

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*IDC **23** 01:10:56.1±0.9,2.″42S×138.°22E, h0km, mb4.3/7, mbtmp4.2/9, ML3.7/2, Error ellipse: s-maj=32.0km s-min=20.7km az=74.0*
*NEIC **23** 01:10:57.4±1.9,2.″4S±0.°1×138.°24E±0.°08, h10km±1km, mb4.4/13, Error ellipse: s-maj=19.5km s-min=12.9km az=176.0*
ISC 23 01:11:00.9±0.7,2.°5S±0.°1×138.°24E±0.°08, h35km, n30, σ0°82/30, mb4.2/13, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.47**	**92**	Pn	**Pn**	**01 11 38.7**	**0.0**
	8.2nm,0.3s,baz=303,slow=12,SNR=7.4						
	106nm,0.8s						
FAKI	**Fak Fak**	**6.00**	**265**	Pn	**Pn**	**01 12 27.6**	**+0.3**
MTN	**Manton Dam**	**12.49**	**214**	Pn	**Pn**	**01 13 55.6**	**-0.8**
WR8	**Warramunga Arr**	**17.78**	**192**		**Pn**	**01 15 04.2**	**-1.5**
WRAB	**Tennant Creek**	**17.79**	**192**		**Pn**	**01 15 05.2**	**-0.7**
WRA	**Warramunga Arr**	**17.80**	**192**	P	**Pn**	**01 15 04.9**	**-1.2**
WRA	**Warramunga Arr**	**17.80**	**192**	P	**Pn**	**01 15 05.0**	**-1.1**
	0.4nm,0.3s,baz=11,slow=12,SNR=5.4						
	5.9nm,1.0s						
ASAR	**Alice Springs**	**21.50**	**191**	P	**P**	**01 15 47.9**	**+0.9**
	8.0nm,0.9s,baz=20,slow=10,SNR=6.2						
	8.0nm,0.9s						
MKAR	**Makanchi Array**	**69.30**	**323**	P	**P**	**01 22 04.2**	**-0.5**
MKAR	**Makanchi Array**	**69.30**	**323**	P	**P**	**01 22 05.8**	**+1.0**
	3.4nm,0.6s,baz=111,slow=8.0,SNR=10						
	3.4nm,0.6s						
MAKZ	**Makanchi**	**69.49**	**322**		**P**	**01 22 06.2**	**+0.2**
ZAA0	**Zalesovo Array**	**71.48**	**330**		**P**	**01 22 16.6**	**-1.3**
ZAA0				IAmb	IAmb	01 22 18.2	
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**71.48**	**330**	P	**P**	**01 22 17.1**	**-0.8**
ZALV	**Zalesovo Beam**	**71.48**	**330**	P	**P**	**01 22 17.6**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=110,slow=6.0,SNR=5.2						
	comp=Z,1.5nm,0.5s						
KURK	**Kurchatov**	**73.23**	**325**	P	**P**	**01 22 27.9**	**-0.5**
KURK				IAmb	IAmb	01 22 29.6	
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**73.25**	**325**	P	**P**	**01 22 29.1**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=112,slow=5.4,SNR=6.0						
	comp=Z,0.8nm,0.4s						
KK31	**Karatay Array**	**75.61**	**316**	P	**P**	**01 22 41.9**	**-0.5**
KK31				IAmb	IAmb	01 22 47.7	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**75.61**	**316**	P	**P**	**01 22 42.1**	**-0.4**
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**01 22 43.8**	**-0.6**
VNDA				IAmb	IAmb	01 22 49.9	
	comp=Z,2.6nm,1.1s						
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**01 22 45.0**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=323,slow=3.9,SNR=5.5						
	comp=Z,1.1nm,0.9s						
BVAR	**Borovoye Array**	**78.83**	**325**	P	**P**	**01 23 01.0**	**+0.7**
	comp=Z,5.0nm,0.8s,baz=103,slow=6.5,SNR=7.6						
	comp=Z,5.0nm,0.8s						
J20K	**Nowinta River**	**82.62**	**24**	P	**P**	**01 23 21.3**	**+1.0**
J20K				IAmb	IAmb	01 23 24.2	
	comp=Z,5.9nm,1.3s						
D19K	**Kuna River**	**82.87**	**19**	P	**P**	**01 23 21.5**	**-0.1**
D19K				IAmb	IAmb	01 23 33.8	
	comp=Z,7.6nm,1.3s						
D20K	**Etivluk River**	**83.47**	**19**	P	**P**	**01 23 23.9**	**-0.7**
ABKAR	**Akbulak array**	**84.22**	**320**	P	**P**	**01 23 28.0**	**-0.8**
ILAR	**Eielson Array**	**85.79**	**25**	P	**P**	**01 23 35.5**	**-0.9**
ILAR	**Eielson Array**	**85.79**	**25**	P	**P**	**01 23 36.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=253,slow=5.1,SNR=8.7						
	comp=Z,1.4nm,0.8s						
BMAR	**Burnt Mountain**	**87.34**	**22**	P	**P**	**01 23 44.4**	**+0.4**
QSPA	**South Pole Qui**	**87.49**	**180**	P	**P**	**01 23 46.2**	**+1.3**
QSPA				IAmb	IAmb	01 23 46.9	
	comp=Z,9.2nm,1.4s						
DAWY	**Dawson**	**88.84**	**26**	P	**P**	**01 23 51.8**	**+0.5**

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*IDC **23** 01:11:16.3±2.2,1.°51S×138.°52E, h0km, mb4.3/6, mbtmp4.3/7, ML3.3/1, Error ellipse: s-maj=101.7km s-min=28.1km az=27.0*
ISC 23 01:11:20.8±1.8,1.°7S±0.°5×138.°5E±0.°3, h35km, n7, σ0°90/7, mb4.3/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.36**	**111**	Pn	**Pn**	**01 11 57.2**	**+0.1**
	7.2nm,0.3s,baz=273,slow=5.2,SNR=5.2						
	123nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.74**	**299**	P	**P**	**01 19 22.4**	**-0.9**
	1.1nm,0.2s,baz=124,slow=6.9,SNR=4.1						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**68.84**	**322**	P	**P**	**01 22 22.9**	**+1.0**
	2.5nm,0.7s,baz=122,slow=6.2,SNR=4.9						
	2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**70.93**	**330**	P	**P**	**01 22 35.1**	**+0.6**
	1.1nm,0.4s,baz=108,slow=6.2,SNR=3.8						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**72.76**	**325**	P	**P**	**01 22 45.7**	**+0.2**
	0.9nm,0.2s,baz=116,slow=5.9,SNR=2.0						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**78.34**	**325**	P	**P**	**01 23 18.1**	**+0.6**
	3.7nm,0.7s,baz=103,slow=6.4,SNR=5.3						
	3.7nm,0.7s						
ILAR	**Eielson Array**	**84.97**	**25**	P	**P**	**01 23 51.5**	**-0.8**
	0.8nm,0.8s,baz=252,slow=4.7,SNR=3.3						
	0.8nm,0.8s						

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*IDC **23** 01:13:33.1±1.5,2.°52S×138.°56E, h0km, mb4.0/7, mbtmp4.1/8, ML3.7/1, Error ellipse: s-maj=51.9km s-min=23.1km az=94.0*
ISC 23 01:13:38.0±1.4,2.°6S±0.°1×138.°5E±0.°3, h32km, n8, σ0°95/8, mb4.2/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**193**	P	**Pn**	**01 17 42.3**	**-0.5**
	0.3nm,0.3s,baz=18,slow=13,SNR=3.4						
	2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.91**	**218**	P	**P**	**01 18 07.5**	**+0.3**
	2.2nm,0.8s,baz=45,slow=7.1,SNR=1.2						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**21.44**	**191**	P	**P**	**01 18 24.1**	**+0.3**
	1.0nm,0.4s,baz=8.1,slow=10,SNR=4.8						
	1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**	**01 21 42.7**	**-1.3**
	0.9nm,0.3s,baz=102,slow=7.7,SNR=1.6						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**69.51**	**322**	P	**P**	**01 24 44.8**	**+1.1**
	3.1nm,0.9s,baz=110,slow=7.8,SNR=6.4						
	3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**73.45**	**325**	P	**P**	**01 25 07.7**	**+0.4**
	1.4nm,0.2s,baz=111,slow=5.4,SNR=5.7						
	1.4nm,0.2s						
BVAR	**Borovoye Array**	**79.04**	**325**	P	**P**	**01 25 39.8**	**+0.8**
	3.0nm,0.9s,baz=101,slow=7.6,SNR=5.9						
	3.0nm,0.9s						
ILAR	**Eielson Array**	**85.80**	**24**	P	**P**	**01 26 13.4**	**-0.7**
	0.8nm,0.9s,baz=244,slow=6.2,SNR=4.6						
	0.8nm,0.9s						

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*IDC **23** 01:14:58.9±1.0,2.°48S×138.°24E, h0km, mb4.0/6, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=26.1km s-min=17.5km az=11.0*
ISC 23 01:15:03.9±1.0,2.°5S±0.°2×138.°3E±0.°2, h35km, n8, σ0°89/8, mb4.0/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.44**	**90**	Pn	**Pn**	**01 15 41.5**	**+0.2**
	6.1nm,0.3s,baz=241,slow=13,SNR=5.2						
JAY				Lg	Lg	01 16 17.2	
	6.0nm,0.3s,baz=140,slow=19,SNR=1.6						
	58nm,0.7s						
WRA	**Warramunga Arr**	**17.72**	**192**	P	**P**	**01 19 09.5**	**+0.9**
	0.2nm,0.3s,baz=18,slow=13,SNR=2.2						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**21.43**	**191**	P	**P**	**01 19 48.0**	**-1.1**
	3.4nm,1.0s,baz=14,slow=11,SNR=4.7						
	3.4nm,1.0s						
MKAR	**Makanchi Array**	**69.38**	**323**	P	**P**	**01 26 09.1**	**+0.9**
	1.4nm,0.7s,baz=105,slow=7.5,SNR=5.7						
	1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**71.56**	**330**	P	**P**	**01 26 20.5**	**-0.8**
	0.9nm,0.4s,baz=114,slow=6.5,SNR=1.8						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**73.33**	**325**	P	**P**	**01 26 32.4**	**+0.4**
	0.6nm,0.7s,baz=115,slow=5.9,SNR=2.6						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**78.92**	**325**	P	**P**	**01 27 04.2**	**+0.5**
	1.1nm,0.6s,baz=122,slow=5.4,SNR=4.2						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.86**	**25**	P	**P**	**01 27 39.3**	**-0.4**
	0.7nm,0.8s,baz=273,slow=5.5,SNR=7.6						
	0.7nm,0.8s						

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*GCG **23** 01:15:10.0±2.2, 14.°96N×89.°58W, h3km±10km, MD4.1, ML4.1, Fault plane solution: NP1:φ=59.02000°, δ78.56000°, λ-9.77000°.*
*CATAC **23** 01:15:10.8±0.3, 15.°N±2.°×9.°0W±.°, h2km±2km, M4.0/18, MLv4.0/18, Error ellipse: s-maj=4.1km s-min=2.5km az=16.4, confirmed*
*SNET **23** 01:15:11.9±2.8, 14.°89N×89.°58W, h2km, ML3.8*
ISC 23 01:15:10.2±1.3,14.°98N±0.°03×89.°60W±0.°03, h2km±10km, n52, σ0°68/63, 4C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.48**	**149**	*e*P	**Pg**	**01 15 20.0**	**+0.5**
ESQI				*e*S	**Sb**	**01 15 27.3**	**-1.8**
ESQI	**Esquipulas**	**0.48**	**149**	P	**Pg**	**01 15 20.0**	**+0.5**
MTO3	**Montecristo**	**0.62**	**158**	‖*i*P	**Pg**	**01 15 22.3**	**+0.2**
MTO3	**Montecristo**	**0.62**	**158**	S	**Sg**	**01 15 31.0**	**+0.8**
MTO3	**Montecristo**	**0.62**	**158**	P	**Pg**	**01 15 22.2**	**+0.1**
SARH	**Santa Rosa de**	**0.83**	**104**	⇑*i*P	**Pg**	**01 15 26.5**	**+0.3**
SARH				*i* S	**Sb**	**01 15 38.8**	**-0.4**
SARH	**Santa Rosa de**	**0.83**	**104**	P	**Pg**	**01 15 26.6**	**+0.3**
APG	**El Apazote**	**0.84**	**272**	⇑*i*P	**Pg**	**01 15 24.9**	**-1.4**
GCG4	**OSOP**	**0.99**	**247**	*i* P	**Pg**	**01 15 29.4**	**+0.2**
GCG4				*i* S	**Sn**	**01 15 45.6**	**-0.3**
GCG4				IAML		01 15 47.3	
	comp=N,13μm,0.4s						
LOAL	**Lomas de Alarc**	**0.99**	**190**	S	**Sb**	**01 15 43.1**	**-0.6**
LOAL	**Lomas de Alarc**	**0.99**	**190**	P	**Pg**	**01 15 29.0**	**-0.3**
UNIC	**Universidad Ca**	**0.99**	**177**	S	**Sg**	**01 15 42.4**	**+0.3**
UNIC	**Universidad Ca**	**0.99**	**177**	P	**Pg**	**01 15 28.8**	**-0.4**
LLGN	**La Laguna**	**1.03**	**142**	S	**Sb**	**01 15 44.4**	**-0.4**
LLGN	**La Laguna**	**1.03**	**142**	P	**Pg**	**01 15 30.2**	**+0.2**
PCG5	**San Vicente Pa**	**1.07**	**225**	⇑*i*P	**Pb**	**01 15 32.0**	**+0.4**
NUBE	**Las Nubes**	**1.08**	**189**	‖*i*P	**Pg**	**01 15 30.6**	**-0.4**
NUBE				*i* S	**Sg**	**01 15 45.2**	**0.0**
NUBE	**Las Nubes**	**1.08**	**189**	P	**Pg**	**01 15 30.6**	**-0.4**
FG16	**Alotenango, Sa**	**1.13**	**232**	‖*i*P	**Pn**	**01 15 35.0**	**+1.7**
CEVE	**Cerro Verde**	**1.14**	**181**	*e*P	**Pg**	**01 15 32.0**	**-0.2**
CEVE				*e*S	**Sn**	**01 15 50.0**	**+0.1**
CEVE	**Cerro Verde**	**1.14**	**181**	P	**Pg**	**01 15 32.0**	**-0.2**
FG8	**Yepocapa, Chim**	**1.18**	**233**	⇑*i*P	**Pn**	**01 15 36.1**	**+2.2**
CEDA	**San Andres**	**1.19**	**170**	*e*P	**Pg**	**01 15 32.6**	**-0.4**
CEDA				*e*S	**Sb**	**01 15 49.6**	**+0.3**
FAME	**Alcaldia de Sa**	**1.20**	**200**	P	**Pg**	**01 15 32.5**	**-0.7**
FAME	**Alcaldia de Sa**	**1.20**	**200**	S	**Sg**	**01 15 48.9**	**+0.1**
BOQS	**Boqueron**	**1.27**	**166**	*e*P	**Pg**	**01 15 34.2**	**-0.5**
PMON	**Piamonte**	**1.29**	**168**	P	**Pg**	**01 15 34.3**	**-0.6**
PMON	**Piamonte**	**1.29**	**168**	S	**Sn**	**01 15 52.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.32**	**174**	*e*P	**Pg**	**01 15 35.0**	**-0.7**
JAYA				*e*S	**Sn**	**01 15 54.2**	**0.0**
JAYA	**Jayaque - finc**	**1.32**	**174**	‖*i*P	**Pg**	**01 15 34.9**	**-0.7**
JAYA				*i* S	**Sg**	**01 15 52.2**	**-0.6**
JAYA	**Jayaque - finc**	**1.32**	**174**	P	**Pg**	**01 15 34.8**	**-0.8**
ESSG	**Sabana Grande**	**1.33**	**244**	*i* P	**Pg**	**01 15 35.1**	**-0.7**
LOMA	**Loma Larga**	**1.39**	**163**	P	**Pg**	**01 15 36.2**	**-0.7**
LOMA	**Loma Larga**	**1.39**	**163**	S	**Sn**	**01 15 55.6**	**-0.2**
PAVA	**Las Pavas**	**1.41**	**153**	P	**Pn**	**01 15 36.6**	**-0.4**
PAVA	**Las Pavas**	**1.41**	**153**	S	**Sn**	**01 15 56.0**	**-0.3**
QUIS	**Sacapulas**	**1.48**	**282**	*i* P	**Pn**	**01 15 37.1**	**-0.9**
QUIS				*i* S	**Sb**	**01 15 57.2**	**-0.6**
QUIS				IAML		01 16 02.2	
	comp=E,6μm,0.4s						
LALI	**Alcalda de L**	**1.50**	**170**	*e*P	**Pn**	**01 15 37.7**	**-0.5**
LALI	**Alcalda de L**	**1.50**	**170**	P	**Pn**	**01 15 38.3**	**0.0**
LALI	**Alcalda de L**	**1.50**	**170**	S	**Sg**	**01 15 58.7**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.52**	**146**	P	**Pn**	**01 15 38.9**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.52**	**146**	S	**Sg**	**01 15 59.6**	**+0.4**
UESV	**Universidad de**	**1.55**	**149**	P	**Pb**	**01 15 39.7**	**0.0**
UESV	**Universidad de**	**1.55**	**149**	S	**Sg**	**01 15 60.0**	**0.0**
TECO	**Alcaldia de Te**	**1.64**	**151**	P	**Pn**	**01 15 40.3**	**+0.3**
TECO	**Alcaldia de Te**	**1.64**	**151**	S	**Sg**	**01 16 02.6**	**-0.2**
SOKI	**Kika Raxquin**	**1.75**	**265**	*i* P	**Pn**	**01 15 42.2**	**+0.2**
HUEH	**Huehuetenango**	**1.87**	**281**	*e*P	**Pn**	**01 15 43.8**	**+0.3**
HUEH				*e*S	**Sb**	**01 16 10.9**	**+1.6**
HUEH	**Huehuetenango**	**1.87**	**281**	*i* P	**Pn**	**01 15 43.5**	**0.0**
HUEH				*i* S	**Sn**	**01 16 08.8**	**+1.0**
HUEH				IAML		01 16 19.6	
	comp=E,4μm,0.6s						
HUEH	**Huehuetenango**	**1.87**	**281**	P	**Pn**	**01 15 43.6**	**+0.1**
PETF	**Flores**	**1.94**	**352**	*i* P	**Pn**	**01 15 44.1**	**-0.2**
PETF	**Flores**	**1.94**	**352**	P	**Pn**	**01 15 44.2**	**0.0**

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*IDC **23** 01:15:40.5±1.0,2.°57S×138.°16E, h0km, mb3.9/6, mbtmp3.9/8, ML3.4/2, Error ellipse: s-maj=27.3km s-min=22.9km az=70.0*
ISC 23 01:15:45.6±0.9,2.°6S±0.°1×138.°1E±0.°1, h35km, n8, σ1°30/9, mb3.9/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.59**	**88**	Pn	**Pn**	**01 16 23.8**	**-1.2**
	3.4nm,0.3s,baz=102,slow=20,SNR=3.5						
JAY				Sn	**Sn**	**01 16 57.1**	**+1.8**
	4.8nm,0.3s,baz=282,slow=23,SNR=1.1						
	91nm,0.8s						
WRA	**Warramunga Arr**	**17.63**	**192**	P	**Pn**	**01 19 48.9**	**+0.3**
	0.2nm,0.3s,baz=15,slow=12,SNR=1.7						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**21.34**	**191**	P	**P**	**01 20 28.9**	**-0.8**
	5.3nm,0.8s,baz=24,slow=10,SNR=4.9						
	5.3nm,0.8s						
MKAR	**Makanchi Array**	**69.34**	**323**	P	**P**	**01 26 50.7**	**+1.0**
	1.5nm,0.8s,baz=105,slow=7.6,SNR=4.7						
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**73.30**	**325**	P	**P**	**01 27 14.1**	**+0.7**
	0.7nm,0.7s,baz=106,slow=7.0,SNR=2.6						
	0.7nm,0.7s						
VNDA	**Vanda**	**75.94**	**175**	P	**P**	**01 27 29.1**	**+0.7**
	0.9nm,0.8s,baz=325,slow=5.2,SNR=5.2						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**78.88**	**325**	P	**P**	**01 27 45.7**	**+0.4**
	1.1nm,0.6s,baz=113,slow=5.5,SNR=3.6						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.98**	**25**	P	**P**	**01 28 20.5**	**-1.5**
	0.5nm,0.8s,baz=263,slow=3.6,SNR=1.8						
	0.5nm,0.8s						

IDC 23 01:20:32.2±4.8,2.°34S×139.°05E, h0km, mb3.8/3, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=205.1km s-min=27.1km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.09**	**194**	P	Pn	01 24 43.3	-2.0
	0.1nm,0.3s,baz=18,slow=12,SNR=1.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.78**	**193**	P	P	01 25 27.3	+1.4
	1.3nm,0.7s,baz=19,slow=11,SNR=5.5						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**69.70**	**322**	P	P	01 31 44.4	+0.4
	1.0nm,0.6s,baz=114,slow=7.4,SNR=6.9						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**73.62**	**325**	P	P	01 32 06.8	-0.7
	0.4nm,0.4s,baz=114,slow=4.9,SNR=4.4						
	0.4nm,0.4s						

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*IDC **23** 01:21:49.4±0.8,2.°51S×138.°29E, h0km, mb4.0/8, mbtmp4.0/11, ML3.6/3, Error ellipse: s-maj=16.3km s-min=14.2km az=91.0*
ISC 23 01:21:53.6±0.8,2.°5S±0.°1×138.°5E±0.°1, h32km, n11, σ1°33/12, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**90**	Pn	**Pb**	**01 22 31.9**	**-0.3**
	5.7nm,0.3s,baz=251,slow=13,SNR=8.1						
JAY				Lg	Lg	01 23 06.1	
	2.6nm,0.3s,baz=137,slow=22,SNR=1.8						
	47nm,0.6s						
WRA	**Warramunga Arr**	**17.81**	**193**	P	**Pn**	**01 25 58.2**	**-1.0**
	0.4nm,0.3s,baz=17,slow=12,SNR=5.6						
	1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.00**	**218**	P	**P**	**01 26 21.9**	**-1.9**
	0.1nm,0.3s,baz=201,slow=23,SNR=2.1						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**21.51**	**192**	P	**P**	**01 26 39.0**	**-0.9**
	2.5nm,0.8s,baz=23,slow=11,SNR=8.3						
ASAR				S	**S**	**01 30 39.8**	**+2.8**
	0.6nm,0.8s,baz=16,slow=24,SNR=2.9						
	2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.19**	**300**	P	**P**	**01 30 00.7**	**+0.7**
	2.6nm,0.3s,baz=122,slow=6.8,SNR=4.3						
	2.6nm,0.3s						
MKAR	**Makanchi Array**	**69.52**	**322**	P	**P**	**01 32 59.0**	**-0.3**
	1.2nm,0.6s,baz=116,slow=8.2,SNR=7.6						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**71.67**	**330**	P	**P**	**01 33 11.4**	**-0.8**
	0.9nm,0.5s,baz=126,slow=7.4,SNR=3.6						
	0.9nm,0.5s						
KURBB	**Kur

0.8nm,0.5s,baz=118,slow=7.5,SNR=7.8
0.8nm,0.5s
KURBB Kurchatov Arra 63.83 327 P P 01 39 33.9 +0.2
0.7nm,0.5s,baz=126,slow=6.2,SNR=10
0.7nm,0.5s

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*IDC **23** 01:43:22.1±0.8,2°.71S×138°.33E, h0km, mb3.8/7, mbtmp3.7/10, ML3.3/3, MS3.1/2, Error ellipse: s-maj=16.1km s-min=13.9km az=110.0*
ISC 23 01:43:26.2±0.8, 2.7S±0.1×138.6E±0.1, h32km, n11, σ0s56/11, mb3.8/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.11**	**86**	Pn	**Pb**	**01 44 03.8**	**-0.1**
	4.0nm,0.3s,baz=235,slow=12,SNR=9.5						
JAY				Lg	Lg	01 44 38.0	
	5.7nm,0.3s,baz=122,slow=18,SNR=6.4						
	9.9nm,0.3s						
GUMO	**Guam**	**17.30**	**21**	LR	LR	01 53 32.3	
	comp=Z,36nm,18.8s,baz=134,slow=35						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	**01 47 29.5**	**-0.6**
	0.2nm,0.3s,baz=17,slow=12,SNR=6.6						
WRA				LR	LR	01 55 05.2	
	comp=Z,116nm,18.2s,baz=328,slow=40						
	0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.92**	**219**	P	**P**	**01 47 55.0**	**-0.4**
	baz=59,slow=15,SNR=2.0						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**01 48 10.8**	**-0.4**
	2.3nm,0.9s,baz=19,slow=12,SNR=8.8						
ASAR				S	**S**	**01 52 07.6**	**+0.7**
	0.8nm,0.9s,baz=18,slow=20,SNR=4.7						
	2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.31**	**300**	P	**P**	**01 51 33.6**	**0.0**
	0.9nm,0.3s,baz=120,slow=5.8,SNR=5.3						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**69.68**	**322**	P	**P**	**01 54 33.0**	**+0.1**
	1.2nm,0.7s,baz=116,slow=8.5,SNR=6.7						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**73.62**	**325**	P	**P**	**01 54 56.0**	**-0.4**
	1.0nm,1.0s,baz=124,slow=4.9,SNR=5.5						
	1.0nm,1.0s						
VNDA	**Vanda**	**75.84**	**175**	P	**P**	**01 55 09.6**	**+0.8**
	0.4nm,0.7s,baz=321,slow=8.9,SNR=3.9						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**79.20**	**325**	P	**P**	**01 55 28.7**	**+0.7**
	0.8nm,0.6s,baz=95,slow=3.5,SNR=3.7						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**85.83**	**24**	P	**P**	**01 56 02.2**	**-0.2**
	0.4nm,0.6s,baz=265,slow=3.9,SNR=3.0						
	0.4nm,0.6s						

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*GCG **23** 01:49:55.8±1.7, 14°.95N×89°.58W, h1km±10km, MD3.9, ML2.9*
*SNET **23** 01:49:56.8±2.8, 14°.95N×89°.61W, h2km, ML2.7*
*CATAC **23** 01:49:56.3±0.4, 15°.N±2°.×9°.0W±°., h2km±2km, M3.0/13, MLv3.0/13, Error ellipse: s-maj=5.2km s-min=3.5km az=16.8, confirmed*
ISC 23 01:49:53.7±1.8, 15.07N±0.06×89.55W±0.04, h1km±12km, n37, σ0s72/42, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.55**	**158**	*eP*	**Pb**	**01 50 05.9**	**-0.3**
ESQI				*eS*	**Sg**	**01 50 12.9**	**+1.6**
ESQI	**Esquipulas**	**0.55**	**158**	S	**Sb**	**01 50 13.2**	**-1.4**
ESQI	**Esquipulas**	**0.55**	**158**	P	**Pb**	**01 50 05.9**	**-0.3**
MTO3	**Montecristo**	**0.69**	**165**	*i* P	**Pb**	**01 50 07.9**	**-0.9**
MTO3	**Montecristo**	**0.69**	**165**	P	**Pb**	**01 50 07.9**	**-0.9**
MTO3	**Montecristo**	**0.69**	**165**	S	**Sg**	**01 50 16.9**	**+0.9**
SARH	**Santa Rosa de**	**0.82**	**111**	*i* P	**Pn**	**01 50 12.2**	**-0.3**
SARH	**Santa Rosa de**	**0.82**	**111**	P	**Pn**	**01 50 12.1**	**-0.3**
SARH	**Santa Rosa de**	**0.82**	**111**	S	**Sn**	**01 50 23.8**	**-1.5**
LLGN	**La Laguna**	**1.08**	**147**	S	**Sb**	**01 50 29.8**	**-0.1**
LLGN	**La Laguna**	**1.08**	**147**	P	**Pb**	**01 50 15.3**	**+0.1**
UNIC	**Universidad Ca**	**1.08**	**180**	S	**Sg**	**01 50 27.9**	**-0.7**
UNIC	**Universidad Ca**	**1.08**	**180**	P	**Pb**	**01 50 15.0**	**-0.3**
LOAL	**Lomas de Alarc**	**1.09**	**192**	S	**Sg**	**01 50 27.5**	**-1.3**
LOAL	**Lomas de Alarc**	**1.09**	**192**	P	**Pg**	**01 50 14.5**	**-0.1**
NUBE	**Las Nubes**	**1.19**	**191**	*i* P	**Pg**	**01 50 16.4**	**0.0**
NUBE				*i* S	**Sg**	**01 50 31.8**	**0.0**
NUBE	**Las Nubes**	**1.19**	**191**	P	**Pg**	**01 50 16.1**	**-0.3**
CEVE	**Cerro Verde**	**1.24**	**183**	*eP*	**Pn**	**01 50 18.5**	**+0.1**
CEVE				*eS*	**Sn**	**01 50 37.9**	**+2.0**
CEVE	**Cerro Verde**	**1.24**	**183**	P	**Pb**	**01 50 17.7**	**-0.3**
CEVE	**Cerro Verde**	**1.24**	**183**	S	**Sg**	**01 50 34.0**	**+0.4**
FAME	**Alcaldia de Sa**	**1.30**	**200**	S	**Sg**	**01 50 34.9**	**-0.7**
FAME	**Alcaldia de Sa**	**1.30**	**200**	P	**Pg**	**01 50 18.4**	**-0.2**
PMON	**Piamonte**	**1.37**	**170**	P	**Pn**	**01 50 19.9**	**-0.2**
PMON	**Piamonte**	**1.37**	**170**	S	**Sb**	**01 50 38.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.41**	**176**	*eP*	**Pg**	**01 50 20.7**	**-0.1**
JAYA				*eS*	**Sb**	**01 50 39.7**	**+0.1**
JAYA	**Jayaque - finc**	**1.41**	**176**	*i* P	**Pg**	**01 50 20.7**	**-0.1**
JAYA				*i* S	**Sg**	**01 50 38.9**	**-0.3**
JAYA	**Jayaque - finc**	**1.41**	**176**	P	**Pb**	**01 50 20.9**	**-0.1**
LBRS	**Las Brisas**	**1.42**	**160**	*eP*	**Pb**	**01 50 21.6**	**+0.6**
PAVA	**Las Pavas**	**1.48**	**156**	P	**Pb**	**01 50 22.3**	**+0.3**
PAVA	**Las Pavas**	**1.48**	**156**	S	**Sn**	**01 50 41.8**	**+0.2**
QUIS	**Sacapulas**	**1.50**	**278**	*i* P	**Pb**	**01 50 22.9**	**+0.4**
QUIS				IAML		01 50 47.4	
	comp=E,417nm,0.3s						
LFRS	**El Faro**	**1.52**	**162**	*eS*	**Sb**	**01 50 43.5**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.58**	**150**	S	**Sg**	**01 50 44.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.58**	**150**	P	**Pg**	**01 50 24.5**	**+0.6**
UESV	**Universidad de**	**1.61**	**153**	S	**Sg**	**01 50 46.2**	**+0.8**
TECO	**Alcaldia de Te**	**1.70**	**154**	S	**Sb**	**01 50 47.8**	**+0.1**
TECO	**Alcaldia de Te**	**1.70**	**154**	P	**Pn**	**01 50 24.4**	**-0.2**

DJA 23 02:09:11.6±0.4, 10°S±5°×12°0E±°., h23km±4km, M3.7/10, mb3.9/1, MLv3.6/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.34**	**52**	P	Pn	02 09 20.3	-0.8
BASI	**Baing, Sumba**	**0.64**	**122**	P	Pn	02 09 24.7	-0.5
WBSI	**Waikabubak, Su**	**0.67**	**291**	P	Pn	02 09 25.3	-0.5
WBSI				S	Sn	02 09 35.9	+0.3
PLAI	**Plampang**	**2.46**	**295**	P	Pn	02 09 50.2	-0.1
TWSI	**Taliwang, Sumb**	**3.31**	**290**	P	Pn	02 10 02.8	+0.8
BATI	**Baumata**	**3.59**	**95**	P	Pn	02 10 06.2	+0.2
BSSI	**Bau Bau, Buton**	**3.74**	**7**	P	Pn	02 10 08.1	+0.1
BKSI	**Bulukumba**	**4.53**	**1**	P	Pn	02 10 18.9	+0.1
JAGI	**Jajag, Banyuwa**	**5.97**	**283**	P	Pn	02 10 38.2	-0.4

CATAC 23 02:25:31.4±0.4, 12°N±3°×8°6W±°., h115km±3km, M2.8/27, MLv2.8/27, Error ellipse: s-maj=9.6km s-min=3.7km az=54.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.18**	**73**	S	Sn	02 26 02.2	+2.8
NANN	**Nandasmo**	**0.26**	**20**	P	Pn	02 25 49.6	+1.9
NANN	**Nandasmo**	**0.26**	**20**	S	Sn	02 26 03.1	+3.2
SABN	**Sabanita**	**0.27**	**10**	P	Pn	02 25 47.7	-0.1
MAS3	**Al N del Volca**	**0.33**	**6**	P	Pn	02 25 48.4	+0.4
UNAN	**Cigeo UNAN**	**0.42**	**352**	P	Pn	02 25 49.4	+1.0
UNAN				S	Sn	02 26 03.0	+1.8
ABCN	**Banco Central**	**0.44**	**347**	P	Pn	02 25 49.4	+0.9
TISN	**Laguna Tiscapa**	**0.45**	**353**	P	Pn	02 25 49.6	+1.0
MGAN	**Managua**	**0.45**	**356**	P	Pn	02 25 49.6	+1.0
APQN	**BB Volcan Apoy**	**0.53**	**351**	P	Pn	02 25 48.9	-0.2
APYN	**Apoyeque**	**0.55**	**346**	P	Pn	02 25 50.3	+1.1
MORN	**Al O del Volca**	**0.57**	**105**	P	Pn	02 25 50.2	+0.9
CONN	**Concepcion**	**0.59**	**103**	P	Pn	02 25 50.3	+0.8
OMEN	**Al SSO del Vol**	**0.60**	**108**	P	Pn	02 25 49.3	-0.2
MOM2	**El Cardon**	**0.79**	**340**	P	Pn	02 25 51.8	+0.8
CARN	**Rivas**	**0.84**	**127**	P	Pn	02 25 52.2	+0.7
CARN				S	Sn	02 26 08.8	+2.1
CNGA	**Al SSO del Vol**	**0.93**	**329**	P	Pn	02 25 53.3	+0.8
CNGA				S	Sn	02 26 08.7	+0.4
CNGN	**Cerro Negro**	**0.93**	**329**	P	Pn	02 25 52.9	+0.4
CNGN	**Cerro Negro**	**0.93**	**329**	S	Sn	02 26 10.6	+2.3
POLN	**Al Sur del Vol**	**1.12**	**328**	P	Pn	02 25 54.6	+0.3
ELI1	**Hacienda Flor**	**1.23**	**148**	P	Pn	02 25 56.7	+1.2
MATN	**Matagalpa**	**1.26**	**13**	P	Pn	02 25 55.0	-1.0
LIMN	**Finca el Limon**	**1.37**	**354**	P	Pn	02 25 56.9	-0.3
RCON	**San Juan de Ri**	**1.78**	**2**	P	Pn	02 26 02.8	+0.7
RCPN	**Sur Rio San Ju**	**1.82**	**4**	P	Pn	02 26 03.2	+0.6
RCFN	**Al S de San Ju**	**1.83**	**360**	P	Pn	02 26 03.2	+0.5
CSGN	**Cosiguina Volc**	**1.83**	**314**	P	Pn	02 26 03.7	+1.0
CSGN				S	Sn	02 26 27.5	+1.0
JTS	**Las Juntas de**	**1.86**	**138**	P	Pn	02 26 03.3	+0.3
JTS				S	Sn	02 26 27.7	+0.7
RCVN	**Varillal2**	**1.88**	**1**	P	Pn	02 26 03.8	+0.5
SOCE	**Pocosol**	**2.04**	**130**	P	Pn	02 26 05.3	+0.1
SIUN	**Universidad Ur**	**2.45**	**35**	P	Pn	02 26 10.1	-0.4

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*GCG **23** 02:47:36.4±2.4, 14°.92N×94°.30W, h36km±15km, MD4.3, ML3.9*
*CATAC **23** 02:47:37.3±0.6, 15°.N±3°.×9°.4W±°., h17km±5km, M4.4/16, mb4.7/7, mB5.2/3, MLv4.3/16, Mw(mB)4.6/3, Error ellipse: s-maj=6.0km s-min=3.7km az=33.9, confirmed*
*MEX **23** 02:47:37.7±0.8, 15°.03N×94°.26W, h16km±87km, MD4.3*
ISC 23 02:47:34.3±2.5, 15.04N±0.05×94.27W±0.03, h10km±16km, n77, σ2s07/95, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**57**	*eP*	Pg	02 47 56.5	-1.1
PCIG				*eS*	**Sg**	**02 48 10.3**	**-3.1**
NILT	**Santiago Nilte**	**1.56**	**348**	*eP*	Pn	02 48 02.0	-0.1
NILT				*eS*	**Sn**	**02 48 19.2**	**-3.1**
HUIG	**Huatulco**	**1.92**	**293**	*eP*	**Pn**	**02 48 07.0**	**-0.1**
HUIG				*eS*	Sn	02 48 27.2	-4.0
HUIG	**Huatulco**	**1.92**	**293**	*i* P	**Pn**	**02 48 06.8**	**-0.2**
HUIG				IAML		02 48 07.3	
	comp=E,140nm,0.1s						
HUIG				*i* S	**Sn**	**02 48 27.7**	**-3.6**
THIG		**1.94**	**94**	*eP*	Pn	02 48 06.5	-0.9
THIG				*eS*	Sn	02 48 27.9	-4.0
THIG		**1.94**	**94**	*i* P	Pn	02 48 06.8	-0.6
THIG				IAML		02 48 38.1	
	comp=E,991nm,0.4s						
PATR	**El Naranjo**	**1.97**	**87**	*eP*	Pn	02 48 07.1	-0.9
PATR				*eS*	Sn	02 48 29.1	-3.9
PAVE	**Pavencul**	**2.03**	**85**	*eP*	Pn	02 48 08.4	-0.4
PAVE				*eS*	**Sn**	**02 48 32.0**	**-2.3**
TGIG		**2.06**	**32**	*eP*	**Pn**	**02 48 09.5**	**+0.5**
TGIG				*eS*	**Sn**	**02 48 32.8**	**-1.9**
TGIG		**2.06**	**32**	*i* P	**Pn**	**02 48 11.2**	**+2.2**
TGIG				*i* S	**Sn**	**02 48 35.7**	**+0.9**
TGIG				IAML		02 48 38.1	
	comp=E,464nm,0.5s						
TGBT	**Tuxtla Gutierr**	**2.07**	**33**	*eP*	Pn	02 48 08.9	-0.3
TGBT				*eS*	**Sn**	**02 48 32.3**	**-2.8**
CHUJ	**Union Juarez**	**2.09**	**88**	*eP*	Pn	02 48 08.8	-0.8
CHUJ				*eS*	**Sn**	**02 48 32.5**	**-3.5**
SMCA	**Catarina**	**2.13**	**95**	*i* P	Pn	02 48 09.4	-0.7
SMCA				*i* S	**Sn**	**02 48 33.7**	**-2.9**
CCIG	**Comitan**	**2.40**	**59**	*eP*	**Pn**	**02 48 15.0**	**+1.1**
CCIG				*eS*	**Sn**	**02 48 41.1**	**-2.4**
CCIG	**Comitan**	**2.40**	**59**	*i* P	**Pn**	**02 48 15.6**	**+1.7**
CCIG				*i* S	**Sn**	**02 48 45.9**	**+2.4**
CCIG				IAML		02 48 49.0	
	comp=N,1μm,0.4s						
CCIG	**Comitan**	**2.40**	**59**	P	**Pn**	**02 48 15.4**	**+1.5**
CCIG	**Comitan**	**2.40**	**59**	S	**Sn**	**02 48 44.6**	**+1.1**
RTAL	**Retalhuleu**	**2.54**	**101**	*eP*	**Pn**	**02 48 15.4**	**-0.4**
RTAL				*eS*	**Sn**	**02 48 44.2**	**-2.6**
RTAL	**Retalhuleu**	**2.54**	**101**	S	**Sn**	**02 48 45.8**	**-1.0**
RTAL	**Retalhuleu**	**2.54**	**101**	P	Pn	02 48 15.2	-0.5
HUEH	**Huehuetenango**	**2.69**	**84**	*eP*	**Pn**	**02 48 19.3**	**+1.4**
HUEH				*eS*	**Sn**	**02 48 47.1**	**-3.6**
HUEH	**Huehuetenango**	**2.69**	**84**	*i* P	**Pn**	**02 48 19.7**	**+1.8**
HUEH				*i* S	**Sn**	**02 48 52.1**	**+1.4**
HUEH				IAML		02 48 57.6	
	comp=N,2μm,0.6s						
HUEH	**Huehuetenango**	**2.69**	**84**	P	**Pn**	**02 48 19.5**	**+1.6**
HUEH	**Huehuetenango**	**2.69**	**84**	S	**Sn**	**02 48 50.6**	**-0.1**
STG2	**El Palmar, Qui**	**2.87**	**102**	*i* P	Pn	02 48 15.9	-4.3
STG2				*i* S	Sn	02 48 45.1	-10
PEIG	**Puerto Escondi**	**2.93**	**289**	*eP*	**Pn**	**02 48 21.4**	**+0.3**
PEIG				*eS*	**Sn**	**02 48 53.3**	**-3.1**
NEUV	**Arroyo Zacate**	**3.04**	**331**	*eP*	**Pn**	**02 48 23.0**	**+0.4**
NEUV				*eS*	**Sn**	**02 48 57.0**	**-2.0**
OXLC	**Oaxaca**	**3.09**	**311**	*eP*	**Pn**	**02 48 25.0**	**+1.6**
OXLC				*eS*	**Sn**	**02 48 59.1**	**-1.4**
VHO	**Vista Hermosa**	**3.11**	**311**	*eP*	**Pn**	**02 48 25.9**	**+2.2**
VHO				*eS*	**Sn**	**02 48 59.8**	**-1.4**
PMUV	**Sontecomapan**	**3.58**	**347**	*eP*	Pn	02 48 29.1	-1.0
PMUV				*eS*	**Sn**	**02 49 10.0**	**-2.6**
YOIG	**Yosondua**	**3.63**	**300**	*eP*	**Pn**	**02 48 33.1**	**+2.2**
YOIG				*eS*	**Sn**	**02 49 11.9**	**-2.1**
APG	**El Apazote**	**3.68**	**90**	*i* P	**Pn**	**02 48 32.9**	**+1.3**
PNIG	**Pinotepa**	**3.95**	**290**	*eP*	**Pn**	**02 48 36.0**	**+0.9**
PNIG				*eS*	**Sn**	**02 49 17.5**	**-4.0**
TXIG	**Tlaxiaco**	**4.02**	**304**	*eP*	**Pn**	**02 48 39.0**	**+2.8**
TXIG				*eS*	**Sn**	**02 49 21.7**	**-1.9**
TOIG	**Toxpalan**	**4.05**	**319**	*eP*	**Pn**	**02 48 38.9**	**+2.3**
TOIG				*eS*	**Sn**	**02 49 22.9**	**-1.3**
FAME	**Alcaldia de Sa**	**4.29**	**106**	P	Pn	02 48 40.3	+0.5
FAME	**Alcaldia de Sa**	**4.29**	**106**	S	**Sn**	**02 49 27.6**	**-2.4**
HLIG	**Huajuapan de L**	**4.38**	**310**	*eP*	**Pn**	**02 48 42.6**	**+1.4**
HLIG				*eS*	**Sn**	**02 49 30.9**	**-1.6**
TPIG	**Tehuac#an**	**4.48**	**319**	*eP*	**Pn**	**02 48 43.4**	**+0.9**
TPIG				*eS*	**Sn**	**02 49 34.2**	**-0.7**
NUBE	**Las Nubes**	**4.50**	**104**	*i* P	**Pn**	**02 48 43.9**	**+1.2**
NUBE	**Las Nubes**	**4.50**	**104**	P	**Pn**	**02 48 42.9**	**+0.2**
NUBE	**Las Nubes**	**4.50**	**104**	S	**Sn**	**02 49 33.6**	**-1.6**
PETF	**Flores**	**4.63**	**66**	*eP*	Pn	02 48 43.8	-0.6
PETF				*eS*	Sn	02 49 33.4	-4.9
PETF	**Flores**	**4.63**	**66**	P	**Pn**	**02 48 44.6**	**+0.2**
PETF	**Flores**	**4.63**	**66**	S	**Sn**	**02 49 37.2**	**-1.1**
FTIG	**Fresnillo de T**	**4.68**	**308**	*eP*	**Pn**	**02 48 48.0**	**+2.8**
FTIG				*eS*	**Sn**	**02 49 37.5**	**-2.1**
TLIG	**Tlapa**	**4.83**	**302**	*eP*	**Pn**	**02 48 49.3**	**+2.1**
TLIG				*eS*	**Sn**	**02 49 41.4**	**-2.0**
TLIG	**Tlapa**	**4.83**	**302**	S	**Sn**	**02 49 48.1**	**+4.7**
TLIG	**Tlapa**	**4.83**	**302**	P	**Pn**	**02 48 50.3**	**+3.0**
JAYA	**Jayaque - finc**	**4.87**	**106**	*i* P	**Pn**	**02 48 48.7**	**+0.8**
JAYA	**Jayaque - finc**	**4.87**	**106**	P	**Pn**	**02 48 48.6**	**+0.8**
JAYA	**Jayaque - finc**	**4.87**	**106**	S	**Sn**	**02 49 43.4**	**-1.1**
SCIG	**Sabancuy**	**4.90**	**37**	*eP*	**Pn**	**02 48 48.5**	**+0.4**
SCIG				*eS*	**Sn**	**02 49 42.0**	**-2.9**
SCIG	**Sabancuy**	**4.90**	**37**	S	**Sn**	**02 49 42.7**	**-2.2**
SCIG	**Sabancuy**	**4.90**	**37**	P	**Pn**	**02 48 49.4**	**+1.3**
JAUV	**Jalcomulco**	**4.94**	**331**	*i* P	Pn	02 48 48.5	-0.2
JAUV				*eS*	Sn	02 49 41.9	-4.1
CRIG	**Cruz Grande**	**4.97**	**291**	*eP*	**Pn**	**02 48 50.1**	**+1.0**
CRIG				*eS*	Sn	02 49 41.6	-5.2
PMON	**Piamonte**	**4.98**	**105**	S	**Sn**	**02 49 47.2**	**+0.1**
PMON	**Piamonte**	**4.98**	**105**	P	Pn	02 48 48.6	-0.7
PAVA	**Las Pavas**	**5.33**	**104**	P	**Pn**	**02 48 54.1**	**-0.1**
SARH	**Santa Rosa de**	**5.33**	**92**	P	**Pn**	**02 48 54.3**	**+0.1**
TECO	**Alcaldia de Te**	**5.53**	**105**	P	**Pn**	**02 48 57.0**	**+0.2**
SCLA	**Alcaldia de Sa**	**5.53**	**103**	P	**Pn**	**02 48 58.4**	**+1.5**
DAIG	**Los Arroyos**	**5.54**	**292**	*eP*	**Pn**	**02 48 58.8**	**+1.9**
DAIG				*eS*	**Sn**	**02 49 59.0**	**-1.6**
MEIG	**Mezcala**	**5.88**	**300**	*eP*	**Pn**	**02 49 04.4**	**+2.8**
MEIG				*eS*	**Sn**	**02 50 07.1**	**-2.2**
YAIG	**Yautepec**	**5.96**	**310**	*eP*	**Pn**	**02 49 05.1**	**+2.2**
YAIG				*eS*	**Sn**	**02 50 12.4**	**+1.1**
CXUV	**Coxquihui**	**6.01**	**329**	*i* P	**Pn**	**02 49 03.7**	**+0.3**
CXUV				*eS*	**Sn**	**02 50 09.9**	**-2.4**
PLIG	**Platanillo**	**6.02**	**304**	*eP*	**Pn**	**02 49 05.4**	**+1.8**
PLIG				*eS*	**Sn**	**02 50 13.3**	**+0.6**
CAIG	**El Cayaco**	**6.10**	**290**	*eP*	**Pn**	**02 49 06.6**	**+2.0**
CAIG				*eS*	**Sn**	**02 50 11.0**	**-3.5**
ARIG	**Puente Sto Nin**	**6.66**	**300**	*eP*	**Pn**	**02 49 16.1**	**+3.8**
ARIG				*eS*	**Sn**	**02 50 26.9**	**-1.4**
ZIIG	**Zihuatanejo**	**7.36**	**291**	*eP*	**Pn**	**02 49 24.6**	**+2.7**
ZIIG				*eS*	**Sn**	**02 50 42.2**	**-3.4**
TEIG	**Tepich**	**7.70**	**47**	P	Pn	02 49 26.2	-0.4
LIMN	**Finca el Limon**	**7.92**	**103**	P	Pn	02 49 29.1	-0.6
MOIG	**Morelia**	**8.06**	**306**	P	Pn	02 49 36.7	+5.0
MATN	**Matagalpa**	**8.37**	**103**	P	Pn	**02 49 36.6**	**+0.7**
MMIG	**Aquila**	**9.28**	**292**	*eP*	**Pn**	**02 49 51.8**	**+3.5**
ELI1	**Hacienda Flor**	**9.56**	**116**	P	**Pn**	**02 49 52.4**	**+0.3**

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*IDC **23** 03:11:44.2±1.1, 13°.33N×120°.14E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=22.1km s-min=12.1km az=133.0*
ISC 23 03:11:46.4±1.1, 13.4N±0.1×120.2E±0.1, h16km, n6, σ0s71/6, mb3.4/5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.04**	**44**	Pg	**Pb**	**03 12 06.0**	**0.0**
	1μm,0.3s,baz=235,slow=4.0,SNR=104						
TGY				Lg	Lg	03 12 19.2	
	1μm,0.3s,baz=277,slow=23,SNR=17						
CMAR	**Chiang Mai Arr**	**21.05**	**287**	P	**P**	**03 16 29.8**	**-0.1**
	1.3nm,0.3s,baz=104,slow=9.9,SNR=8.0						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**35.90**	**157**	P	**P**	**03 18 45.2**	**-0.8**
	0.2nm,0.4s,baz=334,slow=9.0,SNR=5.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**03 19 14.5**	**+0.8**
	0.3nm,0.6s,baz=340,slow=8.4,SNR=5.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	**03 20 09.4**	**+0.3**
	0.2nm,0.4s,baz=111,slow=8.2,SNR=1.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**50.20**	**327**	P	**P**	**03 20 41.1**	**-0.3**
	0.2nm,0.3s,baz=111,slow=10.0,SNR=2.5						
	0.2nm,0.3s						

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*KRNET **23** 03:17:34.6±0.1, 39°.88N×72°.47E, h13km, mb3.2*
*ISU **23** 03:17:35, 39°.81N×72°.47E, h27km*
*SOME **23** 03:17:36.5, 39°.83N×72°.50E, h15km*
*NNC **23** 03:17:37.6±2.6, 39°.93N×72°.56E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.9km s-min=9.4km az=179.0*
ISC 23 03:17:34.8±1.2, 39.89N±0.04×72.49E±0.03, h5km±10km, n34, σ2s13/58, 23C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.67**	**19**	⇑*i* P	**Pg**	**03 17 47.8**	**+0.1**
OHH				⇑*i* S	**Sb**	**03 17 57.6**	**-1.0**
DRK	**Karamyk**	**0.68**	**233**	⇑*eP*	**Pg**	**03 17 47.1**	**-0.7**
DRK				⇑*eS*	**Sg**	**03 17 56.2**	**-0.4**
TSTA	**Tashata**	**0.69**	**359**	P	**Pb**	**03 17 48.7**	**-0.5**
TSTA				S	**Sn**	**03 17 59.8**	**-2.4**
FRG	**Fergana**	**0.73**	**312**	S	Sn	03 18 00.9	-2.3
CHMI	**Chimion**	**0.83**	**297**	P	**Pb**	**03 17 51.2**	**-0.6**
CHMI				S	**Sn**	**03 18 03.7**	**-2.2**
ANR	**Andizhan**	**0.87**	**353**	S	**Sn**	**03 18 06.5**	**-0.2**
SALK	**Salom-Alik**	**1.42**	**45**	⇑*i* P	**Pb**	**03 18 01.7**	**-0.1**
SALK				⇑*i* S	**Sg**	**03 18 21.6**	**+1.3**
ARSB	**Arslanbob**	**1.48**	**14**	⇑*eP*	**Pb**	**03 18 02.8**	**0.0**
ARSB				⇑*eS*	**Sg**	**03 18 22.9**	**+0.6**
TRKS	**Terek-Say**	**1.93**	**328**	⇑*i* P	**Pb**	**03 18 09.4**	**-1.2**
TRKS				⇑*i* S	**Sb**	**03 18 34.6**	**-0.4**
ARK	**Arkit**	**1.95**	**348**	⇑*i* P	**Pb**	**03 18 10.8**	**0.0**
ARK				⇑*i* S	**Sg**	**03 18 37.5**	**+0.2**
CHMG	**Chimgan**	**2.51**	**312**	P	**Pg**	**03 18 22.7**	**-0.2**
CHMG				S	**Sg**	**03 18 57.0**	**+1.5**
CHRV	**Charvak**	**2.60**	**313**	S	**Sg**	**03 19 00.6**	**+2.2**
JNKS	**Jany-Kuch**	**2.68**	**63**	⇓*i* P	**Pb**	**03 18 21.1**	**-2.2**
JNKS				⇓*i* S	**Sb**	**03 18 55.8**	**-0.7**
UCH	**Uchtor**	**2.79**	**33**	⇓*i* P	**Pn**	**03 18 22.0**	**+1.5**
UCH				⇓*i* S	**Sb**	**03 18 58.1**	**-1.8**
NZBK	**Nazarbek**	**2.90**	**298**	S	**Sg**	**03 19 15.0**	**+7.2**
MRKS	**Merke**	**2.90**	**11**	Pg	**Pg**	**03 18 30.4**	**0.0**
	8.6nm,0.5s						
MRKS				Lg	Lg	03 19 09.1	
	38nm,0.5s						
MRKS	**Merke**	**2.90**	**11**	*eP*	**Pg**	**03 18 30.4**	**0.0**
	8.5nm,0.3s					

MATN	**Matagalpa**	**1.69**	**38**	S	Sn	03 25 46.7	-0.7
RCON	**San Juan de Ri**	**2.05**	**24**	P	Pn	03 25 31.8	+0.6
RCFN	**Al S de San Ju**	**2.08**	**22**	P	Pn	03 25 31.7	+0.2
RCFN				S	Sn	03 25 58.1	+1.2
RCPN	**Sur Rio San Ju**	**2.12**	**25**	P	Pn	03 25 32.8	+0.7
RCVN	**Varillal2**	**2.13**	**22**	P	Pn	03 25 32.7	+0.5
RCVN	**Varillal2**	**2.13**	**22**	S	Sn	03 25 59.8	+1.5

NEIC ***23*** *03:32:33.1±1.4, 31°.21N±0°.01×103°.52W±0°.01, h5km±1km, ML1.6/24, Error ellipse: s-maj=2.9km s-min=1.9km az=125.0*
TXNET ***23*** *03:32:33.2, 31°.2N±0°.6×103°.5W±0°.4, h4km±1km, ML2.0/12, Error ellipse: s-maj=0.9km s-min=0.6km az=18.4, final*

ISC 23 03:32:33.1±0.8, 31°.21N±0°.02×103°.53W±0°.02, h8km±6km, n39, σ0ˢ.79/61, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LWM2	**Layne Water Mi**	**0.08**	**323**	P	**Pg**		**03 32 34.7**	**-0.6**
LWM2				S	**Sg**		**03 32 36.5**	**-0.5**
LWM1	**Layne Water Mi**	**0.09**	**287**	P	**Pg**		**03 32 35.1**	**-0.4**
LWM1				S	**Sg**		**03 32 37.5**	**+0.3**
TPB03	**Saragosa**	**0.12**	**175**	P	**Pg**		**03 32 35.9**	**0.0**
PCOS	**Crockett Middl**	**0.20**	**4**	P	**Pg**		**03 32 37.9**	**+0.6**
PCOS				S	**Sg**		**03 32 41.6**	**+1.4**
TPB10	**Southeast of T**	**0.21**	**292**	P	**Pg**		**03 32 38.2**	**+0.8**
TPB10				S	**Sg**		**03 32 41.9**	**+1.6**
TPB04	**Verhalen**	**0.22**	**95**	P	**Pg**		**03 32 38.2**	**+0.6**
TPB04				S	**Sg**		**03 32 42.3**	**+1.6**
TPB16	**Coyonosa**	**0.25**	**109**	P	**Pg**		**03 32 38.9**	**+0.8**
TPB16				S	**Sg**		**03 32 43.3**	**+1.8**
TPB05	**Hovey Rd**	**0.33**	**148**	P	**Pg**		**03 32 40.5**	**+0.8**
TPB05				S	**Sb**		**03 32 46.0**	**-0.8**
PECS	**Pecos**	**0.33**	**300**	Pg	**Pg**		**03 32 40.4**	**+0.6**
PECS				Sg	**Sg**		**03 32 45.3**	**+1.1**
PECS				IAML			03 32 47.4	
	76nm,0.2s							
PECS				IAML			03 32 50.6	
	70nm,0.6s							
PECS	**Pecos**	**0.33**	**300**	P	**Pg**		**03 32 40.2**	**+0.4**
PECS				S	**Sg**		**03 32 45.3**	**+1.1**
TPB01	**Permian Basin**	**0.34**	**220**	P	**Pg**		**03 32 40.4**	**+0.5**
TPB01				S	**Sb**		**03 32 46.0**	**-1.0**
TPB12	**Southwest of T**	**0.37**	**271**	P	**Pg**		**03 32 40.9**	**+0.6**
TPB12				S	**Sb**		**03 32 46.8**	**-1.0**
TPB19	**West of Imperi**	**0.38**	**75**	P	**Pb**		**03 32 41.8**	**-0.3**
TPB19				S	**Sb**		**03 32 48.0**	**-0.1**
TPB07	**Mentone**	**0.39**	**342**	S	**Sg**		**03 32 46.5**	**+0.5**
TPB13	**Reeves - Culbe**	**0.44**	**322**	S	**Sg**		**03 32 48.9**	**+1.3**
TPB08	**Permian Basin**	**0.62**	**120**	S	**Sb**		**03 32 54.5**	**-0.5**
MNHN	**Monahans**	**0.67**	**78**	Pg	**Pb**		**03 32 46.8**	**-0.2**
MNHN				Sg	**Sb**		**03 32 56.6**	**+0.1**
MNHN				IAML			03 33 01.4	
	27nm,0.3s							
MNHN				IAML			03 33 04.3	
	31nm,0.4s							
MNHN	**Monahans**	**0.67**	**78**	P	**Pg**		**03 32 45.9**	**-0.1**
MNHN				S	**Sg**		**03 32 53.7**	**-1.1**
ALPN	**Alpine**	**0.83**	**187**	Pg	**Pg**		**03 32 48.9**	**-0.3**
ALPN	**Alpine**	**0.83**	**187**	P	**Pg**		**03 32 49.7**	**+0.5**
CLNB	**Carlsbad**	**1.10**	**344**	Pg	**Pn**		**03 32 55.1**	**+0.2**
CLNB	**Carlsbad**	**1.10**	**344**	P	**Pn**		**03 32 55.3**	**+0.5**
ODSA	**Odessa**	**1.24**	**42**	Pg	**Pn**		**03 32 55.5**	**-1.2**
ODSA				IAML			03 33 20.1	
	10nm,0.4s							
ODSA				IAML			03 33 33.8	
	14nm,1.5s							
ODSA	**Odessa**	**1.24**	**42**	P	**Pn**		**03 32 55.6**	**-1.2**
ODSA				S	**Sb**		**03 33 12.2**	**-0.6**
HTMS	**Hat Mesa**	**1.27**	**356**	S	**Sn**		**03 33 14.2**	**-0.2**
TMB02	**Rankin**	**1.28**	**90**	P	**Pn**		**03 32 56.8**	**-0.5**
TMB02				S	**Sb**		**03 33 13.1**	**-0.9**
TMB01	**Midkiff**	**1.32**	**69**	S	**Sb**		**03 33 15.0**	**-0.2**
VHRN	**Van Horn**	**1.32**	**252**	Pg	**Pn**		**03 32 57.9**	**0.0**
VHRN				IAML			03 33 25.5	
	15nm,0.5s							
VHRN				IAML			03 33 25.7	
	9.5nm,0.8s							
VHRN	**Van Horn**	**1.32**	**252**	P	**Pb**		**03 32 58.1**	**-0.1**
VHRN				S	**Sn**		**03 33 15.7**	**-0.1**
MNTX	**Cornudas Mount**	**1.66**	**288**		**Pb**		**03 33 03.6**	**-0.3**
MNTX	**Cornudas Mount**	**1.66**	**288**	P	**Pb**		**03 33 03.9**	**0.0**
MNTX				S	**Sg**		**03 33 26.2**	**-0.3**
SAND	**Sanderson**	**1.74**	**135**	Pn	**Pb**		**03 33 04.8**	**-0.5**
SAND	**Sanderson**	**1.74**	**135**	P	**Pb**		**03 33 05.0**	**-0.3**
SAND				S	**Sb**		**03 33 28.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**1.87**	**184**	Pn	**Pn**		**03 33 06.3**	**+0.9**
TX31				S	**Sg**		**03 33 32.8**	**-0.3**
TX31	**Lajitas Ar. Si**	**1.87**	**184**	P	**Pb**		**03 33 07.0**	**-0.5**
TX31				S	**Sg**		**03 33 32.8**	**-0.3**
TXAR	**Lajitas Array**	**1.87**	**184**	Pn	**Pb**		**03 33 06.5**	**-1.0**
TMB05	**Klondike**	**2.00**	**45**	P	**Pb**		**03 33 08.8**	**-1.0**
TMB05				S	**Sb**		**03 33 35.5**	**+0.5**
OZNA	**Ozona**	**2.08**	**97**	Pn	**Pn**		**03 33 09.7**	**+1.4**
OZNA	**Ozona**	**2.08**	**97**	P	**Pb**		**03 33 10.2**	**-0.9**

IDC ***23*** *03:33:32.7±0.7, 2°.70S×138°.34E, h0km, mb4.2/9, mbtmp4.2/13, ML4.0/4, MS3.8/3, Error ellipse: s-maj=20.6km s-min=16.9km az=72.0*
NEIC ***23*** *03:33:34.8±1.2, 2°.72S±0°.08×138°.28E±0°.06, h10km±1km, mb4.4/19, Error ellipse: s-maj=13.8km s-min=10.4km az=356.0*
DJA ***23*** *03:33:37.5±0.7, 2°S±5°×13°8E±°, h22km±8km, M4.5/9, mb4.6/7, mB5.4/2, MLv4.5/9, Mw(mB)4.9/2*

ISC 23 03:33:33.8±0.5, 2.77S±0°.05×138°.33E±0°.04, h10km, n59, σ2ˢ.18/61, mb4.4/16, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.86**	**26**	P	**Pg**		**03 33 47.3**	**-3.2**
GENI	**Genyem**	**1.84**	**84**	P	**Pn**		**03 34 06.1**	**+0.6**
SRPI	**Serui, Papua**	**2.27**	**293**	P	**Pn**		**03 34 12.4**	**+0.9**
SRPI				S	**Sb**		**03 34 41.6**	**-1.6**
JAY	**Jayapura**	**2.38**	**84**	Pn	**Pn**		**03 34 13.3**	**+0.3**
	23nm,0.3s,baz=244,slow=9.2,SNR=51							
JAY				Sn	**Sn**		**03 34 44.8**	**+2.4**
	27nm,0.3s,baz=149,slow=20,SNR=5.0							
JAY				LR	LR		03 35 01.5	
	comp=Z,1μm,19.8s,baz=280,slow=38 84nm,0.3s							
JAY	**Jayapura**	**2.38**	**84**	P	**Pn**		**03 34 13.4**	**+0.3**
BAKI	**Biak**	**2.72**	**305**	P	**Pn**		**03 34 19.1**	**+1.4**
RKPI	**Ransiki, Papua**	**4.34**	**287**	P	**Pn**		**03 34 43.8**	**+3.9**
KMPI	**Kaimana, Papua**	**4.70**	**259**	P	Pn		03 34 50.2	+5.3
MMPI	**Merauke**	**6.01**	**160**	P	Pn		03 35 11.9	+9.0
FAKI	**Fak Fak**	**6.08**	**268**	Pn	**Pn**		**03 35 06.1**	**+2.3**
FAKI	**Fak Fak**	**6.08**	**268**	P	**Pn**		**03 35 07.5**	**+3.7**
	0.2nm43nm,1.1s							
FAKI				S	**Sn**		**03 36 17.8**	**+4.3**
	0.2nm43nm,1.1s							
MANU	**Manus Island**	**9.05**	**86**	Pn	**Pn**		**03 35 47.1**	**+2.3**
MSAI	**Masohi**	**9.41**	**266**	P	**Pn**		**03 35 52.9**	**+3.3**
	3μm46nm,1.1s							
PMG	**Port Moresby**	**10.97**	**127**	LR	LR		03 42 15.8	
	comp=Z,751nm,18.3s,baz=312,slow=48							
COEN	**Coen**	**12.10**	**157**		**Pn**		**03 36 29.2**	**+2.7**
MTN	**Manton Dam**	**12.28**	**215**		**Pn**		**03 36 29.5**	**+0.5**
SOEI	**Soe**	**15.60**	**243**	Pn	**Pn**		**03 37 14.2**	**+0.1**
SOEI	**Soe**	**15.60**	**243**	P	**P**		**03 37 20.5**	**+2.1**
	47nm,0.9s							
LUWI	**Luwuk**	**15.65**	**276**	Pn	**Pn**		**03 37 12.8**	**-1.8**
KNRA	**Kununurra**	**15.91**	**216**	Pn	**Pn**		**03 37 18.6**	**+0.5**
KNRA				IAmb	IAmb		03 37 43.4	
	comp=Z,15nm,0.8s							
BATI	**Baunata**	**16.33**	**242**	Pn	**Pn**		**03 37 24.1**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=70,slow=15,SNR=3.8							
	comp=Z,14nm,0.4s							
APSI	**Ampana**	**16.78**	**276**	P	**P**		**03 37 30.8**	**-0.5**
WB0	**Warramunga Arr**	**17.32**	**193**		**Pn**		**03 37 38.0**	**+2.1**
WB0				IAmb	IAmb		03 38 16.1	
	comp=Z,19nm,1.1s							
WR8	**Warramunga Arr**	**17.48**	**192**	P	**Pn**		**03 37 38.0**	**+0.1**
WR8				IAmb	IAmb		03 38 13.6	
	comp=Z,17nm,1.1s							
WRAB	**Tennant Creek**	**17.49**	**193**	P	**Pn**		**03 37 37.3**	**-0.8**
WRAB				IAmb	IAmb		03 38 18.0	
	comp=Z,20nm,0.9s							
GUMO	**Guam**	**17.50**	**22**	LR	LR		03 42 38.2	
	comp=Z,243nm,21.0s,baz=194,slow=31							
WRA	**Warramunga Arr**	**17.50**	**193**	P	**Pn**		**03 37 36.9**	**-1.3**
WRA	**Warramunga Arr**	**17.50**	**193**	P	**Pn**		**03 37 38.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=12,slow=12,SNR=15							
WRA				S	**Sn**		**03 40 46.1**	**-7.3**
	comp=Z,4.4nm,1.1s,baz=11,slow=22,SNR=4.7							
	comp=Z,7.6nm,1.0s							
TOLI2	**Tolitoli**	**17.96**	**282**		**Pn**		**03 37 42.2**	**-1.8**
TOLI2				IAmb	IAmb		03 37 57.4	
	comp=Z,27nm,1.4s							
FITZ	**Fitzroy Crossi**	**19.67**	**218**		**P**		**03 38 03.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.67**	**218**	P	**P**		**03 38 04.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=62,slow=10.0,SNR=5.6							
FITZ				S	**S**		**03 41 35.6**	**-10**
	comp=Z,4.1nm,0.7s,baz=78,slow=12,SNR=3.5							
	comp=Z,5.1nm,1.0s							
AS31	**Alice Springs**	**21.21**	**191**		**P**		**03 38 20.2**	**+0.3**
ASAR	**Alice Springs**	**21.21**	**191**	P	**P**		**03 38 20.9**	**+1.0**
	comp=Z,9.2nm,0.9s,baz=23,slow=10,SNR=43							
ASAR				S	**S**		**03 42 14.3**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=11,slow=23,SNR=6.1							
	comp=Z,9.2nm,0.9s							
MYLDM	**Lahad Datu**	**21.33**	**292**	P	**P**		**03 38 21.1**	**-0.1**
MYLDM				IAmb	IAmb		03 38 30.8	
	comp=Z,60nm,1.4s							
IPM	**Ipoh**	**37.97**	**281**	P	**P**		**03 40 51.9**	**-0.3**
IPM				IAmb	IAmb		03 41 30.8	
	comp=Z,9.2nm,1.1s							
ENH	**Enshi**	**42.88**	**322**	P	**P**		**03 41 31.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**		**03 41 43.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.14**	**300**	P	**P**		**03 41 44.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=128,slow=6.0,SNR=4.8							
	comp=Z,1.3nm,0.3s							
CHTO	**Chiang Mai**	**44.29**	**301**	P	**P**		**03 41 43.2**	**-1.0**
CHTO				IAmb	IAmb		03 41 52.1	
	comp=Z,13nm,1.4s							
LYN	**LuoYang**	**44.38**	**329**	P	**P**		**03 41 44.8**	**+0.1**
LYN				pmax	pmax			
	comp=Z,16nm,1.4s							
XAN	**Xi'an**	**45.91**	**325**	⇓P	**P**		**03 41 56.6**	**-0.3**
XAN				pP	sP		03 42 03.4	+2.0
XAN				pmax	pmax			
	comp=Z,15nm,0.7s							
BJT	**Baijiatuau**	**47.19**	**337**	P	**P**		**03 42 06.3**	**-0.4**
SHL	**Shillong**	**53.06**	**305**	P	**P**		**03 42 51.1**	**-0.8**
SHL				IAmb	IAmb		03 42 59.7	
	comp=Z,10nm,1.0s							
SONM	**Songino Array**	**57.62**	**335**	P	**P**		**03 43 24.4**	**+0.2**
SONM	**Songino Array**	**57.62**	**335**	P	**P**		**03 43 25.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=148,slow=8.5,SNR=2.4							
	comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**69.61**	**323**		**P**		**03 44 43.2**	**-0.2**
MKAR	**Makanchi Array**	**69.61**	**323**	P	**P**		**03 44 43.7**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=111,slow=7.8,SNR=20							
	comp=Z,6.5nm,0.9s							
ZALV	**Zalesovo Beam**	**71.80**	**330**	P	**P**		**03 44 56.1**	**-0.5**
ZALV	**Zalesovo Beam**	**71.80**	**330**	P	**P**		**03 44 56.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=139,slow=6.1,SNR=4.6							
	comp=Z,1.4nm,0.6s							
KURK	**Kurchatov**	**73.55**	**325**		**P**		**03 45 07.2**	**+0.2**
KURK				IAmb	IAmb		03 45 14.7	
	comp=Z,4.2nm,1.0s							
KURBB	**Kurchatov Arra**	**73.56**	**325**	P	**P**		**03 45 06.6**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=121,slow=5.4,SNR=9.8							
	comp=Z,2.1nm,1.0s							
VNDA	**Vanda**	**75.75**	**175**	P	**P**		**03 45 20.6**	**+1.2**
VNDA				IAmb	IAmb		03 45 22.7	
	comp=Z,2.2nm,0.9s							
VNDA	**Vanda**	**75.75**	**175**	P	**P**		**03 45 19.7**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=322,slow=5.8,SNR=14							
	comp=Z,1.9nm,0.9s							
BVAR	**Borovoye Array**	**79.15**	**325**	P	**P**		**03 45 39.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=102,slow=6.6,SNR=6.5							
	comp=Z,1.4nm,0.6s							
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**		**03 46 13.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=262,slow=5.3,SNR=12							
	comp=Z,0.7nm,0.6s							
CPUP	**Villa Florida**	**147.34**	**153**		**PKPdf**		**03 53 15.9**	**-0.4**
CPUP	**Villa Florida**	**147.34**	**153**	PKPbc	**PKPbc**		**03 53 19.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=98,slow=3.2,SNR=4.8							
LPAZ	**La Paz**	**147.71**	**127**		**PKPdf**		**03 53 18.8**	**+0.9**
LPAZ	**La Paz**	**147.71**	**127**	PKPbc	**PKPbc**		**03 53 21.2**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=164,slow=3.7,SNR=9.1							

NEIC ***23*** *03:39:23.8±1.3, 19°.26N±0°.02×67°.34W±0°.04, h10km±1km, ML2.5/13, Md3.1/15(RSPR), Error ellipse: s-maj=6.4km s-min=2.9km az=68.0*
OSPL ***23*** *03:39:26.7±0.3, 19°.21N×67°.36W, h16km±5km, ML2.3*
SDD ***23*** *03:39:27.9±0.8, 19°.17N×67°.25W, h28km±71km, MD3.6, ML2.6, MW3.1*
RSPR ***23*** *03:39:29.0, 19°.23N×67°.26W, h20km±6km, MD3.1/15*

ISC 23 03:39:24.9±1.6, 19°.22N±0°.07×67°.28W±0°.03, h14km±12km, n67, σ0ˢ.43/76, 10C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76**	**168**		**Pn**		**03 39 40.9**	**-0.4**
AGPR					**Sn**		**03 39 51.9**	**-0.7**
AGPR	**Aguadilla, PR**	**0.76**	**168**	⇓*i*P	**Pn**		**03 39 40.9**	**-0.4**
AGPR	**Aguadilla, PR**	**0.76**	**168**	*e*S	**Sn**		**03 39 51.9**	**-0.7**
AGPR	**Aguadilla, PR**	**0.76**	**168**	*e*Pg	**Pb**		**03 39 40.6**	**+0.6**
AGPR				IAML			03 39 52.4	
	comp=N,326nm,0.3s							
AGPR	**Aguadilla, PR**	**0.76**	**168**	*i* P	**Pb**		**03 39 40.6**	**+0.6**
AGPR				*e*S	**Sb**		**03 39 50.8**	**+0.6**
AGPR				IAML			03 39 55.9	
	comp=Z,119nm,0.1s							
IDE	**Isla Desecheo**	**0.85**	**193**		**Pn**		**03 39 42.5**	**0.0**
IDE					**Sn**		**03 39 54.4**	**-0.3**
IDE	**Isla Desecheo**	**0.85**	**193**	⇓*i*P	**Pn**		**03 39 42.5**	**0.0**
IDE	**Isla Desecheo**	**0.85**	**193**	*e*S	**Sn**		**03 39 54.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.00**	**150**		**Pb**		**03 39 44.1**	**0.0**
AOPR					**Sb**		**03 39 57.4**	**+0.3**
AOPR	**Arecibo Observ**	**1.00**	**150**	⇑*i*P	**Pb**		**03 39 44.1**	**0.0**
AOPR	**Arecibo Observ**	**1.00**	**150**	*e*S	**Sb**		**03 39 57.4**	**+0.3**
AOPR	**Arecibo Observ**	**1.00**	**150**	*e*Pg	**Pb**		**03 39 44.1**	**0.0**
AOPR				IAML			03 40 09.0	
	comp=N,231nm,0.3s							
PRSN	**Puerto Rico Se**	**1.00**	**173**		**Pn**		**03 39 44.9**	**+0.3**
PRSN					**Sb**		**03 39 58.0**	**+0.8**
PRSN	**Puerto Rico Se**	**1.00**	**173**	⇑*e*P	**Pn**		**03 39 44.9**	**+0.3**
PRSN	**Puerto Rico Se**	**1.00**	**173**	*e*S	**Sb**		**03 39 58.0**	**+0.8**
PRSN	**Puerto Rico Se**	**1.00**	**173**	⇓*e*Pg	**Pn**		**03 39 44.5**	**-0.1**
PRSN				IAML			03 40 01.9	
	comp=N,506nm,0.3s							
EMPR	**Esperanza - Ma**	**1.02**	**136**		**Pn**		**03 39 46.1**	**+1.3**
EMPR					**Sn**		**03 39 59.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.02**	**136**	⇑*e*P	**Pn**		**03 39 46.1**	**+1.3**
EMPR	**Esperanza - Ma**	**1.02**	**136**	*e*S	**Sn**		**03 39 59.0**	**0.0**
LSP	**Las Mesas**	**1.05**	**170**		**Pn**		**03 39 45.3**	**0.0**
LSP					**Sb**		**03 39 58.7**	**0.0**
LSP	**Las Mesas**	**1.05**	**170**	⇑*e*P	**Pn**		**03 39 45.3**	**0.0**
LSP	**Las Mesas**	**1.05**	**170**	*e*S	**Sb**		**03 39 58.7**	**0.0**
UUPR	**Utuado, UPR, P**	**1.10**	**151**		**Pn**		**03 39 46.1**	**+0.2**
UUPR					**Sn**		**03 40 01.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.10**	**151**	⇑*e*P	**Pn**		**03 39 46.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.10**	**151**	*e*S	**Sn**		**03 40 01.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.22**	**172**		**Pn**		**03 39 47.6**	**0.0**
CRPR					**Sb**		**03 40 03.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.22**	**172**	IAML			03 40 06.6	
	comp=E,79nm,0.7s							
CRPR				IAML			03 40 07.3	
	comp=N,75nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.22**	**172**	⇑*e*P	**Pn**		**03 39 47.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.22**	**172**	*e*S	**Sb**		**03 40 03.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.22**	**172**	*e*Pg	**Pn**		**03 39 47.5**	**0.0**
CRPR				IAML			03 40 07.2	
	comp=N,86nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.22**	**172**	*i* P	**Pn**		**03 39 47.5**	**0.0**
CRPR				IAML			03 40 07.8	
	comp=Z,75nm,0.2s							
ECPR	**Experimental S**	**1.25**	**136**	⇑*e*P	**Pg**		**03 39 49.0**	**0.0**
ECPR	**Experimental S**	**1.25**	**136**	*e*S	**Sb**		**03 40 04.5**	**+0.3**
PCDR	**Punta Cana, DR**	**1.26**	**236**	*e*Pg	**Pg**		**03 39 49.8**	**+0.7**
PCDR				IAML			03 40 09.0	
	comp=N,155nm,0.8s							
MLPR	**Magueyes Islan**	**1.26**	**170**	⇑*i*P	**Pn**		**03 39 48.3**	**+0.1**
MLPR	**Magueyes Islan**	**1.26**	**170**	*e*S	**Sn**		**03 40 05.4**	**+0.5**
MLPR	**Magueyes Islan**	**1.26**	**170**	*e*Pg	**Pn**		**03 39 48.2**	**+0.1**
MLPR				IAML			03 40 10.1	
	comp=N,19nm,0.5s							
CELP	**Cerrillos**	**1.32**	**150**		**Pb**		**03 39 49.2**	**-0.2**
CELP					**Sb**		**03 40 06.1**	**-0.1**
CELP	**Cerrillos**	**1.32**	**150**	IAML			03 40 10.4	
	comp=E,89nm,0.3s							
CELP	**Cerrillos**	**1.32**	**150**	⇑*i*P	**Pb**		**03 39 49.2**	**-0.2**
CELP	**Cerrillos**	**1.32**	**150**	*e*S	**Sb**		**03 40 06.1**	**-0.1**
CELP	**Cerrillos**	**1.32**	**150**	*e*Pg	**Pb**		**03 39 49.3**	**-0.2**
CELP				IAML			03 40 10.2	
	comp=N,115nm,0.3s							
OBIP	**Obispado Ponce**	**1.33**	**151**		**Pn**		**03 39 49.3**	**+0.2**
OBIP				IAML			03 40 08.6	
	comp=N,100nm,0.5s							
OBIP	**Obispado Ponce**	**1.33**	**151**		**Sb**		**03 40 06.4**	**-0.3**
OBIP	**Obispado Ponce**	**1.33**	**151**	⇑*e*P	**Pb**		**03 39 49.6**	**-0.1**
OBIP	**Obispado Ponce**	**1.33**	**151**	*e*S	**Sb**		**03 40 06.4**	**-0.3**
GCPR	**Guaynabo City**	**1.45**	**128**		**Sn**		**03 40 08.9**	**-0.7**
GCPR	**Guaynabo City**	**1.45**	**128**		**Pn**		**03 39 50.9**	**+0.1**
GCPR	**Guaynabo City**	**1.45**	**128**	⇑*e*P	**Pb**		**03 39 51.5**	**-0.3**
GCPR	**Guaynabo City**	**1.45**	**128**	*e*S	**Sn**		**03 40 08.9**	**-0.7**
HIDR	**Higuey Centro**	**1.50**	**246**	⇓*e*P	**Pg**		**03 39 53.1**	**-0.7**
HIDR	**Higuey Centro**	**1.50**	**246**	*e*S	**Sb**		**03 40 11.2**	**-0.2**
HIDR	**Higuey Centro**	**1.50**	**246**	⇓*e*Pg	**Pg**		**03 39 53.0**	**-0.7**
HIDR				IAML			03 40 28.3	
	comp=N,113nm,0.1s							
SJG	**San Juan**	**1.54**	**136**		**Pn**		**03 39 52.0**	**+0.1**
SJG				IAML			03 40 15.7	
	comp=N,53nm,0.4s							
SJG				IAML			03 40 18.3	
	comp=N,67nm,0.3s							
SJG	**San Juan**	**1.54**	**136**	⇑*e*P	**Pb**		**03 39 53.6**	**+0.4**
SJG	**San Juan**	**1.54**	**136**	*e*S	**Sn**		**03 40 11.3**	**-0.4**
SJG	**San Juan**	**1.54**	**136**	*e*Pg	**Pb**		**03 39 53.1**	**-0.1**
SJG	**San Juan**	**1.54**	**136**	*i* P	**Pb**		**03 39 52.6**	**-0.6**
SJG				IAML			03 40 16.9	
	comp=Z,31nm,0.6s							
IGPR	**InterUniversit**	**1.67**	**138**		**Pb**		**03 39 55.2**	**-0.3**
IGPR					**Sn**		**03 40 15.3**	**+0.3**
IGPR	**InterUniversit**	**1.67**	**138**	⇓*e*P	**Pb**		**03 39 55.2**	**-0.3**
IGPR	**InterUniversit**	**1.67**	**138**	*e*S	**Sn**		**03 40 15.3**	**+0.3**
PDPR	**Patillas Dam,**	**1.69**	**135**	Pn	**Pn**		**03 39 54.4**	**+0.3**
PDPR				IAML			03 40 22.1	
	comp=N,54nm,0.2s							
PDPR	**Patillas Dam,**	**1.69**	**135**	⇓*e*P	**Pb**		**03 39 55.0**	**-0.7**
PDPR	**Patillas Dam,**	**1.69**	**135**	*e*S	**Sn**		**03 40 14.6**	**-0.9**
MIDR	**Miches**	**1.69**	**262**	⇑*e*P	**Pb**		**03 39 55.9**	**+0.1**
MIDR	**Miches**	**1.69**	**262**	*e*S	**Sn**		**03 40 15.9**	**+0.4**
MIDR	**Miches**	**1.69**	**262**	*e*Pg	**Pb**		**03 39 56.0**	**+0.1**
MIDR				IAML			03 40 30.4	
	comp=N,26nm,0.4s							

MOS ***23*** *03:43:18.7±1.0, 39°.85N×141°.79E, h61km, mb4.8/14, Error ellipse: s-maj=9.5km s-min=5.8km az=84.1*
NIED ***23*** *03:43:19.8, 39°.76N×141°.83E, h58km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.39; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.47; $M_{r\theta}$0.77; $M_{\theta\phi}$-0.45; $M_{\phi r}$1.20; Fault plane solution: $M_0$2.07000×10^{15} NP1: ϕ_s180.00000°, δ25.00000°, λ65.00000°. NP2:ϕ_p28.00000°, δ67.00000°, λ101.00000°.*
JMA ***23*** *03:43:19.8±0.1, 39°.8N±0°.2×141°.8E±0°.4, h58km, MD4.2/38, MV4.3/38

comp=Z,168nm,0.3s
YUK pmax pmax
comp=N,49nm,0.2s
YUK pmax pmax
comp=E,69nm,0.2s
YUK smax smax
comp=N,469nm,0.3s
YUK smax smax
comp=E,326nm,0.3s
JGF Kuroka 5.47 222 Pn 03 44 38.3 -0.1
JGF Kuroka 5.47 222 P **Pn 03 44 42.2 +3.8**
INU Inuyama 5.84 223 Pn 03 44 46.6 +3.1
TEY Ternei 6.55 325 *e*P **Pn 03 44 55.2 +2.1**
JHJ Hachijo jima 2 6.83 195 S **Sn 03 46 09.0 -4.4**
comp=E,251nm,0.8s,baz=262,slow=19,SNR=1.7
KUR Kuril'sk 7.05 37 *e*P **Pn 03 44 59.6 -0.4**
YSS Yuzhno-Sakhali 7.22 5 *e*P **Pn 03 45 03.5 +1.2**
YSS *e*S **Sn 03 46 21.4 -1.5**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,200nm,16.0s
USRK Ussuriysk Ar. 8.58 304 P **Pn 03 45 21.4 +0.5**
comp=Z,12nm,0.7s,baz=110,slow=13,SNR=8.5
JMN Monobe 8.78 229 P **Pn 03 45 26.4 +2.7**
MDJ Mudanjiang 10.30 302 P **Pn 03 45 44.8 +0.3**
MDJ pP 03 45 47.8
MDJ S Sn 03 47 28.5 -10
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ LR LR
comp=N,170nm,5.5s
MDJ LR LR
comp=E,190nm,5.9s
MDJ LR LR
comp=Z,170nm,6.5s
MDJ Mudanjiang 10.30 302 Pn 03 45 43.7 -0.8
JNU Nakatsue 11.03 237 Pn 03 45 54.1 -0.5
JNU Nakatsue 11.03 237 P **Pn 03 45 56.8 +2.2**
comp=Z,8.2nm,0.9s,baz=132,slow=1.5,SNR=2.7
KSRS Korea Array 11.13 262 P **Pn 03 45 58.3 +2.4**
comp=Z,2.6nm,0.4s,baz=73,slow=14,SNR=9.7
BNX BinXian 12.18 304 ⇓P **Pn 03 46 12.3 +2.3**
BNX pmax pmax
comp=Z,6.0nm,1.1s
JMZ Minamidaito 2 16.50 216 Pn 03 47 07.2 +0.1
JOW Kunigami 17.14 225 Pn 03 47 15.1 0.0
JOW IAmb IAmb 03 47 42.2
comp=Z,66nm,1.4s
PET Petropavlovsk 17.56 35 *i* P **P 03 47 21.2 +0.8**
PET pmax pmax
comp=Z,11nm,1.0s
HILR Hailar Array B 18.46 309 P **P 03 47 28.3 -2.1**
comp=Z,4.2nm,0.4s,baz=114,slow=12,SNR=8.2
TIA Tai'an 19.79 268 P **P 03 47 45.3 +0.3**
TIA pmax pmax
comp=Z,18nm,0.9s
NJ2 Nanjing 20.11 255 *e*P **P 03 47 48.6 +0.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
HNS HongShan 21.32 272 ⇓P **P 03 48 02.6 +1.1**
HNS S Sn 03 52 01.3 -4.0
HNS LR LR
comp=E,130nm,14.3s
HNS LR LR
comp=Z,180nm,17.5s
HHC Hu-ho-hao-te 23.07 283 *e*P **P 03 48 19.3 -0.8**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,150nm,7.6s
YAK Yakutsk 23.50 346 *e*P **P 03 48 22.1 -1.8**
YAK *e**PP **pP 03 48 35.0 -2.5**
YAK *e* 03 48 45.1
YAK *e* 03 52 03.1
YAK *e*S **S 03 52 32.3 -0.8**
YAK *e**SS Sn 03 52 54.7 -2.3
YAK *e*SS **SnSn 03 53 14.9 +0.8**
YAK *e* 03 59 31.1
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.8s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,406nm,5.6s
YAK pmax pmax
comp=N,192nm,6.7s
YAK pmax pmax
comp=E,322nm,6.7s
YAK smax smax
comp=E,258nm,4.2s
YAK smax smax
comp=N,125nm,3.0s
LYN LuoYang 23.93 267 *e*P **P 03 48 26.1 -2.0**
LYN pmax pmax
comp=Z,8.0nm,0.5s
SEY Seymchan 24.06 12 P **P 03 48 29.8 +0.8**
comp=Z,21nm,1.1s,baz=202,slow=12,SNR=9.3
comp=Z,21nm,1.1s
SEY Seymchan 24.06 12 *e*P **P 03 48 28.5 -0.5**
SEY pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 26.20 300 *i* P **P 03 48 49.1 +0.3**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 26.64 299 P **P 03 48 52.6 -0.1**
SONM Songino Array 26.64 299 P **P 03 48 51.3 -1.4**
comp=Z,1.6nm,0.7s,baz=95,slow=7.6,SNR=6.0
comp=Z,1.6nm,0.7s
H11N2 WAKE ISLAND Hy 29.35 126 T T 04 19 54.6
baz=318,slow=75,SNR=1240
H11N1 WAKE ISLAND Hy 29.36 126 T T 04 19 56.6
baz=318,slow=75,SNR=1303
H11N3 WAKE ISLAND Hy 29.37 126 T T 04 19 52.8
baz=318,slow=75,SNR=511
LZH Lanzhou 30.05 275 *e*P **P 03 49 25.4 +2.1**
LZH pP pP 03 49 40.6 +2.7
LZH pmax pmax
comp=Z,21nm,1.6s
LZH pmax pmax
comp=Z,15nm,0.9s
H11S1 WAKE ISLAND Hy 30.15 127 T T 04 20 50.4
baz=318,slow=76,SNR=122
H11S3 WAKE ISLAND Hy 30.15 127 T T 04 20 50.1
baz=318,slow=76,SNR=165
H11S2 WAKE ISLAND Hy 30.17 127 T T 04 20 51.2
baz=318,slow=76,SNR=90
BILL Bilibino 31.32 17 *i* P **P 03 49 32.8 -1.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s
PZH PanZhiHua 35.80 261 P **P 03 50 13.8 +0.4**
ZAA0 Zalesovo Array 40.38 310 P 03 50 51.3 -0.2
ZAA0 IAmb IAmb 03 50 52.1
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 40.38 310 P 03 50 51.4 -0.1
ZALV Zalesovo Beam 40.38 310 P **P 03 50 51.1 -0.4**
comp=Z,11nm,0.5s,baz=90,slow=7.9,SNR=40
comp=Z,11nm,0.5s
MKAR Makanchi Array 43.01 300 P **P 03 51 12.7 -0.5**
comp=Z,4.7nm,0.6s,baz=86,slow=11,SNR=28
comp=Z,4.7nm,0.6s
MAKZ Makanchi 43.22 300 P **P 03 51 14.4 -0.3**
MAKZ Makanchi 43.22 300 P **P 03 51 14.5 -0.3**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 44.56 306 P 03 51 24.9 -0.6
KURK IAmb IAmb 03 51 25.6
comp=Z,10nm,0.8s
KURK PcP **PcP 03 53 06.5 -1.1**
KURK Kurchatov 44.56 306 P **P 03 51 24.9 -0.6**
KURK 03 53 06.5
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURBB Kurchatov Arra 44.64 306 P **P 03 51 25.3 -0.8**
comp=Z,7.5nm,0.5s,baz=81,slow=8.5,SNR=15
KURBB PcP **PcP 03 53 06.7 -1.2**
comp=Z,0.4nm,0.4s,baz=76,slow=4.4,SNR=2.2
comp=Z,7.5nm,0.5s
EVN Everest 46.53 273 P 03 51 41.9 -0.2
EVN IAmb IAmb 03 51 44.0
comp=Z,7.0nm,0.6s
ILAR Eielson Array 47.03 34 P **P 03 51 45.1 +0.4**
ILAR Eielson Array 47.03 34 P **P 03 51 45.5 +0.8**
comp=Z,0.9nm,0.6s,baz=266,slow=6.0,SNR=15
comp=Z,0.9nm,0.6s
TARG Taragay, Kyrgy 47.55 294 P 03 51 49.9 +0.3
TARG IAmb IAmb 03 51 52.2
comp=Z,3.8nm,0.8s
TARG Taragay, Kyrgy 47.55 294 P **P 03 51 49.9 +0.3**
TARG pmax pmax
comp=Z,4.0nm,0.8s
BMAR Burnt Mountain 47.80 30 P **P 03 51 52.0 +1.3**
F26K Sheenjek River 47.95 30 P **P 03 51 53.3 +1.4**
F26K IAmb IAmb 03 51 54.8
comp=Z,3.2nm,0.7s
BVAR Borovoye Array 49.02 311 P **P 03 52 00.1 -0.2**
comp=Z,1.4nm,0.5s,baz=69,slow=4.8,SNR=6.7
BVAR PcP **PcP 03 53 23.5 +0.1**
comp=Z,1.2nm,0.5s,baz=68,slow=5.4,SNR=2.6
comp=Z,1.4nm,0.5s
L27K Beaver Creek, 49.45 36 P **P 03 52 05.1 +1.7**
L27K IAmb IAmb 03 52 33.9
comp=Z,5.3nm,1.4s
BCAR Beaver Creek A 49.47 36 P **P 03 52 05.3 +1.7**
I30M Mount Dempster 51.38 32 P **P 03 52 20.0 +1.9**
I30M IAmb IAmb 03 52 20.6
comp=Z,4.4nm,0.8s
KKAR Karatay Array 52.09 298 P 03 52 22.9 -0.6
KKAR Karatay Array 52.09 298 P **P 03 52 23.0 -0.6**
ARTI Arti 54.67 317 P **P 03 52 42.0 -0.3**
ARTI Arti 54.67 317 *c i* P **P 03 52 41.8 -0.5**
ARTI *PP **pP 03 52 56.3 -1.5**
ARTI 03 54 43.0
ARTI S **S 04 00 18.2 +0.4**
ARTI SS **SS 04 03 59.5 -1.2**
ARTI pmax pmax
comp=Z,9.0nm,0.7s
CHGR Chuyangaron 54.84 294 P **P 03 52 43.2 -0.6**
CHGR IAmb IAmb 03 52 44.2
comp=Z,9.4nm,0.8s
CHGR Chuyangaron 54.84 294 P **P 03 52 43.3 -0.6**
CHGR pmax pmax
comp=Z,9.0nm,0.8s
AB31 Akbulak array 56.47 309 P 03 52 55.0 -0.3
AB31 IAmb IAmb 03 52 55.4
comp=Z,7.2nm,0.6s
ABKAR Akbulak array 56.47 309 P **P 03 52 54.8 -0.5**
WB0 Warramunga Arr 59.62 188 P **P 03 53 16.8 -0.7**
WB0 IAmb IAmb 03 53 17.3
comp=Z,3.4nm,0.8s
WRAB Tennant Creek 59.79 188 *i* P **P 03 53 19.3 +0.6**
WRAB pmax pmax
comp=Z,4.0nm,0.9s
WR8 Warramunga Arr 59.80 188 P 03 53 18.0 -0.8
WR8 IAmb IAmb 03 53 42.5
comp=Z,3.3nm,0.8s
WRA Warramunga Arr 59.80 188 P **P 03 53 17.7 -1.1**
WRA Warramunga Arr 59.80 188 P **P 03 53 17.3 -1.5**
comp=Z,1.3nm,0.6s,baz=6.6,slow=6.9,SNR=7.1
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 59.80 188 P 03 53 17.7 -1.1
ARCES ARCESS Array B 61.57 339 P P 03 53 30.3 0.0
ARCES IAmb IAmb 03 54 06.2
comp=Z,10nm,1.1s
ARCES ARCESS Array B 61.57 339 P P 03 53 29.7 -0.6
comp=Z,2.2nm,0.7s,baz=35,slow=4.4,SNR=9.8
comp=Z,2.2nm,0.7s
ARCES ARCESS Array B 61.57 339 P P 03 53 30.3 0.0
ARCES pmax pmax
comp=Z,10.0nm,1.2s
ASAR Alice Springs 63.53 188 P **P 03 53 43.5 -0.4**
comp=Z,0.8nm,0.7s,baz=0.9,slow=6.6,SNR=2.9
comp=Z,0.8nm,0.7s
OBN Obninsk 66.13 323 *e*P **P 03 53 59.4 -1.0**
OBN pmax pmax
comp=Z,6.0nm,1.0s
FIA1 FINESS Array S 66.57 332 P **P 03 54 02.7 -0.4**
FINES FINESS Array B 66.57 332 P **P 03 54 02.8 -0.3**
comp=Z,6.0nm,0.7s,baz=42,slow=8.8,SNR=16
comp=Z,6.0nm,0.7s
KIV Kislovodsk 69.39 310 *e*P **P 03 54 22.2 +0.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 69.40 310 P **P 03 54 20.7 -0.5**
comp=Z,4.4nm,0.8s,baz=353,slow=3.5,SNR=8.5
comp=Z,4.4nm,0.8s
KBZ Khabaz 69.40 310 *i* P **P 03 54 21.6 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SHA1 Shidzhatmaz 69.53 310 *i* P **P 03 54 22.5 +0.2**
NC405 NORSAR Array S 71.60 337 P **P 03 54 33.9 -0.4**
NC405 IAmb IAmb 03 55 06.5
comp=Z,31nm,1.4s
HFS Hagfors 71.75 336 P **P 03 54 35.1 -0.1**
comp=Z,1.5nm,0.3s,baz=37,slow=6.8,SNR=4.8
comp=Z,1.5nm,0.3s
NB2 NORSAR Subarra 71.81 337 P **P 03 54 35.5 -0.1**
comp=Z,1.4nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 71.81 337 P **P 03 54 35.3 -0.3**
comp=Z,2.3nm,0.7s,baz=38,slow=6.0,SNR=7.5
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 72.36 322 P **P 03 54 38.9 -0.1**
AKASG Malin Array Be 72.36 322 P **P 03 54 38.1 -0.9**
comp=Z,2.1nm,0.5s,baz=47,slow=5.9,SNR=11
comp=Z,2.1nm,0.5s
AKASG Malin Array Be 72.36 322 P **P 03 54 38.9 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 75.53 46 P **P 03 54 58.2 +0.2**
PDAR Pinedale Array 75.53 46 P **P 03 54 57.9 -0.1**
comp=Z,0.7nm,0.7s,baz=279,slow=2.9,SNR=6.1
comp=Z,0.7nm,0.7s
BUR08 Bucovina Ar. S 76.38 322 P **P 03 55 03.0 +0.4**
BURAR Bucovina Array 76.39 322 P **P 03 55 02.9 +0.3**
BRTR Keskin Array B 77.31 311 P **P 03 55 07.5 -0.5**
comp=Z,0.7nm,0.5s,baz=115,slow=4.3,SNR=5.8
comp=Z,0.7nm,0.5s
LANS Liptovska Anna 77.91 325 *e*P **P 03 55 12.5 +1.4**
LANS Liptovska Anna 77.91 325 *e*P **P 03 55 12.5 +1.4**
CLL Collm 78.91 330 *i* P **P 03 55 16.1 -0.3**
CLL *e**PP **pP 03 55 34.0 +1.2**
CLL *e* 04 10 15.0
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL MLR MLR
comp=Z,700nm,19.5s
CLL Collm 78.91 330 *i* P **P 03 55 16.1 -0.3**
comp=Z,4.0nm,0.7s
CLL *e*pP **pP 03 55 34.0 +1.2**
CLL Collm 78.91 330 *e*PP **SS 04 10 15.0 +0.2**
MODS Modra-Piesok 79.45 326 *e*P **P 03 55 21.0 +1.5**
MODS Modra-Piesok 79.45 326 *e*P **P 03 55 21.0 +1.5**
GERES GERESS Array B 80.58 328 P **P 03 55 25.4 -0.2**
comp=Z,0.4nm,0.5s,baz=356,slow=4.8,SNR=3.1
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 80.68 341 P **P 03 55 25.6 -0.3**
comp=Z,0.2nm,0.4s,baz=29,slow=6.5,SNR=1.5
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 88.20 53 P **P 03 56 05.1 +0.5**
TXAR Lajitas Array 88.20 53 P **P 03 56 05.5 +1.0**
comp=Z,0.2nm,0.5s,baz=315,slow=4.7,SNR=1.9
comp=Z,0.2nm,0.5s
MIAR Mount Ida 90.09 43 P **P 03 56 13.6 +0.4**
MIAR IAmb IAmb 03 56 21.3
comp=Z,7.1nm,1.4s
MIAR Mount Ida 90.09 43 P **P 03 56 13.6 +0.4**
MIAR pmax pmax
comp=Z,7.0nm,1.4s
VT1 Waterbury 90.67 24 P **P 03 56 15.3 -0.5**
TRY Troy 91.81 25 P **P 03 56 21.3 +0.2**
KMBO Kilima Mbogo 101.92 279 *i* P **Pdif 03 57 04.3 -3.3**
KMBO pmax pmax
comp=Z,6.0nm,0.5s
SNAA Sanae 143.44 198 PKhKP PKPpre 04 02 42.9
comp=Z,1.1nm,0.7s,baz=200,slow=4.9,SNR=17
LPAZ La Paz 144.97 57 PKPbc PKPbc 04 02 50.0 -0.7
LPAZ La Paz 144.97 57 PKPbc PKPbc 04 02 50.3 -0.3
comp=Z,1.1nm,0.9s,baz=307,slow=5.1,SNR=4.0

*IDC **23** 03:46:46.9±1.1,2°.69S×138°.30E, h0km, mb3.6/4, mbtmp3.5/7, ML3.3/3, Error ellipse: s-maj=26.1km s-min=23.1km az=129.0*

ISC 23 03:46:52.0±1.0,2°.8S±0°.2×138°.3E±0°.1, h35km, n7, σ1s36/8, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**84**	Pn	**Pn**	**03 47 27.2**	**-1.9**
	5.2nm,0.3s,baz=263,slow=16,SNR=10						
JAY				Sn	**Sn**	**03 47 59.5**	**+2.1**
	4.4nm,0.3s,baz=300,slow=23,SNR=4.2						
	12nm,0.4s						
WRA	**Warramunga Arr**	**17.50**	**192**	P	**P**	**03 50 54.1**	**-0.2**
	0.2nm,0.3s,baz=15,slow=12,SNR=7.1						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.65**	**218**	P	**P**	**03 51 18.8**	**+0.8**
	0.1nm,0.3s,baz=28,slow=15,SNR=1.4						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**21.20**	**191**	P	**P**	**03 51 34.6**	**-0.2**
	1.1nm,0.7s,baz=19,slow=12,SNR=9.2						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**69.59**	**323**	P	**P**	**03 57 57.2**	**-0.5**
	0.7nm,0.7s,baz=113,slow=7.4,SNR=7.4						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**73.55**	**325**	P	**P**	**03 58 21.7**	**+0.3**
	0.2nm,0.3s,baz=120,slow=5.5,SNR=1.6						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**03 59 29.4**	**+0.6**
	0.3nm,0.7s,baz=246,slow=5.1,SNR=2.7						
	0.3nm,0.7s						

*BJI **23** 03:50:41.6,2°.84S×138°.76E, h23km, mB5.4/40, mb4.9/83, Ms4.9/79, Ms7 4.8/82*

*IDC **23** 03:50:42.4±0.5,2°.68S×138°.33E, h0km, mb4.6/17, mbtmp4.7/22, ML4.5/4, MS4.6/45, Error ellipse: s-maj=17.6km s-min=11.3km az=76.0*

*MOS **23** 03:50:42.0±0.8,2°.71S×138°.24E, h11km, mb5.3/29, Error ellipse: s-maj=10.3km s-min=6.0km az=107.3*

*NEIC **23** 03:50:44.3,3°.00S×138°.38E, h18km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; Mrr0.77; Mθθ0.02; Mφφ-0.79; Mrθ1.09; Mrφ0.45; Mθφ-0.41; Fault plane solution: M0 1.47000×10^17^ NP1:φs1.50000°, δ28.84000°, λ144.28000°. NP2:φs123.71000°, δ73.64000°, λ65.91000°. Principal axes: T 1.5541, Plg55.0000°, Azm4.0000°; N -0.1740, Plg23.0000°, Azm131.0000°; P -1.3801, Plg25.0000°, Azm232.0000°;*

*NEIC **23** 03:50:44.3,2°.70S×138°.28E, h18km*

*NEIC **23** 03:50:44.1±1.4,2°.67S±0°.03×138°.30E±0°.05, h10km±1km, mb5.2/141, Mww5.4/16, Error ellipse: s-maj=9.6km s-min=3.6km az=242.0*

*DJA **23** 03:50:44.7±0.1,3°S±2°×13°8E±°, h10km, M5.1/75, mb5.1/75, mB5.6/42, MLv5.2/12, Mw(mB)5.1/42, MwMwp5.1/14, Mwp5.3/14*

*GCMT **23** 03:50:47.1±0.1,2°.54S±0°.01×138°.35E±0°.01, h14km, MW5.3/117, Moment Tensor Solution. s101,c157; s117,c192; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr0.72±.02; Mθθ-0.07±.01; Mφφ-0.65±.01; Mrθ0.30±.03; Mθφ0.63±.01; Mφr-0.07±.03; Best double couple: M0 0.96100×10^17^ NP1:φs350.00000°, δ43.00000°, λ124.00000°. NP2:φs127.00000°, δ56.00000°, λ62.00000°. Principal axes: T 0.8400, Plg66.0000°, Azm343.0000°; N 0.2410, Plg23.0000°, Azm143.0000°; P -1.0820, Plg7.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 03:50:45.2±0.5,2°.74S±0°.03×138°.36E±0°.04, h20km±1km, h20km:pP-P, n373, σ1s85/352, mb5.2/142, MS4.7/73, 16C-11D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.82**	**25**	P	**Pb**	**03 50 56.5**	**-4.3**
GENI	**Genyem**	**1.81**	**85**	P	**Pn**	**03 51 16.3**	**+1.0**
GENI	**Genyem**	**1.81**	**85**	P	**Pn**	**03 51 14.9**	**-0.4**
SRPI	**Serui, Papua**	**2.29**	**292**	P	**Pn**	**03 51 22.3**	**+0.4**
JAY	**Jayapura**	**2.35**	**85**	Pn	**Pn**	**03 51 23.4**	**+0.6**
	95nm,0.3s,baz=239,slow=8.1,SNR=75						
JAY				Sn	**Sn**	**03 51 53.0**	**+1.8**
	126nm,0.3s,baz=105,slow=22,SNR=5.0						
JAY				LR	LR	03 52 11.4	
	comp=Z,13μm,20.2s,baz=309,slow=37						
	572nm,0.5s						
JAY	**Jayapura**	**2.35**	**85**	P	**Pn**	**03 51 22.1**	**-0.7**
BAKI	**Biak**	**2.73**	**304**	P	**Pn**	**03 51 28.2**	**+0.2**
RKPI	**Ransiki, Papua**	**4.36**	**286**	P	**Pn**	**03 51 51.5**	**+1.1**
KMPI	**Kaimana, Papua**	**4.74**	**259**	P	**Pn**	**03 51 58.0**	**+2.4**
MMPI	**Merauke**	**6.04**	**161**	P	**Pn**	**03 52 16.2**	**+2.8**
FAKI	**Fak Fak**	**6.11**	**268**		**Pn**	**03 52 15.3**	**+0.8**
FAKI	**Fak Fak**	**6.11**	**268**	P	**Pn**	**03 52 16.8**	**+2.3**
FAKI	**Fak Fak**	**6.11**	**268**	P	**Pn**	**03 52 16.9**	**+2.4**
	1.1nm13μm2μm176nm,0.8s						
SWI	**Sorong**	**7.34**	**285**	P	**Pn**	**03 52 33.0**	**+1.6**
	0.4nm6μm2μm108nm,0.7s						
BNDI	**Bandanaira**	**8.62**	**258**	P	**Pn**	**03 52 51.2**	**+2.2**
	8μm374nm,1.7s						
MANU	**Manus Island**	**9.02**	**86**		**Pn**	**03 52 56.4**	**+1.9**
MSAI	**Masohi**	**9.44**	**266**	P	**Pn**	**03 53 02.8**	**+2.6**
AAI	**Ambon**	**10.20**	**264**	P	**Pn**	**03 53 12.1**	**+1.5**
	5μm2μm147nm,0.9s						
PMG	**Port Moresby**	**10.97**	**128**		**Pn**	**03 53 23.5**	**+2.3**
PMG	**Port Moresby**	**10.97**	**128**	Pn	**Pn**	**03 53 21.8**	**+0.6**
	6.5nm,0.4s,baz=338,slow=7.4,SNR=9.6						
PMG				LR	LR	03 59 16.3	
	comp=Z,8μm,19.7s,baz=314,slow=47						
PMG	**Port Moresby**	**10.97**	**128**	P	**Pn**	**03 53 23.5**	**+2.3**
NLAI	**Namlea**	**11.26**	**267**	P	**Pn**	**03 53 27.1**	**+2.0**
	6μm3μm202nm,0.9s						
KDU	**Kakadu**	**11.47**	**210**	P	**Pn**	**03 53 27.5**	**-0.7**
	comp=Z,58nm,1.0s						
TNTI	**Ternate**	**11.53**	**287**	Pn	**Pn**	**03 53 28.9**	**0.0**
COEN	**Coen**	**12.12**	**157**	P	**Pn**	**03 53 38.5**	**+1.6**
	comp=Z,89nm,0.7s						
COEN	**Coen**	**12.12**	**157**		**Pn**	**03 53 37.6**	**+0.6**
COEN	**Coen**	**12.12**	**157**	P	**Pn**	**03 53 39.2**	**+2.3**
DRS	**Darwin Rock St**	**12.14**	**217**	P	**Pn**	**03 53 40.0**	**+2.8**
AUDHS	**Darwin High Sc**	**12.19**	**217**	P	**Pn**	**03 53 40.1**	**+2.2**
AUDHS	**Darwin High Sc**	**12.19**	**217**	S	**Sn**	**03 55 52.4**	**-0.9**
MTN	**Manton Dam**	**12.33**	**215**	P	**Pn**	**03 53 39.3**	**-0.5**
	comp=Z,0.0nmcomp=Z,96nm,0.9s						
MTN	**Manton Dam**	**12.33**	**215**		**Pn**	**03 53 39.1**	**-0.7**
SANI	**Sanana**	**12.38**	**273**	P	**Pn**	**03 53 42.9**	**+2.4**
SANI	**Sanana**	**12.38**	**273**	P	**Pn**	**03 53 41.0**	**+0.5**
	comp=Z,3μmcomp=Z,971nmcomp=Z,80nm,0.8s						
RABL	**Rabaul**	**13.85**	**96**	Pn	**Pn**	**03 54 02.1**	**+1.5**
SGSI	**Sangihe**	**14.33**	**296**	P	**Pn**	**03 54 08.4**	**+1.3**
	comp=Z,4μmcomp=Z,198nm,1.0s						
KMSI	**Cibinong**	**14.75**	**283**	P	**Pn**	**03 54 15.1**	**+2.2**
SOEI	**Soe**	**15.64**	**243**		**Pn**	**03 54 24.0**	**-0.8**
SOEI				IAmb	IAmb	03 54 31.0	
	comp=Z,324nm,1.8s						
SOEI	**Soe**	**15.64**	**243**	P	**Pn**	**03 54 25.6**	**+0.8**
SOEI	**Soe**	**15.64**	**243**	P	**Pn**	**03 54 24.4**	**-0.4**
	comp=Z,4μmcomp=Z,188nm,0.8s						
LUWI	**Luwuk**	**15.67**	**276**	Pn	**Pn**	**03 54 24.9**	**-0.3**
LUWI				IAmb	IAmb	03 54 26.9	
	comp=Z,156nm,1.0s						
LUWI	**Luwuk**	**15.67**	**276**	P	**Pn**	**03 54 26.5**	**+1.3**
LUWI	**Luwuk**	**15.67**	**276**	P	**Pn**	**03 54 26.4**	**+1.3**
	comp=Z,6μmcomp=Z,362nm,1.4s						
KNRA	**Kununurra**	**15.96**	**216**	P	**Pn**	**03 54 28.1**	**-0.7**
	comp=Z,72nm,0.6s						
KNRA	**Kununurra**	**15.96**	**216**		**Pn**	**03 54 27.4**	**-1.4**
BBSI	**Bau Bau**	**15.98**	**260**	P	**P**	**03 54 31.2**	**-1.4**
	comp=Z,4μmcomp=Z,251nm,1.0s						
BATI	**Baumata**	**16.37**	**242**	Pn	**Pn**	**03 54 33.6**	**-0.5**
	comp=Z,5.2nm,0.3s,baz=98,slow=14,SNR=5.1						
	comp=Z,28nm,0.5s						
BATI	**Baumata**	**16.37**	**242**	P	**Pn**	**03 54 35.4**	**+1.3**
MTSU	**Mount Surprise**	**16.38**	**160**	P	**Pn**	**03 54 33.6**	**-0.5**
	comp=Z,58nm,1.1s						
MTSU	**Mount Surprise**	**16.38**	**160**	P	**P**	**03 54 36.1**	**-0.8**
MRSI	**Marisa**	**16.72**	**281**	P	**P**	**03 54 40.8**	**0.0**
	comp=Z,1μmcomp=Z,120nm,1.1s						
APSI	**Ampana**	**16.80**	**276**	P	**P**	**03 54 41.3**	**-0.3**
	comp=Z,6μmcomp=Z,360nm,1.4s						
MMRI	**Maumere**	**17.07**	**249**	Pn	**Pn**	**03 54 40.7**	**-2.3**
MMRI				IAmb	IAmb	03 54 44.5	
	comp=Z,246nm,1.7s						
MMRI	**Maumere**	**17.07**	**249**	P	**Pn**	**03 54 43.7**	**+0.7**
WB0	**Warramunga Arr**	**17.36**	**193**		**Pn**	**03 54 45.3**	**-1.3**
GUMO	**Guam**	**17.46**	**22**		**Pn**	**03 54 48.1**	**+0.4**
GUMO	**Guam**	**17.46**	**22**	LR	LR	04 01 16.3	
	comp=Z,2μm,18.6s,baz=196,slow=36						
GUMO	**Guam**	**17.46**	**22**	P	**P**	**03 54 50.6**	**+1.7**
GUMO	**Guam**	**17.46**	**22**	P	**Pn**	**03 54 48.2**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,720nm,1.4s						
WR8	**Warramunga Arr**	**17.52**	**192**		**Pn**	**03 54 47.6**	**-0.9**
WRAB	**Tennant Creek**	**17.53**	**193**	P	**P**	**03 54 51.5**	**+1.8**

WRAB	**Tennant Creek**	**17.53 193**	*ce*P	**Pn**	**03 54 48.6**	**-0.1**
WRAB			pmax	pmax		
comp=Z,103nm,1.7s						
WRA	**Warramunga Arr**	**17.55 193**		**Pn**	**03 54 47.0**	**-1.8**
WRA	**Warramunga Arr**	**17.55 193**	P	**Pn**	**03 54 48.9**	**+0.1**
comp=Z,1.7nm,0.3s,baz=15,slow=12,SNR=32						
WRA			S	**Sn**	**03 57 58.9**	**-5.0**
comp=Z,26nm,1.1s,baz=9.1,slow=22,SNR=5.9						
comp=Z,12nm,0.5s						
EDFI	**Ende, Flores**	**17.62 250**	P	**Pn**	**03 54 49.9**	**0.0**
QIS	**Mount Isa**	**17.75 176**	P	**Pn**	**03 54 50.7**	**-0.7**
comp=Z,107nm,0.9s						
QIS	**Mount Isa**	**17.75 176**	P	**Pn**	**03 54 51.4**	**0.0**
TOLI2	**Tolitoli**	**17.99 282**		**Pn**	**03 54 53.6**	**-0.7**
TOLI2	**Tolitoli**	**17.99 282**	P	**P**	**03 54 55.7**	**+1.0**
BSSI	**Bau Bau, Buton**	**18.13 259**	P	**P**	**03 54 57.5**	**+1.1**
comp=Z,4μmcomp=Z,101nm,0.9s						
BNSI	**Bone**	**18.30 264**	P	**P**	**03 54 59.8**	**+1.7**
comp=Z,3μmcomp=Z,2μmcomp=Z,77nm,1.1s						
BKSI	**Bulukumba**	**18.37 261**	P	**Pn**	**03 55 00.8**	**+1.7**
SPSI	**Sidrap Palu**	**18.60 266**	P	**Pn**	**03 55 02.4**	**+0.6**
comp=Z,5μmcomp=Z,69nm,1.1s						
KAPI	**Kappang**	**18.70 262**	P	**P**	**03 55 00.1**	**-2.6**
KAPI	**Kappang**	**18.70 262**	P	**P**	**03 55 00.1**	**-2.6**
KAPI			pmax	pmax		
comp=Z,43nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.71 218**	P	**P**	**03 55 13.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.71 218**	P	**P**	**03 55 13.5**	**-0.2**
comp=Z,0.5nm,0.3s,baz=40,slow=11,SNR=18						
FITZ			S	**S**	**03 58 47.0**	**-8.3**
comp=Z,79nm,1.2s,baz=110,slow=14,SNR=7.5						
FITZ			LR	LR	04 03 54.8	
comp=Z,1μm,19.4s,baz=40,slow=40						
comp=Z,20nm,0.9s						
WBSI	**Waikabubak, Su**	**20.06 249**	P	**P**	**03 55 16.5**	**-1.0**
comp=Z,92nm,0.8s						
SGKI	**Sangatta, Kali**	**20.86 276**	P	Pn	03 55 29.0	+0.2
comp=Z,198nm,0.9s						
AS31	**Alice Springs**	**21.25 191**		**P**	**03 55 30.6**	**+0.3**
ASAR	**Alice Springs**	**21.25 191**		**P**	**03 55 30.2**	**-0.2**
ASAR	**Alice Springs**	**21.25 191**	P	**P**	**03 55 30.3**	**0.0**
comp=Z,29nm,0.7s,baz=23,slow=9.9,SNR=91						
ASAR			S	S	03 59 12.4	-13
comp=Z,3.9nm,0.7s,baz=2.2,slow=6.7,SNR=3.6						
comp=Z,29nm,0.7s						
MYLDM	**Lahad Datu**	**21.34 292**	P	**P**	**03 55 30.3**	**-1.1**
MYLDM			IAmb	IAmb	03 55 42.1	
comp=Z,228nm,1.5s						
MYLDM	**Lahad Datu**	**21.34 292**	P	**P**	**03 55 35.1**	**+3.7**
PLAI	**Plampang**	**21.35 253**	P	**P**	**03 55 34.2**	**+2.8**
PLAI	**Plampang**	**21.35 253**	P	**P**	**03 55 30.2**	**-1.2**
comp=Z,48nm,0.9s						
BKB	**Balikpapan**	**21.50 273**	P	**P**	**03 55 36.3**	**+3.2**
comp=Z,5μmcomp=Z,228nm,1.8s						
PATS	**Pohnpei**	**22.07 64**	P	**P**	**03 55 38.9**	**-0.3**
PATS	**Pohnpei**	**22.07 64**	P	**P**	**03 55 41.3**	**+2.1**
TWSI	**Taliwang, Sumb**	**22.18 254**	P	**P**	**03 55 42.1**	**+1.7**
BBKI	**Banjar Baru**	**23.50 268**	P	**P**	**03 55 57.0**	**+2.9**
MTKI	**Muara Teweh, K**	**23.52 274**	P	**P**	**03 55 55.7**	**+1.3**
comp=Z,134nm,1.4s						
TGY	**Tagaytay City**	**24.05 315**	P	**P**	**03 55 59.4**	**-0.1**
comp=Z,132nm,0.3s,baz=163,slow=17,SNR=13						
TGY			LR	LR	04 06 01.2	
comp=Z,1μm,19.9s,baz=144,slow=38						
QLP	**Quilpie**	**24.37 167**	P	**P**	**03 56 04.6**	**+2.4**
ABJI	**Asem Bagus**	**24.54 257**	P	**P**	**03 56 05.9**	**+2.0**
comp=Z,76nm,1.2s						
KMMI	**Kalianget**	**24.68 259**	P	**P**	**03 56 08.2**	**+3.1**
comp=Z,3μmcomp=Z,114nm,1.1s						
JAGI	**Jajag, Banyuwa**	**24.75 256**	P	**P**	**03 56 04.0**	**-1.8**
INKA	**Innaminka**	**24.97 175**		**P**	**03 56 09.1**	**+1.5**
EIDS	**Eidsvold**	**25.62 153**	P	**P**	**03 56 14.6**	**+1.0**
EIDS	**Eidsvold**	**25.62 153**	P	**P**	**03 56 15.5**	**+2.0**
MBWA	**Marble Bar**	**25.77 223**		**P**	**03 56 14.4**	**-0.6**
MBWA			IAmb	IAmb	03 56 44.2	
comp=Z,43nm,1.1s						
MBWA	**Marble Bar**	**25.77 223**	P	**P**	**03 56 17.5**	**+2.5**
PSA00	**Pilbara Seismi**	**25.98 222**	P	**P**	**03 56 17.4**	**+0.5**
PSA00	**Pilbara Seismi**	**25.98 222**	P	**P**	**03 56 16.2**	**-0.6**
PSA00			IAmb	IAmb	03 56 44.5	
comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**25.98 222**	P	**P**	**03 56 19.4**	**+2.5**
SBUM	**Sibu**	**26.64 281**	P	**P**	**03 56 21.1**	**-1.8**
SBUM	**Sibu**	**26.64 281**	P	**P**	**03 56 26.1**	**+3.2**
AUWSH	**Wavell State H**	**28.26 152**	P	**P**	**03 56 33.8**	**-3.5**
comp=Z,76nm,0.7s						
KSM	**Kuching**	**28.36 278**	P	**P**	**03 56 36.3**	**-2.0**
KSM			IAmb	IAmb	03 56 41.3	
comp=Z,46nm,1.5s						
STKA	**Stephens Creek**	**29.14 174**	P	**P**	**03 56 44.8**	**-0.3**
STKA	**Stephens Creek**	**29.14 174**	P	**P**	**03 56 46.0**	**+0.9**
comp=Z,1.3nm,0.3s,baz=354,slow=7.3,SNR=7.5						
comp=Z,1.3nm,0.3s						
STKA	**Stephens Creek**	**29.14 174**	P	**P**	**03 56 47.9**	**+2.8**
CMSA	**Cobar Meteorol**	**29.47 167**	P	**P**	**03 56 50.9**	**+2.9**
JCJ	**Chichijima**	**29.89 7**	LR	LR	04 07 46.9	
comp=Z,1μm,19.5s,baz=160,slow=34						
BBOO	**Buckleboo**	**29.99 184**	P	**P**	**03 56 52.4**	**-0.2**
BBOO			IAmb	IAmb	03 57 29.4	
comp=Z,39nm,1.2s						
HTT	**Hallett**	**30.54 179**	P	**P**	**03 56 59.6**	**+2.1**
AUPHS	**Peel High Scho**	**30.59 159**	P	**P**	**03 57 00.4**	**+2.4**
LEM	**Lembang**	**30.90 261**	LR	LR	04 11 49.6	
comp=Z,847nm,19.5s,baz=136,slow=41						
JOW	**Kunigami**	**30.97 342**	LR	LR	04 07 09.5	
comp=Z,2μm,21.7s,baz=144,slow=32						
NACB	**Ninganchiao**	**31.33 330**	P	**P**	**03 57 02.6**	**-1.9**
NACB	**Ninganchiao**	**31.33 330**	P	**P**	**03 57 06.9**	**+2.4**
DZM	**Mont Dzumac**	**33.36 127**	LR	LR	04 11 38.5	
comp=Z,1μm,20.3s,baz=316,slow=38						
MORW	**Morawa**	**33.71 217**	P	**P**	**03 57 25.2**	**-0.2**
MORW			IAmb	IAmb	03 57 27.6	
comp=Z,65nm,1.6s						
MDSI	**Maura Dua**	**34.16 266**	P	**P**	**03 57 30.1**	**+0.6**
comp=Z,55nm,1.1s						
MYKOM	**Kota Tinggi**	**34.79 277**		**P**	**03 57 33.6**	**-1.3**
MYKOM			IAmb	IAmb	03 57 37.6	
comp=Z,24nm,1.0s						
MYKOM	**Kota Tinggi**	**34.79 277**	P	**P**	**03 57 36.1**	**+1.1**
LHSI	**Lahat**	**34.80 267**	P	**P**	**03 57 36.4**	**+1.4**
TOO	**Toolangi**	**35.28 170**	P	**P**	**03 57 38.9**	**0.0**
TOO	**Toolangi**	**35.28 170**	P	**P**	**03 57 38.9**	**0.0**
TOO			pmax	pmax		
comp=Z,20nm,1.7s						
AUHPC	**Hawkesdale P12**	**35.39 175**	P	**P**	**03 57 41.9**	**+2.2**
QIZ	**Qiongzhong**	**35.42 309**	P	**P**	**03 57 39.8**	**-0.5**
QIZ			PP	**PP**	**03 59 03.3**	**+2.4**
QIZ			S	**S**	**04 03 15.5**	**+1.1**
QIZ			pmax	pmax		
comp=Z,25nm,2.5s						
QIZ			LR	LR		
comp=Z,410nm,21.6s						
QIZ			LR	LR		
comp=Z,790nm,17.7s						
QIZ			LR	LR		
comp=Z,1μm,21.2s						
QIZ	**Qiongzhong**	**35.42 309**		**P**	**03 57 39.6**	**-0.7**
QIZ			IAmb	IAmb	03 57 46.8	
comp=Z,30nm,1.0s						
QIZ	**Qiongzhong**	**35.42 309**	P	**P**	**03 57 43.2**	**+2.9**
JHJ	**Hachijo jima 2**	**35.69 2**	LR	LR	04 09 00.6	
comp=Z,1μm,21.6s,baz=184,slow=31						
NWAO	**Narrogin (SRO)**	**35.98 211**	LR	LR	04 13 31.4	
comp=Z,2μm,18.6s,baz=27,slow=38						
MASI	**Maura Aman, Be**	**36.08 268**	P	**P**	**03 57 46.7**	**+0.6**
JNU	**Nakatsue**	**36.36 349**		**P**	**03 57 46.5**	**-1.7**
JNU			IAmb	IAmb	03 57 48.7	
comp=Z,44nm,1.1s						
JNU	**Nakatsue**	**36.36 349**	LR	LR	04 12 18.4	
comp=Z,1μm,18.9s,baz=150,slow=36						
JNU	**Nakatsue**	**36.36 349**	P	**P**	**03 57 51.3**	**+3.1**
JMN	**Monobe**	**36.52 354**	P	**P**	**03 57 48.0**	**-1.5**
JMN			IAmb	IAmb	03 57 50.4	
comp=Z,36nm,1.1s						
SSE	**Sheshan**	**37.41 335**	P	**P**	**03 57 57.1**	**0.0**
SSE			S	**S**	**04 03 45.1**	**+0.6**
SSE			pmax	pmax		
comp=Z,13nm,0.9s						
SSE			pmax	pmax		
comp=Z,130nm,3.5s						
SSE			LR	LR		
comp=Z,430nm,18.2s						
SSE			LR	LR		
comp=Z,330nm,18.8s						
BKNI	**Bangkinang**	**37.43 274**	P	**P**	**03 57 56.6**	**-1.0**
PDSI	**Padang**	**37.92 272**	P	**P**	**03 58 01.9**	**+0.1**
comp=Z,18nm,0.6s						
PPI	**Padang Panjang**	**38.02 273**	P	**P**	**03 58 03.1**	**+0.6**
comp=Z,2μmcomp=Z,64nm,0.8s						
GULI	**GuiLin**	**38.90 317**	P	**P**	**03 58 11.3**	**+1.5**
GULI			S	**S**	**04 04 10.0**	**+2.8**
GULI			pmax	pmax		
comp=Z,20nm,1.7s						
GULI			LR	LR		
comp=Z,710nm,26.5s						
GULI			LR	LR		
comp=Z,400nm,20.4s						
GULI			LR	LR		
comp=Z,840nm,17.8s						
MNSI	**Mandailing Nat**	**38.93 275**	P	**P**	**03 58 11.8**	**+1.6**
MJAR	**Matsushiro Arr**	**39.08 360**	P	**P**	**03 58 08.6**	**-2.5**
MJAR	**Matsushiro Arr**	**39.08 360**	P	**P**	**03 58 11.1**	**0.0**
comp=Z,2.2nm,0.5s,baz=180,slow=9.5,SNR=7.4						
MJAR			LR	LR	04 13 21.8	
comp=Z,728nm,18.4s,baz=170,slow=35						
comp=Z,2.2nm,0.5s						
NJ2	**Nanjing**	**39.24 333**	⇓P	**P**	**03 58 13.1**	**+0.6**
NJ2			pP	**pP**	**03 58 15.1**	**-3.6**
NJ2			S	**S**	**04 04 13.8**	**+1.6**
NJ2			pmax	pmax		
comp=Z,26nm,0.6s						
NJ2			LR	LR		
comp=Z,710nm,17.8s						
NJ2			LR	LR		
comp=Z,900nm,17.8s						
NJ2			LR	LR		
comp=Z,1μm,19.8s						
TJN	**Taejon**	**40.24 346**	*i*P	**P**	**03 58 20.2**	**-0.6**
WHN	**Wuhan**	**40.25 327**	⇓P	**P**	**03 58 22.5**	**+1.6**
WHN			sP	**pP**	**03 58 27.5**	**+0.4**
WHN			S	**S**	**04 04 30.0**	**+2.6**
WHN			pmax	pmax		
comp=Z,180nm,1.3s						
WHN			LR	LR		
comp=Z,4μm,22.5s						
WHN			LR	LR		
comp=Z,1μm,14.5s						
WHN			LR	LR		
comp=Z,3μm,22.9s						
JSD	**Sado**	**40.57 360**	P	**P**	**03 58 22.1**	**-1.4**
JSD	**Sado**	**40.57 360**	P	**P**	**03 58 26.1**	**+2.7**
KCSI	**Kotacane, Aceh**	**41.04 278**	P	**P**	**03 58 27.7**	**-0.1**
comp=Z,852nmcomp=Z,25nm,1.0s						
KSAR	**Wonju Array Be**	**41.15 347**	P	**P**	**03 58 27.3**	**-0.9**
KSAR	**Wonju Array Be**	**41.15 347**	P	**P**	**03 58 27.3**	**-0.9**
KSRS	**Korea Array**	**41.15 347**	P	**P**	**03 58 28.3**	**+0.1**
comp=Z,6.3nm,0.9s,baz=163,slow=9.2,SNR=18						
comp=Z,6.3nm,0.9s						
SLVN	**Son La**	**41.35 307**	P	**P**	**03 58 29.4**	**-0.8**
SLVN	**Son La**	**41.35 307**	P	**P**	**03 58 33.4**	**+3.2**
INCN	**Inchon**	**41.47 346**	P	**P**	**03 58 30.6**	**-0.3**
INCN	**Inchon**	**41.47 346**	P	**P**	**03 58 30.6**	**-0.3**
INCN			pmax	pmax		
comp=Z,153nm,1.9s						
LHMI	**Lhok Sumawe**	**42.12 281**	P	**P**	**03 58 35.0**	**-1.6**
LHMI	**Lhok Sumawe**	**42.12 281**	P	**P**	**03 58 39.7**	**+3.1**
GYA	**Guiyang**	**42.20 315**	⇓P	**P**	**03 58 37.8**	**+0.6**
GYA			S	**S**	**04 04 56.9**	**+0.2**
GYA			pmax	pmax		
comp=Z,45nm,0.5s						
GYA			pmax	pmax		
comp=Z,180nm,5.0s						
GYA			LR	LR		
comp=Z,510nm,19.7s						
GYA			LR	LR		
comp=Z,580nm,22.4s						
GYA			LR	LR		
comp=Z,970nm,16.4s						
MLSI	**Meulaboh, Aceh**	**42.50 279**	P	**P**	**03 58 39.7**	**0.0**
ENH	**Enshi**	**42.87 322**	P	**P**	**03 58 45.6**	**+3.1**
TIA	**Tai'an**	**43.53 335**	P	**P**	**03 58 46.9**	**-0.8**
TIA			S	**S**	**04 05 15.3**	**-0.4**
TIA			SS	**SS**	**04 08 24.3**	**-6.5**
TIA			pmax	pmax		
comp=Z,15nm,1.3s						
TIA			pmax	pmax		
comp=Z,250nm,4.7s						
TIA			LR	LR		
comp=Z,760nm,19.8s						
TIA			LR	LR		
comp=Z,650nm,19.8s						
TIA			LR	LR		
comp=Z,1μm,18.6s						
CM31	**Chiang Mai Arr**	**44.15 300**	P	**P**	**03 58 52.7**	**-0.3**
CM31			IAmb	IAmb	03 59 00.9	
comp=Z,51nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.15 300**	P	**P**	**03 58 52.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**44.15 300**	P	**P**	**03 58 53.6**	**+0.6**
comp=Z,5.3nm,0.8s,baz=118,slow=6.2,SNR=22						
CMAR			LR	LR	04 19 05.6	
comp=Z,277nm,18.9s,baz=110,slow=39						
comp=Z,5.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.15 300**	*ce*P	**P**	**03 58 54.7**	**+1.7**
CMAR			pmax	pmax		
comp=Z,5.0nm,0.7s						
DL2	**Dalian**	**44.22 341**	P	**P**	**03 58 53.9**	**+0.8**
DL2			S	**S**	**04 05 22.3**	**-3.4**
DL2			pmax	pmax		
comp=Z,29nm,1.1s						
DL2			pmax	pmax		
comp=Z,810nm,8.8s						
DL2			LR	LR		
comp=Z,770nm,20.4s						
DL2			LR	LR		
comp=Z,1μm,19.0s						
DL2			LR	LR		
comp=Z,2μm,21.5s						
KMI	**Kunming**	**44.28 311**	⇓P	**P**	**03 58 54.4**	**+0.3**
KMI			S	**S**	**04 05 30.4**	**+3.0**
KMI			pmax	pmax		
comp=Z,28nm,0.9s						
KMI			LR	LR		
comp=Z,650nm,21.1s						
KMI			LR	LR		
comp=Z,690nm,17.8s						
KMI			LR	LR		
comp=Z,740nm,19.7s						
CHTO	**Chiang Mai**	**44.30 301**		**P**	**03 58 53.4**	**-0.7**
CHTO			IAmb	IAmb	03 59 01.8	
comp=Z,39nm,1.2s						
CHTO	**Chiang Mai**	**44.30 301**	P	**P**	**03 58 57.0**	**+2.9**
CHTO	**Chiang Mai**	**44.30 301**	P	**P**	**03 58 53.4**	**-0.7**
CHTO			pmax	pmax		
comp=Z,39nm,1.3s						
LYN	**LuoYang**	**44.37 329**	P	**P**	**03 58 54.9**	**+0.5**
LYN			sP	sP	03 59 03.8	+0.8
LYN			S	**S**	**04 05 26.1**	**-1.9**
LYN			sS	sS	04 05 42.3	+4.2
LYN			pmax	pmax		
comp=Z,64nm,1.4s						
LYN			pmax	pmax		
comp=Z,360nm,10.7s						
LYN			LR	LR		
comp=Z,460nm,17.2s						
LYN			LR	LR		
comp=Z,340nm,16.8s						
LYN			LR	LR		
comp=Z,890nm,17.5s						
HNS	**HongShan**	**45.58 333**	⇓P	**P**	**03 59 03.5**	**-0.5**
HNS			S	**S**	**04 05 43.3**	**-2.1**
HNS			SS	**ScS**	**04 08 57.8**	**-1.8**
HNS			pmax	pmax		
comp=Z,19nm,1.8s						
HNS			LR	LR		
comp=Z,940nm,19.1s						
HNS			LR	LR		
comp=Z,880nm,17.7s						
HNS			LR	LR		
comp=Z,1μm,18.1s						
PZH	**PanZhiHua**	**45.79 312**	P	**P**	**03 59 06.9**	**+0.9**
PZH			S	**S**	**04 05 49.5**	**+0.4**
PZH			pmax	pmax		
comp=Z,10.0nm,0.8s						
PZH			pmax	pmax		
comp=Z,160nm,4.2s						
PZH			LR	LR		
comp=Z,480nm,23.5s						
PZH			LR	LR		
comp=Z,660nm,21.0s						
PZH			LR	LR		
comp=Z,790nm,21.8s						
XAN	**Xi'an**	**45.90 325**	⇓P	**P**	**03 59 07.0**	**+0.3**
XAN			pP	sP	03 59 14.3	-1.0
XAN			S	**S**	**04 05 47.9**	**-2.5**
XAN			pmax	pmax		
comp=Z,68nm,1.0s						
XAN			pmax	pmax		
comp=Z,480nm,4.1s						
XAN			LR	LR		
comp=Z,760nm,20.6s						
XAN			LR	LR		
comp=Z,740nm,20.6s						
XAN			LR	LR		
comp=Z,2μm,24.7s						
SNY	**Shenyang**	**46.35 345**	⇑P	**P**	**03 59 10.8**	**+0.8**
SNY			S	**S**	**04 05 59.5**	**+3.2**
SNY			pmax	pmax		
comp=Z,24nm,1.6s						
SNY			pmax	pmax		
comp=Z,240nm,4.2s						
SNY			LR	LR		
comp=Z,570nm,17.9s						
SNY			LR	LR		
comp=Z,580nm,17.6s						
SNY			LR	LR		
comp=Z,770nm,18.6s						
ASAJ	**Asahikawa**	**46.80 4**	LR	LR	04 18 00.9	
comp=Z,478nm,21.1s,baz=170,slow=35						
TIY	**Taiyuan**	**46.88 332**	*e*P	**P**	**03 59 14.8**	**+0.4**
TIY			S	**S**	**04 06 05.8**	**+1.5**
TIY			pmax	pmax		
comp=Z,160nm,4.1s						
TIY			LR	LR		
comp=Z,860nm,17.9s						
TIY			LR	LR		
comp=Z,560nm,17.9s						
TIY			LR	LR		
comp=Z,940nm,19.9s						
CD2	**Chengdu**	**46.97 318**	P	**P**	**03 59 15.9**	**+0.7**
CD2			pmax	pmax		
comp=Z,20nm,0.4s						
CD2			LR	LR		
comp=Z,1μm,23.5s						
CD2			LR	LR		
comp=Z,1μm,18.8s						
USRK	**Ussuriysk Ar.**	**47.08 354**	P	**P**	**03 59 15.9**	**+0.3**
comp=Z,5.2nm,0.9s,baz=168,slow=7.4,SNR=12						
comp=Z,5.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.08 354**	P	**P**	**03 59 16.0**	**+0.3**
BJI	**Beijing**	**47.18 337**	P	**P**	**03 59 16.6**	**0.0**
BJI			S	**S**	**04 06 15.0**	**+6.6**
BJI			pmax	pmax		
comp=Z,9.0nm,2.0s						
BJI			LR	LR		
comp=Z,440nm,19.2s						
BJI			LR	LR		
comp=Z,240nm,17.8s						
BJI			LR	LR		
comp=Z,620nm,19.1s						
TNCH	**TengChong**	**47.48 308**	⇑P	**P**	**03 59 18.1**	**-1.3**
TNCH			pP	pP	03 59 23.5	-2.2
TNCH			S	**S**	**04 06 15.4**	**+1.8**
TNCH			pmax	pmax		
comp=Z,280nm,3.4s						
TNCH			LR	LR		
comp=Z,230nm,8.8s						
TNCH			LR	LR		
comp=Z,350nm,11.2s						
TNCH			LR	LR		
comp=Z,480nm,16.5s						
CN2	**Changchun**	**47.76 347**	*e*P	**P**	**03 59 21.0**	**0.0**
CN2			*es*P	pP	03 59 27.0	-0.3
CN2			*e*S	**S**	**04 06 16.9**	**+0.4**
CN2			pmax	pmax		
comp=Z,10.0nm,1.2s						
CN2			pmax	pmax		
comp=Z,300nm,5.0s						
CN2			LR	LR		
comp=Z,300nm,15.0s						
CN2			LR	LR		
comp=Z,200nm,15.0s						
CN2			LR	LR		
comp=Z,600nm,16.0s						
MDJ	**Mudanjiang**	**47.79 352**	P	**P**	**03 59 20.6**	**-0.6**
MDJ			S	**S**	**04 06 23.6**	**+6.7**
MDJ			sS	sS	04 06 31.9	+4.8
MDJ			pmax	pmax		
comp=Z,16nm,1.4s						
MDJ			LR	LR		
comp=Z,590nm,19.8s						
MDJ			LR	LR		
comp=Z,430nm,15.0s						
MDJ			LR	LR		
comp=Z,1μm,19.6s						
MDJ	**Mudanjiang**	**47.79 352**	IAmb	IAmb	03 59 23.8	
comp=Z,27nm,1.2s						
MDJ	**Mudanjiang**	**47.79 352**	P	**P**	**03 59 23.9**	**+2.7**
BNX	**BinXian**	**49.24 350**	⇓P	**P**	**03 59 31.9**	**-0.5**
BNX			pmax	pmax		
comp=Z,36nm,1.7s						
BNX			pmax	pmax		
comp=Z,210nm,5.1s						
BNX			LR	LR		
comp=Z,600nm,16.7s						
BNX			LR	LR		
comp=Z,400nm,16.7s						
BNX			LR	LR		
comp=Z,840nm,17.8s						
YSS	**Yuzhno-Sakhali**	**49.63 4**	P	**P**	**03 59 34.5**	**-0.8**
YSS			IAmb	IAmb	03 59 35.5	
comp=Z,85nm,1.9s						
YSS	**Yuzhno-Sakhali**	**49.63 4**	*e*P	**P**	**03 59 34.6**	**-0.7**
YSS			*e*S	**S**	**04 06 38.8**	**-4.0**
YSS			pmax	pmax		
comp=Z,20nm,0.7s						
YSS			pmax	pmax		
comp=Z,100nm,3.3s						
YSS			MLR	MLR		
comp=Z,400nm,14.0s						
YSS			MLR	MLR		
comp=N,400nm,15.0s						
YSS			MLR	MLR		
comp=E,300nm,17.0s						
HHC	**Hu-ho-hao-te**	**49.80 333**	⇓*i*P	**P**	**03 59 37.6**	**+0.7**
HHC			pP	pP	03 59 42.3	-0.8
HHC			PP	**PP**	**04 01 30.3**	**-1.5**
HHC			S	**S**	**04 06 46.5**	**+0.9**
HHC			pmax	pmax		
comp=E,27nm,1.8s						
HHC			pmax	pmax		
comp=E,220nm,6.7s						
HHC			LR	LR		
comp=E,740nm,18.4s						
HHC			LR	LR		
comp=E,560nm,19.6s						
HHC			LR	LR		
comp=E,1μm,18.7s						
URZ	**Urewera**	**50.02 140**	LR	LR	04 22 16.5	
comp=E,1μm,18.7s,baz=313,slow=38						
LZH	**Lanzhou**	**50.30 323**	*e*P	**P**	**03 59 41.9**	**+1.1**
LZH			sP	sP	03 59 48.4	-1.1
LZH			S	**S**	**04 06 54.3**	**+1.5**
LZH			sS	sS	04 07 08.5	+5.5
LZH			pmax	pmax		
comp=E,54nm,1.2s						
LZH			LR	LR		
comp=E,540nm,19.9s						
LZH			LR	LR		
comp=E,870nm,18.2s						
LZH			LR	LR		
comp=E,1μm,19.9s						
LZDM	**Lanzhou Array**	**50.30 323**	P	**P**	**03 59 42.0**	**+0.9**
comp=E,2.2nm,0.4s,baz=157,slow=8.8,SNR=9.4						
LZDM			LR	LR	04 20 38.7	
comp=E,498nm,20.7s,baz=155,slow=36						
comp=E,2.2nm,0.4s						
BTO	**Baotou**	**50.31 332**	*e*P	**P**	**03 59 42.1**	**+1.3**
BTO			pP	**pP**	**03 59 46.8**	**-0.2**
BTO			sP	**sP**	**03 59 49.1**	**-0.3**
BTO			S	**S**	**04 06 54.5**	**+1.7**
BTO			sS	**sS**	**04 07 03.0**	**0.0**
BTO			SS	**SS**	**04 10 27.1**	**+0.4**
BTO			pmax	pmax		
comp=E,38nm,2.1s						
BTO			pmax	pmax		
comp=E,510nm,4.9s						
BTO			LR	LR		

comp=E,2μm,19.2s
BTO LR LR
comp=E,1μm,16.7s
BTO LR LR
comp=E,3μm,18.7s
XLT XiLinHaoTe 50.55 339 *e*P **P 03 59 42.1 -0.4**
XLT pP pP 03 59 47.3 -1.5
XLT sS sS 04 07 05.9 -0.3
XLT pmax pmax
comp=E,13nm,0.7s
XLT LR LR
comp=E,530nm,21.0s
XLT LR LR
comp=E,850nm,21.8s
SHL Shillong 53.07 305 P **P 04 00 01.3 -0.4**
SHL Shillong 53.07 305 P **P 04 00 01.3 -0.4**
SHL pmax pmax
comp=Z,61nm,1.0s
HEH HeiHe 53.62 351 *e*P **P 04 00 04.8 -0.3**
HEH pP **pP 04 00 10.4 -1.0**
HEH S **S 04 07 37.8 +0.2**
HEH sS **sS 04 07 51.8 +3.9**
HEH pmax pmax
comp=Z,33nm,1.8s
HEH pmax pmax
comp=Z,280nm,3.9s
HEH LR LR
comp=Z,380nm,16.7s
HEH LR LR
comp=Z,520nm,16.9s
HEH LR LR
comp=Z,1μm,17.7s
HIA Hailar 54.25 345 IAmb IAmb 04 00 12.9
comp=Z,34nm,1.3s
HIA Hailar 54.25 345 P **P 04 00 12.1 +2.3**
HILR Hailar Array B 54.52 345 P **P 04 00 12.2 +0.5**
comp=Z,4.1nm,0.5s,baz=155,slow=12,SNR=10.0
comp=Z,4.1nm,0.5s
GTA Gaotai 54.89 324 P **P 04 00 16.3 +1.6**
GTA sP sP 04 00 22.8 -0.6
GTA S **S 04 07 59.1 +3.7**
GTA pmax pmax
comp=Z,25nm,1.5s
GTA pmax pmax
comp=Z,260nm,6.3s
GTA LR LR
comp=Z,610nm,19.6s
GTA LR LR
comp=Z,210nm,18.5s
GTA LR LR
comp=Z,770nm,22.5s
GOMU GeErMu 56.10 318 P **P 04 00 24.0 +0.1**
GOMU pP pP 04 00 28.1 -2.1
GOMU S **S 04 08 14.3 +2.0**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,270nm,12.6s
GOMU LR LR
comp=Z,380nm,13.4s
GOMU LR LR
comp=Z,620nm,14.2s
ZEA Zeya 57.04 352 *e*P **P 04 00 29.7 0.0**
ZEA pmax pmax
comp=N,10.0nm,1.6s
ZEA pmax pmax
comp=Z,20nm,1.4s
ULN Ulaanbaatar 57.35 335*ce*P **P 04 00 32.0 -0.2**
ULN pmax pmax
comp=Z,25nm,1.7s
SONM Songino Array 57.60 335 P **P 04 00 33.7 -0.2**
SONM Songino Array 57.60 335 P **P 04 00 33.6 -0.3**
comp=Z,3.2nm,0.8s,baz=148,slow=5.1,SNR=11
SONM LR LR 04 25 35.7
comp=Z,1μm,19.3s,baz=142,slow=36
comp=Z,3.2nm,0.8s
SONM Songino Array 57.60 335 P **P 04 00 33.7 -0.3**
SONM pmax pmax
comp=Z,22nm,1.5s
PETK Petropavlovsk- 57.97 14 P **P 04 00 36.1 -0.2**
PETK Petropavlovsk- 57.97 14 P **P 04 00 34.6 -1.7**
comp=Z,3.9nm,0.9s,baz=339,slow=3.7,SNR=4.4
PETK LR LR 04 22 04.7
comp=Z,498nm,21.6s,baz=201,slow=32
comp=Z,3.9nm,0.9s
PETK Petropavlovsk- 57.97 14 P **P 04 00 36.1 -0.2**
PET Petropavlovsk 58.12 14 *e*P **P 04 00 39.7 +2.4**
PET *e*S **S 04 08 39.4 +2.0**
PET 04 14 49.3
PET pmax pmax
comp=Z,300nm,9.0s
PET pmax pmax
comp=Z,100nm,10.1s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,400nm,21.0s
PET Petropavlovsk 58.12 14 P **P 04 00 37.7 +0.4**
comp=Z,13nm,0.9s
EVN Everest 58.17 305 P **P 04 00 38.4 -0.5**
CIT Chita 58.47 342 *e*P **P 04 00 41.0 +1.1**
CIT *e* 04 00 46.1
CIT *e* 04 04 13.7
CIT pmax pmax
comp=Z,165nm,2.1s
ZAK Zakamensk 60.87 335 *e*P **P 04 00 56.5 0.0**
ZAK pmax pmax
comp=Z,45nm,1.6s
TLY Talaya 61.70 336 P **P 04 01 01.8 -0.2**
TLY Talaya 61.70 336*ce*P **P 04 01 01.8 -0.2**
TLY pmax pmax
comp=Z,27nm,1.7s
IRK Irkutsk 61.89 337 *e*P **P 04 01 02.1 -1.1**
IRK pmax pmax
comp=Z,81nm,2.2s
HYB Hyderabad 62.26 291 *e*P **P 04 01 04.4 -2.1**
HYB *e*pP **pP 04 01 08.5 -4.3**
HYB *e*PcP **PcP 04 01 45.1 -1.2**
HYB *e*S **S 04 09 31.4 -0.6**
MOY Mondy 62.79 335 *e*P **P 04 01 10.5 +1.1**
MOY pmax pmax
comp=Z,62nm,2.3s
RAR Rarotonga 62.83 112 LR LR 04 26 19.3
comp=Z,168nm,21.8s,baz=280,slow=34
MA2 Magadan 62.89 7 LR LR 04 26 27.3
comp=Z,179nm,20.7s,baz=188,slow=34
SHEM Shemya Is, Ala 62.91 24 LR LR 04 24 13.4
comp=Z,581nm,20.6s,baz=243,slow=32
BOD Bodaibo 63.46 346 *e*P **P 04 01 13.4 -0.2**
BOD pmax pmax
comp=Z,35nm,1.7s
WMQ Urumqi 64.82 322 *e*P **P 04 01 23.8 +0.9**
WMQ pP pP 04 01 30.1 +0.8
WMQ PcP **PcP 04 01 58.0 +1.8**
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ LR LR
comp=Z,220nm,24.1s
YAK Yakutsk 64.93 355 P **P 04 01 23.0 -0.2**
YAK Yakutsk 64.93 355 LR LR 04 28 28.1
comp=Z,684nm,19.0s,baz=170,slow=35
YAK Yakutsk 64.93 355 *e*P **P 04 01 22.9 -0.2**
YAK *e**PP **PcP 04 01 59.9 +3.8**
YAK *e* 04 03 43.6
YAK *e*PPP PPP 04 05 16.6
YAK *e*S S 04 09 54.4 -9.2
YAK *e*SS **SS 04 14 11.5 -4.1**
YAK pmax pmax
comp=Z,76nm,1.6s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=Z,539nm,5.3s
YAK pmax pmax
comp=N,334nm,4.9s
YAK pmax pmax
comp=E,178nm,5.1s
YAK smax smax
comp=N,271nm,3.3s
YAK smax smax
comp=E,219nm,5.2s
SEY Seymchan 66.35 7 P **P 04 01 31.9 -0.3**
comp=E,3.5nm,0.7s,baz=213,slow=2.3,SNR=6.4
SEY LR LR 04 28 34.2
comp=E,277nm,20.9s,baz=192,slow=34
comp=E,3.5nm,0.7s
SEY Seymchan 66.35 7*ce*P **P 04 01 32.6 +0.3**
SEY pmax pmax
comp=Z,60nm,2.5s
CASY Casey 66.37 192 P **P 04 01 32.9 +0.5**
CASY IAmb IAmb 04 01 45.4
comp=Z,28nm,1.5s
MK31 Makanchi Array 69.60 323*ce*P **P 04 01 53.6 +0.5**
MKAR Makanchi Array 69.60 323 P **04 01 52.5 -0.7**
MKAR Makanchi Array 69.60 323 P **P 04 01 52.6 -0.6**
comp=Z,24nm,0.9s,baz=112,slow=7.1,SNR=45
MKAR LR LR 04 34 08.2
comp=Z,401nm,20.2s,baz=114,slow=38
comp=Z,24nm,0.9s
MKAR Makanchi Array 69.60 323 *i* P **P 04 01 53.0 -0.1**
MKAR pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 69.80 322 P **P 04 01 53.4 -0.9**
MAKZ Makanchi 69.80 322 P **P 04 01 53.4 -0.9**
MAKZ pmax pmax
comp=Z,33nm,0.9s
PRZ Przheval'sk 70.25 317 P **P 04 01 56.6 -0.8**
PRZ Przheval'sk 70.25 317 P **P 04 01 56.7 -0.8**
PRZ pmax pmax
comp=Z,31nm,0.8s
TARG Taragay, Kyrgy 70.36 316 P **P 04 01 58.0 -0.4**
TARG IAmb IAmb 04 02 10.6
comp=Z,26nm,1.0s
TARG Taragay, Kyrgy 70.36 316 P **P 04 01 58.0 -0.4**
TARG pmax pmax
comp=Z,26nm,1.0s
KSH Kashi 70.85 313 P **P 04 02 03.1 +2.0**
KSH PcP **PcP 04 02 23.8 +2.1**
KSH pmax pmax
comp=Z,25nm,1.1s
KDJ Kajisay 70.95 316 P **P 04 02 01.5 -0.2**
KDJ IAmb IAmb 04 02 10.1
comp=Z,19nm,0.9s
KDJ Kajisay 70.95 316 P **P 04 02 01.5 -0.2**
KDJ pmax pmax
comp=Z,19nm,0.9s
ARXS Arharly 71.32 319 *i* P **P 04 02 04.0 +0.2**
ZAA0 Zalesovo Array 71.79 330 P **P 04 02 05.1 -1.1**
ZALV Zalesovo Beam 71.79 330 P **P 04 02 05.1 -1.1**
comp=Z,6.5nm,0.6s,baz=116,slow=5.6,SNR=22
ZALV LR LR 04 35 31.3
comp=Z,236nm,18.2s,baz=114,slow=38
comp=Z,6.5nm,0.6s
ZALV Zalesovo Beam 71.79 330 *i* P **P 04 02 05.5 -0.7**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 71.94 316 P **P 04 02 08.0 +0.3**
BOOM IAmb IAmb 04 02 19.9
comp=Z,18nm,0.9s
BOOM Boomskoye usch 71.94 316 P **P 04 02 08.0 +0.3**
BOOM pmax pmax
comp=Z,18nm,0.9s
PPT Papeete 72.08 107 LR LR 04 30 50.0
comp=Z,137nm,20.7s,baz=272,slow=33
PPT2 Papeete2 72.08 107 *e*S **S 04 11 31.7 +1.3**
PPT2 *e*SS **SS 04 16 08.0 +0.1**
comp=Z,253nm,27.5s
PPT2 *e*SS **SS 04 16 08.0 +0.1**
comp=Z,292nm,27.0s
PPT2 *e*LQ LQ 04 21 02.9
comp=Z,1μm,35.2s
PPT2 *e*LR LR 04 24 06.8
comp=Z,702nm,24.5s
PPT2 *e*LR LR 04 24 07.8
comp=Z,521nm,25.5s
TBI Tubuai 72.56 113 *e*S **S 04 11 36.1 +0.5**
TBI *e*SS **SS 04 16 09.0 -5.9**
comp=Z,417nm,30.5s
TBI *e*LQ LQ 04 21 18.2
comp=Z,2μm,33.2s
TBI *e*LR LR 04 24 21.8
comp=Z,6μm,39.0s
TBI *e*LR LR 04 24 21.8
comp=Z,2μm,23.2s
AAK Ala-Archa 72.99 316 P **P 04 02 13.4 -0.5**
AAK IAmb IAmb 04 02 21.7
comp=Z,19nm,1.2s
AAK Ala-Archa 72.99 316 LR LR 04 37 39.0
comp=Z,360nm,18.3s,baz=110,slow=39
AAK Ala-Archa 72.99 316*ce*P **P 04 02 14.2 +0.3**
AAK pmax pmax
comp=Z,27nm,2.5s
BILL Bilibino 73.26 11*ce*P **P 04 02 15.3 +0.5**
BILL pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 73.54 325 P **P 04 02 15.9 -0.9**
KURK Kurchatov 73.54 325 P **P 04 02 16.2 -0.5**
KURBB Kurchatov Arra 73.55 325 P **P 04 02 16.2 -0.6**
comp=Z,7.7nm,0.8s,baz=115,slow=5.6,SNR=46
comp=Z,7.7nm,0.8s
TIXI Tiksi 74.51 357 P **P 04 02 21.0 -1.0**
TIXI IAmb IAmb 04 02 24.8
comp=Z,13nm,0.7s
TIXI Tiksi 74.51 357 LR LR 04 34 54.8
comp=Z,684nm,19.4s,baz=191,slow=36
TIXI Tiksi 74.51 357*ce*P **P 04 02 21.6 -0.4**
TIXI pmax pmax
comp=Z,31nm,1.7s
KBL Kabul 74.67 307 P **P 04 02 23.4 -0.6**
KBL Kabul 74.67 307 P **P 04 02 23.4 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.8s
GAR Garm 74.86 312 P **P 04 02 24.0 -0.9**
VNDA Vanda 75.78 175 P **P 04 02 30.1 +0.8**
VNDA Vanda 75.78 175 P **P 04 02 30.4 +1.1**
comp=Z,7.9nm,0.9s,baz=326,slow=7.4,SNR=18
VNDA LR LR 04 36 24.1
comp=Z,554nm,18.1s,baz=351,slow=36
comp=Z,7.9nm,0.9s
KK31 Karatay Array 75.91 316 P **P 04 02 29.8 -0.9**
KK31 IAmb IAmb 04 02 38.1
comp=Z,26nm,1.2s
KK31 Karatay Array 75.91 316 P **P 04 02 29.8 -0.9**
KK31 pmax pmax
comp=Z,26nm,1.3s
KKAR Karatay Array 75.91 316 **P 04 02 29.7 -1.0**
KKAR Karatay Array 75.91 316 P **P 04 02 29.7 -1.0**
K13K Kusilvak Mount 77.55 24 P **P 04 02 39.0 -0.5**
M14K Bethel 78.09 26 **P 04 02 42.1 -0.4**
K15K Wolf Creek Mou 79.00 24 IAmb IAmb 04 02 51.8
comp=Z,61nm,1.6s
BVAR Borovoye Array 79.14 325 P **P 04 02 48.2 -0.3**
comp=Z,14nm,0.7s,baz=69,slow=8.1,SNR=32
BVAR LR LR 04 40 05.7
comp=Z,259nm,19.3s,baz=100,slow=38
comp=Z,14nm,0.7s
BORK Borovoye 79.18 325*ce*P **P 04 02 49.6 +0.8**
BORK pmax pmax
comp=Z,14nm,0.7s
M16K Timber Creek 79.53 26 IAmb IAmb 04 02 56.2
comp=Z,38nm,1.1s
L16K Owhat River 79.60 25 P **P 04 02 50.4 -0.4**
L16K IAmb IAmb 04 02 54.6
comp=Z,67nm,1.8s
K17K Iditarod 80.53 25 **P 04 02 56.8 +0.9**
K17K IAmb IAmb 04 03 04.0
comp=Z,36nm,1.2s
TAOE Nuku Hiva Isla 81.18 98 *e*P **P 04 02 57.6 -2.9**
comp=Z,45nm,25.4s
TAOE Nuku Hiva Isla 81.18 98 *e*S **S 04 13 05.9 -4.3**
comp=Z,114nm,23.6s
TAOE *e*SS **SS 04 18 30.2 +4.4**
comp=Z,192nm,30.3s
TAOE *e*LQ LQ 04 24 59.6
comp=Z,551nm,28.0s
TAOE *e*LR LR 04 28 19.0
comp=Z,879nm,21.9s
KDAK Kodiak Island 81.30 30 LR LR 04 35 49.0
comp=Z,854nm,20.1s,baz=238,slow=33
E18K Tukpahlearik C 81.78 20 IAmb IAmb 04 03 21.3
comp=Z,14nm,0.9s
L19K White Mountain 81.79 26 IAmb IAmb 04 03 15.3
comp=Z,21nm,1.1s
MAW Mawson 81.97 202 P **P 04 03 03.6 +0.2**
comp=Z,7.3nm,0.9s,baz=56,slow=6.7,SNR=11
MAW LR LR 04 39 07.7
comp=Z,376nm,18.0s,baz=68,slow=35
comp=Z,7.3nm,0.9s
J19K Poorman 82.16 24 IAmb IAmb 04 03 12.2
comp=Z,32nm,1.4s
M20K Styx River 82.44 26 IAmb IAmb 04 03 27.6
comp=Z,27nm,1.3s
K20K Telida 82.56 25 IAmb IAmb 04 03 08.7
comp=Z,39nm,1.6s
E19K Redstone River 82.96 21 IAmb IAmb 04 03 21.2
comp=Z,18nm,1.1s
D19K Kuna River 83.10 19 IAmb IAmb 04 03 16.2
comp=Z,34nm,1.4s
F20K Avaraart Lake 83.33 21 IAmb IAmb 04 03 17.8
comp=Z,14nm,1.1s
H21K Melozitna Rive 83.90 23 IAmb IAmb 04 03 20.3
comp=Z,14nm,1.2s
MLY Manley 84.50 24 P **P 04 03 16.1 -0.5**
AB31 Akbulak array 84.52 320 P **P 04 03 16.2 -0.8**
AB31 IAmb IAmb 04 03 24.0
comp=Z,22nm,1.4s
ABKAR Akbulak array 84.52 320 P **P 04 03 15.0 -1.9**
MCK McKinley 84.86 25 P **P 04 03 19.0 +0.6**
MCK IAmb IAmb 04 03 22.6
comp=Z,26nm,1.4s
MCK McKinley 84.86 25 P **P 04 03 19.0 +0.6**
MCK pmax pmax
comp=Z,27nm,1.4s
NEA2 Nenana 85.05 24 IAmb IAmb 04 03 23.1
comp=Z,18nm,1.5s
I23K Minto, Yukon-K 85.10 24 IAmb IAmb 04 03 20.5
comp=Z,38nm,1.6s
G23K Bananza Creek 85.31 22 IAmb IAmb 04 03 34.2
comp=Z,41nm,1.8s
WRH Wood River Hil 85.42 25 IAmb IAmb 04 03 25.2
comp=Z,18nm,1.0s
CCB Clear Creek Bu 85.59 25 IAmb IAmb 04 03 25.8
comp=Z,13nm,0.9s
DIV Divide 85.59 28 IAmb IAmb 04 03 33.9
comp=Z,21nm,0.9s
E23K Chandalar 85.88 21 IAmb IAmb 04 03 32.2
comp=Z,27nm,1.1s
H24K Noodor Dome 85.89 23 IAmb IAmb 04 03 25.0
comp=Z,36nm,1.8s
AKTO Aktyubinsk 85.95 321 LR LR 04 44 17.4
comp=Z,351nm,19.5s,baz=67,slow=37
ILAR Eielson Array 86.00 24 P **P 04 03 22.1 -2.0**
ILAR Eielson Array 86.00 24 P **P 04 03 21.3 -2.7**
comp=Z,6.0nm,0.8s,baz=263,slow=4.1,SNR=34
ILAR LR LR 04 44 36.7
comp=Z,221nm,18.1s,baz=216,slow=38
ILAR Eielson Array 86.00 24 P **P 04 03 22.1 -2.0**
TOLK Toolik Lake Re 86.07 20 IAmb IAmb 04 03 36.9
comp=Z,32nm,1.2s
C23K Itkillik River 86.09 19 IAmb IAmb 04 03 43.3
comp=Z,26nm,1.0s
G24K Hadweenzic Riv 86.28 23 IAmb IAmb 04 03 27.3
comp=Z,37nm,1.6s
E24K Your Creek 86.29 21 IAmb IAmb 04 03 27.4
comp=Z,28nm,1.8s
GLB Gilahina Butte 86.58 28 IAmb IAmb 04 04 54.7
comp=Z,30nm,1.6s
RIDG Independent Ri 86.62 26 P **P 04 03 27.2 0.0**
ARTI Arti 86.72 327 LR LR 04 43 45.6
comp=Z,292nm,21.1s,baz=90,slow=37
ARTI Arti 86.72 327*c i*P **P 04 03 30.8 +3.1**
ARTI 04 06 51.0
ARTI S **SKSac 04 13 57.1 +3.6**
ARTI SS **SS 04 19 40.2 -5.5**
DOT Dot Lake 86.94 26 IAmb IAmb 04 03 30.7
comp=Z,26nm,1.6s
L26K Log Cabin Wild 87.12 27 IAmb IAmb 04 03 40.7
comp=Z,32nm,1.7s
QSPA South Pole Qui 87.21 180 P **P 04 03 31.2 +1.1**
QSPA IAmb IAmb 04 03 36.5
comp=Z,22nm,1.0s
J26L Joseph Creek 87.33 25 IAmb IAmb 04 03 42.5
comp=Z,35nm,1.8s
BARN Barnard Glacie 87.53 29 IAmb IAmb 04 03 45.6
comp=Z,16nm,0.9s
BMAR Burnt Mountain 87.56 22 **P 04 03 32.2 +0.6**
L27K Beaver Creek, 87.81 27 IAmb IAmb 04 03 34.6
comp=Z,30nm,1.7s
BCAR Beaver Creek A 87.83 27 **P 04 03 33.0 0.0**
G27K Doyon Strip 88.55 23 IAmb IAmb 04 03 39.6
comp=Z,23nm,1.8s
E27K Coleen River 88.82 22 IAmb IAmb 04 03 41.8
comp=Z,15nm,1.4s
DAWY Dawson 89.05 26 IAmb IAmb 04 03 51.0
comp=Z,20nm,1.1s
L29M L29M 89.48 27 IAmb IAmb 04 03 53.4
comp=Z,24nm,1.4s
HYT Haines Junctio 89.50 29 IAmb IAmb 04 03 53.3
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 89.68 25 IAmb IAmb 04 03 53.8
comp=Z,19nm,1.2s
N30M Aishikik Lake 89.77 29 IAmb IAmb 04 03 45.2
comp=Z,13nm,1.2s
K29M Barlow Dome 89.84 26 IAmb IAmb 04 03 55.0
comp=Z,25nm,1.3s
M30M Minto, Yukon 90.03 27 IAmb IAmb 04 03 55.7
comp=Z,29nm,1.9s
O30N Mendenhall 90.19 29 IAmb IAmb 04 03 55.8
comp=Z,11nm,1.1s
J30M Hart River 90.43 25 IAmb IAmb 04 03 58.6
comp=Z,42nm,1.9s
I30M Mount Dempster 90.47 25 IAmb IAmb 04 04 09.1
comp=Z,33nm,1.9s
SYO Syowa Base 90.61 201⇑ *e*P **P 04 03 47.4 +1.5**
SYO Syowa Base 90.61 201⇑ *e*sP sP 04 03 54.0 -0.9
KIRV Kirov 91.77 328 LR LR 04 45 51.1
comp=Z,438nm,21.7s,baz=87,slow=36
INK Inuvik 91.82 22 LR LR 04 43 09.8
comp=Z,285nm,19.5s,baz=216,slow=34
MAK Makhachkala 92.48 313*c i*P P 04 03 48.5 -6.6
MAK *e* 04 07 35.6
MAK *e* 04 14 18.5
MAK pmax pmax
comp=Z,178nm,1.2s
BELG Belogornoye 92.60 322 LR LR 04 44 06.0
comp=Z,613nm,21.1s,baz=96,slow=35
DLBC Dease Lake 93.16 32 LR LR 04 43 18.6
comp=Z,4μm,19.2s,baz=264,slow=34
BBB Bella Bella 94.31 38 LR LR 04 41 14.1
comp=Z,499nm,19.5s,baz=272,slow=32
GNI Garni 94.52 310 LR LR 04 49 59.2
comp=Z,122nm,21.9s,baz=90,slow=38
KBZ Khabaz 95.83 313 LR LR 04 53 46.8
comp=Z,135nm,18.2s,baz=59,slow=40
KIV Kislovodsk 95.98 314 *e*P **P 04 04 10.7 -0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 98.48 48 LR LR 04 39 46.9
comp=Z,48nm,22.0s,baz=288,slow=30
SPITS Spitsbergen Ar 98.95 350 LR LR 04 51 22.0
comp=Z,252nm,18.9s,baz=42,slow=37
OBN Obninsk 98.98 325 LR LR 04 51 25.4
comp=Z,335nm,20.2s,baz=21,slow=37
TROLL Troll, Antarti 100.23 193 ⇓P **Pdif 04 04 32.0 +2.1**
comp=Z,143nm,0.9s
SNAA Sanae 101.61 192 ⇓P **Pdif 04 04 39.1 +3.1**
comp=Z,35nm,1.0s
VNA2 Neumayer--Watz 103.10 191 ⇓P **Pdif 04 04 49.7 +7.1**
comp=Z,1.1nm,0.6s,baz=156,slow=2.1
TXAR Lajitas Array 115.61 59 PKP **PKPdf 04 09 26.1 -0.8**
comp=Z,0.1nm,0.5s,baz=174,slow=3.2,SNR=4.9
TXAR PKKPbc **PKKPbc 04 19 59.7 -0.5**
comp=Z,0.8nm,1.0s,baz=137,slow=6.3,SNR=5.0
PB11 IPOC Station P 144.54 130 **PKPab 04 10 20.0 0.0**
ROSC El Rosal 147.32 85 PKPdf **PKPdf 04 10 25.2 -1.6**
ROSC El Rosal 147.32 85 PKPbc **PKPbc 04 10 29.6 +0.5**
comp=Z,9.1nm,0.6s,baz=310,slow=15,SNR=4.5
CPUP Villa Florida 147.36 153 **PKPbc 04 10 28.7 +0.3**
CPUP Villa Florida 147.36 153 PKPbc **PKPab 04 10 29.9 -0.3**
comp=Z,3.3nm,1.0s,baz=72,slow=3.4,SNR=16
LPAZ La Paz 147.71 127 PKPbc **PKPbc 04 10 30.1 -0.3**
comp=Z,6.6nm,0.8s,baz=20,slow=1.9,SNR=15
RUSC La Rusia 148.49 83 **PKPdf 04 10 27.8 -1.0**
AOPR Arecibo Observ 150.91 56 PKPdf **PKPdf 04 10 29.3 -2.6**
OBIP Obispado Ponce 151.18 56 PKPdf **PKPdf 04 10 31.3 -1.0**
CELP Cerrillos 151.19 56 PKPdf **PKPdf 04 10 30.8 -1.5**

ISN 23 03:59:30.1±0.8, 34°62N×46°91E, h7km±17km, ML2.8
TEH 23 03:59:31.4, 34°36N×47°13E, h9km±75km
ISC 23 03:59:31.2±1.1, **34°54N**±0°07×**47°07E**±0°04, **h12**km, **n9**, σ1§**03**/13, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.46**	**244**	Pg	**Pb**	**03 59 41.7**	**+0.3**
IGHG				Sg	**Sb**	**03 59 49.5**	**+1.2**
SNQR	**Sonqor, Kerman**	**0.56**	**55**	Pg	**Pn**	**03 59 45.6**	**+0.3**
IDHR	**Dehrash**	**0.59**	**286**	Pg	**Pn**	**03 59 45.6**	**0.0**

GLG1	Gilan-e-Gharb	1.05	247	Pg	Pn	03 59 52.9	+1.1
IDOB	Doab	1.18	129	Pg	Pb	03 59 52.2	-1.4
IBDR	Badra	1.71	214	ePn	Pb	04 00 02.5	0.0
IBDR				eSn	Sg	04 00 25.3	-0.8
IBDR				AML	AML	04 00 28.8	
	comp=E,97nm,0.3s						
IBDR				AML	AML	04 00 29.7	
	comp=N,144nm,0.2s						
HAGD	Aghdareh	1.73	80	Pg	Pb	04 00 04.2	+1.2
IKRK	Kirkuk	2.40	292	ePn	Pn	04 00 09.0	-1.3
IKRK				eSn	Sn	04 00 38.5	-1.2
BHD	Baghdad	2.57	241	ePn	Pn	04 00 13.0	+0.4
BHD				eSn	Sn	04 00 44.0	+0.3

*NEIC **23** 04:12:14.2±1.7,23°.1S±0°.1×179°.5W±0°.1,h417km±8km, mb4.3/21,Error ellipse: s-maj=20.2km s-min=14.0km az=112.0*
*IDC **23** 04:12:21.5±9.8,23°.25S×179°.76W,h491km±94km,mb3.0/4, mbtmp4.0/5,Error ellipse: s-maj=80.5km s-min=28.2km az=41.0*

ISC 23 04:12:12.8±0.7,23°.02S±0°.10×179°.5W±0°.1,h400km,n34, σ1§14/33,mb4.0/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	9.80	68	P	P	04 14 28.4	+0.1
PINNC	Pines Island,	12.01	269	P	P	04 14 55.2	+2.5
URZ	Urewera	15.46	190	P	P	04 15 33.9	+3.8
	11nm,0.8s,baz=276,slow=4.9,SNR=6.1						
URZ				S	S	04 18 12.8	-0.6
	7.9nm,0.9s,baz=336,slow=20,SNR=1.4						
BFZ	Birch Farm	17.96	190	P	P	04 15 56.0	-0.8
MRZ	Mangatainoka R	18.06	192	P	P	04 15 57.4	-0.5
MRZ				IAmb	IAmb	04 16 00.0	
	comp=Z,75nm,1.3s						
TCW	Tory Channel	18.87	195	P	P	04 16 05.4	-0.9
QRZ	Quartz Range	18.97	199	P	P	04 16 07.0	-0.4
TUWZ	Tuamarina	19.15	195	P	P	04 16 08.2	-1.0
MRNZ	Matariki Terra	19.43	198	P	P	04 16 11.3	-0.5
THZ	Tophouse	19.73	197	P	P	04 16 14.9	+0.2
HNR	Honiara	23.84	301	P	P	04 16 51.0	-1.3
WHZ	Wether Hill Ro	24.98	201	P	P	04 17 02.9	+0.8
WHZ				IAmb	IAmb	04 17 19.8	
	comp=Z,48nm,1.3s						
STKA	Stephens Creek	35.45	247	P	P	04 18 33.4	0.0
STKA				IAmb	IAmb	04 18 50.9	
	comp=Z,5.9nm,0.8s						
STKA	Stephens Creek	35.45	247	P	P	04 18 33.2	-0.1
	comp=Z,0.7nm,0.4s,baz=83,slow=8.1,SNR=3.3						
	comp=Z,0.7nm,0.4s						
BBOO	Buckleboo	40.18	246	P	P	04 19 11.8	-0.6
BBOO				IAmb	IAmb	04 19 24.4	
	comp=Z,10nm,1.4s						
AS31	Alice Springs	42.60	260	P	P	04 19 32.3	+0.3
ASAR	Alice Springs	42.60	260	P	P	04 19 32.1	+0.1
	comp=Z,1.2nm,0.4s,baz=94,slow=7.4,SNR=17						
	comp=Z,1.2nm,0.4s						
WR8	Warramunga Arr	42.74	265	P	P	04 19 33.0	-0.1
WR8				IAmb	IAmb	04 19 37.6	
	comp=Z,9.0nm,1.5s						
WB0	Warramunga Arr	42.88	265	P	P	04 19 34.1	-0.1
WB0				IAmb	IAmb	04 19 34.6	
	comp=Z,3.8nm,0.7s						
WRA	Warramunga Arr	42.89	265	P	P	04 19 34.2	-0.1
WRA	Warramunga Arr	42.89	265	P	P	04 19 34.1	-0.2
	comp=Z,2.5nm,0.5s,baz=102,slow=8.0,SNR=25						
	comp=Z,2.5nm,0.5s						
FORT	Forrest	47.02	249	P	P	04 20 04.8	-1.3
KNRA	Kununurra	49.12	269	P	P	04 20 22.3	+0.1
KNRA				IAmb	IAmb	04 20 36.8	
	comp=Z,20nm,1.5s						
VNDA	Vanda	55.29	185	P	P	04 21 05.1	-0.9
VNDA	Vanda	55.29	185	P	P	04 21 05.4	-0.6
	comp=Z,0.3nm,0.7s,baz=11,slow=7.6,SNR=1.8						
	comp=Z,0.3nm,0.7s						
MBWA	Marble Bar	55.94	259	P	P	04 21 10.4	-1.1
MBWA				IAmb	IAmb	04 21 25.2	
	comp=Z,20nm,1.5s						
MORW	Morawa	57.57	249	P	P	04 21 21.5	-1.3
MORW				IAmb	IAmb	04 21 42.7	
	comp=Z,23nm,1.4s						
QSPA	South Pole Qui	67.06	180	P	P	04 22 24.4	0.0
JMN	Monobe	71.77	320	P	P	04 22 52.2	-0.9
JMN				IAmb	IAmb	04 23 13.3	
	comp=Z,39nm,1.4s						
GSTR	Great Sitkin T	74.85	2	P	P	04 23 10.7	+0.2
BELA	Belgrano 2	77.25	173	P	P	04 23 23.9	+0.2
BELA				IAmb	IAmb	04 23 26.7	
	comp=Z,4.4nm,1.5s						
HFS	Hagfors	141.77	349	PKhKP	PKPpre	04 30 51.7	
	comp=Z,1.6nm,0.3s,baz=54,slow=3.6,SNR=16						
AKASG	Malin Array Be	144.46	328	PKP	PKPbc	04 31 00.2	-1.4
	comp=Z,1.3nm,0.6s,baz=46,slow=3.7,SNR=5.2						
MMAI	Mount Meron Ar	147.71	296	PKPbc	PKPdf	04 31 10.5	+2.3
	comp=Z,1.0nm,0.3s,baz=67,slow=3.7,SNR=2.2						

*KOLA **23** 04:20:28.0,69°.76N×30°.65E,h0km,ML1.6,Norway, Finnmark*

HEL 23 04:20:25.2±0.4,69°.21N×30°.73E,h0km,Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	Raja-Jooseppi	1.15	231	PN	Pn	04 20 48.3	-0.2
RAJF				SN	Sn	04 21 05.3	+0.4
KEV	Kevo	1.42	294	PG	Pn	04 20 50.8	-1.4
	baz=108						
KEV				SG	Sg	04 21 08.8	-1.9
TERR	Teriberka	1.56	88	S	Sg	04 21 20.3	+5.0
ARA0	ARCESS Array S	1.88	282	PG	Pn	04 20 59.0	+0.5
	baz=107						
ARA0				SG	Sn	04 21 23.4	+0.6
ARCES	ARCESS Array B	1.88	282	P	Pn	04 20 58.7	+0.2
ARCES				S	Sn	04 21 22.9	0.0
KTK1	Kautokeino	2.69	269	PB	Pb	04 21 12.5	-1.6
KIF	Kilpisjarvi	3.56	271	SB	Sb	04 22 08.6	-4.1
KUJ2	Taivalkoski	3.65	196	SG	Sb	04 22 18.0	+2.7
OUL	Oulu	4.55	207	SG	Sb	04 22 45.2	+4.0

*IDC **23** 04:26:47.5±0.6,2°.58S×138°.38E,h0km,mb4.2/11, mbtmp4.2/14,ML3.9/3,MS3.4/2,Error ellipse: s-maj=21.2km s-min=15.6km az=71.0*
*NEIC **23** 04:26:49.2±2.8,2°.7S±0°.1×138°.38E±0°.06,h10km±1km, mb4.0/11,Error ellipse: s-maj=17.0km s-min=10.7km az=177.0*
*DJA **23** 04:26:51.0±0.3,2°S±5°×13°8E±°,h10km,M4.4/6,mb4.8/3, MLv4.2/6*

ISC 23 04:26:51.9±0.5,2°.59S±0°.07×138°.38E±0°.06,h32km,n47, σ1§27/44,mb4.3/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.68	29	P	Pb	04 27 01.6	-3.8
GENI	Genyem	1.79	90	P	Pn	04 27 22.5	+2.0
SRPI	Serui, Papua	2.25	288	P	Pn	04 27 26.4	-0.6
JAY	Jayapura	2.32	88	Pn	Pn	04 27 28.1	+0.1
	10.0nm,0.3s,baz=221,slow=10,SNR=31						
JAY				Sn	Sn	04 27 56.8	+1.3
	7.3nm,0.3s,baz=245,slow=23,SNR=5.7						
	74nm,0.7s						
JAY	Jayapura	2.32	88	P	Pn	04 27 29.6	+1.6
BAKI	Biak	2.66	301	P	Pn	04 27 32.9	+0.3
FAKI	Fak Fak	6.13	267	Pn	Pn	04 28 20.6	+0.2
FAKI	Fak Fak	6.13	267	P	Pn	04 28 20.0	-0.4
	0.2nm36nm,0.8s						
MSAI	Masohi	9.47	265	P	Pn	04 29 07.7	+1.5
	54nm,0.7s						
PMG	Port Moresby	11.05	128	LR	LR	04 35 23.9	
	comp=Z,390nm,18.5s,baz=259,slow=47						
NLAI	Namlea	11.29	266	P	Pn	04 29 32.4	+1.3
COEN	Coen	12.25	158	Pn	Pn	04 29 43.6	-0.7
MTN	Manton Dam	12.46	215		Pn	04 29 47.0	-0.1
SOEI	Soe	15.73	242	Pn	Pn	04 30 30.9	-0.6
KNRA	Kununurra	16.09	215	Pn	Pn	04 30 34.0	-2.0
KNRA				IAmb	IAmb	04 30 52.5	
	comp=Z,19nm,0.9s						
GUMO	Guam	17.31	22	LR	LR	04 35 49.3	
	comp=Z,59nm,20.2s,baz=71,slow=31						
WB0	Warramunga Arr	17.51	193		Pn	04 30 52.4	-1.4
WB0				IAmb	IAmb	04 31 08.0	
	comp=Z,9.9nm,1.1s						
WR8	Warramunga Arr	17.67	192		Pn	04 30 54.0	-1.8
WR8				IAmb	IAmb	04 31 29.6	
	comp=Z,8.2nm,0.8s						
WRA	Warramunga Arr	17.70	193	P	Pn	04 30 54.4	-1.6
WRA	Warramunga Arr	17.70	193	P	Pn	04 30 55.6	-0.5
	comp=Z,0.5nm,0.3s,baz=12,slow=11,SNR=19						
WRA				S	Sn	04 34 01.5	-11
	comp=Z,0.4nm,0.6s,baz=12,slow=22,SNR=2.8						
	comp=Z,2.9nm,0.6s						
FITZ	Fitzroy Crossi	19.84	218	P	P	04 31 18.3	-2.0
FITZ	Fitzroy Crossi	19.84	218	P	P	04 31 19.8	-0.5
	comp=Z,0.3nm,0.3s,baz=49,slow=9.4,SNR=7.0						
FITZ				S	S	04 34 52.9	-9.3
	comp=Z,2.1nm,0.8s,baz=213,slow=6.7,SNR=2.2						
	comp=Z,2.4nm,0.8s						
AS31	Alice Springs	21.40	191		P	04 31 33.4	-3.8
AS31				IAmb	IAmb	04 31 44.0	
	comp=Z,4.3nm,0.9s						
ASAR	Alice Springs	21.40	191		P	04 31 36.0	-1.1
ASAR	Alice Springs	21.40	191	P	P	04 31 36.5	-0.7
	comp=Z,3.4nm,0.7s,baz=24,slow=10,SNR=38						
ASAR				S	S	04 35 23.5	-10
	comp=Z,0.4nm,0.7s,baz=14,slow=23,SNR=2.3						
	comp=Z,3.4nm,0.7s						
KSRS	Korea Array	41.01	347	P	P	04 34 32.7	+0.7
	comp=Z,1.4nm,0.8s,baz=173,slow=11,SNR=5.1						
	comp=Z,1.4nm,0.8s						
CMAR	Chiang Mai Arr	44.09	300	P	P	04 34 57.8	+0.3
CMAR	Chiang Mai Arr	44.09	300	P	P	04 34 58.9	+1.3
	comp=Z,1.6nm,0.3s,baz=126,slow=6.1,SNR=9.7						
	comp=Z,1.6nm,0.3s						
HILR	Hailar Array B	54.38	345	P	P	04 36 16.0	+0.3
	comp=Z,1.3nm,0.4s,baz=182,slow=39,SNR=3.0						
	comp=Z,1.3nm,0.4s						
SONM	Songino Array	57.47	335	P	P	04 36 37.5	-0.5
SONM				IAmb	IAmb	04 37 19.9	
	comp=Z,2.9nm,1.5s						
SONM	Songino Array	57.47	335	P	P	04 36 38.7	+0.7
	comp=Z,0.5nm,0.4s,baz=78,slow=28,SNR=2.1						
	comp=Z,0.5nm,0.4s						
MKAR	Makanchi Array	69.49	322	P	P	04 37 57.8	+0.4
MKAR	Makanchi Array	69.49	322	P	P	04 37 58.2	+0.8
	comp=Z,5.4nm,0.8s,baz=120,slow=7.3,SNR=19						
	comp=Z,5.4nm,0.8s						
MAKZ	Makanchi	69.69	322	P	P	04 37 57.9	-0.7
KSH	Kashi	70.76	313	P	P	04 38 08.5	+3.0
ZALV	Zalesovo Beam	71.67	330	P	P	04 38 09.8	-0.6
ZALV	Zalesovo Beam	71.67	330	P	P	04 38 10.0	-0.4
	comp=Z,1.9nm,0.5s,baz=117,slow=8.1,SNR=7.0						
	comp=Z,1.9nm,0.5s						
KURK	Kurchatov	73.43	325		P	04 38 20.8	-0.2
KURK				IAmb	IAmb	04 38 23.1	
	comp=Z,3.1nm,0.8s						
KURBB	Kurchatov Arra	73.44	325	P	P	04 38 21.4	+0.3
	comp=Z,2.3nm,0.8s,baz=114,slow=5.6,SNR=13						
	comp=Z,2.3nm,0.8s						
VNDA	Vanda	75.93	175	P	P	04 38 34.3	-0.7
VNDA				IAmb	IAmb	04 39 02.9	
	comp=Z,1.9nm,1.2s						
VNDA	Vanda	75.93	175	P	P	04 38 35.7	+0.6
	comp=Z,0.7nm,0.7s,baz=328,slow=6.4,SNR=9.9						
	comp=Z,0.7nm,0.7s						
BVAR	Borovoye Array	79.02	325	P	P	04 38 53.3	+0.5
	comp=Z,6.0nm,0.8s,baz=104,slow=6.3,SNR=14						
	comp=Z,6.0nm,0.8s						
ILAR	Eielson Array	85.86	24	P	P	04 39 27.4	-0.8
ILAR	Eielson Array	85.86	24	P	P	04 39 27.6	-0.6
	comp=Z,1.9nm,0.8s,baz=267,slow=4.5,SNR=14						
	comp=Z,1.9nm,0.8s						
CPUP	Villa Florida	147.49	153	PKPbc	PKPbc	04 46 34.3	+0.8
	comp=Z,0.4nm,0.8s,baz=169,slow=5.2,SNR=4.3						
LPAZ	La Paz	147.78	126	PKPab	PKPbc	04 46 36.5	+1.1
LPAZ	La Paz	147.78	126	PKPbc	PKPbc	04 46 36.8	+1.4
	comp=Z,2.4nm,0.8s,baz=228,slow=2.5,SNR=13						

*IDC **23** 04:28:25.8±11.0,4°.16N×122°.96E,h549km±168km, mb3.3/9,mbtmp4.2/9,Error ellipse: s-maj=74.3km s-min=26.6km az=76.0*

ISC 23 04:28:27.7±0.9,4°.2N±0°.2×123°.1E±0°.5,h573km,n9, σ1§15/9,mb3.9/9,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.31	174	P	P	04 32 42.9	-0.6
	2.5nm,0.7s,baz=350,slow=6.1,SNR=1.5						
	2.5nm,0.7s						
WRA	Warramunga Arr	26.43	156	P	P	04 33 17.7	-2.3
	2.7nm,0.3s,baz=335,slow=9.7,SNR=31						
	2.7nm,0.3s						
ASAR	Alice Springs	29.65	160	P	P	04 33 48.1	+0.1
	1.7nm,0.3s,baz=339,slow=7.2,SNR=16						
	1.7nm,0.3s						
STKA	Stephens Creek	39.98	155	P	P	04 35 14.5	+0.8
	1.1nm,0.3s,baz=325,slow=12,SNR=3.2						
	1.1nm,0.3s						
HILR	Hailar Array B	45.27	357	P	P	04 35 55.1	+0.3
	3.3nm,0.5s,baz=186,slow=8.7,SNR=3.3						
	3.3nm,0.5s						
SONM	Songino Array	45.77	344	P	P	04 35 59.2	+0.5
	0.8nm,0.5s,baz=169,slow=8.1,SNR=2.6						
	0.8nm,0.5s						
MKAR	Makanchi Array	55.13	327	P	P	04 37 06.8	0.0
	1.7nm,0.3s,baz=123,slow=7.5,SNR=29						
	1.7nm,0.3s						
ZALV	Zalesovo Beam	58.55	335	P	P	04 37 29.1	-0.8
	0.7nm,0.3s,baz=132,slow=2.1,SNR=3.1						
	0.7nm,0.3s						
KURBB	Kurchatov Arra	59.41	329	P	P	04 37 34.8	-0.9
	1.4nm,0.5s,baz=128,slow=6.1,SNR=14						
	1.4nm,0.5s						

*IDC **23** 04:43:26.9±2.4,22°.08N×123°.78E,h0km,mb4.0/12, mbtmp4.1/15,ML3.8/3,MS3.7/18,Error ellipse: s-maj=53.9km s-min=21.0km az=160.0*
*NIED **23** 04:43:34.3,22°.74N×123°.58E,h66km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.60; $M_{\theta\theta}$4.54; $M_{\phi\phi}$-0.94; $M_{r\theta}$1.86; $M_{\phi\phi}$-0.16; $M_{\phi r}$-1.00; Fault plane solution: $M_0$4.62000×10^{15} NP1:ϕ_s75.00000°, δ35.00000°,λ-117.00000°. NP2:ϕ_s286.00000°, δ59.00000°,λ-73.00000°.*
*NEIC **23** 04:43:34.1±1.9,22°.83N±0°.06×123°.56E±0°.08,h10km±1km, mb4.6/25 Error ellipse: s-maj=11.8km s-min=10.3km az=107.0*
*JMA **23** 04:43:34.3±0.3,23°N±1°×12°4E±°,h66km,MD4.4/17, MV4.4/17,FAR S OFF ISHIGAKIJIMA*

ISC 23 04:43:32.4±4.4,22°.75N±0°.05×123°.63E±0°.04,h8km±28km, n92,σ1§29/89,mb4.5/24,MS3.7/17,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.31	7	P	Pn	04 43 57.4	+0.4
HATJ				eS	Sb	04 44 13.3	-0.9
HATJ	Hateruma jima	1.31	7	A	A	04 43 57.4	
	comp=N,18nm,3.2s,comp=E,13nm,4.0s						
JKRS	Kuro-shima	1.52	13	eP	Pn	04 44 00.4	+0.5
JKRS				eS	Sn	04 44 18.9	-0.9
JKRS	Kuro-shima	1.52	13	A	A	04 44 00.4	
	comp=N,15nm,3.3s,comp=E,15nm,3.2s						
IRIF	Iriomote-Funau	1.58	3	P	Pn	04 44 01.2	+0.5
IRIF				eS	Sn	04 44 20.0	-1.3
IRIF	Iriomote-Funau	1.58	3	A	A	04 44 01.2	
	comp=N,12nm,2.3s,comp=E,6.0nm,1.4s						
JIJ	Ishigaki jima	1.67	16	P	Pn	04 44 02.1	+0.1
JIJ				eS	Sn	04 44 21.7	-1.9
YOJ	Yonaguni jima	1.79	342		Pn	04 44 03.7	0.0
YOJ				Sn	Sn	04 44 24.7	-1.9
YOJ	Yonaguni jima	1.79	342	P	Pn	04 44 04.3	+0.6
YOJ	Yonaguni jima	1.79	342	S	Sn	04 44 26.9	+0.3
YOJ	Yonaguni jima	1.79	342	eP	Pn	04 44 04.0	+0.3
JYNG	Yonagunijimaku	1.80	340	eP	Pn	04 44 04.0	+0.3
JYNG				eS	Sn	04 44 25.3	-1.5
JISG	Ishigakijimahi	1.93	19	P	Pn	04 44 05.6	0.0
JISG				eS	Sn	04 44 28.8	-1.2
JTJ	Tarama	2.12	27	eP	Pn	04 44 08.2	0.0
JTJ				eS	Sn	04 44 33.8	-0.9
YULB	Yu-li	2.24	287		Pn	04 44 08.4	-1.4
YULB	Yu-li	2.24	287	P	Pn	04 44 08.8	-1.0
NACB	Ninganchiao	2.34	308		Pn	04 44 09.9	-1.3
NACB	Ninganchiao	2.34	308	P	Pn	04 44 10.1	-1.1
TWGBT	Beinan	2.35	272	P	Pn	04 44 10.6	-0.8
TWG	Pinlang	2.36	272		Pn	04 44 10.2	-1.3
JIRB	Irabujima	2.50	34	eP	Pn	04 44 13.3	-0.1
JIRB				eS	Sn	04 44 42.8	-1.4
JMJ2	Miyako jima3	2.52	38	eP	Pn	04 44 13.8	+0.2
JMJ2				eS	Sn	04 44 43.6	-0.9
JMJ	Miyako jima 2	2.56	36	P	Pn	04 44 14.2	0.0
JOGS	Gusukube	2.58	39	eP	Pn	04 44 14.8	+0.4
JOGS				eS	Sn	04 44 45.3	-0.7
JIKM	Ikemajima	2.62	34	eP	Pn	04 44 15.2	+0.2
JIKM				eS	Sn	04 44 46.2	-0.9
SSLB	Suanglung	2.67	293		Pn	04 44 15.3	-0.4
SSLB	Suanglung	2.67	293	P	Pn	04 44 16.0	+0.3
YHNB	Yeheng	2.81	313		Pn	04 44 18.3	+0.5
YHNB	Yeheng	2.81	313	P	Pn	04 44 18.1	+0.4
TPUB	Ta-pu	2.81	282		Pn	04 44 18.3	+0.6
TPUB	Ta-pu	2.81	282	P	Pn	04 44 18.6	+0.8
TATO	Taipei	2.95	319		Pn	04 44 20.4	+0.8
KNMB	Chin-men Tao	5.10	291	Pn	Pn	04 44 49.7	+0.6
JOW	Kunigami	5.86	45	Pn	Pn	04 44 58.7	-0.9
	comp=E,10nm,0.3s,baz=199,slow=12,SNR=13						
JOW				Sn	Sn	04 46 01.5	-5.4
	comp=E,5.1nm,0.3s,baz=111,slow=28,SNR=7.2						
JOW				LR	LR	04 46 20.7	
	comp=E,75nm,20.7s,baz=310,slow=28						
	comp=E,27nm,0.3s						
JOW	Kunigami	5.86	45	P	Pn	04 44 58.9	-0.7
JMZ	Minamidaito 2	7.57	65	P	Pn	04 45 22.5	-0.6
KSRS	Korea Array	15.11	13	Pn	Pn	04 47 07.8	+1.6
	comp=E,0.2nm,0.3s,baz=192,slow=12,SNR=6.0						
	comp=E,2.4nm,0.9s						
DAV	Davao City (W)	15.71	173	LR	LR	04 53 16.1	
	comp=E,100nm,19.2s,baz=349,slow=39						
MAJO	Matsushiro	18.66	39		P	04 47 48.1	-2.7
MJAR	Matsushiro Arr	18.66	39		P	04 47 51.1	+0.2
MJAR	Matsushiro Arr	18.66	39	P	Pn	04 47 52.5	+1.4
	comp=E,0.1nm,0.3s,baz=229,slow=9.9,SNR=30						
	comp=E,15nm,0.9s						
MJB9	Matsu-Tunnel	18.66	39		P	04 47 49.7	-1.1
TOLI2	Tolitoli	21.69	188		P	04 48 22.5	-1.3
GUMO	Guam	22.12	111	LR	LR	04 55 25.1	
	comp=E,79nm,20.5s,baz=328,slow=33						
CMAR	Chiang Mai Arr	23.49	264	P	P	04 48 38.0	-4.9
	comp=E,1.7nm,0.3s,baz=37,slow=8.8,SNR=6.8						
CMAR				LR	LR	04 58 49.7	
	comp=E,151nm,18.8s,baz=50,slow=39						
	comp=E,1.7nm,0.3s						
ASAJ	Asahikawa	26.42	32	LR	LR	04 59 44.4	
	comp=E,171nm,18.4s,baz=127,slow=36						
KAPI	Kappang	27.86	188	LR	LR	05 00 39.7	
	comp=E,92nm,19.9s,baz=354,slow=38						
SONM	Songino Array	28.57	335		P	04 49 29.4	+0.4
SONM				IAmb	IAmb	04 49 41.8	
	comp=Z,8.2nm,1.1s						
SONM	Songino Array	28.57	335	P	P	04 49 29.9	+1.0
	comp=Z,3.2nm,1.0s,baz=158,slow=9.1,SNR=7.5						
SONM				LR	LR	05 01 52.6	
	comp=Z,204nm,20.7s,baz=80,slow=38						
	comp=Z,3.2nm,1.0s						
BRDH	Bariadhala	29.48	276	LR	LR	05 03 40.5	
	comp=Z,107nm,18.2s,baz=144,slow=41						
YAK	Yakutsk	39.47	4	LR	LR	05 08 12.6	
	comp=Z,105nm,20.4s,baz=176,slow=37						
PETK	Petropavlovsk-	39.84	32	P	P	04 51 05.3	-1.0
	comp=Z,4.5nm,1.1s,baz=247,slow=7.5,SNR=1.6						
PETK				LR	LR	05 07 53.7	
	comp=Z,59nm,20.9s,baz=262,slow=36						
	comp=Z,4.5nm,1.1s						
MKAR	Makanchi Array	40.92	316		P	04 51 15.9	+0.6
MKAR	Makanchi Array	40.92	316	P	P	04 51 15.6	+0.3
	comp=Z,1.0nm,0.5s,baz=101,slow=9.8,SNR=8.1						
	comp=Z,1.0nm,0.5s						
MA2	Magadan	41.49	21	LR	LR	05 08 24.8	
	comp=Z,84nm,20.2s,baz=214,slow=36						
ZAA0	Zalesovo Array	42.66	327	P	P	04 51 30.3	+1.0
ZAA0				IAmb	IAmb	04 51 41.5	
	comp=Z,9.3nm,0.8s						
ZALV	Zalesovo Beam	42.66	327		P	04 51 30.2	+0.9
ZALV	Zalesovo Beam	42.66	327	P	P	04 51 30.6	+1.2
	comp=Z,1.3nm,0.4s,baz=106,slow=9.4,SNR=12						
	comp=Z,1.3nm,0.4s						
PSA00	Pilbara Seismi	44.21	185		P	04 51 42.2	0.0
PSA00				IAmb	IAmb	04 51 42.8	
	comp=Z,7.3nm,1.2s						
SEY	Seymchan	44.59	18	LR	LR	05 11 27.7	
	comp=Z,70nm,18.7s,baz=276,slow=37						
KURK	Kurchatov	44.62	320	P	P	04 51 43.5	-1.7
KURK				IAmb	IAmb	04 51 58.6	
	comp=Z,5.5nm,0.6s						
KURBB	Kurchatov Arra	44.64	320	P	P	04 51 45.9	+0.5
	comp=Z,1.0nm,0.4s,baz=116,slow=6.9,SNR=6.4						
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	47.21	167	P	P	04 52 07.2	+1.3
GAR	Garm	47.87	303	P	P	04 52 11.5	+0.3
TIXI	Tiksi	49.01	2	LR	LR	05 15 47.0	
	comp=Z,152nm,18.1s,baz=192,slow=39						
BVAR	Borovoye Array	50.20	321	P	P	04 52 30.0	+1.4
	comp=Z,1.1nm,0.5s,baz=92,slow=9.2,SNR=4.0						
	comp=Z,1.1nm,0.5s						
NWAO	Narrogin (SRO)	55.70	187	LR	LR	05 18 25.3	
	comp=Z,968nm,18.2s,baz=74,slow=38						
AB31	Akbulak array	56.04	315	P	P	04 53 12.1	+0.4
ABKAR	Akbulak array	56.04	315	P	P	04 53 11.7	0.0
BBOO	Buckleboo	56.51	167	P	P	04 53 16.1	+0.9
BBOO				IAmb	IAmb	04 53 19.9	
	comp=Z,14nm,1.2s						
KIRV	Kirov	62.67	325	LR	LR	05 26 06.0	
	comp=Z,123nm,18.6s,baz=96,slow=40						
KBZ	Khabaz	68.12	310	P	P	04 54 32.9	0.0
	comp=Z,1.6nm,0.8s,baz=31,slow=5.9,SNR=2.

s-min=4.5km az=166.0
*NEIC **23** 04:49:41.7,21°.83S×168°.97E,h24km*
*NEIC **23** 04:49:41.7,21°.53S×168°.97E,h24km,Moment Tensor Solution. Duration: 1!4 Moment tensor: Scale 10^16^Nm; Mrr=3.34; Mθθ=0.91; Mφφ=2.43; Mrθ=-0.18; Mθφ=-1.13; Mφr=-0.61; Fault plane solution: M0=3.26000×10^16^ NP1: φs=145.37000°,δ=41.31000°,λ=-100.21000°. NP2: φs=338.85000°,δ=49.49000°,λ=-81.15000°. Principal axes: T 3.0631, Plg=4.0000°, Azm=63.0000°; N 0.3585, Plg=7.0000°, Azm=153.0000°; P -3.4216, Plg=82.0000°, Azm=301.0000°;*
*BJI **23** 04:49:42.7,21°.64S×169°.56E,h36km,mB5.2/10,mb4.9/34,Ms5.0/4*
*GCMT **23** 04:49:45.7±0.2,21°.90S±0°.02×169°.00E±0°.02,h24km, MW5.0/77,Moment Tensor Solution. s49,c62; s77,c112; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.56±.19; Mθθ=1.59±.16; Mφφ=2.97±.14; Mrθ=0.04±.20; Mθφ=-2.08±.09; Mφr=0.65±.17; Best double couple: M0=4.56200×10^16^ NP1:φs=319.00000°,δ=42.00000°,λ=-97.00000°. NP2: φs=149.00000°,δ=48.00000°,λ=-83.00000°. Principal axes: T 4.4990, Plg=3.0000°, Azm=234.0000°; N 0.1250, Plg=5.0000°, Azm=325.0000°; P -4.6240, Plg=84.0000°, Azm=112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 04:49:43.0±0.6,21°.90S±0°.06×169°.11E±0°.05,h26km±3km, h25km:pP-P,n215,σ1!27/192,mb5.1/69,MS4.0/21, 14C-22D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.09**	**292**	Pn	**Pn**	**04 50 00.8**		**-1.8**
MARNC				Sn	**Sb**	**04 50 13.8**		**-3.2**
PINNC	**Pines Island,**	**1.70**	**245**		**Pn**	**04 50 10.0**		**-1.0**
DZM	**Mont Dzumac**	**2.48**	**266**	Pn	**Pn**	**04 50 21.2**		**-0.7**
	40nm,0.3s,baz=338,slow=21,SNR=317							
DZM				Sn	**Sn**	**04 50 49.7**		**-1.7**
	baz=105,slow=19							
DZM				LR	LR	04 50 50.6		
	comp=Z,2μm,19.4s,baz=108,slow=29							
	126nm,0.3s							
ONTNC	**Quen Toro**	**2.50**	**260**		**Pn**	**04 50 21.5**		**-0.5**
SANVU	**Saraoutou**	**6.67**	**344**		**Pn**	**04 51 17.8**		**-1.6**
MSVF	**Nonsavu**	**9.38**	**65**		**Pn**	**04 52 00.3**		**+3.6**
HNR	**Honiara**	**15.21**	**323**	LR	LR	04 58 10.2		
	comp=Z,593nm,19.4s,baz=141,slow=34							
EIDS	**Eidsvold**	**16.88**	**255**		**Pn**	**04 53 37.5**		**-0.1**
URZ	**Urewera**	**17.70**	**159**	LR	LR	04 59 27.8		
	comp=Z,1μm,18.6s,baz=340,slow=33							
ARMA	**Armidale**	**17.82**	**238**		**Pn**	**04 53 49.0**		**-0.5**
CTA	**Charters Tower**	**21.41**	**271**	LR	LR	05 02 47.3		
	comp=Z,34nm,18.1s,baz=86,slow=37							
PMG	**Port Moresby**	**24.48**	**297**	P	**P**	**04 54 59.4**		**-0.8**
PMG				IAmb	IAmb	04 55 01.0		
	comp=Z,36nm,0.8s							
PMG	**Port Moresby**	**24.48**	**297**	P	**P**	**04 54 59.9**		**-0.3**
	comp=Z,38nm,0.8s,baz=152,slow=4.4,SNR=6.4							
PMG				LR	LR	05 03 19.7		
	comp=Z,555nm,19.9s,baz=138,slow=34							
	comp=Z,38nm,0.8s							
INKA	**Innaminka**	**26.36**	**252**		**P**	**04 55 17.1**		**-0.1**
STKA	**Stephens Creek**	**26.41**	**242**		**P**	**04 55 17.8**		**+0.2**
STKA	**Stephens Creek**	**26.41**	**242**	P	**P**	**04 55 17.7**		**0.0**
	comp=Z,2.7nm,0.8s,baz=72,slow=10.0,SNR=5.3							
STKA				LR	LR	05 05 38.3		
	comp=Z,1μm,18.1s,baz=97,slow=36							
	comp=Z,2.7nm,0.8s							
RAR	**Rarotonga**	**28.93**	**94**	LR	LR	05 07 04.9		
	comp=Z,236nm,18.0s,baz=270,slow=36							
WR8	**Warramunga Arr**	**32.35**	**267**	P	**P**	**04 56 09.6**		**-0.9**
AS31	**Alice Springs**	**32.46**	**260**	P	**P**	**04 56 10.6**		**-1.0**
ASAR	**Alice Springs**	**32.46**	**260**	P	**P**	**04 56 09.7**		**-1.8**
ASAR					**PcP**	**04 58 58.2**		**-0.2**
ASAR	**Alice Springs**	**32.46**	**260**	P	**P**	**04 56 11.2**		**-0.3**
	comp=Z,3.4nm,0.8s,baz=83,slow=9.0,SNR=34							
ASAR				PcP	**PcP**	**04 58 58.1**		**-0.3**
	comp=Z,0.4nm,0.3s,baz=88,slow=2.8,SNR=2.3							
	comp=Z,3.4nm,0.8s							
WB0	**Warramunga Arr**	**32.48**	**267**	P	**P**	**04 56 10.8**		**-0.9**
WRA	**Warramunga Arr**	**32.50**	**267**	P	**P**	**04 56 10.3**		**-1.6**
WRA	**Warramunga Arr**	**32.50**	**267**	P	**P**	**04 56 10.6**		**-1.2**
	comp=Z,2.0nm,0.7s,baz=97,slow=8.0,SNR=11							
WRA				PcP	**PcP**	**04 58 58.3**		**-0.3**
	comp=Z,0.5nm,0.7s,baz=77,slow=2.0,SNR=1.9							
	comp=Z,2.0nm,0.7s							
JAY	**Jayapura**	**33.67**	**301**	LR	LR	05 09 01.8		
	comp=Z,283nm,21.7s,baz=178,slow=34							
TBI	**Tubuai**	**38.18**	**100**	*e*S	**S**	**05 02 53.3**		**+0.6**
	comp=Z,535nm,26.8s							
TBI				*e*LQ	LQ	05 05 41.5		
	comp=Z,4μm,43.8s							
TBI				*e*LR	LR	05 07 31.2		
	comp=Z,425nm,24.5s							
KNRA	**Kununurra**	**38.61**	**272**	P	**P**	**04 57 03.2**		**-1.2**
PPT2	**Papeete2**	**39.04**	**91**	*e*P	**P**	**04 57 05.6**		**-2.4**
PPT2				*e*S	**S**	**05 03 00.7**		**-5.3**
	comp=Z,144nm,25.2s							
PPT2				*e*LQ	LQ	05 05 58.8		
	comp=Z,531nm,31.0s							
PPT2				*e*LR	LR	05 07 47.9		
	comp=Z,132nm,22.8s							
PPT2				*e*LR	LR	05 07 48.9		
	comp=Z,136nm,31.5s							
FITZ	**Fitzroy Crossi**	**40.93**	**267**	P	**P**	**04 57 23.9**		**+0.3**
FITZ	**Fitzroy Crossi**	**40.93**	**267**	LR	LR	05 14 48.9		
	comp=Z,925nm,18.4s,baz=100,slow=37							
GUMO	**Guam**	**42.54**	**324**	LR	LR	05 13 07.7		
	comp=Z,103nm,19.9s,baz=110,slow=33							
BATI	**Baumata**	**45.04**	**278**	LR	LR	05 17 22.4		
	comp=Z,920nm,19.2s,baz=138,slow=37							
MBWA	**Marble Bar**	**45.78**	**261**	P	**P**	**04 58 02.9**		**+0.1**
SANI	**Sanana**	**46.32**	**289**	P	**P**	**04 58 07.3**		**+0.2**
NWAO	**Narrogin (SRO)**	**46.94**	**245**	P	**P**	**04 58 11.7**		**0.0**
MORW	**Morawa**	**48.11**	**250**		**P**	**04 58 19.9**		**-1.1**
TAOE	**Nuku Hiva Isla**	**50.39**	**83**	*e*P	P	04 58 30.6		-8.1
	comp=Z,80nm,23.3s							
TAOE				*e*S	**S**	**05 05 50.1**		**-0.8**
	comp=Z,171nm,27.0s							
TAOE				*e*SS	**SS**	**05 09 17.9**		**-7.0**
	comp=Z,72nm,23.3s							
TAOE				*e*LR	LR	05 13 03.9		
	comp=Z,123nm,22.2s							
KAPI	**Kappang**	**50.60**	**282**	P	**P**	**04 58 39.5**		**-0.6**
KAPI				IAmb	IAmb	04 58 41.7		
	comp=Z,34nm,1.1s							
KAPI	**Kappang**	**50.60**	**282**	LR	LR	05 19 06.7		
	comp=Z,138nm,21.7s,baz=132,slow=35							
DAV	**Davao City (W)**	**51.47**	**299**	LR	LR	05 21 24.3		
	comp=Z,79nm,19.5s,baz=162,slow=37							
TOLI2	**Tolitoli**	**52.40**	**289**	P	**P**	**04 58 52.6**		**-1.0**
TOLI2				IAmb	IAmb	04 58 54.0		
	comp=Z,28nm,0.9s							
VNDA	**Vanda**	**55.78**	**182**	P	**P**	**04 59 17.9**		**+0.6**
VNDA	**Vanda**	**55.78**	**182**	P	**P**	**04 59 18.4**		**+1.1**
	comp=Z,1.8nm,0.8s,baz=360,slow=7.8,SNR=13							
VNDA				LR	LR	05 20 30.7		
	comp=Z,72nm,18.1s,baz=15,slow=33							
	comp=Z,1.8nm,0.8s							
SBA	**Scott Base**	**56.01**	**181**	P	**P**	**04 59 20.9**		**+1.9**
SBA				IAmb	IAmb	04 59 22.4		
	comp=Z,25nm,1.1s							
JHJ	**Hachijo jima 2**	**61.46**	**332**	LR	LR	05 23 51.3		
	comp=Z,64nm,21.4s,baz=144,slow=33							
KSM	**Kuching**	**61.87**	**284**	P	**P**	**04 59 59.7**		**-1.0**
MJAR	**Matsushiro Arr**	**65.05**	**333**	P	**P**	**05 00 20.9**		**-0.3**
MJAR	**Matsushiro Arr**	**65.05**	**333**	P	**P**	**05 00 20.5**		**-0.7**
	comp=Z,6.6nm,0.9s,baz=167,slow=7.1,SNR=12							
	comp=Z,6.6nm,0.9s							
MAJO	**Matsushiro**	**65.05**	**333**	P	**P**	**05 00 21.1**		**-0.1**
MAJO				IAmb	IAmb	05 00 21.4		
	comp=Z,12nm,0.8s							
MJB9	**Matsu-Tunnel**	**65.05**	**333**	P	**P**	**05 00 21.2**		**0.0**
MJB9				IAmb	IAmb	05 00 22.8		
	comp=Z,12nm,0.8s							
JNU	**Nakatsue**	**65.77**	**325**	LR	LR	05 25 59.5		
	comp=Z,49nm,21.3s,baz=149,slow=33							
JSD	**Sado**	**66.30**	**334**		**P**	**05 00 29.0**		**-0.1**
QSPA	**South Pole Qui**	**68.17**	**180**	P	**P**	**05 00 43.2**		**+2.3**
JKA	**Kamikawa-asahi**	**70.04**	**340**	P	**P**	**05 00 52.9**		**+0.4**
ASAJ	**Asahikawa**	**70.05**	**340**	P	**P**	**05 00 53.6**		**+1.0**
	comp=Z,3.2nm,0.2s,baz=250,slow=12,SNR=3.5							
ASAJ				LR	LR	05 28 17.5		
	comp=Z,265nm,20.2s,baz=149,slow=33							
	comp=Z,3.2nm,0.2s							
KSRS	**Korea Array**	**70.63**	**326**	P	**P**	**05 00 57.1**		**+0.9**
	comp=Z,4.2nm,0.9s,baz=146,slow=6.1,SNR=12							
	comp=Z,4.2nm,0.9s							
KSAR	**Wonju Array Be**	**70.64**	**326**	P	**P**	**05 00 56.9**		**+0.5**
NJ2	**Nanjing**	**72.04**	**317**	*e*P	**P**	**05 01 06.8**		**+1.9**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**74.04**	**333**	P	**P**	**05 01 17.7**		**+1.2**
	comp=Z,12nm,0.9s,baz=151,slow=3.6,SNR=22							
	comp=Z,12nm,0.9s							
WHN	**Wuhan**	**74.05**	**313**	P	**P**	**05 01 17.3**		**+0.4**
WHN				pP	**pwP**	**05 01 28.8**		**+1.5**
SHEM	**Shemya Is, Ala**	**74.44**	**3**	LR	LR	05 29 46.2		
	comp=Z,105nm,19.9s,baz=150,slow=32							
PETK	**Petropavlovsk-**	**75.35**	**353**	P	**P**	**05 01 23.5**		**-0.3**
PETK	**Petropavlovsk-**	**75.35**	**353**	P	**P**	**05 01 23.8**		**-0.1**
	comp=Z,5.0nm,0.8s,baz=218,slow=6.7,SNR=4.6							
PETK				LR	LR	05 30 22.7		
	comp=Z,180nm,20.0s,baz=151,slow=32							
	comp=Z,5.0nm,0.8s							
MDJ	**Mudanjiang**	**75.40**	**332**	P	**P**	**05 01 25.1**		**+0.7**
MDJ				pP	sP	05 01 32.8		-1.8
MDJ				sP	PcP	05 01 37.8		+0.4
MDJ				pmax	pmax			
	comp=Z,26nm,1.2s							
MDJ				LR	LR			
	comp=Z,220nm,5.5s							
TIA	**Tai'an**	**75.85**	**319**	P	**P**	**05 01 27.1**		**-0.1**
TIA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MAW	**Mawson**	**75.93**	**202**	P	**P**	**05 01 27.4**		**+0.2**
	comp=Z,6.3nm,1.0s,baz=115,slow=8.3,SNR=9.8							
	comp=Z,6.3nm,1.0s							
CN2	**Changchun**	**76.67**	**329**	*e*P	**P**	**05 01 35.3**		**+3.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
BNX	**BinXian**	**77.24**	**331**	⇑P	**P**	**05 01 34.9**		**+0.1**
BNX				pmax	pmax			
	comp=Z,19nm,0.8s							
GYA	**Guiyang**	**77.25**	**305**	⇑P	**P**	**05 01 36.1**		**+0.7**
GYA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
LYN	**LuoYang**	**77.75**	**315**	*e*P	P	05 01 45.4		+7.5
LYN				pmax	pmax			
	comp=Z,13nm,0.6s							
HNS	**HongShan**	**78.10**	**319**	⇑P	**P**	**05 01 40.8**		**+1.1**
HNS				pmax	pmax			
	comp=Z,8.0nm,1.9s							
BELA	**Belgrano 2**	**79.47**	**175**	P	**P**	**05 01 46.5**		**-0.3**
BELA				IAmb	IAmb	05 01 47.9		
	comp=Z,23nm,1.1s							
CMAR	**Chiang Mai Arr**	**79.49**	**295**	P	**P**	**05 01 46.7**		**-1.2**
CMAR	**Chiang Mai Arr**	**79.49**	**295**	P	**P**	**05 01 48.8**		**+0.9**
	comp=Z,1.2nm,0.3s,baz=134,slow=4.4,SNR=18							
	comp=Z,1.2nm,0.3s							
KMI	**Kunming**	**79.58**	**302**	P	**P**	**05 01 50.3**		**+1.8**
KMI				pmax	pmax			
	comp=Z,13nm,0.9s							
CHTO	**Chiang Mai**	**79.66**	**295**	P	**P**	**05 01 49.4**		**+0.7**
CHTO				IAmb	IAmb	05 02 01.8		
	comp=Z,18nm,1.2s							
HEH	**HeiHe**	**80.75**	**334**	*e*P	**P**	**05 01 54.0**		**+0.1**
HEH				pmax	pmax			
	comp=Z,14nm,1.2s							
PZH	**PanZhiHua**	**81.05**	**303**	P	**P**	**05 01 57.9**		**+1.7**
HHC	**Hu-ho-hao-te**	**82.16**	**320**	*e*P	**P**	**05 02 03.4**		**+1.6**
HHC				sP	pwP	05 02 20.5		+8.2
HHC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,86nm,5.1s							
SYO	**Syowa Base**	**82.36**	**196**	‖*e*P	**P**	**05 02 02.4**		**+0.1**
SYO	**Syowa Base**	**82.36**	**196**	‖*es*P	sP	05 02 08.0		-4.3
BTO	**Baotou**	**82.95**	**319**	*e*P	**P**	**05 02 08.0**		**+2.1**
BTO				pP	**pwP**	**05 02 18.4**		**+2.0**
BTO				sP	sP	05 02 22.4		+6.3
BTO				S	**S**	**05 12 25.3**		**+1.9**
BTO				sS	**ScS**	**05 12 43.5**		**+5.8**
BTO				SS	**SS**	**05 17 53.1**		**+5.5**
BTO				pmax	pmax			
	comp=Z,14nm,0.7s							
BTO				pmax	pmax			
	comp=Z,290nm,6.0s							
HILR	**Hailar Array B**	**83.54**	**330**	P	**P**	**05 02 08.6**		**0.0**
	comp=Z,1.9nm,0.7s,baz=139,slow=11,SNR=1.5							
	comp=Z,1.9nm,0.7s							
LZH	**Lanzhou**	**84.42**	**312**	*e*P	**P**	**05 02 15.0**		**+1.4**
LZH				pP	pwP	05 02 26.8		+2.6
LZH				sP	sP	05 02 31.3		+7.5
LZH				pmax	pmax			
	comp=Z,18nm,1.1s							
LZDM	**Lanzhou Array**	**84.45**	**312**	P	**P**	**05 02 15.2**		**+1.2**
	comp=Z,0.7nm,0.3s,baz=122,slow=7.4,SNR=1.0							
	comp=Z,0.7nm,0.3s							
SEY	**Seymchan**	**85.58**	**352**	LR	LR	05 33 58.9		
	comp=Z,146nm,22.0s,baz=146,slow=31							
TROLL	**Troll, Antarti**	**85.88**	**184**	⇓P	**P**	**05 02 20.3**		**-0.1**
	comp=Z,948nm,0.8s							
TROLL				sP	**pwP**	**05 02 33.2**		**+1.9**
SNAA	**Sanae**	**86.51**	**183**	⇓P	**P**	**05 02 23.0**		**-0.4**
	comp=Z,232nm,0.9s							
SNAA	**Sanae**	**86.51**	**183**	P	**P**	**05 02 22.9**		**-0.4**
SNAA				IAmb	IAmb	05 02 24.4		
	comp=Z,21nm,1.1s							
SNAA	**Sanae**	**86.51**	**183**	P	**P**	**05 02 23.1**		**-0.3**
	comp=Z,13nm,1.0s,baz=168,slow=4.3,SNR=38							
SNAA				LR	LR	05 40 30.8		
	comp=Z,138nm,18.0s,baz=201,slow=35							
	comp=Z,13nm,1.0s							
VNA3	**Neumayer Olymp**	**87.10**	**180**	⇓P	**P**	**05 02 25.8**		**-0.4**
	comp=Z,16nm,0.8s							
VNA2	**Neumayer--Watz**	**87.39**	**181**	⇓P	**P**	**05 02 27.5**		**-0.1**
	comp=Z,7.7nm,0.6s,baz=165,slow=4.6							
VNA1	**Neumayer--Stat**	**87.68**	**181**	⇓P	**P**	**05 02 28.9**		**0.0**
	comp=Z,15nm,0.9s							
VNA1				sP	**pwP**	**05 02 41.9**		**+2.1**
O02D	**Mt. Diablo Mer**	**88.45**	**45**	P	**P**	**05 02 33.6**		**+0.5**
GTA	**Gaotai**	**88.86**	**314**	*e*P	**P**	**05 02 36.0**		**+0.8**
GTA				pP	sP	05 02 43.6		-1.9
GTA				sP	pwP	05 02 48.1		+2.3
GTA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
N02D	**Trinity Center**	**88.91**	**45**		**P**	**05 02 35.7**		**+0.4**
WELL	**Weller Preserv**	**88.98**	**48**	P	**P**	**05 02 35.7**		**+0.1**
WELL				IAmb	IAmb	05 02 49.1		
	comp=Z,9.3nm,1.1s							
ORV	**Oroville**	**89.00**	**46**	P	**P**	**05 02 36.0**		**+0.3**
ORV				IAmb	IAmb	05 02 51.3		
	comp=Z,14nm,1.1s							
CMB	**Columbia Colle**	**89.01**	**48**		**P**	**05 02 35.9**		**+0.1**
CMB				IAmb	IAmb	05 02 49.0		
	comp=Z,12nm,1.1s							
M02C	**Callahan**	**89.02**	**44**		**P**	**05 02 36.2**		**+0.4**
TPO	**Tropico Hills**	**89.06**	**52**	P	**P**	**05 02 36.2**		**0.0**
DPP	**Dos Picos Cty**	**89.15**	**54**	P	**P**	**05 02 36.9**		**+0.3**
DPP				IAmb	IAmb	05 02 49.6		
	comp=Z,10nm,1.0s							
O03E	**Paynes Creek**	**89.16**	**46**		**P**	**05 02 36.3**		**-0.2**
BFSC	**Mount Baldy Ra**	**89.18**	**52**	P	**P**	**05 02 35.8**		**-1.0**
BFSC				IAmb	IAmb	05 02 38.3		
	comp=Z,20nm,1.4s							
SONM	**Songino Array**	**89.27**	**323**	P	**P**	**05 02 37.3**		**+0.4**
SONM				IAmb	IAmb	05 02 38.7		
	comp=Z,13nm,1.2s							
SONM	**Songino Array**	**89.27**	**323**	P	**P**	**05 02 37.0**		**+0.1**
	comp=Z,6.2nm,1.0s,baz=141,slow=5.6,SNR=16							
SONM				LR	LR	05 41 43.8		
	comp=Z,27nm,20.6s,baz=39,slow=35							
	comp=Z,6.2nm,1.0s							
YAK	**Yakutsk**	**89.36**	**343**	LR	LR	05 37 04.9		
	comp=Z,108nm,21.5s,baz=136,slow=32							
LRMC	**Laurel Mtn Rad**	**89.73**	**51**	P	**P**	**05 02 39.9**		**+0.6**
LRMC				IAmb	IAmb	05 02 41.2		
	comp=Z,14nm,1.3s							
MDPB	**Devils Postpil**	**89.73**	**49**	P	**P**	**05 02 39.8**		**+0.3**
MDPB				IAmb	IAmb	05 02 55.8		
	comp=Z,17nm,1.3s							
PMD	**Palm Desert**	**89.87**	**54**		**P**	**05 02 39.2**		**-0.6**
PMD				IAmb	IAmb	05 02 56.0		
	comp=Z,9.3nm,1.1s							
CWC	**Cottonwood Cre**	**89.89**	**50**		**P**	**05 02 39.8**		**-0.3**
WAKR	**Walker**	**89.89**	**48**	P	**P**	**05 02 40.5**		**+0.4**
WAKR				IAmb	IAmb	05 02 56.2		
	comp=Z,16nm,1.1s							
BELC	**Belle Mtn. Jos**	**90.31**	**53**	IAmb	IAmb	05 02 58.5		
	comp=Z,16nm,1.1s							
DSP	**Deep Springs**	**90.39**	**50**	IAmb	IAmb	05 02 56.4		
	comp=Z,12nm,1.0s							
PAHR	**Pah Rah Range**	**90.50**	**47**	IAmb	IAmb	05 02 56.1		
	comp=Z,14nm,1.3s							
BC3	**Big Chuckawall**	**90.56**	**54**	P	**P**	**05 02 42.8**		**-0.5**
BC3				IAmb	IAmb	05 02 56.9		
	comp=Z,11nm,1.1s							
RYN	**Ryan**	**90.58**	**48**	IAmb	IAmb	05 03 01.5		
	comp=Z,7.8nm,1.0s							
NVAR	**Mina Array Bea**	**90.65**	**49**	P	**P**	**05 02 43.9**		**+0.2**
NVAR	**Mina Array Bea**	**90.65**	**49**	P	**P**	**05 02 44.0**		**+0.3**
	comp=Z,0.9nm,0.6s,baz=223,slow=8.1,SNR=12							
	comp=Z,0.9nm,0.6s							
GRAC	**Grapevine Rang**	**90.65**	**50**	IAmb	IAmb	05 02 57.1		
	comp=Z,12nm,0.9s							
LPIG	**La Paz**	**90.67**	**64**	LR	LR	05 35 07.9		
	comp=Z,138nm,18.9s,baz=262,slow=30							
NV11	**Mina Array Sit**	**90.75**	**49**	IAmb	IAmb	05 02 57.4		
	comp=Z,10nm,1.1s							
IRM	**Iron Mountain**	**91.01**	**53**	IAmb	IAmb	05 02 59.5		
	comp=Z,17nm,1.3s							
WCT	**Wildcat Mounta**	**91.09**	**51**	IAmb	IAmb	05 02 59.6		
	comp=Z,12nm,1.1s							
TPH	**Tonopah**	**91.24**	**49**	IAmb	IAmb	05 02 59.7		
	comp=Z,12nm,1.1s							
BLYC	**Blythe**	**91.30**	**54**	IAmb	IAmb	05 03 00.7		
	comp=Z,15nm,1.1s							
TPNV	**Topopah Spring**	**91.43**	**51**	IAmb	IAmb	05 03 03.0		
	comp=Z,14nm,1.1s							
WVOR	**Wild Horse Val**	**92.28**	**45**	IAmb	IAmb	05 03 06.7		
	comp=Z,13nm,1.3s							
PRN	**Pahroc Range**	**92.49**	**51**	IAmb	IAmb	05 03 06.5		
	comp=Z,11nm,1.0s							
Y14A	**Wickenburg**	**92.53**	**54**	IAmb	IAmb	05 03 08.0		
	comp=Z,6.3nm,1.1s							
ILAR	**Eielson Array**	**92.80**	**17**	P	**P**	**05 02 52.7**		**0.0**
	comp=Z,1.1nm,1.2s,baz=240,slow=5.7,SNR=2.0							
	comp=Z,1.1nm,1.2s							
EVN	**Everest**	**93.60**	**299**	P	**P**	**05 02 56.4**		**-1.7**
EVN				IAmb	IAmb	05 03 11.3		
	comp=Z,6.8nm,0.9s							
CCUT	**Cedar City**	**93.76**	**51**	IAmb	IAmb	05 03 01.2		
	comp=Z,14nm,1.7s							
U15A	**North Rim**	**94.08**	**52**	IAmb	IAmb	05 03 14.1		
	comp=Z,6.7nm,1.0s							
WMQ	**Urumqi**	**98.95**	**314**	*e*P	Pdif	05 03 23.4		+2.1
KURBB	**Kurchatov Arra**	**106.97**	**318**	PKiKP	**PKiKP**	**05 08 05.6**		**-0.7**
	comp=Z,0.2nm,0.3s,baz=111,slow=1.4,SNR=5.7							
ARTI	**Arti**	**119.41**	**323**		**PKPdf**	**05 08 29.5**		**-0.3**
ARCES	**ARCESS Array B**	**127.60**	**345**		**PKPdf**	**05 08 45.2**		**+0.1**
ARCES	**ARCESS Array B**	**127.60**	**345**	PKP	**PKPdf**	**05 08 44.9**		**-0.3**
	comp=Z,1.1nm,0.5s,baz=80,slow=1.4,SNR=12							
MAL2	**Monte Alegre,**	**131.50**	**114**		**PKPdf**	**05 08 53.6**		**-0.7**
AKASG	**Malin Array Be**	**137.55**	**323**		**PKPdf**	**05 09 03.9**		**-0.5**
AKASG	**Malin Array Be**	**137.55**	**323**	PKP	**PKPdf**	**05 09 03.8**		**-0.6**
	comp=Z,1.3nm,0.6s,baz=58,slow=1.5,SNR=5.0							
AK01	**Malin Array Si**	**137.56**	**323**	PKP	**PKPdf**	**05 09 04.1**		**-0.4**
AK02	**Malin Array Si**	**137.58**	**323**	PKP	**PKPdf**	**05 09 04.0**		**-0.5**
AK10	**Malin Array Si**	**137.58**	**322**	PKP	**PKPdf**	**05 09 04.2**		**-0.3**
BRTR	**Keskin Array B**	**138.30**	**306**		**PKPdf**	**05 09 05.4**		**-1.0**
BRTR	**Keskin Array B**	**138.30**	**306**	PKP	**PKPdf**	**05 09 07.4**		**+1.0**
	comp=Z,0.8nm,0.9s,baz=67,slow=3.7,SNR=5.0							
RNPP8	**Varash**	**139.08**	**325**	PKP	**PKPdf**	**05 09 07.0**		**-0.2**
RNPP5	**Staryi Chortor**	**139.12**	**325**	PKP	**PKPdf**	**05 09 07.0**		**-0.3**
ARR	**Arges**	**142.74**	**317**	⇑P	**PKPdf**	**05 09 14.2**		**+0.1**
MARR	**Marisel-Cluj**	**143.04**	**320**	⇑P	PKPbc	05 09 11.3		-0.2
DRGR		**143.22**	**321**	⇑P	PKPbc	05 09 12.3		+0.3
GZR	**Gura Zlata**	**143.88**	**318**	⇑P	PKPbc	05 09 14.6		+0.7
SURR	**Surduc**	**144.10**	**319**	⇑P	PKPbc	05 09 15.1		+0.7
SIRR	**Siria**	**144.11**	**320**	⇓P	PKPbc	05 09 15.1		+0.6
PSZ	**Piszkesteto**	**144.20**	**324**	⇓P	**PKPab**	**05 09 13.9**		**-0.5**
MORC	**Moravsky Berou**	**144.27**	**328**	⇑P	**PKPdf**	**05 09 16.6**		**-0.1**
MORC	**Moravsky Berou**	**144.27**	**328**	*e*PKP	PKPbc	05 09 15.4		+0.5
HERR	**Herculane**	**144.35**	**318**	⇑P	PKPbc	05 09 15.9		+0.6
BZS	**Buzias**	**144.47**	**320**	⇓P	PKPbc	05 09 16.0		+0.4
DPC	**Dobruska-Polom**	**144.48**	**330**	*e*PKP	**PKPdf**	**05 09 16.5**		**-0.5**
UPC	**Upice**	**144.51**	**330**	*e*PKP	**PKPdf**	**05 09 16.6**		**-0.4**
MDVR	**Moldovita**	**144.84**	**318**	⇓P	**PKPdf**	**05 09 18.0**		**+0.2**
PVCC	**Panska Ves**	**145.15**	**331**	*e*PKP	**PKPdf**	**05 09 18.6**		**+0.5**
BOVS	**Bovan**	**145.40**	**316**	⇑P	**PKPbc**	**05 09 18.7**		**0.0**
TREC	**Trest**	**145.59**	**329**	*e*PKP	**

n30,σ0°64/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKD	**Ankara-Kalecik**	**0.49**	**131**	P	**Pg**	**04 51 25.1**	**+0.3**
GOKD				S	**Sg**	**04 51 31.8**	**+0.6**
CANT	**Cankiri**	**0.52**	**66**	Pg	**Pb**	**04 51 26.8**	**-0.6**
CANT				Sg	**Sb**	**04 51 35.2**	**-0.2**
LOD	**Lodumlu**	**0.54**	**199**	Pg	**Pg**	**04 51 26.5**	**+0.8**
LOD				Sg	**Sb**	**04 51 34.6**	**-1.2**
ANTO	**Ankara**	**0.55**	**196**	Pg	**Pg**	**04 51 26.5**	**+0.5**
ANTO				Sg	**Sb**	**04 51 34.9**	**-1.2**
DERS	**Karabk-Eskip**	**0.57**	**324**	P	**Pg**	**04 51 26.3**	**-0.1**
YENC	**ankr-Yen**	**0.71**	**66**	P	**Pg**	**04 51 28.6**	**-0.5**
YENC				S	**Sg**	**04 51 39.0**	**+0.8**
YENC				*i* IAML		04 51 40.0	
	comp=E,76nm,0.1s						
DELI	**KIRIKKALE**	**0.81**	**119**	P	**Pg**	**04 51 30.3**	**-0.8**
KESK	**Krkkale-Ke**	**0.88**	**149**	P	**Pg**	**04 51 32.1**	**-0.3**
KESK				S	**Sb**	**04 51 44.8**	**-1.0**
KESK				*i* IAML		04 51 49.0	
	comp=N,102nm,0.4s						
KESK				*i* IAML		04 51 49.0	
	comp=E,64nm,0.2s						
POLA	**Polatl-ANKAR**	**0.94**	**223**	Pg	**Pg**	**04 51 33.6**	**+0.1**
AFSR	**Afar-Bala (An**	**0.95**	**176**	Pg	**Pb**	**04 51 34.8**	**+0.1**
SUNG	**orum-Sungurl**	**0.98**	**102**	P	**Pg**	**04 51 34.2**	**0.0**
YUVA	**Yuva-Kibriscik**	**1.00**	**270**	Pg	**Pg**	**04 51 35.0**	**+0.4**
AKPI	**Kirsehir/Akpin**	**1.18**	**139**	P	**Pg**	**04 51 37.5**	**-0.5**
AKPI				S	**Sg**	**04 51 53.6**	**+0.3**
AKPI				*i* IAML		04 51 59.0	
	comp=N,39nm,0.2s						
KKUL	**Konya-Kulu**	**1.22**	**183**	P	**Pn**	**04 51 39.5**	**-0.1**
KKUL				S	**Sn**	**04 51 58.3**	**+1.5**
CORM	**Corum**	**1.27**	**99**	Pn	**Pg**	**04 51 40.5**	**+0.7**
CDAG	**Cicekdag**	**1.31**	**126**	P	**Pn**	**04 51 40.1**	**-0.8**
CDAG				S	**Sb**	**04 51 57.6**	**-0.5**
CDAG				*i* IAML		04 52 02.0	
	comp=E,37nm,0.2s						
KULU	**Kulu**	**1.35**	**180**	Pn	**Pg**	**04 51 41.5**	**+0.1**
MDUB	**Mudurnu**	**1.37**	**274**	Pn	**Pb**	**04 51 41.6**	**-0.3**
KIRS	**Kirsehir-Merke**	**1.45**	**150**	P	**Pn**	**04 51 42.4**	**-0.3**
KURC	**Kurucasile-Bar**	**1.46**	**353**	Pn	**Pb**	**04 51 43.5**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.48**	**231**	Pn	**Pn**	**04 51 42.9**	**-0.2**
SERE	**Serefilkochisa**	**1.51**	**163**	Pn	**Pb**	**04 51 43.9**	**-0.4**
YOZG	**Bozok Univ. Me**	**1.51**	**113**	P	**Pb**	**04 51 44.2**	**-0.1**
YOZG				S	**Sb**	**04 52 03.6**	**-0.4**
YOZG				*i* IAML		04 52 05.0	
	comp=N,59nm,0.6s						
COAL	**Corum-Alaca**	**1.53**	**95**	P	**Pb**	**04 51 44.0**	**-0.6**
COAL				S	**Sg**	**04 52 04.8**	**+0.2**
COAL				*i* IAML		04 52 08.0	
	comp=N,24nm,0.4s						
COAL				*i* IAML		04 52 10.0	
	comp=E,26nm,0.7s						
MCUR	**KIREHR**	**1.71**	**136**	P	**Pn**	**04 51 46.5**	**+0.1**
MCUR				S	**Sg**	**04 52 10.2**	**-0.1**
MCUR				*i* IAML		04 52 12.0	
	comp=E,28nm,0.5s						
CIFT	**Cifteler, Eski**	**1.81**	**236**	Pn	**Pb**	**04 51 48.2**	**-1.2**
KOZK	**Kozakli-Nevseh**	**1.87**	**129**	Pn	**Pn**	**04 51 48.8**	**+0.3**
YOZ	**Yozgat**	**1.94**	**112**	Pn	**Pn**	**04 51 50.2**	**+0.7**
SIRC	**Yozgat**	**1.97**	**122**	P	**Pn**	**04 51 50.5**	**+0.6**
SIRC				S	**Sb**	**04 52 16.8**	**-0.2**
GULA	**Gulagac**	**2.26**	**154**	Pn	**Pn**	**04 51 55.1**	**+1.1**

*IDC **23** 05:13:17.2±1.1,53°.14N×166°.70W,h0km,mb3.9/19, mbtmp4.0/19,ML2.5/1,MS3.7/3,Error ellipse: s-maj=30.1km s-min=15.8km az=1.0*
*NEIC **23** 05:13:22.0±2.4,52°.83N±0°.04×166°.86W±0°.03,h34km±5km, mb3.9/18,ML3.7/14,ML3.4(AEIC),Error ellipse: s-maj=6.1km s-min=2.1km az=194.0*
*AEIC **23** 05:13:21.1±2.5,52°.87N±0°.06×166°.85W±0°.07,h25km±5km, Error ellipse: s-maj=9.7km s-min=4.6km az=157.0*

ISC 23 05:13:20.7±1.7,52°.84N±0°.07×166°.83W±0°.05, h28km±11km,n82,σ1§37/74,mb4.1/21,MS3.8/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.87**	**312**		**Pb**	**05 13 36.8**	**-0.4**
OKFG					**Sn**	**05 13 48.9**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**0.91**	**307**		**Pb**	**05 13 37.6**	**-0.4**
MGOD	**Makushin Gods**	**0.96**	**358**		**Pb**	**05 13 38.0**	**-0.8**
MGOD					**Sn**	**05 13 52.0**	**+1.0**
MAPS	**Pakushin South**	**0.97**	**356**		**Pn**	**05 13 38.3**	**-0.2**
MREP	**Makushin Rep't**	**0.97**	**3**		**Pn**	**05 13 38.1**	**-0.5**
OKSP	**Okmok Steeple**	**0.98**	**296**		**Pn**	**05 13 38.0**	**-0.5**
OKNC	**Okmok New Cone**	**1.00**	**309**		**Pn**	**05 13 38.7**	**-0.1**
OKNC					**Sn**	**05 13 53.3**	**+1.3**
OKCE	**Okmok Cone E**	**1.00**	**307**		**Pn**	**05 13 39.0**	**+0.1**
UNV	**Unalaska Valle**	**1.02**	**11**		**Pn**	**05 13 38.7**	**-0.5**
UNV	**Unalaska Valle**	**1.02**	**11**		**Sn**	**05 13 53.5**	**+0.9**
MNAT	**Makushin Natee**	**1.05**	**5**		**Pn**	**05 13 39.1**	**-0.5**
MSW	**Makushin Switc**	**1.08**	**1**		**Pn**	**05 13 39.9**	**0.0**
MSW					**Sn**	**05 13 55.4**	**+1.4**
NIKH	**Nikolski High**	**1.24**	**277**		**Pn**	**05 13 41.6**	**-0.5**
NIKH				IAML		05 14 04.8	
	comp=N,2μm,0.5s						
NIKH				IAML		05 14 08.7	
	comp=E,1μm,0.7s						
AKMO	**Akutan Morgan**	**1.34**	**21**		**Pn**	**05 13 43.3**	**-0.3**
AKMO					**Sn**	**05 14 00.3**	**-0.2**
ZRO	**Akutan Zero**	**1.35**	**22**		**Pn**	**05 13 43.6**	**-0.1**
ZRO					**Sb**	**05 14 02.2**	**-0.1**
AKUT	**Akutan**	**1.44**	**25**		**Pn**	**05 13 45.2**	**+0.3**
AKUT				IAML		05 14 10.6	
	comp=E,756nm,1.0s						
AKUT				IAML		05 14 10.6	
	comp=N,624nm,0.5s						
AKUT	**Akutan**	**1.44**	**25**		**Sb**	**05 14 04.3**	**-0.5**
AKGG	**Akutan Green G**	**1.45**	**20**		**Pn**	**05 13 45.6**	**+0.6**
AKSA	**Akutan Strait**	**1.46**	**27**		**Pn**	**05 13 45.0**	**-0.2**
CLCO	**Concord Point,**	**1.76**	**269**		**Pn**	**05 13 49.6**	**+0.3**
WEBT	**Westdahl Beart**	**2.14**	**34**		**Pn**	**05 13 56.3**	**+1.7**
FALS	**False Pass**	**2.85**	**44**		**Pn**	**05 14 05.3**	**+1.0**
S12K	**Black Hills**	**4.00**	**42**	Pn	**Pn**	**05 14 22.9**	**+2.7**
S12K				IAML		05 15 34.1	
	comp=E,70nm,1.0s						
SDPT	**Sand Point**	**4.50**	**54**	Pn	**Pn**	**05 14 29.0**	**+2.1**
SDPT				IAML		05 15 50.7	
	comp=N,98nm,1.4s						
SDPT				IAML		05 15 54.6	
	comp=E,130nm,1.1s						
SPIA	**Saint Paul Isl**	**4.77**	**337**	Pn	**Pn**	**05 14 33.7**	**+3.0**
SPIA				IAML		05 16 47.0	
	comp=E,136nm,1.4s						
ADK	**Adak**	**6.12**	**265**	Pn	**Pn**	**05 14 51.1**	**+2.0**
KIWB	**Kanaga Island**	**6.41**	**265**	Pn	**Pn**	**05 14 55.4**	**+2.3**
O14K	**Tigyukauivet M**	**7.14**	**24**	Pn	**Pn**	**05 15 04.0**	**+0.9**
AMKA	**Amchitka**	**8.67**	**266**	Pn	**Pn**	**05 15 25.6**	**+1.5**
SCM	**Sheep Creek Mo**	**13.80**	**42**	Pn	**Pn**	**05 16 34.3**	**0.0**
BMRM	**Bremner River**	**14.55**	**47**	Pn	**Pn**	**05 16 45.3**	**+0.8**
ILAR	**Eielson Array**	**15.70**	**33**	Pn	**Pn**	**05 16 54.7**	**-5.0**
	baz=209,slow=10,SNR=1.6						
GRNC	**Granite Creek**	**15.76**	**50**	Pn	**Pn**	**05 17 02.4**	**+1.7**
GRNC				IAmb	IAmb	05 17 08.9	
	comp=Z,14nm,1.3s						
TABL	**Table Mountain**	**15.96**	**51**	Pn	**Pn**	**05 17 05.0**	**+1.8**
TABL				IAmb	IAmb	05 17 19.9	
	comp=Z,17nm,1.0s						
SCRK	**Sand Creek**	**16.24**	**38**	Pn	**Pn**	**05 17 07.6**	**+0.8**
J26L	**Joseph Creek**	**16.69**	**37**	Pn	**Pn**	**05 17 13.1**	**+0.8**
M29M	**Somme Creek**	**17.82**	**46**		**P**	**05 17 29.2**	**+2.2**
M29M				IAmb	IAmb	05 17 34.8	
	comp=Z,3.9nm,0.6s						
BMAR	**Burnt Mountain**	**18.17**	**28**		**P**	**05 17 32.1**	**+1.3**
L29M	**L29M**	**18.19**	**44**		**P**	**05 17 32.6**	**+1.5**
O30N	**Mendenhall**	**18.45**	**52**	P	**Pn**	**05 17 36.4**	**+2.2**
O30N				IAmb	IAmb	05 17 55.8	
	comp=Z,11nm,0.9s						
M30M	**Minto, Yukon**	**18.59**	**47**	P	**Pn**	**05 17 38.0**	**+2.2**
M30M				IAmb	IAmb	05 17 41.0	
	comp=Z,7.6nm,1.4s						
K29M	**Barlow Dome**	**18.72**	**43**	P	**Pn**	**05 17 38.1**	**+0.7**
H29M	**Whitestone**	**19.44**	**35**	P	**P**	**05 17 44.3**	**-0.3**
H29M				IAmb	IAmb	05 18 10.5	
	comp=Z,4.0nm,0.8s						
M31M	**Drury Creek, Y**	**19.57**	**49**	P	**Pn**	**05 17 48.8**	**+1.3**
C27K	**Jago River**	**19.94**	**24**	P	**P**	**05 17 51.2**	**+1.2**
C27K				IAmb	IAmb	05 17 56.7	
	comp=Z,9.5nm,1.2s						
PETK	**Petropavlovsk-**	**21.24**	**285**	P	**P**	**05 18 03.8**	**-0.4**
PETK	**Petropavlovsk-**	**21.24**	**285**	P	**P**	**05 18 04.1**	**-0.1**
	comp=Z,3.7nm,0.4s,baz=79,slow=12,SNR=21						
	comp=Z,3.7nm,0.4s						
DLBC	**Dease Lake**	**21.31**	**60**	P	**P**	**05 18 03.6**	**-1.4**
	comp=Z,4.1nm,0.4s,baz=109,slow=22,SNR=1.0						
	comp=Z,4.1nm,0.4s						
INK	**Inuvik**	**22.10**	**33**	P	**P**	**05 18 13.9**	**+0.6**
INK				IAmb	IAmb	05 18 17.4	
	comp=Z,4.5nm,0.9s						
INK	**Inuvik**	**22.10**	**33**	P	**P**	**05 18 11.7**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=258,slow=10,SNR=7.0						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**36.13**	**94**	P	**P**	**05 20 21.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=316,slow=6.2,SNR=4.1						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**38.79**	**81**	P	**P**	**05 20 41.1**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=304,slow=3.4,SNR=3.9						
	comp=Z,0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**38.81**	**222**	T	T	06 02 10.7	
	baz=25,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**38.82**	**222**	T	T	06 02 14.4	
	baz=25,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**38.83**	**222**	T	T	06 02 15.4	
	baz=25,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**39.99**	**221**	T	T	06 03 43.5	
	baz=24,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**40.01**	**221**	T	T	06 03 46.1	
	baz=24,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**40.01**	**221**	T	T	06 03 44.7	
	baz=24,slow=76,SNR=45						
KSRS	**Korea Array**	**46.88**	**278**	P	**P**	**05 21 48.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=46,slow=7.7,SNR=1.6						
	comp=Z,0.7nm,0.3s						
TXAR	**Lajitas Array**	**51.20**	**91**	P	**P**	**05 22 21.6**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=306,slow=5.1,SNR=6.7						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**52.38**	**302**	IAmb	IAmb	05 22 45.1	
	comp=Z,2.7nm,1.3s						
SONM	**Songino Array**	**52.38**	**302**	P	**P**	**05 22 30.7**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=52,slow=9.3,SNR=2.1						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**57.60**	**355**	P	**P**	**05 23 04.5**	**-2.8**
	comp=Z,3.3nm,0.8s,baz=14,slow=6.6,SNR=1.7						
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.11**	**319**	LR	LR	05 51 36.2	
	comp=Z,47nm,20.5s,baz=58,slow=40						
KURK	**Kurchatov**	**63.04**	**320**	P	**P**	**05 23 44.9**	**+0.1**
KURK	**Kurchatov**	**63.04**	**320**	IAmb	IAmb	05 24 23.6	
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.15**	**320**	P	**P**	**05 23 44.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=44,slow=8.6,SNR=4.1						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**64.20**	**326**	P	**P**	**05 23 52.2**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=27,slow=9.7,SNR=3.8						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**65.60**	**353**	P	**P**	**05 23 59.8**	**-1.6**
	comp=Z,7.1nm,1.1s,baz=15,slow=5.8,SNR=5.9						
	comp=Z,7.1nm,1.1s						
HFS	**Hagfors**	**67.38**	**360**	P	**P**	**05 24 11.8**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=31,slow=4.3,SNR=16						
	comp=Z,1.8nm,0.3s						
AKASG	**Malin Array Be**	**75.95**	**350**	P	**P**	**05 25 03.4**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=15,slow=5.9,SNR=8.7						
	comp=Z,2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.01**	**285**	P	**P**	**05 25 18.9**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=46,slow=4.2,SNR=4.4						
	comp=Z,1.1nm,0.3s						
GERES	**GERESS Array B**	**78.69**	**360**	P	**P**	**05 25 19.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=17,slow=7.2,SNR=2.0						
	comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	**80.46**	**339**	P	**P**	**05 25 30.3**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=342,slow=6.4,SNR=3.7						
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**86.11**	**344**	P	**P**	**05 25 58.7**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=8.5,slow=2.9,SNR=4.9						
	comp=Z,1.0nm,0.8s						
ESDC	**Sonseca Array**	**86.67**	**13**	P	**P**	**05 26 01.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=341,slow=5.0,SNR=2.1						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**91.90**	**232**	P	**P**	**05 26 25.0**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=28,slow=3.5,SNR=1.5						
MMAI	**Mount Meron Ar**	**92.33**	**341**	LR	LR	06 12 34.4	
	comp=Z,34nm,18.3s,baz=132,slow=39						
ASF	**Jabal al Asfar**	**92.85**	**340**	LR	LR	06 14 46.8	
	comp=Z,56nm,18.3s,baz=182,slow=40						
H03N2	**Juan Fernandez**	**114.67**	**113**	T	T	07 37 20.5	
	baz=322,slow=78,SNR=5.4						
H03N1	**Juan Fernandez**	**114.68**	**113**	T	T	07 37 11.9	
	baz=322,slow=78,SNR=6.3						
H03N3	**Juan Fernandez**	**114.69**	**113**	T	T	07 37 20.6	
	baz=322,slow=78,SNR=8.2						

*IDC **23** 05:35:07.7±1.1,2°.65S×138°.39E,h0km,mb3.8/4, mbtmp3.8/7,ML3.8/3,Error ellipse: s-maj=26.8km s-min=21.7km az=126.0*
*DJA **23** 05:35:12.4±0.9,2°.5±8°×13°.8E±°,h21km±11km,M4.0/7, mb4.3/1,MLv3.9/7*

ISC 23 05:35:11.9±0.8,2°.57S±0°.09×138°.40E±0°.05,h32km,n13, σ1§52/14,mb3.8/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.66**	**28**	P	**Pb**	**05 35 23.0**	**-2.0**
GENI	**Genyem**	**1.77**	**91**	P	**Pn**	**05 35 41.6**	**+1.3**
SRPI	**Serui, Papua**	**2.27**	**288**	P	**Pn**	**05 35 48.2**	**+1.0**
JAY	**Jayapura**	**2.30**	**89**	Pn	**Pn**	**05 35 48.3**	**+0.5**
	13nm,0.3s,baz=248,slow=15,SNR=32						
JAY				Sn	**Sn**	**05 36 16.4**	**+1.3**
	5.5nm,0.3s,baz=270,slow=20,SNR=3.6						
	52nm,0.5s						
JAY	**Jayapura**	**2.30**	**89**	P	**Pn**	**05 35 49.0**	**+1.3**
BAKI	**Biak**	**2.67**	**301**	P	**Pn**	**05 35 53.3**	**+0.5**
FAKI	**Fak Fak**	**6.16**	**267**	P	**Pn**	**05 36 42.5**	**+1.8**
WRA	**Warramunga Arr**	**17.71**	**193**	P	**Pn**	**05 39 14.2**	**-2.2**
	0.4nm,0.3s,baz=12,slow=12,SNR=14						
WRA				S	Sn	05 42 25.6	-7.3
	0.4nm,0.5s,baz=355,slow=25,SNR=1.9						
	0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.87**	**218**	P	**P**	**05 39 39.4**	**-1.2**
	0.1nm,0.3s,baz=29,slow=10,SNR=5.8						
FITZ				S	S	05 43 13.2	-10
	3.1nm,0.9s,baz=146,slow=8.7,SNR=3.6						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**21.42**	**191**	P	**P**	**05 39 56.4**	**-1.0**
	2.2nm,0.7s,baz=23,slow=10,SNR=19						
ASAR				S	S	05 43 48.3	-5.2
	0.7nm,0.8s,baz=12,slow=24,SNR=4.3						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**69.49**	**322**	P	**P**	**05 46 19.3**	**+1.9**
	1.8nm,0.9s,baz=99,slow=7.8,SNR=6.8						
	1.8nm,0.9s						
VNDA	**Vanda**	**75.94**	**175**	P	**P**	**05 46 56.0**	**+0.8**
	0.7nm,0.7s,baz=330,slow=4.9,SNR=5.1						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**05 47 47.9**	**-0.3**
	0.4nm,0.7s,baz=263,slow=5.3,SNR=4.8						
	0.4nm,0.7s						

*GCG **23** 05:44:04.1±0.8,16°.07N×94°.83W,h35km±10km,MD4.2, ML2.7*
*MEX **23** 05:44:04.0±0.8,15°.62N×94°.65W,h16km±999km,MD4.1*

ISC 23 05:43:57.2±1.3,15°.76N±0°.05×94°.68W±0°.02,h4km±11km, n25,σ1§83/48,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.81**	**4**	*e*P	**Pn**	**05 44 17.7**	**+2.3**
NILT				*e*S	**Sn**	**05 44 28.5**	**+0.7**
HUIG	**Huatulco**	**1.38**	**271**	*i* P	**Pg**	**05 44 25.6**	**+2.0**
HUIG				*e*S	**Sb**	**05 44 41.5**	**-0.1**
HUIG	**Huatulco**	**1.38**	**271**	*i* P	**Pg**	**05 44 25.5**	**+2.0**
HUIG				*i* S	**Sb**	**05 44 41.6**	**+0.1**
HUIG				IAML		05 44 43.0	
	comp=E,42nm,0.2s						
PCIG		**1.41**	**92**	*e*P	**Pb**	**05 44 25.1**	**+1.0**
PCIG				*e*S	**Sn**	**05 44 41.3**	**-1.4**
TGIG		**1.81**	**56**	*e*P	**Pg**	**05 44 33.3**	**+1.4**
TGIG				*e*S	**Sg**	**05 44 54.9**	**-0.4**
TGIG		**1.81**	**56**	*i* P	**Pg**	**05 44 33.2**	**+1.4**
TGIG				*i* S	**Sg**	**05 44 54.7**	**-0.5**
TGIG				IAML		05 44 57.7	
	comp=N,145nm,0.2s						
NEUV	**Arroyo Zacate**	**2.22**	**331**	*e*P	**Pg**	**05 44 38.7**	**-1.1**
NEUV				*e*S	**Sg**	**05 45 06.1**	**-2.6**
VHO	**Vista Hermosa**	**2.37**	**304**	*e*P	**Pb**	**05 44 41.1**	**+0.6**
VHO				*e*S	**Sb**	**05 45 08.6**	**-1.6**
PEIG	**Puerto Escondi**	**2.39**	**276**	*e*P	**Pb**	**05 44 40.0**	**-0.9**
PEIG				*e*S	**Sn**	**05 45 05.9**	**-1.1**
PATR	**El Naranjo**	**2.44**	**105**	*e*P	**Pn**	**05 44 39.6**	**+1.5**
PATR				*e*S	**Sn**	**05 45 06.3**	**-2.2**
PAVE	**Pavencul**	**2.48**	**103**	*e*P	**Pn**	**05 44 40.8**	**+2.2**
PAVE				*e*S	**Sn**	**05 45 07.8**	**-1.6**
THIG		**2.48**	**110**	*e*S	**Sn**	**05 45 07.0**	**-2.1**
CCIG	**Comitan**	**2.50**	**78**	*e*P	**Pb**	**05 44 41.5**	**-1.2**
CCIG				*e*S	**Sb**	**05 45 14.4**	**+0.4**
CCIG	**Comitan**	**2.50**	**78**	*i* P	**Pg**	**05 44 44.7**	**-0.4**
CCIG				*i* S	**Sb**	**05 45 15.8**	**+1.8**
CCIG				IAML		05 45 18.7	
	comp=N,65nm,0.5s						
CHUJ	**Union Juarez**	**2.56**	**105**	*e*P	**Pn**	**05 44 41.5**	**+1.7**
CHUJ				*e*S	**Sn**	**05 45 09.5**	**-2.1**
YOIG	**Yosondua**	**2.96**	**292**	*e*P	**Pb**	**05 44 48.9**	**-1.9**
YOIG				*e*S	**Sn**	**05 45 22.7**	**+1.2**
RTAL	**Retalhuleu**	**3.13**	**113**	*e*P	**Pn**	**05 44 48.2**	**+0.8**
RTAL				*e*S	**Sn**	**05 45 23.3**	**-2.0**
TOIG	**Toxpalan**	**3.26**	**316**	*e*P	**Pb**	**05 44 54.8**	**-0.9**
TOIG				*e*S	**Sb**	**05 45 31.7**	**-4.1**
TXIG	**Tlaxiaco**	**3.32**	**297**	*e*P	**Pb**	**05 44 56.4**	**-0.4**
TXIG				*e*S	**Sn**	**05 45 31.6**	**+1.4**
PNIG	**Pinotepa**	**3.38**	**281**	*e*P	**Pb**	**05 44 54.5**	**-3.2**
PNIG				*e*S	**Sn**	**05 45 29.6**	**-1.8**
HLIG	**Huajuapan de L**	**3.63**	**305**	*e*P	**Pb**	**05 45 00.8**	**-1.4**
HLIG				*e*S	**Sn**	**05 45 39.4**	**+1.4**
FTIG	**Fresnillo de T**	**3.94**	**303**	*e*P	**Pb**	**05 45 05.5**	**-1.8**
FTIG				*e*S	**Sn**	**05 45 48.0**	**+2.6**
MGIG	**Malinaltepec**	**4.07**	**292**	*e*P	**Pb**	**05 45 06.9**	**-2.7**
MGIG				*e*S	**Sn**	**05 45 49.9**	**+1.2**
CRIG	**Cruz Grande**	**4.39**	**283**	*e*P	**Pn**	**05 45 08.2**	**+3.5**
CRIG				*e*S	**Sn**	**05 45 54.1**	**-2.1**
SCIG	**Sabancuy**	**4.62**	**46**	*e*P	Pb	05 45 12.5	-6.3
SCIG				*e*S	**Sn**	**05 46 01.9**	**0.0**

*IDC **23** 05:44:04.6±1.1,4°.24N×127°.14E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=86.6km s-min=18.5km az=72.0*
*NEIC **23** 05:44:12.2±1.9,4°.1N±0°.1×126°.81E±0°.06,h43km±14km, mb4.3/9,Error ellipse: s-maj=17.9km s-min=5.9km az=204.0*
*DJA **23** 05:44:19.6±0.4,4°.N±5°×12°.8E±°,h144km±6km,M4.2/8, mb4.1/4,MLv4.2/8*

ISC 23 05:44:09.8±0.9,4°.16N±0°.10×126°.8E±0°.1,h36km,n17, σ1§41/16,mb4.1/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.41**	**171**	Pn	**Pn**	**05 45 02.2**	**+1.7**
LUWI	**Luwuk**	**6.56**	**218**	Pn	**Pn**	**05 45 41.8**	**-2.0**
TOLI2	**Tolitoli**	**6.75**	**244**	Pn	**Pn**	**05 45 48.2**	**+1.8**
YHNB	**Yeheng**	**21.06**	**346**	P	**P**	**05 48 50.7**	**-0.2**
YHNB				IAmb	IAmb	05 49 00.9	
	comp=Z,19nm,1.1s						
WB0	**Warramunga Arr**	**24.91**	**163**	P	**P**	**05 49 29.9**	**+0.2**
WB0				IAmb	IAmb	05 49 31.9	
	comp=Z,4.4nm,0.6s						
WRAB	**Tennant Creek**	**25.06**	**163**	P	**P**	**05 49 28.8**	**-2.2**
WRA	**Warramunga Arr**	**25.06**	**163**	P	**P**	**05 49 30.6**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=339,slow=10,SNR=13						
	comp=Z,1.5nm,0.6s						
WB2	**Warramunga Arr**	**25.07**	**163**	P	**P**	**05 49 31.4**	**+0.3**
WB2				IAmb	IAmb	05 49 35.4	
	comp=Z,5.4nm,1.0s						
WR8	**Warramunga Arr**	**25.12**	**163**	P	**P**	**05 49 31.9**	**+0.3**
WR8				IAmb	IAmb	05 50 04.7	
	comp=Z,9.8nm,1.4s						
ASAR	**Alice Springs**	**28.50**	**166**	P	**P**	**05 50 02.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=357,slow=8.9,SNR=4.5						
	comp=Z,0.2nm,0.3s						
KSRS	**Korea Array**	**33.15**	**2**	P	**P**	**05 50 41.0**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=184,slow=10.0,SNR=4.7						
	comp=Z,0.7nm,0.4s			

comp=Z,26nm,0.5s,baz=161,slow=0.2,SNR=12
BATI Baumata 16.31 242 P **P 06 00 36.9 +3.6**
APSI Ampana 16.72 276 P **P 06 00 37.4 -0.4**
comp=Z,1μmcomp=Z,85nm,1.4s
WB0 Warramunga Arr 17.37 192 Pn 06 00 45.0 +1.2
GUMO Guam 17.47 22 LR LR 06 07 00.6
comp=Z,233nm,18.0s,baz=197,slow=36
WR8 Warramunga Arr 17.53 192 Pn 06 00 46.0 +0.1
WRAB Tennant Creek 17.54 192 P **Pn 06 00 46.8 +0.8**
WRAB Tennant Creek 17.54 192 P **P 06 00 47.7 +0.9**
WRA Warramunga Arr 17.55 192 Pn 06 00 45.5 -0.6
WRA Warramunga Arr 17.55 192 P **Pn 06 00 46.3 +0.2**
comp=Z,0.5nm,0.3s,baz=13,slow=12,SNR=26
WRA S **Sn 06 03 56.4 -4.4**
comp=Z,2.5nm,0.8s,baz=360,slow=24,SNR=3.0
WRA LR LR 06 09 04.4
comp=Z,440nm,18.7s,baz=13,slow=42
comp=Z,3.2nm,0.5s
EDFI Ende, Flores 17.55 249 P **Pn 06 00 45.8 -0.5**
QIS Mount Isa 17.78 176 P **Pn 06 00 49.1 +0.1**
TOLI2 Tolitoli 17.90 282 Pn 06 00 49.6 -0.9
TOLI2 Tolitoli 17.90 282 P **P 06 00 54.7 +3.8**
SPSI Sidrap Palu 18.52 266 P **Pn 06 00 59.9 +1.9**
comp=Z,2μmcomp=Z,35nm,1.2s
CTA Charters Tower 18.94 156 LR LR 06 09 12.0
comp=Z,20nm,19.3s,baz=330,slow=40
FITZ Fitzroy Crossi 19.68 218 P **P 06 01 10.1 -0.3**
FITZ Fitzroy Crossi 19.68 218 P **P 06 01 10.6 +0.2**
comp=Z,0.5nm,0.3s,baz=19,slow=14,SNR=12
FITZ S **S 06 04 44.3 -6.5**
comp=Z,11nm,0.8s,baz=171,slow=11,SNR=6.2
FITZ LR LR 06 09 51.4
comp=Z,621nm,18.8s,baz=44,slow=40
comp=Z,6.4nm,0.8s
FITZ Fitzroy Crossi 19.68 218 P **P 06 01 11.4 +1.0**
AS31 Alice Springs 21.25 191 P 06 01 28.0 +0.5
ASAR Alice Springs 21.25 191 P 06 01 27.7 +0.3
ASAR Alice Springs 21.25 191 P **P 06 01 27.6 +0.1**
comp=Z,11nm,0.7s,baz=24,slow=9.8,SNR=71
ASAR S **S 06 05 17.6 -4.6**
comp=Z,0.7nm,0.8s,baz=14,slow=24,SNR=2.3
comp=Z,11nm,0.7s
PATS Pohnpei 22.13 65 P 06 01 35.7 -1.2
PATS IAmb IAmb 06 01 38.2
comp=Z,145nm,1.3s
HNR Honiara 22.55 108 LR LR 06 11 30.2
comp=Z,141nm,19.6s,baz=189,slow=39
STKA Stephens Creek 29.18 174 P **P 06 02 42.8 +0.5**
comp=Z,0.7nm,0.5s,baz=346,slow=17,SNR=1.9
comp=Z,0.7nm,0.5s
JCJ Chichijima 29.87 7 LR LR 06 13 49.1
comp=Z,172nm,18.2s,baz=126,slow=35
JOW Kunigami 30.92 342 LR LR 06 13 39.6
comp=Z,232nm,18.9s,baz=306,slow=33
QIZ Qiongzhong 35.34 309 P **P 06 03 36.5 0.0**
QIZ S **S 06 09 10.9 +1.9**
QIZ LR LR
comp=Z,140nm,17.8s
QIZ LR LR
comp=Z,180nm,13.7s
QIZ LR LR
comp=Z,220nm,18.8s
NWAO Narrogin (SRO) 35.95 211 LR LR 06 19 55.9
comp=Z,747nm,19.1s,baz=8.0,slow=39
JNU Nakatsue 36.32 349 LR LR 06 17 51.4
comp=Z,240nm,18.9s,baz=151,slow=35
MJAR Matsushiro Arr 39.05 360 LR LR 06 18 26.3
comp=Z,149nm,19.0s,baz=172,slow=34
NJ2 Nanjing 39.19 333 *e*P **P 06 04 09.6 +0.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s
WHN Wuhan 40.19 327 P **P 06 04 16.3 -1.0**
KSRS Korea Array 41.11 347 P **P 06 04 23.2 -1.5**
comp=Z,2.8nm,0.8s,baz=165,slow=9.8,SNR=9.6
comp=Z,2.8nm,0.8s
TIA Tai'an 43.47 335 P **P 06 04 39.6 -4.5**
TIA pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 44.07 300 P 06 04 47.5 -1.6
CMAR Chiang Mai Arr 44.07 300 P **P 06 04 48.4 -0.8**
comp=Z,1.6nm,0.3s,baz=117,slow=6.0,SNR=21
CMAR LR LR 06 25 08.2
comp=Z,89nm,18.3s,baz=120,slow=39
comp=Z,1.6nm,0.3s
CHTO Chiang Mai 44.21 301 P **P 06 04 49.0 -1.3**
LYN LuoYang 44.30 329 P **P 06 04 50.3 -0.4**
LYN pmax pmax
comp=Z,44nm,0.9s
HNS HongShan 45.52 333 ⇓P **P 06 04 59.3 -1.1**
HNS pmax pmax
comp=Z,7.0nm,1.0s
HNS LR LR
comp=Z,210nm,19.1s
HNS LR LR
comp=Z,230nm,19.1s
HNS LR LR
comp=Z,280nm,17.5s
PZH PanZhiHua 45.71 312 P **P 06 05 03.8 +1.6**
CD2 Chengdu 46.90 318 P **P 06 05 11.0 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.4s
USRK Ussuriysk Ar. 47.04 354 P **P 06 05 11.0 -1.2**
comp=Z,3.5nm,0.8s,baz=139,slow=6.8,SNR=4.2
comp=Z,3.5nm,0.8s
BJI Beijing 47.13 337 P **P 06 05 13.3 +0.3**
BJI pmax pmax
comp=Z,6.0nm,0.8s
CN2 Changchun 47.72 347 *e*P **P 06 05 19.1 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 47.76 352 P **P 06 05 17.4 -0.4**
MDJ pmax pmax
comp=Z,12nm,1.0s
BNX BinXian 49.20 350 ⇑P **P 06 05 27.3 -1.6**
BNX pmax pmax
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 49.74 333 *e*P **P 06 05 35.4 +2.1**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,97nm,5.9s
HHC LR LR
comp=Z,230nm,16.8s
HHC LR LR
comp=Z,160nm,13.5s
HHC LR LR
comp=Z,280nm,18.5s
LZH Lanzhou 50.23 323 *e*P **P 06 05 37.1 0.0**
LZH pmax pmax
comp=Z,36nm,1.0s
LZH LR LR
comp=Z,310nm,19.2s
LZH LR LR
comp=Z,360nm,19.2s
LZH LR LR
comp=Z,270nm,20.6s
BRDH Bariadhala 52.02 302 LR LR 06 28 28.3
comp=Z,90nm,20.3s,baz=149,slow=37
SHL Shillong 52.98 305 P 06 05 57.1 -0.8
SHL IAmb IAmb 06 05 59.8
comp=Z,20nm,1.2s
HILR Hailar Array B 54.47 345 P **P 06 06 06.8 -1.4**
comp=Z,8.0nm,0.8s,baz=150,slow=12,SNR=7.8
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 57.29 335 P 06 06 28.8 +0.2
SONM Songino Array 57.54 335 P **P 06 06 29.8 -0.5**
SONM Songino Array 57.54 335 P **P 06 06 29.9 -0.5**
comp=Z,2.4nm,0.9s,baz=152,slow=6.8,SNR=6.5
SONM LR LR 06 31 19.5
comp=Z,271nm,19.9s,baz=107,slow=36
comp=Z,2.4nm,0.9s
PETK Petropavlovsk- 57.97 14 LR LR 06 29 52.1
comp=Z,38nm,20.0s,baz=181,slow=34
EVN Everest 58.09 305 IAmb IAmb 06 06 37.4
comp=Z,14nm,0.8s
HYB Hyderabad 62.17 291 *e*P **P 06 07 01.2 -1.4**
HYB IVmB_BB 06 07 06.5
comp=Z,222nm,1.2s
HYB ⇓*e*pP **pP 06 07 09.9 -2.6**
HYB *e*S **S 06 15 26.6 +0.1**
MA2 Magadan 62.88 7 LR LR 06 34 42.9
comp=Z,20nm,19.4s,baz=158,slow=36
SHEM Shemya Is, Ala 62.92 24 LR LR 06 30 47.6
comp=Z,114nm,20.7s,baz=296,slow=33
RAR Rarotonga 62.92 112 LR LR 06 31 54.0
comp=Z,56nm,21.7s,baz=259,slow=34
WMQ Urumqi 64.75 322 *e*P **P 06 07 20.5 +1.3**
WMQ pmax pmax
comp=Z,22nm,0.9s
SEY Seymchan 66.34 7 LR LR 06 34 18.1
comp=Z,44nm,21.2s,baz=250,slow=34
MKAR Makanchi Array 69.53 323 P 06 07 48.8 -0.7
MKAR Makanchi Array 69.53 323 P **P 06 07 49.1 -0.3**
comp=Z,8.8nm,0.7s,baz=112,slow=7.8,SNR=61
MKAR LR LR 06 38 35.9
comp=Z,62nm,21.1s,baz=94,slow=36
comp=Z,8.8nm,0.7s
MAKZ Makanchi 69.73 322 P 06 07 50.1 -0.6
TARG Taragay, Kyrgy 70.29 316 IAmb IAmb 06 08 06.3
comp=Z,9.5nm,0.9s
KSH Kashi 70.77 314 P **P 06 07 58.3 +0.9**
KSH pmax pmax
comp=Z,14nm,0.9s
KDJ Kajisay 70.87 316 IAmb IAmb 06 08 00.3
comp=Z,15nm,0.9s
NIKH Nikolski High 70.90 31 P **P 06 07 57.7 +0.1**
baz=237
ZALV Zalesovo Beam 71.72 330 P 06 08 00.9 -1.7
ZALV Zalesovo Beam 71.72 330 P **P 06 08 01.2 -1.4**
comp=Z,5.2nm,0.6s,baz=116,slow=6.5,SNR=12
ZALV LR LR 06 38 30.5
comp=Z,53nm,21.4s,baz=86,slow=35
comp=Z,5.2nm,0.6s
BOOM Boomskoye usch 71.86 316 IAmb IAmb 06 08 06.2
comp=Z,13nm,0.9s
PPT Papeete 72.17 107 LR LR 06 36 36.0
comp=Z,39nm,21.0s,baz=286,slow=33
PPT2 Papeete2 72.17 108 *e*LQ LQ 06 27 10.1
comp=Z,242nm,24.0s
PPT2 *e*LR LR 06 30 07.7
comp=Z,89nm,30.0s
PPT2 *e*LR LR 06 30 16.7
comp=Z,120nm,25.0s
UNV Unalaska Valle 72.56 31 P **P 06 08 08.1 +0.5**
baz=239
P08K Saint George I 72.57 27 P **P 06 08 08.4 +0.8**
baz=236
SPIA Saint Paul Isl 72.58 27 P **P 06 08 08.6 +0.9**
baz=235
TBI Tubuai 72.65 113 *e*LQ LQ 06 27 20.9
comp=Z,1μm,32.8s
TBI *e*LR LR 06 30 27.0
comp=Z,353nm,24.0s
AAK Ala-Archa 72.91 316 P 06 08 10.4 +0.3
AAK Ala-Archa 72.91 316 P **P 06 08 09.6 -0.5**
comp=Z,8.0nm,0.9s,baz=191,slow=7.1,SNR=8.6
comp=Z,8.0nm,0.9s
KURK Kurchatov 73.47 325 P 06 08 12.2 -0.8
KURK IAmb IAmb 06 08 14.7
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 73.48 325 P **P 06 08 12.3 -0.8**
comp=Z,9.4nm,1.0s,baz=118,slow=5.2,SNR=24
comp=Z,9.4nm,1.0s
ARSB Arslanbob 73.53 314 P **P 06 08 13.5 -0.3**
ARSB IAmb IAmb 06 08 16.2
comp=Z,23nm,1.0s
TIXI Tiksi 74.48 357 P 06 08 17.9 -0.7
TIXI Tiksi 74.48 357 LR LR 06 40 38.6
comp=Z,91nm,19.4s,baz=186,slow=36
FALS False Pass 74.63 31 P **P 06 08 20.3 +0.6**
baz=242
GAR Garm 74.78 312 P 06 08 20.9 -0.3
GAR IAmb IAmb 06 08 23.1
comp=Z,25nm,0.9s
S12K Black Hills 75.71 30 P **P 06 08 26.7 +0.7**
baz=243
VNDA Vanda 75.81 175 P 06 08 27.5 +1.3
VNDA Vanda 75.81 175 P **P 06 08 27.2 +1.0**
comp=Z,1.9nm,0.7s,baz=327,slow=6.8,SNR=18
VNDA LR LR 06 41 55.7
comp=Z,110nm,19.7s,baz=348,slow=36
comp=Z,1.9nm,0.7s
KKAR Karatay Array 75.83 316 P 06 08 26.5 -0.5
GAMB Gambell 75.94 21 P **P 06 08 27.9 +0.9**
baz=232
M11K Mekoryuk 76.11 25 P **P 06 08 28.6 +0.5**
baz=238
SDPT Sand Point 76.36 31 P **P 06 08 29.9 +0.3**
baz=244
CHNA Chernabura Isl 76.60 32 P **P 06 08 31.0 0.0**
baz=245
M13K Dall Lake 77.34 26 P **P 06 08 35.6 +0.5**
baz=241
K13K Kusilvak Mount 77.56 24 P **P 06 08 36.6 +0.3**
baz=239
O14K Tigyukauivet M 77.72 27 P **P 06 08 37.6 +0.3**
baz=243
N14K Kuskokwak Cree 77.84 27 P **P 06 08 38.7 +0.8**
baz=242
L14K Kuka Creek 78.08 25 P 06 08 38.8 -0.4
L14K Kuka Creek 78.08 25 P **P 06 08 39.8 +0.6**
baz=241
M14K Bethel 78.11 26 P **P 06 08 39.7 +0.4**
baz=242
TNA Tin City 78.31 20 P **P 06 08 40.6 +0.2**
baz=235
O15K Ungalikthiuk R 78.35 28 P **P 06 08 41.1 +0.4**
baz=244
M15K Kasigluk River 78.64 26 P **P 06 08 42.7 +0.4**
baz=243
ANM Nome 78.66 22 P **P 06 08 43.0 +0.6**
baz=238
N15K Kwethluk River 78.66 27 P **P 06 08 42.9 +0.4**
baz=244
R16K Pilot Point 78.75 30 P **P 06 08 43.3 +0.4**
baz=246
F14K Arctic Creek 78.81 21 P **P 06 08 43.8 +0.6**
baz=237
K15K Wolf Creek Mou 79.02 24 P **P 06 08 44.6 +0.2**
baz=242
BVAR Borovoye Array 79.07 325 P **P 06 08 44.5 -0.3**
comp=Z,19nm,0.7s,baz=116,slow=6.8,SNR=37
BVAR LR LR 06 46 26.2
comp=Z,50nm,18.1s,baz=61,slow=38
comp=Z,19nm,0.7s
CHIR Chirikof Islan 79.07 32 P **P 06 08 44.5 -0.3**
baz=248
P16K Nushagak River 79.14 28 P **P 06 08 44.8 -0.3**
baz=246
O16K Kokwok River B 79.33 28 P **P 06 08 46.4 +0.3**
baz=246
G15K Niukluk 79.37 21 P **P 06 08 47.0 +0.7**
baz=239
R17L Mt. Peulik Vol 79.38 30 P **P 06 08 46.8 +0.4**
baz=248
N16K Nishlik Lake 79.39 27 P **P 06 08 46.6 +0.1**
baz=245
F15K North Star Dit 79.53 21 P **P 06 08 47.7 +0.6**
baz=238
M16K Timber Creek 79.54 26 P **P 06 08 47.5 +0.3**
baz=245
L16K Owhat River 79.62 25 P **P 06 08 48.0 +0.4**
baz=244
Q16K King Salmon 79.64 29 P **P 06 08 48.4 +0.6**
baz=247
Q17K Contact Creek 79.85 29 P **P 06 08 49.4 +0.3**
baz=248
J16K Anvik River 79.86 24 P **P 06 08 49.6 +0.6**
baz=243
H16K Elim 79.86 22 P **P 06 08 49.0 +0.1**
baz=241
O17K Koliganek Bris 79.86 28 P **P 06 08 49.5 +0.5**
baz=246
P17K Kvichak River 79.94 28 P **P 06 08 49.3 -0.1**
baz=247
SII Sitkinak Islan 80.09 31 P **P 06 08 50.5 +0.2**
baz=250
I17K Unalakleet 80.10 23 P **P 06 08 49.8 -0.3**
baz=242
N17K Nushagak Hills 80.12 27 P **P 06 08 50.1 -0.3**
baz=246
G16K Koyuk River 80.19 21 P **P 06 08 50.8 +0.1**
baz=241
L17K Donlin 80.30 25 P **P 06 08 52.1 +0.7**
baz=245
M17K Holitna River 80.37 26 P **P 06 08 51.5 -0.2**
baz=246
Q18K Katmai Hardscr 80.42 29 P **P 06 08 52.2 0.0**
baz=248
J17K VABM Dome 80.52 24 P **P 06 08 52.8 +0.3**
baz=244
K17K Iditarod 80.55 25 IAmb IAmb 06 08 55.1
comp=Z,21nm,0.9s
K17K Iditarod 80.55 25 P **P 06 08 53.0 +0.4**
baz=245
C16K Lisburne Hills 80.66 18 P **P 06 08 53.3 +0.2**
baz=238
N18K Kilae Creek 80.77 27 P **P 06 08 54.1 +0.2**
baz=247
O18K Koktuh Hills 80.77 28 P **P 06 08 54.1 +0.1**
baz=248
OHAK Old Harbor 80.78 31 P **P 06 08 54.2 +0.3**
baz=250
G17K Kiwalik Mounta 80.87 22 P **P 06 08 54.5 +0.2**
baz=242
H17K Granite Mounta 80.88 22 P **P 06 08 54.7 +0.3**
baz=243
L18K Granite Mounta 81.03 25 P **P 06 08 55.2 0.0**
baz=246
D17K Noatak River 81.09 19 P **P 06 08 55.5 +0.1**
baz=240
F17K Baldwin Pennin 81.09 21 P **P 06 08 55.2 -0.2**
baz=242
M18K Stony River 81.11 26 P **P 06 08 55.8 +0.1**
baz=247
Q19K Cape Douglas, 81.19 29 P **P 06 08 56.9 +0.7**
baz=250
E17K Hotham Inlet 81.20 20 P **P 06 08 56.4 +0.3**
baz=241
TAOE Nuku Hiva Isla 81.27 98 *e*S **S 06 19 10.1 +3.4**
comp=Z,114nm,27.4s
TAOE Nuku Hiva Isla 81.27 98 *e*LR LR 06 34 20.0
comp=Z,146nm,22.6s
O19K Port Alsworth 81.31 28 P **P 06 08 57.0 +0.2**
baz=249
KDAK Kodiak Island 81.32 30 LR LR 06 40 41.5
comp=Z,101nm,19.5s,baz=243,slow=32
KDAK Kodiak Island 81.32 30 P **P 06 08 57.3 +0.5**
baz=251
RDOG Red Dog Mine 81.32 19 P **P 06 08 57.0 +0.3**
baz=240
C17K DeLong Mountai 81.45 19 P **P 06 08 57.6 +0.2**
baz=240
N19K Bonanza Creek 81.46 27 IAmb IAmb 06 09 00.2
comp=Z,20nm,1.0s
N19K Bonanza Creek 81.46 27 P **P 06 08 57.9 +0.1**
baz=249
J18K Innoko River 81.52 24 P **P 06 08 57.9 +0.1**
baz=246
H18K Honhosa River 81.57 22 P **P 06 08 58.6 +0.6**
baz=244
P19K Oil Pt 81.64 29 P **P 06 08 58.2 -0.4**
baz=250
Q20K Shuyak Island 81.69 30 P **P 06 08 58.0 -0.8**
baz=251
F18K Selawik 81.73 21 P **P 06 08 58.7 -0.1**
baz=243
G18K Tagagawik 81.78 22 P **P 06 08 59.3 +0.1**
baz=244
E18K Tukpahlearik C 81.78 20 IAmb IAmb 06 09 01.1
comp=Z,12nm,0.8s
E18K Tukpahlearik C 81.78 20 P **P 06 08 59.5 +0.4**
baz=242
L19K White Mountain 81.80 26 IAmb IAmb 06 09 02.4
comp=Z,32nm,1.4s
L19K White Mountain 81.80 26 P **P 06 08 59.3 -0.1**
baz=248
M19K Big River Lodg 81.90 26 P **P 06 09 00.4 +0.5**
baz=249
MAW Mawson 81.96 202 P **P 06 09 01.1 +1.0**
comp=Z,3.6nm,1.0s,baz=73,slow=7.7,SNR=6.9
MAW LR LR 06 44 31.3
comp=Z,122nm,18.3s,baz=68,slow=35
comp=Z,3.6nm,1.0s
GCSA Galena City Sc 81.97 23 P **P 06 09 00.6 +0.5**
baz=246
O20K Slope Mountain 82.07 28 P **P 06 09 00.8 -0.1**
baz=250
C18K Utukok River 82.17 19 P **P 06 09 01.5 +0.2**
baz=241
J19K Poorman 82.17 24 IAmb IAmb 06 09 04.2
comp=Z,15nm,1.2s
J19K Poorman 82.17 24 P **P 06 09 00.9 -0.4**
baz=247
B18K Kokolik River 82.33 18 P **P 06 09 01.2 -0.7**
baz=241
L20K Farewell, AK 82.34 26 P **P 06 09 02.1 -0.1**
baz=249
HOM Homer 82.40 29 P **P 06 09 02.4 -0.1**
baz=251
M20K Styx River 82.45 26 IAmb IAmb 06 09 04.8
comp=Z,16nm,1.0s
M20K Styx River 82.45 26 P **P 06 09 02.9 0.0**
baz=250
H19K Roundabout Mou 82.45 22 P **P 06 09 03.3 +0.6**
baz=246
F19K Shaleruckik Mo 82.51 21 P **P 06 09 03.0 +0.1**
baz=245
K20K Telida 82.57 25 IAmb IAmb 06 09 05.1
comp=Z,12nm,1.0s
K20K Telida 82.57 25 P **P 06 09 03.5 +0.1**
baz=249
SPCR Spurr Chakacha 82.64 27 P **P 06 09 04.1 +0.2**
baz=251
J20K Nowinta River 82.84 24 IAmb IAmb 06 09 06.4
comp=Z,9.0nm,0.9s
J20K Nowinta River 82.84 24 P **P 06 09 04.7 0.0**
baz=248
BRSE Bradley Lake S 82.86 29 P **P 06 09 05.1 +0.2**
baz=252
C19K Lookout Ridge 82.90 19 P **P 06 09 05.1 +0.1**
baz=243
I20K Naaghedeneel 82.94 23 P **P 06 09 04.6 -0.6**
baz=248
A19K Wainwright 82.96 17 P **P 06 09 05.1 -0.1**
baz=241
E19K Redstone River 82.97 21 IAmb IAmb 06 09 07.2
comp=Z,12nm,0.8s
E19K Redstone River 82.97 21 P **P 06 09 05.4 +0.1**
baz=245
CAPN Captain Cook N 82.98 28 P **P 06 09 05.0 -0.5**
baz=252
H20K Anotleneega Mo 83.04 23 P **P 06 09 05.9 +0.2**
baz=248
D19K Kuna River 83.11 19 IAmb IAmb 06 09 07.4
comp=Z,19nm,0.9s
D19K Kuna River 83.11 19 P **P 06 09 05.6 -0.5**
baz=244
SKT Skwentna 83.20 27 P **P 06 09 06.9 +0.2**
baz=251
PPLA Purkeypile 83.21 26 P **P 06 09 06.6 -0.3**
baz=250
F20K Avaraart Lake 83.33 21 IAmb IAmb 06 09 10.4
comp=Z,13nm,0.9s
F20K Avaraart Lake 83.33 21 P **P 06 09 07.2 0.0**
baz=247,SNR=8.0
CHUM Lake Minchumin 83.49 25 P **P 06 09 07.9 -0.2**
baz=250,SNR=5.4
SEW Seward 83.59 29 P **P 06 09 08.4 -0.2**
baz=253
E20K Nigu River 83.66 20 P **P 06 09 09.1 +0.1**
baz=246
D20K Etivluk River 83.70 19 P **P 06 09 09.0 -0.2**
baz=246
RC01 Rabbit Creek A 83.74 28 P **P 06 09 09.6 +0.2**
baz=253
M22K Willow 83.76 27 P **P 06 09 09.4 -0.1**
baz=252
CUT Chulitna 83.89 26 P **P 06 09 09.7 -0.4**
baz=252
H21K Melozitna Rive 83.91 23 P **P 06 09 10.5 +0.2**
baz=250
G21K Allakaket 83.95 22 P **P 06 09 11.0 +0.6**
baz=249
B20K Meade River 84.06 18 P **P 06 09 11.3 +0.4**
baz=245
I21K Tanana 84.07 23 P **P 06 09 10.7 -0.3**
baz=250
BPAW Bear Paw Mtn. 84.12 25 P **P 06 09 10.4 -1.0**
baz=251
PMR Palmer 84.17 27 P **P 06 09 10.4 -1.2**
baz=253
TRF Thorofare Moun 84.21 25 P **P 06 09 11.5 -0.5**
baz=252
F21K Alatna River 84.21 21 P **P 06 09 11.8 0.0**
baz=249
PWL Port Wells 84.33 28 P **P 06 09 12.1 -0.3**
baz=254
KNK Knik Glacier 84.43 28 P **P 06 09 12.6 -0.3**
baz=254,SNR=5.1
AB31 Akbulak array 84.45 320 IAmb IAmb 06 09 15.0
comp=Z,15nm,1.1s
ABKAR Akbulak array 84.45 320 P 06 09 12.6 -0.6

C21K	Knifeblade Rid	84.48	19	P	P	06 09 13.0	0.0
	baz=247						
E21K	Killik River	84.49	20	P	P	06 09 13.1	0.0
	baz=248						
MLY	Manley	84.52	24	IAmb	IAmb	06 09 15.7	
	comp=Z,7.1nm,1.0s						
MLY	Manley	84.52	24	P	P	06 09 13.1	-0.3
	baz=252						
H22K	Ishtalitna Cre	84.54	23	P	P	06 09 12.7	-0.7
	baz=251						
P23K	Montague Islan	84.55	29	P	P	06 09 13.2	-0.3
	baz=255						
SML	Sawmill	84.59	27	P	P	06 09 13.3	-0.5
	baz=254						
B21K	Ikpikpuk River	84.72	19	P	P	06 09 14.5	+0.3
	baz=248						
WAT1	Susitna Watana	84.78	26	P	P	06 09 14.2	-0.6
	baz=254						
A21K	Barrow	84.78	17	P	P	06 09 14.4	-0.1
	baz=246						
F22K	John River	84.78	21	P	P	06 09 14.6	0.0
	baz=250						
G22K	Bettles	84.83	22	P	P	06 09 14.6	-0.2
	baz=251						
M23K	Glacier View	84.87	27	P	P	06 09 15.0	-0.1
	baz=255						
MCK	McKinley	84.87	25	P	P	06 09 14.7	-0.4
	baz=253						
GLI	Glacier Island	84.92	28	P	P	06 09 14.7	-0.7
	baz=255						
SCM	Sheep Creek Mo	85.06	27	P	P	06 09 15.9	-0.3
	baz=255						
NEA2	Nenana	85.06	24	P	P	06 09 15.8	-0.3
	baz=253						
WAT6	Susitna Watana	85.07	27	P	P	06 09 15.4	-1.0
	baz=254						
D22K	Ayikyak River	85.08	20	P	P	06 09 15.7	-0.4
	baz=249						
I23K	Minto, Yukon-K	85.11	24	IAmb	IAmb	06 09 18.2	
	comp=Z,19nm,1.2s						
I23K	Minto, Yukon-K	85.11	24	P	P	06 09 15.8	-0.4
	baz=253						
E22K	Anaktuvuk Pass	85.13	21	IAmb	IAmb	06 09 19.2	
	comp=Z,8.4nm,0.9s						
E22K	Anaktuvuk Pass	85.13	21	P	P	06 09 16.0	-0.4
	baz=250						
A22K	Sinclair Lake	85.14	18	P	P	06 09 16.3	0.0
	baz=247						
H23K	Yukon River	85.24	23	P	P	06 09 17.0	0.0
	baz=253						
G23K	Bananza Creek	85.32	22	IAmb	IAmb	06 09 21.2	
	comp=Z,12nm,1.4s						
G23K	Bananza Creek	85.32	22	P	P	06 09 17.1	-0.3
	baz=252						
DHY	Denali Highway	85.36	26	P	P	06 09 17.4	-0.4
	baz=255						
B22K	Teshekpuk Lake	85.37	18	P	P	06 09 17.4	0.0
	baz=249						
COLD	Coldfoot	85.42	22	IAmb	IAmb	06 09 21.9	
	comp=Z,8.4nm,1.0s						
COLD	Coldfoot	85.42	22	P	P	06 09 17.2	-0.6
	baz=252						
EYAK	Cordova Ski Ar	85.48	29	P	P	06 09 17.8	-0.4
	baz=256						
CCB	Clear Creek Bu	85.60	25	IAmb	IAmb	06 09 19.5	
	comp=Z,16nm,1.0s						
KLU	Klutina	85.62	28	P	P	06 09 19.0	0.0
	baz=256						
COLA	College	85.64	24	P	P	06 09 18.9	0.0
	baz=254						
M24K	Tolsona, Glenn	85.66	27	P	P	06 09 18.7	-0.4
	baz=256						
D23K	Nanushuk River	85.80	20	P	P	06 09 19.9	+0.2
	baz=251						
AKTO	Aktyubinsk	85.88	321	P	P	06 09 19.2	-1.2
	comp=Z,2.7nm,0.7s,baz=117,slow=3.9,SNR=4.4						
AKTO				LR	LR	06 50 29.3	
	comp=Z,73nm,19.3s,baz=146,slow=38						
	comp=Z,2.7nm,0.7s						
POKR	Poker Plat Res	85.88	24	P	P	06 09 19.7	-0.4
	baz=255						
E23K	Chandalar	85.88	21	P	P	06 09 20.4	+0.2
	baz=252,SNR=15						
HDA	Harding Lake	85.89	25	IAmb	IAmb	06 09 21.2	
	comp=Z,12nm,0.9s						
HDA	Harding Lake	85.89	25	P	P	06 09 20.1	-0.1
	baz=255						
H24K	Noodor Dome	85.90	23	P	P	06 09 19.9	-0.4
	baz=254						
KAIM	Kayak Island	85.99	30	P	P	06 09 20.3	-0.5
	baz=258						
IL31		86.02	24	IAmb	IAmb	06 09 20.9	
	comp=Z,7.6nm,0.9s						
ILAR	Eielson Array	86.02	24		P	06 09 19.8	-1.1
ILAR	Eielson Array	86.02	24	P	P	06 09 19.5	-1.3
	comp=Z,6.3nm,0.8s,baz=257,slow=4.9,SNR=40						
ILAR				LR	LR	06 42 38.4	
	comp=Z,48nm,21.1s,baz=98,slow=32						
	comp=Z,6.3nm,0.8s						
TOLK	Toolik Lake Re	86.08	20	IAmb	IAmb	06 09 23.4	
	comp=Z,14nm,0.9s						
TOLK	Toolik Lake Re	86.08	20	P	P	06 09 21.3	+0.2
	baz=252,SNR=6.0						
C23K	Itkillik River	86.10	19	P	P	06 09 21.4	+0.3
	baz=251						
BMRM	Bremner River	86.12	28	P	P	06 09 21.0	-0.5
	baz=257						
PAX	Paxson	86.18	26	P	P	06 09 21.4	-0.4
	baz=256						
K24K	Donnelly Dome	86.24	26	P	P	06 09 21.4	-0.6
	baz=256						
N25K	Chitina, Valde	86.27	28	P	P	06 09 21.6	-0.6
	baz=257						
G24K	Hadweenzic Riv	86.29	23	IAmb	IAmb	06 09 23.8	
	comp=Z,16nm,1.3s						
G24K	Hadweenzic Riv	86.29	23	P	P	06 09 23.1	+0.9
	baz=254						
E24K	Your Creek	86.30	21	IAmb	IAmb	06 09 36.1	
	comp=Z,16nm,1.4s						
E24K	Your Creek	86.30	21	P	P	06 09 23.0	+0.8
	baz=253						
F24K	Squaw Lake	86.36	22	IAmb	IAmb	06 09 24.5	
	comp=Z,16nm,1.0s						
F24K	Squaw Lake	86.36	22	P	P	06 09 23.1	+0.6
	baz=254,SNR=12						
D24K	Happy Valley	86.49	20	P	P	06 09 23.9	+0.9
	baz=253						
BGLC	Bering Glacier	86.59	29	P	P	06 09 24.5	+0.9
	baz=259						
J25K	Salcha River,	86.61	25	P	P	06 09 24.4	+0.6
	baz=256						
RIDG	Independent Ri	86.63	26	P	P	06 09 24.5	+0.6
	baz=257						
ARTI	Arti	86.65	327	IAmb	IAmb	06 09 24.3	
	comp=Z,7.4nm,1.0s						
ARTI	Arti	86.65	327	P	P	06 09 23.2	-0.9
	comp=Z,4.4nm,0.8s,baz=153,slow=4.0,SNR=5.4						
	comp=Z,4.4nm,0.8s						
C24K	Franklin Bluff	86.70	20	P	P	06 09 24.6	+0.6
	baz=253						
PRP	Porcupine Dome	86.76	24	P	P	06 09 25.0	+0.4
	baz=256						
CRQE	Cirque	86.80	29	P	P	06 09 25.4	+0.4
	baz=259						
H25L	Birch Creek	86.82	23	P	P	06 09 25.3	+0.6
	baz=256						
G25K	Bearman Lake	86.83	23	P	P	06 09 25.0	+0.3
	baz=256						
MCARA	McCarthy VSAT	86.96	28	P	P	06 09 26.0	+0.5
	baz=259						
SCRK	Sand Creek	87.05	26	P	P	06 09 26.2	+0.1
	baz=258						
L26K	Log Cabin Wild	87.14	27	P	P	06 09 26.6	+0.2
	baz=258						
M26K	Nabesna, AK	87.17	27	P	P	06 09 26.7	+0.1
	baz=259						
F25K	Christian Rive	87.21	22	IAmb	IAmb	06 09 29.2	
	comp=Z,11nm,1.1s						
F25K	Christian Rive	87.21	22	P	P	06 09 27.2	+0.5
	baz=256,SNR=8.0						
QSPA	South Pole Qui	87.23	180	P	P	06 09 30.0	+3.1
QSPA				IAmb	IAmb	06 09 33.0	
	comp=Z,15nm,1.0s						
MESA	MESA	87.25	30	P	P	06 09 27.1	-0.1
	baz=260						
J26L	Joseph Creek	87.34	25	IAmb	IAmb	06 09 29.8	
	comp=Z,10nm,1.1s						
J26L	Joseph Creek	87.34	25	P	P	06 09 27.5	+0.1
	baz=258						
E25K	Arctic Village	87.36	21	IAmb	IAmb	06 09 29.5	
	comp=Z,12nm,1.1s						
E25K	Arctic Village	87.36	21	P	P	06 09 28.1	+0.7
	baz=256,SNR=6.7						
D25K	Kavik River	87.38	20	P	P	06 09 27.8	+0.3
	baz=255						
BMAR	Burnt Mountain	87.57	22		P	06 09 29.0	+0.6
M27K	Edge Creek, AK	87.68	27	P	P	06 09 29.1	-0.1
	baz=260						
I26K	Coal Creek Min	87.68	24	P	P	06 09 29.1	+0.2
	baz=258						
CTG	Chitna Glacier	87.69	29	P	P	06 09 29.7	+0.5
	baz=260,SNR=5.7						
G26K	Porcupine Rive	87.77	23	P	P	06 09 29.6	+0.4
	baz=258,SNR=9.6						
F26K	Sheenjek River	87.79	22	IAmb	IAmb	06 09 32.3	
	comp=Z,12nm,1.0s						
F26K	Sheenjek River	87.79	22	P	P	06 09 30.4	+1.0
	baz=258,SNR=8.6						
L27K	Beaver Creek,	87.82	27	IAmb	IAmb	06 09 31.8	
	comp=Z,6.0nm,0.9s						
L27K	Beaver Creek,	87.82	27	P	P	06 09 30.3	+0.6
	baz=260						
BCAR	Beaver Creek A	87.84	27		P	06 09 29.8	0.0
K27K	Chicken	87.89	26	P	P	06 09 30.6	+0.7
	baz=260						
C26K	Camden Bay	88.02	20	P	P	06 09 30.9	+0.5
	baz=257						
PINM	Pinnacle	88.08	30	P	P	06 09 31.5	+0.5
	baz=261						
O28M	Mount Upton	88.21	29	P	P	06 09 31.4	-0.5
	baz=261						
C27K	Jago River	88.36	20	P	P	06 09 32.6	+0.6
	baz=258						
I27K	Kandik River	88.37	24	P	P	06 09 32.5	+0.3
	baz=260,SNR=21						
YUK8	Steele Glacier	88.49	29	P	P	06 09 32.5	-0.7
	baz=262						
H27K	Steamboat Moun	88.51	24	P	P	06 09 33.5	+0.5
	baz=260,SNR=20						
G27K	Doyon Strip	88.56	23	P	P	06 09 33.5	+0.3
	baz=260						
E27K	Coleen River	88.83	22	P	P	06 09 35.3	+0.9
	baz=260						
O29M	Mount Kennedy	88.94	30	P	P	06 09 35.7	+0.5
	baz=263						
I28M	Miner Creek	89.03	24	IAmb	IAmb	06 09 37.6	
	comp=Z,13nm,1.1s						
I28M	Miner Creek	89.03	24	P	P	06 09 35.9	+0.5
	baz=261,SNR=7.2						
YUK4	Talbot Arm	89.03	29	P	P	06 09 36.1	+0.4
	baz=263						
DAWY	Dawson	89.06	26		P	06 09 34.5	-1.0
DAWY	Dawson	89.06	26	P	P	06 09 36.1	+0.6
	baz=262,SNR=16						
D27M	Malcolm River	89.24	21	P	P	06 09 37.3	+1.0
	baz=260						
M29M	Somme Creek	89.26	28	IAmb	IAmb	06 09 38.4	
	comp=Z,6.6nm,1.1s						
M29M	Somme Creek	89.26	28	P	P	06 09 37.0	+0.4
	baz=263						
P29M	Windy Craggy	89.27	30	P	P	06 09 36.6	0.0
	baz=264						
F28M	Old Crow	89.38	22	IAmb	IAmb	06 09 42.0	
	comp=Z,9.2nm,1.3s						
F28M	Old Crow	89.38	22	P	P	06 09 37.4	+0.5
	baz=262						
L29M	L29M	89.50	27	IAmb	IAmb	06 09 40.7	
	comp=Z,15nm,1.2s						
L29M	L29M	89.50	27	P	P	06 09 38.0	+0.5
	baz=263,SNR=6.1						
HYT	Haines Junctio	89.52	29	IAmb	IAmb	06 09 39.4	
	comp=Z,10nm,1.1s						
HYT	Haines Junctio	89.52	29	P	P	06 09 38.5	+0.6
	baz=264						
J29N	Klondike Camp	89.62	26	P	P	06 09 38.7	+0.6
	baz=263						
E28M	Babbage River	89.65	21	P	P	06 09 38.9	+0.7
	baz=262						
I29M	Ogilvie Camp,	89.69	25	IAmb	IAmb	06 09 39.8	
	comp=Z,17nm,1.2s						
I29M	Ogilvie Camp,	89.69	25	P	P	06 09 39.0	+0.5
	baz=263,SNR=9.5						
P30M	Milton Dollar	89.72	30	P	P	06 09 38.5	-0.2
	baz=264						
H29M	Whitestone	89.78	24	P	P	06 09 39.3	+0.6
	baz=263						
N30M	Aishikik Lake	89.79	29	P	P	06 09 39.2	+0.2
	baz=264						
K29M	Barlow Dome	89.85	26	IAmb	IAmb	06 09 41.1	
	comp=Z,12nm,1.1s						
K29M	Barlow Dome	89.85	26	P	P	06 09 40.2	+0.8
	baz=264,SNR=8.1						
S31K	Pelican	89.88	32	P	P	06 09 39.2	-0.2
	baz=265						
PLBC	Pleasant Camp	89.95	31	P	P	06 09 39.6	-0.1
	baz=265						
G29M	Pine Creek	90.00	23	P	P	06 09 40.4	+0.5
	baz=263						
M30M	Minto, Yukon	90.05	27	P	P	06 09 39.9	-0.3
	baz=264						
R31K	City Hall, Gus	90.18	32	P	P	06 09 40.5	-0.2
	baz=265						
O30N	Mendenhall	90.21	29	P	P	06 09 40.2	-0.8
	baz=265						
SIT	Sitka	90.29	33	P	P	06 09 40.5	-0.8
	baz=266						
N31M	Braeburn, Yuko	90.42	29	P	P	06 09 42.1	+0.2
	baz=265						
J30M	Hart River	90.44	25	IAmb	IAmb	06 09 43.7	
	comp=Z,9.0nm,1.1s						
J30M	Hart River	90.44	25	P	P	06 09 41.3	-0.8
	baz=265						
EPYK	Eagle Plains	90.46	24	P	P	06 09 41.9	-0.1
	baz=264						
SKAG	Skagway	90.48	31	P	P	06 09 41.7	-0.4
	baz=266						
I30M	Mount Dempster	90.49	25	P	P	06 09 41.7	-0.6
	baz=265						
SYO	Syowa Base	90.60	201	P	P	06 09 43.0	+0.5
G30M	tAoh Zraii Nji	90.71	23	P	P	06 09 42.6	-0.5
	baz=265						
S32K	Killisnoo	90.73	33	P	P	06 09 42.6	-0.7
	baz=266						
WHY	Whitehorse	90.79	29	P	P	06 09 42.8	-1.0
	baz=266						
F30M	Barrier River	90.94	22	P	P	06 09 43.7	-0.5
	baz=265						
M31M	Drury Creek, Y	91.13	28	P	P	06 09 44.2	-1.0
	baz=266						
P32M	Atlin	91.31	31	P	P	06 09 45.3	-0.8
	baz=267						
H31M	Peel River	91.38	24	P	P	06 09 45.6	-0.7
	baz=266						
CRAG	Craig	91.42	35	P	P	06 09 45.6	-1.0
	baz=267						
U33K	Whale Pass	91.45	34	P	P	06 09 45.7	-1.0
	baz=267						
G31M	Satah River	91.47	23	P	P	06 09 46.5	-0.1
	baz=267						
N32M	Quiet Lake	91.70	29	P	P	06 09 47.0	-0.9
	baz=268						
F31M	Tsiigehtchic	91.71	23	P	P	06 09 47.1	-0.6
	baz=267						
P33M	Teslin, Yukon	91.79	30	P	P	06 09 47.2	-1.2
	baz=268						
INK	Inuvik	91.83	22	LR	LR	06 50 32.0	
	comp=Z,29nm,20.1s,baz=330,slow=35						
INK	Inuvik	91.83	22	P	P	06 09 47.8	-0.4
	baz=267						
WRAK	Wrangell Islan	91.89	34	P	P	06 09 48.8	0.0
	baz=268						
Q32M	Nakina River	92.02	31	P	P	06 09 49.4	-0.3
	baz=268						
V35K	Ketchikan	92.27	35	P	P	06 09 50.1	-0.5
	baz=269						
S34M	Telegraph Cree	92.59	32	P	P	06 09 51.7	-0.4
	baz=269						
MMPY	Sheldon Lake,	92.60	28	P	P	06 09 50.9	-1.2
	baz=269						
R33M	Jennings River	92.70	31	P	P	06 09 51.9	-0.8
	baz=269						
T35M	Bob Quinn	93.06	33	P	P	06 09 53.2	-1.0
	baz=270						
U35K	Hyder	93.18	34	P	P	06 09 54.7	0.0
	baz=270						
DLBC	Dease Lake	93.18	32	LR	LR	06 49 11.8	
	comp=Z,396nm,19.3s,baz=292,slow=34						
DLBC	Dease Lake	93.18	32	P	P	06 09 54.6	-0.3
	baz=270						
WTLY	Watson Lake, Y	93.80	30	P	P	06 09 57.3	-0.3
	baz=271						
TGTN	Hyland Airport	94.02	29	P	P	06 09 57.7	-0.9
	baz=272						
BBB	Bella Bella	94.34	38	LR	LR	06 47 07.5	
	comp=Z,67nm,18.8s,baz=247,slow=32						
GNI	Garni	94.44	310	LR	LR	06 57 18.8	
	comp=Z,25nm,19.3s,baz=88,slow=39						
A36M	Sachs Harbour	94.57	18	P	P	06 10 00.9	0.0
	baz=275						
C36M	Paulatuk	95.23	21	P	P	06 10 03.7	-0.1
	baz=276						
TOAD	Toad River Com	95.67	31	P	P	06 10 05.6	-0.6
	baz=274						
YBH	Yreka Blue Hor	98.53	48	LR	LR	06 47 29.1	
	comp=Z,7.5nm,20.8s,baz=284,slow=31						
AK01	Malin Array Si	104.11	322	P	Pdif	06 10 43.2	-0.9
MODS	Modra-Piesok	112.22	322	*e*PDIFF	Pdif	06 11 19.3	-0.9
CPUP	Villa Florida	147.42	153	PKPbc	PKPab	06 16 26.4	-0.7
	comp=Z,0.9nm,0.8s,baz=167,slow=1.7,SNR=7.4						
LPAZ	La Paz	147.79	127		PKPbc	06 16 27.5	+0.3
LPAZ	La Paz	147.79	127	PKPbc	PKPbc	06 16 27.9	+0.6
	comp=Z,3.2nm,0.8s,baz=236,slow=3.6,SNR=11						

NEIC ***23*** *05:58:35.8±1.1,35°.888N±0°.007×117°.70W±0°.01, h7km±5km, Error ellipse: s-maj=1.9km s-min=0.4km az=121.0*

PAS 23 05:58:36.2±0.8,35°.90N±0°.01×117°.70W±0°.01,h4km±4km, ML3.0/137,ML2.9/94(NEIC), Error ellipse: s-maj=2.3km s-min=0.8km az=204.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.10	211		Pg	05 58 38.8	+0.5
TOW					Sg	05 58 41.5	+1.8
WVPM	Volcano Peak E	0.11	299		Pg	05 58 38.6	+0.1
WVPM					Sg	05 58 40.4	+0.4
CLC	China Lake	0.12	134	Pg	Pg	05 58 38.6	+0.1
CLC				IAML		05 58 40.8	
	comp=E,3μm,0.4s						
CLC				IAML		05 58 41.0	
	comp=N,4μm,0.2s						
JRC2	Joshua Ridge	0.12	314		Pg	05 58 38.9	+0.1
JRC2					Sg	05 58 40.9	+0.4
WCSM	Coso Springs S	0.14	337		Pg	05 58 39.0	0.0
WCSM					Sg	05 58 41.1	+0.2
WNMM	Nine Mile Cany	0.17	252		Pg	05 58 39.8	+0.2
WNMM					Sg	05 58 42.7	+0.8
WRVM	Rose V. Centra	0.19	306		Pg	05 58 40.0	+0.1
WRVM					Sg	05 58 42.8	+0.3
SRTC	Snort	0.21	191		Pg	05 58 40.7	+0.5
SRTC					Sg	05 58 44.8	+1.8
MPMC	Manual Prospec	0.23	47	Pg	Pg	05 58 40.9	+0.1
MFS	McCloud Flat S	0.25	330		Pg	05 58 41.1	0.0
MFS					Sg	05 58 44.9	+0.4
WSHM	Spangler Hills	0.34	150		Pg	05 58 42.7	-0.1
WSHM					Sg	05 58 47.8	+0.5
WSHM	Spangler Hills	0.34	150	IAML		05 58 48.3	
	comp=N,3μm,0.3s						
WSHM				IAML		05 58 48.3	
	comp=N,4μm,0.3s						
LRMC	Laurel Mtn Rad	0.42	178		Sg	05 58 50.0	+0.3
LRMC	Laurel Mtn Rad	0.42	178		Pg	05 58 44.1	-0.1
LRMC				IAML		05 58 50.9	
	comp=E,967nm,0.5s						
LRMC				IAML		05 58 51.2	
	comp=N,792nm,0.2s						
CCCA	Chr Cany lake	0.46	144		Sg	05 58 52.4	+1.4
CCCA	Chr Cany lake	0.46	144		Pg	05 58 45.3	+0.3
CCCA				IAML		05 58 52.8	
	comp=E,2μm,0.7s						
CCCA				IAML		05 58 53.2	
	comp=N,2μm,0.6s						
WORM	Onyx Ranch	0.48	246		Pg	05 58 45.2	-0.3
WORM					Sg	05 58 51.8	0.0
WBSM	Bird Springs	0.51	225		Sg	05 58 52.6	0.0
WHFM	Hanning Flat	0.56	249		Pg	05 58 46.8	-0.2
WHFM					Sg	05 58 54.4	+0.1
CWC	Cottonwood Cre	0.62	331		Pg	05 58 48.1	0.0
CWC					Sg	05 58 56.9	+0.6
CWC	Cottonwood Cre	0.62	331	IAML		05 58 57.8	
	comp=N,445nm,0.2s						
CWC				IAML		05 59 00.1	
	comp=E,474nm,0.2s						
DTP	Desert Tortois	0.64	191		Pg	05 58 48.0	-0.4
DTP					Sg	05 58 57.0	+0.3
CGO	Cerro Gordo	0.66	353		Pg	05 58 48.3	-0.6
ISA	Isabella, Lake	0.67	250		Sg	05 58 57.8	+0.1
ISA	Isabella, Lake	0.67	250		Pg	05 58 48.8	-0.2
ISA				IAML		05 58 58.0	
	comp=N,476nm,0.3s						
ISA				IAML		05 58 59.0	
	comp=E,530nm,0.2s						
QSM	Queen of Sheba	0.68	84		Pg	05 58 48.9	-0.3
QSM					Sg	05 58 58.3	+0.3
QSM	Queen of Sheba	0.68	84	IAML		05 58 59.8	
	comp=N,588nm,0.1s						
QSM				IAML		05 59 01.9	
	comp=E,432nm,0.4s						
WASM	Alta Sierra Ca	0.71	257		Pg	05 58 49.7	-0.2
CCAC	Calif City Air	0.79	199		Pg	05 58 50.9	-0.4
FURC	Furnace Creek,	0.88	50		Pg	05 58 53.1	0.0
FURC	Furnace Creek,	0.88	50	IAML		05 59 07.9	
	comp=E,539nm,0.2s						
FURC				IAML		05 59 16.9	
	comp=N,494nm,0.7s						
GWY	Greenwater Val	0.88	71		Pg	05 58 52.9	-0.2
GWY					Sg	05 59 04.8	+0.2
GWY	Greenwater Val	0.88	71	IAML		05 59 05.3	
	comp=E,310nm,0.5s						
GWY				IAML		05 59 07.9	
	comp=N,357nm,0.4s						
SPG2	Springville 2	0.92	290		Sg	05 59 04.7	-0.9
GSC	Goldstone, Bar	0.94	129	Pg	Pg	05 58 53.7	-0.5
GSC				IAML		05 59 08.8	
	comp=N,419nm,0.3s						
GSC				IAML		05 59 09.0	
	comp=E,547nm,0.7s						
GSC	Goldstone, Bar	0.94	129		Sg	05 59 06.3	-0.1
TPO	Tropico Hills	1.10	203		Pg	05 58 56.5	-0.8
TPO				IAML		05 59 14.2	
	comp=E,298nm,0.8s						
TPO				IAML		05 59 14.4	
	comp=N,348nm,0.8s						
VES	Vestal, Richgr	1.13	268		Pg	05 58 57.2	-0.5
VES				IAML		05 59 18.4	
	comp=N,299nm,0.4s						
VES				IAML		05 59 19.6	
	comp=E,179nm,0.7s						
GRAC	Grapevine Rang	1.13	14		Pg	05 58 57.2	-0.7
GRAC				IAML		05 59 14.1	
	comp=E,276nm,0.5s						
GRAC				IAML		05 59 18.9	
	comp=N,303nm,0.7s						
SHOC	Shoshone, Teco	1.16	89		Pg	05 58 57.5	-0.9
WCT	Wildcat Mounta	1.25	44		Pg	05 58 59.7	-0.3
WCT				IAML		05 59 17.4	
	comp=N,124nm,0.5s						
WCT				IAML		05 59 18.2	
	comp=E,172nm,0.6s						
GMN	Gold Mountain	1.45	14		Pn	05 59 02.8	-0.5
GMN				IAML		05 59 25.7	
	comp=N,95nm,0.5s						
OSI	Osito Audit: C	1.53	214		Pn	05 59 03.9	-0.3
OSI				IAML		05 59 26.6	
	comp=E,105nm,0.7s						
TPNV	Topopah Spring	1.57	48		Pn	05 59 04.4	-0.5
TPNV				IAML		05 59 27.9	
	comp=E,79nm,0.4s						
TPNV				IAML		05 59 29.6	
	comp=E,120nm,0.4s						
BFSC	Mount Baldy Ra	1.66	179		Pn	05 59 05.7	-0.4
MWC	Mount Wilson	1.69	190		Pn	05 59 06.6	-0.1
MWC				IAML		05 59 31.8	
	comp=E,164nm,0.4s						
PASC	Pasadena Art C	1.77	193		Pn	05 59 08.1	+0.6
MTPC	Mountain Pass	1.79	103		Pn	05 59 06.7	-1.3
MTPC				IAML		05 59 33.8	
	comp=N,91nm,0.8s						
MTPC				IAML		05 59 35.4	
	comp=E,78nm,0.7s						

MCSM	Casa Diablo Ho	2.00 331		Pb	05 59 13.5	+0.2
SHPR	Sheep Range	2.14 73		Pn	05 59 12.4	-0.3
ELS	Elsinore Mount	2.25 174		Pn	05 59 13.8	-0.5
V12A	Nelson	2.32 93		Pn	05 59 14.1	-1.1
S11A	Rachel	2.34 41		Pn	05 59 16.6	+1.1
S11A			IAML		05 59 52.5	
	comp=N,94nm,1.1s					
BELC	Belle Mtn. Jos	2.35 143		Pn	05 59 14.2	-1.4
BELC			IAML		05 59 52.0	
	comp=N,37nm,0.9s					
BELC			IAML		05 59 52.5	
	comp=E,49nm,0.4s					
LHV	Little Huntoon	2.44 345	Pn	Pn	05 59 17.0	+0.4
PFO	Pinyon Flats O	2.50 156	Pn	Pn	05 59 16.8	-0.9
PCCM	Crazy Canyon	2.81 275		Pb	05 59 24.7	-2.3
CBX	Cerro Bola	3.68 166	Pn	Pn	05 59 34.0	+0.1
KNB	Kanab	4.09 73		Pn	05 59 39.5	0.0

*NEIC **23** 06:10:13.2±2.1,37.°06S±0.°08×179.°2E±0.°1,h10km±1km, mb4.3/8,Error ellipse: s-maj=20.2km s-min=13.3km az=93.0*
*IDC **23** 06:10:13.2±3.1,36.°78S×178.°87E,h0km,mb3.9/3, mbtmp3.9/4,ML3.8/1,MS2.5/1,Error ellipse: s-maj=68.9km s-min=31.3km az=121.0*
*NOU **23** 06:10:14.5,37.°35S×179.°42E,h15km,MLv4.3/12,Off E. Coast of N. Island, N.Z.*
*WEL **23** 06:10:14.0±0.9,37.°S±6.°×17.°9E±.°,h12km,M3.7/18, ML3.9/21,MLv3.7/18,Error ellipse: s-maj=9.4km s-min=6.8km az=112.3,confirmed*

ISC 23 06:10:12.8±3.4,37.°26S±0.°07×179.°49E±0.°07,h13km±21km, n98,σ1s14/103,mb4.3/7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.98 252		Pn		06 10 32.0	-0.2
MXZ	Matakaoa Point	0.98 252		P	Pb	06 10 31.7	+0.1
MXZ	Matakaoa Point	0.98 252		S	Sb	06 10 44.8	+0.3
MXZ	Matakaoa Point	0.98 252		P	Pb	06 10 31.7	+0.1
MXZ				S	Sb	06 10 44.4	-0.1
WMGZ	Waiomatatini S	1.02 237		P	Pn	06 10 33.5	+0.8
WMGZ				S	Sn	06 10 47.4	+0.6
PUZ	Puketiti	1.27 230		P	Pn	06 10 37.1	+1.0
PUZ				S	Sn	06 10 54.1	+1.1
PKGZ	Pakihiroa	1.27 241		P	Pn	06 10 37.2	+1.0
PKGZ				S	Sn	06 10 54.2	+1.1
HAZ	Te Kaha	1.44 250		P	Pb	06 10 39.2	-0.2
HAZ				S	Sn	06 10 58.1	+0.9
TWGZ	Tauwhareparae	1.50 232		P	Pb	06 10 40.6	+0.1
CNGZ	Carnagh Statio	1.58 219		P	Pb	06 10 42.2	+0.3
RUGZ	Raukumara Rang	1.60 243		P	Pb	06 10 41.7	-0.5
TKGZ	Te Karaka	1.75 227		P	Pn	06 10 44.0	+1.3
MWZ	Matawai	1.88 235		P	Pn	06 10 45.2	+0.5
RIGZ	Rimuhau	1.98 223		P	Pn	06 10 46.6	+0.6
RAGZ	Rawiri	2.05 232		P	Pn	06 10 48.2	+1.3
WHRZ	Whale Island	2.08 253		P	Pn	06 10 48.4	+1.1
PRGZ	Paritu Road	2.08 217		P	Pn	06 10 48.1	+0.7
URZ	Urewera	2.13 241		Pn	Pn	06 10 48.9	+0.9
	34nm,0.3s,baz=57,slow=4.1,SNR=159						
URZ				Sn	Sn	06 11 14.2	0.0
	60nm,0.3s,baz=90,slow=20,SNR=25						
URZ				LR	LR	06 11 35.2	
	comp=Z,118nm,19.8s,baz=307,slow=40						
	85nm,0.3s						
URZ	Urewera	2.13 241		P	Pn	06 10 49.1	+1.2
URZ	Urewera	2.13 241		S	Sn	06 11 14.5	+0.3
URZ	Urewera	2.13 241		P	Pn	06 10 48.9	+0.9
MHGZ	Mahia Peninsul	2.26 213		P	Pn	06 10 50.5	+0.8
SNGZ	Shannon Statio	2.27 228		P	Pn	06 10 50.4	+0.5
MARZ	Manawahe	2.34 251		P	Pn	06 10 52.3	+1.4
RTZ	Ruatahuna	2.40 235			Pn	06 10 52.8	+1.1
RTZ	Ruatahuna	2.40 235		P	Pn	06 10 52.8	+1.1
OPRZ	Ohinepanea	2.40 255		P	Pn	06 10 52.1	+0.4
MUGZ	Murupara	2.47 240		P	Pn	06 10 53.3	+0.6
RAHZ	Arahi	2.51 228		P	Pn	06 10 53.7	+0.5
TARZ	Mount Tarawera	2.55 247		P	Pn	06 10 55.6	+1.7
TGRZ	Tauranga	2.61 259		P	Pn	06 10 54.8	+0.2
MTHZ	Maungataniwha	2.62 232		P	Pn	06 10 55.4	+0.6
HRRZ	Handcock Road	2.77 245		P	Pn	06 10 58.3	+1.4
NMHZ	Naumai	2.79 228		P	Pn	06 10 57.7	+0.5
ARHZ	Aropaoanui	2.80 224		P	Pn	06 10 57.6	+0.5
ALRZ	Allen Road	2.80 241		P	Pn	06 10 57.7	+0.4
BKZ	Black Stump Fm	3.03 230			Pn	06 11 00.6	+0.3
BKZ	Black Stump Fm	3.03 230		P	Pn	06 11 00.5	+0.1
BKZ	Black Stump Fm	3.03 230		S	Sn	06 11 35.6	-0.9
BKZ	Black Stump Fm	3.03 230		P	Pn	06 11 00.5	+0.1
KUZ	Kuaotunu	3.06 279		P	Pn	06 11 00.6	-0.1
KUZ	Kuaotunu	3.06 279		P	Pn	06 11 00.5	-0.2
MCHZ	McNeill Hill	3.09 224		P	Pn	06 11 01.3	+0.1
TOZ	Tahuroa Road	3.20 260		P	Pn	06 11 03.7	+1.0
KWHZ	Kaweka Forest	3.23 227		P	Pn	06 11 02.8	-0.4
KAHZ	Kahuranaki	3.25 218		P	Pn	06 11 03.0	-0.4
GRZ	Great Barrier	3.39 286		P	Pn	06 11 06.3	+1.1
KRHZ	Kereru	3.41 225		P	Pn	06 11 04.9	-0.7
PXZ	Pawanui	3.44 216		P	Pn	06 11 05.6	-0.4
MKAZ	Moumakai	3.46 271		P	Pn	06 11 06.7	+0.5
TMVZ	Te Maari	3.51 237		P	Pn	06 11 07.5	+0.5
WIAZ	Waiheke Island	3.51 276		P	Pn	06 11 07.8	+0.8
OTVZ	Oturere	3.56 237		P	Pn	06 11 08.2	+0.5
NNVZ	North Ngauruho	3.57 237		P	Pn	06 11 09.6	+1.6
SNVZ	South Ngauruho	3.58 236		P	Pn	06 11 08.5	+0.4
NGZ	Ngauruhoe	3.61 237		P	Pn	06 11 08.4	0.0
MOVZ	Moawhango	3.63 233		P	Pn	06 11 09.0	+0.3
ETAZ	East Tamaki Re	3.66 273		P	Pn	06 11 09.9	+1.0
WHVZ	Whangaehu Hut	3.67 235		P	Pn	06 11 09.7	+0.3
WPHZ	Waipukurau	3.67 220		P	Pn	06 11 08.2	-1.0
FWVZ	Far West T-bar	3.68 236		P	Pn	06 11 09.9	+0.4
WNVZ	Wahianoa	3.69 235		P	Pn	06 11 09.8	+0.2
PNHZ	Pukenui	3.69 223		P	Pn	06 11 08.2	-1.3
MBAZ	Motutapu North	3.71 276		P	Pn	06 11 11.4	+1.8
TRVZ	Turoa	3.71 236		P	Pn	06 11 10.3	+0.4
HIZ	Hauiti	3.87 250	Pn	Pn	Pn	06 11 10.9	-1.0
HIZ	Hauiti	3.87 250		P	Pn	06 11 13.0	+1.1
HIZ	Hauiti	3.87 250		P	Pn	06 11 13.6	+1.7
TSZ	Takapari Road	3.92 224		P	Pn	06 11 11.5	-1.2
RVAZ	Riverhead Bore	3.96 276		P	Pn	06 11 14.4	+1.3
ANWZ	Angora Road	3.96 215		P	Pn	06 11 13.5	+0.4
DVHZ	Dannevirke	3.99 220		P	Pn	06 11 11.9	-1.6
BFZ	Birch Farm	4.25 215	Pn	Pn	Pn	06 11 16.2	-0.9
BFZ	Birch Farm	4.25 215		P	Pn	06 11 15.8	-1.3
BFZ	Birch Farm	4.25 215		P	Pn	06 11 15.6	-1.4
POWZ	Post Office Ro	4.26 222		P	Pn	06 11 17.3	0.0
WAZ	Wanganui	4.32 233		P	Pn	06 11 19.4	+1.4
WCZ	Waipu Caves	4.34 286		P	Pn	06 11 19.6	+1.2
MRZ	Mangatainoka R	4.56 221		P	Pn	06 11 19.5	-1.9
KHEZ	Kahui Hut	4.76 243		P	Pn	06 11 25.0	+0.8
OUZ	Omahuta	5.18 291		P	Pn	06 11 31.2	+1.3
OUZ	Omahuta	5.18 291		P	Pn	06 11 31.4	+1.5
SNZO	South Karori	5.49 221	Pn	Pn	Pn	06 11 35.7	+1.6
TUWZ	Tuamarina	5.98 224		P	Pn	06 11 39.6	-1.3
KHZ	Kahutara	6.88 220		P	Pn	06 11 54.0	+0.7
CTZ	Chatham Island	7.11 157		P	Pn	06 11 57.2	+0.8
LTZ	Lake Taylor	7.81 223	Pn	Pn	Pn	06 12 05.1	-0.9
ASAR	Alice Springs	41.18 276		P	P	06 17 54.1	-2.9
	0.4nm,0.6s,baz=118,slow=7.3,SNR=7.4						
	0.4nm,0.6s						
FORT	Forrest	42.68 263		P	P	06 18 07.9	-1.3
FORT				IAmb	IAmb	06 18 10.0	
	comp=Z,8.3nm,1.1s						
WRAB	Tennant Creek	42.79 281		P	P	06 18 08.3	-2.0
WRA	Warramunga Arr	42.80 281		P	P	06 18 08.7	-1.6
	comp=Z,0.8nm,0.5s,baz=121,slow=7.8,SNR=10						
	comp=Z,0.8nm,0.5s						
WB0	Warramunga Arr	42.85 281		P	P	06 18 09.1	-1.7
WB0				IAmb	IAmb	06 18 09.4	
	comp=Z,8.8nm,1.4s						
FITZ	Fitzroy Crossi	50.67 277		IAmb	IAmb	06 19 16.6	
	comp=Z,2.6nm,1.4s						
FITZ	Fitzroy Crossi	50.67 277		P	P	06 19 11.1	-0.8
	comp=Z,4.0nm,1.1s,baz=111,slow=8.6,SNR=1.6						
	comp=Z,4.0nm,1.1s						
QSPA	South Pole Qui	52.86 180		P	P	06 19 31.7	+3.8
QSPA				IAmb	IAmb	06 19 56.7	
	comp=Z,4.8nm,1.4s						
MMRI	Maumere	58.89 284		P	P	06 20 07.9	-3.7
SNAA	Sanae	71.35 179		P	P	06 21 33.7	+1.9
SNAA				IAmb	IAmb	06 21 47.3	
	comp=Z,3.9nm,1.4s						
FINES	FINESS Array B	150.64 334		PKPbc	PKPbc	06 30 04.0	+0.5
	comp=Z,3.3nm,0.9s,baz=45,slow=0.5,SNR=5.1						

IDC 23 06:36:13.7±3.7,6.°55S×141.°85E,h0km,mb3.8/2, mbtmp3.8/4,ML3.3/2,MS3.4/1,Error ellipse: s-maj=124.6km s-min=17.0km az=102.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.18 208		Pn	Pn	06 39 48.5	-1.0
	0.1nm,0.3s,baz=33,slow=13,SNR=9.6						
WRA				Sn	Sn	06 42 34.0	-4.6
	0.1nm,0.3s,baz=166,slow=24,SNR=5.6						
WRA				LR	LR	06 46 34.0	
	comp=Z,151nm,20.2s,baz=330,slow=41						
	1.5nm,0.8s						
ASAR	Alice Springs	18.65 203		P	Pn	06 40 34.7	+1.2
	0.3nm,0.3s,baz=29,slow=11,SNR=29						
ASAR				S	Sn	06 44 03.7	+0.8
	0.4nm,0.7s,baz=30,slow=30,SNR=2.1						
	2.2nm,0.6s						
MKAR	Makanchi Array	74.73 322		P	P	06 47 56.5	+1.0
	0.4nm,0.6s,baz=102,slow=5.0,SNR=3.6						
	0.4nm,0.6s						
BVAR	Borovoye Array	84.24 325		P	P	06 48 45.7	-1.4
	0.6nm,0.4s,baz=112,slow=2.3,SNR=2.5						
	0.6nm,0.4s						

*IDC **23** 06:40:14.4±0.7,2.°76S×138.°22E,h0km,mb4.0/7, mbtmp4.0/9,ML3.7/2,MS3.2/4,Error ellipse: s-maj=23.6km s-min=12.0km az=94.0*
*NEIC **23** 06:40:19.2±1.8,2.°7S±0.°1×138.°39E±0.°04,h25km±4km, mb4.1/10,Error ellipse: s-maj=14.5km s-min=5.8km az=178.0*
*DJA **23** 06:40:19.2±0.4,2.°S±5.°×13.°8E±.°,h10km,M3.9/7,MLv3.9/7*

ISC 23 06:40:19.7±0.7,2.73S±0.°08×138.°38E±0.°05,h32km,n32, σ1s21/28,mb4.1/10,MS3.7/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.81 24		P	Pn	06 40 28.7	-6.2
GENI	Genyem	1.79 86		P	Pn	06 40 49.3	+0.9
SRPI	Serui, Papua	2.30 292		P	Pn	06 40 54.8	-0.7
JAY	Jayapura	2.33 85		Pn	Pn	06 40 56.3	+0.4
	5.6nm,0.3s,baz=258,slow=12,SNR=9.6						
JAY				Sn	Sb	06 41 28.6	-1.0
	4.4nm,0.3s,baz=114,slow=18,SNR=2.4						
JAY				LR	LR	06 41 43.6	
	comp=Z,169nm,18.7s,baz=227,slow=36						
	30nm,0.5s						
JAY	Jayapura	2.33 85		P	Pn	06 40 56.3	+0.4
BAKI	Biak	2.74 304		P	Pn	06 41 02.8	+1.3
FAKI	Fak Fak	6.12 268		Pn	Pn	06 41 48.8	+0.7
MTN	Manton Dam	12.34 215		Pn	Pn	06 43 12.6	-0.8
WB0	Warramunga Arr	17.37 193			P	06 44 21.4	+0.4
WB0				IAmb	IAmb	06 44 57.5	
	comp=Z,13nm,0.9s						
GUMO	Guam	17.45 22		LR	LR	06 50 27.1	
	comp=Z,43nm,18.1s,baz=206,slow=35						
WR8	Warramunga Arr	17.53 192		P	P	06 44 24.6	+1.8
WR8				IAmb	IAmb	06 44 58.8	
	comp=Z,21nm,1.2s						
WRAB	Tennant Creek	17.54 193		P	P	06 44 23.8	+1.0
WRA	Warramunga Arr	17.55 193		P	Pn	06 44 20.4	-1.8
	comp=Z,0.5nm,0.3s,baz=18,slow=12,SNR=8.1						
WRA				S	Sn	06 47 34.8	-1.9
	comp=Z,0.4nm,0.5s,baz=2.4,slow=23,SNR=3.5						
	comp=Z,1.2nm,0.6s						
FITZ	Fitzroy Crossi	19.73 218		P	P	06 44 47.6	+0.8
AS31	Alice Springs	21.25 191		P	P	06 45 01.7	-1.7
AS31				IAmb	IAmb	06 45 14.6	
	comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	21.25 191		P	P	06 45 03.7	+0.3
ASAR	Alice Springs	21.25 191		P	P	06 45 02.1	-1.3
	comp=Z,1.6nm,0.6s,baz=16,slow=11,SNR=11						
ASAR				S	S	06 49 00.1	+2.0
	comp=Z,2.6nm,1.0s,baz=16,slow=23,SNR=6.6						
	comp=Z,1.6nm,0.6s						
SONM	Songino Array	57.60 335		LR	LR	07 14 56.1	
	comp=Z,33nm,19.5s,baz=286,slow=36						
YAK	Yakutsk	64.93 355		LR	LR	07 14 27.4	
	comp=Z,52nm,20.6s,baz=54,slow=32						
MKAR	Makanchi Array	69.61 323		P	P	06 51 25.5	-0.4
	comp=Z,3.2nm,0.7s,baz=118,slow=7.8,SNR=21						
	comp=Z,3.2nm,0.7s						
ZALV	Zalesovo Beam	71.79 330		P	P	06 51 37.5	-1.5
	comp=Z,1.3nm,0.4s,baz=114,slow=3.6,SNR=4.5						
	comp=Z,1.3nm,0.4s						
BOOM	Boomskoye usch	71.94 316		P	P	06 51 40.3	-0.1
BOOM				IAmb	IAmb	06 51 40.9	
	comp=Z,2.1nm,0.7s						
KURK	Kurchatov	73.55 325		P	P	06 51 49.2	-0.3
KURK	Kurchatov	73.55 325		IAmb	IAmb	06 51 52.6	
	comp=Z,2.8nm,1.1s						
KURBB	Kurchatov Arra	73.56 325		P	P	06 51 49.2	-0.4
	comp=Z,1.6nm,0.9s,baz=115,slow=6.1,SNR=8.1						
	comp=Z,1.6nm,0.9s						
VNDA	Vanda	75.78 175		IAmb	IAmb	06 52 19.0	
	comp=Z,1.9nm,1.2s						
VNDA	Vanda	75.78 175		P	P	06 52 01.8	-0.2
	comp=Z,0.6nm,0.9s,baz=330,slow=5.7,SNR=4.3						
	comp=Z,0.6nm,0.9s						
BVAR	Borovoye Array	79.14 325		P	P	06 52 20.8	-0.4
	comp=Z,1.8nm,0.5s,baz=101,slow=8.0,SNR=7.3						
	comp=Z,1.8nm,0.5s						
ILAR	Eielson Array	85.99 24		P	P	06 52 55.8	-0.9
	comp=Z,0.4nm,0.7s,baz=270,slow=5.3,SNR=4.9						
	comp=Z,0.4nm,0.7s						
QSPA	South Pole Qui	87.21 180		P	P	06 53 05.4	+2.6
BELG	Belogornoye	92.61 322		LR	LR	07 38 14.5	
	comp=Z,2μm,21.4s,baz=97,slow=38						
LPAZ	La Paz	147.70 127		PKPbc	PKPbc	07 00 03.6	+0.7
	comp=Z,1.1nm,0.8s,baz=315,slow=2.9,SNR=5.8						

*IDC **23** 06:47:38.3±1.5,2.°56S×138.°36E,h0km,mb3.6/2, mbtmp3.6/5,ML3.4/3,Error ellipse: s-maj=29.5km s-min=24.8km az=150.0*
*DJA **23** 06:47:41.7±0.4,3.°S±5.°×13.°8E±.°,h10km,M3.6/6,MLv3.6/6*

ISC 23 06:47:42.0±0.9,2.°59S±0.°08×138.°55E±0.°07,h32km,n9, σ1s18/11,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.62 15		P	Pb	06 47 53.3	-1.2
GENI	Genyem	1.62 90		P	Pb	06 48 11.2	-0.1
JAY	Jayapura	2.15 88		Pn	Pb	06 48 18.6	-1.9
	3.0nm,0.3s,baz=260,slow=11,SNR=6.5						
JAY				Sn	Sb	06 48 48.5	+1.8
	2.1nm,0.3s,baz=345,slow=16,SNR=1.7						
	10nm,0.4s						
JAY	Jayapura	2.15 88		P	Pb	06 48 19.0	-1.4
BAKI	Biak	2.81 300		P	Pn	06 48 25.4	+0.6
WRA	Warramunga Arr	17.73 193		P	Pn	06 51 46.4	-0.3
	0.2nm,0.3s,baz=17,slow=13,SNR=6.7						
	0.5nm,0.4s						
FITZ	Fitzroy Crossi	19.95 219		P	P	06 52 11.6	0.0
	0.1nm,0.3s,baz=48,slow=12,SNR=1.4						
	1.6nm,0.9s						
ASAR	Alice Springs	21.43 192		P	P	06 52 27.9	+0.2
	0.5nm,0.5s,baz=15,slow=11,SNR=7.0						
ASAR				S	S	06 56 23.3	-0.6
	0.6nm,1.0s,baz=17,slow=24,SNR=4.2						
	0.5nm,0.5s						
MKAR	Makanchi Array	69.60 322		P	P	06 58 48.5	+0.4
	1.4nm,0.8s,baz=110,slow=6.8,SNR=5.2						
	1.4nm,0.8s						

*IDC **23** 06:55:25.2±1.0,2.°77S×138.°33E,h0km,mb3.9/4, mbtmp3.7/7,ML3.4/3,MS2.2/1,Error ellipse: s-maj=25.0km s-min=13.1km az=102.0*
*DJA **23** 06:55:30.7±0.9,2.°S±9.°×13.°8E±.°,h19km±10km,M3.5/6, MLv3.5/6*

ISC 23 06:55:30.2±0.8,2.°75S±0.°08×138.°34E±0.°06,h32km,n12, σ1s10/14,mb4.0/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.83 26		P	Pn	06 55 40.1	-5.7
GENI	Genyem	1.83 85		P	Pn	06 56 00.6	+1.2
SRPI	Serui, Papua	2.28 292		P	Pn	06 56 05.6	0.0
JAY	Jayapura	2.37 84		Pn	Pn	06 56 06.3	-0.7
	4.3nm,0.3s,baz=279,slow=13,SNR=10						
JAY				Sn	Sn	06 56 36.4	+1.4
	5.5nm,0.3s,baz=180,slow=20,SNR=4.5						
JAY				LR	LR	06 57 15.9	
	comp=Z,51nm,19.1s,baz=316,slow=46						
	8.5nm,0.4s						
JAY	Jayapura	2.37 84		P	Pn	06 56 06.6	-0.3
BAKI	Biak	2.72 305		P	Pn	06 56 12.7	+1.0
WRA	Warramunga Arr	17.53 193		P	Pn	06 59 32.4	0.0
	0.3nm,0.3s,baz=17,slow=12,SNR=8.5						
WRA				S	Sn	07 02 46.4	-0.4
	0.8nm,0.9s,baz=2.8,slow=23,SNR=2.6						
	0.5nm,0.7s						
FITZ	Fitzroy Crossi	19.70 218		P	P	06 59 56.5	-0.5
	baz=55,slow=14,SNR=1.1						
	1.0nm,0.8s						
ASAR	Alice Springs	21.24 191		P	P	07 00 13.2	-0.6
	0.6nm,0.4s,baz=14,slow=12,SNR=9.7						
ASAR				S	S	07 04 10.3	+2.0
	1.3nm,1.0s,baz=5.5,slow=20,SNR=6.2						
	0.6nm,0.4s						
MKAR	Makanchi Array	69.59 323		P	P	07 06 37.0	+0.7
	1.7nm,0.7s,baz=111,slow=8.5,SNR=12						
	1.7nm,0.7s						
KURBB	Kurchatov Arra	73.55 325		P	P	07 07 00.2	+0.2
	1.5nm,0.2s,baz=117,slow=5.9,SNR=1.7						
	1.5nm,0.2s						
ILAR	Eielson Array	86.02 24		P	P	07 08 05.6	-1.7
	0.4nm,0.8s,baz=257,slow=5.1,SNR=3.5						
	0.4nm,0.8s						

*NEIC **23** 07:07:51.7±2.9,2.°73S±0.°09×138.°46E±0.°06,h10km±1km, mb4.1/17,Error ellipse: s-maj=15.7km s-min=10.7km az=174.0*
*DJA **23** 07:07:54.1±0.8,2.°S±7.°×13.°8E±.°,h15km±8km,M4.3/6, mb4.4/1,MLv4.2/6*
*IDC **23** 07:07:55.2±2.8,2.°70S×138.°49E,h42km±29km,mb3.8/12, mbtmp4.1/15,ML4.0/3,MS3.5/4,Error ellipse: s-maj=20.3km s-min=15.1km az=107.0*

ISC 23 07:07:54.1±0.5,2.°64S±0.°06×138.°45E±0.°05,h32km,n47, σ1s47/43,mb4.1/15,MS3.4/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.70 22		P	Pn	07 08 04.9	-2.9
GENI	Genyem	1.72 88		P	Pn	07 08 23.7	+1.8
JAY	Jayapura	2.26 87		P	Pn	07 08 30.1	+0.8
	15nm,0.3s,baz=239,slow=11,SNR=20						
JAY				S	Sn	07 08 56.2	+0.1
	88nm,0.7s,baz=287,slow=19,SNR=3.7						
	168nm,0.7s						
JAY	Jayapura	2.26 87		P	Pn	07 08 31.0	+1.7
SRPI	Serui, Papua	2.34 289		P	Pn	07 08 30.3	-0.1
BAKI	Biak	2.75 302		P	Pn	07 08 36.4	+0.4
FAKI	Fak Fak	6.20 267			Pn	07 09 24.4	+0.9
FAKI	Fak Fak	6.20 267		P	Pn	07 09 25.1	+1.6
COEN	Coen	12.18 158	Pn	Pn	Pn	07 10 45.4	-0.1
SOEI	Soe	15.76 243			Pn	07 11 35.9	+1.8
KNRA	Kununurra	16.09 216			Pn	07 11 35.6	-2.5
KNRA				IAmb	IAmb	07 11 41.5	
	comp=Z,11nm,0.7s						
WB0	Warramunga Arr	17.48 193			Pn	07 11 53.4	-2.2
WB0				IAmb	IAmb	07 12 14.9	
	comp=Z,14nm,1.0s						
WR8	Warramunga Arr	17.64 192		P	Pn	07 11 57.1	-0.5
WR8				IAmb	IAmb	07 12 31.6	
	comp=Z,18nm,1.2s						
WRAB	Tennant Creek	17.65 193		P	Pn	07 11 57.7	0.0
WRAB				IAmb	IAmb	07 12 09.0	
	comp=Z,10nm,0.7s						
WRA	Warramunga Arr	17.66 193			Pn	07 11 55.7	-2.2
WRA	Warramunga Arr	17.66 193		P	Pn	07 11 56.7	-1.2
	comp=Z,0.8nm,0.3s,baz=14,slow=12,SNR=16						
WRA				S	Sn	07 15 02.0	-12
	comp=Z,0.9nm,0.6s,baz=8.4,slow=23,SNR=2.4						
	comp=Z,2.4nm,0.4s						
FITZ	Fitzroy Crossi	19.84 218			P	07 12 22.6	+0.1
FITZ	Fitzroy Crossi	19.84 218		P	P	07 12 22.5	-0.1
	comp=Z,0.4nm,0.3s,baz=59,slow=7.2,SNR=7.8						
FITZ				S	S	07 15 51.3	-13
	comp=Z,5.7nm,0.8s,baz=156,slow=7.7,SNR=4.4						
FITZ				LR	LR	07 20 07.8	
	comp=Z,135nm,21.5s,baz=22,slow=37						
	comp=Z,3.2nm,1.0s						
AS31	Alice Springs	21.36 192			P	07 12 38.3	-0.6
ASAR	Alice Springs	21.36 192			P	07 12 38.6	-0.4
ASAR	Alice Springs	21.36 192		P	P	07 12 38.4	-0.6
	comp=Z,4.8nm,0.7s,baz=19,slow=11,SNR=18						
ASAR				S	S	07 16 28.6	-6.0
	comp=Z,1.7nm,0.9s,baz=14,slow=23,SNR=5.0						
	comp=Z,4.8nm,0.7s						
PSA00	Pilbara Seismi	26.11 222		P	P	07 13 26.1	+0.8
PSA00				IAmb	IAmb	07 14 09.4	
	comp=Z,5.3nm,1.3s						
STKA	Stephens Creek	29.23 175		P	P	07 13 53.0	-0.2
FORT	Forrest	29.66 198		P	P	07 13 56.5	-0.5
FORT				IAmb	IAmb	07 14 41.1	
	comp=Z,6.5nm,0.9s						
BBOO	Buckleboo	30.09 184		P	P	07 14 01.1	+0.3
JNU	Nakatsue	36.28 349		LR	LR	07 30 36.3	
	comp=Z,62nm,18.4s,baz=150,slow=37						
MJAR	Matsushiro Arr	38.98 360		IAmb	IAmb	07 15 24.8	
	comp=Z,4.5nm,1.4s						
MJAR	Matsushiro Arr	38.98 360		P	P	07 15 16.2	-1.3
	comp=Z,0.5nm,0.3s,baz=156,slow=12,SNR=2.3						
	comp=Z,0.5nm,0.3s						
KSRS	Korea Array	41.07 347		P	P	07 15 34.7	-0.1
	comp=Z,1.3nm,0.6s,baz=167,slow=9.2,SNR=5.1						
	comp=Z,1.3nm,0.6s				

47nm,0.5s
JAY Jayapura 2.41 86 P **Pn 07 14 02.5 -1.2**
BAKI Biak 2.65 304 P **Pn 07 14 05.4 -1.5**
RKPI Ransiki, Papua 4.28 286 P **Pn 07 14 28.5 -0.9**
FAKI Fak Fak 6.04 268 P **Pn 07 14 54.6 +0.9**
DAV Davao City (W) 15.97 307 LR LR 07 22 33.4
comp=Z,81nm,19.3s,baz=224,slow=35
WRA Warramunga Arr 17.58 192 P **Pn 07 17 28.6 -0.6**
0.2nm,0.3s,baz=14,slow=12,SNR=5.6
1.1nm,0.5s
ASAR Alice Springs 21.28 191 P **P 07 18 09.8 -0.7**
2.0nm,0.9s,baz=19,slow=11,SNR=5.6
2.0nm,0.9s
JCJ Chichijima 29.85 7 LR LR 07 29 36.9
comp=Z,95nm,19.0s,baz=118,slow=33
CMAR Chiang Mai Arr 44.07 300 P **P 07 21 30.7 -1.1**
1.9nm,0.3s,baz=117,slow=5.8,SNR=5.1
1.9nm,0.3s
RPZ Rata Peaks 50.12 149 LR LR 07 41 57.9
comp=Z,96nm,21.6s,baz=134,slow=34
MKAR Makanchi Array 69.52 323 P **P 07 24 32.7 +0.6**
2.1nm,0.7s,baz=110,slow=7.5,SNR=11
2.1nm,0.7s
ZALV Zalesovo Beam 71.71 330 P **P 07 24 45.9 +0.7**
0.4nm,0.4s,baz=117,slow=7.6,SNR=1.9
0.4nm,0.4s
KURBB Kurchatov Arra 73.47 325 P **P 07 24 55.4 -0.4**
1.8nm,0.2s,baz=120,slow=5.0,SNR=4.5
1.8nm,0.2s
BVAR Borovoye Array 79.06 325 P **P 07 25 28.0 +0.5**
0.8nm,0.5s,baz=126,slow=7.3,SNR=4.4
0.8nm,0.5s
ILAR Eielson Array 85.98 24 P **P 07 26 04.7 +1.3**
0.4nm,0.8s,baz=259,slow=5.3,SNR=1.7
0.4nm,0.8s

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*KRNET **23** 08:16:12.6±0.1,39°.35N×73°.16E,h19km,mb4.2*
*IDC **23** 08:16:14.8±1.3,39°.14N×73°.17E,h0km,mb3.8/7,*
mbtmp3.7/9,ML2.9/2,MS3.0/4,Error ellipse: s-maj=30.8km
s-min=23.9km az=35.0
*NNC **23** 08:16:18.1±2.5,39°.50N×73°.46E,h0km,mb4.4,mpv4.1,*
Error ellipse: s-maj=19.7km s-min=9.3km az=178.0
*SOME **23** 08:16:21.3,39°.83N×73°.40E,h10km*
ISC 23 08:16:15.8±1.8,39°.42N±0°.05×73°.09E±0°.03,h0km±11km,
n61,σ1°69/90,mb3.6/7,36C-9D,Tajikistan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.13**	**348**	⇑*iP*	**Pb**	**08 16 35.6**	**-2.6**
OHH				⇑*iS*	**Sb**	**08 16 52.4**	**-1.1**
SALK	**Salom-Alik**	**1.56**	**21**	⇑*iP*	**Pn**	**08 16 42.8**	**-2.2**
SALK				⇑*iS*	**Sb**	**08 17 04.8**	**-1.3**
ARSB	**Arslanbob**	**1.90**	**357**	⇑*iP*	**Pn**	**08 16 49.2**	**-0.5**
ARSB				⇑*iS*	**Sb**	**08 17 15.9**	**0.0**
GAR	**Garm**	**2.20**	**260**	⇑*eP*	**Pn**	**08 16 52.9**	**-0.8**
GAR				⇑*iS*	**Sn**	**08 17 22.4**	**+0.7**
ARK	**Arkit**	**2.53**	**340**	⇑*iP*	**Pn**	**08 16 58.1**	**-0.1**
ARK				⇑*iS*	**Sb**	**08 17 31.3**	**-2.5**
JNKS	**Jany-Kuch**	**2.55**	**49**	⇑*iP*	**Pn**	**08 16 57.4**	**-1.3**
JNKS				⇑*eS*	**Sn**	**08 17 30.2**	**-0.4**
TRKS	**Terek-Say**	**2.58**	**325**	⇑*iP*	**Pn**	**08 16 58.0**	**-1.0**
TRKS				⇑*iS*	**Sn**	**08 17 31.0**	**-0.2**
UCH	**Uchtor**	**3.00**	**21**	P	**Pb**	**08 17 08.7**	**-1.8**
SNR=14							
UCH	**Uchtor**	**3.00**	**21**	⇑*iP*	**Pn**	**08 17 04.4**	**-0.7**
UCH				⇑*iS*	**Sn**	**08 17 42.2**	**+0.2**
CHGR	**Chuyangaron**	**3.16**	**257**	⇓*iP*	**Pn**	**08 17 06.2**	**-0.6**
CHGR				⇓*iS*	**Sn**	**08 17 45.2**	**-0.1**
EKS2	**Erkin-Say**	**3.28**	**9**	P	**Pb**	**08 17 12.1**	**-2.9**
SNR=11							
EKS2	**Erkin-Say**	**3.28**	**9**	⇓*iP*	**Pn**	**08 17 08.2**	**-0.4**
EKS2				⇓*iS*	**Sn**	**08 17 48.8**	**+0.5**
MRKS	**Merke**	**3.32**	**2**	*eP*	**Pb**	**08 17 15.2**	**-0.5**
25nm,0.3s							
MRKS				*eS*	**Sb**	**08 17 53.6**	**-3.1**
133nm,0.4s							
AAK	**Ala-Archa**	**3.38**	**18**	P	**Pn**	**08 17 13.4**	**+3.4**
SNR=44							
AAK	**Ala-Archa**	**3.38**	**18**	⇓Pg	**Pb**	**08 17 13.7**	**-3.0**
33nm,0.7s							
AAK				⇑Lg	Lg	08 17 55.6	
314nm,1.4s							
AAK	**Ala-Archa**	**3.38**	**18**	⇑*iP*	**Pn**	**08 17 09.5**	**-0.5**
AAK				⇑*iS*	**Sn**	**08 17 51.0**	**0.0**
KBK	**Karagaybulak**	**3.52**	**23**	P	**Pb**	**08 17 17.2**	**-1.9**
SNR=7.1							
KBK	**Karagaybulak**	**3.52**	**23**	⇑*iP*	**Pn**	**08 17 11.4**	**-0.6**
KBK				⇑*iS*	**Sn**	**08 17 54.3**	**-0.1**
FRU1	**Bishkek**	**3.58**	**18**	⇑*iP*	**Pn**	**08 17 12.5**	**-0.1**
FRU1				⇑*iS*	**Sn**	**08 17 56.0**	**+0.3**
IUG	**Iuzhnay**	**3.58**	**320**	Pg	**Pg**	**08 17 24.1**	**-0.3**
160nm,0.5s							
IUG				Lg	Lg	08 18 12.6	
286nm,0.7s							
ULHL	**Ulahol**	**3.70**	**39**	P	**Pn**	**08 17 18.4**	**+4.1**
SNR=7.3							
ULHL	**Ulahol**	**3.70**	**39**	⇑*iP*	**Pn**	**08 17 13.6**	**-0.8**
ULHL				⇑*iS*	**Sn**	**08 17 58.2**	**-0.6**
BOOM	**Boomskoye usch**	**3.75**	**34**	⇑*iP*	**Pn**	**08 17 14.3**	**-0.7**
BOOM				⇑*iS*	**Sn**	**08 17 59.4**	**-0.6**
CHMS	**Chumysh**	**3.79**	**19**	⇑*iP*	**Pn**	**08 17 14.9**	**-0.5**
CHMS				⇑*iS*	**Sn**	**08 18 00.6**	**-0.1**
CHM	**Chimkent**	**3.92**	**319**	*eP*	**Pg**	**08 17 31.5**	**+0.6**
133nm,0.1s							
CHM				*eS*	**Sg**	**08 18 21.6**	**-0.3**
258nm,0.8s							
TKM2	**Tokmak 2**	**3.98**	**28**	P	**Pn**	**08 17 20.6**	**+2.4**
SNR=15							
TKM2	**Tokmak 2**	**3.98**	**28**	⇑*iP*	**Pn**	**08 17 17.6**	**-0.6**
TKM2				⇑*iS*	**Sn**	**08 18 04.9**	**-0.7**
USP	**Ospenovka**	**3.99**	**15**	P	**Pn**	**08 17 21.9**	**+3.7**
SNR=8.5							
USP	**Ospenovka**	**3.99**	**15**	⇓*iP*	**Pn**	**08 17 18.0**	**-0.2**
USP				⇓*iS*	**Sn**	**08 18 05.4**	**-0.3**
KDJ	**Kajisay**	**4.12**	**48**	⇓*iP*	**Pn**	**08 17 19.1**	**-1.0**
KDJ				⇓*iS*	**Sn**	**08 18 07.7**	**-1.4**
KK31	**Karatay Array**	**4.16**	**333**	Pn	**Pn**	**08 17 24.5**	**+3.9**
2.3nm,0.3s,baz=144,slow=13,SNR=25							
KK31				Pg	**Pg**	**08 17 34.3**	**-1.2**
12nm,0.4s,baz=148,slow=12,SNR=17							
KK31				⇑Sn	**Sb**	**08 18 18.0**	**-2.8**
13nm,0.3s,baz=42,slow=71,SNR=4.8							
KK31				⇑Lg	Lg	08 18 30.7	
64nm,0.7s							
KST	**Kastek**	**4.22**	**30**	Pg	**Pb**	**08 17 33.7**	**+2.8**
26nm,0.4s							
KST				Lg	Lg	08 18 27.2	
186nm,0.7s							
KST	**Kastek**	**4.22**	**30**	*eP*	**Pb**	**08 17 30.4**	**-0.5**
11nm,0.3s							
KST				*eS*	**Sb**	**08 18 19.5**	**-2.9**
186nm,0.7s							
DGS	**Degeres**	**4.32**	**27**	Pg	**Pb**	**08 17 35.2**	**+2.6**
25nm,0.1s							
DGS				Lg	Lg	08 18 31.7	
117nm,0.8s							
BRLS	**Borolday**	**4.36**	**327**	Pg	**Pb**	**08 17 35.9**	**+2.5**
20nm,0.4s							
BRLS				Lg	Lg	08 18 32.3	
42nm,0.4s							
BRLS	**Borolday**	**4.36**	**327**	*eP*	**Pb**	**08 17 35.9**	**+2.5**
10nm,0.3s							
BRLS				*eS*	**Sb**	**08 18 29.1**	**+2.5**
42nm,0.4s							
MTBS	**Maitube**	**4.48**	**33**	Pg	**Pb**	**08 17 36.3**	**+1.0**
11nm,0.3s							
MTBS				Lg	Lg	08 18 34.8	
42nm,0.3s							
MTBS	**Maitube**	**4.48**	**33**	*eP*	**Pb**	**08 17 36.3**	**+1.0**
12nm,0.3s							
MTBS				*eS*	**Sb**	**08 18 29.7**	**-0.2**
62nm,0.5s							
TNSS	**Tian-Shan**	**4.64**	**38**	Pg	**Pb**	**08 17 39.2**	**+1.0**
6.3nm,0.4s							
TNSS				Lg	Lg	08 18 39.8	
31nm,0.3s							
TNSS	**Tian-Shan**	**4.64**	**38**	*eP*	**Pb**	**08 17 39.2**	**+1.0**
4.1nm,0.3s							
TNSS				*eS*	**Sb**	**08 18 34.9**	**+0.1**
31nm,0.3s							
KRBS	**Karabastau**	**4.69**	**24**	Pg	**Pb**	**08 17 40.5**	**+1.5**
32nm,0.5s							
KRBS				Lg	Lg	08 18 42.1	
89nm,1.2s							
MDOK	**Medeo**	**4.78**	**37**	Pg	**Pb**	**08 17 40.2**	**-0.3**
12nm,0.9s							
MDOK				Lg	Lg	08 18 43.1	
68nm,0.9s							
KOTS	**Kotyrbulak**	**4.87**	**37**	*eP*	**Pb**	**08 17 42.8**	**+0.9**
20nm,0.4s							
KOTS				*eS*	**Sb**	**08 18 41.0**	**0.0**
214nm,0.8s							
KTBS	**Karatobe**	**5.06**	**31**	Pg	**Pb**	**08 17 47.2**	**+1.9**
9.3nm,0.4s							
KTBS				Lg	Lg	08 18 53.4	
126nm,1.0s							
CHKK	**Chushkaly**	**5.30**	**32**	Pg	**Pb**	**08 17 49.9**	**+0.5**
13nm,0.8s							
CHKK				Lg	Lg	08 18 58.1	
38nm,0.6s							
CHKK	**Chushkaly**	**5.30**	**32**	*eP*	**Pb**	**08 17 49.9**	**+0.5**
2.0nm,0.1s							
CHKK				*eS*	**Sb**	**08 18 53.3**	**-0.3**
50nm,0.5s							
SATY	**Saty**	**5.41**	**46**	Pg	**Pb**	**08 17 51.9**	**+0.7**
29nm,0.7s							
SATY				Lg	Lg	08 19 01.6	
57nm,1.4s							
ARXS	**Arharly**	**5.95**	**35**	Pg	**Pb**	**08 18 03.1**	**+2.6**
16nm,0.6s							
ARXS				Lg	Lg	08 19 20.5	
52nm,0.6s							
ARXS	**Arharly**	**5.95**	**35**	*eP*	**Pb**	**08 18 03.1**	**+2.6**
ARXS				*eS*	**Sb**	**08 19 16.1**	**+3.9**
PDGK	**Podgornoye**	**6.20**	**49**	⇑Pn	**Pn**	**08 17 47.5**	**-1.1**
6.4nm,0.7s							
PDGK				⇑Pg	**Pb**	**08 18 04.9**	**+0.3**
7.3nm,0.7s							
PDGK				⇑Lg	Lg	08 19 21.5	
58nm,0.9s							
MKAR	**Makanchi Array**	**9.97**	**39**	Pn	**Pn**	**08 18 43.1**	**+2.8**
0.1nm,0.3s,baz=205,slow=12,SNR=3.4							
MKAR				LR	LR	08 23 09.7	
comp=Z,51nm,18.3s,baz=184,slow=41							
0.5nm,0.7s							
AKTO	**Aktyubinsk**	**15.31**	**321**	LR	LR	08 26 35.2	
comp=Z,46nm,20.7s,baz=103,slow=40							
ZALV	**Zalesovo Beam**	**16.57**	**25**	Pn	**Pn**	**08 20 10.5**	**+1.1**
0.2nm,0.3s,baz=203,slow=11,SNR=5.6							
1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.60**	**126**	LR	LR	08 35 40.1	
comp=Z,21nm,18.1s,baz=185,slow=38							
FINES	**FINESS Array B**	**36.06**	**323**	P	**P**	**08 23 19.9**	**+1.2**
1.4nm,0.4s,baz=109,slow=8.3,SNR=11							
1.4nm,0.4s							
ARCES	**ARCESS Array B**	**39.12**	**336**	P	**P**	**08 23 45.5**	**+1.0**
3.2nm,0.9s,baz=110,slow=6.8,SNR=8.1							
3.2nm,0.9s							
HFS	**Hagfors**	**41.85**	**320**	P	**P**	**08 24 08.2**	**+1.1**
1.7nm,0.5s,baz=113,slow=10,SNR=7.1							
1.7nm,0.5s							
NOA	**NORSAR Array B**	**43.10**	**321**	P	**P**	**08 24 18.0**	**+0.6**
0.5nm,0.5s,baz=101,slow=7.3,SNR=1.6							
NOA				LR	LR	08 43 27.5	
comp=Z,38nm,18.4s,baz=280,slow=38							
0.5nm,0.5s							
ILAR	**Eielson Array**	**71.52**	**17**	P	**P**	**08 27 38.6**	**+0.6**
0.4nm,0.8s,baz=328,slow=3.3,SNR=2.0							
0.4nm,0.8s							
WRA	**Warramunga Arr**	**82.18**	**124**	P	**P**	**08 28 36.4**	**-2.3**
0.4nm,0.8s,baz=314,slow=5.1,SNR=2.8							
0.4nm,0.8s							
ASAR	**Alice Springs**	**84.61**	**126**	P	**P**	**08 28 49.4**	**-1.8**
0.1nm,0.3s,baz=316,slow=7.6,SNR=2.2							
0.1nm,0.3s							

TRN 23 08:25:23.3,14°.98N×60°.86W,h120km,MD4.0,1C,
North-east of Martinique.,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.20**	**183**	*eP*	Pn	08 25 41.4	+1.5
ILAM				*eS*	Sn	08 25 53.8	+1.3
SVN	**Savane Anatole**	**0.32**	**246**	*eP*	Pn	08 25 41.9	+1.5
SVN				*eS*	Sn	08 25 55.0	+1.8
BIM	**Bigot**	**0.50**	**204**	*eP*	Pn	08 25 42.7	+1.3
BIM				*eS*	Sn	08 25 56.7	+1.9
DLPL	**La Plaine**	**0.51**	**314**	*eP*	Pn	08 25 42.8	+1.4
DLPL				*eS*	Sn	08 25 56.0	+1.1
DSLB	**Salisbury**	**0.71**	**311**	*eP*	Pn	08 25 44.4	+1.6
DSLB				*eS*	Sn	08 25 58.8	+1.4
DWS	**Wesley**	**0.73**	**324**	*eP*	Pn	08 25 44.2	+1.3
DWS				*eS*	Sn	08 25 58.8	+1.1
SLBI	**Saint Lucia, B**	**0.95**	**187**	⇑*iP*	Pn	08 25 45.7	+0.8
SLBI				*eS*	Sn	08 26 01.4	+0.2
TBG	**Guadaloupe-3**	**1.15**	**319**	*eP*	Pn	08 25 48.1	+1.2
TBG				*eS*	Sn	08 26 06.5	+1.7
MMLZ	**Guadeloupe Bro**	**1.32**	**324**	*eP*	Pn	08 25 50.5	+1.8
MMLZ				*eS*	Sn	08 26 08.9	+1.0
DSDZ	**La Diserade, G**	**1.34**	**352**	*eP*	Pn	08 25 50.1	+1.1
DSDZ				*eS*	Sn	08 26 09.4	+1.0
ATGZ	**Broadband at L**	**1.39**	**323**	*eP*	Pn	08 25 51.6	+2.1
ATGZ				*eS*	Sn	08 26 11.8	+2.4
DHSZ	**Broadband at M**	**1.56**	**326**	*eP*	Pn	08 25 53.4	+2.1
DHSZ				*eS*	Sn	08 26 13.7	+1.0
SVB	**Belmont**	**1.73**	**193**	*eP*	Pn	08 25 54.2	+0.6
SVB				*eS*	Sn	08 26 18.4	+1.8
BBGH	**Gun Hill**	**2.22**	**145**	*eP*	Pn	08 26 02.4	+2.9
BBGH				*eS*	Sn	08 26 27.6	+0.3
GCMP	**Grenada, Carri**	**2.53**	**193**	*eP*	Pn	08 26 03.8	+0.3
GCMP				*eS*	Sn	08 26 36.0	+1.5
GRSS	**Sisters**	**2.76**	**195**	*eP*	Pn	08 26 06.3	-0.2
GRSS				*eS*	Sn	08 26 41.1	+1.4
ANWB	**Willy Bob**	**2.82**	**342**	*eP*	Pn	08 26 07.8	+0.5
ANWB				*eS*	Sn	08 26 43.1	+2.0
GRHS	**Sauteurs**	**2.84**	**196**	*eP*	Pn	08 26 07.6	0.0
GRHS				*eS*	Sn	08 26 42.7	+1.2
GRW	**Mount Saint Ca**	**2.90**	**196**	*eP*	Pn	08 26 10.0	+1.5
GRW				*eS*	Sn	08 26 43.7	+0.5
SKOC	**St. Kitts, UWI**	**2.92**	**322**	*eS*	Sn	08 26 43.8	+0.3
GRGR	**Grenville**	**2.93**	**195**	*eP*	Pn	08 26 09.3	+0.6
GRGR				*eS*	Sn	08 26 44.6	+0.9
SKI	**Saint Kitts**	**2.96**	**323**	*eP*	Pn	08 26 10.1	+1.0
SKI				*eS*	Sn	08 26 44.0	-0.4
GRFF	**Grenada Fort F**	**3.03**	**196**	*eP*	Pn	08 26 13.1	+3.1
TRN	**Trinidad (W)**	**4.33**	**187**	*eP*	Pn	08 26 29.0	+1.6
TRN				*eS*	Sn	08 27 15.8	-1.3

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*NEIC **23** 08:25:40.5±2.7, 17°.26N±0°.03×101°.23W±0°.04,h10km±1km,*
mb4.2/10,Md4.5/126(MEX),Error ellipse: s-maj=6.5km
s-min=4.9km az=270.0
*MEX **23** 08:25:40.1±0.8, 17°.16N×101°.42W,h8km±75km,MD4.5*
*IDC **23** 08:25:49.0±4.2, 17°.23N×100°.76W,h114km±39km,mb3.6/5,*
mbtmp3.8/8,MS3.4/9,Error ellipse: s-maj=66.5km
s-min=23.8km az=21.0
ISC 23 08:25:38.0±1.2,17°.12N±0°.04×101°.34W±0°.03,h16km±8km,
n155,σ2°12/237,mb3.9/5,MS3.0/6,Near coast of
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**346**		**Pb**	**08 25 48.5**	**+0.1**
ZIIG					**Sg**	**08 25 54.3**	**-0.4**
ZIIG	**Zihuatanejo**	**0.50**	**346**	*eP*	**Pb**	**08 25 48.5**	**+0.1**
ZIIG				*eS*	**Sg**	**08 25 54.3**	**-0.4**
ATYC	**Atoyac**	**0.87**	**84**		**Pn**	**08 25 55.7**	**+0.2**
ATYC					**Sg**	**08 26 07.0**	**+0.7**
ATYC	**Atoyac**	**0.87**	**84**	*eP*	**Pn**	**08 25 55.7**	**+0.2**
ATYC				*eS*	**Sg**	**08 26 07.0**	**+0.7**
CAIG	**El Cayaco**	**1.02**	**94**		**Pn**	**08 25 58.0**	**+0.4**
CAIG					**Sn**	**08 26 12.2**	**+0.5**
CAIG	**El Cayaco**	**1.02**	**94**	*eP*	**Pn**	**08 25 58.0**	**+0.4**
CAIG				*eS*	**Sn**	**08 26 12.2**	**+0.5**
VNTA	**La Mica**	**1.47**	**98**		**Pg**	**08 26 06.5**	**+0.3**
VNTA					**Sg**	**08 26 25.7**	**+0.4**
VNTA	**La Mica**	**1.47**	**98**	*eP*	**Pg**	**08 26 06.5**	**+0.3**
VNTA				*eS*	**Sg**	**08 26 25.7**	**+0.4**
ARIG	**Puente Sto Nin**	**1.49**	**39**		**Pn**	**08 26 04.4**	**+0.3**
ARIG					**Sn**	**08 26 22.4**	**-0.8**
ARIG	**Puente Sto Nin**	**1.49**	**39**	*eP*	**Pn**	**08 26 04.4**	**+0.3**
ARIG				*eS*	**Sn**	**08 26 22.4**	**-0.8**
DAIG	**Los Arroyos**	**1.61**	**93**		**Pn**	**08 26 05.6**	**-0.2**
DAIG					**Sb**	**08 26 28.4**	**+0.9**
DAIG	**Los Arroyos**	**1.61**	**93**	*eP*	**Pn**	**08 26 05.6**	**-0.2**
DAIG				*eS*	**Sb**	**08 26 28.4**	**+0.9**
MEIG	**Mezcala**	**1.82**	**64**		**Pn**	**08 26 09.2**	**+0.5**
MEIG					**Sb**	**08 26 33.3**	**-0.3**
MEIG	**Mezcala**	**1.82**	**64**	*eP*	**Pn**	**08 26 09.2**	**+0.5**
MEIG				*eS*	**Sb**	**08 26 33.3**	**-0.3**
CRIG	**Cruz Grande**	**2.14**	**100**		**Pn**	**08 26 14.2**	**+1.1**
CRIG	**Cruz Grande**	**2.14**	**100**	*eP*	**Pn**	**08 26 14.2**	**+1.1**
CRIG				*eS*	**Sn**	**08 26 37.0**	**-2.3**
PLIG	**Platanillo**	**2.16**	**54**		**Pn**	**08 26 13.6**	**+0.2**
PLIG					**Sn**	**08 26 40.8**	**+1.0**
PLIG	**Platanillo**	**2.16**	**54**	*eP*	**Pn**	**08 26 13.6**	**+0.2**
PLIG				*eS*	**Sn**	**08 26 40.8**	**+1.0**
MMIG	**Aquila**	**2.24**	**302**		**Pn**	**08 26 15.1**	**+0.7**
MMIG	**Aquila**	**2.24**	**302**	*eP*	**Pn**	**08 26 15.1**	**+0.7**
MMIG				*eS*	**Sn**	**08 26 40.0**	**-1.7**
URUA	**Uruapan**	**2.40**	**343**		**Pb**	**08 26 19.9**	**-0.9**
URUA					**Sb**	**08 26 49.7**	**-0.5**
URUA	**Uruapan**	**2.40**	**343**	*eP*	**Pb**	**08 26 19.9**	**-0.9**
URUA				*eS*	**Sb**	**08 26 49.7**	**-0.5**
MAVM	**Malinalco, Edo**	**2.53**	**44**		**Pg**	**08 26 26.4**	**-0.1**
MAVM					**Sb**	**08 26 53.2**	**-0.9**
MAVM	**Malinalco, Edo**	**2.53**	**44**	*eP*	**Pg**	**08 26 26.4**	**-0.1**
MAVM				*eS*	**Sb**	**08 26 53.2**	**-0.9**
MOIG	**Morelia**	**2.55**	**3**		**Pn**	**08 26 19.4**	**+0.5**
MOIG	**Morelia**	**2.55**	**3**		**Sn**	**08 26 51.2**	**+1.6**
MOIG	**Morelia**	**2.55**	**3**	*eP*	**Pn**	**08 26 20.1**	**+1.2**
MOIG				*eS*	**Sn**	**08 26 51.2**	**+1.6**
MGIG	**Malinaltepec**	**2.58**	**87**		**Pn**	**08 26 20.4**	**+1.1**
MGIG					**Sn**	**08 26 50.4**	**0.0**
MGIG	**Malinaltepec**	**2.58**	**87**	*eP*	**Pn**	**08 26 20.4**	**+1.1**
MGIG				*eS*	**Sn**	**08 26 50.4**	**0.0**
TLIG	**Tlapa**	**2.68**	**80**		**Pn**	**08 26 22.3**	**+1.7**
TLIG					**Sn**	**08 26 53.8**	**+1.0**
TLIG	**Tlapa**	**2.68**	**80**	*eP*	**Pn**	**08 26 22.3**	**+1.7**
TLIG				*eS*	**Sn**	**08 26 53.8**	**+1.0**
HMTT	**Tlapaneco**	**2.73**	**75**		**Pn**	**08 26 21.7**	**+0.4**
HMTT					**Sb**	**08 26 58.1**	**-1.8**
HMTT	**Tlapaneco**	**2.73**	**75**	*eP*	**Pn**	**08 26 21.7**	**+0.4**
HMTT				*eS*	**Sb**	**08 26 58.1**	**-1.8**
YAIG	**Yautepec**	**2.77**	**51**		**Pn**	**08 26 22.0**	**+0.2**
YAIG					**Sn**	**08 26 55.6**	**+0.6**
YAIG	**Yautepec**	**2.77**	**51**	*eP*	**Pn**	**08 26 22.0**	**+0.2**
YAIG				*eS*	**Sn**	**08 26 55.6**	**+0.6**
INVM	**La Marquesa**	**2.85**	**40**		**Pn**	**08 26 24.3**	**+1.2**
INVM					**Sn**	**08 26 58.8**	**+1.5**
INVM	**La Marquesa**	**2.85**	**40**	*eP*	**Pn**	**08 26 24.3**	**+1.2**
INVM				*eS*	**Sn**	**08 26 58.8**	**+1.5**
AOVM	**Tlapan**	**2.87**	**42**		**Pn**	**08 26 23.4**	**-0.1**
AOVM					**Sn**	**08 26 56.5**	**-1.3**
AOVM	**Tlapan**	**2.87**	**42**	*eP*	**Pn**	**08 26 23.4**	**-0.1**
AOVM				*eS*	**Sn**	**08 26 56.5**	**-1.3**
MZVM		**2.87**	**44**		**Pn**	**08 26 21.9**	**-1.1**
MZVM					**Sn**	**08 26 58.5**	**+1.2**
MZVM		**2.87**	**44**	*eP*	**Pn**	**08 26 21.9**	**-1.1**
MZVM				*eS*	**Sn**	**08 26 58.5**	**+1.2**
TLVM	**San Miguel Top**	**2.94**	**45**		**Pn**	**08 26 25.8**	**+1.5**
TLVM					**Sn**	**08 26 59.3**	**-0.1**
TLVM	**San Miguel Top**	**2.94**	**45**	*eP*	**Pn**	**08 26 25.8**	**+1.5**
TLVM				*eS*	**Sn**	**08 26 59.3**	**-0.1**
CJVM	**Cuajimalpa**	**2.96**	**41**		**Pn**	**08 26 26.9**	**+2.3**
CJVM					**Sn**	**08 26 58.9**	**-1.0**
CJVM	**Cuajimalpa**	**2.96**	**41**	*eP*	**Pn**	**08 26 26.9**	**+2.3**
CJVM				*eS*	**Sn**	**08 26 58.9**	**-1.0**
XCVM	**Xochimilco**	**2.99**	**44**		**Pn**	**08 26 25.7**	**+0.7**
XCVM					**Sn**	**08 26 57.4**	**-3.3**
XCVM	**Xochimilco**	**2.99**	**44**	*eP*	**Pn**	**08 26 25.7**	**+0.7**
XCVM				*eS*	**Sn**	**08 26 57.4**	**-3.3**
UNM	**Universidad Na**	**3.00**	**43**		**Pb**	**08 26 28.9**	**-2.4**
COVM	**Coyoacan**	**3.04**	**43**		**Pn**	**08 26 26.6**	**+1.1**
COVM					**Sn**	**08 27 00.1**	**-1.7**
COVM	**Coyoacan**	**3.04**	**43**	*eP*	**Pn**	**08 26 26.6**	**+1.1**
COVM				*eS*	**Sn**	**08 27 00.1**	**-1.7**
COVM				*eS*	**Sb**	**08 27 04.3**	**-4.4**
MHVM	**Bosque de Chap**	**3.04**	**41**		**Pn**	**08 26 26.0**	**+0.3**
MHVM					**Sn**	**08 27 01.5**	**-0.5**
MHVM	**Bosque de Chap**	**3.04**	**41**	*eP*	**Pn**	**08 26 26.0**	**+0.3**
MHVM				*eS*	**Sn**	**08 27 01.5**	**-0.5**
APVM	**Azcapotzalco**	**3.10**	**40**		**Pn**	**08 26 28.2**	**+1.7**
APVM					**Sn**	**08 27 01.9**	**-1.5**
APVM	**Azcapotzalco**	**3.10**	**40**	*eP*	**Pn**	**08 26 28.2**	**+1.7**
APVM				*eS*	**Sn**	**08 27 01.9**	**-1.5**
VRVM	**Mexico City**	**3.11**	**42**		**Sn**	**08 27 03.9**	**+0.3**
VRVM	**Mexico City**	**3.11**	**42**	*eS*	**Sn**	**08 27 03.9**	**+0.3**
CDAR	**Ciudad de Arme**	**3.12**	**306**	*eP*	**Pn**	**08 26 26.7**	**+0.2**
CDAR				*eS*	**Sn**	**08 27 01.5**	**-2.1**
THVM	**De Xico**	**3.13**	**45**		**Pn**	**08 26 24.8**	**-2.0**
THVM					**Sn**	**08 27 03.7**	**-0.3**
THVM	**De Xico**	**3.13**	**45**	*eP*	**Pn**	**08 26 24.8**	**-2.0**

VHO eS **Sn** **08 27 28.4 -7.0**
CXUV Coxquihui 4.67 49 eP **Pn** **08 26 44.7 -3.2**
CXUV eS **Sn** **08 27 47.6 +5.8**
JAUV Jalcomulco 4.85 62 **Pn** **08 26 52.9 +2.6**
JAUV **Sn** **08 27 44.8 -1.5**
JAUV Jalcomulco 4.85 62 eP **Pn** **08 26 52.9 +2.6**
JAUV eS **Sn** **08 27 44.8 -1.5**
RPIG Rio Verde 4.91 15 eS **Sn** **08 27 52.9 +5.1**
ANIG Ahuacatlan 4.94 323 Pn 08 26 56.4 +4.8
ANIG Ahuacatlan 4.94 323 eP Pn 08 26 56.4 +4.8
ANIG eS **Sn** **08 27 54.2 +5.7**
CTUV Llano Grande 5.16 33 **Pn** **08 26 56.6 +2.0**
CTUV Llano Grande 5.16 33 eP **Pn** **08 26 56.6 +2.0**
CTUV eS **Sn** **08 28 01.1 +7.2**
HUIG Huatulco 5.19 104 eP **Pn** **08 26 52.5 -2.5**
HUIG eS **Sn** **08 27 50.4 -4.2**
NEUV Arroyo Zacate 5.32 83 **Pn** **08 26 56.6 -0.1**
NEUV Arroyo Zacate 5.32 83 eP **Pn** **08 26 56.6 -0.1**
NEUV eS **Sn** **08 27 51.5 -6.2**
ZAIG Zacatecas 5.74 349 **Sn** **08 28 08.7 +0.2**
ZAIG Zacatecas 5.74 349 eP **Pn** **08 26 59.3 -3.4**
ZAIG eS **Sn** **08 28 08.7 +0.2**
CMIG Matias Romero 6.17 89 P **Pn** **08 27 10.5 +2.1**
2.8nm,0.4s,baz=282,slow=12,SNR=18
CMIG S **Sn** **08 28 13.6 -5.1**
20nm,0.5s,baz=327,slow=4.8,SNR=5.4
PCIG 7.92 99 **Pn** **08 27 33.7 +1.3**
PCIG 7.92 99 eP **Pn** **08 27 33.7 +1.3**
LNIG Linares 7.93 12 **Pn** **08 27 34.2 +1.5**
LNIG Linares 7.93 12 eP **Pn** **08 27 34.2 +1.5**
PDIG Papasquiaro 8.74 335 eP Pn 08 27 37.5 -6.5
PDIG eS **Sn** **08 29 27.1 +4.8**
CCIG Comitan 8.85 94 Pn **Pn** **08 27 49.3 +3.8**
PATR El Naranjo 8.97 102 **Pn** **08 27 50.7 +3.5**
PATR El Naranjo 8.97 102 eP **Pn** **08 27 50.7 +3.5**
PAVE Pavencul 9.01 101 **Pn** **08 27 51.6 +4.0**
PAVE Pavencul 9.01 101 eP **Pn** **08 27 51.6 +4.0**
CHUJ Union Juarez 9.09 101 eP **Pn** **08 27 53.2 +4.4**
CHUJ eS **Sn** **08 29 31.8 +0.7**
H06E1 SOCORRO T-PHAS 9.28 282 T T 08 37 18.5
SNR=274
H06S1 SOCORRO T 9.30 281 T T 08 37 28.0
SNR=28
APG El Apazote 10.66 100 P **Pn** **08 28 12.0 +1.7**
0.2nm,0.3s,baz=219,slow=16,SNR=2.6
LPIG La Paz 10.90 311 LR LR 08 32 03.2
comp=Z,137nm,19.6s,baz=112,slow=33
TXAR Lajitas Array 12.34 350 Pn **Pn** **08 28 33.7 +0.5**
TXAR Lajitas Array 12.34 350 P **P** **08 28 41.9 -3.4**
1.1nm,0.8s,baz=164,slow=12,SNR=13
TXAR LR LR 08 33 50.2
comp=Z,171nm,18.6s,baz=168,slow=39
TX31 Lajitas Ar. Si 12.35 350 **Pn** **08 28 36.5 +3.2**
ALPN Alpine 13.36 351 **Pn** **08 28 49.1 +2.0**
BRDY Brady 14.26 8 Pn **Pn** **08 28 60.0 +0.6**
PECS Pecos 14.37 351 Pn **Pn** **08 29 00.8 -0.1**
MNTX Cornudas Mount 14.97 347 **Pn** **08 29 09.0 0.0**
ABTX Abilene, Hawle 15.51 5 Pn **Pn** **08 29 15.5 -0.6**
ABTX IAmb IAmb 08 29 21.7
comp=Z,10nm,0.8s
FW13 Cleburne 15.57 12 Pn **Pn** **08 29 16.5 -0.3**
FW13 IAmb IAmb 08 29 22.6
comp=Z,12nm,0.8s
237A Washetta, Mont 15.64 18 **P** **08 29 20.9 -0.9**
PLPT Palo Pinto 15.86 9 Pn **P** **08 29 23.1 -1.2**
PLPT IAmb IAmb 08 29 25.9
comp=Z,15nm,0.9s
POST Post 15.88 359 Pn **Pn** **08 29 22.6 +1.7**
POST IAmb IAmb 08 29 27.3
comp=Z,14nm,0.9s
APMT Aspermont 16.17 4 **Pn** **08 29 25.8 +1.2**
APMT IAmb IAmb 08 29 29.5
comp=Z,11nm,0.7s
ANMO Albuquerque 18.33 347 P **P** **08 29 54.4 +2.5**
comp=Z,2.1nm,0.7s,baz=234,slow=12,SNR=4.2
ANMO LR LR 08 37 35.0
comp=Z,259nm,18.1s,baz=256,slow=38
PFO Pinyon Flats O 21.32 323 IAmb IAmb 08 30 29.5
comp=Z,4.9nm,1.1s
PFO Pinyon Flats O 21.32 323 P **P** **08 30 28.1 +3.7**
comp=Z,1.9nm,0.7s,baz=141,slow=5.4,SNR=4.4
PFO LR LR 08 38 53.8
comp=Z,59nm,21.1s,baz=154,slow=36
comp=Z,1.9nm,0.7s
TKL Tuckaleechee C 24.18 37 IAmb IAmb 08 31 01.0
comp=Z,22nm,1.5s
TKL Tuckaleechee C 24.18 37 P **P** **08 30 52.0 -1.6**
comp=Z,2.8nm,0.9s,baz=242,slow=8.7,SNR=1.8
TKL LR LR 08 41 10.6
comp=Z,30nm,20.4s,baz=322,slow=39
comp=Z,2.8nm,0.9s
NVAR Mina Array Bea 25.92 328 P **P** **08 31 13.5 +3.8**
comp=Z,6.4nm,0.7s,baz=148,slow=9.3,SNR=42
comp=Z,6.4nm,0.7s
PDAR Pinedale Array 26.51 346 P **P** **08 31 17.0 +2.0**
comp=Z,1.1nm,0.8s,baz=155,slow=7.3,SNR=7.9
PDAR LR LR 08 43 14.0
comp=Z,47nm,19.9s,baz=282,slow=39
comp=Z,1.1nm,0.8s
SADO Sadowa 33.28 29 LR LR 08 48 00.1
comp=Z,384nm,18.6s,baz=332,slow=40
SJG San Juan 33.52 83 LR LR 08 46 58.4
comp=Z,22nm,19.0s,baz=249,slow=38
YKA Yellowknife Ar 46.27 352 P **P** **08 34 00.5 -1.9**
comp=Z,1.7nm,0.8s,baz=167,slow=7.3,SNR=3.8
comp=Z,1.7nm,0.8s
H03N2 Juan Fernandez 54.64 157 T T 09 34 12.6
baz=335,slow=77,SNR=315
H03N1 Juan Fernandez 54.65 157 T T 09 34 14.5
baz=335,slow=77,SNR=252
H03N3 Juan Fernandez 54.65 157 T T 09 34 29.3
baz=335,slow=77,SNR=173
ARCES ARCESS Array B 85.86 16 LR LR 09 16 26.2
comp=Z,46nm,18.3s,baz=220,slow=36

*NEIC **23** 08:26:36.4±2.1,38°.44N±0°.05×142°.18E±0°.06,h42km±6km, mb4.5/12, Error ellipse: s-maj=8.1km s-min=6.9km az=154.0*
*NIED **23** 08:26:36.6,38°.47N×142°.14E,h45km,MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-0.62; $M_{r\theta}$-0.33; $M_{\theta\phi}$-0.53; $M_{\phi r}$-0.40; Fault plane solution: $M_0$1.13000×10^{15} NP1: ϕ_s38.00000°,δ31.00000°,λ89.00000°. NP2:ϕ_s218.00000°, δ59.00000°,λ90.00000°.*
*JMA **23** 08:26:36.6±0.1,38°.5N±0°.2×142°.1E±0°.6,h45km±1km, MD4.2/40, MV4.4/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*IDC **23** 08:26:37.2±2.2,38°.47N×142°.23E,h56km±20km,mb3.8/18, mbtmp4.0/24,ML3.5/6,MS3.5/5,Error ellipse: s-maj=16.9km s-min=12.3km az=111.0*
ISC 23 08:26:35.8±1.5,38°.46N±0°.05×142°.20E±0°.09,h43km±13km, n79,σ1§29/73,mb4.2/23,MS3.6/3,17D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.60**	**256**	*i* P	**Pn**	**08 26 48.2**	**+0.2**
JIKH				S	**Sn**	**08 26 56.2**	**-0.3**
JIKH	**Ishinomakikobu**	**0.60**	**256**	A	A	08 26 48.2	
comp=N,8.0nm,0.2s,comp=E,34nm,0.6s							
JIO	**Ouri**	**0.67**	**270**	⇓*i* P	**Pn**	**08 26 49.2**	**+0.3**
JIO				⇓S	**Sn**	**08 26 58.0**	**-0.3**
JIO	**Ouri**	**0.67**	**270**	A	A	08 26 49.2	
comp=N,12nm,0.5s,comp=E,35nm,0.6s							
JKMT	**Kesennumamotoy**	**0.67**	**302**	⇓*i* P	**Pn**	**08 26 49.3**	**+0.3**
JKMT				⇓S	**Sn**	**08 26 58.2**	**-0.1**
JKMT	**Kesennumamotoy**	**0.67**	**302**	A	A	08 26 49.3	
comp=N,21nm,0.6s,comp=E,24nm,0.7s							
OFUJ	**Ofunato**	**0.75**	**326**	⇓*i* P	**Pn**	**08 26 50.5**	**+0.4**
OFUJ				⇓S	**Sn**	**08 27 00.5**	**+0.2**
OFUJ	**Ofunato**	**0.75**	**326**	A	A	08 26 50.5	
comp=N,11nm,1.2s,comp=E,28nm,0.4s							
JMK	**Ichinoseki**	**0.92**	**303**	⇓*i* P	**Pn**	**08 26 52.6**	**+0.4**
JMK				⇓S	**Sn**	**08 27 04.4**	**+0.1**
JMK	**Ichinoseki**	**0.92**	**303**	A	A	08 26 52.6	
comp=N,6.0nm,0.4s,comp=E,7.0nm,1.3s							
JOU	**Okura**	**1.21**	**266**	⇓*i* P	**Pn**	**08 26 56.8**	**+0.5**
JOU				⇓S	**Sn**	**08 27 11.8**	**+0.2**
JOU	**Okura**	**1.21**	**266**	A	A	08 26 56.8	
comp=N,31nm,0.7s,comp=E,17nm,0.7s							
JOM	**Ohasama**	**1.24**	**325**	⇓*i* P	**Pn**	**08 26 57.5**	**+0.8**
JOM				⇓S	**Sn**	**08 27 12.7**	**+0.5**
JOM	**Ohasama**	**1.24**	**325**	A	A	08 26 57.5	
comp=N,8.0nm,0.3s,comp=E,17nm,0.2s							
JMM	**Marumori**	**1.26**	**243**		**Pn**	**08 26 57.0**	**+0.1**
JMM	**Marumori**	**1.26**	**243**	*i* P	**Pn**	**08 26 57.0**	**+0.1**
JMM				S	**Sn**	**08 27 12.0**	**-0.6**
JFK	**Kawauchi**	**1.51**	**224**	*i* P	**Pn**	**08 27 00.6**	**+0.1**
JYK	**Kaneyama**	**1.52**	**288**	⇓*i* P	**Pn**	**08 27 01.2**	**+0.7**
JYK				⇓*e*S	**Sn**	**08 27 19.9**	**+0.9**
JRG	**Rokugo**	**1.54**	**308**	⇓*i* P	**Pn**	**08 27 01.6**	**+0.7**
JYS	**Shiratake**	**1.70**	**263**	⇓*i* P	**Pn**	**08 27 03.7**	**+0.7**
JYS				⇓S	**Sn**	**08 27 23.7**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.73**	**239**	P	**Pn**	**08 27 04.4**	**+1.0**
JOTO				S	**Sn**	**08 27 24.8**	**+0.6**
JTM	**Tenmabayashi**	**2.49**	**340**		**Pn**	**08 27 15.0**	**+1.2**
JSD	**Sado**	**3.13**	**264**		**Pn**	**08 27 23.1**	**+0.5**
MAJO	**Matsushiro**	**3.71**	**240**		**Pn**	**08 27 33.0**	**+2.4**
MJAR	**Matsushiro Arr**	**3.71**	**240**		**Pn**	**08 27 33.0**	**+2.4**
MJAR	**Matsushiro Arr**	**3.71**	**240**	P	**Pn**	**08 27 32.7**	**+2.1**
comp=E,0.8nm,0.3s,baz=38,slow=12,SNR=38							
MJAR				S	**Sn**	**08 28 15.9**	**+2.9**
comp=E,12nm,0.7s,baz=22,slow=17,SNR=5.4							
MJAR				LR	LR	08 29 15.7	
comp=E,167nm,19.4s,baz=42,slow=42							
comp=E,5.8nm,0.5s							
MJB9	**Matsu-Tunnel**	**3.71**	**240**		**Pn**	**08 27 33.4**	**+2.8**
JGF	**Kuroka**	**4.81**	**235**		**Pn**	**08 27 48.6**	**+2.9**
INU	**Inuyama**	**5.18**	**235**	Pn	**Pn**	**08 27 53.3**	**+2.4**
JKA	**Kamikawa-asahi**	**5.66**	**3**		**Pn**	**08 27 58.0**	**+0.6**
JKA	**Kamikawa-asahi**	**5.66**	**3**		**Sn**	**08 28 59.0**	**-2.1**
ASAJ	**Asahikawa**	**5.66**	**3**	P	**Pn**	**08 27 57.8**	**+0.4**
comp=E,1.7nm,0.3s,baz=206,slow=14,SNR=16							
ASAJ				S	**Sn**	**08 28 59.0**	**-2.1**
comp=E,12nm,0.4s,baz=234,slow=17,SNR=3.9							
comp=E,3.9nm,0.3s							
JHJ	**Hachijo jima 2**	**5.68**	**201**	S	**Sn**	**08 28 56.9**	**-4.6**
comp=E,344nm,0.9s,baz=90,slow=20,SNR=3.0							
JMN	**Morinobe**	**8.22**	**238**	Pn	**Pn**	**08 28 31.7**	**-0.9**
USRK	**Ussuriysk Ar.**	**9.59**	**310**	P	**Pn**	**08 28 52.5**	**+1.4**
comp=E,0.7nm,0.3s,baz=121,slow=13,SNR=6.9							
comp=E,16nm,0.9s							
JNU	**Nakatsue**	**10.62**	**243**	P	**Pn**	**08 29 05.5**	**0.0**
comp=E,0.8nm,0.3s,baz=53,slow=10,SNR=1.5							
comp=E,2.0nm,0.4s							
KSRS	**Korea Array**	**11.32**	**269**	P	**Pn**	**08 29 18.1**	**+3.2**
comp=E,0.3nm,0.3s,baz=82,slow=14,SNR=5.7							
comp=E,1.4nm,0.6s							
PETK	**Petropavlovsk-**	**18.15**	**31**	P	**P**	**08 30 43.7**	**-0.6**
comp=E,0.2nm,0.3s,baz=236,slow=10,SNR=1.6							
comp=E,1.3nm,0.7s							
HILR	**Hailar Array B**	**19.52**	**312**	P	**P**	**08 30 56.9**	**-2.5**
comp=E,2.0nm,0.4s,baz=117,slow=12,SNR=8.8							
HILR				LR	LR	08 39 18.3	
comp=E,114nm,19.6s,baz=255,slow=39							
SONM	**Songino Array**	**27.54**	**302**	IAmb	IAmb	08 32 19.6	
comp=Z,1.1nm,1.0s							
SONM	**Songino Array**	**27.54**	**302**	P	**P**	**08 32 18.8**	**+0.3**
comp=Z,0.6nm,0.5s,baz=99,slow=8.9,SNR=2.3							
comp=Z,0.6nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.38**	**124**	T	T	09 03 02.5	
baz=317,slow=75,SNR=517							
H11N1	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	09 02 52.7	
baz=317,slow=75,SNR=396							
H11N3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	09 03 01.3	
baz=317,slow=75,SNR=328							
H11S1	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	09 03 58.8	
baz=318,slow=76,SNR=124							
H11S3	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	09 04 00.2	
baz=318,slow=76,SNR=176							
H11S2	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	09 04 00.1	
baz=318,slow=76,SNR=99							
LZDM	**Lanzhou Array**	**30.62**	**277**	P	**P**	**08 32 46.2**	**0.0**
comp=Z,2.0nm,0.3s,baz=49,slow=6.5,SNR=1.6							
comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**08 34 16.9**	**-1.0**
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**08 34 18.0**	**+0.1**
comp=Z,1.4nm,0.5s,baz=91,slow=7.1,SNR=6.4							
comp=Z,1.4nm,0.5s							
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**08 34 39.5**	**+1.3**
comp=Z,2.1nm,0.8s,baz=86,slow=8.8,SNR=1.7							
comp=Z,2.1nm,0.8s							
KURK	**Kurchatov**	**45.56**	**307**		**P**	**08 34 51.2**	**0.0**
KURK				IAmb	IAmb	08 35 10.0	
comp=Z,5.7nm,0.7s							
KURBB	**Kurchatov Arra**	**45.63**	**307**	P	**P**	**08 34 51.4**	**-0.4**
comp=Z,4.4nm,0.4s,baz=81,slow=8.1,SNR=11							
comp=Z,4.4nm,0.4s							
EVN	**Everest**	**46.90**	**274**	P	**P**	**08 35 03.1**	**+0.4**
EVN				IAmb	IAmb	08 35 09.6	
comp=Z,3.0nm,0.7s							
KSM	**Kuching**	**46.99**	**226**		**P**	**08 35 02.5**	**-0.3**
ILAR	**Eielson Array**	**47.96**	**33**	P	**P**	**08 35 09.4**	**-0.3**
comp=Z,1.0nm,0.8s,baz=259,slow=6.5,SNR=8.8							
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**50.09**	**312**	P	**P**	**08 35 24.7**	**-1.5**
comp=Z,1.0nm,0.5s,baz=90,slow=7.2,SNR=2.5							
BVAR				LR	LR	08 59 05.7	
comp=Z,60nm,18.8s,baz=166,slow=39							
comp=Z,1.0nm,0.5s							
BATI	**Baumata**	**51.41**	**204**	LR	LR	08 59 10.8	
comp=Z,259nm,19.1s,baz=252,slow=38							
ARTI	**Arti**	**55.82**	**318**	IAmb	IAmb	08 36 14.9	
comp=Z,6.7nm,0.7s							
ARTI	**Arti**	**55.82**	**318**	P	**P**	**08 36 08.8**	**+0.4**
comp=Z,1.6nm,0.3s,baz=44,slow=8.2,SNR=1.9							
comp=Z,1.6nm,0.3s							
AB31	**Akbulak array**	**57.51**	**310**		**P**	**08 36 20.1**	**-0.4**
AB31				IAmb	IAmb	08 36 36.3	
comp=Z,1.5nm,0.8s							
AKTO	**Aktyubinsk**	**58.20**	**312**	P	**P**	**08 36 25.1**	**-0.2**
comp=Z,1.4nm,0.7s,baz=76,slow=8.3,SNR=4.0							
comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**58.36**	**199**	P	**P**	**08 36 26.8**	**+0.1**
WB0	**Warramunga Arr**	**58.38**	**189**	P	**P**	**08 36 26.6**	**-0.2**
WB0				IAmb	IAmb	08 36 27.2	
comp=Z,5.8nm,0.9s							
WRAB	**Tennant Creek**	**58.55**	**189**	P	**P**	**08 36 27.8**	**-0.2**
WRAB				IAmb	IAmb	08 36 28.3	
comp=Z,4.7nm,0.9s							
WR8	**Warramunga Arr**	**58.55**	**188**	P	**P**	**08 36 27.9**	**-0.1**
WRA	**Warramunga Arr**	**58.56**	**189**	IAmb	IAmb	08 36 28.4	
comp=Z,0.3nm,0.9s							
WRA	**Warramunga Arr**	**58.56**	**189**	P	**P**	**08 36 27.3**	**-0.8**
comp=Z,2.3nm,0.4s,baz=6.2,slow=6.9,SNR=66							
comp=Z,2.3nm,0.4s							
ASAR	**Alice Springs**	**62.28**	**189**	P	**P**	**08 36 53.6**	**+0.1**
comp=Z,1.2nm,0.7s,baz=12,slow=6.0,SNR=13							
comp=Z,1.2nm,0.7s							
FINES	**FINESS Array B**	**67.85**	**332**	P	**P**	**08 37 28.6**	**-0.6**
comp=Z,4.7nm,1.0s,baz=44,slow=6.3,SNR=2.4							
comp=Z,4.7nm,1.0s							
STKA	**Stephens Creek**	**69.97**	**181**	IAmb	IAmb	08 38 01.6	
comp=Z,8.4nm,1.0s							
STKA	**Stephens Creek**	**69.97**	**181**	P	**P**	**08 37 42.0**	**-0.5**
comp=Z,0.5nm,0.5s,baz=14,slow=8.3,SNR=2.6							
comp=Z,0.5nm,0.5s							
HFS	**Hagfors**	**73.05**	**336**	P	**P**	**08 38 01.4**	**+0.5**
comp=Z,2.0nm,0.7s,baz=24,slow=14,SNR=2.0							
comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**73.12**	**337**	P	**P**	**08 38 01.4**	**0.0**
comp=Z,1.2nm,0.9s,baz=37,slow=6.0,SNR=2.4							
NOA				LR	LR	09 12 50.1	
comp=Z,13nm,20.3s,baz=285,slow=38							
comp=Z,1.2nm,0.9s							
NVAR	**Mina Array Bea**	**73.64**	**54**	P	**P**	**08 38 05.9**	**+0.8**
comp=Z,0.6nm,0.8s,baz=308,slow=5.6,SNR=4.1							
comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**76.23**	**46**	P	**P**	**08 38 19.4**	**-0.6**
comp=Z,0.6nm,0.6s,baz=267,slow=1.8,SNR=7.9							
comp=Z,0.6nm,0.6s							
TXAR	**Lajitas Array**	**88.76**	**53**	P	**P**	**08 39 26.1**	**+0.9**
comp=Z,0.4nm,0.6s,baz=309,slow=2.8,SNR=6.4							
comp=Z,0.4nm,0.6s							
SNAA	**Sanae**	**142.29**	**197**	PKhKP	PKPpre	08 45 56.5	
comp=Z,0.7nm,0.9s,baz=225,slow=5.7,SNR=2.6							
LPAZ	**La Paz**	**145.43**	**59**	PKPbc	**PKPab**	**08 46 09.8**	**-0.6**
comp=Z,1.2nm,0.5s,baz=329,slow=1.5,SNR=7.4							

NNC 23 08:30:40.2±3.6,43°.43N×87°.56E,h0km,mb3.9,mpv3.5, 3C-3D,Error ellipse: s-maj=29.5km s-min=23.0km az=139.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.02**	**314**	⇓P	**Pn**	08 31 57.3	+0.5
3.1nm,0.9s,baz=128,slow=15,SNR=7.0							
MK31				Lg	Lg	08 33 20.2	
5.4nm,0.7s,baz=134,slow=29,SNR=7.3							
MAKZ	**Makanchi**	**5.20**	**312**	⇑Lg	Lg	08 33 23.0	
15nm,1.5s							
PDGK	**Podgornoye**	**5.88**	**272**	⇓Pn	Pn	08 32 08.7	0.0
4.5nm,0.7s							
PDGK				⇑Pg	Pb	08 32 24.9	+1.2
6.6nm,1.1s							
PDGK				⇑Sn	Sn	08 33 18.9	+2.1
15nm,1.2s							
PDGK				⇓Lg	Lg	08 33 47.5	
29nm,1.2s							

*NOU **23** 08:31:56.4,45°.37S×166°.89E,h0km,MLv3.9/5,Off W. Coast of S. Island, N.Z.*
*WEL **23** 08:31:56.9±0.8,45°.S±4°.×16°.7E±°,h12km,M3.7/10, ML3.8/10,MLv3.7/10,Error ellipse: s-maj=7.2km s-min=4.8km az=118.3,confirmed*
ISC 23 08:31:56.4±1.6,45°.34S±0°.04×166°.72E±0°.07,h14km±9km, n40,σ1§11/45,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**112**	P	**Pg**	**08 32 04.1**	**+0.9**
DCZ				S	**Sg**	**08 32 08.8**	**+1.0**
RLNS	**Resolution Isl**	**0.35**	**184**	S	**Sb**	**08 32 09.8**	**0.0**
TAFS	**Te Anau Fire S**	**0.71**	**97**	P	**Pb**	**08 32 10.5**	**+0.1**
PYZ	**Puysegur Point**	**0.83**	**182**	P	**Pg**	**08 32 11.8**	**-0.6**
PYZ	**Puysegur Point**	**0.83**	**182**	P	**Pg**	**08 32 12.0**	**-0.4**
MLZ	**Mavora Lakes**	**0.99**	**92**	P	**Pb**	**08 32 15.0**	**-0.2**
MLZ				S	**Sb**	**08 32 28.1**	**0.0**
WHZ	**Wether Hill Ro**	**1.02**	**123**	P	**Pb**	**08 32 15.3**	**-0.5**
WHZ				S	**Sb**	**08 32 28.7**	**-0.5**
MSZ	**Milford Sound**	**1.08**	**53**	P	**Pg**	**08 32 15.7**	**-1.6**
MSZ				S	**Sn**	**08 32 33.7**	**+1.9**
MOSS	**Mossburn Schoo**	**1.12**	**108**	P	**Pn**	**08 32 17.4**	**-0.2**
MOSS				S	**Sn**	**08 32 32.5**	**-0.2**
GLNY	**Glenorchy**	**1.29**	**69**	P	**Pg**	**08 32 19.6**	**-1.5**
WKZ	**Wanaka**	**1.71**	**73**	P	**Pb**	**08 32 26.8**	**-0.7**
APZ	**The Paps**	**1.73**	**150**	P	**Pb**	**08 32 27.2**	**-0.8**
EAZ	**Earnscleugh**	**1.83**	**88**	P	**Pn**	**08 32 28.4**	**+1.1**
JCZ	**Jackson Bay**	**1.94**	**50**	P	**Pn**	**08 32 29.2**	**+0.2**
SYZ	**Scrubby Hill**	**2.07**	**126**	P	**Pn**	**08 32 31.1**	**+0.5**
SYZ	**Scrubby Hill**	**2.07**	**126**	P	**Pn**	**08 32 31.3**	**+0.7**
TUZ	**Tuapeka**	**2.13**	**108**	P	**Pn**	**08 32 31.4**	**-0.1**
LBZ	**Lake Benmore**	**2.64**	**70**	P	**Pn**	**08 32 38.7**	**+0.2**
HHSZ	**Highcliff Hill**	**2.78**	**103**	P	**Pb**	**08 32 43.2**	**-2.5**
ODZ	**Otahua Downs**	**2.79**	**85**	P	**Pn**	**08 32 40.5**	**-0.1**
ODZ	**Otahua Downs**	**2.79**	**85**	P	**Pn**	**08 32 40.6**	**+0.1**
FOZ	**Fox Glacier**	**2.86**	**52**	P	**Pn**	**08 32 41.5**	**0.0**
TMZ	**Timaru**	**3.19**	**74**	P	**Pn**	**08 32 46.1**	**0.0**
ARCZ	**Arundel**	**3.47**	**68**	P	**Pn**	**08 32 49.3**	**-0.6**
RPZ	**Rata Peaks**	**3.50**	**64**	P	**Pn**	**08 32 49.8**	**-0.5**
RPZ	**Rata Peaks**	**3.50**	**64**	P	**Pn**	**08 32 49.9**	**-0.5**
WVZ	**Waitaha Valley**	**3.67**	**53**	P	**Pn**	**08 32 53.2**	**+0.6**
WACZ	**Wakanui South**	**3.91**	**71**	P	**Pn**	**08 32 56.7**	**+0.8**
MHCZ	**Mount Hutt**	**3.92**	**64**	P	**Pn**	**08 32 56.7**	**+0.7**
INZ	**Inchbonnie**	**4.29**	**54**	P	**Pn**	**08 33 02.1**	**+0.9**
OXZ	**Oxford**	**4.32**	**64**	P	**Pn**	**08 33 02.8**	**+1.3**
MOZ	**McQueen's Vall**	**4.55**	**71**	P	**Pn**	**08 33 05.0**	**+0.3**
LTZ	**Lake Taylor**	**4.75**	**59**	P	**Pn**	**08 33 07.5**	**0.0**
OKCZ	**Okains Bay**	**4.81**	**73**	P	**Pn**	**08 33 09.4**	**+1.0**
DSZ	**Denniston Nort**	**5.15**	**48**	P	**Pn**	**08 33 13.4**	**+0.3**
THZ	**Tophouse**	**5.74**	**54**	P	**Pn**	**08 33 22.7**	**+1.5**
MRNZ	**Matariki Terra**	**5.91**	**50**	P	**Pn**	**08 33 24.7**	**+1.4**
QRZ	**Quartz Range**	**6.20**	**45**	P	**Pn**	**08 33 28.7**	**+1.3**
QRZ	**Quartz Range**	**6.20**	**45**	P	**Pn**	**08 33 27.5**	**+0.1**
TUWZ	**Tuamarina**	**6.55**	**56**	P	**Pn**	**08 33 36.5**	**+4.2**

*NNC **23** 08:35:15.0±7.8,37°.94N×71°.08E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=61.4km s-min=44.1km az=171.0*
*IDC **23** 08:35:18.8±8.1,37°.76N×71°.78E,h145km±51km,mb3.7/3, mbtmp4.1/9,Error ellipse: s-maj=74.1km s-min=37.8km az=176.0*
ISC 23 08:35:11.7±2.1,37°.5N±0°.1×71°.2E±0°.1,h100km,n20, σ1§90/23,mb4.2/3,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**5.52**	**20**	P	**Pn**	**08 36 33.9**	**+2.3**
SNR=14							
KK31	**Karatay Array**	**5.62**	**355**	⇓P	**Pn**	**08 36 35.7**	**+3.0**
10nm,0.5s,baz=192,slow=16,SNR=16							
KK31				⇑S	**Sn**	**08 37 36.6**	**+0.8**
16nm,0.6s,baz=159,slow=16,SNR=5.9							
AAK	**Ala-Archa**	**5.72**	**25**	P	**Pn**	**08 36 36.4**	**+2.1**
33nm,0.3s,baz=187,slow=6.1,SNR=88							
AAK				S	**Sn**	**08 37 37.1**	**-1.6**
20nm,0.5s,baz=302,slow=9.7,SNR=3.9							
AAK	**Ala-Archa**	**5.72**	**25**	P	**Pn**	**08 36 36.5**	**+2.2**
SNR=28							
AAK	**Ala-Archa**	**5.72**	**25**	⇑P	**Pn**	**08 36 36.4**	**+2.1**
7.1nm,0.4s							
AAK				⇑S	**Sn**	**08 37 38.6**	**-0.1**
8.5nm,0.6s							
KBK	**Karagaybul

*IDC **23** 09:05:25.8±0.8, 21°.97S×170°.39E, h0km, mb4.2/13, mbtmp4.3/15, ML4.1/2, MS4.0/46, Error ellipse: s-maj=23.3km s-min=18.5km az=85.0*
*NEIC **23** 09:05:29.0±1.4, 21°.96S±0°.07×170°.28E±0°.06, h10km±1km, mb4.6/29, Error ellipse: s-maj=13.4km s-min=6.9km az=28.0*
*GCMT **23** 09:05:29.0±0.2, 21°.95S±0°.02×170°.28E±0°.02, h13km, MW4.9/103, Moment Tensor Solution. s46,c63; s103,c139; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.88±.13; $M_{\theta\theta}$2.11±.10; $M_{\phi\phi}$0.76±.09; $M_{r\theta}$-0.40±.21; $M_{\theta\phi}$1.32±.06; $M_{\phi r}$-0.57±.21; Best double couple: M_o2.98200×10^16^ NP1:φs244.00000°, δ39.00000°, λ-82.00000°. NP2:φs53.00000°, δ51.00000°, λ-97.00000°. Principal axes: T 2.9890, Plg6.0000°, Azm148.0000°; N -0.0170, Plg5.0000°, Azm57.0000°; P -2.9740, Plg82.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **23** 09:05:30.4, 21°.71S×170°.01E, h0km, mb4.6/29, Southeast of Loyalty Islands*

ISC 23 09:05:27.9±0.4, 21°.95S±0°.07×170°.36E±0°.05, h10km, n135, σ1°73/102, mb4.6/34, MS4.0/44, 5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.22**	**282**	P	**Pn**	**09 06 03.1**	**-1.7**
MARNC	**Mare, Loyalty**	**2.22**	**282**	S	**Sn**	**09 06 28.5**	**-3.7**
PINNC	**Pines Island,**	**2.78**	**256**		**Pn**	**09 06 11.5**	**-1.0**
PINNC				Sn	**Sn**	**09 06 44.5**	**-1.6**
PINNC	**Pines Island,**	**2.78**	**256**	P	**Pn**	**09 06 11.5**	**-1.0**
PINNC	**Pines Island,**	**2.78**	**256**	S	**Sn**	**09 06 43.7**	**-2.4**
YATNC	**Mamie plateau,**	**3.22**	**267**	P	**Pn**	**09 06 17.2**	**-1.4**
YATNC	**Mamie plateau,**	**3.22**	**267**	S	**Sn**	**09 06 53.3**	**-3.8**
OUENC	**Ouen Island, N**	**3.29**	**261**	P	**Pn**	**09 06 18.8**	**-0.8**
OUENC	**Ouen Island, N**	**3.29**	**261**	S	**Sn**	**09 06 57.9**	**-1.0**
DZM	**Mont Dzumac**	**3.64**	**267**	Pn	**Pn**	**09 06 23.7**	**-0.7**
	51nm,0.3s,baz=145,slow=15,SNR=35.7						
DZM				LR	LR	09 06 56.4	
	comp=Z,439nm,20.8s,baz=84,slow=25						
DZM				Sn	**Sn**	**09 07 03.1**	**-4.3**
	15nm,0.3s,baz=85,slow=12,SNR=5.5						
	82nm,0.3s						
ONTNC	**Ouen Toro**	**3.64**	**264**		**Pn**	**09 06 23.8**	**-0.5**
ONTNC	**Ouen Toro**	**3.64**	**264**	P	**Pn**	**09 06 23.7**	**-0.7**
SANVU	**Saraoutou**	**7.12**	**335**	Pn	**Pn**	**09 07 14.0**	**+1.7**
HNR	**Honiara**	**15.97**	**320**	LR	LR	09 14 07.7	
	comp=Z,605nm,22.0s,baz=140,slow=33						
AUWSH	**Wavell State H**	**16.65**	**248**	P	**P**	**09 09 23.3**	**-0.5**
URZ	**Urewera**	**17.26**	**162**	P	**Pn**	**09 09 29.3**	**+0.2**
	0.2nm,0.3s,baz=0.0,slow=10,SNR=4.9						
URZ				LR	LR	09 14 55.1	
	comp=Z,1μm,18.6s,baz=332,slow=33						
	19nm,0.9s						
EIDS	**Eidsvold**	**17.99**	**255**		**Pn**	**09 09 38.2**	**0.0**
EIDS	**Eidsvold**	**17.99**	**255**	P	**P**	**09 09 39.8**	**+1.1**
NIUE	**Niue**	**18.68**	**85**	P	**P**	**09 09 47.6**	**+1.2**
ARMA	**Armidale**	**18.79**	**239**	P	**Pn**	**09 09 48.8**	**+0.7**
ARMA	**Armidale**	**18.79**	**239**	P	**Pn**	**09 09 50.6**	**+2.5**
MRZ	**Mangatainoka R**	**19.17**	**168**	P	**Pn**	**09 09 53.2**	**+0.7**
AUPHS	**Peel High Scho**	**19.64**	**238**	P	**Pn**	**09 09 59.8**	**+1.6**
AULRC	**Lightning Ridg**	**21.48**	**245**	P	**P**	**09 10 19.1**	**+2.3**
RPZ	**Rata Peaks**	**21.71**	**179**	P	**P**	**09 10 20.0**	**+0.8**
	25nm,0.9s,baz=64,slow=12,SNR=4.2						
RPZ				LR	LR	09 18 10.9	
	comp=Z,714nm,19.1s,baz=348,slow=35						
	25nm,0.9s						
CTA	**Charters Tower**	**22.58**	**270**	LR	LR	09 18 28.4	
	comp=Z,5.3nm,18.4s,baz=76,slow=35						
CNB	**Canberra Magne**	**22.68**	**229**	P	**P**	**09 10 33.2**	**+3.5**
AUDAR	**Daramalan Coll**	**22.80**	**230**	P	**P**	**09 10 33.8**	**+2.8**
AUSIS	**Research Schoo**	**22.84**	**230**	P	**P**	**09 10 34.7**	**+3.4**
AUMTS	**Mt Stromlo**	**22.94**	**230**	P	**P**	**09 10 35.4**	**+3.0**
CAN	**Canberra**	**22.94**	**230**		**P**	**09 10 32.3**	**-0.1**
CAN				IAmb	IAmb	09 10 36.0	
	comp=Z,46nm,1.1s						
CAN	**Canberra**	**22.94**	**230**	P	**P**	**09 10 35.0**	**+2.6**
AUSMG	**Snowy Mountain**	**23.77**	**228**	P	**P**	**09 10 43.3**	**+2.5**
CMSA	**Cobar Meteorol**	**23.97**	**241**	P	**P**	**09 10 44.7**	**+2.1**
QLP	**Quilpie**	**24.24**	**254**	P	**P**	**09 10 46.4**	**+1.2**
PMG	**Port Moresby**	**25.54**	**296**	LR	LR	09 19 47.8	
	comp=Z,467nm,18.9s,baz=144,slow=34						
TOO	**Toolangi**	**26.51**	**228**		**P**	**09 11 05.9**	**+0.2**
COEN	**Coen**	**27.02**	**283**	P	**P**	**09 11 09.8**	**-0.7**
COEN				IAmb	IAmb	09 11 15.5	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**27.42**	**243**	P	**P**	**09 11 14.2**	**+0.3**
STKA	**Stephens Creek**	**27.42**	**243**	P	**P**	**09 11 14.3**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=77,slow=10,SNR=18						
STKA				LR	LR	09 22 41.9	
	comp=Z,120nm,18.4s,baz=31,slow=38						
	comp=Z,6.3nm,0.8s						
STKA	**Stephens Creek**	**27.42**	**243**	P	**P**	**09 11 15.3**	**+1.4**
INKA	**Innaminka**	**27.45**	**252**		**P**	**09 11 14.7**	**+0.5**
INKA				IAmb	IAmb	09 11 16.8	
	comp=Z,6.9nm,1.0s						
AUMTC	**Mt Clear Colle**	**27.65**	**230**	P	**P**	**09 11 19.0**	**+3.1**
RAR	**Rarotonga**	**27.76**	**94**	LR	LR	09 21 12.2	
	comp=Z,74nm,19.0s,baz=280,slow=34						
HTT	**Hallett**	**29.98**	**241**	P	**P**	**09 11 38.6**	**+1.8**
AUMBR	**Murray Bridge**	**30.16**	**237**	P	**P**	**09 11 40.5**	**+2.3**
AUJCS	**Jamestown Cent**	**30.18**	**241**	P	**P**	**09 11 40.1**	**+1.6**
BBOO	**Buckleboo**	**32.20**	**243**		**P**	**09 11 56.1**	**-0.1**
BBOO	**Buckleboo**	**32.20**	**243**	P	**P**	**09 11 58.1**	**+1.9**
WR8	**Warramunga Arr**	**33.50**	**267**		**P**	**09 12 06.7**	**-1.2**
WR8				IAmb	IAmb	09 12 07.6	
	comp=Z,9.0nm,0.9s						
AS31	**Alice Springs**	**33.59**	**260**	P	**P**	**09 12 07.8**	**-0.8**
ASAR	**Alice Springs**	**33.59**	**260**	P	**P**	**09 12 08.3**	**-0.4**
ASAR	**Alice Springs**	**33.59**	**260**	P	**P**	**09 12 07.3**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=80,slow=9.1,SNR=23						
ASAR				PcP	**PcP**	**09 14 48.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=97,slow=2.7,SNR=2.4						
ASAR				LR	LR	09 24 49.7	
	comp=Z,283nm,20.3s,baz=90,slow=35						
	comp=Z,1.7nm,0.7s						
WB0	**Warramunga Arr**	**33.63**	**267**	P	**P**	**09 12 08.5**	**-0.5**
WB0				IAmb	IAmb	09 12 09.8	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**33.65**	**267**	P	**P**	**09 12 07.7**	**-1.4**
WRAB				IAmb	IAmb	09 12 23.2	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**09 12 07.8**	**-1.3**
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**09 12 07.6**	**-1.5**
	comp=Z,2.6nm,0.5s,baz=98,slow=8.0,SNR=33						
WRA				LR	LR	09 24 35.3	
	comp=Z,331nm,20.0s,baz=99,slow=34						
	comp=Z,2.6nm,0.5s						
JAY	**Jayapura**	**34.69**	**300**	LR	LR	09 26 51.6	
	comp=Z,219nm,18.5s,baz=126,slow=37						
TBI	**Tubuai**	**37.02**	**100**	*e*S	**S**	**09 18 17.9**	**-6.0**
	comp=Z,318nm,27.5s						
TBI				*e*LQ	LQ	09 21 00.1	
	comp=Z,1μm,36.2s						
TBI				*e*LR	LR	09 22 31.5	
	comp=Z,865nm,23.8s						
TBI				*e*LR	LR	09 22 42.7	
	comp=Z,2μm,31.5s						
PPT2	**Papeete2**	**37.88**	**91**	*e*S	S	09 18 27.9	-9.2
PPT2				*e*LQ	LQ	09 21 19.5	
	comp=Z,445nm,29.0s						
PPT2				*e*LR	LR	09 23 00.6	
	comp=Z,334nm,30.5s						
PPT2				*e*LR	LR	09 23 08.1	
	comp=Z,434nm,29.5s						
MTN	**Manton Dam**	**38.42**	**277**	P	**P**	**09 12 49.7**	**-0.3**
MTN				IAmb	IAmb	09 12 51.2	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**38.72**	**248**	P	**P**	**09 12 51.8**	**-0.6**
FORT				IAmb	IAmb	09 13 01.8	
	comp=Z,9.7nm,1.1s						
KNRA	**Kununurra**	**39.78**	**272**	P	**P**	**09 13 01.2**	**-0.2**
KNRA				IAmb	IAmb	09 13 18.5	
	comp=Z,13nm,1.1s						
FAKI	**Fak Fak**	**41.55**	**292**	P	**P**	**09 13 16.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.08**	**267**	P	**P**	**09 13 20.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.08**	**267**	LR	LR	09 31 54.9	
	comp=Z,289nm,18.1s,baz=101,slow=38						
GUMO	**Guam**	**43.27**	**322**	LR	LR	09 30 51.5	
	comp=Z,184nm,18.7s,baz=132,slow=35						
SWI	**Sorong**	**43.45**	**294**	P	**P**	**09 13 32.8**	**+1.3**
	comp=Z,21nm,0.7s						
BATI	**Baumata**	**46.20**	**277**	LR	LR	09 33 32.6	
	comp=Z,679nm,19.6s,baz=150,slow=36						
PSA00	**Pilbara Seismi**	**46.74**	**261**	P	**P**	**09 13 56.9**	**-0.7**
PSA00				IAmb	IAmb	09 14 05.2	
	comp=Z,11nm,1.1s						
MBWA	**Marble Bar**	**46.92**	**261**	P	**P**	**09 13 59.0**	**0.0**
TAOE	**Nuku Hiva Isla**	**49.25**	**83**	*e*P	**P**	**09 14 14.6**	**-2.6**
	comp=Z,59nm,30.6s						
TAOE				*e*S	**S**	**09 21 23.7**	**+0.1**
	comp=Z,66nm,26.3s						
TAOE				*e*LR	LR	09 28 25.5	
	comp=Z,232nm,28.5s						
RKT	**Rikitea**	**50.25**	**102**	*e*LR	LR	09 28 48.4	
	comp=Z,8μm,33.0s						
KAPI	**Kappang**	**51.74**	**281**	LR	LR	09 39 34.8	
	comp=Z,82nm,18.3s,baz=114,slow=40						
DAV	**Davao City (W)**	**52.51**	**298**	LR	LR	09 36 30.3	
	comp=Z,84nm,20.6s,baz=114,slow=36						
VNDA	**Vanda**	**55.77**	**182**	P	**P**	**09 15 05.8**	**+1.2**
VNDA				IAmb	IAmb	09 15 07.6	
	comp=Z,6.0nm,1.4s						
VNDA	**Vanda**	**55.77**	**182**	P	**P**	**09 15 03.2**	**-1.4**
	comp=Z,1.6nm,1.1s,baz=354,slow=7.3,SNR=5.1						
VNDA				LR	LR	09 34 59.0	
	comp=Z,242nm,21.3s,baz=16,slow=32						
	comp=Z,1.6nm,1.1s						
SBA	**Scott Base**	**55.98**	**181**	P	**P**	**09 15 07.0**	**+1.0**
CASY	**Casey**	**58.09**	**204**	P	**P**	**09 15 21.6**	**+0.5**
CASY				IAmb	IAmb	09 15 22.5	
	comp=Z,4.5nm,0.9s						
JHJ	**Hachijo jima 2**	**62.05**	**331**	LR	LR	09 39 22.3	
	comp=Z,84nm,21.3s,baz=255,slow=33						
JOW	**Kunigami**	**63.33**	**318**	LR	LR	09 43 47.6	
	comp=Z,57nm,18.0s,baz=304,slow=36						
MJAR	**Matsushiro Arr**	**65.62**	**332**	P	**P**	**09 16 11.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=158,slow=7.8,SNR=3.0						
MJAR				LR	LR	09 41 59.2	
	comp=Z,76nm,21.9s,baz=134,slow=33						
	comp=Z,1.0nm,0.6s						
JNU	**Nakatsue**	**66.47**	**324**	LR	LR	09 44 33.0	
	comp=Z,67nm,19.0s,baz=154,slow=35						
QSPA	**South Pole Qui**	**68.12**	**180**	P	**P**	**09 16 30.4**	**+2.5**
QSPA				IAmb	IAmb	09 16 33.0	
	comp=Z,5.3nm,0.8s						
ASAJ	**Asahikawa**	**70.49**	**339**	LR	LR	09 42 42.4	
	comp=Z,110nm,21.6s,baz=170,slow=32						
KSRS	**Korea Array**	**71.32**	**325**	P	**P**	**09 16 48.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=171,slow=4.8,SNR=2.9						
	comp=Z,1.0nm,0.7s						
RPN	**Rapa Nui**	**72.07**	**113**	LR	LR	09 39 45.1	
	comp=Z,160nm,19.2s,baz=252,slow=29						
NJ2	**Nanjing**	**72.88**	**316**	*e*P	**P**	**09 16 58.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PSI	**Prapat**	**73.91**	**280**	LR	LR	09 52 17.9	
	comp=Z,226nm,18.1s,baz=158,slow=38						
SHEM	**Shmya Is, Ala**	**74.43**	**2**	LR	LR	09 43 11.8	
	comp=Z,132nm,21.8s,baz=168,slow=30						
PETK	**Petropavlovsk-**	**75.55**	**352**	P	**P**	**09 17 12.1**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=240,slow=8.1,SNR=2.3						
PETK				LR	LR	09 44 06.6	
	comp=Z,183nm,21.8s,baz=155,slow=31						
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**76.33**	**202**	P	**P**	**09 17 16.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=112,slow=11,SNR=5.2						
MAW				LR	LR	09 45 27.7	
	comp=Z,72nm,21.2s,baz=96,slow=32						
	comp=Z,1.9nm,0.8s						
BELA	**Belgrano 2**	**79.32**	**175**	P	**P**	**09 17 32.8**	**-0.5**
BELA				IAmb	IAmb	09 17 41.1	
	comp=Z,9.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**80.57**	**294**	P	**P**	**09 17 42.0**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=112,slow=5.1,SNR=6.1						
	comp=Z,1.5nm,0.3s						
PZH	**PanZhiHua**	**82.05**	**303**	P	**P**	**09 17 51.3**	**+2.4**
MA2	**Magadan**	**82.81**	**350**	LR	LR	09 49 50.1	
	comp=Z,182nm,21.3s,baz=175,slow=32						
HHC	**Hu-ho-hao-te**	**82.95**	**319**	*e*P	**P**	**09 17 56.1**	**+2.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PMSA	**Palmer Station**	**84.02**	**159**	LR	LR	09 48 38.6	
	comp=Z,130nm,20.9s,baz=238,slow=31						
HILR	**Hailar Array B**	**84.17**	**330**	LR	LR	09 51 10.6	
	comp=Z,85nm,21.4s,baz=115,slow=33						
KDAK	**Kodiak Island**	**85.23**	**19**	LR	LR	09 49 03.4	
	comp=Z,47nm,20.0s,baz=198,slow=31						
LZH	**Lanzhou**	**85.31**	**312**	*e*P	**P**	**09 18 05.6**	**+0.1**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
SEY	**Seymchan**	**85.78**	**352**	LR	LR	09 52 49.8	
	comp=Z,150nm,20.7s,baz=160,slow=33						
TROLL	**Troll, Antarti**	**85.92**	**184**	⇑P	**P**	**09 18 07.2**	**-0.8**
	comp=Z,281nm,0.7s						
SNAA	**Sanae**	**86.51**	**182**	⇑P	**P**	**09 18 10.0**	**-0.8**
	comp=Z,61nm,0.8s						
SNAA	**Sanae**	**86.51**	**182**	P	**P**	**09 18 10.8**	**0.0**
SNAA				IAmb	IAmb	09 18 11.2	
	comp=Z,5.9nm,1.0s						
SNAA	**Sanae**	**86.51**	**182**	P	**P**	**09 18 09.4**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=184,slow=6.3,SNR=18						
SNAA				LR	LR	09 55 43.6	
	comp=Z,119nm,18.3s,baz=194,slow=35						
	comp=Z,3.2nm,0.8s						
VNA3	**Neumayer Olymp**	**87.06**	**180**	⇑P	**P**	**09 18 12.2**	**-1.3**
	comp=Z,8.4nm,0.8s						
VNA2	**Neumayer--Watz**	**87.37**	**181**	⇑P	**P**	**09 18 13.7**	**-1.2**
	comp=Z,5.7nm,0.6s,baz=165,slow=4.7						
VNA1	**Neumayer--Stat**	**87.65**	**180**	⇑P	**P**	**09 18 15.3**	**-0.9**
	comp=Z,7.4nm,1.1s						
BRDH	**Bariadhala**	**88.55**	**295**	LR	LR	10 02 44.8	
	comp=Z,100nm,18.4s,baz=143,slow=39						
PFO	**Pinyon Flats O**	**88.89**	**53**	LR	LR	09 49 27.7	
	comp=Z,28nm,21.2s,baz=284,slow=30						
LPIG	**La Paz**	**89.65**	**64**	LR	LR	09 53 27.5	
	comp=Z,50nm,18.0s,baz=255,slow=32						
YAK	**Yakutsk**	**89.76**	**342**	LR	LR	09 54 38.6	
	comp=Z,62nm,21.8s,baz=135,slow=33						
NVAR	**Mina Array Bea**	**89.81**	**48**	P	**P**	**09 18 25.4**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=317,slow=2.7,SNR=3.9						
NVAR				LR	LR	09 52 38.5	
	comp=Z,32nm,19.4s,baz=253,slow=32						
	comp=Z,0.6nm,0.9s						
SONM	**Songino Array**	**90.00**	**323**	P	**P**	**09 18 28.3**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=173,slow=3.8,SNR=3.6						
SONM				LR	LR	10 00 11.2	
	comp=Z,60nm,18.1s,baz=114,slow=36						
	comp=Z,0.8nm,0.5s						
BBB	**Bella Bella**	**91.16**	**33**	LR	LR	09 52 46.3	
	comp=Z,36nm,19.8s,baz=224,slow=31						
ILAR	**Eielson Array**	**92.50**	**17**	P	**P**	**09 18 35.2**	**-3.5**
	comp=Z,0.2nm,0.6s,baz=257,slow=5.5,SNR=4.3						
ILAR				LR	LR	09 54 04.9	
	comp=Z,42nm,20.5s,baz=244,slow=32						
ELK	**Elko**	**92.98**	**47**	LR	LR	09 50 34.0	
	comp=Z,77nm,20.6s,baz=151,slow=29						
H03S2	**Juan Fernandez**	**93.86**	**129**	T	T	11 02 51.8	
	baz=238,slow=74,SNR=9.0						
H03S1	**Juan Fernandez**	**93.87**	**129**	T	T	11 02 48.1	
	baz=238,slow=74,SNR=8.1						
H03S3	**Juan Fernandez**	**93.88**	**129**	T	T	11 02 59.6	
	baz=238,slow=74,SNR=10						
DLBC	**Dease Lake**	**93.96**	**27**	LR	LR	09 54 10.8	
	comp=Z,473nm,19.5s,baz=229,slow=31						
PLCA	**Paso Flores**	**95.82**	**138**	LR	LR	09 51 51.6	
	comp=Z,81nm,20.0s,baz=226,slow=29						
ANMO	**Albuquerque**	**96.97**	**55**	LR	LR	09 55 41.6	
	comp=Z,24nm,20.8s,baz=38,slow=31						
TXAR	**Lajitas Array**	**97.13**	**61**	LR	LR	09 55 42.0	
	comp=Z,26nm,18.3s,baz=235,slow=31						
TIXI	**Tiksi**	**97.60**	**348**	LR	LR	09 59 06.2	
	comp=Z,70nm,21.2s,baz=196,slow=33						
STEB	**Steborice**	**144.70**	**329**	*e*PKP	**PKPab**	**09 25 03.8**	**+0.2**
DPC	**Dobruska-Polom**	**145.09**	**331**	*e*PKP	**PKPbc**	**09 25 04.9**	**-0.1**
DPC				*ex*	x	09 25 13.9	
UPC	**Upice**	**145.12**	**331**	*e*PKP	**PKPbc**	**09 25 05.4**	**+0.4**
PVCC	**Panska Ves**	**145.74**	**332**	*e*PKP	**PKPdf**	**09 25 07.2**	**+0.6**
EKA	**Eskdalemuir Ar**	**146.31**	**353**	PKPbc	**PKPdf**	**09 25 07.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=348,slow=2.6,SNR=7.2						
ZVC	**Zvikov**	**146.71**	**331**	*e*PKP	**PKPdf**	**09 25 09.6**	**+1.3**
ZVC				*ex*	x	09 25 18.4	
CKRC	**Cesky Krumlov**	**147.10**	**330**	*e*PKP	**PKPdf**	**09 25 11.0**	**+2.0**
CKRC				*ex*	x	09 25 19.4	
KHC	**Kasperske Hory**	**147.21**	**331**	*e*PKP	**PKPbc**	**09 25 11.4**	**0.0**
KHC				*ep*PKP	**sPKPab**	**09 25 18.4**	**+2.2**
GERES	**GERESS Array B**	**147.36**	**331**	PKPbc	**PKPdf**	**09 25 11.4**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=42,slow=4.2,SNR=12						

*UPA **23** 09:09:36.8±1.0, 8°.86N×82°.87W, h22km±8km, MD3.2, MW3.1*
*CATAC **23** 09:09:37.0±0.3, 9°N±2°×8°3W±°, h5km±2km, M2.8/8, MLv2.8/8, Error ellipse: s-maj=5.5km s-min=3.9km az=17.5, confirmed*

ISC 23 09:09:36.6±1.1, 8°.83N±0°.03×82°.97W±0°.02, h4km±11km, n28, σ1°33/37, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.27**	**159**	S	**Sb**	**09 09 48.4**	**-0.5**
CDITO	**Canoas**	**0.27**	**159**	P	**Pg**	**09 09 42.8**	**+1.1**
BRU2	**Volcan**	**0.28**	**96**	⇓*i*P	**Pg**	**09 09 42.6**	**+0.7**
BRU2				*e*S	**Sg**	**09 09 47.2**	**+1.5**
BRU2	**Volcan**	**0.28**	**96**	P	**Pg**	**09 09 42.7**	**+0.7**
BRU2	**Volcan**	**0.28**	**96**	S	**Sg**	**09 09 46.6**	**+0.9**
BC3P	**Paso Ancho**	**0.35**	**91**	⇓*i*P	**Pg**	**09 09 43.6**	**+0.1**
BC3P				*e*S	**Sg**	**09 09 49.0**	**+0.8**
PTJ1	**Puerto Jimnez**	**0.44**	**229**	P	**Pg**	**09 09 44.3**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.44**	**229**	S	**Sg**	**09 09 52.5**	**+1.8**
LESP3	**La Esperanza,**	**0.45**	**157**	*e*P	**Pg**	**09 09 45.7**	**+0.4**
LESP3				*e*S	**Sb**	**09 09 53.8**	**-0.5**
PTAR3	**Potrerillos Ar**	**0.49**	**106**	*e*P	**Pg**	**09 09 45.2**	**-0.7**
PTAR3				*e*S	**Sg**	**09 09 52.2**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.52**	**94**	*e*P	**Pg**	**09 09 47.2**	**+0.6**
LNBQ3				*e*S	**Sg**	**09 09 52.3**	**-1.2**
BQSF3	**Alto Boquete,**	**0.54**	**99**	*e*P	**Pg**	**09 09 47.1**	**+0.2**
BQSF3				*e*S	**Sg**	**09 09 53.3**	**-0.6**
PIRO	**Carate, Puerto**	**0.55**	**221**	S	**Sg**	**09 09 49.5**	**-5.0**
PIRO	**Carate, Puerto**	**0.55**	**221**	P	**Pg**	**09 09 47.2**	**+0.6**
BAGA3	**Bagala, Chiriq**	**0.56**	**129**	*e*P	**Pg**	**09 09 46.2**	**-1.2**
DVD	**David**	**0.64**	**127**	*e*P	**Pg**	**09 09 48.6**	**-0.3**
DVD				*e*S	**Sg**	**09 09 57.0**	**-0.2**
OCHAL	**Ojochal**	**0.72**	**292**	S	**Sb**	**09 10 01.6**	**-0.3**
OCHAL	**Ojochal**	**0.72**	**292**	P	**Pg**	**09 09 50.7**	**+0.2**
CHGR2	**Aguacate**	**0.82**	**82**	*e*P	**Pg**	**09 09 50.1**	**-2.3**
CHGR2				*e*S	**Sg**	**09 10 00.9**	**-2.2**
LCR2	**La Lucha 2**	**1.37**	**312**	S	**Sg**	**09 10 19.8**	**-0.8**
TRT2	**Tortugero**	**1.88**	**336**	S	**Sb**	**09 10 34.9**	**-0.4**
TRT2	**Tortugero**	**1.88**	**336**	P	**Pn**	**09 10 08.7**	**-0.8**
SOCE	**Pocosol**	**2.25**	**314**	S	**Sn**	**09 10 44.5**	**+1.8**
SOCE	**Pocosol**	**2.25**	**314**	P	**Pn**	**09 10 15.7**	**+1.1**
COVE	**Coope Vega, Sa**	**2.35**	**323**	P	**Pn**	**09 10 16.9**	**+0.8**
COVE	**Coope Vega, Sa**	**2.35**	**323**	S	**Sb**	**09 10 48.4**	**-0.6**
JTS	**Las Juntas de**	**2.44**	**307**	P	**Pn**	**09 10 17.9**	**+0.7**
JTS				S	**Sn**	**09 10 48.5**	**+0.9**
PACA	**Pacayal**	**6.99**	**312**	S	**Sn**	**09 12 40.1**	**+0.1**

*CATAC **23** 09:30:02.7±0.6, 13°N±3°×9°0W±°, h21km±3km, M3.0/16, MLv3.0/16, Error ellipse: s-maj=7.0km s-min=4.3km az=20.0, confirmed*
*GCG **23** 09:30:03.6±0.8, 13°.18N×89°.95W, h32km±6km, MD3.6*
*SNET **23** 09:30:04.5±0.9, 13°.19N×89°.92W, h30km, ML2.8*

ISC 23 09:30:05.3±1.9, 13°.21N±0°.09×89°.76W±0°.05, h16km±9km, n40, σ0°.91/46, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.51**	**57**	*e*P	**Pb**	**09 30 16.5**	**+0.6**
LALI				*e*S	**Sn**	**09 30 26.6**	**+0.2**
LALI	**Alcalda de L**	**0.51**	**57**	*i*P	**Pb**	**09 30 16.5**	**+0.6**
LALI	**Alcalda de L**	**0.51**	**57**	P	**Pb**	**09 30 16.8**	**+0.9**
JAYA	**Jayaque - finc**	**0.53**	**35**	*e*P	**Pb**	**09 30 17.1**	**+0.6**
JAYA				*e*S	**Sn**	**09 30 27.3**	**0.0**
JAYA	**Jayaque - finc**	**0.53**	**35**	*i*P	**Pb**	**09 30 16.9**	**+0.4**
JAYA				*i*S	**Sn**	**09 30 26.8**	**-0.5**
JAYA	**Jayaque - finc**	**0.53**	**35**	P	**Pb**	**09 30 16.9**	**+0.4**
CEVE	**Cerro Verde**	**0.63**	**12**	*e*P	**Pg**	**09 30 17.9**	**+0.1**
CEVE				*e*S	**Sn**	**09 30 30.0**	**+0.3**
CEVE	**Cerro Verde**	**0.63**	**12**

IFIL			AML	AML		
	comp=N,1415μm,0.4s					
IFIL			AML	AML		
	comp=E,4370μm,0.4s					
IFIL			AML	AML		
	comp=E,4371μm,0.4s					
USI	**Ustica**	**0.63 276**	P	Pg	09 53 31.1	0.0
USI			S	Sg	09 53 39.5	+0.1
USI			AML	AML		
	comp=N,886μm,1.0s					
USI			AML	AML		
	comp=E,294μm,0.7s					
USI			AML	AML		
	comp=E,294μm,1.3s					
USI			AML	AML		
	comp=E,220μm,0.2s					
USI			AML	AML		
	comp=N,801μm,0.4s					
SOLUN	**Solunto**	**0.66 212**	P	Pg	09 53 31.4	-0.2
SOLUN			S	Sg	09 53 40.3	0.0
SOLUN			AML	AML		
	comp=E,260μm,0.4s					
SOLUN			AML	AML		
	comp=N,418μm,1.0s					
SOLUN			AML	AML		
	comp=N,413μm,0.3s					
SOLUN			AML	AML		
	comp=E,259μm,0.4s					
GIB	**Gibilmanna**	**0.66 176**	P	Pg	09 53 31.4	-0.4
GIB			S	Sb	09 53 40.9	+0.1
GIB			AML	AML		
	comp=E,500μm,0.8s					
GIB			AML	AML		
	comp=E,500μm,1.2s					
GIB			AML	AML		
	comp=N,596μm,0.3s					
GIB			AML	AML		
	comp=E,450μm,0.3s					
GIB			AML	AML		
	comp=N,595μm,0.3s					
PLLN	**Pollina**	**0.67 169**	P	Pg	09 53 31.7	-0.2
PLLN			S	Sn	09 53 43.1	-0.6
PLLN			AML	AML		
	comp=E,902μm,0.4s					
PLLN			AML	AML		
	comp=N,1830μm,0.6s					
PLLN			AML	AML		
	comp=N,1830μm,1.4s					
PLLN			AML	AML		
	comp=E,902μm,0.4s					
PLLN			AML	AML		
	comp=E,902μm,0.4s					
CSLB	**Castelbuono**	**0.71 175**	⇓P	Pg	09 53 31.9	-0.8
CSLB			S	Sg	09 53 42.0	-0.2
CSLB			AML	AML		
	comp=N,212μm,1.1s					
CSLB			AML	AML		
	comp=E,174μm,0.2s					
CSLB			AML	AML		
	comp=N,171μm,0.3s					
MSFR	**San Fratello**	**0.78 142**	⇑P	Pb	09 53 33.5	-0.5
MSFR			S	Sg	09 53 45.0	+0.6
MSFR			AML	AML		
	comp=E,75μm,0.8s					
MSFR			AML	AML		
	comp=N,89μm,1.2s					
MSFR			AML	AML		
	comp=N,89μm,0.8s					
MSFR			AML	AML		
	comp=E,75μm,1.2s					
MSFR			AML	AML		
	comp=E,65μm,0.6s					
MSFR			AML	AML		
	comp=N,78μm,0.4s					
PETRA	**Petralia Sopra**	**0.82 172**	P	Pb	09 53 34.5	-0.2
PETRA			S	Sg	09 53 46.2	+0.6
PETRA			AML	AML		
	comp=N,956μm,0.9s					
PETRA			AML	AML		
	comp=E,646μm,0.7s					
PETRA			AML	AML		
	comp=N,781μm,0.6s					
PETRA			AML	AML		
	comp=E,646μm,0.7s					
MNO	**Monte Soro**	**0.91 141**	P	Pb	09 53 35.1	-1.2
MNO			S	Sg	09 53 48.9	+0.4
MUCR	**Ucria**	**0.93 130**	P	Pb	09 53 35.4	-1.1
MUCR			S	Sb	09 53 48.6	0.0
MUCR			AML	AML		
	comp=E,274μm,0.6s					
MUCR			AML	AML		
	comp=N,518μm,0.7s					
MUCR			AML	AML		
	comp=N,518μm,0.7s					
MUCR			AML	AML		
	comp=E,273μm,0.6s					
RESU	**Resuttano**	**1.00 176**	P	Pg	09 53 39.1	+1.0
RESU			AML	AML		
	comp=N,198μm,0.7s					
RESU			AML	AML		
	comp=E,118μm,0.6s					
RESU			AML	AML		
	comp=N,198μm,1.3s					
RESU			AML	AML		
	comp=E,118μm,0.6s					
RAFF	**Raffo Rosso**	**1.46 168**	P	Pb	09 53 45.1	-0.3
HLNI	**Lentini**	**1.48 151**	P	Pb	09 53 45.6	-0.2
HLNI			S	Sb	09 54 04.9	+0.6
HLNI			AML	AML		
	comp=N,58μm,0.3s					
HLNI			AML	AML		
	comp=E,37μm,0.4s					
CEL	**Celeste**	**1.56 104**	P	Pn	09 53 44.5	-1.3

AUST 23 09:54:47.6±1.2, 18°S±12°×12°0E±°, h10km, mb4.6/1, ML2.4/4, Error ellipse: s-maj=27.7km s-min=9.6km az=153.4, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.96**	**97**	P	Pn	09 55 20.8	-0.1
CAAN	**Eighty Mile Be**	**1.99**	**141**	P	Pn	09 55 20.1	-1.2
MBWA	**Marble Bar**	**3.46**	**187**	P	Pn	09 55 42.2	+0.6
PSAD1	**Pilbara Seismi**	**3.74**	**185**	P	Pn	09 55 46.2	+0.8
PSAC1	**Pilbara Seismi**	**3.82**	**185**	P	Pn	09 55 46.1	-0.4
PSAC2	**Pilbara Seismi**	**3.84**	**184**	P	Pn	09 55 47.0	+0.1
PSA00	**Pilbara Seismi**	**3.85**	**185**	P	Pn	09 55 48.0	+1.0
PSAD3	**Pilbara Seismi**	**3.93**	**186**	P	Pn	09 55 47.2	-0.9
FITZ	**Fitzroy Crossi**	**5.20**	**95**	P	Pn	09 56 06.1	+0.5
GIRL	**Giralia**	**7.44**	**228**	P	Pn	09 56 35.7	-0.6
	comp=Z,0.1nmcomp=Z,64nm,1.6s						
MEEK	**Meekatharra**	**9.00**	**189**	P	Pn	09 56 55.6	-2.2

GCG 23 10:00:11.5±0.8, 14°.09N×91°.30W, h61km±5km, MD3.7, ML3.5, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.35**	**348**	*i* P	Pn	10 00 26.1	+3.8
ESSG	**Sabana Grande**	**0.54**	**58**	*i* P	Pn	10 00 24.0	-0.1
ESSG				*i* S	Sn	10 00 33.8	+0.6
ESSG				IAML		10 00 34.2	
	comp=N,1μm,0.1s						
SOKI	**Kika Raxquin**	**0.73**	**352**	*i* P	Pn	10 00 27.2	+0.6
SOKI				*i* S	Sn	10 00 39.5	+1.9
FG8	**Yepocapa, Chim**	**0.73**	**77**	*i* P	Pn	10 00 23.9	-2.4
FG8				*i* S	Sn	10 00 33.7	-3.6
FG16	**Alotenango, Sa**	**0.79**	**77**	*i* P	Pn	10 00 24.7	-2.4
FG16				*i* S	Sn	10 00 35.3	-3.3
FG16				IAML		10 00 39.9	
	comp=N,7μm,0.3s						
PCG5	**San Vicente Pa**	**0.90**	**82**	⇑*i* P	Pn	10 00 26.8	-1.7
ESSJ	**San Jos, E**	**0.94**	**124**	*i* P	Pn	10 00 23.4	-5.4
SMCA	**Catarina**	**1.07**	**315**	*i* P	Pn	10 00 30.7	+0.2
APG	**El Apazote**	**1.22**	**42**	⇓*i* P	Pn	10 00 33.5	+0.8
NUBE	**Las Nubes**	**1.49**	**97**	*i* P	Pn	10 00 36.4	+0.2

RSNC 23 10:10:49.8±0.0, 8°N±1°×7°6W±°, h59km±4km, M2.5, mb3.6, ML2.2, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APAC	**Apartado, Choc**	**0.54**	**229**	P	Pn	10 11 01.5	-0.7
APAC				S	Sn	10 11 11.7	+0.6
UREC	**San Jos de Ur**	**0.81**	**129**	P	Pn	10 11 04.9	-0.5
UREC				S	Sn	10 11 16.2	-0.6
DBBC	**Dabeiba**	**1.23**	**182**	P	Pn	10 11 09.7	-1.3
DBBC				S	Sn	10 11 24.8	-2.0
SJCC	**San Jacinto, C**	**1.90**	**31**	P	Pn	10 11 19.5	-0.4
SJCC				S	Sn	10 11 42.1	-0.7
HELC	**Santa Helena**	**2.15**	**163**	P	Pn	10 11 23.5	-0.2
HELC				S	Sn	10 11 49.1	-0.3
CBOC	**Ciudad Bolivar**	**2.39**	**176**	P	Pn	10 11 27.2	+0.5
CBOC				S	Sn	10 11 55.0	+0.1
PTBC	**PUERTO BERRIO,**	**2.41**	**135**	P	Pn	10 11 27.0	+0.1
PTBC				S	Sn	10 11 54.1	-1.2
BRJC	**Barrancabermej**	**2.72**	**118**	P	Pn	10 11 32.6	+1.5
BRJC				S	Sn	10 12 03.3	+0.4
OCAC	**Ocana**	**2.82**	**90**	P	Pn	10 11 33.1	+0.5
OCAC				S	Sn	10 12 05.1	-0.5
GUY2C	**Guyana, Caldas**	**3.12**	**165**	P	Pn	10 11 38.2	+1.2
BARC	**Barichara**	**3.40**	**119**	P	Pn	10 11 39.7	-0.9
BARC				S	Sn	10 12 19.9	+0.2
BARC	**Barichara**	**3.40**	**119**	S	Pn	10 11 39.6	-1.0
PAMC	**Pamplona, Colo**	**3.56**	**105**	P	Pn	10 11 43.2	+0.2
PAMC				S	Sn	10 12 24.3	+0.2
PAMC	**Pamplona, Colo**	**3.56**	**105**	S	Pn	10 11 43.7	+0.7
BCIP	**Isla Barro Col**	**3.74**	**284**	P	Pn	10 11 44.7	-0.3
BCIP				S	Sn	10 12 26.7	-1.1
RUSC	**La Rusia**	**3.86**	**127**	P	Pn	10 11 46.5	-0.7
RUSC				S	Sn	10 12 30.7	-0.9
RUSC	**La Rusia**	**3.86**	**127**	S	Pn	10 11 46.6	-0.6
CRJC	**Cerrejon, Guaj**	**4.25**	**50**	P	Pn	10 11 50.5	-1.6
CRJC				S	Sn	10 12 36.2	-4.3
URIC	**Uribia, Colomb**	**5.35**	**50**	P	Pn	10 12 06.1	-1.0
URIC				S	Sn	10 13 04.7	-2.8

IDC 23 10:12:35.5±5.0, 17°.40S×176°.65W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=224.7km s-min=33.9km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.34**	**241**	P	P	10 20 15.2	+0.1
	0.6nm,0.4s,baz=53,slow=10,SNR=1.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**46.37**	**259**	P	P	10 21 03.3	-0.7
	0.2nm,0.3s,baz=96,slow=7.3,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.54**	**254**	P	P	10 21 05.3	0.0
	2.7nm,0.6s,baz=89,slow=8.3,SNR=33						
	2.7nm,0.6s						
ILAR	**Eielson Array**	**85.03**	**12**	P	P	10 25 12.6	0.0
	0.2nm,0.4s,baz=227,slow=5.0,SNR=7.4						
	0.2nm,0.4s						

*NEIC **23** 10:13:33.3±1.5, 11°.0S±0°.1×162°.3E±0°.1, h10km±1km, mb4.2/18, Error ellipse: s-maj=22.7km s-min=12.3km az=44.0*

*IDC **23** 10:13:40.9±2.8, 11°.07S×162°.04E, h67km±23km, mb3.6/10, mbtmp3.9/12, MS3.6/2, Error ellipse: s-maj=25.0km s-min=15.6km az=80.0*

ISC 23 10:13:36.8±0.6, 11°.05S±0°.09×162°.27E±0°.10, h35km, n40, σ1§23/36, mb4.0/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.79**	**305**		**Pn**	**10 14 17.6**	**-1.4**
HNR	**Honiara**	**2.79**	**305**	P	**Pn**	**10 14 19.4**	**+0.3**
	260nm,0.5s,baz=149,slow=7.4,SNR=11						
HNR				S	**Sn**	**10 14 53.3**	**+1.8**
	598nm,0.4s,baz=168,slow=15,SNR=4.4						
SANVU	**Saraoutou**	**6.50**	**133**	Pn	**Pn**	**10 15 09.3**	**-0.7**
DZM	**Mont Dzumac**	**11.67**	**160**	P	**Pn**	**10 16 24.4**	**+3.4**
	5.4nm,0.9s,baz=331,slow=19,SNR=1.9						
MARNC	**Mare, Loyalty**	**11.75**	**153**	Pn	**Pn**	**10 16 20.2**	**-1.9**
ARMA	**Armidale**	**21.66**	**206**	P	**P**	**10 18 25.5**	**+1.0**
ARMA				IAmb	IAmb	10 18 27.4	
	comp=Z,10.0nm,1.1s						
INKA	**Innaminka**	**26.15**	**228**	P	**P**	**10 19 07.0**	**-1.0**
INKA				IAmb	IAmb	10 19 11.2	
	comp=Z,3.4nm,0.8s						
CAN	**Canberra**	**27.00**	**204**	P	**P**	**10 19 15.9**	**+0.2**
CAN				IAmb	IAmb	10 19 43.1	
	comp=Z,4.1nm,1.0s						
WR8	**Warramunga Arr**	**28.14**	**248**	P	**P**	**10 19 24.9**	**-1.1**
STKA	**Stephens Creek**	**28.17**	**219**	P	**P**	**10 19 25.1**	**-1.0**
STKA				IAmb	IAmb	10 19 43.5	
	comp=Z,6.6nm,0.9s						
STKA	**Stephens Creek**	**28.17**	**219**	P	**P**	**10 19 24.7**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=80,slow=11,SNR=3.4						
STKA				LR	LR	10 30 24.2	
	comp=Z,166nm,18.1s,baz=24,slow=36						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**28.20**	**249**	P	**P**	**10 19 25.6**	**-0.8**
WB0				IAmb	IAmb	10 19 27.1	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**28.29**	**248**	P	**P**	**10 19 26.1**	**-1.2**
WRA	**Warramunga Arr**	**28.29**	**248**	P	**P**	**10 19 26.1**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=76,slow=9.3,SNR=14						
WRA				PcP	**PcP**	**10 22 38.8**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=83,slow=2.7,SNR=4.9						
	comp=Z,1.5nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.68**	**9**	T	T	10 50 33.9	
	baz=188,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**29.68**	**8**	T	T	10 50 31.0	
	baz=188,slow=76,SNR=70						
H11S1	**WAKE ISLAND Hy**	**29.70**	**9**	T	T	10 50 31.2	
	baz=188,slow=76,SNR=60						
ASAR	**Alice Springs**	**29.76**	**241**	P	**P**	**10 19 39.0**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=62,slow=10.0,SNR=7.4						
ASAR				PcP	**PcP**	**10 22 42.9**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=90,slow=2.5,SNR=4.8						
ASAR				LR	LR	10 30 40.5	
	comp=Z,78nm,21.4s,baz=39,slow=34						
	comp=Z,0.8nm,0.9s						
TOO	**Toolangi**	**30.41**	**207**	P	**P**	**10 19 46.2**	**+0.3**
MTN	**Manton Dam**	**30.50**	**263**	P	**P**	**10 19 46.6**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**30.91**	**9**	T	T	10 52 02.9	
	baz=188,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**30.91**	**9**	T	T	10 52 07.2	
	baz=188,slow=76,SNR=42						
H11N2	**WAKE ISLAND Hy**	**30.93**	**9**	T	T	10 52 06.5	
	baz=188,slow=76,SNR=42						
BBOO	**Buckleboo**	**32.39**	**224**	P	**P**	**10 20 03.6**	**+0.2**
KNRA	**Kununurra**	**32.90**	**258**	P	**P**	**10 20 06.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**36.08**	**254**	P	**P**	**10 20 34.5**	**-1.0**
FORT	**Forrest**	**37.28**	**233**	P	**P**	**10 20 46.0**	**+0.4**
FORT				IAmb	IAmb	10 20 46.4	
	comp=Z,5.3nm,0.8s						
MBWA	**Marble Bar**	**41.97**	**251**	P	**P**	**10 21 24.8**	**0.0**
MBWA				IAmb	IAmb	10 21 31.7	
	comp=Z,12nm,1.4s						
MORW	**Morawa**	**46.64**	**240**	P	**P**	**10 22 01.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**61.48**	**336**	P	**P**	**10 23 50.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=198,slow=2.7,SNR=2.8						
	comp=Z,0.8nm,0.6s						
PETK	**Petropavlovsk-**	**64.02**	**357**	P	**P**	**10 24 06.5**	**-0.3**
PETK	**Petropavlovsk-**	**64.02**	**357**	P	**P**	**10 24 06.3**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=162,slow=5.2,SNR=3.1						
	comp=Z,3.2nm,0.9s						
VNDA	**Vanda**	**66.46**	**180**	P	**P**	**10 24 22.5**	**+0.2**
VNDA				IAmb	IAmb	10 24 24.7	
	comp=Z,2.4nm,1.1s						
VNDA	**Vanda**	**66.46**	**180**	P	**P**	**10 24 24.1**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=333,slow=4.6,SNR=13						
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**76.68**	**325**	IAmb	IAmb	10 25 41.3	
	comp=Z,1.8nm,1.1s						
SONM	**Songino Array**	**76.68**	**325**	P	**P**	**10 25 23.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=122,slow=5.2,SNR=2.0						
	comp=Z,0.4nm,0.3s						
QSPA	**South Pole Qui**	**78.95**	**180**	P	**P**	**10 25 36.2**	**-0.6**
QSPA				IAmb	IAmb	10 25 42.1	
	comp=Z,2.9nm,1.0s						
ILAR	**Eielson Array**	**84.63**	**20**	P	**P**	**10 26 05.9**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=239,slow=4.6,SNR=2.5						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**88.65**	**51**	P	**P**	**10 26 29.4**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=259,slow=9.1,SNR=2.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**91.20**	**317**	P	**P**	**10 26 38.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=87,slow=5.6,SNR=1.9						
	comp=Z,0.4nm,0.7s						

*IDC **23** 10:22:17.0±0.7, 6°.58N×125°.07E, h0km, mb3.9/13, mbtmp3.9/13, Error ellipse: s-maj=15.4km s-min=9.7km az=130.0*

*NEIC **23** 10:22:18.7±0.8, 6°.75N±0°.09×125°.07E±0°.06, h10km±1km, mb4.4/17, Error ellipse: s-maj=17.1km s-min=3.4km az=146.0*

*DJA **23** 10:22:19.7±0.5, 7°N±5°×12°5E±°, h10km, M4.8/11, mB5.1/1, mb4.7/11, MLv4.8/11, Mw(mB)4.4/1*

ISC 23 10:22:19.0±0.5, 6.73N±0°.06×125°.11E±0°.08, h10km, n52, σ1§78/50, mb4.1/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**54**	Pg	**Pg**	**10 22 30.4**	**+0.3**
	4μm,0.3s,baz=254,slow=3.9,SNR=169						
DAV				Lg	Lg	10 22 40.7	
	1μm,0.3s,baz=307,slow=20,SNR=4.7						
DAV	**Davao City (W)**	**0.57**	**54**	P	**Pg**	**10 22 26.0**	**-4.1**
SGSI	**Sangihe**	**3.06**	**172**	P	**Pn**	**10 23 08.5**	**+1.1**
KMSI	**Cibinong**	**6.22**	**190**	P	**Pn**	**10 23 53.6**	**+2.7**
TNTI	**Ternate**	**6.33**	**159**	P	**Pn**	**10 23 55.2**	**+2.7**
	0.3nm37nm,0.8s						
MYLDM	**Lahad Datu**	**6.75**	**257**		**Pn**	**10 23 55.6**	**-2.7**
MRSI	**Marisa**	**6.97**	**207**	P	**Pn**	**10 24 01.5**	**+0.2**
	0.3nm45nm,0.5s						
TOLI2	**Tolitoli**	**7.06**	**218**	Pn	**Pn**	**10 24 00.5**	**-2.0**
LUWI	**Luwuk**	**8.07**	**197**	P	**Pn**	**10 24 20.4**	**+4.1**
APSI	**Ampana**	**8.34**	**205**	P	**Pn**	**10 24 22.7**	**+2.6**
	30nm,0.6s						
SANI	**Sanana**	**8.77**	**174**	P	**Pn**	**10 24 26.0**	**+0.1**
I39PW	**PALAU INFRASON**	**9.40**	**85**	I	I	11 16 50.0	
	baz=266,slow=301,SNR=1.8						
SWI	**Sorong**	**9.72**	**141**	P	**Pn**	**10 24 41.5**	**+2.5**
MTN	**Manton Dam**	**20.35**	**163**	P	**P**	**10 26 54.6**	**-1.1**
MTN				IAmb	IAmb	10 27 16.2	
	comp=Z,26nm,1.2s						
PPBI	**Pangkal Pinang**	**20.90**	**246**	P	P	10 26 52.2	-10
KNRA	**Kununurra**	**22.56**	**171**		**P**	**10 27 18.9**	**-0.6**
KNRA				IAmb	IAmb	10 27 28.0	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.68**	**179**	P	**P**	**10 27 39.1**	**-1.1**
COEN	**Coen**	**27.28**	**139**	P	**P**	**10 28 03.4**	**-0.4**
WB0	**Warramunga Arr**	**27.87**	**161**	P	**P**	**10 28 07.4**	**-1.7**
WB0				IAmb	IAmb	10 28 43.3	
	comp=Z,6.3nm,1.0s						
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**10 28 08.0**	**-2.5**
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**10 28 08.3**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=329,slow=11,SNR=6.9						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**10 28 10.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=128,slow=7.8,SNR=1.6						
	comp=Z,0.7nm,0.4s						
WR8	**Warramunga Arr**	**28.08**	**161**	P	**P**	**10 28 09.8**	**-1.2**
WR8				IAmb	IAmb	10 28 49.7	
	comp=Z,7.8nm,1.1s						
PZH	**PanZhiHua**	**29.69**	**314**	P	**P**	**10 28 25.3**	**-0.2**
KSRS	**Korea Array**	**30.69**	**4**	P	**P**	**10 28 35.1**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=184,slow=10.0,SNR=2.7						
	comp=Z,1.0nm,0.9s						
AS31	**Alice Springs**	**31.41**	**164**	P	**P**	**10 28 39.6**	**-0.9**
ASAR	**Alice Springs**	**31.41**	**164**	P	**P**	**10 28 39.5**	**-1.0**
ASAR	**Alice Springs**	**31.41**	**164**	P	**P**	**10 28 39.1**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=343,slow=8.9,SNR=14						
ASAR				PcP	**PcP**	**10 31 35.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=350,slow=3.0,SNR=3.2						
	comp=Z,0.5nm,0.4s						
MJAR	**Matsushiro Arr**	**32.00**	**20**	P	**P**	**10 28 48.1**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=210,slow=8.3,SNR=4.1						
	comp=Z,2.2nm,0.9s						
LZDM	**Lanzhou Array**	**35.09**	**329**	P	**P**	**10 29 14.2**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=127,slow=8.3,SNR=2.4						
	comp=Z,1.5nm,0.3s						
LZH	**Lanzhou**	**35.12**	**329**	*e*P	**P**	**10 29 11.8**	**-1.1**
LZH				sP	sP	10 29 18.1	+0.8
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**36.06**	**342**	*e*P	**P**	**10 29 22.1**	**+1.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
MORW	**Morawa**	**36.65**	**193**	P	**P**	**10 29 24.8**	**-1.1**
FORT	**Forrest**	**37.41**	**176**	P	**P**	**10 29 31.6**	**-0.6**
FORT				IAmb	IAmb	10 29 51.6	
	comp=Z,10nm,1.3s						
USRK	**Ussuriysk Ar.**	**37.80**	**8**	P	**P**	**10 29 34.4**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=200,slow=7.7,SNR=9.0						
	comp=Z,3.1nm,0.9s						
GTA	**Gaotai**	**39.71**	**329**	*e*P	**P**	**10 29 55.5**	**+3.7**
GTA				sP	sP	10 30 02.8	+6.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BBOO	**Buckleboo**	**40.68**	**166**		**P**	**10 29 58.7**	**-1.0**
BBOO				IAmb	IAmb	10 30 10.8	
	comp=Z,7.7nm,0.8s						
STKA	**Stephens Creek**	**41.49**	**159**		**P**	**10 30 06.0**	**-0.4**
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**10 30 04.8**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=346,slow=8.6,SNR=13						
	comp=Z,0.7nm,0.5s						
EVN	**Everest**	**41.94**	**305**	P	**P**	**10 30 09.2**	**-1.8**
EVN				IAmb	IAmb	10 30 27.1	
	comp=Z,8.8nm,1.5s						
SONM	**Songino Array**	**43.96**	**342**	P	**P**	**10 30 28.6**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=170,slow=11,SNR=4.2						
	comp=Z,0.4nm,0.7s						
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**10 30 59.0**	**+0.7**
TOO				IAmb	IAmb	10 31 21.0	
	comp=Z,4.0nm,1.4s						
PETK	**Petropavlovsk-**	**53.31**	**24**	P	**P**	**10 31 37.9**	**-0.3**
MKAR	**Makanchi Array**	**54.19**	**325**	P	**P**	**10 31 43.9**	**-0.8**
MKAR	**Makanchi Array**	**54.19**	**325**	P	**P**	**10 31 43.3**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=125,slow=7.2,SNR=4.8						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**57.20**	**333**	P	**P**	**10 32 06.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=129,slow=4.6,SNR=2.3						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**58.36**	**327**	P	**P**	**10 32 16.3**	**+1.9**
	comp=Z,3.9nm,0.2s,baz=127,slow=6.0,SNR=5.7						
KURK	**Kurchatov**	**58.36**	**327**	P	**P**	**10 32 16.3**	**+1.9**
KURK	**Kurchatov**	**58.36**	**327**	IAmb	IAmb	10 32 18.0	
	comp=Z,2.4nm,0.8s						
BVAR	**Borovoye Array**	**63.94**	**327**	P	**P**	**10 32 51.4**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=92,slow=4.3,SNR=3.9						
	comp=Z,1.3nm,0.9s						
C19K	**Lookout Ridge**	**78.51**	**21**	P	**P**	**10 34 19.9**	**-0.3**
ILAR	**Eielson Array**	**83.10**	**26**	P	**P**	**10 34 44.2**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=207,slow=3.7,SNR=9.4						
	comp=Z,0.6nm,0.9s						

IDC 23 10:31:32.1±2.2, 1°.16N×127°.46E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, MS3.6/2, Error ellipse: s-maj=130.5km s-min=27.5km az=70.0, Halmahera

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

TARG ⇑iS **Sb** **10 35 35.0 0.0**
PRZ Przheval'sk 1.33 352 ⇑iP **Pn** **10 35 29.6 -1.5**
PRZ ⇑iS **Sg** **10 35 49.1 +1.1**
KDJ Kajisay 1.46 312 ⇑iP **Pn** **10 35 32.1 -0.8**
KDJ ⇑iS **Sg** **10 35 53.1 +0.9**
SATY Saty 1.90 355 Pg **Pb** **10 35 40.4 -0.4**
52nm,0.3s
SATY Lg Lg 10 36 06.7
284nm,0.5s
UZB Uzynbulak 2.00 8 Pg **Pb** **10 35 42.0 -0.5**
23nm,0.5s
UZB Lg Lg 10 36 09.1
90nm,0.6s
UZB Uzynbulak 2.00 8 *eP* **Pb** **10 35 42.0 -0.5**
4.3nm,0.1s
UZB *eS* **Sg** **10 36 09.4 -0.2**
109nm,0.4s
SHLS Shalkode 2.08 17 Pg **Pg** **10 35 45.5 +0.3**
52nm,0.3s
SHLS Lg Lg 10 36 15.5
133nm,0.4s
SHLS Shalkode 2.08 17 *eP* **Pg** **10 35 45.5 +0.3**
52nm,0.3s
SHLS *eS* **Sg** **10 36 15.3 +3.2**
242nm,0.6s
ULHL Ulahol 2.10 302 ⇑*i*P **Pn** **10 35 42.0 +0.3**
ULHL ⇑*i*S **Sb** **10 36 10.0 -0.8**
PDGK Podgornoye 2.25 16 ⇑Pg **Pb** **10 35 45.0 -1.8**
17nm,0.5s
PDGK ⇑Lg Lg 10 36 16.5
368nm,0.7s
TNSS Tian-Shan 2.26 327 Pg **Pg** **10 35 48.2 -0.3**
12nm,0.2s
TNSS Lg Lg 10 36 19.9
135nm,0.8s
TNSS Tian-Shan 2.26 327 *eP* **Pb** **10 35 47.5 +0.5**
19nm,0.2s
TNSS *eS* **Sg** **10 36 18.8 +1.0**
135nm,0.8s
JNKS Jany-Kuch 2.26 268 ⇑*i*P **Pn** **10 35 44.0 0.0**
JNKS ⇑*i*S **Sn** **10 36 13.4 +0.8**
KPKS Kokpek 2.30 1 Pg **Pb** **10 35 47.3 -0.3**
0.5nm,0.4s
KPKS Lg Lg 10 36 18.4
183nm,0.5s
MDOK Medeo 2.32 330 Pg **Pb** **10 35 48.1 +0.1**
66nm,0.5s
MDOK Lg Lg 10 36 19.6
150nm,0.7s
KURS Kuram 2.35 352 Pg **Pb** **10 35 48.8 +0.4**
41nm,0.6s
KURS Lg Lg 10 36 21.3
136nm,0.8s
KOTS Kotyrbulak 2.36 332 *eP* **Pb** **10 35 49.2 +0.5**
58nm,0.2s
KOTS *eS* **Sg** **10 36 21.6 +0.6**
420nm,0.5s
BOOM Boomskoye usch 2.41 304 ⇑*i*P **Pn** **10 35 46.4 +0.4**
BOOM ⇑*i*S **Sb** **10 36 17.5 -2.4**
MTBS Maitube 2.56 321 Pg **Pb** **10 35 52.1 0.0**
13nm,0.4s
MTBS Lg Lg 10 36 26.5
69nm,0.4s
MTBS Maitube 2.56 321 *eP* **Pb** **10 35 50.4 -1.6**
0.6nm,0.1s
MTBS *eS* **Sb** **10 36 23.9 -0.2**
69nm,0.4s
TKM2 Tokmak 2 2.87 309 ⇑*i*P **Pn** **10 35 52.7 +0.4**
TKM2 ⇑*i*S **Sn** **10 36 28.6 +1.1**
KTBS Karatobe 2.93 331 Pg **Pb** **10 35 58.3 0.0**
31nm,0.6s
KTBS Lg Lg 10 36 37.5
68nm,0.4s
CHKK Chushkaly 2.95 336 Pg **Pb** **10 35 59.2 +0.6**
28nm,0.5s
CHKK Lg Lg 10 36 39.2
227nm,0.5s
CHKK Chushkaly 2.95 336 *eP* **Pb** **10 35 58.4 -0.3**
2.6nm,0.1s
CHKK *eS* **Sg** **10 36 37.5 -2.6**
227nm,0.5s
DGS Degeres 2.98 315 Pg **Pb** **10 35 59.6 +0.5**
32nm,0.7s
DGS Lg Lg 10 36 40.0
93nm,0.7s
ARXS Arharly 3.10 349 Pg **Pb** **10 36 01.6 +0.3**
23nm,0.5s
ARXS Lg Lg 10 36 43.0
50nm,0.8s
ARXS Arharly 3.10 349 *eP* **Pb** **10 35 59.2 -2.1**
ARXS *eS* **Sb** **10 36 38.9 -0.8**
KBK Karagaybulak 3.13 300 ⇓*i*P **Pn** **10 35 56.2 +0.3**
KBK ⇓*i*S **Sn** **10 36 35.0 +1.0**
KNOS Konyrlen 3.22 7 Pg **Pb** **10 36 02.9 -0.4**
11nm,0.6s
KNOS Lg Lg 10 36 45.6
42nm,0.5s
UCH Uchtor 3.27 290 ⇑*i*P **Pn** **10 35 58.2 +0.2**
UCH ⇑*i*S **Sn** **10 36 38.3 +0.6**
FRU1 Bishkek 3.41 300 ⇑*i*P **Pn** **10 36 00.2 +0.6**
FRU1 ⇑*i*S **Sn** **10 36 41.9 +1.2**
CHMS Chumysh 3.43 304 ⇑*i*P **Pn** **10 36 00.4 +0.6**
CHMS ⇑*i*S **Sn** **10 36 41.7 +0.7**
AAK Ala-Archa 3.43 297 ⇑Pg **Pg** **10 36 10.1 -0.8**
6.1nm,0.7s
AAK ⇓Lg Lg 10 36 53.9
22nm,0.8s
AAK Ala-Archa 3.43 297 ⇑*i*P **Pn** **10 36 00.2 +0.3**
AAK ⇑*i*S **Sn** **10 36 42.0 +0.8**
SALK Salom-Alik 3.66 267 ⇑*eP* **Pn** **10 36 03.3 +0.2**
SALK ⇑*i*S **Sn** **10 36 46.9 0.0**
USP Ospenovka 3.73 306 ⇑*i*P **Pn** **10 36 04.6 +0.7**
USP ⇑*i*S **Sn** **10 36 49.0 +0.6**
EKS2 Erkin-Say 3.93 294 ⇑*i*P **Pn** **10 36 07.2 +0.5**
EKS2 ⇑*i*S **Sn** **10 36 53.7 +0.2**
MK31 Makanchi Array 6.21 24 ⇓Pn **Pn** **10 36 39.0 +1.0**
0.7nm,0.5s,baz=204,slow=15,SNR=4.6
MK31 ⇓Sn **Sn** **10 37 49.3 -0.3**
1.8nm,0.5s
MK31 ⇑Lg Lg 10 38 19.1
5.3nm,0.7s,baz=206,slow=29,SNR=5.8
KK31 Karatay Array 6.35 290 ⇑Pg **Pg** **10 37 06.2 -0.7**
1.2nm,0.4s,baz=120,slow=16,SNR=7.4
KK31 Lg Lg 10 38 27.1
1.8nm,0.5s,baz=96,slow=26,SNR=4.5

*IDC **23** 10:36:16.4±0.5,2˚.67S×138˚.43E,h0km,mb4.3/16,*
mbtmp4.2/19,ML3.8/3,MS3.7/25,Error ellipse:
s-maj=15.0km s-min=12.8km az=63.0
*NEIC **23** 10:36:18.5±2.0,2˚.70S±0˚.08×138˚.43E±0˚.04,h10km±1km,*
mb4.6/48,Error ellipse: s-maj=14.3km s-min=7.4km
az=177.0
*DJA **23** 10:36:21.0±0.8,2˚S±5˚×13˚8E±˚,h17km±9km,M4.6/12,*
mb4.6/12,mB5.3/4,MLv4.6/10,Mw(mB)4.7/4
ISC 23 10:36:18.0±0.4,2˚.69S±0˚.05×138˚.49E±0˚.05,h10km,n131,
σ1§15/100,mb4.6/51,MS3.8/22,3D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.73**	**18**	P	**Pg**	**10 36 31.3**	**-0.8**
GENI	**Genyem**	**1.68**	**87**	P	**Pb**	**10 36 50.3**	**+1.2**
JAY	**Jayapura**	**2.22**	**86**	Pn	**Pn**	**10 36 57.1**	**+2.1**
	14nm,0.3s,baz=254,slow=11,SNR=52						
JAY				Lg	Lg	10 37 28.9	
	41nm,0.3s,baz=336,slow=20,SNR=6.2						
JAY				LR	LR	10 37 45.6	
	comp=Z,792nm,21.2s,baz=340,slow=39						
	68nm,0.4s						
JAY	**Jayapura**	**2.22**	**86**	P	**Pn**	**10 36 57.5**	**+2.5**
BAKI	**Biak**	**2.80**	**302**	P	**Pn**	**10 37 03.4**	**+0.4**
RKPI	**Ransiki, Papua**	**4.46**	**285**	P	**Pn**	**10 37 26.5**	**+0.7**
KMPI	**Kaimana, Papua**	**4.87**	**258**	P	**Pn**	**10 37 34.4**	**+3.0**
MMPI	**Merauke**	**6.05**	**162**	P	Pn	10 37 54.7	+7.1
FAKI	**Fak Fak**	**6.23**	**268**		**Pn**	**10 37 50.6**	**+0.4**
FAKI	**Fak Fak**	**6.23**	**268**	P	**Pn**	**10 37 51.3**	**+1.1**
	0.2nm660nm56nm,1.5s						
SWI	**Sorong**	**7.45**	**284**	P	**Pn**	**10 38 08.7**	**+1.9**
MSAI	**Masohi**	**9.57**	**266**	P	**Pn**	**10 38 37.8**	**+1.8**
AAI	**Ambon**	**10.32**	**264**	P	**Pn**	**10 38 48.1**	**+1.8**
	38nm,0.6s						
PMG	**Port Moresby**	**10.90**	**128**	Pn	**Pn**	**10 38 54.8**	**+0.5**
PMG	**Port Moresby**	**10.90**	**128**	LR	LR	10 44 30.5	
	comp=Z,548nm,18.8s,baz=306,slow=45						
COEN	**Coen**	**12.12**	**158**		**Pn**	**10 39 11.3**	**+0.4**
MTN	**Manton Dam**	**12.44**	**215**		**Pn**	**10 39 14.7**	**-0.6**
SOEI	**Soe**	**15.78**	**243**		**Pn**	**10 39 59.7**	**-0.9**
SOEI	**Soe**	**15.78**	**243**	P	**P**	**10 40 05.5**	**+0.9**
	86nm,1.2s						
LUWI	**Luwuk**	**15.79**	**276**	Pn	**Pn**	**10 39 59.0**	**-1.7**
KNRA	**Kununurra**	**16.07**	**216**		**Pn**	**10 40 03.8**	**-0.5**
DAV	**Davao City (W)**	**16.12**	**307**	LR	LR	10 47 10.5	
	comp=Z,220nm,18.4s,baz=158,slow=41						
BATI	**Baumata**	**16.51**	**242**	Pn	**P**	**10 40 13.1**	**+0.5**
	8.7nm,0.3s,baz=80,slow=12,SNR=4.0						
APSI	**Ampana**	**16.92**	**276**	P	**P**	**10 40 16.7**	**-0.4**
	993nm98nm,1.4s						
GUMO	**Guam**	**17.36**	**21**	LR	LR	10 46 40.0	
	comp=Z,259nm,18.0s,baz=192,slow=36						
WB0	**Warramunga Arr**	**17.44**	**193**		**Pn**	**10 40 20.9**	**-0.8**
WR8	**Warramunga Arr**	**17.60**	**192**		**Pn**	**10 40 22.9**	**-0.7**
WRAB	**Tennant Creek**	**17.61**	**193**	P	**Pn**	**10 40 22.6**	**-1.2**
WRA	**Warramunga Arr**	**17.62**	**193**		**Pn**	**10 40 21.1**	**-2.8**
WRA	**Warramunga Arr**	**17.62**	**193**	P	**Pn**	**10 40 21.9**	**-2.0**
	0.5nm,0.3s,baz=11,slow=12,SNR=18						
WRA				S	Sn	10 43 28.5	-12
	1.4nm,0.9s,baz=15,slow=22,SNR=1.8						
	3.3nm,0.9s						
SPSI	**Sidrap Palu**	**18.73**	**266**	P	**Pn**	**10 40 38.2**	**+0.7**
KAPI	**Kappang**	**18.83**	**262**	P	**Pn**	**10 40 41.4**	**+2.6**
	14nm,0.4s,baz=172,slow=15,SNR=4.5						
KAPI				LR	LR	10 48 05.6	
	comp=Z,121nm,21.9s,baz=80,slow=38						
CTA	**Charters Tower**	**18.89**	**157**	LR	LR	10 48 47.6	
	comp=Z,10nm,21.2s,baz=342,slow=40						
FITZ	**Fitzroy Crossi**	**19.83**	**219**	IAmb	IAmb	10 40 53.6	
	comp=Z,1.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.83**	**219**	P	**P**	**10 40 49.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=8.7						
FITZ				S	S	10 44 19.9	-13
	comp=Z,2.5nm,0.8s,baz=349,slow=16,SNR=1.5						
	comp=Z,6.0nm,0.8s						
AS31	**Alice Springs**	**21.32**	**192**		**P**	**10 41 05.2**	**-0.1**
ASAR	**Alice Springs**	**21.32**	**192**		**P**	**10 41 05.8**	**+0.4**
ASAR	**Alice Springs**	**21.32**	**192**	P	**P**	**10 41 05.0**	**-0.4**
	comp=Z,7.9nm,0.6s,baz=21,slow=10,SNR=81						
ASAR				S	**S**	**10 44 57.8**	**-4.5**
	comp=Z,6.3nm,1.0s,baz=14,slow=24,SNR=7.3						
	comp=Z,7.9nm,0.6s						
MYLDM	**Lahad Datu**	**21.44**	**291**	P	**P**	**10 41 06.8**	**+0.1**
MYLDM				IAmb	IAmb	10 41 29.6	
	comp=Z,35nm,1.0s						
TGY	**Tagaytay City**	**24.10**	**314**	LR	LR	10 51 34.4	
	comp=Z,203nm,19.9s,baz=168,slow=38						
EIDS	**Eidsvold**	**25.61**	**153**	P	**P**	**10 41 48.9**	**+1.1**
EIDS				IAmb	IAmb	10 42 07.4	
	comp=Z,8.4nm,0.8s						
PSA00	**Pilbara Seismi**	**26.10**	**223**	P	**P**	**10 41 52.0**	**-0.2**
STKA	**Stephens Creek**	**29.18**	**175**	IAmb	IAmb	10 42 38.7	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**29.18**	**175**	P	**P**	**10 42 20.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=344,slow=13,SNR=3.1						
STKA				LR	LR	10 55 17.7	
	comp=Z,264nm,20.6s,baz=338,slow=39						
	comp=Z,0.4nm,0.4s						
FORT	**Forrest**	**29.63**	**198**	P	**P**	**10 42 23.1**	**-0.7**
JCJ	**Chichijima**	**29.82**	**7**	LR	LR	10 53 20.8	
	comp=Z,139nm,19.6s,baz=131,slow=34						
BBOO	**Buckleboo**	**30.05**	**184**	P	**P**	**10 42 27.7**	**+0.3**
ARMA	**Armidale**	**30.26**	**157**	P	**P**	**10 42 28.5**	**-1.0**
ARMA				IAmb	IAmb	10 42 31.1	
	comp=Z,5.5nm,0.9s						
JHJ	**Hachijo jima 2**	**35.63**	**2**	LR	LR	10 55 02.6	
	comp=Z,60nm,19.6s,baz=270,slow=32						
NWAO	**Narrogin (SRO)**	**36.08**	**211**	LR	LR	10 59 23.4	
	comp=Z,620nm,20.4s,baz=22,slow=38						
JNU	**Nakatsue**	**36.33**	**349**	P	**P**	**10 43 23.1**	**+0.9**
JNU				IAmb	IAmb	10 43 23.4	
	comp=Z,14nm,0.9s						
JNU	**Nakatsue**	**36.33**	**349**	LR	LR	10 58 01.4	
	comp=Z,150nm,19.1s,baz=172,slow=36						
MJAR	**Matsushiro Arr**	**39.03**	**360**	LR	LR	10 58 18.6	
	comp=Z,114nm,19.6s,baz=167,slow=34						
NJ2	**Nanjing**	**39.25**	**333**	*eP*	**P**	**10 43 47.5**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
WHN	**Wuhan**	**40.28**	**327**	P	**P**	**10 43 56.6**	**+1.1**
WHN				pmax	pmax		
	comp=Z,80nm,1.4s						
KSRS	**Korea Array**	**41.12**	**347**	P	**P**	**10 44 02.1**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=160,slow=9.0,SNR=12						
	comp=Z,4.1nm,0.9s						
CM31	**Chiang Mai Arr**	**44.23**	**300**	P	**P**	**10 44 28.1**	**+0.1**
CM31				IAmb	IAmb	10 44 42.8	
	comp=Z,6.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.23**	**300**	P	**P**	**10 44 27.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=116,slow=6.1,SNR=17						
CMAR				LR	LR	11 04 21.5	
	comp=Z,34nm,18.0s,baz=125,slow=38						
	comp=Z,1.7nm,0.7s						
KMI	**Kunming**	**44.33**	**311**	P	**P**	**10 44 29.0**	**+0.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**44.38**	**300**	P	**P**	**10 44 26.8**	**-2.3**
LYN	**LuoYang**	**44.38**	**329**	P	**P**	**10 44 29.8**	**+0.9**
LYN				pmax	pmax		
	comp=Z,30nm,0.9s						
HNS	**HongShan**	**45.59**	**333**	⇓P	**P**	**10 44 38.1**	**-0.3**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HNS				LR	LR		
	comp=E,200nm,17.5s						
HNS				LR	LR		
	comp=Z,180nm,19.1s						
PZH	**PanZhiHua**	**45.84**	**312**	P	**P**	**10 44 43.1**	**+2.3**
XAN	**Xi'an**	**45.93**	**325**	⇓P	**P**	**10 44 40.8**	**-0.5**
XAN				pP	sP	10 44 47.3	+1.5
XAN				pmax	pmax		
	comp=Z,27nm,1.4s						
USRK	**Ussuriysk Ar.**	**47.04**	**354**	P	**P**	**10 44 49.6**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=157,slow=7.8,SNR=7.9						
	comp=Z,3.5nm,0.9s						
BJI	**Beijing**	**47.18**	**337**	P	**P**	**10 44 51.3**	**+0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MDJ	**Mudanjiang**	**47.76**	**351**	P	**P**	**10 44 55.4**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BNX	**BinXian**	**49.21**	**350**	⇓P	**P**	**10 45 06.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.81**	**333**	*eP*	**P**	**10 45 13.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
URZ	**Urewera**	**49.98**	**140**	LR	LR	11 06 00.9	
	comp=Z,107nm,20.2s,baz=290,slow=36						
LZH	**Lanzhou**	**50.33**	**323**	*eP*	**P**	**10 45 16.3**	**+0.9**
LZH				pP	sP	10 45 23.0	+3.0
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZDM	**Lanzhou Array**	**50.33**	**323**	P	**P**	**10 45 16.0**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=151,slow=6.4,SNR=4.3						
	comp=Z,1.4nm,0.3s						
SHL	**Shillong**	**53.14**	**305**	P	**P**	**10 45 36.1**	**-0.5**
SHL				IAmb	IAmb	10 45 37.8	
	comp=Z,10nm,0.9s						
HILR	**Hailar Array B**	**54.50**	**345**	P	**P**	**10 45 46.1**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=155,slow=11,SNR=6.2						
	comp=Z,3.7nm,0.6s						
GTA	**Gaotai**	**54.92**	**324**	P	**P**	**10 45 50.6**	**+1.3**
GTA				sP	sP	10 45 56.5	+2.6
GTA				pmax	pmax		
	comp=Z,12nm,1.5s						
ULN	**Ulaanbaatar**	**57.35**	**335**	P	**P**	**10 46 06.2**	**-0.4**
ULN				IAmb	IAmb	10 46 14.5	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**57.60**	**335**	P	**P**	**10 46 08.2**	**-0.2**
SONM	**Songino Array**	**57.60**	**335**	P	**P**	**10 46 08.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=138,slow=7.6,SNR=6.4						
	comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**57.89**	**14**	P	**P**	**10 46 09.4**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=190,slow=7.3,SNR=2.2						
PETK				LR	LR	11 07 16.6	
	comp=Z,64nm,21.7s,baz=190,slow=32						
	comp=Z,1.8nm,0.7s						
EVN	**Everest**	**58.24**	**305**		**P**	**10 46 13.7**	**-0.2**
TLY	**Talaya**	**61.70**	**336**	P	**P**	**10 46 36.1**	**-0.3**
TLY				IAmb	IAmb	10 46 41.6	
	comp=Z,3.8nm,0.8s						
SHEM	**Shemya Is, Ala**	**62.81**	**23**	LR	LR	11 08 44.2	
	comp=Z,68nm,21.8s,baz=281,slow=31						
MA2	**Magadan**	**62.83**	**7**	LR	LR	11 10 24.1	
	comp=Z,37nm,21.6s,baz=202,slow=33						
WMQ	**Urumqi**	**64.85**	**322**	*eP*	**P**	**10 46 58.3**	**+0.8**
WMQ				sP	sP	10 47 05.3	+3.2
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
YAK	**Yakutsk**	**64.89**	**355**	P	**P**	**10 46 57.9**	**+0.6**
YAK	**Yakutsk**	**64.89**	**355**	LR	LR	11 14 02.0	
	comp=Z,64nm,18.7s,baz=169,slow=35						
SEY	**Seymchan**	**66.28**	**7**	LR	LR	11 16 56.6	
	comp=Z,29nm,19.1s,baz=202,slow=37						
CASY	**Casey**	**66.45**	**192**		**P**	**10 47 06.5**	**-0.8**
CASY				IAmb	IAmb	10 47 26.7	
	comp=Z,4.5nm,0.9s						
MKAR	**Makanchi Array**	**69.63**	**322**		**P**	**10 47 27.7**	**0.0**
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	**10 47 27.9**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=112,slow=7.0,SNR=30						
	comp=Z,6.7nm,0.7s						
MAKZ	**Makanchi**	**69.83**	**322**		**P**	**10 47 28.8**	**-0.2**
KSH	**Kashi**	**70.90**	**313**	P	**P**	**10 47 37.0**	**+1.2**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZAA0	**Zalesovo Array**	**71.80**	**330**	P	**P**	**10 47 39.8**	**-1.0**
ZAA0				IAmb	IAmb	10 47 40.1	
	comp=Z,4.5nm,1.1s						
ZALV	**Zalesovo Beam**	**71.80**	**330**	P	**P**	**10 47 39.8**	**-1.0**
ZALV	**Zalesovo Beam**	**71.80**	**330**	P	**P**	**10 47 39.6**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=111,slow=6.6,SNR=8.7						
	comp=Z,2.7nm,0.7s						
PPT2	**Papeete2**	**71.98**	**108**	*e*LR	LR	11 09 35.0	
	comp=Z,48nm,25.5s						
TBI	**Tubuai**	**72.47**	**114**	*e*LR	LR	11 09 47.9	
	comp=Z,192nm,23.8s						
TBI				*e*LR	LR	11 09 52.1	
	comp=Z,929nm,27.0s						
KURK	**Kurchatov**	**73.57**	**325**		**P**	**10 47 51.0**	**-0.3**
KURK				IAmb	IAmb	10 47 52.8	
	comp=Z,7.6nm,1.0s						
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**10 47 50.9**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=126,slow=4.7,SNR=12						
	comp=Z,2.7nm,0.7s						
ARSB	**Arslanbob**	**73.66**	**314**		**P**	**10 47 51.5**	**-0.8**
TIXI	**Tiksi**	**74.47**	**357**		**P**	**10 47 54.8**	**-1.3**
TIXI				IAmb	IAmb	10 47 57.2	
	comp=Z,4.7nm,0.7s						
TIXI	**Tiksi**	**74.47**	**357**	LR	LR	11 20 17.1	
	comp=Z,69nm,19.1s,baz=198,slow=36						
GAR	**Garm**	**74.91**	**311**		**P**	**10 47 58.8**	**-0.9**
CHGR	**Chuyangaron**	**75.69**	**311**	P	**P**	**10 48 03.1**	**-1.0**
VNDA	**Vanda**	**75.82**	**175**		**P**	**10 48 05.2**	**+1.2**
VNDA				IAmb	IAmb	10 48 06.0	
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**75.82**	**175**	P	**P**	**10 48 04.7**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=322,slow=7.1,SNR=22						
	comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**79.16**	**325**	P	**P**	**10 48 22.9**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=116,slow=6.9,SNR=14						
	comp=Z,4.5nm,0.7s						
TAOE	**Nuku Hiva Isla**	**81.06**	**98**	*e*LR	LR	11 13 45.8	
	comp=Z,66nm,22.0s						
KDAK	**Kodiak Island**	**81.19**	**30**	LR	LR	11 20 10.8	
	comp=Z,95nm,20.3s,baz=231,slow=32						
MAW	**Mawson**	**82.06**	**202**	P	**P**	**10 48 39.5**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=82,slow=14,SNR=2.1						
MAW				LR	LR	11 23 57.8	
	comp=Z,92nm,18.3s,baz=68,slow=35						
	comp=Z,0.9nm,0.8s						
J20K	**Nowinta River**	**82.73**	**24**	IAmb	IAmb	10 48 53.3	
	comp=Z,7.8nm,1.2s						
IMAR	**Indian Mountai**	**83.56**	**22**	P	**P**	**10 48 46.1**	**0.0**
AB31	**Akbulak array**	**84.56**	**320**		**P**	**10 48 50.7**	**-0.9**
AB31				IAmb	IAmb	10 48 52.4	
	comp=Z,5.6nm,1.1s						
ABKAR	**Akbulak array**	**84.56**	**320**		**P**	**10 48 50.6**	**-0.9**
E22K	**Anaktuvuk Pass**	**85.03**	**21**	P	**P**	**10 48 53.6**	**0.0**
E22K				IAmb	IAmb	10 49 01.7	
	comp=Z,3.3nm,1.0s						
D23K	**Nanushuk River**	**85.70**	**20**	IAmb	IAmb	10 49 10.5	
	comp=Z,3.8nm,0.9s						
E23K	**Chandalar**	**85.78**	**21**	IAmb	IAmb	10 49 10.9	
	comp=Z,7.6nm,1.1s						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**10 48 57.0**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=262,slow=4.4,SNR=21						
ILAR				LR	LR	11 21 07.9	
	comp=Z,40nm,21.3s,baz=236,slow=31						
	comp=Z,2.2nm,0.8s						
F24K	**Squaw Lake**	**86.25**	**22**	IAmb	IAmb	10 49 06.6	
	comp=Z,8.2nm,1.1s						
QSPA	**South Pole Qui**	**87.26**	**180**		**P**	**10 49 04.8**	**0.0**
BMAR	**Burnt Mountain**	**87.46**	**22**		**P**	**10 49 05.8**	**+0.1**
M27K	**Edge Creek, AK**	**87.56**	**27**	P	**P**	**10 49 06.0**	**-0.3**
M27K				IAmb	IAmb	10 49 08.4	
	comp=Z,4.0nm,1.0s						
K27K	**Chicken**	**87.78**	**26**	IAmb	IAmb	10 49 09.1	
	comp=Z,3.3nm,1.1s						
I28M	**Miner Creek**	**88.92**	**24**	IAmb	IAmb	10 49 27.9	
	comp=Z,3.4nm,1.1s						
DLBC	**Dease Lake**	**93.05**	**32**	LR	LR	11 25 19.4	
	comp=Z,408nm,20.2s,baz=229,slow=32						
BBB	**Bella Bella**	**94.19**	**38**	LR	LR	11 26 07.7	
	comp=Z,48nm,20.0s,baz=222,slow=32						
GNI	**Garni**	**94.58**	**310**	LR	LR	11 37 27.5	
	comp=Z,22nm,19.1s,baz=118,slow=39						
TXAR	**Lajitas Array**	**115.47**	**59**	PKP	**PKPdf**	**10 55 00.8**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=262,slow=2.3,SNR=2.8						
CPUP	**Villa Florida**	**147.35**	**153**	PKPbc	**PKPdf**	**10 56 00.0**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=320,slow=1.9,SNR=5.1						
LPAZ	**La Paz**	**147.64**	**127**		**PKPbc**	**10 56 05.6**	**+0.9**
LPAZ	**La Paz**	**147.64**	**127**	PKPbc	**PKPbc**	**10 56 04.5**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=209,slow=3.8,SNR=6.7						

GCG 23 10:52:13.9±0.6,15˚.01N×91˚.55W,h163km±7km,MD3.9,
ML2.8,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.59**	**164**	*i* P	Pn	10 52 36.3	-1.1
APG	**El Apazote**	**1.04**	**90**	*i* P	Pn	10 52 41.6	+1.0
CCIG	**Comitan**	**1.39**	**336**	*i* P	Pn	10 52 44.6	+1.1
CCIG				*i* S	Sn	10 53 08.0	+1.5
CCIG				IAML		10 53 10.5	
	comp=E,69nm,0.4s						
MTO3	**Montecristo**	**2.20**	**106**	*i* P	Pn	10 52 53.2	+0.9

*IDC **23** 10:56:01.2±0.8,2˚.67S×138˚.39E,h0km,mb3.9/6,*
mbtmp3.9/9,ML3.3/3,MS3.1/1,Error ellipse: s-maj=20.6km
s-min=16.1km az=178.0
*DJA **23** 10:56:05.8±0.4,2˚S±5˚×13˚8E±˚,h10km,M3.8/7,MLv3.8/7*
ISC 23 10:56:05.9±0.8,2˚.7S±0˚.1×138˚.47E±0˚.06,h32km,n15,
**σ1§05/13,

ILAR	**Eielson Array**	**85.96**	**24**	P		**P**	**11 08 42.1**	**-0.6**
	0.5nm,0.8s,baz=277,slow=4.5,SNR=5.3							
	0.5nm,0.8s							

IDC 23 10:59:36.2±2.3,5°.98S×129°.94E,h0km,mb3.8/1,
mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=93.7km
s-min=29.1km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.76**	**199**	Pn	Pn	11 02 39.9	+0.8
	0.5nm,0.3s,baz=19,slow=11,SNR=21						
FITZ				Sn	Sn	11 04 48.8	-13
	1.1nm,0.3s,baz=307,slow=20,SNR=7.6						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**14.53**	**163**	Pn	Pn	11 03 02.7	-0.6
	0.5nm,0.3s,baz=345,slow=13,SNR=11						
WRA				Sn	Sn	11 05 30.8	-14
	1.4nm,0.3s,baz=345,slow=23,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**18.00**	**168**	P	Pn	11 03 47.9	-0.2
	0.3nm,0.3s,baz=348,slow=12,SNR=7.6						
ASAR				S	Sn	11 06 55.0	-15
	0.5nm,0.4s,baz=344,slow=25,SNR=7.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	11 10 33.2	0.0
	0.4nm,0.4s,baz=121,slow=7.8,SNR=4.2						
	0.4nm,0.4s						

*IDC **23** 11:06:37.6±0.8,50°.11N×178°.41E,h0km,mb3.8/12,*
mbtmp3.9/14,ML3.0/2,MS4.1/3,Error ellipse:
s-maj=26.2km s-min=17.5km az=177.0
*NEIC **23** 11:06:39.6±2.3,50°.18N±0°.08×178°.52E±0°.10,h10km±2km,*
ML3.9/8,ML3.5(AEIC),Error ellipse: s-maj=13.4km
s-min=10.4km az=173.0
*AEIC **23** 11:06:42.5±2.5,50°.24N±0°.09×178°.58E±0°.10,h25km±9km,*
Error ellipse: s-maj=13.4km s-min=9.1km az=184.0
ISC 23 11:06:38.0±2.3,50°.19N±0°.08×178°.48E±0°.05,h2km±13km,
n42,σ1§27/50,mb3.9/12,MS4.1/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.30**	**23**		**Pg**	**11 07 03.1**	**+0.2**
AMKA					**Sg**	**11 07 19.4**	**-0.3**
LSSE	**Little Sitkin**	**1.75**	**2**		**Pn**	**11 07 09.8**	**+0.5**
LSSA	**Little Sitkin**	**1.76**	**1**		**Pn**	**11 07 10.6**	**+1.1**
CESW	**Semis' Southwe**	**1.84**	**21**		**Pn**	**11 07 12.0**	**+1.3**
CERB	**Semis' Cerberu**	**1.89**	**22**		**Pb**	**11 07 12.9**	**-0.3**
CERB					**Sn**	**11 07 35.8**	**+0.2**
CEPE	**Semis' Perret**	**1.93**	**22**		**Pn**	**11 07 13.2**	**+1.4**
GAKI	**Gareloi-Kavalg**	**2.19**	**50**		**Pn**	**11 07 16.0**	**+0.5**
GAKI					**Pb**	**11 07 16.3**	**-2.1**
GAKI					**Sn**	**11 07 41.5**	**-1.6**
GASW	**Gareloi Southw**	**2.32**	**46**		**Pn**	**11 07 18.4**	**+1.2**
GASW					**Pb**	**11 07 18.6**	**-1.9**
GASW					**Sn**	**11 07 45.9**	**-0.3**
GANE	**Gareloi Northe**	**2.38**	**46**		**Pn**	**11 07 19.4**	**+1.3**
GANE					**Sn**	**11 07 48.5**	**+0.7**
TASE	**Tanaga Southea**	**2.75**	**52**		**Pn**	**11 07 24.7**	**+1.6**
TASE					**Sn**	**11 07 56.4**	**-0.5**
TAFL	**Tanaga Flats**	**2.77**	**54**		**Pn**	**11 07 25.1**	**+1.6**
TAFL					**Sn**	**11 07 56.7**	**-0.8**
KIWB	**Kanaga Island**	**3.22**	**57**		**Pn**	**11 07 31.1**	**+1.5**
KIWB				IAML		11 08 12.0	
	comp=E,314nm,0.6s						
KIWB				IAML		11 08 12.0	
	comp=N,270nm,0.7s						
KIKV	**Kanaga Island**	**3.22**	**57**		**Pn**	**11 07 31.2**	**+1.6**
ADK	**Adak**	**3.49**	**59**		**Pn**	**11 07 34.9**	**+1.7**
ADK				IAML		11 08 14.2	
	comp=N,298nm,0.8s						
ADK				IAML		11 08 19.4	
	comp=N,269nm,0.7s						
SHEM	**Shemya Is, Ala**	**3.74**	**315**		**Pn**	**11 07 37.4**	**+0.7**
SHEM	**Shemya Is, Ala**	**3.74**	**315**	Pn	**Pn**	**11 07 38.6**	**+1.9**
	comp=N,1.5nm,0.3s,baz=200,slow=22,SNR=1.3						
SHEM				Sn	**Sn**	**11 08 18.0**	**-3.2**
	comp=N,6.4nm,0.3s,baz=108,slow=20,SNR=6.9						
	comp=N,63nm,1.1s						
GSMY	**Great Sitkin M**	**3.91**	**60**		**Pn**	**11 07 40.3**	**+1.3**
GSTR	**Great Sitkin T**	**3.93**	**59**	Pn	**Pn**	**11 07 36.8**	**-2.6**
GSIG	**Igitkin Island**	**3.96**	**61**		**Pn**	**11 07 40.8**	**+1.0**
KOWE	**Korovin West**	**5.06**	**62**		**Pn**	**11 07 56.8**	**+2.0**
KOKL	**Mount Kliuchef**	**5.07**	**62**		**Pn**	**11 07 56.9**	**+1.9**
NIKH	**Nikolski High**	**8.37**	**66**	Pn	**Pn**	**11 08 40.0**	**-0.1**
UNV	**Unalaska Valle**	**9.95**	**63**	Pn	**Pn**	**11 09 02.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**13.22**	**291**	Pn	**Pn**	**11 09 47.4**	**+0.8**
PETK	**Petropavlovsk-**	**13.22**	**291**		**Pn**	**11 09 47.4**	**+0.7**
PETK	**Petropavlovsk-**	**13.22**	**291**	Pn	**Pn**	**11 09 47.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=106,slow=15,SNR=14						
	comp=N,3.4nm,0.8s						
ILAR	**Eielson Array**	**23.25**	**38**	P	**P**	**11 11 45.5**	**-0.8**
	comp=N,0.5nm,0.9s,baz=263,slow=7.5,SNR=6.0						
	comp=N,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**37.30**	**45**	LR	LR	11 31 58.5	
	comp=N,86nm,18.7s,baz=308,slow=41						
NVAR	**Mina Array Bea**	**45.44**	**80**	P	**P**	**11 14 59.5**	**+1.1**
	comp=N,1.1nm,0.8s,baz=277,slow=8.6,SNR=9.3						
	comp=N,1.1nm,0.8s						
PDAR	**Pinedale Array**	**48.33**	**70**	P	**P**	**11 15 21.5**	**+0.5**
	comp=N,0.8nm,0.7s,baz=310,slow=3.0,SNR=8.3						
	comp=N,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**58.68**	**313**	P	**P**	**11 16 36.8**	**+0.2**
	comp=N,0.6nm,0.7s,baz=44,slow=6.4,SNR=4.3						
	comp=N,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**58.95**	**349**	P	**P**	**11 16 37.4**	**-0.8**
	comp=N,4.3nm,1.1s,baz=342,slow=7.6,SNR=4.0						
	comp=N,4.3nm,1.1s						
TXAR	**Lajitas Array**	**60.56**	**79**	P	**P**	**11 16 50.6**	**+0.6**
	comp=N,0.8nm,0.5s,baz=305,slow=5.4,SNR=21						
	comp=N,0.8nm,0.5s						
SCHQ	**Schefferville**	**62.00**	**37**	LR	LR	11 44 36.7	
	comp=N,402nm,18.7s,baz=290,slow=37						
NB2	**NORSAR Subarra**	**68.65**	**353**	P	**P**	**11 17 43.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=9.4,slow=6.5						
NOA	**NORSAR Array B**	**68.65**	**353**	P	**P**	**11 17 43.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=9.3,slow=6.4,SNR=3.7						
	comp=Z,1.4nm,0.7s						
HFS	**Hagfors**	**69.34**	**352**	P	**P**	**11 17 46.7**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=64,slow=9.8,SNR=1.4						
	comp=Z,1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.40**	**274**	P	**P**	**11 17 46.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=58,slow=8.0,SNR=11						
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**79.97**	**222**	P	**P**	**11 18 47.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=23,slow=5.2,SNR=2.5						
WRA				LR	LR	11 49 19.0	
	comp=Z,102nm,21.3s,baz=358,slow=32						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**83.45**	**220**	P	**P**	**11 19 06.6**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=22,slow=5.4,SNR=2.6						
	comp=Z,0.4nm,0.8s						
BRTR	**Keskin Array B**	**85.28**	**334**	P	**P**	**11 19 17.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=47,slow=2.8,SNR=4.1						
	comp=Z,0.7nm,0.7s						
MAW	**Mawson**	**144.49**	**217**	PKP	**PKPab**	**11 26 12.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=90,slow=7.0,SNR=6.1						

*BUL **23** 11:08:54.0±0.9,24°.64S×29°.22E,h34km±10km,MD3.0*
PRE 23 11:08:41.7±0.9,25°.92S×29°.44E,h0km,ML1.9,
Suspected explosion,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PILG	**Pilgrimsrest,**	**1.51**	**50**	*eP*	Pb	11 09 11.0	+0.2
PILG				*eS*	Sn	11 09 32.2	+1.4
PILG				IAML		11 09 34.6	
	comp=Z,32nm,0.3s						
HRAO	**HartRAO**	**1.58**	**271**	*eP*	Pb	11 09 11.9	0.0
HRAO				*eS*	Sg	11 09 33.6	+1.1
HRAO				IAML		11 09 36.8	
	comp=Z,20nm,0.1s						
PRYS	**Parys**	**2.12**	**241**	*eP*	Pn	11 09 19.7	+1.2
PRYS				*eS*	Sb	11 09 47.0	-1.0
PRYS				IAML		11 09 53.1	
	comp=Z,11nm,0.4s						
POGA	**Pongola**	**2.47**	**125**	*eP*	Pn	11 09 24.1	+0.8
POGA				*eS*	Sn	11 09 54.4	+0.2
POGA				IAML		11 10 09.1	
	comp=Z,9.7nm,0.5s						
LEPH	**Lephalale, Lim**	**2.54**	**324**	*eP*	Pn	11 09 24.2	-0.1
LEPH				*eS*	Sn	11 09 57.1	+1.1
LEPH				IAML		11 10 08.0	
	comp=Z,4.9nm,0.4s						
MOPA	**Mopani**	**2.98**	**37**	*eP*	Pn	11 09 30.8	+0.5
MOPA				*eS*	Sn	11 10 06.8	0.0
MOPA				IAML		11 10 24.5	
	comp=Z,8.7nm,0.3s						
MOPA	**Mopani**	**2.98**	**37**	*i* P	Pn	11 09 29.1	-1.2
MOPA				*i* S	Sn	11 09 55.2	-12
LBTB	**Lobatse**	**3.59**	**284**	*eP*	Pn	11 09 38.9	+0.1
LBTB				*eS*	Sn	11 10 21.6	-0.4
LBTB				IAML		11 10 38.5	
	comp=Z,2.6nm,0.6s						
LBTB	**Lobatse**	**3.59**	**284**	*i* P	Pb	11 09 43.4	-2.8
LBTB				*i* S	Sn	11 10 19.9	-2.0
MUSN	**Musina, Limpop**	**3.64**	**6**	*i* P	Pn	11 09 31.3	-8.1
MUSN				*i* S	Sn	11 09 57.5	-26
BOSA	**Boshof**	**4.59**	**233**	*i* P	Pg	11 10 09.9	+0.2
BOSA				*i* S	Sg	11 11 06.5	-2.8
BLWY	**Bulawayo**	**5.81**	**352**	*i* P	Pn	11 10 00.2	-9.1
BLWY				*i* S	Sn	11 10 48.0	-29

*NNC **23** 11:23:43.0±3.4,40°.87N×80°.18E,h0km,mb3.5,mpv3.0,*
Error ellipse: s-maj=37.3km s-min=22.1km az=72.0
SOME 23 11:23:43.4,40°.87N×80°.02E,h5km,1C-1D,Southern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.33**	**350**	Pg	Pb	11 24 26.2	+0.3
	11nm,0.3s						
SHLS				Lg	Lg	11 24 57.0	
	18nm,0.5s						
SHLS	**Shalkode**	**2.33**	**350**	*eP*	Pb	11 24 26.2	+0.3
	6.7nm,0.2s						
SHLS				*eS*	Sg	11 24 57.0	-1.1
	18nm,0.5s						
UZB	**Uzynbulak**	**2.40**	**342**	Pg	Pb	11 24 27.8	+0.7
	5.0nm,0.5s						
UZB				Lg	Lg	11 24 59.8	
	5.9nm,0.5s						
UZB	**Uzynbulak**	**2.40**	**342**	*eP*	Pb	11 24 27.8	+0.7
	2.3nm,0.2s						
UZB				*eS*	Sg	11 24 59.8	-0.6
	5.9nm,0.5s						
PDGK	**Podgornoye**	**2.49**	**351**	⇑Pg	Pb	11 24 27.2	-1.5
	3.3nm,0.4s						
PDGK				⇓Lg	Lg	11 25 03.5	
	11nm,0.6s						
SATY	**Saty**	**2.50**	**332**	Pg	Pg	11 24 30.3	-0.9
	3.8nm,0.5s						
SATY				Lg	Lg	11 25 04.3	
	6.8nm,0.2s						
KPKS	**Kokpek**	**2.78**	**340**	Pg	Pb	11 24 34.8	+1.2
	0.2nm,0.1s						
KPKS				Lg	Lg	11 25 11.8	
	6.6nm,0.5s						

*IDC **23** 11:25:33.5±1.1,6°.07S×133°.62E,h0km,mb3.9/5,*
mbtmp4.1/10,ML4.1/5,Error ellipse: s-maj=33.2km
s-min=20.2km az=89.0
*NEIC **23** 11:25:35.0±2.4,6°.07S±0°.07×133°.65E±0°.09,h10km±1km,*
mb4.1/7,Error ellipse: s-maj=15.5km s-min=12.5km
az=82.0
*DJA **23** 11:25:35.0±0.2,6°.S±2°.×13°.4E±°,h10km,M4.5/15,*
mb4.5/15,mB5.2/6,MLv4.6/12,Mw(mB)4.5/6
ISC 23 11:25:34.5±0.6,6°.06S±0°.06×133°.68E±0°.06,h10km,n54,
σ1§52/55,mb4.0/9,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.38**	**1**	P	**Pn**	**11 26 15.6**	**+2.0**
SAUI	**Saumlaki**	**3.04**	**231**	P	**Pn**	**11 26 22.4**	**-0.2**
FAKI	**Fak Fak**	**3.43**	**335**		**Pn**	**11 26 28.7**	**+0.6**
FAKI	**Fak Fak**	**3.43**	**335**	P	**Pn**	**11 26 29.1**	**+1.0**
FAKI	**Fak Fak**	**3.43**	**335**	S	**Sn**	**11 27 06.3**	**-2.5**
FAKI	**Fak Fak**	**3.43**	**335**	P	**Pn**	**11 26 29.1**	**+1.0**
BNDI	**Bandanaira**	**4.05**	**292**	P	**Pn**	**11 26 39.3**	**+2.6**
BNDI	**Bandanaira**	**4.05**	**292**	S	**Sn**	**11 27 25.3**	**+1.1**
BNDI	**Bandanaira**	**4.05**	**292**	P	**Pn**	**11 26 38.6**	**+1.9**
RPNI	**Ransiki, Papua**	**4.55**	**6**	P	**Pn**	**11 26 47.3**	**+3.9**
BAKI	**Biak**	**5.41**	**27**	P	**Pn**	**11 26 56.6**	**+1.3**
	31nm,0.8s						
MSAI	**Masohi**	**5.45**	**299**	P	**Pn**	**11 26 57.6**	**+1.8**
	0.3nm2μm66nm,0.8s						
SWI	**Sorong**	**5.70**	**335**	P	**Pn**	**11 27 00.0**	**+0.7**
	39nm,0.5s						
AAI	**Ambon**	**5.95**	**293**	P	**Pn**	**11 27 04.1**	**+1.4**
DRS	**Darwin Rock St**	**6.90**	**203**	P	**Pn**	**11 27 19.7**	**+3.9**
NLAI	**Namlea**	**7.13**	**293**	P	**Pn**	**11 27 20.8**	**+1.9**
	0.2nm1μm40nm,0.9s						
MTN	**Manton Dam**	**7.19**	**200**		**Pn**	**11 27 21.8**	**+2.0**
JAY	**Jayapura**	**7.84**	**64**	Pn	**Pn**	**11 27 31.1**	**+2.3**
	0.9nm,0.3s,baz=181,slow=13,SNR=1.7						
JAY				Sn	**Sn**	**11 28 54.9**	**-2.8**
	0.7nm,0.3s,baz=270,slow=20,SNR=1.7						
	11nm,0.7s						
SANI	**Sanana**	**8.64**	**297**	P	**Pn**	**11 27 39.6**	**-0.1**
SANI	**Sanana**	**8.64**	**297**	P	**Pn**	**11 27 39.3**	**-0.4**
	23nm,0.6s						
SOEI	**Soe**	**10.02**	**248**	Pn	**Pn**	**11 27 59.2**	**+0.5**
SOEI	**Soe**	**10.02**	**248**	P	**Pn**	**11 27 59.5**	**+0.8**
	19nm,0.9s						
KNRA	**Kununurra**	**10.70**	**206**		**Pn**	**11 28 08.7**	**+0.7**
BATI	**Baumata**	**10.73**	**247**	Pn	**Pn**	**11 28 08.6**	**+0.2**
	0.9nm,0.3s,baz=0.0,slow=3.0,SNR=1.6						
	19nm,0.5s						
EDFI	**Ende, Flores**	**12.18**	**257**	P	**Pn**	**11 28 29.0**	**+0.6**
COEN	**Coen**	**12.21**	**131**	Pn	**Pn**	**11 28 28.0**	**-0.6**
COEN	**Coen**	**12.21**	**131**	P	**Pn**	**11 28 27.6**	**-1.0**
WB0	**Warramunga Arr**	**13.64**	**177**		**Pn**	**11 28 46.9**	**-1.4**
WRA	**Warramunga Arr**	**13.81**	**177**		**Pn**	**11 28 47.1**	**-3.4**
WRA	**Warramunga Arr**	**13.81**	**177**	Pn	**Pn**	**11 28 48.9**	**-1.7**
	1.7nm,0.3s,baz=358,slow=13,SNR=42						
WRA				Sn	Sn	11 31 13.2	-11
	1.5nm,0.3s,baz=354,slow=25,SNR=7.6						
	2.3nm,0.3s						
WR8	**Warramunga Arr**	**13.84**	**177**		**Pn**	**11 28 49.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.31**	**213**		**Pn**	**11 28 56.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.31**	**213**	Pn	**Pn**	**11 28 56.4**	**-0.9**
	0.5nm,0.3s,baz=26,slow=11,SNR=31						
FITZ				Sn	Sn	11 31 23.3	-13
	1.8nm,0.3s,baz=306,slow=19,SNR=7.5						
	1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.31**	**213**	P	**Pn**	**11 28 58.0**	**+0.7**
QIS	**Mount Isa**	**15.52**	**159**	P	**Pn**	**11 29 12.2**	**-1.4**
PLAI	**Plampang**	**16.00**	**259**	P	**Pn**	**11 29 20.1**	**+0.2**
PLAI	**Plampang**	**16.00**	**259**	P	**Pn**	**11 29 18.8**	**-1.1**
	19nm,1.3s						
AS31	**Alice Springs**	**17.50**	**179**	P	**Pn**	**11 29 38.6**	**-0.3**
ASAR	**Alice Springs**	**17.51**	**179**	P	**Pn**	**11 29 38.9**	**0.0**
ASAR	**Alice Springs**	**17.51**	**179**	P	**Pn**	**11 29 37.9**	**-1.0**
	1.2nm,0.3s,baz=356,slow=14,SNR=50						
ASAR				S	Sn	11 32 40.4	-14
	2.2nm,0.6s,baz=358,slow=27,SNR=8.6						
	2.2nm,0.4s						
FORT	**Forrest**	**25.15**	**191**	P	**P**	**11 30 59.6**	**-0.3**
FORT				IAmb	IAmb	11 31 10.3	
	comp=Z,4.5nm,0.8s						
BBOO	**Buckleboo**	**26.71**	**176**	P	**P**	**11 31 14.2**	**+0.1**
BBOO				IAmb	IAmb	11 31 36.7	
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**26.73**	**165**	P	**P**	**11 31 14.7**	**+0.4**
STKA				IAmb	IAmb	11 31 19.6	
	comp=Z,4.3nm,0.9s						
STKA	**Stephens Creek**	**26.73**	**165**	P	**P**	**11 31 15.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=329,slow=12,SNR=2.0						
	comp=Z,0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**42.59**	**5**	P	**P**	**11 33 29.5**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=165,slow=9.7,SNR=2.7						
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**69.50**	**325**	P	**P**	**11 36 43.5**	**+0.1**
MKAR	**Makanchi Array**	**69.50**	**325**	P	**P**	**11 36 44.7**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=110,slow=8.7,SNR=9.1						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**69.69**	**325**	P	**P**	**11 36 44.1**	**-0.4**
ZALV	**Zalesovo Beam**	**72.41**	**332**	P	**P**	**11 37 00.9**	**+0.1**
ZALV	**Zalesovo Beam**	**72.41**	**332**	P	**P**	**11 37 01.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=113,slow=6.3,SNR=4.8						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**73.67**	**327**	P	**P**	**11 37 08.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=120,slow=4.6,SNR=4.7						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**73.67**	**327**	P	**P**	**11 37 07.8**	**-0.6**
KURK				IAmb	IAmb	11 37 32.4	
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**11 38 04.2**	**-0.4**
QSPA				IAmb	IAmb	11 38 18.2	
	comp=Z,1.5nm,1.0s						
ABKAR	**Akbulak array**	**84.07**	**321**	P	**P**	**11 38 06.3**	**+0.7**

*CATAC **23** 11:27:25.6±0.8,13°.N±3°.×9°.0W±°,h8km±3km,M3.0/12,*
MLv3.0/12,Error ellipse: s-maj=8.5km s-min=6.5km
az=47.7,confirmed
*GCG **23** 11:27:26.4±0.7,13°.17N×90°.10W,h15km±7km,MD4.0*
*SNET **23** 11:27:27.4±2.6,13°.23N×90°.08W,h28km,ML2.8*
ISC 23 11:27:26.9±2.6,13°.1N±0°.1×90°.03W±0°.09,h29km,n30,
σ0§72/34,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.71**	**1**	P	**Pb**	**11 27 40.1**	**-0.7**
JAYA	**Jayaque - finc**	**0.77**	**47**	*eP*	**Pb**	**11 27 41.0**	**-0.9**
JAYA				*eS*	**Sb**	**11 27 52.9**	**+0.7**
JAYA	**Jayaque - finc**	**0.77**	**47**	*eP*	**Pb**	**11 27 40.9**	**-0.9**
JAYA				*eS*	**Sb**	**11 27 52.2**	**0.0**
JAYA	**Jayaque - finc**	**0.77**	**47**	P	**Pb**	**11 27 41.1**	**-0.9**
CEVE	**Cerro Verde**	**0.80**	**29**	*eP*	**Pb**	**11 27 41.8**	**-0.7**
CEVE				*eS*	**Sn**	**11 27 54.4**	**+0.8**
CEVE	**Cerro Verde**	**0.80**	**29**	P	**Pb**	**11 27 41.8**	**-0.7**
NUBE	**Las Nubes**	**0.81**	**17**	*eP*	**Pb**	**11 27 41.8**	**-0.8**
NUBE				*eS*	**Sb**	**11 27 53.1**	**-0.2**
NUBE	**Las Nubes**	**0.81**	**17**	P	**Pb**	**11 27 41.7**	**-0.9**
PMON	**Piamonte**	**0.91**	**50**	P	**Pn**	**11 27 43.2**	**-0.7**
PMON	**Piamonte**	**0.91**	**50**	S	**Sb**	**11 27 56.5**	**+0.5**
CEDA	**San Andres**	**0.91**	**42**	P	**Pn**	**11 27 43.1**	**-0.7**
BOQS	**Boqueron**	**0.95**	**50**	*eP*	**Pn**	**11 27 43.2**	**-1.2**
PANCS	**Alcalda de**	**0.96**	**60**	P	**Pn**	**11 27 44.2**	**-0.3**
LOMA	**Loma Larga**	**0.98**	**58**	P	**Pn**	**11 27 44.8**	**0.0**
LFRS	**El Faro**	**1.06**	**62**	*eP*	**Pn**	**11 27 45.1**	**-0.9**
UESV	**Universidad de**	**1.31**	**67**	P	**Pn**	**11 27 49.0**	**-0.3**
UESV	**Universidad de**	**1.31**	**67**	S	**Sn**	**11 28 05.3**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.39**	**65**	P	**Pn**	**11 27 50.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.39**	**65**	S	**Sn**	**11 28 08.9**	**+1.1**
MTO3	**Montecristo**	**1.42**	**27**	*eP*	**Pn**	**11 27 51.3**	**+0.3**
MTO3	**Montecristo**	**1.42**	**27**	P	**Pn**	**11 27 51.3**	**+0.3**
MTO3	**Montecristo**	**1.42**	**27**	S	**Sb**	**11 28 11.3**	**+0.5**
LLGN	**La Laguna**	**1.48**	**46**	P	**Pn**	**11 27 51.9**	**+0.3**
LLGN	**La Laguna**	**1.48**	**46**	S	**Sb**	**11 28 12.3**	**+0.1**
ESQI	**Esquipulas**	**1.57**	**25**	*eP*	**Pn**	**11 27 53.5**	**+0.4**
ESQI	**Esquipulas**	**1.57**	**25**	P	**Pn**	**11 27 53.5**	**+0.4**
ESQI	**Esquipulas**	**1.57**	**25**	S	**Sb**	**11 28 16.0**	**+1.0**
PACA	**Pacayal**	**1.70**	**78**	P	**Pn**	**11 27 56.1**	**+1.4**
PACA	**Pacayal**	**1.70**	**78**	S	**Sn**	**11 28 16.4**	**+0.9**
APG	**El Apazote**	**1.92**	**347**	*eP*	**Pn**	**11 27 58.0**	**+0.2**

*DJA **23** 11:34:41.3±0.5,3°.N±4°.×12°.9E±°,h10km,M4.4/13,mB4.9/2,*
mb4.6/7,MLv4.4/13,Mw(mB)4.2/2,MwMwp4.4/1,Mwp4.8/1
*NEIC **23** 11:34:45.9±1.5,2°.47N±0°.07×128°.74E±0°.08,h58km±8km,*
mb4.4/26,Error ellipse: s-maj=13.9km s-min=6.9km
az=57.0
*IDC **23** 11:34:50.3±8.6,2°.33N×128°.57E,h110km±85km,mb3.5/15,*
mbtmp3.9/15,MS3.6/17,Error ellipse: s-maj=30.4km
s-min=15.6km az=70.0
ISC 23 11:34:43.3±0.5,2°.48N±0°.06×128°.78E±0°.08,h35km,n85,
σ1§36/62,mb4.3/30,MS3.6/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**220**		**Pn**	**11 35 19.6**	**+2.0**
TNTI	**Ternate**	**2.21**	**220**	P	**Pn**	**11 35 19.5**	**+2.0**
SGSI	**Sangihe**	**3.46**	**290**	P	**Pn**	**11 35 35.8**	**+1.1**
SWI	**Sorong**	**4.14**	**143**	P	**Pn**	**11 35 43.7**	**-0.4**
KMSI	**Cibinong**	**5.16**	**249**	P	**Pn**	**11 35 59.3**	**+1.2**
SANI	**Sanana**	**5.30**	**212**	P	**Pn**	**11 36 01.4**	**+1.4**
	26nm,0.9s						
DAV	**Davao City (W)**	**5.56**	**325**	LR	LR	11 38 47.0	
	comp=Z,1μm,19.1s,baz=37,slow=42						
NLAI	**Namlea**	**5.93**	**197**	P	**Pn**	**11 36 09.9**	**+1.3**
	0.2nm2μm34nm,0.8s						
FAKI	**Fak Fak**	**6.39**	**147**	Pn	**Pn**	**11 36 16.7**	**+1.7**
FAKI	**Fak Fak**	**6.39**	**147**	P	**Pn**	**11 36 15.6**	**+0.6**
	0.2nm37nm,1.4s						
LUWI	**Luwuk**	**6.96**	**240**	Pn	**Pn**	**11 36 22.6**	**-0.2**
LUWI	**Luwuk**	**6.96**	**240**	P	**Pn**	**11 36 24.2

comp=Z,0.9nm,0.4s
NWAO Narrogin (SRO) 36.88 196 LR LR 11 59 59.2
comp=Z,92nm,18.6s,baz=83,slow=41
ARMA Armidale 39.32 148 P **P** **11 42 11.2 +1.9**
ARMA IAmb IAmb 11 42 14.6
comp=Z,11nm,1.2s
H11S3 WAKE ISLAND Hy 40.39 64 T T 12 25 28.9
baz=252,slow=18,SNR=19
H11S2 WAKE ISLAND Hy 40.40 64 T T 12 25 27.7
baz=252,slow=18,SNR=9.3
H11S1 WAKE ISLAND Hy 40.40 64 T T 12 25 28.3
baz=252,slow=18,SNR=8.1
LZDM Lanzhou Array 40.60 328 P **P** **11 42 19.8 -0.3**
comp=Z,0.8nm,0.3s,baz=123,slow=10,SNR=1.2
comp=Z,0.8nm,0.3s
LZH Lanzhou 40.62 328 *e*P **P** **11 42 18.3 -1.8**
LZH pP pP 11 42 30.9 +0.8
LZH pmax pmax
comp=Z,11nm,0.9s
H11N1 WAKE ISLAND Hy 40.97 62 T T 12 26 09.0
baz=250,slow=75,SNR=24
H11N2 WAKE ISLAND Hy 40.98 62 T T 12 26 11.1
baz=250,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 40.99 62 T T 12 26 11.6
baz=250,slow=75,SNR=15
HHC Hu-ho-hao-te 41.24 340 *e*P **P** **11 42 27.3 +2.2**
HHC pmax pmax
comp=Z,16nm,0.7s
SHL Shillong 42.26 306 **P** **11 42 33.2 -0.5**
SHL IAmb IAmb 11 42 35.1
comp=Z,10.0nm,0.8s
GTA Gaotai 45.22 328 *e*P **P** **11 42 58.3 +1.0**
GTA pmax pmax
comp=Z,4.0nm,1.0s
EVN Everest 47.38 306 **P** **11 43 13.9 -1.1**
SONM Songino Array 49.14 340 IAmb IAmb 11 43 31.0
comp=Z,2.3nm,1.2s
SONM Songino Array 49.14 340 P **P** **11 43 27.0 -0.7**
comp=Z,0.5nm,0.6s,baz=151,slow=9.2,SNR=2.9
comp=Z,0.5nm,0.5s
PETK Petropavlovsk- 55.84 21 P **P** **11 44 18.5 +1.4**
comp=Z,1.8nm,0.8s,baz=209,slow=10,SNR=5.7
PETK LR LR 12 08 25.9
comp=Z,16nm,19.7s,baz=186,slow=36
comp=Z,1.8nm,0.8s
YAK Yakutsk 59.41 0 LR LR 12 13 12.4
comp=Z,41nm,18.1s,baz=168,slow=39
MKAR Makanchi Array 59.74 325 P **P** **11 44 44.3 -0.4**
MKAR Makanchi Array 59.74 325 P **P** **11 44 43.9 -0.8**
comp=Z,1.5nm,0.6s,baz=116,slow=8.4,SNR=11
comp=Z,1.5nm,0.6s
MAKZ Makanchi 59.93 325 P **P** **11 44 45.6 -0.4**
MAKZ IAmb IAmb 11 44 57.5
comp=Z,6.5nm,1.1s
URZ Urewera 60.24 137 LR LR 12 11 28.2
comp=Z,93nm,18.9s,baz=322,slow=36
SHEM Shemya Is, Ala 62.52 29 LR LR 12 08 53.8
comp=Z,43nm,20.5s,baz=300,slow=33
ZALV Zalesovo Beam 62.63 332 P **P** **11 45 01.2 -2.8**
comp=Z,0.3nm,0.3s,baz=139,slow=11,SNR=1.5
comp=Z,0.3nm,0.3s
KURK Kurchatov 63.89 327 P **P** **11 45 11.9 -0.5**
KURK IAmb IAmb 11 45 20.9
comp=Z,2.8nm,0.7s
KURBB Kurchatov Arra 63.89 327 P **P** **11 45 11.1 -1.4**
comp=Z,1.8nm,0.6s,baz=125,slow=5.9,SNR=20
comp=Z,1.8nm,0.6s
NIUE Niue 63.90 113 P **P** **11 45 12.4 -0.7**
KK31 Karatay Array 65.54 317 P **P** **11 45 22.1 -1.3**
KK31 IAmb IAmb 11 46 02.8
comp=Z,6.3nm,1.4s
KKAR Karatay Array 65.54 317 P **P** **11 45 22.7 -0.7**
TIXI Tiksi 69.07 0 LR LR 12 15 55.1
comp=Z,70nm,21.1s,baz=198,slow=36
BVAR Borovoye Array 69.48 327 P **P** **11 45 46.9 -1.2**
comp=Z,2.1nm,0.8s,baz=120,slow=6.0,SNR=7.3
BVAR LR LR 12 17 45.2
comp=Z,73nm,18.1s,baz=113,slow=37
comp=Z,2.1nm,0.8s
AB31 Akbulak array 74.41 321 P **P** **11 46 16.4 -1.3**
ABKAR Akbulak array 74.41 321 P **P** **11 46 16.6 -1.1**
PPT2 Papeete2 82.78 108 *e*LR LR 12 12 50.8
comp=Z,77nm,26.0s
PPT2 *e*LR LR 12 13 09.7
comp=Z,57nm,25.5s
TBI Tubuai 83.41 114 *e*LR LR 12 13 24.2
comp=Z,751nm,34.8s
ILAR Eielson Array 85.34 25 P **P** **11 47 15.6 -0.9**
comp=Z,0.3nm,0.9s,baz=232,slow=5.2,SNR=5.2
comp=Z,0.3nm,0.9s
TAOE Nuku Hiva Isla 91.43 99 *e*LR LR 12 17 03.8
comp=Z,42nm,22.3s

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*IDC **23** 11:42:46.2±1.4, 9.°49S×112.°78E, h0km, mb4.0/10, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=62.7km s-min=15.7km az=52.0*
*DJA **23** 11:42:51.5±0.4, 9.°S±4.°×11.°3E±.°, h10km, M4.3/22, mb4.4/3, MLv4.2/22*
*NEIC **23** 11:42:53.2±1.2, 9.°42S±0.°08×113.°05E±0.°06, h49km±8km, mb4.1/19, Error ellipse: s-maj=11.3km s-min=9.3km az=176.0*
ISC 23 11:42:51.7±0.5, 9.°49S±0.°05×112.°99E±0.°04, h36km, n69, σ1°53/73, mb4.2/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.53**	**49**		**Pn**	**11 43 16.6**	**+0.1**
JAGI				Sn	**Sn**	11 43 34.4	-0.8
JAGI	**Jajag, Banyuwa**	**1.53**	**49**	P	**Pn**	**11 43 17.7**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.53**	**49**	P	**Pn**	**11 43 16.9**	**+0.4**
JAGI				S	**Sn**	**11 43 34.2**	**-0.9**
BLJI	**Banyuglugur**	**1.83**	**19**	P	**Pn**	**11 43 22.5**	**+1.9**
BLJI				S	**Sn**	**11 43 45.0**	**+2.5**
ABJI	**Asem Bagus**	**2.08**	**36**	P	**Pn**	**11 43 26.7**	**+2.6**
ABJI				S	**Sn**	**11 43 52.6**	**+3.8**
PCJI	**Pacitan**	**2.20**	**305**	P	**Pn**	**11 43 26.9**	**+1.2**
DNP	**Denpasar**	**2.34**	**70**	P	**Pn**	**11 43 29.8**	**+2.2**
NGJI	**Ngawi**	**2.59**	**324**	P	**Pn**	**11 43 33.9**	**+2.8**
SRBI	**Singaraja**	**2.60**	**58**	P	**Pn**	**11 43 33.5**	**+2.3**
GRJI	**Gresik**	**2.60**	**349**	P	**Pn**	**11 43 33.1**	**+1.8**
KMMI	**Kalianget**	**2.61**	**22**	P	**Pn**	**11 43 33.3**	**+2.0**
TBJI	**Tambak Boyo**	**2.88**	**337**	P	**Pn**	**11 43 36.9**	**+1.8**
UGM	**Wanagama**	**2.90**	**302**		**Pn**	**11 43 36.8**	**+1.5**
UGM	**Wanagama**	**2.90**	**302**	P	**Pn**	**11 43 37.2**	**+1.9**
UGM	**Wanagama**	**2.90**	**302**	S	**Sn**	**11 44 09.7**	**+0.8**
UGM	**Wanagama**	**2.90**	**302**	P	**Pn**	**11 43 36.7**	**+1.5**
YOGI	**Yogyakarta**	**3.14**	**302**	P	**Pn**	**11 43 40.8**	**+2.2**
SMRI	**Semarang**	**3.50**	**314**	Pn	**Pn**	**11 43 45.2**	**+1.6**
SMRI	**Semarang**	**3.50**	**314**	P	**Pn**	**11 43 45.7**	**+2.2**
BWJI	**Bawean**	**3.63**	**355**	P	**Pn**	**11 43 47.2**	**+1.9**
TWSI	**Taliwang, Sumb**	**3.92**	**79**	P	**Pn**	**11 43 51.6**	**+2.3**
KPJI	**Karang Pucung**	**4.55**	**298**	P	**Pn**	**11 44 00.0**	**+2.0**
PLAI	**Plampang**	**4.77**	**83**	P	**Pn**	**11 44 02.5**	**+1.4**
PLAI	**Plampang**	**4.77**	**83**	P	**Pn**	**11 44 03.5**	**+2.4**
BBJI	**Bungbulang**	**5.65**	**290**	P	**Pn**	**11 44 14.0**	**+0.8**
BBJI	**Bungbulang**	**5.65**	**290**	S	**Sn**	**11 45 17.5**	**+0.6**
CGJI	**Cibinong**	**7.77**	**291**	P	**Pn**	**11 44 44.0**	**+1.8**
GIRL	**Giralia**	**13.14**	**175**	Pn	**Pn**	**11 45 57.8**	**+2.0**
MBWA	**Marble Bar**	**13.30**	**152**	Pn	**Pn**	**11 45 59.3**	**+1.2**
MBWA	**Marble Bar**	**13.30**	**152**	P	**Pn**	**11 45 59.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**14.97**	**126**		**Pn**	**11 46 20.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.97**	**126**	Pn	**Pn**	**11 46 20.5**	**-0.2**
	0.3nm,0.3s,baz=312,slow=15,SNR=6.8						
FITZ				Sn	Sn	11 48 54.8	-11
	0.3nm,0.3s,baz=353,slow=19,SNR=3.7						
	1.2nm,0.6s						
COCO	**West Island**	**16.09**	**259**	P	**P**	**11 46 38.4**	**+0.1**
KNRA	**Kununurra**	**16.57**	**113**	Pn	**Pn**	**11 46 41.5**	**+0.1**
MEEK	**Meekatharra**	**17.87**	**163**	P	**P**	**11 46 59.7**	**+1.7**
KULM	**Kulim**	**19.15**	**320**	P	**P**	**11 47 09.4**	**-2.7**
KULM				IAmb	IAmb	11 47 19.2
	comp=Z,8.1nm,1.1s						
FAKI	**Fak Fak**	**20.22**	**72**	P	**P**	**11 47 22.7**	**-1.1**
WB0	**Warramunga Arr**	**23.07**	**119**	P	**P**	**11 47 54.3**	**0.0**
WRA	**Warramunga Arr**	**23.09**	**119**	P	**P**	**11 47 52.3**	**-2.2**
WRA	**Warramunga Arr**	**23.09**	**119**	P	**P**	**11 47 54.8**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=295,slow=12,SNR=23						
	comp=Z,2.4nm,0.8s						
WRAB	**Tennant Creek**	**23.10**	**119**	P	**P**	**11 47 55.1**	**+0.6**
WR8	**Warramunga Arr**	**23.23**	**119**	P	**P**	**11 47 55.9**	**0.0**
WR8				IAmb	IAmb	11 47 57.4
	comp=Z,4.6nm,0.8s						
AS31	**Alice Springs**	**24.46**	**128**		**P**	**11 48 09.1**	**+1.6**
AS31				IAmb	IAmb	11 48 09.8
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**24.46**	**128**	P	**P**	**11 48 08.4**	**+1.0**
ASAR	**Alice Springs**	**24.46**	**128**	P	**P**	**11 48 08.9**	**+1.4**
	comp=Z,4.5nm,0.6s,baz=302,slow=8.6,SNR=95						
	comp=Z,4.5nm,0.6s						
FORT	**Forrest**	**25.42**	**149**	P	**P**	**11 48 17.1**	**+1.1**
FORT				IAmb	IAmb	11 48 23.7
	comp=Z,10.0nm,1.1s						
COEN	**Coen**	**29.88**	**101**	P	**P**	**11 48 55.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.03**	**333**	P	**P**	**11 49 05.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.03**	**333**	P	**P**	**11 49 06.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=153,slow=9.8,SNR=4.8						
	comp=Z,0.3nm,0.4s						
BBOO	**Buckleboo**	**31.50**	**141**	P	**P**	**11 49 10.2**	**-0.1**
BBOO				IAmb	IAmb	11 49 20.7
	comp=Z,3.4nm,1.1s						
STKA	**Stephens Creek**	**34.63**	**134**	P	**P**	**11 49 39.1**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=311,slow=9.6,SNR=10.0						
	comp=Z,2.4nm,0.6s						
EIDS	**Eidsvold**	**39.45**	**119**	P	**P**	**11 50 17.8**	**-0.9**
EIDS				IAmb	IAmb	11 50 34.4
	comp=Z,4.0nm,0.9s						
ARMA	**Armidale**	**41.58**	**126**	P	**P**	**11 50 35.1**	**-1.2**
ARMA				IAmb	IAmb	11 51 02.3
	comp=Z,5.0nm,1.0s						
EVN	**Everest**	**45.02**	**327**	P	**P**	**11 51 03.9**	**-0.8**
EVN				IAmb	IAmb	11 51 24.9
	comp=Z,3.4nm,1.1s						
KSRS	**Korea Array**	**48.75**	**16**	P	**P**	**11 51 34.3**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=227,slow=7.1,SNR=2.9						
	comp=Z,0.6nm,0.6s						
ULN	**Ulaanbaatar**	**57.34**	**355**	P	**P**	**11 52 35.7**	**-0.6**
SONM	**Songino Array**	**57.37**	**355**	P	**P**	**11 52 36.3**	**-0.2**
SONM				IAmb	IAmb	11 52 37.2
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**57.37**	**355**	P	**P**	**11 52 36.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=177,slow=9.7,SNR=3.8						
	comp=Z,0.6nm,0.4s						
HILR	**Hailar Array B**	**59.09**	**5**	P	**P**	**11 52 47.9**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=190,slow=7.3,SNR=2.7						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**62.36**	**337**	P	**P**	**11 53 09.3**	**-1.4**
MKAR	**Makanchi Array**	**62.36**	**337**	P	**P**	**11 53 09.0**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=147,slow=7.2,SNR=12						
	comp=Z,1.2nm,0.5s						
ZAA0	**Zalesovo Array**	**67.54**	**342**	P	**P**	**11 53 43.6**	**-0.5**
ZALV	**Zalesovo Beam**	**67.54**	**342**	P	**P**	**11 53 43.2**	**-0.9**
ZALV	**Zalesovo Beam**	**67.54**	**342**	P	**P**	**11 53 43.6**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=144,slow=4.7,SNR=8.4						
	comp=Z,2.1nm,0.5s						
VNDA	**Vanda**	**72.48**	**170**	P	**P**	**11 54 14.2**	**0.0**
AB31	**Akbulak array**	**74.64**	**327**	P	**P**	**11 54 26.3**	**-0.9**
AB31				IAmb	IAmb	11 54 29.0
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**74.64**	**327**	P	**P**	**11 54 24.9**	**-2.4**
QSPA	**South Pole Qui**	**80.52**	**180**	P	**P**	**11 54 59.0**	**-1.0**
QSPA				IAmb	IAmb	11 55 04.5
	comp=Z,2.2nm,1.1s						
BRTR	**Keskin Array B**	**87.91**	**311**	P	**P**	**11 55 38.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=152,slow=6.5,SNR=2.6						
	comp=Z,0.6nm,0.7s						

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*SOME **23** 11:48:13.6, 42.°32N×82.°47E, h10km*
*NNC **23** 11:48:14.4±2.6, 42.°24N×82.°34E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=20.1km s-min=12.7km az=160.0*
ISC 23 11:48:14.0±3.0, 42.°4N±0.°2×82.°47E±0.°10, h10km, n8, σ1°83/11, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.34**	**290**	*e*P	**Pn**	**11 48 53.1**	**+0.4**
	5.3nm,0.2s						
SHLS				*e*S	**Sn**	**11 49 21.6**	**+0.1**
	152nm,0.6s						
PDGK	**Podgornoye**	**2.38**	**294**	⇑Pg	**Pb**	**11 48 58.2**	**+1.1**
	14nm,0.8s						
PDGK				⇑Lg	Lg	11 49 31.2
	92nm,1.0s						
SATY	**Saty**	**3.06**	**284**	Pg	**Pb**	**11 49 08.5**	**-0.2**
	2.4nm,0.1s						
SATY				Lg	Lg	11 49 48.7
	43nm,0.6s						
KNOS	**Konyrlen**	**3.10**	**310**	Pg	**Pg**	**11 49 12.0**	**-1.4**
	3.5nm,0.7s						
KNOS				Lg	Lg	11 49 53.6
	20nm,0.8s						
ARXS	**Arharly**	**3.84**	**300**	Pg	**Pb**	**11 49 24.7**	**+2.7**
	2.0nm,0.5s						
ARXS				Lg	Lg	11 50 16.0
	8.4nm,0.6s						
ARXS	**Arharly**	**3.84**	**300**	*e*P	**Pb**	**11 49 24.6**	**+2.7**
ARXS				*e*S	**Sg**	**11 50 15.7**	**-1.7**
MK31	**Makanchi Array**	**4.40**	**358**	⇑Pg	**Pg**	**11 49 37.3**	**-0.9**
	3.6nm,0.9s,baz=181,slow=17,SNR=4.1						
MK31				⇑Lg	Lg	11 50 37.9
	14nm,0.8s,baz=177,slow=29,SNR=5.2						
ZSN	**Zaisan**	**5.33**	**18**	*e*P	**Pg**	**11 49 54.0**	**-2.1**
	2.0nm,0.1s						
ZSN				*e*S	**Sg**	**11 51 05.8**	**+0.6**
	14nm,0.6s						

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*IDC **23** 11:51:22.7±2.9, 27.°81N×140.°00E, h500km±41km, mb3.0/6, mbtmp3.8/7, Error ellipse: s-maj=80.4km s-min=13.4km az=75.0*
ISC 23 11:51:22.5±1.9, 27.°8N±0.°2×140.°0E±0.°5, h500km, n7, σ0°28/7, mb3.5/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.84**	**350**	P	**P**	**11 53 27.4**	**-0.1**
	0.6nm,0.3s,baz=167,slow=9.7,SNR=5.4						
WRA	**Warramunga Arr**	**47.79**	**187**	P	**P**	**11 59 13.8**	**-0.2**
	0.9nm,0.3s,baz=5.0,slow=7.5,SNR=18						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**11 59 19.1**	**-0.3**
	0.5nm,0.7s,baz=96,slow=10.0,SNR=3.0						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**51.17**	**314**	P	**P**	**11 59 38.4**	**-0.2**
	0.8nm,0.4s,baz=91,slow=7.9,SNR=10						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**51.52**	**187**	P	**P**	**11 59 41.6**	**+0.1**
	0.3nm,0.5s,baz=5.4,slow=6.3,SNR=15						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**56.22**	**317**	P	**P**	**12 00 14.8**	**+0.4**
	1.3nm,0.4s,baz=84,slow=7.4,SNR=6.6						
	1.3nm,0.4s						
FINES	**FINESS Array B**	**76.45**	**333**	P	**P**	**12 02 19.9**	**0.0**
	2.0nm,0.8s,baz=64,slow=5.8,SNR=6.9						
	2.0nm,0.8s						

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*IDC **23** 11:56:35.1±1.0, 2.°60S×138.°29E, h0km, mb3.8/6, mbtmp3.7/8, ML3.4/2, MS3.4/1, Error ellipse: s-maj=25.4km s-min=16.8km az=10.0*
ISC 23 11:56:38.7±1.0, 2.°6S±0.°2×138.°6E±0.°1, h32km, n9, σ0°78/8, mb3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.15**	**87**	Pn	**Pb**	**11 57 16.9**	**0.0**
	2.6nm,0.3s,baz=225,slow=12,SNR=13						
JAY				Lg	Lg	11 57 51.5
	1.8nm,0.3s,baz=348,slow=19,SNR=1.9						
	15nm,0.5s						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**P**	**12 00 43.4**	**0.0**
	0.2nm,0.3s,baz=13,slow=12,SNR=5.7						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**21.38**	**192**	P	**P**	**12 01 23.7**	**0.0**
	0.9nm,0.6s,baz=20,slow=11,SNR=14						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.27**	**300**	P	**P**	**12 04 45.6**	**-0.2**
	0.5nm,0.5s,baz=114,slow=9.0,SNR=2.4						
	0.5nm,0.5s						
LZDM	**Lanzhou Array**	**50.34**	**323**	LR	LR	12 25 02.9
	comp=Z,38nm,21.5s,baz=55,slow=34						
MKAR	**Makanchi Array**	**69.64**	**322**	P	**P**	**12 07 45.8**	**+0.7**
	1.2nm,0.6s,baz=112,slow=6.9,SNR=9.4						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**71.80**	**330**	P	**P**	**12 07 57.4**	**-0.7**
	0.4nm,0.4s,baz=127,slow=6.1,SNR=1.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**12 08 08.2**	**-0.5**
	0.3nm,0.6s,baz=116,slow=6.4,SNR=4.4						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**79.17**	**325**	P	**P**	**12 08 41.7**	**+1.3**
	1.1nm,0.6s,baz=122,slow=7.2,SNR=3.3						
	1.1nm,0.6s						

VIE 23 11:59:16.4±0.2, 47.°23N×15.°59E, h0km, mb0.6/2, ml1.0/2, Error ellipse: s-maj=2.3km s-min=1.6km az=153.0 2 km WNW of Weiz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.05**	**296**	*i* Pg	Pg	11 59 17.6	+0.1
	5.4nm,0.1s						
ARSA				*i* Sg	Sg	11 59 18.2	+0.1
	133nm,0.3s						
SOKA	**Soboth**	**0.67**	**215**	*i* Pg	Pg	11 59 29.6	+0.4
	0.1nm,0.0s						
SOKA				*e*Sg	Sg	11 59 38.2	+0.3
	0.9nm,0.2s						

LJU 23 11:59:36.2, 46.°05N×13.°64E, h0km, ML0.4, 4C, Explosion, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABO	**M.te Sabotino**	**0.08**	**202**	⇑*e*Pg	Pg	11 59 37.3	-0.3
DRE	**Drenchia**	**0.12**	**0**	⇑*e*Pg	Pg	11 59 38.2	-0.3
VOJS	**Vojsko**	**0.17**	**96**	⇑*i*Pg	Pg	11 59 39.6	+0.1
VOJS				IAML		11 59 43.7	
	comp=Z,1.6nm,0.1s						
CADS	**Cadrg**	**0.19**	**20**	⇑*i*Pg	Pg	11 59 39.7	-0.1
CADS				*i* Sg	Sg	11 59 43.2	+0.9
CADS				IAML		11 59 44.5	
	comp=Z,9.0nm,0.2s						
VINO	**Villanova**	**0.32**	**309**	*e*Pg	Pg	11 59 42.7	+0.2
BAD	**Bernadia**	**0.33**	**304**	*e*Pg	Pg	11 59 42.6	0.0

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*NEIC **23** 12:02:07.4±1.2, 19.°36N±0.°01×155.°06W±0.°02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.5km az=308.0*
HVO 23 12:02:06.8±0.8, 19.°37N±0.°02×155.°05W±0.°01, h8km±2km, ML2.7/44, ML2.8/36(NEIC), Error ellipse: s-maj=2.8km s-min=0.7km az=148.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**282**		Pg	12 02 08.9	+0.3
JCUZ					Sg	12 02 10.5	+0.6
NPOC	**North of Pu'u**	**0.06**	**288**		Pg	12 02 09.1	+0.4
NPOC					Sg	12 02 10.7	+0.6
JOKA	**Jonika Flow**	**0.07**	**35**		Pg	12 02 09.0	+0.2
JOKA				IAML		12 02 10.9	
	comp=E,6μm,0.5s						
STCH	**Steam Cracks**	**0.07**	**279**		Pg	12 02 09.2	+0.4
STCH				IAML		12 02 11.3	
	comp=N,6μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**273**		Pg	12 02 09.8	+0.4
PUH	**Pauahi**	**0.16**	**270**		Pg	12 02 10.5	+0.4
BYL	**Byron's Ledge**	**0.20**	**281**		Pg	12 02 11.2	+0.3
HATHI	**Halema'uma'u T**	**0.21**	**284**		Pg	12 02 11.2	+0.2
HATHI				IAML		12 02 15.7	
	comp=N,2μm,0.4s						
KKO	**Keanakako'i**	**0.21**	**277**		Pg	12 02 11.3	+0.3
KKO					Sg	12 02 14.5	+0.6
RIM	**Rim**	**0.21**	**276**		Pg	12 02 11.4	+0.3
RIM					Sg	12 02 14.8	+0.7
SBLHI	**Steaming Bluff**	**0.21**	**284**		Pg	12 02 11.3	+0.1
SBLHI					Sg	12 02 14.4	+0.3
UWB	**Uwekahuna Bluf**	**0.22**	**283**		Pg	12 02 11.4	+0.1
UWB					Sg	12 02 15.4	+1.0
OBL	**Observatory Le**	**0.23**	**281**		Pg	12 02 11.6	+0.2
OBL					Sg	12 02 15.1	+0.6
SDHHI	**Sand Hill**	**0.23**	**274**		Pg	12 02 11.7	+0.2
SDHHI					Sg	12 02 15.6	+0.9
RSD	**Rainshed**	**0.23**	**292**		Pg	12 02 11.9	+0.4
RSD				IAML		12 02 17.6	
	comp=N,1μm,0.2s						
RSD				IAML		12 02 17.8	
	comp=E,2μm,0.3s						
UWE	**Uwekahuna**	**0.23**	**282**		Pg	12 02 11.7	+0.1
UWE				IAML		12 02 18.2	
	comp=E,3μm,0.2s						
UWE				IAML		12 02 18.8	
	comp=N,2μm,0.2s						
WRMHI	**West Rim**	**0.24**	**278**		Pg	12 02 11.8	+0.1
WRMHI					Sg	12 02 15.5	+0.6
HLP	**Hilina Pali**	**0.26**	**253**		Pg	12 02 12.3	+0.4
HLP				IAML		12 02 18.3	
	comp=E,2μm,0.1s						
MLH	**Mauna Loa**	**0.34**	**291**		Pg	12 02 13.9	+0.4
MLH				IAML		12 02 20.1	
	comp=E,1μm,0.2s						
MLH				IAML		12 02 22.7	
	comp=N,2μm,0.1s						
HTC	**Hot Caves**	**0.36**	**248**		Pg	12 02 14.4	+0.6
AIN	**Ainahou**	**0.39**	**270**		Pg	12 02 15.1	+0.7
AIN				Sg	Sb	12 02 22.0	-0.2
HMH	**Humu'ula Sheep**	**0.47**	**299**		Pg	12 02 16.5	+0.5
MWH	**Mokuaweoweo**	**0.53**	**282**		Pg	12 02 17.1	-0.1
MWH				IAML		12 02 33.1	
	comp=N,801nm,0.7s						
KHU	**Kahuku**	**0.55**	**257**		Pg	12 02 17.2	-0.3
HPO	**Honuapo**	**0.56**	**239**		Sb	12 02 26.1	-0.8
ALEP	**Alea Permanent**	**0.59**	**287**		Pg	12 02 17.6	-0.6
ALEP					Sg	12 02 26.7	+0.7
POHA	**Pohakuloa**	**0.59**	**310**		Pg	12 02 18.0	-0.4
POHA				IAML		12 02 28.1	
	comp=N,717nm,0.3s						
POHA				IAML		12 02 36.3	
	comp=N,714nm,0.5s						
POHA	**Pohakuloa**	**0.59**	**310**		Sg	12 02 25.8	-0.4

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*NNC **23** 12:05:05.2±0.7, 44.°49N×78.°57E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=7.6km s-min=4.4km az=135.0*
*SOME **23** 12:05:08.4, 44.°42N×78.°52E, h10km*
ISC 23 12:05:07.4±1.3, 44.°60N±0.°06×78.°44E±0.°05, h31km±14km, n8, σ0°93/16, 2C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.58**	**228**	P	**Pb**	**12 05 18.9**	**-0.3**
ARXS				S	**Sb**	**12 05 26.8**	**-0.5**
ARXS	**Arharly**	**0.58**	**228**	*e*P	**Pb**	**12 05 19.2**	**-0.1**
ARXS				*e*S	**Sb**	**12 05 27.0**	**-0.3**
KAPS	**Kapalarasan**	**0.95**	**43**	P	**Pn**	**12 05 24.6**	**0.0**
	4.7nm,0.0s						
KAPS				S	**Sn**	**12 05 36.6**	**-0.5**
	8.9nm,0.1s						
SATY	**Saty**	**1.54**	**181**	P	**Pn**	**12 05 32.6**	**-0.3**
	1.9nm,0.1s						
SATY				S	**Sn**	**12 05 50.7**	**-1.2**
	5.6nm,0

0.6nm,0.9s
MKAR Makanchi Array 69.43 323 P P 12 17 25.8 +0.1
0.5nm,0.6s,baz=120,slow=7.2,SNR=3.9
0.5nm,0.6s

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*IDC **23** 12:07:09.3±6.0,37°.33N×134°.66E,h113km±76km,mb3.2/3,*
mbtmp3.5/5,ML3.2/2,Error ellipse: s-maj=88.1km
s-min=26.1km az=63.0
*JMA **23** 12:07:10.7±0.2,35°.3N±0°.4×141°.2E±0°.9,h34km±2km,*
MV2.9/32,E OFF BOSO PENINSULA
ISC 23 12:07:12.1±1.4,35°.30N±0°.09×141°.15E±0°.10,h35km,n12,
σ1ˢ33/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**192**	*i* P	**Pn**	**12 07 23.1**	**-1.4**
BSO1				X		12 07 31.8	
JSMT	**Sammumatsuo**	**0.67**	**301**	*e*P	**Pn**	**12 07 24.6**	**-0.5**
KTR	**Katsuura**	**0.70**	**258**	*e*S	**Sn**	**12 07 34.8**	**-0.3**
BSO3	**Boso 3**	**0.72**	**227**	*i* P	**Pn**	**12 07 24.8**	**-0.8**
BSO3				*e*X		12 07 36.2	
BSO4	**Boso 4**	**0.73**	**245**	P	**Pn**	**12 07 25.5**	**-0.4**
BSO4				*e*X		12 07 35.6	
JKUC	**kamogawauchiur**	**0.79**	**260**	P	**Pn**	**12 07 26.0**	**-0.8**
JKUC				S	**Sn**	**12 07 37.2**	**-0.2**
JYT	**Yasato**	**1.21**	**320**	*e*P	**Pn**	**12 07 31.4**	**-1.1**
JIM2	**Oshima 3**	**1.53**	**248**	*e*P	**Pn**	**12 07 34.8**	**-2.1**
MJAR	**Matsushiro Arr**	**2.69**	**298**	P	**Pn**	**12 07 55.3**	**+2.4**
	0.3nm,0.3s,baz=270,slow=10,SNR=4.9						
	1.3nm,0.4s						
ASAJ	**Asahikawa**	**8.88**	**7**	P	**Pn**	**12 09 17.1**	**-0.7**
	0.7nm,0.3s,baz=226,slow=12,SNR=8.8						
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**55.32**	**188**	P	**P**	**12 16 42.3**	**0.0**
	0.7nm,0.4s,baz=2.9,slow=7.2,SNR=22						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**59.04**	**188**	P	**P**	**12 17 10.0**	**+1.4**
	0.2nm,0.6s,baz=18,slow=11,SNR=2.3						
	0.2nm,0.6s						

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*CATAC **23** 12:29:13.8±0.7,7°N±2°×7°3W±°,h160km±5km,M4.8/11,*
mb4.6/2,mB5.2/3,MLv4.9/11,Mw(mB)4.5/3,Error ellipse:
s-maj=12.2km s-min=5.3km az=91.9,confirmed
*NEIC **23** 12:29:14.8±1.9,6°.83N±0°.06×73°.00W±0°.07,h151km±5km,*
mb4.4/140,Error ellipse: s-maj=10.0km s-min=7.7km
az=123.0
*RSNC **23** 12:29:14.8±0.0,7°N±1°×7°3W±°,h153km±2km,M4.7,*
mB5.2,mb5.1,ML4.3,Mw4.4,Mw(mB)4.5
*IDC **23** 12:29:14.9±1.0,6°.79N×72°.96W,h160km±9km,mb3.8/10,*
mbtmp4.3/15,Error ellipse: s-maj=14.0km s-min=10.8km
az=129.0
ISC 23 12:29:14.1±0.5,6°.83N±0°.03×73°.10W±0°.04,h154km±5km,
n212,σ1ˢ46/228,mb4.4/69,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**200**	P	**Pn**	**12 29 35.9**	**+0.6**
BARC				S	**Sn**	**12 29 51.7**	**+0.2**
PAMC	**Pamplona, Colo**	**0.64**	**38**	P	**Pn**	**12 29 38.7**	**+1.4**
PAMC				S	**Sn**	**12 29 55.7**	**+0.7**
BRJC	**Barrancabermej**	**0.66**	**283**	P	**Pn**	**12 29 37.5**	**+0.7**
BRJC				S	**Sn**	**12 29 54.5**	**+0.4**
RUSC	**La Rusia**	**0.93**	**179**		**Pn**	**12 29 39.7**	**+0.4**
RUSC	**La Rusia**	**0.93**	**179**	P	**Pn**	**12 29 39.7**	**+0.4**
RUSC				S	**Sn**	**12 29 58.8**	**+0.2**
RUSC	**La Rusia**	**0.93**	**179**	P	**Pn**	**12 29 39.7**	**+0.4**
RUSC				S	**Sn**	**12 29 58.1**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P	**Pn**	**12 29 42.2**	**-0.6**
PTBC				S	**Sn**	**12 30 03.5**	**-1.2**
OCAC	**Ocana**	**1.42**	**351**	P	**Pn**	**12 29 43.9**	**+0.6**
OCAC				S	**Sn**	**12 30 05.7**	**-0.1**
SPBC	**San Pablo de B**	**1.52**	**220**	P	**Pn**	**12 29 44.5**	**+0.2**
SPBC				S	**Sn**	**12 30 06.6**	**-0.8**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	P	**Pn**	**12 29 47.8**	**-0.2**
ZARC				S	**Sn**	**12 30 13.3**	**-0.7**
ROSC	**El Rosal**	**2.32**	**212**		**Pn**	**12 29 55.5**	**+1.9**
ROSC				Sn	**Sn**	**12 30 24.1**	**0.0**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**12 29 55.5**	**+1.9**
	3μm,0.3s,baz=302,slow=16,SNR=812						
ROSC				S	**Sn**	**12 30 22.7**	**-1.4**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**12 29 55.3**	**+1.6**
	2μm,0.4s,baz=13,slow=22,SNR=12						
ROSC				S	**Sn**	**12 30 24.4**	**+0.3**
CVER	**Cruz Verde, Cu**	**2.49**	**203**	P	**Pn**	**12 29 57.2**	**+1.4**
CVER				S	**Sn**	**12 30 28.7**	**+0.8**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**12 29 55.5**	**-0.2**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**12 29 55.6**	**-0.2**
HELC				S	**Sn**	**12 30 26.1**	**-1.7**
MEDEC	**Medelln, Ant**	**2.54**	**258**	P	**Pn**	**12 29 56.3**	**+0.2**
UREC	**San Jos de Ur**	**2.58**	**291**	P	**Pn**	**12 29 55.4**	**-1.1**
UREC				S	**Sn**	**12 30 26.9**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	**Pn**	**12 29 59.8**	**+0.7**
GUY2C				S	**Sn**	**12 30 33.5**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.78**	**160**	P	**Pn**	**12 29 58.9**	**-0.1**
PTGC				S	**Sn**	**12 30 32.4**	**-1.3**
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	**Pn**	**12 30 03.1**	**+0.6**
CBOC				S	**Sn**	**12 30 39.6**	**-0.3**
DBBC	**Dabeiba**	**3.10**	**274**	P	**Pn**	**12 30 03.2**	**+0.3**
DBBC				S	**Sn**	**12 30 37.8**	**-2.9**
SDV	**Santo Domingo**	**3.18**	**50**		**Pn**	**12 30 05.4**	**+1.2**
SDV				Sn	**Sn**	**12 30 41.8**	**-1.1**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**12 30 05.4**	**+1.2**
	263nm,0.3s,baz=199,slow=4.1,SNR=319						
SDV				S	**Sn**	**12 30 42.7**	**-0.3**
	2μm,0.4s,baz=57,slow=22,SNR=48						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**12 30 05.3**	**+1.1**
SDV				S	**Sn**	**12 30 42.1**	**-0.9**
ARGC	**Ariguani, Magd**	**3.22**	**339**	P	**Pn**	**12 30 05.2**	**+0.8**
ARGC				S	**Sn**	**12 30 43.4**	**-0.1**
PRAC	**Prado**	**3.57**	**210**	P	**Pn**	**12 30 08.8**	**-0.3**
PRAC				S	**Sn**	**12 30 52.6**	**+0.9**
PRAC	**Prado**	**3.57**	**210**	P	**Pn**	**12 30 08.7**	**-0.3**
PRAC				S	**Sn**	**12 30 51.1**	**-0.5**
ORTC	**Ortega, Tolima**	**3.60**	**217**	P	**Pn**	**12 30 09.4**	**0.0**
ORTC				S	**Sn**	**12 30 53.0**	**+0.6**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**12 30 09.7**	**+0.2**
APAC				S	**Sn**	**12 30 52.8**	**+0.3**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**12 30 09.5**	**-0.9**
SJCC				S	**Sn**	**12 30 51.3**	**-2.8**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**12 30 09.5**	**-0.9**
SJCC				S	**Sn**	**12 30 50.9**	**-3.2**
URMC	**La Uribe, Meta**	**3.78**	**200**	P	**Pn**	**12 30 12.1**	**+0.3**
URMC				S	**Sn**	**12 30 56.3**	**-0.2**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**12 30 16.0**	**-0.8**
CRJC				S	**Sn**	**12 31 02.5**	**-3.1**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	**Pn**	**12 30 17.9**	**-0.6**
YOTC				S	**Sn**	**12 31 09.0**	**+0.4**
SMRC	**Santa Marta, M**	**4.45**	**346**		**Pn**	**12 30 20.4**	**-0.1**
SMRC	**Santa Marta, M**	**4.45**	**346**	P	**Pn**	**12 30 20.3**	**-0.1**
SMRC				S	**Sn**	**12 31 09.0**	**-3.0**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**12 30 22.4**	**-1.1**
PTAC				S	**Sn**	**12 31 15.2**	**-2.4**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**12 30 22.5**	**-1.4**
MACC				S	**Sn**	**12 31 14.9**	**-3.4**
BETC	**Betania**	**4.74**	**210**	P	**Pn**	**12 30 23.5**	**-0.7**
BETC				S	**Sn**	**12 31 15.4**	**-3.5**
URI	**Uribia**	**4.96**	**13**	P	**Pn**	**12 30 26.1**	**-1.0**
URI				S	**Sn**	**12 31 21.1**	**-3.0**
URIC	**Uribia, Colomb**	**4.96**	**13**	P	**Pn**	**12 30 26.1**	**-1.0**
URIC				S	**Sn**	**12 31 20.2**	**-4.0**
BAUV	**El Baul**	**5.43**	**67**		**Pn**	**12 30 32.0**	**-1.3**
BAUV				Sn	**Sn**	**12 31 30.5**	**-4.7**
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**12 30 35.1**	**-0.1**
	3μm237nm,0.7s						
POPC				S	**Sn**	**12 31 34.4**	**-4.2**
	3μm237nm,0.7s						
FLOC	**Florencia**	**5.80**	**206**		**Pn**	**12 30 37.9**	**-0.4**
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**12 30 37.9**	**-0.4**
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**12 30 37.5**	**-0.8**
	6μm457nm,1.0s						
FLOC				S	**Sn**	**12 31 42.1**	**-2.1**
	6μm457nm,1.0s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**12 30 44.0**	**-1.2**
GR1C				S	**Sn**	**12 31 53.7**	**-2.8**
CRUC	**La Cruz**	**6.49**	**216**	P	**Pn**	**12 30 50.8**	**+3.1**
CRUC				S	**Sn**	**12 32 01.6**	**+0.6**
GCUF	**Volcan Galeras**	**6.99**	**217**	P	**Pn**	**12 30 55.8**	**+1.2**
	1μm112nm,0.5s						
BCIP	**Isla Barro Col**	**7.07**	**290**	P	**Pn**	**12 30 53.3**	**-1.8**
	55nm,0.8s						
BCIP				S	**Sn**	**12 32 12.1**	**-2.3**
	55nm,0.8s						
TULM	**Tulcn-Chalpat**	**7.67**	**218**	P	**Pn**	**12 31 05.1**	**+1.5**
	2μm210nm,0.9s						
BONI	**La Bonita**	**7.72**	**215**	P	**Pn**	**12 31 04.9**	**+0.8**
	1μm154nm,0.7s						
CUSE	**Cuicocha Este**	**8.36**	**219**	P	**Pn**	**12 31 15.6**	**+2.8**
OTAV	**Otavalo**	**8.45**	**219**		**Pn**	**12 31 13.4**	**-0.6**
OTAV	**Otavalo**	**8.45**	**219**	P	**Pn**	**12 31 13.4**	**-0.6**
	43nm,0.8s						
PAC1	**Pacto, Paraso**	**8.65**	**221**	P	**Pn**	**12 31 14.0**	**-2.3**
SLOR	**San Lorenzo -**	**9.24**	**216**		**Pn**	**12 31 25.3**	**+0.7**
BRU2	**Volcan**	**9.70**	**282**		**Pn**	**12 31 31.5**	**+1.1**
COHC	**Cochancay**	**11.09**	**214**		**Pn**	**12 31 49.3**	**+0.8**
HOJ	**Hope**	**11.66**	**343**	*i* P	**P**	**12 32 00.1**	**-3.0**
GWJ	**Greenwich**	**11.72**	**343**	*i* P	**Pn**	**12 31 59.9**	**+3.1**
STH	**Stony Hill**	**11.75**	**342**	*i* P	**Pn**	**12 31 59.6**	**+2.5**
MCJ	**Malvern**	**11.90**	**338**	*i* P	**Pn**	**12 32 01.1**	**+2.0**
SOCE	**Pocosol**	**11.93**	**288**		**Pn**	**12 32 01.2**	**+1.7**
MTDJ	**Mount Denham**	**12.13**	**340**	*i* P	**P**	**12 32 05.4**	**-2.9**
MTDJ				*i* S	Sn	12 34 06.9	-9.4
MTDJ	**Mount Denham**	**12.13**	**340**	*e*P	**Pn**	**12 32 04.0**	**+1.9**
SDDR	**Presa de Saban**	**12.21**	**8**		**Pn**	**12 32 02.6**	**-0.4**
JTS	**Las Juntas de**	**12.22**	**287**		**Pn**	**12 32 05.6**	**+2.4**
JTS	**Las Juntas de**	**12.22**	**287**	P	**Pn**	**12 32 06.6**	**+3.4**
	13nm,0.9s,baz=288,slow=3.2,SNR=18						
DR12	**Loma Pena Alta**	**12.43**	**17**		**Pn**	**12 32 04.0**	**-1.9**
CRPR	**Cabo Rojo, PR**	**12.55**	**27**	Pn	**Pn**	**12 32 05.5**	**-2.0**
CELP	**Cerrillos**	**12.86**	**29**		**Pn**	**12 32 09.0**	**-2.4**
AOPR	**Arecibo Observ**	**13.01**	**28**		**Pn**	**12 32 12.6**	**-0.8**
PDPR	**Patillas Dam,**	**13.09**	**31**		**Pn**	**12 32 13.1**	**-1.2**
SJG	**San Juan**	**13.10**	**30**		**Pn**	**12 32 13.8**	**-0.7**
SJG	**San Juan**	**13.10**	**30**	P	**Pn**	**12 32 13.5**	**-1.0**
	31nm,0.4s,baz=197,slow=13,SNR=10						
GTBY	**Guantanamo Bay**	**13.17**	**352**	*e*P	**P**	**12 32 19.3**	**-0.4**
BOAV	**Boa Vista**	**13.28**	**109**		**Pn**	**12 32 15.5**	**-1.4**
GCPR	**Guaynabo City**	**13.30**	**30**	Pn	**Pn**	**12 32 16.9**	**-0.2**
RCC	**Rio Carpintero**	**13.33**	**349**	*e*P	**Pn**	**12 32 18.8**	**+1.4**
SIUN	**Universidad Ur**	**13.37**	**302**		**Pn**	**12 32 17.3**	**-0.7**
MARVS	**Santiago de Cu**	**13.37**	**349**	*e*P	**P**	**12 32 20.4**	**-1.6**
QMBU	**Quimbuelo**	**13.39**	**353**	*e*P	**Pn**	**12 32 18.8**	**+0.5**
SABCS	**La Quijada**	**13.62**	**351**	*e*P	**P**	**12 32 24.9**	**0.0**
LMGC	**Las Mercedes**	**13.69**	**344**	*e*P	**P**	**12 32 24.6**	**-1.0**
NMDO	**Nuevo Mundo**	**13.77**	**353**	*e*P	**P**	**12 32 25.4**	**-1.0**
PINC	**Pinares de May**	**13.83**	**349**	*e*P	**P**	**12 32 27.5**	**+0.5**
MOAC	**Moa**	**13.87**	**353**	*e*P	**P**	**12 32 28.8**	**+1.3**
MPOM	**Morne Pois Mar**	**14.21**	**57**	Pn	**Pn**	**12 32 26.9**	**-1.6**
HLGC	**Holguin**	**14.27**	**349**	*e*P	**P**	**12 32 34.6**	**+2.6**
CZSB	**Cruzeiro do Su**	**14.47**	**178**		**Pn**	**12 32 31.9**	**+0.1**
RCVN	**Varillal2**	**14.53**	**299**	P	**Pn**	**12 32 29.9**	**-2.8**
CNGN	**Cerro Negro**	**14.54**	**294**	Pn	**Pn**	**12 32 33.8**	**+1.0**
ATAH	**Atahualpa**	**14.84**	**201**	P	**P**	**12 32 38.5**	**-0.3**
	5.0nm,0.5s,baz=7.9,slow=15,SNR=9.5						
CCCC	**Cccc**	**14.98**	**343**	*e*P	**P**	**12 32 39.4**	**-0.5**
DSDZ	**La Diserade, G**	**15.08**	**50**	*e*P	P	12 32 45.3	+4.3
GDSD	**La Dsirade Is**	**15.08**	**50**		**Pn**	**12 32 37.5**	**-2.0**
ANWB	**Willy Bob**	**15.43**	**45**	*e*P	**P**	**12 32 44.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**15.68**	**298**	Pn	**Pn**	**12 32 45.9**	**-1.0**
MACA	**Manacapuru-AM**	**15.88**	**128**		**Pn**	**12 32 47.7**	**-1.6**
MACA				IAmb	IAmb	12 33 09.9	
	comp=Z,13nm,0.7s						
MGV	**Manicaragua**	**16.58**	**337**	*e*P	Pn	12 33 05.8	+8.0
MTO3	**Montecristo**	**17.66**	**297**	P	**P**	**12 33 10.2**	**+0.5**
MTO3				IAmb	IAmb	12 33 14.3	
	comp=Z,21nm,0.7s						
PAYG	**Puerto Ayora**	**18.70**	**247**	P	**P**	**12 33 21.0**	**+0.1**
APG	**El Apazote**	**18.88**	**297**	P	**P**	**12 33 23.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=136,slow=10.0,SNR=8.4						
TEIG	**Tepich**	**19.85**	**314**	P	**Pn**	**12 33 35.6**	**-0.9**
MAL2	**Monte Alegre,**	**20.83**	**114**	P	**P**	**12 33 42.5**	**-1.3**
MAL2				IAmb	IAmb	12 34 15.5	
	comp=Z,11nm,0.8s						
VILB	**Vilhena**	**23.46**	**147**	P	**P**	**12 34 08.1**	**-1.8**
VILB				IAmb	IAmb	12 34 12.8	
	comp=Z,11nm,0.7s						
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**12 34 10.3**	**-0.5**
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**12 34 10.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=354,slow=7.4,SNR=8.2						
	comp=Z,1.0nm,0.3s						
PB16	**IPOC Station P**	**25.25**	**172**	P	**P**	**12 34 24.5**	**-2.3**
GO01	**Chusmiza**	**26.61**	**172**	P	**P**	**12 34 37.5**	**-1.4**
PB11	**IPOC Station P**	**26.64**	**173**	P	**P**	**12 34 38.4**	**-0.3**
PB11				IAmb	IAmb	12 35 00.8	
	comp=Z,8.5nm,1.0s						
PB09	**IPOC Station P**	**28.70**	**173**	P	**P**	**12 34 55.9**	**-1.1**
PB09				IAmb	IAmb	12 35 21.6	
	comp=Z,7.9nm,1.4s						
TZTN	**Tazewell**	**31.08**	**344**	P	**P**	**12 35 17.3**	**-0.5**
TZTN				IAmb	IAmb	12 35 18.4	
	comp=Z,16nm,1.2s						
HBVL	**Hebbronville**	**31.55**	**313**	P	**P**	**12 35 23.3**	**+1.3**
GO02	**Mina Guanaco**	**31.98**	**174**	P	**P**	**12 35 24.6**	**-1.5**
GO02				IAmb	IAmb	12 35 32.0	
	comp=Z,13nm,1.4s						
WVT	**Waverly**	**32.13**	**337**	P	**P**	**12 35 28.6**	**+1.6**
WVT				IAmb	IAmb	12 35 29.4	
	comp=Z,8.7nm,0.9s						
T47A	**Sharon Grove**	**32.63**	**339**	P	**P**	**12 35 33.4**	**+2.1**
T47A				IAmb	IAmb	12 35 34.4	
	comp=Z,6.3nm,0.6s						
833A	**Chaparral WMA,**	**32.80**	**314**	P	**P**	**12 35 32.6**	**-0.3**
833A				IAmb	IAmb	12 35 35.9	
	comp=Z,7.1nm,0.8s						
WHAR	**Wooly Hollow**	**33.37**	**331**	P	**P**	**12 35 39.2**	**+1.4**
WHAR				IAmb	IAmb	12 35 39.5	
	comp=Z,6.2nm,0.7s						
MIAR	**Mount Ida**	**33.43**	**328**	P	**P**	**12 35 39.0**	**+0.7**
MIAR				IAmb	IAmb	12 35 58.6	
	comp=Z,8.7nm,1.4s						
LCAR	**Lake Charles**	**33.48**	**333**	IAmb	IAmb	12 35 40.7	
	comp=Z,4.0nm,0.7s						
LCAR				P	**P**	**12 35 40.7**	**+2.0**
AC02	**Maricunga**	**33.69**	**174**	P	**P**	**12 35 40.5**	**-0.6**
FCAR	**Ozark Folk Cen**	**33.78**	**332**	P	**P**	**12 35 42.3**	**+1.0**
CGM3	**Cape Girardeau**	**33.87**	**336**	P	**P**	**12 35 43.6**	**+1.5**
CGM3				IAmb	IAmb	12 35 47.2	
	comp=Z,5.9nm,0.6s						
PAL	**Palisades**	**34.04**	**359**	P	**P**	**12 35 45.8**	**+2.3**
SIUC	**Southern Illin**	**34.06**	**337**	P	**P**	**12 35 45.7**	**+2.0**
BRDY	**Brady**	**34.33**	**318**		**P**	**12 35 46.9**	**+0.7**
BRDY				IAmb	IAmb	12 35 47.5	
	comp=Z,15nm,1.4s						
M63A	**Gales Ferry**	**34.44**	**1**	P	**P**	**12 35 49.7**	**+2.8**
KSPA	**Keystone Colle**	**34.66**	**356**	P	**P**	**12 35 51.6**	**+2.7**
PLPT	**Palo Pinto**	**34.89**	**321**	P	**P**	**12 35 52.3**	**+1.3**
PLPT				IAmb	IAmb	12 35 52.8	
	comp=Z,7.9nm,0.8s						
HHAR	**Hobbs**	**34.97**	**330**	P	**P**	**12 35 52.3**	**+0.7**
HHAR				IAmb	IAmb	12 35 52.7	
	comp=Z,4.7nm,0.5s						
CCM	**Cathedral Cave**	**35.17**	**335**		**P**	**12 35 54.6**	**+1.4**
L56A	**Greenwood**	**35.38**	**354**	P	**P**	**12 35 57.1**	**+2.0**
RLO	**Rose Lookout**	**35.43**	**329**	P	**P**	**12 35 56.0**	**+0.5**
RLO				IAmb	IAmb	12 35 56.5	
	comp=Z,7.4nm,0.7s						
SFIN	**Lafayette**	**35.68**	**342**	P	**P**	**12 35 59.0**	**+1.4**
SFIN				IAmb	IAmb	12 35 59.8	
	comp=Z,8.0nm,0.7s						
R40A	**Maddies Statio**	**35.81**	**334**	P	**P**	**12 35 59.7**	**+1.0**
R40A				IAmb	IAmb	12 35 59.8	
	comp=Z,4.8nm,0.5s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**12 36 05.8**	**+1.1**
	comp=Z,4.5nm,0.6s,baz=128,slow=9.1,SNR=41						
TXAR				PcP	**PcP**	**12 38 27.0**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=131,slow=6.1,SNR=7.2						
	comp=Z,4.5nm,0.6s						
TX31	**Lajitas Ar. Si**	**36.48**	**312**		**P**	**12 36 06.0**	**+1.3**
TX31				IAmb	IAmb	12 36 06.4	
	comp=Z,4.9nm,0.7s						
WMOK	**Wichita Mounta**	**36.49**	**323**	P	**P**	**12 36 05.1**	**+0.6**
WMOK				IAmb	IAmb	12 36 05.3	
	comp=Z,4.1nm,0.7s						
SN07	**Snyder 07**	**36.72**	**319**	P	**P**	**12 36 07.7**	**+1.1**
SN07				IAmb	IAmb	12 36 07.9	
	comp=Z,8.5nm,0.6s						
MNHN	**Monahans**	**36.92**	**315**		**P**	**12 36 09.2**	**+0.8**
POST	**Post**	**37.10**	**319**		**P**	**12 36 10.8**	**+0.9**
VHRN	**Van Horn**	**38.21**	**313**	IAmb	IAmb	12 36 21.0	
	comp=Z,8.8nm,1.1s						
MNTX	**Cornudas Mount**	**38.98**	**314**	IAmb	IAmb	12 36 28.1	
	comp=Z,8.3nm,0.7s						
LMEL	**Las Melosas**	**40.55**	**176**	P	**P**	**12 36 35.9**	**-2.7**
121A	**Cookes Peak, D**	**41.15**	**313**	IAmb	IAmb	12 36 46.5	
	comp=Z,6.4nm,0.9s						
ANMO	**Albuquerque**	**41.52**	**317**	P	**P**	**12 36 47.4**	**+0.7**
319A	**Douglas**	**41.69**	**311**	P	**P**	**12 36 48.2**	**+0.2**
319A				IAmb	IAmb	12 36 50.6	
	comp=Z,7.8nm,0.8s						
TUC	**Tucson**	**43.26**	**311**		**P**	**12 37 00.9**	**+0.3**
TUC				IAmb	IAmb	12 37 02.8	
	comp=Z,4.5nm,0.7s						
PV15	**Paradox Valley**	**44.80**	**320**	IAmb	IAmb	12 37 15.7	
	comp=Z,13nm,0.9s						
PV02	**Paradox Valley**	**44.89**	**319**	IAmb	IAmb	12 37 16.2	
	comp=Z,12nm,0.7s						
PV13	**Radium Mtn., P**	**44.91**	**319**	IAmb	IAmb	12 37 16.2	
	comp=Z,8.3nm,0.7s						
PV03	**Paradox Valley**	**44.98**	**319**	IAmb	IAmb	12 37 16.6	
	comp=Z,4.2nm,0.6s						
PV12	**Saucer Basin,**	**44.99**	**320**	IAmb	IAmb	12 37 17.6	
	comp=Z,9.2nm,0.6s						
PV18	**Skein Mesa, Pa**	**45.02**	**319**	IAmb	IAmb	12 37 17.3	
	comp=Z,8.1nm,0.7s						
PV05	**Paradox Valley**	**45.05**	**319**	IAmb	IAmb	12 37 16.7	
	comp=Z,6.7nm,0.6s						
PV23	**Carpenter Ridg**	**45.20**	**320**	IAmb	IAmb	12 37 20.5	
	comp=Z,14nm,1.4s						
WUAZ	**Wupatki**	**45.23**	**315**	IAmb	IAmb	12 37 19.4	
	comp=Z,12nm,0.8s						
Y14A	**Wickenburg**	**45.66**	**312**	IAmb	IAmb	12 37 21.7	
	comp=Z,8.8nm,0.7s						
U15A	**North Rim**	**46.33**	**315**	IAmb	IAmb	12 37 27.8	
	comp=Z,6.5nm,0.9s						
GLA	**Glamis**	**46.65**	**310**	IAmb	IAmb	12 37 29.6	
	comp=Z,9.2nm,0.7s						
KNB	**Kanab**	**46.99**	**316**	IAmb	IAmb	12 37 32.9	
	comp=Z,8.7nm,0.8s						
LCMT	**Little Creek M**	**47.28**	**315**	IAmb	IAmb	12 37 35.4	
	comp=Z,7.8nm,0.9s						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**12 37 32.0**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=140,slow=6.1,SNR=5.5						
	comp=Z,4.1nm,0.4s						
SZCU	**Shurtz Canyon**	**47.46**	**316**	IAmb	IAmb	12 37 35.3	
	comp=Z,4.0nm,0.5s						
V12A	**Nelson**	**47.82**	**313**	IAmb	IAmb	12 37 38.6	
	comp=Z,7.5nm,0.7s						
BW06	**Boulder Array**	**48.09**	**324**	P	**P**	**12 37 39.1**	**+0.7**
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**12 37 39.1**	**+0.7**
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**12 37 39.3**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=125,slow=8.8,SNR=22						
PDAR				PcP	**PcP**	**12 39 03.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=119,slow=2.5,SNR=2.5						
PDAR				ScP	**ScP**	**12 42 44.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=91,slow=2.3,SNR=2.5						
	comp=Z,2.0nm,0.6s						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**12 37 39.5**	**+1.2**
	comp=Z,117nm,0.6s,baz=178,slow=5.9,SNR=19						
HWUT	**Hardware Ranch**	**48.61**	**322**	IAmb	IAmb	12 37 44.6	
	comp=Z,3.9nm,0.6s						
AHID	**Auburn Hatcher**	**48.99**	**323**	IAmb	IAmb	12 37 46.9	
	comp=Z,4.9nm,0.8s						
GSC	**Goldstone, Bar**	**49.07**	**312**	IAmb	IAmb	12 37 48.2	
	comp=Z,5.4nm,0.8s						
DGMT	**Dagmar**	**49.15**	**333**		**P**	**12 37 47.1**	**+0.8**
TPAW	**Teton Pass**	**49.34**	**324**	P	**P**	**12 37 49.0**	**+0.9**
TPAW				IAmb	IAmb	12 37 50.3	
	comp=Z,

MYLDM	Lahad Datu	5.28 332		Pn	12 54 41.4	+0.3
SANI	Sanana	5.60 117	P	Pn	12 54 44.0	-1.4
KAPI	Kappang	5.60 193	Pn	Pn	12 54 45.3	-0.2
BKSI	Bulukumba	5.83 188	P	Pn	12 54 49.5	+0.9
	9.9nm,0.8s					
NLAI	Namlea	7.14 121	P	Pn	12 55 08.0	+1.5
	704nm56nm,0.8s					
FAKI	Fak Fak	11.76 107	Pn	Pn	12 56 07.2	-2.1
MTN	Manton Dam	16.64 143		Pn	12 57 13.3	+0.8
WB0	Warramunga Arr	24.04 148	P	P	12 58 29.9	-1.7
WB0			IAmb	IAmb	12 58 42.8	
	comp=Z,5.8nm,1.1s					
WRA	Warramunga Arr	24.16 148	P	P	12 58 30.9	-1.8
WRA	Warramunga Arr	24.16 148	P	P	12 58 30.7	-2.0
	comp=Z,2.1nm,0.8s,baz=327,slow=10,SNR=33					
	comp=Z,2.1nm,0.8s					
WR8	Warramunga Arr	24.25 148	P	P	12 58 31.9	-1.7
ASAR	Alice Springs	27.09 153	P	P	12 58 59.0	-0.3
	comp=Z,0.3nm,0.6s,baz=343,slow=15,SNR=6.7					
	comp=Z,0.3nm,0.6s					
KSRS	Korea Array	37.34 9	P	P	13 00 27.7	-0.7
	comp=Z,1.2nm,0.7s,baz=194,slow=12,SNR=4.4					
	comp=Z,1.2nm,0.7s					
CAN	Canberra	44.19 147	P	P	13 01 25.7	+0.8
CAN			IAmb	IAmb	13 01 41.1	
	comp=Z,3.8nm,1.0s					
MKAR	Makanchi Array	57.16 329	P	P	13 03 02.4	+0.2
MKAR	Makanchi Array	57.16 329	P	P	13 03 02.5	+0.3
	comp=Z,0.7nm,0.5s,baz=126,slow=8.4,SNR=9.9					
	comp=Z,0.7nm,0.5s					
ZAA0	Zalesovo Array	61.05 337	P	P	13 03 28.1	-0.8
ZAA0			IAmb	IAmb	13 03 28.9	
	comp=Z,1.8nm,0.9s					
ZALV	Zalesovo Beam	61.05 337	P	P	13 03 28.1	-0.8
	comp=Z,0.8nm,0.4s,baz=140,slow=7.6,SNR=6.6					
	comp=Z,0.8nm,0.4s					
KURBB	Kurchatov Arra	61.55 331	P	P	13 03 32.4	+0.1
	comp=Z,0.6nm,0.3s,baz=136,slow=6.2,SNR=15					
	comp=Z,0.6nm,0.3s					
KURK	Kurchatov	61.56 331	P	P	13 03 32.4	0.0
BVAR	Borovoye Array	67.04 330	P	P	13 04 07.3	-0.8
	comp=Z,2.1nm,0.6s,baz=109,slow=7.9,SNR=9.3					
	comp=Z,2.1nm,0.6s					
AB31	Akbulak array	71.12 323	P	P	13 04 33.5	0.0
AB31			IAmb	IAmb	13 04 46.7	
	comp=Z,1.4nm,0.8s					
ABKAR	Akbulak array	71.12 323	P	P	13 04 33.3	-0.2

*IDC **23** 13:12:13.8±0.8,2°.68S×138°.36E, h0km, mb4.0/10, mbtmp4.0/13, ML3.8/3, MS3.4/6, Error ellipse: s-maj=22.0km s-min=17.2km az=77.0*
*NEIC **23** 13:12:15.7±1.4,2°.72S±0°.03×138°.36E±0°.06, h10km±1km, mb4.2/16, Error ellipse: s-maj=10.7km s-min=4.7km az=258.0*
*DJA **23** 13:12:17.6±0.4,3°.5±5°×13°.9E±°, h10km, M4.3/6, mb4.4/1, MLv4.2/6*
ISC 23 13:12:15.3±0.5, 2°.71S±0°.06×138°.40E±0°.06, h10km, n52, σ1°.27/49, mb4.2/17, MS3.3/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.78	23	P	Pg	13 12 28.6	-1.7
GENI	Genyem	1.77	86	P	Pn	13 12 46.8	+0.8
JAY	Jayapura	2.31	85	Pn	Pn	13 12 54.6	+1.1
	24nm,0.3s,baz=234,slow=11,SNR=88						
JAY				Sn	Sn	13 13 24.9	+2.9
	12nm,0.3s,baz=151,slow=22,SNR=6.0						
	67nm,0.4s						
JAY	Jayapura	2.31	85	P	Pn	13 12 54.3	+0.8
BAKI	Biak	2.74	303	P	Pn	13 13 01.5	+2.1
RKPI	Ransiki, Papua	4.38	286	P	Pn	13 13 24.8	+2.8
FAKI	Fak Fak	6.15	268	Pn	Pn	13 13 46.9	+0.7
FAKI	Fak Fak	6.15	268	P	Pn	13 13 49.0	+2.7
MANU	Manus Island	8.98	86	Pn	Pn	13 14 25.4	+0.2
COEN	Coen	12.13	157	Pn	Pn	13 15 08.6	+0.2
MTN	Manton Dam	12.38	215		Pn	13 15 11.6	-0.1
KNRA	Kununurra	16.01	216		Pn	13 16 00.1	-0.6
KNRA				IAmb	IAmb	13 16 08.5	
	comp=Z,10nm,0.7s						
WB0	Warramunga Arr	17.40	193		Pn	13 16 17.3	-1.1
WB0				IAmb	IAmb	13 16 50.3	
	comp=Z,9.5nm,0.8s						
GUMO	Guam	17.41	21	LR	LR	13 21 31.3	
	comp=Z,86nm,19.7s,baz=184,slow=32						
WRA	Warramunga Arr	17.58	193		Pn	13 16 17.4	-3.3
WRA	Warramunga Arr	17.58	193	P	Pn	13 16 20.1	-0.6
	comp=Z,0.5nm,0.3s,baz=15,slow=12,SNR=29						
WRA				LR	LR	13 23 49.2	
	comp=Z,190nm,21.8s,baz=339,slow=40						
	comp=Z,3.1nm,0.7s						
CTA	Charters Tower	18.90	157	LR	LR	13 24 43.8	
	comp=Z,4.1nm,18.4s,baz=342,slow=40						
FITZ	Fitzroy Crossi	19.76	218	P	P	13 16 44.1	-1.5
FITZ	Fitzroy Crossi	19.76	218	P	P	13 16 45.1	-0.5
	comp=Z,0.1nm,0.3s,baz=306,slow=3.5,SNR=3.5						
	comp=Z,3.5nm,1.0s						
AS31	Alice Springs	21.29	191		P	13 17 01.3	-0.9
AS31				IAmb	IAmb	13 17 14.1	
	comp=Z,5.1nm,0.7s						
ASAR	Alice Springs	21.29	191		P	13 17 01.3	-0.9
ASAR	Alice Springs	21.29	191	P	P	13 17 02.2	0.0
	comp=Z,3.2nm,0.8s,baz=24,slow=6.7,SNR=31						
ASAR				LR	LR	13 26 10.8	
	comp=Z,145nm,18.2s,baz=356,slow=39						
	comp=Z,3.2nm,0.8s						
INKA	Innaminka	25.00	175	P	P	13 17 38.1	-1.2
JNU	Nakatsue	36.34	349	LR	LR	13 31 41.6	
	comp=Z,47nm,20.3s,baz=150,slow=32						
KSRS	Korea Array	41.12	347	P	P	13 19 59.9	+0.2
	comp=Z,1.5nm,0.8s,baz=164,slow=10.0,SNR=7.3						
	comp=Z,1.5nm,0.8s						
CMAR	Chiang Mai Arr	44.17	300	P	P	13 20 23.7	-1.0
CMAR	Chiang Mai Arr	44.17	300	P	P	13 20 24.6	-0.2
	comp=Z,0.6nm,0.5s,baz=112,slow=6.5,SNR=7.7						
	comp=Z,0.6nm,0.5s						
LZH	Lanzhou	50.29	323	eP	P	13 21 13.3	+0.9
LZH				pP	sP	13 21 22.5	+5.6
LZH				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA	Gaotai	54.88	324	eP	P	13 21 47.0	+0.7
GTA				pP	sP	13 21 51.8	+1.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
SONM	Songino Array	57.59	335	P	P	13 22 04.1	-1.4
SONM				IAmb	IAmb	13 22 08.6	
	comp=Z,1.6nm,1.1s						
SONM	Songino Array	57.59	335	P	P	13 22 05.1	-0.4
	comp=Z,0.4nm,0.4s,baz=156,slow=7.7,SNR=2.7						
SONM				LR	LR	13 47 47.6	
	comp=Z,38nm,19.8s,baz=152,slow=37						
	comp=Z,0.4nm,0.4s						
PETK	Petropavlovsk-	57.93	14	LR	LR	13 43 47.8	
	comp=Z,19nm,21.8s,baz=217,slow=33						
MKAR	Makanchi Array	69.60	323	P	P	13 23 24.8	0.0
MKAR	Makanchi Array	69.60	323	P	P	13 23 25.3	+0.5
	comp=Z,3.0nm,0.9s,baz=115,slow=7.1,SNR=9.8						
	comp=Z,3.0nm,0.9s						
MAKZ	Makanchi	69.80	322	P	P	13 23 25.6	-0.4
ZALV	Zalesovo Beam	71.78	330	P	P	13 23 38.5	+0.7
ZALV	Zalesovo Beam	71.78	330	P	P	13 23 36.9	-1.0
	comp=Z,1.1nm,0.6s,baz=127,slow=4.5,SNR=5.1						
	comp=Z,1.1nm,0.6s						
KURK	Kurchatov	73.54	325	P	P	13 23 48.2	-0.2
KURK				IAmb	IAmb	13 23 48.9	
	comp=Z,2.9nm,0.9s						
KURBB	Kurchatov Arra	73.55	325	P	P	13 23 48.4	-0.1
	comp=Z,0.5nm,0.3s,baz=116,slow=5.6,SNR=4.5						
	comp=Z,0.5nm,0.3s						
TIXI	Tiksi	74.48	357	P	P	13 23 54.3	+0.8
TIXI				IAmb	IAmb	13 23 54.8	
	comp=Z,1.9nm,0.7s						
VNDA	Vanda	75.81	175	P	P	13 24 01.7	+0.6
VNDA	Vanda	75.81	175	P	P	13 24 01.8	+0.6
	comp=Z,0.7nm,0.5s,baz=332,slow=8.1,SNR=9.3						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	79.13	325	P	P	13 24 20.2	0.0
	comp=Z,1.6nm,0.5s,baz=106,slow=6.7,SNR=9.2						
	comp=Z,1.6nm,0.5s						
J20K	Nowinta River	82.78	24	P	P	13 24 39.8	+0.4
J20K				IAmb	IAmb	13 24 40.5	
	comp=Z,2.5nm,1.0s						
C19K	Lookout Ridge	82.85	19	P	P	13 24 39.3	-0.4
ABKAR	Akbulak array	84.52	320	P	P	13 24 47.5	-1.1
E22K	Anaktuvuk Pass	85.08	21	P	P	13 24 51.0	-0.1
E22K				IAmb	IAmb	13 25 03.8	
	comp=Z,2.5nm,1.1s						
D23K	Nanushuk River	85.75	20	P	P	13 24 54.9	+0.5
ILAR	Eielson Array	85.96	24	P	P	13 24 53.6	-1.9
ILAR	Eielson Array	85.96	24	P	P	13 24 54.0	-1.6
	comp=Z,0.6nm,0.7s,baz=265,slow=4.7,SNR=7.6						
	comp=Z,0.6nm,0.7s						
HMT	Hamilton	86.09	29	P	P	13 24 54.9	-1.4
QSPA	South Pole Qui	87.24	180	P	P	13 25 03.9	+1.9

IDC 23 13:18:14.5±2.3,3°.35S×130°.52E, h0km, mb3.6/2, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=113.3km s-min=30.5km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.91	168	Pn	Pn	13 22 11.8	-0.9
	0.4nm,0.3s,baz=348,slow=11,SNR=20						
	1.8nm,1.1s						
ASAR	Alice Springs	20.46	171	P	P	13 22 54.2	+0.4
	2.9nm,0.6s,baz=350,slow=11,SNR=30						
	2.9nm,0.6s						
MKAR	Makanchi Array	65.50	326	P	P	13 28 59.6	0.0
	0.3nm,0.6s,baz=108,slow=7.7,SNR=1.9						
	0.3nm,0.6s						

IDC 23 13:37:56.4±2.0,3°.32N×127°.32E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=156.4km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.12	164	P	P	13 43 14.1	0.0
	0.3nm,0.4s,baz=343,slow=10,SNR=7.5						
	0.3nm,0.4s						
ASAR	Alice Springs	27.58	167	P	P	13 43 45.7	+0.3
	0.2nm,0.4s,baz=352,slow=7.4,SNR=9.6						
	0.2nm,0.4s						
STKA	Stephens Creek	37.54	160	P	P	13 45 11.7	-0.7
	0.4nm,0.3s,baz=338,slow=11,SNR=3.7						
	0.4nm,0.3s						
MKAR	Makanchi Array	58.23	325	P	P	13 47 52.7	+0.1
	0.8nm,0.8s,baz=112,slow=8.3,SNR=4.3						
	0.8nm,0.8s						

*NEIC **23** 13:41:39.2±2.7,35°.14N±0°.02×95°.37W±0°.02, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.9km az=135.0*
NEIC 23 13:41:39.1±2.2, 35°.12N±0°.02×95°.359W±0°.007, h5km±1km, mb_Lg2.2/10, ML2.6/14, ML2.5/7, Error ellipse: s-maj=3.4km s-min=2.9km az=1.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	Leonard	0.86	336		Pg	13 41 55.5	-0.2
TUL3					Sg	13 42 06.8	0.0
RLO	Rose Lookout	1.07	15		Pg	13 41 59.3	-0.4
RLO				IAML		13 42 16.1	
	comp=E,149nm,0.2s						
RLO				IAML		13 42 16.8	
	comp=N,133nm,0.2s						
DEOK	Depew	1.17	308		Pg	13 42 01.2	-0.5
DEOK					Sg	13 42 16.3	-0.6
DEOK				IAML		13 42 16.9	
	comp=N,129nm,0.1s						
DEOK				IAML		13 42 21.5	
	comp=E,115nm,0.2s						
OK052	Battle Ridge R	1.46	307		Pn	13 42 05.9	-0.3
OK052					Sb	13 42 25.6	-0.2
QUOK	Quay	1.52	314		Pn	13 42 06.8	-0.2
QUOK					Sb	13 42 27.3	0.0
U38A	Gravette	1.53	31		Pn	13 42 06.4	-0.8
U38A					Sb	13 42 27.7	-0.1
MIAR	Mount Ida	1.58	111		Pn	13 42 07.8	+0.1
MIAR					Sg	13 42 29.8	0.0
MIAR				IAmb_Lg		13 42 30.9	
	comp=Z,12nm,1.1s						
HHAR	Hobbs	1.63	45		Pn	13 42 08.9	+0.4
HHAR					Sb	13 42 30.9	+0.3
FNO	Franklin	1.68	275		Pn	13 42 09.6	+0.5
FNO				IAmb_Lg		13 42 32.4	
	comp=Z,8.8nm,0.7s						
FNO					Sg	13 42 32.7	-0.4
OK048	Pawnee Station	1.82	315		Pn	13 42 11.0	-0.2
T35A	Sooner Cattle	2.02	333		Pn	13 42 13.9	+0.1
X34A	Smith Ranch, M	2.10	256	IAmb_Lg		13 42 51.4	
	comp=Z,14nm,0.8s						
Z35A	Perchaven, San	2.38	222		Pn	13 42 18.3	-0.5
WHAR	Wooly Hollow	2.52	85		Pn	13 42 20.9	+0.2
WMOK	Wichita Mounta	2.84	263	Pn	Pn	13 42 25.5	+0.4
MGMO	Mountain Grove	3.22	50	IAmb_Lg		13 43 20.2	
	comp=Z,6.0nm,1.1s						
KSU1	Kansas State U	4.09	346	IAmb_Lg		13 43 49.3	
	comp=Z,6.9nm,0.8s						

*OTT **23** 13:49:56.6±0.1,73°.11N×70°.01W, h18km, ML3.0/2, 266km east from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*DNK **23** 13:50:00.1±2.5,73°.02N×69°.73W, h36km±35km, ML2.3*
ISC 23 13:49:52.9±0.9, 73°.07N±0°.06×69°.77W±0°.05, h10km, n13, σ3°.18/24, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POIN	Pond Inlet	2.45	265	PN	Pn	13 50 35.1	+2.3
POIN				SN	Sn	13 51 02.8	+0.1
POIN				Trac		13 51 04.0	
	comp=Z,5.9nm,0.1s						
KULLO	Kullorsuaq	3.82	61	PN	Pn	13 50 54.7	+3.0
KULLO				SN	Sn	13 51 37.2	+0.7
KULLO				Trac		13 51 37.5	
	comp=Z,8.1nm,0.1s						
KULLO	Kullorsuaq	3.82	61	*i* P	Pn	13 50 54.7	+3.0
KULLO				*i* S	Sn	13 51 35.6	-0.9
KULLO				IAML		13 51 48.6	
	comp=Z,26nm,0.8s						
UPNV	Upernavik	4.03	88	*i* P	Pn	13 50 57.8	+3.3
UPNV				*e*S	Sn	13 51 41.1	-0.6
UPNV				IAML		13 51 58.2	
	comp=Z,29nm,0.9s						
NUUG	Nuugaatsiaq	5.28	99	*i* P	Pn	13 51 15.3	+3.6
NUUG				*i* S	Sn	13 52 11.2	-1.2
NUUG				IAML		13 52 48.5	
	comp=Z,19nm,0.8s						
ILON	Igloolik, Nuna	5.37	232	PN	Pn	13 51 14.6	+1.6
ILON				SN	Sn	13 52 12.7	-2.0
ILON				Trac		13 52 31.6	
	comp=Z,4.7nm,0.2s						
SAQQ	Saqqaq	6.42	110	*i* P	Pn	13 51 30.8	+3.5
SAQQ				*i* S	Sn	13 52 36.4	-4.2
SAQQ				IAML		13 53 05.3	
	comp=Z,14nm,0.9s						
NEEM	North Greenlan	6.45	39	*i* P	Pn	13 51 30.5	+2.5
NEEM				*i* S	Sn	13 52 39.6	-2.1
NEEM				IAML		13 52 44.4	
	comp=Z,3.7nm,0.3s						
GDH	Godhavn	6.49	118	*i* P	Pn	13 51 32.4	+4.1
GDH				*i* S	Sn	13 52 37.3	-5.0
GDH				IAML		13 52 58.0	
	comp=Z,11nm,0.9s						
RES	Resolute Bay	7.15	295	PN	Pn	13 51 38.3	+1.1
RES				SN	Sn	13 52 53.5	-4.9
RES				Trac		13 52 58.0	
	comp=Z,298nm,2.6s						
SUMG	Summit	9.21	78	*i* P	Pn	13 52 08.3	+2.4
SUMG				*i* S	Sn	13 53 43.1	-6.5
SUMG				IAML		13 53 46.6	
	comp=Z,3.5nm,0.3s						
DAG	Danmarks Havn	13.40	51	*i* P	Pn	13 53 02.7	-0.1
DAG				*e*S	Sn	13 55 18.0	-13
DAG				IAML		13 55 40.2	
	comp=Z,1.9nm,0.8s						
YKAW3	Yellowknife Wh	19.34	261	PN	P	13 54 18.6	+0.7

*IDC **23** 13:50:17.7±5.4,16°.91N×101°.33W, h0km, mb4.0/2, mbtmp3.8/3, ML3.3/1, MS3.1/6, Error ellipse: s-maj=147.4km s-min=56.9km az=91.0*
*MEX **23** 13:50:20.5±0.5,17°.22N×101°.33W, h3km±14km, MD4.6*
ISC 23 13:50:17.2±1.4, 17°.30N±0°.03×101°.25W±0°.02, h2km±10km, n68, σ2°.48/108, MS3.1/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.37	326	*e*P	Pb	13 50 28.0	+1.4
ZIIG				*e*S	Sb	13 50 34.0	+1.2
ATYC	Atoyac	0.78	96	*i* P	Pb	13 50 35.3	+1.7
ATYC				*e*S	Sb	13 50 46.3	+1.7
CAIG	El Cayaco	0.97	105	*e*P	Pg	13 50 37.4	+1.6
CAIG				*e*S	Sb	13 50 51.5	+1.5
ARIG	Puente Sto Nin	1.30	41	*e*P	Pn	13 50 43.9	+1.5
ARIG				*e*S	Sn	13 51 01.4	+1.0
VNTA	La Mica	1.42	105	*e*P	Pn	13 50 45.6	+1.6
VNTA				*e*S	Sn	13 51 04.5	+1.2
MEIG	Mezcala	1.67	68	*e*P	Pb	13 50 49.3	+0.6
MEIG				*e*S	Sg	13 51 13.1	+2.1
PLIG	Platanillo	1.98	57	*e*P	Pb	13 50 53.8	-0.3
PLIG				*e*S	Sg	13 51 21.7	+0.7
CRIG	Cruz Grande	2.10	105	*e*P	Pn	13 50 54.1	+0.7
CRIG				*i* S	Sg	13 51 26.2	+1.5
MMIG	Aquila	2.23	296	*e*P	Pn	13 50 54.7	-0.5
MMIG				*i* S	Sn	13 51 20.5	-2.8
MAVM	Malinalco, Edo	2.34	45	*e*P	Pg	13 51 07.4	+5.2
MAVM				*i* S	Sg	13 51 31.8	-0.8
MOIG	Morelia	2.37	1	*e*P	Pb	13 51 01.3	+0.5
MOIG				*e*S	Sg	13 51 31.2	-2.1
TLIG	Tlapa	2.57	84	*e*P	Pn	13 51 01.8	+1.7
TLIG				*i* S	Sg	13 51 38.0	-1.9
YAIG	Yautepec	2.59	53	*e*P	Pn	13 51 01.5	+1.1
YAIG				*i* S	Sn	13 51 31.7	-0.8
INVM	La Marquesa	2.66	41	*e*P	Pb	13 51 04.7	-1.0
INVM				*i* S	Sb	13 51 35.5	-3.5
AOVM	Tlapan	2.68	43	*e*P	Pb	13 51 05.6	-0.6
AOVM				*e*S	Sn	13 51 34.5	-0.6
TLVM	San Miguel Top	2.75	46	*e*P	Pb	13 51 06.9	-0.5
TLVM				*i* S	Sb	13 51 38.5	-3.2
CJVM	Cuajimalpa	2.77	42	*i* P	Pb	13 51 09.0	+1.3
CJVM				*i* S	Sb	13 51 40.6	-1.5
XCVM	Xochimilco	2.80	46	*e*P	Pb	13 51 08.4	+0.2
XCVM				*e*S	Sb	13 51 41.4	-1.8
UNM	Universidad Na	2.82	44	*e*P	Pb	13 51 09.2	+0.8
UNM				*e*S	Sg	13 51 48.4	+0.6
MHVM	Bosque de Chap	2.85	42	*e*P	Pn	13 51 04.8	+0.7
MHVM				*i* S	Sb	13 51 41.1	-3.5
AZVM	Cuida Lopez Ma	2.94	39	*e*P	Pg	13 51 12.8	-0.8
AZVM				*i* S	Sb	13 51 47.8	+0.7
THVM	De Xico	2.94	47	*e*P	Pb	13 51 08.6	-2.0
THVM				*i* S	Sb	13 51 43.3	-3.8
PBVM	Pinon	2.96	44	*e*P	Pn	13 51 07.0	+1.7
PBVM				*i* S	Sn	13 51 40.2	-1.1
ACIG	Acambay	2.96	26	*e*P	Pb	13 51 11.6	+0.7
ACIG				*i* S	Sb	13 51 47.9	+0.2
AMVM	AMECAMECA	2.96	52	*e*P	Pg	13 51 13.9	-0.2
AMVM				*e*S	Sg	13 51 50.0	-2.5
FTIG	Fresnillo de T	3.03	78	*e*P	Pn	13 51 08.4	+2.1
FTIG				*i* S	Sg	13 51 53.5	-1.2
TXVM	Universitario	3.06	46	*i* P	Pg	13 51 22.7	+6.7
TXVM				*e*S	Sb	13 51 50.5	-0.1
CDAR	Ciudad de Arme	3.10	302	*e*P	Pn	13 51 06.2	-1.0
CDAR				*e*S	Sn	13 51 40.2	-4.6
EZ5V		3.12	314	*e*P	Pn	13 51 08.5	+0.8
EZ5V				*e*S	Sn	13 51 44.0	-1.7
MNGA	Volcan de Coli	3.12	314	*e*P	Pn	13 51 09.6	+1.9
MNGA				*e*S	Sn	13 51 45.1	-0.6
PNIG	Pinotepa	3.12	106	*e*P	Pn	13 51 08.6	+1.1
PNIG				*e*S	Sn	13 51 40.5	-4.9
INCO	Volcan de Coli	3.15	315	*e*P	Pn	13 51 10.3	+2.1
INCO				*e*S	Sn	13 51 44.7	-2.0
SOMAC	Volcano de Col	3.17	315	*e*P	Pn	13 51 09.6	+1.2
SOMAC				*e*S	Sn	13 51 49.4	+2.4
CEGR	Campo Tres	3.24	310	*e*P	Pn	13 51 06.5	-2.7
CEGR				*e*S	Sn	13 51 46.6	-1.9
ZUVM	ZUMPANGO	3.25	39	*e*P	Pb	13 51 14.9	-0.9
ZUVM				*i* S	Sn	13 51 48.2	-0.7
TXIG	Tlaxiaco	3.32	90	*e*P	Pn	13 51 12.5	+2.0
TXIG				*e*S	Sn	13 51 49.2	-1.5
HLIG	Huajuapan de L	3.33	80	*e*P	Pn	13 51 12.3	+1.9
HLIG				*i* S	Sb	13 51 57.7	-0.4
VTVM	Tizayuca	3.40	43	*e*P	Pb	13 51 16.5	-1.8
VTVM				*i* S	Sb	13 51 58.6	-1.6
JRQG	Juriquilla Cam	3.47	12	*e*P	Pb	13 51 18.3	-1.2
JRQG				*e*S	Sb	13 51 57.9	-4.4
YOIG	Yosondua	3.57	97	*e*P	Pn	13 51 16.1	+2.2
YOIG				*i* S	Sn	13 51 53.0	-3.8
TPIG	Tehuac#an	3.86	73	*e*P	Pb	13 51 23.3	-2.9
TPIG				*e*S	Sn	13 52 07.6	+3.7
TOIG	Toxpalan	4.06	78	*e*P	Pn	13 51 22.6	+2.0
TOIG				*i* S	Sb	13 52 18.2	-1.1
PEIG	Puerto Escondi	4.14	108	*e*P	Pn	13 51 22.2	+0.7
PEIG				*e*S	Sn	13 52 05.8	-4.7
POHV	Veracruz	4.16	64	*e*P	Pn	13 51 25.6	+3.3
POHV				*i* S	Sn	13 52 10.9	-0.9
CJM	Chamela	4.22	302	*e*P	Pn	13 51 24.1	+1.6
CJM				*i* S	Sn	13 52 09.1	-3.3
VHO	Vista Hermosa	4.32	92	*e*P	Pn	13 51 26.6	+2.4
VHO				*e*S	Sn	13 52 10.9	-4.3
CXUV	Coxquihui	4.49	50	*e*P	Pn	13 51 27.8	+1.4
CXUV				*i* S	Sb	13 52 27.8	-3.7
JAUV	Jalcomulco	4.69	63	*e*P	Pn	13 51 34.8	+5.6
JAUV				*e*S	Sn	13 52 25.1	+0.8
RPIG	Rio Verde	4.71	14	*e*P	Pn	13 51 33.8	+4.3
RPIG				*i* S	Sn	13 52 22.6	-2.2
AAIG	Aguscalientes	4.77	347	*e*P	Pn	13 51 34.4	+4.0
AAIG				*i* S	Sn	13 52 28.2	+1.9
ANIG	Ahuacatlan	4.85	321	*e*P	Pb	13 51 40.7	-2.3
ANIG				*e*S	Sn	13 52 36.0	+7.8
CTUV	Llano Grande	4.97	33	*e*P	Pg	13 51 52.0	-0.4
CTUV				*e*S	Sb	13 52 39.8	-5.4
HUIG	Huatulco	5.16	106	*e*P	Pn	13 51 34.8	-0.7
HUIG				*i* S	Sn	13 52 28.2	-7.4
NEUV	Arroyo Zacate	5.21	85	*e*P	Pn	13 51 38.6	+2.3
NEUV				*e*S	Sn	13 52 31.9	-5.1
ZAIG	Zacatecas	5.58	347	*e*P	Pb	13 51 53.7	-1.9
ZAIG				*e*S	Sb	13 53 01.1	-2.1
CMIG	Matias

28nm,0.6s
JAY Jayapura 2.16 89 P **Pb 14 00 09.8 -1.3**
BAKI Biak 2.80 299 P **Pn 14 00 15.7 +0.5**
RKPI Ransiki, Papua 4.49 283 P **Pn 14 00 38.6 +0.1**
FAKI Fak Fak 6.30 267 P **Pn 14 01 02.8 -0.6**
WRA Warramunga Arr 17.75 193 P **Pn 14 03 37.2 -0.3**
0.3nm,0.3s,baz=17,slow=12,SNR=18
1.8nm,0.7s
ASAR Alice Springs 21.45 192 P **P 14 04 17.1 -1.3**
2.0nm,0.8s,baz=21,slow=11,SNR=26
2.0nm,0.8s
MKAR Makanchi Array 69.58 322 P **P 14 10 39.7 +1.0**
0.6nm,0.8s,baz=124,slow=7.8,SNR=9.4
0.6nm,0.8s
BVAR Borovoye Array 79.11 325 P **P 14 11 35.2 +1.3**
0.6nm,0.5s,baz=119,slow=8.6,SNR=4.0
0.6nm,0.5s
ILAR Eielson Array 85.78 24 P **P 14 12 08.4 -0.1**
0.3nm,0.8s,baz=262,slow=5.5,SNR=1.7
0.3nm,0.8s

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*NEIC **23** 14:09:29.4±1.6, 18°.14S±0°.09×174°.49W±0°.08, h10km±1km, mb5.1/53, Error ellipse: s-maj=15.9km s-min=12.2km az=205.0*
*BJI **23** 14:09:38.3, 18°.02S×173°.35W, h125km, mB5.0/4, mb4.9/21*
*IDC **23** 14:09:40.2±0.6, 18°.17S×174°.46W, h102km±5km, mb4.4/20, mbtmp4.8/20, MS3.5/25, Error ellipse: s-maj=15.5km s-min=12.6km az=126.0*
*NOU **23** 14:09:40.5, 18°.45S×174°.00W, h131km, mb5.0/53, Tonga Islands*
*GCMT **23** 14:09:42.4±0.3, 18°.07S±0°.03×174°.31W±0°.03, h12km, MW5.1/79, Moment Tensor Solution. s10,c11; s79,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.24±.11; Mθθ=0.34±.13; Mφφ=0.58±.10; Mrθ=-2.93±.24; Mrφ=0.35±.07; Mθφ=-5.11±.20; Best double couple: M=5.91200×10^16 NP1:φs=165.00000°, δ3.00000°, λ-135.00000°. NP2: φs=30.00000°, δ88.00000°, λ-88.00000°. Principal axes: T 6.1220, Plg43.0000°, Azm118.0000°; N -0.4200, Plg2.0000°, Azm210.0000°; P -5.7020, Plg47.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 14:09:39.6±0.5, 18°.33S±0°.06×174°.27W±0°.05, h105km±4km, h105km:pP-P, n267, σ1°80/239, mb4.9/60, 16C-12D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.18**	**101**		**Pn**	**14 10 38.9**	**-2.4**
NIUE	**Niue**	**4.18**	**101**	P	**Pn**	**14 10 39.6**	**-1.7**
NIUE	**Niue**	**4.18**	**101**	S	**Sn**	**14 11 23.9**	**-5.3**
NIUE	**Niue**	**4.18**	**101**	P	**Pn**	**14 10 39.1**	**-2.2**
NIUE				S	**Sn**	**14 11 23.3**	**-5.9**
AFI	**Afiamalu**	**5.00**	**29**		Pn	14 10 44.8	-7.7
AFI	**Afiamalu**	**5.00**	**29**	P	**Pn**	**14 10 52.2**	**-0.4**
AFI	**Afiamalu**	**5.00**	**29**	P	Pn	14 10 46.2	-6.3
AFI				S	Sn	14 11 34.6	-15
FUTU	**Fugatoga**	**5.45**	**317**	Pn	Pn	14 10 48.8	-10
MSVF	**Nonsavu**	**7.34**	**273**		**Pn**	**14 11 28.0**	**+3.8**
MSVF	**Nonsavu**	**7.34**	**273**	P	Pn	14 11 29.4	+5.2
RAR	**Rarotonga**	**13.94**	**104**	Pn	**Pn**	**14 12 51.0**	**-1.7**
RAR	**Rarotonga**	**13.94**	**104**	P	**Pn**	**14 12 51.8**	**-0.9**
17nm,0.4s,baz=281,slow=9.2,SNR=17							
RAR				S	Sn	14 15 14.8	-11
13nm,0.6s,baz=94,slow=13,SNR=2.2							
RAR				LR	LR	14 17 25.7	
comp=Z,98nm,19.2s,baz=292,slow=33							
RAR	**Rarotonga**	**13.94**	**104**	P	**Pn**	**14 12 50.7**	**-2.0**
RAR	**Rarotonga**	**13.94**	**104**	P	**Pn**	**14 12 52.7**	**0.0**
PINNC	**Pines Island,**	**17.66**	**253**	P	**Pn**	**14 13 40.7**	**+1.7**
SANVU	**Saraoutou**	**17.96**	**276**		**P**	**14 13 35.9**	**-6.0**
SANVU	**Saraoutou**	**17.96**	**276**	P	**Pn**	**14 13 45.0**	**+2.2**
OUENC	**Ouen Island, N**	**18.17**	**254**	P	**Pn**	**14 13 46.8**	**+1.6**
DZM	**Mont Dzumac**	**18.48**	**255**	P	**Pn**	**14 13 49.1**	**+0.1**
50nm,0.9s,baz=83,slow=18,SNR=16							
DZM				LR	LR	14 19 48.6	
comp=Z,375nm,19.0s,baz=84,slow=33							
ONTNC	**Ouen Toro**	**18.51**	**254**	P	**Pn**	**14 13 49.2**	**0.0**
OUZ	**Omahuta**	**19.98**	**210**	P	**P**	**14 14 04.3**	**+0.5**
GRZ	**Great Barrier**	**20.03**	**205**	P	Pn	14 14 06.9	0.0
WCZ	**Waipu Caves**	**20.23**	**208**	P	Pn	14 14 09.6	+0.4
MXZ	**Matakaoa Point**	**20.24**	**197**	P	Pn	14 14 09.1	-0.2
KUZ	**Kuaotunu**	**20.36**	**204**	P	Pn	14 14 10.4	-0.4
WMGZ	**Waiomatatini S**	**20.45**	**197**	P	Pn	14 14 12.0	+0.2
HAZ	**Te Kaha**	**20.57**	**198**	P	**P**	**14 14 11.5**	**+1.4**
PKGZ	**Pakihiroa**	**20.59**	**197**	P	Pn	14 14 13.5	+0.1
WIAZ	**Waiheke Island**	**20.63**	**205**	P	Pn	14 14 13.1	-0.8
MBAZ	**Motutapu North**	**20.70**	**205**	P	Pn	14 14 14.1	-0.6
PUZ	**Puketiti**	**20.73**	**197**	P	**P**	**14 14 13.2**	**+1.4**
RUGZ	**Raukumara Rang**	**20.80**	**198**	P	**P**	**14 14 14.5**	**+1.9**
ETAZ	**East Tamaki Re**	**20.85**	**205**	P	Pn	14 14 15.2	-1.3
MKAZ	**Moumakai**	**20.89**	**204**	P	**P**	**14 14 15.5**	**+2.1**
TWGZ	**Tauwhareparae**	**20.90**	**197**	P	Pn	14 14 16.7	-0.5
CNGZ	**Carnagh Statio**	**21.13**	**197**	P	**P**	**14 14 19.5**	**+3.5**
MWZ	**Matawai**	**21.18**	**198**	P	**P**	**14 14 18.6**	**+2.0**
URZ	**Urewera**	**21.24**	**199**	P	**P**	**14 14 17.8**	**+0.6**
40nm,0.6s,baz=310,slow=2.6,SNR=46							
URZ				S	**S**	**14 18 00.8**	**-6.5**
4.4nm,0.6s,baz=18,slow=20,SNR=1.3							
40nm,0.6s							
URZ	**Urewera**	**21.24**	**199**	P	**P**	**14 14 17.1**	**-0.1**
TOZ	**Tahuroa Road**	**21.31**	**203**		**P**	**14 14 19.5**	**+1.5**
TOZ				IAmb	IAmb	14 14 23.9	
comp=Z,40nm,0.7s							
TOZ	**Tahuroa Road**	**21.31**	**203**	P	**P**	**14 14 20.3**	**+2.4**
RTZ	**Ruatahuna**	**21.61**	**199**	P	**P**	**14 14 21.1**	**-0.1**
RTZ				IAmb	IAmb	14 14 27.8	
comp=Z,40nm,0.9s							
RTZ	**Ruatahuna**	**21.61**	**199**	P	**P**	**14 14 22.2**	**+1.0**
HIZ	**Hauiti**	**22.24**	**203**	P	**P**	**14 14 30.7**	**+3.0**
BKZ	**Black Stump Fm**	**22.26**	**199**	P	**P**	**14 14 28.2**	**+0.1**
VRZ	**Vera Road**	**22.81**	**202**	P	**P**	**14 14 36.9**	**+3.3**
PXZ	**Pawanui**	**22.95**	**198**	P	**P**	**14 14 35.5**	**+0.6**
PPT2	**Papeete2**	**23.50**	**92**	*e*P	**P**	**14 14 37.2**	**-3.2**
comp=Z,53nm,25.0s							
PPT2				*e*S	**S**	**14 18 52.0**	**+5.6**
comp=Z,195nm,23.2s							
PPT2				*e*LR	LR	14 20 14.9	
comp=Z,419nm,29.8s							
PPT2				*e*LR	LR	14 20 17.0	
comp=Z,284nm,33.5s							
PPT	**Papeete**	**23.50**	**92**	P	**P**	**14 14 41.5**	**+1.2**
comp=Z,52nm,0.9s,baz=58,slow=21,SNR=16							
PPT				LR	LR	14 22 15.8	
comp=Z,60nm,18.8s,baz=270,slow=32							
comp=Z,52nm,0.9s							
PPTF	**Pamatai, Papee**	**23.50**	**92**	P	**P**	**14 14 37.9**	**-2.6**
TBI	**Tubuai**	**23.70**	**106**	*e*S	**S**	**14 18 55.4**	**+5.9**
comp=Z,1μm,33.8s							
TBI				*e*LR	LR	14 20 28.4	
comp=Z,2μm,34.0s							
TBI				*e*LR	LR	14 20 29.9	
comp=Z,781nm,37.0s							
BFZ	**Birch Farm**	**23.73**	**198**	P	**P**	**14 14 43.3**	**+1.2**
MRZ	**Mangatainoka R**	**23.91**	**199**	P	**P**	**14 14 43.6**	**-0.2**
QRZ	**Quartz Range**	**25.13**	**204**	P	**P**	**14 14 56.9**	**+2.0**
TUWZ	**Tuamarina**	**25.14**	**201**	P	**P**	**14 14 54.5**	**-0.4**
NNZ	**Nelson**	**25.15**	**202**	P	**P**	**14 14 56.3**	**+1.3**
THZ	**Tophouse**	**25.80**	**202**	P	**P**	**14 15 02.7**	**+1.7**
KHZ	**Kahutara**	**26.16**	**201**	P	**P**	**14 15 05.6**	**+1.5**
DSZ	**Denniston Nort**	**26.20**	**204**	P	**P**	**14 15 06.3**	**+1.7**
HNR	**Honiara**	**26.52**	**286**	LR	LR	14 24 42.0	
comp=Z,75nm,18.1s,baz=118,slow=34							
SAVO	**Savo Central**	**26.75**	**286**	P	**P**	**14 15 10.7**	**+0.9**
GVZ	**Greta Valley S**	**26.82**	**201**	P	**P**	**14 15 14.7**	**+4.7**
LTZ	**Lake Taylor**	**26.92**	**202**	P	**P**	**14 15 15.2**	**+4.2**
INZ	**Inchbonnie**	**27.18**	**203**		**P**	**14 15 13.8**	**+0.6**
INZ				IAmb	IAmb	14 15 20.7	
comp=Z,48nm,0.6s							
INZ	**Inchbonnie**	**27.18**	**203**	P	**P**	**14 15 14.0**	**+0.7**
OXZ	**Oxford**	**27.48**	**202**	P	**P**	**14 15 15.6**	**-0.4**
WVZ	**Waitaha Valley**	**27.75**	**204**	P	**P**	**14 15 18.8**	**+0.5**
RPZ	**Rata Peaks**	**28.17**	**203**	P	**P**	**14 15 24.8**	**+2.6**
FOZ	**Fox Glacier**	**28.49**	**205**	P	**P**	**14 15 25.9**	**+0.9**
TMZ	**Timaru**	**28.77**	**202**	P	**P**	**14 15 29.4**	**+2.0**
LBZ	**Lake Benmore**	**29.07**	**203**	P	**P**	**14 15 30.8**	**+0.7**
JCZ	**Jackson Bay**	**29.36**	**205**	P	**P**	**14 15 34.0**	**+1.2**
WKZ	**Wanaka**	**29.89**	**204**	P	**P**	**14 15 38.0**	**+0.6**
MLZ	**Mavora Lakes**	**30.69**	**205**	P	**P**	**14 15 45.9**	**+1.4**
WHZ	**Wether Hill Ro**	**31.20**	**204**	P	**P**	**14 15 50.6**	**+1.8**
AUWSH	**Wavell State H**	**31.37**	**247**	P	**P**	**14 15 49.7**	**-0.9**
TW1H	**Toowoomba 1 Ha**	**32.33**	**247**	P	**P**	**14 16 00.0**	**+0.9**
EIDS	**Eidsvold**	**32.85**	**251**	P	**P**	**14 16 02.2**	**-1.4**
EIDS				IAmb	IAmb	14 16 03.9	
comp=Z,25nm,1.1s							
EIDS	**Eidsvold**	**32.85**	**251**	P	**P**	**14 16 02.7**	**-0.9**
ARMA	**Armidale**	**33.19**	**242**	P	**P**	**14 16 05.8**	**-0.8**
ARMA				IAmb	IAmb	14 16 06.4	
comp=Z,41nm,1.6s							
AUPHS	**Peel High Scho**	**33.97**	**241**	P	**P**	**14 16 13.8**	**+0.5**
TAOE	**Nuku Hiva Isla**	**34.41**	**79**	*e*LR	LR	14 25 24.3	
comp=Z,136nm,31.4s							
AULRC	**Lightning Ridg**	**36.10**	**245**	P	**P**	**14 16 30.5**	**-1.1**
CNB	**Canberra Magne**	**36.35**	**235**	P	**P**	**14 16 33.2**	**-0.6**
AUDAR	**Daramalan Coll**	**36.51**	**235**	P	**P**	**14 16 35.6**	**+0.6**
AUSIS	**Research Schoo**	**36.54**	**235**	P	**P**	**14 16 33.3**	**-2.0**
AUMTS	**Mt Stromlo**	**36.64**	**235**	P	**P**	**14 16 36.2**	**0.0**
CAN	**Canberra**	**36.64**	**235**	P	**P**	**14 16 35.0**	**-1.1**
CAN				IAmb	IAmb	14 16 36.8	
comp=Z,31nm,1.4s							
CAN	**Canberra**	**36.64**	**235**	P	**P**	**14 16 36.4**	**+0.2**
RKT	**Rikitea**	**36.98**	**104**	*e*LR	LR	14 26 42.3	
comp=Z,2μm,45.8s							
CMSA	**Cobar Meteorol**	**38.41**	**242**	P	**P**	**14 16 49.5**	**-1.6**
PMG	**Port Moresby**	**38.42**	**278**	LR	LR	14 32 10.5	
comp=Z,53nm,18.8s,baz=112,slow=35							
QLP	**Quilpie**	**39.09**	**250**	P	**P**	**14 16 55.3**	**-1.5**
TOO	**Toolangi**	**40.01**	**233**	P	**P**	**14 17 03.9**	**-0.5**
BRAT	**Ballarat**	**41.20**	**234**	P	**P**	**14 17 14.1**	**+0.1**
AUMTC	**Mt Clear Colle**	**41.25**	**233**	P	**P**	**14 17 14.2**	**-0.3**
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**14 17 18.9**	**-1.1**
STKA				IAmb	IAmb	14 17 20.6	
comp=Z,64nm,1.0s							
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**14 17 19.1**	**-0.9**
comp=Z,7.8nm,0.7s,baz=86,slow=9.6,SNR=16							
comp=Z,7.8nm,0.7s							
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**14 17 18.8**	**-1.1**
INKA	**Innaminka**	**42.25**	**249**	P	**P**	**14 17 22.0**	**-0.8**
QIS	**Mount Isa**	**43.45**	**259**	P	**P**	**14 17 34.0**	**+1.4**
AUMBR	**Murray Bridge**	**44.32**	**238**	P	**P**	**14 17 37.8**	**-1.5**
HTT	**Hallett**	**44.35**	**241**	P	**P**	**14 17 38.3**	**-1.4**
AUJCS	**Jamestown Cent**	**44.58**	**241**	P	**P**	**14 17 40.7**	**-0.8**
AUMAR	**Marden Senior**	**44.80**	**239**	P	**P**	**14 17 41.8**	**-1.4**
WHYH	**Whyalla**	**45.42**	**241**	P	**P**	**14 17 47.0**	**-1.1**
BBOO	**Buckleboo**	**46.67**	**242**	P	**P**	**14 17 56.4**	**-1.5**
AUCAS	**Cummins Area S**	**47.10**	**240**	P	**P**	**14 18 01.0**	**-0.2**
WRAB	**Tennant Creek**	**48.42**	**259**	P	**P**	**14 18 09.7**	**-2.0**
WRAB	**Tennant Creek**	**48.42**	**259**	P	**P**	**14 18 09.9**	**-1.8**
WRA	**Warramunga Arr**	**48.43**	**259**	P	**P**	**14 18 09.2**	**-2.6**
WRA	**Warramunga Arr**	**48.43**	**259**	P	**P**	**14 18 09.9**	**-1.9**
comp=Z,21nm,0.4s,baz=96,slow=8.4,SNR=384							
WRA				LR	LR	14 36 59.0	
comp=Z,88nm,20.0s,baz=60,slow=34							
comp=Z,21nm,0.4s							
AS31	**Alice Springs**	**48.47**	**254**	P	**P**	**14 18 10.2**	**-1.8**
ASAR	**Alice Springs**	**48.47**	**254**	P	**P**	**14 18 10.6**	**-1.5**
comp=Z,112nm,0.9s,baz=94,slow=8.4,SNR=714							
ASAR				S	**S**	**14 25 00.9**	**-4.6**
comp=Z,3.4nm,1.0s,baz=88,slow=15,SNR=12							
ASAR				LR	LR	14 36 33.3	
comp=Z,54nm,20.1s,baz=219,slow=33							
comp=Z,112nm,0.9s							
AUALC	**St Philip's Co**	**48.49**	**254**	P	**P**	**14 18 10.8**	**-1.4**
MTN	**Manton Dam**	**52.72**	**268**	P	**P**	**14 18 41.6**	**-2.5**
MTN				IAmb	IAmb	14 18 42.8	
comp=Z,29nm,0.8s							
DRS	**Darwin Rock St**	**53.04**	**268**	P	**P**	**14 18 44.7**	**-1.7**
AUDHS	**Darwin High Sc**	**53.10**	**268**	P	**P**	**14 18 45.4**	**-1.4**
KNRA	**Kununurra**	**54.36**	**264**		**P**	**14 18 54.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**56.84**	**260**		**P**	**14 19 12.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**56.84**	**260**	LR	LR	14 41 19.1	
comp=Z,94nm,19.4s,baz=354,slow=34							
NLAI	**Namlea**	**59.26**	**277**	P	**P**	**14 19 29.6**	**-1.1**
comp=Z,25nm,0.7s							
SOEI	**Soe**	**60.01**	**269**	P	**P**	**14 19 36.7**	**+0.7**
SBA	**Scott Base**	**60.28**	**185**	P	**P**	**14 19 39.1**	**+2.4**
VNDA	**Vanda**	**60.39**	**186**	P	**P**	**14 19 39.1**	**+1.7**
VNDA	**Vanda**	**60.39**	**186**	P	**P**	**14 19 40.1**	**+2.7**
comp=Z,2.8nm,0.9s,baz=3.4,slow=5.9,SNR=16							
VNDA				LR	LR	14 41 35.9	
comp=Z,15nm,20.1s,baz=294,slow=32							
comp=Z,2.8nm,0.9s							
BATI	**Baumata**	**60.46**	**268**	P	**P**	**14 19 39.0**	**0.0**
comp=Z,37nm,0.5s,baz=196,slow=3.1,SNR=3.6							
comp=Z,37nm,0.5s							
SANI	**Sanana**	**60.70**	**278**	P	**P**	**14 19 39.1**	**-1.4**
PSA00	**Pilbara Seismi**	**61.61**	**255**	P	**P**	**14 19 44.5**	**-2.1**
PSA00				IAmb	IAmb	14 19 46.8	
comp=Z,13nm,0.9s							
PSA00	**Pilbara Seismi**	**61.61**	**255**	P	**P**	**14 19 45.3**	**-1.3**
MBWA	**Marble Bar**	**61.79**	**255**	P	**P**	**14 19 46.1**	**-1.7**
MBWA	**Marble Bar**	**61.79**	**255**	P	**P**	**14 19 46.8**	**-1.0**
MEEK	**Meekatharra**	**61.97**	**249**	P	**P**	**14 19 46.5**	**-2.5**
EDFI	**Ende, Flores**	**62.73**	**269**	P	**P**	**14 19 52.5**	**-1.8**
comp=Z,53nm,1.3s							
KAPI	**Kappang**	**65.65**	**273**	IAmb	IAmb	14 20 13.8	
comp=Z,110nm,1.6s							
KAPI	**Kappang**	**65.65**	**273**	P	**P**	**14 20 12.2**	**-1.1**
comp=Z,13nm,0.5s,baz=254,slow=9.9,SNR=4.0							
comp=Z,13nm,0.5s							
PLAI	**Plampang**	**66.42**	**268**	P	**P**	**14 20 16.9**	**-1.3**
TOLI2	**Tolitoli**	**66.67**	**279**	P	**P**	**14 20 19.5**	**-0.3**
CASY	**Casey**	**67.42**	**205**	P	**P**	**14 20 24.2**	**+0.6**
CASY				IAmb	IAmb	14 20 25.8	
comp=Z,28nm,1.8s							
JAGI	**Jajag, Banyuwa**	**69.96**	**267**		**P**	**14 20 38.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**69.96**	**267**	P	**P**	**14 20 38.7**	**-1.7**
MYLDM	**Lahad Datu**	**70.24**	**283**		**P**	**14 20 42.6**	**+0.6**
MYLDM				IAmb	IAmb	14 20 45.8	
comp=Z,38nm,1.4s							
MYLDM	**Lahad Datu**	**70.24**	**283**	P	**P**	**14 20 43.1**	**+1.1**
JGF	**Kuroka**	**70.55**	**320**	P	**P**	**14 20 42.4**	**-1.1**
MJAR	**Matsushiro Arr**	**70.66**	**321**		**P**	**14 20 42.3**	**-1.8**
MJAR	**Matsushiro Arr**	**70.66**	**321**	P	**P**	**14 20 42.8**	**-1.3**
comp=Z,6.1nm,0.8s,baz=157,slow=5.9,SNR=13							
MJAR				LR	LR	14 49 10.5	
comp=Z,16nm,18.9s,baz=146,slow=34							
comp=Z,6.1nm,0.8s							
MAJO	**Matsushiro**	**70.66**	**321**	P	**P**	**14 20 42.9**	**-1.2**
MAJO				IAmb	IAmb	14 20 45.1	
comp=Z,7.6nm,0.9s							
QSPA	**South Pole Qui**	**71.73**	**180**		**P**	**14 20 54.6**	**+4.3**
QSPA				IAmb	IAmb	14 20 56.1	
comp=Z,7.6nm,0.8s							
JNU	**Nakatsue**	**73.21**	**314**	P	**P**	**14 20 57.9**	**-1.5**
JNU	**Nakatsue**	**73.21**	**314**	LR	LR	14 45 41.0	
comp=Z,60nm,21.1s,baz=150,slow=30							
UGM	**Wanagama**	**73.56**	**267**	P	**P**	**14 21 00.8**	**-1.2**
JKA	**Kamikawa-asahi**	**73.59**	**329**	P	**P**	**14 21 01.0**	**-0.4**
JKA				IAmb	IAmb	14 23 17.4	
comp=Z,73nm,2.0s							
KMRM	**Mail Ridge**	**74.87**	**38**	P	**P**	**14 21 10.6**	**+1.6**
PEA0B	**Petropavlovsk-**	**75.16**	**343**	P	**P**	**14 21 09.8**	**-0.5**
PETK	**Petropavlovsk-**	**75.16**	**343**	P	**P**	**14 21 09.4**	**-0.9**
PETK	**Petropavlovsk-**	**75.16**	**343**	P	**P**	**14 21 09.2**	**-1.1**
comp=Z,4.5nm,0.7s,baz=108,slow=8.8,SNR=25							
PETK				LR	LR	14 47 17.3	
comp=Z,21nm,22.0s,baz=165,slow=30							
comp=Z,4.5nm,0.7s							
SBUM	**Sibu**	**75.17**	**278**	P	**P**	**14 21 10.5**	**-0.7**
SBUM				IAmb	IAmb	14 21 12.4	
comp=Z,24nm,1.4s							
SBUM	**Sibu**	**75.17**	**278**	P	**P**	**14 21 11.6**	**+0.4**
LPIG	**La Paz**	**75.28**	**58**	LR	LR	14 46 17.5	
comp=Z,28nm,20.1s,baz=280,slow=29							
O02D	**Mt. Diablo Mer**	**75.38**	**38**	P	**P**	**14 21 13.1**	**+1.1**
O02D				IAmb	IAmb	14 21 28.3	
comp=Z,40nm,1.9s							
YSS	**Yuzhno-Sakhali**	**75.62**	**331**	P	**P**	**14 21 13.0**	**0.0**
YSS				IAmb	IAmb	14 22 39.5	
comp=Z,32nm,1.4s							
TPUB	**Ta-pu**	**75.84**	**301**	P	**P**	**14 21 12.9**	**-1.9**
M02C	**Callahan**	**76.12**	**37**	P	**P**	**14 21 17.2**	**+1.1**
M02C				IAmb	IAmb	14 21 21.1	
comp=Z,10nm,1.1s							
KSM	**Kuching**	**76.65**	**276**	P	**P**	**14 21 19.3**	**-0.3**
NVAR	**Mina Array Bea**	**77.05**	**42**	P	**P**	**14 21 22.2**	**+0.6**
NVAR	**Mina Array Bea**	**77.05**	**42**	P	**P**	**14 21 22.6**	**+1.0**
comp=Z,7.9nm,1.0s,baz=223,slow=9.1,SNR=16							
NVAR				LR	LR	14 47 15.0	
comp=Z,33nm,19.8s,baz=254,slow=29							
comp=Z,7.9nm,1.0s							
TPH	**Tonopah**	**77.53**	**43**	P	**P**	**14 21 24.6**	**+0.3**
TPH				IAmb	IAmb	14 21 29.3	
comp=Z,13nm,1.3s
KSRS Korea Array 77.68 316 P **P 14 21 25.6 +0.7**
comp=Z,8.0nm,1.0s,baz=135,slow=6.5,SNR=18
comp=Z,8.0nm,1.0s
KSAR Wonju Array Be 77.70 316 **P 14 21 25.4 +0.4**
K05A Summer Lake 78.09 37 **P 14 21 27.7 +0.4**
K05A IAmb IAmb 14 21 33.4
comp=Z,19nm,1.2s
J05D Fort Rock, OR 78.25 37 **P 14 21 28.6 +0.5**
ELK Elko 80.32 41 LR LR 14 49 18.5
comp=Z,39nm,19.7s,baz=288,slow=30
G08A Pilot Rock 80.78 36 **P 14 21 42.3 +0.6**
NJ2 Nanjing 81.28 308 *e*P **P 14 21 44.4 -0.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
MA2 Magadan 82.70 343 LR LR 14 52 25.0
comp=Z,30nm,21.8s,baz=160,slow=31
BTDF Bukit Timah Da 82.80 274 P **P 14 21 53.4 +0.5**
CN2 Changchun 82.80 321 *e*P **P 14 21 50.1 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MYKOM Kota Tinggi 82.86 274 P **P 14 21 53.1 -0.1**
MYKOM IAmb IAmb 14 21 54.6
comp=Z,48nm,1.7s
TXAR Lajitas Array 82.92 56 P **P 14 21 57.2 +3.9**
comp=Z,0.5nm,0.3s,baz=244,slow=5.8,SNR=6.3
PV23 Carpenter Ridg 83.19 46 P **P 14 21 54.7 0.0**
PV23 IAmb IAmb 14 22 30.5
comp=Z,11nm,0.9s
ANMO Albuquerque 83.31 50 P **P 14 21 56.1 +0.8**
ANMO Albuquerque 83.31 50 LR LR 14 52 57.9
comp=Z,31nm,19.8s,baz=55,slow=31
MCMT McKenzie Canyo 84.04 39 **P 14 21 59.2 +0.3**
H03S2 Juan Fernandez 84.28 124 T T 15 55 02.1
baz=249,slow=75,SNR=122
H03S1 Juan Fernandez 84.28 124 T T 15 55 03.2
baz=249,slow=75,SNR=118
H03S3 Juan Fernandez 84.30 124 T T 15 54 44.3
baz=249,slow=75,SNR=116
H03N2 Juan Fernandez 84.40 123 T T 15 55 00.9
baz=257,slow=72,SNR=24
H03N3 Juan Fernandez 84.40 123 T T 15 55 05.8
baz=257,slow=72,SNR=27
H03N1 Juan Fernandez 84.41 123 T T 15 55 07.9
baz=257,slow=72,SNR=20
TIA Tai'an 84.47 311 P **P 14 22 02.3 +1.4**
TIA pmax pmax
comp=Z,15nm,0.9s
MAW Mawson 84.77 199 P **P 14 22 03.4 +1.5**
comp=Z,6.3nm,0.6s,baz=136,slow=6.5,SNR=35
comp=Z,6.3nm,0.6s
PDAR Pinedale Array 84.99 42 P **P 14 22 04.2 +0.5**
comp=Z,1.2nm,0.7s,baz=217,slow=3.7,SNR=8.7
PDAR pP **pP 14 22 30.4 -0.1**
comp=Z,1.8nm,0.8s,baz=196,slow=3.2,SNR=4.9
PDAR LR LR 14 53 08.7
comp=Z,16nm,19.0s,baz=316,slow=31
comp=Z,1.2nm,0.7s
ILAR Eielson Array 85.46 11 P **P 14 22 04.3 -0.9**
comp=Z,1.3nm,0.5s,baz=227,slow=5.9,SNR=40
ILAR pP **pP 14 22 30.9 -1.4**
comp=Z,1.4nm,0.8s,baz=231,slow=6.3,SNR=3.6
comp=Z,1.3nm,0.5s
CMIG Matias Romero 85.64 71 LR LR 14 51 47.6
comp=Z,22nm,19.4s,baz=182,slow=30
J26L Joseph Creek 85.89 13 **P 14 22 07.8 +0.4**
J26L IAmb IAmb 14 22 08.6
comp=Z,10nm,1.1s
G21K Allakaket 86.01 8 P **P 14 22 07.6 -0.3**
G21K IAmb IAmb 14 22 56.1
comp=Z,40nm,1.8s
IPM Ipoh 86.38 276 **P 14 22 10.8 -0.2**
IPM Ipoh 86.38 276 P **P 14 22 11.4 +0.4**
HNS HongShan 86.74 311 ⇓P **P 14 22 13.8 +1.7**
HNS pmax pmax
comp=Z,15nm,1.2s
KULM Kulim 87.00 277 P **P 14 22 14.4 +0.5**
LYN LuoYang 87.18 308 P **P 14 22 16.0 +1.7**
LYN pmax pmax
comp=Z,35nm,0.9s
PLCA Paso Flores 88.16 132 IAmb IAmb 14 23 13.9
comp=Z,20nm,1.8s
PLCA Paso Flores 88.16 132 P **P 14 22 21.2 +2.1**
comp=Z,1.6nm,1.0s,baz=180,slow=5.1,SNR=2.0
PLCA LR LR 14 54 00.3
comp=Z,27nm,19.1s,baz=198,slow=30
comp=Z,1.6nm,1.0s
KCSI Kotacane, Aceh 89.16 274 P **P 14 22 24.5 +0.3**
comp=Z,15nm,0.9s
HILR Hailar Array B 89.17 323 P **P 14 22 22.9 -0.5**
comp=Z,2.1nm,0.6s,baz=111,slow=8.3,SNR=3.6
comp=Z,2.1nm,0.6s
SYO Syowa Base 89.58 192⇑*e*P **P 14 22 26.0 +0.9**
SYO Syowa Base 89.58 192⇑*e*pP P 14 22 30.8 +5.7
XAN Xi'an 89.67 306 ⇓P **P 14 22 27.9 +1.7**
XAN pmax pmax
comp=Z,20nm,1.5s
TROLL Troll, Antarti 89.86 179 ⇓P **P 14 22 27.6 +1.0**
comp=Z,116nm,0.7s
VNA3 Neumayer Olymp 90.03 175 ⇓P **P 14 22 27.9 +0.7**
comp=Z,3.2nm,0.5s
SNAA Sanae 90.04 177 ⇓P **P 14 22 26.6 -0.7**
comp=Z,23nm,0.6s

CLL ex x 14 29 38.0
BURAR Bucovina Array 146.73 336 ⇑P PKiKP 14 29 12.2 0.0
BRG Berggiesshubel 146.88 350 *e*PKP **PKPbc 14 29 10.1 +0.4**
BRG Amp 14 29 12.0
comp=Z,4.5nm,0.8s
JURR Jurilovca 147.31 329 ⇑P PKPab 14 29 12.0 -1.1
TPGR Topolog 147.47 329 ⇑P PKPbc 14 29 11.8 +0.2
BRTR Keskin Array B 147.82 317 PKPbc **PKPbc 14 29 13.5 +0.6**
comp=Z,6.4nm,1.0s,baz=126,slow=1.7,SNR=19
BRTR pPKPbc **pPKPbc 14 29 40.6 -0.3**
comp=Z,1.9nm,0.9s,baz=31,slow=1.7,SNR=2.9
HARR Harsova 147.82 330 ⇑P PKiKP 14 29 13.6 -0.8
KIRS Kirsehir-Merke 147.96 316 ⇑P PKiKP 14 29 14.1 -0.9
PSZ Piszkesteto 148.30 342 ⇑P PKiKP 14 29 14.9 -0.4
MARR Marisel-Cluj 148.31 337 ⇑P PKPbc 14 29 14.2 +0.3
DRGR 148.36 338 ⇑P PKPbc 14 29 14.1 +0.1
MODS Modra-Piesok 148.59 345 *e*PKP **PKiKP 14 29 15.4 -0.5**
ARR Arges 148.78 334 ⇑P PKiKP 14 29 16.3 -0.1
GERES GERESS Array B 148.88 350 PKP **PKPdf 14 29 12.3 +1.1**
comp=Z,2.1nm,0.7s,baz=357,slow=2.0,SNR=3.9
GERES PKPbc **PKPbc 14 29 15.3 0.0**
comp=Z,1.5nm,0.6s,baz=25,slow=3.5,SNR=11
GERES pPKPbc **pPKPbc 14 29 44.1 +0.6**
comp=Z,0.3nm,0.3s,baz=225,slow=28,SNR=1.6
SIRR Siria 149.18 338 ⇓P PKiKP 14 29 16.9 -0.3
CONA Conrad Observa 149.34 347 *e*PKiKP **PKiKP 14 29 18.5 +0.9**
comp=Z,16nm,1.7s
SURR Surduc 149.45 337 ⇓P PKPab 14 29 23.0 +1.3
RONA Rosalia, Austr 149.46 346 *e*PKP **PKiKP 14 29 17.3 -0.4**
comp=Z,4.0nm,1.0s
GZR Gura Zlata 149.51 336 ⇓P PKPbc 14 29 17.2 +0.3
MMAI Mount Meron Ar 149.65 305 PKPbc **PKiKP 14 29 19.2 +0.6**
comp=Z,3.7nm,0.5s,baz=76,slow=3.5,SNR=6.2
BZS Buzias 149.76 338 ⇓P PKiKP 14 29 18.0 -0.3
MORH Mrgy, Hungar 150.21 342 ⇓P PKiKP 14 29 19.0 -0.3
SOKA Soboth 150.71 347 *e*PKP **PKPbc 14 29 19.4 -0.3**
comp=Z,3.6nm,0.9s
MOTA Moosalm 150.73 353 PKP **PKPbc 14 29 19.9 0.0**
comp=Z,8.1nm,1.1s
WTTA Wattenberg 150.74 352 *i* PKP **PKPbc 14 29 20.1 +0.2**
comp=Z,9.8nm,0.6s
BAND Balkesir-Ban 150.80 323 ⇓P PKPdf 14 29 13.5 -0.9
SQTA Sankt Quirin 150.84 352 *e*PKP **PKPbc 14 29 20.2 +0.2**
comp=Z,4.9nm,0.6s
DAVA Damuels 150.92 354 *e*PKP **PKiKP 14 29 21.0 +0.1**
comp=Z,8.0nm,1.0s
FETA Feichten 151.09 353 *e*PKP **PKiKP 14 29 21.2 -0.1**
comp=Z,3.8nm,0.6s
ABTA Abfaltersbach 151.11 350 *e*PKP **PKPbc 14 29 20.3 -0.4**
comp=Z,10.0nm,0.9s

*IDC **23** 14:20:43.9±1.2,2°.58S×138°.32E, h0km, mb3.7/4, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=28.2km s-min=25.1km az=36.0*
*DJA **23** 14:20:49.4±0.8,2°.5±8°×13°.9E±°, h21km±9km, M3.6/7, MLv3.6/7*
ISC 23 14:20:48.4±0.9,2°.53S±0°.09×138°.47E±0°.05,h32km,n11, σ1§32/12,mb3.8/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.59**	**25**	P	**Pb**	**14 20 58.5**	**-1.8**
GENI	**Genyem**	**1.70**	**92**	P	**Pb**	**14 21 18.3**	**-0.8**
JAY	**Jayapura**	**2.24**	**90**	Pn	**Pn**	**14 21 23.8**	**+0.5**
	5.0nm,0.3s,baz=250,slow=11,SNR=11						
JAY				Sn	**Sb**	**14 21 57.1**	**+1.6**
	6.8nm,0.3s,baz=140,slow=17,SNR=4.1 13nm,0.3s						
JAY	**Jayapura**	**2.24**	**90**	P	**Pn**	**14 21 24.5**	**+1.2**
BAKI	**Biak**	**2.70**	**299**	P	**Pn**	**14 21 30.9**	**+1.2**
RKPI	**Ransiki, Papua**	**4.40**	**283**	P	**Pn**	**14 21 54.2**	**+1.1**
WRA	**Warramunga Arr**	**17.77**	**193**	P	**Pn**	**14 24 52.9**	**-0.6**
	0.2nm,0.3s,baz=14,slow=12,SNR=4.9 1.4nm,0.9s						
ASAR	**Alice Springs**	**21.48**	**191**	P	**P**	**14 25 32.8**	**-1.7**
	1.3nm,0.9s,baz=22,slow=11,SNR=5.7 1.3nm,0.9s						
MKAR	**Makanchi Array**	**69.50**	**322**	P	**P**	**14 31 54.6**	**+0.7**
	0.8nm,0.8s,baz=101,slow=8.0,SNR=4.6 0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**71.65**	**330**	P	**P**	**14 32 06.4**	**-0.5**
	0.3nm,0.4s,baz=119,slow=7.2,SNR=2.3 0.3nm,0.4s						
BVAR	**Borovoye Array**	**79.02**	**325**	P	**P**	**14 32 50.0**	**+0.8**
	0.7nm,0.5s,baz=125,slow=9.0,SNR=3.6 0.7nm,0.5s						

*IDC **23** 14:31:19.3±41.0, 7°.99N×125°.76E, h0km, mb3.6/3, mbtmp3.6/3, MS3.6/2, Error ellipse: s-maj=709.6km s-min=266.8km az=155.0*
DJA 23 14:32:17.7±0.6,3°N±5°×12°9E±°,h10km,M3.8/6,MLv3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**220**	P	Pn	14 32 55.8	+0.6
SGSI	**Sangihe**	**3.48**	**289**	P	Pn	14 33 11.8	-0.2
WRA	**Warramunga Arr**	**22.97**	**167**	P	P	14 37 20.3	-2.3
	0.7nm,0.8s,baz=341,slow=8.5,SNR=3.4 0.7nm,0.8s						
ASAR	**Alice Springs**	**26.50**	**170**	P	P	14 37 51.5	-4.0
	0.4nm,0.8s,baz=7.3,slow=9.5,SNR=7.0 0.4nm,0.8s						
STKA	**Stephens Creek**	**36.30**	**161**	P	P	14 39 16.7	-4.9
	0.7nm,0.5s,baz=342,slow=6.4,SNR=3.0 0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**62.61**	**332**	LR	LR	15 06 48.5	
	comp=Z,36nm,18.3s,baz=56,slow=38						
MLR	**Muntele Rosu**	**97.21**	**316**	LR	LR	15 29 43.9	
	comp=Z,37nm,18.8s,baz=7.0,slow=38						

*IDC **23** 14:46:23.6±1.0, 50°.98N×178°.90E, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, MS3.0/2, Error ellipse: s-maj=28.7km s-min=19.2km az=4.0*
*AEIC **23** 14:46:27.1±2.5, 50°.98N±0°.06×178°.75E±0°.06, h13km±5km, Error ellipse: s-maj=9.1km s-min=5.6km az=174.0*
*NEIC **23** 14:46:29.3±1.6, 51°.08N±0°.07×178°.69E±0°.06, h42km±10km, mb4.0/14, ML3.8/10, ML3.4(AEIC), Error ellipse: s-maj=10.0km s-min=5.2km az=193.0*
ISC 23 14:46:28.9±0.7,51°.06N±0°.07×178°.77E±0°.04,h35km,n62, σ1§29/66,mb3.9/10,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.47**	**46**		**Sn**	**14 46 45.8**	**-0.3**
AMKA	**Amchitka**	**0.47**	**46**		**Pn**	**14 46 37.9**	**-1.1**
LSSE	**Little Sitkin**	**0.89**	**352**		**Pn**	**14 46 45.1**	**+0.2**
LSPA	**Little Sitkin**	**0.91**	**352**		**Pn**	**14 46 45.5**	**+0.4**
LSNW	**Little Sitkin**	**0.93**	**350**		**Pn**	**14 46 45.4**	**0.0**
LSNW					**Sn**	**14 46 58.8**	**+1.3**
CESW	**Semis' Southwe**	**0.98**	**30**		**Pn**	**14 46 46.5**	**+0.4**
CERB	**Semis' Cerberu**	**1.03**	**31**		**Pn**	**14 46 47.6**	**+0.9**
CERB					**Sn**	**14 47 02.6**	**+2.6**
CEPE	**Semis' Perret**	**1.06**	**31**		**Pn**	**14 46 47.8**	**+0.6**
GAKI	**Gareloi-Kavalg**	**1.60**	**71**		**Pn**	**14 46 54.7**	**+0.2**
GASW	**Gareloi Southw**	**1.65**	**63**		**Pn**	**14 46 56.4**	**+1.1**
GASW					**Sn**	**14 47 17.7**	**+2.4**
GALAA	**Gareloi Lava P**	**1.69**	**64**		**Pn**	**14 46 56.3**	**+0.4**
GANE	**Gareloi Northe**	**1.71**	**63**		**Pn**	**14 46 57.1**	**+0.9**
TANO	**Tanaga North**	**2.13**	**65**		**Pn**	**14 47 03.0**	**+1.1**
TASE	**Tanaga Southea**	**2.15**	**67**		**Pn**	**14 47 03.3**	**+1.2**
TAFP	**Tanaga Falls P**	**2.20**	**66**		**Pn**	**14 47 04.8**	**+1.9**
TAPA	**Tanaga Point A**	**2.27**	**69**		**Pn**	**14 47 04.8**	**+1.0**
KIMD	**Kanaga Island**	**2.60**	**73**		**Pn**	**14 47 09.3**	**+1.0**
KIMD					**Sn**	**14 47 40.1**	**+1.5**
KIKV	**Kanaga Island**	**2.67**	**70**		**Pn**	**14 47 10.6**	**+1.2**
KIWB	**Kanaga Island**	**2.67**	**71**	Pn	**Pn**	**14 47 09.9**	**+0.5**
KIWB				IAML		14 47 54.5	
	comp=E,270nm,0.8s						
KIWB				IAML		14 47 59.8	
	comp=N,246nm,0.6s						
KINC	**Kanaga Island**	**2.71**	**70**		**Pn**	**14 47 11.1**	**+1.3**
ADK	**Adak**	**2.96**	**72**		**Sn**	**14 47 49.5**	**+1.9**
ADK	**Adak**	**2.96**	**72**	Pn	**Pn**	**14 47 14.2**	**+0.9**
ADK				IAML		14 47 50.4	
	comp=N,287nm,0.3s						
ETKA	**Kagalaska Isla**	**3.12**	**73**		**Pn**	**14 47 16.4**	**+0.8**
SHEM	**Shemya Is, Ala**	**3.34**	**302**		**Pn**	**14 47 17.5**	**-1.0**
SHEM	**Shemya Is, Ala**	**3.34**	**302**	Pn	**Pn**	**14 47 20.1**	**+1.5**
	comp=N,17nm,0.3s,baz=78,slow=3.5,SNR=14						
SHEM				Sn	**Sn**	**14 48 02.6**	**+5.6**
	comp=N,11nm,0.3s,baz=122,slow=23,SNR=8.0						
SHEM				LR	LR	14 48 39.5	
	comp=N,137nm,20.1s,baz=162,slow=39 comp=N,60nm,0.5s						
SMY	**Shemya**	**3.34**	**302**		**Pn**	**14 47 17.5**	**-1.0**
SMY				IAML		14 48 13.2	
	comp=N,270nm,1.0s						
SMY				IAML		14 48 17.6	
	comp=E,230nm,1.0s						
GSMY	**Great Sitkin M**	**3.38**	**71**		**Pn**	**14 47 19.7**	**+0.7**
GSTR	**Great Sitkin T**	**3.39**	**70**	Pn	**Pn**	**14 47 18.9**	**-0.3**
GSTR				IAML		14 48 08.3	
	comp=E,351nm,1.2s						
NIKH	**Nikolski High**	**7.88**	**71**	Pn	**Pn**	**14 48 22.4**	**+1.6**
UNV	**Unalaska Valle**	**9.42**	**67**	Pn	**Pn**	**14 48 41.9**	**+0.1**
PETK	**Petropavlovsk-**	**13.12**	**287**	Pn	**Pn**	**14 49 31.8**	**-0.6**
PETK	**Petropavlovsk-**	**13.12**	**287**	Pn	**Pn**	**14 49 33.3**	**+0.9**
	comp=E,0.1nm,0.3s,baz=98,slow=17,SNR=1.8 comp=E,1.9nm,0.9s						
SDPT	**Sand Point**	**13.15**	**63**	Pn	**Pn**	**14 49 32.1**	**-0.7**
K13K	**Kusilvak Mount**	**14.18**	**33**	Pn	**Pn**	**14 49 46.2**	**-0.7**
M14K	**Bethel**	**14.47**	**40**	Pn	**Pn**	**14 49 50.1**	**-0.7**
O15K	**Ungalikthiuk R**	**14.64**	**48**	Pn	**Pn**	**14 49 53.6**	**+0.4**
N15K	**Kwethluk River**	**14.96**	**44**	Pn	**Pn**	**14 49 56.0**	**-1.5**
M16K	**Timber Creek**	**15.87**	**42**	Pn	**Pn**	**14 50 08.2**	**-1.0**
M16K				IAmb	IAmb	14 50 34.7	
	comp=Z,9.0nm,1.1s						
M17K	**Holitna River**	**16.69**	**43**	P	**Pn**	**14 50 20.0**	**+0.3**
M17K				IAmb	IAmb	14 50 51.3	
	comp=Z,15nm,1.1s						
F15K	**North Star Dit**	**16.98**	**24**	P	**P**	**14 50 24.5**	**-0.4**
STLK	**Strandline Lak**	**19.20**	**46**	P	**P**	**14 50 47.3**	**-2.1**
STLK				IAmb	IAmb	14 51 03.3	
	comp=Z,12nm,1.2s						
SKT	**Skwentna**	**19.50**	**44**	P	**P**	**14 50 51.9**	**-0.8**
F19K	**Shaleruckik Mo**	**19.70**	**28**	P	**P**	**14 50 53.3**	**-1.5**
F19K				IAmb	IAmb	14 51 05.1	
	comp=Z,10.0nm,1.1s						
E19K	**Redstone River**	**20.28**	**27**	P	**P**	**14 51 01.1**	**0.0**
E19K				IAmb	IAmb	14 51 07.8	
	comp=Z,10.0nm,1.1s						
F20K	**Avaraart Lake**	**20.46**	**29**	P	**P**	**14 51 02.2**	**-0.8**
H21K	**Melozitna Rive**	**20.61**	**34**	P	**P**	**14 51 05.3**	**+0.5**
H21K				IAmb	IAmb	14 51 09.7	
	comp=Z,7.3nm,1.2s						
ILAR	**Eielson Array**	**22.46**	**39**	P	**P**	**14 51 22.9**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=260,slow=11,SNR=10 comp=Z,0.5nm,0.5s						
D22K	**Ayikyak River**	**22.50**	**27**	P	**P**	**14 51 24.3**	**-0.7**
D22K				IAmb	IAmb	14 51 56.0	
	comp=Z,7.9nm,1.1s						
TOLK	**Toolik Lake Re**	**23.28**	**29**	P	**P**	**14 51 32.2**	**-0.8**
JCJ	**Chichijima**	**36.56**	**243**	P	**P**	**14 53 31.7**	**+0.5**
SONM	**Songino Array**	**45.42**	**296**	P	**P**	**14 54 41.5**	**-2.5**
PDAR	**Pinedale Array**	**47.86**	**71**	P	**P**	**14 55 03.5**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=315,slow=4.3,SNR=7.0 comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**58.23**	**312**	P	**P**	**14 56 19.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=42,slow=6.7,SNR=6.3 comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.02**	**307**	P	**P**	**14 56 23.6**	**-1.3**
MKAR	**Makanchi Array**	**59.02**	**307**	P	**P**	**14 56 24.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=52,slow=7.7,SNR=2.6 comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**60.13**	**319**	P	**P**	**14 56 33.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=53,slow=6.3,SNR=12 comp=Z,2.4nm,0.6s						
TXAR	**Lajitas Array**	**60.22**	**79**	P	**P**	**14 56 33.8**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=321,slow=5.4,SNR=2.0 comp=Z,0.1nm,0.4s						
AB31	**Akbulak array**	**67.25**	**322**	P	**P**	**14 57 19.1**	**-0.3**
AB31				IAmb	IAmb	14 57 36.6	
	comp=Z,0.8nm,0.7s						
ABKAR	**Akbulak array**	**67.25**	**322**	P	**P**	**14 57 19.8**	**+0.4**
VRAC	**Vranov**	**78.86**	**348**	LR	LR	15 33 34.7	
	comp=Z,18nm,21.9s,baz=14,slow=36						
WRA	**Warramunga Arr**	**80.74**	**222**	P	**P**	**14 58 38.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=31,slow=5.7,SNR=5.3 comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**84.23**	**221**	P	**P**	**14 58 56.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=24,slow=6.3,SNR=4.6 comp=Z,0.3nm,0.7s						

IDC 23 14:48:39.2±4.1,3°.68S×144°.79E, h0km,mb3.8/4, mbtmp3.9/5,ML3.9/1,MS3.2/5,Error ellipse: s-maj=85.3km s-min=33.1km az=77.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.24**	**286**	LR	LR	14 51 44.1	
	comp=Z,109nm,19.4s,baz=37,slow=44						
PMG	**Port Moresby**	**6.16**	**158**	LR	LR	14 52 36.0	
	comp=Z,165nm,19.6s,baz=38,slow=38						
HNR	**Honiara**	**16.10**	**112**	LR	LR	14 57 24.9	
	comp=Z,44nm,20.2s,baz=224,slow=33						
WRA	**Warramunga Arr**	**19.11**	**211**	P	Pn	14 53 04.5	0.0
	0.4nm,0.3s,baz=38,slow=12,SNR=36 9.6nm,1.0s						
ASAR	**Alice Springs**	**22.48**	**207**	P	P	14 53 39.7	-0.6
	2.3nm,0.9s,baz=32,slow=11,SNR=21 2.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.60**	**231**	P	P	14 53 52.2	+0.3
	4.3nm,0.6s,baz=60,slow=9.5,SNR=16 4.3nm,0.6s						
KAPI	**Kappang**	**25.00**	**266**	LR	LR	15 06 04.4	
	comp=Z,116nm,18.2s,baz=234,slow=42						
STKA	**Stephens Creek**	**28.21**	**186**	P	P	14 54 33.7	-0.1
	0.4nm,0.4s,baz=12,slow=14,SNR=1.3 0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.22**	**298**	P	P	14 57 37.2	-0.2
	0.3nm,0.4s,baz=124,slow=7.3,SNR=5.1 0.3nm,0.4s						
AAK	**Ala-Archa**	**78.15**	**315**	LR	LR	15 36 53.5	
	comp=Z,30nm,19.6s,baz=164,slow=37						

*TRN **23** 14:53:03.9, 10°.19N×60°.85W, h18km, MD3.5, Near South-east of Trinidad.*
*FUNV **23** 14:53:06.9, 10°.20N×61°.15W, h33km, MW3.8*
ISC 23 14:53:04.4±3.8,10°.0N±0°.2×61°.2W±0°.2,h61km,n11, σ1§79/18,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.65**	**344**	*e*P	**Pn**	**14 53 17.8**	**-0.3**
GRFF	**Grenada Fort F**	**2.08**	**346**	*e*P	**Pn**	**14 53 38.9**	**+1.9**
GRFF				*e*S	**Sn**	**14 54 02.1**	**+0.4**
GRGR	**Grenville**	**2.14**	**349**	*e*P	**Pn**	**14 53 38.2**	**+0.4**
GRGR				*e*S	**Sn**	**14 54 03.1**	**-0.2**
GRW	**Mount Saint Ca**	**2.17**	**349**	*e*P	**Pn**	**14 53 38.2**	**-0.1**
GRW				*e*S	**Sn**	**14 54 05.5**	**+1.4**
GRHS	**Sauteurs**	**2.23**	**349**	*e*S	**Sn**	**14 54 05.2**	**-0.2**
GRSS	**Sisters**	**2.29**	**350**	*e*P	**Pn**	**14 53 40.1**	**+0.2**
GRSS				*e*S	**Sn**	**14 54 06.8**	**-0.2**
SVB	**Belmont**	**3.23**	**360**	*e*P	**Pn**	**14 53 52.2**	**-0.6**
SVB				*e*S	**Sn**	**14 54 28.1**	**-1.9**
TACV	**Tcata**	**5.71**	**272**	*e*P	**Pn**	**14 54 29.0**	**+2.2**
TACV				*e*S	**Sn**	**14 55 29.8**	**-1.3**
CACV	**CAICARA DEL OR**	**5.79**	**245**	*e*P	Pn	14 54 23.7	-4.1
CACV				*e*S	Sn	14 55 22.8	-10
BENV	**Beln**	**6.28**	**270**	*e*P	**Pn**	**14 54 37.2**	**+2.6**
BENV				*e*S	**Sn**	**14 55 41.6**	**-3.4**
BAUV	**El Baul**	**6.81**	**262**	*e*P	**Pn**	**14 54 43.3**	**+1.5**
BAUV				*e*S	**Sn**	**14 55 54.7**	**-3.2**

*ISU **23** 14:55:53, 39°.80N×72°.52E, h4km*
*KRNET **23** 14:55:53.4±0.1, 39°.85N×72°.50E, h14km, mb3.4*
*SOME **23** 14:55:56.6, 39°.95N×72°.52E, h5km*
*NNC **23** 14:55:58.6±1.9, 40°.01N×72°.55E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.5km s-min=5.9km az=2.0*
ISC 23 14:55:53.1±1.2,39°.82N±0°.03×72°.56E±0°.02,h5km±10km, n50,σ2§58/82,30C-16D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.68**	**240**	⇓*e*P	**Pg**	**14 56 06.2**	**+0.1**
DRK				⇓*e*S	**Sg**	**14 56 15.2**	**+0.3**
OHH	**Osh**	**0.72**	**14**	⇓*i*P	**Pg**	**14 56 06.8**	**-0.2**
OHH				⇓*i*S	**Sb**	**14 56 17.0**	**-1.6**
TSTA	**Tashata**	**0.76**	**356**	P	**Pb**	**14 56 08.2**	**-0.6**
TSTA				S	**Sn**	**14 56 20.0**	**-2.5**
FRG	**Fergana**	**0.81**	**313**	S	**Sn**	**14 56 20.5**	**-3.2**
CHMI	**Chimion**	**0.91**	**300**	P	**Pb**	**14 56 10.5**	**-0.9**
CHMI				S	**Sn**	**14 56 23.7**	**-2.5**
ANR	**Andizhan**	**0.94**	**351**	S	**Sn**	**14 56 28.7**	**+1.7**
NAM	**Namangan**	**1.35**	**330**	S	**Sg**	**14 56 42.1**	**+5.5**
MINT	**Mingtut**	**1.37**	**298**	P	**Pg**	**14 56 20.7**	**+1.3**
MINT				S	**Sg**	**14 56 40.1**	**+2.9**
SALK	**Salom-Alik**	**1.44**	**42**	⇑*i*P	**Pb**	**14 56 20.6**	**+0.1**
SALK				⇑*i*S	**Sg**	**14 56 40.4**	**+1.2**
ARSB	**Arslanbob**	**1.54**	**12**	⇑*i*P	**Pb**	**14 56 21.8**	**-0.4**
ARSB				⇑*i*S	**Sg**	**14 56 42.7**	**+0.3**
KSNS	**Kasansay**	**1.55**	**330**	P	**Pg**	**14 56 24.4**	**+1.6**
KSNS				S	**Sg**	**14 56 46.5**	**+3.6**
CHDK	**Chadak**	**1.79**	**310**	P	**Pg**	**14 56 29.2**	**+1.7**
CHDK				S	**Sg**	**14 56 54.1**	**+3.4**
GAR	**Garm**	**1.92**	**245**	⇑*i*P	**Pb**	**14 56 28.4**	**-0.3**
GAR				⇑*i*S	**Sg**	**14 56 54.0**	**-0.7**
TRKS	**Terek-Say**	**2.02**	**328**	⇑*i*P	**Pb**	**14 56 28.7**	**-1.7**
TRKS				⇑*i*S	**Sb**	**14 56 54.5**	**-1.4**
ARK	**Arkit**	**2.02**	**347**	⇑*i*P	**Pb**	**14 56 30.2**	**-0.3**
ARK				⇑*i*S	**Sg**	**14 56 57.1**	**-1.0**
CHMG	**Chimgan**	**2.59**	**313**	S	**Sg**	**14 57 17.3**	**+0.9**
JNKS	**Jany-Kuch**	**2.67**	**61**	⇑*i*P	**Pb**	**14 56 40.1**	**-1.4**
JNKS				⇑*i*S	**Sb**	**14 57 13.9**	**-0.8**
TGS	**TashGRES**	**2.81**	**306**	S	**Sg**	**14 57 27.3**	**+4.0**
TVKS	**Tavaksay**	**2.82**	**309**	S	**Sg**	**14 57 24.2**	**+0.6**
UCH	**Uchtor**	**2.82**	**31**	⇓*i*P	**Pb**	**14 56 41.9**	**-2.4**
UCH				⇓*i*S	**Sb**	**14 57 17.3**	**-2.1**
CHGR	**Chuyangaron**	**2.88**	**247**	⇑*i*P	**Pb**	**14 56 42.1**	**-3.0**
CHGR				⇑*i*S	**Sb**	**14 57 17.8**	**-2.9**
MRKS	**Merke**	**2.96**	**10**	*e*P	**Pb**	**14 56 47.4**	**+0.9**
	14nm,0.5s						
MRKS				*e*S	**Sb**	**14 57 24.2**	**+1.2**
	77nm,0.5s						
NZBK	**Nazarbek**	**2.97**	**299**	S	**Sg**	**14 57 34.9**	**+6.4**
EKS2	**Erkin-Say**	**2.98**	**18**	⇑*i*P	**Pb**	**14 56 43.7**	**-3.1**
EKS2				⇑*i*S	**Sb**	**14 57 20.5**	**-3.1**
IUG	**Iuzhnay**	**3.01**	**321**	Pg	**Pg**	**14 56 50.1**	**-0.6**
	22nm,0.5s						
IUG				Lg	Lg	14 57 29.0	
	87nm,0.7s						
AAK	**Ala-Archa**	**3.17**	**27**	⇑Pg	**Pb**	**14 56 50.3**	**+0.2**
	1.4nm,0.4s						
AAK				⇑Lg	Lg	14 57 33.4	
	15nm,0.7s						
AAK	**Ala-Archa**	**3.17**	**27**	⇑*i*P	**Pb**	**14 56 46.5**	**-3.5**
AAK				⇑*i*S	**Sb**	**14 57 25.4**	**-3.7**
KBK	**Karagaybulak**	**3.36**	**32**	⇑*i*P	**Pn**	**14 56 49.1**	**+2.7**
KBK				⇑*i*S	**Sb**	**14 57 30.0**	**-4.5**
FRU1	**Bishkek**	**3.37**	**27**	⇓*i*P	**Pb**	**14 56 49.4**	**-4.0**
FRU1				⇓*i*S	**Sb**	**14 57 30.4**	**-4.3**
CHMS	**Chumysh**	**3.58**	**27**	⇑*i*P	**Pn**	**14 56 51.9**	**+2.6**
CHMS				⇑*i*S	**Sn**	**14 57 34.8**	**+2.8**
KK31	**Karatay Array**	**3.62**	**336**	⇓Pn	**Pb**	**14 56 54.1**	**-3.5**
	0.5nm,0.3s,baz=143,slow=12,SNR=8.0						
KK31				⇓Pg	**Pg**	**14 57 01.6**	**-0.8**
	3.2nm,0.4s,baz=151,slow=16,SNR=13						
KK31				⇓Sn	**Sb**	**14 57 36.5**	**-5.4**
	3.8nm,0.3s,baz=140,slow=24,SNR=4.3						
KK31				⇓Lg	Lg	14 57 46.5	
	5.2nm,0.3s,baz=160,slow=30,SNR=4.2						
BOOM	**Boomskoye usch**	**3.69**	**43**	⇓*i*P	**Pn**	**14 56 54.0**	**+3.0**
BOOM				⇓*i*S	**Sn**	**14 57 38.1**	**+3.1**
ULHL	**Ulahol**	**3.69**	**48**	⇑*i*P	**Pn**	**14 56 54.1**	**+3.0**
ULHL				⇑*i*S	**Sn**	**14 57 38.3**	**+3.2**
USP	**Ospenovka**	**3.74**	**22**	⇓*i*P	**Pn**	**14 56 54.3**	**+2.8**
USP				⇓*e*S	**Sn**	**14 57 38.7**	**+2.7**
BRLS	**Borolday**	**3.80**	**328**	Pg	**Pg**	**14 57 02.6**	**-3.3**
	2.7nm,0.3s						
BRLS				Lg	Lg	14 57 50.2	
	12nm,0.3s						
BRLS	**Borolday**	**3.80**	**328**	*e*P	**Pg**	**14 57 02.6**	**-3.3**
	2.6nm,0.2s						
BRLS				*e*S	**Sg**	**14 57 50.2**	**-4.9**
	13nm,0.4s						
TKM2	**Tokmak 2**	**3.85**	**35**	⇑*i*P	**Pn**	**14 56 56.1**	**+2.9**
TKM2				⇑*i*S	**Sn**	**14 57 41.9**	**+2.9**
SGDS	**Sogindy**	**3.95**	**23**	Pg	**Pg**	**14 57 08.6**	**-0.1**
	3.5nm,0.5s						
SGDS				Lg	Lg	14 58 00.2	
	8.2nm,0.4s						
KST	**Kastek**	**4.11**	**37**	Pg	**Pg**	**14 57 11.4**	**-0.5**
	2.4nm,0.4s						
KST				Lg	Lg	14 58 04.9	
	16nm,0.6s						
KST	**Kastek**	**4.11**	**37**	*e*P	**Pg**	**14 57 11.4**	**-0.5**
	0.6nm,0.2s						
KST				*e*S	**Sg**	**14 58 05.4**	**+0.2**
	16nm,0.6s						
DGS	**Degeres**	**4.18**	**34**	Pg	**Pg**	**14 57 12.2**	**-1.1**
	6.3nm,0.6s						
DGS				Lg	Lg	14 58 06.5	
	14nm,0.7s						
KDJ	**Kajisay**	**4.19**	**55**	⇑*i*P	**Pn**	**14 57 01.1**	**+3.2**
KDJ				⇑*i*S	**Sn**	**14 57

JCH	Churui	0.95	41	*i* P	Pn	15 02 53.3	0.0
JCH				S	Sn	15 03 06.6	+0.2
JKB	Kayabe	1.11	270	⇓*i*P	Pn	15 02 55.1	-0.4
JKB				⇓S	Sn	15 03 09.6	-0.5
JOT	Ohata	1.22	246	⇓*i*P	Pn	15 02 56.8	-0.1
JOT				⇓S	Sn	15 03 12.3	-0.2
JEW	Eniwo	1.24	320	⇓*i*P	Pn	15 02 56.9	-0.1
JNB	Noboribetsu	1.25	298	⇓*i*P	Pn	15 02 56.4	-0.7
JNB				⇓S	Sn	15 03 12.0	-1.2
JFR	Furan	1.27	2	⇓*i*P	Pn	15 02 57.4	-0.2
JFR				⇓*e*S	Sn	15 03 14.3	+0.5
JOB	Onbets	1.40	43	⇓*i*P	Pn	15 03 00.3	+1.1
JOB				⇓S	Sn	15 03 18.4	+1.7
JTM	Tenmabayashi	1.56	225		Pn	15 03 02.0	+0.7
JTM				Sn	Sn	15 03 19.5	-1.1
JTM	Tenmabayashi	1.56	225	*i* P	Pn	15 03 02.3	+1.0
JISS	Ishikarishitsu	1.60	330	⇓*i*P	Pn	15 03 02.1	+0.2
JISS				⇓S	Sn	15 03 22.2	+0.5
JSR	Shiriuchi	1.62	258	P	Pn	15 03 02.4	+0.3
JSR				S	Sn	15 03 22.7	+0.7
JYM2	Yakumo 2	1.62	279	*i* P	Pn	15 03 02.3	+0.1
JAB	Ashibetsu	1.62	352	P	Pn	15 03 03.2	+0.9
JAB				S	Sn	15 03 24.4	+2.2
JAR	Ashorobuto	1.68	33	*i* P	Pn	15 03 03.4	+0.5
JANG	Nango	1.70	207	⇓*i*P	Pn	15 03 03.8	+0.5
JKA	Kamikawa-asahi	2.22	1	Pn	Pn	15 03 10.1	-0.2
ASAJ	Asahikawa	2.22	1	P	Pn	15 03 11.5	+1.2
	53nm,0.3s,baz=208,slow=11,SNR=265						
ASAJ				S	Sn	15 03 38.9	+2.2
	92nm,0.4s,baz=132,slow=28,SNR=12						
NMR	Nemuro--Hokkai	2.79	57	⇑*i*P	Pn	15 03 17.0	-1.0
NMR				*e*S	Sn	15 03 47.1	-3.3
GLVR	Golovnino	2.87	49	*e*P	Pn	15 03 19.5	+0.4
GLVR				*e*S	Sn	15 03 51.6	-0.9
GLVR				pmax	pmax		
	comp=N,47nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,143nm,0.1s						
GLVR				pmax	pmax		
	comp=E,68nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,788nm,0.2s						
RUSJ	Misakicho	2.98	41	*e*P	Pn	15 03 22.6	+2.0
RUSJ				*e*S	Sn	15 03 57.4	+2.3
YUK	Yuzh-Kuril'sk	3.25	48	*e*P	Pn	15 03 25.1	+0.8
YUK				*e*S	Sn	15 04 00.7	-1.1
YUK				pmax	pmax		
	comp=Z,359nm,0.2s						
YUK				pmax	pmax		
	comp=N,89nm,0.1s						
YUK				pmax	pmax		
	comp=E,112nm,0.1s						
YUK				smax	smax		
	comp=N,552nm,0.5s						
YUK				smax	smax		
	comp=E,727nm,0.5s						
JMM	Marumori	4.24	199	Pn	Pn	15 03 38.1	+0.3
JSD	Sado	5.06	222	Pn	Pn	15 03 50.3	+1.3
YSS	Yuzhno-Sakhali	5.06	2	Pn	Pn	15 03 49.6	+0.5
YSS	Yuzhno-Sakhali	5.06	2	*e*P	Pn	15 03 51.9	+2.8
YSS				*e*S	Sn	15 04 46.6	+0.5
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=N,20nm,1.1s						
YSS				smax	smax		
	comp=E,10.0nm,1.2s						
KUR	Kuril'sk	5.12	48	*e*P	Pn	15 03 51.7	+1.9
KUR				*e*S	Sn	15 04 48.9	+1.4
KUR				pmax	pmax		
	comp=Z,64nm,0.6s						
KUR				pmax	pmax		
	comp=N,29nm,0.5s						
KUR				pmax	pmax		
	comp=E,39nm,0.5s						
KUR				smax	smax		
	comp=N,85nm,0.4s						
KUR				smax	smax		
	comp=E,76nm,0.3s						
MJB9	Matsu-Tunnel	6.31	214	Pn	Pn	15 04 06.7	+0.5
MAJO	Matsushiro	6.31	213	Pn	Pn	15 04 06.6	+0.4
MAJO	Matsushiro	6.31	213	*i* P	Pn	15 04 08.8	+2.6
MJAR	Matsushiro Arr	6.31	213	Pn	Pn	15 04 06.9	+0.7
MJAR	Matsushiro Arr	6.31	213	P	Pn	15 04 10.0	+3.8
	comp=E,1.9nm,0.6s,baz=26,slow=13,SNR=6.5						
JGF	Kuroka	7.47	214	Pn	Pn	15 04 24.2	+2.1
USRK	Ussuriysk Ar.	8.05	290	P	Pn	15 04 33.3	+3.3
	comp=E,6.4nm,0.7s,baz=101,slow=13,SNR=7.0						
MSHR	Mys Shultsa	8.46	278	*ce*P	Pn	15 04 45.4	+10
MSHR				pmax	pmax		
	comp=Z,17nm,1.7s						
KSRS	Korea Array	12.09	253	P	P	15 05 30.6	-5.1
	comp=Z,1.3nm,0.4s,baz=65,slow=14,SNR=8.1						
KSRS	Korea Array	12.09	253	*e*P	P	15 05 31.6	-4.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZEA	Zeya	15.63	324	*e*P	Pn	15 06 12.3	+0.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HILR	Hailar Array B	17.61	304	P	P	15 06 37.3	+0.4
	comp=Z,1.4nm,0.4s,baz=100,slow=8.0,SNR=3.7						
TIA	Tai'an	20.49	262	P	P	15 07 07.3	-1.1
TIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NJ2	Nanjing	21.25	250	*e*P	P	15 07 17.4	+0.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
YAK	Yakutsk	21.58	343	P	P	15 07 18.0	-1.8
YAK	Yakutsk	21.58	343	P	P	15 07 18.1	-1.8
	comp=Z,5.2nm,0.5s,baz=76,slow=1.9,SNR=4.9						
	comp=Z,5.2nm,0.5s						
YAK	Yakutsk	21.58	343	*ce*P	P	15 07 18.7	-1.2
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SEY	Seymchan	21.86	12	P	P	15 07 21.1	-1.8
	comp=Z,3.6nm,1.0s,baz=223,slow=10,SNR=5.8						
	comp=Z,3.6nm,1.0s						
HHC	Hu-ho-hao-te	23.20	278	*e*P	P	15 07 37.0	-0.2
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
ULN	Ulaanbaatar	25.68	296	*ce*P	P	15 08 01.3	+1.5
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
SONM	Songino Array	26.12	296	P	P	15 08 03.8	+0.1
SONM	Songino Array	26.12	296	P	P	15 08 03.9	+0.1
	comp=Z,0.8nm,0.5s,baz=64,slow=9.2,SNR=4.6						
	comp=Z,0.8nm,0.5s						
SONM	Songino Array	26.12	296	*e*P	P	15 08 04.7	+0.9
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	WAKE ISLAND Hy	30.24	129	T	T	15 40 20.3	
	baz=323,slow=75,SNR=84						
H11N1	WAKE ISLAND Hy	30.25	130	T	T	15 40 21.1	
	baz=323,slow=75,SNR=74						
H11N3	WAKE ISLAND Hy	30.26	129	T	T	15 40 21.6	
	baz=323,slow=75,SNR=75						
LZH	Lanzhou	30.43	272	*e*P	P	15 08 46.4	+4.0
LZH				sP	sP	15 09 10.0	+5.1
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
LZH				LR	LR		
	comp=N,120nm,15.1s						
LZH				LR	LR		
	comp=E,160nm,18.6s						
LZH				LR	LR		
	comp=Z,170nm,17.9s						
H11S1	WAKE ISLAND Hy	31.10	131	T	T	15 41 25.2	
	baz=325,slow=76,SNR=66						
H11S3	WAKE ISLAND Hy	31.11	131	T	T	15 41 25.3	
	baz=325,slow=76,SNR=74						
H11S2	WAKE ISLAND Hy	31.12	131	T	T	15 41 09.7	
	baz=325,slow=76,SNR=50						
PZH	PanZhiHua	36.69	258	P	P	15 09 37.8	+1.1
ZAA0	Zalesovo Array	39.43	308	P	P	15 09 58.9	-0.4
ZAA0				IAmb	IAmb	15 10 00.3	
	comp=Z,2.5nm,0.8s						
ZALV	Zalesovo Beam	39.43	308	P	P	15 09 58.6	-0.7
ZALV	Zalesovo Beam	39.43	308	P	P	15 09 59.4	+0.1
	comp=Z,2.0nm,0.5s,baz=90,slow=7.4,SNR=9.5						
ZALV				PcP	PcP	15 12 06.3	+0.2
	comp=Z,0.8nm,0.7s,baz=84,slow=4.6,SNR=3.6						
	comp=Z,2.0nm,0.5s						
WMQ	Urumqi	39.62	292	*e*P	P	15 10 03.4	+2.3
MK31	Makanchi Array	42.44	298	*ce*P	P	15 10 25.3	+1.2
MKAR	Makanchi Array	42.44	298	P	P	15 10 24.4	+0.3
MKAR	Makanchi Array	42.44	298	P	P	15 10 24.6	+0.4
	comp=Z,1.7nm,0.6s,baz=80,slow=9.2,SNR=14						
	comp=Z,1.7nm,0.6s						
CMAR	Chiang Mai Arr	43.72	251	P	P	15 10 35.4	+0.6
CMAR	Chiang Mai Arr	43.72	251	P	P	15 10 35.1	+0.4
	comp=Z,0.5nm,0.5s,baz=40,slow=6.7,SNR=5.8						
	comp=Z,0.5nm,0.5s						
CMAR	Chiang Mai Arr	43.72	251	P	P	15 10 35.4	+0.6
KURK	Kurchatov	43.75	304	P	P	15 10 34.9	+0.3
KURK				IAmb	IAmb	15 10 38.0	
	comp=Z,4.4nm,0.7s						
KURK	Kurchatov	43.75	304	P	P	15 10 35.5	+0.8
KURBB	Kurchatov Arra	43.83	304	P	P	15 10 35.5	+0.1
	comp=Z,5.1nm,0.7s,baz=77,slow=8.8,SNR=15						
	comp=Z,5.1nm,0.7s						
H24K	Noodor Dome	44.48	33	P	P	15 10 42.1	+1.7
H24K				IAmb	IAmb	15 11 03.5	
	comp=Z,9.3nm,1.4s						
IL31		44.97	35	P	P	15 10 44.3	+0.1
ILAR	Eielson Array	44.97	35	P	P	15 10 43.9	-0.3
ILAR	Eielson Array	44.97	35	P	P	15 10 44.9	+0.6
	comp=Z,0.8nm,0.8s,baz=257,slow=5.3,SNR=7.6						
	comp=Z,0.8nm,0.8s						
BMAR	Burnt Mountain	45.70	31	P	P	15 10 51.8	+1.9
RIDG	Independent Ri	45.97	36	P	P	15 10 54.0	+1.8
K27K	Chicken	47.14	36	P	P	15 11 02.5	+1.3
K27K				IAmb	IAmb	15 11 03.8	
	comp=Z,7.3nm,1.4s						
TARG	Taragay, Kyrgy	47.17	293	P	P	15 11 02.6	+0.2
TARG				IAmb	IAmb	15 11 04.1	
	comp=Z,2.3nm,0.7s						
TARG	Taragay, Kyrgy	47.17	293	P	P	15 11 02.6	+0.2
TARG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
I28M	Miner Creek	47.80	33	P	P	15 11 07.5	+1.0
I28M				IAmb	IAmb	15 11 13.2	
	comp=Z,9.0nm,1.4s						
BVAR	Borovoye Array	48.05	309	P	P	15 11 08.8	+0.3
	comp=Z,2.5nm,0.4s,baz=78,slow=9.5,SNR=20						
	comp=Z,2.5nm,0.4s						
BORK	Borovoye	48.08	309	*i* P	P	15 11 06.8	-1.9
BORK				pmax	pmax		
	comp=Z,11nm,2.0s						
BOOM	Boomskoye usch	48.15	294	P	P	15 11 10.2	+0.6
BOOM	Boomskoye usch	48.15	294	P	P	15 11 10.2	+0.6
BOOM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H29M	Whitestone	48.29	32	P	P	15 11 11.9	+1.7
H29M				IAmb	IAmb	15 11 29.3	
	comp=Z,13nm,1.4s						
F30M	Barrier River	49.02	30	P	P	15 11 16.9	+1.2
F30M				IAmb	IAmb	15 11 25.0	
	comp=Z,7.8nm,1.1s						
AAK	Ala-Archa	49.07	295	*i* P	P	15 11 15.2	-1.5
AAK				pmax	pmax		
	comp=Z,5.0nm,1.8s						
KSH	Kashi	49.35	291	P	P	15 11 23.4	+4.6
INK	Inuvik	49.70	29	P	P	15 11 19.9	-0.9
INK				IAmb	IAmb	15 11 29.0	
	comp=Z,12nm,1.4s						
INK	Inuvik	49.70	29	P	P	15 11 19.9	-0.9
INK				pmax	pmax		
	comp=Z,12nm,1.5s						
G31M	Satah River	49.74	31	P	P	15 11 21.0	-0.2
H31M	Peel River	49.99	32	P	P	15 11 23.4	+0.3
H31M				IAmb	IAmb	15 11 25.2	
	comp=Z,12nm,1.2s						
ARSB	Arslanbob	50.64	294	P	P	15 11 28.9	+0.3
ARSB	Arslanbob	50.64	294	P	P	15 11 28.9	+0.3
ARSB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KK31	Karatay Array	51.55	297	P	P	15 11 35.0	-0.2
KK31				IAmb	IAmb	15 11 36.0	
	comp=Z,2.7nm,0.6s						
KK31	Karatay Array	51.55	297	P	P	15 11 35.0	-0.2
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	51.55	297	P	P	15 11 35.1	-0.1
KKAR	Karatay Array	51.55	297	P	P	15 11 35.1	-0.1
KULM	Kulim	52.08	237	P	P	15 11 40.5	+1.0
KULM				IAmb	IAmb	15 11 42.1	
	comp=Z,7.9nm,0.9s						
ARTI	Arti	53.47	316	P	P	15 11 49.1	0.0
ARTI				IAmb	IAmb	15 11 49.7	
	comp=Z,4.8nm,0.6s						
ARTI	Arti	53.47	316	*d i*P	P	15 11 48.0	-1.1
ARTI						15 12 50.4	
ARTI				S	S	15 19 12.4	-4.3
ARTI				SS	SS	15 22 49.0	-7.9
ARTI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
CHGR	Chuyangaron	54.47	293	P	P	15 11 57.0	+0.2
CHGR	Chuyangaron	54.47	293	P	P	15 11 57.0	+0.2
CHGR				pmax	pmax		
	comp=Z,11nm,0.8s						
AB31	Akbulak array	55.55	308	P	P	15 12 04.8	+0.5
ABKAR	Akbulak array	55.55	308	P	P	15 12 04.6	+0.3
KNRA	Kununurra	58.68	196	P	P	15 12 27.4	+0.8
WB0	Warramunga Arr	61.81	189	P	P	15 12 48.3	+0.3
WB0				IAmb	IAmb	15 13 29.3	
	comp=Z,4.7nm,1.2s						
WR8	Warramunga Arr	61.98	189	P	P	15 12 49.0	-0.2
WRA	Warramunga Arr	61.99	189	P	P	15 12 47.6	-1.6
WRA	Warramunga Arr	61.99	189	P	P	15 12 49.5	+0.3
	comp=Z,0.8nm,0.4s,baz=6.3,slow=6.9,SNR=14						
	comp=Z,0.8nm,0.4s						
FIA1	FINESS Array S	64.93	332	P	P	15 13 07.8	-0.4
FIA1				IAmb	IAmb	15 13 12.6	
	comp=Z,4.5nm,0.6s						
FINES	FINESS Array B	64.93	332	P	P	15 13 07.5	-0.7
FINES	FINESS Array B	64.93	332	P	P	15 13 08.0	-0.2
	comp=Z,2.9nm,0.5s,baz=54,slow=7.7,SNR=28						
	comp=Z,2.9nm,0.5s						
FINES	FINESS Array B	64.93	332	*e*P	P	15 13 08.4	+0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	Alice Springs	65.72	189	P	P	15 13 13.4	-0.2
ASAR	Alice Springs	65.72	189	P	P	15 13 14.4	+0.7
	comp=Z,0.2nm,0.4s,baz=5.3,slow=7.5,SNR=9.8						
	comp=Z,0.2nm,0.4s						
HFS	Hagfors	70.02	335	P	P	15 13 40.6	+0.3
	comp=Z,2.3nm,0.3s,baz=38,slow=6.1,SNR=24						
	comp=Z,2.3nm,0.3s						
NB2	NORSAR Subarra	70.04	337	P	P	15 13 40.5	0.0
	comp=Z,0.9nm,0.5s,baz=36,slow=6.5						
NOA	NORSAR Array B	70.04	337	P	P	15 13 40.5	0.0
	comp=Z,2.0nm,0.8s,baz=36,slow=6.2,SNR=7.0						
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	71.00	322	P	P	15 13 45.9	-0.5
AKASG	Malin Array Be	71.00	322	P	P	15 13 46.3	-0.1
	comp=Z,1.7nm,0.5s,baz=44,slow=5.9,SNR=8.3						
	comp=Z,1.7nm,0.5s						
AKASG	Malin Array Be	71.00	322	*e*P	P	15 13 46.6	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKBB	Malin Array Si	71.00	322	*ce*P	P	15 13 45.0	-1.4
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BURAR	Bucovina Array	75.04	322	P	P	15 14 11.5	+0.9
STHS	Stebnicka Huta	75.48	325	*e*P	P	15 14 15.5	+2.6
STHS	Stebnicka Huta	75.48	325	*e*P	P	15 14 15.5	+2.6
BRTR	Keskin Array B	76.28	311	P	P	15 14 17.9	+0.2
	comp=Z,1.0nm,0.6s,baz=116,slow=4.0,SNR=5.0						
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	76.28	311	P	P	15 14 18.0	+0.2
SNAA	Sanae	145.63	199	PKPdf	PKPab	15 22 06.7	+0.3
SNAA	Sanae	145.63	199	PKP2	PKPab	15 22 06.7	+0.3
H03N2	Juan Fernandez	146.38	89	T	T	18 05 27.9	
	baz=300,slow=76,SNR=9.0						
H03N3	Juan Fernandez	146.40	89	T	T	18 05 25.5	
	baz=300,slow=76,SNR=11						
H03N1	Juan Fernandez	146.40	89	T	T	18 05 29.2	
	baz=300,slow=76,SNR=17						

NEIC ***23*** *15:05:46.0±1.1,20°.12N±0°.04×155°.80W±0°.06,h32km±9km, Error ellipse: s-maj=8.4km s-min=5.1km az=121.0*
HVO 23 15:05:48.1±2.0,20°.14N±0°.04×155°.79W±0°.03,h24km±8km, ML2.4/12,ML2.6/42(NEIC),Error ellipse: s-maj=6.6km s-min=3.7km az=162.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	Mahukona	0.12	293	Pg	Pb	15 05 52.2	-0.5
MHA				Sg	Sb	15 05 55.5	-0.3
HPAH	Hawaii Prepara	0.14	143	Pg	Pb	15 05 52.4	-0.6
HPAH				Sg	Sb	15 05 55.8	-0.5
HPAH				IAML		15 05 55.9	
	comp=N,1μm,0.2s						
POHA	Pohakuloa	0.45	148	Pg	Pb	15 05 56.1	-1.5
POHA				Sg	Sb	15 06 02.4	-1.6
HUH	Hualalai	0.46	186	Pg	Pb	15 05 56.6	-1.1
HUH				Sg	Sb	15 06 01.8	-2.4
HUH				IAML		15 06 05.1	
	comp=E,345nm,1.1s						
HUH				IAML		15 06 07.0	
	comp=N,395nm,0.4s						
KKH	Kailua Kona	0.53	204		Pb	15 05 57.3	-1.5
KKH					Sb	15 06 04.4	-1.6
HMH	Humu'ula Sheep	0.61	152	Pg	Pb	15 05 58.5	-1.8
HMH				IAML		15 06 04.7	
	comp=N,254nm,4.5s						
HMH				Sg	Sb	15 06 06.4	-2.2
HMH				IAML		15 06 15.4	
	comp=E,224nm,3.6s						
ALEP	Alea Permanent	0.61	167		Pb	15 05 58.9	-1.5
ALEP					Pn	15 06 06.7	+5.0
MWH	Mokuaweoweo	0.68	165	Pg	Pb	15 05 59.3	-2.3
MWH				IAML		15 06 06.0	
	comp=E,317nm,1.9s						
MWH				Sg	Sb	15 06 07.5	-3.3
MWH				IAML		15 06 15.6	
	comp=N,288nm,2.1s						
MLH	Mauna Loa	0.75	150	Pg	Pb	15 06 00.3	-2.3
MLH				IAML		15 06 08.5	
	comp=N,227nm,3.4s						
MLH				Sg	Sb	15 06 09.4	-3.1
HLK	Haleakala	0.75	325	IAML		15 06 05.0	
	comp=E,159nm,3.5s						
HLK				IAML		15 06 13.5	
	comp=N,173nm,2.5s						
AIN	Ainahou	0.83	158		Pb	15 06 01.4	-2.5
AIN				IAML		15 06 09.9	
	comp=E,165nm,3.7s						
AIN				IAML		15 06 11.6	
	comp=N,213nm,2.1s						
AIN	Ainahou	0.83	158		Sb	15 06 11.6	-3.1
RSD	Rainshed	0.83	145		Pb	15 06 01.3	-2.6
RSD				IAML		15 06 05.6	
	comp=N,246nm,3.9s						
RSD				Sg	Sb	15 06 11.2	-3.5
RSD				IAML		15 06 12.1	
	comp=E,146nm,0.1s						
UWE	Uwekahuna	0.85	147		Pb	15 06 01.6	-2.7
UWE				Sg	Sb	15 06 11.7	-3.7
UWB	Uwekahuna Bluf	0.86	146		Pb	15 06 01.5	-2.9
UWB					Pn	15 06 11.3	+6.5
OBL	Observatory Le	0.86	147		Pb	15 06 01.6	-2.8
OBL					Pn	15 06 12.0	+7.2
SBLHI	Steaming Bluff	0.86	145		Pb	15 06 01.6	-2.9
SBLHI					Pn	15 06 11.9	+7.0
WRMHI	West Rim	0.86	148		Pb	15 06 01.6	-2.9
WRMHI					Sb	15 06 12.0	-3.7
HATHI	Halema'uma'u T	0.87	145	Pg	Pb	15 06 01.6	-2.9
HATHI				Sg	Sb	15 06 11.6	-4.3
HATHI				IAML		15 06 14.2	
	comp=E,178nm,3.6s						
HATHI				IAML		15 06 15.5	
	comp=N,200nm,3.2s						
BYL	Byron's Ledge	0.88	146	Pg	Pb	15 06 01.7	-3.0
BYL				Sg	Sb	15 06 11.8	-4.3
BYL				IAML		15 06 12.4	
	comp=N,173nm,3.2s						
SDHHI	Sand Hill	0.88	148		Pb	15 06 01.8	-2.9
SDHHI					Pn	15 06 12.6	+7.5
RIM	Rim	0.89	147		Pb	15 06 01.9	-3.0
RIM					Sb	15 06 12.6	-3.8
KKO	Keanakako'i	0.89	146		Pb	15 06 02.0	-2.9
KKO					Sb	15 06 12.7	-3.6
KHU	Kahuku	0.91	170		Pb	15 06 02.3	-3.0
KHU					Pn	15 06 12.7	+7.2
PUH	Pauahi	0.93	145	Pg	Pb	15 06 02.3	-3.4
PUH				IAML		15 06 28.4	
	comp=E,154nm,4.6s						
HLP	Hilina Pali	0.95	152	Pn	Pb	15 06 02.9	-3.1
KNHH	Kane Nui o Ham	0.95	142		Pb	15 06 02.9	-3.1
HTC	Hot Caves	0.97	158		Pb	15 06 03.2	-3.0
STCH	Steam Cracks	0.98	140	Pn	Pb	15 06 03.0	-3.4
STCH					Sb	15 06 14.2	-4.7
STCH				IAML		15 06 35.0	
	comp=N,129nm,4.6s						
NPOC	North of Pu'u	0.98	139		Pb	15 06 03.2	-3.3
NPOC					Sb	15 06 14.3	-4.7
JCUZ	Jacuzzi	0.99	139		Pn	15 06 03.4	-3.3
JOKA	Jonika Flow	1.02	134	Pn	Pn	15 06 03.8	-3.2
JOKA				IAML		15 06 14.9	
	comp=E,155nm,4.3s						

STR ***23*** *15:12:21.5±0.0,45°.66N±0°.04×4°.29E±0°.03,h10km, MLv3.0/36,LOCSAT earthModelID auvergne_taup-2.11 preliminary*
LDG 23 15:12:21.0±0.0,45°.66N×4°.30E,h5km,Md2.0/1,Ml3.3/45, Error ellipse: s-maj=0.7km s-min=0.6km az=15.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLDF	La Plantade	0.57	304	Pg	Pg	15 12 32.0	0.0
PLDF				Sg	Sg	15 12 39.8	+0.4
CFF	Clermont-Ferra	0.84	278	Pg	Pg	15 12 37.5	+0.4
CFF				Sg	Sb	15 12 49.1	-0.6
VIVF	Saint-Julien-l	0.84	162	*e*Pg	Pg	15 12 36.4	-0.7
VIVF				*e*Sg	Sg	15 12 47.0	-1.0
AGO	Saint Agoulin	0.91	296	Pg	Pg	15 12 38.4	-0.1
AGO				Sg	Sg	15 12 50.1	-0.1
OG35	Corcelles	0.97	66	Pg	Pg	15 12 38.9	-0.7
OG35				Pn	Pb	15 12 39.5	-0.8
OG35				Sg	Sg	15 12 51.8	-0.4
OGSM	Saint Maurice	0.98	92	Pg	Pg	15 12 39.4	-0.4
OGSM				Pn	Pb	15 12 40.1	-0.4
OGSM				Sg	Sg	15 12 52.0	-0.6
SMF	Signal de Mont	1.04	342	*e*Pg	Pg	15 12 40.6	-0.4
SMF				*e*Sg	Sg	15 12 53.7	-0.8
	75nm,0.2s						
GRN	Grenoble	1.10	112	Pg	Pg	15 12 41.1	-0.9
GRN				Pn	Pb	15 12 41.8	-0.7
GRN				Sg	Sg	15 12 56.0	-0.3
OGMY	Moye	1.14	78	Pg	Pg	15 12 41.3	-1.4
OGMY				Pn	Pb	15 12 42.4	-0.7
FRNF	Fournols	1.25	258	Pn	Pg	15 12 43.0	-1.9
FRNF				Pg	Pb	15 12 44.6	-0.

RIVEL			Pg	Pb	15 12 50.7	0.0
RIVEL			Sn	Sg	15 13 11.3	-0.4
TCF	**Toulx Ste Croi**	**1.59 294**	*e*Pn	Pn	15 12 48.4	-1.4
TCF	**Toulx Ste Croi**	**1.59 294**	*e*Pg	Pn	15 12 50.2	+0.4
TCF			*e*Sn	Sn	15 13 07.8	-3.0
TCF			*e*Sg	Sb	15 13 10.9	-0.4
	71nm,0.3s					
LASF	**Ste Croix**	**1.61 191**	*e*Pg	Pn	15 12 50.6	+0.5
LASF			*e*Sg	Sn	15 13 10.9	-0.4
	52nm,0.1s					
GIMEL	**St. Georges /**	**1.63 57**	Pn	Pn	15 12 48.3	-2.1
GIMEL			Pg	Pb	15 12 51.8	+0.2
GIMEL			Sg	Sg	15 13 12.9	-0.4
RSL	**Roselend**	**1.63 88**	Pn	Pn	15 12 49.4	-1.1
RSL			Pg	Pb	15 12 51.3	-0.3
RSL			Sn	Sn	15 13 11.7	-0.3
LOR	**Lormes**	**1.64 349**	*e*Pg	Pn	15 12 50.6	0.0
	baz=168					
LOR			*e*Sg	Sn	15 13 12.1	0.0
	70nm,0.2s					
LPL	**La Plagne**	**1.71 94**	*e*Pg	Pg	15 12 53.6	-0.2
LPL			*e*Sg	Sn	15 13 14.4	+0.3
	36nm,0.3s					
LPG	**La Plagne**	**1.73 94**	*e*Pg	Pb	15 12 53.0	-0.4
LPG			*e*Sg	Sn	15 13 14.9	+0.3
	34nm,0.2s					
CAF	**Calviac**	**1.74 246**	*e*Pn	Pn	15 12 50.2	-1.7
CAF	**Calviac**	**1.74 246**	*e*Pg	Pb	15 12 52.8	-0.6
CAF			*e*Sg	Sb	15 13 15.2	-0.4
	31nm,0.2s					
SAUF	**chteau de Sau**	**1.81 161**	Pn	Pn	15 12 52.1	-0.7
SAUF			Pg	Pb	15 12 54.9	+0.3
SAUF			Sn	Sb	15 13 18.0	+0.4
LAJAS	**L'Hospitalet-d**	**1.85 205**	Pn	Pn	15 12 51.9	-1.6
LAJAS			Pg	Pb	15 12 55.0	-0.3
RRL	**Rocca Remolon**	**1.91 112**	Pn	Pn	15 12 53.5	-0.8
RRL			Pg	Pb	15 12 56.9	+0.5
SMRF	**Simiane la Rot**	**1.91 151**	*e*Pn	Pn	15 12 52.2	-2.0
SMRF	**Simiane la Rot**	**1.91 151**	*e*Pg	Pb	15 12 56.5	+0.2
SMRF			*e*Sg	Sb	15 13 19.8	-0.6
	12nm,0.3s					
RUSF	**Rustrel**	**1.91 153**	Pn	Pn	15 12 52.6	-1.6
RUSF			Pg	Pg	15 12 57.6	0.0
MLYF	**Mely**	**1.97 147**	Pn	Pn	15 12 53.7	-1.4
AIGLE	**Aigle**	**1.97 69**	Pn	Pn	15 12 53.5	-1.7
AIGLE			Pg	Pb	15 12 57.8	+0.4
AIGLE			Sg	Sg	15 13 24.0	-0.4
BRANT	**Les Verrieres**	**1.98 49**	Pn	Pn	15 12 52.9	-2.3
BRANT			Sg	Sg	15 13 23.9	-0.7
MBDF	**Montbardon**	**1.98 117**	*e*Pg	Pb	15 12 57.9	+0.3
MBDF			*e*Sg	Sb	15 13 22.5	-0.1
	74nm,0.6s					
HYF	**Humbligny**	**1.98 325**	*e*Pg	Pb	15 12 57.6	+0.1
HYF			*e*Sg	Sb	15 13 22.6	+0.1
	109nm,0.2s					
CREF	**Crivoux**	**1.98 123**	Pn	Pn	15 12 53.6	-1.7
CREF			Pg	Pb	15 12 57.9	+0.3
RJF	**Les Rejaudoux**	**1.99 261**	*e*Pn	Pn	15 12 54.5	-0.8
RJF	**Les Rejaudoux**	**1.99 261**	*e*Pg	Pb	15 12 58.2	+0.5
RJF			*e*Sg	Sb	15 13 22.4	-0.4
	24nm,0.2s					
OGAG	**Argentiere**	**1.99 126**	Pn	Pn	15 12 52.0	-3.4
OGAG			Pg	Pb	15 12 54.6	-3.2
OGAG			Sn	Sn	15 13 17.3	-3.4
LSD	**Lago del Serru**	**2.00 95**	Pn	Pn	15 12 54.6	-1.1
REMY	**Saint-Rhmy-en**	**2.01 84**	Pn	Pn	15 12 54.4	-1.4
REMY			Pg	Pb	15 12 58.7	+0.5
BOUC	**Bouclans**	**2.09 40**	Pn	Pn	15 12 54.2	-2.5
BOUC			Pg	Pb	15 12 59.4	0.0
BOUC			Sg	Sg	15 13 27.1	-0.9
SLVF	**La Salvetat-Pe**	**2.11 227**	Pn	Pn	15 12 54.8	-2.1
SLVF			Pg	Pb	15 13 00.3	+0.6
SLVF			Sn	Sn	15 13 20.1	-3.4
JAUF	**Jausiers**	**2.13 124**	Pn	Pn	15 12 56.1	-1.2
JAUF			Pg	Pb	15 13 00.4	+0.3
SURF	**Saint Ours**	**2.13 123**	Pg	Pb	15 13 00.7	+0.5
DIX	**Grande Dixence**	**2.21 78**	Pn	Pn	15 12 57.4	-1.2
DIX			Pg	Pg	15 13 02.7	-0.7
DIX			Sg	Sb	15 13 30.7	+1.2
BHB	**Bricherasio**	**2.25 110**	Pn	Pn	15 12 58.7	-0.2
ARTF	**Artigues**	**2.33 152**	Pn	Pn	15 12 57.0	-3.0
TRIGF	**Trigance**	**2.43 141**	Pn	Pn	15 12 59.7	-1.7
ABJF	**Abjat-sur-Band**	**2.48 269**	Pn	Pn	15 13 01.2	-0.9
ABJF			Pg	Pg	15 13 07.9	-0.7
MONQ	**Montcuq**	**2.55 241**	Pn	Pn	15 13 01.8	-1.2
MONQ			Pg	Pg	15 13 09.2	-0.7
SFTF	**Sexfontaines**	**2.60 11**	*e*Pn	Pn	15 13 01.6	-2.1
SFTF	**Sexfontaines**	**2.60 11**	*e*Pg	Pb	15 13 07.9	-0.2
SFTF			*e*Sn	Sn	15 13 31.8	-3.9
SFTF			*e*Sg	Sb	15 13 41.8	+1.5
	46nm,0.3s					
LFF	**La Frestale**	**2.61 255**	*e*Pn	Pn	15 13 01.7	-2.1
LFF	**La Frestale**	**2.61 255**	*e*Pg	Pg	15 13 10.2	-0.8
LFF			*e*Sg	Sg	15 13 43.6	-1.3
	39nm,0.3s					
SPIF	**crte de Spivo**	**2.63 126**	Pn	Pn	15 13 03.3	-0.9
ENR	**Entracque**	**2.64 122**	Pn	Pn	15 13 03.6	-0.6
HAU	**Haudompre**	**2.74 30**	*e*Pn	Pn	15 13 03.1	-2.5
HAU	**Haudompre**	**2.74 30**	*e*Pg	Pb	15 13 11.9	+1.4
HAU			*e*Sn	Sn	15 13 35.8	-3.3
HAU			*e*Sg	Sg	15 13 46.7	-2.3
	49nm,0.3s					
MTLF	**Montolieu**	**2.75 214**	*e*Pg	Pb	15 13 11.9	+1.2
MTLF			*e*Sg	Sb	15 13 46.1	+1.4
	35nm,0.3s					
TURF	**col de Turini**	**2.77 126**	Pn	Pn	15 13 05.4	-0.7
HINF	**Hinteralfeld**	**2.79 38**	*e*Pn	Pn	15 13 02.9	-3.4
HINF	**Hinteralfeld**	**2.79 38**	*e*Pg	Pg	15 13 13.3	-1.0
HINF			*e*Sn	Sn	15 13 35.9	-4.4
HINF			*e*Sg	Sg	15 13 48.3	-2.1
	26nm,0.2s					
LMR	**La Mourre**	**2.81 145**	*e*Pn	Pn	15 13 05.1	-1.4
LMR	**La Mourre**	**2.81 145**	*e*Pg	Pb	15 13 12.9	+1.3
LMR			*e*Sn	Sn	15 13 36.8	-4.0
	3.4nm,0.2s					
SAOF	**Saorge**	**2.85 125**	Pn	Pn	15 13 06.8	-0.4
SBF	**Sospel**	**2.86 128**	*e*P	Pn	15 13 06.9	-0.5
SBF			*e*Sn	Sn	15 13 38.1	-4.1
	9.6nm,0.3s					
MEZF	**Maizieres J'vi**	**2.89 10**	*e*Pg	Pg	15 13 14.8	-1.6
	baz=188					
MEZF			*e*Sn	Sn	15 13 39.0	-3.9
MEZF			*e*Sg	Sb	15 13 51.1	+2.3
	163nm,0.5s					
SAVF	**Savonnieres en**	**3.01 10**	*e*Pg	Pb	15 13 16.7	+1.6
SAVF	**Savonnieres en**	**3.01 10**	*e*Pg	Pb	15 13 16.8	+1.7
SAVF			*e*Sn	Sn	15 13 42.4	-3.4
SAVF			*e*Sn	Sn	15 13 42.4	-3.4
SAVF			*e*Sg	Sg	15 13 55.8	-2.0
	47nm,0.4s					
SAVF			*e*Sg	Sb	15 13 55.9	+3.7
	22nm,0.3s					
PAGF	**Fort de Pagny**	**3.06 18**	*e*Pg	Pg	15 13 18.0	-1.6
PAGF			*e*Sg	Sg	15 13 57.2	-2.0
	17nm,0.2s					
DUNF	**Dun**	**3.18 215**	Pn	Pn	15 13 10.0	-1.6
MFF	**Saint Martin d**	**3.23 289**	*e*Pn	Pn	15 13 10.3	-2.1
MFF	**Saint Martin d**	**3.23 289**	*e*Pn	Pn	15 13 11.2	-1.2
	baz=107					
MFF	**Saint Martin d**	**3.23 289**	*e*Pg	Pb	15 13 20.8	+1.9
MFF			*e*Sn	Sn	15 13 48.5	-2.8
MFF			*e*Sg	Sb	15 14 01.4	+2.9
	26nm,0.2s					
MFF			*e*Sg	Sb	15 14 01.4	+2.9
	17nm,0.2s					
CHIF	**Chize**	**3.32 280**	Pn	Pn	15 13 11.9	-1.7
CDF	**Champ du Feu**	**3.43 35**	*e*Sg	Sg	15 14 08.4	-2.6
	9.1nm,0.3s					
EPF	**Esparros**	**3.87 229**	*e*Pg	Pg	15 13 32.6	-2.5
EPF			*e*Sg	Sg	15 14 21.6	-3.6
	4.5nm,0.2s					
LDF	**La Druitiere**	**4.21 316**	*e*Pn	Pn	15 13 23.9	-1.9
LDF	**La Druitiere**	**4.21 316**	*e*Pg	Pb	15 13 38.5	+2.9
LDF			*e*Sn	Sn	15 14 11.5	-3.9
LDF			*e*Sg	Sg	15 14 32.7	-3.5
	8.7nm,0.4s					
ETSF	**Etsaut**	**4.45 233**	*e*Pn	Pn	15 13 27.8	-1.3
ETSF			*e*Sn	Sn	15 14 16.6	-4.7
ETSF			*e*Sg	Sg	15 14 40.6	-3.2
	2.7nm,0.3s					
GRR	**Gorron**	**4.46 310**	*e*Pn	Pn	15 13 28.0	-1.3
GRR	**Gorron**	**4.46 310**	*e*Pg	Pg	15 13 43.7	-2.8
GRR			*e*Sn	Sn	15 14 16.6	-5.0
GRR			*e*Sg	Sg	15 14 39.5	-4.8
	3.8nm,0.2s					
GIVF	**Givet**	**4.46 4**	*e*Sg	Sg	15 14 39.4	-4.9
	1.7nm,0.3s					
FLN	**La Foliniere**	**4.50 315**	*e*Pg	Pg	15 13 44.5	-2.7
FLN			*e*Sg	Sg	15 14 43.2	-2.4
	5.0nm,0.4s					
PGF	**Pioggiola**	**4.59 131**	*e*Pn	Pn	15 13 29.1	-2.1
PGF			*e*Sn	Sn	15 14 18.2	-6.8
	0.6nm,0.2s					
FETA	**Feichten**	**4.66 71**	*e*Pn	Pn	15 13 32.4	+0.3
	0.3nm,0.2s					
SJPF	**Ste Jean**	**4.71 239**	*e*Pn	Pn	15 13 30.3	-2.3
SJPF	**Ste Jean**	**4.71 239**	*e*Pg	Pg	15 13 48.1	-3.0
SJPF			*e*Sn	Sn	15 14 22.6	-5.0
SJPF			*e*Sg	Sg	15 14 47.3	-4.8
	7.8nm,0.6s					
RETA	**Reutte**	**4.82 65**	*e*Pn	Pn	15 13 32.8	-1.4
	1.9nm,0.3s					
MOTA	**Moosalm**	**4.99 68**	*e*Pn	Pn	15 13 36.1	-0.6
	0.6nm,0.1s					
SQTA	**Sankt Quirin**	**5.03 69**	*e*Pn	Pn	15 13 36.3	-0.9
	0.8nm,0.1s					
SGMF	**Saint Gilles**	**5.37 301**	*e*Sg	Sg	15 15 10.0	-3.2
	5.4nm,0.4s					
QUIF	**Quistinic**	**5.60 296**	*e*Pn	Pn	15 13 43.1	-1.8
QUIF			*e*Sg	Sg	15 15 16.0	-4.9
	7.3nm,0.4s					

*NEIC **23** 15:22:39.0±1.5, 18°.2N±0°.1×68°.57W±0°.05, h83km±21km, mb3.7/1, ML3.4/19, Md3.6/12(RSPR), Error ellipse: s-maj=19.4km s-min=5.5km az=189.0*
*OSPL **23** 15:22:40.5±2.6, 18°.00N×68°.56W, h85km±31km, ML3.5*
*SDD **23** 15:22:41.9±3.6, 18°.05N×68°.56W, h50km±39km, MD3.5, ML3.8, MW3.7*
*RSPR **23** 15:22:41.5, 17°.95N×68°.36W, h95km±2km, MD3.6/12*

ISC 23 15:22:39.0±0.9, 18°.10N±0°.05×68°.56W±0°.02, h88km±9km, n89, σ1§62/132, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.44**	**23**	*e*Pg	**Pn**	**15 22 52.6**	**-0.5**
PCDR				IAML		15 23 03.5	
	comp=N,9μm,0.5s						
SPM1	**San Pedro UASD**	**0.78**	**296**	*e*Pg	**Pn**	**15 22 54.5**	**-1.6**
SPM1				*e*Sg	**Sn**	**15 23 08.2**	**-0.8**
SPM1				IAML		15 23 12.4	
	comp=N,1μm,2.3s						
MIDR	**Miches**	**0.99**	**332**	*e*Pg	**Pn**	**15 22 57.0**	**-1.4**
MIDR				*e*Sg	**Sn**	**15 23 10.7**	**-2.3**
MIDR				IAML		15 23 11.2	
	comp=N,3μm,0.4s						
DR12	**Loma Pena Alta**	**1.03**	**311**		**Pn**	**15 22 57.8**	**-1.2**
DR12				Sn	**Sn**	**15 23 11.5**	**-2.5**
HATOM	**Hato Mayor del**	**1.03**	**311**	*e*Pg	**Pn**	**15 22 58.0**	**-1.0**
HATOM				*e*Sg	**Sn**	**15 23 11.9**	**-2.1**
HATOM				IAML		15 23 12.5	
	comp=N,2μm,0.2s						
IDE	**Isla Desecheo**	**1.07**	**75**		**Pn**	**15 22 59.2**	**-0.2**
IDE					**Sn**	**15 23 14.7**	**0.0**
IDE	**Isla Desecheo**	**1.07**	**75⇑**	*e*P	**Pn**	**15 22 59.2**	**-0.2**
IDE	**Isla Desecheo**	**1.07**	**75**	*e*S	**Sn**	**15 23 14.7**	**0.0**
SMDR	**Samana, DR**	**1.32**	**333**	*e*Pg	**Pn**	**15 23 02.8**	**+0.3**
SMDR				*e*Sg	**Sn**	**15 23 19.9**	**-0.2**
SMDR				IAML		15 23 23.0	
	comp=N,708nm,0.3s						
SDD	**Santo Domingo**	**1.33**	**286**	Pn	**Pn**	**15 23 01.7**	**-0.8**
SDD				Sn	**Sn**	**15 23 18.6**	**-1.7**
SDD				IAML		15 23 22.4	
	comp=N,334nm,0.5s						
SDD	**Santo Domingo**	**1.33**	**286**	*e*Pg	**Pn**	**15 23 03.6**	**+1.1**
SDD				*e*Sg	**Sn**	**15 23 20.4**	**+0.2**
SDD				IAML		15 23 22.2	
	comp=N,119nm,0.6s						
SDD	**Santo Domingo**	**1.33**	**286**	*i* P	**Pn**	**15 23 02.2**	**-0.3**
SDD				*e*S	**Sn**	**15 23 19.8**	**-0.4**
PRSN	**Puerto Rico Se**	**1.35**	**85**	*e*Pg	**Pn**	**15 23 04.0**	**+1.2**
PRSN				*e*Sg	**Sn**	**15 23 20.1**	**-0.7**
PRSN				IAML		15 23 22.3	
	comp=N,863nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.39**	**94**		**Pn**	**15 23 03.0**	**-0.1**
CRPR					**Sn**	**15 23 19.7**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.39**	**94⇓**	*i* P	**Pn**	**15 23 03.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.39**	**94**	*e*S	**Sn**	**15 23 20.0**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.39**	**94**	*e*Pg	**Pn**	**15 23 03.3**	**0.0**
CRPR				IAML		15 23 23.8	
	comp=N,346nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.39**	**94**	*i* P	**Pn**	**15 23 03.1**	**-0.1**
CRPR				IAML		15 23 21.2	
	comp=Z,241nm,1.1s						
LSP	**Las Mesas**	**1.41**	**87**		**Pn**	**15 23 03.7**	**+0.1**
LSP					**Sn**	**15 23 21.4**	**-0.6**
LSP	**Las Mesas**	**1.41**	**87⇑**	*e*P	**Pn**	**15 23 03.7**	**+0.1**
LSP	**Las Mesas**	**1.41**	**87**	*e*S	**Sn**	**15 23 21.4**	**-0.6**
AGPR	**Aguadilla, PR**	**1.43**	**75**		**Pn**	**15 23 04.0**	**+0.3**
AGPR					**Sn**	**15 23 22.8**	**+0.4**
AGPR	**Aguadilla, PR**	**1.43**	**75⇑**	*e*P	**Pn**	**15 23 04.0**	**+0.3**
AGPR	**Aguadilla, PR**	**1.43**	**75**	*e*S	**Sn**	**15 23 22.8**	**+0.4**
AGPR	**Aguadilla, PR**	**1.43**	**75**	*e*Pg	**Pn**	**15 23 04.3**	**+0.5**
AGPR				*e*Sg	**Sn**	**15 23 23.6**	**+1.2**
AGPR				IAML		15 23 24.4	
	comp=N,508nm,0.3s						
AGPR	**Aguadilla, PR**	**1.43**	**75**	*i* P	**Pn**	**15 23 04.2**	**+0.5**
AGPR				*e*S	**Sn**	**15 23 23.0**	**+0.6**
AGPR				IAML		15 23 24.3	
	comp=Z,323nm,0.2s						
MLPR	**Magueyes Islan**	**1.45**	**95⇑**	*e*P	**Pn**	**15 23 03.8**	**-0.2**
MLPR	**Magueyes Islan**	**1.45**	**95**	*e*S	**Sn**	**15 23 21.5**	**-1.4**
MLPR	**Magueyes Islan**	**1.45**	**95**	*e*Pg	**Pn**	**15 23 03.9**	**-0.2**
MLPR				*e*Sg	**Sn**	**15 23 21.8**	**-1.2**
MLPR				IAML		15 23 23.2	
	comp=N,80nm,0.2s						
DR08	**Loma La Naviza**	**1.63**	**302**	*e*Pg	**Pn**	**15 23 05.5**	**-0.8**
DR08				*e*Sg	**Sn**	**15 23 25.7**	**-1.4**
DR08				IAML		15 23 30.5	
	comp=N,17μm,0.2s						
BANI	**BANI**	**1.73**	**280**	Pn	**Pn**	**15 23 07.7**	**0.0**
BANI				Sn	**Sn**	**15 23 27.3**	**-2.2**
BANI	**BANI**	**1.73**	**280**	*e*Pg	**Pn**	**15 23 09.9**	**+2.2**
BANI				*e*Sg	**Sn**	**15 23 29.1**	**-0.4**
BANI				IAML		15 23 37.5	
	comp=N,874nm,0.2s						
AOPR	**Arecibo Observ**	**1.74**	**82**	Pn	**Pn**	**15 23 07.6**	**-0.1**
AOPR				Sn	**Sn**	**15 23 26.7**	**-2.9**
AOPR	**Arecibo Observ**	**1.74**	**82⇑**	*e*P	**Pn**	**15 23 07.9**	**+0.1**
AOPR	**Arecibo Observ**	**1.74**	**82**	*e*S	**Sn**	**15 23 25.9**	**-3.7**
AOPR	**Arecibo Observ**	**1.74**	**82**	*e*Pg	**Pn**	**15 23 07.7**	**0.0**
AOPR				*e*Sg	**Sn**	**15 23 30.0**	**+0.5**
AOPR				IAML		15 23 36.8	
	comp=N,949nm,0.2s						
NADR	**Nagua**	**1.75**	**316**	*e*Pg	**Pn**	**15 23 09.2**	**+1.3**
NADR				*e*Sg	**Sn**	**15 23 32.4**	**+2.7**
NADR				IAML		15 23 38.0	
	comp=N,3μm,0.3s						
UUPR	**Utuado, UPR, P**	**1.76**	**85**	Pn	**Pn**	**15 23 08.1**	**+0.1**
UUPR				Sn	**Sn**	**15 23 28.8**	**-1.2**
LONA1	**Toro Cenizo, N**	**1.77**	**316**	*i* P	**Pn**	**15 23 11.3**	**+3.2**
LONA1				*e*S	**Sn**	**15 23 34.5**	**+4.2**
OBIP	**Obispado Ponce**	**1.86**	**92**	Pn	**Pn**	**15 23 09.2**	**-0.1**
OBIP				Sn	**Sn**	**15 23 30.9**	**-1.6**
OBIP				IAML		15 23 31.6	
	comp=E,335nm,0.5s						
OBIP	**Obispado Ponce**	**1.86**	**92⇑**	*e*P	**Pn**	**15 23 09.3**	**0.0**
OBIP	**Obispado Ponce**	**1.86**	**92**	*e*S	**Sn**	**15 23 31.2**	**-1.3**
CELP	**Cerrillos**	**1.89**	**91**	Pn	**Pn**	**15 23 09.5**	**-0.2**
CELP				Sn	**Sn**	**15 23 31.4**	**-1.7**
CELP				IAML		15 23 33.2	
	comp=E,256nm,0.3s						
CELP				IAML		15 23 33.4	
	comp=N,426nm,0.2s						
CELP	**Cerrillos**	**1.89**	**91⇓**	*e*P	**Pn**	**15 23 09.8**	**+0.1**
CELP	**Cerrillos**	**1.89**	**91**	*e*S	**Sn**	**15 23 31.7**	**-1.3**
CELP	**Cerrillos**	**1.89**	**91**	*e*Pg	**Pn**	**15 23 09.8**	**+0.1**
CELP				*e*Sg	**Sn**	**15 23 31.6**	**-1.5**
CELP				IAML		15 23 33.2	
	comp=N,434nm,0.2s						
EMPR	**Esperanza - Ma**	**1.97**	**79**	Pn	**Pn**	**15 23 10.9**	**+0.2**
EMPR				Sn	**Sn**	**15 23 34.4**	**-0.5**
EMPR	**Esperanza - Ma**	**1.97**	**79⇑**	*e*P	**Pn**	**15 23 11.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.97**	**79**	*e*S	**Sn**	**15 23 34.5**	**-0.5**
SFDR	**San Fco. de Ma**	**1.98**	**307**	*e*Pg	**Pn**	**15 23 12.3**	**+1.4**
SFDR				*e*Sg	**Sn**	**15 23 35.2**	**0.0**
SFDR				IAML		15 23 42.6	
	comp=N,2μm,0.2s						
CADR	**Cabrera**	**2.03**	**320**	*e*Pg	**Pn**	**15 23 12.6**	**+1.1**
CADR				*e*Sg	**Sn**	**15 23 39.0**	**+2.6**
CADR				IAML		15 23 40.1	
	comp=N,1μm,0.6s						
ECPR	**Experimental S**	**2.10**	**84⇑**	*e*P	**Pn**	**15 23 12.8**	**+0.3**
ECPR	**Experimental S**	**2.10**	**84**	*e*S	**Sn**	**15 23 36.9**	**-1.2**
SJG	**San Juan**	**2.30**	**89**	Pn	**Pn**	**15 23 14.8**	**-0.2**
SJG				Sn	**Sn**	**15 23 41.4**	**-1.3**
SJG				IAML		15 23 46.6	
	comp=N,220nm,0.3s						
SJG	**San Juan**	**2.30**	**89**	*e*S	**Sn**	**15 23 40.6**	**-2.0**
SJG	**San Juan**	**2.30**	**89**	*e*Pg	**Pn**	**15 23 18.3**	**+3.3**
SJG				*e*Sg	**Sn**	**15 23 41.6**	**-1.0**
SJG	**San Juan**	**2.30**	**89**	*i* P	**Pn**	**15 23 15.1**	**0.0**
SJG				*e*S	**Sn**	**15 23 41.2**	**-1.5**
SJG				IAML		15 23 46.3	
	comp=Z,119nm,0.2s						
IGPR	**InterUniversit**	**2.34**	**93**		**Pn**	**15 23 15.6**	**-0.1**
IGPR					**Sn**	**15 23 41.9**	**-1.9**
IGPR	**InterUniversit**	**2.34**	**93⇑**	*e*P	**Pn**	**15 23 15.6**	**-0.1**
IGPR	**InterUniversit**	**2.34**	**93**	*e*S	**Sn**	**15 23 41.9**	**-1.9**
GCPR	**Guaynabo City**	**2.37**	**85**	Pn	**Pn**	**15 23 15.7**	**-0.3**
GCPR				Sn	**Sn**	**15 23 42.6**	**-1.7**
GCPR				IAML		15 23 45.7	
	comp=E,133nm,0.4s						
GCPR				IAML		15 23 54.1	
	comp=N,129nm,0.5s						
GCPR	**Guaynabo City**	**2.37**	**85**	*e*S	**Sn**	**15 23 40.9**	**-3.4**
PDPR	**Patillas Dam,**	**2.42**	**92**	Pn	**Pn**	**15 23 15.9**	**-0.8**
PDPR				IAML		15 23 53.1	
	comp=E,143nm,0.2s						
PDPR				IAML		15 23 56.4	
	comp=N,131nm,0.4s						
PDPR	**Patillas Dam,**	**2.42**	**92⇑**	*e*P	**Pn**	**15 23 16.3**	**-0.4**
PDPR	**Patillas Dam,**	**2.42**	**92**	*e*S	**Sn**	**15 23 43.1**	**-2.5**
SC01	**Santiago de lo**	**2.44**	**303**	Pn	**Pn**	**15 23 18.8**	**+1.9**
SC01	**Santiago de lo**	**2.44**	**303**	*e*Pg	**Pn**	**15 23 19.8**	**+2.9**
SC01				*e*Sg	**Sn**	**15 23 46.5**	**+0.5**
SC01				IAML		15 23 52.9	
	comp=N,732nm,0.6s						
SC01	**Santiago de lo**	**2.44**	**303**	*i* P	**Pn**	**15 23 18.3**	**+1.4**
SODR	**Sosua Marina B**	**2.51**	**311**	*e*Pg	**Pn**	**15 23 17.3**	**-0.7**
SODR				IAML		15 24 02.7	
	comp=N,648nm,0.8s						
LOVI	**El Cajuil, Ovi**	**2.69**	**264**	*i* P	**Pn**	**15 23 20.0**	**-0.3**
LOVI				*e*S	**Sn**	**15 23 49.5**	**-2.5**
LOVI				IAML		15 23 52.3	
	comp=Z,474nm,0.2s						
SDDR	**Presa de Saban**	**2.73**	**289**	Pn	**Pn**	**15 23 24.1**	**+3.2**
SDDR				IAML		15 24 01.3	
	comp=Z,185nm,0.6s						
SDDR				IAML		15 24 06.2	
	comp=Z,198nm,0.5s						
SDDR	**Presa de Saban**	**2.73**	**289**	*e*Pg	**Pn**	**15 23 24.4**	**+3.4**
SDDR				IAML		15 24 06.1	
	comp=N,181nm,0.7s						
SDDR	**Presa de Saban**	**2.73**	**289**	*i* P	**Pn**	**15 23 24.3**	**+3.4**
SDDR				IAML		15 24 06.4	
	comp=Z,142nm,0.4s						
LODU1	**El Espartillar**	**2.78**	**276**	*i* P	**Pn**	**15 23 22.5**	**+1.0**
LODU1				IAML		15 23 59.1	
	comp=Z,207nm,0.3s						
LONE3	**El Aguacate, B**	**2.79**	**281**	*i* P	**Pn**	**15 23 21.7**	**-0.1**
LONE3				IAML		15 24 06.6	
	comp=Z,55nm,0.4s						
LOBH	**Bahia de las A**	**2.94**	**266**	*i* P	**Pn**	**15 23 23.8**	**+0.2**
LOBH				*e*S	**Sn**	**15 23 55.5**	**-2.6**
LOBH				IAML		15 24 01.6	
	comp=Z,179nm,0.2s						
LOPP1	**Punta Rusia, P**	**3.04**	**305**	*i* P	**Pn**	**15 23 25.8**	**+0.8**
LOPP1				IAML		15 24 11.4	
	comp=Z,234nm,0.3s						
GRTK	**Grand Turk**	**4.17**	**325**	*e*Pg	**Pn**	**15 23 39.0**	**-1.3**
GRTK				*e*Sg	**Sn**	**15 24 25.2**	**-2.6**
GRTK				IAML		15 24 27.1	
	comp=N,238nm,0.3s						
GRTK	**Grand Turk**	**4.17**	**325**	*e*P	**Pn**	**15 23 39.0**	**-1.3**
GRTK				*e*S	**Sn**	**15 24 23.9**	**-3.8**
GRTK				IAML		15 24 27.1	
	comp=N,228nm,0.3s						
GRTK				IAML		15 24 27.2	
	comp=N,312nm,0.2s						
GRTK	**Grand Turk**	**4.17**	**325**	*i* P	**Pn**	**15 23 39.3**	**-1.0**
GRTK				*e*

baz=166,slow=18
VNA2 ⇓ScP **ScP** **15 42 17.3 -0.2**
baz=322,slow=4.2
EFI **East Falkland** **18.31 271** P **Pn** **15 34 24.0 +0.2**
EFI **East Falkland** **18.31 271** *ce*P **Pn** **15 34 24.1 +0.2**
EFI pmax pmax
comp=Z,117nm,1.0s
SNAA **Sanae** **18.97 156** ⇑P **P** **15 34 30.4 +0.1**
comp=Z,5μm,0.4s
SNAA ⇑ScP **ScP** **15 42 20.2 -0.7**
SNAA **Sanae** **18.97 156** **Pn** **15 34 30.6 -1.1**
SNAA **ScP** **15 42 19.8 -1.1**
SNAA **Sanae** **18.97 156** P **P** **15 34 30.4 +0.1**
comp=Z,252nm,0.6s,baz=305,slow=9.1,SNR=2356
SNAA LR LR 15 40 31.1
comp=Z,1μm,21.1s,baz=344,slow=32
SNAA ScP **ScP** **15 42 20.2 -0.7**
comp=Z,8.7nm,0.9s,baz=304,slow=3.2,SNR=14
SNAA **Sanae** **18.97 156** P **Pn** **15 34 30.6 -1.1**
PMSA **Palmer Station** **19.72 229** P **P** **15 34 37.9 -0.5**
PMSA **Palmer Station** **19.72 229** P **Pn** **15 34 41.8 +1.3**
comp=Z,7.8nm,0.3s,baz=15,slow=23,SNR=14
PMSA LR LR 15 41 36.1
comp=Z,300nm,19.8s,baz=78,slow=34
PMSA **Palmer Station** **19.72 229** *e*P **Pn** **15 34 39.4 -1.1**
TROLL **Troll, Antarti** **20.48 153** ⇑P **P** **15 34 46.6 -0.1**
comp=Z,16μm,0.4s
TROLL ⇓S Sn 15 38 35.5 -4.4
TROLL ⇑ScP **ScP** **15 42 24.1 -0.5**
SMAI **San Martin Ant** **21.63 220** P **P** **15 34 59.5 +0.6**
BELA **Belgrano 2** **22.16 184** P **P** **15 35 05.0 +0.5**
NVL **N'lazarevskaya** **22.53 147** *e*P **P** **15 35 09.1 +0.6**
NVL *e* 15 35 34.7
NVL *e*S **S** **15 39 12.8 +3.0**
NVL *e*SS **SnSn** **15 39 47.9 +2.5**
NVL pmax pmax
comp=Z,8.0nm,0.4s
NVL smax smax
comp=N,162nm,9.3s
USHA **Ushuaia** **22.89 256** LR LR 15 42 03.6
comp=N,783nm,20.1s,baz=76,slow=31
MG02 **Cerro Sombrero** **24.10 260** **P** **15 35 23.4 -0.1**
MG02 IAmb IAmb 15 35 44.3
comp=Z,156nm,0.8s
MG05 **Puerto Natales** **26.39 260** P **P** **15 35 43.8 -0.5**
TRQA **Tornquist** **28.98 294** **P** **15 36 07.2 -0.4**
TRQA **Tornquist** **28.98 294** P **P** **15 36 07.2 -0.4**
TRQA pmax pmax
comp=Z,28nm,0.7s
COYC **Coyhaique** **29.40 272** **P** **15 36 10.6 -0.6**
PLTB **Pedras Altas** **30.19 312** P **P** **15 36 19.1 +0.8**
PLTB **Pedras Altas** **30.19 312** *e*P **P** **15 36 18.7 +0.4**
LL02 **Futaleuf** **30.75 276** **P** **15 36 22.0 -1.2**
CNLB **Canela** **31.28 319** *e*P **P** **15 36 28.6 +0.6**
CPSB **Cacapava Do Su** **31.31 314** *e*P **P** **15 36 29.0 +0.9**
PLCA **Paso Flores** **31.66 280** P **P** **15 36 30.7 -0.6**
PLCA **PcP** **15 39 18.1 -3.2**
PLCA **ScP** **15 42 55.9 -1.7**
PLCA **Paso Flores** **31.66 280** P **P** **15 36 30.3 -1.0**
comp=Z,6.1nm,0.8s,baz=141,slow=9.2,SNR=15
PLCA PcP **PcP** **15 39 21.9 +0.5**
comp=Z,2.9nm,0.8s,baz=130,slow=4.5,SNR=3.8
PLCA ScP **ScP** **15 42 55.0 -2.5**
comp=Z,2.0nm,0.7s,baz=106,slow=4.9,SNR=6.4
PLCA LR LR 15 49 59.6
comp=Z,325nm,18.1s,baz=133,slow=37
comp=Z,6.1nm,0.8s
PLCA **Paso Flores** **31.66 280** P **P** **15 36 30.7 -0.6**
PLCA 15 39 18.2
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA **Paso Flores** **31.66 280** *e*P **P** **15 36 29.6 -1.7**
SYO **Syowa Base** **31.87 141** ⇑*i*P **P** **15 36 32.5 -0.2**
SYO **Syowa Base** **31.87 141** ⇓*i*PnPn PnPn 15 37 35.4 -4.4
PSAL **Palomas, Salto** **32.50 307** *e*P **P** **15 36 39.0 +0.4**
ITAB **Concordia** **33.63 318** **P** **15 36 49.6 +1.2**
ITAB IAmb IAmb 15 36 51.0
comp=Z,96nm,0.9s
ITAB **Concordia** **33.63 318** *e*P **P** **15 36 49.7 +1.2**
QSPA **South Pole Qui** **34.30 180** **P** **15 36 57.8 +3.6**
QSPA **South Pole Qui** **34.30 180** P **P** **15 36 58.7 +4.5**
QSPA PcP **PcP** **15 39 31.4 +3.0**
PET01 **Itanhaem-SP** **34.71 328** *e*P **P** **15 36 58.7 +0.8**
PARB **Paraibuna** **35.13 331** *e*P **P** **15 37 02.6 +1.0**
SPB **Sao Paulo** **35.41 328** P **P** **15 37 05.0 +1.2**
SPB **Sao Paulo** **35.41 328** *e*P **P** **15 37 04.1 +0.2**
SPB **Sao Paulo** **35.41 328** P **P** **15 37 05.5 +1.6**
DUB01 **Friburgo-RJ** **35.52 336** *e*P **P** **15 37 06.0 +1.1**
VAS01 **Vassouras-RJ** **35.58 335** *e*P **P** **15 37 06.9 +1.6**
CAM01 **Campos-RJ** **35.61 337** *e*P **P** **15 37 06.9 +1.4**
VAO **Valinhos** **35.83 329** **P** **15 37 08.8 +1.2**
VAO **Valinhos** **35.83 329** *e*P **P** **15 37 08.8 +1.2**
PTGB **Pitanga** **35.90 320** *e*P **P** **15 37 08.5 +0.3**
CPUP **Villa Florida** **36.50 312** **P** **15 37 13.1 0.0**
CPUP IAmb IAmb 15 37 14.5
comp=Z,55nm,1.1s
CPUP PcP **PcP** **15 39 35.2 -0.1**
CPUP ScP **ScP** **15 43 14.4 -0.3**
CPUP **Villa Florida** **36.50 312** P **P** **15 37 13.4 +0.3**
comp=Z,35nm,0.9s,baz=7.0,slow=7.3,SNR=182
CPUP PcP **PcP** **15 39 35.5 +0.2**
comp=Z,3.1nm,0.8s,baz=51,slow=3.8,SNR=3.9
CPUP ScP **ScP** **15 43 14.1 -0.7**
comp=Z,4.0nm,0.8s,baz=354,slow=4.4,SNR=16
CPUP LR LR 15 51 05.8
comp=Z,165nm,21.3s,baz=9.0,slow=34
comp=Z,35nm,0.9s
CPUP **Villa Florida** **36.50 312** P **P** **15 37 13.4 +0.3**
CPUP PcP **PcP** **15 39 35.7 +0.4**
RCLB **Rio Claro- Sao** **36.55 328** *e*P **P** **15 37 15.9 +2.3**
BO04 **La Punta** **36.60 289** P **P** **15 37 13.7 -0.3**
MT08 **Bocatoma Ro** **36.71 290** P **P** **15 37 14.5 -0.6**
MT08 IAmb IAmb 15 37 18.1
comp=Z,31nm,0.7s
MT09 **Talagante** **36.97 288** IAmb IAmb 15 37 16.6
comp=Z,24nm,0.6s
BSCB **Bom Sucesso** **37.14 333** *e*P **P** **15 37 19.5 +0.8**
CFA **Coronel Fontan** **37.22 294** LR LR 15 51 35.0
comp=Z,156nm,21.1s,baz=184,slow=34
PEL **Peldehue** **37.29 289** IAmb IAmb 15 37 20.7
comp=Z,71nm,0.7s
MT02 **Curacav** **37.45 289** **P** **15 37 20.4 -0.8**
MT02 IAmb IAmb 15 37 21.3
comp=Z,36nm,0.8s
ZON **Zonda** **37.49 293** IAmb IAmb 15 37 36.5
comp=Z,47nm,0.7s
VA03 **San Esteban** **37.52 290** IAmb IAmb 15 37 22.9
comp=Z,48nm,0.6s
RIB01 **Linhares ES** **37.79 340** *e*P **P** **15 37 24.4 +0.2**
VA06 **Catapilco** **38.07 289** IAmb IAmb 15 37 26.8
comp=Z,74nm,0.9s
BB19B **Bebedouro** **38.12 328** *e*P **P** **15 37 27.1 +0.2**
SJMB **Sao Joao De Ma** **38.54 339** *e*P **P** **15 37 30.9 +0.4**
AMBA **Amambai (Brazi** **38.61 317** *e*P **P** **15 37 30.5 -0.5**
CO02 **Combarbal** **38.98 291** IAmb IAmb 15 37 35.0
comp=Z,44nm,0.5s
CO03 **El Pedregal** **39.10 292** **P** **15 37 34.8 -0.3**
DIAM **Diamantina, MG** **39.47 336** *e*P **P** **15 37 38.0 -0.4**
CO01 **Juntas del Tor** **39.48 293** **P** **15 37 39.2 +0.8**
CO01 IAmb IAmb 15 37 40.4
comp=Z,46nm,0.7s
GO04 **Tololo Observa** **39.69 292** IAmb IAmb 15 37 41.5
comp=Z,30nm,0.7s
PMNB **Patos De Minas** **39.92 332** *e*P **P** **15 37 42.3 +0.2**
ITRB **Iturama** **39.97 326** *e*P **P** **15 37 42.7 +0.4**
CO05 **La Serena** **40.12 292** IAmb IAmb 15 37 44.0
comp=Z,83nm,0.7s
GUA01 **Guaratinga, BA** **40.35 342** *e*P **P** **15 37 45.8 +0.3**
MAW **Mawson** **40.42 144** **P** **15 37 46.3 +0.7**
comp=Z,30nm,0.7s
MAW **Mawson** **40.42 144** P **P** **15 37 46.2 +0.7**
comp=Z,106nm,0.6s,baz=231,slow=8.1,SNR=312
MAW ScP **ScP** **15 43 29.1 0.0**
comp=Z,13nm,0.8s,baz=213,slow=5.4,SNR=15
MAW LR LR 15 51 59.7
comp=Z,592nm,21.8s,baz=251,slow=32
comp=Z,106nm,0.6s
LCO **Las Campanas** **40.57 293** **P** **15 37 47.0 -0.5**
LCO IAmb IAmb 15 37 48.1
comp=Z,32nm,0.8s
LCO **Las Campanas** **40.57 293** P **P** **15 37 47.0 -0.5**
LCO pmax pmax
comp=Z,32nm,0.8s
LCO **Las Campanas** **40.57 293** P **P** **15 37 47.1 -0.4**
LCO PcP **PcP** **15 39 48.5 +0.2**
SUR **Sutherland** **40.93 76** P **P** **15 37 51.1 +0.7**
SUR IAmb IAmb 15 37 52.6
comp=Z,84nm,0.9s
IPMB **Ipameri, GO** **40.94 330** *e*P **P** **15 37 51.3 +0.9**
AQDB **Aquidauana** **41.11 318** **P** **15 37 51.3 -0.3**
AQDB **Aquidauana** **41.11 318** *e*P **P** **15 37 51.2 -0.5**
GO03 **Copiapo** **41.48 295** IAmb IAmb 15 37 55.4
comp=Z,53nm,0.7s
CMC01 **Camacan, BA** **41.50 343** *e*P **P** **15 37 55.3 +0.4**
BDQN **Bodoquena, MS** **41.53 317** *e*P **P** **15 37 53.6 -1.6**
AC02 **Maricunga** **41.54 297** IAmb IAmb 15 37 57.9
comp=Z,113nm,0.8s
C2SB **Chapadao do Su** **41.65 323** *e*P **P** **15 37 56.9 +0.7**
AC06 **Mina Casimiro** **41.73 295** **P** **15 37 56.3 -0.5**
AC06 IAmb IAmb 15 37 57.4
comp=Z,145nm,1.4s
JANB **Januaria** **42.74 336** *e*P **P** **15 38 04.1 -1.0**
AC01 **Pan de Azucar** **42.85 296** IAmb IAmb 15 38 22.2
comp=Z,56nm,0.9s
BDFB **Brasilia** **43.11 331** P **P** **15 38 08.7 +0.5**
BDFB **Brasilia** **43.11 331** P **P** **15 38 09.2 +1.0**
comp=Z,25nm,0.8s,baz=148,slow=4.4,SNR=31
BDFB LR LR 15 53 10.8
comp=Z,539nm,21.9s,baz=161,slow=32
comp=Z,25nm,0.8s
PB14 **IPOC Station P** **44.01 297** P **P** **15 38 14.3 -1.2**
ARAG **Araguaiana, MT** **44.18 326** *e*P **P** **15 38 16.9 +0.3**
PB10 **IPOC Station P** **45.01 298** IAmb IAmb 15 38 23.9
comp=Z,53nm,0.6s
PB06 **IPOC Station P** **45.21 300** IAmb IAmb 15 38 26.4
comp=Z,46nm,0.6s
SALV **Santo Antonio** **45.30 321** *e*P **P** **15 38 25.5 0.0**
SDBA **SAO DESIDERIO** **45.44 336** *e*P **P** **15 38 26.8 +0.2**
PB03 **IPOC Station P** **45.85 300** IAmb IAmb 15 38 31.5
comp=Z,70nm,0.6s
SBA **Scott Base** **46.16 184** P **P** **15 38 33.0 +1.4**
SBA IAmb IAmb 15 38 34.8
comp=Z,67nm,1.1s
SBA **Scott Base** **46.16 184** P **P** **15 38 33.0 +1.4**
SBA pmax pmax
comp=Z,67nm,1.1s
BOSA **Boshof** **46.26 76** P **P** **15 38 32.7 -0.4**
BOSA IAmb IAmb 15 38 33.9
comp=Z,48nm,1.1s
BOSA **Boshof** **46.26 76** P **P** **15 38 32.8 -0.4**
comp=Z,22nm,0.9s,baz=211,slow=7.5,SNR=18
BOSA LR LR 15 54 59.7
comp=Z,568nm,18.6s,baz=201,slow=32
comp=Z,22nm,0.9s
BOSA **Boshof** **46.26 76** *i*P **P** **15 38 31.6 -1.6**
BOSA **Boshof** **46.26 76** P **P** **15 38 32.7 -0.4**
NBAN **Anadia - AL** **46.65 348** *e*P **P** **15 38 35.6 -0.5**
VNDA **Vanda** **46.66 183** P **P** **15 38 36.8 +1.3**
VNDA IAmb IAmb 15 38 38.2
comp=Z,57nm,0.8s
VNDA ScP **ScP** **15 43 53.6 -0.7**
VNDA **Vanda** **46.66 183** P **P** **15 38 37.1 +1.7**
comp=Z,54nm,0.8s,baz=186,slow=6.8,SNR=368
VNDA ScP **ScP** **15 43 52.8 -1.5**
comp=Z,3.2nm,0.9s,baz=203,slow=5.9,SNR=4.5
VNDA LR LR 15 57 02.7
comp=Z,108nm,19.8s,baz=174,slow=34
comp=Z,54nm,0.8s
VNDA **Vanda** **46.66 183** P **P** **15 38 37.2 +1.7**
PTLB **Pontes e Lacer** **47.00 317** *e*P **P** **15 38 38.8 0.0**
PB08 **IPOC Station P** **47.19 302** P **P** **15 38 41.8 +1.0**
PB08 **IPOC Station P** **47.19 302** IAmb IAmb 15 38 42.7
comp=Z,67nm,0.7s
SIV **San Ignacio** **47.27 314** LR LR 15 57 47.7
comp=Z,192nm,21.2s,baz=133,slow=35
TA01 **Diego Aracena** **47.32 301** IAmb IAmb 15 38 43.0
comp=Z,84nm,1.2s
HMBC **Humberstone** **47.42 301** IAmb IAmb 15 38 43.6
comp=Z,66nm,0.6s
SNDB **Serra Nova Dou** **47.54 328** *e*P **P** **15 38 43.7 +0.7**
CCD **Concordia, Ant** **47.83 170** P **P** **15 38 45.8 +0.7**
H04S2 **CROZET ISLANDS** **47.89 114** T T 16 31 05.7
baz=230,slow=75,SNR=58
H04S3 **CROZET ISLANDS** **47.90 114** T T 16 31 07.8
baz=230,slow=75,SNR=32
H04S1 **CROZET ISLANDS** **47.91 114** T T 16 31 02.5
baz=230,slow=75,SNR=31
H10S2 **ASCENSION HYDR** **48.00 18** T T 16 30 46.5
baz=190,slow=74,SNR=131
H10S3 **ASCENSION HYDR** **48.00 18** T T 16 30 46.7
baz=30,slow=74,SNR=120
PB16 **IPOC Station P** **48.91 303** IAmb IAmb 15 38 55.8
comp=Z,25nm,0.5s
PB12 **IPOC Station P** **49.06 302** IAmb IAmb 15 38 56.6
comp=Z,188nm,1.9s
H10N1 **ASCENSION HYDR** **49.12 18** T T 16 32 10.0
baz=189,slow=75,SNR=15
H10N3 **ASCENSION HYDR** **49.12 18** T T 16 32 10.7
baz=189,slow=75,SNR=40
H10N2 **ASCENSION HYDR** **49.13 18** T T 16 32 11.2
baz=189,slow=75,SNR=22
LBTB **Lobatse** **49.29 74** IAmb IAmb 15 38 57.4
comp=Z,39nm,0.8s
LBTB **Lobatse** **49.29 74** *i*P **P** **15 38 56.8 +0.2**
LBTB **Lobatse** **49.29 74** P **P** **15 38 56.3 -0.3**
SMTB **Santa Maria do** **49.50 334** *e*P **P** **15 38 58.6 +0.6**
PB18 **Visviri** **49.54 303** IAmb IAmb 15 39 06.2
comp=Z,71nm,0.8s
PDRB **Porto dos Gac** **49.64 321** *e*P **P** **15 38 58.9 -0.3**
VILB **Vilhena** **49.68 317** *e*P **P** **15 38 59.4 -0.1**
TSUM **Tsumeb** **49.92 61** P **P** **15 39 01.2 -0.2**
GRTLG **Ghanzi** **49.95 67** IAmb IAmb 15 39 02.4
comp=Z,120nm,1.4s
CLDB **Colider** **50.01 323** *e*P **P** **15 39 01.4 -0.5**
LPAZ **La Paz** **50.05 306** **P** **15 39 04.0 +1.1**
LPAZ PcP **PcP** **15 40 22.4 +0.7**
LPAZ **ScP** **15 44 09.8 -0.6**
LPAZ **La Paz** **50.05 306** P **P** **15 39 04.1 +1.1**
comp=Z,81nm,0.5s,baz=143,slow=4.8,SNR=316
LPAZ PcP **PcP** **15 40 22.9 +1.1**
comp=Z,13nm,0.6s,baz=172,slow=1.5,SNR=1.5
LPAZ ScP **ScP** **15 44 09.5 -0.8**
comp=Z,5.0nm,0.8s,baz=109,slow=4.1,SNR=3.5
LPAZ LR LR 15 58 46.5
comp=Z,144nm,20.6s,baz=148,slow=34
comp=Z,81nm,0.5s
LPAZ **La Paz** **50.05 306** *e*P **P** **15 39 03.4 +0.4**
LPAZ **La Paz** **50.05 306** P **P** **15 39 04.1 +1.1**
LPAZ PcP **PcP** **15 40 22.9 +1.1**
KDWAN **Kaudwane** **50.10 72** IAmb IAmb 15 39 03.8
comp=Z,103nm,1.3s
RCBR **Riachuelo** **50.40 349** P **P** **15 39 04.3 -0.6**
RCBR **Riachuelo** **50.40 349** P **P** **15 39 04.3 -0.6**
RCBR pmax pmax
comp=Z,14nm,0.9s
RCBR **Riachuelo** **50.40 349** *e*P **P** **15 39 05.1 +0.1**
LPHEP **Lephephe** **50.76 73** IAmb IAmb 15 39 08.2
comp=Z,74nm,1.4s
QNGWA **Qangwa** **51.45 65** IAmb IAmb 15 39 14.1
comp=Z,69nm,1.2s
XAUDM **Khaudum** **52.36 65** IAmb IAmb 15 39 21.2
comp=Z,35nm,0.8s
PRPB **Parauapebas** **52.65 332** *e*P **P** **15 39 22.4 +0.7**
NPGB **Novo Progresso** **53.45 325** *e*P **P** **15 39 27.5 -0.1**
MOPA **Mopani** **53.65 78** *i*P **P** **15 39 28.6 -0.4**
MUSN **Musina, Limpop** **53.79 76** *i*P **P** **15 39 29.3 -0.8**
CASY **Casey** **54.11 161** P **P** **15 39 32.6 +0.9**
CASY IAmb IAmb 15 39 33.9
comp=Z,72nm,0.9s
CASY **Casey** **54.11 161** P **P** **15 39 32.7 +0.9**
BLWY **Bulawayo** **54.85 73** *i*P **P** **15 39 36.8 -1.2**
TMAB **Tom-Au,PA,Br** **55.87 335** *e*P **P** **15 39 46.0 +1.0**
ITTB **Itaituba** **56.09 326** *e*P **P** **15 39 46.7 +0.1**
DRV **Dumont d'Urvil** **57.36 174** P **P** **15 39 55.2 +0.3**
MAL2 **Monte Alegre,** **57.83 328** P **P** **15 39 59.5 +0.5**
NNA **Nana** **57.91 299** P **P** **15 39 59.9 +0.3**
NNA IAmb IAmb 15 40 01.0
comp=Z,83nm,1.1s
NNA **Nana** **57.91 299** **P** **15 40 00.1 +0.6**
comp=Z,20nm,0.3s,baz=170,slow=7.1,SNR=13
comp=Z,20nm,0.3s
NNA **Nana** **57.91 299** *ce*P **P** **15 40 00.3 +0.7**
NNA pmax pmax
comp=Z,170nm,1.7s
LSZ **Lusaka** **58.64 69** P **P** **15 40 04.4 -0.3**
LSZ IAmb IAmb 15 40 05.6
comp=Z,99nm,1.6s
LSZ **Lusaka** **58.64 69** P **P** **15 40 04.4 -0.3**
LSZ pmax pmax
comp=Z,99nm,1.6s
LSZ **Lusaka** **58.64 69** P **P** **15 40 04.6 -0.1**
MACA **Manacapuru-AM** **58.88 321** *e*P **P** **15 40 05.3 -0.9**
CZSB **Cruzeiro do Su** **59.66 306** IAmb IAmb 15 40 11.7
comp=Z,39nm,0.7s
CZSB **Cruzeiro do Su** **59.66 306** *e*P **P** **15 40 10.5 -1.2**
TEFE **Tefe** **60.03 316** *e*P **P** **15 40 13.7 -0.4**
ATAH **Atahualpa** **62.86 300** P **P** **15 40 35.7 +2.0**
comp=Z,52nm,0.9s,baz=162,slow=5.0,SNR=30
comp=Z,52nm,0.9s
BOAV **Boa Vista** **64.00 323** P **P** **15 40 40.0 -0.7**
BOAV IAmb IAmb 15 40 41.2
comp=Z,79nm,0.9s
BOAV **Boa Vista** **64.00 323** *e*P **P** **15 40 40.0 -0.7**
BOAV **Boa Vista** **64.00 323** P **P** **15 40 40.4 -0.3**
comp=Z,940nmcomp=Z,99nm,1.0s
SGC2 **Sao Gabriel da** **64.02 315** P **P** **15 40 39.6 -1.3**
comp=Z,42nm,1.1s
MPGF **Montagnes des** **64.20 332** P **P** **15 40 42.2 +0.2**
DBIC **Dimbokro** **65.21 25** P **P** **15 40 48.6 +0.1**
DBIC **Dimbokro** **65.21 25** P **P** **15 40 49.0 +0.5**
comp=Z,16nm,0.7s,baz=213,slow=6.7,SNR=14
comp=Z,16nm,0.7s
DBIC **Dimbokro** **65.21 25** P **P** **15 40 48.9 +0.4**
MCRA **Macar, Loja** **66.02 300** P **P** **15 40 54.1 +0.2**
comp=Z,832nmcomp=Z,99nm,0.8s
ABPO **Ambohimpanom** **66.07 89** P **P** **15 40 55.3 +0.9**
ABPO **Ambohimpanom** **66.07 89** P **P** **15 40 55.3 +0.9**
ABPO pmax pmax
comp=Z,13nm,1.1s
COHC **Cochancay** **67.34 302** P **P** **15 41 03.5 +1.3**
comp=Z,1μmcomp=Z,130nm,0.8s
PIAT **Ana Tenorio** **68.16 304** P **P** **15 41 09.3 +1.5**
comp=Z,728nmcomp=Z,68nm,1.0s
MACC **Macarena, Meta** **68.95 310** P **P** **15 41 12.6 +0.3**
comp=Z,41nm,1.2s
FLOC **Florencia** **69.24 308** P **P** **15 41 13.3 -0.9**
OTAV **Otavalo** **69.33 304** P **P** **15 41 15.6 +0.4**
OTAV IAmb IAmb 15 41 18.4
comp=Z,46nm,1.1s
OTAV **Otavalo** **69.33 304** P **P** **15 41 15.6 +0.4**
OTAV pmax pmax
comp=Z,46nm,1.2s
OTAV **Otavalo** **69.33 304** *e*P **P** **15 41 15.9 +0.7**
OTAV **Otavalo** **69.33 304** P **P** **15 41 16.0 +0.8**
OTAV **Otavalo** **69.33 304** P **P** **15 41 16.6 +1.4**
comp=Z,574nmcomp=Z,37nm,1.4s
TULM **Tulcn-Chalpat** **69.44 305** P **P** **15 41 17.3 +1.4**
comp=Z,102nm,1.1s
POPC **Popayan, Colom** **70.55 307** P **P** **15 41 23.3 +0.9**
comp=Z,28nm,1.3s
PRAC **Prado** **70.80 309** P **P** **15 41 24.4 +0.7**
comp=Z,905nmcomp=Z,59nm,1.3s
ORTC **Ortega, Tolima** **71.14 309** P **P** **15 41 26.0 +0.3**
comp=Z,891nmcomp=Z,106nm,1.0s
ROSC **El Rosal** **71.57 310** P **P** **15 41 29.4 +0.7**
comp=Z,8.6nm,0.4s,baz=174,slow=2.3,SNR=10
comp=Z,8.6nm,0.4s
RUSC **La Rusia** **71.99 312** P **P** **15 41 30.5 -0.9**
RUSC IAmb IAmb 15 41 31.7
comp=Z,64nm,1.2s
TORD **Torodi Ar. Bea** **73.13 30** P **P** **15 41 37.7 +0.2**
comp=Z,13nm,0.6s,baz=193,slow=4.9,SNR=74
comp=Z,13nm,0.6s
SDV **Santo Domingo** **73.71 316** P **P** **15 41 41.0 -0.1**
SDV IAmb IAmb 15 41 42.4
comp=Z,60nm,0.8s
SDV **Santo Domingo** **73.71 316** *e*P **P** **15 41 41.1 -0.1**
SDV **Santo Domingo** **73.71 316** P **P** **15 41 41.5 +0.4**
comp=Z,750nmcomp=Z,76nm,1.0s
KIBK **Kibwezi** **74.70 71** P **P** **15 41 49.4 +2.5**
APAC **Apartado, Choc** **75.28 310** P **P** **15 41 51.3 +1.3**
comp=Z,54nm,0.9s
BIM **Bigot** **75.56 327** IAmb IAmb 15 41 54.0
comp=Z,85nm,0.8s
SJCC **San Jacinto, C** **76.47 312** P **P** **15 41 57.5 +0.6**
GDHS **Morne Mazeau,** **77.43 327** P **P** **15 42 02.5 +0.3**
LTZ **Lake Taylor** **80.19 195** P **P** **15 42 18.1 +1.0**
LTZ IAmb IAmb 15 42 36.9
comp=Z,38nm,1.0s
RKT **Rikitea** **80.23 243** *e*LR LR 16 07 17.8
comp=Z,12μm,34.8s
CRPR **Cabo Rojo, PR** **80.80 322** P **P** **15 42 19.8 -0.6**
CRPR IAmb IAmb 15 42 20.6
comp=Z,35nm,0.9s
JTS **Las Juntas de** **81.18 303** P **P** **15 42 23.4 +0.8**
JTS IAmb IAmb 15 42 24.6
comp=Z,47nm,1.1s
JTS **Las Juntas de** **81.18 303** P **P** **15 42 23.5 +0.8**
comp=Z,14nm,0.7s,baz=214,slow=7.8,SNR=11
comp=Z,14nm,0.7s
JTS **Las Juntas de** **81.18 303** P **P** **15 42 23.4 +0.8**
JTS PcP **PcP** **15 42 28.8 +0.1**
TAU **Tasmania Unive** **81.42 176** P **P** **15 42 23.4 -0.2**
TAU IAmb IAmb 15 42 27.0
comp=Z,37nm,0.8s
TAU **Tasmania Unive** **81.42 176** P **P** **15 42 24.6 +1.0**
TAU **Tasmania Unive** **81.42 176** P **P** **15 42 23.4 -0.2**
TAU pmax pmax
comp=Z,37nm,0.9s
MOO **Moorlands** **81.89 176** P **P** **15 42 25.9 -0.2**
comp=Z,45nm,1.4s
MOO **Moorlands** **81.89 176** P **P** **15 42 27.5 +1.4**
SIUN **Universidad Ur** **84.09 305** IAmb IAmb 15 45 36.3
comp=Z,27nm,0.5s
BRAT **Ballarat** **86.60 173** P **P** **15 42 51.1 +1.1**
TOO **Toolangi** **86.67 175** P **P** **15 42 50.7 +0.3**
TOO **Toolangi** **86.67 175** P **P** **15 42 50.2 -0.2**
TOO **Toolangi** **86.67 175** P **P** **15 42 50.2 -0.2**
TOO pmax pmax
comp=Z,5.0nm,1.1s
MTO3 **Montecristo** **86.85 301** IAmb IAmb 15 42 52.5
comp=Z,55nm,0.8s
TBI **Tubual** **86.89 232** *e*S **S** **15 53 27.2 +3.6**
comp=Z,174nm,34.8s
TBI *e*SS **SS** **15 59 01.8 -4.4**
comp=Z,177nm,29.5s
TBI **Tubuai** **86.89 232** *e*LR LR 16 10 25.8
comp=Z,847nm,27.2s
AUMAZ **Mazenod Senior** **87.11 150** P **P** **15 42 50.7 -1.9**
MUN **Mundaring** **87.19 150** P **P** **15 42 53.4 +0.4**
MUN **Mundaring** **87.19 150** P **P** **15 42 53.3 +0.3**
ARPS **Mount Arapiles** **87.22 172** P **P** **15 42 52.9 -0.2**
TIO **Tiouine** **88.28 18** P **P** **15 42 59.8 +1.7**
AUMBR **Murray Bridge** **88.61 169** P **P** **15 43 00.0 +0.4**
BLDU **Ballidu** **88.61 150** P **P** **15 43 00.1 +0.3**
BLDU **Ballidu** **88.61 150** P **P** **15 42 59.9 +0.1**
AUMAR **Marden Senior** **88.78 169** P **P** **15 43 01.2 +0.7**
AUCAS **Cummins Area S** **89.05 166** P **P** **15 43 02.4 +0.7**
KMBL **Kambalda** **89.25 154** P **P** **15 43 03.3 +0.5**
YNG **Young** **90.05 177** P **P** **15 43 05.6 -0.9**
HTT **Hallett** **90.25 169** P **P** **15 43 08.2 +0.7**
HTT **Hallett** **90.25 169** P **P** **15 43 08.0 +0.5**
AUJCS **Jamestown Cent** **90.45 169** P **P** **15 43 08.9 +0.5**
WHYH **Whyalla** **90.49 168** P **P** **15 43 09.3 +0.8**
BBOO **Buckleboo** **90.52 166** P **P** **15 43 09.6 +0.9**
MD31 **MD31** **90.62 19** P **P** **15 43 10.8 +1.9**
IFR **Ifrane** **91.19 19** P **P** **15 43 12.8 +1.2**
FORT **Forrest** **91.19 159** P **P** **15 43 12.1 +0.3**
FORT IAmb IAmb 15 43 13.2
comp=Z,18nm,0.8s
TEIG **Tepich** **91.38 305** P **P** **15 43 13.2 +0.7**
PPT2 **Papeete2** **91.97 234** *e*LQ LQ 16 08 54.8
comp=Z,204nm,27.2s
PPT2 *e*LR LR 16 12 41.2
comp=Z,306nm,32.5s
PPT2 *e*LR LR 16 12 46.5
comp=Z,178nm,34.5s
STKA **Stephens Creek** **92.05 171** P **P** **15 43 16.1 +0.3**
comp=Z,7.8nm,0.7s,baz=143,slow=3.8,SNR=19
STKA PP **PP** **15 46 52.3 -3.0**
comp=Z,3.3nm,0.9s,baz=182,slow=8.8,SNR=4.3
comp=Z,7.8nm,0.7s
STKA **Stephens Creek** **92.05 171** P **P** **15 43 16.4 +0.6**
PBDV **Barranco-do-Ve** **94.36 16** P **P** **15 43 27.1 +1.1**
EMAL **Malaga-Limoner** **94.47 19** P **P** **15 43 28.4 +2.0**
ELGU **Los Guajares,** **94.72 19** P **P** **15 43 28.2 +0.5**
PCVE **Castro Verde** **94.72 16** P **P** **15 43 28.0 +0.5**
TAOE **Nuku Hiva Isla** **94.89 247** *e*LR LR 16 14 01.7
comp=Z,167nm,27.1s
ESDC **Sonseca Array** **97.39 18** P Pdif 15 43 41.7 +2.0
ESDC **Sonseca Array** **97.39 18** P Pdif 15 43 40.9 +1.1
comp=Z,1.1nm,0.7s,baz=168,slow=4.5,SNR=6.6
comp=Z,1.1nm,0.7s
QLP **Quilpie** **97.52 173** P Pdif 15 43 41.6 +0.7

PSA00 **Pilbara Seismi** 98.04 150 P **P** 15 43 42.9 -0.4
ASAR **Alice Springs** 99.18 163 P **Pdif** 15 43 47.6 -0.8
ASAR **Alice Springs** 99.18 163 P **Pdif** 15 43 47.9 -0.5
comp=Z,7.7nm,0.7s,baz=188,slow=4.2,SNR=116
ASAR PP **PP** 15 47 44.9 -5.9
comp=Z,3.8nm,0.7s,baz=189,slow=6.6,SNR=6.1
ASAR PKKP **PKKPbc** 16 00 10.5 +0.4
comp=Z,0.4nm,0.5s,baz=24,slow=1.6,SNR=4.4
comp=Z,7.7nm,0.7s
FITZ **Fitzroy Crossi** 102.89 154 **Pdif** 15 44 05.2 +0.3
FITZ **Fitzroy Crossi** 102.89 154 P **Pdif** 15 44 05.6 +0.7
comp=Z,2.5nm,0.8s,baz=253,slow=5.9,SNR=9.9
WRA **Warramunga Arr** 102.90 163 Pdif **Pdif** 15 44 04.4 -0.5
WRA **Warramunga Arr** 102.90 163 P **Pdif** 15 44 04.1 -0.9
comp=Z,2.9nm,0.7s,baz=198,slow=4.5,SNR=22
WRA PP **PP** 15 48 11.1 -7.7
comp=Z,1.7nm,0.7s,baz=194,slow=6.0,SNR=6.9
WRA **Warramunga Arr** 102.90 163 *i* P **Pdif** 15 44 04.4 -0.5
WB0 **Warramunga Arr** 103.08 163 Pdif **Pdif** 15 44 04.4 -1.3
TXAR **Lajitas Array** 106.46 298 Pdiff **Pdif** 15 44 20.8 +0.4
comp=Z,0.7nm,0.9s,baz=108,slow=4.1,SNR=4.2
TXAR PKiKP **PKiKP** 15 48 29.4 -1.6
comp=Z,0.3nm,0.6s,baz=160,slow=4.0,SNR=3.6
PPSI **Pulau Pagai** 107.74 124 P **Pdif** 15 44 27.2 +0.7
GERES **GERESS Array B** 110.02 28 PP **PP** 15 49 09.2 -2.9
comp=Z,1.3nm,1.1s,baz=209,slow=5.6,SNR=3.8
KIV **Kislovodsk** 115.85 49 *e*PKiKP **PKiKP** 15 48 49.2 +0.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
PV18 **Skein Mesa, Pa** 116.20 300 **PKPdf** 15 48 48.9 -0.4
MAK **Makhachkala** 117.16 53 *e*P **Pdif** 15 45 06.9 -0.6
MAK *i* 15 48 50.8
MAK *e* 15 49 11.2
MAK *e* 15 50 03.8
MAK *e* 15 55 37.2
MAK *e*PS **PS** 15 59 50.4 +4.1
MAK *e*SS SS 16 06 06.4 +0.5
MAK pmax pmax
comp=Z,27nm,0.3s
P18A **Preston Nutter** 117.93 300 PKPdf **PKPdf** 15 48 52.1 -0.6
TPNV **Topopah Spring** 118.88 294 PKPdf **PKiKP** 15 48 54.6 +0.1
TPNV **Topopah Spring** 118.88 294 PKIKP **PKiKP** 15 48 54.6 +0.1
DUG **Dugway, Tooele** 119.62 299 PKPdf **PKiKP** 15 48 55.9 +0.1
DUG **Dugway, Tooele** 119.62 299 PKIKP **PKiKP** 15 48 55.9 +0.1
ULM **Lac du Bonnet** 119.95 317 PKP **PKPdf** 15 48 55.0 -0.8
comp=Z,4.6nm,0.5s,baz=156,slow=2.4,SNR=2.1
PDAR **Pinedale Array** 120.01 303 PKPdf **PKPdf** 15 48 55.3 -1.2
PDAR **Pinedale Array** 120.01 303 PKP **PKPdf** 15 48 55.6 -0.9
comp=Z,1.3nm,0.5s,baz=136,slow=5.2,SNR=13
HFS **Hagfors** 120.32 23 PKP **PKPdf** 15 48 55.2 -1.0
comp=Z,1.4nm,0.6s,baz=158,slow=4.3,SNR=5.7
NOA **NORSAR Array B** 120.63 21 PKP **PKPdf** 15 48 55.9 -0.9
comp=Z,0.6nm,0.6s,baz=206,slow=2.0,SNR=3.4
NVAR **Mina Array Bea** 121.06 294 PKPdf **PKPdf** 15 48 58.8 +0.1
NVAR **Mina Array Bea** 121.06 294 PKP **PKiKP** 15 48 59.7 +0.9
comp=Z,2.4nm,0.6s,baz=130,slow=2.9,SNR=16
WELL **Weller Preserv** 122.32 292 PKPdf **PKPdf** 15 49 01.0 +0.1
FINES **FINESS Array B** 124.45 28 PKPdf **PKPdf** 15 49 03.4 -0.7
FINES **FINESS Array B** 124.45 28 PKP **PKPdf** 15 49 03.6 -0.5
comp=Z,4.0nm,0.6s,baz=162,slow=1.3,SNR=33
FINES **FINESS Array B** 124.45 28*c* *i*PKiKP **PKPdf** 15 49 03.7 -0.4
FINES pmax pmax
comp=Z,4.0nm,0.6s
CMAR **Chiang Mai Arr** 125.41 111 PKPdf **PKPdf** 15 49 06.3 -1.0
CMAR **Chiang Mai Arr** 125.41 111 PKP **PKPdf** 15 49 07.5 +0.1
comp=Z,4.8nm,0.8s,baz=233,slow=3.6,SNR=20
CMAR PP **PP** 15 50 54.8 -4.0
comp=Z,0.9nm,0.9s,baz=219,slow=7.7,SNR=5.3
ABKAR **Akbulak array** 127.58 56 PKPdf **PKPdf** 15 49 10.1 -0.4
KLMR **Klimovskoe** 127.92 35 *e*PKiKP **PKPdf** 15 49 10.6 -0.2
KLMR pmax pmax
comp=Z,18nm,1.9s
KKAR **Karatay Array** 128.48 68 PKPdf **PKPdf** 15 49 11.4 -1.1
KKAR **Karatay Array** 128.48 68 PKiKP **PKPdf** 15 49 11.4 -1.1
KSH **Kashi** 128.85 75 PKP **PKiKP** 15 49 13.8 -0.3
KIRV **Kirov** 129.71 42 *i* PKiKP **PKPdf** 15 49 13.8 -0.4
AAK **Ala-Archa** 130.25 71 PKPdf **PKiKP** 15 49 16.7 -0.2
AAK **Ala-Archa** 130.25 71*ce*PKiKP **PKiKP** 15 49 17.6 +0.7
AAK pmax pmax
comp=Z,13nm,2.5s
ARCES **ARCESS Array B** 130.97 22 PKP **PKPdf** 15 49 15.7 -0.6
comp=Z,2.1nm,0.5s,baz=188,slow=1.3,SNR=18
APA **Apatity** 131.25 27⇓*i*PKiKP **PKPdf** 15 49 16.3 -0.6
APA MLR MLR
comp=Z,15μm,32.4s
PZH **PanZhiHua** 133.45 108 PKP **PKPdf** 15 49 23.1 +0.5
BORK **Borovoye** 134.98 58*ce*PKiKP **PKiKP** 15 49 26.7 +0.8
BORK pmax pmax
comp=Z,3.0nm,0.8s
BVAR **Borovoye Array** 135.00 58 PKP **PKiKP** 15 49 25.3 -0.6
comp=Z,2.9nm,0.6s,baz=247,slow=1.4,SNR=14
BVAR SKPbc **SKPbc** 15 52 46.5 -1.4
comp=Z,3.0nm,0.7s,baz=294,slow=1.5,SNR=5.8
YKA **Yellowknife Ar** 135.88 318 PKPdf **PKPdf** 15 49 25.3 -0.4
YKA **Yellowknife Ar** 135.88 318 PKP **PKPdf** 15 49 25.6 -0.1
comp=Z,9.7nm,0.8s,baz=133,slow=1.2,SNR=19
YKA SKPbc **SKPbc** 15 52 48.8 -1.5
comp=Z,4.7nm,0.9s,baz=128,slow=0.9,SNR=7.6
GYA **Guiyang** 136.01 113 ⇓PKP **PKPdf** 15 49 27.9 +0.5
GYA sPKP 15 49 54.3
GYA PP **PP** 15 52 07.9 +0.4
GYA AMB AMB
comp=Z,62nm,7.7s
GYA LR LR
comp=Z,540nm,15.1s
GOMU **GeErMu** 136.99 92 PKP **PKiKP** 15 49 31.3 +0.3
GOMU LR LR
comp=Z,760nm,19.1s
MKAR **Makanchi Array** 137.16 72 PKhKP PKPpre 15 49 20.8
comp=Z,0.7nm,0.7s,baz=198,slow=3.5,SNR=3.9
MKAR PKP **PKPdf** 15 49 29.2 +0.5
comp=Z,1.2nm,0.7s,baz=251,slow=3.7,SNR=6.0
MKAR SKP 15 52 53.0
comp=Z,1.9nm,0.5s,baz=236,slow=3.2,SNR=17
KURBB **Kurchatov Arra** 137.56 65 PKhKP PKPpre 15 49 21.6
comp=Z,2.3nm,0.2s,baz=231,slow=3.3,SNR=4.7
KURBB PKP **PKPdf** 15 49 30.0 +0.8
comp=Z,2.6nm,0.2s,baz=233,slow=2.8,SNR=6.2
KURBB SKP 15 52 54.7
comp=Z,2.5nm,0.2s,baz=232,slow=3.3,SNR=10
KURK **Kurchatov** 137.66 65 PKPpre 15 49 21.6
KURK **Kurchatov** 137.66 65 PKIKP **PKPdf** 15 49 30.0 +0.6
CD2 **Chengdu** 138.00 106 PKP **PKPdf** 15 49 31.0 +0.2
WMQ **Urumqi** 138.20 79 *e*PKP **PKiKP** 15 49 33.0 +0.1
WMQ sPKP 15 49 59.0
LZH **Lanzhou** 141.95 101 *e*P **PKPdf** 15 49 33.5 -4.5
GTA **Gaotai** 142.05 93 *e*PKP **PKiKP** 15 49 39.6 -1.4
ZAA0 **Zalesovo Array** 142.62 64 **PKPdf** 15 49 36.9 -1.4
ZALV **Zalesovo Beam** 142.62 64 PKPpre PKPpre 15 49 33.9
ZALV **Zalesovo Beam** 142.62 64 PKhKP PKPpre 15 49 34.2
comp=Z,1.2nm,0.4s,baz=245,slow=6.2,SNR=7.4
ZALV SKPbc **SKPbc** 15 53 05.4 -3.8
comp=Z,1.9nm,0.4s,baz=219,slow=4.3,SNR=6.7
ZALV **Zalesovo Beam** 142.62 64 PKHKP PKPpre 15 49 33.9
XAN **Xi'an** 143.18 108 ⇓PKP **PKPdf** 15 49 39.4 -0.7
O30N **Mendenhall** 143.82 308 PKPpre PKPpre 15 49 38.2
HYT **Haines Junctio** 144.47 307 P **PKPdf** 15 49 41.0 -0.5
baz=114,SNR=12
N30M **Aishikik Lake** 144.54 309 P **PKPdf** 15 49 41.3 -0.2
baz=114,SNR=29
O29M **Mount Kennedy** 144.74 306 P **PKPdf** 15 49 41.9 -0.2
baz=114
PNL **Peninsula** 144.85 305 P PKPbc 15 49 41.7 +0.3
baz=115
M30M **Minto, Yukon** 144.86 310 P PKPbc 15 49 41.6 +0.2
baz=113,SNR=31
MAYO **Mayo, Yukon** 144.86 312 P **PKPdf** 15 49 41.9 -0.1
baz=112
YUK6 **Outpost Mounta** 144.90 307 P **PKPab** 15 49 41.9 0.0
baz=114
H31M **Peel River** 145.03 316 P **PKPbc** 15 49 41.8 -0.1
baz=110,SNR=46
YUK4 **Talbot Arm** 145.19 308 P **PKPbc** 15 49 42.4 -0.3
baz=113,SNR=15
F31M **Tsiigehtchic** 145.34 319 P **PKPdf** 15 49 42.7 0.0
baz=108,SNR=22
G31M **Satah River** 145.37 318 P **PKPdf** 15 49 42.6 -0.1
baz=108,SNR=45
J30M **Hart River** 145.39 314 P **PKPdf** 15 49 43.1 +0.1
baz=110,SNR=19
PINM **Pinnacle** 145.42 305 P **PKPdf** 15 49 43.0 -0.1
baz=114
LYN **LuoYang** 145.45 111 PKPbc **PKPdf** 15 49 43.9 0.0
LYN LR LR
comp=Z,2μm,19.6s

INK **Inuvik** 145.52 321 **PKPdf** 15 49 42.6 -0.3
INK **Inuvik** 145.52 321 PKP2 **PKPdf** 15 49 42.6 -0.3
INK **Inuvik** 145.52 321 P **PKPbc** 15 49 43.3 0.0
baz=107,SNR=25
M29M **Somme Creek** 145.53 310 P **PKPbc** 15 49 43.8 +0.2
baz=112,SNR=30
L29M **L29M** 145.62 311 P **PKPbc** 15 49 43.7 -0.1
baz=111,SNR=92
K29M **Barlow Dome** 145.63 312 P **PKPbc** 15 49 43.8 -0.1
baz=110,SNR=25
I30M **Mount Dempster** 145.63 315 P **PKPbc** 15 49 44.0 +0.1
baz=109,SNR=39
O28M **Mount Upton** 145.66 306 P **PKPdf** 15 49 43.9 +0.1
baz=113,SNR=7.6
YUK8 **Steele Glacier** 145.66 307 P **PKPbc** 15 49 44.1 -0.2
baz=112,SNR=7.2
G30M **tAoh Zraii Nji** 146.12 318 P **PKPbc** 15 49 44.7 -0.5
baz=107
J29N **Klondike Camp** 146.12 313 P **PKPbc** 15 49 45.5 +0.1
baz=109,SNR=9.6
EPYK **Eagle Plains** 146.13 317 P **PKPbc** 15 49 45.1 -0.1
baz=107,SNR=26
F30M **Barrier River** 146.14 319 P **PKPbc** 15 49 45.2 0.0
baz=106,SNR=32
MESA **MESA** 146.23 305 P **PKPbc** 15 49 45.6 -0.3
baz=113
CTGM **Chitina Glacie** 146.25 306 PKPdf **PKPbc** 15 49 46.1 +0.2
CTG **Chitna Glacier** 146.25 306 P **PKPbc** 15 49 45.7 -0.3
baz=112
I29M **Ogilvie Camp,** 146.44 315 P **PKPbc** 15 49 45.6 -0.6
baz=108,SNR=35
DAWY **Dawson** 146.48 312 P **PKPbc** 15 49 45.8 -0.6
baz=109,SNR=37
NJ2 **Nanjing** 146.67 122 *e*PKPbc **PKPab** 15 49 48.4 -0.7
NJ2 pPKP pPKPab 15 50 07.5 -2.3
H29M **Whitestone** 146.72 316 P **PKPbc** 15 49 46.6 -0.4
baz=106,SNR=38
G29M **Pine Creek** 146.78 318 P **PKPbc** 15 49 47.0 -0.2
baz=106,SNR=81
CRQE **Cirque** 146.97 305 P **PKPbc** 15 49 47.6 -0.3
baz=111
M27K **Edge Creek, AK** 146.98 309 P **PKPbc** 15 49 47.8 -0.2
baz=110
E29M **Blow River** 147.10 320 P **PKPbc** 15 49 47.5 -0.4
baz=104
I28M **Miner Creek** 147.12 315 P **PKPbc** 15 49 47.8 -0.4
baz=106,SNR=39
MCARA **McCarthy VSAT** 147.16 307 P **PKPbc** 15 49 47.9 -0.4
baz=110
BCAR **Beaver Creek A** 147.18 310 PKPdf **PKPbc** 15 49 48.1 -0.2
L27K **Beaver Creek,** 147.19 310 P **PKPbc** 15 49 48.6 +0.2
baz=109,SNR=9.2
KAIM **Kayak Island** 147.28 304 P **PKPbc** 15 49 48.8 +0.1
baz=112
M26K **Nabesna, AK** 147.49 308 P **PKPbc** 15 49 48.7 -0.6
baz=109
KNGR **Kungurtug, Tuv** 147.59 76 *i* PKP2 **PKPbc** 15 49 48.9 -1.1
K27K **Chicken** 147.59 312 P **PKPbc** 15 49 49.4 0.0
baz=107
D28M **Stokes Point** 147.61 322 P **PKPbc** 15 49 49.6 +0.3
baz=101
F28M **Old Crow** 147.65 318 P **PKPbc** 15 49 49.4 -0.1
baz=103,SNR=74
BMRM **Bremner River** 147.74 305 P **PKPbc** 15 49 49.6 -0.3
baz=110
E28M **Babbage River** 147.74 320 P **PKPbc** 15 49 49.3 -0.4
baz=104
I27K **Kandik River** 147.84 314 P **PKPbc** 15 49 50.2 +0.1
baz=105,SNR=37
L26K **Log Cabin Wild** 147.84 309 P **PKPbc** 15 49 50.0 -0.1
baz=108,SNR=17
N25K **Chitina, Valde** 147.95 307 P **PKPbc** 15 49 50.3 -0.2
baz=109
H27K **Steamboat Moun** 147.96 316 P **PKPbc** 15 49 50.5 +0.1
baz=104,SNR=61
Q23K **Middleton Isla** 148.01 302 P **PKPbc** 15 49 51.1 +0.5
baz=111
EYAK **Cordova Ski Ar** 148.12 304 P **PKPbc** 15 49 51.3 +0.4
baz=110
G27K **Doyon Strip** 148.15 317 P **PKPbc** 15 49 51.0 +0.2
baz=103,SNR=19
DOT **Dot Lake** 148.33 310 **PKPbc** 15 49 51.3 -0.1
J26L **Joseph Creek** 148.35 312 P **PKPbc** 15 49 51.7 +0.2
baz=105,SNR=35
D27M **Malcolm River** 148.37 321 **PKPdf** 15 49 48.9 +1.1
D27M **Malcolm River** 148.37 321 P **PKPbc** 15 49 51.7 +0.3
baz=100
I26K **Coal Creek Min** 148.39 314 P **PKPbc** 15 49 51.4 -0.1
baz=104
SCRK **Sand Creek** 148.39 311 P **PKPbc** 15 49 52.0 +0.3
baz=106,SNR=7.1
E27K **Coleen River** 148.41 319 P **PKPbc** 15 49 51.6 +0.1
baz=101
HARP **HAARP** 148.45 308 P **PKPbc** 15 49 52.4 +0.7
baz=108
KLU **Klutina** 148.51 306 P **PKPbc** 15 49 52.3 +0.3
baz=108,SNR=16
BTO **Baotou** 148.57 101 *e*PKPbc **PKPbc** 15 49 52.8 0.0
BTO PP PP 15 53 31.3 +7.7
RIDG **Independent Ri** 148.69 310 P **PKPbc** 15 49 52.5 +0.2
baz=106,SNR=34
P23K **Montague Islan** 148.71 303 P **PKPbc** 15 49 52.9 +0.5
baz=110
PAX **Paxson** 148.75 309 P **PKPbc** 15 49 53.1 +0.5
baz=106,SNR=18
HNS **HongShan** 148.80 111 ⇑PKPbc **PKPbc** 15 49 53.5 +0.2
M24K **Tolsona, Glenn** 148.81 307 PKPbc **PKPbc** 15 49 53.0 +0.2
M24K **Tolsona, Glenn** 148.81 307 P **PKPbc** 15 49 53.1 +0.4
baz=107
GLI **Glacier Island** 148.86 304 P **PKPbc** 15 49 52.9 +0.1
baz=109
G26K **Porcupine Rive** 149.00 317 P **PKPbc** 15 49 53.1 +0.2
baz=101,SNR=26
K24K **Donnelly Dome** 149.11 310 P **PKPbc** 15 49 53.4 0.0
baz=105
J25K **Salcha River,** 149.13 312 P **PKPbc** 15 49 53.5 0.0
baz=104
TIA **Tai'an** 149.15 115 PKPbc **PKPbc** 15 49 53.8 -0.5
SCM **Sheep Creek Mo** 149.25 306 P **PKPbc** 15 49 54.0 +0.1
baz=107,SNR=5.4
F26K **Sheenjek River** 149.27 318 P **PKiKP** 15 49 54.3 -0.5
baz=100
C27K **Jago River** 149.38 322 P **PKPbc** 15 49 54.2 +0.4
baz=97
BMAR **Burnt Mountain** 149.39 317 PKPdf **PKPdf** 15 49 48.9 -0.6
BMAR PKPbc **PKPbc** 15 49 54.4 +0.4
PRP **Porcupine Dome** 149.40 314 P **PKPbc** 15 49 54.1 -0.1
baz=102,SNR=22
M23K **Glacier View** 149.43 306 P **PKPbc** 15 49 54.4 +0.2
baz=107
PWL **Port Wells** 149.43 304 P **PKPbc** 15 49 54.5 +0.3
baz=108,SNR=7.2
HHC **Hu-ho-hao-te** 149.58 102 *e*PKPbc **PKPdf** 15 49 47.8 -2.9
DHY **Denali Highway** 149.62 309 P **PKPbc** 15 49 55.3 +0.5
baz=105
WAT6 **Susitna Watana** 149.65 307 P **PKPbc** 15 49 55.2 +0.2
baz=105,SNR=20
KNK **Knik Glacier** 149.65 305 P **PKPbc** 15 49 54.9 +0.2
baz=107
H25L **Birch Creek** 149.67 315 P **PKPbc** 15 49 55.0 +0.5
baz=101
SML **Sawmill** 149.71 306 P **PKPbc** 15 49 55.2 +0.3
baz=106
SEW **Seward** 149.72 302 P **PKPbc** 15 49 55.2 +0.3
baz=108
HDA **Harding Lake** 149.75 311 P **PKPbc** 15 49 55.2 +0.3
baz=103
ILAR **Eielson Array** 149.81 312 PKPbc **PKPbc** 15 49 55.0 0.0
ILAR **Eielson Array** 149.81 312 PKPbc **PKPbc** 15 49 54.7 -0.3
comp=Z,1.4nm,0.8s,baz=343,slow=2.0,SNR=9.4
ILAR **Eielson Array** 149.81 312 PKP2 **PKPbc** 15 49 55.0 0.0
F25K **Christian Rive** 149.82 318 P **PKPbc** 15 49 55.5 +0.4
baz=99,SNR=19
C26K **Camden Bay** 149.83 322 P **PKiKP** 15 49 55.5 -0.3
baz=95
E25K **Arctic Village** 149.87 319 P **PKiKP** 15 49 55.6 -0.4
baz=98,SNR=32
G25K **Bearman Lake** 149.87 316 P **PKiKP** 15 49 55.9 -0.1
baz=100
O22K **Cooper Landing** 149.97 303 P **PKPbc** 15 49 55.8 +0.3
baz=108
PMR **Palmer** 150.01 305 P **PKiKP** 15 49 56.1 -0.3
baz=106
MOY **Mondy** 150.02 76 *e*PKIKP **PKPdf** 15 49 51.5 +0.4
MOY pmax pmax
comp=Z,22nm,1.5s
WAT1 **Susitna Watana** 150.07 308 P **PKiKP** 15 49 56.8 +0.2
baz=104
POKR **Poker Plat Res** 150.10 312 P **PKiKP** 15 49 56.7 +0.2
baz=101
RC01 **Rabbit Creek A** 150.15 304 P **PKiKP** 15 49 56.8 0.0
baz=107
BRSE **Bradley Lake S** 150.22 301 P **PKPbc** 15 49 56.6 +0.4
baz=108
COLA **College** 150.23 312 PKPbc **PKPbc** 15 49 55.7 -0.3
COLA **College** 150.23 312 PKIKP **PKPbc** 15 49 55.7 -0.3
COLA **College** 150.23 312 P **PKPbc** 15 49 56.2 +0.2
baz=102
D25K **Kavik River** 150.29 321 P **PKPbc** 15 49 56.2 0.0
baz=95
G24K **Hadweenzic Riv** 150.39 316 P **PKPbc** 15 49 56.7 +0.3
baz=99
H24K **Noodor Dome** 150.42 314 P **PKPbc** 15 49 56.6 0.0
baz=100,SNR=6.5
MCK **McKinley** 150.45 309 P **PKPbc** 15 49 56.8 +0.2
baz=103,SNR=22
KDAK **Kodiak Island** 150.48 297 PKPbc **PKPbc** 15 49 56.3 -0.5
KDAK **Kodiak Island** 150.48 297 PKIKP **PKPbc** 15 49 56.3 -0.5
KDAK **Kodiak Island** 150.48 297 P **PKPbc** 15 49 57.1 +0.3
baz=110
M22K **Willow** 150.51 305 P **PKiKP** 15 49 57.1 -0.3
baz=105,SNR=11
HOM **Homer** 150.63 301 P **PKiKP** 15 49 57.9 +0.1
baz=108
OHAK **Old Harbor** 150.64 295 P **PKiKP** 15 49 57.6 -0.2
baz=111
ZAK **Zakamensk** 150.65 80 *e*PKIKP **PKPbc** 15 49 56.9 -0.7
ZAK pmax pmax
comp=Z,18nm,1.1s
F24K **Squaw Lake** 150.66 317 P **PKiKP** 15 49 57.6 -0.1
baz=97
Q20K **Shuyak Island** 150.67 298 P **PKiKP** 15 49 57.9 +0.1
baz=109
NEA2 **Nenana** 150.69 311 P **PKiKP** 15 49 57.5 -0.3
baz=101
SUA **Susitna One** 150.72 305 P **PKiKP** 15 49 58.2 +0.2
baz=105
CAPN **Captain Cook N** 150.72 303 P **PKiKP** 15 49 57.7 -0.2
baz=106
CUT **Chulitna** 150.74 307 P **PKiKP** 15 49 57.7 -0.2
baz=104,SNR=16
SII **Sitkinak Islan** 150.85 294 P **PKiKP** 15 49 58.1 -0.2
baz=112
I23K **Minto, Yukon-K** 150.91 312 P **PKPbc** 15 49 57.4 -0.2
baz=100,SNR=6.3
E24K **Your Creek** 150.95 318 P **PKPbc** 15 49 58.0 +0.3
baz=95
TRF **Thorofare Moun** 150.99 309 P **PKPbc** 15 49 58.0 -0.1
baz=102,SNR=10
SONM **Songino Array** 151.05 87 PKPbc **PKPbc** 15 49 57.7 -0.9
SONM **Songino Array** 151.05 87 PKPbc **PKPbc** 15 49 58.5 -0.2
comp=Z,21nm,0.7s,baz=224,slow=3.1,SNR=24
C24K **Franklin Bluff** 151.13 322 P **PKiKP** 15 49 58.4 -0.1
baz=92
D24K **Happy Valley** 151.15 321 P **PKiKP** 15 49 58.7 +0.1
baz=93
SKT **Skwentna** 151.21 305 P **PKPbc** 15 49 58.5 +0.1
baz=104,SNR=20
O20K **Slope Mountain** 151.23 301 P **PKPbc** 15 49 58.6 0.0
baz=106
CHIR **Chirikof Islan** 151.32 292 P **PKiKP** 15 49 59.1 -0.2
baz=112
N20K **Mount Spurr** 151.33 304 P **PKPbc** 15 49 58.5 -0.4
baz=105
SPCR **Spurr Chakacha** 151.33 304 P **PKPbc** 15 49 58.7 -0.1
baz=105
E23K **Chandalar** 151.37 318 P **PKPbc** 15 49 58.9 +0.2
baz=94
Q19K **Cape Douglas,** 151.39 299 P **PKPbc** 15 49 59.1 +0.1
baz=108
TOLK **Toolik Lake Re** 151.39 319 P **PKiKP** 15 49 59.1 -0.1
baz=93
G23K **Bananza Creek** 151.40 315 P **PKiKP** 15 49 59.5 +0.3
baz=96
P19K **Oil Pt** 151.40 300 P **PKiKP** 15 49 59.3 -0.2
baz=107
BPAW **Bear Paw Mtn.** 151.42 310 P **PKPbc** 15 49 59.1 +0.2
baz=100,SNR=20
ULN **Ulaanbaatar** 151.43 87 PKPbc **PKPbc** 15 49 57.9 -1.7
ULN **Ulaanbaatar** 151.43 87 PKIKP **PKPbc** 15 49 57.9 -1.7
MLY **Manley** 151.47 312 P **PKiKP** 15 49 59.3 -0.1
baz=99
TLY **Talaya** 151.48 78 PKPbc **PKPbc** 15 49 59.4 0.0
BJT **Baijiatuau** 151.49 109 PKPbc **PKPbc** 15 49 59.9 +0.1
BJT **Baijiatuau** 151.49 109 PKIKP **PKPbc** 15 49 59.9 +0.1
BJI **Beijing** 151.51 109 PKPbc **PKiKP** 15 50 00.0 -0.2
BJI pPKP **pPKPbc** 15 50 16.8 -4.2
COLD **Coldfoot** 151.52 316 P **PKiKP** 15 49 59.9 +0.5
baz=95
PPLA **Purkeypile** 151.72 307 P **PKiKP** 15 50 00.2 +0.1
baz=102
C23K **Itkillik River** 151.80 322 PKPbc **PKiKP** 15 49 59.8 0.0
C23K **Itkillik River** 151.80 322 P **PKPbc** 15 49 59.4 -0.1
baz=90
D23K **Nanushuk River** 151.81 320 P **PKiKP** 15 50 00.2 +0.3
baz=92
H22K **Ishtalitna Cre** 151.85 314 P **PKiKP** 15 50 00.3 +0.2
baz=97
M20K **Styx River** 151.93 305 P **PKPbc** 15 50 00.0 -0.2
baz=103,SNR=7.9
CHUM **Lake Minchumin** 151.96 309 P **PKiKP** 15 50 00.4 0.0
baz=100
Q18K **Katmai Hardscr** 151.98 298 P **PKPbc** 15 50 00.5 +0.1
baz=108
G22K **Bettles** 152.00 316 P **PKPbc** 15 50 00.1 0.0
baz=95
I21K **Tanana** 152.01 312 P **PKiKP** 15 50 00.4 0.0
baz=98
O19K **Port Alsworth** 152.08 301 P **PKiKP** 15 50 00.8 +0.1
baz=105
E22K **Anaktuvuk Pass** 152.20 318 P **PKPbc** 15 50 00.7 +0.1
baz=92
Q17K **Contact Creek** 152.30 297 P **PKPbc** 15 50 00.8 -0.3
baz=108
P18K **Big Mountain,** 152.30 299 P **PKPbc** 15 50 01.1 0.0
baz=106
F22K **John River** 152.31 317 P **PKiKP** 15 50 01.9 +0.8
baz=93
N19K **Bonanza Creek** 152.31 302 P **PKiKP** 15 50 01.4 +0.1
baz=104
R17L **Mt. Peulik Vol** 152.34 295 P **PKiKP** 15 50 01.7 +0.3
baz=109
L20K **Farewell, AK** 152.40 306 P **PKiKP** 15 50 01.4 0.0
baz=101
H21K **Melozitna Rive** 152.41 313 P **PKPbc** 15 50 01.0 -0.1
baz=96
O18K **Koktuh Hills** 152.42 300 P **PKPbc** 15 50 01.2 -0.1
baz=105
D22K **Ayikyak River** 152.53 320 P **PKiKP** 15 50 01.5 0.0
baz=90
K20K **Telida** 152.64 308 P **PKPbc** 15 50 01.7 0.0
baz=100
B22K **Teshekpuk Lake** 152.74 323 P **PKPbc** 15 50 01.6 0.0
baz=86
G21K **Allakaket** 152.77 315 P **PKiKP** 15 50 02.0 0.0
baz=94
L19K **White Mountain** 152.78 305 P **PKPbc** 15 50 02.1 +0.1
baz=101
F21K **Alatna River** 152.80 316 P **PKiKP** 15 50 02.7 +0.6
baz=92
Q16K **King Salmon** 152.81 297 P **PKiKP** 15 50 02.9 +0.7
baz=107
P17K **Kvichak River** 152.84 298 P **PKiKP** 15 50 02.4 +0.1
baz=106
R16K **Pilot Point** 152.94 294 P **PKiKP** 15 50 03.4 +0.8
baz=108
N18K **Kilae Creek** 152.95 302 P **PKPbc** 15 50 02.5 0.0
baz=103
I20K **Naaghedeneel** 153.02 311 P **PKiKP** 15 50 03.3 +0.8
baz=96
CHNA **Chernabura Isl** 153.04 288 P **PKiKP** 15 50 03.5 +0.6
baz=112
M18K **Stony River** 153.10 303 P **PKiKP** 15 50 03.9 +1.0
baz=102
B21K **Ikpikpuk River** 153.20 322 P **PKiKP** 15 50 03.3 +0.5
baz=87
A22K **Sinclair Lake** 153.20 325 P **PKiKP** 15 50 03.9 +1.2
baz=84
H20K **Anotleneega Mo** 153.25 312 P **PKiKP** 15 50 04.0 +1.0
baz=95
C21K **Knifeblade Rid** 153.28 321 P **PKiKP** 15 50 04.1 +1.1
baz=88
O17K **Koliganek Bris** 153.32 299 P **PKiKP** 15 50 03.9 +0.6
baz=104
J19K **Poorman** 153.42 309 P **PKiKP** 15 50 04.2 +0.8

baz=97
N17K Nushagak Hills 153.54 301 P PKiKP 15 50 04.9 +1.1
baz=103
L18K Granite Mounta 153.64 305 P PKiKP 15 50 04.8 +0.9
baz=100
A21K Barrow 153.69 326 P PKiKP 15 50 05.1 +1.3
baz=81
SDPT Sand Point 153.71 289 P PKiKP 15 50 05.2 +1.0
baz=111
O16K Kokwok River B 153.77 299 P PKiKP 15 50 05.5 +1.3
baz=104
E20K Nigu River 153.83 319 P PKiKP 15 50 05.5 +1.3
baz=88
M17K Holitna River 153.84 303 P PKiKP 15 50 06.0 +1.6
baz=101
H19K Roundabout Mou 153.91 312 P PKiKP 15 50 06.0 +1.6
baz=93
GCSA Galena City Sc 154.04 311 P PKiKP 15 50 06.7 +2.1
baz=95
E19K Redstone River 154.25 317 P PKiKP 15 50 06.7 +1.6
baz=89
L17K Donlin 154.37 304 P PKiKP 15 50 06.9 +1.5
baz=99
K17K Iditarod 154.45 306 P PKiKP 15 50 07.2 +1.6
baz=98
H18K Honhosa River 154.69 311 P PKiKP 15 50 07.4 +1.4
baz=92
G18K Tagagawik 154.83 313 P PKiKP 15 50 07.3 +1.0
baz=91
L16K Owhat River 154.85 303 P PKiKP 15 50 07.9 +1.4
baz=99
N15K Kwethluk River 154.88 299 P PKiKP 15 50 07.9 +1.3
baz=102
J17K VABM Dome 154.88 307 P PKiKP 15 50 07.8 +1.3
baz=96
C19K Lookout Ridge 155.00 321 P PKiKP 15 50 08.4 +1.7
baz=83
FALS False Pass 155.11 286 P PKPdf 15 50 08.7 +10
baz=111
F18K Selawik 155.23 315 P PKPdf 15 50 08.4 +10
baz=88
O14K Tigyukauivet M 155.26 297 P PKPdf 15 50 08.5 +10
baz=103
M15K Kasigluk River 155.27 301 P PKPdf 15 50 08.7 +10
baz=100
KSAR Wonju Array Be 155.29 128 PKPdf **PKPdf 15 49 58.1 -1.0**
KSAR **PKPab 15 50 24.4 -0.2**
KSAR Wonju Array Be 155.29 128 PKIKP **PKPdf 15 49 58.1 -1.0**
KSAR 15 50 24.5
KSRS Korea Array 155.32 128 PKPbc PKPdf 15 50 10.1 +11
comp=Z,0.9nm,0.7s,baz=207,slow=3.1,SNR=4.1
KSRS PKPab **PKPab 15 50 24.8 +0.1**
comp=Z,4.0nm,1.0s,baz=213,slow=3.6,SNR=8.1
A19K Wainwright 155.34 324 P PKPab 15 50 25.2 +1.3
baz=79
H17K Granite Mounta 155.34 311 P PKPab 15 50 25.8 +1.7
baz=92
E18K Tukpahlearik C 155.55 317 P PKPab 15 50 26.0 +1.0
baz=86
N14K Kuskokwak Cree 155.61 299 P PKPab 15 50 26.6 +1.2
baz=101
I17K Unalakleet 155.64 308 P PKPab 15 50 26.9 +1.5
baz=93
B18K Kokolik River 155.74 322 P PKPab 15 50 27.3 +1.5
baz=80
L15K Ungalak Mounta 155.80 303 P PKPab 15 50 27.2 +1.1
baz=98
K15K Wolf Creek Mou 155.89 304 P PKPab 15 50 28.0 +1.5
baz=96
M14K Bethel 155.89 300 P PKPab 15 50 28.1 +1.6
baz=99
E17K Hotham Inlet 156.06 316 P PKPab 15 50 28.6 +1.5
baz=85
L14K Kuka Creek 156.32 302 P PKPab 15 50 29.4 +1.0
baz=97
H16K Elim 156.33 310 P PKPab 15 50 29.4 +1.0
baz=90
RDOG Red Dog Mine 156.35 319 P PKPab 15 50 30.0 +1.6
baz=82
C17K DeLong Mountai 156.38 320 P PKPab 15 50 30.2 +1.6
baz=80
UNV Unalaska Valle 156.43 282 P PKPab 15 50 30.4 +1.3
baz=112
D17K Noatak River 156.47 318 P PKPab 15 50 30.9 +2.0
baz=82
M13K Dall Lake 156.52 299 P PKPab 15 50 31.6 +2.3
baz=99
G15K Niukluk 157.09 311 P PKPab 15 50 32.3 +0.6
baz=88
C16K Lisburne Hills 157.21 320 P PKPab 15 50 32.1 +0.1
baz=78
F15K North Star Dit 157.31 313 P PKPab 15 50 32.8 +0.2
baz=85
K13K Kusilvak Mount 157.32 303 P PKPab 15 50 34.1 +1.4
baz=94
MJAR Matsushiro Arr 158.38 148 PKPab **PKPab 15 50 37.1 -0.9**
MJAR Matsushiro Arr 158.38 148 PKPab **PKPab 15 50 38.0 0.0**
comp=Z,8.1nm,0.8s,baz=186,slow=5.0,SNR=14
CN2 Changchun 159.05 114 *e*PKP **PKPdf 15 50 08.3 +4.7**
HILR Hailar Array B 159.47 94 PKPab **PKPab 15 50 42.6 +0.1**
comp=Z,1.5nm,0.4s,baz=250,slow=4.3,SNR=6.3
TIXI Tiksi 161.40 23 PKPab **PKPab 15 50 50.7 +0.5**
TIXI Tiksi 161.40 23 PKP2 **PKPab 15 50 50.7 +0.5**
MDJ Mudanjiang 161.71 119 PKP **PKPdf 15 50 09.5 +3.0**
USRK Ussuriysk Ar. 162.56 124 PKPab **PKPab 15 50 55.1 -0.9**
comp=Z,3.6nm,0.7s,baz=190,slow=5.9,SNR=4.6
YSS Yuzhno-Sakhali 169.24 143 *e*PKP2 **PKPab 15 51 25.1 -0.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 175.73 230 PKPdf 15 50 16.5 +1.2
PETK PKPab **PKPab 15 51 53.8 -0.3**
PETK Petropavlovsk- 175.73 230 PKPab **PKPab 15 51 52.2 -1.8**
comp=Z,2.8nm,0.8s,baz=101,slow=4.7,SNR=3.9
PETK Petropavlovsk- 175.73 230 PKP2 **PKPab 15 51 53.8 -0.3**
PETK 16 50 16.5

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*SJA **23** 15:40:42.5±0.8, 18.°19S×69.°48W, h143km±3km, ML3.7, MW3.8*
*GUC **23** 15:40:45.6±0.8, 18.°17S×69.°46W, h117km±5km, ML3.8*
ISC 23 15:40:43.6±2.0, 18.°19S±0.°07×69.°51W±0.°08, h136km±11km, n24, σ0°82/42, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.14**	**180**	⇑	*e*P	**Pn**		**15 41 02.4**	**-0.4**
PB16					*e*S	**Sn**		**15 41 15.8**	**-1.6**
PB16	**IPOC Station P**	**0.14**	**180**		*e*P	**Pn**		**15 41 02.4**	**-0.4**
PB16					*e*S	**Pn**		**15 41 02.4**	**-0.4**
PB16					IAML			15 41 02.7	
	comp=Z,2μm,0.3s								
PB16					*e*S		**Sn**	**15 41 18.3**	**+0.9**
AP01	**Chacalluta**	**0.81**	**257**	⇑	*e*P	**Pn**		**15 41 05.7**	**+0.3**
AP01					IAML			15 41 23.3	
	comp=E,3μm,0.2s								
AP01	**Chacalluta**	**0.81**	**257**		*e*P	**Pn**		**15 41 05.8**	**+0.4**
AP01					*e*S	**Sn**		**15 41 23.4**	**+1.3**
AP01					IAML			15 41 27.3	
	comp=Z,1μm,0.2s								
PB12	**IPOC Station P**	**0.89**	**241**	⇑	*e*P	**Pn**		**15 41 06.2**	**0.0**
PB12					*e*S	**Sn**		**15 41 22.1**	**-1.3**
PB12	**IPOC Station P**	**0.89**	**241**		*e*P	**Pn**		**15 41 06.2**	**0.0**
PB12					*e*S	**Sn**		**15 41 24.2**	**+0.9**
PB12					IAML			15 41 27.1	
	comp=Z,548nm,0.2s								
GO01	**Chusmiza**	**1.50**	**169**	⇓	*i*P	**Pn**		**15 41 13.4**	**+0.7**
GO01					*e*S	**Sn**		**15 41 35.5**	**+0.6**
GO01					IAML			15 41 38.7	
	comp=E,1μm,0.3s								
GO01	**Chusmiza**	**1.50**	**169**		*e*P	**Pn**		**15 41 13.4**	**+0.7**
GO01					*e*S	**Sn**		**15 41 35.6**	**+0.8**
GO01					IAML			15 41 38.0	
	comp=E,616nm,0.2s								
PB11	**IPOC Station P**	**1.57**	**185**	⇓	*e*P	**Pn**		**15 41 13.3**	**+0.2**
PB11					*e*S	**Sn**		**15 41 35.3**	**-0.4**
PB11					IAML			15 41 36.5	
	comp=E,866nm,0.5s								
PB11	**IPOC Station P**	**1.57**	**185**		*e*P	**Pn**		**15 41 13.3**	**+0.2**
PB11					*e*S	**Sn**		**15 41 36.6**	**+1.0**
PB11					IAML			15 41 39.5	
	comp=Z,486nm,0.2s								
HMBC	**Humberstone**	**2.11**	**190**	⇑	*e*P	**Pn**		**15 41 19.7**	**+0.4**
HMBC					IAML			15 41 55.2	
	comp=E,669nm,0.4s								
HMBC	**Humberstone**	**2.11**	**190**		*e*P	**Pn**		**15 41 19.5**	**+0.2**
HMBC					*e*S	**Sn**		**15 41 46.7**	**-0.1**
HMBC					IAML			15 41 53.5	
	comp=Z,553nm,0.4s								
TA02	**Huaiquique**	**2.15**	**196**		*e*P	**Pn**		**15 41 20.2**	**+0.5**
TA02	**Huaiquique**	**2.15**	**196**		*e*P	**Pn**		**15 41 21.4**	**+1.7**
TA02					*e*S	**Sn**		**15 41 46.7**	**-0.9**
TA02					IAML			15 41 54.0	
	comp=Z,314nm,0.3s								
LPAZ	**La Paz**	**2.30**	**35**		*e*P	**Pn**		**15 41 22.4**	**+0.2**
TA01	**Diego Aracena**	**2.45**	**195**		*e*P	**Pn**		**15 41 23.3**	**-0.1**
TA01					IAML			15 42 02.7	
	comp=N,290nm,0.3s								
TA01	**Diego Aracena**	**2.45**	**195**		*e*P	**Pn**		**15 41 23.9**	**+0.5**
TA01					*e*S	**Sn**		**15 41 52.1**	**-2.0**
TA01					IAML			15 42 01.4	
	comp=Z,166nm,0.7s								
PB01	**IPOC Station P**	**2.84**	**180**	⇓	*e*P	**Pn**		**15 41 28.5**	**0.0**
PB01					IAML			15 42 12.5	
	comp=N,232nm,0.2s								
PB01	**IPOC Station P**	**2.84**	**180**		*e*P	**Pn**		**15 41 28.3**	**-0.2**
PB01					*e*S	**Sn**		**15 42 02.4**	**-0.7**
PB01					IAML			15 42 10.4	
	comp=Z,153nm,0.3s								
PB02	**IPOC Station P**	**3.13**	**187**		*e*P	**Pn**		**15 41 33.0**	**+0.7**
PB02					*e*S	**Sn**		**15 42 09.4**	**-0.6**
PB02					IAML			15 42 20.8	
	comp=Z,402nm,0.4s								
PB09	**IPOC Station P**	**3.60**	**176**	⇓	*e*P	**Pn**		**15 41 39.2**	**+0.8**
PB09	**IPOC Station P**	**3.60**	**176**		*e*P	**Pn**		**15 41 39.2**	**+0.8**
PB09					*e*S	**Sn**		**15 42 21.1**	**+0.3**
PB09					IAML			15 42 52.4	
	comp=Z,136nm,0.6s								
PB03	**IPOC Station P**	**3.85**	**183**		*e*P	**Pn**		**15 41 41.8**	**+0.1**
PB03					*e*S	**Sn**		**15 42 25.7**	**-0.9**
PB03					IAML			15 42 38.1	
	comp=Z,106nm,0.4s								
PB06	**IPOC Station P**	**4.49**	**181**		*e*P	**Pn**		**15 41 50.2**	**0.0**
PB06					*e*S	**Sn**		**15 42 40.6**	**-1.4**
PB06					IAML			15 43 08.3	
	comp=Z,68nm,0.6s								

DJA 23 15:41:50.2±0.4, 3.°S±5.°×13.°8E±.°, h10km, M3.7/7, mb4.2/1, MLv3.5/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.57**	**26**			P	Pb	15 42 02.0	-0.4
GENI	**Genyem**	**1.71**	**93**			P	Pn	15 42 20.7	+0.6
JAY	**Jayapura**	**2.24**	**90**			P	Pn	15 42 26.6	-0.9
BAKI	**Biak**	**2.69**	**299**			P	Pn	15 42 34.4	+0.8
FAKI	**Fak Fak**	**6.22**	**266**			P	Pn	15 43 21.1	-1.0

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*DJA **23** 15:58:39.5±0.4, 3.°S±6.°×13.°8E±.°, h10km, M3.7/6, mB5.4/1, mb4.2/1, MLv3.5/6, Mw(mB)4.9/1*
*IDC **23** 15:58:42.8±1.4, 3.°04S×138.°50E, h0km, mb3.6/3, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=30.2km s-min=28.3km az=87.0*
ISC 23 15:58:39.2±1.3, 2.°5S±0.°1×138.°16E±0.°06, h10km, n9, σ0°84/8, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.77**	**45**			P	**Pg**	**15 58 54.0**	**-0.1**
GENI	**Genyem**	**2.00**	**92**			P	**Pn**	**15 59 12.9**	**-0.2**
BAKI	**Biak**	**2.45**	**303**			P	**Pn**	**15 59 19.5**	**+0.2**
JAY	**Jayapura**	**2.54**	**90**			Pn	**Pn**	**15 59 21.7**	**+1.1**
	5.0nm,0.3s,baz=217,slow=9.7,SNR=23								
JAY						Sn	**Sb**	**15 59 55.5**	**-0.9**
	3.4nm,0.3s,baz=292,slow=20,SNR=4.1								
	11nm,0.3s								
JAY	**Jayapura**	**2.54**	**90**			P	**Pn**	**15 59 21.5**	**+0.9**
WRA	**Warramunga Arr**	**17.70**	**192**			P	**P**	**16 02 47.1**	**+0.3**
	0.2nm,0.3s,baz=16,slow=12,SNR=6.1								
	0.4nm,0.3s								
ASAR	**Alice Springs**	**21.41**	**191**			P	**P**	**16 03 26.8**	**-0.6**
	0.8nm,0.7s,baz=18,slow=11,SNR=15								
	0.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**43.88**	**300**			P	P	16 06 55.3	+9.0
	0.4nm,0.3s,baz=124,slow=6.0,SNR=4.1								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**69.32**	**323**			P	P	16 09 56.4	+9.4
	1.7nm,0.9s,baz=125,slow=6.4,SNR=4.9								
	1.7nm,0.9s								

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*IDC **23** 16:04:17.7±0.8, 2.°59S×138.°36E, h0km, mb4.0/10, mbtmp4.0/12, ML3.9/2, MS3.5/2, Error ellipse: s-maj=23.6km s-min=18.4km az=63.0*
*NEIC **23** 16:04:20.5±2.5, 2.°51S±0.°03×138.°45E±0.°03, h10km±1km, mb4.3/20, Error ellipse: s-maj=7.3km s-min=4.2km az=219.0*
*DJA **23** 16:04:21.7±0.9, 2.°S±8.°×13.°8E±.°, h16km±10km, M4.2/6, mb4.2/1, MLv4.1/6*
ISC 23 16:04:22.6±0.5, 2.°52S±0.°06×138.°47E±0.°04, h32km, n52, σ1°33/51, mb4.1/16, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.57**	**24**			P	**Pb**	**16 04 31.8**	**-2.6**
GENI	**Genyem**	**1.69**	**93**			P	**Pn**	**16 04 50.8**	**+0.8**
JAY	**Jayapura**	**2.23**	**90**			Pn	**Pn**	**16 04 58.0**	**+0.6**
	21nm,0.3s,baz=230,slow=11,SNR=42								
JAY						Sn	**Sb**	**16 05 29.1**	**-0.5**
	8.8nm,0.3s,baz=88,slow=16,SNR=4.6								
	41nm,0.3s								
JAY	**Jayapura**	**2.23**	**90**			P	**Pn**	**16 04 58.0**	**+0.6**
BAKI	**Biak**	**2.71**	**299**			P	**Pn**	**16 05 03.9**	**-0.1**
RKPI	**Ransiki, Papua**	**4.41**	**283**			P	**Pn**	**16 05 27.1**	**-0.3**
FAKI	**Fak Fak**	**6.23**	**266**			Pn	**Pn**	**16 05 52.0**	**-0.4**
FAKI	**Fak Fak**	**6.23**	**266**			P	**Pn**	**16 05 53.1**	**+0.7**
COEN	**Coen**	**12.28**	**158**			Pn	**Pn**	**16 07 14.1**	**-1.4**
MTN	**Manton Dam**	**12.57**	**215**			Pn	**Pn**	**16 07 17.1**	**-2.3**
SOEI	**Soe**	**15.84**	**242**			P	**P**	**16 08 08.0**	**+0.9**
SOEI						IAmb	IAmb	16 08 36.9	
	comp=Z,40nm,1.2s								
KNRA	**Kununurra**	**16.20**	**216**			Pn	**Pn**	**16 08 04.8**	**-3.3**
KNRA						IAmb	IAmb	16 08 25.0	
	comp=Z,8.2nm,0.8s								
BATI	**Baumata**	**16.57**	**242**			Pn	**P**	**16 08 15.1**	**0.0**
	comp=Z,3.2nm,0.3s,baz=321,slow=0.6,SNR=7.1								
GUMO	**Guam**	**17.21**	**21**			LR	LR	16 14 32.8	
	comp=Z,60nm,18.4s,baz=185,slow=36								
WB0	**Warramunga Arr**	**17.60**	**193**			Pn	**Pn**	**16 08 24.4**	**-1.2**
WR8	**Warramunga Arr**	**17.76**	**192**			Pn	**Pn**	**16 08 25.0**	**-2.6**
WR8						IAmb	IAmb	16 08 40.4	
	comp=Z,16nm,1.3s								
WRA	**Warramunga Arr**	**17.79**	**193**				**Pn**	**16 08 27.4**	**-0.5**
WRA	**Warramunga Arr**	**17.79**	**193**			P	**Pn**	**16 08 25.3**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=16,slow=12,SNR=14								
	comp=Z,1.8nm,0.8s								
TOLI2	**Tolitoli**	**18.05**	**281**			P	**P**	**16 08 32.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.96**	**218**			P	**Pn**	**16 08 53.8**	**-0.3**
MYLDM	**Lahad Datu**	**21.37**	**291**			P	**P**	**16 09 09.8**	**+2.2**
MYLDM						IAmb	IAmb	16 09 26.4	
	comp=Z,32nm,1.4s								
AS31	**Alice Springs**	**21.48**	**192**			P	**P**	**16 09 07.9**	**-0.9**
ASAR	**Alice Springs**	**21.49**	**192**			P	**P**	**16 09 06.8**	**-2.0**
ASAR	**Alice Springs**	**21.49**	**192**			P	**P**	**16 09 06.1**	**-2.7**
	comp=Z,2.4nm,0.7s,baz=22,slow=11,SNR=20								
	comp=Z,2.4nm,0.7s								
MBWA	**Marble Bar**	**26.01**	**223**			P	**P**	**16 09 54.7**	**+1.7**
MBWA						IAmb	IAmb	16 10 31.7	
	comp=Z,12nm,1.1s								
STKA	**Stephens Creek**	**29.35**	**175**			P	**P**	**16 10 24.6**	**+1.8**
LEM	**Lembang**	**31.04**	**261**			LR	LR	16 25 30.1	
	comp=Z,194nm,18.8s,baz=82,slow=41								
KSRS	**Korea Array**	**40.96**	**347**			P	**P**	**16 12 03.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=154,slow=7.2,SNR=2.8								
	comp=Z,0.9nm,0.7s								
CM31	**Chiang Mai Arr**	**44.14**	**300**			P	**P**	**16 12 28.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.14**	**300**			P	**P**	**16 12 28.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.14**	**300**			P	**P**	**16 12 28.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=124,slow=5.9,SNR=8.7								
	comp=Z,0.8nm,0.7s								
HILR	**Hailar Array B**	**54.33**	**345**			P	**P**	**16 13 45.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=146,slow=11,SNR=3.9								
	comp=Z,0.6nm,0.4s								
EVN	**Everest**	**58.13**	**305**			P	**P**	**16 14 15.2**	**+0.8**
MKAR	**Makanchi Array**	**69.49**	**322**			P	**P**	**16 15 27.9**	**-0.3**
MKAR	**Makanchi Array**	**69.49**	**322**			P	**P**	**16 15 28.3**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=113,slow=8.3,SNR=22								
	comp=Z,3.6nm,0.7s								
MAKZ	**Makanchi**	**69.69**	**322**			P	**P**	**16 15 29.2**	**-0.2**
ZALV	**Zalesovo Beam**	**71.65**	**330**			P	**P**	**16 15 39.5**	**-1.6**
ZALV	**Zalesovo Beam**	**71.65**	**330**			P	**P**	**16 15 40.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=106,slow=7.6,SNR=5.4								
	comp=Z,1.3nm,0.6s								
BOOM	**Boomskoye usch**	**71.85**	**316**			P	**P**	**16 15 43.8**	**+1.0**
KURK	**Kurchatov**	**73.42**	**325**			P	**P**	**16 15 52.2**	**+0.5**
KURK						IAmb	IAmb	16 15 53.3	
	comp=Z,1.7nm,0.7s								
KURBB	**Kurchatov Arra**	**73.43**	**325**			P	**P**	**16 15 51.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=116,slow=5.5,SNR=7.3								
	comp=Z,1.0nm,0.7s								
ARSB	**Arslanbob**	**73.53**	**314**			P	**P**	**16 15 53.2**	**+0.4**
ARSB						IAmb	IAmb	16 15 54.9	
	comp=Z,4.5nm,0.8s								
TIXI	**Tiksi**	**74.30**	**357**			P	**P**	**16 15 55.2**	**-1.2**
TIXI						IAmb	IAmb	16 16 03.0	
	comp=Z,3.0nm,1.1s								
KKAR	**Karatay Array**	**75.83**	**316**			P	**P**	**16 16 06.2**	**+0.4**
VNDA	**Vanda**	**75.99**	**175**			P	**P**	**16 16 07.2**	**+1.1**
VNDA						IAmb	IAmb	16 16 22.2	
	comp=Z,2.0nm,1.2s								
VNDA	**Vanda**	**75.99**	**175**			P	**P**	**16 16 06.8**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=346,slow=3.5,SNR=4.7								
	comp=Z,0.6nm,0.9s								
BVAR	**Borovoye Array**	**79.02**	**325**			P	**P**	**16 16 24.1**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=115,slow=7.4,SNR=19								
	comp=Z,3.2nm,0.6s								
ABKAR	**Akbulak array**	**84.42**	**320**			P	**P**	**16 16 52.2**	**+0.1**
ILAR	**Eielson Array**	**85.75**	**24**			P	**P**	**16 16 58.0**	**-0.5**
ILAR	**Eielson Array**	**85.75**	**24**			P	**P**	**16 16 58.5**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=262,slow=4.7,SNR=6.0								
	comp=Z,0.8nm,0.8s								
BMAR	**Burnt Mountain**	**87.31**	**22**			P	**P**	**16 17 07.9**	**+1.9**
QSPA	**South Pole Qui**	**87.43**	**180**			P	**P**	**16 17 08.3**	**+1.5**
QSPA						IAmb	IAmb	16 17 37.2	
	comp=Z,5.0nm,1.3s								

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*IDC **23** 16:08:12.8±0.3, 1.°09S×13.°85W, h0km, mb5.1/37, mbtmp5.1/38, ML5.2/1, MS6.0/70, Error ellipse: s-maj=14.0km s-min=9.0km az=134.0*
*MOS **23** 16:08:12.2±1.1, 1.°00S×13.°85W, h10km, mb5.9/56, MS6.2/48, Error ellipse: s-maj=8.7km s-min=4.0km az=58.5*
*BJI **23** 16:08:13.4, 0.°95S×13.°80W, h10km, mB6.3/41, mb5.5/9, Ms6.5/64, Ms7 6.4/62*
*NEIC **23** 16:08:14.4, 1.°10S×13.°81W, h10km*
*NEIC **23** 16:08:14.5±1.9, 1.°10S±0.°07×13.°84W±0.°09, h10km±1km, mb6.0/297, Ms_20 6.1/766, Mwb6.2/163, Mww6.3/24, Error ellipse: s-maj=14.8km s-min=12.5km az=272.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.31; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-1.02; $M_{r\theta}$0.57; $M_{r\phi}$-2.38; $M_{\theta r}$-0.21; Fault plane solution: $M_0$2.62000×10^{18} NP1: ϕ_s170.86000°, δ77.50000°, λ8.50000°. NP2:ϕ_s79.00000°, δ81.70000°, λ167.36000°. Principal axes: T 2.5407, Plg15.0000°, Azm35.0000°; N 0.1592, Plg75.0000°, Azm226.0000°; P -2.6999, Plg3.0000°, Azm125.0000°;*
*IPGP **23** 16:08:14.0, 1.°05S×13.°83W, h4km, Mw6.3, Fault plane solution: NP1:ϕ_s258.00000°, δ85.00000°, λ174.00000°. NP2:ϕ_s348.00000°, δ84.00000°, λ5.00000°.*
*ISC-PP **23** 16:08:14, 1.°10S×13.°84W, h2km, Mwppsm6.3, Moment Tensor Solution. s48 Moment tensor: Scale 10^{18}Nm; M_{rr}0.80±.16; $M_{\theta\theta}$0.09±.19; $M_{\phi\phi}$0.09±.12; $M_{r\theta}$-0.03±.10; $M_{\theta\phi}$0.28±.18; $M_{\phi r}$-0.30±.16; Fault plane solution: $M_0$3.05000×10^{18} NP1:ϕ_s245.80000°, δ39.20000°, λ125.00000°. NP2:ϕ_s23.70000°, δ58.80000°, λ64.90000°.*
*NEIC **23** 16:08:17.4, 1.°11S×13.°82W, h26km*
*NEIC **23** 16:08:17.4, 1.°11S×13.°82W, h26km, Moment Tensor Solution. Duration: 7s5 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10; $M_{\theta\theta}$1.44; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.56; $M_{\theta\phi}$-3.32; $M_{\phi r}$-0.32; Fault plane solution: $M_0$3.70000×10^{18} NP1: ϕ_s168.31000°, δ82.53000°, λ6.89000°. NP2:ϕ_s77.41000°, δ83.17000°, λ172.48000°. Principal axes: T 3.7045, Plg10.0000°, Azm33.0000°; N -0.0101, Plg80.0000°, Azm215.0000°; P -3.6944, Plg0.0000°, Azm123.0000°;*
*GCMT **23** 16:08:17.5±0.0, 0.°91S×13.°72W, h12km, MW6.3/173, Moment Tensor Solution. s158,c348; s173,c711; Duration: 3s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.32±.01; $M_{\theta\theta}$1.46±.01; $M_{\phi\phi}$-1.14±.01; $M_{r\theta}$1.01±.03; $M_{\theta\phi}$-2.98±.01; $M_{\phi r}$-0.43±.03; Best double couple: $M_0$3.40400×10^{18} NP1:ϕ_s169.00000°, δ76.00000°, λ8.00000°. NP2:ϕ_s77.00000°, δ82.00000°, λ166.00000°. Principal axes: T 3.7030, Plg15.0000°, Azm33.0000°; N -0.5960, Plg74.0000°, Azm229.0000°; P -3.1050, Plg4.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 16:08:14.2±0.5, 1.°17S±0.°03×13.°72W±0.°03, h11km±2km, h11km:pP-P, n1638, σ1°75/1369, mb5.9/337, MS6.1/548, 166C-116D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.66**	**187**			Pn	**Pn**	**16 09 50.6**	**-1.1**
	baz=4.8,slow=12								
H10N2						T	T	16 16 56.1	
	baz=6.8,slow=74,SNR=248								
H10N3	**ASCENSION HYDR**	**6.67**	**187**			Pn	**Pn**	**16 09 50.9**	**-1.0**
	baz=4.8,slow=12								
H10N3						T	T	16 16 57.3	
	baz=6.8,slow=74,SNR=218								
H10N1	**ASCENSION HYDR**	**6.67**	**186**			Pn	**Pn**	**16 09 50.7**	**-1.3**
	baz=4.8,slow=12								
H10N1						T	T	16 16 57.3	
	baz=6.8,slow=74,SNR=412								
ASCN	**Ascension**	**6.75**	**185**				**Pn**	**16 09 50.6**	**-2.6**
H10S3	**ASCENSION HYDR**	**7.79**	**187**			Pn	**Pn**	**16 10 06.5**	**-0.8**
	baz=322,slow=74								
H10S3						T	T	16 18 15.9	
	baz=7.8,slow=74,SNR=138								
H10S2	**ASCENSION HYDR**	**7.79**	**187**			Pn	**Pn**	**16 10 06.9**	**-0.4**
	baz=258,slow=74								
H10S2						T	T	16 18 14.8	
	baz=212,slow=74,SNR=204								
DBIC	**Dimbokro**	**11.79**	**49**				Pn	16 10 57.7	-4.7
DBIC	**Dimbokro**	**11.79**	**49**			Pn	**Pn**	**16 10 58.5**	**-3.9**
	8.2nm,0.3s,baz=252,slow=15,SNR=78								
DBIC						Sn	Sn	16 13 01.6	-12
	29nm,0.3s,baz=98,slow=13,SNR=7.9								
DBIC						LR	LR	16 14 47.0	
	comp=Z,236μ

NBMA S **S** **16 18 15.6 +2.0**
NBLA Lagarto - SE 25.82 247 P **P** **16 13 43.1 -2.6**
NBLA S **S** **16 18 14.1 -1.3**
NBPB Pedra_Branca-C 26.17 260 P **P** **16 13 47.8 -1.1**
NBPB S **S** **16 18 22.8 +1.8**
SBBR Sobral 26.65 264 P **P** **16 13 53.2 0.0**
SBBR S **S** **16 18 32.5 +4.0**
NBPS Pedro II - PI 27.87 263 P **P** **16 14 03.2 -1.1**
NBPS S **S** **16 18 47.8 -0.1**
NBIT Itapeh - BA 28.84 240 P **P** **16 14 11.9 -1.0**
CMC01 Camacan, BA 29.10 240 *eP* **P** **16 14 13.9 -1.3**
CMC01 Camacan, BA 29.10 240 P **P** **16 14 12.7 -2.5**
EOSO Osorio 29.13 357 P **P** **16 14 17.9 +2.6**
EOSO S **S** **16 19 06.0 -1.4**
ANA01 Lindo Horizont 29.82 242 P **P** **16 14 20.2 -1.5**
ANA01 S **S** **16 19 19.1 +0.5**
GUA01 Guaratinga, BA 29.91 238 P **P** **16 14 21.4 -0.9**
GUA01 S **S** **16 19 21.5 +1.8**
TAM Tamanrasset 30.31 37 P **P** **16 14 25.7 -0.3**
TAM Tamanrasset 30.31 37 P **P** **16 14 25.7 -0.3**
TAM pmax pmax
comp=Z,155nm,1.1s
TAM MLR MLR
comp=Z,83µm,19.0s
TAM Tamanrasset 30.31 37 ⇑P **P** **16 14 26.1 +0.2**
SJMB Sao Joao De Ma 32.08 235 *eP* **P** **16 14 40.5 -1.0**
SJMB Sao Joao De Ma 32.08 235 P **P** **16 14 40.6 -0.8**
SJMB S **S** **16 19 55.7 +2.0**
TIO Tiouine 32.51 10 P **P** **16 14 44.0 -1.2**
TIO S **S** **16 20 00.2 -0.1**
SDBA SAO DESIDERIO 32.86 249 *eP* **P** **16 14 46.9 -1.6**
SDBA SAO DESIDERIO 32.86 249 P **P** **16 14 46.7 -1.8**
SDBA S **S** **16 20 05.1 -1.1**
JANB Januaria 33.20 244 *eP* **P** **16 14 49.6 -1.8**
JANB Januaria 33.20 244 P **P** **16 14 49.7 -1.8**
JANB S **S** **16 20 09.8 -1.7**
MC01 Montes Claros 33.52 241 P **P** **16 14 52.4 -1.7**
MC01 S **S** **16 20 15.8 -0.5**
PMAR Madeira 33.85 355 *i* IAmb IAmb 16 15 17.9
comp=Z,345nm,1.9s
PAL2 **UHE Estreito - 33.97 260** P **P** **16 14 57.3 -0.7**
PAL2 S **S** **16 20 24.2 +1.0**
DIAM Diamantina, MG 33.97 238 P **P** **16 14 56.6 -1.5**
DIAM S **S** **16 20 24.2 +0.9**
PMOZ Porto Moniz, M 33.97 355 P **P** **16 14 59.8 +1.9**
PMOZ S **S** **16 20 26.7 +3.7**
PMOZ Porto Moniz, M 33.97 355 P **P** **16 14 57.1 -0.8**
PMOZ Porto Moniz, M 33.97 355 *i* IAmb IAmb 16 15 09.8
comp=Z,327nm,1.4s
PMOZ *i* IAMs_20 IAMs_20 16 28 04.9
comp=Z,14µm,18.0s
CAM01 Campos-RJ 34.08 231 *eP* **P** **16 14 57.4 -1.5**
CAM01 Campos-RJ 34.08 231 P **P** **16 14 57.7 -1.2**
JQT1 Jequitai-MG 34.10 240 P **P** **16 14 58.5 -0.7**
PMPST Porto Santo, M 34.16 356 *i* IAmb IAmb 16 15 11.0
comp=Z,378nm,1.5s
PAL01 Palmeiras do T 34.18 260 P **P** **16 14 59.0 -1.0**
PAL01 S **S** **16 20 27.0 +0.4**
TMAB Tom-Au,PA,Br 34.38 268 *eP* **P** **16 15 00.4 -1.2**
TMAB Tom-Au,PA,Br 34.38 268 P **P** **16 15 01.2 -0.4**
TMAB S **S** **16 20 29.3 -0.2**
SMTB Santa Maria do 34.56 256 *eP* **P** **16 15 01.8 -1.4**
SMTB Santa Maria do 34.56 256 P **P** **16 15 02.0 -1.3**
SMTB S **S** **16 20 32.3 -0.2**
DUB01 Friburgo-RJ 34.78 231 *eP* **P** **16 15 03.8 -1.3**
DUB01 Friburgo-RJ 34.78 231 P **P** **16 15 04.3 -0.7**
MDT Midelt 34.88 13 LR LR 16 29 01.4
comp=Z,65µm,18.7s,baz=201,slow=36
MD31 MD31 34.90 13 **P** **16 15 06.0 +0.1**
MD31 IAmb IAmb 16 15 16.9
comp=Z,377nm,1.6s
MD01 Midelt array s 34.90 13 P **P** **16 15 04.9 -1.1**
IFR Ifrane 35.44 12 P **P** **16 15 10.7 0.0**
TSUM Tsumeb 35.52 122 **P** **16 15 12.3 +0.8**
TSUM IAmb IAmb 16 15 22.5
comp=Z,447nm,1.7s
TSUM Tsumeb 35.52 122 IAMs_20 IAMs_20 16 26 45.6
comp=Z,38µm,20.0s
TSUM Tsumeb 35.52 122 LR LR 16 26 46.6
comp=Z,43µm,21.0s,baz=296,slow=31
TSUM Tsumeb 35.52 122 ⇓P **P** **16 15 12.5 +0.9**
RTC Rabat Centre 35.56 10 P **P** **16 15 10.3 -1.2**
VAS01 Vassouras-RJ 35.72 232 *eP* **P** **16 15 12.4 -0.7**
VAS01 Vassouras-RJ 35.72 232 P **P** **16 15 12.5 -0.6**
BSCB Bom Sucesso 36.14 235 P **P** **16 15 15.2 -1.6**
BSCB S **S** **16 20 57.1 +0.4**
CAN3 Cana Brava 36.22 249 P **P** **16 15 17.1 -0.5**
PRPB Paraupebas 36.35 261 *eP* **P** **16 15 17.3 -1.3**
PRPB Paraupebas 36.35 261 P **P** **16 15 17.3 -1.3**
PRPB S **S** **16 20 59.4 -0.5**
PMNB Patos De Minas 36.44 240 *eP* **P** **16 15 17.5 -1.8**
PMNB Patos De Minas 36.44 240 S **S** **16 21 01.0 -0.3**
WIN Windhoek 36.74 128 P **P** **16 15 22.4 +0.5**
WIN IAmb IAmb 16 15 33.2
comp=Z,565nm,1.8s
WIN IAMs_20 IAMs_20 16 27 26.9
comp=Z,32µm,20.0s
WIN Windhoek 36.74 128 P **P** **16 15 22.5 +0.5**
WIN pmax pmax
comp=Z,565nm,1.8s
WIN MLR MLR
comp=Z,32µm,20.0s
BDFB Brasilia 36.75 245 **P** **16 15 20.9 -1.2**
BDFB Brasilia 36.75 245 P **P** **16 15 20.6 -1.5**
comp=Z,69nm,1.1s,baz=51,slow=10,SNR=24
BDFB LR LR 16 27 58.4
comp=Z,12µm,21.5s,baz=74,slow=32
comp=Z,69nm,1.1s
BDFB Brasilia 36.75 245 P **P** **16 15 20.9 -1.2**
BDFB pmax pmax
comp=Z,125nm,1.1s
BDFB Brasilia 36.75 245 P **P** **16 15 20.7 -1.5**
BDFB S **S** **16 21 07.2 +1.0**
SFA1 Serra Facao 37.31 241 P **P** **16 15 25.7 -1.1**
SFA1 S **S** **16 21 14.6 0.0**
EMLI Melilla 37.66 14 P **P** **16 15 31.8 +2.5**
WMELI Melilla 37.67 14 P **P** **16 15 33.1 +3.6**
ECEU Ceuta 37.69 11 P **P** **16 15 30.3 +0.7**
CEU Ceuta 37.69 11 P **P** **16 15 29.8 +0.2**
IPMB Ipameri, GO 37.77 242 *eP* **P** **16 15 28.8 -1.8**
IPMB Ipameri, GO 37.77 242 P **P** **16 15 29.1 -1.6**
IPMB S **S** **16 21 21.4 -0.1**
PARB Paraibuna 37.98 232 *eP* **P** **16 15 30.9 -1.5**
PARB Paraibuna 37.98 232 P **P** **16 15 32.3 -0.2**
CNIL Conil 38.03 10 P **P** **16 15 35.8 +3.4**
BMO1 UHE Belo Monte 38.05 266 P **P** **16 15 31.2 -1.9**
BMO1 S **S** **16 21 25.8 -0.1**
EALB Alboran 38.24 14 P **P** **16 15 34.9 +0.6**
BMO2 UHE Belo Monte 38.30 266 P **P** **16 15 33.3 -1.8**
BMO2 S **S** **16 21 29.0 -0.6**
PFVI Vila Bisbo 38.38 6 P **P** **16 15 35.2 -0.3**
ITU3 Corumbazu 38.43 242 P **P** **16 15 34.6 -1.6**
XAUDM Khaudum 38.48 119 P **P** **16 15 37.5 +0.8**
XAUDM IAmb IAmb 16 15 55.7
comp=Z,353nm,1.6s
ESPR Espera 38.55 10 P **P** **16 15 36.5 -0.3**
MORF Marmelete 38.57 6 *eP* **P** **16 15 36.7 -0.4**
MORF *e*PP **PP** **16 17 04.4 -1.1**
MORF *e*S **S** **16 21 33.2 +0.1**
MORF IAMs_20 IAMs_20 16 29 53.6
comp=N,39µm,19.9s
MORF Marmelete 38.57 6 *eP* **P** **16 15 36.5 -0.6**
MORF *i* IAmb IAmb 16 15 48.1
comp=N,209nm,1.5s
PBDV Barranco-do-Ve 38.60 7 P **P** **16 15 37.3 0.0**
PBDV Barranco-do-Ve 38.60 7 *eP* **P** **16 15 37.4 0.0**
PBDV *i* IAmb IAmb 16 15 49.4
comp=N,420nm,1.7s
EMAL Malaga-Limoner 38.72 12 P **P** **16 15 38.3 0.0**
QNGWA Qangwa 38.72 120 P **P** **16 15 39.8 +1.0**
QNGWA IAmb IAmb 16 15 49.5
comp=Z,378nm,1.7s
SNDB Serra Nova Dou 38.78 252 *eP* **P** **16 15 36.5 -2.7**
SNDB Serra Nova Dou 38.78 252 P **P** **16 15 38.3 -0.8**
SNDB S **S** **16 21 37.3 +0.5**
PVAQ Vaqueiros 38.78 8 **P** **16 15 38.4 -0.4**
PVAQ IAmb IAmb 16 15 49.3
comp=Z,504nm,1.5s
PVAQ Vaqueiros 38.78 8 *eP* **P** **16 15 39.2 +0.3**
PVAQ *i* IAmb IAmb 16 15 50.9
comp=Z,325nm,1.7s
PVAQ *e*LQ LQ 16 24 17.6
PVAQ *e*LR LR 16 28 07.8
PVAQ *i* IAMs_20 IAMs_20 16 31 22.6
comp=Z,31µm,18.0s
PTEO Sao Teotonio 38.80 6 *eP* **P** **16 15 39.5 +0.5**
PTEO *i* IAmb IAmb 16 15 51.2
comp=Z,535nm,1.7s
VAO Valinhos 38.89 234 **P** **16 15 39.6 -0.4**
VAO Valinhos 38.89 234 *eP* **P** **16 15 38.6 -1.5**
VABB Valinhos 38.89 234 P **P** **16 15 39.2 -0.9**
VABB S **S** **16 21 41.2 +2.8**
EGRO El Granado 38.94 8 P **P** **16 15 39.1 -1.1**
PCVE Castro Verde 38.97 7 P **P** **16 15 39.9 -0.5**
PCVE Castro Verde 38.97 7 *eP* **P** **16 15 40.6 +0.2**
PCVE *i* IAmb IAmb 16 15 52.6
comp=Z,285nm,1.9s
ELGU Los Guajares, 38.99 13 P **P** **16 15 38.8 -1.9**
RCLB Rio Claro- Sao 39.07 235 *eP* **P** **16 15 40.0 -1.6**
RCLB Rio Claro- Sao 39.07 235 P **P** **16 15 41.5 -0.1**
EGOR Sierra Gorda, 39.12 12 P **P** **16 15 40.9 -1.0**
MESJ Messejana 39.15 7 *eP* **P** **16 15 41.3 -0.6**
MESJ *e*PP **PP** **16 17 10.9 -0.8**
MESJ *e*S **S** **16 21 41.8 +0.1**
MESJ IAMs_20 IAMs_20 16 31 41.1
comp=Z,27µm,17.7s
MESJ Messejana 39.15 7 *eP* **P** **16 15 42.5 +0.6**
MESJ *i* IAmb IAmb 16 15 54.2
comp=Z,226nm,1.8s
MESJ Messejana 39.15 7 *eP* **P** **16 15 41.3 -0.6**
MESJ *e* 16 17 10.9
MESJ *e*S **S** **16 21 41.8 +0.1**
BB19B Bebedouro 39.29 237 *eP* **P** **16 15 41.9 -1.5**
BB19B Bebedouro 39.29 237 P **P** **16 15 42.7 -0.7**
EMIN Mina Concepcio 39.29 9 P **P** **16 15 42.3 -0.7**
EQTA Presa de Quent 39.36 13 P **P** **16 15 43.5 -0.3**
MDP Montagnes des 39.37 279 P **P** **16 15 42.6 -1.6**
comp=Z,25nm,0.8s,baz=109,slow=8.7,SNR=16
MDP LR LR 16 28 52.8
comp=Z,15µm,21.8s,baz=100,slow=32
comp=Z,25nm,0.8s
MPGF Montagnes des 39.38 279 ⇑P **P** **16 15 43.8 -0.4**
PBEJ Beja 39.38 7 *i* IAmb IAmb 16 15 56.8
comp=Z,265nm,2.3s
ENIJ Nijar 39.43 15 P **P** **16 15 43.5 -0.8**
KOOLE Kule 39.43 126 IAmb IAmb 16 15 56.5
comp=Z,686nm,1.5s
GMARE Gumare 39.52 120 P **P** **16 15 47.4 +1.9**
GMARE IAmb IAmb 16 15 56.8
comp=Z,454nm,1.4s
GRTLG Ghanzi 39.53 123 **P** **16 15 46.4 +0.9**
GRTLG IAmb IAmb 16 15 57.3
comp=Z,800nm,1.6s
SPB Sao Paulo 39.55 233 P **P** **16 15 45.4 -0.1**
SPB IAMs_20 IAMs_20 16 28 39.1
comp=Z,33µm,20.0s
SPB Sao Paulo 39.55 233 *eP* **P** **16 15 44.4 -1.1**
PBAR Barrancos 39.63 8 P **P** **16 15 45.6 -0.4**
PBAR Barrancos 39.63 8 *eP* **P** **16 15 46.1 +0.1**
PBAR *i* IAmb IAmb 16 15 57.1
comp=Z,144nm,1.6s
PET01 Itanhaem-SP 39.77 232 *eP* **P** **16 15 46.5 -0.8**
PET01 Itanhaem-SP 39.77 232 P **P** **16 15 46.5 -0.8**
ECAB El Cabril 39.80 10 P **P** **16 15 46.6 -0.8**
EVO Evora 39.86 7 P **P** **16 15 47.9 +0.1**
EVO Evora 39.86 7 *eP* **P** **16 15 48.2 +0.4**
EVO *i* IAmb IAmb 16 16 00.1
comp=Z,294nm,1.8s
LIS Lisbon 39.92 6 *eP* **P** **16 15 47.8 -0.4**
LIS *e*PP **PP** **16 17 19.2 -1.0**
LIS *e*S **S** **16 21 53.5 +0.3**
LIS IAMs_20 IAMs_20 16 31 14.9
comp=N,57µm,21.8s
LIS Lisbon 39.92 6 *eP* **P** **16 15 48.8 +0.5**
LIS *i* IAmb IAmb 16 16 04.0
comp=N,401nm,2.1s
EADA Adamuz 40.04 11 P **P** **16 15 49.2 -0.2**
PMAFR Mafra 40.14 5 P **P** **16 15 49.0 -1.1**
PMAFR Mafra 40.14 5 *eP* **P** **16 15 49.6 -0.5**
PMAFR *i* IAmb IAmb 16 16 02.6
comp=N,553nm,1.8s
BART Pico Bartolome 40.17 346 *eP* **P** **16 15 53.5 +3.0**
BART *i* IAmb IAmb 16 16 03.6
comp=N,305nm,1.2s
PGRON Lagoa das Cont 40.22 346 *eP* **P** **16 15 53.8 +2.9**
PGRON *i* IAmb IAmb 16 16 02.5
comp=N,494nm,1.8s
PESTR Estremoz 40.24 7 *eP* **P** **16 15 51.2 +0.2**
PESTR *i* IAmb IAmb 16 16 03.2
comp=N,145nm,1.7s
ARAG Araguaiana, MT 40.24 247 *eP* **P** **16 15 50.2 -1.2**
ITRB Iturama 40.30 240 *eP* **P** **16 15 50.2 -1.6**
ITRB Iturama 40.30 240 P **P** **16 15 51.3 -0.5**
ITRB S **S** **16 22 01.2 +1.7**
PSET Sete Cidades 40.36 345 *eP* **P** **16 15 52.8 +0.8**
PSET *i* IAmb IAmb 16 15 57.5
comp=N,311nm,1.6s
PMTG Montargil 40.36 7 *eP* **P** **16 15 52.1 +0.1**
PMTG *i* IAmb IAmb 16 16 05.2
comp=N,164nm,1.9s
MAL2 Monte Alegre, 40.45 268 P **P** **16 15 52.5 -0.7**
MAL2 Monte Alegre, 40.45 268 P **P** **16 15 52.0 -1.2**
MAL2 S **S** **16 22 01.9 -0.1**
PSBE So Bento 40.74 6 *eP* **P** **16 15 55.9 +0.7**
PSBE *i* IAmb IAmb 16 16 06.9
comp=N,224nm,1.4s
LKGWB Lokgwabe 40.79 127 IAmb IAmb 16 16 10.1
comp=Z,906nm,1.9s
PMRV Marv??o 40.82 8 *eP* **P** **16 15 55.9 +0.1**
PMRV *i* IAmb IAmb 16 16 07.3
comp=Z,258nm,1.5s
PMRV *e*S **S** **16 22 07.9 +1.2**
PMRV *e*LQ LQ 16 24 59.7
PMRV *i* IAMs_20 IAMs_20 16 31 13.3
comp=Z,32µm,22.0s
PSARD Sardoal 40.89 7 *eP* **P** **16 15 56.9 +0.5**
PSARD *i* IAmb IAmb 16 16 09.7
comp=Z,230nm,1.8s
KGCAE Kacgae 41.01 124 IAmb IAmb 16 16 08.5
comp=Z,898nm,1.8s
FRTB Fartura 41.16 235 *eP* **P** **16 15 58.2 -0.7**
FRTB Fartura 41.16 235 P **P** **16 15 58.2 -0.7**
PCBR Castelo Branco 41.21 7 *eP* **P** **16 15 58.1 -0.9**
PCBR *i* IAmb IAmb 16 16 14.3
comp=Z,93nm,1.7s
SET Setif 41.23 24 P **P** **16 15 58.0 -1.3**
PCAS Casmilo, Conde 41.30 6 *eP* **P** **16 16 00.2 +0.5**
PCAS *i* IAmb IAmb 16 16 11.1
comp=Z,332nm,1.7s
PAB San Pablo 41.42 11 **P** **16 16 00.2 -0.6**
PAB IAmb IAmb 16 16 11.2
comp=Z,302nm,1.5s
PAB San Pablo 41.42 11 P **P** **16 16 00.2 -0.6**
PAB pmax pmax
comp=Z,302nm,1.5s
PAB MLR MLR
comp=Z,34µm,18.0s
ESDC Sonseca Array 41.62 11 P **P** **16 16 02.1 -0.4**
ESDC Sonseca Array 41.62 11 P **P** **16 16 01.6 -0.9**
comp=Z,14nm,1.2s,baz=190,slow=7.4,SNR=19
ESDC PP **PP** **16 17 37.0 -1.8**
comp=Z,49nm,1.1s,baz=192,slow=11,SNR=12
ESDC LR LR 16 34 38.2
comp=Z,31µm,18.1s,baz=201,slow=38
comp=Z,14nm,1.2s
TIJ01 Guaruva-PR 41.65 232 P **P** **16 16 03.1 +0.2**
MTE Manteigas 41.76 7 P **P** **16 16 02.5 -1.0**
MTE IAMs_20 IAMs_20 16 31 28.9
comp=Z,33µm,21.0s
MTE Manteigas 41.76 7 *eP* **P** **16 16 04.1 +0.5**
MTE *i* IAmb IAmb 16 16 14.4
comp=Z,296nm,2.0s
MTE *e*S **S** **16 22 21.5 +0.7**
MTE *e*LQ LQ 16 25 12.7
MTE *i* IAMs_20 IAMs_20 16 33 24.4
comp=Z,32µm,16.0s
MTE Manteigas 41.76 7 ⇑P **P** **16 16 03.3 -0.2**
PHDHD Phuduhudu 41.90 119 P **P** **16 16 06.7 +1.7**
PHDHD IAmb IAmb 16 16 15.9
comp=Z,566nm,1.7s
NPGB Novo Progresso 41.91 261 *eP* **P** **16 16 03.2 -2.1**
NPGB Novo Progresso 41.91 261 P **P** **16 16 03.1 -2.1**
NPGB S **S** **16 22 23.4 -0.3**
PVIS Viseu 42.03 7 *eP* **P** **16 16 07.8 +2.1**
ITTB Itaituba 42.08 265 *eP* **P** **16 16 05.1 -1.4**
ITTB Itaituba 42.08 265 P **P** **16 16 05.1 -1.4**
ITTB S **S** **16 22 25.7 -0.5**
C2SB Chapadao do Su 42.14 243 *eP* **P** **16 16 06.0 -1.0**
LDASE Londrina, Braz 42.46 236 *eP* **P** **16 16 08.6 -1.0**
KEST Kesra 42.56 28 P **P** **16 16 10.2 0.0**
comp=Z,146nm,1.1s,baz=237,slow=4.4,SNR=34
KEST PP **PP** **16 17 49.2 +0.2**
comp=Z,81nm,1.0s,baz=215,slow=16,SNR=3.6
KEST LR LR 16 35 12.9
comp=Z,122µm,18.1s,baz=217,slow=38
comp=Z,146nm,1.1s
KEST Kesra 42.56 28 P **P** **16 16 11.1 +0.9**
SNR=39
MVO Moncorvo 42.58 7 *eP* **P** **16 16 10.3 +0.1**
MVO *i* IAmb IAmb 16 16 22.5
comp=Z,294nm,1.8s
MVO *e*S **S** **16 22 34.1 +1.3**
MVO *e*LQ LQ 16 25 31.6
MVO *i* IAMs_20 IAMs_20 16 33 58.6
comp=Z,25µm,18.0s
PVRL Vila Real 42.60 7 *i* IAmb IAmb 16 16 23.1
comp=Z,304nm,1.4s
POLO Lamas de Olo 42.69 7 *eP* **P** **16 16 11.6 +0.5**
POLO *i* IAmb IAmb 16 16 23.9
comp=Z,112nm,1.8s
PHPEN Phepeng 42.74 127 IAmb IAmb 16 16 17.0
comp=Z,304nm,1.0s
CLDB Colider 42.88 255 *eP* **P** **16 16 11.7 -1.3**
CLDB Colider 42.88 255 P **P** **16 16 11.7 -1.3**
PCAB Cabril 42.99 6 *i* IAmb IAmb 16 16 25.9
comp=Z,202nm,2.3s
PGAV Gavieira, Arco 43.22 6 *eP* **P** **16 16 15.1 -0.4**
PGAV *i* IAmb IAmb 16 16 27.9
comp=Z,271nm,2.0s
PGAV *e*S **S** **16 22 41.1 -1.3**
PGAV *e*LQ LQ 16 25 46.1
PGAV *i* IAMs_20 IAMs_20 16 34 02.1
comp=Z,37µm,18.0s
PBRG Braganca 43.24 8 *eP* **P** **16 16 16.0 +0.4**
PBRG *i* IAmb IAmb 16 16 26.2
comp=Z,179nm,1.5s
KDWAN Kaudwane 43.27 124 P **P** **16 16 16.4 +0.2**
KDWAN IAmb IAmb 16 16 34.8
comp=Z,298nm,1.2s
KHWEE KHWEE 43.35 121 IAmb IAmb 16 16 22.1
comp=Z,448nm,0.9s
PP1B Ponte de Pedra 43.61 246 *eP* **P** **16 16 18.1 -0.8**
LSZ Lusaka 43.66 111 P **P** **16 16 20.3 +0.8**
LSZ IAmb IAmb 16 16 30.6
comp=Z,402nm,1.6s
LSZ Lusaka 43.66 111 IAMs_20 IAMs_20 16 31 15.3
comp=Z,23µm,21.0s
LSZ Lusaka 43.66 111 LR LR 16 31 26.5
comp=Z,22µm,21.9s,baz=294,slow=32
LSZ Lusaka 43.66 111 P **P** **16 16 20.3 +0.8**
LSZ pmax pmax
comp=Z,402nm,1.6s
LSZ MLR MLR
comp=Z,23µm,21.0s
LSZ Lusaka 43.66 111 ⇑P **P** **16 16 20.9 +1.4**
MAS01 UHE Manso 43.74 250 S **S** **16 22 53.7 +3.1**
PTGB Pitanga 43.81 235 *eP* **P** **16 16 19.8 -0.8**
PTGB Pitanga 43.81 235 P **P** **16 16 20.2 -0.4**
SALV Santo Antonio 43.88 248 *eP* **P** **16 16 18.7 -2.4**
SALV Santo Antonio 43.88 248 P **P** **16 16 19.9 -1.2**
SALV S **S** **16 22 55.7 +3.2**
PDRB Porto dos Gac 43.91 254 *eP* **P** **16 16 20.2 -1.2**
PDRB Porto dos Gac 43.91 254 P **P** **16 16 20.7 -0.7**
PDRB S **S** **16 22 54.6 +1.5**
LPHEP Lephephe 44.26 123 IAmb IAmb 16 16 35.0
comp=Z,513nm,1.4s
ALKP Alkanpan, Nort 44.57 133 ⇑P **P** **16 16 26.0 -0.6**
LBTB Lobatse 44.74 125 IAmb IAmb 16 16 38.5
comp=Z,534nm,1.6s
LBTB Lobatse 44.74 125 LR LR 16 32 12.6
comp=Z,27µm,21.4s,baz=300,slow=32
SUR Sutherland 44.95 137 P **P** **16 16 30.7 +1.0**
SUR IAmb IAmb 16 16 48.5
comp=Z,261nm,1.2s
SUR Sutherland 44.95 137 ⇑P **P** **16 16 31.4 +1.7**
ITAB Concordia 45.02 231 P **P** **16 16 30.5 +0.4**
CNLB Canela 45.09 228 *eP* **P** **16 16 29.0 -1.7**
CNLB Canela 45.09 228 P **P** **16 16 31.5 +0.9**
CORI Orista 45.26 17 IAmb IAmb 16 16 41.4
comp=Z,342nm,1.4s
AQDB Aquidauana 45.26 242 P **P** **16 16 30.7 -1.3**
AQDB S **S** **16 23 13.0 +0.5**
WDD Wied Dalam 45.27 33 IAMs_20 IAMs_20 16 35 06.6
comp=Z,29µm,21.0s
AMBA Amambai (Brazi 45.52 238 *eP* **P** **16 16 33.3 -0.8**
CEST Esterri de Car 45.62 15 P **P** **16 16 34.7 0.0**
CEST IAmb IAmb 16 16 44.6
comp=Z,316nm,1.3s
VSL Villasalto 45.68 25 ⇑P **P** **16 16 36.3 +1.2**
BOSA Boshof 46.13 130 IAmb IAmb 16 16 49.1
comp=Z,377nm,1.4s
BOSA Boshof 46.13 130 P **P** **16 16 40.2 +1.2**
comp=Z,92nm,1.1s,baz=303,slow=7.4,SNR=19
BOSA LR LR 16 33 59.0
comp=Z,13µm,18.1s,baz=288,slow=33
comp=Z,92nm,1.1s
BOSA Boshof 46.13 130 ⇓P **P** **16 16 39.8 +0.8**
BOSA Boshof 46.13 130 P **P** **16 16 39.7 +0.7**
BDQN Bodoquena, MS 46.18 242 *eP* **P** **16 16 38.1 -1.2**
BOAV Boa Vista 46.92 274 P **P** **16 16 44.1 -1.2**
BOAV IAmb IAmb 16 16 57.1
comp=Z,109nm,0.9s
BOAV Boa Vista 46.92 274 *eP* **P** **16 16 44.3 -1.0**
BOAV Boa Vista 46.92 274 P **P** **16 16 45.0 -0.3**
BOAV Boa Vista 46.92 274 P **P** **16 16 45.1 -0.2**
comp=Z,5µmcomp=Z,2µmcomp=Z,140nm,1.3s
MACA Manacapuru-AM 46.97 267 P **P** **16 16 44.7 -0.9**
MACA IAmb IAmb 16 16 57.4
comp=Z,305nm,1.5s
MACA Manacapuru-AM 46.97 267 *eP* **P** **16 16 44.8 -0.9**
MACA Manacapuru-AM 46.97 267 P **P** **16 16 45.2 -0.4**
PTLB Pontes e Lacer 46.99 250 *eP* **P** **16 16 44.9 -0.9**
PTLB Pontes e Lacer 46.99 250 P **P** **16 16 45.3 -0.4**
VILB Vilhena 47.49 254 IAmb IAmb 16 16 58.8
comp=Z,123nm,1.1s
VILB Vilhena 47.49 254 *eP* **P** **16 16 49.4 -0.3**
VILB Vilhena 47.49 254 P **P** **16 16 49.6 -0.2**
CPSB Cacapava Do Su 47.57 228 *eP* **P** **16 16 48.8 -1.3**
CPSB Cacapava Do Su 47.57 228 P **P** **16 16 50.0 -0.1**
BBGH Gun Hill 47.63 289 IAMs_20 IAMs_20 16 34 37.1
comp=Z,18µm,19.0s
CEL Celeste 47.80 32 ⇑P **P** **16 16 52.3 +0.5**
CEL Celeste 47.80 32 P **P** **16 16 49.5 -2.3**
comp=Z,6µmcomp=Z,506nm,1.4s
PLTB Pedras Altas 48.38 227 IAmb IAmb 16 17 01.1
comp=Z,189nm,1.2s
PLTB Pedras Altas 48.38 227 *eP* **P** **16 16 56.2 -0.2**
PLTB Pedras Altas 48.38 227 P **P** **16 16 56.7 +0.3**
CPUP Villa Florida 48.80 235 P **P** **16 16 59.0 -0.7**
CPUP Villa Florida 48.80 235 P **P** **16 16 59.3 -0.3**
comp=Z,29nm,1.2s,baz=295,slow=7.7,SNR=33
CPUP LR LR 16 34 46.7
comp=Z,6µm,21.5s,baz=289,slow=33
comp=Z,29nm,1.2s
CPUP Villa Florida 48.80 235 ⇓P **P** **16 16 59.2 -0.5**
CPUP Villa Florida 48.80 235 P **P** **16 16 58.5 -1.2**
SIV San Ignacio 48.92 250 P **P** **16 16 59.8 -1.0**
comp=Z,21nm,1.1s,baz=97,slow=11,SNR=35
SIV LR LR 16 35 56.0
comp=Z,20µm,19.9s,baz=94,slow=34
comp=Z,21nm,1.1s
TIP Timpagrande 48.93 32 ⇓P **P** **16 17 00.7 +0.2**
TIP Timpagrande 48.93 32 ⇑P **P** **16 16 59.8 -0.8**
TIP Timpagrande 48.93 32 P **P** **16 16 58.3 -2.2**
comp=Z,3µmcomp=Z,241nm,1.6s
SSB Saint Sauveur 49.01 17 IAmb IAmb 16 17 11.8
comp=Z,178nm,1.3s
CUC Castrocucco 49.06 30 ⇑P **P** **16 17 01.0 -0.5**
H05S1 Guadeloupe/Mar 49.14 290 T T 17 09 51.6
SNR=7.7
MPOM Morne Pois Mar 49.17 290 P **P** **16 17 02.4 -0.2**
MPOM IAmb IAmb 16 17 09.4
comp=Z,230nm,0.9s
SLBI Saint Lucia, B 49.17 290 *eP* **P** **16 17 03.3 +0.7**
GCMP Grenada, Carri 49.25 288 *eP* **P** **16 17 04.4 +1.2**
SVB Belmont 49.26 289 *eP* **P** **16 17 03.6 +0.3**
ILAM Ilet Lapin Mar 49.26 291 *eP* **P** **16 17 03.2 -0.1**
LODK Lodwar 49.27 85 P **P** **16 17 04.5 +0.9**
LODK Lodwar 49.27 85 P **P** **16 17 05.2 +1.7**
SNR=132
GRHM Grahamstown, E 49.33 135 P **P** **16 17 04.6 +0.9**

GRHM IAmb IAmb 16 17 21.8
comp=Z,257nm,1.3s
GRHM Grahamstown, E 49.33 135 ⇓P P 16 17 06.4 +2.7
BIM Bigot 49.38 290 *eP* **P 16 17 05.1 +0.8**
GRGR Grenville 49.39 287 *eP* **P 16 17 05.9 +1.5**
GRHS Sauteurs 49.40 287 *eP* **P 16 17 07.1 +2.7**
GRW Mount Saint Ca 49.41 287 *eP* **P 16 17 06.6 +2.1**
BNI Bardonecchia 49.47 19 IAmb IAmb 16 17 15.9
comp=Z,309nm,1.4s
BNI Bardonecchia 49.47 19 ⇑P P 16 17 05.9 +1.3
SVN Savane Anatole 49.56 291 *eP* **P 16 17 04.6 -1.0**
MGAB Montegabbione 49.66 25 ⇑P P 16 17 06.5 +0.5
INTR Introdacqua 49.71 27 P **P 16 17 06.4 -0.1**
ACER Acerenza 49.73 30 IAmb IAmb 16 17 46.8
comp=Z,340nm,1.4s
AQU L'Aquila 49.76 26 ⇑*iP* **P 16 17 07.3 +0.5**
AQU L'Aquila 49.76 26 ⇑P P 16 17 07.4 +0.5
OSSC Osservatorio P 49.81 24 IAmb IAmb 16 17 26.3
comp=Z,342nm,1.6s
H05N1 Guadeloupe/Mar 49.84 292 T T 17 10 41.6
SNR=7.1
DSDZ La Diserade, G 49.84 292 *eP* **P 16 17 07.3 -0.5**
GDSD La Dsirade Is 49.84 292 IAmb IAmb 16 17 20.2
comp=Z,138nm,1.0s
DWS Wesley 49.88 291 *eP* **P 16 17 08.3 +0.3**
CAMP Campotosto 49.91 26 P **P 16 17 06.9 -1.1**
CAMP IAmb IAmb 16 17 30.5
comp=Z,423nm,1.5s
DSLB Salisbury 49.94 291 *eP* **P 16 17 08.4 -0.1**
MATE Matera 50.00 30 ⇑P P 16 17 06.6 -1.9
MATE Matera 50.00 30 ⇑P P 16 17 06.5 -2.0
BOB Bobbio (Coli) 50.17 21 ⇑P P 16 17 11.4 +1.6
TBG Guadaloupe-3 50.26 292 *eP* **P 16 17 11.1 +0.2**
CBE Ff, Capester 50.28 292 P **P 16 17 10.3 -0.8**
MMLZ Guadeloupe Bro 50.33 292 *eP* **P 16 17 10.6 -0.9**
ATGZ Broadband at L 50.40 292 *eP* **P 16 17 11.1 -0.8**
ITM Ithomi 50.46 37 ⇑P P 16 17 12.9 +0.8
DHSZ Broadband at M 50.48 292 *eP* **P 16 17 10.7 -1.8**
POGA Pongola 50.70 125 IAmb IAmb 16 17 24.1
comp=Z,311nm,1.4s
POGA Pongola 50.70 125 ⇑P P 16 17 14.2 +0.1
SENIN Lac Senin/Sane 50.83 19 IAmb IAmb 16 17 25.1
comp=Z,431nm,1.8s
ANWB Willy Bob 50.88 294 *eP* **P 16 17 11.5 -4.1**
CLF Chambon-Foret 50.94 14 P **P 16 17 15.1 -0.4**
CLF Chambon-Foret 50.94 14 ⇑P P 16 17 16.2 +0.8
KEK Kerkira 50.95 33 ⇑P P 16 17 20.5 +4.7
KMBO Kilima Mbogo 50.96 90 P **P 16 17 18.6 +2.0**
comp=Z,25nm,0.8s,baz=260,slow=8.5,SNR=22
KMBO LR LR 16 37 38.4
comp=Z,37μm,18.0s,baz=264,slow=35
comp=Z,25nm,0.8s
KMBO Kilima Mbogo 50.96 90 *iP* **P 16 17 20.1 +3.5**
KMBO pmax pmax
comp=Z,25nm,0.8s
MBWH Windy Hill 51.00 293 *eP* **P 16 17 14.3 -2.2**
PSAL Palomas, Salto 51.05 230 *eP* **P 16 17 16.0 -0.7**
IDI Anoyia 51.14 41 LR LR 16 41 53.5
comp=Z,15μm,18.7s,baz=243,slow=40
TEOL Teolo 51.51 23 P **P 16 17 18.6 -1.3**
TEOL IAmb IAmb 16 17 28.8
comp=Z,350nm,1.5s
TUE Stuetta 51.61 20 IAmb IAmb 16 17 30.3
comp=Z,540nm,1.8s
TUE Stuetta 51.61 20 ⇓P P 16 17 20.7 -0.2
KIBK Kibwezi 51.75 92 P **P 16 17 21.2 -1.2**
KIBK Kibwezi 51.75 92 P **P 16 17 25.5 +3.2**
SNR=35
AGG Agios Georgios 51.91 36 ⇑P P 16 17 22.9 -0.1
BRJN Brijuni 51.97 25 ⇑*iP* **P 16 17 21.8 -1.5**
FUORN Ofenpass-Fuorn 52.05 21 IAmb IAmb 16 17 33.1
comp=Z,161nm,1.3s
CTI Castel Tesino 52.08 22 IAmb IAmb 16 17 34.1
comp=Z,371nm,1.3s
SBD Saint Breward 52.12 7 *eP* **P 16 17 23.9 -0.4**
SBD IAmb IAmb 16 17 25.6
comp=Z,16nm,0.9s
SBD IAms_20 IAms_20 16 37 18.0
comp=Z,21μm,19.9s
STON Ston 52.16 29 ⇑*iP* **P 16 17 23.5 -1.2**
HCY Herceg Novi 52.23 30 ⇓*iP* **P 16 17 26.7 +1.4**
ULC Ulcinj 52.26 31 ⇓*iP* **P 16 17 25.3 -0.3**
LABB Lubrea 52.31 259 P **P 16 17 25.1 -1.3**
BUM Brajici-Budva 52.33 30 ⇑*iP* **P 16 17 25.7 -0.4**
TREB Trebinje 52.36 30 *eP* **P 16 17 27.0 +0.7**
DRME Dracevica, Mon 52.39 31 ⇑*iP* **P 16 17 26.9 +0.4**
KIJV Kijevo 52.41 27 ⇑*iP* **P 16 17 25.7 -1.0**
ECH Echery 52.44 18 IAmb IAmb 16 17 36.7
comp=Z,331nm,1.5s
ECH Echery 52.44 18 ⇑P P 16 17 26.4 -0.4
OHR Ohrid 52.47 33 *iP* **P 16 17 29.4 +2.2**
DAVA Damuels 52.49 20 *iP* **P 16 17 26.6 -0.7**
comp=Z,234nm,1.4s,SNR=35
DAVA *eS* **S 16 24 54.6 +0.7**
comp=Z,0.1nm,0.2s
DAVA Damuels 52.49 20 ⇓P P 16 17 26.1 -1.3
CEME Cevo 52.52 30 ⇑*iP* P 16 17 22.5 -5.0
HTL Hartland 52.56 7 *eP* **P 16 17 27.7 +0.2**
HTL IAms_20 IAms_20 16 41 12.7
comp=Z,18μm,15.5s
FETA Feichten 52.56 21 *iP* **P 16 17 27.2 -0.7**
comp=Z,96nm,1.4s,SNR=18
FETA *eS* **S 16 24 56.5 +1.6**
comp=Z,5μm,10.1s
BRY Bratogost 52.59 30 ⇓*iP* **P 16 17 27.3 -0.9**
PDG Podgorica 52.61 30 ⇓P **P 16 17 28.2 +0.1**
PDG Podgorica 52.61 30 ⇑P P 16 17 29.3 +1.2
PDG Podgorica 52.61 30 ⇑P P 16 17 28.7 +0.7
PDG Podgorica 52.61 30 ⇓*iP* **P 16 17 28.6 +0.5**
APE Apeiranthos 52.62 40 *iP* **P 16 17 30.7 +2.3**
APE pmax pmax
comp=Z,370nm,1.4s
APE MLR MLR
comp=Z,18μm,16.0s
STAL STALIGIAL 52.66 23 IAmb IAmb 16 17 38.9
comp=Z,296nm,1.5s
NKME Niksic 52.70 30 ⇓*iP* **P 16 17 29.0 +0.2**
SABO M.te Sabotino 52.78 24 P **P 16 17 29.3 -0.1**
KARP Karpathos 52.80 42 IAms_20 IAms_20 16 40 12.7
comp=Z,26μm,22.0s
KARP Karpathos 52.80 42 ⇑P P 16 17 30.6 +0.9
KARP Karpathos 52.80 42 P **P 16 17 27.6 -2.1**
comp=Z,10μmcomp=Z,648nm,1.4s
KLINJ Klinje 52.81 29 *eP* **P 16 17 31.0 +1.3**
BFO Black Forest 52.90 18 P **P 16 17 29.4 -0.8**
BFO IAmb IAmb 16 17 39.8
comp=Z,541nm,1.6s
BFO Black Forest 52.90 18 P **P 16 17 29.4 -0.8**
BFO pmax pmax
comp=Z,541nm,1.6s
BFO MLR MLR
comp=Z,48μm,20.0s
BFO Black Forest 52.90 18 ⇑P P 16 17 29.7 -0.4
SQTA Sankt Quirin 52.91 21 *iP* **P 16 17 29.8 -0.6**
comp=Z,125nm,1.3s,SNR=29
SQTA *eS* **S 16 25 00.2 +0.8**
comp=Z,4μm,9.3s
CEY Cerknica 52.92 24 *iP* **P 16 17 30.0 -0.4**
CEY *iP* **pwP 16 17 39.3 +1.9**
CEY *e* 16 18 19.3
CEY *e* 16 18 32.5
CEY *eP* **PP 16 19 30.9 +0.8**
CEY *e* 16 20 38.0
CEY *eS* **S 16 24 54.5 -5.0**
CEY *e* 16 30 37.0
MOTA Moosalm 52.97 21 *iP* **P 16 17 30.0 -0.9**
comp=Z,438nm,2.7s,SNR=24
RETA Reutte 52.97 21 *eP* **P 16 17 29.6 -1.2**
comp=Z,194nm,2.6s,SNR=22
RETA *eS* **S 16 25 04.5 +4.2**
comp=Z,0.1nm,0.1s
ABTA Abfaltersbach 52.99 22 *iP* **P 16 17 31.2 +0.2**
comp=Z,738nm,2.5s,SNR=29
ABTA *eS* **S 16 25 02.8 +2.3**
comp=Z,3μm,9.8s
UPM Unac-Piva 53.00 30 ⇑*iP* **P 16 17 31.4 +0.2**
PTCC Patocco-Chiusa 53.03 23 ⇑P P 16 17 31.5 +0.3
KOME Kolasin 53.04 30 ⇑*iP* **P 16 17 29.2 -2.2**
PVY Plav 53.08 31 ⇓*iP* **P 16 17 33.4 +1.6**
WTTA Wattenberg 53.10 21 *iP* **P 16 17 30.6 -1.3**
comp=Z,304nm,1.9s,SNR=26
WTTA *eS* **S 16 25 05.3 +3.2**
comp=Z,5μm,10.5s
WATA Walderalm 53.14 21 *iP* **P 16 17 31.1 -1.0**
comp=Z,782nm,2.7s,SNR=24
WATA *eS* **S 16 25 04.1 +1.5**
comp=Z,4μm,9.2s
FURI Furi 53.16 78 LR LR 16 38 04.5
comp=Z,11μm,21.9s,baz=270,slow=34
LJU Ljubljana 53.21 24 *iP* **P 16 17 33.2 +0.7**
LJU *epP* **pwP 16 17 41.7 +2.2**
LJU *e* 16 18 21.5
LJU *eS* **S 16 25 00.3 -3.1**
SGC2 Sao Gabriel da 53.26 271 P **P 16 17 32.7 -0.7**
comp=Z,923nmcomp=Z,38nm,1.2s
OZLJ Ozalj 53.26 25 ⇑*iP* **P 16 17 33.3 +0.5**
PLE Pljevlja 53.33 30 ⇓*iP* **P 16 17 31.2 -2.4**
MYKA Terra Mystica 53.33 23 *iP* **P 16 17 34.0 +0.6**
comp=Z,688nm,1.7s,SNR=35
BLY Banja Luka 53.34 27 ⇑*iP* **P 16 17 33.9 +0.4**
BLY Banja Luka 53.34 27 ⇓P P 16 17 33.8 +0.3
BLY Banja Luka 53.34 27 ⇑P P 16 17 33.6 +0.1
WOL Wolverton 53.36 10 *eP* **P 16 17 32.8 -0.6**
WOL IAms_20 IAms_20 16 39 35.7
comp=Z,28μm,19.5s
SKO Skopje 53.42 32 *iP* **P 16 17 35.1 +1.0**
DOU Dourbes 53.43 15 *dP* **P 16 17 33.8 -0.3**
DOU *dx* x 16 17 41.0
WLF Walferdange 53.45 16 P **P 16 17 29.4 -4.7**
WLF Walferdange 53.45 16 IAmb IAmb 16 17 44.5
comp=Z,412nm,1.6s
WLF Walferdange 53.45 16 *dP* **P 16 17 34.0 -0.1**
comp=Z,58nm,1.5s
WLF Walferdange 53.45 16 ⇓P P 16 17 34.7 +0.5
STU Stuttgart 53.56 19 IAmb IAmb 16 17 44.5
comp=Z,198nm,1.3s
KBA Koelnbreinsper 53.58 23 *iP* **P 16 17 35.5 0.0**
comp=Z,728nm,2.6s,SNR=34
KBA *eS* **S 16 25 13.7 +4.9**
comp=Z,5μm,9.5s
KBA Koelnbreinsper 53.58 23 ⇓P P 16 17 35.0 -0.4
VAY Valandovo 53.59 34 *iP* **P 16 17 35.8 +0.4**
OBKA Obir 53.60 24 *eP* **P 16 17 35.6 +0.2**
comp=Z,1μm,3.4s,SNR=33
LESA Schwarzleotal 53.62 22 *iP* **P 16 17 35.3 -0.3**
comp=Z,673nm,2.6s,SNR=30
LESA *eS* **S 16 25 12.1 +3.1**
comp=Z,3μm,6.6s
MONM Monmouth 53.62 8 *eP* **P 16 17 35.0 -0.3**
MONM IAmb IAmb 16 17 39.2
comp=Z,17nm,0.8s
MONM IAms_20 IAms_20 16 41 39.1
comp=Z,19μm,17.0s
RCHB Rochefort 53.65 15 *dP* **P 16 17 35.0 -0.6**
comp=Z,48nm,1.5s
BMRD Maredsous 53.67 15 *dP* **P 16 17 35.2 -0.5**
comp=Z,41nm,1.5s
MCH1 Michaelchurch 53.74 8 *eP* **P 16 17 35.9 -0.4**
MCH1 IAmb IAmb 16 17 39.7
comp=Z,23nm,0.8s
MCH1 IAms_20 IAms_20 16 41 15.3
comp=Z,19μm,16.8s
ARG Arkhangelos 53.82 42 P **P 16 17 37.6 +0.5**
ARG Arkhangelos 53.82 42 P **P 16 17 37.7 +0.5**
ARG pmax pmax
comp=Z,506nm,1.3s
ARG Arkhangelos 53.82 42 ⇑P P 16 17 37.5 +0.4
MOSL Moslavina 53.82 26 ⇑*iP* **P 16 17 37.2 +0.2**
BGES Gesves 53.82 15 *dP* **P 16 17 36.3 -0.6**
comp=Z,51nm,1.4s
BGES *dx* x 16 17 45.2
BCLA Clavier 53.91 15 *dP* **P 16 17 37.0 -0.5**
BCLA *dx* x 16 17 44.8
SOKA Soboth 53.93 24 *iP* **P 16 17 38.4 +0.5**
comp=Z,619nm,1.6s,SNR=51
UCC Uccle 54.02 14 IAmb IAmb 16 17 48.2
comp=Z,311nm,1.5s
BHOU Houvegnez 54.04 15 *dP* **P 16 17 38.4 -0.1**
comp=Z,46nm,1.4s
BHOU *dx* x 16 17 46.7
BSTI Sart Tilman 54.13 15 *dP* **P 16 17 38.7 -0.4**
comp=Z,11nm,1.5s
BIOA Bad Ischl, Aus 54.20 23 *iP* **P 16 17 38.5 -1.3**
comp=Z,511nm,2.3s,SNR=13
KOGS Kog 54.26 25 *iP* **P 16 17 40.6 +0.5**
HLM1 Long Mynd 54.27 8 *eP* **P 16 17 39.5 -0.7**
HLM1 IAmb IAmb 16 17 41.3
comp=Z,22nm,1.1s
HLM1 IAms_20 IAms_20 16 38 27.2
comp=Z,19μm,18.7s
MEM Membach 54.27 15 *dP* **P 16 17 39.8 -0.4**
comp=Z,52nm,1.8s
MEM *dx* x 16 17 48.0
BTNL Ternell 54.28 15 *dP* **P 16 17 40.6 +0.3**
comp=Z,82nm,1.6s
BEBN Eben Emael 54.35 15 *dP* **P 16 17 40.6 -0.2**
BEBN *dx* x 16 17 49.4
MMB Musomishta 54.40 34 *iP* **P 16 17 41.9 +0.6**
LLW Llanuwychllyn 54.49 7 *eP* **P 16 17 41.1 -0.5**
LLW IAms_20 IAms_20 16 38 40.1
comp=Z,8μm,22.1s
YJA Yavi 54.49 243 *eP* **P 16 17 43.3 +0.5**
BEHE Becsehely 54.50 26 IAmb IAmb 16 17 53.0
comp=Z,383nm,1.5s
BEHE Becsehely 54.50 26 ⇑*iP* **P 16 17 42.7 +0.8**
DSB Dublin 54.57 5 P **P 16 17 42.7 +0.5**
MOA Molln 54.57 23 *eP* **P 16 17 41.4 -1.0**
comp=Z,393nm,1.6s,SNR=15
FOEL Foel Wylfa 54.59 8 *eP* **P 16 17 41.5 -0.9**
FOEL IAmb IAmb 16 17 43.6
comp=Z,15nm,1.0s
FOEL IAms_20 IAms_20 16 38 34.3
comp=Z,18μm,20.0s
ARSA Arzberg 54.59 24 IAmb IAmb 16 17 59.0
comp=Z,298nm,1.4s
ARSA Arzberg 54.59 24 *eP* **P 16 17 42.7 +0.1**
comp=Z,506nm,2.7s,SNR=21
ARSA *es*PKiKP **PKiKP 16 25 20.4 +0.9**
comp=Z,6μm,10.5s
ARSA Arzberg 54.59 24 ⇑P P 16 17 42.3 -0.3
AZAP Zapla 54.66 241 *eP* **P 16 17 41.8 -2.0**
HJA Humahuaca 54.67 242 *eP* **P 16 17 42.1 -2.0**
CWF Charnwood Fore 54.72 9 *eP* **P 16 17 42.5 -0.8**
CWF IAmb IAmb 16 17 46.9
comp=Z,17nm,0.7s
CWF IAms_20 IAms_20 16 43 12.0
comp=Z,22μm,15.0s
BOVS Bovan 54.72 31 ⇑P P 16 17 44.5 +1.0
KOVH Kovagotottos 54.78 27 ⇑P P 16 17 44.4 +0.4
EZN Ezine 54.80 37 ⇑P P 16 17 43.6 -0.6
EZN Ezine 54.80 37 ⇑P P 16 17 43.6 -0.6
VTS Vitosha 54.83 33 *iP* **P 16 17 45.3 +0.7**
PLNA Plana 54.84 33 P **P 16 17 45.3 +0.7**
SJG San Juan 55.00 293 LR LR 16 36 22.1
comp=Z,3μm,22.0s,baz=100,slow=31
SJG San Juan 55.00 293 P **P 16 17 46.8 +0.8**
comp=Z,3μmcomp=Z,726nmcomp=Z,35nm,1.4s
GRFO Grafenberg 55.02 20 P **P 16 17 44.7 -0.9**
GRFO IAmb IAmb 16 17 55.2
comp=Z,251nm,1.4s
GRFO Grafenberg 55.02 20 P **P 16 17 44.7 -0.9**
GRFO pmax pmax
comp=Z,251nm,1.4s
GRFO MLR MLR
comp=Z,31μm,21.0s
GRA1 Grafenberg Arr 55.02 20 IAmb IAmb 16 18 01.5
comp=Z,340nm,1.6s
BAUV El Baul 55.04 282 *eP* **P 16 17 45.0 -1.4**
WACR West Acre 55.04 11 *eP* **P 16 17 44.9 -0.8**
WACR IAmb IAmb 16 17 49.5
comp=Z,92nm,0.7s
WACR IAms_20 IAms_20 16 40 51.3
comp=Z,36μm,19.6s
RZN Rozhen 55.05 35 *iP* **P 16 17 46.8 +0.6**
MORH Mrgy, Hungar 55.13 27 ⇑*iP* **P 16 17 46.2 -0.2**
MORH Mrgy, Hungar 55.13 27 ⇑P P 16 17 46.4 0.0
RDO Rodhopi 55.16 36 ⇑P P 16 17 47.4 +0.7
GERES GERESS Array B 55.18 22 P **P 16 17 46.2 -0.7**
comp=Z,26nm,1.1s,baz=205,slow=5.7,SNR=83
GERES PP **PP 16 19 44.7 -5.8**
comp=Z,20nm,1.1s,baz=212,slow=4.7,SNR=4.9
GERES LR LR 16 42 04.3
comp=Z,40μm,19.6s,baz=238,slow=37
comp=Z,26nm,1.1s
SLA San Lorenzo 55.19 240 *eP* **P 16 17 44.8 -2.7**
CAVK Edirne/Enez-Ca 55.24 36 ⇑P P 16 17 48.6 +1.2
RONA Rosalia, Austr 55.27 24 *eP* **P 16 17 48.1 +0.7**
comp=Z,1μm,1.7s,SNR=48
CONA Conrad Observa 55.27 24 *iP* **P 16 17 47.6 0.0**
comp=Z,652nm,1.7s,SNR=35
LBWR Ladybower, Pea 55.30 9 *eP* **P 16 17 46.4 -1.2**
LBWR IAmb IAmb 16 17 48.4
comp=Z,18nm,0.9s
LBWR IAms_20 IAms_20 16 43 39.6
comp=Z,20μm,16.1s
ALN Alexandroupoli 55.30 36 ⇑P P 16 17 48.3 +0.6
ELL Elmali 55.31 42 P **P 16 17 48.6 +0.5**
ELL IAmb IAmb 16 17 59.1
comp=Z,408nm,1.6s
ELL Elmali 55.31 42 P **P 16 17 48.6 +0.5**
ELL pmax pmax
comp=Z,408nm,1.6s
ILTH Belurgan, Co L 55.35 5 *eP* **P 16 17 47.5 -0.4**
PLD Plovdiv 55.35 34 P **P 16 17 49.1 +0.9**
KDZ Kurdzhali 55.35 35 P **P 16 17 48.6 +0.4**
KHC Kasperske Hory 55.37 21 *eP* **P 16 17 46.1 -2.1**
KHC *ex* x 16 17 55.5
KHC *ePP* **PP 16 19 51.1 -1.0**
KHC *eS* **S 16 25 33.6 +1.1**
KHC AMS AMS 16 41 50.0
comp=Z,39μm,19.9s
KHC Kasperske Hory 55.37 21 *eP* **P 16 17 46.1 -2.1**
KHC *e* 16 19 51.1
KHC *eS* **S 16 25 33.6 +1.1**
KHC MLR MLR
comp=Z,39μm,19.9s
KHC Kasperske Hory 55.37 21 ⇑P P 16 17 47.5 -0.7
CELP Cerrillos 55.39 293 IAmb IAmb 16 17 59.8
comp=Z,321nm,1.8s
MANT Manisa 55.40 40 P **P 16 17 49.3 +0.5**
MANT IAmb IAmb 16 17 59.0
comp=Z,300nm,1.6s
OBIP Obispado Ponce 55.41 293 IAmb IAmb 16 18 04.3
comp=Z,110nm,1.1s
MDVR Moldovita 55.54 30 ⇑P P 16 17 50.3 +0.8
MPEP Malo Peshtene 55.60 33 P **P 16 17 51.2 +1.3**
AOPR Arecibo Observ 55.62 293 IAmb IAmb 16 18 01.0
comp=Z,98nm,0.9s
EIL Elat 55.63 52 LR LR 16 42 48.6
comp=Z,70μm,18.1s,baz=244,slow=37
LPAZ La Paz 55.63 251 P **P 16 17 49.3 -2.1**
LPAZ La Paz 55.63 251 P **P 16 17 50.2 -1.1**
comp=Z,7.6nm,0.8s,baz=60,slow=6.2,SNR=20
LPAZ PcP **PcP 16 18 50.7 -0.3**
comp=Z,12nm,0.8s,baz=45,slow=4.0,SNR=4.5
LPAZ LR LR 16 40 35.6
comp=Z,20μm,19.6s,baz=89,slow=35
comp=Z,7.6nm,0.8s
LPAZ La Paz 55.63 251 ⇑P P 16 17 48.8 -2.5
LPAZ La Paz 55.63 251 *eP* **P 16 17 49.1 -2.3**
LPAZ La Paz 55.63 251 P **P 16 17 49.7 -1.6**
VALD Valchedram 55.66 32 P **P 16 17 52.1 +1.7**
KZIT Kziot 55.72 51 ⇑P P 16 17 51.9 +0.9
SALTA 55.77 241 *eP* P 16 17 46.4 -5.7
BAIL Bailesti 55.84 32 ⇓P P 16 17 52.9 +1.3
HPK Haverah Park 55.85 9 *eP* **P 16 17 50.5 -1.0**
HPK IAmb IAmb 16 17 53.1
comp=Z,14nm,0.9s
HPK IAms_20 IAms_20 16 44 44.3
comp=Z,19μm,15.6s
ZVC Zvikov 55.85 22 *eP* **P 16 17 50.9 -0.7**
ZVC *eS* **S 16 25 40.5 +1.6**
ZVC AMS AMS 16 42 40.0
comp=Z,36μm,17.7s
CRPR Cabo Rojo, PR 55.86 293 P **P 16 17 51.3 -0.9**
CRPR IAmb IAmb 16 17 58.6
comp=Z,190nm,1.2s
DJES Djerdap 55.86 31 ⇓P P 16 17 53.0 +1.2
HERR Herculane 55.96 30 ⇓P P 16 17 53.4 +1.0
ZST Bratislava 55.99 24 *eP* **P 16 17 52.9 +0.3**
ZST *e* 16 18 01.5
ZST pmax pmax
comp=Z,99nm,2.7s
ZST Bratislava 55.99 24 *eP* **P 16 17 52.9 +0.3**
ZST *e* 16 18 01.5
FSA Cafayete 56.00 239 *eP* P 16 17 47.4 -6.1
BZS Buzias 56.09 29 ⇑P P 16 17 54.1 +0.8
BZS Buzias 56.09 29 ⇑P P 16 17 54.1 +0.8
BZS Buzias 56.09 29 ⇑P P 16 17 53.6 +0.3
PLVB Pleven 56.10 33 ⇑P P 16 17 54.1 +0.6
BAND Balkesir-Ban 56.20 38 ⇓P P 16 17 54.8 +0.5
MODS Modra-Piesok 56.20 24 *eP* **P 16 17 54.3 +0.1**
MODS *e* 16 18 02.9
MODS pmax pmax
comp=Z,2μm,3.2s
MODS Modra-Piesok 56.20 24 *eP* **P 16 17 54.3 +0.1**
MODS *e* 16 18 02.8
MODS *e* 16 18 08.6
SRO Srobarova 56.20 25 *eP* **P 16 17 55.2 +1.1**
SRO *e* 16 18 03.6
SRO pmax pmax
comp=Z,66nm,1.4s
SRO Srobarova 56.20 25 *eP* **P 16 17 55.2 +1.1**
SRO *e* 16 18 03.6
SRE Strehaia 56.21 31 ⇓P P 16 17 55.4 +1.1
SRE Strehaia 56.21 31 ⇓P P 16 17 55.4 +1.1
TREC Trest 56.22 23 *eP* **P 16 17 54.3 0.0**
TREC *eS* **S 16 25 43.6 -0.2**
TREC AMS AMS 16 43 30.0
comp=Z,40μm,16.1s
TREC Trest 56.22 23 *eP* **P 16 17 54.3 0.0**
TREC *eS* **S 16 25 43.6 -0.2**
TREC MLR MLR
comp=Z,40μm,16.1s
KESW Keswick, Cumbr 56.26 7 *eP* **P 16 17 54.1 -0.3**
KESW IAmb IAmb 16 17 58.5
comp=Z,26nm,0.8s
KESW IAms_20 IAms_20 16 46 19.1
comp=Z,22μm,15.0s
ISP Isparta 56.30 42 *iP* **P 16 17 55.8 +0.6**
SMOL Smolenice 56.37 24 *eP* **P 16 17 55.2 -0.2**
SMOL *e* 16 18 04.0
SMOL pmax pmax
comp=Z,186nm,3.1s
KRUC Moravsky 56.39 23 *eP* **P 16 17 54.5 -1.0**
VLAD Vladila 56.39 32 ⇓P P 16 17 56.6 +1.0
GDLE Glaisdale, N Y 56.42 9 *eP* **P 16 17 55.2 -0.4**
GDLE IAmb IAmb 16 17 58.6
comp=Z,23nm,0.7s
GDLE IAms_20 IAms_20 16 45 07.7
comp=Z,27μm,15.5s
SURR Surduc 56.43 29 ⇑P P 16 17 56.6 +0.7
PRU Pruhonice 56.43 22 *eP* **P 16 17 54.8 -1.0**
PRU *ePP* **PP 16 20 00.8 -0.7**
PRU *eS* **S 16 25 48.4 +1.8**
PRU AMS AMS 16 42 40.0
comp=Z,45μm,18.4s
PRU Pruhonice 56.43 22 *eP* **P 16 17 54.8 -1.0**
PRU *e* 16 20 00.8
PRU *eS* **S 16 25 48.4 +1.8**
PRU MLR MLR
comp=Z,45μm,18.4s
PRA Prague 56.46 21 *eP* **P 16 17 55.2 -0.8**
PRA *eS* **S 16 25 48.5 +1.6**
PRA AMS AMS 16 42 30.0
comp=Z,45μm,18.2s
PRA Prague 56.46 21 *eP* **P 16 17 55.2 -0.8**
PRA *eS* **S 16 25 48.5 +1.6**
PRA MLR MLR
comp=Z,45μm,18.2s
ELND Elena 56.49 34 ⇓P P 16 17 56.8 +0.5
GZR Gura Zlata 56.50 30 ⇑P P 16 17 57.2 +0.8
GZR Gura Zlata 56.50 30 ⇑P P 16 17 57.2 +0.8
HSKC Hora Svate Kat 56.55 20 *eP* **P 16 17 55.6 -1.0**
HSKC *eS* **S 16 25 51.0 +2.8**
HSKC AMS AMS 16 41 40.0
comp=Z,19μm,17.5s
SIRR Siria 56.57 29 ⇑P P 16 17 57.5 +0.7
CYA Choya 56.58 236 *eP* **P 16 17 53.9 -3.4**
JMB Yambol 56.58 35 P **P 16 17 57.0 0.0**
NEWG New Galloway 56.64 7 *eP* **P 16 17 56.5 -0.6**
NEWG IAmb IAmb 16 17 57.8
comp=Z,18nm,0.9s
NEWG IAms_20 IAms_20 16 41 43.7
comp=Z,17μm,16.0s
EDMD Edmundbyers 56.65 8 *eP* **P 16 17 56.0 -1.2**
EDMD IAmb IAmb 16 18 00.8
comp=Z,20nm,0.7s
EDMD IAms_20 IAms_20 16 43 38.8
comp=Z,21μm,16.8s
VRAC Vranov 56.66 23 LR LR 16 43 22.6
comp=Z,23μm,18.0s,baz=219,slow=37
VRAC Vranov 56.66 23 ⇑P P 16 17 57.2 -0.3

VRAC Vranov 56.66 23 *e*P **P 16 17 56.6 -0.9**
VRAC Vranov 56.66 23 ⇑P **P 16 17 57.2 -0.3**
RICC Richard 56.73 21 *e*S **S 16 25 53.0 +2.5**
RICC AMS AMS 16 42 30.0
comp=Z,27μm,16.9s
JAVC Velka Javorina 56.74 24 *e*P **P 16 17 58.4 +0.3**
CSS Mathiatis 56.78 46 IAMs_20 IAMs_20 16 44 02.5
comp=Z,22μm,21.0s
SALP Salfit 56.83 50 ⇑P **P 16 18 00.3 +1.3**
PVCC Panska Ves 56.89 21 *e*P **P 16 17 58.4 -0.6**
PVCC *e*S **S 16 25 55.4 +2.8**
PVCC AMS AMS 16 42 50.0
comp=Z,34μm,18.3s
PVCC Panska Ves 56.89 21 *e*P **P 16 17 58.4 -0.6**
PVCC *e*S **S 16 25 55.4 +2.8**
PVCC MLR MLR
comp=Z,34μm,18.3s
DEV Deva 56.91 30 ⇑P **P 16 17 60.0 +0.8**
DEV Deva 56.91 30 ⇑P **P 16 18 00.0 +0.8**
COPA Copaceanca 56.92 33 ⇑P **P 16 17 59.8 +0.5**
BRG Berggiesshubel 56.95 21 *e*P **P 16 17 59.0 -0.5**
BRG Amp 16 18 02.9
comp=Z,52nm,1.3s
BRG Berggiesshubel 56.95 21 P P 16 18 07.4 +8.0
BRG Amp 16 18 09.2
comp=Z,166nm,1.3s
BRG Berggiesshubel 56.95 21 Amp 16 20 13.3
comp=Z,172nm,1.6s
BRG Berggiesshubel 56.95 21 S **S 16 25 51.0 -2.4**
BRG Berggiesshubel 56.95 21 SS **SS 16 29 43.0 +0.9**
BRG Berggiesshubel 56.95 21 P PcP 16 19 06.3 +12
BRG Berggiesshubel 56.95 21 Amp 16 19 08.1
comp=Z,55nm,1.4s
BRG Berggiesshubel 56.95 21 PP PP 16 20 03.8 -2.3
ESK Eskdalemuir 56.96 7 P **P 16 17 58.0 -1.4**
ESK IAmb IAmb 16 18 08.1
comp=Z,159nm,1.1s
ESK Eskdalemuir 56.96 7 *e*P **P 16 17 58.7 -0.7**
ESK IAmb IAmb 16 18 02.8
comp=Z,19nm,0.7s
ESK IAMs_20 IAMs_20 16 42 12.9
comp=Z,19μm,17.0s
ESK Eskdalemuir 56.96 7 P **P 16 17 58.0 -1.4**
ESK pmax pmax
comp=Z,159nm,1.2s
ESK MLR MLR
comp=Z,13μm,20.0s
ESK Eskdalemuir 56.96 7 ⇓P **P 16 17 59.2 -0.2**
PSZ Piszkesteto 56.97 26 ⇑P **P 16 18 00.2 +0.4**
PSZ Piszkesteto 56.97 26 ⇑P **P 16 18 00.2 +0.4**
PSZ Piszkesteto 56.97 26 ⇑P **P 16 17 59.9 +0.1**
EKA Eskdalemuir Ar 56.98 7 P **P 16 17 58.8 -0.7**
comp=Z,16nm,0.7s,baz=190,slow=7.8,SNR=20
comp=Z,16nm,0.7s
CLL Collm 56.99 20 IAmb IAmb 16 18 09.4
comp=Z,332nm,1.6s
CLL Collm 56.99 20 *i* P **P 16 17 59.1 -0.6**
CLL *i* 16 18 01.9
CLL *i* 16 18 06.9
CLL *e*S **S 16 25 58.0 +4.1**
CLL pmax pmax
comp=Z,60nm,1.6s
CLL MLR MLR
comp=Z,26μm,18.7s
CLL Collm 56.99 20 *i* P **P 16 17 59.1 -0.6**
comp=Z,60nm,1.6s
CLL *i* (pP) **pP 16 18 01.9 -0.3**
CLL *i* x x 16 18 06.9
comp=Z,339nm,1.6s
CLL *e*PP **PP 16 20 06.0 -0.5**
CLL *e*PPP PPP 16 21 24.0
CLL *e*S **S 16 25 58.0 +4.1**
comp=E,6μm,23.5s
CLL *e*SSS SSS 16 32 00.0
CLL Lm MLR 16 41 00.0
comp=Z,22μm,20.9s
CLL Lmax 16 42 00.0
CLL LmV 16 43 00.0
comp=Z,26μm,18.7s
LOT Lotru 57.04 31 ⇑P **P 16 17 59.9 -0.4**
HUMR Humele 57.05 32 ⇑P **P 16 18 00.8 +0.6**
PB18 Visviri 57.13 250 IAmb IAmb 16 19 51.1
comp=Z,175nm,1.6s
PB18 IAMs_20 IAMs_20 16 41 33.0
comp=Z,19μm,19.0s
BORR Bors 57.23 28 ⇑P **P 16 18 02.3 +0.9**
PB16 IPOC Station P 57.29 249 IAMs_20 IAMs_20 16 40 32.3
comp=Z,15μm,21.0s
PB08 IPOC Station P 57.32 247 P P 16 17 58.0 -5.1
PB08 IPOC Station P 57.32 247 P **P 16 18 01.3 -1.8**
KRLC Kraliky 57.35 23 *e*P **P 16 18 02.4 +0.1**
KRLC *e*S **S 16 26 01.4 +2.6**
KRLC AMS AMS 16 44 10.0
comp=Z,36μm,17.3s
KRLC Kraliky 57.35 23 *e*P **P 16 18 02.4 +0.1**
KRLC *e*S **S 16 26 01.4 +2.6**
KRLC MLR MLR
comp=Z,36μm,17.3s
SGRR Singureni 57.39 33 ⇓P **P 16 18 02.5 -0.2**
DPC Dobruska-Polom 57.39 22 *e*P **P 16 18 02.2 -0.4**
DPC *e*S **S 16 26 02.0 +2.6**
DPC AMS AMS 16 40 00.0
comp=Z,17μm,20.4s
DPC Dobruska-Polom 57.39 22 *e*P **P 16 18 02.2 -0.4**
DPC *e*S **S 16 26 02.0 +2.6**
BORA Eskisehir 57.40 40 IAmb IAmb 16 18 12.8
comp=Z,259nm,1.6s
MMAI Mount Meron Ar 57.40 49 P **P 16 18 03.0 -0.1**
comp=Z,13nm,1.1s,baz=288,slow=6.1,SNR=7.3
MMAI LR LR 16 43 30.6
comp=Z,6μm,18.6s,baz=265,slow=37
comp=Z,13nm,1.1s
UPC Upice 57.40 22 *e*P **P 16 18 02.0 -0.7**
UPC *e*S **S 16 26 02.1 +2.7**
UPC AMS AMS 16 43 40.0
comp=Z,38μm,18.1s
UPC Upice 57.40 22 *e*P **P 16 18 02.0 -0.7**
UPC *e*S **S 16 26 02.1 +2.7**
UPC MLR MLR
comp=Z,38μm,18.1s
MORC Moravsky Berou 57.41 24 ⇓P **P 16 18 01.4 -1.4**
MORC Moravsky Berou 57.41 24 *e*P **P 16 18 02.4 -0.3**
MORC Moravsky Berou 57.41 24 ⇓P **P 16 18 01.4 -1.4**
MORC Moravsky Berou 57.41 24 ⇑P **P 16 18 02.5 -0.3**
ARR Arges 57.43 31 ⇓P **P 16 18 04.0 +0.9**
TNR Turnu Rosu 57.44 31 ⇑P **P 16 18 02.1 -0.9**
TNR Turnu Rosu 57.44 31 ⇑P **P 16 18 02.1 -0.9**
DRGR 57.46 29 ⇑P **P 16 18 03.8 +0.6**
DRGR 57.46 29 ⇑P **P 16 18 03.8 +0.6**
TRQA Tornquist 57.46 224 P **P 16 18 02.5 -0.9**
TRQA IAmb IAmb 16 18 06.6
comp=Z,144nm,1.2s
TRQA Tornquist 57.46 224 P **P 16 18 02.5 -0.9**
TRQA pmax pmax
comp=Z,144nm,1.3s
TRQA MLR MLR
comp=Z,29μm,22.0s
TRQA Tornquist 57.46 224 P **P 16 18 01.2 -2.1**
CHVC Chvalec 57.48 22 *e*P **P 16 18 01.1 -2.2**
CHVC AMS AMS 16 43 30.0
comp=Z,37μm,17.9s
CHVC Chvalec 57.48 22 *e*P **P 16 18 01.1 -2.2**
CHVC MLR MLR
comp=Z,37μm,17.9s
OSTC Ostas 57.52 22 *e*P **P 16 18 02.8 -0.7**
OSTC *e*S **S 16 26 04.0 +3.0**
OSTC AMS AMS 16 43 30.0
comp=Z,30μm,17.9s
OSTC Ostas 57.52 22 *e*P **P 16 18 02.8 -0.7**
OSTC *e*S **S 16 26 04.0 +3.0**
OSTC MLR MLR
comp=Z,30μm,17.9s
MTUR Matau 57.56 32 ⇓P **P 16 18 05.2 +1.2**
MTUR Matau 57.56 32 ⇓P **P 16 18 05.2 +1.2**
SDV Santo Domingo 57.57 281 P **P 16 18 04.3 -0.5**
SDV Santo Domingo 57.57 281 P **P 16 18 05.0 +0.3**
comp=Z,54nm,0.9s,baz=99,slow=3.4,SNR=21
SDV LR LR 16 41 19.0
comp=Z,7μm,21.8s,baz=100,slow=35
comp=Z,54nm,0.9s
SDV Santo Domingo 57.57 281 *e*P **P 16 18 02.7 -2.0**
SDV Santo Domingo 57.57 281 P **P 16 18 04.6 -0.1**
SDV Santo Domingo 57.57 281 P **P 16 18 05.2 +0.5**
comp=Z,6μmcomp=Z,959nmcomp=Z,73nm,0.9s

MARR Marisel-Cluj 57.57 29 ⇑P **P 16 18 04.4 +0.4**
ATD Arta Tunnel 57.60 76 LR LR 16 42 48.0
comp=Z,237nm,20.1s,baz=272,slow=36
ATD Arta Tunnel 57.60 76 P **P 16 18 08.4 +3.7**
SNR=27
ATD S **S 16 25 56.5 -6.7**
LAWE Loch Awe, Argy 57.65 5 *e*P **P 16 18 02.8 -1.4**
LAWE IAmb IAmb 16 18 04.7
comp=Z,11nm,0.8s
LAWE IAMs_20 IAMs_20 16 44 12.0
comp=Z,23μm,17.0s
KECS Kecovo 57.66 26 *e*P **P 16 18 05.7 +1.2**
KECS *e* 16 18 14.0
KECS pmax pmax
comp=Z,50nm,1.6s
KECS Kecovo 57.66 26 *e*P **P 16 18 05.7 +1.2**
KECS *e* 16 18 13.9
KECS *e* 16 18 19.7
GEM Giv'at Ha'Em 57.69 49 ⇑P **P 16 18 06.5 +1.5**
OKC Ostrava-Krasne 57.70 24 *e*P **P 16 18 04.5 -0.3**
OKC *e*S **S 16 26 06.1 +2.8**
OKC AMS AMS 16 43 20.0
comp=Z,17μm,16.4s
OKC Ostrava-Krasne 57.70 24 *e*P **P 16 18 04.5 -0.3**
OKC *e*S **S 16 26 06.1 +2.8**
OKC MLR MLR
comp=Z,17μm,16.4s
LANS Liptovska Anna 57.72 25 *e*P **P 16 18 06.6 +1.6**
LANS *e* 16 18 13.9
LANS pmax pmax
comp=Z,8.0nm,1.3s
LANS Liptovska Anna 57.72 25 *e*P **P 16 18 06.5 +1.6**
LANS *e* 16 18 13.9
LANS *e* 16 18 20.9
PB09 IPOC Station P 57.76 245 IAmb IAmb 16 18 40.4
comp=Z,386nm,1.7s
KSP Ksiaz 57.78 22 *e*P **P 16 18 05.1 -0.2**
KSP *e*S **S 16 26 07.2 +2.8**
KSP *e*L L 16 43 44.0
comp=Z,45μm,19.6s
KSP Ksiaz 57.78 22 ⇓P **P 16 18 08.0 +2.7**
KSP Ksiaz 57.78 22 P **P 16 18 03.1 -2.2**
comp=Z,2μmcomp=Z,112nm,1.5s
MESR Meseseni 57.83 29 ⇓P **P 16 18 06.3 +0.6**
CJR Cluj-Napoca 57.84 30 ⇓P **P 16 18 06.4 +0.6**
CJR Cluj-Napoca 57.84 30 ⇓P **P 16 18 06.4 +0.6**
ACLC CERRO LA CRUZ 57.86 236 *e*P P 16 18 01.7 -4.8
INVG Invergeldie, C 57.95 6 *e*P **P 16 18 05.7 -0.6**
INVG IAmb IAmb 16 18 15.2
comp=Z,9.9nm,0.9s
INVG IAMs_20 IAMs_20 16 42 23.4
comp=Z,16μm,14.8s
BHL Bhannes 57.99 48 *e*P **P 16 18 07.6 +0.4**
PB12 IPOC Station P 58.11 249 IAmb IAmb 16 18 31.0
comp=Z,124nm,1.2s
DR12 Loma Pena Alta 58.14 293 P **P 16 18 07.6 -0.9**
ASF Jabal al Asfar 58.18 50 LR LR 16 45 33.0
comp=Z,13μm,18.0s,baz=284,slow=38
SAHE Sakarya_HENDEK 58.20 39 ⇑P **P 16 18 08.1 -0.4**
ACHE Chepes 58.20 234 *e*P P 16 18 02.4 -6.4
MDUB Mudurnu 58.20 39 IAmb IAmb 16 18 25.7
comp=Z,183nm,1.0s
MDUB Mudurnu 58.20 39 ⇑P **P 16 18 09.3 +0.7**
MLR Muntele Rosu 58.20 32 LR LR 16 45 13.4
comp=Z,46μm,19.8s,baz=234,slow=38
MLR Muntele Rosu 58.20 32 ⇑P **P 16 18 08.5 0.0**
MLR Muntele Rosu 58.20 32 ⇑P **P 16 18 08.5 0.0**
MLR Muntele Rosu 58.20 32 P **P 16 18 06.2 -2.3**
comp=Z,4μmcomp=Z,346nm,1.4s
DOPR Dopca 58.23 31 ⇑P **P 16 18 08.6 0.0**
KALB Balgarevo 58.24 35 ⇑P **P 16 18 10.2 +1.6**
PB02 IPOC Station P 58.25 246 IAmb IAmb 16 18 24.7
comp=Z,85nm,0.9s
PB06 IPOC Station P 58.26 244 IAmb IAmb 16 18 33.8
comp=Z,344nm,1.8s
PB03 IPOC Station P 58.27 245 P **P 16 18 08.5 -1.0**
PB03 IAmb IAmb 16 18 11.7
comp=Z,272nm,1.9s
ISR Istrita 58.28 33 ⇓P **P 16 18 09.6 +0.6**
ISR Istrita 58.28 33 ⇓P **P 16 18 09.6 +0.6**
ISR Istrita 58.28 33 P **P 16 18 06.7 -2.3**
comp=Z,3μmcomp=Z,255nm,1.5s
NIE Niedzica 58.28 25 *e*P **P 16 18 09.2 +0.4**
NIE *e*PPP PPP 16 21 38.1
NIE *e*PPP PPP 16 21 38.4
NIE *e*S **S 16 26 14.2 +3.3**
NIE *e*L L 16 42 22.3
comp=Z,24μm,22.9s
ICOR Ion Corvin 58.33 34 ⇑P **P 16 18 09.1 -0.2**
NEHR Nehoiu 58.35 32 ⇑P **P 16 18 10.2 +0.8**
HWQ Hawqa 58.37 48 *e*P **P 16 18 09.9 0.0**
PATCX Punta Patache 58.38 246 IAmb IAmb 16 18 34.0
comp=Z,345nm,1.5s
AMRR Amara 58.38 33 ⇓P **P 16 18 09.1 -0.5**
AMRR Amara 58.38 33 ⇓P **P 16 18 09.1 -0.5**
BMR Baia Mare 58.46 29 ⇑P **P 16 18 10.4 +0.3**
BMR Baia Mare 58.46 29 ⇑P **P 16 18 10.4 +0.3**
ARCR ARCALIA 58.47 30 ⇓P **P 16 18 10.7 +0.6**
OZUR 58.52 31 ⇑P **P 16 18 11.3 +0.7**
DRUM Mains of Drumt 58.61 7 *e*P **P 16 18 09.9 -1.1**
DRUM IAmb IAmb 16 18 14.4
comp=Z,42nm,0.8s
DRUM IAMs_20 IAMs_20 16 46 35.9
comp=Z,20μm,15.4s
TURR Turia 58.61 31 ⇑P **P 16 18 11.7 +0.5**
KORU Korolevo 58.63 28 P **P 16 18 09.1 -2.2**
BISRR Bisoca 58.65 32 ⇓P **P 16 18 12.1 +0.5**
AVFE Valle Fertil 58.67 234 *e*P **P 16 18 08.5 -3.6**
OJC Ojcow 58.68 25 *e*P **P 16 18 11.4 -0.2**
OJC *e*PPP PPP 16 21 36.2
OJC *e*PPP PPP 16 21 40.9
OJC *e*S **S 16 26 18.6 +2.6**
OJC *e*L L 16 40 28.5
comp=Z,27μm,27.4s
OJC Ojcow 58.68 25 ⇓P **P 16 18 16.1 +4.5**
VCA Vinchina 58.68 237 *e*P **P 16 18 10.0 -2.3**
STHS Stebnicka Huta 58.69 26 *e*P **P 16 18 10.8 -0.9**
STHS *e* 16 20 27.2
STHS Stebnicka Huta 58.69 26 *e*P **P 16 18 10.8 -0.9**
STHS *e* 16 18 23.9
STHS *e*PP **PP 16 20 27.2 +5.6**
BRIU Brid 58.71 28 P **P 16 18 09.6 -2.2**
TLBR Topalu 58.73 34 ⇓P **P 16 18 12.3 +0.2**
PLOR Plostina 58.81 32 ⇑P **P 16 18 11.6 -1.0**
PLOR Plostina 58.81 32 ⇑P **P 16 18 11.9 -0.8**
VRI Vrincioaia 58.86 32 ⇓P **P 16 18 12.2 -0.8**
VRI Vrincioaia 58.86 32 ⇓P **P 16 18 12.2 -0.8**
GO02 Mina Guanaco 58.87 241 ⇓P **P 16 18 14.1 +0.3**
GO02 Mina Guanaco 58.87 241 *e*P **P 16 18 11.2 -2.6**
TIRR Tirgusor 58.88 34 IAmb IAmb 16 18 22.9
comp=Z,328nm,1.6s
TIRR Tirgusor 58.88 34 ⇓P **P 16 18 12.3 -0.8**
TIRR Tirgusor 58.88 34 ⇑P **P 16 18 12.6 -0.6**
ANTO Ankara 58.90 41 P **P 16 18 13.8 +0.4**
ANTO IAmb IAmb 16 18 24.8
comp=Z,305nm,1.4s
ANTO Ankara 58.90 41 IAMs_20 IAMs_20 16 45 13.2
comp=Z,17μm,22.0s
ANTO Ankara 58.90 41 P **P 16 18 14.6 +1.1**
ANTO S **S 16 26 18.0 -1.4**
ANTO Ankara 58.90 41 ⇑P **P 16 18 14.0 +0.6**
ANTO Ankara 58.90 41 ⇑P **P 16 18 14.0 +0.6**
ANTO Ankara 58.90 41 ⇑P **P 16 18 14.5 +1.1**
ANTO Ankara 58.90 41 P **P 16 18 14.3 +0.9**
AC02 Maricunga 58.92 239 P **P 16 18 13.8 -0.5**
AC02 IAmb IAmb 16 18 18.6
comp=Z,177nm,1.2s
AC02 Maricunga 58.92 239 *e*P **P 16 18 13.0 -1.3**
ONER Baraj Valea Uz 58.99 31 ⇓P **P 16 18 14.6 +0.7**
ACAN Cantantal 59.01 233 *e*P P 16 18 05.2 -9.1
RAKU Rahkiv 59.03 29 P **P 16 18 12.8 -1.3**
CZSB Cruzeiro do Su 59.12 262 *e*P **P 16 18 13.3 -2.1**
CZSB Cruzeiro do Su 59.12 262 P **P 16 18 15.1 -0.3**
TPGR Topolog 59.14 34 ⇑P **P 16 18 14.3 -0.6**
AGUA GUANDACOL 59.15 236 *e*P **P 16 18 12.0 -3.4**
CFR Carcaliu 59.18 33 ⇑P **P 16 18 14.6 -0.5**
CFR Carcaliu 59.18 33 ⇑P **P 16 18 14.6 -0.5**
SCHLR Schela 59.20 33 ⇑P **P 16 18 14.2 -1.1**
TESR Tescani 59.24 31 ⇓P **P 16 18 16.1 +0.5**
BURAR Bucovina Array 59.26 30 P **P 16 18 16.0 +0.2**
BURAR IAmb IAmb 16 18 26.4
comp=Z,127nm,1.4s
BURAR Bucovina Array 59.26 30 ⇓P **P 16 18 15.7 -0.1**

BURAR Bucovina Array 59.26 30 ⇓P **P 16 18 15.7 -0.1**
KIRS Kirsehir-Merke 59.26 42 ⇓P **P 16 18 16.8 +0.9**
NEGRR Negrea 59.27 33 ⇓P **P 16 18 15.1 -0.6**
URIC Uribia, Colomb 59.27 284 P **P 16 18 16.7 +0.3**
comp=Z,6μmcomp=Z,2μmcomp=Z,98nm,1.4s
PB10 IPOC Station P 59.33 243 IAMs_20 IAMs_20 16 44 46.4
comp=Z,14μm,18.0s
BR106 Keskin Array S 59.37 41 P **P 16 18 14.5 -2.3**
comp=Z,919nmcomp=Z,82nm,1.3s
BR131 Keskin Array S 59.38 41 P **P 16 18 18.2 +1.4**
SNR=98
BR131 P **P 16 18 18.2 +1.4**
SNR=98
BR131 S **S 16 26 23.0 -2.8**
BR131 S **S 16 26 23.0 -2.8**
BR131 Keskin Array S 59.38 41 *i* P **P 16 18 17.0 +0.2**
BRTR Keskin Array B 59.38 41 P **P 16 18 16.7 -0.1**
BRTR Keskin Array B 59.38 41 P **P 16 18 17.8 +1.0**
comp=Z,33nm,0.9s,baz=218,slow=5.8,SNR=79
BRTR LR LR 16 47 13.0
comp=Z,12μm,19.8s,baz=230,slow=39
BRTR PKP2bc **P'P'bc 16 47 56.0 -2.6**
comp=Z,0.7nm,0.7s,baz=50,slow=3.9,SNR=3.7
comp=Z,33nm,0.9s
SCTR Scanteiesti 59.42 33 ⇑P **P 16 18 15.7 -1.1**
PAMC Pamplona, Colo 59.44 279 P **P 16 18 19.6 +1.5**
PB14 IPOC Station P 59.45 242 P **P 16 18 16.2 -1.7**
PB14 IPOC Station P 59.45 242 IAmb IAmb 16 18 42.4
comp=Z,167nm,1.4s
PB14 IAMs_20 IAMs_20 16 42 44.9
comp=Z,13μm,19.0s
KWP Kalwaria Pacla 59.49 27 *e*P **P 16 18 17.4 +0.1**
KWP *e*S **S 16 26 28.7 +2.0**
KWP *e*L L 16 40 58.3
comp=Z,36μm,27.1s
KWP Kalwaria Pacla 59.49 27 ⇓P **P 16 18 17.9 +0.6**
TLCR 59.56 34 ⇑P **P 16 18 17.3 -0.5**
TLCR 59.56 34 ⇑P **P 16 18 17.3 -0.5**
VLDR Vladesti 59.57 33 ⇑P **P 16 18 15.1 -2.8**
SSRD Sdr. Stenderup 59.61 15 *i* P **P 16 18 19.8 +1.9**
SSRD IAmb IAmb 16 18 22.2
comp=Z,113nm,1.1s
SSRD IAMs_20 IAMs_20 16 45 10.8
comp=Z,32μm,16.8s
SSRD IVMs_BB IVMs_BB 16 45 14.5
comp=Z,12μm,17.3s
CFA Coronel Fontan 59.62 234 P **P 16 18 17.9 -0.6**
comp=Z,9.5nm,0.8s,baz=85,slow=9.6,SNR=18
CFA LR LR 16 40 58.3
comp=Z,15μm,21.9s,baz=78,slow=33
comp=Z,9.5nm,0.8s
RUSC La Rusia 59.68 277 P **P 16 18 19.3 -0.5**
RUSC IAmb IAmb 16 18 34.7
comp=Z,215nm,1.3s
RTLL Cerro Villicun 59.72 234 *e*P **P 16 18 17.0 -2.2**
BARC Barichara 59.84 278 P **P 16 18 22.7 +2.1**
ACDV Cuesta del Vie 59.88 235 *e*P **P 16 18 20.3 -0.2**
VASR Vaslui 59.93 32 ⇑P **P 16 18 19.3 -1.0**
SDDR Presa de Saban 59.94 293 IAmb IAmb 16 18 33.4
comp=Z,196nm,1.1s
SDDR Presa de Saban 59.94 293 ⇓P **P 16 18 21.0 0.0**
SDDR Presa de Saban 59.94 293 *e*P **P 16 18 20.5 -0.5**
ZON Zonda 59.95 234 P **P 16 18 19.9 -1.0**
ZON IAmb IAmb 16 18 24.5
comp=Z,208nm,1.7s
ZON Zonda 59.95 234 P **P 16 18 19.9 -1.0**
ZON pmax pmax
comp=Z,209nm,1.7s
ZON Zonda 59.95 234 ⇓P **P 16 18 21.1 +0.2**
ZON Zonda 59.95 234 *e*P P 16 18 15.4 -5.5
ACCO Cerro Coronel 59.96 235 *e*P **P 16 18 19.0 -2.3**
BIGH Upper Bighouse 59.99 6 *e*P **P 16 18 19.5 -1.0**
BIGH IAmb IAmb 16 18 24.0
comp=Z,32nm,0.8s
BIGH IAMs_20 IAMs_20 16 45 41.5
comp=Z,21μm,15.8s
AC01 Pan de Azucar 60.00 240 IAMs_20 IAMs_20 16 43 00.5
comp=Z,18μm,20.0s
CRJC Cerrejon, Guaj 60.04 283 P **P 16 18 20.7 -1.1**
comp=Z,2μmcomp=Z,200nm,1.1s
GO03 Copiapo 60.07 239 IAmb IAmb 16 18 24.1
comp=Z,198nm,1.7s
GKP Gorka Klasztor 60.08 21 *e*P **P 16 18 21.5 +0.3**
GKP *e*S **S 16 26 37.8 +3.7**
GKP *e*L L 16 44 11.9
comp=Z,26μm,21.1s
AC06 Mina Casimiro 60.11 239 P **P 16 18 21.6 -0.4**
AC06 IAmb IAmb 16 18 24.3
comp=Z,135nm,1.5s
ILGA Ilgaz 60.12 40 P **P 16 18 21.9 -0.2**
ILGA IAmb IAmb 16 18 31.9
comp=Z,245nm,1.4s
AROD Rodeo 60.17 236 *e*P **P 16 18 21.1 -1.7**
MACC Macarena, Meta 60.20 273 P **P 16 18 23.5 +0.6**
comp=Z,2μmcomp=Z,161nm,1.1s
LVV L'vov 60.23 27 P **P 16 18 20.3 -2.0**
BEL Belsk 60.31 24 *e*P **P 16 18 24.4 +1.6**
BEL *e*PPP PPP 16 22 00.3
BEL *e*S **S 16 26 42.2 +5.1**
BEL *e*L L 16 40 27.0
comp=Z,425μm,29.1s
MUD Monsted U'grnd 60.37 14 *i* P **P 16 18 22.0 -1.1**
MUD IAmb IAmb 16 18 29.3
comp=Z,73nm,1.0s
MUD IAMs_20 IAMs_20 16 46 06.8
comp=Z,25μm,15.7s
MUD IVMs_BB IVMs_BB 16 46 10.5
comp=Z,9μm,16.0s
ASAL Salagasta 60.42 233 *e*P **P 16 18 22.3 -1.8**
BNN Bunyan 60.42 43 ⇑P **P 16 18 25.0 +1.0**
RTLS Leoncito 60.53 234 *e*P **P 16 18 23.1 -2.1**
AAGR Agrelo 60.58 232 *e*P **P 16 18 21.4 -3.8**
ARCO CERRO ARCO 60.58 233 *e*P **P 16 18 23.8 -1.5**
GAZ Gaziantep 60.59 45 ⇑P **P 16 18 26.2 +1.1**
CO01 Juntas del Tor 60.63 236 P **P 16 18 25.4 -0.4**
CO01 IAmb IAmb 16 18 38.8
comp=Z,150nm,1.4s
AUSP Uspallata 60.74 233 *e*P **P 16 18 26.0 -0.5**
R9F13 Warsaw-Wawer 60.75 24 *e*P **P 16 18 26.4 +0.6**
BZK Bozkurt 60.78 39 IAmb IAmb 16 18 42.1
comp=Z,142nm,1.1s
LUNU Lund 60.81 17 *e*P **P 16 18 26.2 +0.1**
ROSC El Rosal 60.83 276 IAmb IAmb 16 18 34.4
comp=Z,152nm,0.9s
ROSC El Rosal 60.83 276 P **P 16 18 27.7 +0.1**
comp=Z,69nm,0.7s,baz=120,slow=7.9,SNR=22
ROSC LR LR 16 41 29.8
comp=Z,20μm,21.2s,baz=111,slow=33
comp=Z,69nm,0.7s
ROSC El Rosal 60.83 276 P **P 16 18 29.5 +1.9**
comp=Z,6μmcomp=Z,4μmcomp=Z,209nm,0.9s
LCO Las Campanas 60.85 237 P **P 16 18 26.6 -0.7**
LCO Las Campanas 60.85 237 P **P 16 18 26.6 -0.7**
LCO pmax pmax
comp=Z,86nm,1.3s
LCO MLR MLR
comp=Z,6μm,22.0s
LCO Las Campanas 60.85 237 ⇓P **P 16 18 29.6 +2.2**
PURM Purcari 60.97 33 ⇓P **P 16 18 27.5 0.0**
BJUU Bjuv 61.07 17 *e*P **P 16 18 27.4 -0.5**
PTLC Puerto Leguiza 61.09 271 P **P 16 18 29.4 +0.5**
comp=Z,5μmcomp=Z,108nm,1.8s
SORM Soroca 61.18 31 ⇓P **P 16 18 27.0 -1.8**
SORM Soroca 61.18 31 ⇓P **P 16 18 27.0 -1.8**
GO04 Tololo Observa 61.27 236 IAmb IAmb 16 18 33.0
comp=Z,113nm,0.9s
GO04 Tololo Observa 61.27 236 ⇓P **P 16 18 29.8 -0.4**
PRAC Prado 61.32 275 P **P 16 18 30.9 +0.4**
comp=Z,4μmcomp=Z,4μmcomp=Z,201nm,2.0s
CO05 La Serena 61.56 236 IAmb IAmb 16 18 34.3
comp=Z,127nm,1.1s
CO05 IAMs_20 IAMs_20 16 43 46.9
comp=Z,18μm,19.0s
ZARC Zaragoza, Cauc 61.58 279 P **P 16 18 30.8 -1.4**
comp=Z,175nm,1.0s
SNART Snartemo 61.62 12 *i* P **P 16 18 33.0 +1.4**
MT08 Bocatoma Ro 61.64 232 IAmb IAmb 16 18 36.0
comp=Z,146nm,1.6s
DEL Delary 61.65 17 *e*P **P 16 18 27.7 -4.1**
ORTC Ortega, Tolima 61.69 275 P **P 16 18 33.5 +0.5**
comp=Z,4μmcomp=Z,2μmcomp=Z,128nm,1.1s
CO02 Combarbal 61.73 235 IAmb IAmb 16 18 36.0
comp=Z,138nm,1.1s
CO02 Combarbal 61.73 235 ⇑P **P 16 18 33.2 +0.1**
FABU Falkenberg 61.78 16 *e*P **P 16 18 33.0 +0.3**

HOMB Homborsund 61.84 13 *e*P **P 16 18 33.0 0.0**
HOMB IVmB_BB 16 18 39.8
comp=Z,1μm,3.5s
HOMB *i* 16 22 23.3
HOMB *e*S **S 16 26 55.6 -0.7**
HOMB *i* 16 33 50.8
VA03 San Esteban 61.85 233 IAmb IAmb 16 18 36.5
comp=Z,196nm,1.6s
VA03 IAMs_20 IAMs_20 16 42 04.6
comp=Z,18μm,22.0s
GUY2C Guyana, Caldas 61.90 277 P **P 16 18 34.4 -0.5**
comp=Z,4μmcomp=Z,1μmcomp=Z,80nm,0.7s
ONAU Onsala 61.91 15 *e*P **P 16 18 32.8 -0.7**
LMEL Las Melosas 61.92 232 IAmb IAmb 16 18 37.9
comp=Z,97nm,1.2s
LMEL IAMs_20 IAMs_20 16 44 02.7
comp=Z,18μm,19.0s
FLOC Florencia 61.98 272 P **P 16 18 34.2 -0.8**
FLOC Florencia 61.98 272 P **P 16 18 36.3 +1.3**
comp=Z,4μmcomp=Z,3μmcomp=Z,224nm,1.1s
KMY Karmoy 62.03 11 *e*P **P 16 18 34.9 +0.5**
KMY *e* 16 20 51.7
KMY *i* 16 22 23.6
KMY *e* 16 26 36.1
KMY IVMs_BB IVMs_BB 16 46 48.2
comp=Z,11μm,21.0s
MT16 CCHEN 62.03 232 IAmb IAmb 16 18 47.1
comp=Z,176nm,1.2s
MT16 IAMs_20 IAMs_20 16 44 18.7
comp=Z,16μm,20.0s
MT03 Universidad Ad 62.05 232 IAmb IAmb 16 18 44.8
comp=Z,176nm,1.1s
MT03 IAMs_20 IAMs_20 16 44 19.0
comp=Z,18μm,20.0s
RNPP5 Staryi Chortor 62.06 27 P **P 16 18 32.7 -2.0**
PEL Peldehue 62.07 233 IAmb IAmb 16 18 37.9
comp=Z,264nm,1.6s
PEL IAMs_20 IAMs_20 16 42 11.4
comp=Z,13μm,21.0s
PEL Peldehue 62.07 233 *e*P **P 16 18 34.6 -0.6**
CO06 Fray Jorge 62.10 236 IAmb IAmb 16 18 38.4
comp=Z,173nm,1.1s
OPO Ambohidratompo 62.13 110 LR LR 16 40 04.4
comp=Z,9μm,21.8s,baz=220,slow=31
HELC Santa Helena 62.13 278 P **P 16 18 36.1 -0.2**
comp=Z,5μmcomp=Z,1μmcomp=Z,66nm,2.0s
SJCC San Jacinto, C 62.15 282 P **P 16 18 36.8 +0.7**
comp=Z,2μmcomp=Z,139nm,0.9s
MT05 Renca 62.19 233 IAMs_20 IAMs_20 16 44 05.9
comp=Z,11μm,20.0s
ABPO Ambohimpanom 62.23 111 P **P 16 18 38.5 +1.8**
ABPO IAmb IAmb 16 18 57.1
comp=Z,184nm,1.8s
ABPO Ambohimpanom 62.23 111 P **P 16 18 38.5 +1.8**
ABPO pmax pmax
comp=Z,184nm,1.8s
ABPO MLR MLR
comp=Z,10μm,20.0s
ABPO Ambohimpanom 62.23 111 ⇑P **P 16 18 39.2 +2.5**
ARPR Arapgir-MALATY 62.25 44 IAMs_20 IAMs_20 16 50 14.4
comp=Z,10μm,18.0s
UREC San Jos de Ur 62.27 279 P **P 16 18 36.3 -0.5**
comp=Z,33nm,1.0s
BO04 La Punta 62.28 232 IAmb IAmb 16 18 39.8
comp=Z,193nm,1.2s
BO04 IAMs_20 IAMs_20 16 44 14.3
comp=Z,15μm,20.0s
ROC1 El Roble 62.28 233 *e*P **P 16 18 33.9 -3.0**
VOI Vohitsoka 62.32 114 P **P 16 18 37.6 +0.4**
VOI IAmb IAmb 16 18 56.5
comp=Z,153nm,1.5s
VOI IAMs_20 IAMs_20 16 42 06.6
comp=Z,15μm,22.0s
VOI Vohitsoka 62.32 114 ⇑P **P 16 18 39.4 +2.2**
BORU Boraas 62.34 16 *i* P **P 16 18 36.0 -0.4**
VA06 Catapilco 62.38 234 IAmb IAmb 16 18 44.3
comp=Z,80nm,1.0s
VA06 IAMs_20 IAMs_20 16 42 21.8
comp=Z,18μm,22.0s
TJOU Tjoern 62.39 15 *i* P **P 16 18 37.0 +0.3**
BLS5 Blasjo 62.46 11 *e*P **P 16 18 37.8 +0.5**
BLS5 *i* 16 22 22.9
BLS5 *e*S **S 16 27 03.3 -0.9**
BLS5 IVMs_BB IVMs_BB 16 48 47.9
comp=Z,9μm,14.6s
SIM Simferopol' 62.47 36 *e*P **P 16 18 36.8 -0.8**
SIM *e*S **S 16 27 03.0 -1.8**
SIM pmax pmax
comp=Z,370nm,2.0s
SIM pmax pmax
comp=Z,710nm,10.0s
SIM pmax pmax
comp=N,1μm,11.0s
SIM pmax pmax
comp=Z,3μm,13.0s
SIM smax smax
comp=N,2μm,10.0s
MT02 Curacav 62.47 233 IAmb IAmb 16 18 40.2
comp=Z,199nm,1.6s
MT02 IAMs_20 IAMs_20 16 42 23.2
comp=Z,13μm,22.0s
MT09 Talagante 62.51 232 IAmb IAmb 16 18 41.1
comp=Z,145nm,1.1s
MT09 IAMs_20 IAMs_20 16 44 32.4
comp=Z,14μm,19.0s
RAYN Ar Rayn 62.52 63 P **P 16 18 39.4 +1.0**
RAYN IAmb IAmb 16 18 50.4
comp=Z,136nm,1.2s
RAYN Ar Rayn 62.52 63 IAMs_20 IAMs_20 16 47 06.1
comp=Z,12μm,19.0s
RAYN Ar Rayn 62.52 63 P **P 16 18 40.0 +1.7**
RAYN Ar Rayn 62.52 63 *i* P **P 16 18 40.3 +1.9**
SNR=38
RAYN Ar Rayn 62.52 63 ⇓P **P 16 18 39.9 +1.5**
RAYN Ar Rayn 62.52 63 ⇑P **P 16 18 40.1 +1.7**
EFI East Falkland 62.54 209 P **P 16 18 37.7 -0.2**
EFI IAmb IAmb 16 18 41.9
comp=Z,110nm,1.2s
EFI East Falkland 62.54 209 *ce*P **P 16 18 39.1 +1.2**
EFI pmax pmax
comp=Z,110nm,1.3s
EFI MLR MLR
comp=Z,19μm,18.0s
EFI East Falkland 62.54 209 ⇑P **P 16 18 38.3 +0.4**
CBOC Ciudad Bolivar 62.59 277 P **P 16 18 39.1 -0.1**
comp=Z,2μmcomp=Z,150nm,1.1s
BO02 Sierra Bellavi 62.68 231 IAmb IAmb 16 18 42.5
comp=Z,114nm,1.2s
BO02 Sierra Bellavi 62.68 231 ⇑P **P 16 18 39.3 0.0**
MI28 Mi28,Pidlybu 62.68 28 P **P 16 18 36.9 -2.0**
MT01 Popeta 62.75 232 IAmb IAmb 16 18 41.7
comp=Z,144nm,1.6s
MT01 IAMs_20 IAMs_20 16 44 38.6
comp=Z,14μm,18.0s
BO01 Tunca 62.79 232 IAMs_20 IAMs_20 16 44 19.6
comp=Z,11μm,20.0s
VA01 Torpederas 62.80 233 IAmb IAmb 16 18 43.0
comp=Z,120nm,1.1s
VA01 IAMs_20 IAMs_20 16 42 33.8
comp=Z,18μm,22.0s
SUW Suwalki 62.91 23 *e*P **P 16 18 40.1 -0.2**
SUW *e*S **S 16 27 16.3 +6.4**
SUW *e*L L 16 42 33.8
comp=Z,18μm,28.7s
SUW Suwalki 62.91 23 IAMs_20 IAMs_20 16 49 00.5
comp=Z,13μm,19.0s
SUW Suwalki 62.91 23 ⇓P **P 16 18 40.1 -0.2**
MASC Masc 62.91 293 *e*P **P 16 18 43.8 +2.8**
ODD1 Odda 62.95 11 *e*P **P 16 18 40.3 -0.2**
ODD1 *e*S **S 16 27 08.8 -1.5**
ODD1 IVMs_BB IVMs_BB 16 49 04.2
comp=Z,8μm,14.8s
POPC Popayan, Colom 63.05 273 P **P 16 18 42.2 -0.1**
comp=Z,4μmcomp=Z,1μmcomp=Z,77nm,1.5s
FOMA Nahampoana Res 63.09 117 IAMs_20 IAMs_20 16 42 28.1
comp=Z,18μm,20.0s
BER Bergen 63.14 10 *e*P P 16 18 34.2 -7.5
BER *i* 16 26 56.4
BER IVMs_BB IVMs_BB 16 46 18.7
comp=Z,12μm,16.3s
STRU Stroemstad 63.16 14 *i* P **P 16 18 40.9 -1.0**
AK17 Malin Array Si 63.18 29 P **P 16 18 40.2 -2.0**
ASK Askoy 63.21 10 *e*P **P 16 18 42.2 0.0**
ASK *e*S **S 16 27 13.2 -0.3**
ASK IVMs_BB IVMs_BB 16 47 47.0
comp=Z,11μm,17.0s

KIEV Kiev 63.26 29 P **P 16 18 41.2 -1.5**
KIEV IAmb IAmb 16 18 51.1
comp=Z,238nm,1.3s
KIEV Kiev 63.26 29 *i* P **P 16 18 41.1 -1.5**
SNR=23
KIEV Kiev 63.26 29 P **P 16 18 41.2 -1.5**
KIEV pmax pmax
comp=Z,238nm,1.3s
KIEV MLR MLR
comp=Z,20μm,19.0s
KIEV Kiev 63.26 29 ⇓P **P 16 18 42.1 -0.6**
AKASG Malin Array Be 63.27 29 P **P 16 18 41.2 -1.6**
AKASG Malin Array Be 63.27 29 P **P 16 18 42.1 -0.7**
comp=Z,2.9nm,0.6s,baz=230,slow=5.7,SNR=40
AKASG LR LR 16 48 31.0
comp=Z,15μm,18.2s,baz=235,slow=38
comp=Z,2.9nm,0.6s
AKBB Malin Array Si 63.27 29 *ce*P **P 16 18 42.1 -0.7**
AKBB pmax pmax
comp=Z,382nm,2.0s
AKBB MLR MLR
comp=Z,16μm,16.0s
AKBB Malin Array Si 63.27 29 P **P 16 18 40.8 -2.0**
APAC Apartado, Choc 63.32 279 P **P 16 18 46.3 +2.5**
comp=Z,6μmcomp=Z,2μmcomp=Z,175nm,1.0s
KONO Kongsberg 63.34 13 P **P 16 18 42.0 -1.1**
KONO Kongsberg 63.34 13 IAMs_20 IAMs_20 16 46 25.1
comp=Z,16μm,19.0s
KONO Kongsberg 63.34 13 ⇓P **P 16 18 42.6 -0.4**
KONO Kongsberg 63.34 13 *e*P **P 16 18 42.8 -0.2**
KONO *i* 16 22 37.1
KONO *e*S **S 16 27 15.2 +0.2**
QMBU Quimbuelo 63.45 293 *e*P **P 16 18 44.5 -0.1**
GO05 Hualane 63.64 231 ⇓P **P 16 18 45.3 -0.3**
GTBY Guantanamo Bay 63.67 293 *e*P **P 16 18 43.1 -2.9**
SUE Sulen 63.67 10 *e*P **P 16 18 47.0 +1.8**
SUE *e*S **S 16 27 23.2 +4.0**
SUE *e* 16 34 19.7
SUE IVMs_BB IVMs_BB 16 47 21.5
comp=Z,11μm,15.0s
BI02 San Fabin de 63.68 229 IAmb IAmb 16 18 48.4
comp=Z,149nm,1.4s
MOAC Moa 63.68 294 *e*P P 16 18 41.1 -4.9
NMDO Nuevo Mundo 63.68 294 P **P 16 18 44.9 -1.2**
NMDO IAmb IAmb 16 19 03.7
comp=Z,182nm,1.4s
NMDO Nuevo Mundo 63.68 294 *e*P **P 16 18 44.5 -1.6**
BONI La Bonita 63.82 271 P **P 16 18 47.1 -0.4**
comp=Z,1μmcomp=Z,63nm,1.1s
OSL Oslo 63.85 13 *e*P **P 16 18 47.6 +1.2**
OSL *e*S **S 16 27 23.1 +1.7**
OSL *i* 16 34 28.9
SABCS La Quijada 63.94 293 *e*P **P 16 18 47.1 -0.8**
SKAR Skarslía 63.99 12 *e*P **P 16 18 50.3 +2.8**
SKAR *e*S **S 16 27 20.9 -2.5**
HYA Hoyanger 64.03 11 *e*P **P 16 18 52.1 +4.6**
HYA *i* 16 23 00.2
HYA *e*S **S 16 27 22.4 -1.2**
HYA IVMs_BB IVMs_BB 16 46 47.4
comp=Z,9μm,12.1s
SBV Sambava 64.12 104 P P 16 18 55.1 +6.1
SNR=6.1
RCC Rio Carpintero 64.22 293 *e*P **P 16 18 48.4 -1.2**
FOO Floro 64.23 10 *e*P **P 16 18 49.3 +0.5**
FOO IVmB_BB 16 18 56.0
comp=Z,2μm,4.7s
FOO *e*S **S 16 27 25.1 -0.9**
ANN Anapa 64.39 38 *e*P **P 16 18 49.3 -1.0**
ANN *e**PP **pP 16 18 51.6 -1.2**
ANN *e* 16 21 08.0
ANN *e*S **S 16 27 25.5 -3.2**
ANN *e*SS **SS 16 31 37.7 -1.2**
ANN pmax pmax
comp=Z,127nm,1.3s
PINC Pinares de May 64.41 293 *e*P **P 16 18 48.4 -2.4**
MARVS Santiago de Cu 64.41 293 *e*P **P 16 18 51.1 +0.2**
PIAT Ana Tenorio 64.53 269 P **P 16 18 51.5 -0.8**
comp=Z,1μmcomp=Z,35nm,1.6s
PLCA Paso Flores 64.60 225 P **P 16 18 51.1 -0.8**
comp=Z,18nm,1.0s,baz=71,slow=6.0,SNR=15
PLCA LR LR 16 42 25.3
comp=Z,18μm,21.8s,baz=78,slow=32
comp=Z,18nm,1.0s
PLCA Paso Flores 64.60 225 ⇓P **P 16 18 51.6 -0.3**
PLCA Paso Flores 64.60 225 *e*P **P 16 18 51.8 -0.1**
CUSE Cuicocha Este 64.69 271 P **P 16 18 56.8 +3.4**
ATAH Atahualpa 64.73 263 P **P 16 18 53.5 -0.1**
comp=Z,8.5nm,0.8s,baz=86,slow=2.4,SNR=9.3
ATAH LR LR 16 45 47.5
comp=Z,9μm,21.1s,baz=109,slow=35
comp=Z,8.5nm,0.8s
HLGC Holguin 64.73 294 *e*P **P 16 18 52.4 -0.6**
OTAV Otavalo 64.74 271 P **P 16 18 52.4 -1.3**
OTAV Otavalo 64.74 271 ⇑P **P 16 18 56.1 +2.3**
OTAV Otavalo 64.74 271 *e*P **P 16 18 52.3 -1.4**
OTAV Otavalo 64.74 271 P **P 16 18 52.8 -0.9**
OTAV Otavalo 64.74 271 P **P 16 18 56.0 +2.3**
comp=Z,3μmcomp=Z,1μmcomp=Z,47nm,1.3s
HFS Hagfors 64.75 15 P **P 16 18 52.0 -0.3**
comp=Z,11nm,0.6s,baz=197,slow=4.6,SNR=19
HFS LR LR 16 48 19.5
comp=Z,25μm,18.8s,baz=215,slow=37
comp=Z,11nm,0.6s
GO06 Curarrehue 64.84 226 ⇑P **P 16 18 53.1 -0.4**
CHIV Chivirico 64.88 293 ⇑*e*P **P 16 18 51.8 -2.2**
NB2 NORSAR Subarra 64.94 13 P **P 16 18 52.8 -0.9**
comp=Z,364nm,2.0s,baz=208,slow=6.9
NB2 NORSAR Subarra 64.94 13 P **P 16 18 52.8 -0.9**
comp=Z,364nm,2.0s,baz=208,slow=6.9
NOA NORSAR Array B 64.94 13 P **P 16 18 52.9 -0.7**
comp=Z,4.9nm,0.7s,baz=207,slow=6.7,SNR=11
NOA LR LR 16 49 24.5
comp=Z,10μm,18.1s,baz=210,slow=38
comp=Z,4.9nm,0.7s
NACGM Naroch 65.01 24 *e*P **P 16 18 54.6 +0.5**
comp=Z,147nm,1.1s,baz=226
AKN Aaknes 65.11 11 *e*P **P 16 18 59.4 +4.6**
NC303 NORSAR Array S 65.14 13 IAmb IAmb 16 19 17.3
comp=Z,156nm,1.2s
BI05 Punta Hualpn 65.16 230 IAmb IAmb 16 18 58.9
comp=Z,235nm,1.3s
BI05 IAMs_20 IAMs_20 16 43 43.6
comp=Z,16μm,21.0s
MNK Minsk 65.19 25 *i* P **P 16 18 56.0 +0.7**
comp=E,29nm,1.0s
MNK *i* P **P 16 18 56.0 +0.7**
comp=N,19nm,0.9s
MNK *i* P **P 16 18 56.0 +0.7**
comp=Z,50nm,0.8s,baz=227
MNK *i* PPP PPP 16 22 45.5
MNK *i* SSS SSS 16 34 40.8
MNK *i* LQ LQ 16 41 56.7
MNK *i* LR LR 16 48 04.6
MNK *i* LRM MLR 16 50 24.8
comp=N,12μm,15.6s
MNK *i* LRM MLR 16 50 30.6
comp=Z,23μm,14.5s
MNK *i* LRM MLR 16 50 34.6
comp=E,18μm,15.4s
MNK Minsk 65.19 25 *c i* P **P 16 18 56.0 +0.7**
SOC Sochi 65.24 40 *e*P **P 16 18 54.9 -1.0**
SOC *e* 16 21 15.8
SOC *e*PPP PPP 16 22 50.5
SOC *e*S **S 16 27 38.8 -0.4**
SOC *e*SS **SS 16 31 55.5 +3.3**
SOC *e* 16 34 47.0
SOC MLR MLR
comp=Z,8μm,17.0s
DOMB Dombas 65.39 12 *e*P **P 16 18 57.0 +0.5**
DOMB *i* 16 23 18.7
DOMB *e*S **S 16 27 40.6 +0.1**
DOMB IVMs_BB IVMs_BB 16 47 25.2
comp=Z,12μm,17.2s
VSLR Vesyoloye 65.39 40 *i* P **P 16 18 56.7 -0.1**
LMGC Las Mercedes 65.44 293 *e*P **P 16 18 53.8 -3.8**
LR03 Panguipulli 65.49 226 IAMs_20 IAMs_20 16 43 01.3
comp=Z,18μm,22.0s
COHC Cochancay 65.51 268 P **P 16 18 56.8 -1.3**
COHC Cochancay 65.51 268 P **P 16 18 57.5 -0.7**
comp=Z,2μmcomp=Z,104nm,1.1s
MOL Molde 65.58 11 *e*P **P 16 18 57.8 +0.2**
MOL *e*S **S 16 27 43.6 +1.0**
MTDJ Mount Denham 65.60 291 *e*P **P 16 18 57.7 -1.1**
KBD Kabd 65.89 57 P **P 16 19 02.0 +1.6**
KBD S **S 16 27 44.9 -2.8**

BORG Borgarnes 66.00 356 LR LR 16 43 13.5
comp=Z,6μm,21.2s,baz=167,slow=32
BORG Borgarnes 66.00 356 ⇓P **P 16 19 04.5 +4.1**
LL03 Petrohue 66.06 225 IAMs_20 IAMs_20 16 44 02.4
comp=Z,15μm,20.0s
MCRA Macar, Loja 66.21 266 P **P 16 19 02.3 -0.5**
comp=Z,1μmcomp=Z,31nm,0.9s
G65A Princeton 66.25 321 IAMs_20 IAMs_20 16 41 34.2
comp=Z,12μm,20.0s
BATG Bathurst New B 66.35 324 P **P 16 19 02.5 -0.5**
CCCC Cccc 66.36 294 ⇓*e*P P 16 18 52.4 -11
LABN Labinsk 66.37 39 *e*P **P 16 19 02.8 -0.4**
LABN *e* 16 21 25.6
LABN *e*S **S 16 27 51.6 -1.5**
LABN pmax pmax
comp=Z,170nm,1.3s
LL02 Futaleuf 66.42 223 IAmb IAmb 16 19 07.0
comp=Z,188nm,1.2s
LL02 Futaleuf 66.42 223 ⇓P **P 16 19 03.0 -0.5**
LL01 San Ignacio de 66.51 224 IAmb IAmb 16 19 06.4
comp=Z,125nm,1.4s
LL01 IAMs_20 IAMs_20 16 46 10.4
comp=Z,14μm,20.0s
BCIP Isla Barro Col 66.64 280 P **P 16 19 06.5 +1.1**
ERBR Yeremizino-Bor 66.72 38 *e*P **P 16 19 04.3 -1.1**
ERBR *e* 16 21 30.0
ERBR *e*S **S 16 27 54.6 -2.7**
ERBR pmax pmax
comp=Z,101nm,1.1s
NRS Narsarsuaq 66.75 344 *i* P **P 16 19 08.4 +3.2**
NRS *i* 16 19 08.4
NRS IAmb IAmb 16 19 14.3
comp=Z,129nm,1.2s
NRS IAMs_20 IAMs_20 16 46 38.0
comp=Z,7μm,18.0s
LL05 Los Muermos 66.91 225 IAMs_20 IAMs_20 16 43 25.9
comp=Z,14μm,22.0s
L64A Middleborough 66.95 317 IAMs_20 IAMs_20 16 41 51.9
comp=Z,15μm,20.0s
F64A Sherman 67.05 322 IAMs_20 IAMs_20 16 41 18.3
comp=Z,15μm,21.0s
GNI Garni 67.18 45 P **P 16 19 08.3 -0.3**
GNI Garni 67.18 45 LR LR 16 52 06.2
comp=Z,4μm,18.9s,baz=270,slow=39
GNI Garni 67.18 45 P **P 16 19 09.1 +0.5**
GNI S **S 16 27 59.0 -4.4**
GNI Garni 67.18 45 *ce*P **P 16 19 09.9 +1.3**
GNI pmax pmax
comp=Z,154nm,2.5s
GNI MLR MLR
comp=Z,7μm,16.0s
GNI Garni 67.18 45 ⇑P **P 16 19 09.4 +0.7**
SHA1 Shidzhatmaz 67.22 41 *i* P **P 16 19 08.3 -0.6**
WVL Waterville 67.29 320 IAMs_20 IAMs_20 16 42 30.7
comp=Z,13μm,21.0s
KIV Kislovodsk 67.33 41 P **P 16 19 09.0 -0.4**
KIV Kislovodsk 67.33 41 P **P 16 19 09.2 -0.2**
KIV P **P 16 19 09.2 -0.2**
KIV Kislovodsk 67.33 41 *i* P **P 16 19 08.8 -0.6**
SNR=22
KIV Kislovodsk 67.33 41 *e*P **P 16 19 08.9 -0.5**
KIV *e* 16 21 36.5
KIV *e*PPP PPP 16 23 13.0
KIV *e*S **S 16 28 04.5 -0.4**
KIV pmax pmax
comp=Z,109nm,1.1s
KIV pmax pmax
comp=Z,221nm,4.2s
KIV MLR MLR
comp=Z,5μm,17.0s
KIV Kislovodsk 67.33 41 ⇑P **P 16 19 09.0 -0.4**
KIV Kislovodsk 67.33 41 P **P 16 19 09.7 +0.3**
KVAR Kislovodsk Arr 67.33 41 LR LR 16 50 46.7
comp=Z,4μm,18.6s,baz=74,slow=38
BCX Boston College 67.34 317 IAMs_20 IAMs_20 16 42 04.1
comp=Z,18μm,22.0s
PKME Peaks-Kenny Pk 67.37 321 IAMs_20 IAMs_20 16 42 34.7
comp=Z,12μm,20.0s
KBZ Khabaz 67.37 41 P **P 16 19 09.0 -0.5**
comp=Z,24nm,1.1s,baz=244,slow=5.3,SNR=23
KBZ LR LR 16 52 23.7
comp=Z,6μm,20.5s,baz=237,slow=39
comp=Z,24nm,1.1s
KBZ Khabaz 67.37 41 *i* P **P 16 19 09.7 +0.2**
KBZ pmax pmax
comp=Z,68nm,1.1s
KBZ MLR MLR
comp=Z,8μm,23.0s
WES Weston 67.46 317 IAMs_20 IAMs_20 16 42 27.4
comp=Z,17μm,20.0s
VSU Vasula 67.51 22 *ce*P **P 16 19 11.5 +1.5**
VSU pmax pmax
comp=Z,85nm,1.7s
VSU MLR MLR
comp=Z,16μm,17.0s
VSU Vasula 67.51 22 ⇓P **P 16 19 10.4 +0.4**
SMRA Abu-Samra 67.53 63 P **P 16 19 12.4 +1.5**
SNR=31
SMRA S **S 16 28 05.9 -1.8**
SAKB Bahrain 67.54 61 P **P 16 19 12.2 +1.3**
M63A Gales Ferry 67.57 316 IAMs_20 IAMs_20 16 42 38.2
comp=Z,16μm,20.0s
IVI Ivigtut 67.58 343 P **P 16 19 11.4 +0.9**
IVI Ivigtut 67.58 343 ⇑P **P 16 19 13.2 +2.8**
IVI Ivigtut 67.58 343 *i* P **P 16 19 13.0 +2.5**
IVI IAmb IAmb 16 19 19.9
comp=Z,77nm,1.1s
GO07 Milladeo Hill, 67.63 223 IAMs_20 IAMs_20 16 46 04.2
comp=Z,13μm,19.0s
HRV Adam Dziewonsk 67.67 317 IAMs_20 IAMs_20 16 42 12.9
comp=Z,16μm,20.0s
NCK Nalchik 67.73 41 *i* P **P 16 19 12.6 +0.7**
NCK pmax pmax
comp=Z,153nm,1.7s
TRNA Turayna 67.87 63 P **P 16 19 16.0 +2.9**
SNR=26
TRNA S **S 16 28 10.8 -1.0**
SHMA Al-Shehemyia 67.89 62 P **P 16 19 16.6 +3.5**
SNR=26
GOF Gofitskoye 68.03 40 *ce*P **P 16 19 15.6 +1.9**
D62A Allapoint, All 68.05 323 P **P 16 19 14.0 +0.3**
D62A IAMs_20 IAMs_20 16 42 12.6
comp=Z,15μm,22.0s
I62A Tamworth 68.08 319 IAMs_20 IAMs_20 16 41 47.7
comp=Z,15μm,22.0s
E62A Clayton Lake 68.12 322 IAMs_20 IAMs_20 16 42 01.6
comp=Z,18μm,22.0s
G62A West of Eustis 68.13 320 IAMs_20 IAMs_20 16 42 35.9
comp=Z,12μm,21.0s
CAIB Caibarien 68.16 295 *e*P **P 16 19 13.7 -1.2**
K62A Royalston 68.19 317 IAMs_20 IAMs_20 16 42 28.7
comp=Z,15μm,20.0s
NSS Namsos 68.21 12 *e*P **P 16 19 16.9 +2.5**
NSS *e*S **S 16 28 15.2 +0.8**
NSS *e*SS **SS 16 32 37.3 -0.1**
WSPT Westport, CT 68.37 316 IAMs_20 IAMs_20 16 41 47.5
comp=Z,16μm,21.0s
N62A Caumsett State 68.38 315 IAMs_20 IAMs_20 16 42 17.7
comp=Z,13μm,20.0s
L61B Northampton 68.41 317 IAMs_20 IAMs_20 16 42 46.5
comp=Z,14μm,21.0s
AY03 Cochrane 68.47 219 IAmb IAmb 16 19 20.3
comp=Z,150nm,1.6s
MGV Manicaragua 68.55 294 *e*P **P 16 19 19.0 +1.6**
VORD Divnogorie 68.62 33 *e*P **P 16 19 15.3 -1.9**
VORD pmax pmax
comp=Z,80nm,0.8s
VORD MLR MLR
comp=Z,5μm,14.0s
LBNH Lisbon 68.62 319 IAMs_20 IAMs_20 16 42 16.9
comp=Z,15μm,22.0s
HNH Hanover 68.64 318 IAMs_20 IAMs_20 16 42 45.5
comp=Z,16μm,20.0s
VSR Storozhevoye 68.68 33 *e*P **P 16 19 15.4 -2.2**
VSR pmax pmax
comp=Z,110nm,1.1s
VSR MLR MLR
comp=Z,19μm,16.0s
J61A Chester 68.68 318 IAMs_20 IAMs_20 16 42 56.5
comp=Z,15μm,20.0s
PAL Palisades 68.72 315 IAMs_20 IAMs_20 16 42 27.7
comp=Z,14μm,20.0s
P61A Hammonton 68.88 314 IAMs_20 IAMs_20 16 44 52.9
comp=Z,14μm,18.0s
V61A Roper 68.96 309 IAMs_20 IAMs_20 16 43 06.3
comp=Z,10μm,20.0s

WHFO	**Wadi Hawf**	**69.01**	**70**	P	**P**	**16 19 23.7**	**+3.3**
	SNR=9.3						
WHFO				P	**P**	**16 19 23.7**	**+3.3**
	SNR=9.3						
MG01	**Puerto William**	**69.11**	**210**	IAMs_20	IAMs_20	16 43 21.9	
	comp=Z,13µm,21.0s						
MSEY	**Mahe Island**	**69.18**	**95**	P	**P**	**16 19 20.3**	**-1.2**
MSEY				IAmb	IAmb	16 19 33.5	
	comp=Z,245nm,1.8s						
MSEY	**Mahe Island**	**69.18**	**95**	IAMs_20	IAMs_20	16 47 01.9	
	comp=Z,12µm,20.0s						
MSEY	**Mahe Island**	**69.18**	**95**	P	**P**	**16 19 23.5**	**+2.0**
MSEY				S	**S**	**16 28 25.1**	**-2.8**
MSEY	**Mahe Island**	**69.18**	**95**	P	**P**	**16 19 20.3**	**-1.2**
MSEY				pmax	pmax		
	comp=Z,245nm,1.8s						
MSEY				MLR	MLR		
	comp=Z,12µm,20.0s						
GHWR	**Ruwais**	**69.20**	**64**	P	**P**	**16 19 22.3**	**+0.9**
GHWR				P	**P**	**16 19 22.3**	**+0.9**
GHWR				S	**S**	**16 28 23.0**	**-4.7**
GHWR				S	**S**	**16 28 23.0**	**-4.7**
LPSR	**Galich'ya Gora**	**69.28**	**31**	*e*P	**P**	**16 19 20.7**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,195nm,2.2s						
LPSR				pmax	pmax		
	comp=Z,515nm,2.4s						
RBK	**Rabkut**	**69.36**	**71**	P	**P**	**16 19 27.0**	**+4.4**
	SNR=31						
RBK				P	**P**	**16 19 27.0**	**+4.4**
	SNR=31						
RBK				S	**S**	**16 28 30.6**	**+0.7**
RBK				S	**S**	**16 28 30.6**	**+0.7**
JRN	**Qarnain Island**	**69.37**	**63**	P	**P**	**16 19 24.4**	**+2.0**
	SNR=26						
JRN				S	**S**	**16 28 25.2**	**-4.4**
BRU2	**Volcan**	**69.42**	**280**	IAmb	IAmb	16 19 33.7	
	comp=Z,186nm,1.4s						
FINES	**FINESS Array B**	**69.43**	**19**	P	**P**	**16 19 20.4**	**-1.7**
FINES	**FINESS Array B**	**69.43**	**19**	P	**P**	**16 19 21.4**	**-0.7**
	comp=Z,18nm,0.8s,baz=170,slow=5.8,SNR=27						
FINES				LR	LR	16 51 52.9	
	comp=Z,24µm,19.0s,baz=229,slow=38						
	comp=Z,18nm,0.8s						
DOK	**Doka**	**69.45**	**70**	P	**P**	**16 19 25.7**	**+2.7**
	SNR=19						
DOK				P	**P**	**16 19 25.7**	**+2.7**
	SNR=19						
DOK				S	**S**	**16 28 28.4**	**-2.4**
DOK				S	**S**	**16 28 28.4**	**-2.4**
VNA1	**Neumayer--Stat**	**69.46**	**178**	⇓P	**P**	**16 19 22.9**	**+0.9**
	comp=Z,47nm,1.1s						
VNA1				⇑PcP	**PcP**	**16 19 38.9**	**-6.4**
VNA1				⇑SKSac	**SKSac**	**16 29 29.9**	**+7.9**
USHA	**Ushuaia**	**69.47**	**210**	P	**P**	**16 19 22.6**	**+0.2**
	comp=Z,26nm,1.1s,baz=62,slow=5.9,SNR=3.1						
USHA				LR	LR	16 47 35.6	
	comp=Z,22µm,18.8s,baz=80,slow=34						
	comp=Z,26nm,1.1s						
OBN	**Obninsk**	**69.49**	**28**	P	**P**	**16 19 22.1**	**-0.4**
OBN				IAmb	IAmb	16 19 30.5	
	comp=Z,147nm,1.2s						
OBN	**Obninsk**	**69.49**	**28**	LR	LR	16 51 38.0	
	comp=Z,23µm,20.9s,baz=184,slow=38						
OBN	**Obninsk**	**69.49**	**28**	⇑*i*P	**P**	**16 19 21.2**	**-1.3**
OBN				*e*		16 21 58.7	
OBN				*i*S	**S**	**16 28 29.1**	**-0.8**
OBN				pmax	pmax		
	comp=Z,142nm,1.3s						
OBN				MLR	MLR		
	comp=Z,29µm,23.0s						
MZR	**Muzera**	**69.57**	**65**	P	**P**	**16 19 25.2**	**+1.4**
	SNR=37						
MZR				S	**S**	**16 28 31.9**	**-0.2**
MZR	**Muzera**	**69.57**	**65**	*i*P	**P**	**16 19 25.0**	**+1.3**
	SNR=20						
Y60A	**Bolivia**	**69.74**	**307**	IAMs_20	IAMs_20	16 42 27.0	
	comp=Z,14µm,21.0s						
VNA2	**Neumayer--Watz**	**69.77**	**178**	⇓P	**P**	**16 19 25.0**	**+1.0**
	comp=Z,41nm,0.9s,baz=348,slow=6.6						
VNA2				⇑PcP	**PcP**	**16 19 40.7**	**-5.9**
	baz=345,slow=7.2						
VNA2				⇓S	**S**	**16 28 34.1**	**+1.4**
	baz=352,slow=26						
AKT	**Akhty**	**69.78**	**45**	*e*P	**P**	**16 19 22.0**	**-2.8**
AKT				*e*		16 19 46.3	
AKT				*e*		16 21 59.6	
AKT				*e*PPP	PPP	16 23 39.1	
AKT				*e*S	**S**	**16 28 30.5**	**-3.7**
AKT				*e*		16 29 27.3	
AKT				*e*SS	**SS**	**16 32 58.8**	**-4.1**
AKT				pmax	pmax		
	comp=Z,85nm,1.3s						
LEIR	**Leirfjorden**	**69.83**	**11**	*e*P	**P**	**16 19 28.7**	**+4.2**
LEIR				*e*PP	**PP**	**16 21 59.6**	**+0.6**
LEIR				*e*S	**S**	**16 28 35.9**	**+2.3**
LEIR				*i*		16 36 18.7	
LEIR				IVMs_BB	IVMs_BB	16 50 13.2	
	comp=Z,11µm,15.8s						
060A	**Indiantown**	**69.85**	**299**	IAMs_20	IAMs_20	16 42 25.5	
	comp=Z,12µm,21.0s						
GO09	**Cerro Castillo**	**69.95**	**215**	IAMs_20	IAMs_20	16 46 27.7	
	comp=Z,15µm,20.0s						
CAMR	**Camarioca**	**69.98**	**295**	*e*P	**P**	**16 19 23.6**	**-2.6**
STOK	**Stokkvaagen**	**70.01**	**11**	*e*P	**P**	**16 19 27.8**	**+2.3**
STOK				IVmB_BB		16 19 34.7	
	comp=Z,3µm,4.3s						
STOK				*e*S	**S**	**16 28 36.9**	**+1.3**
STOK				*i*		16 36 24.5	
STOK				IVMs_BB	IVMs_BB	16 50 26.2	
	comp=Z,10µm,19.5s						
VNA3	**Neumayer Olymp**	**70.01**	**179**	⇓P	**P**	**16 19 26.2**	**+0.7**
	comp=Z,28nm,1.0s						
VNA3				⇑PcP	**PcP**	**16 19 42.1**	**-5.6**
VNA3				⇓S	**S**	**16 28 37.3**	**+1.6**
VNA3				⇓SKSac	**SKSac**	**16 29 20.5**	**-5.8**
J59A	**Piesco**	**70.04**	**317**	IAMs_20	IAMs_20	16 43 26.4	
	comp=Z,13µm,20.0s						
VRH	**Novokhopyorsk**	**70.06**	**33**	*e*P	**P**	**16 19 25.6**	**-0.5**
VRH				*e*S	S	16 28 27.0	-10
VRH				pmax	pmax		
	comp=Z,130nm,1.7s						
VRH				pmax	pmax		
	comp=Z,361nm,2.2s						
VRH				smax	smax		
	comp=E,4µm,15.4s						
MZWR	**Madinat Zayed**	**70.07**	**64**	P	**P**	**16 19 29.8**	**+3.0**
MZWR				P	**P**	**16 19 29.8**	**+3.0**
DMTO	**DMTO**	**70.09**	**71**	P	**P**	**16 19 29.5**	**+2.5**
061Z	**Ochoppi**	**70.09**	**298**	IAMs_20	IAMs_20	16 42 44.9	
	comp=Z,11µm,21.0s						
MOR8	**Moi Rana**	**70.15**	**12**	*e*P	**P**	**16 19 30.2**	**+3.8**
MOR8				IVmB_BB		16 19 34.8	
	comp=Z,5µm,5.5s						
MOR8				*e*S	**S**	**16 28 40.6**	**+3.2**
MOR8				*i*		16 36 24.4	
MAK	**Makhachkala**	**70.15**	**43**	*e*P	**P**	**16 19 22.5**	**-4.4**
MAK				*e*		16 22 00.7	
MAK				*e*PPP	PPP	16 23 46.6	
MAK				*e*S	**S**	**16 28 31.0**	**-7.2**
MAK				pmax	pmax		
	comp=Z,279nm,1.2s						
MG05	**Puerto Natales**	**70.21**	**214**	IAmb	IAmb	16 19 32.4	
	comp=Z,91nm,1.1s						
MG05				IAMs_20	IAMs_20	16 45 57.7	
	comp=Z,12µm,20.0s						
W59A	**Clinton**	**70.24**	**308**	IAMs_20	IAMs_20	16 44 36.1	
	comp=Z,11µm,20.0s						
CBN	**Corbin Frederi**	**70.30**	**311**	IAMs_20	IAMs_20	16 42 26.7	
	comp=Z,10µm,21.0s						
RAUS	**Rausandaksla**	**70.30**	**11**	*e*P	**P**	**16 19 30.1**	**+2.8**
RAUS				IVmB_BB		16 19 32.2	
	comp=Z,3µm,5.1s						
RAUS				*e*S	**S**	**16 28 39.5**	**+0.4**
RAUS				*e*SS	**SS**	**16 33 10.6**	**+1.0**
RAUS				*i*		16 36 29.8	
MOS	**Moscow**	**70.34**	**28**	*e*P	**P**	**16 19 25.4**	**-2.3**
MOS				*e*		16 19 46.8	
MOS				*e*		16 22 01.1	
MOS				*e*S	**S**	**16 28 33.5**	**-6.4**
MOS				pmax	pmax		
	comp=Z,353nm,1.6s						
MOS				pmax	pmax		
	comp=Z,900nm,2.2s						
MOS				MLR	MLR		
	comp=N,15µm,19.0s						
MOS				MLR	MLR		
	comp=Z,22µm,19.0s						
MOS				MLR	MLR		
	comp=E,16µm,20.0s						
VAGH	**Vaagaholmen**	**70.41**	**11**	*e*P	**P**	**16 19 28.2**	**+0.3**
VAGH				IVmB_BB		16 19 29.9	
	comp=Z,3µm,3.7s						
VAGH				*e*S	**S**	**16 28 42.6**	**+2.3**
VAGH				*e*		16 36 25.5	
RER	**Riviere de l'E**	**70.45**	**112**	IAMs_20	IAMs_20	16 47 29.1	
	comp=Z,9µm,19.0s						
LONY	**Lake Ozonia**	**70.52**	**319**	IAMs_20	IAMs_20	16 43 43.2	
	comp=Z,12µm,21.0s						
BINY	**Binghamton**	**70.60**	**316**	IAMs_20	IAMs_20	16 42 44.4	
	comp=Z,16µm,22.0s						
BINY	**Binghamton**	**70.60**	**316**	⇓P	P	16 19 35.2	+5.5
R58B	**Mineral**	**70.61**	**311**	IAMs_20	IAMs_20	16 42 56.8	
	comp=Z,11µm,22.0s						
N58A	**Sunbury**	**70.66**	**314**	IAMs_20	IAMs_20	16 44 34.0	
	comp=Z,14µm,20.0s						
SCHQ	**Schefferville**	**70.69**	**331**	P	**P**	**16 19 29.9**	**-0.1**
SCHQ	**Schefferville**	**70.69**	**331**	P	**P**	**16 19 30.6**	**+0.7**
	comp=Z,113nm,0.8s,baz=142,slow=5.8,SNR=7.2						
SCHQ				LR	LR	16 45 13.9	
	comp=Z,48µm,20.6s,baz=124,slow=32						
	comp=Z,113nm,0.8s						
SNAA	**Sanae**	**70.74**	**176**	⇓P	**P**	**16 19 31.0**	**+1.0**
	comp=Z,459nm,1.0s						
SNAA				⇑PcP	**PcP**	**16 19 46.7**	**-4.1**
SNAA				⇓S	**S**	**16 28 43.9**	**-0.4**
SNAA				⇓SKSac	**SKiKP**	**16 29 21.1**	**+7.9**
SNAA	**Sanae**	**70.74**	**176**	P	**P**	**16 19 29.9**	**-0.1**
SNAA				IAmb	IAmb	16 19 48.6	
	comp=Z,131nm,1.5s						
SNAA	**Sanae**	**70.74**	**176**	P	**P**	**16 19 30.5**	**+0.5**
	comp=Z,26nm,1.0s,baz=345,slow=6.6,SNR=27						
SNAA				LR	LR	16 42 54.0	
	comp=Z,17µm,20.4s,baz=353,slow=29						
	comp=Z,26nm,1.0s						
SNAA	**Sanae**	**70.74**	**176**	*c*P	**P**	**16 19 31.1**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,53nm,1.3s						
SHAO	**Shalim**	**70.77**	**71**	P	**P**	**16 19 34.8**	**+3.6**
	SNR=6.5						
SHAO				S	**S**	**16 28 42.7**	**-3.7**
SHAO	**Shalim**	**70.77**	**71**	*i*P	**P**	**16 19 33.2**	**+2.0**
	SNR=8.8						
X58A	**Rowland**	**70.78**	**307**	IAMs_20	IAMs_20	16 42 58.6	
	comp=Z,15µm,22.0s						
Y58A	**Scranton**	**70.87**	**307**	IAMs_20	IAMs_20	16 45 38.1	
	comp=Z,12µm,19.0s						
NUUK	**Nuuk**	**70.93**	**343**	*e*P	**P**	**16 19 33.4**	**+2.2**
NUUK				IAmb	IAmb	16 19 40.9	
	comp=Z,207nm,1.7s						
V58A	**Windy Hill, Pi**	**70.94**	**309**	IAMs_20	IAMs_20	16 42 56.6	
	comp=Z,12µm,22.0s						
UMZA	**Um Al Zommool**	**71.05**	**66**	P	**P**	**16 19 34.5**	**+1.7**
UMZA				S	**S**	**16 28 45.3**	**-4.1**
NHSC	**New Hope**	**71.08**	**306**	IAMs_20	IAMs_20	16 43 27.7	
	comp=Z,12µm,22.0s						
M57A	**Sunshine Farm,**	**71.11**	**315**	IAMs_20	IAMs_20	16 44 10.1	
	comp=Z,14µm,20.0s						
AJN	**Ajban**	**71.20**	**64**	P	**P**	**16 19 35.0**	**+1.3**
	SNR=20						
AJN				S	**S**	**16 28 50.6**	**-0.6**
AJN	**Ajban**	**71.20**	**64**	*i*P	**P**	**16 19 34.8**	**+1.1**
	SNR=28						
DY2G	**Dye2**	**71.35**	**347**	⇑P	**P**	**16 19 36.4**	**+2.3**
DY2G	**Dye2**	**71.35**	**347**	*e*P	**P**	**16 19 34.2**	**+0.2**
DY2G				IAmb	IAmb	16 19 44.7	
	comp=Z,1µm,1.7s						
S57A	**Dark Hollow, R**	**71.36**	**311**	IAMs_20	IAMs_20	16 44 21.8	
	comp=Z,12µm,20.0s						
FAUS	**Fauske**	**71.37**	**11**	*e*P	**P**	**16 19 36.8**	**+3.0**
FAUS				*e*PP	**PP**	**16 22 11.9**	**-0.2**
FAUS				*e*S	**S**	**16 28 53.9**	**+2.5**
FAUS				IVMs_BB	IVMs_BB	16 51 28.8	
	comp=Z,8µm,14.9s						
T57A	**Hurt**	**71.38**	**310**	IAMs_20	IAMs_20	16 45 38.2	
	comp=Z,11µm,19.0s						
SOR	**Soroa**	**71.43**	**294**	*e*P	**P**	**16 19 36.3**	**+1.2**
SSPA	**Standing Stone**	**71.44**	**314**	P	**P**	**16 19 34.9**	**+0.1**
SSPA	**Standing Stone**	**71.44**	**314**	IAMs_20	IAMs_20	16 44 27.6	
	comp=Z,11µm,20.0s						
SSPA	**Standing Stone**	**71.44**	**314**	⇓P	P	16 19 39.9	+5.1
NVL	**N'lazarevskaya**	**71.45**	**171**	*e*P	**P**	**16 19 38.2**	**+3.9**
NVL				*e*		16 22 18.9	
NVL				*e*PPP	PPP	16 23 57.3	
NVL				*e*S	**S**	**16 28 58.1**	**+5.7**
NVL				*e*SS	**SS**	**16 33 29.6**	**+2.5**
NVL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NVL				smax	smax		
	comp=E,3µm,12.3s						
NVL				MLR	MLR		
	comp=Z,76nm,16.0s						
W57A	**Gilead**	**71.45**	**308**	IAMs_20	IAMs_20	16 43 20.4	
	comp=Z,14µm,22.0s						
TROLL	**Troll, Antarti**	**71.48**	**175**	⇓P	**P**	**16 19 35.1**	**+0.5**
	comp=Z,898nm,0.8s						
TROLL				⇓S	**S**	**16 28 52.0**	**-1.0**
Y57A	**Sumter**	**71.48**	**306**	IAMs_20	IAMs_20	16 44 39.3	
	comp=Z,10µm,20.0s						
257A	**Skidaway Islan**	**71.51**	**304**	IAMs_20	IAMs_20	16 43 24.1	
	comp=Z,13µm,22.0s						
ASUD	**Al Ashush, Dub**	**71.52**	**64**	P	**P**	**16 19 39.0**	**+3.4**
	SNR=14						
ASUD	**Al Ashush, Dub**	**71.52**	**64**	*i*P	**P**	**16 19 36.8**	**+1.2**
	SNR=10						
L56A	**Greenwood**	**71.68**	**315**	IAMs_20	IAMs_20	16 44 19.0	
	comp=Z,13µm,21.0s						
LOF	**Lofoten**	**71.69**	**10**	*e*P	**P**	**16 19 34.9**	**-0.9**
LOF				*e*S	**S**	**16 28 56.0**	**+0.8**
LOF				*i*		16 36 53.5	
JTS	**Las Juntas de**	**71.76**	**281**	LR	LR	16 49 49.2	
	comp=Z,2µm,21.8s,baz=90,slow=35						
JTS	**Las Juntas de**	**71.76**	**281**	*i*P	**P**	**16 19 35.8**	**-1.5**
JTS				pmax	pmax		
	comp=Z,23nm,1.1s						
FAQ	**Al Faqa, Dubai**	**71.78**	**64**	P	**P**	**16 19 40.0**	**+2.8**
	SNR=37						
FAQ				S	**S**	**16 28 53.5**	**-4.3**
FAQ	**Al Faqa, Dubai**	**71.78**	**64**	*i*P	**P**	**16 19 38.2**	**+1.1**
	SNR=40						
ALNE	**Al Ain**	**71.81**	**64**	P	**P**	**16 19 38.3**	**+1.0**
	SNR=79						
ALNE				S	**S**	**16 28 56.9**	**-1.3**
ALNE	**Al Ain**	**71.81**	**64**	*i*P	**P**	**16 19 38.5**	**+1.1**
	SNR=30						
STEI	**Steigen**	**71.83**	**11**	*e*P	**P**	**16 19 37.8**	**+1.3**
STEI				*e*S	**S**	**16 28 57.5**	**+0.7**
STEI				*e*SS	**SS**	**16 33 35.5**	**+2.4**
STEI				IVMs_BB	IVMs_BB	16 51 32.5	
	comp=Z,10µm,20.3s						
NAZ	**Nazwa, Dubai**	**71.88**	**63**	P	**P**	**16 19 40.0**	**+2.2**
	SNR=33						
NAZ				S	**S**	**16 28 58.4**	**-0.6**
NAZ	**Nazwa, Dubai**	**71.88**	**63**	*i*P	**P**	**16 19 38.6**	**+0.8**
	SNR=10						
SIUN	**Universidad Ur**	**71.90**	**285**	P	**P**	**16 19 36.4**	**-1.6**
SIUN				IAmb	IAmb	16 20 04.0	
	comp=Z,51nm,1.2s						
UMQ	**Umm Al-Quwin**	**71.98**	**63**	P	**P**	**16 19 40.2**	**+1.8**
UMQ	**Umm Al-Quwin**	**71.98**	**63**	*i*P	**P**	**16 19 39.5**	**+1.1**
	SNR=6.4						
JMI	**Jan Mayen**	**72.05**	**2**	*e*	P	16 19 44.2	+6.4
456A	**Hilliard**	**72.06**	**303**	IAMs_20	IAMs_20	16 43 47.7	
	comp=Z,16µm,22.0s						
U56A	**King**	**72.07**	**309**	IAMs_20	IAMs_20	16 43 42.8	
	comp=Z,10µm,22.0s						
JMIC	**Jan Mayen**	**72.11**	**2**	LR	LR	16 48 02.4	
	comp=Z,6µm,20.4s,baz=185,slow=33						
JNE	**Jan Mayen East**	**72.12**	**2**	*e*	P	16 19 43.9	+5.7
JNE				*e*S	**S**	**16 29 02.0**	**+2.0**
JNW	**Jan Mayen West**	**72.16**	**2**	*e*	**P**	**16 19 43.0**	**+4.5**
ASHO	**Ashiyiah**	**72.19**	**64**	P	**P**	**16 19 41.0**	**+1.3**
	SNR=81						
ASHO				S	**S**	**16 29 02.4**	**-0.2**
ASHO	**Ashiyiah**	**72.19**	**64**	*i*P	**P**	**16 19 40.4**	**+0.7**
	SNR=34						
HATD	**Hatta, Dubai**	**72.28**	**64**	P	**P**	**16 19 42.0**	**+1.8**
	SNR=98						
HATD				S	**S**	**16 29 03.5**	**-0.1**
HATD	**Hatta, Dubai**	**72.28**	**64**	*i*P	**P**	**16 19 40.9**	**+0.7**
	SNR=35						
BLA	**Blacksburg**	**72.33**	**310**	IAMs_20	IAMs_20	16 46 16.5	
	comp=Z,9µm,20.0s						
UOSS	**Minazif**	**72.36**	**63**	P	**P**	**16 19 40.2**	**-0.4**
UOSS				IAmb	IAmb	16 19 52.0	
	comp=Z,252nm,1.1s						
UOSS	**Minazif**	**72.36**	**63**	IAMs_20	IAMs_20	16 52 07.0	
	comp=Z,10µm,18.0s						
UOSS	**Minazif**	**72.36**	**63**	P	**P**	**16 19 41.5**	**+0.9**
UOSS				S	**S**	**16 29 01.9**	**-2.7**
UOSS	**Minazif**	**72.36**	**63**	*i*P	**P**	**16 19 41.0**	**+0.3**
	SNR=88						
UOSS	**Minazif**	**72.36**	**63**	⇓P	**P**	**16 19 41.0**	**+0.3**
UOSS	**Minazif**	**72.36**	**63**	P	**P**	**16 19 41.3**	**+0.6**
ARQ	**Araqi**	**72.38**	**65**	P	**P**	**16 19 43.1**	**+2.2**
	SNR=90						
ARQ				S	**S**	**16 29 02.6**	**-2.3**
R55A	**Marlinton**	**72.39**	**311**	IAMs_20	IAMs_20	16 44 24.1	
	comp=Z,13µm,22.0s						
MSFE	**Esma-Masafi**	**72.39**	**63**	*i*P	**P**	**16 19 41.0**	**+0.1**
	SNR=42						
MASF	**Masafi**	**72.39**	**63**	P	**P**	**16 19 41.8**	**+0.9**
	SNR=62						
MASF				S	**S**	**16 29 03.6**	**-1.3**
SHME	**Shamm**	**72.50**	**62**	P	**P**	**16 19 42.3**	**+0.9**
	SNR=39						
SHME				S	**S**	**16 29 06.4**	**+0.4**
SHME	**Shamm**	**72.50**	**62**	*i*P	**P**	**16 19 40.9**	**-0.5**
	SNR=38						
MDH	**Madha**	**72.51**	**63**	P	**P**	**16 19 42.7**	**+1.2**
	SNR=52						
MDH				S	**S**	**16 29 04.3**	**-1.8**
MDH	**Madha**	**72.51**	**63**	*i*P	**P**	**16 19 41.8**	**+0.3**
	SNR=9.6						
CRZF	**Crozet Islands**	**72.51**	**139**	IAMs_20	IAMs_20	16 43 40.9	
	comp=Z,9µm,20.0s						
KMSC	**Kings Mountain**	**72.52**	**307**	IAMs_20	IAMs_20	16 46 31.5	
	comp=Z,14µm,20.0s						
SOHO	**SOHO**	**72.52**	**64**	P	**P**	**16 19 42.8**	**+1.1**
SOHO				S	**S**	**16 29 03.9**	**-2.4**
SOHO	**SOHO**	**72.52**	**64**	*i*P	**P**	**16 19 42.2**	**+0.6**
	SNR=57						
V55A	**Taylorsville**	**72.60**	**308**	IAMs_20	IAMs_20	16 44 06.7	
	comp=Z,13µm,22.0s						
BANOM	**Banah**	**72.61**	**62**	P	**P**	**16 19 43.0**	**+0.8**
BANOM				S	**S**	**16 29 07.6**	**+0.2**
BANOM	**Banah**	**72.61**	**62**	*i*P	**P**	**16 19 42.0**	**-0.2**
	SNR=36						
SFJD	**Kangerlussuaq**	**72.81**	**346**	P	**P**	**16 19 42.4**	**0.0**
SFJD				IAmb	IAmb	16 19 51.2	
	comp=Z,126nm,1.1s						
SFJD	**Kangerlussuaq**	**72.81**	**346**	LR	LR	16 46 10.0	
	comp=Z,5µm,20.9s,baz=146,slow=31						
SFJD	**Kangerlussuaq**	**72.81**	**346**	P	**P**	**16 19 42.4**	**0.0**
SFJD				pmax	pmax		
	comp=Z,126nm,1.2s						
SFJD				MLR	MLR		
	comp=Z,7µm,19.0s						
SFJD	**Kangerlussuaq**	**72.81**	**346**	⇓P	**P**	**16 19 44.5**	**+2.1**
SFJD	**Kangerlussuaq**	**72.81**	**346**	*e*P	**P**	**16 19 43.8**	**+1.4**
SFJD				IAmb	IAmb	16 19 48.9	
	comp=Z,41nm,1.0s						
SFJD	**Kangerlussuaq**	**72.81**	**346**	P	**P**	**16 19 44.5**	**+2.1**
DQM	**DQM**	**72.82**	**69**	P	**P**	**16 19 47.3**	**+3.8**
	SNR=6.3						
DQM				S	**S**	**16 29 05.9**	**-4.1**
PMSA	**Palmer Station**	**73.03**	**200**	P	**P**	**16 19 43.0**	**-0.8**
PMSA				IAmb	IAmb	16 19 47.3	
	comp=Z,140nm,1.4s						
PMSA	**Palmer Station**	**73.03**	**200**	IAMs_20	IAMs_20	16 44 36.7	
	comp=Z,13µm,21.0s						
PMSA	**Palmer Station**	**73.03**	**200**	P	**P**	**16 19 44.2**	**+0.5**
	comp=Z,31nm,1.1s,baz=47,slow=6.4,SNR=9.1						
PMSA				LR	LR	16 44 48.9	
	comp=Z,14µm,22.0s,baz=37,slow=30						
	comp=Z,31nm,1.1s						
PMSA	**Palmer Station**	**73.03**	**200**	*e*P	**P**	**16 19 42.9**	**-0.8**
Q54A	**Coxs Mills**	**73.12**	**311**	IAMs_20	IAMs_20	16 44 26.4	
	comp=Z,10µm,22.0s						
HOQ	**Hoqain**	**73.14**	**65**	P	**P**	**16 19 48.0**	**+2.7**
	SNR=38						
HOQ				S	**S**	**16 29 13.5**	**+0.1**
S54A	**Dingess, Beckl**	**73.17**	**310**	IAMs_20	IAMs_20	16 46 43.7	
	comp=Z,11µm,19.0s						
U54A	**Nelsons Funny**	**73.24**	**309**	IAMs_20	IAMs_20	16 46 18.6	
	comp=Z,10µm,20.0s						
MHTO	**MHTO**	**73.36**	**68**	P	**P**	**16 19 49.0**	**+2.3**
	SNR=29						
MHTO				S	**S**	**16 29 13.9**	**-2.1**
ERPA	**Erie**	**73.39**	**315**	IAMs_20	IAMs_20	16 45 31.4	
	comp=Z,12µm,20.0s						
TIGA	**Tifton**	**73.53**	**303**	IAMs_20	IAMs_20	16 44 21.5	
	comp=Z,16µm,22.0s						
SADO	**Sadowa**	**73.62**	**318**	P	**P**	**16 19 48.8**	**+1.1**
	comp=Z,574nm,0.9s,baz=130,slow=5.3,SNR=11						
SADO				LR	LR	16 46 27.2	
	comp=Z,185µm,20.1s,baz=127,slow=31						
N53A	**Lisbon**	**73.63**	**313**	IAMs_20	IAMs_20	16 45 44.6	
	comp=Z,10µm,21.0s						
VLDQ	**Val d'Or**	**73.65**	**321**	P	**P**	**16 19 48.1**	**+0.3**
JMDO	**Jabal Madar**	**73.68**	**66**	P	**P**	**16 19 52.0**	**+3.4**
	SNR=27						
JMDO				S	**S**	**16 29 19.5**	**-0.2**
SMDO	**Samad**	**73.73**	**66**	P	**P**	**16 19 51.0**	**+2.0**
	SNR=56						
SMDO				S	**SKiKP**	**16 29 17.1**	**-2.0**
V53A	**Saluda**	**73.81**	**308**	IAMs_20	IAMs_20	16 46 53.9	
	comp=Z,13µm,20.0s						
GOGA	**Godfrey**	**73.84**	**305**	IAMs_20	IAMs_20	16 47 49.6	
	comp=Z,9µm,20.0s						
BELG	**Belogornoye**	**73.87**	**34**	LR	LR	16 55 26.9	
	comp=Z,13µm,18.8s,baz=245,slow=38						
BELG	**Belogornoye**	**73.87**	**34**	*i*P	**P**	**16 19 48.3**	**-0.7**
BELG				pmax	pmax		
	comp=Z,62nm,1.3s						
BELG				MLR	MLR		
	comp=Z,2µm,16.0s						
TRO	**Tromso**	**74.00**	**11**	*e*P	**P**	**16

451A	**Vernon**	75.19	302	IAMs_20	IAMs_20	16 46 38.4	
	comp=Z,9μm,21.0s						
X51A	**Calhoun**	75.21	306	IAMs_20	IAMs_20	16 45 52.8	
	comp=Z,9μm,21.0s						
GDH	**Godhavn**	75.24	346	*e*P	**P**	**16 19 58.1**	**+1.5**
GDH				IAmb	IAmb	16 20 05.5	
	comp=Z,96nm,1.0s						
SUMG	**Summit**	75.27	353	P	**P**	**16 19 57.1**	**-0.1**
SUMG	**Summit**	75.27	353	IAmb	IAmb	16 20 06.8	
	comp=Z,151nm,1.1s						
SUMG	**Summit**	75.27	353	⇑P	**P**	**16 19 58.2**	**+1.0**
SUMG	**Summit**	75.27	353	*e*P	**P**	**16 19 58.1**	**+0.8**
SUMG				IAmb	IAmb	16 20 06.5	
	comp=Z,195nm,1.2s						
SUMG				IAMs_20	IAMs_20	16 45 55.9	
	comp=Z,7μm,21.8s						
ARA0	**ARCESS Array S**	75.32	13	*e*P	**P**	**16 19 59.5**	**+2.4**
ARCES	**ARCESS Array B**	75.32	13	P	**P**	**16 19 57.1**	**0.0**
ARCES				IAmb	IAmb	16 20 05.9	
	comp=Z,232nm,1.8s						
ARCES	**ARCESS Array B**	75.32	13	P	**P**	**16 19 59.0**	**+1.9**
	comp=Z,11nm,0.8s,baz=250,slow=3.5,SNR=13						
ARCES				LR	LR	16 55 54.6	
	comp=Z,16μm,18.1s,baz=231,slow=38						
	comp=Z,11nm,0.8s						
ARCES	**ARCESS Array B**	75.32	13	P	**P**	**16 19 59.0**	**+1.9**
M50A	**Fremont**	75.39	313	IAMs_20	IAMs_20	16 47 00.2	
	comp=Z,10μm,20.0s						
K50A	**Casco**	75.45	315	IAMs_20	IAMs_20	16 46 34.6	
	comp=Z,12μm,20.0s						
SAQQ	**Saqqaq**	75.46	347	*e*P	**P**	**16 19 58.1**	**+0.3**
SAQQ				IAmb	IAmb	16 20 07.5	
	comp=Z,270nm,1.4s						
DBG	**Daneborg**	75.47	358	⇑P	**P**	**16 20 02.5**	**+4.6**
DBG	**Daneborg**	75.47	358	*e*P	**P**	**16 19 59.4**	**+1.5**
DBG				IAmb	IAmb	16 20 08.6	
	comp=Z,470nm,2.0s						
R50A	**Paris**	75.60	310	IAMs_20	IAMs_20	16 47 03.8	
	comp=Z,8μm,20.0s						
T50A	**Nancy**	75.71	309	IAMs_20	IAMs_20	16 45 55.9	
	comp=Z,15μm,22.0s						
HAMF	**Hammerfest**	75.78	12	*e*P	**P**	**16 20 01.7**	**+2.1**
HAMF				*e*S	**S**	**16 29 42.8**	**+1.6**
HAMF				*e*SS	**SS**	**16 34 35.5**	**+2.4**
HAMF				IVMs_BB	IVMs_BB	16 56 12.3	
	comp=Z,8μm,14.1s						
KEV	**Kevo**	75.84	14	⇑P	**P**	**16 20 02.9**	**+2.9**
250A	**Grady**	75.87	303	IAMs_20	IAMs_20	16 45 55.4	
	comp=Z,12μm,22.0s						
APA	**Apatity**	75.98	17	⇓*i*P	**P**	**16 20 02.4**	**+1.5**
APA				*i*		16 20 12.0	
APA				*i*		16 22 48.8	
APA				*i* S	**S**	**16 29 46.9**	**+3.4**
APA				*i*		16 30 09.9	
APA				MLR	MLR		
	comp=Z,18μm,16.7s						
O49A	**Covington**	76.04	312	IAMs_20	IAMs_20	16 46 29.5	
	comp=Z,11μm,22.0s						
AAM	**Ann Arbor**	76.06	314	IAMs_20	IAMs_20	16 47 01.9	
	comp=Z,13μm,20.0s						
N49A	**Columbus Grove**	76.11	313	IAMs_20	IAMs_20	16 50 11.1	
	comp=Z,8μm,20.0s						
Y49A	**Blount Mountai**	76.33	305	IAMs_20	IAMs_20	16 49 27.6	
	comp=Z,9μm,20.0s						
U49A	**Red Boiling Sp**	76.34	308	IAMs_20	IAMs_20	16 48 52.7	
	comp=Z,12μm,19.0s						
BRAL	**Brewton**	76.39	302	IAMs_20	IAMs_20	16 46 45.2	
	comp=Z,14μm,21.0s						
SYO	**Syowa Base**	76.46	163	⇑*e*P	**P**	**16 20 04.0**	**+0.4**
SYO	**Syowa Base**	76.46	163	⇑*i*pP	pP	16 20 07.0	+0.7
VADS	**Vadso**	76.66	14	*e*P	**P**	**16 20 06.1**	**+1.4**
VADS				*e*S	**S**	**16 29 44.3**	**-6.6**
O48B	**Farmland**	76.67	312	IAMs_20	IAMs_20	16 47 00.1	
	comp=Z,11μm,21.0s						
P48A	**Milroy**	76.70	311	IAMs_20	IAMs_20	16 47 07.9	
	comp=Z,11μm,21.0s						
NGCH	**Negor - Chabah**	76.84	64	P	**P**	**16 20 08.9**	**+2.3**
V48A	**Smith Brothers**	77.02	307	IAMs_20	IAMs_20	16 46 51.6	
	comp=Z,10μm,22.0s						
WCI	**Wyandotte Cave**	77.10	310	P	**P**	**16 20 05.5**	**-2.3**
WCI	**Wyandotte Cave**	77.10	310	IAMs_20	IAMs_20	16 46 41.5	
	comp=Z,13μm,22.0s						
WCI	**Wyandotte Cave**	77.10	310	P	**P**	**16 20 05.5**	**-2.3**
WCI				pmax	pmax		
	comp=Z,91nm,1.5s						
WCI				MLR	MLR		
	comp=Z,13μm,22.0s						
J47A	**Sunmer**	77.13	315	IAMs_20	IAMs_20	16 47 46.0	
	comp=Z,12μm,21.0s						
N47A	**Urbana**	77.21	312	IAmb	IAmb	16 20 21.4	
	comp=Z,84nm,0.8s						
N47A				IAMs_20	IAMs_20	16 47 06.4	
	comp=Z,10μm,22.0s						
KIRV	**Kirov**	77.33	29	LR	LR	16 56 00.7	
	comp=Z,13μm,20.7s,baz=259,slow=37						
KIRV	**Kirov**	77.33	29	*c*eP	**P**	**16 20 08.0**	**-0.7**
BELA	**Belgrano 2**	77.45	184	P	**P**	**16 20 09.3**	**+0.2**
BELA				IAmb	IAmb	16 20 27.8	
	comp=Z,299nm,2.0s						
ROCAM	**Rodrigues Isla**	77.46	110	IAMs_20	IAMs_20	16 52 20.7	
	comp=Z,9μm,18.0s						
T47A	**Sharon Grove**	77.48	308	IAMs_20	IAMs_20	16 46 59.8	
	comp=Z,14μm,22.0s						
APG	**El Apazote**	77.51	286	LR	LR	16 51 51.1	
	comp=Z,202nm,20.5s,baz=66,slow=34						
Z47A	**Carrollton**	77.58	304	IAmb	IAmb	16 20 34.3	
	comp=Z,114nm,1.2s						
PLAL	**Pickwick Lake**	77.89	306	IAmb	IAmb	16 20 41.8	
	comp=Z,179nm,1.9s						
WVT	**Waverly**	77.89	307	P	**P**	**16 20 10.8**	**-1.6**
WVT	**Waverly**	77.89	307	IAMs_20	IAMs_20	16 47 29.8	
	comp=Z,9μm,21.0s						
WVT	**Waverly**	77.89	307	P	**P**	**16 20 10.8**	**-1.6**
WVT				pmax	pmax		
	comp=Z,178nm,0.8s						
WVT				MLR	MLR		
	comp=Z,9μm,21.0s						
WVT	**Waverly**	77.89	307	⇓P	**P**	**16 20 12.3**	**-0.1**
DAG	**Danmarks Havn**	77.90	359	⇓P	**P**	**16 20 12.0**	**+0.4**
DAG	**Danmarks Havn**	77.90	359	*e*P	**P**	**16 20 12.7**	**+1.1**
DAG				IAmb	IAmb	16 20 20.6	
	comp=Z,131nm,1.2s						
L46A	**Eue Claire**	77.90	313	IAMs_20	IAMs_20	16 48 17.6	
	comp=Z,8μm,20.0s						
P46A	**Rosedale**	78.08	311	IAMs_20	IAMs_20	16 48 42.4	
	comp=Z,11μm,20.0s						
BJO1	**Bjornoya**	78.08	9	*e*P	**P**	**16 20 14.1**	**+1.6**
BJO1				*e*S	**S**	**16 30 07.4**	**+1.2**
BJO1				IVMs_BB	IVMs_BB	16 53 36.1	
	comp=Z,4μm,8.0s						
SFIN	**Lafayette**	78.15	312	IAMs_20	IAMs_20	16 48 05.2	
	comp=Z,11μm,22.0s						
146A	**Union**	78.31	304	IAMs_20	IAMs_20	16 47 12.0	
	comp=Z,13μm,22.0s						
I45A	**Fountain**	78.31	315	IAMs_20	IAMs_20	16 48 25.3	
	comp=Z,11μm,20.0s						
346A	**Big Creek Wild**	78.46	302	IAMs_20	IAMs_20	16 48 29.1	
	comp=Z,12μm,22.0s						
T45A	**Paducah**	78.70	308	IAMs_20	IAMs_20	16 51 01.1	
	comp=Z,9μm,20.0s						
HQIL	**Hanson Quary C**	78.99	313	IAMs_20	IAMs_20	16 48 00.6	
	comp=Z,11μm,22.0s						
M44A	**Midewin, Midew**	79.05	312	IAMs_20	IAMs_20	16 48 12.1	
	comp=Z,11μm,22.0s						
HRA	**Herat**	79.10	55	IAmb	IAmb	16 20 37.9	
	comp=Z,295nm,1.6s						
L44A	**Lake County Fo**	79.11	313	IAMs_20	IAMs_20	16 49 34.7	
	comp=Z,8μm,20.0s						
Q44A	**Meyer Farm, Va**	79.32	310	IAMs_20	IAMs_20	16 48 01.4	
	comp=Z,13μm,22.0s						
AKTO	**Aktyubinsk**	79.35	38	LR	LR	16 59 52.4	
	comp=Z,8μm,18.4s,baz=272,slow=39						
VBMS	**Vicksburg**	79.47	303	IAMs_20	IAMs_20	16 48 51.7	
	comp=Z,10μm,21.0s						
K43A	**Burlington**	79.52	314	IAMs_20	IAMs_20	16 49 47.5	
	comp=Z,10μm,20.0s						
HDIL	**Hopedale**	79.83	311	IAMs_20	IAMs_20	16 49 26.7	
	comp=Z,9μm,20.0s						
P43A	**Skaggs, Pawnee**	79.83	310	IAMs_20	IAMs_20	16 51 57.0	
	comp=Z,9μm,19.0s						
I42A	**Draeger Farm,**	80.17	315	IAMs_20	IAMs_20	16 49 59.6	
	comp=Z,12μm,21.0s						
ABKAR	**Akbulak array**	80.28	40	P	**P**	**16 20 24.7**	**-0.4**
L42A	**Oliver, Polo**	80.36	313	IAMs_20	IAMs_20	16 49 13.8	
	comp=Z,9μm,21.0s						
HOPEN	**Hopen**	80.60	9	*e*P	**P**	**16 20 27.3**	**+1.0**
HOPEN				*e*S	**S**	**16 30 36.5**	**+3.6**
SPITS	**Spitsbergen Ar**	80.88	6	P	**P**	**16 20 30.7**	**+2.9**
	comp=Z,30nm,1.0s,baz=111,slow=4.6,SNR=4.7						
CCM	**Cathedral Cave**	80.91	309	P	**P**	**16 20 27.1**	**-1.6**
CCM	**Cathedral Cave**	80.91	309	IAMs_20	IAMs_20	16 51 25.4	
	comp=Z,12μm,20.0s						
CCM	**Cathedral Cave**	80.91	309	P	**P**	**16 20 27.1**	**-1.6**
CCM				pmax	pmax		
	comp=Z,70nm,1.2s						
CCM				MLR	MLR		
	comp=Z,12μm,20.0s						
CCM	**Cathedral Cave**	80.91	309	⇑P	**P**	**16 20 28.3**	**-0.5**
JFWS	**Jewell Farm**	80.95	314	IAMs_20	IAMs_20	16 51 00.2	
	comp=Z,10μm,20.0s						
N41A	**Harden Midland**	81.02	311	IAMs_20	IAMs_20	16 50 35.3	
	comp=Z,11μm,19.0s						
KBS	**Kingsbay**	81.12	5	IAMs_20	IAMs_20	16 56 17.7	
	comp=Z,9μm,20.0s						
KBS	**Kingsbay**	81.12	5	*e*P	**P**	**16 20 30.1**	**+1.0**
KBS				IVmB_BB		16 20 37.1	
	comp=Z,1μm,2.7s						
KBS				*e*S	**S**	**16 30 37.7**	**-0.6**
KBS				IVMs_BB	IVMs_BB	16 56 41.3	
	comp=Z,3μm,22.2s						
NEEM	**North Greenlan**	81.14	352	⇑P	P	16 20 34.6	+5.0
NEEM	**North Greenlan**	81.14	352	*e*P	**P**	**16 20 33.5**	**+3.9**
NEEM				IAmb	IAmb	16 20 39.9	
	comp=Z,145nm,1.1s						
ARTI	**Arti**	81.14	32	P	**P**	**16 20 28.6**	**-1.0**
ARTI				IAmb	IAmb	16 20 38.6	
	comp=Z,139nm,1.3s						
ARTI	**Arti**	81.14	32	LR	LR	16 59 43.3	
	comp=Z,23μm,18.4s,baz=268,slow=38						
ARTI	**Arti**	81.14	32	*c i*P	**P**	**16 20 29.5**	**-0.1**
ARTI						16 23 32.3	
ARTI				S	**S**	**16 30 41.9**	**+2.6**
ARTI				pmax	pmax		
	comp=Z,66nm,1.6s						
ARTI				pmax	pmax		
	comp=Z,777nm,10.3s						
ARTI				smax	smax		
	comp=E,7μm,16.9s						
ARTI				MLR	MLR		
	comp=Z,21μm,18.0s						
ARTI	**Arti**	81.14	32	⇑P	**P**	**16 20 29.4**	**-0.1**
I40A	**Norwalk**	81.38	315	IAMs_20	IAMs_20	16 50 45.6	
	comp=Z,10μm,20.0s						
L40A	**Anamosa**	81.51	313	IAMs_20	IAMs_20	16 51 00.2	
	comp=Z,9μm,20.0s						
441A	**DeRidder**	81.55	301	IAMs_20	IAMs_20	16 52 35.9	
	comp=Z,9μm,20.0s						
CMIG	**Matias Romero**	81.90	287	LR	LR	16 53 31.9	
	comp=Z,3μm,21.7s,baz=96,slow=33						
MIAR	**Mount Ida**	82.31	305	P	**P**	**16 20 35.3**	**-0.9**
MIAR				IAMs_20	IAMs_20	16 49 46.7	
	comp=Z,9μm,22.0s						
MIAR	**Mount Ida**	82.31	305	P	**P**	**16 20 35.3**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,111nm,1.7s						
MIAR				MLR	MLR		
	comp=Z,9μm,22.0s						
SVE	**Sverdlovsk**	82.46	32	*e*P	**P**	**16 20 37.1**	**+0.6**
SVE				*e*		16 23 49.7	
SVE				*e*PPP	PPP	16 25 41.3	
SVE				*e*S	**S**	**16 30 54.7**	**+1.8**
SVE				pmax	pmax		
	comp=Z,111nm,1.8s						
SVE				MLR	MLR		
	comp=Z,20μm,18.0s						
SVE				MLR	MLR		
	comp=E,15μm,18.0s						
EYMN	**Ely**	82.69	319	⇓P	**P**	**16 20 42.0**	**+4.0**
NOR	**Nord**	82.72	360	⇑P	P	16 20 45.9	+8.5
NOR	**Nord**	82.72	360	*e*P	**P**	**16 20 40.6**	**+3.2**
NOR				IAmb	IAmb	16 20 47.6	
	comp=Z,223nm,1.6s						
NOR				IAMs_20	IAMs_20	16 48 39.5	
	comp=Z,9μm,31.8s						
N38A	**Joes South For**	82.82	311	IAMs_20	IAMs_20	16 51 49.0	
	comp=Z,11μm,20.0s						
SCIA	**State Center**	82.96	312	IAMs_20	IAMs_20	16 51 04.5	
	comp=Z,11μm,21.0s						
U38A	**Gravette**	83.18	307	IAMs_20	IAMs_20	16 54 40.7	
	comp=Z,7μm,19.0s						
I37A	**Lemond, Waseca**	83.39	314	IAMs_20	IAMs_20	16 52 36.7	
	comp=Z,8μm,19.0s						
HKT	**Hockley**	83.74	300	IAMs_20	IAMs_20	16 56 53.3	
	comp=Z,7μm,19.0s						
HKT	**Hockley**	83.74	300	*e*P	**P**	**16 20 44.5**	**+0.8**
HKT				pmax	pmax		
	comp=Z,17nm,0.9s						
HKT				MLR	MLR		
	comp=Z,7μm,18.0s						
MAW	**Mawson**	83.82	158	P	**P**	**16 20 45.8**	**+2.5**
	comp=Z,14nm,0.8s,baz=287,slow=7.5,SNR=28						
MAW				LR	LR	16 50 05.6	
	comp=Z,7μm,22.0s,baz=290,slow=30						
	comp=Z,14nm,0.8s						
MAW	**Mawson**	83.82	158	⇓P	**P**	**16 20 45.8**	**+2.5**
BHUJ	**Bhuj**	84.37	67	*e*P	**P**	**16 20 49.4**	**+2.3**
BHUJ				IAMs_20	IAMs_20	16 33 46.0	
	comp=Z,8μm,21.1s						
N35A	**Tabor**	84.64	311	IAMs_20	IAMs_20	17 00 16.2	
	comp=Z,7μm,18.0s						
KBL	**Kabul**	84.69	55	P	**P**	**16 20 47.3**	**-1.5**
KBL				IAmb	IAmb	16 20 59.5	
	comp=Z,133nm,1.9s						
KBL	**Kabul**	84.69	55	P	**P**	**16 20 52.3**	**+3.5**
	SNR=21						
KBL	**Kabul**	84.69	55	P	**P**	**16 20 47.3**	**-1.5**
KBL				pmax	pmax		
	comp=Z,133nm,2.0s						
T35A	**Sooner Cattle**	84.93	307	IAMs_20	IAMs_20	16 57 41.0	
	comp=Z,7μm,18.0s						
WHTX	**Lake Whitney,**	85.30	302	IAMs_20	IAMs_20	16 57 34.1	
	comp=Z,8μm,19.0s						
L34A	**Svendsen Farm,**	85.31	312	IAMs_20	IAMs_20	16 53 28.7	
	comp=Z,10μm,20.0s						
AGMN	**Agassiz Nation**	85.63	318	IAmb	IAmb	16 21 01.6	
	comp=Z,107nm,1.1s						
AGMN	**Agassiz Nation**	85.63	318	⇑P	**P**	**16 20 53.0**	**+0.1**
ECSD	**EROS Data Cent**	85.66	314	IAMs_20	IAMs_20	16 57 48.9	
	comp=Z,7μm,18.0s						
ECSD	**EROS Data Cent**	85.66	314	⇑P	**P**	**16 20 52.9**	**-0.3**
CHM	**Chimkent**	85.84	48	*e*P	**P**	**16 20 54.0**	**-0.2**
	comp=Z,14nm,0.1s						
CHM				LR	LR	17 03 50.1	
	comp=Z,3μm,17.8s						
CHM	**Chimkent**	85.84	48	*e*P	**P**	**16 20 53.9**	**-0.2**
CHM				pmax	pmax		
	comp=Z,14nm,0.1s						
ULM	**Lac du Bonnet**	85.87	320	P	**P**	**16 20 54.7**	**+0.7**
	comp=Z,18nm,0.9s,baz=91,slow=5.0,SNR=7.2						
ULM				LR	LR	16 53 36.6	
	comp=Z,9μm,21.9s,baz=92,slow=32						
	comp=Z,18nm,0.9s						
DGAR	**Diego Garcia**	86.06	97	IAMs_20	IAMs_20	16 55 24.4	
	comp=Z,11μm,20.0s						
BRLS	**Borolday**	86.08	47	*e*P	**P**	**16 20 54.5**	**-0.8**
BRLS				*e*S	**SKSac**	**16 31 19.5**	**-2.1**
BRLS	**Borolday**	86.08	47	*e*P	**P**	**16 20 54.4**	**-0.8**
BRLS				*e*S	**SKSac**	**16 31 19.4**	**-2.1**
IUG	**Iuzhnay**	86.14	48	*e*P	**P**	**16 20 55.6**	**-0.2**
	comp=Z,119nm,1.7s						
IUG				*e*S	**SKSac**	**16 31 21.0**	**-1.2**
IUG	**Iuzhnay**	86.14	48	*e*P	**P**	**16 20 55.5**	**-0.2**
IUG				*e*S	**SKSac**	**16 31 20.9**	**-1.2**
IUG				pmax	pmax		
	comp=Z,119nm,1.7s						
WTFS	**Witchita Falls**	86.27	304	IAmb	IAmb	16 21 19.9	
	comp=Z,140nm,1.2s						
BRDY	**Brady**	86.56	301	IAmb	IAmb	16 21 20.7	
	comp=Z,131nm,1.7s						
KK31	**Karatay Array**	86.58	47	IAmb	IAmb	16 21 08.2	
	comp=Z,241nm,1.9s						
KKAR	**Karatay Array**	86.58	47	P	**P**	**16 20 56.9**	**-0.8**
KKAR	**Karatay Array**	86.58	47	P	**P**	**16 20 56.9**	**-0.8**
BGNE	**Belgrade**	86.58	311	IAMs_20	IAMs_20	16 55 22.5	
	comp=Z,8μm,19.0s						
WMOK	**Wichita Mounta**	86.59	305	⇑P	**P**	**16 20 58.0**	**-0.1**
R32A	**Long Quarter,**	86.79	308	IAMs_20	IAMs_20	16 55 16.2	
	comp=Z,8μm,20.0s						
HMDM	**Hanimaadhoo**	87.06	83	IAMs_20	IAMs_20	16 56 42.3	
	comp=Z,10μm,20.0s						
DZA	**Taraz**	87.16	47	*e*P	**P**	**16 21 00.4**	**-0.2**
	comp=Z,65nm,1.6s						
DZA	**Taraz**	87.16	47	*e*P	**P**	**16 21 00.4**	**-0.2**
DZA				pmax	pmax		
	comp=Z,65nm,1.6s						
JCT	**Junction City**	87.21	300	IAmb	IAmb	16 21 24.0	
	comp=Z,309nm,1.9s						
BORK	**Borovoye**	87.33	37	*c*eP	**P**	**16 21 01.8**	**+0.6**
BORK				pmax	pmax		
	comp=Z,20nm,1.0s						
BORK	**Borovoye**	87.33	37	⇑P	**P**	**16 21 01.3**	**+0.2**
BVAR	**Borovoye Array**	87.38	37	P	**P**	**16 21 01.4**	**0.0**
	comp=Z,12nm,0.8s,baz=256,slow=4.1,SNR=27						
BVAR				LR	LR	17 02 42.0	
	comp=Z,9μm,21.9s,baz=265,slow=37						
	comp=Z,12nm,0.8s						
SUSD	**Miller**	87.40	314	IAMs_20	IAMs_20	16 56 58.0	
	comp=Z,6μm,20.0s						
CBKS	**Cedar Bluff**	87.62	309	IAMs_20	IAMs_20	16 55 25.1	
	comp=Z,9μm,20.0s						
APMT	**Aspermont**	87.62	303	IAmb	IAmb	16 21 27.1	
	comp=Z,127nm,1.2s						
DRIO	**Del Rio**	87.86	299	IAmb	IAmb	16 21 27.2	
	comp=Z,94nm,1.6s						
GOA	**Goa**	87.94	75	*e*P	**P**	**16 21 07.0**	**+2.2**
GOA				IAMs_20	IAMs_20	16 33 25.5	
	comp=Z,6μm,22.1s						
POO	**Poona**	88.06	72	*e*P	**P**	**16 21 09.5**	**+4.1**
POO				IAMs_20	IAMs_20	16 34 04.4	
	comp=Z,8μm,22.3s						
NIL	**Nilore**	88.12	56	P	**P**	**16 21 04.8**	**-0.6**
NIL	**Nilore**	88.12	56	P	**P**	**16 21 04.8**	**-0.6**
NIL				pmax	pmax		
	comp=Z,385nm,2.0s						
NIL				MLR	MLR		
	comp=Z,14μm,21.0s						
UDPR	**Udaipur**	88.15	66	*e*P	**P**	**16 21 06.9**	**+1.1**
UDPR				IAMs_20	IAMs_20	16 33 09.1	
	comp=Z,7μm,20.4s						
DKNS	**Dickens**	88.31	304	IAmb	IAmb	16 21 29.7	
	comp=Z,101nm,1.4s						
KAD	**Karad**	88.34	73	*e*P	**P**	**16 21 06.2**	**-0.6**
KAD				IAMs_20	IAMs_20	16 33 52.1	
	comp=Z,5μm,20.5s						
OZNA	**Ozona**	88.37	301	IAmb	IAmb	16 21 29.8	
	comp=Z,166nm,1.6s						
BRZS	**Berezniki**	88.57	40	*e*P	**P**	**16 21 07.2**	**0.0**
BRZS	**Berezniki**	88.57	40	*e*P	**P**	**16 21 07.1**	**0.0**
QSPA	**South Pole Qui**	88.90	180	P	**P**	**16 21 09.6**	**+1.1**
QSPA				IAmb	IAmb	16 21 29.3	
	comp=Z,139nm,1.1s						
QSPA	**South Pole Qui**	88.90	180	IAMs_20	IAMs_20	16 54 09.7	
	comp=Z,7μm,20.0s						
QSPA	**South Pole Qui**	88.90	180	⇑P	**P**	**16 21 12.7**	**+4.2**
JMU	**Jammu**	89.46	57	*e*P	**P**	**16 21 12.3**	**+0.7**
JMU				IAMs_20	IAMs_20	16 33 48.0	
	comp=Z,6μm,22.8s						
AAK	**Ala-Archa**	89.47	48	P	**P**	**16 21 11.6**	**-0.1**
AAK				IAmb	IAmb	16 21 22.9	
	comp=Z,236nm,1.8s						
AAK	**Ala-Archa**	89.47	48	IAMs_20	IAMs_20	17 05 45.2	
	comp=Z,10μm,21.0s						
AAK	**Ala-Archa**	89.47	48	LR	LR	17 06 23.9	
	comp=Z,8μm,18.2s,baz=286,slow=39						
AAK	**Ala-Archa**	89.47	48	P	**P**	**16 21 14.2**	**+2.5**
AAK	**Ala-Archa**	89.47	48	*i* P	**P**	**16 21 10.7**	**-1.1**
	SNR=45						
AAK	**Ala-Archa**	89.47	48	P	**P**	**16 21 11.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,236nm,1.8s						
AAK				MLR	MLR		
	comp=Z,10μm,21.0s						
AAK	**Ala-Archa**	89.47	48	⇑P	**P**	**16 21 12.5**	**+0.8**
AAK	**Ala-Archa**	89.47	48	P	**P**	**16 21 12.8**	**+1.1**
SGDS	**Sogindy**	89.60	47	*e*P	**P**	**16 21 12.1**	**-0.2**
MSTX	**Muleshoe**	89.86	304	IAMs_20	IAMs_20	16 56 10.8	
	comp=Z,11μm,21.0s						
FFC	**Flin Flon**	89.94	325	IAMs_20	IAMs_20	16 54 52.4	
	comp=Z,8μm,22.0s						
FFC	**Flin Flon**	89.94	325	⇓P	**P**	**16 21 14.6**	**+1.2**
KSH	**Kashi**	90.50	51	P	**P**	**16 21 16.3**	**-0.3**
KSH				sP	pwP	16 21 24.4	+0.4
KSH				PP	**PP**	**16 24 49.3**	**-2.0**
KSH				S	**S**	**16 32 09.1**	**-3.0**
KSH				pmax	pmax		
	comp=Z,79nm,1.5s						
KSH				pmax	pmax		
	comp=Z,680nm,6.3s						
KSH				LR	LR		
	comp=Z,8μm,17.9s						
KSH				LR	LR		
	comp=Z,18μm,24.7s						
TXAR	**Lajitas Array**	90.52	299	P	**P**	**16 21 16.0**	**-0.8**
TXAR	**Lajitas Array**	90.52	299	P	**P**	**16 21 17.0**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=93,slow=5.0,SNR=13						
TXAR				LR	LR	16 58 09.1	
	comp=Z,3μm,20.6s,baz=63,slow=33						
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	90.52	299	P	**P**	**16 21 17.0**	**+0.1**
LATR	**Latur**	90.63	72	*e*P	**P**	**16 21 17.9**	**+0.5**
LATR				IAMs_20	IAMs_20	16 34 22.9	
	comp=Z,6μm,19.4s						
DHRM	**DHARAMSHALA**	90.64	58	*e*P	**P**	**16 21 17.9**	**+0.4**
DHRM				IAMs_20	IAMs_20	16 34 06.5	
	comp=Z,6μm,20.2s						
RTK	**Rohtak**	90.68	61	*e*P	**P**	**16 21 17.9**	**+0.5**
BHK	**Bhakra**	90.72	59	*e*P	**P**	**16 21 19.7**	**+2.0**
BHK				IAMs_20	IAMs_20	16 34 06.5	
	comp=Z,4μm,20.5s						
RSSD	**Black Hills**	91.03	314

HYB IVmB_BB 16 21 36.1
comp=Z,696nm,1.8s
HYB *e*PP **PP** **16 25 08.5 +0.8**
HYB *e*S **S** **16 32 30.9 -0.1**
HYB IVMs_BB IVMs_BB 17 04 06.1
comp=Z,2µm,17.3s
UZB Uzynbulak 92.80 47 *e*P **P** **16 21 27.0 -0.3**
UZB Uzynbulak 92.80 47 *e*P **P** **16 21 26.9 -0.3**
K22A Casper 92.85 312 IAMs_20 IAMs_20 16 57 06.4
comp=Z,10µm,22.0s
ANMO Albuquerque 92.91 305 P **P** **16 21 26.2 -1.8**
ANMO Albuquerque 92.91 305 IAMs_20 IAMs_20 16 57 08.5
comp=Z,9µm,22.0s
ANMO Albuquerque 92.91 305 LR LR 16 56 47.4
comp=Z,12µm,21.7s,baz=184,slow=31
ANMO Albuquerque 92.91 305 *ce*P **P** **16 21 26.9 -1.1**
ANMO pmax pmax
comp=Z,18nm,1.1s
ANMO Albuquerque 92.91 305 ⇓P **P** **16 21 29.1 +1.1**
EPT El Paso 92.98 302 IAMs_20 IAMs_20 16 58 14.7
comp=Z,7µm,20.0s
SHLS Shalkode 93.12 47 *e*P **P** **16 21 29.8 +1.1**
comp=Z,36nm,1.3s
SHLS *e*S **SKSac** **16 32 03.8 +0.6**
SHLS Shalkode 93.12 47 *e*P **P** **16 21 29.8 +1.1**
SHLS *e*S **SKSac** **16 32 03.7 +0.6**
SHLS pmax pmax
comp=Z,36nm,1.3s
HAYD Hayden 93.45 310 IAMs_20 IAMs_20 16 59 25.4
comp=Z,6µm,20.0s
MALK Mahakanadarawa 94.39 82 P **P** **16 21 30.2 -4.7**
RPN Rapa Nui 94.47 243 LR LR 16 59 45.5
comp=Z,7µm,19.9s,baz=94,slow=33
MVCO Mesa Verde 94.51 307 IAMs_20 IAMs_20 17 04 47.7
comp=Z,6µm,18.0s
PALK Pallekele 94.53 83 LR LR 17 01 00.8
comp=Z,5µm,20.1s,baz=264,slow=34
PALK Pallekele 94.53 83 P P 16 21 43.2 +7.5
VA02 Isla de Pascua 94.56 243 IAMs_20 IAMs_20 16 59 26.8
comp=Z,7µm,20.0s
RLMT Red Lodge 94.75 315 IAMs_20 IAMs_20 17 00 20.3
comp=Z,8µm,20.0s
MAKZ Makanchi 94.76 43 P **P** **16 21 35.8 -0.1**
MAKZ IAmb IAmb 16 21 45.9
comp=Z,87nm,1.8s
MAKZ IAMs_20 IAMs_20 17 10 16.6
comp=Z,9µm,20.0s
MK31 Makanchi Array 94.97 43 *ce*P **P** **16 21 34.9 -2.1**
MKAR Makanchi Array 94.97 43 P **P** **16 21 35.8 -1.1**
MKAR Makanchi Array 94.97 43 P **P** **16 21 37.3 +0.3**
comp=Z,3.4nm,0.9s,baz=290,slow=3.6,SNR=14
MKAR PP PP 16 25 14.2 -12
comp=Z,2.7nm,0.9s,baz=300,slow=7.7,SNR=4.2
MKAR LR LR 17 10 33.2
comp=Z,8µm,19.1s,baz=270,slow=39
comp=Z,3.4nm,0.9s
PDAR Pinedale Array 95.08 313 P **P** **16 21 35.7 -2.2**
PDAR Pinedale Array 95.08 313 P **P** **16 21 37.5 -0.3**
comp=Z,2.5nm,0.9s,baz=85,slow=7.8,SNR=13
PDAR LR LR 17 01 39.8
comp=Z,6µm,18.6s,baz=89,slow=34
comp=Z,2.5nm,0.9s
ZALV Zalesovo Beam 95.98 36 P **P** **16 21 40.6 -0.7**
ZALV Zalesovo Beam 95.98 36 P **P** **16 21 42.2 +0.9**
comp=Z,0.5nm,0.4s,baz=338,slow=6.4,SNR=6.1
ZALV PP **PP** **16 25 28.8 -4.8**
comp=Z,17nm,1.2s,baz=270,slow=7.2,SNR=7.6
ZALV LR LR 17 09 35.8
comp=Z,11µm,18.5s,baz=287,slow=38
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 95.98 36 *i*P **P** **16 21 42.5 +1.2**
YKA Yellowknife Ar 96.06 333 P **P** **16 21 39.4 -2.1**
YKA Yellowknife Ar 96.06 333 P **P** **16 21 42.0 +0.5**
comp=Z,7.0nm,1.0s,baz=71,slow=4.7,SNR=15
YKA LR LR 17 01 22.0
comp=Z,6µm,19.9s,baz=72,slow=33
comp=Z,7.0nm,1.0s
AHID Auburn Hatcher 96.22 313 IAMs_20 IAMs_20 17 02 15.4
comp=Z,9µm,19.0s
LPIG La Paz 96.49 294 LR LR 17 04 08.9
comp=Z,2µm,19.3s,baz=96,slow=35
TUC Tucson 96.60 302 IAMs_20 IAMs_20 17 00 19.4
comp=Z,6µm,20.0s
ZSN Zaisan 96.67 43 *e*P **P** **16 21 44.5 -0.2**
ZSN *e*S **SKSac** **16 32 21.1 -0.7**
ZSN Zaisan 96.67 43 *e*P **P** **16 21 44.4 -0.2**
ZSN *e*S **SKSac** **16 32 21.0 -0.7**
WUAZ Wupatki 96.91 305 IAMs_20 IAMs_20 16 58 57.4
comp=Z,6µm,21.0s
WMQ Urumqi 99.05 46 *e*P **Pdif** **16 21 55.0 -0.5**
WMQ sP pwP 16 22 04.6 +1.6
WMQ PP **PP** **16 25 58.9 +1.3**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ LR LR
comp=Z,10µm,16.7s
WMQ LR LR
comp=Z,8µm,21.9s
WMQ LR LR
comp=Z,7µm,21.9s
ELK Elko 99.49 311 LR LR 17 01 26.5
comp=Z,14µm,21.2s,baz=86,slow=32
NEE2 Needles Airpor 99.62 305 IAMs_20 IAMs_20 17 01 47.2
comp=Z,5µm,20.0s
NEW Newport 99.78 319 LR LR 17 01 40.2
comp=Z,18µm,21.5s,baz=78,slow=32
GLA Glamis 99.95 303 IAMs_20 IAMs_20 17 03 00.0
comp=Z,6µm,20.0s
IRM Iron Mountain 100.11 304 IAMs_20 IAMs_20 17 01 47.2
comp=Z,7µm,21.0s
DANC Danby, Needles 100.26 305 IAMs_20 IAMs_20 17 02 25.1
comp=Z,7µm,20.0s
BC3 Big Chuckawall 100.41 304 IAMs_20 IAMs_20 17 03 05.3
comp=Z,7µm,20.0s
BMO Blue Mountains 100.45 315 IAMs_20 IAMs_20 17 04 13.0
comp=Z,8µm,19.0s
TPNV Topopah Spring 100.71 307 IAMs_20 IAMs_20 17 10 59.9
comp=Z,5µm,18.0s
BELC Belle Mtn. Jos 100.83 304 IAMs_20 IAMs_20 17 02 19.3
comp=Z,8µm,21.0s
PFO Pinyon Flats O 101.25 304 IAMs_20 IAMs_20 17 03 40.4
comp=Z,6µm,20.0s
FURC Furnace Creek, 101.26 307 IAMs_20 IAMs_20 17 10 31.4
comp=Z,7µm,18.0s
VNDA Vanda 101.36 179 P **Pdif** **16 22 06.2 +1.1**
comp=Z,1.4nm,1.0s,baz=216,slow=4.2,SNR=5.5
VNDA PP **PP** **16 26 11.9 -2.0**
comp=Z,3.4nm,1.2s,baz=208,slow=9.3,SNR=4.5
BAR Barrett 101.53 303 IAMs_20 IAMs_20 17 02 59.9
comp=Z,6µm,20.0s
WVOR Wild Horse Val 101.78 313 IAMs_20 IAMs_20 17 04 33.6
comp=Z,6µm,19.0s
MPMC Manual Prospec 101.81 306 IAMs_20 IAMs_20 17 11 44.0
comp=Z,6µm,18.0s
CPE Camp Elliot 101.87 303 IAMs_20 IAMs_20 17 03 19.9
comp=Z,6µm,20.0s
WSHM Spangler Hills 101.87 306 IAMs_20 IAMs_20 17 11 54.7
comp=Z,5µm,18.0s
LRMC Laurel Mtn Rad 102.04 306 IAMs_20 IAMs_20 17 12 00.1
comp=Z,6µm,18.0s
NVAR Mina Array Bea 102.14 309 PKKPbc PKKPbc 16 38 15.5 +1.5
comp=Z,0.7nm,0.8s,baz=239,slow=4.9,SNR=4.0
BFSC Mount Baldy Ra 102.17 305 IAMs_20 IAMs_20 17 05 38.8
comp=Z,7µm,20.0s
F31M Tsiigehtchic 102.22 340 IAMs_20 IAMs_20 17 04 15.5
comp=Z,5µm,20.0s
TIN Tinemaha, Big 102.27 308 IAMs_20 IAMs_20 17 02 16.1
comp=Z,7µm,22.0s
MWC Mount Wilson 102.50 305 IAMs_20 IAMs_20 17 03 23.5
comp=Z,8µm,21.0s
PASC Pasadena Art C 102.61 305 IAMs_20 IAMs_20 17 03 48.5
comp=Z,6µm,20.0s
G31M Satah River 102.65 340 IAMs_20 IAMs_20 17 08 55.7
comp=Z,5µm,19.0s
F30M Barrier River 102.83 341 IAMs_20 IAMs_20 17 04 25.5
comp=Z,6µm,20.0s
OSI Osito Audit: C 103.00 305 IAMs_20 IAMs_20 17 03 39.6
comp=Z,8µm,22.0s
H31M Peel River 103.20 339 IAMs_20 IAMs_20 17 04 21.3
comp=Z,5µm,20.0s
LSA Lhasa 103.49 60 IAMs_20 IAMs_20 17 13 19.3
comp=Z,5µm,21.0s
CMB Columbia Colle 103.82 309 IAMs_20 IAMs_20 17 10 45.9
comp=Z,5µm,18.0s
G29M Pine Creek 103.94 340 IAMs_20 IAMs_20 17 05 09.7
comp=Z,5µm,19.0s
WELL Weller Preserv 104.01 309 IAMs_20 IAMs_20 17 06 38.0
comp=Z,8µm,20.0s
I30M Mount Dempster 104.23 339 IAMs_20 IAMs_20 17 04 34.4
comp=Z,6µm,20.0s
J30M Hart River 104.53 338 IAMs_20 IAMs_20 17 10 07.5
comp=Z,4µm,18.0s
R33M Jennings River 104.57 332 IAMs_20 IAMs_20 17 12 54.0
comp=Z,5µm,18.0s
SUTB Sutter Butte 104.69 310 IAMs_20 IAMs_20 17 06 08.8
comp=Z,8µm,20.0s
N32M Quiet Lake 104.80 334 IAMs_20 IAMs_20 17 05 51.9
comp=Z,6µm,21.0s
HULI Fort Hunter Li 104.82 307 IAMs_20 IAMs_20 17 12 51.7
comp=Z,6µm,18.0s
I29M Ogilvie Camp, 104.85 339 IAMs_20 IAMs_20 17 07 21.0
comp=Z,6µm,21.0s
SAO San Andreas Ge 104.86 308 IAMs_20 IAMs_20 17 09 18.7
comp=Z,7µm,19.0s
M31M Drury Creek, Y 104.89 335 IAMs_20 IAMs_20 17 12 49.2
comp=Z,6µm,18.0s
MHC Mount Hamilton 104.92 308 IAMs_20 IAMs_20 17 11 20.1
comp=Z,6µm,18.0s
N02D Trinity Center 105.04 312 IAMs_20 IAMs_20 17 11 43.0
comp=Z,6µm,18.0s
P33M Teslin, Yukon 105.09 333 IAMs_20 IAMs_20 17 07 02.5
comp=Z,6µm,20.0s
FORD Fort Ord Natur 105.14 308 IAMs_20 IAMs_20 17 09 36.1
comp=Z,6µm,19.0s
G27K Doyon Strip 105.19 341 IAMs_20 IAMs_20 17 05 44.9
comp=Z,5µm,20.0s
J29N Klondike Camp 105.30 338 IAMs_20 IAMs_20 17 06 51.7
comp=Z,6µm,22.0s
Q32M Nakina River 105.36 332 IAMs_20 IAMs_20 17 07 40.8
comp=Z,7µm,20.0s
JRSC Jasper Ridge 105.38 308 IAMs_20 IAMs_20 17 11 33.2
comp=Z,5µm,18.0s
I28M Miner Creek 105.38 340 IAMs_20 IAMs_20 17 06 28.9
comp=Z,6µm,22.0s
H27K Steamboat Moun 105.48 341 IAMs_20 IAMs_20 17 13 55.6
comp=Z,5µm,19.0s
KHBM Hayfork Bally 105.49 312 IAMs_20 IAMs_20 17 11 58.8
comp=Z,5µm,18.0s
GOMU GeErMu 105.61 53 Pdif **Pdif** **16 22 24.0 -1.2**
GOMU LR LR
comp=Z,3µm,18.8s
GOMU LR LR
comp=Z,3µm,18.0s
GOMU LR LR
comp=Z,7µm,19.2s
M30M Minto, Yukon 105.70 336 IAMs_20 IAMs_20 17 10 19.5
comp=Z,6µm,19.0s
TIXI Tiksi 105.71 12 IAMs_20 IAMs_20 17 17 21.4
comp=Z,5µm,20.0s
P32M Atlin 105.77 333 IAMs_20 IAMs_20 17 08 09.4
comp=Z,7µm,20.0s
C23K Itkillik River 105.79 346 IAMs_20 IAMs_20 17 09 15.6
comp=Z,6µm,21.0s
N31M Braeburn, Yuko 105.81 335 IAMs_20 IAMs_20 17 11 31.5
comp=Z,5µm,19.0s
KEBM Edson Butte 105.81 314 IAMs_20 IAMs_20 17 10 59.2
comp=Z,6µm,18.0s
FARB Farallon Islan 105.92 309 IAMs_20 IAMs_20 17 10 10.4
comp=Z,5µm,19.0s
L29M L29M 105.96 337 IAMs_20 IAMs_20 17 09 10.3
comp=Z,5µm,18.0s
JCC Jacoby Creek, 106.06 312 IAMs_20 IAMs_20 17 05 39.8
comp=Z,8µm,21.0s
B22K Teshekpuk Lake 106.09 347 IAMs_20 IAMs_20 17 06 51.8
comp=Z,5µm,21.0s
ZIRO ZIRO 106.10 62 *e*P **Pdif** **16 22 26.8 -0.6**
O30N Mendenhall 106.28 334 IAMs_20 IAMs_20 17 09 10.0
comp=Z,6µm,20.0s
N30M Aishikik Lake 106.37 335 IAMs_20 IAMs_20 17 13 26.3
comp=Z,5µm,18.0s
D23K Nanushuk River 106.42 345 IAMs_20 IAMs_20 17 09 53.3
comp=Z,6µm,22.0s
M29M Somme Creek 106.44 337 IAMs_20 IAMs_20 17 13 55.9
comp=Z,5µm,18.0s
IMP Imphal 106.51 65 *e*P **Pdif** **16 22 28.4 -0.8**
KOHI KOHIMA 106.55 64 *e*P **Pdif** **16 22 28.5 -0.9**
I26K Coal Creek Min 106.57 340 IAMs_20 IAMs_20 17 07 11.3
comp=Z,5µm,21.0s
BESE Bessie Mountai 106.74 332 IAMs_20 IAMs_20 17 14 09.3
comp=Z,5µm,20.0s
B21K Ikpikpuk River 106.90 347 IAMs_20 IAMs_20 17 07 53.3
comp=Z,5µm,22.0s
K27K Chicken 106.94 339 IAMs_20 IAMs_20 17 08 38.2
comp=Z,7µm,21.0s
D22K Ayikyak River 106.99 346 IAMs_20 IAMs_20 17 13 16.3
comp=Z,4µm,18.0s
J26L Joseph Creek 107.19 340 IAMs_20 IAMs_20 17 07 55.8
comp=Z,5µm,20.0s
PRP Porcupine Dome 107.23 341 IAMs_20 IAMs_20 17 07 15.7
comp=Z,6µm,21.0s
L27K Beaver Creek, 107.40 338 IAMs_20 IAMs_20 17 10 20.4
comp=Z,5µm,20.0s
P29M Windy Craggy 107.56 334 IAMs_20 IAMs_20 17 11 23.7
comp=Z,6µm,19.0s
O29M Mount Kennedy 107.58 335 IAMs_20 IAMs_20 17 14 21.4
comp=Z,6µm,19.0s
SCRK Sand Creek 107.65 339 IAMs_20 IAMs_20 17 08 09.0
comp=Z,7µm,21.0s
J25K Salcha River, 107.74 340 IAMs_20 IAMs_20 17 07 55.3
comp=Z,5µm,21.0s
M27K Edge Creek, AK 107.82 337 IAMs_20 IAMs_20 17 09 16.5
comp=Z,5µm,20.0s
DOT Dot Lake 107.88 339 IAMs_20 IAMs_20 17 08 35.0
comp=Z,6µm,21.0s
L26K Log Cabin Wild 107.99 338 IAMs_20 IAMs_20 17 06 51.9
comp=Z,5µm,20.0s
O28M Mount Upton 108.02 335 IAMs_20 IAMs_20 17 13 38.9
comp=Z,5µm,20.0s
D20K Etivluk River 108.06 347 IAMs_20 IAMs_20 17 08 26.9
comp=Z,6µm,21.0s
RIDG Independent Ri 108.10 339 IAMs_20 IAMs_20 17 08 31.8
comp=Z,6µm,20.0s
POKR Poker Plat Res 108.10 341 IAMs_20 IAMs_20 17 08 02.8
comp=Z,4µm,20.0s
ILAR Eielson Array 108.15 341 PP **PP** **16 26 58.3 -6.2**
comp=Z,1.1nm,1.1s,baz=34,slow=10.0,SNR=2.8
BCPM Bancas Point 108.22 335 IAMs_20 IAMs_20 17 08 21.2
comp=Z,6µm,20.0s
M26K Nabesna, AK 108.22 338 IAMs_20 IAMs_20 17 07 30.1
comp=Z,5µm,21.0s
H23K Yukon River 108.29 342 IAMs_20 IAMs_20 17 07 24.6
comp=Z,5µm,22.0s
LOGN Logan Glacier 108.33 336 IAMs_20 IAMs_20 17 11 60.0
comp=Z,5µm,20.0s
CTGM Chitina Glacie 108.38 336 IAMs_20 IAMs_20 17 14 29.5
comp=Z,5µm,20.0s
K24K Donelly Dome 108.39 340 IAMs_20 IAMs_20 17 08 34.4
comp=Z,5µm,20.0s
BARN Barnard Glacie 108.46 336 IAMs_20 IAMs_20 17 10 56.6
comp=Z,5µm,20.0s
TABL Table Mountain 108.59 335 IAMs_20 IAMs_20 17 14 06.1
comp=Z,5µm,19.0s
GRNC Granite Creek 108.69 336 IAMs_20 IAMs_20 17 15 17.4
comp=Z,5µm,19.0s
I23K Minto, Yukon-K 108.69 342 IAMs_20 IAMs_20 17 15 35.4
comp=Z,4µm,19.0s
GTA Gaotai 108.79 49 Pdif **Pdif** **16 22 37.9 -1.1**
GTA PP **PP** **16 27 11.1 +0.7**
GTA S **Sdif** **16 34 48.3 0.0**
GTA SS **SS** **16 42 26.8 -1.6**
GTA LR LR
comp=Z,4µm,21.4s
GTA LR LR
comp=Z,5µm,17.8s
GTA LR LR
comp=Z,7µm,19.6s
PAX Paxson 108.80 339 IAMs_20 IAMs_20 17 10 02.2
comp=Z,5µm,21.0s
MCARA McCarthy VSAT 108.83 337 IAMs_20 IAMs_20 17 12 54.1
comp=Z,6µm,19.0s
YAH Yahtse 108.89 336 IAMs_20 IAMs_20 17 14 15.9
comp=Z,6µm,20.0s
NEA2 Nenana 108.97 341 IAMs_20 IAMs_20 17 08 28.8
comp=Z,4µm,20.0s
ISLE Juniper Island 109.00 336 IAMs_20 IAMs_20 17 09 54.7
comp=Z,6µm,22.0s
MESA MESA 109.08 335 IAMs_20 IAMs_20 17 11 34.7
comp=Z,7µm,19.0s
VRDI Verde Repeater 109.08 337 IAMs_20 IAMs_20 17 10 44.9
comp=Z,5µm,20.0s
GLB Gilahina Butte 109.10 337 IAMs_20 IAMs_20 17 08 35.3
comp=Z,5µm,22.0s
TGL Tana Glacier 109.11 336 IAMs_20 IAMs_20 17 13 37.6
comp=Z,5µm,20.0s
F20K Avaraart Lake 109.13 345 IAMs_20 IAMs_20 17 09 26.8
comp=Z,6µm,22.0s
E19K Redstone River 109.19 346 IAMs_20 IAMs_20 17 09 09.4
comp=Z,6µm,22.0s
MLY Manley 109.20 342 IAMs_20 IAMs_20 17 08 31.8
comp=Z,5µm,21.0s
CRQM Cirque 109.23 336 IAMs_20 IAMs_20 17 12 31.4
comp=Z,5µm,20.0s
WAX Waxell Ridge 109.29 336 IAMs_20 IAMs_20 17 10 14.5
comp=Z,7µm,21.0s
N25K Chitina, Valde 109.31 337 IAMs_20 IAMs_20 17 10 21.7
comp=Z,5µm,20.0s
BWN Browne 109.39 341 IAMs_20 IAMs_20 17 13 00.3
comp=Z,4µm,19.0s
DHY Denali Highway 109.41 340 IAMs_20 IAMs_20 17 15 50.3
comp=Z,6µm,20.0s
I21K Tanana 109.47 343 IAMs_20 IAMs_20 17 14 58.9
comp=Z,4µm,19.0s
BERG Berg Lake 109.67 336 IAMs_20 IAMs_20 17 13 13.4
comp=Z,7µm,20.0s
BMRM Bremner River 109.69 337 IAMs_20 IAMs_20 17 10 27.9
comp=Z,6µm,21.0s
RND Reindeer 109.70 340 IAMs_20 IAMs_20 17 09 28.0
comp=Z,5µm,20.0s
KLU Klutina 109.88 338 IAMs_20 IAMs_20 17 08 32.9
comp=Z,6µm,21.0s
E18K Tukpahlearik C 110.00 347 IAMs_20 IAMs_20 17 11 07.2
comp=Z,5µm,21.0s
DIV Divide 110.04 337 IAMs_20 IAMs_20 17 09 06.5
comp=Z,5µm,19.0s
RAGM Ragged Mountai 110.06 336 IAMs_20 IAMs_20 17 16 05.9
comp=Z,7µm,19.0s
SCM Sheep Creek Mo 110.19 339 IAMs_20 IAMs_20 17 12 33.0
comp=Z,6µm,21.0s
C16K Lisburne Hills 110.26 349 IAMs_20 IAMs_20 17 16 49.1
comp=Z,4µm,18.0s
KTH Kantishna Hill 110.28 341 IAMs_20 IAMs_20 17 11 15.4
comp=Z,5µm,21.0s
SML Sawmill 110.57 339 IAMs_20 IAMs_20 17 16 56.0
comp=Z,5µm,18.0s
TNCH TengChong 110.60 64 *e*Pdif **Pdif** **16 22 47.8 +0.4**
TNCH PP **PP** **16 27 27.6 +3.5**
TNCH S **Sdif** **16 35 00.3 -3.8**
TNCH AMB AMB
comp=Z,640nm,8.0s
TNCH LR LR
comp=Z,850nm,22.4s
TNCH LR LR
comp=Z,1µm,24.9s
TNCH LR LR
comp=Z,6µm,25.2s
SONM Songino Array 110.67 39 Pdiff **Pdif** **16 22 54.6 +7.4**
comp=Z,0.2nm,0.3s,baz=259,slow=3.7,SNR=5.4
SONM PKiKP **PKiKP** **16 26 48.8 +1.5**
comp=Z,2.1nm,0.9s,baz=247,slow=2.0,SNR=4.3
GLI Glacier Island 110.71 338 IAMs_20 IAMs_20 17 09 07.7
comp=Z,5µm,21.0s
G18K Tagagawik 110.77 345 IAMs_20 IAMs_20 17 10 56.2
comp=Z,5µm,22.0s
GHO Glory Hole Cre 110.80 339 IAMs_20 IAMs_20 17 17 29.3
comp=Z,5µm,19.0s
CUT Chulitna 110.85 340 IAMs_20 IAMs_20 17 10 20.4
comp=Z,4µm,20.0s
KNK Knik Glacier 110.87 339 IAMs_20 IAMs_20 17 13 03.1
comp=Z,6µm,20.0s
PPLA Purkeypile 111.15 341 IAMs_20 IAMs_20 17 10 06.4
comp=Z,6µm,21.0s
PWL Port Wells 111.19 338 IAMs_20 IAMs_20 17 09 12.4
comp=Z,5µm,20.0s
RC01 Rabbit Creek A 111.55 339 IAMs_20 IAMs_20 17 14 58.0
comp=Z,5µm,22.0s
SKT Skwentna 111.58 340 IAMs_20 IAMs_20 17 10 42.6
comp=Z,5µm,20.0s
CMAR Chiang Mai Arr 111.84 71 PKiKP **PKiKP** **16 26 51.5 +1.3**
comp=Z,0.8nm,0.7s,baz=253,slow=3.5,SNR=7.3
CMAR PKKPab **PKKPab** **16 37 54.6 +2.6**
comp=Z,0.4nm,0.3s,baz=123,slow=2.1,SNR=5.0
SEW Seward 112.10 338 IAMs_20 IAMs_20 17 10 11.6
comp=Z,7µm,21.0s
SLKM Skilak Lake 112.12 338 IAMs_20 IAMs_20 17 09 33.0
comp=Z,6µm,21.0s
J18K Innoko River 112.13 343 IAMs_20 IAMs_20 17 10 35.3
comp=Z,5µm,20.0s
M20K Styx River 112.18 341 IAMs_20 IAMs_20 17 11 05.7
comp=Z,5µm,21.0s
L19K White Mountain 112.53 341 IAMs_20 IAMs_20 17 14 37.7
comp=Z,5µm,21.0s
M19K Big River Lodg 112.58 341 IAMs_20 IAMs_20 17 17 19.2
comp=Z,6µm,19.0s
PZH PanZhiHua 113.22 62 PKP **PKiKP** **16 26 51.8 -1.0**
PZH PP **PP** **16 27 47.8 +5.1**
PZH AMB AMB
comp=Z,530nm,7.8s
PZH LR LR
comp=Z,2µm,20.9s
PZH LR LR
comp=Z,3µm,25.0s
PZH LR LR
comp=Z,3µm,23.9s
N19K Bonanza Creek 113.41 340 IAMs_20 IAMs_20 17 13 03.0
comp=Z,5µm,20.0s
O19K Port Alsworth 113.80 340 IAMs_20 IAMs_20 17 11 03.4
comp=Z,4µm,21.0s
M17K Holitna River 113.93 342 IAMs_20 IAMs_20 17 13 03.7
comp=Z,6µm,22.0s
N18K Kilae Creek 113.97 341 IAMs_20 IAMs_20 17 20 02.0
comp=Z,4µm,18.0s
CD2 Chengdu 114.01 57 PKP PKPdf 16 26 53.9 -0.2
CD2 PP **PP** **16 27 46.8 -1.3**
CD2 SS SS 16 43 32.0 -6.4
CD2 AMB AMB
comp=Z,480nm,9.2s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,7µm,24.0s
CD2 LR LR
comp=Z,7µm,30.0s
SYI Shuyak Island 114.22 338 IAMs_20 IAMs_20 17 10 52.7
comp=Z,5µm,21.0s
L16K Owhat River 114.30 343 IAMs_20 IAMs_20 17 12 51.7
comp=Z,5µm,21.0s
O18K Koktuh Hills 114.35 340 IAMs_20 IAMs_20 17 13 21.1
comp=Z,6µm,21.0s
K15K Wolf Creek Mou 114.42 344 IAMs_20 IAMs_20 17 11 54.7
comp=Z,5µm,22.0s
Q19K Cape Douglas, 114.47 338 IAMs_20 IAMs_20 17 13 44.1
comp=Z,6µm,19.0s
N17K Nushagak Hills 114.51 341 IAMs_20 IAMs_20 17 15 25.3
comp=Z,6µm,20.0s
M16K Timber Creek 114.69 342 IAMs_20 IAMs_20 17 17 38.9
comp=Z,6µm,19.0s
IPM Ipoh 114.76 86 IAMs_20 IAMs_20 17 13 00.6
comp=Z,4µm,19.0s
KDAK Kodiak Island 114.87 337 IAMs_20 IAMs_20 17 16 58.8
comp=Z,6µm,20.0s
N15K Kwethluk River 115.71 342 IAMs_20 IAMs_20 17 15 39.8
comp=Z,7µm,20.0s
M14K Bethel 115.80 343 IAMs_20 IAMs_20 17 19 18.1
comp=Z,6µm,19.0s
N14K Kuskokwak Cree 116.39 343 IAMs_20 IAMs_20 17 14 45.7
comp=Z,4µm,21.0s
O15K Ungalikthiuk R 116.41 341 IAMs_20 IAMs_20 17 16 44.3
comp=Z,4µm,19.0s
MNAI Manna 116.49 95 IAMs_20 IAMs_20 17 12 01.0
comp=Z,5µm,20.0s
O14K Tigyukauivet M 116.80 342 IAMs_20 IAMs_20 17 13 24.6
comp=Z,5µm,21.0s
HHC Hu-ho-hao-te 116.83 44 *e*PKP **PKPdf** **16 26 55.1 -4.2**
HHC PP **PP** **16 28 09.6 +2.1**
HHC AMB AMB
comp=Z,890nm,7.6s
HHC LR LR
comp=Z,7µm,17.5s
HHC LR LR
comp=Z,9µm,19.7s
HHC LR LR
comp=Z,17µm,18.3s
GYA Guiyang 117.54 61 ⇓PKP **PKiKP** **16 27 02.3 +1.2**
GYA PP **PP** **16 28 14.8 +1.7**
GYA AMB AMB
comp=Z,720nm,11.2s
GYA LR LR
comp=Z,2µm,26.6s
GYA LR LR
comp=Z,3µm,21.2s
GYA LR LR
comp=Z,4µm,25.8s
HILR Hailar Array B 117.60 32 PKP **PKiKP** **16 27 02.1 +1.6**

comp=Z,2.0nm,0.7s,baz=82,slow=2.1,SNR=5.0
RKT Rikitea 118.01 243 eLR LR 17 02 58.1
comp=Z,32μm,37.8s
PMBI Palembang 118.38 94 IAMs_20 IAMs_20 17 12 49.1
comp=Z,5μm,19.0s
ZEA Zeya 118.54 25 ePKIKP PKiKP 16 27 11.2 +9.1
ZEA e 16 28 20.7
ZEA pmax pmax
comp=Z,10.0nm,1.4s
TIY Taiyuan 118.70 47 PKP **PKPdf 16 27 02.6 -0.4**
TIY SKS **SKSdf 16 34 12.4 -3.0**
TIY AMB AMB
comp=Z,940nm,10.3s
TIY LR LR
comp=Z,4μm,19.2s
TIY LR LR
comp=Z,4μm,19.9s
TIY LR LR
comp=Z,11μm,17.9s
ENH Enshi 118.94 56 IAMs_20 IAMs_20 17 23 37.5
comp=Z,6μm,21.0s
HNS HongShan 120.47 46 ⇑PKP **PKiKP 16 27 08.3 +1.9**
HNS PP **PP 16 28 35.6 +3.0**
HNS AMB AMB
comp=Z,1μm,11.8s
HNS LR LR
comp=Z,7μm,21.6s
HNS LR LR
comp=Z,5μm,22.6s
HNS LR LR
comp=Z,7μm,22.6s
HEH HeiHe 121.02 28 PKP **PKPdf 16 27 05.4 -1.5**
HEH sPKP 16 27 13.5
HEH AMB AMB
comp=Z,980nm,6.9s
HEH LR LR
comp=Z,9μm,22.9s
HEH LR LR
comp=Z,6μm,18.9s
HEH LR LR
comp=Z,14μm,23.5s
GULI GuiLin 121.06 61 ⇓PKP **PKiKP 16 27 09.1 +1.2**
GULI PP **PP 16 28 35.3 -1.9**
GULI SS SS 16 45 13.3 +3.1
GULI LR LR
comp=Z,3μm,21.6s
GULI LR LR
comp=Z,3μm,24.8s
GULI LR LR
comp=Z,5μm,24.0s
QIZ Qiongzhong 121.97 68 PKP **PKPdf 16 27 08.8 -0.9**
QIZ PP **PP 16 28 43.5 -0.2**
QIZ SS SS 16 45 22.8 +0.4
QIZ AMB AMB
comp=Z,280nm,3.9s
QIZ LR LR
comp=Z,2μm,19.0s
QIZ LR LR
comp=Z,2μm,15.1s
QIZ LR LR
comp=Z,4μm,20.6s
QIZ Qiongzhong 121.97 68 IAMs_20 IAMs_20 17 28 43.8
comp=Z,4μm,20.0s
WHN Wuhan 122.83 54 PKP **PKiKP 16 27 12.3 +1.1**
WHN PP **PP 16 28 54.9 +5.9**
WHN LR LR
comp=Z,6μm,15.6s
WHN LR LR
comp=Z,18μm,17.8s
SMRI Semarang 123.69 99 IAMs_20 IAMs_20 17 14 15.0
comp=Z,4μm,20.0s
CN2 Changchun 124.18 35 PKP **PKPdf 16 27 09.8 -3.4**
CN2 ePP **PP 16 28 58.6 +1.3**
CN2 AMB AMB
comp=Z,600nm,10.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,20.0s
SNY Shenyang 124.24 38 ⇑PKP **PKiKP 16 27 15.1 +1.4**
SNY PP **PP 16 28 59.1 +1.3**
SNY SS SS 16 45 49.6 +0.6
SNY AMB AMB
comp=Z,400nm,9.1s
SNY LR LR
comp=Z,6μm,24.3s
SNY LR LR
comp=Z,7μm,18.8s
SNY LR LR
comp=Z,11μm,23.0s
TAOE Nuku Hiva Isla 125.70 258 ePP **PP 16 29 09.0 -0.1**
comp=Z,233nm,25.2s
TAOE eS **SKSdf 16 34 32.8 +3.3**
comp=Z,218nm,23.8s
TAOE Nuku Hiva Isla 125.70 258 eSS SS 16 46 01.6 -8.5
comp=Z,3μm,28.9s
TAOE Nuku Hiva Isla 125.70 258 eLQ LQ 17 00 57.9
comp=Z,20μm,35.3s
TAOE eLR LR 17 06 28.4
comp=Z,5μm,22.1s
NJ2 Nanjing 125.81 50 ePKP **PKiKP 16 27 17.9 +0.8**
NJ2 PP **PP 16 29 10.0 +1.1**
NJ2 SS SS 16 46 11.1 +1.4
NJ2 AMB AMB
comp=Z,1μm,8.5s
NJ2 LR LR
comp=Z,6μm,19.2s
NJ2 LR LR
comp=Z,3μm,16.7s
NJ2 LR LR
comp=Z,6μm,20.2s
MDJ Mudanjiang 125.93 32 PKP **PKiKP 16 27 18.3 +1.3**
MDJ PP **PP 16 29 09.3 +0.4**
MDJ AMB AMB
comp=Z,1μm,10.2s
MDJ LR LR
comp=Z,5μm,24.3s
MDJ LR LR
comp=Z,7μm,24.1s
MDJ LR LR
comp=Z,15μm,24.5s
JAGI Jajag, Banyuwa 127.17 101 IAMs_20 IAMs_20 17 22 45.2
comp=Z,3μm,19.0s
USRK Ussuriysk Ar. 127.46 31 PKP **PKiKP 16 27 20.7 +0.7**
USRK comp=Z,16nm,1.3s,baz=287,slow=3.2,SNR=7.5 PP **PP 16 29 21.4 +2.4**
comp=Z,3.5nm,1.0s,baz=306,slow=6.8,SNR=4.9
PETK Petropavlovsk- 127.75 7 PKP **PKiKP 16 27 22.0 +1.7**
comp=Z,2.9nm,0.9s,baz=29,slow=3.3,SNR=2.9
SSE Sheshan 128.02 50 PKP **PKiKP 16 27 22.8 +1.3**
SSE PP **PP 16 29 27.4 +3.9**
SSE SS SS 16 46 40.5 +3.2
SSE AMB AMB
comp=Z,750nm,6.9s
SSE LR LR
comp=Z,2μm,18.0s
SSE LR LR
comp=Z,4μm,17.8s
MBWA Marble Bar 129.38 119 PKP **PKiKP 16 27 24.8 +0.2**
KSRS Korea Array 129.51 40 PKP **PKiKP 16 27 25.1 +0.8**
comp=Z,7.5nm,1.3s,baz=299,slow=4.7,SNR=7.3
KSRS PP **PP 16 29 30.2 -2.6**
comp=Z,2.7nm,1.1s,baz=286,slow=4.5,SNR=4.3
TWSI Taliwang, Sumb 129.81 102 PKP **PKPdf 16 27 25.2 +0.4**
YSS Yuzhno-Sakhali 130.00 21 i PKIKP **PKiKP 16 27 23.8 -0.4**
YSS e 16 29 34.8
YSS ePS PS 16 39 45.0 -1.8
YSS eSS SS 16 46 52.6 -7.1
YSS eSSS SSS 16 51 56.0
YSS pmax pmax
comp=Z,20nm,1.4s
TBI Tubuai 130.55 238 ePKIKP **PKPdf 16 27 24.8 -1.1**
comp=Z,273nm,30.5s
TBI Tubuai 130.55 238 ePP **PP 16 29 37.4 -2.9**
comp=Z,2μm,29.0s
TBI Tubuai 130.55 238 eSS SS 16 47 08.3 -0.7
comp=Z,15μm,28.2s
TBI Tubuai 130.55 238 eLQ LQ 17 03 02.5
comp=Z,22μm,37.0s
TBI eLR LR 17 08 40.1
comp=Z,49μm,29.0s
TBI eLR LR 17 08 42.2
comp=Z,10μm,30.0s
TPUB Ta-pu 130.59 60 IAMs_20 IAMs_20 17 31 13.5
comp=Z,5μm,21.0s
TATO Taipei 130.73 58 IAMs_20 IAMs_20 17 35 52.1
comp=Z,4μm,19.0s
YHNB Yeheng 130.75 58 IAMs_20 IAMs_20 17 35 41.4
comp=Z,5μm,19.0s
TWG Pinlang 131.13 60 IAMs_20 IAMs_20 17 34 30.2
comp=Z,5μm,21.0s
PMOR Pomariorio Ree 131.91 249 eP **PKiKP 16 27 29.3 -0.4**
comp=Z,63nm,1.4s
PMOR Pomariorio Ree 131.91 249 eLR LR 17 09 20.4
comp=Z,6μm,20.9s
TVO Taravao 132.35 245 eP **PKiKP 16 27 31.3 +0.7**
comp=Z,22nm,1.3s
TVO Taravao 132.35 245 eLR LR 17 09 29.9
comp=Z,2μm,24.1s
TIAR Tiarei 132.50 245 eSS SS 16 47 26.3 -7.2
comp=Z,8μm,28.4s
TIAR Tiarei 132.50 245 eLR LR 17 09 33.5
comp=Z,7μm,23.3s
PAE Paea 132.68 245 eSS SS 16 47 34.7 -0.8
comp=Z,512nm,26.9s
PAE Paea 132.68 245 eLR LR 17 09 37.3
comp=Z,2μm,22.9s
PPT2 Papeete2 132.70 245 ePP **PP 16 29 47.7 -6.9**
comp=Z,412nm,26.8s
PPT2 Papeete2 132.70 245 eSS SS 16 47 33.4 -2.6
comp=Z,6μm,29.0s
PPT2 Papeete2 132.70 245 eLQ LQ 17 03 49.4
comp=Z,9μm,45.0s
PPT2 eLR LR 17 09 37.8
comp=Z,8μm,23.0s
PPT2 eLR LR 17 09 43.0
comp=Z,6μm,23.0s
TAU Tasmania Unive 132.92 161 IAMs_20 IAMs_20 17 20 29.9
comp=Z,5μm,20.0s
WSI Waingapu 132.97 104 PKP **PKiKP 16 27 32.4 +0.5**
WHZ Wether Hill Ro 133.11 182 IAMs_20 IAMs_20 17 17 40.2
comp=Z,5μm,22.0s
KAPI Kappang 133.12 98 IAMs_20 IAMs_20 17 22 32.8
comp=Z,4μm,20.0s
SPSI Sidrap Palu 133.24 97 PKP **PKiKP 16 27 33.0 +0.5**
LBZ Lake Benmore 134.51 184 IAMs_20 IAMs_20 17 18 25.0
comp=Z,5μm,21.0s
MMRI Maumere 135.04 103 IAMs_20 IAMs_20 17 21 56.7
comp=Z,3μm,20.0s
OXZ Oxford 135.40 186 IAMs_20 IAMs_20 17 21 10.6
comp=Z,5μm,21.0s
INZ Inchbonnie 136.06 185 IAMs_20 IAMs_20 17 21 51.9
comp=Z,5μm,21.0s
MJAR Matsushiro Arr 136.26 33 **PKiKP 16 27 38.0 -0.1**
MJAR Matsushiro Arr 136.26 33 PKP **PKiKP 16 27 37.8 -0.2**
comp=Z,3.9nm,0.9s,baz=326,slow=1.9,SNR=8.0
MJAR PP **PP 16 30 15.3 -0.5**
comp=Z,2.0nm,0.9s,baz=313,slow=5.3,SNR=4.5
MJAR Matsushiro Arr 136.26 33 PKIKP **PKiKP 16 27 38.0 -0.1**
LUWI Luwuk 136.44 93 PKP **PKPdf 16 27 32.1 -5.2**
LUWI Luwuk 136.44 93 IAMs_20 IAMs_20 17 21 40.6
comp=Z,4μm,22.0s
SOEI Soe 136.79 106 PKP **PKPdf 16 27 36.4 -1.7**
BHW Baring Head 136.91 189 IAMs_20 IAMs_20 17 21 09.3
comp=Z,4μm,22.0s
MRZ Mangatainoka R 137.51 190 IAMs_20 IAMs_20 17 27 09.3
comp=Z,4μm,20.0s
QRZ Quartz Range 137.81 187 IAMs_20 IAMs_20 17 24 34.4
comp=Z,5μm,19.0s
KNRA Kununurra 139.33 116 **PKPdf 16 27 38.8 -3.7**
SANI Sanana 139.59 95 PKP **PKPdf 16 27 41.1 -2.0**
STKA Stephens Creek 139.66 147 **PKPdf 16 27 41.6 -1.1**
STKA Stephens Creek 139.66 147 PKhKP PKPpre 16 27 36.1
comp=Z,3.1nm,0.7s,baz=165,slow=6.1,SNR=3.8
STKA PKP **PKPdf 16 27 43.5 +0.7**
comp=Z,9.0nm,1.0s,baz=190,slow=2.2,SNR=7.5
MXZ Matakaoa Point 139.88 195 IAMs_20 IAMs_20 17 24 07.1
comp=Z,4μm,21.0s
ASAR Alice Springs 140.01 130 PKPpre PKPpre 16 27 35.6
ASAR Alice Springs 140.01 130 PKhKP PKPpre 16 27 35.8
comp=Z,7.1nm,1.0s,baz=226,slow=3.4,SNR=30
ASAR Alice Springs 140.01 130 PKHKP PKPpre 16 27 35.6
AS31 Alice Springs 140.01 130 PKPpre PKPpre 16 27 36.1
CAN Canberra 140.26 158 IAMs_20 IAMs_20 17 22 12.7
comp=Z,5μm,20.0s
INKA Innaminka 142.21 141 PKPpre PKPpre 16 27 40.8
WRA Warramunga Arr 142.31 126 PKhKP PKPpre 16 27 43.1
comp=Z,14nm,1.1s,baz=236,slow=2.7,SNR=21
WRAB Tennant Creek 142.32 126 **PKPdf 16 27 46.3 -1.6**
WRAB Tennant Creek 142.32 126 PKIKP **PKPdf 16 27 46.3 -1.6**
WRAB MLR MLR
comp=Z,7μm,20.0s
FAKI Fak Fak 145.74 97 PKP **PKPab 16 27 55.7 +0.9**
FAKI PKP pPKPbc 16 27 57.5 +0.3
RKPI Ransiki, Papua 147.79 95 PKP **PKiKP 16 28 02.3 0.0**
RKPI PKP **PKPab 16 28 02.8 +0.1**
BAKI Biak 149.74 94 PKP **PKiKP 16 28 08.2 +1.9**
BAKI PKP **sPKPbc 16 28 09.4 +0.3**
AFI Afiamalu 153.59 235 IAMs_20 IAMs_20 17 26 01.4
comp=Z,4μm,20.0s
GUMO Guam 155.48 59 IAMs_20 IAMs_20 17 44 22.9
comp=Z,3μm,21.0s
MSVF Nonsavu 157.93 211 IAMs_20 IAMs_20 17 36 49.1
comp=Z,3μm,19.0s
FUTU Fugatoga 158.20 225 IAMs_20 IAMs_20 17 27 12.8
comp=Z,4μm,22.0s

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*IDC **23** 16:19:05.3±1.1,55°.52S×27°.21W,h0km,mb4.1/4, mbtmp4.2/5,ML4.8/1,Error ellipse: s-maj=60.2km s-min=20.7km az=55.0*
*NEIC **23** 16:19:18.3±1.3,55°.8S±0°.1×27°.7W±0°.3,h103km±7km, mb4.5/11,Error ellipse: s-maj=26.6km s-min=14.6km az=45.0*
ISC 23 16:19:07.3±0.8,55°.7S±0°.1×28°.0W±0°.1,h10km,n31, σ1§40/31,mb4.6/10,1C-4D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.09**	**282**		Pn	**Pb**	**16 20 35.1**	**-1.3**
VNA1	**Neumayer--Stat**	**17.33**	**158**	⇓P		**P**	**16 23 11.4**	**+1.1**
comp=Z,6.2nm,0.6s								
VNA3	**Neumayer Olymp**	**17.51**	**160**	⇓P		**P**	**16 23 13.2**	**+0.9**
comp=Z,20nm,0.7s								
VNA2	**Neumayer--Watz**	**17.72**	**158**	⇓P		**P**	**16 23 16.0**	**+1.4**
comp=Z,14nm,0.5s,baz=318,slow=12								
SNAA	**Sanae**	**19.28**	**156**	⇑P		**P**	**16 23 32.9**	**+1.0**
comp=Z,287nm,0.4s								
SNAA	**Sanae**	**19.28**	**156**	P		**P**	**16 23 32.6**	**+0.8**
SNAA	**Sanae**	**19.28**	**156**	P		**P**	**16 23 32.7**	**+0.8**
comp=Z,2.8nm,0.3s,baz=316,slow=13,SNR=137								
comp=Z,16nm,0.6s								
TROLL	**Troll, Antarti**	**20.80**	**154**	⇓P		**P**	**16 23 49.4**	**+1.0**
comp=Z,2μm,0.7s								
BELA	**Belgrano 2**	**22.44**	**184**	P		**P**	**16 24 05.5**	**-0.4**
BELA				IAmb		IAmb	16 24 07.2	
comp=Z,10nm,0.5s								
PLTB	**Pedras Altas**	**29.91**	**312**	P		**P**	**16 25 17.7**	**+2.6**
PLTB				IAmb		IAmb	16 25 33.1	
comp=Z,14nm,1.3s								
QSPA	**South Pole Qui**	**34.59**	**180**	P		**P**	**16 25 58.4**	**+2.4**
QSPA				IAmb		IAmb	16 25 59.0	
comp=Z,6.8nm,0.7s								
BI02	**San Fabin de**	**34.77**	**285**	P		**P**	**16 25 56.5**	**-1.3**
CPUP	**Villa Florida**	**36.22**	**312**	P		**P**	**16 26 12.3**	**+2.2**
comp=Z,0.3nm,0.4s,baz=12,slow=7.9,SNR=3.3								
comp=Z,0.3nm,0.4s								
MAW	**Mawson**	**40.73**	**144**	P		**P**	**16 26 46.4**	**-1.2**
comp=Z,2.5nm,0.6s,baz=229,slow=7.7,SNR=6.7								
comp=Z,2.5nm,0.6s								
GO02	**Mina Guanaco**	**42.92**	**298**	P		**P**	**16 27 06.7**	**+0.3**
GO02				IAmb		IAmb	16 27 39.1	
comp=Z,11nm,1.4s								
SBA	**Scott Base**	**46.44**	**184**	P		**P**	**16 27 33.5**	**0.0**
SBA				IAmb		IAmb	16 27 40.4	
comp=Z,9.7nm,1.4s								
VNDA	**Vanda**	**46.94**	**183**	P		**P**	**16 27 37.1**	**-0.2**
VNDA				IAmb		IAmb	16 27 37.9	
comp=Z,3.9nm,0.6s								
VNDA	**Vanda**	**46.94**	**183**	P		**P**	**16 27 37.2**	**-0.2**
comp=Z,4.2nm,0.6s,baz=185,slow=8.4,SNR=26								
comp=Z,4.2nm,0.6s								
LPAZ	**La Paz**	**49.79**	**306**	P		**P**	**16 28 02.0**	**+1.2**
LPAZ	**La Paz**	**49.79**	**306**	P		**P**	**16 28 03.2**	**+2.5**
comp=Z,2.1nm,0.6s,baz=156,slow=5.5,SNR=6.1								
comp=Z,2.1nm,0.6s								
CASY	**Casey**	**54.43**	**161**	P		**P**	**16 28 32.6**	**-1.3**
CASY				IAmb		IAmb	16 28 34.0	
comp=Z,5.2nm,0.8s								
BOAV	**Boa Vista**	**63.70**	**323**	P		**P**	**16 29 38.5**	**-0.3**
G31M	**Satah River**	**145.07**	**319**			**PKPbc**	**16 38 41.5**	**-1.2**
INK	**Inuvik**	**145.22**	**321**	PKPdf		**PKPbc**	**16 38 41.5**	**-1.6**
I30M	**Mount Dempster**	**145.34**	**315**	PKPdf		**PKPbc**	**16 38 42.5**	**-1.3**
G29M	**Pine Creek**	**146.49**	**318**	PKPdf		**PKPdf**	**16 38 45.6**	**0.0**
H27K	**Steamboat Moun**	**147.67**	**316**			**PKPbc**	**16 38 49.5**	**-1.0**
BMAR	**Burnt Mountain**	**149.09**	**318**	PKPbc		**PKPbc**	**16 38 53.3**	**-0.9**
ILAR	**Eielson Array**	**149.52**	**312**			**PKPbc**	**16 38 53.5**	**-1.7**
ILAR	**Eielson Array**	**149.52**	**312**	PKPbc		**PKPbc**	**16 38 54.0**	**-1.2**
comp=Z,1.0nm,0.7s,baz=129,slow=2.7,SNR=9.2								
SONM	**Songino Array**	**151.15**	**86**	PKPbc		**PKPbc**	**16 38 57.9**	**-2.0**
comp=Z,1.0nm,0.5s,baz=226,slow=3.7,SNR=6.6								

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*NEIC **23** 16:20:12.1±1.6,14°.3S±0°.1×167°.3E±0°.2,h152km±7km, mb4.4/16,Error ellipse: s-maj=25.1km s-min=15.4km az=98.0*
*IDC **23** 16:20:13.4±4.7,14°.38S×167°.26E,h170km±41km,mb3.8/6, mbtmp4.2/7,Error ellipse: s-maj=33.0km s-min=26.1km az=168.0*
ISC 23 16:20:13.5±0.9,14°.38S±0°.10×167°.3E±0°.1,h170km,n32, σ1§02/33,mb4.2/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.07**	**184**			**Pn**	**16 20 38.5**	**-2.2**
MARNC	**Mare, Loyalty**	**7.10**	**174**		Pn	**Pn**	**16 21 53.5**	**-1.4**
DZM	**Mont Dzumac**	**7.70**	**186**		P	**Pn**	**16 22 03.6**	**+0.7**
2.8nm,0.4s,baz=169,slow=9.4,SNR=9.6								
DZM					S	**Sn**	**16 23 28.4**	**-0.9**
3.1nm,0.5s,baz=162,slow=19,SNR=1.3								
ONTNC	**Ouen Toro**	**7.93**	**186**		Pn	**Pn**	**16 22 06.1**	**+0.3**
PINNC	**Pines Island,**	**8.20**	**179**		Pn	**Pn**	**16 22 08.8**	**-0.5**
EIDS	**Eidsvold**	**18.73**	**232**		P	**Pn**	**16 24 21.2**	**-0.5**
EIDS					IAmb	IAmb	16 24 22.1	
comp=Z,14nm,0.6s								
COEN	**Coen**	**23.37**	**268**		P	**P**	**16 25 08.0**	**+1.0**
COEN					IAmb	IAmb	16 25 10.6	
comp=Z,17nm,1.1s								
INKA	**Innaminka**	**28.02**	**237**		P	**P**	**16 25 49.3**	**+0.5**
STKA	**Stephens Creek**	**29.23**	**229**		P	**P**	**16 26 00.1**	**+0.7**
STKA	**Stephens Creek**	**29.23**	**229**		P	**P**	**16 26 00.9**	**+1.5**
comp=Z,5.6nm,0.5s,baz=54,slow=9.0,SNR=30								
comp=Z,5.6nm,0.5s								
LBZ	**Lake Benmore**	**30.01**	**176**		P	**P**	**16 26 07.3**	**+1.1**
WR8	**Warramunga Arr**	**31.77**	**255**		P	**P**	**16 26 20.9**	**-1.1**
WR8					IAmb	IAmb	16 26 23.0	
comp=Z,7.3nm,1.3s								
WB0	**Warramunga Arr**	**31.85**	**256**		P	**P**	**16 26 21.7**	**-1.0**
WB0					IAmb	IAmb	16 26 22.2	
comp=Z,4.3nm,1.0s								
WRA	**Warramunga Arr**	**31.92**	**255**		P	**P**	**16 26 22.3**	**-0.9**
WRA	**Warramunga Arr**	**31.92**	**255**		P	**P**	**16 26 22.4**	**-0.9**
comp=Z,0.9nm,0.4s,baz=85,slow=9.2,SNR=14								
comp=Z,0.9nm,0.4s								
AS31	**Alice Springs**	**32.80**	**249**		P	**P**	**16 26 29.8**	**-1.2**
ASAR	**Alice Springs**	**32.80**	**249**		P	**P**	**16 26 29.6**	**-1.4**
ASAR	**Alice Springs**	**32.80**	**249**		P	**P**	**16 26 30.0**	**-1.0**
comp=Z,2.8nm,0.5s,baz=75,slow=9.4,SNR=90								
comp=Z,2.8nm,0.5s								
BBOO	**Buckleboo**	**33.80**	**232**		P	**P**	**16 26 39.7**	**+0.3**
FORT	**Forrest**	**39.48**	**239**		P	**P**	**16 27 27.0**	**-0.5**
FORT					IAmb	IAmb	16 27 58.9	
comp=Z,19nm,1.2s								
FITZ	**Fitzroy Crossi**	**40.09**	**259**		P	**P**	**16 27 32.6**	**0.0**
FITZ					IAmb	IAmb	16 27 48.2	
comp=Z,4.2nm,1.1s								
MBWA	**Marble Bar**	**45.64**	**254**		P	**P**	**16 28 17.2**	**-0.1**
MBWA					IAmb	IAmb	16 28 35.9	
comp=Z,16nm,1.3s								
MORW	**Morawa**	**49.42**	**244**		P	**P**	**16 28 46.3**	**-0.1**
VNDA	**Vanda**	**63.21**	**181**		P	**P**	**16 30 23.7**	**+0.6**
VNDA	**Vanda**	**63.21**	**181**		P	**P**	**16 30 22.8**	**-0.3**
comp=Z,0.6nm,0.7s,baz=353,slow=7.5,SNR=2.9								
comp=Z,0.6nm,0.7s								
QSPA	**South Pole Qui**	**75.65**	**180**		P	**P**	**16 31 41.7**	**+2.0**
ILAR	**Eielson Array**	**86.19**	**18**		P	**P**	**16 32 35.3**	**+0.1**
ILAR	**Eielson Array**	**86.19**	**18**		P	**P**	**16 32 35.1**	**0.0**
comp=Z,1.0nm,0.8s,baz=229,slow=6.3,SNR=7.5								
comp=Z,1.0nm,0.8s								
SNAA	**Sanae**	**93.90**	**183**		P	**P**	**16 33 10.7**	**-0.7**
SNAA					IAmb	IAmb	16 33 33.3	
comp=Z,6.4nm,1.5s								
SNAA	**Sanae**	**93.90**	**183**		P	**P**	**16 33 09.6**	**-1.8**
comp=Z,1.5nm,1.1s,baz=166,slow=4.2,SNR=1.9								
comp=Z,1.5nm,1.1s								
ARCES	**ARCESS Array B**	**119.91**	**345**	PKPdf		**PKiKP**	**16 38 43.6**	**+0.5**
ARCES	**ARCESS Array B**	**119.91**	**345**	PKP		**PKiKP**	**16 38 43.5**	**+0.4**
comp=Z,0.8nm,0.5s,baz=48,slow=1.8,SNR=6.1								

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*DJA **23** 16:39:25.9±0.5,4°N±4°×12°6E±°,h34km±4km,M3.9/10, mB4.7/1,mb4.0/7,MLv3.9/10,Mw(mB)4.0/1*
*IDC **23** 16:39:25.6±13.0,3°.38N×126°.54E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=213.0km s-min=158.7km az=157.0*
ISC 23 16:39:21.6±2.7,4°.3N±0°.2×125°.7E±0°.1,h35km,n9, σ1§74/10,mb3.6/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.58**	**195**		P	**Pn**	**16 39 34.5**	**+1.1**
SGSI					S	**Sn**	**16 39 40.4**	**-1.2**
MRSI	**Marisa**	**5.29**	**225**		P	**Pn**	**16 40 38.7**	**+0.6**
0.2nm813nm9.9nm,1.0s								
LUWI	**Luwuk**	**6.00**	**209**		P	**Pn**	**16 40 51.4**	**+3.4**
SANI	**Sanana**	**6.26**	**177**		P	**Pn**	**16 40 51.1**	**-0.5**
0.1nm16nm,1.2s								
NLAI	**Namlea**	**7.57**	**169**		P	**Pn**	**16 41 09.0**	**-0.5**
23nm,0.9s								
FAKI	**Fak Fak**	**9.69**	**137**		P	**Pn**	**16 41 40.6**	**+2.0**
WRA	**Warramunga Arr**	**25.50**	**161**		P	**P**	**16 44 46.0**	**-1.0**
1.1nm,0.6s,baz=343,slow=10,SNR=10								
1.1nm,0.6s								
ASAR	**Alice Springs**	**28.88**	**164**		P	**P**	**16 45 16.4**	**-0.9**
0.3nm,0.5s,baz=342,slow=7.5,SNR=8.1								
0.3nm,0.5s								
STKA	**Stephens Creek**	**38.99**	**158**		P	**P**	**16 46 45.0**	**+0.3**
0.6nm,0.4s,baz=319,slow=9.3,SNR=4.7								
0.6nm,0.4s								

TAP 23 17:10:25.9,24°.42N×121°.90E,h13km,ML1.4,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.11**	**284**		S	Sb	17 10 32.3	-0.2
ENA	**Nanau**	**0.14**	**274**	i P		Pb	17 10 30.2	-0.2
ENA				i S		Sg	17 10 32.6	+0.8
ESAO	**Su ao**	**0.16**	**343**	P		Pb	17 10 30.4	-0.4
ESAO				S		Sb	17 10 33.3	-0.8
EAHA	**Aohua**	**0.17**	**238**	P		Pb	17 10 30.6	-0.3
EAHA				S		Sb	17 10 33.6	-0.6
TWC	**Suao**	**0.20**	**347**	i P		Pb	17 10 30.9	-0.4
TWC				i S		Sg	17 10 33.9	+0.7
NDS	**Dongshan**	**0.27**	**323**	eP		Pb	17 10 32.4	-0.2
NDS				eS		Sb	17 10 37.0	-0.2
EOS2	**EOS2**	**0.31**	**90**	i P		Pb	17 10 32.8	-0.3
EOS2				i S		Sb	17 10 37.8	-0.3
LATG	**Datong**	**0.36**	**289**	P		Pb	17 10 34.1	-0.1
LATG				S		Sb	17 10 39.2	-0.5
ETL	**Fush Village**	**0.36**	**224**	eS		Sb	17 10 40.0	+0.3
NACB	**Ninganchiao**	**0.37**	**229**	P		Pg	17 10 33.5	+0.3
NACB				S		Sb	17 10 39.5	-0.5
TWE	**Neicheng**	**0.37**	**325**	eP		Pb	17 10 35.2	+0.9
TWE				eS		Sb	17 10 41.6	+1.6
ENTT	**Nioudou**	**0.37**	**306**	i P		Pb	17 10 34.5	+0.1
ENTT				i S		Sg	17 10 38.8	+0.4
EOS3	**EOS3**	**0.41**	**109**	eP		Pg	17 10 34.2	+0.3
EOS3				S		Sb	17 10 41.3	+0.4
EGS		**0.43**	**4**	eP		Pb	17 10 35.3	0.0
EGS				eS		Sb	17 10 41.7	+0.1
ETLH	**Xiulin Townshi**	**0.43**	**241**	eP		Pb	17 10 35.2	-0.3
ETLH				S		Sb	17 10 41.7	-0.2
FUSB	**Fushanzhiwuyua**	**0.44**	**321**	eP		Pb	17 10 36.3	+0.7
FUSB				S		Sb	17 10 43.2	+1.0
NNSB	**Datong**	**0.47**	**271**	eP		Pb	17 10 36.5	+0.4
NNSB				eS		Sb	17 10 42.5	-0.5
NNS	**Nan Shan**	**0.48**	**273**	eS		Sb	17 10 43.0	-0.3
NWLT	**Wulai**	**0.51**	**315**	eP		Pb	17 10 37.3	+0.6
NWLT				eS		Sb	17 10 44.1	+0.1
YHNB	**Yeheng**	**0.54**	**298**	P		Pb	17 10 38.0	+0.8
YHNB				S		Sg	17 10 43.8	+0.2

NSK	**Sanguang**	**0.55 298**	*e*P	Pb	17 10 38.5	+1.0
NSK			*i* S	Sb	17 10 45.4	0.0
TIPB	**Shuangxi**	**0.56 353**	*e*P	Pb	17 10 38.0	+0.5
TIPB			*e*S	Sb	17 10 45.3	-0.1
LXIB	**Xiulin Townshi**	**0.59 228**	*e*P	Pb	17 10 38.2	0.0
LXIB			*e*S	Sb	17 10 47.4	+0.9
WHF	**Hehuan Shan**	**0.64 245**	*e*P	Pb	17 10 38.9	-0.3
WHF			*e*S	Sb	17 10 48.7	+0.6

JMA 23 17:11:19.5±0.3, 25°N±2°×12°3E±°, h166km, MV2.3/10, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.89**	**206**	*e*S	Sn	17 12 05.2	+0.6
IRIF	**Iriomote-Funau**	**0.98**	**160**	*e*P	Pn	17 11 45.5	-0.1
IRIF				*e*S	Sn	17 12 06.0	+0.3
JISG	**Ishigakijimahi**	**1.08**	**128**	P	Pn	17 11 46.5	0.0
JISG				*e*S	Sn	17 12 07.6	+0.5
JIJ	**Ishigaki jima**	**1.14**	**142**	*e*P	Pn	17 11 46.9	0.0
JIJ				S	Sn	17 12 07.4	-0.6
JKRS	**Kuro-shima**	**1.17**	**150**	*e*P	Pn	17 11 47.5	+0.3
JKRS				S	Sn	17 12 08.4	-0.1
HATJ	**Hateruma jima**	**1.26**	**162**	*e*S	Sn	17 12 10.9	+0.9
JTJ	**Tarama**	**1.36**	**117**	P	Pn	17 11 49.3	+0.4
JIRB	**Irabujima**	**1.69**	**104**	*e*P	Pn	17 11 52.5	+0.2
JIRB				*e*S	Sn	17 12 16.9	-0.5
JMJ2	**Miyako jima3**	**1.85**	**106**	*e*P	Pn	17 11 54.7	+0.8

*IDC **23** 17:48:10.9±2.3, 13°.38N×96°.62E, h0km, mb3.3/3, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=72.7km s-min=27.5km az=69.0*
*BKK **23** 17:48:11.6±0.9, 13°N±3°×9°6E±1°1, h10km, M3.9/7, MLv3.9/7*
ISC 23 17:48:15.1±1.6, 13°3N±0°.1×96°.5E±0°.2, h35km, n9, σ0°99/9, mb3.3/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**2.49**	**54**	P	**Pn**	**17 48 53.3**	**+0.1**
RNTT	**Ranong**	**4.37**	**154**	P	**Pn**	**17 49 17.5**	**-1.5**
CM05	**Chiang Mai Arr**	**5.56**	**25**	P	**Pn**	**17 49 34.8**	**-0.6**
CM13	**Chiang Mai Arr**	**5.56**	**24**	P	**Pn**	**17 49 35.1**	**-0.3**
CM02	**Chiang Mai Arr**	**5.59**	**25**	P	**Pn**	**17 49 35.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**5.61**	**24**	Pn	**Pn**	**17 49 34.6**	**-1.4**
	0.2nm,0.3s,baz=213,slow=15,SNR=10.0						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.56**	**350**	P	**P**	**17 55 59.6**	**+0.4**
	0.2nm,0.3s,baz=181,slow=8.6,SNR=1.5						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**49.79**	**131**	P	**P**	**17 57 05.0**	**+0.2**
	0.3nm,0.6s,baz=308,slow=8.3,SNR=2.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**51.86**	**135**	P	**P**	**17 57 21.2**	**+0.9**
	0.2nm,0.7s,baz=314,slow=6.1,SNR=4.3						
	0.2nm,0.7s						

*IDC **23** 18:16:56.6±5.5, 25°.91S×179°.60E, h500km±53km, mb3.1/3, mbtmp4.3/5, Error ellipse: s-maj=60.1km s-min=37.7km az=18.0*
*NEIC **23** 18:16:57.6±1.6, 25°.93S±0°.04×179°.7E±0°.1, h524km±11km, mb4.2/13, Error ellipse: s-maj=19.8km s-min=5.3km az=101.0*
ISC 23 18:16:56.2±0.8, 26°.0S±0°.1×179°.7E±0°.1, h503km, n27, σ0°86/26, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.32**	**349**	P	**P**	**18 18 56.6**	**+0.4**
MARNC	**Mare, Loyalty**	**11.54**	**290**	P	**P**	**18 19 30.5**	**+0.6**
PINNC	**Pines Island,**	**11.62**	**284**	P	**P**	**18 19 32.6**	**+1.8**
NIUE	**Niue**	**11.81**	**57**	P	**P**	**18 19 33.5**	**+0.6**
TOZ	**Tahuroa Road**	**12.25**	**196**	P	**P**	**18 19 38.4**	**+1.2**
URZ	**Urewera**	**12.45**	**189**	P	**P**	**18 19 39.7**	**+0.4**
	15nm,0.5s,baz=70,slow=2.9,SNR=17						
DZM	**Mont Dzumac**	**12.68**	**285**	P	**P**	**18 19 43.7**	**+1.6**
	6.2nm,0.6s,baz=110,slow=16,SNR=2.3						
QRZ	**Quartz Range**	**15.97**	**200**	P	**P**	**18 20 16.7**	**+0.4**
EIDS	**Eidsvold**	**25.74**	**265**	P	**P**	**18 21 46.1**	**-0.1**
EIDS				IAmb	IAmb	18 21 47.8	
	comp=Z,9.2nm,0.6s						
STKA	**Stephens Creek**	**33.71**	**251**	IAmb	IAmb	18 23 03.0	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**33.71**	**251**	P	**P**	**18 22 55.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=108,slow=12,SNR=3.9						
	comp=Z,1.2nm,0.7s						
INKA	**Innaminka**	**34.66**	**258**	P	**P**	**18 23 03.9**	**+0.7**
COEN	**Coen**	**36.18**	**282**	P	**P**	**18 23 14.8**	**-1.3**
AS31	**Alice Springs**	**41.43**	**263**	P	**P**	**18 23 58.3**	**-0.3**
ASAR	**Alice Springs**	**41.43**	**263**	P	**P**	**18 23 58.5**	**0.0**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.1,SNR=73						
	comp=Z,1.7nm,0.5s						
WR8	**Warramunga Arr**	**41.85**	**269**	P	**P**	**18 24 00.9**	**-1.0**
WR8				IAmb	IAmb	18 24 02.6	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**42.00**	**269**	P	**P**	**18 24 02.5**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=104,slow=7.9,SNR=12						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**42.00**	**269**	P	**P**	**18 24 02.5**	**-0.5**
WB0				IAmb	IAmb	18 24 02.9	
	comp=Z,3.9nm,0.8s						
FORT	**Forrest**	**45.33**	**252**	P	**P**	**18 24 28.0**	**-0.9**
FORT				IAmb	IAmb	18 24 48.2	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**48.40**	**272**	P	**P**	**18 24 52.2**	**0.0**
KNRA				IAmb	IAmb	18 25 08.9	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.39**	**267**	P	**P**	**18 25 06.4**	**-0.5**
BELA	**Belgrano 2**	**74.44**	**173**	P	**P**	**18 27 41.8**	**-0.2**
BELA				IAmb	IAmb	18 28 17.5	
	comp=Z,3.9nm,1.5s						
NB2	**NORSAR Subarra**	**144.05**	**350**	PKP	**PKPdf**	**18 35 32.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=13,slow=3.0						
NOA	**NORSAR Array B**	**144.05**	**350**	PKP	**PKPdf**	**18 35 32.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=20,slow=2.6,SNR=4.0						
HFS	**Hagfors**	**144.49**	**348**	PKP	**PKPdf**	**18 35 33.4**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.3,SNR=6.3						
MMAI	**Mount Meron Ar**	**148.21**	**291**	PKPbc	**PKiKP**	**18 35 47.2**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=90,slow=4.3,SNR=4.2						
BRTR	**Keskin Array B**	**148.52**	**304**	PKPbc	**PKiKP**	**18 35 46.2**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=126,slow=4.4,SNR=2.5						

IDC 23 18:41:04.3±7.6, 6°.55S×149°.69E, h49km±56km, mb3.5/2, mbtmp3.9/4, ML4.3/1, MS3.6/1, Error ellipse: s-maj=82.4km s-min=54.4km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**221**	P	Pn	18 42 00.9	+0.8
	27nm,0.3s,baz=54,slow=4.6,SNR=23						
PMG				S	Sn	18 42 43.9	+0.5
	140nm,0.4s,baz=76,slow=13,SNR=17						
WRA	**Warramunga Arr**	**19.98**	**227**	P	P	18 45 33.4	+0.6
	1.0nm,0.3s,baz=52,slow=11,SNR=42						
	4.5nm,0.5s						
ASAR	**Alice Springs**	**22.80**	**220**	P	P	18 46 02.4	-0.6
	1.5nm,0.7s,baz=56,slow=9.4,SNR=24						
	1.5nm,0.7s						
STKA	**Stephens Creek**	**26.30**	**196**	P	P	18 46 35.6	+0.2
	0.8nm,0.5s,baz=35,slow=13,SNR=4.4						
	0.8nm,0.5s						
DAV	**Davao City (W)**	**27.60**	**299**	LR	LR	18 58 16.0	
	comp=Z,114nm,18.1s,baz=77,slow=37						

*IDC **23** 18:43:46.0±0.7, 31°.46S×71°.76W, h0km, mb4.4/8, mbtmp4.2/12, ML4.0/4, MS3.1/1, Error ellipse: s-maj=25.4km s-min=18.8km az=96.0*
*SJA **23** 18:43:47.9±1.0, 31°.52S×71°.86W, h17km±3km, ML4.6, MW4.3*
*GUC **23** 18:43:49.2±0.7, 31°.46S×71°.61W, h34km±2km, ML4.5*
*NEIC **23** 18:43:50.2±1.7, 31°.45S±0°.03×71°.84W±0°.06, h22km±4km, mb4.6/18, ML4.5(GUC), Error ellipse: s-maj=7.2km s-min=4.7km az=89.0*
ISC 23 18:43:47.1±1.3, 31°.45S±0°.02×71°.82W±0°.04, h6km±8km, n156, σ1°66/186, mb4.6/17, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.74**	**71**	Pn	**Pn**	**18 44 03.5**	**-0.6**
CO02	**Combarbal**	**0.74**	**71**	*e*P	**Pb**	**18 44 02.0**	**-0.4**
CO02				*e*S	**Sg**	**18 44 11.0**	**0.0**
CO02				IAML		18 44 17.1	
	comp=N,40μm,0.3s						
CO02	**Combarbal**	**0.74**	**71**	*e*P	**Pn**	**18 44 03.7**	**-0.4**
CO02				*e*S	**Sn**	**18 44 15.3**	**-0.5**
CO02				IAML		18 44 18.4	
	comp=Z,14μm,0.9s						
CO06	**Fray Jorge**	**0.79**	**12**	Pn	**Pn**	**18 44 06.1**	**+1.4**
CO06	**Fray Jorge**	**0.79**	**12⇑**	*e*P	**Pb**	**18 44 04.6**	**+1.4**
CO06				*e*S	**Sn**	**18 44 16.8**	**0.0**
CO06				IAML		18 44 18.7	
	comp=N,23μm,0.5s						
CO04	**Los Peladeros**	**0.93**	**130**	*e*P	**Pb**	**18 44 06.5**	**+0.7**
CO04				*e*S	**Sb**	**18 44 17.9**	**-0.6**
CO04				IAML		18 44 21.1	
	comp=N,49μm,0.3s						
CO03	**El Pedregal**	**1.14**	**58**	Pn	**Pn**	**18 44 09.8**	**+0.1**
CO03	**El Pedregal**	**1.14**	**58**	*e*P	**Pn**	**18 44 10.2**	**+0.5**
CO03				*e*S	**Sg**	**18 44 23.2**	**-0.6**
CO03				IAML		18 44 27.4	
	comp=E,11μm,0.3s						
CO03	**El Pedregal**	**1.14**	**58**	*e*P	**Pn**	**18 44 09.9**	**+0.2**
CO03				IAML		18 44 26.6	
	comp=Z,8μm,0.5s						
VA06	**Catapilco**	**1.19**	**158**	Pn	**Pb**	**18 44 10.8**	**+0.7**
VA06	**Catapilco**	**1.19**	**158**	*e*P	**Pb**	**18 44 09.4**	**-0.7**
VA06				*e*S	**Sg**	**18 44 25.5**	**+0.1**
VA06				IAML		18 44 28.7	
	comp=E,43μm,0.4s						
GO04	**Tololo Observa**	**1.54**	**35**		**Pg**	**18 44 17.3**	**+0.6**
GO04				Sn	**Sg**	**18 44 37.0**	**+0.3**
GO04	**Tololo Observa**	**1.54**	**35**	*e*P	**Pb**	**18 44 16.9**	**+0.7**
GO04				*e*S	**Sg**	**18 44 36.7**	**-0.1**
GO04				IAML		18 44 46.4	
	comp=E,38μm,0.5s						
GO04	**Tololo Observa**	**1.54**	**35**	*e*P	**Pg**	**18 44 17.1**	**+0.3**
GO04				IAML		18 44 40.4	
	comp=Z,11μm,0.2s						
VA01	**Torpederas**	**1.57**	**175**	Pn	**Pn**	**18 44 16.7**	**+1.2**
VA01	**Torpederas**	**1.57**	**175⇑**	*e*P	**Pn**	**18 44 16.6**	**+1.1**
VA01				*e*S	**Sn**	**18 44 35.1**	**-1.1**
CO05	**La Serena**	**1.61**	**18**	Pn	**Pb**	**18 44 17.6**	**+0.5**
CO05	**La Serena**	**1.61**	**18**	*e*P	**Pn**	**18 44 16.5**	**+0.6**
CO05				*e*S	**Sn**	**18 44 36.0**	**-0.9**
CO05				IAML		18 44 45.4	
	comp=E,15μm,0.6s						
ROCH	**El Roble**	**1.67**	**156⇑**	*e*P	**Pn**	**18 44 18.1**	**+1.1**
ROCH				*e*S	**Sb**	**18 44 39.8**	**+0.2**
ROCH				IAML		18 44 44.2	
	comp=N,21μm,0.3s						
ROC1	**El Roble**	**1.67**	**156**	*e*P	**Pn**	**18 44 18.2**	**+1.1**
ROC1				*e*S	**Sb**	**18 44 40.6**	**+0.9**
ROC1				*e*		18 44 40.6	
VA03	**San Esteban**	**1.69**	**141**	Pn	**Pb**	**18 44 18.9**	**+0.2**
VA03				Sn	**Sb**	**18 44 40.5**	**+0.2**
VA03	**San Esteban**	**1.69**	**141⇑**	*e*P	**Pb**	**18 44 19.0**	**+0.3**
VA03				*e*S	**Sn**	**18 44 38.8**	**-0.5**
VA03				IAML		18 44 41.7	
	comp=E,19μm,0.3s						
VA03	**San Esteban**	**1.69**	**141**	*e*P	**Pb**	**18 44 19.1**	**+0.3**
VA03				*e*S	**Sb**	**18 44 41.0**	**+0.6**
VA03				IAML		18 44 42.2	
	comp=Z,6μm,0.6s						
MT02	**Curacav**	**1.89**	**162**	Pn	**Pn**	**18 44 21.0**	**+1.0**
MT02	**Curacav**	**1.89**	**162**	*e*P	**Pn**	**18 44 21.8**	**+1.9**
MT02				*e*S	**Sn**	**18 44 45.0**	**+0.8**
MT02				IAML		18 44 50.1	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.94**	**151**	Pn	**Pn**	**18 44 22.3**	**+1.7**
PEL	**Peldehue**	**1.94**	**151**	*e*P	**Pn**	**18 44 22.2**	**+1.5**
PEL	**Peldehue**	**1.94**	**151**	*e*P	**Pn**	**18 44 22.2**	**+1.5**
PEL				*e*S	**Sb**	**18 44 47.1**	**-0.3**
PEL				IAML		18 44 54.3	
	comp=Z,3μm,0.5s						
CO01	**Juntas del Tor**	**2.09**	**46**	Pn	**Pb**	**18 44 25.5**	**0.0**
CO01	**Juntas del Tor**	**2.09**	**46**	*e*P	**Pb**	**18 44 25.2**	**-0.3**
CO01				*e*S	**Sn**	**18 44 50.0**	**+0.7**
CO01				IAML		18 44 55.4	
	comp=E,4μm,0.6s						
MT10	**Hacienda Santa**	**2.12**	**150**	*e*P	**Pn**	**18 44 24.7**	**+1.6**
MT05	**Renca**	**2.14**	**155**	Pn	**Pb**	**18 44 25.7**	**-0.6**
MT05	**Renca**	**2.14**	**155**	*e*P	**Pb**	**18 44 26.0**	**-0.3**
MT05	**Renca**	**2.14**	**155**	*e*P	**Pn**	**18 44 24.3**	**+0.9**
MT05				*e*S	**Sb**	**18 44 53.2**	**0.0**
MT05				IAML		18 44 57.1	
	comp=Z,2μm,0.3s						
RTLS	**Leoncito**	**2.18**	**100**	*e*P	**Pb**	**18 44 26.9**	**-0.2**
RTLS				IAML		18 45 00.5	
	comp=Z,5μm,0.6s						
RTLS				IAML		18 45 00.6	
	comp=Z,5μm,0.6s						
AUSP	**Uspallata**	**2.21**	**111**	*e*P	**Pb**	**18 44 26.8**	**-0.7**
MT14	**Cerro Cal¡n**	**2.22**	**151**	*e*P	**Pn**	**18 44 26.2**	**+1.7**
MT16	**CCHEN**	**2.26**	**151**	Pn	**Pn**	**18 44 27.1**	**+2.1**
MT16	**CCHEN**	**2.26**	**151**	*e*P	**Pn**	**18 44 26.8**	**+1.8**
FCH	**Farellones**	**2.27**	**146**	*e*P	**Pn**	**18 44 27.5**	**+2.1**
FCH				*e*S	**Sn**	**18 44 55.4**	**+1.4**
FCH				IAML		18 44 58.7	
	comp=E,3μm,0.2s						
MT03	**Universidad Ad**	**2.32**	**152**	Pn	**Pn**	**18 44 27.6**	**+1.7**
MT03	**Universidad Ad**	**2.32**	**152**	*e*P	**Pn**	**18 44 27.7**	**+1.8**
MT03	**Universidad Ad**	**2.32**	**152**	*e*P	**Pn**	**18 44 26.9**	**+1.0**
MT03				*e*S	**Sn**	**18 44 55.9**	**+1.2**
MT03				IAML		18 45 04.7	
	comp=Z,3μm,0.2s						
AROD	**Rodeo**	**2.39**	**58**	*e*P	**Pb**	**18 44 31.5**	**+0.9**
AROD				*e*S	**Sg**	**18 45 02.1**	**-1.7**
MT04	**Ro Olivares**	**2.41**	**144⇓**	*e*P	**Pb**	**18 44 30.0**	**-1.0**
MT15	**Las Vizcachas**	**2.41**	**153**	*e*P	**Pn**	**18 44 27.9**	**+0.8**
MT15				IAML		18 45 05.8	
	comp=N,9μm,0.3s						
MT09	**Talagante**	**2.42**	**163**	Pn	**Pn**	**18 44 29.0**	**+1.6**
MT09	**Talagante**	**2.42**	**163⇓**	*e*P	**Pn**	**18 44 28.6**	**+1.3**
MT01	**Popeta**	**2.46**	**169**	Pn	**Pn**	**18 44 30.2**	**+2.6**
MT01	**Popeta**	**2.46**	**169**	*e*P	**Pn**	**18 44 30.3**	**+2.6**
MT08	**Bocatoma Ro**	**2.51**	**143**	Pn	**Pb**	**18 44 31.6**	**-1.0**
MT08	**Bocatoma Ro**	**2.51**	**143**	*e*P	**Pb**	**18 44 31.9**	**-0.7**
ACCO	**Cerro Coronel**	**2.52**	**71**	*e*P	**Pb**	**18 44 32.1**	**-0.7**
ACCO				*e*S	**Sb**	**18 45 04.8**	**+0.7**
MT12	**Pirque**	**2.52**	**155**	*e*P	**Pn**	**18 44 29.6**	**+1.0**
LCO	**Las Campanas**	**2.62**	**22**	Pn	**Pn**	**18 44 31.4**	**+1.3**
LCO	**Las Campanas**	**2.62**	**22**	*e*P	**Pn**	**18 44 31.8**	**+1.7**
ACDV	**Cuesta del Vie**	**2.65**	**62**	*e*P	**Pb**	**18 44 33.1**	**-1.9**
ACDV				*e*S	**Sb**	**18 45 07.0**	**-0.8**
ACDV				IAML		18 45 13.2	
	comp=Z,2μm,0.4s						
ZON	**Zonda**	**2.68**	**93**	Pn	**Pb**	**18 44 35.5**	**-0.1**
ZON	**Zonda**	**2.68**	**93**	*e*P	**Pn**	**18 44 32.9**	**+2.0**
ZON				*e*S	**Sb**	**18 45 07.0**	**-1.7**
ZON				IAML		18 45 15.7	
	comp=Z,1μm,0.5s						
BO04	**La Punta**	**2.73**	**158**	Pn	**Pn**	**18 44 33.7**	**+2.2**
LMEL	**Las Melosas**	**2.75**	**151**	Pn	**Pn**	**18 44 33.6**	**+1.7**
LMEL	**Las Melosas**	**2.75**	**151**	*e*P	**Pn**	**18 44 34.0**	**+2.1**
ASAL	**Salagasta**	**2.78**	**115**	*e*P	**Pb**	**18 44 36.8**	**-0.4**
ASAL				*e*S	**Sb**	**18 45 11.5**	**0.0**
SJA	**San Juan**	**2.78**	**92**	*e*P	**Pn**	**18 44 28.1**	**-4.1**
SJA				IAML		18 45 24.0	
	comp=Z,2μm,0.5s						
ARCO	**CERRO ARCO**	**2.81**	**120**	*e*P	**Pn**	**18 44 34.2**	**+1.5**
ARCO				IAML		18 45 25.3	
	comp=Z,2μm,0.9s						
RTLL	**Cerro Villicun**	**2.86**	**88**	*e*P	**Pb**	**18 44 36.3**	**-2.3**
RTLL				*e*S	**Sb**	**18 45 12.1**	**-1.7**
RTLL				IAML		18 45 24.4	
	comp=Z,2μm,0.5s						
BO01	**Tunca**	**3.00**	**168**	Pn	**Pn**	**18 44 36.5**	**+1.4**
BO01	**Tunca**	**3.00**	**168**	*e*P	**Pn**	**18 44 36.6**	**+1.4**
BO01				*e*S	**Sn**	**18 45 12.2**	**+0.9**
BO01				IAML		18 45 24.6	
	comp=Z,689nm,0.9s						
AAGR	**Agrelo**	**3.01**	**124**	*e*P	**Pn**	**18 44 35.9**	**+0.5**
CFA	**Coronel Fontan**	**3.06**	**94**	Pn	**Pb**	**18 44 40.5**	**-1.5**
	comp=Z,37nm,0.3s,baz=282,slow=16,SNR=32						
CFA				Lg	Lg	18 45 20.8	
	comp=Z,285nm,0.3s,baz=103,slow=23,SNR=11						
CFA				LR	LR	18 45 46.4	
	comp=Z,298nm,18.3s,baz=158,slow=40						
AC04	**Llanos de Chal**	**3.30**	**11**	Pn	**Pn**	**18 44 41.1**	**+1.8**
BO02	**Sierra Bellavi**	**3.44**	**166**	*e*P	**Pn**	**18 44 43.4**	**+2.1**
BO02				*e*S	**Sn**	**18 45 23.9**	**+1.4**
BO02				IAML		18 45 41.7	
	comp=Z,1μm,0.6s						
AGUA	**GUANDACOL**	**3.48**	**57**	*e*P	**Pb**	**18 44 46.8**	**-2.2**
AGUA				IAML		18 45 41.5	
	comp=Z,2μm,0.8s						
AGUA				IAML		18 45 41.6	
	comp=Z,2μm,0.8s						
GO05	**Hualane**	**3.55**	**181**	*e*P	**Pn**	**18 44 43.0**	**+0.3**
AVFE	**Valle Fertil**	**3.83**	**79**	*e*P	**Pn**	**18 44 49.9**	**+3.4**
AVFE				*e*S	**Sn**	**18 45 36.0**	**+4.0**
AVFE				IAML		18 45 52.3	
	comp=Z,2μm,0.7s						
AVFE				IAML		18 45 52.4	
	comp=Z,2μm,0.7s						
ACAN	**Cantantal**	**4.02**	**103**	*e*P	**Pn**	**18 44 52.5**	**+3.2**
ACAN				*e*S	**Sn**	**18 45 40.3**	**+3.6**
GO03	**Copiapo**	**4.08**	**20**	Pn	**Pn**	**18 44 51.8**	**+1.7**
GO03	**Copiapo**	**4.08**	**20**	*e*P	**Pn**	**18 44 51.9**	**+1.9**
GO03	**Copiapo**	**4.08**	**20**	*e*P	**Pn**	**18 44 54.6**	**+4.5**
GO03				*e*S	**Sn**	**18 45 43.1**	**+4.9**
GO03				IAML		18 45 58.6	
	comp=Z,1μm,0.5s						
VCA	**Vinchina**	**4.14**	**50**	*e*P	**Pb**	**18 44 56.5**	**-3.8**
VCA	**Vinchina**	**4.14**	**50**	*e*P	**Pb**	**18 44 56.2**	**-4.1**
VCA				IAML		18 46 31.3	
	comp=Z,690nm,1.9s						
RFA	**San Rafael**	**4.34**	**141**	*e*P	**Pn**	**18 44 56.6**	**+2.9**
RFA				IAML		18 46 09.7	
	comp=Z,240nm,0.4s						
ACHE	**Chepes**	**4.42**	**88**	*e*P	**Pn**	**18 44 58.5**	**+3.7**
ACLC	**CERRO LA CRUZ**	**4.66**	**66**	*e*P	**Pn**	**18 45 01.7**	**+3.6**
ACLC				*e*S	**Sn**	**18 45 56.7**	**+4.0**
ACLC				IAML		18 46 04.3	
	comp=Z,920nm,0.8s						
AANI	**Anillaco**	**4.98**	**59**	*e*P	**Pn**	**18 45 06.2**	**+3.7**
AC02	**Maricunga**	**5.16**	**28**		**Pn**	**18 45 07.4**	**+2.0**
AC02	**Maricunga**	**5.16**	**28**	*e*P	**Pn**	**18 45 07.4**	**+2.0**
AC02				IAML		18 46 49.3	
	comp=Z,363nm,0.8s						
BI02	**San Fabin de**	**5.22**	**175**		**Pn**	**18 45 07.0**	**+1.3**
MRA	**San Martin**	**5.28**	**102**	*e*P	**Pn**	**18 45 08.5**	**+2.0**
MRA				IAML		18 46 37.5	
	comp=Z,519nm,0.6s						
AC01	**Pan de Azucar**	**5.39**	**12**		**Pn**	**18 45 04.6**	**-3.4**
BI05	**Punta Hualpn**	**5.41**	**192**	Pn	**Pn**	**18 45 08.3**	**+0.1**
CYA	**Choya**	**6.02**	**62**	*e*P	**Pn**	**18 45 19.1**	**+2.5**
CYA				IAML		18 47 00.2	
	comp=Z,217nm,1.1s						
TCA	**Tanti**	**6.18**	**91**	*e*P	**Pn**	**18 45 20.7**	**+1.8**
TCA				*e*S	**Sn**	**18 46 33.8**	**+3.9**
H03N1	**Juan Fernandez**	**6.32**	**250**	Pn	**Pn**	**18 45 22.2**	**+1.7**
	baz=118,slow=18						
H03N1				T	T	18 52 03.3	
	baz=80,slow=72						
H03N3	**Juan Fernandez**	**6.33**	**250**	Pn	**Pn**	**18 45 22.1**	**+1.4**
	baz=118,slow=18						
H03N3				T	T	18 52 02.6	
	baz=80,slow=72,SNR=9927						
H03N2	**Juan Fernandez**	**6.33**	**250**	Pn	**Pn**	**18 45 22.4**	**+1.7**
	baz=118,slow=18						
H03N2				T	T	18 52 03.9	
	baz=80,slow=72						
H03S3	**Juan Fernandez**	**6.43**	**247**	Pn	**Pn**	**18 45 23.0**	**+0.9**
	baz=48,slow=77						
H03S1	**Juan Fernandez**	**6.44**	**246**	Pn	**Pn**	**18 45 22.3**	**+0.2**
	baz=48,slow=77						
H03S2	**Juan Fernandez**	**6.45**	**246**	Pn	**Pn**	**18 45 22.7**	**+0.4**
	baz=48,slow=77						
FSA	**Cafayete**	**7.38**	**45**	*e*P	**Pn**	**18 45 39.0**	**+3.4**
SLA	**San Lorenzo**	**8.72**	**41**	*e*P	**Pn**	**18 45 57.5**	**+3.7**
SLA				IAML		18 48 43.6	
	comp=Z,14nm,0.7s						
PLCA	**Paso Flores**	**9.32**	**174**	Pn	**Pn**	**18 46 02.9**	**+0.9**
PLCA	**Paso Flores**	**9.32**	**174**	Pn	**Pn**	**18 46 03.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=336,slow=10,SNR=14						
	comp=Z,1.2nm,0.3s						
AZAP	**Zapla**	**9.35**	**41**	*e*P	**Pn**	**18 46 06.4**	**+3.8**
AZAP				*e*P	**Pn**	**18 46 06.4**	**+3.8**
PB02	**IPOC Station P**	**10.23**	**10**	Pn	**Pn**	**18 46 14.5**	**-0.1**
TRQA	**Tornquist**	**10.43**	**132**	Pn	**Pn**	**18 46 17.1**	**-0.1**
CPUP	**Villa Florida**	**13.68**	**72**		**Pn**	**18 47 00.3**	**-1.2**
CPUP	**Villa Florida**	**13.68**	**72**	Pn	**Pn**	**18 47 00.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=12,SNR=8.6						
CPUP				Sn	**Sn**	**18 49 33.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=110,slow=4.2,SNR=4.2						
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**15.46**	**13**		**Pn**

ASAR Alice Springs 119.92 207 PKP **PKPdf 19 02 36.3 -2.7**
comp=Z,0.4nm,0.8s,baz=122,slow=1.8,SNR=2.2
AKASG Malin Array Be 120.32 46 PKP **PKPdf 19 02 37.3 -1.4**
comp=Z,0.4nm,0.4s,baz=273,slow=2.3,SNR=4.6
ARCES ARCESS Array B 121.62 24 PKP **PKPdf 19 02 40.3 -0.4**
comp=Z,4.3nm,1.0s,baz=224,slow=3.8,SNR=1.7
WRA Warramunga Arr 123.07 210 PKP **PKPdf 19 02 44.1 -1.0**
comp=Z,0.2nm,0.4s,baz=148,slow=1.8,SNR=2.6
H11S2 WAKE ISLAND Hyl 25.96 271 T T 21 21 47.5
baz=117,slow=75,SNR=103
H11S1 WAKE ISLAND Hyl 25.97 271 T T 21 21 47.7
baz=117,slow=75,SNR=62
H11S3 WAKE ISLAND Hyl 25.97 271 T T 21 21 46.1
baz=117,slow=75,SNR=85
H11N3 WAKE ISLAND Hyl 26.31 272 T T 21 22 08.9
baz=117,slow=75,SNR=32
H11N1 WAKE ISLAND Hyl 26.32 272 T T 21 22 09.4
baz=117,slow=75,SNR=14
H11N2 WAKE ISLAND Hyl 26.32 272 T T 21 22 07.7
baz=117,slow=75,SNR=57
BVAR Borovoye Array 145.26 41 PKPbc **PKPbc 19 03 25.4 +0.5**
comp=Z,7.5nm,0.5s,baz=304,slow=2.4,SNR=47
KURBB Kurchatov Arra 150.85 40 PKPbc **PKPbc 19 03 40.0 0.0**
comp=Z,5.6nm,0.7s,baz=298,slow=3.0,SNR=53
KURK Kurchatov 150.85 40 PKPbc 19 03 40.1 0.0
ZALV Zalesovo Beam 151.95 30 PKPbc 19 03 42.1 -0.4
ZALV Zalesovo Beam 151.95 30 PKP **PKPdf 19 03 35.2 -0.8**
comp=Z,1.2nm,0.8s,baz=292,slow=3.0,SNR=3.7
ZALV PKPbc **PKPbc 19 03 42.7 +0.2**
comp=Z,21nm,0.5s,baz=307,slow=3.1,SNR=71
ZALV PKPab **PKPab 19 03 51.5 -0.3**
comp=Z,9.4nm,0.5s,baz=302,slow=3.0,SNR=11
MKAR Makanchi Array 154.89 45 PKPbc **PKPbc 19 03 48.8 -0.5**
comp=Z,1.8nm,0.7s,baz=300,slow=1.8,SNR=8.1

DJA 23 18:53:08.6±0.7, 3°S±7°×12°7E±°, h11km±8km, M3.6/7, mb3.7/1, MLv3.6/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.37**	**189**	P	Pb	18 53 17.3	+0.1
NLAI				S	Sb	18 53 22.2	-0.8
AAI	**Ambon**	**1.31**	**128**	P	Pb	18 53 33.4	+0.1
AAI				S	Sg	18 53 51.1	+0.1
SANI	**Sanana**	**1.43**	**305**	P	Pb	18 53 35.4	+0.2
SANI				S	Sn	18 53 52.4	-0.8
MSAI	**Masohi**	**1.83**	**105**	P	Pn	18 53 40.6	+0.6
BNDI	**Bandanaira**	**3.19**	**121**	P	Pn	18 53 58.4	-0.4
LUWI	**Luwuk**	**4.75**	**292**	P	Pn	18 54 20.0	-0.2
FAKI	**Fak Fak**	**5.08**	**91**	P	Pn	18 54 23.3	-1.5

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*BJI **23** 19:09:54.4, 24°.77N×123°.48E, h95km, mB4.5/13, mb4.3/46*
*NEIC **23** 19:09:54.9±2.0, 24°.83N±0°.04×123°.46E±0°.05, h81km±5km, mb4.7/76, Error ellipse: s-maj=7.3km s-min=5.3km az=83.0*
*IDC **23** 19:09:56.1±1.6, 24°.87N×123°.50E, h99km±13km, mb3.9/26, mbtmp4.2/29, MS3.3/5, Error ellipse: s-maj=12.4km s-min=9.2km az=66.0*
*NIED **23** 19:09:56.2, 24°.79N×123°.44E, h87km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr3.25; Mθθ-1.76; Mφφ-1.48; Mrθ0.30; Mθφ-3.47; Mφr-2.38; Fault plane solution: M0 5.05000×10^15^ NP1:φs76.00000°, δ45.00000°, λ139.00000°. NP2:φs198.00000°, δ63.00000°, λ53.00000°.*
*JMA **23** 19:09:56.2±0.1, 25°N±1°×123°.4E±0°.3, h87km±1km, MD4.4/17, MV4.5/17, NW OFF ISHIGAKIJIMA IS*
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .

ISC 23 19:09:55.6±0.5, 24°.77N±0°.04×123°.42E±0°.03, h96km±4km, n201, σ1°31/213, mb4.5/64, 4D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**231**	Pn	**Pn**	**19 10 10.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.49**	**231**	P	**Pn**	**19 10 10.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.49**	**231**	S	**Sn**	**19 10 21.8**	**-0.5**
YOJ	**Yonaguni jima**	**0.49**	**231**	P	**Pn**	**19 10 10.8**	**-0.1**
YOJ				*e*S	**Sn**	**19 10 21.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.49**	**231**	A	A	19 10 10.8	
comp=N,58nm,1.2s,comp=E,29nm,0.7s
IRIF	**Iriomote-Funau**	**0.52**	**147**	P	**Pn**	**19 10 10.7**	**-0.5**
IRIF				S	**Sn**	**19 10 21.8**	**-0.9**
IRIF	**Iriomote-Funau**	**0.52**	**147**	A	A	19 10 10.7	
comp=N,38nm,0.6s,comp=E,61nm,0.4s
JYNG	**Yonagunijimaku**	**0.54**	**234**	*i* P	**Pn**	**19 10 11.2**	**-0.1**
JYNG				S	**Sn**	**19 10 22.4**	**-0.6**
JYNG	**Yonagunijimaku**	**0.54**	**234**	A	A	19 10 11.2	
comp=N,66nm,1.4s,comp=E,54nm,0.7s
JKRS	**Kuro-shima**	**0.75**	**135**	P	**Pn**	**19 10 13.3**	**+0.1**
JKRS				S	**Sn**	**19 10 26.2**	**-0.2**
JKRS	**Kuro-shima**	**0.75**	**135**	A	A	19 10 13.3	
comp=N,96nm,0.4s,comp=E,72nm,0.9s
JIJ	**Ishigaki jima**	**0.77**	**122**	P	**Pn**	**19 10 13.0**	**-0.3**
JIJ				S	**Sn**	**19 10 25.4**	**-1.2**
JIJ	**Ishigaki jima**	**0.77**	**122**	A	A	19 10 13.0	
comp=N,25nm,0.4s,comp=E,38nm,1.0s
HATJ	**Hateruma jima**	**0.79**	**154**	*i* P	**Pn**	**19 10 13.6**	**0.0**
HATJ				S	**Sn**	**19 10 26.9**	**-0.1**
HATJ	**Hateruma jima**	**0.79**	**154**	A	A	19 10 13.6	
comp=N,66nm,3.7s,comp=E,54nm,2.1s
JISG	**Ishigakijimahi**	**0.83**	**103**	*i* P	**Pn**	**19 10 13.7**	**-0.2**
JISG				S	**Sn**	**19 10 27.0**	**-0.7**
JISG	**Ishigakijimahi**	**0.83**	**103**	A	A	19 10 13.7	
comp=N,51nm,0.5s,comp=E,34nm,0.5s
JTJ	**Tarama**	**1.17**	**96**	*i* P	**Pn**	**19 10 17.9**	**+0.2**
JTJ				S	**Sn**	**19 10 34.2**	**-0.1**
JTJ	**Tarama**	**1.17**	**96**	A	A	19 10 17.9	
comp=N,11nm,1.5s,comp=E,13nm,1.1s
JIRB	**Irabujima**	**1.59**	**88**	*i* P	**Pn**	**19 10 22.9**	**+0.1**
JIRB				S	**Sn**	**19 10 43.1**	**-0.4**
JIRB	**Irabujima**	**1.59**	**88**	A	A	19 10 22.9	
comp=N,10.0nm,1.5s,comp=E,9.0nm,0.9s
JIKM	**Ikemajima**	**1.66**	**84**	*i* P	**Pn**	**19 10 24.2**	**+0.4**
JIKM				S	**Sn**	**19 10 45.2**	**+0.1**
JMJ	**Miyako jima 2**	**1.70**	**88**	P	**Pn**	**19 10 25.1**	**+0.9**
JMJ	**Miyako jima 2**	**1.70**	**88**	S	**Sn**	**19 10 47.1**	**+1.2**
JMJ2	**Miyako jima3**	**1.73**	**91**	*i* P	**Pn**	**19 10 25.1**	**+0.5**
JMJ2				S	**Sn**	**19 10 46.9**	**+0.2**
NACB	**Ninganchiao**	**1.77**	**251**	Pn	**Pn**	**19 10 24.7**	**-0.4**
NACB	**Ninganchiao**	**1.77**	**251**	P	**Pn**	**19 10 25.0**	**-0.1**
TATO	**Taipei**	**1.77**	**277**	Pn	**Pn**	**19 10 25.6**	**+0.6**
TATO				Sn	**Sn**	**19 10 46.2**	**-1.3**
TATO	**Taipei**	**1.77**	**277**	P	**Pn**	**19 10 26.1**	**+1.0**
TATO	**Taipei**	**1.77**	**277**	S	**Sn**	**19 10 48.7**	**+1.2**
JOGS	**Gusukube**	**1.80**	**90**	*i* P	**Pn**	**19 10 26.1**	**+0.6**
JOGS				*e*S	**Sn**	**19 10 48.7**	**+0.4**
JOGS	**Gusukube**	**1.80**	**90**	A	A	19 10 26.1	
comp=N,15nm,1.0s,comp=E,14nm,2.3s
YHNB	**Yeheng**	**1.86**	**267**		**Pn**	**19 10 27.4**	**+1.1**
YHNB	**Yeheng**	**1.86**	**267**	P	**Pn**	**19 10 27.5**	**+1.1**
YULB	**Yu-li**	**2.38**	**235**		**Pn**	**19 10 32.4**	**-0.7**
YULB	**Yu-li**	**2.38**	**235**	P	**Pn**	**19 10 32.3**	**-0.8**
YULB	**Yu-li**	**2.38**	**235**	S	**Sn**	**19 10 59.9**	**-1.9**
SSLB	**Suanglung**	**2.46**	**247**		**Pn**	**19 10 34.5**	**+0.3**
SSLB	**Suanglung**	**2.46**	**247**	P	**Pn**	**19 10 34.4**	**+0.3**
TWGBT	**Beinan**	**2.90**	**228**	P	**Pn**	**19 10 38.5**	**-1.5**
TWGBT	**Beinan**	**2.90**	**228**	S	**Sn**	**19 11 11.7**	**-2.4**
TWG	**Pinlang**	**2.90**	**228**		**Pn**	**19 10 38.3**	**-1.7**
TPUB	**Ta-pu**	**2.94**	**241**		**Pn**	**19 10 41.5**	**+0.9**
TPUB				Sn	**Sn**	**19 11 15.5**	**+0.2**
TPUB	**Ta-pu**	**2.94**	**241**	P	**Pn**	**19 10 41.2**	**+0.6**
TPUB	**Ta-pu**	**2.94**	**241**	S	**Sn**	**19 11 15.8**	**+0.6**
JJT3	**Tamagusuku3**	**4.17**	**70**	A	A	19 10 58.5	
comp=N,6.0nm,6.6s,comp=E,5.0nm,7.4s
QZH	**Quanzhou**	**4.39**	**273**	⇓*i* P	**Pn**	**19 10 59.8**	**-0.3**
QZH				S	**Sn**	**19 11 48.1**	**-2.0**
QZH				smax	smax		
comp=E,370nm,0.9s
QZH				smax	smax		
comp=E,210nm,0.8s
KNMB	**Chin-men Tao**	**4.59**	**267**	Pn	**Pn**	**19 11 02.6**	**-0.2**
JOW	**Kunigami**	**4.83**	**64**	Pn	**Pn**	**19 11 04.9**	**-1.1**
JOW	**Kunigami**	**4.83**	**64**	P	**Pn**	**19 11 05.2**	**-0.9**
comp=E,84nm,0.3s,baz=114,slow=29,SNR=117
JOW				S	**Sn**	**19 11 59.0**	**-1.7**
comp=E,100nm,0.3s,baz=345,slow=26,SNR=6.5
JOW	**Kunigami**	**4.83**	**64**	P	**Pn**	**19 11 05.1**	**-0.9**
JMZ	**Minamidaito 2**	**7.14**	**80**	Pn	**Pn**	**19 11 34.3**	**-3.1**
JMZ	**Minamidaito 2**	**7.14**	**80**	P	**Pn**	**19 11 36.9**	**-0.5**
NJ2	**Nanjing**	**8.29**	**332**	*e*P	**Pn**	**19 11 51.8**	**-1.3**
NJ2				pmax	pmax		
comp=E,41nm,0.7s
WHN	**Wuhan**	**9.88**	**308**	P	**Pn**	**19 12 15.5**	**+0.7**
WHN				LR	LR		
comp=E,1μm,4.1s
CNSH	**ChangSha**	**9.99**	**292**	P	**Pn**	**19 12 17.6**	**+1.3**
CNSH				S	**Sn**	**19 14 14.3**	**+7.8**
JNU	**Nakatsue**	**10.57**	**36**	Pn	**Pn**	**19 12 24.1**	**-0.1**
JNU	**Nakatsue**	**10.57**	**36**	P	**Pn**	**19 12 24.3**	**+0.1**
comp=E,12nm,0.9s,baz=40,slow=17,SNR=2.4
JNU	**Nakatsue**	**10.57**	**36**	P	**Pn**	**19 12 26.3**	**+2.1**
JMN	**Monobe**	**12.76**	**43**	Pn	**Pn**	**19 12 49.6**	**-3.9**
JMN	**Monobe**	**12.76**	**43**	P	**Pn**	**19 12 54.6**	**+1.1**
INCN	**Inchon**	**12.96**	**11**	Pn	**P**	**19 13 03.6**	**+0.6**
KSAR	**Wonju Array Be**	**13.19**	**16**	Pn	**Pn**	**19 12 56.4**	**-2.7**
KSRS	**Korea Array**	**13.21**	**16**	P	**Pn**	**19 13 02.2**	**+2.8**
comp=E,6.6nm,0.4s,baz=192,slow=12,SNR=28
KS19	**Wonju Array Si**	**13.24**	**16**	Pn	**Pn**	**19 13 00.8**	**+1.0**
ENH	**Enshi**	**13.52**	**297**	Pn	**Pn**	**19 13 04.2**	**+0.7**
LYN	**LuoYang**	**13.62**	**318**	*e*P	**Pn**	**19 13 06.6**	**+1.9**
HNS	**HongShan**	**14.62**	**331**	⇓P	**Pn**	**19 13 19.5**	**+1.8**
HNS				pmax	pmax		
comp=E,8.0nm,1.3s
JGF	**Kuroka**	**16.16**	**45**		**Pn**	**19 13 36.3**	**-0.7**
JGF	**Kuroka**	**16.16**	**45**	P	**P**	**19 13 38.3**	**-0.2**
MJAR	**Matsushiro Arr**	**17.28**	**44**	IAmb	IAmb	19 13 58.1	
comp=Z,2.5nm,1.0s
MJAR	**Matsushiro Arr**	**17.28**	**44**	P	**P**	**19 13 51.1**	**+0.2**
comp=Z,2.4nm,0.7s,baz=231,slow=10,SNR=8.0
MJAR				LR	LR	19 20 33.1	
comp=Z,99nm,21.0s,baz=218,slow=37
HHC	**Hu-ho-hao-te**	**18.85**	**331**	⇓*i* P	**Pn**	**19 14 13.0**	**+3.3**
HHC				S	**S**	**19 17 36.8**	**-0.6**
HHC				pmax	pmax		
comp=Z,14nm,1.0s
HHC				pmax	pmax		
comp=Z,93nm,6.7s
HHC				LR	LR		
comp=Z,150nm,14.3s
HHC				LR	LR		
comp=Z,150nm,15.1s
HHC				LR	LR		
comp=Z,140nm,13.9s
BTO	**Baotou**	**19.36**	**328**	*e*P	**Pn**	**19 14 17.3**	**+1.5**
BTO				pP	**pP**	**19 14 35.3**	**+3.5**
BTO				PP	**sP**	**19 14 39.9**	**-4.0**
BTO				pmax	pmax		
comp=Z,16nm,1.0s
BTO				pmax	pmax		
comp=Z,210nm,6.0s
PZH	**PanZhiHua**	**19.62**	**280**	P	**Pn**	**19 14 18.8**	**-0.2**
XLT	**XiLinHaoTe**	**20.00**	**344**	*e*P	Pn	19 14 26.1	+2.9
XLT				pP	pP	19 14 43.8	+4.9
XLT				pmax	pmax		
comp=Z,10.0nm,0.7s
LZH	**Lanzhou**	**20.26**	**308**	*e*P	**P**	**19 14 24.9**	**+1.3**
LZH				pP	pP	19 14 45.3	+3.4
LZH				sP	sP	19 14 54.9	+1.0
LZH				pmax	pmax		
comp=Z,16nm,1.2s
LZDM	**Lanzhou Array**	**20.31**	**308**	P	Pn	19 14 26.1	-1.0
comp=Z,20nm,0.8s,baz=134,slow=10,SNR=15
comp=Z,20nm,0.8s
MDJ	**Mudanjiang**	**20.42**	**13**	P	Pn	19 14 27.5	-0.5
MDJ				pmax	pmax		
comp=Z,6.0nm,0.7s
USRK	**Ussuriysk Ar.**	**20.60**	**18**	P	**P**	**19 14 26.2**	**-0.7**
comp=Z,2.7nm,0.6s,baz=205,slow=9.9,SNR=6.3
comp=Z,2.7nm,0.6s
BNX	**BinXian**	**21.16**	**8**	⇓P	**P**	**19 14 32.5**	**-0.5**
BNX				pmax	pmax		
comp=Z,49nm,0.9s
TNCH	**TengChong**	**22.59**	**276**	P	**P**	**19 14 49.3**	**+0.8**
TNCH				pP	pP	19 15 06.0	-1.1
TNCH				S	**S**	**19 18 42.6**	**-6.7**
TNCH				pmax	pmax		
comp=Z,26nm,1.6s
TNCH				pmax	pmax		
comp=Z,180nm,4.1s
TNCH				LR	LR		
comp=Z,280nm,12.3s
TNCH				LR	LR		
comp=Z,240nm,18.1s
TNCH				LR	LR		
comp=Z,230nm,15.5s
GUMO	**Guam**	**23.07**	**115**	LR	LR	19 24 09.1	
comp=Z,30nm,19.1s,baz=339,slow=37
CHTO	**Chiang Mai**	**23.47**	**260**	P	**P**	**19 14 57.0**	**+0.2**
CHTO	**Chiang Mai**	**23.47**	**260**	P	**P**	**19 14 57.7**	**+0.8**
CM31	**Chiang Mai Arr**	**23.59**	**259**	P	**P**	**19 14 59.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**23.59**	**259**	P	**P**	**19 14 58.9**	**+0.9**
comp=Z,7.5nm,1.1s,baz=61,slow=8.0,SNR=39
CMAR				PcP	**PcP**	**19 18 40.9**	**+0.4**
comp=Z,0.6nm,0.5s,baz=5.9,slow=0.9,SNR=6.7
CMAR				LR	LR	19 24 22.3	
comp=Z,62nm,19.9s,baz=65,slow=37
comp=Z,7.5nm,1.1s
TOLI2	**Tolitoli**	**23.66**	**187**	P	**P**	**19 14 58.9**	**+0.4**
TOLI2	**Tolitoli**	**23.66**	**187**	P	**P**	**19 14 58.8**	**+0.3**
ERM	**Erimo**	**23.72**	**39**	P	**P**	**19 15 00.4**	**+1.6**
JEM	**Erimo**	**23.72**	**39**	P	**P**	**19 15 00.6**	**+1.7**
GTA	**Gaotai**	**24.66**	**312**	*e*P	**P**	**19 15 07.8**	**+0.2**
GTA				pmax	pmax		
comp=Z,9.0nm,1.3s
JKA	**Kamikawa-asahi**	**24.84**	**34**	P	**P**	**19 15 06.2**	**-2.7**
JKA				IAmb	IAmb	19 15 18.4	
comp=Z,28nm,1.4s
HILR	**Hailar Array B**	**24.91**	**354**	P	**P**	**19 15 09.3**	**-0.3**
comp=Z,1.2nm,0.5s,baz=180,slow=12,SNR=5.6
HILR				PcP	**PcP**	**19 18 43.7**	**+0.9**
comp=Z,1.1nm,0.5s,baz=154,slow=3.6,SNR=4.0
comp=Z,1.2nm,0.5s
HEH	**HeiHe**	**25.62**	**6**	*e*P	**P**	**19 15 15.1**	**-0.9**
HEH				pmax	pmax		
comp=Z,10.0nm,1.4s
SONM	**Songino Array**	**26.68**	**334**	P	**P**	**19 15 24.8**	**-0.9**
comp=Z,1.1nm,0.8s,baz=150,slow=9.5,SNR=6.2
SONM				PcP	**PcP**	**19 18 48.1**	**+1.1**
comp=Z,0.4nm,0.7s,baz=98,slow=6.0,SNR=2.2
SONM				ScP	**ScP**	**19 22 17.6**	**-0.9**
comp=Z,0.3nm,0.5s,baz=113,slow=2.2,SNR=3.7
SONM				LR	LR	19 25 46.3	
comp=Z,90nm,18.0s,baz=180,slow=36
comp=Z,1.1nm,0.8s
GOMU	**GeErMu**	**27.06**	**302**	P	**P**	**19 15 29.8**	**+0.2**
GOMU				pmax	pmax		
comp=Z,1.0nm,0.5s
FAKI	**Fak Fak**	**28.83**	**161**	P	**P**	**19 15 44.1**	**-1.0**
FAKI				IAmb	IAmb	19 15 55.2	
comp=Z,30nm,1.3s
FAKI	**Fak Fak**	**28.83**	**161**	P	**P**	**19 15 45.1**	**+0.1**
JAY	**Jayapura**	**31.89**	**146**	LR	LR	19 30 12.5	
comp=Z,68nm,18.5s,baz=230,slow=38
EVN	**Everest**	**32.88**	**284**	P	**P**	**19 16 23.1**	**+1.7**
EVN				IAmb	IAmb	19 17 07.1	
comp=Z,4.2nm,0.6s
MANU	**Manus Island**	**35.36**	**136**	P	**P**	**19 16 43.8**	**+1.6**
MANU				IAmb	IAmb	19 16 44.3	
comp=Z,7.4nm,0.6s
MTN	**Manton Dam**	**38.14**	**168**	P	**P**	**19 17 05.4**	**-0.3**
MTN				IAmb	IAmb	19 17 05.6	
comp=Z,6.2nm,0.6s
PEA0B	**Petropavlovsk-**	**38.25**	**33**	P	**P**	**19 17 04.5**	**-1.7**
PETK	**Petropavlovsk-**	**38.25**	**33**	P	**P**	**19 17 04.4**	**-1.9**
PETK	**Petropavlovsk-**	**38.25**	**33**	P	**P**	**19 17 04.2**	**-2.0**
comp=Z,2.5nm,0.7s,baz=150,slow=2.3,SNR=6.5
comp=Z,2.5nm,0.7s
MKAR	**Makanchi Array**	**39.36**	**315**	P	**P**	**19 17 15.0**	**-0.7**
MKAR	**Makanchi Array**	**39.36**	**315**	P	**P**	**19 17 15.0**	**-0.7**
comp=Z,1.8nm,0.4s,baz=100,slow=10,SNR=41
MKAR				ScP	**ScP**	**19 23 01.6**	**-0.6**
comp=Z,0.9nm,0.8s,baz=92,slow=8.9,SNR=4.3
comp=Z,1.8nm,0.4s
MAKZ	**Makanchi**	**39.57**	**314**	P	**P**	**19 17 17.0**	**-0.4**
KNRA	**Kununurra**	**40.54**	**172**	P	**P**	**19 17 25.6**	**0.0**
KNRA				IAmb	IAmb	19 17 26.5	
comp=Z,9.1nm,0.7s
ZAA0	**Zalesovo Array**	**40.88**	**326**	P	**P**	**19 17 28.3**	**+0.2**
ZALV	**Zalesovo Beam**	**40.88**	**326**	P	**P**	**19 17 28.3**	**+0.2**
ZALV	**Zalesovo Beam**	**40.88**	**326**	P	**P**	**19 17 27.7**	**-0.4**
comp=Z,1.4nm,0.4s,baz=114,slow=8.6,SNR=10
ZALV				ScP	**ScP**	**19 23 05.8**	**-2.1**
comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=3.7
comp=Z,1.4nm,0.4s
TARG	**Taragay, Kyrgy**	**41.22**	**306**	P	**P**	**19 17 32.7**	**+1.1**
KDJ	**Kajisay**	**41.74**	**306**	P	**P**	**19 17 36.0**	**+0.4**
KDJ				IAmb	IAmb	19 17 40.1	
comp=Z,5.6nm,0.7s
KSH	**Kashi**	**42.30**	**302**	P	**P**	**19 17 44.5**	**+4.4**
KSH				pmax	pmax		
comp=Z,5.0nm,0.9s
FITZ	**Fitzroy Crossi**	**42.67**	**177**	P	**P**	**19 17 42.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.67**	**177**	P	**P**	**19 17 42.9**	**-0.1**
comp=Z,10nm,0.8s,baz=350,slow=7.0,SNR=18
FITZ				PcP	**PcP**	**19 19 33.7**	**+0.4**
comp=Z,2.1nm,0.7s,baz=124,slow=3.6,SNR=2.3
comp=Z,10nm,0.8s
BOOM	**Boomskoye usch**	**42.71**	**307**	P	**P**	**19 17 43.7**	**+0.4**
KURK	**Kurchatov**	**42.97**	**319**	P	**P**	**19 17 44.7**	**-0.4**
KURK	**Kurchatov**	**42.97**	**319**		**PcP**	**19 19 33.4**	**-0.5**
KURBB	**Kurchatov Arra**	**42.99**	**319**	P	**P**	**19 17 45.0**	**-0.3**
comp=Z,1.6nm,0.6s,baz=114,slow=8.7,SNR=16
KURBB				PcP	**PcP**	**19 19 33.4**	**-0.6**
comp=Z,0.5nm,0.8s,baz=111,slow=3.5,SNR=4.4
comp=Z,1.6nm,0.6s
COEN	**Coen**	**43.05**	**151**	P	**P**	**19 17 47.7**	**+1.5**
COEN	**Coen**	**43.05**	**151**	P	**P**	**19 17 47.5**	**+1.4**
AAK	**Ala-Archa**	**43.78**	**306**		**P**	**19 17 51.6**	**-0.4**
ARSB	**Arslanbob**	**44.75**	**304**	P	**P**	**19 17 59.9**	**+0.1**
DRK	**Karamyk**	**45.52**	**302**	P	**P**	**19 18 06.4**	**+0.4**
DRK				IAmb	IAmb	19 18 08.0	
comp=Z,5.1nm,0.6s
WB0	**Warramunga Arr**	**45.54**	**165**		**P**	**19 18 06.4**	**+0.4**
WB0				IAmb	IAmb	19 18 07.4	
comp=Z,9.5nm,0.8s
WRAB	**Tennant Creek**	**45.69**	**166**	P	**P**	**19 18 07.5**	**+0.4**
WRAB				IAmb	IAmb	19 18 08.6	
comp=Z,11nm,0.8s
WRAB	**Tennant Creek**	**45.69**	**166**	P	**P**	**19 18 07.7**	**+0.6**
WRA	**Warramunga Arr**	**45.70**	**166**	P	**P**	**19 18 06.4**	**-0.8**
WRA	**Warramunga Arr**	**45.70**	**166**	P	**P**	**19 18 07.8**	**+0.6**
comp=Z,9.1nm,0.7s,baz=346,slow=8.9,SNR=103
WRA				PcP	**PcP**	**19 19 43.8**	**+0.1**
comp=Z,2.7nm,0.7s,baz=345,slow=3.8,SNR=8.2
comp=Z,9.1nm,0.7s
WR8	**Warramunga Arr**	**45.75**	**165**		**P**	**19 18 08.0**	**+0.5**
PSA00	**Pilbara Seismi**	**46.20**	**185**	P	**P**	**19 18 10.9**	**-0.2**
PSA00				IAmb	IAmb	19 18 11.3	
comp=Z,14nm,0.9s
PSA00	**Pilbara Seismi**	**46.20**	**185**	P	**P**	**19 18 11.1**	**0.0**
PSA00				IAmb	IAmb	19 18 11.3	
comp=Z,6.1nm,0.9s
GAR	**Garm**	**46.65**	**301**	IAmb	IAmb	19 18 16.5	
comp=Z,7.6nm,0.7s
KKAR	**Karatay Array**	**46.75**	**307**	P	**P**	**19 18 15.2**	**0.0**
TIXI	**Tiksi**	**47.01**	**2**	P	**P**	**19 18 15.0**	**-1.8**
TIXI				IAmb	IAmb	19 18 15.6	
comp=Z,7.3nm,0.9s
MTSU	**Mount Surprise**	**47.26**	**152**	P	**P**	**19 18 19.8**	**+0.4**
CHGR	**Chuyangaron**	**47.55**	**301**	P	**P**	**19 18 21.6**	**-0.1**
CHGR				IAmb	IAmb	19 18 23.2	
comp=Z,8.1nm,0.8s
QIS	**Mount Isa**	**47.73**	**159**	P	**P**	**19 18 23.2**	**+0.2**
BVAR	**Borovoye Array**	**48.53**	**320**	P	**P**	**19 18 28.9**	**+0.1**
comp=Z,2.2nm,0.6s,baz=104,slow=7.1,SNR=15
BVAR				PcP	**PcP**	**19 19 53.1**	**-0.2**
comp=Z,2.1nm,0.6s,baz=121,slow=3.0,SNR=5.2
comp=Z,2.2nm,0.6s
AS31	**Alice Springs**	**49.21**	**167**		**P**	**19 18 35.2**	**+0.8**
ASAR	**Alice Springs**	**49.21**	**167**	P	**P**	**19 18 35.2**	**+0.8**
comp=Z,3.8nm,0.4s,baz=353,slow=7.2,SNR=98
ASAR				PcP	**PcP**	**19 19 56.5**	**+0.3**
comp=Z,3.4nm,0.8s,baz=354,slow=3.3,SNR=8.2
comp=Z,3.8nm,0.4s
HNR	**Honiara**	**49.24**	**129**		**P**	**19 18 34.6**	**-0.1**
HNR	**Honiara**	**49.24**	**129**	P	**P**	**19 18 34.4**	**-0.3**
comp=Z,135nm,0.5s,baz=342,slow=1.4,SNR=5.6
AB31	**Akbulak array**	**54.50**	**314**	P	**P**	**19 19 12.3**	**-1.1**
AB31				IAmb	IAmb	19 19 39.0	
comp=Z,4.4nm,0.9s
ABKAR	**Akbulak array**	**54.50**	**314**	P	**P**	**19 19 12.7**	**-0.7**
INKA	**Innaminka**	**54.81**	**161**	P	**P**	**19 19 16.0**	**+0.2**
INKA				IAmb	IAmb	19 19 18.0	
comp=Z,4.2nm,0.8s
FORT	**Forrest**	**55.41**	**175**	P	**P**	**19 19 20.4**	**+0.3**
FORT				IAmb	IAmb	19 19 34.2	
comp=Z,15nm,1.1s
BBOO	**Buckleboo**	**58.52**	**168**	P	**P**	**19 19 41.9**	**-0.1**
BBOO	**Buckleboo**	**58.52**	**168**	P	**P**	**19 19 42.5**	**+0.6**
STKA	**Stephens Creek**	**58.95**	**162**	P	**P**	**19 19 45.1**	**+0.1**
STKA	**Stephens Creek**	**58.95**	**162**	P	**P**	**19 19 45.6**	**+0.6**
comp=Z,5.3nm,0.5s,baz=349,slow=6.2,SNR=23
comp=Z,5.3nm,0.5s
STKA	**Stephens Creek**	**58.95**	**162**	P	**P**	**19 19 45.6**	**+0.6**
HTT	**Hallett**	**59.73**	**165**	P	**P**	**19 19 50.9**	**+0.5**
CMSA	**Cobar Meteorol**	**59.91**	**158**	P	**P**	**19 19 53.0**	**+1.4**
L14K	**Kuka Creek**	**60.88**	**32**	P	**P**	**19 19 57.8**	**-0.1**
F17K	**Baldwin Pennin**	**61.70**	**26**	P	**P**	**19 20 03.4**	**+0.1**
N15K	**Kwethluk River**	**62.15**	**33**	P	**P**	**19 20 06.2**	**-0.3**
G18K	**Tagagawik**	**62.74**	**27**	P	**P**	**19 20 09.5**	**-0.8**
G18K				IAmb	IAmb	19 20 10.4	
comp=Z,9.7nm,1.1s
CAN	**Canberra**	**64.49**	**157**	P	**P**	**19 20 23.8**	**+1.6**
CAN				IAmb	IAmb	19 20 28.8	
comp=Z,12nm,1.3s
IMAR	**Indian Mountai**	**64.74**	**27**	P	**P**	**19 20 24.3**	**+0.8**
PPLA	**Purkeypile**	**65.72**	**30**	P	**P**	**19 20 30.3**	**+0.3**
SKT	**Skwentna**	**66.15**	**31**	P	**P**	**19 20 31.8**	**-0.8**
SKT				IAmb	IAmb	19 20 41.4	
comp=Z,13nm,1.2s
KBZ	**Khabaz**	**66.70**	**309**	P	**P**	**19 20 35.7**	**-0.7**
comp=Z,1.1nm,0

PLID	**Pearl Lake**	**91.92**	**38**	P	**P**	**19 22 53.6**	**-0.1**
PLID				IAmb	IAmb	19 22 57.1	
comp=Z,2.6nm,0.8s							
OVMT	**Ovando**	**92.27**	**35**	P	**P**	**19 22 55.6**	**+0.4**
BPMT	**Black Pine Rid**	**92.44**	**35**	P	**P**	**19 22 55.5**	**-0.7**
DLMT	**Dillon**	**93.59**	**36**	P	**P**	**19 23 03.1**	**+1.8**
DLMT				IAmb	IAmb	19 23 04.9	
comp=Z,3.6nm,0.7s							
HLID	**Hailey**	**93.76**	**38**	IAmb	IAmb	19 23 04.5	
comp=Z,3.0nm,0.9s							
BOZ	**Bozeman (W)**	**93.95**	**35**	P	**P**	**19 23 03.8**	**+0.8**
BOZ				IAmb	IAmb	19 23 04.1	
comp=Z,1.8nm,0.6s							
NVAR	**Mina Array Bea**	**94.60**	**44**	P	**P**	**19 23 06.7**	**+0.4**
comp=Z,2.0nm,0.6s,baz=303,slow=5.5,SNR=11							
comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**96.96**	**36**	P	**P**	**19 23 16.6**	**-0.3**
comp=Z,0.2nm,0.5s,baz=341,slow=4.4,SNR=2.3							
comp=Z,0.2nm,0.5s							
TXAR	**Lajitas Array**	**109.71**	**43**	PKiKP	**PKiKP**	**19 28 16.3**	**+0.3**
comp=Z,0.1nm,0.4s,baz=336,slow=3.3,SNR=4.1							
LPAZ	**La Paz**	**166.28**	**54**	PKP	**PKPdf**	**19 29 52.2**	**+1.1**
comp=Z,0.6nm,0.5s,baz=341,slow=2.5,SNR=3.9							
LPAZ				PKPab	**PKPab**	**19 30 51.8**	**-0.9**
comp=Z,0.8nm,0.5s,baz=285,slow=5.7,SNR=2.4							

*SJA **23** 19:13:48.3±0.7,22°.88S×66°.31W,h261km±4km,ML3.6, MW3.6*

ISC 23 19:13:47.2±2.3,22°.94S±0°.05×66°.32W±0°.07, h260km±16km,n35,σ1§70/50,4C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.88**	**108**	*e*P	**Pn**	**19 14 25.3**	**+2.1**
YJA	**Yavi**	**1.06**	**45**	*e*P	**Pn**	**19 14 25.6**	**+1.3**
YJA	**Yavi**	**1.06**	**45**	*e*P	**Pn**	**19 14 25.8**	**+1.5**
YJA				*e*S	**S**	**19 14 52.6**	**-0.9**
SALTA		**1.28**	**181**	⇑*i*P	**Pn**	**19 14 27.7**	**+2.1**
SALTA		**1.28**	**181**	*e*P	**Pn**	**19 14 22.6**	**-3.0**
SALTA				*e*P		19 14 27.9	
AF01	**San Pedro de A**	**1.71**	**269**	*e*S	**S**	**19 15 00.7**	**-0.4**
AF01				IAML		19 15 01.6	
comp=Z,123nm,0.3s							
AZAP	**Zapla**	**1.72**	**138**	*e*P	**Pn**	**19 14 30.2**	**+1.8**
AZAP				*e*S	**S**	**19 15 01.3**	**+0.2**
SLA	**San Lorenzo**	**1.93**	**157**	*e*P	**Pn**	**19 14 27.6**	**-2.5**
PB09	**IPOC Station P**	**2.93**	**292**	⇑*i*P	**Pn**	**19 14 41.9**	**+2.1**
PB09				IAML		19 15 24.3	
comp=N,279nm,0.1s							
PB09	**IPOC Station P**	**2.93**	**292**	*e*P	**Pn**	**19 14 41.7**	**+1.9**
PB09				*e*S	**S**	**19 15 22.3**	**+0.8**
PB09				IAML		19 15 25.9	
comp=Z,46nm,0.2s							
PB06	**IPOC Station P**	**3.01**	**274**	*e*P	**Pn**	**19 14 42.2**	**+1.6**
PB06				*e*S	**S**	**19 15 21.9**	**-1.0**
PB06				IAML		19 15 22.4	
comp=N,139nm,0.1s							
PB06	**IPOC Station P**	**3.01**	**274**	*e*P	**Pn**	**19 14 42.4**	**+1.8**
PB06				*e*S	**S**	**19 15 22.6**	**-0.3**
PB06				IAML		19 15 28.3	
comp=Z,80nm,0.1s							
PB03	**IPOC Station P**	**3.29**	**285**	⇑*i*P	**Pn**	**19 14 45.1**	**+1.4**
PB03	**IPOC Station P**	**3.29**	**285**	*e*P	**Pn**	**19 14 45.1**	**+1.4**
PB03				*e*S	**S**	**19 15 26.6**	**-1.9**
PB03				IAML		19 15 29.9	
comp=Z,116nm,0.2s							
PB01	**IPOC Station P**	**3.49**	**302**	⇑*i*P	**Pn**	**19 14 47.0**	**+1.2**
PB01	**IPOC Station P**	**3.49**	**302**	*e*P	**Pn**	**19 14 47.3**	**+1.4**
PB01				*e*S	**S**	**19 15 30.9**	**-1.5**
PB01				IAML		19 15 33.0	
comp=Z,86nm,0.1s							
PB02	**IPOC Station P**	**3.68**	**295**	*e*P	**Pn**	**19 14 49.0**	**+1.1**
PB02	**IPOC Station P**	**3.68**	**295**	*e*P	**Pn**	**19 14 49.1**	**+1.1**
PB02				*e*S	**S**	**19 15 34.0**	**-2.3**
PB02				IAML		19 15 35.3	
comp=Z,172nm,0.3s							
GO02	**Mina Guanaco**	**3.72**	**233**	*e*P	**Pn**	**19 14 50.8**	**+2.3**
GO02	**Mina Guanaco**	**3.72**	**233**	*e*P	**Pn**	**19 14 51.1**	**+2.6**
GO02				IAML		19 15 43.1	
comp=Z,89nm,0.5s							
PB10	**IPOC Station P**	**3.93**	**261**	*i* P	**Pn**	**19 14 52.4**	**+1.8**
PB10	**IPOC Station P**	**3.93**	**261**	*e*P	**Pn**	**19 14 52.5**	**+1.8**
PB10				*e*S	**S**	**19 15 39.8**	**-1.4**
PB10				IAML		19 15 41.4	
comp=Z,33nm,0.2s							
PB14	**IPOC Station P**	**4.10**	**245**	*e*P	**Pn**	**19 14 54.7**	**+1.8**
PB14	**IPOC Station P**	**4.10**	**245**	*e*P	**Pn**	**19 14 54.9**	**+2.0**
PB14				*e*S	**S**	**19 15 44.1**	**-1.1**
PB14				IAML		19 15 47.2	
comp=Z,114nm,0.2s							
PATCX	**Punta Patache**	**4.13**	**300**	*e*P	**Pn**	**19 14 54.1**	**+0.9**
PATCX	**Punta Patache**	**4.13**	**300**	*e*P	**Pn**	**19 14 54.4**	**+1.2**
PATCX				*e*S	**S**	**19 15 43.8**	**-1.9**
PATCX				IAML		19 15 45.0	
comp=Z,52nm,0.5s							
GO01	**Chusmiza**	**4.21**	**320**	*e*P	**Pn**	**19 14 55.8**	**+1.2**
HMBC	**Humberstone**	**4.24**	**308**	*e*P	**Pn**	**19 14 54.8**	**+0.3**
HMBC	**Humberstone**	**4.24**	**308**	*e*P	**Pn**	**19 14 55.0**	**+0.5**
HMBC				*e*S	**S**	**19 15 45.8**	**-2.3**
HMBC				IAML		19 15 48.2	
comp=Z,74nm,0.1s							
TA01	**Diego Aracena**	**4.29**	**303**	*e*P	**Pn**	**19 14 55.3**	**+0.4**
TA01	**Diego Aracena**	**4.29**	**303**	*e*P	**Pn**	**19 14 56.1**	**+1.2**
TA01				*e*S	**S**	**19 15 46.3**	**-2.6**
TA01				IAML		19 15 48.0	
comp=Z,27nm,0.7s							
PB11	**IPOC Station P**	**4.43**	**315**	*e*P	**Pn**	**19 14 57.3**	**+0.5**
PB11	**IPOC Station P**	**4.43**	**315**	*e*P	**Pn**	**19 14 57.5**	**+0.7**
PB11				*e*S	**S**	**19 15 49.4**	**-2.8**
PB11				IAML		19 15 52.5	
comp=Z,55nm,0.4s							
AC01	**Pan de Azucar**	**5.04**	**230**	*e*P	**Pn**	**19 15 04.4**	**+0.7**
AC01				*e*S	**S**	**19 16 03.4**	**-1.5**
AC01				IAML		19 16 04.0	
comp=Z,33nm,0.3s							
PB16	**IPOC Station P**	**5.46**	**326**	*e*P	**Pn**	**19 15 11.7**	**+2.0**
PB16				IAML		19 16 19.5	
comp=Z,14nm,0.4s							

*IPEC **23** 19:30:00.0±0.1,50°.19N×18°.77E,h1km,ML2.6/6,Error ellipse: s-maj=1.7km s-min=0.8km az=178.0*
*PRU **23** 19:30:00.8,50°.22N×18°.73E,h0km*

ISC 23 19:29:58.9±0.8,50°.30N±0°.03×18°.80E±0°.02,h0km,n54, σ1§79/82,12C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.44**	**241**	*e*PG	**Pb**	**19 30 09.0**	**-0.5**
RAC				*e*SG	**Sb**	**19 30 15.4**	**-1.3**
OKC	**Ostrava-Krasne**	**0.62**	**223**	*e*PG	**Pg**	**19 30 11.2**	**+0.4**
OKC				*e*SG	**Sg**	**19 30 19.2**	**+0.4**
OJC	**Ojcow**	**0.65**	**97**	*i* Pg	**Pb**	**19 30 12.9**	**-0.1**
OJC				*e*Sg	**Sb**	**19 30 21.9**	**-0.7**
STEB	**Steborice**	**0.75**	**242**	*e*PG	**Pg**	**19 30 13.8**	**+0.5**
STEB				*e*SG	**Sg**	**19 30 23.7**	**+0.7**
comp=Z,133nm,0.5s							
ANAC	**Anensky vrch**	**0.94**	**257**	*e*Pg	**Pg**	**19 30 17.4**	**+0.6**
baz=82							
ANAC				*e*Sg	**Sg**	**19 30 28.1**	**-0.9**
150nm,0.3s,baz=82							
MORC	**Moravsky Berou**	**0.96**	**238**	⇑P	**Pg**	**19 30 17.6**	**+0.3**
MORC				⇑S	**Sg**	**19 30 29.7**	**0.0**
MORC	**Moravsky Berou**	**0.96**	**238**	*e*Pg	**Pg**	**19 30 17.2**	**-0.1**
baz=62							
MORC				*e*Sg	**Sg**	**19 30 28.2**	**-1.5**
157nm,0.8s,baz=62							
LOSC	**Losov**	**1.14**	**234**	*e*Pg	**Pg**	**19 30 20.6**	**-0.1**
baz=58							
LOSC				*e*Sg	**Sg**	**19 30 33.4**	**-2.1**
76nm,0.3s,baz=58							
LANS	**Liptovska Anna**	**1.23**	**159**	*e*PG	**Pg**	**19 30 22.5**	**+0.2**
LANS				*e*SG	**Sb**	**19 30 39.0**	**-0.3**
LANS				*e*LG	Lg	19 30 43.7	
NIE	**Niedzica**	**1.31**	**132**	*e*Pg	**Pg**	**19 30 24.1**	**+0.2**
NIE				*e*Sg	**Sn**	**19 30 42.2**	**-0.5**
KRLC	**Kraliky**	**1.31**	**261**	*e*PG	**Pg**	**19 30 23.6**	**-0.4**
KRLC				*e*SG	**Sg**	**19 30 40.7**	**-0.4**
comp=Z,85nm,0.4s							
DPC	**Dobruska-Polom**	**1.59**	**273**	*e*PG	**Pb**	**19 30 29.1**	**0.0**
DPC				*e*SG	**Sg**	**19 30 51.0**	**+1.2**
comp=Z,64nm,0.3s							
JAVC	**Velka Javorina**	**1.62**	**207**	*e*Pn	**Pn**	**19 30 28.0**	**-0.7**
baz=28							
OSTC	**Ostas**	**1.67**	**280**	*e*PG	**Pg**	**19 30 31.1**	**+0.2**
OSTC				*e*SG	**Sg**	**19 30 53.0**	**+0.5**
comp=Z,59nm,0.8s							
KSP	**Ksiaz**	**1.69**	**290**	*e*Pg	**Pg**	**19 30 32.6**	**+1.4**
KSP				*e*Sg	**Sg**	**19 30 55.0**	**+1.9**
VRAC	**Vranov**	**1.74**	**236**	⇓P	**Pb**	**19 30 31.1**	**-0.5**
VRAC				⇑S	**Sn**	**19 30 53.0**	**-0.2**
VRAC	**Vranov**	**1.74**	**236**	*e*Pn	**Pn**	**19 30 30.4**	**+0.1**
baz=57							
VRAC				*e*Sg	**Sn**	**19 30 52.1**	**-1.1**
46nm,0.4s,baz=57							
STHS	**Stebnicka Huta**	**1.81**	**118**	*e*PN	**Pb**	**19 30 32.8**	**-0.1**
STHS				*e*SG	**Sg**	**19 30 59.4**	**+2.4**
STHS				*e*LG	Lg	19 31 00.4	
KRUC	**Moravsky**	**1.99**	**233**	*e*PN	**Pn**	**19 30 33.6**	**-0.2**
KRUC				*e*SG	**Sn**	**19 30 59.8**	**+0.4**
KRUC	**Moravsky**	**1.99**	**233**	*e*Pn	**Pn**	**19 30 33.5**	**-0.2**
baz=53							
KRUC				*e*Sg	**Sn**	**19 30 59.7**	**+0.4**
34nm,0.8s,baz=53							
KECS	**Kecovo**	**2.12**	**148**	*e*PN	**Pn**	**19 30 35.2**	**-0.4**
KECS				*e*		19 30 39.4	
KECS	**Kecovo**	**2.12**	**148**	*e*SN	**Sn**	**19 31 00.2**	**-2.5**
KECS				*e*LG	Lg	19 31 15.1	
MODS	**Modra-Piesok**	**2.17**	**208**	*e*PN	**Pn**	**19 30 36.2**	**0.0**
MODS				*e*		19 30 41.7	
MODS	**Modra-Piesok**	**2.17**	**208**	*e*SG	**Sb**	**19 31 05.2**	**-1.1**
MODS				*e*LG	Lg	19 31 14.7	
TREC	**Trest**	**2.37**	**246**	*e*SG	**Sb**	**19 31 11.9**	**-0.2**
PSZ	**Piszkesteto**	**2.49**	**163**	⇑P	**Pn**	**19 30 39.8**	**-0.8**
PRU	**Pruhonice**	**2.76**	**265**	*e*SG	**Sg**	**19 31 25.8**	**-1.5**
comp=Z,16nm,0.6s							
PRA	**Prague**	**2.81**	**267**	*e*SG	**Sb**	**19 31 26.9**	**+1.9**
comp=Z,29nm,0.8s							
CONA	**Conrad Observa**	**3.06**	**220**	*e*Pn	**Pn**	**19 30 47.8**	**-0.7**
0.8nm,0.3s							
CONA				*e*Sn	**Sn**	**19 31 26.2**	**+0.4**
3.9nm,0.3s							
ZVC	**Zvikov**	**3.10**	**256**	*e*PG	**Pb**	**19 30 56.7**	**+1.9**
BRG	**Berggiesshubel**	**3.15**	**282**	Pg	**Pg**	**19 31 00.0**	**+0.9**
BRG				Sg	**Sg**	**19 31 40.3**	**+0.3**
BRG				Amp		19 31 44.7	
comp=Z,13nm,0.5s							
KHC	**Kasperske Hory**	**3.58**	**253**	*e*PN	**Pn**	**19 30 55.7**	**0.0**
KHC				*e*PG	**Pb**	**19 31 03.5**	**+0.4**
KHC				*e*SG	**Sg**	**19 31 51.2**	**-2.7**
comp=Z,24nm,0.6s							
ARSA	**Arzberg**	**3.74**	**217**	*e*Sg	**Sg**	**19 32 04.6**	**+5.7**
comp=Z,5.3nm,0.6s							
CLL	**Collm**	**3.81**	**288**	*e*Pg	**Pg**	**19 31 12.0**	**+0.1**
CLL				*e*Sg	**Sg**	**19 32 03.0**	**+1.7**
comp=Z,13nm,0.6s							
MOA	**Molln**	**3.86**	**232**	*e*Sg	**Sb**	**19 31 58.1**	**+3.1**
comp=Z,10nm,0.6s							
BIOA	**Bad Ischl, Aus**	**4.28**	**234**	*e*Sg	**Sg**	**19 32 13.1**	**-3.3**
comp=Z,16nm,0.4s							
DRGR		**4.37**	**142**	⇑P	**Pn**	**19 31 06.6**	**+0.1**
DRGR				⇑S	**Sn**	**19 31 56.3**	**-1.8**
SIRR	**Siria**	**4.46**	**154**	⇑P	**Pn**	**19 31 07.8**	**+0.1**
MARR	**Marisel-Cluj**	**4.62**	**140**	⇑S	**Sn**	**19 32 02.8**	**-1.7**
KBA	**Koelnbreinsper**	**4.84**	**230**	*e*Sg	**Sg**	**19 32 35.7**	**+1.4**
comp=Z,5.1nm,0.5s							
BURAR	**Bucovina Array**	**5.01**	**120**	⇑P	**Pn**	**19 31 16.0**	**+0.7**
MYKA	**Terra Mystica**	**5.02**	**225**	*e*Sg	**Sg**	**19 32 42.6**	**+2.5**
comp=Z,1.6nm,0.4s							
BZS	**Buzias**	**5.05**	**157**	⇑P	**Pn**	**19 31 15.8**	**0.0**
SURR	**Surduc**	**5.06**	**153**	⇑P	**Pn**	**19 31 16.1**	**+0.2**
ABTA	**Abfaltersbach**	**5.48**	**232**	*e*Sg	**Sg**	**19 32 55.2**	**+0.3**
comp=Z,3.4nm,0.6s							
GZR	**Gura Zlata**	**5.59**	**150**	⇑P	**Pn**	**19 31 23.5**	**+0.2**
MOTA	**Moosalm**	**5.88**	**243**	*e*Sg	**Sg**	**19 33 06.9**	**-0.7**
comp=Z,9.5nm,0.8s							
SQTA	**Sankt Quirin**	**5.89**	**241**	*e*Sg	**Sg**	**19 33 08.1**	**+0.2**
comp=Z,4.7nm,0.5s							
LUNU	**Lund**	**6.24**	**331**	*i* P	**Pn**	**19 31 32.8**	**+0.6**
LUNU				*i* S	**Sn**	**19 32 40.3**	**-3.8**
FETA	**Feichten**	**6.27**	**242**	*e*Sg	**Sg**	**19 33 25.4**	**+5.2**
comp=Z,4.0nm,0.6s							
DAVA	**Damuels**	**6.62**	**246**	*e*Sg	**Sg**	**19 33 31.1**	**-0.2**
comp=Z,9.0nm,0.6s							
NACGM	**Naroch**	**6.70**	**43**	*e*P	**Pn**	**19 31 41.5**	**+3.1**
comp=Z,9.0nm,1.0s,baz=230							
BJUU	**Bjuv**	**6.75**	**331**	*e*P	**Pn**	**19 31 38.3**	**-0.7**
BJUU				*i* S	**Sn**	**19 32 48.6**	**-7.8**
DEL	**Delary**	**6.85**	**336**	*i* P	**Pn**	**19 31 42.3**	**+1.9**
DEL				*i* S	**Sn**	**19 32 56.0**	**-3.0**

*IDC **23** 19:43:41.1±1.5,17°.05N×148°.33E,h0km,mb3.7/6, mbtmp3.8/7,ML3.6/1,MS3.1/1,Error ellipse: s-maj=42.3km s-min=26.8km az=91.0*

ISC 23 19:43:47.4±1.5,16°.9N±0°.1×148°.0E±0°.2,h35km,n9, σ2§44/9,mb3.7/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.47**	**222**	Pn	**Pn**	**19 44 54.9**	**+2.1**
2.3nm,0.3s,baz=210,slow=20,SNR=1.2							
GUMO				Sn	**Sn**	**19 45 40.1**	**-3.5**
3.8nm,0.3s,baz=180,slow=10,SNR=2.3							
54nm,1.1s							
MJAR	**Matsushiro Arr**	**21.35**	**338**	P	**P**	**19 48 31.5**	**-0.2**
1.4nm,0.8s,baz=166,slow=12,SNR=4.4							
1.4nm,0.8s							
DAV	**Davao City (W)**	**23.96**	**249**	LR	LR	19 59 10.0	
comp=Z,43nm,18.3s,baz=226,slow=38							
WRA	**Warramunga Arr**	**39.02**	**201**	P	**P**	**19 51 12.6**	**+1.7**
0.3nm,0.6s,baz=15,slow=8.0,SNR=1.2							
0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**46.61**	**280**	P	**P**	**19 52 12.7**	**+0.1**
0.5nm,0.6s,baz=70,slow=7.3,SNR=5.7							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**61.23**	**314**	P	**P**	**19 53 59.7**	**+0.7**
0.4nm,0.7s,baz=91,slow=5.1,SNR=2.2							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**64.06**	**318**	P	**P**	**19 54 17.0**	**-0.8**
0.6nm,0.3s,baz=99,slow=6.7,SNR=6.1							
0.6nm,0.3s							
FINES	**FINESS Array B**	**89.37**	**336**	P	**P**	**19 56 40.6**	**+0.5**
1.7nm,0.9s,baz=57,slow=7.0,SNR=5.5							
1.7nm,0.9s							
LPAZ	**La Paz**	**145.44**	**94**	PKPbc	**PKPdf**	**20 03 19.6**	**-3.8**
0.9nm,0.4s,baz=338,slow=4.2,SNR=4.4							

*IDC **23** 19:51:00.0±1.3,3°.00S×138°.51E,h0km,mb3.6/4, mbtmp3.6/6,ML3.2/2,MS3.9/2,Error ellipse: s-maj=30.7km s-min=27.2km az=81.0*
*DJA **23** 19:51:00.4±0.9,2°.5±.7°×13°.8E±°,h14km±9km,M3.6/6, mb4.0/1,MLv3.4/6*

ISC 23 19:50:59.8±1.0,2°.56S±0°.09×138°.50E±0°.08,h32km,n13, σ1§16/9,mb3.6/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.61**	**20**	P	**Pn**	**19 51 12.6**	**+0.4**
SMPI				S	**Sb**	**19 51 20.6**	**+0.1**
GENI	**Genyem**	**1.67**	**91**	P	**Pb**	**19 51 31.8**	**+1.9**
JAY	**Jayapura**	**2.20**	**89**	Pn	**Pb**	**19 51 38.0**	**-1.1**
1.8nm,0.3s,baz=259,slow=9.7,SNR=12							
15nm,0.6s							
JAY	**Jayapura**	**2.20**	**89**	P	**Pb**	**19 51 38.0**	**-1.1**
BAKI	**Biak**	**2.75**	**300**	P	**Pn**	**19 51 41.3**	**-0.5**
FAKI	**Fak Fak**	**6.25**	**267**	P	**Pn**	**19 52 31.1**	**+1.1**
WRA	**Warramunga Arr**	**17.75**	**193**	P	**Pn**	**19 55 03.9**	**-0.8**
0.1nm,0.3s,baz=14,slow=12,SNR=7.7							
0.7nm,0.6s							
ASAR	**Alice Springs**	**21.45**	**192**	P	**P**	**19 55 45.4**	**-0.2**
0.8nm,0.6s,baz=18,slow=11,SNR=10.0							
0.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**44.18**	**300**	P	P	19 59 11.5	+5.3
0.3nm,0.5s,baz=112,slow=7.6,SNR=2.7							
0.3nm,0.5s							
RPZ	**Rata Peaks**	**50.12**	**149**	LR	LR	20 22 38.3	
comp=Z,148nm,18.0s,baz=139,slow=38							
MKAR	**Makanchi Array**	**69.55**	**322**	P	P	20 02 13.7	+8.0
1.1nm,0.8s,baz=109,slow=6.3,SNR=4.7							
1.1nm,0.8s							
BVAR	**Borovoye Array**	**79.07**	**325**	P	P	20 03 08.7	+7.7
1.2nm,0.9s,baz=100,slow=6.5,SNR=3.7							
1.2nm,0.9s							
ARTI	**Arti**	**86.65**	**327**	LR	LR	20 41 45.6	
comp=Z,48nm,20.9s,baz=184,slow=35							

*IDC **23** 20:15:57.7±1.8,25°.36N×122°.21E,h244km±19km, mb3.3/14,mbtmp3.9/18,Error ellipse: s-maj=15.2km s-min=10.8km az=62.0*
*TAP **23** 20:15:58.2,25°.24N×122°.34E,h247km,ML4.7,D*
*JMA **23** 20:15:59.4±0.2,25°.N±.1°×122°.2E±0°.5,h231km±1km, MV4.4/18,TAIWAN REGION*

ISC 23 20:15:57.8±0.6,25°.32N±0°.04×122°.19E±0°.03,h246km±4km, n197,σ1§46/363,mb3.5/14,3C-33D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.33**	**341**	⇑*i*P	**Pn**	**20 16 30.7**	**+0.9**
PCYT				*e*S	**S**	**20 16 55.5**	**+0.5**
TWB1	**Santiao Chiao**	**0.36**	**211**	*i* P	**Pn**	**20 16 30.0**	**+0.1**
TWB1				*i* S	**S**	**20 16 53.8**	**-1.3**
SXI1	**Grass Mountain**	**0.36**	**232**	*i* P	**Pn**	**20 16 30.0**	**0.0**
SXI1				*i* S	**S**	**20 16 53.8**	**-1.4**
TNOU	**National Taiwa**	**0.41**	**246**	*i* P	**Pn**	**20 16 30.4**	**+0.4**
TNOU				*i* S	**S**	**20 16 54.9**	**-0.3**
NWF	**Wu-fen Shan**	**0.45**	**237**	*i* P	**Pn**	**20 16 31.5**	**+1.3**
NWF				*i* S	**S**	**20 16 55.6**	**0.0**
WFSB	**Wu-fen Shan**	**0.45**	**237**	*i* P	**Pn**	**20 16 31.1**	**+1.0**
WFSB				S	**S**	**20 16 55.5**	**+0.1**
TIPB	**Shuangxi**	**0.48**	**224**	*i* P	**Pn**	**20 16 30.2**	**0.0**
TIPB				*i* S	**S**	**20 16 54.4**	**-1.2**
EGS		**0.53**	**207**	*i* P	**Pn**	**20 16 30.8**	**+0.4**
EGS				S	**S**	**20 16 55.1**	**-0.7**
TWY	**Chenhua**	**0.54**	**266**	*i* P	**Pn**	**20 16 30.9**	**+0.6**
TWY				*i* S	**S**	**20 16 55.7**	**-0.1**
NSM	**Shimen**	**0.55**	**267**	*e*P	**Pn**	**20 16 31.5**	**+1.2**
NSM				*e*S	**S**	**20 16 56.8**	**+0.9**
YM08	**YM08**	**0.56**	**257**	*i* P	**Pn**	**20 16 30.4**	**0.0**
YM08				*e*S	**S**	**20 16 54.1**	**-1.9**
NTC	**Toucheng**	**0.57**	**216**	P	**Pn**	**20 16 32.6**	**+2.2**
NTC				*i* S	**S**	**20 16 56.0**	**-0.1**
YM01	**YM01**	**0.59**	**253**	*i* P	**Pn**	**20 16 30.5**	**-0.1**
YM01				*e*S	**S**	**20 16 54.4**	**-1.8**
ZUZH	**Zhuzihu**	**0.61**	**255**	*i* P	**Pn**	**20 16 31.0**	**+0.3**
ZUZH				S	**S**	**20 16 54.0**	**-2.3**
ANP	**Anpu**	**0.62**	**258**	*i* P	**Pn**	**20 16 31.4**	**+0.7**
ANP				*e*S	**S**	**20 16 54.7**	**-1.9**
NHY	**Taipei**	**0.63**	**244**	*i* P	**Pn**	**20 16 31.1**	**+0.5**
NHY				*i* S	**S**	**20 16 56.0**	**-0.4**
TWA	**Mucha**	**0.65**	**239**	*i* P	**Pn**	**20 16 30.9**	**+0.2**
TWA				*i* S	**S**	**20 16 55.5**	**-1.1**
ILA	**Ilan**	**0.68**	**216**	*i* P	**Pn**	**20 16 31.9**	**+1.0**
ILA				*i* S	**S**	**20 16 56.9**	**0.0**
NTST	**Danshui**	**0.69**	**257**	*i* P	**Pn**	**20 16 31.2**	**+0.3**
NTST				*i* S	**S**	**20 16 56.8**	**0.0**
NHDH	**Xindian Distri**	**0.70**	**240**	*i* P	**Pn**	**20 16 31.2**	**+0.3**
NHDH				*i* S	**S**	**20 16 56.2**	**-0.7**
TATO	**Taipei**	**0.72**	**242**	P	**Pn**	**20 16 31.2**	**+0.2**
TATO	**Taipei**	**0.72**	**242**	S	**S**	**20 16 55.8**	**-1.3**
TATO	**Taipei**	**0.72**	**242**	*i* P	**Pn**	**20 16 31.1**	**+0.2**
TATO				*i* S	**S**	**20 16 55.6**	**-1.5**
TWS1	**Kuangyinshan**	**0.73**	**253**	*i* P	**Pn**	**20 16 31.3**	**+0.3**
TWS1				*i* S	**S**	**20 16 57.1**	**0.0**
BACT	**New Taipei Cit**	**0.75**	**245**	*i* P	**Pn**	**20 16 31.5**	**+0.4**
BACT				*i* S	**S**	**20 16 56.6**	**-0.7**
TWE	**Neicheng**	**0.76**	**219**	*i* P	**Pn**	**20 16 31.5**	**+0.3**
TWE				*i* S	**S**	**20 16 56.9**	**-0.5**
TWC	**Suao**	**0.77**	**204**	⇑*i*P	**Pn**	**20 16 31.0**	**-0.2**
TWC				*i* S	**S**	**20 16 55.0**	**-2.5**
FUSB	**Fushanzhiwuyua**	**0.78**	**225**	*i* P	**Pn**	**20 16 31.6**	**+0.2**
FUSB				*i* S	**S**	**20 16 56.3**	**-1.4**
ESAO	**Su ao**	**0.80**	**203**	*i* P	**Pn**	**20 16 31.7**	**+0.3**
ESAO				*i* S	**S**	**20 16 55.6**	**-2.2**
NDS	**Dongshan**	**0.81**	**213**	*i* P	**Pn**	**20 16 32.0**	**+0.6**
NDS				*i* S	**S**	**20 16 57.1**	**-0.7**
NWLT	**Wulai**	**0.82**	**229**	*i* P	**Pn**	**20 16 31.4**	**-0.1**
NWLT				*i* S	**S**	**20 16 55.9**	**-2.1**
NTY	**Taoyuan**	**0.87**	**249**	*i* P	**Pn**	**20 16 32.3**	**+0.6**
NTY				*i* S	**S**	**20 16 57.3**	**-1.0**
ENTT	**Nioudou**	**0.88**	**220**	*i* P	**Pn**	**20 16 32.1**	**+0.3**
ENTT				*i* S	**S**	**20 16 57.0**	**-1.5**
EOS2	**EOS2**	**0.90**	**178**	*i* P	**Pn**	**20 16 32.5**	**+0

TWQ1	**Liyutan**	**1.61 233**	⇓	*i* P	**Pn**	**20 16 37.2**	**+0.6**
TWQ1				S	**S**	**20 17 05.8**	**-1.3**
SHUL	**Shoufeng**	**1.63 201**	⇓	*i* P	**Pn**	**20 16 36.9**	**+0.1**
SHUL				*i* S	**S**	**20 17 06.2**	**-1.2**
OWD	**Renai**	**1.64 214**		*i* P	**Pn**	**20 16 37.7**	**+0.7**
OWD				*i* S	**S**	**20 17 07.3**	**-0.6**
WUSB	**Renai**	**1.64 217**	⇓	*i* P	**Pn**	**20 16 37.5**	**+0.5**
WUSB				*i* S	**S**	**20 17 06.2**	**-1.7**
ESL	**Shilin**	**1.65 205**	⇓	*i* P	**Pn**	**20 16 36.2**	**-0.8**
ESL				*i* S	**S**	**20 17 04.5**	**-3.3**
IRIF	**Iriomote-Funau**	**1.71 125**		P	**Pn**	**20 16 36.8**	**-0.5**
IRIF				S	**S**	**20 17 06.2**	**-2.3**
TEGC	**Jichi Village**	**1.71 200**		P	**Pn**	**20 16 37.7**	**+0.3**
TEGC				*e*S	**S**	**20 17 06.9**	**-1.7**
WDJ	**Dajia District**	**1.71 236**		*i* P	**Pn**	**20 16 38.4**	**+1.0**
WDJ				S	**S**	**20 17 08.0**	**-0.5**
WCS	**Beigang Elemen**	**1.71 223**		*i* P	**Pn**	**20 16 38.0**	**+0.5**
WCS				*i* S	**S**	**20 17 07.0**	**-1.6**
WPL	**Puli Township**	**1.72 221**		*i* P	**Pn**	**20 16 37.9**	**+0.4**
WPL				S	**S**	**20 17 07.8**	**-1.0**
WARBT	**Fenglin Townsh**	**1.75 205**		*i* P	**Pn**	**20 16 36.9**	**-0.9**
WARBT				*i* S	**S**	**20 17 05.4**	**-4.0**
EGFH	**Guangfu**	**1.78 203**		*i* P	**Pn**	**20 16 37.5**	**-0.6**
EGFH				S	**S**	**20 17 05.1**	**-4.7**
TCU	**Taichung**	**1.81 230**		*i* P	**Pn**	**20 16 38.9**	**+0.7**
TCU				S	**S**	**20 17 08.3**	**-1.7**
VWDT	**VWDT**	**1.83 212**	⇓	*i* P	**Pn**	**20 16 39.6**	**+1.2**
VWDT				*i* S	**S**	**20 17 10.3**	**-0.1**
SMLT	**Sun Moon Lake**	**1.85 220**	⇓	*i* P	**Pn**	**20 16 39.1**	**+0.3**
SMLT				*i* S	**S**	**20 17 10.8**	**-0.2**
TYC	**Yuchr**	**1.86 221**	⇓	*i* P	**Pn**	**20 16 39.1**	**+0.4**
TYC				*i* S	**S**	**20 17 10.0**	**-0.9**
SSLB	**Suanglung**	**1.90 217**		P	**Pn**	**20 16 12.4**	**+0.1**
SSLB	**Suanglung**	**1.90 217**		S	**S**	**20 17 10.7**	**-0.8**
SSLB	**Suanglung**	**1.90 217**	⇓	*i* P	**Pn**	**20 16 39.4**	**+0.3**
SSLB				*i* S	**S**	**20 17 10.2**	**-1.3**
HATJ	**Hateruma jima**	**1.93 130**		P	**Pn**	**20 16 39.4**	**+0.1**
HATJ				*e*S	**S**	**20 17 10.0**	**-2.0**
WCHH	**Zhanghua**	**1.93 231**		*i* P	**Pn**	**20 16 39.9**	**+0.6**
WCHH				*i* S	**S**	**20 17 12.6**	**+0.6**
HGSD	**Ruisui**	**1.95 201**		*i* P	**Pn**	**20 16 39.8**	**+0.3**
HGSD				S	**S**	**20 17 11.1**	**-1.2**
EHY	**Hungye**	**1.97 204**		*i* P	**Pn**	**20 16 38.9**	**-0.8**
EHY				*i* S	**S**	**20 17 09.5**	**-3.3**
JKRS	**Kuro-shima**	**1.97 123**		P	**Pn**	**20 16 39.8**	**+0.2**
JKRS				*e*S	**S**	**20 17 10.3**	**-2.3**
EHYH	**Wanrong**	**1.97 203**		*i* P	**Pn**	**20 16 39.9**	**+0.2**
EHYH				S	**S**	**20 17 09.9**	**-2.8**
WNT	**Mingjian**	**1.98 224**	⇓	*i* P	**Pn**	**20 16 40.4**	**+0.6**
WNT				*i* S	**S**	**20 17 12.1**	**-0.8**
JIJ	**Ishigaki jima**	**2.01 118**		P	**Pn**	**20 16 39.7**	**-0.3**
JIJ				S	**S**	**20 17 10.2**	**-3.0**
WHYT	**Xinyi Township**	**2.02 217**		*i* P	**Pn**	**20 16 40.7**	**+0.5**
WHYT				*i* S	**S**	**20 17 12.8**	**-0.8**
JISG	**Ishigakijimahi**	**2.06 110**		P	**Pn**	**20 16 40.1**	**-0.3**
JISG				S	**S**	**20 17 11.3**	**-2.6**
YULB	**Yu-li**	**2.08 203**		P	**Pn**	**20 16 40.0**	**-0.8**
YULB	**Yu-li**	**2.08 203**		*i* P	**Pn**	**20 16 39.9**	**-0.8**
YULB				*e*S	**S**	**20 17 11.4**	**-3.2**
ECBN	**Changbin**	**2.10 199**		*i* P	**Pn**	**20 16 41.1**	**+0.2**
ECBN				*e*S	**S**	**20 17 13.2**	**-1.7**
EYUL	**Yuli**	**2.12 202**		*i* P	**Pn**	**20 16 42.2**	**+1.1**
EYUL				*e*S	**S**	**20 17 11.4**	**-3.7**
TWF1	**Yuli**	**2.12 203**		*i* P	**Pn**	**20 16 40.3**	**-0.8**
TWF1				*i* S	**S**	**20 17 14.7**	**-0.6**
MATB	**Ma-tsu**	**2.19 293**	⇓	*i* P	**Pn**	**20 16 42.0**	**+0.3**
MATB				*e*S	**S**	**20 17 13.8**	**-2.4**
WDL	**Douliou City**	**2.19 224**		*i* P	**Pn**	**20 16 42.5**	**+0.7**
WDL				*e*S	**S**	**20 17 13.6**	**-2.8**
ALS	**Alishan**	**2.20 215**	⇓	*i* P	**Pn**	**20 16 42.7**	**+0.6**
ALS				*i* S	**S**	**20 17 15.9**	**-1.2**
WGK	**Gukeng**	**2.20 223**		*i* P	**Pn**	**20 16 42.3**	**+0.5**
WGK				*e*S	**S**	**20 17 14.9**	**-1.6**
WDLH	**Douliu**	**2.21 223**		*i* P	**Pn**	**20 16 42.6**	**+0.7**
WDLH				*i* S	**S**	**20 17 15.8**	**-0.9**
CHKH	**Chenggong**	**2.24 199**		*i* P	**Pn**	**20 16 42.6**	**+0.4**
CHKH				S	**S**	**20 17 15.9**	**-1.3**
FULB	**Fuli**	**2.26 201**		*i* P	**Pn**	**20 16 42.7**	**+0.2**
FULB				S	**S**	**20 17 16.4**	**-1.3**
WTK	**Tuku**	**2.31 226**		*i* P	**Pn**	**20 16 43.3**	**+0.4**
WTK				*i* S	**S**	**20 17 17.7**	**-0.7**
CHKT	**Chengkung**	**2.33 199**		*i* P	**Pn**	**20 16 43.3**	**+0.2**
CHKT				*i* S	**S**	**20 17 19.2**	**+0.3**
WCKO	**Fanlu**	**2.37 218**	⇓	*i* P	**Pn**	**20 16 44.0**	**+0.6**
WCKO				*i* S	**S**	**20 17 19.1**	**-0.4**
CHN2	**Minshiung**	**2.37 222**		*i* P	**Pn**	**20 16 44.3**	**+0.9**
CHN2				S	**S**	**20 17 18.0**	**-1.4**
ELDTW	**Lidau**	**2.38 207**		*i* P	**Pn**	**20 16 44.3**	**+0.6**
ELDTW				S	**S**	**20 17 17.7**	**-2.2**
JTJ	**Tarama**	**2.38 106**		P	**Pn**	**20 16 43.5**	**0.0**
JTJ				S	**S**	**20 17 17.2**	**-2.3**
ECS	**Chishang**	**2.38 202**		*i* P	**Pn**	**20 16 43.9**	**+0.3**
ECS				*e*S	**S**	**20 17 18.7**	**-1.1**
XPSS	**Dashiqiu**	**2.41 312**	⇓	*i* P	**Pn**	**20 16 44.2**	**+0.4**
XPSS				*e*S	**S**	**20 17 17.3**	**-2.8**
CHY	**Chiayi**	**2.42 222**		*i* P	**Pn**	**20 16 44.5**	**+0.5**
CHY				*i* S	**S**	**20 17 20.0**	**-0.4**
CHN4	**Tsaushan**	**2.44 217**	⇓	*i* P	**Pn**	**20 16 44.8**	**+0.6**
CHN4				*i* S	**S**	**20 17 20.3**	**-0.5**
WSF	**Szhu**	**2.45 227**		*i* P	**Pn**	**20 16 44.8**	**+0.5**
WSF				S	**S**	**20 17 20.3**	**-0.6**
TPUB	**Ta-pu**	**2.46 216**		P	**Pn**	**20 16 44.6**	**+0.2**
TPUB	**Ta-pu**	**2.46 216**		S	**S**	**20 17 20.6**	**-0.6**
TPUB	**Ta-pu**	**2.46 216**	⇓	*i* P	**Pn**	**20 16 44.8**	**+0.3**
TPUB				*i* S	**S**	**20 17 20.1**	**-1.1**
EDH	**Donghe**	**2.47 199**		*i* P	**Pn**	**20 16 44.5**	**0.0**
EDH				*e*S	**S**	**20 17 24.6**	**+3.2**
STYH	**Taoyuan**	**2.50 211**	⇓	*i* P	**Pn**	**20 16 45.3**	**+0.5**
STYH				*i* S	**S**	**20 17 21.0**	**-0.8**
WSL	**Shuilin Townsh**	**2.53 225**		*i* P	**Pn**	**20 16 45.5**	**+0.5**
WSL				S	**S**	**20 17 21.0**	**-1.4**
TWK	**Hsinying**	**2.57 218**	⇓	*i* P	**Pn**	**20 16 46.0**	**+0.4**
TWK				*i* S	**S**	**20 17 22.3**	**-0.9**
LONT	**Longtian**	**2.59 202**		*i* P	**Pn**	**20 16 45.3**	**-0.4**
LONT				*i* S	**S**	**20 17 26.5**	**+3.0**
SNST	**Tainan City**	**2.60 217**	⇓	*i* P	**Pn**	**20 16 46.2**	**+0.4**
SNST				*i* S	**S**	**20 17 21.9**	**-1.8**
CHN1	**Nanshi**	**2.61 216**	⇓	*i* P	**Pn**	**20 16 46.4**	**+0.5**
CHN1				*i* S	**S**	**20 17 22.8**	**-1.2**
CHN8	**Yiju**	**2.67 223**		*i* P	**Pn**	**20 16 47.1**	**+0.6**
CHN8				*e*S	**S**	**20 17 24.6**	**-2.3**
TWG	**Pinlang**	**2.69 203**		*i* P	**Pn**	**20 16 46.0**	**-0.8**
TWG				*i* S	**S**	**20 17 22.6**	**-2.8**
TWGBT	**Beinan**	**2.69 202**		P	**Pn**	**20 16 46.3**	**-0.4**
TWGBT	**Beinan**	**2.69 202**		*i* P	**Pn**	**20 16 45.8**	**-0.9**
TWGBT				*e*S	**S**	**20 17 23.5**	**-1.9**
LDUT	**Ludao**	**2.71 194**		*i* P	**Pn**	**20 16 47.2**	**+0.3**
LDUT				*i* S	**S**	**20 17 26.2**	**+0.4**
JIRB	**Irabujima**	**2.75 100**		P	**Pn**	**20 16 47.3**	**+0.1**
JIRB				S	**S**	**20 17 23.5**	**-2.8**
CHN3	**Shinhua**	**2.79 217**		P	**Pn**	**20 16 48.2**	**+0.5**
CHN3				*e*S	**S**	**20 17 25.3**	**-1.9**
PTMZ	**Houxiangcun**	**2.80 265**		*i* P	**Pn**	**20 16 47.9**	**+0.1**
PTMZ				*e*S	**S**	**20 17 24.4**	**-2.9**
JIKM	**Ikemajima**	**2.80 97**		P	**Pn**	**20 16 48.2**	**+0.4**
JIKM				*e*S	**S**	**20 17 24.9**	**-2.4**
SCLT	**Jiali**	**2.81 221**		*i* P	**Pn**	**20 16 48.2**	**+0.3**
SCLT				*e*S	**S**	**20 17 25.3**	**-2.3**
SCST	**Cishan**	**2.88 213**		*i* P	**Pn**	**20 16 49.9**	**+1.2**
SCST				*i* S	**S**	**20 17 29.1**	**+0.1**
TSCK	**Chigu Township**	**2.89 222**		*i* P	**Pn**	**20 16 49.3**	**+0.5**
TSCK				*e*S	**S**	**20 17 27.7**	**-1.5**
JMJ2	**Miyako jima3**	**2.90 101**		P	**Pn**	**20 16 49.5**	**+0.6**
JMJ2				*e*S	**S**	**20 17 27.5**	**-1.8**
SSD	**Sandimen**	**2.93 209**	⇓	*i* P	**Pn**	**20 16 50.1**	**+0.8**
SSD				*i* S	**S**	**20 17 30.4**	**+0.4**
ECL	**Taimali**	**2.94 203**		*i* P	**Pn**	**20 16 48.8**	**-0.5**
ECL				S	**S**	**20 17 27.7**	**-2.4**
MHZQ	**Yeshan**	**2.96 286**		*i* P	**Pn**	**20 16 49.7**	**+0.3**
MHZQ				*e*S	S	20 17 41.1	+11
TSMG	**Majia**	**2.96 209**		*i* P	**Pn**	**20 16 50.3**	**+0.6**
TSMG				*i* S	**S**	**20 17 29.1**	**-1.5**
TWM1	**Shoushan**	**2.96 213**		*i* P	**Pn**	**20 16 51.1**	**+1.4**
TWM1				*e*S	**S**	**20 17 29.3**	**-1.4**
JOGS	**Gusukube**	**2.97 100**		P	**Pn**	**20 16 50.3**	**+0.6**
JOGS				*e*S	**S**	**20 17 28.3**	**-2.3**
PNG	**Penghu**	**2.97 235**		*i* P	**Pn**	**20 16 50.0**	**+0.4**
PNG				*e*S	S	20 17 17.2	-13
PHUB	**P'eng-hu**	**2.99 234**		*i* P	**Pn**	**20 16 50.2**	**+0.3**
PHUB				*e*S	**S**	**20 17 27.7**	**-3.3**
SGLT	**Jiouru**	**3.01 211**		P	**Pn**	**20 16 52.0**	**+1.8**
SGLT				*e*S	**S**	**20 17 30.8**	**-0.8**
MASBT	**Mashibuluo**	**3.05 208**	⇓	*i* P	**Pn**	**20 16 51.3**	**+0.7**
MASBT				S	**S**	**20 17 30.0**	**-2.3**
WDGT	**Dungji**	**3.09 229**		*i* P	**Pn**	**20 16 51.4**	**+0.4**
WDGT				*e*S	**S**	**20 17 30.1**	**-3.0**
WSSB	**Gushan**	**3.19 214**		*i* P	**Pn**	**20 16 53.6**	**+1.4**
WSSB				*e*S	**S**	**20 17 34.6**	**-0.7**
TAWH	**Dawu Township**	**3.20 202**		*i* P	**Pn**	**20 16 52.8**	**+0.6**
TAWH				*e*S	**S**	**20 17 32.6**	**-2.7**
SCZT	**Fangliau**	**3.27 206**		*i* P	**Pn**	**20 16 53.5**	**+0.5**
SCZT				S	**S**	**20 17 34.1**	**-2.6**
VCHM	**Qimei**	**3.28 231**		*i* P	**Pn**	**20 16 53.7**	**+0.5**
VCHM				*e*S	**S**	**20 17 34.3**	**-2.6**
LAY	**Lan-yu**	**3.32 190**		*i* P	**Pn**	**20 16 54.2**	**+0.6**
LAY				*e*S	**S**	**20 17 36.6**	**-1.2**
SLIU	**Shizi**	**3.34 203**		*i* P	**Pn**	**20 16 54.5**	**+0.6**
SLIU				*e*S	**S**	**20 17 35.9**	**-2.3**
LYUB	**Lan-yu**	**3.35 190**		*i* P	**Pn**	**20 16 53.8**	**-0.2**
LYUB				*e*S	**S**	**20 17 36.9**	**-1.5**
SMST	**Manzhou Townsh**	**3.51 201**		*i* P	**Pn**	**20 16 56.3**	**+0.6**
SMST				*e*S	**S**	**20 17 38.4**	**-3.3**
KNM	**Kinmen**	**3.53 256**		*i* P	**Pn**	**20 16 57.3**	**+1.4**
HEN	**Hengchun**	**3.56 202**		*i* P	**Pn**	**20 16 57.0**	**+0.7**
HEN				S	**S**	**20 17 39.7**	**-2.9**
KNMB	**Chin-men Tao**	**3.56 257**		*i* P	**Pn**	**20 16 56.3**	**+0.1**
KNMB				*e*S	**S**	**20 17 38.2**	**-4.3**
TWK1	**Hengchun**	**3.59 201**		*i* P	**Pn**	**20 16 57.4**	**+0.7**
TWK1				S	**S**	**20 17 41.2**	**-2.2**
TWKBT	**Hengchun**	**3.59 201**		*i* P	**Pn**	**20 16 57.2**	**+0.5**
TWKBT				S	**S**	**20 17 44.1**	**+0.7**
AXDP	**Jialang**	**3.85 265**		*i* P	**Pn**	**20 16 60.0**	**+0.4**
AXDP				*e*S	**S**	**20 17 44.4**	**-4.2**
SXFK	**Yanhouchang**	**4.24 286**		*i* P	**Pn**	**20 17 04.4**	**+0.2**
SXFK				*e*S	**S**	**20 17 52.9**	**-4.0**
ZPLA	**Ao Xicun**	**4.27 252**		*i* P	**Pn**	**20 17 04.9**	**+0.3**
ZPLA				*e*S	**S**	**20 17 53.0**	**-4.6**
JOW	**Kunigami**	**5.67 73**		P	**Pn**	**20 17 20.1**	**-1.7**
JOW	19nm,0.2s,baz=239,slow=19,SNR=28			S	S	20 18 17.2	-12
JNU	**Nakatsue**	**10.86 42**		P	**Pn**	**20 18 29.6**	**+2.4**
	96nm,0.3s,baz=141,slow=25,SNR=31 12nm,0.7s,baz=313,slow=6.5,SNR=4.9						
KSRS	**Korea Array**	**13.05 21**		P	**Pn**	**20 18 54.8**	**+0.6**
	2.2nm,0.5s,baz=197,slow=12,SNR=10.0						
MJAR	**Matsushiro Arr**	**17.69 47**		P	**P**	**20 19 47.3**	**+0.1**
	2.3nm,0.7s,baz=235,slow=9.2,SNR=7.8						
LZDM	**Lanzhou Array**	**19.09 308**		P	**P**	**20 20 03.8**	**+1.2**
	1.2nm,0.3s,baz=148,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**22.61 257**		P	**P**	**20 20 38.5**	**+0.7**
	1.2nm,0.9s,baz=56,slow=8.4,SNR=11						
CMAR				PcP	**PcP**	**20 24 22.9**	**+0.5**
	0.4nm,0.3s,baz=63,slow=1.7,SNR=5.3						
CMAR				ScP	**ScP**	**20 27 36.8**	**+0.4**
	0.3nm,0.7s,baz=36,slow=2.6,SNR=2.2 1.2nm,0.9s						
ASAJ	**Asahikawa**	**25.04 36**		P	**P**	**20 21 00.4**	**+0.9**
	4.3nm,0.7s,baz=214,slow=5.9,SNR=5.8 4.3nm,0.7s						
SONM	**Songino Array**	**25.71 335**		P	**P**	**20 21 05.6**	**0.0**
	1.9nm,0.8s,baz=150,slow=10.0,SNR=15 1.9nm,0.8s						
MKAR	**Makanchi Array**	**38.18 315**		P	**P**	**20 22 53.5**	**-0.2**
	0.7nm,0.4s,baz=102,slow=9.7,SNR=20 0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**39.81 326**		P	**P**	**20 23 06.3**	**-0.7**
	0.4nm,0.3s,baz=109,slow=11,SNR=4.7 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**41.85 319**		P	**P**	**20 23 23.3**	**-0.4**
	1.1nm,0.6s,baz=108,slow=9.8,SNR=11 1.1nm,0.6s						
WRA	**Warramunga Arr**	**46.51 164**		P	**P**	**20 24 00.9**	**+0.1**
	0.6nm,0.4s,baz=347,slow=8.6,SNR=16 0.6nm,0.4s						
BVAR	**Borovoye Array**	**47.39 320**		P	**P**	**20 24 07.0**	**-0.3**
	0.9nm,0.4s,baz=91,slow=10,SNR=6.4 0.9nm,0.4s						
ASAR	**Alice Springs**	**50.00 166**		P	**P**	**20 24 28.0**	**+0.6**
	0.6nm,0.4s,baz=351,slow=6.7,SNR=11 0.6nm,0.4s						
ILAR	**Eielson Array**	**67.79 28**		P	**P**	**20 26 28.6**	**-0.3**
	0.1nm,0.4s,baz=296,slow=10,SNR=4.4 0.1nm,0.4s						
ARCES	**ARCESS Array B**	**68.83 338**		P	**P**	**20 26 35.4**	**+0.1**
	3.6nm,1.0s,baz=70,slow=4.7,SNR=1.9 3.6nm,1.0s						
FINES	**FINESS Array B**	**70.93 330**		P	**P**	**20 26 47.8**	**-0.3**
	0.5nm,0.5s,baz=56,slow=3.8,SNR=5.1 0.5nm,0.5s						
HFS	**Hagfors**	**77.03 331**		P	**P**	**20 27 23.1**	**-0.2**
	6.4nm,1.2s,baz=100,slow=6.0,SNR=2.6 6.4nm,1.2s						
NOA	**NORSAR Array B**	**77.65 332**		P	**P**	**20 27 26.2**	**-0.7**
	0.3nm,0.4s,baz=53,slow=6.2,SNR=1.9 0.3nm,0.4s						

*NOU **23** 20:21:32.7,38˚.96S×173˚.82E, h0km, MLv3.6/10, Off W. Coast of N. Island, N.Z.*
*WEL **23** 20:21:33.8±0.7,39˚.5±.5˚×17˚.4E±.˚, h8km±4km, M3.5/18, ML3.8/18, MLv3.5/18, Error ellipse: s-maj=7.8km s-min=3.5km az=140.8, confirmed*
ISC 23 20:21:33.9±1.1, 39˚.01S±0˚.04×173˚.97E±0˚.05, h15km±6km, n35, σ1º02/47, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPCS	**New Plymouth C**	**0.10**	**122**	P	**Pg**	**20 21 36.8**	**-0.3**
NPCS				S	**Sg**	**20 21 39.0**	**-0.3**
PKE	**Pukeiti**	**0.18**	**176**	P	**Pg**	**20 21 38.1**	**-0.2**
PKE				S	**Sg**	**20 21 41.3**	**0.0**
INHS	**Inglewood High**	**0.23**	**130**	P	**Pg**	**20 21 38.6**	**-0.4**
DREZ	**Durham Road**	**0.25**	**135**	P	**Pg**	**20 21 39.1**	**-0.4**
DREZ				S	**Sg**	**20 21 42.8**	**-0.4**
NBEZ	**Newall Road No**	**0.27**	**197**	P	**Pb**	**20 21 40.1**	**-0.4**
NEZ	**North Egmont**	**0.28**	**159**	P	**Pg**	**20 21 39.7**	**-0.2**
NEZ				S	**Sg**	**20 21 43.5**	**-0.5**
MHEZ	**Mangahewa**	**0.28**	**103**	P	**Pg**	**20 21 39.9**	**0.0**
MHEZ				S	**Sg**	**20 21 43.9**	**-0.1**
KHEZ	**Kahui Hut**	**0.29**	**173**	P	**Pg**	**20 21 39.8**	**-0.2**
KHEZ	**Kahui Hut**	**0.29**	**173**	S	**Sg**	**20 21 44.2**	**0.0**
KHEZ	**Kahui Hut**	**0.29**	**173**	P	**Pg**	**20 21 39.8**	**-0.2**
KHEZ				S	**Sg**	**20 21 43.9**	**-0.3**
PREZ	**Palmer Road**	**0.36**	**156**	P	**Pg**	**20 21 41.4**	**+0.1**
PREZ				S	**Sg**	**20 21 47.1**	**+0.6**
NMEZ	**Namu Road**	**0.41**	**190**	P	**Pb**	**20 21 42.4**	**-0.5**
NMEZ				S	**Sb**	**20 21 49.0**	**+0.1**
OPSS	**Opunake Primar**	**0.45**	**191**	P	**Pb**	**20 21 43.1**	**-0.4**
OPSS				S	**Sb**	**20 21 50.4**	**+0.4**
LREZ	**Lake Rotokare**	**0.56**	**143**	P	**Pg**	**20 21 45.0**	**0.0**
LREZ				S	**Sg**	**20 21 53.4**	**+0.9**
VRZ	**Vera Road**	**0.63**	**101**	P	**Pg**	**20 21 45.6**	**-0.6**
HIZ	**Hauiti**	**0.85**	**55**	P	**Pg**	**20 21 49.9**	**-0.6**
HIZ	**Hauiti**	**0.85**	**55**	S	**Sg**	**20 22 02.0**	**+0.3**
HIZ	**Hauiti**	**0.85**	**55**	P	**Pg**	**20 21 50.0**	**-0.4**
HIZ				S	**Sg**	**20 22 01.9**	**+0.3**
WAZ	**Wanganui**	**1.08**	**134**	P	**Pg**	**20 21 53.8**	**-1.0**
PKVZ	**Pokaka**	**1.11**	**105**	P	**Pg**	**20 21 53.6**	**-1.7**
TWVZ	**Taurewa**	**1.15**	**93**	P	**Pg**	**20 21 54.4**	**-1.7**
MTVZ	**Mangateitei**	**1.23**	**108**	P	**Pg**	**20 21 56.4**	**-1.1**
COVZ	**Chateau Observ**	**1.24**	**99**	P	**Pg**	**20 21 56.0**	**-1.8**
FWVZ	**Far West T-bar**	**1.26**	**102**	P	**Pg**	**20 21 56.3**	**-1.8**
TRVZ	**Turoa**	**1.26**	**104**	P	**Pg**	**20 21 56.5**	**-1.8**
MAVZ	**Matarangi**	**1.27**	**102**	P	**Pg**	**20 21 56.6**	**-1.7**
WTVZ	**West Tongariro**	**1.27**	**95**	P	**Pg**	**20 21 56.6**	**-1.7**
NGZ	**Ngauruhoe**	**1.28**	**98**	P	**Pg**	**20 21 56.9**	**-1.7**
TLZ	**Tolley Road**	**1.40**	**62**	P	**Pn**	**20 21 59.1**	**+0.1**
TLZ				S	**Sb**	**20 22 18.2**	**+0.7**
BKZ	**Black Stump Fm**	**1.97**	**95**	P	**Pb**	**20 22 09.5**	**0.0**
QRZ	**Quartz Range**	**2.12**	**211**	P	**Pn**	**20 22 07.8**	**-1.0**
URZ	**Urewera**	**2.57**	**74**	P	**Pn**	**20 22 18.1**	**+3.1**
KUZ	**Kuaotunu**	**2.65**	**32**	P	**Pn**	**20 22 15.9**	**-0.2**
KHZ	**Kahutara**	**3.42**	**185**	P	**Pn**	**20 22 28.1**	**+1.5**
OUZ	**Omahuta**	**3.79**	**355**	P	**Pn**	**20 22 32.8**	**+1.0**

*IDC **23** 20:33:25.9±1.1, 31˚.44S×72˚.05W, h0km, mb4.0/3, mbtmp3.7/8, ML3.7/5, MS2.7/1, Error ellipse: s-maj=29.5km s-min=25.1km az=111.0*
*SJA **23** 20:33:26.9±0.7, 31˚.42S×71˚.92W, h16km±3km, ML4.0, MW3.9*

*NEIC **23** 20:33:29.9±1.5, 31˚.43S±0˚.02×71˚.9W±0˚.1, h22km±5km, mb4.1/7, ML4.1(GUC), Error ellipse: s-maj=12.7km s-min=1.8km az=103.0*
*GUC **23** 20:33:30.2±0.7, 31˚.48S×71˚.66W, h42km±3km, ML4.1*
ISC 23 20:33:27.2±1.5, 31˚.43S±0˚.02×71˚.86W±0˚.04, h5km±9km, n134, σ1º57/157, mb4.2/3, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.77**	**73**		**Pb**	**20 33 43.6**	**+0.5**
CO02	**Combarbal**	**0.77**	**73**	⇓ *i* P	**Pb**	**20 33 43.7**	**+0.5**
CO02				IAML		20 33 56.3	
	comp=N,17μm,0.1s						
CO02	**Combarbal**	**0.77**	**73**	*e*P	**Pg**	**20 33 43.0**	**+1.0**
CO02				IAML		20 33 56.8	
	comp=Z,4μm,0.2s						
CO06	**Fray Jorge**	**0.78**	**15**		**Pn**	**20 33 45.9**	**+1.1**
CO06	**Fray Jorge**	**0.78**	**15**	⇓ *i* P	**Pn**	**20 33 46.0**	**+1.1**
CO06				IAML		20 33 58.2	
	comp=N,8μm,0.6s						
CO04	**Los Peladeros**	**0.97**	**129**	⇓ *e*P	**Pg**	**20 33 46.6**	**+0.8**
CO04				IAML		20 34 00.7	
	comp=E,10μm,0.2s						
CO03	**El Pedregal**	**1.17**	**60**		**Pb**	**20 33 50.1**	**+0.2**
CO03				Sn	**Sg**	**20 34 04.6**	**0.0**
CO03	**El Pedregal**	**1.17**	**60**	⇓ *i* P	**Pb**	**20 33 50.1**	**+0.2**
CO03				*e*S	**Sb**	**20 34 04.1**	**-1.3**
CO03				IAML		20 34 08.6	
	comp=E,6μm,0.4s						
CO03	**El Pedregal**	**1.17**	**60**	*e*P	**Pb**	**20 33 49.6**	**-0.3**
CO03				IAML		20 34 06.3	
	comp=Z,3μm,0.2s						
CO03				*e*S	**Sn**	**20 34 06.5**	**-0.1**
VA06	**Catapilco**	**1.23**	**157**		**Pn**	**20 33 51.0**	**0.0**
VA06				Sn	**Sb**	**20 34 05.5**	**-1.5**
VA06	**Catapilco**	**1.23**	**157**	⇓ *e*P	**Pn**	**20 33 50.8**	**-0.2**
VA06				IAML		20 34 08.8	
	comp=E,9μm,0.3s						
GO04	**Tololo Observa**	**1.55**	**36**		**Pb**	**20 33 56.9**	**+0.4**
GO04	**Tololo Observa**	**1.55**	**36**	⇑ *e*P	**Pb**	**20 33 57.0**	**+0.5**
GO04				IAML		20 34 21.4	
	comp=E,16μm,0.2s						
GO04	**Tololo Observa**	**1.55**	**36**	*e*P	**Pb**	**20 33 57.0**	**+0.5**
GO04				*e*S	**Sg**	**20 34 17.0**	**-0.1**
GO04				IAML		20 34 20.1	
	comp=Z,4μm,0.2s						
VA01	**Torpederas**	**1.60**	**173**		**Pn**	**20 33 56.9**	**+0.8**
VA01	**Torpederas**	**1.60**	**173**	*e*P	**Pn**	**20 33 56.4**	**+0.3**
VA01	**Torpederas**	**1.60**	**173**	*e*P	**Pn**	**20 33 57.2**	**+1.1**
CO05	**La Serena**	**1.60**	**20**		**Pn**	**20 33 57.5**	**+1.4**
CO05	**La Serena**	**1.60**	**20**	*e*P	**Pb**	**20 33 58.0**	**+0.8**
ROCH	**El Roble**	**1.70**	**155**	*e*P	**Pn**	**20 33 58.1**	**+0.4**
ROCH				*e*P	**Pn**	**20 33 58.0**	**+0.4**
ROCH				IAML		20 34 23.4	
	comp=N,3μm,0.6s						
ROC1	**El Roble**	**1.70**	**155**	*e*P	Pn	20 33 52.7	-5.0
VA03	**San Esteban**	**1.73**	**140**		**Pn**	**20 33 58.7**	**+0.6**

comp=E,789nm,0.4s
LMEL Las Melosas 2.79 150 Pn 20 34 14.0 +1.4
LMEL Las Melosas 2.79 150 *eP* **Pn 20 34 14.1 +1.4**
LMEL Las Melosas 2.79 150 *eP* **Pn 20 34 14.4 +1.8**
LMEL *eS* **Sn 20 34 49.4 +2.7**
LMEL IAML 20 34 57.3
comp=Z,561nm,0.5s
ASAL Salagasta 2.82 115 *eP* **Pb 20 34 17.3 -0.8**
ASAL *eS* **Sb 20 34 53.7 +0.7**
SJA San Juan 2.82 93 *eP* **Pn 20 34 12.0 -1.0**
SJA *eS* **Sg 20 34 57.2 -0.6**
ARCO CERRO ARCO 2.86 120 *eP* **Pb 20 34 18.3 -0.5**
ARCO *eS* **Sg 20 35 00.5 +1.6**
ARCO IAML 20 35 04.8
comp=Z,408nm,0.8s
RTLL Cerro Villicun 2.90 89 *eP* **Pn 20 34 12.4 -1.6**
RTLL *eS* **Sb 20 34 51.7 -3.5**
RTLL IAML 20 35 04.2
comp=Z,554nm,0.3s
BO01 Tunca 3.02 168 Pn 20 34 16.8 +1.1
BO01 Tunca 3.02 168 *eP* **Pn 20 34 17.1 +1.4**
BO01 Tunca 3.02 168 *eP* **Pn 20 34 17.3 +1.5**
BO01 *eS* **Sn 20 34 52.8 +0.4**
BO01 IAML 20 35 04.0
comp=Z,274nm,0.4s
AAGR Agrelo 3.06 123 *eP* **Pn 20 34 15.1 -1.2**
AAGR *eS* **Sg 20 35 05.8 +0.4**
BO03 Pichilemu 3.06 182 *eP* **Pn 20 34 14.9 -1.3**
CFA Coronel Fontan 3.10 94 Pn **Pn 20 34 19.6 +2.8**
comp=Z,14nm,0.3s,baz=265,slow=8.6,SNR=107
CFA Sn **Sb 20 34 59.3 -1.7**
comp=Z,67nm,0.3s,baz=356,slow=19,SNR=10
comp=Z,57nm,0.4s
CFA Coronel Fontan 3.10 94 *eP* **Pn 20 34 19.7 +2.8**
CFA *eS* **Sg 20 35 03.0 -3.8**
AC04 Llanos de Chal 3.29 12 *eP* **Pn 20 34 20.5 +1.1**
AC04 Llanos de Chal 3.29 12 *eP* **Pn 20 34 20.5 +1.1**
AC04 *eS* **Sb 20 35 03.9 -2.4**
AC04 IAML 20 35 16.0
comp=Z,300nm,0.4s
BO02 Sierra Bellavi 3.47 165 Pn 20 34 23.2 +1.2
BO02 Sierra Bellavi 3.47 165 *eP* **Pn 20 34 23.5 +1.5**
BO02 Sierra Bellavi 3.47 165 *eP* **Pn 20 34 23.7 +1.8**
BO02 *eS* **Sn 20 35 05.8 +2.3**
BO02 IAML 20 35 13.4
comp=Z,261nm,0.6s
AGUA GUANDACOL 3.50 57 *eP* Pn 20 34 07.4 -15
AGUA *eS* **Sb 20 35 11.3 -1.1**
AGUA IAML 20 35 26.2
comp=Z,602nm,0.4s
GO05 Hualane 3.57 181 *eP* **Pn 20 34 23.7 +0.5**
GO05 Hualane 3.57 181 *eP* **Pn 20 34 24.1 +0.8**
GO05 *eS* **Sb 20 35 17.8 +3.3**
GO05 IAML 20 35 27.3
comp=Z,148nm,0.6s
AVFE Valle Fertil 3.86 80 *eP* **Pn 20 34 29.5 +2.2**
AVFE *eS* **Sn 20 35 16.3 +3.2**
AVFE IAML 20 35 32.2
comp=Z,497nm,0.6s
GO03 Copiapo 4.08 21 Pn 20 34 30.9 +0.6
GO03 Copiapo 4.08 21 *eP* **Pn 20 34 31.6 +1.3**
GO03 Copiapo 4.08 21 *eP* **Pn 20 34 31.9 +1.6**
GO03 IAML 20 35 37.6
comp=Z,307nm,0.3s
VCA Vinchina 4.15 51 *eP* **Pn 20 34 35.8 +4.3**
AC06 Mina Casimiro 4.27 18 Pn 20 34 33.3 +0.4
AC06 Mina Casimiro 4.27 18 *eP* **Pn 20 34 32.5 -0.3**
RFA San Rafael 4.38 140 *eP* **Pn 20 34 36.7 +2.2**
ACLC CERRO LA CRUZ 4.69 66 *eP* **Pn 20 34 41.4 +2.7**
ACLC *eS* **Sn 20 35 31.5 -2.2**
ACLC IAML 20 35 44.3
comp=Z,225nm,0.5s
AC02 Maricunga 5.17 28 Pn 20 34 46.0 +0.4
AC02 Maricunga 5.17 28 *eP* **Pn 20 34 46.6 +1.0**
AC02 Maricunga 5.17 28 *eP* **Pn 20 34 47.6 +2.0**
AC02 IAML 20 36 14.2
comp=Z,162nm,1.0s
BI02 San Fabin de 5.24 175 *eP* **Pn 20 34 48.5 +2.2**
BI02 IAML 20 36 19.9
comp=Z,40nm,0.9s
AC01 Pan de Azucar 5.38 12 Pn **Pn 20 34 48.6 +0.5**
H03N1 Juan Fernandez 6.29 250 T T 20 41 43.2
baz=78,slow=72,SNR=7435
H03N3 Juan Fernandez 6.30 249 T T 20 41 42.5
baz=78,slow=72,SNR=4145
H03N2 Juan Fernandez 6.30 250 T T 20 41 44.2
baz=78,slow=72,SNR=4350
GO02 Mina Guanaco 6.56 18 Pn 20 35 03.7 -0.8
PLCA Paso Flores 9.34 174 Pn **Pn 20 35 41.7 -0.9**
PLCA Paso Flores 9.34 174 Pn **Pn 20 35 43.5 +0.9**
comp=Z,0.1nm,0.3s,baz=59,slow=5.2,SNR=3.0
PLCA LR LR 20 39 10.9
comp=Z,51nm,19.9s,baz=322,slow=37
comp=Z,0.3nm,0.3s
TRQA Tornquist 10.47 132 Pn **Pn 20 35 58.0 0.0**
CPUP Villa Florida 13.71 72 Pn **Pn 20 36 43.9 +1.7**
comp=Z,0.1nm,0.3s,baz=247,slow=14,SNR=3.5
CPUP Sn **Sn 20 39 20.4 +5.4**
baz=205,slow=19
comp=Z,0.4nm,0.3s
LPAZ La Paz 15.45 14 Pn **Pn 20 37 07.7 +1.2**
comp=Z,0.2nm,0.3s,baz=191,slow=5.7,SNR=4.6
comp=Z,0.5nm,0.3s
PLTB Pedras Altas 15.57 96 Pn **Pn 20 37 06.2 -1.2**
PLTB IAmb IAmb 20 37 16.5
comp=Z,8.9nm,1.3s
SIV San Ignacio 18.25 35 P **Pn 20 37 41.1 -0.2**
baz=214,slow=11,SNR=4.2
comp=Z,0.6nm,0.4s
PTLB Pontes e Lacer 19.70 39 P **P 20 37 56.8 -0.6**
PTLB IAmb IAmb 20 38 13.8
comp=Z,4.8nm,1.3s
BDFB Brasilia 26.84 60 IAmb IAmb 20 39 21.3
comp=Z,7.6nm,1.0s
BDFB Brasilia 26.84 60 P **P 20 39 08.8 -0.1**
comp=Z,1.1nm,0.3s,baz=192,slow=9.3,SNR=2.3
comp=Z,1.1nm,0.3s
SNAA Sanae 53.91 159 IAmb IAmb 20 43 09.9
comp=Z,3.4nm,1.2s
SNAA Sanae 53.91 159 P **P 20 42 50.3 -0.9**
comp=Z,1.1nm,0.9s,baz=308,slow=6.9,SNR=5.1
comp=Z,1.1nm,0.9s
060A Indiantown 58.70 351 P **P 20 43 25.9 +0.1**
QSPA South Pole Qui 58.80 180 P **P 20 43 25.3 -1.0**
QSPA IAmb IAmb 20 43 48.0
comp=Z,2.4nm,1.2s
TORD Torodi Ar. Bea 83.20 70 P **P 20 45 53.8 -1.1**
comp=Z,1.1nm,0.8s,baz=270,slow=4.0,SNR=4.1
comp=Z,1.1nm,0.8s
H11S2 WAKE ISLAND Hyl 25.92 271 T T 23 11 21.1
baz=116,slow=75,SNR=28
H11S1 WAKE ISLAND Hyl 25.93 271 T T 23 11 23.9
baz=116,slow=75,SNR=16
H11S3 WAKE ISLAND Hyl 25.94 271 T T 23 11 22.7
baz=116,slow=75,SNR=14
H11N3 WAKE ISLAND Hyl 26.27 272 T T 23 11 47.0
baz=116,slow=74
H11N1 WAKE ISLAND Hyl 26.28 272 T T 23 11 49.0
baz=116
H11N2 WAKE ISLAND Hyl 26.28 272 T T 23 11 48.6
baz=116,slow=74
BVAR Borovoye Array 145.27 40 PKPbc **PKPbc 20 53 05.4 +0.1**
comp=Z,1.7nm,0.4s,baz=292,slow=2.3,SNR=12
KURBB Kurchatov Arra 150.86 40 PKPbc **PKPbc 20 53 19.6 -0.8**
comp=Z,1.2nm,0.7s,baz=299,slow=3.0,SNR=12
KURBB PKPab **PKPab 20 53 28.7 +1.0**
comp=Z,0.5nm,0.6s,baz=300,slow=3.0,SNR=4.5
KURK Kurchatov 150.86 40 PKPbc 20 53 19.6 -0.8
AAK Ala-Archa 151.09 58 PKPdf **PKPdf 20 53 15.1 -0.6**
ZAA0 Zalesovo Array 151.95 30 PKPbc **PKPbc 20 53 21.5 -1.3**
ZALV Zalesovo Beam 151.95 30 PKPbc **PKPbc 20 53 22.5 -0.4**
comp=Z,5.0nm,0.5s,baz=310,slow=3.1,SNR=26
ZALV PKPab **PKPab 20 53 31.5 -0.6**
comp=Z,2.5nm,0.5s,baz=300,slow=2.6,SNR=8.4

*CATAC **23** 20:40:18.9±0.4, 13°N±4°×8°9W±°, h54km±5km, M3.0/14, MLv3.0/14, Error ellipse: s-maj=9.7km s-min=3.3km az=25.5, confirmed*
*SNET **23** 20:40:19.4±0.7, 13°.24N×88°.92W, h78km±6km, ML2.8*
ISC 23 20:40:18.6±1.5,**13°.09N**±0°.08×**88°.98W**±0°.05,**h79**km±10km,
n42,σ0°**52/50**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.48**	**23**	*eP*	**Pn**	**20 40 31.9**	**-0.2**
TECO				*eS*	**Sn**	**20 40 41.6**	**-0.5**
TECO	**Alcaldia de Te**	**0.48**	**23**	P	**Pn**	**20 40 31.9**	**-0.2**
LALI	**Alcalda de L**	**0.52**	**320**	S	**Sn**	**20 40 41.8**	**-0.7**
PANCS	**Alcalda de**	**0.55**	**339**	S	**Sn**	**20 40 42.7**	**-0.5**
UESV	**Universidad de**	**0.57**	**19**	S	**Sn**	**20 40 44.0**	**+0.5**
LOMA	**Loma Larga**	**0.58**	**341**	*eP*	**Pn**	**20 40 33.0**	**-0.1**
LOMA				*eS*	**Sn**	**20 40 43.5**	**-0.3**
LOMA	**Loma Larga**	**0.58**	**341**	P	**Pn**	**20 40 33.1**	**0.0**
TECA	**Tecapa**	**0.61**	**49**	*eP*	**Pn**	**20 40 33.0**	**-0.5**
PAVA	**Las Pavas**	**0.62**	**4**	S	**Sn**	**20 40 44.8**	**+0.3**
PAVA	**Las Pavas**	**0.62**	**4**	P	**Pn**	**20 40 32.8**	**-0.6**
UDBS	**Universidad Do**	**0.64**	**344**	S	**Sn**	**20 40 45.5**	**+0.7**
UDBS	**Universidad Do**	**0.64**	**344**	P	**Pn**	**20 40 33.1**	**-0.5**
IGN	**Direccin Gen**	**0.65**	**343**	S	**Sn**	**20 40 45.3**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.65**	**22**	S	**Sn**	**20 40 45.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.65**	**22**	P	**Pn**	**20 40 33.4**	**-0.3**
UEES	**Universidad Ev**	**0.67**	**338**	S	**Sn**	**20 40 45.6**	**+0.3**
BOQS	**Boqueron**	**0.70**	**335**	*eP*	**Pn**	**20 40 35.0**	**+0.6**
JAYA	**Jayaque - finc**	**0.72**	**321**	*eP*	**Pn**	**20 40 34.4**	**-0.2**
JAYA				*eS*	**Sn**	**20 40 45.7**	**-0.7**
JAYA				IAML		20 40 47.3	
comp=Z,893nm,0.2s							
JAYA	**Jayaque - finc**	**0.72**	**321**	S	**Sn**	**20 40 46.7**	**+0.3**
JAYA	**Jayaque - finc**	**0.72**	**321**	P	**Pn**	**20 40 34.3**	**-0.2**
PACA	**Pacayal**	**0.74**	**59**	S	**Sn**	**20 40 48.4**	**+1.8**
PACA	**Pacayal**	**0.74**	**59**	P	**Pn**	**20 40 34.8**	**+0.1**
LCY	**Lacayo**	**0.74**	**64**	*eP*	**Pn**	**20 40 34.8**	**+0.1**
RANC	**El Ranchito**	**0.75**	**63**	*eP*	**Pn**	**20 40 34.8**	**0.0**
CEVE	**Cerro Verde**	**0.96**	**319**	S	**Sn**	**20 40 52.0**	**+0.6**
SBLS	**San Blas**	**0.97**	**320**	*eP*	**Pn**	**20 40 37.9**	**+0.4**
NUBE	**Las Nubes**	**1.12**	**316**	*eP*	**Pn**	**20 40 39.1**	**-0.1**
NUBE				*eS*	**Sn**	**20 40 54.7**	**+0.1**
NUBE	**Las Nubes**	**1.12**	**316**	P	**Pn**	**20 40 39.1**	**-0.1**
RBDL	**Robledal**	**1.23**	**326**	*eP*	**Pn**	**20 40 40.5**	**0.0**
RBDL				*eS*	**Sn**	**20 40 57.1**	**+0.1**
RBDL				IAML		20 40 58.7	
comp=Z,56nm,0.3s							
FAME	**Alcaldia de Sa**	**1.26**	**307**	P	**Pn**	**20 40 40.6**	**-0.1**
FAME	**Alcaldia de Sa**	**1.26**	**307**	S	**Sn**	**20 40 57.5**	**+0.2**
MTO3	**Montecristo**	**1.35**	**344**	S	**Sn**	**20 40 59.5**	**-0.4**
MTO3	**Montecristo**	**1.35**	**344**	P	**Pn**	**20 40 41.7**	**-0.4**
CSGN	**Cosiguina Volc**	**1.39**	**95**	P	**Pn**	**20 40 42.0**	**-0.4**
ESQI	**Esquipulas**	**1.50**	**346**	S	**Sn**	**20 41 03.8**	**+0.6**
SARH	**Santa Rosa de**	**1.69**	**7**	P	**Pn**	**20 40 46.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.92**	**60**	P	**Pn**	**20 40 49.0**	**-0.4**
CRIN	**San Cristobal**	**1.92**	**101**	P	**Pn**	**20 40 49.8**	**+0.4**
POLN	**Al Sur del Vol**	**2.16**	**102**	P	**Pn**	**20 40 52.7**	**+0.1**
POLN				S	**Sn**	**20 41 17.7**	**-0.8**
COPN	**Copaltepe**	**2.50**	**111**	P	**Pn**	**20 40 56.8**	**-0.3**
MOM2	**El Cardon**	**2.52**	**105**	P	**Pn**	**20 40 58.5**	**+1.2**
MOM2				S	**Sn**	**20 41 27.0**	**-0.1**
LIMN	**Finca el Limon**	**2.54**	**90**	P	**Pn**	**20 40 57.7**	**-0.1**
LIMN				S	**Sn**	**20 41 27.2**	**-0.8**

IDC 23 20:44:59.0±2.5,**6°.15S**×**129°.94E**,**h0**km,**mb3.6**/1,
mbtmp3.3/4,**ML2.9**/3,**MS3.3**/1,**Error ellipse:**
s-maj=96.4km s-min=30.9km az=76.0,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.60**	**199**	Pn	Pn	20 48 01.1	+1.5
baz=26,slow=11,SNR=1.7							
FITZ				Sn	Sn	20 50 15.7	-5.1
0.1nm,0.3s,baz=260,slow=1.9,SNR=1.9							
1.7nm,1.0s							
WRA	**Warramunga Arr**	**14.36**	**163**	Pn	Pn	20 48 22.2	-1.6
baz=344,slow=14,SNR=1.6							
WRA				Sn	Sn	20 50 49.2	-15
0.2nm,0.3s,baz=341,slow=25,SNR=8.8							
0.4nm,0.9s							
PMG	**Port Moresby**	**17.36**	**102**	LR	LR	20 57 29.9	
comp=Z,103nm,21.2s,baz=348,slow=43							
ASAR	**Alice Springs**	**17.83**	**168**	P	Pn	20 49 08.7	0.0
0.1nm,0.3s,baz=346,slow=9.7,SNR=4.6							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	20 55 56.9	0.0
0.4nm,0.7s,baz=113,slow=6.8,SNR=2.2							
0.4nm,0.7s							

*SOME **23** 20:56:56.2, 40°.93N×83°.08E, h10km*
*NNC **23** 20:56:58.8±1.7, 41°.24N×83°.28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.3km s-min=10.5km az=18.0*
ISC 23 20:56:53.9±3.7,**40°.7N**±0°.2×**83°.0E**±0°.1,**h10**km,**n16**,
σ1**°85/21**,**3C-1D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.57**	**314**	Pg	**Pb**	**20 57 56.3**	**-0.8**
8.4nm,0.5s							
SHLS				Lg	Lg	20 58 40.1	
57nm,0.5s							
SHLS	**Shalkode**	**3.57**	**314**	*eP*	**Pb**	**20 57 56.3**	**-0.8**
2.7nm,0.2s							
SHLS				*eS*	**Sb**	**20 58 40.1**	**-0.5**
68nm,0.3s							
PDGK	**Podgornoye**	**3.67**	**316**	⇑Pg	**Pg**	**20 58 04.3**	**+0.1**
5.7nm,0.6s							
PDGK				⇑Lg	Lg	20 58 49.6	
19nm,0.6s							
UZB	**Uzynbulak**	**3.81**	**311**	Pg	**Pg**	**20 58 05.5**	**-1.4**
2.9nm,0.4s							
UZB				Lg	Lg	20 58 55.9	
23nm,0.5s							
UZB	**Uzynbulak**	**3.81**	**311**	*eP*	**Pg**	**20 58 05.5**	**-1.4**
0.4nm,0.1s							
UZB				*eS*	**Sg**	**20 58 55.9**	**-0.3**
23nm,0.5s							
SATY	**Saty**	**4.13**	**306**	Pg	**Pg**	**20 58 12.5**	**-0.4**
1.4nm,0.1s							
SATY				Lg	Lg	20 59 07.7	
31nm,0.7s							
KPKS	**Kokpek**	**4.20**	**312**	Pg	**Pb**	**20 58 11.8**	**+3.8**
KPKS				Lg	Lg	20 59 06.4	
KNOS	**Konyrlen**	**4.59**	**324**	Pg	**Pb**	**20 58 18.4**	**+3.9**
1.5nm,0.3s							
KNOS				Lg	Lg	20 59 17.8	
10nm,0.6s							
BLB	**Baldybastay**	**4.73**	**317**	Pg	**Pg**	**20 58 22.3**	**-2.3**
BLB				Lg	Lg	20 59 24.5	
TNSS	**Tian-Shan**	**5.05**	**299**	*eP*	**Pg**	**20 58 28.8**	**-1.8**
0.1nm,0.0s							
TNSS				*eS*	**Sg**	**20 59 35.8**	**-0.3**
2.6nm,0.5s							
ARXS	**Arharly**	**5.16**	**314**	Pg	**Pg**	**20 58 30.7**	**-2.0**
1.9nm,0.5s							
ARXS				Lg	Lg	20 59 38.7	
6.6nm,0.6s							
ARXS	**Arharly**	**5.16**	**314**	*eP*	**Pg**	**20 58 30.7**	**-2.0**
ARXS				*eS*	**Sg**	**20 59 38.7**	**-0.7**
CHKK	**Chushkaly**	**5.42**	**307**	Pg	**Pg**	**20 58 37.0**	**-0.7**
CHKK				Lg	Lg	20 59 50.0	
CHKK	**Chushkaly**	**5.42**	**307**	*eP*	**Pg**	**20 58 37.0**	**-0.7**
1.2nm,0.1s							
CHKK				*eS*	**Sg**	**20 59 50.0**	**+2.0**
4.2nm,0.2s							
KTBS	**Karatobe**	**5.54**	**305**	Pg	**Pg**	**20 58 37.7**	**-2.2**
0.6nm,0.5s							
KTBS				Lg	Lg	20 59 51.3	
10nm,0.7s							
MK31	**Makanchi Array**	**6.09**	**356**	⇑Pg	**Pb**	**20 58 40.6**	**+0.6**
2.0nm,0.7s,baz=167,slow=14,SNR=5.4							
MK31				⇓Lg	Lg	20 59 55.9	
5.2nm,0.7s,baz=162,slow=32,SNR=5.8							

*GII **23** 20:57:29.1±0.0, 33°.312N±0°.002×35°.411E±0°.001, h6km, Mws1.9, confirmed*
*GRAL **23** 20:57:30.6±0.3, 33°.33N×35°.44E, h3km±3km, MD2.7*
ISC 23 20:57:29.4±1.0,**33°.33N**±0°.02×**35°.41E**±0°.03,**h10**km±9km,
n52,σ0°**47/55**,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAM	**Misgav Am**	**0.14**	**125**	P	**Pg**	**20 57 32.4**	**-0.3**
MSAM	**Misgav Am**	**0.14**	**125**	S	**Sg**	**20 57 35.2**	**+0.2**
MTLA	**Metula**	**0.15**	**110**	P	**Pg**	**20 57 32.4**	**-0.3**
KIRY	**Kiryat Shemona**	**0.18**	**132**	P	**Pg**	**20 57 32.8**	**-0.4**
KIRY	**Kiryat Shemona**	**0.18**	**132**	S	**Sg**	**20 57 35.9**	**0.0**
GOSH	**HaGoshrim**	**0.21**	**121**	P	**Pg**	**20 57 33.5**	**-0.3**
GOSH	**HaGoshrim**	**0.21**	**121**	S	**Sg**	**20 57 37.9**	**+1.2**
YFTH	**Yftach**	**0.23**	**149**	P	**Pg**	**20 57 34.0**	**-0.2**
YFTH	**Yftach**	**0.23**	**149**	S	**Sg**	**20 57 37.8**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.24**	**119**	P	**Pg**	**20 57 34.0**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.24**	**119**	S	**Sg**	**20 57 38.3**	**+0.5**
ZRT	**Zar'it**	**0.25**	**204**	P	**Pg**	**20 57 34.1**	**-0.4**
ZRT	**Zar'it**	**0.25**	**204**	S	**Sg**	**20 57 38.5**	**+0.6**
LVBS	**Lehavot Habash**	**0.28**	**133**	P	**Pg**	**20 57 34.7**	**-0.3**
LVBS	**Lehavot Habash**	**0.28**	**133**	S	**Sg**	**20 57 39.7**	**+1.0**
SHBL	**Chebaa**	**0.28**	**86**	*eP*	**Pg**	**20 57 35.3**	**+0.1**
NATI	**Neve Ativ**	**0.28**	**104**	P	**Pg**	**20 57 34.9**	**-0.2**
NATI	**Neve Ativ**	**0.28**	**104**	S	**Sg**	**20 57 39.7**	**+0.8**
MMC7	**Mount Meron ar**	**0.31**	**183**	P	**Pg**	**20 57 34.9**	**-0.6**
MMA0B	**Mount Meron ar**	**0.31**	**181**	P	**Pg**	**20 57 35.4**	**-0.3**
MMA0B	**Mount Meron ar**	**0.31**	**181**	S	**Sg**	**20 57 40.2**	**+0.3**
HNTI	**Hanita**	**0.32**	**219**	P	**Pg**	**20 57 35.9**	**+0.2**
HNTI	**Hanita**	**0.32**	**219**	S	**Sg**	**20 57 40.8**	**+0.8**
QRWL	**Qaraoun**	**0.32**	**46**	*eP*	**Pg**	**20 57 35.9**	**+0.2**
QRWL				*eS*	**Sg**	**20 57 40.0**	**0.0**
RSPN	**Rosh Pina**	**0.38**	**162**	P	**Pg**	**20 57 36.8**	**0.0**
KDZV	**Kedmat Zvi**	**0.38**	**141**	P	**Pg**	**20 57 37.2**	**+0.2**
KDZV	**Kedmat Zvi**	**0.38**	**141**	S	**Sg**	**20 57 42.7**	**+0.6**
RCY	**Rachaya**	**0.39**	**65**	*eP*	**Pg**	**20 57 37.3**	**+0.1**
RCY				*eS*	**Sg**	**20 57 42.4**	**-0.1**
AMID	**Amiad**	**0.42**	**165**	P	**Pg**	**20 57 37.8**	**+0.3**
AMID	**Amiad**	**0.42**	**165**	S	**Sg**	**20 57 43.8**	**+0.7**
HDNS	**Had-Ness**	**0.45**	**154**	P	**Pg**	**20 57 38.4**	**+0.3**
KNHM	**Kefar Nahum**	**0.47**	**162**	P	**Pg**	**20 57 38.2**	**-0.4**
MGDL	**Migdal**	**0.49**	**170**	P	**Pg**	**20 57 38.7**	**-0.3**
MGDL	**Migdal**	**0.49**	**170**	S	**Sg**	**20 57 46.5**	**+0.9**
BHL	**Bhannes**	**0.61**	**20**	*eP*	**Pg**	**20 57 41.4**	**+0.2**
BHL				*eS*	**Sg**	**20 57 49.5**	**+0.2**
BLGI	**Bet Lehem HaGe**	**0.62**	**197**	P	**Pg**	**20 57 41.2**	**-0.3**
GOLA	**Golan Heights**	**0.65**	**162**	P	**Pg**	**20 57 42.0**	**+0.1**
ZAHL	**Zahle**	**0.66**	**37**	*eP*	**Pg**	**20 57 42.3**	**+0.1**
BTOR	**Bet Oren**	**0.69**	**210**	P	**Pg**	**20 57 42.8**	**+0.1**
BTOR	**Bet Oren**	**0.69**	**210**	S	**Sg**	**20 57 52.4**	**+0.7**
HYGV	**Hayogev**	**0.74**	**194**	P	**Pg**	**20 57 43.3**	**-0.3**
IZRL	**Izrael**	**0.77**	**185**	P	**Pg**	**20 57 44.1**	**-0.1**
OFRI	**`Ofer**	**0.79**	**207**	P	**Pg**	**20 57 44.2**	**-0.5**
OFRI	**`Ofer**	**0.79**	**207**	S	**Sg**	**20 57 55.8**	**+0.8**
MMLI	**Mount Malkishu**	**0.89**	**179**	P	**Pg**	**20 57 45.8**	**-0.7**
MMLI	**Mount Malkishu**	**0.89**	**179**	S	**Sg**	**20 57 58.2**	**+0.1**
HWQ	**Hawqa**	**1.05**	**25**	*eP*	**Pg**	**20 57 49.4**	**-0.2**
SLTI	**Sal'it**	**1.13**	**196**	P	**Pg**	**20 57 50.7**	**-0.4**
SLTI	**Sal'it**	**1.13**	**196**	S	**Sg**	**20 58 06.1**	**+0.3**
FKH	**Fakeheh**	**1.24**	**42**	*eP*	**Pb**	**20 57 52.3**	**-0.6**
BEIL	**Beino**	**1.37**	**28**	*eP*	**Pn**	**20 57 54.8**	**+0.1**
DSI	**Dead Sea**	**1.75**	**181**	P	**Pn**	**20 57 60.0**	**+0.1**

*MEX **23** 20:58:27.0±0.6, 14°.16N×93°.03W, h7km±22km, MD4.0*
*GCG **23** 20:58:29.2±1.2, 14°.08N×92°.68W, h14km±9km, MD4.5, ML3.4*
ISC 23 20:58:25.5±1.7,**14°.06N**±0°.07×**92°.90W**±0°.03,**h32**km±13km,
n25,σ2°**22/42**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.04**	**36**	*eP*	**Pb**	**20 58 45.0**	**0.0**
THIG				*eS*	**Sn**	**20 58 59.0**	**+1.6**
SMCA	**Catarina**	**1.12**	**45**	*eP*	**Pn**	**20 58 46.2**	**+1.2**
SMCA				*eS*	**Sn**	**20 59 00.5**	**+1.1**
SMCA				IAML		20 59 02.9	
comp=E,829nm,0.3s							
PATR	**El Naranjo**	**1.23**	**32**	*eP*	**Pn**	**20 58 46.8**	**+0.1**
PATR				*eS*	**Sb**	**20 59 02.9**	**-1.1**
RTAL	**Retalhuleu**	**1.26**	**68**	*eP*	**Pn**	**20 58 48.5**	**+1.6**
RTAL				*eS*	**Sb**	**20 59 04.8**	**+0.3**
CHUJ	**Union Juarez**	**1.28**	**37**	*eP*	**Pn**	**20 58 47.4**	**0.0**
CHUJ				*eS*	**Sb**	**20 59 04.1**	**-1.3**
PAVE	**Pavencul**	**1.33**	**32**	*eP*	**Pn**	**20 58 48.3**	**+0.3**
PAVE				*eS*	**Sn**	**20 59 04.6**	**-0.1**
STG2	**El Palmar, Qui**	**1.53**	**76**	*eP*	**Pn**	**20 58 51.2**	**+0.5**
PCIG		**1.66**	**349**	*eP*	**Pn**	**20 58 51.8**	**-0.6**
PCIG				*eS*	**Sn**	**20 59 08.1**	**-4.5**
HUEH	**Huehuetenango**	**1.84**	**47**	*eP*	**Pb**	**20 59 02.3**	**+3.7**
HUEH				*eS*	**Sn**	**20 59 19.9**	**+2.4**
FG8	**Yepocapa, Chim**	**2.28**	**85**	*eP*	**Pn**	**20 58 58.6**	**-2.5**
FG8				*eS*	**Sn**	**20 59 22.3**	**-5.9**
CCIG	**Comitan**	**2.33**	**18**	*eP*	**Pb**	**20 59 05.2**	**-1.7**
CCIG				*eS*	**Sb**	**20 59 23.8**	**-1.5**
CCIG	**Comitan**	**2.33**	**18**	*eP*	**Pb**	**20 59 06.6**	**-0.3**
FG16	**Alotenango, Sa**	**2.33**	**85**	*eP*	**Pn**	**20 58 59.6**	**-2.2**
APG	**El Apazote**	**2.54**	**68**	*eP*	**Pn**	**20 59 08.2**	**+3.5**
NILT	**Santiago Nilte**	**2.99**	**327**	*eP*	**Pn**	**20 59 11.8**	**+1.1**
NILT				*eS*	**Sn**	**20 59 45.8**	**+0.5**
NUBE	**Las Nubes**	**3.04**	**93**	*eP*	**Pn**	**20 59 14.8**	**+3.3**
UXUV	**UXUV**	**3.45**	**340**	*eP*	**Pn**	**20 59 19.9**	**+2.8**
UXUV				*eS*	**Sn**	**20 59 56.6**	**-0.2**
HUIG	**Huatulco**	**3.53**	**299**	*eP*	Pn	20 59 23.7	+5.6
HUIG				*eS*	**Sn**	**20 59 56.7**	**-2.1**
CMIG	**Matias Romero**	**3.56**	**328**	*eP*	**Pn**	**20 59 18.3**	**-0.3**
CMIG				*eS*	**Sn**	**21 00 01.7**	**+2.1**
PETF	**Flores**	**4.08**	**46**	*eP*	Pn	20 59 30.8	+5.2
PETF				*eS*	**Sn**	**21 00 08.2**	**-4.1**
PEIG	**Puerto Escondi**	**4.53**	**296**	*eP*	**Pn**	**20 59 31.0**	**-0.9**
PEIG				*eS*	**Sn**	**21 00 23.1**	**-0.4**
NEUV	**Arroyo Zacate**	**4.58**	**323**	*eP*	**Pn**	**20 59 33.4**	**+0.9**
NEUV				*eS*	**Sn**	**21 00 26.8**	**+2.2**
YOIG	**Yosondua**	**5.27**	**302**	*eP*	Pn	20 59 47.5	+5.2
YOIG				*eS*	**Sn**	**21 00 42.4**	**+0.3**
PNIG	**Pinotepa**	**5.55**	**295**	*eP*	**Pn**	**20 59 47.5**	**+1.5**
PNIG				*eS*	**Sn**	**21 00 49.4**	**+0.8**
TXIG	**Tlaxiaco**	**5.66**

BFON				IAML			21 03 50.7
	comp=Z,14nm,0.6s						
GRAF	**Camdeboo Natio**	**5.55**	**198**	*eP*	**Pn**	**21 02 23.1**	**+1.2**
GRAF				*eS*	**Sn**	**21 03 26.2**	**+0.3**
GRAF				IAML		21 03 55.5	
	comp=Z,12nm,0.7s						
MUSN	**Musina, Limpop**	**5.58**	**33**	*eP*	**Pn**	**21 02 21.4**	**-0.8**
MUSN				*eS*	**Sn**	**21 03 24.0**	**-2.5**
MUSN				IAML		21 03 55.0	
	comp=Z,8.6nm,0.6s						
MUSN	**Musina, Limpop**	**5.58**	**33**	*i* P	**Pn**	**21 02 25.9**	**+3.7**
MUSN				*i* S	**Sn**	**21 03 27.7**	**+1.3**
MOPA	**Mopani**	**5.59**	**53**	*eP*	**Pn**	**21 02 21.9**	**-0.5**
MOPA				*eS*	**Sn**	**21 03 24.3**	**-2.5**
MOPA				IAML		21 03 43.0	
	comp=Z,12nm,0.3s						
MOPA	**Mopani**	**5.59**	**53**	*i* P	**Pn**	**21 02 25.2**	**+2.8**
MOPA				*i* S	**Sn**	**21 03 26.3**	**-0.5**
BRAK	**Brakfontein**	**5.73**	**213**	*eP*	**Pn**	**21 02 26.1**	**+1.8**
BRAK				*eS*	**Sn**	**21 03 29.6**	**-0.7**
BRAK				IAML		21 03 35.4	
	comp=Z,7.4nm,0.2s						
ROOI	**Rooidraai Farm**	**6.06**	**205**	*eP*	**Pn**	**21 02 30.2**	**+1.4**
ROOI				*eS*	**Sn**	**21 03 37.8**	**-0.6**
ROOI				IAML		21 04 16.8	
	comp=Z,9.8nm,0.5s						
GRAN	**Grantham**	**6.51**	**215**	*eP*	**Pn**	**21 02 36.6**	**+1.5**
GRAN				*eS*	**Sn**	**21 03 48.2**	**-1.3**
GRAN				IAML		21 04 36.4	
	comp=Z,10nm,0.5s						
FRAZ	**Fraserburg**	**6.65**	**221**	*eP*	**Pn**	**21 02 38.4**	**+1.4**
FRAZ				*eS*	**Sn**	**21 03 51.7**	**-1.2**
FRAZ				IAML		21 04 28.4	
	comp=Z,8.6nm,0.6s						
BLWY	**Bulawayo**	**7.09**	**16**	*i* P	**Pn**	**21 02 46.3**	**+3.3**
BLWY				*i* S	**Sn**	**21 04 02.7**	**-1.2**
MERW	**Merweville**	**7.14**	**216**	*eP*	**Pn**	**21 02 44.5**	**+0.8**
MERW				*eS*	**Sn**	**21 04 03.1**	**-1.9**
MERW				IAML		21 04 06.8	
	comp=Z,3.9nm,0.3s						
KOMG	**Komaggas**	**8.46**	**249**	*eP*	**Pn**	**21 03 03.2**	**+1.5**
KOMG				*eS*	**Sn**	**21 04 33.5**	**-3.8**
KOMG				IAML		21 05 36.5	
	comp=Z,5.4nm,0.5s						

*IDC **23** 21:02:10.2±1.1, 33°.52N×141°.64E, h0km, mb3.7/11, mbtmp3.7/12, ML2.4/1, MS3.0/2, Error ellipse: s-maj=24.0km s-min=19.3km az=78.0*
*JMA **23** 21:02:13.3±0.6, 34°№1°×14°2E±°, h36km, MV3.2/29, E OFF HACHIJOJIMA ISLAND*
ISC 23 21:02:16.1±1.0, 33°.66N±0°.06×141°.61E±0°.09, h41km, n28, σ1§35/30, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.12**	**332**	*eP*	**Pn**	**21 02 33.3**	**-1.5**
BSO3	**Boso 3**	**1.46**	**322**	P	**Pn**	**21 02 38.8**	**-0.9**
JHJ2	**Mitsune**	**1.60**	**250**	P	**Pn**	**21 02 41.0**	**-0.8**
JHJ	**Hachijo jima 2**	**1.62**	**251**	Pn	**Pn**	**21 02 41.2**	**-0.9**
	22nm,0.3s,baz=72,slow=19,SNR=9.3						
JHJ				Sn	**Sn**	**21 03 02.4**	**+0.6**
	58nm,0.3s,baz=84,slow=22,SNR=5.8						
JHCJ	**Hachijojimakas**	**1.63**	**249**	*eP*	**Pn**	**21 02 41.6**	**-0.7**
BSO4	**Boso 4**	**1.69**	**322**	P	**Pn**	**21 02 42.1**	**-1.0**
JMKN	**Mikurajimanish**	**1.70**	**278**	P	**Pn**	**21 02 42.2**	**-1.0**
JMYK	**Miyake Tsubota**	**1.76**	**284**	*eP*	**Pn**	**21 02 42.8**	**-1.2**
KTJ3	**Kamata3**	**2.46**	**302**	*eP*	**Pn**	**21 02 52.4**	**-1.2**
KTJ3				*eS*	**Sn**	**21 03 21.7**	**-0.7**
JIZS	**Izushimoda**	**2.50**	**296**	*eP*	**Pn**	**21 02 53.2**	**-1.0**
JOD2	**Odawara 2**	**2.62**	**308**	*eP*	**Pn**	**21 02 54.1**	**-1.9**
JOD2				*eS*	**Sn**	**21 03 26.4**	**-0.3**
JAG	**Ashikaga**	**3.27**	**328**	P	**Pn**	**21 03 03.7**	**-1.2**
JNY	**Yasuok**	**3.53**	**300**	*eP*	**Pn**	**21 03 09.0**	**+0.5**
MJAR	**Matsushiro Arr**	**4.00**	**317**	Pn	**Pn**	**21 03 14.7**	**-0.3**
	0.2nm,0.3s,baz=135,slow=12,SNR=6.9						
MJAR				Sn	**Sn**	**21 04 02.1**	**+1.5**
	0.2nm,0.3s,baz=144,slow=23,SNR=8.5						
	1.5nm,0.3s						
JNU	**Nakatsue**	**8.99**	**270**	LR	LR	21 07 04.2	
	comp=Z,50nm,21.0s,baz=147,slow=33						
ASAJ	**Asahikawa**	**10.47**	**4**	Pn	**Pn**	**21 04 40.6**	**-2.9**
	0.3nm,0.3s,baz=206,slow=21,SNR=1.5						
HILR	**Hailar Array B**	**22.66**	**321**	P	**P**	**21 07 14.8**	**+1.0**
	1.2nm,0.6s,baz=113,slow=11,SNR=4.8						
	1.2nm,0.6s						
YAK	**Yakutsk**	**29.39**	**349**	LR	LR	21 21 21.3	
	comp=Z,57nm,18.5s,baz=188,slow=39						
SONM	**Songino Array**	**29.91**	**309**	P	**P**	**21 08 21.2**	**+1.1**
	1.8nm,0.9s,baz=107,slow=9.5,SNR=9.7						
	1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.91**	**259**	P	**P**	**21 09 53.1**	**-1.5**
	0.4nm,0.3s,baz=66,slow=9.8,SNR=1.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**46.11**	**305**	P	**P**	**21 10 36.1**	**-0.1**
	1.4nm,0.8s,baz=90,slow=9.2,SNR=5.8						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.25**	**310**	P	**P**	**21 10 52.6**	**-0.1**
	1.7nm,0.9s,baz=84,slow=7.6,SNR=12						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**21 11 24.9**	**+1.9**
	0.2nm,0.7s,baz=290,slow=8.4,SNR=1.4						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**53.00**	**314**	P	**P**	**21 11 28.6**	**+0.1**
	0.7nm,0.6s,baz=77,slow=6.7,SNR=4.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**53.75**	**188**	P	**P**	**21 11 31.6**	**-2.7**
	0.6nm,0.8s,baz=5.1,slow=7.3,SNR=6.2						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**57.48**	**188**	P	**P**	**21 12 02.0**	**+1.0**
	0.3nm,0.7s,baz=1.6,slow=6.3,SNR=2.2						
	0.3nm,0.7s						
AKTO	**Aktyubinsk**	**61.07**	**313**	P	**P**	**21 12 27.9**	**+2.2**
	0.9nm,0.5s,baz=79,slow=9.6,SNR=3.6						
	0.9nm,0.5s						
KBZ	**Khabaz**	**73.23**	**312**	P	**P**	**21 13 43.0**	**+0.1**
	0.9nm,0.7s,baz=23,slow=1.8,SNR=4.0						
	0.9nm,0.7s						

*IDC **23** 21:10:11.5±1.1, 33°.57N×141°.75E, h0km, mb3.8/8, mbtmp3.8/10, ML3.4/2, Error ellipse: s-maj=24.2km s-min=18.2km az=82.0*
*NEIC **23** 21:10:12.2±1.3, 33°.58N±0°.07×141°.82E±0°.10, h10km±1km, mb4.4/14, Error ellipse: s-maj=16.0km s-min=7.1km az=127.0*
*NIED **23** 21:10:13.8, 33°.66N×141°.75E, h23km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr5.68; Mθθ-1.00; Mφφ-4.68; Mrθ6.40; Mrφ1.17; Mθφ-2.63; Fault plane solution: M0 8.49000×10^14^ NP1: φs353.00000°, δ25.00000°, λ133.00000°. NP2: φs127.00000°, δ72.00000°, λ73.00000°.*
*JMA **23** 21:10:13.8±0.6, 34°№1°×14°2E±°, h23km, MV3.5/29, E OFF HACHIJOJIMA ISLAND*
ISC 23 21:10:15.4±0.9, 33°.63N±0°.06×141°.79E±0°.09, h34km, n50, σ1§01/56, mb4.1/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.22**	**327**	P	**Pn**	**21 10 35.1**	**-0.5**
BSO3	**Boso 3**	**1.58**	**318**	P	**Pn**	**21 10 40.6**	**-0.2**
JHJ2	**Mitsune**	**1.73**	**253**	Pn	**Pn**	**21 10 43.1**	**-0.1**
JHJ2				Sn	**Sn**	**21 11 03.8**	**-0.2**
JHJ2	**Mitsune**	**1.73**	**253**	P	**Pn**	**21 10 43.2**	**+0.1**
JHJ	**Hachijo jima 2**	**1.76**	**254**	Pn	**Pn**	**21 10 43.2**	**-0.3**
	57nm,0.3s,baz=72,slow=19,SNR=18						
JHJ				Sn	**Sn**	**21 11 03.5**	**-1.1**
	68nm,0.3s,baz=62,slow=23,SNR=4.6						
JHCJ	**Hachijojimakas**	**1.76**	**252**	P	**Pn**	**21 10 43.3**	**-0.2**
BSO4	**Boso 4**	**1.81**	**319**	P	**Pn**	**21 10 44.5**	**+0.3**
JMKN	**Mikurajimanish**	**1.85**	**279**	P	**Pn**	**21 10 44.4**	**-0.4**
KTR	**Katsuura**	**1.94**	**322**	*eP*	**Pn**	**21 10 46.1**	**+0.1**
KTR				*eS*	**Sn**	**21 11 10.1**	**+0.8**
JIZS	**Izushimoda**	**2.65**	**295**	*eP*	**Pn**	**21 10 55.4**	**-0.3**
JOD2	**Odawara 2**	**2.76**	**307**	P	**Pn**	**21 10 56.3**	**-1.1**
JYN	**Shimob**	**3.26**	**306**	P	**Pn**	**21 11 03.8**	**-0.5**
MJAR	**Matsushiro Arr**	**4.13**	**316**		**Pn**	**21 11 15.7**	**-0.4**
MJAR	**Matsushiro Arr**	**4.13**	**316**	Pn	**Pn**	**21 11 16.4**	**+0.3**
	0.5nm,0.3s,baz=160,slow=13,SNR=22						
MJAR				Sn	**Sn**	**21 12 02.1**	**-1.1**
	0.4nm,0.3s,baz=140,slow=24,SNR=5.7						
	2.5nm,0.3s						
MAJO	**Matsushiro**	**4.13**	**316**		**Pn**	**21 11 16.6**	**+0.5**
MAJO				Sn	**Sn**	**21 12 04.2**	**+0.9**
JGF	**Kuroka**	**4.15**	**299**		**Pn**	**21 11 17.6**	**+1.2**
INU	**Inuyama**	**4.30**	**295**	Pn	**Pn**	**21 11 18.5**	**+0.1**
JMM	**Marumori**	**4.30**	**349**		**Pn**	**21 11 17.5**	**-1.0**
JSD	**Sado**	**5.25**	**328**	Pn	**Pn**	**21 11 31.0**	**-0.5**
JMN	**Monobe**	**6.60**	**273**	Pn	**Pn**	**21 11 51.3**	**+1.2**
JTM	**Tenmabayashi**	**7.17**	**356**	Pn	**Pn**	**21 11 57.2**	**-0.6**
ERM	**Erimo**	**8.44**	**7**	Pn	**Pn**	**21 12 14.2**	**-1.0**
JKA	**Kamikawa-asahi**	**10.49**	**3**		**Pn**	**21 12 42.6**	**-0.7**
ASAJ	**Asahikawa**	**10.49**	**3**	Pn	**Pn**	**21 12 42.9**	**-0.5**
	0.8nm,0.3s,baz=260,slow=9.5,SNR=6.7						
ASAJ				Sn	**Sn**	**21 14 35.7**	**-3.8**
	0.2nm,0.3s,baz=79,slow=19,SNR=1.1						
	3.3nm,0.5s						
YULB	**Yu-li**	**20.66**	**246**	P	**P**	**21 14 49.4**	**-3.0**
YULB				IAmb	IAmb	21 15 09.8	
	comp=Z,18nm,1.3s						
HILR	**Hailar Array B**	**22.78**	**321**	P	**P**	**21 15 15.9**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=134,slow=11,SNR=6.0						
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**30.05**	**309**	P	**P**	**21 16 21.3**	**-0.1**
SONM	**Songino Array**	**30.05**	**309**	P	**P**	**21 16 22.8**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=117,slow=9.0,SNR=12						
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**46.25**	**305**	P	**P**	**21 18 37.8**	**+0.4**
MK31				IAmb	IAmb	21 18 39.8	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**46.25**	**305**	P	**P**	**21 18 37.6**	**+0.2**
MKAR	**Makanchi Array**	**46.25**	**305**	P	**P**	**21 18 38.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=81,slow=10,SNR=11						
	comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**46.47**	**305**	P	**P**	**21 18 39.1**	**0.0**
MAKZ				IAmb	IAmb	21 18 39.2	
	comp=Z,7.1nm,1.1s						
EVN	**Everest**	**47.10**	**279**	P	**P**	**21 18 44.4**	**-0.7**
EVN				IAmb	IAmb	21 18 53.2	
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**48.32**	**311**	P	**P**	**21 18 53.4**	**0.0**
KURK				IAmb	IAmb	21 18 54.6	
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**48.39**	**310**	P	**P**	**21 18 54.5**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=84,slow=7.6,SNR=15						
	comp=Z,2.1nm,0.9s						
D22K	**Ayikyak River**	**50.28**	**25**	P	**P**	**21 19 10.0**	**+1.9**
ILAR	**Eielson Array**	**52.22**	**31**	P	**P**	**21 19 24.7**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=272,slow=7.4,SNR=2.5						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**53.13**	**314**	P	**P**	**21 19 30.9**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=141,slow=9.6,SNR=4.1						
	comp=Z,1.3nm,0.8s						
WB2	**Warramunga Arr**	**53.74**	**189**	P	**P**	**21 19 33.8**	**-0.6**
WB2				IAmb	IAmb	21 19 46.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**53.75**	**189**	P	**P**	**21 19 33.3**	**-1.1**
WRA	**Warramunga Arr**	**53.75**	**189**	P	**P**	**21 19 34.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=5.1,slow=7.6,SNR=10						
	comp=Z,0.6nm,0.6s						
ARSB	**Arslanbob**	**53.86**	**300**	P	**P**	**21 19 35.1**	**-0.2**
ARSB				IAmb	IAmb	21 20 04.2	
	comp=Z,5.0nm,1.4s						
KK31	**Karatay Array**	**55.15**	**302**	P	**P**	**21 19 45.0**	**+0.5**
KK31				IAmb	IAmb	21 19 45.8	
	comp=Z,4.9nm,1.4s						
KKAR	**Karatay Array**	**55.15**	**302**	P	**P**	**21 19 45.1**	**+0.5**
CHGR	**Chuyangaron**	**57.46**	**298**	P	**P**	**21 20 01.3**	**+0.2**
AS31	**Alice Springs**	**57.47**	**189**	P	**P**	**21 20 01.6**	**+0.5**
ASAR	**Alice Springs**	**57.47**	**189**	P	**P**	**21 20 01.6**	**+0.5**
ASAR	**Alice Springs**	**57.47**	**189**	P	**P**	**21 20 01.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=6.8,slow=7.6,SNR=6.5						
	comp=Z,0.4nm,0.5s						
ARTI	**Arti**	**59.24**	**320**	P	**P**	**21 20 13.5**	**+0.3**
ABKAR	**Akbulak array**	**60.40**	**312**	P	**P**	**21 20 21.3**	**+0.1**

*IDC **23** 21:10:55.7±1.3, 22°.02N×143°.76E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=50.4km s-min=29.1km az=79.0*
ISC 23 21:11:08.2±1.2, 21°.9N±0°.2×143°.6E±0°.3, h100km, n7, σ0§90/7, mb4.0/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.60**	**193**	P	**P**	**21 18 54.6**	**0.0**
	0.5nm,1.1s,baz=14,slow=9.1,SNR=5.9						
	0.5nm,1.1s						
ZALV	**Zalesovo Beam**	**54.26**	**321**	P	**P**	**21 20 22.9**	**-0.8**
	0.2nm,0.3s,baz=111,slow=6.3,SNR=1.8						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**57.60**	**317**	P	**P**	**21 20 48.3**	**+0.7**
	0.6nm,0.4s,baz=94,slow=7.3,SNR=4.7						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**62.73**	**319**	P	**P**	**21 21 23.4**	**+0.8**
	1.2nm,0.3s,baz=99,slow=8.4,SNR=7.4						
	1.2nm,0.3s						
ARCES	**ARCESS Array B**	**78.81**	**342**	P	**P**	**21 23 00.3**	**+0.5**
	1.9nm,0.8s,baz=58,slow=6.1,SNR=3.8						
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	**82.70**	**52**	P	**P**	**21 23 21.4**	**0.0**
	0.2nm,0.3s,baz=275,slow=6.2,SNR=2.4						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**83.12**	**335**	P	**P**	**21 23 21.6**	**-1.1**
	2.2nm,1.0s,baz=45,slow=4.3,SNR=5.3						
	2.2nm,1.0s						

*IDC **23** 21:12:49.8±1.5, 33°.62N×141°.81E, h0km, mb3.7/7, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=30.1km s-min=19.2km az=75.0*
*NIED **23** 21:12:50.6, 33°.68N×141°.73E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr2.77; Mθθ0.00; Mφφ-2.78; Mrθ-0.66; Mrφ0.18; Mθφ-0.46; Fault plane solution: M0 2.89000×10^14^ NP1: φs344.00000°, δ42.00000°, λ70.00000°. NP2: φs189.00000°, δ51.00000°, λ107.00000°.*
*JMA **23** 21:12:50.6±0.7, 34°№1°×14°2E±°, h10km, MV3.5/28, E OFF HACHIJOJIMA ISLAND*
*NEIC **23** 21:12:51.2±1.7, 33°.68N±0°.07×141°.8E±0°.1, h10km±2km, mb4.2/5, Error ellipse: s-maj=17.3km s-min=6.4km az=124.0*
ISC 23 21:12:51.2±1.1, 33°.64N±0°.08×141°.77E±0°.10, h10km, n35, σ0§90/38, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.72**	**253**		**Pn**	**21 13 21.0**	**-0.1**
JHJ2				Sn	**Sn**	**21 13 41.0**	**-2.1**
JHJ2	**Mitsune**	**1.72**	**253**	P	**Pn**	**21 13 20.9**	**-0.2**
JHJ	**Hachijo jima 2**	**1.74**	**253**	Pn	**Pn**	**21 13 21.1**	**-0.4**
	38nm,0.3s,baz=96,slow=19,SNR=8.1						
JHJ				Sn	**Sn**	**21 13 43.1**	**-0.6**
	44nm,0.3s,baz=91,slow=22,SNR=5.6						
JHCJ	**Hachijojimakas**	**1.74**	**252**	P	**Pn**	**21 13 21.2**	**-0.3**
BSO4	**Boso 4**	**1.79**	**319**	P	**Pn**	**21 13 22.2**	**+0.1**
JMKN	**Mikurajimanish**	**1.83**	**279**	*eP*	**Pn**	**21 13 22.0**	**-0.7**
JMYK	**Miyake Tsubota**	**1.90**	**283**	*eP*	**Pn**	**21 13 23.1**	**-0.4**
JIZS	**Izushimoda**	**2.63**	**295**	*eP*	**Pn**	**21 13 33.1**	**-0.5**
JOD2	**Odawara 2**	**2.75**	**307**	*eP*	**Pn**	**21 13 34.1**	**-1.2**
JYN	**Shimob**	**3.24**	**306**	*eP*	**Pn**	**21 13 41.5**	**-0.7**
JAG	**Ashikaga**	**3.37**	**326**	*eP*	**Pn**	**21 13 43.5**	**-0.3**
MJAR	**Matsushiro Arr**	**4.11**	**316**		**Pn**	**21 13 53.3**	**-0.8**
MJAR	**Matsushiro Arr**	**4.11**	**316**	Pn	**Pn**	**21 13 54.4**	**+0.3**
	0.4nm,0.3s,baz=160,slow=13,SNR=9.7						
MJAR				Sn	**Sn**	**21 14 41.9**	**-0.4**
	0.4nm,0.3s,baz=152,slow=23,SNR=6.5						
	2.9nm,0.5s						
MAJO	**Matsushiro**	**4.11**	**316**		**Pn**	**21 13 53.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**4.12**	**316**	Pn	**Pn**	**21 13 54.2**	**0.0**
JGF	**Kuroka**	**4.13**	**300**		**Pn**	**21 13 55.0**	**+0.6**
INU	**Inuyama**	**4.28**	**295**	Pn	**Pn**	**21 13 56.7**	**+0.4**
JMM	**Marumori**	**4.29**	**350**	Pn	**Pn**	**21 13 55.0**	**-1.5**
JSD	**Sado**	**5.23**	**328**		**Pn**	**21 14 07.8**	**-1.6**
JTM	**Tenmabayashi**	**7.16**	**356**		**Pn**	**21 14 35.8**	**-0.1**
ERM	**Erimo**	**8.43**	**7**	Pn	**Pn**	**21 14 52.0**	**-1.4**
ASAJ	**Asahikawa**	**10.48**	**3**	Pn	**Pn**	**21 15 21.3**	**-0.2**
	0.5nm,0.3s,baz=188,slow=14,SNR=1.4						
	2.8nm,0.5s						
JKA	**Kamikawa-asahi**	**10.48**	**3**	Pn	**Pn**	**21 15 21.1**	**-0.4**
HILR	**Hailar Array B**	**22.77**	**321**	P	**P**	**21 17 54.9**	**+1.2**
	0.7nm,0.4s,baz=129,slow=12,SNR=4.4						
	0.7nm,0.4s						
SONM	**Songino Array**	**30.03**	**309**	P	**P**	**21 19 01.0**	**+0.7**
SONM				IAmb	IAmb	21 19 02.3	
	comp=Z,1.7nm,1.0s						
SONM	**Songino Array**	**30.03**	**309**	P	**P**	**21 19 01.4**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=95,slow=6.8,SNR=6.9						
	comp=Z,1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.04**	**259**	P	**P**	**21 20 36.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=88,slow=8.3,SNR=4.1						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**46.23**	**305**	P	**P**	**21 21 16.1**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=85,slow=9.4,SNR=5.7						
	comp=Z,0.9nm,0.6s						
MAKZ	**Makanchi**	**46.45**	**305**	P	**P**	**21 21 17.7**	**-0.5**
KURK	**Kurchatov**	**48.30**	**311**		**P**	**21 21 31.3**	**-1.2**
KURK				IAmb	IAmb	21 21 32.4	
	comp=Z,2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**48.37**	**310**	P	**P**	**21 21 32.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=84,slow=7.8,SNR=7.4						
	comp=Z,0.9nm,0.5s						
WR8	**Warramunga Arr**	**53.74**	**188**	P	**P**	**21 22 12.7**	**-1.0**
WR8				IAmb	IAmb	21 22 38.3	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**53.75**	**189**	P	**P**	**21 22 13.2**	**-0.6**
WRA	**Warramunga Arr**	**53.75**	**189**	P	**P**	**21 22 12.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=5.5,slow=7.6,SNR=5.3						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**57.48**	**189**	P	**P**	**21 22 40.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=4.3						
	comp=Z,0.3nm,0.6s						

IDC 23 21:34:22.2±9.3, 2°.57S×138°.50E, h0km, mb3.2/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=397.9km s-min=32.7km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**193**	P	Pn	21 38 31.2	+0.3
	0.1nm,0.3s,baz=11,slow=12,SNR=3.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**21.44**	**192**	P	P	21 39 12.0	-0.2
	0.5nm,0.8s,baz=16,slow=11,SNR=8.3						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**69.55**	**322**	P	P	21 45 33.1	+0.1
	0.6nm,0.9s,baz=100,slow=7.0,SNR=2.4						
	0.6nm,0.9s						

*IDC **23** 21:36:50.6±3.7, 17°.76S×178°.73W, h548km±39km, mb3.3/14, mbtmp4.2/15, Error ellipse: s-maj=22.2km s-min=17.1km az=118.0*
*NEIC **23** 21:36:51.2±2.1, 17°.7S±0°.1×178°.8W±0°.1, h549km±6km, mb4.3/22, Error ellipse: s-maj=20.3km s-min=8.3km az=143.0*
ISC 23 21:36:50.2±0.4, 17°.7S±0°.1×178°.73W±0°.09, h547km, n94, σ0§79/91, mb4.1/26, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.07**	**269**	P	**P**	**21 38 08.3**	**+2.7**
FUTU	**Fugatoga**	**3.44**	**10**		**P**	**21 38 09.1**	**+1.1**
NIUE	**Niue**	**8.46**	**101**	P	**P**	**21 38 51.8**	**-0.8**
MARNC	**Mare, Loyalty**	**13.03**	**251**	P	**P**	**21 39 38.3**	**-1.1**
PINNC	**Pines Island,**	**13.86**	**247**	P	**P**	**21 39 47.9**	**-0.1**
DZM	**Mont Dzumac**	**14.60**	**250**	P	**P**	**21 39 55.1**	**-0.7**
	8.8nm,0.6s,baz=71,slow=18,SNR=11						
EIDS	**Eidsvold**	**29.05**	**250**	P	**P**	**21 42 05.8**	**-0.9**
EIDS				IAmb	IAmb	21 42 14.8	
	comp=Z,9.5nm,1.2s						
ARMA	**Armidale**	**29.77**	**239**	P	**P**	**21 42 13.1**	**+0.1**
ARMA				IAmb	IAmb	21 42 14.6	
	comp=Z,8.4nm,0.7s						
COEN	**Coen**	**36.80**	**270**	P	**P**	**21 43 12.6**	**+0.3**
COEN				IAmb	IAmb	21 43 23.1	
	comp=Z,18nm,1.1s						
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**21 43 14.4**	**+0.2**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**21 43 26.2**	**+0.6**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**21 43 26.4**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=92,slow=11,SNR=9.5						
	comp=Z,2.8nm,0.5s						
BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**21 44 03.7**	**+0.1**
BBOO				IAmb	IAmb	21 44 25.2	
	comp=Z,30nm,1.5s						
WB0	**Warramunga Arr**	**44.33**	**260**	P	**P**	**21 44 11.4**	**-0.9**
WB0				IAmb	IAmb	21 44 19.1	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**21 44 11.7**	**-0.9**
WRA				PcP	**PcP**	**21 45 43.8**	**-0.9**
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**21 44 11.7**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=94,slow=6.9,SNR=29						
W

	comp=Z,4.6nm,0.9s						
ZALV	**Zalesovo Beam**	107.90	322	PKiKP	**PKiKP**	21 54 14.4	-1.1
	comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=1.9						
MKAR	**Makanchi Array**	108.78	314	PKiKP	**PKiKP**	21 54 16.2	-1.3
	comp=Z,0.3nm,0.5s,baz=152,slow=1.0,SNR=9.1						
KURBB	**Kurchatov Arra**	111.54	318	PKiKP	**PKiKP**	21 54 20.8	-1.7
	comp=Z,0.5nm,0.7s,baz=96,slow=1.7,SNR=5.9						
BVAR	**Borovoye Array**	116.51	321	PKP	**PKPdf**	21 54 31.1	-0.8
	comp=Z,1.6nm,0.4s,baz=104,slow=2.3,SNR=9.3						
ARCES	**ARCESS Array B**	126.08	350	PKP	**PKPdf**	21 54 49.3	-0.6
	comp=Z,2.8nm,0.8s,baz=38,slow=2.2,SNR=8.4						
FINES	**FINESS Array B**	132.93	344	PKhKP	PKPpre	21 54 55.9	
	comp=Z,0.7nm,0.5s,baz=14,slow=3.9,SNR=5.7						
HFS	**Hagfors**	136.70	351	PKhKP	PKPpre	21 54 58.6	
	comp=Z,0.7nm,0.4s,baz=57,slow=5.3,SNR=5.3						
AKASG	**Malin Array Be**	140.25	332	PKP	**PKiKP**	21 55 18.3	-1.3
	comp=Z,0.7nm,0.5s,baz=61,slow=0.8,SNR=2.0						
EKA	**Eskdalemuir Ar**	142.30	4	PKP	**PKPdf**	21 55 21.1	+0.7
	comp=Z,0.6nm,0.5s,baz=13,slow=1.6,SNR=3.7						
BNN	**Bunyan**	143.30	312		PKPbc	21 55 21.3	0.0
LODK	**Lodwar**	143.70	251		PKPab	21 55 22.1	-1.0
BUR08	**Bucovina Ar. S**	144.29	332	PKPbc	**PKPab**	21 55 24.9	+0.4
BURAR	**Bucovina Array**	144.31	332	PKPbc	**PKPab**	21 55 24.7	+0.2
OJC	**Ojcow**	144.33	340	PKPbc	**PKPdf**	21 55 24.2	0.0
BR131	**Keskin Array S**	144.43	315		PKPbc	21 55 24.2	-0.7
BRTR	**Keskin Array B**	144.43	315		PKPbc	21 55 24.7	-0.2
BRTR	**Keskin Array B**	144.43	315	PKP	**PKPdf**	21 55 24.9	0.0
	comp=Z,2.2nm,0.7s,baz=89,slow=2.0,SNR=14						
OSTC	**Ostas**	145.12	343	*e*PKP	**PKPab**	21 55 26.9	-0.5
CLL	**Collm**	145.21	347		**PKPbc**	21 55 26.4	-0.2
UPC	**Upice**	145.22	343	*e*PKP	**PKPab**	21 55 27.3	-0.5
STEB	**Steborice**	145.23	341	*e*PKP	**PKPbc**	21 55 26.6	-0.1
DPC	**Dobruska-Polom**	145.28	343	*e*PKP	**PKPbc**	21 55 27.4	+0.5
PVCC	**Panska Ves**	145.58	345	*e*PKP	**PKPbc**	21 55 28.3	+0.6
MMAI	**Mount Meron Ar**	145.78	303	PKPbc	**PKPbc**	21 55 29.6	+0.6
	comp=Z,2.6nm,0.5s,baz=72,slow=5.4,SNR=12						
PRU	**Pruhonice**	146.08	345	*e*PKP	**PKPbc**	21 55 29.7	+0.6
BORA	**Eskisehir**	146.47	317	PKPbc	**PKPbc**	21 55 30.3	-0.4
KHC	**Kasperske Hory**	147.12	345	*e*PKP	**PKPbc**	21 55 32.3	+0.3
GEC2	**GERESS Array S**	147.35	345	PKPbc	**PKPbc**	21 55 32.8	+0.1
GERES	**GERESS Array B**	147.35	345	PKPbc	**PKPbc**	21 55 32.8	+0.1
	comp=Z,2.9nm,0.6s,baz=30,slow=3.5,SNR=24						
CONA	**Conrad Observa**	147.59	342	*i* PKP	**PKPbc**	21 55 33.8	+0.4
	comp=Z,5.1nm,0.7s,SNR=5.0						
CONA	**Conrad Observa**	147.59	342	*i* P	**PKPbc**	21 55 33.8	+0.4
	comp=Z,5.1nm,0.7s,SNR=5.0						
RONA	**Rosalia, Austr**	147.66	341	*e*PKP	**PKPbc**	21 55 33.9	+0.4
	comp=Z,5.1nm,0.6s						
RDO	**Rodhopi**	148.71	323	PKPbc	**PKPbc**	21 55 35.5	-0.7
LESA	**Schwarzleotal**	148.93	345	*i* PKP	**PKPbc**	21 55 36.6	-0.1
	comp=Z,3.0nm,0.4s,SNR=8.1						
KBA	**Koelnbreinsper**	149.08	344	*i* PKP	**PKPbc**	21 55 36.4	-0.9
	comp=Z,2.4nm,0.4s,SNR=6.3						
KBA	**Koelnbreinsper**	149.08	344	*e*P	**PKPbc**	21 55 36.4	-0.9
	comp=Z,2.4nm,0.4s,SNR=6.3						
WATA	**Walderalm**	149.27	346	*i* PKP	**PKPbc**	21 55 37.3	-0.4
	comp=Z,2.6nm,0.5s						
RETA	**Reutte**	149.31	347	*i* PKP	**PKPbc**	21 55 37.5	-0.1
	comp=Z,1.6nm,0.4s						
WTTA	**Wattenberg**	149.32	346	*i* PKP	**PKPbc**	21 55 37.7	-0.1
	comp=Z,4.3nm,0.4s,SNR=9.6						
MOTA	**Moosalm**	149.37	347	*e*PKP	**PKPbc**	21 55 37.6	-0.3
	comp=Z,1.6nm,0.4s,SNR=4.5						
MYKA	**Terra Mystica**	149.41	343	*i* PKP	**PKPbc**	21 55 36.9	-0.9
	comp=Z,6.2nm,0.5s,SNR=4.6						
SQTA	**Sankt Quirin**	149.46	347	*i* PKP	**PKPbc**	21 55 37.8	-0.2
	comp=Z,5.0nm,0.5s,SNR=5.7						
ABTA	**Abfaltersbach**	149.60	345	*i* PKP	**PKPbc**	21 55 37.8	-0.6
	comp=Z,4.7nm,0.5s,SNR=6.7						
STAL	**STALIGIAL**	150.00	344	PKPbc	**PKPbc**	21 55 38.2	-1.0

NEIC 23 *21:39:04.7*±0.7, **38°.02N**±0°.02×**97°.98W**±0°.03, **h4**km±2km, **mb_Lg3.1**/125, **ML3.2**/8, **Error ellipse: s-maj=3.6km s-min=2.1km az=64.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.70**	**305**	Pg	Pg	21 39 17.4	-0.9
R32A				Sg	Sg	21 39 26.7	-0.7
R32A				IAML		21 39 30.8	
	2μm,0.6s						
R32A				IAML		21 39 31.0	
	2μm,0.6s						
KAN08	**Anthony NE Sta**	**0.79**	**180**		Pg	21 39 18.9	-1.0
KAN08				Sg	Sg	21 39 29.1	-1.0
KAN08				IAML		21 39 32.7	
	comp=N,548nm,0.8s						
KAN01	**Argonia South**	**0.88**	**169**		Pg	21 39 20.8	-0.8
KAN01				Sg	Sg	21 39 32.4	-0.7
KAN01				IAmb_Lg		21 39 33.3	
	comp=Z,138nm,0.9s						
KAN01				IAML		21 39 37.2	
	comp=N,357nm,0.6s						
KAN14	**Manchester OK**	**1.06**	**179**	Pg	Pg	21 39 24.1	-0.9
KAN14				Sg	Sg	21 39 38.3	-0.5
GC02	**Grant County #**	**1.17**	**175**		Pg	21 39 26.0	-1.1
BLOK	**Blackwell**	**1.40**	**154**		Pn	21 39 29.9	-1.1
CROK	**Carrier**	**1.51**	**180**		Pn	21 39 31.5	-1.1
KSU1	**Kansas State U**	**1.52**	**44**		Pn	21 39 32.0	-0.7
NOKA	**Waynoka**	**1.58**	**209**		Pn	21 39 32.9	-0.6
CBKS	**Cedar Bluff**	**1.59**	**300**		Pn	21 39 33.2	-0.5
T35A	**Sooner Cattle**	**1.60**	**133**		Pn	21 39 33.5	-0.4
T35A				IAmb_Lg		21 39 55.5	
	comp=Z,74nm,0.7s						
OK038	**West end E0370**	**1.66**	**202**		Pn	21 39 34.2	-0.4
OK051	**E0350 and S346**	**1.76**	**149**		Pn	21 39 35.9	-0.1
OK048	**Pawnee Station**	**1.80**	**152**		Pn	21 39 36.5	-0.1
QUOK	**Quay**	**2.10**	**151**		Pn	21 39 40.5	-0.3
OK052	**Battle Ridge R**	**2.23**	**155**		Pn	21 39 41.9	-0.5
OK029	**Liberty Lake**	**2.26**	**169**		Pn	21 39 42.5	-0.4
ELIS	**Ellis County**	**2.27**	**211**	Pn	Pn	21 39 43.5	+0.5
DEOK	**Depew**	**2.48**	**151**	IAmb_Lg		21 40 27.4	
	comp=Z,50nm,0.8s						
TUL3	**Leonard**	**2.74**	**140**		Pn	21 39 48.8	-0.7
TUL3				IAmb_Lg		21 40 30.8	
	comp=Z,65nm,0.8s						
RLO	**Rose Lookout**	**3.00**	**127**		Pn	21 39 51.8	-1.3
U38A	**Gravette**	**3.27**	**118**	Pn	Pn	21 39 56.4	-0.4
U38A				IAmb_Lg		21 40 56.4	
	comp=Z,73nm,0.9s						
WMOK	**Wichita Mounta**	**3.34**	**191**		Pn	21 39 57.3	-0.4
WMOK	**Wichita Mounta**	**3.34**	**191**	IAmb_Lg		21 40 54.5	
	comp=Z,36nm,0.7s						
BGNE	**Belgrade**	**3.39**	**358**	IAmb_Lg		21 40 51.6	
	comp=Z,50nm,0.7s						
X34A	**Smith Ranch, M**	**3.41**	**178**		Pn	21 39 58.6	-0.1
SMWD	**Samnorwood**	**3.43**	**213**		Pn	21 39 58.9	-0.1
SMWD				IAmb_Lg		21 40 57.5	
	comp=Z,46nm,0.8s						
HHAR	**Hobbs**	**3.66**	**117**		Pn	21 40 02.8	+0.6
KSCO	**Kaye Shedlock'**	**3.78**	**287**	IAmb_Lg		21 41 13.4	
	comp=Z,75nm,1.0s						
P38A	**Dawn**	**3.82**	**64**		Pn	21 40 04.0	-0.4
P38A				IAmb_Lg		21 41 07.0	
	comp=Z,50nm,0.9s						
LOOK	**Love County**	**4.07**	**171**		Pn	21 40 07.3	-0.4
LOOK				IAmb_Lg		21 41 18.2	
	comp=Z,46nm,0.8s						
RTBA	**Rita Blanca**	**4.11**	**249**		Pn	21 40 08.1	-0.4
AMTX	**Amarillo**	**4.33**	**225**	Pn	Pn	21 40 11.2	-0.2
R40A	**Maddies Statio**	**4.51**	**85**		Pn	21 40 13.9	+0.1
R40A				IAmb_Lg		21 41 29.2	
	comp=Z,34nm,0.9s						
N38A	**Joes South For**	**4.60**	**52**		Pn	21 40 14.7	-0.3
MGMO	**Mountain Grove**	**4.62**	**99**	Pn	Pn	21 40 15.4	+0.1
MGMO				IAmb_Lg		21 41 36.5	
	comp=Z,50nm,0.8s						
K30B	**Basset**	**4.81**	**345**	IAmb_Lg		21 41 40.4	
	comp=Z,33nm,0.7s						
P40A	**Paris**	**4.87**	**70**		Pn	21 40 18.7	-0.1
P40A				IAmb_Lg		21 41 47.5	
	comp=Z,21nm,0.7s						
DKNS	**Dickens**	**4.96**	**210**		Pn	21 40 21.1	+1.0
DKNS				IAmb_Lg		21 41 44.9	
	comp=Z,34nm,0.8s						
MIAR	**Mount Ida**	**4.96**	**133**		Pn	21 40 19.9	-0.2
APMT	**Aspermont**	**5.00**	**201**		Pn	21 40 20.6	0.0
APMT				IAmb_Lg		21 41 56.0	
	comp=Z,24nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.15**	**113**	Pn	Pn	21 40 22.5	0.0
FCAR				IAmb_Lg		21 41 53.8	
	comp=Z,32nm,0.7s						
T25A	**Trinidad**	**5.18**	**262**	IAmb_Lg		21 41 52.0	
	comp=Z,38nm,0.8s						
CCM	**Cathedral Cave**	**5.32**	**88**	IAmb_Lg		21 41 56.8	
	comp=Z,26nm,0.8s						
Z38A	**Mt. Pleasant**	**5.34**	**152**	IAmb_Lg		21 42 01.8	
	comp=Z,44nm,0.9s						
SN07	**Snyder 07**	**5.46**	**207**	IAmb_Lg		21 42 04.7	
	comp=Z,29nm,0.8s						
ABTX	**Abilene, Hawle**	**5.55**	**195**	IAmb_Lg		21 42 02.3	
	comp=Z,20nm,0.7s						
Q24A	**Divide**	**5.71**	**282**	IAmb_Lg		21 42 07.9	
	comp=Z,34nm,0.9s						
POST	**Post**	**5.72**	**211**	IAmb_Lg		21 42 20.5	
	comp=Z,38nm,1.1s						
LCAR	**Lake Charles**	**5.79**	**108**	IAmb_Lg		21 42 13.3	
	comp=Z,35nm,0.8s						
ECSD	**EROS Data Cent**	**5.80**	**10**	IAmb_Lg		21 42 09.6	
	comp=Z,21nm,0.8s						
FVM	**French Village**	**5.96**	**88**	IAmb_Lg		21 42 11.9	
	comp=Z,19nm,0.7s						
SLM	**Saint Louis**	**6.12**	**82**	IAmb_Lg		21 42 19.2	
	comp=Z,32nm,0.9s						
ISCO	**Idaho Springs**	**6.21**	**289**	IAmb_Lg		21 42 27.5	
	comp=Z,30nm,1.0s						
Z41A	**Richland Creek**	**6.35**	**137**	IAmb_Lg		21 42 31.4	
	comp=Z,35nm,0.9s						
SUSD	**Miller**	**6.46**	**354**	IAmb_Lg		21 42 37.6	
	comp=Z,28nm,0.8s						
L40A	**Anamosa**	**6.57**	**50**	IAmb_Lg		21 42 38.2	
	comp=Z,32nm,0.9s						
CGM3	**Cape Girardeau**	**6.64**	**94**	IAmb_Lg		21 42 36.6	
	comp=Z,28nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.80**	**74**	IAmb_Lg		21 42 42.9	
	comp=Z,34nm,0.9s						
S44A	**Carbondale**	**6.91**	**90**	IAmb_Lg		21 42 51.6	
	comp=Z,32nm,0.9s						
I37A	**Lemond, Waseca**	**6.92**	**29**	IAmb_Lg		21 42 54.9	
	comp=Z,24nm,0.8s						
SIUC	**Southern Illin**	**6.94**	**90**	IAmb_Lg		21 42 47.6	
	comp=Z,35nm,0.9s						
OZNA	**Ozona**	**7.54**	**201**	IAmb_Lg		21 43 18.4	
	comp=Z,22nm,0.9s						
RSSD	**Black Hills**	**7.62**	**325**	IAmb_Lg		21 43 16.3	
	comp=Z,20nm,1.1s						
JFWS	**Jewell Farm**	**7.66**	**48**	IAmb_Lg		21 43 12.5	
	comp=Z,27nm,0.8s						
JCT	**Junction City**	**7.67**	**192**	IAmb_Lg		21 43 29.8	
	comp=Z,25nm,0.7s						
MNHN	**Monahans**	**7.74**	**212**	IAmb_Lg		21 43 16.9	
	comp=Z,20nm,0.9s						
OLIL	**Olney**	**7.79**	**82**	IAmb_Lg		21 43 33.0	
	comp=Z,28nm,1.0s						
F33A	**5 Mile Ranch,**	**7.92**	**9**	IAmb_Lg		21 43 25.1	
	comp=Z,14nm,0.8s						
SPMN	**Marine on St.**	**8.17**	**27**	IAmb_Lg		21 43 27.1	
	comp=Z,16nm,0.8s						
PECS	**Pecos**	**8.21**	**218**	IAmb_Lg		21 43 31.8	
	comp=Z,14nm,0.9s						
PLAL	**Pickwick Lake**	**8.53**	**108**	IAmb_Lg		21 43 40.1	
	comp=Z,14nm,0.9s						
HNDO	**Hondo**	**8.54**	**188**	IAmb_Lg		21 43 43.4	
	comp=Z,20nm,0.9s						
SAND	**Sanderson**	**8.75**	**204**	IAmb_Lg		21 44 03.8	
	comp=Z,13nm,0.8s						
DRIO	**Del Rio**	**8.85**	**195**	IAmb_Lg		21 43 50.8	
	comp=Z,16nm,0.8s						
ALPN	**Alpine**	**8.95**	**213**	IAmb_Lg		21 44 08.8	
	comp=Z,12nm,0.8s						
VHRN	**Van Horn**	**9.25**	**221**	IAmb_Lg		21 44 05.5	

*IDC **23** 21:43:51.4±1.1, 2°.70S×138°.36E, h0km, mb3.6/4, mbtmp3.7/7, ML3.5/3, MS3.5/3, Error ellipse: s-maj=24.1km s-min=16.3km az=176.0*
*DJA **23** 21:43:55.5±0.4, 2°.5±3°×13°.8E±°, h10km, M3.9/7, MLv3.9/7*
ISC 23 21:43:54.8±0.8, **2°.56S**±0°.07×**138°.58E**±0°.07, **h32**km, **n15,** σ1§**69**/14, **mb3.6/4, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**13**	P	**Pb**	**21 44 06.6**	**0.0**
SMPI				S	**Sb**	**21 44 12.3**	**-2.4**
GENI	**Genyem**	**1.58**	**91**	P	**Pb**	**21 44 25.7**	**+2.2**
JAY	**Jayapura**	**2.12**	**89**	Pn	**Pb**	**21 44 32.6**	**0.0**
	9.4nm,0.3s,baz=280,slow=11,SNR=28						
JAY				Lg	Lg	21 45 05.5	
	3.2nm,0.3s,baz=190,slow=19,SNR=4.6						
	36nm,0.5s						
JAY	**Jayapura**	**2.12**	**89**	P	**Pb**	**21 44 32.8**	**+0.2**
BAKI	**Biak**	**2.82**	**299**	P	**Pn**	**21 44 38.2**	**+0.5**
BAKI				S	**Sn**	**21 45 10.8**	**+0.2**
RKPI	**Ransiki, Papua**	**4.52**	**283**	P	**Pn**	**21 45 03.4**	**+2.3**
BATI	**Baumata**	**16.65**	**242**	LR	LR	21 54 10.5	
	comp=Z,419nm,18.4s,baz=288,slow=38						
GUMO	**Guam**	**17.21**	**21**	LR	LR	21 54 52.9	
	comp=Z,34nm,18.3s,baz=350,slow=38						
WRA	**Warramunga Arr**	**17.77**	**193**	P	**Pn**	**21 47 57.6**	**-2.2**
	0.3nm,0.3s,baz=18,slow=12,SNR=12						
	2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.99**	**219**	P	**P**	**21 48 22.7**	**-2.1**
	baz=48,slow=14,SNR=3.1						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**21.46**	**192**	P	**P**	**21 48 39.5**	**-1.3**
	3.0nm,0.8s,baz=21,slow=11,SNR=14						
	3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.25**	**300**	P	**P**	**21 52 02.3**	**+0.6**
	0.4nm,0.6s,baz=113,slow=7.7,SNR=4.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.59**	**322**	P	**P**	**21 55 02.6**	**+1.8**
	1.2nm,1.0s,baz=124,slow=7.2,SNR=4.4						
	1.2nm,1.0s						
AAK	**Ala-Archa**	**73.01**	**316**	LR	LR	22 30 30.1	
	comp=Z,47nm,20.4s,baz=202,slow=38						
KURBB	**Kurchatov Arra**	**73.53**	**325**	P	**P**	**21 55 25.2**	**+0.7**
	0.3nm,0.8s,baz=114,slow=4.5,SNR=2.3						
	0.3nm,0.8s						

*IDC **23** 21:48:51.5±2.0, 24°.17S×67°.02W, h159km±20km, mb3.9/1, mbtmp4.0/6, Error ellipse: s-maj=32.6km s-min=17.4km az=97.0*
*SJA **23** 21:48:51.2±1.0, 24°.19S×67°.17W, h200km, ML4.0, MW3.8*
*NEIC **23** 21:48:52.8±1.6, 24°.20S±0°.05×67°.3W±0°.1, h193km±9km, mb4.2/5, ML4.2(GUC), Error ellipse: s-maj=14.5km s-min=6.2km az=109.0*
*GUC **23** 21:48:54.3±0.7, 24°.15S×67°.37W, h192km±7km, ML4.2*
ISC 23 21:48:51.7±0.7, **24°.17S**±0°.04×**67°.26W**±0°.03, **h192**km±7km, **n87,** σ1§**66**/115, **6C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.84**	**94**	‖*e*P	**Pn**	**21 49 19.6**	**-0.6**
SALTA		**0.84**	**94**	*e*P	Pn	21 49 14.1	-6.2
SALTA				*e*P		21 49 19.7	
SALTA				*e*S		21 49 32.9	
AF01	**San Pedro de A**	**1.48**	**325**	Pn	**Pn**	**21 49 26.4**	**+1.5**
AF01				Sn	**S**	**21 49 52.3**	**+1.7**
AF01	**San Pedro de A**	**1.48**	**325**	*e*P	**Pn**	**21 49 26.7**	**+1.8**
AF01				*e*S	**S**	**21 49 50.4**	**-0.2**
AF01				IAML		21 49 58.6	
	comp=N,506nm,0.2s						
AF01	**San Pedro de A**	**1.48**	**325**	*e*P	**Pn**	**21 49 26.5**	**+1.5**
AF01				*e*S	**S**	**21 49 53.1**	**+2.5**
AF01				IAML		21 49 57.1	
	comp=Z,283nm,0.9s						
SLA	**San Lorenzo**	**1.69**	**109**	‖*e*P	**Pn**	**21 49 26.8**	**+0.1**
SLA	**San Lorenzo**	**1.69**	**109**	*e*P	**Pn**	**21 49 27.0**	**+0.3**
SLA				*e*S	**S**	**21 49 53.8**	**0.0**
HJA	**Humahuaca**	**1.95**	**61**	*e*P	**Pn**	**21 49 29.7**	**+0.1**
AZAP	**Zapla**	**2.00**	**92**	*e*P	**Pn**	**21 49 29.5**	**-0.5**
AZAP				*e*S	**S**	**21 50 08.1**	**+8.5**
FSA	**Cafayete**	**2.25**	**149**	*e*P	**Pn**	**21 49 32.7**	**+0.1**
GO02	**Mina Guanaco**	**2.34**	**245**		**Pn**	**21 49 35.2**	**+1.5**
GO02				Sn	**S**	**21 50 07.1**	**+0.9**
GO02	**Mina Guanaco**	**2.34**	**245**	‖*e*P	**Pn**	**21 49 35.1**	**+1.5**
GO02				*e*S	**S**	**21 50 06.9**	**+0.7**
GO02	**Mina Guanaco**	**2.34**	**245**	*e*P	**Pn**	**21 49 35.4**	**+1.7**
GO02				*e*S	**S**	**21 50 06.5**	**+0.2**
YJA	**Yavi**	**2.56**	**39**	*e*P	**Pn**	**21 49 36.3**	**0.0**
YJA	**Yavi**	**2.56**	**39**	*e*P	**Pn**	**21 49 37.0**	**+0.7**
PB06	**IPOC Station P**	**2.58**	**304**		**Pn**	**21 49 37.7**	**+1.5**
PB06	**IPOC Station P**	**2.58**	**304**	‖*e*P	**Pn**	**21 49 37.7**	**+1.5**
PB06				*e*S	**S**	**21 50 10.8**	**-0.1**
PB06				IAML		21 50 12.7	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**2.58**	**304**	*e*P	**Pn**	**21 49 37.4**	**+1.2**
PB06				*e*S	**S**	**21 50 10.8**	**-0.1**
PB06				IAML		21 50 12.3	
	comp=Z,681nm,0.3s						
PB14	**IPOC Station P**	**2.90**	**260**		**Pn**	**21 49 41.5**	**+1.3**
PB14	**IPOC Station P**	**2.90**	**260**	*e*P	**Pn**	**21 49 41.4**	**+1.3**
PB14				*e*S	**S**	**21 50 17.7**	**-0.1**
PB14				IAML		21 50 18.9	
	comp=Z,517nm,0.1s						
PB09	**IPOC Station P**	**2.99**	**322**		**Pn**	**21 49 42.7**	**+1.6**
PB09	**IPOC Station P**	**2.99**	**322**	*e*P	**Pn**	**21 49 42.9**	**+1.8**
PB09				*e*S	**S**	**21 50 19.4**	**-0.2**
PB09				IAML		21 50 24.1	
	comp=E,246nm,0.4s						
PB09	**IPOC Station P**	**2.99**	**322**	*e*P	**Pn**	**21 49 42.7**	**+1.6**
PB09				*e*S	**S**	**21 50 20.2**	**+0.7**
PB09				IAML		21 50 25.6	
	comp=Z,191nm,0.6s						
PB10	**IPOC Station P**	**3.09**	**282**		**Pn**	**21 49 43.9**	**+1.9**
PB10	**IPOC Station P**	**3.09**	**282**	*i* P	**Pn**	**21 49 43.6**	**+1.5**
PB10				*e*P	**Pn**	**21 49 43.6**	**+1.5**
PB10				*i* S	**S**	**21 50 20.9**	**-0.4**
PB10				IAML		21 50 23.1	
	comp=E,376nm,0.4s						
PB10	**IPOC Station P**	**3.09**	**282**	*e*P	**Pn**	**21 49 43.5**	**+1.5**
PB10				*e*S	**S**	**21 50 21.7**	**+0.4**
PB10				IAML		21 50 25.9	
	comp=Z,299nm,0.5s						
PB03	**IPOC Station P**	**3.12**	**312**		**Pn**	**21 49 43.8**	**+1.1**
PB03	**IPOC Station P**	**3.12**	**312**	‖*e*P	**Pn**	**21 49 43.6**	**+1.0**
PB03	**IPOC Station P**	**3.12**	**312**	*e*P	**Pn**	**21 49 43.7**	**+1.1**
PB03				*e*S	**S**	**21 50 21.4**	**-0.9**
PB03				IAML		21 50 26.0	
	comp=Z,469nm,0.1s						
AC02	**Maricunga**	**3.14**	**212**		**Pn**	**21 49 45.0**	**+1.7**
AC02	**Maricunga**	**3.14**	**212**	*e*P	**Pn**	**21 49 44.9**	**+1.7**
AC02	**Maricunga**	**3.14**	**212**	*e*P	Pn	21 49 33.0	-10
AC02				*e*S	**S**	**21 50 23.4**	**+0.1**
AC02				IAML		21 51 18.1	
	comp=Z,256nm,0.8s						
AC01	**Pan de Azucar**	**3.61**	**236**		**Pn**	**21 49 48.9**	**+0.5**
AC01	**Pan de Azucar**	**3.61**	**236**	‖*e*P	**Pn**	**21 49 48.7**	**+0.3**
AC01				*e*S	**S**	**21 50 31.4**	**-1.3**
AC01	**Pan de Azucar**	**3.61**	**236**	*e*P	**Pn**	**21 49 48.0**	**-0.3**
AC01				*e*S	**S**	**21 50 31.1**	**-1.7**
AC01				IAML		21 50 32.4	
	comp=Z,337nm,0.2s						
PB01	**IPOC Station P**	**3.73**	**326**		**Pn**	**21 49 50.5**	**+0.5**
PB01	**IPOC Station P**	**3.73**	**326**	‖*e*P	**Pn**	**21 49 50.4**	**+0.3**
PB01	**IPOC Station P**	**3.73**	**326**	*e*P	**Pn**	**21 49 50.6**	**+0.5**
PB01				*e*S	**S**	**21 50 36.0**	**+0.3**
PB01				IAML		21 50 38.1	
	comp=Z,167nm,0.2s						
PB02	**IPOC Station P**	**3.74**	**319**		**Pn**	**21 49 50.7**	**+0.5**
PB02	**IPOC Station P**	**3.74**	**319**	‖*e*P	**Pn**	**21 49 50.6**	**+0.5**
PB02	**IPOC Station P**	**3.74**	**319**	*e*P	**Pn**	**21 49 50.7**	**+0.5**
PB02				*e*S	**S**	**21 50 34.9**	**-0.9**
PB02				IAML		21 50 37.0	
	comp=Z,333nm,0.2s						
AC06	**Mina Casimiro**	**4.22**	**221**		**Pn**	**21 49 56.3**	**+0.1**
AC06	**Mina Casimiro**	**4.22**	**221**	*e*P	**Pn**	**21 49 56.2**	**+0.1**
PATCX	**Punta Patache**	**4.28**	**321**		**Pn**	**21 49 57.5**	**+0.7**
PATCX	**Punta Patache**	**4.28**	**321**	*e*P	**Pn**	**21 49 56.9**	**0.0**
PATCX	**Punta Patache**	**4.28**	**321**	*e*P	**Pn**	**21 49 57.4**	**+0.5**
PATCX				*e*S	**S**	**21 50 41.7**	**-6.3**
PATCX				IAML		21 50 57.9	
	comp=Z,60nm,0.4s						
GO03	**Copiapo**	**4.33**	**218**		**Pn**	**21 49 57.6**	**+0.1**
GO03	**Copiapo**	**4.33**	**218**	*e*P	**Pn**	**21 49 57.5**	**0.0**
GO03	**Copiapo**	**4.33**	**218**	*e*P	**Pn**	**21 49 57.7**	**+0.1**
GO03				*e*S	**S**	**21 50 48.1**	**-1.1**
GO03				IAML		21 50 50.5	
	comp=Z,189nm,0.2s						
PB08	**IPOC Station P**	**4.38**	**336**

STKA	Stephens Creek	38.44	241	P		P	22 15 01.1	+0.7
	1.3nm,0.4s,baz=101,slow=10,SNR=6.3							
	1.3nm,0.4s							
BBOO	Buckleboo	43.22	241	P		P	22 15 38.0	-0.4
BBOO				IAmb		IAmb	22 16 00.3	
	comp=Z,6.0nm,1.1s							
WB0	Warramunga Arr	44.31	260	P		P	22 15 46.3	-0.7
WB0				IAmb		IAmb	22 15 50.3	
	comp=Z,2.5nm,0.7s							
WRA	Warramunga Arr	44.34	259	P		P	22 15 46.1	-1.2
	comp=Z,1.0nm,0.5s,baz=93,slow=7.3,SNR=28							
	comp=Z,1.0nm,0.5s							
AS31	Alice Springs	44.53	254	P		P	22 15 48.0	-0.7
AS31				IAmb		IAmb	22 15 48.9	
	comp=Z,3.3nm,0.7s							
ASAR	Alice Springs	44.53	254	P		P	22 15 47.6	-1.1
ASAR	Alice Springs	44.53	254	P		P	22 15 48.4	-0.3
	comp=Z,8.8nm,0.4s,baz=93,slow=7.6,SNR=147							
	comp=Z,8.8nm,0.4s							
MTN	Manton Dam	48.47	268	P		P	22 16 17.8	-0.8
KNRA	Kununurra	50.18	264	P		P	22 16 29.9	-1.2
FITZ	Fitzroy Crossi	52.73	260	P		P	22 16 49.4	-0.2
MBWA	Marble Bar	57.80	256	P		P	22 17 23.6	-1.3
MBWA				IAmb		IAmb	22 17 50.4	
	comp=Z,8.0nm,1.1s							
SNAA	Sanae	90.82	179	P		P	22 20 28.4	-1.7
BUR08	Bucovina Ar. S	144.25	332	PKPbc		PKPab	22 26 58.3	-1.1
BURAR	Bucovina Array	144.27	332	PKPbc		PKPdf	22 26 58.4	-0.9
MMAI	Mount Meron Ar	145.75	303	PKPbc		PKPbc	22 27 02.8	-1.2
	comp=Z,1.8nm,0.7s,baz=76,slow=6.1,SNR=2.2							
GERES	GERESS Array B	147.32	345	PKPbc		PKPbc	22 27 06.3	-1.5
	comp=Z,0.3nm,0.4s,baz=42,slow=2.9,SNR=2.8							
FUORN	Ofenpass-Fuorn	150.20	347	PKPbc		PKPbc	22 27 14.2	-0.9

IDC 23 22:19:53.9±1.6, 2°.52S×138°.34E, h0km, mb3.4/2, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=30.4km s-min=18.5km az=176.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.37	90	Pn	Pn	22 20 34.6	+0.6
	2.1nm,0.3s,baz=234,slow=8.9,SNR=6.6						
JAY				Lg	Lg	22 21 08.7	
	1.1nm,0.3s,baz=180,slow=19,SNR=4.3						
	10nm,0.5s						
WRA	Warramunga Arr	17.75	192	P	Pn	22 24 02.2	-0.5
	0.1nm,0.3s,baz=16,slow=12,SNR=5.3						
	0.2nm,0.6s						
ASAR	Alice Springs	21.46	191	P	P	22 24 44.4	+0.3
	0.3nm,0.5s,baz=16,slow=9.3,SNR=9.9						
	0.3nm,0.5s						
MKAR	Makanchi Array	69.41	322	P	P	22 31 03.8	-0.1
	0.9nm,0.7s,baz=106,slow=7.8,SNR=4.6						
	0.9nm,0.7s						

*MDD **23** 22:20:47.7±0.6, 41°.14N×8°.44W, h11km, mb_Lg2.4/7, Error ellipse: s-maj=5.6km s-min=2.5km az=70.0*
*INMG **23** 22:20:48.6±1.5, 41°.15N×8°.44W, h14km±3km, ML1.6, Error ellipse: s-maj=4.3km s-min=1.4km az=85.0, #DIST_RANGE: LOCAL #IPMA_REGION: SE Valongo #FELT: II (MM56) at Gondomar*
*SFS **23** 22:20:49.7, 41°.11N×8°.39W, h27km, ML3.3/6, ML2.5/6, MLv2.0/6*

ISC 23 22:20:48.3±1.1, 41°.16N±0°.02×8°.44W±0°.04, h26km±12km, n28, σ1°.68/55, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLO	Lamas de Olo	0.53	66	*e*Pg	Pb	22 20 58.7	-0.5
POLO				*e*Sg	Sb	22 21 06.5	-0.1
POLO				*i* IAML		22 21 08.3	
POLO				*i* IAML		22 21 08.4	
POLO				*i* IAML		22 21 08.4	
PVIS	Viseu	0.61	137	*e*Pg	Pb	22 20 59.6	-0.8
PVIS				*e*Sg	Sb	22 21 07.9	-0.7
PCAB	Cabril	0.63	30	*e*Pg	Pb	22 21 00.5	-0.3
PCAB				*e*Sg	Sb	22 21 08.7	-0.7
PCAB				*i* IAML		22 21 11.3	
PCAB				*i* IAML		22 21 11.3	
PCAB				*i* IAML		22 21 11.5	
ELOB	Lobios	0.76	22	Pg	Pb	22 21 02.8	-0.2
ELOB				Sg	Sb	22 21 13.1	0.0
ELOB				*i* IVmb_Lg		22 21 14.5	
PGAV	Gavieira, Arco	0.81	9	*e*P	Pb	22 21 03.5	-0.4
PGAV				*e*S	Sb	22 21 14.9	+0.3
PGAV				*i* IAML		22 21 15.3	
PGAV				*i* IAML		22 21 15.5	
PGAV				*i* IAML		22 21 16.7	
EZAM	Zamans	1.00	349	Pg	Pb	22 21 06.7	-0.4
EZAM				Sg	Sn	22 21 20.4	+0.3
MTE	Manteigas	1.02	138	*e*P	Pn	22 21 07.1	0.0
MTE				*e*S	Sn	22 21 20.5	-0.1
MTE				*i* IAML		22 21 21.8	
MTE				*i* IAML		22 21 22.4	
MTE				*i* IAML		22 21 22.6	
MVO	Moncorvo	1.07	89	*e*P	Pn	22 21 07.9	+0.1
MVO				*e*S	Sn	22 21 21.8	0.0
MVO				*i* IAML		22 21 22.7	
MVO				*i* IAML		22 21 23.8	
MVO				*i* IAML		22 21 23.9	
PCAS	Casmilo, Conde	1.11	182	*e*P	Pb	22 21 08.5	-0.3
PCAS				*e*S	Sn	22 21 23.0	+0.3
PCAS				*i* IAML		22 21 25.2	
PCAS				*i* IAML		22 21 25.7	
PCAS				*i* IAML		22 21 29.4	
PBRG	Braganca	1.43	63	*e*Sg	Sb	22 21 32.9	+0.7
PBRG				*i* IAML		22 21 33.8	
PBRG				*i* IAML		22 21 33.8	
PBRG				*i* IAML		22 21 33.9	
ECAL	Calabor	1.50	58	Pn	Pn	22 21 13.9	+0.2
ECAL				Sn	Sn	22 21 31.4	-1.1
ECAL	Calabor	1.50	58	Pg	Pb	22 21 15.9	+0.3
ECAL				Sn	Sn	22 21 31.5	-1.0
ECAL				Sg	Sb	22 21 35.1	+0.9
ECAL				*i* IVmb_Lg		22 21 54.5	
PCBR	Castelo Branco	1.51	150	*e*Pn	Pb	22 21 14.1	-1.6
PCBR				*e*Sg	Sb	22 21 35.0	+0.5
PCBR				*i* IAML		22 21 36.5	
PCBR				*i* IAML		22 21 37.5	
PCBR				*i* IAML		22 21 40.5	
PSARD	Sardoal	1.57	172	*e*Pg	Pb	22 21 17.4	+0.6
PSARD				*e*Sg	Sb	22 21 36.3	+0.1
PSARD				*i* IAML		22 21 37.7	
PSARD				*i* IAML		22 21 38.4	
PSARD				*i* IAML		22 21 39.4	
EAGO	Agolada(Pontev	1.66	9	Pn	Pn	22 21 15.9	+0.1
EAGO				Pg	Pb	22 21 18.2	-0.1
EAGO				Sn	Sn	22 21 35.8	-0.6
EAGO				Sg	Sb	22 21 40.3	+1.5
EAGO				*i* IVmb_Lg		22 21 43.6	
EMAZ	Mazaricos	1.83	348	Pn	Pn	22 21 19.0	+0.9
EMAZ				Pg	Pb	22 21 20.5	-0.6
EMAZ				Sg	Sb	22 21 45.0	+1.3
EMAZ				*i* IVmb_Lg		22 21 46.7	
PMRV	Marv??o	1.91	155	*e*Pg	Pb	22 21 21.9	-0.6
PMRV				*e*Sg	Sb	22 21 45.8	0.0
PMRV				*i* IAML		22 21 49.4	
PMRV				*i* IAML		22 21 51.5	
PMRV				*i* IAML		22 21 54.2	
PMTG	Montargil	2.10	175	*e*Sg	Sb	22 21 51.8	+0.5
PMTG				*i* IAML		22 21 54.7	
PMTG				*i* IAML		22 21 58.5	
PMTG				*i* IAML		22 21 59.0	
PESTR	Estremoz	2.38	164	*e*Sg	Sb	22 22 01.1	+1.6
PESTR				*i* IAML		22 22 04.7	
PESTR				*i* IAML		22 22 05.2	
PESTR				*i* IAML		22 22 06.8	
EBAD	Badajoz	2.64	155	Pn	Pn	22 21 29.0	-0.3
EBAD				Sn	Sn	22 21 57.8	-2.7
EBAD	Badajoz	2.64	155	Pn	Pn	22 21 29.2	-0.1
EBAD				*i* IVmb_Lg		22 21 58.6	
EBAD				Sn	Sn	22 21 58.6	-1.9
EBAD				Sg	Sb	22 22 09.8	+2.9
PBAR	Barrancos	3.17	160	Pn	Pn	22 21 36.2	-0.4
PBAR	Barrancos	3.17	160	*e*Sg	Sb	22 22 25.6	+3.3
PBAR				*i* IAML		22 22 30.9	
PBAR				*i* IAML		22 22 33.6	
PBAR				*i* IAML		22 22 52.2	
PAB	San Pablo	3.52	116	Pn	Pn	22 21 40.9	-0.6
PAB				Sn	Sn	22 22 20.8	-1.6
PAB				Sg	Sb	22 22 37.9	+5.6
PAB				*i* IVmb_Lg		22 22 43.2	
EGRO	El Granado	3.70	168	Pn	Pn	22 21 43.1	-0.7
ECAB	El Cabril	3.87	142	Pn	Pn	22 21 45.5	-0.7
ECAB	El Cabril	3.87	142	Pn	Pn	22 21 45.4	-0.7
ECAB				Sn	Sn	22 22 27.8	-3.0
ECAB				Sg	Sb	22 22 49.2	+7.0
ECAB				*i* IVmb_Lg		22 23 18.3	
EADA	Adamuz	4.22	134	Pn	Pn	22 21 50.4	-0.7

*IDC **23** 22:44:26.0±0.7, 12°.89S×45°.37E, h0km, mb3.9/10, mbtmp3.9/11, ML5.3/2, MS3.0/1, Error ellipse: s-maj=23.1km s-min=19.5km az=133.0*
*NEIC **23** 22:44:27.6±1.4, 12°.76S±0°.07×45°.37E±0°.10, h10km±1km, mb4.5/23, Error ellipse: s-maj=16.0km s-min=11.8km az=289.0*

ISC 23 22:44:26.8±0.4, 12°.92S±0°.06×45°.36E±0°.07, h10km, n63, σ1°.85/64, mb4.3/19, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.47	97	P	Pn	22 45 33.4	-1.3
OPO	Ambohidratompo	5.89	163	Pn	Pn	22 45 55.4	+1.0
	18nm,0.3s,baz=333,slow=13,SNR=1600						
OPO				Sn	Sn	22 46 57.2	-4.9
	11nm,0.3s,baz=249,slow=20,SNR=12						
OPO	Ambohidratompo	5.89	163	P	Pn	22 45 55.5	+1.2
FIRM	Firavahana	5.93	166	P	Pn	22 45 56.4	+1.4
ATG	Ambohiby	5.98	172	P	Pn	22 45 56.5	+0.9
ABPO	Ambohimpanom	6.33	164	Pn	Pn	22 46 01.2	+0.8
ABPO					Sn	22 47 08.4	-4.4
ABPO	Ambohimpanom	6.33	164	P	Pn	22 46 01.1	+0.8
MDSM	Mandiavato	6.34	166	P	Pn	22 46 01.7	+1.2
DGRM	Ambatolahisoa	6.39	171	P	Pn	22 46 02.4	+1.2
AVY	Angavokely	6.40	159	P	Pn	22 46 01.9	+0.5
ABM	Ambohimiarambe	7.09	165	P	Pn	22 46 11.9	+1.0
VOI	Vohitsoka	9.04	172		Pn	22 46 38.2	+0.6
VOI	Vohitsoka	9.04	172	P	Pn	22 46 38.0	+0.3
FOMA	Nahampoana Res	12.09	173	Pn	Pn	22 47 19.0	-0.3
KIBK	Kibwezi	12.76	325		Pn	22 47 25.2	-3.3
MSEY	Mahe Island	12.92	52	Pn	Pn	22 47 27.3	-3.4
LSZ	Lusaka	16.82	260		Pn	22 48 22.4	-0.4
LSZ	Lusaka	16.82	260	Pn	Pn	22 48 22.9	+0.2
	1.0nm,0.3s,baz=80,slow=8.5,SNR=20						
LSZ				Sn	Sn	22 51 19.7	-10
	0.4nm,0.3s,baz=0.2,slow=23,SNR=2.6						
	7.4nm,0.6s						
LSZ	Lusaka	16.82	260	*i* P	Pn	22 48 16.9	-5.9
MUSN	Musina, Limpop	17.45	236	*i* P	P	22 48 34.0	+2.2
BLWY	Bulawayo	17.58	244	*i* P	Pn	22 48 30.6	-1.7
LODK	Lodwar	19.03	328	P	P	22 48 46.4	-2.8
POGA	Pongola	19.22	220	P	P	22 48 52.5	+1.3
POGA				IAmb	IAmb	22 49 00.9	
	comp=Z,28nm,1.3s						
MREMI	Moremi	19.56	238	P	P	22 48 55.9	+0.9
MREMI				IAmb	IAmb	22 49 09.8	
	comp=Z,11nm,0.7s						
KHWEE	KHWEE	21.00	242		P	22 49 11.5	+0.8
KHWEE				IAmb	IAmb	22 49 17.1	
	comp=Z,15nm,0.8s						
PHDHD	Phuduhudu	21.22	247	P	P	22 49 14.0	+1.0
LPHEP	Lephephe	21.22	238		P	22 49 13.8	+0.8
LPHEP				IAmb	IAmb	22 49 19.4	
	comp=Z,16nm,0.8s						
LBTB	Lobatse	22.19	234	P	P	22 49 24.6	+1.0
LBTB				IAmb	IAmb	22 49 54.7	
	comp=Z,27nm,1.4s						
LBTB	Lobatse	22.19	234	P	P	22 49 24.6	+1.1
	comp=Z,6.0nm,0.6s,baz=73,slow=10,SNR=11						
LBTB				S	S	22 53 22.0	-6.1
	comp=Z,2.8nm,0.9s,baz=212,slow=20,SNR=2.3						
	comp=Z,6.0nm,0.6s						
KDWAN	Kaudwane	22.22	239	P	P	22 49 25.0	+1.1
KDWAN				IAmb	IAmb	22 49 32.8	
	comp=Z,57nm,1.5s						
FURI	Furi	22.66	343	LR	LR	22 56 41.3	
	comp=Z,43nm,20.4s,baz=139,slow=32						
QNGWA	Qangwa	24.12	251	P	P	22 49 42.6	-0.5
QNGWA				IAmb	IAmb	22 49 43.5	
	comp=Z,13nm,1.5s						
BOSA	Boshof	24.38	227	P	P	22 49 46.0	+0.5
BOSA				IAmb	IAmb	22 49 49.2	
	comp=Z,6.8nm,0.7s						
BOSA	Boshof	24.38	227	P	P	22 49 46.6	+1.1
	comp=Z,3.7nm,0.5s,baz=56,slow=9.3,SNR=22						
	comp=Z,3.7nm,0.5s						
BOSA	Boshof	24.38	227	*i* P	P	22 49 49.4	+3.9
GRTLG	Ghanzi	24.53	247		P	22 49 47.9	+1.0
LKGWB	Lokgwabe	25.41	241		P	22 49 51.9	-3.0
KOOLE	Kule	25.91	244		P	22 50 00.1	+0.6
KOOLE				IAmb	IAmb	22 50 17.9	
	comp=Z,11nm,0.8s						
SUR	Sutherland	29.68	225	P	P	22 50 34.1	+0.9
KAAM	Kaadhehdhoo	30.47	66	P	P	22 50 39.4	-0.7
BRTR	Keskin Array B	53.49	349	P	P	22 53 48.9	+1.3
	comp=Z,0.4nm,0.5s,baz=166,slow=15,SNR=1.9						
	comp=Z,0.4nm,0.5s						
CHGR	Chuyangaron	55.92	22	P	P	22 54 04.6	-0.6
CHGR				IAmb	IAmb	22 54 15.9	
	comp=Z,7.9nm,0.9s						
KKAR	Karatay Array	60.32	21	P	P	22 54 36.0	+0.2
CMAR	Chiang Mai Arr	61.34	61	P	P	22 54 44.8	+1.5
	comp=Z,0.4nm,0.3s,baz=253,slow=5.0,SNR=1.1						
	comp=Z,0.4nm,0.3s						
BURAR	Bucovina Array	62.89	345	P	P	22 54 53.1	-0.1
AB31	Akbulak array	63.23	11	P	P	22 54 54.8	-0.5
AB31				IAmb	IAmb	22 54 57.9	
	comp=Z,4.3nm,0.8s						
ABKAR	Akbulak array	63.23	11	P	P	22 54 54.9	-0.3
SNAA	Sanae	65.40	195	P	P	22 55 11.6	+2.2
GERES	GERESS Array B	67.57	338	P	P	22 55 23.3	-0.3
	comp=Z,0.4nm,0.7s,baz=177,slow=4.9,SNR=3.4						
	comp=Z,0.4nm,0.7s						
JAGI	Jajag, Banyuwa	67.58	94	P	P	22 55 24.1	-0.1
MKAR	Makanchi Array	68.03	26	P	P	22 55 25.4	-1.0
MKAR	Makanchi Array	68.03	26	P	P	22 55 26.8	+0.4
	comp=Z,0.6nm,0.7s,baz=220,slow=3.2,SNR=3.6						
	comp=Z,0.6nm,0.7s						
ESDC	Sonseca Array	69.56	321	P	P	22 55 37.8	+1.7
	comp=Z,1.1nm,1.0s,baz=131,slow=4.2,SNR=3.2						
	comp=Z,1.1nm,1.0s						
ARTI	Arti	69.90	8	P	P	22 55 38.0	+0.3
ARTI				IAmb	IAmb	22 55 39.9	
	comp=Z,4.6nm,0.9s						
QSPA	South Pole Qui	77.18	180	P	P	22 56 22.9	+2.1
QSPA				IAmb	IAmb	22 56 26.5	
	comp=Z,6.2nm,1.1s						
SONM	Songino Array	81.14	37	P	P	22 56 43.7	+1.0
	comp=Z,0.9nm,1.1s,baz=160,slow=4.6,SNR=2.6						
	comp=Z,0.9nm,1.1s						
HHC	Hu-ho-hao-te	81.16	45	*e*P	P	22 56 44.8	+1.9
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAR	Alice Springs	83.60	113	P	P	22 56 56.5	+0.5
ASAR	Alice Springs	83.60	113	P	P	22 56 57.0	+0.9
	comp=Z,0.9nm,0.5s,baz=263,slow=4.8,SNR=18						
	comp=Z,0.9nm,0.5s						
WRA	Warramunga Arr	84.74	109	P	P	22 57 02.5	+0.6
	comp=Z,0.8nm,0.7s,baz=259,slow=3.0,SNR=9.7						
	comp=Z,0.8nm,0.7s						
WR8	Warramunga Arr	84.89	109	P	P	22 57 01.9	-0.7
TXAR	Lajitas Array	146.96	305	PKPbc	PKPbc	23 04 11.8	+1.4
	comp=Z,0.6nm,0.9s,baz=121,slow=4.8,SNR=4.1						
NVAR	Mina Array Bea	150.73	333	PKPbc	PKPdf	23 04 18.1	+3.6
	comp=Z,0.3nm,0.5s,baz=26,slow=4.7,SNR=2.8						

*IDC **23** 23:01:54.3±1.7, 2°.57S×138°.79E, h0km, mb3.6/5, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=76.0km s-min=26.6km az=90.0*

ISC 23 23:01:59.7±1.4, 2°.6S±0°.2×138°.7E±0°.5, h35km, n6, σ0°.53/6, mb3.6/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.74	194	P	P	23 06 05.1	+0.6
	0.1nm,0.3s,baz=10,slow=13,SNR=2.6						
	0.3nm,0.3s						
ASAR	Alice Springs	21.43	192	P	P	23 06 44.3	-0.6
	0.6nm,0.7s,baz=25,slow=11,SNR=5.3						
	0.6nm,0.7s						
MKAR	Makanchi Array	69.74	322	P	P	23 13 06.4	+0.2
	1.0nm,0.7s,baz=116,slow=8.1,SNR=6.0						
	1.0nm,0.7s						
ZALV	Zalesovo Beam	71.88	330	P	P	23 13 18.7	-0.4
	0.3nm,0.3s,baz=134,slow=4.2,SNR=2.1						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	73.68	325	P	P	23 13 29.8	0.0
	0.4nm,0.8s,baz=108,slow=4.5,SNR=4.5						
	0.4nm,0.8s						
ILAR	Eielson Array	85.75	24	P	P	23 14 35.1	+0.1
	0.3nm,0.7s,baz=256,slow=5.4,SNR=1.7						
	0.3nm,0.7s						

IDC 23 23:02:56.9±4.9, 2°.32S×138°.79E, h0km, mb3.5/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=198.3km s-min=31.6km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.05	194	P	Pn	23 07 07.7	-1.6
	0.1nm,0.3s,baz=16,slow=12,SNR=5.0						
	0.8nm,0.6s						
ASAR	Alice Springs	21.74	192	P	P	23 07 51.0	+0.9
	1.2nm,0.6s,baz=18,slow=10,SNR=5.4						
	1.2nm,0.6s						
MKAR	Makanchi Array	69.53	322	P	P	23 14 07.6	0.0
	0.5nm,0.7s,baz=120,slow=6.5,SNR=2.3						
	0.5nm,0.7s						

*NEIC **23** 23:09:38.1±2.0, 19°.818N±0°.005×155°.79W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=17.0*

HVO 23 23:09:38.4±2.6, 19°.85N±0°.01×155°.80W±0°.02, h12km±3km, ML2.4/19, ML2.5/35(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=106.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	Hualalai	0.17	191		Pg	23 09 42.7	+0.3
HPAH	Hawaii Prepara	0.21	28		Pg	23 09 42.9	0.0
HPAH					Sg	23 09 46.1	+0.1
POHA	Pohakuloa	0.27	109		Pg	23 09 43.6	-0.5
POHA					Sg	23 09 48.1	+0.2
POHA				IAML		23 09 48.8	
	723nm,0.2s						
KKH	Kailua Kona	0.28	227		Pg	23 09 44.0	-0.1
KKH					Sg	23 09 48.2	+0.2
ALEP	Alea Permanent	0.34	154		Pg	23 09 45.4	+0.1
MHA	Mahukona	0.35	344		Pg	23 09 45.6	+0.1
MHA					Sg	23 09 50.9	+0.7
HMH	Humu'ula Sheep	0.39	129		Pg	23 09 46.0	-0.2
HMH					Sg	23 09 51.9	+0.5
HMH				IAML		23 09 52.3	
	comp=N,485nm,0.5s						
HMH				IAML		23 09 52.3	
	comp=E,431nm,0.8s						
MWH	Mokuaweoweo	0.41	152		Pg	23 09 45.8	-0.9
MWH				IAML		23 09 59.1	
	comp=N,463nm,0.4s						
MWH				IAML		23 10 01.2	
	comp=E,537nm,0.4s						
MLH	Mauna Loa	0.53	132		Pg	23 09 47.7	-1.0
MLH					Sg	23 09 54.8	-1.0
MLH				IAML		23 09 55.7	
	comp=N,316nm,0.4s						
MLH				IAML		23 10 05.8	
	comp=E,240nm,1.2s						
AIN	Ainahou	0.57	146		Pg	23 09 48.3	-1.3
KHU	Kahuku	0.62	164		Pg	23 09 48.8	-1.8
KHU					Sg	23 09 56.8	-2.1
RSD	Rainshed	0.62	128		Pg	23 09 49.0	-1.5
RSD				IAML		23 09 57.5	
	comp=E,228nm,1.2s						
UWE	Uwekahuna	0.64	131		Pg	23 09 49.5	-1.3
WRMHI	West Rim	0.65	133		Pg	23 09 49.1	-1.9
WRMHI					Sg	23 09 57.1	-2.4
UWB	Uwekahuna Bluf	0.65	130		Pg	23 09 49.5	-1.5
OBL	Observatory Le	0.65	131		Pg	23 09 49.1	-1.9
OBL					Sg	23 09 57.1	-2.5
SBLHI	Steaming Bluff	0.65	130		Pg	23 09 49.6	-1.5
SDHHI	Sand Hill	0.66	134		Pg	23 09 49.4	-1.8
HATHI	Halema'uma'u T	0.66	130		Pg	23 09 49.6	-1.7
HATHI				IAML		23 10 10.9	
	comp=N,260nm,1.2s						
HATHI				IAML		23 10 11.4	
	comp=E,222nm,0.9s						
BYL	Byron's Ledge	0.67	130	Pg	Pg	23 09 49.5	-1.9
BYL				IAML		23 10 09.1	
	comp=E,178nm,1.1s						
RIM	Rim	0.67	132		Pg	23 09 50.0	-1.4
RIM					Sg	23 09 58.4	-1.9
KKO	Keanakako'i	0.68	131		Pg	23 09 50.1	-1.4
HLP	Hilina Pali	0.72	140	Pg	Pg	23 09 50.2	-2.2
PUH	Pauahi	0.73	130	Pg	Pg	23 09 50.6	-1.8
PUH				IAML		23 10 15.7	
	comp=N,139nm,1.3s						
KNHH	Kane Nui o Ham	0.76	128		Pg	23 09 50.5	-2.5
JOKA	Jonika Flow	0.86	119		Pg	23 09 52.3	-2.6
JOKA				IAML		23 09 59.0	
	comp=E,130nm,1.1s						
JOKA				IAML		23 10 19.2	
	comp=N,222nm,1.4s						

HEL 23 23:16:25.2±0.2, 67°.78N×20°.14E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.75	68	PG	Pg	23 16 38.6	-0.9
LANU				SG	Sg	23 16 48.2	-1.1
KIF	Kilpisjarvi	1.26	11	PG	Pg	23 16 48.6	-0.7
KIF				MSG		23 17 04.3	
	comp=Z,1.6nm,0.2s						
KIF				SG	Sg	23 17 04.7	-0.8
PAJU	Pajala	1.38	122	PG	Pg	23 16 50.1	-1.4
PAJU				SG	Sg	23 17 08.2	-1.1
HEF	Hetta	1.46	63	PG	Pn	23 16 51.4	-1.5
	baz=247						
HEF				MSG		23 17 09.3	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sg	23 17 10.3	-1.8
ERTU	Ertsjaerv	1.47	146	PN	Pn	23 16 52.3	-0.6
ERTU				SN	Sg	23 17 11.9	-0.3
TRO	Tromso	1.92	347	SG	Sb	23 17 24.8	-0.6
TOF	Tornio	2.37	134	MSG		23 17 35.4	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	23 17 38.5	+0.1
RNF	Rovaniemi	2.57	114	SG	Sb	23 17 43.1	-1.1
ARA0	ARCESS Array S	2.64	46	SB	Sn	23 17 43.0	+1.4
RAJF	Raja-Jooseppi	3.14	73	SG	Sb	23 18 01.6

MGAN	**Managua**	**0.54**	**66**	S	Sn	23 20 41.5	+3.0
CNGA	**Al SSO del Vol**	**0.56**	**5**	P	Pn	23 20 30.9	+0.9
CNGA				S	Sn	23 20 41.7	+2.6
CNGN	**Cerro Negro**	**0.57**	**5**	S	Sn	23 20 42.3	+3.0
CNGN	**Cerro Negro**	**0.57**	**5**	P	Pn	23 20 31.7	+1.5
WILN	**Americas 2**	**0.60**	**67**	P	Pn	23 20 31.5	+1.1
WILN				S	Sn	23 20 42.8	+3.0
NANN	**Nandasmo**	**0.62**	**89**	S	Sn	23 20 42.8	+2.6
PKGN	**Cerro Pekin**	**0.77**	**343**	P	Pn	23 20 33.5	+1.0
PKGN				S	Sn	23 20 45.8	+2.4
LIMN	**Finca el Limon**	**1.19**	**18**	P	Pn	23 20 38.3	+0.2
LIMN				S	Sn	23 20 54.1	+0.8
MATN	**Matagalpa**	**1.28**	**39**	P	Pn	23 20 38.7	-0.6
MATN	**Matagalpa**	**1.28**	**39**	S	Sn	23 20 55.7	+0.1

*MDD **23** 23:44:43.9±0.3, 37.°07N×5.°34W, h3km±2km, mb_Lg2.3/19, Error ellipse: s-maj=2.8km s-min=1.4km az=179.0*
*IGIL **23** 23:44:43.7, 37.°07N×5.°34W, h3km*
*SFS **23** 23:44:44.0, 36.°98N×5.°29W, h12km, ML2.5/12, ML2.2/16, MLv2.0/16*
*INMG **23** 23:44:44.1±1.7, 37.°00N×5.°31W, h12km±3km, ML1.9, Error ellipse: s-maj=3.0km s-min=1.7km az=172.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*CNRM **23** 23:44:44.4, 36.°63N×5.°83W, h181km*

ISC 23 23:44:42.3±0.9, 36.°96N±0.°02×5.°33W±0.°02, h13km±6km, n62, σ0.°91/120, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	**Villanueva de**	**0.15**	**56**	Pg	**Pg**	**23 44 45.2**	**-0.9**
UMV12				Sg	**Sg**	**23 44 49.2**	**+0.5**
E1302	**La Puebla de C**	**0.18**	**23**	Pg	**Pg**	**23 44 46.6**	**+0.1**
E1302				Sg	**Sg**	**23 44 49.3**	**-0.2**
E1302				*i* IVmb_Lg		23 44 52.7	
ESPR	**Espera**	**0.43**	**258**	Pg	**Pn**	**23 44 53.4**	**-0.7**
ESPR				Sg	**Sn**	**23 45 01.2**	**-0.5**
ESPR	**Espera**	**0.43**	**258**	Pg	**Pn**	**23 44 53.6**	**-0.5**
ESPR				Sg	**Sb**	**23 44 59.5**	**+1.5**
ESPR				*i* IVmb_Lg		23 45 07.9	
EMAL	**Malaga-Limoner**	**0.75**	**105**	Pg	**Pg**	**23 44 56.0**	**-0.9**
EMAL				Sg	**Sg**	**23 45 05.1**	**-1.7**
EGOR	**Sierra Gorda,**	**0.99**	**81**	Pg	**Pg**	**23 45 01.8**	**+0.4**
EGOR				Sg	**Sb**	**23 45 14.5**	**+0.1**
EGOR	**Sierra Gorda,**	**0.99**	**81**	Pg	**Pg**	**23 45 01.8**	**+0.4**
EGOR				Sg	**Sn**	**23 45 16.1**	**+0.3**
EGOR				*i* IVmb_Lg		23 45 20.0	
ECAB	**El Cabril**	**1.11**	**357**	Pg	**Pb**	**23 45 03.4**	**0.0**
ECAB				Sg	**Sn**	**23 45 18.6**	**-0.2**
ECAB	**El Cabril**	**1.11**	**357**	Pg	**Pg**	**23 45 03.6**	**-0.1**
ECAB				Sg	**Sb**	**23 45 17.2**	**-0.5**
ECAB				*i* IVmb_Lg		23 45 21.0	
EMIN	**Mina Concepcio**	**1.33**	**307**	Pn	**Pn**	**23 45 06.7**	**+0.1**
EMIN				Sn	**Sg**	**23 45 25.7**	**+0.4**
EMIN	**Mina Concepcio**	**1.33**	**307**	Pg	**Pn**	**23 45 06.7**	**+0.1**
EMIN				Sg	**Sg**	**23 45 26.1**	**+0.7**
EMIN				*i* IVmb_Lg		23 45 28.9	
EADA	**Adamuz**	**1.34**	**26**	Pn	**Pn**	**23 45 06.5**	**-0.2**
EADA				Sb	**Sb**	**23 45 38.4**	**-0.7**
EADA	**Adamuz**	**1.34**	**26**	Pg	**Pn**	**23 45 06.5**	**-0.2**
EADA				Sg	**Sn**	**23 45 24.4**	**-0.1**
EADA				*i* IVmb_Lg		23 45 26.9	
ELGU	**Los Guajares,**	**1.37**	**93**	Pn	**Pb**	**23 45 08.4**	**+0.6**
ELGU	**Los Guajares,**	**1.37**	**93**	Pg	**Pg**	**23 45 08.8**	**+0.1**
ELGU				Sg	**Sg**	**23 45 27.2**	**+0.7**
ELGU				*i* IVmb_Lg		23 45 34.7	
EQTA	**Presa de Quent**	**1.53**	**80**	Pn	**Pb**	**23 45 10.6**	**0.0**
EQTA				Sn	**Sb**	**23 45 29.9**	**+0.1**
EQUE	**Quentar**	**1.53**	**80**	Pg	**Pb**	**23 45 11.2**	**+0.7**
EQUE				Sg	**Sg**	**23 45 33.2**	**+1.5**
EQUE				*i* IVmb_Lg		23 45 33.7	
E0803	**Jimena (Jaen)**	**1.72**	**59**	Pn	**Pn**	**23 45 11.9**	**0.0**
E0803				Pg	**Pg**	**23 45 15.1**	**-0.2**
E0803				Sn	**Sb**	**23 45 34.7**	**-0.5**
E0803				Sg	**Sg**	**23 45 38.4**	**+0.7**
EGRO	**El Granado**	**1.81**	**289**	Pn	**Pn**	**23 45 13.4**	**+0.3**
EGRO	**El Granado**	**1.81**	**289**	Pn	**Pg**	**23 45 13.3**	**+0.3**
EGRO				Pg	**Pb**	**23 45 15.9**	**+0.7**
EGRO				Sg	**Sg**	**23 45 40.8**	**+0.4**
EGRO				*i* IVmb_Lg		23 45 43.8	
PBAR	**Barrancos**	**1.82**	**312**	Pn	**Pn**	**23 45 13.3**	**+0.2**
PBAR				Sn	**Sn**	**23 45 36.5**	**+0.5**
PBAR	**Barrancos**	**1.82**	**312**	*e*Pn	**Pn**	**23 45 13.4**	**+0.2**
PBAR				*e*Sn	**Sn**	**23 45 36.9**	**+0.8**
PBAR				*e*Sg	**Sg**	**23 45 40.3**	**-0.4**
PBAR				*i* IAML		23 45 43.7	
PBAR				*i* IAML		23 45 44.8	
PBAR				*i* IAML		23 45 50.7	
E0802	**Ubeda,Jaen**	**1.89**	**55**	Pn	**Pn**	**23 45 14.9**	**+0.7**
E0802				Sg	**Sb**	**23 45 41.1**	**+1.1**
PVAQ	**Vaqueiros**	**1.95**	**284**	⇓*i*Pn	**Pn**	**23 45 15.3**	**+0.2**
PVAQ				*e*Sn	**Sn**	**23 45 39.4**	**-0.1**
PVAQ				*i* IAML		23 45 48.9	
PVAQ				*i* IAML		23 45 51.4	
PVAQ				*i* IAML		23 45 53.0	
PVAQ	**Vaqueiros**	**1.95**	**284**	P	**Pn**	**23 45 15.4**	**+0.3**
PVAQ	**Vaqueiros**	**1.95**	**284**	S	**Sg**	**23 45 45.4**	**+0.3**
EQES	**Quesada**	**1.99**	**64**	Pn	**Pn**	**23 45 16.5**	**+0.8**
EQES				Pg	**Pb**	**23 45 18.8**	**+0.5**
EQES				Sn	**Sn**	**23 45 41.7**	**+1.2**
EQES				Sg	**Sg**	**23 45 46.7**	**+0.5**
EQES				*i* IVmb_Lg		23 45 48.4	
PBDV	**Barranco-do-Ve**	**2.10**	**278**	Pn	**Pn**	**23 45 17.6**	**+0.6**
PBDV				Sn	**Sn**	**23 45 42.9**	**-0.1**
PBDV	**Barranco-do-Ve**	**2.10**	**278**	⇑*e*Pn	**Pn**	**23 45 17.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**23 45 42.9**	**-0.1**
PBDV				*i* IAML		23 45 53.5	
PBDV				*i* IAML		23 45 59.5	
PBDV				*i* IAML		23 46 02.1	
EBAD	**Badajoz**	**2.23**	**324**	Pn	**Pn**	**23 45 18.8**	**0.0**
EBAD				Sn	**Sn**	**23 45 46.0**	**-0.3**
EBAD	**Badajoz**	**2.23**	**324**	Pn	**Pn**	**23 45 18.9**	**0.0**
EBAD				Pg	**Pb**	**23 45 22.7**	**+0.4**
EBAD				Sn	**Sn**	**23 45 45.8**	**-0.5**
EBAD				Sg	**Sg**	**23 45 51.9**	**-2.1**
EBAD				*i* IVmb_Lg		23 45 59.2	
PSIM	**Granatula de C**	**2.23**	**33**	Pn	**Pn**	**23 45 18.1**	**-0.9**
PSIM				Pg	**Pb**	**23 45 22.9**	**+0.4**
PSIM				Sn	**Sn**	**23 45 44.8**	**-1.7**
PSIM				Sg	**Sb**	**23 45 51.7**	**+1.6**
PCVE	**Castro Verde**	**2.26**	**288**	Pn	**Pn**	**23 45 19.6**	**+0.3**
PCVE	**Castro Verde**	**2.26**	**288**	*e*Pn	**Pn**	**23 45 19.6**	**+0.3**
PBEJ	**Beja**	**2.28**	**299**	*e*Pn	**Pn**	**23 45 19.5**	**-0.1**
MESJ	**Messejana**	**2.46**	**292**	*e*P	**Pn**	**23 45 22.3**	**+0.3**
MESJ	**Messejana**	**2.46**	**292**	*e*Pn	**Pn**	**23 45 22.5**	**+0.5**
MESJ				*e*Sn	**Sn**	**23 45 53.0**	**+1.1**
MESJ				*i* IAML		23 46 06.9	
MESJ				*i* IAML		23 46 08.1	
MESJ				*i* IAML		23 46 10.8	
PESTR	**Estremoz**	**2.61**	**317**	Pn	**Pn**	**23 45 24.4**	**+0.3**
PESTR	**Estremoz**	**2.61**	**317**	*e*Pn	**Pn**	**23 45 24.6**	**+0.5**
PESTR				*e*Sn	**Sn**	**23 45 56.2**	**+0.6**
PESTR				*e*Sg	**Sg**	**23 46 04.4**	**-1.7**
PESTR				*i* IAML		23 46 09.2	
PESTR				*i* IAML		23 46 12.2	
PESTR				*i* IAML		23 46 13.3	
PESTR	**Estremoz**	**2.61**	**317**	P	**Pb**	**23 45 29.0**	**+0.2**
PESTR	**Estremoz**	**2.61**	**317**	S	**Sg**	**23 46 04.3**	**-1.8**
EVO	**Evora**	**2.64**	**307**	Pn	**Pn**	**23 45 25.3**	**+0.8**
EVO				Sn	**Sn**	**23 45 56.6**	**+0.2**
EVO	**Evora**	**2.64**	**307**	*e*Pn	**Pn**	**23 45 25.4**	**+0.9**
MORF	**Marmelete**	**2.67**	**278**	*e*Pn	**Pn**	**23 45 25.9**	**+0.9**
MORF				*e*Sn	**Sn**	**23 45 57.5**	**+0.2**
MORF				*i* IAML		23 46 13.5	
MORF				*i* IAML		23 46 19.6	
MORF				*i* IAML		23 46 23.7	
PAB	**San Pablo**	**2.69**	**16**	Pn	**Pn**	**23 45 26.8**	**+1.5**
PAB				Pg	**Pb**	**23 45 31.0**	**+0.7**
PAB				Sn	**Sn**	**23 45 57.8**	**0.0**
PAB				Sg	**Sb**	**23 46 05.2**	**+1.9**
PAB				*i* IVmb_Lg		23 46 12.2	
PTEO	**Sao Teotonio**	**2.77**	**283**	*e*Pn	**Pn**	**23 45 26.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**23 46 01.4**	**+2.0**
PFVI	**Vila Bisbo**	**2.80**	**275**	Pn	**Pn**	**23 45 26.7**	**0.0**
PFVI				Sn	**Sn**	**23 46 00.3**	**0.0**
PFVI	**Vila Bisbo**	**2.80**	**275**	*e*Pn	**Pn**	**23 45 27.0**	**+0.3**
PFVI				*e*Sn	**Sn**	**23 46 00.7**	**+0.4**
PFVI				*i* IAML		23 46 01.6	
PFVI	**Vila Bisbo**	**2.80**	**275**	P	**Pn**	**23 45 26.6**	**-0.1**
PFVI	**Vila Bisbo**	**2.80**	**275**	S	**Sn**	**23 46 00.3**	**0.0**
PMRV	**Marv??o**	**2.95**	**327**	*e*Pn	**Pn**	**23 45 29.6**	**+0.8**
PMRV				*e*Sn	**Sn**	**23 46 03.3**	**-0.7**
PMRV				*e*Sg	**Sg**	**23 46 15.1**	**-1.8**
PMRV				*i* IAML		23 46 18.6	
PMRV				*i* IAML		23 46 20.1	
PMRV				*i* IAML		23 46 23.4	
PMTG	**Montargil**	**3.10**	**314**	*e*Pn	**Pn**	**23 45 32.2**	**+1.3**
PMTG				*e*Sn	**Sn**	**23 46 08.4**	**+0.6**
PMTG				*i* IAML		23 46 25.9	
PMTG				*i* IAML		23 46 26.9	
PMTG				*i* IAML		23 46 28.6	
EPLA	**Plasencia**	**3.15**	**350**	Pn	**Pn**	**23 45 30.8**	**-0.8**
EPLA				Sn	**Sn**	**23 46 06.8**	**-2.3**
EPLA				Sg	**Sg**	**23 46 21.3**	**-2.2**
EPLA				*i* IVmb_Lg		23 46 28.0	
PCBR	**Castelo Branco**	**3.33**	**330**	*e*Sn	**Sn**	**23 46 12.4**	**-1.0**
PCBR				*i* IAML		23 46 31.8	
PCBR				*i* IAML		23 46 35.9	
PCBR				*i* IAML		23 46 43.7	
ETOB	**Tobarra**	**3.44**	**60**	Pn	**Pn**	**23 45 35.3**	**-0.3**
ETOB				Sn	**Sn**	**23 46 16.9**	**+0.7**
ETOB				Sg	**Sg**	**23 46 30.4**	**-2.2**
PSARD	**Sardoal**	**3.45**	**321**	*e*Pn	**Pn**	**23 45 36.5**	**+0.9**
PSARD				*e*Sn	**Sn**	**23 46 15.4**	**-0.9**
PSARD				*e*Sg	**Sg**	**23 46 30.6**	**-2.4**
MTE	**Manteigas**	**3.84**	**334**	*e*Sn	**Sn**	**23 46 26.0**	**-0.2**
MTE				*i* IAML		23 46 47.8	
MTE				*i* IAML		23 46 48.2	
MTE				*i* IAML		23 46 51.7	
MD31	**MD31**	**4.11**	**173**	P	**Pn**	**23 45 44.6**	**-0.3**
MD31	**MD31**	**4.11**	**173**	S	**Sn**	**23 46 30.1**	**-2.8**
MDT	**Midelt**	**4.18**	**172**	P	**Pn**	**23 45 45.6**	**-0.2**
MDT	**Midelt**	**4.18**	**172**	S	**Sn**	**23 46 33.2**	**-1.4**
PVIS	**Viseu**	**4.25**	**333**	*e*Sn	**Sn**	**23 46 34.8**	**-1.3**

*IDC **23** 23:52:32.7±2.1, 79.°94N×1.°59W, h0km, mb3.7/3, mbtmp4.0/6, ML4.3/3, MS3.3/5, Error ellipse: s-maj=43.9km s-min=29.1km az=3.0*
*NEIC **23** 23:52:33.0±2.3, 79.°9N±0.°1×1.°0W±0.°5, h10km±2km, mb4.3/7, Error ellipse: s-maj=21.0km s-min=12.2km az=21.0*
*BER **23** 23:52:34.5±3.8, 80.°21N×0.°01W, h10km, Mw4.1, ML3.7(NAO), Confirmed Earthquake*
*KOLA **23** 23:52:35.2, 80.°61N×2.°76E, h0km, ML3.0, Error ellipse: s-maj=89.2km s-min=27.0km az=30.0, Greenland sea*
*DNK **23** 23:52:37.0±2.8, 80.°06N×0.°20E, h36km±23km, ML2.9*

ISC 23 23:52:32.9±0.6, 80.°03N±0.°05×0.°39W±0.°04, h10km, n77, σ2.°76/102, mb3.9/4, MS3.6/3, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.52**	**110**	Pn	**Pn**	**23 53 13.3**	**-0.5**
KBS	**Kingsbay**	**2.52**	**110**	Pn	**Pn**	**23 53 13.5**	**-0.3**
KBS				S	**Sn**	**23 53 40.6**	**-3.8**
KBS	**Kingsbay**	**2.52**	**110**	P	**Pn**	**23 53 13.0**	**-0.8**
KBS				S	**Sn**	**23 53 40.3**	**-4.1**
KBS	**Kingsbay**	**2.52**	**110**	*e*P	**Pn**	**23 53 13.3**	**-0.5**
KBS				*e*S	**Sn**	**23 53 40.0**	**-4.4**
KBS				IAML		23 53 42.8	
	comp=Z,69nm,0.4s						
KBS	**Kingsbay**	**2.52**	**110**	*i* P	**Pn**	**23 53 13.4**	**-0.3**
KBS				*e*S	**Sn**	**23 53 39.5**	**-5.0**
NOR	**Nord**	**3.04**	**309**	Pn	**Pn**	**23 53 20.9**	**-0.1**
NOR	**Nord**	**3.04**	**309**	*e*P	**Pn**	**23 53 21.0**	**0.0**
NOR				*e*S	**Sn**	**23 53 53.3**	**-4.1**
NOR	**Nord**	**3.04**	**309**	*i* P	**Pn**	**23 53 21.1**	**+0.1**
NOR				*i* S	**Sn**	**23 53 55.3**	**-2.1**
NOR				IAML		23 54 02.6	
	comp=Z,34nm,0.4s						
BRBB	**Barentsburg B**	**3.38**	**118**	Pn	**Pn**	**23 53 26.7**	**+1.0**
BRBB				Sn	**Sn**	**23 54 05.0**	**-0.8**
BRBB	**Barentsburg B**	**3.38**	**118**	P	**Pn**	**23 53 26.5**	**+0.8**
BRBB				S	**Sn**	**23 54 04.1**	**-1.7**
BRBB	**Barentsburg B**	**3.38**	**118**	*e*P	**Pn**	**23 53 27.8**	**+2.1**
BRBB				*e*S	**Sn**	**23 54 02.9**	**-2.9**
BRBA	**Barentsburg A**	**3.41**	**118**	Pn	**Pn**	**23 53 27.2**	**+1.2**
BRBA				Sn	**Sn**	**23 54 05.9**	**-0.5**
BRBA	**Barentsburg A**	**3.41**	**118**	*e*P	**Pn**	**23 53 26.8**	**+0.8**
BRBA				*e*S	**Sn**	**23 54 04.7**	**-1.7**
BRBA				IAML		23 54 07.2	
	comp=Z,62nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.67**	**112**	Pn	**Pn**	**23 53 30.1**	**+0.5**
	baz=323,slow=7.9						
SPA0				Sn	**Sn**	**23 54 09.5**	**-3.5**
	baz=313,slow=14						
SPA0	**Spitsbergen Ar**	**3.67**	**112**	Pn	**Pn**	**23 53 30.1**	**+0.5**
	baz=323,slow=7.9						
SPA0				Sn	**Sn**	**23 54 09.5**	**-3.5**
	baz=313,slow=14						
SPA0				IAML		23 54 14.0	
	comp=Z,52nm,0.3s						
SPITS	**Spitsbergen Ar**	**3.67**	**112**	Pn	**Pn**	**23 53 29.9**	**+0.2**
	baz=334,slow=7.4						
SPITS				Sn	**Sn**	**23 54 10.3**	**-2.7**
	baz=350,slow=18						
	comp=Z,92nm,0.3s						
SPITS	**Spitsbergen Ar**	**3.67**	**112**	P	**Pn**	**23 53 29.9**	**+0.2**
SPITS				S	**Sn**	**23 54 10.2**	**-2.7**
SPB2	**Spitsbergen Ar**	**3.68**	**112**		**Pn**	**23 53 30.1**	**+0.4**
HSPB	**Hornsund (broa**	**4.38**	**126**	Pn	**Pn**	**23 53 40.8**	**+1.3**
HSPB				Sn	**Sn**	**23 54 28.8**	**-1.6**
HSPB	**Hornsund (broa**	**4.38**	**126**	P	**Pn**	**23 53 40.3**	**+0.9**
HSPB				S	**Sn**	**23 54 28.9**	**-1.4**
HSPB	**Hornsund (broa**	**4.38**	**126**	*e*P	**Pn**	**23 53 40.6**	**+1.3**
HSPB				*e*S	**Sn**	**23 54 27.8**	**-2.6**
HSPB				IAML		23 54 34.3	
	comp=Z,54nm,0.6s						
DAG	**Danmarks Havn**	**4.90**	**238**	*e*P	**Pn**	**23 53 47.3**	**+0.9**
DAG				*e*S	**Sn**	**23 54 39.5**	**-3.6**
DAG	**Danmarks Havn**	**4.90**	**238**	*i* P	**Pn**	**23 53 47.5**	**+1.0**
DAG				*i* S	**Sn**	**23 54 39.5**	**-3.6**
DAG				IAML		23 54 45.3	
	comp=Z,82nm,0.5s						
HOPEN	**Hopen**	**6.21**	**111**	Pn	**Pn**	**23 54 04.3**	**-0.1**
HOPEN				Sn	**Sn**	**23 55 10.6**	**-4.7**
HOPEN	**Hopen**	**6.21**	**111**	*e*P	**Pn**	**23 54 04.0**	**-0.4**
HOPEN				*e*S	**Sn**	**23 55 09.8**	**-5.4**
BEA1	**Bear Island, N**	**6.96**	**133**	Pn	**Pn**	**23 54 16.5**	**+1.8**
	baz=344,slow=18						
BEA1				Sn	**Sn**	**23 55 31.5**	**-2.2**
	baz=344,slow=37						
BEA6	**Bear Island, N**	**6.96**	**133**	Pn	**Pn**	**23 54 16.5**	**+1.8**
	baz=344,slow=18						
BEA6				Sn	**Sn**	**23 55 31.5**	**-2.3**
	baz=344,slow=37						
DBG	**Daneborg**	**7.18**	**228**	Pn	**Pn**	**23 54 18.9**	**+1.1**
DBG				Sn	**Sn**	**23 55 34.4**	**-4.9**
DBG	**Daneborg**	**7.18**	**228**	*e*P	**Pn**	**23 54 18.8**	**+1.1**
DBG				*e*S	**Sn**	**23 55 32.5**	**-6.8**
DBG	**Daneborg**	**7.18**	**228**	*i* P	**Pn**	**23 54 19.3**	**+1.5**
DBG				*e*S	**Sn**	**23 55 32.5**	**-6.8**
DBG				IAML		23 55 39.3	
	comp=Z,64nm,0.8s						
ZFI2	**Zemlya Franca-**	**7.86**	**61**	*e*P	**Pn**	**23 54 26.1**	**-0.8**
ZFI2				*e*S	**Sn**	**23 55 47.9**	**-7.8**
	comp=Z,41nm,2.8s						
OMEGA	**Omega**	**7.88**	**61**	*e*P	**Pn**	**23 54 26.1**	**-1.1**
OMEGA				*e*S	**Sn**	**23 55 47.9**	**-8.3**
	comp=Z,41nm,2.5s						
JNW	**Jan Mayen West**	**9.25**	**197**	*e*P	**Pn**	**23 54 48.8**	**+2.7**
JNE	**Jan Mayen East**	**9.29**	**196**	*e*P	**Pn**	**23 54 49.5**	**+2.9**
JMIC	**Jan Mayen**	**9.30**	**197**	*e*P	**Pn**	**23 54 49.4**	**+2.7**
JMI	**Jan Mayen**	**9.37**	**197**	*e*P	**Pn**	**23 54 50.2**	**+2.5**
NEEM	**North Greenlan**	**9.94**	**281**	*i* P	**Pn**	**23 54 55.5**	**-0.3**
NEEM	**North Greenlan**	**9.94**	**281**	*i* P	**Pn**	**23 54 55.5**	**-0.3**
SUMG	**Summit**	**11.40**	**250**		**Pn**	**23 55 15.4**	**-0.4**
SUMG	**Summit**	**11.40**	**250**	*i* P	**Pn**	**23 55 16.3**	**+0.5**
SUMG	**Summit**	**11.40**	**250**	*i* P	**Pn**	**23 55 16.3**	**+0.5**
KIF	**Kilpisjarvi**	**12.29**	**142**	*e*P	**Pn**	**23 55 30.4**	**+2.9**
VADS	**Vadso**	**12.30**	**127**	*e*P	**Pn**	**23 55 29.9**	**+2.2**
KEV	**Kevo**	**12.32**	**131**	Pn	**Pn**	**23 55 29.4**	**+1.4**
KEV	**Kevo**	**12.32**	**131**	*e*P	**Pn**	**23 55 31.8**	**+3.8**
ARA0	**ARCESS Array S**	**12.33**	**134**	Pn	**Pn**	**23 55 29.8**	**+1.6**
	baz=350,slow=12						
ARA0	**ARCESS Array S**	**12.33**	**134**	Pn	**Pn**	**23 55 29.8**	**+1.6**
	baz=350,slow=12						
ARCES	**ARCESS Array B**	**12.33**	**134**		**Pn**	**23 55 29.3**	**+1.1**
ARCES	**ARCESS Array B**	**12.33**	**134**	Pn	**Pn**	**23 55 29.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=12,SNR=20						
ARCES				Sn	**Sn**	**23 57 39.7**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=353,slow=20,SNR=3.7						
	comp=Z,2.9nm,0.9s						
LOF	**Lofoten**	**12.48**	**155**	*e*P	**Pn**	**23 55 34.3**	**+4.1**
KULLO	**Kullorsuaq**	**13.02**	**276**	*i* P	**Pn**	**23 55 34.8**	**-2.7**
KULLO	**Kullorsuaq**	**13.02**	**276**	*i* P	**Pn**	**23 55 34.8**	**-2.7**
HEF	**Hetta**	**13.18**	**139**	*e*P	**Pn**	**23 55 43.0**	**+3.3**
VAGH	**Vaagaholmen**	**13.85**	**157**	*e*P	**P**	**23 55 53.9**	**-3.4**
STOK	**Stokkvaagen**	**14.22**	**158**	*e*P	**P**	**23 55 60.0**	**-1.5**
LEIR	**Leirfjorden**	**14.45**	**158**	*e*P	**P**	**23 56 03.5**	**-0.5**
BORG	**Borgarnes**	**16.40**	**213**	Pn	**Pn**	**23 56 20.5**	**-2.2**
BORG				IAmb	IAmb	23 56 47.3	
	comp=Z,37nm,1.1s						
ILULI	**Ilulissat**	**16.42**	**258**	Pn	**Pn**	**23 56 21.3**	**-1.7**
ILULI				IAmb	IAmb	23 56 27.0	
	comp=Z,38nm,1.2s						
POIN	**Pond Inlet**	**18.05**	**289**		**Pn**	**23 56 42.3**	**-1.0**
POIN				IAmb	IAmb	23 57 02.1	
	comp=Z,22nm,1.1s						
SFJD	**Kangerlussuaq**	**18.33**	**254**	P	**Pn**	**23 56 44.2**	**-2.6**
SFJD	**Kangerlussuaq**	**18.33**	**254**	P	**Pn**	**23 56 44.1**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=22,slow=12,SNR=12						
SFJD				LR	LR	00 04 34.3	
	comp=Z,98nm,19.7s,baz=340,slow=40						
	comp=Z,4.4nm,0.4s						
NOA	**NORSAR Array B**	**19.39**	**163**	LR	LR	00 02 42.7	
	comp=Z,23nm,20.0s,baz=345,slow=32						
LSH	**Leshukonskoye**	**19.60**	**113**	*e*P	**Pn**	**23 57 03.9**	**+1.8**
FIA0	**FINESS Array S**	**20.19**	**142**	P	**P**	**23 57 08.4**	**+1.2**
	baz=355,slow=14						
FIA0	**FINESS Array S**	**20.19**	**142**	P	**P**	**23 57 08.4**	**+1.2**
	baz=355,slow=14						
FINES	**FINESS Array B**	**20.19**	**142**	P	**P**	**23 57 08.3**	**+1.1**
FINES	**FINESS Array B**	**20.19**	**142**	P	Pn	23 57 10.5	+1.4
	comp=Z,2.4nm,0.8s,baz=358,slow=11,SNR=8.5						
	comp=Z,2.4nm,0.8s						
SHIP	**Srednieye Shipi**	**22.70**	**116**	*e*P	**P**	**23 57 38.1**	**+4.0**
E29M	**Blow River**	**29.89**	**330**	P	**P**	**23 58 42.4**	**+2.3**
E29M				IAmb	IAmb	23 58 56.9	
	comp=Z,5.1nm,1.4s						
AKTO	**Aktyubinsk**	**35.37**	**110**	LR	LR	00 15 52.8	
	comp=Z,45nm,19.3s,baz=238,slow=39						
KURBB	**Kurchatov Arra**	**38.70**	**89**	P	**P**	**23 59 59.5**	**+3.2**
	comp=Z,0.8nm,0.6s,baz=342,slow=7.8,SNR=8.1						
	comp=Z,0.8nm,0.6s						
ULM	**Lac du Bonnet**	**41.90**	**287**	LR	LR	00 19 39.3	
	comp=Z,74nm,18.0s,baz=276,slow=39						
MAKZ	**Makanchi**	**42.98**	**87**	P	**P**	**00 00 32.9**	**+1.2**
MAKZ				IAmb	IAmb	00 01 01.8	
	comp=Z,7.8nm,1.4s						
MKAR	**Makanchi Array**	**43.05**	**87**	P	**P**	**00 00 33.9**	**+1.6**
MKAR	**Makanchi Array**	**43.05**	**87**	P	**P**	**00 00 35.6**	**+3.3**
	comp=Z,0.8nm,0.7s,baz=330,slow=7.8,SNR=4.0						
	comp=Z,0.8nm,0.7s						
ITM	**Ithomi**	**43.84**	**154**	P	**P**	**00 00 38.6**	**-0.1**
ANMO	**Albuquerque**	**58.54**	**292**	LR	LR	00 30 26.8	

*SJA **23** 23:57:19.6±0.8, 26.°33S×71.°00W, h32km±3km, ML3.9, MW3.9*
*NEIC **23** 23:57:21.5±1.6, 26.°30S±0.°04×70.°96W±0.°06, h26km±8km, mb4.2/3, ML3.7(GUC), Error ellipse: s-maj=9.0km s-min=5.1km az=116.0*
*GUC **23** 23:57:22.0±0.9, 26.°31S×70.°76W, h38km±2km, ML3.7*

ISC 23 23:57:17.8±1.4, 26.°31S±0.°02×70.°98W±0.°05, h2km±10km, n63, σ1.°89/92, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.38**	**65**		**Pn**	**23 57 29.7**	**-0.6**
AC01					**Sb**	**23 57 34.2**	**+0.7**
AC01	**Pan de Azucar**	**0.38**	**65**	*e*P	**Pn**	**23 57 29.5**	**-0.8**
AC01				*i* S	**Sb**	**23 57 34.2**	**+0

PB03	**IPOC Station P**	**4.38**	**15**		**Pn**	**23 58 25.6**	**0.0**
PB03	**IPOC Station P**	**4.38**	**15**	*e*P	Pn	23 58 20.5	-5.1
PB03				*e*P	Pb	23 58 25.8	-10
PB03				*e*S	**Sb**	**23 59 32.5**	**+3.4**
PB03				IAML		23 59 41.9	
	comp=Z,225nm,0.3s						
CO06	**Fray Jorge**	**4.39**	**187**	Pn	**Pn**	**23 58 25.8**	**+0.3**
CO03	**El Pedregal**	**4.52**	**177**		**Pn**	**23 58 29.4**	**+1.9**
CO03	**El Pedregal**	**4.52**	**177**	*e*P	**Pn**	**23 58 29.6**	**+2.2**
CO03				*e*S	**Sn**	**23 59 22.1**	**+1.4**
CO03				IAML		23 59 50.1	
	comp=Z,60nm,0.9s						
ACCO	**Cerro Coronel**	**4.59**	**159**	*e*P	**Pn**	**23 58 33.0**	**+4.4**
ACCO				*e*S	**Sb**	**23 59 29.0**	**-6.1**
ACLC	**CERRO LA CRUZ**	**4.73**	**132**	*e*P	**Pn**	**23 58 33.3**	**+2.9**
ACLC				*e*S	**Sb**	**23 59 34.8**	**-4.3**
PB09	**IPOC Station P**	**4.76**	**20**		**Pn**	**23 58 32.5**	**+1.6**
PB09	**IPOC Station P**	**4.76**	**20**	*e*P	**Pn**	**23 58 32.3**	**+1.5**
PB09				*e*S	**Sb**	**23 59 36.0**	**-4.0**
PB09				*e*S	**Sg**	**23 59 46.0**	**-4.8**
PB09				IAML		23 59 55.4	
	comp=Z,182nm,0.5s						
CO02	**Combarbal**	**4.88**	**180**	Pn	**Pn**	**23 58 33.3**	**+0.9**
CO02	**Combarbal**	**4.88**	**180**	*e*P	**Pn**	**23 58 33.7**	**+1.3**
CO02				*e*S	**Sb**	**23 59 43.0**	**-0.4**
CO02				IAML		23 59 57.2	
	comp=Z,181nm,0.7s						
PB02	**IPOC Station P**	**5.06**	**12**		**Pn**	**23 58 35.1**	**+0.2**
PB02	**IPOC Station P**	**5.06**	**12**	*e*P	**Pn**	**23 58 35.0**	**+0.2**
PB02				*e*S	**Sn**	**23 59 33.3**	**-0.7**
PB02				IAML		00 00 08.4	
	comp=Z,182nm,0.4s						
CYA	**Choya**	**5.07**	**116**	*e*P	**Pn**	**23 58 37.8**	**+2.8**
CYA				*e*S	**Sn**	**23 59 36.0**	**+1.8**
PB01	**IPOC Station P**	**5.41**	**15**	*e*P	**Pn**	**23 58 39.4**	**-0.4**
ZON	**Zonda**	**5.60**	**159**	Pn	**Pn**	**23 58 44.2**	**+2.0**
HMBC	**Humberstone**	**6.08**	**10**		**Pn**	**23 58 48.6**	**-0.4**
PB08	**IPOC Station P**	**6.36**	**16**	Pn	**Pn**	**23 58 53.2**	**+0.2**
VA03	**San Esteban**	**6.45**	**177**	Pn	**Pn**	**23 58 55.7**	**+1.8**
MT02	**Curacav**	**6.93**	**181**	Pn	**Pn**	**23 59 00.8**	**+0.3**
PB12	**IPOC Station P**	**7.68**	**5**	Pn	**Pn**	**23 59 10.2**	**-0.6**
PB16	**IPOC Station P**	**8.05**	**10**	Pn	**Pn**	**23 59 16.7**	**+0.3**
LPAZ	**La Paz**	**10.31**	**15**	Pn	**Pn**	**23 59 48.3**	**+0.8**
TRQA	**Tornquist**	**13.97**	**149**	Pn	**Pn**	**00 00 38.4**	**+1.6**
ITAB	**Concordia**	**16.86**	**97**		**P**	**00 01 16.0**	**-1.2**
ITAB				IAmb	IAmb	00 01 29.9	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**58.41**	**160**	P	**P**	**00 07 14.1**	**-0.5**
SNAA				IAmb	IAmb	00 07 22.9	
	comp=Z,4.2nm,1.5s						
QSPA	**South Pole Qui**	**63.91**	**180**	P	**P**	**00 07 52.8**	**+0.7**
QSPA				IAmb	IAmb	00 07 53.2	
	comp=Z,3.9nm,1.5s						

*VIE **23** 23:58:20.2±0.5, 46°.40N×15°.08E, h0km, mb1.6/5, ml1.5/8, Error ellipse: s-maj=3.4km s-min=2.6km az=152.0 24 km NW of Celje Suspected Mining induced.*

LJU 23 23:58:19.9, 46°.39N×15°.07E, h0km, ML0.9, 3D, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAVS	**Zavodnje**	**0.05**	**325**	⇓*i*Pg	Pg	23 58 21.0	+0.1
ZAVS				*i* Sg	Sg	23 58 23.1	+1.5
ZAVS				IAML		23 58 23.8	
	comp=Z,121nm,0.1s						
PERS	**Pernice**	**0.25**	**7**	⇓*i*Pg	Pg	23 58 24.6	-0.1
SOKA	**Soboth**	**0.29**	**355**	*e*Pg	Pg	23 58 25.3	-0.1
	comp=Z,5.8nm,0.3s,SNR=32						
SOKA				*e*Sg	Sg	23 58 30.1	+0.9
	comp=Z,9.7nm,0.3s						
GROS	**Grobnik**	**0.31**	**76**	⇓*i*Pg	Pg	23 58 25.5	-0.3
GROS				*i* Sg	Sg	23 58 30.3	+0.5
OBKA	**Obir**	**0.38**	**288**	*e*Pg	Pg	23 58 27.0	-0.1
	comp=Z,5.3nm,0.3s,SNR=17						
OBKA				*e*Sg	Sg	23 58 33.9	+1.8
	comp=Z,18nm,0.4s						
ARSA	**Arzberg**	**0.92**	**20**	*e*Pg	Pg	23 58 36.6	-0.9
	comp=Z,4.3nm,0.3s,SNR=12						
ARSA				*e*Sg	Sg	23 58 49.8	+0.5
	comp=Z,2.4nm,0.3s						
KBA	**Koelnbreinsper**	**1.37**	**301**	*e*Pg	Pg	23 58 45.4	-0.8
	comp=Z,2.6nm,0.3s,SNR=8.1						
KBA				*e*Sg	Sg	23 59 04.0	+0.1
	comp=Z,3.5nm,0.4s						
MOA	**Molln**	**1.56**	**340**	*e*Pg	Pb	23 58 49.7	+0.1
	comp=Z,1.1nm,0.4s						
MOA				*e*Sg	Sg	23 59 12.1	+2.0
	comp=Z,0.9nm,0.3s						
BIOA	**Bad Ischl, Aus**	**1.63**	**324**	*e*Pg	Pg	23 58 52.3	+1.2
	comp=Z,1.2nm,0.3s						
CONA	**Conrad Observa**	**1.63**	**19**	*i* Pg	Pg	23 58 52.2	+1.0
	comp=Z,1.9nm,0.6s						
ABTA	**Abfaltersbach**	**1.80**	**282**	*e*Pg	Pb	23 58 53.6	-0.1
	comp=Z,0.9nm,0.5s						
ABTA				Sg	Sg	23 59 19.5	+1.8
	comp=Z,0.8nm,0.3s						

RHSSO 23 23:58:27.9±0.4, 45°.08N×15°.60E, h6km, ML1.6/4, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZLJ	**Ozalj**	**0.55**	**350**	⇑*i*Pg	Pg	23 58 37.4	-1.0
OZLJ				*e*Sg	Sg	23 58 46.1	+0.5
MOSL	**Moslavina**	**0.97**	**56**	⇑*i*Pg	Pg	23 58 45.3	-1.3
MOSL				*e*Sg	Sg	23 58 59.2	0.0
BLY	**Banja Luka**	**1.17**	**106**	*e*Pg	Pg	23 58 48.9	-1.4
BLY				*e*Sg	Sg	23 59 04.7	-0.8
BRJN	**Brijuni**	**1.33**	**263**	*e*Pg	Pn	23 58 51.7	-1.2
BRJN				*e*Sg	Sb	23 59 10.1	-0.3

IDC 24 00:21:55.0±10.0, 2°.41S×138°.08E, h0km, mb3.6/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=184.5km s-min=28.8km az=152.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.62**	**92**	Pn	Pn	00 22 39.2	+0.5
	1.2nm,0.3s,baz=213,slow=11,SNR=4.2						
JAY				Sn	Sn	00 23 12.3	+1.0
	1.0nm,0.3s,baz=324,slow=19,SNR=7.9						
	5.4nm,0.5s						
WRA	**Warramunga Arr**	**17.80**	**192**	P	P	00 26 06.1	+0.9
	0.1nm,0.3s,baz=13,slow=12,SNR=5.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**21.51**	**190**	P	P	00 26 46.0	+0.3
	0.7nm,0.7s,baz=20,slow=11,SNR=8.7						
	0.7nm,0.7s						
STKA	**Stephens Creek**	**29.49**	**174**	P	P	00 27 59.8	-1.2
	1.2nm,0.5s,baz=350,slow=6.1,SNR=3.1						
	1.2nm,0.5s						

*NNC **24** 00:25:30.8±3.1, 42°.13N×80°.46E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.8km s-min=16.5km az=160.0*
*SOME **24** 00:25:32.5, 42°.08N×80°.37E, h15km*
*KRNET **24** 00:25:32.6±0.1, 42°.13N×80°.54E, mb3.3*

ISC 24 00:25:33.1±2.4, 42°.42N±0°.07×80°.66E±0°.06, h7km±12km, n33, σ1§77/52, 17C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.15**	**310**	P	**Pn**	**00 25 54.4**	**-1.3**
	37nm,0.4s						
SHLS				S	**Sb**	**00 26 10.1**	**-0.4**
	88nm,0.5s						
SHLS	**Shalkode**	**1.15**	**310**	*e*P	**Pn**	**00 25 52.5**	**-3.1**
	44nm,0.4s						
SHLS				*e*S	**Sb**	**00 26 06.9**	**-3.6**
	88nm,0.5s						
PDGK	**Podgornoye**	**1.25**	**317**	⇓P	Pn	00 25 51.2	-5.9
	9.1nm,0.4s						
PDGK				⇑S	**Sg**	**00 26 14.1**	**+0.9**
	33nm,0.6s						
UZB	**Uzynbulak**	**1.41**	**302**	P	**Pg**	**00 26 00.3**	**+0.2**
	19nm,0.3s						
UZB				S	**Sg**	**00 26 20.2**	**+1.9**
	37nm,0.2s						
UZB	**Uzynbulak**	**1.41**	**302**	*e*P	**Pg**	**00 26 00.6**	**+0.5**
	19nm,0.3s						
UZB				*e*S	**Sg**	**00 26 20.5**	**+2.2**
	37nm,0.2s						
PRZ	**Przheval'sk**	**1.67**	**273**	⇑*e*P	**Pn**	**00 26 03.2**	**+0.2**
PRZ				⇑*e*S	**Sb**	**00 26 25.8**	**+0.2**
SATY	**Saty**	**1.78**	**292**	P	**Pb**	**00 26 05.4**	**-0.7**
	37nm,0.3s						
SATY				S	**Sb**	**00 26 29.2**	**+0.6**
	187nm,0.4s						
KPKS	**Kokpek**	**1.79**	**306**	P	**Pb**	**00 26 06.6**	**+0.4**
	0.5nm,0.2s						
KPKS				S	**Sg**	**00 26 31.1**	**+0.6**
	144nm,0.5s						
KURS	**Kuram**	**2.11**	**301**	Pg	**Pb**	**00 26 11.4**	**-0.4**
	31nm,0.6s						
KURS				Lg	Lg	00 26 39.3	
	41nm,0.6s						
KNOS	**Konyrlen**	**2.22**	**331**	Pg	**Pg**	**00 26 16.7**	**+1.1**
	46nm,0.4s						
KNOS				Lg	Lg	00 26 48.6	
	50nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.23**	**253**	⇑*e*P	**Pn**	**00 26 11.0**	**+0.1**
TARG				⇑*i*S	**Sn**	**00 26 39.2**	**+0.3**
BLB	**Baldybastay**	**2.31**	**317**	Pg	**Pg**	**00 26 16.8**	**-0.5**
	63nm,0.4s						
BLB				Lg	Lg	00 26 48.6	
	126nm,0.5s						
KDJ	**Kajisay**	**2.60**	**265**	⇑*e*P	**Pn**	**00 26 17.0**	**+1.3**
KDJ				⇑*i*S	**Sn**	**00 26 48.7**	**+1.1**
KOTS	**Kotyrbulak**	**2.73**	**288**	Pg	**Pb**	**00 26 20.4**	**-2.0**
	25nm,0.4s						
KOTS				Lg	Lg	00 26 54.8	
	107nm,0.5s						
KOTS	**Kotyrbulak**	**2.73**	**288**	*e*P	**Pb**	**00 26 20.4**	**-2.0**
	25nm,0.4s						
KOTS				*e*S	**Sb**	**00 26 54.9**	**-1.3**
	107nm,0.5s						
ARXS	**Arharly**	**2.73**	**312**	Pg	**Pb**	**00 26 23.4**	**+1.1**
	10nm,0.4s						
ARXS				Lg	Lg	00 27 00.2	
	48nm,0.5s						
ARXS	**Arharly**	**2.73**	**312**	*e*P	**Pb**	**00 26 23.4**	**+1.1**
ARXS				*e*S	**Sg**	**00 27 00.2**	**-0.7**
MDOK	**Medeo**	**2.76**	**287**	Pg	**Pb**	**00 26 20.8**	**-2.0**
	13nm,0.5s						
MDOK				Lg	Lg	00 26 55.9	
	24nm,0.4s						
TNSS	**Tian-Shan**	**2.80**	**284**	Pg	**Pb**	**00 26 21.5**	**-2.2**
	4.2nm,0.4s						
TNSS				Lg	Lg	00 26 56.9	
	14nm,0.8s						
TNSS	**Tian-Shan**	**2.80**	**284**	*e*P	**Pb**	**00 26 21.5**	**-2.2**
	4.2nm,0.4s						
TNSS				*e*S	**Sb**	**00 26 56.9**	**-1.5**
	14nm,0.8s						
CHKK	**Chushkaly**	**3.04**	**299**	Pg	**Pb**	**00 26 27.1**	**-0.5**
	26nm,0.5s						
CHKK				Lg	Lg	00 27 06.5	
	27nm,0.4s						
CHKK	**Chushkaly**	**3.04**	**299**	*e*P	**Pb**	**00 26 27.1**	**-0.5**
	26nm,0.5s						
CHKK				*e*S	**Sb**	**00 27 06.5**	**+1.6**
	27nm,0.4s						
TDK	**Taldyqorghan**	**3.05**	**328**	*e*P	**Pg**	**00 26 29.9**	**-1.7**
	15nm,0.3s						
TDK				*e*S	**Sg**	**00 27 10.9**	**-0.2**
	50nm,0.5s						
MTBS	**Maitube**	**3.19**	**284**	Pg	**Pb**	**00 26 27.7**	**-2.5**
	16nm,0.4s						
MTBS				Lg	Lg	00 27 07.6	
	32nm,0.5s						
MTBS	**Maitube**	**3.19**	**284**	*e*P	**Pb**	**00 26 27.7**	**-2.5**
	16nm,0.4s						
MTBS				*e*S	**Sb**	**00 27 07.5**	**-1.8**
	32nm,0.5s						
ULHL	**Ulahol**	**3.28**	**268**	⇑*e*P	**Pn**	**00 26 27.2**	**+2.1**
ULHL				⇑*i*S	**Sn**	**00 27 07.4**	**+3.0**
BOOM	**Boomskoye usch**	**3.49**	**273**	⇑*e*P	**Pn**	**00 26 29.8**	**+1.8**
BOOM				⇑*i*S	**Sn**	**00 27 11.2**	**+1.6**
DGS	**Degeres**	**3.69**	**284**	Pg	**Pb**	**00 26 36.6**	**-2.0**
	4.8nm,0.5s						
DGS				Lg	Lg	00 27 22.8	
	20nm,0.7s						
JNKS	**Jany-Kuch**	**3.98**	**252**	⇓*e*P	**Pn**	**00 26 35.3**	**+0.5**
JNKS				⇓*e*S	**Sn**	**00 27 20.7**	**-1.2**
MAKZ	**Makanchi**	**4.49**	**12**	⇑Pn	**Pn**	**00 26 44.0**	**+2.5**
	12nm,1.2s						
MAKZ				⇓Sn	**Sb**	**00 27 45.1**	**-1.4**
	3.2nm,0.7s						
MAKZ				⇑Lg	Lg	00 28 08.2	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**4.52**	**14**	Pn	**Pn**	**00 26 44.6**	**+2.6**
	0.8nm,0.3s,baz=205,slow=14,SNR=20						
MK31				⇑Sn	**Sb**	**00 27 43.1**	**-4.5**
	1.7nm,0.4s,baz=6.5,slow=38,SNR=4.8						
MK31				⇓Lg	Lg	00 28 09.1	
	33nm,1.3s,baz=182,slow=25,SNR=4.6						
AAK	**Ala-Archa**	**4.56**	**275**	⇑Pg	**Pn**	**00 26 44.2**	**+1.5**
	1.9nm,0.6s						
AAK				⇑Lg	Lg	00 27 44.5	
	12nm,1.1s						
KK31	**Karatay Array**	**7.50**	**279**	⇑Lg	Lg	00 29 14.7	
	1.6nm,0.6s,baz=91,slow=23,SNR=8.0						

IDC 24 00:26:17.8±7.7, 5°.03S×150°.87E, h76km±54km, mb3.5/4, mbtmp3.9/5, ML2.0/1, MS4.3/1, Error ellipse: s-maj=105.3km s-min=36.2km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.70**	**220**	P	Pn	00 27 39.7	-0.2
	2.5nm,0.3s,baz=27,slow=4.5,SNR=6.9						
PMG				S	Sn	00 28 45.1	+1.1
	21nm,0.5s,baz=323,slow=20,SNR=6.2						
	20nm,0.5s						
WRA	**Warramunga Arr**	**21.88**	**226**	P	P	00 31 04.5	-0.2
	1.8nm,0.9s,baz=52,slow=10,SNR=8.2						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**24.72**	**220**	P	P	00 31 32.5	+0.4
	0.9nm,0.6s,baz=56,slow=8.8,SNR=9.2						
	0.9nm,0.6s						
BATI	**Baumata**	**27.45**	**258**	LR	LR	00 45 49.1	
	comp=Z,589nm,19.4s,baz=302,slow=43						
FITZ	**Fitzroy Crossi**	**27.87**	**240**	P	P	00 32 00.0	-0.6
	3.1nm,0.6s,baz=51,slow=8.6,SNR=3.4						
	3.1nm,0.6s						
SONM	**Songino Array**	**65.50**	**329**	P	P	00 36 53.3	+0.1
	0.5nm,0.7s,baz=126,slow=7.3,SNR=2.1						
	0.5nm,0.7s						

*IDC **24** 00:28:37.6±2.5, 50°.57N×172°.01W, h0km, mb3.9/6, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=70.7km s-min=25.9km az=20.0*
*NEIC **24** 00:28:39.3±1.2, 50°.6N±0°.2×171°.9W±0°.1, h10km±2km, mb4.1/17, Error ellipse: s-maj=25.5km s-min=13.2km az=174.0*

ISC 24 00:28:42.6±1.3, 50°.6N±0°.2×172°.00W±0°.08, h35km, n32, σ1§04/32, mb4.0/9, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**3.21**	**295**	Pn	**Pn**	**00 29 29.2**	**-1.4**
KIWB	**Kanaga Island**	**3.47**	**293**	Pn	**Pn**	**00 29 31.9**	**-2.2**
UNV	**Unalaska Valle**	**4.69**	**44**	Pn	**Pn**	**00 29 48.1**	**-2.6**
AMKA	**Amchitka**	**5.55**	**281**	Pn	**Pn**	**00 30 00.6**	**-2.0**
I23K	**Minto, Yukon-K**	**18.73**	**30**	P	**P**	**00 32 57.6**	**-0.4**
I23K				IAmb	IAmb	00 33 00.7	
	comp=Z,14nm,1.4s						
CCB	**Clear Creek Bu**	**18.94**	**33**	P	**P**	**00 32 59.8**	**-0.5**
GLB	**Gilahina Butte**	**18.96**	**44**	P	**Pn**	**00 33 01.5**	**+0.1**
GLB				IAmb	IAmb	00 33 36.2	
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**19.34**	**33**	P	**P**	**00 33 05.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=4.7						
	comp=Z,0.9nm,0.5s						
D20K	**Etivluk River**	**19.64**	**17**	P	**P**	**00 33 08.0**	**+0.1**
D20K				IAmb	IAmb	00 33 17.0	
	comp=Z,17nm,1.4s						
H24K	**Noodor Dome**	**19.65**	**30**	P	**P**	**00 33 08.7**	**+0.6**
J25K	**Salcha River,**	**19.79**	**35**	P	**P**	**00 33 09.5**	**-0.1**
J25K				IAmb	IAmb	00 33 10.6	
	comp=Z,6.5nm,0.5s						
PRP	**Porcupine Dome**	**20.24**	**32**	P	**P**	**00 33 14.3**	**-0.2**
J26L	**Joseph Creek**	**20.40**	**36**	P	**P**	**00 33 16.3**	**+0.1**
J26L				IAmb	IAmb	00 33 17.4	
	comp=Z,14nm,1.5s						
D22K	**Ayikyak River**	**20.57**	**20**	P	**P**	**00 33 19.4**	**+1.4**
D22K				IAmb	IAmb	00 33 24.8	
	comp=Z,11nm,1.1s						
B21K	**Ikpikpuk River**	**20.80**	**17**	P	**P**	**00 33 20.7**	**+0.4**
O29M	**Mount Kennedy**	**21.07**	**50**	P	**P**	**00 33 24.2**	**+0.6**
M29M	**Somme Creek**	**21.68**	**44**	P	**P**	**00 33 31.8**	**+1.8**
M29M				IAmb	IAmb	00 33 42.7	
	comp=Z,8.7nm,1.4s						
C23K	**Itkillik River**	**21.78**	**20**	P	**P**	**00 33 31.1**	**+0.1**
H27K	**Steamboat Moun**	**22.01**	**33**	P	**P**	**00 33 33.6**	**+0.1**
D27M	**Malcolm River**	**23.84**	**27**	P	**P**	**00 33 54.0**	**+1.9**
D27M				IAmb	IAmb	00 34 35.0	
	comp=Z,7.2nm,1.4s						
INK	**Inuvik**	**25.72**	**32**	P	**P**	**00 34 09.5**	**+0.3**
PDAR	**Pinedale Array**	**42.40**	**76**	P	**P**	**00 36 33.6**	**-0.1**
PDAR	**Pinedale Array**	**42.40**	**76**	P	**P**	**00 36 34.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=309,slow=4.1,SNR=12						
	comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**54.47**	**86**	P	**P**	**00 38 05.9**	**-0.7**
TXAR	**Lajitas Array**	**54.47**	**86**	P	**P**	**00 38 06.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=300,slow=6.2,SNR=7.6						
	comp=Z,0.4nm,0.6s						
KURK	**Kurchatov**	**62.58**	**318**	P	**P**	**00 39 03.0**	**+0.3**
KURK				IAmb	IAmb	00 39 46.8	
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**62.69**	**317**	P	**P**	**00 39 04.2**	**+0.8**
	comp=Z,0.5nm,0.2s,baz=40,slow=6.5,SNR=2.2						
	comp=Z,0.5nm,0.2s						
BVAR	**Borovoye Array**	**64.17**	**324**	P	**P**	**00 39 13.8**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=59,slow=6.9,SNR=2.6						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**67.37**	**351**	P	**P**	**00 39 34.3**	**+0.7**
FINES	**FINESS Array B**	**67.37**	**351**	P	**P**	**00 39 33.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=347,slow=12,SNR=2.3						
	comp=Z,1.7nm,0.8s						
HFS	**Hagfors**	**69.52**	**357**	P	**P**	**00 39 47.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=7.1,slow=6.0,SNR=5.3						
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**71.05**	**327**	P	**P**	**00 39 57.3**	**+0.7**

*IDC **24** 00:32:04.0±0.8, 2°.77S×138°.27E, h0km, mb4.0/8, mbtmp4.1/12, ML4.2/4, MS3.3/5, Error ellipse: s-maj=21.7km s-min=12.9km az=96.0*
*NEIC **24** 00:32:06.7±1.7, 2°.7S±0°.1×138°.29E±0°.03, h10km±1km, mb4.4/21, Error ellipse: s-maj=17.9km s-min=4.9km az=178.0*
*DJA **24** 00:32:09.0±0.4, 2°.S±5°×13°.8E±°, h10km, M4.1/6, mb4.2/1, MLv4.1/6*

ISC 24 00:32:05.5±0.5, 2°.76S±0°.05×138°.27E±0°.04, h10km, n50, σ2§02/50, mb4.3/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.88**	**30**	P	**Pg**	**00 32 20.1**	**-2.4**
GENI	**Genyem**	**1.90**	**85**	P	**Pb**	**00 32 39.7**	**-0.6**
JAY	**Jayapura**	**2.44**	**84**	Pn	**Pn**	**00 32 46.2**	**+0.7**
	12nm,0.3s,baz=253,slow=9.0,SNR=26						
JAY				Sn	**Sn**	**00 33 15.8**	**+0.3**
	13nm,0.3s,baz=311,slow=20,SNR=4.6						
JAY				LR	LR	00 33 44.8	
	comp=Z,161nm,21.3s,baz=220,slow=41						
	47nm,0.4s						
JAY	**Jayapura**	**2.44**	**84**	P	**Pn**	**00 32 46.2**	**+0.7**
BAKI	**Biak**	**2.66**	**306**	P	**Pb**	**00 32 52.1**	**-1.2**
FAKI	**Fak Fak**	**6.02**	**268**	Pn	**Pn**	**00 33 37.4**	**+2.7**
FAKI	**Fak Fak**	**6.02**	**268**	P	Pn	00 33 39.8	+5.2
COEN	**Coen**	**12.14**	**157**	Pn	**Pn**	**00 35 00.3**	**+1.7**
MTN	**Manton Dam**	**12.26**	**215**		**Pn**	**00 35 03.2**	**+2.9**
SOEI	**Soe**	**15.55**	**243**	Pn	**Pn**	**00 35 42.1**	**-3.0**
SOEI				IAmb	IAmb	00 36 01.8	
	comp=Z,20nm,0.7s						
LUWI	**Luwuk**	**15.58**	**276**	Pn	**Pn**	**00 35 44.3**	**-1.1**
LUWI				IAmb	IAmb	00 36 13.7	
	comp=Z,34nm,0.9s						
KNRA	**Kununurra**	**15.89**	**216**	Pn	**Pn**	**00 35 50.3**	**+1.0**
KNRA				IAmb	IAmb	00 36 19.2	
	comp=Z,12nm,0.7s						
BATI	**Baumata**	**16.28**	**242**	Pn	**Pn**	**00 35 54.9**	**+0.4**
	comp=Z,5.7nm,0.3s,baz=32,slow=15,SNR=4.5						
	comp=Z,11nm,0.4s						
WB0	**Warramunga Arr**	**17.32**	**192**		**Pn**	**00 36 08.6**	**+1.0**
WR8	**Warramunga Arr**	**17.48**	**192**		**Pn**	**00 36 10.4**	**+0.8**
WR8				IAmb	IAmb	00 36 28.0	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**17.49**	**192**	P	**Pn**	**00 36 11.4**	**+1.6**
WRAB				IAmb	IAmb	00 36 38.6	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**17.51**	**192**		**Pn**	**00 36 11.4**	**+1.5**
WRA	**Warramunga Arr**	**17.51**	**192**	P	**Pn**	**00 36 11.5**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=18,slow=12,SNR=16						
WRA				S	**Sn**	**00 39 19.6**	**-5.3**
	comp=Z,3.2nm,1.0s,baz=15,slow=22,SNR=5.4						
	comp=Z,3.2nm,0.6s						
GUMO	**Guam**	**17.51**	**22**	LR	LR	00 41 33.7	
	comp=Z,89nm,19.1s,baz=113,slow=32						
TOLI2	**Tolitoli**	**17.90**	**282**		**Pn**	**00 36 15.5**	**+0.7**
KAPI	**Kappang**	**18.61**	**263**	LR	LR	00 44 14.1	
	comp=Z,104nm,18.8s,baz=108,slow=39						
FITZ	**Fitzroy Crossi**	**19.64**	**218**	P	**P**	**00 36 34.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.64**	**218**	P	**P**	**00 36 35.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=39,slow=6.7,SNR=11						
FITZ				S	**S**	**00 40 07.4**	**-8.9**
	comp=Z,6.4nm,0.8s,baz=28,slow=15,SNR=4.5						
FITZ				LR	LR	00 45 27.6	
	comp=Z,85nm,21.6s,baz=23,slow=41						
	comp=Z,2.7nm,0.8s						

BCAR Beaver Creek A 87.89 27 P P 00 44 56.7 +1.5

*BJI **24** 00:33:32.4, 18°.89S×177°.23W, h363km, mb5.3/18, mb5.3/63*
*MOS **24** 00:33:32.8±0.7, 19°.45S×177°.50W, h378km, mb5.3/34, Error ellipse: s-maj=8.4km s-min=7.9km az=78.1*
*NEIC **24** 00:33:33.8, 19°.56S×177°.32W, h390km, Moment Tensor Solution. Duration: 12s9 Moment tensor: Scale 10^16^Nm; Mrr-4.73; Mθθ0.62; Mφφ4.11; Mrθ-3.24; Mθφ-3.01; Mφr-3.99; Fault plane solution: M0 7.43000×10^16^ NP1: φs124.44000°, δ42.15000°, λ-140.87000°. NP2: φs3.34000°, δ64.94000°, λ-54.93000°. Principal axes: T 6.2675, Plg13.0000°, Azm69.0000°; N 1.9425, Plg31.0000°, Azm167.0000°; P -8.2100, Plg55.0000°, Azm319.0000°;*
*NEIC **24** 00:33:33.8, 19°.46S×177°.42W, h390km*
*NOU **24** 00:33:34.8, 19°.51S×177°.39W, h389km, mb5.2/112, Fiji Islands Region*
*IDC **24** 00:33:35.0±0.9, 19°.51S×177°.45W, h388km±9km, mb4.7/25, mbtmp5.4/29, Error ellipse: s-maj=10.3km s-min=8.3km az=166.0*
*NEIC **24** 00:33:34.9±1.7, 19°.47S±0°.08×177°.41W±0°.08, h382km±4km, mb5.3/171, Mww5.2/8, Error ellipse: s-maj=11.9km s-min=10.8km az=175.0*
*GCMT **24** 00:33:37.6±0.3, 19°.50S±0°.04×177°.52W±0°.02, h394km±1km, MW5.2/85, Moment Tensor Solution. s85,c116; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr-0.60±.03; Mθθ-0.21±.05; Mφφ0.81±.04; Mrθ-0.40±.04; Mθφ-0.20±.04; Mφr-0.42±.03; Best double couple: M0 0.95400×10^17^ NP1: φs141.00000°, δ41.00000°, λ-141.00000°. NP2: φs19.00000°, δ65.00000°, λ-56.00000°. Principal axes: T 0.9360, Plg14.0000°, Azm85.0000°; N 0.0350, Plg30.0000°, Azm183.0000°; P -0.9710, Plg56.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 24 00:33:33.7±0.5, 19°.52S±0°.04×177°.36W±0°.04, h382km±4km, n1122, σ1s01/1143, mb5.2/235, 104C-64D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**291**	Pn	**Pn**	**00 34 51.6**	**-0.2**
MSVF	**Nonsavu**	**4.70**	**291**	P	**Pn**	**00 34 52.9**	**+1.0**
MSVF	**Nonsavu**	**4.70**	**291**	*i* P	**Pn**	**00 34 52.9**	**+1.0**
FUTU	**Fugatoga**	**5.24**	**352**	Pn	**Pn**	**00 34 55.7**	**-1.8**
FUTU	**Fugatoga**	**5.24**	**352**	P	**Pn**	**00 34 58.0**	**+0.5**
	508nm,0.9s						
NIUE	**Niue**	**7.03**	**88**	P	**Pn**	**00 35 16.7**	**-0.6**
	comp=Z,2μm,0.9s						
NIUE	**Niue**	**7.03**	**88**	Pn	**Pn**	**00 35 16.5**	**-0.9**
NIUE	**Niue**	**7.03**	**88**	P	**Pn**	**00 35 16.7**	**-0.6**
	comp=Z,2μm,0.9s						
AFI	**Afiamalu**	**7.73**	**45**	Pn	**Pn**	**00 35 21.3**	**-4.1**
AFI	**Afiamalu**	**7.73**	**45**	P	**Pn**	**00 35 21.3**	**-4.1**
RAO	**Raoul Island**	**9.70**	**183**	P	**P**	**00 35 49.4**	**+1.0**
	comp=Z,217nm,0.4s,baz=0.0,slow=20,SNR=1.9						
RAO				S	**S**	**00 37 33.3**	**-5.1**
	comp=Z,1μm,0.5s,baz=81,slow=24,SNR=7.6						
FUNA	**Funafuti**	**11.43**	**343**		**P**	**00 36 07.7**	**-0.1**
FUNA	**Funafuti**	**11.43**	**343**	P	**Pn**	**00 36 09.2**	**+0.7**
	comp=Z,292nm,1.0s						
MARNC	**Mare, Loyalty**	**13.83**	**259**	P	**P**	**00 36 34.6**	**+0.4**
PINNC	**Pines Island,**	**14.51**	**255**		**Pn**	**00 36 43.2**	**-0.9**
OUENC	**Ouen Island, N**	**15.04**	**256**	P	**Pn**	**00 36 49.2**	**-0.8**
	comp=Z,80nm,1.5s						
SANVU	**Saraoutou**	**15.27**	**283**		**P**	**00 36 50.4**	**+0.5**
SANVU	**Saraoutou**	**15.27**	**283**	P	**P**	**00 36 50.6**	**+0.7**
	comp=Z,125nm,0.8s						
DZM	**Mont Dzumac**	**15.36**	**258**	P	**Pn**	**00 36 52.5**	**-1.4**
	comp=Z,33nm,0.8s,baz=83,slow=16,SNR=17						
DZM				S	**S**	**00 39 31.4**	**-2.9**
	comp=Z,18nm,1.2s,baz=68,slow=14,SNR=3.1						
ONTNC	**Ouen Toro**	**15.38**	**257**		**P**	**00 36 51.6**	**+0.6**
RAR	**Rarotonga**	**16.58**	**99**	P	**P**	**00 37 04.9**	**+0.9**
RAR	**Rarotonga**	**16.58**	**99**	P	**P**	**00 37 05.6**	**+1.7**
	comp=Z,89nm,0.8s,baz=252,slow=6.5,SNR=29						
RAR	**Rarotonga**	**16.58**	**99**	P	**P**	**00 37 05.4**	**+1.4**
	comp=Z,136nm,1.7s						
MXZ	**Matakaoa Point**	**18.37**	**191**	P	**P**	**00 37 24.4**	**+1.5**
TOZ	**Tahuroa Road**	**19.18**	**197**	P	**P**	**00 37 32.7**	**+1.4**
URZ	**Urewera**	**19.28**	**193**	P	**P**	**00 37 31.6**	**-0.7**
	comp=Z,9.3nm,0.3s,baz=37,slow=5.1,SNR=13						
URZ				S	**S**	**00 40 44.7**	**-3.7**
	comp=Z,13nm,0.6s,baz=77,slow=24,SNR=7.4						
TARA	**Tarawa**	**22.84**	**334**	P	**P**	**00 38 04.4**	**-0.9**
TARA	**Tarawa**	**22.84**	**334**	P	**P**	**00 38 05.3**	**0.0**
	comp=Z,403nm,1.2s						
LHI	**Lord Howe Isla**	**24.34**	**236**	P	**P**	**00 38 18.3**	**-0.5**
	comp=Z,60nm,0.8s						
LHI	**Lord Howe Isla**	**24.34**	**236**	P	**P**	**00 38 19.7**	**+0.9**
TBI	**Tubuai**	**26.23**	**103**	*e*P	**P**	**00 38 38.0**	**+2.4**
	comp=Z,84nm,0.7s						
TBI				*e*S	**S**	**00 42 40.0**	**+0.5**
	comp=Z,869nm,27.8s						
TBI				*es*S	**sS**	**00 44 38.6**	**-5.1**
	comp=Z,3μm,28.2s						
PAE	**Paea**	**26.39**	**91**	*e*P	**P**	**00 38 38.3**	**+1.2**
	comp=Z,57nm,1.1s						
PPT2	**Papeete2**	**26.40**	**90**	*e*S	**S**	**00 42 42.4**	**0.0**
	comp=Z,215nm,27.0s						
PPT2				*es*S	sS	00 44 40.5	-6.9
	comp=Z,889nm,26.8s						
PPT2				*es*S	**SS**	**00 44 42.0**	**-11**
	comp=Z,612nm,28.5s						
PPT	**Papeete**	**26.40**	**90**	P	**P**	**00 38 38.6**	**+1.4**
	comp=Z,178nm,0.8s,baz=355,slow=0.9,SNR=20						
	comp=Z,178nm,0.8s						
PPTF	**Pamatai, Papee**	**26.41**	**90**	P	**P**	**00 38 38.3**	**+0.9**
PPTF				IAmb	IAmb	00 38 39.9	
	comp=Z,171nm,0.8s						
PPTF	**Pamatai, Papee**	**26.41**	**90**	P	**P**	**00 38 37.8**	**+0.4**
	comp=Z,250nm,0.9s						
TIAR	**Tiarei**	**26.62**	**90**	*e*P	**P**	**00 38 40.5**	**+1.3**
	comp=Z,178nm,0.8s						
TVO	**Taravao**	**26.68**	**91**	*e*P	**P**	**00 38 41.1**	**+1.3**
	comp=Z,29nm,1.0s						
GC1S	**Gold Coast 1 S**	**27.94**	**247**	P	**P**	**00 38 52.1**	**+1.4**
	comp=Z,47nm,0.9s						
AUWSH	**Wavell State H**	**28.21**	**248**	P	**P**	**00 38 54.2**	**+1.1**
	comp=Z,164nm,1.0s						
PMOR	**Pomariorio Ree**	**28.48**	**86**	*e*P	**P**	**00 38 56.8**	**+1.2**
	comp=Z,253nm,1.1s						
VAH	**Vaihoa**	**28.67**	**86**	*e*P	**P**	**00 38 58.1**	**+0.8**
	comp=Z,43nm,1.0s						
XMAS	**Kiritimati**	**29.02**	**45**	P	**P**	**00 39 00.7**	**+0.3**
TW1H	**Toowoomba 1 Ha**	**29.17**	**248**	P	**P**	**00 39 03.2**	**+1.5**
	comp=Z,282nm,0.9s						
EIDS	**Eidsvold**	**29.70**	**253**	P	**P**	**00 39 06.1**	**-0.2**
	comp=Z,75nm,1.0s						
EIDS	**Eidsvold**	**29.70**	**253**	P	**P**	**00 39 06.4**	**+0.1**
EIDS	**Eidsvold**	**29.70**	**253**	P	**P**	**00 39 06.5**	**+0.3**
	comp=Z,75nm,1.0s						
EIDS	**Eidsvold**	**29.70**	**253**	S	**S**	**00 43 33.5**	**-0.3**
	comp=Z,75nm,1.0s						
ARMA	**Armidale**	**30.04**	**243**	P	**P**	**00 39 09.9**	**+0.6**
	comp=Z,53nm,0.6s						
ARMA	**Armidale**	**30.04**	**243**	P	**P**	**00 39 10.3**	**+0.9**
ARMA	**Armidale**	**30.04**	**243**	P	**P**	**00 39 10.5**	**+1.2**
	comp=Z,53nm,0.6s						
ARMA	**Armidale**	**30.04**	**243**	S	**S**	**00 43 41.1**	**+1.9**
	comp=Z,53nm,0.6s						
AUPHS	**Peel High Scho**	**30.82**	**242**	P	**P**	**00 39 17.1**	**+1.1**
	comp=Z,52nm,0.6s						
AUKHS	**Kincumber High**	**31.09**	**237**	P	**P**	**00 39 19.4**	**+1.1**
	comp=Z,224nm,0.7s						
MGCD	**Mangrove Creek**	**31.23**	**238**	P	**P**	**00 39 20.8**	**+1.3**
	comp=Z,65nm,0.7s						
SYDH	**Sydney Hard Ro**	**31.70**	**237**	P	**P**	**00 39 24.0**	**+0.5**
	comp=Z,137nm,0.7s						
RMQ	**Roma**	**31.88**	**251**	P	**P**	**00 39 25.9**	**+0.7**
RMQ	**Roma**	**31.88**	**251**	P	**P**	**00 39 26.1**	**+0.9**
RMQ	**Roma**	**31.88**	**251**	S	**S**	**00 44 09.3**	**+1.7**
CNB	**Canberra Magne**	**33.27**	**235**	P	**P**	**00 39 37.7**	**+0.5**
	comp=Z,89nm,1.0s						
CNB	**Canberra Magne**	**33.27**	**235**	P	**P**	**00 39 37.9**	**+0.7**
	comp=Z,89nm,1.0s						
AUMTS	**Mt Stromlo**	**33.56**	**235**	P	**P**	**00 39 39.9**	**+0.4**
	comp=Z,68nm,1.2s						
CAN	**Canberra**	**33.56**	**235**	P	**P**	**00 39 40.1**	**+0.5**
	comp=Z,63nm,1.0s						
CAN	**Canberra**	**33.56**	**235**	P	**P**	**00 39 39.6**	**0.0**
	comp=Z,97nm,1.0s						
CAN	**Canberra**	**33.56**	**235**	P	**P**	**00 39 39.9**	**+0.3**
	comp=Z,97nm,1.0s						
CAN	**Canberra**	**33.56**	**235**	P	**P**	**00 39 39.6**	**0.0**
CAN				pmax	pmax		
	comp=Z,69nm,1.1s						
CAN	**Canberra**	**33.56**	**235**	P	**P**	**00 39 40.1**	**+0.5**
YNG	**Young**	**33.71**	**237**	P	**P**	**00 39 41.9**	**+1.0**
	comp=Z,14nm,1.4s						
TV1H	**Townsville Har**	**33.77**	**264**	P	**P**	**00 39 41.3**	**-0.2**
	comp=Z,28nm,0.8s						
MILA	**Mila**	**34.04**	**232**	P	**P**	**00 39 43.9**	**+0.3**
	comp=Z,6.6nm,1.6s						
CMSA	**Cobar Meteorol**	**35.26**	**243**	P	**P**	**00 39 54.2**	**+0.2**
	comp=Z,62nm,1.0s						
CMSA	**Cobar Meteorol**	**35.26**	**243**	P	**P**	**00 39 54.3**	**+0.3**
	comp=Z,62nm,1.0s						
CMSA	**Cobar Meteorol**	**35.26**	**243**	S	**S**	**00 44 58.6**	**-0.5**
	comp=Z,62nm,1.0s						
PATS	**Pohnpei**	**35.50**	**315**	P	**P**	**00 39 55.9**	**-0.3**
	comp=Z,132nm,1.4s						
PATS	**Pohnpei**	**35.50**	**315**	P	**P**	**00 39 55.6**	**-0.5**
PATS				IAmb	IAmb	00 39 59.0	
	comp=Z,200nm,1.3s						
PATS	**Pohnpei**	**35.50**	**315**	P	**P**	**00 39 56.2**	**+0.1**
	comp=Z,141nm,1.4s						
PMG	**Port Moresby**	**35.73**	**281**	P	**P**	**00 39 57.9**	**-0.3**
PMG				IAmb	IAmb	00 39 59.2	
	comp=Z,131nm,0.8s						
PMG	**Port Moresby**	**35.73**	**281**	P	**P**	**00 39 57.4**	**-0.7**
	comp=Z,113nm,0.8s,baz=94,slow=6.1,SNR=21						
	comp=Z,113nm,0.8s						
PMG	**Port Moresby**	**35.73**	**281**	P	**P**	**00 39 57.8**	**-0.3**
	comp=Z,174nm,1.0s						
PMG	**Port Moresby**	**35.73**	**281**	*ce*P	**P**	**00 39 58.4**	**+0.3**
PMG				pmax	pmax		
	comp=Z,162nm,1.0s						
PMG	**Port Moresby**	**35.73**	**281**	P	**P**	**00 39 57.3**	**-0.8**
QLP	**Quilpie**	**35.93**	**251**	P	**P**	**00 39 59.7**	**0.0**
	comp=Z,228nm,1.0s						
QLP	**Quilpie**	**35.93**	**251**	P	**P**	**00 39 59.7**	**0.0**
	comp=Z,228nm,1.0s						
QLP	**Quilpie**	**35.93**	**251**	S	**S**	**00 45 08.7**	**-0.7**
	comp=Z,228nm,1.0s						
MTSU	**Mount Surprise**	**36.25**	**266**	P	**P**	**00 40 02.1**	**-0.4**
	comp=Z,30nm,0.8s						
MTSU	**Mount Surprise**	**36.25**	**266**	P	**P**	**00 40 02.1**	**-0.4**
	comp=Z,30nm,0.8s						
TOO	**Toolangi**	**36.96**	**233**	P	**P**	**00 40 08.6**	**+0.4**
	comp=Z,27nm,1.3s						
TOO	**Toolangi**	**36.96**	**233**	P	**P**	**00 40 08.3**	**+0.1**
TOO	**Toolangi**	**36.96**	**233**	P	**P**	**00 40 08.3**	**+0.1**
TOO				pmax	pmax		
	comp=Z,18nm,0.8s						
BRAT	**Ballarat**	**38.13**	**234**	P	**P**	**00 40 18.9**	**+1.1**
	comp=Z,51nm,0.9s						
COEN	**Coen**	**38.13**	**272**	P	**P**	**00 40 17.8**	**-0.4**
	comp=Z,77nm,0.8s						
COEN	**Coen**	**38.13**	**272**	P	**P**	**00 40 17.7**	**-0.4**
COEN	**Coen**	**38.13**	**272**	P	**P**	**00 40 18.0**	**-0.2**
	comp=Z,77nm,0.8s						
MANU	**Manus Island**	**38.62**	**292**	P	**P**	**00 40 22.0**	**-0.2**
MANU				IAmb	IAmb	00 40 23.2	
	comp=Z,227nm,1.7s						
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**00 40 23.7**	**+0.6**
	comp=Z,241nm,0.9s						
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**00 40 23.3**	**+0.2**
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**00 40 23.8**	**+0.6**
	comp=Z,27nm,0.4s,baz=91,slow=10,SNR=85						
STKA				PcP	**PcP**	**00 42 26.9**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=57,slow=2.4,SNR=3.0						
	comp=Z,27nm,0.4s						
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	**00 40 23.7**	**+0.6**
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**38.76**	**243**	S	**S**	**00 45 50.9**	**-0.7**
	comp=Z,12nm,0.9s						
ARPS	**Mount Arapiles**	**39.53**	**236**	P	**P**	**00 40 29.3**	**0.0**
	comp=Z,35nm,1.1s						
RKT	**Rikitea**	**39.55**	**103**	*e*P	**P**	**00 40 31.8**	**+2.1**
	comp=Z,118nm,0.9s						
QIS	**Mount Isa**	**40.36**	**261**	P	**P**	**00 40 35.7**	**-0.6**
	comp=Z,17nm,0.8s						
QIS	**Mount Isa**	**40.36**	**261**	P	**P**	**00 40 36.0**	**-0.3**
	comp=Z,17nm,0.8s						
QIS	**Mount Isa**	**40.36**	**261**	S	**S**	**00 46 14.6**	**-0.9**
	comp=Z,17nm,0.8s						
AUMBR	**Murray Bridge**	**41.20**	**239**	P	**P**	**00 40 43.3**	**+0.5**
	comp=Z,194nm,1.1s						
HTT	**Hallett**	**41.22**	**241**	P	**P**	**00 40 43.7**	**+0.6**
	comp=Z,46nm,1.1s						
HTT	**Hallett**	**41.22**	**241**	P	**P**	**00 40 43.5**	**+0.4**
	comp=Z,115nm,1.1s						
HTT	**Hallett**	**41.22**	**241**	S	**S**	**00 46 27.0**	**-0.8**
	comp=Z,115nm,1.1s						
WAKE	**Wake Island**	**41.63**	**337**	P	**P**	**00 40 46.2**	**-0.2**
WHYH	**Whyalla**	**42.28**	**242**	P	**P**	**00 40 52.0**	**+0.5**
	comp=Z,150nm,0.7s						
BBOO	**Buckleboo**	**43.52**	**243**	P	**P**	**00 41 01.3**	**-0.1**
	comp=Z,113nm,1.0s						
BBOO	**Buckleboo**	**43.52**	**243**	P	**P**	**00 41 01.2**	**-0.2**
BBOO				IAmb	IAmb	00 41 01.9	
	comp=Z,69nm,0.6s						
BBOO	**Buckleboo**	**43.52**	**243**	P	**P**	**00 41 01.4**	**0.0**
	comp=Z,113nm,1.0s						
BBOO	**Buckleboo**	**43.52**	**243**	S	**S**	**00 47 00.0**	**-1.2**
	comp=Z,113nm,1.0s						
JAY	**Jayapura**	**44.32**	**287**	P	**P**	**00 41 07.6**	**-0.3**
	comp=Z,46nm,0.5s,baz=122,slow=4.0,SNR=31						
	comp=Z,46nm,0.5s						
JAY	**Jayapura**	**44.32**	**287**	P	**P**	**00 41 07.4**	**-0.5**
	comp=Z,77nm,1.1s						
KNHH	**Kane Nui o Ham**	**44.36**	**31**	P	**P**	**00 41 08.4**	**+0.3**
STCH	**Steam Cracks**	**44.39**	**31**	P	**P**	**00 41 08.8**	**+0.4**
STCH				IAmb	IAmb	00 41 10.1	
	comp=Z,84nm,0.8s						
HMH	**Humu'ula Sheep**	**44.41**	**30**	P	**P**	**00 41 09.7**	**+0.9**
HMH				IAmb	IAmb	00 41 11.0	
	comp=Z,162nm,0.8s						
KEKH	**Kekaha**	**44.71**	**24**	P	**P**	**00 41 11.2**	**+0.5**
KEKH				IAmb	IAmb	00 42 06.4	
	comp=Z,459nm,1.7s						
GENI	**Genyem**	**44.77**	**287**	P	**P**	**00 41 12.2**	**+0.8**
	comp=Z,140nm,0.9s						
GENI	**Genyem**	**44.77**	**287**	P	**P**	**00 41 11.4**	**0.0**
	comp=Z,141nm,0.9s						
WR0	**Warramunga Arr**	**45.15**	**261**	P	**P**	**00 41 13.5**	**-0.8**
WR8	**Warramunga Arr**	**45.19**	**261**	P	**P**	**00 41 13.9**	**-0.8**
WB0	**Warramunga Arr**	**45.31**	**261**	P	**P**	**00 41 14.8**	**-0.8**
WB0				IAmb	IAmb	00 41 15.6	
	comp=Z,93nm,0.7s						
WRAB	**Tennant Creek**	**45.33**	**261**	P	**P**	**00 41 14.5**	**-1.2**
	comp=Z,53nm,1.0s						
WRAB	**Tennant Creek**	**45.33**	**261**	*ce*P	**P**	**00 41 14.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,90nm,1.0s						
WRAB	**Tennant Creek**	**45.33**	**261**	P	**P**	**00 41 14.6**	**-1.1**
WRAB				PcP	**PcP**	**00 42 48.5**	**+0.5**
AS31	**Alice Springs**	**45.33**	**256**	P	**P**	**00 41 15.6**	**-0.2**
AS31				IAmb	IAmb	00 41 16.8	
	comp=Z,85nm,0.7s						
AS31				PcP	**PcP**	**00 42 47.6**	**-0.3**
ASAR	**Alice Springs**	**45.34**	**256**	P	**P**	**00 41 15.6**	**-0.2**
	comp=Z,251nm,0.6s,baz=87,slow=8.3,SNR=870						
ASAR				PcP	**PcP**	**00 42 48.1**	**+0.2**
	comp=Z,16nm,0.9s,baz=111,slow=3.0,SNR=7.8						
ASAR				S	**S**	**00 47 24.9**	**-2.4**
	comp=Z,15nm,1.1s,baz=89,slow=16,SNR=25						
	comp=Z,251nm,0.6s						
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**00 41 14.6**	**-1.2**
WRA					**PcP**	**00 42 48.4**	**+0.3**
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**00 41 15.2**	**-0.6**
	comp=Z,50nm,0.5s,baz=98,slow=5.7,SNR=32						
WRA				PcP	**PcP**	**00 42 48.2**	**+0.1**
	comp=Z,15nm,1.0s,baz=95,slow=4.0,SNR=8.4						
WRA				S	**S**	**00 47 23.2**	**-4.3**
	comp=Z,6.0nm,0.8s,baz=97,slow=14,SNR=10						
	comp=Z,50nm,0.5s						
SMPI	**Sarmi**	**46.34**	**287**	P	**P**	**00 41 23.3**	**-0.3**
	comp=Z,87nm,1.0s						
KDU	**Kakadu**	**48.54**	**270**	P	**P**	**00 41 39.3**	**-0.9**
	comp=Z,17nm,0.8s						
BAKI	**Biak**	**49.03**	**286**	P	**P**	**00 41 44.5**	**+0.5**
	comp=Z,2μmcomp=Z,254nm,0.8s						
GUMO	**Guam**	**49.65**	**309**	P	**P**	**00 41 48.0**	**-0.5**
GUMO	**Guam**	**49.65**	**309**	P	**P**	**00 41 48.4**	**-0.1**
	comp=Z,80nm,0.3s,baz=164,slow=10,SNR=6.8						
	comp=Z,80nm,0.3s						
MTN	**Manton Dam**	**49.76**	**269**	P	**P**	**00 41 48.3**	**-1.1**
FORT	**Forrest**	**50.24**	**246**	P	**P**	**00 41 52.2**	**-0.6**
	comp=Z,77nm,0.8s						
FORT	**Forrest**	**50.24**	**246**	P	**P**	**00 41 52.2**	**-0.6**
WRKA	**Warakurna**	**50.32**	**253**	P	**P**	**00 41 53.4**	**-0.1**
	comp=Z,70nm,1.2s						
RKPI	**Ransiki, Papua**	**50.66**	**285**	P	**P**	**00 41 55.8**	**-0.3**
	comp=Z,8μmcomp=Z,70nm,0.9s						
KNRA	**Kununurra**	**51.33**	**265**	P	**P**	**00 42 00.7**	**-0.3**
	comp=Z,168nm,0.7s						
KNRA	**Kununurra**	**51.33**	**265**	P	**P**	**00 42 00.3**	**-0.7**
KNRA				IAmb	IAmb	00 42 01.9	
	comp=Z,113nm,0.7s						
FAKI	**Fak Fak**	**51.88**	**282**	P	**P**	**00 42 04.1**	**-0.9**
FAKI				IAmb	IAmb	00 42 05.6	
	comp=Z,141nm,1.5s						
FAKI	**Fak Fak**	**51.88**	**282**	P	**P**	**00 42 04.8**	**-0.2**
	comp=Z,60nm,1.3s						
FAKI	**Fak Fak**	**51.88**	**282**	S	**S**	**00 48 58.7**	**+0.7**
	comp=Z,60nm,1.3s						
FAKI	**Fak Fak**	**51.88**	**282**	P	**P**	**00 42 04.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.76**	**262**	P	**P**	**00 42 18.7**	**+0.1**
	comp=Z,24nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.76**	**262**	P	**P**	**00 42 18.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.76**	**262**	P	**P**	**00 42 18.8**	**+0.1**
	comp=Z,46nm,0.5s,baz=112,slow=4.7,SNR=72						
	comp=Z,46nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.76**	**262**	P	**P**	**00 42 18.6**	**+0.1**
	comp=Z,236nm,1.3s						
DRV	**Dumont d'Urvil**	**54.47**	**199**	P	**P**	**00 42 23.4**	**+0.6**
MSAI	**Masohi**	**54.79**	**280**	P	**P**	**00 42 25.1**	**-0.9**
	comp=Z,3μmcomp=Z,91nm,0.7s						
AAI	**Ambon**	**55.35**	**279**	P	**P**	**00 42 28.7**	**-1.3**
	comp=Z,4μmcomp=Z,93nm,0.7s						
KMBL	**Kambalda**	**55.52**	**245**	P	**P**	**00 42 30.3**	**-0.6**
	comp=Z,18nm,1.1s						
NLAI	**Namlea**	**56.53**	**279**	P	**P**	**00 42 38.1**	**-0.1**
	comp=Z,2μmcomp=Z,135nm,0.7s						
SOEI	**Soe**	**57.08**	**271**	P	**P**	**00 42 42.9**	**+0.7**
SOEI	**Soe**	**57.08**	**271**	P	**P**	**00 42 43.1**	**+0.9**
	comp=Z,645nm,1.0s						
SOEI	**Soe**	**57.08**	**271**	P	**P**	**00 42 43.2**	**+1.0**
BATI	**Baumata**	**57.52**	**270**	P	**P**	**00 42 46.5**	**+1.3**
	comp=Z,148nm,0.6s,baz=130,slow=2.2,SNR=24						
	comp=Z,148nm,0.6s						
BATI	**Baumata**	**57.52**	**270**	P	**P**	**00 42 45.9**	**+0.8**
	comp=Z,2μmcomp=Z,213nm,0.7s						
TNTI	**Ternate**	**57.80**	**284**	P	**P**	**00 42 47.0**	**-0.1**
TNTI				IAmb	IAmb	00 42 48.3	
	comp=Z,154nm,1.1s						
TNTI	**Ternate**	**57.80**	**284**	P	**P**	**00 42 47.5**	**+0.5**
	comp=Z,134nm,1.1s						
TNTI	**Ternate**	**57.80**	**284**	P	**P**	**00 42 46.8**	**-0.2**
	comp=Z,1μmcomp=Z,133nm,1.1s						
SANI	**Sanana**	**58.00**	**280**	P	**P**	**00 42 48.1**	**-0.3**
	comp=Z,152nm,1.0s						
SANI	**Sanana**	**58.00**	**280**	P	**P**	**00 42 47.5**	**-0.9**
	comp=Z,1μmcomp=Z,152nm,1.0s						
PSAC2	**Pilbara Seismi**	**58.43**	**256**	P	**P**	**00 42 50.8**	**-0.5**
	comp=Z,147nm,0.8s						
PSA00	**Pilbara Seismi**	**58.48**	**256**	P	**P**	**00 42 51.2**	**-0.4**
	comp=Z,159nm,1.3s						
PSA00	**Pilbara Seismi**	**58.48**	**256**	P	**P**	**00 42 50.5**	**-1.1**
PSA00				PcP	**PcP**	**00 43 37.7**	**+0.2**
PSA00	**Pilbara Seismi**	**58.48**	**256**	P	**P**	**00 42 51.4**	**-0.2**
	comp=Z,159nm,1.3s						
PSA00	**Pilbara Seismi**	**58.48**	**256**	S	**S**	**00 50 24.7**	**0.0**
	comp=Z,159nm,1.3s						
MBWA	**Marble Bar**	**58.66**	**257**	P	**P**	**00 42 52.4**	**-0.4**
	comp=Z,122nm,0.7s						
MBWA	**Marble Bar**	**58.66**	**257**	P	**P**	**00 42 52.4**	**-0.4**
MBWA	**Marble Bar**	**58.66**	**257**	P	**P**	**00 42 52.5**	**-0.3**
MBWA	**Marble Bar**	**58.66**	**257**	P	**P**	**00 42 52.4**	**-0.4**
	comp=Z,70nm,0.7s						
MBWA	**Marble Bar**	**58.66**	**257**	P	**P**	**00 42 52.4**	**-0.4**
MBWA				PcP	**PcP**	**00 43 38.5**	**+0.3**
MEEK	**Meekatharra**	**58.81**	**250**	P	**P**	**00 42 52.9**	**-0.9**
	comp=Z,55nm,1.2s						
MEEK	**Meekatharra**	**58.81**	**250**	P	**P**	**00 42 53.2**	**-0.6**
	comp=Z,55nm,1.2s						
SBA	**Scott Base**	**58.88**	**184**	P	**P**	**00 42 55.7**	**+2.4**
SBA	**Scott Base**	**58.88**	**184**	P	**P**	**00 42 55.7**	**+2.4**
SBA				pmax	pmax		
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**58.93**	**185**	P	**P**	**00 42 54.9**	**+1.2**
VNDA	**Vanda**	**58.93**	**185**	P	**P**	**00 42 55.8**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=4.2,slow=10,SNR=9.7						
MMRI	**Maumere**	**59.32**	**271**	P	**P**	**00 42 56.6**	**-0.8**
MMRI	**Maumere**	**59

comp=Z,131nm,0.9s
JAGI Jajag, Banyuwa 67.00 269 S **S 00 52 09.1 -0.8**
comp=Z,131nm,0.9s
JAGI Jajag, Banyuwa 67.00 269 P **P 00 43 45.9 -1.4**
comp=Z,132nm,0.9s
MYLDM Lahad Datu 67.67 284 P **P 00 43 51.8 +0.4**
MYLDM Lahad Datu 67.67 284 P **P 00 43 52.6 +1.2**
comp=Z,94nm,1.6s
BLJI Banyuglugur 67.74 269 P **P 00 43 51.5 -0.4**
comp=Z,114nm,1.0s
BBKI Banjar Baru 67.93 274 P **P 00 43 53.9 +0.8**
JMM Marumori 69.33 326 P **P 00 44 00.2 -0.8**
JMM IAmb IAmb 00 44 02.1
comp=Z,97nm,1.1s
JMM Marumori 69.33 326 P **P 00 44 00.9 -0.1**
comp=Z,86nm,1.4s
JGF Kuroka 69.61 322 P **P 00 44 02.3 -0.6**
JGF IAmb IAmb 00 44 04.0
comp=Z,76nm,1.1s
JGF Kuroka 69.61 322 P **P 00 44 03.3 +0.4**
comp=Z,83nm,1.2s
INU Inuyama 69.64 321 P **P 00 44 02.6 -0.4**
INU IAmb IAmb 00 44 04.3
comp=Z,44nm,1.0s
INU Inuyama 69.64 321 P **P 00 44 03.3 +0.3**
comp=Z,52nm,1.2s
MJAR Matsushiro Arr 69.79 323 P **P 00 44 03.5 -0.4**
MJAR IAmb IAmb 00 44 04.8
comp=Z,65nm,0.9s
MJAR Matsushiro Arr 69.79 323 P **P 00 44 03.6 -0.3**
comp=Z,56nm,0.8s,baz=157,slow=6.0,SNR=96
comp=Z,56nm,0.8s
MAJO Matsushiro 69.79 323 P **P 00 44 03.2 -0.7**
MAJO IAmb IAmb 00 44 04.8
comp=Z,75nm,0.8s
MAJO Matsushiro 69.79 323 P **P 00 44 03.7 -0.2**
comp=Z,102nm,0.9s
MAJO Matsushiro 69.79 323 *i* P **P 00 44 03.5 -0.4**
MAJO pmax pmax
comp=Z,84nm,0.9s
MAJO Matsushiro 69.79 323 P **P 00 44 03.7 -0.2**
MJB9 Matsu-Tunnel 69.79 323 P **P 00 44 04.5 +0.5**
MJB9 IAmb IAmb 00 44 06.2
comp=Z,75nm,0.9s
PCJI Pacitan 69.89 268 P **P 00 44 05.1 +0.1**
JOW Kunigami 70.01 309 P **P 00 44 06.0 +0.5**
JOW IAmb IAmb 00 44 07.6
comp=Z,121nm,1.1s
JOW Kunigami 70.01 309 P **P 00 44 06.6 +1.2**
comp=Z,111nm,1.1s
JMN Monobe 70.45 318 P **P 00 44 08.4 +0.4**
JMN Monobe 70.45 318 P **P 00 44 08.9 +0.9**
comp=Z,152nm,1.1s
QSPA South Pole Qui 70.54 180 P **P 00 44 11.4 +3.2**
UGM Wanagama 70.59 268 P **P 00 44 08.5 -0.8**
JSD Sado 70.82 324 P **P 00 44 10.2 +0.1**
JSD IAmb IAmb 00 44 11.5
comp=Z,68nm,1.0s
JSD Sado 70.82 324 P **P 00 44 10.2 +0.1**
comp=Z,79nm,1.2s
KIWB Kanaga Island 71.07 0 P **P 00 44 10.6 -0.6**
KIWB IAmb IAmb 00 44 11.4
comp=Z,100nm,1.1s
JNU Nakatsue 71.99 316 P **P 00 44 17.4 +0.3**
comp=Z,88nm,1.2s
SBUM Sibu 72.44 279 P **P 00 44 20.4 +0.2**
SBUM IAmb IAmb 00 44 22.4
comp=Z,83nm,1.3s
SBUM Sibu 72.44 279 P **P 00 44 20.6 +0.5**
comp=Z,55nm,1.4s
NIKH Nikolski High 72.56 5 P **P 00 44 19.8 -0.1**
baz=188
YOJ Yonaguni jima 72.67 305 P **P 00 44 21.2 0.0**
YOJ Yonaguni jima 72.67 305 P **P 00 44 21.8 +0.6**
comp=Z,252nm,1.1s
YOJ Yonaguni jima 72.67 305 P **P 00 44 21.2 0.0**
YOJ pmax pmax
comp=Z,250nm,1.1s
JKA Kamikawa-asahi 73.16 331 P **P 00 44 24.7 +1.0**
JKA IAmb IAmb 00 44 26.6
comp=Z,62nm,1.2s
ASAJ Asahikawa 73.16 331 P **P 00 44 24.7 +1.1**
ASAJ pmax pmax
comp=Z,62nm,1.2s
TWGBT Beinan 73.36 302 P **P 00 44 24.2 -1.1**
comp=Z,51nm,2.1s
BBJI Bungbulang 73.44 268 P **P 00 44 25.6 -0.4**
comp=Z,48nm,1.1s
YULB Yu-li 73.47 303 P **P 00 44 24.7 -1.2**
YULB IAmb IAmb 00 44 26.2
comp=Z,72nm,1.3s
YULB Yu-li 73.47 303 P **P 00 44 25.1 -0.8**
comp=Z,50nm,1.4s
NACB Ninganchiao 73.63 304 P **P 00 44 26.3 -0.5**
NACB Ninganchiao 73.63 304 P **P 00 44 26.5 -0.3**
comp=Z,184nm,1.1s
UNV Unalaska Valle 73.66 7 P **P 00 44 24.8 -1.4**
baz=191
SKR Severo-Kuril's 73.70 343 *ce* P **P 00 44 26.7 +0.1**
KSM Kuching 73.88 277 P **P 00 44 28.4 -0.1**
KSM Kuching 73.88 277 P **P 00 44 29.4 +0.9**
comp=Z,151nm,1.1s
SSLB Suanglung 73.94 303 P **P 00 44 27.1 -1.5**
SSLB IAmb IAmb 00 44 29.2
comp=Z,107nm,1.3s
SSLB Suanglung 73.94 303 P **P 00 44 27.9 -0.8**
comp=Z,71nm,1.1s
TPUB Ta-pu 73.96 302 P **P 00 44 27.7 -1.0**
YHNB Yeheng 74.06 304 P **P 00 44 28.8 -0.6**
YHNB Yeheng 74.06 304 P **P 00 44 29.4 +0.1**
comp=Z,132nm,1.1s
TATO Taipei 74.12 304 P **P 00 44 29.1 -0.5**
TATO Taipei 74.12 304 P **P 00 44 29.4 -0.2**
TATO Taipei 74.12 304 P **P 00 44 29.7 +0.1**
comp=Z,209nm,1.5s
YSS Yuzhno-Sakhali 75.30 333 P **P 00 44 36.1 +0.3**
YSS IAmb IAmb 00 44 38.8
comp=Z,54nm,1.0s
YSS Yuzhno-Sakhali 75.30 333 P **P 00 44 37.1 +1.4**
comp=Z,44nm,0.8s
YSS Yuzhno-Sakhali 75.30 333 *eP* **P 00 44 36.7 +1.0**
YSS *eS* **S 00 53 44.1 +1.2**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,100nm,4.8s
PEA0B Petropavlovsk- 75.49 345 P **P 00 44 36.3 -0.4**
PEA0B IAmb IAmb 00 44 38.4
comp=Z,68nm,0.8s
PEA0B Petropavlovsk- 75.49 345 *ce* P **P 00 44 37.1 +0.4**
PETK Petropavlovsk- 75.49 345 P **P 00 44 36.1 -0.6**
PETK Petropavlovsk- 75.49 345 P **P 00 44 36.3 -0.4**
comp=Z,52nm,0.9s,baz=118,slow=6.6,SNR=32
comp=Z,52nm,0.9s
TJN Taejon 76.27 317 P **P 00 44 43.1 +1.7**
comp=Z,175nm,1.3s
TJN Taejon 76.27 317 *i* P **P 00 44 41.2 -0.2**
QZH Quanzhou 76.39 303 ⇓ *iP* **P 00 44 42.8 +0.5**
QZH pmax pmax
comp=Z,160nm,1.1s
FARB Farallon Islan 76.48 42 P **P 00 44 44.0 +1.4**
KSRS Korea Array 76.56 318 P **P 00 44 44.2 +1.2**
comp=Z,14nm,0.7s,baz=135,slow=6.3,SNR=41
comp=Z,14nm,0.7s
KSAR Wonju Array Be 76.58 318 P **P 00 44 43.2 0.0**
KSAR Wonju Array Be 76.58 318 P **P 00 44 43.2 0.0**
HULI Fort Hunter Li 76.60 44 P **P 00 44 43.9 +0.6**
KS19 Wonju Array Si 76.62 318 P **P 00 44 43.6 +0.2**
KS19 IAmb IAmb 00 44 46.5
comp=Z,125nm,1.8s
PMPB Monarch Peak 77.00 44 P **P 00 44 47.1 +1.4**
PMPB IAmb IAmb 00 44 48.8
comp=Z,106nm,1.3s
INCN Inchon 77.39 317 P **P 00 44 48.1 +0.4**
INCN Inchon 77.39 317 P **P 00 44 49.3 +1.6**
comp=Z,66nm,1.2s
INCN Inchon 77.39 317 P **P 00 44 48.1 +0.4**
INCN pmax pmax
comp=Z,152nm,1.5s
PMBI Palembang 77.59 271 P **P 00 44 49.4 +0.1**
CPE Camp Elliot 77.63 48 P **P 00 44 49.5 +0.4**
CBX Cerro Bola 77.63 49 P **P 00 44 50.6 +1.3**
CBX IAmb IAmb 00 44 52.2
comp=Z,90nm,1.6s
ESJX Sierra Juarez 77.98 50 P **P 00 44 52.9 +1.6**
SII Sitkinak Islan 78.26 13 P **P 00 44 50.3 -1.6**
baz=202
TYV Tymovskoe 78.40 335 *eP* **P 00 44 52.8 0.0**
TYV *eS* **S 00 54 10.9 -5.1**
TYV pmax pmax
comp=Z,300nm,3.8s
TYV pmax pmax
comp=Z,28nm,0.9s
TYV smax smax
comp=N,500nm,5.3s
TYV smax smax
comp=E,400nm,5.3s
PFO Pinyon Flats O 78.48 48 P **P 00 44 55.2 +1.4**
PFO Pinyon Flats O 78.48 48 *i* P **P 00 44 55.3 +1.4**
PFO pmax pmax
comp=Z,51nm,1.1s
PFO Pinyon Flats O 78.48 48 P **P 00 44 55.6 +1.8**
SLBS Sierra La Lagu 78.50 60 P **P 00 44 55.9 +1.8**
SLBS IAmb IAmb 00 45 59.9
comp=Z,63nm,1.9s
USRK Ussuriysk Ar. 78.50 325 P **P 00 44 54.9 +1.3**
comp=Z,27nm,1.0s,baz=151,slow=4.4,SNR=37
comp=Z,27nm,1.0s
HKPS Hong Kong Po S 78.75 299 P **P 00 44 56.1 +0.7**
HKPS Hong Kong Po S 78.75 299 P **P 00 44 56.8 +1.4**
comp=Z,155nm,1.1s
R17L Mt. Peulik Vol 78.83 11 P **P 00 44 54.7 -0.3**
baz=200
MNAI Manna 78.84 269 P **P 00 44 56.0 -0.1**
OHAK Old Harbor 79.06 13 P **P 00 44 55.9 -0.3**
baz=203
R18K Karluk 79.14 12 P **P 00 44 56.4 -0.2**
baz=202
WAKR Walker 79.22 43 P **P 00 44 59.2 +1.4**
WAKR IAmb IAmb 00 45 00.8
comp=Z,65nm,0.9s
SMAI San Martin Ant 79.30 159 P **P 00 44 59.0 +1.6**
SMAI IAmb IAmb 00 45 00.5
comp=Z,28nm,0.9s
DLV Lat 79.41 287 P **P 00 45 00.9 +1.6**
comp=Z,63nm,1.4s
BEKR Beckworth 79.44 41 P **P 00 45 00.3 +1.4**
BEKR IAmb IAmb 00 45 01.5
comp=Z,65nm,1.2s
Q17K Contact Creek 79.52 11 P **P 00 44 57.8 -1.0**
baz=201
NJ2 Nanjing 79.72 309 ⇓ *iP* **P 00 45 01.6 +1.2**
NJ2 pmax pmax
comp=Z,84nm,0.7s
O15K Ungalikthiuk R 79.72 9 P **P 00 44 59.3 -0.4**
baz=197
KDAK Kodiak Island 79.73 13 P **P 00 44 59.8 0.0**
KDAK Kodiak Island 79.73 13 P **P 00 44 59.8 0.0**
KDAK pmax pmax
comp=Z,195nm,1.7s
KDAK Kodiak Island 79.73 13 P **P 00 44 59.0 -0.7**
baz=204
Q16K King Salmon 79.77 11 P **P 00 44 59.9 -0.1**
baz=200
P16K Nushagak River 79.87 10 P **P 00 45 00.1 -0.4**
baz=199
BBOR Butler Butte 79.89 38 P **P 00 45 02.4 +1.2**
NVAR Mina Array Bea 79.90 43 P **P 00 45 02.8 +1.3**
NVAR Mina Array Bea 79.90 43 P **P 00 45 03.1 +1.6**
comp=Z,28nm,0.8s,baz=224,slow=8.9,SNR=144
comp=Z,28nm,0.8s
113A Mohawk Valley, 79.95 50 **P 00 45 02.5 +0.9**
113A IAmb IAmb 00 45 04.8
comp=Z,32nm,1.0s
BTDF Bukit Timah Da 79.97 275 P **P 00 45 02.9 +0.8**
comp=Z,81nm,1.1s
NV11 Mina Array Sit 80.00 43 P **P 00 45 03.1 +1.2**
NV11 IAmb IAmb 00 45 04.7
comp=Z,46nm,1.1s
MYKOM Kota Tinggi 80.04 275 P **P 00 45 02.4 -0.1**
MYKOM IAmb IAmb 00 45 04.3
comp=Z,77nm,1.0s
MYKOM Kota Tinggi 80.04 275 P **P 00 45 03.0 +0.5**
comp=Z,85nm,1.1s
Q18K Katmai Hardscr 80.04 12 P **P 00 45 01.1 -0.5**
baz=201,SNR=6.7
MDJ Mudanjiang 80.07 325 P **P 00 45 02.8 +0.9**
MDJ pmax pmax
comp=Z,130nm,1.3s
MDJ Mudanjiang 80.07 325 P **P 00 45 02.5 +0.6**
MDJ Mudanjiang 80.07 325 P **P 00 45 03.0 +1.1**
comp=Z,111nm,1.1s
MDJ Mudanjiang 80.07 325 P **P 00 45 02.6 +0.6**
M11K Mekoryuk 80.14 6 P **P 00 45 01.8 0.0**
baz=191
N14K Kuskokwak Cree 80.19 8 P **P 00 45 02.1 0.0**
baz=195
HSIG 80.20 55 P **P 00 45 03.5 +0.5**
P17K Kvichak River 80.29 11 P **P 00 45 02.2 -0.5**
baz=200
O16K Kokwok River B 80.39 10 P **P 00 45 02.8 -0.5**
baz=198
TPH Tonopah 80.41 44 P **P 00 45 05.4 +1.3**
TPH IAmb IAmb 00 45 06.9
comp=Z,54nm,1.2s
TPH Tonopah 80.41 44 P **P 00 45 05.4 +1.3**
TPH pmax pmax
comp=Z,54nm,1.2s
BELA Belgrano 2 80.45 173 P **P 00 45 03.7 +0.2**
M13K Dall Lake 80.46 7 P **P 00 45 03.4 -0.2**
baz=193
Q20K Shuyak Island 80.53 13 P **P 00 45 03.9 -0.1**
baz=204
Q19K Cape Douglas, 80.57 12 P **P 00 45 04.0 -0.2**
baz=203
COR Corvallis 80.61 36 P **P 00 45 06.0 +1.3**
COR IAmb IAmb 00 45 07.5
comp=Z,48nm,0.9s
COR Corvallis 80.61 36 P **P 00 45 06.0 +1.3**
COR pmax pmax
comp=Z,48nm,1.0s
N15K Kwethluk River 80.64 9 P **P 00 45 04.7 +0.1**
baz=196
P18K Big Mountain, 80.69 11 P **P 00 45 04.4 -0.5**
baz=201,SNR=5.3
O17K Koliganek Bris 80.73 10 P **P 00 45 04.8 -0.2**
baz=199
M14K Bethel 80.95 8 P **P 00 45 05.8 -0.4**
baz=195
M15K Kasigluk River 81.06 8 P **P 00 45 06.7 0.0**
baz=196
WIFE Three Sisters- 81.11 37 P **P 00 45 08.2 +0.6**
WIFE IAmb IAmb 00 45 10.3
comp=Z,39nm,0.8s
N16K Nishlik Lake 81.13 9 P **P 00 45 07.3 +0.2**
baz=198
O18K Koktuh Hills 81.13 11 P **P 00 45 07.0 -0.2**
baz=201,SNR=8.9
P19K Oil Pt 81.32 12 P **P 00 45 07.8 -0.4**
baz=203
N17K Nushagak Hills 81.42 10 P **P 00 45 08.4 -0.2**
baz=199
DL2 Dalian 81.44 316 P **P 00 45 09.4 +0.2**
DL2 pmax pmax
comp=Z,73nm,1.2s
L14K Kuka Creek 81.44 7 P **P 00 45 08.9 +0.3**
baz=194
O19K Port Alsworth 81.61 11 P **P 00 45 09.2 -0.4**
baz=202,SNR=9.9
CNPM China Poot 81.61 13 P **P 00 45 09.5 -0.2**
M16K Timber Creek 81.62 9 P **P 00 45 10.1 +0.5**
baz=198,SNR=10
K13K Kusilvak Mount 81.81 6 P **P 00 45 10.0 -0.6**
baz=192
O20K Slope Mountain 81.83 12 P **P 00 45 10.7 -0.1**
baz=204
CN2 Changchun 81.90 322 *eP* **P 00 45 12.0 +0.5**
CN2 pmax pmax
comp=Z,70nm,1.0s
TUC Tucson 81.90 52 P **P 00 45 13.8 +1.9**
TUC IAmb IAmb 00 45 15.7
comp=Z,54nm,0.9s
TUC Tucson 81.90 52 P **P 00 45 13.8 +1.9**
TUC pmax pmax
comp=Z,54nm,1.0s
TUC Tucson 81.90 52 P **P 00 45 14.6 +2.7**
L15K Ungalak Mounta 81.91 8 P **P 00 45 10.9 -0.2**
baz=195
BRSE Bradley Lake S 81.92 13 P **P 00 45 11.2 0.0**
baz=205
BNX BinXian 81.98 324 ⇓ *P* **P 00 45 11.9 +0.1**
BNX pmax pmax
comp=Z,97nm,1.1s
WVOR Wild Horse Val 82.00 40 P **P 00 45 13.3 +1.1**
WVOR IAmb IAmb 00 45 14.9
comp=Z,73nm,1.1s
WVOR Wild Horse Val 82.00 40 P **P 00 45 13.3 +1.1**
WVOR pmax pmax
comp=Z,73nm,1.1s
NLWA Neilton Lookou 82.09 33 P **P 00 45 13.9 +1.4**
NLWA IAmb IAmb 00 45 15.2
comp=Z,58nm,1.1s
N19K Bonanza Creek 82.16 11 P **P 00 45 11.9 -0.7**
baz=202
L16K Owhat River 82.21 8 P **P 00 45 13.3 +0.6**
baz=197,SNR=7.8
M17K Holitna River 82.21 10 P **P 00 45 13.7 +1.0**
baz=199
OZB Mount Ozzard 82.30 32 P **P 00 45 14.4 +0.9**
OZB IAmb IAmb 00 45 30.4
comp=Z,84nm,1.5s
WHN Wuhan 82.36 306 P **P 00 45 14.8 +0.7**
CNSH ChangSha 82.38 303 P **P 00 45 14.9 +0.6**
CNSH pmax pmax
comp=Z,68nm,1.2s
K15K Wolf Creek Mou 82.50 7 P **P 00 45 14.9 +0.8**
K15K Wolf Creek Mou 82.50 7 P **P 00 45 14.6 +0.4**
baz=195,SNR=13
SEW Seward 82.53 14 P **P 00 45 14.2 -0.1**
baz=206
M18K Stony River 82.56 10 P **P 00 45 14.7 +0.3**
baz=200
MAW Mawson 82.68 200 P **P 00 45 15.4 +0.3**
comp=Z,1.6nm,0.4s,baz=118,slow=3.9,SNR=5.2
CCUT Cedar City 82.70 46 **P 00 45 17.4 +1.3**
CCUT IAmb IAmb 00 45 19.3
comp=Z,41nm,0.8s
SLKM Skilak Lake 82.72 13 P **P 00 45 15.1 -0.3**
SLKM IAmb IAmb 00 45 15.9
comp=Z,83nm,0.9s
L17K Donlin 82.78 9 P **P 00 45 16.7 +1.1**
baz=198,SNR=9.9
CLRS Cowichan Lake 82.88 32 P **P 00 45 17.5 +1.1**
CLRS IAmb IAmb 00 45 18.7
comp=Z,52nm,1.0s
SPCR Spurr Chakacha 82.95 12 P **P 00 45 15.7 -0.8**
baz=204
WUAZ Wupatki 83.05 49 P **P 00 45 19.1 +1.3**
WUAZ IAmb IAmb 00 45 21.1
comp=Z,48nm,1.1s
TIA Tai'an 83.06 312 P **P 00 45 18.3 +0.7**
TIA pmax pmax
comp=Z,49nm,0.8s
L18K Granite Mounta 83.11 10 P **P 00 45 17.7 +0.5**
baz=200,SNR=6.8
PGC Sidney 83.12 33 P **P 00 45 18.5 +1.0**
PGC IAmb IAmb 00 45 19.8
comp=Z,54nm,0.8s
ELK Elko 83.16 43 P **P 00 45 19.6 +1.3**
ELK IAmb IAmb 00 45 20.8
comp=Z,43nm,0.9s
ELK Elko 83.16 43 P **P 00 45 19.6 +1.3**
ELK pmax pmax
comp=Z,43nm,1.0s
M19K Big River Lodg 83.19 11 P **P 00 45 17.2 -0.5**
baz=202
K17K Iditarod 83.34 9 P **P 00 45 18.2 -0.2**
baz=198
RC01 Rabbit Creek A 83.35 13 P **P 00 45 18.5 0.0**
baz=206
L19K White Mountain 83.37 10 P **P 00 45 18.5 -0.1**
baz=201
M20K Styx River 83.40 11 P **P 00 45 18.6 -0.3**
baz=203
HPIG 83.41 59 P **P 00 45 20.5 +0.7**
PWL Port Wells 83.45 14 P **P 00 45 18.6 -0.4**
baz=208
J16K Anvik River 83.58 8 P **P 00 45 20.1 +0.5**
baz=196
IPM Ipoh 83.61 277 P **P 00 45 21.2 +0.3**
IPM Ipoh 83.61 277 P **P 00 45 21.9 +1.0**
comp=Z,140nm,1.2s
GLI Glacier Island 83.75 14 P **P 00 45 20.1 -0.4**
baz=209
EYAK Cordova Ski Ar 83.79 15 P **P 00 45 20.5 -0.2**
baz=210
SKT Skwentna 83.79 12 P **P 00 45 20.0 -0.7**
baz=204
HAWA Hanford 83.81 36 P **P 00 45 22.1 +1.0**
HAWA IAmb IAmb 00 45 23.7
comp=Z,80nm,1.1s
L20K Farewell, AK 83.82 11 P **P 00 45 20.5 -0.3**
baz=202,SNR=5.6
M22K Willow 83.87 13 P **P 00 45 20.9 -0.2**
baz=206
J17K VABM Dome 83.88 8 P **P 00 45 21.5 +0.4**
baz=197
KNK Knik Glacier 83.92 14 P **P 00 45 21.1 -0.3**
KNK IAmb IAmb 00 45 21.6
comp=Z,36nm,0.9s
KNK Knik Glacier 83.92 14 P **P 00 45 21.1 -0.3**
baz=207
PMR Palmer 83.93 13 P **P 00 45 21.3 0.0**
comp=Z,44nm,1.2s
PMR Palmer 83.93 13 P **P 00 45 21.1 -0.3**
baz=207
BGLC Bering Glacier 84.05 16 P **P 00 45 22.4 +0.5**
baz=212
V35K Ketchikan 84.06 24 P **P 00 45 22.8 +0.7**
baz=223
U33K Whale Pass 84.07 23 P **P 00 45 22.3 +0.2**
baz=221
GHO Glory Hole Cre 84.14 13 P **P 00 45 22.1 -0.4**
BMO Blue Mountains 84.18 38 P **P 00 45 24.1 +1.0**
BMO Blue Mountains 84.18 38 P **P 00 45 24.1 +1.0**
BMO pmax pmax
comp=Z,25nm,1.0s
ZAIG Zacatecas 84.23 64 P **P 00 45 25.5 +1.4**
KULM Kulim 84.23 278 P **P 00 45 23.5 -0.5**
KULM IAmb IAmb 00 45 26.1
comp=Z,63nm,1.1s
KULM Kulim 84.23 278 P **P 00 45 25.1 +1.1**
comp=Z,72nm,1.1s
121A Cookes Peak, D 84.25 53 **P 00 45 26.1 +2.3**
121A IAmb IAmb 00 45 27.6
comp=Z,42nm,0.9s
J18K Innoko River 84.28 9 P **P 00 45 23.4 +0.3**
baz=200,SNR=5.8
DIV Divide 84.29 15 P **P 00 45 23.2 -0.1**
DIV IAmb IAmb 00 45 23.9
comp=Z,45nm,0.8s
SML Sawmill 84.30 13 P **P 00 45 23.6 +0.3**
baz=207
S31K Pelican 84.39 21 P **P 00 45 24.0 +0.3**
baz=219
M23K Glacier View 84.42 14 P **P 00 45 23.6 -0.2**
baz=208
CUT Chulitna 84.43 12 P **P 00 45 23.4 -0.5**
CUT Chulitna 84.43 12 P **P 00 45 23.3 -0.5**
baz=206,SNR=7.5
BMRM Bremner River 84.44 15 P **P 00 45 23.9 -0.1**
BMRM IAmb IAmb 00 45 24.9
comp=Z,44nm,0.8s
BMRM Bremner River 84.44 15 P **P 00 45 24.0 0.0**
baz=211,SNR=5.5
DUG Dugway, Tooele 84.44 44 P **P 00 45 24.7 +0.1**
DUG Dugway, Tooele 84.44 44 P **P 00 45 24.7 +0.1**
DUG pmax pmax
comp=Z,7.0nm,1.0s
MESA MESA 84.46 17 P **P 00 45 24.7 +0.4**
baz=213
SCM Sheep Creek Mo 84.54 14 P **P 00 45 24.3 -0.2**
SCM IAmb IAmb 00 45 25.2
comp=Z,57nm,0.7s
SCM Sheep Creek Mo 84.54 14 P **P 00 45 24.3 -0.2**
SCM pmax pmax
comp=Z,57nm,0.7s
SCM Sheep Creek Mo 84.54 14 P **P 00 45 24.4 -0.1**
baz=208,SNR=6.5
KLU Klutina 84.57 15 P **P 00 45 24.5 -0.2**
baz=210
WRAK Wrangell Islan 84.58 23 P **P 00 45 25.3 +0.6**
baz=222
K20K Telida 84.60 10 P **P 00 45 24.9 +0.2**
baz=202
CRQE Cirque 84.64 16 P **P 00 45 25.2 +0.1**
baz=212
H16K Elim 84.70 6 P **P 00 45 25.2 +0.1**
baz=194
PNL Peninsula 84.77 18 P **P 00 45 26.1 +0.5**

baz=216
HEH HeiHe 84.80 328 *e*P **P 00 45 26.0 +0.1**
HEH pmax pmax
comp=Z,37nm,1.6s
G15K Niukluk 84.87 6 P **P 00 45 26.4 +0.4**
baz=193
J19K Poorman 84.95 9 P **P 00 45 26.7 +0.4**
baz=201
GRNC Granite Creek 84.98 17 P **P 00 45 26.7 -0.2**
N25K Chitina, Valde 84.99 15 P **P 00 45 26.9 +0.1**
baz=211,SNR=11
M24K Tolsona, Glenn 85.05 14 P **P 00 45 27.4 +0.4**
baz=209,SNR=5.7
WAT6 Susitna Watana 85.11 13 P **P 00 45 27.1 -0.3**
baz=208,SNR=13
TNA Tin City 85.12 4 P **P 00 45 27.4 +0.2**
baz=189
F14K Arctic Creek 85.15 5 P **P 00 45 27.3 0.0**
baz=190
LLLB Lillooet 85.15 32 P **P 00 45 28.2 +0.5**
LLLB IAmb IAmb 00 45 29.7
comp=Z,42nm,1.1s
WAT1 Susitna Watana 85.16 13 P **P 00 45 27.1 -0.4**
baz=207
MCARA McCarthy VSAT 85.19 16 P **P 00 45 28.3 +0.7**
baz=212
HLID Hailey 85.20 41 P **P 00 45 28.9 +0.6**
R32K Eaglecrest 85.21 21 P **P 00 45 28.4 +0.6**
baz=220
P29M Windy Craggy 85.24 19 P **P 00 45 28.3 +0.3**
baz=217
H17K Granite Mounta 85.25 7 P **P 00 45 27.8 0.0**
baz=196
CTG Chitna Glacier 85.28 17 P **P 00 45 28.4 +0.1**
baz=214
HNS HongShan 85.34 312 ⇓P **P 00 45 29.9 +1.0**
HNS pmax pmax
comp=Z,84nm,1.0s
J20K Nowinta River 85.35 10 P **P 00 45 28.4 0.0**
baz=202,SNR=11
TRF Thorofare Moun 85.37 12 P **P 00 45 27.9 -0.8**
baz=206,SNR=20
CHUM Lake Minchumin 85.39 11 P **P 00 45 27.8 -0.8**
baz=204,SNR=5.6
O28M Mount Upton 85.44 17 P **P 00 45 29.3 +0.1**
baz=215
Y22A Socorro 85.50 52 P **P 00 45 31.9 +1.9**
Y22A IAmb IAmb 00 45 33.0
comp=Z,28nm,0.9s
O29M Mount Kennedy 85.52 18 P **P 00 45 29.2 -0.2**
baz=216
PLBC Pleasant Camp 85.53 20 P **P 00 45 29.4 +0.1**
baz=218
HARP HAARP 85.54 14 P **P 00 45 29.5 +0.2**
baz=210
SEY Seymchan 85.56 347 *ce*P **P 00 45 29.1 -0.3**
SEY pmax pmax
comp=Z,71nm,1.3s
VHRN Van Horn 85.61 55 P **P 00 45 32.6 +2.0**
LYN LuoYang 85.61 309 ⇓P **P 00 45 31.8 +1.5**
LYN pmax pmax
comp=Z,300nm,0.9s
RND Reindeer 85.62 12 P **P 00 45 29.3 -0.5**
RND Reindeer 85.62 12 P **P 00 45 29.3 -0.5**
RND pmax pmax
comp=Z,81nm,0.9s
BJT Baijiatuau 85.62 315 P **P 00 45 30.7 +0.5**
BJT Baijiatuau 85.62 315 P **P 00 45 31.2 +1.0**
comp=Z,48nm,2.2s
BJT Baijiatuau 85.62 315 P **P 00 45 30.7 +0.5**
BJT pmax pmax
comp=Z,145nm,1.6s
BJT Baijiatuau 85.62 315 P **P 00 45 30.8 +0.5**
BJT pP **pP 00 46 58.8 +0.8**
DHY Denali Highway 85.63 13 P **P 00 45 29.7 -0.3**
baz=208
TLIG Tlapa 85.68 70 P **P 00 45 32.0 +0.8**
T35M Bob Quinn 85.78 24 P **P 00 45 30.4 -0.3**
baz=224
BPAW Bear Paw Mtn. 85.83 11 P **P 00 45 30.2 -0.5**
baz=205
P30M Million Dollar 85.87 19 P **P 00 45 31.7 +0.6**
baz=218
I20K Naaghedeneel 85.88 10 P **P 00 45 31.3 +0.5**
baz=202
MCK McKinley 85.89 12 P **P 00 45 30.4 -0.6**
baz=207,SNR=16
MVCO Mesa Verde 85.90 48 P **P 00 45 32.6 +0.6**
PAX Paxson 85.96 14 P **P 00 45 31.5 0.0**
baz=210,SNR=6.1
HWUT Hardware Ranch 85.97 43 P **P 00 45 32.1 0.0**
YUK8 Steele Glacier 85.98 17 P **P 00 45 32.5 +0.7**
baz=215,SNR=5.4
ENH Enshi 85.99 304 P **P 00 45 32.9 +0.6**
ENH Enshi 85.99 304 P **P 00 45 33.4 +1.1**
comp=Z,226nm,1.1s
ENH Enshi 85.99 304 P **P 00 45 33.1 +0.8**
TXAR Lajitas Array 86.02 57 P **P 00 45 34.8 +2.2**
TXAR Lajitas Array 86.02 57 P **P 00 45 35.0 +2.4**
comp=Z,18nm,0.8s,baz=217,slow=6.0,SNR=185
comp=Z,18nm,0.8s
M26K Nabesna, AK 86.06 15 P **P 00 45 31.9 -0.1**
baz=212,SNR=9.6
YUK6 Outpost Mounta 86.10 18 P **P 00 45 32.5 +0.1**
baz=216
S34M Telegraph Cree 86.14 23 P **P 00 45 33.5 +1.2**
baz=223,SNR=6.0
NEW Newport 86.23 36 P **P 00 45 33.4 +0.3**
NEW Newport 86.23 36 P **P 00 45 33.4 +0.3**
NEW pmax pmax
comp=Z,14nm,1.0s
HYT Haines Junctio 86.26 18 P **P 00 45 33.4 +0.4**
baz=217
H19K Roundabout Mou 86.27 9 P **P 00 45 33.0 +0.3**
baz=200
M27K Edge Creek, AK 86.31 16 P **P 00 45 33.7 +0.5**
baz=213
ANMO Albuquerque 86.33 51 P **P 00 45 35.0 +0.9**
ANMO IAmb IAmb 00 45 36.6
comp=Z,24nm,0.9s
ANMO Albuquerque 86.33 51 *ce*P **P 00 45 35.5 +1.5**
ANMO pmax pmax
comp=Z,37nm,1.3s
G18K Tagagawik 86.33 8 P **P 00 45 32.8 -0.2**
baz=198
MENT Mentasta 86.34 15 P **P 00 45 33.3 +0.1**
comp=Z,21nm,1.3s
H20K Anotleneega Mo 86.47 9 P **P 00 45 33.6 -0.1**
baz=201
P32M Atlin 86.49 21 P **P 00 45 34.7 +0.7**
baz=221
Q32M Nakina River 86.50 22 P **P 00 45 35.0 +0.7**
baz=222
L26K Log Cabin Wild 86.51 15 P **P 00 45 34.3 +0.3**
baz=212
F17K Baldwin Pennin 86.56 6 P **P 00 45 33.7 -0.4**
baz=195
K24K Donnelly Dome 86.62 13 P **P 00 45 33.3 -1.3**
baz=210
NEA2 Nenana 86.64 12 P **P 00 45 33.8 -0.8**
baz=207
I21K Tanana 86.64 10 P **P 00 45 33.9 -0.6**
baz=204,SNR=8.3
O30N Mendenhall 86.64 19 P **P 00 45 35.2 +0.4**
baz=219
GYA Guiyang 86.69 299 ⇓P **P 00 45 36.6 +0.7**
GYA pmax pmax
comp=Z,43nm,0.9s
MLY Manley 86.72 11 P **P 00 45 34.0 -1.0**
baz=205
MCMT McKenzie Canyo 86.82 40 P **P 00 45 37.5 +1.2**
AHID Auburn Hatcher 86.85 42 P **P 00 45 37.3 +0.9**
F18K Selawik 86.89 7 P **P 00 45 34.9 -0.7**
baz=197
N30M Aishikik Lake 86.89 18 P **P 00 45 35.7 -0.2**
baz=218
HDA Harding Lake 86.90 13 P **P 00 45 35.3 -0.5**
baz=209,SNR=12
L27K Beaver Creek, 86.91 15 P **P 00 45 36.2 +0.2**
baz=213
DLBC Dease Lake 86.92 23 P **P 00 45 36.3 +0.2**
baz=224
BCAR Beaver Creek A 86.93 15 P **P 00 45 36.2 +0.1**
WHY Whitehorse 86.93 19 P **P 00 45 36.0 -0.1**
baz=220
H21K Melozitna Rive 86.94 10 P **P 00 45 35.6 -0.4**
baz=203

SLVN Son La 87.04 294 P **P 00 45 39.2 +1.7**
comp=Z,17nm,1.8s
ZEA Zeya 87.07 331 *e*P **P 00 45 37.3 +0.5**
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,100nm,20.0s
TIY Taiyuan 87.08 312 *e*P **P 00 45 39.3 +1.9**
TIY pmax pmax
comp=Z,92nm,0.9s
I23K Minto, Yukon-K 87.08 11 P **P 00 45 36.4 -0.2**
baz=206
IMAR Indian Mountai 87.10 9 P **P 00 45 36.2 -0.5**
E17K Hotham Inlet 87.12 6 P **P 00 45 36.5 -0.3**
baz=195
COLA College 87.13 12 P **P 00 45 36.1 -0.7**
comp=Z,29nm,1.2s
COLA College 87.13 12 ⇑P **P 00 45 36.3 -0.5**
COLA College 87.13 12 P **P 00 45 36.2 -0.7**
baz=208
COLA College 87.13 12 P **P 00 45 35.9 -1.0**
SCRK Sand Creek 87.17 14 P **P 00 45 37.1 -0.1**
baz=211,SNR=5.2
MSO Missoula 87.23 38 P **P 00 45 38.5 +0.6**
ILAR Eielson Array 87.23 13 P **P 00 45 36.1 -1.3**
ILAR Eielson Array 87.23 13 P **P 00 45 36.4 -1.0**
comp=Z,9.3nm,0.8s,baz=227,slow=5.1,SNR=40
comp=Z,9.3nm,0.8s
P33M Teslin, Yukon 87.26 21 P **P 00 45 38.4 +0.7**
baz=222
R33M Jennings River 87.28 22 P **P 00 45 38.9 +1.0**
baz=223,SNR=5.4
M29M Somme Creek 87.29 17 P **P 00 45 38.2 +0.4**
baz=216,SNR=6.9
N31M Braeburn, Yuko 87.30 19 P **P 00 45 38.2 +0.4**
baz=219
S22A 4UR Ranch, Cre 87.32 48 P **P 00 45 39.6 +0.8**
S22A IAmb IAmb 00 45 41.5
comp=Z,26nm,0.9s
F19K Shaleruckik Mo 87.33 8 P **P 00 45 38.0 +0.3**
baz=198
FXWY Fox Creek 87.34 42 P **P 00 45 38.8 +0.1**
FXWY IAmb IAmb 00 45 41.4
comp=Z,35nm,1.4s
H22K Ishtalitna Cre 87.40 10 P **P 00 45 38.0 -0.2**
baz=204
J25K Salcha River, 87.41 13 P **P 00 45 37.9 -0.5**
baz=210,SNR=7.1
POKR Poker Plat Res 87.43 12 P **P 00 45 37.5 -0.8**
baz=208
E18K Tukpahlearik C 87.57 6 P **P 00 45 39.1 +0.2**
baz=196
D17K Noatak River 87.60 5 P **P 00 45 39.0 0.0**
baz=194
XLT XiLinHaoTe 87.61 318 *e*P **P 00 45 39.8 0.0**
XLT pmax pmax
comp=Z,50nm,1.1s
XLT pmax pmax
comp=Z,230nm,4.4s
G21K Allakaket 87.63 9 P **P 00 45 39.2 0.0**
baz=202,SNR=5.5
H23K Yukon River 87.66 11 P **P 00 45 39.1 -0.3**
baz=206
K27K Chicken 87.66 15 P **P 00 45 39.7 +0.3**
baz=213
LHMI Lhok Sumawe 87.68 276 P **P 00 45 41.2 +0.6**
LHMI Lhok Sumawe 87.68 276 P **P 00 45 42.3 +1.6**
comp=Z,130nm,1.2s
J26L Joseph Creek 87.72 14 P **P 00 45 40.2 +0.4**
baz=212,SNR=13
F20K Avaraart Lake 87.81 8 P **P 00 45 39.9 -0.1**
baz=200
SYO Syowa Base 87.81 193 ⇓*e*P **P 00 45 39.6 -0.6**
SYO Syowa Base 87.81 193 ⇓*e*PcP **PcP 00 45 43.0 +1.4**
BW06 Boulder Array 87.84 43 P **P 00 45 41.1 +0.1**
PDAR Pinedale Array 87.84 43 P **P 00 45 41.5 +0.4**
PDAR Pinedale Array 87.84 43 P **P 00 45 41.8 +0.7**
comp=Z,10nm,0.8s,baz=213,slow=3.0,SNR=80
comp=Z,10nm,0.8s
YHL Hebgen Lake 87.85 41 P **P 00 45 42.6 +1.5**
M30M Minto, Yukon 87.86 18 P **P 00 45 40.6 +0.2**
baz=218,SNR=12
L29M L29M 87.92 17 P **P 00 45 41.3 +0.6**
baz=217,SNR=15
RDOG Red Dog Mine 87.96 5 P **P 00 45 40.6 -0.2**
baz=194
H24K Noodor Dome 87.98 12 P **P 00 45 39.7 -1.2**
baz=208
E19K Redstone River 88.00 8 P **P 00 45 40.6 -0.4**
baz=199
XAN Xi'an 88.02 307 ⇓P **P 00 45 42.9 +1.0**
XAN pmax pmax
comp=Z,170nm,1.1s
XAN Xi'an 88.02 307 P **P 00 45 42.8 +0.9**
PRP Porcupine Dome 88.17 13 P **P 00 45 41.3 -0.6**
baz=210,SNR=7.1
HIA Hailar 88.25 324 P **P 00 45 42.9 +0.3**
HIA IAmb IAmb 00 45 44.2
comp=Z,33nm,1.2s
HIA Hailar 88.25 324 P **P 00 45 43.9 +1.3**
comp=Z,24nm,1.3s
HIA Hailar 88.25 324 P **P 00 45 42.9 +0.3**
HIA pmax pmax
comp=Z,33nm,1.2s
M31M Drury Creek, Y 88.27 19 P **P 00 45 42.4 0.0**
baz=220
F21K Alatna River 88.29 9 P **P 00 45 42.0 -0.3**
baz=202
HAYD Hayden 88.29 46 P **P 00 45 43.9 +0.6**
G22K Bettles 88.32 10 P **P 00 45 42.6 +0.2**
baz=204
DAWY Dawson 88.36 16 P **P 00 45 42.9 +0.2**
DAWY IAmb IAmb 00 45 44.0
comp=Z,33nm,1.3s
DAWY Dawson 88.36 16 P **P 00 45 42.9 +0.2**
baz=216,SNR=11
G23K Bananza Creek 88.37 11 P **P 00 45 43.3 +0.6**
baz=206
HILR Hailar Array B 88.41 325 P **P 00 45 43.9 +0.6**
comp=Z,10nm,0.7s,baz=132,slow=8.8,SNR=17
comp=Z,10nm,0.7s
I26K Coal Creek Min 88.50 14 P **P 00 45 43.6 +0.3**
baz=212
YNE Yellowstone No 88.65 41 P **P 00 45 46.3 +1.5**
YNE IAmb IAmb 00 45 47.8
comp=Z,59nm,1.1s
K29M Barlow Dome 88.67 16 P **P 00 45 44.7 +0.4**
baz=217
C18K Utukok River 88.70 6 P **P 00 45 45.6 +1.4**
baz=195
TROLL Troll, Antarti 88.70 180 ⇓P **P 00 45 44.5 -0.1**
comp=Z,378nm,0.8s
LR05 Currie 88.71 132 P **P 00 45 46.2 +1.2**
LR05 IAmb IAmb 00 45 48.8
comp=Z,46nm,1.6s
H25L Birch Creek 88.76 12 P **P 00 45 44.0 -0.5**
baz=210
COLD Coldfoot 88.81 10 P **P 00 45 45.0 +0.2**
baz=206,SNR=14
G24K Hadweenzic Riv 88.82 11 P **P 00 45 45.0 +0.2**
baz=208
D19K Kuna River 88.88 7 P **P 00 45 45.3 +0.3**
baz=198
E20K Nigu River 88.89 8 P **P 00 45 44.9 -0.2**
baz=200
MAYO Mayo, Yukon 88.92 17 P **P 00 45 45.1 -0.2**
baz=219
SNAA Sanae 88.97 178 ⇓P **P 00 45 45.4 -0.3**
comp=Z,111nm,1.2s
SNAA Sanae 88.97 178 P **P 00 45 44.9 -0.7**
SNAA Sanae 88.97 178 P **P 00 45 45.4 -0.3**
comp=Z,3.8nm,0.9s,baz=218,slow=7.7,SNR=12
comp=Z,3.8nm,0.9s
SNAA Sanae 88.97 178 *ce*P **P 00 45 45.9 +0.2**
SNAA pmax pmax
comp=Z,7.0nm,1.3s
J29N Klondike Camp 88.97 16 P **P 00 45 46.5 +0.9**
baz=217,SNR=5.5
TOAD Toad River Com 89.01 24 P **P 00 45 46.8 +0.9**
baz=228,SNR=29
LIRD Liard River Hi 89.06 24 P **P 00 45 46.6 +0.5**
baz=227,SNR=9.8
VNA3 Neumayer Olymp 89.07 176 ⇑P **P 00 45 45.9 -0.2**
comp=Z,24nm,0.6s
ISCO Idaho Springs 89.09 47 P **P 00 45 48.1 +1.0**
ISCO Idaho Springs 89.09 47 P **P 00 45 48.1 +1.0**
ISCO pmax pmax

comp=Z,20nm,1.7s
I27K Kandik River 89.09 14 P **P 00 45 46.3 +0.1**
baz=214
HHC Hu-ho-hao-te 89.11 314 ⇓*i*P **P 00 45 47.6 +0.7**
HHC pmax pmax
comp=Z,48nm,1.0s
HHC pmax pmax
comp=Z,95nm,4.7s
G25K Bearman Lake 89.14 12 P **P 00 45 46.1 -0.2**
baz=209
D20K Etivluk River 89.26 7 P **P 00 45 46.6 -0.2**
D20K Etivluk River 89.26 7 P **P 00 45 46.7 -0.2**
baz=200
C19K Lookout Ridge 89.30 6 P **P 00 45 46.9 -0.1**
baz=197
B18K Kokolik River 89.34 5 P **P 00 45 47.1 0.0**
baz=195
E21K Killik River 89.35 8 P **P 00 45 46.5 -0.7**
baz=202
I28M Miner Creek 89.36 15 P **P 00 45 47.2 -0.2**
baz=215,SNR=9.1
E22K Anaktuvuk Pass 89.38 9 P **P 00 45 47.4 0.0**
baz=204
KMI Kunming 89.44 297 ⇓P **P 00 45 50.5 +1.5**
KMI pmax pmax
comp=Z,65nm,1.0s
KMI pmax pmax
comp=Z,250nm,3.2s
F24K Squaw Lake 89.47 11 P **P 00 45 47.9 0.0**
baz=208
PLCA Paso Flores 89.50 133 P **P 00 45 50.2 +1.3**
PLCA Paso Flores 89.50 133 P **P 00 45 50.8 +2.0**
comp=Z,3.1nm,1.0s,baz=268,slow=3.9,SNR=3.9
comp=Z,3.1nm,1.0s
VNA2 Neumayer--Watz 89.52 177 ⇓P **P 00 45 48.4 +0.2**
comp=Z,20nm,0.6s,baz=174,slow=3.8
JCT Junction City 89.55 57 P **P 00 45 49.6 +0.5**
JCT Junction City 89.55 57 P **P 00 45 49.6 +0.5**
JCT pmax pmax
comp=Z,15nm,0.9s
J30M Hart River 89.57 16 P **P 00 45 48.5 0.0**
baz=218,SNR=5.8
H27K Steamboat Moun 89.64 14 P **P 00 45 49.1 +0.4**
baz=214,SNR=7.7
E23K Chandalar 89.66 10 P **P 00 45 48.5 -0.3**
baz=206,SNR=6.6
I29M Ogilvie Camp, 89.69 15 P **P 00 45 49.2 +0.3**
baz=216,SNR=7.0
TGTN Hyland Airport 89.74 21 P **P 00 45 50.2 +0.9**
baz=226,SNR=6.8
VNA1 Neumayer--Stat 89.74 176 ⇓P **P 00 45 49.6 +0.4**
comp=Z,21nm,0.9s
G26K Porcupine Rive 89.77 13 P **P 00 45 49.6 +0.4**
baz=212
AMTX Amarillo 89.85 53 P **P 00 45 51.1 +0.6**
AMTX IAmb IAmb 00 45 52.6
comp=Z,34nm,0.8s
E24K Your Creek 89.87 10 P **P 00 45 49.8 +0.1**
baz=207
C21K Knifeblade Rid 89.91 8 P **P 00 45 50.0 +0.2**
baz=201
D22K Ayikyak River 89.94 9 P **P 00 45 50.1 +0.1**
baz=203
F25K Christian Rive 89.95 12 P **P 00 45 50.5 +0.4**
baz=210,SNR=6.1
BMAR Burnt Mountain 90.02 12 P **P 00 45 50.9 +0.5**
BTO Baotou 90.05 313 *e*P **P 00 45 53.1 +1.9**
BTO pP **pP 00 47 22.3 +2.5**
BTO S **S 00 56 13.8 +2.8**
BTO pmax pmax
comp=Z,64nm,1.1s
BTO pmax pmax
comp=Z,350nm,5.5s
I30M Mount Dempster 90.07 16 P **P 00 45 50.5 -0.2**
baz=218,SNR=9.8
G27K Doyon Strip 90.10 13 P **P 00 45 50.6 -0.2**
baz=213
TOLK Toolik Lake Re 90.19 10 P **P 00 45 51.1 -0.1**
baz=206
KOTAN Kotaneelee Air 90.31 24 P **P 00 45 51.9 +0.1**
baz=229
D23K Nanushuk River 90.31 9 P **P 00 45 51.8 +0.2**
baz=205
F26K Sheenjek River 90.33 12 P **P 00 45 52.4 +0.5**
baz=211
CM31 Chiang Mai Arr 90.36 289 P **P 00 45 53.6 +0.6**
CM31 IAmb IAmb 00 45 55.8
comp=Z,72nm,1.1s
CM31 Chiang Mai Arr 90.36 289 P **P 00 45 54.6 +1.6**
CMAR Chiang Mai Arr 90.36 289 P **P 00 45 53.5 +0.4**
CMAR Chiang Mai Arr 90.36 289 P **P 00 45 54.7 +1.7**
comp=Z,35nm,1.0s,baz=115,slow=2.9,SNR=114
comp=Z,35nm,1.0s
H29M Whitestone 90.36 15 P **P 00 45 52.3 +0.3**
baz=216,SNR=13
B21K Ikpikpuk River 90.37 8 P **P 00 45 52.1 +0.3**
baz=201
E25K Arctic Village 90.43 11 P **P 00 45 52.5 +0.2**
baz=210
CHTO Chiang Mai 90.48 290 P **P 00 45 54.2 +0.6**
CHTO IAmb IAmb 00 45 56.0
comp=Z,53nm,1.0s
CHTO Chiang Mai 90.48 290 P **P 00 45 54.8 +1.2**
CHTO Chiang Mai 90.48 290 P **P 00 45 54.9 +1.3**
comp=Z,42nm,1.2s
CHTO Chiang Mai 90.48 290 P **P 00 45 54.2 +0.6**
CHTO pmax pmax
comp=Z,53nm,1.0s
CD2 Chengdu 90.77 302 *e*P **P 00 45 56.0 +1.2**
D24K Happy Valley 90.78 10 P **P 00 45 53.8 0.0**
baz=207
PZH PanZhiHua 90.79 298 P **P 00 45 57.3 +2.3**
EPYK Eagle Plains 90.89 15 P **P 00 45 54.4 -0.1**
baz=218,SNR=7.2
G29M Pine Creek 91.00 14 P **P 00 45 55.1 +0.1**
baz=217
H31M Peel River 91.06 16 P **P 00 45 55.1 -0.1**
baz=220
C23K Itkillik River 91.12 9 P **P 00 45 55.5 +0.2**
baz=205
F28M Old Crow 91.16 13 P **P 00 45 55.5 -0.2**
baz=215
B22K Teshekpuk Lake 91.19 8 P **P 00 45 56.1 +0.4**
baz=203
E27K Coleen River 91.26 13 P **P 00 45 56.5 +0.3**
baz=214,SNR=6.4
C24K Franklin Bluff 91.30 10 P **P 00 45 56.3 +0.1**
baz=207
YAK Yakutsk 91.44 338 *ce*P **P 00 45 55.5 -1.5**
YAK pmax pmax
comp=Z,22nm,1.0s
G30M tAoh Zraii Nji 91.49 15 P **P 00 45 56.9 -0.3**
baz=218
EFI East Falkland 91.57 147 *ce*P **P 00 45 58.8 +0.8**
EFI pmax pmax
comp=Z,35nm,1.4s
G31M Satah River 91.93 16 P **P 00 45 59.1 -0.1**
baz=220,SNR=9.6
RSSD Black Hills 92.03 44 P **P 00 46 00.9 +0.4**
RSSD IAmb IAmb 00 46 02.4
comp=Z,46nm,0.9s
RSSD Black Hills 92.03 44 P **P 00 46 00.9 +0.4**
RSSD pmax pmax
comp=Z,46nm,1.0s
E28M Babbage River 92.04 13 P **P 00 45 59.9 +0.2**
baz=215,SNR=9.1
C27K Jago River 92.07 11 P **P 00 45 59.7 -0.1**
baz=212
F30M Barrier River 92.09 15 P **P 00 46 00.7 +0.8**
baz=219
E29M Blow River 92.22 14 P **P 00 46 01.2 +0.7**
baz=217
D27M Malcolm River 92.27 12 P **P 00 46 01.2 +0.4**
baz=214
F31M Tsiigehtchic 92.46 15 P **P 00 46 01.6 +0.1**
baz=221
Z35A Perchaven, San 92.64 56 P **P 00 46 04.1 +0.8**
Z35A IAmb IAmb 00 46 05.4
comp=Z,30nm,0.8s
X34A Smith Ranch, M 92.66 54 P **P 00 46 05.0 +1.7**
X34A IAmb IAmb 00 46 06.1
comp=Z,36nm,1.0s
LZH Lanzhou 92.66 307 *e*P **P 00 46 04.4 +0.9**
LZH pP pP 00 47 33.3 +1.0
LZH pmax pmax
comp=Z,67nm,1.9s
LZH LR LR

comp=Z,240nm,18.2s
LZH LR LR
comp=Z,110nm,20.6s
LZDM Lanzhou Array 92.72 307 P **P 00 46 05.6 +1.6**
comp=Z,6.1nm,0.5s,baz=98,slow=6.1,SNR=17
comp=Z,6.1nm,0.5s
CBKS Cedar Bluff 92.83 50 P **P 00 46 05.0 +0.9**
CBKS IAmb IAmb 00 46 06.3
comp=Z,42nm,0.9s
CBKS Cedar Bluff 92.83 50 P **P 00 46 05.0 +0.9**
CBKS pmax pmax
comp=Z,42nm,1.0s
INK Inuvik 93.18 15 P **P 00 46 04.2 -0.6**
INK IAmb IAmb 00 46 05.4
comp=Z,20nm,0.9s
INK Inuvik 93.18 15 P **P 00 46 04.2 -0.6**
INK pmax pmax
comp=Z,20nm,1.0s
INK Inuvik 93.18 15 P **P 00 46 04.2 -0.6**
baz=221,SNR=9.4
ULN Ulaanbaatar 95.02 319 P **P 00 46 13.7 -0.3**
ULN IAmb IAmb 00 46 15.1
comp=Z,14nm,1.1s
ULN Ulaanbaatar 95.02 319 P **P 00 46 14.3 +0.4**
ULN Ulaanbaatar 95.02 319 ⇑P **P 00 46 14.4 +0.4**
KSU1 Kansas State U 95.20 50 P **P 00 46 15.9 +1.1**
KSU1 IAmb IAmb 00 46 17.9
comp=Z,22nm,0.7s
YKA Yellowknife Ar 95.38 24 P **P 00 46 15.1 0.0**
comp=Z,5.2nm,0.9s,baz=252,slow=4.9,SNR=11
comp=Z,5.2nm,0.9s
SONM Songino Array 95.42 319 P **P 00 46 15.2 -0.6**
SONM IAmb IAmb 00 46 17.6
comp=Z,38nm,2.0s
SONM Songino Array 95.42 319 P **P 00 46 15.6 -0.2**
comp=Z,3.8nm,1.0s,baz=137,slow=4.4,SNR=17
comp=Z,3.8nm,1.0s
GTA Gaotai 96.82 309 P **P 00 46 23.5 +1.2**
GTA PP **PP 00 50 26.4 +2.8**
GTA pmax pmax
comp=Z,18nm,1.5s
ECSD EROS Data Cent 96.83 46 P **P 00 46 22.3 +0.2**
FFC Flin Flon 97.61 34 *i* P P 00 46 20.5 -4.8
TIXI Tiksi 97.96 345 P **P 00 46 24.6 -1.9**
TIXI Tiksi 97.96 345 *ce*P **P 00 46 25.8 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 106.74 311 Pdif **Pdif 00 47 08.1 +1.8**
ZSN Zaisan 109.30 315 *e*PKiKP **PKiKP 00 51 18.1 -0.9**
ZALV Zalesovo Beam 110.11 321 **PKiKP 00 51 18.3 -1.9**
ZALV Zalesovo Beam 110.11 321 PKiKP **PKiKP 00 51 19.1 -1.2**
comp=Z,2.4nm,0.7s,baz=174,slow=0.8,SNR=12
ZALV SKP 00 54 18.1
comp=Z,0.9nm,0.5s,baz=191,slow=1.5,SNR=3.8
MKAR Makanchi Array 110.96 314 **Pdif 00 47 23.9 -1.0**
MKAR **PKiKP 00 51 21.0 -1.1**
MKAR Makanchi Array 110.96 314 Pdiff **Pdif 00 47 27.0 +2.0**
comp=Z,1.0nm,0.8s,baz=76,slow=6.6,SNR=4.1
MKAR PKiKP **PKiKP 00 51 20.9 -1.2**
comp=Z,1.9nm,0.7s,baz=152,slow=0.5,SNR=12
MKAR Makanchi Array 110.96 314 *i* PKiKP **PKiKP 00 51 21.0 -1.1**
SHLS Shalkode 112.57 310 *e*PKiKP **PKiKP 00 51 23.6 -1.8**
SHLS Shalkode 112.57 310 *i* PKiKP **PKiKP 00 51 23.6 -1.8**
UZB Uzynbulak 112.89 309 *e*PKiKP **PKiKP 00 51 24.9 -1.2**
UZB Uzynbulak 112.89 309 *i* PKiKP **PKiKP 00 51 24.8 -1.2**
SATY Saty 113.33 309 *e*PKiKP **PKiKP 00 51 25.8 -1.2**
SATY Saty 113.33 309 *i* PKiKP **PKiKP 00 51 25.7 -1.2**
KURK Kurchatov 113.68 318 **PKiKP 00 51 26.0 -1.1**
KURK Kurchatov 113.68 318 P **PKiKP 00 51 26.0 -1.1**
KURK Kurchatov 113.68 318 *c i* PKiKP **PKiKP 00 51 26.4 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 113.74 318 PKiKP **PKiKP 00 51 26.3 -1.0**
comp=Z,3.5nm,0.7s,baz=92,slow=1.8,SNR=38
KURBB SKP 00 54 25.1
comp=Z,1.3nm,0.7s,baz=93,slow=2.0,SNR=8.2
MDOK Medeo 114.33 309 *e*PKiKP PKPdf 00 51 27.7 -1.2
MDOK Medeo 114.33 309 *i* PKiKP PKPdf 00 51 27.6 -1.2
AAK Ala-Archa 116.16 309 P **PKPdf 00 51 31.8 -0.7**
AAK Ala-Archa 116.16 309 *c i* PKiKP **PKiKP 00 51 32.8 +0.4**
AAK pmax pmax
comp=Z,1.0nm,0.7s
BRZS Berezniki 117.49 317 *e*PKiKP **PKPdf 00 51 33.8 -0.7**
BRZS Berezniki 117.49 317 *i* PKiKP **PKPdf 00 51 33.8 -0.7**
DZA Taraz 118.50 309 *e*PKiKP **PKPdf 00 51 35.7 -1.0**
DZA Taraz 118.50 309 *i* PKiKP **PKPdf 00 51 35.7 -1.0**
BVAR Borovoye Array 118.72 320 PKP **PKPdf 00 51 35.9 -0.9**
comp=Z,7.4nm,0.7s,baz=88,slow=1.8,SNR=29
BVAR PP **PP 00 52 57.3 -4.0**
comp=Z,2.3nm,0.9s,baz=71,slow=9.6,SNR=3.9
BVAR SKP 00 54 34.9
comp=Z,2.1nm,0.8s,baz=77,slow=3.2,SNR=4.8
BORK Borovoye 118.76 320 *c i* PKiKP **PKPdf 00 51 36.3 -0.5**
BORK pmax pmax
comp=Z,14nm,2.5s
KK31 Karatay Array 119.10 309 **PKPdf 00 51 36.8 -1.1**
KK31 Karatay Array 119.10 309 PKiKP **PKPdf 00 51 36.8 -1.1**
KKAR Karatay Array 119.10 309 **PKPdf 00 51 37.0 -0.9**
KKAR Karatay Array 119.10 309 PKiKP **PKPdf 00 51 37.0 -0.9**
BDFB Brasilia 119.15 121 PKKPbc PKKPbc 01 01 53.0 -0.2
comp=Z,3.1nm,0.7s,baz=34,slow=4.4,SNR=6.5
GAR Garm 119.17 304 **PKPdf 00 51 37.8 -0.5**
LMN Caledonia Moun 119.37 48 PKPdf **PKPdf 00 51 37.5 -0.7**
IUG Iuzhnay 119.45 308 *e*PKiKP **PKPdf 00 51 37.5 -1.2**
IUG Iuzhnay 119.45 308 *i* PKiKP **PKPdf 00 51 37.4 -1.2**
BRLS Borolday 119.60 309 *e*PKiKP **PKPdf 00 51 38.0 -0.9**
BRLS Borolday 119.60 309 *i* PKiKP **PKPdf 00 51 37.9 -0.9**
CHM Chimkent 119.77 308 *e*PKiKP **PKPdf 00 51 38.2 -1.0**
CHM Chimkent 119.77 308 *i* PKiKP **PKPdf 00 51 38.2 -1.0**
KBL Kabul 119.94 299 **PKPdf 00 51 39.5 -0.5**
KBL Kabul 119.94 299 PKiKP **PKPdf 00 51 39.5 -0.5**
CHGR Chuyangaron 120.06 304 **PKPdf 00 51 39.3 -0.7**
CHGR Chuyangaron 120.06 304 PKiKP **PKPdf 00 51 39.3 -0.7**
SPITS Spitsbergen Ar 120.93 357 PKP **PKPdf 00 51 39.4 -1.0**
comp=Z,9.6nm,0.9s,baz=28,slow=6.5,SNR=1.8
SPB2 Spitsbergen Ar 120.93 357 PKPdf **PKPdf 00 51 39.9 -0.5**
ARTI Arti 124.84 326 **PKPdf 00 51 47.6 -0.8**
ARTI Arti 124.84 326 *i* PKiKP **PKPdf 00 51 48.0 -0.4**
ARTI 00 53 43.1
ARTI 00 58 21.2
ARTI SS SS 01 10 09.3 +3.1
SUR Sutherland 125.54 199 PKPdf **PKPdf 00 51 50.4 -0.5**
SUR Sutherland 125.54 199 P **PKiKP 00 51 51.1 -0.2**
HRA Herat 125.55 299 **PKPdf 00 51 49.7 -1.0**
AB31 Akbulak array 125.79 317 **PKPdf 00 51 50.3 -0.2**
ABKAR Akbulak array 125.79 317 PKPdf **PKPdf 00 51 49.9 -0.5**
JLN Jalan Bani Buh 127.14 283 P **PKPdf 00 51 52.4 -1.5**
BOSA Boshof 127.39 205 **PKPdf 00 51 54.1 -0.4**
BOSA Boshof 127.39 205 PKP **PKPdf 00 51 54.3 -0.1**
comp=Z,3.3nm,0.9s,baz=146,slow=3.6,SNR=4.3
ARCES ARCESS Array B 128.07 350 **PKPdf 00 51 53.7 -0.5**
ARCES ARCESS Array B 128.07 350 PKP **PKPdf 00 51 54.4 +0.1**
comp=Z,7.0nm,0.7s,baz=46,slow=2.0,SNR=22
APA Apatity 128.15 346 ⇓*i* PKIKP **PKPdf 00 51 47.0 -7.4**
JMDO Jabal Madar 128.37 283 P **PKPdf 00 51 55.8 -0.4**
KIRV Kirov 128.41 331 *ce*PKIKP **PKiKP 00 51 56.1 +0.3**
BIDO Bidbid 128.49 285 P **PKiKP 00 51 57.0 -0.1**
SMDO Samad 128.50 284 P **PKPdf 00 51 56.4 -0.2**
DQM DQM 128.52 280 P **PKPdf 00 51 56.5 0.0**
HOQ Hoqain 129.24 285 P **PKPdf 00 51 57.6 -0.2**
SOHO SOHO 130.01 285 P **PKPdf 00 51 58.8 -0.5**
SOHO SOHO 130.01 285 PKPdf **PKPdf 00 51 59.1 -0.1**
MDH Madha 130.33 287 P **PKPdf 00 51 59.5 -0.4**
BANOM Banah 130.37 288 P **PKPdf 00 52 00.3 +0.4**
BANOM Banah 130.37 288 *i* PKPdf **PKPdf 00 51 60.0 0.0**
SNR=7.7
UOSS Minazif 130.38 287 P **PKPdf 00 51 59.0 -0.9**
UOSS Minazif 130.38 287 *i* PKPdf **PKPdf 00 51 59.1 -0.9**
SNR=6.2
HATD Hatta, Dubai 130.44 286 P **PKPdf 00 51 59.8 -0.3**
HATD Hatta, Dubai 130.44 286 PKPdf **PKPdf 00 51 59.7 -0.3**
MSFE Esma-Masafi 130.46 287 *i* PKPdf **PKPdf 00 51 59.0 -1.1**
SNR=10
MASF Masafi 130.46 287 P **PKPdf 00 52 00.5 +0.3**
ASHO Ashiyiah 130.49 286 P **PKPdf 00 51 59.2 -0.9**
ASHO Ashiyiah 130.49 286 *i* PKPdf **PKPdf 00 51 59.3 -0.9**
SNR=7.0
ALNE Al Ain 130.71 285 P **PKPdf 00 52 00.9 +0.3**
ALNE Al Ain 130.71 285 *i* PKPdf **PKPdf 00 52 00.7 +0.1**
SNR=6.4
FAQ Al Faqa, Dubai 130.92 286 PKPdf **PKPdf 00 52 00.3 -0.7**
ASUD Al Ashush, Dub 131.15 286 P **PKPdf 00 52 00.9 -0.5**
ASUD Al Ashush, Dub 131.15 286 PKPdf **PKPdf 00 52 01.0 -0.4**

KLMR Klimovskoe 131.22 337 *e*PKIKP **PKPdf 00 51 58.8 -1.6**
KLMR *e* 00 54 13.3
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KGCAE Kacgae 133.75 205 PKPdf **PKPdf 00 52 07.1 +0.5**
KOOLE Kule 134.40 203 **PKPdf 00 52 07.8 -0.1**
FINES FINESS Array B 135.00 344 PKhKP PKPpre 00 51 54.0
comp=Z,2.5nm,0.9s,baz=0.0,slow=1.9,SNR=2.8
FINES PKP **PKPdf 00 52 07.2 -0.3**
comp=Z,7.8nm,0.9s,baz=69,slow=1.6,SNR=7.6
FINES SKPbc **SKPbc 00 55 01.5 0.0**
comp=Z,2.4nm,0.8s,baz=32,slow=4.7,SNR=5.7
AKT Akhty 136.02 310 *e*PKIKP **PKPdf 00 52 10.5 +0.3**
AKT *e* 00 53 42.7
AKT *e* 00 54 53.3
AKT pmax pmax
comp=Z,17nm,1.6s
NB2 NORSAR Subarra 138.08 354 PKP PKPpre 00 52 05.8
comp=Z,0.9nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 138.08 354 PKhKP PKPpre 00 52 02.6
comp=Z,2.1nm,0.8s,baz=16,slow=5.0,SNR=5.9
NOA PKP **PKPdf 00 52 12.3 -1.0**
comp=Z,2.5nm,0.8s,baz=13,slow=4.0,SNR=5.5
NC602 NORSAR Array S 138.35 353 PKPdf **PKiKP 00 52 15.0 -0.9**
KBZ Khabaz 138.65 315 PKhKP PKPpre 00 52 03.4
comp=Z,1.4nm,0.9s,baz=22,slow=4.9,SNR=3.6
KBZ PKP **PKPdf 00 52 13.6 -1.2**
comp=Z,1.3nm,0.7s,baz=56,slow=4.1,SNR=4.7
KBZ PP **PP 00 55 11.4 +0.9**
comp=Z,3.2nm,0.9s,baz=39,slow=6.5,SNR=5.9
HFS Hagfors 138.67 352 PKhKP PKPpre 00 52 02.8
comp=Z,4.4nm,0.9s,baz=74,slow=4.1,SNR=8.5
HFS PKP **PKPdf 00 52 14.3 0.0**
comp=Z,4.2nm,0.8s,baz=48,slow=2.2,SNR=5.9
KIV Kislovodsk 138.70 315 PKPdf PKPpre 00 52 03.3
KIV Kislovodsk 138.70 315 *e*PKIKP **PKPdf 00 52 16.1 +1.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
RAYN Ar Rayn 140.03 284 ⇑PKHKP PKPpre 00 52 11.3
MNK Minsk 140.12 337 *i* PKIKP **PKPdf 00 52 12.7 -4.4**
MNK *i* 00 55 14.9
MNK *i* PPP PPP 00 58 26.2
MNK *i* SS SS 01 13 07.0 -2.4
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,7.0nm,1.0s
NACGM Naroch 140.20 338 *e*PKP **PKPdf 00 52 11.9 -5.4**
comp=Z,17nm,0.8s,baz=37
ANN Anapa 141.69 319 *i* PKIKP **PKPdf 00 52 20.2 -0.1**
ANN pmax pmax
comp=Z,23nm,0.9s
SUW Suwalki 142.13 340 *e*PKP **PKPdf 00 52 16.8 -4.0**
DEL Delary 142.16 350 *i* P **PKPdf 00 52 16.3 -4.5**
AKASG Malin Array Be 142.44 332 PKhKP PKPpre 00 52 16.6
comp=Z,6.1nm,0.6s,baz=43,slow=4.0,SNR=43
KIEV Kiev 142.46 332 ⇑P **PKPdf 00 52 16.8 -4.6**
KIEV Kiev 142.46 332 ⇑PKHKP PKPpre 00 52 16.8
BJUU Bjuv 142.68 350 *i* P **PKPdf 00 52 17.7 -3.9**
MUD Monsted U'grnd 142.80 354 *i* P **PKPdf 00 52 18.3 -5.3**
INVG Invergeldie, C 142.81 6 *e*P **PKPdf 00 52 17.0 -4.9**
LUNU Lund 143.03 350 *i* P PKPab 00 52 18.5 -0.5
FURI Furi 143.58 258 **PKPdf 00 52 25.0 +0.1**
ARPR Arapgir-MALATY 143.58 310 PKPbc 00 52 22.9 +0.6
SIM Simferopol' 143.62 321 *e*PKIKP PKPab 00 52 20.7 -0.9
SIM pmax pmax
comp=Z,79nm,1.3s
IDGL Inch Island, C 143.68 10 PKPdf PKPab 00 52 21.5 0.0
SSRD Sdr. Stenderup 143.71 353 *i* P PKPab 00 52 20.0 -1.6
SHEL Horse Pasture 143.79 166 PKPbc 00 52 23.9 +0.5
SHEL Horse Pasture 143.79 166 PKIKP PKPbc 00 52 23.9 +0.5
CLGH Cloghs, Cushen 143.88 9 *e*P PKPab 00 52 21.3 -0.9
EKA Eskdalemuir Ar 143.98 6 PKhKP PKPpre 00 52 21.8
comp=Z,27nm,0.8s,baz=331,slow=3.0,SNR=29
ESK Eskdalemuir 143.99 6 *e*P PKPab 00 52 21.4 -1.3
NEWG New Galloway 144.08 7 *e*P **PKPab 00 52 21.5 -1.5**
GAL1 Galloway 144.27 7 *e*P PKPbc 00 52 22.4 -1.3
LODK Lodwar 144.28 248 P **PKPdf 00 52 25.7 -0.2**
TOKA Tokat 144.40 313 PKPbc 00 52 24.6 -0.1
GKP Gorka Klasztor 144.47 345 *e*PKP PKPbc 00 52 24.3 -0.1
EDMD Edmundbyers 144.58 5 *e*P PKPbc 00 52 22.5 -2.2
SORM Soroca 144.68 330 ⇑P PKPbc 00 52 24.9 -0.4
SORM Soroca 144.68 330 ⇑PKIKP PKPbc 00 52 24.9 -0.3
KESW Keswick, Cumbr 144.72 6 *e*P PKPbc 00 52 24.3 -0.9
BEL Belsk 144.75 340 *e*PKP PKPbc 00 52 24.8 -0.6
ILTH Belurgan, Co L 144.87 9 PKPdf **PKPdf 00 52 25.5 0.0**
ILTH Belurgan, Co L 144.87 9 *e*P **PKPdf 00 52 24.2 -1.3**
IGLA Glengowla, Co 144.91 13 PKPdf PKPbc 00 52 25.8 0.0
PURM Purcari 145.02 327 ⇑P **PKPab 00 52 26.7 -0.1**
GDLE Glaisdale, N Y 145.06 4 *e*P **PKPdf 00 52 25.6 -0.3**
GAZ Gaziantep 145.11 308 **PKPdf 00 52 26.8 +0.2**
KMPD K-Podol'skiy 145.23 332 PKP **PKPdf 00 52 25.7 -0.6**
BZK Bozkurt 145.28 317 ⇓P **PKiKP 00 52 29.6 -1.1**
BNN Bunyan 145.46 311 **PKPbc 00 52 27.9 -0.2**
HPK Haverah Park 145.47 4 *e*P **PKPdf 00 52 26.8 +0.3**
DSB Dublin 145.62 10 PKPdf **PKPbc 00 52 27.5 -0.5**
DSB Dublin 145.62 10 PKPdf **PKPbc 00 52 27.4 -0.5**
WLF1 Llynfaes 145.86 8 *e*P **PKPdf 00 52 27.1 -0.1**
KWP Kalwaria Pacla 145.94 337 *e*PKP **PKPbc 00 52 28.7 -0.3**
VASR Vaslui 146.00 328 ⇑P **PKPbc 00 52 29.8 +0.5**
STNC Stoke 146.28 5 *e*P **PKPbc 00 52 28.9 -0.9**
FOEL Foel Wylfa 146.39 6 *e*P **PKPdf 00 52 29.1 +0.9**
IWEX Carrickbyrne, 146.40 10 PKPdf **PKPbc 00 52 29.8 -0.4**
VLDR Vladesti 146.40 327 ⇑P **PKPbc 00 52 31.1 +0.7**
TLCR 146.46 326 ⇑P **PKPbc 00 52 30.7 +0.1**
TLCR 146.46 326 ⇑PKP2 **PKPbc 00 52 30.7 +0.1**
OJC Ojcow 146.46 340 *e*PKP **PKPdf 00 52 28.2 -0.2**
OJC Ojcow 146.46 340 **PKPdf 00 52 28.2 -0.2**
OJC Ojcow 146.46 340 PKIKP **PKPdf 00 52 28.2 -0.2**
VARL Varlezi 146.48 327 ⇑P **PKPbc 00 52 31.2 +0.6**
BURAR Bucovina Array 146.50 332 **PKPbc 00 52 29.8 -1.0**
BURAR Bucovina Array 146.50 332 ⇓P **PKPbc 00 52 31.1 +0.3**
BURAR Bucovina Array 146.50 332 ⇓PKP2 **PKPbc 00 52 31.1 +0.3**
SCTR Scanteiesti 146.56 327 ⇑P **PKPbc 00 52 31.6 +0.7**
GHRR 146.59 328 ⇓P **PKPbc 00 52 31.9 +0.9**
BR131 Keskin Array S 146.62 314 PKPdf **PKPdf 00 52 29.0 -0.2**
BR131 Keskin Array S 146.62 314 P **PKPbc 00 52 30.9 -0.5**
SNR=22
BR131 Keskin Array S 146.62 314 PKIKP **PKPdf 00 52 29.0 -0.2**
BRTR Keskin Array B 146.62 314 **PKPdf 00 52 28.1 -1.1**
BRTR Keskin Array B 146.62 314 PKPbc **PKPbc 00 52 31.1 -0.4**
comp=Z,17nm,0.9s,baz=129,slow=1.8,SNR=53
BRTR SKPbc **SKPbc 00 55 32.4 -0.3**
comp=Z,1.6nm,0.9s,baz=116,slow=3.4,SNR=3.9
TESR Tescani 146.65 329 ⇑P **PKPbc 00 52 31.2 +0.1**
STHS Stebnicka Huta 146.65 338 *e*PKIKP **PKPbc 00 52 30.0 -1.1**
STHS *e* 00 52 33.9
STHS Stebnicka Huta 146.65 338 *e*PKP **PKPbc 00 52 30.0 -1.1**
STHS *e* 00 52 33.9
KIRS Kirsehir-Merke 146.70 313 ⇑P **PKPbc 00 52 31.8 +0.2**
JURR Jurilovca 146.70 325 ⇑P **PKPbc 00 52 31.8 +0.5**
CWF Charnwood Fore 146.71 4 *e*P **PKPbc 00 52 29.9 -1.1**
NEGRR Negrea 146.72 327 ⇑P **PKPbc 00 52 31.9 +0.6**
TUDR 146.78 327 ⇓P **PKiKP 00 52 32.7 -1.0**
HLM1 Long Mynd 146.79 6 *e*P **PKPdf 00 52 28.3 -0.6**
CFR Carcaliu 146.82 326 ⇓P **PKPbc 00 52 31.5 -0.1**
CFR Carcaliu 146.82 326 ⇓PKP2 **PKPbc 00 52 31.5 -0.1**
PANC Panciu 146.85 328 ⇑P **PKPbc 00 52 32.4 +0.8**
TPGR Topolog 146.89 326 ⇓P **PKPbc 00 52 32.0 +0.2**
ONER Baraj Valea Uz 146.90 329 ⇓P **PKPbc 00 52 32.6 +0.7**
KSP Ksiaz 146.93 344 *e*PKP **PKPbc 00 52 32.1 +0.3**
ODBI Odobesti 146.98 328 ⇑P **PKiKP 00 52 33.1 -0.9**
NIE Niedzica 146.98 339 *e*PKP **PKPbc 00 52 32.4 -0.4**
VRI Vrincioaia 147.07 328 ⇑P **PKPbc 00 52 32.4 +0.1**
VRI Vrincioaia 147.07 328 ⇑PKP2 **PKPbc 00 52 32.4 +0.1**
PLOR Plostina 147.12 328 ⇑P **PKPbc 00 52 32.5 0.0**
PLOR Plostina 147.12 328 ⇑PKP2 **PKPbc 00 52 32.5 0.0**
ANTO Ankara 147.12 315 **PKPdf 00 52 29.7 -0.3**
ANTO Ankara 147.12 315 P **PKPdf 00 52 30.6 +0.7**
ANTO Ankara 147.12 315 ⇑P **PKPbc 00 52 33.2 +0.5**
ANTO Ankara 147.12 315 ⇑PKP2 **PKPbc 00 52 33.2 +0.5**
TIRR Tirgusor 147.15 325 ⇓P **PKPbc 00 52 32.4 -0.1**
TIRR Tirgusor 147.15 325 ⇓PKP2 **PKPbc 00 52 32.4 -0.1**
BMR Baia Mare 147.19 334 ⇑P **PKPbc 00 52 33.0 +0.4**
BMR Baia Mare 147.19 334 ⇑PKP2 **PKPbc 00 52 33.0 +0.4**
OSTC Ostas 147.21 344 ⇑*e*PKP **PKPbc 00 52 33.0 +0.5**
OSTC Ostas 147.21 344 *e*PKP2 **PKPbc 00 52 33.0 +0.5**
CHVC Chvalec 147.22 344 ⇑*e*PKP **PKPbc 00 52 33.0 +0.4**
CHVC Chvalec 147.22 344 *e*PKP2 **PKPbc 00 52 33.0 +0.4**
CLL Collm 147.24 348 **PKPdf 00 52 29.1 -0.6**

CLL PKPbc **PKPbc 00 52 32.4 -0.2**
CLL Collm 147.24 348 ⇓*e*PKIKP **PKPdf 00 52 29.0 -0.6**
CLL *e* 00 52 36.0
CLL *e* 00 54 05.0
CLL pmax pmax
comp=Z,73nm,1.1s
CLL pmax pmax
comp=Z,36nm,1.1s
CLL Collm 147.24 348 *e*PKPdf **PKPdf 00 52 29.0 -0.6**
CLL ⇓*i* PKPbc **PKPbc 00 52 32.5 0.0**
comp=Z,73nm,1.1s
CLL *e*PKPab **PKPab 00 52 36.0 +0.6**
comp=Z,36nm,1.1s
CLL *ep*PKPab **pPKPab 00 54 05.0 -0.2**
CLL *i* x x 00 54 14.6
CLL *e*SKPdf **SKPdf 00 55 27.0 +0.3**
HARR Harsova 147.26 326 ⇑P **PKPbc 00 52 33.3 +0.5**
HARR Harsova 147.26 326 ⇑PKP2 **PKPbc 00 52 33.3 +0.5**
TURR Turia 147.28 329 ⇑P **PKPbc 00 52 33.6 +0.7**
MCH1 Michaelchurch 147.29 6 *e*P **PKPdf 00 52 30.4 +0.7**
TLBR Topalu 147.29 325 ⇓P **PKPbc 00 52 33.1 +0.2**
BISRR Bisoca 147.30 328 ⇑P **PKPbc 00 52 33.5 +0.5**
UPC Upice 147.31 344 ⇑*e*PKP **PKPbc 00 52 33.1 +0.3**
UPC Upice 147.31 344 *e*PKP2 **PKPbc 00 52 33.1 +0.3**
OKC Ostrava-Krasne 147.31 341 ⇑*e*PKP **PKPbc 00 52 32.9 +0.1**
OKC *e*PKPAB **PKPab 00 52 36.8 +1.1**
OKC Ostrava-Krasne 147.31 341 *e*PKP2 **PKPbc 00 52 32.9 +0.1**
STEB Steborice 147.34 342 ⇑*e*PKP **PKPbc 00 52 32.7 -0.2**
STEB *e*PKPAB **PKPab 00 52 36.2 +0.4**
OZUR 147.36 330 ⇓P **PKPbc 00 52 33.5 +0.4**
DPC Dobruska-Polom 147.37 344 ⇑*e*PKP **PKPbc 00 52 33.4 +0.4**
DPC Dobruska-Polom 147.37 344 *e*PKP2 **PKPbc 00 52 33.4 +0.4**
BOSR Bodos 147.44 330 ⇑P **PKPbc 00 52 34.1 +0.8**
BRG Berggiesshubel 147.46 347 *e*PKP **PKPdf 00 52 30.3 +0.3**
BRG Amp 00 52 31.2
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 147.46 347 P **PKPbc 00 52 33.6 +0.4**
BRG Amp 00 52 34.4
comp=Z,29nm,1.0s
BRG Berggiesshubel 147.46 347 P **PKPab 00 52 36.4 +0.1**
BRG Amp 00 52 36.8
comp=Z,22nm,0.9s
MONM Monmouth 147.47 6 *e*P **PKPbc 00 52 32.1 -1.0**
MANR Mangalia 147.47 324 ⇑P **PKPbc 00 52 34.0 +0.6**
LANS Liptovska Anna 147.49 339 *e*PKP2 **PKiKP 00 52 34.8 -0.3**
LANS Liptovska Anna 147.49 339 *e* **PKPab 00 52 40.5 +4.0**
LANS Liptovska Anna 147.49 339 *e*PKP **PKiKP 00 52 34.8 -0.3**
KRLC Kraliky 147.50 343 ⇑*e*PKP **PKPbc 00 52 33.7 +0.4**
KRLC Kraliky 147.50 343 *e*PKP2 **PKPbc 00 52 33.7 +0.4**
MORC Moravsky Berou 147.55 342 **PKPbc 00 52 33.0 -0.5**
MORC Moravsky Berou 147.55 342 ⇓P **PKiKP 00 52 34.4 -0.8**
MORC Moravsky Berou 147.55 342 *e*PKP **PKPbc 00 52 33.1 -0.4**
MORC Moravsky Berou 147.55 342 ⇓PKP2 **PKiKP 00 52 34.4 -0.8**
STRD Stroud 147.59 6 *e*P **PKPbc 00 52 31.9 -1.5**
NEHR Nehoiu 147.59 328 ⇑P **PKPbc 00 52 33.8 +0.1**
PVCC Panska Ves 147.64 346 ⇑*e*PKP **PKPbc 00 52 34.0 +0.4**
PVCC Panska Ves 147.64 346 *e*PKP2 **PKPbc 00 52 34.0 +0.4**
DOPR Dopca 147.64 330 ⇓P **PKPbc 00 52 34.5 +0.6**
ISR Istrita 147.68 328 ⇑P **PKPbc 00 52 34.5 +0.5**
ISR Istrita 147.68 328 ⇑PKP2 **PKPbc 00 52 34.5 +0.5**
ICOR Ion Corvin 147.71 325 ⇓P **PKiKP 00 52 34.9 -0.7**
KECS Kecovo 147.71 338 *e*PKP2 **PKPab 00 52 38.0 +0.6**
KECS Kecovo 147.71 338 *e*PKP **PKPab 00 52 38.0 +0.6**
MLR Muntele Rosu 147.72 329 **PKPbc 00 52 33.2 -1.0**
MLR Muntele Rosu 147.72 329 ⇑P **PKPbc 00 52 34.1 -0.1**
MLR Muntele Rosu 147.72 329 ⇑PKP2 **PKPbc 00 52 34.1 -0.1**
RICC Richard 147.74 346 ⇑*e*PKP **PKPbc 00 52 34.5 +0.6**
HSKC Hora Svate Kat 147.82 347 ⇑*e*PKP **PKPbc 00 52 34.3 +0.2**
MAUC Maruska 147.83 341 ⇑*e*PKP **PKPbc 00 52 34.8 +0.6**
MESR Meseseni 147.84 334 ⇑P **PKPbc 00 52 34.8 +0.6**
MMAI Mount Meron Ar 147.84 301 PKPbc **PKiKP 00 52 35.6 -0.8**
comp=Z,33nm,0.8s,baz=61,slow=3.9,SNR=45
SAHE Sakarya_HENDEK 147.88 318 ⇑P **PKPbc 00 52 34.6 0.0**
CJR Cluj-Napoca 147.90 332 ⇓P **PKPbc 00 52 33.9 -0.6**
CJR Cluj-Napoca 147.90 332 ⇓PKP2 **PKPbc 00 52 33.9 -0.6**
MDB Medias 147.99 331 ⇓P **PKPbc 00 52 35.3 +0.6**
MDB Medias 147.99 331 ⇓PKP2 **PKPbc 00 52 35.3 +0.6**
LEHL Lehliu 147.99 326 ⇑P **PKPbc 00 52 35.2 +0.5**
PRA Prague 148.10 346 ⇑*e*PKP **PKiKP 00 52 35.6 -0.7**
PRA Prague 148.10 346 *e*PKP2 **PKiKP 00 52 35.6 -0.7**
WOL Wolverton 148.13 5 *e*P **PKPbc 00 52 33.1 -1.7**
MARR Marisel-Cluj 148.14 333 ⇑P **PKPbc 00 52 35.3 +0.1**
SULR 148.14 327 ⇓P **PKPbc 00 52 35.6 +0.5**
GHAJ Ghor Haditha 148.15 298 **PKPbc 00 52 35.2 -0.3**
PRU Pruhonice 148.15 345 ⇑*e*PKP **PKPbc 00 52 35.3 +0.3**
PRU Pruhonice 148.15 345 *e*PKP2 **PKPbc 00 52 35.3 +0.3**
DRGR 148.22 333 ⇑P **PKPbc 00 52 35.5 +0.1**
DRGR 148.22 333 ⇑PKP2 **PKPbc 00 52 35.5 +0.1**
VRAC Vranov 148.24 343 ⇑P **PKPbc 00 52 35.8 +0.6**
VRAC Vranov 148.24 343 *e*PKP **PKPbc 00 52 35.1 -0.1**
VRAC Vranov 148.24 343 ⇑PKP2 **PKPbc 00 52 35.8 +0.6**
JAVC Velka Javorina 148.32 341 *e*PKP **PKiKP 00 52 36.7 -0.2**
PSZ Piszkesteto 148.40 338 ⇑P **PKPbc 00 52 36.1 +0.3**
PSZ Piszkesteto 148.40 338 ⇑PKP2 **PKPbc 00 52 36.1 +0.3**
ARR Arges 148.44 330 ⇑P **PKiKP 00 52 37.0 -0.2**
SBD Saint Breward 148.48 9 *e*P **PKPbc 00 52 34.6 -1.1**
KRUC Moravsky 148.52 343 *e*PKP **PKPbc 00 52 35.8 -0.1**
TREC Trest 148.56 344 ⇑*e*PKP **PKPbc 00 52 36.2 +0.1**
TREC Trest 148.56 344 *e*PKP2 **PKPbc 00 52 36.2 +0.1**
SGRR Singureni 148.60 327 ⇓P **PKPbc 00 52 36.1 -0.2**
ZVC Zvikov 148.75 345 ⇑*e*PKP **PKPbc 00 52 36.2 -0.3**
ZVC *e*PKPAB **PKPab 00 52 41.1 -0.5**
UCC Uccle 148.76 358 **PKPbc 00 52 36.3 -0.2**
UCC Uccle 148.76 358 PKP2 **PKPbc 00 52 36.3 -0.2**
BSZH Besenyszg 148.78 337 ⇑P **PKiKP 00 52 37.3 -0.4**
LOT Lotru 148.79 331 ⇑P **PKPbc 00 52 36.4 -0.5**
DEV Deva 148.85 332 ⇑P **PKPbc 00 52 37.1 +0.2**
DEV Deva 148.85 332 ⇑PKP2 **PKPbc 00 52 37.1 +0.2**
LOZB Loznitsa 148.86 325 ⇑P **PKPbc 00 52 37.1 +0.1**
MEM Membach 148.87 356 *d*PKP **PKPbc 00 52 36.5 -0.2**
MODS Modra-Piesok 148.88 341 *e*PKP2 **PKiKP 00 52 37.9 -0.1**
MODS Modra-Piesok 148.88 341 *e*PKP **PKiKP 00 52 37.9 -0.1**
MODS *e* 00 52 43.2
BTNL Ternell 148.88 356 *d*PKP **PKPbc 00 52 37.0 +0.1**
HUMR Humele 148.89 328 ⇑P **PKPbc 00 52 36.7 -0.3**
BSTI Sart Tilman 148.92 356 *d*PKP **PKPbc 00 52 36.6 -0.3**
**SIR

PLVB	Pleven	149.88	327	⇑P	PKiKP	00 52 39.9	-0.3
BANR	Banloc	150.00	333	⇑P	PKiKP	00 52 40.6	+0.2
BAIL	Bailesti	150.06	329	⇑P	PKPbc	00 52 39.9	+0.1
JSA	Saint Aubin	150.15	6	eP	PKPbc	00 52 38.6	-1.3
MOA	Molln	150.20	344	i PKP	PKPbc	00 52 40.0	-0.1
	comp=Z,39nm,1.2s,SNR=7.6						
MDVR	Moldovita	150.23	332	⇑P	PKPbc	00 52 40.3	0.0
MORH	Mrgy, Hungar	150.30	337	⇓iP	PKPbc	00 52 39.8	-0.5
MORH	Mrgy, Hungar	150.30	337	⇑P	PKPbc	00 52 40.3	0.0
DIM	Dimitrovgrad	150.30	324	P	PKPbc	00 52 40.4	-0.1
STU	Stuttgart	150.34	351		PKPbc	00 52 40.3	-0.1
STU	Stuttgart	150.34	351	PKIKP	PKPbc	00 52 40.3	-0.1
MPEP	Malo Peshtene	150.35	328	P	PKiKP	00 52 40.9	-0.3
ARSA	Arzberg	150.41	342	i PKP	PKPbc	00 52 40.2	-0.4
	comp=Z,18nm,1.3s						
BIOA	Bad Ischl, Aus	150.51	345	i PKP	PKPbc	00 52 40.3	-0.5
	comp=Z,22nm,0.8s,SNR=10						
KDZ	Kurdzhali	150.71	324	P	PKPbc	00 52 41.2	-0.3
BEHE	Becsehely	150.72	340	eP	PKPbc	00 52 41.0	-0.3
KOGS	Kog	150.91	340	i PKPbc	PKPbc	00 52 41.0	-0.8
KOGS				i PKPab	PKPab	00 52 50.2	-0.4
RDO	Rodhopi	150.92	323		PKPbc	00 52 41.0	-0.9
LESA	Schwarzleotal	150.99	346	i PKP	PKPbc	00 52 41.5	-0.5
	comp=Z,23nm,0.8s,SNR=8.7						
AKAS	Kas	151.06	311		PKPbc	00 52 41.1	-1.5
SOKA	Soboth	151.07	342	i PKP	PKPbc	00 52 41.5	-0.7
	comp=Z,43nm,1.0s,SNR=18						
BOVS	Bovan	151.13	331	⇑P	PKPbc	00 52 42.2	-0.1
VTS	Vitosha	151.14	327	P	PKPbc	00 52 42.6	0.0
KBA	Koelnbreinsper	151.15	345	i PKP	PKPbc	00 52 41.7	-0.9
	comp=Z,39nm,1.0s,SNR=13						
EZN	Ezine	151.29	320	⇑P	PKPbc	00 52 42.6	-0.2
EZN	Ezine	151.29	320	⇑PKIKP	PKPbc	00 52 42.6	-0.2
WATA	Walderalm	151.31	347	i PKP	PKPbc	00 52 42.3	-0.5
	comp=Z,55nm,1.2s,SNR=12						
RETA	Reutte	151.33	348	i PKP	PKPbc	00 52 42.5	-0.2
	comp=Z,2.2nm,0.4s,SNR=7.1						
OBKA	Obir	151.36	343	i PKP	PKPbc	00 52 42.0	-0.9
	comp=Z,8.2nm,0.7s,SNR=6.1						
WTTA	Wattenberg	151.37	347	i PKP	PKPbc	00 52 42.8	-0.2
	comp=Z,44nm,0.6s,SNR=18						
MOTA	Moosalm	151.40	348	i PKP	PKPbc	00 52 42.5	-0.5
	comp=Z,44nm,0.9s,SNR=10						
MOSL	Moslavina	151.48	339	⇓iP	PKPbc	00 52 42.6	-0.5
MYKA	Terra Mystica	151.49	344	i PKP	PKPbc	00 52 42.2	-1.0
	comp=Z,16nm,0.6s,SNR=10						
SQTA	Sankt Quirin	151.50	348	i PKP	PKPbc	00 52 42.6	-0.6
	comp=Z,21nm,0.6s,SNR=13						
CLF	Chambon-Foret	151.56	1		PKPbc	00 52 42.6	-0.6
MMB	Musomishta	151.64	325	P	PKPbc	00 52 43.0	-0.6
ABTA	Abfaltersbach	151.66	346	i PKP	PKPbc	00 52 42.8	-0.8
	comp=Z,59nm,0.7s						
DAVA	Damuels	151.68	350	i PKP	PKPbc	00 52 43.5	-0.2
	comp=Z,52nm,1.2s,SNR=14						
VNDS	Vrh nad Dolski	151.69	342	i PKPbc	PKPbc	00 52 43.0	-0.5
FETA	Feichten	151.78	348	i PKP	PKPbc	00 52 43.8	-0.2
	comp=Z,58nm,1.1s,SNR=11						
LJU	Ljubljana	151.79	342	i PKPbc	PKPbc	00 52 43.5	-0.3
CRNS	Crni Vrh	151.83	343	i PKPbc	PKPbc	00 52 43.1	-0.8
OZLJ	Ozalj	151.90	341	⇓iP	PKPbc	00 52 42.6	-1.4
SLATY	Slatina	151.97	337	eP	PKPbc	00 52 43.0	-1.2
BLY	Banja Luka	152.08	338	eP	PKPbc	00 52 44.2	-0.2
BLY	Banja Luka	152.08	338	⇑P	PKiKP	00 52 44.8	+0.1
FUORN	Ofenpass-Fuorn	152.26	349		PKPbc	00 52 45.0	-0.1
VAY	Valandovo	152.42	326	i P	PKPab	00 52 57.9	+0.8
SENIN	Lac Senin/Sane	152.96	353		PKPbc	00 52 45.9	-0.8
KIJV	Kijevo	153.01	338	eP	PKPbc	00 52 45.8	-0.7
BRJN	Brijuni	153.05	342	eP	PKPbc	00 52 46.2	-0.3
TEOL	Teolo	153.17	346		PKPdf	00 52 38.2	-0.8
TEOL				PKPbc	PKPbc	00 52 46.4	-0.4
TEOL				PKPab	PKPab	00 52 59.5	-0.7
PDG	Podgorica	153.18	332	⇓P	PKPbc	00 52 46.0	-0.9
STON	Ston	153.48	335	eP	PKPbc	00 52 45.9	-1.6
OHR	Ohrid	153.48	328	i P	PKiKP	00 52 48.3	+0.5
SGRT	San Giovanni R	155.19	336	PKPdf	PKPdf	00 52 41.0	-1.1
AQU	L'Aquila	155.48	341	eP	PKPdf	00 52 50.3	+7.9
PGAV	Gavieira, Arco	155.78	20	ePKPab	PKPab	00 53 11.4	-0.2
PCAB	Cabril	156.09	20	ePKPab	PKPab	00 53 11.2	-1.7
PBRG	Braganca	156.40	18	ePKPab	PKPab	00 53 14.4	+0.2
POLO	Lamas de Olo	156.47	20	ePKPab	PKPab	00 53 15.1	+0.5
MVO	Moncorvo	156.90	19	ePKPab	PKPab	00 53 16.8	+0.4
PVIS	Viseu	157.03	21	ePKPab	PKPab	00 53 17.1	+0.1
PCAS	Casmilo, Conde	157.41	23	ePKPab	PKPab	00 53 17.4	-1.2
MTE	Manteigas	157.43	21	ePKPdf	PKPdf	00 52 44.9	-0.1
MTE				ePKPab	PKPab	00 53 18.8	+0.1
PSBE	So Bento	157.77	24	ePKPab	PKPab	00 53 20.7	+0.5
PSARD	Sardoal	157.93	23	ePKPab	PKPab	00 53 20.9	+0.1
PCBR	Castelo Branco	157.96	21	ePKPab	PKPab	00 53 20.9	0.0
PMAFR	Mafra	158.06	26	ePKPab	PKPab	00 53 21.1	-0.3
PMRV	Marv??o	158.35	21	ePKPab	PKPab	00 53 22.6	-0.1
PMTG	Montargil	158.37	23	ePKPab	PKPab	00 53 22.6	-0.2
PESTR	Estremoz	158.78	23	ePKPab	PKPab	00 53 24.0	-0.6
EVO	Evora	158.92	24	ePKPab	PKPab	00 53 25.1	0.0
ESDC	Sonseca Array	159.12	14	PKP	PKPdf	00 52 47.4	+0.3
	comp=Z,0.7nm,0.9s,baz=314,slow=1.4,SNR=3.0						
ESDC				PKPab	PKPab	00 53 25.9	-0.2
	comp=Z,4.0nm,1.1s,baz=348,slow=5.7,SNR=7.8						
PBAR	Barrancos	159.60	22	ePKPab	PKPab	00 53 28.4	+0.3
PCVE	Castro Verde	159.69	25	ePKPab	PKPab	00 53 28.8	+0.3
PVAQ	Vaqueiros	160.02	25	ePKPab	PKPab	00 53 29.6	-0.4
PBDV	Barranco-do-Ve	160.07	25	ePKPab	PKPab	00 53 31.8	+1.6
KEST	Kesra	162.80	341	PKPab	PKPab	00 53 41.8	-0.5
	comp=Z,11nm,0.9s,baz=289,slow=9.2,SNR=5.2						
MD31	MD31	165.15	25	PKPdf	PKPdf	00 52 53.8	+0.5
MD31				PKPab	PKPab	00 53 53.3	+0.6
DBIC	Dimbokro	165.29	149	PKP	PKPdf	00 52 52.7	-1.2
	comp=Z,2.7nm,0.9s,baz=244,slow=10,SNR=3.6						
DBIC				PKPab	PKPab	00 53 54.2	+0.5
	comp=Z,2.5nm,0.8s,baz=248,slow=6.0,SNR=3.8						
TORD	Torodi Ar. Bea	173.60	172	PKP	PKPdf	00 52 58.4	-0.3
	comp=Z,4.7nm,1.1s,baz=229,slow=13,SNR=12						
TAM	Tamanrasset	175.78	321		PKPdf	00 52 59.2	-0.2
TAM					PKPab	00 54 39.8	-0.4
TAM	Tamanrasset	175.78	321	PKIKP	PKPdf	00 52 59.2	-0.2
TAM						00 54 39.8	

*IDC **24** 00:47:16.8±0.8, 1°.68N×97°.00E, h0km, mb4.2/17, mbtmp4.2/18, ML4.4/1, MS3.5/4, Error ellipse: s-maj=27.7km s-min=15.3km az=53.0*
*DJA **24** 00:47:21.0±0.4, 2°.N±3°.×9°.7E±°, h41km±17km, M4.5/12, mB5.9/1, mb4.9/6, MLv4.3/12, Mw(mB)5.5/1*
*NEIC **24** 00:47:22.4±1.5, 1°.71N±0°.07°.×97°.05E±0°.09, h35km±1km, mb4.6/32, Error ellipse: s-maj=15.5km s-min=11.4km az=239.0*

ISC 24 00:47:20.9±0.5, 1°.72N±0°.06×97°.05E±0°.06, h28km, n96, σ1§07/88, mb4.5/37, MS3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.99	314	P	Pn	00 47 39.1	+0.1
SNSI				S	Sn	00 47 48.0	-4.1
KCSI	Kotacane, Aceh	1.93	22	P	Pn	00 47 53.1	+1.1
PBSI	Pulau Batu	2.15	145	P	Pn	00 47 55.8	+0.8
PSI	Prapat	2.16	60	LR	LR	00 48 44.6	
	comp=Z,338nm,21.9s,baz=284,slow=40						
MLSI	Meulaboh, Aceh	2.61	346	P	Pn	00 48 01.5	+0.2
MNSI	Mandailing Nat	2.69	110	P	Pn	00 48 04.3	+1.9
LHMI	Lhok Sumawe	3.49	358		Pn	00 48 13.9	+0.5
LHMI	Lhok Sumawe	3.49	358	P	Pn	00 48 13.9	+0.5
SISI	Saibi	3.65	146	P	Pn	00 48 16.4	+0.8
PPI	Padang Panjang	3.99	123	P	Pn	00 48 22.3	+2.1
BKNI	Bangkinang	4.23	109	Pn	Pn	00 48 22.9	-0.6
IPM	Ipoh	4.83	55		Pn	00 48 32.5	+0.7
KULM	Kulim	5.05	45		Pn	00 48 35.6	+0.7
CMBY	CAMPBELL BAY	6.11	329	eP	Pn	00 48 54.0	+4.6
CMBY				eS	Sn	00 49 58.8	+0.4
MYKOM	Kota Tinggi	6.80	89	Pn	Pn	00 48 59.1	+0.1
MNAI	Manna	8.45	136	Pn	Pn	00 49 21.8	+0.3
MNAI	Manna	8.45	136	P	Pn	00 49 22.1	+0.5
	6μm230nm,2.0s						
MDSI	Maura Dua	9.42	131	P	Pn	00 49 35.3	+0.4
	21nm,0.7s						
SKJI	Sukabumi	12.85	132	P	Pn	00 50 22.8	+0.9
CMAR	Chiang Mai Arr	16.74	6	Pn	Pn	00 51 13.6	0.0
	0.6nm,0.3s,baz=197,slow=11,SNR=9.5						
	2.4nm,0.8s						
TBJI	Tambak Boyo	17.04	120	P	Pn	00 51 17.0	-0.3
SLVN	Son La	20.61	18	P	P	00 51 56.5	-1.7
SALM	Salem	21.14	299	eP	P	00 52 06.1	+2.2
SALM				IAmb	IAmb	00 54 38.2	
	comp=Z,6.5nm,0.3s						
SALM				eS	S	00 55 58.9	+1.1
KOD	Kodaikanal	21.21	294	eP	P	00 52 05.2	+0.1
KOD				IAmb	IAmb	00 52 41.4	
KOD				eS	S	00 55 59.6	-0.3
MYLDM	Lahad Datu	21.69	80	P	P	00 52 10.3	+0.5
MYLDM				IAmb	IAmb	00 52 14.7	
	comp=Z,13nm,0.6s						
AGT	Agartala	22.74	346	eP	P	00 52 21.9	+1.0
AGT				IAmb	IAmb	00 55 05.1	
	comp=Z,27nm,0.1s						
AGT				eS	S	00 56 29.2	+1.2
TOLI2	Tolitoli	23.74	91	P	P	00 52 29.6	-1.5
TOLI2				IAmb	IAmb	00 52 31.6	
	comp=Z,11nm,0.6s						
KOHI	KOHIMA	24.03	353	eP	P	00 52 32.5	-1.4
KOHI				IAmb	IAmb	00 55 25.6	
	comp=Z,14nm,0.0s						
SHL	Shillong	24.23	349		P	00 52 34.8	-1.0
SHL				IAmb	IAmb	00 52 37.4	
	comp=Z,16nm,0.7s						
H08S2	Diego Garcia H	26.20	249	T	T	01 19 57.9	
	baz=70,slow=75,SNR=757						
H08S3	Diego Garcia H	26.20	249	T	T	01 19 58.2	
	baz=70,slow=75,SNR=5707						
H08S1	Diego Carcia H	26.22	249	T	T	01 19 59.3	
	baz=70,slow=75,SNR=618						
EVN	Everest	27.86	340	P	P	00 53 07.3	-1.9
FITZ	Fitzroy Crossi	34.35	126	P	P	00 54 03.9	-1.8
LZDM	Lanzhou Array	34.62	10	P	P	00 54 07.6	-0.5
	comp=Z,0.7nm,0.3s,baz=191,slow=15,SNR=1.6						
	comp=Z,0.7nm,0.3s						
GTA	Gaotai	37.60	4	eP	P	00 54 34.0	+0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
H01W3	Cape Leeuwin H	39.78	158	T	T	01 37 14.7	
	baz=333,slow=76,SNR=35						
H01W2	Cape Leeuwin H	39.79	158	T	T	01 37 14.9	
	baz=333,slow=76,SNR=32						
H01W1	Cape Leeuwin H	39.80	158	T	T	01 37 22.0	
	baz=333,slow=76,SNR=33						
BJT	Baijiatuau	41.90	22	P	P	00 55 09.5	+0.5
KSH	Kashi	42.24	336	P	P	00 55 11.8	-0.1
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WB0	Warramunga Arr	42.41	122	P	P	00 55 12.6	-0.9
WRA	Warramunga Arr	42.44	122	P	P	00 55 13.5	-0.2
	comp=Z,1.3nm,0.7s,baz=301,slow=9.2,SNR=16						
WRA				LR	LR	01 13 27.6	
	comp=Z,95nm,19.8s,baz=304,slow=37						
	comp=Z,1.3nm,0.7s						
WR8	Warramunga Arr	42.58	122	P	P	00 55 14.4	-0.5
WR8				IAmb	IAmb	00 55 22.6	
	comp=Z,4.6nm,0.5s						
TARG	Taragay, Kyrgy	43.44	339	P	P	00 55 23.3	+1.3
TARG				IAmb	IAmb	00 55 24.5	
	comp=Z,7.2nm,0.7s						
ASAR	Alice Springs	43.83	127	P	P	00 55 24.9	-0.1
	comp=Z,1.8nm,1.0s,baz=302,slow=7.5,SNR=8.2						
ASAR				LR	LR	01 15 32.3	
	comp=Z,58nm,18.0s,baz=286,slow=39						
	comp=Z,1.8nm,1.0s						
DRK	Karamyk	44.06	332	P	P	00 55 28.1	+1.2
BOOM	Boomskoye usch	44.78	338	P	P	00 55 33.1	+0.6
BOOM				IAmb	IAmb	00 55 37.2	
	comp=Z,8.2nm,1.0s						
ARSB	Arslanbob	45.01	334		P	00 55 34.5	+0.3
AAK	Ala-Archa	45.47	337	P	P	00 55 39.0	+1.2
KSRS	Korea Array	45.51	35	P	P	00 55 38.5	+0.4
	comp=Z,2.5nm,0.7s,baz=224,slow=9.1,SNR=7.0						
	comp=Z,2.5nm,0.7s						
SONM	Songino Array	46.64	9	P	P	00 55 46.6	-0.4
SONM				IAmb	IAmb	00 55 48.2	
	comp=Z,2.6nm,0.7s						
SONM	Songino Array	46.64	9	P	P	00 55 47.7	+0.7
	comp=Z,3.7nm,0.6s,baz=193,slow=9.7,SNR=18						
SONM				PcP	PcP	00 57 18.8	-1.8
	comp=Z,0.5nm,0.5s,baz=199,slow=3.1,SNR=2.4						
	comp=Z,3.7nm,0.6s						
MKAR	Makanchi Array	46.70	346	P	P	00 55 46.9	-0.5
MKAR	Makanchi Array	46.70	346	P	P	00 55 48.4	+1.0
	comp=Z,9.6nm,0.7s,baz=159,slow=7.7,SNR=47						
	comp=Z,9.6nm,0.7s						
ULN	Ulaanbaatar	46.78	9	P	P	00 55 48.3	+0.2
ULN				IAmb	IAmb	00 55 49.2	
	comp=Z,2.3nm,0.7s						
MAKZ	Makanchi	46.79	346	P	P	00 55 48.5	+0.4
MAKZ				IAmb	IAmb	00 55 49.6	
	comp=Z,7.7nm,0.7s						
KK31	Karatay Array	47.53	334		P	00 55 54.8	+1.0
KK31				IAmb	IAmb	00 55 56.7	
	comp=Z,9.6nm,1.4s						
KKAR	Karatay Array	47.53	334	P	P	00 55 54.5	+0.6
JGF	Kuroka	50.33	43	P	P	00 56 15.2	-0.3
KURBB	Kurchatov Arra	51.19	345	P	P	00 56 22.5	+0.9
	comp=Z,3.8nm,0.6s,baz=165,slow=7.0,SNR=36						
	comp=Z,3.8nm,0.6s						
KURK	Kurchatov	51.25	345		P	00 56 22.3	+0.2
KURK				IAmb	IAmb	00 56 23.8	
	comp=Z,5.4nm,0.9s						
MJAR	Matsushiro Arr	51.41	43	P	P	00 56 24.2	+0.6
	comp=Z,1.2nm,0.6s,baz=211,slow=5.7,SNR=4.1						
	comp=Z,1.2nm,0.6s						
ZAA0	Zalesovo Array	53.02	351		P	00 56 35.3	+0.1
ZALV	Zalesovo Beam	53.02	351	P	P	00 56 35.7	+0.5
ZALV	Zalesovo Beam	53.02	351	P	P	00 56 36.0	+0.8
	comp=Z,12nm,0.6s,baz=176,slow=7.0,SNR=64						
	comp=Z,12nm,0.6s						
STKA	Stephens Creek	53.82	132	P	P	00 56 42.3	+0.8
	comp=Z,1.0nm,0.5s,baz=298,slow=8.9,SNR=2.4						
	comp=Z,1.0nm,0.5s						
RAYN	Ar Rayn	54.38	298	P	P	00 56 46.0	+0.2
BVAR	Borovoye Array	55.71	341	P	P	00 56 55.0	+0.2
	comp=Z,2.8nm,0.6s,baz=136,slow=9.2,SNR=14						
BVAR				LR	LR	01 24 08.4	
	comp=Z,56nm,18.2s,baz=132,slow=40						
	comp=Z,2.8nm,0.6s						
AB31	Akbulak array	56.99	332		P	00 57 03.5	-0.5
AB31				IAmb	IAmb	00 57 05.5	
	comp=Z,11nm,1.4s						
ABKAR	Akbulak array	56.99	332	P	P	00 57 03.8	-0.2
EIDS	Eidsvold	58.78	121	P	P	00 57 16.5	-0.5
H04N2	CROZET ISLANDS	62.12	214	T	T	02 04 57.5	
	baz=54,slow=75,SNR=953						
H04N1	CROZET ISLANDS	62.13	214	T	T	02 05 00.0	
	baz=54,slow=75,SNR=1136						
H04N3	CROZET ISLANDS	62.13	214	T	T	02 04 56.6	
	baz=54,slow=75,SNR=960						
H04S1	CROZET ISLANDS	62.46	213	T	T	02 05 14.2	
	baz=53,slow=75,SNR=170						
H04S3	CROZET ISLANDS	62.47	213	T	T	02 05 14.6	
	baz=53,slow=75,SNR=247						
H04S2	CROZET ISLANDS	62.48	213	T	T	02 05 25.1	
	baz=53,slow=75,SNR=165						
ARTI	Arti	62.69	337	P	P	00 57 42.2	-0.8
ARTI				IAmb	IAmb	00 57 43.5	
	comp=Z,3.7nm,0.5s						
KBZ	Khabaz	63.58	319	P	P	00 57 49.7	+0.5
	comp=Z,1.8nm,0.9s,baz=139,slow=7.5,SNR=3.6						
	comp=Z,1.8nm,0.9s						
YAK	Yakutsk	64.97	16	P	P	00 57 57.1	-0.8
BR131	Keskin Array S	68.65	312	P	P	00 58 21.4	-0.7
BRTR	Keskin Array B	68.65	312	P	P	00 58 21.4	-0.7
BRTR	Keskin Array B	68.65	312	P	P	00 58 21.9	-0.2
	comp=Z,1.1nm,0.7s,baz=128,slow=6.5,SNR=6.7						
	comp=Z,1.1nm,0.7s						
ELL	Elmali	70.75	308	P	P	00 58 34.9	-0.2
ELL				IAmb	IAmb	00 58 36.6	
	comp=Z,4.0nm,0.7s						
BORA	Eskisehir	71.06	312	P	P	00 58 36.1	-0.7
BORA				IAmb	IAmb	00 58 40.8	
	comp=Z,9.0nm,1.4s						
TIXI	Tiksi	72.70	10	P	P	00 58 45.1	-0.8
TIXI				IAmb	IAmb	00 58 46.2	
	comp=Z,5.7nm,0.7s						
AKASG	Malin Array Be	74.75	322	P	P	00 58 58.1	-0.3
	comp=Z,0.5nm,0.4s,baz=91,slow=5.0,SNR=7.6						
	comp=Z,0.5nm,0.4s						
BUR08	Bucovina Ar. S	76.55	319		P	00 59 09.1	+0.2
FINES	FINESS Array B	79.47	332	P	P	00 59 24.2	-0.4
FINES	FINESS Array B	79.47	332	P	P	00 59 24.9	+0.3
	comp=Z,1.1nm,0.5s,baz=120,slow=6.8,SNR=10.0						
	comp=Z,1.1nm,0.5s						
ARCES	ARCESS Array B	82.00	340	P	P	00 59 38.2	+0.2
ARCES	ARCESS Array B	82.00	340	P	P	00 59 38.6	+0.6
	comp=Z,0.9nm,0.4s,baz=95,slow=5.0,SNR=27						
	comp=Z,0.9nm,0.4s						
GERES	GERESS Array B	84.32	319	P	P	00 59 51.0	+0.4
	comp=Z,1.0nm,0.6s,baz=74,slow=5.8,SNR=6.8						
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	143.31	31	PKP	PKPbc	01 06 51.4	+0.8
	comp=Z,0.3nm,0.8s,baz=331,slow=4.2,SNR=2.4						
CPUP	Villa Florida	145.28	223	PKPbc	PKPbc	01 06 57.1	+0.5
	comp=Z,0.5nm,0.5s,baz=201,slow=0.3,SNR=5.8						

SJA 24 00:48:13.4±0.7, 33°.33S×68°.31W, h9km, ML3.5, MW3.4, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	Vizcacheras	0.23	231	eP	Pg	00 48 13.3	-4.8
AAGR	Agrelo	0.50	299	eP	Pg	00 48 23.2	0.0
ARCO	CERRO ARCO	0.72	313	eP	Pg	00 48 27.1	-0.2
ARCO				eS	Sb	00 48 39.0	+0.8
ARCO				IAML		00 48 39.5	
	comp=Z,1μm,0.2s						
ASAL	Salagasta	0.86	329	eP	Pg	00 48 29.7	-0.3
ASAL				eS	Sn	00 48 44.1	-0.4
ACAN	Cantantal	1.41	42	eP	Pb	00 48 40.0	0.0
MT08	Bocatoma Ro	1.44	265	eP	Pn	00 48 40.0	+0.2
MT08				eS	Sg	00 48 59.5	-0.1
MT08				IAML		00 49 04.1	
	comp=Z,336nm,0.4s						
RFA	San Rafael	1.44	185	eP	Pg	00 48 40.8	-0.3
RFA				eS	Sg	00 49 02.9	+3.0
RFA				IAML		00 49 10.0	
	comp=Z,687nm,1.0s						
MT04	Ro Olivares	1.54	267	eP	Pn	00 48 41.6	+0.4
MT04				eS	Sg	00 49 04.8	+2.0
LMEL	Las Melosas	1.67	251	eP	Pb	00 48 44.3	-0.1
LMEL				eS	Sg	00 49 07.5	+0.5
LMEL				IAML		00 49 09.6	
	comp=Z,218nm,0.8s						
CFA	Coronel Fontan	1.72	2	eP	Pb	00 48 45.1	-0.1
CFA				eS	Sg	00 49 09.6	+0.8
RTLS	Leoncito	1.74	331	eP	Pn	00 48 44.7	+0.7
RTLS				eS	Sn	00 49 06.9	+0.3
RTLS				IAML		00 49 14.1	
	comp=Z,576nm,0.9s						
ZON	Zonda	1.81	350	eP	Pb	00 48 46.6	-0.1
ZON				eS	Sg	00 49 10.9	-0.5
ZON				IAML		00 49 12.9	
	comp=Z,340nm,0.2s						
SJA	San Juan	1.81	353	eP	Pn	00 48 36.4	-8.4
SJA				eS	Sg	00 49 11.5	-0.1
SJA				IAML		00 49 14.6	
	comp=Z,442nm,0.3s						
MT03	Universidad Ad	1.85	264	eP	Pb	00 48 47.3	-0.2
MT03				eS	Sg	00 49 13.2	+0.3
MT03				IAML		00 49 15.5	
	comp=Z,303nm,0.3s						
VA03	San Esteban	1.97	286	eP	Pb	00 48 49.1	-0.4
VA03				eS	Sg	00 49 15.6	-1.1
VA03				IAML		00 49 19.2	
	comp=Z,298nm,0.8s						
RTLL	Cerro Villicun	2.00	356	eP	Pb	00 48 49.6	-0.4
RTLL				eS	Sg	00 49 17.7	0.0
RTLL				IAML		00 49 18.3	
	comp=Z,1μm,0.7s						
PEL	Peldehue	2.00	275	eP	Pb	00 48 49.9	-0.2
PEL				eS	Sg	00 49 16.9	-1.0
PEL				IAML		00 49 19.1	
	comp=Z,150nm,0.3s						
MT05	Renca	2.04	268	eP	Pb	00 48 50.7	+0.1
MT05				eS	Sg	00 49 20.1	+1.2
MT05				IAML		00 49 24.7	
	comp=Z,226nm,1.4s						
ROC1	El Roble	2.30	278	eP	Pb	00 48 54.3	-1.0
ROC1				eS	Sg	00 49 26.1	-1.3
MRA	San Martin	2.36	68	eP	Pb	00 48 55.1	-1.1
MRA				eS	Sb	00 49 26.2	+0.8
MRA				IAML		00 49 34.3	
	comp=Z,326nm,0.6s						
MT02	Curacav	2.37	271	eP	Pb	00 48 54.9	-1.5
MT02				eS	Sb	00 49 27.4	+1.7
MT02				IAML		00 49 30.8	
	comp=Z,160nm,1.1s						
MT01	Popeta	2.52	257	eP	Pb	00 48 56.8	-2.0
MT01				eS	Sb	00 49 31.6	+1.7
MT01				IAML		00 49 32.4	
	comp=Z,192nm,0.5s						
BO02	Sierra Bellavi	2.52	234

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.38**	**45**	*i* Pg	Pg	00 50 31.3	-0.8
FETA	0.3nm,0.1s			*e*Sg	Sg	00 50 37.4	+0.4
	1.9nm,0.2s						
SQTA	**Sankt Quirin**	**0.76**	**51**	*e*Pg	Pg	00 50 38.8	-0.6
SQTA	0.3nm,0.1s			*e*Sg	Sg	00 50 50.1	+0.9
	0.8nm,0.2s						
MOTA	**Moosalm**	**0.79**	**41**	*e*Sg	Sb	00 50 52.2	-0.7
RETA	**Reutte**	**0.79**	**21**	*e*Pg	Pg	00 50 36.7	-3.3
RETA	1.7nm,0.5s			*e*Sg	Sg	00 50 51.2	+1.0
	0.1nm,0.1s						
	0.7nm,0.2s						

*IDC **24** 01:20:45.7±4.8, 3°.55S×102°.24E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=252.5km s-min=21.0km az=52.0*
*DJA **24** 01:20:50.4±0.9, 4°.S±4°×10°.2E±°, h24km±8km, M3.9/10, MLv3.9/10*
ISC 24 01:20:51.6±1.0, 4°.0S±0°.1×101°.83E±0°.08, h58km, n27, σ0.88/16, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.85**	**64**	P	**Pn**	**01 21 07.6**	**-0.1**
MASI	**Maura Aman, Be**	**0.98**	**25**	P	**Pn**	**01 21 09.3**	**0.0**
MNAI	**Manna**	**1.17**	**106**	P	**Pn**	**01 21 10.5**	**-1.3**
LHSI	**Lahat**	**1.71**	**83**	P	**Pn**	**01 21 19.8**	**+0.8**
PPSI	**Pulau Pagai**	**2.21**	**305**	P	**Pn**	**01 21 26.0**	**+0.1**
PPSI				S	**Sn**	**01 21 51.3**	**-0.8**
MDSI	**Maura Dua**	**2.39**	**101**	P	**Pn**	**01 21 28.1**	**-0.2**
LWLI	**Liwa**	**2.43**	**114**	P	**Pn**	**01 21 29.3**	**+0.3**
KASI	**Kota Agung**	**3.04**	**119**	P	**Pn**	**01 21 38.1**	**+0.8**
PDSI	**Padang**	**3.39**	**336**	P	**Pn**	**01 21 42.9**	**+0.9**
H08S2	**Diego Garcia H**	**29.39**	**262**	T	T	01 56 40.3	
	baz=84,slow=76,SNR=8.1						
H08S3	**Diego Garcia H**	**29.40**	**262**	T	T	01 56 41.0	
	baz=84,slow=76,SNR=9.9						
H08S1	**Diego Carcia H**	**29.41**	**262**	T	T	01 56 37.2	
	baz=84,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**32.75**	**161**	T	T	02 01 30.6	
	baz=338						
H01W2	**Cape Leeuwin H**	**32.77**	**161**	T	T	02 01 24.3	
	baz=338						
H01W1	**Cape Leeuwin H**	**32.77**	**161**	T	T	02 01 30.2	
	baz=338						
WRA	**Warramunga Arr**	**35.41**	**119**	P	**P**	**01 27 42.6**	**+0.3**
	0.3nm,0.3s,baz=297,slow=8.1,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**36.59**	**125**	P	**P**	**01 27 53.4**	**+1.0**
	0.3nm,0.3s,baz=300,slow=7.7,SNR=6.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**53.48**	**343**	P	**P**	**01 30 04.0**	**-2.0**
	0.5nm,0.6s,baz=147,slow=8.6,SNR=2.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**58.01**	**343**	P	**P**	**01 30 37.7**	**-0.6**
	0.2nm,0.2s,baz=163,slow=6.5,SNR=7.7						
	0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**59.50**	**348**	P	**P**	**01 30 48.8**	**+0.3**
	1.2nm,0.5s,baz=165,slow=6.0,SNR=8.3						
	1.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.29**	**218**	T	T	02 35 46.5	
	baz=60,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**60.30**	**218**	T	T	02 35 42.4	
	baz=60,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**60.30**	**218**	T	T	02 35 48.6	
	baz=60,slow=75,SNR=12						
H04S1	**CROZET ISLANDS**	**60.54**	**217**	T	T	02 35 56.7	
	baz=59						
H04S3	**CROZET ISLANDS**	**60.56**	**217**	T	T	02 36 01.2	
	baz=59						
H04S2	**CROZET ISLANDS**	**60.56**	**217**	T	T	02 36 01.1	
	baz=59						
TXAR	**Lajitas Array**	**145.11**	**41**	PKP	**PKPdf**	**01 40 23.9**	**+0.5**
	0.2nm,0.8s,baz=336,slow=3.3,SNR=4.9						

*IDC **24** 01:24:04.8±0.7, 32°.24N×40°.11W, h0km, mb3.9/15, mbtmp3.9/15, MS3.6/31, Error ellipse: s-maj=23.6km s-min=16.8km az=139.0*
*NEIC **24** 01:24:07.2±2.0, 32°.2N±0°.1×40°.1W±0°.1, h10km±1km, mb4.7/18, Error ellipse: s-maj=21.8km s-min=16.9km az=151.0*
ISC 24 01:24:06.5±0.6, 32°.2N±0°.1×40°.06W±0°.09, h10km, n70, σ0.96/37, mb4.2/23, MS3.6/31, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**13.13**	**61**	Pn	**Pn**	**01 27 14.0**	**+1.0**
M65A	**Busby, Falmout**	**26.06**	**300**	P	**P**	**01 29 39.7**	**-0.3**
WVL	**Waterville**	**26.11**	**307**	P	**P**	**01 29 40.6**	**+0.2**
WVL				IAmb	IAmb	01 29 58.6	
	comp=Z,43nm,1.3s						
ICQ	**Pointe Anglais**	**26.65**	**318**	P	**P**	**01 29 43.6**	**-1.6**
H62A	**Milan**	**27.14**	**306**	P	**P**	**01 29 49.4**	**-0.3**
H62A				IAmb	IAmb	01 30 08.3	
	comp=Z,40nm,1.5s						
PESTR	**Estremoz**	**27.14**	**67**	P	**P**	**01 29 48.8**	**-1.1**
PESTR				IAmb	IAmb	01 30 09.9	
	comp=Z,22nm,1.3s						
BBTS	**Babate**	**27.68**	**124**	LR	LR	01 39 00.4	
	comp=Z,133nm,18.1s,baz=262,slow=32						
CELP	**Cerrillos**	**27.74**	**246**	P	**P**	**01 29 55.9**	**+0.6**
CELP				IAmb	IAmb	01 30 27.9	
	comp=Z,28nm,1.4s						
KSCT	**Kent School, K**	**28.18**	**299**	P	**P**	**01 30 01.0**	**+1.9**
LDAQ	**Lac Daran**	**28.32**	**313**	P	**P**	**01 29 60.0**	**-0.4**
LDAQ				IAmb	IAmb	01 30 07.1	
	comp=Z,21nm,1.3s						
MDP	**Montagnes des**	**29.45**	**206**	LR	LR	01 38 09.1	
	comp=Z,32nm,21.8s,baz=35,slow=29						
SCHQ	**Schefferville**	**29.46**	**328**	LR	LR	01 40 45.4	
	comp=Z,1μm,21.6s,baz=106,slow=34						
MDT	**Midelt**	**29.82**	**79**	LR	LR	01 39 23.0	
	comp=Z,120nm,21.5s,baz=268,slow=31						
SSPA	**Standing Stone**	**31.37**	**296**	P	**P**	**01 30 27.9**	**+0.5**
SSPA				IAmb	IAmb	01 31 08.4	
	comp=Z,16nm,1.5s						
SADO	**Sadowa**	**32.74**	**304**	LR	LR	01 42 01.4	
	comp=Z,422nm,19.8s,baz=124,slow=33						
TKL	**Tuckaleechee C**	**36.20**	**288**	LR	LR	01 43 22.4	
	comp=Z,122nm,19.4s,baz=64,slow=32						
FRB	**Frobisher Bay**	**36.23**	**339**	LR	LR	01 44 37.5	
	comp=Z,68nm,19.4s,baz=91,slow=34						
SDV	**Santo Domingo**	**36.63**	**237**	LR	LR	01 43 55.8	
	comp=Z,35nm,21.1s,baz=264,slow=32						
DBIC	**Dimbokro**	**41.49**	**120**	LR	LR	01 46 58.7	
	comp=Z,93nm,19.6s,baz=351,slow=33						
ROSC	**El Rosal**	**42.05**	**237**	LR	LR	01 47 33.4	
	comp=Z,78nm,21.8s,baz=73,slow=34						
NOA	**NORSAR Array B**	**43.81**	**33**	LR	LR	01 47 20.5	
	comp=Z,35nm,18.0s,baz=45,slow=32						
ULM	**Lac du Bonnet**	**44.55**	**311**	P	**P**	**01 32 18.2**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=97,slow=8.1,SNR=3.2						
ULM				LR	LR	01 51 16.2	
	comp=Z,38nm,18.8s,baz=162,slow=37						
	comp=Z,2.2nm,0.5s						
HFS	**Hagfors**	**44.74**	**35**	P	**P**	**01 32 20.6**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=236,slow=16,SNR=2.7						
	comp=Z,2.0nm,0.8s						
H10N2	**ASCENSION HYDR**	**46.72**	**144**	T	T	02 22 33.3	
	baz=329,slow=75						
H10N3	**ASCENSION HYDR**	**46.72**	**144**	T	T	02 22 32.7	
	baz=329,slow=75						
H10N1	**ASCENSION HYDR**	**46.73**	**144**	T	T	02 22 34.6	
	baz=329,slow=75						
JTS	**Las Juntas de**	**46.76**	**252**	LR	LR	01 48 41.2	
	comp=Z,30nm,21.0s,baz=56,slow=32						
H10S3	**ASCENSION HYDR**	**47.60**	**145**	T	T	02 23 40.9	
	baz=329,slow=74,SNR=760						
H10S2	**ASCENSION HYDR**	**47.61**	**145**	T	T	02 23 42.0	
	baz=251,slow=74,SNR=681						
BDFB	**Brasilia**	**48.20**	**190**	P	**P**	**01 32 48.1**	**+0.7**
BDFB				IAmb	IAmb	01 33 01.1	
	comp=Z,6.9nm,1.2s						
BDFB	**Brasilia**	**48.20**	**190**	P	**P**	**01 32 47.4**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=24,slow=3.8,SNR=7.0						
	comp=Z,3.5nm,0.8s						
CMIG	**Matias Romero**	**51.54**	**267**	LR	LR	01 53 43.1	
	comp=Z,23nm,18.6s,baz=332,slow=34						
SIV	**San Ignacio**	**52.00**	**206**	P	**P**	**01 33 15.8**	**-0.4**
	comp=Z,10nm,0.8s,baz=64,slow=7.0,SNR=4.4						
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**53.11**	**48**	P	**P**	**01 33 24.6**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=282,slow=6.4,SNR=8.4						
AKASG				LR	LR	01 54 41.8	
	comp=Z,43nm,18.3s,baz=298,slow=35						
	comp=Z,1.9nm,0.6s						
ATAH	**Atahualpa**	**53.54**	**230**	LR	LR	01 56 50.2	
	comp=Z,30nm,18.9s,baz=25,slow=37						
TXAR	**Lajitas Array**	**54.01**	**285**	P	**P**	**01 33 32.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=91,slow=8.1,SNR=6.4						
	comp=Z,0.5nm,0.7s						
ANMO	**Albuquerque**	**54.45**	**292**	LR	LR	01 55 11.5	
	comp=Z,97nm,19.1s,baz=174,slow=34						
BW06	**Boulder Array**	**54.71**	**302**	P	**P**	**01 33 36.4**	**+0.2**
PDAR	**Pinedale Array**	**54.71**	**302**	P	**P**	**01 33 35.0**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=80,slow=8.1,SNR=14						
PDAR				LR	LR	01 55 09.1	
	comp=Z,50nm,20.3s,baz=69,slow=34						
	comp=Z,1.4nm,0.7s						
BNM	**Barren Site**	**54.82**	**291**	P	**P**	**01 33 37.3**	**+0.2**
YKA	**Yellowknife Ar**	**54.90**	**327**	LR	LR	01 55 56.2	
	comp=Z,88nm,19.6s,baz=351,slow=35						
LPAZ	**La Paz**	**55.23**	**213**	P	**P**	**01 33 40.4**	**-0.2**
LPAZ	**La Paz**	**55.23**	**213**	P	**P**	**01 33 40.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=360,slow=4.2,SNR=4.7						
LPAZ				LR	LR	01 55 32.2	
	comp=Z,35nm,20.1s,baz=44,slow=34						
	comp=Z,1.0nm,0.6s						
TMUT	**Trial Mountain**	**56.81**	**299**	P	**P**	**01 33 50.0**	**-1.5**
TMUT				IAmb	IAmb	01 33 51.7	
	comp=Z,8.9nm,0.9s						
AP01	**Chacalluta**	**58.08**	**214**	P	**P**	**01 33 59.6**	**-0.5**
NEW	**Newport**	**58.55**	**310**	LR	LR	01 58 20.6	
	comp=Z,38nm,19.3s,baz=68,slow=35						
BRTR	**Keskin Array B**	**58.58**	**60**	P	**P**	**01 34 01.9**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=287,slow=5.4,SNR=1.7						
	comp=Z,0.6nm,1.0s						
ELK	**Elko**	**59.35**	**301**	LR	LR	01 58 20.5	
	comp=Z,46nm,20.6s,baz=46,slow=35						
V12A	**Nelson**	**60.69**	**296**	P	**P**	**01 34 19.1**	**+0.8**
LPIG	**La Paz**	**61.49**	**282**	LR	LR	01 58 44.8	
	comp=Z,29nm,20.8s,baz=62,slow=34						
NVAR	**Mina Array Bea**	**62.34**	**300**	P	**P**	**01 34 28.0**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=46,slow=8.7,SNR=2.3						
NVAR				LR	LR	02 00 36.3	
	comp=Z,72nm,18.9s,baz=92,slow=35						
	comp=Z,0.2nm,0.4s						
PFO	**Pinyon Flats O**	**62.69**	**294**	LR	LR	01 59 47.9	
	comp=Z,48nm,20.3s,baz=76,slow=34						
KBZ	**Khabaz**	**63.84**	**53**	P	**P**	**01 34 37.9**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=328,slow=9.1,SNR=4.6						
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	**68.01**	**334**	P	**P**	**01 35 06.8**	**+1.2**
ILAR	**Eielson Array**	**68.01**	**334**	P	**P**	**01 35 04.4**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=59,slow=6.0,SNR=2.8						
	comp=Z,0.6nm,1.0s						
H09N1	**TRISTAN DA CUN**	**73.66**	**157**	T	T	02 56 19.3	
	SNR=3.8						
H09W1	**TRISTAN DA CUN**	**73.68**	**157**	T	T	02 56 18.1	
	SNR=7.2						
KDAK	**Kodiak Island**	**74.08**	**329**	LR	LR	02 06 30.7	
	comp=Z,145nm,19.0s,baz=47,slow=34						
BVAR	**Borovoye Array**	**75.87**	**36**	P	**P**	**01 35 54.1**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=308,slow=7.1,SNR=4.3						
	comp=Z,1.0nm,0.7s						
LSZ	**Lusaka**	**80.56**	**115**	LR	LR	02 09 10.7	
	comp=Z,48nm,21.1s,baz=156,slow=34						
KURK	**Kurchatov**	**81.31**	**34**	P	**P**	**01 36 22.4**	**-0.6**
KURBB	**Kurchatov Arra**	**81.33**	**34**	P	**P**	**01 36 24.0**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=316,slow=5.1,SNR=10.0						
	comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**81.86**	**29**	P	**P**	**01 36 26.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=324,slow=7.1,SNR=3.5						
	comp=Z,0.5nm,0.3s						
UOSS	**Minazif**	**82.03**	**66**	P	**P**	**01 36 27.6**	**+0.3**
UOSS				IAmb	IAmb	01 36 28.8	
	comp=Z,5.4nm,0.8s						
AAK	**Ala-Archa**	**84.36**	**42**	LR	LR	02 14 19.7	
	comp=Z,72nm,18.5s,baz=172,slow=36						
BOSA	**Boshof**	**86.66**	**127**	LR	LR	02 13 44.6	
	comp=Z,51nm,18.6s,baz=165,slow=34						
USHA	**Ushuaia**	**90.08**	**196**	LR	LR	02 17 31.3	
	comp=Z,120nm,19.6s,baz=208,slow=36						
SHEM	**Shemya Is, Ala**	**90.30**	**340**	LR	LR	02 20 14.3	
	comp=Z,34nm,19.6s,baz=125,slow=37						
ASAR	**Alice Springs**	**169.94**	**33**		**PKPdf**	**01 44 13.4**	**-1.5**
ASAR	**Alice Springs**	**169.94**	**33**	PKP	**PKPdf**	**01 44 14.5**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=20,slow=3.0,SNR=5.7						

*DSN **24** 01:28:06.7±1.9, 27°.19N×57°.83E, h10km, ML2.2/4, Error ellipse: s-maj=33.1km s-min=15.7km az=128.0*
TEH 24 01:28:12.4, 27°.34N×55°.14E, h10km±316km, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.76**	**296**	Pg	Pg	01 28 27.0	0.0
IBND	**Bandar-abas**	**1.25**	**84**	Pg	Pb	01 28 36.2	+0.1
SHME	**Shamm**	**1.56**	**145**	P	Pn	01 28 37.4	-2.8
BANOM	**Banah**	**1.75**	**143**	P	Pn	01 28 40.1	-2.7
BANOM				S	Sn	01 29 03.9	-1.3
MSFE	**Esma-Masafi**	**2.17**	**155**	P	Pn	01 28 44.6	-4.1
UOSS	**Minazif**	**2.56**	**158**	P	Pn	01 28 50.7	-3.4
NGRK	**Negar Kerman**	**2.69**	**31**	Pn	Pn	01 28 58.0	+1.9
ASHO	**Ashiyiah**	**2.77**	**162**	P	Pn	01 28 54.2	-2.7
ASHO				S	Sn	01 29 29.8	-0.5
KHGB	**Koh Gabri**	**3.25**	**21**	Pn	Pn	01 29 06.2	+2.5
CHMN	**Cheshme madani**	**3.28**	**39**	Pn	Pn	01 29 06.0	+1.8
KBAM	**BAM**	**3.43**	**58**	Pn	Pn	01 29 07.5	+1.5

*CATAC **24** 01:34:35.8±0.3, 11°.N±2°×8°.5W±°, h6km±2km, M2.8/6, MLv2.8/6, Error ellipse: s-maj=5.5km s-min=2.8km az=53.8, confirmed*
*UCR **24** 01:34:35.3±1.1, 10°.60N×84°.93W, h5km±1km, MW3.6*
ISC 24 01:34:35.9±0.8, 10°.60N±0°.02×84°.93W±0°.02, h10km±5km, n49, σ1.02/82, 22C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEB	**Quebradon, Cot**	**0.04**	**49**	⇓*iP*	**Pg**	**01 34 37.1**	**-0.9**
QUEB				*e*S	**Sg**	**01 34 38.2**	**-1.2**
TIMP	**Tierras Morena**	**0.09**	**261**	⇑*iP*	**Pg**	**01 34 38.3**	**-0.3**
TIMP				*e*S	**Sg**	**01 34 40.8**	**+0.4**
TENO	**El Achiote**	**0.12**	**334**	⇑*iP*	**Pg**	**01 34 38.7**	**-0.2**
TENO				*e*S	**Sg**	**01 34 41.2**	**+0.2**
TILA	**Tilaran**	**0.14**	**199**	⇓*iP*	**Pg**	**01 34 39.1**	**0.0**
TILA				*e*S	**Sg**	**01 34 41.7**	**+0.3**
CHIK	**Chiripa**	**0.15**	**174**	⇓*iP*	**Pg**	**01 34 39.6**	**+0.2**
CHIK				*e*S	**Sg**	**01 34 42.9**	**+0.9**
MOTZ	**Rio Naranjo**	**0.17**	**301**	⇑*e*P	**Pg**	**01 34 40.1**	**+0.4**
MOTZ				*e*S	**Sg**	**01 34 44.0**	**+1.7**
INVE	**Universidad In**	**0.18**	**228**	⇑*e*P	**Pg**	**01 34 40.1**	**+0.2**
INVE				*e*S	**Sg**	**01 34 43.6**	**+1.1**
TABAC	**Tabacon**	**0.18**	**122**	⇑*iP*	**Pg**	**01 34 40.3**	**+0.4**
TABAC				*e*S	**Sg**	**01 34 44.4**	**+1.7**
CNAS	**Canas**	**0.23**	**225**	*e*P	**Pg**	**01 34 42.5**	**+1.8**
CNAS				*e*S	**Sg**	**01 34 46.4**	**+2.4**
REZ	**Monterrey de S**	**0.23**	**107**	⇑*e*P	**Pg**	**01 34 41.4**	**+0.6**
REZ				*e*S	**Sg**	**01 34 47.3**	**+3.2**
CUI	**Cuipilapa**	**0.24**	**284**	⇑*iP*	**Pg**	**01 34 41.4**	**+0.4**
CUI				*e*S	**Sg**	**01 34 45.4**	**+1.0**
ARE1	**Arenal 1**	**0.24**	**124**	⇑*e*P	**Pb**	**01 34 41.6**	**-0.8**
ARE1				*e*S	**Sb**	**01 34 46.8**	**+2.4**
CEDE	**Laguna Cedeo**	**0.24**	**117**	⇑*e*P	**Pb**	**01 34 41.6**	**-0.8**
CEDE				*e*S	**Sb**	**01 34 46.4**	**+2.0**
VARE2	**V. Arenal**	**0.24**	**124**	⇑*e*P	**Pb**	**01 34 41.6**	**-0.9**
VARE2				*e*S	**Sb**	**01 34 46.8**	**+2.4**
CASO	**Castillo**	**0.25**	**131**	⇓*e*P	**Pb**	**01 34 41.5**	**-1.1**
CASO				*e*S	**Sb**	**01 34 46.3**	**+1.8**
VACR	**Volcan Arenal**	**0.27**	**117**	⇑*iP*	**Pb**	**01 34 42.1**	**-0.8**
VACR				*e*S	**Sb**	**01 34 47.3**	**-0.3**
FORC	**Fortuna**	**0.28**	**117**	⇑*e*P	**Pb**	**01 34 42.2**	**-0.9**
FORC				*e*S	**Sb**	**01 34 47.4**	**-0.5**
VMAR	**Armenia, Volca**	**0.28**	**319**	*e*P	**Pb**	**01 34 42.1**	**-1.1**
VMAR				*e*S	**Sb**	**01 34 48.2**	**+0.2**
MESS	**Mesas**	**0.30**	**298**	⇑*e*P	**Pb**	**01 34 42.3**	**-1.1**
MESS				*e*S	**Sb**	**01 34 47.5**	**-1.0**
JTS	**Las Juntas de**	**0.31**	**185**	P	**Pg**	**01 34 41.9**	**-0.2**
JTS				S	**Sg**	**01 34 46.3**	**+0.1**
JTS	**Las Juntas de**	**0.31**	**185**	⇓*iP*	**Pg**	**01 34 41.8**	**-0.2**
JTS				*e*S	**Sg**	**01 34 46.3**	**+0.1**
UPAL	**Upala**	**0.31**	**344**	P	**Pb**	**01 34 42.6**	**-0.9**
UPAL	**Upala**	**0.31**	**344**	⇓*iP*	**Pb**	**01 34 42.6**	**-0.9**
UPAL				*e*S	**Sb**	**01 34 48.2**	**-0.5**
JUNT	**Juntas**	**0.32**	**186**	⇓*iP*	**Pg**	**01 34 42.1**	**-0.2**
JUNT				*e*S	**Sg**	**01 34 47.0**	**+0.5**
BAGA	**Bagaces**	**0.34**	**258**	⇑*iP*	**Pb**	**01 34 43.0**	**-1.1**
BAGA				*e*S	**Sb**	**01 34 48.4**	**-1.0**
SOCE	**Pocosol**	**0.37**	**125**	P	**Pb**	**01 34 43.6**	**-1.0**
SOCE	**Pocosol**	**0.37**	**125**	*e*P	**Pg**	**01 34 43.4**	**+0.1**
SOCE				*e*S	**Sb**	**01 34 49.6**	**-0.8**
GPS2	**Hotel Rincn d**	**0.45**	**290**	⇑*e*P	**Pb**	**01 34 44.9**	**-1.0**
GPS2				*e*S	**Sb**	**01 34 51.8**	**-0.9**
GPS3	**Bodega del ICE**	**0.46**	**290**	⇑*e*P	**Pb**	**01 34 45.2**	**-1.0**
BUAI	**Buenos Aires**	**0.49**	**305**	*e*P	**Pb**	**01 34 45.5**	**-1.1**
LAPC	**Finca la Perla**	**0.53**	**289**	⇑*iP*	**Pb**	**01 34 46.1**	**-1.1**
LAPC				*e*S	**Sb**	**01 34 53.7**	**-1.2**
VPL2	**V. Platanar**	**0.61**	**118**	⇑*e*P	**Pb**	**01 34 48.0**	**-0.7**
VPL2				*e*S	**Sb**	**01 34 57.6**	**+0.2**
ALIBA	**Liberia Airpor**	**0.61**	**270**	⇑*iP*	**Pb**	**01 34 48.0**	**-0.7**
ALIBA				*e*S	**Sb**	**01 34 58.6**	**+1.3**
ELI1	**Hacienda Flor**	**0.62**	**274**	P	**Pb**	**01 34 48.0**	**-0.8**
ELI1	**Hacienda Flor**	**0.62**	**274**	⇑*iP*	**Pb**	**01 34 48.0**	**-0.8**
VPL1	**V. Platanar**	**0.65**	**122**	⇑*iP*	**Pg**	**01 34 48.5**	**0.0**
VPL1				*e*S	**Sb**	**01 34 58.3**	**-0.3**
JUD3	**Juan Diaz 3**	**0.74**	**235**	⇑*e*P	**Pg**	**01 34 50.0**	**-0.2**
JUD3				*e*S	**Sb**	**01 35 00.7**	**-0.4**
JCR1	**Jicaral**	**0.77**	**194**	⇓*e*P	**Pg**	**01 34 50.3**	**-0.4**
CARN	**Rivas**	**0.83**	**315**	S	**Sb**	**01 35 03.8**	**+0.2**
LCRUZ	**La Cruz**	**0.84**	**305**	*e*P	**Pb**	**01 34 53.0**	**+0.4**
TRT2	**Tortugero**	**1.17**	**92**	S	**Sn**	**01 35 14.5**	**+0.2**
MORN	**Al O del Volca**	**1.18**	**323**	P	**Pb**	**01 34 58.0**	**-0.4**
MORN				S	**Sb**	**01 35 13.9**	**+0.1**
CONN	**Concepcion**	**1.18**	**324**	P	**Pb**	**01 34 58.2**	**-0.2**
CONN				S	**Sb**	**01 35 14.1**	**+0.3**
LCR2	**La Lucha 2**	**1.24**	**133**	S	**Sb**	**01 35 15.9**	**+0.2**
ABRB	**Las Abras (San**	**1.33**	**116**	*e*P	**Pn**	**01 35 00.5**	**-0.2**
PIEC	**Cerro El Cedra**	**1.36**	**135**	*e*P	**Pn**	**01 35 00.2**	**-1.0**
BUS1	**Rivas**	**1.56**	**132**	*e*P	**Pn**	**01 35 03.2**	**-0.8**
SAJE	**San Jernim**	**1.87**	**132**	*e*P	**Pn**	**01 35 08.9**	**+0.9**
DRK0	**Durika**	**2.12**	**129**	*e*P	**Pn**	**01 35 12.9**	**+1.3**

*NEIC **24** 01:38:55.5±1.6, 10°.89S±0°.09×164°.40E±0°.10, h10km±1km, mb4.8/17, Error ellipse: s-maj=18.7km s-min=11.9km az=49.0*
*IDC **24** 01:39:01.1±3.1, 11°.05S×164°.30E, h60km±26km, mb3.8/11, mbtmp4.2/13, ML4.8/2, MS3.7/26, Error ellipse: s-maj=23.1km s-min=15.2km az=69.0*
ISC 24 01:38:57.6±0.5, 10°.92S±0°.07×164°.42E±0°.08, h29km, n88, σ1.17/64, mb4.4/20, MS3.7/23, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.65**	**288**	Pn	**Pn**	**01 40 06.6**	**+0.7**
HNR	**Honiara**	**4.65**	**288**	P	**Pn**	**01 40 07.1**	**+1.2**
	74nm,0.3s,baz=101,slow=3.3,SNR=6.1						
HNR				S	**Sn**	**01 41 00.4**	**+1.6**
	268nm,0.6s,baz=193,slow=16,SNR=1.7						
HNR				LR	LR	01 42 17.5	
	comp=Z,2μm,18.4s,baz=134,slow=43						
	329nm,0.5s						
SANVU	**Saraoutou**	**5.25**	**149**		**Pn**	**01 40 16.2**	**+2.0**
MARNC	**Mare, Loyalty**	**11.05**	**162**	Pn	**Pn**	**01 41 32.5**	**-1.3**
DZM	**Mont Dzumac**	**11.25**	**170**	P	**Pn**	**01 41 39.7**	**+3.1**
	4.5nm,0.3s,baz=339,slow=19,SNR=28						
DZM				S	**Sn**	**01 43 41.4**	**-0.1**
	5.0nm,0.6s,baz=312,slow=18,SNR=1.3						
DZM				LR	LR	01 44 52.5	
	comp=Z,135nm,19.1s,baz=12,slow=32						
	13nm,0.4s						
PINNC	**Pines Island,**	**11.98**	**166**	Pn	**Pn**	**01 41 47.1**	**+0.7**
PMG	**Port Moresby**	**17.06**	**274**	LR	LR	01 49 27.8	
	comp=Z,466nm,19.1s,baz=122,slow=37						
MANU	**Manus Island**	**19.09**	**296**		**P**	**01 43 18.1**	**0.0**
EIDS	**Eidsvold**	**19.13**	**220**		**Pn**	**01 43 22.5**	**+3.0**
CTA	**Charters Tower**	**19.72**	**240**	LR	LR	01 50 42.4	
	comp=Z,5.7nm,18.1s,baz=32,slow=36

ILAR	**Eielson Array**	**83.82**	**19**	P	**P**	**01 51 23.7**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=228,slow=5.5,SNR=40						
	comp=Z,5.6nm,0.8s						
POKR	**Poker Plat Res**	**83.88**	**18**	P	**P**	**01 51 24.2**	**-0.1**
POKR				IAmb	IAmb	01 51 24.8	
	comp=Z,7.9nm,0.7s						
J25K	**Salcha River,**	**84.20**	**19**		**P**	**01 51 26.5**	**+0.5**
J25K				IAmb	IAmb	01 51 27.0	
	comp=Z,6.0nm,0.8s						
SCRK	**Sand Creek**	**84.25**	**20**	P	**P**	**01 51 27.0**	**+0.7**
SCRK				IAmb	IAmb	01 51 27.7	
	comp=Z,3.6nm,0.6s						
MAW	**Mawson**	**84.34**	**202**	P	**P**	**01 51 24.7**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=38,slow=12,SNR=2.0						
	comp=Z,1.2nm,0.9s						
G24K	**Hadweenzic Riv**	**84.94**	**17**	P	**P**	**01 51 30.2**	**+0.6**
K27K	**Chicken**	**84.94**	**21**	P	**P**	**01 51 30.8**	**+1.2**
BBB	**Bella Bella**	**85.22**	**35**	LR	LR	02 23 07.4	
	comp=Z,25nm,20.9s,baz=187,slow=31						
I26K	**Coal Creek Min**	**85.37**	**20**	P	**P**	**01 51 32.8**	**+1.0**
I26K				IAmb	IAmb	01 51 33.6	
	comp=Z,10nm,1.1s						
VES	**Vestal, Richgr**	**85.61**	**52**	P	**P**	**01 51 33.6**	**0.0**
VES				IAmb	IAmb	01 51 34.5	
	comp=Z,4.1nm,1.0s						
G26K	**Porcupine Rive**	**86.21**	**18**		**P**	**01 51 37.4**	**+1.6**
G26K				IAmb	IAmb	01 51 38.1	
	comp=Z,6.2nm,0.8s						
H27K	**Steamboat Moun**	**86.47**	**19**		**P**	**01 51 38.6**	**+1.3**
H27K				IAmb	IAmb	01 51 39.2	
	comp=Z,6.0nm,1.1s						
NVAR	**Mina Array Bea**	**86.94**	**50**	P	**P**	**01 51 40.0**	**-0.4**
NVAR	**Mina Array Bea**	**86.94**	**50**	P	**P**	**01 51 40.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=232,slow=7.2,SNR=4.0						
NVAR				LR	LR	02 23 50.3	
	comp=Z,63nm,18.4s,baz=271,slow=31						
	comp=Z,1.0nm,0.9s						
I29M	**Ogilvie Camp,**	**87.04**	**21**	P	**P**	**01 51 41.0**	**+1.0**
PFO	**Pinyon Flats O**	**87.08**	**55**	LR	LR	02 29 19.2	
	comp=Z,41nm,18.3s,baz=232,slow=35						
E27K	**Coleen River**	**87.64**	**18**		**P**	**01 51 43.8**	**+0.9**
IRM	**Iron Mountain**	**88.28**	**55**	P	**P**	**01 51 46.8**	**+0.1**
E28M	**Babbage River**	**88.50**	**18**		**P**	**01 51 48.2**	**+1.3**
LPIG	**La Paz**	**90.14**	**66**	LR	LR	02 25 42.2	
	comp=Z,29nm,19.0s,baz=193,slow=31						
NEW	**Newport**	**90.50**	**41**	LR	LR	02 28 27.1	
	comp=Z,36nm,18.4s,baz=338,slow=33						
BELA	**Belgrano 2**	**90.70**	**176**	P	**P**	**01 51 57.9**	**+0.6**
MKAR	**Makanchi Array**	**92.55**	**317**	P	**P**	**01 52 06.0**	**-0.3**
MKAR	**Makanchi Array**	**92.55**	**317**	P	**P**	**01 52 06.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=96,slow=7.4,SNR=4.0						
	comp=Z,1.1nm,0.8s						
ANMO	**Albuquerque**	**95.45**	**56**	LR	LR	02 31 49.9	
	comp=Z,30nm,18.3s,baz=60,slow=33						
KURBB	**Kurchatov Arra**	**95.76**	**320**	LR	LR	02 35 23.9	
	comp=Z,27nm,19.9s,baz=177,slow=35						
AAK	**Ala-Archa**	**97.25**	**312**	LR	LR	02 36 32.8	
	comp=Z,25nm,20.2s,baz=168,slow=36						
ARCES	**ARCESS Array B**	**115.89**	**345**		**PKiKP**	**01 57 35.9**	**-1.1**
ARCES	**ARCESS Array B**	**115.89**	**345**	PKP	**PKPdf**	**01 57 37.5**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=46,slow=5.2,SNR=3.9						
KEST	**Kesra**	**146.52**	**322**		**PKPdf**	**01 58 35.6**	**+0.3**
KEST	**Kesra**	**146.52**	**322**	PKPbc	**PKPbc**	**01 58 37.0**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=315,slow=2.9,SNR=2.2						
ESDC	**Sonseca Array**	**149.56**	**342**	PKPdf	**PKPdf**	**01 58 38.0**	**-2.1**
ESDC	**Sonseca Array**	**149.56**	**342**	PKPbc	**PKPbc**	**01 58 45.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=54,slow=1.9,SNR=4.4						

*DSN **24** 01:47:03.6±2.4, 27°.53N×57°.38E, h10km, ML2.4/4, Error ellipse: s-maj=66.8km s-min=19.7km az=115.0*

TEH 24 01:47:11.0, 27°.27N×55°.11E, h16km±55km, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.77**	**302**	Pg	Pg	01 47 25.9	-0.1
IBND	**Bandar-abas**	**1.28**	**82**	Pg	Pb	01 47 34.6	-0.2
SHME	**Shamm**	**1.52**	**142**	P	Pn	01 47 34.6	-3.0
BANOM	**Banah**	**1.71**	**141**	P	Pn	01 47 38.0	-2.2
BANOM				S	Sn	01 48 00.5	-1.2
LMD1	**Lamerd**	**1.73**	**273**	Pg	Pb	01 47 42.3	-0.2
MSFE	**Esma-Masafi**	**2.12**	**153**	P	Pn	01 47 40.9	-5.0
UOSS	**Minazif**	**2.51**	**157**	P	Pn	01 47 49.0	-2.2
ASHO	**Ashiyiah**	**2.71**	**161**	P	Pn	01 47 52.6	-1.4
ASHO				S	Sb	01 48 30.2	-2.0
KHGB	**Koh Gabri**	**3.32**	**21**	Pn	Pn	01 48 04.6	+2.0
CHMN	**Cheshme madani**	**3.35**	**39**	Pn	Pn	01 48 05.5	+2.4
KBAM	**BAM**	**3.49**	**57**	Pn	Pn	01 48 06.3	+1.6
IBAF	**Bafgh**	**4.33**	**5**	Pn	Pn	01 48 17.5	+1.2

*NEIC **24** 01:51:13.1±1.3, 35°.410N±0°.009×97°.864W±0°.010, h6km±3km, Error ellipse: s-maj=1.5km s-min=0.5km az=138.0*

NEIC 24 01:51:12.9±1.1, 35°.410N±0°.009×97°.864W±0°.010, h5km±1km, mb_Lg2.1/9, ML2.3/27, ML2.4/72, Error ellipse: s-maj=2.4km s-min=1.5km az=249.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.32**	**40**		Pg	01 51 20.1	+0.9
BCOK					Sg	01 51 24.9	+1.4
OK004	**Okla Sci Mus**	**0.34**	**70**		Sg	01 51 23.9	0.0
OKCSW	**OKLAHOMA CITY**	**0.35**	**91**		Pg	01 51 20.1	+0.4
OKCSW					Sg	01 51 25.0	+0.8
OKCSW				IAML		01 51 25.9	
	comp=N,265nm,0.1s						
FNO	**Franklin**	**0.41**	**112**		Pg	01 51 21.6	+0.9
FNO					Sg	01 51 26.6	+0.5
CSTR	**Hydro, Custer**	**0.71**	**290**		Pg	01 51 26.9	+0.3
CSTR					Sg	01 51 36.7	+0.9
X34A	**Smith Ranch, M**	**0.81**	**178**		Pb	01 51 28.9	-0.5
X34A					Sb	01 51 41.0	+0.3
WMOK	**Wichita Mounta**	**1.01**	**229**		Pg	01 51 31.4	-0.8
WMOK					Sg	01 51 44.9	-0.4
OK052	**Battle Ridge R**	**1.04**	**56**		Pg	01 51 32.7	-0.2
OK052					Sb	01 51 46.9	-0.5
OK052				IAML		01 51 55.2	
	comp=N,131nm,0.3s						
CROK	**Carrier**	**1.10**	**355**		Pg	01 51 33.6	-0.3
CROK					Sg	01 51 48.5	+0.3
CROK				IAML		01 51 52.0	
	comp=N,129nm,0.3s						
DEOK	**Depew**	**1.19**	**68**		Pg	01 51 35.0	-0.7
DEOK					Sb	01 51 52.1	+0.4
DEOK				IAML		01 51 53.5	
	comp=E,123nm,0.1s						
QUOK	**Quay**	**1.21**	**51**		Pg	01 51 35.4	-0.7
QUOK					Sb	01 51 52.0	-0.2
OK048	**Pawnee Station**	**1.25**	**36**		Pg	01 51 36.5	-0.4
OK038	**West end E0370**	**1.28**	**327**		Pg	01 51 36.9	-0.6
OK051	**E0350 and S346**	**1.38**	**37**		Pn	01 51 38.2	-0.5
GC02	**Grant County #**	**1.44**	**0**		Pn	01 51 39.5	-0.1
NOKA	**Waynoka**	**1.50**	**325**		Pn	01 51 40.3	-0.1
LOOK	**Love County**	**1.52**	**158**		Pn	01 51 41.1	+0.3
LOOK					Sg	01 52 03.0	+1.2
WTFS	**Witchita Falls**	**1.71**	**197**		Pn	01 51 43.9	+0.5
WTFS					Sb	01 52 07.1	+0.4
TUL3	**Leonard**	**1.76**	**73**		Pn	01 51 44.6	+0.6
TUL3				IAmb_Lg		01 52 12.1	
	comp=Z,11nm,0.7s						
T35A	**Sooner Cattle**	**1.86**	**36**		Pn	01 51 45.1	-0.3
Z35A	**Perchaven, San**	**2.13**	**166**		Pn	01 51 49.5	+0.3
PLPT	**Palo Pinto**	**2.62**	**188**	IAmb_Lg		01 52 35.6	
	comp=Z,5.5nm,0.7s						
U38A	**Gravette**	**3.00**	**69**	Pn	Pn	01 52 00.7	-0.4
DKNS	**Dickens**	**3.07**	**236**	Pn	Pn	01 52 00.9	-1.2
HHAR	**Hobbs**	**3.31**	**74**	Pn	Pn	01 52 04.8	-0.5
MIAR	**Mount Ida**	**3.62**	**103**	Pn	Pn	01 52 09.8	+0.1
BRDY	**Brady**	**4.22**	**193**	IAmb_Lg		01 53 26.0	
	comp=Z,4.4nm,0.7s						
X40A	**Basin Creek Fa**	**4.23**	**101**	Pn	Pn	01 52 18.9	+0.9
X40A				IAmb_Lg		01 53 29.8	
	comp=Z,5.0nm,0.7s						
R40A	**Maddies Statio**	**5.33**	**56**	IAmb_Lg		01 54 05.2	
	comp=Z,4.1nm,0.8s						

IDC 24 02:17:59.7±489.0, 37°.25S×70°.15W, h0km, Error ellipse: s-maj=209.3km s-min=147.5km az=140.0, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	**ROBINSON CRUSO**	**7.91**	**294**	I	I	03 06 00.0	
	0.1nm,2.1s,baz=120,slow=326,SNR=2.1						
I41PY	**VILLA FLORIDA**	**15.39**	**49**	I	I	03 48 20.0	
	baz=223,slow=322,SNR=6.8						
I08BO	**LAS PENAS INFR**	**21.00**	**5**	I	I	04 24 10.0	
	baz=185,slow=330,SNR=7.0						

*ISN **24** 02:22:06.4±0.3, 33°.14N×45°.76E, h0km, ML2.9*

TEH 24 02:22:12.2, 33°.13N×45°.96E, h10km±354km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.03**	**225**	*e*Pg	Pg	02 22 09.8	-4.3
	baz=281						
IBDR				*e*Sg	Sg	02 22 12.1	-3.3
IBDR				AML	AML	02 22 14.6	
	comp=N,4μm,0.4s						
IBDR				AML	AML	02 22 15.1	
	comp=E,2μm,0.2s						
GLG1	**Gilan-e-Gharb**	**0.98**	**358**	Pg	Pb	02 22 31.5	+0.1
IGHG	**Ghaleghazi**	**1.30**	**23**	Pg	Pb	02 22 36.8	0.0
KGS1	**Ghasr-e-Shirin**	**1.40**	**347**	Pg	Pb	02 22 38.3	-0.2
KCHF	**Cheshme Sefid,**	**1.45**	**38**	Pg	Pn	02 22 38.9	+0.2
KCHF				Sg	Sg	02 23 01.6	+2.6
IDHR	**Dehrash**	**1.60**	**13**	Pg	Pn	02 22 41.3	+0.5
IDHR				Sg	Sg	02 23 05.8	+2.0

*IDC **24** 02:24:40.1±0.9, 2°.69S×138°.30E, h0km, mb4.0/5, mbtmp3.8/8, ML3.5/3, MS2.9/2, Error ellipse: s-maj=24.8km s-min=12.8km az=101.0*

ISC 24 02:24:45.0±1.0, 2°.62S±0°.10×138°.3E±0°.1, h32km, n8, σ0°.77/11, mb3.9/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.43**	**88**	Pn	**Pn**	**02 25 22.1**	**-0.5**
	5.9nm,0.3s,baz=218,slow=12,SNR=16						
JAY				Sn	**Sn**	**02 25 52.0**	**+0.8**
	7.6nm,0.3s,baz=315,slow=20,SNR=6.0						
JAY				LR	LR	02 26 08.7	
	comp=Z,102nm,18.6s,baz=257,slow=37						
	11nm,0.3s						
WRA	**Warramunga Arr**	**17.64**	**192**	P	**Pn**	**02 28 48.3**	**-0.2**
	0.3nm,0.3s,baz=17,slow=12,SNR=10						
WRA				S	**Sn**	**02 32 03.5**	**-0.8**
	0.5nm,0.9s,baz=13,slow=23,SNR=1.7						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.75**	**218**	P	**P**	**02 29 12.7**	**+0.3**
	0.1nm,0.3s,baz=32,slow=13,SNR=1.8						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**21.35**	**191**	P	**P**	**02 29 30.0**	**+0.3**
	1.3nm,0.6s,baz=20,slow=11,SNR=11						
ASAR				S	**S**	**02 33 25.9**	**+0.6**
	0.5nm,0.9s,baz=19,slow=21,SNR=4.9						
ASAR				LR	LR	02 38 59.5	
	comp=Z,72nm,21.5s,baz=288,slow=40						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**71.64**	**330**	P	**P**	**02 36 03.1**	**-0.3**
	0.5nm,0.4s,baz=120,slow=10,SNR=2.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**73.41**	**325**	P	**P**	**02 36 14.1**	**+0.1**
	1.5nm,0.2s,baz=120,slow=5.5,SNR=2.1						
	1.5nm,0.2s						
BVAR	**Borovoye Array**	**78.99**	**325**	P	**P**	**02 36 47.2**	**+1.4**
	1.3nm,0.6s,baz=103,slow=6.7,SNR=5.4						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**85.93**	**25**	P	**P**	**02 37 20.9**	**-0.8**
	0.6nm,1.0s,baz=253,slow=5.1,SNR=4.7						
	0.6nm,1.0s						

*ISN **24** 02:26:53.5±0.3, 33°.18N×45°.77E, h0km, ML2.5*

TEH 24 02:26:57.3, 33°.00N×46°.07E, h10km±191km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.17**	**314**	*e*Pg	Pg	02 26 57.0	-3.9
	baz=296						
IBDR				*e*Sg	Sg	02 26 59.4	-4.0
IBDR				AML	AML	02 27 01.4	
	comp=N,1μm,0.4s						
IBDR				AML	AML	02 27 01.9	
	comp=E,752nm,0.4s						
GLG1	**Gilan-e-Gharb**	**1.12**	**353**	Pg	Pb	02 27 18.4	-0.5
GLG1				Sg	Sn	02 27 35.6	+0.8
IGHG	**Ghaleghazi**	**1.39**	**17**	Pg	Pg	02 27 24.0	-0.1
IGHG				Sg	Sg	02 27 44.3	+2.1
KCHF	**Cheshme Sefid,**	**1.51**	**32**	Pg	Pb	02 27 25.3	-0.2
IDHR	**Dehrash**	**1.72**	**9**	Pg	Pb	02 27 28.7	-0.5

*TAP **24** 02:31:20.7, 24°.68N×122°.52E, h103km, ML3.2, C*
*JMA **24** 02:31:21.6±0.2, 25°.N±1°.×122°.5E±0°.5, h93km±1km, MV2.3/11, NW OFF ISHIGAKIJIMA IS*

ISC 24 02:31:21.6±1.5, 24°.61N±0°.04×122°.53E±0°.03, h97km±8km, n85, σ0°.72/155, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**235**	*i* P	**Pn**	**02 31 36.0**	**+0.2**
EOS2				*i* S	**Sn**	**02 31 47.2**	**+0.9**
EOS3	**EOS3**	**0.37**	**211**	*i* P	**Pn**	**02 31 36.5**	**+0.5**
EOS3				*i* S	**Sn**	**02 31 48.2**	**+1.6**
JYNG	**Yonagunijimaku**	**0.41**	**112**	P	**Pn**	**02 31 36.2**	**-0.2**
JYNG				*e*S	**Sn**	**02 31 47.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.47**	**108**	*e*S	**Sn**	**02 31 47.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.47**	**108**	*i* P	**Pn**	**02 31 36.8**	**0.0**
YOJ				S	**Sn**	**02 31 49.4**	**+1.3**
EOS4	**EOS4**	**0.52**	**201**	P	**Pn**	**02 31 36.8**	**+0.1**
EOS4				S	**Sn**	**02 31 49.1**	**+1.1**
TWC	**Suao**	**0.61**	**271**	*i* P	**Pn**	**02 31 37.4**	**-0.5**
TWC				S	**Sn**	**02 31 49.4**	**-0.8**
ESAO	**Su ao**	**0.62**	**267**	*e*P	**Pn**	**02 31 37.7**	**-0.3**
TWB1	**Santiao Chiao**	**0.63**	**310**	*e*P	**Pn**	**02 31 37.8**	**-0.2**
EWUT	**Wuta**	**0.70**	**257**	P	**Pn**	**02 31 38.5**	**-0.1**
EWUT				S	**Sn**	**02 31 51.6**	**+0.2**
ILA	**Ilan**	**0.72**	**283**	P	**Pn**	**02 31 38.5**	**-0.4**
TIPB	**Shuangxi**	**0.73**	**300**	*i* P	**Pn**	**02 31 38.7**	**-0.3**
TIPB				*i* S	**Sn**	**02 31 51.2**	**-0.9**
ENA	**Nanau**	**0.73**	**256**	*i* P	**Pn**	**02 31 39.1**	**+0.1**
ENA				S	**Sn**	**02 31 52.2**	**+0.2**
NDS	**Dongshan**	**0.74**	**272**	P	**Pn**	**02 31 39.1**	**+0.1**
NDS				S	**Sn**	**02 31 52.3**	**+0.2**
SXI1	**Grass Mountain**	**0.77**	**310**	*i* P	**Pn**	**02 31 39.4**	**0.0**
SXI1				*i* S	**Sn**	**02 31 52.6**	**-0.1**
EAHA	**Aohua**	**0.77**	**249**	*e*P	**Pn**	**02 31 39.2**	**-0.1**
EAHA				*e*S	**Sn**	**02 31 53.1**	**+0.6**
TWE	**Neicheng**	**0.79**	**279**	P	**Pn**	**02 31 39.4**	**-0.1**
TWE				S	**Sn**	**02 31 52.8**	**-0.2**
NWF	**Wu-fen Shan**	**0.82**	**305**	*e*P	**Pn**	**02 31 39.7**	**-0.2**
WFSB	**Wu-fen Shan**	**0.82**	**305**	P	**Pn**	**02 31 39.7**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.87**	**280**	P	**Pn**	**02 31 40.3**	**-0.1**
FUSB				*e*S	**Sn**	**02 31 53.8**	**-0.8**
ENTT	**Nioudou**	**0.87**	**273**	*i* P	**Pn**	**02 31 40.8**	**+0.4**
ENTT				*i* S	**Sn**	**02 31 54.8**	**+0.3**
LATG	**Datong**	**0.91**	**266**	*i* P	**Pn**	**02 31 41.0**	**+0.1**
LATG				S	**Sn**	**02 31 56.0**	**+0.6**
TWA	**Mucha**	**0.93**	**294**	*e*P	**Pn**	**02 31 40.9**	**-0.2**
TWA				*e*S	**Sn**	**02 31 55.0**	**-0.7**
NWLT	**Wulai**	**0.94**	**281**	*e*P	**Pn**	**02 31 41.0**	**-0.2**
NWLT				*e*S	**Sn**	**02 31 55.3**	**-0.6**
NACB	**Ninganchiao**	**0.95**	**243**	*e*P	**Pn**	**02 31 40.6**	**-0.6**
NACB				*e*S	**Sn**	**02 31 56.0**	**+0.1**
TWD	**Chiawan**	**0.99**	**239**	*e*P	**Pn**	**02 31 41.1**	**-0.5**
TWD				*e*S	**Sn**	**02 31 56.4**	**-0.4**
YM01	**YM01**	**1.02**	**302**	*e*P	**Pn**	**02 31 41.9**	**-0.1**
YM08	**YM08**	**1.03**	**305**	*e*P	**Pn**	**02 31 41.9**	**-0.2**
YM08				*e*S	**Sn**	**02 31 57.1**	**-0.4**
ETLH	**Xiulin Townshi**	**1.03**	**248**	*i* P	**Pn**	**02 31 41.7**	**-0.4**
ETLH				*e*S	**Sn**	**02 31 57.5**	**-0.1**
HWA	**Hwalien**	**1.05**	**234**	*e*S	**Sn**	**02 31 58.7**	**+0.9**
YHNB	**Yeheng**	**1.05**	**274**	P	**Pn**	**02 31 42.5**	**+0.1**
YHNB				S	**Sn**	**02 31 57.7**	**-0.3**
ZUZH	**Zhuzihu**	**1.05**	**302**	*e*P	**Pn**	**02 31 42.0**	**-0.3**
ZUZH				*e*S	**Sn**	**02 31 57.1**	**-0.9**
NNSB	**Datong**	**1.05**	**261**	P	**Pn**	**02 31 42.4**	**-0.1**
NNSB				S	**Sn**	**02 31 58.1**	**-0.1**
NNSH	**Datong**	**1.05**	**261**	*e*P	**Pn**	**02 31 42.3**	**-0.2**
NNSH				*e*S	**Sn**	**02 31 58.1**	**-0.1**
NNS	**Nan Shan**	**1.06**	**261**	*e*P	**Pn**	**02 31 42.5**	**-0.1**
NNS				*e*S	**Sn**	**02 31 58.6**	**+0.3**
NSK	**Sanguang**	**1.06**	**274**	P	**Pn**	**02 31 42.6**	**+0.1**
NSK				S	**Sn**	**02 31 58.1**	**-0.2**
TWY	**Chenhua**	**1.07**	**309**	*e*S	**Sn**	**02 31 57.8**	**-0.5**
TWS1	**Kuangyinshan**	**1.12**	**296**	*e*P	**Pn**	**02 31 42.7**	**-0.4**
TWS1				*e*S	**Sn**	**02 31 58.8**	**-0.5**
ETM	**Tongmen**	**1.14**	**236**	*e*P	**Pn**	**02 31 42.7**	**-0.6**
ETM				*e*S	**Sn**	**02 31 58.5**	**-1.1**
LXIB	**Xiulin Townshi**	**1.17**	**240**	*e*P	**Pn**	**02 31 43.3**	**-0.5**
SHUL	**Shoufeng**	**1.20**	**227**	*e*P	**Pn**	**02 31 43.7**	**-0.3**
SHUL				*e*S	**Sn**	**02 32 00.7**	**-0.2**
FUSS	**Fushou**	**1.22**	**253**	P	**Pn**	**02 31 44.7**	**+0.2**
FUSS				S	**Sn**	**02 32 01.9**	**0.0**
WHF	**Hehuan Shan**	**1.24**	**249**	*i* P	**Pn**	**02 31 44.8**	**-0.1**
WHF				S	**Sn**	**02 32 02.2**	**-0.2**
KSHI	**Guanxi Townshi**	**1.24**	**278**	P	**Pn**	**02 31 44.9**	**+0.4**
KSHI				S	**Sn**	**02 32 02.2**	**+0.4**
TEGC	**Jichi Village**	**1.27**	**225**	*e*P	**Pn**	**02 31 44.8**	**-0.1**
TEGC				*e*S	**Sn**	**02 32 03.4**	**+1.1**
ESL	**Shilin**	**1.27**	**232**	*e*P	**Pn**	**02 31 44.4**	**-0.5**
ESL				*e*S	**Sn**	**02 32 01.0**	**-1.5**
NCUH	**Zhongli**	**1.27**	**287**	*e*P	**Pn**	**02 31 44.6**	**-0.2**
NCUH				*e*S	**Sn**	**02 32 02.4**	**-0.1**
TWT	**Tachien**	**1.28**	**254**	*e*P	**Pn**	**02 31 45.8**	**+0.7**
TWT				*e*S	**Sn**	**02 32 03.7**	**+0.8**
NFF	**Wufeng Townshi**	**1.28**	**272**	P	**Pn**	**02 31 45.3**	**+0.2**
NFF				S	**Sn**	**02 32 02.5**	**-0.3**
HATJ	**Hateruma jima**	**1.29**	**115**	*e*S	**Sn**	**02 32 03.3**	**+0.5**
TDCB	**Techi**	**1.29**	**255**	P	**Pn**	**02 31 45.7**	**+0.4**
TDCB				S	**Sn**	**02 32 02.8**	**-0.4**
WARBT	**Fenglin Townsh**	**1.36**	**230**	*e*P	**Pn**	**02 31 45.2**	**-0.8**
WARBT				*e*S	**Sn**	**02 32 02.8**	**-1.7**
EGFH	**Guangfu**	**1.37**	**227**	*e*P	**Pn**	**02 31 46.8**	**+0.2**
EGFH				*e*S	**Sn**	**02 32 03.8**	**-0.8**
LIOB	**Emei**	**1.37**	**272**	*e*P	**Pn**	**02 31 46.2**	**+0.1**
LIOB				*e*S	**Sn**	**02 32 04.7**	**0.0**
NSTT	**Nanjuang**	**1.39**	**271**	*e*P	**Pn**	**02 31 46.4**	**+0.1**
NSTT				*e*S	**Sn**	**02 32 04.8**	**-0.1**
OWD	**Renai**	**1.39**	**243**	*e*P	**Pn**	**02 31 46.5**	**0.0**
OWD				*e*S	**Sn**	**02 32 04.7**	**-0.6**
JKRS	**Kuro-shima**	**1.40**	**105**	*e*P	**Pn**	**02 31 46.8**	**+0.4**
JKRS				*e*S	**Sn**	**02 32 05.2**	**-0.1**
WUSB	**Renai**	**1.42**	**245**	*i* P	**Pn**	**02 31 47.2**	**+0.4**
WUSB				S	**Sn**	**02 32 05.7**	**-0.2**
HSN	**Hsinchu**	**1.43**	**278**	*e*S	**Sn**	**02 32 04.8**	**-1.0**
WHP	**Taichung City**	**1.48**	**258**	*i* P	**Pn**	**02 31 48.5**	**+1.1**
WHP				S	**Sn**	**02 32 07.8**	**+0.8**
JIJ	**Ishigaki jima**	**1.49**	**99**	*e*P	**Pn**	**02 31 47.8**	**+0.2**
JIJ				*e*S	**Sn**	**02 32 07.2**	**-0.1**
HGSD	**Ruisui**	**1.50**	**222**	*e*P	**Pn**	**02 31 47.4**	**-0.2**
HGSD				*e*S	**Sn**	**02 32 07.6**	**+0.2**
VWDT	**VWDT**	**1.52**	**236**	P	**Pn**	**02 31 48.1**	**+0.1**
VWDT				S	**Sn**	**02 32 07.3**	**-0.6**
EHYH	**Wanrong**	**1.54**	**225**	*e*P	**Pn**	**02 31 47.8**	**-0.4**
EHYH				*e*S	**Sn**	**02 32 07.6**	**-0.8**
EHY	**Hungye**	**1.55**	**225**	*e*P	**Pn**	**02 31 47.5**	**-0.9**
EHY				*e*S	**Sn**	**02 32 06.9**	**-1.7**
JISG	**Ishigakijimahi**	**1.63**	**90**	*e*P	**Pn**	**02 31 49.4**	**+0.1**
JISG				*e*S	**Sn**	**02 32 10.0**	**-0.2**
SMLT	**Sun Moon Lake**	**1.65**	**244**	*e*P	**Pn**	**02 31 50.4**	**+0.8**
SMLT				*e*S	**Sn**	**02 32 12.1**	**+1.1**
YULB	**Yu-li**	**1.65**	**223**	*e*P	**Pn**	**02 31 48.8**	**-0.8**
YULB				*e*S	**Sn**	**02 32 09.7**	**-1.1**
SSLB	**Suanglung**	**1.65**	**241**	*e*P	**Pn**	**02 31 50.3**	**+0.8**
SSLB				*e*S	**Sn**	**02 32 11.2**	**+0.4**
TYC	**Yuchr**	**1.67**	**246**	*e*P	**Pn**	**02 31 51.0**	**+1.2**
TWF1	**Yuli**	**1.68**	**222**	*e*P	**Pn**	**02 31 49.4**	**-0.6**
WWF	**Wufeng**	**1.76**	**252**	*e*S	**Sn**	**02 32 14.4**	**+1.2**
WHYT	**Xinyi Township**	**1.77**	**240**	P	**Pn**	**02 31 52.2**	**+1.0**
WHYT				*i* S	**Sn**	**02 32 15.3**	**+1.6**
FULB	**Fuli**	**1.80**	**219**	*e*P	**Pn**	**02 31 51.4**	**-0.1**
FULB				*e*S	**Sn**	**02 32 14.8**	**+0.7**
YUS	**Yu-Shan**	**1.82**	**233**	*e*P	**Pn**	**02 31 52.1**	**-0.1**
YUS				*e*S	**Sn**	**02 32 15.2**	**-0.1**
CHKT	**Chengkung**	**1.84**	**216**	*e*P	**Pn**	**02 31 51.1**	**-0.8**
CHKT				*e*S

TNSS	**Tian-Shan** 0.7nm,0.3s	**4.23 285**	Pg	**Pb**	**02 34 46.9 +0.2**
TNSS	4.2nm,0.6s		Lg	Lg	02 35 40.8
TNSS	**Tian-Shan** 0.7nm,0.3s	**4.23 285**	*e*P	**Pb**	**02 34 47.0 +0.2**
TNSS	4.2nm,0.6s		*e*S	**Sb**	**02 35 40.8 +2.9**
CHKK	**Chushkaly** 26nm,0.2s	**4.43 295**	Pg	**Pb**	**02 34 50.5 +0.6**
CHKK	11nm,0.2s		Lg	Lg	02 35 46.8
CHKK	**Chushkaly** 26nm,0.2s	**4.43 295**	*e*P	**Pb**	**02 34 50.5 +0.6**
CHKK	11nm,0.2s		*e*S	**Sb**	**02 35 46.8 +3.6**
KTBS	**Karatobe** 2.6nm,0.4s	**4.59 292**	Pg	**Pb**	**02 34 53.2 +0.6**
KTBS	20nm,0.7s		Lg	Lg	02 35 51.3
MTBS	**Maitube** 2.3nm,0.2s	**4.62 285**	Pg	**Pb**	**02 34 53.8 +0.7**
MTBS	8.7nm,0.5s		Lg	Lg	02 35 52.6
MTBS	**Maitube** 2.3nm,0.2s	**4.62 285**	*e*P	**Pb**	**02 34 53.8 +0.7**
MTBS	8.7nm,0.5s		*e*S	**Sb**	**02 35 52.6 +3.8**
MK31	**Makanchi Array** 0.1nm,0.2s,baz=189,slow=12,SNR=15	**4.69 358**	⇑Pn	**Pn**	**02 34 43.7 +1.1**
MK31	5.4nm,0.8s,baz=174,slow=16,SNR=14		⇑Pg	**Pb**	**02 34 54.6 +0.4**
MK31	17nm,0.7s,baz=180,slow=25,SNR=8.6		⇓Lg	Lg	02 35 53.3
MAKZ	**Makanchi** 0.9nm,0.4s	**4.72 355**	⇓Pn	**Pn**	**02 34 43.7 +0.7**
MAKZ	4.6nm,0.8s		⇑Pg	**Pb**	**02 34 54.7 0.0**
MAKZ	8.1nm,0.8s		⇑Lg	Lg	02 35 55.5
KUU	**Kurty** 4.0nm,0.0s	**4.88 294**	Pg	**Pb**	**02 34 59.2 +1.7**
KUU	8.2nm,0.1s		Lg	Lg	02 36 01.6
KUU	**Kurty** 4.0nm,0.0s	**4.88 294**	*e*P	**Pb**	**02 34 59.2 +1.7**
KUU	8.2nm,0.1s		*e*S	**Sb**	**02 36 01.6 +5.4**
KST	**Kastek** 3.7nm,0.9s	**4.95 283**	Pg	**Pb**	**02 35 00.0 +1.4**
KST	9.9nm,0.5s		Lg	Lg	02 36 03.0
KST	**Kastek** 3.7nm,0.9s	**4.95 283**	*e*P	**Pb**	**02 35 00.0 +1.4**
KST	9.9nm,0.5s		*e*S	**Sb**	**02 36 03.0 +4.9**
DGS	**Degeres** 2.5nm,0.4s	**5.12 285**	Pg	**Pb**	**02 35 03.3 +1.7**
DGS	8.4nm,0.5s		Lg	Lg	02 36 08.7
KRBS	**Karabastau** 1.6nm,0.5s	**5.29 290**	Pg	**Pg**	**02 35 10.9 -2.5**
AAK	**Ala-Archa** 1.6nm,1.0s	**5.98 278**	⇓Pg	**Pb**	**02 35 17.1 +0.7**
AAK	1.3nm,0.6s		⇑Lg	Lg	02 36 40.7

GEN ***24*** *02:46:51.2,43.62N×10.29E,h6km±2km,Ml2.3*
ROM ***24*** *02:46:51.3±0.2,43.627N±0.005×10.269E±0.009, h9km,ML2.5/95,Error ellipse: s-maj=0.7km s-min=0.3km az=234.0*
LDG ***24*** *02:46:52.7±0.2,43.55N×10.35E,h8km,Ml2.6/21,Error ellipse: s-maj=4.5km s-min=3.0km az=134.0*
ISC 24 02:46:51.0±1.0,43.60N±0.02×10.24E±0.02,h9km±8km, n87,σ1%63/135,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PII	**Pisa**	**0.25**	**59**	P	**Pg**	**02 46 56.1**	**+0.1**
PII				S	**Sg**	**02 46 58.7**	**-0.6**
PII	**Pisa**	**0.25**	**59**	P	**Pg**	**02 46 56.0**	**+0.1**
PII				S	**Sg**	**02 46 59.4**	**+0.2**
PII	comp=E,5450μm,0.2s			AML	AML		
PII	comp=N,3295μm,0.2s			AML	AML		
PII	comp=E,2462μm,0.6s			AML	AML		
PII	comp=N,1627μm,0.8s			AML	AML		
PII	comp=N,1627μm,1.2s			AML	AML		
PII	comp=E,2462μm,1.4s			AML	AML		
MAIM	**Mastiano**	**0.37**	**30**	P	**Pg**	**02 46 58.3**	**0.0**
MAIM				S	**Sg**	**02 47 03.2**	**+0.1**
MAIM	**Mastiano**	**0.37**	**30**	P	**Pg**	**02 46 58.3**	**0.0**
MAIM				S	**Sg**	**02 47 03.3**	**+0.1**
MAGO	**Bibbona**	**0.45**	**136**	P	**Pg**	**02 47 00.3**	**+0.7**
MAGO				S	**Sb**	**02 47 07.5**	**-0.3**
MAGO	comp=E,1075μm,0.2s			AML	AML		
MAGO	comp=N,974μm,0.7s			AML	AML		
MAGO	comp=N,813μm,0.2s			AML	AML		
MAGO	comp=E,1077μm,0.2s			AML	AML		
CARD	**Cardoso**	**0.47**	**22**	P	**Pg**	**02 46 59.9**	**-0.1**
CARD				S	**Sg**	**02 47 05.5**	**-0.7**
CARD	**Cardoso**	**0.47**	**22**	P	**Pg**	**02 46 59.9**	**-0.1**
CARD				S	**Sb**	**02 47 06.8**	**-1.7**
CARD	comp=N,1785μm,0.6s			AML	AML		
CARD	comp=E,1240μm,0.5s			AML	AML		
CARD	comp=E,1070μm,0.3s			AML	AML		
CARD	comp=N,989μm,1.9s			AML	AML		
CARD	comp=N,989μm,0.1s			AML	AML		
PLMA	**Palmaria, Port**	**0.53**	**329**	P	**Pg**	**02 47 01.7**	**+0.4**
PLMA				S	**Sg**	**02 47 09.6**	**+1.3**
PLMA	**Palmaria, Port**	**0.53**	**329**	P	**Pg**	**02 47 01.6**	**+0.3**
PLMA				S	**Sg**	**02 47 09.2**	**+0.9**
PLMA	comp=E,824μm,0.4s			AML	AML		
PLMA	comp=E,645μm,0.2s			AML	AML		
PLMA	comp=N,599μm,0.5s			AML	AML		
PLMA	comp=N,599μm,0.5s			AML	AML		
BDI	**Bagni Di Lucca**	**0.54**	**29**	P	**Pg**	**02 47 01.2**	**-0.2**
BDI				S	**Sg**	**02 47 07.6**	**-0.8**
BDI	**Bagni Di Lucca**	**0.54**	**29**	P	**Pg**	**02 47 01.2**	**-0.2**
BDI				S	**Sb**	**02 47 08.7**	**-1.8**
BDI	comp=E,676μm,0.5s			AML	AML		
BDI	comp=E,686μm,1.2s			AML	AML		
BDI	comp=E,675μm,0.6s			AML	AML		
BDI	comp=N,608μm,0.2s			AML	AML		
BDI	comp=N,616μm,0.6s			AML	AML		
BDI	comp=E,675μm,0.6s			AML	AML		
BDI	comp=N,608μm,0.2s			AML	AML		
BDI	comp=E,675μm,1.4s			AML	AML		
BDI	comp=E,629μm,0.4s			AML	AML		
BDI	comp=N,616μm,0.6s			AML	AML		
CRMI	**Carmignano**	**0.57**	**70**	P	**Pb**	**02 47 02.4**	**-0.8**
CRMI				S	**Sb**	**02 47 10.2**	**-1.2**
CRMI	comp=E,423μm,0.7s			AML	AML		
CRMI	comp=E,424μm,0.7s			AML	AML		
CRMI	comp=E,284μm,0.9s			AML	AML		
CRMI	comp=N,142μm,0.9s			AML	AML		
CRMI	comp=E,171μm,0.8s			AML	AML		
CRMI	comp=E,423μm,0.7s			AML	AML		
CRMI	comp=N,233μm,0.8s			AML	AML		
CRMI	comp=N,112μm,0.5s			AML	AML		
CRMI	comp=E,423μm,1.3s			AML	AML		
CRMI	comp=N,233μm,1.2s			AML	AML		
CRMI	comp=E,171μm,0.8s			AML	AML		
EQUI	**Equi**	**0.57**	**354**	P	**Pg**	**02 47 02.3**	**+0.2**
EQUI				S	**Sg**	**02 47 10.1**	**+0.5**
EQUI	**Equi**	**0.57**	**354**	P	**Pg**	**02 47 02.3**	**+0.2**
EQUI				S	**Sg**	**02 47 10.0**	**+0.4**
VLC	**Villacollemand**	**0.57**	**11**	P	**Pg**	**02 47 02.2**	**0.0**
VLC				S	**Sg**	**02 47 09.9**	**+0.2**
VLC	**Villacollemand**	**0.57**	**11**	P	**Pg**	**02 47 02.1**	**0.0**
VLC				S	**Sb**	**02 47 10.1**	**-1.5**
VLC	comp=E,374μm,0.9s			AML	AML		
VLC	comp=E,393μm,0.9s			AML	AML		
VLC	comp=N,440μm,0.5s			AML	AML		
VLC	comp=N,445μm,0.5s			AML	AML		
VLC	comp=E,364μm,0.4s			AML	AML		
VLC	comp=N,445μm,0.5s			AML	AML		
VLC	comp=E,363μm,0.3s			AML	AML		
VLC	comp=N,441μm,0.5s			AML	AML		
POPM	**Popiglio**	**0.59**	**40**	P	**Pg**	**02 47 02.3**	**0.0**
POPM				S	**Sb**	**02 47 11.5**	**-0.4**
POPM	**Popiglio**	**0.59**	**40**	P	**Pg**	**02 47 02.3**	**0.0**
POPM				S	**Sb**	**02 47 11.1**	**-0.8**
POPM	comp=E,864μm,0.3s			AML	AML		
POPM	comp=N,938μm,0.2s			AML	AML		
POPM	comp=E,865μm,0.3s			AML	AML		
POPM	comp=N,940μm,0.2s			AML	AML		
SARO	**Sassorosso**	**0.60**	**11**	P	**Pg**	**02 47 02.6**	**0.0**
SARO				S	**Sg**	**02 47 10.8**	**+0.2**
SARO	**Sassorosso**	**0.60**	**11**	P	**Pg**	**02 47 02.5**	**0.0**
FIVI	**Fivizzano**	**0.65**	**353**	P	**Pg**	**02 47 03.8**	**+0.3**
FIVI				S	**Sb**	**02 47 12.9**	**-0.7**
TRIF	**Trifonti**	**0.68**	**134**	P	**Pg**	**02 47 04.5**	**+0.4**
TRIF	comp=E,280μm,0.4s			AML	AML		
TRIF	comp=N,282μm,0.4s			AML	AML		
TRIF	comp=N,281μm,0.4s			AML	AML		
TRIF	comp=E,259μm,0.2s			AML	AML		
MPPT	**Montemurlo**	**0.72**	**59**	P	**Pg**	**02 47 04.7**	**-0.1**
MPPT				S	**Sb**	**02 47 15.4**	**-0.9**
MPPT	comp=N,390μm,1.6s			AML	AML		
MPPT	comp=E,387μm,1.1s			AML	AML		
MPPT	comp=N,390μm,1.6s			AML	AML		
MPPT	comp=N,293μm,0.4s			AML	AML		
MPPT	comp=E,273μm,0.2s			AML	AML		
OSSC	**Osservatorio P**	**0.74**	**95**	P	**Pb**	**02 47 05.5**	**-0.5**
OSSC				S	**Sb**	**02 47 15.4**	**-0.9**
OSSC	**Osservatorio P**	**0.74**	**95**	P	**Pb**	**02 47 05.4**	**-0.5**
OSSC				S	**Sb**	**02 47 15.3**	**-0.9**
OSSC	comp=E,576μm,0.7s			AML	AML		
OSSC	comp=E,352μm,0.5s			AML	AML		
OSSC	comp=N,534μm,0.7s			AML	AML		
OSSC	comp=N,344μm,1.3s			AML	AML		
OSSC	comp=E,299μm,0.2s			AML	AML		
OSSC	comp=N,533μm,0.7s			AML	AML		
OSSC	comp=E,577μm,0.7s			AML	AML		
OSSC	comp=N,300μm,0.2s			AML	AML		
OSSC	comp=E,577μm,1.3s			AML	AML		
OSSC	comp=N,533μm,1.3s			AML	AML		
CSNT	**Castellina Chi**	**0.78**	**99**	P	**Pb**	**02 47 06.1**	**-0.7**
CSNT				S	**Sb**	**02 47 16.2**	**-1.2**
CSNT	**Castellina Chi**	**0.78**	**99**	P	**Pb**	**02 47 06.0**	**-0.7**
CSNT				S	**Sb**	**02 47 16.1**	**-1.2**
CSNT	comp=E,186μm,0.7s			AML	AML		
CSNT	comp=N,436μm,1.3s			AML	AML		
CSNT	comp=E,183μm,0.3s			AML	AML		
CSNT	comp=N,391μm,0.5s			AML	AML		
CSNT	comp=N,391μm,1.5s			AML	AML		
CSNT	comp=E,183μm,1.7s			AML	AML		
GSCL	**Gusciola**	**0.80**	**19**	P	**Pb**	**02 47 06.6**	**-0.5**
GSCL				S	**Sb**	**02 47 17.0**	**-1.0**
GSCL	**Gusciola**	**0.80**	**19**	P	**Pg**	**02 47 06.3**	**0.0**
GSCL	comp=E,1046μm,0.4s			AML	AML		
GSCL	comp=N,784μm,0.3s			AML	AML		
GSCL	comp=E,1046μm,0.4s			AML	AML		
GSCL	comp=N,785μm,0.3s			AML	AML		
GSCL	comp=E,1046μm,1.6s			AML	AML		
GSCL	comp=N,785μm,1.7s			AML	AML		
MOCL	**Monte Cuccoli**	**0.80**	**59**	P	**Pg**	**02 47 06.0**	**-0.3**
MOCL				AML	AML		
MOCL	comp=E,527μm,1.2s			AML	AML		
MOCL	comp=N,527μm,0.6s			AML	AML		
MOCL	comp=N,528μm,0.6s			AML	AML		
MOCL	comp=E,453μm,0.5s			AML	AML		
MOCL	comp=N,449μm,0.4s			AML	AML		
CELB	**S.Piero in Cam**	**0.85**	**181**	P	**Pg**	**02 47 08.2**	**+0.9**
CELB				S	**Sb**	**02 47 20.1**	**+0.7**
CELB	**S.Piero in Cam**	**0.85**	**181**	P	**Pg**	**02 47 07.7**	**+0.4**
CELB	comp=N,214μm,0.8s			AML	AML		
CELB	comp=E,174μm,0.4s			AML	AML		
CELB	comp=N,184μm,0.4s			AML	AML		
CELB	comp=E,152μm,0.5s			AML	AML		
FNVD	**Fontana Vidola**	**0.86**	**48**	P	**Pb**	**02 47 07.5**	**-0.7**
FNVD				AML	AML		
FNVD	comp=E,419μm,0.8s			AML	AML		
FNVD	comp=E,420μm,0.8s			AML	AML		
FNVD	comp=N,591μm,0.7s			AML	AML		
FNVD	comp=N,591μm,0.7s			AML	AML		
FNVD	comp=E,398μm,0.8s			AML	AML		
RIBO	**Ribolla Roccas**	**0.88**	**137**	P	**Pg**	**02 47 06.3**	**-1.5**
RIBO	**Ribolla Roccas**	**0.88**	**137**	AML	AML		
MSSA	**Maissana**	**0.89**	**325**	P	**Pg**	**02 47 08.1**	**0.0**
MSSA				AML	AML		
MSSA	comp=E,322μm,1.6s			AML	AML		
MSSA	comp=E,344μm,0.8s			AML	AML		
MSSA	comp=N,322μm,1.6s			AML	AML		
MSSA	comp=N,271μm,0.4s			AML	AML		
MSSA	comp=E,345μm,0.8s			AML	AML		
GRAM	**Graiana**	**0.91**	**352**	P	**Pg**	**02 47 08.7**	**+0.2**
GRAM				S	**Sb**	**02 47 22.0**	**+0.9**
GRAM	**Graiana**	**0.91**	**352**	P	**Pg**	**02 47 08.6**	**+0.2**
GRAM	comp=N,1052μm,0.9s			AML	AML		
GRAM	comp=E,894μm,0.3s			AML	AML		
GRAM	comp=N,1005μm,0.3s			AML	AML		
GRAM	comp=E,894μm,0.3s			AML	AML		
GRAM	comp=N,1005μm,1.7s			AML	AML		
GRAM	comp=E,894μm,1.7s			AML	AML		
ZCCA	**Zocca**	**0.93**	**35**	P	**Pn**	**02 47 10.1**	**-0.1**
ZCCA				S	**Sn**	**02 47 25.8**	**+2.1**
ZCCA	**Zocca**	**0.93**	**35**	P	**Pn**	**02 47 09.7**	**-0.6**
ZCCA	comp=E,316μm,1.4s			AML	AML		
ZCCA	comp=N,365μm,0.8s			AML	AML		
ZCCA	comp=E,312μm,0.5s			AML	AML		
ZCCA	comp=N,334μm,0.8s			AML	AML		
ZCCA	comp=N,334μm,0.8s			AML	AML		
ZCCA	comp=E,314μm,0.7s			AML	AML		
ZCCA	comp=N,365μm,0.8s			AML	AML		
ZCCA	comp=E,313μm,0.5s			AML	AML		
ZCCA	comp=E,314μm,1.3s			AML	AML		
CASP	**Castiglione de**	**0.93**	**150**	P	**Pg**	**02 47 08.9**	**+0.1**
CASP				AML	AML		
CASP	comp=E,160μm,1.6s			AML	AML		
CASP	comp=N,226μm,1.4s			AML	AML		
CASP	comp=N,203μm,0.5s			AML	AML		
CASP	comp=E,142μm,0.3s			AML	AML		
CASP	comp=N,203μm,1.5s			AML	AML		
CASP	comp=E,142μm,1.7s			AML	AML		
SEI	**Scarperia**	**0.93**	**60**	P	**Pb**	**02 47 08.9**	**-0.5**
SEI	**Scarperia**	**0.93**	**60**	P	**Pb**	**02 47 08.7**	**-0.6**
SEI	comp=E,512μm,0.4s			AML	AML		
SEI	comp=N,766μm,0.5s			AML	AML		
SEI	comp=E,513μm,0.4s			AML	AML		
SEI	comp=N,766μm,0.5s			AML	AML		
RUFI	**Rufina**	**0.96**	**75**	P	**Pb**	**02 47 09.2**	**-0.5**
RUFI				AML	AML		
RUFI	comp=E,252μm,1.5s			AML	AML		
RUFI	comp=N,257μm,0.8s			AML	AML		
RUFI	comp=E,200μm,0.5s			AML	AML		
RUFI	comp=N,257μm,0.8s			AML	AML		
BRIS	**BRISIGHELLA**	**1.08**	**59**	P	**Pn**	**02 47 14.7**	**+2.5**
BRIS				AML	AML		
BRIS	comp=E,199μm,0.5s			AML	AML		
BRIS	comp=N,218μm,0.8s			AML	AML		
BRIS	comp=N,292μm,0.8s			AML	AML		
BRIS	comp=N,218μm,0.8s			AML	AML		
BRIS	comp=E,222μm,0.6s			AML	AML		
BRIS	comp=E,199μm,0.5s			AML	AML		
BRIS	comp=N,218μm,1.2s			AML	AML		
BRIS	comp=N,292μm,1.1s			AML	AML		
LMD	**Lutirano**	**1.17**	**65**	P	**Pb**	**02 47 13.1**	**-0.3**
LMD				AML	AML		
LMD	comp=E,100μm,0.9s			AML	AML		
LMD	comp=N,128μm,0.9s			AML	AML		
LMD	comp=N,124μm,0.7s			AML	AML		
LMD	comp=E,84μm,0.3s			AML	AML		
ARCI	**Arcidosso**	**1.17**	**129**	P	**Pb**	**02 47 13.7**	**+0.2**
ARCI				AML	AML		
ARCI	comp=N,75μm,1.6s			AML	AML		
ARCI	comp=E,81μm,0.5s			AML	AML		
ARCI	comp=N,176μm,1.1s			AML	AML		
ARCI	comp=E,81μm,0.5s			AML	AML		
ARCI	comp=N,75μm,0.4s			AML	AML		
ARCI	comp=E,170μm,1.5s			AML	AML		
ARCI	comp=N,75μm,1.6s			AML	AML		
ARCI	comp=E,170μm,0.5s			AML	AML		
ARCI	comp=N,176μm,0.9s			AML	AML		
SFI	**Santa Sofia**	**1.21**	**75**	P	**Pb**	**02 47 13.7**	**-0.4**
SFI				AML	AML		
SFI	comp=E,104μm,1.6s			AML	AML		
SFI	comp=N,139μm,1.2s			AML	AML		
SFI	comp=E,154μm,0.9s			AML	AML		
SFI	comp=E,103μm,0.8s			AML	AML		
SFI	comp=N,118μm,1.3s			AML	AML		
SFI	comp=E,103μm,1.2s			AML	AML		
SFI	comp=N,237μm,1.2s			AML	AML		
SFI	comp=N,118μm,0.7s			AML	AML		
GORR	**Gorreto**	**1.22**	**326**	P	**Pb**	**02 47 14.1**	**-0.2**
GORR				AML	AML		
GORR	comp=E,246μm,1.5s			AML	AML		
GORR	comp=N,304μm,0.7s			AML	AML		
GORR	comp=E,235μm,0.4s			AML	AML		
GORR	comp=N,304μm,0.7s			AML	AML		
SF04	**Casetta**	**1.29**	**126**	P	**Pg**	**02 47 16.1**	**+0.4**
SF04				AML	AML		
SF04	comp=E,78μm,0.6s			AML	AML		
SF04	comp=N,70μm,0.3s			AML	AML		
PGF	**Pioggiola**	**1.38**	**221**	*e*Pn	**Pn**	**02 47 16.3**	**-0.3**
PGF				*e*Sn	**Sb**	**02 47 32.8**	**-2.1**
PGF	comp=N,18nm,0.3s						
PGF	**Pioggiola**	**1.38**	**221**	P	**Pn**	**02 47 17.6**	**+1.0**
PGF				AML	AML		
PGF	comp=N,100μm,2.2s			AML	AML		
PGF	comp=E,113μm,1.4s			AML	AML		

comp=E,113μm,0.6s
PGF AML AML
comp=N,100μm,0.2s
PARC Parchiule 1.46 87 P **Pn 02 47 17.6 +0.1**
PARC AML AML
comp=E,58μm,0.6s
PARC AML AML
comp=N,67μm,0.7s
PARC AML AML
comp=N,67μm,0.7s
PARC AML AML
comp=E,57μm,0.6s
PARC AML AML
comp=N,67μm,1.3s
PARC AML AML
comp=E,57μm,1.4s
ATTE AVT- Monte Tez 1.59 104 P **Pn 02 47 19.4 0.0**
ATTE AML AML
comp=N,46μm,0.9s
ATTE AML AML
comp=E,34μm,0.9s
ATTE AML AML
comp=E,34μm,1.1s
SBF Sospel 2.05 278 *e*Pn **Pn 02 47 24.7 -1.0**
SBF *e*Sn **Sn 02 47 50.5 -0.9**
comp=E,10nm,0.3s
LMR La Mourre 2.73 266 *e*Pn **Pn 02 47 34.6 -0.3**
LMR *e*Sn **Sn 02 48 05.8 -2.2**
comp=E,4.9nm,0.3s
MBDF Montbardon 2.74 296 *e*Pn **Pn 02 47 36.7 +1.5**
MBDF Montbardon 2.74 296 *e*P **Pb 02 47 40.8 +0.6**
MBDF *e*Sn **Sn 02 48 09.9 +1.4**
comp=E,7.4nm,0.4s
LPL La Plagne 3.16 309 *e*Pn **Pn 02 47 44.0 +3.0**
LPL *e*Sn **Sn 02 48 19.1 +0.2**
comp=E,8.7nm,0.8s
SMRF Simiane la Rot 3.40 278 *e*Pn **Pn 02 47 45.7 +1.5**
SMRF Simiane la Rot 3.40 278 *e*P **Pn 02 47 47.4 +3.2**
SMRF *e*Sn **Sn 02 48 23.7 -0.9**
comp=E,1.4nm,0.4s
ORIF Oris-en-Rattie 3.40 294 *e*Pn **Pn 02 47 46.5 +2.3**
ORIF Oris-en-Rattie 3.40 294 *e*P **Pn 02 47 48.1 +3.9**
ORIF *e*Sn **Sn 02 48 25.4 +0.7**
comp=E,3.9nm,0.4s
FETA Feichten 3.44 6 *i* Pn **Pb 02 47 49.0 -3.2**
FETA *e*Sg **Sg 02 48 44.9 +3.4**
comp=E,4.8nm,0.7s
ABTA Abfaltersbach 3.54 26 *i* Pn **Pn 02 47 48.4 +2.2**
comp=E,1.0nm,0.3s
SQTA Sankt Quirin 3.69 10 *i* Pn **Pb 02 47 52.3 -4.1**
comp=E,7.1nm,0.3s,SNR=8.8
DAVA Damuels 3.70 356 *e*Pn **Pn 02 47 51.7 +3.2**
comp=E,2.3nm,0.3s,SNR=4.8
DAVA *e*Sn **Sn 02 48 36.6 +4.3**
comp=E,13nm,0.5s
MOTA Moosalm 3.80 9 *i* Pn **Pn 02 47 52.8 +3.0**
comp=E,2.5nm,0.3s
MOTA *e*Sn **Sb 02 48 40.2 -4.2**
comp=E,3.2nm,0.5s
WTTA Wattenberg 3.80 15 *i* Pn **Pn 02 47 53.5 +3.7**
comp=E,1.8nm,0.3s
WTTA *e*Sn **Sb 02 48 39.8 -4.7**
comp=E,6.3nm,0.4s
WATA Walderalm 3.86 14 *i* Pn **Pn 02 47 54.6 +3.9**
comp=E,2.5nm,0.3s,SNR=4.5
RETA Reutte 3.91 5 *i* Pn **Pn 02 47 55.1 +3.8**
comp=E,1.9nm,0.3s
RETA *e*Sn **Sn 02 48 41.5 +4.2**
comp=E,2.7nm,0.5s
KBA Koelnbreinsper 4.12 31 *i* Pn **Pn 02 47 56.7 +2.5**
comp=E,0.9nm,0.2s
LESA Schwarzleotal 4.20 23 *e*Pn **Pn 02 47 58.0 +2.7**
comp=E,3.6nm,0.4s,SNR=8.7
CABF La Chapelle 4.21 317 *e*Pn **Pn 02 47 56.5 +1.1**
CABF *e*Sn **Sn 02 48 45.1 +0.4**
comp=E,1.9nm,0.3s
SOKA Soboth 4.58 46 *i* Pn **Pn 02 48 01.6 +1.0**
comp=E,0.4nm,0.2s
HINF Hinteralfeld 4.84 332 *e*Pn **Pn 02 48 05.0 +1.0**
HINF *e*Sn **Sn 02 49 00.0 -0.2**
comp=E,1.5nm,0.3s
MOA Molln 5.11 32 *i* Pn **Pn 02 48 09.1 +1.5**
comp=E,0.9nm,0.4s
HAU Haudompre 5.18 330 *e*Pn **Pn 02 48 09.8 +1.1**
HAU *e*Sn **Sn 02 49 09.0 +0.4**
comp=E,2.8nm,0.3s
CDF Champ du Feu 5.24 338 *e*Pn **Pn 02 48 10.6 +1.0**
CDF *e*Sn **Sn 02 49 08.4 -1.7**
comp=E,1.9nm,0.4s
SMF Signal de Mont 5.46 306 *e*Pn **Pn 02 48 13.6 +1.2**
SMF *e*Sn **Sn 02 49 14.3 -1.0**
comp=E,1.3nm,0.3s
LOR Lormes 5.80 312 *e*Pn **Pn 02 48 18.3 +1.2**
LOR *e*Sn **Sn 02 49 21.9 -1.9**
comp=E,1.0nm,0.3s
AVF Avril sur Loir 5.82 306 *e*Pn **Pn 02 48 19.4 +2.0**
AVF *e*Sn **Sn 02 49 21.0 -3.2**
comp=E,1.1nm,0.3s
MTLF Montolieu 5.84 270 *e*Pn **Pn 02 48 18.6 +0.9**
SSF Saint Saulge 5.87 308 *e*Pn **Pn 02 48 20.3 +2.1**
SSF *e*Sn **Sn 02 49 24.3 -1.3**
comp=E,0.5nm,0.2s
BGF Bois d'Agland 6.01 302 *e*Pn **Pn 02 48 21.6 +1.5**
BGF Bois d'Agland 6.01 302 *e*Pn **Pn 02 48 22.6 +2.5**
BGF *e*Sn **Sn 02 49 27.7 -1.3**
comp=E,2.9nm,0.4s
CAF Calviac 6.02 286 *e*Pn **Pn 02 48 21.1 +0.9**

*SDD **24** 02:52:16.6±1.6,20.°88N×65.°61W,h46km±18km,MD3.1, ML2.7,MW2.7*
RSPR 24 02:52:39.6,19.°24N×67.°45W,h27km±22km,17C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.83**	**158⇑**	*e*P	Pb	02 52 53.3	-2.1
AGPR	**Aguadilla, PR**	**0.83**	**158**	*e*S	Sb	02 53 03.5	-2.8
AGPR	**Aguadilla, PR**	**0.83**	**158⇑**	*i*P	Pn	02 52 56.9	+1.3
AGPR				IAML		02 53 26.1	
comp=N,55nm,0.3s							
AOPR	**Arecibo Observ**	**1.10**	**144⇑**	*i*P	Pn	02 52 57.9	-1.5
AOPR				*i*S	Sb	02 53 27.5	+13
AOPR				IAML		02 53 35.2	
comp=N,41nm,0.2s							
LSP	**Las Mesas**	**1.11**	**162⇑**	*e*P	Pn	02 52 57.5	-2.0
LSP	**Las Mesas**	**1.11**	**162**	*e*S	Sn	02 53 11.4	-2.5
UUPR	**Utuado, UPR, P**	**1.20**	**145⇓**	*e*P	Pn	02 52 59.0	-1.6
CRPR	**Cabo Rojo, PR**	**1.27**	**165⇓**	*e*P	Pn	02 52 59.9	-1.7
CRPR	**Cabo Rojo, PR**	**1.27**	**165**	*e*S	Sn	02 53 15.0	-2.7
CRPR	**Cabo Rojo, PR**	**1.27**	**165**	*i*P	Pb	02 53 03.8	+0.9
CRPR				⇑*i*S	Sb	02 53 38.0	+19
CRPR				IAML		02 53 49.5	
comp=N,33nm,1.8s							
MLPR	**Magueyes Islan**	**1.32**	**163⇓**	*e*P	Pn	02 53 00.5	-1.8
MLPR	**Magueyes Islan**	**1.32**	**163**	*e*S	Sn	02 53 16.7	-2.3
MLPR	**Magueyes Islan**	**1.32**	**163⇑**	*i*P	Pn	02 53 03.0	+0.7
MLPR				*i*S	Sb	02 53 36.7	+16
MLPR				IAML		02 53 40.6	
comp=N,7.9nm,1.7s							
HIDR	**Higuey Centro**	**1.37**	**242⇑**	*i*P	Pb	02 53 09.1	+4.6
HIDR				⇑*i*S	Sb	02 53 50.2	+29
HIDR				IAML		02 53 55.4	
comp=N,49nm,0.1s							
ECPR	**Experimental S**	**1.38**	**132⇑**	*e*P	Pn	02 53 01.0	-2.1
ECPR	**Experimental S**	**1.38**	**132**	*e*S	Sn	02 53 17.6	-2.8
CELP	**Cerrillos**	**1.42**	**145⇓**	*e*P	Pn	02 53 01.3	-2.4
CELP	**Cerrillos**	**1.42**	**145⇓**	*i*P	Pn	02 52 59.5	-4.1
CELP				⇑*i*S	Sb	02 53 31.3	+8.2
CELP				IAML		02 53 42.9	
comp=N,14nm,0.3s							
OBIP	**Obispado Ponce**	**1.43**	**146⇑**	*e*P	Pn	02 53 01.2	-2.6
OBIP	**Obispado Ponce**	**1.43**	**146**	*e*S	Sn	02 53 18.1	-3.7
MIDR	**Miches**	**1.54**	**261**	*i*P	Pb	02 53 11.0	+3.6
MIDR				⇑*i*S	Sb	02 53 50.0	+23
MIDR				IAML		02 53 53.6	
comp=N,2.7nm,0.7s							
MIDR				IAML		02 53 58.6	
comp=N,15nm,2.3s							
PDPR	**Patillas Dam,**	**1.81**	**132**	*e*S	Sn	02 53 29.4	-1.9
HATOM	**Hato Mayor del**	**1.89**	**257**	*i*P	Pb	02 53 15.7	+2.3
HATOM				⇑*i*S	Sb	02 53 59.3	+23
HATOM				IAML		02 54 03.2	
comp=N,12nm,1.6s							

*DSN **24** 03:14:58.9±1.7,27.°32N×55.°01E,h10km,ML3.8/14,Error ellipse: s-maj=22.3km s-min=6.7km az=19.0*
*NEIC **24** 03:14:59.5±1.3,27.°24N×0.°03×54.°93E±0.°08,h10km±1km, mb4.3/20,Error ellipse: s-maj=11.6km s-min=5.5km az=95.0*
*OMAN **24** 03:15:00.8±0.6,27.°20N×55.°00E,h10km,mb4.5/3, ml3.9/22,Error ellipse: s-maj=5.5km s-min=2.2km az=14.0*
*TEH **24** 03:15:00.7,27.°17N×55.°07E,h20km±9km*
*THR **24** 03:15:01.9±0.0,27.°26N×55.°19E,h22km±8km,ML4.0*
*IDC **24** 03:15:06.3±4.3,27.°22N×54.°94E,h69km±40km,mb3.7/23, mbtmp4.0/29,ML3.7/7,MS3.7/2,Error ellipse: s-maj=16.3km s-min=11.9km az=156.0*
ISC 24 03:15:01.5±1.0,**27.°12N**±0.°03×**55.°05E**±0.°02,**h31**km±8km, **n174,**σ1°**87**/203,**mb4.0**/31,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.81**	**312**	Pg	**Pn**	**03 15 16.4**	**-0.5**
BNDS	**Bandar-Abbas**	**1.03**	**74**	Pg	**Pb**	**03 15 19.7**	**-1.4**
BNDS	**Bandar-Abbas**	**1.03**	**74**	*e*Pg	**Pb**	**03 15 19.6**	**-1.4**
BNDS				IAML		03 15 47.5	
comp=Z,2μm,1.0s							
GENO	**Geno**	**1.04**	**74**	Pg	**Pb**	**03 15 19.6**	**-1.5**
GENO				Sg	**Sn**	**03 15 34.8**	**+1.2**
IBND	**Bandar-abas**	**1.36**	**76**	Pg	**Pb**	**03 15 25.9**	**-0.6**
SHME	**Shamm**	**1.45**	**137**	P	**Pb**	**03 15 27.2**	**-0.7**
SNR=16							
SHME				S	**Sb**	**03 15 48.9**	**+3.0**
SNR=7.7							
SHME	**Shamm**	**1.45**	**137**	*e*P	**Pb**	**03 15 27.2**	**-0.7**
SNR=17							
SHME				S	**Sb**	**03 15 48.8**	**+2.9**
BANOM	**Banah**	**1.64**	**137**	P	**Pb**	**03 15 30.3**	**-0.8**
BANOM				S	**Sb**	**03 15 52.7**	**+1.3**
BANOM	**Banah**	**1.64**	**137**	*e*P	**Pb**	**03 15 30.2**	**-0.8**
SNR=81							
UMQ	**Umm Al-Quwin**	**1.68**	**161**	P	**Pb**	**03 15 32.2**	**+0.4**
LMD1	**Lamerd**	**1.69**	**278**	Pg	**Pb**	**03 15 32.5**	**+0.5**
LMD1	**Lamerd**	**1.69**	**278**	*e*Pn	**Pb**	**03 15 33.3**	**+1.2**
LMD1				*e*Sg	**Sb**	**03 15 58.2**	**+5.2**
LMD1				IAML		03 16 01.2	
comp=Z,3μm,1.0s							
JHRM	**Jahrom**	**1.90**	**317**	Pn	**Pb**	**03 15 33.6**	**-2.0**
MASF	**Masafi**	**2.01**	**150**	P	**Pb**	**03 15 36.2**	**-1.2**
SNR=14							
MASF				S	**Sb**	**03 16 02.9**	**+0.9**
MSFE	**Esma-Masafi**	**2.02**	**150**	*e*P	**Pb**	**03 15 36.2**	**-1.5**
SNR=69							
MDH	**Madha**	**2.13**	**148**	P	**Pb**	**03 15 37.5**	**-2.1**
MDH	**Madha**	**2.13**	**148**	*e*P	**Pb**	**03 15 37.4**	**-2.1**
SNR=19							
NAZ	**Nazwa, Dubai**	**2.20**	**165**	P	**Pb**	**03 15 39.4**	**-1.2**
NAZ				S	**Sb**	**03 16 09.6**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.20**	**165**	*e*P	**Pb**	**03 15 39.2**	**-1.4**
SNR=20							
UOSS	**Minazif**	**2.40**	**154**		**Pn**	**03 15 41.3**	**+2.5**
UOSS	**Minazif**	**2.40**	**154**	P	**Pb**	**03 15 41.5**	**-2.7**
UOSS				S	**Sb**	**03 16 12.8**	**-0.5**
UOSS	**Minazif**	**2.40**	**154**	*e*P	**Pn**	**03 15 40.7**	**+2.0**
SNR=26							
FAQ	**Al Faqa, Dubai**	**2.42**	**168**	P	**Pb**	**03 15 42.5**	**-1.8**
FAQ				S	**Sb**	**03 16 12.7**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.42**	**168**	*e*P	**Pb**	**03 15 42.0**	**-2.4**
SNR=8.3							
HATD	**Hatta, Dubai**	**2.49**	**157**	P	**Pn**	**03 15 42.5**	**+2.6**
SNR=6.2							
HATD				S	**Sb**	**03 16 14.6**	**-1.2**
HATD	**Hatta, Dubai**	**2.49**	**157**	*e*P	**Pn**	**03 15 42.5**	**+2.6**
SNR=42							
KHNJ	**Kahnooj**	**2.50**	**70**	Pn	**Pn**	**03 15 41.3**	**+1.3**
ASUD	**Al Ashush, Dub**	**2.50**	**174**	P	**Pb**	**03 15 44.1**	**-1.6**
SNR=9.9							
ASUD	**Al Ashush, Dub**	**2.50**	**174**	*e*P	**Pb**	**03 15 43.7**	**-2.0**
SNR=9.9							
AJN	**Ajban**	**2.55**	**181**	P	**Pb**	**03 15 44.3**	**-2.3**
AJN				S	**Sb**	**03 16 17.4**	**-0.1**
AJN	**Ajban**	**2.55**	**181**	*e*P	**Pb**	**03 15 44.0**	**-2.6**
SNR=5.8							
ASHO	**Ashiyiah**	**2.59**	**159**	P	**Pb**	**03 15 44.4**	**-2.9**
SNR=204							
ASHO				S	**Sb**	**03 16 18.5**	**-0.4**
ASHO				S	**Sb**	**03 16 18.5**	**-0.4**
ASHO	**Ashiyiah**	**2.59**	**159**	*e*P	**Pn**	**03 15 44.1**	**+2.8**
SNR=154							
NGRK	**Negar Kerman**	**2.92**	**30**	Pn	**Pn**	**03 15 47.6**	**+1.5**
ALNE	**Al Ain**	**3.12**	**168**	P	**Pn**	**03 15 51.6**	**+3.0**
ALNE	**Al Ain**	**3.12**	**168**	*i* P	**Pn**	**03 15 51.2**	**+2.6**
SNR=13							
KRBR	**Kerman**	**3.22**	**27**	Pn	**Pn**	**03 15 51.7**	**+1.4**
KRBR	**Kerman**	**3.22**	**27**	*e*Pn	**Pn**	**03 15 52.1**	**+1.9**
KRBR				IAML		03 15 57.5	
comp=Z,340nm,1.0s							
SOHO	**SOHO**	**3.26**	**155**	P	**Pn**	**03 15 52.4**	**+1.9**
SOHO	**SOHO**	**3.26**	**155**	*i* P	**Pn**	**03 15 52.0**	**+1.5**
SNR=16							
SHI	**Shiraz**	**3.36**	**319**	Pn	**Pn**	**03 15 53.5**	**+1.5**
KHGB	**Koh Gabri**	**3.47**	**21**	Pn	**Pn**	**03 15 55.3**	**+1.7**
CHMN	**Cheshme madani**	**3.50**	**38**	Pn	**Pn**	**03 15 55.1**	**+1.0**
MZWR	**Madinat Zayed**	**3.51**	**198**	P	**Pn**	**03 15 55.6**	**+1.6**
DSBU	**Dashti - Bushe**	**3.58**	**291**	Pn	**Pn**	**03 15 57.1**	**+2.1**
KBAM	**BAM**	**3.61**	**55**	Pn	**Pn**	**03 15 57.2**	**+1.8**
GHWR	**Ruwais**	**3.71**	**212**	P	**Pn**	**03 15 59.0**	**+2.4**
GHWR				S	**Sn**	**03 16 42.1**	**+2.8**
SHMA	**Al-Shehemyia**	**3.87**	**252**	P	**Pn**	**03 16 01.2**	**+2.3**
SNR=18							
SHMA				S	**Sn**	**03 16 47.4**	**+4.1**
KRM1	**Kerman Provinc**	**3.89**	**30**	Pn	**Pn**	**03 16 01.2**	**+1.8**
ARQ	**Araqi**	**4.00**	**160**	P	**Pn**	**03 16 03.3**	**+2.6**
SNR=14							
ARQ				S	**Sn**	**03 16 50.5**	**+4.0**
ZRDN	**Zarand Kerman**	**4.04**	**18**	Pn	**Pn**	**03 16 03.2**	**+1.7**
HOQ	**Hoqain**	**4.08**	**149**	P	**Pn**	**03 16 02.2**	**+0.4**
HOQ				S	**Sn**	**03 16 50.9**	**+2.5**
TRNA	**Turayna**	**4.20**	**236**	P	**Pn**	**03 16 06.0**	**+2.6**
SNR=51							
TRNA				S	**Sn**	**03 16 54.6**	**+3.3**
SNR=5.7							
SAKB	**Bahrain**	**4.20**	**255**	P	**Pn**	**03 16 06.5**	**+3.1**
SAKB				S	**Sn**	**03 16 55.5**	**+4.1**
IMEH	**Mehriz**	**4.27**	**355**	Pn	**Pn**	**03 16 06.3**	**+1.7**
MZR	**Muzera**	**4.34**	**199**	P	**Pn**	**03 16 07.7**	**+2.2**
SNR=8.3							
MZR	**Muzera**	**4.34**	**199**	*i* P	**Pn**	**03 16 07.6**	**+2.2**
SNR=8.3							
UMZA	**Um Al Zommool**	**4.39**	**179**	P	**Pn**	**03 16 08.9**	**+2.9**
UMZA				S	**Sn**	**03 16 57.4**	**+1.2**
IBAF	**Bafgh**	**4.47**	**6**	Pn	**Pn**	**03 16 08.8**	**+1.5**
SMRA	**Abu-Samra**	**4.48**	**239**	P	**Pn**	**03 16 10.0**	**+2.7**
SNR=34							
SMRA				S	**Sn**	**03 16 59.1**	**+0.7**
BIDO	**Bidbid**	**4.54**	**142**	P	**Pn**	**03 16 11.2**	**+3.1**
BIDO				S	**Sn**	**03 17 01.3**	**+1.5**
SMDO	**Samad**	**4.88**	**145**	P	**Pn**	**03 16 15.9**	**+3.1**
SNR=28							
SMDO				S	**Sn**	**03 17 11.7**	**+3.5**
KLNJ	**Kolanjah**	**4.91**	**323**	Pn	**Pn**	**03 16 15.1**	**+1.6**
KLNJ	**Kolanjah**	**4.91**	**323**	*e*Pn	**Pn**	**03 16 15.2**	**+1.6**
KLNJ				IAML		03 17 56.3	
comp=Z,72nm,1.0s							
WSAR	**Wadi Sarin**	**5.05**	**139**	P	**Pn**	**03 16 17.8**	**+2.7**
SNR=10							
WSAR				S	**Sn**	**03 17 14.3**	**+1.9**
CHBR	**Chabahar**	**5.11**	**106**	Pn	**Pn**	**03 16 17.9**	**+2.0**
CHBR	**Chabahar**	**5.11**	**106**	*e*Pn	**Pn**	**03 16 18.1**	**+2.2**
CHBR				IAML		03 16 32.9	
comp=Z,95nm,1.0s							
ICHK	**Chekchek**	**5.13**	**354**	Pn	**Pn**	**03 16 18.1**	**+1.6**
IRAM	**Ramesheh**	**5.22**	**334**	Pn	**Pn**	**03 16 19.2**	**+1.6**
YZKH	**Yazd**	**5.26**	**356**	*e*Pn	**Pn**	**03 16 19.8**	**+1.7**
YZKH				IAML		03 16 22.8	
comp=Z,88nm,1.0s							
JMDO	**Jabal Madar**	**5.49**	**149**	P	**Pn**	**03 16 25.2**	**+4.1**
JMDO				S	**Sn**	**03 17 25.8**	**+2.6**
WBK	**Wadi Bani Khal**	**5.73**	**141**	P	**Pn**	**03 16 26.5**	**+2.0**
SNR=9.7							
NGCH	**Negor - Chabah**	**5.74**	**106**	P	**Pn**	**03 16 26.8**	**+2.2**
NGCH				S	**Sn**	**03 17 30.9**	**+1.5**
NGCH	**Negor - Chabah**	**5.74**	**106**	Pn	**Pn**	**03 16 26.8**	**+2.2**
IBRJ	**Brojen**	**5.80**	**326**	Pn	**Pn**	**03 16 27.4**	**+1.7**
IGAR	**Gharneh**	**5.88**	**334**	Pn	**Pn**	**03 16 28.0**	**+1.4**
NASN	**Na'in**	**5.98**	**342**	*e*Pn	**Pn**	**03 16 29.2**	**+1.0**
NASN				IAML		03 16 32.3	
comp=Z,49nm,1.0s							
BSRN	**Basiran**	**5.99**	**35**	Pn	**Pn**	**03 16 29.4**	**+1.2**
BSRN	**Basiran**	**5.99**	**35**	*e*Pn	**Pn**	**03 16 29.3**	**+1.2**
BSRN				IAML		03 18 22.0	
comp=Z,45nm,1.0s							
TPRV	**Parvadeh(Tabas**	**6.05**	**13**	Pn	**Pn**	**03 16 30.3**	**+1.3**
ANAR	**Anarak**	**6.15**	**350**	Pn	**Pn**	**03 16 31.6**	**+1.2**
IKOO	**Kooshah**	**6.30**	**32**	Pn	**Pn**	**03 16 34.0**	**+1.5**
JLN	**Jalan Bani Buh**	**6.34**	**140**	P	**Pn**	**03 16 33.8**	**+0.9**
SNR=17							
JLN				S	**Sn**	**03 17 45.3**	**+1.0**
JHBN	**Jahan bin**	**6.36**	**324**	Pn	**Pn**	**03 16 35.1**	**+1.7**
SRVN	**Saravan**	**6.55**	**86**	Pn	**Pn**	**03 16 37.8**	**+2.0**
SRVN	**Saravan**	**6.55**	**86**	*e*Pn	**Pn**	**03 16 38.4**	**+2.6**
SRVN				IAML		03 16 40.5	
comp=Z,50nm,1.0s							
ITEG	**Tejag**	**6.59**	**28**	Pn	**Pn**	**03 16 37.9**	**+1.5**
IPIR	**Pirpir**	**6.61**	**328**	Pn	**Pn**	**03 16 38.3**	**+1.4**
TKDS	**Koohdasht(Taba**	**6.71**	**15**	Pn	**Pn**	**03 16 39.5**	**+1.4**
TABS	**Tabas**	**6.75**	**15**	*e*Pn	**Pn**	**03 16 40.3**	**+1.8**
TABS				IAML		03 18 46.3	
comp=Z,46nm,1.0s							
KBD	**Kabd**	**6.81**	**289**	P	**Pn**	**03 16 41.3**	**+2.1**
KBD				S	**Sn**	**03 17 56.8**	**+1.0**
TNSJ	**Nastanj**	**6.95**	**11**	Pn	**Pn**	**03 16 42.4**	**+1.1**
IDAH	**Dahanechah**	**6.99**	**36**	Pn	**Pn**	**03 16 43.7**	**+1.8**
AFRZ	**Afriz**	**7.16**	**28**	Pn	**Pn**	**03 16 45.9**	**+1.8**
ISFB	**Sefidab**	**7.60**	**342**	Pn	**Pn**	**03 16 51.3**	**+1.1**
SHRT	**Shahrakht**	**7.92**	**34**	Pn	**Pn**	**03 16 56.5**	**+1.9**
SHRT	**Shahrakht**	**7.92**	**34**	*e*Pn	**Pn**	**03 16 56.7**	**+2.1**
SHRT				IAML		03 16 57.4	
comp=Z,17nm,1.0s							
TAPT	**Tabas- Tapeh t**	**7.95**	**13**	Pn	**Pn**	**03 16 56.1**	**+1.1**
SHRO	**Shahrood**	**8.88**	**5**	*e*Pn	**Pn**	**03 17 08.6**	**+0.8**
DAMV	**Damavand**	**8.88**	**344**	*e*Pn	**Pn**	**03 17 09.3**	**+1.4**
SHAO	**Shalim**	**9.07**	**177**	*i* P	**Pn**	**03 17 10.8**	**+0.4**
SNR=12							
RAYN	**Ar Rayn**	**9.35**	**250**		**Pn**	**03 17 13.3**	**-1.0**
RAYN	**Ar Rayn**	**9.35**	**250**	*i* P	**Pn**	**03 17 13.6**	**-0.6**
SNR=12							
CHTH	**Charan**	**9.38**	**340**	*e*Pn	**Pn**	**03 17 16.1**	**+1.4**
IGLO	**Ghaloghah**	**9.41**	**354**	Pn	**Pn**	**03 17 16.5**	**+1.4**
SBZV	**Sabzevar**	**9.49**	**13**	Pn	**Pn**	**03 17 18.5**	**+1.5**
SBZV	**Sabzevar**	**9.49**	**13**	*e*Pn	**Pn**	**03 17 19.9**	**+3.7**
IMYA	**Miami**	**10.14**	**24**	Pn	**Pn**	**03 17 27.4**	**+2.2**
GNI	**Garni**	**15.56**	**329**	Pn	**Pn**	**03 18 36.2**	**-2.5**
GNI				IAmb	IAmb	03 18 50.4	
comp=Z,16nm,0.8s							
GNI	**Garni**	**15.56**	**329**	P	**Pn**	**03 18 39.0**	**+0.4**
comp=Z,0.9nm,0.3s,baz=176,slow=15,SNR=7.6							
comp=Z,3.1nm,0.6s							
MARD	**Mardin**	**15.77**	**314**	Pn	**Pn**	**03 18 39.1**	**-2.2**
ASF	**Jabal al Asfar**	**16.56**	**292**	P	**Pn**	**03 18 51.0**	**-0.6**
comp=Z,0.3nm,0.3s,baz=106,slow=8.1,SNR=4.5							
ASF				S	**Sn**	**03 21 48.4**	**-6.1**
comp=Z,2.5nm,0.8s,baz=18,slow=20,SNR=1.9							
comp=Z,1.3nm,0.5s							
GAR	**Garm**	**17.41**	**43**		**Pn**	**03 19 01.9**	**-0.2**
GAR				IAmb	IAmb	03 19 39.4	
comp=Z,12nm,0.5s							
EIL	**Elat**	**17.87**	**283**	P	**P**	**03 19 08.8**	**+0.7**
comp=Z,0.2nm,0.3s,baz=85,slow=11,SNR=3.1							
EIL				S	**Sn**	**03 22 21.9**	**-4.2**
comp=Z,2.6nm,0.8s,baz=176,slow=13,SNR=1.7							
comp=Z,3.6nm,0.7s							
MMAI	**Mount Meron Ar**	**17.98**	**294**	P	**P**	**03 19 09.7**	**+0.2**
comp=Z,0.3nm,0.3s,baz=102,slow=13,SNR=2.2							
comp=Z,1.4nm,0.5s							
ARPR	**Arapgir-MALATY**	**18.36**	**315**	P	**P**	**03 19 11.5**	**-2.2**
KBZ	**Khabaz**	**19.27**	**332**	P	**Pn**	**03 19 24.9**	**+0.4**
comp=Z,0.1nm,0.3s,baz=153,slow=8.0,SNR=4.8							
comp=Z,2.1nm,0.7s							
ATD	**Arta Tunnel**	**19.29**	**219**	P	**P**	**03 19 20.8**	**-3.3**
ATD	**Arta Tunnel**	**19.29**	**219**	P	**Pn**	**03 19 26.9**	**+1.7**
comp=Z,0.1nm,0.3s,baz=302,slow=13,SNR=4.0							
KVAR	**Kislovodsk Arr**	**19.54**	**332**	P	**Pn**	**03 19 27.9**	**-0.1**
baz=111,slow=8.6							
comp=Z,1.5nm,0.4s							
KIV	**Kislovodsk**	**19.54**	**332**	P	**P**	**03 19 25.1**	**-1.4**
KIV				IAmb	IAmb	03 19 31.4	
comp=Z,22nm,1.0s							
BNN	**Bunyan**	**19.86**	**311**		**P**	**03 19 28.2**	**-2.0**
KK31	**Karatay Array**	**20.30**	**34**		**P**	**03 19 33.7**	**-1.0**
KK31				IAmb	IAmb	03 19 42.5	
comp=Z,15nm,1.2s							
KKAR	**Karatay Array**	**20.30**	**34**		**P**	**03 19 34.5**	**-0.2**
ARSB	**Arslanbob**	**20.45**	**42**		**P**	**03 19 36.2**	**-0.3**
ARSB				IAmb	IAmb	03 19 39.5	
comp=Z,6.3nm,0.6s							
KSH	**Kashi**	**21.35**	**49**	P	**P**	**03 19 43.4**	**-2.9**
KSH				pmax	pmax		
comp=Z,5.0nm,0.9s							
BR131	**Keskin Array S**	**21.78**	**311**	P	**P**	**03 19 48.4**	**-2.5**
BRTR	**Keskin Array B**	**21.78**	**311**		**P**	**03 19 49.0**	**-2.0**
BRTR	**Keskin Array B**	**21.78**	**311**	P	**P**	**03 19 51.6**	**+0.7**
comp=Z,2.0nm,0.9s,baz=128,slow=14,SNR=9.8							
comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**22.15**	**41**	P	**P**	**03 19 55.1**	**+0.3**
AAK	**Ala-Archa**	**22.15**	**41**	P	**P**	**03 19 55.3**	**+0.5**
comp=Z,1.8nm,0.5s,baz=223,slow=12,SNR=6.3							
comp=Z,1.8nm,0.5s							
AB31	**Akbulak array**	**22.42**	**8**		**P**	**03 19 56.5**	**-1.0**
AB31				IAmb	IAmb	03 19 58.7	
comp=Z,9.0nm,0.8s							
ABKAR	**Akbulak array**	**22.42**	**8**		**P**	**03 19 56.6**	**-0.8**
BVAR	**Borovoye Array**	**28.29**	**20**

ARCES IAmb IAmb 03 23 55.9
comp=Z,5.2nm,1.2s
ARCES ARCESS Array B 45.80 346 P **P 03 23 20.6 +0.6**
comp=Z,3.4nm,1.0s,baz=155,slow=9.3,SNR=6.3
comp=Z,3.4nm,1.0s
ESDC Sonseca Array 50.02 300 P **P 03 23 52.7 -0.5**
ESDC IAmb IAmb 03 24 23.2
comp=Z,3.0nm,1.4s
ESDC Sonseca Array 50.02 300 P **P 03 23 53.2 0.0**
comp=Z,0.4nm,0.4s,baz=81,slow=6.4,SNR=6.0
comp=Z,0.4nm,0.4s
EKA Eskdalemuir Ar 50.17 321 P **P 03 23 53.9 -0.1**
comp=Z,0.3nm,0.3s,baz=98,slow=7.1,SNR=6.5
comp=Z,0.3nm,0.3s
TORD Torodi Ar. Bea 51.63 265 P **P 03 24 04.6 -0.9**
comp=Z,2.5nm,0.6s,baz=52,slow=5.7,SNR=16
comp=Z,2.5nm,0.6s
DBIC Dimbokro 60.25 262 P **P 03 25 06.3 -0.9**
DBIC Dimbokro 60.25 262 P **P 03 25 06.3 -0.9**
comp=Z,3.8nm,0.9s,baz=91,slow=4.7,SNR=4.5
comp=Z,3.8nm,0.9s
KSRS Korea Array 61.09 60 P **P 03 25 13.0 +0.4**
comp=Z,1.1nm,0.6s,baz=283,slow=6.4,SNR=2.6
comp=Z,1.1nm,0.6s
BOSA Boshof 62.36 210 P **P 03 25 22.3 +1.0**
BOSA Boshof 62.36 210 P **P 03 25 22.9 +1.7**
comp=Z,3.6nm,0.7s,baz=22,slow=7.9,SNR=9.2
comp=Z,3.6nm,0.7s
ILAR Eielson Array 86.82 9 P **P 03 27 43.0 +0.4**
ILAR Eielson Array 86.82 9 P **P 03 27 42.4 -0.2**
comp=Z,0.3nm,0.7s,baz=318,slow=4.5,SNR=5.3
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 89.88 112 P **P 03 27 58.9 +1.1**
comp=Z,0.5nm,0.7s,baz=314,slow=4.0,SNR=7.9
comp=Z,0.5nm,0.7s
ASAR Alice Springs 91.32 116 P **P 03 28 04.4 -0.1**
comp=Z,0.4nm,0.6s,baz=305,slow=4.7,SNR=5.5
comp=Z,0.4nm,0.6s
ULM Lac du Bonnet 98.77 342 LR LR 04 15 03.7
comp=Z,72nm,19.5s,baz=162,slow=36

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*SDD **24** 03:18:38.1±1.0, 19°.15N×67°.11W, h23km±41km, MD2.7, ML1.6, MW2.3*
*RSPR **24** 03:18:40.9, 19°.05N×67°.20W, h8km±31km, MD2.5/15*
ISC 24 03:18:37.4±1.6, 19°.10N±0°.07×67°.16W±0°.05, h11km±11km, n33, σ0°48/39, 11C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.63**	**176**	⇑*eP*	**Pb**	**03 18 50.8**	**+0.4**
AGPR	**Aguadilla, PR**	**0.63**	**176**	*eS*	**Sb**	**03 19 00.4**	**+1.2**
AGPR	**Aguadilla, PR**	**0.63**	**176**	⇓*e*Pg	**Pb**	**03 18 50.9**	**+0.5**
AGPR				⇓*e*Sg	**Sb**	**03 18 59.5**	**+0.3**
AGPR				IAML		03 19 09.3	
	comp=N,61nm,2.0s						
IDE	**Isla Desecheo**	**0.77**	**203**	⇑*eP*	**Pb**	**03 18 52.8**	**0.0**
IDE	**Isla Desecheo**	**0.77**	**203**	*eS*	**Sb**	**03 19 04.2**	**+0.9**
AOPR	**Arecibo Observ**	**0.84**	**153**	⇓*eP*	**Pn**	**03 18 54.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.84**	**153**	*eS*	**Sn**	**03 19 07.1**	**-0.4**
AOPR	**Arecibo Observ**	**0.84**	**153**	⇓*e*Pg	**Pb**	**03 18 53.8**	**-0.2**
AOPR				⇓*e*Sg	**Sb**	**03 19 05.4**	**+0.1**
AOPR				IAML		03 19 24.3	
	comp=N,27nm,2.0s						
LSP	**Las Mesas**	**0.92**	**176**	⇑*eP*	**Pb**	**03 18 55.2**	**-0.2**
LSP	**Las Mesas**	**0.92**	**176**	*eS*	**Sn**	**03 19 08.8**	**-0.7**
UUPR	**Utuado, UPR, P**	**0.94**	**154**	⇓*eP*	**Pn**	**03 18 56.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.94**	**154**	*eS*	**Sn**	**03 19 09.3**	**-0.6**
ECPR	**Experimental S**	**1.08**	**136**	⇓*eP*	**Pn**	**03 18 59.1**	**+0.6**
ECPR	**Experimental S**	**1.08**	**136**	*eS*	**Sn**	**03 19 13.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.09**	**178**	⇓*eP*	**Pb**	**03 18 57.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.09**	**178**	*eS*	**Sb**	**03 19 12.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.09**	**178**	⇓*e*Pg	**Pb**	**03 18 58.1**	**-0.1**
CRPR				⇑*e*Sg	**Sn**	**03 19 13.1**	**-0.5**
CRPR				IAML		03 19 14.9	
	comp=N,11nm,0.2s						
MLPR	**Magueyes Islan**	**1.13**	**174**	⇑*eP*	**Pb**	**03 18 58.8**	**-0.1**
MLPR	**Magueyes Islan**	**1.13**	**174**	*eS*	**Sb**	**03 19 13.6**	**0.0**
MLPR	**Magueyes Islan**	**1.13**	**174**	⇓*e*Pg	**Pb**	**03 18 57.8**	**-1.1**
MLPR				⇓*e*Sg	**Sb**	**03 19 13.5**	**0.0**
MLPR				IAML		03 19 18.3	
	comp=N,1.6nm,0.6s						
CELP	**Cerrillos**	**1.16**	**152**	⇓*eP*	**Pb**	**03 18 59.1**	**-0.3**
CELP	**Cerrillos**	**1.16**	**152**	*eS*	**Sg**	**03 19 14.4**	**-0.3**
CELP	**Cerrillos**	**1.16**	**152**	*e*Pg	**Pb**	**03 18 58.9**	**-0.5**
CELP				⇑*e*Sg	**Sb**	**03 19 14.0**	**-0.4**
CELP				IAML		03 19 19.5	
	comp=N,12nm,0.2s						
OBIP	**Obispado Ponce**	**1.17**	**153**	⇓*eP*	**Pg**	**03 18 59.9**	**-0.1**
OBIP	**Obispado Ponce**	**1.17**	**153**	*eS*	**Sn**	**03 19 15.6**	**-0.1**
GCPR	**Guaynabo City**	**1.29**	**127**	⇑*eP*	**Pg**	**03 19 02.3**	**+0.2**
GCPR	**Guaynabo City**	**1.29**	**127**	*eS*	**Sg**	**03 19 18.9**	**0.0**
IGPR	**InterUniversit**	**1.50**	**138**	⇓*eP*	**Pb**	**03 19 05.3**	**0.0**
IGPR	**InterUniversit**	**1.50**	**138**	*eS*	**Sn**	**03 19 24.1**	**+0.2**
PDPR	**Patillas Dam,**	**1.52**	**135**	⇑*eP*	**Pn**	**03 19 04.8**	**+0.3**
PDPR	**Patillas Dam,**	**1.52**	**135**	*eS*	**Sn**	**03 19 24.0**	**-0.3**
MIDR	**Miches**	**1.79**	**267**	⇑*eP*	**Pb**	**03 19 09.6**	**-0.7**
HATOM	**Hato Mayor del**	**2.13**	**262**	⇓*e*Pg	**Pb**	**03 19 15.8**	**-0.2**
HATOM				⇑*e*Sg	**Sb**	**03 19 43.2**	**+0.8**
HATOM				IAML		03 19 59.8	
	comp=N,10nm,3.3s						

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*DSN **24** 03:36:52.9±1.8, 27°.08N×55°.15E, h10km, ML2.4/6, Error ellipse: s-maj=22.4km s-min=8.1km az=11.0*
*OMAN **24** 03:36:53.5±2.7, 26°.95N×54°.97E, h10km, mb4.3/3, ml2.8/8, Error ellipse: s-maj=28.0km s-min=5.8km az=8.0*
ISC 24 03:36:51.6±2.5, 27°.1N±0°.1×55°.01E±0°.05, h8km±13km, n23, σ1°11/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.45**	**135**	P	**Pg**	**03 37 19.8**	**+0.4**
SHME				S	**Sg**	**03 37 39.2**	**+1.0**
SHME	**Shamm**	**1.45**	**135**	P	**Pn**	**03 37 17.6**	**-0.5**
BANOM	**Banah**	**1.64**	**135**	P	**Pn**	**03 37 20.7**	**-0.1**
BANOM				S	**Sb**	**03 37 42.0**	**-0.9**
BANOM	**Banah**	**1.64**	**135**	P	**Pn**	**03 37 20.2**	**-0.6**
BANOM				S	**Sn**	**03 37 41.4**	**-0.7**
MSFE	**Esma-Masafi**	**2.01**	**149**	P	**Pn**	**03 37 26.7**	**+0.9**
MDH	**Madha**	**2.12**	**147**	P	**Pb**	**03 37 29.0**	**-1.4**
MDH				S	**Sn**	**03 37 54.8**	**+0.8**
MDH	**Madha**	**2.12**	**147**	P	**Pn**	**03 37 27.0**	**-0.4**
UOSS	**Minazif**	**2.39**	**153**	P	**Pb**	**03 37 33.3**	**-1.6**
UOSS				S	**Sb**	**03 38 04.8**	**+0.3**
UOSS	**Minazif**	**2.39**	**153**	P	**Pn**	**03 37 32.4**	**+1.3**
ASUD	**Al Ashush, Dub**	**2.47**	**173**	P	**Pb**	**03 37 35.0**	**-1.3**
ASUD				S	**Sn**	**03 38 03.8**	**+1.3**
ASHO	**Ashiyiah** SNR=26	**2.57**	**158**	P	**Pn**	**03 37 35.0**	**+1.3**
ASHO	**Ashiyiah**	**2.57**	**158**	P	**Pn**	**03 37 34.7**	**+1.0**
SOHO	**SOHO**	**3.25**	**155**	P	**Pn**	**03 37 43.5**	**+0.6**
TRNA	**Turayna** SNR=6.8	**4.15**	**236**	P	**Pn**	**03 37 56.1**	**+0.9**
TRNA				S	**Sn**	**03 38 42.7**	**-1.3**
SMRA	**Abu-Samra**	**4.43**	**239**	P	**Pn**	**03 37 59.8**	**+0.6**
SMRA				S	**Sn**	**03 38 52.9**	**+1.9**
SMDO	**Samad**	**4.87**	**145**	P	**Pn**	**03 38 06.8**	**+1.5**
SMDO				S	**Sn**	**03 39 03.0**	**+1.1**
WSAR	**Wadi Sarin**	**5.04**	**139**	P	**Pn**	**03 38 08.4**	**+0.7**
WSAR				S	**Sn**	**03 39 06.1**	**0.0**
JLN	**Jalan Bani Buh**	**6.34**	**140**	P	**Pn**	**03 38 27.8**	**+2.4**
MHTO	**MHTO**	**6.65**	**155**	P	**Pn**	**03 38 29.8**	**+0.1**
DOK	**Doka**	**8.47**	**186**	P	**Pn**	**03 38 54.0**	**-0.7**
SHAO	**Shalim** SNR=5.3	**9.04**	**176**	P	**Pn**	**03 39 01.7**	**-0.8**
WHFO	**Wadi Hawf** SNR=16	**9.20**	**187**	P	**Pn**	**03 39 05.0**	**+0.2**
DMTO	**DMTO**	**9.33**	**180**	P	**Pn**	**03 39 05.4**	**-1.1**

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*KRNET **24** 03:40:40.8±0.1, 42°.34N×73°.86E, h23km, mb3.4*
*NNC **24** 03:40:40.8±0.6, 42°.35N×73°.85E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=5.6km s-min=2.0km az=174.0*
*SOME **24** 03:40:40.8, 42°.30N×73°.87E, h15km*
*KNET **24** 03:40:41.6±0.5, 42°.38N×73°.94E, h14km±2km, ml2.5, Error ellipse: s-maj=3.3km s-min=1.9km az=39.0*
ISC 24 03:40:41.3±1.0, 42°.34N±0°.03×73°.86E±0°.02, h11km±8km, n62, σ0°98/107, 46C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.33**	**349**	⇑P	**Pg**	**03 40 48.1**	**+0.1**
	61nm,0.1s,SNR=38						
EKS2				⇓S	**Sg**	**03 40 52.7**	**+0.1**
	455nm,0.1s						
EKS2	**Erkin-Say**	**0.33**	**349**	⇑*i*P	**Pg**	**03 40 48.1**	**+0.1**
EKS2				⇑*i*S	**Sg**	**03 40 53.0**	**+0.5**
UCH	**Uchtor**	**0.49**	**102**	⇑P	**Pg**	**03 40 50.7**	**-0.3**
	83nm,0.1s,SNR=387						
UCH				⇑S	**Sg**	**03 40 57.8**	**+0.1**
	257nm,0.1s						
UCH	**Uchtor**	**0.49**	**102**	⇓*i*P	**Pg**	**03 40 50.8**	**-0.3**
UCH				⇓*i*S	**Sg**	**03 40 57.8**	**+0.1**
AAK	**Ala-Archa**	**0.56**	**57**	⇓P	**Pg**	**03 40 51.8**	**-0.3**
	65nm,0.2s,SNR=130						
AAK				⇑S	**Sg**	**03 40 59.4**	**-0.1**
	111nm,0.2s						
AAK	**Ala-Archa**	**0.56**	**57**	⇓P	**Pg**	**03 40 52.0**	**-0.1**
	14nm,0.4s						
AAK				⇑S	**Sg**	**03 40 59.5**	**-0.1**
	38nm,0.5s						
AAK	**Ala-Archa**	**0.56**	**57**	⇑*i*P	**Pg**	**03 40 51.8**	**-0.3**
AAK				⇑*i*S	**Sg**	**03 40 59.5**	**-0.1**
MRKS	**Merke**	**0.62**	**311**	P	**Pg**	**03 40 52.8**	**-0.6**
	23nm,0.1s						
MRKS				S	**Sg**	**03 41 01.3**	**-0.4**
	96nm,0.2s						
MRKS	**Merke**	**0.62**	**311**	*e*P	**Pg**	**03 40 52.8**	**-0.6**
	23nm,0.1s						
MRKS				*e*S	**Sg**	**03 41 01.3**	**-0.4**
	96nm,0.2s						
FRU1	**Bishkek**	**0.74**	**50**	⇑*i*P	**Pg**	**03 40 55.0**	**-0.6**
FRU1				⇑*i*S	**Sg**	**03 41 05.1**	**-0.2**
KBK	**Karagaybulak**	**0.86**	**68**	⇓P	**Pg**	**03 40 57.6**	**-0.4**
	37nm,0.1s,SNR=43						
KBK				⇑S	**Sb**	**03 41 09.6**	**-0.4**
	198nm,0.2s						
KBK	**Karagaybulak**	**0.86**	**68**	⇑*i*P	**Pg**	**03 40 57.2**	**-0.8**
KBK				⇑*i*S	**Sg**	**03 41 08.8**	**-0.5**
CHMS	**Chumysh**	**0.93**	**44**	⇓P	**Pg**	**03 40 58.7**	**-0.5**
	77nm,0.1s,SNR=14						
CHMS				⇓S	**Sg**	**03 41 11.3**	**-0.1**
	48nm,0.1s						
CHMS	**Chumysh**	**0.93**	**44**	⇑*i*P	**Pg**	**03 40 58.3**	**-1.0**
CHMS				⇑*i*S	**Sg**	**03 41 10.9**	**-0.5**
USP	**Ospenovka**	**1.04**	**26**	P	**Pb**	**03 41 00.8**	**-0.6**
	88nm,0.1s,SNR=473						
USP				⇓S	**Sb**	**03 41 14.8**	**-0.2**
	64nm,0.1s						
USP	**Ospenovka**	**1.04**	**26**	⇑*i*P	**Pb**	**03 41 00.4**	**-1.0**
USP				⇑*i*S	**Sg**	**03 41 14.3**	**-0.6**
ARSB	**Arslanbob**	**1.21**	**213**	⇓*i*P	**Pn**	**03 41 03.1**	**-1.1**
ARSB				⇓*i*S	**Sb**	**03 41 19.3**	**-0.6**
SGDS	**Sogindy**	**1.25**	**27**	P	**Pn**	**03 41 04.4**	**-0.4**
	31nm,0.1s						
SGDS				S	**Sg**	**03 41 21.4**	**-0.2**
	88nm,0.1s						
TKM2	**Tokmak 2**	**1.41**	**65**	⇓P	**Pn**	**03 41 06.9**	**-0.1**
	22nm,0.1s,SNR=110						
TKM2				⇑S	**Sn**	**03 41 25.3**	**-0.4**
	67nm,0.1s						
TKM2	**Tokmak 2**	**1.41**	**65**	⇑*i*P	**Pn**	**03 41 06.5**	**-0.6**
TKM2				⇑*i*S	**Sn**	**03 41 25.3**	**-0.4**
SALK	**Salom-Alik**	**1.45**	**181**	⇑*i*P	**Pn**	**03 41 07.3**	**-0.3**
SALK				⇑*i*S	**Sn**	**03 41 26.6**	**-0.1**
ARK	**Arkit**	**1.51**	**250**	⇑*i*P	**Pn**	**03 41 08.3**	**-0.1**
ARK				⇑*i*S	**Sn**	**03 41 28.3**	**+0.1**
BOOM	**Boomskoye usch**	**1.54**	**84**	⇓*i*P	**Pn**	**03 41 09.1**	**+0.2**
BOOM				⇓*i*S	**Sb**	**03 41 29.4**	**-0.3**
DGS	**Degeres**	**1.67**	**57**	P	**Pb**	**03 41 12.1**	**-0.1**
	59nm,0.4s						
DGS				S	**Sg**	**03 41 34.6**	**-0.5**
	50nm,0.5s						
KST	**Kastek**	**1.70**	**65**	P	**Pb**	**03 41 12.5**	**-0.1**
	31nm,0.3s						
KST				S	**Sg**	**03 41 35.3**	**-0.8**
	76nm,0.4s						
KST	**Kastek**	**1.70**	**65**	*e*P	**Pb**	**03 41 12.5**	**-0.1**
	31nm,0.3s						
KST				*e*S	**Sg**	**03 41 35.3**	**-0.8**
	76nm,0.4s						
ULHL	**Ulahol**	**1.77**	**92**	⇑P	**Pb**	**03 41 13.2**	**-0.7**
	9.8nm,0.2s,SNR=30						
ULHL				⇓S	**Sg**	**03 41 37.6**	**-0.5**
	41nm,0.3s						
ULHL	**Ulahol**	**1.77**	**92**	⇑*i*P	**Pn**	**03 41 12.6**	**+0.6**
ULHL				⇑*i*S	**Sb**	**03 41 35.5**	**-0.6**
JNKS	**Jany-Kuch**	**1.85**	**133**	⇑*i*P	**Pn**	**03 41 13.7**	**+0.5**
JNKS				⇑*i*S	**Sn**	**03 41 37.6**	**+0.9**
KRBS	**Karabastau**	**1.90**	**44**	P	**Pb**	**03 41 16.0**	**0.0**
	127nm,0.4s						
KRBS				S	**Sg**	**03 41 41.2**	**-1.2**
	17nm,0.2s						
OHH	**Osh**	**1.98**	**204**	⇓*i*P	**Pn**	**03 41 15.4**	**+0.5**
OHH				⇓*i*S	**Sn**	**03 41 40.5**	**+0.8**
MTBS	**Maitube**	**2.05**	**66**	Pg	**Pb**	**03 41 18.7**	**+0.1**
	35nm,0.3s						
MTBS				Lg	Lg	03 41 45.9	
	54nm,0.4s						
MTBS	**Maitube**	**2.05**	**66**	*e*P	**Pb**	**03 41 18.7**	**+0.1**
	35nm,0.3s						
MTBS				*e*S	**Sg**	**03 41 45.9**	**-1.3**
	54nm,0.4s						
TRKS	**Terek-Say**	**2.19**	**249**	⇓*i*P	**Pn**	**03 41 18.4**	**+0.7**
TRKS				⇓*i*S	**Sn**	**03 41 45.7**	**+0.9**
TNSS	**Tian-Shan**	**2.38**	**72**	Pg	**Pb**	**03 41 24.4**	**0.0**
	25nm,0.5s						
TNSS				Lg	Lg	03 41 55.8	
	11nm,0.4s						
TNSS	**Tian-Shan**	**2.38**	**72**	*e*P	**Pb**	**03 41 24.4**	**0.0**
	25nm,0.5s						
TNSS				*e*S	**Sg**	**03 41 55.8**	**-2.0**
	11nm,0.4s						
KUU	**Kurty**	**2.39**	**49**	Pg	**Pb**	**03 41 24.6**	**+0.3**
	4.8nm,0.1s						
KUU				Lg	Lg	03 41 56.1	
	81nm,0.4s						
KUU	**Kurty**	**2.39**	**49**	*e*P	**Pb**	**03 41 24.6**	**+0.3**
	4.8nm,0.1s						
KUU				*e*S	**Sg**	**03 41 56.0**	**-2.0**
	81nm,0.4s						
KDJ	**Kajisay**	**2.47**	**94**	⇑*i*P	**Pn**	**03 41 22.5**	**+0.8**
KDJ				⇑*i*S	**Sn**	**03 41 52.7**	**+0.8**
KTBS	**Karatobe**	**2.48**	**55**	Pg	**Pb**	**03 41 26.1**	**+0.2**
	18nm,0.1s						
KTBS				Lg	Lg	03 41 58.6	
	68nm,0.5s						
MDOK	**Medeo**	**2.49**	**69**	Pg	**Pb**	**03 41 26.3**	**+0.2**
	26nm,0.3s						
MDOK				Lg	Lg	03 41 59.0	
	36nm,0.5s						
KOTS	**Kotyrbulak**	**2.55**	**68**	Pg	**Pb**	**03 41 27.4**	**+0.2**
	28nm,0.3s						
KOTS				Lg	Lg	03 42 01.0	
	75nm,0.5s						
KOTS	**Kotyrbulak**	**2.55**	**68**	*e*P	**Pb**	**03 41 27.4**	**+0.2**
	28nm,0.3s						
KOTS				*e*S	**Sg**	**03 42 01.0**	**-2.3**
	75nm,0.5s						
KK31	**Karatay Array**	**2.59**	**288**	⇑Pg	**Pb**	**03 41 27.7**	**0.0**
	2.7nm,0.3s,baz=114,slow=16,SNR=51						
KK31				⇑Lg	Lg	03 42 01.9	
	11nm,0.3s,baz=107,slow=25,SNR=17						
CHKK	**Chushkaly**	**2.75**	**55**	Pg	**Pb**	**03 41 30.7**	**+0.3**
	23nm,0.4s						
CHKK				Lg	Lg	03 42 06.5	
	65nm,0.3s						
CHKK	**Chushkaly**	**2.75**	**55**	*e*P	**Pb**	**03 41 30.6**	**+0.3**
	23nm,0.4s						
CHKK				*e*S	**Sg**	**03 42 06.5**	**-3.0**
	65nm,0.3s						
TARG	**Taragay, Kyrgy**	**3.00**	**100**	⇑*i*P	**Pn**	**03 41 29.7**	**+0.6**
TARG				⇑*i*S	**Sn**	**03 42 05.3**	**+0.1**
BRLS	**Borolday**	**3.05**	**285**	Pg	**Pb**	**03 41 35.4**	**-0.1**
	2.3nm,0.4s						
BRLS				Lg	Lg	03 42 14.7	
	11nm,0.1s						
BRLS	**Borolday**	**3.05**	**285**	*e*P	**Pb**	**03 41 35.4**	**-0.1**
	2.3nm,0.4s						
BRLS				*e*S	**Sb**	**03 42 14.7**	**+1.9**
	11nm,0.1s						
DRK	**Karamyk**	**3.25**	**209**	⇑*i*P	**Pn**	**03 41 33.1**	**+0.6**
DRK				⇑*i*S	**Sn**	**03 42 11.4**	**0.0**
PRZ	**Przheval'sk**	**3.36**	**86**	⇑*i*P	**Pn**	**03 41 34.7**	**+0.8**
PRZ				⇑*i*S	**Sn**	**03 42 13.9**	**0.0**
SATY	**Saty**	**3.43**	**76**	Pg	**Pb**	**03 41 43.1**	**+1.1**
	9.4nm,0.5s						
SATY				Lg	Lg	03 42 28.1	
	14nm,0.5s						
KPKS	**Kokpek**	**3.72**	**71**	Pg	**Pb**	**03 41 47.6**	**+0.6**
	0.6nm,0.4s						
KPKS				Lg	Lg	03 42 35.7	
	15nm,0.4s						
KPKS	**Kokpek**	**3.72**	**71**	*e*P	**Pb**	**03 41 47.6**	**+0.6**
	0.6nm,0.4s						
KPKS				*e*S	**Sb**	**03 42 35.7**	**+3.6**
	15nm,0.4s						
BLB	**Baldybastay**	**3.81**	**61**	Pg	**Pb**	**03 41 50.1**	**+1.6**
	28nm,0.6s						
BLB				Lg	Lg	03 42 40.1	
	18nm,0.4s						
UZB	**Uzynbulak**	**3.88**	**76**	Pg	**Pb**	**03 41 51.5**	**+1.6**
	4.9nm,0.3s						
UZB				Lg	Lg	03 42 42.4	
	13nm,0.5s						
UZB	**Uzynbulak**	**3.88**	**76**	*e*P	**Pb**	**03 41 51.5**	**+1.6**
	4.9nm,0.3s						
UZB				*e*S	**Sg**	**03 42 42.4**	**-3.7**
	13nm,0.5s						
PDGK	**Podgornoye**	**4.26**	**75**	⇑Pg	**Pb**	**03 41 57.8**	**+1.6**
	4.2nm,0.6s						
PDGK				⇑Lg	Lg	03 42 52.8	
	22nm,0.9s						
GAR	**Garm**	**4.29**	**220**	⇑*i*P	**Pn**	**03 41 47.5**	**+0.9**
GAR				⇑*i*S	**Sn**	**03 42 36.0**	**-0.6**
CHGR	**Chuyangaron**	**5.13**	**226**	⇓*i*P	**Pn**	**03 41 59.0**	**+0.8**
CHGR				⇓*i*S	**Sn**	**03 42 56.0**	**-1.5**
MAKZ	**Makanchi**	**7.32**	**50**	⇑Lg	Lg	03 44 33.4	
	5.9nm,1.1s						
MK31	**Makanchi Array**	**7.49**	**51**	Pn	**Pn**	**03 42 33.3**	**+2.9**
	0.2nm,0.2s,baz=233,slow=13,SNR=8.6						
MK31				⇑Lg	Lg	03 44 39.7	
	1.8nm,0.7s						

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*IDC **24** 03:41:08.2±2.4, 28°.07N×140°.07E, h423km±25km, mb3.5/16, mbtmp4.2/19, Error ellipse: s-maj=26.1km s-min=10.0km az=74.0*
*NEIC **24** 03:41:09.1±1.3, 28°.1N±0°.1×140°.1E±0°.2, h427km±8km, mb4.1/21, Error ellipse: s-maj=21.1km s-min=16.1km az=85.0*
*JMA **24** 03:41:10.6±0.8, 28°N±4°×14°0E±°, h428km, MV3.5/28, W OFF OGASAWARA*
ISC 24 03:41:08.4±0.6, 28°.10N±0°.07×140°.1E±0°.1, h428km, n64, σ0°85/66, mb4.0/27, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**6.21**	**333**	*eP*	**P**	**03 42 45.8**	**+2.2**
BSO1	**Boso 1**	**6.58**	**6**	*eP*	**P**	**03 42 47.7**	**+0.2**
BSO3	**Boso 3**	**6.69**	**3**	*eS*	**S**	**03 44 08.1**	**-3.1**
JIE	**Ise**	**6.92**	**336**	*eP*	**P**	**03 42 52.6**	**+0.7**
JNY	**Yasuok**	**7.49**	**346**	*eP*	**P**	**03 42 58.4**	**+0.3**
JAO	**Obara**	**7.55**	**342**	*eP*	**P**	**03 42 59.4**	**+0.7**
INU	**Inuyama**	**7.70**	**341**	P	**P**	**03 43 00.7**	**+0.5**
JMN	**Monobe**	**7.76**	**318**	P	**P**	**03 43 01.8**	**+0.7**
JGF	**Kuroka**	**7.84**	**343**	P	**P**	**03 43 01.9**	**0.0**
JMZ	**Minamidaito 2**	**8.26**	**256**	P	**P**	**03 43 05.5**	**-1.0**
JAG	**Ashikaga**	**8.32**	**356**	*eP*	**P**	**03 43 06.3**	**-0.7**
JHO	**Hitachi**	**8.50**	**2**	*eP*	**P**	**03 43 08.7**	**-0.2**
MJAR	**Matsushiro Arr**	**8.57**	**350**	P	**P**	**03 43 09.7**	**-0.1**
MJAR	**Matsushiro Arr**	**8.57**	**350**	P	**P**	**03 43 08.0**	**-1.8**
	1.2nm,0.4s,baz=164,slow=9.3,SNR=5.5						
JMM	**Marumori**	**9.76**	**3**	P	**P**	**03 43 23.3**	**+0.6**
JTM	**Tenmabayashi**	**12.68**	**3**	P	**P**	**03 43 56.7**	**+1.9**
KSRS	**Korea Array**	**13.86**	**315**	P	**P**	**03 44 07.0**	**-0.6**
	1.4nm,0.7s,baz=125,slow=12,SNR=2.6						
USRK	**Ussuriysk Ar.**	**17.34**	**340**	P	**P**	**03 44 45.9**	**+1.1**
	2.3nm,0.4s,baz=136,slow=11,SNR=5.2						
SSLB	**Suanglung**	**17.76**	**260**	P	**P**	**03 44 49.7**	**+0.2**
SONM	**Songino Array**	**32.73**	**316**	P	**P**	**03 47 03.8**	**+0.1**
SONM	**Songino Array**	**32.73**	**316**	P	**P**	**03 47 04.2**	**+0.4**
	1.8nm,0.4s,baz=126,slow=8.3,SNR=6.9						
	1.8nm,0.4s						
COEN	**Coen**	**41.91**	**176**	P	**P**	**03 48 20.8**	**+1.0**
COEN				IAmb	IAmb	03 48 38.2	
	comp=Z,15nm,1.2s						
EVN	**Everest**	**46.73**	**283**	P	**P**	**03 48 58.1**	**0.0**
EVN				IAmb	IAmb	03 49 21.8	
	comp=Z,7.4nm,1.5s						
ZALV	**Zalesovo Beam**	**47.53**	**319**	P	**P**	**03 49 03.6**	**+0.6**
ZALV	**Zalesovo Beam**	**47.53**	**319**	P	**P**	**03 49 02.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=106,slow=7.9,SNR=5.4						
	comp=Z,0.9nm,0.3s						
WB0	**Warramunga Arr**	**47.91**	**187**	P	**P**	**03 49 05.8**	**-0.4**
WRAB	**Tennant Creek**	**48.07**	**187**	P	**P**	**03 49 07.2**	**-0.3**
WRAB				IAmb	IAmb	03 49 33.4	
	comp=Z,9.9nm,1.4s						
WR8	**Warramunga Arr**	**48.08**	**187**	P	**P**	**03 49 07.4**	**-0.1**
WR8				IAmb	IAmb	03 49 25.9	
	comp=Z,8.4nm,1.3s						
WB2	**Warramunga Arr**	**48.08**	**187**	P	**P**	**03 49 07.4**	**-0.1**
WB2				IAmb	IAm

RAYN					IAmb	IAmb	03 52 49.4		
	comp=Z,5.3nm,0.8s								
BRTR	**Keskin Array B**	**83.98**	**312**		P	**P**	**03 52 51.8**	**-0.8**	
BRTR	**Keskin Array B**	**83.98**	**312**		P	**P**	**03 52 52.3**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=84,slow=3.3,SNR=4.1								
	comp=Z,0.7nm,0.7s								
LPAZ	**La Paz**	**151.40**	**72**		PKPdf	**PKPdf**	**04 00 07.7**	**+0.1**	
LPAZ	**La Paz**	**151.40**	**72**		PKPbc	**PKiKP**	**04 00 14.1**	**-0.3**	
	comp=Z,0.9nm,0.7s,baz=240,slow=4.6,SNR=5.1								
PLCA	**Paso Flores**	**151.88**	**125**		PKPbc	**PKiKP**	**04 00 14.4**	**+0.3**	
	comp=Z,1.7nm,0.9s,baz=259,slow=2.6,SNR=5.1								

DJA 24 03:42:54.9±0.3, 9°S±5°×11°8E±°, h56km±7km, M4.0/14, mB5.3/2, mb4.2/2, MLv3.9/14, Mw(mB)4.8/2, MwMwp5.6/1, Mwp5.8/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.42**	**2**	P	Pn	03 43 07.0	+1.2
PLAI				S	Sn	03 43 16.5	+3.0
TWSI	**Taliwang, Sumb**	**1.00**	**300**	P	Pn	03 43 13.6	+0.7
WBSI	**Waikabubak, Su**	**1.66**	**104**	P	Pn	03 43 21.5	-0.2
WSI	**Waingapu**	**2.54**	**100**	P	Pn	03 43 34.6	+0.9
DNP	**Denpasar**	**2.58**	**283**	P	Pn	03 43 34.3	0.0
SRBI	**Singaraja**	**2.77**	**294**	P	Pn	03 43 37.0	+0.1
BASI	**Baing, Sumba**	**2.94**	**109**	P	Pn	03 43 40.3	+1.1
JAGI	**Jajag, Banyuwa**	**3.65**	**282**	P	Pn	03 43 48.7	-0.2
EDFI	**Ende, Flores**	**3.91**	**83**	P	Pn	03 43 52.5	-0.1
BSSI	**Bau Bau, Buton**	**4.11**	**41**	P	Pn	03 43 54.9	-0.3
BLJI	**Banyuglugur**	**4.38**	**290**	P	Pn	03 43 58.0	-1.0
BBSI	**Bau Bau**	**6.06**	**52**	P	Pn	03 44 21.7	-0.3
	80nm,0.9s						
AAI	**Ambon**	**11.75**	**63**	P	Pn	03 45 39.1	-0.7

RSNC 24 03:47:31.9±0.0, 4°N±2°×8°2W±°, h25km±3km, M3.4, mB4.5, mb4.1, ML2.8, Mw(mB)3.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**0.83**	**89**	P	Pb	03 47 46.8	-0.9
MAPC				S	Sb	03 47 58.5	0.0
GR1C	**Gorgona, Isla**	**4.38**	**103**	P	Pn	03 48 37.2	+0.4
GR1C				S	Sn	03 49 25.8	-1.3
PAC1	**Pacto, Paraso**	**5.19**	**135**	P	Pn	03 48 47.3	-0.9
PAC1				S	Sn	03 49 46.2	-1.3
OTAV	**Otavalo**	**5.46**	**133**	P	Pn	03 48 51.0	-1.1
	2.5nm,1.8s						
BCIP	**Isla Barro Col**	**5.76**	**27**	P	Pn	03 48 59.1	+3.3
	34nm,0.5s						
BCIP				S	Sn	03 50 03.7	+2.6
	34nm,0.5s						
GCUF	**Volcan Galeras**	**5.78**	**118**	P	Pn	03 48 58.7	+2.1
POPC	**Popayan, Colom**	**5.93**	**104**	P	Pn	03 48 59.8	+1.3
	3.8nm,0.7s						
POPC				S	Sn	03 50 06.4	+0.6
	3.8nm,0.7s						
YOTC	**Yotoco, Valle**	**6.08**	**90**	P	Pn	03 49 03.3	+2.9
	5.7nm,0.6s						
YOTC				S	Sn	03 50 10.9	+1.6
	5.7nm,0.6s						

GCG ***24*** *03:54:18.7±0.9, 15°.61N×91°.94W, h210km±5km, MD4.2, ML5.0, MW4.4*

NEIC ***24*** *03:54:19.7, 15°.61N×91°.95W, h220km*

IDC ***24*** *03:54:20.0±0.4, 15°.64N×91°.68W, h222km±2km, mb4.2/24, mbtmp4.8/26, Error ellipse: s-maj=12.2km s-min=5.7km az=56.0*

MEX ***24*** *03:54:19.0±1.1, 15°.53N×92°.06W, h228km±7km, MD5.0*

GCMT ***24*** *03:54:19.7±0.3, 15°.68N±0°.02×91°.93W±0°.02, h219km±2km, MW5.0/114, Moment Tensor Solution. s53,c66; s114,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}1.67±.12; $M_{\theta\theta}$-2.28±.13; $M_{\phi\phi}$0.60±.14; $M_{r\theta}$1.91±.10; $M_{\theta\phi}$-0.02±.17; $M_{\phi r}$-3.75±.10; Best double couple: $M_0$4.51900×10¹⁶ NP1:ϕ_s253.00000°, δ21.00000°, λ23.00000°. NP2:ϕ_s141.00000°, δ82.00000°, λ110.00000°. Principal axes: T 5.2170, Plg49.0000°, Azm72.0000°; N -1.3980, Plg19.0000°, Azm318.0000°; P -3.8220, Plg34.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***24*** *03:54:19.8±1.7, 15°.60N±0°.06×91°.95W±0°.06, h214km±3km, mb5.0/281, Mww5.0/37, Md5.0/169(MEX) Error ellipse: s-maj=10.0km s-min=6.9km az=219.0*

NEIC ***24*** *03:54:19.7, 15°.71N×91°.85W, h220km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10¹⁶Nm; M_{rr}1.11; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$0.70; $M_{r\theta}$1.52; $M_{\theta\phi}$0.33; $M_{\phi r}$-3.79; Fault plane solution: $M_0$4.39000×10¹⁶ NP1: ϕ_s255.97000°, δ18.20000°, λ16.60000°. NP2: ϕ_s150.16000°, δ84.88000°, λ107.49000°. Principal axes: T 4.8214, Plg47.0000°, Azm78.0000°; N -1.0497, Plg17.0000°, Azm329.0000°; P -3.7717, Plg37.0000°, Azm225.0000°;*

CATAC ***24*** *03:54:19.0±0.5, 16°N±4°×9°2W±°, h205km±3km, M4.9/18, MLv4.9/18 Error ellipse: s-maj=10.0km s-min=4.6km az=23.5, confirmed*

RSNC ***24*** *03:54:26.8±0.9, 16°N±4°×9°1W±°, h232km±5km, M4.5, mb5.0, mB5.1, ML4.6, Mw(mB)4.5, MwMwp4.9, Mwp5.2*

UCR ***24*** *03:54:28.5±0.7, 15°.36N×90°.85W, h214km, MW4.5*

ISC 24 03:54:18.5±0.3, 15°.52N±0°.03×91°.98W±0°.03, h219km±2km, h219km:pP-P, n684, σ2s42/792, mb4.9/167, 52C-11D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.38**	**210**		**Pn**	**03 54 47.7**	**-0.2**
PAVE					**S**	**03 55 10.3**	**-0.4**
PAVE	**Pavencul**	**0.38**	**210**	↑*eP*	**Pn**	**03 54 47.6**	**-0.2**
PAVE				*eS*	**S**	**03 55 10.3**	**-0.4**
CHUJ	**Union Juarez**	**0.44**	**196**	↑*iP*	**Pn**	**03 54 47.6**	**-0.5**
CHUJ				*eP*	**Pn**	**03 54 47.6**	**-0.5**
CHUJ				*eS*	**S**	**03 55 10.8**	**-0.3**
PATR	**El Naranjo**	**0.47**	**211**		**Pn**	**03 54 47.6**	**-0.5**
PATR					**S**	**03 55 10.0**	**-1.2**
PATR	**El Naranjo**	**0.47**	**211**	↑*eP*	**Pn**	**03 54 47.4**	**-0.7**
PATR				*eS*	**S**	**03 55 10.0**	**-1.2**
HUEH	**Huehuetenango**	**0.50**	**114**		**Pn**	**03 54 48.3**	**+0.1**
HUEH	**Huehuetenango**	**0.50**	**114**	↑*eP*	**Pn**	**03 54 48.1**	**0.0**
HUEH				*eS*	**S**	**03 55 09.8**	**-1.3**
HUEH	**Huehuetenango**	**0.50**	**114**	*iP*	**Pn**	**03 54 48.5**	**+0.3**
HUEH				*iS*	**S**	**03 55 09.9**	**-1.3**
HUEH				IAML		03 55 11.5	
	comp=N,66μm,0.7s						
HUEH	**Huehuetenango**	**0.50**	**114**	S	**S**	**03 55 11.5**	**+0.3**
HUEH	**Huehuetenango**	**0.50**	**114**	P	**Pn**	**03 54 48.6**	**+0.4**
SMCA	**Catarina**	**0.67**	**188**	*iP*	**Pn**	**03 54 48.1**	**-0.5**
SMCA				*iS*	**S**	**03 55 11.5**	**-0.5**
THIG		**0.67**	**204**		**Pn**	**03 54 48.7**	**+0.2**
THIG					**S**	**03 55 12.4**	**+0.5**
THIG		**0.67**	**204**	↑*eP*	**Pn**	**03 54 48.7**	**+0.2**
THIG				*eS*	**S**	**03 55 12.4**	**+0.5**
THIG		**0.67**	**204**	*iP*	**Pn**	**03 54 48.6**	**+0.1**
THIG				*iS*	**S**	**03 55 12.5**	**+0.6**
THIG				IAML		03 55 13.3	
	comp=N,47μm,0.4s						
CCIG	**Comitan**	**0.77**	**349**		**Pn**	**03 54 49.5**	**+0.3**
CCIG	**Comitan**	**0.77**	**349**	↑*eP*	**Pn**	**03 54 49.6**	**+0.3**
CCIG				*eS*	**S**	**03 55 12.5**	**-0.7**
CCIG	**Comitan**	**0.77**	**349**	*iP*	**Pn**	**03 54 49.4**	**+0.3**
CCIG				*iS*	**S**	**03 55 12.5**	**-0.7**
CCIG				IAML		03 55 13.6	
	comp=N,33μm,0.6s						
CCIG				IAML		03 55 20.5	
	comp=Z,13μm,0.6s						
QUEO	**Labor Ovalle**	**0.79**	**145**	*iP*	**Pn**	**03 54 50.3**	**+0.8**
QUEO				*iS*	**S**	**03 55 14.2**	**+0.7**
QUEO				IAML		03 55 15.7	
	comp=N,24μm,0.9s						
QUEO				IAML		03 55 18.5	
	comp=Z,11μm,0.7s						
QUIS	**Sacapulas**	**0.89**	**105**	*iP*	**Pn**	**03 54 50.0**	**+0.2**
QUIS				*iS*	**S**	**03 55 12.8**	**-1.2**
QUIS				IAML		03 55 16.5	
	comp=N,31μm,0.7s						
SOKI	**Kika Raxquin**	**0.89**	**141**	*iP*	**Pn**	**03 54 51.0**	**+0.8**
RTAL	**Retalhuleu**	**1.03**	**164**		**Pn**	**03 54 51.0**	**+0.4**
RTAL	**Retalhuleu**	**1.03**	**164**	↑*eP*	**Pn**	**03 54 50.8**	**+0.2**
RTAL				*eS*	**S**	**03 55 15.4**	**-0.1**
RTAL	**Retalhuleu**	**1.03**	**164**	P	**Pn**	**03 54 51.2**	**+0.6**
RTAL	**Retalhuleu**	**1.03**	**164**	S	**S**	**03 55 16.3**	**+0.9**
PCIG		**1.21**	**279**		**Pn**	**03 54 51.2**	**-0.5**
PCIG					**S**	**03 55 16.4**	**-0.9**
PCIG		**1.21**	**279**	↑*eP*	**Pn**	**03 54 51.1**	**-0.5**
PCIG				*eS*	**S**	**03 55 16.4**	**-0.9**
STG2	**El Palmar, Qui**	**1.23**	**151**	*iP*	**Pn**	**03 54 49.6**	**-2.4**
APG	**El Apazote**	**1.55**	**109**	P	**Pn**	**03 54 54.9**	**+0.2**
	comp=N,211nm,0.5s,baz=211,slow=16,SNR=3173						
APG				S	**S**	**03 55 22.0**	**-0.5**
	comp=N,234nm,0.6s,baz=232,slow=19,SNR=48						
ESSG	**Sabana Grande**	**1.59**	**135**	*iP*	**Pn**	**03 54 55.4**	**+0.6**
ESSG				*iS*	**S**	**03 55 23.5**	**+0.6**
ESSG				IAML		03 55 32.4	
	comp=Z,4μm,0.8s						
TGBT	**Tuxtla Gutierr**	**1.64**	**320**		**Pn**	**03 54 55.6**	**+0.5**
TGBT					**S**	**03 55 22.5**	**-1.1**
TGBT	**Tuxtla Gutierr**	**1.64**	**320**	*eP*	**Pn**	**03 54 55.6**	**+0.5**
TGBT				*eS*	**S**	**03 55 22.5**	**-1.1**
TGIG		**1.66**	**319**		**Pn**	**03 54 55.8**	**+0.4**
TGIG		**1.66**	**319**	↑*eP*	**Pn**	**03 54 55.8**	**+0.4**
TGIG				*eS*	**S**	**03 55 23.2**	**-0.9**
TGIG		**1.66**	**319**	*iP*	**Pn**	**03 54 54.8**	**-0.6**
TGIG				*iS*	**S**	**03 55 23.7**	**-0.4**
TGIG				IAML		03 55 24.8	
	comp=N,5μm,0.9s						
TGIG				IAML		03 55 32.8	
	comp=Z,3μm,0.8s						
FG8	**Yepocapa, Chim**	**1.86**	**132**	*iP*	**Pn**	**03 54 54.6**	**-2.7**
FG8				*iS*	**S**	**03 55 21.6**	**-5.8**
FG16	**Alotenango, Sa**	**1.89**	**131**	*iP*	**Pn**	**03 54 55.0**	**-2.7**
FG16				IAML		03 55 37.7	
	comp=Z,9μm,0.3s						
PCG5	**San Vicente Pa**	**2.02**	**130**	*iP*	**Pn**	**03 54 57.1**	**-1.9**
ESSJ	**San Jos, E**	**2.42**	**143**	*iS*	**S**	**03 55 29.4**	**-7.7**
PETF	**Flores**	**2.46**	**55**		**Pn**	**03 55 03.2**	**+0.1**
PETF	**Flores**	**2.46**	**55**	↓*iP*	**Pn**	**03 55 03.3**	**+0.1**
PETF	**Flores**	**2.46**	**55**	*iP*	**Pn**	**03 55 03.2**	**+0.1**
PETF				IAML		03 55 04.8	
	comp=N,15μm,0.7s						
PETF	**Flores**	**2.46**	**55**	P	**Pn**	**03 55 03.3**	**+0.2**
FAME	**Alcaldia de Sa**	**2.53**	**131**	P	**Pn**	**03 55 04.6**	**+0.6**
FAME	**Alcaldia de Sa**	**2.53**	**131**	S	**S**	**03 55 42.3**	**+2.9**
LOAL	**Lomas de Alarc**	**2.61**	**125**	P	**Pn**	**03 55 05.8**	**+0.8**
VHSA	**Villahermosa**	**2.61**	**340**		**Pn**	**03 55 03.9**	**-1.0**
VHSA					**S**	**03 55 40.2**	**-0.7**
VHSA	**Villahermosa**	**2.61**	**340**	*eP*	**Pn**	**03 55 03.9**	**-1.0**
VHSA				*eS*	**S**	**03 55 40.2**	**-0.7**
NUBE	**Las Nubes**	**2.67**	**127**	*iP*	**Pn**	**03 55 06.5**	**+0.8**
NUBE	**Las Nubes**	**2.67**	**127**	S	**S**	**03 55 43.8**	**+1.5**
NUBE	**Las Nubes**	**2.67**	**127**	P	**Pn**	**03 55 06.6**	**+0.8**
ESQI	**Esquipulas**	**2.72**	**110**		**Pn**	**03 55 07.3**	**+1.1**
ESQI	**Esquipulas**	**2.72**	**110**	S	**S**	**03 55 45.2**	**+2.0**
ESQI	**Esquipulas**	**2.72**	**110**	P	**Pn**	**03 55 07.3**	**+1.1**
NILT	**Santiago Nilte**	**2.74**	**293**		**Pn**	**03 55 05.4**	**-0.9**
NILT					**S**	**03 55 39.7**	**-3.6**
NILT	**Santiago Nilte**	**2.74**	**293**	*eP*	**Pn**	**03 55 05.4**	**-0.9**
NILT				*iS*	**S**	**03 55 39.7**	**-3.6**
UXUV	**UXUV**	**2.74**	**311**		**Pn**	**03 55 05.8**	**-0.5**
UXUV					**S**	**03 55 40.6**	**-2.8**
UXUV	**UXUV**	**2.74**	**311**	↑*eP*	**Pn**	**03 55 05.8**	**-0.5**
UXUV				*eS*	**S**	**03 55 40.6**	**-2.8**
MTO3	**Montecristo**	**2.77**	**113**		**Pn**	**03 55 07.8**	**+1.0**
MTO3	**Montecristo**	**2.77**	**113**	*iP*	**Pn**	**03 55 07.8**	**+1.0**
MTO3	**Montecristo**	**2.77**	**113**	S	**S**	**03 55 46.4**	**+2.1**
MTO3	**Montecristo**	**2.77**	**113**	P	**Pn**	**03 55 07.8**	**+1.0**
UNIC	**Universidad Ca**	**2.81**	**123**	S	**S**	**03 55 47.7**	**+2.8**
UNIC	**Universidad Ca**	**2.81**	**123**	P	**Pn**	**03 55 08.0**	**+0.9**
CEVE	**Cerro Verde**	**2.83**	**126**	P	**Pn**	**03 55 08.7**	**+1.1**
JAYA	**Jayaque - finc**	**3.08**	**127**	*iP*	**Pn**	**03 55 11.2**	**+1.0**
JAYA	**Jayaque - finc**	**3.08**	**127**	S	**S**	**03 55 53.8**	**+3.3**
JAYA	**Jayaque - finc**	**3.08**	**127**	P	**Pn**	**03 55 11.0**	**+0.7**
PMON	**Piamonte**	**3.15**	**125**	P	**Pn**	**03 55 11.9**	**+0.8**
PMON	**Piamonte**	**3.15**	**125**	S	**S**	**03 55 55.6**	**+3.7**
CMIG	**Matias Romero**	**3.19**	**300**		**Pn**	**03 55 10.8**	**-0.7**
CMIG					**S**	**03 55 48.5**	**-4.2**
CMIG	**Matias Romero**	**3.19**	**300**	P	**Pn**	**03 55 10.7**	**-0.7**
	comp=N,3μm,0.5s,baz=135,slow=9.9,SNR=5136						
CMIG				S	**S**	**03 55 48.9**	**-3.8**
	comp=N,2μm,0.6s,baz=73,slow=19,SNR=21						
CMIG	**Matias Romero**	**3.19**	**300**	↑*eP*	**Pn**	**03 55 10.8**	**-0.7**
CMIG				*eS*	**S**	**03 55 48.5**	**-4.2**
SARH	**Santa Rosa de**	**3.20**	**103**	*iP*	**Pn**	**03 55 12.6**	**+1.1**
SARH	**Santa Rosa de**	**3.20**	**103**	S	**S**	**03 55 55.1**	**+2.3**
SARH	**Santa Rosa de**	**3.20**	**103**	P	**Pn**	**03 55 12.7**	**+1.1**
UTEC	**Universidad Te**	**3.24**	**124**	S	**S**	**03 55 59.7**	**+5.9**
IZABA	**Izabal, Puerto**	**3.28**	**86**	↓*eP*	**Pn**	**03 55 12.0**	**-0.4**
IZABA				*eS*	**S**	**03 55 55.8**	**+1.3**
IZABA	**Izabal, Puerto**	**3.28**	**86**	P	**Pn**	**03 55 12.1**	**-0.3**
LOMA	**Loma Larga**	**3.30**	**124**	S	**S**	**03 55 59.0**	**+3.9**
LOMA	**Loma Larga**	**3.30**	**124**	P	**Pn**	**03 55 14.8**	**+1.9**
PAVA	**Las Pavas**	**3.45**	**121**	P	**Pn**	**03 55 15.8**	**+1.2**
MIHL	**Minatitlan**	**3.47**	**315**		**S**	**03 55 56.9**	**-1.7**
MIHL	**Minatitlan**	**3.47**	**315**	*eS*	**S**	**03 55 56.9**	**-1.7**
SCIG	**Sabancuy**	**3.51**	**12**		**Pn**	**03 55 14.3**	**-0.8**
SCIG					**S**	**03 55 57.2**	**-2.2**
SCIG	**Sabancuy**	**3.51**	**12**	↓*eP*	**Pn**	**03 55 14.3**	**-0.8**
SCIG				*eS*	**S**	**03 55 57.2**	**-2.2**
SCIG	**Sabancuy**	**3.51**	**12**	*iP*	**Pn**	**03 55 14.2**	**-0.9**
SCIG				IAML		03 56 00.5	
	comp=N,1μm,1.4s						
SCLA	**Alcaldia de Sa**	**3.63**	**119**	P	**Pn**	**03 55 17.8**	**+1.1**
TECO	**Alcaldia de Te**	**3.67**	**122**	P	**Pn**	**03 55 18.6**	**+1.5**
TECO	**Alcaldia de Te**	**3.67**	**122**	S	**S**	**03 56 06.9**	**+3.9**
HUIG	**Huatulco**	**3.98**	**274**		**Pn**	**03 55 19.3**	**-1.5**
HUIG					**S**	**03 56 03.3**	**-6.4**
HUIG	**Huatulco**	**3.98**	**274**	↑*eP*	**Pn**	**03 55 19.3**	**-1.5**
HUIG				*eS*	**S**	**03 56 03.3**	**-6.4**
HUIG	**Huatulco**	**3.98**	**274**	*iP*	**Pn**	**03 55 19.3**	**-1.5**
MARCA	**Marcala la Paz**	**4.05**	**109**	*iP*	**Pn**	**03 55 23.2**	**+1.5**
MARCA				*iS*	**S**	**03 56 13.4**	**+2.0**
MARCA	**Marcala la Paz**	**4.05**	**109**	P	**Pn**	**03 55 23.3**	**+1.5**
PMUV	**Sontecomapan**	**4.25**	**315**		**Pn**	**03 55 23.4**	**-0.8**
PMUV					**S**	**03 56 11.2**	**-4.6**
PMUV	**Sontecomapan**	**4.25**	**315**	↑*eP*	**Pn**	**03 55 23.2**	**-1.0**
PMUV				*eS*	**S**	**03 56 11.2**	**-4.6**
NEUV	**Arroyo Zacate**	**4.26**	**301**		**Pn**	**03 55 23.3**	**-0.9**
NEUV					**S**	**03 56 09.2**	**-6.6**
NEUV	**Arroyo Zacate**	**4.26**	**301**	↑*eP*	**Pn**	**03 55 23.3**	**-0.9**
NEUV				*eS*	**S**	**03 56 09.2**	**-6.6**
TGUH	**Tegucigalpa,Un**	**4.78**	**107**	Pn	**Pn**	**03 55 32.2**	**+1.3**
TGUH	**Tegucigalpa,Un**	**4.78**	**107**	P	**Pn**	**03 55 31.7**	**+0.9**
TGUH				S	**S**	**03 56 21.1**	**-6.6**
OXLC	**Oaxaca**	**4.79**	**289**		**Pn**	**03 55 32.0**	**+1.0**
OXLC					**S**	**03 56 23.9**	**-4.1**
OXLC	**Oaxaca**	**4.79**	**289**	*eP*	**Pn**	**03 55 32.0**	**+1.0**
OXLC				*eS*	**S**	**03 56 23.9**	**-4.1**
OXBJ	**Oaxaca**	**4.81**	**289**		**Pn**	**03 55 33.2**	**+2.0**
OXBJ					**S**	**03 56 23.8**	**-4.6**
OXBJ	**Oaxaca**	**4.81**	**289**	*eP*	**Pn**	**03 55 33.2**	**+2.0**
OXBJ				*eS*	**S**	**03 56 23.8**	**-4.6**
OXIG	**Oaxaca**	**4.82**	**289**		**Pn**	**03 55 32.0**	**+0.6**
VHO	**Vista Hermosa**	**4.82**	**289**	↑*eP*	**Pn**	**03 55 31.8**	**+0.5**
PEIG	**Puerto Escondi**	**5.00**	**276**		**Pn**	**03 55 32.6**	**-0.8**
PEIG					**S**	**03 56 29.3**	**-3.2**
PEIG	**Puerto Escondi**	**5.00**	**276**	↑*eP*	**Pn**	**03 55 32.6**	**-0.8**
PEIG				*eS*	**S**	**03 56 29.3**	**-3.2**
TOIG	**Toxpalan**	**5.50**	**298**		**Pn**	**03 55 39.9**	**+0.1**
TOIG					**S**	**03 56 37.5**	**-6.6**
TOIG	**Toxpalan**	**5.50**	**298**	↑*eP*	**Pn**	**03 55 39.9**	**+0.1**
TOIG				*eS*	**S**	**03 56 37.5**	**-6.6**
YOIG	**Yosondua**	**5.51**	**285**		**Pn**	**03 55 40.8**	**+0.6**
YOIG	**Yosondua**	**5.51**	**285**	↑*eP*	**Pn**	**03 55 40.5**	**+0.4**
CRIN	**San Cristobal**	**5.54**	**120**	P	**Pn**	**03 55 42.7**	**+2.3**
HERN	**Volcan Telica**	**5.78**	**119**		**Pn**	**03 55 41.9**	**-1.5**
MYIG	**Merida**	**5.81**	**21**		**Pn**	**03 55 43.0**	**-0.6**
MYIG					**S**	**03 56 48.4**	**-2.8**
MYIG	**Merida**	**5.81**	**21**	↓*eP*	**Pn**	**03 55 43.1**	**-0.6**
MYIG				*eS*	**S**	**03 56 48.4**	**-2.8**
TXIG	**Tlaxiaco**	**5.81**	**288**		**Pn**	**03 55 45.2**	**+1.2**
TXIG					**S**	**03 56 45.5**	**-6.1**
TXIG	**Tlaxiaco**	**5.81**	**288**	↑*eP*	**Pn**	**03 55 44.7**	**+0.7**
TXIG				*eS*	**S**	**03 56 45.5**	**-6.1**
TEIG	**Tepich**	**5.86**	**36**	Pn	**Pn**	**03 55 43.3**	**-1.0**
TEIG	**Tepich**	**5.86**	**36**	P	**Pn**	**03 55 43.4**	**-0.8**
	comp=N,0.1nm,0.5s,baz=309,slow=24,SNR=225						
TEIG				S	**S**	**03 56 47.0**	**-5.3**
	comp=N,0.1nm,0.4s,baz=310,slow=24,SNR=3.0						
TEIG	**Tepich**	**5.86**	**36**	P	**Pn**	**03 55 43.1**	**-1.2**
	comp=N,39μmcomp=N,4μm,1.2s						
TPIG	**Tehuac#an**	**5.90**	**300**		**Pn**	**03 55 45.2**	**+0.2**
TPIG					**S**	**03 56 48.3**	**-5.2**
TPIG	**Tehuac#an**	**5.90**	**300**	↑*eP*	**Pn**	**03 55 45.2**	**+0.2**
TPIG				*eS*	**S**	**03 56 48.3**	**-5.2**
CNGN	**Cerro Negro**	**5.94**	**120**		**Pn**	**03 55 46.6**	**+1.2**
CNGN	**Cerro Negro**	**5.94**	**120**	P	**Pn**	**03 55 47.6**	**+2.2**
	comp=N,19μmcomp=N,1μm,0.8s						
CNGN				S	**S**	**03 56 49.2**	**-5.1**
	comp=N,19μmcomp=N,1μm,0.8s						
LVIG	**Laguna Verde**	**5.95**	**315**		**Pn**	**03 55 44.6**	**-0.7**
LVIG					**S**	**03 56 48.1**	**-6.2**
LVIG	**Laguna Verde**	**5.95**	**315**	↑*eP*	**Pn**	**03 55 44.5**	**-0.8**
LVIG				*eS*	**S**	**03 56 48.1**	**-6.2**
PNIG	**Pinotepa**	**5.97**	**279**		**Pn**	**03 55 46.0**	**+0.2**
PNIG					**S**	**03 56 46.3**	**-8.7**
PNIG	**Pinotepa**	**5.97**	**279**	↑*eP*	**Pn**	**03 55 45.8**	**0.0**
PNIG				*eS*	**S**	**03 56 46.3**	**-8.7**
JAUV	**Jalcomulco**	**5.98**	**310**		**Pn**	**03 55 44.8**	**-1.1**
JAUV					**S**	**03 56 48.8**	**-6.5**
JAUV	**Jalcomulco**	**5.98**	**310**	↑*eP*	**Pn**	**03 55 44.8**	**-1.1**
JAUV				*eS*	**S**	**03 56 48.8**	**-6.5**
HLIG	**Huajuapan de L**	**6.03**	**293**		**Pn**	**03 55 48.0**	**+1.3**
HLIG					**S**	**03 56 49.0**	**-7.7**
HLIG	**Huajuapan de L**	**6.03**	**293**	↑*eP*	**Pn**	**03 55 47.8**	**+1.1**
HLIG				*eS*	**S**	**03 56 49.0**	**-7.7**
POHV	**Veracruz**	**6.17**	**306**		**Pn**	**03 55 44.5**	**-4.3**
POHV	**Veracruz**	**6.17**	**306**	↓*eP*	**Pn**	**03 55 45.1**	**-3.6**
FTIG	**Fresnillo de T**	**6.35**	**293**		**Pn**	**03 55 52.2**	**+1.4**
FTIG					**S**	**03 56 56.2**	**-7.7**
FTIG	**Fresnillo de T**	**6.35**	**293**	↑*iP*	**Pn**	**03 55 52.0**	**+1.2**
FTIG				*eS*	**S**	**03 56 56.2**	**-7.7**
MGAN	**Managua**	**6.50**	**120**	P	**Pn**	**03 55 55.1**	**+2.6**
	comp=N,69nm,1.0s						
MGAN				S	**S**	**03 57 01.5**	**-5.8**
	comp=N,69nm,1.0s						
MGIG	**Malinaltepec**	**6.61**	**286**		**Pn**	**03 55 55.4**	**+1.3**
MGIG					**S**	**03 57 06.1**	**-3.9**
MGIG	**Malinaltepec**	**6.61**	**286**	↑*eP*	**Pn**	**03 55 55.3**	**+1.2**
MGIG				*eS*	**S**	**03 57 06.1**	**-3.9**
TLIG	**Tlapa**	**6.63**	**289**	Pn	**Pn**	**03 55 55.9**	**+1.5**
TLIG	**Tlapa**	**6.63**	**289**	↑*eP*	**Pn**	**03 55 55.8**	**+1.5**
TLIG				*eS*	**S**	**03 57 04.0**	**-6.5**
HMTT	**Tlapaneco**	**6.70**	**291**		**Pn**	**03 55 57.1**	**+1.9**
HMTT					**S**	**03 57 04.0**	**-8.0**
HMTT	**Tlapaneco**	**6.70**	**291**	*eP*	**Pn**	**03 55 57.1**	**+1.9**
HMTT				*eS*	**S**	**03 57 04.0**	**-8.0**
PHPU	**Puebla**	**6.87**	**302**		**Pn**	**03 55 56.3**	**-1.2**
PHPU					**S**	**03 57 09.1**	**-7.1**
PHPU	**Puebla**	**6.87**	**302**	*eP*	**Pn**	**03 55 56.3**	**-1.2**
PHPU				*eS*	**S**	**03 57 09.1**	**-7.1**
CRIG	**Cruz Grande**	**6.98**	**281**		**Pn**	**03 55 58.9**	**+0.3**
CRIG					**S**	**03 57 13.8**	**-4.6**
CRIG	**Cruz Grande**	**6.98**	**281**	↑*eP*	**Pn**	**03 55 58.8**	**+0.2**
CRIG				*eS*	**S**	**03 57 13.8**	**-4.6**
CXUV	**Coxquihui**	**7.07**	**312**		**Pn**	**03 56 00.3**	**+0.5**
CXUV					**S**	**03 57 16.8**	**-3.7**
CXUV	**Coxquihui**	**7.07**	**312**	↑*eP*	**Pn**	**03 55 59.9**	**+0.

BILN Bilwi Airport 8.45 99 Pn 03 56 18.4 +0.8
CTUV Llano Grande 8.46 315 Pn 03 56 17.3 -0.4
CTUV S 03 57 49.7 -3.6
CTUV Llano Grande 8.46 315 eP Pn 03 56 17.3 -0.4
CTUV eS S 03 57 49.7 -3.6
ARIG Puente Sto Nin 8.46 290 Pn 03 56 20.5 +2.6
ARIG S 03 57 49.2 -4.3
ARIG Puente Sto Nin 8.46 290⇑ eP Pn 03 56 20.4 +2.6
ARIG eS S 03 57 49.2 -4.3
TILA Tilaran 8.48 125 eP Pn 03 56 18.4 +0.4
JTS Las Juntas de 8.60 126 Pn 03 56 20.6 +1.0
JTS Las Juntas de 8.60 126 P Pn 03 56 20.4 +0.8
comp=N,96nm,0.5s,baz=302,slow=5.2,SNR=76
JTS S S 03 57 48.0 -8.7
comp=N,12nm,0.3s,baz=287,slow=21,SNR=1.7
JTS Las Juntas de 8.60 126 eP Pn 03 56 18.8 -0.8
JTS Las Juntas de 8.60 126 P Pn 03 56 19.7 +0.1
comp=N,2µcomp=N,119nm,0.7s
TABAC Tabacon 8.62 125 eP Pn 03 56 20.8 +0.8
MTEVE Monteverde 8.68 126 eP Pn 03 56 21.9 +1.1
VARE2 V. Arenal 8.68 125 eP Pn 03 56 21.1 +0.4
VACR Volcan Arenal 8.71 124 eP Pn 03 56 21.6 +0.6
ACIG Acambay 8.73 302 Pn 03 56 21.5 0.0
ACIG S 03 58 01.0 +1.0
ACIG Acambay 8.73 302⇑ eP Pn 03 56 21.0 -0.4
ACIG eS S 03 58 01.0 +1.0
JCR1 Jicaral 8.76 129 eP Pn 03 56 22.7 +1.0
SOCE Pocosol 8.81 125 Pn 03 56 23.5 +1.2
SOCE Pocosol 8.81 125 eP Pn 03 56 22.9 +0.6
PAQE Paquera 8.91 129 eP Pn 03 56 24.8 +1.2
VPL1 V. Platanar 9.08 124 eP Pn 03 56 26.4 +0.4
PALD Palmares 9.15 126 eP Pn 03 56 27.6 +0.8
VPS8 V Poas 9.23 124 eP Pn 03 56 28.8 +0.8
ZIIG Zihuatanejo 9.33 284 Pn 03 56 30.6 +1.7
ZIIG S 03 58 07.8 -6.1
ZIIG Zihuatanejo 9.33 284⇓ eP Pn 03 56 30.6 +1.7
ZIIG eS S 03 58 07.8 -6.1
SANTA Santa Ana 9.42 125 eP Pn 03 56 30.6 +0.5
TRT2 Tortugero 9.43 121 eP Pn 03 56 30.1 -0.2
HDC Heredia 9.43 125 Pn 03 56 32.0 +1.5
HDC Heredia 9.43 125 eP Pn 03 56 31.4 +0.9
HDC Heredia 9.43 125 eP Pn 03 56 26.7 -3.7
ACOS Acosta 9.52 126 eP Pn 03 56 32.8 +1.3
AMPA Desamparados 9.54 125 eP Pn 03 56 32.2 +0.4
CORON Coronado 9.54 124 eP Pn 03 56 33.2 +1.4
CVIMO Finca Echandi 9.55 124 eP Pn 03 56 32.8 +0.7
JRQG Juriquilla Cam 9.56 304 Pn Pn 03 56 32.6 +0.5
JRQG Juriquilla Cam 9.56 304⇑ eP Pn 03 56 31.3 -0.8
JRQG eS S 03 58 18.5 -1.1
PAR1A Puntarenas Pro 9.57 127 eP Pn 03 56 33.1 +1.1
PILE Guapiles 9.57 122 eP Pn 03 56 32.5 +0.4
TRIO Tres Rios 9.58 125 eP Pn 03 56 33.1 +0.7
PICV PH. Pirrs 9.60 127 eP Pn 03 56 33.2 +0.8
VICA Volcano Irazu 9.66 124 eP Pn 03 56 34.1 +0.5
MOIG Morelia 9.70 297 Pn Pn 03 56 37.2 +3.2
MOIG Morelia 9.70 297⇑ eP Pn 03 56 36.4 +2.4
MOIG eS S 03 58 17.2 -5.9
VTR0 Volcan Turrial 9.71 123 eP Pn 03 56 34.5 +0.3
LLNJ Naranjito 9.76 127 eP Pn 03 56 35.9 +1.4
PIEC Cerro El Cedra 9.78 126 eP Pn 03 56 35.8 +0.8
VINA Juan Vinas 9.79 124 eP Pn 03 56 36.0 +1.1
RESJ San Isidro (Tu 9.79 123 eP Pn 03 56 36.2 +1.1
RVLA Villa Bonita 9.79 122 eP Pn 03 56 36.6 +1.7
RPIG Rio Verde 9.87 311 Pn 03 56 37.5 +1.5
RPIG S 03 58 22.8 -4.1
RPIG Rio Verde 9.87 311⇓ eP Pn 03 56 37.4 +1.5
RPIG eS S 03 58 22.8 -4.1
GTIG Gomez Farias 10.12 319 Pn 03 56 40.7 +1.7
GTIG Gomez Farias 10.12 319 eP Pn 03 56 40.7 +1.7
VERH Veragua Rainfo 10.22 122 eP Pn 03 56 40.5 +0.1
SAJE San Jermim 10.30 126 eP Pn 03 56 41.8 +0.2
EDPE Pejibaye, P 10.37 127 eP Pn 03 56 43.5 +1.1
LAES El Progreso Va 10.43 122 eP Pn 03 56 43.3 +0.3
DRK0 Durika 10.56 125 eP Pn 03 56 45.0 +0.1
CEUA Cerro Uatsi, L 10.59 123 eP Pn 03 56 47.6 +2.3
PIRO Carate, Puerto 11.02 129 Pn 03 56 52.5 +1.9
PIRO Carate, Puerto 11.02 129 eP Pn 03 56 51.7 +1.0
ALCO Alturas Coton, 11.07 125 eP Pn 03 56 51.5 +0.1
SOR Soroa 11.14 48 Pn 03 56 52.6 +0.6
MMIG Aquila 11.22 286⇑ eP P 03 56 57.8 -0.5
MMIG eS S 03 58 51.3 -5.8
BRU2 Volcan 11.28 125 Pn 03 56 54.9 +0.8
JEFFS S de V. Baru 11.47 125 eP Pn 03 56 57.2 +0.7
LMNES Limones 11.58 129 eP P 03 57 00.8 -1.5
PBNVO Pueblo Nuevo, 11.62 123 eP Pn 03 56 58.1 0.0
RBALA Bur 11.65 123 eP Pn 03 56 57.9 -0.7
LNIG Linares 11.67 324 P P 03 57 06.4 +3.0
LNIG S 03 59 03.7 -4.2
LNIG Linares 11.67 324⇑ eP P 03 57 05.8 +2.5
LNIG eS S 03 59 03.7 -4.2
EZ5V 11.76 291 Pn 03 57 01.8 +1.5
EZ5V 11.76 291 eP P 03 57 05.2 +0.6
EZ5V eS S 03 59 06.8 -3.6
MNGA Volcan de Coli 11.78 291 eP P 03 57 05.6 +0.9
MNGA eS S 03 59 05.8 -5.0
INCO Volcan de Coli 11.78 291 eP P 03 57 05.4 +0.5
INCO eS S 03 59 05.8 -5.2
SOMAC Volcano de Col 11.80 291 eP P 03 57 06.3 +1.1
SOMAC eS S 03 59 07.6 -3.9
CEGR Campo Tres 11.97 290⇑ eP Pn 03 57 03.9 +1.1
CEGR eS S 03 59 10.3 -4.9
CDAR Ciudad de Arme 11.98 288⇑ eP P 03 57 08.0 +1.2
CDAR eS S 03 59 13.0 -2.3
ZAIG Zacatecas 12.32 307 P 03 57 10.3 -0.6
MNIG Monterrey 12.69 324 P P 03 57 14.2 -0.6
MNIG Monterrey 12.69 324 eP P 03 57 14.2 -0.6
HBVL Hebbronville 13.06 333 Pn Pn 03 57 16.4 +0.2
CJM Chamela 13.07 289 eP Pn 03 57 17.5 +1.2
CJM eS S 03 59 34.7 -6.4
ANIG Ahuacatlan 13.12 297 eP Pn 03 57 17.1 +0.1
BCIP Isla Barro Col 13.44 117 P Pn 03 57 20.2 -0.7
comp=N,40nm,1.1s
MTDJ Mount Denham 14.09 77 P 03 57 29.7 -0.6
MTDJ Mount Denham 14.09 77 eP P 03 57 30.8 +0.5
MTDJ Mount Denham 14.09 77 P Pn 03 57 29.6 +0.6
comp=N,4µcomp=N,275nm,1.5s
833A Chaparral WMA, 14.47 333 Pn 03 57 33.8 +0.2
061Z Ochoppi 14.59 43 Pn 03 57 35.2 +0.2
CCCC Cccc 14.62 65 eP P 03 57 40.0 +3.9
HKT Hockley 14.79 347 P 03 57 37.5 -0.3
LMGC Las Mercedes 14.96 70 eP P 03 57 40.1 +0.3
MCIG Muzquiz 15.13 326 P P 03 57 44.9 +3.2
MCIG Muzquiz 15.13 326⇓ eP P 03 57 44.6 +3.0
441A DeRidder 15.20 356 P P 03 57 44.2 +1.9
CHIV Chivirico 15.47 71 P Pn 03 57 46.3 +0.6
CHIV Chivirico 15.47 71 eP P 03 57 44.2 -1.3
HNDO Hondo 15.48 335 Pn 03 57 46.2 +0.5
YAR Yar 15.62 70 eP Pn 03 57 47.4 -0.1
PDIG Papasquiaro 15.74 309 P Pn 03 57 52.5 +3.4
PDIG Papasquiaro 15.74 309⇓ eP Pn 03 57 52.4 +3.3
060A Indiantown 15.75 41 P Pn 03 57 49.7 +0.7
DWPF Disney Wildern 15.89 36 P Pn 03 57 51.7 +1.1
MARVS Santiago de Cu 15.95 71 eP P 03 57 50.8 0.0
346A Big Creek Wild 15.96 8 P Pn 03 57 51.2 -0.2
435B Jarrell 16.04 342 P Pn 03 57 53.5 +1.1
HLGC Holguin 16.04 68 eP P 03 57 49.5 -2.2
451A Vernon 16.07 20 P Pn 03 57 54.5 +1.6
RCC Rio Carpintero 16.13 72 eP P 03 57 52.5 -0.3
553A Crawfordville 16.16 24 Pn 03 57 54.1 +0.2
PINC Pinares de May 16.17 70 eP P 03 57 53.5 +0.3
SABCS La Quijada 16.57 71 eP Pn 03 57 59.4 +0.5
GTBY Guantanamo Bay 16.66 72 eP Pn 03 57 59.6 -0.2
GTBY Guantanamo Bay 16.66 72 P P 03 57 58.7 +0.2
comp=N,2µcomp=N,4µcomp=N,334nm,1.3s
237A Washetta, Mont 16.77 349 P Pn 03 58 01.7 +0.6
APAC Apartado, Choc 16.87 115 P P 03 58 00.7 -0.2
comp=N,742nmcomp=N,104nm,0.9s
NMDO Nuevo Mundo 16.92 70 Pn 03 58 03.0 +0.1
NMDO Nuevo Mundo 16.92 70 eP P 03 57 58.0 -3.4
MOAC Moa 16.96 70 eP P 03 58 02.0 +0.2
QMBU Quimbuelo 16.99 72 eP P 03 58 03.0 +0.8
SAND Sanderson 17.13 329 Pn 03 58 06.9 +1.5
BCIG La Boquilla 17.28 316 P Pn 03 58 08.2 +0.9
BCIG La Boquilla 17.28 316 eP Pn 03 58 08.2 +0.9
SJCC San Jacinto, C 17.31 107 P P 03 58 04.9 -0.9
comp=N,2µcomp=N,191nm,1.1s
TXAR Lajitas Array 17.46 324 Pn 03 58 10.6 +1.2
TXAR Lajitas Array 17.46 324 P Pn 03 58 11.0 +1.6
comp=N,11nm,0.7s,baz=152,slow=12,SNR=157
TXAR PcP PcP 04 02 37.7 +0.8
comp=N,1.2nm,0.7s,baz=159,slow=2.8,SNR=8.9
TXAR ScP ScP 04 05 53.3 +2.1
comp=N,3.9nm,0.9s,baz=132,slow=3.4,SNR=18
MASC Masc 17.52 72 eP P 03 58 03.9 -4.1
DBBC Dabeiba 17.61 117 P P 03 58 09.6 +0.4
comp=N,84nm,0.8s
456A Hilliard 17.67 29 P P 03 58 10.4 +1.0
SMRC Santa Marta, M 17.81 102 P 03 58 10.9 -0.3
SMRC Santa Marta, M 17.81 102 P P 03 58 11.0 -0.2
comp=N,81nm,1.0s
UREC San Jos de Ur 17.86 114 P P 03 58 11.2 -0.5
comp=N,157nm,0.7s
Z47A Carrollton 17.95 11 P Pn 03 58 14.9 0.0
ARGC Ariguani, Magd 18.19 106 P P 03 58 15.2 -0.1
comp=N,59nm,0.9s
CBOC Ciudad Bolivar 18.38 120 P P 03 58 18.0 +0.5
comp=N,993nmcomp=N,109nm,0.7s
GR1C Gorgona, Isla 18.44 131 P P 03 58 19.2 +1.2
ZARC Zaragoza, Cauc 18.57 114 P P 03 58 18.0 -1.4
comp=N,3µcomp=N,65nm,1.1s
HELC Santa Helena 18.61 118 P P 03 58 19.8 -0.5
comp=N,541nmcomp=N,74nm,0.8s
SLBS Sierra La Lagu 18.76 298 Pn 03 58 23.8 -0.8
CRJC Cerrejon, Guaj 19.12 101 P P 03 58 25.8 +0.4
comp=N,1µcomp=N,122nm,0.9s
UALR University of 19.17 359 P 03 58 26.6 +0.9
YOTC Yotoco, Valle 19.19 125 P P 03 58 26.4 +0.2
comp=N,1µcomp=N,159nm,0.7s
GUY2C Guyana, Caldas 19.27 120 P P 03 58 27.4 0.0
comp=N,1µcomp=N,181nm,0.7s
OCAC Ocana 19.63 110 P P 03 58 29.0 -2.0
comp=N,768nmcomp=N,48nm,1.0s
X34A Smith Ranch, M 19.71 346 P 03 58 32.9 +1.3
URIC Uribia, Colomb 19.79 99 P P 03 58 31.8 -0.7
comp=N,2µcomp=N,129nm,1.6s
POPC Popayan, Colom 19.85 129 P P 03 58 35.4 +2.0
comp=N,1µcomp=N,73nm,1.2s
SDDR Presa de Saban 20.06 77 P 03 58 35.8 +0.3
SDDR Presa de Saban 20.06 77 P P 03 58 36.7 +1.3
comp=N,2µcomp=N,220nm,1.0s
ORTC Ortega, Tolima 20.11 123 P P 03 58 36.5 +0.5
comp=N,3µcomp=N,490nm,0.9s
CMBC Cumbal 20.13 135 P Pn 03 58 40.3 -1.2
CUSE Cuicocha Este 20.21 137 P P 03 58 39.7 +2.2
comp=N,2µcomp=N,151nm,0.7s
OTAV Otavalo 20.23 137 P 03 58 39.8 +2.0
OTAV Otavalo 20.23 137 eP P 03 58 40.0 +2.3
OTAV Otavalo 20.23 137 P P 03 58 39.3 +1.6
comp=N,980nmcomp=N,78nm,1.3s
GCUF Volcan Galeras 20.26 133 P P 03 58 40.3 +2.2
comp=N,983nmcomp=N,51nm,0.7s
CRUC La Cruz 20.30 132 P P 03 58 39.9 +1.5
TULM Tulcn-Chalpat 20.32 135 P Pn 03 58 42.1 -1.8
comp=N,97nm,1.0s
ROSC El Rosal 20.34 120 P 03 58 40.1 +1.2
ROSC El Rosal 20.34 120 P P 03 58 39.8 +0.8
comp=N,46nm,0.6s,baz=302,slow=6.5,SNR=18
comp=N,46nm,0.6s
ROSC El Rosal 20.34 120 P P 03 58 39.5 +0.6
comp=N,74nm,0.7s
PRAC Prado 20.51 123 P P 03 58 40.3 0.0
comp=N,1µcomp=N,165nm,1.0s
PAMC Pamplona, Colo 20.56 111 P P 03 58 39.5 -1.8
DEOK Depew 20.64 350 P P 03 58 41.9 +0.5
BONI La Bonita 20.68 135 P P 03 58 45.1 +2.7
comp=N,2µcomp=N,222nm,1.0s
CVER Cruz Verde, Cu 20.72 120 P P 03 58 44.3 +1.3
comp=N,2µcomp=N,97nm,0.8s
WVT Waverly 20.86 9 P P 03 58 42.6 -1.0
RUSC La Rusia 20.87 115 P P 03 58 43.3 -1.3
comp=N,744nmcomp=N,50nm,1.2s
BANI BANI 20.88 79 P P 03 58 46.4 +2.2
URMC La Uribe, Meta 21.19 123 P P 03 58 47.3 -0.2
comp=N,80nm,0.9s
FLOC Florencia 21.24 129 P 03 58 48.8 +0.9
FLOC Florencia 21.24 129 P P 03 58 48.3 +0.4
comp=N,1µcomp=N,75nm,0.9s
PIAT Ana Tenorio 21.29 139 P P 03 58 51.9 +3.1
comp=N,2µcomp=N,108nm,1.1s
SDD Santo Domingo 21.30 79 P P 03 58 50.2 +1.7
TKL Tuckaleechee C 21.36 19 P P 03 58 49.8 +1.0
comp=N,127nm,0.9s,baz=190,slow=9.5,SNR=114
comp=N,127nm,0.9s
MGMO Mountain Grove 21.55 359 P 03 58 51.0 +0.3
DR12 Loma Pena Alta 21.83 78 P 03 58 54.5 +0.7
COHC Cochancay 21.86 144 P P 03 58 55.7 +1.7
comp=N,888nmcomp=N,78nm,1.1s
SDV Santo Domingo 21.87 105 P 03 58 53.0 -1.3
SDV Santo Domingo 21.87 105 P P 03 58 53.0 -1.3
comp=N,25nm,0.6s,baz=301,slow=4.3,SNR=29
SDV ScP ScP 04 06 02.4 +0.7
comp=N,3.5nm,0.6s,baz=314,slow=5.6,SNR=4.4
comp=N,25nm,0.6s
SDV Santo Domingo 21.87 105 eP P 03 58 52.2 -2.2
SDV Santo Domingo 21.87 105 P P 03 58 52.5 -1.8
comp=N,54nm,0.8s
HSIG 22.06 311 P 03 58 57.9 +2.1
121A Cookes Peak, D 22.20 322 P 03 59 00.8 +3.5
MACC Macarena, Meta 22.28 125 P P 03 58 58.2 +0.3
comp=N,2µcomp=N,172nm,0.7s
FVM French Village 22.42 3 P 03 58 59.4 +0.5
CCM Cathedral Cave 22.45 2 P 03 58 59.0 -0.3
BNM Barren Site 22.77 327 P 03 59 05.4 +2.9
PTLC Puerto Leguiza 22.82 130 P P 03 59 07.1 +4.3
WCI Wyandotte Cave 23.17 11 P 03 59 06.0 +0.3
TUC Tucson 23.91 318 P 03 59 15.0 +2.4
CRPR Cabo Rojo, PR 23.94 81 P 03 59 15.2 +2.3
BAUV El Baul 24.28 103 P 03 59 14.2 -1.9
BAUV IAmb IAmb 03 59 15.2
comp=Z,70nm,0.9s
AOPR Arecibo Observ 24.29 80 IAmb IAmb 03 59 21.1
comp=Z,48nm,0.7s
OBIP Obispado Ponce 24.42 81 IAmb IAmb 03 59 20.6
comp=Z,30nm,0.7s
CELP Cerrillos 24.44 80 IAmb IAmb 03 59 28.5
comp=Z,47nm,0.8s
SJG San Juan 24.85 80 P P 03 59 20.8 -0.5
SJG IAmb IAmb 03 59 21.7
comp=Z,90nm,1.4s
X18A Snowflake 24.89 323 IAmb IAmb 04 00 07.5
comp=Z,21nm,0.9s
GCPR Guaynabo City 24.92 80 IAmb IAmb 03 59 32.4
comp=Z,41nm,1.0s
PDPR Patillas Dam, 24.97 81 P 03 59 21.5 -0.8
PDPR IAmb IAmb 03 59 27.4
comp=Z,80nm,1.2s
214A Organ Pipe Nat 25.05 314 IAmb IAmb 04 00 11.0
comp=Z,36nm,1.3s
N41A Harden Midland 25.11 2 IAmb IAmb 04 00 08.8
comp=Z,32nm,0.8s
N35A Tabor 25.45 354 IAmb IAmb 04 00 15.5
comp=Z,64nm,0.9s
R58B Mineral 25.59 26 IAmb IAmb 03 59 29.4
comp=Z,85nm,1.0s
X16A Lo Mia Camp, P 25.70 321 IAmb IAmb 04 00 22.7
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 25.74 332 IAmb IAmb 04 00 17.5
comp=Z,53nm,1.5s
ACSO Alum Creek Sta 25.84 16 IAmb IAmb 03 59 32.2
comp=Z,59nm,1.1s
113A Mohawk Valley, 26.18 315 IAmb IAmb 04 00 24.4
comp=Z,42nm,1.6s
N49A Columbus Grove 26.20 13 IAmb IAmb 04 00 24.2
comp=Z,54nm,1.1s
Y14A Wickenburg 26.38 318 IAmb IAmb 04 00 26.1
comp=Z,16nm,1.0s
WUAZ Wupatki 26.41 322 IAmb IAmb 04 00 24.1
comp=Z,40nm,1.1s
L40A Anamosa 26.46 1 IAmb IAmb 03 59 37.6
comp=Z,77nm,1.2s
M50A Fremont 26.93 15 IAmb IAmb 03 59 41.9
comp=Z,37nm,0.6s
PV05 Paradox Valley 27.08 329 IAmb IAmb 04 00 30.1
comp=Z,58nm,1.0s
PV03 Paradox Valley 27.09 330 IAmb IAmb 04 00 35.8
comp=Z,67nm,1.2s
SDMD Soldier's Deli 27.25 26 IAmb IAmb 03 59 44.5
comp=Z,43nm,0.8s
PV22 Blue Mesa, Par 27.29 330 IAmb IAmb 04 00 37.6
comp=Z,42nm,0.9s
JFWS Jewell Farm 27.34 3 IAmb IAmb 04 00 29.6
comp=Z,45nm,0.8s
U15A North Rim 27.58 323 IAmb IAmb 04 00 37.9
comp=Z,16nm,1.1s
AAM Ann Arbor 27.63 13 IAmb IAmb 03 59 47.4
comp=Z,44nm,0.9s
BC3 Big Chuckawall 27.84 315 IAmb IAmb 04 00 39.7
comp=Z,36nm,0.9s
SSPA Standing Stone 27.86 23 P P 03 59 48.1 +0.3
CBX Cerro Bola 27.97 311 eP pP 04 00 31.0 -2.3
PAOC Oil Creek Stat 28.00 20 IAmb IAmb 03 59 50.4
comp=Z,35nm,0.9s
WUPA West Chester U 28.21 27 IAmb IAmb 03 59 52.5
comp=Z,22nm,0.8s
PSUB Penn St. - Bra 28.28 28 IAmb IAmb 03 59 53.0
comp=Z,41nm,0.9s
O20A White River Ci 28.33 333 IAmb IAmb 04 00 48.9
comp=Z,23nm,1.2s
I42A Draeger Farm, 28.39 5 IAmb IAmb 03 59 54.4
comp=Z,31nm,0.5s
I37A Lemond, Waseca 28.43 358 IAmb IAmb 04 00 52.0
comp=Z,46nm,1.2s
N58A Sunbury 28.50 25 IAmb IAmb 03 59 54.9
comp=Z,51nm,0.9s
V12A Nelson 28.68 319 IAmb IAmb 04 00 48.0
comp=Z,33nm,1.0s
SZCU Shurtz Canyon 28.85 324 IAmb IAmb 04 00 50.7
comp=Z,30nm,1.4s
KSPA Keystone Colle 29.49 25 IAmb IAmb 04 00 03.7
comp=Z,54nm,0.9s
SPMN Marine on St. 29.62 359 IAmb IAmb 04 00 05.9
comp=Z,29nm,0.6s
CPNY Central Park 29.65 28 IAmb IAmb 04 00 04.8
comp=Z,44nm,1.1s
BSUT Blindstream Ca 29.80 330 IAmb IAmb 04 01 00.3
comp=Z,23nm,1.4s
PAL Palisades 29.84 28 P 04 00 05.8 +0.5
PAL IAmb IAmb 04 00 06.7
comp=Z,51nm,0.8s
BBSR BB Station 29.92 51 P P 04 00 06.5 +0.4
WSPT Westport, CT 30.24 29 IAmb IAmb 04 00 10.0
comp=Z,89nm,1.3s
RSSD Black Hills 30.29 343 P P 04 00 10.5 +1.0
RSSD Black Hills 30.29 343 P P 04 00 10.9 +1.3
RSSD PcP PcP 04 03 04.6 +0.2
TCUT Toone Canyon 30.56 330 IAmb IAmb 04 01 07.0
comp=Z,49nm,1.0s
PDAR Pinedale Array 31.06 334 P P 04 00 17.2 +0.9
comp=Z,1.1nm,0.5s,baz=132,slow=11,SNR=14
PDAR pP pP 04 01 03.1 +2.2
comp=Z,1.6nm,1.0s,baz=161,slow=9.9,SNR=2.7
PDAR PcP PcP 04 03 06.5 +0.1
comp=Z,1.0nm,0.6s,baz=140,slow=4.4,SNR=5.0
PDAR ScP ScP 04 06 28.8 +0.3
comp=Z,0.4nm,0.5s,baz=172,slow=4.5,SNR=4.8
comp=Z,1.1nm,0.5s
GRAC Grapevine Rang 31.06 318 IAmb IAmb 04 01 09.5
comp=Z,21nm,0.9s
SADO Sadowa 31.11 18 IAmb IAmb 04 00 17.1
comp=Z,49nm,0.7s
DELO Deloro Mine 31.36 20 P 04 00 18.4 -0.3
J59A Piesco 31.59 25 IAmb IAmb 04 00 22.9
comp=Z,52nm,0.8s
HRV Adam Dziewonsk 32.11 29 P P 04 00 25.3 +0.1
SNOW Snow King Moun 32.13 334 IAmb IAmb 04 01 21.1
comp=Z,34nm,0.8s
BCX Boston College 32.16 30 IAmb IAmb 04 00 27.1
comp=Z,55nm,1.0s
NVAR Mina Array Bea 32.52 320 P P 04 00 32.9 +3.8
comp=Z,7.9nm,0.6s,baz=132,slow=8.5,SNR=71
NVAR pP pP 04 01 15.5 +1.7
comp=Z,7.4nm,0.8s,baz=136,slow=9.2,SNR=6.7
NVAR PcP PcP 04 03 11.8 +1.3
comp=Z,1.6nm,0.8s,baz=91,slow=2.7,SNR=4.0
NVAR ScP ScP 04 06 34.1 +0.5
comp=Z,0.7nm,0.7s,baz=123,slow=4.2,SNR=4.2
comp=Z,7.9nm,0.6s
LONY Lake Ozonia 32.53 23 IAmb IAmb 04 00 30.1
comp=Z,85nm,0.9s
LHV Little Huntoon 32.54 319 IAmb IAmb 04 01 23.0
comp=Z,18nm,0.8s
MDPB Devils Postpil 32.54 318 IAmb IAmb 04 01 22.5
comp=Z,24nm,1.0s
YMP Mirror Lake Pl 32.94 336 IAmb IAmb 04 01 50.0
comp=Z,51nm,2.0s
TEFE Tefe 33.02 123 eP P 04 00 31.9 -1.5
VT1 Waterbury 33.03 26 IAmb IAmb 04 00 34.6
comp=Z,83nm,1.6s
FRNY Flat Rock 33.10 24 IAmb IAmb 04 00 34.9
comp=Z,36nm,0.9s
I62A Tamworth 33.27 28 IAmb IAmb 04 00 37.4
comp=Z,74nm,1.2s
WAKR Walker 33.28 319 P 04 00 36.9 +1.2
WAKR IAmb IAmb 04 01 29.4
comp=Z,24nm,1.3s
BOAV Boa Vista 33.63 110 P P 04 00 36.3 -2.4
BOAV Boa Vista 33.63 110 eP P 04 00 35.6 -3.1
I63A Otisfield 33.75 28 IAmb IAmb 04 00 41.0
comp=Z,98nm,1.5s
EPLO Experimental L 34.09 358 IAmb IAmb 04 01 53.2
comp=Z,50nm,1.3s
VLDQ Val d'Or 34.64 17 IAmb IAmb 04 00 49.3
comp=Z,15nm,0.8s
BEKR Beckworth 34.66 320 P 04 00 50.8 +3.3
G62A West of Eustis 34.69 27 IAmb IAmb 04 00 52.1
comp=Z,85nm,1.4s
ULM Lac du Bonnet 34.78 356 P P 04 00 49.0 +0.8
comp=Z,2.2nm,0.4s,baz=197,slow=5.0,SNR=2.2
ULM ScP ScP 04 06 39.6 -1.4
comp=Z,3.9nm,0.6s,baz=242,slow=4.8,SNR=3.0
comp=Z,2.2nm,0.4s
WVOR Wild Horse Val 35.26 325 IAmb IAmb 04 01 46.7
comp=Z,29nm,1.2s
EGMT Eagleton 35.58 339 IAmb IAmb 04 02 08.3
comp=Z,45nm,1.2s
PLID Pearl Lake 35.76 330 IAmb IAmb 04 01 51.7
comp=Z,45nm,1.4s
MACA Manacapuru-AM 36.11 118 IAmb IAmb 04 01 03.6
comp=Z,18nm,0.6s
LMQ La Malbaie 36.62 25 IAmb IAmb 04 01 04.8
comp=Z,29nm,1.0s
D62A Allapoint, All 36.78 26 IAmb IAmb 04 01 06.4
comp=Z,128nm,1.7s
F10A Beach Ranch, E 37.00 330 IAmb IAmb 04 02 01.1
comp=Z,22nm,0.9s
L04D Klamath Falls 37.23 322 IAmb IAmb 04 02 02.4
comp=Z,27nm,1.2s
J04A Umpqua Nationa 37.74 323 IAmb IAmb 04 02 08.2
comp=Z,44nm,1.1s
G05A Wamic 38.56 326 IAmb IAmb 04 02 13.0
comp=Z,31nm,1.1s
H04A Detroit Lake 38.68 325 IAmb IAmb 04 01 24.0
comp=Z,31nm,0.6s
I03D Drain, OR 38.73 323 IAmb IAmb 04 02 15.8
comp=Z,30nm,1.0s
HOOD Mount Hood Mea 38.79 326 IAmb IAmb 04 01 26.5
comp=Z,78nm,1.1s
H04D Lebanon 38.88 324 IAmb IAmb 04 01 25.5
comp=Z,21nm,0.8s
G04A Mulino 39.17 325 IAmb IAmb 04 02 17.9
comp=Z,45nm,1.0s
LPAZ La Paz 39.41 142 IAmb IAmb 04 01 30.0
comp=Z,37nm,0.7s
LPAZ La Paz 39.41 142 P P 04 01 29.0 +0.9
comp=Z,35nm,0.7s,baz=331,slow=6.7,SNR=184
LPAZ ScP ScP 04 06 59.8 +0.1
comp=Z,0.7nm,0.4s,baz=329,slow=4.9,SNR=4.4
comp=Z,35nm,0.7s
LPAZ La Paz 39.41 142 P P 04 01 29.1 +0.9
PB18 Visviri 39.68 145 P P 04 01 33.0 +2.7
PB18 IAmb IAmb 04 01 35.2
comp=Z,59nm,1.0s
F03A Seaside 40.21 326 IAmb IAmb 04 01 38.3
comp=Z,42nm,1.1s
PB16 IPOC Station P 40.27 146 IAmb IAmb 04 01 41.1
comp=Z,34nm,0.9s
E03A Lebam 40.60 326 P P 04 01 39.6 +2.7
E03A IAmb IAmb 04 01 40.0
comp=Z,21nm,0.8s
ITTB Itaituba 40.97 116 eP P 04 01 37.2 -3.1
NLWA Neilton Lookou 41.30 327 IAmb IAmb 04 02 37.3
comp=Z,54nm,1.9s
PB11 IPOC Station P 41.37 147 IAmb IAmb 04 01 46.2
comp=Z,45nm,0.9s
GO01 Chusmiza 41.53 147 IAmb IAmb 04 01 49.0
comp=Z,97nm,1.5s
B04A Port Angeles 41.54 328 P P 04 01 46.8 +2.3
PB08 IPOC Station P 41.95 147 IAmb IAmb 04 01 52.0
comp=Z,92nm,1.8s
VILB Vilhena 42.30 130 P P 04 01 50.3 -0.8
VILB IAmb IAmb 04 01 51.0
comp=Z,46nm,0.6s
VILB Vilhena 42.30 130 eP P 04 01 49.9 -1.2
PB02 IPOC Station P 42.55 149 IAmb IAmb 04 01 56.0
comp=Z,38nm,0.8s

NPGB Novo Progresso 42.65 119 eP P 04 01 50.2 -3.8
PB03 IPOC Station P 43.23 149 IAmb IAmb 04 02 01.4
comp=Z,22nm,0.8s
PB09 IPOC Station P 43.27 148 P P 04 02 00.6 +1.6
PB09 IAmb IAmb 04 02 02.3
comp=Z,108nm,1.6s
PB09 PP PP 04 03 46.2 +1.7
SCHQ Schefferville 43.80 21 P P 04 02 02.4 -0.2
SCHQ PcP 04 03 44.1 -0.9
SCHQ Schefferville 43.80 21 P P 04 02 02.1 -0.4
comp=Z,679nm,0.9s,baz=215,slow=7.6,SNR=27
SCHQ PcP PcP 04 03 44.4 -0.6
comp=Z,69nm,0.7s,baz=248,slow=4.0,SNR=4.5
PTLB Pontes e Lacer 44.72 132 P P 04 02 09.3 -1.0
PTLB PcP PcP 04 03 49.9 +1.1
AF01 San Pedro de A 44.77 148 IAmb IAmb 04 02 14.7
comp=Z,87nm,1.0s
GO02 Mina Guanaco 45.95 151 P P 04 02 22.2 +1.9
GO02 IAmb IAmb 04 02 23.3
comp=Z,33nm,0.8s
GO02 PcP PcP 04 03 55.1 +1.8
KUQ Kuujjuuaa 46.02 17 P P 04 02 19.8 -0.1
KUQ IAmb IAmb 04 02 20.4
comp=Z,56nm,0.7s
TMAB Tom-Au,PA,Br 46.90 108 eP P 04 02 25.6 -1.9
AC06 Mina Casimiro 47.51 154 P P 04 02 33.9 +1.9
AC06 IAmb IAmb 04 02 34.7
comp=Z,26nm,0.8s
SALV Santo Antonio 47.52 129 eP P 04 02 30.2 -2.0
AC02 Maricunga 47.60 152 P P 04 02 35.0 +1.9
AC02 IAmb IAmb 04 02 36.7
comp=Z,26nm,0.8s
AC02 PcP PcP 04 04 02.0 +2.7
SNDB Serra Nova Dou 48.66 122 eP P 04 02 38.8 -2.1
LCO Las Campanas 48.82 155 P P 04 02 44.0 +1.8
LCO IAmb IAmb 04 02 44.9
comp=Z,26nm,0.8s
LCO PcP PcP 04 04 04.9 +1.5
LCO Las Campanas 48.82 155 P P 04 02 43.9 +1.8
LCO PcP PcP 04 04 05.3 +1.9
PP1B Ponte de Pedra 49.20 131 eP P 04 02 44.1 -0.9
YKA Yellowknife Ar 49.56 346 P P 04 02 47.8 +0.8
comp=Z,13nm,0.7s,baz=160,slow=13,SNR=22
YKA pP pP 04 03 36.5 +1.1
comp=Z,5.6nm,0.8s,baz=153,slow=7.2,SNR=5.5
YKA sP sP 04 03 59.8 -0.3
comp=Z,7.3nm,0.8s,baz=150,slow=6.9,SNR=4.8
comp=Z,13nm,0.7s
BDQN Bodoquena, MS 49.76 135 eP P 04 02 48.1 -1.0
GO04 Tololo Observa 49.80 156 P P 04 02 51.0 +1.4
GO04 IAmb IAmb 04 02 52.3
comp=Z,32nm,0.8s
GO04 PcP PcP 04 04 08.2 +1.2
MURT Porto Murtinho 50.02 137 eP P 04 02 49.8 -1.2
SMTB Santa Maria do 50.21 116 eP P 04 02 51.0 -1.6
ARAG Araguaiana, MT 50.36 126 eP P 04 02 51.9 -1.8
CO03 El Pedregal 50.44 156 P P 04 02 56.3 +2.1
CO03 IAmb IAmb 04 02 56.9
comp=Z,40nm,0.8s
CO03 PcP PcP 04 04 10.2 +1.1
AQDB Aquidauana 50.50 134 P P 04 02 54.2 -0.4
AQDB Aquidauana 50.50 134 eP P 04 02 53.3 -1.3
CO02 Combarbal 50.64 157 P P 04 02 57.8 +2.0
CO02 IAmb IAmb 04 02 58.5
comp=Z,45nm,0.8s
DLBC Dease Lake 51.28 335 P P 04 03 01.6 +1.5
comp=Z,65nm,1.1s,baz=88,slow=11,SNR=9.4
DLBC PcP sP 04 04 13.3 -0.3
comp=Z,56nm,0.9s,baz=176,slow=7.1,SNR=3.8
comp=Z,65nm,1.1s
C2SB Chapadao do Su 51.44 130 eP P 04 03 01.3 -0.4
VA06 Catapilco 51.75 158 P P 04 03 05.2 +1.5
VA06 IAmb IAmb 04 03 06.2
comp=Z,20nm,0.8s
VA06 PcP PcP 04 04 14.7 +0.9
ZON Zonda 51.87 155 P P 04 03 06.8 +2.0
ZON IAmb IAmb 04 03 07.8
comp=Z,23nm,0.8s
ZON PcP sP 04 04 16.5 -0.8
VA03 San Esteban 52.21 157 P P 04 03 08.9 +1.7
VA03 IAmb IAmb 04 03 10.1
comp=Z,35nm,0.8s
VA03 PcP PcP 04 04 17.1 +1.4
PEL Peldehue 52.50 157 IAmb IAmb 04 03 25.4
comp=Z,75nm,1.9s
MT05 Renca 52.70 158 IAmb IAmb 04 03 13.7
comp=Z,38nm,0.9s
MT16 CCHEN 52.81 157 P P 04 03 13.0 +1.3
MT16 IAmb IAmb 04 03 14.4
comp=Z,23nm,0.8s
MT16 PcP PcP 04 04 20.0 +2.1
MT03 Universidad Ad 52.87 157 P P 04 03 13.9 +1.8
MT03 IAmb IAmb 04 03 15.0
comp=Z,34nm,0.8s
MT03 PcP PcP 04 04 19.5 +1.3
MT01 Popeta 52.94 158 P P 04 03 14.0 +1.5
MT01 PcP PcP 04 04 19.2 +0.8
MT09 Talagante 52.95 158 P P 04 03 14.6 +1.8
MT09 IAmb IAmb 04 03 15.3
comp=Z,21nm,0.8s
MT08 Bocatoma Ro 53.02 157 P P 04 03 15.5 +2.2
MT08 IAmb IAmb 04 03 17.1
comp=Z,34nm,0.8s
MT08 PcP PcP 04 04 20.8 +1.9
BO04 La Punta 53.28 158 P P 04 03 16.3 +1.3
LMEL Las Melosas 53.30 157 P P 04 03 17.5 +2.2
LMEL IAmb IAmb 04 03 18.5
comp=Z,23nm,0.9s
BDFB Brasilia 53.33 124 P P 04 03 15.0 -0.7
BDFB IAmb IAmb 04 03 15.8
comp=Z,29nm,0.7s
BDFB Brasilia 53.33 124 P P 04 03 15.2 -0.6
comp=Z,30nm,0.7s,baz=294,slow=8.9,SNR=54
comp=Z,30nm,0.7s
BO01 Tunca 53.47 158 P P 04 03 17.7 +1.3
BO01 IAmb IAmb 04 03 19.1
comp=Z,21nm,0.8s
BO01 PcP PcP 04 04 21.7 +1.4
CPUP Villa Florida 53.53 141 P P 04 03 16.3 -0.7
CPUP Villa Florida 53.53 141 P P 04 03 16.2 -0.7
comp=Z,9.3nm,0.8s,baz=258,slow=19,SNR=77
comp=Z,9.3nm,0.8s
CPUP Villa Florida 53.53 141 P P 04 03 16.1 -0.8
CPUP PcP PcP 04 04 22.1 +1.3
ITRB Iturama 53.86 129 eP P 04 03 18.7 -0.7
BO02 Sierra Bellavi 53.94 158 P P 04 03 21.2 +1.3
SDBA SAO DESIDERIO 54.23 118 eP P 04 03 20.4 -1.8
IPMB Ipameri, GO 54.48 126 eP P 04 03 23.0 -1.0
ML02 Panimavida 54.60 159 P P 04 03 25.9 +1.5
ML02 IAmb IAmb 04 03 27.1
comp=Z,39nm,0.9s
BI02 San Fabin de 55.46 160 P P 04 03 31.7 +1.0
BI02 PcP PcP 04 04 29.8 +1.7
BI02 IAmb IAmb 04 04 30.3
comp=Z,16nm,0.8s
PTGB Pitanga 55.82 135 eP P 04 03 31.7 -1.8
PMNB Patos De Minas 56.19 125 eP P 04 03 34.1 -2.1
FRTB Fartura 56.68 132 eP P 04 03 37.5 -2.1
PSAL Palomas, Salto 56.91 145 eP P 04 03 40.1 -0.8
M29M Somme Creek 57.03 336 P P 04 03 43.2 +1.7
M29M IAmb IAmb 04 04 36.5
comp=Z,20nm,1.1s
ITAB Concordia 57.46 137 P P 04 03 44.2 -0.6
ITAB IAmb IAmb 04 03 45.4
comp=Z,48nm,0.9s
ITAB Concordia 57.46 137 eP P 04 03 43.7 -1.2
DIAM Diamantina, MG 58.25 123 eP P 04 03 48.9 -1.8
VAO Valinhos 58.36 130 P P 04 03 51.1 -0.2
VAO IAmb IAmb 04 03 51.6
comp=Z,29nm,0.7s
VAO Valinhos 58.36 130 eP P 04 03 49.8 -1.5
CPSB Cacapava Do Su 58.84 141 eP P 04 03 54.0 -0.4
BSCB Bom Sucesso 58.86 127 eP P 04 03 54.1 -0.6
PET01 Itanhaem-SP 58.91 131 eP P 04 03 54.1 -0.8
INK Inuvik 58.99 343 P P 04 03 55.5 +0.7
INK Inuvik 58.99 343 P P 04 03 55.8 +0.9
comp=Z,5.2nm,0.5s,baz=138,slow=6.2,SNR=30
comp=Z,5.2nm,0.5s
DY2G Dye2 59.09 20 i P P 04 03 55.0 -0.8
DY2G IAmb IAmb 04 04 01.0
comp=Z,8.2nm,0.6s
PLCA Paso Flores 59.40 161 P P 04 03 59.5 +1.4
PLCA IAmb IAmb 04 04 00.9
comp=Z,19nm,0.9s
PLCA PcP PcP 04 04 44.7 +1.2
PLCA Paso Flores 59.40 161 P P 04 03 59.8 +1.7
comp=Z,14nm,0.9s,baz=336,slow=8.6,SNR=34
PLCA PcP PcP 04 04 44.2 +0.7
comp=Z,5.2nm,0.8s,baz=354,slow=2.7,SNR=6.0
comp=Z,14nm,0.9s
PLCA Paso Flores 59.40 161 P P 04 03 59.9 +1.7
PLCA PcP PcP 04 04 45.0 +1.5
ILULI Ilulissat 59.43 16 i P P 04 03 56.4 -1.4
ILULI IAmb IAmb 04 03 58.1
comp=Z,15nm,0.9s
CNLB Canela 59.70 138 eP P 04 03 59.8 -0.6
PLTB Pedras Altas 59.71 142 P P 04 04 00.3 0.0
PLTB IAmb IAmb 04 04 01.2
comp=Z,56nm,0.8s
PLTB Pedras Altas 59.71 142 eP P 04 03 58.8 -1.5
CMC01 Camacan, BA 60.22 118 eP P 04 03 59.5 -4.5
TRQA Tornquist 60.28 153 P P 04 04 04.8 +0.7
TRQA IAmb IAmb 04 04 05.7
comp=Z,61nm,1.5s
TRQA PcP PcP 04 04 48.2 +1.2
LL01 San Ignacio de 60.37 163 P P 04 04 06.4 +1.9
LL01 IAmb IAmb 04 04 07.9
comp=Z,19nm,1.2s
F28M Old Crow 60.45 341 P P 04 04 05.7 +0.9
F28M IAmb IAmb 04 05 22.1
comp=Z,17nm,1.1s
NBAN Anadia - AL 60.58 111 eP P 04 04 02.3 -4.3
GO07 Milladeo Hill, 60.72 165 P P 04 04 09.0 +2.1
GO07 IAmb IAmb 04 04 11.2
comp=Z,32nm,0.8s
E28M Babbage River 60.91 342 P 04 04 08.4 +0.5
E27K Coleen River 61.31 341 P P 04 04 11.8 +1.3
E27K IAmb IAmb 04 05 25.2
comp=Z,24nm,1.5s
DUB01 Friburgo-RJ 61.31 126 eP P 04 04 10.2 -1.2
RIB01 Linhares ES 61.43 123 eP P 04 04 10.8 -1.4
ILAR Eielson Array 61.46 336 P P 04 04 12.7 +1.1
ILAR Eielson Array 61.46 336 P P 04 04 12.1 +0.5
comp=Z,1.7nm,0.8s,baz=95,slow=6.5,SNR=13
ILAR pP pP 04 05 02.2 +0.2
comp=Z,13nm,1.2s,baz=130,slow=4.2,SNR=8.5
ILAR sP sP 04 05 26.9 +0.7
comp=Z,5.4nm,1.1s,baz=113,slow=4.3,SNR=4.0
comp=Z,1.7nm,0.8s
CAM01 Campos-RJ 61.73 126 eP P 04 04 11.8 -2.3
I23K Minto, Yukon-K 62.57 336 P P 04 04 19.2 +0.2
I23K IAmb IAmb 04 05 13.8
comp=Z,28nm,1.4s
MLY Manley 63.06 336 P P 04 04 23.2 +0.9
MLY IAmb IAmb 04 05 16.1
comp=Z,30nm,1.5s
COYC Coyhaique 63.42 164 P 04 04 26.7 +1.9
COYC IAmb IAmb 04 04 29.1
comp=Z,13nm,0.9s
E23K Chandalar 63.87 339 P 04 04 29.4 +1.8
SUMG Summit 64.77 16 i P P 04 04 33.0 -0.7
SUMG IAmb IAmb 04 04 35.9
comp=Z,8.4nm,0.8s
F21K Alatna River 64.91 338 P 04 04 35.7 +1.4
F21K IAmb IAmb 04 04 36.7
comp=Z,9.8nm,0.7s
NEEM North Greenlan 65.24 9 i P P 04 04 36.2 -0.3
NEEM IAmb IAmb 04 04 38.5
comp=Z,14nm,0.8s
DAG Danmarks Havn 71.19 13 i P P 04 05 12.0 -1.1
DAG IAmb IAmb 04 05 12.9
comp=Z,15nm,0.7s
NOR Nord 72.60 9 i P P 04 05 21.0 -0.4
NOR IAmb IAmb 04 05 21.8
comp=Z,4.3nm,0.6s
PSBE So Bento 75.11 53 eP P 04 05 36.5 -0.2
PGAV Gavieira, Arco 75.17 50 eP P 04 05 36.2 -0.9
PCAS Casmilo, Conde 75.26 52 eP P 04 05 37.1 -0.5
PCAB Cabril 75.39 50 eP P 04 05 37.4 -0.9
PFVI Vila Bisbo 75.42 55 eP P 04 05 38.4 -0.2
PTEO Sao Teotonio 75.44 55 eP P 04 05 38.3 -0.3
MORF Marmelete 75.53 55 eP P 04 05 38.9 -0.3
PSARD Sardoal 75.58 52 eP P 04 05 38.5 -0.9
POLO Lamas de Olo 75.61 51 eP P 04 05 38.7 -1.0
PMTG Montargil 75.61 53 eP P 04 05 38.5 -1.0
PVIS Viseu 75.62 51 eP P 04 05 38.8 -0.9
MESJ Messejana 75.79 54 eP P 04 05 39.8 -0.8
EVO Evora 75.85 54 eP P 04 05 40.0 -1.0
MTE Manteigas 75.93 52 P P 04 05 40.2 -1.3
MTE IAmb IAmb 04 05 40.9
comp=Z,18nm,0.8s
MTE Manteigas 75.93 52 eP P 04 05 40.5 -0.9
PCVE Castro Verde 75.97 54 eP P 04 05 42.0 +0.4
PBEJ Beja 76.04 54 eP P 04 05 41.3 -0.7
PCBR Castelo Branco 76.07 52 eP P 04 05 41.2 -0.9
PBDV Barranco-do-Ve 76.11 55 eP P 04 05 42.4 -0.1
PESTR Estremoz 76.13 53 eP P 04 05 41.6 -0.9
PMRV Marv??o 76.19 53 eP P 04 05 42.0 -0.9
MVO Moncorvo 76.21 51 eP P 04 05 42.4 -0.6
PVAQ Vaqueiros 76.25 55 eP P 04 05 42.8 -0.5
PBRG Braganca 76.32 50 eP P 04 05 42.8 -0.9
PBAR Barrancos 76.66 54 eP P 04 05 44.6 -0.9
EKA Eskdalemuir Ar 76.73 36 P P 04 05 44.6 -0.9
comp=Z,7.7nm,0.7s,baz=276,slow=5.8,SNR=16
EKA pP pP 04 06 37.4 -0.5
comp=Z,4.9nm,0.8s,baz=278,slow=5.7,SNR=4.6
comp=Z,7.7nm,0.7s
SPITS Spitsbergen Ar 78.60 12 P P 04 05 55.6 +0.1
comp=Z,3.0nm,0.5s,baz=2.4,slow=3.5,SNR=10
comp=Z,3.0nm,0.5s
ESDC Sonseca Array 78.76 52 P 04 05 56.5 -0.6
ESDC Sonseca Array 78.76 52 P P 04 05 56.1 -1.1
comp=Z,5.9nm,0.7s,baz=285,slow=6.1,SNR=50
comp=Z,5.9nm,0.7s
NB2 NORSAR Subarra 82.81 29 P P 04 06 18.4 +0.3
comp=Z,1.7nm,0.8s,baz=288,slow=5.1
NOA NORSAR Array B 82.81 29 P P 04 06 18.5 +0.3
comp=Z,2.5nm,0.8s,baz=290,slow=5.2,SNR=9.9
NOA pP pP 04 07 11.9 +0.7
comp=Z,4.4nm,0.8s,baz=290,slow=5.1,SNR=9.2
comp=Z,2.5nm,0.8s
HOPE Hope Point 83.98 151 P P 04 06 25.7 +1.7
HOPE Hope Point 83.98 151 P P 04 06 24.7 +0.7
HFS Hagfors 84.27 29 P P 04 06 25.3 -0.2
comp=Z,4.0nm,0.7s,baz=316,slow=4.1,SNR=12
HFS pP pP 04 07 19.4 +0.6
comp=Z,5.7nm,0.9s,baz=200,slow=7.1,SNR=4.5
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 84.69 18 P P 04 06 27.1 -0.3
ARCES IAmb IAmb 04 07 22.3
comp=Z,96nm,1.9s
ARCES ARCESS Array B 84.69 18 P P 04 06 27.3 -0.2
comp=Z,3.6nm,0.7s,baz=289,slow=4.6,SNR=23
ARCES pP pP 04 07 21.5 +0.5
comp=Z,1.2nm,0.5s,baz=297,slow=4.0,SNR=4.5
comp=Z,3.6nm,0.7s
SENIN Lac Senin/Sane 85.17 43 P P 04 06 30.3 -0.3
SENIN IAmb IAmb 04 08 02.1
comp=Z,49nm,1.9s
DBIC Dimbokro 85.48 84 P P 04 06 32.1 -0.3
DBIC IAmb IAmb 04 06 32.2
comp=Z,58nm,1.9s
DBIC pP 04 07 25.8 -0.5
DBIC Dimbokro 85.48 84 P P 04 06 31.9 -0.5
comp=Z,4.3nm,0.7s,baz=305,slow=6.0,SNR=5.2
DBIC pP pP 04 07 26.1 -0.1
comp=Z,4.5nm,0.7s,baz=273,slow=8.8,SNR=2.9
comp=Z,4.3nm,0.7s
DAVA Damuels 86.56 42 eP P 04 06 36.9 -0.4
comp=Z,3.7nm,0.6s
RETA Reutte 87.06 41 eP P 04 06 39.3 -0.3
comp=Z,2.6nm,0.5s
CLL Collm 87.10 37 i pP pP 04 07 34.1 +0.8
comp=Z,33nm,1.8s
CLL i sP sP 04 07 57.3 +0.8
FETA Feichten 87.20 42 i P P 04 06 40.1 -0.3
comp=Z,2.5nm,0.6s
MOTA Moosalm 87.33 42 eP P 04 06 40.9 -0.1
comp=Z,2.1nm,0.6s
LVZ Lovozero 88.37 18 P P 04 06 42.3 -2.9
GERES GERESS Array B 88.42 40 P P 04 06 45.5 -0.6
comp=Z,0.8nm,0.7s,baz=349,slow=4.1,SNR=6.9
GERES pP pP 04 07 40.4 +0.7
comp=Z,2.5nm,0.9s,baz=267,slow=2.0,SNR=8.0
comp=Z,0.8nm,0.7s
TIXI Tiksi 88.78 348 P 04 06 46.0 -1.0
TIXI Tiksi 88.78 348 P P 04 06 46.3 -0.8
FINES FINESS Array B 89.12 25 P P 04 06 48.3 -0.6
comp=Z,2.6nm,0.5s,baz=313,slow=2.8,SNR=29
FINES pP pP 04 07 42.2 -0.6
comp=Z,3.6nm,0.8s,baz=346,slow=3.9,SNR=3.6
comp=Z,2.6nm,0.5s
MOA Molln 89.14 40 i P P 04 06 48.8 -0.6
comp=Z,1.9nm,0.6s
KEST Kesra 89.97 53 P P 04 06 53.4 -0.1
KEST IAmb IAmb 04 07 03.8
comp=Z,52nm,1.6s
KEST Kesra 89.97 53 P P 04 06 52.8 -0.7
comp=Z,6.2nm,1.0s,baz=286,slow=4.4,SNR=4.1
comp=Z,6.2nm,1.0s
TORD Torodi Ar. Bea 90.00 76 P P 04 06 51.6 -2.3
comp=Z,0.6nm,1.1s,baz=314,slow=3.6,SNR=4.5
SONM Songino Array 114.82 346 PKP PKiKP 04 12 32.7 -0.6
comp=Z,0.9nm,0.8s,baz=22,slow=1.6,SNR=3.3
KSRS Korea Array 115.31 326 PKP PKPdf 04 12 35.2 +0.8
comp=Z,1.4nm,0.5s,baz=357,slow=2.0,SNR=3.9
MKAR Makanchi Array 117.76 4 PKP PKPdf 04 12 37.7 -1.2
comp=Z,0.3nm,0.4s,baz=293,slow=3.4,SNR=4.6
HHC Hu-ho-hao-te 119.81 340 eP PKPdf 04 12 42.0 -1.1
BOSA Boshof 120.97 114 PKPdf 04 12 45.3 -0.3
BOSA Boshof 120.97 114 PKP PKPdf 04 12 45.2 -0.4
comp=Z,6.9nm,0.8s,baz=277,slow=2.9,SNR=8.2
NJ2 Nanjing 124.22 328 eP PKiKP 04 12 52.4 +0.4
NJ2 pmax pmax
comp=Z,12nm,0.6s
MAW Mawson 125.45 168 PKP PKiKP 04 12 53.9 +0.7
comp=Z,10nm,0.6s,baz=194,slow=2.9,SNR=41
LZDM Lanzhou Array 126.69 344 PKP PKiKP 04 12 57.1 -0.2
comp=Z,1.8nm,0.4s,baz=298,slow=9.3,SNR=3.9
STKA Stephens Creek 128.81 241 PKiKP 04 13 01.0 -0.1
STKA Stephens Creek 128.81 241 PKP PKPdf 04 13 00.7 +0.3
comp=Z,4.7nm,0.8s,baz=125,slow=4.6,SNR=7.3
CD2 Chengdu 131.42 342 PKP PKPdf 04 13 06.0 +0.5
WRA Warramunga Arr 135.77 257 PKhKP PKPpre 04 13 04.9
comp=Z,0.5nm,0.5s,baz=89,slow=3.7,SNR=12
WRA PKP PKiKP 04 13 14.9 -0.6
comp=Z,3.4nm,0.9s,baz=80,slow=1.7,SNR=6.9
WRA SKPbc SKPbc 04 16 25.8 +1.0
comp=Z,1.4nm,0.9s,baz=85,slow=2.6,SNR=6.8
PZH PanZhiHua 136.15 342 PKP PKiKP 04 13 15.8 -0.5
ASAR Alice Springs 136.17 252 PKhKP PKPpre 04 13 06.8
comp=Z,0.7nm,0.5s,baz=106,slow=4.0,SNR=10.0
ASAR PKP PKiKP 04 13 15.5 -0.8
comp=Z,2.2nm,0.7s,baz=104,slow=2.2,SNR=18
ASAR SKPbc SKPbc 04 16 27.6 +1.6
comp=Z,0.7nm,0.8s,baz=92,slow=4.3,SNR=4.8
FITZ Fitzroy Crossi 143.94 260 PKP PKPdf 04 13 28.9 +0.2
comp=Z,18nm,0.9s,baz=122,slow=2.4,SNR=30
CMAR Chiang Mai Arr 144.56 342 PKPab 04 13 28.7 -0.1
CMAR Chiang Mai Arr 144.56 342 PKP PKPbc 04 13 29.1 +0.1
comp=Z,4.1nm,0.8s,baz=338,slow=3.5,SNR=8.9
CMAR SKPbc SKiKP 04 16 49.5 +0.6
comp=Z,3.1nm,0.3s,baz=346,slow=3.8,SNR=4.4
KAPI Kappang 147.13 285 PKPab 04 13 38.7 -0.2
KAPI Kappang 147.13 285 PKPbc PKPab 04 13 38.0 -0.9
comp=Z,13nm,0.9s,baz=38,slow=5.6,SNR=4.8

*IDC **24** 03:57:14.0±1.0,2°.61S×138°.39E,h0km,mb4.1/5,*
mbtmp3.9/8,ML3.4/3,MS2.9/1,Error ellipse: s-maj=24.1km
s-min=22.5km az=113.0
*NEIC **24** 03:57:16.1±1.6,2°.6S±0°.1×138°.39E±0°.04,h10km±1km,*
mb4.4/12,Error ellipse: s-maj=18.2km s-min=6.6km
az=171.0

ISC 24 03:57:18.6±0.6,2°.63S±0°.08×138°.39E±0°.06,h32km,n26,
σ0°78/26,mb4.4/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.31	87	Pn	Pn	03 57 54.8	+0.3
5.7nm,0.3s,baz=269,slow=13,SNR=20							
JAY				Sn	Sn	03 58 22.7	+0.7
2.1nm,0.3s,baz=336,slow=16,SNR=2.2							
11nm,0.3s							
FAKI	Fak Fak	6.14	267	Pn	Pn	03 58 48.6	+1.5
COEN	Coen	12.20	157	Pn	Pn	04 00 10.9	+0.6
MTN	Manton Dam	12.43	215	Pn	Pn	04 00 13.4	0.0
GUMO	Guam	17.35	22	LR	LR	04 07 25.1	
comp=Z,36nm,18.8s,baz=113,slow=35							
WB0	Warramunga Arr	17.47	193	Pn	Pn	04 01 19.4	-0.6
WR0	Warramunga Arr	17.63	192	P	P	04 01 23.1	+0.5
WR0				IAmb	IAmb	04 01 42.9	
comp=Z,17nm,1.5s							
WR8	Warramunga Arr	17.63	192		Pn	04 01 22.0	0.0
WB2	Warramunga Arr	17.65	193	Pn	Pn	04 01 20.7	-1.5
WB2				IAmb	IAmb	04 01 35.9	
comp=Z,11nm,1.2s							
WRA	Warramunga Arr	17.65	193	P	Pn	04 01 22.1	-0.2
comp=Z,0.2nm,0.3s,baz=17,slow=12,SNR=10							
comp=Z,1.2nm,0.7s							
FITZ	Fitzroy Crossi	19.81	218	P	P	04 01 46.5	-0.1
FITZ	Fitzroy Crossi	19.81	218	P	P	04 01 46.6	0.0
comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=1.4							
comp=Z,1.7nm,0.9s							
ASAR	Alice Springs	21.36	191	P	P	04 02 02.9	-0.5
comp=Z,1.8nm,0.8s,baz=22,slow=9.9,SNR=9.4							
comp=Z,1.8nm,0.8s							
BKNI	Bangkinang	37.46	274	P	P	04 04 28.1	-1.3
KS19	Wonju Array Si	41.11	347	P	P	04 04 59.9	+0.2
KS19				IAmb	IAmb	04 05 43.3	
comp=Z,34nm,1.4s							
EVN	Everest	58.14	305	P	P	04 07 10.5	+0.1
EVN				IAmb	IAmb	04 07 12.4	
comp=Z,3.8nm,0.7s							
MK31	Makanchi Array	69.54	323	P	P	04 08 23.9	-0.4
MK31				IAmb	IAmb	04 08 30.4	
comp=Z,4.3nm,1.1s							
MKAR	Makanchi Array	69.54	323	P	P	04 08 23.0	-1.3
MKAR	Makanchi Array	69.54	323	P	P	04 08 24.8	+0.5
comp=Z,2.1nm,0.7s,baz=124,slow=7.7,SNR=11							
comp=Z,2.1nm,0.7s							
SPIA	Saint Paul Isl	72.46	26	P	P	04 08 42.5	+0.8
KURK	Kurchatov	73.47	325	P	P	04 08 47.7	-0.2
KURBB	Kurchatov Arra	73.48	325	P	P	04 08 48.8	+0.8
comp=Z,1.6nm,0.2s,baz=97,slow=6.1,SNR=2.1							
comp=Z,1.6nm,0.2s							
ARSB	Arslanbob	73.56	314	P	P	04 08 47.5	-1.4
ARSB				IAmb	IAmb	04 08 58.7	
comp=Z,8.3nm,1.4s							
BVAR	Borovoye Array	79.07	325	P	P	04 09 20.0	+0.3
comp=Z,1.0nm,0.5s,baz=103,slow=4.7,SNR=5.1							
comp=Z,1.0nm,0.5s							
ILAR	Eielson Array	85.90	24	P	P	04 09 54.9	-0.2
ILAR	Eielson Array	85.90	24	P	P	04 09 54.5	-0.5
comp=Z,0.5nm,0.7s,baz=275,slow=5.5,SNR=4.4							
comp=Z,0.5nm,0.7s							

TRN 24 04:23:38.2,15°.59N×60°.63W,h27km,MD3.5,East of
Dominica.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	La Plaine	0.64	247	eP	Pn	04 23 52.2	+0.6
DLPL				eS	Sn	04 24 04.1	+3.2
DWS	Wesley	0.65	268	eP	Pn	04 23 53.2	+1.5
DWS				eS	Sn	04 24 03.5	+2.4
DSLB	Salisbury	0.77	259	eP	Pn	04 23 55.1	+1.7
DSLB				eS	Sn	04 24 06.7	+2.5
DSDZ	La Diserade, G	0.83	330	eP	Pn	04 23 54.5	+0.4
DSDZ				eS	Sn	04 24 06.0	+0.5
ILAM	Ilet Lapin Mar	0.84	196	eP	Pn	04 23 55.5	+1.2
ILAM				eS	Sn	04 24 07.4	+1.7
SVN	Savane Anatole	0.90	215	eP	Pb	04 23 57.4	+2.1
SVN				eS	Sn	04 24 11.0	+3.6
TBG	Guadaloupe-3	1.01	285	eP	Pb	04 23 58.0	+0.8
TBG				eS	Sb	04 24 11.8	+1.8
MMLZ	Guadeloupe Bro	1.09	295	eP	Pb	04 24 00.1	+1.6
MMLZ				eS	Sb	04 24 14.9	+2.5
BIM	Bigot	1.15	202	eP	Pb	04 24 00.4	+1.0
BIM				eS	Sb	04 24 15.9	+2.0
ATGZ	Broadband at L	1.17	296	eP	Pb	04 24 00.9	+1.1
ATGZ				eS	Sb	04 24 17.0	+2.5
DHSZ	Broadband at M	1.28	302	eP	Pb	04 24 02.1	+0.3
DHSZ				eS	Sb	04 24 19.5	+1.6
SLBI	Saint Lucia, B	1.59	192	eP	Pb	04 24 06.1	-0.8
SLBI				eS	Sb	04 24 26.5	-0.1
MBFL	Flemmings, Mon	1.91	307	eP	Pb	04 24 10.9	-1.5
MBFL				eS	Sn	04 24 33.7	+1.6
ANWB	Willy Bob	2.35	332	eP	Pn	04 24 16.7	+1.7

*IDC **24** 04:34:05.7±0.9,2°.62S×138°.39E,h0km,mb3.8/6,*
mbtmp3.6/9,ML3.3/3,Error ellipse: s-maj=21.2km

s-min=16.9km az=177.0
*NEIC **24** 04:34:07.9±1.3, 2°.6S±0°.1×138°.48E±0°.09, h10km±1km, mb4.7/15, Error ellipse: s-maj=17.6km s-min=14.3km az=340.0*
*DJA **24** 04:34:09.6±0.3, 2°S±3°×13°8E±°, h10km, M3.8/7, mb4.0/1, MLv3.8/7*
ISC 24 04:34:07.7±1.6, 2°.58S±0°.06×138°.45E±0°.05, h11km±11km, n34, σ1°02/39, mb4.5/13, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.64**	**24**	P	**Pg**	**04 34 19.5**	**-0.7**
SMPI				S	**Sg**	**04 34 28.4**	**-0.3**
GENI	**Genyem**	**1.71**	**90**	P	**Pb**	**04 34 39.6**	**+0.4**
GENI				S	**Sg**	**04 35 03.0**	**+0.1**
JAY	**Jayapura**	**2.25**	**88**	Pn	**Pn**	**04 34 45.8**	**+0.9**
3.0nm,0.3s,baz=201,slow=14,SNR=8.4							
JAY				Lg	Lg	04 35 19.4	
2.5nm,0.3s,baz=115,slow=24,SNR=2.6							
7.8nm,0.5s							
JAY	**Jayapura**	**2.25**	**88**	P	**Pb**	**04 34 49.3**	**+0.9**
JAY				S	**Sb**	**04 35 16.8**	**+0.5**
SRPI	**Serui, Papua**	**2.32**	**288**	P	**Pn**	**04 34 45.6**	**-0.2**
SRPI				S	**Sn**	**04 35 15.5**	**+1.1**
BAKI	**Biak**	**2.72**	**300**	P	**Pn**	**04 34 53.3**	**+2.0**
BAKI				S	**Sn**	**04 35 24.5**	**+0.3**
FAKI	**Fak Fak**	**6.21**	**267**	P	**Pn**	**04 35 40.0**	**+0.7**
COEN	**Coen**	**12.23**	**158**	Pn	**Pn**	**04 37 04.7**	**+2.7**
MTN	**Manton Dam**	**12.51**	**215**	Pn	**Pn**	**04 37 05.3**	**-0.5**
WB0	**Warramunga Arr**	**17.54**	**193**		**P**	**04 38 12.9**	**-0.5**
WR8	**Warramunga Arr**	**17.70**	**192**	Pn	**Pn**	**04 38 12.9**	**-1.4**
WR8				IAmb	IAmb	04 38 31.2	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**17.72**	**193**		**Pn**	**04 38 13.1**	**-1.4**
WRA	**Warramunga Arr**	**17.72**	**193**	P	**Pn**	**04 38 13.5**	**-1.0**
comp=Z,0.2nm,0.3s,baz=13,slow=13,SNR=11							
comp=Z,0.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.89**	**218**	P	**P**	**04 38 38.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.89**	**218**	P	**P**	**04 38 38.6**	**-0.7**
baz=47,slow=12,SNR=1.1							
comp=Z,0.7nm,0.7s							
ASAR	**Alice Springs**	**21.42**	**191**	P	**P**	**04 38 54.5**	**-1.4**
ASAR	**Alice Springs**	**21.42**	**191**	P	**P**	**04 38 54.6**	**-1.2**
comp=Z,1.2nm,0.8s,baz=25,slow=9.8,SNR=8.6							
comp=Z,1.2nm,0.8s							
NWAO	**Narrogin (SRO)**	**36.16**	**211**	P	**P**	**04 41 10.1**	**-0.1**
NWAO				IAmb	IAmb	04 41 15.8	
comp=Z,40nm,1.3s							
BKZ	**Black Stump Fm**	**50.23**	**141**	P	**P**	**04 43 02.8**	**-1.2**
BHW	**Baring Head**	**50.64**	**145**	P	**P**	**04 43 05.6**	**-1.3**
EVN	**Everest**	**58.15**	**305**	P	**P**	**04 44 03.4**	**+0.7**
EVN				IAmb	IAmb	04 44 04.5	
comp=Z,3.3nm,0.7s							
MKAR	**Makanchi Array**	**69.53**	**322**	P	**P**	**04 45 16.7**	**+0.2**
MKAR	**Makanchi Array**	**69.53**	**322**	P	**P**	**04 45 16.2**	**-0.4**
comp=Z,1.7nm,0.7s,baz=114,slow=7.1,SNR=10							
comp=Z,1.7nm,0.7s							
MAKZ	**Makanchi**	**69.73**	**322**	P	**P**	**04 45 17.5**	**-0.3**
MAKZ				IAmb	IAmb	04 45 19.7	
comp=Z,5.2nm,0.9s							
BOOM	**Boomskoye usch**	**71.88**	**316**	P	**P**	**04 45 31.3**	**+0.1**
BOOM				IAmb	IAmb	04 45 37.1	
comp=Z,6.2nm,1.1s							
PPTF	**Pamatai, Papee**	**72.05**	**108**	P	**P**	**04 45 31.1**	**-1.4**
PPTF				IAmb	IAmb	04 45 49.1	
comp=Z,23nm,1.3s							
KURBB	**Kurchatov Arra**	**73.47**	**325**	P	**P**	**04 45 40.0**	**-0.2**
comp=Z,0.6nm,0.7s,baz=112,slow=5.0,SNR=4.2							
comp=Z,0.6nm,0.7s							
VNDA	**Vanda**	**75.93**	**175**	P	**P**	**04 45 53.4**	**-0.6**
VNDA				IAmb	IAmb	04 46 11.7	
comp=Z,2.9nm,1.5s							
VNDA	**Vanda**	**75.93**	**175**	P	**P**	**04 45 53.6**	**-0.4**
comp=Z,0.4nm,0.6s,baz=291,slow=7.5,SNR=2.1							
comp=Z,0.4nm,0.6s							
BVAR	**Borovoye Array**	**79.06**	**325**	P	**P**	**04 46 12.6**	**+0.7**
comp=Z,1.0nm,0.5s,baz=115,slow=6.7,SNR=4.2							
comp=Z,1.0nm,0.5s							
N19K	**Bonanza Creek**	**81.27**	**27**	P	**P**	**04 46 23.4**	**-0.4**
N19K				IAmb	IAmb	04 46 34.2	
comp=Z,19nm,1.2s							
ILAR	**Eielson Array**	**85.82**	**24**	P	**P**	**04 46 46.4**	**-0.6**
ILAR	**Eielson Array**	**85.82**	**24**	P	**P**	**04 46 46.6**	**-0.4**
comp=Z,0.2nm,0.6s,baz=270,slow=3.4,SNR=4.4							
comp=Z,0.2nm,0.6s							
QSPA	**South Pole Qui**	**87.36**	**180**	P	**P**	**04 46 56.6**	**+1.8**
QSPA				IAmb	IAmb	04 47 04.4	
comp=Z,5.8nm,1.5s							

IDC 24 04:41:55.4±9.0, 2°.62S×138°.12E, h0km, mb3.1/2, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=391.8km s-min=33.2km az=84.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.61**	**192**	P	Pn	04 46 02.0	-0.3
baz=12,slow=12,SNR=1.7							
0.2nm,0.6s							
ASAR	**Alice Springs**	**21.32**	**191**	P	P	04 46 44.2	+0.2
0.3nm,0.7s,baz=14,slow=12,SNR=5.5							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**69.36**	**323**	P	P	04 53 05.0	0.0
0.3nm,0.6s,baz=104,slow=6.1,SNR=2.3							
0.3nm,0.6s							

*IDC **24** 04:43:38.5±1.0, 2°.58S×138°.29E, h0km, mb3.9/6, mbtmp3.8/8, ML3.3/2, Error ellipse: s-maj=25.7km s-min=16.8km az=8.0*
*NEIC **24** 04:43:40.7±1.5, 2°.6S±0°.1×138°.26E±0°.07, h10km±1km, mb4.3/11, Error ellipse: s-maj=18.6km s-min=11.9km az=180.0*
*DJA **24** 04:43:40.2±0.5, 1°S±5°×13°9E±°, h10km, M3.9/7, MLv3.9/7*
ISC 24 04:43:42.8±0.6, 2°.55S±0°.07×138°.32E±0°.04, h32km, n31, σ1°64/33, mb4.2/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.68**	**35**	P	Pn	04 43 52.1	-4.0
SMPI				S	**Sn**	**04 44 01.7**	**-3.9**
GENI	**Genyem**	**1.84**	**91**	P	**Pn**	**04 44 12.1**	**-0.1**
GENI				S	**Sb**	**04 44 38.8**	**+0.3**
SRPI	**Serui, Papua**	**2.19**	**288**	P	**Pb**	**04 44 19.7**	**-2.0**
JAY	**Jayapura**	**2.38**	**89**	Pn	**Pn**	**04 44 20.9**	**+1.3**
3.5nm,0.3s,baz=227,slow=11,SNR=6.5							
JAY				Lg	Lg	04 44 54.3	
1.5nm,0.3s,baz=133,slow=23,SNR=1.7							
28nm,0.9s							
JAY	**Jayapura**	**2.38**	**89**	P	**Pn**	**04 44 19.6**	**0.0**
JAY				S	**Sn**	**04 44 48.3**	**+0.6**
BAKI	**Biak**	**2.59**	**301**	P	**Pn**	**04 44 22.0**	**-0.5**
RKPI	**Ransiki, Papua**	**4.27**	**284**	P	**Pn**	**04 44 48.7**	**+3.1**
FAKI	**Fak Fak**	**6.08**	**266**	Pn	**Pn**	**04 45 10.4**	**-0.1**
MTN	**Manton Dam**	**12.46**	**214**	Pn	**Pn**	**04 46 37.3**	**-0.7**
KNRA	**Kununurra**	**16.09**	**215**	Pn	**Pn**	**04 47 23.8**	**-3.0**
KNRA				IAmb	IAmb	04 47 37.8	
comp=Z,8.8nm,1.1s							
WB0	**Warramunga Arr**	**17.54**	**192**	Pn	**Pn**	**04 47 43.6**	**-1.4**
WB0				IAmb	IAmb	04 48 13.3	
comp=Z,7.8nm,1.1s							
WR8	**Warramunga Arr**	**17.70**	**192**		**P**	**04 47 48.2**	**+0.6**
WR8				IAmb	IAmb	04 48 22.8	
comp=Z,7.9nm,1.1s							
WRA	**Warramunga Arr**	**17.72**	**192**	P	**Pn**	**04 47 43.8**	**-3.4**
WRA	**Warramunga Arr**	**17.72**	**192**	P	**P**	**04 47 46.7**	**-1.2**
comp=Z,0.1nm,0.3s,baz=13,slow=12,SNR=9.2							
comp=Z,0.9nm,0.6s							
AS31	**Alice Springs**	**21.42**	**191**	P	**P**	**04 48 27.6**	**-0.7**
ASAR	**Alice Springs**	**21.43**	**191**	P	**P**	**04 48 26.7**	**-1.6**
ASAR	**Alice Springs**	**21.43**	**191**	P	**P**	**04 48 27.4**	**-0.9**
comp=Z,1.4nm,0.9s,baz=19,slow=10,SNR=7.7							
comp=Z,1.4nm,0.9s							
YULB	**Yu-li**	**30.66**	**328**	P	**P**	**04 49 54.9**	**+0.4**
YULB				IAmb	IAmb	04 49 59.6	
comp=Z,35nm,1.3s							
YOJ	**Yonaguni jima**	**30.70**	**332**	P	**P**	**04 49 55.8**	**+1.0**
ONTNC	**Ouen Toro**	**33.64**	**128**	P	**P**	**04 50 19.6**	**-1.2**
ONTNC				IAmb	IAmb	04 50 27.9	
comp=Z,39nm,1.0s							
CMAR	**Chiang Mai Arr**	**44.02**	**300**	P	**P**	**04 51 47.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.02**	**300**	P	**P**	**04 51 48.6**	**+0.8**
comp=Z,0.7nm,0.3s,baz=106,slow=8.7,SNR=1.3							
comp=Z,0.7nm,0.3s							
MKAR	**Makanchi Array**	**69.43**	**323**	P	**P**	**04 54 48.0**	**+0.2**
MKAR	**Makanchi Array**	**69.43**	**323**	P	**P**	**04 54 49.2**	**+1.3**
comp=Z,1.9nm,0.7s,baz=110,slow=7.6,SNR=10							
comp=Z,1.9nm,0.7s							
KURK	**Kurchatov**	**73.36**	**325**	P	**P**	**04 55 12.0**	**+0.6**
KURK				IAmb	IAmb	04 55 14.2	
comp=Z,2.4nm,0.8s							
KURBB	**Kurchatov Arra**	**73.38**	**325**	P	**P**	**04 55 11.4**	**-0.1**
comp=Z,1.0nm,0.9s,baz=108,slow=5.9,SNR=5.4							
comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**78.96**	**325**	P	**P**	**04 55 44.2**	**+0.9**
comp=Z,1.5nm,0.8s,baz=111,slow=8.1,SNR=5.5							
comp=Z,1.5nm,0.8s							
ILAR	**Eielson Array**	**85.85**	**24**	P	**P**	**04 56 21.1**	**+2.1**
ILAR	**Eielson Array**	**85.85**	**24**	P	**P**	**04 56 20.0**	**+1.0**
comp=Z,0.4nm,0.8s,baz=264,slow=6.6,SNR=2.8							
comp=Z,0.4nm,0.8s							
QSPA	**South Pole Qui**	**87.40**	**180**	P	**P**	**04 56 29.5**	**+2.8**
QSPA				IAmb	IAmb	04 57 07.0	
comp=Z,5.3nm,1.4s							
HATC	**Hat Creek Radi**	**99.39**	**49**	P	**Pdif**	**04 57 23.8**	**+1.3**

*IDC **24** 04:47:57.9±0.8, 2°.62S×138°.48E, h0km, mb4.1/9, mbtmp4.0/12, ML3.5/3, MS3.4/6, Error ellipse: s-maj=19.1km s-min=15.2km az=12.0*
*DJA **24** 04:48:00.5±0.4, 3°S±3°×13°8E±°, h10km, M3.9/6, MLv3.9/6*
ISC 24 04:48:02.2±0.7, 2°.55S±0°.07×138°.50E±0°.05, h32km, n21, σ1°17/20, mb4.0/9, MS3.3/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.59**	**21**	P	**Pb**	**04 48 11.7**	**-2.5**
SMPI				S	**Sb**	**04 48 22.0**	**-0.4**
GENI	**Genyem**	**1.67**	**92**	P	**Pb**	**04 48 30.9**	**-1.4**
GENI				S	**Sb**	**04 48 53.7**	**+0.8**
JAY	**Jayapura**	**2.20**	**89**	Pn	**Pn**	**04 48 37.3**	**+0.6**
4.6nm,0.3s,baz=220,slow=12,SNR=13							
JAY				Lg	Lg	04 49 08.4	
2.2nm,0.3s,baz=90,slow=11,SNR=3.9							
15nm,0.5s							
JAY	**Jayapura**	**2.20**	**89**	P	**Pb**	**04 48 39.6**	**-1.8**
SRPI	**Serui, Papua**	**2.36**	**286**	P	**Pn**	**04 48 37.8**	**-0.9**
SRPI				S	**Sn**	**04 49 07.2**	**+0.6**
BAKI	**Biak**	**2.74**	**299**	P	**Pn**	**04 48 44.7**	**+0.6**
GUMO	**Guam**	**17.23**	**21**	LR	LR	04 58 11.4	
comp=Z,37nm,19.4s,baz=128,slow=36							
WRA	**Warramunga Arr**	**17.76**	**193**	P	**Pn**	**04 52 05.8**	**-1.5**
0.2nm,0.3s,baz=17,slow=13,SNR=9.4							
2.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.95**	**218**	P	**P**	**04 52 31.6**	**-0.2**
0.1nm,0.3s,baz=15,slow=9.2,SNR=5.2							
FITZ				LR	LR	05 00 37.7	
comp=Z,179nm,19.5s,baz=12,slow=38							
1.6nm,0.8s							
ASAR	**Alice Springs**	**21.46**	**192**	P	**P**	**04 52 47.4**	**-0.8**
2.8nm,0.8s,baz=22,slow=11,SNR=11							
ASAR				LR	LR	05 02 11.6	
comp=Z,93nm,20.8s,baz=274,slow=40							
2.8nm,0.8s							
NWAO	**Narrogin (SRO)**	**36.21**	**211**	LR	LR	05 11 28.7	
comp=Z,248nm,21.7s,baz=162,slow=39							
CMAR	**Chiang Mai Arr**	**44.17**	**300**	P	**P**	**04 56 09.4**	**+0.9**
1.3nm,0.3s,baz=112,slow=7.6,SNR=7.5							
1.3nm,0.3s							
ASAJ	**Asahikawa**	**46.60**	**4**	LR	LR	05 14 50.8	
comp=Z,36nm,19.1s,baz=152,slow=35							
LZDM	**Lanzhou Array**	**50.23**	**323**	P	**P**	**04 56 56.6**	**+0.8**
2.1nm,0.4s,baz=134,slow=6.2,SNR=1.5							
2.1nm,0.4s							
SHEM	**Shemya Is, Ala**	**62.68**	**23**	LR	LR	05 21 48.1	
comp=Z,23nm,20.5s,baz=116,slow=32							
MKAR	**Makanchi Array**	**69.53**	**322**	P	**P**	**04 59 09.3**	**+1.4**
2.7nm,0.7s,baz=114,slow=7.1,SNR=13							
2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**71.69**	**330**	P	**P**	**04 59 21.2**	**+0.3**
0.8nm,0.6s,baz=93,slow=3.0,SNR=3.5							
0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**73.47**	**325**	P	**P**	**04 59 32.1**	**+0.6**
1.4nm,0.8s,baz=109,slow=5.5,SNR=9.1							
1.4nm,0.8s							
VNDA	**Vanda**	**75.96**	**175**	P	**P**	**04 59 45.2**	**-0.3**
0.8nm,0.8s,baz=305,slow=6.8,SNR=4.5							
0.8nm,0.8s							
BVAR	**Borovoye Array**	**79.06**	**325**	P	**P**	**05 00 04.0**	**+0.7**
3.2nm,0.8s,baz=104,slow=6.3,SNR=10.0							
3.2nm,0.8s							
ILAR	**Eielson Array**	**85.77**	**24**	P	**P**	**05 00 39.3**	**+1.2**
0.8nm,0.9s,baz=267,slow=5.2,SNR=5.8							
0.8nm,0.9s							

*NEIC **24** 04:55:02.3±1.5, 37°.868N±0°.007×118°.21W±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=347.0*
REN 24 04:55:02.6±1.2, 37°.870N±0°.009×118°.20W±0°.02, h12km±8km, ML2.8/7, ML2.5/76(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=108.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.45**	**328**		Pg	04 55 11.6	+0.2
LHV				Sg	Sg	04 55 17.9	+0.5
DSP	**Deep Springs**	**0.53**	**160**		Pg	04 55 13.1	+0.1
DSP				Sg	Sg	04 55 20.5	+0.5
DSP				IAML		04 55 20.9	
comp=E,345nm,0.5s							
NV08	**Mina Array Sit**	**0.54**	**350**		Pg	04 55 13.1	-0.1
NV08					Sg	04 55 20.7	+0.3
NV11	**Mina Array Sit**	**0.56**	**4**		Pg	04 55 13.4	-0.2
NV11	**Mina Array Sit**	**0.56**	**4**		Sg	04 55 21.0	0.0
NVAR	**Mina Array Bea**	**0.56**	**352**		Pg	04 55 13.3	-0.4
NV09	**Mina Array Sit**	**0.57**	**350**		Pg	04 55 13.7	-0.1
NV09					Sg	04 55 22.1	+0.6
MCBM	**Casa Benchmark**	**0.59**	**248**		Pg	04 55 14.2	0.0
MCBM					Sg	04 55 22.8	+0.7
MDYM	**Dry Creek**	**0.68**	**252**		Pg	04 55 15.8	+0.1
MDYM					Sg	04 55 25.1	+0.4
MDPB	**Devils Postpil**	**0.73**	**251**		Pg	04 55 16.6	-0.3
MDPB					Sg	04 55 26.2	-0.3
MDPB	**Devils Postpil**	**0.73**	**251**	IAML		04 55 26.4	
comp=E,296nm,0.3s							
TVH1	**TV Hill, Hawth**	**0.74**	**323**		Pg	04 55 17.1	+0.2
TVH1					Sg	04 55 26.8	+0.2
LCH	**Last Change Ra**	**0.78**	**145**		Pg	04 55 17.4	-0.2
LCH					Sg	04 55 28.1	+0.4
RYN	**Ryan**	**0.80**	**342**		Pg	04 55 17.8	-0.2
RYN					Sg	04 55 28.6	+0.1
RYN	**Ryan**	**0.80**	**342**	IAML		04 55 29.2	
comp=E,286nm,0.3s							
RYN				IAML		04 55 29.4	
comp=N,223nm,0.3s							
TPH	**Tonopah**	**0.80**	**75**		Pg	04 55 17.9	-0.2
TPH				IAML		04 55 35.2	
comp=N,217nm,0.6s							
TPH				IAML		04 55 36.2	
comp=E,177nm,0.6s							
TPH	**Tonopah**	**0.80**	**75**		Sg	04 55 28.9	+0.2
TIN	**Tinemaha, Big**	**0.81**	**182**		Pg	04 55 16.6	-1.7
GMN	**Gold Mountain**	**0.94**	**127**		Pg	04 55 20.8	+0.1
GMN				IAML		04 55 23.5	
comp=N,242nm,0.3s							
GMN				IAML		04 55 37.9	
comp=E,134nm,0.3s							
KCC	**Kaiser Creek**	**1.04**	**239**		Pb	04 55 21.8	-0.8
KCC					Sg	04 55 35.1	-1.0
GRAC	**Grapevine Rang**	**1.10**	**142**		Pg	04 55 23.7	+0.1
WAKR	**Walker**	**1.16**	**303**		Pb	04 55 24.4	-0.3
WAKR				IAML		04 55 43.6	
comp=E,75nm,0.9s							
Q09A	**Carvers**	**1.25**	**40**		Pb	04 55 26.5	+0.2
SGV	**South Grapevin**	**1.29**	**133**		Pb	04 55 26.9	0.0
CWC	**Cottonwood Cre**	**1.43**	**176**		Pb	04 55 29.3	0.0
WCT	**Wildcat Mounta**	**1.65**	**130**		Pn	04 55 32.0	+0.4
WCT				IAML		04 55 59.4	
comp=N,79nm,0.6s							
WCT				IAML		04 56 01.1	
comp=E,96nm,0.4s							
CMB	**Columbia Colle**	**1.73**	**276**		Pb	04 55 34.1	-0.3
CMB	**Columbia Colle**	**1.73**	**276**	IAML		04 55 58.0	
comp=N,32nm,0.3s							
FURC	**Furnace Creek,**	**1.76**	**142**		Pb	04 55 34.6	-0.3
TPNV	**Topopah Spring**	**1.81**	**120**	Pn	Pn	04 55 34.4	+0.7
TPNV				IAML		04 56 07.9	
comp=N,44nm,0.8s							
TPNV				IAML		04 56 08.0	
comp=N,41nm,0.7s							
MPMC	**Manual Prospec**	**1.90**	**162**		Pn	04 55 33.8	-1.3
NSP	**Numbskull Pass**	**1.95**	**125**		Pb	04 55 37.8	-0.4
PAHR	**Pah Rah Range**	**2.05**	**334**		Pn	04 55 37.5	+0.3
PAHR				IAML		04 56 09.0	
comp=N,28nm,0.7s							
PAHR				IAML		04 56 10.3	
comp=E,30nm,0.8s							
WELL	**Weller Preserv**	**2.07**	**287**		Pn	04 55 37.9	+0.7
GWY	**Greenwater Val**	**2.08**	**143**		Pn	04 55 37.6	+0.1
GWY				IAML		04 56 19.0	
comp=E,25nm,0.5s							
GWY				IAML		04 56 21.2	
comp=N,23nm,0.8s							
AMDNV	**Amargosa**	**2.09**	**132**		Pn	04 55 38.4	+1.0
R11B	**Troy Canyon, C**	**2.12**	**76**		Pn	04 55 38.4	+0.4
R11B				IAML		04 56 11.5	
comp=N,31nm,0.3s							
R11B				IAML		04 56 11.8	
comp=E,32nm,0.3s							
MCY	**Mercury**	**2.16**	**123**		Pn	04 55 39.6	+1.1
QSM	**Queen of Sheba**	**2.18**	**150**		Pn	04 55 38.9	+0.2
QSM				IAML		04 56 16.0	
comp=N,31nm,0.7s							
QSM				IAML		04 56 18.5	
comp=E,28nm,0.9s							
WSHM	**Spangler Hills**	**2.34**	**166**	Pn	Pn	04 55 41.3	+0.4
WSHM				IAML		04 56 17.9	
comp=E,19nm,0.6s							
PRN	**Pahroc Range**	**2.54**	**100**		Pn	04 55 44.6	+0.8
BEKR	**Beckworth**	**2.61**	**320**		Pn	04 55 45.9	+1.1
SHPR	**Sheep Range**	**2.79**	**118**		Pn	04 55 48.5	+1.3
GSC	**Goldstone, Bar**	**2.80**	**156**		Pn	04 55 48.0	+0.7
GSC				IAML		04 56 38.5	
comp=E,15nm,1.8s							
ELK	**Elko**	**3.68**	**38**	Pn	Pn	04 55 58.6	-0.9
KNB	**Kanab**	**4.37**	**100**	Pn	Pn	04 56 09.6	+0.6
U15A	**North Rim**	**4.94**	**105**	Pn	Pn	04 56 15.5	-1.4

*WEL **24** 05:39:23.9±0.8, 45°S±3°×16°7E±°, h4km±2km, M3.5/7, ML3.5/7, MLv3.5/7, Error ellipse: s-maj=6.8km s-min=3.1km az=121.4, confirmed*
*NOU **24** 05:39:27.3, 44°.66S×167°.70E, h14km, MLv3.6/9, South Island, New Zealand*
ISC 24 05:39:23.4±1.4, 44°.62S±0°.04×167°.46E±0°.05, h9km±9km, n43, σ0°91/56, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.34**	**99**	P	**Pb**	**05 39 31.0**	**-0.6**
MSZ				S	**Sg**	**05 39 35.1**	**+0.5**
GLNY	**Glenorchy**	**0.72**	**110**	P	**Pg**	**05 39 37.5**	**+0.2**
GLNY				S	**Sb**	**05 39 47.3**	**-0.7**
TAFS	**Te Anau Fire S**	**0.82**	**167**	P	**Pg**	**05 39 37.9**	**-1.3**
TAFS				S	**Sb**	**05 39 50.1**	**-0.8**
DCZ	**Deep Cove**	**0.87**	**194**	P	**Pg**	**05 39 39.5**	**-0.8**
DCZ				S	**Sg**	**05 39 50.9**	**-0.7**
MLZ	**Mavora Lakes**	**0.88**	**148**	P	**Pg**	**05 39 40.2**	**-0.2**
MLZ				S	**Sb**	**05 39 51.9**	**-0.8**
NSBS	**Neils Beach**	**1.06**	**55**	S	**Sn**	**05 39 59.4**	**+0.1**
JCZ	**Jackson Bay**	**1.10**	**61**	P	**Pg**	**05 39 45.3**	**+0.8**
JCZ	**Jackson Bay**	**1.10**	**61**	S	**Sn**	**05 40 00.3**	**0.0**
JCZ	**Jackson Bay**	**1.10**	**61**	P	**Pg**	**05 39 45.2**	**+0.7**
JCZ				S	**Sn**	**05 40 00.3**	**0.0**
WKZ	**Wanaka**	**1.13**	**101**	P	**Pb**	**05 39 45.2**	**0.0**
MOSS	**Mossburn Schoo**	**1.18**	**153**	P	**Pb**	**05 39 45.8**	**-0.3**
MOSS				S	**Sn**	**05 40 01.3**	**-1.0**
WHZ	**Wether Hill Ro**	**1.32**	**165**	P	**Pn**	**05 39 47.5**	**-0.5**
WHZ				S	**Sb**	**05 40 04.6**	**-0.8**
HDWS	**Haast DOC Work**	**1.36**	**58**	P	**Pn**	**05 39 48.8**	**+0.3**
EAZ	**Earnscleugh**	**1.45**	**116**	P	**Pb**	**05 39 50.2**	**-0.3**
EAZ				S	**Sg**	**05 40 09.2**	**-0.8**
PYZ	**Puysegur Point**	**1.64**	**199**	P	**Pg**	**05 39 56.2**	**+1.3**
PYZ	**Puysegur Point**	**1.64**	**199**	S	**Sg**	**05 40 18.0**	**+1.8**
LBZ	**Lake Benmore**	**1.96**	**84**	P	**Pb**	**05 39 58.7**	**-0.7**
LBZ				S	**Sb**	**05 40 23.6**	**-0.3**
FOZ	**Fox Glacier**	**2.02**	**58**	P	**Pn**	**05 39 56.9**	**-0.6**
TUZ	**Tuapeka**	**2.03**	**132**	P	**Pb**	**05 39 59.8**	**-0.7**
TUZ				S	**Sb**	**05 40 24.9**	**-0.9**
APZ	**The Paps**	**2.24**	**171**	P	**Pn**	**05 40 01.7**	**+1.0**
APZ				S	**Sn**	**05 40 29.5**	**+1.0**
SYZ	**Scrubby Hill**	**2.25**	**149**	P	**Pn**	**05 40 01.9**	**+1.1**
SYZ	**Scrubby Hill**	**2.25**	**149**	S	**Sn**	**05 40 29.3**	**+0.7**
SYZ	**Scrubby Hill**	**2.25**	**149**	P	**Pn**	**05 40 02.1**	**+1.3**
ODZ	**Otahua Downs**	**2.31**	**102**	P	**Pn**	**05 40 02.9**	**+1.4**
ODZ	**Otahua Downs**	**2.31**	**102**	S	**Sn**	**05 40 29.4**	**-0.6**
ODZ	**Otahua Downs**	**2.31**	**102**	P	**Pn**	**05 40 03.1**	**+1.5**
TMZ	**Timaru**	**2.55**	**86**	P	**Pn**	**05 40 06.0**	**+1.1**
HHSZ	**Highcliff Hill**	**2.55**	**121**	P	**Pn**	**05 40 06.9**	**+2.0**
HHSZ				S	**Sn**	**05 40 35.9**	**-0.2**
RPZ	**Rata Peaks**	**2.74**	**72**	P	**Pn**	**05 40 08.2**	**+0.7**
RPZ	**Rata Peaks**	**2.74**	**72**	P	**Pn**	**05 40 08.2**	**

DR08			⇓eSg	Sg	05 40 47.1	-1.2
DR08			IAML		05 40 52.8	
	comp=N,2μm,0.2s					
LONE3	**El Aguacate, B**	1.28 207	i P	Pg	05 40 36.4	-0.6
LONE3			eS	Sb	05 40 53.8	+0.3
LONE3			IAML		05 40 55.7	
	comp=Z,48nm,0.6s					
NEDR	**Neiba UASD**	1.37 203	⇑ePg	Pb	05 40 38.3	0.0
NEDR			⇑eSg	Sn	05 40 56.9	+0.6
NEDR			IAML		05 40 57.9	
	comp=N,47nm,0.7s					
BANI	**BANI**	1.43 161	⇑ePg	Pn	05 40 39.0	+0.1
BANI			⇑eSg	Sb	05 40 56.4	-1.6
BANI			IAML		05 41 03.1	
	comp=N,175nm,0.5s					
LODU1	**El Espartillar**	1.51 203	i P	Pg	05 40 41.2	-0.3
LODU1			IAML		05 41 05.1	
	comp=Z,77nm,0.5s					
SMDR	**Samana, DR**	1.64 106	⇑ePg	Pn	05 40 42.0	+0.4
SMDR			⇓eSg	Sb	05 41 04.1	+0.4
SMDR			IAML		05 41 04.6	
	comp=N,123nm,0.6s					
HATOM	**Hato Mayor del**	1.69 124	⇑ePg	Pn	05 40 42.6	+0.2
HATOM			⇓eSg	Sn	05 41 04.3	+0.1
HATOM			IAML		05 41 08.2	
	comp=N,63nm,0.3s					
GRTK	**Grand Turk**	1.77 352	ePg	Pg	05 40 45.4	-1.0
GRTK			⇓eSg	Sg	05 41 09.3	-0.2
GRTK			IAML		05 41 18.3	
	comp=N,130nm,0.1s					
GRTK	**Grand Turk**	1.77 352	i P	Pg	05 40 45.7	-0.7
GRTK			eS	Sg	05 41 09.6	+0.2
GRTK			IAML		05 41 12.5	
	comp=Z,82nm,1.1s					
LOVI	**El Cajuil, Ovi**	2.00 194	i P	Pb	05 40 48.5	-0.7
LOVI			IAML		05 41 19.4	
	comp=Z,62nm,0.9s					
LOBH	**Bahia de las A**	2.02 202	i P	Pb	05 40 49.4	-0.1
LOBH			IAML		05 41 24.6	
	comp=Z,30nm,0.6s					
HIDR	**Higuey Centro**	2.33 119	ePg	Pn	05 40 52.9	+1.7
HIDR			⇑eSg	Sb	05 41 23.0	-0.6
HIDR			IAML		05 41 24.4	
	comp=N,170nm,0.2s					
MASC	**Masc**	3.20 278	eP	Pn	05 41 06.0	+2.8
MASC			eS	Sn	05 41 41.8	+0.2
MASC			eSg	Sb	05 41 50.1	+1.2
MASC			IAML		05 41 55.1	
	comp=N,22nm,0.6s					
MASC			IAML		05 41 55.7	
	comp=E,15nm,0.3s					
QMBU	**Quimbuelo**	3.75 277	eP	Pn	05 41 12.1	+1.4
QMBU			eS	Sn	05 41 54.3	-0.8
QMBU			IAML		05 42 10.3	
	comp=E,14nm,0.3s					
QMBU			IAML		05 42 10.7	
	comp=N,11nm,0.4s					
RCC	**Rio Carpintero**	4.56 274	eP	Pn	05 41 20.7	-1.1
RCC			eS	Sn	05 42 08.8	-6.4

*IDC **24** 05:45:18.2±4.4, 4°.72S×102°.09E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=193.2km s-min=23.1km az=54.0*
*DJA **24** 05:45:29.5±0.5, 4°.S±4°×10°.2E±°, h32km±7km, M3.7/11, mb3.3/1, MLv3.8/11*
ISC 24 05:45:25.2±1.2,**4°.45S**±0°.08×**102°.1E**±0°.1,**h37**km,**n24,**
σ2°.26/15,mb3.9/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	0.82	84	P	Pn	05 45 42.2	+2.0
KSI	**Kapahiang**	0.92	30	P	Pn	05 45 43.3	+1.7
KSI				S	Sn	05 45 53.2	-0.5
MASI	**Maura Aman, Be**	1.31	4	P	Pn	05 45 49.9	+2.9
LHSI	**Lahat**	1.51	66	P	Pn	05 45 51.5	+1.7
LWLI	**Liwa**	1.99	106	P	Pn	05 45 58.7	+2.2
MDSI	**Maura Dua**	2.03	91	P	Pn	05 45 58.8	+1.9
KASI	**Kota Agung**	2.58	114	P	Pn	05 46 07.0	+2.6
PPSI	**Pulau Pagai**	2.71	308	P	Pn	05 46 12.7	+6.5
CGJI	**Cibinong**	4.14	121	P	Pn	05 46 29.3	+3.4
H08S2	**Diego Garcia H**	29.65	262	T	T	06 22 28.6	
	baz=85						
H08S3	**Diego Garcia H**	29.66	262	T	T	06 21 58.6	
	baz=85						
H08S1	**Diego Carcia H**	29.66	262	T	T	06 22 24.2	
	baz=85						
H01W3	**Cape Leeuwin H**	32.26	161	T	T	06 25 47.6	
	baz=338,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	32.27	161	T	T	06 25 48.7	
	baz=338,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	32.27	161	T	T	06 25 48.8	
	baz=338,slow=76,SNR=12						
WRA	**Warramunga Arr**	34.93	119	P	P	05 52 11.1	-2.7
	0.1nm,0.3s,baz=299,slow=7.7,SNR=1.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	36.10	125	P	P	05 52 21.0	-2.9
	0.1nm,0.3s,baz=301,slow=8.2,SNR=10.0						
	0.1nm,0.3s						
SONM	**Songino Array**	52.20	4	P	P	05 54 32.7	+0.2
	0.9nm,0.6s,baz=183,slow=8.1,SNR=4.1						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	53.97	343	P	P	05 54 45.4	0.0
	0.5nm,0.4s,baz=148,slow=8.9,SNR=6.9						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	59.97	348	P	P	05 55 27.5	-0.2
	0.7nm,0.3s,baz=162,slow=8.3,SNR=2.3						
	0.7nm,0.3s						
H04N2	**CROZET ISLANDS**	60.15	218	T	T	07 01 11.6	
	baz=62,slow=76						
H04N1	**CROZET ISLANDS**	60.16	218	T	T	07 01 12.0	
	baz=62,slow=76						
H04N3	**CROZET ISLANDS**	60.17	218	T	T	07 01 10.6	
	baz=62,slow=76						
TXAR	**Lajitas Array**	145.22	42	PKPbc	PKPbc	06 04 59.3	-0.2
	0.2nm,0.5s,baz=314,slow=1.9,SNR=5.7						

*NEIC **24** 05:45:39.9±1.3, 19°.20N±0°.04×67°.12W±0°.02, h10km±1km, ML2.5/13, Md3.0/18(RSPR), Error ellipse: s-maj=5.9km s-min=2.9km az=171.0*
*OSPL **24** 05:45:41.5±0.3, 19°.16N×67°.36W, h18km±2km, ML2.4*
*RSPR **24** 05:45:42.8, 19°.14N×67°.17W, h7km±31km, MD3.0/18*
*SDD **24** 05:45:42.9±1.1, 19°.07N×67°.28W, h31km±17km, MD3.5, ML2.6, MW3.1*
ISC 24 05:45:42.3±1.5,**19°.10N**±0°.06×**67°.19W**±0°.03,**h25**km±13km,
n67,σ0°.67/87,13C-20D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	0.63 174			Pb	05 45 54.5	-0.2
AGPR					Sn	05 46 04.7	-0.2
AGPR	**Aguadilla, PR**	0.63 174		⇓eP	Pb	05 45 54.5	-0.2
AGPR	**Aguadilla, PR**	0.63 174		⇓ePg	Pb	05 45 54.8	+0.1
AGPR				⇑eSg	Sb	05 46 04.3	+1.1
AGPR				IAML		05 46 05.1	
	comp=N,335nm,0.3s						
AGPR	**Aguadilla, PR**	0.63 174		i P	Pb	05 45 54.5	-0.2
AGPR				eS	Sb	05 46 04.1	+0.9
AGPR				IAML		05 46 10.0	
	comp=Z,270nm,0.2s						
IDE	**Isla Desecheo**	0.76 201			Pb	05 45 56.5	-0.3
IDE					Sn	05 46 08.0	0.0
IDE	**Isla Desecheo**	0.76 201		⇓eP	Pb	05 45 56.5	-0.3
IDE	**Isla Desecheo**	0.76 201		eS	Sn	05 46 08.0	0.0
AOPR	**Arecibo Observ**	0.85 151			Pb	05 45 57.6	-0.8
AOPR					Sb	05 46 09.9	+0.4
AOPR	**Arecibo Observ**	0.85 151		⇓eP	Pb	05 45 57.8	-0.7
AOPR	**Arecibo Observ**	0.85 151		eS	Sb	05 46 10.2	+0.7
AOPR	**Arecibo Observ**	0.85 151		⇑ePg	Pb	05 45 58.2	-0.3
AOPR				⇑eSg	Sn	05 46 10.4	-0.1
AOPR				IAML		05 46 14.0	
	comp=N,329nm,0.2s						
EMPR	**Esperanza - Ma**	0.88 135			Pb	05 45 58.8	0.0
EMPR					Sn	05 46 11.4	+0.4
EMPR	**Esperanza - Ma**	0.88 135		Pg	Pb	05 45 58.6	-0.3
EMPR	**Esperanza - Ma**	0.88 135		⇑eP	Pb	05 45 58.8	0.0
EMPR	**Esperanza - Ma**	0.88 135		eS	Sn	05 46 11.4	+0.4
PRSN	**Puerto Rico Se**	0.88 177			Pb	05 45 58.5	-0.3
PRSN					Sn	05 46 11.4	+0.5
PRSN	**Puerto Rico Se**	0.88 177		⇑eP	Pb	05 45 58.5	-0.3
PRSN	**Puerto Rico Se**	0.88 177		eS	Sn	05 46 11.4	+0.5
PRSN	**Puerto Rico Se**	0.88 177		⇓ePg	Pb	05 45 58.4	-0.5
PRSN				⇓eSg	Sb	05 46 10.1	0.0
PRSN				IAML		05 46 18.5	
	comp=N,623nm,0.3s						
LSP	**Las Mesas**	0.92 174			Pb	05 45 59.1	-0.6
LSP					Sn	05 46 13.1	+0.9
LSP	**Las Mesas**	0.92 174		⇓eP	Pb	05 45 59.1	-0.6
LSP	**Las Mesas**	0.92 174		eS	Sn	05 46 13.1	+0.9
UUPR	**Utuado, UPR, P**	0.95 152			Pb	05 45 59.0	-1.0
UUPR	**Utuado, UPR, P**	0.95 152			Sn	05 46 13.6	+0.8
UUPR	**Utuado, UPR, P**	0.95 152			Pb	05 45 59.2	-0.8
UUPR	**Utuado, UPR, P**	0.95 152		⇑eP	Pb	05 45 59.0	-1.0
UUPR	**Utuado, UPR, P**	0.95 152		eS	Sn	05 46 13.6	+0.8
CRPR	**Cabo Rojo, PR**	1.09 176			Pn	05 46 01.3	-0.6
CRPR					Sn	05 46 17.1	+0.9
CRPR				IAML		05 46 20.4	
	comp=E,114nm,0.4s						
CRPR	**Cabo Rojo, PR**	1.09 176		⇑eP	Pn	05 46 01.4	-0.6
CRPR	**Cabo Rojo, PR**	1.09 176		eS	Sn	05 46 17.0	+0.9
CRPR	**Cabo Rojo, PR**	1.09 176		ePg	Pn	05 46 01.6	-0.3
CRPR				⇑eSg	Sb	05 46 15.5	-0.7
CRPR				IAML		05 46 21.0	
	comp=N,129nm,0.6s						
CRPR	**Cabo Rojo, PR**	1.09 176		i P	Pn	05 46 01.4	-0.6
CRPR				eS	Sb	05 46 16.1	-0.1
CRPR				IAML		05 46 23.1	
	comp=Z,86nm,0.4s						
ECPR	**Experimental S**	1.10 135		⇑eP	Pn	05 46 01.6	-0.5
ECPR	**Experimental S**	1.10 135		eS	Sn	05 46 17.5	+1.0
MLPR	**Magueyes Islan**	1.13 173		⇓eP	Pn	05 46 02.0	-0.5
MLPR	**Magueyes Islan**	1.13 173		eS	Sb	05 46 17.6	+0.2
MLPR	**Magueyes Islan**	1.13 173		ePg	Pn	05 46 02.2	-0.4
MLPR				⇓eSg	Sb	05 46 16.1	-1.3
MLPR				IAML		05 46 21.9	
	comp=N,36nm,0.4s						
CELP	**Cerrillos**	1.17 150			Pn	05 46 02.9	-0.2
CELP				IAML		05 46 22.2	
	comp=E,103nm,0.2s						
CELP	**Cerrillos**	1.17 150		⇓eP	Pn	05 46 02.6	-0.4
CELP	**Cerrillos**	1.17 150		eS	Sn	05 46 18.5	+0.3
CELP	**Cerrillos**	1.17 150		⇓ePg	Pn	05 46 02.9	-0.2
CELP				⇓eSg	Sb	05 46 19.2	+0.6
CELP				IAML		05 46 22.8	
	comp=N,121nm,0.3s						
OBIP	**Obispado Ponce**	1.18 152			Pn	05 46 02.9	-0.3
OBIP					Sb	05 46 19.6	+0.6
OBIP				IAML		05 46 22.1	
	comp=N,96nm,0.2s						
OBIP				IAML		05 46 24.5	
	comp=E,105nm,0.4s						
OBIP	**Obispado Ponce**	1.18 152		⇓eP	Pn	05 46 02.8	-0.5
OBIP	**Obispado Ponce**	1.18 152		eS	Sb	05 46 19.5	+0.5
GCPR	**Guaynabo City**	1.31 127			Pn	05 46 04.3	-0.7
GCPR	**Guaynabo City**	1.31 127		⇓eP	Pn	05 46 04.2	-0.8
GCPR	**Guaynabo City**	1.31 127		eS	Sn	05 46 21.1	-0.5
SJG	**San Juan**	1.39 135			Pb	05 46 06.9	-0.7
SJG				IAML		05 46 29.0	
	comp=E,66nm,0.3s						
SJG				IAML		05 46 31.6	
	comp=E,71nm,0.3s						
SJG	**San Juan**	1.39 135		⇓eP	Pb	05 46 07.1	-0.4
SJG	**San Juan**	1.39 135		eS	Sn	05 46 24.0	+0.4
SJG	**San Juan**	1.39 135		ePg	Pb	05 46 07.2	-0.3
SJG				⇓eSg	Sb	05 46 24.9	+0.1
SJG	**San Juan**	1.39 135		i P	Pn	05 46 06.7	+0.6
SJG				IAML		05 46 35.4	
	comp=Z,47nm,0.4s						
IGPR	**InterUniversit**	1.52 138			Pn	05 46 08.3	+0.4
IGPR					Sn	05 46 26.2	-0.7
IGPR	**InterUniversit**	1.52 138		⇓eP	Pn	05 46 08.3	+0.4
IGPR	**InterUniversit**	1.52 138		eS	Sn	05 46 26.2	-0.7
HIDR	**Higuey Centro**	1.54 251		⇑eP	Pn	05 46 07.9	-0.2
HIDR	**Higuey Centro**	1.54 251		eS	Sn	05 46 28.0	+0.8
HIDR	**Higuey Centro**	1.54 251		⇓ePg	Pn	05 46 08.2	+0.1
HIDR				⇑eSg	Sn	05 46 24.6	-2.7
HIDR				IAML		05 46 36.6	
	comp=N,72nm,0.2s						
PDPR	**Patillas Dam,**	1.54 134			Pn	05 46 08.2	+0.1
PDPR				IAML		05 46 34.1	
	comp=N,54nm,0.2s						
PDPR	**Patillas Dam,**	1.54 134		⇓eP	Pn	05 46 08.0	-0.2
PDPR	**Patillas Dam,**	1.54 134		eS	Sn	05 46 28.1	+0.7
MIDR	**Miches**	1.77 267		⇑eP	Pn	05 46 10.7	-0.6
MIDR	**Miches**	1.77 267		eS	Sn	05 46 33.6	+0.7
MIDR	**Miches**	1.77 267		⇓ePg	Pn	05 46 10.9	-0.4
MIDR				IAML		05 46 37.5	
	comp=N,25nm,0.3s						
DR12	**Loma Pena Alta**	2.10 262		Pn	Pn	05 46 16.4	+0.5
HATOM	**Hato Mayor del**	2.10 262		ePg	Pn	05 46 16.4	+0.5
HATOM				⇑eSg	Sn	05 46 41.0	-0.3
HATOM				IAML		05 46 51.4	
	comp=N,30nm,1.1s						
BANI	**BANI**	3.09 257		Pn	Pn	05 46 31.3	+1.7

*NNC **24** 05:46:26.6±4.2, 37°.68N×71°.44E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=32.4km s-min=30.4km az=7.0*
*IDC **24** 05:46:30.8±33.0, 36°.77N×72°.67E, h246km±215km, mb3.1/2, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=334.0km s-min=63.3km az=3.0*
ISC 24 05:46:30.6±2.4,**37°.6N**±0°.2×**71°.5E**±0°.2,**h150**km,**n7,**
σ1°.23/8,mb3.8/3,2C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	5.50	24	⇑P	Pn	05 47 49.8	-0.8
	0.7nm,0.4s						
AAK				⇑S	Sn	05 48 54.3	+1.1
	1.7nm,0.6s						
KK31	**Karatay Array**	5.52	352	P	Pn	05 47 49.0	-1.8
	0.4nm,0.2s,baz=178,slow=13,SNR=8.5						
KK31				S	Sn	05 48 54.2	+0.7
	3.3nm,0.5s,baz=186,slow=23,SNR=4.3						
MKAR	**Makanchi Array**	12.14	38	P	Pn	05 49 17.8	-0.6
	0.1nm,0.3s,baz=224,slow=14,SNR=4.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	13.92	19	P	P	05 49 45.1	+0.5
	0.1nm,0.3s,baz=204,slow=10,SNR=3.0						
	0.4nm,0.6s						
HFS	**Hagfors**	42.44	321	P	P	05 54 11.2	+1.1
	0.8nm,0.3s,baz=96,slow=8.8,SNR=6.9						
	0.8nm,0.3s						
NOA	**NORSAR Array B**	43.73	322	P	P	05 54 21.1	+0.5
	0.2nm,0.4s,baz=92,slow=7.4,SNR=1.4						
	0.2nm,0.4s						
ULM	**Lac du Bonnet**	91.79	352	P	P	05 59 15.0	-6.1
	2.1nm,0.5s,baz=349,slow=5.2,SNR=3.1						

*AEIC **24** 05:47:06.1±1.0, 54°.19N±0°.04×162°.50W±0°.04, h15km±6km, Error ellipse: s-maj=6.9km s-min=2.8km az=158.0*
NEIC 24 05:47:06.0±0.8,**54°.17N**±0°.05×**162°.57W**±0°.05,
h21km±12km,**ML2.4/8,ML2.5**(AEIC),**Error ellipse:**
s-maj=7.8km s-min=1.1km az=149.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	0.85	324		Pb	05 47 22.0	0.0
FALS					Sb	05 47 33.1	+0.3
DT1	**Dutton Round H**	0.95	10		Pb	05 47 23.4	-0.4
DT1					Sn	05 47 36.9	-0.1
SSLS	**Shishaldin Sou**	1.00	303		Pn	05 47 25.0	+0.2
DOL	**Dolgoi Island**	1.06	22		Pn	05 47 24.9	-0.7
DOL					Sn	05 47 39.9	+0.2
PS4A	**Pavlof South-4**	1.25	19		Pn	05 47 27.9	-0.2
PS1A	**Pavlof South-1**	1.34	21		Pn	05 47 29.8	+0.4
SDPT	**Sand Point**	1.69	45		Pn	05 47 34.3	+0.1
SDPT					Sn	05 47 55.3	+0.1
SDPT				IAML		05 47 59.0	
	comp=E,52nm,0.4s						
SDPT				IAML		05 48 16.7	
	comp=N,48nm,1.2s						
AKUT	**Akutan**	1.89	270	Pn	Pn	05 47 36.8	0.0
AKUT				IAML		05 48 13.6	
	comp=E,31nm,0.8s						
UNV	**Unalaska Valle**	2.35	264	Pn	Pn	05 47 42.8	-0.4
UNV				IAML		05 48 41.3	
	comp=E,19nm,1.2s						

*OSPL **24** 05:49:37.5±1.0, 19°.80N×70°.89W, h0km±10km, ML1.6*
*SDD **24** 05:49:40.1±1.7, 19°.75N×70°.89W, h90km±20km, MD2.9, ML2.2, MW2.5*
ISC 24 05:49:37.3±2.1,**19°.69N**±0°.07×**70°.81W**±0°.04,**h4**km±15km,
n9,σ1°.13/17,9C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	0.28	163	i P	Pb	05 49 44.5	-0.3
SC01				eS	Sb	05 49 50.2	+0.3
MCDR	**Montecristi**	0.82	284	⇑ePg	Pn	05 49 56.4	+0.8
MCDR				⇑eSg	Sn	05 50 08.0	-0.2
MCDR				IAML		05 50 19.8	
	comp=N,35nm,0.2s						
SDDR	**Presa de Saban**	0.84	212	i P	Pb	05 49 53.2	-1.2
SDDR				eS	Sb	05 50 05.7	-0.4
SDDR				IAML		05 50 07.4	
	comp=Z,12nm,0.4s						
NADR	**Nagua**	0.96	110	⇑ePg	Pn	05 49 58.8	+1.2
NADR				⇑eSg	Sn	05 50 13.4	+1.6
NADR				IAML		05 50 15.3	
	comp=N,128nm,1.4s						
LONE3	**El Aguacate, B**	1.24	209	i P	Pn	05 50 00.5	-1.1
LONE3				eS	Sb	05 50 18.1	+0.3
LONE3				IAML		05 50 18.8	
	comp=Z,11nm,1.4s						
BANI	**BANI**	1.36	161	⇑ePg	Pg	05 50 04.5	+1.1
BANI				⇑eSg	Sb	05 50 21.3	0.0
BANI				IAML		05 50 58.6	
	comp=N,30nm,1.8s						
LODU1	**El Espartillar**	1.47	205	i P	Pb	05 50 05.1	-0.1
LODU1				IAML		05 50 28.1	
	comp=Z,33nm,1.2s						
HATOM	**Hato Mayor del**	1.63	123	⇓ePg	Pb	05 50 06.2	-1.7
HATOM				⇑eSg	Sg	05 50 28.9	-0.6
HATOM				IAML		05 50 31.3	
	comp=N,11nm,1.2s						
MIDR	**Miches**	1.81	113	⇑ePg	Pb	05 50 10.0	-1.0
MIDR				⇑eSg	Sb	05 50 32.1	-1.9
MIDR				IAML		05 50 35.5	
	comp=N,11nm,2.3s						

*IDC **24** 06:02:12.6±0.8, 72°.60N×3°.28E, h0km, mb3.9/12, mbtmp3.8/17, ML3.1/5, MS2.7/5, Error ellipse: s-maj=19.7km s-min=14.1km az=52.0*
*NEIC **24** 06:02:13.4±2.5, 72°.75N±0°.09×3°.5E±0°.2, h10km±1km, mb4.3/12, Error ellipse: s-maj=15.0km s-min=12.0km az=200.0*
*BER **24** 06:02:13.9±2.8, 72°.71N×2°.83E, h10km, Mw4.3, ML2.3(DNK), Confirmed Earthquake*
*DNK **24** 06:02:18.7±4.0, 73°.14N×1°.72E, h10km, ML2.3*
ISC 24 06:02:13.3±0.5,**72°.79N**±0°.07×**3°.18E**±0°.06,**h10**km,**n87,**
σ1°.58/84,mb4.0/18,MS3.1/3,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	5.31	32	eP	Pn	06 03 32.2	-0.3
TRO	**Tromso**	5.98	114	eP	Pn	06 03 39.3	-2.4
TRO				IAML		06 03 41.0	
	comp=Z,11nm,0.6s						
SPB2	**Spitsbergen Ar**	6.33	25	Pn	Pn	06 03 45.8	-0.7
SPA0	**Spitsbergen Ar**	6.33	25	eP	Pn	06 03 48.0	+1.5
SPA0				IAML		06 03 48.9	
	comp=Z,4.6nm,0.5s						
SPITS	**Spitsbergen Ar**	6.33	25	Pn	Pn	06 03 47.4	+0.9
	baz=205,slow=16						
	comp=Z,2.6nm,0.4s						
STEI	**Steigen**	6.34	134	eP	Pn	06 03 45.2	-1.4
STEI				IAML		06 03 54.1	
	comp=Z,3.8nm,1.0s						
JETT	**Jettan, Norway**	6.44	112	eP	Pn	06 03 46.2	-1.8
JETT				IAML		06 03 46.7	
	comp=Z,20nm,0.4s						
KBS	**Kingsbay**	6.52	15	Pn	Pn	06 03 47.3	-1.8
KBS	**Kingsbay**	6.52	15	eP	Pn	06 03 48.8	-0.3
KBS				IAML		06 03 58.0	
	comp=Z,6.9nm,0.4s						
KBS	**Kingsbay**	6.52	15	i P	Pn	06 03 48.3	-0.8
HAMF	**Hammerfest**	6.78	98	eP	Pn	06 03 49.9	-2.7
DBG	**Daneborg**	6.79	294	i P	Pn	06 03 51.8	-1.0
DBG				eS	Sn	06 05 01.9	-8.1
DBG				IAML		06 05 07.7	
	comp=Z,4.7nm,1.1s						
DBG	**Daneborg**	6.79	294	i P	Pn	06 03 51.8	-1.0
DBG				eS	Sn	06 04 57.1	-13
DBG				IAML		06 05 07.7	
	comp=Z,4.7nm,1.1s						
FAUS	**Fauske**	6.81	137	eP	Pn	06 03 51.5	-1.6
DAG	**Danmarks Havn**	6.96	315	i P	Pn	06 03 53.3	-1.7
DAG				eS	Sn	06 05 04.2	-10
DAG				IAML		06 05 08.2	
	comp=Z,12nm,0.6s						
DAG	**Danmarks Havn**	6.96	315	i P	Pn	06 03 53.3	-1.7
DAG				eS	Sn	06 05 01.1	-13
DAG				IAML		06 05 08.2	
	comp=Z,12nm,0.6s						
VAGH	**Vaagaholmen**	7.01	145	eP	Pn	06 03 54.5	-1.3
VAGH				IAML		06 03 58.1	
	comp=Z,7.9nm,0.5s						
RAUS	**Rausandaksla**	7.41	144	eP	Pn	06 03 59.9	-1.3
KTK1	**Kautokeino**	7.56	110	eP	Pn	06 04 02.3	-1.1
ARA0	**ARCESS Array S**	7.90	103	eP	Pn	06 04 05.7	-2.3
ARCES	**ARCESS Array B**	7.90	103	Pn	Pn	06 04 05.6	-2.3
	comp=Z,0.3nm,0.3s,baz=308,slow=11,SNR=26						
ARCES				LR	LR	06 06 37.5	
	comp=Z,44nm,18.9s,baz=275,slow=34						
	comp=Z,0.9nm,0.3s						
KEV	**Kevo**	8.21	100	Pn	Pn	06 04 09.1	-3.1
SCO	**Scoresbysund**	8.22	266	Pn	Pn	06 04 12.7	+0.2
SCO	**Scoresbysund**	8.22	266	i P	Pn	06 04 12.9	+0.4
SCO				eS	Sn	06 05 30.5	-15
SCO				IAML		06 05 40.1	
	comp=Z,21nm,1.3s						
SCO	**Scoresbysund**	8.22	266	i P	Pn	06 04 12.9	+0.4
SCO				eS	Sn	06 05 30.5	-15
SCO				IAML		06 05 40.1	
	comp=Z,21nm,1.3s						
BORG	**Borgarnes**	11.88	240	LR	LR	06 07 55.6	
	comp=Z,19nm,21.8s,baz=12,slow=29						
NC204	**NORSAR Array S**	11.92	162	Pn	Pn	06 05 01.5	-1.6
NC303	**NORSAR Array S**	12.03	161	Pn	Pn	06 05 03.4	-1.1
NOA	**NORSAR Array B**	12.19	161	Pn	Pn	06 05 05.4	-1.4
	baz=346,slow=13,SNR=3.3						
NOA				LR	LR	06 09 23.3	
	comp=Z,38nm,18.9s,baz=335,slow=36						
	comp=Z,0.8nm,0.7s						
SUMG	**Summit**	12.22	289	Pn	Pn	06 05 07.2	-0.2
HFS	**Hagfors**	13.35

AK11	Malin Array Si	24.93	139	P	P	06 07 35.0	-1.2
AK02	Malin Array Si	24.96	139	P	P	06 07 35.6	-0.8
AK12	Malin Array Si	24.96	139	P	P	06 07 35.6	-0.8
AK14	Malin Array Si	24.97	139	P	P	06 07 35.7	-0.8
AK13	Malin Array Si	24.98	139	P	P	06 07 36.3	-0.3
AK08	Malin Array Si	24.99	139	P	P	06 07 36.4	-0.3
AK05	Malin Array Si	25.00	139	P	P	06 07 35.7	-1.0
AK09	Malin Array Si	25.02	138	P	P	06 07 36.3	-0.6
AK10	Malin Array Si	25.03	139	P	P	06 07 36.4	-0.6
AK06	Malin Array Si	25.03	139	P	P	06 07 36.4	-0.6
AK07	Malin Array Si	25.06	139	P	P	06 07 37.1	-0.2
LUBAR	Lubar, Ukraine	25.39	141	P	P	06 07 40.6	+0.3
ILON	Igloolik, Nuna	25.59	305	P	P	06 07 44.0	+2.1
HOLU	Holmets	25.83	150	P	P	06 07 44.9	+0.6
KMPD	K-Podol'skiy	26.46	144	P	P	06 07 50.2	+0.2
MURB	Monte Urbino	29.94	166	P	P	06 08 21.0	-0.2
TIXI	Tiksi	31.74	29	LR	LR	06 21 08.8	
	comp=Z,17nm,19.5s,baz=200,slow=36						
AKTO	Aktyubinsk	32.48	103	LR	LR	06 21 45.7	
	comp=Z,36nm,20.0s,baz=212,slow=36						
SCHQ	Schefferville	33.12	276	LR	LR	06 19 50.3	
	comp=Z,515nm,18.8s,baz=96,slow=32						
ESDC	Sonseca Array	33.38	190	P	P	06 08 52.0	+0.6
	comp=Z,0.7nm,0.7s,baz=5.9,slow=6.5,SNR=2.7						
	comp=Z,0.7nm,0.7s						
BVAR	Borovoye Array	33.85	89	P	P	06 08 56.1	+0.7
	comp=Z,0.9nm,0.5s,baz=308,slow=7.2,SNR=4.9						
	comp=Z,0.9nm,0.5s						
AB31	Akbulak array	34.09	102	P	P	06 08 57.7	+0.2
AB31				IAmb	IAmb	06 09 00.1	
	comp=Z,3.8nm,1.2s						
KBZ	Khabaz	34.55	125	P	P	06 09 03.1	+1.6
	comp=Z,1.1nm,0.7s,baz=321,slow=7.7,SNR=4.0						
	comp=Z,1.1nm,0.7s						
INK	Inuvik	36.33	335	P	P	06 09 18.6	+2.1
INK				IAmb	IAmb	06 09 19.4	
	comp=Z,7.7nm,1.4s						
BRTR	Keskin Array B	36.33	139	P	P	06 09 16.5	-0.5
	comp=Z,1.1nm,0.7s,baz=357,slow=7.4,SNR=5.2						
	comp=Z,1.1nm,0.7s						
ZAA0	Zalesovo Array	37.29	75	P	P	06 09 24.1	-0.7
ZALV	Zalesovo Beam	37.29	75	P	P	06 09 24.1	-0.7
ZALV	Zalesovo Beam	37.29	75	P	P	06 09 25.9	+1.1
	comp=Z,0.5nm,0.5s,baz=343,slow=4.5,SNR=1.7						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	38.33	83	P	P	06 09 32.3	-1.3
KURBB	Kurchatov Arra	38.38	83	P	P	06 09 34.9	+0.8
	comp=Z,3.6nm,0.2s,baz=330,slow=7.9,SNR=1.9						
	comp=Z,3.6nm,0.2s						
ILAR	Eielson Array	41.24	341	P	P	06 10 00.7	+3.0
	comp=Z,0.6nm,0.9s,baz=358,slow=5.5,SNR=4.8						
	comp=Z,0.6nm,0.9s						
PDAR	Pinedale Array	55.87	305	P	P	06 11 51.4	+0.6
	comp=Z,1.3nm,1.1s,baz=71,slow=5.0,SNR=4.2						
	comp=Z,1.3nm,1.1s						
TXAR	Lajitas Array	67.05	295	P	P	06 13 07.6	+1.3
	comp=Z,0.3nm,0.8s,baz=61,slow=5.8,SNR=3.8						
	comp=Z,0.3nm,0.8s						
CMAR	Chiang Mai Arr	74.22	79	P	P	06 13 51.4	+1.4
	comp=Z,1.5nm,0.3s,baz=356,slow=5.5,SNR=3.3						
	comp=Z,1.5nm,0.3s						
SNAA	Sanae	144.28	183	PKP	PKPdf	06 21 46.4	-0.9
	comp=Z,1.3nm,0.8s,baz=322,slow=14,SNR=5.0						

*IDC **24** 06:03:22.6±1.7, 17°.96S×178°.08W, h499km±20km, mb3.7/25, mbtmp4.6/27, Error ellipse: s-maj=12.9km s-min=10.0km az=161.0*
*NOU **24** 06:03:26.7, 17°.91S×178°.08W, h546km, mb4.8/39, Fiji Islands Region*
*NEIC **24** 06:03:26.5±1.6, 17°.92S±0°.06×178°.1W±0°.1, h534km±5km, mb4.7/45, Error ellipse: s-maj=14.9km s-min=8.1km az=77.0*

ISC 24 06:03:27.4±0.3, 18°.00S±0°.07×178°.14W±0°.06, h550km, n182, σ1°.72/170, mb4.5/66, 5C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.64	274	P	P	06 04 45.8	-1.0
MSVF	Nonsavu	3.64	274	P	P	06 04 45.6	-1.2
MSVF	Nonsavu	3.64	274	S	S	06 05 52.9	+1.5
FUTU	Fugatoga	3.67	0	P	P	06 04 43.9	-3.1
FUTU	Fugatoga	3.67	0	P	P	06 04 44.1	-2.9
AFI	Afiamalu	7.35	57	P	P	06 05 13.4	-5.5
NIUE	Niue	7.86	99	P	P	06 05 21.7	-2.0
FUNA	Funafuti	9.77	344	P	P	06 05 40.6	-2.4
FUNA	Funafuti	9.77	344	P	P	06 05 41.5	-1.6
DZM	Mont Dzumac	15.04	252	P	P	06 06 34.3	-3.1
	15nm,1.1s,baz=144,slow=11,SNR=3.1						
RAR	Rarotonga	17.59	103		P	06 07 00.8	-0.7
RAR	Rarotonga	17.59	103	P	P	06 07 00.0	-1.5
	50nm,0.9s,baz=242,slow=6.7,SNR=16						
RAR	Rarotonga	17.59	103	P	P	06 07 01.1	-0.5
URZ	Urewera	20.61	191	P	P	06 07 25.2	-3.5
	11nm,0.6s,baz=272,slow=4.1,SNR=7.6						
	11nm,0.6s						
URZ	Urewera	20.61	191	P	P	06 07 29.3	+0.6
QRZ	Quartz Range	24.12	198	P	P	06 07 59.9	-0.3
PAE	Paea	27.18	94	*e*P	P	06 08 26.2	-1.2
	14nm,1.1s						
PPT2	Papeete2	27.19	94	*es*S	sS	06 15 04.9	-10
	110nm,27.0s						
PPT2				*es*S	SS	06 15 09.6	-22
	80nm,25.8s						
PPT	Papeete	27.19	94	P	P	06 08 25.0	-2.6
	25nm,0.6s,baz=99,slow=2.6,SNR=13						
	25nm,0.6s						
PPTF	Pamatai, Papee	27.20	94	P	P	06 08 27.1	-0.6
PPTF				IAmb	IAmb	06 08 28.5	
	comp=Z,32nm,0.8s						
PPTF	Pamatai, Papee	27.20	94	P	P	06 08 27.6	-0.1
TBI	Tubuai	27.32	106	*e*P	P	06 08 29.2	+0.5
	comp=Z,41nm,0.8s						
TBI				*es*S	sS	06 15 14.9	-1.8
	comp=Z,243nm,28.0s						
TIAR	Tiarei	27.41	94	*e*P	P	06 08 28.5	-1.0
	comp=Z,53nm,0.8s						
TVO	Taravao	27.48	94	*e*P	P	06 08 29.1	-1.1
	comp=Z,13nm,0.8s						
TW1H	Toowoomba 1 Ha	29.09	246	P	P	06 08 44.1	0.0
PMOR	Pomariorio Ree	29.13	89	*e*P	P	06 08 43.5	-1.0
	comp=Z,57nm,1.1s						
VAH	Vaihoa	29.35	89	*e*P	P	06 08 44.5	-1.9
	comp=Z,8.6nm,0.7s						
EIDS	Eidsvold	29.48	250		P	06 08 47.2	-0.2
EIDS				IAmb	IAmb	06 08 47.5	
	comp=Z,12nm,0.8s						
EIDS	Eidsvold	29.48	250	P	P	06 08 47.0	-0.4
ARMA	Armidale	30.12	240	P	P	06 08 53.6	+0.6
ARMA				IAmb	IAmb	06 08 54.2	
	comp=Z,16nm,0.7s						
ARMA	Armidale	30.12	240	P	P	06 08 53.0	0.0
AUPHS	Peel High Scho	30.93	239	P	P	06 09 00.4	+0.6
RABL	Rabaul	32.14	292	P	P	06 09 10.4	+0.1
AULRC	Lightning Ridg	32.93	243	P	P	06 09 16.9	+0.1
CNB	Canberra Magne	33.57	233	P	P	06 09 22.7	+0.4
AUMTS	Mt Stromlo	33.85	233	P	P	06 09 23.3	-1.3
CAN	Canberra	33.85	233	P	P	06 09 25.2	+0.6
CAN				IAmb	IAmb	06 09 25.6	
	comp=Z,16nm,0.8s						
CAN	Canberra	33.85	233	P	P	06 09 25.0	+0.4
AUSMG	Snowy Mountain	34.56	231	P	P	06 09 31.2	+0.6
CMSA	Cobar Meteorol	35.33	241	P	P	06 09 36.8	-0.1
QLP	Quilpie	35.74	249	P	P	06 09 40.2	-0.2
TOO	Toolangi	37.31	231	P	P	06 09 53.9	+0.7
TOO				IAmb	IAmb	06 09 54.5	
	comp=Z,14nm,0.8s						
COEN	Coen	37.36	270	P	P	06 09 53.9	0.0
COEN				IAmb	IAmb	06 09 54.2	
	comp=Z,17nm,0.8s						
AUKSC	Keysborough Se	37.70	231	P	P	06 09 57.0	+0.7
BRAT	Ballarat	38.46	232	P	P	06 10 03.5	+1.0
STKA	Stephens Creek	38.81	241		P	06 10 05.9	+0.4
STKA	Stephens Creek	38.81	241	P	P	06 10 05.8	+0.4
	comp=Z,24nm,0.8s,baz=88,slow=9.5,SNR=36						
	comp=Z,24nm,0.8s						
STKA	Stephens Creek	38.81	241	P	P	06 10 05.8	+0.3
INKA	Innaminka	38.95	248	P	P	06 10 07.7	+1.1
INKA				IAmb	IAmb	06 10 08.1	
	comp=Z,11nm,0.8s						
HTT	Hallett	41.32	240	P	P	06 10 25.9	+0.3
AUMBR	Murray Bridge	41.38	237	P	P	06 10 26.2	+0.3
AUMAR	Marden Senior	41.84	238	P	P	06 10 29.5	-0.1
WHYH	Whyalla	42.36	241	P	P	06 10 34.8	+1.1
BBOO	Buckleboo	43.59	241		P	06 10 43.3	0.0
BBOO	Buckleboo	43.59	241	P	P	06 10 43.2	0.0
WRAB	Tennant Creek	44.86	260	P	P	06 10 52.5	-0.7
WRAB				IAmb	IAmb	06 10 52.8	
	comp=Z,12nm,0.7s						
WRAB	Tennant Creek	44.86	260	P	P	06 10 52.6	-0.7
WB1	Warramunga Ar.	44.86	260	P	P	06 10 52.2	-1.1
WRA	Warramunga Arr	44.87	260	P	P	06 10 51.7	-1.7
	comp=Z,10nm,0.6s,baz=95,slow=6.9,SNR=180						
WRA				PcP	PcP	06 12 23.4	+0.1
	comp=Z,2.2nm,0.5s,baz=91,slow=3.4,SNR=6.7						
WRA				S	S	06 16 49.0	-2.5
	comp=Z,1.3nm,1.0s,baz=98,slow=12,SNR=4.5						
	comp=Z,10nm,0.6s						
ASAR	Alice Springs	45.01	254	P	P	06 10 54.0	-0.5
	comp=Z,115nm,0.6s,baz=88,slow=8.3,SNR=1244						
ASAR				PcP	PcP	06 12 23.7	-0.1
	comp=Z,4.8nm,0.7s,baz=102,slow=4.1,SNR=6.2						
ASAR				ScP	ScP	06 15 29.3	+5.2
	comp=Z,0.5nm,0.7s,baz=94,slow=4.2,SNR=2.6						
ASAR				S	S	06 16 51.4	-2.0
	comp=Z,4.9nm,0.9s,baz=87,slow=16,SNR=21						
AUALC	St Philip's Co	45.03	254	P	P	06 10 54.5	-0.1
GUMO	Guam	48.14	308	P	P	06 11 20.0	+2.0
MTN	Manton Dam	49.05	268	P	P	06 11 24.0	-0.9
MTN				IAmb	IAmb	06 11 24.5	
	comp=Z,11nm,0.7s						
FORT	Forrest	50.20	245	P	P	06 11 32.5	-0.6
FORT				IAmb	IAmb	06 11 33.0	
	comp=Z,16nm,0.7s						
KNRA	Kununurra	50.74	264	P	P	06 11 36.9	-0.4
KNRA				IAmb	IAmb	06 11 37.2	
	comp=Z,18nm,0.7s						
FITZ	Fitzroy Crossi	53.27	261		P	06 11 55.5	+0.1
FITZ	Fitzroy Crossi	53.27	261	P	P	06 11 55.0	-0.4
	comp=Z,4.1nm,0.6s,baz=150,slow=3.5,SNR=14						
	comp=Z,4.1nm,0.6s						
FITZ	Fitzroy Crossi	53.27	261	P	P	06 11 55.5	+0.1
SOEI	Soe	56.33	270	P	P	06 12 17.4	+0.4
SOEI	Soe	56.33	270	P	P	06 12 16.9	-0.1
PSA00	Pilbara Seismi	58.13	255	P	P	06 12 28.6	-0.5
PSA00				IAmb	IAmb	06 12 29.2	
	comp=Z,26nm,0.8s						
PSA00	Pilbara Seismi	58.13	255	P	P	06 12 28.8	-0.3
MBWA	Marble Bar	58.30	256	P	P	06 12 29.6	-0.7
EDFI	Ende, Flores	59.05	270	P	P	06 12 34.5	-1.0
	comp=Z,22nm,1.1s						
NWAO	Narrogin (SRO)	59.39	242	P	P	06 12 37.0	-0.3
NWAO				IAmb	IAmb	06 12 41.2	
	comp=Z,42nm,1.2s						
SBA	Scott Base	60.34	184	P	P	06 12 45.1	+2.3
VNDA	Vanda	60.37	185	P	P	06 12 44.1	+1.0
VNDA	Vanda	60.37	185	P	P	06 12 42.9	-0.2
	comp=Z,2.0nm,0.9s,baz=344,slow=6.9,SNR=13						
	comp=Z,2.0nm,0.9s						
MORW	Morawa	60.68	246	P	P	06 12 45.7	-0.3
MORW				IAmb	IAmb	06 12 47.4	
	comp=Z,14nm,0.9s						
KAPI	Kappang	61.96	274	P	P	06 12 54.1	-0.4
	comp=Z,2.5nm,0.3s,baz=246,slow=12,SNR=1.9						
	comp=Z,2.5nm,0.3s						
PLAI	Plampang	62.75	269	P	P	06 12 59.3	-0.4
GIRL	Giralia	63.12	253	P	P	06 13 02.4	+0.5
CASY	Casey	66.16	205	P	P	06 13 20.5	+0.2
JAGI	Jajag, Banyuwa	66.30	268	P	P	06 13 20.7	-1.4
JAGI				IAmb	IAmb	06 13 21.2	
	comp=Z,32nm,0.7s						
JGF	Kuroka	67.97	322	P	P	06 13 31.8	-0.1
JGF				IAmb	IAmb	06 14 02.9	
	comp=Z,15nm,1.1s						
MJAR	Matsushiro Arr	68.14	323	P	P	06 13 32.4	-0.6
MJAR	Matsushiro Arr	68.14	323	P	P	06 13 31.8	-1.1
	comp=Z,1.8nm,0.2s,baz=163,slow=6.5,SNR=5.7						
	comp=Z,1.8nm,0.2s						
UGM	Wanagama	69.90	268	P	P	06 13 43.6	-0.5
YOJ	Yonaguni jima	71.21	305	P	P	06 13 51.6	+0.1
SSLB	Suanglung	72.50	303	P	P	06 13 58.0	-1.1
TPUB	Ta-pu	72.53	302		P	06 13 58.1	-1.1
TPUB	Ta-pu	72.53	302	P	P	06 13 58.4	-0.8
KSM	Kuching	72.95	277		P	06 14 02.0	+0.2
KSM				IAmb	IAmb	06 14 03.1	
	comp=Z,30nm,0.7s						
KSM	Kuching	72.95	277	P	P	06 14 03.0	+1.2
PETK	Petropavlovsk-	73.84	345	P	P	06 14 04.9	-1.0
PETK	Petropavlovsk-	73.84	345	P	P	06 14 05.2	-0.7
	comp=Z,5.8nm,0.8s,baz=140,slow=9.5,SNR=4.8						
	comp=Z,5.8nm,0.8s						
KSRS	Korea Array	74.94	318	P	P	06 14 12.1	-0.4
	comp=Z,2.2nm,0.8s,baz=132,slow=6.5,SNR=5.2						
	comp=Z,2.2nm,0.8s						
USRK	Ussuriysk Ar.	76.84	326	P	P	06 14 22.5	-0.4
	comp=Z,2.5nm,0.6s,baz=114,slow=5.4,SNR=2.7						
	comp=Z,2.5nm,0.6s						
NJ2	Nanjing	78.20	309	*e*P	P	06 14 32.4	+1.9
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
KDAK	Kodiak Island	78.43	14	IAmb	IAmb	06 14 38.6	
	comp=Z,129nm,1.5s						
KDAK	Kodiak Island	78.43	14	P	P	06 14 29.9	-1.2
	comp=Z,8.0nm,0.8s,baz=319,slow=23,SNR=1.4						
	comp=Z,8.0nm,0.8s						
NVAR	Mina Array Bea	79.31	44	P	P	06 14 37.0	+0.4
	comp=Z,1.4nm,0.8s,baz=225,slow=10,SNR=10						
	comp=Z,1.4nm,0.8s						
CN2	Changchun	80.25	322	*e*P	P	06 14 40.5	-0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX	BinXian	80.32	325	⇑P	P	06 14 41.4	0.0
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
WHN	Wuhan	80.87	306	P	P	06 14 44.8	+0.2
BELA	Belgrano 2	82.04	173	P	P	06 14 50.3	+0.5
BELA				IAmb	IAmb	06 14 50.8	
	comp=Z,17nm,0.8s						
X16A	Lo Mia Camp, P	82.05	50	P	P	06 14 50.6	-0.2
U15A	North Rim	82.39	48	P	P	06 14 53.5	+0.9
J17K	VABM Dome	82.49	9	P	P	06 14 52.2	+0.1
J17K				IAmb	IAmb	06 14 54.4	
	comp=Z,39nm,1.4s						
IPM	Ipoh	82.69	277	P	P	06 14 55.1	+0.8
HNS	HongShan	83.77	312	⇑P	P	06 15 00.3	+1.2
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
MAW	Mawson	83.86	200	P	P	06 14 59.2	+0.2
	comp=Z,4.3nm,0.7s,baz=132,slow=8.8,SNR=8.8						
	comp=Z,4.3nm,0.7s						
SEY	Seymchan	83.93	347	P	P	06 14 58.5	-0.7
	comp=Z,5.8nm,0.5s,baz=158,slow=7.4,SNR=11						
	comp=Z,5.8nm,0.5s						
LYN	LuoYang	84.09	309	⇑P	P	06 15 01.9	+1.2
LYN				pmax	pmax		
	comp=Z,28nm,0.7s						
GYA	Guiyang	85.31	300	⇓P	P	06 15 08.3	+1.3
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
TXAR	Lajitas Array	85.83	58	P	P	06 15 10.1	+0.6
	comp=Z,1.9nm,0.8s,baz=222,slow=6.2,SNR=22						
	comp=Z,1.9nm,0.8s						
ILAR	Eielson Array	85.92	13	P	P	06 15 07.5	-1.4
	comp=Z,0.7nm,0.4s,baz=223,slow=5.3,SNR=29						
	comp=Z,0.7nm,0.4s						
XLT	XiLinHaoTe	85.99	319	*e*P	P	06 15 09.8	0.0
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN	Xi'an	86.52	307	⇑P	P	06 15 13.3	+0.8
XAN				pP	PcP	06 15 16.4	+2.2
XAN				pmax	pmax		
	comp=Z,34nm,1.0s						
HILR	Hailar Array B	86.75	325	P	P	06 15 12.1	-1.1
	comp=Z,0.9nm,0.4s,baz=116,slow=6.6,SNR=2.0						
	comp=Z,0.9nm,0.4s						
PDAR	Pinedale Array	87.24	43	P	P	06 15 15.8	-0.2
	comp=Z,0.5nm,0.8s,baz=212,slow=5.3,SNR=4.4						
	comp=Z,0.5nm,0.8s						
HHC	Hu-ho-hao-te	87.52	314	*e*P	P	06 15 17.9	+0.7
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,4.4s						
SYO	Syowa Base	89.12	193	⇓*e*P	P	06 15 23.6	-0.4
CMAR	Chiang Mai Arr	89.16	290	P	P	06 15 26.1	+0.9
	comp=Z,4.8nm,0.8s,baz=113,slow=2.8,SNR=27						
	comp=Z,4.8nm,0.8s						
CHTO	Chiang Mai	89.28	290	P	P	06 15 26.6	+0.9
PZH	PanZhiHua	89.43	298	P	P	06 15 26.8	+0.4
TROLL	Troll, Antarti	90.21	180	⇓P	P	06 15 29.2	0.0
	comp=Z,278nm,0.5s						
SNAA	Sanae	90.50	179	⇓P	P	06 15 29.9	-0.5
	comp=Z,70nm,0.6s						
SNAA	Sanae	90.50	179		P	06 15 30.5	+0.1
SNAA				IAmb	IAmb	06 15 31.0	
	comp=Z,7.0nm,1.2s						
SNAA	Sanae	90.50	179	P	P	06 15 30.0	-0.4
	comp=Z,2.8nm,0.6s,baz=206,slow=7.8,SNR=24						
	comp=Z,2.8nm,0.6s						
VNA3	Neumayer Olymp	90.63	176	⇓P	P	06 15 30.8	-0.2
	comp=Z,16nm,0.7s						
G31M	Satah River	90.68	16	P	P	06 15 31.0	0.0
G31M				IAmb	IAmb	06 15 49.4	
	comp=Z,18nm,1.4s						
C27K	Jago River	90.74	11	P	P	06 15 31.0	-0.3
C27K				IAmb	IAmb	06 15 52.7	
	comp=Z,10nm,1.4s						
VNA2	Neumayer--Watz	91.07	177	⇓P	P	06 15 33.7	+0.7
	comp=Z,12nm,0.6s,baz=178,slow=4.5						
PLCA	Paso Flores	91.08	134	IAmb	IAmb	06 15 35.9	
	comp=Z,2.7nm,1.1s						
PLCA	Paso Flores	91.08	134	P	P	06 15 33.9	+0.1
	comp=Z,1.6nm,0.9s,baz=219,slow=5.0,SNR=4.6						
	comp=Z,1.6nm,0.9s						
LZH	Lanzhou	91.15	308	*e*P	P	06 15 30.6	-3.6
LZH				pP	PcP	06 15 35.3	+0.5
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZDM	Lanzhou Array	91.22	307	P	P	06 15 35.5	+0.8
	comp=Z,1.3nm,0.3s,baz=138,slow=7.2,SNR=3.6						
	comp=Z,1.3nm,0.3s						
VNA1	Neumayer--Stat	91.30	177	⇑P	P	06 15 34.3	+0.3
	comp=Z,15nm,0.9s						
INK	Inuvik	91.91	15	IAmb	IAmb	06 15 54.1	
	comp=Z,17nm,1.5s						
INK	Inuvik	91.91	15	P	P	06 15 35.4	-1.2
	comp=Z,2.1nm,0.9s,baz=196,slow=3.9,SNR=3.7						
	comp=Z,2.1nm,0.9s						
SONM	Songino Array	93.79	319	IAmb	IAmb	06 15 46.3	
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	93.79	319	P	P	06 15 45.8	-0.2
	comp=Z,0.7nm,0.7s,baz=96,slow=2.9,SNR=2.7						
	comp=Z,0.7nm,0.7s						
MKAR	Makanchi Array	109.39	314	PKiKP	PKiKP	06 20 54.4	-1.0
	comp=Z,1.1nm,0.6s,baz=115,slow=0.3,SNR=6.7						
KURBB	Kurchatov Arra	112.12	318	PKiKP	PKiKP	06 20 59.3	-1.1
	comp=Z,1.0nm,0.2s,baz=94,slow=1.7,SNR=7.9						
BVAR	Borovoye Array	117.08	321	PKP	PKPdf	06 21 09.2	-0.7
	comp=Z,2.7nm,0.6s,baz=105,slow=1.7,SNR=11						
GAR	Garm	117.70	305		PKPdf	06 21 11.8	+0.1
ARCES	ARCESS Array B	126.45	350	PKP	PKPdf	06 21 26.7	-0.7
	comp=Z,1.7nm,0.7s,baz=357,slow=2.4,SNR=11						
BOSA	Boshof	128.43	206	PKP	PKPdf	06 21 32.8	+0.1
	comp=Z,3.2nm,0.8s,baz=256,slow=3.1,SNR=4.7						
FINES	FINESS Array B	133.35	344	PKP	PKPdf	06 21 39.8	-0.9
	comp=Z,0.6nm,0.5s,baz=72,slow=6.2,SNR=3.8						
NOA	NORSAR Array B	136.50	353	PKP	PKPdf	06 21 47.0	+0.3
	comp=Z,0.4nm,0.4s,baz=16,slow=3.8,SNR=1.9						
HFS	Hagfors	137.06	351	PKhKP	PKPpre	06 21 37.0	
	comp=Z,1.6nm,0.8s,baz=33,slow=3.4,SNR=1.8						
AKASG	Malin Array Be	140.76	332	PKhKP	PKPpre	06 21 47.3	
	comp=Z,0.5nm,0.3s,baz=44,slow=3.6,SNR=4.4						
GAZ	Gaziantep	143.59	309		PKPab	06 21 59.4	+0.4
LODK	Lodwar	144.13	250		PKPbc	06 22 01.5	+0.1
ILGA	Ilgaz	144.32	317		PKPbc	06 22 01.8	+0.4
BRTR	Keskin Array B	145.03	315	PKPbc	PKPdf	06 22 03.5	+0.7
	comp=Z,9.5nm,0.8s,baz=134,slow=3.6,SNR=40						
ANTO	Ankara	145.53	316	PKPdf	PKPdf	06 22 03.8	+0.3
CLL	Collm	145.61	348		PKPdf	06 22 04.2	+1.1
STEB	Steborice	145.67	342	*e*PKP	PKPdf	06 22 05.1	+1.8
DPC	Dobruska-Polom	145.71	344	*e*PKP	PKPdf	06 22 05.6	+2.2
KRLC	Kraliky	145.84	343	*e*PKP	PKPdf	06 22 05.8	+2.2
MLR	Muntele Rosu	146.05	329		PKPdf	06 22 05.9	+1.7
MMAI	Mount Meron Ar	146.41	303	PKPbc	PKPdf	06 22 08.2	+3.1
	comp=Z,11nm,0.5s,baz=60,slow=4.9,SNR=18						
PRU	Pruhonice	146.50	345	*e*PKP	PKPdf	06 22 07.7	+3.0
ZST	Bratislava	147.42	341	*e*PP	PP	06 25 44.9	+4.2
KHC	Kasperske Hory	147.53	346	*e*PKP	PKPdf	06 22 09.7	+3.2
GERES	GERESS Array B	147.77	345	PKPbc	PKPdf	06 22 10.4	+3.5
	comp=Z,3.1nm,0.5s,baz=20,slow=4.3,SNR=22						
CONA	Conrad Observa	148.03	342	*e*PKP	PKPdf	06 22 11.7	+4.3
	comp=Z,18nm,1.9s						
RONA	Rosalia, Austr	148.11	341	*e*PKP	PKPdf	06 22 11.2	+3.8
	comp=Z,4.1nm,0.6s						
MANT	Manisa	149.05	317		PKPdf	06 22 14.2	+4.7
RDO	Rodhopi	149.27	324		PKPdf	06 22 14.3	+4.9
LESA	Schwarzleotal	149.34	346	*e*PKP	PKPdf	06 22 14.6

INZ	Inchbonnie	1.34	219	P	Pn	06 30 03.9	+0.7
INZ				S	Sn	06 30 20.9	-0.6
TCW	Tory Channel	1.35	70	P	Pn	06 30 04.1	+0.9
AMCZ	Amberley	1.49	179	P	Pn	06 30 05.7	+0.7
SNZO	South Karori	1.62	77	P	Pn	06 30 07.1	+0.5
OXZ	Oxford	1.69	194	P	Pn	06 30 07.7	+0.2
BHW	Baring Head	1.73	81	P	Pn	06 30 07.8	-0.2
KIW	Kapiti Island	1.93	65	P	Pn	06 30 10.9	+0.4
CAW	Cannon Point	1.94	73	P	Pn	06 30 10.5	-0.2
WVZ	Waitaha Valley	1.96	224	P	Pn	06 30 11.7	+0.8
PLWZ	Palliser	1.99	87	P	Pn	06 30 10.8	-0.6
MHCZ	Mount Hutt	1.99	202	P	Pn	06 30 11.5	+0.1
MSWZ	Moikau Station	2.00	83	P	Pn	06 30 10.9	-0.6
MQZ	McQueen's Vall	2.02	179	P	Pn	06 30 11.3	-0.3
OKCZ	Okains Bay	2.06	171	P	Pn	06 30 12.5	+0.2
RACZ	Rakaia	2.06	189	P	Pn	06 30 12.3	0.0
OGWZ	Otaki Gorge	2.12	67	P	Pn	06 30 13.5	+0.4
PAWZ	Paruwai Farm	2.14	83	P	Pn	06 30 12.5	-0.9
AKCZ	Akaroa Harbour	2.19	174	P	Pn	06 30 14.5	+0.5
MTW	Mount Morrison	2.24	77	P	Pn	06 30 13.8	-0.9
WACZ	Wakanui South	2.32	194	P	Pn	06 30 15.8	+0.1
HOWZ	Holdsworth Sta	2.33	71	P	Pn	06 30 15.0	-0.9
TRWZ	Traveller	2.33	84	P	Pn	06 30 14.9	-0.9
MRZ	Mangatainoka R	2.47	66	P	Pn	06 30 17.0	-0.6
ARCZ	Arundel	2.49	204	P	Pn	06 30 17.5	-0.3
TMWZ	Te Maipa	2.54	78	P	Pn	06 30 17.4	-1.2
NBEZ	Newall Road No	2.60	22	P	Pn	06 30 21.2	+1.7
KHEZ	Kahui Hut	2.62	25	P	Pn	06 30 21.4	+1.6
KHEZ	Kahui Hut	2.62	25	P	Pn	06 30 21.4	+1.6
PKE	Pukeiti	2.71	23	P	Pn	06 30 22.7	+1.8
POWZ	Post Office Ro	2.72	63	P	Pn	06 30 20.3	-0.6
FOZ	Fox Glacier	2.76	227	P	Pn	06 30 22.2	+0.7
TMZ	Timaru	2.94	203	P	Pn	06 30 23.7	-0.1
VRZ	Vera Road	3.05	33	P	Pn	06 30 26.9	+1.6
VRZ				S	Sn	06 31 01.1	+0.1
HIZ	Hauiti	3.61	29	P	Pn	06 30 33.6	+0.7
HIZ	Hauiti	3.61	29	P	Pn	06 30 33.9	+1.0
ODZ	Otahua Downs	3.64	202	P	Pn	06 30 33.5	+0.2
ODZ	Otahua Downs	3.64	202	P	Pn	06 30 33.2	-0.1
JCZ	Jackson Bay	3.68	228	P	Pn	06 30 34.2	+0.3
JCZ	Jackson Bay	3.68	228	P	Pn	06 30 34.2	+0.3
KWHZ	Kaweka Forest	3.69	53	P	Pn	06 30 31.9	-2.1

*NEIC **24** 06:31:15.0±1.1, 55°.55N±0°.05×158°.70W±0°.08, h22km±13km, Error ellipse: s-maj=9.4km s-min=3.3km az=138.0*

AEIC 24 06:31:15.5±1.4, 55°.61N±0°.06×158°.66W±0°.06, h28km±7km, ML2.9, ML2.8/20(NEIC), Error ellipse: s-maj=9.4km s-min=3.6km az=156.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNKR	Veniaminof 5	0.58	317		Pb	06 31 27.2	0.0
VNKR					Sb	06 31 35.2	+0.1
VNWF	Veniaminof 8	0.74	317		Pn	06 31 30.2	-0.1
VNWF					Sn	06 31 41.3	+0.6
VNNF	Veniaminof 3	0.77	332		Pn	06 31 30.8	+0.2
VNFG	Fog Glacier, M	0.84	324		Pn	06 31 32.1	+0.5
VNFG					Sn	06 31 44.6	+1.5
CNBA	Chernabura Isl	0.96	214		Pn	06 31 30.9	-2.2
CNBA					Sb	06 31 42.9	-2.8
CNBA				IAML		06 31 44.6	
	comp=E,379nm,0.2s						
CNBA				IAML		06 31 45.2	
	comp=N,289nm,0.4s						
SDPT	Sand Point	1.07	256		Pn	06 31 33.5	-1.2
SDPT					Sn	06 31 48.2	-0.4
SDPT				IAML		06 31 52.2	
	comp=E,130nm,1.0s						
ANNE	Aniakchak Nort	1.35	14		Pn	06 31 39.2	+0.7
PS1A	Pavlof South-1	1.76	265		Pn	06 31 44.1	-0.1
PS1A					Sb	06 32 07.5	-1.3
PS4A	Pavlof South-4	1.84	263		Pn	06 31 45.6	+0.4
PS4A					Sn	06 32 09.3	+1.7
HAG	Hague Volcano	1.87	262		Pn	06 31 46.3	+0.6
PN7A	Pavlof North-7	1.91	266		Pn	06 31 46.0	-0.3
DT1	Dutton Round H	2.13	258		Pn	06 31 49.3	+0.1
CNTC	Contact Creek	3.06	29		Pn	06 32 02.5	+0.3
ANCK	Angle Creek	3.12	32		Pn	06 32 04.3	+1.3
O15K	Ungalikthiuk R	3.63	350		Pn	06 32 09.6	-0.2
O15K				IAML		06 33 26.1	
	comp=N,11nm,1.2s						
O14K	Tigyukauivet M	3.91	340		Pn	06 32 14.0	+0.3
O14K				IAML		06 32 46.6	
	comp=E,15nm,1.1s						
O14K				IAML		06 34 00.6	
	comp=N,14nm,1.0s						
KDAK	Kodiak Island	3.99	54	Pn	Pn	06 32 14.3	-0.5
KDAK				IAML		06 32 52.8	
	comp=N,14nm,1.1s						
KDAK				IAML		06 32 54.3	
	comp=N,18nm,1.1s						
O16K	Kokwok River B	4.00	4	Pn	Pn	06 32 14.9	-0.1
N14K	Kuskokwak Cree	4.62	341	Pn	Pn	06 32 23.5	+0.2
N15K	Kwethluk River	4.63	351	Pn	Pn	06 32 25.5	+1.8
N15K				IAML		06 34 34.9	
	comp=N,8.9nm,1.1s						
N17K	Nushagak Hills	4.99	8	Pn	Pn	06 32 29.0	+0.4
N17K				IAML		06 33 52.6	
	comp=E,4.6nm,0.9s						
M13K	Dall Lake	5.42	335	Pn	Pn	06 32 35.3	+0.9
M16K	Timber Creek	5.43	358	Pn	Pn	06 32 35.6	+1.1
M14K	Bethel	5.44	343	Pn	Pn	06 32 35.0	+0.3
N19K	Bonanza Creek	5.66	21	Pn	Pn	06 32 38.9	+1.0
M17K	Holitna River	5.84	6	Pn	Pn	06 32 40.7	+0.4
L14K	Kuka Creek	6.12	342	Pn	Pn	06 32 44.0	+0.1
L16K	Owhat River	6.13	356	Pn	Pn	06 32 45.0	+0.8
L18K	Granite Mounta	6.71	8	Pn	Pn	06 32 52.1	+0.1
K15K	Wolf Creek Mou	6.86	349	Pn	Pn	06 32 54.6	+0.4
L19K	White Mountain	6.88	15	Pn	Pn	06 32 55.0	+0.6
K13K	Kusilvak Mount	7.06	336	Pn	Pn	06 32 57.9	+0.9
K17K	Iditarod	7.13	1	Pn	Pn	06 32 58.0	+0.2
J16K	Anvik River	7.76	353	Pn	Pn	06 33 07.1	+0.6

IDC 24 06:32:25.7±495.0, 37°.44S×70°.09W, h0km, Error ellipse: s-maj=211.7km s-min=148.0km az=141.0, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	ROBINSON CRUSO	8.04	295	I	I	07 20 50.0	
	baz=121,slow=324,SNR=5.5						
I41PY	VILLA FLORIDA	15.48	48	I	I	08 02 50.0	
	baz=222,slow=325,SNR=6.5						
I08BO	LAS PENAS INFR	21.19	4	I	I	08 41 00.0	
	baz=185,slow=330,SNR=0.9						

*IDC **24** 06:38:35.2±1.2, 52°.52S×26°.56E, h0km, mb3.8/6, mbtmp3.8/6, MS3.0/3, Error ellipse: s-maj=40.5km s-min=25.2km az=86.0*

ISC 24 06:38:36.6±1.1, 52°.5S±0°.2×26°.6E±0°.3, h10km, n19, σ19°08/10, mb3.9/6, MS3.1/3, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	17.29	81	T	T	07 00 42.9	
	baz=242,slow=74,SNR=55						
H04S3	CROZET ISLANDS	17.30	81	T	T	07 00 47.0	
	baz=242,slow=74,SNR=66						
H04S1	CROZET ISLANDS	17.31	81	T	T	07 00 34.0	
	baz=242,slow=74,SNR=105						
MAW	Mawson	23.10	145	P	P	06 43 42.3	+0.2
	5.9nm,1.0s,baz=301,slow=10,SNR=6.7						
	5.9nm,1.0s						
SNAA	Sanae	23.18	203	P	P	06 43 43.6	+0.5
SNAA	Sanae	23.18	203	P	P	06 43 43.7	+0.7
	2.1nm,0.7s,baz=76,slow=9.8,SNR=12						
SNAA				LR	LR	06 50 44.2	
	comp=Z,16nm,19.9s,baz=22,slow=32						
	2.1nm,0.7s						
BOSA	Boshof	23.89	357	P	P	06 43 49.8	-0.6
	1.3nm,0.6s,baz=181,slow=5.5,SNR=4.4						
BOSA				LR	LR	06 51 34.6	
	comp=Z,61nm,18.8s,baz=194,slow=33						
	1.3nm,0.6s						
VNA1	Neumayer--Stat	24.02	208	P	P	06 43 52.0	+0.9
VNA3	Neumayer Olymp	24.72	207	P	P	06 43 57.8	+0.2
LBTB	Lobatse	27.46	358	LR	LR	06 54 32.2	
	comp=Z,45nm,18.7s,baz=136,slow=35						
VNDA	Vanda	47.31	168	P	P	06 47 07.8	-1.9
	0.7nm,0.7s,baz=248,slow=7.7,SNR=8.2						
	0.7nm,0.7s						
H10S2	ASCENSION HYDR	54.78	307	T	T	07 47 25.0	
	baz=149,slow=74,SNR=20						
H10S3	ASCENSION HYDR	54.79	307	T	T	07 47 26.2	
	baz=71,slow=74,SNR=20						
H01W2	Cape Leeuwin H	61.83	111	T	T	07 56 44.8	
	baz=223						
H01W3	Cape Leeuwin H	61.84	111	T	T	07 56 44.3	
	baz=223						
H01W1	Cape Leeuwin H	61.84	111	T	T	07 56 43.3	
	baz=223						
ASAR	Alice Springs	81.44	118	P	P	06 50 54.1	+0.2
	0.7nm,0.7s,baz=216,slow=4.7,SNR=8.0						
	0.7nm,0.7s						
WRA	Warramunga Arr	84.67	116	P	P	06 51 12.3	+1.6
	1.0nm,1.0s,baz=216,slow=3.9,SNR=4.8						
	1.0nm,1.0s						
NVAR	Mina Array Bea	151.95	254	PKPbc	PKiKP	06 58 32.1	+0.3
	0.2nm,0.4s,baz=81,slow=3.9,SNR=2.5						

*SNET **24** 06:43:13.0±0.8, 12°.98N×89°.02W, h27km±14km, ML2.8*

CATAC 24 06:43:13.7±0.6, 13°N±4°×89°W±°, h26km±3km, M2.8/15, MLv2.8/15, 2D, Error ellipse: s-maj=8.0km s-min=3.0km az=19.6, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.53	331	S	Sn	06 43 34.5	+0.9
TECO	Alcaldia de Te	0.57	28	⇓iP	Pn	06 43 25.8	-0.4
TECO				eS	Sn	06 43 34.8	0.0
TECO	Alcaldia de Te	0.57	28	P	Pn	06 43 25.8	-0.4
TECO	Alcaldia de Te	0.57	28	S	Sn	06 43 35.1	+0.3
PANCS	Alcalda de	0.59	348	S	Sn	06 43 35.1	-0.2
PANCS	Alcalda de	0.59	348	P	Pn	06 43 26.1	-0.5
LOMA	Loma Larga	0.62	350	eP	Pn	06 43 26.8	-0.2
LOMA	Loma Larga	0.62	350	S	Sn	06 43 36.6	+0.4
LOMA	Loma Larga	0.62	350	P	Pb	06 43 26.5	+0.4
UESV	Universidad de	0.66	23	S	Sn	06 43 37.3	+0.3
UESV	Universidad de	0.66	23	P	Pb	06 43 26.8	+0.2
UTEC	Universidad Te	0.69	348	S	Sn	06 43 38.1	+0.5
UTEC	Universidad Te	0.69	348	P	Pn	06 43 27.6	-0.1
UDBS	Universidad Do	0.69	352	S	Sn	06 43 38.2	+0.4
UDBS	Universidad Do	0.69	352	P	Pn	06 43 27.6	-0.3
IGN	Direccin Gen	0.69	351	S	Sn	06 43 38.3	+0.5
IGN	Direccin Gen	0.69	351	P	Pb	06 43 27.1	-0.1
PAVA	Las Pavas	0.69	10	eP	Pn	06 43 27.8	-0.2
PAVA	Las Pavas	0.69	10	P	Pn	06 43 27.8	-0.1
PAVA	Las Pavas	0.69	10	S	Sn	06 43 38.4	+0.6
UEES	Universidad Ev	0.71	345	S	Sn	06 43 38.8	+0.6
UEES	Universidad Ev	0.71	345	P	Pb	06 43 27.7	+0.1
TECA	Tecapa	0.71	49	eP	Pb	06 43 27.7	+0.1
TECA				eS	Sn	06 43 38.3	-0.2
PMON	Piamonte	0.73	340	eP	Pn	06 43 28.2	-0.2
PMON	Piamonte	0.73	340	P	Pn	06 43 28.1	-0.3
PMON	Piamonte	0.73	340	S	Sn	06 43 39.0	+0.3
JAYA	Jayaque - finc	0.73	328	eP	Pn	06 43 29.2	+0.7
JAYA				eS	Sn	06 43 39.2	+0.2
JAYA	Jayaque - finc	0.73	328	P	Pn	06 43 28.5	0.0
BOQS	Boqueron	0.74	343	eP	Pn	06 43 28.9	+0.3
SCLA	Alcaldia de Sa	0.74	25	⇓iP	Pn	06 43 28.4	-0.2
SCLA	Alcaldia de Sa	0.74	25	P	Pn	06 43 28.4	-0.2
SCLA	Alcaldia de Sa	0.74	25	S	Sn	06 43 39.7	+0.7
PQSS	Presa 15 de Se	0.77	39	S	Sn	06 43 39.9	+0.4
PQSS	Presa 15 de Se	0.77	39	P	Pb	06 43 28.5	+0.1
PACA	Pacayal	0.84	58	eP	Pb	06 43 29.8	+0.1
PACA	Pacayal	0.84	58	S	Sn	06 43 42.2	+0.7
PACA	Pacayal	0.84	58	P	Pn	06 43 29.9	0.0
CEDA	San Andres	0.84	337	S	Sb	06 43 41.0	+0.4
LCY	Lacayo	0.84	62	eP	Pb	06 43 29.8	+0.1
RANC	El Ranchito	0.85	61	eP	Pb	06 43 29.4	-0.5
CEVE	Cerro Verde	0.97	325	S	Sn	06 43 45.3	+0.4
CNRM	Centro Naciona	0.97	63	S	Sn	06 43 45.4	+0.9
SBLS	San Blas	0.98	326	eP	Pb	06 43 32.8	+0.6
UNIC	Universidad Ca	1.06	333	P	Sb	06 43 47.3	+0.3
UNIC	Universidad Ca	1.06	333	P	Pn	06 43 33.1	+0.1
NUBE	Las Nubes	1.12	321	eP	Pn	06 43 33.9	+0.1
NUBE	Las Nubes	1.12	321	P	Pn	06 43 33.9	+0.1
NUBE	Las Nubes	1.12	321	S	Sb	06 43 48.7	0.0
CNCH	Conchagua	1.22	78	S	Sn	06 43 50.6	-0.2
CNCH	Conchagua	1.22	78	P	Pn	06 43 34.5	-0.7
FAME	Alcaldia de Sa	1.24	311	S	Sn	06 43 51.4	+0.2
RBDL	Robledal	1.24	330	eP	Pn	06 43 35.5	0.0
MTO3	Montecristo	1.40	348	S	Sn	06 43 54.9	-0.5
MTO3	Montecristo	1.40	348	P	Pn	06 43 37.4	-0.3
CSGN	Cosiguina Volc	1.46	92	S	Sn	06 43 57.6	+0.8
ESQI	Esquipulas	1.55	350	P	Pn	06 43 39.7	0.0
SARH	Santa Rosa de	1.76	9	P	Pn	06 43 42.9	+0.3
CRIN	San Cristobal	1.98	99	S	Sn	06 44 11.3	+1.7

*ATH **24** 06:46:33.9, 37°.39N×23°.80E, h17km±1km, ML2.7/8, Manual Solution by F.Xalaris First location: 2019/10/24 06:47:24, This location: 2019/10/24 07:32:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*THE **24** 06:46:34.8, 37°N±1°×2°4E±°, h9km±3km, M2.6/15, MLh2.6/15*

ISC 24 06:46:34.3±1.1, 37°.39N±0°.04×23°.78E±0°.03, h16km±7km, n30, σ0°43/51, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	Hydra	0.26	260	P	Pg	06 46 39.9	-0.1
YDRA				S	Sg	06 46 44.0	+0.2
MET4	Agioi Theodoro	0.38	307	P	Pg	06 46 42.2	+0.1
MET4				S	Sb	06 46 47.9	-0.4
LVRA	Laurium	0.38	34	P	Pg	06 46 42.0	-0.2
LVRA				S	Sg	06 46 47.3	-0.2
MET6	Megalochori,Me	0.39	300	P	Pg	06 46 42.2	-0.1
MET6				S	Sg	06 46 48.0	+0.2
MET5	Makryloggos,Me	0.41	304	P	Pg	06 46 41.9	-0.7
MET5				S	Sg	06 46 48.2	-0.1
MET2	Kameni Chora,	0.42	301	P	Pg	06 46 42.7	-0.1
VLY	Voula,Athens	0.46	1	P	Pg	06 46 43.3	-0.2
VLY				S	Sb	06 46 50.3	-0.2
VLY	Voula,Athens	0.46	1	P	Pg	06 46 43.2	-0.2
VLY				S	Sg	06 46 50.1	+0.3
ATHU	Athens Univers	0.57	0	P	Pg	06 46 45.6	0.0
ATHU				S	Sg	06 46 53.2	-0.1
ATHU	Athens Univers	0.57	0	P	Pg	06 46 45.5	-0.1
ATHU				S	Sg	06 46 52.9	-0.4
ATH	Athens Observa	0.58	355	P	Pb	06 46 46.2	+0.2
ATH				S	Sb	06 46 54.0	0.0
PTL	Penteli	0.66	6	P	Pg	06 46 47.3	+0.1
PTL				S	Sg	06 46 55.6	-0.3
PTL	Penteli	0.66	6	P	Pg	06 46 46.9	-0.3
PTL				S	Sg	06 46 55.9	-0.1
DION	Dionisos Attik	0.69	10	P	Pg	06 46 47.8	-0.1
DION				S	Sg	06 46 56.9	-0.2
DION	Dionisos Attik	0.69	10	P	Pg	06 46 47.7	-0.1
DION				S	Sb	06 46 57.5	+0.2
MAGU	Magoula	0.72	343	S	Sg	06 46 57.8	0.0
STFN	Stefani	0.80	346	S	Sb	06 47 01.1	+0.6
KARY	Karystos	0.82	39	P	Pg	06 46 49.9	-0.4
KARY				S	Sg	06 47 01.1	0.0
VILL	Villia	0.85	334	P	Pg	06 46 50.3	-0.7
VILL				S	Sb	06 47 03.0	+1.0
MHLO	Agia Marina, M	0.86	145	S	Sn	06 47 04.0	+0.1
LOUT	Loutraki	0.87	313	P	Pg	06 46 51.0	-0.3
LOUT				S	Sb	06 47 02.9	+0.4
LTK	Loutraki	0.90	314	P	Pg	06 46 50.9	-0.9
VIL2	Platees	0.91	334	P	Pg	06 46 50.1	-1.9
VLI	Veliai	0.96	225	P	Pb	06 46 52.1	-0.3
VLI				S	Sn	06 47 06.7	+0.4
VLI	Veliai	0.96	225	P	Pb	06 46 52.1	-0.3
VLX	Vlachokerasia	1.12	269	P	Pb	06 46 55.5	+0.2
VLX				S	Sn	06 47 10.7	+0.3
KYMI	Kymi, Euboea I	1.26	11	P	Pb	06 46 57.8	+0.2
KYMI				S	Sg	06 47 15.0	-0.1
GUR	Goura	1.27	296	P	Pn	06 46 57.2	-0.2
GUR				S	Sg	06 47 15.6	+0.3
LKR	Lokris	1.40	334	P	Pn	06 46 59.1	0.0
KLV	Kalavryta, Ach	1.45	297	P	Pn	06 47 00.1	+0.2

*IDC **24** 06:54:20.6±0.8, 52°.52S×26°.55E, h0km, mb3.9/9, mbtmp3.9/9, MS3.4/13, Error ellipse: s-maj=27.3km s-min=21.9km az=49.0*

*NEIC **24** 06:54:22.6±0.5, 52°.52S±0°.04×26°.6E±0°.4, h10km±1km, mb4.3/9, Error ellipse: s-maj=38.7km s-min=7.3km az=89.0*

ISC 24 06:54:22.1±0.7, 52°.47S±0°.10×26°.6E±0°.2, h10km, n44, σ0°82/26, mb4.1/14, MS3.5/13, 5C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	17.27	81	T	T	07 16 07.9	
	baz=242,slow=74,SNR=172						
H04S3	CROZET ISLANDS	17.28	81	T	T	07 16 17.9	
	baz=242,slow=74,SNR=167						
H04S1	CROZET ISLANDS	17.29	81	T	T	07 16 18.5	
	baz=242,slow=74,SNR=327						
H04N3	CROZET ISLANDS	17.54	79	T	T	07 16 35.4	
	baz=245,slow=76,SNR=18						
H04N1	CROZET ISLANDS	17.54	79	T	T	07 16 28.4	
	baz=245,slow=76,SNR=14						
H04N2	CROZET ISLANDS	17.55	79	T	T	07 16 31.3	
	baz=245,slow=76,SNR=17						
GRHM	Grahamstown, E	19.18	359	P	P	06 58 45.8	-0.1
GRHM				IAmb	IAmb	06 58 48.2	
	comp=Z,16nm,1.1s						
SUR	Sutherland	20.51	346	P	P	06 59 00.5	0.0
SUR				IAmb	IAmb	06 59 06.6	
	comp=Z,15nm,1.1s						
TROLL	Troll, Antarti	22.26	200	⇑P	P	06 59 20.1	+1.2
	comp=Z,140nm,0.7s						
MAW	Mawson	23.13	145	P	P	06 59 27.7	-0.2
	comp=Z,7.8nm,1.0s,baz=275,slow=13,SNR=10						
MAW				LR	LR	07 06 50.8	
	comp=Z,108nm,19.1s,baz=360,slow=32						
	comp=Z,7.8nm,1.0s						
SNAA	Sanae	23.22	203	⇑P	P	06 59 29.6	+0.6
	comp=Z,97nm,0.8s						
SNAA	Sanae	23.22	203	P	P	06 59 28.5	-0.4
SNAA				IAmb	IAmb	06 59 31.5	
	comp=Z,5.9nm,0.9s						
SNAA	Sanae	23.22	203	P	P	06 59 28.7	-0.2
	comp=Z,3.9nm,0.8s,baz=77,slow=8.5,SNR=19						
SNAA				LR	LR	07 06 19.3	
	comp=Z,80nm,21.6s,baz=14,slow=31						
	comp=Z,3.9nm,0.8s						
BOSA	Boshof	23.85	357	P	P	06 59 36.1	+0.6
BOSA	Boshof	23.85	357	P	P	06 59 36.1	+0.6
	comp=Z,6.9nm,1.1s,baz=188,slow=9.2,SNR=5.1						
BOSA				LR	LR	07 07 30.1	
	comp=Z,92nm,19.4s,baz=198,slow=33						
	comp=Z,6.9nm,1.1s						
VNA2	Neumayer--Watz	23.96	207	⇑P	P	06 59 39.2	+3.1
	comp=Z,2.6nm,0.5s,baz=30,slow=7.1						
VNA1	Neumayer--Stat	24.05	208	⇑P	P	06 59 37.2	+0.2
	comp=Z,7.8nm,0.8s						
VNA3	Neumayer Olymp	24.76	207	⇑P	P	06 59 43.3	-0.1
	comp=Z,1.7nm,0.8s						
LBTB	Lobatse	27.43	358	LR	LR	07 09 05.4	
	comp=Z,130nm,20.6s,baz=147,slow=32						
PHDHD	Phuduhudu	32.25	356	P	P	07 00 51.1	+0.3
BELA	Belgrano 2	33.34	200	P	P	07 00 59.6	0.0
BELA				IAmb	IAmb	07 01 00.4	
	comp=Z,3.7nm,0.7s						
TSUM	Tsumeb	33.94	345	P	P	07 01 05.8	+0.2
LSZ	Lusaka	37.13	3	LR	LR	07 14 39.6	
	comp=Z,101nm,20.5s,baz=190,slow=33						
QSPA	South Pole Qui	37.75	180	P	P	07 01 38.2	+0.3
QSPA				IAmb	IAmb	07 01 40.5	
	comp=Z,5.0nm,0.7s						
QSPA	South Pole Qui	37.75	180	LR	LR	07 16 22.9	
	comp=Z,76nm,20.2s,baz=282,slow=35						
PMSA	Palmer Station	44.62	218	LR	LR	07 16 19.0	
	comp=Z,49nm,20.5s,baz=130,slow=30						
VNDA	Vanda	47.34	168	P	P	07 02 55.0	-0.4
VNDA	Vanda	47.34	168	P	P	07 02 54.7	-0.7
	comp=Z,1.0nm,0.7s,baz=239,slow=7.2,SNR=10						
VNDA				LR	LR	07 23 55.9	
	comp=Z,61nm,18.2s,baz=250,slow=38						
	comp=Z,1.0nm,0.7s						
H10S2	ASCENSION HYDR	54.77	307	T	T	08 03 10.0	
	baz=148,slow=74,SNR=36						
H10S3	ASCENSION HYDR	54.78	307	T	T	08 03 11.4	
	baz=72,slow=74,SNR=34						
H01W2	Cape Leeuwin H	61.83	111	T	T	08 12 31.8	
	baz=223,slow=75,SNR=8.2						
H01W3	Cape Leeuwin H	61.84	111	T	T	08 12 33.3	
	baz=223,slow=75,SNR=7.5						
H01W1	Cape Leeuwin H	61.85	111	T	T	08 12 33.8	
	baz=223,slow=75,SNR=8.9						
PLCA	Paso Flores	62.84	238	LR	LR	07 29 09.6	
	comp=Z,20nm,18.8s,baz=156,slow=33						
DBIC	Dimbokro	64.71	325	LR	LR	07 28 44.3	
	comp=Z,28nm,19.7s,baz=156,slow=32						
CPUP	Villa Florida	65.97	258	P	P	07 05 08.4	-0.1
	comp=Z,0.4nm,0.9s,baz=272,slow=7.3,SNR=2.0						
CPUP				LR	LR	07 27 14.9	
	comp=Z,8.6nm,20.7s,baz=17,slow=30						
	comp=Z,0.4nm,0.9s						
BDFB	Brasilia	68.38	272	LR	LR	07 29 09.6	
	comp=Z,57nm,22.0s,baz=167,slow=31						
STKA	Stephens Creek	78.71	128	P	P	07 06 24.6	+0.1
	comp=Z,2.1nm,0.9s,baz=236,slow=9.2,SNR=3.0						
	comp=Z,2.1nm,0.9s						
LPAZ	La Paz	80.09	256	P	P	07 06 33.0	+0.1
	comp=Z,0.3nm,0.4s,baz=170,slow=8.2,SNR=1.9						
	comp=Z,0.3nm,0.4s						
ASAR	Alice Springs	81.44	118	P	P	07 06 39.6	+0.2
	comp=Z,0.8nm,0.6s,baz=215,slow=4.8,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK				⇑Sn	Sb	06 57 46.7	+0.1
	6.0nm,0.5s						
JNKS	Jany-Kuch	1.99	251	⇓eP	Pg	06 57 25.4	+0.2
JNKS				⇓eS	Sg	06 57 52.0	+1.0
KTBS	Karatobe	2.26	332	Pg	Pb	06 57 28.9	+0.2
	11nm,0.2s						
KTBS				Lg	Lg	06 57 57.6	
	12nm,0.3s						
CHKK	Chushkaly	2.29	339	Pg	Pb	06 57 29.9	+0.7
	11nm,0.2s						
CHKK				Lg	Lg	06 57 59.4	
	18nm,0.2s						
AAK	Ala-Archa	2.87	290	⇑Pg	Pb	06 57 39.4	+0.3
	1.0nm,0.8s						
AAK				⇑Lg	Lg	06 58 18.0	
	0.7nm,0.4s						

*IDC **24** 07:37:54.1±0.9, 37°.76N×86°.65E, h0km, mb3.8/9, mbtmp3.8/15, ML3.4/6, MS2.9/2, Error ellipse: s-maj=29.3km s-min=13.7km az=50.0*
*NNC **24** 07:38:01.0±2.2, 38°.28N×86°.51E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=20.1km s-min=15.8km az=77.0*
ISC 24 07:37:59.7±1.0, 37°.99N±0°.10×86°.76E±0°.09, h35km, n19, σ0§88/24, mb3.8/9, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	7.68	316	⇑Pn	Pn	07 39 49.5	+0.3
	9.0nm,0.7s						
PDGK				⇑Sn	Sn	07 41 14.3	-0.6
	52nm,0.6s						
PDGK				⇑Lg	Lg	07 41 56.6	
	70nm,1.1s						
MK31	Makanchi Array	9.40	341	⇓Pn	Pn	07 40 13.4	+0.8
	1.9nm,0.4s,baz=158,slow=13,SNR=35						
MK31				⇑Sn	Sn	07 41 55.4	-1.6
	3.3nm,0.5s,baz=148,slow=26,SNR=4.9						
MK31				⇓Lg	Lg	07 42 51.6	
	12nm,0.8s						
MKAR	Makanchi Array	9.40	341	Pn	Pn	07 40 13.2	+0.6
	0.9nm,0.3s,baz=151,slow=14,SNR=22						
MKAR				Sn	Sn	07 41 57.0	0.0
	1.2nm,0.3s,baz=145,slow=24,SNR=5.9						
MKAR				Lg	Lg	07 42 58.4	
	baz=147,slow=24						
MKAR				LR	LR	07 44 47.6	
	comp=Z,47nm,20.1s,baz=183,slow=43						
	2.0nm,0.5s						
MAKZ	Makanchi	9.50	340	⇓Pn	Pn	07 40 14.8	+0.9
	4.3nm,0.6s						
MAKZ				⇑Sn	Sn	07 41 59.5	+0.1
	11nm,0.9s						
MAKZ				⇓Lg	Lg	07 42 54.2	
	13nm,1.0s						
AAK	Ala-Archa	10.45	300	Pn	Pn	07 40 26.8	-0.3
	0.3nm,0.3s,baz=124,slow=23,SNR=3.5						
AAK				Sn	Sn	07 42 24.0	+1.0
	0.3nm,0.3s,baz=310,slow=21,SNR=2.1						
AAK				Lg	Lg	07 43 28.4	
	0.4nm,0.3s,baz=8.7,slow=23,SNR=4.7						
	1.0nm,0.5s						
AAK	Ala-Archa	10.45	300	⇑Pn	Pn	07 40 27.4	+0.3
	4.1nm,1.1s						
AAK				⇑Lg	Lg	07 43 24.5	
	9.7nm,1.0s						
KURBB	Kurchatov Arra	13.93	338	Pn	Pn	07 41 12.7	-1.7
	0.2nm,0.3s,baz=155,slow=12,SNR=8.8						
KURBB				Lg	Lg	07 45 21.8	
	baz=156,slow=30,SNR=1.2						
	2.3nm,0.2s						
ZALV	Zalesovo Beam	16.02	356	Pn	P	07 41 44.0	-1.2
	0.2nm,0.3s,baz=179,slow=14,SNR=9.3						
	4.2nm,0.7s						
SONM	Songino Array	17.38	49	P	P	07 42 01.1	+0.5
	0.2nm,0.3s,baz=249,slow=12,SNR=4.2						
	0.3nm,0.5s						
BVAR	Borovoye Array	18.85	328	P	Pn	07 42 17.3	+0.1
	0.1nm,0.3s,baz=138,slow=11,SNR=6.2						
	2.0nm,0.7s						
AKTO	Aktyubinsk	23.90	311	P	P	07 43 09.8	-0.2
	1.5nm,0.5s,baz=123,slow=3.4,SNR=6.8						
AKTO				LR	LR	07 54 10.6	
	comp=Z,33nm,18.7s,baz=161,slow=41						
	1.5nm,0.5s						
ARTI	Arti	26.36	323	P	P	07 43 32.9	+0.6
	2.1nm,0.7s,baz=90,slow=5.4,SNR=3.6						
	2.1nm,0.7s						
BRTR	Keskin Array B	40.90	290	P	P	07 45 37.5	-1.1
	0.8nm,0.7s,baz=98,slow=8.9,SNR=4.5						
	0.8nm,0.7s						
FINES	FINESS Array B	43.66	323	P	P	07 46 01.3	+0.7
	0.8nm,0.6s,baz=107,slow=12,SNR=4.2						
	0.8nm,0.6s						
ARCES	ARCESS Array B	44.98	334	P	P	07 46 11.7	+0.7
	3.7nm,0.9s,baz=46,slow=5.2,SNR=5.0						
	3.7nm,0.9s						
HFS	Hagfors	49.77	321	P	P	07 46 49.2	+0.8
	2.3nm,0.8s,baz=100,slow=6.0,SNR=2.5						
	2.3nm,0.8s						
ILAR	Eielson Array	69.33	22	P	P	07 49 04.3	+1.2
	0.4nm,0.8s,baz=319,slow=4.0,SNR=1.9						
	0.4nm,0.8s						
WRA	Warramunga Arr	72.92	133	P	P	07 49 24.9	-0.6
	0.8nm,0.6s,baz=328,slow=5.8,SNR=10						
	0.8nm,0.6s						
ASAR	Alice Springs	75.63	136	P	P	07 49 40.4	-0.8
	0.3nm,0.7s,baz=315,slow=5.2,SNR=6.0						
	0.3nm,0.7s						

*SSNC **24** 07:43:53.3±1.7, 19°.52N×78°.03W, h33km±12km, MD3.1, ML2.0*
*JSN **24** 07:43:53.2±0.8, 19°.49N×77°.61W, h0km±999km, MD3.5*
ISC 24 07:43:48.8±1.5, 19°.52N±0°.04×77°.86W±0°.05, h8km±11km, n16, σ1§64/29, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.97	56	eP	Pn	07 44 10.9	+2.2
LMGC				eS	Sn	07 44 24.2	+1.5
LMGC				IAML		07 44 25.5	
	comp=E,151nm,0.1s						
LMGC				IAML		07 44 25.6	
	comp=N,196nm,0.1s						
MTDJ	Mount Denham	1.32	167	eP	Pg	07 44 14.8	+0.6
MTDJ				eS	Sg	07 44 30.8	-0.6
MTDJ				IAML		07 44 31.8	
	comp=N,26nm,0.3s						
MTDJ				IAML		07 44 31.9	
	comp=N,62nm,0.2s						
CHIV	Chivirico	1.44	71	eP	Pg	07 44 17.3	+0.9
CHIV				eS	Sg	07 44 35.0	0.0
CHIV				eSg	Sn	07 44 36.3	+2.1
CHIV				IAML		07 44 37.0	
	comp=E,16nm,0.1s						
CHIV				IAML		07 44 37.3	
	comp=N,13nm,0.2s						
YAR	Yar	1.65	59	eP	Pg	07 44 21.1	+0.6
YAR				eS	Sg	07 44 42.2	+0.4
YAR				IAML		07 44 43.3	
	comp=N,2.9nm,0.1s						
YAR				IAML		07 44 43.5	
	comp=E,4.6nm,0.1s						
CCCC	Cccc	1.68	3	eP	Pb	07 44 20.0	0.0
STH	Stony Hill	1.74	145	⇓iP	Pb	07 44 21.2	+0.1
GWJ	Greenwich	1.79	143	i P	Pb	07 44 22.1	+0.1
HOJ	Hope	1.83	145	i P	Pn	07 44 21.7	+1.0
MARVS	Santiago de Cu	1.91	75	eP	Pb	07 44 24.2	+0.3
MARVS				eS	Sb	07 44 47.0	-0.8
MARVS				IAML		07 44 48.4	
	comp=E,8.0nm,0.1s						
MARVS				IAML		07 44 48.4	
	comp=N,21nm,0.1s						
RCC	Rio Carpintero	2.09	77	eP	Pb	07 44 26.9	-0.2
RCC				eS	Sb	07 44 52.2	-1.0
RCC				IAML		07 44 53.8	
	comp=N,4.1nm,0.1s						
RCC				IAML		07 44 53.9	
	comp=E,4.2nm,0.1s						
PINC	Pinares de May	2.17	63	eP	Pb	07 44 28.7	+0.4
PINC				eS	Sb	07 44 55.2	-0.3
PINC				IAML		07 44 57.8	
	comp=N,7.5nm,0.1s						
PINC				IAML		07 44 58.2	
	comp=E,14nm,0.1s						
SABCS	La Quijada	2.54	70	eP	Pb	07 44 33.8	-0.9
SABCS				eS	Sn	07 45 03.5	+2.0
GTBY	Guantanamo Bay	2.62	81	eP	Pb	07 44 34.9	-1.2
GTBY				eS	Sb	07 45 06.0	-2.4
QMBU	Quimbuelo	2.95	76	eP	Pb	07 44 39.3	-2.3
QMBU				eS	Sn	07 45 11.4	-0.2
QMBU				eS	Sb	07 45 13.1	-4.8
MGV	Manicaragua	3.25	323	eP	Pn	07 44 39.3	-0.9
MASC	Masc	3.48	79	eP	Pb	07 44 47.5	-3.1
MASC				eS	Sn	07 45 24.8	+0.2

*CNRM **24** 08:20:23.5, 36°.37N×5°.43W, h28km, ML2.9*
*INMG **24** 08:20:25.6±1.7, 36°.96N×5°.30W, h11km±3km, ML2.1, Error ellipse: s-maj=2.6km s-min=2.0km az=164.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **24** 08:20:25.4, 37°.04N×5°.32W, h1km, ML2.6/13, ML2.4/13, MLv2.3/12*
*MDD **24** 08:20:25.2±0.3, 37°.05N×5°.29W, h4km±2km, mb_Lg2.4/21, Error ellipse: s-maj=2.6km s-min=1.5km az=175.0*
ISC 24 08:20:24.2±0.8, 37°.02N±0°.02×5°.31W±0°.01, h14km±5km, n56, σ0§95/117, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	Villanueva de	0.11	76	⇑Pg	Pg	08 20 27.2	-0.3
UMV12				Sg	Sg	08 20 29.0	-0.7
E1302	La Puebla de C	0.12	25	Pg	Pb	08 20 28.7	+0.3
E1302				Sg	Sg	08 20 31.1	+1.1
ESPR	Espera	0.47	251	Pg	Pn	08 20 35.5	-1.0
ESPR				Sg	Sb	08 20 41.1	+0.2
ESPR	Espera	0.47	251	Pg	Pb	08 20 35.2	+1.0
ESPR				Sg	Sb	08 20 41.1	+0.2
ESPR				i IVmb_Lg		08 20 48.1	
EJIF	Jimena Fronter	0.58	193	Pg	Pg	08 20 35.5	-0.1
EJIF				Sg	Sn	08 20 47.0	-0.5
EMAL	Malaga-Limoner	0.75	110	Pg	Pg	08 20 36.9	-1.9
EMAL				Sg	Sg	08 20 47.5	-1.2
CNIL	Conil	0.89	223	Pg	Pn	08 20 43.2	+0.9
EGOR	Sierra Gorda,	0.96	84	Pg	Pn	08 20 43.8	+0.3
EGOR				Sg	Sn	08 20 57.5	+0.4
EGOR	Sierra Gorda,	0.96	84	Pg	Pn	08 20 44.1	+0.6
EGOR				Sg	Sn	08 20 57.2	+0.1
EGOR				i IVmb_Lg		08 20 59.0	
ECAB	El Cabril	1.06	355	Pg	Pn	08 20 45.2	+0.5
ECAB				Sg	Sg	08 20 58.4	0.0
ECAB	El Cabril	1.06	355	Pg	Pn	08 20 45.4	+0.7
ECAB				Sg	Sn	08 20 59.1	-0.1
ECAB				i IVmb_Lg		08 21 02.2	
EADA	Adamuz	1.28	27	Pn	Pg	08 20 48.6	-0.4
EADA				Sn	Sg	08 21 05.9	+0.2
EADA	Adamuz	1.28	27	Pg	Pg	08 20 48.5	-0.4
EADA				Sg	Sb	08 21 04.4	-0.2
EADA				i IVmb_Lg		08 21 08.9	
EMIN	Mina Concepcio	1.32	305	Pn	Pb	08 20 48.7	0.0
EMIN				Sn	Sn	08 21 05.9	+0.3
EMIN	Mina Concepcio	1.32	305	Pg	Pb	08 20 48.7	0.0
EMIN				Sg	Sg	08 21 07.5	+0.8
EMIN				i IVmb_Lg		08 21 11.0	
ELGU	Los Guajares,	1.36	96	Pn	Pg	08 20 50.1	-0.2
ELGU				Sn	Sg	08 21 09.9	+1.9
ELGU	Los Guajares,	1.36	96	Pg	Pb	08 20 49.6	+0.1
ELGU				Sg	Sn	08 21 06.9	+0.2
ELGU				i IVmb_Lg		08 21 15.0	
EQTA	Presa de Quent	1.50	82	Pn	Pg	08 20 52.9	-0.3
EQTA				Sn	Sg	08 21 14.2	+1.5
EQUE	Quentar	1.50	82	Pg	Pb	08 20 52.3	+0.2
EQUE				Sg	Sb	08 21 11.4	+0.4
EQUE				i IVmb_Lg		08 21 15.5	
E0803	Jimena (Jaen)	1.67	60	Pn	Pn	08 20 53.2	0.0
E0803				Sn	Sb	08 21 15.7	-0.1
PBAR	Barrancos	1.79	310	Pn	Pn	08 20 55.4	+0.7
PBAR				Sn	Sg	08 21 20.6	-1.4
PBAR	Barrancos	1.79	310	ePn	Pn	08 20 55.5	+0.7
PBAR				eSg	Sg	08 21 22.8	+0.9
PBAR				i IAML		08 21 25.9	
PBAR				i IAML		08 21 27.7	
PBAR				i IAML		08 21 29.8	
EGRO	El Granado	1.81	287	Pn	Pn	08 20 55.5	+0.5
EGRO				Sn	Sb	08 21 19.8	+0.1
EGRO	El Granado	1.81	287	Pn	Pn	08 20 55.4	+0.5
EGRO				Pg	Pb	08 20 57.7	+0.6
EGRO				Sn	Sb	08 21 19.1	-0.6
EGRO				Sg	Sg	08 21 22.7	+0.3
EGRO				i IVmb_Lg		08 21 25.4	
EQES	Quesada	1.94	66	Pn	Pn	08 20 57.8	+0.8
EQES				Pg	Pb	08 20 59.9	+0.4
EQES				Sn	Sn	08 21 21.7	+0.5
EQES				Sg	Sg	08 21 26.7	-0.1
EQES				i IVmb_Lg		08 21 28.7	
PVAQ	Vaqueiros	1.96	282	⇓ePn	Pn	08 20 57.4	+0.3
PVAQ				eSn	Sn	08 21 21.4	-0.1
PVAQ				eSg	Sg	08 21 28.4	+1.0
PVAQ				i IAML		08 21 31.2	
PVAQ				i IAML		08 21 33.2	
PVAQ				i IAML		08 21 33.4	
PVAQ	Vaqueiros	1.96	282	P	Pn	08 20 57.5	+0.3
PVAQ	Vaqueiros	1.96	282	S	Sn	08 21 22.4	+0.8
PBDV	Barranco-do-Ve	2.11	277	Pn	Pn	08 20 59.0	-0.1
PBDV	Barranco-do-Ve	2.11	277	ePn	Pn	08 20 59.7	+0.6
PBDV				eSn	Sn	08 21 25.2	0.0
PBDV				i IAML		08 21 28.4	
PSIM	Granatula de C	2.17	34	Pn	Pn	08 21 00.3	+0.2
PSIM				Pg	Pb	08 21 03.9	+0.5
PSIM				Sn	Sn	08 21 26.3	-0.6
PSIM				Sg	Sg	08 21 33.7	-0.5
EBAD	Badajoz	2.19	323	Pn	Pn	08 21 00.9	+0.6
EBAD				Sn	Sn	08 21 26.7	-0.6
EBAD	Badajoz	2.19	323	Pn	Pn	08 21 00.8	+0.6
EBAD				Sn	Sn	08 21 28.3	+1.0
EBAD				i IVmb_Lg		08 21 29.7	
EBAD				Sg	Sg	08 21 35.0	+0.2
PCVE	Castro Verde	2.26	286	Pn	Pn	08 21 01.6	+0.4
PCVE				Sn	Sb	08 21 31.7	-1.0
PCVE	Castro Verde	2.26	286	ePn	Pn	08 21 01.6	+0.4
PCVE				eSg	Sg	08 21 35.7	-1.2
PCVE				i IAML		08 21 44.1	
PCVE				i IAML		08 21 50.1	
PCVE				i IAML		08 21 50.1	
PESTR	Estremoz	2.58	316	Pn	Pb	08 21 08.6	-1.7
PESTR				Sn	Sn	08 21 37.7	+0.9
PESTR	Estremoz	2.58	316	ePn	Pn	08 21 06.8	+1.2
PESTR				eSn	Sn	08 21 38.4	+1.6
PESTR				eSg	Sg	08 21 49.4	+2.3
PESTR				i IAML		08 21 51.2	
PESTR				i IAML		08 21 55.5	
PESTR				i IAML		08 22 01.1	
PESTR	Estremoz	2.58	316	P	Pb	08 21 09.4	-0.9
PESTR	Estremoz	2.58	316	S	Sg	08 21 45.7	-1.4
PAB	San Pablo	2.63	16	Pn	Pn	08 21 07.1	+0.8
PAB				Sn	Sn	08 21 38.5	+0.3
PAB				i IVmb_Lg		08 21 43.7	
PAB				Sg	Sg	08 21 48.4	-0.4
MORF	Marmelete	2.69	277	ePn	Pn	08 21 08.3	+1.2
MORF				eSn	Sn	08 21 39.6	+0.1
MORF				i IAML		08 21 59.6	
MORF				i IAML		08 22 01.8	
MORF				i IAML		08 22 04.8	
PTEO	Sao Teotonio	2.77	282	ePn	Pn	08 21 09.0	+0.7
PTEO				eSn	Sn	08 21 43.7	+2.1
PTEO				i IAML		08 21 44.3	
PTEO				i IAML		08 22 01.7	
PTEO				i IAML		08 22 06.2	
PFVI	Vila Bisbo	2.82	273	Pn	Pn	08 21 08.4	-0.4
PFVI				Sn	Sn	08 21 41.8	-0.9
PFVI	Vila Bisbo	2.82	273	ePn	Pn	08 21 09.0	+0.2
PFVI				eSn	Sn	08 21 42.6	0.0
PFVI				i IAML		08 21 43.5	
PFVI				i IAML		08 21 43.8	
PFVI				i IAML		08 21 44.9	
PFVI	Vila Bisbo	2.82	273	P	Pn	08 21 06.4	-2.5
PFVI	Vila Bisbo	2.82	273	S	Sn	08 21 40.9	-1.7
ESDC	Sonseca Array	2.85	21	Sn	Sn	08 21 42.9	-0.7
ESDC				Sg	Sg	08 21 54.5	-1.4
ESDC				i IVmb_Lg		08 21 57.3	
ESBB	Sonseca Array	2.85	21	Sn	Sn	08 21 42.9	-0.7
ESBB				Sg	Sg	08 21 54.9	-1.0
PMRV	Marv??o	2.91	326	ePn	Pn	08 21 12.3	+2.1
PMRV				eSn	Sn	08 21 46.3	+1.4
PMRV				eSg	Sg	08 21 57.0	-0.7
PMRV				i IAML		08 22 00.3	
PMRV				i IAML		08 22 02.6	
PMRV				i IAML		08 22 02.6	
PMTG	Montargil	3.08	312	ePn	Pn	08 21 14.2	+1.7
PMTG				eSg	Sg	08 22 03.0	-0.1
PMTG				i IAML		08 22 08.2	
PMTG				i IAML		08 22 10.7	
PMTG				i IAML		08 22 11.0	
EPLA	Plasencia	3.10	349	Pn	Pn	08 21 13.9	+1.1
EPLA				Sn	Sn	08 21 47.6	-2.1
EPLA				i IVmb_Lg		08 22 00.4	
EPLA				Sg	Sg	08 22 02.9	-0.8
PCBR	Castelo Branco	3.29	329	eSn	Sn	08 21 54.5	+0.2
PCBR				eSg	Sg	08 22 10.2	+0.3
PCBR				i IAML		08 22 12.9	
PCBR				i IAML		08 22 13.9	
PCBR				i IAML		08 22 14.2	
ETOB	Tobarra	3.39	60	Pn	Pn	08 21 16.0	-0.8
ETOB				Sn	Sn	08 21 56.8	-0.1
ETOB				i IVmb_Lg		08 22 07.3	
ETOB				Sg	Sg	08 22 13.5	+0.4
PSARD	Sardoal	3.42	320	ePn	Pn	08 21 18.7	+1.6
PSARD				eSn	Sn	08 21 58.2	+0.7
PSARD				eSg	Sg	08 22 12.5	-1.4
PSARD				i IAML		08 22 18.5	
PSARD				i IAML		08 22 21.5	
PSARD				i IAML		08 22 22.3	
PCAS	Casmilo, Conde	3.93	321	eSn	Sn	08 22 10.8	+0.8
PCAS				i IAML		08 22 35.5	
PCAS				i IAML		08 22 38.8	
MVO	Moncorvo	4.35	343	ePn	Pn	08 21 32.1	+2.2
MVO				eSg	Sg	08 22 41.6	-2.2
MVO				i IAML		08 22 45.6	
MVO				i IAML		08 22 47.8	
MVO				i IAML		08 22 55.5	

*SNET **24** 08:24:49.5±0.7, 13°.05N×89°.18W, h33km±10km, ML3.0*
CATAC 24 08:24:49.7±0.6, 13°N±5°×8°9W±°, h33km±5km, M3.0/12, MLv3.0/12, 2C-2D, Error ellipse: s-maj=10.7km s-min=3.9km az=16.0, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.42	343	eP	Pn	08 25 00.5	+1.0
LFRS	El Faro	0.55	13	⇑iP	Pn	08 25 01.8	+0.5
LFRS				eS	Sn	08 25 10.7	+1.3
LOMA	Loma Larga	0.56	2	eP	Pn	08 25 02.0	+0.6
LOMA	Loma Larga	0.56	2	P	Pn	08 25 02.0	+0.6
LOMA	Loma Larga	0.56	2	S	Sn	08 25 11.6	+2.0
TECO	Alcaldia de Te	0.60	41	eP	Pb	08 25 01.9	0.0
TECO				eS	Sn	08 25 11.7	+1.1
TECO	Alcaldia de Te	0.60	41	P	Pn	08 25 01.9	0.0
JAYA	Jayaque - finc	0.62	336	⇓iP	Pb	08 25 02.8	+0.4
JAYA				eS	Sn	08 25 12.7	+1.5
JAYA	Jayaque - finc	0.62	336	P	Pb	08 25 02.8	+0.4
IGN	Direccin Gen	0.63	2	P	Pb	08 25 02.9	+0.5
IGN	Direccin Gen	0.63	2	S	Sn	08 25 13.0	+1.8
UEES	Universidad Ev	0.63	356	P	Pb	08 25 03.0	+0.5
UEES	Universidad Ev	0.63	356	S	Sn	08 25 13.3	+2.0
PMON	Piamonte	0.64	349	eP	Pb	08 25 02.8	+0.2
PMON	Piamonte	0.64	349	P	Pb	08 25 02.9	+0.3
PMON	Piamonte	0.64	349	S	Sn	08 25 13.2	+1.7
BOQS	Boqueron	0.65	352	eP	Pb	08 25 03.6	+0.6
LFU	La Fuente	0.67	6	eP	Pb	08 25 03.6	+0.5
LBRS	Las Brisas	0.67	12	⇓iP	Pb	08 25 03.5	+0.5
PAVA	Las Pavas	0.67	21	eP	Pb	08 25 03.4	+0.2
PAVA	Las Pavas	0.67	21	P	Pb	08 25 03.4	+0.2
PAVA	Las Pavas	0.67	21	S	Sn	08 25 13.9	+1.5
UESV	Universidad de	0.68	35	P	Pb	08 25 03.1	-0.1
UESV	Universidad de	0.68	35	S	Sb	08 25 13.6	+1.2
SCLA	Alcaldia de Sa	0.76	36	eP	Pb	08 25 04.6	0.0
SCLA	Alcaldia de Sa	0.76	36	P	Pb	08 25 04.7	+0.1
SCLA	Alcaldia de Sa	0.76	36	S	Sb	08 25 15.8	+1.0
TECA	Tecapa	0.79	59	eP	Pb	08 25 04.8	-0.2
SBLS	San Blas	0.86	331	eP	Pb	08 25 06.4	0.0
SNJE	San Jose	0.88	333	eP	Pb	08 25 06.7	0.0
RTR	El Retiro	0.92	331	eP	Pb	08 25 07.4	0.0
PACA	Pacayal	0.93	65	eP	Pb	08 25 07.2	-0.2
PACA	Pacayal	0.93	65	P	Pb	08 25 07.2	-0.2
PACA	Pacayal	0.93	65	S	Sb	08 25 20.4	+0.9
LCY	Lacayo	0.94	69	eP	Pb	08 25 07.1	-0.5
RANC	El Ranchito	0.95	68	eP	Pn	08 25 07.2	+0.4
RANC	El Ranchito	0.95	68	P	Pn	08 25 07.2	+0.5
RANC	El Ranchito	0.95	68	S	Sb	08 25 19.9	-0.2
BLLM	Bellamira	0.99	69	eP	Pn	08 25 07.8	+0.4
NUBE	Las Nubes	1.00	325	⇑eP	Pn	08 25 07.8	+0.4
NUBE	Las Nubes	1.00	325	P	Pn	08 25 07.8	+0.4
NUBE	Las Nubes	1.00	325	S	Sb	08 25 21.1	-0.4
FAME	Alcaldia de Sa	1.10	313	P	Pn	08 25 09.0	+0.3
FAME	Alcaldia de Sa	1.10	313	S	Sn	08 25 22.6	-0.3
RBDL	Robledal	1.13	335	eP	Pn	08 25 10.0	+0.7
CNCH	Conchagua	1.34	82	eP	Pn	08 25 12.1	0.0
CNCH	Conchagua	1.34	82	P	Pn	08 25 12.0	-0.1
CNCH	Conchagua	1.34	82	S	Sn	08 25 29.5	+0.7
CSGN	Cosiguina Volc	1.59	94	P	Pn	08 25 15.6	0.0
CSGN				S	Sn	08 25 35.0	-0.1

*IDC **24** 08:42:22.2±16.0, 22°.46S×178°.97W, h408km±119km, mb3.4/6, mbtmp4.2/7, Error ellipse: s-maj=166.8km s-min=22.9km az=40.0*
ISC 24 08:42:29.5±2.8, 22°.75±0°.3×179°.1W±0°.3, h485km, n45, σ1§88/45, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	Waipu Caves	14.36	202	P	P	08 45 34.4	+1.4
ETAZ	East Tamaki Re	15.10	199	P	P	08 45 44.2	+3.4
MKAZ	Moumakai	15.18	198	P	P	08 45 42.0	+0.4
HAZ	Te Kaha	15.24	189	P	P	08 45 42.4	+0.2
TOZ	Tahuroa Road	15.68	196	P	P	08 45 49.1	+2.3
URZ	Urewera	15.84	191	P	P	08 45 45.5	-3.0
	7.9nm,0.3s,baz=272,slow=3.5,SNR=18						
URZ	Urewera	15.84	191	P	P	08 45 46.1	-2.5
MWZ	Matawai	15.84	190	P	P	08 45 47.5	-1.1
MTHZ	Maungataniwha	16.46	191	P	P	08 45 54.7	-0.5
HIZ	Hauiti	16.58	197	P	P	08 45 57.7	+1.3
NMHZ	Naumai	16.71	191	P	P	08 45 56.6	-1.2
BKZ	Black Stump Fm	16.83	192	P	P	08 45 55.7	-3.4
WNVZ	Wahianoa	17.17	194	P	P	08 46 00.9	-1.7
VRZ	Vera Road	17.18	196	P	P

1.4nm,0.6s,baz=167,slow=4.2,SNR=1.9
1.4nm,0.6s
SNAA Sanae 85.85 179 P **P 08 54 17.3 +0.6**
0.6nm,0.5s,baz=196,slow=14,SNR=9.2
0.6nm,0.5s

*KRSC **24** 08:44:31.1±1.5,53°.14N×161°.04E, h23km±20km, MI4.2*
*IDC **24** 08:44:31.6±1.8,53°.65N×160°.61E, h0km, mb3.9/9, mbtmp3.9/9, MS3.0/5, Error ellipse: s-maj=43.6km s-min=19.6km az=161.0*
*MOS **24** 08:44:33.3±0.4,53°.18N×160°.87E, h22km, mb4.6/5, Error ellipse: s-maj=7.0km s-min=4.9km az=83.3*
ISC 24 08:44:32.7±1.4,**53°.14N**±0°.05×**160°.86E**±0°.04,**h26**km±11km,
n107,σ1°59/104,**mb4.1/10**,**1C-1D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.50**	**266**	PN			**Pn**	**08 44 44.8**	**+0.6**
SPN				S			**Sn**	**08 44 51.9**	**-0.2**
SPN	**Mys Shipunski**	**0.50**	**266**	*eP*			**Pn**	**08 44 44.9**	**+0.6**
SPN				*eS*			**Sn**	**08 44 51.9**	**-0.2**
NLC	**Nalytchevo**	**0.91**	**273**	*eP*			**Pb**	**08 44 50.2**	**+0.4**
NLC				S			**Sb**	**08 45 01.6**	**+0.1**
NLC	**Nalytchevo**	**0.91**	**273**	*eP*			**Pb**	**08 44 50.2**	**+0.4**
NLC				*eS*			**Sb**	**08 45 01.7**	**+0.1**
SDLR	**Sedlovina**	**1.20**	**278**	PN			**Pn**	**08 44 54.6**	**+0.7**
SDLR	**Sedlovina**	**1.20**	**278**	*eP*			**Pn**	**08 44 54.7**	**+0.7**
UGLR	**Uglovaya**	**1.23**	**274**	PN			**Pn**	**08 44 55.4**	**+1.1**
UGLR	**Uglovaya**	**1.23**	**274**	*eP*			**Pn**	**08 44 55.5**	**+1.1**
KII	**Karymskiy**	**1.23**	**318**	PN			**Pn**	**08 44 54.0**	**-0.3**
KII	**Karymskiy**	**1.23**	**318**	*eP*			**Pn**	**08 44 54.1**	**-0.3**
SMAR	**Somma**	**1.24**	**277**	PN			**Pn**	**08 44 55.3**	**+0.7**
SMAR	**Somma**	**1.24**	**277**	*eP*			**Pn**	**08 44 55.4**	**+0.7**
DALK	**Dalny**	**1.27**	**266**	PN			**Pn**	**08 44 55.4**	**+0.6**
DALK	**Dalny**	**1.27**	**266**	*eP*			**Pn**	**08 44 55.4**	**+0.6**
KRER	**Koryakskii**	**1.28**	**278**	PN			**Pn**	**08 44 56.2**	**+1.1**
KRER	**Koryakskii**	**1.28**	**278**	*eP*			**Pn**	**08 44 56.2**	**+1.1**
AVH	**Avacha**	**1.28**	**277**	PN			**Pn**	**08 44 56.2**	**+1.2**
AVH	**Avacha**	**1.28**	**277**	*eP*			**Pn**	**08 44 56.3**	**+1.2**
PET	**Petropavlovsk**	**1.33**	**266**	*e*PN			**Pn**	**08 44 56.3**	**+0.6**
PET				*e*S			**Sn**	**08 45 11.9**	**-0.7**
PET				smax			smax		
comp=E,556nm,0.6s
PET				smax			smax		
comp=N,669nm,0.4s
PET	**Petropavlovsk**	**1.33**	**266**	*e*P			**Pn**	**08 44 56.5**	**+0.8**
KOK	**Koryaka**	**1.34**	**278**	PN			**Pn**	**08 44 56.8**	**+0.9**
KOK	**Koryaka**	**1.34**	**278**	*eP*			**Pn**	**08 44 56.9**	**+0.9**
KRX	**Arik**	**1.34**	**280**	PN			**Pn**	**08 44 56.7**	**+0.7**
KRX	**Arik**	**1.34**	**280**	*eP*			**Pn**	**08 44 56.8**	**+0.7**
MKZ	**Mys Kozlova**	**1.52**	**20**	PN			**Pn**	**08 44 58.0**	**-0.1**
MKZ	**Mys Kozlova**	**1.52**	**20**	*eP*			**Pn**	**08 44 58.0**	**-0.1**
RUS	**Russkaya**	**1.59**	**245**	PN			**Pn**	**08 44 59.4**	**+0.3**
RUS	**Russkaya**	**1.59**	**245**	*eP*			**Pn**	**08 44 59.4**	**+0.3**
KRMR	**Karymshinskiy**	**1.68**	**261**	PN			**Pn**	**08 45 01.5**	**+1.1**
KRMR	**Karymshinskiy**	**1.68**	**261**	*eP*			**Pn**	**08 45 01.6**	**+1.1**
MTVR	**Mutnovka**	**1.75**	**249**	PN			**Pn**	**08 45 03.1**	**+1.6**
MTVR				S			**Sb**	**08 45 26.0**	**+0.3**
MTVR	**Mutnovka**	**1.75**	**249**	*eP*			**Pn**	**08 45 03.1**	**+1.6**
MTVR				*e*S			**Sb**	**08 45 26.1**	**+0.3**
GRL	**Gorelyy**	**1.79**	**252**	PN			**Pn**	**08 45 03.9**	**+1.9**
GRL	**Gorelyy**	**1.79**	**252**	*eP*			**Pn**	**08 45 04.0**	**+1.9**
GNL	**Ganaly**	**1.83**	**289**	PN			**Pn**	**08 45 04.0**	**+1.4**
GNL	**Ganaly**	**1.83**	**289**	*eP*			**Pn**	**08 45 04.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.90**	**270**	PN			**Pn**	**08 45 05.3**	**+1.8**
PETK	**Petropavlovsk-**	**1.90**	**270**	Pn			**Pn**	**08 45 04.5**	**+1.0**
comp=N,45nm,0.3s,baz=86,slow=21,SNR=1283
PETK				Sn			**Sn**	**08 45 27.8**	**+1.1**
comp=N,33nm,0.3s,baz=112,slow=12,SNR=13
ASAK	**Asacha**	**1.95**	**248**	PN			**Pn**	**08 45 06.6**	**+2.4**
ASAK	**Asacha**	**1.95**	**248**	*eP*			**Pn**	**08 45 06.6**	**+2.4**
KZV	**Kizimen**	**2.01**	**351**	PN			**Pn**	**08 45 06.0**	**+0.9**
KZV	**Kizimen**	**2.01**	**351**	*eP*			**Pn**	**08 45 06.0**	**+0.9**
TUMD	**Tumrok D**	**2.09**	**353**	PN			**Pn**	**08 45 06.7**	**+0.6**
TUMD	**Tumrok D**	**2.09**	**353**	*eP*			**Pn**	**08 45 06.7**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.16**	**233**	PN			**Pb**	**08 45 09.9**	**-1.1**
KDTR	**Khodutka, Kamc**	**2.16**	**233**	*eP*			**Pb**	**08 45 09.9**	**-1.1**
APC	**Apacha**	**2.24**	**266**	PN			**Pn**	**08 45 10.8**	**+2.7**
APC	**Apacha**	**2.24**	**266**	*eP*			**Pn**	**08 45 10.9**	**+2.7**
MIPR	**Malaya Ipel'ka**	**2.64**	**253**	PN			**Pn**	**08 45 16.7**	**+3.1**
MIPR	**Malaya Ipel'ka**	**2.64**	**253**	*eP*			**Pn**	**08 45 16.8**	**+3.1**
KMNR	**Kamenistaya**	**2.65**	**352**	PN			**Pn**	**08 45 16.1**	**+2.2**
KMNR	**Kamenistaya**	**2.65**	**352**	*eP*			**Pn**	**08 45 16.2**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**2.81**	**358**	PN			**Pn**	**08 45 18.3**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**2.81**	**358**	*eP*			**Pn**	**08 45 18.4**	**+2.2**
KIRR	**Kirishev**	**2.84**	**354**	PN			**Pn**	**08 45 18.7**	**+2.2**
KIRR	**Kirishev**	**2.84**	**354**	*eP*			**Pn**	**08 45 18.8**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.84**	**356**	PN			**Pn**	**08 45 18.9**	**+2.3**
BZWR	**Bezymyannyi-We**	**2.84**	**356**	*eP*			**Pn**	**08 45 19.0**	**+2.3**
KPT	**Kopyto**	**2.86**	**353**	PN			**Pn**	**08 45 18.9**	**+2.2**
KPT	**Kopyto**	**2.86**	**353**	*eP*			**Pn**	**08 45 19.0**	**+2.2**
ZLN	**Zelenaya**	**2.89**	**359**	PN			**Pn**	**08 45 19.7**	**+2.5**
ZLN	**Zelenaya**	**2.89**	**359**	*eP*			**Pn**	**08 45 19.7**	**+2.5**
KOZ	**Kozyrevsk**	**2.98**	**349**	PN			**Pn**	**08 45 20.1**	**+1.7**
KOZ	**Kozyrevsk**	**2.98**	**349**	*eP*			**Pn**	**08 45 20.1**	**+1.7**
PAU	**Pauzhetka**	**2.99**	**238**	PN			**Pb**	**08 45 23.0**	**-2.2**
PAU	**Pauzhetka**	**2.99**	**238**	*eP*			**Pb**	**08 45 23.1**	**-2.2**
ESO	**Esso**	**3.06**	**337**	PN			**Pn**	**08 45 20.6**	**+1.1**
ESO	**Esso**	**3.06**	**337**	*eP*			**Pn**	**08 45 20.7**	**+1.1**
KLY	**Klyuchi**	**3.19**	**358**	PN			**Pn**	**08 45 23.1**	**+2.0**
KLY	**Klyuchi**	**3.19**	**358**	*eP*			**Pn**	**08 45 23.2**	**+2.0**
SRDR	**Sredinnyy**	**3.26**	**349**	PN			**Pn**	**08 45 23.2**	**+1.0**
SRDR	**Sredinnyy**	**3.26**	**349**	*eP*			**Pn**	**08 45 23.2**	**+1.0**
KBTR	**Krutoberegovo**	**3.28**	**20**	PN			**Pn**	**08 45 24.2**	**+1.8**
KBTR	**Krutoberegovo**	**3.28**	**20**	*eP*			**Pn**	**08 45 24.3**	**+1.8**
SMKR	**Semkarok**	**3.47**	**6**	PN			**Pn**	**08 45 27.4**	**+2.3**
SMKR	**Semkarok**	**3.47**	**6**	*eP*			**Pn**	**08 45 27.4**	**+2.3**
SRKR	**Sorokina**	**3.53**	**3**	PN			**Pn**	**08 45 28.1**	**+2.2**
SRKR	**Sorokina**	**3.53**	**3**	*eP*			**Pn**	**08 45 28.1**	**+2.2**
BKI	**Bering**	**3.65**	**53**	PN			**Pn**	**08 45 29.2**	**+1.7**
BKI	**Bering**	**3.65**	**53**	*eP*			**Pn**	**08 45 29.3**	**+1.7**
BKI				*e*S			**Sn**	**08 46 07.1**	**-2.6**
MA2	**Magadan**	**8.54**	**323**	LR			LR	08 50 10.2	
comp=N,19nm,20.5s,baz=142,slow=42
MA2	**Magadan**	**8.54**	**323**	||*i*PN		Pn	08 46 27.6	-7.0
MA2				pmax			pmax		
comp=Z,9.0nm,1.1s
SEY	**Seymchan**	**10.79**	**339**	LR			LR	08 51 23.2	
comp=Z,50nm,19.4s,baz=254,slow=40
YAK	**Yakutsk**	**18.76**	**311**	LR			LR	08 56 45.3	
comp=Z,74nm,18.2s,baz=170,slow=40
VLA	**Vladivostok**	**21.64**	**254**	||*i*P		**P**	**08 49 18.9**	**-1.9**
VLA				pmax			pmax		
comp=Z,26nm,0.6s
TIXI	**Tiksi**	**23.24**	**335**	LR			LR	08 59 11.4	
comp=Z,55nm,19.0s,baz=174,slow=39
ILAR	**Eielson Array**	**28.46**	**45**	*e*P			**P**	**08 50 26.2**	**+1.1**
comp=Z,0.6nm,0.9s,baz=273,slow=8.0,SNR=5.0
comp=Z,0.6nm,0.9s
ILAR	**Eielson Array**	**28.46**	**45**	*e*P			**P**	**08 50 27.5**	**+2.3**
H11N2	**WAKE ISLAND Hy**	**33.67**	**170**	T			T	09 27 35.3	
baz=354,slow=76,SNR=26
H11N3	**WAKE ISLAND Hy**	**33.68**	**170**	T			T	09 27 36.5	
baz=354,slow=76,SNR=25
H11N1	**WAKE ISLAND Hy**	**33.69**	**170**	T			T	09 27 45.6	
baz=354,slow=76,SNR=29
H11S1	**WAKE ISLAND Hy**	**34.86**	**170**	T			T	09 29 04.4	
baz=352
H11S3	**WAKE ISLAND Hy**	**34.87**	**170**	T			T	09 29 04.0	
baz=352
H11S2	**WAKE ISLAND Hy**	**34.88**	**170**	T			T	09 29 08.9	
baz=352
SPITS	**Spitsbergen Ar**	**47.17**	**351**	P			**P**	**08 53 01.3**	**-1.0**
comp=Z,3.7nm,0.7s,baz=52,slow=9.3,SNR=6.9
comp=Z,3.7nm,0.7s
KURK	**Kurchatov**	**48.10**	**302**	*i*P			**P**	**08 53 07.3**	**-2.6**
MKAR	**Makanchi Array**	**48.55**	**296**	P			**P**	**08 53 14.2**	**+0.7**
comp=Z,0.3nm,0.5s,baz=56,slow=5.2,SNR=4.9
comp=Z,0.3nm,0.5s
MKAR	**Makanchi Array**	**48.55**	**296**	*e*P			**P**	**08 53 13.9**	**+0.4**
ARCES	**ARCESS Array B**	**53.39**	**342**	P			**P**	**08 53 48.2**	**-1.2**
comp=Z,2.8nm,0.9s,baz=47,slow=7.3,SNR=5.0
comp=Z,2.8nm,0.9s
ULM	**Lac du Bonnet**	**58.46**	**47**	LR			LR	09 21 36.6	
comp=Z,30nm,18.2s,baz=360,slow=38
FINES	**FINESS Array B**	**60.26**	**337**	P			**P**	**08 54 36.9**	**-1.4**
comp=Z,0.7nm,0.3s,baz=39,slow=6.2,SNR=9.8
comp=Z,0.7nm,0.3s
FINES	**FINESS Array B**	**60.26**	**337**	*i*P			**P**	**08 54 38.4**	**+0.1**
FINES				pmax			pmax		
comp=Z,1.0nm,0.3s
NOA	**NORSAR Array B**	**63.63**	**344**	P			**P**	**08 54 58.7**	**-2.2**
comp=Z,0.7nm,0.7s,baz=6.5,slow=6.8,SNR=1.6
comp=Z,0.7nm,0.7s
HFS	**Hagfors**	**64.05**	**342**	P			**P**	**08 55 03.9**	**+0.2**
comp=Z,2.3nm,0.7s,baz=352,slow=4.4,SNR=2.6
comp=Z,2.3nm,0.7s
TXAR	**Lajitas Array**	**70.20**	**67**	P			**P**	**08 55 45.6**	**+2.3**
comp=Z,0.3nm,0.6s,baz=308,slow=5.0,SNR=6.3
comp=Z,0.3nm,0.6s
EKA	**Eskdalemuir Ar**	**71.09**	**350**	P			**P**	**08 55 48.0**	**-0.2**
comp=Z,0.3nm,0.4s,baz=23,slow=6.2,SNR=1.9
comp=Z,0.3nm,0.4s
EKA	**Eskdalemuir Ar**	**71.09**	**350**	P			**P**	**08 55 48.0**	**-0.2**

*WEL **24** 08:53:37.5±0.6,45°.3S×16°.7E±°, h5km, M5.6/53, ML5.7/10, MLv5.6/53, Error ellipse: s-maj=5.2km s-min=2.8km az=125.5, confirmed*
*NOU **24** 08:53:37.2, 44°.69S×167°.46E, h2km, mb5.2/63, South Island, New Zealand*
*WEL **24** 08:53:37.5, 44°.67S×167°.44E, h14km, ML5.6, Mw5.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}1.80; $M_{\theta\theta}$1.93; $M_{\phi\phi}$-3.73; $M_{r\theta}$-1.62; $M_{\theta\phi}$-2.28; $M_{\phi r}$-0.81; Fault plane solution: $M_0$4.24000×10^{16} NP1: ϕ_s237.00000°, δ74.00000°, λ144.00000°. NP2: ϕ_s339.00000°, δ56.00000°, λ20.00000°. Principal axes: T -4.7994, Plg36.0000°, Azm193.0000°; N 3.6849, Plg51.0000°, Azm36.0000°; P 1.1145, Plg11.0000°, Azm291.0000°; Stations used: JCZ WKZ WHZ EAZ LBZ TUZ APZ SYZ ODZ OPZ RPZ WVZ OBLIQUE-REVERSE FAULTING*
*NEIC **24** 08:53:39.0±1.3, 44°.79S±0°.03×167°.44E±0°.05, h21km±5km, mb5.1/34, Mww5.1/11 Error ellipse: s-maj=5.2km s-min=4.1km az=130.0*
*MOS **24** 08:53:40.4±1.3, 44°.90S×167°.08E, h34km, mb5.2/7, Error ellipse: s-maj=19.8km s-min=11.1km az=128.7*
*GCMT **24** 08:53:40.5±0.2, 44°.57S±0°.01×167°.34E±0°.01, h18km, MW5.1/112, Moment Tensor Solution. s57, c82; s112, c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.87±.15; $M_{\theta\theta}$1.37±.10; $M_{\phi\phi}$-4.24±.12; $M_{r\theta}$-2.14±.29; $M_{\theta\phi}$-2.47±.08; $M_{\phi r}$-3.53±.31; Best double couple: $M_0$5.81700×10^{16} NP1:ϕ_s357.00000°, δ25.00000°, λ56.00000°. NP2:ϕ_s214.00000°, δ69.00000°, λ105.00000°. Principal axes: T 4.7600, Plg63.0000°, Azm148.0000°; N 2.1130, Plg14.0000°, Azm29.0000°; P -6.8740, Plg23.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **24** 08:53:41.4±2.3, 44°.63S×167°.59E, h41km±21km, mb4.5/15, mbtmp4.6/16, ML4.6/2, MS4.3/33 Error ellipse: s-maj=15.7km s-min=13.2km az=27.0*
ISC 24 08:53:36.3±1.0,**44°.67S**±0°.03×**167°.44E**±0°.03,**h4**km±6km,
n441,σ1°31/427,**mb5.0**/52,**MS4.3**/33,**18C-6D**,**South Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.35**	**90**	P			**Pg**	**08 53 44.6**	**+1.6**
MSZ				S			**Sg**	**08 53 49.2**	**+1.6**
GLNY	**Glenorchy**	**0.72**	**106**	P			**Pg**	**08 53 50.9**	**+0.8**
GLNY				S			**Sg**	**08 54 00.6**	**+1.3**
TAFS	**Te Anau Fire S**	**0.77**	**165**	P			**Pb**	**08 53 53.2**	**+0.9**
TAFS				S			**Sb**	**08 54 04.1**	**+1.0**
DCZ	**Deep Cove**	**0.82**	**194**				**Pg**	**08 53 52.5**	**+0.5**
DCZ						Sn	**Sb**	**08 54 04.1**	**-0.4**
DCZ	**Deep Cove**	**0.82**	**194**	P			**Pg**	**08 53 52.4**	**+0.5**
DCZ				S			**Sg**	**08 54 03.9**	**+1.3**
MLZ	**Mavora Lakes**	**0.84**	**145**				**Pg**	**08 53 53.7**	**+1.2**
MLZ						Sn	**Sb**	**08 54 05.8**	**+0.5**
MLZ	**Mavora Lakes**	**0.84**	**145**	P			**Pg**	**08 53 53.8**	**+1.2**
MLZ				S			**Sb**	**08 54 05.3**	**0.0**
QTPS	**Queenstown Pol**	**0.94**	**113**	P			**Pg**	**08 53 55.2**	**+0.8**
NSBS	**Neils Beach**	**1.11**	**53**	P			**Pb**	**08 53 58.5**	**+0.4**
WKZ	**Wanaka**	**1.14**	**98**				**Pb**	**08 53 58.3**	**-0.3**
WKZ						Sn	**Sg**	**08 54 13.4**	**+0.6**
WKZ	**Wanaka**	**1.14**	**98**	P			**Pb**	**08 53 58.8**	**+0.2**
WKZ				S			**Sb**	**08 54 13.9**	**+0.2**
JCZ	**Jackson Bay**	**1.14**	**59**	P			**Pn**	**08 53 59.9**	**+0.7**
JCZ	**Jackson Bay**	**1.14**	**59**	S			**Sn**	**08 54 14.6**	**-0.7**
JCZ	**Jackson Bay**	**1.14**	**59**	P			**Pb**	**08 53 58.4**	**-0.3**
JCZ				S			**Sg**	**08 54 13.3**	**+0.4**
MOSS	**Mossburn Schoo**	**1.14**	**151**	P			**Pn**	**08 53 59.3**	**+0.1**
MOSS				S			**Sn**	**08 54 14.9**	**-0.4**
RLNS	**Resolution Isl**	**1.14**	**207**	P			**Pb**	**08 53 57.7**	**-1.1**
WNPS	**Wanaka Nationa**	**1.22**	**92**	P			**Pg**	**08 54 00.5**	**+0.8**
WHZ	**Wether Hill Ro**	**1.27**	**164**				**Pn**	**08 54 00.5**	**-0.4**
WHZ						Sn	**Sb**	**08 54 14.0**	**-3.6**
WHZ	**Wether Hill Ro**	**1.27**	**164**	P			**Pn**	**08 54 00.8**	**-0.1**
WHZ				S			**Sg**	**08 54 17.9**	**+0.7**
HDWS	**Haast DOC Work**	**1.40**	**56**	P			**Pn**	**08 54 02.7**	**0.0**
EAZ	**Earnscleugh**	**1.44**	**113**	P			**Pb**	**08 54 03.8**	**+0.1**
EAZ				S			**Sg**	**08 54 23.3**	**+0.7**
RRKS	**Rarakau**	**1.47**	**179**	P			**Pb**	**08 54 04.7**	**+0.4**
PYZ	**Puysegur Point**	**1.58**	**199**				**Pn**	**08 54 03.7**	**-1.6**
PYZ	**Puysegur Point**	**1.58**	**199**	P			**Pn**	**08 54 04.6**	**-0.6**
PYZ	**Puysegur Point**	**1.58**	**199**	S			**Sg**	**08 54 28.0**	**+0.8**
PYZ	**Puysegur Point**	**1.58**	**199**	P			**Pn**	**08 54 03.7**	**-1.6**
ORPS	**Orepuki**	**1.63**	**172**	P			**Pb**	**08 54 07.0**	**+0.1**
ORPS				S			**Sb**	**08 54 28.2**	**+0.3**
GODC	**Gore District**	**1.78**	**144**	P			**Pb**	**08 54 09.7**	**+0.2**
ICCS	**Invercargill C**	**1.85**	**160**	P			**Pb**	**08 54 10.9**	**+0.1**
ICCS				S			**Sb**	**08 54 34.1**	**-0.1**
TWAS	**Twizel Area Sc**	**1.95**	**79**	P			**Pb**	**08 54 12.2**	**-0.2**
LBZ	**Lake Benmore**	**1.99**	**83**	Pn			**Pn**	**08 54 11.9**	**+1.2**
LBZ	**Lake Benmore**	**1.99**	**83**	P			**Pb**	**08 54 12.4**	**-0.6**
LBZ				S			**Sb**	**08 54 38.4**	**+0.2**
TUZ	**Tuapeka**	**2.01**	**130**	P			**Pb**	**08 54 12.5**	**-0.9**
TUZ				S			**Sb**	**08 54 38.4**	**-0.3**
FOZ	**Fox Glacier**	**2.06**	**57**	Pn			**Pn**	**08 54 10.7**	**-1.0**
FOZ	**Fox Glacier**	**2.06**	**57**	P			**Pn**	**08 54 10.7**	**-1.0**
MCNS	**Mount Cook Ann**	**2.13**	**65**	P			**Pn**	**08 54 13.0**	**+0.2**
APZ	**The Paps**	**2.19**	**170**	P			**Pn**	**08 54 15.0**	**+1.4**
APZ				S			**Sb**	**08 54 43.0**	**-1.1**
SYZ	**Scrubby Hill**	**2.21**	**148**	P			**Pn**	**08 54 15.0**	**+1.2**
SYZ	**Scrubby Hill**	**2.21**	**148**	P			**Sb**	**08 54 43.1**	**-1.5**
SYZ	**Scrubby Hill**	**2.21**	**148**	P			**Pn**	**08 54 15.5**	**+1.6**
SYZ				S			**Sn**	**08 54 42.2**	**+0.6**
FGPS	**Fox Glacier Pa**	**2.22**	**58**	P			**Pn**	**08 54 13.3**	**-0.6**
BDCS	**Balclutha Dist**	**2.25**	**135**	P			**Pn**	**08 54 15.7**	**+1.3**
ODZ	**Otahua Downs**	**2.31**	**100**	Pn			**Pn**	**08 54 16.1**	**+0.9**
ODZ	**Otahua Downs**	**2.31**	**100**	P			**Pn**	**08 54 16.6**	**+1.4**
ODZ	**Otahua Downs**	**2.31**	**100**	S			**Sn**	**08 54 43.5**	**-0.6**
ODZ	**Otahua Downs**	**2.31**	**100**	P			**Pn**	**08 54 16.3**	**+1.1**
TMBS	**Taieri Mouth B**	**2.39**	**127**	P			**Pb**	**08 54 18.7**	**-1.2**
DUNS	**Dunedin Corsto**	**2.47**	**121**	P			**Pn**	**08 54 19.2**	**+1.8**
DCDS	**Dunedin Civil**	**2.47**	**120**	P			**Pb**	**08 54 19.9**	**-1.4**
DGNS	**Dunedin GNS**	**2.48**	**120**	P			**Pb**	**08 54 20.1**	**-1.3**
DKHS	**Tonga Park, Fo**	**2.48**	**121**	P			**Pb**	**08 54 20.3**	**-1.2**
FDCS	**Fairlie Distri**	**2.50**	**78**	P			**Pn**	**08 54 18.9**	**+1.1**
HHSZ	**Highcliff Hill**	**2.54**	**120**	P			**Pn**	**08 54 20.2**	**+1.9**
OAMS	**Oamaru North O**	**2.55**	**101**	P			**Pn**	**08 54 20.2**	**+1.8**
TMZ	**Timaru**	**2.57**	**85**	P			**Pn**	**08 54 19.5**	**+0.8**
RPZ	**Rata Peaks**	**2.77**	**71**	Pn			**Pn**	**08 54 21.9**	**+0.3**
RPZ	**Rata Peaks**	**2.77**	**71**	P			**Pn**	**08 54 22.3**	**+0.8**
310nm,0.3s,baz=278,slow=7.2,SNR=422
RPZ				S			**Sn**	**08 54 52.8**	**-2.7**
3μm,0.4s,baz=34,slow=18,SNR=6.9
RPZ	**Rata Peaks**	**2.77**	**71**	P			**Pn**	**08 54 22.4**	**+0.8**
RPZ	**Rata Peaks**	**2.77**	**71**	P			**Pn**	**08 54 21.9**	**+0.3**
ARCZ	**Arundel**	**2.78**	**76**	P			**Pn**	**08 54 21.9**	**+0.2**
PEEC	**Peel Forest**	**2.83**	**76**	P			**Pn**	**08 54 23.5**	**+1.2**
WVZ	**Waitaha Valley**	**2.87**	**57**	P			**Pn**	**08 54 21.6**	**-1.3**
WVAS	**Waitaha Valley**	**2.87**	**57**	P			**Pn**	**08 54 21.9**	**-1.0**
MAYC	**Mayfield Schoo**	**2.99**	**75**	P			**Pn**	**08 54 25.3**	**+0.8**
MHCZ	**Mount Hutt**	**3.19**	**70**	P			**Pn**	**08 54 26.8**	**-0.5**
MTHS	**Methven North**	**3.24**	**71**	P			**Pn**	**08 54 28.8**	**+0.8**
WACZ	**Wakanui South**	**3.24**	**78**	P			**Pn**	**08 54 28.0**	**0.0**
CSHS	**Castle Hill**	**3.42**	**66**	P			**Pn**	**08 54 31.4**	**+0.9**
APPS	**Arthurs Pass P**	**3.45**	**61**	P			**Pn**	**08 54 31.6**	**+0.6**
INZ	**Inchbonnie**	**3.50**	**58**	Pn			**Pn**	**08 54 30.7**	**-0.8**
INZ	**Inchbonnie**	**3.50**	**58**	P			**Pn**	**08 54 30.5**	**-1.0**
SPRS	**Springfield Vo**	**3.51**	**69**	P			**Pn**	**08 54 32.0**	**+0.3**
RACZ	**Rakaia**	**3.51**	**76**	P			**Pn**	**08 54 32.4**	**+0.7**
DSLC	**Dunsandel Scho**	**3.57**	**75**	P			**Pn**	**08 54 33.4**	**+1.0**
OXZ	**Oxford**	**3.58**	**70**	Pn			**Pn**	**08 54 31.7**	**-1.0**
OXZ	**Oxford**	**3.58**	**70**	P			**Pn**	**08 54 32.0**	**-0.7**
SMHS	**Summerhill**	**3.81**	**70**	P			**Pn**	**08 54 35.7**	**-0.1**
MQZ	**McQueen's Vall**	**3.87**	**77**	Pn			**Pn**	**08 54 35.6**	**-1.1**
MQZ	**McQueen's Vall**	**3.87**	**77**	P			**Pn**	**08 54 36.3**	**-0.4**
TOKS	**Te Oka Bay Roa**	**3.93**	**79**	P			**Pn**	**08 54 37.9**	**+0.4**
LPDS	**Lyttelton Port**	**3.94**	**76**	P			**Pn**	**08 54 37.8**	**+0.2**
DHSS	**Diamond Harbou**	**3.95**	**77**	P			**Pn**	**08 54 38.0**	**+0.3**
RCBS	**Redcliffs Bore**	**3.97**	**76**	P			**Pn**	**08 54 38.4**	**+0.4**
LTZ	**Lake Taylor**	**3.98**	**63**	Pn			**Pn**	**08 54 38.3**	**+0.1**
LTZ	**Lake Taylor**	**3.98**	**63**	P			**Pn**	**08 54 37.0**	**-1.2**
AKCZ	**Akaroa Harbour**	**4.01**	**80**	P			**Pn**	**08 54 39.3**	**+0.7**
AMCZ	**Amberley**	**4.05**	**70**	Pn			**Pn**	**08 54 38.9**	**-0.2**
AMCZ	**Amberley**	**4.05**	**70**	P			**Pn**	**08 54 39.1**	**0.0**
AKSS	**Akaroa School**	**4.06**	**80**	P			**Pn**	**08 54 39.6**	**+0.4**
MNZS	**Menzies Bay Ba**	**4.12**	**77**	P			**Pn**	**08 54 40.9**	**+0.9**
OKCZ	**Okains Bay**	**4.15**	**79**	P			**Pn**	**08 54 41.3**	**+0.8**
WAKC	**Waikari**	**4.18**	**68**	P			**Pn**	**08 54 40.1**	**-0.7**
DSZ	**Denniston Nort**	**4.33**	**49**	Pn			**Pn**	**08 54 41.9**	**-1.2**
DSZ	**Denniston Nort**	**4.33**	**49**	P			**Pn**	**08 54 41.8**	**-1.2**
GVZ	**Greta Valley S**	**4.39**	**69**	P			**Pn**	**08 54 43.7**	**-0.1**
WTMC	**Te Mara Farm W**	**4.56**	**65**	P			**Pn**	**08 54 46.5**	**+0.4**
KASC	**Karamea School**	**4.85**	**47**	P			**Pn**	**08 54 49.8**	**-0.3**
THZ	**Tophouse**	**4.94**	**56**				**Pn**	**08 54 51.1**	**-0.3**
THZ	**Tophouse**	**4.94**	**56**	P			**Pn**	**08 54 50.6**	**-0.9**
KHZ	**Kahutara**	**4.98**	**65**				**Pn**	**08 54 52.0**	**+0.2**
KHZ	**Kahutara**	**4.98**	**65**	P			**Pn**	**08 54 52.5**	**+0.7**
KHZ	**Kahutara**	**4.98**	**65**	S			**Sn**	**08 55 50.8**	**+1.0**
KHZ	**Kahutara**	**4.98**	**65**	P			**Pn**	**08 54 52.2**	**+0.4**
MATW	**Matariki Wadsw**	**5.04**	**52**	P			**Pn**	**08 54 52.9**	**+0.1**
MRNZ	**Matariki Terra**	**5.09**	**52**	P			**Pn**	**08 54 53.1**	**-0.4**
QRZ	**Quartz Range**	**5

comp=Z,143nm,1.3s
CAN Canberra 16.91 297 Pn **Pn** **08 57 33.3 -0.6**
CAN IAmb IAmb 08 57 40.9
comp=Z,310nm,1.5s
CAN Canberra 16.91 297 P **Pn** **08 57 33.6 -0.2**
CAN Canberra 16.91 297 P **Pn** **08 57 33.3 -0.5**
CAN pmax pmax
comp=Z,310nm,1.5s
MGCD Mangrove Creek 17.06 307 P **Pn** **08 57 34.6 -1.2**
comp=Z,104nm,0.9s
MGCD Mangrove Creek 17.06 307 P **P** **08 57 38.6 +1.0**
YNG Young 17.94 299 P **Pn** **08 57 46.0 -0.7**
comp=Z,33nm,0.8s
TOO Toolangi 17.96 286 P **P** **08 57 48.7 +1.1**
comp=Z,57nm,1.3s
TOO Toolangi 17.96 286 P **P** **08 57 47.9 +0.3**
TOO Toolangi 17.96 286 P **P** **08 57 47.9 +0.3**
TOO pmax pmax
comp=Z,115nm,1.6s
AUPHS Peel High Scho 18.77 311 P **Pn** **08 57 59.4 +2.5**
ARMA Armidale 18.91 313 P **Pn** **08 58 00.0 +1.3**
ARMA Armidale 18.91 313 P **Pn** **08 58 00.3 +1.6**
BRAT Ballarat 19.05 284 P **Pn** **08 58 01.4 +1.2**
AUMTC Mt Clear Colle 19.06 284 P **Pn** **08 58 01.8 +1.6**
RAO Raoul Island 19.29 42 LR LR 09 05 53.3
comp=Z,1μm,18.2s,baz=192,slow=38
AUHPC Hawkesdale P12 19.91 280 P **Pn** **08 58 11.1 +0.7**
AUWSH Wavell State H 20.75 321 P Pn 08 58 20.3 -0.1
TW1H Toowoomba 1 Ha 21.11 319 P **P** **08 58 24.3 +2.2**
MGBR Mount Gambier 21.31 280 P **P** **08 58 25.1 +1.0**
CMSA Cobar Meteorol 21.48 300 P **P** **08 58 26.2 +0.3**
comp=Z,68nm,1.2s
CMSA Cobar Meteorol 21.48 300 P **P** **08 58 27.5 +1.6**
AULRC Lightning Ridg 21.66 308 P **P** **08 58 30.7 +2.9**
DZM Mont Dzumac 22.56 358 LR LR 09 06 55.4
comp=Z,652nm,18.2s,baz=190,slow=35
EIDS Eidsvold 23.38 320 P **P** **08 58 47.2 +1.2**
comp=Z,86nm,1.1s
EIDS Eidsvold 23.38 320 P **P** **08 58 46.8 +0.8**
EIDS IAmb IAmb 08 59 02.1
comp=Z,73nm,0.9s
EIDS Eidsvold 23.38 320 P **P** **08 58 48.2 +2.2**
AUMBR Murray Bridge 23.50 284 P **P** **08 58 49.1 +1.9**
STKA Stephens Creek 23.86 294 P **P** **08 58 51.2 +0.5**
STKA Stephens Creek 23.86 294 P **P** **08 58 52.0 +1.3**
comp=Z,44nm,0.9s,baz=121,slow=12,SNR=43
STKA PcP **PcP** **09 02 33.3 -0.4**
comp=Z,5.6nm,1.0s,baz=150,slow=8.1,SNR=3.0
STKA LR LR 09 06 29.6
comp=Z,797nm,21.1s,baz=145,slow=32
comp=Z,44nm,0.9s
STKA Stephens Creek 23.86 294 P **P** **08 58 53.0 +2.2**
AUMAR Marden Senior 24.08 284 P **P** **08 58 55.5 +2.7**
HTT Hallett 24.70 287 P **P** **08 58 58.4 -0.2**
comp=Z,18nm,1.2s
HTT Hallett 24.70 287 P **P** **08 59 00.5 +1.9**
AUNRC North Rockhamp 25.38 321 P **P** **08 59 07.0 +2.4**
WHYH Whyalla 25.85 286 P **P** **08 59 11.4 +2.5**
QLP Quilpie 25.96 306 P **P** **08 59 11.5 +1.5**
comp=Z,67nm,0.9s
QLP Quilpie 25.96 306 P **P** **08 59 12.6 +2.6**
INKA Innaminka 27.20 299 P **P** **08 59 22.2 +1.1**
MTSU Mount Surprise 32.78 316 P **P** **09 00 12.4 +1.8**
VNDA Vanda 33.03 182 P **P** **09 00 12.9 +0.7**
comp=Z,6.6nm,1.2s,baz=347,slow=9.5,SNR=11
VNDA LR LR 09 11 23.2
comp=Z,1μm,20.4s,baz=6.5,slow=32
comp=Z,6.6nm,1.2s
VNDA Vanda 33.03 182 P **P** **09 00 13.0 +0.7**
SBA Scott Base 33.29 180 P **P** **09 00 13.2 -1.3**
SBA IAmb IAmb 09 00 20.2
comp=Z,42nm,1.2s
SBA Scott Base 33.29 180 P **P** **09 00 13.2 -1.3**
SBA pmax pmax
comp=Z,42nm,1.2s
QIS Mount Isa 33.30 307 P **P** **09 00 15.2 +0.1**
comp=Z,29nm,1.1s
QIS Mount Isa 33.30 307 P **P** **09 00 16.2 +1.1**
AUALC St Philip's Co 34.41 296 P **P** **09 00 26.2 +1.4**
ASAR Alice Springs 34.41 296 P **P** **09 00 25.1 +0.2**
comp=Z,7.8nm,0.9s,baz=140,slow=7.7,SNR=35
ASAR PcP **PcP** **09 02 59.5 -0.9**
comp=Z,3.5nm,0.6s,baz=135,slow=3.7,SNR=8.5
ASAR LR LR 09 14 33.6
comp=Z,465nm,18.2s,baz=144,slow=36
comp=Z,7.8nm,0.9s
HNR Honiara 35.71 347 LR LR 09 14 47.9
comp=Z,1μm,18.2s,baz=198,slow=36
RAR Rarotonga 35.74 60 LR LR 09 13 41.9
comp=Z,785nm,20.2s,baz=223,slow=34
WR0 Warramunga Arr 36.75 301 P **P** **09 00 44.6 -0.3**
WB1 Warramunga Ar. 36.87 301 P **P** **09 00 46.1 +0.2**
WB2 Warramunga Arr 36.88 301 P **P** **09 00 45.3 -0.7**
WRA Warramunga Arr 36.88 301 P **P** **09 00 45.9 -0.2**
comp=Z,14nm,0.9s,baz=138,slow=8.0,SNR=72
WRA PcP **PcP** **09 03 06.8 -1.0**
comp=Z,3.4nm,0.6s,baz=142,slow=3.2,SNR=12
WRA LR LR 09 15 43.1
comp=Z,502nm,18.5s,baz=190,slow=36
comp=Z,14nm,0.9s
WRAB Tennant Creek 36.88 301 P **P** **09 00 45.9 -0.2**
WRAB IAmb IAmb 09 01 00.8
comp=Z,24nm,0.9s
WRAB Tennant Creek 36.88 301 P **P** **09 00 46.2 +0.1**
WRAB Tennant Creek 36.88 301 P **P** **09 00 45.9 -0.2**
WRAB pmax pmax
comp=Z,24nm,1.0s
WB9 Warramunga Arr 36.97 301 P **P** **09 00 46.1 -0.7**
CASY Casey 37.02 214 P **P** **09 00 46.6 -0.2**
CASY IAmb IAmb 09 00 48.4
comp=Z,48nm,1.5s
WRKA Warakurna 37.17 289 P **P** **09 00 48.2 -0.3**
comp=Z,10nm,1.0s
KMBL Kambalda 37.79 275 P **P** **09 00 53.4 -0.3**
comp=Z,11nm,1.8s
PMG Port Moresby 39.27 327 P **P** **09 01 06.6 +0.4**
comp=Z,17nm,0.9s,baz=232,slow=6.5,SNR=3.4
PMG LR LR 09 15 52.3
comp=Z,480nm,19.0s,baz=161,slow=34
comp=Z,17nm,0.9s
PMG Port Moresby 39.27 327 P **P** **09 01 08.2 +2.0**
PMG Port Moresby 39.27 327 ⇑*iP* **P** **09 01 07.8 +1.6**
PMG pmax pmax
comp=Z,27nm,1.1s
TBI Tubuai 40.98 73 *e*S **S** **09 07 35.0 +1.9**
comp=Z,574nm,30.8s
TBI *e*SS **SS** **09 10 30.8 -3.9**
comp=Z,2μm,28.0s
TBI *e*LR LR 09 12 33.8
comp=Z,2μm,24.2s
TBI *e*LR LR 09 12 39.3
comp=Z,982nm,25.0s
H01W1 Cape Leeuwin H 41.44 265 T T 09 45 18.6
baz=120,slow=75,SNR=784
H01W2 Cape Leeuwin H 41.45 265 T T 09 45 19.4
baz=120,slow=75,SNR=1204
H01W3 Cape Leeuwin H 41.46 265 T T 09 45 19.9
baz=120,slow=75,SNR=1008
MEEK Meekatharra 42.87 278 P **P** **09 01 34.5 -1.4**
comp=Z,27nm,1.6s
KNRA Kununurra 43.56 299 **P** **09 01 41.3 -0.1**
KNRA IAmb IAmb 09 01 42.7
comp=Z,31nm,1.0s
FITZ Fitzroy Crossi 43.76 294 P **P** **09 01 42.5 -0.5**
comp=Z,4.2nm,0.8s
FITZ Fitzroy Crossi 43.76 294 **P** **09 01 42.6 -0.4**
FITZ Fitzroy Crossi 43.76 294 LR LR 09 18 47.1
comp=Z,203nm,20.9s,baz=136,slow=34
FITZ Fitzroy Crossi 43.76 294 P **P** **09 01 43.6 +0.6**
MTN Manton Dam 44.31 304 P **P** **09 01 47.4 -0.1**
MTN IAmb IAmb 09 02 03.5
comp=Z,21nm,1.0s
PPT2 Papeete2 44.91 67 *e*S **S** **09 08 27.8 -3.1**
comp=Z,75nm,25.0s
PPT2 *e*SS **ScS** **09 11 50.3 -0.6**
comp=Z,1μm,27.8s
PPT2 *e*LR LR 09 14 17.7
comp=Z,483nm,22.5s
PPT2 *e*LR LR 09 14 18.4
comp=Z,440nm,31.0s
PPT Papeete 44.92 67 P **P** **09 01 51.3 -1.1**
comp=Z,9.3nm,0.8s,baz=280,slow=17,SNR=2.8
PPT LR LR 09 18 30.7
comp=Z,437nm,18.4s,baz=232,slow=33
comp=Z,9.3nm,0.8s
PSA00 Pilbara Seismi 45.25 285 **P** **09 01 54.5 -0.4**
PSA00 IAmb IAmb 09 01 56.3
comp=Z,21nm,0.8s
PSA00 Pilbara Seismi 45.25 285 **P** **09 01 54.5 -0.4**
PSA00 Pilbara Seismi 45.25 285 P **P** **09 01 55.8 +0.8**
PSAA2 Pilbara Seismi 45.26 285 P **P** **09 01 54.0 -1.0**
comp=Z,30nm,0.8s
PSAC1 Pilbara Seismi 45.30 285 P **P** **09 01 55.5 +0.1**
comp=Z,35nm,1.7s
QSPA South Pole Qui 45.45 180 LR LR 09 18 33.7
comp=Z,624nm,19.6s,baz=31,slow=33
MBWA Marble Bar 45.61 285 P **P** **09 01 57.3 -0.5**
comp=Z,33nm,1.0s
MBWA Marble Bar 45.61 285 P **P** **09 01 57.3 -0.5**
MBWA IAmb IAmb 09 02 06.7
comp=Z,20nm,0.9s
MBWA Marble Bar 45.61 285 P **P** **09 01 59.0 +1.2**
SOEI Soe 50.88 300 P **P** **09 02 40.7 +2.0**
comp=Z,1μmcomp=Z,38nm,1.2s
BATI Baumata 50.91 299 LR LR 09 24 02.5
comp=Z,387nm,19.7s,baz=188,slow=36
EDFI Ende, Flores 53.27 298 P **P** **09 02 56.2 -0.3**
comp=Z,18nm,1.0s
MAW Mawson 54.66 207 P **P** **09 03 06.2 +0.4**
comp=Z,3.2nm,1.8s
MAW Mawson 54.66 207 P **P** **09 03 06.0 +0.2**
comp=Z,6.5nm,0.9s,baz=118,slow=9.6,SNR=11
MAW LR LR 09 24 13.4
comp=Z,237nm,20.5s,baz=105,slow=34
comp=Z,6.5nm,0.9s
SANI Sanana 55.99 307 P **P** **09 03 18.0 +1.9**
comp=Z,18nm,0.8s
BELA Belgrano 2 56.97 175 P **P** **09 03 22.4 +0.1**
KAPI Kappang 57.36 299 P **P** **09 03 26.3 +0.4**
comp=Z,6.6nm,0.3s,baz=185,slow=17,SNR=4.3
KAPI LR LR 09 27 34.1
comp=Z,192nm,21.8s,baz=140,slow=35
comp=Z,6.6nm,0.3s
TAOE Nuku Hiva Isla 57.51 68 *e*LR LR 09 20 09.9
comp=Z,409nm,22.2s
SYO Syowa Base 60.27 199 ⇑*iP* **P** **09 03 44.8 -0.6**
SYO Syowa Base 60.27 199 ⇓*iP* pP 09 03 49.0 +2.5
GUMO Guam 61.51 335 LR LR 09 26 35.9
comp=Z,60nm,21.6s,baz=164,slow=32
TOLI2 Tolitoli 61.57 304 P **P** **09 03 55.0 +0.1**
TOLI2 IAmb IAmb 09 04 05.8
comp=Z,10nm,0.9s
TROLL Troll, Antarti 63.13 185 ⇑P **P** **09 04 04.7 -0.1**
comp=Z,917nm,0.6s
TROLL ⇑PcP PcP 09 04 33.0 -9.4
NVL N'lazarevskaya 63.53 189 *e*P P 09 04 13.9 +6.7
NVL *e* 09 06 33.4
NVL *e*PPP PPP 09 08 02.4
NVL *e*S **S** **09 12 47.9 +7.1**
NVL pmax pmax
comp=Z,10.0nm,1.2s
NVL smax smax
comp=E,255nm,17.1s
NVL MLR MLR
comp=Z,211nm,20.0s
PMSA Palmer Station 63.72 158 LR LR 09 28 12.7
comp=Z,274nm,18.5s,baz=226,slow=32
SNAA Sanae 63.76 183 ⇑P **P** **09 04 08.4 -0.4**
comp=Z,179nm,0.5s
SNAA Sanae 63.76 183 P **P** **09 04 08.0 -0.9**
SNAA Sanae 63.76 183 P **P** **09 04 08.5 -0.4**
comp=Z,13nm,0.9s,baz=201,slow=8.5,SNR=76
SNAA LR LR 09 30 32.9
comp=Z,418nm,18.4s,baz=192,slow=35
comp=Z,13nm,0.9s
DAV Davao City (W) 63.79 312 LR LR 09 32 42.5
comp=Z,227nm,19.8s,baz=165,slow=37
VNA3 Neumayer Olymp 64.37 181 ⇑P **P** **09 04 11.8 -1.1**
comp=Z,11nm,1.0s
VNA3 ⇑PcP **PcP** **09 04 42.7 -4.6**
VNA2 Neumayer--Watz 64.65 182 ⇑P **P** **09 04 14.2 -0.5**
comp=Z,20nm,0.6s,baz=155,slow=5.9
VNA1 Neumayer--Stat 64.95 182 ⇑P **P** **09 04 16.2 -0.3**
comp=Z,34nm,1.0s
SBUM Sibu 67.86 298 P **P** **09 04 34.9 -1.0**
MDSI Maura Dua 68.01 286 P **P** **09 04 36.3 -0.6**
comp=Z,14nm,0.9s
KSM Kuching 68.33 295 P **P** **09 04 39.4 +0.4**
H04S1 CROZET ISLANDS 72.63 220 T T 10 25 25.2
baz=141,slow=76,SNR=9.7
H04S2 CROZET ISLANDS 72.63 220 T T 10 25 13.4
baz=141,slow=76,SNR=9.6
H04S3 CROZET ISLANDS 72.65 220 T T 10 25 36.9
baz=141,slow=76,SNR=10
COYC Coyhaique 75.85 141 P **P** **09 05 22.7 -0.9**
COYC IAmb IAmb 09 05 38.8
comp=Z,33nm,1.3s
PSI Prapat 76.88 287 LR LR 09 41 37.2
comp=Z,183nm,18.3s,baz=140,slow=37
GO07 Milladeo Hill, 77.02 139 P **P** **09 05 29.7 -0.6**
LL02 Futaleuf 77.80 140 P **P** **09 05 33.4 -1.3**
LL02 IAmb IAmb 09 05 52.5
comp=Z,25nm,1.1s
LL01 San Ignacio de 78.17 139 P **P** **09 05 36.0 -0.7**
LL01 IAmb IAmb 09 05 42.1
comp=Z,29nm,1.6s
KCSI Kotacane, Aceh 78.19 287 P **P** **09 05 38.2 +1.0**
comp=Z,14nm,1.3s
JOW Kunigami 79.65 325 LR LR 09 37 33.7
comp=Z,194nm,21.9s,baz=272,slow=33
LR05 Currie 80.03 138 P **P** **09 05 47.0 +0.1**
LR05 IAmb IAmb 09 05 50.0
comp=Z,14nm,0.8s
PLCA Paso Flores 80.33 139 P **P** **09 05 48.4 -0.2**
PLCA Paso Flores 80.33 139 P **P** **09 05 48.8 +0.1**
comp=Z,6.0nm,0.9s,baz=231,slow=5.4,SNR=19
PLCA LR LR 09 33 35.1
comp=Z,183nm,20.4s,baz=212,slow=30
comp=Z,6.0nm,0.9s
BI02 San Fabin de 83.19 136 P **P** **09 06 03.3 -0.5**
BI02 IAmb IAmb 09 06 12.3
comp=Z,13nm,1.1s
JNU Nakatsue 84.27 330 LR LR 09 41 00.2
comp=Z,68nm,20.7s,baz=167,slow=34
BO02 Sierra Bellavi 84.91 135 P **P** **09 06 11.7 -0.9**
MJAR Matsushiro Arr 85.06 337 P **P** **09 06 13.3 +0.4**
comp=Z,1.7nm,0.7s,baz=152,slow=7.0,SNR=3.1
MJAR LR LR 09 39 42.9
comp=Z,92nm,21.3s,baz=169,slow=32
comp=Z,1.7nm,0.7s
MT01 Popeta 85.41 135 P **P** **09 06 13.9 -1.1**
MT01 IAmb IAmb 09 06 21.7
comp=Z,20nm,1.1s
LMEL Las Melosas 85.95 135 P **P** **09 06 17.0 -0.9**
LMEL IAmb IAmb 09 06 32.7
comp=Z,14nm,1.0s
CO03 El Pedregal 88.09 133 P **P** **09 06 27.3 -1.0**
H08S2 Diego Garcia H 88.19 261 T T 10 43 47.7
baz=135,slow=76,SNR=1957
H08S1 Diego Garcia H 88.20 261 T T 10 43 50.2
baz=135,slow=76,SNR=935
H08S3 Diego Garcia H 88.20 261 T T 10 43 49.2
baz=135,slow=76,SNR=3864
NJ2 Nanjing 88.24 320 *e*P **P** **09 06 32.3 +3.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 88.41 298 P **P** **09 06 30.1 +0.4**
comp=Z,1.3nm,0.3s,baz=157,slow=3.6,SNR=16
CMAR LR LR 09 47 29.1
comp=Z,71nm,20.8s,baz=130,slow=36
comp=Z,1.3nm,0.3s
ZON Zonda 88.56 135 P **P** **09 06 28.8 -1.7**
ZON IAmb IAmb 09 06 37.5
comp=Z,16nm,1.3s
ZON Zonda 88.56 135 P **P** **09 06 28.8 -1.7**
ZON pmax pmax
comp=Z,16nm,1.3s
CO01 Juntas del Tor 89.08 133 P **P** **09 06 32.7 -0.5**
KSRS Korea Array 89.21 330 P **P** **09 06 33.0 0.0**
comp=Z,1.1nm,0.7s,baz=148,slow=7.1,SNR=2.6
comp=Z,1.1nm,0.7s
KSRS Korea Array 89.21 330 P **P** **09 06 33.0 0.0**
ASAJ Asahikawa 91.13 342 LR LR 09 46 51.0
comp=Z,145nm,18.2s,baz=159,slow=35
PALK Pallekele 92.74 277 LR LR 09 42 46.9
comp=Z,80nm,21.9s,baz=120,slow=32
PZH PanZhiHua 92.74 305 P **P** **09 06 52.1 +2.2**
YSS Yuzhno-Sakhali 93.81 343 *e*P P 09 06 59.5 +5.5
YSS *e*S **S** **09 18 08.1 +4.3**
BRDH Bariadhala 96.14 296 LR LR 09 56 26.7
comp=Z,144nm,18.0s,baz=143,slow=39
PETK Petropavlovsk- 97.76 354 LR LR 09 44 44.8
comp=Z,202nm,21.8s,baz=155,slow=31
CPUP Villa Florida 98.36 140 P **P** **09 07 14.4 -1.1**
comp=Z,0.5nm,0.8s,baz=286,slow=3.3,SNR=4.5
CPUP LR LR 09 47 12.6
comp=Z,55nm,19.2s,baz=64,slow=33
comp=Z,0.5nm,0.8s
HHC Hu-ho-hao-te 98.80 321 *e*P Pdif 09 07 20.5 +3.4
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.6s
NNA Nana 99.11 117 LR LR 09 44 13.4
comp=Z,65nm,18.1s,baz=248,slow=31
BOSA Boshof 99.31 213 P **Pdif** **09 07 18.6 -1.4**
comp=Z,1.8nm,0.9s,baz=163,slow=7.3,SNR=3.6
BOSA LR LR 09 46 48.5
comp=Z,71nm,19.1s,baz=204,slow=32
comp=Z,1.8nm,0.9s
WMQ Urumqi 113.05 309 PKP **PKiKP** **09 12 15.8 +1.4**
PDAR Pinedale Array 114.21 53 PKP PKPdf 09 12 15.7 -1.2
comp=Z,0.4nm,0.9s,baz=331,slow=2.9,SNR=2.3
ILAR Eielson Array 114.80 20 PKP PKPdf 09 12 15.4 -1.6
comp=Z,3.2nm,1.0s,baz=277,slow=3.5,SNR=19
KSH Kashi 117.27 300 PKP **PKiKP** **09 12 22.8 +0.1**
MK31 Makanchi Array 117.88 309 *i* PKIKP **PKiKP** **09 12 24.6 +1.1**
MKAR Makanchi Array 117.88 309 PKP **PKPdf** **09 12 22.1 -1.5**
comp=Z,2.1nm,1.0s,baz=191,slow=1.2,SNR=8.0
AAK Ala-Archa 120.00 302 PKP **PKPdf** **09 12 27.4 -0.5**
comp=Z,2.6nm,0.8s,baz=144,slow=3.9,SNR=4.1
AAK Ala-Archa 120.00 302 ⇑*i* PKIKP **PKiKP** **09 12 27.9 -0.1**
ZALV Zalesovo Beam 120.73 317 PKP **PKPdf** **09 12 26.8 -1.9**
comp=Z,0.9nm,0.5s,baz=207,slow=1.7,SNR=3.5
KURBB Kurchatov Arra 122.11 311 PKP **PKPdf** **09 12 29.6 -1.9**
comp=Z,3.0nm,0.9s,baz=121,slow=1.9,SNR=15
KURK Kurchatov 122.11 311 *i* PKIKP **PKiKP** **09 12 32.7 +1.1**
BVAR Borovoye Array 127.68 311 PKP **PKPdf** **09 12 41.0 -1.1**
comp=Z,2.5nm,0.9s,baz=126,slow=2.0,SNR=8.0
BVAR Borovoye Array 127.68 311 PKIKP **PKPdf** **09 12 41.0 -1.1**
BORK Borovoye 127.73 311 ⇑*i* PKIKP **PKPdf** **09 12 41.7 -0.4**
AKTO Aktyubinsk 133.66 304 PKP **PKPdf** **09 12 53.1 -0.4**
comp=Z,1.7nm,0.6s,baz=185,slow=3.7,SNR=4.7
ARTI Arti 135.39 312 PKP **PKPdf** **09 12 55.4 -1.1**
comp=Z,1.4nm,0.4s,baz=130,slow=3.4,SNR=3.1
ARTI Arti 135.39 312 *i* PKIKP **PKiKP** **09 12 57.3 -0.7**
ARTI 09 15 33.4
KIRV Kirov 140.57 313 *i* PKIKP **PKPdf** **09 13 06.2 +0.3**
KBZ Khabaz 140.89 289 PKP **PKPdf** **09 13 04.3 -2.7**
comp=Z,3.4nm,0.9s,baz=211,slow=2.3,SNR=5.7
KBZ Khabaz 140.89 289 *e*PKIKP **PKPdf** **09 13 07.8 +0.8**
KIV Kislovodsk 141.11 289 *i* PKIKP **PKPdf** **09 13 07.9 +0.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,57nm,24.0s
DBIC Dimbokro 141.55 192 PKhKP PKPpre 09 13 01.6
comp=Z,3.0nm,0.6s,baz=150,slow=2.4,SNR=4.8
NEEM North Greenlan 143.69 13 *i* P PKPab 09 13 08.2 0.0
VRH Novokhopyorsk 143.77 300 *e*PKHKP PKPpre 09 13 07.8
VRH pmax pmax
comp=Z,9.0nm,0.4s
KULLO Kullorsuaq 144.19 19 *i* P **PKPab** **09 13 09.7 0.0**
KBS Kingsbay 144.39 352 *i* P PKPbc 09 13 11.0 +0.3
SPITS Spitsbergen Ar 144.53 350 PKP **PKPab** **09 13 10.2 -0.8**
comp=Z,32nm,0.8s,baz=46,slow=4.8,SNR=16
VSR Storozhevoye 145.35 300 *e*PKP2 **PKPbc** **09 13 11.6 -3.0**
VSR pmax pmax
comp=Z,30nm,1.0s
UPNV Upernavik 145.37 21 *i* P **PKPbc** **09 13 12.9 -1.1**
KLMR Klimovskoe 145.65 317 *e*PKP2 **PKPab** **09 13 15.6 +0.1**
KLMR *e* 09 16 38.2
KLMR pmax pmax
comp=Z,89nm,1.5s
LPSR Galich'ya Gora 145.71 302 *e*PKP2 **PKPdf** **09 13 15.0 -0.2**
LPSR pmax pmax
comp=Z,103nm,1.6s
BRTR Keskin Array B 145.78 278 PKPbc **PKPdf** **09 13 15.9 -0.1**
comp=Z,13nm,0.9s,baz=139,slow=4.5,SNR=43
TORD Torodi Ar. Bea 146.30 206 PKPbc **PKPdf** **09 13 17.1 -0.3**
comp=Z,6.6nm,0.5s,baz=86,slow=5.7,SNR=31
MOS Moscow 146.74 308 *e*PKP2 **PKPdf** **09 13 17.2 +0.3**
SIM Simferopol' 147.24 287 *e*PKP2 **PKPbc** **09 13 19.3 -1.1**
SIM pmax pmax
comp=Z,19nm,0.9s
OBN Obninsk 147.32 306 ⇓*i* PKP2 **PKPbc** **09 13 20.4 +0.2**
OBN 09 16 51.0
OBN pmax pmax
OBN MLR MLR
comp=Z,95nm,1.6s
comp=Z,21nm,7.0s
DAG Danmarks Havn 147.70 3 *i* P **PKPdf** **09 13 18.9 +1.0**
KARP Karpathos 148.54 267 PKP **PKPdf** **09 13 22.3 +1.7**
ARCES ARCESS Array B 148.59 335 PKPbc **PKPbc** **09 13 22.5 -0.8**
comp=Z,11nm,0.7s,baz=56,slow=3.1,SNR=33
ILULI Ilulissat 148.62 25 *i* P **PKPbc** **09 13 22.1 -1.2**
SUMG Summit 149.49 15 *i* P **PKPbc** **09 13 25.0 -1.0**
NE56 Odesa 149.85 289 PKP **PKPdf** **09 13 24.0 +1.8**
SFJD Kangerlussuaq 149.89 29 *i* P **PKPbc** **09 13 25.3 -1.3**
DBG Daneborg 150.08 4 *e*P **PKPbc** **09 13 24.3 -2.5**
NUUK Nuuk 150.71 34 *i* P **PKPbc** **09 13 28.0 -0.5**
EZN Ezine 151.00 274 ⇑P **PKPbc** **09 13 29.6 -0.4**
EZN Ezine 151.00 274 ⇑PKIKP **PKPbc** **09 13 29.6 -0.4**
TPGR Topolog 151.12 285 ⇑P **PKPbc** **09 13 29.6 -0.6**
CFR Carcaliu 151.39 286 ⇓P **PKPbc** **09 13 29.8 -1.0**
CFR Carcaliu 151.39 286 ⇓PKIKP **PKPbc** **09 13 29.8 -1.0**
HARR Harsova 151.41 285 ⇓P **PKPbc** **09 13 31.0 +0.1**
HARR Harsova 151.41 285 ⇓PKIKP **PKPbc** **09 13 31.0 +0.1**
AKASG Malin Array Be 151.53 297 PKPbc **PKPbc** **09 13 30.0 -0.9**
comp=Z,12nm,0.8s,baz=79,slow=2.4,SNR=14
DY2G Dye2 151.65 28 *i* P **PKPbc** **09 13 29.9 -1.1**
FINES FINESS Array B 151.92 320 PKPbc **PKPbc** **09 13 30.8 -0.7**
comp=Z,9.9nm,0.7s,baz=90,slow=3.8,SNR=20
LUBAR Lubar, Ukraine 152.41 295 PKP **PKPdf** **09 13 28.8 +2.7**
MLR Muntele Rosu 152.97 285 ⇑P **PKPbc** **09 13 32.6 -1.9**
MLR Muntele Rosu 152.97 285 ⇑PKIKP **PKPbc** **09 13 32.6 -1.9**
ARR Arges 153.85 285 ⇑P **PKPbc** **09 13 35.4 -1.0**
HFS Hagfors 157.95 324 PKPab **PKPab** **09 14 05.9 -0.7**
comp=Z,5.7nm,1.1s,baz=81,slow=1.9,SNR=1.6
NOA NORSAR Array B 158.41 328 PKPab **PKPab** **09 14 08.3 -0.2**
comp=Z,0.7nm,0.9s,baz=61,slow=4.5,SNR=1.4
KEST Kesra 161.08 249 PKPab **PKPab** **09 14 20.0 -1.0**
comp=Z,16nm,1.0s,baz=75,slow=4.3,SNR=5.7
BRG Berggiesshubel 161.20 299 *e*PKP **PKPab** **09 14 22.3 +1.3**
BRG Amp 09 14 24.6
comp=Z,2.2nm,0.7s
ESDC Sonseca Array 171.89 235 PKPab **PKPab** **09 15 08.5 0.0**
comp=Z,5.5nm,1.1s,baz=117,slow=3.6,SNR=14

AFAD ***24*** *08:59:05.8, 40°.85N×34°.72E, h7km±2km, ML2.5*
ISK ***24*** *08:59:06.1, 40°.91N×34°.72E, h7km, ML2.8/12*
ISC 24 08:59:05.8±0.9**, 40°.87N**±0°.02×**34°.70E**±0°.02**, h15**km±7km**,**
n28, σ0°**.88**/47**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYAZ	**Ayas K¶y, M**	**0.22**	**148**	P	**Pg**	**08 59 10.3**	**-0.6**
AYAZ				S	**Sg**	**08 59 13.7**	**-0.7**
AYAZ				*i* IAML		08 59 14.0	
	comp=N,3μm,0.2s						
AYAZ				*i* IAML		08 59 14.0	
	comp=E,6μm,0.2s						
KAGI	**orum-Kargı**	**0.32**	**328**	P	**Pb**	**08 59 12.8**	**-0.4**
KAGI				S	**Sb**	**08 59 17.9**	**-0.3**
KAGI				*i* IAML		08 59 21.0	
	comp=N,439nm,0.6s						
TOS	**Tosya**	**0.54**	**288**	Pg	**Pb**	**08 59 17.2**	**+0.1**
TOS				Sg	**Sb**	**08 59 25.1**	**+0.4**
COAL	**Corum-Alaca**	**0.65**	**161**	P	**Pg**	**08 59 17.8**	**-0.8**
COAL				S	**Sg**	**08 59 27.1**	**-0.1**
BOYA	**Sinop/Boyabat-**	**0.66**	**359**	P	**Pn**	**08 59 19.5**	**-1.2**
BOYA				S	**Sn**	**08 59 28.8**	**-2.1**
YENC	**ankr-Yen**	**0.68**	**254**	P	**Pb**	**08 59 19.6**	**+0.2**
YENC				S	**Sn**	**08 59 30.8**	**-0.6**
YENC				*i* IAML		08 59 32.0	
	comp=N,494nm,0.2s						
YENC				*i* IAML		08 59 32.0	
	comp=E,431nm,0.2s						
CORM	**Corum**	**0.69**	**185**	Pg	**Pb**	**08 59 20.0**	**+0.4**
CORM				Sg	**Sn**	**08 59 31.4**	**-0.3**
SUNG	**orum-Sungurl**	**0.76**	**207**	P	**Pb**	**08 59 20.5**	**-0.3**
SUNG				S	**Sg**	**08 59 31.8**	**+1.1**
SUNG				*i* IAML		08 59 32.0	
	comp=N,143nm,0.3s						
SUNG				*i* IAML		08 59 32.0	
	comp=E,176nm,0.5s						
ILGA	**Ilgaz**	**0.77**	**284**	P	**Pg**	**08 59 20.9**	**0.0**

ILGA			S	Sn	08 59 32.5	-1.2
CANT	**Cankiri**	**0.86 253**	Pg	Pn	08 59 23.6	+0.1
CANT			Sg	Sn	08 59 36.3	+0.5
KIZO	**Buyukkizoglu-L**	**0.93 88**	Pg	Pn	08 59 24.3	-0.2
CKRK	**Yozgat, Cekere**	**1.00 142**	P	Pg	08 59 26.2	+1.0
CKRK			S	Sn	08 59 39.3	0.0
CKRK			*i* IAML		08 59 44.0	
	comp=E,107nm,0.3s					
DELI	**KIRIKKALE**	**1.05 215**	P	Pb	08 59 24.7	-1.1
DELI			S	Sb	08 59 39.4	-0.1
PELI	**Kastamonı-Ara**	**1.14 293**	P	Pg	08 59 27.8	0.0
PELI			S	Sg	08 59 44.0	+1.3
SAMS	**Samsun-Alacam**	**1.23 66**	P	Pg	08 59 30.8	+1.4
SAMS			S	Sg	08 59 48.1	+2.7
GOKD	**Ankara-Kalecik**	**1.23 230**	P	Pg	08 59 29.8	+0.3
GOKD			S	Sg	08 59 46.8	+1.2
GOKD			*i* IAML		08 59 49.0	
	comp=N,298nm,0.3s					
GOKD			*i* IAML		08 59 49.0	
	comp=E,390nm,0.3s					
CDAG	**Cicekdag**	**1.27 192**	P	Pn	08 59 29.0	-0.1
CDAG			S	Sb	08 59 46.2	+0.5
CDAG			*i* IAML		08 59 47.0	
	comp=N,65nm,0.5s					
CDAG			*i* IAML		08 59 50.0	
	comp=E,150nm,0.5s					
YOZ	**Yozgat**	**1.31 159**	Pn	Pg	08 59 31.9	+0.7
HACI	**Hacifakili, Ak**	**1.41 146**	P	Pg	08 59 33.4	+0.5
HACI			S	Sg	08 59 52.8	+1.7
HACI			*i* IAML		08 59 56.0	
	comp=E,59nm,0.6s					
HACI			*i* IAML		08 59 58.0	
	comp=N,50nm,0.8s					
AKPI	**Kirsehir/Akpin**	**1.47 202**	P	Pn	08 59 32.2	+0.4
AKPI			S	Sb	08 59 51.6	+0.3
TOKT	**Tokat**	**1.51 111**	Pn	Pg	08 59 34.2	-0.6
SIRC	**Yozgat**	**1.57 167**	P	Pb	08 59 34.3	-0.3
SIRC			S	Sg	08 59 56.3	-0.1
KOZK	**Kozakli-Nevseh**	**1.66 176**	Pn	Pg	08 59 37.1	-0.7
KAMT	**Kaman**	**1.68 207**	Pn	Pb	08 59 36.4	-0.1
AFSR	**Afar-Bala (An**	**1.89 222**	Pn	Pb	08 59 40.2	+0.1
SVSK	**Karacayir**	**1.99 118**	Pn	Pb	08 59 41.2	-0.6
SERE	**Sereflikochisa**	**2.11 205**	Pn	Pb	08 59 43.4	-0.4
GULA	**Gulagac**	**2.55 188**	Pn	Pb	08 59 49.9	-1.4

*ASRS **24** 09:00:46.0±0.7, 53°.84N×91°.19E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **24** 09:00:51.7±3.2, 53°.62N×90°.86E, h0km, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=27.5km s-min=23.5km az=50.0*
*NNC **24** 09:00:58.5±3.5, 53°.74N×90°.10E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=26.6km s-min=18.9km az=58.0, Suspected Mining explosion.*

ISC 24 09:00:53.4±4.1, 53.7N±0.1×90.6E±0.2, h0km, n10, σ1§30/12, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.44 276**		⇓Pg	Pb	09 01 54.8	-0.2
	1.6nm,0.7s						
ZAA0				⇑Lg	Lg	09 02 40.2	
	6.1nm,0.7s						
ZALV	**Zalesovo Beam**	**3.44 276**		Pn	Pn	09 01 48.5	+0.4
	1.9nm,0.3s,baz=93,slow=14,SNR=16						
ZALV				Lg	Lg	09 02 44.8	
	4.8nm,0.3s,baz=93,slow=28,SNR=14						
	0.7nm,0.5s						
KURK	**Kurchatov**	**7.94 253**		⇓Pn	Pn	09 02 48.9	-1.0
	0.9nm,0.7s						
KURK				⇑Sn	Sn	09 04 19.1	-1.4
	2.6nm,0.8s						
KURK				⇑Lg	Lg	09 05 03.2	
	12nm,1.1s						
KURBB	**Kurchatov Arra**	**8.04 252**		Pn	Pn	09 02 50.9	-0.3
	0.2nm,0.3s,baz=65,slow=14,SNR=12						
KURBB				Sn	Sn	09 04 22.7	-0.1
	0.1nm,0.3s,baz=69,slow=27,SNR=13						
KURBB				Lg	Lg	09 05 10.7	
	0.1nm,0.3s,baz=68,slow=33,SNR=6.1						
	2.4nm,0.6s						
KURBB	**Kurchatov Arra**	**8.04 252**		⇓Pn	Pn	09 02 52.9	+1.6
	3.6nm,0.6s						
KURBB				⇓Sn	Sn	09 04 23.8	+1.0
	16nm,0.7s						
KURBB				⇓Lg	Lg	09 05 06.6	
	33nm,0.8s						
MK31	**Makanchi Array**	**8.72 221**		⇑Pn	Pn	09 03 05.6	+4.9
	7.0nm,1.4s,baz=37,slow=13,SNR=3.9						
MK31				⇑Sn	Sn	09 04 40.0	+0.3
	3.5nm,0.8s						
MK31				⇑Lg	Lg	09 05 30.9	
	18nm,1.3s,baz=40,slow=31,SNR=4.3						
MKAR	**Makanchi Array**	**8.72 221**		Pn	Pn	09 03 00.5	-0.3
	0.1nm,0.3s,baz=39,slow=12,SNR=6.9						
MKAR				Sn	Sn	09 04 38.1	-1.6
	0.1nm,0.3s,baz=39,slow=12,SNR=2.8						
MKAR				Lg	Lg	09 05 29.2	
	0.2nm,0.3s,baz=38,slow=31,SNR=6.7						
	0.8nm,0.6s						
MAKZ	**Makanchi**	**8.83 222**		⇑Pn	Pn	09 03 07.1	+4.9
	2.6nm,0.8s						
MAKZ				⇑Sn	Sn	09 04 44.8	+2.3
	3.7nm,0.8s						
MAKZ				⇑Lg	Lg	09 05 31.7	
	8.4nm,1.1s						
SONM	**Songino Array**	**11.59 114**		Lg	Lg	09 06 43.7	
	0.3nm,0.3s,baz=310,slow=32,SNR=1.5						
I34MN	**SONGINO INFRAS**	**11.61 114**		I	I	10 06 30.0	
	baz=310,slow=327,SNR=2.6						

*WEL **24** 09:00:57.9±0.8, 45°.S±4°.×16°.7E±°, h5km, M4.0/14, ML4.2/13, MLv4.0/14, Error ellipse: s-maj=7.8km s-min=3.9km az=130.1, confirmed*
*NOU **24** 09:01:00.2, 44°.61S×167°.57E, h20km, MLv4.3/13, South Island, New Zealand*

ISC 24 09:00:57.0±1.5, 44°.62S±0°.04×167°.44E±0°.05, h6km±11km, n58, σ0§86/62, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.35**	**98**	P	Pg	09 01 04.5	+0.6
MSZ				S	Sg	09 01 08.7	+0.2
GLNY	**Glenorchy**	**0.73**	**110**	P	Pg	09 01 10.8	-0.3
TAFS	**Te Anau Fire S**	**0.82**	**166**	P	Pg	09 01 13.2	+0.5
DCZ	**Deep Cove**	**0.86**	**193**	P	Pg	09 01 13.0	-0.7
DCZ				S	Sg	09 01 24.0	-0.8
MLZ	**Mavora Lakes**	**0.89**	**147**	P	Pg	09 01 13.8	-0.3
MLZ				S	Sg	09 01 25.3	-0.3
QTPS	**Queenstown Pol**	**0.96**	**115**	P	Pg	09 01 15.1	-0.5
JCZ	**Jackson Bay**	**1.11**	**61**	P	Pb	09 01 18.9	+0.1
JCZ	**Jackson Bay**	**1.11**	**61**	S	Sg	09 01 33.6	+0.8
JCZ	**Jackson Bay**	**1.11**	**61**	P	Pb	09 01 18.7	-0.1
WKZ	**Wanaka**	**1.15**	**101**	P	Pb	09 01 18.7	-0.6
WKZ				S	Sb	09 01 33.3	-1.1
WHZ	**Wether Hill Ro**	**1.32**	**164**	P	Pn	09 01 21.2	-0.8
WHZ				S	Sb	09 01 38.2	-1.2
EAZ	**Earnscleugh**	**1.46**	**115**	P	Pn	09 01 23.7	-0.3
PYZ	**Puysegur Point**	**1.63**	**199**	P	Pb	09 01 28.6	+1.1
PYZ	**Puysegur Point**	**1.63**	**199**	S	Sb	09 01 50.4	+2.0
PYZ	**Puysegur Point**	**1.63**	**199**	P	Pn	09 01 25.7	-0.7
LBZ	**Lake Benmore**	**1.98**	**84**	P	Pn	09 01 32.3	+1.2
FOZ	**Fox Glacier**	**2.03**	**58**	P	Pn	09 01 30.7	-1.1
TUZ	**Tuapeka**	**2.04**	**131**	P	Pn	09 01 32.9	+0.9
APZ	**The Paps**	**2.24**	**170**	P	Pn	09 01 35.4	+0.6
SYZ	**Scrubby Hill**	**2.26**	**149**	P	Pn	09 01 35.4	+0.5
SYZ	**Scrubby Hill**	**2.26**	**149**	S	Sn	09 02 03.3	+0.3
SYZ	**Scrubby Hill**	**2.26**	**149**	P	Pn	09 01 35.6	+0.8
ODZ	**Otahua Downs**	**2.32**	**102**	P	Pn	09 01 36.5	+0.7
ODZ	**Otahua Downs**	**2.32**	**102**	P	Pn	09 01 36.6	+0.7
HHSZ	**Highcliff Hill**	**2.56**	**121**	P	Pn	09 01 40.3	+1.1
TMZ	**Timaru**	**2.57**	**86**	P	Pn	09 01 39.6	+0.4
RPZ	**Rata Peaks**	**2.76**	**72**	P	Pn	09 01 42.2	+0.4
RPZ	**Rata Peaks**	**2.76**	**72**	P	Pn	09 01 42.0	+0.2
ARCZ	**Arundel**	**2.77**	**77**	P	Pn	09 01 41.8	-0.2
WVZ	**Waitaha Valley**	**2.85**	**58**	P	Pn	09 01 42.0	-1.0
MHCZ	**Mount Hutt**	**3.17**	**71**	P	Pn	09 01 46.9	-0.7
WACZ	**Wakanui South**	**3.23**	**79**	P	Pn	09 01 48.2	-0.1
INZ	**Inchbonnie**	**3.47**	**58**	P	Pn	09 01 50.9	-0.8
OXZ	**Oxford**	**3.57**	**70**	P	Pn	09 01 52.4	-0.5
MQZ	**McQueen's Vall**	**3.87**	**78**	P	Pn	09 01 56.4	-0.6
LTZ	**Lake Taylor**	**3.96**	**64**	P	Pn	09 01 58.2	-0.2
AMCZ	**Amberley**	**4.04**	**71**	P	Pn	09 01 59.2	-0.2
OKCZ	**Okains Bay**	**4.14**	**79**	P	Pn	09 02 01.2	+0.3
DSZ	**Denniston Nort**	**4.30**	**50**	P	Pn	09 02 01.9	-1.1
GVZ	**Greta Valley S**	**4.38**	**70**	P	Pn	09 02 03.5	-0.6
THZ	**Tophouse**	**4.92**	**56**	P	Pn	09 02 11.5	0.0
MRNZ	**Matariki Terra**	**5.06**	**52**	P	Pn	09 02 13.0	-0.4
QRZ	**Quartz Range**	**5.34**	**46**	P	Pn	09 02 17.3	+0.1
QRZ	**Quartz Range**	**5.34**	**46**	P	Pn	09 02 16.4	-0.8
TKNZ	**Takaka Hill**	**5.42**	**50**	P	Pn	09 02 17.9	-0.5
BSWZ	**Blackbirch Sta**	**5.53**	**61**	P	Pn	09 02 21.7	+1.8
NNZ	**Nelson**	**5.54**	**54**	P	Pn	09 02 19.5	-0.5
TUWZ	**Tuamarina**	**5.74**	**58**	P	Pn	09 02 24.9	+2.2
TCW	**Tory Channel**	**6.07**	**58**	P	Pn	09 02 27.9	+0.6
DUWZ	**D'Urville Isla**	**6.12**	**54**	P	Pn	09 02 28.2	+0.2
SNZO	**South Karori**	**6.28**	**61**	P	Pn	09 02 30.8	+0.7
CAW	**Cannon Point**	**6.62**	**61**	P	Pn	09 02 32.9	-1.9
OGWZ	**Otaki Gorge**	**6.85**	**59**	P	Pn	09 02 37.0	-1.0
HOWZ	**Holdsworth Sta**	**7.01**	**61**	P	Pn	09 02 45.1	+4.8
MRZ	**Mangatainoka R**	**7.19**	**59**	P	Pn	09 02 44.5	+1.8
KHEZ	**Kahui Hut**	**7.24**	**45**	P	Pn	09 02 44.2	+0.8
HIZ	**Hauiti**	**8.26**	**45**	P	Pn	09 02 57.8	+0.5
OUZ	**Omahuta**	**10.51**	**29**	P	Pn	09 03 28.2	0.0

*SDD **24** 09:06:52.4±1.9, 18°.61N×71°.75W, h27km±13km, MD3.4, MLS.0, MW3.4*
*OSPL **24** 09:06:53.1±0.8, 18°.70N×71°.69W, h0km±93km, ML2.5*

ISC 24 09:06:52.7±1.1, 18°.66N±0°.03×71°.63W±0°.05, h15km±7km, n17, σ0§74/33, 10C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.17**	**109**	*i* P	Pg	09 06 57.0	0.0
LONE3				*e*S	Sg	09 07 00.3	+0.4
LONE3				IAML		09 07 00.7	
	comp=Z,835nm,0.3s						
NEDR	**Neiba UASD**	**0.27**	**131**	⇑*e*Pg	Pb	09 06 59.0	-0.1
NEDR				⇑*e*Sg	Sb	09 07 04.2	+0.8
NEDR				IAML		09 07 08.4	
	comp=N,1μm,0.4s						
LODU1	**El Espartillar**	**0.34**	**154**	*i* P	Pb	09 07 00.3	-0.1
LODU1				*e*S	Sb	09 07 05.4	-0.2
LODU1				IAML		09 07 11.6	
	comp=Z,617nm,0.7s						
SDDR	**Presa de Saban**	**0.46**	**45**	*e*Pg	Pg	09 07 01.6	-0.3
SDDR				⇑*e*Sg	Sb	09 07 09.2	+0.2
SDDR				IAML		09 07 10.2	
	comp=N,364nm,0.3s						
SDDR	**Presa de Saban**	**0.46**	**45**	*i* P	Pg	09 07 01.4	-0.4
SDDR				*e*S	Sg	09 07 08.0	-0.1
SDDR				IAML		09 07 09.1	
	comp=Z,314nm,0.5s						
REDR	**Restauracion**	**0.55**	**24**	⇓*e*Pg	Pb	09 07 04.7	+0.7
REDR				⇓*e*Sg	Sb	09 07 13.6	+2.0
REDR				IAML		09 07 14.9	
	comp=N,894nm,0.2s						
LOBH	**Bahia de las A**	**0.79**	**181**	*i* P	Pg	09 07 08.2	+0.1
LOBH				IAML		09 07 30.5	
	comp=Z,129nm,0.7s						
LOVI	**El Cajuil, Ovi**	**0.89**	**164**	*i* P	Pg	09 07 09.7	-0.3
LOVI				*e*S	Sn	09 07 23.4	+0.1
LOVI				IAML		09 07 34.4	
	comp=Z,124nm,0.4s						
SC01	**Santiago de lo**	**1.14**	**48**	*e*Pg	Pb	09 07 12.8	-1.3
SC01				⇑*e*Sg	Sg	09 07 29.8	+0.1
SC01				IAML		09 07 35.1	
	comp=N,168nm,0.6s						
SC01	**Santiago de lo**	**1.14**	**48**	*i* P	Pb	09 07 13.9	-0.2
SC01				*e*S	Sb	09 07 29.3	+0.5
MCDR	**Montecristi**	**1.23**	**359**	⇑*e*Pg	Pn	09 07 14.3	-0.9
MCDR				⇑*e*Sg	Sb	09 07 30.9	-0.3
MCDR				IAML		09 07 31.8	
	comp=N,192nm,0.5s						
BANI	**BANI**	**1.23**	**102**	*e*Pg	Pn	09 07 15.2	-0.3
BANI				*e*Pg	Pb	09 07 15.4	-0.4
BANI				⇓*e*Sg	Sb	09 07 31.8	+0.3
BANI				IAML		09 07 34.0	
	comp=N,32nm,0.9s						
BANI				IAML		09 07 34.3	
	comp=N,303nm,0.5s						
SFDR	**San Fco. de Ma**	**1.45**	**64**	⇓*e*Pg	Pb	09 07 19.4	0.0
SFDR				⇓*e*Sg	Sb	09 07 38.2	+0.5
SFDR				IAML		09 07 40.0	
	comp=N,404nm,0.4s						
DR08	**Loma La Naviza**	**1.55**	**79**	⇓*e*Pg	Pn	09 07 18.8	-1.0
DR08				*e*Sg	Sn	09 07 40.0	+0.3
DR08				IAML		09 07 46.4	
	comp=N,615nm,0.2s						
NADR	**Nagua**	**1.81**	**67**	*e*Pg	Pb	09 07 24.8	-0.7
NADR				⇑*e*Sg	Sb	09 07 47.8	-0.3
NADR				IAML		09 07 54.3	
	comp=N,214nm,0.5s						
SMDR	**Samana, DR**	**2.39**	**74**	⇑*e*Pg	Pn	09 07 33.4	+2.1
SMDR				⇑*e*Sg	Sb	09 08 03.9	-0.9
SMDR				IAML		09 08 12.0	
	comp=N,60nm,0.7s						
QMBU	**Quimbuelo**	**3.37**	**298**	⇑*e*Pg	Pn	09 07 44.8	0.0
QMBU				IAML		09 08 50.2	
	comp=N,22nm,1.9s						

*ISK **24** 09:11:42.9, 37°.23N×28°.22E, h0km, ML1.8/7, Suspected Mining explosion.*

AFAD 24 09:11:42.1, 37°.23N×28°.20E, h7km±2km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.10**	**76**	P	Pg	09 11 44.2	-0.2
MULA				S	Sg	09 11 46.4	+0.3
YER	**Yerkesik**	**0.12**	**146**	Pg	Pg	09 11 45.7	+1.0
YER				Sg	Sg	09 11 47.8	+1.3
TURN	**Turunc**	**0.46**	**176**	Pg	Pb	09 11 52.5	+0.1
TURN				Sg	Sb	09 11 59.4	0.0
TURN	**Turunc**	**0.46**	**176**	P	Pg	09 11 51.5	+0.6
TURN				S	Sb	09 11 59.0	-0.4
TURN				*i* IAML		09 12 00.0	
	comp=N,28nm,0.5s						
TURN				*i* IAML		09 12 03.0	
	comp=E,30nm,0.4s						
AYDN	**Tasoluk**	**0.50**	**329**	P	Pg	09 11 52.0	+0.3
AYDN				S	Sg	09 11 59.3	+1.0
AYDN				*i* IAML		09 12 00.0	
	comp=N,22nm,0.4s						
AYDN				*i* IAML		09 12 01.0	
	comp=E,21nm,0.4s						
DALY	**Dalyan (Mula)**	**0.55**	**139**	Pg	Pb	09 11 53.9	-0.1
DALY				Sg	Sb	09 12 02.1	0.0
ESEN	**Aydn-Nazilli**	**0.58**	**12**	P	Pg	09 11 53.5	+0.3
ESEN				S	Sg	09 12 01.7	+0.9
ESEN				*i* IAML		09 12 06.0	
	comp=E,17nm,0.7s						
TAVA	**DENIZLI_Tavas**	**0.61**	**67**	P	Pg	09 11 50.0	-4.0
DAT	**Datca**	**0.71**	**225**	Pg	Pb	09 11 57.5	+0.7
BODT	**Bodrum**	**0.73**	**257**	Pg	Pb	09 11 57.9	+0.7
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	Pg	Pb	09 11 58.1	+0.5
YAZI	**Mula-Datşa-**	**0.81**	**228**	P	Pb	09 11 59.2	+0.6
YAZI				S	Sb	09 12 09.6	-0.1
YAZI				*i* IAML		09 12 25.0	
	comp=N,10nm,1.5s						
YAZI				*i* IAML		09 12 26.0	
	comp=E,11nm,1.7s						
CAME	**Cameli-Denizli**	**0.93**	**108**	Pg	Pn	09 12 01.2	-0.4

*DJA **24** 09:21:07.4±0.3, 8°.S±5°.×10°.9E±°, h54km±6km, M4.3/24, mb4.6/7, MLv4.2/24*
*IDC **24** 09:21:08.1±1.4, 7°.65S×108°.90E, h110km±23km, mb3.3/5, mbtmp3.7/6, Error ellipse: s-maj=109.8km s-min=16.5km az=42.0*

ISC 24 09:21:05.2±0.8, 8°.1S±0°.1×108°.71E±0°.07, h78km, n35, σ2§23/33, mb3.7/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.42**	**323**	P	Pn	09 21 19.8	+1.7
CMJI				S	Sn	09 21 29.2	+1.6
KPJI	**Karang Pucung**	**0.81**	**16**	P	Pn	09 21 22.8	+0.8
KPJI				S	Sn	09 21 35.0	+0.6
YOGI	**Yogyakarta**	**1.60**	**79**	P	Pn	09 21 33.1	+1.3
LEM	**Lembang**	**1.68**	**320**	P	Pn	09 21 34.1	+1.1
	92nm,0.5s,baz=82,slow=14,SNR=11						
LEM				S	Sn	09 21 55.8	+1.8
	197nm,0.5s,baz=351,slow=20,SNR=10						
LEM	**Lembang**	**1.68**	**320**	P	Pn	09 21 34.5	+1.5
CNJI	**Cibinong**	**1.76**	**297**	P	Pn	09 21 35.0	+1.1
UGM	**Wanagama**	**1.81**	**84**	P	Pn	09 21 35.9	+1.3
SMRI	**Semarang**	**2.02**	**58**	P	Pn	09 21 39.5	+2.1
WOJI	**Wonogiri, Jawa**	**2.21**	**83**	P	Pn	09 21 42.4	+2.5
SKJI	**Sukabumi**	**2.40**	**297**	P	Pn	09 21 44.9	+2.4
PCJI	**Pacitan**	**2.45**	**92**	P	Pn	09 21 45.1	+2.1
DBJI	**Dramaga**	**2.49**	**309**	P	Pn	09 21 45.8	+2.2
NGJI	**Ngawi**	**2.83**	**75**	P	Pn	09 21 50.4	+2.2
GRJI	**Gresik**	**3.93**	**72**	P	Pn	09 22 04.5	+1.4
BLJI	**Banyuglugur**	**4.86**	**86**	P	Pn	09 22 17.9	+2.1
KASI	**Kota Agung**	**4.91**	**301**	P	Pn	09 22 19.5	+2.9
KMMI	**Kalianget**	**5.32**	**79**	P	Pn	09 22 24.3	+2.1
JAGI	**Jajag, Banyuwa**	**5.40**	**94**	P	Pn	09 22 25.8	+2.5
	0.3nm32nm,0.8s						
SRBI	**Singaraja**	**6.44**	**90**	P	Pn	09 22 40.8	+3.3
MNAI	**Manna**	**6.83**	**303**	P	Pn	09 22 44.7	+1.9
TWSI	**Taliwang, Sumb**	**8.11**	**95**	P	Pn	09 23 01.3	+1.0
	42nm,1.4s						
PLAI	**Plampang**	**9.00**	**95**	P	Pn	09 23 13.5	+1.1
FITZ	**Fitzroy Crossi**	**19.23**	**123**	P	P	09 25 24.6	+1.3
	1.3nm,0.7s,baz=300,slow=8.1,SNR=1.4						
FITZ				S	S	09 28 51.0	-6.1
	2.7nm,1.1s,baz=82,slow=18,SNR=1.5						
WRA	**Warramunga Arr**	**27.45**	**118**	P	P	09 26 44.5	+0.4
	0.2nm,0.4s,baz=292,slow=12,SNR=12						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**28.66**	**126**	P	P	09 26 56.2	+1.4
	0.5nm,0.7s,baz=303,slow=9.4,SNR=7.3						
	0.5nm,0.7s						
H08S2	**Diego Garcia H**	**35.87**	**268**	T	T	10 05 38.8	
	baz=93,slow=74						
H08S3	**Diego Garcia H**	**35.88**	**268**	T	T	10 05 53.1	
	baz=93,slow=74						
H08S1	**Diego Carcia H**	**35.89**	**268**	T	T	10 05 46.6	
	baz=93,SNR=73						
STKA	**Stephens Creek**	**38.64**	**132**	P	P	09 28 22.2	+1.1
	1.3nm,0.5s,baz=317,slow=9.8,SNR=3.7						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**59.52**	**339**	P	P	09 30 57.3	-3.1
	0.3nm,0.4s,baz=159,slow=7.4,SNR=4.1						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.53**	**221**	T	T	10 38 23.1	
	baz=70,slow=75,SNR=132						
H04N1	**CROZET ISLANDS**	**61.55**	**221**	T	T	10 38 27.6	
	baz=70,slow=75,SNR=144						
H04N3	**CROZET ISLANDS**	**61.55**	**221**	T	T	10 38 16.9	
	baz=70,slow=75,SNR=121						
BRTR	**Keskin Array B**	**83.83**	**311**	P	P	09 33 24.6	-1.9
	0.6nm,0.8s,baz=132,slow=4.3,SNR=2.6						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**142.99**	**51**	PKP	PKPdf	09 40 29.4	-1.4
	0.1nm,0.4s,baz=246,slow=1.5,SNR=1.7						

*IDC **24** 09:31:36.6±1.0, 2°.56S×138°.30E, h0km, mb3.8/5, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=30.1km s-min=22.8km az=93.0*
*DJA **24** 09:31:45.0±0.6, 2°.S±6°.×13°.9E±°, h24km±7km, M3.3/6, MLv3.3/6*

ISC 24 09:31:40.8±0.8, 2°.54S±0°.08×138°.51E±0°.05, h32km, n13, σ1§69/14, mb3.7/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**20**	P	Pb	09 31 51.3	-1.4
GENI	**Genyem**	**1.66**	**92**	P	Pb	09 32 12.6	+1.8
JAY	**Jayapura**	**2.20**	**89**	Pn	Pb	09 32 18.2	-1.7
	4.3nm,0.3s,baz=242,slow=13,SNR=10						
JAY				Lg	Lg	09 32 49.4	
	0.9nm,0.3s,baz=228,slow=15,SNR=2.1						
	10nm,0.4s						
JAY	**Jayapura**	**2.20**	**89**	P	Pb	09 32 18.7	-1.2
SRPI	**Serui, Papua**	**2.36**	**286**	P	Pb	09 32 23.1	+0.4
BAKI	**Biak**	**2.75**	**299**	P	Pb	09 32 26.8	-2.4
BAKI				S	Sn	09 32 58.2	+3.4
WRA	**Warramunga Arr**	**17.77**	**193**	P	Pn	09 35 45.1	-0.8
	0.2nm,0.3s,baz=13,slow=12,SNR=7.5						
WRA				S	Sn	09 38 51.4	-12
	0.4nm,1.1s,baz=8.0,slow=24,SNR=1.6						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.96**	**218**	P	P	09 36 09.9	-0.5
	3.4nm,1.0s,baz=21,slow=8.6,SNR=1.5						
ASAR	**Alice Springs**	**21.47**	**192**	P	P	09 36 25.3	-1.5
	1.0nm,0.7s,baz=20,slow=10,SNR=11						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**69.53**	**322**	P	P	09 42 46.8	+0.3
	1.4nm,0.6s,baz=111,slow=6.6,SNR=10.0						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**73.47**	**325**	P	P	09 43 10.3	+0.2
	0.6nm,0.7s,baz=114,slow=5.1,SNR=5.6						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**79.06**	**325**	P	P	09 43 42.6	+0.7
	1.1nm,0.6s,baz=90,slow=7.4,SNR=4.3						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.76**	**24**	P	P	09 44 16.9	+0.4
	0.3nm,0.8s,baz=257,slow=5.7,SNR=2.6						
	0.3nm,0.8s						

*IDC **24** 09:48:34.2±1.9, 37°.46S×176°.59E, h213km±9km, mb3.3/3, mbtmp3.8/3, Error ellipse: s-maj=75.0km s-min=27.9km az=37.0*
*NOU **24** 09:48:34.1, 37°.69S×176°.43E, h237km, MLv4.1/20, North Island, New Zealand*
*WEL **24** 09:48:37.2±0.9, 37°.S±9°.×17°.7E±°, h203km±8km, M3.4/31, ML3.2/6,

WHTZ	Whakaora	1.17 200	P	Pn	09 49 09.9	+1.3
RAGZ	Rawiri	1.19 141	P	Pn	09 49 09.4	+0.5
MRHZ	Matea Rd	1.26 182	P	Pn	09 49 09.8	+0.5
WATZ	Wairara	1.27 207	P	Pn	09 49 10.5	+1.1
WIAZ	Waiheke Island	1.31 306	P	Pn	09 49 09.8	+0.1
MTHZ	Maungataniwha	1.32 167	P	Pn	09 49 10.2	+0.5
PKGZ	Pakihiroa	1.32 104	P	Pn	09 49 10.2	+0.6
TWGZ	Tauwhareparae	1.35 117	P	Pn	09 49 10.7	+0.7
HATZ	Hinemaiaia	1.35 192	P	Pn	09 49 10.6	+0.7
ETAZ	East Tamaki Re	1.37 296	P	Pn	09 49 10.4	+0.3
SNGZ	Shannon Statio	1.40 151	P	Pn	09 49 11.2	+0.9
TKGZ	Te Karaka	1.40 129	P	Pn	09 49 10.9	+0.7
RATZ	Rangitukua	1.41 203	P	Pn	09 49 11.2	+0.9
RAHZ	Arahi	1.43 160	P	Pn	09 49 11.6	+1.0
MXZ	Matakaoa Point	1.47 90	P	Pn	09 49 11.2	+0.4
MXZ	Matakaoa Point	1.47 90	P	Pn	09 49 11.1	+0.4
MBAZ	Motutapu North	1.48 302	P	Pn	09 49 11.3	+0.3
RITZ	Rihia Road	1.48 198	P	Pn	09 49 12.3	+1.3
PUZ	Puketiti	1.51 110	P	Pn	09 49 11.5	+0.3
KATZ	Kakaramea	1.53 203	P	Pn	09 49 13.1	+1.7
RIGZ	Rimuhau	1.53 138	P	Pn	09 49 12.5	+1.1
AWAZ	Awhitu Peninsu	1.54 289	P	Pn	09 49 11.6	+0.2
EPAZ	Eden Park BICE	1.54 296	P	Pn	09 49 11.5	+0.1
GRZ	Great Barrier	1.54 328	P	Pn	09 49 11.3	-0.2
NMHZ	Naumai	1.55 170	P	Pn	09 49 12.9	+1.4
HBAZ	Herne Bay Bore	1.56 297	P	Pn	09 49 14.9	+3.3
WMGZ	Waiomatatini S	1.57 100	P	Pn	09 49 12.1	+0.5
HIZ	Hauiti	1.58 233	P	Pn	09 49 12.8	+1.1
HIZ	Hauiti	1.58 233	P	Pn	09 49 12.8	+1.1
BKZ	Black Stump Fm	1.59 179	P	Pn	09 49 12.1	+0.2
BKZ	Black Stump Fm	1.59 179	S	S	09 49 39.8	-0.9
BKZ	Black Stump Fm	1.59 179	P	Pn	09 49 12.3	+0.3
ABAZ	Army Bay	1.62 306	P	Pn	09 49 12.5	+0.4
WHHZ	Waihua	1.62 158	P	Pn	09 49 13.2	+1.2
WTAZ	Waiatarua	1.64 292	P	Pn	09 49 12.7	+0.4
CNGZ	Carnagh Statio	1.65 124	P	Pn	09 49 13.8	+1.4
TMVZ	Te Maari	1.66 201	P	Pn	09 49 13.4	+0.9
ETVZ	East Tongariro	1.67 200	P	Pn	09 49 13.6	+1.0
WTVZ	West Tongariro	1.69 204	P	Pn	09 49 13.6	+0.8
NNVZ	North Ngauruho	1.70 203	P	Pn	09 49 13.7	+0.8
RVAZ	Riverhead Bore	1.70 297	P	Pn	09 49 12.9	+0.1
TWVZ	Taurewa	1.70 208	P	Pn	09 49 13.7	+0.8
OTVZ	Oturere	1.71 201	P	Pn	09 49 14.2	+1.1
KNZ	Kokohu	1.74 147	P	Pn	09 49 14.1	+1.0
SNVZ	South Ngauruho	1.74 202	P	Pn	09 49 14.5	+1.2
NGZ	Ngauruhoe	1.74 203	P	Pn	09 49 14.3	+1.0
ARHZ	Aropaoanui	1.74 166	P	Pn	09 49 14.3	+1.2
PRGZ	Paritu Road	1.75 141	P	Pn	09 49 14.2	+0.9
COVZ	Chateau Observ	1.78 204	P	Pn	09 49 14.3	+0.7
TUVZ	Tukino	1.81 200	P	Pn	09 49 14.8	+0.9
FWVZ	Far West T-bar	1.83 203	P	Pn	09 49 14.6	+0.5
MAVZ	Matarangi	1.84 202	P	Pn	09 49 15.1	+0.7
WHVZ	Whangaehu Hut	1.84 202	P	Pn	09 49 14.9	+0.6
KWHZ	Kaweka Forest	1.85 181	P	Pn	09 49 14.9	+0.7
TRVZ	Turoa	1.87 202	P	Pn	09 49 15.3	+0.7
MCHZ	McNeill Hill	1.88 174	P	Pn	09 49 15.7	+1.2
WNVZ	Wahianoa	1.88 201	P	Pn	09 49 15.1	+0.5
MOVZ	Moawhango	1.92 197	P	Pn	09 49 14.9	+0.1
PKVZ	Pokaka	1.93 207	P	Pn	09 49 15.7	+0.8
MHGZ	Mahia Peninsul	1.95 145	P	Pn	09 49 16.2	+1.1
MTVZ	Mangateitei	1.97 203	P	Pn	09 49 16.1	+0.8
VRZ	Vera Road	2.05 220	P	Pn	09 49 17.5	+1.5
KRHZ	Kereru	2.07 182	P	Pn	09 49 16.7	+0.5
CKHZ	Cape Kidnapper	2.14 167	P	Pn	09 49 18.0	+1.1
KAHZ	Kahuranaki	2.25 172	P	Pn	09 49 18.9	+0.9
PNHZ	Pukenui	2.35 185	P	Pn	09 49 19.2	+0.1
DREZ	Durham Road	2.40 227	P	Pn	09 49 21.7	+2.2
WAZ	Wanganui	2.47 207	P	Pn	09 49 21.0	+0.7
PXZ	Pawanui	2.48 173	P	Pn	09 49 20.8	+0.5
WPHZ	Waipukurau	2.49 180	P	Pn	09 49 20.8	+0.3
TSZ	Takapari Road	2.52 189	P	Pn	09 49 20.9	+0.1
NEZ	North Egmont	2.52 227	P	Pn	09 49 23.3	+2.4
PKE	Pukeiti	2.53 229	P	Pn	09 49 23.2	+2.2
PRHZ	Porangahau	2.70 177	P	Pn	09 49 23.1	+0.3
DVHZ	Dannevirke	2.74 185	P	Pn	09 49 22.9	-0.3
POWZ	Post Office Ro	2.87 191	P	Pn	09 49 24.4	-0.2
BFZ	Birch Farm	3.11 183	P	Pn	09 49 27.0	-0.4
BFZ	Birch Farm	3.11 183	S	S	09 50 07.0	-1.4
OUZ	Omahuta	3.29 315	P	Pn	09 49 29.4	-0.1
OUZ	Omahuta	3.29 315	P	Pn	09 49 29.5	0.0
SNZO	South Karori	3.98 199	P	Pn	09 49 36.0	-1.5
SNZO	South Karori	3.98 199	S	S	09 50 24.4	-2.2
QRZ	Quartz Range	4.46 222	P	Pn	09 49 41.9	-1.5
QRZ	Quartz Range	4.46 222	S	S	09 50 35.3	-2.0
KHZ	Kahutara	5.34 204	P	Pn	09 49 52.9	-1.4
KHZ	Kahutara	5.34 204	S	S	09 50 53.9	-3.1
RPZ	Rata Peaks	7.39 212	P	Pn	09 50 17.5	-2.9
CTZ	Chatham Island	8.10 142	P	Pn	09 50 26.3	-3.2
ODZ	Otahua Downs	8.65 209	P	Pn	09 50 34.6	-2.1
ODZ	Otahua Downs	8.65 209	S	S	09 52 09.5	-4.8
JCZ	Jackson Bay	8.72 219	P	Pn	09 50 35.4	-2.2
ASAR	Alice Springs	38.83 279	P	P	09 55 39.5	+0.9
	1.0nm,0.7s,baz=121,slow=8.5,SNR=16					
	1.0nm,0.7s					
WRA	Warramunga Arr	40.51 284	P	P	09 55 53.0	+0.5
	1.0nm,0.4s,baz=123,slow=8.0,SNR=32					
	1.0nm,0.4s					
SNAA	Sanae	71.06 180	P	P	09 59 29.6	+1.3
	0.4nm,0.5s,baz=191,slow=5.2,SNR=3.1					
	0.4nm,0.5s					
ARCES	ARCESS Array B	144.36 343	PKP	PKPab	10 07 41.8	-0.3
	3.8nm,1.0s,baz=50,slow=2.9,SNR=1.5					

*IDC **24** 10:05:20.3±0.8, 7˙86N×82˙46W, h0km, mb4.2/8, mbtmp4.2/11, ML3.0/4, MS3.6/21, Error ellipse: s-maj=33.0km s-min=15.1km az=53.0*

*CATAC **24** 10:05:22.8±0.8, 8˙N±4˙×8˙3W±˙, h5km±3km, M5.2/15, mb5.5/6, mB5.8/6, MLv5.0/15, Mw(mB)5.3/6, Error ellipse: s-maj=9.3km s-min=5.6km az=15.4, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.01; $M_{\theta\theta}$0.75; $M_{\phi\phi}$1.27; $M_{r\theta}$3.56; $M_{\theta\phi}$2.39; $M_{\phi r}$-0.08; Fault plane solution: $M_{o\phi}$4.63773×10^{15} NP1:ϕ_s257.33002°, δ75.02084°, λ-58.50728°. NP2:ϕ_s10.20496°, δ34.53991°, λ-152.87925°. Principal axes: T 4.4424, Plg23.5595°, Azm323.5657°; N 0.3686, Plg30.3074°, Azm68.3323°; P -4.8110, Plg49.9275°, Azm202.3455°; confirmed*

*UCR **24** 10:05:22.3±1.2, 7˙78N×82˙49W, h10km, MW5.0, Fault plane solution: NP1:ϕ_s276.01000°, δ71.25000°, λ-23.86000°.*

*NEIC **24** 10:05:23.9±2.0, 7˙93N±0˙04×82˙55W±0˙06, h10km±1km, mb4.5/94, Error ellipse: s-maj=13.2km s-min=7.0km az=225.0*

*UPA **24** 10:05:24.6±0.8, 7˙88N×82˙51W, h35km±10km, MW4.8, Fault plane solution: NP1:ϕ_s98.00000°, δ78.00000°, λ-27.00000°.*

ISC 24 10:05:23.0±1.4, 7˙86N±0˙04×82˙46W±0˙03, h16km±8km, n304, σ1$38/270, mb4.4/48, MS3.6/20, 85C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LMNES	Limones	0.47	301	↑↑	i	P	Pn 10 05 34.0	-1.1
LMNES				e		S	Sb 10 05 40.4	+0.9
LMNES	Limones	0.47	301	↑↑	e	P	Pn 10 05 33.9	-1.1
DVD	David	0.58	1	↑↑	i	P	Pb 10 05 35.5	+0.8
DVD				e		S	Sb 10 05 43.4	+0.7
LPPC	Paso Canoas	0.77	331	↑↑	e	P	Pb 10 05 37.9	-0.1
LPPC				e		S	Sb 10 05 48.4	+0.1
JEFFS	S de V. Baru	0.81	355	↑↑	e	P	Pb 10 05 39.1	+0.3
CDITO	Canoas	0.82	330			S	Sg 10 05 49.5	-0.4
CDITO	Canoas	0.82	330			P	Pb 10 05 38.7	-0.2
DMCAL	E. de Neily	0.87	338	↑↑	e	P	Pb 10 05 39.8	0.0
WILLF	Boquete	0.89	2	↑↑	e	P	Pb 10 05 39.9	-0.2
BQTLY	Boquete Panama	0.90	360	↑↑	i	P	Pb 10 05 40.2	-0.1
BQTLY	Boquete Panama	0.90	360	↑↑	e	P	Pb 10 05 40.1	-0.1
CLLRA	Cordillera,	0.90	350	↑↑	i	P	Pb 10 05 40.2	-0.1
NELY	Ciudad Neily	0.92	329	↑↑	i	P	Pg 10 05 40.1	-0.8
DAP26	falda E V. Bar	0.93	2	↑↑	e	P	Pg 10 05 40.4	-0.6
TBS2		0.95	348	↑↑	e	P	Pn 10 05 41.6	-0.3
BRU2	Volcan	0.96	346				Pg 10 05 41.1	-0.6
BRU2	Volcan	0.96	346	↑↑	i	P	Pg 10 05 41.1	-0.6
BRU2				e		S	Sb 10 05 54.1	+0.2
BRU2	Volcan	0.96	346			P	Pg 10 05 40.9	-0.7
BRU2	Volcan	0.96	346			S	Sb 10 05 53.9	0.0
BRU2	Volcan	0.96	346	↑↑	e	P	Pg 10 05 41.0	-0.6
SCLRA	Santa Clara, W	1.02	342	↑↑	i	P	Pb 10 05 42.1	-0.3
SCLRA	Santa Clara, W	1.02	342	↑↑	i	P	Pb 10 05 42.0	-0.3
PIRO	Carate, Puerto	1.02	302				Pb 10 05 41.2	-1.2
PIRO	Carate, Puerto	1.02	302			P	Pb 10 05 41.0	-1.3
PIRO	Carate, Puerto	1.02	302	↑↑	e	P	Pb 10 05 41.1	-1.3
FITO	Golfito	1.03	318		e	P	Pb 10 05 41.1	-1.3
RSRNO	Rio Sereno	1.03	337	↑↑	i	P	Pb 10 05 42.4	-0.2
RSRNO	Rio Sereno	1.03	337	↑↑	e	P	Pb 10 05 42.4	-0.2
RBALA	Bur	1.06	17	↓↓	e	P	Pb 10 05 42.7	-0.3
RBALA					e	S	Sb 10 05 55.6	-1.1
RBALA	Bur	1.06	17	↓↓	e	P	Pb 10 05 42.6	-0.4
PBNVO	Pueblo Nuevo,	1.06	14	↓↓	e	P	Pb 10 05 42.1	-0.9
PTJ1	Puerto Jimnez	1.07	309	↑↑	e	P	Pb 10 05 42.3	-0.8
PTJ1					e	S	Sn 10 05 58.0	+0.1
VITO	San Vito	1.08	332		e	P	Pb 10 05 43.1	-0.3
JIME	Puerto Jimenez	1.09	308	↑↑	e	P	Pb 10 05 42.5	-1.0
GMAL	Guarumal, Vera	1.22	94		e	P	Pb 10 05 44.3	-1.1
EDP2	Potrero Grande	1.35	328	↑↑	e	P	Pn 10 05 47.0	-0.2
PANP	Palmar Norte	1.48	318	↑↑	i	P	Pn 10 05 48.5	-0.4
BURE	Buenos Aires	1.57	326	↑↑	e	P	Pn 10 05 49.9	-0.3
EDPE	Pejibaye, P	1.70	320	↑↑	e	P	Pn 10 05 52.0	0.0
BRIBI	Bribri	1.79	349	↑↑	e	P	Pb 10 05 54.5	-0.8
SAJE	San Jernim	1.81	325	↑↑	e	P	Pn 10 05 53.2	-0.4
CEUA	Cerro Uatsi, L	1.82	345	↑↑	e	P	Pb 10 05 54.9	-1.0
ZEDO	Perez Zeledon	1.92	321	↑↑	e	P	Pn 10 05 54.9	-0.2
LAES	El Progreso Va	1.98	343	↑↑	e	P	Pn 10 05 56.6	+0.7
BUS1	Rivas	2.11	323	↑↑	i	P	Pn 10 05 58.0	-0.1
AZU	Azuero	2.17	92	↑↑	e	P	Pn 10 05 59.0	+0.6
VERH	Veragua Rainfo	2.18	341	↑↑	e	P	Pn 10 05 59.0	+0.3
LLNJ	Naranjito	2.28	315	↑↑	e	P	Pn 10 05 59.6	-0.4
PIEC	Cerro El Cedra	2.30	320	↑↑	e	P	Pn 10 06 00.6	+0.1
QUEP	Quepos	2.30	313			S	Sb 10 06 32.6	+0.3
QUEP	Quepos	2.30	313		e	P	Pn 10 05 59.5	-0.8
SVQ2	Quepos	2.30	313		e	P	Pn 10 05 59.5	-0.8
RAZU	San Marcos de	2.37	319	↑↑	e	P	Pn 10 06 01.4	+0.1
PITB	Pirrs, San	2.37	319		e	P	Pn 10 06 01.6	+0.2
TAAN	Batan	2.38	338		e	P	Pn 10 06 02.5	+1.1
VINA	Juan Vinas	2.39	328	↑↑	e	P	Pn 10 06 02.1	+0.5
REPA	Paraso	2.40	325	↑↑	e	P	Pn 10 06 02.1	+0.2
LCR2	La Lucha 2	2.42	321			S	Sn 10 06 32.5	+1.0
PCAYA	Pacayas	2.44	327	↑↑	e	P	Pn 10 06 03.2	+0.7
IRES	Siquirres	2.45	335	↑↑	e	P	Pn 10 06 03.5	+1.1
RESJ	San Isidro (Tu	2.46	332	↑↑	e	P	Pn 10 06 03.6	+1.1
PICV	PH. Pirrs	2.46	316	↑↑	e	P	Pn 10 06 02.3	-0.2
LCOCO	El Coco	2.46	334	↑↑	e	P	Pn 10 06 04.0	+1.5
TAGO	Cartago	2.47	324		e	P	Pn 10 06 03.4	+0.7
ABRB	Las Abras (San	2.47	330	↑↑	i	P	Pn 10 06 03.8	+0.9
PAR1A	Puntarenas Pro	2.48	314	↑↑	e	P	Pn 10 06 02.6	-0.1
CVTV	Tajo	2.49	329	↑↑	e	P	Pn 10 06 04.1	+0.9
CVTQ	Turrialba Volc	2.50	329	↑↑	e	P	Pn 10 06 04.2	+0.9
RVLA	Villa Bonita	2.50	334		e	P	Pn 10 06 04.2	+1.2
VTR0	Volcan Turrial	2.50	329	↑↑	e	P	Pn 10 06 04.3	+0.9
CVTR	Volcan Turrial	2.50	329	↑↑	e	P	Pn 10 06 04.3	+0.8
VICA	Volcano Irazu	2.52	327	↑↑	e	P	Pn 10 06 04.2	+0.5
TRIO	Tres Rios	2.54	323	↑↑	i	P	Pn 10 06 03.4	-0.3
TRIO				↑↑	e	P	Pb 10 06 03.8	-4.5
ACOS	Acosta	2.56	319	↑↑	e	P	Pn 10 06 03.8	-0.2
AMPA	Desamparados	2.57	322	↑↑	e	P	Pn 10 06 04.3	+0.2
CORON	Coronado	2.60	324		e	P	Pn 10 06 05.3	+0.8
ECI	Escuela Centro	2.60	323	↑↑	e	P	Pn 10 06 05.1	+0.6
SJS3	Mercedes San J	2.60	323	↑↑	e	P	Pn 10 06 05.2	+0.7
SJS	Escuela Geolog	2.60	323		e	P	Pn 10 06 05.1	+0.6
LUJA	Lujan	2.60	322	↑↑	e	P	Pn 10 06 05.1	+0.6
CVIMO	Finca Echandi	2.61	326	↑↑	e	P	Pn 10 06 05.4	+0.7
LUPE	Guadalupe	2.61	323	↑↑	e	P	Pn 10 06 05.1	+0.5
CENT	San Jose	2.61	322		e	P	Pn 10 06 06.2	+1.5
MEXI	Barrio Mexico	2.62	322	↑↑	e	P	Pn 10 06 05.4	+0.5
TIBA	Tibas	2.63	323	↑↑	e	P	Pn 10 06 05.6	+0.7
DOMI	Santo Domingo	2.66	323	↑↑	e	P	Pn 10 06 06.2	+0.9
SANTA	Santa Ana	2.68	321	↑↑	e	P	Pn 10 06 06.6	+0.9
HDC	Heredia	2.69	323				Pn 10 06 06.6	+0.9
PILE	Guapiles	2.69	331	↑↑	e	P	Pn 10 06 06.8	+1.2
HEME	Heredia, Merce	2.69	322	↑↑	e	P	Pn 10 06 07.6	+1.8
PURI	Puriscal	2.69	317	↑↑	e	P	Pn 10 06 05.6	-0.2
BELE	Belen	2.71	321	↑↑	e	P	Pn 10 06 06.3	+0.3
BITO	Garabito Jaco	2.76	310	↑↑	e	P	Pn 10 06 05.8	-0.8
ZANG	Zanguenga, Cho	2.79	67	↑↑	e	P	Pn 10 06 08.3	+1.3
CARI	Cariari	2.79	333	↑↑	e	P	Pn 10 06 08.1	+1.1
POAS	San Pedro de P	2.82	322	↑↑	e	P	Pn 10 06 08.6	+1.0
ATEO	Atenas	2.84	318	↑↑	e	P	Pn 10 06 07.5	-0.3
OROT	Orotina	2.89	315	↑↑	e	P	Pn 10 06 08.2	-0.2
SARCI	Sarchi	2.90	320	↑↑	e	P	Pn 10 06 09.5	+0.8
BCIP	Isla Barro Col	2.90	63			Pn	Pn 10 06 10.9	+2.3
BCIP	Isla Barro Col	2.90	63	↓↓	e	P	Pn 10 06 10.5	+2.0
BCIP					e	S	Sn 10 06 42.9	-0.3
BCIP	Isla Barro Col	2.90	63			P	Pn 10 06 10.7	+2.2
BCIP						S	Sb 10 06 50.0	+0.3
BCIP	Isla Barro Col	2.90	63	↑↑	e	P	Pn 10 06 09.4	+1.4
VPS8	V Poas	2.90	323	↑↑	e	P	Pn 10 06 09.7	+0.8
VPS5	V. Poas	2.91	323	↑↑	e	P	Pn 10 06 09.6	+0.6
TRT2	Tortugero	2.96	335		P		Pn 10 06 10.0	+0.6
TRT2	Tortugero	2.96	335		S		Sn 10 06 47.0	+2.3
TRT2	Tortugero	2.96	335	↑↑	e	P	Pn 10 06 09.9	+0.6
RAMO	San Ramon	2.97	318	↑↑	e	P	Pn 10 06 10.0	+0.4
SARA	Sarapiqu	3.00	329	↑↑	e	P	Pn 10 06 11.1	+1.1
ARTO	Ro Cuarto	3.02	325	↑↑	e	P	Pn 10 06 11.2	+1.0
VPL1	V. Platanar	3.04	322		e	P	Pn 10 06 11.0	+0.4
ARZA	Esparza	3.04	314		e	P	Pn 10 06 09.7	-0.8
VPL2	V. Platanar	3.09	322		e	P	Pn 10 06 11.9	+0.6
CBL1	Cabuya	3.12	304	↑↑	e	P	Pn 10 06 10.1	-1.5
ITAL	Pital	3.14	325	↑↑	e	P	Pn 10 06 13.0	+1.2
ENAS	Puntarenas	3.15	312		e	P	Pn 10 06 10.6	-1.5
JCR1	Jicaral	3.29	307		e	P	Pn 10 06 12.4	-1.4
SOCE	Pocosol	3.29	320				Pn 10 06 14.9	+0.9
SOCE	Pocosol	3.29	320		P		Pn 10 06 14.3	+0.4
SOCE	Pocosol	3.29	320		e	P	Pn 10 06 14.4	+0.4
CAZU	Cerro Azul, Pa	3.32	65		e	P	Pn 10 06 15.1	+0.7
MTEVE	Monteverde	3.38	316	↑↑	e	P	Pn 10 06 14.9	-0.5
FORC	Fortuna	3.39	320		e	P	Pn 10 06 15.9	+0.7
VACR	Volcan Arenal	3.40	320		e	P	Pn 10 06 16.3	+0.8
CASO	Castillo	3.41	319		e	P	Pn 10 06 16.1	+0.5
ARE1	Arenal 1	3.42	319	↑↑	e	P	Pn 10 06 16.2	+0.5
VARE2	V. Arenal	3.42	319	↑↑	e	P	Pn 10 06 16.2	+0.5
CEDE	Laguna Cedeo	3.43	320		e	P	Pn 10 06 16.4	+0.5
COVE	Coope Vega, Sa	3.43	326		P		Pn 10 06 16.1	+0.3
JUNT	Juntas	3.45	315		e	P	Pn 10 06 15.2	-0.9
JTS	Las Juntas de	3.45	315		Pn		Pn 10 06 15.3	-0.9
	190nm,0.4s,baz=163,slow=6.8,SNR=219							
JTS					Sn		Sn 10 06 55.2	-1.5
	baz=174,slow=23							
JTS					LR		LR 10 07 43.2	
	comp=Z,678nm,19.1s,baz=152,slow=41							
JTS	Las Juntas de	3.45	315		S		Sb 10 07 03.0	-2.5
JTS	Las Juntas de	3.45	315	↑↑	e	P	Pn 10 06 15.2	-1.0
JTS	Las Juntas de	3.45	315		P		Pn 10 06 14.0	-2.2
REZ	Monterrey de S	3.45	320		e	P	Pn 10 06 17.1	+0.8
TABAC	Tabacon	3.48	319		e	P	Pn 10 06 17.2	+0.7
CHIK	Chiripa	3.53	317		e	P	Pn 10 06 18.1	+0.9
QUEB	Quebradon, Cot	3.65	319		e	P	Pn 10 06 19.3	+0.4
INVE	Universidad In	3.66	316		e	P	Pn 10 06 19.6	+0.6
INVE					i	P	Pb 10 06 20.1	-7.3
TIMP	Tierras Morena	3.70	317		e	P	Pn 10 06 20.1	+0.5
NICO	Nicoya	3.72	308		e	P	Pn 10 06 19.7	-0.2
TENO	El Achiote	3.77	319		e	P	Pn 10 06 20.7	+0.2
PLVR	Palo Verde	3.78	311		e	P	Pn 10 06 20.9	+0.1
JUD3	Juan Diaz 3	3.81	307				Pn 10 06 20.7	-0.4
JUD3	Juan Diaz 3	3.81	307	↑↑			Pn 10 06 20.7	-0.4
MOTZ	Rio Naranjo	3.81	318		e	P	Pn 10 06 22.0	+0.9
BAGA	Bagaces	3.83	314		e	P	Pn 10 06 22.2	+0.9
CUI	Cuipilapa	3.86	316		e	P	Pn 10 06 21.8	0.0
LCHIL	Los Chiles	3.87	325	↑↑	e	P	Pn 10 06 21.8	0.0
VMAR	Armenia, Volca	3.94	318		e	P	Pn 10 06 22.9	+0.1
MESS	Mesas	3.94	317		e	P	Pn 10 06 23.1	+0.2
DELF	Filadelfia	4.00	310		e	P	Pn 10 06 23.9	+0.3
ERIA	Liberia	4.03	313		e	P	Pn 10 06 25.0	+0.9
GPS2	Hotel Rincn d	4.05	315		e	P	Pn 10 06 25.3	+0.8
GPS1	Guardaparques	4.07	316		e	P	Pn 10 06 25.2	+0.5
ALIBA	Liberia Airpor	4.08	312	↑↑	e	P	Pn 10 06 25.8	+1.0
VRLE	La Escondida,	4.09	316		e	P	Pn 10 06 25.3	+0.3
LAPC	Finca la Perla	4.12	315		e	P	Pn 10 06 25.7	+0.4
BUAI	Buenos Aires	4.13	317		e	P	Pn 10 06 26.1	+0.7
PEJA	Penjamo Buenos	4.13	317		e	P	Pn 10 06 26.3	+0.9
LCRUZ	La Cruz	4.48	316	↑↑	e	P	Pn 10 06 31.0	+0.8
CARN	Rivas	4.48	318		P		Pn 10 06 30.3	0.0
CARN	Rivas	4.48	318		e	P	Pn 10 06 30.9	+0.6
PTAC	Punta Ardita,	4.67	98		P		Pn 10 06 31.6	-1.2
PTAC					S		Sn 10 07 20.4	-6.3
SAIC	Isla e San And	4.71	9		P		Pn 10 06 32.5	-0.9
SAIC					S		Sn 10 07 26.6	-1.2
SOLC	Bahia Solano	5.27	108		P		Pn 10 06 40.0	-1.1
SOLC					S		Sn 10 07 35.8	-5.8
PRVC	Isla de Provid	5.59	11				Pn 10 06 45.6	0.0
PRVC	Isla de Provid	5.59	11		P		Pn 10 06 45.7	+0.2
	0.8nm2µm168nm,0.6s							
PRVC					S		Sn 10 07 46.9	-2.6
	0.8nm2µm168nm,0.6s							
MGAN	Managua	5.67	319				Pn 10 06 47.5	+1.0
APAC	Apartado, Choc	5.83	89		P		Pb 10 06 57.1	-7.2
APAC					S		Sb 10 08 05.0	-8.9
MATN	Matagalpa	6.09	326		P		Pn 10 06 52.4	-0.1
CNGN	Cerro Negro	6.22	318				Pn 10 06 54.6	+0.3
CNGN	Cerro Negro	6.22	318	↓↓	P		Pn 10 06 55.3	+1.0
SIUN	Universidad Ur	6.25	339		Pn		Pn 10 06 55.0	+0.4
DBBC	Dabeiba	6.25	97		P		Pn 10 06 56.2	+1.4
	8µm88nm,0.7s							
POLN	Al Sur del Vol	6.41	318		P		Pn 10 06 56.6	-0.2
LIMN	Finca el Limon	6.44	324	↑↑	P		Pn 10 06 58.1	+0.8
PKGN	Cerro Pekin	6.53	317		P		Pn 10 07 00.0	+1.6
CBOC	Ciudad Bolivar	6.70	107		P		Pn 10 06 59.6	-1.4
	629nm31nm,0.6s							
CBOC					S		Sn 10 08 10.9	-6.3
	629nm31nm,0.6s							
RCVN	Varillal2	6.77	328	↑↑	P		Pn 10 07 03.0	+1.1
HELC	Santa Helena	7.08	103		P		Pn 10 07 07.7	+1.4
	32nm,0.7s							
HELC					S		Sn 10 08 26.2	-0.5
	32nm,0.7s							
CSGN	Cosiguina Volc	7.14	316	↓↓	P		Pn 10 07 08.3	+1.3
YOTC	Yotoco, Valle	7.20	122		P		Pn 10 07 07.2	-0.5
	27nm,0.8s							
YOTC					S		Sn 10 08 27.0	-2.3
	27nm,0.8s							
SJCC	San Jacinto, C	7.47	74		P		Pn 10 07 13.1	+1.6
	30nm,0.7s							
GUY2C	Guyana, Caldas	7.52	110		P		Pn 10 07 13.5	+1.0
	462n

Y14A	Wickenburg	38.30 317	IAmb	IAmb	10 12 45.0	
	comp=Z,6.0nm,0.8s					
PV02	Paradox Valley	38.42 326	IAmb	IAmb	10 12 45.9	
	comp=Z,14nm,1.2s					
PV13	Radium Mtn., P	38.43 326	IAmb	IAmb	10 12 45.3	
	comp=Z,6.3nm,1.0s					
PV03	Paradox Valley	38.52 326	IAmb	IAmb	10 12 45.8	
	comp=Z,8.4nm,1.1s					
PV18	Skein Mesa, Pa	38.54 326		P	10 12 45.2	0.0
BLYC	Blythe	39.23 316	P	P	10 12 51.4	+0.6
BLYC			IAmb	IAmb	10 12 53.4	
	comp=Z,9.9nm,0.8s					
BELC	Belle Mtn. Jos	40.39 315	P	P	10 13 01.7	+1.1
BELC			IAmb	IAmb	10 13 03.1	
	comp=Z,14nm,1.4s					
PMD	Palm Desert	40.47 314	IAmb	IAmb	10 13 03.6	
	comp=Z,9.9nm,1.4s					
PFO	Pinyon Flats O	40.51 314	P	P	10 13 02.7	+1.1
PFO	Pinyon Flats O	40.51 314	LR	LR	10 31 33.5	
	comp=Z,91nm,19.2s,baz=58,slow=39					
DPP	Dos Picos Cty	40.55 313	P	P	10 13 03.2	+1.4
H03N2	Juan Fernandez	41.20 176	T	T	10 56 42.7	
	baz=354,slow=76,SNR=7.0					
H03N1	Juan Fernandez	41.21 175	T	T	10 56 42.6	
	baz=354,slow=76,SNR=8.4					
H03N3	Juan Fernandez	41.22 176	T	T	10 56 42.2	
	baz=354,slow=76,SNR=8.9					
SHPR	Sheep Range	41.22 319	P	P	10 13 07.0	-0.5
BDFB	Brasilia	41.34 124	LR	LR	10 30 48.9	
	comp=Z,191nm,18.1s,baz=287,slow=37					
GSC	Goldstone, Bar	41.65 316	IAmb	IAmb	10 13 13.5	
	comp=Z,12nm,1.1s					
CPUP	Villa Florida	41.84 145	LR	LR	10 32 20.8	
	comp=Z,29nm,20.2s,baz=171,slow=39					
TCUT	Toone Canyon	41.93 327	IAmb	IAmb	10 13 16.0	
	comp=Z,6.7nm,1.1s					
GWY	Greenwater Val	42.04 317	IAmb	IAmb	10 13 16.4	
	comp=Z,5.5nm,0.9s					
PDAR	Pinedale Array	42.15 330	P	P	10 13 14.1	-1.0
	comp=Z,0.3nm,0.6s,baz=134,slow=6.4,SNR=4.7					
PDAR			LR	LR	10 32 46.4	
	comp=Z,56nm,18.7s,baz=102,slow=39					
	comp=Z,0.3nm,0.6s					
SPR3	Spring Creek 3	42.21 322	P	P	10 13 15.8	+0.1
CLC	China Lake	42.47 316	IAmb	IAmb	10 13 19.8	
	comp=Z,9.7nm,1.3s					
MT08	Bocatoma Ro	42.74 165	P	P	10 13 21.4	+1.5
MT08			IAmb	IAmb	10 13 22.7	
	comp=Z,12nm,1.0s					
GMN	Gold Mountain	43.06 318	IAmb	IAmb	10 13 24.7	
	comp=Z,5.5nm,0.9s					
BO04	La Punta	43.11 166	IAmb	IAmb	10 13 24.9	
	comp=Z,8.1nm,0.9s					
RPN	Rapa Nui	43.45 216	LR	LR	10 26 43.1	
	comp=Z,96nm,19.7s,baz=97,slow=30					
TPH	Tonopah	43.47 319	IAmb	IAmb	10 13 27.9	
	comp=Z,11nm,1.1s					
DSP	Deep Springs	43.57 318	IAmb	IAmb	10 13 28.9	
	comp=Z,8.1nm,1.0s					
ELK	Elko	43.85 324	LR	LR	10 33 36.1	
	comp=Z,62nm,21.2s,baz=121,slow=39					
NVAR	Mina Array Bea	44.37 319	P	P	10 13 34.0	+0.9
	comp=Z,2.8nm,0.6s,baz=126,slow=6.9,SNR=25					
NVAR			PcP	PcP	10 15 17.0	+0.1
	comp=Z,0.5nm,0.7s,baz=72,slow=4.7,SNR=2.7					
NVAR			LR	LR	10 36 05.4	
	comp=Z,97nm,18.2s,baz=140,slow=42					
	comp=Z,2.8nm,0.6s					
LHV	Little Huntoon	44.41 319	IAmb	IAmb	10 13 35.8	
	comp=Z,8.1nm,1.0s					
LR05	Currie	48.81 169		P	10 14 07.6	+0.1
YBH	Yreka Blue Hor	49.00 320	LR	LR	10 39 10.0	
	comp=Z,4.9nm,18.8s,baz=126,slow=41					
PLCA	Paso Flores	49.58 168	P	P	10 14 13.6	+0.1
	comp=Z,6.2nm,0.7s,baz=340,slow=9.3,SNR=26					
	comp=Z,6.2nm,0.7s					
WIFE	Three Sisters-	49.73 323	P	P	10 14 15.5	+0.7
NEW	Newport	49.80 330	LR	LR	10 37 24.9	
	comp=Z,67nm,21.3s,baz=108,slow=39					
LL02	Futaleuf	51.71 170		P	10 14 29.7	+0.3
FRB	Frobisher Bay	56.68 7	LR	LR	10 40 36.9	
	comp=Z,143nm,18.1s,baz=121,slow=37					
BBB	Bella Bella	57.77 329	LR	LR	10 41 41.9	
	comp=Z,58nm,20.9s,baz=142,slow=38					
SFJD	Kangerlussuaq	62.89 13	LR	LR	10 42 28.2	
	comp=Z,67nm,21.7s,baz=166,slow=35					
BBTS	Babate	64.83 78	LR	LR	10 46 11.3	
	comp=Z,43nm,18.1s,baz=261,slow=38					
RES	Resolute Bay	67.17 356	LR	LR	10 46 41.3	
	comp=Z,134nm,18.7s,baz=323,slow=37					
J26L	Joseph Creek	70.75 336		P	10 16 38.8	+0.5
J25K	Salcha River,	71.52 336		P	10 16 43.1	+0.2
J25K			IAmb	IAmb	10 16 52.1	
	comp=Z,3.4nm,0.8s					
ILAR	Eielson Array	72.18 336	P	P	10 16 46.1	-0.7
	comp=Z,1.8nm,0.7s,baz=109,slow=5.0,SNR=20					
	comp=Z,1.8nm,0.7s					
ESDC	Sonseca Array	76.18 51	P	P	10 17 10.7	-0.1
	comp=Z,1.6nm,0.6s,baz=276,slow=5.2,SNR=11					
	comp=Z,1.6nm,0.6s					
NOA	NORSAR Array B	84.97 29	LR	LR	10 53 31.7	
	comp=Z,13nm,19.2s,baz=225,slow=34					
SNAA	Sanae	94.15 162	P	P	10 18 39.3	-1.4
	comp=Z,1.8nm,0.8s,baz=258,slow=2.9,SNR=7.9					
	comp=Z,1.8nm,0.8s					
HHC	Hu-ho-hao-te	129.84 346	eP	PKPdf	10 24 29.9	-2.4
NJ2	Nanjing	135.40 334	eP	PKPdf	10 24 42.6	-0.3
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.6s					
ASAR	Alice Springs	141.78 241	PKhKP	PKPpre	10 24 47.8	
	comp=Z,0.6nm,0.8s,baz=114,slow=4.1,SNR=7.1					
ASAR			PKP	PKPdf	10 24 52.7	-2.2
	comp=Z,0.9nm,1.0s,baz=106,slow=2.4,SNR=5.7					
WRA	Warrumunga Arr	142.41 247	PKhKP	PKPpre	10 24 51.0	
	comp=Z,0.8nm,0.8s,baz=103,slow=3.2,SNR=7.1					
WRA			PKP	PKPdf	10 24 57.1	+1.1
	comp=Z,0.8nm,0.7s,baz=104,slow=2.6,SNR=6.6					
PZH	PanZhiHua	145.60 353	PKP	PKPab	10 25 02.3	+0.3
H01W1	Cape Leeuwin H	149.06 207	T	T	13 12 33.6	
	baz=150,slow=76,SNR=5.4					
H01W2	Cape Leeuwin H	149.07 207	T	T	13 12 48.8	
	baz=150,slow=76,SNR=4.7					
H01W3	Cape Leeuwin H	149.08 207	T	T	13 12 48.2	
	baz=150,slow=76,SNR=3.9					

AEIC ***24*** *10:06:45.7±0.4,53°.63N±0°.07×165°.02W±0°.07,h45km±9km, Error ellipse: s-maj=10.6km s-min=5.5km az=158.0*

NEIC 24 10:06:45.9±0.8,53°.6N±0°.1×165°.0W±0°.1,h45km±47km, ML2.9/8,ML2.5(AEIC),Error ellipse: s-maj=19.7km s-min=4.5km az=148.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.68	322		Pn	10 06 58.6	-0.5
AKSA					Sn	10 07 08.6	-0.1
AKUT	Akutan	0.70	319		Pn	10 06 59.2	-0.3
AKUT	Akutan	0.70	319	IAML		10 07 10.1	
	comp=E,430nm,0.8s						
AKUT				IAML		10 07 10.2	
	comp=N,266nm,0.4s						
AHB	Akutan Harbor	0.71	316		Pn	10 06 59.4	-0.2
AHB					Sn	10 07 09.7	+0.2
AKBBA	Akutan Broad B	0.75	312		Pn	10 06 59.9	-0.2
AKBBA					Sn	10 07 10.9	+0.5
ZRO	Akutan Zero	0.76	310		Pn	10 07 00.0	-0.3
ZRO					Sn	10 07 10.9	+0.1
AKLV	Akutan Long Va	0.80	314		Pn	10 07 00.5	-0.4
AKLV					Sn	10 07 11.8	+0.1
UNV	Unalaska Valle	0.94	285		Pn	10 07 02.0	-0.6
UNV					Sn	10 07 14.3	-0.5
WEBT	Westdahl Beart	0.99	8		Pn	10 07 03.5	0.0
WEBT					Sn	10 07 16.1	-0.2
MSW	Makushin Switc	1.11	287		Pn	10 07 04.9	-0.1
MGOD	Makushin Gods	1.14	280		Pn	10 07 05.3	-0.1
ISNN	Isanotski Nort	1.42	29		Pn	10 07 09.5	+0.2
ISNN					Sn	10 07 27.9	+1.2
FALS	False Pass	1.55	36		Pn	10 07 11.1	+0.1
FALS					Sn	10 07 30.9	+1.0
DT1	Dutton Round H	2.18	45		Pn	10 07 20.7	+1.0
DT1					Sn	10 07 47.1	+1.7
SDPT	Sand Point	3.15	55	Pn	Pn	10 07 35.0	+2.0
SDPT				IAML		10 08 39.5	
	comp=E,48nm,1.0s						
SDPT				IAML		10 09 12.8	
	comp=N,34nm,1.1s						

IDC ***24*** *10:28:19.9±1.1,54°.41S×120°.41W,h0km,mb3.9/5, mbtmp3.9/5,MS3.8/4,Error ellipse: s-maj=51.6km s-min=26.1km az=165.0*

ISC 24 10:28:21.3±1.1,54°.4S±0°.3×120°.4W±0°.2,h10km,n21, σ0°.79/7,mb3.9/5,MS3.7/4,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	35.50	72	T	T	11 12 26.8	
	baz=220,slow=73,SNR=415						
H03S1	Juan Fernandez	35.51	72	T	T	11 12 30.4	
	baz=220,slow=73,SNR=378						
H03S3	Juan Fernandez	35.52	72	T	T	11 12 28.1	
	baz=220,slow=73,SNR=378						
PLCA	Paso Flores	35.55	88	P	P	10 35 19.4	+1.0
	1.2nm,0.9s,baz=197,slow=14,SNR=3.6						
PLCA				LR	LR	10 46 16.4	
	comp=Z,143nm,20.0s,baz=226,slow=30						
	1.2nm,0.9s						
H03N3	Juan Fernandez	35.79	71	T	T	11 12 43.0	
	baz=223,slow=72,SNR=190						
H03N2	Juan Fernandez	35.80	71	T	T	11 12 58.9	
	baz=223,slow=72,SNR=369						
QSPA	South Pole Qui	35.80	180	LR	LR	10 48 43.6	
	comp=Z,126nm,19.4s,baz=80,slow=34						
H03N1	Juan Fernandez	35.80	71	T	T	11 12 50.8	
	baz=223,slow=72,SNR=232						
TBI	Tubuai	37.84	313	eLR	LR	10 46 08.7	
	993nm,26.2s						
PPT2	Papeete2	43.04	317	eLR	LR	10 48 26.5	
	280nm,25.2s						
PPT2				eLR	LR	10 48 33.5	
	265nm,23.2s						
SNAA	Sanae	46.87	157	P	P	10 36 50.6	-0.4
	1.0nm,0.8s,baz=230,slow=7.9,SNR=3.8						
SNAA				LR	LR	10 56 45.8	
	comp=Z,187nm,18.1s,baz=192,slow=36						
	1.0nm,0.8s						
TAOE	Nuku Hiva Isla	48.07	333	eLR	LR	10 50 46.6	
	199nm,25.1s						
CPUP	Villa Florida	53.47	85	LR	LR	10 57 31.8	
	comp=Z,58nm,18.3s,baz=20,slow=33						
LPAZ	La Paz	55.28	68	P	P	10 37 54.5	-1.0
	3.5nm,1.1s,baz=208,slow=8.5,SNR=6.5						
	3.5nm,1.1s						
H01W1	Cape Leeuwin H	79.44	223	T	T	12 08 48.8	
	baz=151,slow=75,SNR=25						
H01W2	Cape Leeuwin H	79.44	223	T	T	12 08 53.0	
	baz=151,slow=75,SNR=21						
H01W3	Cape Leeuwin H	79.45	223	T	T	12 08 50.2	
	baz=151,slow=75,SNR=25						
ASAR	Alice Springs	79.69	244	P	P	10 40 29.0	-0.1
	0.9nm,1.1s,baz=143,slow=6.1,SNR=2.2						
	0.9nm,1.1s						
WRA	Warramunga Arr	82.50	246	P	P	10 40 44.6	+0.5
	1.2nm,1.0s,baz=144,slow=5.2,SNR=8.4						
	1.2nm,1.0s						
SONM	Songino Array	150.34	277	PKPbc	PKiKP	10 48 12.6	-0.1
	0.7nm,0.6s,baz=132,slow=4.3,SNR=1.4						
GERES	GERESS Array B	151.41	82	PKPbc	PKiKP	10 48 15.2	+0.3
	0.3nm,0.3s,baz=230,slow=2.4,SNR=2.5						

IDC 24 10:30:27.2±7.3,19°.24S×177°.31W,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=287.8km s-min=116.6km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.44	261	P	P	10 38 48.5	+0.2
	0.3nm,0.3s,baz=96,slow=7.7,SNR=22						
	0.3nm,0.3s						
ASAR	Alice Springs	45.45	255	P	P	10 38 48.0	-0.5
	1.0nm,0.6s,baz=95,slow=8.1,SNR=17						
	1.0nm,0.6s						
AKASG	Malin Array Be	142.22	332	PKP	PKPdf	10 50 00.8	-0.7
	0.3nm,0.4s,baz=42,slow=4.3,SNR=4.3						

IDC ***24*** *10:33:42.4±1.8,62°.97N×28°.39E,h0km,mbtmp3.2/2, ML1.9/2,Error ellipse: s-maj=25.8km s-min=7.5km az=110.0*

UPP ***24*** *10:33:43.5±2.5,62°.88N×27°.70E,h0km,ML1.8,Presumed earthquake*

HEL ***24*** *10:33:44.5±0.1,63°.12N×27°.74E,h0km,ML1.9,Explosion*

ISC 24 10:33:43.8±0.8,63°.04N±0°.02×27°.86E±0°.03,h0km,n41, σ1°.34/62,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	Nilsia	0.35	357	PG	Pg	10 33 49.3	-1.2
	baz=184						
NIF				SG	Sg	10 33 53.3	-1.8
SUF	Sumiainen	0.85	248	PG	Pg	10 33 59.5	-0.5
	baz=57						
SUF				MSG		10 34 10.4	
	comp=Z,4.4nm,0.2s						
KAF	Kangasniemi	1.18	218	PB	Pg	10 34 06.3	-0.1
KAF				MSG		10 34 21.3	
	comp=Z,16nm,0.2s						
KAF				SN	Sn	10 34 23.2	-1.0
RMF	Romuvaara	1.50	37	PG	Pn	10 34 11.3	-0.7
	baz=222						
RMF				MSG		10 34 28.8	
	comp=Z,7.2nm,0.2s						
RMF				SN	Sn	10 34 33.3	+1.1
JOF	Joensuu	1.58	93	PG	Pn	10 34 13.4	+0.3
	baz=277						
JOF				SN	Sb	10 34 35.0	+0.6
KEF	Keuruu	1.64	239	PG	Pn	10 34 14.1	+0.3
KEF				MSG		10 34 33.5	
	comp=Z,9.1nm,0.2s						
KEF				SN	Sg	10 34 36.6	+0.3
RUF	Ruokolahti	1.70	162	PB	Pn	10 34 13.1	-1.6
RUF				MSG		10 34 37.9	
	comp=Z,7.8nm,0.2s						
RUF				SN	Sg	10 34 40.1	+1.7
FIA0	FINESS Array S	1.81	208	PG	Pb	10 34 17.3	-0.4
	baz=26						
FIA0				MSG		10 34 39.7	
	comp=Z,8.5nm,0.2s						
FIA0				SG	Sg	10 34 42.3	+0.5
FINES	FINESS Array B	1.81	208	Pn	Pb	10 34 17.5	-0.2
	comp=Z,0.8nm,0.3s,baz=25,slow=17,SNR=25						
FINES				Lg	Lg	10 34 41.4	
	comp=Z,1.7nm,0.3s,baz=30,slow=31,SNR=28						
OUF	Merijarvi	1.93	315	PG	Pn	10 34 17.2	-0.6
OUF				MSG		10 34 39.2	
	comp=Z,6.8nm,0.2s						
OBF4	Vikkela, Lumij	2.16	327	PG	Pn	10 34 21.1	+0.1
OBF4				MSG		10 34 45.7	
	comp=Z,5.7nm,0.2s						
OBF0	Syolatti, Pyha	2.17	314	PG	Pn	10 34 21.3	+0.1
	baz=128						
OBF0				MSG		10 34 46.2	
	comp=Z,5.4nm,0.2s						
OUL	Oulu	2.23	338	PG	Pn	10 34 22.2	+0.3
	baz=157						
OUL				SG	Sn	10 34 50.4	+0.3
OBF8	Ulkokalla	2.35	305	PG	Pn	10 34 24.5	+0.8
OBF8				MSG		10 34 51.6	
	comp=Z,4.5nm,0.2s						
OBF8				SG	Sb	10 34 56.1	-0.4
VAF	Ylistaro	2.36	272	PG	Pn	10 34 25.1	+1.3
	baz=85						
VAF				MSG		10 34 52.9	
	comp=Z,7.1nm,0.2s						
VAF				SG	Sb	10 34 55.6	-1.2
VJF	Virojoki	2.52	183	MSG		10 35 00.9	
	comp=Z,6.3nm,0.2s						
VJF				SG	Sg	10 35 03.3	-1.2
KU1	Kurvinen	2.64	16	PB	Pn	10 34 28.9	+1.2
KU1				SB	Sn	10 35 01.7	+1.4
KU2	Taivalkoski	2.69	3	PB	Pn	10 34 29.6	+1.3
	baz=184						
KU2				SB	Sn	10 35 03.0	+1.5
MSF	Maaselka	2.93	10	PB	Pn	10 34 33.8	+2.2
MSF				SB	Sn	10 35 08.4	+1.0
KPF	Kankaanpaa	2.95	248	PB	Pn	10 34 34.3	+2.4
	baz=58						
KPF				MSG		10 35 10.8	
	comp=Z,2.7nm,0.2s						
KPF				SG	Sb	10 35 14.0	+0.3
RANF	Ranua	3.02	352	PB	Pn	10 34 34.9	+2.1
	baz=170						
RANF				SB	Sn	10 35 11.9	+2.2
KU6	Riekki	3.12	15	PB	Pn	10 34 35.6	+1.4
	baz=202						
KU6				SB	Sn	10 35 14.3	+2.1
KU6				MSG		10 35 14.4	
	comp=Z,1.9nm,0.2s						
BURU	Burvik	3.26	301	P	Pn	10 34 36.4	+0.2
BURU	Burvik	3.26	301	PB	Pn	10 34 39.3	+3.1
MEF	Metsahovi	3.28	212	SG	Sb	10 35 23.4	+0.2
UMAU	Umeaa	3.33	288	P	Pn	10 34 36.8	-0.3
UMAU	Umeaa	3.33	288	PN	Pn	10 34 37.2	+0.1
UMAU				SG	Sb	10 35 26.0	+1.3
OLKF	Oulanka, Finla	3.36	11	PB	Pn	10 34 40.1	+2.6
OLKF				SB	Sb	10 35 22.8	-2.7
TOF	Tornio	3.41	335	PB	Pn	10 34 39.6	+1.5
KALU	Kalix	3.44	327	P	Pn	10 34 39.3	+0.7
ODEU	Stanfors	3.46	297	P	Pn	10 34 38.1	-0.8
RAF	Rauma	3.51	238	SG	Sb	10 35 30.0	+0.1
RNF	Rovaniemi	3.67	348	PG	Pb	10 34 49.6	+0.1
RNF				SG	Sb	10 35 36.0	+1.6
ERTU	Ertsjaerv	4.28	328	P	Pn	10 34 51.0	+0.9
ERTU				S	Sn	10 35 41.5	+0.8
HARU	Harads	4.31	320	P	Pn	10 34 50.6	0.0
PAJU	Pajala	4.47	335	P	Pn	10 34 53.3	+0.5
PAJU	Pajala	4.47	335	PN	Pn	10 34 53.5	+0.6
HEMU	Hemsoen	4.51	270	PN	Pn	10 34 53.8	+0.4
	baz=78						
ARCES	ARCESS Array B	6.59	353	Pn	Pn	10 35 20.8	-1.1
	baz=169,slow=14,SNR=5.6						
ARCES				Sn	Sn	10 36 33.9	-3.6
	comp=Z,0.1nm,0.3s,baz=172,slow=19,SNR=0.9						
	comp=Z,2.3nm,0.8s						
HFS	Hagfors	7.36	253	Pn	Pn	10 35 32.9	+0.6
	comp=Z,0.1nm,0.3s,baz=65,slow=13,SNR=1.7						
HFS				Sn	Sn	10 36 54.8	-1.6
	comp=Z,0.1nm,0.3s,baz=60,slow=29,SNR=1.5						
	comp=Z,0.5nm,0.4s						
I43RU	DUBNA INFRASON	7.89	139	I	I	11 15 55.1	
	baz=327,slow=294,SNR=11						

NEIC ***24*** *10:50:14.4,17°.56S×172°.75W,h20km*

NEIC ***24*** *10:50:14.4,17°.56S×172°.65W,h20km,Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.24; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-2.23; $M_{r\theta}$-0.90; $M_{\theta\phi}$0.12; $M_{\phi r}$-0.30; Fault plane solution: $M_0$2.43000×10^{17} NP1: ϕ_s338.75000°,δ44.95000°,λ61.93000°. NP2: ϕ_s195.75000°,δ51.43000°,λ115.16000°. Principal axes: T 2.5766, Plg70.0000°, Azm169.0000°; N -0.3219, Plg19.0000°, Azm359.0000°; P -2.2546, Plg3.0000°, Azm268.0000°;*

ISC-PP ***24*** *10:50:15,17°.63S×172°.71W,h13km±2km,Mwppsm5.9, Moment Tensor Solution. s25 Moment tensor: Scale 10^{18}Nm; M_{rr}0.35±.16; $M_{\theta\theta}$-0.25±.29; $M_{\phi\phi}$-0.14±.26; $M_{r\theta}$0.22±.28; $M_{\theta\phi}$0.24±.21; $M_{\phi r}$0.54±.29; Fault plane solution: $M_0$1.01000×10^{18} NP1:ϕ_s97.00000°,δ59.80000°, λ35.50000°. NP2:ϕ_s347.20000°,δ59.90000°,λ144.40000°.*

IDC ***24*** *10:50:15.1±0.4,17°.79S×173°.11W,h0km,mb4.9/22, mbtmp4.8/24,ML4.9/2,MS5.0/60 Error ellipse: s-maj=16.3km s-min=15.2km az=137.0*

MOS ***24*** *10:50:15.2±1.7,17°.71S×173°.16W,h10km,mb5.6/35, MS5.2/9,Error ellipse: s-maj=10.7km s-min=9.2km az=87.2*

NEIC ***24*** *10:50:15.5±3.0,17°.63S±0°.07×172°.71W±0°.07,h10km±1km, mb5.5/256,Ms_20 5.2/451,Mwb5.6/120,Mww5.5/22,Error ellipse: s-maj=11.5km s-min=10.4km az=29.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.78; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-3.50; $M_{r\theta}$0.15; $M_{\theta\phi}$-0.29; $M_{\phi r}$1.03; Fault plane solution: $M_0$3.38000×10^{17} NP1:ϕ_s5.87000°, δ54.16000°,λ92.44000°. NP2:ϕ_s181.71000°,δ35.91000°, λ86.63000°. Principal axes: T 2.9529, Plg81.0000°, Azm287.0000°; N 0.7352, Plg2.0000°, Azm184.0000°; P -3.6881, Plg9.0000°, Azm94.0000°;*

BJI ***24*** *10:50:15.8,17°.34S×172°.83W,h11km,mB5.8/47, mb5.2/55,Ms5.4/69,Ms7 5.2/66*

NEIC ***24*** *10:50:17.7,17°.73S×173°.02W,h10km*

NOU ***24*** *10:50:18.2,17°.56S×172°.48W,h30km,mb5.4/36,Tonga Islands Region*

GCMT ***24*** *10:50:21.5±0.1,17°.79S±0°.01×172°.79W±0°.01,h18km, MW5.6/144,Moment Tensor Solution. s122,c224; s144,c298; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.29±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$-2.36±.02; $M_{r\theta}$0.31±.06; $M_{\theta\phi}$0.00±.02; $M_{\phi r}$1.78±.06; Best double couple: $M_0$2.94500×10^{17} NP1:ϕ_s174.00000°,δ27.00000°, λ79.00000°. NP2:ϕ_s6.00000°,δ64.00000°,λ96.00000°. Principal axes: T 2.9230, Plg71.0000°, Azm288.0000°; N 0.0400, Plg5.0000°, Azm184.0000°; P -2.9660, Plg19.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 10:50:17.1±0.5,17°.68S±0°.04×172°.64W±0°.04,h19km±2km, h20km:pP-P,n1077,σ1°.80/815,mb5.4/212,MS5.2/306, 49C-37D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.93	119	P	Pn	10 51 01.7	-1.0
NIUE				S	Sn	10 51 35.1	-2.3
NIUE	Niue	2.93	119		Pn	10 51 02.3	-0.3
NIUE	Niue	2.93	119	P	Pn	10 51 02.3	-0.3
NIUE	Niue	2.93	119	S	Sn	10 51 35.3	-2.0
NIUE	Niue	2.93	119	P	Pn	10 51 01.5	-1.1
NIUE				S	Sn	10 51 35.8	-1.5
AFI	Afiamalu	3.84	13	Pn	Pn	10 51 12.3	-2.9
AFI	Afiamalu	3.84	13	P	Pn	10 51 12.1	-3.1
AFI	Afiamalu	3.84	13	S	Sn	10 51 56.2	-3.6
AFI	Afiamalu	3.84	13	P	Pn	10 51 14.2	-1.0
AFI				S	Sn	10 51 56.2	-3.6
AFI	Afiamalu	3.84	13	P	Pn	10 51 12.3	-2.9
FUTU	Fugatoga	6.24	302	Pn	Pn	10 51 44.5	-3.7
MSVF	Nonsavu	8.87	268	Pn	Pn	10 52 24.6	+0.2
MSVF	Nonsavu	8.87	268	P	Pn	10 52 27.0	+2.6
MSVF	Nonsavu	8.87	268	P	Pn	10 52 24.6	+0.2
RAO	Raoul Island	12.49	202		Pn	10 53 12.2	-1.7
RAO	Raoul Island	12.49	202	Pn	Pn	10 53 11.2	-2.7
	32nm,0.3s,baz=54,slow=19,SNR=1.5						
RAO				Sn	Sn	10 55 23.4	-9.1
	60nm,0.3s,baz=91,slow=24,SNR=2.3						
RAO				LR	LR	10 57 47.9	
	comp=Z,7μm,18.3s,baz=24,slow=37						
	119nm,0.3s						
RAO	Raoul Island	12.49	202	P	Pn	10 53 12.2	-1.7
GLKZ	Green Lake	12.50	202	P	Pn	10 53 10.7	-3.3
GLKZ				S	Sn	10 55 21.5	-11
RAR	Rarotonga	12.64	108		Pn	10 53 14.9	-1.0
RAR	Rarotonga	12

WCZ Waipu Caves 21.54 210 P **P 10 55 05.3 +0.1**
WMGZ Waiomatatini S 21.55 200 P **P 10 55 08.2 +3.0**
KUZ Kuaotunu 21.59 206 P **P 10 55 06.0 +0.2**
KUZ Kuaotunu 21.59 206 P **P 10 55 05.4 -0.4**
HAZ Te Kaha 21.70 201 P **P 10 55 07.2 +0.3**
PKGZ Pakihiroa 21.70 200 P **P 10 55 08.8 +1.9**
PUZ Puketiti 21.83 200 P **P 10 55 08.4 +0.1**
MBAZ Motutapu North 21.97 208 P **P 10 55 10.3 +0.5**
PPT2 Papeete2 21.98 93 *e*PKP1 P 10 55 03.0 -7.2
comp=Z,2µm,26.5s
PPT2 *e*S **S 10 59 08.1 -4.2**
comp=Z,2µm,26.8s
PPT2 *e*LR LR 11 00 25.0
comp=Z,6µm,25.5s
PPT2 *e*LR LR 11 00 25.4
comp=Z,11µm,26.5s
PPT Papeete 21.98 93 P **P 10 55 14.3 +4.1**
comp=Z,118nm,1.0s,baz=333,slow=6.0,SNR=22
PPT LR LR 11 01 25.3
comp=Z,3µm,21.7s,baz=244,slow=30
comp=Z,118nm,1.0s
PPTF Pamatai, Papee 21.99 93 **P 10 55 11.6 +1.2**
PPTF IAmb IAmb 10 55 17.2
comp=Z,263nm,1.2s
TWGZ Tauwhareparae 22.01 200 P **P 10 55 13.2 +2.9**
ETAZ East Tamaki Re 22.11 207 P **P 10 55 12.1 +0.8**
MKAZ Moumakai 22.14 207 P **P 10 55 11.5 -0.1**
OPRZ Ohinepanea 22.21 203 P **P 10 55 13.5 +1.0**
MWZ Matawai 22.31 201 P **P 10 55 13.2 -0.3**
URZ Urewera 22.38 202 P **P 10 55 14.5 +0.3**
URZ Urewera 22.38 202 P **P 10 55 12.9 -1.3**
TBI Tubuai 22.42 108 *e*P **P 10 55 11.0 -3.8**
comp=Z,6µm,27.8s
TBI *e*S **S 10 59 16.1 -4.2**
comp=Z,40µm,28.0s
TBI *e*LR LR 11 00 43.2
comp=Z,45µm,28.2s
TOZ Tahuroa Road 22.53 205 **P 10 55 14.5 -1.3**
TOZ Tahuroa Road 22.53 205 P **P 10 55 16.3 +0.5**
RTZ Ruatahuna 22.75 201 **P 10 55 16.1 -2.1**
RTZ IAmb IAmb 10 55 36.0
comp=Z,204nm,1.0s
TLZ Tolley Road 23.03 204 P **P 10 55 22.3 +1.2**
BKZ Black Stump Fm 23.41 202 P **P 10 55 23.3 -1.6**
BKZ IAmb IAmb 10 55 40.0
comp=Z,71nm,0.7s
BKZ Black Stump Fm 23.41 202 P **P 10 55 24.6 -0.3**
BKZ Black Stump Fm 23.41 202 P **P 10 55 23.8 -1.1**
HIZ Hauiti 23.46 205 P **P 10 55 24.9 -0.4**
HIZ Hauiti 23.46 205 P **P 10 55 26.4 +1.0**
HIZ Hauiti 23.46 205 P **P 10 55 26.5 +1.2**
NGZ Ngauruhoe 23.74 203 P **P 10 55 27.5 -0.8**
VRZ Vera Road 24.02 205 P **P 10 55 31.0 +0.3**
PXZ Pawanui 24.06 200 P **P 10 55 32.1 +1.0**
TSZ Takapari Road 24.39 202 P **P 10 55 33.3 -0.9**
BFZ Birch Farm 24.85 200 P **P 10 55 38.4 +0.1**
BFZ IAmb IAmb 10 55 52.0
comp=Z,101nm,1.0s
BFZ Birch Farm 24.85 200 P **P 10 55 39.4 +1.1**
BFZ Birch Farm 24.85 200 P **P 10 55 39.9 +1.6**
MRZ Mangatainoka R 25.06 202 P **P 10 55 38.3 -1.9**
MRZ IAmb IAmb 10 56 12.2
comp=Z,73nm,1.0s
MRZ Mangatainoka R 25.06 202 P **P 10 55 40.1 -0.1**
SNZO South Karori 25.94 202 P **P 10 55 49.4 +1.2**
TCW Tory Channel 26.01 203 P **P 10 55 48.9 0.0**
TUWZ Tuamarina 26.32 203 P **P 10 55 52.0 +0.4**
NNZ Nelson 26.36 204 P **P 10 55 52.6 +0.7**
QRZ Quartz Range 26.37 206 P **P 10 55 54.0 +1.9**
QRZ IAmb IAmb 10 56 13.6
comp=Z,179nm,1.3s
QRZ Quartz Range 26.37 206 P **P 10 55 54.5 +2.4**
QRZ Quartz Range 26.37 206 P **P 10 55 54.5 +2.4**
KHZ Kahutara 27.33 203 P **P 10 56 02.0 +1.3**
KHZ IAmb IAmb 10 56 27.0
comp=Z,76nm,1.1s
KHZ Kahutara 27.33 203 P **P 10 56 03.4 +2.7**
KHZ Kahutara 27.33 203 P **P 10 56 05.0 +4.4**
DSZ Denniston Nort 27.44 206 P **P 10 56 05.1 +3.4**
HNR Honiara 27.85 284 LR LR 11 05 21.2
comp=Z,10µm,18.6s,baz=123,slow=33
LTZ Lake Taylor 28.12 204 P **P 10 56 09.1 +1.3**
LTZ IAmb IAmb 10 56 37.5
comp=Z,68nm,0.8s
LTZ Lake Taylor 28.12 204 P P 10 56 13.0 +5.2
INZ Inchbonnie 28.40 205 P **P 10 56 11.3 +1.0**
INZ IAmb IAmb 10 56 25.3
comp=Z,113nm,0.9s
OXZ Oxford 28.68 204 P **P 10 56 12.8 +0.1**
OXZ IAMs_20 IAMs_20 11 08 14.9
comp=Z,5µm,18.0s
RPZ Rata Peaks 29.39 205 P **P 10 56 20.8 +1.7**
FOZ Fox Glacier 29.74 206 IAMs_20 IAMs_20 11 08 46.0
comp=Z,5µm,18.0s
JCZ Jackson Bay 30.62 207 P **P 10 56 31.0 +0.9**
ODZ Otahua Downs 30.66 204 IAMs_20 IAMs_20 11 09 37.8
comp=Z,5µm,18.0s
ODZ Otahua Downs 30.66 204 P **P 10 56 32.2 +1.9**
DCZ Deep Cove 32.43 207 IAMs_20 IAMs_20 11 10 05.3
comp=Z,5µm,20.0s
TAOE Nuku Hiva Isla 32.77 79 *e*PKP1 **P 10 56 48.5 -0.9**
comp=Z,334nm,24.3s
TAOE *e*S **S 11 02 01.6 -4.0**
comp=Z,361nm,25.1s
TAOE *e*LR LR 11 05 24.3
comp=Z,5µm,28.1s
PYZ Puysegur Point 33.19 207 IAMs_20 IAMs_20 11 10 29.4
comp=Z,5µm,19.0s
EIDS Eidsvold 34.52 251 P **P 10 57 01.8 -2.5**
comp=Z,27nm,1.0s
EIDS Eidsvold 34.52 251 P P 10 56 59.3 -5.0
ARMA Armidale 34.85 242 P **P 10 57 04.6 -2.8**
ARMA Armidale 34.85 242 P **P 10 57 08.6 +1.3**
RKT Rikitea 35.65 105 *e*LR LR 11 06 41.2
comp=Z,24µm,27.5s
CNB Canberra Magne 37.99 235 P **P 10 57 33.2 -0.8**
CAN Canberra 38.27 235 IAMs_20 IAMs_20 11 10 58.4
comp=Z,3µm,18.0s
PMG Port Moresby 39.87 277 LR LR 11 11 23.4
comp=Z,3µm,21.4s,baz=158,slow=32
CMSA Cobar Meteorol 40.07 242 P P 10 57 46.8 -4.7
comp=Z,48nm,1.0s
CMSA Cobar Meteorol 40.07 242 P **P 10 57 52.4 +1.0**
QLP Quilpie 40.76 250 P P 10 57 51.2 -5.9
QLP Quilpie 40.76 250 P **P 10 57 58.9 +1.8**
TOO Toolangi 41.64 233 P **P 10 58 00.3 -4.0**
comp=Z,14nm,0.9s
TOO Toolangi 41.64 233 P **P 10 58 01.3 -3.0**
TOO Toolangi 41.64 233 P **P 10 58 01.3 -3.0**
TOO pmax pmax
comp=Z,13nm,1.0s
MOO Moorlands 42.08 225 P **P 10 58 05.5 -2.2**
comp=Z,52nm,1.2s
TAU Tasmania Unive 42.18 225 P **P 10 58 10.0 +1.4**
COEN Coen 42.60 268 P **P 10 58 08.1 -4.3**
comp=Z,33nm,0.8s
COEN Coen 42.60 268 P **P 10 58 08.5 -3.9**
STKA Stephens Creek 43.58 242 P P 10 58 15.5 -4.6
comp=Z,129nm,1.6s
STKA Stephens Creek 43.58 242 IAmb IAmb 10 58 37.8
comp=Z,106nm,0.9s
STKA Stephens Creek 43.58 242 P **P 10 58 15.7 -4.3**
comp=Z,4.8nm,0.8s,baz=104,slow=9.7,SNR=4.1
STKA LR LR 11 14 34.2
comp=Z,2µm,18.1s,baz=73,slow=34
comp=Z,4.8nm,0.8s
STKA Stephens Creek 43.58 242 P **P 10 58 21.5 +1.4**
INKA Innaminka 43.93 248 P **P 10 58 19.9 -3.0**
ARPS Mount Arapiles 44.25 235 P **P 10 58 23.0 -2.5**
comp=Z,23nm,1.0s
QIS Mount Isa 45.09 258 P **P 10 58 33.6 +1.3**
HTT Hallett 46.02 240 P **P 10 58 41.0 +1.4**
JAY Jayapura 48.17 283 LR LR 11 17 13.2
comp=Z,3µm,20.8s,baz=77,slow=34
BBOO Buckleboo 48.34 242 P **P 10 58 53.7 -4.0**
comp=Z,70nm,1.2s
BBOO Buckleboo 48.34 242 P **P 10 58 55.1 -2.5**
BBOO IAmb IAmb 10 59 10.5
comp=Z,66nm,1.0s
BBOO Buckleboo 48.34 242 P **P 10 58 58.3 +0.7**
WR8 Warramunga Arr 49.92 259 P **P 10 59 05.9 -4.0**
WB0 Warramunga Arr 50.04 259 P **P 10 59 06.9 -3.9**
WB0 IAmb IAmb 10 59 20.9
comp=Z,37nm,0.8s

WRAB Tennant Creek 50.06 259 P P 10 59 06.5 -4.5
WRAB Tennant Creek 50.06 259 P **P 10 59 11.7 +0.7**
WRAB Tennant Creek 50.06 259 P P 10 59 06.5 -4.5
WRAB pmax pmax
comp=Z,30nm,0.9s
WRA Warramunga Arr 50.07 259 P P 10 59 06.5 -4.6
WRA Warramunga Arr 50.07 259 P P 10 59 05.9 -5.2
comp=Z,13nm,0.8s,baz=93,slow=7.2,SNR=42
WRA PcP **PcP 11 00 30.9 +0.2**
comp=Z,7.0nm,1.1s,baz=92,slow=3.3,SNR=1.2
WRA S S 11 06 11.8 -10
comp=Z,1.1nm,0.8s,baz=98,slow=14,SNR=4.4
WRA LR LR 11 18 46.2
comp=Z,6µm,20.0s,baz=102,slow=34
WRA Warramunga Arr 50.07 259 P P 10 59 06.5 -4.6
WRA pmax pmax
comp=Z,3.0nm,0.9s
AS31 Alice Springs 50.13 254 P **P 10 59 07.7 -3.9**
AS31 IAmb IAmb 10 59 23.2
comp=Z,54nm,1.0s
ASAR Alice Springs 50.13 254 P **P 10 59 07.7 -3.8**
ASAR Alice Springs 50.13 254 P **P 10 59 07.2 -4.4**
comp=Z,59nm,0.9s,baz=85,slow=8.4,SNR=140
ASAR PcP **PcP 11 00 31.4 +0.4**
comp=Z,9.1nm,0.7s,baz=99,slow=3.3,SNR=1.2
ASAR S S 11 06 12.3 -10
comp=Z,2.0nm,0.7s,baz=94,slow=14,SNR=7.0
ASAR LR LR 11 19 36.4
comp=Z,2µm,18.0s,baz=80,slow=36
comp=Z,59nm,0.9s
GUMO Guam 52.18 304 LR LR 11 18 08.0
comp=Z,1µm,20.7s,baz=113,slow=32
KDU Kakadu 53.05 267 P **P 10 59 29.0 -4.4**
comp=Z,9.3nm,0.8s
FORT Forrest 55.07 245 P **P 10 59 45.1 -2.8**
WRKA Warakurna 55.13 251 P **P 10 59 46.4 -2.2**
comp=Z,18nm,1.0s
FAKI Fak Fak 55.95 279 IAMs_20 IAMs_20 11 21 22.2
comp=Z,2µm,22.0s
KNRA Kununurra 55.97 263 P **P 10 59 50.2 -4.5**
comp=Z,37nm,0.9s
KNRA Kununurra 55.97 263 IAmb IAmb 11 00 06.4
comp=Z,34nm,0.9s
SWI Sorong 57.57 281 P **P 11 00 05.0 -1.0**
comp=Z,922nmcomp=Z,66nm,1.1s
FITZ Fitzroy Crossi 58.48 259 P **P 11 00 09.6 -2.8**
FITZ Fitzroy Crossi 58.48 259 P **P 11 00 09.9 -2.4**
FITZ Fitzroy Crossi 58.48 259 LR LR 11 23 55.4
comp=Z,4µm,19.6s,baz=104,slow=35
RPN Rapa Nui 58.77 111 LR LR 11 19 51.3
comp=Z,626nm,20.4s,baz=262,slow=30
NLAI Namlea 60.71 276 P **P 11 00 27.7 -0.1**
comp=Z,41nm,1.5s
SBA Scott Base 61.05 185 P **P 11 00 31.4 +2.4**
SBA Scott Base 61.05 185 P **P 11 00 31.5 +2.4**
SBA pmax pmax
comp=Z,75nm,1.3s
VNDA Vanda 61.20 186 P **P 11 00 31.5 +1.4**
VNDA IAmb IAmb 11 00 45.9
comp=Z,33nm,1.2s
VNDA Vanda 61.20 186 P **P 11 00 30.7 +0.6**
comp=Z,3.7nm,0.7s,baz=23,slow=7.3,SNR=27
VNDA LR LR 11 24 51.2
comp=Z,592nm,18.0s,baz=18,slow=34
comp=Z,3.7nm,0.7s
VNDA Vanda 61.20 186 P **P 11 00 31.5 +1.4**
VNDA pmax pmax
comp=Z,33nm,1.3s
SOEI Soe 61.57 268 P **P 11 00 31.2 -2.6**
TNTI Ternate 61.79 281 P **P 11 00 31.7 -3.4**
comp=Z,925nmcomp=Z,40nm,0.9s
BATI Baumata 62.03 268 LR LR 11 28 22.7
comp=Z,2µm,18.2s,baz=120,slow=37
SANI Sanana 62.14 277 P **P 11 00 34.2 -3.3**
comp=Z,2µmcomp=Z,779nmcomp=Z,34nm,1.1s
PSAC2 Pilbara Seismi 63.22 254 P **P 11 00 42.8 -1.8**
comp=Z,38nm,0.9s
PSAB3 Pilbara Seismi 63.26 254 P **P 11 00 42.7 -2.1**
comp=Z,49nm,0.8s
PSA00 Pilbara Seismi 63.27 254 P **P 11 00 42.4 -2.5**
comp=Z,55nm,0.9s
PSA00 Pilbara Seismi 63.27 254 P **P 11 00 42.2 -2.8**
PSA00 Pilbara Seismi 63.27 254 IAmb IAmb 11 00 58.0
comp=Z,44nm,0.9s
PSAC1 Pilbara Seismi 63.31 254 P **P 11 00 43.5 -1.7**
MBWA Marble Bar 63.45 255 P **P 11 00 44.4 -1.7**
comp=Z,32nm,1.1s
MBWA Marble Bar 63.45 255 P **P 11 00 44.2 -1.9**
NWAO Narrogin (SRO) 64.16 241 P **P 11 00 48.4 -2.2**
comp=Z,61nm,1.1s
NWAO Narrogin (SRO) 64.16 241 P **P 11 00 48.2 -2.4**
NWAO Narrogin (SRO) 64.16 241 LR LR 11 26 15.2
comp=Z,1µm,20.0s,baz=90,slow=34
NWAO Narrogin (SRO) 64.16 241 P **P 11 00 48.2 -2.4**
NWAO pmax pmax
comp=Z,69nm,1.1s
NWAO MLR MLR
comp=Z,5µm,19.0s
EDFI Ende, Flores 64.28 269 P **P 11 00 49.0 -2.8**
comp=Z,39nm,1.0s
BLDU Ballidu 64.83 244 P **P 11 00 51.3 -3.7**
comp=Z,42nm,1.2s
BLDU Ballidu 64.83 244 P **P 11 00 55.9 +0.8**
MUN Mundaring 65.11 242 P **P 11 00 54.1 -2.7**
comp=Z,88nm,1.2s
MUN Mundaring 65.11 242 P **P 11 00 56.2 -0.7**
MORW Morawa 65.59 246 P **P 11 00 57.6 -2.4**
comp=Z,45nm,1.2s
MORW Morawa 65.59 246 P **P 11 00 58.1 -1.9**
MORW IAmb IAmb 11 01 13.4
comp=Z,37nm,0.9s
DAV Davao City (W) 65.76 286 IAMs_20 IAMs_20 11 27 39.4
comp=Z,2µm,19.0s
DAV Davao City (W) 65.76 286 LR LR 11 27 50.3
comp=Z,1µm,19.4s,baz=146,slow=34
APSI Ampana 66.61 277 P **P 11 01 04.7 -2.1**
comp=Z,1µmcomp=Z,61nm,1.1s
BNSI Bone 67.01 273 P **P 11 01 10.0 +0.7**
comp=Z,32nm,1.9s
KAPI Kappang 67.17 272 *i* P **P 11 01 08.4 -1.9**
KAPI pmax pmax
comp=Z,34nm,1.5s
JHJ Hachijo jima 2 67.94 318 LR LR 11 30 30.4
comp=Z,693nm,18.0s,baz=304,slow=36
TOLI2 Tolitoli 68.09 279 P **P 11 01 14.9 -1.2**
TOLI2 IAmb IAmb 11 01 50.4
comp=Z,32nm,1.1s
TOLI2 Tolitoli 68.09 279 P **P 11 01 16.5 +0.3**
CASY Casey 68.66 205 P **P 11 01 17.3 -1.5**
TWSI Taliwang, Sumb 68.87 267 P **P 11 01 21.1 +0.1**
comp=Z,85nm,1.2s
SRBI Singaraja 70.63 267 P **P 11 01 30.4 -1.5**
comp=Z,97nm,1.1s
SHEM Shemya Is, Ala 71.05 352 LR LR 11 29 44.9
comp=Z,1µm,19.1s,baz=138,slow=33
MJA0 Matsu Arr-Jizo 71.11 320 *e*P **P 11 01 34.3 -0.1**
MJA0 pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 71.14 320 P **P 11 01 33.7 -0.8**
comp=Z,7.9nm,0.9s,baz=155,slow=6.2,SNR=13
MJAR LR LR 11 27 12.7
comp=Z,953nm,21.5s,baz=122,slow=31
comp=Z,7.9nm,0.9s
JAGI Jajag, Banyuwa 71.54 267 P **P 11 01 34.3 -3.1**
JAGI Jajag, Banyuwa 71.54 267 P **P 11 01 34.2 -3.2**
MYLDM Lahad Datu 71.61 282 P **P 11 01 36.5 -1.3**
MYLDM IAmb IAmb 11 01 52.2
comp=Z,61nm,1.3s
ABJI Asem Bagus 71.64 267 P **P 11 01 36.5 -1.5**
comp=Z,70nm,1.2s
KMMI Kalianget 72.10 268 P **P 11 01 41.0 +0.2**
comp=Z,77nm,1.2s
FARB Farallon Islan 72.19 39 IAMs_20 IAMs_20 11 29 41.5
comp=Z,1µm,19.0s
FORD Fort Ord Natur 72.29 41 IAMs_20 IAMs_20 11 29 07.4
comp=Z,2µm,19.0s
BBKI Banjar Baru 72.30 272 P **P 11 01 42.3 +0.3**
comp=Z,91nm,1.1s
QSPA South Pole Qui 72.38 180 P **P 11 01 44.5 +2.8**
QSPA IAmb IAmb 11 01 56.8
comp=Z,35nm,1.1s
QSPA South Pole Qui 72.38 180 LR LR 11 33 12.3
comp=Z,778nm,18.0s,baz=38,slow=36
JOW Kunigami 72.41 306 LR LR 11 27 21.3
comp=Z,1µm,22.0s,baz=97,slow=31
JRSC Jasper Ridge 72.46 40 IAMs_20 IAMs_20 11 33 02.8
comp=Z,1µm,19.0s

MCCM Marconi Confer 72.55 39 IAMs_20 IAMs_20 11 28 31.0
comp=Z,1µm,20.0s
BBGB Big Mountain B 72.69 41 P **P 11 01 42.2 -1.7**
TGY Tagaytay City 72.72 291 LR LR 11 29 52.1
comp=Z,2µm,20.3s,baz=115,slow=33
MHC Mount Hamilton 72.79 40 P **P 11 01 42.5 -2.0**
MHC IAmb IAmb 11 02 07.3
comp=Z,44nm,1.2s
MHC Mount Hamilton 72.79 40 P **P 11 01 42.5 -2.0**
MHC pmax pmax
comp=Z,44nm,1.2s
MHC MLR MLR
comp=Z,2µm,18.0s
CVS Carmenet Viney 72.93 39 IAMs_20 IAMs_20 11 29 46.2
comp=Z,2µm,19.0s
OSI Osito Audit: C 73.00 44 IAMs_20 IAMs_20 11 32 08.4
comp=Z,1µm,18.0s
CBX Cerro Bola 73.08 47 P **P 11 01 45.2 -1.2**
CBX IAmb IAmb 11 01 51.0
comp=Z,57nm,1.6s
PASC Pasadena Art C 73.10 45 IAMs_20 IAMs_20 11 31 36.1
comp=Z,1µm,19.0s
VTX Valle De La Tr 73.19 48 P **P 11 01 45.6 -1.3**
MWC Mount Wilson 73.21 45 P **P 11 01 43.8 -3.4**
MWC IAMs_20 IAMs_20 11 31 40.2
comp=Z,1µm,18.0s
MWC Mount Wilson 73.21 45 P **P 11 01 43.8 -3.4**
MWC pmax pmax
comp=Z,16nm,0.9s
DPP Dos Picos Cty 73.27 46 P **P 11 01 45.7 -1.6**
BAR Barrett 73.28 47 P **P 11 01 46.3 -1.1**
BAR IAMs_20 IAMs_20 11 32 46.1
comp=Z,1µm,18.0s
MNRC McLaughlin Min 73.28 39 P **P 11 01 45.5 -1.8**
MNRC IAmb IAmb 11 02 06.7
comp=Z,61nm,1.1s
ELS Elsinore Mount 73.31 46 P **P 11 01 45.1 -2.5**
ELS IAmb IAmb 11 02 09.1
comp=Z,78nm,2.0s
ESJX Sierra Juarez 73.41 48 P **P 11 01 48.0 -0.3**
ESJX IAmb IAmb 11 02 07.5
comp=Z,42nm,1.3s
KMRM Mail Ridge 73.42 37 P **P 11 01 45.9 -2.2**
KMRM IAmb IAmb 11 02 07.4
comp=Z,70nm,1.1s
TPO Tropico Hills 73.48 44 P **P 11 01 45.2 -3.4**
VES Vestal, Richgr 73.49 43 P **P 11 01 46.2 -2.3**
VES IAMs_20 IAMs_20 11 32 44.3
comp=Z,982nm,18.0s
BFSC Mount Baldy Ra 73.49 45 P **P 11 01 46.8 -2.0**
LPIG La Paz 73.62 58 LR LR 11 26 31.1
comp=Z,840nm,19.5s,baz=242,slow=29
SFX San Felipe 73.66 49 P **P 11 01 47.4 -2.2**
ISA Isabella, Lake 73.78 43 P **P 11 01 48.7 -1.7**
ISA IAMs_20 IAMs_20 11 34 32.1
comp=Z,1µm,18.0s
ISA Isabella, Lake 73.78 43 P **P 11 01 48.7 -1.7**
ISA pmax pmax
comp=Z,33nm,1.3s
ISA MLR MLR
comp=Z,1µm,18.0s
YUH Yuha Desert 73.78 47 P **P 11 01 49.4 -0.9**
ASAJ Asahikawa 73.85 328 LR LR 11 28 32.2
comp=Z,953nm,21.4s,baz=160,slow=31
JNU Nakatsue 73.88 313 LR LR 11 30 44.6
comp=Z,756nm,18.6s,baz=132,slow=33
O02D Mt. Diablo Mer 73.92 38 P **P 11 01 48.3 -2.8**
O02D IAmb IAmb 11 02 14.1
comp=Z,70nm,1.6s
PFO Pinyon Flats O 73.95 46 IAMs_20 IAMs_20 11 31 59.9
comp=Z,1µm,19.0s
PFO Pinyon Flats O 73.95 46 LR LR 11 29 47.8
comp=Z,757nm,18.0s,baz=248,slow=32
PFO Pinyon Flats O 73.95 46 *i* P **P 11 01 53.9 +2.4**
PFO pmax pmax
comp=Z,38nm,1.2s
KHBM Hayfork Bally 73.99 37 IAMs_20 IAMs_20 11 30 28.9
comp=Z,1µm,18.0s
CMB Columbia Colle 74.00 41 IAMs_20 IAMs_20 11 33 10.6
comp=Z,1µm,18.0s
PMD Palm Desert 74.03 46 P **P 11 01 51.9 +0.2**
WELL Weller Preserv 74.04 40 IAMs_20 IAMs_20 11 25 56.7
comp=Z,1µm,22.0s
LRMC Laurel Mtn Rad 74.20 44 P **P 11 01 51.5 -1.4**
LRMC IAMs_20 IAMs_20 11 32 49.1
comp=Z,1µm,18.0s
WSHM Spangler Hills 74.39 44 IAMs_20 IAMs_20 11 33 36.3
comp=Z,1µm,18.0s
PCJI Pacitan 74.44 266 P **P 11 01 52.8 -1.8**
BELC Belle Mtn. Jos 74.48 46 P **P 11 01 53.0 -1.6**
BELC IAMs_20 IAMs_20 11 32 51.0
comp=Z,1µm,18.0s
N02D Trinity Center 74.49 37 P **P 11 01 52.9 -1.4**
N02D IAmb IAmb 11 02 37.2
comp=Z,45nm,1.4s
S14K Fog Glacier 74.50 8 P **P 11 01 54.5 +0.4**
baz=193
CWC Cottonwood Cre 74.50 43 IAMs_20 IAMs_20 11 30 54.1
comp=Z,1µm,19.0s
O03E Paynes Creek 74.57 38 P **P 11 01 54.9 +0.1**
O03E IAmb IAmb 11 02 17.6
comp=Z,77nm,1.3s
PET Petropavlovsk 74.66 342 *c i* P **P 11 01 56.1 +1.2**
PET *e*S **S 11 11 31.3 +1.6**
PET *e*PS **PnS 11 12 15.9 +10**
PET *e*SS **SS 11 16 15.6 -2.1**
PET pmax pmax
comp=Z,700nm,4.5s
PET pmax pmax
comp=Z,400nm,10.2s
PET MLR MLR
comp=Z,800nm,21.0s
BC3 Big Chuckawall 74.67 47 IAMs_20 IAMs_20 11 34 28.9
comp=Z,1µm,18.0s
M02C Callahan 74.67 37 P **P 11 01 54.4 -1.0**
GLA Glamis 74.77 47 IAMs_20 IAMs_20 11 32 42.7
comp=Z,1µm,18.0s
YBH Yreka Blue Hor 74.98 36 LR LR 11 30 26.5
comp=Z,80nm,18.4s,baz=250,slow=32
PETK Petropavlovsk- 75.01 342 P **P 11 01 58.1 +1.2**
comp=Z,8.5nm,0.7s,baz=184,slow=6.7,SNR=10
PETK LR LR 11 34 38.4
comp=Z,225nm,18.2s,baz=169,slow=36
comp=Z,8.5nm,0.7s
K02D Willamette Mer 75.08 35 P **P 11 01 56.7 -1.1**
UGM Wanagama 75.14 266 P **P 11 01 59.7 +1.0**
DANC Danby, Needles 75.27 46 IAMs_20 IAMs_20 11 33 08.6
comp=Z,974nm,18.0s
FURC Furnace Creek, 75.31 44 IAMs_20 IAMs_20 11 34 00.6
comp=Z,1µm,18.0s
RYN Ryan 75.52 41 P **P 11 02 00.7 +0.2**
L04D Klamath Falls 75.53 36 P **P 11 02 00.6 +0.1**
L04D IAmb IAmb 11 02 10.5
comp=Z,58nm,1.3s
GMN Gold Mountain 75.54 43 P **P 11 02 01.2 +0.5**
NVAR Mina Array Bea 75.54 41 P **P 11 02 04.0 +3.3**
comp=Z,13nm,1.0s,baz=226,slow=8.8,SNR=54
NVAR LR LR 11 31 35.0
comp=Z,927nm,18.1s,baz=236,slow=33
comp=Z,13nm,1.0s
MTPC Mountain Pass 75.62 45 P **P 11 02 02.4 +1.2**
MTPC IAmb IAmb 11 02 23.9
comp=Z,61nm,1.7s
214A Organ Pipe Nat 75.62 49 P **P 11 02 02.1 +1.1**
YSS Yuzhno-Sakhali 75.81 330 P **P 11 02 01.6 -0.1**
YSS IAmb IAmb 11 02 07.5
comp=Z,56nm,1.3s
YSS Yuzhno-Sakhali 75.81 330 *e*P **P 11 02 00.2 -1.5**
YSS *e*S **S 11 11 39.1 -3.7**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,800nm,7.0s
YSS smax smax
comp=N,200nm,5.2s
YSS smax smax
comp=E,300nm,5.9s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=E,200nm,12.0s
NEE2 Needles Airpor 75.86 46 IAMs_20 IAMs_20 11 33 53.4
comp=Z,966nm,18.0s
I03D Drain, OR 75.92 35 P **P 11 02 03.0 +0.5**

I03D					IAmb	IAmb	11 02 12.7	
	comp=Z,52nm,1.4s							
TPNV	**Topopah Spring**	**75.99**	**43**		IAMs_20	IAMs_20	11 31 52.6	
	comp=Z,1μm,18.0s							
R16K	**Pilot Point**	**76.00**	**8**	P	**P**		**11 02 02.9**	**+0.3**
	baz=195							
V12A	**Nelson**	**76.23**	**45**	P	**P**		**11 02 03.9**	**-0.6**
R17L	**Mt. Peulik Vol**	**76.24**	**9**	P	**P**		**11 02 03.9**	**-0.1**
	baz=196							
J04A	**Umpqua Nationa**	**76.30**	**35**	P	**P**		**11 02 04.7**	**-0.2**
J04A				IAmb	IAmb		11 02 27.6	
	comp=Z,43nm,1.0s							
OHAK	**Old Harbor**	**76.35**	**11**	P	**P**		**11 02 04.5**	**0.0**
	baz=199							
NACB	**Ninganchiao**	**76.43**	**301**		IAMs_20	IAMs_20	11 35 09.2	
	comp=Z,978nm,19.0s							
I04A	**Tendick Farm,**	**76.50**	**35**	P	**P**		**11 02 04.5**	**-1.3**
I04A				IAmb	IAmb		11 02 40.4	
	comp=Z,68nm,1.7s							
SBUM	**Sibu**	**76.61**	**277**	P	**P**		**11 02 04.4**	**-2.7**
S11A	**Rachel**	**76.72**	**43**	P	**P**		**11 02 07.4**	**+0.1**
S11A				IAmb	IAmb		11 02 41.8	
	comp=Z,36nm,1.0s							
H04D	**Lebanon**	**76.80**	**34**	P	**P**		**11 02 07.0**	**-0.4**
H04D				IAmb	IAmb		11 02 16.9	
	comp=Z,45nm,1.2s							
KPJI	**Karang Pucung**	**76.82**	**266**	P	**P**		**11 02 07.2**	**-1.0**
	comp=Z,97nm,1.0s							
YHNB	**Yeheng**	**76.83**	**301**		IAMs_20	IAMs_20	11 32 09.8	
	comp=Z,1μm,20.0s							
TATO	**Taipei**	**76.88**	**302**		IAMs_20	IAMs_20	11 34 12.8	
	comp=Z,1μm,19.0s							
Q17K	**Contact Creek**	**76.92**	**9**	P	**P**		**11 02 07.9**	**0.0**
	baz=196							
G03D	**McMinnville, O**	**76.98**	**33**	P	**P**		**11 02 08.7**	**+0.3**
G03D				IAmb	IAmb		11 02 18.4	
	comp=Z,66nm,1.2s							
KDAK	**Kodiak Island**	**77.00**	**11**	P	**P**		**11 02 08.7**	**+0.5**
	baz=200							
H04A	**Detroit Lake**	**77.20**	**34**	IAmb	IAmb		11 02 18.6	
	comp=Z,57nm,1.4s							
Q16K	**King Salmon**	**77.21**	**8**	P	**P**		**11 02 09.4**	**+0.1**
	baz=196							
O14K	**Tigyukauivet M**	**77.22**	**6**	P	**P**		**11 02 09.7**	**+0.3**
	baz=191							
TUC	**Tucson**	**77.28**	**50**	P	**P**		**11 02 13.9**	**+3.4**
TUC				IAmb	IAmb		11 02 29.8	
	comp=Z,36nm,1.2s							
TUC	**Tucson**	**77.28**	**50**	P	**P**		**11 02 13.9**	**+3.4**
TUC				pmax	pmax			
	comp=Z,36nm,1.2s							
O15K	**Ungalikthiuk R**	**77.29**	**7**	P	**P**		**11 02 10.1**	**+0.3**
	baz=193							
P16K	**Nushagak River**	**77.37**	**8**	P	**P**		**11 02 10.7**	**+0.4**
	baz=194							
Q18K	**Katmai Hardscr**	**77.42**	**9**	P	**P**		**11 02 11.2**	**+0.4**
	baz=197							
WVOR	**Wild Horse Val**	**77.77**	**38**	P	**P**		**11 02 12.8**	**-0.3**
WVOR				IAmb	IAmb		11 02 22.3	
	comp=Z,68nm,1.5s							
WVOR	**Wild Horse Val**	**77.77**	**38**	P	**P**		**11 02 12.8**	**-0.3**
WVOR				pmax	pmax			
	comp=Z,68nm,1.5s							
Q20K	**Shuyak Island**	**77.82**	**11**	P	**P**		**11 02 13.3**	**+0.5**
	baz=200							
N14K	**Kuskokwak Cree**	**77.84**	**6**	P	**P**		**11 02 13.4**	**+0.6**
	baz=191							
O16K	**Kokwok River B**	**77.90**	**8**	P	**P**		**11 02 14.0**	**+0.7**
	baz=194							
Q19K	**Cape Douglas,**	**77.91**	**10**	P	**P**		**11 02 14.1**	**+0.8**
	baz=199							
HOOD	**Mount Hood Mea**	**77.91**	**34**	P	**P**		**11 02 12.4**	**-1.4**
M11K	**Mekoryuk**	**77.96**	**3**	P	**P**		**11 02 14.2**	**+0.7**
	baz=186							
P18K	**Big Mountain,**	**78.10**	**9**	P	**P**		**11 02 14.8**	**+0.4**
	baz=197							
NLWA	**Neilton Lookou**	**78.14**	**31**	P	**P**		**11 02 13.2**	**-1.7**
NLWA				IAmb	IAmb		11 02 32.0	
	comp=Z,43nm,1.4s							
NLWA				IAMs_20	IAMs_20		11 35 43.4	
	comp=Z,1μm,18.0s							
M13K	**Dall Lake**	**78.18**	**5**	P	**P**		**11 02 15.2**	**+0.5**
	baz=189							
O17K	**Koliganek Bris**	**78.21**	**8**	P	**P**		**11 02 15.6**	**+0.7**
	baz=195							
LEM	**Lembang**	**78.21**	**267**	LR	LR		11 36 40.9	
	comp=Z,812nm,19.6s,baz=138,slow=36							
N15K	**Kwethluk River**	**78.24**	**6**	P	**P**		**11 02 15.2**	**+0.1**
	baz=192							
KSRS	**Korea Array**	**78.28**	**316**	P	**P**		**11 02 16.5**	**+0.6**
	comp=Z,9.1nm,0.9s,baz=130,slow=5.9,SNR=18							
	comp=Z,9.1nm,0.9s							
KSRS	**Korea Array**	**78.28**	**316**	*e*P	**P**		**11 02 17.4**	**+1.6**
KSRS				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KSAR	**Wonju Array Be**	**78.30**	**316**	P	**P**		**11 02 16.8**	**+0.8**
KSAR	**Wonju Array Be**	**78.30**	**316**	P	**P**		**11 02 16.8**	**+0.8**
KNB	**Kanab**	**78.31**	**45**	P	**P**		**11 02 14.1**	**-2.2**
KNB				IAmb	IAmb		11 02 26.3	
	comp=Z,94nm,1.6s							
KNB	**Kanab**	**78.31**	**45**	P	**P**		**11 02 14.1**	**-2.2**
KNB				pmax	pmax			
	comp=Z,94nm,1.6s							
G06A	**Carlson Farm,**	**78.40**	**35**	IAmb	IAmb		11 02 25.5	
	comp=Z,95nm,1.7s							
SPR3	**Spring Creek 3**	**78.40**	**43**	IAmb	IAmb		11 02 25.8	
	comp=Z,40nm,1.3s							
SZCU	**Shurtz Canyon**	**78.44**	**44**	P	**P**		**11 02 18.8**	**+1.7**
SZCU				IAmb	IAmb		11 02 27.0	
	comp=Z,57nm,1.5s							
WUAZ	**Wupatki**	**78.50**	**47**	P	**P**		**11 02 18.2**	**+0.8**
WUAZ				IAmb	IAmb		11 02 27.3	
	comp=Z,48nm,1.5s							
WUAZ				IAMs_20	IAMs_20		11 35 19.5	
	comp=Z,1μm,18.0s							
O18K	**Koktuh Hills**	**78.55**	**9**	P	**P**		**11 02 16.9**	**+0.1**
	baz=197							
M14K	**Bethel**	**78.63**	**5**	P	**P**		**11 02 18.1**	**+1.0**
	baz=190							
P19K	**Oil Pt**	**78.66**	**10**	P	**P**		**11 02 18.6**	**+1.1**
	baz=199							
N16K	**Nishlik Lake**	**78.68**	**7**	P	**P**		**11 02 18.4**	**+0.9**
	baz=194							
M15K	**Kasigluk River**	**78.69**	**6**	P	**P**		**11 02 18.5**	**+0.9**
	baz=192							
TYV	**Tymovskoe**	**78.70**	**333**	*e*P	**P**		**11 02 18.6**	**+0.8**
TYV				*e*S	**S**		**11 12 13.6**	**-0.4**
TYV				pmax	pmax			
	comp=Z,21nm,1.2s							
TYV				pmax	pmax			
	comp=Z,400nm,5.1s							
TYV				smax	smax			
	comp=N,400nm,5.6s							
TYV				smax	smax			
	comp=E,700nm,5.6s							
TYV				MLR	MLR			
	comp=N,800nm,15.0s							
TYV				MLR	MLR			
	comp=Z,1μm,16.0s							
LON	**Longmire**	**78.76**	**33**	P	**P**		**11 02 19.3**	**+0.9**
LON	**Longmire**	**78.76**	**33**	P	**P**		**11 02 19.3**	**+0.9**
LON				pmax	pmax			
	comp=Z,43nm,1.6s							
GNW	**Green Mountain**	**78.78**	**32**	IAmb	IAmb		11 02 35.1	
	comp=Z,53nm,1.4s							
ELK	**Elko**	**78.81**	**41**	IAMs_20	IAMs_20		11 33 44.1	
	comp=Z,1μm,18.0s							
ELK	**Elko**	**78.81**	**41**	LR	LR		11 33 37.5	
	comp=Z,1000nm,18.4s,baz=244,slow=33							
N17K	**Nushagak Hills**	**78.92**	**8**	P	**P**		**11 02 19.3**	**+0.5**
	baz=195							
HOM	**Homer**	**78.94**	**11**	P	**P**		**11 02 19.4**	**+0.5**
	baz=200							
CLRS	**Cowichan Lake**	**78.99**	**30**	P	**P**		**11 02 18.9**	**-0.6**
O19K	**Port Alsworth**	**79.01**	**9**	P	**P**		**11 02 20.1**	**+0.8**
	baz=198,SNR=7.4							
VLA	**Vladivostok**	**79.04**	**322**	*i* P	**P**		**11 02 16.7**	**-3.2**
VLA				pmax	pmax			
	comp=Z,37nm,0.8s							
DBJI	**Dramaga**	**79.12**	**267**	P	**P**		**11 02 19.8**	**-1.2**
L14K	**Kuka Creek**	**79.15**	**5**	P	**P**		**11 02 20.6**	**+0.6**
	baz=190							
INCN	**Inchon**	**79.16**	**315**	IAMs_20	IAMs_20		11 34 06.5	
	comp=Z,1μm,20.0s							
O20K	**Slope Mountain**	**79.17**	**10**	P	**P**		**11 02 19.7**	**-0.7**
	baz=200							
BRSE	**Bradley Lake S**	**79.18**	**11**	P	**P**		**11 02 20.2**	**-0.2**
	baz=201							
M16K	**Timber Creek**	**79.19**	**7**	P	**P**		**11 02 20.7**	**+0.3**
	baz=193,SNR=7.5							
PGC	**Sidney**	**79.21**	**31**	IAmb	IAmb		11 02 38.0	
	comp=Z,72nm,1.6s							
QZH	**Quanzhou**	**79.23**	**301**	P	**P**		**11 02 21.5**	**+0.2**
QZH				S	**S**		**11 12 24.3**	**+3.6**
QZH				pmax	pmax			
	comp=Z,650nm,8.5s							
QZH				LR	LR			
	comp=Z,900nm,21.3s							
QZH				LR	LR			
	comp=Z,910nm,22.0s							
N18K	**Kilae Creek**	**79.25**	**8**	P	**P**		**11 02 20.3**	**-0.4**
	baz=196							
G08A	**Pilot Rock**	**79.35**	**35**	IAmb	IAmb		11 02 39.2	
	comp=Z,73nm,1.5s							
TPI	**Tanjungpandan**	**79.36**	**270**	P	**P**		**11 02 21.9**	**-0.5**
	comp=Z,46nm,1.2s							
PSTR	**Posyet**	**79.40**	**321**	*i* P	**P**		**11 02 19.7**	**-2.2**
N19K	**Bonanza Creek**	**79.57**	**9**	IAmb	IAmb		11 02 30.7	
	comp=Z,57nm,1.2s							
N19K	**Bonanza Creek**	**79.57**	**9**	P	**P**		**11 02 22.5**	**0.0**
	baz=198							
L15K	**Ungalak Mounta**	**79.58**	**5**	P	**P**		**11 02 21.9**	**-0.6**
	baz=191							
BBB	**Bella Bella**	**79.59**	**26**	LR	LR		11 30 54.6	
	comp=Z,22nm,20.7s,baz=224,slow=30							
K13K	**Kusilvak Mount**	**79.59**	**4**	P	**P**		**11 02 22.6**	**+0.1**
	baz=188							
USRK	**Ussuriysk Ar.**	**79.63**	**323**	P	**P**		**11 02 23.4**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=122,slow=5.8,SNR=9.1							
	comp=Z,6.3nm,0.9s							
E07A	**Sunnyside**	**79.66**	**34**	P	**P**		**11 02 25.0**	**+1.7**
E07A				IAmb	IAmb		11 02 40.9	
	comp=Z,129nm,1.8s							
LTY	**Liberty**	**79.68**	**33**	IAmb	IAmb		11 02 40.6	
	comp=Z,58nm,1.6s							
HAWA	**Hanford**	**79.73**	**34**	IAmb	IAmb		11 02 41.2	
	comp=Z,105nm,1.7s							
M17K	**Holitna River**	**79.74**	**7**	P	**P**		**11 02 23.9**	**+0.5**
	baz=195							
SEW	**Seward**	**79.76**	**12**	P	**P**		**11 02 23.5**	**+0.1**
	baz=202							
Q23K	**Middleton Isla**	**79.78**	**13**	P	**P**		**11 02 23.2**	**-0.3**
	baz=206							
L16K	**Owhat River**	**79.81**	**6**	IAmb	IAmb		11 02 37.6	
	comp=Z,78nm,1.5s							
L16K	**Owhat River**	**79.81**	**6**	P	**P**		**11 02 24.1**	**+0.5**
	baz=193							
MFID	**Camas Ranch**	**80.00**	**38**	P	**P**		**11 02 26.4**	**+1.0**
MFID				IAMs_20	IAMs_20		11 33 49.3	
	comp=Z,1μm,18.0s							
BMO	**Blue Mountains**	**80.01**	**36**	IAmb	IAmb		11 02 34.1	
	comp=Z,60nm,1.6s							
BMO				IAMs_20	IAMs_20		11 36 35.0	
	comp=Z,1μm,18.0s							
M18K	**Stony River**	**80.03**	**8**	P	**P**		**11 02 25.4**	**+0.5**
	baz=196							
DUG	**Dugway, Tooele**	**80.04**	**42**	IAMs_20	IAMs_20		11 34 14.6	
	comp=Z,851nm,18.0s							
O22K	**Cooper Landing**	**80.06**	**11**	P	**P**		**11 02 24.7**	**-0.3**
	baz=202							
CAPN	**Captain Cook N**	**80.07**	**11**	P	**P**		**11 02 24.7**	**-0.3**
	baz=201							
P23K	**Montague Islan**	**80.07**	**13**	P	**P**		**11 02 25.2**	**+0.1**
	baz=204							
CGJI	**Cibinong**	**80.11**	**266**	P	**P**		**11 02 25.5**	**-0.9**
	comp=Z,97nm,1.4s							
CRAG	**Craig**	**80.17**	**22**	P	**P**		**11 02 25.8**	**0.0**
	baz=218							
K15K	**Wolf Creek Mou**	**80.19**	**5**	P	**P**		**11 02 26.4**	**+0.6**
	baz=191,SNR=6.9							
EPT	**El Paso**	**80.19**	**52**	P	**P**		**11 02 25.1**	**-1.5**
SPU	**Mount Spurr**	**80.30**	**10**	P	**P**		**11 02 26.7**	**+0.3**
L17K	**Donlin**	**80.35**	**7**	P	**P**		**11 02 27.6**	**+1.0**
	baz=194							
D08A	**Wollman Farm,**	**80.48**	**34**	IAmb	IAmb		11 02 45.2	
	comp=Z,63nm,1.3s							
TMUT	**Trail Mountain**	**80.60**	**44**	P	**P**		**11 02 28.4**	**-0.5**
TMUT				IAmb	IAmb		11 02 48.9	
	comp=Z,47nm,1.1s							
V35K	**Ketchikan**	**80.60**	**22**	P	**P**		**11 02 29.2**	**+1.1**
	baz=219							
RC01	**Rabbit Creek A**	**80.62**	**11**	P	**P**		**11 02 29.0**	**+1.0**
	baz=202							
L18K	**Granite Mounta**	**80.63**	**8**	P	**P**		**11 02 29.0**	**+1.0**
	baz=196							
KAIM	**Kayak Island**	**80.66**	**14**	P	**P**		**11 02 28.3**	**+0.1**
	baz=207							
PWL	**Port Wells**	**80.67**	**12**	P	**P**		**11 02 28.0**	**-0.4**
	baz=204							
U33K	**Whale Pass**	**80.68**	**21**	P	**P**		**11 02 29.4**	**+0.9**
	baz=218							
SIT	**Sitka**	**80.71**	**20**	P	**P**		**11 02 29.1**	**+0.5**
	baz=216							
SBM	**South Baldy**	**80.73**	**50**	P	**P**		**11 02 26.8**	**-3.0**
F10A	**Beach Ranch, E**	**80.73**	**36**	P	**P**		**11 02 29.0**	**-0.1**
F10A				IAmb	IAmb		11 02 45.2	
	comp=Z,42nm,1.2s							
SUA	**Susitna One**	**80.79**	**10**	P	**P**		**11 02 28.0**	**-1.2**
SUA				IAmb	IAmb		11 02 40.2	
	comp=Z,41nm,0.9s							
SUA	**Susitna One**	**80.79**	**10**	P	**P**		**11 02 29.1**	**0.0**
	baz=201							
M20K	**Styx River**	**80.80**	**9**	P	**P**		**11 02 28.2**	**-0.9**
	baz=199							
L19K	**White Mountain**	**80.83**	**8**	P	**P**		**11 02 30.1**	**+0.9**
	baz=197							
TLIG	**Tlapa**	**80.85**	**68**	P	**P**		**11 02 28.5**	**-1.9**
TLIG				IAmb	IAmb		11 02 41.4	
	comp=Z,66nm,1.4s							
Y22A	**Socorro**	**80.87**	**50**	P	**P**		**11 02 28.4**	**-1.8**
PLID	**Pearl Lake**	**80.89**	**37**	P	**P**		**11 02 30.2**	**0.0**
VHRN	**Van Horn**	**80.90**	**54**	P	**P**		**11 02 30.5**	**+0.1**
VHRN				IAmb	IAmb		11 02 50.3	
	comp=Z,32nm,0.9s							
EYAK	**Cordova Ski Ar**	**80.92**	**13**	P	**P**		**11 02 30.4**	**+0.8**
	baz=206							
K17K	**Iditarod**	**80.92**	**7**	P	**P**		**11 02 30.1**	**+0.5**
	baz=194							
GLI	**Glacier Island**	**80.94**	**12**	P	**P**		**11 02 30.0**	**+0.3**
	baz=205							
UNM	**Universidad Na**	**80.97**	**66**	IAMs_20	IAMs_20		11 29 28.7	
	comp=Z,1μm,21.0s							
CTU	**Camp Tracy**	**80.99**	**42**	P	**P**		**11 02 32.0**	**+1.3**
P17A	**Butcher Ranch,**	**81.00**	**44**	P	**P**		**11 02 29.8**	**-1.0**
P17A				IAmb	IAmb		11 02 40.7	
	comp=Z,67nm,1.6s							
MNTX	**Cornudas Mount**	**81.01**	**53**	P	**P**		**11 02 31.5**	**+0.6**
CRNM	**Carthage**	**81.04**	**50**	P	**P**		**11 02 33.3**	**+2.1**
B08A	**Colville Reser**	**81.08**	**33**	IAmb	IAmb		11 02 46.7	
	comp=Z,47nm,1.4s							
BGLC	**Bering Glacier**	**81.09**	**14**	P	**P**		**11 02 30.9**	**+0.3**
	baz=208							
JLU	**Jordanelle**	**81.13**	**42**	P	**P**		**11 02 32.8**	**+1.2**
SKT	**Skwentna**	**81.14**	**10**	P	**P**		**11 02 31.3**	**+0.5**
	baz=200							
KNK	**Knik Glacier**	**81.16**	**12**	P	**P**		**11 02 31.2**	**+0.2**
	baz=203							
M22K	**Willow**	**81.17**	**11**	P	**P**		**11 02 30.0**	**-0.9**
M22K				IAMs_20	IAMs_20		11 40 21.4	
	comp=Z,1μm,19.0s							
M22K	**Willow**	**81.17**	**11**	P	**P**		**11 02 30.4**	**-0.6**
	baz=202							
WRAK	**Wrangell Islan**	**81.19**	**21**	P	**P**		**11 02 31.6**	**+0.5**
	baz=219							
GAMB	**Gambell**	**81.19**	**0**	P	**P**		**11 02 30.6**	**-0.4**
	baz=181							
PMR	**Palmer**	**81.20**	**11**	P	**P**		**11 02 30.3**	**-0.8**
	baz=203							
J16K	**Anvik River**	**81.25**	**5**	IAMs_20	IAMs_20		11 30 57.2	
	comp=Z,978nm,19.0s							
J16K	**Anvik River**	**81.25**	**5**	P	**P**		**11 02 30.5**	**-0.8**
	baz=192							
L20K	**Farewell, AK**	**81.25**	**9**	P	**P**		**11 02 31.5**	**0.0**
	baz=198							
MDJ	**Mudanjiang**	**81.26**	**322**	P	**P**		**11 02 32.8**	**+0.9**
MDJ				pmax	pmax			
	comp=Z,26nm,2.1s							
MDJ	**Mudanjiang**	**81.26**	**322**	P	**P**		**11 02 30.1**	**-1.8**
MDJ				IAmb	IAmb		11 02 52.3	
	comp=Z,63nm,1.4s							
MDJ				IAMs_20	IAMs_20		11 35 32.0	
	comp=Z,1μm,20.0s							
LLLB	**Lillooet**	**81.28**	**30**	P	**P**		**11 02 31.6**	**-0.3**
S32K	**Killisnoo**	**81.28**	**20**	P	**P**		**11 02 30.8**	**-0.9**
	baz=217							
TXAR	**Lajitas Array**	**81.28**	**56**	P	**P**		**11 02 36.4**	**+3.9**
TXAR	**Lajitas Array**	**81.28**	**56**	P	**P**		**11 02 35.9**	**+3.4**
	comp=Z,15nm,1.1s,baz=216,slow=6.2,SNR=68							
	comp=Z,15nm,1.1s							
TXAR	**Lajitas Array**	**81.28**	**56**	P	**P**		**11 02 36.4**	**+3.9**
C09A	**Chrisman Ranch**	**81.28**	**34**	IAmb	IAmb		11 02 49.1	
	comp=Z,85nm,1.6s							
T33K	**Petersburg**	**81.29**	**21**	P	**P**		**11 02 30.8**	**-0.9**
	baz=218							
MVCO	**Mesa Verde**	**81.36**	**47**	IAMs_20	IAMs_20		11 37 01.1	
	comp=Z,1μm,18.0s							
GRNR	**Gornyy**	**81.47**	**330⇑**	*i* P	**P**		**11 02 33.8**	**+1.0**
GRNR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GRNR				MLR	MLR			
	comp=E,280nm,15.0s							
GRNR				MLR	MLR			
	comp=N,140nm,16.0s							
GRNR				MLR	MLR			
	comp=Z,440nm,15.0s							
MESA	**MESA**	**81.47**	**15**	P	**P**		**11 02 32.4**	**-0.5**
	baz=210							
J17K	**VABM Dome**	**81.50**	**6**	P	**P**		**11 02 32.3**	**-0.4**
	baz=193							
BMRM	**Bremner River**	**81.55**	**13**	P	**P**		**11 02 32.4**	**-0.7**
	baz=207							
SML	**Sawmill**	**81.55**	**11**	P	**P**		**11 02 31.9**	**-1.2**
	baz=204							
KASI	**Kota Agung**	**81.56**	**267**	P	**P**		**11 02 32.0**	**-2.2**
HWUT	**Hardware Ranch**	**81.60**	**42**	IAmb	IAmb		11 02 50.6	
	comp=Z,62nm,1.8s							
U35K	**Hyder**	**81.63**	**23**	P	**P**		**11 02 32.8**	**-0.7**
	baz=221							
PV23	**Carpenter Ridg**	**81.63**	**45**	IAmb	IAmb		11 02 44.0	
	comp=Z,78nm,1.2s							
M23K	**Glacier View**	**81.65**	**12**	P	**P**		**11 02 33.3**	**-0.2**
	baz=204							
BELA	**Belgrano 2**	**81.65**	**172**	P	**P**		**11 02 34.1**	**+0.5**
BELA				IAmb	IAmb		11 02 42.2	
	comp=Z,57nm,1.3s							
PNL	**Peninsula**	**81.69**	**16**	P	**P**		**11 02 33.5**	**-0.3**
	baz=212							
CRQE	**Cirque**	**81.70**	**14**	P	**P**		**11 02 33.4**	**-0.6**
	baz=208							
ANMO	**Albuquerque**	**81.71**	**49**	P	**P**		**11 02 33.3**	**-1.5**
ANMO				IAmb	IAmb		11 02 46.6	
	comp=Z,38nm,1.1s							
ANMO	**Albuquerque**	**81.71**	**49**	LR	LR		11 31 30.5	
	comp=Z,997nm,21.0s,baz=328,slow=30							
ANMO	**Albuquerque**	**81.71**	**49**	P	**P**		**11 02 33.3**	**-1.5**
ANMO				pmax	pmax			
	comp=Z,38nm,1.1s							
KLU	**Klutina**	**81.74**	**13**	P	**P**		**11 02 33.6**	**-0.5**
	baz=206							
CUT	**Chulitna**	**81.75**	**10**	P	**P**		**11 02 33.7**	**-0.4**
	baz=202							
ALPN	**Alpine**	**81.76**	**55**	IAmb	IAmb		11 02 45.5	
	comp=Z,35nm,1.1s							
SCM	**Sheep Creek Mo**	**81.76**	**12**	P	**P**		**11 02 33.5**	**-0.8**
	baz=204							
PV01	**Paradox Valley**	**81.77**	**46**	IAmb	IAmb		11 02 44.4	
	comp=Z,81nm,1.6s							
PMSA	**Palmer Station**	**81.81**	**156**	LR	LR		11 30 40.4	
	comp=Z,829nm,20.9s,baz=248,slow=30							
PINM	**Pinnacle**	**81.83**	**16**	P	**P**		**11 02 35.4**	**+0.8**
	baz=211							
I17K	**Unalakleet**	**81.83**	**5**	P	**P**		**11 02 33.6**	**-0.8**
	baz=192							
J18K	**Innoko River**	**81.83**	**7**	P	**P**		**11 02 34.3**	**-0.2**
	baz=195							
PPLA	**Purkeypile**	**81.90**	**9**	P	**P**		**11 02 34.7**	**-0.4**
	baz=200							
R32K	**Eaglecrest**	**81.95**	**19**	P	**P**		**11 02 35.2**	**0.0**
	baz=217							
K20K	**Telida**	**82.06**	**8**	P	**P**		**11 02 35.5**	**-0.2**
	baz=198							
P29M	**Windy Craggy**	**82.11**	**17**	P	**P**		**11 02 35.8**	**-0.3**
	baz=214							
NJ2	**Nanjing**	**82.11**	**307**	*e*P	**P**		**11 02 34.3**	**-2.3**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,830nm,5.2s							
NJ2				LR	LR			
	comp=Z,740nm,18.7s							
NJ2				LR	LR			
	comp=Z,670nm,19.7s							
NJ2				LR	LR			
	comp=Z,860nm,20.6s							
N25K	**Chitina, Valde**	**82.12**	**13**	P	**P**		**11 02 35.8**	**-0.3**
	baz=207							
MDSI	**Maura Dua**	**82.16**	**268**	P	**P**		**11 02 35.3**	**-2.1**
	comp=Z,1μmcomp=Z,26nm,1.2s							
ANM	**Nome**	**82.17**	**3**	P	**P**		**11 02 36.2**	**0.0**
	baz=187							
NEW	**Newport**	**82.18**	**34**	LR	LR		11 34 47.0	
	comp=Z,1μm,18.7s,baz=228,slow=32							
M24K	**Tolsona, Glenn**	**82.24**	**12**	P	**P**		**11 02 37.6**	**+0.8**
	baz=206							
MCARA	**McCarthy VSAT**	**82.27**	**14**	P	**P**		**11 02 37.3**	**+0.5**
	baz=208							
CTG	**Chitna Glacier**	**82.30**	**15**	P	**P**		**11 02 37.0**	**-0.2**
	baz=210							
BARN	**Barnard Glacie**	**82.31**	**15**	IAmb	IAmb		11 02 46.8	
	comp=Z,41nm,0.9s							
PLBC	**Pleasant Camp**	**82.35**	**18**	P	**P**		**11 02 35.9**	**-1.4**
	baz=215							
T35M	**Bob Quinn**	**82.36**	**22**	P	**P**		**11 02 36.0**	**-1.4**
	baz=220							
WAT6	**Susitna Watana**	**82.37**	**11**	P	**P**		**11 02 36.0**	**-1.5**
	baz=204							
O28M	**Mount Upton**	**82.42**	**15**	P	**P**		**11 02 35.4**	**-2.6**
	baz=211							
O29M	**Mount Kennedy**	**82.44**	**16**	P	**P**		**11 02 37.0**	**-0.9**
	baz=213							
H16K	**Elim**	**82.44**	**4**	P	**P**		**11 02 36.8**	**-0.9**
	baz=190					

comp=Z,50nm,1.2s
TPAW IAMs_20 IAMs_20 11 38 17.4
comp=Z,903nm,18.0s
O20A White River Ci 82.99 44 IAMs_20 IAMs_20 11 43 33.0
comp=Z,958nm,18.0s
F14K Arctic Creek 83.03 3 P **P** **11 02 40.5 -0.2**
baz=186
YUK6 Outpost Mounta 83.04 16 P **P** **11 02 40.6 -0.6**
baz=213
GCSA Galena City Sc 83.05 7 P **P** **11 02 41.3 +0.5**
baz=195
TNA Tin City 83.06 2 P **P** **11 02 39.7 -1.1**
baz=185
MSO Missoula 83.07 36 IAmb IAmb 11 02 58.1
comp=Z,67nm,1.4s
SNOW Snow King Moun 83.09 40 IAMs_20 IAMs_20 11 39 20.3
comp=Z,941nm,18.0s
PAX Paxson 83.16 12 P **P** **11 02 41.9 +0.3**
baz=206
HYT Haines Junctio 83.17 17 P **P** **11 02 41.5 -0.2**
baz=214,SNR=5.7
BNX BinXian 83.17 322 ⇑P **P** **11 02 42.3 +0.5**
BNX S **S** **11 13 01.0 +0.1**
BNX pmax pmax
comp=Z,30nm,1.1s
BNX pmax pmax
comp=Z,510nm,8.7s
BNX LR LR
comp=Z,620nm,19.2s
BNX LR LR
comp=Z,640nm,18.3s
BNX LR LR
comp=Z,1μm,18.7s
M26K Nabesna, AK 83.18 13 P **P** **11 02 42.8 +1.3**
baz=208
G16K Koyuk River 83.18 4 IAMs_20 IAMs_20 11 45 32.4
comp=Z,860nm,19.0s
G16K Koyuk River 83.18 4 P **P** **11 02 41.2 -0.2**
baz=190
Q32M Nakina River 83.21 20 P **P** **11 02 42.1 +0.1**
baz=218
MCK McKinley 83.22 10 P **P** **11 02 42.7 +1.0**
MCK McKinley 83.22 10 P **P** **11 02 42.7 +1.0**
MCK pmax pmax
comp=Z,60nm,0.9s
MCK McKinley 83.22 10 P **P** **11 02 41.4 -0.3**
baz=203,SNR=17
BPAW Bear Paw Mtn. 83.22 9 P **P** **11 02 37.9 -3.8**
BPAW Bear Paw Mtn. 83.22 9 P **P** **11 02 41.9 +0.2**
baz=201
P32M Atlin 83.25 19 P **P** **11 02 41.9 -0.1**
baz=217
LOHW Long Hollow 83.27 40 IAmb IAmb 11 03 00.2
comp=Z,65nm,1.4s
LOHW IAMs_20 IAMs_20 11 39 24.9
comp=Z,956nm,18.0s
DL2 Dalian 83.28 314 P **P** **11 02 40.5 -2.1**
DL2 pmax pmax
comp=Z,25nm,1.4s
CN2 Changchun 83.29 320 *e*P **P** **11 02 43.3 +0.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,800nm,18.6s
H18K Honhosa River 83.29 6 P **P** **11 02 42.0 0.0**
baz=194
YUK4 Talbot Arm 83.31 16 P **P** **11 02 43.4 +0.9**
baz=213
H03S2 Juan Fernandez 83.35 123 T T 12 35 36.2
baz=250,slow=75,SNR=19
F15K North Star Dit 83.35 3 IAMs_20 IAMs_20 11 33 19.7
comp=Z,803nm,18.0s
F15K North Star Dit 83.35 3 P **P** **11 02 42.3 0.0**
baz=188
H03S1 Juan Fernandez 83.36 123 T T 12 35 43.5
baz=250,slow=75,SNR=19
H03S3 Juan Fernandez 83.36 123 T T 12 35 59.3
baz=250,slow=75,SNR=20
I20K Naaghedeneel 83.39 8 P **P** **11 02 43.0 +0.5**
baz=198
M27K Edge Creek, AK 83.39 14 P **P** **11 02 42.6 -0.2**
baz=210,SNR=5.9
G17K Kiwalik Mounta 83.42 5 P **P** **11 02 43.4 +0.7**
baz=192
SNY Shenyang 83.44 318 ⇓P **P** **11 02 44.8 +1.5**
SNY S **S** **11 13 07.8 +4.1**
SNY pmax pmax
comp=Z,20nm,1.4s
SNY pmax pmax
comp=Z,480nm,4.9s
SNY LR LR
comp=Z,210nm,14.5s
SNY LR LR
comp=Z,400nm,20.6s
SNY LR LR
comp=Z,420nm,22.8s
TPRI Tanjung Pinang 83.44 273 P P 11 02 52.1 +8.1
BW06 Boulder Array 83.48 41 IAmb IAmb 11 02 52.5
comp=Z,51nm,1.4s
BW06 IAMs_20 IAMs_20 11 36 44.5
comp=Z,940nm,18.0s
PD31 Pinedale Array 83.48 41 IAmb IAmb 11 02 52.5
comp=Z,56nm,1.4s
PDAR Pinedale Array 83.48 41 P **P** **11 02 46.2 +2.4**
comp=Z,15nm,0.9s,baz=217,slow=3.2,SNR=83
PDAR LR LR 11 36 38.2
comp=Z,583nm,18.2s,baz=236,slow=33
comp=Z,15nm,0.9s
O30N Mendenhall 83.52 17 P **P** **11 02 44.4 +1.0**
baz=215,SNR=5.7
DLBC Dease Lake 83.55 21 LR LR 11 35 12.3
comp=Z,4μm,18.2s,baz=220,slow=32
DLBC Dease Lake 83.55 21 P **P** **11 02 44.3 +0.7**
baz=221
L26K Log Cabin Wild 83.65 13 IAMs_20 IAMs_20 11 44 20.1
comp=Z,1μm,18.0s
L26K Log Cabin Wild 83.65 13 P **P** **11 02 44.3 +0.3**
baz=208,SNR=5.9
SDCO Great Sand Dun 83.71 47 IAMs_20 IAMs_20 11 39 26.3
comp=Z,1μm,19.0s
WHY Whitehorse 83.77 18 P **P** **11 02 45.4 +0.7**
baz=216
N30M Aishikik Lake 83.81 16 IAMs_20 IAMs_20 11 41 14.5
comp=Z,1μm,18.0s
N30M Aishikik Lake 83.81 16 P **P** **11 02 45.0 +0.1**
baz=214
HAYD Hayden 83.83 44 IAmb IAmb 11 03 03.4
comp=Z,46nm,1.4s
K24K Donnelly Dome 83.86 12 P **P** **11 02 45.2 +0.1**
baz=206
H19K Roundabout Mou 83.86 7 IAMs_20 IAMs_20 11 33 09.2
comp=Z,1μm,21.0s
H19K Roundabout Mou 83.86 7 P **P** **11 02 45.8 +0.9**
baz=196,SNR=6.3
CMIG Matias Romero 83.96 70 LR LR 11 31 35.4
comp=Z,1μm,20.9s,baz=244,slow=29
R33M Jennings River 83.97 20 P **P** **11 02 45.8 0.0**
baz=220
RIDG Independent Ri 83.98 12 P **P** **11 02 45.6 -0.1**
baz=207
MSTX Muleshoe 83.98 52 IAMs_20 IAMs_20 11 32 39.1
comp=Z,1μm,20.0s
G18K Tagagawik 83.99 6 IAMs_20 IAMs_20 11 37 29.6
comp=Z,938nm,18.0s
G18K Tagagawik 83.99 6 P **P** **11 02 45.8 +0.2**
baz=194
NEA2 Nenana 83.99 10 IAmb IAmb 11 02 59.5
comp=Z,30nm,1.1s
NEA2 Nenana 83.99 10 P **P** **11 02 45.8 +0.2**
baz=203
H20K Anotleneega Mo 84.01 7 P **P** **11 02 45.5 -0.3**
baz=197,SNR=5.9
L27K Beaver Creek, 84.02 14 P **P** **11 02 44.9 -1.0**
baz=210
P33M Teslin, Yukon 84.03 19 P **P** **11 02 45.1 -0.9**
baz=218
DOT Dot Lake 84.06 12 IAmb IAmb 11 03 00.9
comp=Z,38nm,1.1s
I21K Tanana 84.09 9 P **P** **11 02 45.9 -0.2**
baz=200,SNR=5.4
MLY Manley 84.14 9 P **P** **11 02 46.6 +0.2**
MLY IAmb IAmb 11 02 58.8
comp=Z,47nm,1.4s
MLY IAMs_20 IAMs_20 11 41 33.6
comp=Z,921nm,19.0s
MLY Manley 84.14 9 P **P** **11 02 46.8 +0.4**
baz=201,SNR=14
HDA Harding Lake 84.19 11 P **P** **11 02 48.0 +1.3**
baz=205,SNR=6.3
N31M Braeburn, Yuko 84.19 17 P **P** **11 02 46.2 -0.6**
baz=215
CCB Clear Creek Bu 84.25 10 P **P** **11 02 47.8 +0.8**
M29M Somme Creek 84.28 15 IAMs_20 IAMs_20 11 44 38.9
comp=Z,1μm,19.0s
M29M Somme Creek 84.28 15 P **P** **11 02 47.6 +0.2**
baz=213,SNR=6.2
F17K Baldwin Pennin 84.30 5 P **P** **11 02 47.4 +0.2**
baz=191
SCRK Sand Creek 84.37 12 P **P** **11 02 48.2 +0.5**
baz=207,SNR=9.0
MASI Maura Aman, Be 84.41 268 P **P** **11 02 47.9 -1.1**
comp=Z,103nm,1.3s
QIZ Qiongzhong 84.42 292 P **P** **11 02 47.6 -1.3**
QIZ S **S** **11 13 15.5 +0.9**
QIZ pmax pmax
comp=Z,700nm,8.2s
QIZ LR LR
comp=Z,500nm,20.6s
QIZ LR LR
comp=Z,740nm,18.8s
QIZ LR LR
comp=Z,1μm,22.6s
QIZ Qiongzhong 84.42 292 IAMs_20 IAMs_20 11 34 36.0
comp=Z,1μm,21.0s
H21K Melozitna Rive 84.43 8 P **P** **11 02 47.8 -0.1**
baz=199,SNR=6.8
COLA College 84.45 10 P **P** **11 02 49.9 +2.0**
COLA College 84.45 10 P **P** **11 02 48.1 +0.2**
COLA College 84.45 10 P **P** **11 02 49.9 +2.0**
COLA pmax pmax
comp=Z,54nm,0.8s
COLA College 84.45 10 P **P** **11 02 47.3 -0.7**
baz=204
I23K Minto, Yukon-K 84.46 10 P **P** **11 02 47.7 -0.2**
baz=202,SNR=16
ILAR Eielson Array 84.53 11 P **P** **11 02 50.0 +1.7**
comp=Z,1.8nm,0.7s,baz=228,slow=6.3,SNR=26
ILAR LR LR 11 39 52.1
comp=Z,572nm,18.0s,baz=198,slow=35
comp=Z,1.8nm,0.7s
F18K Selawik 84.59 5 P **P** **11 02 48.8 +0.2**
baz=192
IMAR Indian Mountai 84.62 8 P **P** **11 02 51.1 +2.3**
J25K Salcha River, 84.67 11 P **P** **11 02 48.9 -0.2**
J25K IAmb IAmb 11 02 58.0
comp=Z,45nm,1.2s
J25K Salcha River, 84.67 11 P **P** **11 02 49.2 +0.1**
baz=206
N32M Quiet Lake 84.69 18 P **P** **11 02 49.2 -0.2**
baz=218
POKR Poker Plat Res 84.75 10 P **P** **11 02 49.9 +0.4**
baz=204,SNR=15
K27K Chicken 84.81 13 IAMs_20 IAMs_20 11 37 45.7
comp=Z,1μm,20.0s
K27K Chicken 84.81 13 P **P** **11 02 49.5 -0.3**
baz=209
M30M Minto, Yukon 84.82 16 IAMs_20 IAMs_20 11 35 08.1
comp=Z,1μm,19.0s
M30M Minto, Yukon 84.82 16 P **P** **11 02 49.6 -0.4**
baz=214,SNR=5.7
H22K Ishtalitna Cre 84.85 9 P **P** **11 02 49.7 -0.3**
baz=200
E17K Hotham Inlet 84.89 4 P **P** **11 02 49.9 -0.3**
baz=190
SEY Seymchan 84.89 345 LR LR 11 39 12.5
comp=Z,612nm,18.9s,baz=153,slow=35
SEY Seymchan 84.89 345 *i* P **P** **11 02 51.6 +1.4**
SEY pmax pmax
comp=Z,69nm,1.6s
J26L Joseph Creek 84.92 12 P **P** **11 02 49.8 -0.6**
baz=208
L29M L29M 84.93 15 P **P** **11 02 50.1 -0.4**
baz=213,SNR=10.0
WHN Wuhan 84.96 304 P **P** **11 02 52.8 +1.5**
WHN S **S** **11 13 22.5 +3.0**
WHN pmax pmax
comp=Z,3μm,3.3s
WHN LR LR
comp=Z,2μm,22.1s
WHN LR LR
comp=Z,1μm,14.8s
WHN LR LR
comp=Z,2μm,21.0s
F19K Shaleruckik Mo 84.99 6 IAMs_20 IAMs_20 11 34 09.1
comp=Z,903nm,19.0s
F19K Shaleruckik Mo 84.99 6 P **P** **11 02 50.8 +0.2**
baz=194
H23K Yukon River 85.06 9 IAmb IAmb 11 03 57.1
comp=Z,35nm,1.5s
H23K Yukon River 85.06 9 P **P** **11 02 51.0 0.0**
baz=202
G21K Allakaket 85.16 8 IAMs_20 IAMs_20 11 33 27.6
comp=Z,878nm,20.0s
G21K Allakaket 85.16 8 P **P** **11 02 51.9 +0.4**
baz=198
M31M Drury Creek, Y 85.16 17 IAMs_20 IAMs_20 11 46 29.1
comp=Z,1μm,19.0s
M31M Drury Creek, Y 85.16 17 P **P** **11 02 52.2 +0.5**
baz=216
CNSH ChangSha 85.17 301 P **P** **11 02 51.4 -1.0**
CNSH S **SKSac** **11 13 17.3 +0.7**
CNSH pmax pmax
comp=Z,900nm,8.7s
CNSH LR LR
comp=Z,690nm,21.2s
CNSH LR LR
comp=Z,480nm,14.5s
CNSH LR LR
comp=Z,1μm,22.7s
AMTX Amarillo 85.19 51 IAMs_20 IAMs_20 11 33 48.0
comp=Z,954nm,20.0s
TIA Tai'an 85.22 310 P **P** **11 02 53.0 +0.5**
TIA S **S** **11 13 23.3 +1.4**
TIA pmax pmax
comp=Z,13nm,1.0s
TIA pmax pmax
comp=Z,750nm,7.8s
TIA LR LR
comp=Z,510nm,19.1s
TIA LR LR
comp=Z,580nm,17.6s
TIA LR LR
comp=Z,1μm,18.6s
WTLY Watson Lake, Y 85.23 20 IAmb IAmb 11 03 12.1
comp=Z,18nm,0.9s
WTLY Watson Lake, Y 85.23 20 P **P** **11 02 52.1 0.0**
baz=222
E18K Tukpahlearik C 85.32 5 P **P** **11 02 53.1 +0.8**
baz=192
H24K Noodor Dome 85.34 10 P **P** **11 02 52.8 +0.3**
baz=204
K22A Casper 85.35 43 IAMs_20 IAMs_20 11 37 51.3
comp=Z,958nm,18.0s
F20K Avaraart Lake 85.41 7 IAmb IAmb 11 03 16.2
comp=Z,39nm,1.1s
F20K IAMs_20 IAMs_20 11 40 58.2
comp=Z,998nm,18.0s
F20K Avaraart Lake 85.41 7 P **P** **11 02 52.4 -0.2**
baz=196
D17K Noatak River 85.42 4 P **P** **11 02 53.4 +0.6**
baz=189
DAWY Dawson 85.44 14 IAmb IAmb 11 03 02.9
comp=Z,50nm,1.1s
DAWY Dawson 85.44 14 P **P** **11 02 54.1 +1.1**
baz=212,SNR=7.9
TOAD Toad River Com 85.55 23 P **P** **11 02 52.8 -0.9**
baz=225
LIRD Liard River Hi 85.64 22 P **P** **11 02 53.5 -0.6**
baz=224
E19K Redstone River 85.65 6 IAMs_20 IAMs_20 11 42 16.1
comp=Z,944nm,18.0s
E19K Redstone River 85.65 6 P **P** **11 02 53.8 -0.1**
baz=195
LL02 Futaleuf 85.69 134 IAmb IAmb 11 03 05.7
comp=Z,53nm,1.2s
HEH HeiHe 85.69 326 *e*P **P** **11 02 54.5 0.0**
HEH pP **sP** **11 03 02.5 +1.8**
HEH S **S** **11 13 28.6 +2.7**
HEH pmax pmax
comp=Z,23nm,1.8s
HEH pmax pmax
comp=Z,590nm,5.6s
HEH LR LR
comp=Z,520nm,20.0s
HEH LR LR
comp=Z,340nm,19.8s
HEH LR LR
comp=Z,580nm,15.4s
K29M Barlow Dome 85.69 15 IAmb IAmb 11 03 03.9
comp=Z,60nm,1.2s
K29M IAMs_20 IAMs_20 11 35 57.2
comp=Z,1μm,20.0s
K29M Barlow Dome 85.69 15 P **P** **11 02 53.9 -0.5**
baz=214,SNR=17
I26K Coal Creek Min 85.71 12 IAmb IAmb 11 03 03.6
comp=Z,62nm,1.3s
I26K Coal Creek Min 85.71 12 P **P** **11 02 53.8 -0.5**
baz=208
RDOG Red Dog Mine 85.78 4 P **P** **11 02 54.3 -0.3**
baz=189
ABTX Abilene, Hawle 85.80 54 IAMs_20 IAMs_20 11 34 38.3
comp=Z,842nm,19.0s
G22K Bettles 85.80 8 P **P** **11 02 55.9 +1.2**
baz=200
G23K Bananza Creek 85.81 9 IAmb IAmb 11 03 03.9
comp=Z,43nm,1.3s
G23K Bananza Creek 85.81 9 P **P** **11 02 53.6 -1.2**
baz=202,SNR=6.7
F21K Alatna River 85.83 7 P **P** **11 02 53.9 -1.0**
baz=198
C16K Lisburne Hills 85.87 3 P **P** **11 02 54.5 -0.5**
baz=187
MAW Mawson 85.88 198 P **P** **11 02 55.5 +0.3**
comp=Z,4.8nm,0.8s,baz=142,slow=9.7,SNR=8.2
MAW LR LR 11 40 21.2
comp=Z,1μm,18.1s,baz=113,slow=35
comp=Z,4.8nm,0.8s
MAYO Mayo, Yukon 85.90 16 P **P** **11 02 54.7 -0.6**
baz=215,SNR=6.0
LL03 Petrohue 86.00 132 IAMs_20 IAMs_20 11 42 17.1
comp=Z,985nm,18.0s
J29N Klondike Camp 86.04 14 P **P** **11 02 56.1 0.0**
baz=213
H25L Birch Creek 86.08 11 P **P** **11 02 55.8 -0.3**
baz=206
EGMT Eagleton 86.10 37 IAmb IAmb 11 03 05.4
comp=Z,90nm,1.8s
C17K DeLong Mountai 86.19 3 P **P** **11 02 55.1 -1.5**
baz=189
G24K Hadweenzic Riv 86.20 10 P **P** **11 02 54.8 -1.9**
baz=204
F22K John River 86.27 8 P **P** **11 02 55.8 -1.2**
baz=200
COLD Coldfoot 86.27 9 IAmb IAmb 11 03 14.5
comp=Z,98nm,1.9s
COLD Coldfoot 86.27 9 P **P** **11 02 56.3 -0.8**
baz=202,SNR=5.3
I27K Kandik River 86.28 12 P **P** **11 02 56.8 -0.4**
baz=210,SNR=6.6
C18K Utukok River 86.48 4 P **P** **11 02 56.8 -1.3**
baz=191
G25K Bearman Lake 86.48 10 P **P** **11 02 56.9 -1.2**
baz=205
I28M Miner Creek 86.50 13 IAmb IAmb 11 03 15.0
comp=Z,30nm,1.1s
I28M IAMs_20 IAMs_20 11 38 19.5
comp=Z,984nm,20.0s
I28M Miner Creek 86.50 13 P **P** **11 02 57.9 -0.5**
baz=211,SNR=7.9
E20K Nigu River 86.53 6 P **P** **11 02 57.7 -0.6**
baz=196
D19K Kuna River 86.57 5 IAMs_20 IAMs_20 11 35 00.0
comp=Z,985nm,21.0s
D19K Kuna River 86.57 5 P **P** **11 02 58.4 -0.1**
baz=194
J30M Hart River 86.59 15 IAmb IAmb 11 03 08.2
comp=Z,35nm,1.2s
J30M Hart River 86.59 15 P **P** **11 02 58.3 -0.5**
baz=214,SNR=7.9
LR05 Currie 86.59 131 IAMs_20 IAMs_20 11 32 46.8
comp=Z,1μm,21.0s
I29M Ogilvie Camp, 86.79 14 IAmb IAmb 11 03 08.5
comp=Z,44nm,1.2s
I29M Ogilvie Camp, 86.79 14 P **P** **11 02 58.6 -1.0**
baz=213
BILL Bilibino 86.85 352 IAMs_20 IAMs_20 11 38 57.9
comp=Z,911nm,20.0s
BILL Bilibino 86.85 352 *i* P **P** **11 03 01.2 +1.4**
BILL pmax pmax
comp=Z,38nm,0.9s
H27K Steamboat Moun 86.85 12 IAmb IAmb 11 03 09.4
comp=Z,46nm,1.3s
H27K IAMs_20 IAMs_20 11 39 28.6
comp=Z,1μm,21.0s
H27K Steamboat Moun 86.85 12 P **P** **11 02 59.8 -0.2**
baz=210,SNR=8.3
F24K Squaw Lake 86.88 9 P **P** **11 02 58.8 -1.3**
baz=204
E22K Anaktuvuk Pass 86.91 8 IAmb IAmb 11 03 09.2
comp=Z,46nm,1.4s
E22K IAMs_20 IAMs_20 11 43 48.9
comp=Z,1μm,20.0s
E22K Anaktuvuk Pass 86.91 8 P **P** **11 03 00.2 +0.1**
baz=200,SNR=5.6
D20K Etivluk River 86.93 6 IAMs_20 IAMs_20 11 43 54.3
comp=Z,1μm,19.0s
D20K Etivluk River 86.93 6 P **P** **11 03 00.1 -0.1**
baz=195
E21K Killik River 86.94 7 IAMs_20 IAMs_20 11 36 34.7
comp=Z,879nm,21.0s
E21K Killik River 86.94 7 P **P** **11 03 00.4 +0.1**
baz=198
C19K Lookout Ridge 87.05 5 P **P** **11 03 01.1 +0.3**
baz=193
G26K Porcupine Rive 87.06 11 IAMs_20 IAMs_20 11 40 41.0
comp=Z,1μm,20.0s
G26K Porcupine Rive 87.06 11 P **P** **11 03 01.2 +0.4**
baz=208
I30M Mount Dempster 87.12 14 IAMs_20 IAMs_20 11 48 42.8
comp=Z,1μm,18.0s
I30M Mount Dempster 87.12 14 P **P** **11 03 01.1 -0.3**
baz=214,SNR=9.8
E23K Chandalar 87.13 8 P **P** **11 03 01.8 +0.4**
baz=202
B18K Kokolik River 87.15 4 P **P** **11 03 02.0 +0.8**
baz=190
APG El Apazote 87.27 73 LR LR 11 35 05.1
comp=Z,32nm,18.1s,baz=239,slow=31
WMOK Wichita Mounta 87.30 52 IAMs_20 IAMs_20 11 35 14.1
comp=Z,832nm,20.0s
E24K Your Creek 87.31 9 P **P** **11 03 01.9 -0.2**
baz=203
F25K Christian Rive 87.31 10 P **P** **11 03 02.6 +0.5**
baz=206
G27K Doyon Strip 87.33 12 IAmb IAmb 11 03 18.7
comp=Z,46nm,1.6s
G27K IAMs_20 IAMs_20 11 35 35.3
comp=Z,1μm,21.0s
G27K Doyon Strip 87.33 12 P **P** **11 03 01.6 -0.6**
baz=210
BMAR Burnt Mountain 87.34 10 P **P** **11 03 02.4 +0.1**
PLCA Paso Flores 87.45 132 P **P** **11 03 02.7 -1.0**
PLCA IAmb IAmb 11 03 14.4
comp=Z,38nm,1.2s
PLCA Paso Flores 87.45 132 P **P** **11 03 07.0 +3.3**
comp=Z,5.8nm,1.0s,baz=232,slow=4.8,SNR=8.0
PLCA LR LR 11 34 36.6
comp=Z,627nm,19.8s,baz=256,slow=30
comp=Z,5.8nm,1.0s
HNS HongShan 87.48 310 ⇑P **P** **11 03 04.9 +1.3**
HNS S **S** **11 13 46.3 +2.5**
HNS pmax pmax
comp=Z,22nm,1.2s
HNS LR LR
comp=Z,390nm,19.6s
HNS LR LR
comp=Z,860nm,19.8s
HNS LR LR
comp=Z,1μm,18.2s
LAO LASA Array 87.50 39 IAMs_20 IAMs_20 11 34 33.4
comp=Z,960nm,22.0s
H29M Whitestone 87.50 13 IAmb IAmb 11 03 12.8
comp=Z,40nm,1.1s
H29M Whitestone 87.50 13 P **P** **11 03 02.0 -1.1**
baz=213
D22K Ayikyak River 87.51 7 P **P** **11 03 04.1 +1.1**
baz=199
C21K Knifeblade Rid 87.54 6 P **P** **11 03 02.8 -0.4**

baz=197
OGNE Ogallala 87.55 46 IAMs_20 IAMs_20 11 41 15.8
comp=Z,1μm,18.0s
RSSD Black Hills 87.65 42 P P 11 03 04.0 -0.6
RSSD IAmb IAmb 11 03 24.4
comp=Z,17nm,0.9s
RSSD Black Hills 87.65 42 P P 11 03 04.0 -0.6
RSSD pmax pmax
comp=Z,17nm,1.0s
F26K Sheenjek River 87.66 11 IAMs_20 IAMs_20 11 43 47.8
comp=Z,878nm,18.0s
F26K Sheenjek River 87.66 11 P P 11 03 03.6 -0.2
baz=207
TOLK Toolik Lake Re 87.68 8 P P 11 03 02.6 -1.3
baz=202
ZEA Zeya 87.74 329 *e*P **P 11 03 05.7 +1.3**
ZEA *e* 11 06 29.0
ZEA *e*S **S 11 13 42.8 -2.8**
ZEA pmax pmax
comp=E,200nm,6.0s
ZEA pmax pmax
comp=N,100nm,6.1s
ZEA pmax pmax
comp=Z,300nm,7.6s
ZEA pmax pmax
comp=N,10.0nm,1.7s
ZEA pmax pmax
comp=Z,20nm,1.6s
ZEA smax smax
comp=N,100nm,14.1s
ZEA smax smax
comp=E,200nm,12.0s
HKT Hockley 87.77 58 P P 11 03 04.6 -0.5
HKT Hockley 87.77 58 IAMs_20 IAMs_20 11 35 47.0
comp=Z,880nm,20.0s
HKT Hockley 87.77 58 P P 11 03 04.6 -0.5
HKT pmax pmax
comp=Z,145nm,1.9s
E25K Arctic Village 87.80 10 IAMs_20 IAMs_20 11 37 40.6
comp=Z,1μm,20.0s
E25K Arctic Village 87.80 10 P P 11 03 03.4 -1.1
baz=206
D23K Nanushuk River 87.83 8 P P 11 03 03.5 -1.0
baz=201
IPM Ipoh 87.86 275 IAmb IAmb 11 03 20.5
comp=Z,26nm,0.9s
Z35A Perchaven, San 87.92 54 IAMs_20 IAMs_20 11 34 32.6
comp=Z,960nm,21.0s
EPYK Eagle Plains 87.99 14 IAMs_20 IAMs_20 11 39 31.9
comp=Z,926nm,20.0s
EPYK Eagle Plains 87.99 14 P P 11 03 03.9 -1.6
baz=214
B21K Ikpikpuk River 88.00 6 IAMs_20 IAMs_20 11 40 45.8
comp=Z,1μm,20.0s
B21K Ikpikpuk River 88.00 6 P P 11 03 04.8 -0.6
baz=197
LYN LuoYang 88.01 307 ⇑P **P 11 03 07.4 +1.2**
LYN sP pwP 11 03 14.3 -2.9
LYN S **S 11 13 48.8 -0.2**
LYN pmax pmax
comp=Z,44nm,1.0s
LYN pmax pmax
comp=Z,760nm,5.7s
LYN LR LR
comp=Z,930nm,19.6s
LYN LR LR
comp=Z,1μm,19.5s
LYN LR LR
comp=Z,2μm,19.8s
A19K Wainwright 88.03 4 P P 11 03 04.6 -0.8
baz=191
H31M Peel River 88.09 15 P P 11 03 05.0 -0.9
baz=216
B20K Meade River 88.13 5 P P 11 03 04.7 -1.2
baz=195
G29M Pine Creek 88.16 13 P P 11 03 05.1 -1.1
baz=213
CBKS Cedar Bluff 88.25 48 IAMs_20 IAMs_20 11 40 56.6
comp=Z,956nm,18.0s
D24K Happy Valley 88.26 8 P P 11 03 05.3 -1.3
baz=203
BI02 San Fabin de 88.38 128 IAmb IAmb 11 03 18.6
comp=Z,25nm,1.1s
F28M Old Crow 88.38 12 IAMs_20 IAMs_20 11 39 34.0
comp=Z,1μm,19.0s
F28M Old Crow 88.38 12 P P 11 03 05.7 -1.5
baz=211
E27K Coleen River 88.55 11 IAMs_20 IAMs_20 11 41 11.4
comp=Z,866nm,20.0s
E27K Coleen River 88.55 11 P P 11 03 07.1 -0.9
baz=210
G30M tAoh Zraii Nji 88.61 14 P P 11 03 07.0 -1.4
baz=215,SNR=8.3
C23K Itkillik River 88.66 7 P P 11 03 08.1 -0.4
baz=201
OK029 Liberty Lake 88.72 52 IAMs_20 IAMs_20 11 36 19.4
comp=Z,835nm,20.0s
D25K Kavik River 88.77 9 P P 11 03 07.9 -1.1
baz=205
B22K Teshekpuk Lake 88.81 6 P P 11 03 09.0 -0.1
baz=198
R32A Long Quarter, 88.83 49 IAMs_20 IAMs_20 11 35 36.0
comp=Z,1μm,21.0s
G31M Satah River 89.01 14 IAMs_20 IAMs_20 11 38 39.8
comp=Z,1μm,20.0s
G31M Satah River 89.01 14 P P 11 03 09.8 -0.4
baz=216,SNR=7.6
F30M Barrier River 89.23 13 IAMs_20 IAMs_20 11 41 15.5
comp=Z,795nm,19.0s
F30M Barrier River 89.23 13 P P 11 03 11.4 +0.3
baz=215
WRGLY Wrigley 89.25 20 P P 11 03 11.1 -0.2
baz=226
TIY Taiyuan 89.26 310 *e*P **P 11 03 14.9 +2.8**
TIY S **S 11 13 55.4 -5.5**
TIY pmax pmax
comp=Z,450nm,5.9s
TIY LR LR
comp=Z,510nm,16.5s
TIY LR LR
comp=Z,790nm,22.0s
XLT XiLinHaoTe 89.27 317 *e*P **P 11 03 11.6 -0.5**
XLT sP sP 11 03 18.6 +0.4
XLT S **S 11 14 02.3 +1.5**
XLT pmax pmax
comp=Z,15nm,1.1s
XLT pmax pmax
comp=Z,480nm,9.2s
XLT LR LR
comp=Z,420nm,17.0s
XLT LR LR
comp=Z,510nm,17.3s
OK052 Battle Ridge R 89.28 52 IAMs_20 IAMs_20 11 38 20.3
comp=Z,910nm,20.0s
E28M Babbage River 89.30 12 IAMs_20 IAMs_20 11 41 44.2
comp=Z,1μm,20.0s
E28M Babbage River 89.30 12 P P 11 03 11.7 +0.2
baz=212
OK048 Pawnee Station 89.34 51 IAMs_20 IAMs_20 11 36 19.8
comp=Z,984nm,21.0s
PSI Prapat 89.35 273 LR LR 11 43 42.6
comp=Z,918nm,19.3s,baz=134,slow=36
NATX Nacogdoches 89.37 56 IAMs_20 IAMs_20 11 41 56.2
comp=Z,867nm,18.0s
E29M Blow River 89.44 12 IAMs_20 IAMs_20 11 37 17.9
comp=Z,1μm,20.0s
E29M Blow River 89.44 12 P P 11 03 11.7 -0.4
baz=213
HIA Hailar 89.44 323 P P 11 03 11.3 -1.3
HIA IAmb IAmb 11 03 27.0
comp=Z,52nm,1.5s
HIA Hailar 89.44 323 IAMs_20 IAMs_20 11 40 00.4
comp=Z,891nm,21.0s
HIA Hailar 89.44 323 P P 11 03 11.3 -1.3
HIA pmax pmax
comp=Z,52nm,1.5s
C27K Jago River 89.45 10 IAMs_20 IAMs_20 11 37 36.3
comp=Z,993nm,21.0s
C27K Jago River 89.45 10 P P 11 03 13.0 +0.8
baz=208
C26K Camden Bay 89.53 9 P P 11 03 11.9 -0.6
baz=206
F31M Tsiigehtchic 89.55 14 IAMs_20 IAMs_20 11 49 12.1
comp=Z,1μm,19.0s
F31M Tsiigehtchic 89.55 14 P P 11 03 12.7 +0.1
baz=217,SNR=6.8
HILR Hailar Array B 89.57 323 P P 11 03 13.9 +0.6
comp=Z,9.6nm,0.8s,baz=128,slow=9.6,SNR=12
comp=Z,9.6nm,0.8s
D27M Malcolm River 89.58 11 IAMs_20 IAMs_20 11 42 02.8
comp=Z,920nm,20.0s
D27M Malcolm River 89.58 11 P P 11 03 12.6 -0.3
baz=210
Z38A Mt. Pleasant 89.66 55 IAMs_20 IAMs_20 11 37 17.6
comp=Z,796nm,19.0s
GYA Guiyang 89.74 298 ⇓P **P 11 03 13.6 -1.1**
GYA S **S 11 14 02.4 -3.6**
GYA pmax pmax
comp=Z,12nm,0.6s
GYA pmax pmax
comp=Z,380nm,5.7s
GYA LR LR
comp=Z,320nm,14.7s
GYA LR LR
comp=Z,400nm,20.6s
GYA LR LR
comp=Z,440nm,20.4s
T35A Sooner Cattle 89.85 51 IAMs_20 IAMs_20 11 36 28.3
comp=Z,963nm,20.0s
TGUH Tegucigalpa,Un 89.89 75 IAMs_20 IAMs_20 11 39 13.8
comp=Z,755nm,18.0s
TUL3 Leonard 90.01 52 IAMs_20 IAMs_20 11 36 31.7
comp=Z,816nm,21.0s
D28M Stokes Point 90.07 11 P P 11 03 15.1 +0.1
baz=212
LMEL Las Melosas 90.21 126 IAMs_20 IAMs_20 11 34 45.7
comp=Z,1μm,21.0s
INK Inuvik 90.30 14 LR LR 11 38 55.1
comp=Z,520nm,19.3s,baz=190,slow=32
INK Inuvik 90.30 14 P P 11 03 17.0 +0.9
baz=217,SNR=5.0
VA03 San Esteban 90.33 125 IAMs_20 IAMs_20 11 38 12.1
comp=Z,998nm,20.0s
SLVN Son La 90.45 292 IAmb IAmb 11 03 31.4
comp=Z,54nm,1.6s
SLVN IAMs_20 IAMs_20 11 38 23.6
comp=Z,1μm,21.0s
TROLL Troll, Antarti 90.48 179 ⇑P **P 11 03 18.2 +0.8**
comp=Z,335nm,0.9s
SYO Syowa Base 90.52 191⇑*e*P **P 11 03 16.8 -0.6**
SYO Syowa Base 90.52 191⇑*e*PcP **P 11 03 17.6 +0.2**
SYO Syowa Base 90.52 191⇑*i*pP pP 11 03 20.4 -1.4
CO02 Combarbal 90.53 123 P **P 11 03 18.5 +0.1**
VNA3 Neumayer Olymp 90.53 175 ⇓P **P 11 03 19.0 +1.5**
comp=Z,4.2nm,0.7s
XAN Xi'an 90.54 306 ⇑P **P 11 03 19.0 +0.8**
XAN pP pwP 11 03 26.1 -3.1
XAN SKS **SKSac 11 13 50.5 +1.6**
XAN S **S 11 14 13.9 +1.0**
XAN pmax pmax
comp=Z,29nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.4s
XAN LR LR
comp=Z,560nm,20.6s
XAN LR LR
comp=Z,720nm,17.4s
XAN LR LR
comp=Z,990nm,21.7s
KSU1 Kansas State U 90.60 49 IAMs_20 IAMs_20 11 36 51.0
comp=Z,955nm,21.0s
SNAA Sanae 90.61 177 ⇑P **P 11 03 18.9 +1.1**
comp=Z,105nm,1.0s
SNAA Sanae 90.61 177 P **P 11 03 18.4 +0.5**
SNAA Sanae 90.61 177 P **P 11 03 18.5 +0.6**
comp=Z,4.5nm,0.9s,baz=211,slow=2.8,SNR=14
SNAA LR LR 11 42 29.9
comp=Z,806nm,18.8s,baz=192,slow=35
comp=Z,4.5nm,0.9s
EFI East Falkland 90.62 146 *i* P **P 11 03 21.2 +3.0**
KCSI Kotacane, Aceh 90.66 273 P **P 11 03 19.6 +0.4**
comp=Z,851nmcomp=Z,22nm,1.1s
JTS Las Juntas de 90.90 80 P **P 11 03 19.7 -0.5**
JTS IAmb IAmb 11 03 37.4
comp=Z,32nm,0.9s
JTS Las Juntas de 90.90 80 LR LR 11 37 11.6
comp=Z,907nm,18.0s,baz=242,slow=31
JTS Las Juntas de 90.90 80 *i* P **P 11 03 24.0 +3.7**
JTS pmax pmax
comp=Z,110nm,2.0s
TEIG Tepich 90.91 69 IAMs_20 IAMs_20 11 35 05.2
comp=Z,989nm,22.0s
VNA2 Neumayer--Watz 91.04 175 ⇑P **P 11 03 21.2 +1.4**
comp=Z,6.0nm,0.8s,baz=186,slow=3.6
HHC Hu-ho-hao-te 91.10 313 *e*P **P 11 03 20.1 -0.6**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,460nm,17.7s
HHC LR LR
comp=Z,520nm,20.2s
HHC LR LR
comp=Z,830nm,19.4s
VNA1 Neumayer--Stat 91.23 175 ⇑P **P 11 03 22.9 +2.2**
comp=Z,11nm,1.2s
YAK Yakutsk 91.48 337 LR LR 11 41 18.4
comp=Z,350nm,19.5s,baz=134,slow=34
YAK Yakutsk 91.48 337 *i* P **P 11 03 22.3 +0.6**
YAK pmax pmax
comp=Z,12nm,0.6s
LCO Las Campanas 91.56 121 P **P 11 03 20.0 -3.4**
LCO Las Campanas 91.56 121 P **P 11 03 20.0 -3.4**
LCO pmax pmax
comp=Z,104nm,1.7s
HDC Heredia 91.60 80 IAMs_20 IAMs_20 11 36 02.5
comp=Z,876nm,20.0s
NNA Nana 91.83 103 IAMs_20 IAMs_20 11 42 29.0
comp=Z,714nm,19.0s
NNA Nana 91.83 103 LR LR 11 36 54.8
comp=Z,412nm,19.1s,baz=248,slow=30
L34A Svendsen Farm, 91.85 46 IAMs_20 IAMs_20 11 43 37.7
comp=Z,805nm,18.0s
ATAH Atahualpa 91.88 98 LR LR 11 35 05.3
comp=Z,942nm,21.5s,baz=253,slow=29
YKA Yellowknife Ar 91.89 23 P **P 11 03 25.8 +2.2**
comp=Z,1.5nm,0.7s,baz=224,slow=2.4,SNR=3.4
YKA LR LR 11 41 16.5
comp=Z,251nm,18.1s,baz=239,slow=33
comp=Z,1.5nm,0.7s
BTO Baotou 92.09 312 *e*P **P 11 03 27.8 +2.5**
BTO pP **sP 11 03 32.6 +1.1**
BTO sP **pwP 11 03 34.8 -1.5**
BTO S **S 11 14 31.8 +5.0**
BTO sS **sS 11 14 35.0 +0.2**
BTO pmax pmax
comp=Z,34nm,1.0s
BTO pmax pmax
comp=Z,1μm,9.1s
BTO LR LR
comp=Z,870nm,20.8s
BTO LR LR
comp=Z,990nm,17.8s
BTO LR LR
comp=Z,1μm,17.4s
143A Socs Landing, 92.28 57 IAMs_20 IAMs_20 11 44 14.4
comp=Z,721nm,18.0s
ECSD EROS Data Cent 92.35 45 P **P 11 03 24.4 -1.9**
ECSD IAmb IAmb 11 03 44.1
comp=Z,25nm,1.3s
CFA Coronel Fontan 92.58 124 LR LR 11 35 37.1
comp=Z,385nm,21.6s,baz=350,slow=29
KMI Kunming 92.66 295 ⇑P **P 11 03 30.1 +1.7**
KMI pmax pmax
comp=Z,24nm,1.7s
KMI pmax pmax
comp=Z,440nm,8.2s
KMI LR LR
comp=Z,460nm,17.2s
KMI LR LR
comp=Z,360nm,20.1s
KMI LR LR
comp=Z,750nm,20.8s
P38A Dawn 93.02 49 IAMs_20 IAMs_20 11 37 55.9
comp=Z,958nm,20.0s
C36M Paulatuk 93.35 15 IAMs_20 IAMs_20 11 42 06.5
comp=Z,764nm,20.0s
F33A 5 Mile Ranch, 93.36 43 IAMs_20 IAMs_20 11 42 31.1
comp=Z,874nm,19.0s
PB14 IPOC Station P 93.38 117 P **P 11 03 29.9 -2.1**
PB14 IAmb IAmb 11 03 43.0
comp=Z,34nm,1.2s
R40A Maddies Statio 93.49 51 IAMs_20 IAMs_20 11 41 08.6
comp=Z,871nm,19.0s
CD2 Chengdu 93.61 301 P **P 11 03 31.0 -1.4**
CD2 SKS **SKSac 11 14 06.0 -0.3**
CD2 pmax pmax
comp=Z,340nm,7.5s
CD2 LR LR
comp=Z,1μm,19.6s
CD2 LR LR
comp=Z,670nm,15.7s
N38A Joes South For 93.63 48 IAMs_20 IAMs_20 11 45 19.1
comp=Z,765nm,18.0s
AC02 Maricunga 93.64 119 P **P 11 03 30.0 -3.4**
AC02 IAmb IAmb 11 03 44.8
comp=Z,26nm,1.2s
AC02 IAMs_20 IAMs_20 11 34 06.3
comp=Z,891nm,21.0s
PZH PanZhiHua 93.94 296 P **P 11 03 34.1 0.0**
PZH S **S 11 14 40.3 -3.5**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,260nm,6.3s
PZH LR LR
comp=Z,330nm,19.2s
PZH LR LR
comp=Z,400nm,21.9s
PZH LR LR
comp=Z,540nm,19.4s
CMAR Chiang Mai Arr 94.01 288 P **P 11 03 34.5 0.0**
CMAR Chiang Mai Arr 94.01 288 P **P 11 03 35.0 +0.5**
comp=Z,6.6nm,0.9s,baz=96,slow=2.8,SNR=46
CMAR LR LR 11 42 10.9
comp=Z,851nm,20.7s,baz=105,slow=33
comp=Z,6.6nm,0.9s
CMAR Chiang Mai Arr 94.01 288 *e*P **P 11 03 35.6 +1.1**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
SCIA State Center 94.03 47 IAMs_20 IAMs_20 11 38 43.5
comp=Z,825nm,20.0s
P40A Paris 94.06 50 IAMs_20 IAMs_20 11 38 47.7
comp=Z,1μm,21.0s
CHTO Chiang Mai 94.11 288 P **P 11 03 35.5 +0.5**
CHTO Chiang Mai 94.11 288 P **P 11 03 35.5 +0.5**
CHTO pmax pmax
comp=Z,12nm,0.9s
CCM Cathedral Cave 94.17 52 IAMs_20 IAMs_20 11 39 20.7
comp=Z,834nm,20.0s
CIT Chita 94.18 323 *e*P **P 11 03 35.0 +0.4**
CIT pmax pmax
comp=Z,70nm,2.1s
PBMO Poplar Bluff 94.37 53 IAmb IAmb 11 03 47.4
comp=Z,33nm,1.4s
PB06 IPOC Station P 94.78 115 IAMs_20 IAMs_20 11 34 28.5
comp=Z,1μm,21.0s
LZH Lanzhou 95.15 306 *e*P **P 11 03 40.6 +1.0**
LZH sP pwP 11 03 47.6 -3.0
LZH SKS **SKSac 11 14 14.3 -0.4**
LZH pmax pmax
comp=Z,18nm,1.5s
LZH pmax pmax
comp=Z,300nm,5.1s
LZH LR LR
comp=Z,380nm,15.9s
LZH LR LR
comp=Z,560nm,16.2s
LZH LR LR
comp=Z,650nm,17.1s
LZDM Lanzhou Array 95.22 306 P **P 11 03 39.4 -0.7**
comp=Z,1.8nm,0.3s,baz=113,slow=3.9,SNR=4.0
LZDM LR LR 11 44 04.8
comp=Z,431nm,20.2s,baz=90,slow=34
comp=Z,1.8nm,0.3s
ULM Lac du Bonnet 95.24 39 P **P 11 03 41.2 +1.8**
comp=Z,7.2nm,0.9s,baz=273,slow=3.4,SNR=3.1
ULM LR LR 11 43 58.7
comp=Z,1μm,18.1s,baz=251,slow=34
comp=Z,7.2nm,0.9s
SPMN Marine on St. 95.43 44 IAmb IAmb 11 03 57.8
comp=Z,33nm,1.2s
SPMN IAMs_20 IAMs_20 11 38 37.2
comp=Z,937nm,22.0s
L40A Anamosa 95.48 48 IAmb IAmb 11 03 59.9
comp=Z,26nm,1.2s
L40A IAMs_20 IAMs_20 11 39 15.0
comp=Z,670nm,19.0s
T45A Paducah 95.81 53 IAMs_20 IAMs_20 11 40 51.2
comp=Z,713nm,20.0s
P43A Skaggs, Pawnee 95.95 50 IAMs_20 IAMs_20 11 39 12.6
comp=Z,942nm,22.0s
Q44A Meyer Farm, Va 96.10 51 IAMs_20 IAMs_20 11 43 18.6
comp=Z,894nm,20.0s
WVT Waverly 96.17 54 IAMs_20 IAMs_20 11 39 17.9
comp=Z,939nm,21.0s
TNCH TengChong 96.28 294 P **P 11 03 47.8 +2.8**
TNCH S **S 11 15 02.0 -2.4**
TNCH LR LR
comp=Z,260nm,14.0s
TNCH LR LR
comp=Z,430nm,17.4s
TNCH LR LR
comp=Z,480nm,16.6s
X48A Hartselle 96.29 56 IAMs_20 IAMs_20 11 40 45.3
comp=Z,778nm,19.0s
EPLO Experimental L 96.34 40 P **P 11 03 43.0 -1.5**
HDIL Hopedale 96.39 50 IAMs_20 IAMs_20 11 40 42.3
comp=Z,1μm,20.0s
PB16 IPOC Station P 96.40 111 P **P 11 03 43.9 -2.3**
PB16 IAmb IAmb 11 03 57.9
comp=Z,23nm,1.4s
PB16 IAMs_20 IAMs_20 11 36 10.7
comp=Z,1μm,22.0s
JFWS Jewell Farm 96.44 47 IAMs_20 IAMs_20 11 41 00.1
comp=Z,784nm,20.0s
I40A Norwalk 96.48 46 IAMs_20 IAMs_20 11 47 56.2
comp=Z,736nm,18.0s
L42A Oliver, Polo 96.56 48 IAMs_20 IAMs_20 11 50 37.7
comp=Z,675nm,18.0s
SONM Songino Array 97.01 318 P Pdif 11 03 48.0 +0.2
comp=Z,0.7nm,0.5s,baz=129,slow=4.2,SNR=3.9
SONM PP **PP 11 07 46.3 +2.5**
comp=Z,0.5nm,0.4s,baz=107,slow=9.7,SNR=4.5
SONM LR LR 11 45 24.6
comp=Z,356nm,19.0s,baz=111,slow=34
comp=Z,0.7nm,0.5s
SONM Songino Array 97.01 318 *e*P Pdif 11 03 52.3 +4.5
SONM pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 97.38 344 P **P 11 03 48.4 -0.2**
TIXI IAmb IAmb 11 04 13.3
comp=Z,19nm,1.4s
TIXI Tiksi 97.38 344 LR LR 11 43 39.1
comp=Z,355nm,20.4s,baz=185,slow=33
TIXI Tiksi 97.38 344 *i* P **P 11 03 48.8 +0.2**
TIXI pmax pmax
comp=Z,14nm,1.6s
K43A Burlington 97.72 48 IAMs_20 IAMs_20 11 53 24.1
comp=Z,721nm,18.0s
HQIL Hanson Quary C 97.80 49 IAMs_20 IAMs_20 11 39 58.0
comp=Z,775nm,20.0s
U49A Red Boiling Sp 97.86 54 IAMs_20 IAMs_20 11 41 35.3
comp=Z,846nm,20.0s
L44A Lake County Fo 97.86 48 IAMs_20 IAMs_20 11 47 42.1
comp=Z,786nm,18.0s
WCI Wyandotte Cave 97.94 53 IAMs_20 IAMs_20 11 41 17.2
comp=Z,871nm,21.0s
SFIN Lafayette 97.94 50 IAMs_20 IAMs_20 11 41 19.5
comp=Z,940nm,20.0s
X51A Calhoun 98.05 56 IAMs_20 IAMs_20 11 42 10.5
comp=Z,778nm,21.0s
LPAZ La Paz 98.36 110 P Pdif 11 03 58.3 +3.2
comp=Z,0.9nm,0.8s,baz=240,slow=5.0,SNR=5.3
LPAZ LR LR 11 38 45.0
comp=Z,743nm,21.5s,baz=252,slow=30
comp=Z,0.9nm,0.8s
H43A Windswept, Lux 98.61 46 IAMs_20 IAMs_20 11 41 58.1
comp=Z,732nm,21.0s
F42A Maple Grove Fa 98.72 45 IAMs_20 IAMs_20 11 46 01.9
comp=Z,830nm,18.0s
T50A Nancy 98.73 54 IAMs_20 IAMs_20 11 41 20.2
comp=Z,846nm,20.0s
R49A Shelbyville 98.81 53 IAMs_20 IAMs_20 11 42 46.2
comp=Z,708nm,20.0s
P48A Milroy 98.93 52 IAMs_20 IAMs_20 11 40 33.2
comp=Z,857nm,21.0s
L46A Eue Claire 98.97 49 IAMs_20 IAMs_20 11 42 30.1
comp=Z,913nm,20.0s
061Z Ochoppi 99.03 66 IAMs_20 IAMs_20 11 46 31.9
comp=Z,664nm,19.0s
GTA Gaotai 99.16 308 *e*P **Pdif 11 03 58.8 +1.2**

GTA SKS **SKSac** **11 14 38.4 +3.2**
GTA sS pS 11 15 34.3 -0.3
GTA pmax pmax
comp=Z,4.0nm,2.0s
GTA LR LR
comp=Z,230nm,18.2s
GTA LR LR
comp=Z,720nm,23.3s
GTA LR LR
comp=Z,1μm,23.3s
TKL Tuckaleechee C 99.20 56 LR LR 11 42 25.3
comp=Z,481nm,21.1s,baz=258,slow=31
O48B Farmland 99.34 51 IAMs_20 IAMs_20 11 44 15.0
comp=Z,831nm,20.0s
ROSC El Rosal 99.37 88 LR LR 11 40 12.0
comp=Z,302nm,21.2s,baz=248,slow=30
I45A Fountain 99.56 47 IAMs_20 IAMs_20 11 48 59.2
comp=Z,921nm,19.0s
TZTN Tazewell 99.60 55 IAMs_20 IAMs_20 11 42 10.4
comp=Z,924nm,22.0s
060A Indiantown 99.81 65 IAMs_20 IAMs_20 11 42 37.9
comp=Z,860nm,20.0s
S51A Beattyville 99.84 54 IAMs_20 IAMs_20 11 41 46.7
comp=Z,823nm,20.0s
TLY Talaya 99.86 321 *i* P **Pdif** **11 03 59.9 -0.3**
TLY pmax pmax
comp=Z,3.0nm,0.8s
O49A Covington 99.93 51 IAMs_20 IAMs_20 11 44 51.6
comp=Z,891nm,19.0s
J47A Sunmer 100.34 48 IAMs_20 IAMs_20 11 41 04.2
comp=Z,733nm,21.0s
ACSO Alum Creek Sta 100.94 51 IAMs_20 IAMs_20 11 45 40.5
comp=Z,735nm,19.0s
AAM Ann Arbor 100.94 49 IAMs_20 IAMs_20 11 43 01.3
comp=Z,839nm,21.0s
U54A Nelsons Funny 100.94 55 IAMs_20 IAMs_20 11 52 05.0
comp=Z,647nm,18.0s
KMSC Kings Mountain 101.00 57 IAMs_20 IAMs_20 11 44 00.6
comp=Z,749nm,21.0s
V55A Taylorsville 101.26 56 IAMs_20 IAMs_20 11 43 50.5
comp=Z,704nm,22.0s
S54A Dingess, Beckl 101.64 54 IAMs_20 IAMs_20 11 42 51.3
comp=Z,761nm,21.0s
O52A Adamsville 101.77 52 IAMs_20 IAMs_20 11 44 07.7
comp=Z,816nm,20.0s
K50A Casco 101.80 49 IAMs_20 IAMs_20 11 43 16.8
comp=Z,659nm,20.0s
P53A Whipple 101.96 52 IAMs_20 IAMs_20 11 46 03.6
comp=Z,649nm,19.0s
W57A Gilead 102.07 57 IAMs_20 IAMs_20 11 44 54.0
comp=Z,698nm,21.0s
BLA Blacksburg 102.20 55 IAMs_20 IAMs_20 11 43 50.1
comp=Z,784nm,21.0s
GOMU GeErMu 102.22 304 Pdif **Pdif** **11 04 09.3 -2.3**
GOMU SS SS 11 22 55.8 -4.7
GOMU pmax pmax
comp=Z,130nm,5.0s
GOMU LR LR
comp=Z,250nm,17.3s
GOMU LR LR
comp=Z,260nm,17.1s
GOMU LR LR
comp=Z,360nm,17.7s
Q54A Coxs Mills 102.27 53 IAMs_20 IAMs_20 11 43 53.9
comp=Z,869nm,19.0s
M52A Chesterland 102.44 50 IAMs_20 IAMs_20 11 44 18.1
comp=Z,866nm,20.0s
X58A Rowland 102.46 58 IAMs_20 IAMs_20 11 44 20.4
comp=Z,755nm,22.0s
R55A Marlinton 102.67 54 IAMs_20 IAMs_20 11 43 35.4
comp=Z,962nm,22.0s
N53A Lisbon 102.67 51 IAMs_20 IAMs_20 11 43 45.1
comp=Z,835nm,21.0s
O54A Avella 102.88 52 IAMs_20 IAMs_20 11 45 00.7
comp=Z,888nm,21.0s
V58A Windy Hill, Pi 102.91 56 IAMs_20 IAMs_20 11 45 08.2
comp=Z,818nm,21.0s
T57A Hurt 103.06 55 IAMs_20 IAMs_20 11 44 48.0
comp=Z,810nm,22.0s
MCWV Mont Chateau 103.17 52 IAMs_20 IAMs_20 11 47 03.5
comp=Z,874nm,21.0s
W59A Clinton 103.31 57 IAMs_20 IAMs_20 11 44 32.9
comp=Z,894nm,22.0s
S57A Dark Hollow, R 103.45 54 IAMs_20 IAMs_20 11 44 29.4
comp=Z,773nm,21.0s
Q56A Snyder Ridge, 103.54 53 IAMs_20 IAMs_20 11 44 02.4
comp=Z,781nm,21.0s
P57A Homestead Farm 104.52 53 IAMs_20 IAMs_20 11 44 21.4
comp=Z,808nm,21.0s
CBN Corbin Frederi 104.77 54 IAMs_20 IAMs_20 11 45 41.1
comp=Z,712nm,21.0s
SSPA Standing Stone 104.83 52 IAMs_20 IAMs_20 11 47 53.4
comp=Z,835nm,19.0s
L56A Greenwood 105.34 50 IAMs_20 IAMs_20 11 44 43.8
comp=Z,867nm,22.0s
N58A Sunbury 105.74 52 IAMs_20 IAMs_20 11 48 21.6
comp=Z,810nm,19.0s
SDDR Presa de Saban 105.97 75 IAMs_20 IAMs_20 11 42 53.2
comp=Z,809nm,22.0s
P61A Hammonton 107.00 53 IAMs_20 IAMs_20 11 46 39.1
comp=Z,846nm,20.0s
J59A Piesco 107.77 49 IAMs_20 IAMs_20 11 47 19.9
comp=Z,838nm,20.0s
PALK Pallekele 108.00 272 IAMs_20 IAMs_20 12 00 02.0
comp=Z,753nm,19.0s
TRY Troy 108.28 50 IAMs_20 IAMs_20 11 47 28.5
comp=Z,899nm,21.0s
WMQ Urumqi 108.91 311 Pdif **Pdif** **11 04 39.8 -0.9**
WMQ LR LR
comp=Z,440nm,16.5s
WMQ LR LR
comp=Z,400nm,22.1s
WMQ LR LR
comp=Z,330nm,17.7s
VT1 Waterbury 109.13 48 IAMs_20 IAMs_20 11 48 02.8
comp=Z,752nm,20.0s
J61A Chester 109.16 49 IAMs_20 IAMs_20 11 49 31.8
comp=Z,660nm,20.0s
HNH Hanover 109.40 49 IAMs_20 IAMs_20 11 47 49.9
comp=Z,821nm,21.0s
MKAR Makanchi Array 112.93 314 Pdiff **Pdif** **11 04 58.7 +0.2**
comp=Z,0.5nm,0.8s,baz=200,slow=36,SNR=1.4
MKAR PKiKP **PKiKP** **11 08 53.7 +0.8**
comp=Z,0.7nm,0.5s,baz=83,slow=1.8,SNR=4.6
SABA Saba 113.13 78 IAMs_20 IAMs_20 11 52 36.0
comp=Z,613nm,19.0s
MAKZ Makanchi 113.14 314 IAMs_20 IAMs_20 11 56 13.5
comp=Z,577nm,20.0s
MPOM Morne Pois Mar 114.68 82 IAMs_20 IAMs_20 11 54 40.4
comp=Z,483nm,18.0s
ILAM Ilet Lapin Mar 114.74 82 IAMs_20 IAMs_20 11 58 10.9
comp=Z,729nm,20.0s
KURK Kurchatov 115.32 318 **PKiKP** **11 08 57.2 -0.1**
KURK Kurchatov 115.32 318 PKiKP **PKiKP** **11 08 57.2 -0.1**
KURBB Kurchatov Arra 115.38 318 PKP **PKiKP** **11 08 57.2 -0.2**
comp=Z,1.0nm,0.2s,baz=96,slow=1.9,SNR=5.8
KURBB PKKPbc **PKKPbc** **11 19 34.5 +1.6**
comp=Z,0.4nm,0.3s,baz=261,slow=4.5,SNR=5.4
BVAR Borovoye Array 120.11 322 PKP **PKiKP** **11 09 07.5 +1.0**
comp=Z,3.2nm,0.7s,baz=76,slow=1.5,SNR=8.5
KKAR Karatay Array 121.39 310 **PKPdf** **11 09 09.5 +0.3**
KKAR Karatay Array 121.39 310 PKIKP **PKPdf** **11 09 09.5 +0.3**
ARTI Arti 125.75 328 *i* PKIKP **PKiKP** **11 09 20.3 +2.7**
ARTI 11 11 17.0
ARTI 11 16 31.4
ARTI SS SS 11 28 11.6 +3.0
ARCES ARCESS Array B 126.95 352 PKP **PKiKP** **11 09 21.1 +1.5**
comp=Z,3.1nm,0.7s,baz=1.1,slow=4.5,SNR=4.5
ARCES ARCESS Array B 126.95 352 *e*PKIKP **PKiKP** **11 09 21.4 +1.8**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
APA Apatity 127.40 348 ⇓*i*PKIKP **PKPdf** **11 09 17.0 -3.0**
APA *e* 11 11 17.2
APA MLR MLR
comp=Z,2μm,5.3s
ABKAR Akbulak array 127.41 319 **PKPdf** **11 09 18.4 -2.2**
BOSA Boshof 130.83 201 PKP **PKiKP** **11 09 30.1 +1.2**
comp=Z,4.4nm,1.1s,baz=72,slow=1.2,SNR=3.1
KLMR Klimovskoe 131.17 340 *e*PKIKP **PKPdf** **11 09 25.8 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.8s
OBN Obninsk 136.48 336 ⇓*i*PKIKP **PKiKP** **11 09 41.6 +2.4**
OBN *e* 11 09 46.6
OBN *e* 11 12 28.3
OBN *i* SS SS 11 30 24.1 +5.0
OBN *e*SSS SSS 11 35 28.6
OBN pmax pmax
comp=Z,11nm,0.5s
HFS Hagfors 137.35 355 PKhKP PKPpre 11 09 33.5
comp=Z,3.7nm,0.8s,baz=72,slow=6.2,SNR=3.8
MAK Makhachkala 137.72 315 *e*P **Pdif** **11 06 42.5 -6.3**
MAK *i* 11 09 36.8
MAK *e* 11 16 47.5
MAK *e*PS **PS** **11 22 44.6 -11**
MAK *e* 11 24 40.4
MAK *e*SS SS 11 30 32.1 -3.2
MAK pmax pmax
comp=Z,38nm,0.3s
GRTLG Ghanzi 138.89 200 **PKPdf** **11 09 40.3 -2.9**
MNK Minsk 139.99 341 *i* PKIKP **PKPdf** **11 09 43.4 -0.5**
MNK *i* 11 12 39.8
MNK *i* PPP PPP 11 15 43.1
MNK *i* 11 16 46.1
MNK *i* SS SS 11 31 03.4 +3.0
MNK *i* SSS SSS 11 36 11.2
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=E,13nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK MLR MLR
comp=Z,528nm,17.0s
MNK MLR MLR
comp=N,440nm,22.0s
MNK MLR MLR
comp=E,246nm,16.0s
KIV Kislovodsk 140.40 319 *e*PKIKP **PKPdf** **11 09 42.4 -2.8**
KIV *i* 11 09 45.3
KIV *e* 11 12 40.0
KIV *e*SS SS 11 31 03.2 -3.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
SUW Suwalki 141.72 345 *e*PKP PKiKP 11 09 58.3 +8.4
TSUM Tsumeb 142.00 196 PKP **PKPdf** **11 09 48.8 -0.1**
comp=Z,0.9nm,0.3s,baz=141,slow=6.5,SNR=1.8
SOC Sochi 142.42 320 *e*PKHKP PKPpre 11 09 43.5
SOC *e*PPP PPP 11 15 59.9
SOC *e*SS SS 11 31 23.4 -6.7
SOC *e*SSS SSS 11 36 42.2
SOC pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 142.71 337 PKP **PKPdf** **11 09 48.8 -0.1**
comp=Z,2.5nm,0.8s,baz=30,slow=2.1,SNR=5.3
AKASG Malin Array Be 142.71 337 *e*PKIKP **PKPdf** **11 09 49.7 +0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
GURO Guroymak-BITLI 143.33 312 PKPbc 11 09 49.0 +1.2
RNPP8 Varash 143.34 341 PKP **PKPdf** **11 09 50.3 +0.3**
KIBK Kibwezi 143.80 240 PKPbc 11 09 50.1 +0.4
RAYN Ar Rayn 143.90 286 PKPbc 11 09 50.6 +0.8
RAYN Ar Rayn 143.90 286 IAMs_20 IAMs_20 12 13 18.4
comp=Z,426nm,21.0s
RAYN Ar Rayn 143.90 286 ⇑PKIKP PKPbc 11 09 51.0 +1.3
BEL Belsk 144.30 346 *e*PKP **PKPdf** **11 09 52.7 +1.0**
SIM Simferopol' 144.78 326 *e*PKIKP **PKiKP** **11 09 57.8 +1.3**
SIM pmax pmax
comp=Z,25nm,0.9s
SORM Soroca 145.12 335 ⇓P **PKPdf** **11 09 55.1 +1.9**
SORM Soroca 145.12 335 ⇓PKIKP **PKPdf** **11 09 55.1 +1.9**
KMBO Kilima Mbogo 145.13 241 PKP **PKPdf** **11 09 54.6 0.0**
comp=Z,30nm,1.1s,baz=126,slow=3.4,SNR=19
KMBO Kilima Mbogo 145.13 241 *e*PKIKP **PKPdf** **11 09 55.8 +1.1**
KMBO pmax pmax
comp=Z,30nm,1.1s
ATD Arta Tunnel 145.16 265 IAMs_20 IAMs_20 12 09 30.3
comp=Z,491nm,20.0s
KMPD K-Podol'skiy 145.49 337 PKP **PKPdf** **11 09 54.0 +0.1**
KMPD PKP **PKPab** **11 09 54.5 +0.4**
KWP Kalwaria Pacla 145.80 342 *e*PKP **PKPab** **11 09 56.7 +1.4**
MORS Morshin 145.88 341 PKP **PKPdf** **11 09 54.6 +0.1**
OJC Ojcow 146.03 346 *e*PKP **PKiKP** **11 09 57.8 -1.2**
OJC Ojcow 146.03 346 PKP **PKPbc** **11 09 55.9 +0.3**
CLL Collm 146.15 354 *i* PKP2 **PKPab** **11 09 57.7 +1.2**
CLL pmax pmax
comp=Z,198nm,2.0s
CLL MLR MLR
comp=Z,700nm,18.9s
CLL Collm 146.15 354 PKP **PKPab** **11 09 56.4 -0.1**
KSP Ksiaz 146.15 350 *e*PKP **PKiKP** **11 09 58.6 -0.5**
KSP Ksiaz 146.15 350 PKP **PKPbc** **11 09 56.2 +0.3**
STHS Stebnicka Huta 146.41 344 *e*PKP2 **PKiKP** **11 10 02.9 +3.1**
STHS Stebnicka Huta 146.41 344 *e*PKP **PKiKP** **11 10 02.9 +3.1**
CHVC Chvalec 146.44 350 ⇑*e*PKP **PKiKP** **11 10 02.0 +2.2**
CHVC Chvalec 146.44 350 *e*PKP2 **PKiKP** **11 10 02.0 +2.2**
OSTC Ostas 146.44 350 ⇑*e*PKP **PKiKP** **11 10 01.7 +1.9**
OSTC Ostas 146.44 350 *e*PKP2 **PKiKP** **11 10 01.7 +1.9**
BRG Berggiesshubel 146.47 352 *e*PKP **PKPab** **11 09 58.9 +1.1**
BRG Amp 11 10 01.4
comp=Z,44nm,1.4s
BRG Berggiesshubel 146.47 352 P **PKiKP** **11 10 05.7 +5.9**
BRG Amp 11 10 06.8
comp=Z,79nm,1.1s
VASR Vasrui 146.54 334 ⇓P **PKiKP** **11 10 01.0 +0.9**
DPC Dobruska-Polom 146.62 350 ⇑*e*PKP **PKiKP** **11 09 59.8 -0.4**
DPC Dobruska-Polom 146.62 350 *e*PKP2 **PKiKP** **11 09 59.8 -0.4**
NIE Niedzica 146.65 345 *e*PKP **PKiKP** **11 09 59.7 -0.6**
BURAR Bucovina Array 146.74 338 **PKPab** **11 09 58.8 -0.2**
BURAR Bucovina Array 146.74 338 ⇓P **PKiKP** **11 10 00.7 +0.1**
BURAR Bucovina Array 146.74 338 ⇓PKP2 **PKiKP** **11 10 00.7 +0.1**
BZK Bozkurt 146.78 322 ⇑P **PKPab** **11 09 59.8 +0.5**
HSKC Hora Svate Kat 146.79 353 ⇑*e*PKP **PKiKP** **11 10 03.9 +3.4**
KRLC Kraliky 146.80 349 ⇑*e*PKP **PKiKP** **11 10 01.4 +0.8**
KRLC Kraliky 146.80 349 *e*PKP2 **PKiKP** **11 10 01.4 +0.8**
MORC Moravsky Berou 146.94 348 ⇑P **PKiKP** **11 10 01.5 +0.6**
MORC Moravsky Berou 146.94 348 *e*PKP **PKPab** **11 09 59.3 -0.4**
MORC Moravsky Berou 146.94 348 ⇑PKP2 **PKiKP** **11 10 01.5 +0.6**
TESR Tescani 147.11 335 ⇑P **PKiKP** **11 10 01.3 0.0**
MEM Membach 147.13 2 *d*PKP **PKPab** **11 10 00.8 +0.5**
BSTI Sart Tilman 147.14 2 *d*PKP **PKiKP** **11 10 01.7 +0.5**
BTNL Ternell 147.15 1 *d*PKP **PKiKP** **11 10 01.3 0.0**
GHRR 147.16 334 ⇑P **PKPbc** **11 09 59.4 +0.4**
PRU Pruhonice 147.25 351 ⇑*e*PKP **PKiKP** **11 10 07.8 +6.3**
PRU Pruhonice 147.25 351 *e*PKP2 **PKiKP** **11 10 07.8 +6.3**
MAUC Maruska 147.27 347 ⇑*e*PKP **PKiKP** **11 10 05.9 +4.3**
MAUC *ex* x 11 10 10.2
BCLA Clavier 147.29 2 *d*PKP **PKiKP** **11 10 02.4 +0.9**
BGES Gesves 147.32 3 *d*PKP **PKiKP** **11 10 01.9 +0.3**
ONER Baraj Valea Uz 147.36 335 ⇑P **PKiKP** **11 10 02.6 +0.8**
BHOU Houvegnez 147.38 2 *d*PKP **PKPab** **11 10 01.6 +0.2**
BMRD Maredsous 147.39 3 *d*PKP **PKiKP** **11 10 01.8 +0.1**
CFR Carcaliu 147.54 332 ⇑P **PKPbc** **11 10 00.9 +0.9**
CFR Carcaliu 147.54 332 ⇑PKP2 **PKPbc** **11 10 00.9 +0.9**
VRAC Vranov 147.57 349 *e*PKP **PKPbc** **11 10 01.1 +1.1**
DOU Dourbes 147.58 3 *d*PKP **PKiKP** **11 10 02.4 +0.3**
VRI Vrincioaia 147.60 334 ⇑P **PKPbc** **11 10 01.0 +0.8**
VRI Vrincioaia 147.60 334 ⇑PKP2 **PKPbc** **11 10 01.0 +0.8**
PLOR Plostina 147.65 334 ⇑P **PKPab** **11 10 02.9 +0.3**
PLOR Plostina 147.65 334 ⇑PKP2 **PKPab** **11 10 02.9 +0.3**
TPGR Topolog 147.66 331 ⇓P **PKiKP** **11 10 02.5 0.0**
JAVC Velka Javorina 147.79 347 *e*PKP **PKPbc** **11 10 00.3 -0.4**
OZUR 147.79 336 ⇓P **PKPab** **11 10 04.8 +1.7**
ZVC Zvikov 147.84 352 ⇑*e*PKP **PKPab** **11 10 03.7 +0.5**
KRUC Moravsky 147.85 349 *e*PKP **PKPbc** **11 10 00.8 0.0**
TIRR Tirgusor 147.97 331 PKPdf **PKPdf** **11 09 55.9 -2.3**
TIRR Tirgusor 147.97 331 ⇓P **PKiKP** **11 10 03.5 +0.4**
TIRR Tirgusor 147.97 331 ⇓PKP2 **PKiKP** **11 10 03.5 +0.4**
HARR Harsova 148.01 332 ⇓P **PKPbc** **11 10 00.9 -0.4**
HARR Harsova 148.01 332 ⇓PKP2 **PKPbc** **11 10 00.9 -0.4**
DOPR Dopca 148.06 336 ⇑P **PKPab** **11 10 05.7 +1.5**
WLF Walferdange 148.08 1 **PKPab** **11 10 04.8 +0.7**
WLF Walferdange 148.08 1 *d*PKP **PKPab** **11 10 04.7 +0.7**
WLF Walferdange 148.08 1 PKP2 **PKPab** **11 10 04.8 +0.7**
CJR Cluj-Napoca 148.08 339 ⇑P **PKPab** **11 10 04.6 +0.3**
CJR Cluj-Napoca 148.08 339 ⇑PKP2 **PKPab** **11 10 04.6 +0.3**
PSZ Piszkesteto 148.14 344 ⇓P **PKPab** **11 10 04.2 -0.3**
PSZ Piszkesteto 148.14 344 ⇓PKP2 **PKPab** **11 10 04.2 -0.3**
MFTR Murfatlar 148.18 331 ⇓P **PKPab** **11 10 04.7 0.0**
KHC Kasperske Hory 148.22 352 ⇑*e*PKP **PKiKP** **11 10 04.3 +0.8**
KHC *ex* x 11 10 10.7
KHC Kasperske Hory 148.22 352 *e*PKP2 **PKiKP** **11 10 04.3 +0.8**
MLR Muntele Rosu 148.23 335 **PKPdf** **11 09 59.8 +1.0**
MLR Muntele Rosu 148.23 335 ⇑P **PKPab** **11 10 04.6 -0.4**
MLR Muntele Rosu 148.23 335 PKIKP **PKPdf** **11 09 59.8 +1.0**
MARR Marisel-Cluj 148.28 339 ⇓P **PKiKP** **11 10 04.1 +0.3**
DRGR 148.31 340 ⇑P **PKiKP** **11 10 03.9 +0.1**
DRGR 148.31 340 ⇑PKP2 **PKiKP** **11 10 03.9 +0.1**
MODS Modra-Piesok 148.33 347 *e*PKP2 **PKPab** **11 10 11.8 +6.6**
MODS Modra-Piesok 148.33 347 *e*PKP **PKPab** **11 10 11.8 +6.6**
BRTR Keskin Array B 148.36 319 **PKPdf** **11 10 00.1 +0.9**
BRTR Keskin Array B 148.36 319 PKPbc **PKPbc** **11 10 03.5 +0.9**
comp=Z,7.8nm,0.8s,baz=48,slow=2.1,SNR=19
GERES GERESS Array B 148.49 352 PKPbc **PKiKP** **11 10 04.0 -0.2**
comp=Z,2.0nm,0.7s,baz=29,slow=3.0,SNR=14
GERES GERESS Array B 148.49 352 PKP2 **PKiKP** **11 10 04.0 -0.2**
KIRS Kirsehir-Merke 148.53 318 ⇑P **PKiKP** **11 10 04.5 0.0**
ZST Bratislava 148.53 347 *e*PP PP 11 13 30.2 -0.9
ANTO Ankara 148.79 320 **PKPdf** **11 10 01.4 +1.6**
ANTO Ankara 148.79 320 ⇓P **PKPbc** **11 10 04.2 +0.6**
ANTO Ankara 148.79 320 ⇓PKP2 **PKPbc** **11 10 04.2 +0.6**
ARR Arges 148.85 336 ⇓P **PKiKP** **11 10 05.6 +0.6**
CONA Conrad Observa 149.03 349 *e*PKP **PKPbc** **11 10 02.9 -1.1**
comp=Z,32nm,1.2s
LODK Lodwar 149.11 246 IAMs_20 IAMs_20 12 16 55.9
comp=Z,395nm,20.0s
SIRR Siria 149.12 340 ⇓P **PKiKP** **11 10 06.6 +1.1**
RONA Rosalia, Austr 149.17 348 *e*PKP **PKPbc** **11 10 03.0 -1.3**
comp=Z,60nm,2.1s
RONA *ep*PKP **sPKPab** **11 10 22.0 +7.2**
comp=Z,66nm,1.3s
SAHE Sakarya_HENDEK 149.30 324 ⇓P **PKiKP** **11 10 06.6 +0.6**
SURR Surduc 149.42 339 ⇑P **PKPab** **11 10 09.6 0.0**
GZR Gura Zlata 149.51 338 ⇑P **PKPab** **11 10 10.6 +0.5**
GZR Gura Zlata 149.51 338 ⇑PKP2 **PKPab** **11 10 10.6 +0.5**
RAZG Razgrad 149.53 332 ⇓P **PKiKP** **11 10 08.2 +1.8**
ECH Echery 149.54 0 **PKiKP** **11 10 06.4 +0.1**
ECH Echery 149.54 0 PKP2 **PKiKP** **11 10 06.4 +0.1**
ARSA Arzberg 149.75 349 *e*PKP **PKiKP** **11 10 07.5 +0.7**
comp=Z,16nm,1.8s
ARSA *ep*PKiKP **sPKPab** **11 10 20.7 +3.6**
comp=Z,32nm,1.3s
LESA Schwarzleotal 150.01 353 *e*PKP **PKiKP** **11 10 08.2 +0.9**
comp=Z,19nm,1.1s
MORH Mrgy, Hungar 150.04 344 ⇓P **PKiKP** **11 10 08.8 +1.5**
RETA Reutte 150.14 355 *e*PKP **PKiKP** **11 10 09.1 +1.5**
comp=Z,10nm,1.0s
RETA *ep*PKP **sPKPab** **11 10 21.0 +2.2**
comp=Z,42nm,1.0s
WATA Walderalm 150.22 354 *e*PKP **PKiKP** **11 10 09.1 +1.3**
comp=Z,34nm,1.6s
MOTA Moosalm 150.25 355 *e*PKP **PKiKP** **11 10 09.4 +1.4**
comp=Z,18nm,1.2s
MOTA *ep*PKP **sPKPab** **11 10 21.2 +1.9**
comp=Z,65nm,1.1s
KBA Koelnbreinsper 150.27 352 *e*PKP **PKiKP** **11 10 08.5 +0.5**
comp=Z,16nm,1.2s
WTTA Wattenberg 150.28 354 *i* PKP **PKiKP** **11 10 09.5 +1.4**
comp=Z,45nm,1.6s,SNR=6.6
ELND Elena 150.32 332 ⇑P **PKPdf** **11 10 04.6 +2.6**
SQTA Sankt Quirin 150.37 355 *e*PKP **PKiKP** **11 10 09.5 +1.3**
comp=Z,11nm,0.9s
SQTA *ep*PKiKP **sPKPab** **11 10 21.7 +1.9**
comp=Z,26nm,0.8s
SOKA Soboth 150.39 349 *i* PKP **PKiKP** **11 10 08.6 +0.4**
comp=Z,17nm,1.3s,SNR=7.7
DAVA Damuels 150.40 357 *e*PKiKP **PKPdf** **11 10 04.3 +2.0**
comp=Z,13nm,1.6s
MDVR Moldovita 150.41 339 ⇓P **PKiKP** **11 10 08.4 +0.2**
PLVB Pleven 150.49 334 ⇑P **PKiKP** **11 10 09.3 +0.9**
MMAI Mount Meron Ar 150.53 307 PKPbc **PKiKP** **11 10 09.6 +0.7**
comp=Z,2.5nm,0.5s,baz=35,slow=5.3,SNR=5.6
FETA Feichten 150.60 355 *i* PKP **PKiKP** **11 10 10.4 +1.7**
comp=Z,17nm,1.1s,SNR=6.9
OBKA Obir 150.64 350 *e*PKP **PKiKP** **11 10 09.6 +0.9**
comp=Z,5.6nm,1.0s
MYKA Terra Mystica 150.66 351 *e*PKP **PKiKP** **11 10 09.5 +0.8**
comp=Z,20nm,1.8s
ABTA Abfaltersbach 150.70 353 *i* PKP **PKiKP** **11 10 09.7 +0.9**
comp=Z,26nm,1.0s,SNR=7.5
GHAJ Ghor Haditha 151.06 303 IAMs_20 IAMs_20 12 32 02.3
comp=Z,390nm,19.0s
BLKB Belogradchik 151.07 337 ⇑P **PKPab** **11 10 13.5 -3.1**
BNI Bardonecchia 152.70 1 **PKPbc** **11 10 10.2 -2.6**
BNI Bardonecchia 152.70 1 PKIKP **PKPbc** **11 10 10.2 -2.6**
POLO Lamas de Olo 153.04 26 *e*PKP **PKPbc** **11 10 11.9 -1.8**
MVO Moncorvo 153.53 25 *e*PKP **PKiKP** **11 10 17.4 +2.6**
PSARD Sardoal 154.33 29 *e*PKP **PKiKP** **11 10 22.8 +6.3**
PMRV Marv??o 154.82 28 *e*PKP **PKiKP** **11 10 24.1 +6.7**
MORF Marmelete 155.90 33 *e*PKP PKPab 11 10 25.0 -12
ESDC Sonseca Array 155.98 22 PKP **PKPdf** **11 10 12.7 +2.2**
comp=Z,0.2nm,0.4s,baz=328,slow=1.7,SNR=1.8
PBAR Barrancos 156.00 29 *e*PKP PKPab 11 10 25.1 -12
TORD Torodi Ar. Bea 172.92 129 PKP **PKPdf** **11 10 26.9 +1.0**
comp=Z,5.8nm,1.3s,baz=219,slow=1.8,SNR=7.6
TORD PKPab **PKPab** **11 11 53.5 +1.0**
comp=Z,6.2nm,0.9s,baz=283,slow=1.5,SNR=10
TORD PP **PP** **11 15 47.4 +3.8**
comp=Z,0.9nm,1.0s,baz=204,slow=3.2,SNR=3.6

NNC 24 10:53:27.7±4.0, 43°23N×87°94E, h0km, mb3.6, mpv3.2,
4C-3D, Error ellipse: s-maj=37.4km s-min=26.7km
az=151.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.36**	**314**	⇑Pn	Pn	10 54 49.5	+0.5
	2.4nm,0.9s,baz=125,slow=15,SNR=4.6						
MK31				⇑Lg	Lg	10 56 16.6	
	2.3nm,0.5s						
MAKZ	**Makanchi**	**5.54**	**312**	⇓Pn	Pn	10 54 50.2	-1.2
	1.4nm,0.6s						
MAKZ				⇑Lg	Lg	10 56 27.7	
	5.1nm,0.8s						
PDGK	**Podgornoye**	**6.17**	**274**	⇑Pn	Pn	10 55 01.2	+1.0
	1.8nm,0.6s						
PDGK				⇓Sn	Sn	10 56 12.3	+0.9
	4.9nm,0.7s						
PDGK				⇓Lg	Lg	10 56 43.2	
	10nm,0.8s						

JMA ***24*** *11:25:58.2±0.4, 44°N±2°×14°8E±°, h0km, MV3.9/22, SE OFF ETOROFU*
SKHL ***24*** *11:26:00.2±0.1, 44°.30N×148°.10E, h55km±9km, mb4.7/5*
ISC 24 11:25:54.6±2.4, 44°.16N±0°.08×147°.9E±0°.1, h2km±13km,
n16, σ1°69/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**358**	*e*P	**Pg**	**11 26 16.1**	**+1.0**
KUR				AMB	AMB	11 26 16.3	
	470nm,0.3s						
KUR				*i* S	**Sg**	**11 26 28.0**	**-1.0**
KUR				A	A	11 26 28.8	
	530nm,0.3s						
KUR				A	A	11 26 28.8	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.49**	**266**	*e*P	**Pb**	**11 26 25.6**	**+2.7**
YUK				AMB	AMB	11 26 27.3	
	330nm,0.3s						
YUK				*e*S	**Sn**	**11 26 44.7**	**+2.4**
YUK				A	A	11 26 48.0	
	760nm,0.3s						
YUK				A	A	11 26 48.0	
	980nm,0.3s						
NEM2	**Nemuro 2**	**1.77**	**244**	P	**Pg**	**11 26 29.3**	**+0.9**
NEM2				*e*S	**Sg**	**11 26 51.3**	**0.0**
NMR	**Nemuro--Hokkai**	**1.77**	**244**	*i* P	**Pg**	**11 26 29.4**	**+0.8**
NMR				*i* S	**Sg**	**11 26 51.3**	**-0.3**
GLVR	**Golovnino**	**1.79**	**257**	*e*P	**Pg**	**11 26 30.3**	**+1.5**
GLVR				AMB	AMB	11 26 33.1	
	90nm,0.2s						
GLVR				*e*S	**Sg**	**11 26 52.7**	**+0.8**
GLVR				A	A	11 26 57.0	
	690nm,0.4s						
GLVR				A	A	11 26 57.0	
	710nm,0.4s						
JRA	**Rausu**	**2.03**	**265**	*e*P	**Pg**	**11 26 34.1**	**+0.7**
JRA				*e*S	**Sg**	**11 27 00.0**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.14**	**261**	*e*P	**Pg**	**11 26 35.6**	**0.0**
JKHN	**Kushirohamanak**	**2.28**	**243**	P	**Pb**	**11 26 36.8**	**+0.4**
JKHN				*e*S	**Sb**	**11 27 04.5**	**-0.4**
AKK	**Akkeshi**	**2.51**	**244**	*e*P	**Pb**	**11 26 40.0**	**-0.4**
JAK	**Akkeshi**	**2.62**	**245**	*e*P	**Pb**	**11 26 41.4**	**-0.8**
JTKR	**Abashiri--Toko**	**2.90**	**268**	*e*P	**Pb**	**11 26 45.8**	**-1.2**
JAR	**Ashorobuto**	**3.13**	**255**	P	**Pb**	**11 26 49.7**	**-1.2**
JAR				*e*S	**Sb**	**11 27 26.9**	**-2.7**
JOB	**Onbets**	**3.23**	**248**	*e*P	**Pb**	**11 26 50.6**	**-2.0**
JOB				*e*S	**Sb**	**11 27 28.5**	**-3.8**
JMP	**Maruseppu**	**3.29**	**269**	*e*P	**Pb**	**11 26 51.9**	**-1.8**
JCH	**Churui**	**3.67**	**247**	*e*S	**Sn**	**11 27 38.2**	**+2.2**
YSS	**Yuzhno-Sakhali**	**4.58**	**309**	*e*P	Pn	11 27 07.1	+2.3
YSS				AMB	AMB	11 27 07.5	

	10.0nm,0.3s					
YSS			*e*S	Sn	11 27 56.8	-1.7
YSS			A	A	11 27 56.9	
	10.0nm,0.3s					
YSS			A	A	11 27 56.9	
	10.0nm,0.3s					

IDC 24 11:31:07.9±1.7, 2°58S×138°42E, h0km, mb3.4/2, mbtmp3.3/4, ML3.2/2, MS4.0/1, Error ellipse: s-maj=31.9km s-min=18.7km az=172.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.29**	**88**	Pn	Pn	11 31 48.2	+1.3
	2.6nm,0.3s,baz=250,slow=12,SNR=13						
JAY				Lg	Lg	11 32 20.0	
	1.5nm,0.3s,baz=120,slow=7.1,SNR=2.2						
	7.8nm,0.3s						
WRA	**Warramunga Arr**	**17.71**	**193**	P	Pn	11 35 16.0	-0.1
	0.1nm,0.3s,baz=18,slow=12,SNR=2.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.41**	**191**	P	P	11 35 57.1	-0.5
	0.8nm,0.7s,baz=22,slow=11,SNR=9.1						
	0.8nm,0.7s						
URZ	**Urewera**	**50.11**	**140**	LR	LR	12 01 32.1	
	comp=Z,133nm,18.4s,baz=285,slow=36						
MKAR	**Makanchi Array**	**69.51**	**322**	P	P	11 42 18.4	-0.1
	0.4nm,0.6s,baz=116,slow=6.6,SNR=3.0						
	0.4nm,0.6s						

IDC 24 12:24:52.6±8.3, 17°62S×175°12W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=368.6km s-min=38.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.76**	**259**	P	P	12 33 31.5	-0.5
	0.3nm,0.7s,baz=95,slow=8.4,SNR=1.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**47.88**	**254**	P	P	12 33 33.0	+0.1
	1.5nm,0.7s,baz=89,slow=7.9,SNR=13						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**84.94**	**12**	P	P	12 37 29.1	0.0
	0.4nm,0.7s,baz=225,slow=6.2,SNR=5.4						
	0.4nm,0.7s						

*IDC **24** 12:25:09.8±0.5, 10°26N×126°50E, h0km, mb4.3/18, mbtmp4.3/18, MS3.5/3, Error ellipse: s-maj=29.0km s-min=11.5km az=75.0*

*NEIC **24** 12:25:15.7±2.0, 10°22N±0°06×126°5E±0°1, h35km±1km, mb4.6/19, Error ellipse: s-maj=19.2km s-min=9.6km az=77.0*

ISC 24 12:25:15.9±0.5, 10°23N±0°06×126°4E±0°1, h42km, n48, σ0§82/49, mb4.5/29, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.24**	**195**	Pn	**Pn**	**12 26 03.6**	**-0.7**
DAV	**Davao City (W)**	**3.24**	**195**	LR	LR	12 27 22.7	
	comp=Z,637nm,18.5s,baz=34,slow=40						
MYLDM	**Lahad Datu**	**9.30**	**238**	Pn	**Pn**	**12 27 27.1**	**-0.5**
TNTI	**Ternate**	**9.44**	**174**	Pn	**Pn**	**12 27 28.1**	**-1.3**
TPUB	**Ta-pu**	**14.13**	**338**	Pn	**Pn**	**12 28 32.6**	**-0.9**
GUMO	**Guam**	**18.36**	**78**	LR	LR	12 35 31.8	
	comp=Z,152nm,18.7s,baz=182,slow=34						
BATI	**Baumata**	**20.48**	**188**	P	**P**	**12 29 50.9**	**+0.6**
	62nm,0.7s,baz=74,slow=0.3,SNR=6.9						
	62nm,0.7s						
WHN	**Wuhan**	**23.13**	**333**	P	**P**	**12 30 18.3**	**-0.1**
LEM	**Lembang**	**25.25**	**229**	P	**P**	**12 30 40.3**	**+1.9**
	8.9nm,0.3s,baz=342,slow=19,SNR=1.5						
	8.9nm,0.3s						
KNRA	**Kununurra**	**25.84**	**175**	P	**P**	**12 30 43.9**	**+0.3**
KNRA				IAmb	IAmb	12 30 59.4	
	comp=Z,30nm,1.4s						
KSRS	**Korea Array**	**27.14**	**3**	P	**P**	**12 30 55.8**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=185,slow=8.5,SNR=4.8						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.81**	**290**	P	**P**	**12 31 01.9**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=103,slow=6.9,SNR=13						
CMAR				PcP	**PcP**	**12 34 18.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=131,slow=1.2,SNR=5.4						
	comp=Z,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.15**	**182**	P	**P**	**12 31 04.3**	**0.0**
	comp=Z,1.9nm,0.5s,baz=359,slow=7.6,SNR=11						
	comp=Z,1.9nm,0.5s						
WB0	**Warramunga Arr**	**30.82**	**165**	P	**P**	**12 31 26.4**	**-1.7**
WB0				IAmb	IAmb	12 31 52.2	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**30.97**	**165**	P	**P**	**12 31 28.7**	**-0.7**
WRA	**Warramunga Arr**	**30.98**	**165**	P	**P**	**12 31 27.4**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=346,slow=9.0,SNR=7.3						
WRA				PcP	**PcP**	**12 34 24.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=344,slow=3.2,SNR=4.3						
	comp=Z,0.5nm,0.7s						
WR8	**Warramunga Arr**	**31.03**	**165**	P	**P**	**12 31 30.0**	**+0.1**
WR8				IAmb	IAmb	12 31 30.9	
	comp=Z,9.8nm,1.4s						
MBWA	**Marble Bar**	**31.87**	**192**	P	**P**	**12 31 36.7**	**-0.6**
MBWA				IAmb	IAmb	12 31 38.0	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**32.25**	**192**	P	**P**	**12 31 40.2**	**-0.3**
PSA00	**Pilbara Seismi**	**32.25**	**192**	P	**P**	**12 31 40.4**	**-0.2**
PSA00				IAmb	IAmb	12 31 41.2	
	comp=Z,9.6nm,0.9s						
ASAR	**Alice Springs**	**34.47**	**168**	P	**P**	**12 31 58.5**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=354,slow=7.3,SNR=11						
ASAR				PcP	**PcP**	**12 34 35.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=344,slow=2.7,SNR=8.1						
	comp=Z,0.4nm,0.4s						
ASAJ	**Asahikawa**	**36.56**	**20**	LR	LR	12 48 15.4	
	comp=Z,61nm,19.1s,baz=162,slow=38						
GTA	**Gaotai**	**37.50**	**325**	*e*P	**P**	**12 32 26.8**	**+0.9**
GTA				pmax	pmax		
	comp=Z,14nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.14**	**72**	T	T	13 16 12.8	
	baz=264,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.14**	**72**	T	T	13 16 13.3	
	baz=264,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**40.15**	**72**	T	T	13 16 14.1	
	baz=264,slow=74,SNR=11						
MORW	**Morawa**	**40.33**	**194**	P	**P**	**12 32 49.4**	**0.0**
FORT	**Forrest**	**40.80**	**178**	P	**P**	**12 32 54.3**	**+1.0**
FORT				IAmb	IAmb	12 33 28.0	
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**40.91**	**340**	P	**P**	**12 32 54.4**	**+0.1**
SONM	**Songino Array**	**41.11**	**339**	P	**P**	**12 32 56.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=160,slow=9.5,SNR=9.7						
SONM				PcP	**PcP**	**12 34 54.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=180,slow=1.4,SNR=1.8						
	comp=Z,1.2nm,0.5s						
BBOO	**Buckleboo**	**43.77**	**168**	P	**P**	**12 33 17.6**	**+0.1**
BBOO				IAmb	IAmb	12 33 26.3	
	comp=Z,27nm,1.2s						
NWAO	**Narrogin (SRO)**	**43.79**	**191**	P	**P**	**12 33 18.9**	**+1.2**
STKA	**Stephens Creek**	**44.31**	**161**	P	**P**	**12 33 22.0**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=355,slow=7.2,SNR=9.6						
	comp=Z,1.7nm,0.4s						
TLY	**Talaya**	**45.32**	**340**	P	**P**	**12 33 28.7**	**-1.0**
TLY				IAmb	IAmb	12 33 32.4	
	comp=Z,5.1nm,0.8s						
PETK	**Petropavlovsk-**	**49.62**	**24**	P	**P**	**12 34 03.0**	**0.0**
	comp=Z,4.0nm,1.0s,baz=212,slow=7.8,SNR=1.5						
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**52.15**	**323**	P	**P**	**12 34 21.9**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=121,slow=8.3,SNR=20						
MKAR				PcP	**PcP**	**12 35 33.3**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=102,slow=5.1,SNR=7.5						
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**54.73**	**331**	P	**P**	**12 34 40.6**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=116,slow=7.6,SNR=18						
ZALV				PcP	**PcP**	**12 35 42.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=93,slow=3.0,SNR=3.5						
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**56.18**	**325**	P	**P**	**12 34 51.6**	**+0.1**
KURK				IAmb	IAmb	12 34 53.5	
	comp=Z,6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**56.19**	**325**	P	**P**	**12 34 50.9**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=124,slow=6.9,SNR=17						
	comp=Z,2.6nm,0.7s						
BVAR	**Borovoye Array**	**61.78**	**325**	P	**P**	**12 35 30.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=122,slow=7.5,SNR=7.6						
BVAR				PcP	**PcP**	**12 36 11.3**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=104,slow=4.7,SNR=8.5						
	comp=Z,1.2nm,0.5s						
D19K	**Kuna River**	**75.23**	**22**	P	**P**	**12 36 55.0**	**+1.0**
D19K				IAmb	IAmb	12 37 18.6	
	comp=Z,14nm,1.2s						
RAYN	**Ar Rayn**	**77.72**	**292**	P	**P**	**12 37 07.9**	**-1.1**
RAYN				IAmb	IAmb	12 37 09.2	
	comp=Z,3.8nm,0.8s						
ARCES	**ARCESS Array B**	**84.28**	**340**	P	**P**	**12 37 43.4**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=69,slow=5.2,SNR=10						
	comp=Z,5.8nm,0.7s						
FINES	**FINESS Array B**	**86.00**	**332**	P	**P**	**12 37 50.9**	**-0.8**
	comp=Z,6.5nm,1.0s,baz=77,slow=4.4,SNR=11						
	comp=Z,6.5nm,1.0s						
VNDA	**Vanda**	**89.87**	**173**	P	**P**	**12 38 10.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=330,slow=5.7,SNR=7.9						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**92.15**	**332**	P	**P**	**12 38 19.9**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=106,slow=5.3,SNR=5.2						
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**117.75**	**49**	PKP	**PKPdf**	**12 43 58.3**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=336,slow=3.3,SNR=1.7						
PLCA	**Paso Flores**	**146.11**	**157**	PKPbc	**PKPab**	**12 44 53.2**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=225,slow=7.4,SNR=6.5						

*AEIC **24** 13:15:00.9±1.2, 51°22N±0°01×178°56E±0°03, h16km±5km, Error ellipse: s-maj=3.4km s-min=1.1km az=124.0*

*NEIC **24** 13:15:02.1±1.9, 51°29N±0°05×178°62E±0°03, h21km±13km, ML3.7/8, ML3.4(AEIC), Error ellipse: s-maj=7.0km s-min=3.1km az=187.0*

*IDC **24** 13:15:04.3±3.2, 51°40N×178°60E, h58km±25km, mb3.3/10, mbtmp3.6/11, ML2.5/1, MS3.0/2, Error ellipse: s-maj=37.4km s-min=15.3km az=5.0*

ISC 24 13:14:57.2±2.2, 51°21N±0°08×178°33E±0°04, h8km±13km, n53, σ1§15/50, mb3.7/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.63**	**75**		**Pb**	**13 15 11.0**	**+0.5**
AMKA	**Amchitka**	**0.63**	**75**		**Sg**	**13 15 18.0**	**+0.4**
LSSE	**Little Sitkin**	**0.74**	**12**		**Pn**	**13 15 14.9**	**+1.0**
LSPA	**Little Sitkin**	**0.76**	**11**		**Pn**	**13 15 15.1**	**+0.8**
LSPA					**Sn**	**13 15 24.6**	**-1.3**
LSPA					**Sb**	**13 15 25.6**	**+2.4**
LSNW	**Little Sitkin**	**0.77**	**9**		**Pn**	**13 15 15.0**	**+0.7**
CESW	**Semis' Southwe**	**1.03**	**48**		**Pn**	**13 15 18.4**	**+0.4**
CERB	**Semis' Cerberu**	**1.08**	**48**		**Pn**	**13 15 19.3**	**+0.6**
CERB					**Sb**	**13 15 32.4**	**-0.1**
CEPE	**Semis' Perret**	**1.12**	**47**		**Pn**	**13 15 19.6**	**+0.5**
GAKI	**Gareloi-Kavalg**	**1.82**	**78**		**Pn**	**13 15 29.1**	**+0.3**
GAKI					**Sn**	**13 15 50.8**	**-1.3**
GAKI					**Sb**	**13 15 51.0**	**-2.7**
GASW	**Gareloi Southw**	**1.85**	**71**		**Pn**	**13 15 29.7**	**+0.5**
GASW					**Sn**	**13 15 51.5**	**-1.2**
GASW					**Sb**	**13 15 52.3**	**-2.2**
GANO	**Gareloi North**	**1.89**	**70**		**Pn**	**13 15 31.3**	**+1.5**
GANO					**Sn**	**13 15 53.2**	**-0.6**
GALAA	**Gareloi Lava P**	**1.89**	**72**		**Pn**	**13 15 30.9**	**+1.1**
GANE	**Gareloi Northe**	**1.91**	**70**		**Sn**	**13 15 53.2**	**-1.0**
GAEA	**Gareloi East**	**1.91**	**72**		**Pn**	**13 15 31.4**	**+1.3**
TANO	**Tanaga North**	**2.32**	**71**		**Pn**	**13 15 36.8**	**+1.1**
TAFP	**Tanaga Falls P**	**2.40**	**72**		**Pn**	**13 15 37.4**	**+0.6**
TAFL	**Tanaga Flats**	**2.42**	**76**		**Pn**	**13 15 37.8**	**+0.8**
TAFL					**Sn**	**13 16 06.1**	**-0.7**
TAPA	**Tanaga Point A**	**2.48**	**74**		**Pn**	**13 15 38.5**	**+0.5**
KIMD	**Kanaga Island**	**2.83**	**77**		**Pn**	**13 15 43.5**	**+0.8**
KIKV	**Kanaga Island**	**2.89**	**75**		**Pn**	**13 15 44.2**	**+0.8**
KIWB	**Kanaga Island**	**2.89**	**75**		**Pn**	**13 15 44.6**	**+1.1**
KIWB	**Kanaga Island**	**2.89**	**75**	IAML		13 16 28.4	
	comp=E,330nm,0.6s						
KIWB				IAML		13 16 35.9	
	comp=N,226nm,0.6s						
SHEM	**Shemya Is, Ala**	**3.02**	**302**	IAML		13 16 38.3	
	comp=E,259nm,0.9s						
SHEM	**Shemya Is, Ala**	**3.02**	**302**	P	**Pb**	**13 15 49.4**	**-1.8**
	comp=E,225nm,0.4s,baz=100,slow=1.8,SNR=35						
SHEM				S	**Sb**	**13 16 27.0**	**-1.3**
	comp=E,117nm,0.4s,baz=267,slow=21,SNR=11						
SMY	**Shemya**	**3.02**	**302**		**Pb**	**13 15 50.2**	**-1.1**
ADK	**Adak**	**3.18**	**76**		**Pn**	**13 15 48.2**	**+0.7**
ADK				IAML		13 16 35.9	
	comp=E,172nm,0.7s						
ETKA	**Kagalaska Isla**	**3.35**	**77**		**Pn**	**13 15 50.4**	**+0.6**
GSCK	**Great Sitkin C**	**3.53**	**75**		**Pn**	**13 15 53.2**	**+1.0**
GSTD	**Great Sitkin T**	**3.54**	**74**		**Pn**	**13 15 53.2**	**+0.6**
GSMY	**Great Sitkin M**	**3.60**	**74**		**Pn**	**13 15 54.0**	**+0.8**
GSIG	**Igitkin Island**	**3.67**	**76**		**Pn**	**13 15 54.7**	**+0.5**
UNV	**Unalaska Valle**	**9.61**	**68**	Pn	**Pn**	**13 17 17.6**	**+1.9**
PETK	**Petropavlovsk-**	**12.80**	**287**	P	Pn	13 18 05.2	+5.8
	comp=E,0.1nm,0.3s,baz=113,slow=14,SNR=1.0						
PETK				LR	LR	13 23 37.5	
	comp=E,53nm,19.5s,baz=334,slow=40						
	comp=E,1.2nm,0.6s						
ILAR	**Eielson Array**	**22.51**	**40**	P	**P**	**13 19 55.4**	**-1.5**
	comp=E,0.5nm,0.6s,baz=236,slow=8.2,SNR=12						
	comp=E,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**45.36**	**81**	P	**P**	**13 23 16.1**	**0.0**
	comp=E,0.4nm,0.8s,baz=327,slow=8.3,SNR=2.2						
	comp=E,0.4nm,0.8s						
PDAR	**Pinedale Array**	**48.07**	**70**	P	**P**	**13 23 35.6**	**-1.6**
	comp=E,0.2nm,0.5s,baz=337,slow=2.9,SNR=3.8						
	comp=E,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.92**	**312**	P	**P**	**13 24 49.8**	**+0.4**
	comp=E,1.9nm,0.7s,baz=41,slow=6.6,SNR=16						
	comp=E,1.9nm,0.7s						
MKAR	**Makanchi Array**	**58.71**	**307**	P	**P**	**13 24 55.2**	**+0.1**
	comp=E,0.4nm,0.5s,baz=49,slow=5.2,SNR=8.1						
	comp=E,0.4nm,0.5s						
BVAR	**Borovoye Array**	**59.83**	**318**	P	**P**	**13 25 03.2**	**+0.5**
	comp=E,2.3nm,0.5s,baz=54,slow=7.0,SNR=12						
	comp=E,2.3nm,0.5s						
TXAR	**Lajitas Array**	**60.46**	**79**	P	**P**	**13 25 07.2**	**-0.2**
	comp=E,0.3nm,0.7s,baz=317,slow=8.6,SNR=4.0						
	comp=E,0.3nm,0.7s						
AKASG	**Malin Array Be**	**75.12**	**340**	P	**P**	**13 26 39.5**	**+0.1**
	comp=E,0.4nm,0.4s,baz=24,slow=7.0,SNR=3.1						
	comp=E,0.4nm,0.4s						
ASAR	**Alice Springs**	**84.17**	**220**	P	**P**	**13 27 29.9**	**+1.1**
	comp=E,0.2nm,0.8s,baz=29,slow=6.2,SNR=1.8						
	comp=E,0.2nm,0.8s						
H03N2	**Juan Fernandez**	**122.84**	**104**	T	T	15 48 37.4	
	baz=317,slow=77,SNR=3.3						
H03N1	**Juan Fernandez**	**122.86**	**104**	T	T	15 48 31.5	
	baz=317,slow=77,SNR=3.8						
H03N3	**Juan Fernandez**	**122.86**	**104**	T	T	15 48 35.9	
	baz=317,slow=77,SNR=4.1						

*SNET **24** 13:18:55.5±1.5, 13°35N×90°06W, h32km, ML3.9*

*GCG **24** 13:18:56.3±0.5, 13°43N×90°03W, h46km±8km, MD3.6*

*CATAC **24** 13:18:56.2±0.4, 13°N±2°×9°0W±°, h27km±2km, M3.9/25, MLv3.9/25, Error ellipse: s-maj=5.5km s-min=2.2km az=21.1, confirmed*

ISC 24 13:18:58.2±1.3, 13°42N±0°05×89°95W±0°03, h35km±7km, n75, σ1§23/96, 4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.43**	**351**	P	**Pn**	**13 19 06.7**	**-1.2**
NUBE	**Las Nubes**	**0.51**	**19**	*e*P	**Pn**	**13 19 08.3**	**-0.9**
NUBE				*e*S	**Sn**	**13 19 17.4**	**+0.6**
NUBE	**Las Nubes**	**0.51**	**19**	*i*P	**Pn**	**13 19 08.3**	**-0.9**
NUBE				*i*S	**Sn**	**13 19 17.7**	**+0.9**
NUBE	**Las Nubes**	**0.51**	**19**	P	**Pn**	**13 19 08.3**	**-0.9**
CEVE	**Cerro Verde**	**0.51**	**38**	||*i*P	**Pn**	**13 19 08.9**	**-0.5**
CEVE				*e*S	**Sn**	**13 19 18.5**	**+1.5**
CEVE	**Cerro Verde**	**0.51**	**38**	P	**Pn**	**13 19 08.9**	**-0.5**
CEVE	**Cerro Verde**	**0.51**	**38**	S	**Sn**	**13 19 17.8**	**+0.7**
SBLS	**San Blas**	**0.52**	**37**	||*i*P	**Pn**	**13 19 08.9**	**-0.6**
SBLS				*e*S	**Sn**	**13 19 18.6**	**+1.3**
JAYA	**Jayaque - finc**	**0.54**	**64**	*e*P	**Pn**	**13 19 08.8**	**-0.8**
JAYA				*e*S	**Sn**	**13 19 18.3**	**+0.8**
JAYA	**Jayaque - finc**	**0.54**	**64**	*i*P	**Pn**	**13 19 08.7**	**-0.8**
JAYA				*i*S	**Sn**	**13 19 18.7**	**+1.2**
JAYA	**Jayaque - finc**	**0.54**	**64**	P	**Pn**	**13 19 08.8**	**-0.8**
SNJE	**San Jose**	**0.56**	**37**	||*i*P	**Pn**	**13 19 09.3**	**-0.6**
SNJE				*e*S	**Sn**	**13 19 19.2**	**+1.2**
LOAL	**Lomas de Alarc**	**0.60**	**16**	*e*P	**Pn**	**13 19 09.6**	**-0.7**
LOAL				*e*S	**Sn**	**13 19 20.2**	**+1.4**
LOAL	**Lomas de Alarc**	**0.60**	**16**	P	**Pn**	**13 19 09.6**	**-0.7**
LOAL	**Lomas de Alarc**	**0.60**	**16**	S	**Sn**	**13 19 20.0**	**+1.1**
LALI	**Alcalda de L**	**0.61**	**83**	*e*P	**Pn**	**13 19 09.6**	**-0.8**
LALI				*e*S	**Sb**	**13 19 19.1**	**-0.2**
LALI	**Alcalda de L**	**0.61**	**83**	*i*P	**Pn**	**13 19 09.5**	**-1.0**
LALI	**Alcalda de L**	**0.61**	**83**	P	**Pn**	**13 19 09.6**	**-0.8**
CEDA	**San Andres**	**0.66**	**55**	*e*P	**Pb**	**13 19 10.6**	**-0.9**
CEDA				*e*S	**Sn**	**13 19 21.7**	**+1.4**
CEDA	**San Andres**	**0.66**	**55**	P	**Pb**	**13 19 10.7**	**-0.9**
CEDA	**San Andres**	**0.66**	**55**	S	**Sn**	**13 19 22.0**	**+1.7**
UNIC	**Universidad Ca**	**0.68**	**35**	S	**Sn**	**13 19 21.7**	**+0.8**
UNIC	**Universidad Ca**	**0.68**	**35**	P	**Pb**	**13 19 10.7**	**-1.3**
PMON	**Piamonte**	**0.68**	**65**	*e*P	**Pn**	**13 19 10.6**	**-0.9**
PMON				*e*S	**Sb**	**13 19 21.7**	**+0.4**
BOQS	**Boqueron**	**0.72**	**64**	*i*P	**Pb**	**13 19 11.6**	**-1.1**
BOQS				*e*S	**Sb**	**13 19 23.4**	**+0.9**
RBDL	**Robledal**	**0.73**	**20**	*e*P	**Pb**	**13 19 11.4**	**-1.5**
RBDL				*e*S	**Sb**	**13 19 23.5**	**+0.6**
UEES	**Universidad Ev**	**0.75**	**67**	P	**Pn**	**13 19 11.8**	**-0.6**
UEES	**Universidad Ev**	**0.75**	**67**	S	**Sb**	**13 19 23.7**	**+0.6**
PANCS	**Alcalda de**	**0.77**	**76**	P	**Pn**	**13 19 11.8**	**-0.9**
UTEC	**Universidad Te**	**0.78**	**69**	S	**Sb**	**13 19 24.4**	**+0.5**
UTEC	**Universidad Te**	**0.78**	**69**	P	**Pb**	**13 19 12.4**	**-1.1**
LOMA	**Loma Larga**	**0.79**	**73**	*e*P	**Pn**	**13 19 12.3**	**-0.7**
LOMA				*e*S	**Sb**	**13 19 25.1**	**+0.9**
LOMA	**Loma Larga**	**0.79**	**73**	P	**Pn**	**13 19 12.1**	**-0.9**
LOMA	**Loma Larga**	**0.79**	**73**	S	**Sb**	**13 19 24.9**	**+0.7**
IGN	**Direccin Gen**	**0.81**	**69**	S	**Sb**	**13 19 25.8**	**+1.0**
IGN	**Direccin Gen**	**0.81**	**69**	P	**Pb**	**13 19 12.9**	**-1.1**
UDBS	**Universidad Do**	**0.82**	**69**	S	**Sb**	**13 19 25.6**	**+0.4**
UDBS	**Universidad Do**	**0.82**	**69**	P	**Pn**	**13 19 12.9**	**-0.5**
LFU	**La Fuente**	**0.87**	**68**	*e*P	**Pb**	**13 19 13.9**	**-1.2**
LFRS	**El Faro**	**0.89**	**77**	*e*P	**Pn**	**13 19 14.0**	**-0.3**
PCG5	**San Vicente Pa**	**0.90**	**332**	*i*P	**Pb**	**13 19 15.8**	**+0.3**
PCG5				*i*P	**Pb**	**13 19 15.9**	**+0.3**
PCG5				*i*S	**Sb**	**13 19 30.5**	**+3.2**
LBRS	**Las Brisas**	**0.94**	**70**	*e*P	**Pb**	**13 19 14.8**	**-1.3**
PAVA	**Las Pavas**	**1.02**	**73**	*e*P	**Pn**	**13 19 16.0**	**-0.2**
PAVA				*e*S	**Sb**	**13 19 32.4**	**+1.5**
PAVA	**Las Pavas**	**1.02**	**73**	S	**Sb**	**13 19 31.3**	**+0.4**
PAVA	**Las Pavas**	**1.02**	**73**	P	**Pn**	**13 19 15.8**	**-0.4**
FG8	**Yepocapa, Chim**	**1.03**	**325**	*i*P	**Pb**	**13 19 19.0**	**+1.3**
FG8				*i*S	**Sb**	**13 19 36.7**	**+5.7**
MTO3	**Montecristo**	**1.13**	**30**	||*i*P	**Pn**	**13 19 16.6**	**-1.2**
MTO3	**Montecristo**	**1.13**	**30**	*i*P	**Pn**	**13 19 16.6**	**-1.2**
MTO3	**Montecristo**	**1.13**	**30**	P	**Pn**	**13 19 16.6**	**-1.2**
MTO3	**Montecristo**	**1.13**	**30**	S	**Sb**	**13 19 32.7**	**-1.2**
TECO	**Alcaldia de Te**	**1.14**	**84**	P	**Pn**	**13 19 17.1**	**-0.7**
TECO	**Alcaldia de Te**	**1.14**	**84**	S	**Sn**	**13 19 32.8**	**+0.5**
UESV	**Universidad de**	**1.15**	**79**	S	**Sb**	**13 19 33.7**	**-0.6**
UESV	**Universidad de**	**1.15**	**79**	P	**Pn**	**13 19 17.4**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.22**	**77**	S	**Sb**	**13 19 35.4**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.22**	**77**	P	**Pn**	**13 19 18.3**	**-0.5**
ESQI	**Esquipulas**	**1.28**	**27**	P	**Pn**	**13 19 18.8**	**-1.0**
ESQI	**Esquipulas**	**1.28**	**27**	S	**Sn**	**13 19 35.1**	**-0.6**
ESSG	**Sabana Grande**	**1.29**	**318**	*i*P	**Pn**	**13 19 17.4**	**-2.5**
ESSG				*i*S	**Sn**	**13 19 33.3**	**-2.6**
PQSS	**Presa 15 de Se**	**1.36**	**81**	P	**Pn**	**13 19 20.4**	**-0.5**
PQSS	**Presa 15 de Se**	**1.36**	**81**	S	**Sn**	**13 19 39.1**	**+1.4**
TECA	**Tecapa**	**1.41**	**87**	*e*P	**Pn**	**13 19 21.1**	**-0.5**
PACA	**Pacayal**	**1.58**	**88**	S	**Sn**	**13 19 44.9**	**+1.6**
PACA	**Pacayal**	**1.58**	**88**	P	**Pn**	**13 19 23.5**	**-0.5**
APG	**El Apazote**	**1.65**	**342**	*i*P	**Pn**	**13 19 23.5**	**-1.5**
SARH	**Santa Rosa de**	**1.77**	**40**	*i*P	**Pn**	**13 19 25.6**	**-0.9**
SARH	**Santa Rosa de**	**1.77**	**40**	P	**Pn**	**13 19 26.0**	**-0.5**
SARH	**Santa Rosa de**	**1.77**	**40**	S	**Sn**	**13 19 48.6**	**+0.7**
RTAL	**Retalhuleu**	**2.02**	**303**	P	**Pn**	**13 19 27.8**	**-2.1**
RTAL	**Retalhuleu**	**

SANI	Sanana	3.67 150	P	Pn	13 39 16.2 -2.0
SANI	Sanana	3.67 150	P	Pn	13 39 15.8 -2.4
MPSI	Mapaga	4.34 259	P	Pn	13 39 27.0 +1.2
NLAI	Namlea	5.26 146	P	Pn	13 39 36.9 -0.1
	17µm40µm2µm,0.9s				
KDI	Kendari	5.31 197	P	Pn	13 39 37.2 -0.3
DAV	Davao City (W)	6.04 14	Pn	Pn	13 39 47.7 +1.2
DAV	Davao City (W)	6.04 14	P	Pn	13 39 48.2 +1.6
	0.9nm,0.3s,baz=211,slow=11,SNR=8.7				
DAV			S	S	13 40 58.4 +0.6
	1.3nm,0.3s,baz=210,slow=12,SNR=2.7				
DAV	Davao City (W)	6.04 14	P	Pn	13 39 47.3 +0.8
AAI	Ambon	6.28 140	P	Pn	13 39 50.0 +0.5
	9.6nm19µm12µm1µm,1.0s				
MSAI	Masohi	6.54 133	P	Pn	13 39 53.6 +0.9
	17nm17µm16µm2µm,1.1s				
SPSI	Sidrap Palu	6.72 221	P	Pn	13 39 56.0 +1.1
	6.9nm10µm20µm2µm,0.8s				
BNSI	Bone	6.85 216	P	Pn	13 39 58.1 +1.6
KAPI	Kappang	7.55 216	P	Pn	13 40 06.7 +1.4
	1µm,1.0s,baz=27,slow=7.5,SNR=183				
KAPI	Kappang	7.55 216	P	Pn	13 40 06.7 +1.4
KAPI			P	Pn	13 40 06.7 +1.4
KAPI			S	S	13 41 29.2 -2.9
KAPI			S	S	13 41 29.2 -2.9
KAPI	Kappang	7.55 216	P	Pn	13 40 06.9 +1.6
KAPI	Kappang	7.55 216	S	S	13 41 32.5 +0.4
BKSI	Bulukumba	7.59 212	P	Pn	13 40 07.0 +1.1
	6.0nm10µm21µm2µm,1.4s				
BKB	Balikpapan	7.65 252	Pn	Pn	13 40 08.3 +1.8
BKB	Balikpapan	7.65 252	P	Pn	13 40 07.8 +1.2
BKB	Balikpapan	7.65 252	S	S	13 41 33.7 -0.7
BKB	Balikpapan	7.65 252	P	Pn	13 40 08.4 +1.8
	4.6nm12µm14µm1µm,1.0s				
BNDI	Bandanaira	8.05 135	P	Pn	13 40 12.7 +1.1
BNDI	Bandanaira	8.05 135	P	Pn	13 40 12.1 +0.5
	23µm2µm,1.4s				
BSSI	Bau Bau, Buton	8.12 207	P	Pn	13 40 13.5 +0.9
FAKI	Fak Fak	9.04 117	Pn	Pn	13 40 23.1 -1.1
FAKI	Fak Fak	9.04 117	P	Pn	13 40 23.9 -0.3
FAKI	Fak Fak	9.04 117	P	Pn	13 40 23.4 -0.8
	7µm7µm363nm,1.4s				
MTKI	Muara Teweh, K	9.49 257	P	Pn	13 40 31.5 +1.7
	11µm508nm,0.7s				
MMRI	Maumere	9.91 191		Pn	13 40 36.6 +1.4
MMRI	Maumere	9.91 191	P	Pn	13 40 36.7 +1.6
MMRI	Maumere	9.91 191	S	S	13 42 28.5 +1.7
MMRI	Maumere	9.91 191	P	Pn	13 40 36.4 +1.3
	7µm16µm1µm,1.4s				
RKPI	Ransiki, Papua	10.36 105	P	Pn	13 40 40.9 +0.2
	10µm10µm562nm,0.8s				
BBKI	Banjar Baru	10.38 244	P	Pn	13 40 43.4 +2.4
	13µm437nm,1.1s				
KMPI	Kaimana, Papua	10.68 117	P	Pn	13 40 44.4 -0.2
	10µm11µm1µm,1.4s				
SOEI	Soe	10.84 179	Pn	P	13 40 49.4 -1.5
SOEI	Soe	10.84 179	P	Pn	13 40 48.1 +1.3
SOEI	Soe	10.84 179	P	P	13 40 49.5 -1.5
	15µm1µm,1.3s				
BATI	Baumata	11.30 182	P	P	13 40 54.5 -1.6
	772nm,0.5s,baz=18,slow=2.0,SNR=75				
BATI			S	S	13 43 01.8 +2.9
	2µm,1.1s,baz=125,slow=23,SNR=11				
BATI	Baumata	11.30 182	P	Pn	13 40 54.3 +1.9
WSI	Waingapu	11.42 200	P	Pn	13 40 55.1 +1.2
	16µm1µm,1.3s				
SAUI	Saumlaki	11.54 142		Pn	13 40 56.1 +0.6
SAUI	Saumlaki	11.54 142	P	Pn	13 40 56.0 +0.6
SAUI	Saumlaki	11.54 142	P	Pn	13 40 54.8 -0.6
WBSI	Waikabubak, Su	11.73 204	P	Pn	13 40 58.6 +0.8
	10µm982nm,1.1s				
PLAI	Plampang	11.78 213	P	P	13 41 00.1 -1.3
PLAI	Plampang	11.78 213	P	P	13 41 00.3 -1.1
	13µm1µm,1.1s				
BASI	Baing, Sumba	11.85 197	P	Pn	13 40 58.8 -0.4
	14µm1µm,1.1s				
SBUM	Sibu	12.00 276		P	13 41 02.5 -1.3
SBUM	Sibu	12.00 276	P	P	13 41 03.0 -0.8
SBUM	Sibu	12.00 276	S	S	13 43 18.0 +3.0
BAKI	Biak	12.17 101	P	Pn	13 41 04.6 +1.3
TWSI	Taliwang, Sumb	12.22 216	P	P	13 41 05.4 -0.8
	6µm623nm,1.3s				
SRBI	Singaraja	12.80 224	P	P	13 41 12.7 0.0
	13µm1µm,1.2s				
KMMI	Kalianget	13.04 231	P	P	13 41 15.6 +0.3
	332nm,0.8s				
DNP	Denpasar	13.23 222	P	P	13 41 19.0 +1.6
	3µm,1.5s				
TGY	Tagaytay City	13.25 346	P	P	13 41 18.4 +0.8
	2µm,0.7s,baz=217,slow=3.0,SNR=31				
ABJI	Asem Bagus	13.31 228	P	P	13 41 18.8 +0.5
BLJI	Banyuglugur	13.76 230	P	P	13 41 24.0 +0.7
	303nm,0.8s				
JAGI	Jajag, Banyuwa	13.82 226		P	13 41 24.5 +0.5
JAGI	Jajag, Banyuwa	13.82 226	P	P	13 41 25.1 +1.1
JAGI	Jajag, Banyuwa	13.82 226	P	P	13 41 24.8 +0.8
	6µm587nm,1.0s				
KSM	Kuching	13.85 271		P	13 41 26.0 +1.6
KSM	Kuching	13.85 271	P	P	13 41 26.3 +2.0
KSM	Kuching	13.85 271	S	S	13 43 58.9 +1.7
GRJI	Gresik	14.15 235	P	P	13 41 28.6 +1.0
	431nm,1.0s				
TBJI	Tambak Boyo	14.62 237	P	Pn	13 41 35.0 +2.0
	706nm,1.0s				
SMPI	Sarmi	14.88 102	P	Pn	13 41 36.5 +0.3
	17µm516nm,2.4s				
AUDHS	Darwin High Sc	15.05 154	P	Pn	13 41 38.5 +0.4
DRS	Darwin Rock St	15.07 154	P	Pn	13 41 38.9 +0.5
NGJI	Ngawi	15.24 236	P	Pn	13 41 41.4 +1.0
	385nm,0.9s				
MTN	Manton Dam	15.54 154	P	P	13 41 42.6 -0.3
	comp=Z,0.0nmcomp=Z,390nm,0.5s				
MTN	Manton Dam	15.54 154		P	13 41 43.4 +0.5
PCJI	Pacitan	15.93 234	P	Pn	13 41 49.1 +0.4
	comp=Z,270nm,0.8s				
SMRI	Semarang	15.93 239	P	Pn	13 41 48.2 -0.5
SMRI	Semarang	15.93 239	S	S	13 44 43.5 +2.0
SMRI	Semarang	15.93 239	P	P	13 41 47.7 +0.4
	comp=Z,426nm,0.9s				
KDU	Kakadu	16.04 149	P	P	13 41 48.3 -0.2
	comp=Z,0.0nmcomp=Z,367nm,1.6s				
UGM	Wanagama	16.31 236	P	Pn	13 41 53.2 0.0
UGM	Wanagama	16.31 236	P	Pn	13 41 53.5 +0.3
	comp=Z,194nm,1.0s				
GENI	Genyem	16.43 103	P	P	13 41 53.9 +1.1
GENI	Genyem	16.43 103	S	S	13 44 52.7 +1.2
GENI	Genyem	16.43 103	P	Pn	13 41 54.3 -0.3
	comp=Z,8µmcomp=Z,449nm,0.6s				
YOGI	Yogyakarta	16.45 237	P	P	13 41 53.9 +0.9
	comp=Z,361nm,1.1s				
SZP	Santa	16.69 348	P	P	13 41 56.4 +0.9
SZP	Santa	16.69 348	S	S	13 44 59.0 +2.4
JAY	Jayapura	16.94 102	P	P	13 41 58.9 +0.6
	comp=Z,281nm,0.8s,baz=279,slow=4.8,SNR=63				
JAY	Jayapura	16.94 102	P	P	13 41 58.8 +0.4
	comp=Z,7µmcomp=Z,318nm,0.8s				
TPI	Tanjungpandan	16.95 257	P	Pn	13 42 00.2 -0.5
KNRA	Kununurra	17.34 165	P	P	13 42 02.8 +0.2
	comp=Z,878nm,1.5s				
KNRA	Kununurra	17.34 165		P	13 42 03.2 +0.6
KPJI	Karang Pucung	17.38 241	P	P	13 42 03.7 +0.7
	comp=Z,4µmcomp=Z,253nm,0.7s				
LEM	Lembang	18.31 244	P	P	13 42 13.1 -0.3
	comp=Z,57nm,0.8s,baz=62,slow=6.7,SNR=12				
LEM	Lembang	18.31 244	P	P	13 42 14.5 +1.1
PPBI	Pangkal Pinang	18.32 260	P	P	13 42 14.7 +1.4
BBJI	Bungbulang	18.56 242	P	P	13 42 16.3 +0.4
MMPI	Merauke	18.79 121	P	P	13 42 19.4 +1.1
DLV	Lat	18.88 305	P	Pn	13 42 21.7 -1.8
DLV	Lat	18.88 305	P	P	13 42 20.7 +1.2
DLV	Lat	18.88 305	S	S	13 45 42.4 +2.1
CNJI	Cibinong	18.96 243	P	P	13 42 21.5 +1.4
DBJI	Dramaga	18.99 246	P	P	13 42 21.7 +1.2
FITZ	Fitzroy Crossi	19.19 176	P	P	13 42 21.4 -1.1
	comp=Z,87nm,0.4s,baz=14,slow=8.8,SNR=181				
FITZ			S	S	13 45 41.8 -4.1
	comp=Z,80nm,1.0s,baz=186,slow=13,SNR=15				
TPRI	Tanjung Pinang	19.63 269	P	P	13 42 29.4 +2.1
DSRI	Dabo	19.65 265	P	P	13 42 29.1 +1.6
BLSI	Bandar Lampung	19.97 251	P	P	13 42 32.5 +1.6
	comp=Z,4µmcomp=Z,256nm,0.5s				
CGJI	Cibinong	19.98 247	P	P	13 42 30.6 -0.4
	comp=Z,3µmcomp=Z,236nm,0.7s				
KLI	Kotabumi	20.19 253	P	Pn	13 42 37.5 -1.0
	comp=Z,4µmcomp=Z,307nm,0.6s				
MYKOM	Kota Tinggi	20.31 272	P	P	13 42 34.8 +0.2
MYKOM	Kota Tinggi	20.31 272	P	P	13 42 35.9 +1.3
MYKOM	Kota Tinggi	20.31 272	S	S	13 46 09.2 +2.0
BTDF	Bukit Timah Da	20.38 271	P	P	13 42 36.4 +1.1
KASI	Kota Agung	20.73 251	P	P	13 42 39.5 +0.6
	comp=Z,3µmcomp=Z,443nm,0.8s				
MDSI	Maura Dua	20.74 254	P	P	13 42 39.2 +0.2
	comp=Z,122nm,1.0s				
LWLI	Liwa	21.00 253	P	P	13 42 42.2 +0.4
	comp=Z,4µmcomp=Z,6µmcomp=Z,511nm,0.7s				
LHSI	Lahat	21.21 256	P	P	13 42 44.9 +1.2
TWGBT	Beinan	21.74 352	P	P	13 42 48.1 -0.4
TWGBT	Beinan	21.74 352	S	S	13 46 32.8 +2.3
TWG	Pinlang	21.74 352	P	P	13 42 46.8 -1.7
MNAI	Manna	21.88 255	P	P	13 42 49.9 -0.1
MNAI	Manna	21.88 255	P	P	13 42 51.4 +1.4
MNAI	Manna	21.88 255	P	P	13 42 51.1 +1.1
	comp=Z,437nm,1.2s				
KSI	Kapahiang	22.08 257	P	P	13 42 52.8 +1.0
	comp=Z,311nm,0.8s				
TPUB	Ta-pu	22.28 351	P	P	13 42 52.7 -0.7
TPUB	Ta-pu	22.28 351	P	P	13 42 53.1 -0.4
YULB	Yu-li	22.28 353	P	P	13 42 51.5 -1.9
YULB	Yu-li	22.28 353	P	P	13 42 52.7 -0.7
MASI	Maura Aman, Be	22.32 259	P	P	13 42 55.9 +1.9
MBWA	Marble Bar	22.60 191	P	P	13 42 56.3 -0.1
	comp=Z,221nm,0.8s				
MBWA	Marble Bar	22.60 191	P	P	13 42 56.3 -0.1
MBWA	Marble Bar	22.60 191	P	P	13 42 56.3 -0.1
MBWA			S	S	13 46 46.2 +1.8
MBWA	Marble Bar	22.60 191	P	P	13 42 56.2 -0.1
QIZ	Qiongzhong	22.64 323	P	P	13 42 57.0 +0.2
QIZ			S	S	13 46 44.0 -1.1
QIZ			pmax	pmax	
	comp=Z,97nm,2.4s				
QIZ			pmax	pmax	
	comp=Z,2µm,4.2s				
QIZ	Qiongzhong	22.64 323	P	P	13 42 58.5 +1.7
SSLB	Suanglung	22.71 352	P	P	13 42 56.5 -0.9
SSLB	Suanglung	22.71 352	P	P	13 42 57.1 -0.3
KRJI	Kerinci	22.92 262	P	P	13 43 00.4 +0.8
	comp=Z,7µmcomp=Z,452nm,1.0s				
PSAC1	Pilbara Seismi	22.95 190	P	P	13 42 59.5 -0.1
	comp=Z,262nm,0.8s				
PSAC2	Pilbara Seismi	22.96 190	P	P	13 42 59.6 -0.1
	comp=Z,368nm,0.8s				
PSA00	Pilbara Seismi	22.98 190	P	P	13 42 59.9 0.0
	comp=Z,309nm,0.8s				
PSA00	Pilbara Seismi	22.98 190	P	P	13 42 59.3 -0.6
PSA00	Pilbara Seismi	22.98 190	P	P	13 42 59.9 0.0
PSAB3	Pilbara Seismi	23.00 190	P	P	13 43 00.1 0.0
	comp=Z,320nm,0.8s				
NACB	Ninganchiao	23.02 354	P	P	13 42 59.6 -0.6
NACB	Ninganchiao	23.02 354	P	P	13 42 59.7 -0.4
WB0	Warramunga Arr	23.09 155	P	P	13 43 00.6 -0.3
BKNI	Bangkinang	23.13 268	P	P	13 43 03.4 +2.0
YOJ	Yonaguni jima	23.19 357	P	P	13 43 03.6 +1.8
WRAB	Tennant Creek	23.22 155	P	P	13 43 01.7 -0.4
WRAB	Tennant Creek	23.22 155	P	P	13 43 01.8 -0.4
WRAB	Tennant Creek	23.22 155	P	P	13 43 01.7 -0.4
WRA	Warramunga Arr	23.23 155	P	P	13 43 01.4 -0.8
	comp=Z,377nm,0.3s,baz=336,slow=9.9,SNR=1523				
WRA			S	S	13 46 51.7 -2.9
	comp=Z,26nm,0.8s,baz=329,slow=16,SNR=5.5				
IPM	Ipoh	23.34 279	P	P	13 43 03.9 +0.7
IPM	Ipoh	23.34 279	P	P	13 43 04.2 +0.9
MANU	Manus Island	23.42 98	P	P	13 43 05.8 +1.8
YHNB	Yeheng	23.53 354	P	P	13 43 04.2 -0.8
YHNB	Yeheng	23.53 354	P	P	13 43 04.1 -0.8
PDSI	Padang	23.78 265	P	P	13 43 08.3 +1.0
	comp=Z,6µmcomp=Z,4µmcomp=Z,119nm,0.9s				
PPI	Padang Panjang	23.81 266	P	P	13 43 09.6 +2.0
	comp=Z,2µmcomp=Z,49nm,0.6s				
TATO	Taipei	23.82 354	P	P	13 43 06.8 -0.6
TATO	Taipei	23.82 354	P	P	13 43 08.0 +0.6
TATO			S	S	13 47 08.9 +5.1
TATO	Taipei	23.82 354	P	P	13 43 09.3 +1.9
KULM	Kulim	23.82 280	P	P	13 43 07.6 0.0
KULM	Kulim	23.82 280	P	P	13 43 08.5 +0.8
COEN	Coen	24.09 129	P	P	13 43 09.4 -0.7
	comp=Z,203nm,1.0s				
COEN	Coen	24.09 129	P	P	13 43 09.7 -0.4
COEN	Coen	24.09 129	P	P	13 43 09.9 -0.2
GZH	Guangzhou	24.20 335	P	P	13 43 14.6 +3.7
GZH			pP	pwP	13 44 00.3 -2.8
GZH			S	S	13 47 21.5 +12
GZH			sS	sS	13 48 47.6 +11
GZH			pmax	pmax	
	comp=Z,120nm,1.7s				
QZH	Quanzhou	24.25 348	⇑*i*P	P	13 43 11.0 -0.3
QZH			PP	pwP	13 44 04.4 +0.8
QZH			S	S	13 47 10.0 -0.6
QZH			pmax	pmax	
	comp=Z,200nm,1.5s				
QZH			pmax	pmax	
	comp=Z,1µm,5.9s				
QZH			LR	LR	
	comp=Z,1µm,20.6s				
QZH			LR	LR	
	comp=Z,890nm,17.5s				
QZH			LR	LR	
	comp=Z,2µm,17.9s				
MNSI	Mandailing Nat	24.58 269	P	P	13 43 16.0 +1.5
	comp=Z,5µmcomp=Z,3µmcomp=Z,79nm,0.7s				
SISI	Saibi	25.19 264	P	P	13 43 20.6 +0.6
	comp=Z,170nm,0.8s				
PMG	Port Moresby	25.20 115	P	P	13 43 19.8 -0.2
PMG	Port Moresby	25.20 115	P	P	13 43 20.2 +0.2
	comp=Z,149nm,0.8s,baz=317,slow=6.8,SNR=54				
	comp=Z,149nm,0.8s				
PMG	Port Moresby	25.20 115	P	P	13 43 20.2 +0.2
WRKA	Warakurna	26.35 172	P	P	13 43 30.7 +0.4
	comp=Z,188nm,1.1s				
QIS	Mount Isa	26.36 146	P	P	13 43 30.5 +0.1
	comp=Z,682nm,1.0s				
QIS	Mount Isa	26.36 146	P	P	13 43 30.3 -0.1
AS31	Alice Springs	26.43 160	P	P	13 43 30.8 -0.2
AS31			IAmb	IAmb	13 43 32.9
	comp=Z,35nm,0.6s				
ASAR	Alice Springs	26.43 160	P	P	13 43 30.9 -0.1
	comp=Z,83nm,0.7s,baz=343,slow=14,SNR=1562				
ASAR			PcP	PcP	13 46 49.6 +0.4
	comp=Z,12nm,0.7s,baz=348,slow=2.4,SNR=3.9				
ASAR			S	S	13 47 43.7 -1.5
	comp=Z,6.9nm,0.6s,baz=349,slow=21,SNR=4.4				
ASAR			ScP	ScP	13 50 03.1 -1.2
	comp=Z,10nm,0.7s,baz=354,slow=2.7,SNR=5.7				
	comp=Z,83nm,0.7s				
AUALC	St Philip's Co	26.45 160	P	P	13 43 31.2 0.0
KCSI	Kotacane, Aceh	26.47 276	P	P	13 43 31.8 +0.3
	comp=Z,1µmcomp=Z,65nm,0.8s				
GULI	GuiLin	27.44 332	P	P	13 43 41.0 +1.1
GULI			pmax	pmax	
	comp=Z,47nm,1.6s				
GULI			LR	LR	
	comp=Z,1µm,20.1s				
GULI			LR	LR	
	comp=Z,2µm,16.8s				
GULI			LR	LR	
	comp=Z,2µm,13.0s				
LHMI	Lhok Sumawe	27.46 279	P	P	13 43 42.0 +1.7
	comp=Z,3µmcomp=Z,136nm,0.7s				
MTSU	Mount Surprise	27.59 135	P	P	13 43 41.6 +0.3
	comp=Z,39nm,0.9s				
MTSU	Mount Surprise	27.59 135	P	P	13 43 41.7 +0.3
MLSI	Meulaboh, Aceh	27.89 277	P	P	13 43 44.1 0.0
	comp=Z,3µmcomp=Z,111nm,0.6s				
MEEK	Meekatharra	28.15 191	P	P	13 43 46.1 -0.1
	comp=Z,117nm,0.9s				
MEEK	Meekatharra	28.15 191	P	P	13 43 46.1 -0.1
SLVN	Son La	28.15 317	P	P	13 43 47.2 +0.9
SLVN			IAmb	IAmb	13 44 45.6
	comp=Z,104nm,1.2s				
SLVN	Son La	28.15 317	P	P	13 43 47.6 +1.3
CNSH	ChangSha	28.94 339	P	P	13 43 54.5 +1.4
CNSH			S	S	13 48 28.5 +4.1
CNSH			LR	LR	
	comp=Z,1µm,15.1s				
CNSH			LR	LR	
	comp=Z,1µm,11.0s				
CNSH			LR	LR	
	comp=Z,2µm,15.7s				
SSE	Sheshan	29.91 355	P	P	13 44 03.0 +1.4
SSE			S	S	13 48 42.9 +3.4
SSE			pmax	pmax	
	comp=Z,67nm,1.7s				
SSE			pmax	pmax	
	comp=Z,470nm,3.6s				
SSE			LR	LR	
	comp=Z,370nm,12.0s				
SSE			LR	LR	
	comp=Z,400nm,11.3s				
TV1H	Townsville Har	30.10 134	P	P	13 44 04.5 +1.0
CM31	Chiang Mai Arr	30.13 306	P	P	13 44 05.0 +1.1
	SNR=50				
CMAR	Chiang Mai Arr	30.13 306	P	P	13 44 05.0 +1.2
	comp=Z,33nm,1.1s,baz=128,slow=6.5,SNR=22				
CMAR			pP	pP	13 44 55.3 +2.0
	comp=Z,16nm,1.1s,baz=119,slow=7.1,SNR=2.4				
CMAR			PcP	PcP	13 46 59.2 +0.7
	comp=Z,8.9nm,0.8s,baz=167,slow=1.7,SNR=7.7				
CMAR			ScP	ScP	13 50 15.4 -0.5
	comp=Z,6.5nm,0.8s,baz=164,slow=2.8,SNR=9.7				
	comp=Z,33nm,1.1s				
GYA	Guiyang	30.27 328	⇑P	P	13 44 05.9 +0.9
GYA			pP	pP	13 44 57.4 +2.8
GYA			S	S	13 48 45.6 +0.1
GYA			pmax	pmax	
	comp=Z,94nm,1.7s				
GYA			pmax	pmax	
	comp=Z,920nm,3.9s				
GYA			LR	LR	
	comp=Z,560nm,10.3s				
GYA			LR	LR	
	comp=Z,700nm,11.5s				
GYA			LR	LR	
	comp=Z,1µm,15.8s				
CHTO	Chiang Mai	30.32 307	P	P	13 44 06.3 +0.9
CHTO	Chiang Mai	30.32 307	P	P	13 44 06.0 +0.6
CHTO			P	P	13 44 06.0 +0.6
CHTO			S	S	13 48 47.3 +1.1
CHTO			S	S	13 48 47.3 +1.1
CHTO	Chiang Mai	30.32 307	P	P	13 44 05.8 +0.3
CHTO	Chiang Mai	30.32 307	P	P	13 44 06.4 +0.9
CHTO			pmax	pmax	
	comp=Z,116nm,1.0s				
CHTO	Chiang Mai	30.32 307	P	P	13 44 06.4 +0.9
CHTO			pP	pP	13 44 54.5 -0.5
CHTO			x	x	13 45 03.7
WHN	Wuhan	30.67 343	P	P	13 44 09.1 +0.8
WHN			pP	pP	13 45 00.3 +2.2
WHN			S	S	13 48 51.1 -0.3
WHN			pmax	pmax	
	comp=Z,3µm,3.3s				
CMBY	CAMPBELL BAY	30.70 282	*e*P	P	13 44 19.6 +11
CMBY			IAML		13 46 12.0
	comp=N,82nm,0.3s				
CMBY			*e*S	S	13 49 04.9 +13
MORW	Morawa	31.04 194	P	P	13 44 12.3 +0.7
	comp=Z,82nm,1.2s				
MORW	Morawa	31.04 194	P	P	13 44 12.2 +0.5
JCJ	Chichijima	31.06 32		P	13 44 10.7 -1.1
NJ2	Nanjing	31.13 351	*e*P	P	13 44 12.8 +0.4
NJ2			pP	pP	13 44 59.8 -2.6
NJ2			PP	PP	13 45 29.3 +0.6
NJ2			S	S	13 49 01.4 +2.8
NJ2			sS	sS	13 50 30.6 +0.3
NJ2			pmax	pmax	
	comp=Z,100nm,1.7s				
KMI	Kunming	31.55 321	⇑P	P	13 44 18.1 +1.7
KMI			pP	pP	13 45 07.9 +1.7
KMI			S	S	13 49 05.6 -0.1
KMI			ScP	ScP	13 50 21.5 +0.7
KMI			sS	sS	13 50 42.0 +4.5
KMI			pmax	pmax	
	comp=Z,93nm,1.6s				
KMI			pmax	pmax	
	comp=Z,810nm,3.6s				
KMI			LR	LR	
	comp=Z,690nm,11.5s				
KMI			LR	LR	
	comp=Z,960nm,14.6s				
KMI			LR	LR	
	comp=Z,1µm,18.4s				
FORT	Forrest	31.98 174	P	P	13 44 19.9 +0.1
	comp=Z,91nm,1.2s				
FORT	Forrest	31.98 174	P	P	13 44 19.1 -0.6
FORT			IAmb	IAmb	13 44 21.4
	comp=Z,65nm,0.6s				
ENH	Enshi	32.13 336	P	P	13 44 22.3 +1.1
ENH	Enshi	32.13 336	P	P	13 44 21.3 +0.1
ENH			pP	pP	13 45 10.1 -1.0
BLDU	Ballidu	32.38 192	P	P	13 44 23.2 -0.1
	comp=Z,130nm,1.0s				
BLDU	Ballidu	32.38 192	P	P	13 44 23.6 +0.3
JNU	Nakatsue	32.42 11	P	P	13 44 24.3 +0.7
KMBL	Kambalda	32.42 184	P	P	13 44 23.5 -0.1
	comp=Z,177nm,1.1s				
PBA	Port Blair	32.87 290	*e*P	P	13 44 38.3 +11
PBA			IAML		13 44 40.5
	comp=Z,88nm,0.6s				
PBA			*e*S	S	13 49 40.0 +14
PZH	PanZhiHua	33.16 321	P	P	13 44 30.9 +0.6
PZH			PP	sP	13 45 49.3 -0.4
PZH			S	S	13 49 29.0 -1.4
PZH			SS	SS	13 51 58.0 -5.8
PZH			pmax	pmax	
	comp=Z,90nm,1.4s				
PZH			pmax	pmax	
	comp=Z,610nm,4.6s				
PZH			LR	LR	
	comp=Z,890nm,16.9s				
PZH			LR	LR	
	comp=Z,820nm,18.2s				
PZH			LR	LR	
	comp=Z,1µm,19.2s				
JMN	Monobe	33.66 15		P	13 44 34.9 +0.6
JMN	Monobe	33.66 15	P	P	13 44 35.8 +1.5
QLP	Quilpie	33.70 146	P	P	13 44 34.8 +0.1
MUN	Mundaring	33.81 192	P	P	13 44 36.2 +0.6
AUMAZ	Mazenod Senior	33.87 192	P	P	13 44 36.9 +0.8
TNCH	TengChong	34.30 316	⇑*i*P	P	13 44 40.9 +0.8
TNCH			PP	PnPn	13 46 06.4 +1.0
TNCH			S	S	13 49 49.0 +1.0
TNCH			pmax	pmax	
	comp=Z,140nm,2.0s				
TNCH			LR	LR	
	comp=Z,1µm,9.5s				
TNCH			LR	LR	
	comp=Z,520nm,8.6s				
TNCH			LR	LR	
	comp=Z,1µm,11.1s				
PATS	Pohnpei	34.52 80	P	P	13 44 41.4 -0.5
PATS			IAmb	IAmb	13 44 44.5
	comp=Z,77nm,0.8s				
NWAO	Narrogin (SRO)	34.53 190	P	P	13 44 42.2 +0.5
NWAO	Narrogin (SRO)	34.53 190	P	P	13 44 42.0 +0.3
	comp=Z,112nm,0.9s,baz=25,slow=7.1,SNR=51				
	comp=Z,112nm,0.9s				
NWAO	Narrogin (SRO)	34.53 190	P	P	13 44 42.0 +0.3
NWAO	Narrogin (SRO)	34.53 190	P	P	13 44 42.2 +0.5
NWAO	Narrogin (SRO)	34.53 190	P	P	13 44 42.2 +0.5
NWAO			pmax	pmax	
	comp=Z,201nm,1.1s				
LYN	LuoYang	34.97 343	⇓P	P	13 44 47.1 +1.6
LYN			S	S	13 49 57.5 -0.2
LYN			ScP	ScP	13 50 32.3 0.0
LYN			pmax	pmax	
	comp=Z,220nm,1.4s				
LYN			pmax	pmax	
	comp=Z,570nm,5.4s				
TJN	Taejon	35.17 4	P	P	13 44 47.9 +0.8
TJN	Taejon	35.17 4	*d i*P	P	13 44 48.6 +1.5
TJN			pmax	pmax	
	comp=Z,1.0nm,1.4s				
CD2	Chengdu	35.35 329	P	P	13 44 49.4 +0.6
CD2			PP	PP	13 46 14.3 -0.9
CD2			S	S	13 50 04.8 +1.2
CD2			pmax	pmax	
	comp=Z,120nm,0.9s				
CD2			pmax	pmax	
	comp=Z,600nm,3.0s				
CD2			LR	LR	
	comp=Z,1µm,14.0s				
CD2			LR	LR	
	comp=Z,900

TIA				pmax	pmax	
	comp=Z,94nm,1.7s					
TIA				pmax	pmax	
	comp=Z,820nm,3.7s					
TIA				LR	LR	
	comp=Z,690nm,18.0s					
TIA				LR	LR	
	comp=Z,510nm,15.1s					
TIA				LR	LR	
	comp=Z,1μm,17.3s					
BBOO	**Buckleboo**	**35.61 163**		**P**	**P**	**13 44 50.8 -0.1**
BBOO	**Buckleboo**	**35.61 163**		P	**P**	**13 44 51.1 +0.2**
XAN	**Xi'an**	**35.69 338**		⇑P	**P**	**13 44 50.6 -1.1**
XAN				S	**S**	**13 50 09.6 +0.9**
XAN				pmax	pmax	
	comp=Z,200nm,1.0s					
XAN				pmax	pmax	
	comp=Z,1μm,5.2s					
XAN				LR	LR	
	comp=Z,920nm,16.5s					
XAN				LR	LR	
	comp=Z,1μm,16.8s					
XAN				LR	LR	
	comp=Z,2μm,22.0s					
XAN	**Xi'an**	**35.69 338**		P	**P**	**13 44 50.9 -0.8**
XAN				x	x	13 45 50.9
INU	**Inuyama**	**36.06 18**		IAmb	IAmb	13 44 57.4
	comp=Z,142nm,1.0s					
INU	**Inuyama**	**36.06 18**		P	**P**	**13 44 54.9 +0.2**
GD1S	**Gladstone Soft**	**36.14 135**		P	**P**	**13 44 56.3 +0.7**
KSRS	**Korea Array**	**36.28 5**		P	**P**	**13 44 56.9 +0.3**
	comp=Z,16nm,0.4s,baz=179,slow=9.3,SNR=96					
KSRS				PP	**PP**	**13 46 25.5 +0.2**
	comp=Z,5.8nm,0.7s,baz=177,slow=11,SNR=4.4					
KSRS				PcP	**PcP**	**13 47 16.0 +0.5**
	comp=Z,5.1nm,0.8s,baz=182,slow=3.6,SNR=5.6					
KSRS				ScP	**ScP**	**13 50 36.3 -0.7**
	comp=Z,6.9nm,0.7s,baz=184,slow=3.2,SNR=17					
	comp=Z,16nm,0.4s					
WHYH	**Whyalla**	**36.29 161**		P	**P**	**13 44 57.1 +0.4**
JGF	**Kuroka**	**36.40 18**			**P**	**13 44 57.3 -0.3**
JGF				IAmb	IAmb	13 44 59.2
	comp=Z,77nm,0.8s					
JGF	**Kuroka**	**36.40 18**		P	**P**	**13 44 58.0 +0.3**
STKA	**Stephens Creek**	**36.78 155**		P	**P**	**13 45 01.1 +0.3**
	comp=Z,124nm,0.5s,baz=333,slow=8.2,SNR=405					
STKA				S	**S**	**13 50 23.1 -2.0**
	comp=Z,11nm,0.7s,baz=119,slow=17,SNR=3.7					
STKA				ScP	**ScP**	**13 50 36.9 -2.2**
	comp=Z,11nm,0.8s,baz=306,slow=10,SNR=3.1					
	comp=Z,124nm,0.5s					
AUJCS	**Jamestown Cent**	**36.79 160**		P	**P**	**13 45 01.6 +0.6**
AUCAS	**Cummins Area S**	**36.87 164**		P	**P**	**13 45 02.6 +1.1**
SAVO	**Savo Central**	**36.96 107**		P	**P**	**13 45 02.9 +0.2**
EIDS	**Eidsvold**	**37.07 137**			**P**	**13 45 02.5 -0.9**
EIDS	**Eidsvold**	**37.07 137**		P	**P**	**13 45 03.0 -0.4**
HNS	**HongShan**	**37.10 347**		⇑P	**P**	**13 45 02.5 -0.9**
HNS				S	**S**	**13 50 28.4 -1.5**
HNS				ScP	**ScP**	**13 50 39.9 -0.2**
HNS				pmax	pmax	
	comp=Z,170nm,1.1s					
HNS				LR	LR	
	comp=Z,1μm,15.2s					
HNS				LR	LR	
	comp=Z,1μm,14.9s					
HTT	**Hallett**	**37.11 159**		P	**P**	**13 45 04.4 +0.7**
HNR	**Honiara**	**37.16 107**		P	**P**	**13 45 04.0 -0.2**
HNR	**Honiara**	**37.16 107**		P	**P**	**13 45 04.1 -0.2**
HNR				pmax	pmax	
	comp=Z,518nm,1.3s					
IMP	**Imphal**	**37.49 311**		IAmb	IAmb	13 45 08.4
	comp=Z,99nm,1.3s					
IMP				*e*P	P	13 45 17.1 +10
IMP				*e*S	S	13 50 49.5 +13
MJAR	**Matsushiro Arr**	**37.53 19**		P	**P**	**13 45 06.3 -0.9**
	comp=Z,66nm,0.6s,baz=190,slow=9.1,SNR=139					
MJAR				ScP	**ScP**	**13 50 41.0 -0.8**
	comp=Z,3.4nm,0.6s,baz=188,slow=5.1,SNR=6.4					
	comp=Z,66nm,0.6s					
MAJO	**Matsushiro**	**37.54 19**		P	**P**	**13 45 06.5 -0.7**
MAJO				IAmb	IAmb	13 45 08.1
	comp=Z,118nm,0.9s					
MAJO	**Matsushiro**	**37.54 19**		P	**P**	**13 45 06.5 -0.7**
MAJO	**Matsushiro**	**37.54 19**		P	**P**	**13 45 06.5 -0.7**
MAJO				pmax	pmax	
	comp=Z,118nm,0.9s					
MAJO	**Matsushiro**	**37.54 19**		P	**P**	**13 45 06.3 -0.8**
DL2	**Dalian**	**37.64 357**		P	**P**	**13 45 07.0 -0.9**
DL2				pP	**pP**	**13 45 59.3 +0.1**
DL2				sP	**sP**	**13 46 27.8 -0.6**
DL2				PcP	**PcP**	**13 47 19.4 -0.2**
DL2				S	**S**	**13 50 39.9 +2.0**
DL2				pmax	pmax	
	comp=Z,250nm,0.8s					
DL2				pmax	pmax	
	comp=Z,340nm,7.6s					
KOHI	**KOHIMA**	**37.88 313**		IAmb	IAmb	13 45 11.8
	comp=Z,88nm,1.2s					
KOHI				*e*P	P	13 45 20.2 +10
KOHI				*e*S	S	13 50 55.1 +13
TIY	**Taiyuan**	**37.95 345**		*e*P	**P**	**13 45 11.6 +1.0**
TIY				PP	**PnPn**	**13 46 46.3 -1.9**
TIY				S	**S**	**13 50 43.5 +0.7**
TIY				sS	**sS**	**13 52 15.5 -0.9**
TIY				pmax	pmax	
	comp=Z,60nm,1.1s					
TIY				pmax	pmax	
	comp=Z,680nm,4.2s					
AULRC	**Lightning Ridg**	**37.99 145**		P	**P**	**13 45 11.2 +0.2**
AUMAR	**Marden Senior**	**38.34 161**		P	**P**	**13 45 15.0 +1.2**
GHSS	**Government Hou**	**38.35 161**		P	**P**	**13 45 15.5 +1.6**
CMSA	**Cobar Meteorol**	**38.40 150**		P	**P**	**13 45 15.5 +1.1**
AUMBR	**Murray Bridge**	**38.78 160**		P	**P**	**13 45 18.4 +1.0**
JSD	**Sado**	**38.92 18**		IAmb	IAmb	13 45 22.0
	comp=Z,96nm,1.2s					
JSD	**Sado**	**38.92 18**		P	**P**	**13 45 18.5 -0.1**
TW1H	**Toowoomba 1 Ha**	**39.11 139**		P	**P**	**13 45 21.3 +0.9**
ZIRO	**ZIRO**	**39.13 315**		IAmb	IAmb	13 45 23.1
	comp=Z,49nm,0.5s					
ZIRO				*e*P	P	13 45 29.6 +8.9
ZIRO				*e*S	S	13 51 14.6 +14
TEZP	**TEZPUR**	**39.35 313**		*e*P	P	13 45 31.7 +9.3
TEZP				*e*S	S	13 51 18.2 +14
BJT	**Baijiatuau**	**39.36 350**		IAmb	IAmb	13 45 25.5
	comp=Z,112nm,0.8s					
BJT	**Baijiatuau**	**39.36 350**		P	**P**	**13 45 22.3 +0.1**
BJI	**Beijing**	**39.38 350**		P	**P**	**13 45 21.8 -0.5**
BJI				pP	**pP**	**13 46 12.3 -1.7**
BJI				PP	**PP**	**13 47 00.8 +2.0**
BJI				PcP	**PcP**	**13 47 24.3 -0.7**
BJI				ScP	**ScP**	**13 50 49.0 +0.3**
BJI				S	**S**	**13 51 04.3 +0.4**
BJI				pmax	pmax	
	comp=Z,75nm,1.0s					
BJI				pmax	pmax	
	comp=Z,370nm,9.9s					
BJI				LR	LR	
	comp=Z,230nm,19.1s					
BJI				LR	LR	
	comp=Z,150nm,17.7s					
BJI				LR	LR	
	comp=Z,380nm,17.4s					
SHL	**Shillong**	**39.46 311**		P	**P**	**13 45 23.8 +0.3**
	SNR=27					
SHL	**Shillong**	**39.46 311**		IAmb	IAmb	13 45 25.3
	comp=Z,68nm,1.1s					
SHL				*e*P	P	13 45 31.8 +8.3
SHL				IAML		13 46 23.9
	comp=E,75nm,0.9s					
SHL				IAML		13 46 27.0
	comp=N,86nm,1.0s					
SHL				*e*S	S	13 51 18.2 +12
LZDM	**Lanzhou Array**	**39.49 334**		P	**P**	**13 45 25.1 +1.3**
	comp=N,4.2nm,0.3s,baz=133,slow=10,SNR=10.0					
	comp=N,4.2nm,0.3s					
LZH	**Lanzhou**	**39.53 334**		⇑P	**P**	**13 45 24.3 +0.4**
LZH				pP	pP	13 46 14.5 -1.0
LZH				sP	sP	13 46 44.0 -0.6
LZH				S	**S**	**13 51 05.4 -1.3**
LZH				sS	sS	13 52 41.6 +0.7
LZH				ScS	**ScS**	**13 55 02.8 -0.2**
LZH				pmax	pmax	
	comp=N,180nm,1.6s					
LZH				pmax	pmax	
	comp=N,1μm,4.3s					
LZH				LR	LR	
	comp=N,1μm,15.5s					
LZH				LR	LR	
	comp=N,2μm,16.8s					
LZH				LR	LR	
	comp=N,1μm,19.4s					
JMM	**Marumori**	**39.61 21**		P	**P**	**13 45 24.6 +0.4**
JMM	**Marumori**	**39.61 21**		P	**P**	**13 45 25.1 +0.9**
AUWSH	**Wavell State H**	**39.72 138**		P	**P**	**13 45 25.6 +0.2**
SNY	**Shenyang**	**40.49 359**		⇓P	**P**	**13 45 30.3 -1.1**
SNY				pP	**pP**	**13 46 22.9 -0.5**
SNY				sP	**sP**	**13 46 57.3 +4.9**
SNY				S	**S**	**13 51 19.4 -0.9**
SNY				pmax	pmax	
	comp=N,16nm,0.9s					
SNY				pmax	pmax	
	comp=N,910nm,5.1s					
SNY				LR	LR	
	comp=N,340nm,13.5s					
SNY				LR	LR	
	comp=N,2μm,20.2s					
SNY				LR	LR	
	comp=N,800nm,21.4s					
GC1S	**Gold Coast 1 S**	**40.54 138**		P	**P**	**13 45 32.9 +0.9**
TAWA	**Tawang**	**40.59 313**		IAmb	IAmb	13 45 33.9
	comp=Z,53nm,3.9s					
TAWA				*e*P	P	13 45 41.4 +8.5
TAWA				*e*S	S	13 51 36.8 +14
ARMA	**Armidale**	**40.87 142**			**P**	**13 45 36.3 +1.4**
ARMA				IAmb	IAmb	13 45 38.0
	comp=Z,121nm,0.9s					
ARMA	**Armidale**	**40.87 142**		P	**P**	**13 45 36.2 +1.4**
AUPHS	**Peel High Scho**	**40.92 144**		P	**P**	**13 45 36.4 +1.3**
HHC	**Hu-ho-hao-te**	**41.12 345**		⇓*i*P	**P**	**13 45 38.5 +1.7**
HHC				PP	**PP**	**13 47 17.3 -0.4**
HHC				S	**S**	**13 51 21.8 -8.2**
HHC				sS	sS	13 53 07.8 +3.1
HHC				pmax	pmax	
	comp=Z,64nm,1.1s					
HHC				pmax	pmax	
	comp=Z,130nm,4.9s					
HHC				LR	LR	
	comp=Z,530nm,16.8s					
HHC				LR	LR	
	comp=Z,690nm,20.2s					
HHC				LR	LR	
	comp=Z,690nm,19.3s					
BTO	**Baotou**	**41.31 344**		*e*P	**P**	**13 45 40.4 +2.2**
BTO				pP	**pwP**	**13 46 33.5 -3.3**
BTO				sP	**sP**	**13 47 02.1 +2.9**
BTO				PP	**PnPn**	**13 47 24.1 -3.3**
BTO				S	**S**	**13 51 35.9 +3.2**
BTO				sS	**sS**	**13 53 14.3 +6.9**
BTO				SS	**SS**	**13 54 46.1 -1.7**
BTO				pmax	pmax	
	comp=Z,120nm,1.6s					
BTO				pmax	pmax	
	comp=Z,1μm,11.8s					
BTO				LR	LR	
	comp=Z,1μm,18.9s					
BTO				LR	LR	
	comp=Z,1μm,16.0s					
BTO				LR	LR	
	comp=Z,1μm,21.6s					
MGBR	**Mount Gambier**	**41.56 160**			**P**	**13 45 40.4 +0.2**
MGBR				IAmb	IAmb	13 45 42.9
	comp=Z,189nm,1.1s					
PSTR	**Posyet**	**41.74 7**		⇓*i*P	**P**	**13 45 42.4 +0.9**
JTM	**Tenmabayashi**	**42.32 19**		P	**P**	**13 45 47.1 +0.9**
JTM	**Tenmabayashi**	**42.32 19**		P	**P**	**13 45 47.3 +1.1**
LSA	**Lhasa**	**42.32 315**		*i* P	**P**	**13 45 47.9 +0.9**
	SNR=28					
VLA	**Vladivostok**	**42.35 8**		⇓*i*P	**P**	**13 45 47.2 +0.8**
VLA				pmax	pmax	
	comp=Z,176nm,1.0s					
CN2	**Changchun**	**42.48 1**		*e*P	**P**	**13 45 46.3 -1.1**
CN2				PP	**PP**	**13 47 26.4 -5.5**
CN2				*e*S	**S**	**13 51 45.5 -3.9**
CN2				*e*sS	sS	13 53 27.4 +2.9
CN2				SS	**SS**	**13 55 01.4 -8.8**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CN2				pmax	pmax	
	comp=Z,600nm,8.6s					
CN2				LR	LR	
	comp=Z,400nm,13.0s					
CN2				LR	LR	
	comp=Z,700nm,13.0s					
CN2				LR	LR	
	comp=Z,400nm,13.0s					
AUHPC	**Hawkesdale P12**	**42.52 159**		P	**P**	**13 45 48.8 +0.9**
MGCD	**Mangrove Creek**	**42.59 146**		P	**P**	**13 45 50.3 +1.7**
BRAT	**Ballarat**	**42.64 157**		P	**P**	**13 45 50.4 +1.5**
AUMTC	**Mt Clear Colle**	**42.67 157**		P	**P**	**13 45 50.6 +1.5**
SYDH	**Sydney Hard Ro**	**42.80 147**		P	**P**	**13 45 52.3 +2.1**
AUKHS	**Kincumber High**	**42.93 146**		P	**P**	**13 45 53.4 +2.2**
RIV	**Riverview**	**43.08 146**		P	**P**	**13 45 54.6 +2.2**
AUMTS	**Mt Stromlo**	**43.08 150**		P	**P**	**13 45 53.8 +1.3**
CAN	**Canberra**	**43.08 150**		P	**P**	**13 45 53.9 +1.4**
CAN	**Canberra**	**43.08 150**		P	**P**	**13 45 54.1 +1.6**
AUDAR	**Daramalan Coll**	**43.10 150**		P	**P**	**13 45 53.9 +1.3**
AUSIS	**Research Schoo**	**43.10 150**		P	**P**	**13 45 54.7 +2.0**
XLT	**XiLinHaoTe**	**43.16 351**		*e*P	**P**	**13 45 51.8 -1.3**
XLT				S	**S**	**13 51 59.4 -0.2**
XLT				pmax	pmax	
	comp=Z,39nm,1.2s					
XLT				pmax	pmax	
	comp=Z,910nm,3.8s					
XLT				LR	LR	
	comp=Z,43nm,17.2s					
XLT				LR	LR	
	comp=Z,270nm,9.8s					
XLT				LR	LR	
	comp=Z,660nm,18.8s					
CNB	**Canberra Magne**	**43.26 149**		P	**P**	**13 45 55.6 +1.6**
TOO	**Toolangi**	**43.30 155**		P	**P**	**13 45 55.6 +1.4**
TOO				IAmb	IAmb	13 45 58.2
	comp=Z,92nm,0.9s					
TOO	**Toolangi**	**43.30 155**		P	**P**	**13 45 55.6 +1.4**
TOO				pmax	pmax	
	comp=Z,92nm,1.0s					
VIS	**Vishakhapatnam**	**43.35 295**		IAmb	IAmb	13 45 59.7
	comp=Z,81nm,1.2s					
VIS				*e*P	P	13 46 04.5 +10
VIS				*e*S	S	13 52 16.6 +14
USRK	**Ussuriysk Ar.**	**43.42 8**		P	**P**	**13 45 55.4 +0.4**
	comp=Z,64nm,0.4s,baz=187,slow=6.7,SNR=233					
USRK				ScP	**ScP**	**13 51 03.9 -0.8**
	comp=Z,4.1nm,0.7s,baz=278,slow=1.6,SNR=4.5					
	comp=Z,64nm,0.4s					
MDJ	**Mudanjiang**	**43.54 6**		P	**P**	**13 45 56.3 +0.4**
MDJ				pmax	pmax	
	comp=Z,92nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,1μm,4.0s					
MDJ	**Mudanjiang**	**43.54 6**		IAmb	IAmb	13 46 01.8
	comp=Z,93nm,0.8s					
MDJ	**Mudanjiang**	**43.54 6**		P	**P**	**13 45 56.1 +0.2**
PALK	**Pallekele**	**43.74 279**		P	**P**	**13 45 58.7 +0.6**
PALK	**Pallekele**	**43.74 279**		P	**P**	**13 45 58.2 +0.1**
PALK	**Pallekele**	**43.74 279**		P	**P**	**13 45 58.7 +0.6**
PALK				pmax	pmax	
	comp=Z,86nm,1.6s					
AUSMG	**Snowy Mountain**	**43.76 151**		P	**P**	**13 45 59.5 +1.6**
AUUHS	**Ulladulla High**	**43.87 148**		P	**P**	**13 46 00.3 +1.6**
GTA	**Gaotai**	**44.08 333**		P	**P**	**13 46 01.5 +1.0**
GTA				pP	pP	13 46 52.3 -0.9
GTA				ScP	**ScP**	**13 51 08.3 +0.5**
GTA				PcS	**PcS**	**13 51 33.3 -1.2**
GTA				S	**S**	**13 52 14.3 +1.2**
GTA				ScS	**ScS**	**13 55 28.6 -2.2**
GTA				pmax	pmax	
	comp=Z,180nm,1.2s					
GTA				pmax	pmax	
	comp=Z,820nm,8.4s					
GTA				LR	LR	
	comp=Z,1μm,19.3s					
GTA				LR	LR	
	comp=Z,1μm,16.7s					
GTA				LR	LR	
	comp=Z,1μm,18.2s					
ERM	**Erimo**	**44.12 20**		P	**P**	**13 46 01.5 +0.9**
ERM				IAmb	IAmb	13 46 05.1
	comp=Z,104nm,0.9s					
ERM	**Erimo**	**44.12 20**		P	**P**	**13 46 01.7 +1.1**
ERM	**Erimo**	**44.12 20**		P	**P**	**13 46 01.5 +0.9**
ERM				pmax	pmax	
	comp=Z,104nm,1.0s					
JEM	**Erimo**	**44.12 20**		P	**P**	**13 46 01.9 +1.3**
GOMU	**GeErMu**	**44.21 325**		P	**P**	**13 46 02.6 +0.7**
GOMU				S	**S**	**13 52 17.3 +1.7**
GOMU				pmax	pmax	
	comp=Z,47nm,1.3s					
GOMU				LR	LR	
	comp=Z,560nm,15.4s					
GOMU				LR	LR	
	comp=Z,280nm,15.8s					
GOMU				LR	LR	
	comp=Z,270nm,14.9s					
BNX	**BinXian**	**44.49 3**		⇑P	**P**	**13 46 02.5 -0.9**
BNX				pP	**pP**	**13 46 58.1 +1.7**
BNX				PcP	**PcP**	**13 47 42.1 +0.2**
BNX				S	**S**	**13 52 23.6 +5.1**
BNX				ScS	**ScS**	**13 55 30.1 -2.7**
BNX				pmax	pmax	
	comp=Z,38nm,1.8s					
BNX				pmax	pmax	
	comp=Z,710nm,7.0s					
EVN	**Everest**	**44.56 310**		P	**P**	**13 46 05.5 +0.5**
SANVU	**Saraoutou**	**45.63 113**		P	**P**	**13 46 14.3 +1.5**
ASAJ	**Asahikawa**	**45.81 19**		P	**P**	**13 46 14.7 +0.9**
ASAJ				pmax	pmax	
	comp=Z,123nm,0.5s					
JKA	**Kamikawa-asahi**	**45.81 19**		P	**P**	**13 46 14.7 +0.9**
AUBRN	**Burnie High Sc**	**46.41 157**		P	**P**	**13 46 20.0 +1.5**
GLAD	**Gladstone**	**47.22 155**		P	**P**	**13 46 26.2 +1.4**
CORO	**Coronation Par**	**47.26 156**		P	**P**	**13 46 26.5 +1.4**
DZM	**Mont Dzumac**	**47.27 122**		P	**P**	**13 46 26.5 +0.9**
	comp=Z,18nm,0.5s,baz=246,slow=12,SNR=23					
	comp=Z,18nm,0.5s					
ONTNC	**Ouen Toro**	**47.37 122**		IAmb	IAmb	13 46 28.6
	comp=Z,94nm,1.0s					
ONTNC	**Ouen Toro**	**47.37 122**		P	**P**	**13 46 27.6 +1.4**
YATNC	**Mamie plateau,**	**47.64 122**		P	**P**	**13 46 29.7 +1.4**
HYB	**Hyderabad**	**47.64 293**		*e*P	**P**	**13 46 29.2 +0.8**
HYB				IVmB_BB		13 46 30.1
	comp=Z,2μm,1.9s					
HYB				*e*pP	**pP**	**13 47 20.3 -2.1**
HYB				*e*PcP	**PcP**	**13 47 53.9 +0.2**
HYB				*e*PP	**PP**	**13 48 22.6 -0.2**
HYB				*e*S	**S**	**13 53 06.3 +2.1**
HYB				IVMs_BB	IVMs_BB	14 03 15.2
	comp=Z,827nm,4.3s					
OUENC	**Ouen Island, N**	**47.74 122**		P	**P**	**13 46 30.5 +1.4**
HIA	**Hailar**	**48.08 356**		IAmb	IAmb	13 46 35.4
	comp=Z,145nm,0.8s					
HIA	**Hailar**	**48.08 356**		P	**P**	**13 46 31.1 -0.1**
MOO	**Moorlands**	**48.12 157**		P	**P**	**13 46 33.3 +1.7**
PINNC	**Pines Island,**	**48.33 122**		IAmb	IAmb	13 46 35.6
	comp=Z,393nm,1.9s					
HILR	**Hailar Array B**	**48.36 356**		P	**P**	**13 46 33.3 -0.2**
	comp=Z,160nm,0.5s,baz=169,slow=10.0,SNR=84					
	comp=Z,160nm,0.5s					
MARNC	**Mare, Loyalty**	**48.40 120**		P	**P**	**13 46 35.5 +1.4**
YSS	**Yuzhno-Sakhali**	**48.41 17**		P	**P**	**13 46 33.8 0.0**
YSS				IAmb	IAmb	13 46 35.0
	comp=Z,77nm,0.4s					
YSS	**Yuzhno-Sakhali**	**48.41 17**		P	**P**	**13 46 34.2 +0.4**
YSS	**Yuzhno-Sakhali**	**48.41 17**		*ce*P	**P**	**13 46 33.6 -0.2**
YSS				*e**PP	**pP**	**13 47 30.0 +2.3**
YSS				*e**SP	**sP**	**13 48 00.2 +3.8**
YSS				*e*		13 48 31.8
YSS				*e*S	**S**	**13 53 13.4 -0.6**
YSS				*e*SS	**SS**	**13 56 47.6 0.0**
YSS				pmax	pmax	
	comp=Z,800nm,5.3s					
YSS				pmax	pmax	
	comp=N,300nm,4.5s					
YSS				pmax	pmax	
	comp=Z,70nm,1.1s					
YSS				smax	smax	
	comp=N,200nm,9.8s					
YSS				MLR	MLR	
	comp=Z,300nm,16.0s					
YSS	**Yuzhno-Sakhali**	**48.41 17**		P	**P**	**13 46 33.8 0.0**
YSS				pP	**pP**	**13 47 25.9 -1.8**
TAU	**Tasmania Unive**	**48.57 157**		P	**P**	**13 46 36.4 +1.4**
TAU				IAmb	IAmb	13 46 38.0
	comp=Z,70nm,1.0s					
TAU	**Tasmania Unive**	**48.57 157**		P	**P**	**13 46 36.4 +1.4**
TAU				pmax	pmax	
	comp=Z,70nm,1.0s					
ULN	**Ulaanbaatar**	**48.83 345**		P	**P**	**13 46 36.0 -1.2**
ULN				IAmb	IAmb	13 46 40.8
	comp=Z,120nm,0.9s					
ULN	**Ulaanbaatar**	**48.83 345**		P	**P**	**13 46 37.3 +0.2**
ULN	**Ulaanbaatar**	**48.83 345**		P	**P**	**13 46 37.3 +0.2**
SONM	**Songino Array**	**48.98 344**		P	**P**	**13 46 37.8 -0.5**
	comp=Z,89nm,0.8s,baz=158,slow=8.0,SNR=64					
SONM				PcP	**PcP**	**13 47 58.3 +0.3**
	comp=Z,9.2nm,0.8s,baz=157,slow=4.7,SNR=1.6					
	comp=Z,89nm,0.8s					
HEH	**HeiHe**	**48.99 3**		⇑*i*P	**P**	**13 46 37.9 -0.2**
HEH				S	**S**	**13 53 20.5 -1.5**
HEH				ScS	**ScS**	**13 55 58.8 -3.5**
HEH				pmax	pmax	
	comp=Z,180nm,1.1s					
HEH				pmax	pmax	
	comp=Z,2μm,4.3s					
UGL	**Uglegorsk**	**50.16 15**		*e*P	**P**	**13 46 47.5 +0.6**
UGL				pmax	pmax	
	comp=Z,1μm,0.5s					
UGL				pmax	pmax	
	comp=Z,200nm,0.3s					
GRNR	**Gornyy**	**50.51 10**		⇑*i*P	**P**	**13 46 50.2 +0.6**
GRNR				pmax	pmax	
	comp=N,9.0nm,0.8s					
GRNR				pmax	pmax	
	comp=Z,20nm,0.8s					
CIT	**Chita**	**51.46 352**		*e*P	**P**	**13 46 56.4 -0.2**
CIT				*e*		13 47 50.6
CIT				*e*		13 48 04.0
CIT				*e*		13 48 19.4
CIT				*e*		13 49 00.4
CIT				pmax	pmax	
	comp=Z,357nm,1.9s					
TYV	**Tymovskoe**	**51.95 15**		*e*P	**P**	**13 47 01.0 +0.9**
TYV				*e*S	**S**	**13 54 05.1 +2.5**
TYV				pmax	pmax	
	comp=Z,1μm,4.4s					
TYV				pmax	pmax	
	comp=Z,63nm,0.8s					
TYV				smax	smax	
	comp=N,700nm,6.0s					
TYV				smax	smax	
	comp=E,700nm,6.0s					
ZAK	**Zakamensk**	**52.16 343**		*e*P	**P**	**13 47 01.1 -0.8**
ZAK				pmax	pmax	
	comp=Z,98nm,1.5s					
ZEA	**Zeya**	**52.47 2**		*e*P	**P**	**13 47 03.6 -0.3**
ZEA				*e**PP	**pwP**	**13 48 06.5 +1.7**
ZEA				*e*S	**S**	**13 54 12.6 +3.0**
ZEA				pmax	pmax	
	comp=N,200nm,2.1s					
ZEA				pmax	pmax	
	comp=Z,300nm,2.2s					
ZEA				pmax	pmax	
	comp=E,10.0nm,0.4s					
ZEA				pmax	pmax	
	comp=N,40nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,100nm,1.2s					
ZEA				smax	smax	
	comp=N,100nm,7.5s					
ZEA				smax	smax	
	comp=E,100nm,7.5s					
ZEA				MLR	MLR	
	comp=E,100nm,16.0s					
ZEA				MLR	MLR	
	comp=N,100nm,13.0s					
ZEA				MLR	MLR	
	comp=Z,300nm,15.0s					
TLY	**Talaya**	**53.22 344**		P	**P**	**13 47 09.1 -0.4**
TLY				IAmb	IAmb	13 47 13.5
	comp=Z,74nm,0.8s					
TLY	**Talaya**	**53.22 344**		P	**P**	**13 47 10.1 +0.6**
TLY	**Talaya**	**53.22 344**		*ce*P	**P**	**13 47 10.2 +0.7**
TLY				pmax	pmax	
	comp=Z,241nm,1.7s					
WMQ	**Urumqi**	**53.43 328**		*e*P	**P**	**13 47 13.3 +2.1**

WMQ			PcP	**PcP**	**13 48 15.0 +0.3**
WMQ			S	**S**	**13 54 20.4 -2.6**
WMQ			ScS	**ScS**	**13 56 30.4 -3.2**
WMQ			pmax	pmax	
	comp=Z,110nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,780nm,3.8s				
WMQ			LR	LR	
	comp=Z,930nm,22.9s				
WMQ			LR	LR	
	comp=Z,610nm,16.7s				
WMQ			LR	LR	
	comp=Z,460nm,23.9s				
IRK	**Irkutsk**	**53.56 345**	*e*P	**P**	**13 47 10.6 -1.3**
IRK			*e*		13 48 13.6
IRK			pmax	pmax	
	comp=Z,189nm,1.8s				
MOY	**Mondy**	**53.97 342**	*e*P	**P**	**13 47 14.9 -0.1**
MOY			pmax	pmax	
	comp=Z,266nm,1.9s				
MSVF	**Nonsavu**	**56.26 112**	P	**P**	**13 47 33.3 +1.4**
MSVF	**Nonsavu**	**56.26 112**⇓	*i*P	**P**	**13 47 33.6 +1.7**
MSVF			*i* *PP	**PcP**	**13 48 24.7 -1.5**
MSVF			pmax	pmax	
	comp=Z,105nm,1.7s				
ZSN	**Zaisan**	**57.32 329**	*e*P	**P**	**13 47 38.6 -0.2**
ZSN			*e*S	**S**	**13 55 15.1 +0.7**
ZSN	**Zaisan**	**57.32 329**	*e*P	**P**	**13 47 38.5 -0.2**
ZSN			*e*S	**S**	**13 55 15.0 +0.7**
NIL	**Nilore**	**57.52 310**	P	**P**	**13 47 39.9 -0.5**
NIL	**Nilore**	**57.52 310**	P	**P**	**13 47 40.1 -0.3**
NIL	**Nilore**	**57.52 310**	P	**P**	**13 47 39.9 -0.5**
NIL			pmax	pmax	
	comp=Z,238nm,1.4s				
SHLS	**Shalkode**	**57.74 323**	*e*P	**P**	**13 47 39.5 -2.4**
	comp=Z,132nm,1.1s				
SHLS	**Shalkode**	**57.74 323**	*e*P	**P**	**13 47 39.5 -2.4**
SHLS			pmax	pmax	
	comp=Z,132nm,1.1s				
PDGK	**Podgornoye**	**57.82 323**	P	**P**	**13 47 41.7 -0.7**
UZB	**Uzynbulak**	**58.00 322**	*e*P	**P**	**13 47 43.2 -0.6**
	comp=Z,108nm,1.4s				
UZB			*e*S	**S**	**13 55 23.8 +0.2**
UZB	**Uzynbulak**	**58.00 322**	*e*P	**P**	**13 47 43.1 -0.6**
UZB			*e*S	**S**	**13 55 23.8 +0.2**
UZB			pmax	pmax	
	comp=Z,108nm,1.4s				
TARG	**Taragay, Kyrgy**	**58.01 320**	P	**P**	**13 47 45.5 +1.4**
TARG	**Taragay, Kyrgy**	**58.01 320**	P	**P**	**13 47 45.5 +1.4**
TARG			pmax	pmax	
	comp=Z,227nm,1.5s				
KSH	**Kashi**	**58.11 317**	P	**P**	**13 47 45.3 +0.8**
KSH			pP	pwP	13 48 47.8 +0.4
KSH			S	**S**	**13 55 27.6 +2.6**
KSH			ScS	**ScS**	**13 57 07.3 -0.5**
KSH			pmax	pmax	
	comp=Z,87nm,1.3s				
KSH			LR	LR	
	comp=Z,350nm,12.7s				
KSH			LR	LR	
	comp=Z,410nm,12.0s				
KSH			LR	LR	
	comp=Z,550nm,16.5s				
MK31	**Makanchi Array**	**58.26 327***c*	*i*P	**P**	**13 47 44.8 -0.4**
MKAR	**Makanchi Array**	**58.26 327**	P	**P**	**13 47 44.5 -0.7**
	comp=Z,48nm,0.3s,baz=125,slow=7.7,SNR=627				
MKAR			PcP	**PcP**	**13 48 33.3 -0.1**
	comp=Z,26nm,0.8s,baz=120,slow=4.8,SNR=5.8				
MKAR			ScP	**ScP**	**13 52 07.1 -1.4**
	comp=Z,3.6nm,0.6s,baz=121,slow=5.1,SNR=4.0				
MKAR			PKPPKP	**P'P'df**	**14 17 21.2 -4.5**
	comp=Z,1.6nm,1.1s,baz=284,slow=9.8,SNR=3.9				
	comp=Z,48nm,0.3s				
SATY	**Saty**	**58.33 322**	*e*P	**P**	**13 47 45.5 -0.6**
	comp=Z,126nm,1.0s				
SATY	**Saty**	**58.33 322**	*e*P	**P**	**13 47 45.4 -0.6**
SATY			pmax	pmax	
	comp=Z,126nm,1.0s				
MAKZ	**Makanchi**	**58.43 327**	P	**P**	**13 47 45.9 -0.5**
MAKZ	**Makanchi**	**58.43 327**	P	**P**	**13 47 46.7 +0.2**
MAKZ	**Makanchi**	**58.43 327**	P	**P**	**13 47 46.0 -0.5**
MAKZ			PcP	**PcP**	**13 48 33.5 -0.6**
MAKZ			pP	**pP**	**13 48 41.1 -1.2**
MAKZ			x	x	13 48 50.4
KDJ	**Kajisay**	**58.61 320**	P	**P**	**13 47 48.3 +0.3**
KDJ	**Kajisay**	**58.61 320**	P	**P**	**13 47 48.3 +0.3**
KDJ			pmax	pmax	
	comp=Z,153nm,1.0s				
OUZ	**Omahuta**	**58.62 133**	P	**P**	**13 47 50.0 +2.1**
PEA0B	**Petropavlovsk-**	**58.77 23**	P	**P**	**13 47 48.8 +0.2**
PEA0B			IAmb	IAmb	13 47 52.2
	comp=Z,94nm,0.9s				
PEA0B	**Petropavlovsk-**	**58.77 23**⇑	*i*P	**P**	**13 47 49.6 +1.0**
PETK	**Petropavlovsk-**	**58.77 23**	P	**P**	**13 47 49.4 +0.7**
	comp=Z,64nm,0.8s,baz=210,slow=3.9,SNR=121				
	comp=Z,64nm,0.8s				
PET	**Petropavlovsk**	**59.09 23**	*e*P	**P**	**13 47 50.7 0.0**
PET			*e**SP	**sP**	**13 49 13.2 -2.4**
PET			*e*S	**S**	**13 55 40.6 +3.9**
PET			*e**SS	**sS**	**13 57 18.4 +0.8**
PET			pmax	pmax	
	comp=Z,100nm,1.3s				
PET			pmax	pmax	
	comp=Z,400nm,14.0s				
TNSS	**Tian-Shan**	**59.23 321**	*e*P	**P**	**13 47 51.6 -0.8**
TNSS	**Tian-Shan**	**59.23 321**	*e*P	**P**	**13 47 51.6 -0.8**
MDOK	**Medeo**	**59.23 321**	*e*P	**P**	**13 47 51.6 -0.5**
MDOK			*e*S	**S**	**13 55 39.6 +0.1**
MDOK	**Medeo**	**59.23 321**	*e*P	**P**	**13 47 51.6 -0.5**
MDOK			*e*S	**S**	**13 55 39.5 +0.1**
ULHL	**Ulahol**	**59.27 320**	P	**P**	**13 47 53.2 +0.7**
	SNR=32				
TDK	**Taldygorghan**	**59.40 324**	*e*P	**P**	**13 47 52.8 -0.3**
	comp=Z,80nm,0.7s				
TDK	**Taldyqorghan**	**59.40 324**	*e*P	**P**	**13 47 52.7 -0.3**
TDK			pmax	pmax	
	comp=Z,80nm,0.7s				
WCZ	**Waipu Caves**	**59.48 134**	P	**P**	**13 47 55.9 +2.1**
DCZ	**Deep Cove**	**59.98 146**	IAmb	IAmb	13 47 59.5
	comp=Z,127nm,1.2s				
TKM2	**Tokmak 2**	**60.02 321**	P	**P**	**13 47 57.7 +0.1**
	SNR=114				
KUU	**Kurty**	**60.05 322**	*e*P	**P**	**13 47 57.1 -0.4**
	comp=Z,104nm,1.0s				
KUU	**Kurty**	**60.05 322**	*e*P	**P**	**13 47 57.1 -0.4**
KUU			pmax	pmax	
	comp=Z,104nm,1.0s				
JCZ	**Jackson Bay**	**60.07 144**	P	**P**	**13 47 59.4 +1.7**
KBK	**Karagaybulak**	**60.31 320**	P	**P**	**13 47 59.8 +0.3**
	SNR=59				
UCH	**Uchtor**	**60.38 319**	P	**P**	**13 48 00.7 +0.3**
	SNR=184				
AAK	**Ala-Archa**	**60.59 320**	P	**P**	**13 48 01.2 -0.1**
	comp=Z,56nm,0.9s,baz=116,slow=5.6,SNR=48				
AAK			S	**S**	**13 55 55.1 -1.6**
	comp=Z,1.2nm,0.5s,baz=25,slow=20,SNR=9.9				
	comp=Z,56nm,0.9s				
AAK	**Ala-Archa**	**60.59 320**	P	**P**	**13 48 01.8 +0.4**
AAK	**Ala-Archa**	**60.59 320**	P	**P**	**13 48 01.6 +0.2**
	SNR=80				
AAK	**Ala-Archa**	**60.59 320**	*i* P	**P**	**13 48 01.3 -0.1**
	SNR=93				
AAK	**Ala-Archa**	**60.59 320**	P	**P**	**13 48 01.5 +0.1**
AAK			PcP	**PcP**	**13 48 43.1 +0.1**
AAK			x	x	13 49 06.7
QRZ	**Quartz Range**	**60.60 139**	P	**P**	**13 48 02.8 +1.5**
CHMS	**Chumysh**	**60.60 320**	P	**P**	**13 48 00.9 -0.4**
	SNR=11				
DSZ	**Denniston Nort**	**60.61 141**	P	**P**	**13 48 02.8 +1.4**
WHZ	**Wether Hill Ro**	**60.68 146**	IAmb	IAmb	13 48 04.1
	comp=Z,107nm,1.1s				
KUZ	**Kuaotunu**	**60.84 134**	P	**P**	**13 48 04.5 +1.6**
YAK	**Yakutsk**	**60.87 3**	P	**P**	**13 48 02.5 -0.1**
YAK	**Yakutsk**	**60.87 3**	P	**P**	**13 48 02.7 +0.1**
USP	**Ospenovka**	**60.89 320**	P	**P**	**13 48 03.0 -0.2**
	SNR=164				
SGDS	**Sogindy**	**60.90 321**	*e*P	**P**	**13 48 02.8 -0.5**
SGDS			*e*S	**S**	**13 56 00.7 +0.3**
INZ	**Inchbonnie**	**60.91 142**	P	**P**	**13 48 04.3 +1.0**
HIZ	**Hauiti**	**61.03 136**	P	**P**	**13 48 06.3 +2.1**
EKS2	**Erkin-Say**	**61.06 320**	P	**P**	**13 48 04.7 +0.2**
	SNR=93				
KBL	**Kabul**	**61.09 309**	P	**P**	**13 48 04.8 -0.2**
KBL	**Kabul**	**61.09 309**	P	**P**	**13 48 04.8 -0.2**
KBL			pmax	pmax	
	comp=Z,324nm,1.4s				
TOZ	**Tahuroa Road**	**61.12 135**	P	**P**	**13 48 06.8 +2.0**
RPZ	**Rata Peaks**	**61.21 143**	P	**P**	**13 48 06.1 +0.7**
	comp=Z,82nm,0.6s,baz=275,slow=3.8,SNR=34				
	comp=Z,82nm,0.6s				
VRZ	**Vera Road**	**61.25 137**	P	**P**	**13 48 07.4 +1.7**
THZ	**Tophouse**	**61.32 140**	P	**P**	**13 48 06.5 +0.3**
THZ			IAmb	IAmb	13 48 08.2
	comp=Z,68nm,0.9s				
THZ	**Tophouse**	**61.32 140**	P	**P**	**13 48 06.8 +0.6**
NNZ	**Nelson**	**61.35 139**	P	**P**	**13 48 06.2 -0.1**
NNZ	**Nelson**	**61.35 139**	P	**P**	**13 48 06.4 +0.1**
LTZ	**Lake Taylor**	**61.45 141**	IAmb	IAmb	13 48 09.9
	comp=Z,62nm,0.8s				
LTZ	**Lake Taylor**	**61.45 141**	P	**P**	**13 48 08.3 +1.3**
OXZ	**Oxford**	**61.60 142**	IAmb	IAmb	13 48 10.0
	comp=Z,81nm,1.1s				
TGRZ	**Tauranga**	**61.66 135**	P	**P**	**13 48 10.1 +1.7**
WAZ	**Wanganui**	**61.70 137**	P	**P**	**13 48 10.3 +1.6**
ZALV	**Zalesovo Beam**	**61.75 335**	P	**P**	**13 48 07.2 -1.5**
	comp=Z,31nm,0.3s,baz=142,slow=6.5,SNR=66				
ZALV			S	**S**	**13 56 07.9 -2.7**
	comp=Z,2.9nm,0.7s,baz=133,slow=13,SNR=5.6				
ZALV			PKP2bc	**P'P'bc**	**14 17 22.5 -6.3**
	comp=Z,1.1nm,0.5s,baz=270,slow=8.9,SNR=6.0				
	comp=Z,31nm,0.3s				
GAR	**Garm**	**61.82 314**	P	**P**	**13 48 09.1 -0.5**
MA2	**Magadan**	**61.82 15**	P	**P**	**13 48 10.0 +0.9**
MA2	**Magadan**	**61.82 15**	P	**P**	**13 48 09.9 +0.9**
MA2	**Magadan**	**61.82 15***c*	*i*P	**P**	**13 48 10.1 +1.1**
MA2			pmax	pmax	
	comp=Z,137nm,0.6s				
MA2	**Magadan**	**61.82 15**	P	**P**	**13 48 09.6 +0.5**
	comp=Z,3μmcomp=Z,242nm,0.8s				
MA2	**Magadan**	**61.82 15**	P	**P**	**13 48 10.2 +1.1**
MA2			PcP	**PcP**	**13 48 48.8 +1.3**
GVZ	**Greta Valley S**	**62.03 141**	P	**P**	**13 48 11.9 +1.1**
KHZ	**Kahutara**	**62.06 140**	IAmb	IAmb	13 48 12.8
	comp=Z,62nm,0.8s				
KHZ	**Kahutara**	**62.06 140**	P	**P**	**13 48 10.9 -0.1**
KHZ	**Kahutara**	**62.06 140**	P	**P**	**13 48 11.4 +0.5**
SNZO	**South Karori**	**62.26 139**	P	**P**	**13 48 11.8 -0.5**
BKZ	**Black Stump Fm**	**62.46 136**	IAmb	IAmb	13 48 15.7
	comp=Z,87nm,1.0s				
BKZ	**Black Stump Fm**	**62.46 136**	P	**P**	**13 48 14.9 +1.1**
BKZ	**Black Stump Fm**	**62.46 136**	P	**P**	**13 48 14.6 +0.8**
URZ	**Urewera**	**62.49 135**	P	**P**	**13 48 13.9 0.0**
	comp=Z,27nm,0.4s,baz=252,slow=4.6,SNR=52				
	comp=Z,27nm,0.4s				
URZ	**Urewera**	**62.49 135**	P	**P**	**13 48 14.0 0.0**
URZ	**Urewera**	**62.49 135**	P	**P**	**13 48 14.1 +0.1**
TSZ	**Takapari Road**	**62.51 137**	P	**P**	**13 48 14.6 +0.6**
MRZ	**Mangatainoka R**	**62.53 138**	P	**P**	**13 48 13.8 -0.2**
MRZ	**Mangatainoka R**	**62.53 138**	P	**P**	**13 48 13.9 -0.2**
RTZ	**Ruatahuna**	**62.56 135**	P	**P**	**13 48 14.5 +0.1**
RTZ	**Ruatahuna**	**62.56 135**	P	**P**	**13 48 14.9 +0.4**
KURBB	**Kurchatov Arra**	**62.56 329**	P	**P**	**13 48 13.3 -0.8**
	comp=Z,79nm,0.7s,baz=118,slow=6.4,SNR=358				
KURBB			PcP	**PcP**	**13 48 50.1 -0.5**
	comp=Z,13nm,0.8s,baz=128,slow=4.1,SNR=4.5				
KURBB			S	**S**	**13 56 19.4 -1.2**
	comp=Z,0.5nm,0.9s,baz=126,slow=11,SNR=1.8				
KURBB			PKPPKP	**P'P'df**	**14 17 15.3 -3.5**
	comp=Z,1.3nm,1.1s,baz=288,slow=3.5,SNR=4.6				
	comp=Z,79nm,0.7s				
KURBB	**Kurchatov Arra**	**62.56 329**	P	**P**	**13 48 12.3 -1.8**
KURK	**Kurchatov**	**62.57 329**	P	**P**	**13 48 13.3 -0.9**
KURK	**Kurchatov**	**62.57 329**	P	**P**	**13 48 13.6 -0.5**
KURK	**Kurchatov**	**62.57 329**	P	**P**	**13 48 13.3 -0.9**
KURK			S	**S**	**13 56 19.5 -1.3**
SIMJ	**Simiganj**	**62.63 314**	P	**P**	**13 48 14.2 -0.8**
SIMJ			x	x	13 49 19.6
HAZ	**Te Kaha**	**62.76 134**	P	**P**	**13 48 16.4 +0.7**
DZA	**Taraz**	**62.77 319**	*e*P	**P**	**13 48 15.2 -0.5**
DZA	**Taraz**	**62.77 319**	*e*P	**P**	**13 48 15.2 -0.5**
RUGZ	**Raukumara Rang**	**62.77 134**	P	**P**	**13 48 15.6 -0.4**
RAGZ	**Rawiri**	**62.81 135**	P	**P**	**13 48 16.9 +0.8**
MWZ	**Matawai**	**62.82 135**	P	**P**	**13 48 16.5 +0.4**
BFZ	**Birch Farm**	**62.99 138**	P	**P**	**13 48 17.4 +0.2**
PKGZ	**Pakihiroa**	**63.02 134**	P	**P**	**13 48 18.6 +1.1**
MXZ	**Matakaoa Point**	**63.05 134**	P	**P**	**13 48 18.7 +1.1**
TWGZ	**Tauwhareparae**	**63.08 134**	P	**P**	**13 48 19.2 +1.4**
TKGZ	**Te Karaka**	**63.10 135**	P	**P**	**13 48 18.5 +0.7**
PXZ	**Pawanui**	**63.11 137**	P	**P**	**13 48 18.4 +0.4**
RIGZ	**Rimuhau**	**63.15 135**	P	**P**	**13 48 19.0 +0.7**
PUZ	**Puketiti**	**63.23 134**	P	**P**	**13 48 19.3 +0.5**
WMGZ	**Waiomatatini S**	**63.24 134**	P	**P**	**13 48 19.5 +0.6**
IUG	**Iuzhnay**	**63.31 318**	*e*P	**P**	**13 48 19.0 -0.5**
	comp=Z,56nm,0.9s				
IUG			*e*S	**S**	**13 56 30.9 +0.3**
IUG	**Iuzhnay**	**63.31 318**	*e*P	**P**	**13 48 18.9 -0.5**
IUG			*e*S	**S**	**13 56 30.9 +0.3**
IUG			pmax	pmax	
	comp=Z,56nm,0.9s				
PRGZ	**Paritu Road**	**63.33 135**	P	**P**	**13 48 21.2 +1.7**
CNGZ	**Carnagh Statio**	**63.37 135**	P	**P**	**13 48 20.7 +1.0**
KK31	**Karatay Array**	**63.40 319**	P	**P**	**13 48 18.5 -1.4**
CHM	**Chimkent**	**63.67 318**	*e*P	**P**	**13 48 21.4 -0.3**
CHM	**Chimkent**	**63.67 318**	*e*P	**P**	**13 48 21.3 -0.3**
BRLS	**Borolday**	**63.82 318**	*e*P	**P**	**13 48 21.9 -0.7**
	comp=Z,46nm,1.0s				
BRLS	**Borolday**	**63.82 318**	*e*P	**P**	**13 48 21.9 -0.7**
BRLS			pmax	pmax	
	comp=Z,46nm,1.0s				
SEY	**Seymchan**	**65.11 14**⇑	*i*P	**P**	**13 48 31.4 +0.9**
SEY			pmax	pmax	
	comp=Z,86nm,1.0s				
AFI	**Afiamalu**	**65.18 106**	P	**P**	**13 48 33.4 +1.5**
BRZS	**Berezniki**	**65.34 326**	*e*P	**P**	**13 48 32.0 -0.2**
BRZS	**Berezniki**	**65.34 326**	*e*P	**P**	**13 48 32.0 -0.2**
JLN	**Jalan Bani Buh**	**66.24 294**	P	**P**	**13 48 38.2 -0.3**
WSAR	**Wadi Sarin**	**67.12 295**	P	**P**	**13 48 44.0 0.0**
	SNR=11				
MHTO	**MHTO**	**67.40 292**	P	**P**	**13 48 45.6 -0.2**
	SNR=13				
MHTO			P	**P**	**13 48 45.6 -0.2**
	SNR=13				
JMDO	**Jabal Madar**	**67.47 294**	P	**P**	**13 48 46.5 +0.3**
	SNR=6.9				
BIDO	**Bidbid**	**67.62 295**	P	**P**	**13 48 47.3 +0.1**
	SNR=14				
SMDO	**Samad**	**67.62 294**	P	**P**	**13 48 47.0 -0.3**
	SNR=7.9				
DQM	**DQM**	**67.66 291**	P	**P**	**13 48 46.5 -1.0**
	SNR=8.8				
CASY	**Casey**	**67.99 186**	P	**P**	**13 48 49.0 +0.5**
CASY			IAmb	IAmb	13 48 51.1
	comp=Z,48nm,0.9s				
CASY	**Casey**	**67.99 186**	P	**P**	**13 48 49.0 +0.5**
AMKA	**Amchitka**	**68.05 34**	P	**P**	**13 48 49.4 +0.1**
BVA0	**Borovoye Array**	**68.10 328**	P	**P**	**13 48 48.3 -1.3**
BVAR	**Borovoye Array**	**68.10 328**	P	**P**	**13 48 48.6 -0.9**
	comp=Z,23nm,0.4s,baz=130,slow=8.3,SNR=41				
	comp=Z,23nm,0.4s				
BORK	**Borovoye**	**68.15 328***c*	*i*P	**P**	**13 48 48.9 -0.9**
BORK			pmax	pmax	
	comp=Z,168nm,1.1s				
HOQ	**Hoqain**	**68.37 295**	P	**P**	**13 48 51.6 -0.2**
	SNR=14				
ARQ	**Araqi**	**69.05 294**	P	**P**	**13 48 56.3 +0.3**
	SNR=7.2				
SOHO	**SOHO**	**69.15 295**	P	**P**	**13 48 56.2 -0.3**
SOHO	**SOHO**	**69.15 295**	*i* P	**P**	**13 48 55.5 -1.1**
	SNR=6.8				
SHAO	**Shalim**	**69.25 289**	P	**P**	**13 48 56.5 -0.8**
	SNR=6.5				
SHAO			P	**P**	**13 48 56.5 -0.8**
	SNR=6.5				
SHAO	**Shalim**	**69.25 289**	*i* P	**P**	**13 48 57.2 0.0**
	SNR=5.7				
MDH	**Madha**	**69.54 297**	P	**P**	**13 48 57.5 -1.4**
UOSS	**Minazif**	**69.57 296**	P	**P**	**13 48 58.7 -0.5**
UOSS			P	**P**	**13 48 58.7 -0.5**
UOSS	**Minazif**	**69.57 296**	P	**P**	**13 48 58.9 -0.3**
HATD	**Hatta, Dubai**	**69.62 296**	P	**P**	**13 48 59.3 -0.2**
	SNR=11				
HATD	**Hatta, Dubai**	**69.62 296**	*i* P	**P**	**13 48 59.5 0.0**
	SNR=7.4				
BANOM	**Banah**	**69.63 297**	P	**P**	**13 48 59.5 -0.1**
ASHO	**Ashiyiah**	**69.66 296**	P	**P**	**13 48 59.7 0.0**
	SNR=14				
ASHO	**Ashiyiah**	**69.66 296**	*i* P	**P**	**13 48 58.8 -0.9**
	SNR=16				
MSFE	**Esma-Masafi**	**69.67 297**	P	**P**	**13 48 58.7 -1.1**
MASF	**Masafi**	**69.67 297**	P	**P**	**13 49 00.7 +0.9**
	SNR=7.1				
SHME	**Shamm**	**69.79 297**	P	**P**	**13 49 01.1 +0.6**
SHME	**Shamm**	**69.79 297**	*i* P	**P**	**13 48 60.0 -0.5**
	SNR=7.2				
ALNE	**Al Ain**	**69.85 295**	P	**P**	**13 49 00.7 -0.2**
	SNR=36				
ALNE	**Al Ain**	**69.85 295**	*i* P	**P**	**13 48 59.8 -1.1**
	SNR=13				
DMTO	**DMTO**	**69.86 288**	P	**P**	**13 49 01.1 +0.1**
NAZ	**Nazwa, Dubai**	**70.06 296**	P	**P**	**13 49 04.0 +1.8**
	SNR=6.0				
NAZ	**Nazwa, Dubai**	**70.06 296**	P	**P**	**13 49 01.8 -0.3**
FAQ	**Al Faqa, Dubai**	**70.09 296**	P	**P**	**13 49 03.0 +0.7**
	SNR=6.7				
FAQ	**Al Faqa, Dubai**	**70.09 296**	P	**P**	**13 49 00.9 -1.4**
ASUD	**Al Ashush, Dub**	**70.31 296**	P	**P**	**13 49 03.6 0.0**
	SNR=12				
ASUD	**Al Ashush, Dub**	**70.31 296**	*i* P	**P**	**13 49 03.0 -0.6**
	SNR=12				
TIXI	**Tiksi**	**70.45 2**	P	**P**	**13 49 02.7 -0.7**
TIXI	**Tiksi**	**70.45 2**	P	**P**	**13 49 03.0 -0.5**
TIXI	**Tiksi**	**70.45 2**	P	**P**	**13 49 02.4 -1.1**
RBK	**Rabkut**	**70.55 288**	P	**P**	**13 49 06.4 +1.2**
	SNR=6.9				
AJN	**Ajban**	**70.61 296**	P	**P**	**13 49 04.9 -0.6**
	SNR=11				
AJN	**Ajban**	**70.61 296**	P	**P**	**13 49 04.2 -1.2**
DOK	**Doka**	**70.72 289**	P	**P**	**13 49 04.5 -1.7**
	SNR=20				
WHFO	**Wadi Hawf**	**71.00 288**	P	**P**	**13 49 06.0 -2.0**
	SNR=8.6				
ABTO	**Aybut**	**71.40 288**	P	**P**	**13 49 09.7 -0.7**
	SNR=8.5				
MZR	**Muzera**	**71.78 294**	P	**P**	**13 49 11.8 -0.8**
	SNR=19				
MZR	**Muzera**	**71.78 294**	*i* P	**P**	**13 49 11.7 -0.8**
	SNR=7.9				
AB31	**Akbulak array**	**72.54 322**	*i* P	**P**	**13 49 15.0 -1.4**
JRN	**Qarnain Island**	**72.59 296**	P	**P**	**13 49 16.1 -1.1**
	SNR=18				
BILL	**Bilibino**	**72.69 15**⇓	*i*P	**P**	**13 49 17.1 +0.2**
BILL			pmax	pmax	
	comp=Z,61nm,1.8s				
TRNA	**Turayna**	**74.04 295**	P	**P**	**13 49 25.5 -0.1**
	SNR=16				
AKTO	**Aktyubinsk**	**74.10 323**	P	**P**	**13 49 24.9 -0.6**
	comp=Z,119nm,0.8s,baz=106,slow=5.9,SNR=76				
AKTO			S	**S**	**13 58 32.4 -4.2**
	comp=Z,1.6nm,0.7s,baz=24,slow=22,SNR=11				
	comp=Z,119nm,0.8s				
SHMA	**Al-Shehemyia**	**74.39 296**	P	**P**	**13 49 30.0 +2.4**
	SNR=7.0				
SMRA	**Abu-Samra**	**74.39 295**	P	**P**	**13 49 28.0 +0.3**
	SNR=23				
SAKB	**Bahrain**	**74.78 296**	P	**P**	**13 49 31.0 +1.1**
SVE	**Sverdlovsk**	**74.82 329***de*P		**P**	**13 49 28.4 -1.1**
SVE			*e*S	**S**	**13 58 38.9 -5.5**
SVE			pmax	pmax	
	comp=Z,180nm,1.1s				
SBV	**Sambava**	**74.95 256**	P	**P**	**13 49 32.9 +1.8**
NIKH	**Nikolski High**	**75.38 35**	P	**P**	**13 49 33.8 +1.1**
	baz=252				
ARTI	**Arti**	**75.83 328**	P	**P**	**13 49 33.8 -1.4**
ARTI	**Arti**	**75.83 328**	*i* P	**P**	**13 49 33.9 -1.3**
SPIA	**Saint Paul Isl**	**76.01 31**	P	**P**	**13 49 37.4 +1.3**
	baz=250				
CCD	**Concordia, Ant**	**76.16 180**	P	**P**	**13 49 38.2 +1.0**
P08K	**Saint George I**	**76.17 31**	P	**P**	**13 49 38.3 +1.2**
	baz=250				
UNV	**Unalaska Valle**	**76.98 35**	P	**P**	**13 49 43.0 +1.3**
	baz=254				
AKUT	**Akutan**	**77.48 35**	P	**P**	**13 49 44.1 -0.3**
KBD	**Kabd**	**77.62 299**	P	**P**	**13 49 47.4 +1.6**
ABPO	**Ambohimpanom**	**78.03 250**	P	**P**	**13 49 47.9 -0.5**
ABPO	**Ambohimpanom**	**78.03 250**	P	**P**	**13 49 47.9 -0.5**
ABPO			pmax	pmax	
	comp=Z,29nm,1.1s				
VOI	**Vohitsoka**	**78.72 248**	P	**P**	**13 49 52.3 +0.2**
VOI			IAmb	IAmb	13 49 53.8
	comp=Z,35nm,0.9s				
VOI	**Vohitsoka**	**78.72 248**	P	**P**	**13 49 52.3 +0.2**
FALS	**False Pass**	**78.99 34**	P	**P**	**13 49 53.8 +1.1**
	baz=256				
M11K	**Mekoryuk**	**79.04 28**	P	**P**	**13 49 54.1 +1.3**
	baz=253				
RAYN	**Ar Rayn**	**79.14 294**	P	**P**	**13 49 53.0 -1.2**
RAYN			IAmb	IAmb	13 49 57.6
	comp=Z,60nm,0.9s				
RAYN	**Ar Rayn**	**79.14 294**	P	**P**	**13 49 53.2 -1.1**
RAYN	**Ar Rayn**	**79.14 294**	*i* P	**P**	**13 49 53.8 -0.5**
	SNR=8.2				
RAYN	**Ar Rayn**	**79.14 294**	P	**P**	**13 49 53.6 -0.6**
MAK	**Makhachkala**	**79.45 313**	*e*P	**P**	**13 49 53.9 -1.5**
MAK			*e**PP	**pP**	**13 50 53.9 -1.0**
MAK			*e**SP	**sP**	**13 51 20.0 -1.8**
MAK			*e*		13 52 59.6
MAK			*e*S	**S**	**13 59 33.3 -1.4**
MAK			*e*SS	**SS**	**14 04 47.8 -0.6**
MAK			*e*SSS	SSS	14 08 13.8
MAK			pmax	pmax	
	comp=Z,49nm,0.3s				
MAK			MLR	MLR	
	comp=Z,232nm,17.0s				
TNA	**Tin City**	**79.94 23**	P	**P**	**13 49 59.1 +1.5**
	baz=250				
K13K	**Kusilvak Mount**	**80.20 27**	P	**P**	**13 50 00.6 +1.6**
	baz=254				
M13K	**Dall Lake**	**80.41 29**	P	**P**	**13 50 01.6 +1.4**
	baz=255				
MAW	**Mawson**	**80.47 200**	P	**P**	**13 50 01.0 +0.7**
	comp=Z,24nm,0.8s,baz=67,slow=6.5,SNR=58				
MAW			pP	**pwP**	**13 51 02.5 -0.9**
	comp=Z,21nm,1.2s,baz=50,slow=8.9,SNR=3.0				
	comp=Z,24nm,0.8s				
F14K	**Arctic Creek**	**80.54 23**	P	**P**	**13 50 02.4 +1.6**
	baz=252				
ANM	**Nome**	**80.65 24**	P	**P**	**13 50 02.9 +1.5**
	baz=253				
SDPT	**Sand Point**	**80.75 34**	P	**P**	**13 50 03.2 +1.1**
	baz=258				
BELG	**Belogornoye**	**80.88 323***c*	*i*P	**P**	**13 50 01.7 -1.1**
BELG			pmax	pmax	
	comp=Z,47nm

C16K	Lisburne Hills	81.78	21	P	P	13 50 08.5 +1.2
	baz=252					
O15K	Ungalikthiuk R	81.86	30	P	P	13 50 09.3 +1.4
	baz=258					
N15K	Kwethluk River	81.93	29	IAmb	IAmb	13 51 42.6
	comp=Z,45nm,1.1s					
N15K	Kwethluk River	81.93	29	P	P	13 50 09.9 +1.7
	baz=258					
H16K	Elim	81.97	25	P	P	13 50 09.5 +1.2
	baz=256,SNR=5.5					
G16K	Koyuk River	82.11	24	IAmb	IAmb	13 50 13.0
	comp=Z,75nm,1.1s					
G16K	Koyuk River	82.11	24	P	P	13 50 10.6 +1.6
	baz=255,SNR=5.6					
SBA	Scott Base	82.17	172	P	P	13 50 10.3 +1.3
SBA	Scott Base	82.17	172	P	P	13 50 10.3 +1.3
SBA				pmax	pmax	
	comp=Z,36nm,1.2s					
J16K	Anvik River	82.36	26	P	P	13 50 12.3 +2.0
	baz=257,SNR=12					
D17K	Noatak River	82.44	22	P	P	13 50 12.7 +2.1
	baz=254,SNR=12					
I17K	Unalakleet	82.45	26	IAmb	IAmb	13 50 15.3
	comp=Z,90nm,1.1s					
I17K	Unalakleet	82.45	26	P	P	13 50 12.6 +1.9
	baz=257					
L16K	Owhat River	82.53	28	IAmb	IAmb	13 50 15.2
	comp=Z,72nm,1.0s					
L16K	Owhat River	82.53	28	P	P	13 50 12.8 +1.6
	baz=258,SNR=12					
RDOG	Red Dog Mine	82.59	21	P	P	13 50 12.9 +1.4
	baz=254					
C17K	DeLong Mountai	82.61	21	P	P	13 50 13.1 +1.5
	baz=254					
N16K	Nishlik Lake	82.63	29	P	P	13 50 13.6 +1.7
	baz=259,SNR=12					
M16K	Timber Creek	82.64	29	IAmb	IAmb	13 50 15.8
	comp=Z,82nm,1.1s					
M16K	Timber Creek	82.64	29	P	P	13 50 13.4 +1.5
	baz=259,SNR=11					
E17K	Hotham Inlet	82.75	22	P	P	13 50 14.0 +1.7
	baz=256,SNR=12					
P16K	Nushagak River	82.76	31	P	P	13 50 13.9 +1.4
	baz=260					
O16K	Kokwok River B	82.81	30	IAmb	IAmb	13 50 16.4
	comp=Z,73nm,1.0s					
O16K	Kokwok River B	82.81	30	P	P	13 50 14.1 +1.4
	baz=260,SNR=9.9					
F17K	Baldwin Pennin	82.81	23	IAmb	IAmb	13 50 16.6
	comp=Z,60nm,1.2s					
F17K	Baldwin Pennin	82.81	23	P	P	13 50 14.1 +1.5
	baz=256					
G17K	Kiwalik Mounta	82.83	24	P	P	13 50 14.3 +1.5
	baz=257					
KBZ	Khabaz	82.88	314	P	P	13 50 12.7 -0.7
	comp=Z,38nm,1.1s,baz=85,slow=3.0,SNR=23					
	comp=Z,38nm,1.1s					
H17K	Granite Mounta	83.01	25	IAmb	IAmb	13 50 17.8
	comp=Z,87nm,1.1s					
H17K	Granite Mounta	83.01	25	P	P	13 50 15.1 +1.5
	baz=258,SNR=17					
J17K	VABM Dome	83.05	26	P	P	13 50 15.7 +1.8
J17K				IAmb	IAmb	13 50 18.2
	comp=Z,58nm,1.1s					
J17K	VABM Dome	83.05	26	P	P	13 50 15.6 +1.7
	baz=259,SNR=8.5					
KIV	Kislovodsk	83.05	314	⇓P	P	13 50 14.5 0.0
KIV	Kislovodsk	83.05	314	*i* P	P	13 50 14.3 -0.2
	SNR=5.6					
KIV	Kislovodsk	83.05	314	*e*P	P	13 50 13.8 -0.7
KIV				*e**PP	pP	13 51 13.9 -0.6
KIV				*e*S	SKSac	14 00 10.0 -1.4
KIV				pmax	pmax	
	comp=Z,27nm,1.0s					
KIV				MLR	MLR	
	comp=Z,119nm,19.0s					
KIV	Kislovodsk	83.05	314	P	P	13 50 14.9 +0.4
	comp=Z,36nm,1.4s					
SHA1	Shidzhatmaz	83.06	314	*c i* P	P	13 50 13.9 -0.8
L17K	Donlin	83.16	28	P	P	13 50 16.3 +1.8
	baz=259,SNR=6.8					
K17K	Iditarod	83.27	27	IAmb	IAmb	13 50 19.3
	comp=Z,70nm,1.1s					
K17K	Iditarod	83.27	27	P	P	13 50 16.6 +1.6
	baz=259,SNR=10					
E18K	Tukpahlearik C	83.29	22	IAmb	IAmb	13 50 19.1
	comp=Z,88nm,1.0s					
E18K	Tukpahlearik C	83.29	22	P	P	13 50 16.9 +1.8
	baz=257,SNR=20					
B18K	Kokolik River	83.33	20	P	P	13 50 17.2 +2.0
	baz=255					
O17K	Koliganek Bris	83.34	30	P	P	13 50 16.4 +1.0
	baz=261,SNR=6.2					
C18K	Utukok River	83.36	21	IAmb	IAmb	13 50 19.1
	comp=Z,62nm,1.1s					
C18K	Utukok River	83.36	21	P	P	13 50 16.7 +1.3
	baz=256					
Q16K	King Salmon	83.39	31	P	P	13 50 16.9 +1.3
	baz=261					
R17L	Mt. Peulik Vol	83.39	32	P	P	13 50 16.4 +0.6
	baz=262					
PLK4	Peulik 4	83.39	32	IAmb	IAmb	13 50 18.5
	comp=Z,85nm,1.1s					
N17K	Nushagak Hills	83.41	29	IAmb	IAmb	13 50 20.1
	comp=Z,140nm,1.6s					
N17K	Nushagak Hills	83.41	29	P	P	13 50 17.5 +1.7
	baz=261					
M17K	Holitna River	83.44	28	P	P	13 50 17.2 +1.3
	baz=260					
F18K	Selawik	83.47	23	P	P	13 50 17.0 +1.1
	baz=258					
CHIR	Chirikof Islan	83.55	34	P	P	13 50 16.9 +0.3
	baz=262					
BATM	Batumi	83.59	312	⇑P	P	13 50 17.6 +0.5
BATM	Batumi	83.59	312	P	P	13 50 17.6 +0.5
H18K	Honhosa River	83.70	25	IAmb	IAmb	13 50 20.8
	comp=Z,56nm,1.2s					
H18K	Honhosa River	83.70	25	P	P	13 50 18.2 +1.0
	baz=259					
G18K	Tagagawik	83.72	24	IAmb	IAmb	13 50 19.9
	comp=Z,102nm,1.8s					
G18K	Tagagawik	83.72	24	P	P	13 50 18.4 +1.1
	baz=259,SNR=7.0					
Q17K	Contact Creek	83.73	32	P	P	13 50 17.7 +0.1
	baz=262,SNR=10					
A19K	Wainwright	83.78	19	P	P	13 50 19.1 +1.7
	baz=256					
L18K	Granite Mounta	83.92	28	P	P	13 50 19.7 +1.4
	baz=261,SNR=5.8					
MARD	Mardin	84.03	307	IAmb	IAmb	13 50 23.4
	comp=Z,54nm,0.7s					
C19K	Lookout Ridge	84.03	21	P	P	13 50 20.7 +1.9
	baz=258					
N18K	Kilae Creek	84.07	29	IAmb	IAmb	13 51 28.7
	comp=Z,50nm,1.4s					
N18K	Kilae Creek	84.07	29	P	P	13 50 20.5 +1.4
	baz=262					
J18K	Innoko River	84.11	26	P	P	13 50 20.3 +1.0
	baz=261,SNR=7.4					
M18K	Stony River	84.22	28	P	P	13 50 21.3 +1.5
	baz=262,SNR=5.2					
P18K	Big Mountain,	84.22	30	P	P	13 50 20.7 +0.8
	baz=262					
Q18K	Katmai Hardscr	84.24	31	P	P	13 50 21.4 +1.3
	baz=263					
GCSA	Galena City Sc	84.25	25	P	P	13 50 21.0 +1.2
	baz=260					
F19K	Shaleruckik Mo	84.25	23	IAmb	IAmb	13 50 22.4
	comp=Z,88nm,1.8s					
F19K	Shaleruckik Mo	84.25	23	P	P	13 50 20.8 +1.0
	baz=259					
O18K	Koktuh Hills	84.29	30	P	P	13 50 21.4 +1.1
	baz=262					
VRH	Novokhopyorsk	84.35	321	*e*P	P	13 50 19.7 -1.0
VRH				*e**PP	pwP	13 51 25.0 -3.1
VRH				*e*S	SKSac	14 00 15.4 -3.8
VRH				pmax	pmax	
	comp=Z,198nm,1.5s					
VRH				smax	smax	
	comp=E,1μm,5.0s					
KOPT	Kop Dagi	84.40	310	IAmb	IAmb	13 50 29.1
	comp=Z,50nm,1.0s					
D19K	Kuna River	84.43	21	IAmb	IAmb	13 50 24.6
	comp=Z,69nm,1.1s					
D19K	Kuna River	84.43	21	P	P	13 50 21.8 +1.0
	baz=259,SNR=10					
SII	Sitkinak Islan	84.43	33	P	P	13 50 22.1 +1.0
	baz=264					
LABN	Labinsk	84.51	315	*e*P	P	13 50 22.1 +0.4
LABN				*e*S	SKSac	14 00 19.3 -1.3
LABN				pmax	pmax	
	comp=Z,43nm,0.6s					
H19K	Roundabout Mou	84.55	24	IAmb	IAmb	13 51 34.4
	comp=Z,55nm,1.1s					
H19K	Roundabout Mou	84.55	24	P	P	13 50 22.7 +1.3
	baz=261,SNR=13					
E19K	Redstone River	84.57	22	IAmb	IAmb	13 50 26.2
	comp=Z,49nm,0.9s					
E19K	Redstone River	84.57	22	P	P	13 50 22.8 +1.3
	baz=260,SNR=18					
J19K	Poorman	84.67	26	P	P	13 50 23.2 +1.2
	baz=262					
ERBR	Yeremizino-Bor	84.75	316	*e*P	P	13 50 21.8 -1.0
ERBR				*e*S	SKSac	14 00 26.0 +4.0
ERBR				pmax	pmax	
	comp=Z,58nm,1.0s					
L19K	White Mountain	84.77	28	IAmb	IAmb	13 50 26.8
	comp=Z,87nm,1.8s					
L19K	White Mountain	84.77	28	P	P	13 50 23.4 +0.8
	baz=262					
N19K	Bonanza Creek	84.77	29	IAmb	IAmb	13 51 29.6
	comp=Z,52nm,1.4s					
N19K	Bonanza Creek	84.77	29	P	P	13 50 23.8 +1.0
	baz=263					
O19K	Port Alsworth	84.78	30	P	P	13 50 23.6 +1.0
	baz=263					
Q19K	Cape Douglas,	84.98	31	P	P	13 50 23.7 -0.1
	baz=264					
OHAK	Old Harbor	84.99	33	IAmb	IAmb	13 50 25.7
	comp=Z,36nm,0.7s					
OHAK	Old Harbor	84.99	33	P	P	13 50 23.8 +0.1
	baz=264					
D20K	Etivluk River	85.01	21	IAmb	IAmb	13 50 27.6
	comp=Z,46nm,1.0s					
D20K	Etivluk River	85.01	21	P	P	13 50 24.5 +0.8
	baz=260,SNR=7.8					
B20K	Meade River	85.05	20	IAmb	IAmb	13 50 27.9
	comp=Z,67nm,1.1s					
B20K	Meade River	85.05	20	P	P	13 50 24.4 +0.6
	baz=260					
F20K	Avaraart Lake	85.08	23	P	P	13 50 25.2 +1.2
	baz=261					
E20K	Nigu River	85.09	22	P	P	13 50 25.2 +1.0
	baz=261					
SOC	Sochi	85.17	313	*e*P	P	13 50 21.3 -3.7
SOC				*e*		13 53 43.9
SOC				*e*S	SKSac	14 00 20.5 -4.3
SOC				*e*SSS	SSS	14 09 46.6
SOC				pmax	pmax	
	comp=Z,55nm,0.8s					
H20K	Anotleneega Mo	85.19	24	P	P	13 50 25.4 +0.8
	baz=262,SNR=6.1					
L20K	Farewell, AK	85.25	27	P	P	13 50 25.9 +0.9
	baz=263					
P19K	Oil Pt	85.26	30	P	P	13 50 26.0 +0.8
	baz=264					
I20K	Naaghedeneel	85.27	25	P	P	13 50 26.0 +1.1
	baz=263					
K20K	Telida	85.27	27	P	P	13 50 26.1 +1.1
	baz=263					
J20K	Nowinta River	85.34	26	P	P	13 50 26.3 +0.9
	baz=263					
KDAK	Kodiak Island	85.42	32	P	P	13 50 26.5 +0.6
	baz=265					
M20K	Styx River	85.54	28	P	P	13 50 27.2 +0.7
	baz=264					
Q20K	Shuyak Island	85.59	31	P	P	13 50 27.2 +0.5
	baz=265					
O20K	Slope Mountain	85.61	30	P	P	13 50 27.6 +0.7
	baz=265					
C21K	Knifeblade Rid	85.74	21	P	P	13 50 28.6 +1.4
	baz=262					
B21K	Ikpikpuk River	85.86	20	IAmb	IAmb	13 50 31.9
	comp=Z,54nm,0.9s					
B21K	Ikpikpuk River	85.86	20	P	P	13 50 28.7 +0.9
	baz=262,SNR=11					
G21K	Allakaket	85.88	23	P	P	13 50 28.8 +0.8
	baz=263					
SPCR	Spurr Chakacha	85.91	29	P	P	13 50 29.1 +0.8
	baz=265					
A22K	Sinclair Lake	85.93	19	P	P	13 50 29.2 +1.1
	baz=262					
E21K	Killik River	85.93	22	P	P	13 50 29.2 +1.0
	baz=263					
HOM	Homer	86.07	30	P	P	13 50 29.4 +0.4
	baz=266					
H21K	Melozitna Rive	86.07	24	P	P	13 50 29.7 +0.7
	baz=264					
PPLA	Purkeypile	86.07	27	P	P	13 50 29.4 +0.3
	baz=265					
CHUM	Lake Minchumin	86.11	26	P	P	13 50 29.9 +0.8
	baz=265					
KIBK	Kibwezi	86.16	268	IAmb	IAmb	13 50 33.1
	comp=Z,54nm,1.3s					
KIBK	Kibwezi	86.16	268	P	P	13 50 31.8 +1.2
	SNR=15					
LPSR	Galich'ya Gora	86.18	322	*e*P	P	13 50 28.9 -0.8
LPSR				*e**PP	pP	13 51 31.5 +1.4
LPSR				*e*S	SKSac	14 00 28.2 -2.4
LPSR				pmax	pmax	
	comp=Z,202nm,0.8s					
LPSR				smax	smax	
	comp=N,100nm,1.7s					
SKT	Skwentna	86.30	28	P	P	13 50 30.5 +0.3
	baz=266					
B22K	Teshekpuk Lake	86.36	20	IAmb	IAmb	13 50 31.5
	comp=Z,86nm,1.4s					
B22K	Teshekpuk Lake	86.36	20	P	P	13 50 30.8 +0.6
	baz=263					
I21K	Tanana	86.37	25	P	P	13 50 30.8 +0.4
	baz=265,SNR=7.3					
KLMR	Klimovskoe	86.38	331	*e*P	P	13 50 28.0 -2.5
KLMR				*e**PP	pP	13 51 27.8 -3.1
KLMR				*e*		13 53 52.7
KLMR				S	SKSac	14 00 28.8 -2.7
KLMR				pmax	pmax	
	comp=Z,193nm,1.4s					
D22K	Ayikyak River	86.45	21	P	P	13 50 31.5 +0.7
	baz=264					
F22K	John River	86.50	23	P	P	13 50 31.8 +0.8
	baz=265					
BRSE	Bradley Lake S	86.53	30	P	P	13 50 32.2 +0.9
	baz=266					
H22K	Ishlitna Cre	86.68	24	P	P	13 50 32.7 +0.8
	baz=265					
E22K	Anaktuvuk Pass	86.70	22	P	P	13 50 32.9 +0.9
	baz=265,SNR=8.1					
BPAW	Bear Paw Mtn.	86.71	26	IAmb	IAmb	13 53 55.4
	comp=Z,52nm,1.7s					
BPAW	Bear Paw Mtn.	86.71	26	P	P	13 50 32.6 +0.5
	baz=266					
PPT2	Papeete2	86.78	108	*e*PKIKP	P	13 50 34.2 +0.7
	comp=Z,64nm,24.0s					
PPT2	Papeete2	86.78	108	*e*S	SKSac	14 00 42.7 +6.8
	comp=Z,556nm,26.5s					
PPT2				*e*SS	SS	14 06 31.0 -6.9
	comp=Z,205nm,25.0s					
PPT2				*e*LQ	LQ	14 14 41.2
	comp=Z,382nm,27.8s					
PPT2				*e*LR	LR	14 18 24.3
	comp=Z,239nm,26.8s					
PPT2				*e*LR	LR	14 18 24.5
	comp=Z,240nm,28.5s					
ANN	Anapa	86.86	315	*e*P	P	13 50 32.7 -0.5
ANN				*e**PP	pwP	13 51 37.6 -3.0
ANN				*e*S	SKSac	14 00 30.4 -4.7
ANN				pmax	pmax	
	comp=Z,221nm,0.9s					
MLY	Manley	86.88	25	P	P	13 50 33.3 +0.4
	baz=266,SNR=11					
CUT	Chulitna	86.92	28	P	P	13 50 33.6 +0.5
	baz=267					
KMBO	Kilima Mbogo	86.93	269	*i* P	P	13 50 30.7 -3.8
KMBO				pmax	pmax	
	comp=Z,190nm,0.4s					
M22K	Willow	86.95	28	P	P	13 50 34.0 +0.7
	baz=267					
TRF	Thorofare Moun	86.97	27	P	P	13 50 33.8 +0.3
	baz=266					
ASF	Jabal al Asfar	87.07	302	P	P	13 50 34.7 +0.1
	comp=Z,48nm,0.8s,baz=131,slow=1.8,SNR=30					
	comp=Z,48nm,0.8s					
O22K	Cooper Landing	87.08	30	P	P	13 50 34.4 +0.5
	baz=267					
MOS	Moscow	87.09	326	*e*P	P	13 50 30.1 -3.9
MOS				*e**PP	pP	13 51 35.2 +0.6
MOS				*e*		14 00 32.6
MOS				*e*S	SKSac	14 00 43.4 +7.4
MOS				pmax	pmax	
	comp=Z,180nm,1.3s					
RC01	Rabbit Creek A	87.10	29	P	P	13 50 34.2 +0.2
	baz=267					
TBI	Tubuai	87.13	113	*e*P	P	13 50 29.5 -5.4
	comp=Z,672nm,38.0s					
TBI	Tubuai	87.13	113	*e*S	S	14 00 48.5 -3.8
	comp=Z,2μm,28.5s					
TBI				*e*SS	SS	14 06 35.4 -7.1
	comp=Z,902nm,34.2s					
TBI				*e*LQ	LQ	14 14 53.6
	comp=Z,2μm,32.2s					
TBI				*e*LR	LR	14 18 40.9
	comp=Z,1μm,26.5s					
D23K	Nanushuk River	87.18	21	P	P	13 50 35.2 +1.0
	baz=266					
SEW	Seward	87.20	30	P	P	13 50 34.7 +0.3
	baz=267					
COLD	Coldfoot	87.25	23	P	P	13 50 35.2 +0.6
	baz=266,SNR=14					
C23K	Itkillik River	87.27	20	IAmb	IAmb	13 51 33.2
	comp=Z,88nm,1.6s					
C23K	Itkillik River	87.27	20	P	P	13 50 35.6 +1.0
	baz=266					
G23K	Bananza Creek	87.28	23	P	P	13 50 35.5 +0.7
	baz=267,SNR=12					
H23K	Yukon River	87.43	24	P	P	13 50 36.3 +0.8
	baz=267					
I23K	Minto, Yukon-K	87.47	25	P	P	13 50 36.2 +0.6
	baz=267					
E23K	Chandalar	87.52	22	IAmb	IAmb	13 50 39.4
	comp=Z,31nm,1.1s					
E23K	Chandalar	87.52	22	P	P	13 50 36.9 +0.9
	baz=267					
TOLK	Toolik Lake Re	87.56	21	P	P	13 50 36.7 +0.6
	baz=267					
NEA2	Nenana	87.57	26	P	P	13 50 36.6 +0.5
	baz=268					
MCK	McKinley	87.59	26	P	P	13 50 36.1 -0.2
	baz=268,SNR=5.3					
RND	Reindeer	87.62	27	P	P	13 50 35.6 -0.9
RND	Reindeer	87.62	27	P	P	13 50 35.6 -0.9
RND				pmax	pmax	
	comp=Z,25nm,1.2s					
OBN	Obninsk	87.67	325	⇑*i* P	P	13 50 35.8 -1.0
OBN				*i* *PP	pwP	13 51 42.2 -2.6
OBN				*e**SP	sP	13 52 03.1 -0.9
OBN				*i* S	SKSac	14 00 29.7 -10
OBN				*i* S	ScS	14 01 00.5 -1.3
OBN				*e*		14 02 04.3
OBN				SSS	SSS	14 10 29.0
OBN				pmax	pmax	
	comp=Z,186nm,2.2s					
OBN				MLR	MLR	
	comp=Z,242nm,18.0s					
KNK	Knik Glacier	87.73	29	P	P	13 50 37.1 +0.1
	baz=268					
WAT1	Susitna Watana	87.73	27	P	P	13 50 37.2 +0.2
	baz=268					
PWL	Port Wells	87.78	29	P	P	13 50 37.5 +0.3
	baz=268					
SML	Sawmill	87.81	28	P	P	13 50 37.6 +0.2
	baz=268					
D24K	Happy Valley	87.86	21	P	P	13 50 37.8 +0.4
C24K	Franklin Bluff	87.92	20	P	P	13 50 38.5 +0.8
	baz=268					
E24K	Your Creek	87.94	22	P	P	13 50 38.5 +0.6
	baz=268					
BNN	Bunyan	87.96	309	IAmb	IAmb	13 50 42.8
	comp=Z,43nm,1.0s					
M23K	Glacier View	88.09	28	P	P	13 50 39.5 +0.8
	baz=269					
COLA	College	88.10	25	P	P	13 50 37.2 -1.4
WAT6	Susitna Watana	88.10	28	P	P	13 50 38.8 -0.1
	baz=269					
H24K	Noodor Dome	88.11	24	P	P	13 50 39.2 +0.5
	baz=269					
F24K	Squaw Lake	88.15	23	P	P	13 50 39.7 +0.8
	baz=268,SNR=5.3					
P23K	Montague Islan	88.22	30	P	P	13 50 40.3 +1.0
	baz=269					
DHY	Denali Highway	88.28	27	IAmb	IAmb	13 54 10.5
	comp=Z,55nm,1.9s					
DHY	Denali Highway	88.28	27	P	P	13 50 40.4 +0.7
	baz=269					
POKR	Poker Plat Res	88.28	25	P	P	13 50 40.5 +1.0
	baz=269					
G24K	Hadweenzic Riv	88.30	23	P	P	13 50 40.2 +0.7
	baz=269					
MMAI	Mount Meron Ar	88.33	303	P	P	13 50 41.1 +0.6
	comp=Z,26nm,0.8s,baz=83,slow=6.8,SNR=18					
MMAI				pP	pwP	13 51 45.9 -1.6
	comp=Z,12nm,0.9s,baz=0.0,slow=1.7,SNR=2.8					
	comp=Z,26nm,0.8s					
HDA	Harding Lake	88.48	26	P	P	13 50 40.2 -0.3
	baz=270					
ILAR	Eielson Array	88.51	25	P	P	13 50 39.5 -1.0
	comp=Z,1.8nm,0.5s,baz=254,slow=4.6,SNR=40					
LODK	Lodwar	88.73	273	P	P	13 50 44.3 +1.5
	SNR=14					
D25K	Kavik River	88.73	21	P	P	13 50 42.3 +0.7
	baz=270					
LVZ	Lovozero	88.75	338	P	P	13 50 42.0 +0.3
	comp=Z,81nm,1.1s					
Q23K	Middleton Isla	88.75	31	P	P	13 50 42.6 +0.8
	baz=270					
M24K	Tolsona, Glenn	88.83	28	P	P	13 50 42.5 +0.3
	baz=270					
G25K	Bearman Lake	88.84	23	P	P	13 50 42.7 +0.7
	baz=270					
H25L	Birch Creek	88.96	24	P	P	13 50 43.3 +0.8
	baz=270					
K24K	Donnelly Dome	89.00	26	P	P	13 50 43.5 +0.6
	baz=270					
F25K	Christian Rive	89.01	23	P	P	13 50 43.8 +0.9
	baz=271,SNR=6.8					
E25K	Arctic Village	89.04	22	P	P	13 50 44.0 +1.0
	baz=271,SNR=7.7					
EYAK	Cordova Ski Ar	89.05	30	P	P	13 50 43.6 +0.5
	baz=271					
SYO	Syowa Base	89.12	201	⇓*i* P	P	13 50 44.0 +0.8
PAX	Paxson	89.15	27	IAmb	IAmb	13 52 04.6
	comp=Z,51nm,1.7s					
PAX	Paxson	89.15	27	P	P	13 50 43.7 0.0
	baz=271					
J25K	Salcha River,	89.17	26	P	P	13 50 43.9 +0.2
	baz=271					
SIM	Simferopol'	89.22	315	*e*P	P	13 50 42.4 -1.9
SIM				*PP	pwP	13 51 49.5 -2.8
SIM				*e*S	SKSac	14 00 48.6 -0.7
SIM				pmax	pmax	
	comp=Z,89nm,0.8s					
APA	Apatity	89.23	337	⇓*e*P	P	13 50 41.8 -2.0
APA				*e**PP	pP	13 51 41.1 -3.6
APA				MLR	MLR	
	comp=Z,3μm,5.4s					
C26K	Camden Bay	89.24	20	P	P	13 50 44.5 +0.7
	baz=271					
HARP	HAARP	89.30	28	P	P	13 50 44.5 +0.1
	baz=271					
RIDG	Independent Ri	89.41	26	IAmb	IAmb	13 50 53.0
	comp=Z,60nm,1.7s					
RIDG	Independent Ri	89.41	26	P	P	13 50 44.9 0.0
	baz=271					
KIRS	Kirsehir-Merke	89.47	309	⇑P	P	13 50 45.4 -0.3
F26K	Sheenjek River	89.58	22	P	P	13 50 45.8 +0.3
	baz=272					
N25K	Chitina, Valde	89.58	29	P	P	13 50 45.8 0.0
	baz=272					
BMRM	Bremner River	89.60	29	P	P	13 50 46.0 +0.2
	baz=272					
BR104	Keskin Array S	89.67	310	P	P	13 50 46.7 0.0
	comp=Z,100nmcomp=Z,16nm,0.9s					
BR131	Keskin Array S	89.67	310	P	P	13 50 46.9 +0.2
	SNR=11					
BR131	Keskin Array S	89.67	310	*de*P	P	13 50 45.4 -1.3
BRTR	Keskin Array B	89.67	310	P	P	13 50 45.2 -1.5
	comp=Z,11nm,0.8s,baz=131,slow=3.8,SNR=21					
BRTR				pP	pwP	13 51 51.2 -2.8
	comp=Z,2.1nm,0.8s,baz=90,slow=2.9,SNR=1.5					
BRTR				PP	PP	13 54 22.6 0.0
	comp=Z,1.8nm,0.9s,baz=96,slow=7.1,SNR=4.2					
	comp=Z,11nm,0.8s					
C27K	Jago River	89.67	20	P	P	13 50 46.5 +0.6

baz=272,SNR=8.4
BR105 Keskin Array S 89.69 310 P **P 13 50 46.7 -0.1**
comp=Z,135nmcomp=Z,20nm,0.9s
BR106 Keskin Array S 89.69 310 P **P 13 50 46.7 -0.1**
comp=Z,109nmcomp=Z,18nm,0.9s
KAIM Kayak Island 89.72 30 P **P 13 50 46.8 +0.5**
baz=272
G26K Porcupine Rive 89.75 23 P **P 13 50 46.7 +0.5**
baz=272
SCRK Sand Creek 89.79 26 P **P 13 50 46.8 +0.1**
baz=272
MENT Mentasta 89.95 27 P **P 13 50 48.2 +0.8**
J26L Joseph Creek 89.95 26 P **P 13 50 47.6 +0.2**
baz=272
CSS Mathiatis 90.02 305 P **P 13 50 48.4 +0.1**
comp=Z,72nm,1.0s
I26K Coal Creek Min 90.08 25 P **P 13 50 47.8 -0.1**
baz=273
L26K Log Cabin Wild 90.11 27 P **P 13 50 48.7 +0.6**
baz=273
M26K Nabesna, AK 90.31 28 P **P 13 50 49.6 +0.6**
baz=273
CRQE Cirque 90.35 29 P **P 13 50 49.9 +0.5**
baz=273
MCARA McCarthy VSAT 90.35 29 P **P 13 50 49.8 +0.6**
baz=273
E27K Coleen River 90.52 22 P **P 13 50 50.5 +0.6**
baz=274
G27K Doyon Strip 90.60 23 P **P 13 50 51.1 +0.8**
baz=274,SNR=8.8
K27K Chicken 90.62 26 IAmb IAmb 13 50 54.2
comp=Z,113nm,2.0s
K27K Chicken 90.62 26 P **P 13 50 51.2 +0.8**
baz=274
D27M Malcolm River 90.66 21 P **P 13 50 51.2 +0.6**
baz=275,SNR=5.3
H27K Steamboat Moun 90.70 24 IAmb IAmb 13 50 54.4
comp=Z,40nm,1.4s
H27K Steamboat Moun 90.70 24 P **P 13 50 51.7 +1.0**
baz=274,SNR=7.9
I27K Kandik River 90.71 24 P **P 13 50 51.8 +0.9**
baz=274
L27K Beaver Creek, 90.80 27 P **P 13 50 52.0 +0.7**
baz=274,SNR=5.6
M27K Edge Creek, AK 90.83 28 P **P 13 50 52.2 +0.6**
baz=274
MESA MESA 90.95 30 P **P 13 50 52.5 +0.3**
baz=274
BARN Barnard Glacie 91.03 29 IAmb IAmb 13 50 55.8
comp=Z,66nm,1.4s
QSPA South Pole Qui 91.08 180 P **P 13 50 53.7 +1.1**
QSPA IAmb IAmb 13 52 06.0
comp=Z,63nm,1.4s
CTG Chitna Glacier 91.19 29 P **P 13 50 53.8 +0.5**
baz=274
CTGM Chitina Glacie 91.19 29 IAmb IAmb 13 52 51.4
comp=Z,65nm,1.6s
F28M Old Crow 91.22 22 IAmb IAmb 13 50 56.0
comp=Z,26nm,1.1s
F28M Old Crow 91.22 22 P **P 13 50 53.7 +0.6**
baz=276,SNR=9.7
E28M Babbage River 91.24 21 P **P 13 50 53.7 +0.5**
baz=276,SNR=9.8
I28M Miner Creek 91.42 25 IAmb IAmb 13 50 57.5
comp=Z,58nm,1.4s
I28M Miner Creek 91.42 25 P **P 13 50 54.7 +0.5**
baz=276,SNR=17
D28M Stokes Point 91.44 21 P **P 13 50 54.9 +0.9**
baz=277
SAHE Sakarya_HENDEK 91.76 311 ⇑P **P 13 50 55.8 -0.4**
O28M Mount Upton 91.77 29 IAmb IAmb 13 50 57.5
comp=Z,45nm,1.4s
O28M Mount Upton 91.77 29 P **P 13 50 56.1 0.0**
baz=276
DAWY Dawson 91.80 26 P **P 13 50 56.0 +0.1**
baz=276
PINM Pinnacle 91.80 30 P **P 13 50 56.0 0.0**
baz=275
E29M Blow River 91.86 22 P **P 13 50 56.3 +0.3**
baz=278
YUK8 Steele Glacier 91.92 29 P **P 13 50 57.0 +0.2**
baz=276
ARA0 ARCESS Array S 91.95 340 *e*P **P 13 50 55.1 -1.3**
ARCES ARCESS Array B 91.95 340 P **P 13 50 54.8 -1.7**
comp=Z,16nm,0.8s,baz=84,slow=7.0,SNR=65
ARCES pP **pwP 13 52 01.1 -3.3**
comp=Z,11nm,1.0s,baz=55,slow=6.4,SNR=2.8
ARCES PKKPbc **PKKPdf 14 08 11.0 -0.9**
comp=Z,3.9nm,1.0s,baz=289,slow=3.7,SNR=3.5
comp=Z,16nm,0.8s
H29M Whitestone 91.97 24 IAmb IAmb 13 50 59.4
comp=Z,24nm,1.1s
H29M Whitestone 91.97 24 P **P 13 50 57.0 +0.4**
baz=277,SNR=6.4
G29M Pine Creek 92.02 23 IAmb IAmb 13 50 59.7
comp=Z,51nm,1.1s
G29M Pine Creek 92.02 23 P **P 13 50 57.2 +0.4**
baz=278
I29M Ogilvie Camp, 92.11 25 IAmb IAmb 13 51 00.1
comp=Z,18nm,1.1s
I29M Ogilvie Camp, 92.11 25 P **P 13 50 57.5 +0.3**
baz=277,SNR=9.5
AK09 Malin Array Si 92.22 321 P **P 13 50 56.1 -1.9**
AK08 Malin Array Si 92.23 321 P **P 13 50 56.2 -1.9**
AK10 Malin Array Si 92.24 321 P **P 13 50 56.2 -1.9**
AK03 Malin Array Si 92.25 321 P **P 13 50 56.7 -1.5**
AKASG Malin Array Be 92.25 321 P **P 13 50 56.5 -1.7**
comp=Z,4.3nm,0.6s,baz=71,slow=4.4,SNR=21
AKASG pP **pwP 13 52 03.6 -2.5**
comp=Z,4.0nm,0.9s,baz=71,slow=4.5,SNR=2.0
AKASG PP **PP 13 54 43.9 +1.5**
comp=Z,0.9nm,0.5s,baz=71,slow=7.5,SNR=4.9
comp=Z,4.3nm,0.6s
AKBB Malin Array Si 92.25 321 *i*P **P 13 50 56.7 -1.5**
AKBB Malin Array Si 92.25 321 P **P 13 50 56.6 -1.6**
AK01 Malin Array Si 92.25 321 P **P 13 50 56.6 -1.6**
KIEV Kiev 92.26 321 ⇑P **P 13 50 58.6 +0.4**
KIEV Kiev 92.26 321 P **P 13 50 58.6 +0.4**
KIEV Kiev 92.26 321 P **P 13 50 56.6 -1.6**
comp=Z,82nm,2.5s
AK02 Malin Array Si 92.26 321 P **P 13 50 56.6 -1.7**
AK05 Malin Array Si 92.27 321 P **P 13 50 56.7 -1.6**
AK07 Malin Array Si 92.27 321 P **P 13 50 56.7 -1.6**
AK06 Malin Array Si 92.27 321 P **P 13 50 56.7 -1.6**
PNL Peninsula 92.27 30 P **P 13 50 58.4 +0.2**
baz=276
AK04 Malin Array Si 92.28 321 P **P 13 50 56.7 -1.6**
AK11 Malin Array Si 92.28 321 P **P 13 50 56.7 -1.7**
AK12 Malin Array Si 92.30 321 P **P 13 50 56.8 -1.6**
AK16 Malin Array Si 92.32 321 P **P 13 50 56.8 -1.7**
AK14 Malin Array Si 92.33 321 P **P 13 50 56.9 -1.7**
AK22 Malin Array Si 92.34 321 P **P 13 50 57.0 -1.6**
AK18 Malin Array Si 92.34 321 P **P 13 50 57.0 -1.6**
AK17 Malin Array Si 92.35 321 P **P 13 50 57.1 -1.6**
AK21 Malin Array Si 92.36 321 P **P 13 50 57.1 -1.6**
AK13 Malin Array Si 92.36 321 P **P 13 50 57.1 -1.6**
AK20 Malin Array Si 92.38 321 P **P 13 50 57.2 -1.6**
HAMF Hammerfest 92.39 341 *e*P **P 13 50 56.7 -1.7**
M29M Somme Creek 92.40 27 P **P 13 50 59.2 +0.4**
baz=277
YUK4 Talbot Arm 92.45 29 P **P 13 50 59.8 +0.6**
baz=277
L29M L29M 92.47 27 P **P 13 51 00.4 +1.3**
L29M IAmb IAmb 13 51 02.9
comp=Z,21nm,1.0s
L29M L29M 92.47 27 P **P 13 50 59.5 +0.5**
baz=277,SNR=5.7
SPA0 Spitsbergen Ar 92.48 349 *e*P **P 13 50 58.5 -0.3**
SPITS Spitsbergen Ar 92.48 349 P **P 13 50 57.6 -1.2**
comp=Z,6.8nm,0.4s,baz=96,slow=7.8,SNR=66
comp=Z,6.8nm,0.4s
EPYK Eagle Plains 92.61 23 IAmb IAmb 13 51 02.0
comp=Z,40nm,1.1s
EPYK Eagle Plains 92.61 23 P **P 13 51 00.1 +0.5**
baz=279,SNR=8.2
O29M Mount Kennedy 92.61 30 P **P 13 51 00.0 +0.2**
baz=277
YUK6 Outpost Mounta 92.64 29 P **P 13 51 00.1 0.0**
baz=277
K29M Barlow Dome 92.64 26 IAmb IAmb 13 52 09.7
comp=Z,37nm,1.7s
K29M Barlow Dome 92.64 26 P **P 13 51 00.6 +0.7**
baz=278,SNR=5.7
G30M tAoh Zraii Nji 92.71 23 IAmb IAmb 13 51 02.2
comp=Z,32nm,1.2s
G30M tAoh Zraii Nji 92.71 23 P **P 13 51 00.1 0.0**
baz=279,SNR=6.6

MNK Minsk 92.72 325 *i*P **P 13 51 00.7 +0.4**
MNK *i* *PP **pP 13 52 01.6 +0.4**
MNK *i* 13 54 46.5
MNK *i* PPP PPP 13 56 48.4
MNK *i* S **SKSac 14 01 09.6 +0.9**
MNK *i* *SS **pS 14 03 00.6 -0.3**
MNK *i* SS **SS 14 08 07.1 +5.7**
MNK *i* SSS SSS 14 11 44.2
MNK pmax pmax
comp=N,41nm,1.0s
MNK pmax pmax
comp=E,16nm,0.8s
MNK pmax pmax
comp=Z,109nm,0.9s
MNK MLR MLR
comp=N,231nm,23.0s
MNK MLR MLR
comp=Z,162nm,14.0s
MNK MLR MLR
comp=E,181nm,19.0s
F30M Barrier River 92.77 22 IAmb IAmb 13 51 11.4
comp=Z,23nm,1.1s
F30M Barrier River 92.77 22 P **P 13 51 00.8 +0.5**
baz=280
FINES FINESS Array B 92.86 332 P **P 13 50 59.2 -1.5**
comp=Z,6.4nm,0.5s,baz=84,slow=3.3,SNR=31
comp=Z,6.4nm,0.5s
I30M Mount Dempster 92.93 25 P **P 13 51 01.4 +0.2**
baz=279
JURR Jurilovca 92.95 315 ⇑P **P 13 51 00.4 -1.1**
TLCR 92.96 315 ⇑P **P 13 51 00.9 -0.8**
TLCR 92.96 315 P **P 13 51 00.8 -0.8**
SORM Soroca 93.03 318 ⇓P **P 13 51 01.5 -0.4**
SORM Soroca 93.03 318 P **P 13 51 01.4 -0.4**
J30M Hart River 93.05 25 IAmb IAmb 13 51 19.2
comp=Z,25nm,1.5s
J30M Hart River 93.05 25 P **P 13 51 02.0 +0.2**
baz=279
KBS Kingsbay 93.06 350 *e*P **P 13 51 00.7 -0.7**
HYT Haines Junctio 93.07 29 IAmb IAmb 13 51 05.3
comp=Z,16nm,1.0s
HYT Haines Junctio 93.07 29 P **P 13 51 02.5 +0.5**
baz=278
P29M Windy Craggy 93.11 30 P **P 13 51 02.4 +0.4**
baz=278
M30M Minto, Yukon 93.15 27 IAmb IAmb 13 51 05.8
comp=Z,48nm,1.6s
M30M Minto, Yukon 93.15 27 P **P 13 51 02.6 +0.4**
baz=278,SNR=5.3
N30M Aishikik Lake 93.18 28 IAmb IAmb 13 51 05.3
comp=Z,17nm,1.1s
N30M Aishikik Lake 93.18 28 P **P 13 51 02.6 +0.3**
baz=278
MI28 Mi28,Pidlybu 93.21 321 P **P 13 51 01.9 -0.7**
LUBAR Lubar, Ukraine 93.25 320 P **P 13 51 01.8 -1.1**
TPGR Topolog 93.27 315 ⇑P **P 13 51 02.5 -0.6**
TIRR Tirgusor 93.31 314 ⇑P **P 13 51 02.9 -0.3**
TIRR Tirgusor 93.31 314 P **P 13 51 02.9 -0.3**
NACGM Naroch 93.31 325 *e*P **P 13 51 02.4 -0.5**
comp=Z,114nm,0.9s,baz=83
MAYO Mayo, Yukon 93.40 26 P **P 13 51 03.3 +0.1**
baz=279
P30M Milton Dollar 93.44 30 P **P 13 51 03.2 -0.4**
baz=278
CFR Carcaliu 93.44 315 ⇑P **P 13 51 03.1 -0.7**
CFR Carcaliu 93.44 315 P **P 13 51 03.0 -0.7**
G31M Satah River 93.47 23 IAmb IAmb 13 51 05.7
comp=Z,34nm,1.1s
G31M Satah River 93.47 23 P **P 13 51 03.3 -0.2**
baz=281,SNR=8.3
INK Inuvik 93.48 21 P **P 13 51 03.7 +0.3**
baz=282
F31M Tsiigehtchic 93.57 22 P **P 13 51 04.0 +0.1**
baz=282
H31M Peel River 93.66 24 IAmb IAmb 13 51 06.9
comp=Z,60nm,1.6s
H31M Peel River 93.66 24 P **P 13 51 04.4 0.0**
baz=281
JETT Jettan, Norway 93.71 340 *e*P **P 13 51 03.4 -1.2**
O30N Mendenhall 93.76 29 P **P 13 51 05.0 0.0**
baz=279
N31M Braeburn, Yuko 93.80 28 P **P 13 51 05.2 +0.1**
baz=279
PLBC Pleasant Camp 93.83 30 P **P 13 51 05.6 +0.3**
baz=279
S31K Pelican 94.13 32 P **P 13 51 06.3 -0.4**
baz=279
TRO Tromso 94.19 340 *e*P **P 13 51 05.0 -1.7**
RNPP9 Sopachiv 94.27 322 P **P 13 51 05.6 -1.9**
RNPP5 Staryi Chortor 94.29 321 P **P 13 51 06.3 -1.3**
RNPP8 Varash 94.30 322 P **P 13 51 07.2 -0.4**
M31M Drury Creek, Y 94.32 27 IAmb IAmb 13 53 27.4
comp=Z,21nm,1.4s
M31M Drury Creek, Y 94.32 27 P **P 13 51 07.7 +0.2**
baz=281
TESR Tescani 94.34 317 ⇑P **P 13 51 08.5 +0.5**
SKAG Skagway 94.35 30 P **P 13 51 07.9 +0.2**
baz=280
VRI Vrincioaia 94.36 316 ⇓P **P 13 51 07.7 -0.3**
VRI Vrincioaia 94.36 316 P **P 13 51 07.7 -0.3**
WHY Whitehorse 94.37 29 P **P 13 51 08.4 +0.5**
WHY Whitehorse 94.37 29 P **P 13 51 07.9 0.0**
baz=280,SNR=9.1
PLOR Plostina 94.41 316 ⇑P **P 13 51 08.1 -0.3**
PLOR Plostina 94.41 316 P **P 13 51 08.0 -0.3**
NEHR Nehoiu 94.71 316 ⇑P **P 13 51 09.7 0.0**
LOZB Lozritsa 94.72 314 ⇑P **P 13 51 09.0 -0.7**
SIT Sitka 94.75 33 P **P 13 51 10.2 +0.7**
baz=279
MLR Muntele Rosu 94.94 316 P **P 13 51 09.2 -1.7**
comp=Z,14nm,0.8s,baz=51,slow=13,SNR=8.6
comp=Z,14nm,0.8s
MLR Muntele Rosu 94.94 316 ⇓P **P 13 51 10.1 -0.9**
MLR Muntele Rosu 94.94 316 P **P 13 51 10.0 -0.9**
R32K Eaglecrest 94.97 31 P **P 13 51 10.9 +0.3**
baz=280
S32K Killisnoo 95.09 32 P **P 13 51 11.1 +0.1**
baz=280
N32M Quiet Lake 95.14 28 P **P 13 51 11.7 +0.4**
baz=282
P32M Atlin 95.14 30 P **P 13 51 12.0 +0.6**
baz=281
A36M Sachs Harbour 95.18 17 P **P 13 51 11.8 +0.6**
baz=290
BURAR Bucovina Array 95.18 318 ⇑P **P 13 51 11.5 -0.5**
BURAR Bucovina Array 95.18 318 P **P 13 51 11.4 -0.5**
ELND Elanna 95.29 313 ⇓P **P 13 51 12.1 -0.2**
P33M Teslin, Yukon 95.46 29 P **P 13 51 13.1 +0.2**
baz=282
SUW Suwalki 95.52 324 *e*P **P 13 51 12.7 -0.4**
TAOE Nuku Hiva Isla 95.80 99 *e*S S 14 01 53.2 -18
comp=Z,175nm,25.9s
TAOE Nuku Hiva Isla 95.80 99 *e*LR LR 14 22 38.3
comp=Z,163nm,21.9s
ARR Arges 95.88 316 ⇑P **P 13 51 14.4 -0.7**
STEI Steigen 95.96 339 *e*P **P 13 51 13.2 -1.6**
LSZ Lusaka 96.06 255 P **P 13 51 16.9 +0.4**
FAUS Fauske 96.12 338 *e*P **P 13 51 13.8 -1.8**
U33K Whale Pass 96.12 33 P **P 13 51 16.2 +0.5**
baz=283
CRAG Craig 96.25 34 P **P 13 51 16.8 +0.4**
baz=281
C36M Paulatuk 96.48 19 P **P 13 51 17.3 +0.2**
baz=291
KWP Kalwaria Pacla 96.53 320 *e*P **P 13 51 17.2 -0.7**
R33M Jennings River 96.55 30 P **P 13 51 18.0 +0.1**
baz=283
S34M Telegraph Cree 96.81 31 P **P 13 51 19.7 +0.8**
baz=283
MOR8 Moi Rana 96.82 337 *e*P **P 13 51 16.9 -1.9**
RAUS Rausandaksla 96.88 338 *e*P **P 13 51 18.3 -0.8**
DRGR 96.99 317 ⇓P **P 13 51 19.5 -0.6**
DRGR 96.99 317 P **P 13 51 19.5 -0.6**
V35K Ketchikan 97.12 34 P Pdif 13 51 20.8 +0.5
baz=282
DLBC Dease Lake 97.25 31 P Pdif 13 51 21.3 +0.3
baz=284
STOK Stokkvaagen 97.31 338 *e*P **P 13 51 20.1 -0.8**
LEIR Leirfjorden 97.35 337 *e*P **P 13 51 20.2 -0.9**
WTLY Watson Lake, Y 97.44 29 P Pdif 13 51 22.4 +0.7
baz=285
T35M Bob Quinn 97.49 32 P Pdif 13 51 22.4 +0.4
baz=284
STHS Stebnicka Huta 97.51 320 *e*P Pdif 13 51 24.4 +2.1
STHS *e* 13 55 28.7

STHS Stebnicka Huta 97.51 320 *e*PDIFF Pdif 13 51 24.4 +2.1
STHS *e*PP **PP 13 55 28.7 +5.7**
BLKB Belogradchik 97.51 314 ⇑P **P 13 51 21.9 -0.5**
NIE Niedzica 98.12 320 *e*P Pdif 13 51 25.9 +0.9
OJC Ojcow 98.27 321 *e*P **P 13 51 25.2 -0.5**
LANS Liptovska Anna 98.70 320 *e*P **P 13 51 28.9 +1.2**
LANS Liptovska Anna 98.70 320 *e*PDIFF **P 13 51 28.9 +1.2**
HFS Hagfors 99.07 332 P **Pdif 13 51 26.7 -2.2**
comp=Z,5.2nm,0.4s,baz=104,slow=4.7,SNR=30
HFS pP **pwP 13 52 34.4 -3.0**
comp=Z,7.6nm,1.0s,baz=105,slow=9.1,SNR=2.7
comp=Z,5.2nm,0.4s
TOAD Toad River Com 99.54 30 P **Pdif 13 51 31.8 +0.7**
baz=288
MORC Moravsky Berou 99.79 321 *e*PDIFF **Pdif 13 51 31.9 -0.6**
MORC *e*PP **PP 13 55 43.9 +3.6**
NB2 NORSAR Subarra 99.91 333 P **Pdif 13 51 31.6 -1.1**
comp=Z,14nm,1.2s,baz=68,slow=4.8
NB2 NORSAR Subarra 99.91 333 P **Pdif 13 51 31.6 -1.1**
baz=68,slow=4.8
NOA NORSAR Array B 99.91 333 P **Pdif 13 51 30.6 -2.1**
comp=Z,3.6nm,0.8s,baz=71,slow=4.6,SNR=8.9
comp=Z,3.6nm,0.8s
JAVC Velka Javorina 99.92 320 *e*PDIFF **Pdif 13 51 33.0 -0.1**
JAVC *e*PP **PP 13 55 46.0 +4.6**
KSP Ksiaz 100.31 322 *e*P **Pdif 13 51 34.3 -0.4**
RKT Rikitea 100.45 113 *e*LR LR 14 24 47.0
comp=Z,12μm,38.8s
TROLL Troll, Antarti 100.49 196 ⇑P **Pdif 13 51 37.5 +2.3**
comp=Z,83nm,0.8s
VRAC Vranov 100.50 321 *e*PDIFF **Pdif 13 51 35.5 -0.1**
VRAC *e*PP **PP 13 55 49.1 +3.4**
KRUC Moravsky 100.69 320 *e*PDIFF **Pdif 13 51 35.3 -1.1**
KRUC *e*PP **PP 13 55 49.5 +2.4**
MOL Molde 100.93 335 *e*P **Pdif 13 51 36.5 -0.6**
AKN Aaknes 101.33 335 *e*P **Pdif 13 51 39.2 +0.2**
BRG Berggiesshubel 101.73 323 ⇓*i*Pif 13 51 42.2
BRG Amp 13 51 43.1
comp=Z,14nm,1.2s
BRG ⇓pPif 13 52 47.5
BRG Amp 13 52 49.7
comp=Z,2.6nm,0.7s
BRG PP **PP 13 55 57.5 +2.7**
BRG Amp 13 55 59.3
comp=Z,4.2nm,1.1s
BRG Berggiesshubel 101.73 323 P **PKiKP 13 56 04.2 +1.2**
BRG Amp 13 56 05.3
comp=Z,6.7nm,1.0s
SNAA Sanae 102.09 195 ⇓P **Pdif 13 51 43.8 +1.6**
comp=Z,27nm,0.8s
SNAA Sanae 102.09 195 P **Pdif 13 51 42.4 +0.2**
comp=Z,1.1nm,0.6s,baz=203,slow=7.5,SNR=14
CLL Collm 102.17 323 *i*P **Pdif 13 51 42.5 -0.4**
CLL *i* 13 55 59.3
CLL *e* 14 01 51.0
CLL *e*S **Sdif 14 03 02.0 -0.8**
CLL pmax pmax
comp=Z,65nm,2.2s
GERES GERESS Array B 102.46 321 P **Pdif 13 51 44.8 +0.4**
comp=Z,2.5nm,0.8s,baz=64,slow=6.2,SNR=10.0
GERES PP **PP 13 56 00.9 +0.5**
comp=Z,0.4nm,0.3s,baz=66,slow=9.8,SNR=3.6
EKA Eskdalemuir Ar 109.26 331 PKKPbc PKKPbc 14 07 22.8 -3.0
comp=Z,0.5nm,0.3s,baz=243,slow=3.4,SNR=4.6
NVAR Mina Array Bea 110.53 48 PKiKP **PKiKP 13 56 20.6 +0.6**
comp=Z,1.1nm,0.7s,baz=244,slow=2.1,SNR=5.8
NVAR PKKPab **PKKPab 14 07 31.7 -0.5**
comp=Z,0.4nm,0.5s,baz=133,slow=6.3,SNR=4.1
PDAR Pinedale Array 114.97 41 PKP PKPdf 13 56 28.6 +0.3
comp=Z,0.8nm,0.3s,baz=28,slow=3.5,SNR=8.5
PDAR PP **PP 13 57 31.4 +0.4**
comp=Z,0.3nm,0.3s,baz=355,slow=6.1,SNR=1.6
PDAR PKKPbc **PKKPbc 14 07 04.8 -2.0**
comp=Z,0.4nm,0.3s,baz=124,slow=5.1,SNR=8.1
PV02 Paradox Valley 117.57 45 **PKiKP 13 56 35.3 +1.8**
ESDC Sonseca Array 117.62 317 PKP **PKPdf 13 56 32.6 -0.6**
comp=Z,0.4nm,0.6s,baz=32,slow=1.6,SNR=2.2
ESDC PP **PP 13 57 49.8 +0.4**
comp=Z,1.3nm,1.0s,baz=61,slow=6.8,SNR=2.4
TORD Torodi Ar. Bea 121.21 286 PKP **PKPdf 13 56 38.7 -2.0**
comp=Z,5.2nm,0.8s,baz=47,slow=4.3,SNR=23
TORD pPKP **pPKPdf 13 57 47.5 +1.6**
comp=Z,1.8nm,0.7s,baz=60,slow=5.4,SNR=3.0
TORD PKKPab **PKKPab 14 06 44.3 -0.6**
comp=Z,2.2nm,0.8s,baz=301,slow=2.8,SNR=9.3
SCHQ Schefferville 123.47 8 PKP **PKPdf 13 56 43.9 -0.1**
comp=Z,97nm,0.6s,baz=51,slow=2.5,SNR=8.8
TXAR Lajitas Array 125.19 52 PKP **PKiKP 13 56 48.9 +0.4**
comp=Z,2.5nm,0.9s,baz=301,slow=0.6,SNR=17
TXAR SKPbc SKiKP 13 59 38.0 -22
comp=Z,1.5nm,0.8s,baz=219,slow=3.3,SNR=4.4
DBIC Dimbokro 128.53 279 PKP **PKPdf 13 56 55.2 +0.4**
comp=Z,4.7nm,0.8s,baz=148,slow=3.6,SNR=5.3
DBIC SKPbc SKiKP 13 59 49.6 -17
comp=Z,8.2nm,0.8s,baz=149,slow=4.1,SNR=7.5
FVM French Village 129.65 36 **PKiKP 13 56 58.1 +1.0**
FVM French Village 129.65 36 PKIKP **PKiKP 13 56 58.1 +1.0**
PLCA Paso Flores 138.41 163 PKhKP PKPpre 13 57 03.8
comp=Z,1.4nm,0.7s,baz=220,slow=7.9,SNR=4.5
PLCA PKP **PKPdf 13 57 13.5 +0.8**
comp=Z,3.3nm,0.7s,baz=173,slow=1.8,SNR=6.6
PLCA SKPbc **SKPbc 14 00 22.7 +0.2**
comp=Z,7.4nm,0.9s,baz=191,slow=3.4,SNR=8.7
BO02 Sierra Bellavi 143.75 159 PKPbc 13 57 21.6 +0.9
MT01 Popeta 144.40 158 PKPbc 13 57 23.2 +0.5
SOR Soroa 144.40 46 *e*P **PKPdf 13 57 23.9 +0.1**
MT09 Talagante 144.58 158 **PKPdf 13 57 24.0 0.0**
PEL Peldehue 145.26 158 *e*P **PKPab 13 57 26.1 +0.3**
ROC1 El Roble 145.28 157 ⇓*e*P **PKPab 13 57 26.7 +0.6**
CAMR Camarioca 145.40 44 *e*P **PKPab 13 57 27.5 +1.0**
VA03 San Esteban 145.65 158 *e*P **PKPab 13 57 27.8 +0.5**
AAGR Agrelo 145.97 160 *e*P **PKPdf 13 57 26.0 -0.4**
ARCO CERRO ARCO 146.16 160 *e*P **PKPab 13 57 29.1 -0.2**
ASAL Salagasta 146.42 160 *e*P **PKPbc 13 57 29.7 +0.9**
AUSP Uspallata 146.56 159 *e*P **PKPab 13 57 30.5 -0.6**
CO02 Combarbal 146.85 156 **PKPab 13 57 31.7 -0.3**
RTLS Leoncito 146.98 159 *e*P **PKPbc 13 57 30.9 +0.2**
MGV Manicaragua 146.99 44 *e*P **PKPab 13 57 32.1 -0.6**
ACAN Cantantal 147.25 162 *e*P **PKPbc 13 57 31.6 +0.5**
RTLL Cerro Villicun 147.70 159 *e*P **PKPbc 13 57 32.2 -0.1**
FSCY Frank Sound, G 147.86 49 *e*P **PKPab 13 57 43.4 +7.2**
ACCO Cerro Coronel 148.15 158 *e*P **PKPbc 13 57 34.0 +0.1**
AROD Rodeo 148.38 157 *e*P **PKPbc 13 57 33.6 -0.9**
ACHE Chepes 148.45 162 *e*P **PKPbc 13 57 33.9 -0.6**
ACDV Cuesta del Vie 148.51 158 *e*P **PKPbc 13 57 33.1 -1.5**
AVFE Valle Fertil 148.66 161 *e*P **PKPbc 13 57 33.3 -1.6**
CCCC Cccc 149.12 43 *e*P **PKiKP 13 57 37.6 +0.3**
AGUA GUANDACOL 149.36 158 *e*P **PKPdf 13 57 34.2 +2.1**
PLTB Pedras Altas 149.49 184 *e*P **PKPdf 13 57 31.0 -1.1**
ACLC CERRO LA CRUZ 149.96 160 *e*P **PKPdf 13 57 35.8 +2.7**
VCA Vinchina 150.14 158 *e*P **PKPdf 13 57 35.4 +2.0**
GO03 Copiapo 150.31 154 *e*P **PKiKP 13 57 40.1 +0.4**
LMGC Las Mercedes 150.41 43 *e*P **PKiKP 13 57 40.0 +0.1**
AANI Anillaco 150.53 160 *e*P **PKPbc 13 57 39.9 +0.3**
CHIV Chivirico 150.88 43 *e*P **PKPbc 13 57 40.7 +0.3**
PINC Pinares de May 150.94 41 *e*P **PKiKP 13 57 41.1 +0.1**
MARVS Santiago de Cu 151.21 42 *e*P **PKPbc 13 57 41.1 0.0**
MTDJ Mount Denham 151.25 47 *e*P **PKPdf 13 57 31.0 -4.3**
SABCS La Quijada 151.34 41 *e*P **PKiKP 13 57 42.2 +0.3**
RCC Rio Carpintero 151.35 42 *e*P **PKPbc 13 57 41.8 +0.3**
MOAC Moa 151.35 40 *e*P **PKiKP 13 57 42.5 +0.6**
NMDO Nuevo Mundo 151.41 40 *e*P **PKiKP 13 57 42.9 +0.9**
AC02 Maricunga 151.45 155 *e*P **PKPbc 13 57 42.2 0.0**
QMBU Quimbuelo 151.78 40 *e*P **PKiKP 13 57 43.4 +0.5**
GTBY Guantanamo Bay 151.78 41 *e*P **PKiKP 13 57 42.9 +0.1**
MASC Masc 152.17 39 *e*P **PKiKP 13 57 44.2 +0.7**
FSA Cafayete 153.34 159 *e*P **PKPdf 13 57 40.7 +2.5**
SDDR Presa de Saban 154.88 36 *e*P **PKPab 13 58 05.7 +0.1**
CPUP Villa Florida 154.93 177 PKP **PKPdf 13 57 41.4 +1.1**
comp=Z,1.3nm,0.9s,baz=176,slow=1.5,SNR=6.6
CPUP PKPab **PKPab 13 58 07.2 +1.8**
comp=Z,4.1nm,0.8s,baz=214,slow=3.6,SNR=14
LPAZ La Paz 160.69 142 PKP **PKPdf 13 57 49.0 +0.7**
comp=Z,4.3nm,1.0s,baz=336,slow=1.3,SNR=10
LPAZ PKPab **PKPab 13 58 32.5 +1.1**
comp=Z,7.8nm,0.8s,baz=215,slow=2.7,SNR=12
LPAZ La Paz 160.69 142 PKIKP **PKPdf 13 57 49.0 +0.7**
BDFB Brasilia 163.67 208 PKPab **PKPab 13 58 43.0 -0.8**
comp=Z,5.1nm,0.6s,baz=149,slow=5.9,SNR=7.1
BDFB pPKPab **pPKPab 13 59 49.0 +1.8**
comp=Z,6.1nm,1.0s,baz=112,slow=5.2,SNR=2.5

WEL **24** *14:33:02.2±1.4,28°S±10°×18°0E±1°8,h131km±28km,*

M4.5/5, mB4.9/5, MLv4.7/3, Mw(mB)4.2/5, Error ellipse: s-maj=25.1km s-min=8.9km az=114.6, confirmed
*NOU **24** 14:34:19.9, 34°.98S×179°.96E, h316km, MLv4.5/9, South of Kermadec Islands*
ISC 24 14:32:59.6±3.0, 29°.7S±0°.1×175°.5W±0°.2, h150km, n29, σ1°91/34, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.16**	**282**	P	**Pn**	**14 33 38.4**	**+1.8**
GLKZ				S	**Sn**	**14 34 03.1**	**-1.9**
RAO	**Raoul Island**	**2.16**	**282**	P	**Pn**	**14 33 39.1**	**+2.5**
RAO				S	**Sn**	**14 34 03.7**	**-1.2**
RIZ	**Raoul Island**	**2.17**	**282**	P	**Pn**	**14 33 39.0**	**+2.3**
WMGZ	**Waiomatatini S**	**9.53**	**210**	P	**Pn**	**14 35 16.2**	**+2.9**
PKGZ	**Pakihiroa**	**9.72**	**212**	P	**Pn**	**14 35 16.3**	**+0.5**
HAZ	**Te Kaha**	**9.77**	**213**	P	**Pn**	**14 35 16.8**	**+0.3**
HAZ				S	**Sn**	**14 37 05.4**	**+0.8**
PUZ	**Puketiti**	**9.81**	**210**	P	**Pn**	**14 35 17.8**	**+0.7**
PUZ				S	**Sn**	**14 37 07.0**	**+1.3**
TWGZ	**Tauwhareparae**	**10.02**	**211**	P	**Pn**	**14 35 21.2**	**+1.4**
TWGZ				S	**Sn**	**14 37 13.0**	**+2.3**
MWZ	**Matawai**	**10.35**	**212**	P	**Pn**	**14 35 23.4**	**-0.8**
MWZ				S	**Sn**	**14 37 17.2**	**-1.5**
URZ	**Urewera**	**10.49**	**214**	P	**Pn**	**14 35 25.9**	**-0.1**
URZ	**Urewera**	**10.49**	**214**	P	**Pn**	**14 35 23.8**	**-2.2**
RAGZ	**Rawiri**	**10.54**	**212**	P	**Pn**	**14 35 30.8**	**+4.1**
RIGZ	**Rimuhau**	**10.55**	**210**	P	**Pn**	**14 35 29.0**	**+2.1**
SNGZ	**Shannon Statio**	**10.80**	**211**	P	**Pn**	**14 35 30.7**	**+0.6**
MUGZ	**Murupara**	**10.83**	**214**	P	**Pn**	**14 35 30.3**	**-0.2**
MTHZ	**Maungataniwha**	**11.09**	**213**	P	**Pn**	**14 35 32.3**	**-1.6**
MRHZ	**Matea Rd**	**11.28**	**214**	P	**Pn**	**14 35 36.1**	**-0.3**
NMHZ	**Naumai**	**11.30**	**212**	P	**Pn**	**14 35 36.7**	**0.0**
BKZ	**Black Stump Fm**	**11.50**	**213**	P	**Pn**	**14 35 37.4**	**-2.0**
BKZ	**Black Stump Fm**	**11.50**	**213**	P	**Pn**	**14 35 37.0**	**-2.4**
MCHZ	**McNeill Hill**	**11.63**	**211**	P	**Pn**	**14 35 39.7**	**-1.3**
KAHZ	**Kahuranaki**	**11.84**	**210**	P	**Pn**	**14 35 43.2**	**-0.5**
HIZ	**Hauiti**	**11.86**	**220**	P	**Pn**	**14 35 44.1**	**+0.2**
FWVZ	**Far West T-bar**	**12.03**	**215**	P	**Pn**	**14 35 45.5**	**-1.0**
BFZ	**Birch Farm**	**12.84**	**209**	P	**Pn**	**14 35 54.8**	**-1.9**
SNZO	**South Karori**	**14.03**	**212**	P	**Pn**	**14 36 09.3**	**-2.5**
QRZ	**Quartz Range**	**14.76**	**218**	P	Pn	14 36 15.2	-5.7
KHZ	**Kahutara**	**15.44**	**212**	P	**Pn**	**14 36 25.5**	**-3.8**
JCZ	**Jackson Bay**	**19.01**	**217**	P	**P**	**14 37 07.7**	**-2.1**

*CATAC **24** 14:34:13.2±0.7, 14°.N±4°.×9°.3W±°, h17km±4km, M3.6/9, MLv3.6/9, Error ellipse: s-maj=8.1km s-min=4.1km az=23.5, confirmed*
*MEX **24** 14:34:14.7±0.9, 14°.41N×92°.70W, h92km±17km, MD4.0*
*GCG **24** 14:34:16.3±2.0, 14°.32N×92°.60W, h59km±38km, MD3.8*
ISC 24 14:34:13.1±1.6, 14°.26N±0°.06×92°.76W±0°.04, h30km±14km, n29, σ2°04/44, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.80**	**36**	*eP*	**Pn**	**14 34 29.3**	**+0.9**
THIG				*eS*	**Sn**	**14 34 40.7**	**+1.4**
SMCA	**Catarina**	**0.89**	**48**	*i P*	**Pn**	**14 34 30.5**	**+1.0**
SMCA				*i S*	**Sn**	**14 34 43.0**	**+1.5**
PATR	**El Naranjo**	**0.99**	**31**	*eP*	**Pn**	**14 34 31.1**	**-0.1**
PATR				*eS*	**Sn**	**14 34 44.0**	**-0.3**
CHUJ	**Union Juarez**	**1.04**	**37**	*eP*	**Pn**	**14 34 30.4**	**+0.2**
CHUJ				*eS*	**Sn**	**14 34 45.9**	**+0.4**
RTAL	**Retalhuleu**	**1.06**	**75**	*eP*	**Pb**	**14 34 33.4**	**+0.4**
RTAL				*eS*	**Sn**	**14 34 48.2**	**+2.4**
RTAL	**Retalhuleu**	**1.06**	**75**	P	**Pb**	**14 34 33.8**	**+0.9**
PAVE	**Pavencul**	**1.09**	**31**	*eP*	**Pn**	**14 34 32.6**	**+0.1**
PAVE				*eS*	**Sn**	**14 34 46.9**	**+0.2**
STG2	**El Palmar, Qui**	**1.35**	**82**	*i P*	**Pn**	**14 34 34.4**	**-1.7**
STG2				*i S*	**Sn**	**14 34 50.1**	**-2.9**
SOKI	**Kika Raxquin**	**1.43**	**67**	*i P*	**Pn**	**14 34 37.7**	**+0.4**
PCIG		**1.51**	**343**	*eP*	**Pn**	**14 34 37.3**	**-0.8**
PCIG				*eS*	**Sn**	**14 34 56.1**	**-0.5**
HUEH	**Huehuetenango**	**1.61**	**49**	P	**Pn**	**14 34 41.3**	**+1.6**
HUEH	**Huehuetenango**	**1.61**	**49**	S	**Sb**	**14 35 03.5**	**+1.2**
QUIS	**Sacapulas**	**1.91**	**57**	*i S*	**Sn**	**14 35 07.5**	**+0.7**
CCIG	**Comitan**	**2.10**	**16**	*eP*	**Pb**	**14 34 48.9**	**-1.7**
CCIG				*eS*	**Sb**	**14 35 15.8**	**-0.6**
CCIG	**Comitan**	**2.10**	**16**	*i P*	**Pb**	**14 34 49.7**	**-0.9**
CCIG				*i S*	**Sb**	**14 35 14.7**	**-1.7**
CCIG	**Comitan**	**2.10**	**16**	P	**Pb**	**14 34 49.7**	**-0.9**
FG8	**Yepocapa, Chim**	**2.13**	**90**	*i P*	Pn	14 34 43.2	-3.5
FG8				*i S*	**Sn**	**14 35 04.3**	**-7.9**
FG16	**Alotenango, Sa**	**2.18**	**89**	*i P*	**Pn**	**14 34 44.5**	**-3.0**
APG	**El Apazote**	**2.34**	**71**	*i P*	**Pn**	**14 34 49.5**	**-0.2**
TGIG		**2.53**	**352**	*eP*	**Pn**	**14 34 53.6**	**+1.3**
TGIG				*eS*	**Sn**	**14 35 21.2**	**-0.9**
NUBE	**Las Nubes**	**2.91**	**97**	*i P*	**Pn**	**14 35 00.3**	**+2.7**
NUBE	**Las Nubes**	**2.91**	**97**	P	**Pn**	**14 35 00.2**	**+2.7**
NUBE	**Las Nubes**	**2.91**	**97**	S	**Sn**	**14 35 34.5**	**+2.9**
NILT	**Santiago Nilte**	**2.91**	**322**	*eP*	**Pn**	**14 34 55.6**	**-1.8**
NILT				*eS*	**Sn**	**14 35 30.5**	**-0.9**
UXUV	**UXUV**	**3.32**	**336**	*eP*	**Pn**	**14 35 04.1**	**+1.1**
UXUV				*eS*	**Sn**	**14 35 44.4**	**+2.8**
CMIG	**Matias Romero**	**3.48**	**324**	*eP*	**Pn**	**14 35 06.2**	**+0.9**
CMIG				*eS*	**Sn**	**14 35 44.4**	**-1.1**
YOIG	**Yosondua**	**5.29**	**300**	*eP*	**Pn**	**14 35 31.2**	**+0.8**
YOIG				*eS*	**Sn**	**14 36 29.0**	**-1.5**
PNIG	**Pinotepa**	**5.60**	**293**	*eP*	**Pn**	**14 35 35.3**	**+0.9**
TXIG	**Tlaxiaco**	**5.67**	**302**	*eP*	**Pn**	**14 35 39.2**	**+3.6**

*DSN **24** 14:44:42.1±1.1, 27°.32N×55°.03E, h10km, ML2.9/5, Error ellipse: s-maj=22.5km s-min=6.6km az=36.0*
*TEH **24** 14:44:43.7, 27°.20N×55°.11E, h11km±18km*
ISC 24 14:44:45.1±1.1, 27°.15N±0°.04×55°.12E±0°.04, h17km, n23, σ0°88/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.84**	**308**	Pg	**Pb**	**14 44 59.6**	**-1.7**
BNDS	**Bandar-Abbas**	**0.97**	**75**	Pg	**Pb**	**14 45 02.5**	**-1.0**
GENO	**Geno**	**0.97**	**75**	Pg	**Pb**	**14 45 02.5**	**-1.1**
IBND	**Bandar-abas**	**1.30**	**76**	Pg	**Pn**	**14 45 08.8**	**+0.3**
SHME	**Shamm**	**1.43**	**140**	P	**Pn**	**14 45 10.6**	**+0.3**
SHME				S	**Sg**	**14 45 32.1**	**+0.8**
BANOM	**Banah**	**1.62**	**139**	P	**Pn**	**14 45 13.3**	**+0.5**
BANOM				S	**Sg**	**14 45 37.2**	**-0.1**
LMD1	**Lamerd**	**1.75**	**277**	Pg	**Pb**	**14 45 16.3**	**-0.4**
JHRM	**Jahrom**	**1.92**	**315**	Pn	**Pn**	**14 45 18.2**	**+1.1**
MSFE	**Esma-Masafi**	**2.02**	**152**	P	**Pn**	**14 45 18.8**	**+0.4**
UOSS	**Minazif**	**2.40**	**156**	P	**Pn**	**14 45 23.5**	**-0.2**
KHNJ	**Kahnooj**	**2.43**	**70**	Pn	**Pn**	**14 45 24.3**	**+0.2**
HATD	**Hatta, Dubai**	**2.49**	**158**	P	**Pn**	**14 45 26.2**	**+1.3**
ASHO	**Ashiyiah**	**2.60**	**161**	P	**Pn**	**14 45 26.8**	**+0.4**
KRBR	**Kerman**	**3.17**	**27**	Pn	**Pn**	**14 45 35.2**	**+0.7**
KHGB	**Koh Gabri**	**3.43**	**20**	Pn	**Pn**	**14 45 38.7**	**+0.8**
CHMN	**Cheshme madani**	**3.44**	**38**	Pn	**Pn**	**14 45 39.1**	**+0.9**
KBAM	**BAM**	**3.55**	**55**	Pn	**Pn**	**14 45 40.7**	**+1.2**
IMEH	**Mehriz**	**4.25**	**354**	Pn	**Pn**	**14 45 49.9**	**+0.6**
IBAF	**Bafgh**	**4.44**	**5**	Pn	**Pn**	**14 45 52.0**	**+0.2**
KLNJ	**Kolanjah**	**4.93**	**322**	Pn	**Pn**	**14 45 59.2**	**+0.4**
IRAM	**Ramesheh**	**5.22**	**333**	Pn	**Pn**	**14 46 03.3**	**+0.7**
TPRV	**Parvadeh(Tabas**	**6.01**	**13**	Pn	**Pn**	**14 46 14.0**	**+0.6**
SRVN	**Saravan**	**6.48**	**86**	Pn	**Pn**	**14 46 21.5**	**+1.6**

*IDC **24** 14:44:56.8±1.5, 15°.32N×93°.31W, h73km±14km, mb3.6/7, mbtmp3.9/10, MS3.0/2, Error ellipse: s-maj=25.6km s-min=6.6km az=31.0*
*GCG **24** 14:44:58.2±1.4, 15°.52N×93°.28W, h79km±16km, MD4.2, MW4.1*
*NEIC **24** 14:44:58.7±2.5, 15°.51N±0°.04×93°.19W±0°.05, h93km±7km, mb4.3/24, Md4.6/216(MEX), Error ellipse: s-maj=8.6km s-min=4.8km az=53.0*
*MEX **24** 14:44:59.2±1.1, 15°.50N×93°.26W, h93km±7km, MD4.6*
*CATAC **24** 14:44:59.9±0.4, 16°.N±3°.×9°.3W±°, h72km±4km, M4.8/15, MLv4.8/15, Error ellipse: s-maj=7.4km s-min=3.5km az=43.5, confirmed*
ISC 24 14:44:58.3±0.6, 15°.52N±0°.03×93°.25W±0°.03, h84km±5km, n179, σ2°02/255, mb4.2/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.19**	**8**		**Pn**	**14 45 10.9**	**+0.4**
PCIG					**Sn**	**14 45 21.0**	**+1.5**
PCIG		**0.19**	**8**	*eP*	**Pn**	**14 45 10.9**	**+0.4**
PCIG				*eS*	**Sn**	**14 45 21.0**	**+1.5**
PATR	**El Naranjo**	**1.06**	**112**		**Pn**	**14 45 18.1**	**-0.4**
PATR					**Sn**	**14 45 33.5**	**-0.1**
PATR	**El Naranjo**	**1.06**	**112**	*eP*	**Pn**	**14 45 18.1**	**-0.4**
PATR				*eS*	**Sn**	**14 45 33.5**	**-0.1**
PAVE	**Pavencul**	**1.08**	**107**		**Pn**	**14 45 18.8**	**0.0**
PAVE					**Sn**	**14 45 34.6**	**+0.5**
PAVE	**Pavencul**	**1.08**	**107**	*eP*	**Pn**	**14 45 18.8**	**0.0**
PAVE				*eS*	**Sn**	**14 45 34.6**	**+0.5**
THIG		**1.13**	**123**		**Pn**	**14 45 19.0**	**-0.1**
THIG					**Sn**	**14 45 35.2**	**+0.5**
THIG		**1.13**	**123**	*eP*	**Pn**	**14 45 19.0**	**-0.1**
THIG				*eS*	**Sn**	**14 45 35.2**	**+0.5**
THIG		**1.13**	**123**	*i P*	**Pn**	**14 45 18.8**	**-0.3**
THIG				*i S*	**Sn**	**14 45 35.6**	**+1.0**
CHUJ	**Union Juarez**	**1.18**	**111**	*eP*	**Pn**	**14 45 19.6**	**-0.3**
CHUJ				*eS*	**Sn**	**14 45 36.2**	**0.0**
TGIG		**1.26**	**5**		**Pn**	**14 45 21.5**	**+0.7**
TGIG					**Sn**	**14 45 38.2**	**+0.5**
TGIG		**1.26**	**5**	*eP*	**Pn**	**14 45 21.5**	**+0.7**
TGIG				*eS*	**Sn**	**14 45 38.2**	**+0.5**
TGIG		**1.26**	**5**	*i P*	**Pn**	**14 45 21.5**	**+0.7**
TGIG				*i S*	**Sn**	**14 45 38.3**	**+0.7**
TGBT	**Tuxtla Gutierr**	**1.26**	**7**		**Pn**	**14 45 21.7**	**+0.9**
TGBT					**Sn**	**14 45 38.4**	**+0.8**
TGBT	**Tuxtla Gutierr**	**1.26**	**7**	*eP*	**Pn**	**14 45 21.7**	**+0.9**
TGBT				*eS*	**Sn**	**14 45 38.4**	**+0.8**
SMCA	**Catarina**	**1.31**	**120**	*i P*	**Pn**	**14 45 21.0**	**-0.3**
SMCA				*i S*	**Sn**	**14 45 38.7**	**0.0**
CCIG	**Comitan**	**1.31**	**54**	Pn	**Pn**	**14 45 22.2**	**+0.7**
CCIG				Sn	**Sn**	**14 45 40.8**	**+1.8**
CCIG	**Comitan**	**1.31**	**54**	*eP*	**Pn**	**14 45 22.5**	**+1.0**
CCIG				*eS*	**Sn**	**14 45 40.2**	**+1.2**
CCIG	**Comitan**	**1.31**	**54**	*i P*	**Pn**	**14 45 22.3**	**+0.7**
CCIG				*i S*	**Sn**	**14 45 40.6**	**+1.6**
CCIG	**Comitan**	**1.31**	**54**	P	**Pn**	**14 45 22.3**	**+0.7**
NILT	**Santiago Nilte**	**1.68**	**308**		**Pn**	**14 45 27.7**	**+1.6**
NILT					**Sn**	**14 45 49.8**	**+2.6**
NILT	**Santiago Nilte**	**1.68**	**308**	*eP*	**Pn**	**14 45 27.7**	**+1.6**
NILT				*eS*	**Sn**	**14 45 49.8**	**+2.6**
HUEH	**Huehuetenango**	**1.69**	**97**		**Pn**	**14 45 27.4**	**+0.9**
HUEH	**Huehuetenango**	**1.69**	**97**		**Sn**	**14 45 49.2**	**+1.3**
HUEH	**Huehuetenango**	**1.69**	**97**	*eP*	**Pn**	**14 45 27.4**	**+0.9**
HUEH				*eS*	**Sn**	**14 45 49.2**	**+1.3**
HUEH	**Huehuetenango**	**1.69**	**97**	*i P*	**Pn**	**14 45 27.4**	**+0.9**
HUEH				*i S*	**Sn**	**14 45 49.8**	**+1.9**
HUEH	**Huehuetenango**	**1.69**	**97**	P	**Pn**	**14 45 27.4**	**+0.9**
QUEO	**Labor Ovalle**	**1.79**	**111**	*i P*	**Pn**	**14 45 29.6**	**+1.7**
RTAL	**Retalhuleu**	**1.80**	**123**		**Pn**	**14 45 28.2**	**+0.5**
RTAL	**Retalhuleu**	**1.80**	**123**	*eP*	**Pn**	**14 45 28.1**	**+0.5**
RTAL				*eS*	**Sn**	**14 45 50.5**	**+0.6**
RTAL	**Retalhuleu**	**1.80**	**123**	P	**Pn**	**14 45 28.2**	**+0.5**
SOKI	**Kika Raxquin**	**1.91**	**111**	*i P*	**Pn**	**14 45 31.6**	**+2.1**
UXUV	**UXUV**	**1.99**	**334**		**Pn**	**14 45 31.2**	**+1.1**
UXUV					**Sn**	**14 45 52.4**	**-2.0**
UXUV	**UXUV**	**1.99**	**334**	*eP*	**Pn**	**14 45 31.2**	**+1.1**
UXUV				*eS*	**Sn**	**14 45 52.4**	**-2.0**
QUIS	**Sacapulas**	**2.09**	**96**	*i P*	**Pn**	**14 45 32.6**	**+1.0**
QUIS				*i S*	**Sn**	**14 45 57.7**	**+0.7**
STG2	**El Palmar, Qui**	**2.10**	**120**	*i P*	Pn	14 45 27.2	-4.6
STG2				*i S*	**Sn**	**14 45 50.4**	**-7.0**
CMIG	**Matias Romero**	**2.22**	**315**		**Pn**	**14 45 34.0**	**+0.8**
CMIG					**Sn**	**14 45 56.4**	**-3.5**
CMIG	**Matias Romero**	**2.22**	**315**	P	**Pn**	**14 45 34.6**	**+1.4**
	146nm,0.6s,baz=140,slow=13,SNR=321						
CMIG				S	**Sn**	**14 46 00.5**	**+0.6**
	1μm,0.7s,baz=105,slow=12,SNR=15						
CMIG				LR	LR	14 46 34.1	
	comp=Z,151nm,18.7s,baz=283,slow=42						
CMIG	**Matias Romero**	**2.22**	**315**	*eP*	**Pn**	**14 45 34.0**	**+0.8**
CMIG				*eS*	**Sn**	**14 45 56.4**	**-3.5**
VHSA	**Villahermosa**	**2.47**	**7**		**Pn**	**14 45 39.0**	**+2.4**
VHSA					**Sn**	**14 46 10.0**	**+4.1**
VHSA	**Villahermosa**	**2.47**	**7**	*eP*	**Pn**	**14 45 39.0**	**+2.4**
VHSA				*eS*	**Sn**	**14 46 10.0**	**+4.1**
ESSG	**Sabana Grande**	**2.59**	**115**	*i P*	**Pn**	**14 45 39.4**	**+1.0**
APG	**El Apazote**	**2.73**	**100**	P	**Pn**	**14 45 40.8**	**+0.5**
	14nm,0.3s,baz=234,slow=22,SNR=112						
APG				S	**Sn**	**14 46 11.8**	**-0.8**
	196nm,0.3s,baz=76,slow=19,SNR=36						
APG	**El Apazote**	**2.73**	**100**	*i S*	**Sn**	**14 46 12.1**	**-0.5**
TUIG	**Tuzandepetl**	**2.74**	**336**		**Pn**	**14 45 39.0**	**-1.3**
TUIG					**Sn**	**14 46 09.4**	**-3.1**
TUIG	**Tuzandepetl**	**2.74**	**336**	*eP*	**Pn**	**14 45 39.0**	**-1.3**
TUIG				*eS*	**Sn**	**14 46 09.4**	**-3.1**
HUIG	**Huatulco**	**2.77**	**276**		**Pn**	**14 45 39.2**	**-1.4**
HUIG					**Sn**	**14 46 11.5**	**-1.6**
HUIG	**Huatulco**	**2.77**	**276**	*eP*	**Pn**	**14 45 39.2**	**-1.4**
HUIG				*eS*	**Sn**	**14 46 11.5**	**-1.6**
HUIG	**Huatulco**	**2.77**	**276**	*i P*	**Pn**	**14 45 40.1**	**-0.5**
HUIG				*i S*	**Sn**	**14 46 11.8**	**-1.3**
FG8	**Yepocapa, Chim**	**2.88**	**115**	*i P*	Pn	14 45 37.4	-4.9
NEUV	**Arroyo Zacate**	**3.28**	**312**		**Pn**	**14 45 47.9**	**+0.4**
NEUV					**Sn**	**14 46 27.8**	**+2.3**
NEUV	**Arroyo Zacate**	**3.28**	**312**	*eP*	**Pn**	**14 45 47.9**	**+0.4**
NEUV				*eS*	**Sn**	**14 46 27.8**	**+2.3**
ESSJ	**San Jos, E**	**3.29**	**126**	*i P*	Pn	14 45 41.6	-6.1
PMUV	**Sontecomapan**	**3.50**	**329**		Pn	14 45 45.6	-5.0
PMUV					**Sn**	**14 46 27.4**	**-3.6**
PMUV	**Sontecomapan**	**3.50**	**329**	*eP*	Pn	14 45 45.6	-5.0
PMUV				*eS*	**Sn**	**14 46 27.4**	**-3.6**
PETF	**Flores**	**3.53**	**66**		**Pn**	**14 45 51.7**	**+0.7**
PETF	**Flores**	**3.53**	**66**		**Sn**	**14 46 30.3**	**-1.4**
PETF	**Flores**	**3.53**	**66**	*eP*	**Pn**	**14 45 51.3**	**+0.3**
PETF				*eS*	**Sn**	**14 46 30.3**	**-1.4**
PETF	**Flores**	**3.53**	**66**	*i P*	**Pn**	**14 45 51.5**	**+0.6**
PETF				*i S*	**Sn**	**14 46 31.8**	**+0.2**
PETF	**Flores**	**3.53**	**66**	S	**Sn**	**14 46 32.1**	**+0.4**
PETF	**Flores**	**3.53**	**66**	P	**Pn**	**14 45 51.6**	**+0.7**
FAME	**Alcaldia de Sa**	**3.54**	**118**	S	**Sn**	**14 46 34.1**	**+2.2**
FAME	**Alcaldia de Sa**	**3.54**	**118**	P	**Pn**	**14 45 51.4**	**+0.3**
OXLC	**Oaxaca**	**3.66**	**295**		**Pn**	**14 45 53.9**	**+1.1**
OXLC					**Sn**	**14 46 33.5**	**-1.5**
OXLC	**Oaxaca**	**3.66**	**295**	*eP*	**Pn**	**14 45 53.9**	**+1.1**
OXLC				*eS*	**Sn**	**14 46 33.5**	**-1.5**
OXBJ	**Oaxaca**	**3.68**	**295**		**Sn**	**14 46 39.4**	**+4.0**
OXBJ	**Oaxaca**	**3.68**	**295**	*eS*	**Sn**	**14 46 39.4**	**+4.0**
OXIG	**Oaxaca**	**3.69**	**295**		**Pn**	**14 45 54.9**	**+1.6**
OXIG					**Sn**	**14 46 37.2**	**+1.5**
VHO	**Vista Hermosa**	**3.69**	**295**	*eP*	**Pn**	**14 45 54.9**	**+1.6**
VHO				*eS*	**Sn**	**14 46 37.2**	**+1.5**
NUBE	**Las Nubes**	**3.72**	**115**	*i S*	**Sn**	**14 46 38.8**	**+2.4**
NUBE	**Las Nubes**	**3.72**	**115**	S	**Sn**	**14 46 38.5**	**+2.1**
NUBE	**Las Nubes**	**3.72**	**115**	P	**Pn**	**14 45 55.4**	**+1.8**
PEIG	**Puerto Escondi**	**3.79**	**278**		**Pn**	**14 45 53.3**	**-1.1**
PEIG					**Sn**	**14 46 35.5**	**-2.3**
PEIG	**Puerto Escondi**	**3.79**	**278**	*eP*	**Pn**	**14 45 53.3**	**-1.1**
PEIG				*eS*	**Sn**	**14 46 35.5**	**-2.3**
CEVE	**Cerro Verde**	**3.89**	**115**	P	**Pn**	**14 45 59.2**	**+3.2**
ESQI	**Esquipulas**	**3.89**	**104**	Pn	**Pn**	**14 45 55.4**	**-0.5**
MTO3	**Montecristo**	**3.92**	**106**		**Pn**	**14 45 55.7**	**-0.7**
MTO3	**Montecristo**	**3.92**	**106**	*i P*	**Pn**	**14 45 56.6**	**+0.2**
MTO3	**Montecristo**	**3.92**	**106**	S	**Sn**	**14 46 41.6**	**+0.2**
MTO3	**Montecristo**	**3.92**	**106**	P	**Pn**	**14 45 56.6**	**+0.2**
SCIG	**Sabancuy**	**3.96**	**30**		**Pn**	**14 45 57.0**	**+0.3**
SCIG					**Sn**	**14 46 40.6**	**-1.3**
SCIG	**Sabancuy**	**3.96**	**30**	*eP*	**Pn**	**14 45 57.0**	**+0.3**
SCIG				*eS*	**Sn**	**14 46 40.6**	**-1.3**
SCIG	**Sabancuy**	**3.96**	**30**	*i P*	**Pn**	**14 45 57.2**	**+0.5**
LALI	**Alcalda de L**	**4.30**	**117**	*i S*	**Sn**	**14 46 54.9**	**+4.5**
YOIG	**Yosondua**	**4.34**	**288**		**Pn**	**14 46 04.3**	**+2.2**
YOIG					**Sn**	**14 46 53.2**	**+1.5**
YOIG	**Yosondua**	**4.34**	**288**	*eP*	**Pn**	**14 46 04.3**	**+2.2**
YOIG				*eS*	**Sn**	**14 46 53.2**	**+1.5**
SARH	**Santa Rosa de**	**4.39**	**99**	*i P*	**Pn**	**14 46 03.1**	**+0.3**
TOIG	**Toxpalan**	**4.46**	**306**		**Pn**	**14 46 04.7**	**+1.0**
TOIG					**Sn**	**14 46 54.6**	**+0.1**
TOIG	**Toxpalan**	**4.46**	**306**	*eP*	**Pn**	**14 46 04.7**	**+1.0**
TOIG				*eS*	**Sn**	**14 46 54.6**	**+0.1**
IZABA	**Izabal, Puerto**	**4.50**	**87**	*eS*	**Sn**	**14 46 52.4**	**-2.7**
TXIG	**Tlaxiaco**	**4.67**	**292**		**Pn**	**14 46 08.8**	**+2.2**
TXIG					**Sn**	**14 47 05.0**	**+5.2**
TXIG	**Tlaxiaco**	**4.67**	**292**	*eP*	**Pn**	**14 46 08.8**	**+2.2**
TXIG				*eS*	**Sn**	**14 47 05.0**	**+5.2**
PNIG	**Pinotepa**	**4.77**	**281**		**Pn**	**14 46 07.8**	**0.0**
PNIG					**Sn**	**14 46 57.9**	**-4.0**
PNIG	**Pinotepa**	**4.77**	**281**	*eP*	**Pn**	**14 46 07.8**	**0.0**
PNIG				*eS*	**Sn**	**14 46 57.9**	**-4.0**
TPIG	**Tehuac#an**	**4.88**	**307**		**Pn**	**14 46 10.1**	**+0.6**
TPIG					**Sn**	**14 47 05.8**	**+1.1**
TPIG	**Tehuac#an**	**4.88**	**307**	*eP*	**Pn**	**14 46 10.1**	**+0.6**
TPIG				*eS*	**Sn**	**14 47 05.8**	**+1.1**
JAUV	**Jalcomulco**	**5.12**	**319**		**Pn**	**14 46 11.6**	**-0.9**
JAUV					**Sn**	**14 47 07.4**	**-2.9**
JAUV	**Jalcomulco**	**5.12**	**319**	*eP*	**Pn**	**14 46 11.6**	**-0.9**
JAUV				*eS*	**Sn**	**14 47 07.4**	**-2.9**
POHV	**Veracruz**	**5.23**	**313**		Pn	14 46 09.8	-4.7
POHV	**Veracruz**	**5.23**	**313**	*eP*	Pn	14 46 09.8	-4.7
FTIG	**Fresnillo de T**	**5.25**	**298**		**Pn**	**14 46 16.9**	**+2.4**
FTIG					**Sn**	**14 47 13.4**	**-0.3**
FTIG	**Fresnillo de T**	**5.25**	**298**	*eP*	**Pn**	**14 46 16.9**	**+2.4**
FTIG				*eS*	**Sn**	**14 47 13.4**	**-0.3**
MGIG	**Malinaltepec**	**5.45**	**289**		**Pn**	**14 46 18.3**	**+1.2**
MGIG					**Sn**	**14 47 15.5**	**-3.1**
MGIG	**Malinaltepec**	**5.45**	**289**	*eP*	**Pn**	**14 46 18.3**	**+1.2**
MGIG				*eS*	**Sn**	**14 47 15.5**	**-3.1**
TLIG	**Tlapa**	**5.49**	**292**		**Pn**	**14 46 19.3**	**+1.6**
TLIG	**Tlapa**	**5.49**	**292**		**Sn**	**14 47 17.7**	**-1.9**
TLIG	**Tlapa**	**5.49**	**292**	*eP*	**Pn**	**14 46 18.2**	**+0.5**
TLIG				*eS*	**Sn**	**14 47 17.7**	**-1.9**
CRIG	**Cruz Grande**	**5.78**	**283**		**Pn**	**14 46 21.9**	**+0.3**
CRIG					**Sn**	**14 47 22.2**	**-4.3**
CRIG	**Cruz Grande**	**5.78**	**283**	*eP*	**Pn**	**14 46 21.9**	**+0.3**
CRIG				*eS*	**Sn**	**14 47 22.2**	**-4.3**
TGUH	**Tegucigalpa,Un**	**5.96**	**103**		**Pn**	**14 46 25.4**	**+1.3**
PPCL	**Tochimilco**	**6.14**	**304**	*eP*	**Pn**	**14 46 28.2**	**+1.5**
PPCL				*eS*	**Sn**	**14 47 39.7**	**+4.0**
PPSX	**Xalitzintla**	**6.15**	**306**	*eS*	**Sn**	**14 47 39.1**	**+3.1**
PPPT	**Popocatepetl**	**6.18**	**305**	*eP*	**Pn**	**14 46 29.7**	**+2.2**
PPPT				*eS*	**Sn**	**14 47 37.6**	**+0.6**
CXUV	**Coxquihui**	**6.21**	**319**		**Pn**	**14 46 27.6**	**+0.2**
CXUV					**Sn**	**14 47 35.7**	**-1.3**
CXUV	**Coxquihui**	**6.21**	**319**	*eP*	**Pn**	**14 46 27.6**	**+0.2**
CXUV				*eS*	**Sn**	**14 47 35.7**	**-1.3**
PBXN	**Popocatepetl**	**6.22**	**305**	*eP*	**Pn**	**14 46 26.7**	**-1.4**
PBXN				*eP*		14 46 29.9	
PBXN				*eS*	**Sn**	**14 47 39.4**	**+1.3**
DAIG	**Los Arroyos**	**6.33**	**285**		**Pn**	**14 46 29.4**	**+0.4**
DAIG					Sn	14 47 31.2	-8.8

comp=Z,0.4nm,0.9s,baz=96,slow=1.9,SNR=2.4
CMAR Chiang Mai Arr 144.17 340 PKP **PKPab 15 04 22.9 -0.2**
comp=Z,0.4nm,0.4s,baz=322,slow=1.6,SNR=4.5

BER 24 14:49:10.8±5.2, 61°07N×7°12E, h0km, ML0.9, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYA	**Hoyanger**	**0.46**	**283**	*eP*	Pg	14 49 20.7	+1.1
SKAR	**Skarslia**	**0.70**	**123**	*eP*	Pg	14 49 24.6	+0.4
SKAR				*eS*	Sg	14 49 34.6	+1.4
ASK	**Askoy**	**1.11**	**239**	*eP*	Pb	14 49 33.1	+0.3
AKN	**Aaknes**	**1.12**	**357**	*eP*	Pg	14 49 29.9	-2.2
AKN				IAML		14 49 47.2	
comp=Z,4.8nm,0.4s
SUE	**Sulen**	**1.15**	**271**	*eP*	Pg	14 49 32.7	0.0
MOL	**Molde**	**1.52**	**8**	*eP*	Pn	14 49 36.5	-2.8
MOL				*eS*	Sg	14 49 55.0	-4.7
MOL				IAML		14 49 57.5	
comp=Z,2.1nm,0.5s
BLS5	**Blasjo**	**1.68**	**192**	*eS*	Sn	14 49 55.0	-8.7

IDC 24 15:04:30.4±1.4, 6°81N×124°76E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=25.2km s-min=10.7km az=150.0
NEIC 24 15:04:32.8±0.9, 6°85N±0°06×124°87E±0°04, h14km±5km, mb4.6/17, Error ellipse: s-maj=9.5km s-min=6.0km az=199.0
DJA 24 15:04:33.1±0.6, 7°N±5°×12°5E±°, h46km±9km, M4.6/10, mb4.7/10, mB5.0/6, MLv4.7/7, Mw(mB)4.3/6
ISC 24 15:04:31.7±0.7, 6°88N±0°07×124°80E±0°07, h13km, n37, σ1§73/33, mb4.4/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.79**	**76**		**Pb**	**15 04 47.2**	**-0.2**
DAV	**Davao City (W)**	**0.79**	**76**	Pg	**Pn**	**15 04 47.7**	**-0.9**
1.1nm,0.3s,baz=211,slow=12,SNR=19
DAV				Lg	Lg	15 04 58.0	
6.1nm,0.3s,baz=202,slow=16,SNR=36
SGSI	**Sangihe**	**3.25**	**167**	P	**Pb**	**15 05 25.2**	**-4.1**
KMSI	**Cibinong**	**6.31**	**188**	P	Pn	15 06 09.5	+4.9
0.5nm173nm,0.9s
TNTI	**Ternate**	**6.58**	**157**		**Pn**	**15 06 07.7**	**-0.6**
TNTI	**Ternate**	**6.58**	**157**	P	Pn	15 06 13.2	+4.9
0.1nm704nm18nm,1.0s
TNTI				S	**Sn**	**15 07 29.2**	**+6.0**
0.1nm704nm18nm,1.0s
MRSI	**Marisa**	**6.97**	**204**	P	**Pn**	**15 06 17.0**	**+3.4**
0.2nm49nm,0.7s
TOLI2	**Tolitoli**	**6.99**	**215**		**Pn**	**15 06 12.8**	**-1.1**
TOLI2					**Sn**	**15 07 33.4**	**+0.1**
LUWI	**Luwuk**	**8.12**	**195**		**Pn**	**15 06 32.9**	**+3.5**
LUWI	**Luwuk**	**8.12**	**195**	P	Pn	15 06 36.1	+6.7
979nm64nm,0.7s
APSI	**Ampana**	**8.35**	**202**	P	Pn	15 06 37.5	+4.9
29nm,0.5s
SANI	**Sanana**	**8.94**	**172**	P	Pn	15 06 45.1	+4.4
22nm,0.9s
MTN	**Manton Dam**	**20.57**	**162**	P	**P**	**15 09 10.4**	**-0.1**
MTN				IAmb	IAmb	15 09 22.4	
comp=Z,9.4nm,1.1s
KNRA	**Kununurra**	**22.75**	**170**	P	**P**	**15 09 33.4**	**-0.5**
KNRA				IAmb	IAmb	15 09 56.8	
comp=Z,13nm,1.1s
FITZ	**Fitzroy Crossi**	**24.83**	**178**	P	**P**	**15 09 52.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.83**	**178**	P	**P**	**15 09 54.5**	**+0.6**
comp=Z,1.7nm,0.4s,baz=4.9,slow=8.4,SNR=18
comp=Z,1.7nm,0.4s
PPSI	**Pulau Pagai**	**26.54**	**250**	P	**P**	**15 10 09.5**	**0.0**
COEN	**Coen**	**27.58**	**139**	P	**P**	**15 10 18.6**	**-0.3**
COEN				IAmb	IAmb	15 10 39.1	
comp=Z,21nm,1.2s
WRA	**Warramunga Arr**	**28.25**	**161**	P	**P**	**15 10 24.7**	**-0.1**
comp=Z,1.1nm,0.7s,baz=332,slow=10.0,SNR=8.8
comp=Z,1.1nm,0.7s
WR8	**Warramunga Arr**	**28.32**	**160**	P	**P**	**15 10 24.6**	**-0.8**
WR8				IAmb	IAmb	15 11 02.5	
comp=Z,7.2nm,1.0s
GIRL	**Giralia**	**31.11**	**199**	P	**P**	**15 10 49.5**	**-0.6**
AS31	**Alice Springs**	**31.63**	**164**	P	**P**	**15 10 54.6**	**-0.2**
ASAR	**Alice Springs**	**31.63**	**164**	P	**P**	**15 10 54.5**	**-0.2**
comp=Z,1.0nm,0.7s,baz=342,slow=7.1,SNR=7.9
comp=Z,1.0nm,0.7s
FORT	**Forrest**	**37.57**	**175**	P	**P**	**15 11 44.1**	**-1.8**
FORT				IAmb	IAmb	15 12 27.1	
comp=Z,14nm,0.9s
INKA	**Innaminka**	**37.71**	**157**	P	**P**	**15 11 47.3**	**+0.1**
BBOO	**Buckleboo**	**40.89**	**165**	P	**P**	**15 12 13.8**	**+0.1**
BBOO				IAmb	IAmb	15 12 50.4	
comp=Z,29nm,1.2s
STKA	**Stephens Creek**	**41.74**	**158**	P	**P**	**15 12 20.2**	**-0.5**
STKA	**Stephens Creek**	**41.74**	**158**	P	**P**	**15 12 21.1**	**+0.4**
comp=Z,3.1nm,0.8s,baz=323,slow=10,SNR=2.8
comp=Z,3.1nm,0.8s
KURBB	**Kurchatov Arra**	**58.07**	**327**	P	**P**	**15 14 25.4**	**+0.7**
comp=Z,0.4nm,0.6s,baz=133,slow=6.1,SNR=4.6
comp=Z,0.4nm,0.6s
KURK	**Kurchatov**	**58.07**	**327**	P	**P**	**15 14 25.4**	**+0.7**
KURK	**Kurchatov**	**58.07**	**327**	IAmb	IAmb	15 14 29.4	
comp=Z,1.4nm,0.9s
BKZ	**Black Stump Fm**	**66.19**	**138**	P	**P**	**15 15 19.3**	**-0.1**
MSWZ	**Moikau Station**	**66.60**	**141**	P	**P**	**15 15 22.5**	**+0.6**
L16K	**Owhat River**	**77.22**	**28**	P	**P**	**15 16 25.8**	**+0.5**
L18K	**Granite Mounta**	**78.59**	**28**	P	**P**	**15 16 33.7**	**+0.7**
L18K				IAmb	IAmb	15 16 35.9	
comp=Z,14nm,1.4s
L19K	**White Mountain**	**79.44**	**28**	P	**P**	**15 16 36.6**	**-1.1**
J25K	**Salcha River,**	**83.77**	**26**	P	**P**	**15 17 01.4**	**+0.9**
J25K				IAmb	IAmb	15 17 36.2	
comp=Z,8.2nm,1.4s

NEIC 24 15:04:36.8±2.6, 10°16S±0°08×161°54E±0°07, h84km±6km, mb4.1/16, Error ellipse: s-maj=12.6km s-min=8.8km az=215.0
IDC 24 15:04:36.7±1.2, 10°16S×161°58E, h88km±8km, mb3.6/7, mbtmp4.1/8, MS3.5/5, Error ellipse: s-maj=20.5km s-min=11.4km az=35.0
ISC 24 15:04:36.4±0.6, 10°17S±0°07×161°58E±0°07, h85km, n50, σ1§64/50, mb4.0/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.77**	**294**		**Pn**	**15 05 04.5**	**-0.9**
HNR	**Honiara**	**1.77**	**294**		**Sn**	**15 05 26.8**	**-0.6**
HNR	**Honiara**	**1.77**	**294**	P	**Pn**	**15 05 05.6**	**+0.2**
2μm,0.8s,baz=172,slow=6.7,SNR=48
HNR				S	**Sn**	**15 05 28.4**	**+0.9**
3μm,0.6s,baz=5.6,slow=22,SNR=25
HNR				LR	LR	15 05 46.9	
comp=Z,272nm,21.4s,baz=177,slow=40
HNR	**Honiara**	**1.77**	**294**	P	**Pn**	**15 05 05.5**	**+0.1**
SAVO	**Savo Central**	**2.02**	**300**	P	**Pn**	**15 05 09.2**	**+0.5**
SANVU	**Saraoutou**	**7.59**	**134**		**Pn**	**15 06 25.5**	**+1.2**
SANVU					**Sn**	**15 07 47.7**	**-1.1**
SANVU	**Saraoutou**	**7.59**	**134**	P	**Pn**	**15 06 24.7**	**+0.4**
RABL	**Rabaul**	**11.07**	**302**	Pn	**Pn**	**15 07 12.2**	**+0.4**
DZM	**Mont Dzumac**	**12.72**	**159**	P	**Pn**	**15 07 36.3**	**+2.1**
8.8nm,0.3s,baz=28,slow=7.8,SNR=85
DZM				S	**Sn**	**15 09 49.8**	**-4.3**
6.2nm,0.8s,baz=155,slow=19,SNR=1.9
MARNC	**Mare, Loyalty**	**12.84**	**152**	Pn	**Pn**	**15 07 37.4**	**+1.7**
MARNC	**Mare, Loyalty**	**12.84**	**152**	P	**Pn**	**15 07 38.7**	**+3.0**
YATNC	**Mamie plateau,**	**12.87**	**157**	P	**Pn**	**15 07 38.5**	**+2.4**
ONTNC	**Ouen Toro**	**12.94**	**159**	Pn	**Pn**	**15 07 38.5**	**+1.5**
ONTNC	**Ouen Toro**	**12.94**	**159**	P	**Pn**	**15 07 40.9**	**+3.9**
OUENC	**Ouen Island, N**	**13.18**	**158**	P	**Pn**	**15 07 44.0**	**+3.8**
PINNC	**Pines Island,**	**13.59**	**156**	Pn	**Pn**	**15 07 47.2**	**+1.6**
PINNC	**Pines Island,**	**13.59**	**156**	P	**Pn**	**15 07 48.7**	**+3.1**
PMG	**Port Moresby**	**14.23**	**272**	LR	LR	15 12 26.5	
comp=Z,116nm,20.1s,baz=68,slow=33
TARA	**Tarawa**	**16.08**	**45**	P	**Pn**	**15 08 18.4**	**+0.9**
PATS	**Pohnpei**	**17.20**	**349**	P	**Pn**	**15 08 30.3**	**-1.2**
EIDS	**Eidsvold**	**18.11**	**212**	P	**P**	**15 08 40.3**	**-1.3**
EIDS				IAmb	IAmb	15 08 46.6	
comp=Z,13nm,1.2s
COEN	**Coen**	**18.39**	**256**	P	**P**	**15 08 43.0**	**-1.8**
COEN				IAmb	IAmb	15 08 50.6	
comp=Z,12nm,0.8s

MTSU	**Mount Surprise**	**18.51**	**243**	P	**Pn**	**15 08 48.9**	**+1.7**
ARMA	**Armidale**	**22.18**	**203**	P	**P**	**15 09 24.5**	**-1.2**
ARMA				IAmb	IAmb	15 09 56.0	
comp=Z,7.7nm,1.1s
INKA	**Innaminka**	**26.27**	**225**	P	**P**	**15 10 04.4**	**+0.6**
INKA				IAmb	IAmb	15 10 28.7	
comp=Z,3.2nm,0.8s
RAO	**Raoul Island**	**26.99**	**138**	LR	LR	15 18 39.2	
comp=Z,81nm,18.2s,baz=302,slow=31
WR8	**Warramunga Arr**	**27.86**	**246**	P	**P**	**15 10 17.3**	**-1.0**
WR8				IAmb	IAmb	15 10 46.6	
comp=Z,8.4nm,1.1s
WB0	**Warramunga Arr**	**27.91**	**247**	P	**P**	**15 10 17.8**	**-0.9**
WRAB	**Tennant Creek**	**27.99**	**247**	P	**P**	**15 10 19.1**	**-0.3**
WRA	**Warramunga Arr**	**28.00**	**247**	P	**P**	**15 10 18.9**	**-0.6**
comp=Z,2.0nm,0.8s,baz=75,slow=9.3,SNR=12
WRA				pP	**pP**	**15 10 40.4**	**+2.1**
comp=Z,4.0nm,0.8s,baz=73,slow=9.1,SNR=10
comp=Z,2.0nm,0.8s
STKA	**Stephens Creek**	**28.44**	**218**	P	**P**	**15 10 23.3**	**0.0**
STKA	**Stephens Creek**	**28.44**	**218**	P	**P**	**15 10 24.8**	**+1.5**
comp=Z,2.2nm,0.9s,baz=48,slow=14,SNR=1.9
comp=Z,2.2nm,0.9s
AS31	**Alice Springs**	**29.61**	**240**	P	**P**	**15 10 31.6**	**-2.2**
ASAR	**Alice Springs**	**29.61**	**240**	P	**P**	**15 10 32.9**	**-1.0**
comp=Z,1.4nm,1.0s,baz=63,slow=10,SNR=8.4
ASAR				LR	LR	15 20 30.2	
comp=Z,87nm,21.9s,baz=7.5,slow=32
comp=Z,1.4nm,1.0s
BKZ	**Black Stump Fm**	**31.80**	**158**	P	**P**	**15 10 52.9**	**0.0**
BKZ	**Black Stump Fm**	**31.80**	**158**	P	**P**	**15 10 51.8**	**-1.1**
KNRA	**Kununurra**	**32.43**	**257**	P	**P**	**15 10 58.2**	**-0.4**
MSWZ	**Moikau Station**	**33.37**	**161**	P	**P**	**15 11 05.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.68**	**253**	P	**P**	**15 11 25.5**	**-1.3**
FITZ				IAmb	IAmb	15 11 32.4	
comp=Z,2.3nm,1.3s
FITZ	**Fitzroy Crossi**	**35.68**	**253**	P	**P**	**15 11 25.9**	**-0.9**
comp=Z,3.5nm,0.7s,baz=77,slow=6.7,SNR=4.2
FITZ				pP	**pP**	**15 11 46.4**	**+0.4**
comp=Z,2.7nm,0.9s,baz=101,slow=10,SNR=2.2
comp=Z,3.5nm,0.7s
TPUB	**Ta-pu**	**52.08**	**310**	P	**P**	**15 13 35.7**	**-2.2**
VNDA	**Vanda**	**67.33**	**180**	P	**P**	**15 15 22.2**	**+0.3**
VNDA	**Vanda**	**67.33**	**180**	P	**P**	**15 15 22.4**	**+0.6**
comp=Z,0.6nm,0.7s,baz=352,slow=6.3,SNR=5.8
comp=Z,0.6nm,0.7s
CMAR	**Chiang Mai Arr**	**68.02**	**295**	pP	pP	15 15 50.7	+2.1
comp=Z,1.2nm,0.6s,baz=108,slow=6.1,SNR=3.8
SONM	**Songino Array**	**75.58**	**325**	P	**P**	**15 16 12.7**	**+0.7**
comp=Z,0.4nm,0.4s,baz=122,slow=7.0,SNR=2.6
SONM				pP	**pP**	**15 16 34.1**	**+0.3**
comp=Z,1.0nm,0.5s,baz=142,slow=5.1,SNR=4.3
comp=Z,0.4nm,0.4s
QSPA	**South Pole Qui**	**79.83**	**180**	P	**P**	**15 16 36.5**	**+1.1**
QSPA				IAmb	IAmb	15 16 39.1	
comp=Z,3.0nm,0.8s
ILAR	**Eielson Array**	**84.03**	**20**	P	**P**	**15 16 57.1**	**0.0**
comp=Z,0.4nm,0.6s,baz=251,slow=4.7,SNR=9.5
comp=Z,0.4nm,0.6s
PFO	**Pinyon Flats O**	**88.95**	**56**	LR	LR	15 48 32.1	
comp=Z,24nm,21.6s,baz=63,slow=30
MKAR	**Makanchi Array**	**90.10**	**318**	pP	pP	15 17 51.6	+2.4
comp=Z,1.1nm,0.8s,baz=106,slow=7.7,SNR=4.9
YKA	**Yellowknife Ar**	**96.09**	**28**	LR	LR	15 56 10.8	
comp=Z,41nm,18.9s,baz=9.5,slow=32

SJA 24 15:06:56.0±0.8, 20°68S×70°49W, h34km±3km, ML3.6, MW3.7
GUC 24 15:07:00.1±0.6, 20°52S×70°39W, h35km±2km, ML3.6
ISC 24 15:06:53.6±1.2, 20°57S±0°02×70°66W±0°05, h17km±10km, n30, σ1§27/45, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.45**	**90**	*i P*	**Pn**	**15 07 05.9**	**+0.6**
TA01				*eS*	**Sb**	**15 07 10.4**	**+1.0**
TA01	**Diego Aracena**	**0.45**	**90**	*eP*	**Pn**	**15 07 05.0**	**-0.3**
TA01				*eS*	**Sb**	**15 07 10.8**	**+1.4**
TA02	**Huaiquique**	**0.57**	**59**	*i P*	**Pn**	**15 07 07.6**	**+0.5**
TA02	**Huaiquique**	**0.57**	**59**	*eP*	**Pn**	**15 07 07.5**	**+0.5**
TA02				*eS*	**Sn**	**15 07 15.9**	**-0.2**
TA02				IAML		15 07 16.8	
comp=Z,2μm,0.1s
HMBC	**Humberstone**	**0.78**	**68**	*i P*	**Pn**	**15 07 10.3**	**+0.3**
HMBC				*eS*	**Sg**	**15 07 18.0**	**-1.1**
HMBC	**Humberstone**	**0.78**	**68**	*eP*	**Pn**	**15 07 10.2**	**+0.3**
HMBC				*eS*	**Sn**	**15 07 20.8**	**-0.5**
HMBC				IAML		15 07 21.7	
comp=Z,2μm,0.3s
PB02	**IPOC Station P**	**1.03**	**137**	*i P*	**Pn**	**15 07 16.0**	**+2.6**
PB02				*eS*	**Sn**	**15 07 28.6**	**+1.0**
PB02	**IPOC Station P**	**1.03**	**137**	*eP*	**Pb**	**15 07 11.0**	**-2.1**
PB02				IAML		15 07 31.2	
comp=Z,6μm,0.4s
PB01	**IPOC Station P**	**1.19**	**114**	*i P*	**Pg**	**15 07 17.1**	**+0.5**
PB01				IAML		15 07 33.5	
comp=E,2μm,0.4s
PB01	**IPOC Station P**	**1.19**	**114**	*eP*	**Pg**	**15 07 16.5**	**-0.1**
PB01				IAML		15 07 34.9	
comp=Z,1μm,0.3s
PB11	**IPOC Station P**	**1.24**	**50**	*i P*	**Pg**	**15 07 17.8**	**+0.2**
PB11				IAML		15 07 34.6	
comp=N,4μm,0.5s
PB11	**IPOC Station P**	**1.24**	**50**	*eP*	**Pg**	**15 07 17.7**	**+0.2**
PB11				*eS*	**Sb**	**15 07 31.8**	**-0.5**
PB11				IAML		15 07 33.8	
comp=Z,2μm,0.3s
PB08	**IPOC Station P**	**1.47**	**73**	*i P*	**Pb**	**15 07 21.2**	**+0.4**
PB08				*eS*	**Sn**	**15 07 37.4**	**-1.4**
PB08				IAML		15 07 38.0	
comp=N,2μm,0.2s
PB08	**IPOC Station P**	**1.47**	**73**	*eP*	**Pb**	**15 07 21.2**	**+0.4**
GO01	**Chusmiza**	**1.64**	**57**	*eP*	**Pb**	**15 07 23.9**	**+0.3**
GO01				IAML		15 07 43.4	
comp=N,3μm,0.1s
GO01	**Chusmiza**	**1.64**	**57**	*eP*	**Pb**	**15 07 24.3**	**+0.7**
GO01				IAML		15 07 47.0	
comp=Z,650nm,0.3s
PB03	**IPOC Station P**	**1.70**	**150**	*i P*	**Pg**	**15 07 26.8**	**+0.6**
PB03	**IPOC Station P**	**1.70**	**150**	*eP*	**Pn**	**15 07 21.5**	**-1.1**
PB03				*eS*	**Sn**	**15 07 43.0**	**-1.0**
PB03				IAML		15 07 53.8	
comp=Z,575nm,0.3s
PB09	**IPOC Station P**	**1.80**	**133**	*eP*	**Pg**	**15 07 28.4**	**+0.2**
PB09				IAML		15 07 53.6	
comp=E,1μm,0.4s
PB09	**IPOC Station P**	**1.80**	**133**	*eP*	**Pg**	**15 07 28.0**	**-0.2**
PB09				*eS*	**Sg**	**15 07 52.3**	**+0.7**
PB09				IAML		15 07 53.5	
comp=Z,1μm,0.4s
PB12	**IPOC Station P**	**1.97**	**9**	*eP*	**Pb**	**15 07 30.1**	**+1.0**
PB12				IAML		15 07 59.0	
comp=E,596nm,0.5s
PB12	**IPOC Station P**	**1.97**	**9**	*eP*	**Pb**	**15 07 30.2**	**+1.1**
PB12				*eS*	**Sg**	**15 07 56.2**	**-0.8**
PB12				IAML		15 08 02.0	
comp=Z,472nm,0.3s
AP01	**Chacalluta**	**2.21**	**8**	IAML		15 08 07.6	
comp=E,1μm,0.3s
AP01	**Chacalluta**	**2.21**	**8**	*eP*	**Pg**	**15 07 36.0**	**0.0**
AP01				*eS*	**Sg**	**15 08 03.5**	**-1.2**
AP01				IAML		15 08 10.7	
comp=Z,534nm,0.4s
PB06	**IPOC Station P**	**2.35**	**155**	*eP*	**Pb**	**15 07 35.7**	**0.0**
PB06				IAML		15 08 11.0	
comp=N,424nm,0.5s
PB06	**IPOC Station P**	**2.35**	**155**	*eP*	**Pn**	**15 07 29.7**	**-1.9**
PB06				*eS*	**Sg**	**15 08 09.7**	**+0.3**
PB06				IAML		15 08 12.0	
comp=Z,331nm,0.5s
PB16	**IPOC Station P**	**2.47**	**26**	*eP*	**Pb**	**15 07 37.5**	**-0.4**
PB16	**IPOC Station P**	**2.47**	**26**	*eP*	**Pb**	**15 07 37.6**	**-0.4**
PB16				*eS*	**Sb**	**15 08 09.7**	**+1.3**
PB16				*eS*	**Sg**	**15 08 11.0**	**-2.3**
PB16				IAML		15 08 16.4	
comp=Z,172nm,1.0s
PB10	**IPOC Station P**	**2.93**	**178**	*eP*	**Pn**	**15 07 35.9**	**-3.5**
PB10				*eS*	**Pg**	**15 07 53.3**	**+3.5**
PB18	**Visviri**	**3.17**	**21**	*eP*	**Pb**	**15 07 50.9**	**+1.2**

IDC 24 15:09:13.6±5.9, 5°77S×155°54E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=162.1km

s-min=43.7km az=110.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.96**	**234**	P	P	15 14 39.9	+0.8
0.5nm,0.4s,baz=59,slow=9.1,SNR=7.3
0.5nm,0.4s
ASAR	**Alice Springs**	**27.39**	**227**	P	P	15 15 00.2	-0.8
0.3nm,0.3s,baz=59,slow=9.3,SNR=13
0.3nm,0.3s
FITZ	**Fitzroy Crossi**	**31.65**	**245**	P	P	15 15 39.0	+0.1
0.7nm,0.3s,baz=60,slow=8.1,SNR=7.1
0.7nm,0.3s
MKAR	**Makanchi Array**	**82.85**	**318**	P	P	15 21 40.1	0.0
0.6nm,0.8s,baz=111,slow=7.9,SNR=2.6
0.6nm,0.8s

NEIC 24 15:19:01.3±2.6, 15°38S±0°04×173°0W±0°1, h10km±1km, mb4.3/4, Error ellipse: s-maj=21.3km s-min=6.4km az=99.0
IDC 24 15:19:07.0±8.4, 14°58S×174°25W, h0km, mb3.8/2, mbtmp3.8/2, MS3.0/1, Error ellipse: s-maj=347.3km s-min=66.7km az=138.0
ISC 24 15:19:02.5±0.9, 15°28S±0°08×172°82W±0°10, h29km, n13, σ1§34/11, mb4.1/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.70**	**37**		**Pb**	**15 19 33.2**	**+0.1**
AFI				Sn	**Sb**	**15 19 53.4**	**-0.6**
NIUE	**Niue**	**4.68**	**144**	Pn	**Pn**	**15 20 13.1**	**+1.9**
NIUE				Sn	**Sn**	**15 21 02.2**	**-2.4**
PPT	**Papeete**	**22.41**	**99**	LR	LR	15 30 24.3	
comp=Z,36nm,20.4s,baz=315,slow=28
PPT2	**Papeete2**	**22.41**	**99**	*e*LR	LR	15 29 18.3	
87nm,25.0s
PPT2				*e*LR	LR	15 29 26.5	
102nm,29.5s
TBI	**Tubuai**	**23.44**	**114**	*e*LR	LR	15 29 26.5	
316nm,29.2s
TBI				*e*LR	LR	15 29 53.7	
1μm,26.2s
TAOE	**Nuku Hiva Isla**	**32.55**	**82**	*e*LR	LR	15 33 58.9	
48nm,23.0s
PATS	**Pohnpei**	**36.07**	**305**	P	**P**	**15 26 01.5**	**-0.4**
WR8	**Warramunga Arr**	**50.26**	**257**	P	**P**	**15 27 55.4**	**-1.2**
WR8				IAmb	IAmb	15 28 07.5	
comp=Z,5.8nm,1.2s
WB0	**Warramunga Arr**	**50.38**	**257**	P	**P**	**15 27 56.7**	**-0.7**
WB0				IAmb	IAmb	15 28 30.5	
comp=Z,6.2nm,1.2s
WRA	**Warramunga Arr**	**50.41**	**257**	P	**P**	**15 27 58.0**	**+0.3**
comp=Z,0.5nm,0.5s,baz=91,slow=6.9,SNR=12
comp=Z,0.5nm,0.5s
AS31	**Alice Springs**	**50.68**	**252**	P	**P**	**15 27 58.7**	**-1.0**
AS31				IAmb	IAmb	15 28 04.6	
comp=Z,0.7nm,0.8s
ASAR	**Alice Springs**	**50.68**	**252**	P	**P**	**15 27 59.9**	**+0.2**
comp=Z,1.1nm,0.5s,baz=86,slow=7.8,SNR=49
comp=Z,1.1nm,0.5s
BRTR	**Keskin Array B**	**146.41**	**322**	PKPbc	**PKiKP**	**15 38 45.4**	**+1.2**
comp=Z,0.7nm,0.8s,baz=22,slow=3.2,SNR=3.1

IDC 24 15:23:57.1±54.0, 17°73S×176°84E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=949.3km s-min=156.1km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.78**	**239**	P	P	15 30 49.6	0.0
1.5nm,0.8s,baz=85,slow=11,SNR=1.1
1.5nm,0.8s
WRA	**Warramunga Arr**	**40.21**	**260**	P	P	15 31 36.2	+0.4
0.3nm,0.8s,baz=92,slow=7.8,SNR=1.6
0.3nm,0.8s
ASAR	**Alice Springs**	**40.48**	**254**	P	P	15 31 37.5	-0.5
1.9nm,0.5s,baz=87,slow=8.9,SNR=65
1.9nm,0.5s

UCR 24 15:28:58.8±1.3, 7°75N×82°58W, h43km±14km, MW3.7
UPA 24 15:29:00.9±1.0, 7°92N×82°44W, h37km±4km, ML3.9, MW3.7
ISC 24 15:28:59.0±1.2, 7°96N±0°05×82°38W±0°03, h11km±10km, n53, σ0§94/81, 11C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDE3	**Pedregal, Chir**	**0.43**	**354**	*eP*	**Pn**	**15 29 10.8**	**-0.4**
PEDE3				*eS*	**Sb**	**15 29 17.9**	**+2.7**
CHIR3	**Chiriqui UPA,**	**0.44**	**6**	*eP*	**Pn**	**15 29 11.3**	**0.0**
LOCO3	**Loma Colorada,**	**0.45**	**355**	*eP*	**Pn**	**15 29 11.3**	**-0.2**
LOCO3				*eS*	**Sb**	**15 29 18.7**	**+2.8**
LOMA3	**Las Lomas, Chi**	**0.47**	**358**	*eP*	**Pn**	**15 29 11.7**	**-0.1**
DVD	**David**	**0.48**	**351**	*eP*	**Pn**	**15 29 11.5**	**-0.5**
DVD				AMP		15 29 11.9	
comp=Z,7μm,0.2s
DVD				*eS*	**Sb**	**15 29 19.8**	**+3.0**
LMNES	**Limones**	**0.50**	**287**	*i P*	**Pg**	**15 29 10.4**	**+1.5**
LMNES				*eS*	**Sg**	**15 29 17.0**	**+1.5**
BAGA3	**Bagala, Chiriq**	**0.53**	**344**	*eP*	**Pn**	**15 29 12.3**	**-0.3**
BAGA3				*eS*	**Sb**	**15 29 19.0**	**+0.9**
GUAL3	**Gualaca, Chiri**	**0.58**	**8**	*eP*	**Pn**	**15 29 13.3**	**0.0**
REME3	**Remedios, Chir**	**0.60**	**63**	*eP*	**Pn**	**15 29 13.9**	**+0.3**
NANC3	**Nancito, Chiri**	**0.70**	**66**	*eP*	**Pn**	**15 29 15.0**	**+0.1**
JEFFS	**S de V. Baru**	**0.73**	**348**	*i P*	**Pn**	**15 29 15.2**	**-0.2**
JEFFS				*eS*	**Sn**	**15 29 27.4**	**+0.8**
LPPC	**Paso Canoas**	**0.73**	**321**	*eP*	**Pb**	**15 29 13.8**	**0.0**
LPPC				*eS*	**Sb**	**15 29 24.8**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.74**	**351**	*eP*	**Pn**	**15 29 15.4**	**-0.3**
PTAR3				*eS*	**Sn**	**15 29 26.3**	**-0.7**
BQSF3	**Alto Boquete,**	**0.78**	**356**	*eP*	**Pn**	**15 29 16.1**	**-0.1**
BQSF3				*eS*	**Sn**	**15 29 26.4**	**-1.6**
WILLF	**Boquete**	**0.79**	**356**	*i P*	**Pn**	**15 29 16.0**	**-0.4**
WILLF				*eS*	**Sn**	**15 29 28.2**	**-0.1**
BQTLY	**Boquete Panama**	**0.80**	**354**	*eP*	**Pn**	**15 29 16.0**	**-0.5**
BQTLY				*eS*	**Sn**	**15 29 29.5**	**+1.0**
DMCAL	**E. de Neily**	**0.82**	**330**	*i P*	**Pb**	**15 29 15.8**	**+0.4**
DMCAL				*eS*	**Sn**	**15 29 27.8**	**-1.1**
DAP26	**falda E V. Bar**	**0.83**	**357**	*i P*	**Pn**	**15 29 16.4**	**-0.5**
LNBQ3	**Los Naranjos,**	**0.83**	**355**	*eP*	**Pn**	**15 29 16.6**	**-0.3**
LNBQ3				AMP		15 29 18.4	
comp=Z,3μm,0.1s
LNBQ3				*eS*	**Sn**	**15 29 28.2**	**-1.1**
TBS2		**0.88**	**341**	*eP*	**Pn**	**15 29 17.4**	**-0.2**
BC3P	**Paso Ancho**	**0.89**	**345**	*eP*	**Pn**	**15 29 17.4**	**-0.3**
BC3P				*eS

CHIT3	Chitre	1.94	90	eP		Pn	15 29 31.7 -0.3
CHIT3				eS		Sn	15 29 56.8 +0.4
AZU	Azuero	2.09	94	eP		Pb	15 29 36.1 -0.9
AZU				eS		Sn	15 29 60.0 -0.1
AZU	Azuero	2.09	94	i/P		Pb	15 29 36.6 -0.3
BUS1	Rivas	2.09	320	eP		Pn	15 29 34.5 0.0
VERH	Veragua Rainfo	2.12	338	eP		Pn	15 29 35.3 +0.8
PIEC	Cerro El Cedra	2.28	317	eP		Pn	15 29 37.2 +0.3
LCOCO	El Coco	2.42	331	eP		Pb	15 29 40.9 -1.7
ABRB	Las Abras (San	2.43	327	eP		Pn	15 29 40.7 +1.8
CVTV	Tajo	2.45	326	eP		Pn	15 29 40.2 +0.9
VICA	Volcano Irazu	2.48	324	eP		Pn	15 29 38.8 -1.1
BCIP	Isla Barro Col	2.78	64	eP		Pb	15 29 47.8 -1.0

*DNK **24** 16:04:01.9±1.9, 51°.61N×16°.01E, h0km±91km, ML2.8*
*IDC **24** 16:04:03.1±0.8, 51°.58N×15°.88E, h0km, mbtmp3.6/7, ML3.1/7, Error ellipse: s-maj=14.7km s-min=7.7km az=96.0*
*IPEC **24** 16:04:03.5±0.2, 51°.56N×16°.20E, h1km, ML3.1/6, Error ellipse: s-maj=2.8km s-min=1.4km az=75.0*
*PRU **24** 16:04:04.2, 51°.55N×16°.15E, h0km*
*UPP **24** 16:04:07.8±3.4, 51°.90N×15°.41E, h0km, ML2.2, Presumed earthquake*

ISC 24 16:04:01.6±0.7, 51°.66N±0°.03×16°.14E±0°.02, h0km, n64, σ1§61/119, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.83	173	i Pg		Pg	16 04 17.7 +0.2
KSP				eSg		Sg	16 04 27.3 -0.9
CHVC	Chvalec	1.08	183	ePG		Pg	16 04 22.6 +0.3
CHVC				eSG		Sg	16 04 35.4 -0.8
	comp=Z,153nm,0.3s						
OSTC	Ostas	1.11	178	ePG		Pg	16 04 23.2 +0.3
OSTC				eSG		Sg	16 04 36.4 -0.8
	comp=Z,114nm,0.7s						
UPC	Upice	1.16	184	ePG		Pg	16 04 23.8 0.0
UPC				eSG		Sg	16 04 37.5 -1.4
DPC	Dobruska-Polom	1.32	175	ePG		Pg	16 04 26.5 -0.4
DPC				eSG		Sg	16 04 42.2 -1.8
	comp=Z,112nm,0.4s						
PIVO	Bartosovice	1.50	170	ePg		Pn	16 04 29.6 -0.2
PIVO	baz=351						
				eSg		Sg	16 04 47.0 -2.8
	280nm,0.4s,baz=351						
PVCC	Panska Ves	1.51	222	ePG		Pb	16 04 30.4 -0.1
PVCC				eSG		Sg	16 04 50.1 0.0
	comp=Z,414nm,0.2s						
BRG	Berggiesshubel	1.59	241	Pn		Pn	16 04 30.9 -0.2
BRG				Pg		Pg	16 04 32.8 +0.7
BRG				Sg		Sg	16 04 53.2 +0.5
BRG				Amp			16 04 55.1
	comp=Z,200nm,0.4s						
KRLC	Kraliky	1.64	165	ePG		Pn	16 04 31.7 -0.1
KRLC				eSG		Sn	16 04 52.3 -1.3
	comp=Z,142nm,0.4s						
RYBC	Ceska Rybna	1.86	182	ePn		Pn	16 04 34.6 -0.1
RYBC	baz=2.6						
				eSg		Sn	16 04 58.5 -0.4
	comp=Z,167nm,0.4s,baz=2.6						
PRA	Prague	1.93	215	ePN		Pn	16 04 35.6 -0.1
PRU	Pruhonice	1.96	212	ePN		Pn	16 04 36.0 -0.1
PRU				ePG		Pb	16 04 38.0 -0.2
PRU				eSG		Sb	16 05 02.6 -0.6
	comp=Z,102nm,0.6s						
CLL	Collm	2.00	261	i Pn		Pn	16 04 36.8 +0.2
CLL	comp=Z,34nm,0.4s						
				ePg		Pg	16 04 40.0 +0.2
CLL				i x		x	16 04 43.6
CLL				ex		x	16 04 55.0
CLL				eSg		Sg	16 05 06.0 +0.3
	comp=Z,136nm,0.4s						
HSKC	Hora Svate Kat	2.01	239	ePG		Pb	16 04 38.7 -0.3
HSKC				eSG		Sb	16 05 05.0 +0.4
	comp=Z,85nm,0.3s						
STEB	Steborice	2.02	149	ePN		Pn	16 04 36.7 -0.2
STEB				ePG		Pb	16 04 39.3 +0.2
STEB				eSG		Sb	16 05 04.7 -0.1
	comp=Z,157nm,0.5s						
MORC	Moravsky Berou	2.09	154	ePn		Pn	16 04 37.7 -0.2
MORC	baz=335						
				eSg		Sn	16 05 05.4 +0.8
	comp=Z,127nm,0.6s,baz=335						
OKC	Ostrava-Krasne	2.23	144	eSG		Sb	16 05 10.9 +0.1
VRAC	Vranov	2.38	173	Pn		Pn	16 04 42.2 +0.4
	comp=Z,4.5nm,0.3s,baz=351,slow=16,SNR=29						
VRAC				Pg		Pg	16 04 46.6 -0.5
	comp=Z,8.4nm,0.3s,baz=345,slow=16,SNR=19						
VRAC				Lg		Lg	16 05 16.0
	comp=Z,14nm,0.3s,baz=83,slow=20,SNR=10						
	comp=Z,22nm,0.3s						
VRAC	Vranov	2.38	173	ePn		Pn	16 04 42.0 +0.2
VRAC	baz=354						
				eSg		Sb	16 05 14.2 -0.9
	comp=Z,93nm,0.7s,baz=354						
TREC	Trest	2.41	190	eSG		Sb	16 05 16.4 +0.3
KRUC	Moravsky	2.61	176	ePn		Pn	16 04 45.2 +0.2
KRUC	baz=357						
				eSg		Sb	16 05 21.8 0.0
	comp=Z,59nm,0.6s,baz=357						
OJC	Ojcow	2.73	121	ePn		Pn	16 04 45.5 -1.2
OJC				ePg		Pg	16 04 53.5 -0.4
OJC				eSg		Sg	16 05 29.4 +0.3
JAVC	Velka Javorina	2.98	160	ePN		Pn	16 04 50.4 +0.3
JAVC	Velka Javorina	2.98	160	ePn		Pn	16 04 50.3 +0.2
	baz=341						
KHC	Kasperske Hory	3.02	214	ePN		Pn	16 04 50.7 0.0
KHC				ePG		Pb	16 04 56.7 +0.4
KHC				eSN		Sn	16 05 25.5 -2.1
KHC				eSG		Sb	16 05 35.7 +2.0
	comp=Z,47nm,0.4s						
GERES	GERESS Array B	3.23	210	Pn		Pn	16 04 53.1 -0.5
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=69						
GERES				Pg		Pb	16 05 00.8 +1.0
	comp=Z,1.4nm,0.3s,baz=32,slow=17,SNR=38						
GERES				Lg		Lg	16 05 41.6
	comp=Z,1.7nm,0.3s,baz=29,slow=25,SNR=13						
	comp=Z,7.3nm,0.3s						
LANS	Liptovska Anna	3.29	139	ePG		Pg	16 05 04.0 -0.7
LANS				eSG		Sg	16 05 45.0 -2.4
LANS				eLG		Lg	16 05 48.8
MODS	Modra-Piesok	3.38	167	ePG		Pg	16 05 05.5 -0.8
MODS				eSG		Sg	16 05 52.4 +2.4
NIE	Niedzica	3.48	129	ePg		Pg	16 05 08.2 0.0
NIE				eSg		Sg	16 05 52.8 -0.4
CONA	Conrad Observa	3.75	183	i Pn		Pn	16 05 01.2 +0.5
	comp=Z,3.2nm,0.2s,SNR=11						
CONA				eSn		Sn	16 05 49.0 +3.5
	comp=Z,19nm,0.4s						
CONA				eSg		Sg	16 05 58.4 -3.5
	comp=Z,39nm,0.4s						
STHS	Stebnicka Huta	3.96	123	ePG		Pg	16 05 19.6 +2.2
STHS				eSG		Sg	16 06 13.0 +4.4
RONA	Rosalia, Austr	3.97	179	ePn		Pn	16 05 04.1 +0.3
RONA	comp=Z,1.7nm,0.3s						
				Sg		Sb	16 06 04.5 +3.5
	comp=Z,18nm,0.4s						
MOA	Molln	4.01	198	i Pn		Pn	16 05 04.8 +0.5
MOA	comp=Z,15nm,0.3s,SNR=19						
				eSg		Sg	16 06 08.4 -1.9
	comp=Z,55nm,0.7s						
KECS	Kecovo	4.24	137	ePG		Pg	16 05 24.3 +1.5
LUNU	Lund	4.29	339	P		Pn	16 05 08.9 +0.9
LUNU	Lund	4.29	339	i P		Pn	16 05 08.9 +0.9
LUNU				P		Pn	16 05 08.9 +0.9
LUNU				i S		Sn	16 05 59.3 +0.6
BIOA	Bad Ischl, Aus	4.30	203	i Pn		Pn	16 05 08.6 +0.4
BIOA	comp=Z,10nm,0.4s						
				eSg		Sg	16 06 18.0 -1.6
	comp=Z,28nm,0.4s						
ARSA	Arzberg	4.44	185	ePn		Pn	16 05 12.0 +1.8
ARSA	comp=Z,5.1nm,0.3s,SNR=11						
				Sg		Sg	16 06 19.6 -4.4
	comp=Z,27nm,0.6s						
BJUU	Bjuv	4.79	339	P		Pn	16 05 15.4 +0.5
BJUU	Bjuv	4.79	339	i P		Pn	16 05 14.9 0.0
BJUU				P		Pn	16 05 15.4 +0.5
BJUU				i S		Sn	16 06 10.0 -1.1
LESA	Schwarzleotal	4.81	209	i Pn		Pn	16 05 15.6 +0.3
LESA	comp=Z,1.0nm,0.2s						
				eSg		Sg	16 06 34.5 -1.5
	comp=Z,13nm,0.4s						
KBA	Koelnbreinsper	4.94	203	i Pn		Pn	16 05 18.0 +0.8
	comp=Z,11nm,0.4s,SNR=26						
KBA				eSg		Sg	16 06 38.5 -1.8
	comp=Z,36nm,0.8s						
DEL	Delary	5.00	345	P		Pn	16 05 18.7 +0.9
DEL	Delary	5.00	345	P		Pn	16 05 18.7 +0.9
DEL				i P		Pn	16 05 19.0 +1.2
DEL				i S		Sn	16 06 15.8 -0.5
SOKA	Soboth	5.04	189	i Pn		Pn	16 05 20.0 +1.4
	comp=Z,1.8nm,0.3s						
WATA	Walderalm	5.25	216	ePn		Pn	16 05 22.5 +1.0
	comp=Z,1.6nm,0.2s						
WATA				eSg		Sg	16 06 51.8 +1.4
	comp=Z,18nm,0.6s						
OBKA	Obir	5.26	192	i Pn		Pn	16 05 24.9 +3.3
	comp=Z,0.9nm,0.3s						
OBKA				eSg		Sb	16 06 43.4 +5.1
	comp=Z,17nm,0.6s						
WTTA	Wattenberg	5.29	215	i Pn		Pn	16 05 23.7 +1.6
	comp=Z,1.3nm,0.2s						
WTTA				Sg		Sg	16 06 55.2 +3.6
	comp=Z,24nm,0.7s						
MYKA	Terra Mystica	5.30	199	ePn		Pn	16 05 25.1 +3.0
	comp=Z,1.6nm,0.3s						
VXJU	Vaexsjoe	5.32	353	P		Pn	16 05 23.9 +1.7
VXJU	Vaexsjoe	5.32	353	P		Pn	16 05 23.9 +1.7
MOTA	Moosalm	5.43	219	i Pn		Pn	16 05 25.9 +2.0
	comp=Z,3.7nm,0.4s						
ABTA	Abfaltersbach	5.47	207	ePn		Pn	16 05 25.6 +1.2
	comp=Z,1.1nm,0.2s						
ABTA				Sg		Sg	16 06 53.0 -4.2
	comp=Z,9.0nm,0.4s						
SQTA	Sankt Quirin	5.49	218	i Pn		Pn	16 05 26.4 +1.7
	comp=Z,3.1nm,0.2s,SNR=6.2						
SQTA				Sg		Sg	16 06 56.9 -1.0
	comp=Z,6.5nm,0.4s						
OSKU	Oskarshamn	5.54	360	P		Pn	16 05 27.3 +2.0
OSKU				S		Sn	16 06 27.9 -1.7
OSKU	Oskarshamn	5.54	360	P		Pn	16 05 27.3 +2.0
OSKU				S		Sn	16 06 27.9 -1.7
FABU	Falkenberg	5.71	341	i P		Pn	16 05 28.3 +0.7
FETA	Feichten	5.84	219	ePn		Pn	16 05 32.7 +3.1
FETA	comp=Z,2.9nm,0.6s						
				eSg		Sg	16 07 11.7 +2.6
	comp=Z,5.4nm,0.5s						
DAVA	Damuels	5.99	225	ePn		Pn	16 05 32.8 +1.2
DAVA	comp=Z,0.9nm,0.2s						
				eSg		Sg	16 07 15.0 +1.2
	comp=Z,12nm,0.6s						
AKASG	Malin Array Be	8.28	92	Pn		Pn	16 06 02.6 -0.2
	comp=Z,1.4nm,0.3s,baz=282,slow=12,SNR=6.8						
	comp=Z,1.2nm,0.5s						
HFS	Hagfors	8.60	352	Pn		Pn	16 06 06.4 -0.8
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=5.3						
	comp=Z,3.2nm,1.0s						
FINES	FINESS Array B	11.21	25	Pn		Pn	16 06 42.8 -0.2
	comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=11						
	comp=Z,2.0nm,0.8s						
EKA	Eskdalemuir Ar	12.06	295	Pn		Pn	16 06 52.3 -2.2
	baz=102,slow=14						
	comp=Z,0.3nm,0.3s						
ARCES	ARCESS Array B	18.47	10	Pn		P	16 08 15.7 -2.9
	baz=199,slow=13,SNR=2.2						
	comp=Z,4.7nm,1.1s						

*AEIC **24** 16:05:20.7±1.4, 54°.66N±0°.04×160°.12W±0°.04, h6km±6km, Error ellipse: s-maj=7.0km s-min=3.0km az=158.0*

NEIC 24 16:05:21.4±1.4, 54°.65N±0°.06×160°.14W±0°.09, h20km±8km, ML2.7/14, ML2.5(AEIC), Error ellipse: s-maj=10.2km s-min=5.9km az=145.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.36	62		Sg	16 05 34.1	-0.1
CNBA	Chernabura Isl	0.36	62		Pg	16 05 28.6	-0.4
CNBA				IAML		16 05 34.9	
	comp=E,248nm,0.2s						
CNBA				IAML		16 05 38.3	
	comp=N,216nm,0.4s						
SDPT	Sand Point	0.72	344		Pb	16 05 35.1	-0.3
SDPT					Sb	16 05 43.8	-1.1
SDPT				IAML		16 05 46.3	
	comp=N,93nm,0.9s						
DOL	Dolgoi Island	1.11	297		Pn	16 05 41.3	-0.7
DOL					Sg	16 05 57.5	-0.2
PVV	Pavlof Volcano	1.20	308		Pn	16 05 42.8	-0.2
PS1A	Pavlof South-1	1.20	310		Pn	16 05 43.2	+0.1
PS1A					Sg	16 06 00.6	+0.1
PS4A	Pavlof South-4	1.21	306		Pb	16 05 43.7	+0.1
DT1	Dutton Round H	1.32	291		Pn	16 05 44.4	-0.4
PN7A	Pavlof North-7	1.33	307		Pb	16 05 45.8	+0.2
VNKR	Veniaminof 5	1.45	17		Pn	16 05 46.6	+0.1
S12K	Black Hills	1.52	314		Pn	16 05 47.4	-0.2
S12K				IAML		16 06 13.8	
	comp=E,95nm,0.8s						
S12K				IAML		16 06 19.5	
	comp=N,90nm,1.1s						
VNWF	Veniaminof 8	1.54	12		Pn	16 05 48.2	+0.4
VNWF					Sg	16 06 10.1	-1.0
VNHG	Veniaminof 1	1.67	19		Pn	16 05 49.8	+0.2
FALS	False Pass	1.91	277	Pn	Pn	16 05 51.2	-1.6
CHIR	Chirikof Islan	2.84	64	Pn	Pn	16 06 04.3	-1.3
CHIR				IAML		16 06 39.4	
	comp=E,89nm,1.1s						
O15K	Ungalikthiuk R	4.54	2	Pn	Pn	16 06 28.9	0.0
O15K				IAML		16 07 08.5	
	comp=E,11nm,1.1s						
O15K				IAML		16 08 05.3	
	comp=N,10nm,1.2s						
P16K	Nushagak River	4.54	14	Pn	Pn	16 06 28.7	-0.3
O14K	Tigyukauivet M	4.65	353	Pn	Pn	16 06 30.5	0.0
N14K	Kuskokwak Cree	5.35	352	Pn	Pn	16 06 39.9	-0.2
N15K	Kwethluk River	5.53	0	Pn	Pn	16 06 42.6	0.0
N17K	Nushagak Hills	6.10	14	Pn	Pn	16 06 49.4	-1.0
M14K	Bethel	6.19	352	Pn	Pn	16 06 50.8	-0.8
M16K	Timber Creek	6.42	5	Pn	Pn	16 06 54.6	-0.1
ILSW	Iliamna Southw	6.55	32	Pn	Pn	16 06 57.8	+1.1
K13K	Kusilvak Mount	7.68	344	Pn	Pn	16 07 12.4	+0.5

AUST 24 16:27:53.3±0.3, 24°.S±2°.×14°.1E±°., h10km, mb3.7/5, ML3.2/10, Error ellipse: s-maj=6.1km s-min=5.3km az=100.9, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	Quilpie	3.39	133	P	Pn	16 28 46.7	+0.5
QLP	Quilpie	3.39	133	S	Sn	16 29 26.7	+0.3
INKA	Innaminka	3.50	191	P	Pn	16 28 46.2	-1.6
AXCOZ	Aramac airstri	3.71	70	P	Pn	16 28 52.0	+1.4
AXCOZ				S	Sn	16 29 35.1	+0.7
QIS	Mount Isa	4.09	335	P	Pn	16 28 57.0	+1.0
OOD	Oodnadatta	6.27	235	P	Pn	16 29 25.5	-0.3
	comp=Z,0.0nmcomp=Z,3.1nm,1.4s						
NTNOZ	Mutton Hole St	6.63	358	P	Pn	16 29 30.4	-0.4
	comp=Z,0.3nmcomp=Z,129nm,1.2s						
MTSU	Mount Surprise	6.67	24	P	Pn	16 29 31.5	0.0
	comp=Z,0.0nmcomp=Z,6.7nm,1.1s						
MTSU	Mount Surprise	6.67	24	S	Sn	16 30 47.1	-0.5
WRAB	Tennant Creek	7.89	302	P	Pn	16 29 47.5	-0.7
	comp=Z,0.0nmcomp=Z,7.0nm,1.6s						
CMSA	Cobar Meteorol	8.13	154	P	Pn	16 29 52.0	+0.6
CMSA	Cobar Meteorol	8.13	154	S	Sn	16 31 19.7	-3.7
MULG	Mulgathing	8.89	226	P	Pn	16 30 02.7	+0.8
	comp=Z,0.0nmcomp=Z,15nm,2.0s						
WRKA	Warakurna	12.01	264	P	Pn	16 30 43.6	-1.0

*IDC **24** 16:38:32.7±4.1, 26°.66N×139°.69E, h328km±50km, mb2.9/5, mbtmp3.7/7, Error ellipse: s-maj=87.6km s-min=24.6km az=75.0*

ISC 24 16:38:33.7±1.9, 26°.8N±0°.2×140°.0E±0°.5, h350km, n7, σ1§05/7, mb3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Ar	9.87	352	P	P	16 40 51.4	-0.1
	0.7nm,0.4s,baz=161,slow=8.6,SNR=1.9						
USRK	Ussuriysk Ar.	18.56	342	P	P	16 42 25.2	-1.2
	1.7nm,0.5s,baz=150,slow=9.8,SNR=7.5						
SONM	Songino Array	33.62	318	P	P	16 44 42.1	-0.4
	0.3nm,0.4s,baz=124,slow=7.2,SNR=2.4						
	0.3nm,0.4s						
WRA	Warramunga Arr	46.75	187	P	P	16 46 28.8	-0.5
	0.4nm,0.9s,baz=18,slow=8.9,SNR=1.8						
	0.4nm,0.9s						
MKAR	Makanchi Array	49.18	310	P	P	16 46 48.0	+0.5
	0.1nm,0.4s,baz=91,slow=10.0,SNR=1.3						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	51.88	315	P	P	16 47 07.2	0.0
	0.7nm,0.4s,baz=92,slow=7.9,SNR=6.4						
	0.7nm,0.4s						
FINES	FINESS Array B	77.37	333	P	P	16 49 51.9	+1.5
	2.6nm,1.0s,baz=56,slow=6.1,SNR=4.2						
	2.6nm,1.0s						

*IDC **24** 16:55:00.5±3.1, 32°.70N×140°.02E, h0km, mb3.6/2, mbtmp3.5/3, ML2.5/1, MS3.2/1, Error ellipse: s-maj=168.2km s-min=33.1km az=79.0*
*JMA **24** 16:55:05.4±0.1, 33°.2N±0°.4×14°.1E±°., h61km±3km, MV3.3/32, E OFF HACHIJOJIMA ISLAND*

ISC 24 16:55:05.2±1.4, 33°.15N±0°.05×140°.6E±0°.1, h60km±14km, n16, σ1§00/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.64	266	P	Pn	16 55 19.1	+0.4
JHJ2				S	Sn	16 55 29.1	+0.6
JHCJ	Hachijojimakas	0.66	263	eS	Sn	16 55 28.5	-0.4
JAOM	Aogashimamukai	0.97	225	eP	Pn	16 55 23.4	+0.5
JAOM				eS	Sn	16 55 36.0	+0.1
JMKN	Mikurajimanish	1.10	312	P	Pn	16 55 24.5	-0.1
JMKN				S	Sn	16 55 37.7	-1.3
JMYK	Miyake Tsubota	1.25	317	eP	Pn	16 55 26.4	0.0
JMYK				eS	Sn	16 55 41.6	-0.7
BSO1	Boso 1	1.53	13	P	Pn	16 55 29.6	-0.1
BSO3	Boso 3	1.65	358	P	Pn	16 55 31.8	+0.3
BSO3				eS	Sn	16 55 52.1	+0.5
JIM2	Oshima 3	1.83	329	eP	Pn	16 55 34.3	0.0
JIM2				eS	Sn	16 55 55.9	-0.5
BSO4	Boso 4	1.84	354	eP	Pn	16 55 35.0	+0.6
JIZS	Izushimoda	2.10	318	eP	Pn	16 55 38.8	+0.7
JIZS				eS	Sn	16 56 02.6	-0.5
KTJ3	Kamata3	2.17	325	eP	Pn	16 55 39.4	+0.4
KTJ3				eS	Sn	16 56 03.5	-1.2
JOD2	Odawara 2	2.44	330	eP	Pn	16 55 43.1	+0.5
JOD2				eS	Sn	16 56 09.7	-1.6
MJAR	Matsushiro Arr	3.90	331	Pn	Pn	16 56 04.5	+1.9
	0.3nm,0.3s,baz=156,slow=13,SNR=5.4						
MJAR				Sn	Sn	16 56 49.9	+2.7
	0.1nm,0.3s,baz=142,slow=18,SNR=4.2						
	3.4nm,0.5s						
WRA	Warramunga Arr	53.13	187	P	P	17 04 16.3	-0.6
	0.4nm,0.4s,baz=4.2,slow=7.5,SNR=13						
	0.4nm,0.4s						
ILAR	Eielson Array	53.15	31	LR	LR	17 31 08.3	
	comp=Z,24nm,18.8s,baz=87,slow=40						
ASAR	Alice Springs	56.86	187	P	P	17 04 43.3	-0.5
	0.3nm,0.5s,baz=3.6,slow=6.2,SNR=12						
	0.3nm,0.5s						

*UPP **24** 17:00:50.2±0.1, 67°.06N×20°.97E, h0km, ML2.0, Suspected explosion*
*HEL **24** 17:00:51.0±0.3, 67°.07N×20°.97E, h0km, ML1.9, Suspected explosion*
*IDC **24** 17:00:51.4±1.1, 67°.12N×20°.94E, h0km, mbtmp3.1/4, ML1.8/4, Error ellipse: s-maj=21.9km s-min=9.6km az=111.0*

ISC 24 17:00:50.4±0.8, 67°.07N±0°.02×20°.91E±0°.03, h0km, n46, σ1§27/61, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.14	291	P	Pg	17 00 53.6	+0.5
MASU	Masugnsbyn	0.57	47	P	Pg	17 01 01.1	-0.3
ERTU	Ertsjaerv	0.73	135	P	Pg	17 01 03.3	-1.0
ERTU	Ertsjaerv	0.73	135	PG	Pg	17 01 03.3	-1.0
ERTU				SG	Sg	17 01 10.8	-2.9
PAJU	Pajala	0.86	92	P	Pg	17 01 05.9	-1.1
PAJU	Pajala	0.86	92	PG	Pg	17 01 05.8	-1.1
PAJU	baz=272						
PAJU				SB	Sg	17 01 19.4	+1.3
HARU	Harads	0.91	178	P	Pg	17 01 07.0	-0.9
KUA	Kurravaara	0.91	346	P	Pg	17 01 07.2	-0.7
	baz=190						
SALU	Saltoluokta	0.98	289	P	Pg	17 01 09.0	-0.3
SALU	Saltoluokta	0.98	289	eP	Pb	17 01 09.6	-0.8
LANU	Lannavaara	1.06	23	P	Pg	17 01 09.7	-1.1
LANU	Lannavaara	1.06	23	PG	Pg	17 01 09.7	-1.1
LANU				SN	Sn	17 01 26.9	-1.2
NIKU	Nikkaluokta	1.08	319	P	Pg	17 01 10.4	-0.7
KOVU	Salmi	1.19	346	P	Pg	17 01 12.4	-0.8
	baz=181						
KALU	Kalix	1.56	140	P	Pn	17 01 18.4	-1.0
KALU	Kalix	1.56	140	PG	Pn	17 01 18.5	-0.9
KALU				SG	Sn	17 01 38.8	-1.5
SJUU	Sjulsmark	1.60	170	P	Pn	17 01 19.2	-0.6
TOF	Tornio	1.69	125	PG	Pn	17 01 20.7	-0.4
TOF				MSG		17 01 41.0	
	comp=Z,8.0nm,0.2s						
TOF				SG	Sn	17 01 42.5	-0.9
HEF	Hetta	1.70	37	eP	Pn	17 01 21.0	-0.3
HEF	Hetta	1.70	37	PG	Pn	17 01 21.2	-0.2
	baz=219						
HEF				SG	Sn	17 01 41.4	-2.4
HEF				MSG		17 01 41.5	
	comp=Z,10nm,0.2s						
KIF	Kilpisjarvi	1.94	359	PG	Pb	17 01 26.1	-0.5
KIF				MSG		17 01 50.1	
	comp=Z,16nm,0.2s						
KIF				SG	Sg	17 01 53.2	+0.5
RNF	Rovaniemi	2.07	101	PG	Pn	17 01 26.8	+0.4
RNF				SG	Sb	17 01 55.6	+0.6
BURU	Burvik	2.51	175	PB	Pn	17 01 33.2	+0.9
RANF	Ranua	2.58	112	PN	Pn	17 01 33.3	-0.1
RANF	baz=294						
RANF				SG	Sb	17 02 10.0	+0.3
TRO	Tromso	2.68	345	SG	Sg	17 02 14.8	-1.5
OBF4	Vikkela, Lumij	2.84	141	PN	Pn	17 01 37.4	+0.4
OBF4				MSG		17 02 14.2	
	comp=Z,2.5nm,0.2s						
OUL	Oulu	2.85	132	PB	Pn	17 01 38.6	+1.6
OBF0	Syolatti, Pyha	2.93	151	PB	Pn	17 01 40.5	+2.4
OBF0				MSG		17 02 16.5	
	comp=Z,2.8nm,0.2s						
ARA0	ARCESS Array S	3.01	33	PN	Pn	17 01 39.6	+0.4
ARA0				SB	Sb	17 02 20.6	-1.3
ARCES	ARCES

*UCR **24** 17:11:19.2±1.1, 10°.04N×86°.18W, h0km±6km, MW4.6*
*CATAC **24** 17:11:21.5±0.8, 10°.N±4°.×8°.6W±°., h17km±5km, M3.9/9, MLv3.9/9, Error ellipse: s-maj=9.2km s-min=5.3km az=31.2, confirmed*
*IDC **24** 17:11:23.2±2.3, 11°.29N×85°.02W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=98.5km s-min=16.0km az=76.0*
ISC 24 17:11:21.8±1.8, 10°.08N±0°.05×86°.06W±0°.05, h10km±11km, n83, σ0$71/90, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.51**	**69**	*eP*	**Pb**	**17 11 33.5**	**+0.6**
SACU				*eS*	**Sn**	**17 11 43.7**	**-0.2**
JUD3	**Juan Diaz 3**	**0.52**	**80**	*eP*	**Pb**	**17 11 33.6**	**+0.4**
JUD3				*eS*	**Sn**	**17 11 43.2**	**-1.2**
NICO	**Nicoya**	**0.61**	**85**	*eP*	**Pb**	**17 11 34.6**	**0.0**
NICO				*eS*	**Sn**	**17 11 45.5**	**-1.0**
DELF	**Filadelfia**	**0.62**	**54**	*eP*	**Pg**	**17 11 33.9**	**0.0**
ALIBA	**Liberia Airpor**	**0.72**	**45**	*eP*	**Pn**	**17 11 37.4**	**-0.7**
ELI1	**Hacienda Flor**	**0.76**	**42**	P	**Pn**	**17 11 38.3**	**-0.3**
ELI1	**Hacienda Flor**	**0.76**	**42**	S	**Sn**	**17 11 49.6**	**-0.4**
ELI1	**Hacienda Flor**	**0.76**	**42**	*eP*	**Pn**	**17 11 38.2**	**-0.3**
ERIA	**Liberia**	**0.83**	**48**	*eP*	**Pn**	**17 11 39.0**	**-0.6**
BAGA	**Bagaces**	**0.91**	**60**	*eP*	**Pb**	**17 11 39.9**	**+0.2**
LAPC	**Finca la Perla**	**0.92**	**42**	*eP*	**Pb**	**17 11 39.9**	**-0.1**
GPS3	**Bodega del ICE**	**0.96**	**45**	*eP*	**Pn**	**17 11 42.6**	**+1.1**
GPS3				*eS*	**Sn**	**17 11 55.8**	**+0.5**
GPS2	**Hotel Rincn d**	**0.97**	**46**	*eP*	**Pb**	**17 11 40.8**	**0.0**
VRLE	**La Escondida,**	**0.98**	**44**	*eP*	**Pg**	**17 11 40.9**	**+0.1**
CNAS	**Canas**	**1.02**	**70**	*eP*	**Pn**	**17 11 42.5**	**+0.3**
VORI	**VORI**	**1.02**	**44**	*eP*	**Pg**	**17 11 41.6**	**+0.1**
CUI	**Cuipilapa**	**1.05**	**57**	*eP*	**Pg**	**17 11 42.1**	**-0.1**
INVE	**Universidad In**	**1.06**	**68**	*eP*	**Pg**	**17 11 42.1**	**-0.1**
BUAI	**Buenos Aires**	**1.07**	**42**	*eP*	**Pb**	**17 11 42.2**	**-0.3**
CBL1	**Cabuya**	**1.07**	**117**	*eP*	**Pb**	**17 11 42.1**	**-0.4**
MESS	**Mesas**	**1.08**	**52**	*eP*	**Pb**	**17 11 42.4**	**-0.2**
LCRUZ	**La Cruz**	**1.08**	**23**	*eP*	**Pb**	**17 11 42.4**	**-0.3**
JUNT	**Juntas**	**1.10**	**79**	*eP*	**Pb**	**17 11 42.4**	**-0.6**
JTS	**Las Juntas de**	**1.11**	**79**	Pg	**Pb**	**17 11 42.3**	**-0.9**
	31nm,0.3s,baz=249,slow=6.1,SNR=111						
JTS	**Las Juntas de**	**1.11**	**79**	P	**Pb**	**17 11 42.3**	**-0.9**
JTS				S	**Sn**	**17 11 58.9**	**0.0**
JTS	**Las Juntas de**	**1.11**	**79**	*eP*	**Pb**	**17 11 42.0**	**-1.2**
TILA	**Tilaran**	**1.14**	**70**	*eP*	**Pb**	**17 11 43.1**	**-0.6**
TIMP	**Tierras Morena**	**1.14**	**64**	*eP*	**Pb**	**17 11 43.1**	**-0.6**
MOTZ	**Rio Naranjo**	**1.15**	**58**	*eP*	**Pb**	**17 11 43.5**	**-0.3**
VMAR	**Armenia, Volca**	**1.19**	**52**	*eP*	**Pb**	**17 11 44.4**	**-0.1**
CHIK	**Chiripa**	**1.19**	**72**	*eP*	**Pb**	**17 11 43.9**	**-0.7**
CARN	**Rivas**	**1.22**	**26**	P	**Pn**	**17 11 45.1**	**0.0**
CARN				S	**Sn**	**17 12 01.8**	**+0.1**
CARN	**Rivas**	**1.22**	**26**	*eP*	**Pn**	**17 11 44.2**	**-0.8**
TENO	**El Achiote**	**1.24**	**60**	*eP*	**Pn**	**17 11 43.8**	**-1.4**
MTEVE	**Monteverde**	**1.24**	**79**	*eP*	**Pn**	**17 11 44.3**	**-1.1**
QUEB	**Quebradon, Cot**	**1.27**	**65**	*eP*	**Pn**	**17 11 45.2**	**-0.5**
TABAC	**Tabacon**	**1.34**	**72**	*eP*	**Pn**	**17 11 46.2**	**-0.6**
ARE1	**Arenal 1**	**1.38**	**74**	*eP*	**Pn**	**17 11 47.1**	**-0.1**
VARE2	**V. Arenal**	**1.38**	**74**	*eP*	**Pb**	**17 11 47.3**	**-0.4**
CEDE	**Laguna Cedeo**	**1.40**	**73**	*eP*	**Pn**	**17 11 47.5**	**0.0**
REZ	**Monterrey de S**	**1.42**	**71**	*eP*	**Pb**	**17 11 48.2**	**-0.1**
VACR	**Volcan Arenal**	**1.42**	**74**	*eP*	**Pg**	**17 11 50.7**	**+1.6**
FORC	**Fortuna**	**1.42**	**74**	*eP*	**Pb**	**17 11 48.0**	**-0.5**
SOCE	**Pocosol**	**1.45**	**78**	P	**Pn**	**17 11 48.0**	**-0.2**
SOCE	**Pocosol**	**1.45**	**78**	S	**Sn**	**17 12 07.1**	**-0.3**
SOCE	**Pocosol**	**1.45**	**78**	*eP*	**Pn**	**17 11 48.0**	**-0.2**
OMEN	**Al SSO del Vol**	**1.49**	**17**	P	**Pn**	**17 11 47.4**	**-1.2**
MORN	**Al O del Volca**	**1.52**	**16**	P	**Pn**	**17 11 49.1**	**0.0**
CONN	**Concepcion**	**1.54**	**16**	P	**Pn**	**17 11 49.1**	**-0.3**
QUEU	**Ciudad Quesada**	**1.62**	**81**	*eP*	**Pb**	**17 11 51.2**	**-0.7**
VPL2	**V. Platanar**	**1.67**	**82**	*eP*	**Pn**	**17 11 51.7**	**+0.4**
VPL1	**V. Platanar**	**1.68**	**84**	*eP*	**Pn**	**17 11 51.8**	**+0.3**
COVE	**Coope Vega, Sa**	**1.75**	**69**	S	**Sb**	**17 12 15.9**	**-0.4**
VPS8	**V Poas**	**1.79**	**87**	*eP*	**Pn**	**17 11 53.6**	**+0.4**
ARTO	**Ro Cuarto**	**1.84**	**82**	*eP*	**Pn**	**17 11 54.0**	**+0.5**
ACOS	**Acosta**	**1.89**	**98**	*eP*	**Pn**	**17 11 54.6**	**+0.2**
PICV	**PH. Pirrs**	**1.89**	**104**	*eP*	**Pn**	**17 11 53.7**	**-0.6**
UNAN	**Cigeo UNAN**	**2.03**	**354**	S	**Sn**	**17 12 21.9**	**+0.2**
WILN	**Americas 2**	**2.07**	**357**	S	**Sn**	**17 12 23.3**	**+0.7**
CVIMO	**Finca Echandi**	**2.09**	**91**	*eP*	**Pn**	**17 11 58.2**	**+1.1**
PIEC	**Cerro El Cedra**	**2.12**	**102**	*eP*	**Pn**	**17 11 57.1**	**-0.6**
COPN	**Copaltepe**	**2.15**	**346**	P	**Pn**	**17 11 57.4**	**-0.4**
COPN	**Copaltepe**	**2.15**	**346**	*eP*	**Pn**	**17 11 57.5**	**-0.4**
VICA	**Volcano Irazu**	**2.19**	**92**	*eP*	**Pn**	**17 11 59.0**	**+0.4**
CVTQ	**Turrialba Volc**	**2.26**	**92**	*eP*	**Pn**	**17 12 00.4**	**+0.7**
VTRO	**Volcan Turrial**	**2.27**	**91**	*eP*	**Pb**	**17 12 01.7**	**-1.4**
CVTR	**Volcan Turrial**	**2.27**	**91**	*eP*	**Pn**	**17 12 01.1**	**+1.4**
CVTV	**Tajo**	**2.28**	**92**	*eP*	**Pb**	**17 12 01.4**	**-1.8**
ABRB	**Las Abras (San**	**2.31**	**92**	*eP*	**Pn**	**17 12 01.7**	**+1.5**
TRT2	**Tortugero**	**2.34**	**78**	P	**Pn**	**17 12 01.5**	**+1.2**
TRT2	**Tortugero**	**2.34**	**78**	*eP*	**Pn**	**17 12 01.7**	**+1.3**
BUS1	**Rivas**	**2.34**	**103**	*eP*	**Pn**	**17 12 00.1**	**-0.7**
MOM2	**El Cardon**	**2.38**	**350**	P	**Pn**	**17 12 00.7**	**-0.3**
MOM2				S	**Sn**	**17 12 30.4**	**+0.2**
LCOCO	**El Coco**	**2.47**	**90**	*eP*	**Pn**	**17 12 03.2**	**+1.1**
EDPE	**Pejibaye, P**	**2.62**	**110**	*eP*	**Pn**	**17 12 05.4**	**+1.1**
VERH	**Veragua Rainfo**	**2.83**	**93**	*eP*	**Pn**	**17 12 07.6**	**+0.4**
DRK0	**Durika**	**2.89**	**106**	*eP*	**Pn**	**17 12 07.8**	**-0.4**
LAES	**El Progreso Va**	**2.99**	**96**	*eP*	**Pn**	**17 12 10.1**	**+0.8**
PIRO	**Carate, Puerto**	**3.16**	**121**	*eP*	**Pn**	**17 12 12.3**	**+0.5**
CSGN	**Cosiguina Volc**	**3.23**	**333**	*eP*	**Pn**	**17 12 12.0**	**-0.8**
TXAR	**Lajitas Array**	**25.27**	**322**	P	**P**	**17 16 49.5**	**+1.0**
	1.1nm,0.6s,baz=132,slow=9.1,SNR=6.8						
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	**40.38**	**320**	P	**P**	**17 19 00.6**	**+0.3**
	0.4nm,0.4s,baz=126,slow=6.8,SNR=5.3						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**151.22**	**350**	PKPbc	**PKiKP**	**17 31 16.7**	**-0.4**
	0.4nm,0.7s,baz=13,slow=3.9,SNR=5.0						

*NEIC **24** 17:37:33.7±2.8, 12°.6N±0°.1×143°.29E±0°.08, h35km±2km, mb4.6/22, Error ellipse: s-maj=24.5km s-min=3.2km az=147.0*
*IDC **24** 17:37:37.0±2.4, 12°.39N×143°.70E, h73km±27km, mb3.6/9, mbtmp3.9/9, MS3.4/14, Error ellipse: s-maj=33.7km s-min=15.5km az=100.0*
ISC 24 17:37:31.3±0.6, 12°.34N±0°.10×143°.40E±0°.09, h27km, n52, σ2$12/38, mb4.3/20, MS3.4/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.89**	**49**		**Pn**	**17 38 01.2**	**-0.7**
GUMO	**Guam**	**1.89**	**49**	P	**Pn**	**17 38 01.9**	**0.0**
	292nm,0.6s,baz=311,slow=6.8,SNR=30						
GUMO				S	**Sn**	**17 38 24.8**	**-0.1**
	622nm,0.5s,baz=37,slow=17,SNR=17						
GUMO				LR	LR	17 38 43.8	
	comp=Z,568nm,19.6s,baz=220,slow=40						
PATS	**Pohnpei**	**15.68**	**109**	Pn	**Pn**	**17 41 07.0**	**-3.5**
FAKI	**Fak Fak**	**18.78**	**217**	P	**P**	**17 41 46.0**	**-2.7**
FAKI				IAmb	IAmb	17 42 21.6	
	comp=Z,80nm,1.5s						
JOW	**Kunigami**	**20.24**	**318**	P	**P**	**17 41 59.1**	**-5.5**
JOW				IAmb	IAmb	17 42 21.5	
	comp=Z,30nm,0.8s						
JOW	**Kunigami**	**20.24**	**318**	LR	LR	17 50 42.2	
	comp=Z,70nm,18.7s,baz=66,slow=38						
H11S3	**WAKE ISLAND Hy**	**23.25**	**72**	T	T	18 06 51.0	
	baz=258,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**23.27**	**72**	T	T	18 06 50.3	
	baz=258,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**23.27**	**72**	T	T	18 06 53.7	
	baz=258,slow=75,SNR=18						
JNU	**Nakatsue**	**23.65**	**333**	P	**P**	**17 42 39.7**	**-0.9**
JNU				IAmb	IAmb	17 43 07.7	
	comp=Z,38nm,1.3s						
JNU	**Nakatsue**	**23.65**	**333**	LR	LR	17 50 14.6	
	comp=Z,53nm,18.8s,baz=168,slow=32						
H11N1	**WAKE ISLAND Hy**	**23.72**	**69**	T	T	18 07 16.9	
	baz=255,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**23.73**	**69**	T	T	18 07 17.3	
	baz=255,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**23.73**	**69**	T	T	18 07 20.4	
	baz=255,slow=75,SNR=18						
LUWI	**Luwuk**	**24.42**	**238**	P	**P**	**17 42 47.7**	**-0.2**
MJAR	**Matsushiro Arr**	**24.55**	**350**	LR	LR	17 51 55.5	
	comp=Z,99nm,18.3s,baz=162,slow=35						
TOLI2	**Tolitoli**	**25.05**	**245**	P	**P**	**17 42 54.0**	**+0.4**
TOLI2				IAmb	IAmb	17 43 06.0	
	comp=Z,6.7nm,0.9s						
HNR	**Honiara**	**27.16**	**142**	LR	LR	17 52 51.9	
	comp=Z,42nm,21.4s,baz=66,slow=34						
MTN	**Manton Dam**	**27.82**	**206**	P	**P**	**17 43 20.1**	**+1.6**
MTN				IAmb	IAmb	17 43 38.6	
	comp=Z,21nm,1.5s						
KAPI	**Kappang**	**29.16**	**235**	LR	LR	17 56 04.6	
	comp=Z,95nm,18.1s,baz=86,slow=38						
WB0	**Warramunga Arr**	**33.11**	**196**	P	**P**	**17 44 06.8**	**+1.5**
WB0				IAmb	IAmb	17 44 15.6	
	comp=Z,13nm,1.3s						
WR8	**Warramunga Arr**	**33.27**	**195**	P	**P**	**17 44 07.5**	**+0.9**
WRAB	**Tennant Creek**	**33.28**	**196**	P	**P**	**17 44 07.8**	**+1.1**
WRAB				IAmb	IAmb	17 44 24.2	
	comp=Z,4.5nm,0.7s						
WRA	**Warramunga Arr**	**33.30**	**196**	P	**P**	**17 44 08.8**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=20,slow=9.7,SNR=28						
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**34.96**	**210**	P	**P**	**17 44 23.5**	**+2.2**
AS31	**Alice Springs**	**36.97**	**195**	P	**P**	**17 44 41.0**	**+2.5**
ASAR	**Alice Springs**	**36.97**	**195**	P	**P**	**17 44 40.6**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=18,slow=12,SNR=25						
	comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**42.24**	**13**	LR	LR	18 00 49.5	
	comp=Z,42nm,19.9s,baz=187,slow=33						
CMAR	**Chiang Mai Arr**	**43.21**	**284**	P	**P**	**17 45 27.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**43.21**	**284**	P	**P**	**17 45 34.2**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=87,slow=6.3,SNR=6.7						
CMAR				LR	LR	18 03 08.7	
	comp=Z,41nm,20.0s,baz=240,slow=35						
	comp=Z,0.2nm,0.3s						
CHTO	**Chiang Mai**	**43.22**	**284**	P	**P**	**17 45 28.5**	**-2.0**
SONM	**Songino Array**	**46.95**	**326**	P	**P**	**17 46 02.7**	**+2.8**
	comp=Z,0.4nm,0.5s,baz=142,slow=6.0,SNR=2.4						
SONM				LR	LR	18 05 29.4	
	comp=Z,46nm,19.7s,baz=170,slow=36						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**61.81**	**325**	P	**P**	**17 47 47.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=100,slow=7.5,SNR=1.9						
ZALV				PcP	**PcP**	**17 48 27.3**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=151,slow=3.3,SNR=2.3						
ZALV				LR	LR	18 14 49.9	
	comp=Z,32nm,18.8s,baz=42,slow=36						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**64.62**	**320**	P	**P**	**17 48 03.8**	**-2.6**
KURK				IAmb	IAmb	17 48 26.5	
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**64.66**	**320**	P	**P**	**17 48 08.4**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=104,slow=6.7,SNR=6.4						
	comp=Z,0.9nm,0.5s						
RAR	**Rarotonga**	**65.00**	**120**	LR	LR	18 12 17.2	
	comp=Z,28nm,21.9s,baz=266,slow=32						
D23K	**Nanushuk River**	**70.00**	**21**	P	**P**	**17 48 39.2**	**-1.0**
BVAR	**Borovoye Array**	**70.03**	**322**	P	**P**	**17 48 41.4**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=100,slow=7.1,SNR=6.8						
BVAR				LR	LR	18 21 33.7	
	comp=Z,56nm,18.1s,baz=106,slow=38						
	comp=Z,1.5nm,0.5s						
TOLK	**Toolik Lake Re**	**70.29**	**21**	P	**P**	**17 48 44.1**	**+2.0**
ILAR	**Eielson Array**	**70.30**	**25**	P	**P**	**17 48 42.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=249,slow=5.4,SNR=5.4						
	comp=Z,0.4nm,0.5s						
C23K	**Itkillik River**	**70.30**	**20**	P	**P**	**17 48 43.1**	**+1.0**
E24K	**Your Creek**	**70.51**	**22**	P	**P**	**17 48 46.6**	**+3.2**
E24K				IAmb	IAmb	17 48 48.0	
	comp=Z,4.6nm,1.2s						
BMAR	**Burnt Mountain**	**71.80**	**23**	P	**P**	**17 48 53.5**	**+2.3**
C27K	**Jago River**	**72.57**	**21**	P	**P**	**17 48 57.5**	**+1.8**
C27K				IAmb	IAmb	17 49 21.0	
	comp=Z,4.6nm,1.1s						
H27K	**Steamboat Moun**	**72.78**	**24**	P	**P**	**17 48 59.2**	**+2.2**
H27K				IAmb	IAmb	17 49 40.2	
	comp=Z,7.1nm,1.4s						
I28M	**Miner Creek**	**73.32**	**25**	P	**P**	**17 49 00.2**	**-0.2**
ARTI	**Arti**	**77.08**	**325**	LR	LR	18 25 27.2	
	comp=Z,32nm,19.1s,baz=349,slow=37						
BBB	**Bella Bella**	**79.44**	**39**	LR	LR	18 21 12.8	
	comp=Z,62nm,19.6s,baz=28,slow=33						
ARCES	**ARCESS Array B**	**87.83**	**342**	LR	LR	18 33 43.4	
	comp=Z,22nm,18.1s,baz=178,slow=38						
NVAR	**Mina Array Bea**	**88.81**	**51**	P	**P**	**17 50 25.9**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=285,slow=4.5,SNR=5.0						
GSC	**Goldstone, Bar**	**90.79**	**54**	P	**P**	**17 50 32.8**	**+0.2**
GSC				IAmb	IAmb	17 50 39.9	
	comp=Z,3.5nm,0.8s						
FINES	**FINESS Array B**	**91.68**	**335**	P	**P**	**17 50 35.7**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=65,slow=4.7,SNR=8.1						
	comp=Z,1.7nm,0.5s						

*IDC **24** 17:51:22.8±8.4, 7°.70S×128°.01E, h166km±92km, mb2.9/2, mbtmp3.9/6, Error ellipse: s-maj=103.7km s-min=27.2km az=49.0*
ISC 24 17:51:20.6±1.1, 7°.83S±0°.09×128°.2E±0°.1, h150km, n6, σ2$57/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.04**	**242**	P	**Pn**	**17 52 36.7**	**+2.1**
	12nm,0.3s,baz=289,slow=2.3,SNR=15						
BATI				S	**Sn**	**17 53 30.2**	**-2.1**
	35nm,0.4s,baz=14,slow=20,SNR=12						
FITZ	**Fitzroy Crossi**	**10.50**	**193**	P	**Pn**	**17 53 48.7**	**+1.5**
	2.4nm,0.3s,baz=31,slow=11,SNR=30						
FITZ				S	**Sn**	**17 55 41.1**	**-2.3**
	4.6nm,0.3s,baz=202,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**13.44**	**154**	P	**P**	**17 54 28.7**	**-0.9**
	4.7nm,0.5s,baz=328,slow=14,SNR=53						
WRA				S	**Sn**	**17 56 52.1**	**-2.2**
	2.7nm,0.5s,baz=323,slow=27,SNR=10						
ASAR	**Alice Springs**	**16.68**	**161**	P	**Pn**	**17 55 10.3**	**+4.7**
	3.7nm,0.5s,baz=340,slow=11,SNR=98						
ASAR				S	**S**	**17 58 10.2**	**-1.0**
	1.5nm,0.5s,baz=317,slow=18,SNR=7.6						
SONM	**Songino Array**	**58.68**	**343**	P	**P**	**18 01 01.5**	**-0.8**
	0.2nm,0.5s,baz=149,slow=5.4,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.94**	**328**	P	**P**	**18 02 02.3**	**-0.9**
	0.2nm,0.5s,baz=120,slow=7.4,SNR=5.6						
	0.2nm,0.5s						

*IDC **24** 18:09:48.2±0.9, 11°.57N×125°.90E, h26km±4km, mb3.7/11, mbtmp3.9/11, MS3.6/1, Error ellipse: s-maj=46.7km s-min=14.9km az=67.0*
*NEIC **24** 18:09:49.0±1.8, 11°.58N±0°.08×125°.9E±0°.1, h31km±6km, mb4.5/15, Error ellipse: s-maj=16.8km s-min=10.6km az=112.0*
ISC 24 18:09:48.4±0.7, 11°.55N±0°.09×125°.9E±0°.2, h33km, n33, σ1$05/35, mb4.4/18, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.46**	**184**	Pn	**Pn**	**18 10 54.4**	**+0.6**
TNTI	**Ternate**	**10.80**	**172**	Pn	**Pn**	**18 12 17.7**	**-3.1**
SBUM	**Sibu**	**16.32**	**237**	P	**P**	**18 13 37.5**	**-0.4**
BATI	**Baumata**	**21.73**	**186**	P	**P**	**18 14 39.0**	**+1.9**
	37nm,0.7s,baz=330,slow=1.6,SNR=10						
CMAR	**Chiang Mai Arr**	**26.93**	**288**	P	**P**	**18 15 27.0**	**0.0**
	0.5nm,0.3s,baz=99,slow=9.9,SNR=2.5						
CMAR				pP	**pP**	**18 15 35.0**	**-0.6**
	1.2nm,0.8s,baz=98,slow=7.3,SNR=2.7						
	0.5nm,0.3s						
WB0	**Warramunga Arr**	**32.22**	**165**	P	**P**	**18 16 13.1**	**-0.6**
WB0				IAmb	IAmb	18 16 55.2	
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**32.37**	**165**	P	**P**	**18 16 14.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=345,slow=8.8,SNR=2.4						
	comp=Z,0.3nm,0.4s						
WR8	**Warramunga Arr**	**32.42**	**165**	P	**P**	**18 16 15.8**	**+0.3**
WR8				IAmb	IAmb	18 16 36.2	
	comp=Z,8.6nm,1.3s						
ASAR	**Alice Springs**	**35.86**	**167**	P	**P**	**18 16 46.2**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=350,slow=7.4,SNR=6.0						
	comp=Z,0.3nm,0.4s						
ULN	**Ulaanbaatar**	**39.51**	**340**	P	**P**	**18 17 16.3**	**+0.1**
PALK	**Pallekele**	**44.78**	**269**	LR	LR	18 36 31.0	
	comp=Z,68nm,18.6s,baz=126,slow=36						
NWAO	**Narrogin (SRO)**	**45.00**	**190**	P	**P**	**18 18 00.7**	**-0.1**
BBOO	**Buckleboo**	**45.16**	**168**	P	**P**	**18 18 01.1**	**-0.9**
STKA	**Stephens Creek**	**45.71**	**161**	P	**P**	**18 18 07.9**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=338,slow=11,SNR=5.7						
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**50.81**	**322**		**P**	**18 18 47.1**	**+1.3**
MKAR	**Makanchi Array**	**50.81**	**322**	P	**P**	**18 18 46.5**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=125,slow=7.6,SNR=11						
MKAR				pP	**pP**	**18 18 54.9**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=119,slow=8.2,SNR=11						
	comp=Z,1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**53.35**	**331**	P	**P**	**18 19 03.1**	**-1.4**
KURK	**Kurchatov**	**54.83**	**325**	P	**P**	**18 19 15.3**	**+0.1**
KURK				IAmb	IAmb	18 19 25.3	
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**54.83**	**325**		pP	18 19 24.6	+0.4
KURBB	**Kurchatov Arra**	**54.84**	**325**	P	**P**	**18 19 15.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=123,slow=7.2,SNR=6.7						
KURBB				pP	**pP**	**18 19 24.6**	**+0.4**
	comp=Z,5.3nm,1.0s,baz=121,slow=7.1,SNR=15						
	comp=Z,0.7nm,0.6s						
CHGR	**Chuyangaron**	**57.03**	**309**	P	**P**	**18 19 31.5**	**+0.1**
CHGR				IAmb	IAmb	18 19 40.4	
	comp=Z,9.4nm,1.1s						
KK31	**Karatay Array**	**57.12**	**314**	P	**P**	**18 19 31.0**	**-0.9**
KK31				IAmb	IAmb	18 19 42.0	
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**57.12**	**314**		**P**	**18 19 31.2**	**-0.6**
BVAR	**Borovoye Array**	**60.43**	**325**	P	**P**	**18 19 54.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.5,SNR=4.8						
BVAR				pP	**pP**	**18 20 02.8**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=119,slow=9.0,SNR=7.1						
	comp=Z,0.6nm,0.5s						
AB31	**Akbulak array**	**65.69**	**319**	P	**P**	**18 20 28.7**	**-1.0**
AB31				IAmb	IAmb	18 20 38.6	
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array**	**65.69**	**319**	P	**P**	**18 20 29.5**	**-0.2**
ARCES	**ARCESS Array B**	**82.89**	**340**	IAmb	IAmb	18 22 54.7	
	comp=Z,18nm,1.4s						
ARCES	**ARCESS Array B**	**82.89**	**340**	P	**P**	**18 22 11.4**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=76,slow=5.8,SNR=1.8						
ARCES				pP	**pP**	**18 22 18.9**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=77,slow=5.3,SNR=1.9						
	comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**84.61**	**332**	P	**P**	**18 22 19.0**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=66,slow=2.3,SNR=3.4						
FINES				pP	**pP**	**18 22 26.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=53,slow=6.7,SNR=1.9						
	comp=Z,1.6nm,0.8s						
AKASG	**Malin Array Be**	**85.37**	**321**	IAmb	IAmb	18 22 22.3	
	comp=Z,4.0nm,1.2s						
AKASG	**Malin Array Be**	**85.37**	**321**	P	**P**	**18 22 21.8**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=74,slow=3.4,SNR=2.4						
AKASG				pP	**pP**	**18 22 30.6**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=61,slow=5.7,SNR=3.1						
	comp=Z,0.2nm,0.2s						
VNDA	**Vanda**	**91.23**	**173**	IAmb	IAmb	18 23 27.5	
	comp=Z,2.2nm,1.4s						
VNDA	**Vanda**	**91.23**	**173**	P	**P**	**18 22 51.0**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=327,slow=5.0,SNR=2.4						
	comp=Z,0.4nm,0.9s						

*IDC **24** 18:17:42.0±1.2, 5°.79S×151°.00E, h0km, mb3.9/6, mbtmp3.9/7, ML1.9/1, MS2.8/1, Error ellipse: s-maj=48.6km s-min=21.5km az=117.0*
ISC 24 18:17:48.2±1.2, 5°.8S±0°.2×151°.0E±0°.3, h43km, n8, σ1$97/9, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**227**

YOJ eS Sg 18 40 02.7 +1.1
NTST Danshui 0.80 295 eP Pb 18 39 52.6 0.0
TWS1 Kuangyinshan 0.80 290 ⇓P Pb 18 39 52.7 0.0
YHNB Yeheng 0.81 259 P Pb 18 39 52.3 -0.5
YHNB Yeheng 0.81 259 eP Pg 18 39 51.9 0.0
PCYT Pengchaiyu 0.82 349 eP Pg 18 39 52.0 -0.2
PCYT eS Sb 18 40 03.8 -0.4
NSK Sanguang 0.82 260 eP Pg 18 39 52.1 -0.1
ETL Fush Village 0.87 221 eP Pg 18 39 53.0 -0.2
ETL eS Sg 18 40 04.5 0.0
NACB Ninganchiao 0.88 223 P Pg 18 39 53.1 -0.2
NACB Ninganchiao 0.88 223 S Sg 18 40 04.8 +0.1
NACB Ninganchiao 0.88 223 eP Pg 18 39 52.8 -0.4
NACB eS Sg 18 40 04.4 -0.2
NNSB Datong 0.88 244 eP Pg 18 39 53.2 -0.1
NNSB eS Sg 18 40 04.8 +0.1
NNS Nan Shan 0.88 245 eP Pg 18 39 53.3 0.0
NNS eS Sg 18 40 04.8 0.0
ETLH Xiulin Townshi 0.93 229 eP Pg 18 39 54.0 -0.2
ETLH eS Sg 18 40 06.6 +0.2
TWD Chiawan 0.95 219 ⇑iP Pb 18 39 54.2 -0.9
TWD eS Sb 18 40 07.4 -0.5
KSHI Guanxi Townshi 0.97 268 eP Pn 18 39 55.9 -0.6
KSHI eS Sn 18 40 11.1 +0.5
HWA Hwalien 1.02 215 eP Pn 18 39 57.0 -0.2
NFF Wufeng Townshi 1.04 260 eP Pn 18 39 57.1 -0.4
NFF eS Sn 18 40 11.2 -1.2
FUSS Fushou 1.08 238 eP Pb 18 39 57.0 -0.6
FUSS eS Sg 18 40 11.6 +0.5
ETM Tongmen 1.09 219 eP Pb 18 39 56.8 -0.9
LXIB Xiulin Townshi 1.10 224 ⇑iP Pb 18 39 56.9 -1.0
LXIB eS Sb 18 40 11.6 -0.9
TEYL Yanliau Villag 1.12 212 eP Pb 18 39 59.1 +1.2
WHF Hehuan Shan 1.12 233 ⇓P Pb 18 39 57.6 -0.8
WHF S Sb 18 40 12.4 -0.9
LIOB Emei 1.13 261 eP Pg 18 39 58.5 +0.3
LIOB eS Sn 18 40 15.2 +0.6
TDCB Techi 1.14 240 eP Pg 18 39 58.8 +0.5
TDCB eS Sb 18 40 12.9 -0.7
NSTT Nanjuang 1.15 261 eP Pn 18 39 58.4 -0.6
NSTT eS Sn 18 40 14.1 -0.8
SHUL Shoufeng 1.20 211 eP Pg 18 40 00.2 +0.7
SHUL eS Sg 18 40 19.3 +4.1
ESL Shilin 1.25 217 eP Pn 18 39 59.9 -0.4
ESL eS Sg 18 40 17.8 +1.3
WHP Taichung City 1.30 246 eP Pg 18 40 01.6 +0.1
WHP eS Sg 18 40 19.4 +1.1
OWD Renai 1.30 229 eP Pb 18 40 01.2 -0.1
OWD eS Sb 18 40 17.3 -1.0
WUSB Renai 1.32 231 ⇓eP Pg 18 40 01.8 0.0
WUSB eS Sn 18 40 18.4 -0.9
WARBT Fenglin Townsh 1.35 216 ⇑P Pn 18 40 01.4 -0.3
WARBT eS Sg 18 40 20.3 +0.4
NMLH Miaoli 1.35 258 eP Pg 18 40 03.2 +0.8
NMLH eS Sg 18 40 21.4 +1.5
EGFH Guangfu 1.37 213 eP Pg 18 40 02.6 -0.1
EGFH eS Sg 18 40 20.4 -0.1
NSY Sanyi 1.41 254 eP Pg 18 40 03.9 +0.4
NSY eS Sg 18 40 24.1 +2.3
TWQ1 Liyutan 1.42 251 eP Pg 18 40 04.2 +0.5
TWQ1 eS Sg 18 40 22.4 +0.2
WCS Beigang Elemen 1.44 238 eP Pg 18 40 03.7 -0.2
IRIF Iriomote-Funau 1.44 109 P Pn 18 40 00.8 -2.0
VWDT VWDT 1.47 224 ⇑P Pb 18 40 03.7 -0.3
VWDT eS Sg 18 40 23.0 -0.5
HGSD Ruisui 1.52 210 eP Pb 18 40 04.7 -0.3
SMLT Sun Moon Lake 1.54 233 ⇓P Pg 18 40 05.7 -0.3
SMLT eS Sb 18 40 25.1 -0.1
EHYH Wanrong 1.56 212 eP Pn 18 40 04.0 -0.6
EHY Hungye 1.56 213 eP Pn 18 40 04.3 -0.2
EHY eS Sg 18 40 26.4 -0.1
TYC Yuchr 1.56 234 eP Pg 18 40 06.1 -0.3
TYC eS Sb 18 40 25.2 -0.4
SSLB Suanglung 1.57 229 P Pb 18 40 05.7 0.0
SSLB Suanglung 1.57 229 S Sg 18 40 27.1 +0.3
SSLB Suanglung 1.57 229 ⇑P Pb 18 40 05.4 -0.3
SSLB eS Sn 18 40 24.6 -0.6
TCU Taichung 1.58 245 eP Pg 18 40 07.3 +0.6
HATJ Hateruma jima 1.61 118 eP Pn 18 40 04.0 -1.3
ECBN Changbin 1.67 206 eP Pn 18 40 05.5 -0.5
ECBN eS Sn 18 40 27.3 -0.4
YULB Yu-li 1.67 212 P Pb 18 40 06.6 -0.9
YULB Yu-li 1.67 212 eP Pn 18 40 05.8 -0.2
WHYT Xinyi Township 1.69 229 eP Pg 18 40 08.5 -0.4
WHYT eS Sg 18 40 31.7 +0.8
TWF1 Yuli 1.70 211 eP Pn 18 40 06.1 -0.4
WNT Mingjian 1.71 237 eP Pg 18 40 09.5 +0.4
WNT eS Sg 18 40 32.8 +1.5
JKRS Kuro-shima 1.71 110 eP Pn 18 40 05.3 -1.3
JIJ Ishigaki jima 1.79 104 P Pn 18 40 05.9 -1.8
FULB Fuli 1.84 208 eP Pn 18 40 08.8 +0.4
ALS Alishan 1.85 226 eP Pb 18 40 11.0 +0.2
ALS eS Sg 18 40 35.7 -0.3
CHN5 Tsauling 1.88 230 eP Pb 18 40 11.3 +0.2
CHN5 eS Sg 18 40 37.2 +0.3
JISG Ishigakijimahi 1.89 97 eP Pn 18 40 07.4 -1.8
CHKT Chengkung 1.90 205 eP Pn 18 40 08.1 -1.1
CHKT eS Sn 18 40 31.8 -1.5
WGK Gukeng 1.91 234 eP Pg 18 40 12.2 -0.8
WGK eS Sg 18 40 38.7 +0.9
WDLH Douliu 1.93 234 eP Pb 18 40 11.9 +0.1
WDLH eS Sg 18 40 38.7 +0.4
ELDTW Lidau 1.98 215 eP Pn 18 40 10.5 +0.1
EDH Donghe 2.03 205 eP Pn 18 40 14.4 -0.7
EDH eS Sn 18 40 34.7 -2.1
WCKO Fanlu 2.04 228 eP Pb 18 40 13.8 0.0
WCKO eS Sg 18 40 41.6 -0.3
WTK Tuku 2.04 237 eP Pb 18 40 13.4 -0.4
WTK eS Sg 18 40 40.5 -1.4
CHN2 Minshiung 2.07 232 eS Sg 18 40 42.1 -0.7
TPUB Ta-pu 2.12 225 P Pb 18 40 14.0 -1.1
TPUB Ta-pu 2.12 225 eP Pb 18 40 14.6 -0.5
TPUB eS Sb 18 40 42.7 +1.1
CHY Chiayi 2.12 232 eP Pb 18 40 14.6 -0.6
CHY eS Sb 18 40 42.4 +0.6
STYH Taoyuan 2.12 220 eP Pb 18 40 13.9 -1.3
STYH eS Sb 18 40 43.1 +1.3
LONT Longtian 2.16 208 eP Pn 18 40 12.3 -0.6
LONT eS Sn 18 40 40.4 +0.5
WTP Ta-pu 2.17 224 eP Pb 18 40 14.8 -1.2
WTP eS Sg 18 40 44.8 -1.3
WSF Szhu 2.19 238 eP Pb 18 40 14.8 -1.6
TWK Hsinying 2.23 226 eP Pb 18 40 16.4 -0.8
TWK eS Sb 18 40 45.7 +0.7
WSL Shuilin Townsh 2.25 235 eP Pb 18 40 15.9 -1.5
WSL eS Sb 18 40 45.5 0.0
LDUT Ludao 2.25 199 eP Pn 18 40 12.8 -1.3
LDUT eS Sn 18 40 40.0 -2.2
SNST Tainan City 2.26 225 eP Pb 18 40 16.8 -0.7
SNST eS Sg 18 40 47.7 -1.3
CHN1 Nanshi 2.26 224 eP Pb 18 40 16.9 -0.7
CHN1 eS Sb 18 40 46.9 +1.0
TWG Pinlang 2.26 209 eP Pn 18 40 14.3 0.0
TWG eS Sn 18 40 42.3 -0.2
TWGBT Beinan 2.26 208 P Pn 18 40 15.0 +0.7
TWGBT Beinan 2.26 208 eP Pn 18 40 14.3 0.0
CHN8 Yiju 2.37 232 eS Sb 18 40 49.3 +0.4
MATB Ma-tsu 2.46 303 eP Pn 18 40 15.2 -1.8
SCST Cishan 2.51 220 eP Pb 18 40 20.1 -1.7
ECL Taimali 2.51 208 eP Pn 18 40 16.9 -0.8
SSD Sandimen 2.54 216 eP Pb 18 40 20.4 -2.0
TSMG Majia 2.57 215 eP Pn 18 40 20.0 +1.6
TSCK Chigu Township 2.59 230 eP Pb 18 40 21.6 -1.5
TSCK eS Sb 18 40 53.2 -1.9
MASBT Mashibuluo 2.65 214 eP Pn 18 40 21.3 +1.7
MASBT eS Sb 18 40 54.4 -2.6
EAST Anshuo 2.75 208 eP Pn 18 40 22.1 +1.2
PNG Penghu 2.76 244 eP Pn 18 40 21.8 +0.7
PHUB P'eng-hu 2.77 242 eP Pn 18 40 20.9 -0.3
PHUB eS Sn 18 40 54.1 -0.8
XPSS Dashiqiu 2.80 319 eP Pn 18 40 20.2 -1.4
WDGT Dungji 2.83 237 eP Pn 18 40 22.9 +0.8
WDGT eS Sn 18 40 55.0 -1.4
LAY Lan-yu 2.84 193 eP Pn 18 40 21.5 -0.7
LAY eS Sn 18 40 54.3 -2.5
PTMZ Houxiangcun 2.85 275 eP Pn 18 40 21.2 -1.1
SCZT Fangliau 2.86 212 eP Pb 18 40 25.0 -2.8
LYUB Lan-yu 2.87 192 eP Pn 18 40 20.5 -2.1
LYUB eS Sn 18 40 53.9 -3.5

VCHM Qimei 3.04 239 eS Sn 18 41 01.3 -0.1
KNMB Chin-men Tao 3.53 265 eP Pn 18 40 30.2 -1.4
AXDP Jialang 3.88 272 eP Pn 18 40 35.2 -1.4
AXDP eS Sn 18 41 18.1 -4.4
CMAR Chiang Mai Arr 22.55 258 P P 18 44 39.2 +2.0
0.5nm,0.3s,baz=79,slow=9.1,SNR=5.6
0.5nm,0.3s
SONM Songino Array 26.18 335 P P 18 45 11.8 +0.2
2.2nm,1.0s,baz=154,slow=11,SNR=10.0
2.2nm,1.0s
MKAR Makanchi Array 38.56 315 P P 18 47 03.7 +3.9
0.4nm,0.6s,baz=109,slow=7.8,SNR=3.7
0.4nm,0.6s
ZALV Zalesovo Beam 40.24 326 P P 18 47 16.4 +2.7
0.5nm,0.4s,baz=109,slow=11,SNR=4.4
0.5nm,0.4s
WRA Warramunga Arr 46.03 164 P P 18 48 00.0 -0.8
2.1nm,0.8s,baz=346,slow=8.6,SNR=12
2.1nm,0.8s
ASAR Alice Springs 49.51 166 P P 18 48 27.4 -0.5
0.7nm,0.8s,baz=345,slow=6.8,SNR=6.7
0.7nm,0.8s

*IDC **24** 18:43:27.7±5.4, 17.″12S×176.″50W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=191.6km s-min=60.0km az=134.0*
*NEIC **24** 18:44:30.9±1.0, 18.″3S±0.″2×177.″71W±0.″09, h564km±14km, mb4.1/12, Error ellipse: s-maj=34.0km s-min=12.5km az=174.0*

ISC 24 18:44:30.6±0.9, 18.″5S±0.″2×177.″7W±0.″1, h550km, n23, σ1§44/22, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.10	279	P	P	18 45 55.8	+2.5
AFI	Afiamalu	7.26	52		P	18 46 20.8	-0.5
MARNC	Mare, Loyalty	13.75	255	P	P	18 47 27.4	+0.2
LTZ	Lake Taylor	25.70	197	P	P	18 49 17.8	+0.4
ARMA	Armidale	30.26	241	P	P	18 49 55.8	-1.6
ARMA	comp=Z,8.9nm,1.2s			IAmb	IAmb	18 50 31.1	
TOO	Toolangi	37.36	232	P	P	18 50 56.7	-0.1
TOO	comp=Z,5.3nm,1.1s			IAmb	IAmb	18 51 28.9	
STKA	Stephens Creek	38.96	242	P	P	18 51 10.1	+0.2
STKA	Stephens Creek	38.96	242	IAmb	IAmb	18 51 11.2	
	comp=Z,30nm,1.1s						
STKA	Stephens Creek	38.96	242	P	P	18 51 10.1	+0.2
	comp=Z,3.5nm,0.9s,baz=75,slow=12,SNR=4.6						
	comp=Z,3.5nm,0.9s						
BBOO	Buckleboo	43.74	242	P	P	18 51 47.4	-0.3
WR8	Warramunga Arr	45.05	260	P	P	18 51 55.1	-2.8
WR8				IAmb	IAmb	18 52 07.3	
	comp=Z,8.2nm,1.3s						
WB0	Warramunga Arr	45.17	260	P	P	18 51 58.0	-0.8
WB0				IAmb	IAmb	18 52 16.0	
	comp=Z,5.0nm,1.2s						
WB2	Warramunga Arr	45.19	260	P	P	18 51 56.6	-2.4
WB2				IAmb	IAmb	18 52 25.4	
	comp=Z,4.4nm,1.1s						
WRAB	Tennant Creek	45.19	260	P	P	18 51 56.8	-2.2
WRAB				IAmb	IAmb	18 52 01.0	
	comp=Z,16nm,1.5s						
WRA	Warramunga Arr	45.20	260	P	P	18 51 57.4	-1.7
WRA	Warramunga Arr	45.20	260	P	P	18 51 57.4	-1.7
	comp=Z,0.4nm,0.5s,baz=97,slow=7.3,SNR=14						
	comp=Z,0.4nm,0.5s						
AS31	Alice Springs	45.29	255	P	P	18 51 58.5	-1.3
ASAR	Alice Springs	45.29	255	P	P	18 51 58.6	-1.2
ASAR	Alice Springs	45.29	255	P	P	18 51 58.6	-1.2
	comp=Z,1.2nm,0.6s,baz=88,slow=9.0,SNR=36						
	comp=Z,1.2nm,0.6s						
VNDA	Vanda	59.97	185	P	P	18 53 44.1	+0.5
SNAA	Sanae	90.04	178	P	P	18 56 31.4	-0.1
BRTR	Keskin Array B	145.64	315		PKPdf	19 03 07.3	+0.4
BRTR	Keskin Array B	145.64	315	PKPbc	PKPdf	19 03 07.3	+0.4
	comp=Z,0.7nm,0.7s,baz=48,slow=2.1,SNR=4.0						

*NEIC **24** 18:47:35.2±2.1, 56.″5S±0.″1×26.″9W±0.″2, h95km±7km, mb4.9/22, Error ellipse: s-maj=18.1km s-min=14.3km az=206.0*
*IDC **24** 18:47:36.8±0.6, 56.″39S×26.″75W, h102km±5km, mb4.3/10, mbtmp4.6/11, MS3.2/6, Error ellipse: s-maj=16.8km s-min=15.1km az=49.0*

ISC 24 18:47:36.0±0.4, 56.″46S±0.″07×27.″01W±0.″07, h101km, n71, σ1§20/69, mb4.8/19, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.83	288		Pn	18 49 00.9	+1.2
HOPE				Sn	Sn	18 50 02.9	-2.3
VNA1	Neumayer--Stat	16.38	158	⇑P	P	18 51 20.3	-0.2
	comp=Z,121nm,0.8s						
VNA3	Neumayer Olymp	16.57	160	⇑P	Pn	18 51 20.9	-1.0
	comp=Z,59nm,0.6s						
VNA2	Neumayer--Watz	16.77	158	⇑P	Pn	18 51 23.0	-1.3
	comp=Z,13nm,0.3s,baz=318,slow=12						
SNAA	Sanae	18.33	156	⇑P	P	18 51 41.6	-0.4
	comp=Z,844nm,0.4s						
SNAA	Sanae	18.33	156		P	18 51 40.9	-1.1
SNAA	Sanae	18.33	156	P	P	18 51 41.6	-0.4
	comp=Z,15nm,0.7s,baz=301,slow=9.5,SNR=142						
SNAA				S	S	18 54 53.9	-12
	comp=Z,1.3nm,0.7s,baz=197,slow=20,SNR=2.2						
SNAA				LR	LR	18 57 14.2	
	comp=Z,34nm,21.9s,baz=19,slow=32						
EFI	East Falkland	18.74	272	P	P	18 51 46.2	-0.4
PMSA	Palmer Station	19.71	230	LR	LR	18 57 38.8	
	comp=Z,150nm,18.3s,baz=78,slow=30						
TROLL	Troll, Antarti	19.84	153	⇑P	P	18 51 57.8	-0.6
	comp=Z,1μm,0.6s						
SMAI	San Martin Ant	21.52	221	P	P	18 52 13.9	-2.4
BELA	Belgrano 2	21.68	184		P	18 52 17.1	-0.9
SYO	Syowa Base	31.20	140	⇓eP	P	18 53 42.2	-2.8
PLCA	Paso Flores	32.17	281	LR	LR	19 06 41.6	
	comp=Z,34nm,19.1s,baz=130,slow=35						
QSPA	South Pole Qui	33.79	180	P	P	18 54 12.0	+4.1
QSPA				PcP	PcP	18 56 45.2	+0.7
CPUP	Villa Florida	37.16	311	P	P	18 54 37.1	+0.3
	comp=Z,0.3nm,0.5s,baz=15,slow=6.5,SNR=3.3						
CPUP				pP	pP	18 55 01.3	+1.9
	comp=Z,3.5nm,1.3s,baz=356,slow=8.2,SNR=3.8						
CPUP				LR	LR	19 11 47.6	
	comp=Z,7.7nm,18.6s,baz=1.5,slow=39						
MT09	Talagante	37.53	288	P	P	18 54 38.9	-1.3
MT02	Curacav	38.01	289	P	P	18 54 42.5	-1.5
MT02				IAmb	IAmb	18 55 58.5	
	comp=Z,16nm,1.1s						
MAW	Mawson	39.76	143	P	P	18 54 58.1	0.0
	comp=Z,3.4nm,0.6s,baz=241,slow=9.3,SNR=9.1						
	comp=Z,3.4nm,0.6s						
CO01	Juntas del Tor	40.07	293	P	P	18 55 00.1	-1.4
BOSA	Boshof	45.98	75	IAmb	IAmb	18 55 48.4	
	comp=Z,10nm,1.1s						
BOSA	Boshof	45.98	75	P	P	18 55 48.1	-0.8
	comp=Z,4.2nm,0.8s,baz=205,slow=7.4,SNR=7.2						
BOSA				LR	LR	19 12 15.6	
	comp=Z,61nm,19.6s,baz=196,slow=32						
	comp=Z,4.2nm,0.8s						
VNDA	Vanda	46.17	183	P	P	18 55 50.2	+0.5
VNDA				IAmb	IAmb	18 55 53.8	
	comp=Z,10nm,0.7s						
VNDA	Vanda	46.17	183	P	P	18 55 51.0	+1.3
	comp=Z,10nm,0.7s,baz=186,slow=6.5,SNR=55						
	comp=Z,10nm,0.7s						
VNDA	Vanda	46.17	183	P	P	18 55 50.8	+1.1
PB09	IPOC Station P	46.44	300	P	P	18 55 51.8	-0.9
PB01	IPOC Station P	47.20	301	P	P	18 55 57.8	-0.7
PB01				IAmb	IAmb	18 56 45.4	
	comp=Z,27nm,1.5s						
CCD	Concordia, Ant	47.26	170	P	P	18 55 58.9	+0.2
LKGWB	Lokgwabe	47.48	68	P	P	18 56 01.6	+0.9
KOOLE	Kule	47.89	66		P	18 56 02.5	-1.4
KOOLE				IAmb	IAmb	18 56 04.0	
	comp=Z,14nm,0.8s						
HMBC	Humberstone	48.05	301	P	P	18 56 05.5	+0.4
HMBC				IAmb	IAmb	18 57 43.3	
	comp=Z,33nm,1.6s						
GO01	Chusmiza	48.25	302	P	P	18 56 07.6	+0.6
GO01				IAmb	IAmb	18 56 08.8	
	comp=Z,9.6nm,0.8s						
H10S2	ASCENSION HYDR	48.36	16	T	T	19 48 28.0	
	SNR=14						
H10S3	ASCENSION HYDR	48.37	16	T	T	19 48 25.7	
	SNR=4.3						
LBTB	Lobatse	49.03	73	P	P	18 56 11.2	-1.4
LBTB	Lobatse	49.03	73	P	P	18 56 11.6	-1.0
	comp=Z,6.6nm,0.7s,baz=213,slow=8.0,SNR=12						
LBTB				LR	LR	19 12 41.3	
	comp=Z,36nm,18.0s,baz=110,slow=31						
	comp=Z,6.6nm,0.7s						
LBTB	Lobatse	49.03	73	P	P	18 56 11.6	-1.0
LBTB				PcP	PcP	18 57 35.0	0.0
H10N1	ASCENSION HYDR	49.48	16	T	T	19 49 51.8	
	baz=188,slow=75,SNR=18						
H10N3	ASCENSION HYDR	49.48	16	T	T	19 49 53.3	
	baz=188,slow=75,SNR=10						
H10N2	ASCENSION HYDR	49.50	16	T	T	19 49 53.9	
	baz=188,slow=75,SNR=12						
PB16	IPOC Station P	49.55	303	P	P	18 56 18.1	+1.0
PB16				IAmb	IAmb	18 56 35.0	
	comp=Z,24nm,2.0s						
GRTLG	Ghanzi	49.77	66	P	P	18 56 16.8	-1.4
GRTLG				IAmb	IAmb	18 56 18.2	
	comp=Z,11nm,1.1s						
TSUM	Tsumeb	49.80	60		P	18 56 17.0	-1.4
TSUM	Tsumeb	49.80	60	P	P	18 56 18.0	-0.5
	comp=Z,4.4nm,0.7s,baz=201,slow=6.9,SNR=12						
	comp=Z,4.4nm,0.7s						
LPAZ	La Paz	50.69	305	IAmb	IAmb	18 56 27.8	
LPAZ	La Paz	50.69	305	P	P	18 56 27.3	+1.5
	comp=Z,7.0nm,0.6s						
LPAZ	La Paz	50.69	305	P	P	18 56 27.3	+1.5
	comp=Z,4.8nm,0.4s,baz=152,slow=4.9,SNR=24						
	comp=Z,4.8nm,0.4s						
LPAZ	La Paz	50.69	305	P	P	18 56 27.3	+1.5
LPAZ				PcP	PcP	18 57 41.1	-0.7
QNGWA	Qangwa	51.28	64		P	18 56 28.8	-0.8
QNGWA				IAmb	IAmb	18 56 30.1	
	comp=Z,10nm,0.8s						
XAUDM	Khaudum	52.20	64	P	P	18 56 35.5	-0.9
XAUDM				IAmb	IAmb	18 56 37.4	
	comp=Z,9.7nm,0.8s						
CASY	Casey	53.49	160		P	18 56 45.5	+0.3
CASY	Casey	53.49	160	P	P	18 56 45.6	+0.4
MATP	Matopo	54.31	72	P	P	18 56 58.5	+6.6
	comp=Z,11nm,1.1s,baz=214,slow=7.4,SNR=14						
DRV	Dumont d'Urvil	56.81	174	P	P	18 57 09.0	0.0
DRV				PcP	PcP	18 58 04.9	+1.4
LSZ	Lusaka	58.43	68		P	18 57 20.7	-0.5
LSZ	Lusaka	58.43	68	P	P	18 57 20.8	-0.3
	comp=Z,8.5nm,0.8s,baz=208,slow=7.0,SNR=20						
	comp=Z,8.5nm,0.8s						
LSZ	Lusaka	58.43	68	P	P	18 57 20.9	-0.3
LSZ				PcP	PcP	18 58 08.6	-2.3
DBIC	Dimbokro	65.50	24	IAmb	IAmb	18 58 13.6	
	comp=Z,34nm,1.9s						
DBIC	Dimbokro	65.50	24	P	P	18 58 08.2	0.0
	comp=Z,1.3nm,0.5s,baz=211,slow=7.1,SNR=4.2						
	comp=Z,1.3nm,0.5s						
TORD	Torodi Ar. Bea	73.36	29	P	P	18 58 56.9	+0.3
	comp=Z,13nm,0.7s,baz=189,slow=5.3,SNR=24						
TORD				pP	pP	18 59 22.8	+1.4
	comp=Z,2.8nm,0.7s,baz=196,slow=5.2,SNR=6.5						
	comp=Z,13nm,0.7s						
ASAR	Alice Springs	98.57	162	P	Pdif	19 01 05.8	+2.5
	comp=Z,0.6nm,0.5s,baz=187,slow=4.4,SNR=14						
	comp=Z,0.6nm,0.5s						
A36M	Sachs Harbour	144.61	328	PKPdf	PKPab	19 06 57.0	-0.7
INK	Inuvik	146.18	320	PKPdf	PKPdf	19 07 01.9	+0.3
L29M	L29M	146.28	310	PKPdf	PKPdf	19 07 00.8	-1.2
K29M	Barlow Dome	146.28	312	PKPdf	PKPdf	19 07 02.5	+0.5
I30M	Mount Dempster	146.29	314	PKPdf	PKPdf	19 07 02.3	+0.3
EPYK	Eagle Plains	146.79	316	PKPdf	PKPdf	19 07 03.8	+1.0
H29M	Whitestone	147.38	316	PKPdf	PKPbc	19 07 05.3	-1.0
I28M	Miner Creek	147.78	314	PKPdf	PKPdf	19 07 05.0	+0.5
H27K	Steamboat Moun	148.62	315	PKPbc	PKPbc	19 07 09.5	-0.1
ILAR	Eielson Array	150.46	311	PKPbc	PKPbc	19 07 14.4	+0.3
	comp=Z,1.2nm,0.9s,baz=174,slow=2.1,SNR=8.7						
ILAR				pPKPbc	pPKPbc	19 07 42.1	+1.0
	comp=Z,3.8nm,0.9s,baz=130,slow=1.7,SNR=9.4						
SONM	Songino Array	150.65	87	PKPbc	PKiKP	19 07 15.6	-0.3
	comp=Z,0.7nm,0.6s,baz=229,slow=4.1,SNR=5.3						
SONM				pPKPbc	pPKPbc	19 07 43.4	+1.5
	comp=Z,0.8nm,0.8s,baz=196,slow=5.8,SNR=3.5						

*IDC **24** 18:51:19.0±0.9, 10.″36N×126.″75E, h0km, mb4.0/12, mbtmp4.0/12, MS3.2/3, Error ellipse: s-maj=54.1km s-min=15.5km az=70.0*
*NEIC **24** 18:51:20.3±2.6, 10.″32N±0.″05×126.″7E±0.″1, h10km±1km, mb4.8/20, Error ellipse: s-maj=21.0km s-min=8.5km az=86.0*

ISC 24 18:51:24.1±0.6, 10.″22N±0.″07×126.″6E±0.″1, h42km, n40, σ1§29/36, mb4.4/20, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.27	197	Pn	Pn	18 52 11.8	-1.2
TNTI	Ternate	9.42	175	Pn	Pn	18 53 35.7	-1.7
LUWI	Luwuk	11.80	199	Pn	Pn	18 54 09.1	-0.9
TPUB	Ta-pu	14.19	337		Pn	18 54 36.9	-5.6
KNMB	Chin-men Tao	16.16	332	Pn	Pn	18 55 05.2	-3.1
KNMB				IAmb	IAmb	18 55 10.3	
	comp=Z,40nm,0.8s						
SBUM	Sibu	16.19	242		Pn	18 55 07.0	-1.8
GUMO	Guam	18.23	78	LR	LR	19 01 52.3	
	comp=Z,97nm,19.6s,baz=148,slow=35						
SOEI	Soe	19.97	187	P	P	18 55 52.7	-0.5
BATI	Baumata	20.49	188	P	Pn	18 56 01.9	+0.7
	comp=Z,18nm,0.7s,baz=0.0,slow=5.1,SNR=3.1						
	comp=Z,18nm,0.7s						
KNRA	Kununurra	25.82	175	P	P	18 56 50.8	-0.8
KNRA				IAmb	IAmb	18 56 56.9	
	comp=Z,26nm,1.4s						
JHJ	Hachijo jima 2	25.84	26	LR	LR	19 05 45.1	
	comp=Z,72nm,21.0s,baz=291,slow=34						
CMAR	Chiang Mai Arr	27.94	290	P	P	18 57 11.8	+1.0
	comp=Z,0.8nm,0.7s,baz=103,slow=7.4,SNR=8.5						
CMAR				LR	LR	19 08 53.5	
	comp=Z,23nm,18.3s,baz=205,slow=38						
	comp=Z,0.8nm,0.7s						
FITZ	Fitzroy Crossi	28.15	182	P	P	18 57 12.0	-0.5
WB0	Warramunga Arr	30.78	165	P	P	18 57 35.3	-0.6
WB0				IAmb	IAmb	18 58 25.5	
	comp=Z,9.4nm,1.3s						
WRAB	Tennant Creek	30.93	166	P	P	18 57 37.0	-0.3
WRAB				IAmb	IAmb	18 58 19.6	
	comp=Z,15nm,1.6s						
WRA	Warramunga Arr	30.94	166	P	P	18 57 39.2	+1.9
	comp=Z,0.6nm,0.9s,baz=344,slow=8.8,SNR=2.6						
	comp=Z,0.6nm,0.9s						
WR8	Warramunga Arr	30.99	165	P	P	18 57 37.8	0.0
WR8				IAmb	IAmb	18 58 15.7	
	comp=Z,14nm,1.5s						
MBWA	Marble Bar	31.89	192	P	P	18 57 46.2	+0.5
PSA00	Pilbara Seismi	32.27	192	P	P	18 57 49.9	+0.9
ASAR	Alice Springs	34.44	168	P	P	18 58 08.6	+0.7
	comp=Z,0.2nm,0.3s,baz=349,slow=7.2,SNR=7.9						
	comp=Z,0.2nm,0.3s						
GTA	Gaotai	37.58	325	eP	P	18 58 36.8	+2.0
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MORW	Morawa	40.35	194	P	P	18 58 59.3	+1.4
MORW				IAmb	IAmb	19 00 06.5	
	comp=Z,93nm,1.8s						
SONM	Songino Array	41.16	339	P	P	18 59 04.0	-0.5
	comp=Z,0.4nm,0.6s,baz=169,slow=9.1,SNR=5.5						
	comp=Z,0.4nm,0.6s						
BBOO	Buckleboo	43.74

KURK Kurchatov 56.27 325 P **P** **19 01 01.5 +1.2**
KURK Kurchatov 56.27 325 IAmb IAmb 19 01 02.0
comp=Z,1.6nm,0.7s
KURBB Kurchatov Arra 56.27 325 P **P** **19 01 01.5 +1.1**
comp=Z,0.8nm,0.4s,baz=124,slow=6.9,SNR=8.4
comp=Z,0.8nm,0.4s
SHEM Shemya Is, Ala 57.05 32 P **P** **19 01 03.9 -1.9**
SMY Shemya 57.05 32 P **P** **19 01 03.9 -1.9**
GAR Garm 57.54 310 P **P** **19 01 08.6 -1.1**
GAR IAmb IAmb 19 01 11.0
comp=Z,15nm,1.5s
BVAR Borovoye Array 61.86 325 P **P** **19 01 40.5 +1.5**
comp=Z,1.0nm,0.7s,baz=104,slow=6.3,SNR=5.2
BVAR PcP **PcP** **19 02 20.2 +0.5**
comp=Z,1.3nm,0.7s,baz=122,slow=5.4,SNR=4.4
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 84.34 340 P **P** **19 03 53.0 +1.5**
comp=Z,4.7nm,0.9s,baz=87,slow=7.8,SNR=10
comp=Z,4.7nm,0.9s
FINES FINESS Array B 86.07 332 P **P** **19 04 00.6 +0.4**
comp=Z,1.6nm,0.8s,baz=28,slow=4.5,SNR=4.5
comp=Z,1.6nm,0.8s
PLCA Paso Flores 146.05 156 PKPdf **PKPdf** **19 10 58.4 -0.7**

IDC 24 19:01:30.6±7.7, 2°.30S×102°.01E, h0km, mb3.3/4, mbtmp3.3/4, MS3.4/1, Error ellipse: s-maj=425.2km s-min=25.0km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**17.91**	**99**	LR	LR	19 13 12.8	
	comp=Z,105nm,18.7s,baz=201,slow=39						
H08S2	**Diego Garcia H**	**29.87**	**259**	T	T	19 36 55.0	
	baz=83,slow=74,SNR=3.6						
H08S3	**Diego Garcia H**	**29.88**	**259**	T	T	19 36 52.6	
	baz=83,slow=74,SNR=5.9						
H08S1	**Diego Carcia H**	**29.89**	**259**	T	T	19 36 54.3	
	baz=83						
WRA	**Warramunga Arr**	**36.12**	**121**	P	P	19 08 35.0	+0.2
	0.3nm,0.8s,baz=302,slow=7.9,SNR=5.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**37.47**	**127**	P	P	19 08 45.9	-0.4
	0.7nm,1.1s,baz=299,slow=7.8,SNR=5.8						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**51.88**	**343**	P	P	19 10 41.1	+0.2
	0.3nm,0.8s,baz=145,slow=10,SNR=1.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**56.42**	**342**	P	P	19 11 13.6	-0.4
	0.2nm,0.6s,baz=155,slow=7.1,SNR=3.1						
	0.2nm,0.6s						

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*FCIAR **24** 19:08:29.0, 85°.48N×18°.17E, h10km, station OMEGA has station magnitude of 3.80 station ZFI2 has station magnitude of 3.70*
*BER **24** 19:09:01.7±2.2, 83°.07N×6°.91E, h10km, Mw3.7, Confirmed Earthquake*

ISC 24 19:08:38.6±5.2, 84°.7N±0°.3×17°.4E±0°.3, h10km, n9, σ2°.33/9, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**5.01**	**250**	*eP*	**Pn**	**19 09 53.8**	**+0.1**
ZFI2	**Zemlya Franca-**	**5.36**	**120**	*eP*	Pn	19 09 58.4	0.0
ZFI2				*eS*	Sn	19 11 00.2	+0.1
	37nm,2.0s						
OMEGA	**Omega**	**5.39**	**120**	*eP*	Pn	19 09 58.4	-0.4
OMEGA				*eS*	Sn	19 11 00.2	-0.6
	43nm,1.7s						
KBS	**Kingsbay**	**5.86**	**190**	*eP*	**Pn**	**19 10 04.0**	**-1.2**
KBS				IAML		19 10 04.6	
	comp=Z,8.7nm,0.2s						
SPA0	**Spitsbergen Ar**	**6.56**	**182**	*eP*	**Pn**	**19 10 15.1**	**+0.1**
SPA0				*eS*	**Sn**	**19 11 33.0**	**+3.3**
SPA0	**Spitsbergen Ar**	**6.56**	**182**	*eP*	**Pn**	**19 10 15.3**	**+0.3**
SPA0				IAML		19 10 16.1	
	comp=Z,10nm,0.4s						
BRBB	**Barentsburg B**	**6.66**	**186**	*eP*	**Pn**	**19 10 16.3**	**0.0**
HSPB	**Hornsund (broa**	**7.75**	**183**	*eP*	**Pn**	**19 10 28.4**	**-2.8**
HSPB				*eS*	**Sn**	**19 11 56.3**	**-2.5**
HSPB	**Hornsund (broa**	**7.75**	**183**	*eP*	**Pn**	**19 10 33.6**	**+2.4**

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*IDC **24** 19:12:15.9±1.8, 10°.17N×126°.26E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=172.3km s-min=21.5km az=68.0*

ISC 24 19:12:21.8±1.7, 10°.2N±0°.5×126°.6E±°, h42km, n6, σ0°.74/6, mb3.8/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.95**	**165**	P	**P**	**19 18 35.5**	**+0.4**
	0.5nm,1.0s,baz=344,slow=8.5,SNR=1.6						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**34.44**	**168**	P	**P**	**19 19 05.0**	**-0.5**
	0.3nm,0.9s,baz=352,slow=7.3,SNR=4.5						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**52.15**	**323**	P	**P**	**19 21 28.4**	**+0.3**
	0.4nm,0.4s,baz=127,slow=7.8,SNR=12						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**54.74**	**331**	P	**P**	**19 21 46.1**	**-0.9**
	0.5nm,0.4s,baz=118,slow=6.6,SNR=1.9						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**56.19**	**325**	P	**P**	**19 21 57.2**	**-0.3**
	0.4nm,0.4s,baz=123,slow=7.1,SNR=7.2						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**84.31**	**340**	P	**P**	**19 24 49.5**	**+0.5**
	1.9nm,0.8s,baz=57,slow=4.5,SNR=5.1						
	1.9nm,0.8s						

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*NOU **24** 19:14:12.9, 28°.83S×176°.70W, h53km, mb5.6/90, Kermadec Islands Region*
*IPGP **24** 19:14:12.0, 28°.65S×176°.91W, h67km, Mw5.7, Fault plane solution: NP1:ϕs318.00000°, δ6.00000°, λ-118.00000°. NP2:ϕs166.00000°, δ85.00000°, λ-87.00000°.*
*NEIC **24** 19:14:16.6±2.7, 28°.52S±0°.07×177°.05W±0°.08, h70km±1km, mb5.7/407, Mwb5.7/79, Mww5.7/31, Error ellipse: s-maj=12.7km s-min=11.1km az=316.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-1.61; Mθθ0.62; Mφφ0.99; Mrθ-1.03; Mθφ-0.39; Mφr3.75; Fault plane solution: M0 4.15000×1017 NP1:ϕs163.56000°, δ80.17000°, λ-86.75000°. NP2:ϕs325.17000°, δ10.34000°, λ-108.11000°. Principal axes: T 3.9144, Plg35.0000°, Azm251.0000°; N 0.4385, Plg3.0000°, Azm343.0000°; P -4.3529, Plg55.0000°, Azm78.0000°;*
*NEIC **24** 19:14:16.7, 28°.49S×177°.04W, h80km*
*NEIC **24** 19:14:16.7, 28°.59S×176°.58W, h80km, Moment Tensor Solution. Duration: 3s1.0 Moment tensor: Scale 1017 Nm; Mrr-1.53; Mθθ-0.64; Mφφ2.17; Mrθ-0.46; Mθφ-1.08; Mφr3.36; Fault plane solution: M0 4.04000×1017 NP1: ϕs319.23000°, δ17.70000°, λ-122.48000°. NP2: ϕs172.98000°, δ75.13000°, λ-80.27000°. Principal axes: T 4.4175, Plg29.0000°, Azm255.0000°; N -0.8989, Plg9.0000°, Azm350.0000°; P -3.5186, Plg59.0000°, Azm96.0000°;*
*BJI **24** 19:14:16.2, 28°.33S×176°.68W, h82km, mB5.7/29, mb5.1/42, Ms5.3/27, Ms7 5.0/36*
*GCMT **24** 19:14:18.6±0.1, 28°.51S±0°.01×176°.88W±0°.01, h85km, MW5.7/149, Moment Tensor Solution. s142, c284; s149, c298; Duration: 1s7 Moment tensor: Scale 1017 Nm; Mrr-0.64±.04; Mθθ-1.54±.04; Mφφ2.18±.04; Mrθ-1.04±.03; Mθφ-0.48±.04; Mφr3.76±.03; Best double couple: M0 4.18600×1017 NP1:ϕs28.00000°, δ14.00000°, λ-43.00000°. NP2:ϕs161.00000°, δ81.00000°, λ-100.00000°. Principal axes: T 4.9390, Plg35.0000°, Azm259.0000°; N -1.5040, Plg10.0000°, Azm162.0000°; P -3.4340, Plg53.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 19:14:18.0±1.1, 28°.49S×177°.23W, h90km, mb5.6/12 Error ellipse: s-maj=10.9km s-min=9.6km az=92.7*
*NEIC **24** 19:14:18.6, 28°.62S×177°.09W, h90km*
*IDC **24** 19:14:18.9±0.4, 28°.49S×177°.20W, h88km±3km, mb4.8/28, mbtmp5.1/28, MS4.7/51, Error ellipse: s-maj=13.1km s-min=10.3km az=152.0*

ISC 24 19:14:17.9±0.3, 28°.72S±0°.04×177°.08W±0°.04, h88km±2km, h88km:pP-P, n1098, σ1°.64/936, mb5.6/279, 26C-48D,

Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**234**	Pn	**Pn**	**19 14 37.8**	**+1.3**
RAO				Sn	**Sn**	**19 14 52.3**	**+2.0**
RAO	**Raoul Island**	**0.91**	**234**	P	**Pn**	**19 14 37.9**	**+1.5**
	baz=126,slow=19						
RIZ	**Raoul Island**	**0.91**	**235**	P	**Pn**	**19 14 38.0**	**+1.5**
RIZ				S	**Sn**	**19 14 53.9**	**+3.6**
GLKZ	**Green Lake**	**0.92**	**234**	P	**Pn**	**19 14 37.7**	**+1.2**
GLKZ				S	**Sn**	**19 14 54.1**	**+3.7**
MXZ	**Matakaoa Point**	**9.63**	**202**	Pn		19 16 26.9	-6.7
MXZ				Sn		19 18 09.5	-10
MXZ	**Matakaoa Point**	**9.63**	**202**	P	Pn	19 16 26.5	-7.1
MXZ				S	**Sn**	**19 18 15.2**	**-4.7**
GRZ	**Great Barrier**	**9.80**	**218**	P	**Pn**	**19 16 36.5**	**+0.6**
WMGZ	**Waiomatatini S**	**9.83**	**201**	P	Pn	19 16 30.1	-6.1
WMGZ				S	**Sn**	**19 18 21.2**	**-3.5**
PKGZ	**Pakihiroa**	**9.98**	**203**	P	Pn	19 16 31.9	-6.5
HAZ	**Te Kaha**	**9.99**	**204**	P	Pn	19 16 31.9	-6.4
HAZ				S	**Sn**	**19 18 27.4**	**-1.1**
PUZ	**Puketiti**	**10.11**	**201**	P	Pn	19 16 33.1	-7.0
PUZ				S	**Sn**	**19 18 28.4**	**-3.2**
RUGZ	**Raukumara Rang**	**10.21**	**204**	P	Pn	19 16 34.5	-7.1
RUGZ				S	**Sn**	**19 18 32.0**	**-2.2**
WCZ	**Waipu Caves**	**10.22**	**223**	P	**Pn**	**19 16 43.4**	**+1.8**
OUZ	**Omahuta**	**10.23**	**228**	P	**Pn**	**19 16 44.5**	**+2.7**
TWGZ	**Tauwhareparae**	**10.29**	**202**	P	Pn	19 16 35.7	-7.0
TWGZ				S	**Sn**	**19 18 33.2**	**-3.0**
WHRZ	**Whale Island**	**10.38**	**207**	P	**Pn**	**19 16 39.5**	**-4.3**
WHRZ				S	**Sn**	**19 18 35.5**	**-2.7**
CNGZ	**Carnagh Statio**	**10.50**	**201**	P	Pn	19 16 38.7	-6.7
OPRZ	**Ohinepanea**	**10.54**	**209**	P	**Pn**	**19 16 41.8**	**-4.2**
TKGZ	**Te Karaka**	**10.58**	**202**	P	Pn	19 16 38.8	-7.7
TKGZ				S	**Sn**	**19 18 39.5**	**-3.4**
MWZ	**Matawai**	**10.59**	**204**	P	Pn	19 16 39.1	-7.6
MWZ				S	**Sn**	**19 18 39.1**	**-4.3**
MARZ	**Manawahe**	**10.61**	**208**	P	**Pn**	**19 16 42.7**	**-4.2**
MARZ				S	**Sn**	**19 18 40.8**	**-3.2**
URZ	**Urewera**	**10.68**	**205**	P	Pn	19 16 40.2	-7.6
	32nm,0.3s,baz=267,slow=3.0,SNR=51						
URZ				S	**Sn**	**19 18 39.4**	**-6.0**
	291nm,0.4s,baz=72,slow=9.0,SNR=5.7						
URZ	**Urewera**	**10.68**	**205**	P	Pn	19 16 40.4	-7.4
URZ				S	**Sn**	**19 18 41.4**	**-4.0**
RAGZ	**Rawiri**	**10.78**	**204**	P	Pn	19 16 41.8	-7.5
RAGZ				S	**Sn**	**19 18 43.4**	**-4.5**
RIGZ	**Rimuhau**	**10.85**	**202**	P	Pn	19 16 42.4	-7.7
TOZ	**Tahuroa Road**	**10.92**	**213**		**Pn**	**19 16 46.7**	**-4.4**
TOZ	**Tahuroa Road**	**10.92**	**213**	P	**Pn**	**19 16 49.5**	**-1.7**
RRRZ	**Republican Roa**	**10.98**	**207**	P	Pn	19 16 47.1	-4.9
MUGZ	**Murupara**	**11.00**	**206**	P	Pn	19 16 44.5	-7.7
PRGZ	**Paritu Road**	**11.00**	**201**	P	Pn	19 16 45.2	-7.1
RTZ	**Ruatahuna**	**11.04**	**205**	P	Pn	19 16 45.4	-7.4
SNGZ	**Shannon Statio**	**11.06**	**203**	P	Pn	19 16 45.1	-7.9
KNZ	**Kokohu**	**11.16**	**202**	P	Pn	19 16 46.5	-7.9
MHGZ	**Mahia Peninsul**	**11.21**	**200**	P	Pn	19 16 46.6	-8.5
RAHZ	**Arahi**	**11.27**	**204**	P	Pn	19 16 48.1	-7.7
MRHZ	**Matea Rd**	**11.45**	**206**	P	Pn	19 16 50.9	-7.4
ARHZ	**Aropaoanui**	**11.61**	**203**	P	Pn	19 16 52.3	-8.1
NIUE	**Niue**	**11.61**	**36**	Pn	Pn	19 16 52.2	-8.4
NIUE	**Niue**	**11.61**	**36**	P	Pn	19 16 51.2	-9.4
BKZ	**Black Stump Fm**	**11.70**	**205**	P	Pn	19 16 53.0	-8.8
RITZ	**Rihia Road**	**11.79**	**208**	P	**Pn**	**19 16 58.9**	**-4.0**
MSVF	**Nonsavu**	**11.81**	**337**		**Pn**	**19 17 02.1**	**-1.4**
MSVF	**Nonsavu**	**11.81**	**337**	P	**Pn**	**19 17 02.3**	**-1.1**
MSVF	**Nonsavu**	**11.81**	**337**	P	**Pn**	**19 17 02.1**	**-1.4**
HIZ	**Hauiti**	**11.85**	**212**		**Pn**	**19 17 01.0**	**-2.8**
HIZ	**Hauiti**	**11.85**	**212**	P	**Pn**	**19 16 59.9**	**-3.8**
CKHZ	**Cape Kidnapper**	**11.93**	**202**	P	Pn	19 16 55.3	-10
KWHZ	**Kaweka Forest**	**11.96**	**205**	P	Pn	19 16 57.3	-7.9
ETVZ	**East Tongariro**	**11.99**	**208**	P	Pn	19 17 00.6	-5.1
NNVZ	**North Ngauruho**	**12.02**	**208**	P	**Pn**	**19 17 03.7**	**-2.5**
OTVZ	**Oturere**	**12.03**	**208**	P	**Pn**	**19 17 02.7**	**-3.6**
NGZ	**Ngauruhoe**	**12.07**	**208**	P	Pn	19 17 01.5	-5.3
KAHZ	**Kahuranaki**	**12.12**	**203**	P	Pn	19 16 58.4	-9.1
FWVZ	**Far West T-bar**	**12.15**	**208**	P	Pn	19 17 02.4	-5.6
WHVZ	**Whangaehu Hut**	**12.16**	**208**	P	Pn	19 17 01.3	-6.8
MOVZ	**Moawhango**	**12.20**	**207**	P	Pn	19 17 00.3	-8.2
PXZ	**Pawanui**	**12.34**	**202**	P	Pn	19 17 01.7	-8.6
VRZ	**Vera Road**	**12.39**	**211**	P	**Pn**	**19 17 08.0**	**-3.0**
PUHZ	**Pukenui**	**12.47**	**205**	P	Pn	19 17 03.3	-8.7
WPHZ	**Waipukurau**	**12.52**	**204**	P	Pn	19 17 04.2	-8.4
PRHZ	**Porangahau**	**12.63**	**203**	P	Pn	19 17 05.3	-8.9
TSZ	**Takapari Road**	**12.68**	**205**	P	Pn	19 17 05.8	-9.1
DVHZ	**Dannevirke**	**12.82**	**204**	P	Pn	19 17 07.2	-10
ANWZ	**Angora Road**	**12.86**	**203**	P	**Pn**	**19 17 13.6**	**-3.6**
KHEZ	**Kahui Hut**	**12.87**	**213**	P	**Pn**	**19 17 15.3**	**-2.2**
POWZ	**Post Office Ro**	**13.05**	**205**	P	Pn	19 17 12.0	-7.7
PRWZ	**Pori Road**	**13.12**	**204**	P	Pn	19 17 12.8	-7.8
BFZ	**Birch Farm**	**13.13**	**203**		Pn	19 17 12.1	-8.8
BFZ	**Birch Farm**	**13.13**	**203**	P	**Pn**	**19 17 17.0**	**-3.9**
BFZ	**Birch Farm**	**13.13**	**203**	P	Pn	19 17 10.7	-10
NFK	**Norfolk Island**	**13.14**	**265**	P	**P**	**19 17 25.3**	**-2.5**
	comp=Z,0.0nmcomp=Z,973nm,1.6s						
TIWZ	**Tintock**	**13.34**	**204**	P	Pn	19 17 14.6	-9.0
CPWZ	**Castlepoint**	**13.35**	**203**	P	Pn	19 17 16.7	-7.0
HOWZ	**Holdsworth Sta**	**13.58**	**205**	P	Pn	19 17 16.3	-10
TMWZ	**Te Maipa**	**13.63**	**203**	P	Pn	19 17 18.1	-9.4
MSWZ	**Moikau Station**	**14.13**	**204**	Pn	Pn	19 17 24.8	-9.1
SNZO	**South Karori**	**14.24**	**206**	P	**Pn**	**19 17 32.1**	**-3.2**
TCW	**Tory Channel**	**14.33**	**207**	Pn	Pn	19 17 27.7	-8.8
FUTU	**Fugatoga**	**14.37**	**356**		Pn	19 17 31.2	-6.0
FUTU	**Fugatoga**	**14.37**	**356**	P	**Pn**	**19 17 33.5**	**-3.7**
TUWZ	**Tuamarina**	**14.65**	**208**	Pn	Pn	19 17 32.2	-8.3
NNZ	**Nelson**	**14.71**	**210**		Pn	19 17 34.0	-7.3
TKNZ	**Takaka Hill**	**14.74**	**211**		Pn	19 17 35.1	-6.7
QRZ	**Quartz Range**	**14.78**	**212**	P	Pn	19 17 37.0	-5.2
CTZ	**Chatham Island**	**14.99**	**179**		**Pn**	**19 17 42.5**	**-2.4**
CTZ	**Chatham Island**	**14.99**	**179**	P	**Pn**	**19 17 42.6**	**-2.3**
MRNZ	**Matariki Terra**	**15.13**	**211**		**Pn**	**19 17 40.1**	**-6.6**
PINNC	**Pines Island,**	**15.22**	**290**		**P**	**19 17 49.6**	**-1.3**
PINNC	**Pines Island,**	**15.22**	**290**	P	**P**	**19 17 50.1**	**-0.8**
THZ	**Tophouse**	**15.36**	**209**		Pn	19 17 41.5	-8.2
AFI	**Afiamalu**	**15.54**	**20**		Pn	19 17 41.0	-11
AFI	**Afiamalu**	**15.54**	**20**	P	Pn	19 17 41.0	-11
OUENC	**Ouen Island, N**	**15.80**	**290**	P	**P**	**19 17 57.7**	**+0.2**
YATNC	**Mamie plateau,**	**15.93**	**291**	P	**P**	**19 17 58.8**	**0.0**
ONTNC	**Ouen Toro**	**16.17**	**290**		**Pn**	**19 17 58.5**	**-1.4**
ONTNC	**Ouen Toro**	**16.17**	**290**	P	**P**	**19 18 02.8**	**+1.2**
DZM	**Mont Dzumac**	**16.29**	**290**	P	**P**	**19 18 04.3**	**+1.4**
	comp=Z,229nm,1.2s,baz=117,slow=11,SNR=32						
DZM				S	**Sn**	**19 21 03.6**	**+1.7**
	baz=139,slow=20						
DZM				LR	LR	19 23 24.4	
	comp=Z,4μm,18.4s,baz=114,slow=34						
GVZ	**Greta Valley S**	**16.30**	**207**		**Pn**	**19 17 54.4**	**-7.1**
RAR	**Rarotonga**	**17.37**	**68**		**Pn**	**19 18 10.9**	**-3.8**
RAR	**Rarotonga**	**17.37**	**68**	P	**Pn**	**19 18 10.7**	**-3.9**
	comp=Z,214nm,0.9s,baz=243,slow=7.3,SNR=30						
RAR				S	Sn	19 21 07.1	-21
	comp=Z,411nm,1.0s,baz=91,slow=18,SNR=9.7						
RAR				LR	LR	19 25 31.7	
	comp=Z,2μm,18.2s,baz=256,slow=39						
RAR	**Rarotonga**	**17.37**	**68**	P	**Pn**	**19 18 10.7**	**-3.9**
RAR	**Rarotonga**	**17.37**	**68**	P	**Pn**	**19 18 10.9**	**-3.8**
RPZ	**Rata Peaks**	**17.74**	**209**		P	19 18 11.0	-7.7
RPZ	**Rata Peaks**	**17.74**	**209**	P	P	19 18 09.9	-8.8
	comp=Z,41nm,1.2s,baz=30,slow=8.1,SNR=2.3						
RPZ				S	Sn	19 21 17.1	-19
	comp=Z,57nm,0.3s,baz=301,slow=22,SNR=10						
KOUNC	**Koumac, New Ca**	**18.78**	**291**	P	**Pn**	**19 18 33.3**	**+1.6**
ODZ	**Otahua Downs**	**18.99**	**208**	P	**P**	**19 18 27.9**	**-4.5**
ODZ	**Otahua Downs**	**18.99**	**208**	P	**P**	**19 18 27.7**	**-4.7**
JCZ	**Jackson Bay**	**19.04**	**213**	P	**P**	**19 18 30.1**	**-3.0**
SANVU	**Saraoutou**	**19.63**	**309**		**P**	**19 18 40.5**	**+0.9**
SANVU	**Saraoutou**	**19.63**	**309**	P	**Pn**	**19 18 41.7**	**-0.1**
FUNA	**Funafuti**	**20.39**	**349**		**P**	**19 18 43.9**	**-3.8**
FUNA	**Funafuti**	**20.39**	**349**	P	**P**	**19 18 43.4**	**-4.4**
LHI	**Lord Howe Isla**	**20.82**	**256**	P	Pn	19 18 55.7	+0.2
	comp=Z,0.0nmcomp=Z,458nm,1.2s						
LHI	**Lord Howe Isla**	**20.82**	**256**		Pn	19 18 55.1	-0.5
LHI				IAmb	IAmb	19 19 01.2	
	comp=Z,334nm,0.9s						
TBI	**Tubuai**	**25.35**	**84**	*eP*	**P**	**19 19 37.4**	**+0.6**
	comp=Z,554nm,1.5s						
TBI				*eS*	**S**	**19 23 55.0**	**-1.8**
	comp=Z,14μm,32.0s						
TBI				*eLR*	LR	19 25 46.2	
	comp=Z,11μm,30.0s						
TBI				*eLR*	LR	19 25 51.8	
	comp=Z,68μm,30.8s						
AUWSH	**Wavell State H**	**26.38**	**266**	P	**P**	**19 19 48.1**	**+2.1**
ARMA	**Armidale**	**27.23**	**259**	P	**P**	**19 19 55.4**	**+1.6**
	comp=Z,0.0nmcomp=Z,66nm,0.9s						
ARMA	**Armidale**	**27.23**	**259**		**P**	**19 19 54.4**	**+0.6**
ARMA	**Armidale**	**27.23**	**259**		**P**	**19 19 55.8**	**+2.0**
TW1H	**Toowoomba 1 Ha**	**27.29**	**265**	P	**P**	**19 19 56.3**	**+2.0**
AUKHS	**Kincumber High**	**27.36**	**252**	P	**P**	**19 19 57.3**	**+2.5**
PAE	**Paea**	**27.50**	**72**	*eP*	**P**	**19 19 54.6**	**-1.6**
	comp=Z,75nm,1.4s						
PAE				*eLR*	LR	19 26 40.3	
	comp=Z,3μm,28.2s						
PPT2	**Papeete2**	**27.54**	**72**	*eP*	**P**	**19 19 53.8**	**-2.8**
	comp=Z,108nm,1.3s						
PPT2				*eS*	**S**	**19 24 32.5**	**+1.0**
	comp=Z,4μm,24.0s						
PPT2				*eLR*	LR	19 26 46.6	
	comp=Z,18μm,29.8s						
PPT2				*eLR*	LR	19 26 46.9	
	comp=Z,13μm,32.2s						
PPTF	**Pamatai, Papee**	**27.55**	**72**		**P**	**19 19 55.2**	**-1.5**
PPTF				IAmb	IAmb	19 19 57.4	
	comp=Z,282nm,1.6s						
PPTF	**Pamatai, Papee**	**27.55**	**72**	P	**P**	**19 19 52.5**	**-4.2**
PPT	**Papeete**	**27.55**	**72**	P	**P**	**19 19 56.4**	**-0.2**
	comp=Z,30nm,0.5s,baz=172,slow=1.3,SNR=12						
PPT				LR	LR	19 29 58.5	
	comp=Z,1μm,18.5s,baz=240,slow=34						
	comp=Z,30nm,0.5s						
RIV	**Riverview**	**27.56**	**251**	P	**P**	**19 19 58.7**	**+2.1**
MGCD	**Mangrove Creek**	**27.59**	**253**	P	**P**	**19 19 59.1**	**+2.3**
	comp=Z,59nm,0.7s						
TVO	**Taravao**	**27.72**	**73**	*eP*	**P**	**19 19 55.4**	**-2.8**
	comp=Z,155nm,1.8s						
TVO				*eLR*	LR	19 26 47.0	
	comp=Z,2μm,27.6s						
TIAR	**Tiarei**	**27.75**	**72**	*eP*	**P**	**19 19 56.9**	**-1.5**
	comp=Z,336nm,0.9s						
TIAR				*eLR*	LR	19 26 47.3	
	comp=Z,10μm,27.6s						
AUPHS	**Peel High Scho**	**27.82**	**257**	P	**P**	**19 20 00.7**	**+1.7**
SYDH	**Sydney Hard Ro**	**27.91**	**251**	P	**P**	**19 20 02.1**	**+2.4**
AUUHS	**Ulladulla High**	**28.21**	**248**	P	**P**	**19 20 04.4**	**+2.0**
EIDS	**Eidsvold**	**28.51**	**269**	P	**P**	**19 20 06.8**	**+1.6**
	comp=Z,60nm,1.3s						
EIDS	**Eidsvold**	**28.51**	**269**		**P**	**19 20 05.3**	**+0.1**
EIDS	**Eidsvold**	**28.51**	**269**	P	**P**	**19 20 05.6**	**+0.4**
CNB	**Canberra Magne**	**29.11**	**248**	P	**P**	**19 20 11.9**	**+1.4**
	comp=Z,0.0nmcomp=Z,91nm,1.0s						
CNB	**Canberra Magne**	**29.11**	**248**	P	**P**	**19 20 11.9**	**+1.4**
AUDAR	**Daramalan Coll**	**29.29**	**248**	P	**P**	**19 20 13.6**	**+1.6**
AUSIS	**Research Schoo**	**29.32**	**248**	P	**P**	**19 20 14.0**	**+1.8**
AUMTS	**Mt Stromlo**	**29.41**	**248**	P	**P**	**19 20 14.8**	**+1.7**
CAN	**Canberra**	**29.41**	**248**	P	**P**	**19 20 14.5**	**+1.4**
	comp=Z,92nm,1.1s						
CAN	**Canberra**	**29.41**	**248**		**P**	**19 20 13.8**	**+0.7**
CAN	**Canberra**	**29.41**	**248**	P	**P**	**19 20 14.7**	**+1.6**
CAN	**Canberra**	**29.41**	**248**	P	**P**	**19 20 13.8**	**+0.7**
CAN				pmax	pmax		
	comp=Z,90nm,1.0s						
MILA	**Mila**	**29.43**	**245**	P	**P**	**19 20 14.8**	**+1.5**
	comp=Z,20nm,0.8s						
AUNRC	**North Rockhamp**	**29.54**	**273**	P	**P**	**19 20 15.7**	**+1.4**
AUSMG	**Snowy Mountain**	**29.80**	**246**	P	**P**	**19 20 18.3**	**+1.7**
YNG	**Young**	**29.86**	**250**	P	**P**	**19 20 19.6**	**+2.5**
PMOR	**Pomariorio Ree**	**30.23**	**69**	*eP*	**P**	**19 20 19.5**	**-0.9**
	comp=Z,308nm,1.4s						
PMOR				*eLR*	LR	19 27 56.5	
	comp=Z,8μm,26.2s						
VAH	**Vaihoa**	**30.33**	**70**	*eP*	**P**	**19 20 20.0**	**-1.3**
	comp=Z,42nm,1.1s						
AULRC	**Lightning Ridg**	**30.48**	**260**	P	**P**	**19 20 24.4**	**+1.8**
MOO	**Moorlands**	**31.88**	**235**	P	**P**	**19 20 30.9**	**-3.8**
AUTAR	**Taroona High S**	**31.88**	**234**	P	**P**	**19 20 35.6**	**+0.9**
TAU	**Tasmania Unive**	**31.90**	**234**		**P**	**19 20 33.1**	**-1.7**
TAU				IAmb	IAmb	19 20 59.3	
	comp=Z,96nm,1.1s						
TAU	**Tasmania Unive**	**31.90**	**234**	P	**P**	**19 20 34.2**	**-0.7**
TAU	**Tasmania Unive**	**31.90**	**234**	P	**P**	**19 20 33.1**	**-1.7**
TAU				pmax	pmax		
	comp=Z,96nm,1.1s						
CMSA	**Cobar Meteorol**	**32.23**	**256**	P	**P**	**19 20 38.9**	**+1.0**
	comp=Z,0.0nmcomp=Z,92nm,1.0s						
CMSA	**Cobar Meteorol**	**32.23**	**256**	P	**P**	**19 20 38.7**	**+0.8**
**TOO

WRAB Tennant Creek 44.87 270 *c iP* **P 19 22 22.6 -1.2**
WRAB pmax pmax
comp=Z,127nm,1.0s
WRAB Tennant Creek 44.87 270 P **P 19 22 22.7 -1.1**
WRA Warramunga Arr 44.87 270 P **P 19 22 21.9 -2.0**
WRA Warramunga Arr 44.87 270 **ScP 19 27 51.0 +2.3**
WRA Warramunga Arr 44.87 270 P **P 19 22 22.8 -1.0**
comp=Z,101nm,1.1s,baz=107,slow=7.9,SNR=161
WRA pP **pP 19 22 46.5 +2.1**
comp=Z,41nm,0.8s,baz=109,slow=7.6,SNR=6.3
WRA ScP **ScP 19 27 50.2 +1.6**
comp=Z,16nm,0.9s,baz=109,slow=4.1,SNR=15
WRA S **S 19 28 49.5 -5.7**
comp=Z,8.1nm,0.9s,baz=108,slow=14,SNR=7.5
comp=Z,101nm,1.1s
WB0 Warramunga Arr 44.89 270 IAmb IAmb 19 22 24.3
comp=Z,96nm,0.9s
DRV Dumont d'Urvil 46.00 202 P **P 19 22 33.0 +1.0**
DRV pP **pP 19 22 50.2 -2.0**
FORT Forrest 47.28 253 P **P 19 22 41.6 -0.9**
comp=Z,179nm,0.8s
FORT Forrest 47.28 253 P **P 19 22 41.2 -1.4**
FORT IAmb IAmb 19 22 42.6
comp=Z,107nm,0.7s
JAY Jayapura 47.88 295 P **P 19 22 46.8 -0.6**
comp=Z,15nm,0.9s,baz=189,slow=2.8,SNR=7.0
JAY LR LR 19 42 28.8
comp=Z,642nm,18.9s,baz=192,slow=35
comp=Z,15nm,0.9s
WRKA Warakurna 48.52 261 P **P 19 22 51.2 -1.0**
comp=Z,53nm,1.3s
KDU Kakadu 49.45 278 P **P 19 22 57.9 -1.5**
comp=Z,13nm,1.2s
SBA Scott Base 49.77 184 P **P 19 23 04.5 +3.5**
SBA Scott Base 49.77 184 P **P 19 23 04.5 +3.5**
SBA pmax pmax
comp=Z,146nm,1.1s
SBA Scott Base 49.77 184 P P 19 23 06.0 +5.1
VNDA Vanda 49.84 186 P **P 19 23 05.2 +3.6**
comp=Z,5.0nm,0.6s,baz=3.5,slow=7.9,SNR=43
VNDA S **S 19 30 02.9 -1.4**
comp=Z,0.5nm,0.8s,baz=216,slow=8.7,SNR=1.2
VNDA LR LR 19 40 09.8
comp=Z,281nm,21.8s,baz=23,slow=31
comp=Z,5.0nm,0.6s
VNDA Vanda 49.84 186 P **P 19 23 05.5 +3.9**
MTN Manton Dam 50.55 277 P **P 19 23 06.0 -1.7**
DRS Darwin Rock St 50.94 277 P **P 19 23 10.2 -0.4**
AUDHS Darwin High Sc 50.99 277 P **P 19 23 10.1 -0.9**
KNRA Kununurra 51.41 272 P **P 19 23 14.2 0.0**
comp=Z,84nm,1.9s
KNRA Kununurra 51.41 272 IAmb IAmb 19 23 39.3
comp=Z,53nm,0.8s
KNHH Kane Nui o Ham 52.29 26 P **P 19 23 20.3 -0.4**
KMBL Kambalda 52.31 251 P **P 19 23 19.8 -1.0**
comp=Z,50nm,1.4s
BAKI Biak 52.35 293 P **P 19 23 21.5 +0.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,63nm,0.8s
POHA Pohakuloa 52.49 26 P **P 19 23 22.5 +0.2**
POHA Pohakuloa 52.49 26 P **P 19 23 22.5 +0.2**
KEKH Kekaha 53.12 20 P **P 19 23 26.0 -0.6**
KIP Kipapa 53.14 22 P **P 19 23 26.1 -0.6**
KIP Kipapa 53.14 22 P **P 19 23 26.9 +0.2**
KIP Kipapa 53.14 22 P **P 19 23 26.1 -0.6**
KIP pmax pmax
comp=Z,536nm,1.2s
FITZ Fitzroy Crossi 53.19 268 LR LR 19 46 06.4
comp=Z,2µm,18.9s,baz=100,slow=36
CCD Concordia, Ant 54.78 196 P **P 19 23 40.8 +2.2**
CCD pP **pP 19 23 59.1 -0.3**
RKGY Rocky Gully 55.56 246 P **P 19 23 43.9 -0.5**
comp=Z,207nm,1.9s
NWAO Narrogin (SRO) 55.76 248 P **P 19 23 44.7 -1.0**
comp=Z,65nm,1.3s
NWAO Narrogin (SRO) 55.76 248 P **P 19 23 44.0 -1.8**
NWAO IAmb IAmb 19 23 45.6
comp=Z,139nm,1.4s
NWAO Narrogin (SRO) 55.76 248 LR LR 19 44 03.7
comp=Z,2µm,21.8s,baz=91,slow=32
NWAO Narrogin (SRO) 55.76 248 P **P 19 23 44.0 -1.8**
NWAO pmax pmax
comp=Z,139nm,1.5s
GUMO Guam 55.88 314 LR LR 19 45 17.4
comp=Z,661nm,21.7s,baz=135,slow=33
MEEK Meekatharra 56.36 256 P **P 19 23 49.0 -1.3**
comp=Z,81nm,1.2s
MEEK Meekatharra 56.36 256 P **P 19 23 48.9 -1.3**
BLDU Ballidu 56.80 251 P **P 19 23 52.0 -1.2**
comp=Z,73nm,1.3s
BLDU Ballidu 56.80 251 P **P 19 23 51.8 -1.4**
AUHAR St Anne's Scho 56.81 247 P **P 19 23 53.2 0.0**
MUN Mundaring 56.84 249 P **P 19 23 52.8 -0.6**
comp=Z,106nm,2.4s
MUN Mundaring 56.84 249 P **P 19 23 52.6 -0.9**
PSAC2 Pilbara Seismi 56.94 262 P **P 19 23 53.2 -1.2**
comp=Z,81nm,1.4s
PSAB3 Pilbara Seismi 56.97 262 P **P 19 23 53.1 -1.5**
comp=Z,65nm,1.5s
AUMAZ Mazenod Senior 56.97 249 P **P 19 23 53.8 -0.6**
PSA00 Pilbara Seismi 56.98 262 P **P 19 23 53.6 -1.0**
comp=Z,71nm,1.6s
PSA00 Pilbara Seismi 56.98 262 IAmb IAmb 19 23 54.3
comp=Z,74nm,1.1s
PSA00 Pilbara Seismi 56.98 262 P **P 19 23 53.2 -1.4**
CASY Casey 57.00 207 P **P 19 23 53.6 -0.4**
CASY Casey 57.00 207 P **P 19 23 55.0 +1.0**
PSAC1 Pilbara Seismi 57.03 262 P **P 19 23 53.9 -1.0**
comp=Z,76nm,1.3s
MBWA Marble Bar 57.23 262 P **P 19 23 55.6 -0.8**
comp=Z,96nm,1.1s
MBWA Marble Bar 57.23 262 P **P 19 23 54.9 -1.4**
MBWA IAmb IAmb 19 23 56.1
comp=Z,96nm,1.1s
MBWA Marble Bar 57.23 262 P **P 19 23 55.2 -1.2**
MBWA Marble Bar 57.23 262 P **P 19 23 55.2 -1.2**
MORW Morawa 57.80 252 P **P 19 23 59.5 -0.8**
comp=Z,63nm,1.2s
MORW Morawa 57.80 252 IAmb IAmb 19 23 60.0
comp=Z,46nm,0.8s
MORW Morawa 57.80 252 P **P 19 23 59.3 -1.0**
SOEI Soe 57.94 277 P **P 19 24 02.4 +0.8**
SOEI Soe 57.94 277 P **P 19 24 01.5 -0.1**
comp=Z,82nm,1.2s
BATI Baumata 58.26 276 P **P 19 24 03.6 -0.1**
comp=Z,18nm,0.7s,baz=144,slow=6.7,SNR=6.0
BATI LR LR 19 48 32.7
comp=Z,4µm,19.8s,baz=150,slow=35
comp=Z,18nm,0.7s
BATI Baumata 58.26 276 P **P 19 24 03.6 -0.1**
comp=Z,51nm,0.6s
RPN Rapa Nui 59.12 106 LR LR 19 46 11.8
comp=Z,246nm,18.4s,baz=258,slow=32
MMRI Maumere 60.23 277 P **P 19 24 19.2 +1.9**
MMRI Maumere 60.23 277 P **P 19 24 16.4 -0.9**
SANI Sanana 60.27 285 P **P 19 24 16.7 -0.8**
SANI Sanana 60.27 285 P **P 19 24 15.9 -1.6**
comp=Z,2µmcomp=Z,1µmcomp=Z,36nm,0.8s
TNTI Ternate 60.64 289 P **P 19 24 21.9 +1.9**
TNTI Ternate 60.64 289 P **P 19 24 18.8 -1.2**
QSPA South Pole Qui 61.39 180 LR LR 19 46 44.9
comp=Z,472nm,21.6s,baz=38,slow=32
QSPA South Pole Qui 61.39 180 P P 19 24 30.3 +5.8
QSPA pP pwP 19 24 49.0 -0.7
WSI Waingapu 61.45 275 P **P 19 24 24.9 -0.6**
GIRL Giralia 61.45 258 P **P 19 24 23.1 -2.4**
comp=Z,137nm,1.5s
LUWI Luwuk 63.53 284 P **P 19 24 38.2 -1.2**
LUWI IAmb IAmb 19 25 11.5
comp=Z,47nm,0.8s
LUWI Luwuk 63.53 284 P **P 19 24 38.9 -0.5**
LUWI Luwuk 63.53 284 P **P 19 24 38.5 -0.9**
comp=Z,59nm,0.9s
BKSI Bulukumba 63.65 279 P **P 19 24 39.2 -1.0**
comp=Z,1µmcomp=Z,57nm,0.9s
BNSI Bone 64.12 280 P **P 19 24 42.4 -0.8**
comp=Z,60nm,1.2s
KAPI Kappang 64.12 279 P **P 19 24 42.7 -0.6**
KAPI Kappang 64.12 279 P **P 19 24 42.3 -1.0**
comp=Z,6.5nm,0.4s,baz=94,slow=3.7,SNR=6.8
KAPI LR LR 19 51 34.7
comp=Z,724nm,21.8s,baz=122,slow=35
comp=Z,6.5nm,0.4s
KAPI Kappang 64.12 279 P **P 19 24 45.1 +1.8**
KAPI Kappang 64.12 279 P **P 19 24 42.7 -0.6**
KAPI pmax pmax
comp=Z,52nm,1.3s

TOLI2 Tolitoli 66.35 285 P **P 19 24 59.6 +1.9**
JAGI Jajag, Banyuwa 67.38 273 P **P 19 25 05.1 +0.8**
JAGI Jajag, Banyuwa 67.38 273 P **P 19 25 03.2 -1.1**
comp=Z,115nm,1.0s
BBKI Banjar Baru 69.15 278 P **P 19 25 15.1 -0.2**
comp=Z,61nm,0.4s
PCJI Pacitan 70.12 271 P **P 19 25 21.3 0.0**
SMAI San Martin Ant 70.68 158 IAmb IAmb 19 25 56.0
comp=Z,83nm,1.1s
BELA Belgrano 2 71.34 172 P **P 19 25 27.4 -0.2**
BELA IAmb IAmb 19 25 54.2
comp=Z,117nm,1.6s
KPJI Karang Pucung 72.49 271 P **P 19 25 35.4 -0.1**
comp=Z,77nm,0.5s
PMSA Palmer Station 73.46 156 LR LR 19 52 54.4
comp=Z,277nm,18.4s,baz=237,slow=31
TGY Tagaytay City 73.47 297 LR LR 19 55 04.6
comp=Z,320nm,22.0s,baz=112,slow=33
JHJ Hachijo jima 2 73.86 323 LR LR 19 53 31.6
comp=Z,291nm,18.8s,baz=309,slow=32
LEM Lembang 73.88 271 LR LR 19 59 53.2
comp=Z,555nm,19.2s,baz=120,slow=37
MAW Mawson 74.16 200 P **P 19 25 46.8 +2.4**
comp=Z,46nm,0.7s,baz=123,slow=7.1,SNR=112
MAW LR LR 19 57 11.4
comp=Z,672nm,20.6s,baz=114,slow=35
comp=Z,46nm,0.7s
SBUM Sibu 74.36 282 P **P 19 25 45.6 -0.9**
SBUM Sibu 74.36 282 P **P 19 25 46.4 -0.1**
KSM Kuching 75.52 280 P **P 19 25 52.3 -0.9**
KSM IAmb IAmb 19 26 18.7
comp=Z,87nm,1.1s
KSM Kuching 75.52 280 P **P 19 25 53.1 -0.1**
JOW Kunigami 76.14 311 IAmb IAmb 19 26 15.6
comp=Z,72nm,1.1s
JOW Kunigami 76.14 311 P **P 19 25 55.6 -0.8**
comp=Z,22nm,0.7s,baz=135,slow=11,SNR=2.5
JOW LR LR 19 55 21.8
comp=Z,292nm,21.8s,baz=110,slow=32
comp=Z,22nm,0.7s
INU Inuyama 77.04 323 P **P 19 26 01.0 -0.3**
MJAR Matsushiro Arr 77.33 324 P **P 19 26 02.4 -0.5**
MJAR Matsushiro Arr 77.33 324 P **P 19 26 02.2 -0.7**
comp=Z,14nm,0.7s,baz=158,slow=5.3,SNR=29
MJAR pP **pP 19 26 25.8 +0.7**
comp=Z,28nm,0.8s,baz=157,slow=5.9,SNR=12
MJAR LR LR 19 56 22.3
comp=Z,403nm,20.2s,baz=146,slow=33
comp=Z,14nm,0.7s
MAJO Matsushiro 77.34 324 P **P 19 26 02.1 -0.8**
MAJO Matsushiro 77.34 324 P **P 19 26 02.5 -0.4**
MAJO Matsushiro 77.34 324 P **P 19 26 02.1 -0.8**
MAJO pmax pmax
comp=Z,46nm,1.0s
MAJO Matsushiro 77.34 324 P **P 19 26 02.2 -0.7**
MAJO PcP **PcP 19 26 12.9 -0.2**
MJB9 Matsu-Tunnel 77.34 324 P **P 19 26 03.5 +0.5**
MDSI Maura Dua 77.99 271 P **P 19 26 05.8 -1.3**
comp=Z,69nm,0.9s
JNU Nakatsue 78.85 318 LR LR 19 57 32.1
comp=Z,120nm,19.7s,baz=130,slow=33
JNU Nakatsue 78.85 318 P **P 19 26 11.4 0.0**
SYO Syowa Base 78.93 193 ⇑*iP* **P 19 26 12.6 +1.3**
SYO Syowa Base 78.93 193 ⇑*e*PcP **PcP 19 26 19.0 -0.6**
TROLL Troll, Antarti 79.55 180 ⇓P **P 19 26 16.5 +1.7**
comp=Z,2µm,0.9s
TROLL ⇑pP **pwP 19 26 40.4 -0.7**
TROLL ⇑SKSac **S 19 36 11.9 +2.7**
COYC Coyhaique 79.59 136 P **P 19 26 15.1 -0.3**
KSI Kapahiang 79.78 271 P **P 19 26 16.1 -0.9**
SNAA Sanae 79.81 178 ⇓P **P 19 26 17.3 +1.2**
comp=Z,275nm,0.9s
SNAA ⇑pP **pwP 19 26 41.4 -1.0**
SNAA ⇑SKSac **S 19 36 14.3 +2.6**
SNAA Sanae 79.81 178 P **P 19 26 16.1 0.0**
SNAA IAmb IAmb 19 26 43.0
comp=Z,79nm,1.2s
SNAA Sanae 79.81 178 P **P 19 26 17.7 +1.5**
comp=Z,11nm,0.8s,baz=192,slow=4.8,SNR=44
SNAA LR LR 19 57 14.6
comp=Z,294nm,21.9s,baz=190,slow=32
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 79.92 176 ⇓P **P 19 26 17.6 +0.9**
comp=Z,31nm,0.7s
VNA3 ⇑pP **pwP 19 26 41.8 -1.1**
KIWB Kanaga Island 80.22 360 P **P 19 26 17.9 -0.4**
KIWB IAmb IAmb 19 26 43.7
comp=Z,122nm,0.8s
ADK Adak 80.25 0 P **P 19 26 17.9 -0.6**
ADK IAmb IAmb 19 26 43.5
comp=Z,121nm,0.9s
ADK Adak 80.25 0 P **P 19 26 17.9 -0.6**
ADK Adak 80.25 0 P **P 19 26 17.9 -0.6**
ADK pmax pmax
comp=Z,121nm,0.9s
ADK Adak 80.25 0 P **P 19 26 17.9 -0.6**
ADK PcP **PcP 19 26 24.4 -1.0**
ADK pP **pP 19 26 37.1 -3.5**
MASI Maura Aman, Be 80.33 272 P **P 19 26 18.9 -1.0**
VNA2 Neumayer--Watz 80.37 177 ⇓P **P 19 26 20.4 +1.3**
comp=Z,24nm,0.8s,baz=162,slow=4.5
VNA2 ⇑pP **pwP 19 26 44.6 -0.7**
baz=176,slow=4.4
VNA2 ⇓SKSac **S 19 36 19.1 +1.6**
baz=169,slow=31
VNA1 Neumayer--Stat 80.59 176 ⇓P **P 19 26 22.2 +2.0**
comp=Z,24nm,0.8s
H03S2 Juan Fernandez 80.72 123 T T 20 56 27.2
baz=240,slow=74,SNR=35
H03S1 Juan Fernandez 80.73 123 T T 20 56 28.2
baz=240,slow=74,SNR=33
H03S3 Juan Fernandez 80.73 123 T T 20 56 27.2
baz=240,slow=74,SNR=30
H03N3 Juan Fernandez 80.90 123 T T 20 56 38.0
baz=244,slow=73,SNR=29
H03N2 Juan Fernandez 80.90 123 T T 20 56 32.3
baz=244,slow=73,SNR=29
H03N1 Juan Fernandez 80.91 123 T T 20 56 32.3
baz=244,slow=73,SNR=56
LL02 Futaleuf 80.95 134 P **P 19 26 22.6 -0.2**
MYKOM Kota Tinggi 81.28 277 P **P 19 26 24.3 -0.7**
MYKOM IAmb IAmb 19 26 51.0
comp=Z,70nm,1.0s
MYKOM Kota Tinggi 81.28 277 P **P 19 26 25.0 +0.1**
ASAJ Asahikawa 81.33 332 LR LR 19 57 59.7
comp=Z,438nm,20.2s,baz=158,slow=32
SHEM Shmya Is, Ala 81.47 355 LR LR 19 59 38.6
comp=Z,228nm,18.3s,baz=119,slow=34
NIKH Nikolski High 81.66 5 P **P 19 26 25.8 -0.2**
NIKH Nikolski High 81.66 5 P **P 19 26 26.0 +0.1**
NIKH Nikolski High 81.66 5 P **P 19 26 25.7 -0.2**
baz=187
UNV Unalaska Valle 82.73 6 P **P 19 26 31.2 -0.2**
baz=189
PDSI Padang 82.95 273 P **P 19 26 31.9 -1.8**
comp=Z,34nm,1.0s
LPIG La Paz 82.96 58 P **P 19 26 34.8 +1.4**
comp=Z,16nm,0.3s,baz=342,slow=7.0,SNR=3.7
LPIG LR LR 19 55 17.1
comp=Z,840nm,21.5s,baz=217,slow=30
comp=Z,16nm,0.3s
SLBS Sierra La Lagu 82.99 58 P **P 19 26 32.6 -1.1**
PLCA Paso Flores 83.06 133 P **P 19 26 35.9 +1.9**
comp=Z,7.5nm,0.9s,baz=254,slow=3.8,SNR=10
PLCA LR LR 19 57 56.8
comp=Z,254nm,18.3s,baz=246,slow=31
comp=Z,7.5nm,0.9s
PLCA Paso Flores 83.06 133 P **P 19 26 36.1 +2.2**
HULI Fort Hunter Li 83.11 43 IAmb IAmb 19 26 37.0
comp=Z,175nm,1.4s
SRIG Santa Rosalia 83.45 54 IAmb IAmb 19 26 38.2
comp=Z,168nm,1.4s
SAO San Andreas Ge 83.49 42 P **P 19 26 35.2 -0.7**
SAO IAmb IAmb 19 26 38.6
comp=Z,195nm,1.9s
SAO San Andreas Ge 83.49 42 P **P 19 26 35.2 -0.7**
SAO pmax pmax
comp=Z,195nm,2.0s
CBX Cerro Bola 83.52 48 IAmb IAmb 19 26 38.8
comp=Z,166nm,1.7s
YSS Yuzhno-Sakhali 83.60 334 P **P 19 26 36.0 -0.2**
YSS Yuzhno-Sakhali 83.60 334 P **P 19 26 37.1 +1.0**
YSS Yuzhno-Sakhali 83.60 334 *eP* **P 19 26 35.2 -0.9**
YSS *e**SP **pP 19 27 00.2 +1.7**
YSS *e**SP **sP 19 27 09.6 +2.0**
YSS *e*S **S 19 36 49.2 -1.7**

YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,200nm,2.4s
YSS smax smax
comp=N,700nm,6.7s
YSS smax smax
comp=E,700nm,6.9s
YSS Yuzhno-Sakhali 83.60 334 P **P 19 26 37.0 +0.8**
KSRS Korea Array 83.60 319 P **P 19 26 37.2 +0.9**
comp=E,3.7nm,0.9s,baz=134,slow=5.9,SNR=8.1
comp=E,3.7nm,0.9s
BBGB Big Mountain B 83.61 42 IAmb IAmb 19 26 39.8
comp=Z,126nm,1.4s
SSE Sheshan 83.62 311 P **P 19 26 38.9 +2.2**
SSE S **S 19 36 56.9 +5.0**
SSE pmax pmax
comp=Z,12nm,0.8s
SSE pmax pmax
comp=Z,180nm,4.7s
SSE LR LR
comp=Z,160nm,22.3s
SSE LR LR
comp=Z,260nm,22.3s
DPP Dos Picos Cty 83.77 47 P **P 19 26 38.1 +0.7**
MWC Mount Wilson 83.86 46 P **P 19 26 35.8 -2.3**
MWC IAmb IAmb 19 26 40.3
comp=Z,84nm,1.4s
MWC Mount Wilson 83.86 46 P **P 19 26 35.8 -2.3**
MWC pmax pmax
comp=Z,84nm,1.4s
CVS Carmenet Viney 84.00 40 IAmb IAmb 19 26 40.8
comp=Z,110nm,1.2s
FALS False Pass 84.06 8 P **P 19 26 39.0 +0.8**
baz=192
HOPS Hopland Field 84.10 39 IAmb IAmb 19 26 41.6
comp=Z,68nm,1.1s
PET Petropavlovsk 84.11 346 *e*P P 19 26 30.8 -7.8
PET *e*S **SKSac 19 36 54.2 +0.7**
PET MLR MLR
comp=Z,300nm,21.0s
BFSC Mount Baldy Ra 84.12 46 IAmb IAmb 19 26 41.6
comp=Z,84nm,1.3s
TPO Tropico Hills 84.18 45 IAmb IAmb 19 26 42.1
comp=Z,142nm,1.3s
DCMP DeCamp, Califo 84.29 39 IAmb IAmb 19 26 42.5
comp=Z,140nm,2.0s
KCPM Cahto Peak 84.31 39 IAmb IAmb 19 26 42.8
comp=Z,63nm,0.9s
MNRC McLaughlin Min 84.38 40 IAmb IAmb 19 26 43.4
comp=Z,122nm,1.1s
PEA0B Petropavlovsk- 84.40 345 ⇑*e*P **P 19 26 41.0 +0.9**
PETK Petropavlovsk- 84.40 345 P **P 19 26 39.5 -0.6**
comp=Z,11nm,0.7s,baz=118,slow=8.3,SNR=14
PETK pP **pP 19 27 02.8 +0.4**
comp=Z,13nm,0.7s,baz=120,slow=8.8,SNR=5.4
PETK LR LR 19 59 43.1
comp=Z,338nm,20.3s,baz=160,slow=32
comp=Z,11nm,0.7s
PFO Pinyon Flats O 84.48 47 P **P 19 26 41.1 -0.1**
PFO Pinyon Flats O 84.48 47 P **P 19 26 42.3 +1.1**
comp=Z,24nm,1.1s,baz=240,slow=4.2,SNR=24
PFO LR LR 19 55 49.8
comp=Z,1µm,21.6s,baz=232,slow=30
comp=Z,24nm,1.1s
PFO Pinyon Flats O 84.48 47 P **P 19 26 42.1 +0.9**
MNSI Mandailing Nat 84.54 274 P **P 19 26 40.5 -1.3**
comp=Z,38nm,0.8s
ISA Isabella, Lake 84.54 44 IAmb IAmb 19 26 44.0
comp=Z,84nm,1.1s
CHNA Chernabura Isl 84.56 10 P **P 19 26 41.4 +0.5**
baz=195
KMRM Mail Ridge 84.62 38 IAmb IAmb 19 26 44.0
comp=Z,99nm,1.0s
SDPT Sand Point 84.93 9 P **P 19 26 43.0 +0.3**
baz=194
CMB Columbia Colle 84.97 41 IAmb IAmb 19 26 45.6
comp=Z,55nm,1.0s
QIZ Qiongzhong 85.02 295 P **P 19 26 44.8 +0.8**
QIZ pP **pP 19 27 07.0 +0.4**
QIZ S **S 19 37 06.1 -0.2**
QIZ pmax pmax
comp=Z,480nm,10.4s
QIZ LR LR
comp=Z,250nm,13.4s
QIZ LR LR
comp=Z,210nm,10.7s
BELC Belle Mtn. Jos 85.02 47 IAmb IAmb 19 26 46.6
comp=Z,76nm,1.1s
IPM Ipoh 85.05 278 IAmb IAmb 19 27 10.1
comp=Z,61nm,1.1s
IPM Ipoh 85.05 278 P **P 19 26 44.3 -0.1**
S12K Black Hills 85.06 8 P **P 19 26 44.2 +0.8**
baz=193
KHMM Horse Mountain 85.07 38 IAmb IAmb 19 26 46.8
comp=Z,89nm,1.2s
WSHM Spangler Hills 85.10 45 IAmb IAmb 19 26 46.7
comp=Z,107nm,1.2s
KRPM Rodgers 85.11 37 IAmb IAmb 19 26 46.5
comp=Z,97nm,1.1s
CCCA Chr Cany lake 85.13 45 IAmb IAmb 19 26 47.1
comp=Z,142nm,1.3s
BC3 Big Chuckawall 85.15 47 IAmb IAmb 19 26 47.6
comp=Z,140nm,1.5s
CLC China Lake 85.18 45 IAmb IAmb 19 26 47.1
comp=Z,100nm,1.1s
GLA Glamis 85.18 48 IAmb IAmb 19 26 47.7
comp=Z,86nm,1.2s
GSC Goldstone, Bar 85.34 45 IAmb IAmb 19 26 47.9
comp=Z,104nm,1.2s
HSIG 85.38 53 IAmb IAmb 19 26 47.7
comp=Z,200nm,2.0s
MPMC Manual Prospec 85.40 45 IAmb IAmb 19 26 48.4
comp=Z,90nm,1.3s
IRM Iron Mountain 85.67 47 IAmb IAmb 19 26 50.1
comp=Z,170nm,1.5s
113A Mohawk Valley, 85.70 49 IAmb IAmb 19 26 50.0
comp=Z,91nm,1.5s
KBO Bosley Butte 85.75 36 IAmb IAmb 19 26 50.3
comp=Z,92nm,1.2s
SPIA Saint Paul Isl 85.75 4 P **P 19 26 47.4 +0.7**
baz=186
KULM Kulim 85.77 278 IAmb IAmb 19 27 14.8
comp=Z,189nm,1.7s
NJ2 Nanjing 85.78 310 *e*P **P 19 26 48.4 +0.9**
NJ2 sP **pwP 19 27 15.4 +1.9**
NJ2 PP **PP 19 30 04.8 -3.5**
NJ2 SKS **SKSac 19 37 06.1 +0.9**
NJ2 S **S 19 37 15.4 +2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
BLYC Blythe 85.81 48 IAmb IAmb 19 26 50.7
comp=Z,183nm,1.9s
WAKR Walker 85.84 42 IAmb IAmb 19 26 50.5
comp=Z,121nm,1.3s
214A Organ Pipe Nat 85.85 50 IAmb IAmb 19 26 51.0
comp=Z,164nm,1.9s
DSP Deep Springs 85.96 43 IAmb IAmb 19 26 50.9
comp=Z,211nm,1.9s
S14K Fog Glacier 85.97 10 P **P 19 26 48.4 +0.5**
baz=195
L02F Cave Junction 86.03 37 IAmb IAmb 19 26 51.4
comp=Z,72nm,1.2s
PSI Prapat 86.07 275 LR LR 20 08 40.4
comp=Z,593nm,18.5s,baz=131,slow=38
CHIR Chirikof Islan 86.17 12 P **P 19 26 49.4 +0.6**
baz=199
M03C McCloud 86.21 38 IAmb IAmb 19 26 51.7
comp=Z,103nm,0.9s
USRK Ussuriysk Ar. 86.22 326 P **P 19 26 50.2 +0.8**
comp=Z,11nm,0.7s,baz=130,slow=6.1,SNR=9.9
comp=Z,11nm,0.7s
YBH Yreka Blue Hor 86.22 38 P **P 19 26 50.8 +1.3**
comp=Z,1.8nm,0.9s,baz=175,slow=2.1,SNR=40
YBH LR LR 19 56 45.4
comp=Z,24nm,21.5s,baz=251,slow=30
LHV Little Huntoon 86.22 42 IAmb IAmb 19 26 52.2
comp=Z,59nm,1.0s
BEKR Beckworth 86.23 40 IAmb IAmb 19 26 52.0
comp=Z,181nm,1.9s
MTPC Mountain Pass 86.24 46 IAmb IAmb 19 26 52.8
comp=Z,111nm,1.3s
GMN Gold Mountain 86.35 44 IAmb IAmb 19 26 52.7
comp=Z,175nm,1.9s
NEE2 Needles Airpor 86.39 47 IAmb IAmb 19 26 53.5
comp=Z,68nm,1.0s
WCT Wildcat Mounta 86.41 44 IAmb IAmb 19 26 53.2
comp=Z,103nm,1.7s

NVAR	Mina Array Bea	86.46	42	P	P	19 26 50.4 -0.7
NVAR	Mina Array Bea	86.46	42	P	P	19 26 51.8 +0.8
	comp=Z,29nm,0.8s,baz=221,slow=8.4,SNR=167					
NVAR				LR	LR	19 57 17.4
	comp=Z,1µm,21.9s,baz=248,slow=30					
	comp=Z,29nm,0.8s					
RYN	Ryan	86.46	42	IAmb	IAmb	19 26 53.2
	comp=Z,116nm,1.6s					
NV11	Mina Array Sit	86.55	42	IAmb	IAmb	19 26 53.5
	comp=Z,58nm,1.1s					
PAHR	Pah Rah Range	86.68	41	IAmb	IAmb	19 26 53.9
	comp=Z,134nm,1.7s					
TPNV	Topopah Spring	86.74	44	IAmb	IAmb	19 26 54.3
	comp=Z,58nm,1.1s					
V12A	Nelson	86.84	46	IAmb	IAmb	19 26 55.6
	comp=Z,71nm,1.4s					
TPH	Tonopah	86.87	43	IAmb	IAmb	19 26 55.2
	comp=Z,86nm,1.1s					
Y14A	Wickenburg	86.92	48	IAmb	IAmb	19 26 56.0
	comp=Z,53nm,1.1s					
W13A	Hualapai Mount	87.06	47	IAmb	IAmb	19 26 56.9
	comp=Z,58nm,1.3s					
SHPR	Sheep Range	87.13	45	IAmb	IAmb	19 26 57.2
	comp=Z,75nm,1.7s					
SII	Sitkinak Islan	87.14	12	P	P	19 26 54.4 +0.9
	baz=200					
I03D	Drain, OR	87.26	36	IAmb	IAmb	19 26 57.0
	comp=Z,134nm,1.6s					
KCSI	Kotacane, Aceh	87.43	275	P	P	19 26 55.0 -1.0
TUC	Tucson	87.43	51	P	P	19 26 55.6 0.0
TUC				IAmb	IAmb	19 26 58.3
	comp=Z,48nm,1.1s					
TUC	Tucson	87.43	51	P	P	19 26 55.7 0.0
TUC				pmax	pmax	
	comp=Z,48nm,1.1s					
TUC	Tucson	87.43	51	P	P	19 26 57.5 +1.8
S11A	Rachel	87.49	44	IAmb	IAmb	19 26 58.3
	comp=Z,53nm,1.0s					
J04A	Umpqua Nationa	87.58	37	IAmb	IAmb	19 26 58.0
	comp=Z,68nm,0.8s					
MDJ	Mudanjiang	87.71	325	P	P	19 26 55.9 -0.7
MDJ				pmax	pmax	
	comp=Z,15nm,2.1s					
MDJ	Mudanjiang	87.71	325	P	P	19 26 57.8 +1.2
R17L	Mt. Peulik Vol	87.77	11	P	P	19 26 57.2 +0.7
	baz=198					
PRN	Pahroc Range	87.77	45	IAmb	IAmb	19 27 00.3
	comp=Z,104nm,1.2s					
BUCK	Buck Mountain	87.80	36	IAmb	IAmb	19 26 59.1
	comp=Z,59nm,1.1s					
K05A	Summer Lake	87.88	38	IAmb	IAmb	19 27 00.1
	comp=Z,63nm,1.0s					
COR	Corvallis	87.91	35	P	P	19 26 57.9 +0.4
COR				IAmb	IAmb	19 26 59.6
	comp=Z,61nm,1.2s					
COR	Corvallis	87.91	35	P	P	19 26 57.9 +0.4
COR				pmax	pmax	
	comp=Z,61nm,1.3s					
319A	Douglas	87.92	52	IAmb	IAmb	19 27 02.3
	comp=Z,54nm,1.1s					
OHAK	Old Harbor	87.93	13	P	P	19 26 57.8 +0.5
	baz=201					
WHN	Wuhan	87.99	307	P	P	19 26 57.8 -0.4
WHN				S	S	19 37 33.4 -1.2
WHN				pmax	pmax	
	comp=Z,2µm,4.1s					
J05D	Fort Rock, OR	88.08	37	IAmb	IAmb	19 27 00.9
	comp=Z,53nm,1.0s					
ZAIG	Zacatecas	88.13	63	IAmb	IAmb	19 27 02.6
	comp=Z,119nm,2.0s					
X16A	Lo Mia Camp, P	88.25	49	IAmb	IAmb	19 27 02.2
	comp=Z,43nm,1.0s					
WIFE	Three Sisters-	88.30	36	IAmb	IAmb	19 27 01.9
	comp=Z,46nm,0.9s					
Q17K	Contact Creek	88.45	11	P	P	19 26 59.5 -0.3
	baz=198					
PINE	Pine Mountain	88.58	37	IAmb	IAmb	19 27 03.5
	comp=Z,76nm,1.1s					
KDAK	Kodiak Island	88.59	13	P	P	19 26 59.8 -0.6
KDAK				IAmb	IAmb	19 27 01.6
	comp=Z,80nm,1.3s					
KDAK	Kodiak Island	88.59	13	LR	LR	19 59 41.7
	comp=Z,322nm,21.8s,baz=199,slow=31					
KDAK	Kodiak Island	88.59	13	P	P	19 26 59.8 -0.6
KDAK				pmax	pmax	
	comp=Z,80nm,1.3s					
KDAK	Kodiak Island	88.59	13	P	P	19 27 00.8 +0.4
	baz=201					
O14K	Tigyukauivet M	88.62	8	P	P	19 27 00.7 +0.2
	baz=194					
TLIG	Tlapa	88.65	69	IAmb	IAmb	19 27 05.0
	comp=Z,125nm,1.8s					
LCMT	Little Creek M	88.65	46	IAmb	IAmb	19 27 04.2
	comp=Z,41nm,1.0s					
Q16K	King Salmon	88.72	11	P	P	19 27 01.2 +0.2
	baz=198					
O15K	Ungalikthiuk R	88.73	9	P	P	19 27 01.2 +0.2
	baz=195					
U15A	North Rim	88.90	47	IAmb	IAmb	19 27 05.8
	comp=Z,73nm,1.0s					
CCUT	Cedar City	88.91	45	IAmb	IAmb	19 27 05.9
	comp=Z,84nm,1.4s					
WVOR	Wild Horse Val	88.91	39	IAmb	IAmb	19 27 04.7
	comp=Z,68nm,1.4s					
WUAZ	Wupatki	88.95	48	IAmb	IAmb	19 27 05.9
	comp=Z,93nm,1.2s					
Q18K	Katmai Hardscr	88.96	11	P	P	19 27 02.5 +0.2
	baz=199,SNR=9.9					
GRNR	Gornyy	89.16	333	⇓iP	P	19 27 04.6 +1.3
GRNR				pmax	pmax	
	comp=Z,9.0nm,0.8s					
SPR3	Spring Creek 3	89.21	44	IAmb	IAmb	19 27 06.1
	comp=Z,58nm,1.5s					
LCO	Las Campanas	89.21	123	P	P	19 27 04.8 +0.2
LCO				IAmb	IAmb	19 27 47.1
	comp=Z,95nm,2.0s					
LCO	Las Campanas	89.21	123	P	P	19 27 04.8 +0.2
LCO				pmax	pmax	
	comp=Z,95nm,2.0s					
N14K	Kuskokwak Cree	89.22	8	P	P	19 27 04.4 +1.1
	baz=193					
M11K	Mekoryuk	89.22	5	P	P	19 27 04.7 +1.4
	baz=190					
HOOD	Mount Hood Mea	89.26	36	IAmb	IAmb	19 27 07.2
	comp=Z,42nm,1.0s					
CN2	Changchun	89.30	322	eP	P	19 27 05.0 +0.9
CN2				epP	pP	19 27 25.6 -1.2
CN2				esP	sP	19 27 35.3 -0.6
CN2				eS	S	19 37 48.8 +2.4
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CN2				pmax	pmax	
	comp=Z,200nm,6.0s					
CN2				LR	LR	
	comp=Z,200nm,12.0s					
CN2				LR	LR	
	comp=Z,300nm,12.0s					
CN2				LR	LR	
	comp=Z,200nm,11.0s					
X18A	Snowflake	89.30	50	IAmb	IAmb	19 27 07.0
	comp=Z,44nm,1.0s					
O16K	Kokwok River B	89.38	10	P	P	19 27 05.1 +1.0
	baz=196					
G05A	Wamic	89.38	36	IAmb	IAmb	19 27 06.1
	comp=Z,58nm,1.0s					
Q20K	Shuyak Island	89.40	13	P	P	19 27 04.9 +0.7
	baz=201					
TIA	Tai'an	89.43	312	P	P	19 27 05.5 +0.6
TIA				pP	pP	19 27 24.4 -3.2
TIA				SKS	SKSac	19 37 28.3 +1.1
TIA				S	S	19 37 49.0 +1.0
TIA				pmax	pmax	
	comp=Z,32nm,0.9s					
TIA				pmax	pmax	
	comp=Z,300nm,6.1s					
TIA				LR	LR	
	comp=Z,350nm,21.2s					
TIA				LR	LR	
	comp=Z,420nm,23.7s					
TIA				LR	LR	
	comp=Z,1µm,23.5s					
Q19K	Cape Douglas,	89.47	12	P	P	19 27 04.8 +0.2
	baz=200					
M13K	Dall Lake	89.52	7	P	P	19 27 04.8 +0.2
	baz=192					
I07A	Izee	89.54	37	IAmb	IAmb	19 27 07.8
	comp=Z,71nm,1.3s					
CFA	Coronel Fontan	89.58	126	LR	LR	20 00 58.3
	comp=Z,106nm,18.7s,baz=221,slow=31					
BNX	BinXian	89.60	325	⇓P	P	19 27 07.0 +1.6
BNX				S	S	19 37 52.9 +3.8
BNX				pmax	pmax	
	comp=Z,12nm,1.5s					
BNX				pmax	pmax	
	comp=Z,170nm,5.9s					
BNX				LR	LR	
	comp=Z,370nm,20.2s					
BNX				LR	LR	
	comp=Z,490nm,21.1s					
BNX				LR	LR	
	comp=Z,620nm,21.1s					
P18K	Big Mountain,	89.63	11	IAmb	IAmb	19 27 06.1
	comp=Z,32nm,0.9s					
P18K	Big Mountain,	89.63	11	P	P	19 27 05.2 -0.1
	baz=199,SNR=5.3					
N15K	Kwethluk River	89.66	8	P	P	19 27 06.3 +0.9
	baz=195,SNR=5.2					
O17K	Koliganek Bris	89.69	10	P	P	19 27 05.7 +0.2
	baz=197					
ELK	Elko	89.76	42	IAmb	IAmb	19 27 08.8
	comp=Z,107nm,1.9s					
ELK	Elko	89.76	42	P	P	19 27 07.3 +0.7
	comp=Z,6.8nm,0.8s,baz=236,slow=4.9,SNR=27					
ELK				LR	LR	19 59 30.8
	comp=Z,1µm,21.8s,baz=256,slow=30					
	comp=Z,6.8nm,0.8s					
M14K	Bethel	90.00	7	P	P	19 27 07.5 +0.6
	baz=193					
TRQA	Tornquist	90.04	134	P	P	19 27 06.8 -1.2
TRQA				IAmb	IAmb	19 27 12.4
	comp=Z,55nm,1.6s					
TRQA	Tornquist	90.04	134	P	P	19 27 06.8 -1.2
TRQA				pmax	pmax	
	comp=Z,55nm,1.7s					
O18K	Koktuh Hills	90.07	11	P	P	19 27 07.4 +0.1
	baz=199,SNR=15					
M15K	Kasigluk River	90.09	8	P	P	19 27 08.1 +0.8
	baz=194					
N16K	Nishlik Lake	90.13	9	P	P	19 27 08.4 +0.8
	baz=196					
P19K	Oil Pt	90.22	12	P	P	19 27 08.2 +0.1
	baz=201					
GNW	Green Mountain	90.24	33	IAmb	IAmb	19 27 10.8
	comp=Z,74nm,1.0s					
DIB	Dawson Inlet,	90.32	25	IAmb	IAmb	19 27 11.0
	comp=Z,63nm,1.1s					
N17K	Nushagak Hills	90.40	10	P	P	19 27 08.9 0.0
	baz=197					
CNPM	China Poot	90.48	13	IAmb	IAmb	19 27 10.8
	comp=Z,52nm,0.9s					
L14K	Kuka Creek	90.50	7	IAmb	IAmb	19 27 38.0
	comp=Z,93nm,1.6s					
L14K	Kuka Creek	90.50	7	P	P	19 27 09.8 +0.6
	baz=192					
CLRS	Cowichan Lake	90.51	32	IAmb	IAmb	19 27 12.1
	comp=Z,72nm,1.1s					
HOM	Homer	90.52	13	P	P	19 27 09.6 +0.2
	baz=202					
F07A	Phinny Hill Vi	90.54	36	IAmb	IAmb	19 27 12.0
	comp=Z,70nm,1.2s					
O19K	Port Alsworth	90.54	11	P	P	19 27 09.5 +0.1
	baz=200					
M16K	Timber Creek	90.63	9	IAmb	IAmb	19 27 41.6
	comp=Z,81nm,1.2s					
M16K	Timber Creek	90.63	9	P	P	19 27 11.1 +1.2
	baz=196					
VHRN	Van Horn	90.63	55	IAmb	IAmb	19 27 13.4
	comp=Z,105nm,1.8s					
O20K	Slope Mountain	90.73	12	P	P	19 27 10.6 +0.1
	baz=201					
N18K	Kilae Creek	90.75	10	P	P	19 27 10.3 -0.2
	baz=198					
BRSE	Bradley Lake S	90.78	13	P	P	19 27 11.2 +0.6
	baz=203					
TXAR	Lajitas Array	90.80	57	P	P	19 27 12.5 +0.9
	comp=Z,7.8nm,0.9s,baz=216,slow=6.2,SNR=61					
TXAR				LR	LR	19 59 42.6
	comp=Z,326nm,20.3s,baz=230,slow=30					
	comp=Z,7.8nm,0.9s					
MXC	Moxie City	90.81	35	IAmb	IAmb	19 27 13.4
	comp=Z,68nm,1.1s					
MNTX	Cornudas Mount	90.85	54	IAmb	IAmb	19 27 13.9
	comp=Z,45nm,1.4s					
DUG	Dugway, Tooele	90.87	44	IAmb	IAmb	19 27 13.9
	comp=Z,50nm,1.8s					
K13K	Kusilvak Mount	90.89	6	P	P	19 27 11.5 +0.5
	baz=191					
L15K	Ungalak Mounta	90.96	7	P	P	19 27 11.8 +0.5
	baz=194					
SLVN	Son La	90.97	294	IAmb	IAmb	19 27 41.2
	comp=Z,43nm,1.4s					
SLVN	Son La	90.97	294	P	P	19 27 14.0 +1.5
Y22A	Socorro	90.99	51	IAmb	IAmb	19 27 15.1
	comp=Z,50nm,1.1s					
N19K	Bonanza Creek	91.10	11	P	P	19 27 12.2 0.0
	baz=200					
Q16A	Castle Valley	91.11	45	IAmb	IAmb	19 27 16.0
	comp=Z,88nm,1.8s					
MFID	Camas Ranch	91.12	40	IAmb	IAmb	19 27 14.8
	comp=Z,50nm,1.1s					
YPT	Yellepit	91.14	36	IAmb	IAmb	19 27 15.5
	comp=Z,22nm,0.8s					
M17K	Holitna River	91.20	9	P	P	19 27 13.2 +0.6
	baz=197					
BMO	Blue Mountains	91.23	38	IAmb	IAmb	19 27 14.3
	comp=Z,26nm,1.0s					
L16K	Owhat River	91.23	8	IAmb	IAmb	19 27 14.5
	comp=Z,35nm,1.2s					
L16K	Owhat River	91.23	8	P	P	19 27 13.4 +0.8
	baz=195					
BBB	Bella Bella	91.24	28	P	P	19 27 13.2 +0.3
	comp=Z,37nm,0.9s,baz=234,slow=5.6,SNR=5.0					
BBB				LR	LR	19 59 54.3
	comp=Z,341nm,21.4s,baz=226,slow=30					
	comp=Z,37nm,0.9s					
TMUT	Trail Mountain	91.31	45	IAmb	IAmb	19 27 16.6
	comp=Z,44nm,0.9s					
SEW	Seward	91.37	13	P	P	19 27 14.5 +1.2
	baz=204					
ALPN	Alpine	91.38	56	IAmb	IAmb	19 27 16.4
	comp=Z,32nm,1.1s					
GYA	Guiyang	91.42	299	⇓P	P	19 27 15.5 +0.9
GYA				SKS	SKSac	19 37 41.3 +1.9
GYA				S	ScS	19 38 08.4 -1.3
GYA				pmax	pmax	
	comp=Z,9.0nm,1.3s					
GYA				pmax	pmax	
	comp=Z,110nm,4.0s					
GYA				LR	LR	
	comp=Z,250nm,16.4s					
GYA				LR	LR	
	comp=Z,340nm,18.7s					
GYA				LR	LR	
	comp=Z,340nm,16.9s					
Q23K	Middleton Isla	91.43	15	P	P	19 27 14.5 +1.0
	baz=207					
CMIG	Matias Romero	91.46	71	LR	LR	20 01 12.8
	comp=Z,218nm,18.3s,baz=242,slow=31					
M18K	Stony River	91.53	10	P	P	19 27 14.7 +0.6
	baz=198					
K15K	Wolf Creek Mou	91.55	7	IAmb	IAmb	19 27 41.0
	comp=Z,40nm,0.8s					
K15K	Wolf Creek Mou	91.55	7	P	P	19 27 15.0 +0.9
	baz=194					
SRU	San Rafael Swe	91.63	46	IAmb	IAmb	19 27 17.4
	comp=Z,61nm,1.2s					
HNS	HongShan	91.69	312	⇓P	P	19 27 16.6 +1.2
HNS				pP	pP	19 27 39.6 +1.5
HNS				SKS	SKSac	19 37 42.0 +1.9
HNS				S	ScS	19 38 13.5 +2.4
HNS				pmax	pmax	
	comp=Z,21nm,1.2s					
HNS				LR	LR	
	comp=Z,440nm,22.6s					
HNS				LR	LR	
	comp=Z,490nm,23.7s					
HNS				LR	LR	
	comp=Z,1µm,23.7s					
P23K	Montague Islan	91.70	14	P	P	19 27 15.9 +1.0
	baz=206					
P17A	Butcher Ranch,	91.71	45	IAmb	IAmb	19 27 18.1
	comp=Z,51nm,1.3s					
L17K	Donlin	91.79	9	P	P	19 27 16.1 +0.8
	baz=196					
CRAG	Craig	91.88	23	P	P	19 27 16.7 +0.9
	baz=218					
MA2	Magadan	91.89	344	LR	LR	20 04 16.8
	comp=Z,209nm,20.2s,baz=158,slow=33					
ANMO	Albuquerque	91.90	51	P	P	19 27 16.8 +0.1
ANMO				IAmb	IAmb	19 27 19.0
	comp=Z,36nm,1.2s					
ANMO	Albuquerque	91.90	51	P	P	19 27 17.5 +0.8
	comp=Z,21nm,1.0s,baz=297,slow=5.3,SNR=36					
ANMO				LR	LR	20 00 18.2
	comp=Z,657nm,21.6s,baz=314,slow=30					
	comp=Z,21nm,1.0s					
PV05	Paradox Valley	91.93	47	IAmb	IAmb	19 27 19.2
	comp=Z,40nm,1.0s					
HLID	Hailey	92.01	40	IAmb	IAmb	19 27 19.3
	comp=Z,37nm,1.0s					
L18K	Granite Mounta	92.09	9	IAmb	IAmb	19 27 18.4
	comp=Z,20nm,0.9s					
L18K	Granite Mounta	92.09	9	P	P	19 27 17.5 +0.8
	baz=198,SNR=6.2					
P18A	Preston Nutter	92.11	45	IAmb	IAmb	19 27 19.8
	comp=Z,94nm,2.0s					
GO02	Mina Guanaco	92.12	120	IAmb	IAmb	19 27 49.6
	comp=Z,62nm,1.9s					
PV17	East Wray Mesa	92.14	47	IAmb	IAmb	19 27 19.7
	comp=Z,24nm,1.0s					
M19K	Big River Lodg	92.14	11	P	P	19 27 16.8 -0.1
	baz=200					
PV18	Skein Mesa, Pa	92.15	47	IAmb	IAmb	19 27 19.7
	comp=Z,46nm,1.0s					
PV13	Radium Mtn., P	92.16	47	IAmb	IAmb	19 27 19.7
	comp=Z,40nm,1.3s					
PV20	West Nyswonger	92.17	47	IAmb	IAmb	19 27 19.8
	comp=Z,54nm,1.1s					
PV03	Paradox Valley	92.19	47	IAmb	IAmb	19 27 19.9
	comp=Z,25nm,1.1s					
PV11	David Mesa, Pa	92.20	47	IAmb	IAmb	19 27 20.0
	comp=Z,59nm,1.5s					
PV23	Carpenter Ridg	92.20	47	IAmb	IAmb	19 27 20.1
	comp=Z,31nm,0.9s					
RC01	Rabbit Creek A	92.22	13	P	P	19 27 17.8 +0.6
	baz=204					
PV02	Paradox Valley	92.24	47	IAmb	IAmb	19 27 20.0
	comp=Z,40nm,0.9s					
PV04	Paradox Valley	92.24	47	IAmb	IAmb	19 27 19.6
	comp=Z,21nm,1.0s					
GAMB	Gambell	92.28	2	P	P	19 27 18.0 +0.6
	baz=185					
PWL	Port Wells	92.29	14	P	P	19 27 18.0 +0.4
	baz=205					
PV21	Cone Mtn., Par	92.29	47	IAmb	IAmb	19 27 19.9
	comp=Z,24nm,1.0s					
BJI	Beijing	92.30	315	P	P	19 27 20.5 +2.4
BJI				pP	pP	19 27 40.8 0.0
BJI				sP	sP	19 27 50.9 +1.0
BJI				SKS	SKSac	19 37 43.9 +0.6
BJI				pmax	pmax	
	comp=Z,6.0nm,1.3s					
BJI				LR	LR	
	comp=Z,350nm,24.8s					
PV01	Paradox Valley	92.30	47	IAmb	IAmb	19 27 20.2
	comp=Z,22nm,0.8s					
V35K	Ketchikan	92.31	24	IAmb	IAmb	19 27 20.3
	comp=Z,30nm,1.1s					
V35K	Ketchikan	92.31	24	P	P	19 27 18.2 +0.5
	baz=219					
BSUT	Blindstream Ca	92.32	44	IAmb	IAmb	19 27 20.9
	comp=Z,35nm,1.0s					
M20K	Styx River	92.33	11	P	P	19 27 18.0 +0.1
	baz=201					
L19K	White Mountain	92.33	10	P	P	19 27 18.2 +0.4
	baz=199					
K17K	Iditarod	92.35	9	P	P	19 27 18.5 +0.7
	baz=196					
SUA	Susitna One	92.37	12	P	P	19 27 18.1 0.0
	baz=203					
PV22	Blue Mesa, Par	92.39	47	IAmb	IAmb	19 27 20.9
	comp=Z,26nm,1.1s					
U33K	Whale Pass	92.40	23	P	P	19 27 19.5 +1.4
	baz=218					
PV07	Paradox Valley	92.43	47	IAmb	IAmb	19 27 21.0
	comp=Z,27nm,1.0s					
PV15	Paradox Valley	92.48	47	IAmb	IAmb	19 27 21.1
	comp=Z,22nm,0.9s					
EYAK	Cordova Ski Ar	92.57	15	P	P	19 27 19.4 +0.5
	baz=207					
GLI	Glacier Island	92.57	14	P	P	19 27 19.3 +0.4
	baz=206					
J16K	Anvik River	92.62	7	P	P	19 27 19.6 +0.5
	baz=194					
SKT	Skwentna	92.70	12	P	P	19 27 19.8 +0.3
	baz=202					
HEH	HeiHe	92.71	328	eP	P	19 27 19.9 +0.1
HEH				pP	pP	19 27 39.8 -2.6
HEH				S	S	19 38 22.4 +5.3
HEH				pmax	pmax	
	comp=Z,330nm,5.4s					
HEH				LR	LR	
	comp=Z,300nm,17.3s					
HEH				LR	LR	
	comp=Z,400nm,17.8s					
HEH				LR	LR	
	comp=Z,580nm,17.1s					
M22K	Willow	92.75	12	P	P	19 27 19.7 +0.1
	baz=203					
KNK	Knik Glacier	92.77	13	P	P	19 27 20.3 +0.5
	baz=205					
L20K	Farewell, AK	92.77	11	P	P	19 27 19.5 -0.3
	baz=200					
BGLC	Bering Glacier	92.77	16	P	P	19 27 20.1 +0.4
	baz=209					
PMR	Palmer	92.80	13	P	P	19 27 20.2 +0.3
	baz=204					
S31K	Pelican	92.88	20	P	P	19 27 20.8 +0.4
	baz=215					
WRAK	Wrangell Islan	92.90	23	IAmb	IAmb	19 27 22.9
	comp=Z,30nm,0.9s					
WRAK	Wrangell Islan	92.90	23	P	P	19 27 21.7 +1.2
	baz=218					
J17K	VABM Dome	92.91	8	P	P	19 27 20.8 +0.4
	baz=196					
S32K	Kilisnoo	93.00	21	P	P	19 27 21.5 +0.6
	baz=216					
NNA	Nana	93.10	105	LR	LR	19 59 37.1
	comp=Z,236nm,21.8s,baz=231,slow=29					
ODSA	Odessa	93.10	55	IAmb	IAmb	19 27 23.6
	comp=Z,42nm,1.2s					
DRIO	Del Rio	93.11	58	IAmb	IAmb	19 27 23.7
	comp=Z,21nm,1.0s					
MESA	MESA	93.15	17	P	P	19 27 22.7 +0.8
	baz=210					
J18K	Innoko River	93.28	9	IAmb	IAmb	19 27 48.5
	comp=Z,20nm,0.9s					
J18K	Innoko River	93.28	9	P	P	19 27 22.2 +0.1
	baz=198,SNR=9.4					
CUT	Chulitna	93.32	12	P	P	19 27 22.5 +0.2
	baz=203					
CRQE	Cirque	93.37	16	P	P	19 27 23.5 +0.7
	baz=209					
KLU	Klutina	93.37	14	P	P	19 27 23.1 +0.4
	baz=207					
SCM	Sheep Creek Mo	93.38	14	P	P	19 27 22.7 0.0
	baz=206					
HBVL	Hebbronville	93.38	61	IAmb	IAmb	19 27 26.4
	comp=Z,52nm,1.2s					
PNL	Peninsula	93.39	18	P	P	19 27 22.8 +0.1
	baz=212					
ANM	Nome	93.42	5	P	P	19 27 23.9 +1.2
	baz=190					
PPLA	Purkeypile	93.44	11	P	P	19 27 23.9 +0.9
	baz=202					
PB06	IPOC Station P	93.47	118	P	P	19 27 24.0 -0.3
PB06				IAmb	IAmb	19 27 26.9
	comp=Z,46nm,1.5s					
NEW	Newport	93.54	35	P	P	19 27 24.1 +0.3
	comp=Z,2.9nm,0.8s,baz=174,slow=4.2,SNR=4.9					
NEW				LR	LR	20 01 32.9
	comp=Z,476nm,21.7s,baz=226,slow=30					
	comp=Z,2.9nm,0.8s					
K20K	Telida	93.57	10	P	P	19 27 24.1 +0.6
	baz=200					
CMAR	Chiang Mai Arr	93.61	289	P	P	19 27 26.4 +1.6
	comp=Z,2.5nm,0.9s,baz=141,slow=3.4,SNR=18					
CMAR				pP	pP	19 27 48.4 +0.8
	comp=Z,7.8nm,1.0s,baz=137,slow=3.9,SNR=8.5					
CMAR				PKKPbc	PKKPbc	19 44 30.8 +1.7
	comp=Z,1.0nm,0.8s,baz=290,slow=4.5,SNR=8.3					
	comp=Z,2.5nm,0.9s					
XAN	Xi'an	93.75	307	⇓P	P	19 27 26.3 +1.2

XAN pmax pmax
comp=Z,11nm,2.1s
XAN pmax pmax
comp=Z,720nm,9.8s
XAN LR LR
comp=Z,570nm,12.4s
XAN LR LR
comp=Z,540nm,12.8s
XAN LR LR
comp=Z,540nm,17.2s
N25K Chitina, Valde 93.77 15 P P 19 27 24.3 -0.2
baz=208
CHTO Chiang Mai 93.78 289 P P 19 27 25.9 +0.4
CHTO Chiang Mai 93.78 289 P P 19 27 26.6 +1.1
CHTO Chiang Mai 93.78 289 P P 19 27 25.9 +0.4
CHTO pmax pmax
comp=Z,23nm,1.2s
KMI Kunming 93.79 296 P P 19 27 26.9 +1.2
KMI pP pwP 19 27 51.4 0.0
KMI sP sP 19 27 58.1 +0.4
KMI S S **19 38 30.4 +2.1**
KMI SS **SS 19 44 47.0 -2.4**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI LR LR
comp=Z,270nm,23.1s
KMI LR LR
comp=Z,220nm,20.0s
KMI LR LR
comp=Z,370nm,22.0s
P29M Windy Craggy 93.82 19 P P 19 27 24.8 +0.1
baz=214,SNR=10
M24K Tolsona, Glenn 93.87 14 P P 19 27 25.5 +0.6
baz=207
MSTX Muleshoe 93.92 53 IAmb IAmb 19 27 27.4
comp=Z,34nm,0.8s
MCARA McCarthy VSAT 93.94 16 IAmb IAmb 19 27 54.0
comp=Z,65nm,1.5s
MCARA McCarthy VSAT 93.94 16 P P 19 27 25.8 +0.6
baz=210
J19K Poorman 93.94 9 IAmb IAmb 19 27 53.8
comp=Z,71nm,2.0s
J19K Poorman 93.94 9 P P 19 27 25.9 +0.8
baz=199
G15K Niukluk 93.96 6 P P 19 27 26.0 +0.8
baz=191
WAT6 Susitna Watana 93.97 13 P P 19 27 26.4 +0.9
baz=206
CTG Chitna Glacier 93.98 17 P P 19 27 26.1 +0.5
baz=211
FXWY Fox Creek 94.00 42 IAmb IAmb 19 27 28.5
comp=Z,28nm,0.9s
WAT1 Susitna Watana 94.04 13 P P 19 27 26.1 +0.4
baz=205
PLBC Pleasant Camp 94.07 20 P P 19 27 26.4 +0.6
baz=215
T35M Bob Quinn 94.07 24 P P 19 27 26.4 +0.4
baz=220
O28M Mount Upton 94.11 17 P P 19 27 26.8 +0.4
baz=212
DLMT Dillon 94.14 40 IAmb IAmb 19 27 28.9
comp=Z,36nm,1.1s
O29M Mount Kennedy 94.14 18 P P 19 27 27.2 +0.8
baz=213
ATAH Atahualpa 94.16 100 LR LR 19 59 24.9
comp=Z,509nm,19.4s,baz=244,slow=29
TRF Thorofare Moun 94.28 12 IAmb IAmb 19 27 28.5
comp=Z,23nm,0.8s
TRF Thorofare Moun 94.28 12 P P 19 27 27.2 +0.2
baz=203
H17K Granite Mounta 94.30 7 P P 19 27 27.2 +0.4
baz=195
J20K Nowinta River 94.33 10 P P 19 27 26.9 0.0
baz=200,SNR=7.3
CHUM Lake Minchumin 94.34 11 P P 19 27 27.0 0.0
baz=202
POST Post 94.35 55 IAmb IAmb 19 27 29.0
comp=Z,22nm,0.9s
PDAR Pinedale Array 94.36 43 P P 19 27 26.9 -1.1
PDAR Pinedale Array 94.36 43 P P 19 27 28.1 +0.2
comp=Z,9.7nm,0.8s,baz=204,slow=3.3,SNR=55
PDAR PP **PP 19 31 15.1 -1.6**
comp=Z,2.3nm,1.1s,baz=258,slow=5.1,SNR=4.7
PDAR PKKPbc **PKKPbc 19 44 29.2 +0.7**
comp=Z,0.4nm,0.6s,baz=48,slow=4.4,SNR=4.7
PDAR LR LR 20 02 22.1
comp=Z,639nm,21.9s,baz=222,slow=31
comp=Z,9.7nm,0.8s
GCSA Galena City Sc 94.48 9 P P 19 27 28.4 +0.8
baz=198
S34M Telegraph Cree 94.49 23 P P 19 27 28.4 +0.6
baz=219
HAYD Hayden 94.49 46 IAmb IAmb 19 27 30.3
comp=Z,42nm,1.8s
RND Reindeer 94.51 12 IAmb IAmb 19 27 28.9
comp=Z,41nm,1.0s
SEY Seymchan 94.53 347 LR LR 20 05 15.0
comp=Z,500nm,21.2s,baz=152,slow=32
SEY Seymchan 94.53 347 *e*P **P 19 27 26.7 -1.1**
SEY *e* 19 27 51.1
SEY pmax pmax
comp=Z,15nm,1.1s
YHB Horse Butte 94.57 41 IAmb IAmb 19 27 31.3
comp=Z,20nm,0.9s
YFT Old Faithful 94.60 41 IAmb IAmb 19 27 32.2
comp=Z,27nm,0.9s
XLT XiLinHaoTe 94.62 318 *e*P **P 19 27 30.8 +1.9**
XLT sP sP 19 28 02.5 +1.8
XLT pmax pmax
comp=Z,7.0nm,1.3s
YUK8 Steele Glacier 94.66 17 P P 19 27 29.0 +0.1
baz=212,SNR=7.6
H18K Honhosa River 94.69 8 P P 19 27 30.1 +1.5
baz=196
H17A Grant Village 94.72 41 IAmb IAmb 19 27 32.6
comp=Z,22nm,0.9s
YUK6 Outpost Mounta 94.74 18 P P 19 27 29.7 +0.5
baz=213,SNR=12
PAX Paxson 94.79 14 IAmb IAmb 19 27 57.0
comp=Z,38nm,1.8s
PAX Paxson 94.79 14 P P 19 27 28.9 -0.3
baz=207
MCK McKinley 94.79 12 IAmb IAmb 19 27 54.8
comp=Z,40nm,1.3s
MCK McKinley 94.79 12 P P 19 27 29.1 0.0
baz=204
BOZ Bozeman (W) 94.83 40 IAmb IAmb 19 27 31.9
comp=Z,35nm,1.1s
M26K Nabesna, AK 94.83 15 IAmb IAmb 19 27 59.0
comp=Z,37nm,1.6s
M26K Nabesna, AK 94.83 15 P P 19 27 29.8 +0.5
baz=210
I20K Naaghedeneel 94.86 10 P P 19 27 30.1 +0.8
baz=200
HYT Haines Junctio 94.87 18 P P 19 27 30.1 +0.5
baz=214
Q32M Nakina River 94.93 22 P P 19 27 30.7 +0.7
baz=218
P32M Atlin 94.97 21 P P 19 27 30.9 +0.8
baz=217
YUK4 Talbot Arm 95.00 18 P P 19 27 31.0 +0.7
baz=213
M27K Edge Creek, AK 95.05 16 P P 19 27 31.4 +0.9
baz=210
ZEA Zeya 95.18 330 *e*P **P 19 27 34.0 +3.0**
ZEA *e* 19 38 03.9
ZEA *e* 19 39 56.5
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA smax smax
comp=E,300nm,8.1s
ZEA smax smax
comp=N,300nm,14.7s
ZEA MLR MLR
comp=E,200nm,15.0s
O30N Mendenhall 95.22 19 P P 19 27 31.3 +0.1
baz=215
RTBA Rita Blanca 95.25 51 IAmb IAmb 19 27 33.2
comp=Z,28nm,1.3s
PZH PanZhiHua 95.25 297 P P 19 27 33.5 +1.3
DLBC Dease Lake 95.27 23 LR LR 20 05 55.4
comp=Z,2μm,19.1s,baz=224,slow=33
DLBC Dease Lake 95.27 23 P P 19 27 32.4 +0.9
baz=220
H19K Roundabout Mou 95.29 8 P P 19 27 32.0 +0.7
baz=198
L26K Log Cabin Wild 95.30 15 P P 19 27 31.9 +0.5
baz=209

G18K Tagagawik 95.37 7 P P 19 27 31.8 +0.2
baz=196
YNE Yellowstone No 95.40 41 IAmb IAmb 19 27 35.1
comp=Z,42nm,1.1s
H20K Anotleneega Mo 95.46 9 P P 19 27 32.1 0.0
baz=199
APMT Aspermont 95.47 55 IAmb IAmb 19 27 34.5
comp=Z,50nm,1.8s
WHY Whitehorse 95.48 19 P P 19 27 33.0 +0.6
baz=216
N30M Aishikik Lake 95.51 18 P P 19 27 32.9 +0.5
baz=214
NEA2 Nenana 95.55 12 P P 19 27 33.4 +0.9
baz=204
I21K Tanana 95.60 10 P P 19 27 32.4 -0.3
baz=202
RIDG Independent Ri 95.60 14 IAmb IAmb 19 27 34.0
comp=Z,25nm,1.1s
RIDG Independent Ri 95.60 14 P P 19 27 33.2 +0.4
baz=208
WRH Wood River Hil 95.62 12 IAmb IAmb 19 27 33.6
comp=Z,26nm,1.0s
F17K Baldwin Pennin 95.63 6 P P 19 27 32.9 +0.1
baz=194
HHC Hu-ho-hao-te 95.65 314 *e*P **P 19 27 36.0 +2.3**
HHC SKS **SKSac 19 38 05.6 +3.8**
HHC S **S 19 38 42.6 -1.0**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.9s
MLY Manley 95.66 11 P P 19 27 33.3 +0.2
baz=203
L27K Beaver Creek, 95.67 15 P P 19 27 33.5 +0.3
baz=211
DOT Dot Lake 95.69 14 IAmb IAmb 19 27 34.4
comp=Z,16nm,0.8s
R33M Jennings River 95.69 22 P P 19 27 33.4 0.0
baz=219
HDA Harding Lake 95.78 13 IAmb IAmb 19 27 34.2
comp=Z,16nm,0.7s
HDA Harding Lake 95.78 13 P P 19 27 33.4 -0.2
baz=206,SNR=8.8
CD2 Chengdu 95.88 302 *e*P **P 19 27 35.6 +0.7**
N31M Braeburn, Yuko 95.90 19 P P 19 27 34.4 +0.2
baz=216
F18K Selawik 95.94 7 P P 19 27 34.6 +0.4
baz=195
M29M Somme Creek 95.97 17 P P 19 27 34.8 +0.2
baz=213,SNR=7.1
SCRK Sand Creek 95.99 14 P P 19 27 35.0 +0.3
baz=209,SNR=6.0
HILR Hailar Array B 96.01 324 LR LR 20 07 39.8
comp=Z,342nm,20.6s,baz=305,slow=33
I23K Minto, Yukon-K 96.01 11 P P 19 27 35.0 +0.5
baz=204
COLA College 96.03 12 P P 19 27 33.9 -0.7
COLA College 96.03 12 P P 19 27 34.9 +0.3
baz=206
IL31 96.11 13 P P 19 27 34.3 -0.7
IL31 IAmb IAmb 19 27 35.6
comp=Z,41nm,1.8s
ILAR Eielson Array 96.11 13 P P 19 27 34.4 -0.7
comp=Z,5.4nm,0.8s,baz=219,slow=5.5,SNR=45
ILAR pP **pP 19 27 57.7 0.0**
comp=Z,4.4nm,0.8s,baz=224,slow=6.0,SNR=7.3
ILAR PP **PP 19 31 27.8 -1.7**
comp=Z,3.0nm,1.0s,baz=217,slow=7.2,SNR=5.8
ILAR LR LR 20 04 20.6
comp=Z,132nm,20.8s,baz=200,slow=31
comp=Z,5.4nm,0.8s
K22A Casper 96.14 44 IAmb IAmb 19 27 37.4
comp=Z,20nm,0.7s
E17K Hotham Inlet 96.20 6 P P 19 27 35.7 +0.3
baz=193
J25K Salcha River, 96.27 13 P P 19 27 36.3 +0.4
baz=208,SNR=12
POKR Poker Plat Res 96.32 12 P P 19 27 36.4 +0.4
baz=206
H22K Ishtalitna Cre 96.36 10 P P 19 27 36.4 +0.2
baz=202
F19K Shaleruckik Mo 96.38 8 P P 19 27 36.4 +0.3
baz=197
K27K Chicken 96.45 15 P P 19 27 37.2 +0.6
baz=210
M30M Minto, Yukon 96.52 18 P P 19 27 37.7 +0.7
baz=215
J26L Joseph Creek 96.54 14 IAmb IAmb 19 27 38.9
comp=Z,27nm,0.9s
J26L Joseph Creek 96.54 14 P P 19 27 37.7 +0.6
baz=209,SNR=23
L29M L29M 96.61 17 IAmb IAmb 19 28 06.7
comp=Z,39nm,1.6s
L29M L29M 96.61 17 P P 19 27 38.0 +0.5
baz=214
G21K Allakaket 96.62 9 P P 19 27 37.6 +0.3
baz=201
D17K Noatak River 96.69 5 P P 19 27 38.0 +0.4
baz=192
JTS Las Juntas de 96.71 82 LR LR 20 03 33.5
comp=Z,496nm,18.6s,baz=242,slow=30
F20K Avaraart Lake 96.83 8 P P 19 27 38.1 -0.1
baz=199
M31M Drury Creek, Y 96.87 19 P P 19 27 38.7 +0.1
baz=217
H24K Noodor Dome 96.89 12 P P 19 27 39.5 +0.8
baz=206
WTLY Watson Lake, Y 96.95 22 P P 19 27 39.8 +0.8
baz=221
E19K Redstone River 97.04 8 P Pdif 19 27 39.4 +0.1
baz=197
RDOG Red Dog Mine 97.06 5 P Pdif 19 27 39.8 +0.5
baz=192
TNCH TengChong 97.09 295 *e*P **P 19 27 39.6 -1.1**
TNCH pP pP 19 28 05.0 +1.4
TNCH SKS **SKSac 19 38 09.3 -0.9**
TNCH S **S 19 38 51.3 -5.5**
TNCH LR LR
comp=Z,180nm,10.5s
TNCH LR LR
comp=Z,380nm,8.9s
TNCH LR LR
comp=Z,500nm,18.8s
DAWY Dawson 97.10 16 P Pdif 19 27 40.4 +0.7
baz=213
TOAD Toad River Com 97.25 24 P Pdif 19 27 40.9 +0.5
baz=224
BILL Bilibino 97.26 354 ⇓*i*P **P 19 27 39.9 -0.3**
BILL pmax pmax
comp=Z,24nm,1.6s
F21K Alatna River 97.29 9 P Pdif 19 27 41.2 +0.8
baz=201
G22K Bettles 97.29 10 P Pdif 19 27 41.1 +0.7
baz=202
G23K Bananza Creek 97.33 11 P Pdif 19 27 41.1 +0.5
baz=204
I26K Coal Creek Min 97.33 14 P Pdif 19 27 41.1 +0.5
baz=210
K29M Barlow Dome 97.38 17 P Pdif 19 27 41.6 +0.6
baz=214
H25L Birch Creek 97.66 12 P Pdif 19 27 42.8 +0.8
baz=207
J29N Klondike Camp 97.71 16 P Pdif 19 27 43.1 +0.7
baz=214
G24K Hadweenzic Riv 97.75 11 P Pdif 19 27 42.7 +0.3
baz=206
COLD Coldfoot 97.78 10 P Pdif 19 27 43.3 +0.8
baz=204
C18K Utukok River 97.78 6 P Pdif 19 27 43.1 +0.4
baz=194
I27K Kandik River 97.91 14 P Pdif 19 27 43.4 +0.2
baz=211
E20K Nigu River 97.92 8 P Pdif 19 27 43.7 +0.4
baz=198
LPAZ La Paz 98.08 113 IAmb IAmb 19 27 51.1
comp=Z,2.8nm,0.8s
LPAZ La Paz 98.08 113 P Pdif 19 27 47.1 +1.2
comp=Z,2.1nm,0.7s,baz=223,slow=6.7,SNR=6.4
LPAZ LR LR 20 04 40.3
comp=Z,128nm,21.7s,baz=251,slow=31
comp=Z,2.1nm,0.7s
I28M Miner Creek 98.15 15 P Pdif 19 27 44.5 +0.1
baz=212
J30M Hart River 98.28 17 P Pdif 19 27 45.4 +0.3
baz=215
LZH Lanzhou 98.37 306 *e*P P 19 27 40.5 -5.7
LZH sP pwP 19 28 13.3 +0.9
LZH Lanzhou 98.37 306 S **S 19 39 06.9 -0.3**

LZH pmax pmax
comp=Z,18nm,1.6s
LZH LR LR
comp=N,310nm,15.9s
LZH LR LR
comp=E,400nm,17.5s
LZH LR LR
comp=Z,660nm,17.5s
E21K Killik River 98.37 8 P Pdif 19 27 45.6 +0.4
baz=200
E22K Anaktuvuk Pass 98.38 9 IAmb IAmb 19 27 48.2
comp=Z,28nm,1.5s
E22K Anaktuvuk Pass 98.38 9 P Pdif 19 27 45.5 +0.3
baz=202
LZDM Lanzhou Array 98.41 306 LR LR 20 08 39.3
comp=Z,276nm,21.9s,baz=30,slow=33
F24K Squaw Lake 98.42 11 P Pdif 19 27 46.3 +0.8
baz=206
I29M Ogilvie Camp, 98.45 15 P P 19 27 45.6 0.0
baz=214
SIUN Universidad Ur 98.45 79 IAmb IAmb 19 29 32.1
comp=Z,19nm,0.5s
RSSD Black Hills 98.46 44 P P 19 27 46.0 -0.5
RSSD Black Hills 98.46 44 P P 19 27 46.0 -0.5
RSSD pmax pmax
comp=Z,38nm,0.9s
H27K Steamboat Moun 98.47 14 P Pdif 19 27 45.9 +0.1
baz=211
E23K Chandalar 98.63 10 P P 19 27 46.4 0.0
baz=204
G26K Porcupine Rive 98.64 13 P Pdif 19 27 46.6 +0.2
baz=209
I30M Mount Dempster 98.79 16 P P 19 27 47.0 -0.2
baz=215
F25K Christian Rive 98.87 12 P P 19 27 47.5 0.0
baz=208
G27K Doyon Strip 98.94 13 P Pdif 19 27 48.0 +0.2
baz=211
C21K Knifeblade Rid 98.94 8 P P 19 27 47.7 0.0
baz=200
H29M Whitestone 99.15 15 P Pdif 19 27 48.5 -0.2
baz=214
TOLK Toolik Lake Re 99.17 10 P Pdif 19 27 48.5 -0.3
baz=204
F26K Sheenjek River 99.23 12 P Pdif 19 27 49.1 +0.1
baz=209
D23K Nanushuk River 99.31 9 P Pdif 19 27 49.4 +0.1
baz=203
E25K Arctic Village 99.35 11 P Pdif 19 27 49.8 +0.2
baz=208
B21K Ikpikpuk River 99.41 8 P Pdif 19 27 49.8 0.0
baz=200
B20K Meade River 99.49 7 P Pdif 19 27 50.4 +0.3
baz=198
EPYK Eagle Plains 99.65 15 P Pdif 19 27 50.8 -0.1
baz=215
D24K Happy Valley 99.75 10 P Pdif 19 27 51.8 +0.5
baz=205
G29M Pine Creek 99.80 15 P Pdif 19 27 51.4 -0.2
baz=214
F28M Old Crow 100.00 14 P Pdif 19 27 52.5 0.0
baz=213
YAK Yakutsk 100.01 337 LR LR 20 14 52.7
comp=Z,128nm,18.2s,baz=133,slow=36
C23K Itkillik River 100.12 9 P Pdif 19 27 52.8 -0.1
baz=203
E27K Coleen River 100.14 13 P Pdif 19 27 53.1 0.0
baz=211
B22K Teshekpuk Lake 100.23 8 P Pdif 19 27 53.7 +0.3
baz=201
G30M tAoh Zraii Nji 100.27 15 P Pdif 19 27 54.0 +0.3
baz=216
D25K Kavik River 100.29 11 P Pdif 19 27 53.9 +0.2
baz=207
G31M Satah River 100.68 16 P Pdif 19 27 55.4 -0.1
baz=217
F30M Barrier River 100.88 15 P Pdif 19 27 56.1 -0.3
baz=216
E28M Babbage River 100.90 13 P Pdif 19 27 57.0 +0.6
baz=213
C27K Jago River 101.00 11 P Pdif 19 27 56.9 0.0
baz=209
C26K Camden Bay 101.06 11 P Pdif 19 27 56.7 -0.4
baz=208
E29M Blow River 101.06 14 P Pdif 19 27 57.0 -0.2
baz=214
D27M Malcolm River 101.17 12 P Pdif 19 27 57.8 +0.1
baz=212
F31M Tsiigehtchic 101.22 16 P Pdif 19 27 57.9 0.0
baz=218
INK Inuvik 101.95 15 P Pdif 19 28 01.3 +0.2
baz=218
SONM Songino Array 102.44 318 P Pdif 19 28 03.8 -0.1
comp=Z,0.2nm,0.4s,baz=106,slow=4.7,SNR=3.1
SONM PKKPbc **PKKPbc 19 44 06.5 +0.5**
comp=Z,1.8nm,0.8s,baz=276,slow=3.3,SNR=12
C36M Paulatuk 105.04 17 P PKiKP 19 32 29.1 +0.2
baz=226
WMQ Urumqi 112.82 309 *e*PKP **PKiKP 19 32 45.6 +1.2**
WMQ LR LR
comp=Z,360nm,24.3s
ZSN Zaisan 115.76 312 *e*PKP **PKPdf 19 32 49.5 -0.4**
ZSN Zaisan 115.76 312 *e*PKIKP **PKPdf 19 32 49.5 -0.4**
MK31 Makanchi Array 117.30 311 ⇓*i*PKIKP **PKPdf 19 32 52.0 -0.9**
MKAR Makanchi Array 117.30 311 PKP PKPdf 19 32 52.0 -0.9
comp=Z,4.3nm,0.8s,baz=70,slow=4.0,SNR=23
MKAR pPKP **pPKPdf 19 33 17.3 +0.9**
comp=Z,8.2nm,0.9s,baz=80,slow=2.7,SNR=6.8
MKAR PKKPbc **PKKPbc 19 43 12.4 -5.0**
comp=Z,1.3nm,0.8s,baz=297,slow=5.3,SNR=6.1
ZALV Zalesovo Beam 117.31 319 PKPdf 19 32 51.2 -1.4
ZALV Zalesovo Beam 117.31 319 PKP PKPdf 19 32 51.7 -0.9
comp=Z,3.0nm,0.7s,baz=155,slow=1.5,SNR=19
ZALV pPKP **pPKPdf 19 33 17.8 +1.7**
comp=Z,4.2nm,0.8s,baz=136,slow=0.9,SNR=4.4
SHLS Shalkode 118.39 306 *e*PKP **PKPdf 19 32 54.3 -1.0**
SHLS Shalkode 118.39 306 *e*PKIKP **PKPdf 19 32 54.2 -1.0**
UZB Uzynbulak 118.70 306 *e*PKP **PKPdf 19 32 55.4 -0.4**
UZB Uzynbulak 118.70 306 *e*PKIKP **PKPdf 19 32 55.4 -0.4**
BOSA Boshof 119.12 202 PKP PKiKP 19 32 58.5 +1.2
comp=Z,5.1nm,0.9s,baz=125,slow=2.6,SNR=7.6
BOSA pPKP **pPKPdf 19 33 23.3 +2.7**
comp=Z,6.8nm,0.8s,baz=151,slow=3.8,SNR=5.0
BOSA PKKPbc **PKKPbc 19 43 11.4 +0.5**
comp=Z,5.0nm,1.0s,baz=314,slow=5.8,SNR=4.6
TDK Taldyqorghan 119.55 308 *e*PKP **PKPdf 19 32 57.0 -0.3**
TDK Taldyqorghan 119.55 308 *e*PKIKP **PKPdf 19 32 56.9 -0.3**
KSH Kashi 120.07 301 PKP PKiKP 19 32 59.3 +0.7
MDOK Medeo 120.11 306 *e*PKP **PKPdf 19 32 58.2 -0.4**
MDOK Medeo 120.11 306 *e*PKIKP **PKPdf 19 32 58.2 -0.4**
KURK Kurchatov 120.46 314 PKPdf 19 32 57.9 -0.8
KURK pPKPdf **pPKPdf 19 33 22.2 0.0**
KURK Kurchatov 120.46 314 PKIKP PKPdf 19 32 58.2 -0.5
KURK 19 33 24.0
KURBB Kurchatov Arra 120.50 314 PKP PKPdf 19 32 58.2 -0.7
comp=Z,5.1nm,0.7s,baz=99,slow=1.9,SNR=48
KURBB pPKP **pPKPdf 19 33 24.0 +1.7**
comp=Z,7.6nm,0.8s,baz=103,slow=2.2,SNR=7.2
KURBB PKKPab **PKKPbc 19 43 06.2 +0.3**
comp=Z,0.6nm,0.9s,baz=286,slow=5.1,SNR=4.7
AAK Ala-Archa 121.84 305 *e*PKP **PKPdf 19 33 00.3 -1.6**
AAK Ala-Archa 121.84 305 *d i*PKIKP **PKPdf 19 33 00.5 -1.4**
SGDS Sogindy 121.90 305 *e*PKP **PKPdf 19 33 01.4 -0.5**
LBTB Lobatse 122.30 204 PKKPbc PKKPbc 19 42 57.5 -1.4
comp=Z,1.6nm,0.8s,baz=333,slow=6.8,SNR=4.0
BRZS Berezniki 124.15 313 *e*PKP **PKPdf 19 33 06.0 0.0**
BRZS Berezniki 124.15 313 *e*PKIKP **PKPdf 19 33 05.9 0.0**
DZA Taraz 124.18 304 *e*PKP **PKPdf 19 33 06.0 -0.3**
DZA Taraz 124.18 304 *e*PKIKP **PKPdf 19 33 05.9 -0.3**
KBL Kabul 124.29 294 PKIKP PKiKP 19 33 07.2 0.0
KBL Kabul 124.29 294 PKIKP PKiKP 19 33 07.2 0.0
SCHQ Schefferville 124.45 41 PKhKP PKPpre 19 33 02.3
comp=Z,78nm,0.8s,baz=310,slow=2.2,SNR=3.6
IUG Iuzhnay 125.01 303 *e*PKP **PKPdf 19 33 07.5 -0.5**
IUG Iuzhnay 125.01 303 *e*PKIKP **PKPdf 19 33 07.4 -0.5**
BRLS Borolday 125.28 304 *e*PKP **PKPdf 19 33 08.2 -0.1**
BRLS *e*PP **PP 19 34 58.6 -1.3**
BRLS Borolday 125.28 304 *e*PKIKP **PKPdf 19 33 08.2 -0.1**
BRLS *e* 19 34 58.6
CHM Chimkent 125.35 303 *e*PKP **PKPdf 19 33 08.2 -0.2**
CHM Chimkent 125.35 303 *e*PKIKP **PKPdf 19 33 08.2 -0.2**
BVAR Borovoye Array 125.75 317 PKP PKPdf 19 33 08.9 0.0
comp=Z,9.1nm,0.8s,baz=85,slow=1.8,SNR=32
BVAR pPKP **pPKPdf 19 33 33.6 +1.2**
comp=Z,12nm,0.8s,baz=94,slow=4.5,SNR=6.6
BORK Borovoye 125.80 317 ⇓*i*PKIKP **PKPdf 19 33 08.7 -0.2**

GBN **Guysborough** 127.32 53 PKPdf **PKiKP** 19 33 12.4 -0.2
MHTO **MHTO** 129.83 274 P SKPbc 19 36 32.4 +0.2
WSAR **Wadi Sarin** 130.00 277 P **SKPbc** 19 36 35.1 +2.3
SPITS **Spitsbergen Ar** 130.08 356 PKP **PKPdf** 19 33 16.7 +0.2
comp=Z,6.7nm,0.8s,baz=0.0,slow=2.9,SNR=1.6
SPITS pPKP **pPKPdf** 19 33 41.8 +1.9
comp=Z,6.7nm,0.7s,baz=63,slow=5.9,SNR=1.9
JMDO **Jabal Madar** 130.18 276 P **SKPbc** 19 36 34.2 +0.7
SMDO **Samad** 130.45 277 P **SKPbc** 19 36 37.4 +2.9
BIDO **Bidbid** 130.53 277 P **SKPbc** 19 36 37.2 +2.5
SHAO **Shalim** 130.80 270 P **SKPbc** 19 36 38.4 +2.6
HOQ **Hoqain** 131.26 277 P **SKPbc** 19 36 40.3 +2.9
SNR=5.2
DMTO **DMTO** 131.28 269 P **SKPbc** 19 36 39.5 +2.0
RBK **Rabkut** 131.85 268 P **SKPbc** 19 36 41.6 +2.0
SNR=8.4
ARQ **Araqi** 131.87 277 P **SKPbc** 19 36 42.3 +2.8
SOHO **SOHO** 132.10 278 P **SKPbc** 19 36 43.2 +2.9
DOK **Doka** 132.34 270 P **SKPbc** 19 36 43.2 +1.8
SNR=10.0
WHFO **Wadi Hawf** 132.39 269 P **SKPbc** 19 36 43.3 +1.7
SNR=12
ARTI **Arti** 132.40 322 **PKPdf** 19 33 21.0 -0.4
ARTI **Arti** 132.40 322 *i* PKIKP **PKPdf** 19 33 21.7 +0.3
ARTI 19 35 43.5
ABTO **Aybut** 132.59 268 P **SKPbc** 19 36 45.1 +2.8
SNR=9.9
UOSS **Minazif** 132.63 279 P **SKPbc** 19 36 46.2 +4.0
MDH **Madha** 132.65 279 P **SKPbc** 19 36 45.4 +3.2
HATD **Hatta, Dubai** 132.66 278 P **SKPbc** 19 36 45.5 +3.2
SNR=6.0
ASHO **Ashiyiah** 132.68 278 P **SKPbc** 19 36 45.7 +3.3
SNR=6.1
ALNE **Al Ain** 132.76 277 P **SKPbc** 19 36 46.3 +3.7
MASF **Masafi** 132.79 279 P **SKPbc** 19 36 46.1 +3.4
SNR=7.4
BANOM **Banah** 132.82 280 P **SKPbc** 19 36 46.2 +3.3
SHME **Shamm** 132.99 280 P **SKPbc** 19 36 47.6 +4.2
FAQ **Al Faqa, Dubai** 133.10 278 P **SKPbc** 19 36 46.9 +3.2
NAZ **Nazwa, Dubai** 133.11 278 P **SKPbc** 19 36 46.8 +2.9
SNR=5.3
UMQ **Umm Al-Quwin** 133.26 279 P **SKPbc** 19 36 49.5 +5.3
ASUD **Al Ashush, Dub** 133.30 278 P **SKPbc** 19 36 48.7 +4.2
AJN **Ajban** 133.58 278 P **SKPbc** 19 36 48.2 +2.9
MZR **Muzera** 134.42 275 P **SKPbc** 19 36 52.7 +4.5
KIRV **Kirov** 136.38 327 *e*PKIKP **PKiKP** 19 33 30.0 -0.4
APA **Apatity** 137.05 343 ⇓*i*PKIKP **PKPdf** 19 33 30.4 +0.7
APA *e* 19 36 14.4
APA MLR MLR
comp=Z,2μm,5.3s
ARCES **ARCESS Array B** 137.12 349 PKhKP PKPpre 19 33 23.3
comp=Z,5.9nm,1.1s,baz=321,slow=1.7,SNR=9.1
ARCES PKP **PKPdf** 19 33 29.7 -0.1
comp=Z,5.6nm,0.7s,baz=29,slow=2.8,SNR=4.5
H10S3 **ASCENSION HYDR** 138.88 153 T T 22 09 13.3
baz=204,slow=74,SNR=480
H10S2 **ASCENSION HYDR** 138.88 153 T T 22 09 14.1
baz=16,slow=74,SNR=665
BELG **Belogornoye** 139.50 318 *ce*PKIKP **PKPdf** 19 33 35.1 +0.5
KLMR **Klimovskoe** 139.65 333 *e*PKIKP **PKPdf** 19 33 33.2 -1.5
KLMR *e* 19 33 57.1
KLMR *e* 19 36 29.4
KLMR pmax pmax
comp=Z,46nm,1.5s
H10N3 **ASCENSION HYDR** 139.95 153 T T 22 10 35.4
baz=204,slow=75,SNR=607
H10N1 **ASCENSION HYDR** 139.96 153 T T 22 10 37.7
baz=204,slow=75,SNR=324
H10N2 **ASCENSION HYDR** 139.97 153 T T 22 10 38.7
baz=204,slow=75,SNR=524
LODK **Lodwar** 140.21 237 **PKPdf** 19 33 33.4 -3.9
FAUS **Fauske** 140.59 353 *e*P **PKPdf** 19 33 36.9 +0.7
RAYN **Ar Rayn** 141.57 272 **PKPdf** 19 33 34.8 -4.7
RAYN **Ar Rayn** 141.57 272 PKHKP PKPpre 19 33 34.8
AKT **Akhty** 141.60 302 *e*PKHKP PKPpre 19 33 34.5
AKT *e* 19 36 39.2
AKT pmax pmax
comp=Z,13nm,1.2s
MOR8 **Moi Rana** 141.86 352 *e*P **PKPdf** 19 33 37.2 -1.4
VRH **Novokhopyorsk** 143.34 319 *e*PKIKP **PKPdf** 19 33 40.9 -0.7
VRH pmax pmax
comp=Z,16nm,1.0s
MOS **Moscow** 143.38 327 *i* PKHKP PKPpre 19 33 37.5
NSS **Namsos** 143.72 353 *e*P **PKPdf** 19 33 41.2 -0.6
FINES **FINESS Array B** 143.83 341 PKhKP PKPpre 19 33 39.2
comp=Z,8.8nm,0.7s,baz=46,slow=3.4,SNR=44
GNI **Garni** 143.98 300 PKPbc 19 33 41.5 +0.1
GNI **Garni** 143.98 300 PKIKP PKPbc 19 33 41.5 0.0
OBN **Obninsk** 144.23 327 ⇑*i*PKIKP PKPbc 19 33 41.5 0.0
OBN *e* 19 34 05.0
OBN *i* 19 34 15.7
OBN 19 36 58.0
OBN *i* SS SS 19 55 35.1 -1.8
OBN pmax pmax
comp=Z,141nm,4.0s
OBN pmax pmax
comp=Z,42nm,1.2s
OBN MLR MLR
comp=Z,201nm,16.0s
LPSR **Galich'ya Gora** 144.31 322 *e*PKIKP **PKPab** 19 33 41.1 -0.4
LPSR pmax pmax
comp=Z,24nm,1.1s
GOF **Gofitskoye** 144.42 308 *ce*PKIKP PKPbc 19 33 42.8 +0.4
VSR **Storozhevoye** 144.81 320 *e*PKIKP **PKPab** 19 33 41.2 -2.2
VSR pmax pmax
comp=Z,20nm,1.0s
KBZ **Khabaz** 144.81 306 PKP **PKPab** 19 33 42.3 -1.3
comp=Z,8.2nm,0.7s,baz=123,slow=1.9,SNR=23
VORD **Divnogorie** 144.84 319 *e*PKIKP **PKPab** 19 33 41.5 -2.0
VORD pmax pmax
comp=Z,20nm,1.0s
KIV **Kislovodsk** 144.91 307 ⇓P **PKPdf** 19 33 44.5 -0.2
KIV **Kislovodsk** 144.91 307 *i* PKIKP **PKPdf** 19 33 45.1 +0.3
KIV pmax pmax
comp=Z,19nm,1.0s
ERBR **Yeremizino-Bor** 145.99 310 *i* PKP2 **PKPab** 19 33 48.2 +0.2
ERBR pmax pmax
comp=Z,203nm,0.9s
MOL **Molde** 146.01 356 *e*P **PKPbc** 19 33 46.6 -0.3
BATM **Batumi** 146.08 303 ⇑P **PKPbc** 19 33 47.8 +0.1
BATM **Batumi** 146.08 303 ⇑PKP2 **PKPbc** 19 33 47.8 +0.1
LABN **Labinsk** 146.12 308 *i* PKP2 **PKPab** 19 33 48.6 +0.1
LABN pmax pmax
comp=Z,57nm,0.8s
GURO **Guroymak-BITLI** 146.21 297 **PKPbc** 19 33 48.5 +0.1
DOMB **Dombas** 146.43 355 *e*P **PKPbc** 19 33 47.6 -0.6
AKN **Aaknes** 146.43 357 *e*P **PKPbc** 19 33 48.0 -0.1
SOC **Sochi** 147.09 307 *e*PKIKP **PKPdf** 19 33 47.4 -0.9
SOC *e* 19 34 14.2
SOC *e* 19 37 13.9
SOC *e*PPP PPP 19 40 36.9
SOC *e*SSS SSS 20 01 39.0
SOC pmax pmax
comp=Z,23nm,0.9s
NB2 **NORSAR Subarra** 147.21 353 PKP **PKPbc** 19 33 49.6 -0.8
comp=Z,109nm,1.4s,baz=11,slow=2.9
NB2 **NORSAR Subarra** 147.21 353 PKP **PKPbc** 19 33 49.6 -0.8
baz=11,slow=2.9
NOA **NORSAR Array B** 147.21 353 PKPbc **PKPbc** 19 33 49.9 -0.6
comp=Z,22nm,0.9s,baz=14,slow=4.4,SNR=36
NOA pPKPbc **pPKPbc** 19 34 14.0 +0.2
comp=Z,70nm,1.1s,baz=14,slow=2.9,SNR=16
MARD **Mardin** 147.30 295 **PKPdf** 19 33 49.7 +0.6
NC602 **NORSAR Array S** 147.46 352 *e*P **PKPbc** 19 33 50.4 -0.6
HFS **Hagfors** 147.75 350 PKPbc **PKPbc** 19 33 51.0 -0.8
comp=Z,27nm,0.8s,baz=48,slow=2.2,SNR=28
HFS pPKPbc **pPKPbc** 19 34 16.0 +0.8
comp=Z,62nm,0.8s,baz=11,slow=1.5,SNR=9.1
SKAR **Skarslia** 147.84 355 *e*P **PKPbc** 19 33 52.4 +0.3
BER **Bergen** 148.30 358 *e*P **PKPbc** 19 33 53.8 +0.5
ANN **Anapa** 148.32 310 *i* PKP2 **PKPbc** 19 33 54.3 +0.5
ANN pmax pmax
comp=Z,42nm,0.7s
OSL **Oslo** 148.34 353 *e*P **PKPbc** 19 33 53.5 +0.2
MNK **Minsk** 148.51 332 *i* PKiKP **PKPbc** 19 33 53.4 -0.6
comp=E,28nm,1.0s
MNK *i* PKiKP **PKPbc** 19 33 53.4 -0.6
comp=N,25nm,1.3s
MNK *i* PKiKP **PKPbc** 19 33 53.4 -0.6
comp=Z,55nm,0.9s,baz=44
MNK *i* pPKiKP **pPKPbc** 19 34 15.9 -1.5
MNK *i* PP **PP** 19 37 24.0 +0.1
MNK *i* PPP PPP 19 40 43.5
MNK *i* SKS **SKSdf** 19 40 51.5 +1.1
MNK *i* SKKS SKKSdf 19 49 21.6 -28
MNK *i* SS **SS** 19 56 19.0 -6.2
MNK *i* SSS SSS 20 02 11.6
MNK *i* LQ LQ 20 32 09.5
MNK *i* LR LR 20 37 05.3
MNK *i* LRM MLR 20 41 06.5
comp=Z,352nm,23.1s
MNK *i* LRM MLR 20 41 14.6
comp=E,225nm,18.7s
MNK *i* LRM MLR 20 41 55.1
comp=N,109nm,14.9s
MNK **Minsk** 148.51 332 *i* PKP2 **PKPbc** 19 33 53.3 -0.7
MNK *i* 19 37 23.9
MNK *i* PPP PPP 19 40 43.5
MNK *i* 19 40 51.5
MNK *i* SS SS 19 56 18.9 -6.3
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=N,25nm,1.3s
MNK pmax pmax
comp=E,28nm,1.0s
MNK MLR MLR
comp=Z,352nm,23.0s
MNK MLR MLR
comp=E,225nm,19.0s
MNK MLR MLR
comp=N,109nm,15.0s
NACGM **Naroch** 148.67 333 *e*PKP **PKPbc** 19 33 54.8 +0.4
ODD1 **Odda** 148.71 356 *e*P **PKPbc** 19 33 54.7 +0.3
KONO **Kongsberg** 148.74 353 **PKPdf** 19 33 51.9 +1.4
KONO **Kongsberg** 148.74 353 ⇓PKP2 **PKPbc** 19 33 54.2 -0.2
KONO **Kongsberg** 148.74 353 *e*P **PKPbc** 19 33 54.1 -0.3
STRU **Stroemstad** 149.16 352 *i* P **PKPbc** 19 33 55.3 -0.1
PABE **Paberze** 149.26 336 **PKPdf** 19 33 51.4 -0.1
HOMB **Homborsund** 150.20 354 *e*P **PKPbc** 19 33 58.0 -0.1
HOMB **Homborsund** 150.20 354 *i* P **PKiKP** 19 33 58.5 -0.3
SNART **Snartemo** 150.24 355 *e*P **PKPbc** 19 33 58.4 +0.2
SNART **Snartemo** 150.24 355 *i* P **PKiKP** 19 33 58.5 -0.4
BORU **Boraas** 150.28 349 *i* P **PKPbc** 19 33 58.0 -0.3
AK03 **Malin Array Si** 150.41 325 PKP **PKPbc** 19 33 58.1 -0.7
AKASG **Malin Array Be** 150.42 325 PKP **PKPdf** 19 33 53.6 +0.2
comp=N,32nm,0.9s,baz=45,slow=2.6,SNR=12
AKASG PKPbc **PKPbc** 19 33 58.7 -0.1
comp=N,30nm,0.8s,baz=45,slow=3.1,SNR=38
AKBB **Malin Array Si** 150.42 325 **PKPbc** 19 33 58.1 -0.6
AKBB **Malin Array Si** 150.42 325 PKIKP **PKPbc** 19 33 58.2 -0.6
AK23 **Malin Array Si** 150.43 325 PKP **PKPbc** 19 33 58.3 -0.5
AK01 **Malin Array Si** 150.43 325 PKP **PKPbc** 19 33 58.4 -0.4
KIEV **Kiev** 150.43 325 **PKPbc** 19 33 58.1 -0.7
KIEV **Kiev** 150.43 325 ⇑P **PKPbc** 19 33 58.5 -0.3
KIEV **Kiev** 150.43 325 ⇑PKIKP **PKPbc** 19 33 58.5 -0.3
AK04 **Malin Array Si** 150.44 325 PKP **PKPbc** 19 33 58.4 -0.5
AK02 **Malin Array Si** 150.46 325 PKP **PKPbc** 19 33 58.4 -0.5
AK22 **Malin Array Si** 150.46 325 PKP **PKPbc** 19 33 58.4 -0.5
AK11 **Malin Array Si** 150.46 325 PKP **PKPbc** 19 33 58.4 -0.5
AK21 **Malin Array Si** 150.46 325 PKP **PKPbc** 19 33 58.4 -0.5
AK15 **Malin Array Si** 150.47 325 PKP **PKPbc** 19 33 58.4 -0.6
SIM **Simferopol'** 150.47 312 *e*PKIKP **PKPbc** 19 33 58.9 -0.3
SIM pmax pmax
comp=Z,48nm,0.9s
ONAU **Onsala** 150.65 350 *i* P **PKPbc** 19 33 58.9 -0.2
SUW **Suwalki** 150.72 335 *e*PKP **PKPbc** 19 33 59.7 +0.3
FABU **Falkenberg** 150.90 349 *i* P **PKPbc** 19 33 59.4 -0.3
FKH **Fakeheh** 151.00 289 *e*P **PKiKP** 19 34 02.1 +0.6
BEIL **Beino** 151.18 290 *e*P **PKiKP** 19 34 02.2 +0.4
DEL **Delary** 151.19 347 *i* P **PKPbc** 19 34 00.4 0.0
ZAHL **Zahle** 151.44 289 *e*P **PKiKP** 19 34 03.8 +1.4
RCY **Rachaya** 151.49 288 *e*P **PKiKP** 19 34 04.1 +1.6
SHBL **Chebaa** 151.57 288 *e*P **PKiKP** 19 34 04.3 +1.6
BZK **Bozkurt** 151.58 306 ⇓P **PKiKP** 19 34 02.2 -0.1
QRWL **Qaraoun** 151.62 288 *e*P **PKiKP** 19 34 04.2 +1.5
BHL **Bhannes** 151.64 289 *e*P **PKiKP** 19 34 03.3 +0.5
DQRL **Deir Qamar** 151.71 288 *e*P **PKiKP** 19 34 03.7 +0.8
BJUU **Bjuv** 151.72 348 *i* P **PKPbc** 19 34 01.5 -0.2
MMAI **Mount Meron Ar** 151.86 287 PKPbc **PKiKP** 19 34 04.1 +0.8
comp=Z,9.9nm,0.6s,baz=88,slow=6.3,SNR=21
MMAI PKPab **PKPab** 19 34 14.3 +2.0
comp=Z,15nm,0.6s,baz=69,slow=8.1,SNR=8.1
LUNU **Lund** 152.06 347 *i* P **PKPbc** 19 34 02.5 0.0
KIRS **Kirsehir-Merke** 152.38 300 ⇓P **PKPbc** 19 34 03.5 -0.4
SORM **Soroca** 152.41 322 ⇓P **PKPbc** 19 34 02.8 -0.7
SORM **Soroca** 152.41 322 ⇓PKIKP **PKPbc** 19 34 02.8 -0.7
BRTR **Keskin Array B** 152.46 302 PKP **PKPdf** 19 33 57.2 +0.1
comp=Z,1.3nm,0.8s,baz=101,slow=1.3,SNR=7.9
BRTR PKPbc **PKPbc** 19 34 03.4 -0.7
comp=Z,6.8nm,0.8s,baz=126,slow=2.1,SNR=27
BRTR PKPab **PKPab** 19 34 16.4 +1.7
comp=Z,19nm,0.9s,baz=129,slow=4.2,SNR=15
EKA **Eskdalemuir Ar** 153.04 8 PKPbc **PKPbc** 19 34 04.1 -0.5
comp=Z,4.7nm,1.0s,baz=1.4,slow=3.4,SNR=5.3
EKA PKPab **PKPab** 19 34 15.9 -0.5
comp=Z,9.7nm,0.7s,baz=321,slow=2.4,SNR=15
EKA pPKPab **pPKPab** 19 34 39.6 +0.5
comp=Z,14nm,0.7s,baz=338,slow=2.5,SNR=8.4
ANTO **Ankara** 153.05 302 **PKiKP** 19 34 05.5 0.0
ANTO **Ankara** 153.05 302 ⇓P **PKiKP** 19 34 06.2 +0.7
ANTO **Ankara** 153.05 302 PKIKP **PKiKP** 19 34 05.5 0.0
GKP **Gorka Klasztor** 153.30 341 *e*PKP **PKiKP** 19 34 06.1 +0.7
BEL **Belsk** 153.33 335 *e*PKP **PKiKP** 19 34 06.2 +0.7
TPGR **Topolog** 154.15 315 ⇓P **PKPbc** 19 34 06.9 -0.6
CFR **Carcaliu** 154.16 316 ⇑P **PKPdf** 19 33 59.8 +0.6
CFR **Carcaliu** 154.16 316 ⇑PKIKP **PKPdf** 19 33 59.8 +0.6
KWP **Kalwaria Pacla** 154.24 330 *e*PKP **PKPbc** 19 34 06.0 -1.5
TESR **Tescani** 154.30 320 ⇑P **PKPab** 19 34 21.9 -0.2
BURAR **Bucovina Array** 154.40 324 ⇓P **PKiKP** 19 34 08.7 +0.7
BURAR **Bucovina Array** 154.40 324 ⇓PKIKP **PKiKP** 19 34 08.7 +0.7
VRI **Vrincioaia** 154.62 319 ⇑P **PKiKP** 19 34 15.6 +7.1
PLOR **Plostina** 154.68 319 ⇑P **PKPab** 19 34 19.8 -3.9
BORA **Eskisehir** 154.78 303 **PKPbc** 19 34 07.4 -1.6
TURR **Turia** 154.92 320 ⇓P **PKPab** 19 34 25.1 +0.3
OJC **Ojcow** 155.00 334 *e*PKP **PKPdf** 19 33 59.8 -0.4
OJC **Ojcow** 155.00 334 PKPdf 19 34 09.3 +9.1
OJC **Ojcow** 155.00 334 PKIKP PKPdf 19 34 09.3 +9.1
OZUR 155.03 320 ⇓P **PKPdf** 19 34 05.8 +5.4
STHS **Stebnicka Huta** 155.03 331 *e*PKP2 **PKPab** 19 34 25.7 +0.6
STHS **Stebnicka Huta** 155.03 331 *e*PKP **PKPab** 19 34 25.7 +0.6
MLR **Muntele Rosu** 155.29 319 **PKPdf** 19 34 00.8 -0.2
MLR **Muntele Rosu** 155.29 319 ⇑P **PKPdf** 19 34 02.0 +1.1
MLR **Muntele Rosu** 155.29 319 ⇑PKIKP **PKPdf** 19 34 02.0 +1.1
DOPR **Dopca** 155.33 320 ⇓P **PKPdf** 19 34 04.2 +3.4
NIE **Niedzica** 155.43 332 *e*PKP **PKPdf** 19 34 01.7 +0.8
KSP **Ksiaz** 155.71 339 *e*PKP **PKPdf** 19 33 58.2 -2.9
OSTC **Ostas** 155.98 339 *e*PKPDF **PKPdf** 19 34 02.4 +0.8
OSTC **Ostas** 155.98 339 *e*PKIKP **PKPdf** 19 34 02.4 +0.8
STEB **Steborice** 155.99 336 *e*PKPAB **PKPab** 19 34 29.5 +0.4
ARR **Arges** 156.11 320 ⇓P **PKPdf** 19 34 02.7 +0.7
CLL **Collm** 156.20 344 *e*PKIKP **PKPdf** 19 34 01.0 -0.8
CLL *i* 19 34 28.7
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL pmax pmax
comp=Z,22nm,1.2s
CLL **Collm** 156.20 344 *e*PKPdf **PKPdf** 19 34 01.0 -0.8
CLL *i* PKPdif pPKPdf 19 34 11.5 -14
CLL *i* PKPab **PKPab** 19 34 28.7 -1.2
comp=Z,22nm,1.2s
CLL *i* x x 19 34 38.7
CLL *e*pPKPab **pPKPab** 19 34 50.0 -2.7
CLL *i* x x 19 34 53.9
comp=Z,46nm,1.1s
CLL *e*SKPdf **SKPdf** 19 37 28.0 +1.4
CLL *e*SKSdf **SKSdf** 19 41 02.0 +2.1
CLL *e*SS **SS** 19 57 46.0 -3.0
CLL *e*SSS SSS 20 03 52.0
CLL *e*SSSS 20 07 48.0
CLL **Collm** 156.20 344 *i* P 19 36 15.6
comp=Z,12nm,1.2s
MORC **Moravsky Berou** 156.20 336 *e*PKP **PKPdf** 19 34 00.9 -1.0
KRLC **Kraliky** 156.21 338 *e*PKPAB **PKPab** 19 34 29.8 -0.3
KRLC **Kraliky** 156.21 338 *e*PKP2 **PKPab** 19 34 29.8 -0.3
BRG **Berggiesshubel** 156.36 342 *e*PKP **PKPdf** 19 34 02.7 +0.7
BRG Amp 19 34 05.5
comp=Z,26nm,1.8s
BRG **Berggiesshubel** 156.36 342 P PKPdf 19 34 12.3 +10
BRG Amp 19 34 14.4
comp=Z,5.1nm,0.9s
BRG **Berggiesshubel** 156.36 342 P **PKPab** 19 34 30.5 -0.1
BRG Amp 19 34 31.5
comp=Z,9.5nm,1.0s
BRG **Berggiesshubel** 156.36 342 P PKPab 19 34 44.8 +14
BRG Amp 19 34 46.5
comp=Z,11nm,0.9s
BRG **Berggiesshubel** 156.36 342 P PKPab 19 34 55.7 +25
BRG Amp 19 34 56.8
comp=Z,45nm,1.2s
BRG **Berggiesshubel** 156.36 342 P PKPab 19 35 04.9 +34
BRG Amp 19 35 05.8
comp=Z,13nm,1.0s
BRG **Berggiesshubel** 156.36 342 P 19 38 13.8
BRG Amp 19 38 22.4
comp=Z,5.2nm,1.1s
ELND **Elena** 156.70 314 ⇓P **PKPdf** 19 34 04.0 +1.2
DBIC **Dimbokro** 156.87 160 **PKPdf** 19 34 05.2 +1.4
DBIC **Dimbokro** 156.87 160 PKP **PKPdf** 19 34 05.1 +1.3
comp=Z,4.7nm,0.8s,baz=210,slow=1.5,SNR=5.1
DBIC pPKP **pPKPdf** 19 34 29.6 +2.3
comp=Z,12nm,0.9s,baz=215,slow=1.8,SNR=6.7
DBIC pPKPab **pPKPab** 19 35 00.5 +4.2
comp=Z,9.2nm,0.9s,baz=236,slow=6.2,SNR=3.3
DBIC **Dimbokro** 156.87 160 PKIKP **PKPdf** 19 34 05.2 +1.4
VRAC **Vranov** 156.93 337 ⇓P **PKPab** 19 34 30.1 -3.1
VRAC **Vranov** 156.93 337 *e*PKP **PKPdf** 19 34 02.5 -0.3
VRAC **Vranov** 156.93 337 ⇓PKP2 **PKPab** 19 34 30.1 -3.1
KRUC **Moravsky** 157.21 337 *e*PKP **PKPdf** 19 34 02.6 -0.6
SURR **Surduc** 157.23 323 ⇓P PKPdf 19 34 12.5 +9.2
MODS **Modra-Piesok** 157.46 334 *e*PKP2 **PKPab** 19 34 35.8 +0.3
MODS **Modra-Piesok** 157.46 334 *e*PKP **PKPab** 19 34 35.8 +0.3
ZVC **Zvikov** 157.58 340 *e*PKPAB **PKPab** 19 34 36.2 +0.2
BZS **Buzias** 157.59 324 ⇑P **PKPdf** 19 34 01.5 -2.2
BZS **Buzias** 157.59 324 ⇑PKIKP **PKPdf** 19 34 01.5 -2.2
BTNL **Ternell** 158.03 355 *d*PKP **PKPab** 19 34 37.2 -0.6
KHC **Kasperske Hory** 158.04 341 *e*PKPDF **PKPdf** 19 34 04.4 +0.1
KHC *e*PKPAB **PKPab** 19 34 37.8 -0.2
KHC *ex* x 19 35 02.0
KHC **Kasperske Hory** 158.04 341 *e*PKIKP **PKPdf** 19 34 04.4 +0.1
KHC *e* 19 34 37.8
GERES **GERESS Array B** 158.26 341 PKP **PKPdf** 19 34 05.0 +0.4
comp=Z,0.6nm,0.6s,baz=63,slow=0.6,SNR=5.3
GERES pPKPab **pPKPab** 19 35 03.5 +1.7
comp=Z,5.4nm,1.0s,baz=40,slow=7.1,SNR=4.3
BHOU **Houvegnez** 158.27 355 *d*PKP **PKPab** 19 34 38.9 0.0
BHOU *dp*PKP **pPKPab** 19 35 02.8 +1.2
BGES **Gesves** 158.30 356 *d*PKPdf **PKPdf** 19 34 06.9 +2.4
BGES *d*PKP **PKPab** 19 34 38.2 -0.8
BGES *dp*PKP **pPKPab** 19 35 03.2 +1.4
CONA **Conrad Observa** 158.36 336 *e*PKP **PKPdf** 19 34 04.4 -0.3
comp=Z,0.8nm,0.4s
CONA *i* PKP **PKPab** 19 34 40.2 +0.7
comp=Z,8.4nm,0.8s,SNR=5.0
CONA *ep*PKP **pPKPab** 19 35 05.2 +2.9
comp=Z,27nm,1.4s
RONA **Rosalia, Austr** 158.39 335 *e*PKP **PKPab** 19 34 40.1 +0.5
comp=Z,10nm,1.0s
BMRD **Maredsous** 158.40 357 *d*PKP **PKPab** 19 34 38.7 -0.7
BMRD *dp*PKP **pPKPab** 19 35 00.7 -1.5
RCHB **Rochefort** 158.52 356 *d*PKP **PKPab** 19 34 38.7 -1.3
DOU **Dourbes** 158.61 357 *d*PKP **PKPab** 19 34 40.4 0.0
DOU *dp*PKP **pPKPab** 19 35 03.4 +0.3
WLF **Walferdange** 158.94 354 *d*PKP **PKPab** 19 34 41.7 -0.1
WLF *dp*PKP **pPKPab** 19 35 02.4 -2.1
MOA **Molln** 158.97 338 *e*PKP **PKPab** 19 34 43.0 +0.9
comp=Z,14nm,1.7s
MOA *ep*PKP **pPKPab** 19 35 07.5 +2.6
comp=Z,27nm,1.2s
BIOA **Bad Ischl, Aus** 159.31 339 *i* PKP **PKPab** 19 34 44.1 +0.5
comp=Z,19nm,1.2s,SNR=4.6
BIOA *ep*PKP **pPKPab** 19 35 09.1 +2.7
comp=Z,33nm,1.3s
VAY **Valandovo** 159.64 313 *i* P **PKPab** 19 34 46.2 +1.0
SOKA **Soboth** 159.72 335 *e*PKP **PKPab** 19 34 45.1 -0.3
comp=Z,6.8nm,0.9s,SNR=4.8
LESA **Schwarzleotal** 159.84 341 *e*PKP **PKPdf** 19 34 05.8 -0.7
comp=Z,1.4nm,0.6s
LESA *i* PKP **PKPab** 19 34 46.3 +0.4
comp=Z,14nm,1.2s
LESA *ep*PKP **pPKPab** 19 35 11.4 +2.7
comp=Z,36nm,1.2s
KBA **Koelnbreinsper** 159.94 339 *i* PKP **PKPdf** 19 34 05.0 -1.7
comp=Z,0.7nm,0.4s
SKO **Skopje** 159.98 316 *i* P **PKPab** 19 34 49.2 +2.5
OBKA **Obir** 160.03 336 *e*PKP **PKPab** 19 34 46.3 -0.5
comp=Z,5.3nm,0.8s
WATA **Walderalm** 160.23 342 *i* PKP **PKPab** 19 34 47.7 0.0
comp=Z,20nm,1.4s
WATA *ep*PKP **pPKPab** 19 35 12.3 +1.9
comp=Z,42nm,1.2s
MYKA **Terra Mystica** 160.24 338 *i* PKP **PKPab** 19 34 46.9 -0.8
comp=Z,7.9nm,0.8s
WTTA **Wattenberg** 160.28 342 *i* PKP **PKPab** 19 34 48.2 +0.2
comp=Z,15nm,1.2s
WTTA *ep*PKP **pPKPab** 19 35 12.8 +2.2
comp=Z,24nm,0.8s
RETA **Reutte** 160.29 344 *e*PKP **PKPab** 19 34 48.0 +0.1
comp=Z,13nm,1.1s
RETA *ep*PKP **pPKPab** 19 35 12.7 +2.1
comp=Z,24nm,1.0s
MOTA **Moosalm** 160.34 343 *e*PKP **PKPab** 19 34 48.1 -0.1
comp=Z,19nm,1.3s
MOTA *ep*PKP **pPKPab** 19 35 13.2 +2.3
comp=Z,32nm,1.4s
SQTA **Sankt Quirin** 160.43 343 *e*PKP **PKPab** 19 34 48.8 +0.2
comp=Z,11nm,1.1s
SQTA *ep*PKP **pPKPab** 19 35 13.8 +2.5
comp=Z,22nm,1.2s
ABTA **Abfaltersbach** 160.50 340 *i* PKP **PKPab** 19 34 48.2 -0.6
comp=Z,9.3nm,1.1s
ABTA *ep*PKP **pPKPab** 19 35 13.3 +1.7
comp=Z,21nm,1.2s
DAVA **Damuels** 160.69 346 *e*PKP **PKPab** 19 34 50.0 +0.3
comp=Z,8.9nm,0.8s
FETA **Feichten** 160.74 344 *ep*PKP pPKPab 19 35 15.1 +2.5
comp=Z,25nm,1.2s
OHR **Ohrid** 160.87 315 *i* P **PKPab** 19 34 53.2 +2.5
RICI **Ricice** 161.35 326 *e*Pg 19 25 40.1
RICI Sg 19 25 46.9
MAKA **Makarska** 161.56 326 *e*Pg 19 25 43.6
MAKA Sg 19 25 51.9
PMPS **Porto Santo** 162.92 71 *e*PKPab **PKPab** 19 34 57.5 -2.4
PCAB **Cabril** 164.27 32 *e*PKPdf **PKPdf** 19 34 12.7 +1.6
TORD **Torodi Ar. Bea** 164.46 176 PKP **PKPdf** 19 34 12.9 +0.9
comp=Z,2.3nm,0.3s,baz=64,slow=1.6,SNR=3.7
TORD PKPab **PKPab** 19 35 09.6 +2.9
comp=Z,5.9nm,0.5s,baz=177,slow=2.6,SNR=3.6
POLO **Lamas de Olo** 164.64 32 *e*PKPdf **PKPdf** 19 34 13.2 +1.6
POLO *e*PKPab **PKPab** 19 35 06.3 -0.9
PVRL **Vila Real** 164.75 32 *e*PKPab **PKPab** 19 35 07.7 0.0
PBRG **Braganca** 164.76 29 *e*PKPab **PKPab** 19 35 07.5 -0.2
PVIS **Viseu** 165.10 34 *e*PKPdf **PKPdf** 19 34 13.0 +1.1
PVIS *e*PKPab **PKPab** 19 35 08.8 -0.4
MVO **Moncorvo** 165.16 31 *e*PKPdf **PKPdf** 19 34 13.3 +1.4
MVO *e*PKPab **PKPab** 19 35 09.1 -0.4
PCAS **Casmilo, Conde** 165.29 37 *e*PKPdf **PKPdf** 19 34 13.0 +1.0
PCAS *e*PKPab **PKPab** 19 35 10.6 +0.5
MTE **Manteigas** 165.52 34 *e*PKPdf **PKPdf** 19 34 13.6 +1.4
MTE *e*PKPab **PKPab** 19 35 10.6 -0.5
PSARD **Sardoal** 165.80 37 *e*PKPdf **PKPdf** 19 34 13.4 +0.9
PSARD *e*PKPab **PKPab** 19 35 11.9 -0.4
PCBR **Castelo Branco** 165.98 35 *e*PKPdf **PKPdf** 19 34 13.8 +1.3
PMTG **Montargil** 166.15 39 *e*PKPab **PKPab** 19 35 13.1 -0.7
PMRV **Marv??o** 166.33 36 *e*PKPab **PKPab** 19 35 13.8 -0.8
PESTR **Estremoz** 166.64 38 **PKPab** 19 35 15.2 -0.8
PESTR **Estremoz** 166.64 38 *e*PKPab **PKPab** 19 35 15.3 -0.6
EVO **Evora** 166.64 40 *e*PKPdf **PKPdf** 19 34 14.6 +1.5
EVO *e*PKPab **PKPab** 19 35 15.6 -0.4
PTEO **Sao Teotonio** 166.87 45 *e*PKPdf **PKPdf** 19 34 15.4 +2.1
PTEO *e*PKPab **PKPab** 19 35 16.7 -0.3
MESJ **Messejana** 166.99 43 *e*P **PKPdf** 19 34 14.6 +1.2
MESJ **Messejana** 166.99 43 *e*PKPdf **PKPdf** 19 34 15.1 +1.7
MESJ *e*PKPab **PKPab** 19 35 17.1 -0.5
PFVI **Vila Bisbo** 167.05 47 *e*PKPab **PKPab** 19 35 17.6 -0.3
MORF **Marmelete** 167.06 46 *e*P **PKPdf** 19 34 14.8 +1.3
MORF **Marmelete** 167.06 46 *e*PKPdf **PKPdf** 19 34 15.4 +1.9
PBEJ **Beja** 167.07 41 *e*PKPdf **PKPdf** 19 34 14.9 +1.5
PBEJ *e*PKPab **PKPab** 19 35 17.6 -0.3
PCVE **Castro Verde** 167.23 43 *e*PKPdf **PKPdf** 19 34 15.5 +1.9
PCVE *e*PKPab **PKPab** 19 35 18.6 0.0
PBAR **Barrancos** 167.43 39 *e*PKPdf **PKPdf** 19 34 14.8 +1.1
PBAR *e*PKPab **PKPab** 19 35 19.3 -0.2
PBDV **Barranco-do-Ve** 167.55 44 *e*PKPdf **PKPdf** 19 34 15.9 +2.0
PVAQ **Vaqueiros** 167.57 43 *e*PKPab **PKPab** 19 35 19.8 -0.4
ESDC **Sonseca Array** 167.68 26 PKP **PKPdf** 19 34 15.4 +1.5
comp=Z,4.6nm,1.2s,baz=341,slow=2.4,SNR=11
ESDC pPKP **pPKPdf** 19 34 39.9 +2.4
comp=Z,5.7nm,1.3s,baz=346,slow=2.5,SNR=4.9

ESDC PKPab **PKPab** **19 35 20.7 +0.2**
comp=Z,6.6nm,0.9s,baz=316,slow=4.0,SNR=16
ESDC PP **PP** **19 39 08.6 -0.1**
comp=Z,3.9nm,1.2s,baz=334,slow=7.3,SNR=6.6

LJU 24 20:40:36.4, 46°.07N×14°.98E, h6km, ML0.5, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.02**	**120**	‖ *i* Pg	Pg	20 40 37.6	+0.1
PDKS				*i* Sg	Sg	20 40 38.5	+0.1
PDKS				IAML		20 40 39.2	
	comp=Z,23nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.20**	**280**	*i* Pg	Pg	20 40 40.6	+0.3
VNDS				*i* Sg	Sg	20 40 43.2	+0.3
VNDS				IAML		20 40 43.7	
	comp=Z,6.5nm,0.1s						
LEGS	**Legarje**	**0.27**	**117**	*e*Pg	Pg	20 40 41.9	+0.3
LEGS				*e*Sg	Sg	20 40 45.6	+0.5
VISS	**Visnje**	**0.28**	**200**	*i* Pg	Pg	20 40 42.1	+0.1
VISS				*e*Sg	Sg	20 40 46.1	+0.4
VISS				IAML		20 40 47.0	
	comp=Z,1.5nm,0.1s						
DOBS	**Dobrina**	**0.35**	**77**	*i* Pg	Pg	20 40 43.3	+0.1
DOBS				IAML		20 40 49.9	
	comp=Z,1.7nm,0.1s						
GOLS	**Golise**	**0.45**	**97**	*i* Pg	Pg	20 40 45.4	+0.3
CRNS	**Crni Vrh**	**0.50**	**272**	*i* Pg	Pg	20 40 46.3	+0.3
CRNS				*e*Sg	Sg	20 40 53.0	+0.4
CRNS				IAML		20 40 54.6	
	comp=Z,1.7nm,0.1s						

VIE 24 20:41:04.3±0.7, 47°.70N×16°.11E, h6km, ml0.4/2, Error ellipse: s-maj=6.4km s-min=1.5km az=37.0 3 km SE of Neunkirchen, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONA	**Rosalia, Austr**	**0.12**	**91**	*i* Pg	Pg	20 41 07.0	+0.1
	1.1nm,0.0s						
RONA				*e*Sg	Sg	20 41 08.8	+0.1
	3.2nm,0.0s						
CONA	**Conrad Observa**	**0.28**	**323**	*e*Sg	Sg	20 41 13.7	+0.1
	0.6nm,0.4s						

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*IDC **24** 20:41:04.7±10.0, 1°.94S×127°.76E, h0km, mb3.7/2, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=150.5km s-min=132.8km az=120.0*
*DJA **24** 20:41:27.0±0.4, 3°.5±6°×12°.7E±°, h80km±9km, M3.9/11, mB5.0/1, mb4.3/4, MLv3.6/11, Mw(mB)4.3/1*
ISC 24 20:41:25.8±1.2, 3°.3S±0°.2×127°.15E±0°.08, h99km±14km, n12, σ0§95/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.10**	**332**	P	**Pn**	**20 41 39.0**	**-0.6**
AAI	**Ambon**	**1.11**	**109**	P	**Pn**	**20 41 47.5**	**+0.2**
SANI	**Sanana**	**1.72**	**318**	P	**Pn**	**20 41 54.4**	**-0.3**
MSAI	**Masohi**	**1.78**	**91**	P	**Pn**	**20 41 55.8**	**+0.3**
BNDI	**Bandanaira**	**3.00**	**113**	P	**Pn**	**20 42 12.0**	**+0.5**
LUWI	**Luwuk**	**4.92**	**297**	P	**Pn**	**20 42 38.6**	**+1.1**
FAKI	**Fak Fak**	**5.11**	**86**	P	**Pn**	**20 42 40.3**	**+0.2**
	0.2nm2μm50nm,1.2s						
KMPI	**Kaimana, Papua**	**6.55**	**93**	P	**Pn**	**20 43 00.2**	**+0.5**
	150nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.20**	**247**	P	**Pn**	**20 43 10.5**	**+2.0**
WRA	**Warramunga Arr**	**17.95**	**158**	P	**Pn**	**20 45 28.1**	**-1.0**
	0.5nm,0.3s,baz=340,slow=11,SNR=43						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**21.25**	**163**	P	**P**	**20 46 04.1**	**-0.1**
	0.6nm,0.3s,baz=344,slow=11,SNR=20						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**31.48**	**156**	P	**P**	**20 47 38.3**	**0.0**
	1.0nm,0.6s,baz=320,slow=14,SNR=1.5						
	1.0nm,0.6s						

RSNC 24 20:49:12.9±0.0, 12°N±2°×7°4W±°, h23km±2km, M1.8, mb3.5, mB3.7, ML1.8, Mw(mB)2.7, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.83**	**167**	P	Pb	20 49 27.9	-0.8
SMRC				S	Sb	20 49 39.4	-0.1
CRJC	**Cerrejon, Guaj**	**1.78**	**122**	P	Pn	20 49 41.6	-0.7
CRJC				S	Sn	20 50 03.5	-0.7
SJCC	**San Jacinto, C**	**2.20**	**200**	P	Pn	20 49 47.1	-1.1
SJCC				S	Sn	20 50 14.2	-0.6
URIC	**Uribia, Colomb**	**2.38**	**96**	P	Pn	20 49 49.6	-1.0
URIC				S	Sn	20 50 16.2	-2.9
PTBC	**PUERTO BERRIO,**	**5.41**	**180**	P	Pn	20 50 32.5	+0.3
PTBC				S	Sn	20 51 30.3	-3.5

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*IDC **24** 20:49:11.6±1.2, 1°.50N×126°.05E, h0km, mb4.0/5, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=54.0km s-min=18.3km az=68.0*
*NEIC **24** 20:49:22.6±2.1, 1°.3N±0°.1×125°.69E±0°.06, h89km±11km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=7.8km az=168.0*
*DJA **24** 20:49:23.2±0.7, 1°N±3°×12°6E±°, h30km±9km, M4.5/19, mB5.0/2, mb4.4/11, MLv4.5/19, Mw(mB)4.4/2*
ISC 24 20:49:21.4±0.8, 1°.24N±0°.09×125°.72E±0°.06, h79km, n42, σ1§47/42, mb4.1/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**106**		**Pn**	**20 49 51.5**	**+2.1**
TNTI	**Ternate**	**1.71**	**106**	P	**Pn**	**20 49 51.7**	**+2.3**
KMSI	**Cibinong**	**1.86**	**249**	P	**Pn**	**20 49 52.1**	**+0.7**
KMSI				S	**Sn**	**20 50 14.2**	**0.0**
SGSI	**Sangihe**	**2.44**	**356**	P	**Pn**	**20 50 02.6**	**+3.4**
SANI	**Sanana**	**3.28**	**175**	P	**Pn**	**20 50 09.0**	**-1.5**
LUWI	**Luwuk**	**3.72**	**232**		**Pn**	**20 50 18.2**	**+1.7**
LUWI				Sn	**Sn**	**20 51 00.7**	**+1.6**
LUWI	**Luwuk**	**3.72**	**232**	P	**Pn**	**20 50 19.1**	**+2.6**
MRSI	**Marisa**	**3.85**	**259**	P	**Pn**	**20 50 19.7**	**+1.4**
APSI	**Ampana**	**4.60**	**242**	P	**Pn**	**20 50 31.1**	**+2.6**
NLAI	**Namlea**	**4.66**	**163**	P	**Pn**	**20 50 29.2**	**-0.1**
TOLI2	**Tolitoli**	**4.94**	**269**		**Pn**	**20 50 33.1**	**0.0**
AAI	**Ambon**	**5.48**	**153**	P	**Pn**	**20 50 41.2**	**+0.6**
	0.5nm1μm40nm,1.0s						
MSAI	**Masohi**	**5.57**	**145**	P	**Pn**	**20 50 44.0**	**+2.2**
	0.8nm2μm47nm,0.8s						
KDI	**Kendari**	**6.02**	**211**	P	**Pn**	**20 50 47.9**	**0.0**
BNDI	**Bandanaira**	**7.09**	**144**	P	**Pn**	**20 51 03.8**	**+1.3**
FAKI	**Fak Fak**	**7.72**	**122**	Pn	**Pn**	**20 51 10.8**	**-0.4**
FAKI	**Fak Fak**	**7.72**	**122**	P	**Pn**	**20 51 13.4**	**+2.2**
SPSI	**Sidrap Palu**	**7.88**	**229**	P	**Pn**	**20 51 14.4**	**+1.1**
	0.1nm18nm,0.7s						
BNSI	**Bone**	**7.93**	**225**	P	**Pn**	**20 51 14.7**	**+0.7**
	0.1nm27nm,0.7s						
BKSI	**Bulukumba**	**8.59**	**221**	P	**Pn**	**20 51 24.2**	**+1.2**
	11nm,0.6s						
KAPI	**Kappang**	**8.61**	**224**	Pn	**Pn**	**20 51 24.3**	**+1.0**
	1.4nm,0.3s,baz=24,slow=17,SNR=2.1						
	5.1nm,0.4s						
BSSI	**Bau Bau, Buton**	**9.00**	**215**	P	**Pn**	**20 51 29.7**	**+1.0**
	40nm,1.2s						
SOEI	**Soe**	**11.02**	**188**	Pn	**Pn**	**20 51 53.6**	**-2.7**
SOEI	**Soe**	**11.02**	**188**	P	**Pn**	**20 51 56.5**	**+0.2**
SBUM	**Sibu**	**13.54**	**275**		**Pn**	**20 52 28.1**	**-2.1**
MTN	**Manton Dam**	**14.99**	**159**	Pn	**Pn**	**20 52 48.6**	**-0.4**
MTN				IAmb	IAmb	20 53 03.3	
	comp=Z,17nm,1.4s						
JAGI	**Jajag, Banyuwa**	**15.03**	**230**	Pn	**Pn**	**20 52 47.6**	**-2.0**
KNRA	**Kununurra**	**17.08**	**170**		**P**	**20 53 16.7**	**+0.9**
KNRA				IAmb	IAmb	20 53 29.8	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.22**	**180**	P	**P**	**20 53 39.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=12,slow=8.6,SNR=7.3						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**22.55**	**158**	P	**P**	**20 54 14.3**	**-0.8**
WRAB	**Tennant Creek**	**22.68**	**159**	P	**P**	**20 54 15.8**	**-0.7**
WRAB				IAmb	IAmb	20 54 59.5	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**22.69**	**159**	P	**P**	**20 54 16.5**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=338,slow=11,SNR=40						
	comp=Z,2.1nm,0.4s						
WR8	**Warramunga Arr**	**22.76**	**158**	P	**P**	**20 54 17.1**	**-0.3**
WR8				IAmb	IAmb	20 54 19.4	
	comp=Z,8.3nm,1.1s						
COEN	**Coen**	**22.96**	**132**	P	**P**	**20 54 19.1**	**-0.4**
COEN				IAmb	IAmb	20 54 22.0	
	comp=Z,20nm,1.3s						
MBWA	**Marble Bar**	**23.02**	**194**	P	**P**	**20 54 19.3**	**-0.6**
MBWA				IAmb	IAmb	20 54 51.8	
	comp=Z,23nm,1.4s						
ASAR	**Alice Springs**	**26.00**	**163**	P	**P**	**20 54 46.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=338,slow=8.0,SNR=24						
	comp=Z,0.4nm,0.3s						
STKA	**Stephens Creek**	**36.21**	**157**	IAmb	IAmb	20 56 18.8	
	comp=Z,32nm,1.1s						
STKA	**Stephens Creek**	**36.21**	**157**	P	**P**	**20 56 18.2**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=351,slow=6.4,SNR=7.2						
	comp=Z,1.3nm,0.3s						
MKAR	**Makanchi Array**	**59.04**	**327**	P	**P**	**20 59 13.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=122,slow=8.1,SNR=9.2						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.30**	**328**	P	**P**	**20 59 41.2**	**-0.6**
	comp=Z,1.3nm,0.2s,baz=130,slow=6.3,SNR=4.1						
	comp=Z,1.3nm,0.2s						
KURK	**Kurchatov**	**63.30**	**329**	P	**P**	**20 59 41.2**	**-0.7**
KURK	**Kurchatov**	**63.30**	**329**	IAmb	IAmb	20 59 44.2	
	comp=Z,2.2nm,0.9s						

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*IDC **24** 21:03:10.2±11.0, 33°.51N×141°.79E, h0km, mb3.5/2, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=384.9km s-min=34.8km az=64.0*
*JMA **24** 21:03:20.1±0.1, 33°.6N±0°.3×140°.5E±0°.9, h50km, MV3.2/27, E OFF HACHIJOJIMA ISLAND*
ISC 24 21:03:19.6±1.4, 33°.53N±0°.05×140°.6E±0°.1, h61km±14km, n15, σ1§08/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.75**	**236**	P	**Pn**	**21 03 35.1**	**+0.7**
JHJ2				S	**Sn**	**21 03 45.9**	**+0.5**
JHCJ	**Hachijojimakas**	**0.78**	**235**	P	**Pn**	**21 03 35.2**	**+0.3**
JHCJ				S	**Sn**	**21 03 45.9**	**-0.2**
JMKN	**Mikurajimanish**	**0.88**	**294**	P	**Pn**	**21 03 36.0**	**-0.2**
BSO1	**Boso 1**	**1.18**	**17**	P	**Pn**	**21 03 39.6**	**+0.1**
BSO3	**Boso 3**	**1.27**	**358**	P	**Pn**	**21 03 41.2**	**+0.2**
BSO4	**Boso 4**	**1.47**	**353**	P	**Pn**	**21 03 44.4**	**+0.6**
JIZS	**Izushimoda**	**1.83**	**311**	P	**Pn**	**21 03 49.2**	**+0.5**
JIZS				*e*S	**Sn**	**21 04 10.0**	**-0.8**
KTJ3	**Kamata3**	**1.86**	**319**	P	**Pn**	**21 03 49.4**	**+0.1**
KTJ3				S	**Sn**	**21 04 10.3**	**-1.4**
JOD2	**Odawara 2**	**2.11**	**325**	P	**Pn**	**21 03 52.8**	**+0.1**
JOD2				*e*S	**Sn**	**21 04 16.1**	**-1.7**
MJAR	**Matsushiro Arr**	**3.57**	**328**	Pn	**Pn**	**21 04 15.1**	**+2.6**
	0.4nm,0.3s,baz=161,slow=14,SNR=16						
MJAR				Sn	**Sn**	**21 04 54.9**	**+1.5**
	0.3nm,0.3s,baz=125,slow=15,SNR=6.9						
	2.3nm,0.3s						
H11N2	**WAKE ISLAND Hy 27.17**	**114**		T	T	21 37 53.1	
	baz=306,slow=75,SNR=2.6						
H11N1	**WAKE ISLAND Hy 27.17**	**114**		T	T	21 37 50.5	
	baz=306,slow=75,SNR=3.1						
H11N3	**WAKE ISLAND Hy 27.18**	**114**		T	T	21 37 52.2	
	baz=306,slow=75,SNR=3.5						
WRA	**Warramunga Arr**	**53.50**	**187**	P	**P**	**21 12 33.3**	**-0.5**
	0.3nm,0.3s,baz=7.5,slow=8.0,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**57.23**	**187**	P	**P**	**21 13 00.2**	**-0.5**
	0.1nm,0.4s,baz=6.3,slow=6.3,SNR=1.5						
	0.1nm,0.4s						

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*IDC **24** 21:06:45.0±0.6, 36°.36N×28°.75E, h0km, mb4.4/22, mbtmp4.4/31, ML4.0/8, MS3.6/31, Error ellipse: s-maj=12.6km s-min=11.4km az=163.0*
*ATH **24** 21:06:45.9, 36°.44N×28°.79E, h4km±1km, ML4.4/21, Manual Solution by P.Lantzourakis First location: 2019/10/24 21:08:08, This location: 2021/06/18 16:50:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*HLW **24** 21:06:45.3, 36°.46N±28°.79E, h9km±4km, Ml4.4*
*GII **24** 21:06:46.8±0.0, 36°.202N±0°.003×28°.719E±0°.001, h10km, Mws4.7, confirmed*
*MCSM **24** 21:06:46.7±0.4, 36°N±4°×2°9E±°, h10km, mb4.7, mB4.8, MLv4.4, Mw(mB)4.1*
*ISK **24** 21:06:46.7, 36°.45N×28°.70E, h6km, ML4.6/38*
*NEIC **24** 21:06:47.2, 36°.36N×28°.74E, h10km*
*MED_RC **24** 21:06:47.0±0.2, 36°.30N×28°.64E, h14km, MW4.7/27, Moment Tensor Solution. Body waves: s3,c3;Mantle waves: s27,c40; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.10±.09; $M_{\theta\theta}$0.19±.06; $M_{\phi\phi}$-1.29±.06; $M_{r\theta}$-0.09±.13; $M_{\phi\theta}$0.16±.03; $M_{\phi r}$-0.22±.07; Best double couple: $M_0$1.23000×10^{16} NP1:ϕ_s346.00000°, δ40.00000°, λ79.00000°. NP2:ϕ_s181.00000°, δ50.00000°, λ99.00000°. Principal axes: T 1.1300, Plg81.0000°, Azm139.0000°; N 0.1900, Plg7.0000°, Azm355.0000°; P -1.3300, Plg5.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*NIC **24** 21:06:47.0, 36°.03N×28°.69E, h9km±1km, Ml4.2/14*
*THE **24** 21:06:47.1, 36°N±2°×2°9E±°, h4km±7km, M4.7/23, mb5.0/4, MLh4.3/23*
*AFAD **24** 21:06:47.3, 36°.46N×28°.70E, h7km±3km, MW4.6*
*NEIC **24** 21:06:47.5±2.1, 36°.46N±0°.04×28°.67E±0°.02, h10km±2km, mb4.6/106, Mwr4.6/20, Error ellipse: s-maj=7.2km s-min=3.0km az=173.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}7.80; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-7.61; $M_{r\theta}$1.49; $M_{\phi\theta}$0.04; $M_{\phi r}$3.18; Fault plane solution: $M_0$8.47000×10^{15} NP1:ϕ_s9.47000°, δ56.96000°, λ100.59000°. NP2:ϕ_s170.54000°, δ34.51000°, λ74.22000°. Principal axes: T 8.6698, Plg76.0000°, Azm311.0000°; N -0.4183, Plg9.0000°, Azm184.0000°; P -8.2515, Plg11.0000°, Azm92.0000°;*
*GCMT **24** 21:06:48.5±0.4, 36°.26N±0°.06×28°.63E±0°.02, h17km±1km, MW4.7/82, Moment Tensor Solution. s10,c10; s82,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.50±.15; $M_{\theta\theta}$-0.09±.08; $M_{\phi\phi}$-1.41±.09; $M_{r\theta}$0.68±.34; $M_{\phi\theta}$0.06±.05; $M_{\phi r}$0.03±.17; Best double couple: $M_0$1.58200×10^{16} NP1:ϕ_s17.00000°, δ48.00000°, λ118.00000°. NP2: ϕ_s158.00000°, δ48.00000°, λ62.00000°. Principal axes: T 1.7510, Plg70.0000°, Azm358.0000°; N -0.3380, Plg20.0000°, Azm177.0000°; P -1.4130, Plg0.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NAO **24** 21:07:03.4, 38°.78N×28°.32E, h10km, mb3.8*
ISC 24 21:06:46.8±0.9, 36°.40N±0°.02×28°.71E±0°.01, h14km±5km, n607, σ1§62/642, mb4.6/77, MS3.7/21, 21C-28D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.38**	**52**	Pg	Pg	21 06 43.3	-11
FETY	**Fethiye**	**0.38**	**52**	P	**Pn**	**21 07 00.2**	**+2.2**
FETY	**Fethiye**	**0.38**	**52**	P	Pg	21 06 43.8	-11
FETY				S	Sg	21 06 49.9	-10
RDI1	**Rhodes Town Ha**	**0.40**	**278**	P	**Pg**	**21 06 54.6**	**-0.1**
RDI1				S	**Sg**	**21 07 00.8**	**+0.6**
RODB	**Rodos**	**0.40**	**277**	P	**Pg**	**21 06 54.6**	**-0.1**
RODB				S	**Sb**	**21 07 01.4**	**-0.1**
IZZE	**Mula-Seydike**	**0.42**	**85**	P	**Pn**	**21 07 00.3**	**+1.9**
IZZE				S	**Sb**	**21 07 01.8**	**-0.4**
DALY	**Dalyan (Mula)**	**0.42**	**354**	Pg	**Pg**	**21 06 54.1**	**-1.1**
DALY				Sg	**Sg**	**21 07 00.1**	**-0.8**
FETI	**Fethiye-Mugla**	**0.42**	**47**	Pg	**Pg**	**21 06 54.6**	**-0.7**
SABU	**Mula-Dalaman**	**0.47**	**26**	P	**Pn**	**21 07 00.1**	**+0.9**
SABU				S	**Sg**	**21 07 01.9**	**-0.6**
ARG	**Arkhangelos**	**0.51**	**249**	Pg	**Pg**	**21 06 56.9**	**+0.1**
ARG				Sg	**Sb**	**21 07 05.4**	**+0.7**
ARG	**Arkhangelos**	**0.51**	**249**		**Pg**	**21 06 56.8**	**0.0**
ARG				Sg	**Sb**	**21 07 05.9**	**+1.2**
ARG	**Arkhangelos**	**0.51**	**249**	P	**Pg**	**21 06 56.4**	**-0.4**
ARG				S	**Sb**	**21 07 06.0**	**+1.3**
ARG	**Arkhangelos**	**0.51**	**249**	P	**Pg**	**21 06 56.4**	**-0.4**
ARG				S	**Sb**	**21 07 04.9**	**+0.3**
ARG				AML	AML	21 07 06.7	
	123nm,0.7s						
ARG				AML	AML	21 07 08.0	
	97nm,0.3s						
ARG	**Arkhangelos**	**0.51**	**249**	P	**Pg**	**21 06 57.0**	**+0.3**
ARG				S	**Sb**	**21 07 05.3**	**+0.7**
TURN	**Turunc**	**0.53**	**315**	Pg	**Pg**	**21 06 56.5**	**-0.8**
TURN				Sg	**Sg**	**21 07 03.9**	**-0.5**
TURN	**Turunc**	**0.53**	**315**	P	**Pn**	**21 07 00.1**	**+0.2**
TURN				S	**Sg**	**21 07 03.5**	**-0.8**
CAME	**Cameli-Denizli**	**0.72**	**41**	Pg	**Pg**	**21 06 59.4**	**-1.5**
CAME				Sg	**Sb**	**21 07 10.9**	**-0.2**
RGE1	**Gennadi, Rhode**	**0.73**	**240**	P	**Pg**	**21 07 01.3**	**+0.2**
RGE1				S	**Sb**	**21 07 12.4**	**+1.3**
AKAS	**Kas**	**0.74**	**103**	Pg	**Pg**	**21 07 01.6**	**+0.4**
AKAS	**Kas**	**0.74**	**103**	P	**Pb**	**21 07 02.1**	**+0.6**
AKAS	**Kas**	**0.74**	**103**		**Pg**	**21 07 00.9**	**-0.3**
AKAS				Sg	**Sn**	**21 07 14.7**	**+0.6**
KSL	**Kastellorizon**	**0.75**	**109**	P	**Pg**	**21 07 00.7**	**-0.6**
KSL				S	**Sn**	**21 07 17.1**	**+3.0**
KSL	**Kastellorizon**	**0.75**	**109**	P	**Pg**	**21 07 01.4**	**+0.1**
KSL				S	**Sb**	**21 07 12.8**	**+1.2**
KSL				AML	AML	21 07 18.8	
	54nm,1.3s						
KSL				AML	AML	21 07 21.5	
	36nm,1.1s						
KSL	**Kastellorizon**	**0.75**	**109**	P	**Pg**	**21 06 60.0**	**-1.4**
YER	**Yerkesik**	**0.81**	**335**	Pg	**Pg**	**21 07 02.4**	**-0.2**
YER	**Yerkesik**	**0.81**	**335**	P	**Pg**	**21 07 02.1**	**-0.5**
YER				S	**Sb**	**21 07 14.3**	**+0.7**
KNIK	**Mula-Seydike**	**0.82**	**57**	P	**Pg**	**21 07 02.8**	**0.0**
KNIK				S	**Sg**	**21 07 13.0**	**-0.6**
KNIK				*i* IAML		21 07 16.0	
	comp=N,1μm,0.9s						
KNIK				*i* IAML		21 07 18.0	
	comp=E,9μm,0.6s						
CAEL	**Denizli, Camel**	**0.87**	**34**	P	**Pn**	**21 07 05.7**	**+0.9**
CAEL				S	**Sg**	**21 07 14.7**	**-0.5**
MULA	**Mugla, Merkez-**	**0.91**	**340**	P	**Pb**	**21 07 04.2**	**-0.2**
DNZT	**Denizli-Tavas-**	**0.91**	**16**	P	**Pb**	**21 07 04.5**	**0.0**
DNZT				S	**Sb**	**21 07 14.5**	**-2.0**
DNZT				*i* IAML		21 07 19.0	
	comp=N,2μm,0.4s						
DNZT				*i* IAML		21 07 22.0	
	comp=E,4μm,0.6s						
DATC	**Datca-Mugla**	**0.92**	**293**	Pg	**Pb**	**21 07 04.1**	**-0.4**
DAT	**Datca**	**0.97**	**290**	Pg	**Pb**	**21 07 05.2**	**-0.2**
ELL	**Elmali**	**1.02**	**70**	Pg	**Pg**	**21 07 06.8**	**+0.2**
ELL	**Elmali**	**1.02**	**70**		**Pb**	**21 07 05.7**	**-0.7**
ELL				Sn	**Sn**	**21 07 23.2**	**+2.1**
YAZI	**Mula-Dat§a-**	**1.05**	**286**	P	**Pb**	**21 07 06.8**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.08**	**9**	P	**Pb**	**21 07 06.6**	**-0.7**
TAVA				S	**Sb**	**21 07 21.2**	**-0.1**
TAVA				*i* IAML		21 07 27.0	
	comp=N,5μm,0.5s						
TAVA				*i* IAML		21 07 28.0	
	comp=E,7μm,0.4s						
GOLH	**Golhisar**	**1.08**	**39**	P	**Pb**	**21 07 07.4**	**+0.1**
MLSB	**Milas**	**1.17**	**320**	Pn	**Pn**	**21 07 07.4**	**-1.3**
APMY	**Acipayam-Deniz**	**1.17**	**24**	Pn	**Pn**	**21 07 08.5**	**-0.3**
BDRM	**Kayabasi**	**1.22**	**304**	P	**Pb**	**21 07 09.9**	**+0.4**
DNIZ	**Denizli-Tavas-**	**1.25**	**12**	P	**Pb**	**21 07 10.7**	**+0.4**
DNIZ				S	**Sn**	**21 07 26.5**	**-0.1**
DNIZ				*i* IAML		21 07 31.0	
	comp=N,4μm,0.3s						
DNIZ				*i* IAML		21 07 31.0	
	comp=E,7μm,0.3s						
NISR	**Nisiros**	**1.29**	**280**	P	**Pb**	**21 07 11.2**	**+0.4**
NISR				S	**Sg**	**21 07 29.7**	**+1.2**
NISR	**Nisiros**	**1.29**	**280**	P	**Pb**	**21 07 11.2**	**+0.4**
NISR				S	**Sg**	**21 07 29.1**	**+0.6**
BODT	**Bodrum**	**1.30**	**301**	Pn	**Pb**	**21 07 11.3**	**+0.2**
BODT	**Bodrum**	**1.30**	**301**	P	**Pg**	**21 07 12.0**	**+0.1**
BODT				S	**Sg**	**21 07 30.2**	**+1.3**
AKUM	**Antalya-Kumluc**	**1.32**	**93**	P	**Pg**	**21 07 13.3**	**+1.1**
YKAV	**Yalikavak-Bodr**	**1.36**	**303**	Pn	**Pn**	**21 07 11.8**	**+0.5**
AYDN	**Tasoluk**	**1.43**	**332**	P	**Pb**	**21 07 13.6**	**+0.4**
ESEN	**Aydn-Nazilli**	**1.43**	**348**	P	**Pb**	**21 07 13.1**	**0.0**
KORT	**Korkueli**	**1.45**	**65**	Pn	**Pb**	**21 07 13.9**	**+0.3**
KORT	**Korkueli**	**1.45**	**65**	P	**Pg**	**21 07 15.6**	**+0.9**
INCE	**Denizli-Bozkur**	**1.48**	**28**	P	**Pg**	**21 07 14.9**	**-0.4**
KEMT	**Kemer-ANTALYA**	**1.50**	**82**	Pn	**Pb**	**21 07 14.8**	**+0.4**
KLNA	**Kalymnos**	**1.50**	**292**	P	**Pn**	**21 07 14.1**	**+0.8**
KLNA				S	**Sb**	**21 07 34.0**	**+0.6**
KARP	**Karpathos**	**1.52**	**236**	Pn	**Pb**	**21 07 15.4**	**+0.7**
KARP	**Karpathos**	**1.52**	**236**		**Pb**	**21 07 14.6**	**-0.2**
KARP				Sn	**Sg**	**21 07 36.0**	**+0.3**
KARP	**Karpathos**	**1.52**	**236**	P	**Pb**	**21 07 14.9**	**+0.2**
KARP				S	**Sg**	**21 07 36.2**	**+0.5**
KARP	**Karpathos**	**1.52**	**236**	P	**Pn**	**21 07 13.8**	**+0.3**
KARP				S	**Sn**	**21 07 30.8**	**-2.3**
KARP				AML	AML	21 07 42.8	
	61nm,0.9s						
KARP				AML	AML	21 07 44.1	
	44nm,0.8s						
KARP	**Karpathos**	**1.52**	**236**	P	**Pb**	**21 07 15.0**	**+0.2**
KARP				S	**Sg**	**21 07 36.2**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.60**	**348**	Pn	**Pb**	**21 07 15.5**	**-0.6**
ANTB	**Antalya**	**1.64**	**72**	Pn	**Pb**	**21 07 16.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.68**	**337**	Pn	**Pn**	**21 07 16.8**	**+0.9**
BRDR	**BURDUR-Merkez**	**1.69**	**39**	P	**Pb**	**21 07 18.5**	**+0.8**
BUCA	**Burdur, Bucak-**	**1.75**	**57**	P	**Pb**	**21 07 19.5**	**+0.8**
GCAM	**G?zelcaml?**	**1.76**

SOMA Soma-Manisa 2.91 342 Pn **Pn 21 07 34.2 +1.6**
EAG2 Marmaro, Chios 2.98 317 P **Pn 21 07 34.3 +0.7**
IACM Heraklion 3.15 251 P **Pn 21 07 38.1 +2.1**
AKMS Akamas 3.25 114 P **Pn 21 07 37.1 -0.4**
AKMS S **Sn 21 08 16.3 +0.4**
AKMS AML AML 21 08 21.9
1.9nm,0.7s
AKMS AML AML 21 08 24.7
1.8nm,0.6s
AKMS Akamas 3.25 114 P **Pn 21 07 37.3 -0.2**
IDI Anoyia 3.30 251 **Pn 21 07 38.4 +0.4**
IDI Anoyia 3.30 251 P **Pn 21 07 39.6 +1.6**
IDI Anoyia 3.30 251 Pn **Pn 21 07 39.8 +1.8**
138nm,0.3s,baz=61,slow=14,SNR=235
IDI Sn **Sn 21 08 16.6 -0.4**
105nm,0.3s,baz=289,slow=5.2,SNR=9.4
IDI LR LR 21 08 52.1
comp=Z,616nm,19.1s,baz=49,slow=38
IDI Anoyia 3.30 251 P **Pn 21 07 39.7 +1.6**
ALFC Alefka 3.40 110 P **Pn 21 07 39.1 -0.3**
ALFC S **Sn 21 08 19.1 -0.4**
ALFC AML AML 21 08 26.8
1.4nm,0.8s
ALFC AML AML 21 08 38.0
1.5nm,0.9s
ALFC Alefka 3.40 110 P **Pn 21 07 39.3 0.0**
PRK Paraskevi 3.44 327 P **Pn 21 07 40.8 +0.9**
PRK Paraskevi 3.44 327 P **Pn 21 07 40.7 +0.8**
MHLO Agia Marina, M 3.48 276 P **Pn 21 07 42.5 +2.0**
NATA Nata 3.54 116 P **Pn 21 07 41.3 0.0**
NATA S **Sn 21 08 22.3 -0.6**
NATA AML AML 21 09 12.6
5.8nm,1.1s
NATA AML AML 21 09 14.1
7.6nm,1.7s
NATA Nata 3.54 116 P **Pn 21 07 41.3 0.0**
SIGR SIGRI 3.60 322 P **Pn 21 07 43.4 +1.2**
SIGR SIGRI 3.60 322 P **Pn 21 07 43.1 +0.9**
TROD Troodos 3.68 112 P **Pn 21 07 42.9 -0.6**
TROD S **Sn 21 08 26.7 0.0**
TROD AML AML 21 09 04.8
1.3nm,1.0s
TROD AML AML 21 09 24.7
1.9nm,1.8s
BORA Eskisehir 3.74 21 **Pn 21 07 44.8 +0.7**
KARY Karystos 3.78 297 P **Pn 21 07 46.1 +1.5**
KARY Karystos 3.78 297 P **Pn 21 07 45.8 +1.1**
XYLS Xyliatos 3.79 110 P **Pn 21 07 44.3 -0.6**
XYLS S **Sn 21 08 29.8 +0.5**
XYLS AML AML 21 08 48.7
0.8nm,0.6s
XYLS AML AML 21 08 50.3
1.0nm,0.5s
APOL The Sanctuary 3.80 116 P **Pn 21 07 43.8 -1.1**
APOL S **Sn 21 08 28.9 -0.5**
APOL AML AML 21 09 17.0
0.8nm,1.3s
APOL AML AML 21 09 26.6
2.2nm,1.8s
CHAN Chania 3.89 258 P **Pn 21 07 47.7 +1.6**
EZN Ezine 3.90 332 P **Pn 21 07 47.7 +1.4**
EZN Ezine 3.90 332 ⇑P **Pn 21 07 48.0 +1.7**
BAND Balkesir-Ban 3.98 353 ⇓P **Pn 21 07 48.6 +1.2**
ATHAL Athalassa 4.01 107 P **Pn 21 07 48.5 +0.7**
ATHAL S **Sn 21 08 35.4 +0.8**
ATHAL AML AML 21 09 29.6
3.0nm,1.0s
ATHAL AML AML 21 09 33.4
5.4nm,1.7s
CSS Mathiatis 4.02 110 **Pn 21 07 47.6 -0.4**
CSS Mathiatis 4.02 110 P **Pn 21 07 47.6 -0.4**
CSS S **Sn 21 08 35.0 +0.1**
CSS AML AML 21 09 16.9
1.0nm,1.5s
CSS AML AML 21 09 25.2
0.9nm,1.3s
CSS Mathiatis 4.02 110 Pn **Pn 21 07 48.3 +0.3**
CSS Mathiatis 4.02 110 P **Pn 21 07 47.8 -0.2**
CSS Mathiatis 4.02 110 S **Sn 21 08 33.4 -1.6**
CSS Mathiatis 4.02 110 P **Pn 21 07 47.8 -0.2**
ASGA Asgata 4.03 112 P **Pn 21 07 48.0 -0.1**
ASGA S **Sn 21 08 35.3 +0.2**
ASGA AML AML 21 09 17.1
1.6nm,1.7s
ASGA AML AML 21 09 22.2
1.4nm,1.8s
ASGA Asgata 4.03 112 P **Pn 21 07 48.3 +0.2**
GVD Gavdhos 4.08 249 P **Pn 21 07 51.8 +3.1**
GVD Gavdhos 4.08 249 P **Pn 21 07 50.5 +1.9**
DION Dionisos Attik 4.16 295 P **Pn 21 07 51.7 +1.7**
DION Dionisos Attik 4.16 295 P **Pn 21 07 51.5 +1.6**
VLY Voula,Athens 4.19 292 P **Pn 21 07 52.5 +2.2**
VLY Voula,Athens 4.19 292 P **Pn 21 07 51.7 +1.4**
PTL Penteli 4.20 295 P **Pn 21 07 52.8 +2.3**
PTL Penteli 4.20 295 P **Pn 21 07 51.9 +1.5**
ATHU Athens Univers 4.23 293 P **Pn 21 07 52.6 +1.7**
MVOU Mavrovouni 4.24 108 P **Pn 21 07 50.7 -0.2**
MVOU S **Sn 21 08 39.9 -0.2**
MVOU AML AML 21 08 53.1
0.6nm,0.7s
MVOU AML AML 21 09 09.4
0.5nm,1.3s
MVOU Mavrovouni 4.24 108 P **Pn 21 07 50.5 -0.4**
ATHP Athens-Neo Psi 4.25 294 P **Pn 21 07 48.3 -2.9**
KYMI Kymi, Euboea I 4.29 303 P **Pn 21 07 53.0 +1.4**
GADA Gvkgeada 4.38 331 P **Pn 21 07 54.0 +1.1**
ANKY Antikythira Is 4.41 265 P **Pn 21 07 55.6 +2.3**
ANKY Antikythira Is 4.41 265 P **Pn 21 07 54.8 +1.5**
MET4 Agioi Theodoro 4.42 288 P **Pn 21 07 56.7 +3.3**
MET6 Megalochori,Me 4.45 287 P **Pn 21 07 56.9 +3.1**
LIA Limnos Island 4.46 323 P **Pn 21 07 55.4 +1.4**
LIA Limnos Island 4.46 323 P **Pn 21 07 54.9 +0.9**
MDUB Mudurnu 4.51 25 Pn **Pn 21 07 55.0 +0.3**
KTHA Kythira Island 4.56 270 P **Pn 21 07 58.5 +3.0**
VILL Villia 4.65 294 P **Pn 21 07 59.3 +2.7**
VLI Veliai 4.66 276 P **Pn 21 07 59.1 +2.4**
AOS Alonnisos 4.72 307 P **Pn 21 07 59.3 +1.8**
CAVK Edirne/Enez-Ca 4.73 336 ⇑P **Pn 21 07 59.6 +1.9**
ANTO Ankara 4.73 42 **Pn 21 07 57.9 +0.2**
ANTO Ankara 4.73 42 ⇑P **Pn 21 08 00.1 +2.4**
ANTO Ankara 4.73 42 Pn **Pn 21 08 00.1 +2.4**
SAHE Sakarya_HENDEK 4.75 20 ⇓P **Pn 21 07 59.7 +1.7**
SMTH Samothraki Isl 4.77 329 P **Pn 21 07 59.4 +1.2**
SILT Sile 4.80 8 ⇓P **Pn 21 07 59.5 +0.9**
LTK Loutraki 4.86 291 P **Pn 21 08 02.1 +2.6**
KIRS Kirsehir-Merke 4.95 55 ⇑P **Pn 21 08 02.5 +1.8**
CTYL Yalikoy Yolu 5.08 356 ⇑P **Pn 21 08 03.9 +1.5**
BR105 Keskin Array S 5.10 48 Pn **Pn 21 08 05.3 +2.5**
0.3nm744nm66nm,1.0s
BR104 Keskin Array S 5.10 48 Pn **Pn 21 08 04.7 +1.8**
0.3nm525nm66nm,1.1s
BR106 Keskin Array S 5.11 48 Pn **Pn 21 08 05.4 +2.4**
0.2nm533nm59nm,0.9s
BR131 Keskin Array S 5.11 48 **Pn 21 08 03.8 +0.7**
BRTR Keskin Array B 5.11 48 **Pn 21 08 04.6 +1.5**
BRTR Keskin Array B 5.11 48 Pn **Pn 21 08 04.8 +1.7**
5.4nm,0.3s,baz=219,slow=16,SNR=125
BRTR Sn **Sn 21 09 04.8 +2.8**
6.7nm,0.3s,baz=218,slow=25,SNR=12
47nm,0.7s
NEO Neokhori 5.22 305 P **Pn 21 08 06.4 +1.9**
PHSR Pinarhisar 5.31 350 ⇓P **Pn 21 08 06.6 +1.0**
RDO Rodhopi 5.35 333 Pn **Pn 21 08 07.1 +1.0**
OUR Ouranopolis 5.41 318 P **Pn 21 08 08.8 +1.9**
89nm,0.7s
KLV Kalavryta, Ach 5.49 289 P **Pn 21 08 10.8 +2.6**
122nm,0.8s
ITM Ithomi 5.50 280 **Pn 21 08 09.7 +1.4**
KAVA Kavala 5.64 326 P **Pn 21 08 11.7 +1.5**
186nm,0.8s
SLUM Salum 5.69 212 P **Pn 21 08 11.8 +0.9**
SLUM S **Sn 21 09 13.3 -2.8**
KDZ Kurdzhali 5.85 334 P **Pn 21 08 14.8 +1.8**
KDZ S **Sn 21 09 20.2 +0.4**
KDZ Kurdzhali 5.85 334 P **Pn 21 08 14.5 +1.5**
ILGA Ilgaz 6.07 39 **Pn 21 08 16.7 +0.3**
RZN Rozhen 6.12 331 P **Pn 21 08 18.9 +1.9**
LIT Litokhoron 6.13 309 **Pn 21 08 18.8 +1.8**
DIM Dimitrovgrad 6.14 338 P **Pn 21 08 18.7 +1.7**
DIM S **Sn 21 09 27.4 +0.4**
BNN Bunyan 6.17 64 **Pn 21 08 18.0 +0.4**
BHL Bhannes 6.21 112 *e*P **Pn 21 08 17.5 -0.6**
HNTI Hanita 6.26 120 P **Pn 21 08 18.2 -0.6**
HNTI Hanita 6.26 120 S **Sn 21 09 28.9 -1.2**
HWQ Hawqa 6.28 108 *e*P **Pn 21 08 18.8 -0.3**
JMB Yambol 6.31 345 P **Pn 21 08 20.9 +1.5**
BEIL Beino 6.37 105 *e*P **Pn 21 08 20.1 -0.2**
CIDE Kastamonu/Cide 6.39 30 ⇓P **Pn 21 08 22.3 +1.9**
ZAHL Zahle 6.40 111 *e*P **Pn 21 08 19.6 -1.1**
OFRI `Ofer 6.40 124 P **Pn 21 08 20.0 -0.8**
OFRI `Ofer 6.40 124 S **Sn 21 09 32.4 -1.2**
MMB Musomishta 6.43 325 P **Pn 21 08 23.9 +2.8**
MMC7 Mount Meron ar 6.45 120 P **Pn 21 08 20.7 -0.7**
MMA0B Mount Meron ar 6.46 120 P **Pn 21 08 20.8 -0.8**
MMA0B Mount Meron ar 6.46 120 S **Sn 21 09 33.9 -1.2**
MMAI Mount Meron Ar 6.46 120 Pn **Pn 21 08 20.9 -0.6**
21nm,0.4s,baz=304,slow=12,SNR=207
MMAI Sn **Sn 21 09 34.1 -1.0**
25nm,0.3s,baz=301,slow=25,SNR=6.4
MMAI LR LR 21 12 27.1
comp=Z,323nm,21.2s,baz=310,slow=53
BLGI Bet Lehem HaGe 6.48 122 P **Pn 21 08 20.5 -1.2**
BLGI Bet Lehem HaGe 6.48 122 S **Sn 21 09 34.2 -1.2**
RCY Rachaya 6.53 114 *e*P **Pn 21 08 21.8 -0.8**
SHBL Chebaa 6.53 116 *e*P **Pn 21 08 22.2 -0.4**
GEM Giv'at Ha'Em 6.54 117 P **Pn 21 08 22.3 -0.3**
GEM Giv'at Ha'Em 6.54 117 S **Sn 21 09 35.9 -1.1**
NATI Neve Ativ 6.57 116 P **Pn 21 08 22.6 -0.3**
NATI Neve Ativ 6.57 116 S **Sn 21 09 36.7 -0.9**
FKH Fakeheh 6.65 107 *e*P **Pn 21 08 24.1 -0.1**
SLTI Sal'it 6.68 127 P **Pn 21 08 23.7 -0.8**
SLTI Sal'it 6.68 127 S **Sn 21 09 38.9 -1.4**
KSHT Keshet 6.77 118 P **Pn 21 08 25.5 -0.3**
KSHT Keshet 6.77 118 S **Sn 21 09 41.7 -1.0**
MMLI Mount Malkishu 6.81 124 P **Pn 21 08 25.9 -0.4**
MMLI Mount Malkishu 6.81 124 S **Sn 21 09 41.7 -1.9**
HMYD Mayadein 6.81 165 P **Pn 21 08 26.7 +0.4**
SQR Saqqara 6.83 162 P **Pn 21 08 26.1 -0.4**
SQR S **Sn 21 09 40.5 -3.5**
PRD Provadia 6.83 352 P **Pn 21 08 28.2 +1.8**
VAY Valandovo 6.86 318 *i* Pn **Pn 21 08 31.1 +4.1**
GAZ Gaziantep 6.87 81 **Pn 21 08 27.1 +0.1**
ELND Elena 6.88 342 ⇓P **Pn 21 08 28.4 +1.2**
SALP Salfit 6.89 127 P **Pn 21 08 26.8 -0.6**
SALP Salfit 6.89 127 S **Sn 21 09 44.4 -1.1**
BZK Bozkurt 6.91 35 **Pn 21 08 26.4 -1.2**
BZK Bozkurt 6.91 35 ⇑P **Pn 21 08 30.4 +2.9**
NEF NEVSHA 6.95 351 P **Pn 21 08 29.9 +1.8**
NEF S **Sn 21 09 46.6 -0.3**
KKB Krupnik 6.95 323 P **Pn 21 08 32.5 +4.3**
KKB S **Sn 21 09 52.1 +5.0**
KOT Kottamia 6.96 157 P **Pn 21 08 28.4 0.0**
UJAP Al Uja 7.14 126 P **Pn 21 08 29.9 -0.8**
UJAP Al Uja 7.14 126 S **Sn 21 09 49.7 -1.9**
LOZB Loznitsa 7.15 347 ⇓P **Pn 21 08 32.1 +1.2**
SZH Strazhitsa 7.17 344 P **Pn 21 08 32.5 +1.3**
KZIT Kziot 7.24 138 P **Pn 21 08 31.4 -0.8**
KZIT Kziot 7.24 138 S **Sn 21 09 51.7 -2.6**
PSN Preselentsi 7.24 357 P **Pn 21 08 33.9 +1.7**
PSN S **Sn 21 09 53.2 -1.0**
PVL Pavlikeni 7.25 339 P **Pn 21 08 34.1 +1.9**
TOKA Tokat 7.25 55 **Pn 21 08 33.3 +0.9**
PLNA Plana 7.32 328 P **Pn 21 08 37.8 +4.5**
PLNA S **Sn 21 09 56.9 +0.7**
YTIR Yattir 7.32 131 P **Pn 21 08 32.4 -1.0**
YTIR Yattir 7.32 131 S **Sn 21 09 54.7 -1.6**
DSI Dead Sea 7.34 129 P **Pn 21 08 32.7 -0.8**
DSI Dead Sea 7.34 129 S **Sn 21 09 54.2 -2.4**
MSBI Mazada 7.50 131 P **Pn 21 08 35.1 -0.6**
MSBI Mazada 7.50 131 S **Sn 21 09 58.2 -2.3**
VTS Vitosha 7.51 327 P **Pn 21 08 40.1 +4.1**
VTS S **Sn 21 10 03.2 +2.1**
GHAJ Ghor Haditha 7.64 130 **Pn 21 08 37.4 -0.1**
SWA2 7.64 202 P **Pn 21 08 38.2 +0.5**
PLVB Pleven 7.65 337 ⇓P **Pn 21 08 39.6 +1.8**
RMNI Mount Ramon 7.68 137 P **Pn 21 08 37.2 -1.1**
RMNI Mount Ramon 7.68 137 S **Sn 21 10 03.0 -2.2**
BLSH Balsha 7.69 329 P **Pn 21 08 42.7 +4.3**
BLSH S **Sn 21 10 08.1 +2.8**
ICOR Ion Corvin 7.74 355 ⇑P **Pn 21 08 40.2 +1.3**
OHR Ohrid 7.77 310 *i* Pn Pn 21 08 45.6 +6.2
KEK Kerkira 7.77 298 Pn **Pn 21 08 39.7 +0.3**
IDAN Idan 7.79 134 P **Pn 21 08 38.6 -1.2**
IDAN Idan 7.79 134 S **Sn 21 10 06.0 -1.8**
ZAF Zafarana 7.80 154 P **Pn 21 08 39.5 -0.3**
ZNM Zenema 7.83 152 P **Pn 21 08 40.2 0.0**
SKO Skopje 7.93 317 *i* Pn Pn 21 08 46.9 +5.3
MPEP Malo Peshtene 7.93 333 P **Pn 21 08 44.3 +2.7**
TRAN Tran 7.95 326 P **Pn 21 08 44.0 +2.1**
TRAN S **Sn 21 10 17.9 +6.3**
ZFRI Zfri 7.95 135 P **Pn 21 08 40.2 -1.6**
ZFRI Zfri 7.95 135 S **Sn 21 10 09.7 -1.8**
ASF Jabal al Asfar 7.98 120 Pn **Pn 21 08 42.7 +0.3**
1.7nm,0.3s,baz=325,slow=9.1,SNR=14
ASF LR LR 21 13 24.0
comp=Z,259nm,20.7s,baz=338,slow=50
5.1nm,0.4s
PRNI Paran 8.00 137 P **Pn 21 08 41.2 -1.5**
PRNI Paran 8.00 137 S **Sn 21 10 09.5 -3.5**
KRMI Paran Flat 8.04 140 P **Pn 21 08 41.8 -1.3**
KRMI Paran Flat 8.04 140 S **Sn 21 10 09.5 -4.4**
TIRR Tirgusor 8.05 358 **Pn 21 08 42.8 -0.5**
TIRR Tirgusor 8.05 358 ⇓P **Pn 21 08 44.7 +1.4**
TIRR Tirgusor 8.05 358 Pn **Pn 21 08 47.0 +3.7**
85nm,0.8s
NBNS Bani Suef 8.05 164 P **Pn 21 08 42.8 -0.6**
LEHL Lehliu 8.19 350 ⇓P **Pn 21 08 46.8 +1.6**
HRFI Mount Harif 8.27 138 P **Pn 21 08 45.2 -1.0**
HRFI Mount Harif 8.27 138 S **Sn 21 10 16.5 -3.0**
HARR Harsova 8.30 356 ⇑P **Pn 21 08 48.5 +1.8**
VALD Valchedram 8.33 333 P **Pn 21 08 49.9 +2.9**
JURR Jurilovca 8.36 1 ⇓P **Pn 21 08 49.3 +1.9**
TPGR Topolog 8.45 359 ⇓P **Pn 21 08 51.1 +2.3**
EIL Elat 8.51 140 Pn **Pn 21 08 48.8 -0.8**
7.5nm,0.3s,baz=356,slow=6.6,SNR=90
EIL Sn **Sn 21 10 20.8 -4.7**
17nm,0.3s,baz=326,slow=6.3,SNR=8.3
EIL LR LR 21 14 08.7
comp=Z,353nm,19.5s,baz=336,slow=52
16nm,0.3s
EIL Elat 8.51 140 P **Pn 21 08 48.4 -1.2**
BLKB Belogradchik 8.57 329 ⇓P **Pn 21 08 52.2 +1.8**
HBST Basata 8.77 143 P **Pn 21 08 52.9 -0.3**
TLCR 8.78 0 ⇓P **Pn 21 08 54.9 +1.6**
CFR Carcaliu 8.78 357 ⇓P **Pn 21 08 54.3 +1.0**
ISR Istrita 8.87 350 ⇑P **Pn 21 08 56.7 +2.2**
NUB Nuweibaa 8.89 144 P **Pn 21 08 54.3 -0.4**
TAMRE El Minia 8.89 167 P **Pn 21 08 54.6 -0.2**
BOVS Bovan 9.00 326 ⇑P **Pn 21 08 58.7 +2.4**
HKAT Jabal Katrina 9.03 149 P **Pn 21 08 55.8 -1.1**
HDHB Dhahab 9.13 145 P **Pn 21 08 57.2 -1.0**
NEGRR Negrea 9.15 356 ⇓P **Pn 21 09 00.0 +1.7**
NEHR Nehoiu 9.20 349 ⇑P **Pn 21 09 01.1 +2.0**
HFRF Wahat Farafira 9.23 182 P **Pn 21 08 59.1 -0.3**
BISRR Bisoca 9.26 351 Pn **Pn 21 09 02.9 +2.9**
166nm,0.9s
MLR Muntele Rosu 9.32 348 **Pn 21 09 00.5 -0.3**
MLR Muntele Rosu 9.32 348 Pn **Pn 21 09 02.3 +1.5**
1.1nm,0.3s,baz=160,slow=5.1,SNR=59
MLR LR LR 21 12 43.3
comp=Z,158nm,19.5s,baz=170,slow=38
49nm,0.9s
MLR Muntele Rosu 9.32 348 ⇓P **Pn 21 09 02.8 +1.9**
MLR Muntele Rosu 9.32 348 Pn **Pn 21 09 02.7 +1.9**
121nm,1.0s
ODBI Odobesti 9.44 353 ⇓P **Pn 21 09 04.1 +1.9**
ODBI Odobesti 9.44 353 Pn **Pn 21 09 05.3 +3.0**
332nm30nm,0.6s
VLDR Vladesti 9.45 357 ⇑P **Pn 21 09 04.5 +2.1**
TR1 Tor 1 9.47 151 P **Pn 21 09 02.1 -0.7**
PDG Podgorica 9.47 312 **Pn 21 09 03.8 +1.1**
VARL Varlezi 9.51 356 ⇓P **Pn 21 09 05.2 +1.9**
PLOR5 Plostina Array 9.56 351 Pn **Pn 21 09 08.4 +4.4**
70nm,0.9s
PLOR Plostina 9.57 351 ⇓P **Pn 21 09 06.6 +2.5**
VRI Vrincioaia 9.57 352 ⇓P **Pn 21 09 06.8 +2.7**
VRI Vrincioaia 9.57 352 Pn **Pn 21 09 07.6 +3.4**
57nm,0.9s
GHRR 9.70 355 Pn **Pn 21 09 10.0 +4.1**
MARD Mardin 9.72 81 **Pn 21 09 04.6 -1.7**
HERR Herculane 9.73 333 ⇑P **Pn 21 09 07.2 +1.0**
TURR Turia 9.86 349 ⇓P **Pn 21 09 10.6 +2.6**
TIP Timpagrande 9.86 290 **Pn 21 09 07.2 -0.9**
TIP Timpagrande 9.86 290 ⇑P **Pn 21 09 10.2 +2.1**
TIP Timpagrande 9.86 290 Pn **Pn 21 09 10.6 +2.5**
1μm88nm,1.6s
DOPR Dopca 9.88 346 ⇑P **Pn 21 09 10.2 +1.9**
OZUR 9.93 348 ⇓P **Pn 21 09 11.2 +2.0**
KOPT Kop Dagi 9.95 65 Pn **Pn 21 09 08.8 -0.9**
HHRG Al Ghardaqah 10.04 154 P **Pn 21 09 11.8 +1.2**
GZR Gura Zlata 10.04 335 ⇑P **Pn 21 09 11.6 +1.0**
ONER Baraj Valea Uz 10.08 351 ⇑P **Pn 21 09 13.4 +2.4**
RUDO Rudo 10.16 318 *e*Pn **Pn 21 09 13.4 +1.2**
TREB Trebinje 10.18 311 *e*Pn Pn 21 09 18.4 +5.9
TESR Tescani 10.22 352 ⇓P **Pn 21 09 14.3 +1.3**
TESR Tescani 10.22 352 Pn **Pn 21 09 15.9 +2.9**
54nm,0.8s
KLINJ Klinje 10.31 314 *e*Pn Pn 21 09 19.5 +5.2
MATE Matera 10.32 298 ⇑P **Pn 21 09 17.4 +3.1**
CEL Celeste 10.38 284 Pn **Pn 21 09 13.9 -1.3**
CEL Celeste 10.38 284 Pn **Pn 21 09 16.6 +1.4**
1μm78nm,1.6s
SURR Surduc 10.58 334 ⇓P **Pn 21 09 19.4 +1.5**
STON Ston 10.67 311 *e*Pn **Pn 21 09 19.9 +0.8**
CUC Castrocucco 10.76 293 Pn **Pn 21 09 20.9 +0.4**
GURO Guroymak-BITLI 10.80 75 Pn **Pn 21 09 20.9 -0.2**
ACER Acerenza 10.91 298 **Pn 21 09 21.1 -1.4**
MARR Marisel-Cluj 11.09 340 ⇓P **Pn 21 09 27.2 +2.3**
VAE Valguarnera 11.50 280 Pn **Pn 21 09 34.3 +3.7**
0.4nm,0.3s,baz=7.6,slow=15,SNR=1.5
VAE Sn **Sn 21 11 31.3 -7.4**
0.7nm,0.3s,baz=328,slow=19,SNR=2.1
VAE LR LR 21 13 55.9
comp=Z,384nm,20.5s,baz=100,slow=37
BURAR Bucovina Array 11.50 348 **Pn 21 09 31.0 +0.4**
BURAR Bucovina Array 11.50 348 ⇑P **Pn 21 09 32.7 +2.1**
BUR08 Bucovina Ar. S 11.53 348 Pn **Pn 21 09 31.4 +0.4**
RAFF Raffo Rosso 11.53 278 Pn **Pn 21 09 32.8 +1.8**
BAL3X Bal3x, Balta 11.55 3 Pn **Pn 21 09 34.8 +3.7**
SORM Soroca 11.73 359 ⇓P **Pn 21 09 35.5 +1.8**
PAOL Paolisi 11.97 297 Pn **Pn 21 09 38.1 +1.0**
KIJV Kijevo 12.08 313 *e*Pn **Pn 21 09 40.2 +1.7**
BLY Banja Luka 12.09 317 *e*Pn **Pn 21 09 42.7 +4.2**
BLY Banja Luka 12.09 317 ⇓P **Pn 21 09 40.8 +2.3**
APRS Wahet Paris 12.11 171 P **Pn 21 09 37.4 -1.5**
KMPD K-Podol'skiy 12.27 353 Pn **Pn 21 09 44.6 +3.6**
MORH Mrgy, Hungar 12.38 326 *e*Pn **Pn 21 09 44.2 +1.7**
MORH Mrgy, Hungar 12.38 326 ⇑P **Pn 21 09 44.4 +2.0**
MORH Mrgy, Hungar 12.38 326 Pn **Pn 21 09 45.1 +2.6**
11nm,1.2s
MOSL Moslavina 12.88 319 *e*Pn **Pn 21 09 49.5 +0.1**
KIV Kislovodsk 13.07 50 Pn **Pn 21 09 52.3 +0.2**
KBZ Khabaz 13.09 52 Pn **P 21 09 58.5 -4.0**
0.1nm,0.3s,baz=253,slow=12,SNR=9.7
KBZ LR LR 21 16 08.5
comp=Z,246nm,18.9s,baz=251,slow=43
GNI Garni 13.14 69 Pn **Pn 21 09 51.2 -1.9**
GNI Garni 13.14 69 Pn **P 21 10 01.9 -1.4**
0.2nm,0.3s,baz=204,slow=5.5,SNR=7.2
GNI LR LR 21 16 06.6
comp=Z,888nm,21.7s,baz=278,slow=43
PSZ Piszkesteto 13.23 333 **Pn 21 09 53.8 -0.4**
AQU L'Aquila 13.25 301 *e*Pn **Pn 21 09 55.9 +1.5**
CAMP Campotosto 13.31 302 Pn **Pn 21 09 54.3 -1.0**
BEHE Becsehely 13.45 322 Pn **Pn 21 09 56.3 -0.8**
GUMA Gualdo di Mace 13.57 304 Pn **Pn 21 09 57.6 -1.2**
OZLJ Ozalj 13.58 317 *e*Pn **Pn 21 10 01.9 +3.1**
NRCA Norcia 13.62 303 **Pn 21 09 58.8 -0.8**
BOJS Bojanci 13.63 316 *i* Pn **Pn 21 10 02.3 +2.7**
FDMO Fiordimonte 13.72 304 **Pn 21 09 59.4 -1.5**
KWP Kalwaria Pacla 13.93 344 *e*P **P 21 10 14.8 +3.0**
STHS Stebnicka Huta 14.10 340 *e*PN **P 21 10 16.6 +2.9**
AK07 Malin Array Si 14.15 1 Pn **Pn 21 10 09.5 +2.8**
BRJN Brijuni 14.17 311 *e*Pn **Pn 21 10 06.1 -0.8**
AK06 Malin Array Si 14.19 1 Pn **Pn 21 10 10.4 +3.3**
MURB Monte Urbino 14.19 304 **Pn 21 10 07.7 +0.4**
AK10 Malin Array Si 14.20 1 Pn **Pn 21 10 10.6 +3.3**
AK08 Malin Array Si 14.23 1 P **Pn 21 10 10.7 +2.9**
AK12 Malin Array Si 14.24 1 Pn **Pn 21 10 11.0 +3.1**
AK11 Malin Array Si 14.28 1 Pn **Pn 21 10 11.2 +2.8**
KIEV Kiev 14.29 1 **Pn 21 10 08.1 -0.6**
KIEV Kiev 14.29 1 Pn **Pn 21 10 11.4 +2.8**
68nm,2.7s
AKASG Malin Array Be 14.30 1 Pn **Pn 21 10 09.5 +0.7**
1.0nm,0.3s,baz=187,slow=12,SNR=5.1
AKASG LR LR 21 16 45.7
comp=Z,146nm,18.8s,baz=182,slow=42
AKBB Malin Array Si 14.30 1 **Pn 21 10 08.5 -0.3**
AKBB Malin Array Si 14.30 1 Pn **Pn 21 10 11.4 +2.7**
NIE Niedzica 14.38 337 *e*P **P 21 10 13.6 -3.3**
SOKA Soboth 14.48 319 *i* Pn **Pn 21 10 13.5 +2.2**
11nm,1.0s,SNR=7.9
JAVS Javornik 14.53 315 *i* Pn **Pn 21 10 14.5 +2.5**
RONA Rosalia, Austr 14.56 325 *e*Pn **Pn 21 10 15.3 +3.0**
17nm,1.6s
MOZS Mozjanca 14.56 317 *e*Pn **Pn 21 10 15.5 +3.1**
TRI Trieste 14.60 314 Pn **Pn 21 10 12.6 -0.2**
ARSA Arzberg 14.61 322 **Pn 21 10 12.6 -0.5**
ARSA Arzberg 14.61 322 *i* Pn **Pn 21 10 14.0 +0.9**
12nm,1.3s,SNR=5.4
MODS Modra-Piesok 14.63 328 *e*PN **P 21 10 18.5 -1.1**
OBKA Obir 14.63 318 *e*Pn **P 21 10 16.8 -2.9**
13nm,1.3s
SABO M.te Sabotino 14.85 315 **Pn 21 10 15.5 -0.7**
JAVC Velka Javorina 14.85 330 *e*P **P 21 10 23.3 +1.3**
CONA Conrad Observa 14.93 325 *i* Pn **Pn 21 10 20.0 +2.6**
14nm,1.6s,SNR=6.3
OSSC Osservatorio P 15.15 303 Pn **Pn 21 10 21.0 +0.7**
OSSC IAmb IAmb 21 10 34.3
comp=Z,23nm,1.0s
MAUC Maruska 15.20 332 *e*P **P 21 10 28.2 +2.3**
MYKA Terra Mystica 15.20 317 *e*Pn **Pn 21 10 23.0 +2.0**
comp=Z,9.7nm,1.0s
OJC Ojcow 15.24 338 *e*P **Pn 21 10 23.5 +2.0**
OJC Ojcow 15.24 338 **Pn 21 10 21.5 0.0**
STAL STALIGIAL 15.51 314 **Pn 21 10 23.9 -1.2**
KRUC Moravsky 15.53 328 *e*P **P 21 10 30.6 +1.0**
KBA Koelnbreinsper 15.64 318 *e*Pn **P 21 10 29.5 -1.4**
comp=Z,39nm,1.2s,SNR=15
MORC Moravsky Berou 15.64 332 **Pn 21 10 26.3 -0.4**
MORC Moravsky Berou 15.64 332 *e*P **P 21 10 32.3 +1.5**
VRAC Vranov 15.64 329 Pn **P 21 10 31.4 +0.7**
comp=Z,0.3nm,0.3s,baz=147,slow=11,SNR=14
VRAC LR LR 21 16 43.8
comp=Z,236nm,21.2s,baz=153,slow=38
VRAC Vranov 15.64 329 *e*P **P 21 10 32.2 +1.4**
MOA Molln 15.65 321 *i* Pn **Pn 21 10 28.7 +1.9**
comp=Z,31nm,1.7s,SNR=10
ZCCA Zocca 15.66 306 **Pn 21 10 26.6 -0.4**
ZCCA IAmb IAmb 21 10 42.3
comp=Z,35nm,1.1s
TEOL Teolo 15.67 310 **Pn 21 10 26.5 -0.5**
KEST Kesra 15.68 273 **Pn 21 10 26.6 -0.7**
KEST IAmb IAmb 21 10 36.7
comp=Z,66nm,1.1s
KEST Kesra 15.68 273 Pn **Pn 21 10 29.4 +2.1**
comp=Z,0.6nm,0.3s,baz=50,slow=3.7,SNR=15
KEST LR LR 21 17 07.3
comp=Z,119nm,21.6s,baz=18,slow=40
comp=Z,55nm,1.1s
STEB Steborice 15.68 333 *e*P **P 21 10 32.8 +1.6**
CIMO Cimolais 15.70 314 **Pn 21 10 26.6 -0.8**
BIOA Bad Ischl, Aus 15.86 320 *e*Pn **P 21 10 32.6 -0.7**
comp=Z,24nm,1.4s
ABTA Abfaltersbach 15.90 316 *e*Pn **P 21 10 35.6 +1.8**
comp=Z,25nm,1.7s
CTI Castel Tesino 16.02 312 **Pn 21 10 31.1 -0.7**
CTI IAmb IAmb 21 10 48.6
comp=Z,91nm,1.2s
KRLC Kraliky 16.17 331 *e*P **P 21 10 39.0 +2.3**
LESA Schwarzleotal 16.21 318 *e*Pn **P 21 10 35.8 -1.4**
comp=Z,40nm,1.5s,SNR=13
PRMA PARMA 16.26 307 Pn **Pn 21 10 34.0 -0.7**
PRMA IAmb IAmb 21 10 49.3
comp=Z,28nm,0.8s
BEL Belsk 16.43 342 *e*P **P 21 10 41.8 +2.3**
SALO Salr 16.50 310 Pn **Pn 21 10 36.6 -1.1**
SALO IAmb IAmb 21 10 43.3
comp=Z,30nm,1.0s
DPC Dobruska-Polom 16.57 331 *e*P **P 21 10 40.4 -0.7**
GEC2 GERESS Array S 16.60 323 **Pn 21 10 37.7 -1.3**
GERES GERESS Array B 16.60 323 Pn **P 21 10 41.4 -0.1**
comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=42
GERES LR LR 21 18 28.3
comp=Z,199nm,18.1s,baz=138,slow=42
comp=Z,11nm,0.9s
WTTA Wattenberg 16.69 316 *i* Pn **P 21 10 44.5 +1.9**
comp=Z,34nm,1.2s,SNR=11

WATA	Walderalm	16.76	316	ePn	P	21 10 46.2 +2.8
	comp=Z,53nm,1.4s,SNR=6.7					
OSTC	Ostas	16.77	331	eP	P	21 10 43.7 +0.4
ZVC	Zvikov	16.78	325	eP	P	21 10 44.7 +1.3
ZVC				AMS	AMS	21 18 00.0
	comp=Z,2µm,7.0s					
KHC	Kasperske Hory	16.85	324	eP	P	21 10 45.9 +1.7
KHC				AMS	AMS	21 18 00.0
	comp=Z,2µm,10.3s					
CHVC	Chvalec	16.86	331	eP	P	21 10 43.9 -0.4
SQTA	Sankt Quirin	16.91	315	ePn	P	21 10 46.6 +1.6
	comp=Z,37nm,1.5s					
KSP	Ksiaz	16.97	332	eP	P	21 10 46.1 +0.6
PRU	Pruhonice	17.02	327	eP	P	21 10 47.6 +1.5
MOTA	Moosalm	17.03	315	eP	P	21 10 47.3 +0.9
	comp=Z,43nm,1.1s,SNR=11					
FETA	Feichten	17.07	314	ePn	P	21 10 48.7 +1.9
	comp=Z,61nm,1.2s,SNR=28					
PRA	Prague	17.13	327	eP	P	21 10 48.5 +1.2
FUORN	Ofenpass-Fuorn	17.14	312		Pn	21 10 45.0 -1.1
FUORN				IAmb	IAmb	21 10 54.0
	comp=Z,35nm,1.1s					
RETA	Reutte	17.31	315	ePn	P	21 10 49.9 +0.6
	comp=Z,21nm,1.6s					
PVCC	Panska Ves	17.41	329	eP	P	21 10 52.7 +2.3
TUE	Stuetta	17.62	311	P	Pn	21 10 52.2 +0.2
DAVA	Damuels	17.71	314	ePn	P	21 10 55.6 +1.7
	comp=Z,25nm,0.9s,SNR=6.3					
BRG	Berggiesshubel	17.94	328	eP	P	21 10 57.5 +1.4
BRG				Amp		21 10 59.3
	comp=Z,29nm,1.3s					
SUW	Suwalki	18.03	349	eP	P	21 10 57.6 +0.5
SUW	Suwalki	18.03	349		Pn	21 10 53.5 -3.2
MNK	Minsk	18.11	358	iP	Pn	21 10 57.6 -0.1
	comp=E,18nm,0.7s					
MNK				iP	Pn	21 10 57.6 -0.1
	comp=N,27nm,1.1s					
MNK				iP	Pn	21 10 57.6 -0.1
	comp=Z,24nm,0.8s,baz=177					
MNK				iPP	PnPn	21 11 08.6 -0.3
MNK				iPPP	PPP	21 11 16.2
MNK				iS	Sn	21 14 19.6 0.0
MNK				iSS	SnSn	21 14 36.4 +3.2
MNK				iLR	LR	21 17 41.8
MNK				iLRM	MLR	21 18 14.2
	comp=N,81nm,13.5s					
MNK				iLRM	MLR	21 18 55.0
	comp=E,160nm,14.7s					
MNK				iLRM	MLR	21 19 00.9
	comp=Z,118nm,15.0s					
GRA1	Grafenberg Arr	18.38	322		P	21 10 58.5 -2.6
GRFO	Grafenberg	18.38	322		P	21 10 58.7 -2.3
NACGM	Naroch	18.55	356	eP	Pn	21 11 04.5 +1.3
CLL	Collm	18.66	328		P	21 11 02.6 -1.5
CLL	Collm	18.66	328	P	Pn	21 11 05.7 +1.3
	comp=Z,16nm,1.1s					
CLL	Collm	18.66	328	iP	Pn	21 11 05.7 +1.3
	comp=Z,54nm,1.8s					
CLL				ix	x	21 11 11.5
	comp=Z,90nm,1.9s					
CLL				iPP	PnPn	21 11 15.5 -0.9
CLL				eS	S	21 14 36.0 -0.2
CLL				LmH		21 17 00.0
	comp=N,300nm,20.0s					
CLL				LmH		21 17 00.0
	comp=E,500nm,18.2s					
CLL				LmV		21 18 00.0
	comp=Z,200nm,19.1s					
GKP	Gorka Klasztor	18.69	338	eP	Pn	21 11 05.6 +0.8
BNI	Bardonecchia	18.76	304		P	21 11 03.4 -2.0
SENIN	Lac Senin/Sane	18.85	309		P	21 11 05.1 -1.4
STU	Stuttgart	18.89	317	P	P	21 11 06.8 +0.1
BFO	Black Forest	19.14	315	P	P	21 11 09.8 +0.3
PABE	Paberze	19.38	352		P	21 11 12.4 +0.4
OBN	Obninsk	19.48	14		P	21 11 13.1 +0.1
OBN	Obninsk	19.48	14	P	P	21 11 13.6 +0.6
	comp=Z,1.1nm,0.3s,baz=311,slow=21,SNR=4.1					
	comp=Z,5.8nm,0.4s					
ECH	Echery	19.76	313		P	21 11 16.7 +0.4
BELG	Belogornoye	20.84	34	P	P	21 11 27.8 0.0
	comp=Z,26nm,0.8s,baz=46,slow=10,SNR=8.2					
	comp=Z,26nm,0.8s					
LUNU	Lund	21.87	336	iP	P	21 11 37.7 -1.2
CEST	Esterri de Car	22.02	295		P	21 11 40.0 -0.8
CEST				IAmb	IAmb	21 11 58.9
	comp=Z,18nm,1.1s					
COP	Copenhagen	22.25	335	iP	P	21 11 38.9 -4.0
COP				IAmb	IAmb	21 11 45.1
	comp=Z,68nm,1.0s					
BJUU	Bjuv	22.37	337	iP	P	21 11 43.1 -1.2
DEL	Delary	22.44	338	iP	P	21 11 43.0 -2.0
TAM	Tamanrasset	24.22	242		P	21 12 03.9 +0.5
TAM				IAmb	IAmb	21 12 14.7
	comp=Z,13nm,0.8s					
FINES	FINESS Array B	25.12	357	P	P	21 12 11.6 +0.6
	comp=Z,45nm,0.9s,baz=160,slow=9.9,SNR=48					
FINES				PcP	PcP	21 15 43.0 -1.8
	comp=Z,2.2nm,0.8s,baz=224,slow=3.8,SNR=4.0					
	comp=Z,45nm,0.9s					
HFS	Hagfors	25.64	343	P	P	21 12 15.5 -0.2
	comp=Z,6.4nm,0.7s,baz=150,slow=12,SNR=12					
HFS				LR	LR	21 23 30.6
	comp=Z,105nm,19.8s,slow=39					
	comp=Z,6.4nm,0.7s					
ESBB	Sonseca Array	25.86	287		P	21 12 17.7 -0.3
ESBB				IAmb	IAmb	21 12 20.2
	comp=Z,13nm,1.1s					
ESDC	Sonseca Array	25.86	287	P	P	21 12 17.8 -0.3
	comp=Z,5.4nm,0.9s,baz=82,slow=9.5,SNR=31					
ESDC				LR	LR	21 23 20.2
	comp=Z,130nm,19.4s,baz=38,slow=38					
	comp=Z,5.4nm,0.9s					
ABKAR	Akbulak array	26.06	51		P	21 12 19.5 -0.1
PAB	San Pablo	26.17	287	IAmb	IAmb	21 12 23.1
	comp=Z,11nm,1.1s					
UOSS	Minazif	26.17	108	IAmb	IAmb	21 12 40.5
	comp=Z,8.7nm,0.9s					
NC602	NORSAR Array S	26.70	341	P	P	21 12 23.3 -2.0
NC405	NORSAR Array S	26.98	342	P	P	21 12 26.8 -1.1
NB2	NORSAR Subarra	27.05	341	P	P	21 12 23.5 -5.0
	comp=Z,1.6nm,0.7s,baz=147,slow=10					
NOA	NORSAR Array B	27.05	341	P	P	21 12 29.6 +1.1
	comp=Z,1.1nm,0.8s,baz=148,slow=9.5,SNR=5.5					
NOA				LR	LR	21 24 12.9
	comp=Z,127nm,18.1s,baz=145,slow=39					
	comp=Z,1.1nm,0.8s					
NC303	NORSAR Array S	27.17	342	P	P	21 12 28.0 -1.4
MDT	Midelt	27.58	272	LR	LR	21 25 18.3
	comp=Z,111nm,20.5s,baz=29,slow=40					
ARTI	Arti	28.25	36	P	P	21 12 39.4 +0.1
ARTI				IAmb	IAmb	21 12 51.5
	comp=Z,4.9nm,0.7s					
ARTI	Arti	28.25	36	LR	LR	21 24 55.3
	comp=Z,90nm,18.7s,baz=226,slow=39					
PBAR	Barrancos	28.39	284	eP	P	21 12 37.6 -3.0
PBAR				iIAmb	IAmb	21 12 42.2
	comp=Z,22nm,1.6s					
PMRV	Marv??o	28.52	287	eP	P	21 12 41.6 -0.3
PMRV				iIAmb	IAmb	21 12 44.1
	comp=Z,19nm,1.9s					
PCBR	Castelo Branco	28.55	288	eP	P	21 12 42.0 -0.1
PCBR				iIAmb	IAmb	21 12 42.3
	comp=Z,21nm,1.4s					
PESTR	Estremoz	28.74	286	eP	P	21 12 44.3 +0.6
PESTR				iIAmb	IAmb	21 12 48.9
	comp=Z,22nm,2.2s					
EKA	Eskdalemuir Ar	28.79	321	P	P	21 12 46.5 +2.5
	comp=Z,1.3nm,0.6s,baz=117,slow=10,SNR=2.5					
	comp=Z,1.3nm,0.6s					
PVAQ	Vaqueiros	29.04	283	eP	P	21 12 45.7 -0.7
PVAQ				iIAmb	IAmb	21 12 47.1
	comp=Z,19nm,1.1s					
PMTG	Montargil	29.21	287	eP	P	21 12 47.5 -0.4
PMTG				iIAmb	IAmb	21 12 59.6
	comp=Z,22nm,1.4s					
PBDV	Barranco-do-Ve	29.23	283	eP	P	21 12 47.4 -0.8
MESJ	Messejana	29.36	284	eP	P	21 12 49.1 -0.2
MESJ				IAmb	IAmb	21 12 49.7
	comp=Z,6.8nm,1.0s					
MESJ	Messejana	29.36	284	P	P	21 12 48.7 -0.7
MESJ				IAmb	IAmb	21 12 49.6
	comp=Z,5.3nm,0.8s					
MESJ	Messejana	29.36	284	eP	P	21 12 49.1 -0.2
PFVI	Vila Bisbo	29.95	283	P	P	21 12 54.0 -0.5
PFVI				IAmb	IAmb	21 13 12.6
	comp=Z,9.8nm,0.8s					
CHGR	Chuyangaron	31.98	74		P	21 13 13.4 +0.9
KKAR	Karatay Array	32.57	65	P	P	21 13 17.2 -0.3
GAR	Garm	32.82	73	IAmb	IAmb	21 13 26.3
	comp=Z,6.0nm,0.9s					
ARCES	ARCESS Array B	33.24	358	P	P	21 13 23.8 +0.7
ARCES				IAmb	IAmb	21 13 43.3
	comp=Z,8.7nm,1.1s					
ARCES	ARCESS Array B	33.24	358	P	P	21 13 23.3 +0.2
	comp=Z,11nm,1.1s,baz=174,slow=7.9,SNR=9.0					
	comp=Z,11nm,1.1s					
BVAR	Borovoye Array	33.40	47	P	P	21 13 26.4 +1.7
	comp=Z,0.8nm,0.6s,baz=256,slow=6.0,SNR=5.5					
BVAR				LR	LR	21 28 56.3
	comp=Z,128nm,20.6s,baz=266,slow=40					
	comp=Z,0.8nm,0.6s					
TORD	Torodi Ar. Bea	33.52	233	P	P	21 13 26.6 +0.5
	comp=Z,2.8nm,0.3s,baz=54,slow=7.3,SNR=3.3					
TORD				LR	LR	21 28 24.7
	comp=Z,132nm,19.7s,baz=338,slow=39					
	comp=Z,2.8nm,0.3s					
AAK	Ala-Archa	35.52	66	P	P	21 13 44.0 +0.7
BOOM	Boomskoye usch	36.60	66	P	P	21 13 53.8 +1.2
BOOM				IAmb	IAmb	21 14 11.9
	comp=Z,6.1nm,1.0s					
KURBB	Kurchatov Arra	38.09	52	P	P	21 14 05.0 +0.1
	comp=Z,4.3nm,0.7s,baz=274,slow=8.8,SNR=38					
	comp=Z,4.3nm,0.7s					
MAKZ	Makanchi	40.46	58	P	P	21 14 24.6 -0.2
MKAR	Makanchi Array	40.68	58	P	P	21 14 26.5 -0.1
	comp=Z,2.6nm,0.5s,baz=275,slow=7.7,SNR=44					
MKAR				PcP	PcP	21 16 28.2 +0.1
	comp=Z,1.3nm,0.7s,baz=277,slow=3.5,SNR=2.6					
MKAR				LR	LR	21 32 24.2
	comp=Z,93nm,21.9s,baz=306,slow=38					
	comp=Z,2.6nm,0.5s					
ZALV	Zalesovo Beam	42.06	47	P	P	21 14 37.8 0.0
	comp=Z,1.8nm,0.6s,baz=267,slow=7.8,SNR=11					
ZALV				LR	LR	21 35 49.3
	comp=Z,41nm,18.8s,baz=317,slow=42					
	comp=Z,1.8nm,0.6s					
SPITS	Spitsbergen Ar	42.21	356	P	P	21 14 39.5 +0.7
	comp=Z,15nm,1.0s,baz=134,slow=12,SNR=7.3					
	comp=Z,15nm,1.0s					
DBIC	Dimbokro	42.61	234	IAmb	IAmb	21 14 44.4
	comp=Z,9.3nm,1.0s					
DBIC	Dimbokro	42.61	234	P	P	21 14 42.1 -0.6
	comp=Z,4.6nm,0.6s,baz=64,slow=9.0,SNR=8.9					
DBIC				LR	LR	21 34 35.8
	comp=Z,118nm,20.7s,baz=56,slow=39					
	comp=Z,4.6nm,0.6s					
KBS	Kingsbay	43.20	355	P	P	21 14 47.1 +0.4
KBS				IAmb	IAmb	21 14 49.5
	comp=Z,17nm,1.0s					
WMQ	Urumqi	44.88	62	eP	P	21 15 04.6 +3.8
WMQ				LR	LR	
	comp=Z,120nm,24.0s					
SUMG	Summit	48.88	338	P	P	21 15 31.4 -0.6
SUMG				IAmb	IAmb	21 15 33.7
	comp=Z,6.2nm,1.0s					
SFJD	Kangerlussuaq	52.99	331	LR	LR	21 39 51.8
	comp=Z,114nm,18.9s,baz=102,slow=38					
GTA	Gaotai	54.83	64	P	P	21 16 16.3 -0.3
GTA				sP	pwP	21 16 23.8 +1.0
GTA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
TSUM	Tsumeb	56.29	193	LR	LR	21 41 35.6
	comp=Z,101nm,21.9s,baz=118,slow=37					
SONM	Songino Array	56.46	52	P	P	21 16 28.7 +0.5
SONM	Songino Array	56.46	52	P	P	21 16 28.7 +0.5
	comp=Z,1.3nm,0.7s,baz=300,slow=8.0,SNR=8.6					
SONM				LR	LR	21 44 45.8
	comp=Z,128nm,18.8s,baz=286,slow=40					
	comp=Z,1.3nm,0.7s					
ULN	Ulaanbaatar	56.87	52	IAmb	IAmb	21 16 34.7
	comp=Z,37nm,0.9s					
LZH	Lanzhou	59.06	66	eP	P	21 16 46.0 -0.7
LZH				pP	pwP	21 16 54.1 +1.2
LZH				pmax	pmax	
	comp=Z,19nm,1.4s					
KGCAE	Kacgae	59.25	187	P	P	21 16 48.8 +0.9
KGCAE				IAmb	IAmb	21 16 51.5
	comp=Z,2.7nm,0.8s					
LBTB	Lobatse	61.15	183	P	P	21 17 02.8 +1.9
LBTB				IAmb	IAmb	21 17 21.8
	comp=Z,6.3nm,0.9s					
BTO	Baotou	61.59	59	eP	P	21 17 03.4 -0.4
BTO				pmax	pmax	
	comp=Z,12nm,0.7s					
BTO				pmax	pmax	
	comp=Z,470nm,5.3s					
PZH	PanZhiHua	61.76	77	P	P	21 17 07.5 +2.3
HHC	Hu-ho-hao-te	62.54	58	eP	P	21 17 11.8 +1.5
HHC				pmax	pmax	
	comp=Z,13nm,0.7s					
HHC				pmax	pmax	
	comp=Z,110nm,5.6s					
KMI	Kunming	63.21	77	P	P	21 17 20.0 +4.9
KMI				pmax	pmax	
	comp=Z,12nm,1.0s					
CMAR	Chiang Mai Arr	63.58	86	P	P	21 17 17.4 0.0
	comp=Z,1.8nm,0.7s,baz=298,slow=7.9,SNR=15					
	comp=Z,1.8nm,0.7s					
XAN	Xi'an	63.70	66	⇑P	P	21 17 18.8 +0.8
XAN				pP	pwP	21 17 27.3 +2.1
XAN				pmax	pmax	
	comp=Z,11nm,2.6s					
SCHQ	Schefferville	64.10	320	LR	LR	21 43 21.8
	comp=Z,942nm,20.9s,baz=97,slow=34					
BOSA	Boshof	64.75	183	P	P	21 17 25.3 +0.6
BOSA				IAmb	IAmb	21 17 37.0
	comp=Z,6.7nm,1.1s					
BOSA	Boshof	64.75	183	P	P	21 17 25.7 +1.0
	comp=Z,1.7nm,0.7s,baz=15,slow=6.0,SNR=2.3					
	comp=Z,1.7nm,0.7s					
BATG	Bathurst New B	67.23	313	P	P	21 17 39.5 -1.1
BATG				IAmb	IAmb	21 17 52.5
	comp=Z,6.5nm,1.0s					
HEH	HeiHe	68.00	43	eP	P	21 17 46.0 +0.7
HEH				pmax	pmax	
	comp=Z,11nm,0.9s					
SUR	Sutherland	68.82	187	P	P	21 17 50.7 0.0
A36M	Sachs Harbour	70.37	352	P	P	21 17 59.5 -0.1
NJ2	Nanjing	71.92	63	eP	P	21 18 09.9 +0.2
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.5s					
KULM	Kulim	72.35	97	P	P	21 18 11.1 -1.4
C36M	Paulatuk	72.67	350	P	P	21 18 12.2 -1.3
MA2	Magadan	73.10	27	LR	LR	21 54 18.6
	comp=Z,62nm,18.9s,baz=316,slow=39					
RCBR	Riachuelo	73.47	250	LR	LR	21 50 47.0
	comp=Z,32nm,19.1s,baz=70,slow=36					
B22K	Teshekpuk Lake	73.56	1	P	P	21 18 19.6 +0.9
B22K				IAmb	IAmb	21 18 37.6
	comp=Z,10.0nm,1.1s					
USRK	Ussuriysk Ar.	73.91	47	P	P	21 18 21.0 -0.3
	comp=Z,5.1nm,0.9s,baz=284,slow=4.5,SNR=4.9					
	comp=Z,5.1nm,0.9s					
C23K	Itkillik River	74.07	360	P	P	21 18 22.6 +0.8
C23K				IAmb	IAmb	21 18 24.2
	comp=Z,10nm,1.1s					
C19K	Lookout Ridge	74.63	3	P	P	21 18 25.0 -0.1
INK	Inuvik	74.76	353	P	P	21 18 25.6 -0.3
E28M	Babbage River	74.94	356	IAmb	IAmb	21 18 38.0
	comp=Z,6.7nm,1.1s					
D22K	Ayikyak River	75.03	1	P	P	21 18 28.1 +0.6
D22K				IAmb	IAmb	21 18 28.9
	comp=Z,5.9nm,1.0s					
D20K	Etivluk River	75.13	2	P	P	21 18 28.5 +0.5
D20K				IAmb	IAmb	21 18 30.7
	comp=Z,3.4nm,1.0s					
KSRS	Korea Array	75.23	54	P	P	21 18 29.4 +0.3
	comp=Z,1.8nm,0.6s,baz=302,slow=5.4,SNR=5.5					
	comp=Z,1.8nm,0.6s					
D19K	Kuna River	75.30	3	P	P	21 18 29.3 +0.3
L59A	Walton	75.36	312	P	P	21 18 30.5 +0.7
F31M	Tsiigehtchic	75.62	353	IAmb	IAmb	21 18 32.7
	comp=Z,5.4nm,0.7s					
F30M	Barrier River	75.65	354	P	P	21 18 30.8 -0.2
F30M				IAmb	IAmb	21 18 41.5
	comp=Z,6.8nm,0.9s					
E25K	Arctic Village	75.71	358	IAmb	IAmb	21 18 34.9
	comp=Z,6.2nm,1.1s					
E22K	Anaktuvuk Pass	75.78	0	IAmb	IAmb	21 18 39.9
	comp=Z,6.2nm,1.0s					
E23K	Chandalar	75.85	359	IAmb	IAmb	21 18 40.5
	comp=Z,5.3nm,0.9s					
F26K	Sheenjek River	76.08	357	IAmb	IAmb	21 18 35.7
	comp=Z,8.2nm,1.1s					
G31M	Satah River	76.18	353	P	P	21 18 33.4 -0.6
F25K	Christian Rive	76.24	358	P	P	21 18 35.3 +0.8
F25K				IAmb	IAmb	21 18 50.0
	comp=Z,4.4nm,1.1s					
G30M	tAoh Zraii Nji	76.30	354	P	P	21 18 34.4 -0.4
F24K	Squaw Lake	76.37	359	IAmb	IAmb	21 18 37.2
	comp=Z,8.7nm,1.1s					
F21K	Alatna River	76.69	1	P	P	21 18 37.0 0.0
MMNY	Mt. Morris Dam	76.73	313	P	P	21 18 37.0 -0.6
G27K	Doyon Strip	76.85	356	P	P	21 18 37.3 -0.5
G27K				IAmb	IAmb	21 18 48.6
	comp=Z,4.4nm,1.1s					
F19K	Shaleruckik Mo	76.97	3	IAmb	IAmb	21 18 47.7
	comp=Z,8.5nm,1.1s					
G24K	Hadweenzic Riv	77.18	358	P	P	21 18 40.0 +0.3
G24K				IAmb	IAmb	21 18 41.0
	comp=Z,6.4nm,1.1s					
G23K	Bananza Creek	77.21	359	IAmb	IAmb	21 18 42.9
	comp=Z,3.4nm,0.8s					
H29M	Whitestone	77.22	355	P	P	21 18 39.9 -0.1
H29M				IAmb	IAmb	21 18 41.9
	comp=Z,3.5nm,0.9s					
H31M	Peel River	77.28	353	P	P	21 18 39.5 -0.8
H31M				IAmb	IAmb	21 18 50.6
	comp=Z,4.2nm,1.1s					
G21K	Allakaket	77.40	1	IAmb	IAmb	21 18 42.4
	comp=Z,8.9nm,1.0s					
H27K	Steamboat Moun	77.42	356	IAmb	IAmb	21 18 49.1
	comp=Z,5.2nm,1.1s					
G18K	Tagagawik	77.87	3	P	P	21 18 40.0 -3.6
G18K				IAmb	IAmb	21 18 45.8
	comp=Z,7.7nm,1.0s					
SSPA	Standing Stone	78.00	312	P	P	21 18 43.7 -1.1
I30M	Mount Dempster	78.04	354	IAmb	IAmb	21 18 45.4
	comp=Z,9.7nm,1.1s					
J30M	Hart River	78.67	353	IAmb	IAmb	21 18 59.5
	comp=Z,7.2nm,1.0s					
ILAR	Eielson Array	79.10	358	P	P	21 18 51.1 +0.8
	comp=Z,2.1nm,1.2s,baz=359,slow=5.8,SNR=6.5					
	comp=Z,2.1nm,1.2s					
CCB	Clear Creek Bu	79.25	358	IAmb	IAmb	21 19 07.3
	comp=Z,4.9nm,1.1s					
DAWY	Dawson	79.43	355	IAmb	IAmb	21 18 54.1
	comp=Z,4.7nm,1.0s					
ASAJ	Asahikawa	79.95	42	LR	LR	21 59 56.2
	comp=Z,55nm,19.3s,baz=328,slow=40					
MDP	Montagnes des	80.04	269	LR	LR	21 55 34.5
	comp=Z,43nm,18.4s,baz=84,slow=37					
MJAR	Matsushiro Arr	82.33	50	IAmb	IAmb	21 19 18.5
	comp=Z,3.2nm,1.0s					
MJAR	Matsushiro Arr	82.33	50	P	P	21 19 10.7 +2.5
	comp=Z,1.4nm,0.7s,baz=294,slow=5.1,SNR=5.0					
MJAR				LR	LR	21 59 41.8
	comp=Z,89nm,18.6s,baz=335,slow=39					
	comp=Z,1.4nm,0.7s					
BDFB	Brasilia	88.84	250	IAmb	IAmb	21 19 44.7
	comp=Z,4.7nm,0.9s					
BDFB	Brasilia	88.84	250	P	P	21 19 42.1 +1.3
	comp=Z,4.1nm,0.9s,baz=36,slow=0.7,SNR=5.0					
BDFB				LR	LR	22 00 23.7
	comp=Z,60nm,19.5s,baz=112,slow=36					
	comp=Z,4.1nm,0.9s					

ISK 24 21:10:09.1, 36.48N×28.71E, h2km, ML3.2/15
AFAD 24 21:10:09.8, 36.45N×28.73E, h6km±3km, ML3.3
THE 24 21:10:11.8, 36.N±3.×2.9E±., h5km±6km, M2.9/5, MLh2.9/5
ISC 24 21:10:10.3±1.1, 36.46N±0.02×28.70E±0.02, h3km±11km, n53, σ0.75/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.35	60	P	Pg	21 10 09.1	-8.1
FETY	Fethiye	0.35	60	P	Pg	21 10 06.7	-10
FETY				S	Sg	21 10 12.8	-8.9
DALY	Dalyan (Mula)	0.36	353	Pg	Pg	21 10 16.7	-0.6
DALY				Sg	Sg	21 10 22.5	+0.6
SABU	Mula-Dalaman	0.42	30	P	Pg	21 10 18.1	-0.3
SABU				S	Sg	21 10 23.8	-0.2
IZZE	Mula-Seydike	0.42	93	P	Pg	21 10 17.4	-1.0
TURN	Turunc	0.49	311	Pg	Pg	21 10 19.4	-0.3
TURN				Sg	Sg	21 10 26.9	+0.9
TURN	Turunc	0.49	311	P	Pg	21 10 20.1	+0.5
ARG	Arkhangelos	0.53	243	Pg	Pg	21 10 20.6	+0.2
ARG	Arkhangelos	0.53	243	P	Pg	21 10 19.6	-0.9
ARG				S	Sg	21 10 28.6	+1.3
CAME	Cameli-Denizli	0.68	45	Pg	Pg	21 10 22.9	-0.5
CAME				Sg	Sg	21 10 33.1	+0.8
YER	Yerkesik	0.75	333	Pg	Pg	21 10 24.3	-0.5
YER	Yerkesik	0.75	333	P	Pg	21 10 25.9	+1.1
YER				S	Sb	21 10 37.0	+0.1
AKAS	Kas	0.76	107	Pg	Pg	21 10 24.8	-0.2
AKAS				Sg	Sg	21 10 36.2	+1.4
AKAS	Kas	0.76	107	P	Pg	21 10 24.7	-0.2
KSL	Kastellorizon	0.78	113	P	Pg	21 10 24.7	-0.5
KSL				S	Sb	21 10 38.7	+1.4
KNIK	Mula-Seydike	0.80	61	P	Pg	21 10 25.1	-0.5
MULA	Mugla, Merkez-	0.85	339	P	Pg	21 10 26.4	-0.3
DNZT	Denizli-Tavas-	0.86	17	P	Pg	21 10 28.2	+1.4
DNZT				S	Sg	21 10 39.2	+1.3
DAT	Datca	0.94	287	Pg	Pg	21 10 28.1	-0.4
DAT				Sg	Sb	21 10 42.2	-0.2
DEMR	Demre-Antalya	0.99	103	Pg	Pg	21 10 28.9	-0.5
ELL	Elmali	1.01	73	Pg	Pg	21 10 29.3	-0.4
TAVA	DENIZLI_Tavas	1.02	9	P	Pg	21 10 29.1	-0.8
TAVA				S	Sg	21 10 44.0	+0.9
YAZI	Mula-Dat§a-	1.03	283	P	Pg	21 10 29.4	-0.7
GOLH	Golhisar	1.04	41	P	Pg	21 10 29.4	-0.8
APMY	Acipayam-Deniz	1.12	25	Pn	Pb	21 10 31.1	-1.3
MLSB	Milas	1.12	319	Pn	Pb	21 10 31.2	-1.1
BDRM	Kayabasi	1.18	301	P	Pb	21 10 32.8	-0.5
DNIZ	Denizli-Tavas-	1.19	13	P	Pb	21 10 33.0	-0.6
DNIZ				S	Sb	21 10 48.5	-1.1
DNIZ				iIAML		21 10 53.0	
	comp=N,446nm,0.2s						
DNIZ				iIAML		21 10 54.0	
	comp=E,736nm,0.2s						
BODT	Bodrum	1.27	299	Pn	Pn	21 10 34.1	-0.9
BODT	Bodrum	1.27	299	P	Pg	21 10 35.6	+0.9
BODT				S	Sn	21 10 53.1	+0.5
YKAV	Yalikavak-Bodr	1.32	301	Pn	Pn	21 10 35.2	-0.5
AKUM	Antalya-Kumluc	1.33	95	P	Pn	21 10 35.9	+0.2
ESEN	Aydn-Nazilli	1.36	348	P	Pn	21 10 35.6	-0.7
AYDN	Tasoluk

TIR	Tirane	0.96	234	*i* Pg		Pg	21 10 29.9	0.0
PVY	Plav	0.96	315	⇓*i* Pg		Pg	21 10 29.0	-1.1
PVY				*i* Sg		Sb	21 10 43.0	-0.6
BARS	Barje	1.13	37	*i* Pg		Pb	21 10 33.2	-0.2
BARS				*i* Sg		Sb	21 10 48.5	+0.2
ULC	Ulcinj	1.23	273	⇑*i* Pg		Pb	21 10 34.1	-0.9
ULC				*i* Sg		Sn	21 10 52.9	+1.0
DRME	Dracevica, Mon	1.30	282	⇓*i* Pg		Pn	21 10 35.5	-0.5
DRME				*i* Sg		Sn	21 10 54.4	+0.8
PDG	Podgorica	1.32	293	⇑*i* Pg		Pn	21 10 35.6	-0.7
PDG				*i* Sg		Sn	21 10 54.7	+0.7
KOME	Kolasin	1.38	313	⇓*i* Pg		Pn	21 10 36.5	-0.7
KOME				*i* Sg		Sg	21 10 57.3	+1.4
VAY	Valandovo	1.40	115	*i* Pg		Pn	21 10 36.9	-0.5
VAY				*i* Sg		Sb	21 10 55.2	-0.7
VAY				*e*Lg		Lg	21 10 55.6	
	comp=N,163nm,0.7s							
VAY				*e*Lg		Lg	21 10 56.1	
	comp=Z,43nm,0.5s							
BUM	Brajici-Budva	1.53	285	⇑*i* Pg		Pg	21 10 41.5	+0.6
BUM				*i* Sg		Sg	21 11 03.2	+2.4
CEME	Cevo	1.59	294	⇓*i* Pg		Pn	21 10 40.1	0.0
CEME				*i* Sg		Sg	21 11 04.4	+1.7
NKME	Niksic	1.67	301	⇓*i* Pn		Pn	21 10 41.3	+0.2
NKME				*i* Sn		Sg	21 11 07.2	+2.1
KNT	Kendrikon	1.69	116	*i* Pn		Pb	21 10 42.5	-0.4
PLE	Pljevlja	1.79	322	⇓*i* Pn		Pn	21 10 43.1	+0.2
PLE				*i* Sn		Sg	21 11 10.0	+0.9
HCY	Herceg Novi	1.86	287	⇑*i* Pn		Pg	21 11 46.4	-0.7
HCY				*i* Sn		Sg	21 11 12.4	+1.2
UPM	Unac-Piva	1.95	312	⇓*i* Pn		Pb	21 10 46.3	-1.1
UPM				*i* Sn		Sg	21 11 13.6	-0.5
BRY	Bratogost	2.00	300	⇓*i* Pn		Pb	21 10 47.3	-0.9
BRY				*i* Sn		Sg	21 11 15.2	-0.5
THE	Thessaloniki	2.03	129	*i* Pn		Pn	21 10 46.7	+0.7
SOH	Sokhos	2.16	120	*i* Pn		Pn	21 10 48.1	+0.3

GCG 24 21:14:06.3±0.6, 14°.35N×91°.63W, h62km±5km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.26	71	*e*P	Pn	21 14 17.7	+1.2
STG2				*e*S	Sn	21 14 26.5	+2.6
SOKI	Kika Raxquin	0.52	25	*e*P	Pn	21 14 20.0	+1.0
SOKI				*e*S	Sn	21 14 30.5	+2.3
SMCA	Catarina	0.66	319	*e*P	Pn	21 14 20.3	+0.1
SMCA				*e*S	Sn	21 14 30.7	+0.3
ESSG	Sabana Grande	0.78	87	*e*P	Pn	21 14 21.7	+0.1
FG8	Yepocapa, Chim	1.04	95	*e*P	Pn	21 14 20.8	-4.3
FG16	Alotenango, Sa	1.09	94	*e*P	Pn	21 14 22.0	-3.7
APG	El Apazote	1.30	60	*e*P	Pn	21 14 29.8	+1.2

*SNET **24** 21:21:48.5±1.9, 12°.91N×89°.53W, h25km, ML4.3*
*CATAC **24** 21:21:49.4±0.4, 13°.N±2°×.8°.9W±°, h28km±2km, M4.3/25, MLv4.3/25, Error ellipse: s-maj=4.9km s-min=2.7km az=37.2, confirmed*
*GCG **24** 21:21:51.1±0.8, 13°.07N×89°.51W, h50km±9km, MD4.5*
*IDC **24** 21:21:52.2±2.3, 13°.36N×89°.17W, h69km±21km, mb3.2/2, mbtmp3.7/4, Error ellipse: s-maj=57.0km s-min=22.2km az=41.0*

ISC 24 21:21:49.4±1.2, 12°.95N±0°.06×89°.50W±0°.04, h49km±11km, n91, σ1§08/113, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.56	18	*e*P	Pn	21 22 01.9	+0.5
LALI				*e*S	Sn	21 22 10.9	+0.9
LALI	Alcalda de L	0.56	18	*e*P	Pn	21 22 01.9	+0.5
LALI				*e*S	Sn	21 22 09.9	-0.1
LALI	Alcalda de L	0.56	18	P	Pn	21 22 01.9	+0.5
JAYA	Jayaque - finc	0.70	4	*i* P	Pn	21 22 03.5	+0.2
JAYA				*e*S	Sn	21 22 12.6	-0.9
JAYA	Jayaque - finc	0.70	4	*i* P	Pn	21 22 03.5	+0.2
JAYA				*e*S	Sn	21 22 12.4	-1.1
JAYA	Jayaque - finc	0.70	4	P	Pn	21 22 03.5	+0.2
JAYA	Jayaque - finc	0.70	4	S	Sn	21 22 13.5	0.0
PANCS	Alcalda de	0.73	25	P	Pn	21 22 03.7	+0.1
PANCS	Alcalda de	0.73	25	S	Sn	21 22 14.3	+0.5
LOMA	Loma Larga	0.76	25	*e*P	Pn	21 22 04.4	+0.3
LOMA				*e*S	Sn	21 22 15.9	+1.1
LOMA	Loma Larga	0.76	25	P	Pn	21 22 04.3	+0.3
PMON	Piamonte	0.78	13	*e*P	Pn	21 22 04.3	0.0
LFRS	El Faro	0.79	32	*e*P	Pn	21 22 04.9	+0.4
UTEC	Universidad Te	0.80	21	P	Pn	21 22 05.1	+0.5
UTEC	Universidad Te	0.80	21	S	Sn	21 22 16.4	+0.8
UEES	Universidad Ev	0.81	18	*e*P	Pn	21 22 05.0	+0.3
UEES				*e*S	Sn	21 22 16.5	+0.8
UEES	Universidad Ev	0.81	18	P	Pn	21 22 05.0	+0.3
BOQS	Boqueron	0.81	15	⇑*i* P	Pn	21 22 05.3	+0.4
IGN	Direccin Gen	0.83	23	P	Pn	21 22 05.3	+0.5
IGN	Direccin Gen	0.83	23	S	Sn	21 22 17.0	+0.8
PIC2	El Picacho	0.83	16	*e*P	Pn	21 22 05.7	+0.7
UDBS	Universidad Do	0.83	23	S	Sn	21 22 17.2	+1.1
UDBS	Universidad Do	0.83	23	P	Pn	21 22 05.6	+0.7
CEDA	San Andres	0.86	7	*e*P	Pn	21 22 05.6	+0.3
CEDA				*e*S	Sn	21 22 17.6	+0.7
CEDA	San Andres	0.86	7	P	Pn	21 22 05.5	+0.3
LFU	La Fuente	0.88	25	*e*P	Pn	21 22 06.2	+0.6
CEVE	Cerro Verde	0.88	352	*i* P	Pn	21 22 06.2	+0.4
CEVE				*e*S	Sn	21 22 19.0	+1.2
CEVE	Cerro Verde	0.88	352	P	Pn	21 22 06.2	+0.4
SBLS	San Blas	0.90	352	*e*P	Pn	21 22 06.3	+0.3
SBLS				*e*S	Sn	21 22 18.6	+0.6
LBRS	Las Brisas	0.90	29	⇑*i* P	Pn	21 22 06.7	+0.8
TECO	Alcaldia de Te	0.91	50	*e*P	Pn	21 22 05.9	0.0
TECO				*e*S	Sn	21 22 18.2	+0.1
TECO	Alcaldia de Te	0.91	50	P	Pn	21 22 06.0	0.0
SNVI	San Vicente	0.92	44	*e*P	Pn	21 22 06.5	+0.3
SNJE	San Jose	0.92	353	*e*P	Pn	21 22 06.7	+0.4
PAVA	Las Pavas	0.94	35	*e*P	Pn	21 22 06.9	+0.5
PAVA				*e*S	Sn	21 22 19.8	+1.0
PAVA	Las Pavas	0.94	35	P	Pn	21 22 06.9	+0.5
UESV	Universidad de	0.97	45	P	Pn	21 22 07.1	+0.4
UESV	Universidad de	0.97	45	S	Sn	21 22 20.1	+0.5
NUBE	Las Nubes	0.99	344	*e*P	Pn	21 22 07.3	+0.2
NUBE				*e*S	Sn	21 22 20.2	0.0
NUBE	Las Nubes	0.99	344	*i* P	Pn	21 22 07.3	+0.2
NUBE				*e*S	Sn	21 22 20.1	0.0
NUBE	Las Nubes	0.99	344	P	Pn	21 22 07.3	+0.2
FAME	Alcaldia de Sa	1.02	331	P	Pn	21 22 07.6	+0.1
FAME	Alcaldia de Sa	1.02	331	S	Sn	21 22 21.2	+0.4
UNIC	Universidad Ca	1.03	357	P	Pn	21 22 08.3	+0.7
UNIC	Universidad Ca	1.03	357	S	Sn	21 22 22.4	+1.4
SCLA	Alcaldia de Sa	1.06	45	S	Sn	21 22 23.0	+1.3
SCLA	Alcaldia de Sa	1.06	45	P	Pn	21 22 08.5	+0.5
LOAL	Lomas de Alarc	1.08	345	P	Pn	21 22 08.9	+0.7
LOAL	Lomas de Alarc	1.08	345	S	Sn	21 22 24.3	+2.1
TECA	Tecapa	1.11	61	*e*P	Pn	21 22 09.3	+0.5
PQSS	Presa 15 de Se	1.13	53	*e*P	Pn	21 22 09.4	+0.5
PQSS				*e*S	Sn	21 22 24.4	+1.0
PQSS	Presa 15 de Se	1.13	53	P	Pn	21 22 09.9	+1.0
PACA	Pacayal	1.25	65	*e*P	Pn	21 22 11.7	+1.0
PACA				*e*S	Sn	21 22 28.2	+1.6
PACA	Pacayal	1.25	65	P	Pn	21 22 11.7	+1.0
PACA	Pacayal	1.25	65	S	Sn	21 22 27.8	+1.2
BLLM	Bellamira	1.32	68	*e*P	Pn	21 22 12.4	+0.9
MTO3	Montecristo	1.45	5	*e*P	Pn	21 22 13.8	+0.4
MTO3	Montecristo	1.45	5	P	Pn	21 22 13.9	+0.4
MTO3	Montecristo	1.45	5	S	Sn	21 22 32.2	+0.8
LCND	La Caada	1.60	77	*e*P	Pn	21 22 16.6	+1.2
LCND	La Caada	1.60	77	P	Pn	21 22 16.5	+1.2
LCND	La Caada	1.60	77	S	Sn	21 22 36.7	+1.8
ESQI	Esquipulas	1.61	5	S	Sn	21 22 37.1	+1.9
ESQI	Esquipulas	1.61	5	P	Pn	21 22 16.2	+0.6
FG16	Alotenango, Sa	1.65	323	*e*P	Pn	21 22 21.7	+5.5
CNCH	Conchagua	1.65	78	*e*P	Pn	21 22 16.7	+0.6
CNCH				*e*S	Sn	21 22 37.1	+0.9
MARCA	Marcala la Paz	1.86	50	*e*P	Pn	21 22 19.5	+0.5
MARCA	Marcala la Paz	1.86	50	S	Sn	21 22 42.8	+1.4
MARCA	Marcala la Paz	1.86	50	P	Pn	21 22 19.5	+0.5
CSGN	Cosiguina Volc	1.89	89	P	Pn	21 22 19.5	+0.2
CSGN				S	Sn	21 22 43.4	+1.4
ESSG	Sabana Grande	1.93	318	*e*P	Pn	21 22 20.3	+0.4
POTN	Potosi Cosigui	1.94	88	P	Pn	21 22 21.2	+1.3
POTN				S	Sn	21 22 44.3	+1.2
SARH	Santa Rosa de	1.95	21	*e*P	Pn	21 22 21.2	+1.0
SARH	Santa Rosa de	1.95	21	S	Sn	21 22 44.7	+1.1
SARH	Santa Rosa de	1.95	21	P	Pn	21 22 21.1	+1.0
APG	El Apazote	2.25	335	P	Pn	21 22 21.4	+1.0
	1.7nm,0.2s,baz=140,slow=9.8,SNR=24						
APG				S	Sn	21 22 56.2	+5.1
	6.3nm,0.4s,baz=87,slow=16,SNR=6.2						
APG	El Apazote	2.25	335	*i* P	Pn	21 22 25.4	+1.0
STG2	El Palmar, Qui	2.35	309	*e*P	Pn	21 22 32.0	+6.3
CRIN	San Cristobal	2.40	96	P	Pn	21 22 27.4	+1.1
CRIN	San Cristobal	2.40	96	S	Sn	21 22 55.6	+1.0
PKGN	Cerro Pekin	2.47	96	P	Pn	21 22 28.0	+0.7
PKGN				S	Sn	21 22 57.0	+0.8
POLN	Al Sur del Vol	2.63	96	P	Pn	21 22 29.7	+0.2
POLN				S	Sn	21 23 00.0	-0.2
CNGA	Al SSO del Vol	2.76	99	P	Pn	21 22 31.8	+0.5
CNGA				S	Sn	21 23 03.4	-0.1
COPN	Copaltepe	2.94	105	P	Pn	21 22 35.0	+1.4
JTS	Las Juntas de	5.17	120	P	Pn	21 23 06.8	+2.5
	14nm,0.3s,baz=307,slow=11,SNR=14						
JTS				S	Sn	21 23 59.4	-3.4
	16nm,0.4s,baz=256,slow=12,SNR=4.2						
CMIG	Matias Romero	6.64	309	P	Pn	21 23 25.5	+1.1
	2.5nm,0.3s,baz=114,slow=13,SNR=18						
CMIG				S	Sn	21 24 38.4	-0.4
	12nm,0.5s,baz=72,slow=9.9,SNR=6.5						
TXAR	Lajitas Array	20.95	323	P	P	21 26 28.7	+0.3
	1.1nm,0.4s,baz=138,slow=7.5,SNR=15						
	1.1nm,0.4s						
PDAR	Pinedale Array	34.41	333	P	P	21 28 31.6	-0.7
	0.2nm,0.5s,baz=134,slow=11,SNR=4.3						
	0.2nm,0.5s						
SCHQ	Schefferville	45.41	18	P	P	21 29 59.5	-3.6
	73nm,1.1s,baz=222,slow=4.9,SNR=2.1						
WRA	Warramunga Arr	137.48	255	PKP	PKPdf	21 41 09.0	+0.4
	0.3nm,0.6s,baz=94,slow=3.9,SNR=2.0						
CMAR	Chiang Mai Arr	147.70	345	PKPbc	PKPdf	21 41 28.2	+1.5
	1.2nm,0.7s,baz=340,slow=3.9,SNR=6.2						

*ISK **24** 21:37:07.6, 36°.45N×28°.68E, h5km, ML3.0/20*
*IDC **24** 21:37:07.3±1.9, 36°.33N×28°.79E, h0km, mb3.7/1, mbtmp3.3/5, ML3.1/3, MS2.6/2, Error ellipse: s-maj=33.5km s-min=21.2km az=160.0*
*AFAD **24** 21:37:08.6, 36°.45N×28°.70E, h7km±3km, ML3.0*
*ATH **24** 21:37:08.4, 36°.43N×28°.70E, h10km±2km, ML2.8/7, Manual Solution by M.Kolligri First location: 2019/10/24 21:38:46, This location: 2020/07/06 05:47:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **24** 21:37:10.2, 36°.N±.9°×.2°.9E±°, h15km±10km, M2.7/6, MLh2.7/6*

ISC 24 21:37:08.3±0.7, 36°.46N±0°.02×28°.73E±0°.02, h10km, n66, σ1§58/86, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.34	59	P	Pg	21 37 08.0	-7.0
FETY				S	Sg	21 37 11.8	-7.7
FETY	Fethiye	0.34	59	P	Pg	21 37 06.0	-9.0
FETY				S	Sg	21 37 11.8	-7.7
DALY	Dalyan (Mula)	0.36	351	Pg	Pg	21 37 15.6	+0.2
DALY				Sg	Sb	21 37 22.3	-0.2
IZZE	Mula-Seydike	0.40	94	P	Pg	21 37 16.7	+0.4
IZZE				S	Sb	21 37 22.9	-0.9
IZZE				*i* IAML		21 37 25.0	
	comp=E,1μm,0.4s						
IZZE				*i* IAML		21 37 28.0	
	comp=N,3μm,0.3s						
RDI1	Rhodes Town Ha	0.41	268	P	Pg	21 37 15.7	-0.6
RDI1				S	Sg	21 37 21.0	-0.7
RODB	Rodos	0.41	268	P	Pg	21 37 16.0	-0.4
RODB				S	Sg	21 37 21.5	-0.3
SABU	Mula-Dalaman	0.41	29	P	Pb	21 37 17.2	-0.5
SABU				S	Sb	21 37 23.4	-0.6
TURN	Turunc	0.50	309	Pg	Pg	21 37 18.1	0.0
TURN				Sg	Sb	21 37 25.8	-0.7
TURN	Turunc	0.50	309	P	Pg	21 37 18.0	0.0
ARG	Arkhangelos	0.54	243	Pg	Pg	21 37 18.7	-0.2
ARG				Sg	Sb	21 37 26.8	-1.0
ARG	Arkhangelos	0.54	243	P	Pg	21 37 18.6	-0.3
ARG				S	Sb	21 37 27.1	-0.8
ARG	Arkhangelos	0.54	243	P	Pg	21 37 18.4	-0.5
ARG				S	Sg	21 37 25.5	-0.6
CAME	Cameli-Denizli	0.67	44	Pg	Pb	21 37 21.9	-0.3
AKAS	Kas	0.75	108	Pg	Pb	21 37 23.8	+0.3
AKAS	Kas	0.75	108	P	Pb	21 37 23.3	-0.2
AKAS				S	Sn	21 37 35.4	-1.2
AKAS				*i* IAML		21 37 41.0	
	comp=N,580nm,0.4s						
AKAS				*i* IAML		21 37 41.0	
	comp=E,509nm,0.4s						
YER	Yerkesik	0.76	332	Pg	Pb	21 37 23.4	-0.3
YER	Yerkesik	0.76	332	P	Pn	21 37 25.0	-0.2
YER				S	Sn	21 37 36.5	-0.2
KSL	Kastellorizon	0.76	114	P	Pb	21 37 23.7	0.0
KSL				S	Sn	21 37 37.7	+1.0
KSL	Kastellorizon	0.76	114	P	Pb	21 37 23.4	-0.3
KSL				S	Sb	21 37 33.8	-0.3
RGE1	Gennadi, Rhode	0.78	236	P	Pg	21 37 22.4	-0.9
RGE1				S	Sg	21 37 32.4	-1.0
KNIK	Mula-Seydike	0.78	61	P	Pb	21 37 23.9	-0.2
KNIK				S	Sb	21 37 35.7	+0.9
CAEL	Denizli, Camel	0.81	36	P	Pn	21 37 26.8	+0.8
CAEL				S	Sb	21 37 35.3	-0.5
DNZT	Denizli-Tavas-	0.85	16	P	Pn	21 37 26.0	-0.4
MULA	Mugla, Merkez-	0.85	338	P	Pn	21 37 26.0	-0.5
DATC	Datca-Mugla	0.91	289	Pg	Pb	21 37 25.7	-0.5
DAT	Datca	0.96	286	Pg	Pg	21 37 26.4	-0.5
DEMR	Demre-Antalya	0.98	103	Pg	Pn	21 37 28.1	-0.1
ELL	Elmali	0.99	73	Pg	Pn	21 37 28.7	+0.2
TAVA	DENIZLI_Tavas	1.01	8	P	Pn	21 37 28.2	-0.5
GOLH	Golhisar	1.02	41	P	Pn	21 37 28.4	-0.5
YAZI	Mula-Dat§a-	1.05	282	P	Pb	21 37 28.1	-0.5
APMY	Acipayam-Deniz	1.11	24	Pn	Pn	21 37 30.5	+0.5
MLSB	Milas	1.13	318	Pn	Pn	21 37 30.2	0.0
DNIZ	Denizli-Tavas-	1.19	12	P	Pg	21 37 31.5	+0.4
BDRM	Kayabasi	1.19	301	P	Pg	21 37 31.7	+0.5
BODT	Bodrum	1.28	298	Pn	Pg	21 37 32.8	-0.2
BODT	Bodrum	1.28	298	P	Pg	21 37 33.8	+0.8
BODT				S	Sn	21 37 51.8	+2.1
AKUM	Antalya-Kumluc	1.31	96	P	Pg	21 37 34.9	+1.3
YKAV	Yalikavak-Bodr	1.33	300	Pn	Pg	21 37 33.6	-0.4
ESEN	Aydn-Nazilli	1.36	347	P	Pg	21 37 34.8	+0.2
AYDN	Tasoluk	1.37	331	P	Pg	21 37 35.1	+0.3
KORT	Korkueli	1.41	67	Pn	Pg	21 37 36.3	+0.9
KORT	Korkueli	1.41	67	P	Pg	21 37 37.6	+2.1
INCE	Denizli-Bozkur	1.42	28	P	Pg	21 37 36.7	+1.2
KEMT	Kemer-ANTALYA	1.48	84	Pn	Pg	21 37 37.1	+0.3
KLNA	Kalymnos	1.49	290	P	Pn	21 37 34.9	-0.3
NAZL	Nazilli-Aydin	1.54	347	Pn	Pg	21 37 37.6	-0.2
KARP	Karpathos	1.56	235	P	Pg	21 37 37.3	-1.1
KARP				S	Sg	21 37 59.4	+0.7
KARP	Karpathos	1.56	235	P	Pn	21 37 35.7	-0.6
KARP				S	Sb	21 37 56.8	-0.5
ANTB	Antalya	1.61	74	Pn	Pg	21 37 38.9	-0.3
AYDB	Zeytinkoy-Aydi	1.62	336	Pn	Pb	21 37 38.5	0.0
BRDR	BURDUR-Merkez	1.63	41	P	Pg	21 37 40.1	+0.4
KIRA	zmir-Kiraz	1.75	352	P	Pb	21 37 40.5	-0.1
BASM	Basmaki-Afyon	1.80	36	Pn	Pb	21 37 41.4	0.0
SMG	Samos	1.96	310	P	Pn	21 37 42.2	+0.6
SMG	Samos	1.96	310	P	Pn	21 37 41.9	+0.3
ISP	Isparta	1.98	46	P	Pb	21 37 43.9	-0.6
KRL1	Karlovasi Samo	2.09	310	P	Pb	21 37 44.8	-1.6
BLCB	Balcova	2.34	326	P	Pb	21 37 48.4	-2.2
SNT5	Nea Kammeni, S	2.69	270	P	Pn	21 37 52.0	+0.4
IDI	Anoyia	3.33	250	Pn	Pn	21 38 01.6	+1.0
	5.4nm,0.3s,baz=72,slow=3.9,SNR=19						
IDI				Sn	Sn	21 38 40.5	+0.4
	2.5nm,0.3s,baz=312,slow=1.9,SNR=7.9						
BRTR	Keskin Array B	5.06	48	Pn	Pn	21 38 26.8	+2.4
	0.2nm,0.3s,baz=235,slow=12,SNR=5.3						
BRTR				Sn	Sn	21 39 28.7	+5.7
	0.2nm,0.3s,baz=219,slow=26,SNR=5.3						
BRTR				LR	LR	21 40 30.1	
	comp=Z,27nm,19.6s,baz=314,slow=40						
	0.6nm,0.5s						
MMAI	Mount Meron Ar	6.48	120	Pn	Pn	21 38 42.9	-1.1
	1.0nm,0.3s,baz=300,slow=13,SNR=6.0						
	0.5nm,0.2s						
GNI	Garni	13.11	69	LR	LR	21 46 35.6	
	comp=Z,47nm,18.5s,baz=137,slow=43						
GERES	GERESS Array B	16.55	323	Pn	P	21 41 05.7	+2.6
	baz=155,slow=14,SNR=4.1						
	0.3nm,0.4s						
FINES	FINESS Array B	25.06	357	P	P	21 42 33.0	+0.4
	1.3nm,0.8s,baz=157,slow=10,SNR=4.5						
	1.3nm,0.8s						

*IDC **24** 22:03:43.5±0.8, 42°.20N×86°.88E, h0km, mb3.8/13, mbtmp3.8/19, ML3.3/6, MS3.0/1, Error ellipse: s-maj=23.2km s-min=12.6km az=52.0*
*NNC **24** 22:03:47.6±2.6, 42°.27N×86°.60E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=19.6km s-min=16.3km az=135.0*

ISC 24 22:03:46.5±0.8, 42°.28N±0°.08×86°.95E±0°.08, h20km, n28, σ1§92/32, mb3.8/12, 10C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	5.59	283	⇑Pn	Pn	22 05 10.1	+1.5
	1.6nm,0.2s						
PDGK				⇑Sn	Sn	22 06 10.6	-1.6
	22nm,0.7s						
PDGK				⇑Lg	Lg	22 06 38.7	
	171nm,0.9s						
MK31	Makanchi Array	5.61	325	⇑Pn	Pn	22 05 11.3	+2.5
	2.1nm,0.3s,baz=145,slow=15,SNR=110						
MK31				⇑Sn	Sn	22 06 16.6	+4.1
	2.0nm,0.3s						
MK31				⇑Lg	Lg	22 06 38.3	
	17nm,0.6s,baz=136,slow=29,SNR=5.6						
MKAR	Makanchi Array	5.61	325	Pn	Pn	22 05 10.1	+1.4
	1.5nm,0.3s,baz=138,slow=13,SNR=68						
MKAR				Sn	Sn	22 06 14.6	+2.1
	2.8nm,0.3s,baz=155,slow=11,SNR=5.2						
MKAR				Lg	Lg	22 06 33.6	
	4.2nm,0.3s,baz=144,slow=28,SNR=6.7						
	1.9nm,0.3s						
MAKZ	Makanchi	5.75	324	⇑Pn	Pn	22 05 13.3	+2.6
	5.9nm,0.8s						
MAKZ				⇓Sn	Sn	22 06 18.8	+2.7
	4.7nm,0.5s						
MAKZ				⇓Lg	Lg	22 06 44.0	
	11nm,0.5s						
AAK	Ala-Archa	9.22	276	Pn	Pn	22 05 59.3	+0.9
	0.2nm,0.3s,baz=69,slow=8.6,SNR=2.2						
AAK				Lg	Lg	22 08 27.6	
	0.3nm,0.3s,baz=139,slow=20,SNR=1.4						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	10.16	328	Pn	Pn	22 06 11.1	0.0
	0.1nm,0.3s,baz=136,slow=13,SNR=9.9						
KURBB				Sn	Sn	22 08 00.6	-3.7
	baz=109,slow=28,SNR=1.4						
KURBB				Lg	Lg	22 09 04.6	
	0.2nm,0.3s,baz=140,slow=30,SNR=5.6						
KURBB				LR	LR	22 10 13.0	
	comp=Z,78nm,18.9s,baz=196,slow=38						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	10.16	328	⇓Pn	Pn	22 06 11.0	0.0
	1.7nm,0.7s						
KURBB				⇓Lg	Lg	22 09 06.6	
	16nm,0.7s						
KURK	Kurchatov	10.20	329	⇑Pn	Pn	22 06 12.7	+1.0
	1.4nm,1.4s						
KURK				⇑Lg	Lg	22 09 07.3	
	6.9nm,1.1s						
ZAA0	Zalesovo Array	11.76	354	⇓Pn	Pn	22 06 33.1	+0.1
	0.3nm,0.5s						
ZALV	Zalesovo Beam	11.76	354	Pn	Pn	22 06 32.5	-0.5
	0.6nm,0.3s,baz=172,slow=13,SNR=16						
ZALV				Sn	Sn	22 08 38.5	-5.0
	1.6nm,0.3s,baz=173,slow=26,SNR=14						
ZALV				Lg	Lg	22 09 59.4	
	baz=178,slow=23						
	2.9nm,0.5s						
KK31	Karatay Array	12.13	279	⇑Lg	Lg	22 10 08.0	
	1.8nm,0.8s,baz=78,slow=30,SNR=3.7						
SONM	Songino Array	14.81	61	Pn	Pn	22 07 15.6	+0.9
	0.3nm,0.3s,baz=270,slow=12,SNR=3.0						
SONM				Lg	Lg	22 11 34.7	
	0.1nm,0.3s,baz=255,slow=28,SNR=2.8						
	0.2nm,0.4s						
BVA0	Borovoye Array	15.45	320	⇓Lg	Lg	22 11 53.1	
	4.4nm,1.2s						
BVAR	Borovoye Array	15.45	320	Pn	Pn	22 07 20.8	-2.3
	0.1nm,0.3s,baz=124,slow=12,SNR=17						
	0.6nm,0.4s						
AKTO	Aktyubinsk	21.46	302	P	P	22 08 31.9	-1.6

5.3nm,0.7s,baz=17,slow=17,SNR=7.9
WRA Warramunga Arr 15.93 132 P Pn 22 14 14.9 -8.0
0.8nm,0.5s,baz=308,slow=12,SNR=9.7
WRA S Sn 22 17 00.3 -19
1.2nm,0.7s,baz=303,slow=23,SNR=5.1
ASAR Alice Springs 18.23 142 P Pn 22 14 45.2 -6.6
0.8nm,0.5s,baz=324,slow=12,SNR=18
ASAR S Sn 22 17 56.5 -18
0.5nm,0.6s,baz=316,slow=24,SNR=2.0
MKAR Makanchi Array 66.16 331 P P 22 21 18.0 -7.8
0.2nm,0.4s,baz=137,slow=7.0,SNR=1.4
0.2nm,0.4s
ZALV Zalesovo Beam 70.48 338 P P 22 21 43.5 -9.1
0.3nm,0.3s,baz=121,slow=5.6,SNR=2.0
0.3nm,0.3s

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*CATAC **24** 22:14:08.8±0.6, 13°.N±3°.×9°.1W±°., h23km±3km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=7.8km s-min=3.3km az=19.1, confirmed*
*SNET **24** 22:14:10.0±0.9, 13°.59N×90°.49W, h44km, ML3.3*
*GCG **24** 22:14:11.2±0.7, 13°.76N×90°.38W, h54km±83km, MD4.0, ML3.5*

ISC 24 22:14:07.3±1.8, 13°.57N±0°.07×90°.49W±0°.05, h11km±10km, n44, σ0°.54/52, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.54**	**59**	P	**Pn**	**22 14 21.3**	**+0.3**
FG8	**Yepocapa, Chim**	**0.69**	**355**	*e*P	Pn	22 14 27.8	+4.7
NUBE	**Las Nubes**	**0.77**	**64**	*e*P	**Pn**	**22 14 24.4**	**+0.2**
NUBE				*e*S	**Sn**	**22 14 35.7**	**-0.2**
NUBE	**Las Nubes**	**0.77**	**64**	*e*P	**Pn**	**22 14 24.4**	**+0.2**
NUBE				*e*S	**Sn**	**22 14 35.2**	**-0.7**
NUBE	**Las Nubes**	**0.77**	**64**	P	**Pn**	**22 14 24.4**	**+0.2**
LOAL	**Lomas de Alarc**	**0.81**	**58**	*e*P	**Pn**	**22 14 25.6**	**+0.8**
LOAL	**Lomas de Alarc**	**0.81**	**58**	S	**Sn**	**22 14 37.9**	**+1.0**
LOAL	**Lomas de Alarc**	**0.81**	**58**	P	**Pn**	**22 14 25.5**	**+0.8**
ESSG	**Sabana Grande**	**0.88**	**338**	*e*P	**Pn**	**22 14 26.5**	**+0.9**
ESSG				*e*S	**Sn**	**22 14 37.3**	**-1.1**
CEVE	**Cerro Verde**	**0.88**	**73**	*e*P	**Pn**	**22 14 26.4**	**+0.5**
CEVE				*e*S	**Sn**	**22 14 39.4**	**+0.5**
CEVE	**Cerro Verde**	**0.88**	**73**	P	**Pn**	**22 14 26.4**	**+0.5**
SBLS	**San Blas**	**0.89**	**72**	*e*P	**Pn**	**22 14 26.2**	**+0.2**
SBLS				*e*S	**Sn**	**22 14 39.0**	**0.0**
RBDL	**Robledal**	**0.95**	**55**	*e*P	**Pn**	**22 14 27.5**	**+0.7**
RBDL				*e*S	**Sn**	**22 14 41.2**	**+0.8**
UNIC	**Universidad Ca**	**1.01**	**66**	P	**Pn**	**22 14 28.2**	**+0.8**
UNIC	**Universidad Ca**	**1.01**	**66**	S	**Sn**	**22 14 42.0**	**+0.4**
JAYA	**Jayaque - finc**	**1.02**	**85**	*e*P	**Pn**	**22 14 27.8**	**+0.1**
JAYA				*e*S	**Sn**	**22 14 41.4**	**-0.7**
JAYA	**Jayaque - finc**	**1.02**	**85**	*e*P	**Pn**	**22 14 27.6**	**0.0**
JAYA				*e*S	**Sg**	**22 14 40.4**	**+0.1**
JAYA	**Jayaque - finc**	**1.02**	**85**	P	**Pn**	**22 14 27.7**	**+0.1**
CEDA	**San Andres**	**1.09**	**78**	S	**Sn**	**22 14 44.1**	**+0.3**
LALI	**Alcalda de L**	**1.14**	**94**	P	**Pg**	**22 14 29.3**	**0.0**
LALI	**Alcalda de L**	**1.14**	**94**	S	**Sg**	**22 14 44.8**	**+0.6**
PMON	**Piamonte**	**1.16**	**83**	*e*P	**Pg**	**22 14 29.7**	**+0.1**
PMON				*e*S	**Sg**	**22 14 45.1**	**+0.5**
PMON	**Piamonte**	**1.16**	**83**	P	**Pg**	**22 14 29.6**	**0.0**
UEES	**Universidad Ev**	**1.23**	**83**	S	**Sg**	**22 14 47.2**	**+0.2**
UEES	**Universidad Ev**	**1.23**	**83**	P	**Pb**	**22 14 30.6**	**0.0**
PANCS	**Alcalda de**	**1.28**	**88**	P	**Pb**	**22 14 31.4**	**0.0**
PANCS	**Alcalda de**	**1.28**	**88**	S	**Sn**	**22 14 48.2**	**-0.1**
LOMA	**Loma Larga**	**1.29**	**86**	S	**Sg**	**22 14 49.2**	**+0.3**
MTO3	**Montecristo**	**1.38**	**53**	*e*P	**Pb**	**22 14 33.2**	**0.0**
MTO3	**Montecristo**	**1.38**	**53**	P	**Pb**	**22 14 33.1**	**0.0**
MTO3	**Montecristo**	**1.38**	**53**	S	**Sg**	**22 14 51.9**	**+0.2**
LFRS	**El Faro**	**1.39**	**88**	*e*P	**Pb**	**22 14 33.8**	**+0.3**
ESQI	**Esquipulas**	**1.49**	**48**	P	**Pg**	**22 14 35.4**	**-0.6**
ESQI	**Esquipulas**	**1.49**	**48**	S	**Sg**	**22 14 54.9**	**-0.5**
RTAL	**Retalhuleu**	**1.50**	**309**	S	**Sb**	**22 14 54.2**	**-0.2**
PAVA	**Las Pavas**	**1.52**	**84**	S	**Sb**	**22 14 55.0**	**+0.1**
PAVA	**Las Pavas**	**1.52**	**84**	P	**Pb**	**22 14 35.1**	**-0.5**
UESV	**Universidad de**	**1.66**	**87**	S	**Sb**	**22 14 57.9**	**-1.0**
UESV	**Universidad de**	**1.66**	**87**	P	**Pb**	**22 14 36.9**	**-1.0**
TECO	**Alcaldia de Te**	**1.67**	**91**	P	**Pn**	**22 14 36.9**	**+0.5**
TECO	**Alcaldia de Te**	**1.67**	**91**	S	**Sb**	**22 14 58.1**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.72**	**85**	P	**Pn**	**22 14 37.8**	**+0.6**
PACA	**Pacayal**	**2.11**	**92**	P	**Pn**	**22 14 42.9**	**+0.2**
PACA	**Pacayal**	**2.11**	**92**	S	**Sn**	**22 15 09.7**	**+0.6**

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*IDC **24** 22:33:26.5±1.3, 2°.94S×138°.61E, h0km, mb3.7/3, mbtmp3.7/6, ML3.6/3, MS3.1/3, Error ellipse: s-maj=29.1km s-min=16.0km az=157.0*
*DJA **24** 22:33:30.2±1.1, 2°.5±11°.×13°.9E±°., h23km±8km, M4.0/5, mB5.8/2, mb4.9/2, MLv3.6/5, Mw(mB)5.3/2*

ISC 24 22:33:25.1±0.9, 2°.52S±0°.07×138°.36E±0°.06, h10km, n14, σ1°.40/10, mb3.8/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.63**	**33**	P	**Pb**	**22 33 38.6**	**+0.3**
SMPI				S	**Sg**	**22 33 44.5**	**-1.3**
GENI	**Genyem**	**1.81**	**92**	P	**Pb**	**22 33 59.1**	**+0.8**
JAY	**Jayapura**	**2.34**	**90**	Pn	**Pn**	**22 34 04.2**	**+0.5**
JAY				Lg	Lg	22 34 34.1	
JAY	**Jayapura**	**2.34**	**90**	P	**Pn**	**22 34 04.5**	**+0.8**
BAKI	**Biak**	**2.61**	**300**	P	**Pb**	**22 34 12.8**	**+0.7**
AAI	**Ambon**	**10.22**	**263**	P	Pn	22 36 03.0	+11
PMG	**Port Moresby**	**11.10**	**128**	LR	LR	22 41 39.6	
GUMO	**Guam**	**17.26**	**22**	LR	LR	22 44 25.9	
WRA	**Warramunga Arr**	**17.75**	**192**	P	**Pn**	**22 37 30.4**	**-2.2**
FITZ	**Fitzroy Crossi**	**19.88**	**218**	P	**P**	**22 37 58.1**	**+1.3**
ASAR	**Alice Springs**	**21.46**	**191**	P	**P**	**22 38 12.2**	**-1.7**
ASAJ	**Asahikawa**	**46.59**	**4**	LR	LR	23 00 48.4	
MKAR	**Makanchi Array**	**69.43**	**322**	P	P	22 44 39.5	+5.9
VNDA	**Vanda**	**76.00**	**175**	P	**P**	**22 45 12.8**	**+0.8**

comp=Z,3.0nm,0.4s,baz=308,slow=12,SNR=9.7
comp=Z,1.2nm,0.7s,baz=303,slow=23,SNR=5.1
comp=Z,0.5nm,0.6s,baz=324,slow=12,SNR=18
comp=Z,0.5nm,0.6s,baz=316,slow=24,SNR=2.0
comp=Z,0.2nm,0.4s,baz=137,slow=7.0,SNR=1.4
comp=Z,0.3nm,0.3s,baz=121,slow=5.6,SNR=2.0
comp=Z,3.0nm,0.3s
comp=Z,42nm,0.6s
comp=Z,3.1nm,0.6s,baz=258,slow=9.3,SNR=25
comp=Z,5.5nm,0.3s,baz=307,slow=20,SNR=5.0
comp=Z,0.8nm,0.4s
comp=Z,108nm,21.2s,baz=294,slow=46
comp=Z,46nm,18.0s,baz=106,slow=38
comp=Z,0.5nm,0.3s,baz=16,slow=12,SNR=12
comp=Z,1.1nm,0.7s
comp=Z,0.9nm,0.5s,baz=18,slow=12,SNR=15
comp=Z,23nm,18.1s,baz=164,slow=35
comp=Z,1.1nm,0.9s,baz=118,slow=6.6,SNR=4.9
comp=Z,0.4nm,0.5s,baz=328,slow=8.4,SNR=9.0
comp=Z,0.4nm,0.5s

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*NOU **24** 23:12:26.8, 17°.23S×175°.41W, h685km, mb4.7/15, Tonga Islands*
*IDC **24** 23:12:42.1±2.2, 18°.68S×177°.59W, h591km±25km, mb3.7/18, mbtmp4.6/19, Error ellipse: s-maj=14.6km s-min=13.2km az=148.0*
*NEIC **24** 23:12:45.1±1.6, 18°.70S±0°.09×177°.63W±0°.08, h621km±5km, mb4.5/68, Error ellipse: s-maj=15.2km s-min=7.9km az=218.0*

ISC 24 23:12:46.6±0.3, 18°.77S±0°.07×177°.68W±0°.07, h650km, n213, σ1°.16/212, mb4.4/52, 18C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.18**	**284**		**P**	**23 14 14.3**	**-2.8**
MSVF	**Nonsavu**	**4.18**	**284**	P	**P**	**23 14 14.4**	**-2.7**
FUTU	**Fugatoga**	**4.45**	**354**	P	P	23 14 14.1	-4.8
NIUE	**Niue**	**7.35**	**94**	P	**P**	**23 14 38.2**	**-3.7**
AFI	**Afiamalu**	**7.45**	**50**		**P**	**23 14 38.7**	**-4.3**
FUNA	**Funafuti**	**10.62**	**343**		**P**	**23 15 09.1**	**-3.4**
PINNC	**Pines Island,**	**14.43**	**252**	P	**P**	**23 15 47.3**	**-0.3**
SANVU	**Saraoutou**	**14.82**	**281**	P	**P**	**23 15 51.3**	**0.0**
DZM	**Mont Dzumac**	**15.24**	**255**	P	**P**	**23 15 53.2**	**-2.0**
ONTNC	**Ouen Toro**	**15.27**	**254**	P	**P**	**23 15 54.6**	**-0.8**
OUZ	**Omahuta**	**18.12**	**204**	P	**P**	**23 16 23.1**	**+2.0**
KUZ	**Kuaotunu**	**18.83**	**197**	P	**P**	**23 16 26.7**	**-0.8**
MXZ	**Matakaoa Point**	**19.05**	**190**	P	**P**	**23 16 29.1**	**-0.3**
MXZ	**Matakaoa Point**	**19.05**	**190**	P	**P**	**23 16 27.3**	**-2.2**
URZ	**Urewera**	**19.95**	**192**	P	**P**	**23 16 34.6**	**-2.9**
URZ				S	**S**	**23 19 37.7**	**-5.8**

comp=Z,6.6nm,0.8s,baz=314,slow=0.7,SNR=13
comp=Z,17nm,0.6s,baz=314,slow=19
comp=Z,39nm,1.1s
comp=Z,17nm,0.6s,baz=17,slow=19
comp=Z,7.6nm,0.8s,baz=12,slow=20,SNR=1.7
comp=Z,17nm,0.6s
comp=Z,3.9nm,0.6s,baz=95,slow=3.4,SNR=11
comp=Z,1.3nm,0.7s,baz=88,slow=16,SNR=9.4
comp=Z,23nm,0.6s
comp=Z,14nm,0.7s
comp=Z,25nm,0.9s
comp=Z,25nm,0.9s
comp=Z,0.5nm,0.6s,baz=344,slow=7.8,SNR=14
comp=Z,0.5nm,0.6s
comp=Z,27nm,1.2s
comp=Z,53nm,1.5s
comp=Z,34nm,1.3s
comp=Z,18nm,0.9s
comp=Z,18nm,1.2s
comp=Z,8.0nm,0.9s
comp=Z,7.6nm,1.0s
comp=Z,28nm,1.3s
comp=Z,38nm,1.5s
comp=Z,8.6nm,0.8s
comp=Z,19nm,1.0s,baz=86,slow=11,SNR=14
comp=Z,3.6nm,1.0s,baz=85,slow=7.7,SNR=3.1
comp=Z,19nm,1.0s
comp=Z,621nmcomp=Z,54nm,1.0s
comp=Z,14nm,0.6s
comp=Z,28nm,0.7s,baz=95,slow=8.4,SNR=175
comp=Z,3.8nm,0.7s,baz=95,slow=3.3,SNR=6.7
comp=Z,1.3nm,1.0s,baz=94,slow=13,SNR=4.6
comp=Z,28nm,0.7s
comp=Z,7.0nm,0.7s
comp=Z,23nm,0.6s,baz=93,slow=7.4,SNR=209
comp=Z,2.0nm,0.5s,baz=117,slow=1.9,SNR=17
comp=Z,1.1nm,0.6s,baz=94,slow=1.9,SNR=11
comp=Z,23nm,0.6s
comp=Z,25nm,0.8s
comp=Z,2.0nm,0.4s,baz=39,slow=1.8,SNR=6.6
comp=Z,2.7nm,0.6s,baz=46,slow=4.0,SNR=9.3
comp=Z,0.4nm,0.6s,baz=17,slow=2.6
comp=Z,1.0nm,0.7s,baz=14,slow=2.4,SNR=5.4
comp=Z,3.2nm,0.9s,baz=38,slow=7.3,SNR=6.4
comp=Z,1.0nm,0.8s,baz=72,slow=6.4,SNR=3.8
comp=Z,2.4nm,0.5s,baz=43,slow=4.1,SNR=11
comp=Z,0.6nm,0.4s,baz=112,slow=1.6,SNR=4.5
comp=Z,0.8nm,0.4s,baz=96,slow=13,SNR=1.7
comp=Z,0.8nm,0.4s
comp=Z,0.6nm,0.4s,baz=112,slow=1.6,SNR=4.5
comp=Z,0.8nm,0.4s,baz=248,slow=4.2,SNR=12
comp=Z,2.1nm,0.9s
comp=Z,2.2nm,0.6s,baz=157,slow=7.8,SNR=2.1
comp=Z,2.2nm,0.6s
comp=Z,130nm,0.5s
comp=Z,36nm,0.6s
comp=Z,1.3nm,0.6s,baz=193,slow=14,SNR=16
comp=Z,1.3nm,0.6s
comp=Z,2.6nm,0.7s,baz=109,slow=4.7,SNR=21
comp=Z,2.6nm,0.7s
comp=Z,4.2nm,0.4s
comp=Z,4.9nm,0.8s
comp=Z,6.8nm,1.0s
comp=Z,0.8nm,0.4s,baz=96,slow=13,SNR=1.7
comp=Z,0.8nm,0.4s
comp=Z,0.6nm,0.4s,baz=112,slow=1.6,SNR=4.5
comp=Z,1.1nm,0.6s,baz=94,slow=1.9,SNR=11
comp=Z,2.6nm,0.5s,baz=79,slow=2.5,SNR=16
comp=Z,1.3nm,0.3s,baz=76,slow=4.2,SNR=6.0
comp=Z,2.0nm,0.4s,baz=39,slow=1.8,SNR=6.6
comp=Z,2.7nm,0.6s,baz=46,slow=4.0,SNR=9.3
comp=Z,4.8nm,0.8s,baz=101,slow=1.5,SNR=28
comp=Z,0.4nm,0.5s,baz=43,slow=4.1,SNR=11
comp=Z,2.4nm,0.5s,baz=354,slow=2.9,SNR=21
comp=Z,4.9nm,0.6s,baz=354,slow=2.9,SNR=21
comp=Z,24nm,1.2s
comp=Z,2.0nm,0.5s,baz=89,slow=4.2,SNR=22
comp=Z,5.8nm,0.5s,baz=71,slow=5.2,SNR=22
comp=Z,3.4nm,0.7s,baz=51,slow=5.7,SNR=4.0
comp=Z,6.2nm,0.5s,SNR=6.1
comp=Z,2.9nm,0.5s,SNR=5.2
comp=Z,6.2nm,0.5s
comp=Z,6.3nm,0.4s
comp=Z,1.7nm,0.3s
comp=Z,2.6nm,0.7s
comp=Z,14nm,0.4s,SNR=6.7
comp=Z,3.3nm,0.4s,SNR=24
comp=Z,4.5nm,0.9s,baz=20,slow=3.3,SNR=24
comp=Z,4.2nm,0.6s,SNR=6.3
comp=Z,8.2nm,0.7s,SNR=7.1
comp=Z,4.5nm,0.9s,baz=243,slow=4.8,SNR=11
comp=Z,4.5nm,0.9s
comp=Z,21nm,1.4s
comp=Z,16nm,1.4s
comp=Z,5.0nm,0.7s
comp=Z,5.1nm,0.8s
comp=Z,4.5nm,0.9s
comp=Z,4.5nm,0.9s
comp=Z,2.2nm,1.5s
comp=Z,2.8nm,1.3s
comp=Z,9.2nm,1.4s
comp=Z,9.2nm,1.4s
comp=Z,9.4nm,1.0s
comp=Z,9.4nm,1.0s
comp=Z,7.1nm,1.4s
comp=Z,7.1nm,1.4s
comp=Z,9.4nm,1.0s
comp=Z,7.0nm,0.9s
comp=Z,7.0nm,0.9s
comp=Z,7.0nm,0.9

comp=Z,2.8nm,0.3s
MOSL Moslavina 150.67 339 *eP* **PKiKP 23 31 27.6 +0.1**
MYKA Terra Mystica 150.69 344 *eP*KP **PKbc 23 31 27.1 -0.1**
comp=Z,7.6nm,0.4s,SNR=5.6
SQTA Sankt Quirin 150.70 348 *eP*KP **PKiKP 23 31 27.9 +0.3**
comp=Z,12nm,0.6s,SNR=5.6
ABTA Abfaltersbach 150.86 346 *i* PKP **PKiKP 23 31 27.7 -0.2**
comp=Z,17nm,0.5s,SNR=11
DAVA Damuels 150.89 349 *eP*KP **PKiKP 23 31 28.6 +0.5**
comp=Z,3.3nm,0.4s
FETA Feichten 150.99 348 *i* PKP **PKiKP 23 31 28.7 +0.4**
comp=Z,5.0nm,0.6s
OZLJ Ozalj 151.09 341 *eP* **PKPbc 23 31 28.0 +0.1**
BLY Banja Luka 151.27 338 *eP* **PKiKP 23 31 29.3 +0.6**
BLY Banja Luka 151.27 338 ⇓P **PKiKP 23 31 29.1 +0.4**
TUE Stuetta 151.77 350 PKiKP 23 31 30.7 +0.7
KIJV Kijevo 152.19 338 *eP* **PKPbc 23 31 29.3 -1.2**
ESDC Sonseca Array 158.47 13 PKPab **PKPab 23 32 11.2 +0.4**
comp=Z,0.6nm,0.8s,baz=343,slow=6.4,SNR=3.4
TORD Torodi Ar. Bea 174.38 174 PKP **PKPdf 23 31 43.8 -0.4**
comp=Z,1.5nm,0.4s,baz=255,slow=5.5,SNR=1.5
TORD PKPab **PKPab 23 33 22.2 +0.8**
comp=Z,1.9nm,0.4s,baz=171,slow=2.9,SNR=2.1

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*JMA **24** 23:21:02.0±0.1, 34°N±2°×13°7E±°, h372km, MV3.1/17, SE OFF KII PENINSULA*
*IDC **24** 23:21:03.4±1.5, 34.08N×137.17E, h358km±20km, mb3.0/6, mbtmp3.7/9, Error ellipse: s-maj=47.8km s-min=17.7km az=64.0*
ISC 24 23:21:03.2±1.0, 34.1N±0.1×137.06E±0.10, h350km, n17, σ0.88/17, mb3.0/6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.45**	**319**	P	**Pn**	23 21 48.6	**+1.3**
JTNC	**Tanabenakahech**	**1.23**	**260**	P	**Pn**	23 21 50.8	**+0.8**
JWY	**Kouya**	**1.23**	**278**	P	**Pn**	23 21 50.9	**+0.9**
JYTA	**Yamagatataniai**	**1.57**	**350**	P	**Pn**	23 21 52.6	**+0.9**
JWT	**Wachi**	**1.84**	**312**	P	**Pn**	23 21 54.0	**+0.6**
JAI	**Aioi**	**2.19**	**264**	*eP*	**Pn**	23 21 56.2	**+0.3**
MJAR	**Matsushiro Arr**	**2.66**	**20**	P	**Pn**	23 21 59.9	**+0.4**
	8.2nm,0.6s,baz=199,slow=9.9,SNR=19						
BSO1	**Boso 1**	**3.30**	**78**	*eS*	**S**	23 22 54.0	**-0.2**
JHS	**Saijyo**	**3.39**	**287**	*eP*	**Pn**	23 22 06.6	**+0.4**
KSRS	**Korea Array**	**8.17**	**297**	P	**Pn**	23 22 59.8	**+0.6**
	1.0nm,0.6s,baz=113,slow=12,SNR=2.0						
USRK	**Uesuriysk Ar.**	**10.87**	**340**	P	**Pn**	23 23 31.5	**+0.1**
	4.7nm,0.5s,baz=159,slow=11,SNR=5.7						
SONM	**Songino Array**	**26.75**	**310**	P	**P**	23 26 13.8	**+1.8**
	0.2nm,0.3s,baz=96,slow=13,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.78**	**304**	P	**P**	23 28 27.4	**0.0**
	0.5nm,0.4s,baz=90,slow=8.3,SNR=8.2						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.11**	**310**	P	**P**	23 28 45.1	**-0.6**
	0.4nm,0.5s,baz=90,slow=6.6,SNR=5.4						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**50.00**	**314**	P	**P**	23 29 21.6	**-1.4**
	0.3nm,0.4s,baz=125,slow=6.9,SNR=2.9						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**53.75**	**183**	P	**P**	23 29 50.3	**-0.3**
	0.5nm,0.3s,baz=0.6,slow=7.4,SNR=9.4						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**69.77**	**331**	P	**P**	23 31 35.3	**-0.6**
	1.3nm,0.8s,baz=67,slow=6.7,SNR=1.4						
	1.3nm,0.8s						

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*IDC **24** 23:28:19.5±1.6, 12.51N×124.31E, h0km, mb3.7/8, mbtmp3.7/8, MS3.0/1, Error ellipse: s-maj=187.9km s-min=16.9km az=67.0*
ISC 24 23:28:29.1±1.4, 12.7N±0.5×12.5E±°, h82km, n15, σ0.80/8, mb3.8/8, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.47**	**286**	LR	LR	23 44 56.8	
	comp=Z,33nm,18.9s,baz=200,slow=40						
WRA	**Warramunga Arr**	**33.76**	**164**	P	**P**	23 35 02.5	**-0.6**
	0.5nm,0.6s,baz=344,slow=8.8,SNR=4.7						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**37.21**	**166**	P	**P**	23 35 32.4	**-0.3**
	0.4nm,0.5s,baz=344,slow=8.2,SNR=8.9						
	0.4nm,0.5s						
SONM	**Songino Array**	**38.26**	**340**	P	**P**	23 35 41.5	**+0.1**
	0.8nm,0.9s,baz=157,slow=9.4,SNR=3.9						
	0.8nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.78**	**76**	T	T	00 19 11.5	
	baz=268,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	**40.79**	**76**	T	T	00 19 14.6	
	baz=268,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.79**	**76**	T	T	00 19 12.2	
	baz=268,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**41.02**	**75**	T	T	00 19 28.5	
	baz=267,slow=74,SNR=66						
H11N2	**WAKE ISLAND Hy**	**41.03**	**74**	T	T	00 19 29.9	
	baz=267,slow=74,SNR=44						
H11N3	**WAKE ISLAND Hy**	**41.04**	**75**	T	T	00 19 30.0	
	baz=267,slow=74,SNR=64						
STKA	**Stephens Creek**	**47.15**	**160**	P	**P**	23 36 54.0	**+0.6**
	1.2nm,0.5s,baz=335,slow=17,SNR=1.3						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**49.21**	**322**	P	**P**	23 37 08.0	**-1.1**
	0.4nm,0.6s,baz=122,slow=11,SNR=3.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**51.80**	**331**	P	**P**	23 37 28.4	**-0.1**
	0.7nm,0.4s,baz=120,slow=10,SNR=7.1						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**53.25**	**325**	P	**P**	23 37 40.1	**+1.0**
	0.6nm,0.5s,baz=122,slow=7.6,SNR=5.2						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**58.84**	**325**	P	**P**	23 38 18.8	**-0.3**
	0.6nm,0.5s,baz=141,slow=5.5,SNR=4.6						
	0.6nm,0.5s						

IDC 24 23:36:45.1±9.7, 18.95S×177.58W, h601km±96km, mb3.1/3, mbtmp4.1/3, Error ellipse: s-maj=189.0km s-min=44.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.23**	**260**	P	P	23 44 10.1	-0.3
	1.9nm,0.3s,baz=97,slow=7.8,SNR=31						
WRA				PcP	PcP	23 45 37.2	-0.2
	0.2nm,0.3s,baz=96,slow=3.7,SNR=2.3						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**45.28**	**255**	P	P	23 44 10.9	+0.1
	3.1nm,0.7s,baz=94,slow=8.2,SNR=30						
ASAR				PcP	PcP	23 45 37.2	-0.4
	0.3nm,0.5s,baz=107,slow=4.0,SNR=2.1						
	3.1nm,0.7s						
PDAR	**Pinedale Array**	**87.57**	**43**	P	P	23 48 30.7	+0.1
	0.2nm,0.6s,baz=240,slow=5.6,SNR=2.5						
	0.2nm,0.6s						
MMAI	**Mount Meron Ar**	**147.37**	**302**	PKPbc	PKPbc	23 55 21.7	-1.0
	3.7nm,0.9s,baz=72,slow=4.7,SNR=2.8						

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*WEL **24** 23:47:57.7±0.4, 40°S±3°×17°5E±°, h21km±7km, M3.4/17, ML3.7/17, MLv3.4/17, Error ellipse: s-maj=5.7km s-min=2.8km az=58.7, confirmed*
*NOU **24** 23:47:59.0, 39.97S×174.50E, h39km, MLv3.2/11, North Island, New Zealand*
ISC 24 23:47:58.2±1.1, 40.00S±0.02×174.55E±0.03, h31km±11km, n81, σ0.66/93, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.42**	**54**	P	**Pb**	**23 48 07.4**	**0.0**
WAZ				S	**Sn**	**23 48 14.8**	**0.0**
LREZ	**Lake Rotokare**	**0.55**	**348**	P	**Pb**	**23 48 09.1**	**-0.4**
LREZ				S	**Sn**	**23 48 18.2**	**+0.2**
OHWZ	**Ohakea**	**0.62**	**110**	P	**Pn**	**23 48 11.1**	**+0.2**
OHWZ				S	**Sn**	**23 48 20.7**	**+0.8**
PREZ	**Palmer Road**	**0.72**	**335**	P	**Pn**	**23 48 12.2**	**-0.2**
PREZ				S	**Sn**	**23 48 23.6**	**+1.2**
NMEZ	**Namu Road**	**0.78**	**318**	P	**Pn**	**23 48 13.0**	**-0.1**
NMEZ				S	**Sn**	**23 48 24.9**	**+1.2**
NEZ	**North Egmont**	**0.81**	**334**	P	**Pn**	**23 48 13.3**	**-0.3**
NEZ				S	**Sn**	**23 48 24.8**	**+0.2**
KHEZ	**Kahui Hut**	**0.82**	**329**	P	**Pn**	**23 48 13.5**	**-0.2**
KHEZ	**Kahui Hut**	**0.82**	**329**	P	**Sn**	**23 48 25.6**	**+0.8**
KHEZ	**Kahui Hut**	**0.82**	**329**	P	**Pn**	**23 48 13.5**	**-0.2**
KHEZ				S	**Sn**	**23 48 25.4**	**+0.6**
DREZ	**Durham Road**	**0.85**	**342**	P	**Pn**	**23 48 13.9**	**-0.2**
DREZ				S	**Sb**	**23 48 26.4**	**+0.7**
VRZ	**Vera Road**	**0.89**	**11**	P	**Pn**	**23 48 14.0**	**-0.7**
VRZ				S	**Sb**	**23 48 27.0**	**+0.3**
NBEZ	**Newall Road No**	**0.90**	**324**	P	**Pn**	**23 48 14.8**	**0.0**
NBEZ				S	**Sb**	**23 48 27.9**	**+0.9**
KIW	**Kapiti Island**	**0.90**	**162**	P	**Pn**	**23 48 14.6**	**-0.3**
KIW				S	**Sn**	**23 48 26.0**	**-0.8**
PKE	**Pukeiti**	**0.91**	**331**	P	**Pn**	**23 48 15.0**	**0.0**
DUWZ	**D'Urville Isla**	**0.93**	**211**	P	**Pn**	**23 48 14.6**	**-0.6**
PKVZ	**Pokaka**	**0.94**	**41**	P	**Pn**	**23 48 15.0**	**-0.4**
MTVZ	**Mangateitei**	**0.94**	**49**	P	**Pn**	**23 48 15.1**	**-0.3**
OGWZ	**Otaki Gorge**	**0.94**	**150**	P	**Pn**	**23 48 15.5**	**+0.1**
POWZ	**Post Office Ro**	**1.01**	**113**	P	**Pb**	**23 48 16.9**	**-0.3**
MRZ	**Mangatainoka R**	**1.03**	**130**	P	**Pn**	**23 48 17.0**	**+0.5**
TRVZ	**Turoa**	**1.04**	**48**	P	**Pn**	**23 48 16.5**	**-0.5**
WNVZ	**Wahianoa**	**1.05**	**51**	P	**Pn**	**23 48 16.6**	**-0.4**
MAVZ	**Matarangi**	**1.07**	**47**	P	**Pn**	**23 48 16.9**	**-0.5**
FWVZ	**Far West T-bar**	**1.07**	**47**	P	**Pn**	**23 48 16.8**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.08**	**49**	P	**Pn**	**23 48 16.8**	**-0.6**
TSZ	**Takapari Road**	**1.09**	**94**	P	**Pn**	**23 48 17.7**	**+0.4**
MOVZ	**Moawhango**	**1.10**	**58**	P	**Pn**	**23 48 17.0**	**-0.7**
COVZ	**Chateau Observ**	**1.11**	**44**	P	**Pn**	**23 48 17.3**	**-0.4**
TUVZ	**Tukino**	**1.12**	**50**	P	**Pn**	**23 48 17.9**	**-0.1**
TWVZ	**Taurewa**	**1.16**	**37**	P	**Pn**	**23 48 17.8**	**-0.5**
NGZ	**Ngauruhoe**	**1.16**	**45**	P	**Pn**	**23 48 18.3**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.16**	**141**	P	**Pn**	**23 48 19.0**	**+0.6**
SNVZ	**South Ngauruho**	**1.17**	**46**	P	**Pn**	**23 48 18.6**	**-0.1**
CAW	**Cannon Point**	**1.18**	**161**	P	**Pn**	**23 48 18.8**	**+0.2**
WTVZ	**West Tongariro**	**1.20**	**43**	P	**Pn**	**23 48 18.5**	**-0.4**
NNVZ	**North Ngauruho**	**1.20**	**44**	P	**Pn**	**23 48 18.9**	**-0.1**
OTVZ	**Oturere**	**1.20**	**46**	P	**Pn**	**23 48 18.9**	**-0.2**
PRWZ	**Pori Road**	**1.22**	**117**	P	**Pb**	**23 48 20.7**	**-0.1**
TCW	**Tory Channel**	**1.23**	**190**	P	**Pn**	**23 48 19.0**	**-0.3**
KRVZ	**Karewarewa**	**1.24**	**43**	P	**Pn**	**23 48 19.4**	**-0.1**
ETVZ	**East Tongariro**	**1.25**	**47**	P	**Pn**	**23 48 20.4**	**+0.8**
NTVZ	**North Tongarir**	**1.25**	**44**	P	**Pn**	**23 48 19.9**	**+0.1**
TMVZ	**Te Maari**	**1.26**	**46**	P	**Pn**	**23 48 19.6**	**-0.2**
PNHZ	**Pukenui**	**1.27**	**87**	P	**Pn**	**23 48 20.3**	**+0.4**
DVHZ	**Dannevirke**	**1.28**	**104**	P	**Pb**	**23 48 21.3**	**-0.4**
TIWZ	**Tintock**	**1.28**	**128**	P	**Pb**	**23 48 21.5**	**-0.3**
WEL	**Wellington**	**1.29**	**173**	P	**Pb**	**23 48 21.8**	**-0.2**
SNZO	**South Karori**	**1.31**	**175**	P	**Pn**	**23 48 20.9**	**+0.4**
KATZ	**Kakaramea**	**1.35**	**41**	P	**Pn**	**23 48 21.1**	**-0.1**
MTW	**Mount Morrison**	**1.37**	**148**	P	**Pb**	**23 48 22.5**	**-0.7**
BHW	**Baring Head**	**1.43**	**170**	P	**Pn**	**23 48 23.1**	**+1.1**
KRHZ	**Kereru**	**1.45**	**76**	P	**Pn**	**23 48 23.1**	**+0.8**
WPHZ	**Waipukurau**	**1.45**	**93**	P	**Pb**	**23 48 24.4**	**-0.3**
BFZ	**Birch Farm**	**1.47**	**118**	P	**Pb**	**23 48 24.6**	**-0.3**
BFZ	**Birch Farm**	**1.47**	**118**	P	**Pb**	**23 48 24.2**	**-0.6**
RATZ	**Rangitukua**	**1.48**	**40**	P	**Pn**	**23 48 23.4**	**+0.7**
TUWZ	**Tuamarina**	**1.50**	**198**	P	**Pn**	**23 48 22.6**	**-0.5**
HIZ	**Hauiti**	**1.50**	**9**	P	**Pn**	**23 48 23.2**	**+0.1**
HIZ	**Hauiti**	**1.50**	**9**	S	**Sn**	**23 48 42.7**	**+1.1**
HIZ	**Hauiti**	**1.50**	**9**	P	**Pn**	**23 48 23.2**	**+0.1**
NNZ	**Nelson**	**1.51**	**216**	P	**Pn**	**23 48 23.7**	**+0.6**
MSWZ	**Moikau Station**	**1.51**	**160**	P	**Pn**	**23 48 24.5**	**+1.3**
PAWZ	**Paruwai Farm**	**1.53**	**154**	P	**Pn**	**23 48 24.7**	**+1.2**
KWHZ	**Kaweka Forest**	**1.56**	**69**	P	**Pb**	**23 48 25.2**	**-1.2**
TKNZ	**Takaka Hill**	**1.59**	**229**	P	**Pn**	**23 48 24.9**	**+0.6**
PRHZ	**Porangahau**	**1.62**	**100**	P	**Pb**	**23 48 27.3**	**-0.2**
TRWZ	**Traveller**	**1.64**	**149**	P	**Pb**	**23 48 27.2**	**-0.7**
PLWZ	**Palliser**	**1.66**	**161**	P	**Pb**	**23 48 27.0**	**-1.1**
BKZ	**Black Stump Fm**	**1.72**	**62**	P	**Pn**	**23 48 26.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.72**	**62**	P	**Pb**	**23 48 27.9**	**-1.3**
QRZ	**Quartz Range**	**1.75**	**241**	P	**Pn**	**23 48 26.1**	**-0.4**
QRZ	**Quartz Range**	**1.75**	**241**	P	**Pn**	**23 48 26.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.79**	**196**	P	**Pn**	**23 48 27.3**	**+0.3**
KAHZ	**Kahuranaki**	**1.80**	**84**	P	**Pb**	**23 48 29.6**	**-1.0**
TLZ	**Tolley Road**	**1.84**	**25**	P	**Pn**	**23 48 27.1**	**-0.6**
MRHZ	**Matea Rd**	**1.86**	**52**	P	**Pb**	**23 48 30.2**	**-1.3**
MRNZ	**Matariki Terra**	**1.95**	**224**	P	**Pn**	**23 48 30.2**	**+0.9**
THZ	**Tophouse**	**2.16**	**215**	P	**Pn**	**23 48 33.5**	**+1.3**
THZ				S	**Sb**	**23 49 01.0**	**-2.0**
KHZ	**Kahutara**	**2.53**	**197**	P	**Pn**	**23 48 38.0**	**+0.8**
URZ	**Urewera**	**2.64**	**50**	P	**Pn**	**23 48 40.2**	**+1.5**
URZ	**Urewera**	**2.64**	**50**	S	**Sn**	**23 49 09.4**	**-0.4**

IDC 25 00:06:17.1±4.2, 13.41S×167.65E, h0km, mb3.7/5, mbtmp3.6/5, Error ellipse: s-maj=153.9km s-min=34.5km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.53**	**254**	P	P	00 12 49.8	-0.2
	0.4nm,0.8s,baz=83,slow=9.1,SNR=1.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.51**	**247**	P	P	00 12 58.7	+0.1
	0.2nm,0.3s,baz=77,slow=9.2,SNR=4.2						
	0.2nm,0.3s						
SONM	**Songino Array**	**81.66**	**323**	P	P	00 18 38.2	+0.8
	0.3nm,0.4s,baz=134,slow=6.2,SNR=1.9						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**85.16**	**18**	P	P	00 18 54.7	-0.1
	0.4nm,0.6s,baz=239,slow=5.1,SNR=5.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**96.51**	**316**	P	P	00 19 47.8	-0.9
	0.3nm,0.5s,baz=92,slow=5.4,SNR=2.3						
	0.3nm,0.5s						

NNC 25 00:16:00.1±9.5, 37.83N×71.47E, h0km, mb3.6, mpv3.2, 1C-2D, Error ellipse: s-maj=74.0km s-min=59.5km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.46**	**346**	Pg	Pn	00 17 11.9	+2.8
	3.8nm,0.3s						
IUG				Lg	Lg	00 18 05.2	
	120nm,1.1s						
MRKS	**Merke**	**5.09**	**15**	Pg	Pn	00 17 19.4	+1.6
	2.0nm,0.7s						
MRKS				Lg	Lg	00 18 18.3	
	5.8nm,0.5s						
KK31	**Karatay Array**	**5.32**	**352**	Pn	Pn	00 17 22.0	+1.1
	0.8nm,0.3s,baz=178,slow=13,SNR=19						
KK31				⇓Sn	Sn	00 18 24.4	+1.5
	4.0nm,0.3s,baz=176,slow=22						
AAK	**Ala-Archa**	**5.33**	**25**	⇑Pn	Pn	00 17 20.5	-0.7
	0.6nm,0.3s						
AAK				⇓Sn	Sn	00 18 23.8	+0.4
	3.2nm,0.9s						

IDC 25 00:20:50.9±1.7, 2.60S×138.31E, h0km, mb3.1/2, mbtmp3.1/4, ML3.4/2, Error ellipse: s-maj=33.1km s-min=27.7km az=161.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.40**	**88**	Pn	Pn	00 21 30.9	-0.5
	1.3nm,0.3s,baz=235,slow=18,SNR=6.5						
JAY				Sn	Sb	00 22 04.0	-1.1
	1.8nm,0.3s,baz=296,slow=22,SNR=3.9						
	3.3nm,0.3s						
WRA	**Warramunga Arr**	**17.66**	**192**	P	Pn	00 24 59.0	+0.4
	0.3nm,0.3s,baz=14,slow=12,SNR=6.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**21.37**	**191**	P	P	00 25 39.9	-0.2
	0.6nm,0.8s,baz=22,slow=11,SNR=5.9						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**69.46**	**323**	P	P	00 32 01.2	+0.1
	0.1nm,0.4s,baz=101,slow=7.5,SNR=1.1						
	0.1nm,0.4s						

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*IDC **25** 00:30:27.5±0.5, 17.84N×66.28W, h0km, mb4.1/21, mbtmp4.1/24, ML3.1/2, MS3.3/20, Error ellipse: s-maj=15.1km s-min=14.2km az=121.0*
*NEIC **25** 00:30:28.6±1.6, 17.86N±0.03×66.34W±0.01, h10km±2km, mb4.4/45, ML4.3/35, Md3.8/21(RSPR), Error ellipse: s-maj=5.6km s-min=3.0km az=2.0*
*RSPR **25** 00:30:29.6, 17.95N×66.34W, h7km±1km, MD3.8/21*
*OSPL **25** 00:30:29.8±0.5, 17.94N×66.32W, h15km±13km, ML4.1*
ISC 25 00:30:27.5±1.1, 17.79N±0.04×66.37W±0.02, h5km±7km, n204, σ1.65/199, mb4.4/43, MS3.4/18, 19C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	**InterUniversit**	**0.31**	**55**		**Pg**	**00 30 34.4**	**+0.9**
IGPR					**Sg**	**00 30 38.0**	**+0.4**
IGPR	**InterUniversit**	**0.31**	**55**	⇓*eP*	**Pg**	**00 30 34.4**	**+0.9**
IGPR	**InterUniversit**	**0.31**	**55**	*eS*	**Sg**	**00 30 38.0**	**+0.4**
OBIP	**Obispado Ponce**	**0.34**	**319**	Pg	**Pb**	**00 30 35.0**	**-1.0**
OBIP				Sg	**Sg**	**00 30 39.1**	**+0.7**
OBIP				IAML		00 30 39.8	
	comp=N,44μm,0.7s						
OBIP				IAML		00 30 40.1	
	comp=E,29μm,0.5s						
OBIP	**Obispado Ponce**	**0.34**	**319**	⇑*eP*	**Pb**	**00 30 35.0**	**-1.0**
OBIP	**Obispado Ponce**	**0.34**	**319**	*eS*	**Sb**	**00 30 39.6**	**-2.1**
SJG	**San Juan**	**0.39**	**33**		**Pg**	**00 30 34.7**	**-0.3**
SJG				Sg	**Sg**	**00 30 38.4**	**-1.7**
SJG				IAML		00 30 39.1	
	comp=E,51μm,0.5s						
SJG				IAML		00 30 39.4	
	comp=E,43μm,0.6s						
SJG	**San Juan**	**0.39**	**33**	*eP*	**Pg**	**00 30 34.8**	**-0.1**
SJG				*eS*	**Sg**	**00 30 38.8**	**-1.2**
SJG	**San Juan**	**0.39**	**33**	*i* P	**Pg**	**00 30 34.9**	**-0.1**
SJG				*eS*	**Sg**	**00 30 38.0**	**-2.1**
SJG				IAML		00 30 40.8	
	comp=Z,30μm,0.3s						
PDPR	**Patillas Dam,**	**0.41**	**55**		**Pg**	**00 30 35.5**	**+0.1**
PDPR				Sg	**Sg**	**00 30 39.8**	**-0.8**
PDPR	**Patillas Dam,**	**0.41**	**55**	⇓*eP*	**Pg**	**00 30 35.7**	**+0.4**
PDPR	**Patillas Dam,**	**0.41**	**55**	*eS*	**Sg**	**00 30 40.6**	**0.0**
GBPR	**Guanica, Bosqu**	**0.52**	**291**		**Pb**	**00 30 39.5**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.52**	**291**	⇑*eP*	**Pb**	**00 30 39.5**	**+0.5**
ECPR	**Experimental S**	**0.53**	**1**	⇑*eP*	**Pg**	**00 30 37.1**	**-0.6**
ECPR	**Experimental S**	**0.53**	**1**	*eS*	**Sg**	**00 30 42.7**	**-1.8**
UUPR	**Utuado, UPR, P**	**0.57**	**325**	Pg	**Pg**	**00 30 38.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.57**	**325**		**Sg**	**00 30 45.3**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.57**	**325**	⇓*eP*	**Pg**	**00 30 38.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.57**	**325**	*eS*	**Sg**	**00 30 45.3**	**-0.6**
GCPR	**Guaynabo City**	**0.59**	**28**		**Pg**	**00 30 38.1**	**-0.6**
GCPR				Sg	**Sg**	**00 30 44.5**	**-2.0**
GCPR				IAML		00 30 44.8	
	comp=N,34μm,0.7s						
GCPR				IAML		00 30 45.2	
	comp=E,42μm,0.7s						
GCPR	**Guaynabo City**	**0.59**	**28**	⇑*eP*	**Pg**	**00 30 38.2**	**-0.6**
GCPR	**Guaynabo City**	**0.59**	**28**	*eS*	**Sg**	**00 30 44.4**	**-2.0**
HUMP	**Col San Antoni**	**0.61**	**55**	Pg	**Pg**	**00 30 36.7**	**-2.5**
AOPR	**Arecibo Observ**	**0.66**	**327**		**Sg**	**00 30 47.8**	**-1.1**
AOPR	**Arecibo Observ**	**0.66**	**327**	Pg	**Pg**	**00 30 40.1**	**-0.1**
AOPR				IAML		00 30 50.5	
	comp=N,30μm,0.3s						
AOPR	**Arecibo Observ**	**0.66**	**327**	⇑*eP*	**Pg**	**00 30 40.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.66**	**327**	*eS*	**Sg**	**00 30 47.8**	**-1.1**
AOPR	**Arecibo Observ**	**0.66**	**327**	*eP*	**Pg**	**00 30 40.1**	**-0.1**
AOPR				*eS*	**Sg**	**00 30 48.1**	**-0.8**
MLPR	**Magueyes Islan**	**0.66**	**286**	⇓*eP*	**Pb**	**00 30 42.1**	**+0.6**
MLPR	**Magueyes Islan**	**0.66**	**286**	*eS*	**Sn**	**00 30 51.7**	**-2.7**
EMPR	**Esperanza - Ma**	**0.70**	**348**		**Sg**	**00 30 49.0**	**-1.1**
EMPR	**Esperanza - Ma**	**0.70**	**348**	Pg	**Pg**	**00 30 40.4**	**-0.6**
EMPR	**Esperanza - Ma**	**0.70**	**348**	⇑*eP*	**Pg**	**00 30 40.6**	**-0.4**
EMPR	**Esperanza - Ma**	**0.70**	**348**	*eS*	**Sg**	**00 30 49.0**	**-1.1**
CRPR	**Cabo Rojo, PR**	**0.73**	**287**		**Pb**	**00 30 42.5**	**-0.3**
CRPR				IAML		00 30 54.7	
	comp=E,10μm,0.8s						
CRPR	**Cabo Rojo, PR**	**0.73**	**287**		**Sn**	**00 30 53.6**	**-2.5**
CRPR	**Cabo Rojo, PR**	**0.73**	**287**	⇑*eP*	**Pb**	**00 30 43.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.73**	**287**	*i* P	**Pb**	**00 30 43.0**	**+0.2**
CRPR				*eS*	**Sb**	**00 30 53.3**	**+0.2**
CRPR				IAML		00 30 57.9	
	comp=Z,10μm,0.8s						
LSP	**Las Mesas**	**0.78**	**300**		**Pb**	**00 30 43.1**	**-0.4**
LSP					**Sb**	**00 30 53.8**	**-0.7**
LSP	**Las Mesas**	**0.78**	**300**	⇑*eP*	**Pb**	**00 30 43.1**	**-0.4**
LSP	**Las Mesas**	**0.78**	**300**	*eS*	**Sb**	**00 30 53.8**	**-0.7**
PRSN	**Puerto Rico Se**	**0.85**	**300**		**Pg**	**00 30 44.0**	**+0.2**
PRSN					**Sb**	**00 30 56.0**	**-0.4**
PRSN	**Puerto Rico Se**	**0.85**	**300**	⇑*eP*	**Pg**	**00 30 44.0**	**+0.2**
PRSN	**Puerto Rico Se**	**0.85**	**300**	*eS*	**Sb**	**00 30 56

H05S1 Guadeloupe/Mar 6.28 121 Pn **Pn 00 32 01.9 +1.0**
H05S1 Sn **Sn 00 33 05.5 -7.7**
SLBI Saint Lucia, B 6.40 125 *e*P **Pn 00 32 02.1 -0.4**
SLBI Saint Lucia, B 6.40 125 *e*S **Sn 00 33 10.1 -5.9**
SVB Belmont 6.67 132 *e*S **Sn 00 33 18.7 -4.0**
PCRV Puerto La Cruz 7.75 167 *e*S **Sn 00 33 45.1 -4.3**
URIC Uribia, Colomb 8.13 223 P **Pn 00 32 24.4 -1.9**
comp=E,11nm,1.3s
URIC S **Sn 00 33 54.3 -4.4**
comp=E,11nm,1.3s
BAUV El Baul 8.94 191 *e*P **Pn 00 32 40.1 +2.7**
BAUV El Baul 8.94 191 *e*S **Sn 00 34 14.2 -4.3**
CRJC Cerrejon, Guaj 9.22 224 P **Pn 00 32 41.4 +0.1**
comp=E,12nm,0.9s
CRJC S **Sn 00 34 19.2 -6.3**
comp=E,12nm,0.9s
SDV Santo Domingo 9.77 206 **Pn 00 32 51.0 +2.1**
SDV Santo Domingo 9.77 206 Pn **Pn 00 32 49.7 +0.8**
comp=E,2.4nm,0.3s,baz=63,slow=13,SNR=6.8
SDV Sn **Sn 00 34 36.8 -2.4**
comp=E,2.2nm,0.3s,baz=311,slow=12,SNR=3.2
SDV LR LR 00 37 26.3
comp=E,69nm,18.9s,baz=123,slow=42
comp=E,8.6nm,0.4s
SJCC San Jacinto, C 11.60 229 P **Pn 00 33 18.2 +4.3**
comp=E,16nm,2.2s
OCAC Ocana 11.65 216 P **Pn 00 33 13.7 -1.0**
comp=E,1μmcomp=E,87nm,0.5s
PAMC Pamplona, Colo 12.08 211 P **Pn 00 33 21.3 +0.5**
BARC Barichara 12.96 212 P **Pn 00 33 33.1 +0.4**
UREC San Jos de Ur 13.38 223 P **Pn 00 33 39.2 +0.9**
RUSC La Rusia 13.52 210 P **Pn 00 33 41.4 +0.9**
comp=E,387nmcomp=E,25nm,0.5s
SPBC San Pablo de B 14.22 213 P **Pn 00 33 50.9 +1.2**
comp=E,14nm,1.1s
HELC Santa Helena 14.59 219 P **Pn 00 33 55.5 +0.5**
comp=E,9.2nm,1.0s
CHIC Chingaza 14.93 210 P **Pn 00 33 58.5 -1.2**
comp=E,11nm,0.6s
ROSC El Rosal 15.04 212 IAmb IAmb 00 34 13.5
comp=Z,17nm,0.8s
ROSC El Rosal 15.04 212 Pn **Pn 00 34 01.8 +0.7**
comp=Z,1.6nm,0.3s,baz=63,slow=22,SNR=1.7
ROSC LR LR 00 40 13.2
comp=Z,133nm,21.2s,baz=284,slow=39
comp=Z,3.3nm,0.3s
CBOC Ciudad Bolivar 15.14 220 P **Pn 00 34 04.6 +2.3**
comp=Z,7.9nm,1.1s
GUY2C Guyana, Caldas 15.27 216 P **Pn 00 34 04.2 -0.2**
comp=Z,25nm,0.7s
ORTC Ortega, Tolima 16.30 213 P **P 00 34 20.9 +0.5**
comp=Z,18nm,1.0s
URMC La Uribe, Meta 16.45 209 P **Pn 00 34 20.1 +0.9**
comp=Z,10nm,0.5s
YOTC Yotoco, Valle 16.84 217 P **P 00 34 26.1 -0.4**
MDP Montagnes des 18.42 132 LR LR 00 43 35.9
comp=Z,42nm,20.3s,baz=342,slow=43
JTS Las Juntas de 19.49 250 P **Pn 00 34 57.9 +1.1**
comp=Z,3.4nm,0.3s,baz=53,slow=12,SNR=4.7
JUD3 Juan Diaz 3 20.07 250 P **P 00 35 01.9 -0.1**
T57A Hurt 22.25 332 IAmb IAmb 00 35 33.9
comp=Z,15nm,1.0s
R58B Mineral 22.49 336 P **P 00 35 27.9 +0.1**
R58B IAmb IAmb 00 35 35.3
comp=Z,16nm,1.1s
BLA Blacksburg 22.96 330 IAmb IAmb 00 35 41.1
comp=Z,17nm,0.9s
V53A Saluda 23.02 324 IAmb IAmb 00 35 51.1
comp=Z,8.7nm,0.8s
TKL Tuckaleechee C 23.56 322 LR LR 00 45 40.9
comp=Z,50nm,18.6s,baz=136,slow=39
LRAL Lakeview Retre 23.96 313 IAmb IAmb 00 35 50.5
comp=Z,9.8nm,0.9s
SADO Sadowa 28.95 341 LR LR 00 48 50.1
comp=Z,1μm,18.6s,baz=166,slow=38
P40A Paris 31.06 320 IAmb IAmb 00 36 53.5
comp=Z,8.1nm,1.0s
BRDY Brady 32.45 301 IAmb IAmb 00 37 05.4
comp=Z,5.7nm,0.8s
LPAZ La Paz 33.90 183 P **P 00 37 14.7 +2.4**
comp=Z,0.6nm,0.7s,baz=4.0,slow=4.6,SNR=10
LPAZ LR LR 00 53 01.5
comp=Z,48nm,20.3s,baz=339,slow=40
comp=Z,0.6nm,0.7s
SIV San Ignacio 33.97 171 LR LR 00 51 29.3
comp=Z,75nm,19.5s,baz=342,slow=37
MNHN Monahans 35.57 299 P **P 00 37 26.7 +0.7**
ODSA Odessa 35.58 301 P **P 00 37 25.8 -0.4**
TXAR Lajitas Array 35.92 296 P **P 00 37 30.6 +1.4**
comp=Z,2.0nm,0.5s,baz=93,slow=8.8,SNR=5.3
TXAR LR LR 00 54 19.3
comp=Z,36nm,21.9s,baz=72,slow=40
comp=Z,2.0nm,0.5s
TX31 Lajitas Ar. Si 35.92 296 IAmb IAmb 00 37 36.3
comp=Z,2.7nm,0.6s
SCHQ Schefferville 36.98 360 P **P 00 37 38.4 +0.7**
comp=Z,35nm,0.9s,baz=168,slow=6.2,SNR=3.8
VHRN Van Horn 37.31 298 IAmb IAmb 00 37 48.1
comp=Z,7.8nm,1.1s
GO01 Chusmiza 37.33 184 IAmb IAmb 00 37 47.2
comp=Z,9.8nm,1.1s
BDFB Brasilia 37.83 150 P **P 00 37 46.7 +1.3**
comp=Z,0.9nm,0.4s,baz=302,slow=9.6,SNR=3.7
BDFB LR LR 00 53 35.8
comp=Z,85nm,20.4s,baz=332,slow=37
comp=Z,0.9nm,0.4s
ANMO Albuquerque 39.47 304 LR LR 00 56 06.6
comp=Z,50nm,19.4s,baz=206,slow=39
SDCO Great Sand Dun 39.56 308 P **P 00 38 00.8 +0.8**
ULM Lac du Bonnet 40.08 331 LR LR 00 53 01.5
comp=Z,51nm,22.0s,baz=134,slow=34
E28A Huff 40.30 323 P **P 00 38 05.0 -0.7**
E28A IAmb IAmb 00 38 13.9
comp=Z,12nm,0.9s
ISCO Idaho Springs 40.35 311 P **P 00 38 06.8 +0.2**
S22A 4UR Ranch, Cre 40.55 308 P **P 00 38 08.0 -0.3**
CMLA Cha da Macela 40.86 52 P **P 00 38 09.4 -1.0**
PV15 Paradox Valley 41.98 308 P **P 00 38 18.6 -1.3**
PV01 Paradox Valley 41.98 308 P **P 00 38 19.4 -0.6**
PV02 Paradox Valley 42.13 308 P **P 00 38 21.7 +0.5**
PV02 IAmb IAmb 00 38 27.0
comp=Z,11nm,0.9s
PV07 Paradox Valley 42.13 308 P **P 00 38 21.0 -0.2**
PV07 IAmb IAmb 00 38 26.7
comp=Z,5.2nm,0.8s
PV13 Radium Mtn., P 42.18 308 P **P 00 38 21.3 -0.3**
PV13 IAmb IAmb 00 38 28.6
comp=Z,12nm,1.0s
PV12 Saucer Basin, 42.21 308 P **P 00 38 20.6 -1.3**
PV03 Paradox Valley 42.23 308 P **P 00 38 21.1 -0.8**
PV03 IAmb IAmb 00 38 28.7
comp=Z,6.9nm,1.0s
PV11 David Mesa, Pa 42.26 308 P **P 00 38 22.3 +0.1**
PV11 IAmb IAmb 00 38 29.0
comp=Z,7.9nm,0.7s
PV22 Blue Mesa, Par 42.26 308 P **P 00 38 22.4 +0.1**
PV18 Skein Mesa, Pa 42.27 308 P **P 00 38 22.8 +0.5**
PV16 Nyswonger Mesa 42.30 308 IAmb IAmb 00 38 29.4
comp=Z,7.9nm,1.0s
PV04 Paradox Valley 42.31 308 P **P 00 38 22.0 -0.6**
PV04 IAmb IAmb 00 38 28.9
comp=Z,5.0nm,0.8s
PV17 East Wray Mesa 42.32 308 P **P 00 38 21.4 -1.3**
PV17 IAmb IAmb 00 38 24.8
comp=Z,7.1nm,1.0s
PV05 Paradox Valley 42.37 307 P **P 00 38 21.3 -1.8**
PV10 Paradox Valley 42.41 308 IAmb IAmb 00 38 30.5
comp=Z,7.7nm,0.9s
PDAR Pinedale Array 44.19 314 P **P 00 38 39.4 +1.6**
comp=Z,0.2nm,0.4s,baz=118,slow=8.6,SNR=3.7
PDAR PcP **PcP 00 40 21.7 -0.9**
comp=Z,0.5nm,0.6s,baz=111,slow=4.7,SNR=4.3
PDAR LR LR 00 58 21.6
comp=Z,32nm,18.4s,baz=112,slow=38
comp=Z,0.2nm,0.4s
CPUP Villa Florida 44.73 168 P **P 00 38 41.9 +0.1**
comp=Z,1.1nm,0.7s,baz=206,slow=7.7,SNR=6.5
CPUP LR LR 00 58 01.5
comp=Z,12nm,19.5s,baz=213,slow=37
comp=Z,1.1nm,0.7s
SPR3 Spring Creek 3 46.57 307 IAmb IAmb 00 38 59.8
comp=Z,2.8nm,1.0s
YUH Yuha Desert 46.80 298 IAmb IAmb 00 39 06.3
comp=Z,4.6nm,0.9s
NVAR Mina Array Bea 49.51 306 P **P 00 39 21.0 +1.6**
comp=Z,0.5nm,0.5s,baz=108,slow=4.6,SNR=7.3
NVAR PcP **PcP 00 40 42.9 +1.5**
comp=Z,0.4nm,0.7s,baz=81,slow=3.8,SNR=1.4
comp=Z,0.5nm,0.5s
NEW Newport 51.05 318 LR LR 01 01 33.8
comp=Z,56nm,18.8s,baz=98,slow=36
MDT Midelt 57.09 62 P **P 00 40 16.4 +1.2**
comp=Z,3.8nm,0.9s,baz=231,slow=6.4,SNR=3.9
MDT LR LR 01 01 09.6
comp=Z,28nm,19.7s,baz=298,slow=32
comp=Z,3.8nm,0.9s
ESDC Sonseca Array 57.75 54 P **P 00 40 21.1 +1.4**
comp=Z,5.7nm,0.9s,baz=270,slow=7.3,SNR=27
ESDC LR LR 00 59 39.3
comp=Z,26nm,21.6s,baz=259,slow=30
comp=Z,5.7nm,0.9s
PLCA Paso Flores 58.35 184 LR LR 01 07 13.5
comp=Z,33nm,18.2s,baz=2.0,slow=38
EKA Eskdalemuir Ar 60.36 36 P **P 00 40 37.0 -0.5**
comp=Z,0.8nm,0.5s,baz=262,slow=5.0,SNR=6.1
comp=Z,0.8nm,0.5s
DBIC Dimbokro 60.90 92 P **P 00 40 41.2 -0.6**
comp=Z,1.6nm,0.5s,baz=318,slow=4.1,SNR=5.6
DBIC LR LR 01 07 26.4
comp=Z,17nm,18.1s,baz=356,slow=36
comp=Z,1.6nm,0.5s
TORD Torodi Ar. Bea 65.46 83 P **P 00 41 12.1 -0.1**
comp=Z,1.5nm,0.3s,baz=287,slow=5.1,SNR=1.2
comp=Z,1.5nm,0.3s
KEST Kesra 68.42 58 P **P 00 41 31.9 +1.1**
comp=Z,2.9nm,0.7s,baz=304,slow=3.6,SNR=4.6
comp=Z,2.9nm,0.7s
NB2 NORSAR Subarra 68.60 31 P **P 00 41 32.5 +1.1**
comp=Z,3.9nm,0.8s,baz=268,slow=6.5
NOA NORSAR Array B 68.60 31 P **P 00 41 32.4 +1.1**
comp=Z,1.2nm,0.7s,baz=268,slow=6.4,SNR=6.5
comp=Z,1.2nm,0.7s
HFS Hagfors 69.81 32 P **P 00 41 38.5 -0.3**
comp=Z,1.0nm,0.6s,baz=258,slow=4.0,SNR=1.4
comp=Z,1.0nm,0.6s
ILAR Eielson Array 70.02 333 LR LR 01 14 00.0
comp=Z,43nm,18.2s,baz=108,slow=37
GERES GERESS Array B 70.34 44 P **P 00 41 42.9 +0.4**
comp=Z,0.7nm,0.7s,baz=268,slow=3.5,SNR=4.7
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 74.14 21 P **P 00 42 04.8 +0.1**
comp=Z,4.4nm,1.0s,baz=296,slow=3.9,SNR=8.3
comp=Z,4.4nm,1.0s
FINES FINESS Array B 75.72 30 P **P 00 42 13.5 -0.4**
comp=Z,1.4nm,0.6s,baz=275,slow=3.6,SNR=8.7
comp=Z,1.4nm,0.6s
MLR Muntele Rosu 79.12 46 P **P 00 42 31.9 -1.5**
comp=Z,1.5nm,0.6s,baz=169,slow=5.2,SNR=7.1
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 79.91 40 P **P 00 42 37.8 +0.4**
comp=Z,0.5nm,0.5s,baz=288,slow=4.6,SNR=1.1
comp=Z,0.5nm,0.5s
IDI Anoyia 80.94 56 P **P 00 42 44.0 +0.6**
comp=Z,6.5nm,0.5s,baz=309,slow=9.3,SNR=14
comp=Z,6.5nm,0.5s
BRTR Keskin Array B 86.24 50 P **P 00 43 09.3 -1.4**
comp=Z,0.4nm,0.8s,baz=290,slow=4.7,SNR=6.5
comp=Z,0.4nm,0.8s
SNAA Sanae 98.84 163 LR LR 01 33 03.8
comp=Z,24nm,18.7s,baz=194,slow=38
YAK Yakutsk 99.43 352 LR LR 01 35 27.6
comp=Z,21nm,18.3s,baz=56,slow=39
ASAR Alice Springs 160.16 249 PKP **PKPdf 00 50 28.4 -0.4**
comp=Z,0.2nm,0.3s,baz=129,slow=2.5,SNR=2.0
WRA Warramunga Arr 160.28 260 PKP **PKPdf 00 50 28.2 -0.8**
comp=Z,0.3nm,0.5s,baz=87,slow=1.5,SNR=1.7

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*IDC **25** 00:30:26.2±0.9, 12°.41N×143°.50E, h0km, mb3.6/10, mbtmp3.6/10, MS3.5/15, Error ellipse: s-maj=25.5km s-min=18.2km az=118.0*
ISC 25 00:30:30.4±0.9, 12°.4N±0°.1×143°.5E±0°.1, h27km, n28, σ0.974/12, mb3.7/10, MS3.6/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.78**	**47**	Pn	**Pn**	**00 30 58.8**	**-0.6**
	44nm,0.3s,baz=240,slow=20,SNR=5.0						
GUMO				Sn	**Sn**	**00 31 21.6**	**+0.5**
	41nm,0.3s,baz=212,slow=19,SNR=4.2						
GUMO				LR	LR	00 31 41.3	
	comp=Z,507nm,19.5s,baz=232,slow=42						
PMG	**Port Moresby**	**21.94**	**170**	LR	LR	00 43 05.5	
	comp=Z,44nm,19.1s,baz=298,slow=35						
H11S3	**WAKE ISLAND Hy**	**23.13**	**72**	T	T	00 59 46.1	
	baz=258,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**23.14**	**72**	T	T	00 59 43.2	
	baz=258,slow=75,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**23.14**	**72**	T	T	00 59 41.9	
	baz=258,slow=75,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**23.59**	**69**	T	T	01 00 15.9	
	baz=255,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**23.60**	**69**	T	T	01 00 20.2	
	baz=255,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**23.61**	**69**	T	T	01 00 22.9	
	baz=255,slow=75,SNR=26						
JNU	**Nakatsue**	**23.67**	**333**	LR	LR	00 43 57.5	
	comp=Z,42nm,18.9s,baz=144,slow=34						
MJAR	**Matsushiro Arr**	**24.53**	**350**	LR	LR	00 44 43.0	
	comp=Z,103nm,19.6s,baz=156,slow=35						
KAPI	**Kappang**	**29.27**	**235**	LR	LR	00 49 26.5	
	comp=Z,138nm,18.2s,baz=134,slow=39						
BATI	**Baumata**	**29.88**	**222**	LR	LR	00 50 07.9	
	comp=Z,214nm,18.6s,baz=252,slow=40						
WRA	**Warramunga Arr**	**33.37**	**196**	P	**P**	**00 37 06.2**	**-0.4**
	1.3nm,0.8s,baz=19,slow=9.7,SNR=12						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**37.04**	**195**	P	**P**	**00 37 38.2**	**-0.1**
	0.3nm,0.6s,baz=24,slow=12,SNR=4.7						
ASAR				LR	LR	00 53 28.1	
	comp=Z,40nm,18.8s,baz=282,slow=37						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.31**	**284**	P	**P**	**00 38 30.9**	**+0.5**
	0.6nm,0.3s,baz=69,slow=7.8,SNR=1.4						
CMAR				LR	LR	00 56 16.1	
	comp=Z,30nm,20.0s,baz=275,slow=36						
	0.6nm,0.3s						
SONM	**Songino Array**	**46.98**	**326**	P	**P**	**00 38 59.7**	**+0.4**
	0.3nm,0.4s,baz=133,slow=9.6,SNR=1.9						
SONM				LR	LR	00 58 36.4	
	comp=Z,84nm,18.6s,baz=134,slow=36						
	0.3nm,0.4s						
YAK	**Yakutsk**	**50.57**	**352**	LR	LR	00 59 27.6	
	comp=Z,69nm,18.1s,baz=134,slow=34						
MKAR	**Makanchi Array**	**61.45**	**317**	P	**P**	**00 40 44.5**	**-0.1**
	0.1nm,0.4s,baz=100,slow=7.5,SNR=1.3						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**61.85**	**325**	P	**P**	**00 40 46.4**	**-0.7**
	0.2nm,0.3s,baz=99,slow=7.4,SNR=1.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.70**	**320**	P	**P**	**00 41 05.9**	**-0.2**
	0.2nm,0.4s,baz=104,slow=6.9,SNR=7.4						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**70.06**	**322**	P	**P**	**00 41 39.0**	**-1.0**
	0.4nm,0.5s,baz=100,slow=6.5,SNR=4.4						
BVAR				LR	LR	01 14 20.1	
	comp=Z,48nm,18.1s,baz=122,slow=38						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**70.22**	**25**	P	**P**	**00 41 40.1**	**-0.6**
	0.5nm,0.8s,baz=255,slow=5.3,SNR=6.6						
	0.5nm,0.8s						
ARTI	**Arti**	**77.11**	**325**	LR	LR	01 19 29.9	
	comp=Z,27nm,18.4s,baz=23,slow=38						
NVAR	**Mina Array Bea**	**88.70**	**51**	P	**P**	**00 43 23.4**	**+1.4**
	0.9nm,0.8s,baz=293,slow=5.5,SNR=1.8						
	0.9nm,0.8s						
VNDA	**Vanda**	**90.35**	**176**	LR	LR	01 23 35.9	
	comp=Z,46nm,18.1s,baz=292,slow=35						
PFO	**Pinyon Flats O**	**91.40**	**55**	LR	LR	01 26 39.1	
	comp=Z,31nm,18.2s,baz=73,slow=37						
AKASG	**Malin Array Be**	**95.24**	**324**	LR	LR	01 29 15.0	
	comp=Z,30nm,18.3s,baz=358,slow=37						
NOA	**NORSAR Array B**	**97.70**	**339**	LR	LR	01 29 34.4	
	comp=Z,16nm,19.4s,baz=285,slow=36						

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*CATAC **25** 00:37:40.5±0.5, 12°N±3°×8°8W±°, h26km±5km, M4.1/26, MLv4.1/26, Error ellipse: s-maj=6.2km s-min=2.3km az=23.7, confirmed*
*SNET **25** 00:37:41.3±5.6, 11°.80N×88°.13W, h37km, ML4.0*
*GCG **25** 00:37:44.8±0.3, 12°.03N×88°.21W, h85km±66km, MD4.7*
*NEIC **25** 00:37:45.4±1.6, 12°.14N±0°.07×87°.90W±0°.01, h35km±2km, mb4.5/89, Error ellipse: s-maj=11.5km s-min=3.0km az=178.0*
*IDC **25** 00:37:47.1±2.3, 12°.48N×87°.67W, h44km±22km, mb3.6/4, mbtmp3.8/6, ML2.8/3, MS3.3/7, Error ellipse: s-maj=48.5km s-min=22.3km az=42.0*
ISC 25 00:37:45.0±1.0, 11°.91N±0°.04×88°.10W±0°.03, h52km±11km, n216, σ1.966/232, mb4.5/36, MS3.3/6, 15C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.18**	**27**	⇑P	**Pn**	**00 38 03.7**	**-1.7**
CSGN				S	**Sn**	**00 38 23.4**	**+3.0**
CSGN	**Cosiguina Volc**	**1.18**	**27**	⇑*e*P	**Pn**	**00 38 03.1**	**-2.3**
POTN	**Potosi Cosigui**	**1.23**	**28**	⇑P	**Pn**	**00 38 03.7**	**-2.1**
POTN				S	**Sn**	**00 38 23.5**	**+2.2**
POTN	**Potosi Cosigui**	**1.23**	**28**	‖*e*P	**Pn**	**00 38 03.2**	**-2.7**
CRIN	**San Cristobal**	**1.29**	**53**		**Pn**	**00 38 04.2**	**-2.6**
CRIN	**San Cristobal**	**1.29**	**53**	⇑P	**Pn**	**00 38 05.0**	**-1.8**
CRIN	**San Cristobal**	**1.29**	**53**	S	**Sn**	**00 38 26.7**	**+3.6**
CRIN	**San Cristobal**	**1.29**	**53**	⇑*i*P	**Pn**	**00 38 05.0**	**-1.8**
PKGN	**Cerro Pekin**	**1.33**	**55**	⇑P	**Pn**	**00 38 05.0**	**-2.2**
PKGN				S	**Sn**	**00 38 26.2**	**+2.3**
CNCH	**Conchagua**	**1.38**	**11**	*i*P	**Pn**	**00 38 06.1**	**-1.9**
CNCH	**Conchagua**	**1.38**	**11**	⇑P	**Pn**	**00 38 06.2**	**-1.9**
CNCH	**Conchagua**	**1.38**	**11**	S	**Sn**	**00 38 28.5**	**+3.2**
HERN	**Volcan Telica**	**1.42**	**61**	Pn	**Pn**	**00 38 05.2**	**-3.4**
POLN	**Al Sur del Vol**	**1.46**	**60**	⇑P	**Pn**	**00 38 06.1**	**-2.9**
POLN				S	**Sn**	**00 38 28.4**	**+1.4**
CNGA	**Al SSO del Vol**	**1.49**	**67**	P	**Pn**	**00 38 07.2**	**-2.3**
CNGA				S	**Sn**	**00 38 28.6**	**+0.9**
CNGN	**Cerro Negro**	**1.49**	**67**		**Pn**	**00 38 06.0**	**-3.5**
CNGN	**Cerro Negro**	**1.49**	**67**	⇑P	**Pn**	**00 38 06.9**	**-2.6**
CNGN	**Cerro Negro**	**1.49**	**67**	S	**Sn**	**00 38 28.6**	**+0.7**
CNGN	**Cerro Negro**	**1.49**	**67**	*e*P	**Pn**	**00 38 06.3**	**-3.1**
COPN	**Copaltepe**	**1.50**	**80**	⇑P	**Pn**	**00 38 07.4**	**-2.2**
COPN	**Copaltepe**	**1.50**	**80**	⇑*i*P	**Pn**	**00 38 07.3**	**-2.2**
LCY	**Lacayo**	**1.51**	**353**	*e*P	Pn	00 38 02.3	-7.6
BLLM	**Bellamira**	**1.53**	**355**	*e*P	Pn	00 38 03.0	-7.0
TECA	**Tecapa**	**1.62**	**346**	*e*P	**Pn**	**00 38 09.7**	**-1.7**
MOM2	**El Cardon**	**1.67**	**72**	⇑P	**Pn**	**00 38 10.3**	**-1.5**
MOM2				S	**Sn**	**00 38 32.7**	**+0.7**
APQ3	**Volcan Apoyequ**	**1.73**	**78**	P	**Pn**	**00 38 11.1**	**-1.7**
APQ3				S	**Sn**	**00 38 34.0**	**+0.3**
TECO	**Alcaldia de Te**	**1.75**	**338**	P	**Pn**	**00 38 11.9**	**-1.0**
TECO	**Alcaldia de Te**	**1.75**	**338**	S	**Sn**	**00 38 36.0**	**+2.0**
UNAN	**Cigeo UNAN**	**1.80**	**84**	P	**Pn**	**00 38 11.8**	**-1.9**
UNAN				S	**Sn**	**00 38 34.8**	**-0.6**
TISN	**Laguna Tiscapa**	**1.81**	**83**	P	**Pn**	**00 38 11.8**	**-2.0**
MGAN	**Managua**	**1.83**	**82**		**Pn**	**00 38 11.5**	**-2.6**
MGAN	**Managua**	**1.83**	**82**	*e*P	**Pn**	**00 38 11.8**	**-2.3**
UESV	**Universidad de**	**1.84**	**339**	P	**Pn**	**00 38 13.5**	**-0.8**
UESV	**Universidad de**	**1.84**	**339**	S	**Sn**	**00 38 36.8**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.88**	**341**	*e*P	**Pn**	**00 38 13.4**	**-1.4**
MAS3	**Al N del Volca**	**1.89**	**86**	P	**Pn**	**00 38 12.9**	**-2.0**
WILN	**Americas 2**	**1.89**	**82**	P	**Pn**	**00 38 12.8**	**-2.1**
WILN				S	**Sn**	**00 38 37.6**	**0.0**
PAVA	**Las Pavas**	**1.97**	**336**	*e*P	**Pn**	**00 38 14.6**	**-1.4**
PAVA	**Las Pavas**	**1.97**	**336**	P	**Pn**	**00 38 15.0**	**-1.1**
PAVA	**Las Pavas**	**1.97**	**336**	S	**Sn**	**00 38 39.5**	**-0.1**
LBRS	**Las Brisas**	**2.03**	**333**	*e*P	**Pn**	**00 38 16.2**	**-0.7**
LIMN	**Finca el Limon**	**2.04**	**56**	‖P	**Pn**	**00 38 14.9**	**-2.2**
LIMN				S	**Sn**	**00 38 44.3**	**+2.8**
PIC2	**El Picacho**	**2.14**	**328**	*e*P	**Pn**	**00 38 18.1**	**-0.5**
PMON	**Piamonte**	**2.14**	**327**	*e*P	**Pn**	**00 38 18.2**	**-0.3**
PMON	**Piamonte**	**2.14**	**327**	S	**Sn**	**00 38 45.0**	**+1.0**
PMON	**Piamonte**	**2.14**	**327**	P	**Pn**	**00 38 17.7**	**-0.8**
JAYA	**Jayaque - finc**	**2.17**	**323**	*e*P	**Pn**	**00 38 17.5**	**-1.4**
JAYA	**Jayaque - finc**	**2.17**	**323**	*e*P	**Pn**	**00 38 17.3**	**-1.6**
JAYA				*e*S	**Sn**	**00 38 42.4**	**-2.4**
JAYA	**Jayaque - finc**	**2.17**	**323**	S	**Sn**	**00 38 43.0**	**-1.8**
JAYA	**Jayaque - finc**	**2.17**	**323**	P	**Pn**	**00 38 17.3**	**-1.6**
MARCA	**Marcala la Paz**	**2.23**	**2**	*e*P	**Pn**	**00 38 19.2**	**-0.6**
MARCA	**Marcala la Paz**	**2.23**	**2**	S	**Sn**	**00 38 49.4**	**+3.2**
MARCA	**Marcala la Paz**	**2.23**	**2**	P	**Pn**	**00 38 19.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.28**	**21**		**Pn**	**00 38 17.8**	**-2.6**
OCON	**Estacion meteo**	**2.33**	**43**	P	**Pn**	**00 38 19.0**	**-2.0**
OCON				S	**Sn**	**00 38 48.6**	**+0.2**
MATN	**Matagalpa**	**2.35**	**64**	S	**Sn**	**00 38 51.1**	**+2.0**
MATN	**Matagalpa**	**2.35**	**64**	⇑P	**Pn**	**00 38 18.2**	**-3.2**
CEVE	**Cerro Verde**	**2.41**	**322**	*e*P	**Pn**	**00 38 24.9**	**+2.6**
CEVE	**Cerro Verde**	**2.41**	**322**	S	**Sn**	**00 38 51.8**	**+1.0**
CEVE	**Cerro Verde**	**2.41**	**322**	P	**Pn**	**00 38 20.4**	**-2.0**
MORN	**Al O del Volca**	**2.43**	**98**	P	**Pn**	**00 38 18.0**	**-4.3**
MORN				S	**Sn**	**00 38 49.3**	**-1.6**
SNJE	**San Jose**	**2.44**	**323**	*e*P	**Pn**	**00 38 21.7**	**-0.9**
SNJE				*e*S	**Sn**	**00 38 49.2**	**-2.0**
RCFN	**Al S de San Ju**	**2.45**	**49**	⇑P	**Pn**	**00 38 21.1**	**-1.5**
CONN	**Concepcion**	**2.45**	**98**	P	**Pn**	**00 38 20.0**	**-2.6**
CONN				S	**Sn**	**00 38 50.0**	**-1.4**
OMEN	**Al SSO del Vol**	**2.46**	**99**	P	**Pn**	**00 38 21.5**	**-1.2**
OMEN				S	**Sn**	**00 38 48.2**	**-3.3**
RCON	**San Juan de Ri**	**2.46**	**50**	⇑P	**Pn**	**00 38 21.4**	**-1.4**
RCON	**San Juan de Ri**	**2.46**	**50**	S	**Sn**	**00 38 52.8**	**+1.1**
RCVN	**Varilla2**	**2.50**	**48**	S	**Sn**	**00 38 55.0**	**+2.3**
RCVN	**Varilla2**	**2.50**	**48**	‖P	**Pn**	**00 38 21.8**	**-1.5**
RCPN	**Sur Rio San Ju**	**2.53**	**50**	P	**Pn**	**00 38 22.4**	**-1.4**
LCRUZ	**La Cruz**	**2.56**	**109**	*e*P	**Pn**	**00 38 22.5**	**-1.6**
NUBE	**Las Nubes**	**2.57**	**321**	*e*P	**Pn**	**00 38 22.9**	**-1.4**
NUBE				*e*S	**Sn**	**00 38 49.5**	**-5.0**
NUBE	**Las Nubes**	**2.57**	**321**	*e*P	**Pn**	**00 38 23.0**	**-1.4**
NUBE				*i*S	**Sn**	**00 38 53.1**	**-1.3**
NUBE	**Las Nubes**	**2.57**	**321**	P	**Pn**	**00 38 23.2**	**-1.1**
CARN	**Rivas**	**2.63**	**106**	*e*P	**Pn**	**00 38 26.9**	**+1.9**
FAME	**Alcaldia de Sa**	**2.68**	**316**	S	**Sn**	**00 38 55.8**	**-1.1**
RBDL	**Robledal**	**2.68**	**325**	*e*P	**Pn**	**00 38 25.3**	**-0.6**
RBDL				*e*S	**Sn**	**00 38 56.5**	**-0.7**
MTO3	**Montecristo**	**2.76**	**334**		**Pn**	**00 38 25.5**	**-1.5**
MTO3	**Montecristo**	**2.76**	**334**	*e*P	**Pn**	**00 38 26.0**	**-1.0**
MTO3	**Montecristo**	**2.76**	**334**	*e*P	**Pn**	**00 38 25.9**	**-1.1**
MTO3	**Montecristo**	**2.76**	**334**	S	**Sn**	**00 38 58.5**	**-0.8**
MTO3	**Montecristo**	**2.76**	**334**	P	**Pn**	**00 38 26.4**	**-0.6**
ALIBA	**Liberia Airpor**	**2.83**	**117**	*e*P	**Pn**	**00 38 26.9**	**-0.8**
LAPC	**Finca la Perla**	**2.85**	**113**	*e*P	**Pn**	**00 38 25.5**	**-2.6**
ESQI	**Esquipulas**	**2.90**	**335**		**Pn**	**00 38 28.3**	**-0.5**
BUAI	**Buenos Aires**	**2.90**	**110**	*e*P	**Pn**	**00 38 29.0**	**+0.2**
VRLE	**La Escond

PIRO	Carate, Puerto	5.84	126		Pn	00 39 09.1	0.0
PIRO	Carate, Puerto	5.84	126	eP	Pn	00 39 09.8	+0.7
ALCO	Alturas Coton,	5.96	119	eP	Pn	00 39 10.8	-0.1
BRU2	Volcan	6.16	120	Pn	Pn	00 39 14.0	+0.4
CMIG	Matias Romero	8.34	309	P	Pn	00 39 45.3	+1.9
	0.5nm,0.3s,baz=118,slow=13,SNR=2.9						
	2.7nm,0.5s						
TLIG	Tlapa	11.57	300		Pn	00 40 28.9	+1.2
FLOC	Florencia	16.05	129		P	00 41 32.4	+2.2
HBVL	Hebbronville	18.05	328		Pn	00 41 53.9	+1.7
HBVL				IAmb	IAmb	00 41 54.9	
	comp=Z,21nm,0.8s						
833A	Chaparral WMA,	19.45	329		Pn	00 42 08.2	-0.7
HNDO	Hondo	20.38	331	P	P	00 42 17.3	-0.3
HNDO				IAmb	IAmb	00 42 18.8	
	comp=Z,23nm,0.6s						
435B	Jarrell	20.73	336	P	P	00 42 20.7	-0.6
435B				IAmb	IAmb	00 42 26.1	
	comp=Z,17nm,0.8s						
152A	Waverly Hall	20.89	8	P	P	00 42 22.7	-0.4
LRAL	Lakeview Retre	21.05	3	P	P	00 42 24.5	-0.2
237A	Washetta, Mont	21.22	342	P	P	00 42 25.2	-1.3
237A				IAmb	IAmb	00 42 31.2	
	comp=Z,22nm,0.9s						
JCT	Junction City	21.43	331	P	P	00 42 28.1	-0.7
JCT				IAmb	IAmb	00 42 44.1	
	comp=Z,10nm,0.7s						
Z41A	Richland Creek	21.68	349	P	P	00 42 30.7	-0.7
Z41A				IAmb	IAmb	00 42 35.0	
	comp=Z,20nm,0.8s						
BRDY	Brady	21.75	334		P	00 42 31.3	-1.0
GOGA	Godfrey	21.82	10	P	P	00 42 31.8	-1.1
GOGA				IAmb	IAmb	00 42 34.9	
	comp=Z,29nm,1.5s						
Y49A	Blount Mountai	21.90	4	P	P	00 42 31.6	-2.2
WLAR	White Oak Lake	22.15	349		P	00 42 36.2	-0.3
WLAR				IAmb	IAmb	00 42 40.3	
	comp=Z,20nm,0.9s						
HPIG		22.27	315	P	P	00 42 40.3	+2.3
OZNA	Ozona	22.43	329		P	00 42 40.4	+0.7
OZNA				IAmb	IAmb	00 42 42.6	
	comp=Z,15nm,1.0s						
OXF	Oxford	22.53	357	P	P	00 42 38.9	-1.6
OXF				IAmb	IAmb	00 43 15.8	
	comp=Z,19nm,1.2s						
TXAR	Lajitas Array	22.60	322		P	00 42 42.2	+0.7
TXAR	Lajitas Array	22.60	322	P	P	00 42 43.3	+1.8
	comp=Z,2.6nm,0.5s,baz=136,slow=10,SNR=16						
	comp=Z,2.6nm,0.5s						
TX31	Lajitas Ar. Si	22.60	322		P	00 42 42.5	+1.0
PLPT	Palo Pinto	22.82	337	P	P	00 42 43.4	-0.2
PLPT				IAmb	IAmb	00 42 45.6	
	comp=Z,14nm,0.7s						
X40A	Basin Creek Fa	22.88	350	P	P	00 42 43.9	-0.4
MIAR	Mount Ida	23.08	348		P	00 42 46.0	-0.2
UALR	University of	23.08	351	P	P	00 42 45.7	-0.6
UALR				IAmb	IAmb	00 42 47.3	
	comp=Z,8.4nm,0.7s						
ABTX	Abilene, Hawle	23.18	335	P	P	00 42 47.6	+0.2
ABTX				IAmb	IAmb	00 42 48.9	
	comp=Z,14nm,0.7s						
SGCY	Sterling City	23.24	331	P	P	00 42 47.6	-0.4
SGCY				IAmb	IAmb	00 42 49.9	
	comp=Z,8.8nm,0.6s						
ALPN	Alpine	23.35	324		P	00 42 50.4	+1.3
BG3	Lake Jocassee	23.45	11	P	P	00 42 48.0	-1.9
LOOK	Love County	23.49	341	P	P	00 42 50.3	0.0
MNHN	Monahans	23.60	327		P	00 42 51.1	-0.3
APMT	Aspermont	23.99	335		P	00 42 54.5	-0.4
V53A	Saluda	24.13	11	P	P	00 42 56.4	+0.1
FCAR	Ozark Folk Cen	24.15	352	P	P	00 42 55.4	-0.9
LCAR	Lake Charles	24.21	354		P	00 42 55.9	-0.9
X34A	Smith Ranch, M	24.26	340		P	00 42 58.5	+1.2
POST	Post	24.38	332		P	00 42 58.1	-0.4
POST				IAmb	IAmb	00 43 11.4	
	comp=Z,11nm,0.7s						
U49A	Red Boiling Sp	24.58	4	P	P	00 42 58.8	-1.4
DKNS	Dickens	24.62	334		P	00 43 02.1	+1.3
DKNS				IAmb	IAmb	00 43 13.3	
	comp=Z,11nm,1.0s						
WMOK	Wichita Mounta	24.71	339	P	P	00 43 00.3	-1.1
FNO	Franklin	24.73	342	P	P	00 43 01.7	+0.2
HHAR	Hobbs	24.83	349	P	P	00 43 02.3	-0.2
HHAR				IAmb	IAmb	00 43 04.2	
	comp=Z,8.4nm,0.7s						
PBMO	Poplar Bluff	24.85	356	P	P	00 43 01.5	-1.2
PBMO				IAmb	IAmb	00 43 02.6	
	comp=Z,6.8nm,0.7s						
TUL3	Leonard	24.88	345		P	00 43 03.4	+0.4
TUL3				IAmb	IAmb	00 43 05.5	
	comp=Z,12nm,0.7s						
RLO	Rose Lookout	24.94	347	P	P	00 43 02.8	-0.7
T47A	Sharon Grove	24.98	2		P	00 43 02.0	-1.8
T47A				IAmb	IAmb	00 43 03.8	
	comp=Z,10.0nm,0.7s						
DEOK	Depew	25.01	344	P	P	00 43 03.5	-0.6
DEOK				IAmb	IAmb	00 43 06.1	
	comp=Z,11nm,0.7s						
U38A	Gravette	25.07	348		P	00 43 04.4	-0.3
U38A				IAmb	IAmb	00 43 06.8	
	comp=Z,9.6nm,0.8s						
U54A	Nelsons Funny	25.15	12	P	P	00 43 05.5	+0.1
OK052	Battle Ridge R	25.23	343	P	P	00 43 05.6	-0.6
MNTX	Cornudas Mount	25.33	324	P	P	00 43 07.7	+0.6
QUOK	Quay	25.37	344	P	P	00 43 06.8	-0.6
QUOK				IAmb	IAmb	00 43 08.0	
	comp=Z,19nm,0.7s						
SMWD	Samnorwood	25.58	336		P	00 43 09.4	0.0
OK048	Pawnee Station	25.67	343	P	P	00 43 10.2	+0.1
OK048				IAmb	IAmb	00 43 12.3	
	comp=Z,19nm,0.8s						
SIUC	Southern Illin	25.71	358	P	P	00 43 08.7	-1.8
SIUC				IAmb	IAmb	00 43 10.6	
	comp=Z,9.2nm,0.8s						
MSTX	Muleshoe	25.72	331		P	00 43 11.3	+0.6
MSTX				IAmb	IAmb	00 43 12.9	
	comp=Z,11nm,0.6s						
OK051	E0350 and S346	25.72	344	P	P	00 43 06.2	-4.4
BLOK	Blackwell	26.07	343	P	P	00 43 13.8	+0.1
CCM	Cathedral Cave	26.18	354	P	P	00 43 13.8	-1.0
CCM				IAmb	IAmb	00 43 15.0	
	comp=Z,6.4nm,0.7s						
NOKA	Waynoka	26.48	340	P	P	00 43 17.6	+0.1
ILAM	Ilet Lapin Mar	26.64	81	P	P	00 43 17.1	-1.9
121A	Cookes Peak, D	27.35	322		P	00 43 23.1	-2.5
RTBA	Rita Blanca	27.76	334		P	00 43 29.8	+0.7
RTBA				IAmb	IAmb	00 43 33.4	
	comp=Z,8.5nm,0.6s						
BNM	Barren Site	27.84	326	P	P	00 43 30.4	+0.3
Y22A	Socorro	27.87	325	P	P	00 43 31.1	+0.9
P38A	Dawn	28.02	351	P	P	00 43 30.3	-0.9
P38A				IAmb	IAmb	00 43 31.8	
	comp=Z,9.0nm,0.8s						
LENM	Lemitar	28.05	325	P	P	00 43 32.6	+0.8
PV12	Saucer Basin,	32.13	328	P	P	00 44 08.0	+0.1
PV12				IAmb	IAmb	00 44 10.9	
	comp=Z,5.4nm,0.8s						
PV11	David Mesa, Pa	32.16	328	P	P	00 44 08.8	+0.7
PV11				IAmb	IAmb	00 44 29.8	
	comp=Z,7.7nm,1.2s						
SPMN	Marine on St.	33.44	354	P	P	00 44 18.1	-0.9
SPMN				IAmb	IAmb	00 44 18.8	
	comp=Z,7.1nm,0.9s						
PFO	Pinyon Flats O	33.72	314	LR	LR	01 00 39.6	
	comp=Z,54nm,19.0s,baz=112,slow=41						
F33A	5 Mile Ranch,	34.52	350		P	00 44 27.3	-1.1
MDP	Montagnes des	35.69	98	LR	LR	01 01 54.9	
	comp=Z,14nm,21.5s,baz=288,slow=41						
PDAR	Pinedale Array	35.95	333	P	P	00 44 41.1	+0.2
	comp=Z,0.2nm,0.5s,baz=156,slow=8.5,SNR=2.2						
PDAR				PcP	PcP	00 47 09.3	+2.3
	comp=Z,0.2nm,0.5s,baz=129,slow=2.8,SNR=2.2						
	comp=Z,0.2nm,0.5s						
AGMN	Agassiz Nation	36.85	351		P	00 44 46.8	-1.4
AGMN				IAmb	IAmb	00 44 51.9	
	comp=Z,6.8nm,1.1s						
NVAR	Mina Array Bea	37.69	320	P	P	00 44 55.9	+0.1
	comp=Z,0.2nm,0.6s,baz=134,slow=5.1,SNR=1.4						
NVAR				PcP	PcP	00 47 15.4	+3.1
	comp=Z,0.2nm,0.5s,baz=120,slow=2.1,SNR=3.8						
	comp=Z,0.2nm,0.6s						
ULM	Lac du Bonnet	38.76	352	P	P	00 45 02.8	-1.5
	comp=Z,7.0nm,0.6s,baz=152,slow=8.1,SNR=5.3						
	comp=Z,7.0nm,0.6s						
DGMT	Dagmar	38.84	343		P	00 45 05.2	+0.1
DGMT				IAmb	IAmb	00 45 06.4	
	comp=Z,11nm,0.7s						
DCMP	DeCamp, Califo	41.53	318	P	P	00 45 27.1	-0.3
RPN	Rapa Nui	43.94	208	LR	LR	00 59 18.4	
	comp=Z,33nm,18.8s,baz=67,slow=29						
SCHQ	Schefferville	45.97	17	P	P	00 46 00.3	-2.6
	comp=Z,26nm,0.6s,baz=236,slow=9.6,SNR=5.0						
FRB	Frobisher Bay	53.57	11	LR	LR	01 11 49.4	
	comp=Z,79nm,18.1s,baz=134,slow=39						
SFJD	Kangerlussuaq	60.41	16	LR	LR	01 15 08.6	
	comp=Z,38nm,18.1s,baz=3.5,slow=38						
ESDC	Sonseca Array	78.02	52	LR	LR	01 22 24.4	
	comp=Z,16nm,18.1s,baz=280,slow=35						
ASAR	Alice Springs	138.48	248	PKP	PKiKP	00 57 10.0	+2.1
	comp=Z,0.4nm,0.8s,baz=83,slow=2.5,SNR=2.5						
WRA	Warramunga Arr	138.51	253	PKP	PKiKP	00 57 07.6	-0.4
	comp=Z,0.4nm,0.6s,baz=94,slow=2.8,SNR=1.7						
CMAR	Chiang Mai Arr	149.03	347	PKPbc	PKPbc	00 57 28.9	+0.6
	comp=Z,1.5nm,0.7s,baz=331,slow=3.6,SNR=8.3						

IDC 25 00:49:30.6±6.0, 30°.25S×177°.76W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=230.9km s-min=57.3km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.72	257	P	P	00 56 22.1	-0.3
	1.4nm,0.6s,baz=105,slow=12,SNR=1.4						
	1.4nm,0.6s						
ASAR	Alice Springs	43.33	267	P	P	00 57 34.4	-0.2
	0.3nm,0.5s,baz=102,slow=7.3,SNR=5.1						
	0.3nm,0.5s						
WRA	Warramunga Arr	44.30	272	P	P	00 57 42.5	+0.1
	0.4nm,0.3s,baz=112,slow=7.4,SNR=4.5						
	0.4nm,0.3s						
H03S2	Juan Fernandez	80.37	123	T	T	02 30 47.2	
	baz=238,slow=74,SNR=12						
H03S1	Juan Fernandez	80.38	123	T	T	02 30 47.7	
	baz=238,slow=74,SNR=11						
H03S3	Juan Fernandez	80.39	123	T	T	02 30 51.7	
	baz=238,slow=74,SNR=11						
FINES	FINESS Array B	145.08	340	PKPbc	PKPbc	01 09 07.9	-0.8
	1.9nm,0.8s,baz=45,slow=4.5,SNR=3.5						

*NNC **25** 01:02:39.7±2.2, 34°.46N×78°.43E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=38.2km s-min=18.7km az=76.0*
*IDC **25** 01:02:46.6±1.1, 35°.34N×76°.67E, h0km, mb3.9/8, mbtmp3.7/12, ML2.9/4, Error ellipse: s-maj=26.1km s-min=18.3km az=56.0*
ISC 25 01:02:49.1±1.0, 35°.40N±0°.09×77°.0E±0°.1, h10km, n16, σ1§87/14, mb3.7/7, 3C, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.48	346	Pn	Pn	01 04 41.2	+2.9
	0.1nm,0.3s,baz=186,slow=12,SNR=1.4						
AAK				Lg	Lg	01 06 42.7	
	0.4nm,0.3s,baz=297,slow=20,SNR=3.7						
	0.4nm,0.3s						
AAK	Ala-Archa	7.48	346	⇑P	Pn	01 04 47.0	+8.6
	3.0nm,0.7s						
AAK				⇑S	Sb	01 06 28.7	+0.4
	6.7nm,0.9s						
KK31	Karatay Array	9.18	329	P	Pn	01 05 12.4	+11
	0.6nm,0.5s,baz=147,slow=13,SNR=7.2						
KK31				⇑S	Sn	01 07 13.0	+28
	1.4nm,0.7s,baz=141,slow=24						
MKAR	Makanchi Array	12.07	18	Pn	Pn	01 05 42.3	+1.2
	0.1nm,0.3s,baz=201,slow=13,SNR=4.1						
MKAR				Sn	Sn	01 07 52.1	-3.6
	0.1nm,0.3s,baz=202,slow=23,SNR=4.0						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	15.26	4	Pn	P	01 06 30.0	+0.6
	baz=191,slow=11						
BVAR	Borovoye Array	18.23	347	P	Pn	01 07 02.6	+0.6
	baz=156,slow=9.9,SNR=5.1						
	0.4nm,0.4s						
AB31	Akbulak array	18.65	323	P	Pn	01 07 15.4	+8.2
	9.5nm,2.1s,baz=134,slow=11,SNR=4.8						
ZALV	Zalesovo Beam	19.35	14	P	P	01 07 15.8	+1.4
	0.1nm,0.3s,baz=212,slow=10,SNR=1.4						
	0.3nm,0.3s						
SONM	Songino Array	25.11	51	P	P	01 08 14.8	+0.7
	0.7nm,0.4s,baz=241,slow=8.1,SNR=4.0						
	0.7nm,0.4s						
CMAR	Chiang Mai Arr	25.77	125	P	P	01 08 19.9	-0.2
	1.0nm,0.3s,baz=323,slow=10,SNR=4.3						
	1.0nm,0.3s						
BRTR	Keskin Array B	34.37	290	P	P	01 09 31.6	-4.7
	0.1nm,0.4s,baz=92,slow=7.2,SNR=1.4						
	0.1nm,0.4s						
FINES	FINESS Array B	41.12	325	P	P	01 10 32.2	-0.6
	1.7nm,0.8s,baz=120,slow=11,SNR=3.9						
	1.7nm,0.8s						
ARCES	ARCESS Array B	44.04	337	P	P	01 10 55.8	-0.7
	4.6nm,1.1s,baz=118,slow=9.5,SNR=1.2						
	4.6nm,1.1s						
NOA	NORSAR Array B	48.16	323	P	P	01 11 26.0	-3.1
	0.4nm,0.8s,baz=79,slow=7.1,SNR=3.3						
	0.4nm,0.8s						
TORD	Torodi Ar. Bea	70.57	273	P	P	01 14 03.5	-1.2
	3.3nm,0.4s,baz=40,slow=7.9,SNR=2.3						
	3.3nm,0.4s						
WRA	Warramunga Arr	77.36	126	P	P	01 14 45.0	+0.7
	0.4nm,0.7s,baz=302,slow=6.6,SNR=2.0						
	0.4nm,0.7s						

*NEIC **25** 01:06:58.4±1.7, 46°.680N±0°.006×120°.61W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=217.0*
SEA 25 01:06:58.5±1.4, 46°.68N±0°.01×120°.60W±0°.02, h7km±4km, ML1.4/15, ML1.7/20(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=220.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YA2	Yakima	0.16	162		Pg	01 07 01.9	+0.2
YA2					Sg	01 07 04.7	+0.8
NAC	Naches	0.17	291		Pg	01 07 02.3	+0.4
NAC					Sg	01 07 02.4	-1.8
MXC	Moxie City	0.23	115		Pg	01 07 03.2	+0.1
MXC					Sg	01 07 06.9	+0.7
MXC	Moxie City	0.23	115	IAML		01 07 07.0	
	comp=N,77nm,0.5s						
MXC				IAML		01 07 07.0	
	comp=E,55nm,0.4s						
EBG	Ellensburg	0.24	5		Pg	01 07 03.6	+0.4
TRW	Toppenish Ridg	0.39	174		Pg	01 07 06.2	+0.3
TBM	Table Mountain	0.49	0		Pg	01 07 08.4	+0.3
BVW	Beverly	0.51	74		Pg	01 07 08.6	+0.2
E07A	Sunnyside	0.53	102		Pg	01 07 09.0	+0.3
E07A					Sg	01 07 16.3	+0.8
E07A	Sunnyside	0.53	102	IAML		01 07 17.0	
	comp=E,34nm,0.7s						
E07A				IAML		01 07 19.7	
	comp=N,41nm,0.6s						
LTY	Liberty	0.58	355		Pg	01 07 09.2	-0.5
LTY					Sg	01 07 17.3	-0.1
LTY	Liberty	0.58	355	IAML		01 07 17.5	
	comp=N,23nm,0.5s						
LTY				IAML		01 07 21.4	
	comp=E,12nm,0.3s						
GBB	Gable Butte	0.67	95		Pg	01 07 11.6	+0.1
GBB					Sg	01 07 20.8	+0.6
SNIWA	Snively Ranch	0.68	108		Pg	01 07 11.6	+0.1
PANH	Panhandle Gap,	0.74	285		Pg	01 07 12.2	-0.5
PANH					Pb	01 07 12.3	-1.5
PANH					Sg	01 07 22.1	-0.2
RSW	Rattlesnake Hi	0.75	112		Pg	01 07 12.6	-0.3
PRW	Prosser	0.78	126		Pg	01 07 13.4	-0.1
GBL	Gable Mountain	0.79	95		Pg	01 07 13.6	0.0
GBL					Pb	01 07 13.8	-0.7
HAWA	Hanford	0.79	111		Pg	01 07 13.2	-0.4
HAWA				IAML		01 07 24.8	
	comp=E,26nm,0.2s						
HAWA	Hanford	0.79	111		Pg	01 07 13.2	-0.4
HAWA					Sg	01 07 24.3	+0.4
FHE	Frenchman Hill	0.81	69		Pg	01 07 14.1	+0.1
BLTW	Bickleton	0.81	159		Pg	01 07 13.5	-0.6
H2OWA	Water	0.86	109		Sb	01 07 26.8	-0.6
F07A	Phinny Hill Vi	0.91	149		Pg	01 07 15.5	-0.4
F07A				IAML		01 07 29.9	
	comp=N,36nm,0.5s						
F07A				IAML		01 07 30.1	
	comp=E,34nm,0.4s						
OT3	Othello 3	0.94	90		Pg	01 07 16.3	-0.3
F05D	White Salmon	0.99	217		Pg	01 07 17.0	-0.4
WTV	Waterville	1.11	23		Pg	01 07 19.0	-0.8
CBSW	Chelan Butte S	1.19	18		Pg	01 07 20.5	-0.8
D08A	Wollman Farm,	1.21	71		Pg	01 07 20.6	-1.1
D08A				IAML		01 07 37.6	
	comp=E,20nm,0.1s						
YPT	Yellepit	1.29	118		Pn	01 07 22.1	-0.9
SHRK	Shell Rock	1.37	208		Pn	01 07 23.9	-0.3
G06A	Carlson Farm,	1.44	181	Pn	Pn	01 07 23.7	-1.3
G06A				IAML		01 07 41.8	
	comp=E,11nm,4.5s						
G06A				IAML		01 08 14.7	
	comp=N,9.2nm,4.1s						
GPW	Glacier Peak	1.49	346		Pn	01 07 26.0	+0.1
HIYU	Hiyu Mountain	1.50	215		Pn	01 07 25.2	-0.7

*NNC **25** 01:09:07.6±4.9, 50°.42N×79°.66E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=42.9km s-min=23.4km az=39.0, Suspected Mining explosion.*
*IDC **25** 01:09:09.4±0.8, 50°.04N×78°.76E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=8.9km s-min=5.7km az=53.0*
ISC 25 01:09:08.6±1.0, 50°.08N±0°.05×78°.68E±0°.07, h0km, n10, σ1§33/14, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.55	350	Pg	Pb	01 09 20.6	-0.4
	1.8nm,0.3s,baz=165,slow=19,SNR=59						
KURBB				Lg	Lg	01 09 30.3	
	2.7nm,0.3s,baz=167,slow=33,SNR=14						
KURBB	Kurchatov Arra	0.55	350	⇑P	Pb	01 09 20.7	-0.4
	31nm,0.5s,baz=86,slow=16						
KURBB				⇓S	Sn	01 09 31.5	-2.0
	84nm,0.6s,baz=104,slow=23						
KURK	Kurchatov	0.64	357	⇓P	Pb	01 09 22.2	-0.3
	4.3nm,0.5s						
KURK				⇑S	Sb	01 09 32.7	+0.7
	41nm,1.1s						
MAKZ	Makanchi	3.94	145	⇑Pg	Pb	01 10 19.8	+0.8
	9.6nm,1.1s						
MAKZ				⇑Lg	Lg	01 11 11.7	
	11nm,0.6s						
MK31	Makanchi Array	4.08	142	⇓Pg	Pb	01 10 21.7	+0.5
	2.5nm,0.5s,baz=320,slow=14,SNR=8.7						
MK31				⇓Lg	Lg	01 11 15.3	
	13nm,0.7s,baz=316,slow=27						
MKAR	Makanchi Array	4.08	142	Pn	Pn	01 10 12.8	+0.6
	0.1nm,0.3s,baz=322,slow=11,SNR=21						
MKAR				Pg	Pb	01 10 20.6	-0.6
	0.6nm,0.3s,baz=331,slow=16,SNR=19						
MKAR				Sn	Sn	01 10 57.2	-3.4
	0.4nm,0.3s,baz=334,slow=23,SNR=4.1						
MKAR				Lg	Lg	01 11 15.4	
	1.6nm,0.3s,baz=349,slow=28,SNR=12						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	5.42	42	Pn	Pn	01 10 31.3	+0.8
	0.3nm,0.3s,baz=229,slow=16,SNR=8.4						
ZALV				Sn	Sn	01 11 33.4	-0.2
	0.1nm,0.3s,baz=223,slow=27,SNR=1.7						
ZALV				Lg	Lg	01 11 58.0	
	0.2nm,0.3s,baz=235,slow=26,SNR=2.8						
	1.2nm,0.5s						
I46RU	ZALESOVO INFRA	5.42	42	I	I	01 39 35.0	
	baz=222,slow=310,SNR=1.6						
BVAR	Borovoye Array	5.95	303	Pn	Pn	01 10 38.5	+0.7
	baz=113,slow=17,SNR=2.4						
BVAR				Sn	Sn	01 11 46.9	+0.3
	baz=109,slow=26,SNR=7.6						
BVAR				Lg	Lg	01 12 16.0	
	baz=107,slow=24,SNR=1.1						
	0.4nm,0.5s						
AAK	Ala-Archa	7.99	203	Lg	Lg	01 13 19.0	
	0.1nm,0.3s,baz=79,slow=23,SNR=2.3						

*SDD **25** 01:16:53.4±0.8, 17°.97N×66°.28W, h26km±9km, MD3.6, ML3.2, MW3.4*
*OSPL **25** 01:16:53.9±0.3, 17°.93N×66°.35W, h6km±27km, ML2.7*
*NEIC **25** 01:16:53.4±0.9, 17°.93N±0°.04×66°.349W±0°.007, h10km±2km, ML3.1/13, Md2.8/13(RSPR), Error ellipse: s-maj=6.6km s-min=3.0km az=355.0*
*RSPR **25** 01:16:53.5, 17°.94N×66°.33W, h8km±1km, MD2.8/13*
ISC 25 01:16:52.9±0.9, 17°.92N±0°.04×66°.33W±0°.02, h17km±7km, n71, σ0§60/81, 12C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	InterUniversit	0.22	79		Pg	01 16 58.2	+0.2
IGPR					Sb	01 17 02.0	-0.1
IGPR	InterUniversit	0.22	79	⇓iP	Pg	01 16 58.2	+0.2
IGPR	InterUniversit	0.22	79	eS	Sb	01 17 02.0	-0.1
SJG	San Juan	0.26	43		Pg	01 16 58.7	+0.1
SJG	San Juan	0.26	43	IAML		01 17 03.2	
	3μm,0.2s						
SJG				IAML		01 17 04.0	
	3μm,0.2s						
SJG	San Juan	0.26	43	⇑iP	Pg	01 16 58.7	+0.1
SJG	San Juan	0.26	43	eP	Pg	01 16 58.6	+0.1
SJG	San Juan	0.26	43	⇑ePg	Pg	01 16 58.7	+0.1
SJG				⇑eSg	Sg	01 17 02.4	-0.1
SJG	San Juan	0.26	43	iP	Pg	01 16 58.7	+0.1
SJG				eS	Sg	01 17 02.3	-0.2
SJG				IAML		01 17 03.1	
	comp=Z,1μm,0.3s						
OBIP	Obispado Ponce	0.29	295		Pg	01 16 59.1	0.0
OBIP					Sg	01 17 02.9	-0.5
OBIP	Obispado Ponce	0.29	295	IAML		01 17 03.6	
	comp=E,2μm,0.4s						
OBIP				IAML		01 17 04.0	
	comp=N,5μm,0.2s						
OBIP	Obispado Ponce	0.29	295	⇑iP	Pg	01 16 59.1	0.0
OBIP	Obispado Ponce	0.29	295	eS	Sg	01 17 02.9	-0.5
PDPR	Patillas Dam,	0.31	72		Pg	01 16 59.6	+0.1
PDPR	Patillas Dam,	0.31	72	⇓iP	Pg	01 16 59.6	+0.1
PDPR	Patillas Dam,	0.31	72	eS	Sg	01 17 04.0	0.0
ECPR	Experimental S	0.39	356	⇑iP	Pg	01 17 01.0	0.0
ECPR	Experimental S	0.39	356	eS	Sb	01 17 06.7	-0.5
GCPR	Guaynabo City	0.45	32		Pg	01 17 02.

CRPR			IAML		01 17 19.7	
	comp=Z,368nm,0.3s					
LSP	**Las Mesas**	**0.76 289**		**Pg**	**01 17 07.3**	**-0.5**
LSP				**Sg**	**01 17 17.5**	**-0.3**
LSP	**Las Mesas**	**0.76 289**‖	*e*P	**Pg**	**01 17 07.3**	**-0.5**
LSP	**Las Mesas**	**0.76 289**	*e*S	**Sg**	**01 17 17.5**	**-0.3**
PRSN	**Puerto Rico Se**	**0.83 291**		**Sg**	**01 17 19.6**	**-0.3**
PRSN	**Puerto Rico Se**	**0.83 291**	*e*S	**Sg**	**01 17 19.6**	**-0.3**
AGPR	**Aguadilla, PR**	**0.92 306**		**Pb**	**01 17 10.1**	**-0.2**
AGPR				**Sb**	**01 17 22.2**	**0.0**
AGPR	**Aguadilla, PR**	**0.92 306**⇑	*i*P	**Pb**	**01 17 10.1**	**-0.2**
AGPR	**Aguadilla, PR**	**0.92 306**	*e*S	**Sb**	**01 17 22.2**	**0.0**
AGPR	**Aguadilla, PR**	**0.92 306**⇑	*e*Pg	**Pb**	**01 17 09.8**	**-0.5**
AGPR		⇑	*e*Sg	**Sb**	**01 17 21.7**	**-0.5**
AGPR			IAML		01 17 22.7	
	comp=N,1μm,0.6s					
AGPR	**Aguadilla, PR**	**0.92 306**	*i*P	**Pb**	**01 17 10.1**	**-0.2**
AGPR			*e*S	**Sb**	**01 17 22.0**	**-0.3**
AGPR			IAML		01 17 23.5	
	comp=Z,552nm,0.3s					
IDE	**Isla Desecheo**	**1.18 293**		**Pn**	**01 17 14.8**	**+0.2**
IDE				**Sb**	**01 17 30.1**	**+0.3**
IDE	**Isla Desecheo**	**1.18 293**‖	*i*P	**Pn**	**01 17 14.8**	**+0.2**
IDE	**Isla Desecheo**	**1.18 293**	*e*S	**Sb**	**01 17 30.1**	**+0.3**
HIDR	**Higuey Centro**	**2.36 287**‖	*e*P	**Pb**	**01 17 34.9**	**-0.1**
HIDR	**Higuey Centro**	**2.36 287**	*e*S	**Sb**	**01 18 04.7**	**+0.9**
MIDR	**Miches**	**2.79 293**‖	*e*P	**Pb**	**01 17 40.9**	**-1.3**
MIDR	**Miches**	**2.79 293**	*e*S	**Sb**	**01 18 16.2**	**+0.1**
SABA	**Saba**	**2.96 95**		**Pn**	**01 17 40.9**	**+1.8**
DR12	**Loma Pena Alta**	**3.02 287**		**Pn**	**01 17 42.8**	**+2.8**
SKI	**Saint Kitts**	**3.48 99**	*e*	**Pn**	**01 17 46.3**	**+0.1**
MBWH	**Windy Hill**	**4.13 106**	*e*	**Pn**	**01 17 55.4**	**+0.2**
MLYT	**Lee's Yard**	**4.13 106**	*e*P	**Pn**	**01 17 56.3**	**+1.0**
ANWB	**Willy Bob**	**4.34 93**	*e*P	**Pn**	**01 17 59.1**	**+1.0**
DHSZ	**Broadband at M**	**4.67 110**	*e*	**Pn**	**01 18 03.4**	**+0.9**
ATGZ	**Broadband at L**	**4.77 112**	*e*	**Pn**	**01 18 02.7**	**-1.2**
DSDZ	**La Diserade, G**	**5.29 107**	*e*	**Pn**	**01 18 09.2**	**-1.9**
DSLB	**Salisbury**	**5.32 117**	*e*	**Pn**	**01 18 11.2**	**-0.3**

*INMG **25** 01:21:34.3±1.8, 36.°95N×5.°31W, h11km±3km, ML1.9, Error ellipse: s-maj=2.8km s-min=2.4km az=172.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **25** 01:21:34.4, 36.°97N×5.°25W, h17km, ML2.4/11, ML2.1/15, MLv2.0/15*
*MDD **25** 01:21:34.3±0.4, 37.°02N×5.°32W, h1km±3km, mb_Lg2.2/12, Error ellipse: s-maj=3.0km s-min=2.1km az=168.0*
*CNRM **25** 01:21:37.0, 36.°56N×5.°69W, h116km, ML2.7*
ISC 25 01:21:32.9±1.0,**36.°99N**±0.°02×**5.°28W**±0.°02,**h14**km±9km,
n57,σ1§**17**/116,**1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E1302	**La Puebla de C**	**0.14**	**11**	Pg	**Pb**	**01 21 37.3**	**0.0**
E1302				Sg	**Sb**	**01 21 40.8**	**+0.5**
ESPR	**Espera**	**0.48**	**255**	Pg	**Pb**	**01 21 44.1**	**+1.0**
ESPR				Sg	**Sb**	**01 21 51.9**	**+1.9**
ESPR	**Espera**	**0.48**	**255**	Pg	**Pb**	**01 21 43.9**	**+0.8**
ESPR				Sg	**Sb**	**01 21 50.8**	**+0.8**
ESPR				*i* IVmb_Lg		01 21 56.8	
EJIF	**Jimena Fronter**	**0.56**	**196**	Pg	**Pg**	**01 21 44.0**	**0.0**
EJIF				Sg	**Sb**	**01 21 52.6**	**+0.2**
EMAL	**Malaga-Limoner**	**0.72**	**109**	Pg	**Pg**	**01 21 45.4**	**-1.5**
EMAL				Sg	**Sg**	**01 21 56.0**	**-0.4**
EGOR	**Sierra Gorda,**	**0.94**	**83**	Sg	**Sg**	**01 22 03.6**	**+0.1**
EGOR				Pg	**Pn**	**01 21 51.8**	**0.0**
EGOR	**Sierra Gorda,**	**0.94**	**83**	Pg	**Pn**	**01 21 52.3**	**+0.5**
EGOR				Sg	**Sn**	**01 22 05.4**	**+0.3**
EGOR				*i* IVmb_Lg		01 22 10.7	
ECAB	**El Cabril**	**1.08**	**354**	Pg	**Pg**	**01 21 54.0**	**+0.2**
ECAB				Sg	**Sn**	**01 22 09.1**	**+0.6**
ECAB	**El Cabril**	**1.08**	**354**	Pg	**Pg**	**01 21 54.1**	**+0.2**
ECAB				Sg	**Sn**	**01 22 08.8**	**+0.3**
ECAB				*i* IVmb_Lg		01 22 11.1	
EADA	**Adamuz**	**1.30**	**25**	Pn	**Pb**	**01 21 57.1**	**+0.1**
EADA				Sn	**Sg**	**01 22 14.4**	**-0.3**
EADA	**Adamuz**	**1.30**	**25**	Pg	**Pb**	**01 21 57.1**	**+0.1**
EADA				Sg	**Sg**	**01 22 16.1**	**+1.3**
EADA				*i* IVmb_Lg		01 22 16.9	
SMIR	**Smir Dam**	**1.31**	**184**	P	**Pb**	**01 21 57.6**	**+0.3**
ELGU	**Los Guajares,**	**1.33**	**95**	Pn	**Pg**	**01 21 58.3**	**-0.2**
ELGU	**Los Guajares,**	**1.33**	**95**	Pg	**Pg**	**01 21 58.8**	**+0.3**
ELGU				Sg	**Sg**	**01 22 17.8**	**+2.1**
ELGU				*i* IVmb_Lg		01 22 21.9	
EMIN	**Mina Concepcio**	**1.35**	**305**	Pn	**Pn**	**01 21 57.3**	**0.0**
EMIN				Sn	**Sg**	**01 22 16.6**	**0.0**
EMIN	**Mina Concepcio**	**1.35**	**305**	Pg	**Pn**	**01 21 57.4**	**0.0**
EMIN				Sg	**Sb**	**01 22 15.6**	**+0.5**
EMIN				*i* IVmb_Lg		01 22 19.5	
EQTA	**Presa de Quent**	**1.48**	**81**	Sn	**Sn**	**01 22 17.5**	**-0.9**
EQUE	**Quentar**	**1.48**	**81**	Pg	**Pg**	**01 22 01.2**	**-0.2**
EQUE				Sg	**Sg**	**01 22 21.7**	**+0.9**
EQUE				*i* IVmb_Lg		01 22 25.4	
E0803	**Jimena (Jaen)**	**1.66**	**59**	Pn	**Pb**	**01 22 03.6**	**+0.2**
E0803				Sn	**Sg**	**01 22 26.5**	**0.0**
PBAR	**Barrancos**	**1.83**	**311**	Pn	**Pn**	**01 22 04.1**	**+0.2**
PBAR	**Barrancos**	**1.83**	**311**	*e*Pn	**Pn**	**01 22 04.2**	**+0.2**
PBAR				*e*Pg	**Pb**	**01 22 06.0**	**-0.1**
PBAR				*e*Sn	**Sn**	**01 22 27.5**	**+0.7**
PBAR				*e*Sg	**Sg**	**01 22 31.4**	**-0.4**
PBAR				*i* IAML		01 22 34.5	
PBAR				*i* IAML		01 22 35.4	
PBAR				*i* IAML		01 22 41.5	
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**01 22 04.0**	**-0.1**
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**01 22 04.0**	**-0.1**
EGRO				Sn	**Sb**	**01 22 28.9**	**-0.3**
EGRO				*i* IVmb_Lg		01 22 41.5	
EQES	**Quesada**	**1.93**	**65**	Pn	**Pb**	**01 22 07.2**	**-0.7**
EQES				Sn	**Sb**	**01 22 32.1**	**+0.2**
EQES				*i* IVmb_Lg		01 22 40.9	
PVAQ	**Vaqueiros**	**1.99**	**283**‖	*i*Pn	**Pn**	**01 22 06.0**	**-0.1**
PVAQ				*e*Pg	**Pg**	**01 22 10.3**	**-0.8**
PVAQ				*e*Sn	**Sn**	**01 22 29.9**	**-0.9**
PVAQ				*e*Sg	**Sg**	**01 22 37.4**	**+0.5**
PVAQ				*i* IAML		01 22 40.7	
PVAQ				*i* IAML		01 22 41.8	
PVAQ				*i* IAML		01 22 43.2	
PVAQ	**Vaqueiros**	**1.99**	**283**	P	**Pb**	**01 22 07.8**	**-1.1**
PVAQ	**Vaqueiros**	**1.99**	**283**	S	**Sb**	**01 22 32.8**	**-0.8**
PBDV	**Barranco-do-Ve**	**2.14**	**277**	Pn	**Pn**	**01 22 08.3**	**+0.1**
PBDV				Sn	**Sn**	**01 22 33.4**	**-1.0**
PBDV	**Barranco-do-Ve**	**2.14**	**277**	*e*Pn	**Pn**	**01 22 08.3**	**+0.1**
PBDV				*e*Pg	**Pb**	**01 22 12.1**	**+0.7**
PBDV				*e*Sn	**Sn**	**01 22 34.0**	**-0.4**
PBDV				*i* IAML		01 22 45.3	
PBDV				*i* IAML		01 22 50.8	
PSIM	**Granatula de C**	**2.18**	**33**	Pn	**Pb**	**01 22 10.7**	**-1.5**
PSIM				Sn	**Sb**	**01 22 38.7**	**-0.4**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**01 22 09.8**	**+0.4**
EBAD				Sn	**Sn**	**01 22 35.4**	**-1.3**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**01 22 10.1**	**+0.7**
EBAD				Sn	**Sn**	**01 22 37.5**	**+0.8**
EBAD				*i* IVmb_Lg		01 22 47.8	
PCVE	**Castro Verde**	**2.29**	**287**	Pn	**Pn**	**01 22 10.3**	**0.0**
PCVE	**Castro Verde**	**2.29**	**287**	*e*Pn	**Pn**	**01 22 10.2**	**-0.1**
PCVE				*e*Pg	**Pg**	**01 22 16.5**	**-0.3**
PCVE				*e*Sn	**Sb**	**01 22 43.0**	**+0.9**
PCVE				*e*Sg	**Sg**	**01 22 51.5**	**+4.9**
PCVE				*i* IAML		01 22 52.7	
PCVE				*i* IAML		01 22 58.0	
PCVE				*i* IAML		01 22 58.9	
PBEJ	**Beja**	**2.30**	**297**	*e*Pn	**Pn**	**01 22 11.0**	**+0.7**
PBEJ				*e*Pg	**Pg**	**01 22 16.5**	**-0.6**
PBEJ				Sg	**Sg**	**01 22 45.7**	**-1.3**
PBEJ				*i* IAML		01 22 52.1	
PBEJ				*i* IAML		01 22 52.4	
PBEJ				*i* IAML		01 22 53.9	
MESJ	**Messejana**	**2.49**	**291**	*e*Pn	**Pn**	**01 22 13.1**	**+0.1**
MESJ				*e*Sn	**Sn**	**01 22 43.2**	**+0.1**
MESJ				*e*Sg	**Sg**	**01 22 55.5**	**+2.5**
MESJ				*i* IAML		01 22 56.4	
MESJ				*i* IAML		01 22 59.0	
MESJ				*i* IAML		01 23 05.3	
PESTR	**Estremoz**	**2.62**	**316**	*e*Pg	**Pb**	**01 22 19.8**	**+0.2**
PESTR				*e*Sn	**Sn**	**01 22 46.6**	**+0.4**
PESTR				*e*Sg	**Sg**	**01 22 55.2**	**-1.8**
PESTR				*i* IAML		01 22 60.0	
PESTR				*i* IAML		01 22 60.0	
PESTR				*i* IAML		01 23 04.1	
PESTR	**Estremoz**	**2.62**	**316**	P	**Pb**	**01 22 19.6**	**+0.1**
PESTR	**Estremoz**	**2.62**	**316**	S	**Sb**	**01 22 54.1**	**+2.6**
PAB	**San Pablo**	**2.65**	**16**	Pn	**Pn**	**01 22 17.0**	**+1.8**
PAB				Sn	**Sn**	**01 22 48.5**	**+1.3**
PAB				*i* IVmb_Lg		01 23 01.0	
EVO	**Evora**	**2.66**	**306**	*e*Pg	**Pg**	**01 22 23.2**	**-0.7**
EVO				*e*Sn	**Sn**	**01 22 47.8**	**+0.6**
EVO				*e*Sg	**Sg**	**01 22 59.3**	**+1.0**
MORF	**Marmelete**	**2.71**	**278**	*e*Pn	**Pn**	**01 22 16.5**	**+0.4**
MORF				*e*Pg	**Pg**	**01 22 23.6**	**-1.4**
MORF				*e*Sn	**Sn**	**01 22 48.1**	**-0.6**
MORF				*i* IAML		01 23 06.9	
MORF				*i* IAML		01 23 08.2	
MORF				*i* IAML		01 23 15.4	
AKLM	**AKL**	**2.73**	**155**	P	**Pn**	**01 22 15.4**	**-1.0**
PTEO	**Sao Teotonio**	**2.81**	**282**	*e*Pn	**Pn**	**01 22 17.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**01 22 52.2**	**+1.3**
PTEO				*i* IAML		01 22 53.4	
PTEO				*i* IAML		01 22 53.5	
PFVI	**Vila Bisbo**	**2.84**	**274**	Pn	**Pn**	**01 22 18.2**	**+0.4**
PFVI				Sn	**Sn**	**01 22 50.7**	**-1.1**
PFVI	**Vila Bisbo**	**2.84**	**274**	*e*Pn	**Pn**	**01 22 17.7**	**-0.1**
PFVI				*e*Sn	**Sn**	**01 22 51.2**	**-0.6**
PFVI				*i* IAML		01 22 52.1	
PFVI				*i* IAML		01 22 52.2	
PFVI				*i* IAML		01 22 54.1	
PFVI				*e*Sg	**Sg**	**01 23 06.0**	**+1.8**
PFVI	**Vila Bisbo**	**2.84**	**274**	P	**Pn**	**01 22 17.2**	**-0.7**
PFVI	**Vila Bisbo**	**2.84**	**274**	S	**Sn**	**01 22 49.4**	**-2.4**
PMRV	**Marv??o**	**2.95**	**326**	*e*Pn	**Pn**	**01 22 20.7**	**+1.5**
PMRV				*e*Sn	**Sn**	**01 22 55.0**	**+0.6**
PMRV				*e*Sg	**Sg**	**01 23 05.5**	**-2.0**
PMRV				*i* IAML		01 23 10.8	
PMRV				*i* IAML		01 23 16.3	
PMRV				*i* IAML		01 23 17.5	
PMTG	**Montargil**	**3.12**	**313**	*e*Pn	**Pn**	**01 22 21.5**	**0.0**
PMTG				*e*Sn	**Sn**	**01 22 59.0**	**+0.5**
PMTG				*e*Sg	**Sg**	**01 23 10.0**	**-3.1**
PMTG				*i* IAML		01 23 16.6	
PMTG				*i* IAML		01 23 19.3	
PMTG				*i* IAML		01 23 25.5	
EPLA	**Plasencia**	**3.13**	**349**	Pn	**Pn**	**01 22 22.6**	**+0.8**
EPLA				Sn	**Sn**	**01 22 58.0**	**-0.9**
EPLA				Sg	**Sg**	**01 23 12.2**	**-1.2**
EPLA				*i* IVmb_Lg		01 23 17.1	
JBK	**JBK**	**3.45**	**139**	P	**Pn**	**01 22 27.8**	**+1.5**
PSARD	**Sardoal**	**3.45**	**320**	*e*Pn	**Pn**	**01 22 27.2**	**+1.0**
PSARD				*e*Sn	**Sn**	**01 23 06.8**	**-0.2**
PSARD				*e*Sg	**Sg**	**01 23 21.3**	**-2.5**
PSARD				*i* IAML		01 23 26.9	
PSARD				*i* IAML		01 23 27.1	
PSARD				*i* IAML		01 23 31.9	
MTE	**Manteigas**	**3.83**	**333**	*e*Sn	**Sn**	**01 23 16.8**	**+0.4**
MTE				*e*Sg	**Sg**	**01 23 32.1**	**-3.9**
PCAS	**Casmilo, Conde**	**3.96**	**321**	*e*Sn	**Sn**	**01 23 17.6**	**-1.9**
PCAS				*e*Sg	**Sg**	**01 23 40.0**	**-0.2**
MD31	**MD31**	**4.14**	**174**	P	**Pn**	**01 22 33.4**	**-2.3**
PVIS	**Viseu**	**4.24**	**332**	*e*Sn	**Sn**	**01 23 26.1**	**-0.3**
PVIS				*e*Sg	**Sg**	**01 23 50.6**	**+1.5**

*SKHL **25** 01:22:33.6±0.3, 45.°60N×151.°00E, h105km±6km, mb5.8/7, msha6.4/5*
*MOS **25** 01:22:33.7±1.1, 45.°82N×150.°75E, h109km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=7.5km az=138.4*
*IDC **25** 01:22:36.8±2.5, 45.°95N×150.°58E, h119km±22km, mb3.6/21, mbtmp4.0/25, MS2.8/1, Error ellipse: s-maj=16.5km s-min=12.6km az=152.0*
*NEIC **25** 01:22:36.6±2.0, 45.°9N±0.°1×150.°66E±0.°05, h115km±6km, mb4.2/20, Error ellipse: s-maj=15.8km s-min=3.9km az=167.0*
*JMA **25** 01:22:36.5±0.7, 45°N±3°×15°1E±°, h112km, MV4.5/14, KURILE ISLANDS REGION*
*NIED **25** 01:22:36.5, 45.°12N×150.°78E, h112km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}-1.54; $M_{\theta\theta}$0.09; $M_{\phi\phi}$1.46; $M_{r\theta}$-0.71; $M_{\theta\phi}$-0.54; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.76000×10¹⁵ NP1: ϕ_s139.00000°, δ49.00000°, λ-122.00000°. NP2:ϕ_s3.00000°, δ51.00000°, λ-59.00000°.*
ISC 25 01:22:33.3±0.5,**45.°56N**±0.°06×**150.°93E**±0.°06,**h100**km,
n122,σ1§**76**/130,**mb4.0**/37,**6C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.18**	**263**	*c* iPN	**Pn**	**01 23 08.6**	**+0.4**
KUR	**Kuril'sk**	**2.18**	**263**	*e*P	**Pn**	**01 23 08.7**	**+0.5**
KUR				AMB	AMB	01 23 10.1	
	1μm,0.2s						
KUR				*e*S	**Sn**	**01 23 35.2**	**+0.3**
KUR				A	A	01 23 36.8	
	5μm,0.6s						
KUR				A	A	01 23 36.8	
	7μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.92**	**249**	*c* iPN	**Pn**	**01 23 32.7**	**+1.4**
YUK				*i* S	**Sn**	**01 24 16.3**	**0.0**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,149nm,0.1s						
YUK				pmax	pmax		
	comp=E,207nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,781nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.92**	**249**	*e*P	**Pn**	**01 23 32.9**	**+1.6**
YUK				AMB	AMB	01 23 33.3	
	comp=N,1μm,0.3s						
YUK				*e*S	**Sn**	**01 24 17.5**	**+1.2**
YUK				A	A	01 24 18.8	
	comp=N,970nm,0.3s						
YUK				A	A	01 24 18.8	
	comp=N,1μm,0.3s						
GLVR	**Golovnino**	**4.27**	**247**⇑	*i* PN	**Pn**	**01 23 37.4**	**+1.3**
GLVR				*i* S	**Sn**	**01 24 24.6**	**-0.2**
GLVR				pmax	pmax		
	comp=N,143nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,551nm,0.2s						
GLVR				smax	smax		
	comp=E,744nm,0.3s						
GLVR				smax	smax		
	comp=N,915nm,0.2s						
GLVR	**Golovnino**	**4.27**	**247**	*i* P	**Pn**	**01 23 37.4**	**+1.3**
GLVR				AMB	AMB	01 23 37.9	
	comp=N,550nm,0.2s						
GLVR				*i* S	**Sn**	**01 24 24.6**	**-0.2**
GLVR				A	A	01 24 30.0	
	comp=N,920nm,0.2s						
GLVR				A	A	01 24 30.0	
	comp=N,740nm,0.2s						
RUSJ	**Misakicho**	**4.30**	**252**	*e*PN	**Pn**	**01 23 38.9**	**+2.5**
RUSJ				*e*S	**Sn**	**01 24 30.6**	**+5.2**
NEM2	**Nemuro 2**	**4.31**	**241**	P	**Pn**	**01 23 36.9**	**+0.2**
NEM2				*e*S	**Sn**	**01 24 23.1**	**-2.8**
NMR	**Nemuro--Hokkai**	**4.32**	**241**⇑	*i* PN	**Pn**	**01 23 36.8**	**+0.1**
NMR				*i* S	**Sn**	**01 24 22.5**	**-3.5**
NMR	**Nemuro--Hokkai**	**4.32**	**241**	*e*P	**Pn**	**01 23 37.0**	**+0.3**
NMR				*e*S	**Sn**	**01 24 24.3**	**-1.7**
JRA	**Rausu**	**4.44**	**251**	*e*P	**Pn**	**01 23 40.1**	**+1.7**
JRA				*e*S	**Sn**	**01 24 30.2**	**+1.2**
AKK	**Akkeshi**	**5.06**	**242**	*i* P	**Pn**	**01 23 46.7**	**0.0**
JAK	**Akkeshi**	**5.16**	**242**	P	**Pn**	**01 23 48.1**	**0.0**
JAK				*e*S	**Sn**	**01 24 43.0**	**-3.3**
JTKR	**Abashiri--Toko**	**5.25**	**255**	P	**Pn**	**01 23 50.8**	**+1.5**
JAR	**Ashorobuto**	**5.61**	**249**	*e*P	**Pn**	**01 23 55.6**	**+1.5**
JAR				*e*S	**Sn**	**01 24 57.4**	**+0.2**
JOB	**Onbets**	**5.75**	**245**	*e*P	**Pn**	**01 23 56.7**	**+0.6**
JOB				*e*S	**Sn**	**01 24 58.4**	**-2.2**
YSS	**Yuzhno-Sakhali**	**5.84**	**287**		**Pn**	**01 23 58.4**	**+1.2**
YSS	**Yuzhno-Sakhali**	**5.84**	**287**	*o*ePN	**Pn**	**01 23 58.5**	**+1.2**
YSS				*e*S	**Sn**	**01 25 04.9**	**+2.1**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				smax	smax		
	comp=N,60nm,1.0s						
YSS				smax	smax		
	comp=E,120nm,0.7s						
YSS	**Yuzhno-Sakhali**	**5.84**	**287**	*e*P	**Pn**	**01 23 58.5**	**+1.2**
YSS				AMB	AMB	01 23 58.7	
	comp=E,60nm,0.5s						
YSS				*e*S	**Sn**	**01 25 03.0**	**+0.2**
YSS				A	A	01 25 05.9	
	comp=E,80nm,0.5s						
YSS				A	A	01 25 05.9	
	comp=E,100nm,0.5s						
JKK2	**Kamakawa 2**	**6.07**	**257**	P	**Pn**	**01 24 02.4**	**+1.9**
JKA	**Kamikawa-asahi**	**6.10**	**259**		**Pn**	**01 24 03.2**	**+2.4**
JKA	**Kamikawa-asahi**	**6.10**	**259**	*e*P	**Pn**	**01 24 03.2**	**+2.4**
ASAJ	**Asahikawa**	**6.10**	**259**	P	**Pn**	**01 24 02.3**	**+1.4**
	comp=E,41nm,0.3s,baz=92,slow=16,SNR=39						
ASAJ	**Asahikawa**	**6.10**	**259**	PN	**Pn**	**01 24 03.2**	**+2.3**
JCH	**Churui**	**6.19**	**244**	*e*P	**Pn**	**01 24 02.1**	**-0.1**
JCH				*e*S	**Sn**	**01 25 08.7**	**-2.8**
JAB	**Ashibetsu**	**6.55**	**255**	*e*P	**Pn**	**01 24 09.5**	**+2.4**
ERM	**Erimo**	**6.65**	**241**		**Pn**	**01 24 09.9**	**+1.6**
ERM	**Erimo**	**6.65**	**241**	PN	**Pn**	**01 24 09.9**	**+1.6**
JNBK	**Urakawa-nobuka**	**6.75**	**244**	*e*P	**Pn**	**01 24 09.9**	**+0.2**
PAU	**Pauzhetka**	**7.08**	**31**	*e*P	**Pn**	**01 24 14.0**	**-0.2**
PAU				AMB	AMB	01 24 14.6	
	comp=E,50nm,0.3s						
PAU				*e*S	**Sn**	**01 25 28.6**	**-4.4**
PAU				A	A	01 25 30.0	
	comp=E,80nm,0.3s						
PAU				A	A	01 25 30.0	
	comp=E,100nm,0.3s						
JANG	**Nango**	**8.63**	**236**	*e*P	**Pn**	**01 24 33.3**	**-2.0**
JANG				*e*S	**Sn**	**01 26 04.0**	**-6.8**
JTM	**Tenmabayashi**	**8.64**	**240**	Pn	**Pn**	**01 24 34.2**	**-1.3**
PEA0B	**Petropavlovsk-**	**8.75**	**28**	Pn	**Pn**	**01 24 35.3**	**-1.6**
PEA0B	**Petropavlovsk-**	**8.75**	**28**	PN	**Pn**	**01 24 35.3**	**-1.6**
PETK	**Petropavlovsk-**	**8.75**	**28**	P	**Pn**	**01 24 36.5**	**-0.3**
	comp=E,4.5nm,0.8s,baz=179,slow=11,SNR=4.5						
PETK				LR	LR	01 27 43.6	
	comp=E,68nm,21.2s,baz=114,slow=36						
TEY	**Ternei**	**10.11**	**272**	*e*PN	**Pn**	**01 24 55.6**	**+0.2**
JSD	**Sado**	**12.07**	**236**	Pn	**Pn**	**01 25 21.5**	**-0.3**
MJA0	**Matsu Arr-Jizo**	**13.13**	**231**	*e*PN	**P**	**01 25 41.6**	**-0.6**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MJAR	**Matsushiro Arr**	**13.15**	**231**	P	**Pn**	**01 25 36.6**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=28,slow=13,SNR=7.9						
USRK	**Ussuriysk Ar.**	**13.50**	**271**	P	**Pn**	**01 25 39.5**	**-1.2**
	comp=Z,7.2nm,0.8s,baz=85,slow=15,SNR=5.0						
MA2	**Magadan**	**14.04**	**360**	P	**Pn**	**01 25 48.2**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=175,slow=14,SNR=1.7						
JGF	**Kuroka**	**14.31**	**231**	Pn	**Pn**	**01 25 53.2**	**+2.0**
PSTR	**Posyet**	**14.75**	**266**‖	*i* P	**P**	**01 26 00.6**	**+0.5**
HEH	**HeiHe**	**16.43**	**295**	*e*P	**Pn**	**01 26 16.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZEA	**Zeya**	**17.32**	**307**	*e*P	**P**	**01 26 27.2**	**-1.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
ZEA	**Zeya**	**17.32**	**307**	*e*P	**P**	**01 26 26.2**	**-2.2**
CN2	**Changchun**	**18.19**	**274**	P	**P**	**01 26 38.3**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**18.99**	**253**	P	**Pn**	**01 26 48.6**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=55,slow=12,SNR=10						
KSRS	**Korea Array**	**18.99**	**253**	*e*P	**Pn**	**01 26 49.4**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KSRS	**Korea Array**	**18.99**	**253**	*e*P	**Pn**	**01 26 49.4**	**+0.7**
YAK	**Yakutsk**	**20.57**	**331**	*i* P	**P**	**01 27 03.0**	**-0.7**
YAK				pmax	pmax		
	comp=Z,19nm,0.4s						
YAK	**Yakutsk**	**20.57**	**331**	*e*P	**P**	**01 27 03.0**	**-0.7**
BILL	**Bilibino**	**23.91**	**14**	*i* P	**P**	**01 27 36.6**	**-0.8**
BILL				pmax	pmax		
	comp=Z,14nm,1.5s						
BILL	**Bilibino**	**23.91**	**14**	*e*P	**P**	**01 27 36.6**	**-0.8**
XLT	**XiLinHaoTe**	**24.70**	**279**	*e*P	**P**	**01 27 44.0**	**-1.0**
XLT				sP	sP	01 28 19.3	+0.8
XLT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuao**	**25.97**	**270**		**P**	**01 27 58.5**	**+2.1**
BJT	**Baijiatuao**	**25.97**	**270**	P	**P**	**01 27 58.5**	**+2.1**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC	**Hu-ho-hao-te**	**28.87**	**275**	*e*P	**P**	**01 28 22.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,6.7s						
H11N2	**WAKE ISLAND Hy**	**28.94

comp=Z,0.4nm,0.5s,baz=11,slow=6.5,SNR=5.3
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 66.91 197 *eP* **P 01 33 17.6 +2.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
SRU San Rafael Swe 68.54 56 P **P 01 33 26.1 +0.8**
SRU IAmb IAmb 01 33 27.6
comp=Z,3.6nm,1.0s
SRU San Rafael Swe 68.54 56 P **P 01 33 26.1 +0.8**
SRU pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 68.85 340 P **P 01 33 24.5 -2.1**
comp=Z,1.6nm,0.8s,baz=30,slow=6.6,SNR=4.4
comp=Z,1.6nm,0.8s
HFS Hagfors 69.03 339 P **P 01 33 25.1 -2.5**
comp=Z,1.9nm,0.8s,baz=50,slow=4.6,SNR=5.6
comp=Z,1.9nm,0.8s
AKT Akhty 69.57 309 *eP* **P 01 33 30.8 -0.7**
AKT *e* 01 33 53.3
AKT *e**SP **pP 01 33 59.8 +3.5**
AKT pmax pmax
comp=Z,3.0nm,0.6s
PV13 Radium Mtn., P 70.17 56 P **P 01 33 36.8 +1.5**
PV13 IAmb IAmb 01 33 37.8
comp=Z,3.1nm,0.7s
PV01 Paradox Valley 70.33 55 P **P 01 33 37.5 +1.2**
KBZ Khabaz 70.58 313 P **P 01 33 37.1 -0.3**
comp=Z,2.5nm,0.8s,baz=115,slow=0.5,SNR=9.0
comp=Z,2.5nm,0.8s
ASAR Alice Springs 70.62 197 P **P 01 33 41.2 +3.4**
comp=Z,0.5nm,0.5s,baz=13,slow=6.1,SNR=6.0
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 71.68 325 IAmb IAmb 01 33 59.3
comp=Z,3.8nm,1.3s
AKASG Malin Array Be 71.68 325 P **P 01 33 41.9 -2.0**
comp=Z,1.0nm,0.4s,baz=38,slow=6.3,SNR=6.0
comp=Z,1.0nm,0.4s
BUR08 Bucovina Ar. S 75.71 325 **P 01 34 06.9 -0.9**
BURAR Bucovina Array 75.73 325 P **P 01 34 06.4 -1.4**
EKA Eskdalemuir Ar 77.12 345 P **P 01 34 14.7 -0.7**
comp=Z,0.2nm,0.3s,baz=16,slow=5.0,SNR=5.4
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 77.15 324 P **P 01 34 15.9 0.0**
MLR IAmb IAmb 01 34 57.7
comp=Z,3.1nm,1.1s
MLR Muntele Rosu 77.15 324 P **P 01 34 15.9 0.0**
MLR pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 78.20 316 P **P 01 34 21.3 -0.6**
comp=Z,0.6nm,0.7s,baz=38,slow=6.3,SNR=3.9
comp=Z,0.6nm,0.7s
BRTR Keskin Array B 78.20 316 *eP* **P 01 34 21.7 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.84 333 P **P 01 34 23.8 -1.3**
comp=Z,0.3nm,0.4s,baz=55,slow=7.3,SNR=3.0
comp=Z,0.3nm,0.4s
R40A Maddies Statio 79.06 46 P **P 01 34 26.9 +0.6**
R40A IAmb IAmb 01 35 04.6
comp=Z,4.9nm,1.3s
TXAR Lajitas Array 79.40 59 P **P 01 34 30.3 +1.8**
TXAR Lajitas Array 79.40 59 P **P 01 34 30.1 +1.5**
comp=Z,0.8nm,0.5s,baz=275,slow=3.7,SNR=5.0
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 79.40 59 P **P 01 34 30.3 +1.8**
FCAR Ozark Folk Cen 80.98 47 P **P 01 34 37.0 +0.3**
FCAR IAmb IAmb 01 34 55.6
comp=Z,2.6nm,1.0s
MMAI Mount Meron Ar 82.44 310 P **P 01 34 45.0 +0.4**
comp=Z,0.8nm,0.4s,baz=20,slow=4.6,SNR=1.8
comp=Z,0.8nm,0.4s
H03N2 Juan Fernandez 140.26 90 T T 04 18 43.0
baz=307,slow=77,SNR=24
H03N3 Juan Fernandez 140.28 90 T T 04 18 40.7
baz=307,slow=77,SNR=27
H03N1 Juan Fernandez 140.28 90 T T 04 18 34.5
baz=307,slow=77,SNR=26
PLCA Paso Flores 149.60 96 PKPbc **PKiKP 01 42 12.6 +0.8**
comp=Z,0.9nm,0.8s,baz=282,slow=3.9,SNR=5.0
SNAA Sanae 150.98 197 PKPbc **PKPbc 01 42 13.9 +0.8**
comp=Z,0.5nm,0.5s,baz=213,slow=8.7,SNR=6.0

*MEX **25** 01:29:57.9±0.9, 14°.21N×93°.10W, h10km, MD4.0*
*GCG **25** 01:29:59.1±1.2, 14°.14N×92°.85W, h36km±999km, MD3.9, ML3.4*
ISC 25 01:29:50.5±2.0, 14°.02N±0°.08×93°.10W±0°.05, h16km±12km, n18, σ1s73/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.20**	**43**	*eP*	**Pn**	**01 30 15.2**	**+2.6**
THIG				*eS*	**Sb**	**01 30 28.0**	**0.0**
PATR	**El Naranjo**	**1.37**	**38**	*eP*	**Pg**	**01 30 17.1**	**+0.1**
PATR				*eS*	**Sn**	**01 30 33.5**	**+0.3**
CHUJ	**Union Juarez**	**1.43**	**42**	*eP*	**Pg**	**01 30 18.3**	**+0.1**
CHUJ				*eS*	**Sb**	**01 30 34.2**	**-0.9**
RTAL	**Retalhuleu**	**1.45**	**70**	*eP*	**Pg**	**01 30 19.1**	**+0.6**
RTAL				*eS*	**Sb**	**01 30 33.8**	**-1.6**
PAVE	**Pavencul**	**1.47**	**38**	*eP*	**Pg**	**01 30 18.5**	**-0.3**
PAVE				*eS*	**Sb**	**01 30 35.2**	**-0.9**
PCIG		**1.67**	**356**	*eP*	**Pb**	**01 30 21.3**	**+0.3**
PCIG				*eS*	**Sn**	**01 30 38.8**	**-1.4**
STG2	**El Palmar, Qui**	**1.72**	**76**	*eP*	**Pn**	**01 30 21.1**	**+1.2**
STG2				*i* S	**Sn**	**01 30 38.3**	**-3.4**
CCIG	**Comitan**	**2.43**	**22**	*eP*	**Pn**	**01 30 31.6**	**+1.9**
CCIG				*eS*	**Sn**	**01 30 59.4**	**+0.1**
CCIG	**Comitan**	**2.43**	**22**	*eP*	**Pb**	**01 30 33.4**	**-0.6**
CCIG				IAML		01 31 08.6	
comp=N,184nm,0.5s							
FG8	**Yepocapa, Chim**	**2.48**	**84**	*eP*	**Pn**	**01 30 28.9**	**-1.4**
FG8				*eS*	Sn	01 30 52.8	-7.4
APG	**El Apazote**	**2.73**	**69**	*eP*	**Pb**	**01 30 38.5**	**-0.6**
TGIG		**2.74**	**360**	*eP*	**Pb**	**01 30 38.1**	**-1.0**
TGIG				*eS*	**Sb**	**01 31 11.2**	**-1.3**
TGIG		**2.74**	**360**	*eP*	**Pb**	**01 30 39.6**	**+0.5**
TGIG				*i* S	**Sb**	**01 31 11.2**	**-1.3**
TGIG				IAML		01 31 14.7	
comp=E,87nm,0.5s							
NILT	**Santiago Nilte**	**2.92**	**330**	*eP*	**Pn**	**01 30 38.6**	**+2.3**
NILT				*eS*	**Sn**	**01 31 12.0**	**+1.0**
NUBE	**Las Nubes**	**3.23**	**92**	*i* P	**Pn**	**01 30 45.3**	**+4.6**
NUBE				*eS*	**Sn**	**01 31 18.9**	**0.0**
UXUV	**UXUV**	**3.43**	**343**	*eP*	**Pb**	**01 30 51.0**	**+0.2**
UXUV				*eS*	**Sb**	**01 31 30.9**	**-1.3**
CMIG	**Matias Romero**	**3.50**	**331**	*eP*	**Pb**	**01 30 50.9**	**-1.2**
CMIG				*eS*	**Sb**	**01 31 32.9**	**-1.5**
NEUV	**Arroyo Zacate**	**4.49**	**325**	*eP*	**Pb**	**01 31 05.3**	**-3.7**
NEUV				*eS*	**Sn**	**01 31 51.4**	**+1.5**

*ISK **25** 01:30:32.2, 36°.45N×28°.71E, h5km, ML2.6/17*
*ATH **25** 01:30:32.4, 36°.49N×28°.68E, h2km±1km, ML2.3/1, Manual Solution by S.Koutrakis First location: 2019/10/25 01:32:08, This location: 2019/10/25 05:48:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **25** 01:30:32.8, 36°.45N×28°.72E, h8km±2km, ML2.5*
*THE **25** 01:30:34.0, 36°.N±2°.×2°.9E±°, h0km±6km, M2.5/8, MLh2.5/8*
ISC 25 01:30:32.5±1.1, 36°.45N±0°.02×28°.71E±0°.02, h2km±10km, n56, σ0s98/78, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**59**	P	Pg	01 30 31.9	-7.3
FETY				S	**Sg**	**01 30 37.0**	**-6.9**
DALY	**Dalyan (Mula)**	**0.36**	**353**	Pg	**Pg**	**01 30 39.4**	**-0.2**
DALY				Sg	**Sg**	**01 30 45.9**	**+1.6**
IZZE	**Mula-Seydike**	**0.42**	**92**	P	**Pg**	**01 30 40.7**	**+0.2**
IZZE				S	**Sg**	**01 30 46.7**	**+0.7**
IZZE				*i* IAML		01 30 51.0	
comp=N,457nm,0.3s							
IZZE				*i* IAML		01 30 55.0	
comp=E,419nm,0.4s							
SABU	**Mula-Dalaman**	**0.42**	**29**	P	**Pg**	**01 30 41.2**	**+0.5**
SABU				S	**Sg**	**01 30 47.4**	**+1.2**
TURN	**Turunc**	**0.49**	**311**	Pg	**Pg**	**01 30 42.3**	**+0.3**
TURN				Sg	**Sg**	**01 30 49.6**	**+1.2**
TURN	**Turunc**	**0.49**	**311**	P	**Pg**	**01 30 42.5**	**+0.4**
ARG	**Arkhangelos**	**0.53**	**243**	Pg	**Pg**	**01 30 42.4**	**-0.3**
ARG	**Arkhangelos**	**0.53**	**243**	P	**Pg**	**01 30 42.4**	**-0.3**
ARG				S	**Sg**	**01 30 50.4**	**+0.9**
ARG	**Arkhangelos**	**0.53**	**243**	P	**Pg**	**01 30 42.6**	**-0.1**
ARG				S	**Sg**	**01 30 49.7**	**+0.2**
CAME	**Cameli-Denizli**	**0.68**	**44**	Pg	**Pg**	**01 30 45.6**	**0.0**
CAME				Sg	**Sg**	**01 30 55.9**	**+1.4**
AKAS	**Kas**	**0.76**	**107**	Pg	**Pg**	**01 30 47.5**	**+0.5**
AKAS	**Kas**	**0.76**	**107**	P	**Pg**	**01 30 47.6**	**+0.6**
YER	**Yerkesik**	**0.76**	**333**	Pg	**Pb**	**01 30 48.2**	**-0.4**
YER	**Yerkesik**	**0.76**	**333**	P	**Pb**	**01 30 48.5**	**-0.1**
YER				S	**Sb**	**01 30 59.9**	**+0.5**
KSL	**Kastellorizon**	**0.77**	**113**	P	**Pb**	**01 30 49.1**	**+0.5**
KSL				S	**Sn**	**01 31 02.3**	**-0.1**
KSL	**Kastellorizon**	**0.77**	**113**	P	**Pg**	**01 30 48.0**	**+0.7**
KSL				S	**Sb**	**01 30 58.6**	**-0.8**
KNIK	**Mula-Seydike**	**0.80**	**60**	P	**Pg**	**01 30 48.0**	**+0.2**
KNIK				S	**Sb**	**01 31 00.0**	**-0.4**
CAEL	**Denizli, Camel**	**0.83**	**36**	P	**Pn**	**01 30 52.3**	**+1.0**
MULA	**Mugla, Merkez-**	**0.86**	**339**	P	**Pg**	**01 30 49.5**	**+0.5**
DNZT	**Denizli-Tavas-**	**0.86**	**17**	P	**Pg**	**01 30 49.2**	**+0.1**
DAT	**Datca**	**0.95**	**287**	Pg	**Pb**	**01 30 51.6**	**-0.2**
DAT	**Datca**	**0.95**	**287**	P	**Pb**	**01 30 51.8**	**0.0**
ELL	**Elmali**	**1.01**	**73**	Pg	**Pb**	**01 30 52.7**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.02**	**9**	P	**Pg**	**01 30 52.5**	**+0.3**
TAVA				S	**Sn**	**01 31 08.8**	**-0.1**
GOLH	**Golhisar**	**1.04**	**41**	P	**Pg**	**01 30 52.8**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.04**	**283**	P	**Pn**	**01 30 53.7**	**-0.4**
APMY	**Acipayam-Deniz**	**1.12**	**25**	Pn	**Pg**	**01 30 54.2**	**+0.1**
APMY				Sn	**Sb**	**01 31 10.2**	**+0.4**
MLSB	**Milas**	**1.12**	**319**	Pn	**Pg**	**01 30 52.8**	**-1.3**
BDRM	**Kayabasi**	**1.19**	**301**	P	**Pg**	**01 30 55.3**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.20**	**13**	P	**Pn**	**01 30 56.6**	**+0.2**
DNIZ				S	**Sn**	**01 31 14.0**	**+0.7**
BODT	**Bodrum**	**1.28**	**299**	Pn	**Pb**	**01 30 57.6**	**+0.3**
BODT				Sn	**Sn**	**01 31 15.2**	**+0.1**
BODT	**Bodrum**	**1.28**	**299**	P	**Pb**	**01 30 57.9**	**+0.6**
BODT				S	**Sn**	**01 31 15.6**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.32**	**95**	P	**Pg**	**01 30 58.9**	**+1.0**
ESEN	**Aydn-Nazilli**	**1.37**	**348**	P	**Pn**	**01 30 58.4**	**-0.3**
AYDN	**Tasoluk**	**1.38**	**331**	P	**Pn**	**01 30 58.8**	**0.0**
KORT	**Korkueli**	**1.43**	**67**	Pn	**Pn**	**01 30 59.7**	**+0.1**
INCE	**Denizli-Bozkur**	**1.43**	**29**	P	**Pg**	**01 31 00.7**	**+0.7**
NAZL	**Nazilli-Aydin**	**1.54**	**348**	Pn	**Pn**	**01 31 01.1**	**0.0**
DDIM	**Aydin, Didim**	**1.54**	**311**	P	**Pb**	**01 31 02.1**	**+0.2**
KARP	**Karpathos**	**1.55**	**235**	Pn	**Pn**	**01 31 01.1**	**0.0**
KARP	**Karpathos**	**1.55**	**235**	P	**Pb**	**01 31 01.5**	**-0.5**
KARP				S	**Sg**	**01 31 22.6**	**+0.3**
KARP	**Karpathos**	**1.55**	**235**	P	**Pn**	**01 31 01.2**	**+0.1**
KARP				S	**Sg**	**01 31 22.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.63**	**337**	Pn	**Pn**	**01 31 02.3**	**0.0**
BRDR	**BURDUR-Merkez**	**1.65**	**41**	P	**Pg**	**01 31 04.2**	**+0.2**
GCAM	**G?zelcaml?**	**1.72**	**317**	Pn	**Pn**	**01 31 03.5**	**+0.1**
BUCA	**Burdur, Bucak-**	**1.72**	**59**	P	**Pb**	**01 31 04.5**	**-0.4**
KIRA	**zmir-Kiraz**	**1.76**	**352**	P	**Pn**	**01 31 04.7**	**+0.6**
ODEM	**Odemis-Izmir**	**1.89**	**345**	Pn	**Pn**	**01 31 06.1**	**+0.2**
SMG	**Samos**	**1.95**	**310**	P	**Pn**	**01 31 06.4**	**-0.3**
SMG	**Samos**	**1.95**	**310**	P	**Pn**	**01 31 06.3**	**-0.4**
SMG				S	**Sn**	**01 31 30.4**	**-1.4**
PASA	**Karahalli, USA**	**1.99**	**18**	P	**Pb**	**01 31 08.5**	**-1.0**
NPS	**Neapolis**	**2.78**	**246**	P	**Pn**	**01 31 18.3**	**+0.2**
NPS				S	**Sn**	**01 31 52.5**	**+0.2**
NPS	**Neapolis**	**2.78**	**246**	P	**Pn**	**01 31 18.4**	**+0.2**
NPS				S	**Sn**	**01 31 51.6**	**-0.7**
CHOS	**Chios island**	**2.86**	**313**	P	**Pn**	**01 31 19.5**	**+0.2**
CHOS	**Chios island**	**2.86**	**313**	P	**Pn**	**01 31 19.4**	**+0.1**
CHOS				S	**Sn**	**01 31 53.3**	**-1.0**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**01 31 25.3**	**-0.2**

*KRSC **25** 01:49:11.3±1.0, 53°.23N×160°.81E, h40km±13km, Ml4.3*
*MOS **25** 01:49:12.4±1.2, 53°.24N×160°.77E, h50km, mb4.3/8, Error ellipse: s-maj=6.8km s-min=4.6km az=88.9*
*NEIC **25** 01:49:17.0±0.9, 53°.6N±0°.3×160°.3E±0°.1, h56km±16km, mb4.5/12, Error ellipse: s-maj=38.1km s-min=5.4km az=167.0*
*IDC **25** 01:49:16.9±2.1, 53°.32N×160°.51E, h75km±17km, mb3.7/22, mbtmp4.0/23, MS3.0/3, Error ellipse: s-maj=20.1km s-min=15.8km az=140.0*
ISC 25 01:49:10.6±0.6, 53°.29N±0°.04×160°.78E±0°.04, h20km±4km, n137, σ1s20/162, mb4.1/31, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.50**	**247**	PN	**Pn**	**01 49 22.6**	**+0.2**
SPN				S	**Sn**	**01 49 29.6**	**-0.8**
SPN	**Mys Shipunski**	**0.50**	**247**	*eP*	**Pn**	**01 49 22.7**	**+0.2**
SPN				*eS*	**Sn**	**01 49 29.6**	**-0.8**
NLC	**Nalytchevo**	**0.87**	**262**	PN	**Pn**	**01 49 28.0**	**+0.5**
NLC				S	**Sn**	**01 49 39.2**	**-0.4**
NLC	**Nalytchevo**	**0.87**	**262**	*eP*	**Pn**	**01 49 28.1**	**+0.5**
NLC				*eS*	**Sn**	**01 49 39.3**	**-0.4**
KII	**Karymskiy**	**1.09**	**314**	PN	**Pb**	**01 49 31.8**	**+1.2**
KII				S	**Sn**	**01 49 44.8**	**-0.3**
KII	**Karymskiy**	**1.09**	**314**	*eP*	**Pb**	**01 49 31.9**	**+1.2**
KII				*eS*	**Sn**	**01 49 44.8**	**-0.3**
SDLR	**Sedlovina**	**1.14**	**270**	PN	**Pb**	**01 49 32.5**	**+1.0**
SDLR				S	**Sn**	**01 49 46.9**	**+0.5**
SDLR	**Sedlovina**	**1.14**	**270**	*eP*	**Pb**	**01 49 32.6**	**+1.0**
SDLR				*eS*	**Sn**	**01 49 47.0**	**+0.5**
UGLR	**Uglovaya**	**1.18**	**267**	PN	**Pb**	**01 49 33.3**	**+1.1**
UGLR				S	**Sn**	**01 49 48.2**	**+0.8**
UGLR	**Uglovaya**	**1.18**	**267**	*eP*	**Pb**	**01 49 33.4**	**+1.1**
UGLR				*eS*	**Sn**	**01 49 48.3**	**+0.8**
SMAR	**Somma**	**1.19**	**269**	PN	**Pb**	**01 49 33.2**	**+0.7**
SMAR				S	**Sn**	**01 49 49.0**	**+1.2**
SMAR	**Somma**	**1.19**	**269**	*eP*	**Pb**	**01 49 33.2**	**+0.7**
SMAR				*eS*	**Sn**	**01 49 49.1**	**+1.2**
KRER	**Koryakskii**	**1.22**	**271**	PN	**Pb**	**01 49 34.0**	**+1.0**
KRER	**Koryakskii**	**1.22**	**271**	*eP*	**Pb**	**01 49 34.1**	**+1.0**
AVH	**Avacha**	**1.23**	**269**	PN	**Pb**	**01 49 34.1**	**+1.1**
AVH	**Avacha**	**1.23**	**269**	*eP*	**Pb**	**01 49 34.1**	**+1.1**
DALK	**Dalny**	**1.25**	**259**	PN	**Pb**	**01 49 33.2**	**-0.1**
DALK				S	**Sb**	**01 49 48.8**	**-0.2**
DALK	**Dalny**	**1.25**	**259**	*eP*	**Pb**	**01 49 33.3**	**-0.1**
DALK				*eS*	**Sb**	**01 49 48.8**	**-0.2**
KRX	**Arik**	**1.28**	**274**	PN	**Pb**	**01 49 34.6**	**+0.6**
KRX	**Arik**	**1.28**	**274**	*eP*	**Pb**	**01 49 34.6**	**+0.6**
KOK	**Koryaka**	**1.29**	**271**	PN	**Pb**	**01 49 34.7**	**+0.6**
KOK	**Koryaka**	**1.29**	**271**	*eP*	**Pb**	**01 49 34.8**	**+0.6**
PET	**Petropavlovsk**	**1.31**	**259**	PN	**Pb**	**01 49 34.2**	**-0.2**
PET				S	**Sn**	**01 49 49.8**	**-0.6**
PET	**Petropavlovsk**	**1.31**	**259**	*eP*	**Pb**	**01 49 34.3**	**-0.2**
PET				*eS*	**Sn**	**01 49 49.9**	**-0.6**
INSR	**Institute**	**1.33**	**261**	PN	**Pb**	**01 49 35.3**	**+0.6**
INSR				S	**Sb**	**01 49 52.1**	**+0.9**
INSR	**Institute**	**1.33**	**261**	*eP*	**Pb**	**01 49 35.3**	**+0.6**
INSR				*eS*	**Sb**	**01 49 52.2**	**+0.9**
MKZ	**Mys Kozlova**	**1.38**	**24**	PN	**Pb**	**01 49 35.8**	**+0.2**
MKZ				S	**Sn**	**01 49 52.4**	**+0.1**
MKZ	**Mys Kozlova**	**1.38**	**24**	*eP*	**Pb**	**01 49 35.9**	**+0.2**
MKZ				*eS*	**Sn**	**01 49 52.4**	**+0.1**
KRMR	**Karymshinskiy**	**1.67**	**255**	PN	**Pn**	**01 49 39.4**	**+0.9**
KRMR				S	**Sn**	**01 49 59.3**	**+0.1**
KRMR	**Karymshinskiy**	**1.67**	**255**	*eP*	**Pn**	**01 49 39.4**	**+0.9**
KRMR				*eS*	**Sn**	**01 49 59.3**	**+0.1**
GNL	**Ganaly**	**1.74**	**284**	PN	**Pb**	**01 49 41.8**	**0.0**
GNL				S	**Sb**	**01 50 03.7**	**+0.4**
GNL	**Ganaly**	**1.74**	**284**	*eP*	**Pb**	**01 49 41.9**	**0.0**
GNL				*eS*	**Sb**	**01 50 03.8**	**+0.4**
MTVR	**Mutnovka**	**1.77**	**244**	PN	**Pn**	**01 49 40.9**	**+0.8**
MTVR	**Mutnovka**	**1.77**	**244**	*eP*	**Pn**	**01 49 41.0**	**+0.8**
GRL	**Gorelyy**	**1.80**	**247**	PN	**Pb**	**01 49 41.8**	**-1.0**
GRL	**Gorelyy**	**1.80**	**247**	*eP*	**Pb**	**01 49 41.9**	**-1.0**
KZV	**Kizimen**	**1.84**	**351**	PN	**Pb**	**01 49 43.8**	**+0.2**
KZV	**Kizimen**	**1.84**	**351**	*eP*	**Pb**	**01 49 43.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**1.86**	**265**		**Pb**	**01 49 43.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.86**	**265**	PN	**Pb**	**01 49 43.2**	**-0.6**
PETK	**Petropavlovsk-**	**1.86**	**265**	P	**Pn**	**01 49 42.1**	**+0.9**
PETK	**Petropavlovsk-**	**1.86**	**265**	P	**Pn**	**01 49 43.4**	**-0.5**
221nm,0.3s,baz=84,slow=21,SNR=1159							
PETK				S	**Sb**	**01 50 06.2**	**-0.5**
104nm,0.4s,baz=144,slow=32,SNR=12							
PETK				LR	LR	01 50 47.2	
comp=Z,153nm,18.8s,baz=72,slow=53							
TUMD	**Tumrok D**	**1.93**	**353**	PN	**Pb**	**01 49 44.6**	**-0.3**
TUMD	**Tumrok D**	**1.93**	**353**	*eP*	**Pb**	**01 49 44.6**	**-0.3**
ASAK	**Asacha**	**1.97**	**244**	PN	**Pb**	**01 49 44.4**	**-1.3**
ASAK				S	**Sb**	**01 50 08.4**	**-1.4**
ASAK	**Asacha**	**1.97**	**244**	*eP*	**Pb**	**01 49 44.4**	**-1.3**
ASAK				*eS*	**Sb**	**01 50 08.5**	**-1.4**
TUMR	**Tumrok**	**2.03**	**350**	PN	**Pb**	**01 49 46.9**	**+0.2**
TUMR	**Tumrok**	**2.03**	**350**	*eP*	**Pb**	**01 49 46.9**	**+0.2**
APC	**Apacha**	**2.21**	**262**	PN	**Pb**	**01 49 48.6**	**-1.2**
APC				S	**Sb**	**01 50 16.4**	**-0.3**
APC	**Apacha**	**2.21**	**262**	*eP*	**Pb**	**01 49 48.7**	**-1.2**
APC				*eS*	**Sb**	**01 50 16.4**	**-0.3**
KDTR	**Khodutka, Kamc**	**2.22**	**229**	PN	**Pn**	**01 49 47.6**	**+1.5**
KDTR				S	**Sn**	**01 50 13.5**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.22**	**229**	*eP*	**Pn**	**01 49 47.6**	**+1.5**
KDTR				*eS*	**Sn**	**01 50 13.5**	**+0.6**
KMNR	**Kamenistaya**	**2.49**	**353**	PN	**Pb**	**01 49 53.9**	**-0.6**
KMNR	**Kamenistaya**	**2.49**	**353**	*eP*	**Pb**	**01 49 53.9**	**-0.6**
MIPR	**Malaya Ipel'ka**	**2.65**	**249**	PN	**Pb**	**01 49 54.6**	**-2.6**
MIPR	**Malaya Ipel'ka**	**2.65**	**249**	*eP*	**Pb**	**01 49 54.6**	**-2.6**
BZGR	**Bezymyannyi-Gr**	**2.65**	**359**	PN	**Pb**	**01 49 56.1**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**2.65**	**359**	*eP*	**Pb**	**01 49 56.2**	**-1.2**
BZMR	**Bezymyannaya**	**2.65**	**356**	PN	**Pb**	**01 49 56.5**	**-0.9**
BZMR	**Bezymyannaya**	**2.65**	**356**	*eP*	**Pb**	**01 49 56.5**	**-0.9**
KIRR	**Kirishev**	**2.68**	**355**	PN	**Pb**	**01 49 56.4**	**-1.4**
KIRR	**Kirishev**	**2.68**	**355**	*eP*	**Pb**	**01 49 56.4**	**-1.4**
BZWR	**Bezymyannyi-We**	**2.68**	**357**	PN	**Pb**	**01 49 56.7**	**-1.2**
BZWR	**Bezymyannyi-We**	**2.68**	**357**	*eP*	**Pb**	**01 49 56.7**	**-1.2**
KPT	**Kopyto**	**2.70**	**353**	PN	**Pb**	**01 49 56.7**	**-1.4**
KPT	**Kopyto**	**2.70**	**353**	*eP*	**Pb**	**01 49 56.8**	**-1.4**
KOZ	**Kozyrevsk**	**2.82**	**350**	PN	**Pb**	**01 49 57.9**	**-2.2**
KOZ	**Kozyrevsk**	**2.82**	**350**	*eP*	**Pb**	**01 49 58.0**	**-2.2**
ESO	**Esso**	**2.90**	**336**	PN	**Pb**	**01 49 58.7**	**-2.8**
ESO	**Esso**	**2.90**	**336**	*eP*	**Pb**	**01 49 58.7**	**-2.8**
PAU	**Pauzhetka**	**3.04**	**235**	PN	**Pn**	**01 50 00.4**	**+3.0**
PAU	**Pauzhetka**	**3.04**	**235**	*eP*	**Pn**	**01 50 00.4**	**+3.0**
SRDR	**Sredinnyy**	**3.09**	**349**	PN	**Pb**	**01 50 01.4**	**-3.4**
SRDR	**Sredinnyy**	**3.09**	**349**	*eP*	**Pb**	**01 50 01.4**	**-3.4**
BKI	**Bering**	**3.60**	**56**	PN	**Pn**	**01 50 07.0**	**+2.0**
BKI	**Bering**	**3.60**	**56**	*eP*	**Pn**	**01 50 07.1**	**+2.0**
SKR	**Severo-Kuril's**	**3.89**	**230**	*e*PN	**Pn**	**01 50 13.0**	**+3.9**
SKR				*eS*	**Sn**	**01 50 51.9**	**-2.2**
SKR				smax	smax		
comp=E,283nm,0.7s							
SKR				smax	smax		
comp=N,92nm,0.5s							
MA2	**Magadan**	**8.38**	**323**	P	**Pn**	**01 51 13.0**	**+2.3**
comp=N,1.5nm,0.3s,baz=160,slow=14,SNR=3.6							
MA2				LR	LR	01 54 46.8	
comp=N,64nm,19.3s,baz=120,slow=40							
MA2	**Magadan**	**8.38**	**323**	PN	**Pn**	**01 51 13.0**	**+2.3**
SEY	**Seymchan**	**10.62**	**339**	LR	LR	01 56 09.8	
comp=N,89nm,18.5s,baz=102,slow=39							
YAK	**Yakutsk**	**18.62**	**310**	LR	LR	02 00 16.3	
comp=N,46nm,18.9s,baz=112,slow=36							
YAK	**Yakutsk**	**18.62**	**310**	*i* P	**P**	**01 53 26.1**	**-0.3**
YAK				pmax	pmax		
comp=Z,32nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**22.98**	**232**	*eP*	**P**	**01 54 15.3**	**+1.6**
MJA0				pmax	pmax		
comp=Z,2.0nm,0.3s							
MJB9	**Matsu-Tunnel**	**23.00**	**232**	P	**P**	**01 54 15.3**	**+1.5**
MAJO	**Matsushiro**	**23.00**	**232**	P	**P**	**01 54 14.1**	**+0.3**
MAJO				IAmb	IAmb	01 54 16.1	
comp=Z,6.1nm,0.6s							
MAJO	**Matsushiro**	**23.00**	**232**	P	**P**	**01 54 14.1**	**+0.3**
MAJO				pmax	pmax		
comp=Z,6.0nm,0.6s							
MJAR	**Matsushiro Arr**	**23.00**	**232**	P	**P**	**01 54 13.5**	**-0.3**
comp=Z,2.2nm,0.5s,baz=19,slow=10,SNR=6.4							
comp=Z,2.2nm,0.5s							
TIXI	**Tiksi**	**23.07**	**335**	*i* P	**P**	**01 54 15.5**	**+1.2**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.4s							
C19K	**Lookout Ridge**	**24.16**	**34**	P	**P**	**01 54 27.0**	**+2.0**
C19K				IAmb	IAmb	01 54 48.9	
comp=Z,23nm,1.4s							
ILAR	**Eielson Array**	**28.38**	**46**	P	**P**	**01 55 04.5**	**+1.6**
comp=Z,0.9nm,0.9s,baz=269,slow=8.3,SNR=7.6							
comp=Z,0.9nm,0.9s							
D25K	**Kavik River**	**28.79**	**36**	P	**P**	**01 55 08.0**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**33.83**	**170**	T	T	02 32 15.0	
baz=354,slow=76,SNR=54							
H11N3	**WAKE ISLAND Hy**	**33

GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
WRA	**Warramunga Arr**	**76.44 206**	P	**P**	**02 00 58.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=12,slow=5.8,SNR=2.4					
	comp=Z,0.4nm,0.5s					
BRTR	**Keskin Array B**	**76.73 321**	P	**P**	**02 01 00.4**	**+0.2**
BRTR	**Keskin Array B**	**76.73 321**	P	**P**	**02 01 00.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=28,slow=5.2,SNR=4.0					
	comp=Z,0.5nm,0.6s					
BRTR	**Keskin Array B**	**76.73 321**	P	**P**	**02 01 00.4**	**+0.2**
PDG	**Podgorica**	**79.06 332**	P	**P**	**02 01 12.8**	**-0.2**
PDG			IAmb	IAmb	02 01 13.3	
	comp=Z,4.5nm,0.7s					
FDMO	**Fiordimonte**	**80.10 337**	P	**P**	**02 01 19.6**	**+1.0**
FDMO			IAmb	IAmb	02 01 30.9	
	comp=Z,18nm,1.4s					
ASAR	**Alice Springs**	**80.11 205**	P	**P**	**02 01 18.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=18,slow=6.1,SNR=1.9					
	comp=Z,0.2nm,0.5s					
MMAI	**Mount Meron Ar**	**81.85 316**	P	**P**	**02 01 27.2**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=35,slow=5.3,SNR=4.3					
	comp=Z,1.0nm,0.6s					
ESDC	**Sonseca Array**	**86.47 348**	P	**P**	**02 01 51.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=359,slow=5.3,SNR=4.1					
	comp=Z,0.3nm,0.7s					

*IDC **25** 01:56:26.5±7.4, 35°.32N×71°.56E, h195km±71km, mb3.4/9, mbtmp3.9/11, Error ellipse: s-maj=35.1km s-min=19.4km az=30.0*
*NNC **25** 01:56:35.0±5.1, 36°.74N×70°.49E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=41.2km s-min=35.8km az=161.0*
*NEIC **25** 01:56:38.6±1.9, 36°.48N±0°.07×71°.1E±0°.1, h235km±9km, mb4.0/4, Error ellipse: s-maj=13.8km s-min=9.3km az=116.0*
ISC 25 01:56:36.7±0.8, 36°.43N±0°.08×71°.10E±0°.08, h200km, n46, σ2§00/44, mb3.7/11, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.52**	**222**		**Pn**	**01 57 25.5**	**+4.5**
GAR	**Garm**	**2.65**	**347**		**Pn**	**01 57 25.6**	**+3.3**
CHGR	**Chuyangaron**	**2.71**	**326**		**Pn**	**01 57 26.2**	**+3.2**
DRK	**Karamyk**	**3.10**	**10**		**Pn**	**01 57 31.0**	**+3.3**
NIL	**Nilore**	**3.28**	**147**		**Pn**	**01 57 33.9**	**+4.1**
KSH	**Kashi**	**4.93**	**50**	Pn	**Pn**	**01 57 47.1**	**-3.2**
KSH				Sn	Sn	01 58 38.3	-10
KSH				smax	smax		
	comp=N,110nm,0.4s						
KSH				smax	smax		
	comp=E,57nm,0.7s						
IUG	**Iuzhnay**	**5.77**	**352**	Pg	**Pn**	**01 58 02.8**	**+1.8**
	comp=E,27nm,0.3s						
IUG				Lg	Lg	01 59 06.0	
	comp=E,125nm,0.6s						
UCH	**Uchtor**	**6.37**	**23**	P	**Pn**	**01 58 10.3**	**+1.2**
	SNR=62						
MRKS	**Merke**	**6.52**	**14**	Pg	**Pn**	**01 58 11.8**	**+1.1**
	comp=E,10nm,0.7s						
MRKS				Lg	Lg	01 59 22.6	
	comp=E,35nm,0.7s						
EKS2	**Erkin-Say**	**6.56**	**18**	P	**Pn**	**01 58 12.8**	**+1.5**
	SNR=17						
KK31	**Karatay Array**	**6.69**	**356**		**Pn**	**01 58 13.6**	**+0.9**
KK31	**Karatay Array**	**6.69**	**356**	Pn	**Pn**	**01 58 10.7**	**-2.1**
	comp=E,1.0nm,0.2s,baz=182,slow=12,SNR=76						
KK31				⇑Sn	**Sn**	**01 59 25.3**	**-3.7**
	comp=E,32nm,0.5s,baz=184,slow=24						
KKAR	**Karatay Array**	**6.69**	**356**		**Pn**	**01 58 13.6**	**+0.9**
AAK	**Ala-Archa**	**6.74**	**22**		**Pn**	**01 58 15.0**	**+1.5**
AAK	**Ala-Archa**	**6.74**	**22**	P	**Pn**	**01 58 15.2**	**+1.6**
	SNR=19						
AAK	**Ala-Archa**	**6.74**	**22**	⇑Pn	**Pn**	**01 58 14.0**	**+0.5**
	comp=E,2.5nm,0.4s						
AAK				⇓Sn	**Sn**	**01 59 30.6**	**+0.2**
	comp=E,4.7nm,0.6s						
KBK	**Karagaybulak**	**6.90**	**24**	P	**Pn**	**01 58 17.3**	**+1.6**
	SNR=5.6						
ULHL	**Ulahol**	**7.05**	**33**	P	**Pn**	**01 58 18.2**	**+0.6**
	SNR=6.3						
BOOM	**Boomskoye usch**	**7.12**	**30**		**Pn**	**01 58 19.4**	**+0.9**
USP	**Ospenovka**	**7.32**	**20**	P	**Pn**	**01 58 21.8**	**+0.8**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.36**	**27**	P	**Pn**	**01 58 22.3**	**+0.7**
	SNR=12						
MAKZ	**Makanchi**	**13.17**	**35**	Pn	**Pn**	**01 59 34.6**	**-1.6**
MK31	**Makanchi Array**	**13.30**	**35**	P	**P**	**01 59 44.5**	**+3.8**
	comp=E,1.1nm,0.5s,baz=210,slow=11,SNR=15						
MKAR	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**01 59 37.8**	**-0.1**
	comp=E,0.7nm,0.5s,baz=216,slow=12,SNR=12						
WMQ	**Urumqi**	**14.67**	**55**	*e*P	**Pn**	**01 59 55.0**	**+0.1**
AB31	**Akbulak array**	**15.19**	**331**	P	**Pn**	**02 00 01.6**	**+0.6**
AB31	**Akbulak array**	**15.19**	**331**	P	**P**	**02 00 04.7**	**+3.2**
	comp=E,0.4nm,0.3s,baz=138,slow=11,SNR=21						
ABKAR	**Akbulak array**	**15.19**	**331**		**Pn**	**02 00 01.1**	**+0.1**
EVN	**Everest**	**15.74**	**118**	P	**P**	**02 00 08.0**	**-0.4**
BVAR	**Borovoye Array**	**16.61**	**358**	P	**P**	**02 00 17.8**	**+0.8**
	comp=E,0.6nm,0.4s,baz=165,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**02 00 53.0**	**-0.2**
	comp=E,0.7nm,0.3s,baz=212,slow=10,SNR=3.6						
	comp=E,0.7nm,0.3s						
ARTI	**Arti**	**21.74**	**341**	P	**P**	**02 01 11.5**	**-0.5**
ARTI				IAmb	IAmb	02 01 13.2	
	comp=Z,4.2nm,0.5s						
RAYN	**Ar Rayn**	**25.54**	**247**	P	**P**	**02 01 45.1**	**-2.1**
RAYN				IAmb	IAmb	02 01 45.8	
	comp=Z,2.3nm,0.8s						
RAYN	**Ar Rayn**	**25.54**	**247**	P	**P**	**02 01 45.1**	**-2.1**
RAYN	**Ar Rayn**	**25.54**	**247**	pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**29.53**	**288**	P	P	02 02 19.1	-3.6
	comp=Z,0.3nm,0.7s,baz=117,slow=8.3,SNR=2.5						
	comp=Z,0.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.71**	**69**	*e*P	**P**	**02 02 40.8**	**-0.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,48nm,4.9s						
AKASG	**Malin Array Be**	**33.05**	**309**	P	**P**	**02 02 51.7**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=81,slow=7.6,SNR=2.4						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**02 03 30.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=121,slow=10,SNR=13						
	comp=Z,0.8nm,0.4s						
ARCES	**ARCESS Array B**	**41.24**	**338**	P	**P**	**02 04 00.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=111,slow=7.2,SNR=14						
	comp=Z,1.5nm,0.5s						
HFS	**Hagfors**	**43.17**	**322**	P	**P**	**02 04 16.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=98,slow=10,SNR=15						
	comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**02 04 26.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**02 04 26.2**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.8,SNR=4.8						
	comp=Z,0.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**47.58**	**347**	P	**P**	**02 04 51.7**	**0.0**
	comp=Z,5.0nm,0.8s,baz=116,slow=10,SNR=5.9						
	comp=Z,5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	P	02 06 54.0	-6.7
	comp=Z,3.5nm,0.3s,baz=44,slow=7.7,SNR=1.8						
	comp=Z,3.5nm,0.3s						
BATI	**Baumata**	**67.76**	**122**	P	P	02 06 57.3	-16
	comp=Z,38nm,0.5s,baz=321,slow=6.5,SNR=5.2						

*ATH **25** 02:12:11.8, 36°.51N×28°.73E, h8km±1km, ML2.7/5, Manual Solution by E.Daskalaki First location: 2019/10/25 02:13:49, This location: 2019/10/25 06:31:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*ISK **25** 02:12:11.1, 36°.48N×28°.69E, h5km, ML2.9/18*
*THE **25** 02:12:12.9, 36°N±3°×2°.9E±°, h0km±3km, M2.6/8, MLh2.6/8*
*AFAD **25** 02:12:12.0, 36°.45N×28°.69E, h7km±4km, ML2.9*
ISC 25 02:12:11.8±1.1, 36°.49N±0°.02×28°.71E±0°.02, h4km±9km, n59, σ1§07/85, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.33**	**352**	Pg	**Pg**	**02 12 18.8**	**+0.6**
DALY				Sg	**Sb**	**02 12 24.7**	**-1.2**
FETY	**Fethiye**	**0.33**	**64**	P	Pg	02 12 12.0	-6.3
FETY				S	**Sg**	**02 12 15.8**	**-6.8**
SABU	**Mula-Dalaman**	**0.39**	**32**	P	**Pb**	**02 12 20.8**	**-0.5**
SABU				S	**Sb**	**02 12 26.9**	**-0.9**
RDI1	**Rhodes Town Ha**	**0.39**	**265**	P	**Pg**	**02 12 19.8**	**+0.4**
RDI1				S	**Sg**	**02 12 25.5**	**+1.0**
RODB	**Rodos**	**0.40**	**264**	P	**Pg**	**02 12 19.8**	**+0.4**
RODB				S	**Sg**	**02 12 25.8**	**+1.2**
IZZE	**Mula-Seydike**	**0.42**	**97**	P	**Pg**	**02 12 20.3**	**+0.5**
IZZE				S	**Sg**	**02 12 26.2**	**+0.9**
IZZE				*i* IAML		02 12 30.0	
	comp=N,2μm,0.4s						
IZZE				*i* IAML		02 12 30.0	
	comp=E,892nm,0.3s						
TURN	**Turunc**	**0.47**	**307**	Pg	**Pg**	**02 12 21.1**	**+0.2**
TURN				Sg	**Sb**	**02 12 28.9**	**-1.1**
TURN	**Turunc**	**0.47**	**307**	P	**Pg**	**02 12 21.2**	**+0.2**
TURN				S	**Sg**	**02 12 28.6**	**+1.6**
ARG	**Arkhangelos**	**0.55**	**240**	Pg	**Pg**	**02 12 22.1**	**-0.2**
ARG				Sg	**Sb**	**02 12 30.9**	**-1.2**
ARG	**Arkhangelos**	**0.55**	**240**	P	**Pg**	**02 12 22.2**	**0.0**
ARG				S	**Sb**	**02 12 31.2**	**-0.9**
ARG	**Arkhangelos**	**0.55**	**240**	P	**Pg**	**02 12 21.8**	**-0.5**
ARG				S	**Sb**	**02 12 30.8**	**-1.2**
CAME	**Cameli-Denizli**	**0.66**	**46**	Pg	**Pg**	**02 12 24.9**	**+0.4**
CAME				Sg	**Sb**	**02 12 35.9**	**+0.4**
YER	**Yerkesik**	**0.73**	**332**	Pg	**Pb**	**02 12 27.4**	**+0.3**
YER	**Yerkesik**	**0.73**	**332**	P	**Pb**	**02 12 27.8**	**+0.6**
YER				S	**Sn**	**02 12 39.7**	**-0.9**
AKAS	**Kas**	**0.77**	**109**	Pg	**Pb**	**02 12 27.1**	**-0.6**
AKAS				Sg	**Sb**	**02 12 39.3**	**+0.7**
AKAS	**Kas**	**0.77**	**109**	P	**Pb**	**02 12 27.2**	**-0.6**
AKAS				S	**Sb**	**02 12 39.2**	**+0.7**
AKAS				*i* IAML		02 12 47.0	
	comp=N,504nm,0.6s						
KNIK	**Mula-Seydike**	**0.78**	**63**	P	**Pb**	**02 12 27.6**	**-0.4**
KNIK				S	**Sb**	**02 12 39.0**	**0.0**
RGE1	**Gennadi, Rhode**	**0.78**	**234**	P	**Pg**	**02 12 26.4**	**-0.4**
RGE1				S	**Sg**	**02 12 37.6**	**+0.7**
KSL	**Kastellorizon**	**0.78**	**115**	P	**Pg**	**02 12 27.2**	**+0.4**
KSL	**Kastellorizon**	**0.78**	**115**	P	**Pg**	**02 12 27.3**	**+0.4**
KSL				S	**Sg**	**02 12 37.5**	**+0.5**
CAEL	**Denizli, Camel**	**0.80**	**38**	P	**Pn**	**02 12 30.2**	**+0.2**
MULA	**Mugla, Merkez-**	**0.83**	**338**	P	**Pb**	**02 12 28.8**	**0.0**
DNZT	**Denizli-Tavas-**	**0.83**	**18**	P	**Pn**	**02 12 29.6**	**-0.7**
DAT	**Datca**	**0.94**	**285**	Pg	**Pg**	**02 12 30.3**	**+0.4**
DAT	**Datca**	**0.94**	**285**	P	**Pb**	**02 12 31.2**	**+0.4**
DAT				S	**Sn**	**02 12 44.9**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.99**	**9**	P	**Pn**	**02 12 32.8**	**+0.3**
ELL	**Elmali**	**1.00**	**75**	Pg	**Pb**	**02 12 31.7**	**0.0**
ELL	**Elmali**	**1.00**	**75**	P	**Pg**	**02 12 30.9**	**-0.1**
GOLH	**Golhisar**	**1.01**	**42**	P	**Pb**	**02 12 31.9**	**-0.1**
GOLH				S	**Sn**	**02 12 48.1**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.03**	**281**	P	**Pg**	**02 12 31.7**	**+0.1**
APMY	**Acipayam-Deniz**	**1.09**	**26**	Pn	**Pb**	**02 12 33.5**	**+0.2**
MLSB	**Milas**	**1.10**	**317**	Pn	**Pg**	**02 12 31.8**	**-1.1**
DNIZ	**Denizli-Tavas-**	**1.17**	**13**	P	**Pn**	**02 12 36.0**	**+1.0**
BDRM	**Kayabasi**	**1.17**	**300**	P	**Pn**	**02 12 35.1**	**+0.2**
BODT	**Bodrum**	**1.26**	**297**	Pn	**Pn**	**02 12 36.2**	**0.0**
BODT	**Bodrum**	**1.26**	**297**	P	**Pg**	**02 12 37.4**	**+1.4**
BODT				S	**Sn**	**02 12 55.3**	**+1.7**
AKUM	**Antalya-Kumluc**	**1.33**	**97**	P	**Pg**	**02 12 39.0**	**+1.7**
ESEN	**Aydn-Nazilli**	**1.34**	**348**	P	**Pb**	**02 12 37.7**	**+0.3**
AYDN	**Tasoluk**	**1.34**	**331**	P	**Pg**	**02 12 38.3**	**+0.7**
INCE	**Denizli-Bozkur**	**1.40**	**29**	P	**Pg**	**02 12 40.0**	**+1.3**
KORT	**Korkueli**	**1.41**	**68**	Pn	**Pg**	**02 12 40.0**	**+1.1**
KORT	**Korkueli**	**1.41**	**68**	P	**Pg**	**02 12 41.0**	**+2.1**
KLNA	**Kalymnos**	**1.47**	**289**	P	**Pn**	**02 12 39.1**	**0.0**
KLNA				S	**Sn**	**02 12 58.6**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.51**	**347**	Pn	**Pb**	**02 12 40.7**	**+0.3**
KARP	**Karpathos**	**1.57**	**234**	Pn	**Pb**	**02 12 40.9**	**-0.5**
KARP	**Karpathos**	**1.57**	**234**	P	**Pb**	**02 12 41.2**	**-0.2**
KARP				S	**Sg**	**02 13 03.2**	**+1.0**
KARP	**Karpathos**	**1.57**	**234**	P	**Pn**	**02 12 40.5**	**0.0**
KARP				S	**Sn**	**02 13 01.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.59**	**336**	Pn	**Pb**	**02 12 41.8**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.62**	**41**	P	**Pg**	**02 12 43.8**	**+0.9**
GCAM	**G?zelcaml?**	**1.69**	**316**	Pn	**Pb**	**02 12 43.1**	**-0.3**
BUCA	**Burdur, Bucak-**	**1.70**	**60**	P	**Pg**	**02 12 45.4**	**+1.0**
KIRA	**zmir-Kiraz**	**1.72**	**352**	P	**Pb**	**02 12 44.0**	**-0.1**
BASM	**Basmaki-Afyon**	**1.78**	**36**	Pn	**Pb**	**02 12 44.6**	**-0.5**
ODEM	**Odemis-Izmir**	**1.85**	**344**	Pn	**Pb**	**02 12 45.6**	**-0.7**
SMG	**Samos**	**1.93**	**310**	P	**Pn**	**02 12 45.8**	**+0.3**
SMG				S	**Sg**	**02 13 13.6**	**-0.2**
SMG	**Samos**	**1.93**	**310**	P	**Pn**	**02 12 45.5**	**+0.1**
SMG				S	**Sn**	**02 13 09.6**	**-0.5**
KULA	**Kula-Manisa**	**2.02**	**359**	Pn	**Pb**	**02 12 48.1**	**-1.1**
BLCB	**Balcova**	**2.31**	**325**	P	**Pn**	**02 12 51.2**	**+0.5**
BLCB				S	**Sb**	**02 13 22.3**	**-0.7**
CHOS	**Chios island**	**2.84**	**313**	P	**Pn**	**02 12 58.2**	**+0.3**

*SOME **25** 02:15:57.5, 44°.48N×79°.97E, h20km*
*NNC **25** 02:15:58.2±0.4, 44°.47N×79°.87E, h0km, mb3.4, mpv3.6, Error ellipse: s-maj=3.0km s-min=2.1km az=88.0*
ISC 25 02:15:55.9±1.4, 44°.52N±0°.03×79°.95E±0°.04, h4km±11km, n39, σ1§19/47, 7C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.58**	**254**	P	**Pb**	**02 16 09.0**	**+0.4**
KNOS				S	**Sb**	**02 16 16.7**	**-0.6**
KAPS	**Kapalarasan**	**0.87**	**331**	P	**Pn**	**02 16 15.6**	**+0.6**
KAPS				S	**Sn**	**02 16 27.0**	**-1.2**
BLB	**Baldybastay**	**1.14**	**249**	P	**Pn**	**02 16 18.9**	**+0.2**
BLB				S	**Sn**	**02 16 33.7**	**-1.2**
TDK	**Taldyqorghan**	**1.20**	**294**	P	**Pg**	**02 16 20.3**	**+1.4**
TDK				S	**Sn**	**02 16 36.4**	**+0.2**
TDK	**Taldyqorghan**	**1.20**	**294**	*e*P	**Pg**	**02 16 20.3**	**+1.4**
TDK				*e*S	**Sn**	**02 16 36.4**	**+0.2**
PDGK	**Podgornoye**	**1.24**	**196**	⇓P	**Pg**	**02 16 20.6**	**+1.0**
PDGK				⇑S	**Sn**	**02 16 36.4**	**-0.8**
KPKS	**Kokpek**	**1.40**	**221**	P	**Pg**	**02 16 23.5**	**+0.9**
KPKS				S	**Sg**	**02 16 41.1**	**+0.3**
SHLS	**Shalkode**	**1.41**	**195**	P	**Pg**	**02 16 22.9**	**0.0**
SHLS				S	**Sg**	**02 16 40.8**	**-0.3**
SHLS	**Shalkode**	**1.41**	**195**	*e*P	**Pg**	**02 16 22.9**	**0.0**
SHLS				*e*S	**Sg**	**02 16 40.8**	**-0.3**
UZB	**Uzynbulak**	**1.53**	**206**	P	**Pg**	**02 16 25.6**	**+0.4**
UZB				S	**Sg**	**02 16 45.1**	**0.0**
UZB	**Uzynbulak**	**1.53**	**206**	*e*P	**Pg**	**02 16 25.6**	**+0.4**
UZB				*e*S	**Sg**	**02 16 45.1**	**0.0**
ARXS	**Arharly**	**1.55**	**259**	P	**Pg**	**02 16 26.4**	**+0.7**
ARXS	**Arharly**	**1.55**	**259**	*e*P	**Pg**	**02 16 26.4**	**+0.7**
ARXS				*e*S	**Sg**	**02 16 46.7**	**+0.9**
KURS	**Kuram**	**1.65**	**232**	P	**Pg**	**02 16 27.6**	**+0.1**
KURS				S	**Sg**	**02 16 48.8**	**0.0**
KOTS	**Kotyrbulak**	**2.42**	**239**	Pg	**Pb**	**02 16 40.7**	**+0.6**
KOTS				Lg	Lg	02 17 12.7	
KOTS	**Kotyrbulak**	**2.42**	**239**	*e*P	**Pb**	**02 16 41.0**	**+0.9**
KOTS				*e*S	**Sg**	**02 17 12.4**	**-1.4**
KTBS	**Karatobe**	**2.49**	**252**	Pg	**Pb**	**02 16 42.0**	**+0.8**
KTBS				Lg	Lg	02 17 14.2	
MDOK	**Medeo**	**2.50**	**238**	Lg	Lg	02 17 14.5	

TNSS	**Tian-Shan**	**2.63 237**	Lg	Lg	02 17 18.9	
	5.1nm,0.4s					
TNSS	**Tian-Shan**	**2.63 237**	*e*P	**Pb**	**02 16 44.6**	**+0.8**
	1.4nm,0.6s					
TNSS			*e*S	**Sg**	**02 17 18.9**	**-1.7**
	5.1nm,0.4s					
KUU	**Kurty**	**2.67 258**	Lg	Lg	02 17 19.6	
	45nm,0.3s					
KUU	**Kurty**	**2.67 258**	*e*P	**Pb**	**02 16 45.1**	**+0.8**
	7.1nm,0.2s					
KUU			*e*S	**Sg**	**02 17 19.6**	**-2.1**
	45nm,0.3s					
MAKZ	**Makanchi**	**2.69 31**	⇓Pn	**Pb**	**02 16 44.4**	**-0.2**
	7.3nm,0.9s					
MAKZ			⇓Lg	Lg	02 17 25.3	
	12nm,0.3s					
MK31	**Makanchi Array**	**2.80 35**	⇑Pn	**Pb**	**02 16 46.3**	**-0.2**
	1.4nm,0.2s,baz=213,slow=16,SNR=52					
MK31			⇑Lg	Lg	02 17 28.5	
	30nm,0.5s,baz=218,slow=27					
MTBS	**Maitube**	**2.90 243**	Lg	Lg	02 17 26.5	
	50nm,0.4s					
MTBS	**Maitube**	**2.90 243**	*e*P	**Pb**	**02 16 49.0**	**+0.8**
	10.0nm,0.4s					
MTBS			*e*S	**Sb**	**02 17 26.1**	**+1.9**
	50nm,0.4s					
KRBS	**Karabastau**	**3.19 256**	Lg	Lg	02 17 34.1	
	4.5nm,0.4s					
KST	**Kastek**	**3.24 244**	Lg	Lg	02 17 36.2	
	14nm,0.4s					
KST	**Kastek**	**3.24 244**	*e*P	**Pb**	**02 16 54.7**	**+0.6**
	4.0nm,0.4s					
KST			*e*S	**Sb**	**02 17 35.4**	**+1.4**
	14nm,0.4s					
TKM2	**Tokmak 2**	**3.54 245**	P	**Pg**	**02 17 03.6**	**-0.1**
	SNR=5.5					
SGDS	**Sogindy**	**3.99 256**	Lg	Lg	02 18 01.6	
	7.5nm,0.9s					
CHMS	**Chumysh**	**4.06 250**	P	**Pg**	**02 17 11.3**	**-2.4**
	SNR=5.6					
USP	**Ospenovka**	**4.13 254**	P	**Pg**	**02 17 12.8**	**-2.3**
	SNR=7.9					
AAK	**Ala-Archa**	**4.39 246**	P	**Pg**	**02 17 17.2**	**-2.7**
	SNR=6.5					
AAK	**Ala-Archa**	**4.39 246**	⇑Pg	**Pg**	**02 17 17.1**	**-2.9**
	1.7nm,0.5s					
AAK			⇑Lg	Lg	02 18 14.7	
	5.9nm,0.7s					
UCH	**Uchtor**	**4.58 242**	P	**Pg**	**02 17 22.1**	**-1.6**
	SNR=5.3					
KURBB	**Kurchatov Arra**	**6.18 352**	⇑Lg	Lg	02 19 15.3	
	23nm,0.6s					
KURK	**Kurchatov**	**6.26 352**	⇑Lg	Lg	02 19 17.7	
	5.9nm,0.6s					
KK31	**Karatay Array**	**6.97 262**	⇓Pg	Pg	02 18 04.3	-5.2
	0.7nm,0.5s,baz=72,slow=15,SNR=6.5					
KK31			⇓Lg	Lg	02 19 37.2	
	2.0nm,0.5s,baz=72,slow=26					

*IDC **25** 02:20:11.8±1.2, 2°.70S×138°.12E, h0km, mb3.6/4, mbtmp3.5/7, ML3.0/3, Error ellipse: s-maj=32.6km s-min=24.7km az=92.0*
ISC 25 02:20:16.4±1.1, 2°.8S±0°.2×138°.3E±0°.1, h35km, n7, σ1§20/8, mb3.9/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.46**	**84**	Pn	**Pn**	**02 20 55.5**	**+1.3**
	1.9nm,0.3s,baz=265,slow=7.4,SNR=8.7						
JAY				Sn	**Sn**	**02 21 21.4**	**-1.6**
	0.3nm,0.3s,baz=99,slow=22,SNR=1.6						
	18nm,0.6s						
WRA	**Warramunga Arr**	**17.49**	**192**	P	**P**	**02 24 18.3**	**-0.4**
	0.1nm,0.3s,baz=17,slow=12,SNR=1.6						
	0.8nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.62**	**218**	P	**P**	**02 24 41.6**	**-0.4**
	baz=17,slow=11,SNR=1.2						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**21.20**	**191**	P	**P**	**02 24 59.4**	**+0.3**
	0.2nm,0.4s,baz=19,slow=11,SNR=4.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.56**	**323**	P	**P**	**02 31 22.5**	**+0.6**
	0.9nm,0.6s,baz=114,slow=7.0,SNR=6.0						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**71.76**	**330**	P	**P**	**02 31 33.8**	**-1.3**
	0.4nm,0.3s,baz=134,slow=4.2,SNR=1.8						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**79.10**	**325**	P	**P**	**02 32 18.0**	**+0.7**
	0.7nm,0.5s,baz=111,slow=6.8,SNR=3.0						
	0.7nm,0.5s						

NNC 25 02:32:11.1±5.1, 41°.73N×83°.40E, h0km, mb4.0, mpv3.6, 3D, Error ellipse: s-maj=40.0km s-min=22.8km az=148.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.30**	**300**	Pn	Pn	02 33 03.6	-0.6
	9.3nm,0.9s						
MK31	**Makanchi Array**	**5.12**	**351**	Pn	Pn	02 33 29.6	+0.6
	7.0nm,1.1s,baz=168,slow=15,SNR=4.7						
MK31				⇓Sn	Sn	02 34 29.6	+0.7
	3.0nm,0.6s,baz=167,slow=24						
MAKZ	**Makanchi**	**5.18**	**349**	⇓Pn	Pn	02 33 31.0	+1.2
	26nm,1.4s						
MAKZ				⇓Sn	Sn	02 34 26.3	-3.9
	12nm,1.6s						

*IDC **25** 02:34:55.7±0.6, 2°.63S×138°.32E, h0km, mb4.3/13, mbtmp4.3/18, ML4.1/3, MS3.9/32, Error ellipse: s-maj=19.2km s-min=14.6km az=73.0*
*NEIC **25** 02:34:58.1±2.0, 2°.58S±0°.08×138°.38E±0°.03, h10km±1km, mb4.8/32, Error ellipse: s-maj=14.1km s-min=5.4km az=171.0*
*DJA **25** 02:34:59.2±0.7, 2°S±4°×13°8E±°, h14km±7km, M4.7/13, mb4.7/13, mB5.5/3, MLv4.6/10, Mw(mB)5.0/3*
*GCMT **25** 02:35:00.1±0.3, 2°.55S±0°.03×138°.51E±0°.03, h22km±1km, MW4.9/58, Moment Tensor Solution. s26,c29; s58,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.38±.18; $M_{\theta\theta}$-1.12±.11; $M_{\phi\

comp=Z,196nm,2.0s
SOEI Soe 15.70 243 P **P 02 38 43.5 +0.1**
comp=Z,53nm,0.7s
LUWI Luwuk 15.72 276 Pn **Pn 02 38 38.2 -1.5**
LUWI IAmb IAmb 02 38 45.2
comp=Z,38nm,0.9s
KNRA Kununurra 16.01 216 **Pn 02 38 43.9 +0.5**
BATI Baumata 16.43 242 Pn **Pn 02 38 47.0 -1.8**
comp=Z,20nm,0.3s,baz=79,slow=6.5,SNR=6.7
BATI Baumata 16.43 242 P **P 02 38 53.1 +1.8**
comp=Z,62nm,0.6s
APSI Ampana 16.85 276 P **Pn 02 38 54.7 +0.6**
comp=Z,1μmcomp=Z,68nm,1.7s
GUMO Guam 17.41 21 LR LR 02 45 27.5
comp=Z,399nm,18.3s,baz=196,slow=36
WR8 Warramunga Arr 17.56 192 **Pn 02 39 02.4 -0.6**
WRA Warramunga Arr 17.58 193 **Pn 02 39 03.3 0.0**
WRA Warramunga Arr 17.58 193 P **Pn 02 39 01.3 -1.9**
comp=Z,0.9nm,0.3s,baz=11,slow=12,SNR=17
WRA S **Sn 02 42 16.6 -1.7**
comp=Z,1.2nm,0.8s,baz=198,slow=7.9,SNR=2.9
WRA LR LR 02 46 38.9
comp=Z,961nm,18.0s,baz=12,slow=40
comp=Z,1.2nm,0.4s
TOLI2 Tolitoli 18.03 282 P **Pn 02 39 07.4 -1.4**
FITZ Fitzroy Crossi 19.77 218 P **P 02 39 29.0 +1.0**
FITZ Fitzroy Crossi 19.77 218 P **P 02 39 27.3 -0.7**
comp=Z,0.3nm,0.3s,baz=45,slow=15,SNR=7.7
FITZ S **S 02 43 04.6 -4.6**
comp=Z,2.6nm,0.6s,baz=137,slow=14,SNR=3.6
FITZ LR LR 02 48 16.7
comp=Z,543nm,20.4s,baz=38,slow=40
comp=Z,1.5nm,0.7s
AS31 Alice Springs 21.28 191 P **P 02 39 44.8 +0.3**
ASAR Alice Springs 21.29 191 P **P 02 39 44.7 +0.2**
comp=Z,7.6nm,0.8s,baz=22,slow=9.8,SNR=43
ASAR S **S 02 43 33.2 -6.3**
comp=Z,0.6nm,0.8s,baz=4.3,slow=26,SNR=1.7
comp=Z,7.6nm,0.8s
STKA Stephens Creek 29.17 174 LR LR 02 54 06.1
comp=Z,329nm,21.2s,baz=334,slow=39
LEM Lembang 30.95 261 LR LR 02 56 00.9
comp=Z,204nm,18.1s,baz=228,slow=41
JOW Kunigami 30.96 342 LR LR 02 52 18.9
comp=Z,291nm,20.0s,baz=116,slow=34
NWAO Narrogin (SRO) 36.02 211 LR LR 02 58 11.5
comp=Z,790nm,20.5s,baz=308,slow=39
JNU Nakatsue 36.34 349 LR LR 02 56 30.3
comp=Z,284nm,20.0s,baz=172,slow=36
MJAR Matsushiro Arr 39.05 360 LR LR 02 56 45.0
comp=Z,214nm,18.6s,baz=172,slow=34
NJ2 Nanjing 39.24 333 *eP* **P 02 42 27.3 +1.2**
NJ2 pmax pmax
comp=Z,15nm,0.9s
KSRS Korea Array 41.13 347 P **P 02 42 41.3 -0.3**
comp=Z,2.3nm,0.8s,baz=156,slow=9.2,SNR=3.5
comp=Z,2.3nm,0.8s
CMAR Chiang Mai Arr 44.18 300 **P 02 43 04.3 -2.4**
CMAR Chiang Mai Arr 44.18 300 P **P 02 43 06.2 -0.5**
comp=Z,1.2nm,0.3s,baz=117,slow=5.5,SNR=12
CMAR LR LR 03 03 26.8
comp=Z,78nm,18.3s,baz=160,slow=39
comp=Z,1.2nm,0.3s
PZH PanZhiHua 45.80 312 P **P 02 43 21.4 +1.7**
XAN Xi'an 45.91 325 ⇓P **P 02 43 19.4 -0.9**
XAN pP pP 02 43 25.5 -4.4
XAN pmax pmax
comp=Z,12nm,0.9s
BNX BinXian 49.22 350 ⇑P **P 02 43 44.4 -1.4**
BNX pmax pmax
comp=Z,9.0nm,2.0s
HHC Hu-ho-hao-te 49.80 333 *eP* **P 02 43 51.4 +1.0**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=N,250nm,10.9s
HHC LR LR
comp=E,270nm,10.7s
HHC LR LR
comp=Z,330nm,13.5s
URZ Urewera 50.01 140 LR LR 03 06 48.8
comp=Z,164nm,18.4s,baz=310,slow=38
LZH Lanzhou 50.30 323 *eP* **P 02 43 57.9 +3.5**
LZH sP sP 02 44 15.9 +7.9
LZH pmax pmax
comp=Z,27nm,1.2s
NIUE Niue 53.04 112 P **P 02 44 15.0 0.0**
HILR Hailar Array B 54.50 345 P **P 02 44 24.3 -0.8**
comp=Z,3.5nm,0.7s,baz=130,slow=13,SNR=1.9
comp=Z,3.5nm,0.7s
GTA Gaotai 54.89 324 P **P 02 44 28.5 +0.2**
GTA pP pP 02 44 34.3 -3.8
GTA pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 57.59 335 IAmb IAmb 02 44 53.8
comp=Z,7.2nm,1.6s
SONM Songino Array 57.59 335 P **P 02 44 47.1 -0.3**
comp=Z,0.8nm,0.5s,baz=148,slow=6.6,SNR=4.1
SONM LR LR 03 09 47.3
comp=Z,314nm,19.7s,baz=134,slow=36
comp=Z,0.8nm,0.5s
PETK Petropavlovsk- 57.93 14 LR LR 03 06 17.1
comp=Z,74nm,21.9s,baz=190,slow=32
EVN Everest 58.20 305 **P 02 44 51.7 -0.9**
EVN IAmb IAmb 02 44 54.2
comp=Z,5.7nm,0.7s
PALK Pallekele 58.44 280 LR LR 03 11 52.2
comp=Z,114nm,18.6s,baz=96,slow=38
RAR Rarotonga 62.80 112 LR LR 03 11 48.5
comp=Z,32nm,19.3s,baz=322,slow=35
MA2 Magadan 62.86 7 LR LR 03 10 59.4
comp=Z,37nm,20.2s,baz=174,slow=34
SHEM Shemya Is, Ala 62.86 23 LR LR 03 07 45.1
comp=Z,193nm,21.9s,baz=168,slow=31
YAK Yakutsk 64.91 355 LR LR 03 12 20.7
comp=Z,109nm,19.3s,baz=172,slow=35
SEY Seymchan 66.32 7 P **P 02 45 45.5 -0.1**
comp=Z,0.9nm,0.2s,baz=225,slow=19,SNR=4.2
SEY LR LR 03 12 46.3
comp=Z,51nm,21.3s,baz=185,slow=34
comp=Z,0.9nm,0.2s
CASY Casey 66.41 192 P **P 02 45 47.1 +0.9**
CASY IAmb IAmb 02 46 19.7
comp=Z,4.2nm,1.1s
MKAR Makanchi Array 69.61 323 **P 02 46 06.8 +0.2**
MKAR Makanchi Array 69.61 323 P **P 02 46 06.7 0.0**
comp=Z,6.1nm,0.6s,baz=108,slow=7.5,SNR=33
MKAR LR LR 03 18 49.5
comp=Z,60nm,18.7s,baz=148,slow=38
comp=Z,6.1nm,0.6s
MAKZ Makanchi 69.81 322 **P 02 46 07.6 -0.3**
TARG Taragay, Kyrgy 70.38 316 P **P 02 46 13.2 +1.2**
TARG IAmb IAmb 02 46 20.1
comp=Z,18nm,1.7s
KDJ Kajisay 70.96 316 P **P 02 46 16.3 +1.1**
KDJ IAmb IAmb 02 47 26.1
comp=Z,10nm,1.0s
ZALV Zalesovo Beam 71.79 330 P **P 02 46 18.5 -1.2**
comp=Z,1.2nm,0.5s,baz=110,slow=8.1,SNR=5.9
ZALV LR LR 03 18 48.6
comp=Z,47nm,18.8s,baz=100,slow=37
comp=Z,1.2nm,0.5s
BOOM Boomskoye usch 71.95 316 P **P 02 46 22.0 +0.8**
BOOM IAmb IAmb 02 46 23.4
comp=Z,8.6nm,0.7s
PPT Papeete 72.04 107 LR LR 03 14 55.4
comp=Z,39nm,20.1s,baz=302,slow=33
PPT2 Papeete2 72.04 108 *eS* **S 02 55 43.3 +1.1**
comp=Z,49nm,26.5s
PPT2 Papeete2 72.04 108 *eLR* LR 03 08 21.6
comp=Z,100nm,28.0s
TBI Tubuai 72.53 114 *eLR* LR 03 08 35.6
comp=Z,487nm,24.5s
AAK Ala-Archa 73.00 316 P **P 02 46 26.8 -0.6**
AAK IAmb IAmb 02 46 40.2
comp=Z,14nm,1.8s
KURK Kurchatov 73.55 325 P **P 02 46 29.4 -0.8**
KURK Kurchatov 73.55 325 IAmb IAmb 02 46 36.7
comp=Z,5.7nm,1.0s
KURBB Kurchatov Arra 73.56 325 P **P 02 46 29.4 -0.8**
comp=Z,1.3nm,0.5s,baz=114,slow=5.5,SNR=10
comp=Z,1.3nm,0.5s
ARSB Arslanbob 73.62 314 P **P 02 46 31.4 +0.3**
ARSB IAmb IAmb 02 46 38.4
comp=Z,10nm,1.1s

TIXI Tiksi 74.49 357 IAmb IAmb 02 47 00.2
comp=Z,3.8nm,0.8s
TIXI Tiksi 74.49 357 P **P 02 46 34.6 -0.7**
comp=Z,3.9nm,0.2s,baz=146,slow=5.5,SNR=3.9
TIXI LR LR 03 18 56.3
comp=Z,102nm,19.8s,baz=198,slow=36
comp=Z,3.9nm,0.2s
VNDA Vanda 75.81 175 P **P 02 46 44.0 +1.1**
VNDA Vanda 75.81 175 P **P 02 46 43.5 +0.6**
comp=Z,1.0nm,0.5s,baz=322,slow=6.0,SNR=14
comp=Z,1.0nm,0.5s
KKAR Karatay Array 75.92 316 P **P 02 46 43.6 -0.7**
L14K Kuka Creek 78.02 25 P **P 02 46 54.4 -1.2**
L14K IAmb IAmb 02 46 57.7
comp=Z,15nm,0.8s
K15K Wolf Creek Mou 78.96 24 P **P 02 47 00.7 0.0**
BVAR Borovoye Array 79.14 325 P **P 02 47 01.5 -0.5**
comp=Z,4.5nm,0.5s,baz=104,slow=7.0,SNR=18
BVAR LR LR 03 24 27.4
comp=Z,45nm,18.5s,baz=93,slow=38
comp=Z,4.5nm,0.5s
M16K Timber Creek 79.48 26 P **P 02 47 04.5 +0.9**
M16K IAmb IAmb 02 47 06.1
comp=Z,21nm,1.1s
TAOE Nuku Hiva Isla 81.13 98 *eLR* LR 03 12 38.2
comp=Z,154nm,22.3s
KDAK Kodiak Island 81.25 30 LR LR 03 19 31.0
comp=Z,200nm,20.1s,baz=236,slow=33
MAW Mawson 82.01 202 LR LR 03 22 36.5
comp=Z,114nm,18.9s,baz=76,slow=35
E19K Redstone River 82.91 21 IAmb IAmb 02 47 24.0
comp=Z,9.9nm,0.8s
AB31 Akbulak array 84.53 320 P **P 02 47 30.5 +0.1**
AB31 IAmb IAmb 02 47 37.8
comp=Z,19nm,1.9s
ABKAR Akbulak array 84.53 320 P **P 02 47 28.6 -1.9**
ILAR Eielson Array 85.95 24 P **P 02 47 35.9 -1.3**
comp=Z,1.4nm,0.7s,baz=260,slow=4.2,SNR=12
ILAR LR LR 03 21 15.4
comp=Z,65nm,20.7s,baz=224,slow=32
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 87.24 180 P **P 02 47 48.4 +4.7**
QSPA IAmb IAmb 02 47 53.4
comp=Z,5.0nm,0.9s
BMAR Burnt Mountain 87.51 22 P **P 02 47 46.1 +1.3**
KIRV Kirov 91.77 328 LR LR 03 31 33.9
comp=Z,79nm,20.4s,baz=79,slow=37
DLBC Dease Lake 93.11 32 LR LR 03 27 29.8
comp=Z,896nm,18.8s,baz=230,slow=34
GNI Garni 94.54 310 LR LR 03 33 58.8
comp=Z,26nm,21.6s,baz=80,slow=38
YBH Yreka Blue Hor 98.42 48 LR LR 03 25 57.7
comp=Z,8.3nm,20.4s,baz=287,slow=31
SPITS Spitsbergen Ar 98.93 350 LR LR 03 37 35.3
comp=Z,47nm,18.3s,baz=50,slow=38
PB11 IPOC Station P 144.52 130 PKPdf **PKPdf 02 54 34.8 -0.1**
CPUP Villa Florida 147.36 153 PKPbc **PKPbc 02 54 42.7 +0.9**
comp=Z,0.3nm,0.6s,baz=299,slow=10,SNR=3.8
LPAZ La Paz 147.68 127 **PKPdf 02 54 42.5 +1.5**
LPAZ La Paz 147.68 127 PKPbc **PKiKP 02 54 45.3 -0.4**
comp=Z,0.6nm,0.5s,baz=214,slow=3.6,SNR=7.6
RUSC La Rusia 148.44 83 PKPbc **PKPbc 02 54 44.9 -0.8**

NEIC ***25*** *02:36:00.6±1.9, 11°.7S±0.7°×77°.3W±0°.1, h59km±8km, mb4.4/15, Error ellipse: s-maj=23.7km s-min=3.7km az=48.0*
IDC ***25*** *02:36:00.1±1.6, 11°.69S×77°.18W, h57km±8km, mb3.8/3, mbtmp4.1/4, MS3.1/11, Error ellipse: s-maj=73.4km s-min=24.1km az=31.0*
VAO ***25*** *02:36:09.0±1.1, 11°.57S×76°.53W, h90km±8km, mb4.2*
ISC 25 02:35:58.7±0.8, 11°.79S±0°.09×77°.33W±0°.10, h50km, n60,
σ1$23/44, mb4.4/9, MS3.2/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NNA	**Nana**	**0.51**	**112**			**Pn**	**02 36 12.5**	**+2.3**
NNA					Sn	**Sn**	**02 36 20.7**	**+2.3**
ATAH	**Atahualpa**	**4.75**	**347**	LR	LR		02 39 05.4	
	comp=Z,98nm,18.5s,baz=180,slow=40							
PB12	**IPOC Station P**	**9.57**	**136**	Pn		**Pn**	**02 38 12.3**	**-1.7**
PB16	**IPOC Station P**	**9.96**	**132**	Pn		**Pn**	**02 38 19.3**	**-0.5**
LPAZ	**La Paz**	**9.98**	**118**	Pn		**Pn**	**02 38 20.8**	**+0.7**
LPAZ	**La Paz**	**9.98**	**118**	P		**Pn**	**02 38 21.3**	**+1.2**
	3.8nm,0.6s,baz=309,slow=9.4,SNR=17							
LPAZ				LR	LR		02 41 53.7	
	comp=Z,42nm,18.8s,baz=292,slow=36							
LPAZ	**La Paz**	**9.98**	**118**	*eP*		**Pn**	**02 38 21.7**	**+1.6**
PB11	**IPOC Station P**	**10.82**	**138**	Pn		**Pn**	**02 38 30.0**	**-1.2**
HMBC	**Humberstone**	**11.05**	**141**	Pn		**Pn**	**02 38 33.9**	**-0.5**
GO01	**Chusmiza**	**11.07**	**136**	Pn		**Pn**	**02 38 33.9**	**-1.0**
OTAV	**Otavalo**	**12.01**	**355**	*eP*		Pn	02 38 55.6	+7.9
FLOC	**Florencia**	**13.39**	**7**	Pn		**Pn**	**02 39 05.8**	**-0.5**
TEFE	**Tefe**	**15.02**	**58**	*eP*		**Pn**	**02 39 27.2**	**-0.8**
SIV	**San Ignacio**	**16.32**	**107**	LR	LR		02 45 55.4	
	comp=Z,43nm,19.2s,baz=291,slow=37							
VILB	**Vilhena**	**16.77**	**96**	Pn		**Pn**	**02 39 49.8**	**-0.5**
ROSC	**El Rosal**	**16.79**	**10**	LR	LR		02 47 16.5	
	comp=Z,92nm,21.1s,baz=235,slow=41							
PTLB	**Pontes e Lacer**	**18.05**	**104**	P		**P**	**02 40 06.5**	**+0.6**
PTLB				IAmb	IAmb		02 40 07.6	
	comp=Z,26nm,1.2s							
PTLB	**Pontes e Lacer**	**18.05**	**104**	*eP*		**P**	**02 40 06.5**	**+0.6**
RUSC	**La Rusia**	**18.07**	**14**	P		**P**	**02 40 07.3**	**+0.6**
MACA	**Manacapuru-AM**	**18.58**	**64**	P		**P**	**02 40 09.2**	**-2.7**
MACA				IAmb	IAmb		02 40 32.9	
	comp=Z,14nm,0.7s							
MACA	**Manacapuru-AM**	**18.58**	**64**	*eP*		**P**	**02 40 10.4**	**-1.5**
PDRB	**Porto dos Gac**	**20.17**	**92**	*eP*		**P**	**02 40 28.8**	**-0.4**
CLDB	**Colider**	**21.13**	**90**	*eP*		**P**	**02 40 38.5**	**-1.1**
SALV	**Santo Antonio**	**21.39**	**103**	*eP*		**P**	**02 40 42.2**	**-0.2**
BDQN	**Bodoquena, MS**	**21.54**	**116**	*eP*		**P**	**02 40 44.2**	**+0.3**
SDV	**Santo Domingo**	**21.59**	**18**	LR	LR		02 49 56.3	
	comp=Z,56nm,20.3s,baz=156,slow=39							
H03N1	**Juan Fernandez**	**21.60**	**184**	T	T		03 03 00.1	
	baz=3.4,slow=75,SNR=59							
H03N2	**Juan Fernandez**	**21.60**	**184**	T	T		03 03 05.4	
	baz=3.4,slow=75,SNR=44							
H03N3	**Juan Fernandez**	**21.61**	**184**	T	T		03 03 04.9	
	baz=3.4,slow=75,SNR=39							
BOAV	**Boa Vista**	**21.86**	**51**	P		**P**	**02 40 47.6**	**+0.2**
BOAV				IAmb	IAmb		02 40 49.0	
	comp=Z,11nm,1.0s							
BOAV	**Boa Vista**	**21.86**	**51**	*eP*		**P**	**02 40 47.4**	**0.0**
NPGB	**Novo Progresso**	**22.17**	**80**	*eP*		**P**	**02 40 49.2**	**-1.6**
PP1B	**Ponte de Pedra**	**22.45**	**108**	*eP*		**P**	**02 40 52.3**	**-1.5**
AQDB	**Aquidauana**	**22.47**	**115**	P		**P**	**02 40 55.1**	**+1.1**
AQDB				IAmb	IAmb		02 40 56.1	
	comp=Z,8.4nm,0.8s							
BAUV	**El Baul**	**22.57**	**25**	P		**P**	**02 40 54.9**	**-0.2**
ITTB	**Itaituba**	**22.60**	**73**	*eP*		**P**	**02 40 54.5**	**-0.9**
SMRC	**Santa Marta, M**	**23.02**	**8**			**P**	**02 40 58.1**	**-1.5**
SMRC				IAmb	IAmb		02 41 00.3	
	comp=Z,22nm,1.1s							
JTS	**Las Juntas de**	**23.21**	**341**	LR	LR		02 50 05.7	
	comp=Z,18nm,18.5s,baz=117,slow=36							
CPUP	**Villa Florida**	**23.75**	**130**	LR	LR		02 51 39.9	
	comp=Z,16nm,20.8s,baz=194,slow=40							
MAL2	**Monte Alegre,**	**24.92**	**69**	P		**P**	**02 41 17.0**	**-0.4**
MAL2				IAmb	IAmb		02 41 18.2	
	comp=Z,17nm,1.1s							
SNDB	**Serra Nova Dou**	**25.47**	**93**	*eP*		**P**	**02 41 22.0**	**-0.5**
BDFB	**Brasilia**	**28.72**	**101**	LR	LR		02 54 27.3	
	comp=Z,95nm,18.4s,baz=309,slow=39							
PLTB	**Pedras Altas**	**29.54**	**136**	P		**P**	**02 41 58.3**	**-0.4**
PLTB				IAmb	IAmb		02 42 04.0	
	comp=Z,17nm,1.3s							
MDP	**Montagnes des**	**29.74**	**57**	LR	LR		02 53 47.5	
	comp=Z,56nm,19.1s,baz=260,slow=36							
RCBR	**Riachuelo**	**41.33**	**85**	LR	LR		03 01 28.8	
	comp=Z,34nm,18.9s,baz=250,slow=37							
TXAR	**Lajitas Array**	**48.15**	**329**	P		**P**	**02 44 34.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=145,slow=10,SNR=3.6							
	comp=Z,1.2nm,0.8s							
MIAR	**Mount Ida**	**48.60**	**342**	P		**P**	**02 44 36.8**	**-0.6**
R40A	**Maddies Statio**	**51.75**	**345**	P		**P**	**02 45 00.7**	**-0.5**
R40A				IAmb	IAmb		02 45 01.3	
	comp=Z,3.3nm,0.7s							
ECSD	**EROS Data Cent**	**57.99**	**344**	P		**P**	**02 45 45.4**	**-0.9**
ECSD				IAmb	IAmb		02 46 13.8	
	comp=Z,3.7nm,1.2s							
NVAR	**Mina Array Bea**	**62.94**	**325**	P		**P**	**02 46 20.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=144,slow=5.3,SNR=1.8							
NVAR				pP		**pP**	**02 46 37.9**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=125,slow=6.4,SNR=2.5							
	comp=Z,0.3nm,0.6s							
MCMT	**McKenzie Canyo**	**64.89**	**333**	P		**P**	**02 46 33.8**	**+0.6**
DBIC	**Dimbokro**	**74.36**	**80**	LR	LR		03 18 05.9	
	comp=Z,38nm,18.8s,baz=158,slow=34							
TORD	**Torodi Ar. Bea**	**82.20**	**75**	P		**P**	**02 48 15.2**	**+0.1**
	comp=Z,6.0nm,0.3s,baz=264,slow=4.3,SNR=14							
TORD				pP		**pP**	**02 48 30.0**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=270,slow=2.0,SNR=6.0							
	comp=Z,6.0nm,0.3s							
H11N3	**WAKE ISLAND Hyl17.97**	**286**		T	T		05 03 05.0	
	baz=93,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hyl17.99**	**286**		T	T		05 03 05.1	
	baz=93,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hyl17.99**	**286**		T	T		05 03 09.1	
	baz=93,slow=75,SNR=20							
H11S2	**WAKE ISLAND Hyl18.09**	**285**		T	T		05 03 12.7	
	baz=95,slow=75,SNR=98							
H11S1	**WAKE ISLAND Hyl18.10**	**285**		T	T		05 03 13.9	
	baz=95,slow=75,SNR=128							
H11S3	**WAKE ISLAND Hyl18.11**	**285**		T	T		05 03 19.3	
	baz=95,slow=75,SNR=72							
WRA	**Warramunga Arr**	**135.66**	**225**	PKP		**PKPdf**	**02 55 14.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=125,slow=2.0,SNR=1.9							
WRA				pPKP		**pPKPdf**	**02 55 31.6**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=134,slow=2.0,SNR=2.5							

LDO ***25*** *02:41:57±0.8, 41°.09N±0°.01×73°.96W±0°.02, h3km±6km, Error ellipse: s-maj=1.9km s-min=1.6km az=69.0*
NEIC 25 02:41:57.7±0.6, 41°.092N±0°.010×73°.95W±0°.02, h5km±1km, ML1.2/5, ML1.1(LDO), Error ellipse: s-maj=3.0km s-min=2.3km az=185.0, New York

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PAL	**Palisades**	**0.09**	**162**			Pg	02 41 59.6	0.0
PAL					Sg	Sg	02 42 01.1	+0.1
WSPT	**Westport, CT**	**0.47**	**80**	Pg		Pg	02 42 06.6	-0.2
WSPT					Sg	Sg	02 42 12.8	-0.2
WSPT				IAML			02 42 18.1	
	19nm,0.1s							
WSPT				IAML			02 42 18.7	
	23nm,0.1s							
BRNJ	**Basking Ridge**	**0.62**	**229**	Pg		Pg	02 42 08.5	-1.1
KSCT	**Kent School, K**	**0.72**	**29**	Pg		Pg	02 42 10.8	-0.8
KSCT					Sg	Sg	02 42 20.4	-0.6
KSCT				IAML			02 42 29.9	
	comp=N,8.9nm,1.6s							
L59A	**Walton**	**1.37**	**324**			Pn	02 42 22.4	-1.1
KSPA	**Keystone Colle**	**1.45**	**289**	Pg		Pn	02 42 24.3	-0.3
M63A	**Gales Ferry**	**1.47**	**77**			Pn	02 42 24.2	-0.6
UCCT	**U. Connecticut**	**1.47**	**61**			Pn	02 42 23.9	-1.0
PSUB	**Penn St. - Bra**	**1.63**	**225**			Pn	02 42 26.4	-0.7
L61B	**Northampton**	**1.66**	**34**	Pn		Pn	02 42 26.1	-1.3

WEL ***25*** *02:51:39.9±0.9, 33°S±8°×18°0W±1°9, h128km±40km, M4.4/10, mB4.8/4, MLv4.5/10, Mw(mB)4.0/4, Error ellipse: s-maj=26.6km s-min=3.5km az=110.3, confirmed*
IDC ***25*** *02:51:41.0±8.1, 33°.32S×179°.57W, h158km±72km, mb3.5/2, mbtmp3.9/3, Error ellipse: s-maj=71.9km s-min=36.9km az=13.0*
ISC 25 02:51:40.2±0.8, 33°.14S±0°.07×179°.9W±0°.1, h150km, n44,
σ2$99/62, mb4.2/5, 4C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GLKZ	**Green Lake**	**4.22**	**24**	P		**Pn**	**02 52 41.3**	**-2.0**
GLKZ					S	**Sn**	**02 53 28.3**	**-4.0**
RIZ	**Raoul Island**	**4.23**	**24**	S		**Sn**	**02 53 30.8**	**-1.9**
MXZ	**Matakaoa Point**	**4.65**	**198**	P		**Pn**	**02 52 52.0**	**+3.1**
MXZ				S		**Sn**	**02 53 45.0**	**+2.6**
WMGZ	**Waiomatatini S**	**4.87**	**196**	P		**Pn**	**02 52 51.7**	**-0.1**
WMGZ				S		**Sn**	**02 53 50.1**	**+2.5**
HAZ	**Te Kaha**	**4.98**	**202**	P		**Pn**	**02 52 55.7**	**+2.5**
HAZ				S		**Sn**	**02 53 53.9**	**+3.6**
PKGZ	**Pakihiroa**	**5.00**	**199**	P		**Pn**	**02 52 55.1**	**+1.6**
PKGZ				S		**Sn**	**02 53 46.8**	**-3.9**
PUZ	**Puketiti**	**5.15**	**196**	P		**Pn**	**02 52 57.3**	**+1.8**
PUZ				S		**Sn**	**02 53 54.4**	**+0.1**
RUGZ	**Raukumara Rang**	**5.21**	**202**	P		**Pn**	**02 52 58.7**	**+2.3**
RUGZ				S		**Sn**	**02 53 56.8**	**+1.0**
TWGZ	**Tauwhareparae**	**5.32**	**198**	P		**Pn**	**02 52 57.8**	**+0.1**
TWGZ				S		**Sn**	**02 53 58.6**	**+0.2**
CNGZ	**Carnagh Statio**	**5.55**	**196**	P		**Pn**	**02 53 02.5**	**+1.7**
CNGZ				S		**Sn**	**02 54 06.3**	**+2.5**
MWZ	**Matawai**	**5.59**	**201**	P		**Pn**	**02 53 02.5**	**+1.2**
MWZ				S		**Sn**	**02 54 07.1**	**+2.2**
MKAZ	**Moumakai**	**5.66**	**224**	P		**Pn**	**02 53 02.0**	**-0.2**
URZ	**Urewera**	**5.66**	**205**	P		**Pn**	**02 53 02.9**	**+0.6**
	3.7nm,0.3s,baz=30,slow=16,SNR=7.9							
URZ					S	**Sn**	**02 54 06.8**	**+0.4**
	16nm,0.3s,baz=88,slow=18,SNR=18							
URZ	**Urewera**	**5.66**	**205**	P		**Pn**	**02 53 03.5**	**+1.3**
URZ					S	**Sn**	**02 54 06.8**	**+0.4**
RAGZ	**Rawiri**	**5.77**	**201**	P		**Pn**	**02 53 02.3**	**-1.5**
RAGZ					S	**Sn**	**02 54 08.4**	**-0.9**
RIGZ	**Rimuhau**	**5.87**	**198**	P		**Pn**	**02 53 03.7**	**-1.4**
RIGZ					S	**Sn**	**02 54 11.1**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.94**	**227**	P		**Pn**	**02 53 07.6**	**+1.6**
PRGZ	**Paritu Road**	**6.04**	**197**	S		**Sn**	**02 54 11.7**	**-4.0**
SNGZ	**Shannon Statio**	**6.06**	**201**	P		**Pn**	**02 53 07.3**	**-0.3**
SNGZ					S	**Sn**	**02 54 16.2**	**+0.2**
MHGZ	**Mahia Peninsul**	**6.26**	**196**	P		**Pn**	**02 53 11.7**	**+1.5**
MHGZ					S	**Sn**	**02 54 16.6**	**-4.2**
WPHZ	**Waipukurau**	**7.51**	**202**		S	**Sn**	**02 54 49.8**	**-1.0**
TSZ	**Takapari Road**	**7.67**	**205**		S	**Sn**	**02 54 50.5**	**-4.1**
WAZ	**Wanganui**	**7.78**	**210**		S	**Sn**	**02 54 58.7**	**+1.4**
DVHZ	**Dannevirke**	**7.81**	**203**		S	**Sn**	**02 54 53.9**	**-4.2**
ANWZ	**Angora Road**	**7.86**	**201**		S	**Sn**	**02 54 56.6**	**-2.7**
POWZ	**Post Office Ro**	**8.03**	**204**		S	**Sn**	**02 54 59.3**	**-4.0**
PRWZ	**Pori Road**	**8.11**	**203**		S	**Sn**	**02 55 00.4**	**-4.7**
BFZ	**Birch Farm**	**8.14**	**201**		S	**Sn**	**02 55 00.9**	**-5.0**
HOWZ	**Holdsworth Sta**	**8.57**	**204**		S	**Sn**	**02 55 09.1**	**-7.1**
OGWZ	**Otaki Gorge**	**8.62**	**206**		P	**Pn**	**02 53 36.9**	**-4.8**
OGWZ					P	**Sn**	**02 55 11.3**	**-6.1**
TMWZ	**Te Maipa**	**8.63**	**202**		P	**Sn**	**02 55 12.0**	**-5.8**
KIW	**Kapiti Island**	**8.75**	**207**		P	**Pn**	**02 53 40.9**	**-2.6**
MTW	**Mount Morrison**	**8.80**	**203**		P	**Sn**	**02 55 14.0**	**-8.0**
ASAR	**Alice Springs**	**41.44**	**271**	P		**P**	**02 59 14.6**	**+2.3**
	0.7nm,0.4s,baz=109,slow=7.6,SNR=15							
	0.7nm,0.4s							
WRA	**Warramunga Arr**	**42.68**	**276**	P		**P**	**02 59 24.5**	**+2.2**
	0.8nm,0.3s,baz=115,slow=7.7,SNR=16							
WRA				PcP		**PcP**	**03 01 11.9**	**+0.5**
	0.2nm,0.4s,baz=122,slow=2.9,SNR=1.2							
	0.8nm,0.3s							
TROLL	**Troll, Antarti**	**75.13**	**181**	⇑P		**P**	**03 03 08.4**	**+2.9**
	comp=Z,100nm,0.6s							
SNAA	**Sanae**	**75.46**	**179**	⇑P		**P**	**03 03 10.2**	**+3.0**
	comp=Z,26nm,0.3s							
VNA3	**Neumayer Olymp**	**75.68**	**177**	⇑P		**P**	**03 03 11.1**	**+2.7**
	comp=Z,1.8nm,0.3s							
VNA2	**Neumayer--Watz**	**76.09**	**177**	⇓P		**P**	**03 03 13.5**

3.5nm,0.3s
UZB Lg Lg 03 25 17.5
4.4nm,0.5s
UZB Uzynbulak 1.94 354 *e*P **Pb 03 24 52.0 0.0**
3.5nm,0.3s
UZB *e*S **Sg 03 25 17.5 -1.3**
4.4nm,0.5s
SHLS Shalkode 1.94 3 Pg **Pg 03 24 52.9 -0.7**
5.6nm,0.3s
SHLS Lg Lg 03 25 19.1
20nm,0.5s
SHLS Shalkode 1.94 3 *e*P **Pg 03 24 52.9 -0.7**
5.6nm,0.3s
SHLS *e*S **Sg 03 25 19.1 +0.2**
20nm,0.5s
SATY Saty 1.96 340 Pg **Pb 03 24 52.8 +0.6**
2.3nm,0.5s
SATY Lg Lg 03 25 19.0
6.5nm,0.2s
PDGK Podgornoye 2.12 4 ⇓Pn **Pb 03 24 53.5 -1.4**
5.2nm,1.1s
PDGK ⇓Sn **Sb 03 25 22.4 +1.1**
13nm,0.8s
KPKS Kokpek 2.30 349 Pg **Pb 03 24 58.3 +0.3**
0.9nm,0.6s
KPKS Lg Lg 03 25 28.2
11nm,0.7s
JNKS Jany-Kuch 2.76 268⇑*i*P **Pn 03 25 01.8 +0.9**
JNKS ⇑*i*S **Sb 03 25 37.5 -2.5**
BOOM Boomskoye usch 2.82 298⇑*i*P **Pn 03 25 02.6 +1.0**
BOOM ⇑*i*S **Sb 03 25 38.9 -2.6**
BLB Baldybastay 2.94 348 Pg **Pb 03 25 10.4 +1.4**
2.5nm,0.3s
BLB Lg Lg 03 25 48.9
5.8nm,0.3s
TKM2 Tokmak 2 3.24 303⇑*i*P **Pn 03 25 08.7 +1.2**
TKM2 ⇑*i*S **Sn 03 25 49.2 +2.9**
UCH Uchtor 3.73 287⇓*i*P **Pn 03 25 15.4 +1.0**
UCH ⇓*i*S **Sn 03 26 01.2 +2.7**

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*SJA **25** 03:45:37.9±0.7, 20°.63S×69°.36W, h110km±3km, ML3.4, MW3.5*
*GUC **25** 03:45:40.2±0.5, 20°.65S×69°.31W, h100km±2km, ML3.4*
ISC 25 03:45:38.5±1.4, 20°.65S±0°.03×69°.41W±0°.06, h113km±7km, n32, σ1§10/60, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**191**	⇓*i*P	**Pn**	**03 45 55.0**	**-0.2**
PB01				*i* S	**Sn**	**03 46 06.6**	**-1.2**
PB01				IAML		03 46 07.5	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**0.40**	**191**	*e*P	**Pn**	**03 45 55.0**	**-0.2**
PB01				*e*S	**Sn**	**03 46 07.2**	**-0.6**
PB01				IAML		03 46 08.0	
	comp=Z,2μm,0.1s						
PB08	**IPOC Station P**	**0.56**	**25**	⇑*i*P	**Pn**	**03 45 56.4**	**-0.3**
PB08				*i* S	**Sn**	**03 46 08.9**	**-1.3**
PB08				IAML		03 46 09.5	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**0.56**	**25**	*e*P	**Pn**	**03 45 56.2**	**-0.4**
PB08				*e*S	**Sn**	**03 46 09.3**	**-0.8**
PB08				IAML		03 46 11.4	
	comp=Z,733nm,0.1s						
HMBC	**Humberstone**	**0.58**	**310**	*e*P	Pn	03 45 51.2	-5.3
HMBC				*e*S	**Sn**	**03 46 10.2**	**+0.3**
HMBC				IAML		03 46 12.2	
	comp=Z,615nm,0.3s						
PATCX	**Punta Patache**	**0.72**	**256**	⇑*i*P	**Pn**	**03 45 58.1**	**+0.7**
PATCX				*i* S	**Sn**	**03 46 11.9**	**+0.2**
PATCX				IAML		03 46 13.2	
	comp=E,874nm,0.2s						
PATCX	**Punta Patache**	**0.72**	**256**	*e*P	**Pn**	**03 45 58.0**	**+0.6**
PATCX				*e*S	**Sn**	**03 46 12.8**	**+1.1**
PATCX				IAML		03 46 14.0	
	comp=Z,474nm,0.5s						
TA01	**Diego Aracena**	**0.73**	**277**	⇑*i*P	**Pn**	**03 45 57.7**	**+0.4**
TA01				*i* S	**Sn**	**03 46 11.4**	**-0.2**
TA01				IAML		03 46 12.5	
	comp=E,925nm,0.3s						
TA01	**Diego Aracena**	**0.73**	**277**	*e*P	**Pn**	**03 45 57.8**	**+0.4**
TA01				*e*S	**Sn**	**03 46 12.0**	**+0.4**
TA01				IAML		03 46 13.6	
	comp=Z,302nm,0.3s						
TA02	**Huaiquique**	**0.78**	**299**	*e*P	**Pn**	**03 45 58.4**	**+0.6**
TA02				*e*S	**Sn**	**03 46 12.5**	**+0.2**
TA02				IAML		03 46 13.7	
	comp=N,2μm,0.1s						
TA02	**Huaiquique**	**0.78**	**299**	*e*P	**Pn**	**03 45 57.8**	**0.0**
TA02				*e*S	**Sn**	**03 46 12.9**	**+0.5**
TA02				IAML		03 46 19.2	
	comp=Z,622nm,0.1s						
PB02	**IPOC Station P**	**0.81**	**214**	*e*P	**Pn**	**03 45 58.8**	**+0.6**
PB02				*i* S	**Sn**	**03 46 13.1**	**0.0**
PB02				IAML		03 46 14.8	
	comp=E,3μm,0.3s						
PB02	**IPOC Station P**	**0.81**	**214**	*e*P	**Pn**	**03 45 58.8**	**+0.6**
PB02				*e*S	**Sn**	**03 46 13.7**	**+0.6**
PB02				IAML		03 46 16.1	
	comp=Z,3μm,0.4s						
PB11	**IPOC Station P**	**0.92**	**345**	⇓*i*P	**Pn**	**03 45 59.5**	**+0.1**
PB11				*i* S	**Sn**	**03 46 14.8**	**-0.2**
PB11				IAML		03 46 15.9	
	comp=N,3μm,0.2s						
PB11	**IPOC Station P**	**0.92**	**345**	*e*P	**Pn**	**03 45 59.5**	**+0.1**
PB11				*e*S	**Sn**	**03 46 15.0**	**0.0**
PB11				IAML		03 46 16.6	
	comp=Z,474nm,0.2s						
GO01	**Chusmiza**	**1.00**	**12**	⇑*i*P	**Pn**	**03 46 00.5**	**0.0**
GO01				*e*S	**Sn**	**03 46 16.5**	**-0.6**
GO01				IAML		03 46 16.9	
	comp=N,5μm,0.2s						
GO01	**Chusmiza**	**1.00**	**12**	*e*P	**Pn**	**03 46 00.5**	**0.0**
GO01				*e*S	**Sn**	**03 46 16.9**	**-0.2**
GO01				IAML		03 46 17.1	
	comp=Z,680nm,0.1s						
PB09	**IPOC Station P**	**1.15**	**172**	⇓*i*P	**Pn**	**03 46 02.2**	**+0.5**
PB09				*i* S	**Sn**	**03 46 19.4**	**+0.1**
PB09				IAML		03 46 21.5	
	comp=N,783nm,0.2s						
PB09	**IPOC Station P**	**1.15**	**172**	*e*P	**Pn**	**03 46 02.1**	**+0.5**
PB09				*e*S	**Sn**	**03 46 20.0**	**+0.7**
PB09				IAML		03 46 22.9	
	comp=Z,672nm,0.2s						
PB06	**IPOC Station P**	**2.05**	**184**	⇓*i*P	**Pn**	**03 46 12.8**	**+0.4**
PB06				*i* S	**Sn**	**03 46 37.3**	**-1.0**
PB06	**IPOC Station P**	**2.05**	**184**	*e*P	**Pn**	**03 46 12.8**	**+0.4**
PB06				*e*S	**Sn**	**03 46 39.1**	**+0.7**
PB06				IAML		03 46 40.0	
	comp=Z,267nm,0.3s						
PB12	**IPOC Station P**	**2.21**	**337**	⇓*i*P	**Pn**	**03 46 14.4**	**0.0**
PB12				*e*S	**Sn**	**03 46 41.0**	**-0.8**
PB12	**IPOC Station P**	**2.21**	**337**	*e*P	**Pn**	**03 46 14.5**	**+0.2**
PB12				*e*S	**Sn**	**03 46 41.6**	**-0.2**
PB12				IAML		03 46 42.7	
	comp=Z,142nm,0.6s						
PB16	**IPOC Station P**	**2.31**	**358**	*e*P	**Pn**	**03 46 17.7**	**+1.6**
PB16				*i* S	**Sn**	**03 46 46.5**	**+1.6**
PB16				IAML		03 46 48.6	
	comp=E,131nm,0.6s						
PB16	**IPOC Station P**	**2.31**	**358**	*e*P	**Pn**	**03 46 12.4**	**-3.7**
PB16				*e*S	**Sn**	**03 46 48.0**	**+3.1**
PB16				IAML		03 46 50.8	
	comp=Z,118nm,0.5s						
PB05	**IPOC Station P**	**2.31**	**198**	*i* P	**Pn**	**03 46 15.9**	**+0.2**
PB05				*i* S	**Sn**	**03 46 42.2**	**-2.0**
PB05	**IPOC Station P**	**2.31**	**198**	*e*P	**Pn**	**03 46 15.9**	**+0.2**
PB05				*e*S	**Sn**	**03 46 44.4**	**+0.2**
PB05				IAML		03 46 47.2	
	comp=Z,168nm,0.2s						
AP01	**Chacalluta**	**2.43**	**339**	*e*P	Pn	03 46 12.6	-4.6
AP01				IAML		03 46 58.8	
	comp=Z,225nm,0.5s						
AF01	**San Pedro de A**	**2.56**	**154**	*e*P	**Pn**	**03 46 19.5**	**+0.4**
AF01				*e*S	**Sn**	**03 46 53.8**	**+3.5**
AF01				IAML		03 47 20.9	
	comp=Z,147nm,0.5s						
PB10	**IPOC Station P**	**3.04**	**200**	*e*P	**Pn**	**03 46 24.8**	**-0.3**
PB10				*e*S	**Sn**	**03 46 58.3**	**-2.8**
PB10				IAML		03 47 25.1	
	comp=Z,37nm,0.9s						
PB14	**IPOC Station P**	**4.06**	**193**	*e*P	**Pn**	**03 46 38.5**	**-0.6**
PB14				IAML		03 47 26.3	
	comp=Z,44nm,0.2s						
GO02	**Mina Guanaco**	**4.49**	**182**	*e*P	**Pn**	**03 46 44.0**	**-0.8**
GO02				*e*S	**Sn**	**03 47 36.5**	**+0.2**
GO02				IAML		03 47 40.4	
	comp=Z,67nm,0.1s						

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*IDC **25** 03:54:49.6±1.5, 36°.29N×28°.78E, h0km, mb3.7/2, mbtmp3.6/7, ML3.6/4, Error ellipse: s-maj=23.7km s-min=20.8km az=163.0*
*ISK **25** 03:54:50.1, 36°.46N×28°.70E, h5km, ML3.5/24*
*AFAD **25** 03:54:51.7, 36°.47N×28°.70E, h7km±3km, ML3.3*
*ATH **25** 03:54:51.5, 36°.45N×28°.69E, h5km±1km, ML3.2/6, Manual Solution by E.Daskalaki First location: 2019/10/25 03:56:18, This location: 2019/10/25 07:44:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **25** 03:54:52.7, 36°N±2°×2°9E±°, h3km±2km, M3.1/19, MLh3.1/19*
*GII **25** 03:54:52.1±0.0, 36°.186N±0°.002×28°.669E±0°.001, h16km, Mws3.2, confirmed*
ISC 25 03:54:50.7±1.1, 36°.41N±0°.02×28°.72E±0°.02, h8km±8km, n123, σ1§31/152, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDI1	**Rhodes Town Ha**	**0.41**	**277**	P	**Pg**	**03 54 58.9**	**+0.2**
RODB	**Rodos**	**0.41**	**276**	P	**Pg**	**03 54 58.9**	**+0.2**
IZZE	**Mula-Seydike**	**0.41**	**86**	P	**Pb**	**03 54 59.8**	**-0.4**
IZZE				S	**Sb**	**03 55 06.6**	**+0.1**
IZZE				*i* IAML		03 55 11.0	
	comp=N,5μm,0.4s						
IZZE				*i* IAML		03 55 11.0	
	comp=E,3μm,0.3s						
DALY	**Dalyan (Mula)**	**0.41**	**352**	Pg	**Pg**	**03 54 58.2**	**-0.6**
DALY				Sg	**Sg**	**03 55 04.3**	**0.0**
SABU	**Mula-Dalaman**	**0.46**	**25**	P	**Pb**	**03 55 00.6**	**-0.6**
ARG	**Arkhangelos**	**0.52**	**249**	Pg	**Pb**	**03 55 01.1**	**-1.0**
ARG	**Arkhangelos**	**0.52**	**249**	P	**Pb**	**03 55 01.5**	**-0.6**
ARG				S	**Sb**	**03 55 09.9**	**+0.2**
ARG	**Arkhangelos**	**0.52**	**249**	P	**Pg**	**03 55 00.9**	**+0.1**
ARG				S	**Sb**	**03 55 08.4**	**-1.3**
TURN	**Turunc**	**0.53**	**314**	Pg	**Pg**	**03 55 00.4**	**-0.7**
TURN				Sg	**Sg**	**03 55 08.0**	**0.0**
TURN	**Turunc**	**0.53**	**314**	P	**Pg**	**03 55 00.8**	**-0.3**
CAME	**Cameli-Denizli**	**0.71**	**41**	Pg	**Pg**	**03 55 04.3**	**-0.2**
CAME				Sg	**Sb**	**03 55 14.7**	**-0.7**
AKAS	**Kas**	**0.73**	**103**	Pg	**Pb**	**03 55 06.2**	**+0.4**
AKAS	**Kas**	**0.73**	**103**	P	**Pn**	**03 55 06.4**	**-1.1**
KSL	**Kastellorizon**	**0.74**	**110**	P	**Pn**	**03 55 06.8**	**-0.7**
KSL				S	**Sn**	**03 55 19.5**	**+0.6**
KSL	**Kastellorizon**	**0.74**	**110**	P	**Pn**	**03 55 06.5**	**-0.9**
RGE1	**Gennadi, Rhode**	**0.74**	**240**	P	**Pb**	**03 55 05.7**	**-0.2**
RGE1				S	**Sb**	**03 55 16.2**	**0.0**
YER	**Yerkesik**	**0.81**	**334**	Pg	**Pb**	**03 55 07.4**	**+0.3**
YER				Sg	**Sb**	**03 55 17.8**	**-0.4**
YER	**Yerkesik**	**0.81**	**334**	P	**Pb**	**03 55 07.0**	**-0.1**
YER				S	**Sb**	**03 55 18.4**	**+0.3**
KNIK	**Mula-Seydike**	**0.81**	**57**	P	**Pb**	**03 55 06.9**	**-0.3**
KNIK				S	**Sb**	**03 55 18.4**	**+0.1**
KNIK				*i* IAML		03 55 20.0	
	comp=N,1μm,0.7s						
CAEL	**Denizli, Camel**	**0.86**	**34**	P	**Pn**	**03 55 09.4**	**+0.2**
CAEL				S	**Sb**	**03 55 18.6**	**-1.2**
CAEL				*i* IAML		03 55 28.0	
	comp=E,1μm,0.8s						
CAEL				*i* IAML		03 55 36.0	
	comp=N,1μm,0.6s						
DNZT	**Denizli-Tavas-**	**0.90**	**15**	P	**Pb**	**03 55 08.5**	**-0.2**
DNZT				S	**Sg**	**03 55 19.4**	**-0.5**
MULA	**Mugla, Merkez-**	**0.91**	**339**	P	**Pb**	**03 55 08.4**	**-0.3**
DEMR	**Demre-Antalya**	**0.97**	**100**	Pg	**Pn**	**03 55 10.5**	**-0.1**
DAT	**Datca**	**0.98**	**290**	Pg	**Pb**	**03 55 09.4**	**-0.6**
DAT	**Datca**	**0.98**	**290**	P	**Pn**	**03 55 10.2**	**-0.5**
DAT	**Datca**	**0.98**	**290**	P	**Pn**	**03 55 10.3**	**-0.5**
DAT				S	**Sb**	**03 55 24.0**	**+0.9**
ELL	**Elmali**	**1.01**	**70**	Pg	**Pn**	**03 55 10.8**	**-0.6**
ELL	**Elmali**	**1.01**	**70**	P	**Pb**	**03 55 10.3**	**-0.3**
ELL				S	**Sn**	**03 55 25.9**	**0.0**
YAZI	**Mula-Dat§a-**	**1.06**	**285**	P	**Pb**	**03 55 11.0**	**-0.3**
GOLH	**Golhisar**	**1.07**	**39**	P	**Pn**	**03 55 11.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.07**	**8**	P	**Pb**	**03 55 11.3**	**-0.3**
APMY	**Acipayam-Deniz**	**1.16**	**23**	Pn	**Pg**	**03 55 12.4**	**-0.6**
MLSB	**Milas**	**1.17**	**320**	Pn	**Pg**	**03 55 11.5**	**-1.7**
BDRM	**Kayabasi**	**1.22**	**303**	P	**Pn**	**03 55 14.0**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.24**	**12**	P	**Pn**	**03 55 14.7**	**+0.2**
NISR	**Nisiros**	**1.30**	**280**	P	**Pb**	**03 55 16.4**	**+1.0**
NISR				S	**Sn**	**03 55 34.0**	**+1.3**
NISR	**Nisiros**	**1.30**	**280**	P	**Pb**	**03 55 16.1**	**+0.7**
BODT	**Bodrum**	**1.31**	**300**	Pn	**Pb**	**03 55 15.4**	**-0.2**
BODT	**Bodrum**	**1.31**	**300**	P	**Pb**	**03 55 16.6**	**+1.0**
BODT				S	**Sn**	**03 55 34.7**	**+1.7**
AKUM	**Antalya-Kumluc**	**1.31**	**93**	P	**Pb**	**03 55 17.6**	**+2.0**
YKAV	**Yalikavak-Bodr**	**1.36**	**302**	Pn	**Pg**	**03 55 16.4**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.42**	**348**	P	**Pg**	**03 55 17.6**	**-0.4**
AYDN	**Tasoluk**	**1.42**	**332**	P	**Pg**	**03 55 17.5**	**-0.5**
KORT	**Korkueli**	**1.44**	**65**	Pn	**Pg**	**03 55 18.6**	**+0.3**
KORT	**Korkueli**	**1.44**	**65**	P	**Pg**	**03 55 20.2**	**+1.9**
INCE	**Denizli-Bozkur**	**1.47**	**27**	P	**Pg**	**03 55 19.5**	**+0.6**
KLNA	**Kalymnos**	**1.51**	**292**	P	**Pb**	**03 55 18.8**	**-0.2**
KLNA				S	**Sn**	**03 55 37.8**	**-0.1**
KARP	**Karpathos**	**1.53**	**236**	Pn	**Pg**	**03 55 19.8**	**-0.3**
KARP	**Karpathos**	**1.53**	**236**	P	**Pg**	**03 55 20.2**	**+0.2**
KARP				S	**Sg**	**03 55 41.9**	**+2.0**
KARP	**Karpathos**	**1.53**	**236**	P	**Pg**	**03 55 19.8**	**-0.3**
KARP				S	**Sg**	**03 55 39.7**	**-0.2**
DDIM	**Aydin, Didim**	**1.58**	**312**	P	**Pg**	**03 55 21.9**	**+0.8**
NAZL	**Nazilli-Aydin**	**1.59**	**348**	Pn	**Pb**	**03 55 20.0**	**-0.4**
ANTB	**Antalya**	**1.63**	**72**	Pn	**Pg**	**03 55 21.2**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.68**	**337**	Pn	**Pb**	**03 55 21.0**	**-0.9**
BRDR	**BURDUR-Merkez**	**1.68**	**39**	P	**Pg**	**03 55 23.1**	**+0.2**
BUCA	**Burdur, Bucak-**	**1.74**	**57**	P	**Pg**	**03 55 24.5**	**+0.5**
GCAM	**G?zelcaml?**	**1.76**	**318**	Pn	**Pn**	**03 55 22.1**	**+0.7**
GCAM	**G?zelcaml?**	**1.76**	**318**	P	**Pb**	**03 55 22.3**	**-0.9**
KIRA	**zmir-Kiraz**	**1.81**	**352**	P	**Pb**	**03 55 23.0**	**-1.1**
IZMR	**zmir-demi**	**1.83**	**341**	P	**Pb**	**03 55 23.5**	**-1.0**
BASM	**Basmaki-Afyon**	**1.84**	**35**	Pn	**Pb**	**03 55 23.7**	**-1.1**
ODEM	**Odemis-Izmir**	**1.94**	**345**	Pn	**Pn**	**03 55 24.6**	**+0.6**
SMG	**Samos**	**1.99**	**311**	P	**Pn**	**03 55 25.0**	**+0.3**
SMG	**Samos**	**1.99**	**311**	P	**Pn**	**03 55 24.5**	**-0.2**
SMG				S	**Sn**	**03 55 50.1**	**+0.3**
ISP	**Isparta**	**2.02**	**45**	Pn	**Pb**	**03 55 26.4**	**-1.3**
ISP	**Isparta**	**2.02**	**45**	P	**Pb**	**03 55 27.8**	**+0.1**
ISP	**Isparta**	**2.02**	**45**	S	**Sg**	**03 55 55.5**	**0.0**
ISP	**Isparta**	**2.02**	**45**	P	**Pb**	**03 55 26.7**	**-1.0**
PASA	**Karahalli, USA**	**2.03**	**17**	P	**Pb**	**03 55 26.4**	**-1.5**
KULA	**Kula-Manisa**	**2.10**	**359**	Pn	**Pn**	**03 55 27.1**	**+0.8**
KRL1	**Karlovasi Samo**	**2.13**	**311**	P	**Pn**	**03 55 26.7**	**+0.2**
KRL1				S	**Sn**	**03 55 53.7**	**+0.6**
GMLD	**Gumuldur**	**2.20**	**320**	Pn	**Pn**	**03 55 28.8**	**+1.2**
BLCB	**Balcova**	**2.39**	**326**	Pn	**Pn**	**03 55 30.5**	**+0.4**
BLCB	**Balcova**	**2.39**	**326**	P	**Pn**	**03 55 30.7**	**+0.6**
BLCB				S	**Sn**	**03 56 01.5**	**+2.0**
ZKR	**Zakros**	**2.41**	**238**	P	**Pb**	**03 55 33.0**	**-1.3**
GORD	**Gordes-Manisa**	**2.54**	**350**	Pn	**Pn**	**03 55 32.8**	**+0.6**
URLA	**Izmir**	**2.58**	**320**	Pn	**Pn**	**03 55 34.1**	**+1.2**
THERA	**Ancient Thera,**	**2.62**	**270**	P	**Pn**	**03 55 34.6**	**+1.2**
NPS	**Neapolis**	**2.77**	**247**	P	**Pn**	**03 55 37.2**	**+1.8**
NPS				S	**Sn**	**03 56 11.4**	**+2.3**
NPS	**Neapolis**	**2.77**	**247**	P	**Pn**	**03 55 37.0**	**+1.6**
CHOS	**Chios island**	**2.90**	**314**	P	**Pn**	**03 55 38.0**	**+0.7**
CHOS	**Chios island**	**2.90**	**314**	P	**Pn**	**03 55 37.6**	**+0.3**
EAG2	**Marmaro, Chios**	**2.98**	**317**	P	**Pn**	**03 55 38.8**	**+0.5**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**03 55 44.1**	**+1.3**
IDI				S	**Sn**	**03 56 24.7**	**+2.4**
IDI	**Anoyia**	**3.31**	**251**	Pn	**Pn**	**03 55 44.3**	**+1.5**
	12nm,0.3s,baz=63,slow=18,SNR=30						
IDI				Sn	**Sn**	**03 56 24.0**	**+1.7**
	7.2nm,0.3s,baz=251,slow=23,SNR=7.9						
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**03 55 44.0**	**+1.2**
SIGR	**SIGRI**	**3.60**	**322**	P	**Pn**	**03 55 47.8**	**+0.9**
SIGR	**SIGRI**	**3.60**	**322**	P	**Pn**	**03 55 47.8**	**+0.9**
KARY	**Karystos**	**3.79**	**297**	P	**Pn**	**03 55 50.6**	**+1.2**
CSS	**Mathiatis**	**4.02**	**110**	P	**Pn**	**03 55 52.5**	**0.0**
CSS	**Mathiatis**	**4.02**	**110**	S	**Sn**	**03 56 39.8**	**0.0**
DION	**Dionisos Attik**	**4.17**	**295**	P	**Pn**	**03 55 56.6**	**+1.9**
GADA	**Gvkgeada**	**4.38**	**330**	P	**Pn**	**03 55 58.6**	**+1.0**
LIA	**Limnos Island**	**4.46**	**322**	P	**Pn**	**03 55 59.9**	**+1.2**
VLI	**Veliai**	**4.67**	**276**	P	**Pn**	**03 56 03.4**	**+1.9**
ENEZ	**Enez**	**4.77**	**336**	P	**Pn**	**03 56 04.8**	**+1.9**
SMTH	**Samothraki Isl**	**4.77**	**329**	P	**Pn**	**03 56 04.5**	**+1.6**
BRTR	**Keskin Array B**	**5.10**	**48**	Pn	**Pn**	**03 56 10.5**	**+2.9**
	0.5nm,0.3s,baz=223,slow=15,SNR=25						
BRTR				Sn	**Sn**	**03 57 10.6**	**+3.8**
	0.7nm,0.3s,baz=222,slow=25,SNR=10						
	3.2nm,0.6s						
MMA0B	**Mount Meron ar**	**6.46**	**120**	P	**Pn**	**03 56 25.6**	**-0.6**
MMA0B	**Mount Meron ar**	**6.46**	**120**	S	**Sn**	**03 57 38.9**	**-1.2**
MMAI	**Mount Meron Ar**	**6.46**	**120**	Pn	**Pn**	**03 56 24.0**	**-2.1**
	2.4nm,0.3s,baz=306,slow=12,SNR=5.8						
MMAI				Sn	**Sn**	**03 57 36.2**	**-3.9**
	1.2nm,0.3s,baz=319,slow=19,SNR=1.6						
	1.1nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.54**	**117**	P	**Pn**	**03 56 27.3**	**+0.1**
GEM	**Giv'at Ha'Em**	**6.54**	**117**	S	**Sn**	**03 57 40.9**	**-1.0**
NATI	**Neve Ativ**	**6.56**	**117**	P	**Pn**	**03 56 27.6**	**0.0**
NATI	**Neve Ativ**	**6.56**	**117**	S	**Sn**	**03 57 41.9**	**-0.7**
DSI	**Dead Sea**	**7.34**	**129**	P	**Pn**	**03 56 37.1**	**-1.1**
DSI	**Dead Sea**	**7.34**	**129**	S	**Sn**	**03 57 59.2**	**-2.4**
GHAJ	**Ghor Haditha**	**7.63**	**130**	P	**Pn**	**03 56 42.1**	**-0.1**
GHAJ	**Ghor Haditha**	**7.63**	**130**	S	**Sn**	**03 58 06.9**	**-2.0**
RMNI	**Mount Ramon**	**7.68**	**137**	P	**Pn**	**03 56 42.3**	**-0.6**
RMNI	**Mount Ramon**	**7.68**	**137**	S	**Sn**	**03 58 07.2**	**-3.0**
PRNI	**Paran**	**8.00**	**137**	P	**Pn**	**03 56 46.6**	**-0.7**
PRNI	**Paran**	**8.00**	**137**	S	**Sn**	**03 58 15.7**	**-2.3**
KRMI	**Paran Flat**	**8.04**	**140**	P	**Pn**	**03 56 47.1**	**-0.7**
KRMI	**Paran Flat**	**8.04**	**140**	S	**Sn**	**03 58 15.9**	**-2.9**
MBRI	**Mt Berech**	**8.39**	**140**	P	**Pn**	**03 56 51.8**	**-0.9**
MBRI	**Mt Berech**	**8.39**	**140**	S	**Sn**	**03 58 24.7**	**-3.0**
EIL	**Elat**	**8.51**	**140**	Pn	**Pn**	**03 56 50.9**	**-3.4**
	0.5nm,0.3s,baz=311,slow=15,SNR=5.8						
EIL				Sn	**Sn**	**03 58 25.2**	**-5.3**
	0.8nm,0.3s,baz=339,slow=7.9,SNR=4.0						
	1.1nm,0.4s						
EIL	**Elat**	**8.51**	**140**	P	**Pn**	**03 56 53.3**	**-0.9**
EIL	**Elat**	**8.51**	**140**	S	**Sn**	**03 58 27.2**	**-3.3**
MLR	**Muntele Rosu**	**9.31**	**348**	Pn	**Pn**	**03 57 06.7**	**+1.3**
	0.2nm,0.3s,baz=173,slow=16,SNR=4.7						
	2.7nm,0.8s						
FINES	**FINESS Array B**	**25.11**	**357**	P	**P**	**04 00 16.3**	**+0.6**
	1.6nm,0.7s,baz=165,slow=7.9,SNR=8.2						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**40.66**	**58**	P	**P**	**04 02 32.5**	**+1.2**
	0.8nm,0.9s,baz=274,slow=8.2,SNR=2.0						
	0.8nm,0.9s						

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*IGIL **25** 04:00:25.4, 37°.02N×5°.30W, h3km*
*INMG **25** 04:00:25.5±2.0, 36°.94N×5°.28W, h12km±4km, ML1.9, Error ellipse: s-maj=3.6km s-min=2.7km az=149.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*CNRM **25** 04:00:25.3, 36°.83N×5°.32W, h115km, ML2.5*
*MDD **25** 04:00:25.6±0.3, 37°.02N×5°.30W, h3km±3km, mb_Lg2.3/11, Error ellipse: s-maj=3.1km s-min=2.0km az=166.0*
*SFS **25** 04:00:27.1, 37°.07N×5°.35W, h14km, ML2.3/10, ML2.0/12, MLv1.9/12*
ISC 25 04:00:24.6±0.9, 36°.97N±0°.02×5°.31W±0°.01, h16km±6km, n59, σ1§19/125, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E1302	**La Puebla de C**	**0.17**	**17**	Pg	**Pg**	**04 00 28.4**	**-0.5**
E1302				Sg	**Sg**	**04 00 32.0**	**+0.3**
E1302				*i* IVmb_Lg		04 00 33.3	
ESPR	**Espera**	**0.45**	**257**	Pg	**Pn**	**04 00 35.7**	**-0.7**
ESPR	**Espera**	**0.45**	**257**	Pg	**Pb**	**04 00 35.4**	**+1.1**
ESPR				Sg	**Sb**	**04 00 42.5**	**+1.8**
ESPR				*i* IVmb_Lg		04 00 48.2	
EJIF	**Jimena Fronter**	**0.53**	**194**	Pg	**Pg**	**04 00 34.8**	**-0.4**
EJIF				Sg	**Sb**	**04 00 43.8**	**+0.8**
SFS	**San Fernando**	**0.88**	**235**	Pg	**Pn**	**04 00 43.8**	**+1.4**
EGOR	**Sierra Gorda,**	**0.97**	**81**	Sn	**Sn**	**04 00 58.3**	**+1.2**
EGOR				Pn	**Pn**	**04 00 44.0**	**+0.3**
ECAB	**El Cabril**	**1.11**	**355**	Pn	**Pb**	**04 00 45.2**	**-0.2**
ECAB				Sn	**Sb**	**04 00 59.3**	**-0.3**
ECAB	**El Cabril**	**1.11**	**355**	Pg	**Pb**	**04 00 45.0**	**-0.4**
ECAB				Sg	**Sb**	**04 00 59.6**	**-0.1**
ECAB				*i* IVmb_Lg		04 01 02.7	
SMIR	**Smir Dam**	**1.29**	**183**	P	**Pb**	**04 00 48.9**	**+0.4**
SMIR	**Smir Dam**	**1.29**	**183**	S	**Sg**	**04 01 06.6**	**+0.5**
EADA	**Adamuz**	**1.33**	**26**	Pn	**Pn**	**04 00 48.7**	**+0.1**
EADA				Sn	**

PCVE			*i* IAML		04 01 51.2	
PBEJ	**Beja**	**2.29 298**	*e*Sn	**Sn**	**04 01 30.5**	**+0.7**
PBEJ			*e*Sg	**Sg**	**04 01 36.7**	**-1.6**
PBEJ			*i* IAML		04 01 39.4	
PBEJ			*i* IAML		04 01 44.0	
PBEJ			*i* IAML		04 01 49.7	
MESJ	**Messejana**	**2.48 291**	*e*P	**Pn**	**04 01 04.5**	**+0.2**
MESJ	**Messejana**	**2.48 291**	*e*Pn	**Pn**	**04 01 04.7**	**+0.3**
MESJ			*e*Sn	**Sn**	**04 01 35.4**	**+1.1**
MESJ			*e*Sg	**Sg**	**04 01 46.2**	**+1.9**
MESJ			*i* IAML		04 01 48.0	
MESJ			*i* IAML		04 01 50.7	
MESJ			*i* IAML		04 01 56.9	
PESTR	**Estremoz**	**2.62 317**	*e*Pn	**Pn**	**04 01 07.4**	**+1.1**
PESTR			*e*Sn	**Sn**	**04 01 38.7**	**+0.9**
PESTR			*e*Sg	**Sg**	**04 01 49.5**	**+0.7**
PESTR			*i* IAML		04 01 51.5	
PESTR			*i* IAML		04 01 53.2	
PESTR			*i* IAML		04 01 53.8	
PESTR	**Estremoz**	**2.62 317**	P	**Pn**	**04 01 07.9**	**+1.6**
EVO	**Evora**	**2.65 307**	*e*Pn	**Pn**	**04 01 09.2**	**+2.5**
EVO			*e*Pg	**Pg**	**04 01 16.1**	**+0.6**
PAB	**San Pablo**	**2.68 16**	Pn	**Pn**	**04 01 08.4**	**+1.2**
PAB			Sn	**Sn**	**04 01 38.7**	**-0.7**
PAB			Sg	**Sg**	**04 01 49.3**	**-1.5**
PAB			*i* IVmb_Lg		04 01 52.6	
MORF	**Marmelete**	**2.70 278**	*e*Pn	**Pn**	**04 01 08.5**	**+1.1**
MORF			*e*Pg	**Pg**	**04 01 15.6**	**-0.7**
MORF			*e*Sn	**Sn**	**04 01 40.4**	**+0.7**
MORF			*i* IAML		04 01 54.6	
MORF			*i* IAML		04 01 56.2	
MORF			*i* IAML		04 01 58.5	
PTEO	**Sao Teotonio**	**2.79 283**	*e*Pn	**Pn**	**04 01 09.1**	**+0.5**
PTEO			*e*Sn	**Sn**	**04 01 43.3**	**+1.4**
PFVI	**Vila Bisbo**	**2.82 274**	*e*Pn	**Pn**	**04 01 08.9**	**-0.2**
PFVI			*e*Sn	**Sn**	**04 01 43.0**	**+0.2**
PFVI			*e*Sg	**Sg**	**04 01 57.0**	**+1.7**
PFVI			*i* IAML		04 01 58.3	
PFVI			*i* IAML		04 02 03.7	
PFVI			*i* IAML		04 02 11.8	
PFVI	**Vila Bisbo**	**2.82 274**	P	**Pn**	**04 01 08.7**	**-0.4**
PMRV	**Marv??o**	**2.95 327**	*e*Pn	**Pn**	**04 01 11.3**	**+0.4**
PMRV			*e*Sn	**Sn**	**04 01 46.3**	**+0.2**
PMRV			*e*Sg	**Sg**	**04 01 57.2**	**-2.3**
PMRV			*i* IAML		04 02 02.3	
PMRV			*i* IAML		04 02 07.9	
PMRV			*i* IAML		04 02 10.8	
PMTG	**Montargil**	**3.12 313**	*e*Pn	**Pn**	**04 01 13.8**	**+0.7**
PMTG			*e*Sn	**Sn**	**04 01 49.7**	**-0.3**
PMTG			*e*Sg	**Sg**	**04 02 05.6**	**+0.9**
PMTG			*i* IAML		04 02 07.0	
PMTG			*i* IAML		04 02 10.4	
PMTG			*i* IAML		04 02 11.2	
PCBR	**Castelo Branco**	**3.33 330**	*e*Pn	**Pn**	**04 01 17.9**	**+1.8**
PCBR			*e*Sn	**Sn**	**04 01 54.9**	**-0.6**
PCBR			*i* IAML		04 02 18.8	
PCBR			*i* IAML		04 02 19.1	
PCBR			*i* IAML		04 02 20.3	
JBK	**JBK**	**3.45 139**	P	**Pn**	**04 01 16.2**	**-1.7**
JBK	**JBK**	**3.45 139**	S	**Sn**	**04 01 55.1**	**-3.3**
PSARD	**Sardoal**	**3.46 320**	*e*Pn	**Pn**	**04 01 18.6**	**+0.8**
PSARD			*e*Sn	**Sn**	**04 01 58.5**	**0.0**
PSARD			*e*Sg	**Sg**	**04 02 12.2**	**-3.4**
PSARD			*i* IAML		04 02 17.6	
PSARD			*i* IAML		04 02 21.6	
PSARD			*i* IAML		04 02 23.6	
PSBE	**So Bento**	**3.74 314**	*e*Sn	**Sn**	**04 02 07.0**	**+1.5**
PSBE			*e*Sg	**Sg**	**04 02 24.0**	**-0.8**
PSBE			*i* IAML		04 02 26.1	
PSBE			*i* IAML		04 02 41.0	
MTE	**Manteigas**	**3.85 334**	*e*Sn	**Sn**	**04 02 08.3**	**+0.1**
MTE			*e*Sg	**Sg**	**04 02 24.4**	**-3.7**
MTE			*i* IAML		04 02 34.2	
MTE			*i* IAML		04 02 35.0	
PCAS	**Casmilo, Conde**	**3.97 322**	*e*Pn	**Pb**	**04 01 32.0**	**-2.2**
PCAS			*e*Sn	**Sn**	**04 02 08.9**	**-2.1**
PCAS			*e*Sg	**Sg**	**04 02 28.1**	**-3.9**
PCAS			*i* IAML		04 02 34.1	
PCAS			*i* IAML		04 02 34.4	
PCAS			*i* IAML		04 02 42.3	
MD31	**MD31**	**4.12 174**	P	**Pn**	**04 01 25.3**	**-1.6**
MD31	**MD31**	**4.12 174**	S	**Sn**	**04 02 11.0**	**-3.9**
PVIS	**Viseu**	**4.25 332**	*e*Sn	**Sn**	**04 02 17.6**	**-0.5**
MVO	**Moncorvo**	**4.40 343**	*e*Pn	**Pn**	**04 01 31.8**	**+1.0**
MVO			*e*Sn	**Sn**	**04 02 20.9**	**-0.9**
MVO			*e*Sg	**Sg**	**04 02 43.5**	**-2.3**
MVO			*i* IAML		04 02 45.8	
MVO			*i* IAML		04 02 48.0	
MVO			*i* IAML		04 02 55.7	

KRNET ***25*** *04:24:16.7±0.1, 42°.40N×70°.87E, h14km, mb2.9*
SOME ***25*** *04:24:16.3, 42°.40N×70°.88E, h10km*
NNC ***25*** *04:24:20.7±2.1, 42°.64N×70°.93E, h0km, mb3.0, mpv3.1, Error ellipse: s-maj=17.1km s-min=8.4km az=27.0*
ISC 25 04:24:13.4±1.5, 42°.40N±0°.03×70°.78E±0°.03, h1km±12km, n19, σ1§09/38, 22C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.61**	**246**	P	**Pn**	**04 24 29.9**	**+0.6**
	89nm,0.1s						
IUG				S	**Sn**	**04 24 40.7**	**+0.8**
	429nm,0.2s						
KK31	**Karatay Array**	**0.73**	**344**	⇑P	**Pn**	**04 24 30.9**	**-0.1**
	7.5nm,0.2s,baz=141,slow=14						
KK31				⇑S	**Sb**	**04 24 39.8**	**+0.1**
	6.1nm,0.2s,baz=146,slow=22						
TRKS	**Terek-Say**	**0.91**	**163**	⇑*i*P	**Pn**	**04 24 35.4**	**+1.9**
TRKS				⇑*i*S	**Sn**	**04 24 48.7**	**+1.4**
BRLS	**Borolday**	**0.94**	**313**	P	**Pn**	**04 24 34.5**	**+0.6**
	5.1nm,0.3s						
BRLS				S	**Sn**	**04 24 48.4**	**+0.4**
	34nm,0.2s						
BRLS	**Borolday**	**0.94**	**313**	*e*P	**Pn**	**04 24 34.5**	**+0.6**
	5.1nm,0.3s						
BRLS				*e*S	**Sn**	**04 24 48.4**	**+0.4**
	34nm,0.2s						
ARK	**Arkit**	**1.06**	**124**	⇑*i*P	**Pn**	**04 24 36.0**	**+0.4**
ARK				⇑*i*S	**Sn**	**04 24 50.2**	**-0.9**
MRKS	**Merke**	**1.84**	**78**	P	**Pg**	**04 24 49.6**	**+0.9**
	3.0nm,0.3s						
MRKS				S	**Sg**	**04 25 14.3**	**+1.7**
	14nm,0.3s						
MRKS	**Merke**	**1.84**	**78**	*e*P	**Pg**	**04 24 49.6**	**+0.9**
	3.0nm,0.3s						
MRKS				*e*S	**Sg**	**04 25 14.2**	**+1.7**
	14nm,0.3s						
ARSB	**Arslanbob**	**1.96**	**122**	⇑*i*P	**Pg**	**04 24 52.2**	**+1.2**
ARSB				⇑*i*S	**Sg**	**04 25 18.3**	**+1.9**
EKS2	**Erkin-Say**	**2.23**	**82**	⇑*i*P	**Pg**	**04 24 55.9**	**-0.3**
EKS2				⇑*i*S	**Sg**	**04 25 24.7**	**-0.4**
OHH	**Osh**	**2.40**	**140**	⇑*i*P	**Pg**	**04 24 58.6**	**-0.8**
OHH				⇑*i*S	**Sg**	**04 25 29.4**	**-1.1**
SALK	**Salom-Alik**	**2.73**	**123**	⇑*i*P	**Pb**	**04 25 03.3**	**+0.1**
SALK				⇑*i*S	**Sb**	**04 25 37.1**	**-0.2**
AAK	**Ala-Archa**	**2.75**	**84**	⇑Pn	**Pg**	**04 25 05.6**	**-0.7**
	1.2nm,0.5s						
AAK				⇑Sn	**Sg**	**04 25 39.6**	**-2.4**
	5.1nm,0.8s						
AAK	**Ala-Archa**	**2.75**	**84**	⇑*i*P	**Pb**	**04 25 03.5**	**-0.1**
AAK				⇑*i*S	**Sb**	**04 25 37.5**	**-0.4**
UCH	**Uchtor**	**2.77**	**92**	⇓*i*P	**Pb**	**04 25 03.9**	**-0.2**
UCH				⇓*i*S	**Sb**	**04 25 38.3**	**-0.4**
USP	**Ospenovka**	**2.87**	**71**	⇓*i*P	**Pb**	**04 25 04.9**	**-0.6**
USP				⇓*i*S	**Sb**	**04 25 39.9**	**-1.2**
CHMS	**Chumysh**	**2.99**	**77**	⇓*i*P	**Pb**	**04 25 06.6**	**-0.9**
CHMS				⇓*i*S	**Sb**	**04 25 42.8**	**-1.7**
DRK	**Karamyk**	**3.01**	**165**	⇑*e*P	**Pb**	**04 25 07.5**	**-0.6**
DRK				⇑*e*S	**Sb**	**04 25 44.6**	**-0.9**
GAR	**Garm**	**3.41**	**186**	⇑*i*P	**Pb**	**04 25 13.5**	**-1.2**
GAR				⇑*i*S	**Sb**	**04 25 55.2**	**-1.5**

NAO ***25*** *04:31:26.2, 38°.57N×15°.41E, h10km, mb4.0*
IDC ***25*** *04:31:37.0±0.7, 39°.75N×15°.46E, h0km, mb4.1/17, mbtmp4.1/27, ML3.9/9, MS3.7/50, Error ellipse: s-maj=13.6km s-min=11.4km az=123.0*
MOS ***25*** *04:31:37.4±1.1, 39°.80N×15°.39E, h10km, mb4.6/20, Error ellipse: s-maj=8.4km s-min=4.1km az=54.7*

MED_RC ***25*** *04:31:38.0±0.3, 39°.63N×15°.38E, h13km±1km, MW4.5/27, Moment Tensor Solution. Mantle waves: s27, c39; Duration: 1*0 Moment tensor: Scale 1015Nm; Mrr-0.30±.33; Mθθ-6.40±.29; Mφφ6.70±.39; Mrθ0.92±.49; Mrφ1.18±.28; Mθφ-2.89±.62; Best double couple: M0 7.26000×1015 NP1:φs232.00000°, δ68.00000°, λ6.00000°. NP2:φs139.00000°, δ85.00000°, λ158.00000°. Principal axes: T 7.7800, Plg19.0000°, Azm93.0000°; N -1.0400, Plg67.0000°, Azm306.0000°; P -6.7400, Plg11.0000°, Azm187.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ROM ***25*** *04:31:38.0±0.1, 39°.700N±0°.002×15°.432E±0°.005, h12km, ML4.4/254, Mw4.4 Error ellipse: s-maj=0.4km s-min=0.1km az=70.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-0.34; Mθθ-3.67; Mφφ4.00; Mrθ-1.28; Mθφ0.57; Mφr-0.66; Fault plane solution: M0 4.14468×1015 NP1:φs48.00000°, δ84.00000°, λ-20.00000°. NP2:φs140.00000°, δ70.00000°, λ-174.00000°.*
MCSM ***25*** *04:31:38.1±0.6, 40°N±5°×1°5E±°, h10km±3km, mb4.5, mB4.6, MLv4.6, Mw(mB)3.8*
NEIC ***25*** *04:31:39.6, 39°.71N×15°.52E, h10km*
NEIC ***25*** *04:31:39.2±2.8, 39°.71N±0°.03×15°.47E±0°.07, h10km±1km, mb4.6/33, Mwr4.5/34, Error ellipse: s-maj=8.7km s-min=4.8km az=264.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-1.51; Mθθ-5.81; Mφφ7.33; Mrθ-1.58; Mθφ-0.03; Mφr-0.51; Fault plane solution: M0 6.90000×1015 NP1:φs136.18000°, δ74.79000°, λ-169.23000°. NP2:φs43.32000°, δ79.62000°, λ-15.47000°. Principal axes: T 7.3567, Plg3.0000°, Azm90.0000°; N -1.0229, Plg71.0000°, Azm190.0000°; P -6.3339, Plg18.0000°, Azm359.0000°;*
PDG ***25*** *04:31:40.2±0.2, 40°.01N×15°.42E, h11km±1km, MD4.6/1, ML4.6/12 Error ellipse: s-maj=1.9km s-min=0.7km az=90.0*
BEO ***25*** *04:31:41.0±0.5, 39°.69N×15°.42E, h32km±3km, ML4.6/11*
ISC 25 04:31:38.8±0.7, 39°.72N±0°.02×15°.49E±0°.03, h12km±4km, n492, σ1§62/516, mb4.6/40, MS3.7/46, 43C-40D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIS	**Grisolia**	**0.28**	**85**	⇑P	**Pg**	**04 31 44.7**	**0.0**
GRIS				S	**Sb**	**04 31 50.2**	**-0.5**
BULG	**Bulgheria - Ca**	**0.37**	**347**	⇓P	**Pg**	**04 31 46.0**	**-0.4**
BULG				S	**Sg**	**04 31 51.8**	**+0.5**
BULG				AML	AML		
	comp=N,76950μm,0.5s						
BULG				AML	AML		
	comp=E,66600μm,0.4s						
BULG				AML	AML		
	comp=N,80050μm,0.5s						
BULG				AML	AML		
	comp=E,65000μm,0.4s						
BULG				AML	AML		
	comp=N,76950μm,1.5s						
BULG				AML	AML		
	comp=N,80050μm,1.5s						
CUC	**Castrocucco**	**0.38**	**42**		**Pg**	**04 31 46.1**	**-0.2**
CUC	**Castrocucco**	**0.38**	**42**	⇓P	**Pg**	**04 31 46.1**	**-0.2**
CUC				S	**Sb**	**04 31 52.5**	**-0.8**
CUC				AML	AML		
CUC				AML	AML		
CUC				AML	AML		
CUC				AML	AML		
CET2	**Cetraro**	**0.41**	**117**	⇑P	**Pg**	**04 31 47.0**	**+0.1**
CET2				S	**Sg**	**04 31 52.7**	**+0.4**
MGR	**Morigerati**	**0.42**	**7**	⇓P	**Pg**	**04 31 46.6**	**-0.7**
MGR				S	**Sg**	**04 31 53.7**	**+0.8**
MGR				AML	AML		
	comp=N,36550μm,0.7s						
MGR				AML	AML		
	comp=E,39150μm,0.2s						
MGR				AML	AML		
	comp=N,40550μm,0.7s						
MGR				AML	AML		
	comp=E,38950μm,0.3s						
MGR				AML	AML		
	comp=E,38950μm,1.7s						
MMN	**Mormanno**	**0.42**	**66**	⇑P	**Pg**	**04 31 47.3**	**0.0**
MMN				S	**Sb**	**04 31 54.3**	**-0.4**
MMN				AML	AML		
MMN				AML	AML		
MMN				AML	AML		
SIRI	**Monte Sirino -**	**0.55**	**32**	⇓P	**Pg**	**04 31 49.6**	**0.0**
SIRI				S	**Sb**	**04 31 58.1**	**-0.3**
SIRI				AML	AML		
SIRI				AML	AML		
SIRI				AML	AML		
SIRI				AML	AML		
CMPR	**Campora**	**0.62**	**347**	⇓P	**Pg**	**04 31 49.6**	**-1.3**
CMPR				S	**Sg**	**04 31 59.4**	**+0.3**
CMPR				AML	AML		
	comp=E,29400μm,0.3s						
CMPR				AML	AML		
	comp=N,26400μm,0.3s						
CMPR				AML	AML		
	comp=N,26400μm,1.7s						
MCEL	**Monticello**	**0.66**	**22**	⇓P	**Pg**	**04 31 51.0**	**-0.6**
MCEL				AML	AML		
	comp=E,35000μm,0.5s						
MCEL				AML	AML		
	comp=E,35450μm,0.5s						
MCEL				AML	AML		
	comp=N,51850μm,0.8s						
MCEL				AML	AML		
	comp=N,50550μm,0.8s						
TDS	**Terranova Siba**	**0.66**	**95**	⇑P	**Pg**	**04 31 51.2**	**-0.4**
TDS				S	**Sb**	**04 32 01.2**	**-0.1**
SALB	**San Lorenzo Be**	**0.68**	**76**	⇑P	**Pg**	**04 31 51.8**	**-0.3**
SALB				AML	AML		
	comp=E,75600μm,0.6s						
SALB				AML	AML		
	comp=N,66000μm,0.6s						
SALB				AML	AML		
	comp=E,75600μm,1.4s						
SLCN	**Sala Consilina**	**0.68**	**9**	⇓P	**Pg**	**04 31 51.6**	**-0.5**
SLCN				AML	AML		
	comp=E,60650μm,0.6s						
SLCN				AML	AML		
	comp=N,48700μm,0.5s						
SLCN				AML	AML		
	comp=E,67650μm,0.6s						
SLCN				AML	AML		
	comp=N,53000μm,0.5s						
SLCN				AML	AML		
	comp=N,48700μm,0.5s						
SLCN				AML	AML		
	comp=E,60600μm,0.6s						
CAR1	**CAROLEI**	**0.73**	**129**	⇑P	**Pg**	**04 31 52.8**	**-0.1**
CAR1				S	**Sg**	**04 32 02.2**	**-0.2**
CAR1				AML	AML		
CAR1				AML	AML		
CAR1				AML	AML		
CAR1				AML	AML		
CAR1				AML	AML		
SPS2	**Spezzano della**	**0.78**	**122**	⇑P	**Pg**	**04 31 53.9**	**-0.1**
SPS2				S	**Sb**	**04 32 04.6**	**-0.4**
SPS2				AML	AML		
SPS2				AML	AML		
SPS2				AML	AML		
CDRU	**Civita di Ruta**	**0.79**	**350**	P	**Pg**	**04 31 52.4**	**-1.7**
CDRU				S	**Sg**	**04 32 04.2**	**-0.2**
CDRU				AML	AML		
	comp=N,10740μm,0.8s						
CDRU				AML	AML		
	comp=E,20250μm,0.4s						
ORI	**Oriolo Calabro**	**0.82**	**65**	⇑P	**Pg**	**04 31 54.5**	**-0.1**
ORI				AML	AML		
ORI				AML	AML		
ORI				AML	AML		
CELI	**Celico**	**0.85**	**111**	⇑P	**Pg**	**04 31 55.0**	**-0.2**
CELI				S	**Sb**	**04 32 06.8**	**-0.1**
CELI				AML	AML		
	comp=E,86850μm,0.6s						
CELI				AML	AML		
CELI				AML	AML		
CELI				AML	AML		
CELI				AML	AML		
	comp=E,86850μm,1.4s						
PTRP	**Pietrapertosa**	**0.92**	**28**	P	**Pg**	**04 31 56.0**	**-0.6**
PTRP				AML	AML		
	comp=N,28750μm,0.8s						
PTRP				AML	AML		
	comp=E,28150μm,0.8s						
PTRP				AML	AML		
	comp=E,28150μm,1.2s						
PTRP				AML	AML		
	comp=N,28750μm,1.2s						
IST3	**Stromboli F**	**0.94**	**192**	P	**Pg**	**04 31 55.1**	**-1.7**
IST3				AML	AML		
	comp=N,89750μm,1.4s						
IST3				AML	AML		
	comp=E,66150μm,1.6s						
IST3				AML	AML		
	comp=N,89750μm,0.6s						
IST3				AML	AML		
	comp=E,66150μm,0.4s						
PZUN	**Potenza**	**0.96**	**15**	P	**Pg**	**04 31 57.0**	**-0.4**
PZUN				AML	AML		
	comp=E,16150μm,0.7s						
PZUN				AML	AML		
	comp=N,16600μm,0.9s						
PZUN				AML	AML		
	comp=N,16550μm,0.9s						
PZUN				AML	AML		
	comp=E,15750μm,0.7s						
MRLC	**Muro Lucano**	**1.04**	**0**	⇑P	**Pb**	**04 31 57.8**	**-1.0**
MRLC				AML	AML		
	comp=E,9385μm,1.3s						
MRLC				AML	AML		
	comp=E,4570μm,1.3s						
MRLC				AML	AML		
	comp=N,10580μm,1.0s						
MRLC				AML	AML		
	comp=N,4955μm,1.0s						
MCRV	**Calabrutti - M**	**1.09**	**347**	P	**Pb**	**04 31 57.8**	**-1.9**
MCRV				AML	AML		
	comp=N,8400μm,1.1s						
MCRV				AML	AML		
	comp=E,7505μm,0.9s						
MCRV				AML	AML		
	comp=N,8400μm,0.9s						
TIP	**Timpagrande**	**1.12**	**118**		**Pb**	**04 31 59.9**	**-0.3**
TIP	**Timpagrande**	**1.12**	**118**	⇑P	**Pb**	**04 32 00.1**	**0.0**
TIP				⇑S	**Sn**	**04 32 17.7**	**+1.9**
TIP	**Timpagrande**	**1.12**	**118**	⇑P	**Pb**	**04 31 59.5**	**-0.7**
TIP				AML	AML		
	comp=E,17250μm,0.5s						
TIP				AML	AML		
	comp=E,17100μm,0.5s						
TIP				AML	AML		
	comp=N,20750μm,0.6s						
TIP				AML	AML		
	comp=N,20700μm,0.6s						
TIP				AML	AML		
	comp=E,17250μm,1.5s						
TIP				AML	AML		
	comp=E,17100μm,1.5s						
TIP				AML	AML		
	comp=N,20700μm,1.4s						
TIP				AML	AML		
	comp=N,20750μm,1.4s						
TIP	**Timpagrande**	**1.12**	**118**	P	**Pb**	**04 31 59.8**	**-0.3**
ACER	**Acerenza**	**1.13**	**18**	**Pb**	**04 31 59.4**	**-0.9**
ACER	**Acerenza**	**1.13**	**18**	P	**Pb**	**04 31 59.4**	**-0.9**
ACER				AML	AML		
	comp=N,29900μm,1.3s						
ACER				AML	AML		
	comp=N,31250μm,1.3s						
ACER				AML	AML		
	comp=E,22950μm,1.6s						
ACER				AML	AML		
	comp=E,24000μm,1.6s						
ACER				AML	AML		
	comp=N,31250μm,0.7s						
ACER				AML	AML		
	comp=E,24000μm,0.4s						
ACER				AML	AML		
	comp=E,22950μm,0.4s						
ACER				AML	AML		
	comp=N,29900μm,0.7s						
GRI	**Girifalco**	**1.15**	**141**	P	**Pb**	**04 31 59.3**	**-1.3**
GRI				AML	AML		
	comp=E,49850μm,1.2s						
GRI				AML	AML		
	comp=E,49850μm,0.8s						
GRI				AML	AML		
	comp=N,65700μm,0.7s						
MIGL	**Miglionico**	**1.15**	**39**	P	**Pb**	**04 31 59.8**	**-0.9**
MIGL				AML	AML		
MIGL				AML	AML		
	comp=N,81750μm,1.6s						
MIGL				AML	AML		
	comp=N,81750μm,0.4s						
MNT3	**Montella**	**1.18**	**342**	AML	AML		
	comp=N,8385μm,0.7s						
MNT3				AML	AML		
	comp=E,6980μm,1.1s						
MNT3				AML	AML		
	comp=N,8385μm,1.3s						
SNAL	**S. Angelo Dei**	**1.23**	**350**	P	**Pn**	**04 32 00.6**	**-1.3**
SNAL				AML	AML		
	comp=E,24750μm,1.4s						
SNAL				AML	AML		
	comp=E,25350μm,1.3s						
SNAL				AML	AML		
	comp=N,22300μm,1.1s						
SNAL				AML	AML		
	comp=N,22750μm,1.1s						
SNAL				AML	AML		
	comp=N,22300μm,0.9s						
SNAL				AML	AML		
	comp=N,22750μm,0.9s						
SNAL				AML	AML		
	comp=E,25350μm,0.7s						
SNAL				AML	AML		
	comp=E,24750μm,0.6s						
LADO	**San Nicola del**	**1.23**	**110**	⇑P	**Pn**	**04 32 01.4**	**-0.5**
VULT	**Monte Vulture**	**1.24**	**5**	P	**Pn**	**04 32 01.4**	**-0.7**
VULT				AML	AML		
	comp=E,5960μm,1.0s						
VULT				AML	AML		
	comp=N,10670μm,0.7s						
VULT				AML	AML		
	comp=N,10870μm,0.7s						
VULT				AML	AML		
	comp=E,5965μm,1.0s						
VULT				AML	AML		
	comp=N,10870μm,1.3s						
VULT				AML	AML		
	comp=E,6275μm,1.0s						
VULT				AML	AML		
	comp=E,5965μm,1.0s						
VULT				AML	AML		
	comp=N,10670μm,1.3s						
MTMR	**Montemarano**	**1.26**	**343**	P	**Pn**	**04 32 00.9**	**-1.4**
MTMR				AML	AML		
	comp=E,6300μm,0.9s						
MTMR				AML	AML		
	comp=N,8840μm,0.8s						
MTMR				AML	AML		
	comp=E,6435μm,0.9s						
MTMR				AML	AML		
	comp=E,6300μm,0.9s						
MTMR				AML	AML		
	comp=E,6430μm,0.9s						
MTMR				AML	AML		
	comp=N,8840μm,0.7s						
MTMR				AML	AML		
	comp=N,9175μm,0.8s						
PALZ	**Palazzo San Ge**	**1.28**	**16**	P	**Pn**	**04 32 02.3**	**-0.3**
PALZ				AML	AML		
	comp=E,27400μm,1.0s						
PALZ				AML	AML		
	comp=N,23350μm,0.9s						
PALZ				AML	AML		
	comp=E,27400μm,1.0s						
PALZ				AML	AML		
	comp=N,23350μm,1.1s						
MATE	**Matera**	**1.32**	**45**	⇑P	**Pg**	**04 32 04.2**	**0.0**
MATE				⇓S	**Sg**	**04 32 24.1**	**+2.8**
MATE	**Matera**	**1.32**	**45**	P	**Pn**	**04 32 02.9**	**-0.2**
MATE				AML	AML		
	comp=E,22050μm,0.4s						

MATE				AML	AML		
	comp=N,17500µm,1.2s						
MATE				AML	AML		
	comp=N,17500µm,0.8s						
CAFE	**Carife**	**1.32**	**352**	P	**Pn**	**04 32 02.8**	**-0.5**
CAFE				AML	AML		
	comp=E,13100µm,0.6s						
CAFE				AML	AML		
	comp=E,13350µm,0.7s						
CAFE				AML	AML		
	comp=N,9795µm,1.0s						
CAFE				AML	AML		
	comp=N,9650µm,1.0s						
LTRZ	**Laterza**	**1.35**	**49**	P	**Pn**	**04 32 02.9**	**-0.7**
LTRZ				AML	AML		
	comp=E,35800µm,0.6s						
LTRZ				AML	AML		
	comp=N,46600µm,0.6s						
LTRZ				AML	AML		
	comp=E,35800µm,1.4s						
LTRZ				AML	AML		
	comp=N,46600µm,1.4s						
IFIL	**Filicudi I Eol**	**1.35**	**212**	P	**Pn**	**04 32 02.3**	**-1.3**
IFIL				AML	AML		
	comp=E,36150µm,0.8s						
IFIL				AML	AML		
	comp=N,15600µm,0.5s						
IFIL				AML	AML		
	comp=E,36150µm,1.2s						
VTIR	**Vesuvio Tirone**	**1.36**	**324**	P	**Pn**	**04 32 02.9**	**-0.8**
VTIR				AML	AML		
	comp=E,5570µm,0.7s						
VTIR				AML	AML		
	comp=E,5570µm,1.3s						
VTIR				AML	AML		
	comp=N,8185µm,0.7s						
VCRE	**Vesuvio Crater**	**1.37**	**324**	P	**Pn**	**04 32 02.7**	**-1.1**
VCRE				AML	AML		
	comp=E,29200µm,1.5s						
VCRE				AML	AML		
	comp=N,30200µm,0.7s						
VCRE				AML	AML		
	comp=N,30200µm,1.3s						
VCRE				AML	AML		
	comp=E,29200µm,0.5s						
VBKN	**Vesuvio Bunker**	**1.38**	**324**	P	**Pn**	**04 32 02.9**	**-1.1**
VBKN				AML	AML		
	comp=E,26500µm,1.6s						
VBKN				AML	AML		
	comp=N,23600µm,1.6s						
VBKN				AML	AML		
	comp=N,23600µm,0.4s						
VBKN				AML	AML		
	comp=E,26500µm,0.4s						
VVDG	**Vesuvio Valle**	**1.38**	**324**	P	**Pn**	**04 32 02.9**	**-1.1**
OVO	**Vesuviano**	**1.39**	**323**	P	**Pn**	**04 32 02.5**	**-1.6**
VPL	**Vulcano Piano**	**1.39**	**197**	P	**Pn**	**04 32 02.3**	**-1.7**
VPL				AML	AML		
	comp=N,18950µm,0.4s						
VPL				AML	AML		
	comp=E,17400µm,0.5s						
SGTA	**Sant Agata di**	**1.42**	**356**	P	**Pn**	**04 32 03.7**	**-0.8**
SGTA				AML	AML		
	comp=E,6500µm,0.8s						
SGTA				AML	AML		
	comp=N,5150µm,1.0s						
SGTA				AML	AML		
	comp=N,5115µm,1.0s						
SGTA				AML	AML		
	comp=E,6630µm,0.8s						
SGTA				AML	AML		
	comp=N,5115µm,1.0s						
SGTA				AML	AML		
	comp=N,5150µm,1.0s						
MSRU	**Castanea**	**1.45**	**179**	P	**Pn**	**04 32 02.7**	**-2.2**
MSRU				AML	AML		
	comp=E,22400µm,0.6s						
MSRU				AML	AML		
	comp=E,22400µm,1.4s						
MSRU				AML	AML		
	comp=N,16650µm,0.6s						
CAPA	**Cerignola FG**	**1.46**	**10**	⇓P	**Pn**	**04 32 04.5**	**-0.6**
CAPA				AML	AML		
	comp=E,8340µm,1.1s						
CAPA				AML	AML		
	comp=E,14000µm,1.2s						
CAPA				AML	AML		
	comp=N,19050µm,1.4s						
CAPA				AML	AML		
	comp=E,8340µm,0.9s						
CAPA				AML	AML		
	comp=N,19050µm,0.6s						
CAPA				AML	AML		
	comp=N,8940µm,1.1s						
MRB1	**Monte Rocchett**	**1.46**	**345**	P	**Pn**	**04 32 04.2**	**-0.9**
MRB1				AML	AML		
	comp=E,11295µm,0.6s						
MRB1				AML	AML		
	comp=N,10300µm,0.7s						
MRB1				AML	AML		
	comp=N,10800µm,0.7s						
MRB1				AML	AML		
	comp=E,11665µm,0.6s						
AMUR	**Altamura**	**1.47**	**35**	P	**Pn**	**04 32 05.2**	**+0.1**
AMUR				AML	AML		
	comp=E,9290µm,0.9s						
AMUR				AML	AML		
	comp=N,9590µm,0.7s						
AMUR				AML	AML		
	comp=N,9590µm,1.3s						
AMUR				AML	AML		
	comp=E,9290µm,1.1s						
PLAC	**Placanica**	**1.47**	**149**	P	**Pn**	**04 32 03.9**	**-1.2**
PLAC				AML	AML		
	comp=E,32850µm,0.6s						
PLAC				AML	AML		
	comp=N,32900µm,0.5s						
PLAC				AML	AML		
	comp=E,33600µm,0.5s						
PLAC				AML	AML		
	comp=N,34500µm,0.6s						
PLAC				AML	AML		
	comp=E,33600µm,1.5s						
PLAC				AML	AML		
	comp=N,32900µm,1.5s						
SICLA	**Scilla**	**1.47**	**173**	P	**Pn**	**04 32 03.0**	**-2.0**
SICLA				AML	AML		
	comp=E,20800µm,0.7s						
SICLA				AML	AML		
	comp=N,21150µm,0.3s						
SICLA				AML	AML		
	comp=E,20800µm,1.3s						
IACL	**Alicudi**	**1.47**	**217**	P	**Pn**	**04 32 02.9**	**-2.3**
IACL				AML	AML		
	comp=E,11125µm,1.4s						
IACL				AML	AML		
	comp=N,10600µm,1.1s						
IACL				AML	AML		
	comp=N,10600µm,0.9s						
CEL	**Celeste**	**1.49**	**168**		**Pn**	**04 32 03.2**	**-2.2**
CEL	**Celeste**	**1.49**	**168**	P	**Pn**	**04 32 03.4**	**-2.1**
CEL				AML	AML		
	comp=E,13800µm,0.8s						
CEL				AML	AML		
	comp=N,14400µm,0.7s						
CEL				AML	AML		
	comp=E,13600µm,0.8s						
CEL				AML	AML		
	comp=N,14350µm,0.7s						
CEL				AML	AML		
	comp=E,13800µm,1.2s						
CEL				AML	AML		
	comp=N,14350µm,1.3s						
CEL				AML	AML		
	comp=E,13600µm,1.2s						
CEL				AML	AML		
	comp=N,14400µm,1.3s						
PAOL	**Paolisi**	**1.49**	**332**		**Pn**	**04 32 04.5**	**-1.0**
PAOL	**Paolisi**	**1.49**	**332**	P	**Pn**	**04 32 04.2**	**-1.2**
PAOL				AML	AML		
	comp=E,6270µm,1.5s						
PAOL				AML	AML		
	comp=N,6715µm,1.2s						
PAOL				AML	AML		
	comp=E,6510µm,1.5s						
PAOL				AML	AML		
	comp=E,6270µm,0.5s						
PAOL				AML	AML		
	comp=E,6510µm,0.5s						
PAOL				AML	AML		
	comp=N,6845µm,1.2s						
BIOG	**Biogem**	**1.51**	**350**	P	**Pn**	**04 32 05.0**	**-0.7**
CSOB	**Campi Flegrei**	**1.51**	**318**	P	**Pn**	**04 32 03.8**	**-1.9**
MPNC	**Port Mandanici**	**1.57**	**184**	P	**Pn**	**04 32 04.1**	**-2.4**
MPNC				AML	AML		
	comp=N,20800µm,0.9s						
MPNC				AML	AML		
	comp=E,27500µm,0.5s						
IMTC	**Ischia Forio M**	**1.59**	**310**	P	**Pn**	**04 32 05.9**	**-0.9**
IOCA	**Ischia Osserva**	**1.59**	**311**	P	**Pn**	**04 32 05.2**	**-1.6**
IOCA				AML	AML		
	comp=N,14000µm,0.8s						
IOCA				AML	AML		
	comp=E,12300µm,0.8s						
PSB1	**Pescosannita**	**1.59**	**341**	P	**Pn**	**04 32 05.8**	**-1.1**
IFOR	**Ischia Forio P**	**1.60**	**309**	P	**Pn**	**04 32 05.1**	**-1.8**
IFOR				AML	AML		
	comp=E,23650µm,0.9s						
IFOR				AML	AML		
	comp=N,43000µm,0.9s						
IFOR				AML	AML		
	comp=E,23650µm,1.1s						
IFOR				AML	AML		
	comp=N,43000µm,1.1s						
TAR1	**Taranto**	**1.60**	**59**	P	**Pn**	**04 32 07.0**	**+0.1**
TAR1				AML	AML		
	comp=N,19850µm,1.0s						
TAR1				AML	AML		
	comp=N,19850µm,1.0s						
TAR1				AML	AML		
	comp=E,10105µm,0.5s						
VITU	**Vitulano (BN)**	**1.61**	**336**	P	**Pn**	**04 32 06.1**	**-1.0**
VITU				AML	AML		
	comp=E,2370µm,1.5s						
VITU				AML	AML		
	comp=N,6180µm,1.2s						
VITU				AML	AML		
	comp=E,2370µm,0.5s						
VITU				AML	AML		
	comp=E,6350µm,1.1s						
VITU				AML	AML		
	comp=N,6050µm,1.1s						
NOCI	**Noci**	**1.61**	**48**	P	**Pn**	**04 32 07.2**	**0.0**
NOCI				AML	AML		
	comp=N,13600µm,0.5s						
NOCI				AML	AML		
	comp=E,19000µm,0.8s						
SGRT	**San Giovanni R**	**2.05**	**5**		**Pn**	**04 32 12.2**	**-0.9**
RAFF	**Raffo Rosso**	**2.64**	**200**		**Pn**	**04 32 21.6**	**+0.4**
AQU	**L'Aquila**	**3.07**	**330**	*e*Pn	**Pn**	**04 32 28.5**	**+1.3**
AQU	**L'Aquila**	**3.07**	**330**	P	**Pn**	**04 32 28.5**	**+1.3**
CAMP	**Campotosto**	**3.23**	**332**		**Pn**	**04 32 31.1**	**+1.7**
KEK	**Kerkira**	**3.33**	**89**		**Pb**	**04 32 35.4**	**-2.3**
LFKM	**Lefkimmi**	**3.54**	**93**	P	**Pn**	**04 32 35.2**	**+1.6**
HCY	**Herceg Novi**	**3.55**	**39**	⇑*i*Pn	**Pn**	**04 32 33.8**	**0.0**
HCY				*i* Sn	**Sn**	**04 33 14.6**	**-1.1**
STON	**Ston**	**3.57**	**27**	*e*Pn	**Pn**	**04 32 33.2**	**-0.7**
STON	**Ston**	**3.57**	**27**	*e*Pn	**Pn**	**04 32 33.4**	**-0.5**
STON				*e*Sn	**Sn**	**04 33 15.5**	**-0.5**
NRCA	**Norcia**	**3.59**	**331**		**Pn**	**04 32 36.1**	**+1.7**
ULC	**Ulcinj**	**3.63**	**51**	⇑*i*Pn	**Pn**	**04 32 35.5**	**+0.7**
ULC				*i* Sn	**Sn**	**04 33 17.9**	**+0.3**
CESX	**Cesi**	**3.63**	**324**		**Pn**	**04 32 36.1**	**+1.2**
BUM	**Brajici-Budva**	**3.65**	**44**	⇓*i*Pn	**Pn**	**04 32 35.4**	**+0.2**
BUM				*i* Sn	**Sn**	**04 33 17.7**	**-0.5**
TREB	**Trebinje**	**3.69**	**35**	*e*Pn	**Pn**	**04 32 35.5**	**-0.2**
TREB	**Trebinje**	**3.69**	**35**	*e*Pn	**Pn**	**04 32 35.5**	**-0.2**
DRME	**Dracevica, Mon**	**3.73**	**47**	*e*Pn	**Pn**	**04 32 36.7**	**+0.4**
DRME	**Dracevica, Mon**	**3.73**	**47**	⇓*i*Pn	**Pn**	**04 32 36.6**	**+0.3**
DRME				*i* Sn	**Sn**	**04 33 20.2**	**+0.1**
IGT	**Igoumenitsa**	**3.75**	**91**	P	**Pn**	**04 32 37.2**	**+0.8**
IGT				S	**Sn**	**04 33 20.6**	**+0.1**
IGT	**Igoumenitsa**	**3.75**	**91**	*e*Pn	**Pn**	**04 32 37.0**	**+0.6**
IGT				*e*Sn	**Sn**	**04 33 19.3**	**-1.2**
FDMO	**Fiordimonte**	**3.78**	**332**		**Pn**	**04 32 38.3**	**+1.4**
CEME	**Cevo**	**3.84**	**41**	⇑*i*Pn	**Pn**	**04 32 37.4**	**-0.3**
CEME				*e*Sn	**Sn**	**04 33 22.0**	**-0.8**
BRY	**Bratogost**	**3.93**	**35**	⇑*i*Pn	**Pn**	**04 32 38.9**	**-0.1**
BRY				*i* Sn	**Sn**	**04 33 23.5**	**-1.6**
PDG	**Podgorica**	**3.93**	**45**		**Pn**	**04 32 39.4**	**+0.5**
PDG	**Podgorica**	**3.93**	**45**	⇓P	**Pn**	**04 32 40.5**	**+1.5**
PDG	**Podgorica**	**3.93**	**45**	*e*Pn	**Pn**	**04 32 39.9**	**+0.9**
PDG				*e*Sn	**Sn**	**04 33 25.0**	**0.0**
PDG	**Podgorica**	**3.93**	**45**	⇑*i*Pn	**Pn**	**04 32 39.5**	**+0.5**
PDG				*i* Sn	**Sn**	**04 33 24.4**	**-0.6**
NKME	**Niksic**	**4.01**	**39**	⇑*i*Pn	**Pn**	**04 32 40.4**	**+0.2**
NKME				*i* Sn	**Sn**	**04 33 26.2**	**-1.0**
DMLN	**Damoulianata-K**	**4.08**	**110**	P	**Pn**	**04 32 41.7**	**+0.6**
DMLN				S	**Sn**	**04 33 26.6**	**-2.2**
TSLK	**Tsoukalades, L**	**4.11**	**101**	P	**Pn**	**04 32 42.4**	**+1.0**
TSLK				S	**Sn**	**04 33 28.3**	**-1.1**
LKD2	**Lefkada island**	**4.12**	**101**	P	**Pn**	**04 32 42.2**	**+0.6**
LKD2				S	**Sn**	**04 33 28.4**	**-1.3**
JAN	**Janina**	**4.14**	**89**	P	**Pn**	**04 32 43.2**	**+1.3**
JAN				S	**Sn**	**04 33 30.3**	**+0.1**
FSK	**Fiskardo**	**4.14**	**106**	P	**Pn**	**04 32 42.2**	**+0.4**
FSK				S	**Sn**	**04 33 28.7**	**-1.5**
KBN	**Korca**	**4.16**	**76**	P	**Pn**	**04 32 43.9**	**+1.7**
VSK1	**VASILIKIADES**	**4.16**	**107**	P	**Pn**	**04 32 42.6**	**+0.5**
EVGI	**Lefkada island**	**4.16**	**104**	P	**Pn**	**04 32 43.1**	**+0.9**
EVGI				S	**Sn**	**04 33 29.8**	**-0.9**
KLINJ	**Klinje**	**4.16**	**33**	*e*Pn	**Pn**	**04 32 42.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**4.17**	**102**	P	**Pn**	**04 32 42.8**	**+0.5**
NYDR				S	**Sn**	**04 33 28.6**	**-2.2**
MURB	**Monte Urbino**	**4.18**	**329**		**Pn**	**04 32 43.8**	**+1.3**
VLS	**Valsamata**	**4.26**	**109**	P	**Pn**	**04 32 43.7**	**+0.1**
VLS				S	**Sn**	**04 33 31.1**	**-2.2**
PSDA	**Pessada-Kefalo**	**4.29**	**110**	P	**Pn**	**04 32 44.0**	**+0.2**
PSDA				S	**Sn**	**04 33 32.3**	**-1.5**
OHR	**Ohrid**	**4.29**	**69**	*i* Pn	**Pn**	**04 32 45.5**	**+1.6**
OHR				*i* Sn	**Sn**	**04 33 35.1**	**+1.2**
NEST	**Nestorio**	**4.32**	**79**	P	**Pn**	**04 32 47.2**	**+2.8**
UPM	**Unac-Piva**	**4.33**	**35**	⇓*i*Pn	**Pn**	**04 32 44.5**	**-0.1**
UPM				*i* Sn	**Sn**	**04 33 33.3**	**-1.8**
PRMD	**Pramanda**	**4.34**	**91**	P	**Pn**	**04 32 46.8**	**+2.2**
PRMD				S	**Sn**	**04 33 34.4**	**-0.8**
KJIV	**Kijevo**	**4.34**	**9**	*e*Pn	**Pn**	**04 32 44.9**	**+0.3**
KOME	**Kolasin**	**4.36**	**43**	*e*Pn	**Pn**	**04 32 45.9**	**+0.9**
KOME	**Kolasin**	**4.36**	**43**	⇑*i*Pn	**Pn**	**04 32 45.4**	**+0.4**
KOME				*i* Sn	**Sn**	**04 33 34.8**	**-1.0**
PENT	**Pentalofos**	**4.37**	**82**	P	**Pn**	**04 32 47.1**	**+2.0**
PVY	**Plav**	**4.43**	**48**	*e*Pn	**Pn**	**04 32 47.7**	**+1.7**
PVY	**Plav**	**4.43**	**48**	⇑*i*Pn	**Pn**	**04 32 46.6**	**+0.6**
PVY				*i* Sn	**Sn**	**04 33 37.1**	**-0.5**
RTZL	**Ratzakli, Kefa**	**4.44**	**110**	P	**Pn**	**04 32 45.6**	**-0.3**
ORTH	**Orthonies,Zaky**	**4.48**	**113**	P	**Pn**	**04 32 46.7**	**+0.2**
TETR	**Tetrakomo, Epi**	**4.49**	**93**	P	**Pn**	**04 32 48.5**	**+1.7**
AMPL	**Ampelaki**	**4.51**	**98**	P	**Pn**	**04 32 48.2**	**+1.2**
AMPL				S	**Sn**	**04 33 37.7**	**-1.6**
LTHK	**Lithakia**	**4.64**	**114**	P	**Pn**	**04 32 48.6**	**-0.1**
PLE	**Pljevlja**	**4.65**	**38**	*e*Pn	**Pn**	**04 32 51.5**	**+2.5**
PLE	**Pljevlja**	**4.65**	**38**	⇓*i*Pn	**Pn**	**04 32 49.0**	**0.0**
PLE				*i* Sn	**Sn**	**04 33 41.5**	**-1.4**
VSL	**Villasalto**	**4.72**	**269**		**Pn**	**04 32 47.0**	**-2.8**
PVO	**Paravola**	**4.82**	**101**	P	**Pn**	**04 32 52.5**	**+1.3**
PVO				S	**Sn**	**04 33 46.6**	**-0.3**
AXS	**Araxos**	**4.83**	**106**	P	**Pn**	**04 32 52.8**	**+1.4**
AXS				S	**Sn**	**04 33 46.5**	**-0.8**
KZN	**Kozani**	**4.86**	**81**	P	**Pn**	**04 32 53.6**	**+1.7**
KZN				S	**Sn**	**04 33 47.1**	**-1.0**
RUDO	**Rudo**	**4.86**	**35**	*e*Pn	**Pn**	**04 32 51.0**	**-0.8**
RUDO	**Rudo**	**4.86**	**35**	*e*Pn	**Pn**	**04 32 52.7**	**+0.9**
SJES	**Sjenica**	**4.89**	**42**	*e*Pn	**Pn**	**04 32 53.7**	**+1.5**
SJES				*e*Sn	**Sn**	**04 33 46.4**	**-2.4**
RLS	**Riolos of Patr**	**4.95**	**108**	P	**Pn**	**04 32 54.0**	**+1.0**
OSSC	**Osservatorio P**	**4.96**	**322**		**Pn**	**04 32 55.7**	**+2.6**
EVR	**Evrytania**	**4.97**	**97**	P	**Pn**	**04 32 55.8**	**+2.5**
THL	**Klokotos Trika**	**5.04**	**90**	P	**Pn**	**04 32 56.1**	**+1.9**
SKO	**Skopje**	**5.05**	**62**	*i* Pn	**Pn**	**04 32 58.2**	**+3.9**
BBLS	**Lazi&#263i**	**5.08**	**34**	*e*Pn	**Pn**	**04 32 55.4**	**+0.6**
ANX	**Ano Chora**	**5.12**	**101**	P	**Pn**	**04 32 57.9**	**+2.4**
EFP	**Efpalio**	**5.16**	**102**	P	**Pn**	**04 32 57.3**	**+1.4**
EFP				S	**Sn**	**04 33 54.7**	**-0.6**
DRO	**Drossia**	**5.17**	**108**	P	**Pn**	**04 32 57.6**	**+1.6**
BLY	**Banja Luka**	**5.18**	**14**	*e*Pn	**Pn**	**04 32 57.1**	**+0.9**
BLY	**Banja Luka**	**5.18**	**14**	⇓P	**Pn**	**04 32 58.0**	**+1.8**
BLY	**Banja Luka**	**5.18**	**14**	*e*Pn	**Pn**	**04 32 57.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**5.20**	**96**	P	**Pn**	**04 32 59.0**	**+2.6**
IVAS	**Ivanjica**	**5.21**	**41**	*e*Pn	**Pn**	**04 32 56.6**	**+0.1**
IVAS				*e*Sn	**Sn**	**04 33 55.1**	**-1.4**
SERG	**Sergoula**	**5.28**	**102**	P	**Pn**	**04 32 59.4**	**+1.9**
SERG				S	**Sn**	**04 33 58.0**	**-0.2**
BRJN	**Brijuni**	**5.34**	**347**	*e*Pn	**Pn**	**04 32 57.6**	**-0.8**
KALE	**Kalithea**	**5.34**	**102**	P	**Pn**	**04 33 00.6**	**+2.2**
KALE				S	**Sn**	**04 33 59.6**	**-0.4**
AGG	**Agios Georgios**	**5.35**	**95**	P	**Pn**	**04 33 00.1**	**+1.6**
LIT	**Litokhoron**	**5.40**	**84**		**Pn**	**04 33 00.7**	**+1.5**
LIT	**Litokhoron**	**5.40**	**84**	P	**Pn**	**04 33 00.6**	**+1.5**
LIT				S	**Sn**	**04 34 00.9**	**-0.4**
LIT	**Litokhoron**	**5.40**	**84**	P	**Pn**	**04 33 00.7**	**+1.5**
KLV	**Kalavryta, Ach**	**5.46**	**106**	P	**Pn**	**04 33 01.3**	**+1.3**
SELS	**Selova**	**5.49**	**49**	*e*Pn	**Pn**	**04 33 00.9**	**+0.5**
SELS				*e*Sn	**Sn**	**04 34 01.9**	**-1.6**
DIVS	**Divibare**	**5.52**	**36**	*e*Pn	**Pn**	**04 33 00.9**	**0.0**
GOCS	**Kraljevo Serbi**	**5.57**	**45**	*e*Pn	**Pn**	**04 33 02.0**	**+0.4**
GOCS				*e*Sn	**Sn**	**04 34 03.9**	**-1.7**
VAY	**Valandovo**	**5.63**	**71**	*i* Pn	**Pn**	**04 33 02.8**	**+0.5**
VAY				*i* Sn	**Sn**	**04 34 05.4**	**-1.5**
GUR	**Goura**	**5.64**	**106**	P	**Pn**	**04 33 04.6**	**+2.1**
AXAR	**Agios Charalam**	**5.65**	**97**	P	**Pn**	**04 33 04.3**	**+1.7**
ITM	**Ithomi**	**5.65**	**115**		**Pn**	**04 33 03.5**	**+0.8**
ITM	**Ithomi**	**5.65**	**115**	P	**Pn**	**04 33 03.6**	**+0.9**
PYL	**PYLOS**	**5.67**	**118**	P	**Pn**	**04 33 03.0**	**+0.1**
BARS	**Barje**	**5.69**	**55**	*e*Pn	**Pn**	**04 33 03.4**	**+0.3**
TEKS	**Tekeris**	**5.69**	**31**	*e*Pn	**Pn**	**04 33 02.5**	**-0.6**
TEKS				*e*Sn	**Sn**	**04 34 05.1**	**-3.2**
GRUS	**Gruza**	**5.71**	**41**	*e*Pn	**Pn**	**04 33 03.7**	**+0.2**
BOJS	**Bojanci**	**5.79**	**358**	*e*Pn	**Pn**	**04 33 05.7**	**+1.2**
BOJS	**Bojanci**	**5.79**	**358**	*i* Pn	**Pn**	**04 33 05.9**	**+1.4**
THE	**Thessaloniki**	**5.80**	**79**	P	**Pn**	**04 33 04.7**	**+0.1**
THE				S	**Sn**	**04 34 09.4**	**-1.6**
TRUS	**Trudelj**	**5.81**	**38**	*e*Pn	**Pn**	**04 33 05.4**	**+0.7**
KNT	**Kendrikon**	**5.84**	**73**	P	**Pn**	**04 33 05.7**	**+0.6**
VLX	**Vlachokerasia**	**5.89**	**111**	P	**Pn**	**04 33 07.3**	**+1.4**
OZLJ	**Ozalj**	**5.90**	**360**	*e*Pn	**Pn**	**04 33 07.1**	**+1.2**
HORT	**Hortiatis**	**5.90**	**79**	P	**Pn**	**04 33 06.6**	**+0.5**
LKR	**Lokris**	**5.93**	**98**	P	**Pn**	**04 33 07.9**	**+1.5**
ATAL	**Atalanti**	**5.94**	**98**	P	**Pn**	**04 33 08.2**	**+1.6**
BOSS	**Bosilegrad**	**5.97**	**60**	*e*Pn	**Pn**	**04 33 07.4**	**+0.4**
BOSS				*e*Sn	**Sn**	**04 34 11.5**	**-3.7**
MOSL	**Moslavina**	**5.97**	**9**	*e*Pn	**Pn**	**04 33 06.3**	**-0.7**
NEO	**Neokhori**	**6.00**	**91**	P	**Pn**	**04 33 08.5**	**+1.1**
LTK	**Loutraki**	**6.08**	**104**	P	**Pn**	**04 33 09.1**	**+0.6**
BOVS	**Bovan**	**6.08**	**48**	⇓P	**Pn**	**04 33 09.7**	**+1.1**
BOVS	**Bovan**	**6.08**	**48**	*e*Pn	**Pn**	**04 33 09.0**	**+0.5**
BOVS				*e*Sn	**Sn**	**04 34 15.9**	**-2.1**
SOH	**Sokhos**	**6.12**	**77**	P	**Pn**	**04 33 10.1**	**+1.1**
PLG	**Polygyros**	**6.14**	**81**	P	**Pn**	**04 33 10.4**	**+1.0**
KKB	**Krupnik**	**6.18**	**67**	*i* P	**Pn**	**04 33 12.3**	**+2.5**
KKB	**Krupnik**	**6.18**	**67**	P	**Pn**	**04 33 10.6**	**+0.8**
AVAS	**Avala Beograd**	**6.22**	**35**	*e*Pn	**Pn**	**04 33 09.7**	**-0.7**
AVAS				*e*Sn	**Sn**	**04 34 17.3**	**-4.1**
KEST	**Kesra**	**6.28**	**233**		**Pn**	**04 33 13.8**	**+2.4**
KEST	**Kesra**	**6.28**	**233**	Pn	**Pn**	**04 33 12.1**	**+0.7**
	comp=E,2.7nm,0.3s,baz=34,slow=4.7,SNR=24						
KEST				LR	LR	04 35 38.6	
	comp=E,316nm,20.6s,baz=17,slow=38						
	comp=E,9.9nm,0.5s						
GOLS	**Golise**	**6.29**	**1**	*i* Pn	**Pn**	**04 33 11.8**	**+0.4**
VILL	**Villa**	**6.29**	**102**	P	**Pn**	**04 33 12.4**	**+0.9**
SRS	**Serrai**	**6.34**	**75**	P	**Pn**	**04 33 12.4**	**+0.3**
SRS	**Serrai**	**6.34**	**75**	*e*Pn	**Pn**	**04 33 12.5**	**+0.4**
ZAPS	**Zavoj**	**6.43**	**54**	*e*Pn	**Pn**	**04 33 14.9**	**+1.5**
ZAPS				*e*Sn	**Sn**	**04 34 25.6**	**-1.2**
STFN	**Stefani**	**6.46**	**101**	P	**Pn**	**04 33 14.4**	**+0.6**
MAGU	**Magoula**	**6.47**	**102**	P	**Pn**	**04 33 14.5**	**+0.7**
ZAGS	**Zajecar**	**6.50**	**49**	*e*Pn	**Pn**	**04 33 15.1**	**+0.9**
ZAGS				*e*Sn	**Sn**	**04 34 26.4**	**-1.8**
AOS	**Alonnisos**	**6.52**	**92**	P	**Pn**	**04 33 15.3**	**+0.8**
VTS	**Vitosha**	**6.53**	**61**	*i* P	**Pn**	**04 33 17.0**	**+2.2**
VTS	**Vitosha**	**6.53**	**61**	P	**Pn**	**04 33 15.2**	**+0.5**
VTS	**Vitosha**	**6.53**	**61**	*e*Pn	**Pn**	**04 33 15.3**	**+0.5**
VTS				*e*Sn	**Sn**	**04 34 25.0**	**-4.2**
BORS2	**Bor- Borsko je**	**6.54**	**46**	*e*Pn	**Pn**	**04 33 14.5**	**-0.4**
BORS2				*e*Sn	**Sn**	**04 34 24.7**	**-4.7**
MMB	**Musomishta**	**6.55**	**71**	*i* P	**Pn**	**04 33 16.2**	**+1.3**
MMB	**Musomishta**	**6.55**	**71**	P	**Pn**	**04 33 15.4**	**+0.5**
OUR	**Ouranopolis**	**6.55**	**82**	P	**Pn**	**04 33 15.7**	**+0.8**
KUBS	**Kucevo**	**6.57**	**42**	*e*Pn	**Pn**	**04 33 14.3**	**-1.0**
VLI	**Veliai**	**6.58**	**115**	P	**Pn**	**04 33 17.2**	**+1.7**
PLNA	**Plana**	**6.60**	**63**	*i* P	**Pn**	**04 33 19.1**	**+3.4**
BLKB	**Belogradchik**	**6.65**	**52**	⇑P	**Pn**	**04 33 17.8**	**+1.5**
BLKB	**Belogradchik**	**6.65**	**52**	*e*Pn	**Pn**	**04 33 17.7**	**+1.4**
BLKB				*e*Sn	**Sn**	**04 34 28.9**	**-3.1**
ATH	**Athens Observa**	**6.66**	**103**	P	**Pn**	**04 33 17.1**	**+0.7**
ATHU	**Athens Univers**	**6.71**	**102**	P	**Pn**	**04 33 17.7**	**+0.6**
PTL	**Penteli**	**6.74**	**102**	P	**Pn**	**04 33 18.3**	**+0.6**
VLY	**Voula,Athens**	**6.75**	**103**	P	**Pn**	**04 33 18.2**	**+0.5**
KYMI	**Kymi, Euboea I**	**6.78**	**96**	P	**Pn**	**04 33 18.3**	**+0.2**
DION	**Dionisos Attik**	**6.79**	**101**	P	**Pn**	**04 33 18.9**	**+0.7**
BEHE	**Becsehely**	**6.82**	**8**		**Pn**	**04 33 19.0**	**+0.4**
BEHE	**Becsehely**	**6.82**	**8**	*e*Pn	**Pn**	**04 33 18.0**	**-0.6**
OBKA	**Obir**	**6.83**	**355**	Pn	**Pn**	**04 33 18.8**	**0.0**
	comp=E,6.3nm,0.6s,SNR=10						
MDVR	**Moldovita**	**6.85**	**40**	⇓P	**Pn**	**04 33 20.6**	**+1.5**
MORH	**Mrgy, Hungar**	**6.90**	**19**

comp=E,2.7nm,0.6s
DAVA Damuels 8.59 334 *i* Pn **Pn 04 33 45.3 +2.2**
comp=E,1.8nm,0.3s
IDI Anoyia 8.68 118 Pn 04 33 43.2 -1.0
IDI Anoyia 8.68 118 Pn **Pn 04 33 43.7 -0.5**
comp=E,11nm,0.3s,baz=300,slow=16,SNR=25
IDI Sn **Sn 04 35 17.0 -5.1**
comp=E,12nm,0.3s,baz=329,slow=21,SNR=7.2
IDI LR LR 04 38 22.3
comp=E,253nm,18.6s,baz=90,slow=46
MODS Modra-Piesok 8.75 8 *e*P **Pn 04 33 45.6 +0.5**
MODS Modra-Piesok 8.75 8 *e*PN **Pn 04 33 45.6 +0.5**
PSZ Piszkesteto 8.79 20 Pn 04 33 48.3 +2.5
PSZ Piszkesteto 8.79 20 P **Pn 04 33 48.3 +2.5**
MARR Marisel-Cluj 8.91 36 ⇓P **Pn 04 33 49.5 +2.1**
MTUR Matau 8.96 49 ⇓P **Pn 04 33 50.5 +2.3**
MTUR Matau 8.96 49 P **Pn 04 33 50.4 +2.3**
RAZG Razgrad 9.10 61 ⇓P **Pn 04 33 51.7 +1.7**
GERES GERESS Array B 9.22 353 Pn **Pn 04 33 49.9 -1.7**
comp=E,0.1nm,0.3s,baz=159,slow=12,SNR=12
GERES Sn **Sn 04 35 28.7 -6.5**
comp=E,0.1nm,0.3s,baz=163,slow=24,SNR=2.6
comp=E,0.8nm,0.3s
JAVC Velka Javorina 9.27 9 *e*PN **Pn 04 33 51.5 -0.9**
PHSR Pinarhisar 9.35 74 ⇓P **Pn 04 33 54.3 +1.0**
KRUC Moravsky 9.37 4 *e*PN **Pn 04 33 52.5 -1.1**
KECS Kecovo 9.47 21 *e*P **Pn 04 33 57.0 +2.0**
KECS Kecovo 9.47 21 *e*PN **Pn 04 33 57.0 +2.0**
KHC Kasperske Hory 9.51 352 *e*PN **Pn 04 33 54.3 -1.3**
KHC *ex* x 04 34 06.0
KHC *e*SN **Sn 04 35 49.4 +7.0**
KHC AMS AMS 04 38 10.0
comp=E,1μm,11.6s
KHC Kasperske Hory 9.51 352 *e*P **Pn 04 33 54.3 -1.3**
KHC *e* 04 35 49.4
KHC MLR MLR
comp=Z,1μm,11.6s
DOPR Dopca 9.58 46 ⇑P **Pn 04 33 58.5 +1.9**
VRAC Vranov 9.62 4 LR LR 04 37 54.2
comp=Z,317nm,18.7s,baz=208,slow=39
VRAC Vranov 9.62 4 *e*PN **Pn 04 33 56.8 -0.3**
MLR Muntele Rosu 9.63 50 Pn 04 33 59.8 +2.5
MLR Muntele Rosu 9.63 50 Pn **Pn 04 33 56.3 -0.9**
comp=Z,0.8nm,0.3s,baz=198,slow=13,SNR=12
MLR Sn **Sn 04 35 40.1 -5.3**
comp=Z,0.5nm,0.3s,baz=280,slow=20,SNR=2.4
MLR LR LR 04 38 04.5
comp=Z,184nm,19.3s,baz=250,slow=40
comp=Z,0.8nm,0.3s
MLR Muntele Rosu 9.63 50 ⇓P **Pn 04 33 60.0 +2.7**
MLR Muntele Rosu 9.63 50 P **Pn 04 33 59.9 +2.7**
ZVC Zvikov 9.77 355 *e*PN **Pn 04 33 59.3 +0.3**
ISR Istrita 9.79 53 ⇑P **Pn 04 34 01.4 +1.9**
ISR Istrita 9.79 53 P **Pn 04 34 01.4 +1.9**
ISR Istrita 9.79 53 P **Pn 04 34 02.8 +3.3**
comp=Z,47nm,1.1s
NEHR Nehoiu 9.80 51 ⇑P **Pn 04 34 00.9 +1.3**
LANS Liptovska Anna 9.85 15 *e*P **Pn 04 34 03.8 +3.6**
LANS *e* 04 35 49.9
LANS Liptovska Anna 9.85 15 *e*PN **Pn 04 34 03.8 +3.6**
LANS *e*SN **Sn 04 35 49.9 -0.8**
CTYL Yalikoy Yolu 9.90 76 ⇑P **Pn 04 34 02.0 +1.2**
TRSU Trosnyk 9.96 30 P **Pn 04 34 03.0 +1.4**
KORU Korolevo 10.07 31 P **Pn 04 34 04.0 +0.8**
HOLU Holmets 10.10 27 P **Pn 04 34 04.4 +0.8**
BISRR Bisoca 10.11 51 ⇓P **Pn 04 34 06.1 +2.2**
KARP Karpathos 10.15 111 Pn 04 34 03.7 -0.7
MUKU Mukachevo 10.15 28 P **Pn 04 34 05.4 +1.1**
MORC Moravsky Berou 10.17 8 *e*PN **Pn 04 34 04.2 -0.3**
BRIU Brid 10.18 30 P **Pn 04 34 06.2 +1.5**
MANT Manisa 10.23 93 Pn 04 34 07.8 +2.1
PLOR Plostina 10.24 50 ⇑P **Pn 04 34 07.9 +2.3**
PLOR Plostina 10.24 50 P **Pn 04 34 07.8 +2.3**
PLOR5 Plostina Array 10.24 50 P **Pn 04 34 07.1 +1.5**
comp=Z,24nm,0.8s
NIE Niedzica 10.29 18 P **Pn 04 34 08.6 +2.4**
comp=Z,8.0nm,1.3s
VRI Vrincioaia 10.29 50 ⇓P **Pn 04 34 08.8 +2.5**
VRI Vrincioaia 10.29 50 P **Pn 04 34 08.7 +2.5**
VRI Vrincioaia 10.29 50 P **Pn 04 34 08.4 +2.1**
comp=Z,26nm,0.9s
MEZ Mezhgor'ye 10.51 31 P **Pn 04 34 10.5 +1.2**
STHS Stebnicka Huta 10.53 21 *e*P Pn 04 34 15.5 +6.0
STHS Stebnicka Huta 10.53 21 *e*PN Pn 04 34 15.5 +6.0
BURAR Bucovina Array 10.58 39 Pn 04 34 13.7 +3.5
BURAR Bucovina Array 10.58 39 ⇓P **Pn 04 34 12.9 +2.7**
BURAR Bucovina Array 10.58 39 P **Pn 04 34 12.9 +2.7**
BUR08 Bucovina Ar. S 10.59 38 Pn 04 34 12.6 +2.2
CFR Carcaliu 10.82 56 ⇑P **Pn 04 34 15.7 +2.3**
CFR Carcaliu 10.82 56 P **Pn 04 34 15.7 +2.3**
OJC Ojcow 10.94 15 P **Pn 04 34 16.4 +1.4**
comp=Z,9.4nm,1.9s
KWP Kalwaria Pacla 11.16 25 P **Pn 04 34 20.6 +2.5**
comp=Z,32nm,1.3s
BORA Eskisehir 11.52 84 Pn 04 34 24.4 +1.2
CLL Collm 11.72 352 *e*P **Pn 04 34 26.0 +0.2**
CLL Collm 11.72 352 *e*Pn **Pn 04 34 26.0 +0.2**
CLL *ex* x 04 34 45.0
CLL *e*Sn Sn 04 36 22.0 -14
CLL *ex* x 04 37 05.0
CLL *ex* x 04 37 30.0
CLL *e*Sg 04 37 51.0
comp=Z,28nm,1.5s
BR106 Keskin Array S 13.96 84 P **Pn 04 34 57.0 +0.5**
comp=Z,59nmcomp=Z,8.1nm,1.0s
BR105 Keskin Array S 13.96 84 P **Pn 04 34 57.0 +0.5**
comp=Z,66nmcomp=Z,8.1nm,0.9s
BR131 Keskin Array S 13.98 84 ⇓*i*P **Pn 04 34 57.7 +0.9**
BRTR Keskin Array B 13.98 84 Pn 04 34 58.5 +1.7
BRTR Keskin Array B 13.98 84 Pn **Pn 04 34 56.6 -0.1**
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=19
BRTR LR LR 04 41 37.2
comp=Z,301nm,18.5s,baz=280,slow=43
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 13.98 84 P **Pn 04 34 58.5 +1.7**
BR104 Keskin Array S 13.98 84 P **Pn 04 34 57.3 +0.5**
comp=Z,66nmcomp=Z,7.9nm,1.1s
AK14 Malin Array Si 14.51 37 P **Pn 04 35 04.9 +1.0**
AK06 Malin Array Si 14.52 37 P **Pn 04 35 06.5 +2.5**
AK17 Malin Array Si 14.53 37 P **Pn 04 35 06.1 +2.0**
AK19 Malin Array Si 14.53 36 P **Pn 04 35 06.5 +2.3**
AK16 Malin Array Si 14.54 37 P **Pn 04 35 06.6 +2.3**
AK05 Malin Array Si 14.55 37 P **Pn 04 35 05.4 +1.0**
AK10 Malin Array Si 14.56 37 P **Pn 04 35 05.5 +1.0**
AK04 Malin Array Si 14.60 37 P **P 04 35 08.5 -3.0**
KIEV Kiev 14.60 37 ⇓P **Pn 04 35 06.8 +1.7**
KIEV Kiev 14.60 37 P **Pn 04 35 06.8 +1.7**
AKASG Malin Array Be 14.62 37 Pn **Pn 04 35 04.2 -1.1**
comp=Z,0.5nm,0.3s,baz=227,slow=10,SNR=8.7
SIM Simferopol' 14.73 63 *e*P **P 04 35 10.6 -2.4**
SIM *e*S **Sn 04 37 53.1 +3.2**
SIM pmax pmax
comp=Z,10.0nm,0.8s
SIM smax smax
comp=N,36nm,11.7s
SIM MLR MLR
comp=Z,87nm,18.5s
ESDC Sonseca Array 14.98 276 Pn **Pn 04 35 09.4 -0.9**
comp=Z,0.1nm,0.4s,baz=80,slow=12,SNR=1.1
ESDC LR LR 04 40 01.1
comp=Z,296nm,21.4s,baz=74,slow=34
SUW Suwalki 15.22 18 P **P 04 35 17.8 -0.6**
SUW Suwalki 15.22 18 P **P 04 35 17.8 -0.6**
NACGM Naroch 16.98 23 *e*P **Pn 04 35 36.3 +0.3**
comp=Z,14nm,1.2s,baz=211
MNK Minsk 16.99 25 *i* P **Pn 04 35 33.9 -2.2**
MNK *i* P **Pn 04 35 33.9 -2.2**
MNK *i* P **Pn 04 35 33.9 -2.2**
comp=Z,14nm,0.9s,baz=215
MNK *i* PP **sP 04 35 43.0 +0.3**
MNK *i* PPP PPP 04 35 50.3
MNK *i* S **Sn 04 38 40.9 -3.8**
MNK *i* SS **S 04 38 55.8 +1.0**
MNK *i* SSS SSS 04 39 09.1
MNK *i* LQ LQ 04 40 31.4
MNK *i* LR LR 04 41 52.6
MNK *i* LRM MLR 04 43 37.1
comp=Z,189nm,14.5s
MNK *i* LRM MLR 04 43 41.6
comp=E,183nm,13.6s
MNK *i* LRM MLR 04 44 04.4
comp=N,134nm,15.2s
MNK Minsk 16.99 25 *i* P **Pn 04 35 33.9 -2.2**
MNK *i* S **Sn 04 38 40.9 -3.8**
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=Z,189nm,14.0s
MNK MLR MLR
comp=E,183nm,14.0s
MNK MLR MLR
comp=N,134nm,15.0s
ANN Anapa 17.00 65 *e*P **Pn 04 35 33.0 -3.4**
ANN *e*S **Sn 04 38 40.2 -5.0**
ANN pmax pmax
comp=Z,13nm,0.7s
MMAI Mount Meron Ar 17.36 106 P **Pn 04 35 35.9 -5.1**
comp=Z,3.0nm,0.4s,baz=312,slow=11,SNR=4.8
MMAI S Sn 04 38 42.1 -12
comp=Z,0.6nm,0.3s,baz=283,slow=41,SNR=1.4
PBAR Barrancos 17.59 272 *e*P **P 04 35 44.8 +0.1**
PBAR *i* IAmb IAmb 04 35 52.5
comp=Z,18nm,1.7s
MDT Midelt 17.59 253 P **Pn 04 35 43.6 -0.2**
comp=Z,0.2nm,0.3s,baz=72,slow=8.0,SNR=6.0
MDT LR LR 04 41 33.9
comp=Z,137nm,21.9s,baz=64,slow=34
comp=Z,1.7nm,0.7s
PMRV Marv??o 17.64 276 *e*P **P 04 35 50.7 +5.4**
PMRV *i* IAmb IAmb 04 36 07.4
comp=Z,24nm,1.6s
MD01 Midelt array s 17.68 254 P **P 04 35 47.3 +1.4**
MD31 MD31 17.68 254 P **Pn 04 35 44.3 -0.6**
PESTR Estremoz 17.88 275 *e*P P 04 36 01.0 +13
PESTR *i* IAmb IAmb 04 36 07.2
comp=Z,18nm,1.4s
PBEJ Beja 18.26 272 *e*P P 04 36 04.2 +12
PBEJ *i* IAmb IAmb 04 36 16.9
comp=Z,13nm,2.1s
EVO Evora 18.27 274 *e*P P 04 36 06.3 +14
EVO *i* IAmb IAmb 04 36 15.4
comp=Z,16nm,1.7s
PVAQ Vaqueiros 18.29 270 *e*P P 04 36 03.7 +11
PVAQ *i* IAmb IAmb 04 36 12.1
comp=Z,23nm,1.3s
PMTG Montargil 18.33 276 *e*P P 04 36 02.2 +9.3
PMTG *i* IAmb IAmb 04 36 13.7
comp=Z,23nm,1.7s
GHAJ Ghor Haditha 18.35 111 IAmb IAmb 04 36 02.5
comp=Z,29nm,0.6s
PBDV Barranco-do-Ve 18.49 270 *e*P Pn 04 36 09.6 +15
PBDV *i* IAmb IAmb 04 36 25.5
comp=Z,26nm,1.2s
SOC Sochi 18.50 70 *e*P **Pn 04 35 55.6 +0.8**
SOC *e* 04 39 23.5
SOC pmax pmax
comp=Z,18nm,0.7s
SOC MLR MLR
comp=Z,128nm,15.0s
MESJ Messejana 18.57 272 *e*P Pn 04 36 10.8 +15
MESJ *i* IAmb IAmb 04 36 19.4
comp=Z,21nm,1.9s
VSLR Vesyoloye 18.72 70*d i*P **Pn 04 35 59.3 +1.8**
VSLR pmax pmax
comp=Z,4.0nm,0.5s
EIL Elat 18.85 116 P **P 04 35 57.0 -1.7**
comp=Z,1.6nm,0.3s,baz=338,slow=12,SNR=15
EIL S Sn 04 39 13.7 -16
comp=Z,5.1nm,0.5s,baz=208,slow=21,SNR=5.7
EIL LR LR 04 46 06.0
comp=Z,62nm,19.7s,baz=302,slow=46
comp=Z,5.7nm,0.4s
ASF Jabal al Asfar 18.87 107 P **P 04 35 57.9 -1.2**
comp=Z,0.5nm,0.3s,baz=318,slow=6.8,SNR=10
comp=Z,2.6nm,0.7s
PTEO Sao Teotonio 19.03 271 *e*P **Pn 04 36 06.4 +5.1**
PTEO *i* IAmb IAmb 04 36 17.2
comp=Z,28nm,1.9s
MORF Marmelete 19.03 270 *e*P Pn 04 36 26.5 +25
MORF *i* IAmb IAmb 04 36 28.3
comp=Z,17nm,1.3s
PFVI Vila Bisbo 19.21 270 *e*P Pn 04 36 14.7 +11
PFVI *i* IAmb IAmb 04 36 36.6
comp=Z,38nm,2.0s
ARXR Arkhyz 19.62 70⇑*i*P **Pn 04 36 08.2 -0.4**
DOMR Dombai 19.87 71⇑*i*P **Pn 04 36 12.5 +0.9**
DOMR pmax pmax
comp=Z,8.0nm,1.2s
MARD Mardin 19.92 89 IAmb IAmb 04 36 19.2
comp=Z,22nm,0.6s
EKA Eskdalemuir Ar 19.96 328 P **P 04 36 11.2 +0.5**
baz=133,slow=9.3
comp=Z,1.2nm,0.6s
VORD Divnogorie 20.07 48 *e*P **P 04 36 11.3 -0.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 20.10 47 *e*P **P 04 36 12.0 -0.2**
VSR pmax pmax
comp=Z,9.0nm,0.9s
HFS Hagfors 20.47 357 P **P 04 36 16.3 +0.1**
comp=Z,9.4nm,0.9s,baz=176,slow=11,SNR=6.1
HFS LR LR 04 45 03.6
comp=Z,166nm,20.3s,baz=181,slow=40
comp=Z,9.4nm,0.9s
GURO Guroymak-BITLI 20.60 85 P Pn 04 36 19.7 -0.5
GURO IAmb IAmb 04 36 24.3
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 20.61 44 *e*P Pn 04 36 20.1 +0.1
LPSR pmax pmax
comp=Z,24nm,0.9s
SHA1 Shidzhatmaz 20.63 70⇓*i*P Pn 04 36 19.5 -1.1
KIV Kislovodsk 20.66 69 P Pn 04 36 20.1 -0.7
KIV IAmb IAmb 04 36 25.6
comp=Z,23nm,0.8s
KIV Kislovodsk 20.66 69 *e*P Pn 04 36 20.0 -0.8
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,39nm,14.0s
KIV Kislovodsk 20.66 69 P **P 04 36 19.6 +1.1**
comp=Z,19nm,1.6s
KBZ Khabaz 20.81 70 P **P 04 36 19.8 -0.2**
comp=Z,16nm,0.8s,baz=282,slow=9.1,SNR=49
KBZ LR LR 04 45 57.9
comp=Z,61nm,18.5s,baz=263,slow=41
comp=Z,16nm,0.8s
KBZ Khabaz 20.81 70*d i*P Pn 04 36 22.2 -0.2
KBZ pmax pmax
comp=Z,21nm,0.9s
OBN Obninsk 20.87 35 P **P 04 36 20.1 -0.4**
comp=Z,14nm,0.5s,baz=11,slow=9.9,SNR=3.9
comp=Z,14nm,0.5s
OBN Obninsk 20.87 35⇓*i*P **P 04 36 20.4 0.0**
OBN *e*PPP PPP 04 36 45.9
OBN *e* 04 40 33.8
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,91nm,16.0s
PYA1 Pyatigorsk 20.96 69⇑*i*P Pn 04 36 23.8 -0.4
NC602 NORSAR Array S 21.19 355 P **P 04 36 24.0 +0.2**
NC602 IAmb IAmb 04 36 24.7
comp=Z,19nm,0.9s
NCK Nalchik 21.31 71⇓*i*P **P 04 36 27.5 +2.1**
NCK pmax pmax
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 21.51 354 P **P 04 36 26.4 -1.0**
comp=Z,6.6nm,1.0s,baz=171,slow=10
NOA NORSAR Array B 21.51 354 P **P 04 36 27.1 -0.4**
comp=Z,2.8nm,0.9s,baz=171,slow=12,SNR=9.5
NOA LR LR 04 46 04.4
comp=Z,212nm,19.1s,baz=175,slow=40
comp=Z,2.8nm,0.9s
VRH Novokhopyorsk 21.57 49 *e*P **P 04 36 32.1 +4.1**
VRH pmax pmax
comp=Z,28nm,0.7s
MOS Moscow 21.73 35 *e*P **P 04 36 27.4 -2.3**
MOS *e* 04 36 48.4
MOS pmax pmax
comp=Z,25nm,0.7s
GNI Garni 22.40 79 P **P 04 36 37.3 0.0**
GNI Garni 22.40 79 LR LR 04 45 22.9
comp=Z,67nm,19.0s,baz=274,slow=37
GNI Garni 22.40 79 P **P 04 36 37.3 0.0**
GNI pmax pmax
comp=Z,36nm,1.0s
GNI Garni 22.40 79 P **P 04 36 37.9 +0.7**
comp=Z,568nmcomp=Z,43nm,1.1s
GNI pP **pP 04 36 40.8 +0.3**
comp=Z,568nmcomp=Z,43nm,1.1s
FINES FINESS Array B 22.71 13 P **P 04 36 40.0 -0.2**
comp=Z,10nm,0.9s,baz=164,slow=7.5,SNR=13
FINES LR LR 04 47 20.5
comp=Z,104nm,18.4s,baz=218,slow=42
comp=Z,10nm,0.9s
FINES FINESS Array B 22.71 13 *i* P **P 04 36 40.7 +0.5**
FINES pmax pmax
comp=Z,10.0nm,0.9s
DVE Vedeno 23.17 72⇓*i*P **P 04 36 45.0 -0.2**
DVE pmax pmax
comp=Z,16nm,0.8s
AKT Akhty 24.47 75 *e*P **P 04 36 57.4 -0.4**
AKT *e*PPP PPP 04 37 35.7
AKT pmax pmax
comp=Z,28nm,1.4s
BELG Belogornoye 25.42 49⇓*i*P **P 04 37 06.2 +0.2**
BELG pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 25.86 27 *e*P **P 04 37 08.4 -1.6**
KLMR pmax pmax
comp=Z,45nm,1.6s
KIRV Kirov 28.67 38 LR LR 04 51 05.1
comp=Z,178nm,18.4s,baz=239,slow=41
KIRV Kirov 28.67 38⇓*i*P **P 04 37 34.5 -0.7**
TORD Torodi Ar. Bea 29.13 208 IAmb IAmb 04 37 43.5
comp=Z,2.7nm,1.1s
TORD Torodi Ar. Bea 29.13 208 P **P 04 37 38.6 -1.0**
comp=Z,0.4nm,0.5s,baz=21,slow=11,SNR=5.4
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 30.36 7 P **P 04 37 49.7 -0.4**
comp=Z,1.9nm,0.8s,baz=180,slow=11,SNR=5.0
ARCES LR LR 04 51 37.0
comp=Z,281nm,18.5s,baz=221,slow=40
comp=Z,1.9nm,0.8s
AKTO Aktyubinsk 31.48 56 LR LR 04 52 55.7
comp=Z,130nm,19.6s,baz=94,slow=41
ARTI Arti 32.52 45 P **P 04 38 09.6 +0.3**
ARTI Arti 32.52 45 LR LR 04 51 10.8
comp=Z,78nm,19.4s,baz=246,slow=36
ARTI Arti 32.52 45*c i*P **P 04 38 09.8 +0.5**
ARTI 04 39 14.8
ARTI S **S 04 43 25.4 +1.4**
ARTI SS **SnSn 04 45 16.4 -1.0**
ARTI pmax pmax
comp=Z,11nm,0.7s
AB31 Akbulak array 32.70 58 IAmb IAmb 04 38 17.4
comp=Z,7.0nm,1.1s
ABKAR Akbulak array 32.70 58 P **P 04 38 11.5 +0.6**
BORG Borgarnes 32.88 332 LR LR 04 51 52.4
comp=Z,127nm,19.1s,baz=114,slow=37
BORG Borgarnes 32.88 332 *i* P **P 04 38 14.0 +1.7**
HRA Herat 37.36 83 P **P 04 38 50.9 -0.6**
BBTS Babate 37.53 237 LR LR 04 56 42.8
comp=Z,93nm,18.6s,baz=260,slow=40
DBIC Dimbokro 37.64 214 P **P 04 38 52.5 -1.2**
DBIC IAmb IAmb 04 39 07.2
comp=Z,9.6nm,1.1s
DBIC Dimbokro 37.64 214 P **P 04 38 53.8 0.0**
comp=Z,3.0nm,0.9s,baz=46,slow=12,SNR=4.1
DBIC LR LR 04 54 36.0
comp=Z,102nm,18.6s,baz=22,slow=37
comp=Z,3.0nm,0.9s
SPITS Spitsbergen Ar 38.58 0 LR LR 04 56 33.3
comp=Z,55nm,18.1s,baz=177,slow=39
BORK Borovoye 39.14 51⇑*i*P **P 04 39 07.4 +1.4**
BORK pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 39.19 51 P **P 04 39 07.7 +1.2**
comp=Z,4.6nm,0.7s,baz=262,slow=4.5,SNR=21
BVAR LR LR 04 56 22.7
comp=Z,72nm,19.5s,baz=272,slow=38
comp=Z,4.6nm,0.7s
KK31 Karatay Array 40.79 67 P **P 04 39 21.2 +1.4**
KK31 Karatay Array 40.79 67 P **P 04 39 21.3 +1.4**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 40.79 67 P **P 04 39 21.0 +1.1**
KKAR Karatay Array 40.79 67 P **P 04 39 21.0 +1.1**
GAR Garm 41.83 73 IAmb IAmb 04 39 35.4
comp=Z,12nm,1.0s
ARSB Arslanbob 43.04 69 IAmb IAmb 04 40 00.5
comp=Z,24nm,1.4s
AAK Ala-Archa 43.73 66 LR LR 05 02 05.1
comp=Z,81nm,18.7s,baz=290,slow=42
AAK Ala-Archa 43.73 66⇑*i*P **P 04 39 45.8 +1.8**
AAK pmax pmax
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 44.49 54 P **P 04 39 51.1 +1.3**
comp=Z,2.2nm,0.9s,baz=287,slow=8.6,SNR=8.2
comp=Z,2.2nm,0.9s
KURK Kurchatov 44.53 54 P **P 04 39 51.2 +1.1**
KURK IAmb IAmb 04 39 57.6
comp=Z,6.3nm,0.8s
KURK Kurchatov 44.53 54⇑*i*P **P 04 39 51.6 +1.5**
SFJD Kangerlussuaq 44.93 329 LR LR 04 59 02.2
comp=Z,102nm,19.9s,baz=62,slow=37
TARG Taragay, Kyrgy 46.35 66 IAmb IAmb 04 40 18.0
comp=Z,10nm,1.1s
ZALV Zalesovo Beam 47.60 48 P **P 04 40 14.9 +0.6**
ZALV Zalesovo Beam 47.60 48 P **P 04 40 15.3 +1.0**
comp=Z,2.4nm,0.5s,baz=290,slow=8.4,SNR=11
ZALV LR LR 05 01 42.4
comp=Z,88nm,20.0s,baz=7.0,slow=38
comp=Z,2.4nm,0.5s
MK31 Makanchi Array 47.84 58⇑*i*P **P 04 40 17.8 +1.5**
MKAR Makanchi Array 47.84 58 P **P 04 40 17.1 +0.8**
MKAR Makanchi Array 47.84 58 P **P 04 40 16.7 +0.3**
comp=Z,2.2nm,0.5s,baz=276,slow=7.2,SNR=11
MKAR LR LR 05 03 00.5
comp=Z,84nm,18.6s,baz=278,slow=39
comp=Z,2.2nm,0.5s
MKAR Makanchi Array 47.84 58 *i* P **P 04 40 17.2 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
FRB Frobisher Bay 52.72 326 LR LR 05 03 02.9
comp=Z,97nm,19.1s,baz=110,slow=36
RES Resolute Bay 57.17 343 LR LR 05 06 55.8
comp=Z,53nm,18.5s,baz=1.5,slow=37
TSUM Tsumeb 58.64 178 LR LR 05 09 33.5
comp=Z,60nm,18.0s,baz=334,slow=39
EVN Everest 58.99 78 P **P 04 41 40.2 +1.0**
EVN IAmb IAmb 04 42 01.8
comp=Z,5.5nm,0.9s
TIXI Tiksi 59.55 20⇑*e*P P 04 41 46.5 +4.9
TIXI pmax pmax
comp=Z,7.0nm,1.4s
SONM Songino Array 62.48 49 P **P 04 42 02.7 +0.6**
comp=Z,0.7nm,0.5s,baz=287,slow=6.0,SNR=4.8
SONM LR LR 05 10 35.2
comp=Z,106nm,19.3s,baz=260,slow=37
comp=Z,0.7nm,0.5s
LPHEP Lephephe 63.49 169 P **P 04 42 09.2 +0.4**
LBTB Lobatse 65.08 170 LR LR 05 12 03.7
comp=Z,82nm,19.4s,baz=9.5,slow=37
YAK Yakutsk 65.66 28⇑*i*P **P 04 42 23.3 +0.8**
YAK pmax pmax
comp=Z,15nm,0.4s
SADO Sadowa 66.28 309 LR LR 05 08 19.1
comp=Z,615nm,20.0s,baz=66,slow=33
BOSA Boshof 68.58 171 P **P 04 42 41.9 +0.4**
BOSA Boshof 68.58 171 P **P 04 42 42.0 +0.5**
comp=Z,1.1nm,0.5s,baz=354,slow=5.8,SNR=5.4
BOSA LR LR 05 13 57.7
comp=Z,79nm,18.6s,baz=14,slow=37
comp=Z,1.1nm,0.5s
HILR Hailar Array B 68.95 43 LR LR 05 16 48.9
comp=Z,136nm,18.1s,baz=310,slow=39
HHC Hu-ho-hao-te 69.35 54 *e*P **P 04 42 47.1 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.1s
E29M Blow River 70.39 350 IAmb IAmb 04 43 05.4
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 70.55 338 LR LR 05 17 07.4
comp=Z,62nm,18.1s,baz=74,slow=39
G31M Satah River 71.20 348 P **P 04 42 57.1 0.0**
G31M IAmb IAmb 04 43 25.9
comp=Z,8.4nm,1.2s
EYMN Ely 71.36 317 P **P 04 43 02.3 +3.9**
SEY Seymchan 72.04 19 LR LR 05 20 14.1
comp=Z,64nm,18.3s,baz=189,slow=40
ULM Lac du Bonnet 72.09 321 LR LR 05 14 30.3
comp=Z,62nm,19.0s,baz=46,slow=36
SJG San Juan 72.34 279 LR LR 05 08 07.9
comp=Z,31nm,21.8s,baz=38,slow=30
H29M Whitestone 72.48 349 P **P 04 43 04.8 -0.1**

H29M IAmb IAmb 04 43 06.6
comp=Z,10.0nm,1.2s
CMAR Chiang Mai Arr 73.52 80 P **P 04 43 13.3 +1.5**
comp=Z,2.1nm,0.3s,baz=308,slow=6.5,SNR=1.8
CMAR LR LR 05 20 17.0
comp=Z,35nm,18.1s,baz=270,slow=40
comp=Z,2.1nm,0.3s
IMAR Indian Mountai 74.30 355 P **P 04 43 16.0 +0.4**
MA2 Magadan 74.40 22 LR LR 05 20 20.5
comp=Z,49nm,18.1s,baz=326,slow=39
DAWY Dawson 74.66 349 P **P 04 43 18.3 +0.6**
DAWY IAmb IAmb 04 43 25.6
comp=Z,13nm,1.5s
ILAR Eielson Array 74.93 352 P **P 04 43 19.8 +0.6**
comp=Z,0.4nm,0.9s,baz=347,slow=5.7,SNR=2.9
ILAR LR LR 05 21 05.0
comp=Z,38nm,18.0s,baz=49,slow=40
comp=Z,0.4nm,0.9s
NJ2 Nanjing 79.36 57 *eP* **P 04 43 44.3 -0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.8s
SDV Santo Domingo 81.42 274 LR LR 05 14 38.2
comp=Z,22nm,20.7s,baz=52,slow=32
PETK Petropavlovsk- 81.94 22 LR LR 05 26 04.2
comp=Z,35nm,19.4s,baz=290,slow=40
ASAJ Asahikawa 83.90 35 LR LR 05 25 46.3
comp=Z,53nm,19.8s,baz=348,slow=39
PDAR Pinedale Array 84.01 323 P **P 04 44 08.1 -1.3**
comp=Z,0.4nm,0.4s,baz=16,slow=4.6,SNR=6.0
PDAR LR LR 05 19 37.6
comp=Z,34nm,21.3s,baz=26,slow=34
comp=Z,0.4nm,0.4s
JNU Nakatsue 86.07 49 LR LR 05 26 44.2
comp=Z,60nm,20.8s,baz=329,slow=38
ROSC El Rosal 86.79 274 LR LR 05 18 26.1
comp=Z,42nm,19.5s,baz=203,slow=32
MJAR Matsushiro Arr 87.62 43 LR LR 05 27 36.6
comp=Z,33nm,18.4s,baz=220,slow=38
ANMO Albuquerque 88.42 316 LR LR 05 23 36.8
comp=Z,60nm,18.3s,baz=130,slow=35
CPUP Villa Florida 94.37 239 LR LR 05 26 37.6
comp=Z,11nm,19.1s,baz=234,slow=35
PFO Pinyon Flats O 94.57 321 LR LR 05 28 24.8
comp=Z,44nm,18.4s,baz=30,slow=36
NVL N'lazarevskaya 110.20 181 *i* PKIKP **PKiKP 04 50 10.8 +1.5**
NVL *e* 04 50 44.7
NVL *e*PPP PPP 04 53 03.9
NVL *e*SS SS 05 06 12.8 +2.5
NVL *e*SSS SSS 05 10 18.0
NVL pmax pmax
comp=Z,7.0nm,1.2s
NVL pmax pmax
comp=N,379nm,24.4s
NVL MLR MLR
comp=Z,54nm,17.0s

*IDC **25** 04:35:44.6±4.0, 4°.38S×149°.71E, h527km±26km, mb2.9/3, mbtmp3.9/5, Error ellipse: s-maj=62.8km s-min=36.2km az=87.0*
ISC 25 04:35:44.7±3.2, 4°.4S±0°.3×149°.7E±0°.4, h500km, n6, σ1°71/6, mb3.7/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**206**	P		**P**	**04 37 18.6**	**+1.6**
	34nm,0.5s,baz=14,slow=8.3,SNR=8.3							
JAY	**Jayapura**	**9.14**	**281**	P		**P**	**04 37 53.9**	**+0.7**
	4.0nm,0.3s,baz=103,slow=19,SNR=5.6							
WRA	**Warramunga Arr**	**21.50**	**223**	P		**P**	**04 39 56.0**	**-1.1**
	0.5nm,0.4s,baz=49,slow=9.1,SNR=8.5							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**24.47**	**217**	P		**P**	**04 40 22.3**	**-1.4**
	0.8nm,0.3s,baz=38,slow=10,SNR=12							
	0.8nm,0.3s							
FITZ	**Fitzroy Crossi**	**27.17**	**238**	P		**P**	**04 40 46.0**	**-1.6**
	1.0nm,0.4s,baz=53,slow=9.2,SNR=12							
	1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**147.21**	**287**	PKPbc		**PKPdf**	**04 54 29.1**	**-0.3**
	0.4nm,0.5s,baz=58,slow=3.1,SNR=4.0							

*IDC **25** 04:43:51.1±1.1, 15°.29S×70°.39W, h187km±12km, mb3.0/2, mbtmp3.7/6, Error ellipse: s-maj=42.7km s-min=13.4km az=24.0*
ISC 25 04:43:51.2±0.9, 15°.3S±0°.2×70°.4W±0°.1, h193km, n6, σ0°96/8, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.40**	**115**	P		**Pn**	**04 44 35.1**	**+0.9**
	32nm,0.3s,baz=296,slow=8.6,SNR=919							
LPAZ				S		**Sn**	**04 45 07.0**	**-0.6**
	25nm,0.4s,baz=14,slow=16,SNR=15							
NNA	**Nana**	**7.07**	**297**	P		**Pn**	**04 45 31.6**	**-0.8**
	5.4nm,0.3s,baz=125,slow=12,SNR=4.6							
NNA				S		**Sn**	**04 46 52.3**	**-0.3**
	3.8nm,0.3s,baz=257,slow=18,SNR=1.3							
SIV	**San Ignacio**	**9.01**	**96**	P		**Pn**	**04 45 57.1**	**-0.7**
	2.6nm,0.5s,baz=272,slow=11,SNR=18							
CFA	**Coronel Fontan**	**16.38**	**173**	P		**P**	**04 47 29.6**	**-0.3**
	0.7nm,0.3s,baz=356,slow=12,SNR=15							
PDAR	**Pinedale Array**	**68.04**	**330**	P		**P**	**04 54 31.6**	**+1.5**
	0.1nm,0.3s,baz=139,slow=9.3,SNR=4.1							
	0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.70**	**72**	P		**P**	**04 55 21.5**	**-0.1**
	0.2nm,0.5s,baz=270,slow=4.9,SNR=2.4							
	0.2nm,0.5s							

*NNC **25** 04:47:32.2±1.1, 42°.87N×78°.39E, h0km, mb2.3, mpv2.6, Error ellipse: s-maj=7.9km s-min=3.4km az=6.0*
*SOME **25** 04:47:33.6, 42°.92N×78°.30E, h20km*
*KRNET **25** 04:47:34.1±0.1, 42°.83N×78°.40E, h35km, mb2.5*
ISC 25 04:47:32.9±1.0, 42°.89N±0°.03×78°.36E±0°.04, h8km±9km, n18, σ0°51/35, 16C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.18**	**11**	P		**Pg**	**04 47 36.5**	**0.0**
	28nm,0.1s							
SATY				S		**Sg**	**04 47 38.9**	**-0.2**
	386nm,0.1s							
PRZ	**Przheval'sk**	**0.40**	**176**	↑*i*P		**Pb**	**04 47 43.0**	**+0.6**
PRZ				↑↑*i*S		**Sb**	**04 47 49.3**	**+0.6**
UZB	**Uzynbulak**	**0.55**	**61**	P		**Pg**	**04 47 43.5**	**-0.1**
	4.3nm,0.2s							
UZB				S		**Sg**	**04 47 51.0**	**+0.1**
	9.4nm,0.2s							
UZB	**Uzynbulak**	**0.55**	**61**	*e*P		**Pg**	**04 47 43.5**	**-0.1**
	4.3nm,0.2s							
UZB				*e*S		**Sg**	**04 47 51.0**	**+0.1**
	9.4nm,0.2s							
PDGK	**Podgornoye**	**0.94**	**61**	↑P		**Pg**	**04 47 49.9**	**-1.0**
	4.6nm,1.1s							
PDGK				↑↑S		**Sg**	**04 48 02.6**	**-0.5**
	2.5nm,0.6s							
KDJ	**Kajisay**	**1.15**	**230**	↑↑*i*P		**Pg**	**04 47 54.9**	**-0.1**
KDJ				↑↑*i*S		**Sg**	**04 48 10.3**	**+0.3**
BLB	**Baldybastay**	**1.21**	**4**	P		**Pg**	**04 47 56.3**	**+0.1**
	3.1nm,0.3s							
BLB				S		**Sb**	**04 48 12.7**	**+0.6**
	3.5nm,0.3s							
TARG	**Taragay, Kyrgy**	**1.23**	**200**	↓↓*i*P		**Pg**	**04 47 55.8**	**-0.6**
TARG				↓↓*i*S		**Sg**	**04 48 11.6**	**-0.8**
ARXS	**Arharly**	**1.38**	**344**	P		**Pn**	**04 47 58.5**	**-0.1**
	1.8nm,0.4s							
ARXS				S		**Sb**	**04 48 16.5**	**-0.4**
	1.9nm,0.2s							
ARXS	**Arharly**	**1.38**	**344**	*e*P		**Pn**	**04 47 58.5**	**-0.1**
	1.8nm,0.4s							
ARXS				*e*S		**Sb**	**04 48 16.5**	**-0.4**
	1.9nm,0.2s							
KTBS	**Karatobe**	**1.48**	**305**	P		**Pn**	**04 48 00.5**	**+0.7**
	0.8nm,0.2s							
KTBS				S		**Sn**	**04 48 19.7**	**+0.3**
	2.9nm,0.3s							
KNOS	**Konyrlen**	**1.59**	**22**	P		**Pb**	**04 48 02.9**	**+0.3**
	0.8nm,0.1s							
KNOS				S		**Sg**	**04 48 23.9**	**0.0**
	2.5nm,0.2s							
ULHL	**Ulahol**	**1.69**	**248**	↑↑*i*P		**Pn**	**04 48 03.2**	**+0.3**
ULHL				↑↑*i*S		**Sn**	**04 48 24.2**	**-0.6**
BOOM	**Boomskoye usch**	**1.83**	**258**	↑↑*i*P		**Pn**	**04 48 05.1**	**+0.4**
BOOM				↑↑*i*S		**Sn**	**04 48 27.5**	**-0.7**
TKM2	**Tokmak 2**	**2.03**	**272**	↑↑*i*P		**Pn**	**04 48 08.3**	**+0.7**
TKM2				↑↑*i*S		**Sn**	**04 48 32.9**	**-0.3**
KRBS	**Karabastau**	**2.12**	**293**	Pg		**Pb**	**04 48 11.5**	**0.0**
	0.4nm,0.4s							
KRBS				Lg		Lg	04 48 38.9	
	0.6nm,0.2s							
KBK	**Karagaybulak**	**2.52**	**266**	↑↑*i*P		**Pn**	**04 48 14.9**	**+0.6**
KBK				↑↑*i*S		**Sn**	**04 48 44.6**	**-0.7**
AAK	**Ala-Archa**	**2.86**	**266**	↑↑*i*P		**Pn**	**04 48 19.5**	**+0.6**
AAK				↑↑*i*S		**Sn**	**04 48 52.6**	**-0.9**

*IDC **25** 04:56:06.5±1.0, 2°.56S×138°.37E, h0km, mb3.8/6, mbtmp3.8/8, ML3.4/2, MS2.6/1, Error ellipse: s-maj=26.0km s-min=22.3km az=30.0*
ISC 25 04:56:10.7±0.8, 2°.7S±0°.1×138°.44E±0°.09, h32km, n8, σ1°23/10, mb3.9/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.27**	**85**	Pn		**Pn**	**04 56 47.1**	**+1.0**
	3.8nm,0.3s,baz=243,slow=7.8,SNR=13							
JAY				Sn		**Sb**	**04 57 18.0**	**-0.8**
	3.9nm,0.3s,baz=293,slow=23,SNR=7.1							
JAY				LR		LR	04 57 53.9	
	comp=Z,139nm,20.4s,baz=188,slow=46							
	13nm,0.5s							
WRA	**Warramunga Arr**	**17.57**	**193**	P		**Pn**	**05 00 14.0**	**+0.7**
	0.2nm,0.3s,baz=15,slow=12,SNR=7.7							
WRA				S		**Sn**	**05 03 26.0**	**-2.2**
	0.2nm,0.2s,baz=350,slow=26,SNR=1.8							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**21.27**	**192**	P		**P**	**05 00 56.0**	**+1.4**
	1.2nm,0.8s,baz=22,slow=10,SNR=9.5							
	1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.22**	**300**	P		**P**	**05 04 18.0**	**+0.6**
	1.0nm,0.3s,baz=113,slow=7.7,SNR=4.1							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**69.65**	**323**	P		**P**	**05 07 16.8**	**-0.4**
	1.3nm,0.6s,baz=108,slow=7.8,SNR=7.6							
	1.3nm,0.6s							
KURBB	**Kurchatov Arra**	**73.60**	**325**	P		**P**	**05 07 40.3**	**-0.5**
	0.7nm,0.7s,baz=117,slow=4.8,SNR=4.7							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**79.18**	**325**	P		**P**	**05 08 12.1**	**-0.3**
	1.3nm,0.7s,baz=106,slow=9.1,SNR=5.0							
	1.3nm,0.7s							
ILAR	**Eielson Array**	**85.97**	**24**	P		**P**	**05 08 46.6**	**-1.0**
	0.3nm,0.8s,baz=271,slow=5.7,SNR=2.9							
	0.3nm,0.8s							

CATAC 25 05:03:07.7±0.8, 11°N±3°×8°7W±°, h25km±7km, M3.0/19, MLv3.0/19, Error ellipse: s-maj=7.9km s-min=4.5km az=54.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.78**	**18**	P		Pb	05 03 22.5	-0.2
MAS3	**Al N del Volca**	**0.87**	**47**	P		Pb	05 03 24.0	-0.3
MAS3				S		Sn	05 03 36.4	0.0
WILN	**Americas 2**	**0.96**	**41**	P		Pn	05 03 25.4	-0.3
WILN				S		Sn	05 03 39.2	+0.7
MOM2	**El Cardon**	**1.06**	**19**	P		Pn	05 03 26.5	-0.5
MOM2				S		Sn	05 03 41.8	+0.9
CNGA	**Al SSO del Vol**	**1.07**	**7**	P		Pn	05 03 26.5	-0.6
CNGA				S		Sn	05 03 41.7	+0.6
CNGN	**Cerro Negro**	**1.07**	**7**	P		Pn	05 03 26.9	-0.3
CNGN	**Cerro Negro**	**1.07**	**7**	S		Sn	05 03 42.0	+0.7
MORN	**Al O del Volca**	**1.17**	**84**	P		Pn	05 03 28.2	-0.3
POLN	**Al Sur del Vol**	**1.21**	**1**	P		Pn	05 03 28.1	-1.0
PKGN	**Cerro Pekin**	**1.24**	**354**	P		Pn	05 03 29.4	-0.1
PKGN				S		Sb	05 03 46.7	+0.6
CARN	**Rivas**	**1.31**	**100**	P		Pn	05 03 30.5	+0.1
CARN				S		Sn	05 03 47.1	0.0
ELI1	**Hacienda Flor**	**1.48**	**122**	P		Pb	05 03 34.3	-0.2
LIMN	**Finca el Limon**	**1.69**	**16**	P		Pn	05 03 35.2	-0.5
LIMN				S		Sn	05 03 56.3	-0.3
CSGN	**Cosiguina Volc**	**1.69**	**335**	P		Pn	05 03 36.0	+0.2
POTN	**Potosi Cosigui**	**1.69**	**337**	P		Pn	05 03 35.0	-0.6
MATN	**Matagalpa**	**1.73**	**31**	P		Pn	05 03 34.8	-1.6
CNCH	**Conchagua**	**2.08**	**332**	P		Pn	05 03 40.8	-0.3
RCON	**San Juan de Ri**	**2.15**	**18**	P		Pn	05 03 42.4	+0.3
RCPN	**Sur Rio San Ju**	**2.21**	**19**	P		Pn	05 03 43.5	+0.7
RCVN	**Varillal2**	**2.23**	**16**	P		Pn	05 03 43.3	+0.1

*NEIC **25** 05:04:29.5±1.6, 19°.27N±0°.04×67°.24W±0°.02, h10km±1km, ML2.0/9, Md2.7/11(RSPR), Error ellipse: s-maj=6.2km s-min=2.8km az=200.0*
*SDD **25** 05:04:31.3±2.0, 19°.24N×67°.10W, h9km±13km, MD3.1, ML2.0, MW2.5*
*RSPR **25** 05:04:31.9, 19°.28N×67°.43W, h26km±20km, MD2.7/11*
*OSPL **25** 05:04:32.6±0.3, 19°.13N×67°.40W, h5km±6km, ML1.9*
ISC 25 05:04:29.1±1.5, 19°.26N±0°.06×67°.24W±0°.03, h8km±10km, n47, σ0°53/60, 18C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.79**	**171**			**Pb**	**05 04 45.6**	**+0.4**
AGPR						**Sb**	**05 04 56.9**	**+0.9**
AGPR	**Aguadilla, PR**	**0.79**	**171**	↓↓*e*P		**Pb**	**05 04 45.6**	**+0.4**
AGPR	**Aguadilla, PR**	**0.79**	**171**	*e*S		**Sb**	**05 04 56.9**	**+0.9**
AGPR	**Aguadilla, PR**	**0.79**	**171**	↑↑*i*P		**Pg**	**05 04 44.1**	**-0.3**
AGPR				↑↑*i*S		**Sg**	**05 04 55.2**	**+0.4**
AGPR				IAML			05 05 00.6	
	comp=N,105nm,1.2s							
AGPR	**Aguadilla, PR**	**0.79**	**171**	*i* P		**Pb**	**05 04 45.5**	**+0.4**
AGPR				*e*S		**Sg**	**05 04 55.1**	**+0.4**
AGPR				IAML			05 04 58.0	
	comp=Z,59nm,1.1s							
IDE	**Isla Desecheo**	**0.89**	**195**			**Pb**	**05 04 46.8**	**0.0**
IDE						**Sg**	**05 04 58.5**	**+0.5**
IDE	**Isla Desecheo**	**0.89**	**195**	↑↑*e*P		**Pb**	**05 04 46.8**	**0.0**
IDE	**Isla Desecheo**	**0.89**	**195**	*e*S		**Sg**	**05 04 58.5**	**+0.5**
AOPR	**Arecibo Observ**	**1.01**	**153**			**Pg**	**05 04 48.1**	**-0.6**
AOPR						**Sg**	**05 05 02.0**	**+0.2**
AOPR	**Arecibo Observ**	**1.01**	**153**	↑↑*e*P		**Pb**	**05 04 49.1**	**+0.1**
AOPR	**Arecibo Observ**	**1.01**	**153**	*e*S		**Sn**	**05 05 03.4**	**-0.7**
AOPR	**Arecibo Observ**	**1.01**	**153**	*i* P		**Pg**	**05 04 48.0**	**-0.6**
AOPR				↑↑*i*S		**Sg**	**05 05 00.8**	**-0.9**
AOPR				IAML			05 05 08.7	
	comp=N,45nm,0.3s							
EMPR	**Esperanza - Ma**	**1.02**	**139**	Pn		**Pn**	**05 04 50.0**	**+0.2**
LSP	**Las Mesas**	**1.08**	**172**			**Pn**	**05 04 50.3**	**-0.3**
LSP						**Sg**	**05 05 03.8**	**-0.2**
LSP	**Las Mesas**	**1.08**	**172**	↑↑*e*P		**Pn**	**05 04 50.3**	**-0.3**
LSP	**Las Mesas**	**1.08**	**172**	*e*S		**Sg**	**05 05 03.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.11**	**154**			**Pn**	**05 04 51.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.11**	**154**			**Pb**	**05 04 50.1**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.11**	**154**	↑↑*e*P		**Pn**	**05 04 51.0**	**+0.1**
ECPR	**Experimental S**	**1.25**	**138**	↓↓*e*P		**Pg**	**05 04 53.5**	**+0.4**
ECPR	**Experimental S**	**1.25**	**138**	*e*S		**Sn**	**05 05 10.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.25**	**174**			**Pn**	**05 04 52.6**	**-0.2**
CRPR						**Sb**	**05 05 08.7**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.25**	**174**	IAML			05 05 12.7	
	comp=E,31nm,1.1s							
CRPR	**Cabo Rojo, PR**	**1.25**	**174**	↑↑*e*P		**Pn**	**05 04 52.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.25**	**174**	↑↑*i*P		**Pg**	**05 04 53.8**	**+0.7**
CRPR				↑↑*i*S		**Sb**	**05 05 08.9**	**-0.2**
CRPR				IAML			05 05 13.2	
	comp=N,33nm,0.4s							
CRPR	**Cabo Rojo, PR**	**1.25**	**174**	*i* P		**Pg**	**05 04 53.1**	**0.0**
CRPR				IAML			05 05 13.0	
	comp=Z,30nm,0.4s							
MLPR	**Magueyes Islan**	**1.29**	**172**	↑↑*e*P		**Pn**	**05 04 53.3**	**-0.1**
MLPR	**Magueyes Islan**	**1.29**	**172**	*e*S		**Sb**	**05 05 09.5**	**-0.9**
MLPR	**Magueyes Islan**	**1.29**	**172**	↑↑*i*P		**Pn**	**05 04 53.4**	**-0.1**
MLPR				↑↑*i*S		**Sb**	**05 05 08.7**	**-1.7**
MLPR				IAML			05 05 14.5	
	comp=N,7.6nm,0.4s							
OBIP	**Obispado Ponce**	**1.35**	**153**			**Pn**	**05 04 53.9**	**-0.3**
OBIP				IAML			05 05 15.3	
	comp=N,27nm,0.5s							
OBIP				IAML			05 05 15.4	
	comp=E,28nm,0.3s							
OBIP	**Obispado Ponce**	**1.35**	**153**			**Sg**	**05 05 12.4**	**0.0**
OBIP	**Obispado Ponce**	**1.35**	**153**	↓↓*e*P		**Pb**	**05 04 54.5**	**0.0**
OBIP	**Obispado Ponce**	**1.35**	**153**	*e*S		**Sg**	**05 05 12.4**	**0.0**
GCPR	**Guaynabo City**	**1.44**	**131**			**Pb**	**05 04 55.8**	**-0.5**
GCPR	**Guaynabo City**	**1.44**	**131**			**Sn**	**05 05 16.0**	**+0.4**
GCPR	**Guaynabo City**	**1.44**	**131**	↓↓*e*P		**Pg**	**05 04 56.8**	**0.0**
GCPR	**Guaynabo City**	**1.44**	**131**	*e*S		**Sg**	**05 05 16.0**	**+0.4**
SJG	**San Juan**	**1.54**	**138**	↓↓*i*P		**Pg**	**05 04 59.2**	**+0.6**
SJG				IAML			05 05 24.1	
	comp=Z,10nm,1.6s							
IGPR	**InterUniversit**	**1.67**	**140**			**Pn**	**05 04 59.1**	**+0.5**
IGPR						**Sb**	**05 05 21.0**	**-0.3**
IGPR	**InterUniversit**	**1.67**	**140**	↑↑*e*P		**Pn**	**05 04 59.1**	**+0.5**
IGPR	**InterUniversit**	**1.67**	**140**	*e*S		**Sb**	**05 05 21.0**	**-0.3**
PDPR	**Patillas Dam,**	**1.69**	**137**	Pn		**Pb**	**05 04 59.6**	**-0.8**
PDPR				IAML			05 05 26.2	
	comp=E,11nm,0.6s							
PDPR				IAML			05 05 36.0	
	comp=N,15nm,1.1s							
PDPR	**Patillas Dam,**	**1.69**	**137**	↓↓*e*P		**Pb**	**05 05 00.0**	**-0.3**
PDPR	**Patillas Dam,**	**1.69**	**137**	*e*S		**Sb**	**05 05 22.0**	**+0.2**
MIDR	**Miches**	**1.73**	**261**	↑↑*i*P		**Pb**	**05 05 01.5**	**+0.3**
MIDR				↑↑*i*S		**Sg**	**05 05 24.6**	**-0.3**
MIDR				IAML			05 05 25.2	
	comp=N,7.8nm,0.4s							
MIDR				IAML			05 05 58.7	
	comp=N,22nm,2.4s							
DR12	**Loma Pena Alta**	**2.08**	**257**	Pn		**Pn**	**05 05 04.6**	**+0.3**
HATOM	**Hato Mayor del**	**2.08**	**257**	↑↑*i*P		**Pb**	**05 05 05.9**	**-1.2**
HATOM				↑↑*i*S		**Sn**	**05 05 30.7**	**+0.3**
HATOM				*i* S		**Sb**	**05 05 33.5**	**+0.4**
HATOM				IAML			05 05 41.0	
	comp=N,14nm,2.3s							

*IDC **25** 05:08:11.7±0.9, 2°.86S×138°.33E, h0km, mb3.8/6, mbtmp3.8/9, ML3.6/3, MS3.1/3, Error ellipse: s-maj=23.5km s-min=14.7km az=99.0*
*DJA **25** 05:08:15.3±0.8, 2°.5±6°×13°8E±°, h12km±8km, M4.0/6, mb4.2/1, MLv3.9/6*
ISC 25 05:08:16.1±0.7, 2°.61S±0°.08×138°.34E±0°.05, h32km, n16, σ2°20/18, mb3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.72**	**31**	P		**Pb**	**05 08 26.7**	**-3.4**
GENI	**Genyem**	**1.82**	**90**	P		**Pn**	**05 08 46.0**	**+0.8**
SRPI	**Serui, Papua**	**2.23**	**289**	P		**Pn**	**05 08 51.0**	**+0.2**
SRPI				S		**Sn**	**05 09 19.3**	**+2.1**
JAY	**Jayapura**	**2.36**	**88**	Pn		**Pn**	**05 08 52.3**	**-0.4**
	7.8nm,0.3s,baz=261,slow=7.7,SNR=22							
JAY				Sn		**Sn**	**05 09 22.7**	**+2.1**
	3.9nm,0.3s,baz=345,slow=19,SNR=4.0							
JAY				LR		LR	05 10 06.8	
	comp=Z,178nm,19.5s,baz=228,slow=48							
	19nm,0.4s							
JAY	**Jayapura**	**2.36**	**88**	P		**Pn**	**05 08 53.1**	**+0.5**
BAKI	**Biak**	**2.64**	**302**	P		**Pn**	**05 08 58.1**	**+1.6**
BAKI				S		**Sb**	**05 09 32.7**	**-2.1**
WRA	**Warramunga Arr**	**17.67**	**193**	P		Pn	05 12 15.7	-4.1
	0.3nm,0.3s,baz=10,slow=12,SNR=11							
WRA				S		Sn	05 15 23.6	-12
	0.8nm,0.9s,baz=12,slow=16,SNR=2.2							
	2.7nm,1.0s							
KAPI	**Kappang**	**18.70**	**262**	LR		LR	05 21 57.8	
	comp=Z,68nm,18.8s,baz=161,slow=44							
FITZ	**Fitzroy Crossi**	**19.80**	**218**	P		**P**	**05 12 43.6**	**-0.4**
	0.1nm,0.3s,baz=52,slow=12,SNR=1.7							
FITZ				S		S	05 16 13.6	-12
	2.7nm,0.7s,baz=172,slow=11,SNR=4.3							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**21.37**	**191**	P		**P**	**05 12 59.2**	**-1.8**
	2.1nm,0.7s,baz=17,slow=11,SNR=14							
ASAR				S		**S**	**05 16 54.6**	**-2.1**
	1.4nm,1.0s,baz=11,slow=25,SNR=4.5							
	2.1nm,0.7s							
TGY	**Tagaytay City**	**23.95**	**314**	LR		LR	05 23 17.0	
	comp=Z,82nm,21.4s,baz=20,slow=38							
CMAR	**Chiang Mai Arr**	**44.07**	**300**	P		**P**	**05 16 23.1**	**+1.7**
	1.6nm,0.3s,baz=114,slow=14,SNR=2.1							
CMAR				S		**S**	**05 22 48.0**	**-4.3**
	1.7nm,0.3s,baz=64,slow=37,SNR=1.9							
	1.6nm,0.3s							
MKAR	**Makanchi Array**	**69.49**	**323**	P		**P**	**05 19 22.1**	**+0.6**
	0.6nm,0.8s,baz=109,slow=7.8,SNR=3.6							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**73.44**	**325**	P		**P**	**05 19 47.4**	**+2.2**
	0.3nm,0.5s,baz=112,slow=4.0,SNR=1.3							
	0.3nm,0.5s							
BVAR	**Borovoye Array**	**79.02**	**325**	P		**P**	**05 20 18.3**	**+1.4**
	0.4nm,0.4s,baz=114,slow=3.5,SNR=4.0							
	0.4nm,0.4s							
ILAR	**Eielson Array**	**85.89**	**24**	P		**P**	**05 20 55.2**	**+2.7**
	0.3nm,0.7s,baz=261,slow=5.2,SNR=2.2							
	0.3nm,0.7s							

*IDC **25** 05:22:41.2±5.1, 2°.37S×138°.67E, h0km, mb3.6/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=209.7km s-min=29.9km az=86.0*
*DJA **25** 05:22:48.7±0.4, 2°.5±8°×13°8E±°, h10km, M3.4/7, MLv3.4/7*
ISC 25 05:22:49.0±1.1, 2°.61S±0°.10×138°.38E±0°.06, h32km, n9, σ1°88/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.70**	**28**	P		Pn	05 22 55.2	-7.4
SMPI				S		**Sn**	**05 23 13.0**	**+0.6**
GENI	**Genyem**	**1.78**	**89**	P		**Pn**	**05 23 19.2**	**+1.6**
SRPI	**Serui, Papua**	**2.26**	**289**	P		**Pn**	**05 23 25.6**	**+1.4**
JAY	**Jayapura**	**2.32**	**88**	P		**Pn**	**05 23 26.3**	**+1.3**
BAKI	**Biak**	**2.68**	**302**	P		**Pn**	**05 23 31.1**	**+1.2**
RKPI	**Ransiki, Papua**	**4.34**	**284**	P		**Pn**	**05 23 55.0**	**+2.2**
WRA	**Warramunga

comp=Z,112nm,18.6s,baz=236,slow=34
AKASG Malin Array Be 36.83 67 IAmb IAmb 05 34 09.2
comp=Z,4.6nm,1.4s
AKASG Malin Array Be 36.83 67 P **P 05 34 07.3 -0.2**
AKASG LR LR 05 51 03.6
comp=Z,38nm,18.4s,baz=306,slow=39
comp=Z,0.3nm,0.3s
MLR Muntele Rosu 37.42 77 LR LR 05 48 59.6
comp=Z,55nm,18.8s,baz=312,slow=35
ULM Lac du Bonnet 39.34 294 LR LR 05 47 51.8
comp=Z,53nm,18.4s,baz=46,slow=32
TKL Tuckaleechee C 40.29 267 LR LR 05 50 28.2
comp=Z,100nm,18.2s,baz=80,slow=35
SJG San Juan 43.55 232 LR LR 05 49 21.7
comp=Z,20nm,21.5s,baz=19,slow=31
BRTR Keskin Array B 45.37 79 P **P 05 35 18.8 +0.7**
comp=Z,1.0nm,0.8s,baz=316,slow=6.8,SNR=5.2
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 47.00 133 P **P 05 35 31.3 +0.4**
comp=Z,1.0nm,0.8s,baz=342,slow=7.5,SNR=6.2
comp=Z,1.0nm,0.8s
F30M Barrier River 48.11 330 P **P 05 35 39.4 +0.4**
F30M IAmb IAmb 05 36 21.6
comp=Z,14nm,1.4s
EGMT Eagleton 48.23 298 P **P 05 35 40.7 +0.5**
EGMT IAmb IAmb 05 35 43.1
comp=Z,10nm,1.2s
KBZ Khabaz 48.41 69 LR LR 05 56 16.6
comp=Z,52nm,19.4s,baz=291,slow=36
H31M Peel River 48.73 328 P **P 05 35 43.4 -0.4**
H31M IAmb IAmb 05 35 59.1
comp=Z,6.4nm,1.2s
ARTI Arti 49.02 47 LR LR 05 54 42.3
comp=Z,42nm,20.1s,baz=322,slow=34
C27K Jago River 49.10 335 P **P 05 35 46.9 +0.3**
C27K IAmb IAmb 05 35 50.0
comp=Z,14nm,1.5s
E27K Coleen River 49.47 333 P **P 05 35 49.1 -0.3**
E27K IAmb IAmb 05 35 51.2
comp=Z,5.7nm,1.1s
MMPY Sheldon Lake, 49.58 323 P **P 05 35 51.5 +1.2**
MDP Montagnes des 50.06 208 LR LR 05 51 21.7
comp=Z,65nm,21.8s,baz=16,slow=29
DBIC Dimbokro 50.24 145 LR LR 05 55 05.3
comp=Z,54nm,18.9s,baz=358,slow=34
I28M Miner Creek 50.76 329 P **P 05 35 59.4 0.0**
G26K Porcupine Rive 50.92 332 P **P 05 36 01.0 +0.6**
G26K IAmb IAmb 05 36 09.6
comp=Z,7.8nm,1.4s
PDAR Pinedale Array 51.33 293 P **P 05 36 04.5 +0.4**
comp=Z,0.3nm,0.4s,baz=44,slow=6.7,SNR=4.2
comp=Z,0.3nm,0.4s
GNI Garni 51.72 71 LR LR 06 00 53.0
comp=Z,36nm,18.3s,baz=356,slow=39
HWUT Hardware Ranch 53.22 293 P **P 05 36 19.0 +1.0**
HWUT IAmb IAmb 05 36 28.2
comp=Z,5.0nm,0.9s
ILAR Eielson Array 53.36 331 P **P 05 36 19.1 +0.6**
comp=Z,0.5nm,0.9s,baz=32,slow=5.4,SNR=4.8
comp=Z,0.5nm,0.9s
PV16 Nyswonger Mesa 53.85 288 P **P 05 36 22.9 +0.1**
PV16 IAmb IAmb 05 36 34.3
comp=Z,9.3nm,1.3s
PV10 Paradox Valley 53.88 288 P **P 05 36 24.4 +1.3**
PV10 IAmb IAmb 05 36 34.9
comp=Z,11nm,0.9s
PV18 Skein Mesa, Pa 53.89 288 P **P 05 36 23.5 +0.4**
BVAR Borovoye Array 56.52 45 P **P 05 36 41.9 +0.3**
comp=Z,2.4nm,0.7s,baz=317,slow=8.1,SNR=8.8
BVAR LR LR 05 59 59.0
comp=Z,54nm,19.0s,baz=322,slow=35
comp=Z,2.4nm,0.7s
ROSC El Rosal 58.97 233 LR LR 06 00 32.5
comp=Z,27nm,20.1s,baz=70,slow=34
JTS Las Juntas de 60.03 246 LR LR 06 02 26.5
comp=Z,16nm,18.1s,baz=28,slow=35
CMIG Matias Romero 60.50 260 LR LR 06 01 27.3
comp=Z,33nm,21.6s,baz=4.5,slow=34
KURBB Kurchatov Arra 61.75 43 P **P 05 37 17.5 -0.3**
comp=Z,0.4nm,0.2s,baz=313,slow=7.8,SNR=2.9
comp=Z,0.4nm,0.2s
LPIG La Paz 64.72 277 LR LR 06 06 03.0
comp=Z,39nm,19.1s,baz=3.0,slow=36
AAK Ala-Archa 65.98 51 LR LR 06 05 36.9
comp=Z,55nm,19.1s,baz=305,slow=35
MKAR Makanchi Array 66.29 43 LR LR 06 06 10.2
comp=Z,43nm,18.5s,baz=339,slow=36
SIV San Ignacio 72.56 210 LR LR 06 06 52.7
comp=Z,41nm,18.6s,baz=104,slow=33
SONM Songino Array 74.10 28 LR LR 06 12 49.3
comp=Z,35nm,19.6s,baz=224,slow=37
PLCA Paso Flores 98.53 209 LR LR 06 20 53.7
comp=Z,19nm,18.6s,baz=198,slow=33
WRA Warramunga Arr 146.02 25 PKPbc **PKPab 05 46 40.1 +0.1**
comp=Z,1.4nm,0.7s,baz=344,slow=3.8,SNR=7.9
ASAR Alice Springs 149.44 27 PKPbc **PKiKP 05 46 50.0 +0.2**
comp=Z,0.2nm,0.3s,baz=338,slow=2.1,SNR=1.5

CATAC 25 06:27:39.3±0.3, 12°N±3°×8°7W±°, h35km±3km, M2.9/26, MLv2.9/26, Error ellipse: s-maj=7.3km s-min=2.5km az=40.7, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.37**	**72**	P	Pn	06 27 49.4	+1.2
ALEN	**Leon**	**0.40**	**11**	P	Pn	06 27 49.4	+0.7
ALEN	**Leon**	**0.40**	**11**	S	Sn	06 27 57.4	+2.4
CNGA	**Al SSO del Vol**	**0.49**	**30**	P	Pn	06 27 50.9	+0.9
CNGN	**Cerro Negro**	**0.50**	**30**	P	Pn	06 27 50.9	+0.8
AMTN	**Mateare**	**0.54**	**71**	P	Pn	06 27 51.4	+0.9
AMTN	**Mateare**	**0.54**	**71**	S	Sn	06 28 00.9	+2.6
MOM2	**El Cardon**	**0.59**	**51**	P	Pn	06 27 52.0	+0.8
MOM2				S	Sn	06 28 02.3	+2.7
POLN	**Al Sur del Vol**	**0.60**	**13**	P	Pn	06 27 51.5	+0.1
POLN				S	Sn	06 28 01.5	+1.6
PKGN	**Cerro Pekin**	**0.60**	**358**	P	Pn	06 27 52.3	+0.9
PKGN				S	Sn	06 28 02.6	+2.7
APQ3	**Volcan Apoyequ**	**0.60**	**70**	P	Pn	06 27 52.2	+0.8
ABCN	**Banco Central**	**0.63**	**85**	P	Pn	06 27 52.4	+0.6
ABCN	**Banco Central**	**0.63**	**85**	S	Sn	06 28 02.9	+2.2
CRIN	**San Cristobal**	**0.64**	**351**	P	Pn	06 27 53.0	+1.0
CRIN	**San Cristobal**	**0.64**	**351**	S	Sn	06 28 04.0	+3.0
UNAN	**Cigeo UNAN**	**0.67**	**86**	P	Pn	06 27 52.8	+0.5
UNAN				S	Sn	06 28 03.5	+2.0
TISN	**Laguna Tiscapa**	**0.67**	**83**	P	Pn	06 27 52.9	+0.5
MGAN	**Managua**	**0.69**	**83**	P	Pn	06 27 53.2	+0.5
MGAN	**Managua**	**0.69**	**83**	S	Sn	06 28 04.1	+1.9
WILN	**Americas 2**	**0.75**	**83**	P	Pn	06 27 53.9	+0.5
WILN				S	Sn	06 28 05.7	+2.1
MAS3	**Al N del Volca**	**0.76**	**93**	P	Pn	06 27 54.0	+0.4
MAS3				S	Sn	06 28 04.9	+1.0
NADN	**Granada**	**0.95**	**109**	P	Pn	06 27 57.3	+1.1
NADN				S	Sn	06 28 09.0	+0.4
POTN	**Potosi Cosigui**	**1.08**	**330**	P	Pn	06 27 58.0	0.0
POTN				S	Sn	06 28 12.4	+0.8
CSGN	**Cosiguina Volc**	**1.08**	**327**	P	Pn	06 27 58.1	0.0
CSGN				S	Sn	06 28 12.2	+0.3
LIMN	**Finca el Limon**	**1.14**	**30**	P	Pn	06 27 59.2	+0.3
MATN	**Matagalpa**	**1.32**	**49**	P	Pn	06 28 00.5	-0.8
MATN	**Matagalpa**	**1.32**	**49**	S	Sn	06 28 17.6	-0.2
MORN	**Al O del Volca**	**1.38**	**112**	P	Pn	06 28 04.2	+2.1
MORN				S	Sn	06 28 19.9	+0.8
CNCH	**Conchagua**	**1.48**	**325**	P	Pn	06 28 03.3	-0.3
CNCH	**Conchagua**	**1.48**	**325**	S	Sn	06 28 22.4	+0.5
RCON	**San Juan de Ri**	**1.61**	**29**	P	Pn	06 28 06.3	+0.9
CARN	**Rivas**	**1.65**	**122**	P	Pn	06 28 07.0	+1.2
CARN				S	Sn	06 28 24.6	-1.2
RCPN	**Sur Rio San Ju**	**1.68**	**30**	P	Pn	06 28 07.5	+1.2
RCVN	**Varilla2**	**1.68**	**26**	P	Pn	06 28 07.2	+0.8

CATAC 25 06:38:04.0±1.0, 13°N±5°×9°0W±°, h2km±4km, M2.7/11, MLv2.7/11, Error ellipse: s-maj=11.2km s-min=8.0km az=30.7, confirmed
SNET 25 06:38:06.0±1.3, 13°15N×90°40W, h5km, ML2.9
GCG 25 06:38:08.1±0.7, 13°33N×90°39W, h6km±21km, MD3.9, ML3.0

ISC 25 06:38:08.2±2.6, 13°1N±0°1×90°33W±0°09, h24km, n41, σ1§14/46, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.78**	**23**	P	**Pb**	**06 38 21.7**	**-1.4**
FAME	**Alcaldia de Sa**	**0.78**	**23**	S	**Sb**	**06 38 33.1**	**-0.2**
NUBE	**Las Nubes**	**0.94**	**35**	*eP*	**Pb**	**06 38 24.1**	**-1.8**
NUBE				*eS*	**Sn**	**06 38 38.9**	**+0.1**
NUBE	**Las Nubes**	**0.94**	**35**	*eP*	**Pb**	**06 38 24.3**	**-1.7**
NUBE	**Las Nubes**	**0.94**	**35**	P	**Pb**	**06 38 24.4**	**-1.5**
CEVE	**Cerro Verde**	**0.98**	**44**	*eP*	**Pn**	**06 38 25.5**	**-1.2**
CEVE				*eS*	**Sn**	**06 38 40.4**	**+0.4**
CEVE	**Cerro Verde**	**0.98**	**44**	S	**Sn**	**06 38 41.1**	**+1.1**
CEVE	**Cerro Verde**	**0.98**	**44**	P	**Pn**	**06 38 25.6**	**-1.1**
SBLS	**San Blas**	**0.99**	**44**	*eP*	**Pn**	**06 38 25.6**	**-1.1**
SBLS				*eP*	**Pn**	**06 38 25.7**	**-1.1**
JAYA	**Jayaque - finc**	**1.01**	**58**	*eP*	**Pn**	**06 38 25.9**	**-1.1**
JAYA	**Jayaque - finc**	**1.01**	**58**	*eP*	**Pn**	**06 38 25.7**	**-1.3**
JAYA	**Jayaque - finc**	**1.01**	**58**	P	**Pn**	**06 38 25.7**	**-1.3**
JAYA	**Jayaque - finc**	**1.01**	**58**	S	**Sn**	**06 38 41.5**	**+1.0**
RTR	**El Retiro**	**1.02**	**41**	*eP*	**Pn**	**06 38 26.0**	**-1.1**
LOAL	**Lomas de Alarc**	**1.02**	**32**	S	**Sn**	**06 38 41.7**	**+1.0**
LOAL	**Lomas de Alarc**	**1.02**	**32**	P	**Pn**	**06 38 25.7**	**-1.3**
SNJE	**San Jose**	**1.02**	**44**	*eP*	**Pn**	**06 38 26.1**	**-1.1**
SNJE				*eP*	**Pn**	**06 38 26.1**	**-1.1**
LALI	**Alcalda de L**	**1.05**	**70**	P	**Pn**	**06 38 26.7**	**-0.6**
LALI	**Alcalda de L**	**1.05**	**70**	S	**Sb**	**06 38 42.2**	**+1.3**
CEDA	**San Andres**	**1.13**	**53**	S	**Sb**	**06 38 45.3**	**+1.9**
UNIC	**Universidad Ca**	**1.14**	**42**	S	**Sb**	**06 38 45.2**	**+1.4**
UNIC	**Universidad Ca**	**1.14**	**42**	P	**Pn**	**06 38 27.6**	**-1.2**
PMON	**Piamonte**	**1.15**	**59**	*eP*	**Pn**	**06 38 28.4**	**-0.4**
PMON	**Piamonte**	**1.15**	**59**	P	**Pn**	**06 38 27.8**	**-1.1**
PMON	**Piamonte**	**1.15**	**59**	S	**Sb**	**06 38 45.6**	**+1.6**
FG16	**Alotenango, Sa**	**1.16**	**351**	*eP*	**Pb**	**06 38 30.7**	**+1.1**
RBDL	**Robledal**	**1.17**	**32**	*eP*	**Pn**	**06 38 28.1**	**-1.1**
LOMA	**Loma Larga**	**1.24**	**65**	P	**Pn**	**06 38 29.7**	**-0.5**
LOMA	**Loma Larga**	**1.24**	**65**	S	**Sb**	**06 38 48.2**	**+1.5**
TECO	**Alcaldia de Te**	**1.56**	**75**	*eP*	**Pn**	**06 38 33.4**	**-1.1**
TECO	**Alcaldia de Te**	**1.56**	**75**	P	**Pn**	**06 38 33.8**	**-0.7**
TECO	**Alcaldia de Te**	**1.56**	**75**	S	**Sb**	**06 38 57.6**	**+1.8**
MTO3	**Montecristo**	**1.58**	**37**	*eP*	**Pn**	**06 38 34.5**	**-0.4**
MTO3	**Montecristo**	**1.58**	**37**	*i P*	**Pn**	**06 38 35.0**	**0.0**
MTO3	**Montecristo**	**1.58**	**37**	S	**Sb**	**06 38 57.0**	**+0.5**
MTO3	**Montecristo**	**1.58**	**37**	P	**Pn**	**06 38 34.3**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.66**	**70**	S	**Sb**	**06 39 00.3**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.66**	**70**	P	**Pn**	**06 38 35.9**	**0.0**
ESQI	**Esquipulas**	**1.72**	**34**	*eP*	**Pn**	**06 38 36.5**	**-0.2**
ESQI				*eS*	**Sb**	**06 39 01.3**	**+0.8**
ESQI	**Esquipulas**	**1.72**	**34**	P	**Pn**	**06 38 36.6**	**-0.1**
APG	**El Apazote**	**1.87**	**356**	*eP*	**Pn**	**06 38 38.4**	**-0.5**

IDC 25 06:49:26.9±20.0, 27°38S×178°92W, h355km±124km, mb3.1/3, mbtmp4.2/5, Error ellipse: s-maj=223.0km s-min=34.6km az=50.0

ISC 25 06:49:31.7±1.2, 27°6S±0°1×179°9W±0°1, h350km, n28, σ2§11/39, mb3.9/6, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.33**	**134**	P	**Pn**	**06 50 28.1**	**+2.7**
RIZ				S	**S**	**06 51 08.4**	**-0.2**
GLKZ	**Green Lake**	**2.35**	**134**	P	**Pn**	**06 50 28.1**	**+2.5**
GLKZ				S	**S**	**06 51 11.9**	**+3.1**
MXZ	**Matakaoa Point**	**10.01**	**188**	P	**P**	**06 51 53.3**	**+2.2**
MXZ				S	**S**	**06 53 39.8**	**-3.0**
WMGZ	**Waiomatatini S**	**10.25**	**188**	S	**S**	**06 53 49.0**	**+1.0**
HAZ	**Te Kaha**	**10.28**	**191**	P	**P**	**06 51 55.0**	**+0.9**
HAZ				S	**S**	**06 53 50.8**	**+2.2**
PKGZ	**Pakihiroa**	**10.34**	**189**	S	**S**	**06 53 49.9**	**-0.2**
RUGZ	**Raukumara Rang**	**10.50**	**191**	P	**P**	**06 51 58.1**	**+1.5**
RUGZ				S	**S**	**06 53 51.2**	**-2.5**
PUZ	**Puketiti**	**10.52**	**188**	P	**P**	**06 51 58.3**	**+1.5**
PUZ				S	**S**	**06 53 50.6**	**-3.4**
TWGZ	**Tauwhareparae**	**10.66**	**189**	S	**S**	**06 53 56.7**	**-0.4**
MWZ	**Matawai**	**10.88**	**191**	P	**P**	**06 52 02.5**	**+1.7**
MWZ				S	**S**	**06 54 01.9**	**-0.1**
URZ	**Urewera**	**10.88**	**193**	P	**Pn**	**06 52 00.1**	**+0.1**
13nm,0.3s,baz=0.0,slow=1.0,SNR=24							
URZ				S	**S**	**06 54 01.9**	**-0.2**
16nm,0.5s,baz=50,slow=20,SNR=14							
URZ	**Urewera**	**10.88**	**193**	P	**P**	**06 52 01.2**	**+0.4**
URZ				S	**S**	**06 54 02.1**	**0.0**
RIGZ	**Rimuhau**	**11.21**	**190**	P	**P**	**06 52 05.3**	**+0.8**
RIGZ				S	**S**	**06 54 08.7**	**-0.7**
MTHZ	**Maungataniwha**	**11.51**	**193**	P	**P**	**06 52 09.1**	**+1.2**
MTHZ				S	**S**	**06 54 16.0**	**-0.1**
NMHZ	**Naumai**	**11.75**	**193**	P	**P**	**06 52 12.1**	**+1.5**
NTVZ	**North Tongarir**	**12.01**	**197**	P	**Pn**	**06 52 15.7**	**+2.1**
OTVZ	**Oturere**	**12.08**	**197**	P	**Pn**	**06 52 16.6**	**+2.1**
SNVZ	**South Ngauruho**	**12.11**	**197**	P	**Pn**	**06 52 16.9**	**+2.1**
KWHZ	**Kaweka Forest**	**12.15**	**194**	P	**Pn**	**06 52 15.6**	**+0.5**
KRHZ	**Kereru**	**12.37**	**194**	P	**Pn**	**06 52 17.9**	**+0.1**
RPZ	**Rata Peaks**	**17.63**	**202**	P	**P**	**06 53 15.5**	**+0.8**
6.8nm,0.4s,baz=224,slow=16,SNR=1.2							
ASAR	**Alice Springs**	**41.68**	**265**	P	**P**	**06 56 49.5**	**+1.8**
0.3nm,0.4s,baz=105,slow=7.4,SNR=7.7							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**42.41**	**270**	P	**P**	**06 56 54.4**	**+1.0**
0.9nm,0.5s,baz=109,slow=7.4,SNR=12							
0.9nm,0.5s							
MAW	**Mawson**	**74.30**	**201**	P	**P**	**07 00 29.0**	**-2.0**
0.9nm,0.6s,baz=101,slow=5.9,SNR=2.4							
0.9nm,0.6s							
TROLL	**Troll, Antarti**	**80.60**	**181**	⇑P	**P**	**07 01 01.6**	**-4.2**
comp=Z,100nm,0.5s							
VNA3	**Neumayer Olymp**	**81.14**	**177**	⇑P	**P**	**07 01 04.3**	**-4.2**
comp=Z,1.2nm,0.4s							
VNA2	**Neumayer--Watz**	**81.56**	**178**	⇑P	**P**	**07 01 07.1**	**-3.5**
comp=Z,2.2nm,0.6s,baz=172,slow=4.7							
VNA1	**Neumayer--Stat**	**81.80**	**177**	⇑P	**P**	**07 01 07.8**	**-4.0**
comp=Z,1.3nm,0.5s							

NNC 25 06:58:28.5±0.4, 42°90N×78°36E, h0km, mb2.4, mpv2.6, Error ellipse: s-maj=3.0km s-min=1.5km az=168.0
KRNET 25 06:58:29.2±0.1, 42°83N×78°33E, h13km, mb2.4
SOME 25 06:58:29.1, 42°90N×78°32E, h10km

ISC 25 06:58:29.3±0.8, 42°88N±0°02×78°32E±0°02, h10km, n30, σ1§64/57, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.19**	**21**	P	**Pg**	**06 58 32.4**	**-1.1**
50nm,0.1s							
SATY				S	**Sg**	**06 58 35.0**	**-1.3**
283nm,0.1s							
PRZ	**Przheval'sk**	**0.40**	**171**	*eP*	**Pg**	**06 58 35.5**	**-1.8**
PRZ				⇑*eS*	**Sg**	**06 58 40.2**	**-2.4**
UZB	**Uzynbulak**	**0.58**	**63**	P	**Pg**	**06 58 39.2**	**-1.5**
6.6nm,0.1s							
UZB				S	**Sg**	**06 58 46.7**	**-1.7**
16nm,0.1s							
UZB	**Uzynbulak**	**0.58**	**63**	*eP*	**Pg**	**06 58 39.2**	**-1.5**
6.6nm,0.1s							
UZB				*eS*	**Sg**	**06 58 46.7**	**-1.7**
16nm,0.1s							
KURS	**Kuram**	**0.62**	**350**	P	**Pg**	**06 58 40.4**	**-0.9**
0.6nm,0.1s							
KURS				S	**Sg**	**06 58 48.8**	**-0.6**
3.9nm,0.3s							
KPKS	**Kokpek**	**0.64**	**25**	P	**Pg**	**06 58 40.6**	**-1.3**
3.8nm,0.1s							
KPKS				S	**Sg**	**06 58 49.0**	**-1.3**
17nm,0.3s							
KPKS	**Kokpek**	**0.64**	**25**	*eP*	**Pg**	**06 58 40.6**	**-1.3**
3.8nm,0.1s							
KPKS				*eS*	**Sg**	**06 58 49.0**	**-1.3**
17nm,0.3s							
SHLS	**Shalkode**	**0.89**	**71**	P	**Pn**	**06 58 50.7**	**+2.7**
1.6nm,0.2s							
SHLS				S	**Sn**	**06 59 06.2**	**+5.3**
6.3nm,0.4s							
SHLS	**Shalkode**	**0.89**	**71**	*eP*	**Pn**	**06 58 50.7**	**+2.7**
1.6nm,0.2s							
SHLS				*eS*	**Sn**	**06 59 06.2**	**+5.3**
6.3nm,0.4s							
KOTS	**Kotyrbulak**	**0.95**	**292**	P	**Pg**	**06 58 47.2**	**-0.4**
1.2nm,0.2s							
KOTS				S	**Sb**	**06 59 00.4**	**-0.3**
7.4nm,0.4s							
KOTS	**Kotyrbulak**	**0.95**	**292**	*eP*	**Pg**	**06 58 47.2**	**-0.4**
1.2nm,0.2s							
KOTS				*eS*	**Sb**	**06 59 00.4**	**-0.3**
7.4nm,0.4s							
PDGK	**Podgornoye**	**0.97**	**62**	P	**Pg**	**06 58 46.2**	**-1.8**
PDGK				S	**Sg**	**06 58 58.5**	**-2.1**
MDOK	**Medeo**	**0.97**	**287**	Pg	**Pg**	**06 58 47.6**	**-0.4**
1.6nm,0.3s							
MDOK				Lg	Lg	06 59 01.0	
4.7nm,0.3s							
TNSS	**Tian-Shan**	**1.02**	**279**	P	**Pb**	**06 58 48.8**	**-0.5**
1.5nm,0.4s							
TNSS				S	**Sb**	**06 59 03.0**	**+0.2**
1.4nm,0.2s							
TNSS	**Tian-Shan**	**1.02**	**279**	*eP*	**Pb**	**06 58 48.8**	**-0.5**
1.5nm,0.4s							
TNSS				*eS*	**Sb**	**06 59 03.0**	**+0.2**
1.4nm,0.2s							
KDJ	**Kajisay**	**1.13**	**229**	⇑*iP*	**Pg**	**06 58 49.9**	**-1.1**
KDJ				⇑*iS*	**Sg**	**06 59 04.9**	**-0.7**
TARG	**Taragay, Kyrgy**	**1.21**	**198**	⇓*iP*	**Pb**	**06 58 51.8**	**-0.8**
TARG				⇓*iS*	**Sg**	**06 59 07.5**	**-0.9**
BLB	**Baldybastay**	**1.22**	**6**	P	**Pb**	**06 58 51.4**	**-1.2**
2.9nm,0.2s							
BLB				S	**Sb**	**06 59 07.5**	**-0.9**
6.2nm,0.4s							
ARXS	**Arharly**	**1.38**	**345**	P	**Pn**	**06 58 54.2**	**-0.5**
2.0nm,0.3s							
ARXS				S	**Sb**	**06 59 12.4**	**-0.6**
3.8nm,0.2s							
ARXS	**Arharly**	**1.38**	**345**	*eP*	**Pn**	**06 58 54.2**	**-0.5**
2.0nm,0.3s							
ARXS				*eS*	**Sb**	**06 59 12.3**	**-0.6**
3.8nm,0.2s							
KTBS	**Karatobe**	**1.45**	**305**	P	**Pb**	**06 58 55.9**	**-0.6**
1.1nm,0.1s							
KTBS				S	**Sg**	**06 59 15.2**	**-0.8**
4.3nm,0.3s							
KNOS	**Konyrlen**	**1.60**	**23**	P	**Pb**	**06 58 58.2**	**-0.9**
1.1nm,0.2s							
KNOS				S	**Sb**	**06 59 19.2**	**-0.4**
2.9nm,0.2s							
ULHL	**Ulahol**	**1.66**	**248**	⇓*iP*	**Pb**	**06 58 59.9**	**-0.2**
ULHL				⇓*iS*	**Sg**	**06 59 21.9**	**-0.8**
BOOM	**Boomskoye usch**	**1.79**	**258**	⇑*iP*	**Pb**	**06 59 02.2**	**-0.2**
BOOM				⇑*iS*	**Sg**	**06 59 26.6**	**-0.4**
DGS	**Degeres**	**1.90**	**282**	Pg	**Pg**	**06 59 04.6**	**-1.1**
1.9nm,0.4s							
DGS				Lg	Lg	06 59 30.1	
3.9nm,0.3s							
TKM2	**Tokmak 2**	**2.00**	**272**	⇑*iP*	**Pb**	**06 59 05.2**	**-0.7**
TKM2				⇑*iS*	**Sg**	**06 59 32.6**	**-0.9**
KRBS	**Karabastau**	**2.09**	**294**	Pg	**Pb**	**06 59 07.0**	**-0.4**
0.9nm,0.2s							
KRBS				Lg	Lg	06 59 34.5	
8.9nm,0.3s							
USP	**Ospenovka**	**2.82**	**279**	⇑*iP*	**Pn**	**06 59 16.4**	**+1.9**
USP				⇑*iS*	**Sb**	**06 59 52.3**	**-2.1**
AAK	**Ala-Archa**	**2.82**	**266**	Pn	**Pn**	**06 59 15.6**	**+0.9**
AAK				Sn	**Sb**	**06 59 52.6**	**-2.0**
UCH	**Uchtor**	**2.88**	**258**	⇑*iP*	**Pn**	**06 59 17.4**	**+1.7**
UCH				⇑*iS*	**Sb**	**06 59 53.8**	**-2.8**

IDC 25 07:00:26.3±2.4, 17°15S×173°56W, h0km, mb3.7/5, mbtmp3.7/5, MS2.9/2, Error ellipse: s-maj=151.3km s-min=24.8km az=149.0

ISC 25 07:00:32.0±2.6, 17°0S±0°9×173°7W±0°6, h35km, n7, σ0§63/6, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.77**	**110**	LR	LR	07 07 04.5	
comp=Z,45nm,21.4s,baz=282,slow=29							
WRA	**Warramunga Arr**	**49.24**	**258**	P	**P**	**07 09 17.3**	**-0.2**
0.3nm,0.4s,baz=97,slow=6.7,SNR=6.7							
0.3nm,0.4s							
ASAR	**Alice Springs**	**49.37**	**253**	P	**P**	**07 09 18.3**	**-0.2**
1.4nm,0.6s,baz=88,slow=8.6,SNR=18							
ASAR				PcP	**PcP**	**07 10 41.5**	**+0.8**
0.4nm,0.7s,baz=88,slow=4.2,SNR=1.4							
1.4nm,0.6s							
GUMO	**Guam**	**51.02**	**304**	LR	LR	07 27 53.7	
comp=Z,19nm,21.8s,baz=68,slow=32							
NVAR	**Mina Array Bea**	**75.72**	**42**	P	**P**	**07 12 14.6**	**+0.2**
0.5nm,0.8s,baz=223,slow=7.1,SNR=4.1							
0.5nm,0.8s							
PDAR	**Pinedale Array**	**83.66**	**42**	P	**P**	**07 12 56.8**	**-0.7**
0.6nm,0.7s,baz=214,slow=4.1,SNR=6.7							
0.6nm,0.7s							
ILAR	**Eielson Array**	**84.10**	**11**	P	**P**	**07 12 59.0**	**+0.2**
0.4nm,0.9s,baz=193,slow=4.7,SNR=4.2							
0.4nm,0.9s							

SSNC 25 07:09:46.8±1.6, 19°36N×73°72W, h8km±11km, MD2.8, ML2.6, MW2.6
OSPL 25 07:09:48.1±4.2, 19°47N×73°79W, h0km±23km, ML2.5

ISC 25 07:09:46.1±1.1, 19°39N±0°07×73°79W±0°05, h32km±13km, n19, σ1§29/36, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.88**	**332**	*eP*	**Pb**	**07 10 03.2**	**+0.3**
MASC				*eS*	**Sn**	**07 10 13.8**	**-0.2**
MASC				IAML		07 10 15.0	
comp=N,107nm,0.1s							
MASC				IAML		07 10 15.4	
comp=E,196nm,0.2s							
MASC	**Masc**	**0.88**	**332**	*i P*	**Pb**	**07 10 03.3**	**+0.3**
MASC				*eS*	**Sb**	**07 10 13.6**	**-0.9**
MASC				IAML		07 10 16.0	
comp=Z,88nm,0.9s							
QMBU	**Quimbuelo**	**1.25**	**310**	*eP*	**Pn**	**07 10 08.1**	**+0.7**
QMBU				*eS*	**Sn**	**07 10 22.3**	**-0.9**
QMBU				IAML		07 10 25.7	
comp=E,106nm,0.3s							
QMBU				IAML		07 10 26.3	
comp=N,160nm,0.3s							
GTBY	**Guantanamo Bay**	**1.35**	**293**	*eP*	**Pb**	**07 10 10.7**	**-0.2**
GTBY				*eS*	**Sb**	**07 10 27.4**	**-0.5**
GTBY				IAML		07 10 31.6	
comp=N,71nm,0.2s							
GTBY				IAML		07 10 31.7	
comp=N,200nm,0.

LOBH				IAML			07 11 11.9
	comp=Z,41nm,1.1s						
HLGC	**Holguin**	**2.60**	**305**	*e*P		**Pb**	**07 10 30.8 -1.3**
HLGC				*e*S		**Sb**	**07 11 05.7 +2.0**
HLGC				IAML			07 11 08.5
	comp=E,17nm,0.3s						
HLGC				IAML			07 11 08.7
	comp=N,14nm,0.1s						
LOVI	**El Cajuil, Ovi**	**2.79**	**124**	*i* P		**Pb**	**07 10 34.8 -0.6**
LMGC	**Las Mercedes**	**3.10**	**283**	*e*P		**Pn**	**07 10 33.8 +0.9**
LMGC				*i* S		**Sn**	**07 11 07.5 -1.3**
LMGC				IAML			07 11 09.1
	comp=N,27nm,0.1s						
LMGC				IAML			07 11 10.4
	comp=E,21nm,0.0s						
CCCC	**Cccc**	**4.14**	**296**	*e*P		**Pn**	**07 10 46.2 -1.0**
CCCC				*e*S		**Sn**	**07 11 30.0 -4.6**
CCCC				IAML			07 11 34.6
	comp=N,2.8nm,0.3s						
CCCC				IAML			07 11 34.6
	comp=E,5.1nm,0.3s						

*THE **25** 07:13:26.9, 35°N±5°×2°7E±°, h0km±11km, M3.3/10, MLh3.3/10*
*ATH **25** 07:13:26.8, 35°28N×27°17E, h3km±1km, ML3.4/6, Manual Solution by S.Koutrakis First location: 2019/10/25 07:14:46, This location: 2019/10/25 07:56:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*ISK **25** 07:13:26.2, 35°30N×27°18E, h1km, ML3.5/24*
*AFAD **25** 07:13:28.7, 35°43N×27°08E, h21km±1km, ML3.2*

ISC 25 07:13:26.9±1.4, 35°28N±0°05×27°19E±0°04, h4km±10km, n52, σ0°62/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.27**	**356**	Pg	**Pg**	**07 13 32.2**	**-0.1**
KARP				Sg	**Sg**	**07 13 36.4**	**+0.6**
KARP	**Karpathos**	**0.27**	**356**	P	**Pg**	**07 13 32.2**	**-0.1**
KARP				S	**Sg**	**07 13 36.7**	**+0.9**
KARP	**Karpathos**	**0.27**	**356**	P	**Pg**	**07 13 32.2**	**-0.1**
KARP				S	**Sg**	**07 13 35.7**	**-0.1**
ZKR	**Zakros**	**0.81**	**259**	Pg	**Pg**	**07 13 42.1**	**-0.4**
ZKR				Sg	**Sb**	**07 13 55.0**	**+0.1**
ZKR	**Zakros**	**0.81**	**259**	P	**Pg**	**07 13 42.4**	**-0.1**
ZKR	**Zakros**	**0.81**	**259**	P	**Pg**	**07 13 42.0**	**-0.5**
ZKR				S	**Sg**	**07 13 53.0**	**0.0**
ARG	**Arkhangelos**	**1.21**	**39**	Pn	**Pg**	**07 13 49.3**	**-0.8**
ARG				Sn	**Sn**	**07 14 07.3**	**-0.2**
ARG	**Arkhangelos**	**1.21**	**39**	P	**Pb**	**07 13 50.0**	**-0.4**
ARG				S	**Sb**	**07 14 06.3**	**-0.2**
ARG	**Arkhangelos**	**1.21**	**39**	P	**Pb**	**07 13 50.2**	**-0.2**
ARG				S	**Sb**	**07 14 05.7**	**-0.8**
NPS	**Neapolis**	**1.29**	**270**	P	**Pg**	**07 13 51.3**	**-0.3**
NPS	**Neapolis**	**1.29**	**270**	P	**Pg**	**07 13 51.3**	**-0.3**
DAT	**Datca**	**1.48**	**12**	Pn	**Pn**	**07 13 54.5**	**-0.1**
DAT	**Datca**	**1.48**	**12**	*i* IAML		07 14 17.0	
	comp=N,501nm,0.4s						
DAT				*i* IAML		07 14 18.0	
	comp=E,378nm,0.6s						
DAT	**Datca**	**1.48**	**12**	P	**Pn**	**07 13 53.7**	**-0.8**
DAT				S	**Sn**	**07 14 15.3**	**+0.8**
TURN	**Turunc**	**1.73**	**29**	Pn	**Pn**	**07 13 57.8**	**+0.1**
THERA	**Ancient Thera,**	**1.77**	**309**	P	**Pn**	**07 13 58.1**	**-0.2**
THERA	**Ancient Thera,**	**1.77**	**309**	P	**Pn**	**07 13 57.7**	**-0.6**
BODT	**Bodrum**	**1.79**	**3**	Pn	**Pn**	**07 13 58.8**	**+0.2**
BODT	**Bodrum**	**1.79**	**3**	P	**Pn**	**07 13 59.0**	**+0.4**
THR8	**Santorini-Mono**	**1.79**	**310**	P	**Pn**	**07 13 58.3**	**-0.3**
THR9	**Santorini-Faro**	**1.84**	**307**	P	**Pn**	**07 13 59.2**	**-0.1**
SNT5	**Nea Kammeni, S**	**1.84**	**308**	P	**Pn**	**07 13 58.9**	**-0.4**
THR3	**Thira Island,**	**1.84**	**308**	P	**Pn**	**07 13 59.8**	**+0.5**
YKAV	**Yalikavak-Bodr**	**1.85**	**2**	Pn	**Pn**	**07 13 59.7**	**+0.3**
IDI	**Anoyia**	**1.88**	**271**	Pn	**Pn**	**07 14 00.5**	**+0.6**
IDI	**Anoyia**	**1.88**	**271**	P	**Pn**	**07 14 00.3**	**+0.4**
IDI	**Anoyia**	**1.88**	**271**	P	**Pn**	**07 14 00.2**	**+0.3**
IDI				S	**Sn**	**07 14 23.9**	**-0.2**
THR5	**Thira Island,**	**1.88**	**308**	P	**Pn**	**07 13 59.7**	**-0.2**
DALY	**Dalyan (Mula)**	**1.94**	**37**	Pn	**Pn**	**07 14 01.1**	**+0.4**
DALY				Sn	**Sb**	**07 14 26.5**	**-1.0**
YER	**Yerkesik**	**2.06**	**25**	Pn	**Pn**	**07 14 02.8**	**+0.4**
MLSB	**Milas**	**2.07**	**13**	Pn	**Pn**	**07 14 02.8**	**+0.3**
SABU	**Mula-Dalaman**	**2.11**	**43**	*i* IAML		07 14 39.0	
	comp=N,231nm,0.5s						
KSL	**Kastellorizon**	**2.14**	**65**	P	**Pn**	**07 14 03.4**	**0.0**
KSL	**Kastellorizon**	**2.14**	**65**	P	**Pn**	**07 14 03.7**	**+0.3**
MULA	**Mugla, Merkez-**	**2.18**	**25**	*i* IAML		07 14 39.0	
	comp=N,152nm,0.9s						
MULA				*i* IAML		07 14 39.0	
	comp=E,169nm,0.8s						
AKAS	**Kas**	**2.19**	**63**	Pn	**Pn**	**07 14 04.6**	**+0.4**
CAME	**Cameli-Denizli**	**2.39**	**45**	Pn	**Pn**	**07 14 07.5**	**+0.5**
GCAM	**G?zelcaml?**	**2.42**	**1**	Pn	**Pn**	**07 14 08.2**	**+0.9**
AYDN	**Tasoluk**	**2.44**	**13**	*i* IAML		07 14 47.0	
	comp=E,121nm,0.9s						
SMG	**Samos**	**2.44**	**353**	P	**Pn**	**07 14 06.9**	**-0.8**
GVD	**Gavdhos**	**2.58**	**261**	Pn	**Pn**	**07 14 10.6**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.59**	**32**	*i* IAML		07 14 51.0	
	comp=E,172nm,0.9s						
TAVA				*i* IAML		07 14 52.0	
	comp=N,155nm,0.7s						
ELL	**Elmali**	**2.65**	**56**	Pn	**Pn**	**07 14 11.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.73**	**12**	Pn	**Pn**	**07 14 12.6**	**+1.0**
APMY	**Acipayam-Deniz**	**2.78**	**37**	Pn	**Pn**	**07 14 13.2**	**+0.9**
NAZL	**Nazilli-Aydin**	**2.83**	**18**	Pn	**Pn**	**07 14 14.1**	**+1.2**
ODEM	**Odemis-Izmir**	**3.08**	**13**	Pn	**Pn**	**07 14 17.5**	**+1.1**
KORT	**Korkueli**	**3.09**	**55**	Pn	**Pn**	**07 14 17.8**	**+1.2**
URLA	**Izmir**	**3.12**	**351**	Pn	**Pn**	**07 14 17.9**	**+1.0**
CHOS	**Chios island**	**3.23**	**344**	Pn	**Pn**	**07 14 19.8**	**+1.2**
KULA	**Kula-Manisa**	**3.44**	**20**	Pn	**Pn**	**07 14 22.2**	**+0.8**
VLI	**Veliai**	**3.73**	**294**	P	**Pn**	**07 14 25.5**	**+0.2**

*GCMT **25** 07:15:36.5±0.5, 5°75S±0°04×110°76E±0°06, h541km±4km, MW5.2/48, Moment Tensor Solution. s48,c57; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-4.69±.40; $M_{\theta\theta}$=3.53±.61; $M_{\phi\phi}$=1.16±.83; $M_{r\theta}$=2.47±.70; $M_{\theta\phi}$=-2.28±.61; $M_{\phi r}$=-6.55±.79; Best double couple: M_0=8.43500×10^{16} NP1:ϕ_s=103.00000°, δ23.00000°, λ-135.00000°. NP2: ϕ_s=330.00000°, δ74.00000°, λ-73.00000°. Principal axes: T 7.8740, Plg27.0000°, Azm47.0000°; N 1.1230, Plg16.0000°, Azm146.0000°; P -8.9970, Plg58.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*IDC **25** 07:15:37.6±0.4, 5°70S×110°73E, h537km±4km, mb4.1/35, mbtmp5.0/39 Error ellipse: s-maj=9.0km s-min=6.1km az=70.0*
*NEIC **25** 07:15:38.5±1.6, 5°71S±0°09×110°76E±0°09, h548km±8km, mb4.8/52, Error ellipse: s-maj=14.2km s-min=12.3km az=52.0*
*DJA **25** 07:15:38.0±0.1, 6°S±2°×11°1E±°, h537km±1km, M4.7/78, mb4.7/78, mB5.2/23, MLv5.0/39, Mw(mB)4.7/23, MwMwp5.6/2, Mwp5.7/2*

ISC 25 07:15:37.7±0.3, 5°76S±0°04×110°73E±0°04, h543km±3km, h544km:pP-P, n389, σ1°16/456, mb4.7/79, 12C-17D, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRI	**Semarang**	**1.31**	**193**	P	**P**	**07 16 44.5**	**+0.4**
SMRI	**Semarang**	**1.31**	**193**	P	**P**	**07 16 44.8**	**+0.6**
SMRI	**Semarang**	**1.31**	**193**	P	**P**	**07 16 44.7**	**+0.6**
SMRI				S	**S**	**07 17 38.8**	**+0.7**
TBJI	**Tambak Boyo**	**1.53**	**133**	P	**P**	**07 16 45.7**	**+0.9**
TBJI				S	**S**	**07 17 39.8**	**+0.5**
NGJI	**Ngawi**	**1.76**	**156**	P	**P**	**07 16 47.2**	**+1.5**
NGJI				S	**S**	**07 17 41.9**	**+1.0**
BWJI	**Bawean**	**1.92**	**93**	P	**P**	**07 16 46.2**	**-0.2**
BWJI				S	**S**	**07 17 41.5**	**-0.6**
WOJI	**Wonogiri, Jawa**	**2.07**	**175**	P	**P**	**07 16 46.3**	**-0.8**
WOJI				S	**S**	**07 17 41.3**	**-2.1**
GRJI	**Gresik**	**2.08**	**123**	P	**P**	**07 16 48.0**	**+0.9**
GRJI				S	**S**	**07 17 43.7**	**+0.2**
YOGI	**Yogyakarta**	**2.09**	**192**	P	**P**	**07 16 46.5**	**-0.7**
YOGI				S	**S**	**07 17 40.7**	**-2.9**
UGM	**Wanagama**	**2.15**	**185**		**P**	**07 16 46.8**	**-0.6**
UGM	**Wanagama**	**2.15**	**185**	P	**P**	**07 16 47.0**	**-0.5**
UGM	**Wanagama**	**2.15**	**185**	S	**S**	**07 17 42.4**	**-1.8**
UGM	**Wanagama**	**2.15**	**185**	P	**P**	**07 16 47.0**	**-0.5**
UGM				S	**S**	**07 17 41.7**	**-2.5**
KPJI	**Karang Pucung**	**2.37**	**229**	P	**P**	**07 16 48.5**	**0.0**
KPJI				S	**S**	**07 17 45.1**	**-1.0**
PCJI	**Pacitan**	**2.46**	**170**	P	**P**	**07 16 48.6**	**-0.4**
PCJI				S	**S**	**07 17 43.8**	**-3.2**
JCJI	**Jatiwangi**	**2.55**	**253**	P	**P**	**07 16 49.5**	**0.0**
JCJI				S	**S**	**07 17 47.9**	**+0.1**
LEM	**Lembang**	**3.27**	**251**	P	**P**	**07 16 54.1**	**+0.1**
	142nm,0.6s,baz=60,slow=7.3,SNR=9.9						
LEM				S	**S**	**07 17 55.0**	**-1.2**
	439nm,0.8s,baz=354,slow=17,SNR=29						
LEM	**Lembang**	**3.27**	**251**	P	**P**	**07 16 54.3**	**+0.2**
LEM				S	**S**	**07 17 53.8**	**-2.4**
BLJI	**Banyuglugur**	**3.46**	**125**	P	**P**	**07 16 55.8**	**+0.6**
KMMI	**Kalianget**	**3.46**	**112**	P	**P**	**07 16 56.3**	**+1.1**
BBJI	**Bungbulang**	**3.50**	**241**	P	**P**	**07 16 54.4**	**-1.1**
CNJI	**Cibinong**	**3.89**	**247**	P	**P**	**07 16 56.9**	**-1.3**
ABJI	**Asem Bagus**	**4.03**	**120**	P	**P**	**07 17 00.5**	**+1.3**
DBJI	**Dramaga**	**4.03**	**259**	P	**P**	**07 16 58.8**	**-0.5**
TPI	**Tanjungpandan**	**4.28**	**314**	P	**P**	**07 17 01.7**	**+0.5**
SKJI	**Sukabumi**	**4.33**	**253**	P	**P**	**07 17 00.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.33**	**129**		**P**	**07 17 01.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.33**	**129**	P	**P**	**07 17 01.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.33**	**129**	S	**S**	**07 18 09.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**4.33**	**129**	P	**P**	**07 17 01.0**	**-0.7**
BBKI	**Banjar Baru**	**4.69**	**61**	P	**P**	**07 17 05.4**	**+0.8**
SRBI	**Singaraja**	**5.02**	**118**	P	**P**	**07 17 08.2**	**+1.0**
CGJI	**Cibinong**	**5.08**	**260**	P	**P**	**07 17 06.4**	**-1.4**
DNP	**Denpasar**	**5.31**	**123**	P	**P**	**07 17 10.1**	**+0.3**
PPBI	**Pangkal Pinang**	**5.81**	**308**	P	**P**	**07 17 15.2**	**+0.9**
STKI	**Sintang**	**5.83**	**7**	P	**P**	**07 17 16.1**	**+1.6**
	1.2nm347nm,0.8s						
KLI	**Kotabumi**	**5.91**	**278**	P	**P**	**07 17 15.3**	**+0.1**
	1.2nm191nm,0.5s						
KASI	**Kota Agung**	**6.21**	**272**	P	**P**	**07 17 17.1**	**-0.8**
	2.0nm3μm316nm,0.9s						
MTKI	**Muara Teweh, K**	**6.34**	**41**	P	**P**	**07 17 20.8**	**+1.6**
	1.7nm119nm,0.5s						
MDSI	**Maura Dua**	**6.65**	**281**	P	**P**	**07 17 22.4**	**+0.4**
	0.3nm68nm,1.0s						
LWLI	**Liwa**	**6.68**	**276**	P	**P**	**07 17 22.0**	**-0.5**
	266nm,0.7s						
TWSI	**Taliwang, Sumb**	**6.78**	**116**	P	**P**	**07 17 22.7**	**-0.6**
	1.5nm132nm,0.9s						
XMI	**Christmas Isla**	**6.83**	**227**	P	**P**	**07 17 23.6**	**-0.2**
KSM	**Kuching**	**7.20**	**357**		**P**	**07 17 28.4**	**+1.0**
KSM	**Kuching**	**7.20**	**357**	P	**P**	**07 17 28.5**	**+1.1**
LHSI	**Lahat**	**7.43**	**285**	P	**P**	**07 17 30.0**	**+0.4**
	0.6nm146nm,1.0s						
BKB	**Balikpapan**	**7.61**	**54**	P	**P**	**07 17 34.5**	**+3.1**
BKB	**Balikpapan**	**7.61**	**54**	P	**P**	**07 17 33.6**	**+2.2**
BKB	**Balikpapan**	**7.61**	**54**	P	**P**	**07 17 35.2**	**+3.8**
	404nm,1.0s						
PLAI	**Plampang**	**7.63**	**114**	P	**P**	**07 17 30.6**	**-1.0**
PLAI	**Plampang**	**7.63**	**114**	P	**P**	**07 17 30.1**	**-1.5**
	1.1nm87nm,0.8s						
MNAI	**Manna**	**7.87**	**280**		**P**	**07 17 34.1**	**+0.1**
MNAI	**Manna**	**7.87**	**280**	P	**P**	**07 17 34.1**	**+0.1**
SBUM	**Sibu**	**8.29**	**10**		**P**	**07 17 39.0**	**+0.8**
SBUM	**Sibu**	**8.29**	**10**	P	**P**	**07 17 39.8**	**+1.6**
KSI	**Kapahiang**	**8.37**	**284**	P	**P**	**07 17 39.5**	**+0.4**
	189nm,0.5s						
MASI	**Maura Aman, Be**	**8.85**	**287**	P	**P**	**07 17 44.7**	**+0.8**
	272nm,0.9s						
KAPI	**Kappang**	**9.01**	**86**		**P**	**07 17 45.8**	**+0.3**
KAPI	**Kappang**	**9.01**	**86**	P	**P**	**07 17 45.4**	**-0.1**
	17nm,0.3s,baz=235,slow=6.6,SNR=10						
KAPI				S	**S**	**07 19 28.5**	**-1.9**
	10nm,0.2s,baz=136,slow=18,SNR=5.2						
KAPI	**Kappang**	**9.01**	**86**	P	**P**	**07 17 45.7**	**+0.3**
KAPI	**Kappang**	**9.01**	**86**	P	**P**	**07 17 45.8**	**+0.3**
TPRI	**Tanjung Pinang**	**9.07**	**317**	P	**P**	**07 17 47.1**	**+1.0**
	80nm,0.4s						
SPSI	**Sidrap Palu**	**9.18**	**79**	P	**P**	**07 17 48.9**	**+1.7**
BKSI	**Bulukumba**	**9.36**	**88**	P	**P**	**07 17 49.8**	**+0.8**
	38nm,0.6s						
WBSI	**Waikabubak, Su**	**9.41**	**115**	P	**P**	**07 17 48.2**	**-1.4**
	88nm,0.5s						
BNSI	**Bone**	**9.44**	**82**	P	**P**	**07 17 51.6**	**+1.8**
	51nm,1.0s						
BSSI	**Bau Bau, Buton**	**9.72**	**93**	P	**P**	**07 17 52.7**	**0.0**
	70nm,1.0s						
BTDF	**Bukit Timah Da**	**9.91**	**315**	P	**P**	**07 17 55.5**	**+0.8**
MYKOM	**Kota Tinggi**	**10.17**	**317**		**P**	**07 17 57.9**	**+0.5**
MYKOM	**Kota Tinggi**	**10.17**	**317**	P	**P**	**07 17 57.9**	**+0.5**
TOLI2	**Tolitoli**	**12.14**	**56**		**P**	**07 18 18.2**	**+0.4**
TOLI2	**Tolitoli**	**12.14**	**56**	P	**P**	**07 18 18.9**	**+1.1**
MRSI	**Marisa**	**12.79**	**61**	P	**P**	**07 18 24.9**	**+0.3**
	3μm41nm,0.6s						
LUWI	**Luwuk**	**12.90**	**69**	P	**P**	**07 18 27.6**	**+1.9**
LUWI	**Luwuk**	**12.90**	**69**	P	**P**	**07 18 26.4**	**+0.7**
	135nm,1.0s						
MYLDM	**Lahad Datu**	**13.35**	**36**		**P**	**07 18 33.2**	**+2.9**
MYLDM	**Lahad Datu**	**13.35**	**36**	P	**P**	**07 18 33.2**	**+2.9**
BATI	**Baumata**	**13.55**	**110**	S	**S**	**07 20 52.3**	**-4.0**
	114nm,0.4s,baz=221,slow=12,SNR=8.6						
IPM	**Ipoh**	**14.05**	**316**	P	**P**	**07 18 37.3**	**-0.3**
IPM	**Ipoh**	**14.05**	**316**	P	**P**	**07 18 38.2**	**+0.6**
RPSI	**Rantau Prapat**	**14.47**	**305**	P	**P**	**07 18 41.4**	**-0.6**
PSI	**Prapat**	**14.54**	**306**	P	**P**	**07 18 41.4**	**-1.3**
	14nm,0.4s,baz=165,slow=7.9,SNR=11						
PSI				S	**S**	**07 21 15.0**	**-0.3**
	3.5nm,0.5s,baz=68,slow=22,SNR=8.0						
KULM	**Kulim**	**14.89**	**317**		**P**	**07 18 45.8**	**-0.5**
KULM	**Kulim**	**14.89**	**317**	P	**P**	**07 18 46.1**	**-0.2**
SANI	**Sanana**	**15.66**	**77**	P	**P**	**07 18 55.8**	**+1.6**
SANI	**Sanana**	**15.66**	**77**	P	**P**	**07 18 54.5**	**+0.3**
	68nm,1.1s						
KCSI	**Kotacane, Aceh**	**15.89**	**305**	P	**P**	**07 18 55.5**	**-1.0**
	34nm,0.7s						
GIRL	**Giralia**	**17.12**	**169**	P	**P**	**07 19 09.2**	**+1.4**
MLSI	**Meulaboh, Aceh**	**17.43**	**305**	P	**P**	**07 19 11.3**	**+0.5**
SGSI	**Sangihe**	**17.51**	**58**	P	**P**	**07 19 13.4**	**+1.8**
LHMI	**Lhok Sumawe**	**17.56**	**308**		**P**	**07 19 12.8**	**+0.8**
LHMI	**Lhok Sumawe**	**17.56**	**308**	P	**P**	**07 19 13.2**	**+1.1**
LHMI	**Lhok Sumawe**	**17.56**	**308**	P	**P**	**07 19 12.7**	**+0.6**
MBWA	**Marble Bar**	**17.62**	**151**	P	**P**	**07 19 12.6**	**+0.1**
MBWA	**Marble Bar**	**17.62**	**151**	P	**P**	**07 19 13.6**	**+1.1**
MBWA	**Marble Bar**	**17.62**	**151**	P	**P**	**07 19 13.4**	**+0.9**
DLV	**Lat**	**17.73**	**353**		**P**	**07 19 15.5**	**+1.8**
DLV	**Lat**	**17.73**	**353**	P	**P**	**07 19 16.1**	**+2.4**
TNTI	**Ternate**	**17.84**	**69**		**P**	**07 19 14.8**	**+0.2**
TNTI	**Ternate**	**17.84**	**69**	P	**P**	**07 19 16.5**	**+1.9**
TNTI	**Ternate**	**17.84**	**69**	P	**P**	**07 19 15.0**	**+0.4**
	4μm136nm,1.7s						
PSA00	**Pilbara Seismi**	**18.03**	**152**	P	**P**	**07 19 16.4**	**+0.2**
PSA00	**Pilbara Seismi**	**18.03**	**152**	P	**P**	**07 19 17.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.04**	**131**	P	**P**	**07 19 25.6**	**+0.1**
	23nm,0.6s,baz=334,slow=8.3,SNR=52						
FITZ				S	**S**	**07 22 29.1**	**-1.5**
	11nm,1.0s,baz=343,slow=14,SNR=5.9						
KNRA	**Kununurra**	**20.26**	**121**	P	**P**	**07 19 36.2**	**-0.4**
AUDHS	**Darwin High Sc**	**20.92**	**110**	P	**P**	**07 19 42.8**	**+0.2**
SWI	**Sorong**	**21.06**	**77**	P	**P**	**07 19 44.9**	**+1.0**
	1μm23nm,0.4s						
FAKI	**Fak Fak**	**21.64**	**83**	P	**P**	**07 19 48.8**	**-0.3**
FAKI	**Fak Fak**	**21.64**	**83**	P	**P**	**07 19 52.2**	**+3.1**
FAKI	**Fak Fak**	**21.64**	**83**	P	**P**	**07 19 50.4**	**+1.3**
	18nm,1.0s						
TGY	**Tagaytay City**	**22.18**	**27**	P	**P**	**07 19 54.4**	**+0.5**
	112nm,0.3s,baz=163,slow=14,SNR=4.1						
SRPI	**Serui, Papua**	**25.74**	**82**	P	**P**	**07 20 26.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.72**	**334**	P	**P**	**07 20 35.6**	**+1.5**
	3.3nm,0.3s,baz=168,slow=8.0,SNR=25						
CMAR				PcP	**PcP**	**07 23 40.9**	**+1.2**
	6.8nm,0.7s,baz=191,slow=3.0,SNR=13						
CMAR				S	**S**	**07 24 28.5**	**-3.4**
	1.2nm,0.4s,baz=148,slow=11,SNR=1.6						
	3.3nm,0.3s						
WB0	**Warramunga Arr**	**26.90**	**123**	P	**P**	**07 20 35.1**	**-0.6**
WRA	**Warramunga Arr**	**26.93**	**124**	P	**P**	**07 20 36.2**	**+0.2**
	14nm,0.6s,baz=307,slow=8.8,SNR=183						
WRA				PcP	**PcP**	**07 23 40.2**	**+0.1**
	6.0nm,0.7s,baz=297,slow=2.1,SNR=15						
WRA				S	**S**	**07 24 32.4**	**-3.0**
	9.3nm,1.0s,baz=295,slow=17,SNR=10						
WRA				ScP	**ScP**	**07 26 29.1**	**-0.2**
	3.0nm,0.6s,baz=305,slow=2.9,SNR=10						
	14nm,0.6s						
WRAB	**Tennant Creek**	**26.94**	**124**	P	**P**	**07 20 36.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**27.70**	**168**	P	**P**	**07 20 43.2**	**+0.6**
SLVN	**Son La**	**27.75**	**346**	P	**P**	**07 20 44.4**	**+1.3**
SLVN	**Son La**	**27.75**	**346**	P	**P**	**07 20 44.4**	**+1.3**
AUALC	**St Philip's Co**	**28.54**	**131**	P	**P**	**07 20 50.8**	**+0.8**
AS31	**Alice Springs**	**28.54**	**131**	P	**P**	**07 20 49.8**	**-0.3**
ASAR	**Alice Springs**	**28.54**	**131**	P	**P**	**07 20 50.2**	**+0.2**
ASAR	**Alice Springs**	**28.54**	**131**	P	**P**	**07 20 50.5**	**+0.4**
	5.3nm,0.3s,baz=306,slow=8.0,SNR=125						
ASAR				PcP	**PcP**	**07 23 44.7**	**+0.5**
	6.0nm,0.7s,baz=322,slow=2.1,SNR=20						
ASAR				S	**S**	**07 24 57.5**	**-2.8**
	5.3nm,0.8s,baz=297,slow=15,SNR=14						
ASAR				ScP	**ScP**	**07 26 34.8**	**+0.5**
	3.9nm,0.7s,baz=309,slow=3.0,SNR=10						
	5.3nm,0.3s						
FORT	**Forrest**	**29.74**	**149**	P	**P**	**07 21 00.6**	**+0.2**
FORT				IAmb	IAmb	07 21 58.4	
	comp=Z,22nm,1.1s						
TPUB	**Ta-pu**	**30.46**	**18**	P	**P**	**07 21 07.7**	**+1.1**
YULB	**Yu-li**	**30.76**	**19**	P	**P**	**07 21 09.2**	**0.0**
YULB	**Yu-li**	**30.76**	**19**	P	**P**	**07 21 09.3**	**+0.1**
SSLB	**Suanglung**	**31.02**	**18**	P	**P**	**07 21 12.2**	**+0.8**
SSLB	**Suanglung**	**31.02**	**18**	P	**P**	**07 21 12.6**	**+1.2**
NACB	**Ninganchiao**	**31.58**	**19**	P	**P**	**07 21 16.0**	**-0.2**
NACB				IAmb	IAmb	07 21 19.7	
	comp=Z,25nm,0.6s						
QIS	**Mount Isa**	**31.65**	**120**	P	**P**	**07 21 17.4**	**+0.5**
KMI	**Kunming**	**31.66**	**346**	P	**P**	**07 21 20.0**	**+2.8**
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
YHNB	**Yeheng**	**31.97**	**19**	P	**P**	**07 21 19.7**	**+0.1**
YHNB				IAmb	IAmb	07 21 29.1	
	comp=Z,47nm,1.0s						
YHNB	**Yeheng**	**31.97**	**19**	P	**P**	**07 21 20.4**	**+0.8**
GYA	**Guiyang**	**32.27**	**353**	⇑P	**P**	**07 21 23.8**	**+1.7**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
TATO	**Taipei**	**32.29**	**18**	P	**P**	**07 21 22.2**	**-0.1**
TATO	**Taipei**	**32.29**	**18**	P	**P**	**07 21 22.9**	**+0.7**
YOJ	**Yonaguni jima**	**32.34**	**21**	P	**P**	**07 21 23.2**	**+0.7**
PALK	**Pallekele**	**32.64**	**293**	P	**P**	**07 21 24.6**	**-0.7**
PALK				IAmb	IAmb	07 21 27.0	
	comp=Z,32nm,1.1s						
PALK	**Pallekele**	**32.64**	**293**	P	**P**	**07 21 24.7**	**-0.7**
	comp=Z,25nm,1.1s,baz=102,slow=7.4,SNR=6.3						
PALK				PcP	**PcP**	**07 23 55.6**	**+0.3**
	comp=Z,7.4nm,0.7s,baz=101,slow=2.6,SNR=4.2						
	comp=Z,25nm,1.1s						
PALK	**Pallekele**	**32.64**	**293**	P	**P**	**07 21 24.2**	**-1.2**
COEN	**Coen**	**32.95**	**107**	P	**P**	**07 21 27.9**	**-0.2**
COEN				IAmb	IAmb	07 21 28.8	
	comp=Z,14nm,0.6s						
MTSU	**Mount Surprise**	**35.01**	**114**	P	**P**	**07 21 46.2**	**+0.9**
ENH	**Enshi**	**35.84**	**358**	P	**P**	**07 21 53.4**	**+1.4**
INKA	**Innaminka**	**35.92**	**131**	P	**P**	**07 21 52.6**	**-0.1**
SHL	**Shillong**	**36.12**	**330**	P	**P**	**07 21 54.4**	**-0.2**
SHL	**Shillong**	**36.12**	**330**	P	**P**	**07 21 53.5**	**-1.1**
	SNR=6.5						
WHN	**Wuhan**	**36.26**	**5**	P	**P**	**07 21 56.5**	**+1.1**
WHN				S	**S**	**07 26 56.0**	**-1.5**
WHN				pmax	pmax		
	comp=Z,56nm,0.6s						
JOW	**Kunigami**	**36.59**	**27**	P	**P**	**07 21 59.2**	**+1.1**
QLP	**Quilpie**	**38.06**	**127**	P	**P**	**07 22 11.7**	**+1.4**
KAAM	**Kaadhehdhoo**	**38.18**	**278**	P	**P**	**07 22 11.2**	**-0.2**
NJ2	**Nanjing**	**38.39**	**11**	*e*P	**P**	**07 22 14.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,28nm,0.7s						
STKA

ULN PcP **PcP** 07 25 06.0 +0.3
SONM Songino Array 53.50 356 P **P** 07 24 07.6 +0.1
comp=Z,2.6nm,0.7s,baz=178,slow=7.9,SNR=14
SONM PcP **PcP** 07 25 06.1 +0.4
comp=Z,5.8nm,0.7s,baz=168,slow=4.2,SNR=13
SONM ScP **ScP** 07 28 11.7 0.0
comp=Z,6.7nm,0.7s,baz=171,slow=4.7,SNR=19
comp=Z,2.6nm,0.7s
WMQ Urumqi 53.56 339 *e*P **P** 07 24 09.3 +1.3
KSH Kashi 55.31 328 P **P** 07 24 19.5 -0.9
KSH pmax pmax
comp=Z,14nm,0.8s
HILR Hailar Array B 55.65 7 P **P** 07 24 22.3 -0.1
comp=Z,3.9nm,0.6s,baz=187,slow=11,SNR=3.7
HILR PcP **PcP** 07 25 12.7 -1.2
comp=Z,1.4nm,0.3s,baz=182,slow=4.7,SNR=3.1
comp=Z,3.9nm,0.6s
TARG Taragay, Kyrgy 56.01 331 P **P** 07 24 25.7 +0.1
KBL Kabul 56.14 319 P **P** 07 24 25.1 -1.3
KBL Kabul 56.14 319 P **P** 07 24 25.4 -0.9
SHLS Shalkode 56.33 333 *e*P **P** 07 24 26.4 -1.0
UZB Uzynbulak 56.52 333 *e*P **P** 07 24 29.0 +0.3
SATY Saty 56.74 332 *e*P **P** 07 24 30.5 +0.3
JLN Jalan Bani Buh 57.37 301 P **P** 07 24 33.4 -1.4
TNSS Tian-Shan 57.41 331 *e*P **P** 07 24 35.2 0.0
MDOK Medeo 57.46 331 *e*P **P** 07 24 35.4 +0.2
HEH HeiHe 57.63 13 *e*P **P** 07 24 35.8 -0.2
HEH pmax pmax
comp=Z,21nm,0.8s
ZSN Zaisan 57.69 339 *e*P **P** 07 24 36.9 +0.4
TKM2 Tokmak 2 57.99 330 P **P** 07 24 39.1 +0.2
SNR=21
UCH Uchtor 58.03 329 P **P** 07 24 39.8 +0.4
SNR=14
MKAR Makanchi Array 58.08 337 P **P** 07 24 38.9 -0.2
MKAR Makanchi Array 58.08 337 P **P** 07 24 39.4 +0.2
comp=Z,8.0nm,0.3s,baz=150,slow=7.2,SNR=145
MKAR pP **pP** 07 26 25.6 0.0
comp=Z,2.7nm,0.8s,baz=152,slow=6.5,SNR=3.0
MKAR ScP **ScP** 07 28 31.8 +0.1
comp=Z,1.0nm,0.6s,baz=145,slow=7.7,SNR=2.6
comp=Z,8.0nm,0.3s
KBK Karagaybulak 58.12 329 P **P** 07 24 40.5 +0.8
SNR=14
GAR Garm 58.14 324 P **P** 07 24 38.2 -1.6
MHTO MHTO 58.19 299 P **P** 07 24 39.3 -1.0
SNR=8.9
DQM DQM 58.19 298 P **P** 07 24 39.9 -0.5
TDK Taldygorghan 58.24 334 *e*P **P** 07 24 40.6 +0.3
comp=Z,24nm,0.5s
AAK Ala-Archa 58.33 329 P **P** 07 24 40.5 -0.6
AAK Ala-Archa 58.33 329 P **P** 07 24 41.3 +0.2
comp=Z,7.4nm,0.6s,baz=154,slow=5.2,SNR=19
AAK ScP **ScP** 07 28 33.4 +0.2
comp=Z,3.3nm,0.7s,baz=146,slow=3.6,SNR=4.4
comp=Z,7.4nm,0.6s
AAK Ala-Archa 58.33 329 P **P** 07 24 41.7 +0.6
AAK Ala-Archa 58.33 329 P **P** 07 24 41.7 +0.6
SNR=11
AAK Ala-Archa 58.33 329 *i*P **P** 07 24 41.5 +0.4
SNR=13
AAK Ala-Archa 58.33 329 P **P** 07 24 41.6 +0.4
AAK PcP **PcP** 07 25 28.8 +0.9
WSAR Wadi Sarin 58.46 302 P **P** 07 24 41.8 -0.4
SNR=7.5
JMDO Jabal Madar 58.58 300 P **P** 07 24 41.9 -1.0
SIMJ Simiganj 58.70 322 P **P** 07 24 41.6 -2.1
SIMJ PcP **PcP** 07 25 26.8 +0.3
EKS2 Erkin-Say 58.72 329 P **P** 07 24 44.3 +0.7
SNR=16
USP Ospenovka 58.79 330 P **P** 07 24 44.0 0.0
SNR=9.5
SMDO Samad 58.88 301 P **P** 07 24 44.5 -0.7
SNR=5.9
BIDO Bidbid 58.99 302 P **P** 07 24 45.6 -0.1
SNR=13
SHAO Shalim 59.27 295 P **P** 07 24 47.3 -0.4
SHAO Shalim 59.27 295 *i*P **P** 07 24 47.1 -0.6
SNR=7.0
HOQ Hoqain 59.71 301 P **P** 07 24 50.2 -0.3
SNR=6.2
DMTO DMTO 59.79 294 P **P** 07 24 50.6 -0.5
SNR=5.4
DZA Taraz 60.17 327 *e*P **P** 07 24 53.5 +0.2
ARQ Araqi 60.29 301 P **P** 07 24 53.7 -0.7
SBV Sambava 60.32 258 P **P** 07 24 54.9 +0.2
IUG Iuzhnay 60.37 326 *e*P **P** 07 24 54.8 +0.1
RBK Rabkut 60.40 294 P **P** 07 24 55.0 -0.2
SNR=7.4
CASY Casey 60.42 180 P **P** 07 24 54.8 +0.4
CASY PcP **PcP** 07 25 32.9 +0.3
SOHO SOHO 60.57 302 P **P** 07 24 55.6 -0.7
SOHO SOHO 60.57 302 *i*P **P** 07 24 55.4 -0.8
SNR=14
CHM Chimkent 60.72 326 *e*P **P** 07 24 57.1 +0.2
KK31 Karatay Array 60.75 327 P **P** 07 24 56.0 -1.0
KKAR Karatay Array 60.75 327 P **P** 07 24 55.7 -1.4
DOK Doka 60.80 295 P **P** 07 24 56.9 -0.9
SNR=11
WHFO Wadi Hawf 60.92 294 P **P** 07 24 57.7 -1.0
SNR=6.1
UOSS Minazif 61.16 302 P **P** 07 24 59.0 -1.1
UOSS Minazif 61.16 302 P **P** 07 24 59.4 -0.7
UOSS Minazif 61.16 302 *i*P **P** 07 24 59.3 -0.7
SNR=12
HATD Hatta, Dubai 61.17 302 P **P** 07 25 00.0 -0.2
SNR=11
HATD Hatta, Dubai 61.17 302 *i*P **P** 07 24 59.9 -0.2
SNR=19
ASHO Ashiyiah 61.18 302 P **P** 07 24 59.7 -0.5
SNR=8.9
ASHO Ashiyiah 61.18 302 *i*P **P** 07 24 59.5 -0.8
SNR=26
ABTO Aybut 61.18 293 P **P** 07 24 59.6 -0.8
SNR=10
ALNE Al Ain 61.21 301 P **P** 07 25 00.4 -0.1
SNR=7.1
ALNE Al Ain 61.21 301 *i*P **P** 07 24 59.6 -0.8
SNR=7.0
MDH Madha 61.21 303 P **P** 07 24 59.0 -1.4
MDH Madha 61.21 303 *i*P **P** 07 24 58.5 -1.9
SNR=10
MSFE Esma-Masafi 61.35 303 *i*P **P** 07 25 00.6 -0.8
SNR=9.2
MASF Masafi 61.36 303 P **P** 07 25 01.3 -0.1
SNR=6.2
BANOM Banah 61.45 304 P **P** 07 25 01.4 -0.6
BANOM Banah 61.45 304 *i*P **P** 07 25 01.2 -0.8
SNR=7.6
FAQ Al Faqa, Dubai 61.60 302 P **P** 07 25 02.5 -0.4
SNR=15
FAQ Al Faqa, Dubai 61.60 302 *i*P **P** 07 25 02.2 -0.7
SNR=25
NAZ Nazwa, Dubai 61.63 302 P **P** 07 25 02.7 -0.4
SNR=6.9
NAZ Nazwa, Dubai 61.63 302 *i*P **P** 07 25 02.3 -0.9
SNR=10
ASUD Al Ashush, Dub 61.78 302 P **P** 07 25 03.8 -0.3
SNR=8.5
ASUD Al Ashush, Dub 61.78 302 *i*P **P** 07 25 03.7 -0.4
SNR=18
AJN Ajban 62.04 302 P **P** 07 25 04.9 -1.0
AJN Ajban 62.04 302 *i*P **P** 07 25 04.8 -1.0
SNR=9.6
KURBB Kurchatov Arra 62.65 338 P **P** 07 25 08.9 -0.3
comp=Z,7.9nm,0.6s,baz=154,slow=5.9,SNR=21
KURBB S **S** 07 32 49.1 -6.3
comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=4.9
comp=Z,7.9nm,0.6s
KURK Kurchatov 62.69 338 P **P** 07 25 09.2 -0.2
KURK Kurchatov 62.69 338 P **P** 07 25 09.4 -0.1
MZR Muzera 62.79 299 P **P** 07 25 10.1 -0.7
SNR=10.0
MZR Muzera 62.79 299 *i*P **P** 07 25 10.2 -0.5
SNR=15
ABPO Ambohimpanom 63.11 252 P **P** 07 25 12.8 -0.3
ABPO Ambohimpanom 63.11 252 P **P** 07 25 13.6 +0.5
ABPO PcP **PcP** 07 25 45.0 +0.2
ABPO sP **sP** 07 28 00.2 +0.1
ZAA0 Zalesovo Array 63.34 343 P **P** 07 25 12.9 -0.7
ZALV Zalesovo Beam 63.34 343 P **P** 07 25 13.1 -0.5
comp=Z,10.0nm,0.5s,baz=150,slow=4.6,SNR=50
ZALV pP **pP** 07 27 03.3 +0.7
comp=Z,9.1nm,1.0s,baz=152,slow=6.5,SNR=4.3
comp=Z,10.0nm,0.5s
VOI Vohitsoka 63.70 249 P **P** 07 25 16.8 +0.1

JRN Qarnain Island 63.99 301 P **P** 07 25 17.1 -1.3
DRV Dumont d'Urvil 64.08 167 P **P** 07 25 18.4 +0.3
DRV PcP **PcP** 07 25 47.6 0.0
BRZS Berezniki 64.55 334 *e*P **P** 07 25 21.6 +0.2
TRNA Turayna 65.32 300 P **P** 07 25 25.4 -1.3
THZ Tophouse 65.57 133 P **P** 07 25 28.2 +0.1
THZ IAmb IAmb 07 25 29.8
comp=Z,44nm,0.9s
SMRA Abu-Samra 65.66 300 P **P** 07 25 28.1 -0.8
SNR=6.7
SHMA Al-Shehemyia 65.91 301 P **P** 07 25 29.7 -0.7
SAKB Bahrain 66.31 301 P **P** 07 25 31.8 -1.1
BKZ Black Stump Fm 67.65 130 P **P** 07 25 41.1 +0.1
BKZ IAmb IAmb 07 25 42.0
comp=Z,38nm,0.8s
BVAR Borovoye Array 67.75 335 P **P** 07 25 40.8 -0.4
comp=Z,12nm,0.6s,baz=141,slow=8.6,SNR=51
BVAR pP **pP** 07 27 32.4 +0.1
comp=Z,6.9nm,0.8s,baz=132,slow=8.7,SNR=12
comp=Z,12nm,0.6s
BORK Borovoye 67.79 335 P **P** 07 25 41.0 -0.4
BORK PcP **PcP** 07 26 02.9 -0.5
BORK pP **pP** 07 27 33.3 +0.8
YAK Yakutsk 69.16 9 IAmb IAmb 07 25 50.1
comp=Z,24nm,0.7s
YAK Yakutsk 69.16 9 P **P** 07 25 48.1 -1.4
comp=Z,17nm,0.4s,baz=144,slow=0.4,SNR=5.1
comp=Z,17nm,0.4s
MAW Mawson 69.64 198 P **P** 07 25 53.3 +1.0
comp=Z,18nm,0.7s,baz=56,slow=6.0,SNR=66
comp=Z,18nm,0.7s
KBD Kabd 69.74 304 P **P** 07 25 53.0 -0.8
RAYN Ar Rayn 69.93 297 P **P** 07 25 53.8 -1.3
RAYN IAmb IAmb 07 25 55.1
comp=Z,27nm,0.9s
RAYN Ar Rayn 69.93 297 *i*P **P** 07 25 54.1 -0.9
SNR=20
RAYN Ar Rayn 69.93 297 P **P** 07 25 54.1 -0.9
RAYN PcP **PcP** 07 26 13.4 +0.2
ABKAR Akbulak array 70.31 327 P **P** 07 25 56.1 -0.5
PETK Petropavlovsk- 70.74 28 P **P** 07 25 59.0 -0.2
comp=Z,2.5nm,0.5s,baz=185,slow=1.0,SNR=14
comp=Z,2.5nm,0.5s
AKTO Aktyubinsk 72.01 328 P **P** 07 26 06.2 -0.4
comp=Z,9.5nm,0.5s,baz=118,slow=3.5,SNR=36
AKTO pP **pP** 07 27 59.9 +0.4
comp=Z,3.6nm,0.7s,baz=111,slow=7.9,SNR=4.1
comp=Z,9.5nm,0.5s
KIBK Kibwezi 72.54 269 P **P** 07 26 10.3 -0.3
KIBK IAmb IAmb 07 26 12.0
comp=Z,19nm,1.0s
KIBK Kibwezi 72.54 269 P **P** 07 26 11.0 +0.4
ARTI Arti 75.21 333 P **P** 07 26 24.2 -0.5
comp=Z,18nm,0.7s,baz=116,slow=2.8,SNR=29
comp=Z,18nm,0.7s
ARTI Arti 75.21 333 P **P** 07 26 24.2 -0.5
ARTI pP **pP** 07 28 19.4 +0.5
SEY Seymchan 75.44 18 P **P** 07 26 25.9 +0.1
comp=Z,2.6nm,0.6s,baz=223,slow=4.0,SNR=8.1
comp=Z,2.6nm,0.6s
LODK Lodwar 75.82 275 P **P** 07 26 29.5 +0.5
VNDA Vanda 76.52 170 IAmb IAmb 07 26 33.3
comp=Z,28nm,1.4s
VNDA Vanda 76.52 170 P **P** 07 26 32.0 +0.5
comp=Z,13nm,0.8s,baz=315,slow=6.7,SNR=125
comp=Z,13nm,0.8s
VNDA Vanda 76.52 170 P **P** 07 26 32.4 +0.8
SBA Scott Base 77.57 170 P **P** 07 26 39.2 +1.9
SBA Scott Base 77.57 170 P **P** 07 26 39.0 +1.6
MARD Mardin 77.77 310 P **P** 07 26 39.2 -0.2
MARD IAmb IAmb 07 26 40.1
comp=Z,26nm,0.5s
SYO Syowa Base 77.94 200 ⇓*i*P **P** 07 26 40.0 +0.6
SYO Syowa Base 77.94 200 ⇑*e*PcP **PcP** 07 26 49.0 +2.3
TIXI Tiksi 78.17 6 P **P** 07 26 40.0 -0.5
comp=Z,10nm,0.6s,baz=212,slow=1.9,SNR=14
TIXI pP **pP** 07 28 34.2 -1.7
comp=Z,4.9nm,0.8s,baz=191,slow=1.9,SNR=2.6
comp=Z,10nm,0.6s
KBZ Khabaz 78.26 317 P **P** 07 26 42.0 +0.4
comp=Z,20nm,0.8s,baz=118,slow=4.3,SNR=50
KBZ pP **pP** 07 28 36.5 -0.5
comp=Z,3.8nm,0.9s,baz=68,slow=3.0,SNR=4.1
comp=Z,20nm,0.8s
BATM Batumi 78.40 314 ⇓P **P** 07 26 42.8 +0.4
KIV Kislovodsk 78.48 317 P **P** 07 26 41.9 -1.1
KIV Kislovodsk 78.48 317 ⇑P **P** 07 26 43.5 +0.6
KOPT Kop Dagi 78.78 313 P **P** 07 26 45.2 +0.4
KOPT IAmb IAmb 07 26 47.8
comp=Z,22nm,0.7s
GHAJ Ghor Haditha 80.41 303 P **P** 07 26 53.4 +0.2
GHAJ IAmb IAmb 07 26 55.0
comp=Z,53nm,0.8s
GAZ Gaziantep 80.47 309 P **P** 07 26 53.9 +0.3
GAZ IAmb IAmb 07 26 55.1
comp=Z,45nm,1.2s
KIRV Kirov 80.49 332 P **P** 07 26 52.8 -0.3
comp=Z,40nm,0.7s,baz=139,slow=10,SNR=11
comp=Z,40nm,0.7s
MMAI Mount Meron Ar 80.92 305 P **P** 07 26 57.3 +1.3
comp=Z,15nm,0.6s,baz=97,slow=6.9,SNR=16
comp=Z,15nm,0.6s
LSZ Lusaka 81.33 255 P **P** 07 26 58.3 -0.2
LSZ IAmb IAmb 07 26 59.6
comp=Z,28nm,0.6s
LSZ Lusaka 81.33 255 P **P** 07 26 58.8 +0.2
LSZ Lusaka 81.33 255 P **P** 07 26 58.7 +0.2
LPHEP Lephephe 83.05 247 P **P** 07 27 07.0 -0.1
LPHEP IAmb IAmb 07 27 08.4
comp=Z,41nm,0.8s
BOSA Boshof 83.31 242 IAmb IAmb 07 27 10.0
comp=Z,13nm,0.7s
BOSA Boshof 83.31 242 P **P** 07 27 08.4 +0.1
comp=Z,11nm,0.6s,baz=113,slow=3.4,SNR=39
comp=Z,11nm,0.6s
KIRS Kirsehir-Merke 83.46 310 ⇑P **P** 07 27 08.6 -0.1
KHWEE KHWEE 83.51 249 P **P** 07 27 09.1 -0.3
BRTR Keskin Array B 83.80 311 P **P** 07 27 10.2 -0.3
comp=Z,12nm,0.8s,baz=126,slow=6.3,SNR=61
BRTR pP **pP** 07 29 06.8 -1.1
comp=Z,1.8nm,0.9s,baz=157,slow=7.8,SNR=4.9
comp=Z,12nm,0.8s
BZK Bozkurt 84.03 313 ⇑P **P** 07 27 11.6 +0.3
ILGA Ilgaz 84.03 312 P **P** 07 27 11.5 -0.3
ILGA IAmb IAmb 07 27 12.5
comp=Z,12nm,0.7s
QSPA South Pole Qui 84.22 180 P **P** 07 27 15.6 +3.6
PHDHD Phuduhudu 84.47 250 P **P** 07 27 13.5 -0.7
PHDHD IAmb IAmb 07 27 15.5
comp=Z,55nm,1.1s
SAHE Sakarya_HENDEK 86.12 312 ⇑P **P** 07 27 21.4 -0.2
HARR Harsova 88.91 315 ⇓P **P** 07 27 34.7 +0.2
AKASG Malin Array Be 89.05 321 P **P** 07 27 34.0 -1.0
comp=Z,5.2nm,0.5s,baz=88,slow=4.5,SNR=30
AKASG pP **pP** 07 29 32.2 -2.0
comp=Z,0.2nm,0.3s,baz=86,slow=4.7,SNR=1.3
comp=Z,5.2nm,0.5s
KIEV Kiev 89.06 321 ⇓P **P** 07 27 34.1 -1.0
KIEV Kiev 89.06 321 *i*P **P** 07 27 34.2 -0.9
SNR=8.7
SORM Soroca 89.17 318 ⇑P **P** 07 27 34.9 -0.8
VRI Vrincioaia 89.92 316 ⇓P **P** 07 27 38.0 -1.2
PLOR Plostina 89.97 316 ⇓P **P** 07 27 38.9 -0.6
TESR Tescani 90.07 317 ⇑P **P** 07 27 38.6 -1.3
TROLL Troll, Antarti 90.10 197 ⇓P **P** 07 27 41.0 +1.3
comp=Z,416nm,0.8s
ELND Elena 90.12 313 ⇑P **P** 07 27 39.3 -0.8
BURAR Bucovina Array 91.19 318 ⇓P **P** 07 27 45.3 +0.2
ARR Arges 91.31 315 ⇓P **P** 07 27 44.9 -0.8
SNAA Sanae 91.79 197 ⇓P **P** 07 27 48.3 +0.9
comp=Z,177nm,0.6s
SNAA Sanae 91.79 197 P **P** 07 27 48.1 +0.7
comp=Z,7.3nm,0.6s,baz=170,slow=4.6,SNR=116
SNAA PKKP **PKKPdf** 07 45 00.5 -0.8
comp=Z,0.9nm,0.8s,baz=284,slow=4.2,SNR=6.9
comp=Z,7.3nm,0.6s
FINES FINESS Array B 92.46 331 P **P** 07 27 50.1 -0.4
comp=Z,2.8nm,0.6s,baz=112,slow=5.8,SNR=13
FINES PKiKP **PKiKP** 07 32 35.0 -0.5
comp=Z,1.3nm,0.8s,baz=104,slow=4.4,SNR=4.3
comp=Z,2.8nm,0.6s
BLKB Belogradchik 92.52 313 ⇓P **P** 07 27 49.7 -1.6
GZR Gura Zlata 92.62 315 ⇑P **P** 07 27 51.6 -0.1
HERR Herculane 92.82 315 ⇑P **P** 07 27 50.9 -1.7
BOVS Bovan 93.22 313 ⇑P **P** 07 27 53.6 -0.9
VNA2 Neumayer--Watz 93.44 197 ⇓P **P** 07 27 55.8 +0.9
comp=Z,7.8nm,0.6s,baz=102,slow=4.8
ARCES ARCESS Array B 93.68 339 P **P** 07 27 55.1 -0.8
comp=Z,5.6nm,1.0s,baz=105,slow=4.5,SNR=2.9
comp=Z,5.6nm,1.0s
VNA1 Neumayer--Stat 93.83 197 ⇓P **P** 07 27 57.8 +1.1
comp=Z,4.5nm,0.9s
VNA3 Neumayer Olymp 93.93 196 ⇓P **P** 07 27 57.7 +0.6
comp=Z,2.7nm,0.7s
BELA Belgrano 2 94.34 187 **P** 07 27 59.1 +0.3
BELA IAmb IAmb 07 28 00.1
comp=Z,4.6nm,0.9s
SPITS Spitsbergen Ar 96.50 348 P **P** 07 28 07.4 -1.1
comp=Z,7.7nm,0.7s,baz=90,slow=8.8,SNR=11
comp=Z,7.7nm,0.7s
HFS Hagfors 98.47 330 P **P** 07 28 17.4 -0.3
comp=Z,5.4nm,0.8s,baz=74,slow=6.5,SNR=5.4
comp=Z,5.4nm,0.8s
ILAR Eielson Array 100.46 25 PKKPbc PKKPbc 07 44 39.6 -2.8
comp=Z,0.8nm,0.6s,baz=100,slow=1.3,SNR=13
TORD Torodi Ar. Bea 109.79 282 PKiKP **PKiKP** 07 33 07.7 -0.6
comp=Z,0.9nm,0.3s,baz=40,slow=3.9,SNR=3.6
ESDC Sonseca Array 112.59 311 PKiKP **PKiKP** 07 33 12.9 0.0
comp=Z,1.4nm,0.7s,baz=35,slow=2.6,SNR=6.8
DBIC Dimbokro 116.00 275 PKP **PKiKP** 07 33 19.7 -0.4
comp=Z,5.4nm,0.6s,baz=130,slow=2.7,SNR=10
NVAR Mina Array Bea 125.03 46 PKP **PKiKP** 07 33 38.8 +1.3
comp=Z,3.7nm,0.8s,baz=248,slow=2.1,SNR=28
NVAR SKP 07 36 19.4
comp=Z,0.4nm,0.8s,baz=268,slow=1.8,SNR=4.7
NVAR PKKPbc **PKKPbc** 07 43 19.8 -0.5
comp=Z,1.6nm,0.7s,baz=135,slow=4.4,SNR=14
PDAR Pinedale Array 128.78 38 PKP **PKiKP** 07 33 44.8 -0.1
comp=Z,1.3nm,0.6s,baz=327,slow=0.7,SNR=20
PDAR SKPbc SKiKP 07 36 15.0 -15
comp=Z,2.0nm,0.8s,baz=190,slow=1.2,SNR=11
ULM Lac du Bonnet 130.36 22 SKPbc **SKPab** 07 36 19.8 -0.2
comp=Z,42nm,0.9s,baz=322,slow=4.7,SNR=17
SCHQ Schefferville 131.03 358 PKP **PKiKP** 07 33 48.2 -0.5
comp=Z,48nm,0.7s,baz=269,slow=2.4,SNR=7.2
SCHQ SKPbc **SKPab** 07 36 22.2 -0.5
comp=Z,282nm,0.8s,baz=45,slow=6.0,SNR=19
PLCA Paso Flores 133.72 179 PKP **PKiKP** 07 33 54.7 -0.1
comp=Z,1.2nm,0.5s,baz=194,slow=1.9,SNR=9.3
PLCA SKP 07 36 35.7
comp=Z,2.1nm,0.9s,baz=233,slow=5.1,SNR=4.2
TXAR Lajitas Array 139.95 50 PKhKP PKPpre 07 33 58.8
comp=Z,1.0nm,0.8s,baz=294,slow=2.1,SNR=8.2
TXAR PKP **PKiKP** 07 34 07.2 -0.6
comp=Z,1.7nm,0.6s,baz=315,slow=1.9,SNR=14
TXAR SKPbc **SKiKP** 07 36 51.5 -1.2
comp=Z,3.7nm,0.9s,baz=320,slow=3.1,SNR=16
AAGR Agrelo 141.37 181 *e*P **PKPdf** 07 34 04.2 -3.5
ARCO CERRO ARCO 141.61 180 *e*P **PKPdf** 07 34 05.0 -3.2
ASAL Salagasta 141.86 181 *e*P **PKPdf** 07 34 06.0 -2.5
AUSP Uspallata 142.23 180 *e*P **PKPdf** 07 34 07.6 -1.9
RTLS Leoncito 142.65 180 *e*P **PKPdf** 07 34 08.5 -1.8
RTLL Cerro Villicun 143.11 181 *e*P PKPbc 07 34 09.2 +0.4
ACHE Chepes 143.20 184 *e*P PKPbc 07 34 09.7 +0.4
AVFE Valle Fertil 143.75 183 *e*P **PKPdf** 07 34 12.1 +0.1
ACCO Cerro Coronel 143.86 180 *e*P **PKPdf** 07 34 12.4 0.0
ACDV Cuesta del Vie 144.28 180 ⇓*e*P **PKPdf** 07 34 13.8 +0.8
AROD Rodeo 144.28 180 *e*P **PKPdf** 07 34 14.3 +1.1
ACLC CERRO LA CRUZ 144.95 184 *e*P **PKPab** 07 34 15.5 0.0
AGUA GUANDACOL 144.95 181 *e*P **PKPab** 07 34 15.7 +0.3
AANI Anillaco 145.56 184 *e*P **PKPab** 07 34 17.8 -0.1
VCA Vinchina 145.69 182 *e*P **PKPab** 07 34 18.2 -0.2
CYA Choya 145.83 185 *e*P **PKPab** 07 34 17.6 -1.2
CPUP Villa Florida 146.06 199 PKPbc **PKPbc** 07 34 18.0 +0.2
comp=Z,6.6nm,0.6s,baz=98,slow=2.4,SNR=60
FSA Cafayete 148.16 186 *e*P **PKiKP** 07 34 24.8 -0.1
SLA San Lorenzo 149.48 187 *e*P **PKiKP** 07 34 27.6 -0.1
BDFB Brasilia 150.08 224 PKP **PKPdf** 07 34 22.9 +0.1
comp=Z,0.8nm,0.4s,baz=125,slow=3.2,SNR=4.2
BDFB PKPbc **PKiKP** 07 34 29.0 0.0
comp=Z,31nm,0.6s,baz=127,slow=2.3,SNR=66
BDFB PKPab **PKPab** 07 34 37.7 +1.1
comp=Z,14nm,0.6s,baz=80,slow=6.1,SNR=11
LPAZ La Paz 158.06 183 PKP **PKPdf** 07 34 34.5 +0.1
comp=Z,1.6nm,0.8s,baz=235,slow=2.9,SNR=6.0
LPAZ PKPab **PKPab** 07 35 11.8 +0.7
comp=Z,4.1nm,0.8s,baz=148,slow=4.8,SNR=9.7

TRN 25 07:20:26.6, 16°37′N×61°33′W, h26km, MD4.4, 3C-3D, Near East coast of Guadeloupe., Leeward Islands

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DSDZ	**La Diserade, G**	**0.25 102**	⇑*i*P	Pn	Pn	07 20 34.7	0.0
DSDZ			*e*S	Sn	Sn	07 20 39.1	-0.7
DHSZ	**Broadband at M**	**0.43 258**	⇓*i*P	Pn	Pn	07 20 38.2	+1.1
DHSZ			*e*S	Sn	Sn	07 20 45.4	+1.1
MMLZ	**Guadeloupe Bro**	**0.46 226**	⇓*i*P	Pn	Pn	07 20 39.0	+1.4
MMLZ			*e*S	Sn	Sn	07 20 46.5	+1.6
ATGZ	**Broadband at L**	**0.47 235**	⇓*i*P	Pn	Pn	07 20 37.9	+0.3
TBG	**Guadaloupe-3**	**0.60 211**	*e*P	Pn	Pn	07 20 39.7	+0.3
TBG			*e*S	Sn	Sn	07 20 48.9	+0.6
DWS	**Wesley**	**0.79 179**	*e*P	Pn	Pn	07 20 43.8	+1.7
DWS			*e*S	Sn	Sn	07 20 55.0	+1.8
DSLB	**Salisbury**	**0.93 186**	*e*P	Pb	Pb	07 20 45.9	+1.9
DSLB			*e*S	Sn	Sn	07 20 59.1	+2.6
MBFL	**Flemmings, Mon**	**0.93 294**	⇑*i*P	Pb	Pb	07 20 46.0	+1.9
MBFL			*e*S	Sn	Sn	07 20 58.6	+2.0
DLPL	**La Plaine**	**1.03 176**	⇑*i*P	Pb	Pb	07 20 47.3	+1.5
DLPL			*e*S	Sn	Sn	07 21 01.6	+2.6
ANWB	**Willy Bob**	**1.37 341**	*e*P	Pb	Pb	07 20 51.4	-0.1
ANWB			*e*S	Sb	Sb	07 21 09.0	+0.4
SVN	**Savane Anatole**	**1.52 174**	*e*P	Pb	Pb	07 20 53.8	-0.4
SVN			*e*S	Sb	Sb	07 21 14.5	+1.4
SKOC	**St. Kitts, UWI**	**1.63 305**	*e*P	Pn	Pn	07 20 54.8	+1.2
SKOC			*e*S	Sb	Sb	07 21 16.3	+0.1
SKI	**Saint Kitts**	**1.66 306**	*e*P	Pb	Pb	07 20 56.5	0.0
SKI			*e*S	Sb	Sb	07 21 17.5	+0.5
BIM	**Bigot**	**1.85 172**	*e*P	Pb	Pb	07 20 58.7	-1.1
BIM			*e*S	Sb	Sb	07 21 22.3	-0.3
SLBI	**Saint Lucia, B**	**2.35 172**	*e*P	Pb	Pb	07 21 06.0	-2.3
SLBI			*e*S	Sn	Sn	07 21 33.8	+2.1
SVB	**Belmont**	**3.08 179**	*e*P	Pn	Pn	07 21 16.2	+2.7
GCMP	**Grenada, Carri**	**3.86 181**	*e*P	Pn	Pn	07 21 26.0	+1.7
GRSS	**Sisters**	**4.05 184**	*e*P	Pn	Pn	07 21 28.3	+1.3
GRW	**Mount Saint Ca**	**4.20 184**	*e*P	Pn	Pn	07 21 30.4	+1.4
GRGR	**Grenville**	**4.22 184**	*e*P	Pn	Pn	07 21 31.8	+2.5
AOPR	**Arecibo Observ**	**5.55 292**	*e*P	Pn	Pn	07 21 50.5	+3.0
TRN	**Trinidad (W)**	**5.69 181**	*e*P	Pn	Pn	07 21 52.8	+3.3

HEL 25 07:25:14.0±0.2, 67°89′N×20°15′E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LANU	**Lannavaara** baz=260	**0.72 76**	PG	Pg	Pg	07 25 27.2	-0.5
LANU			SG	Sg	Sg	07 25 35.8	-1.2
SALU	**Saltoluokta**	**0.81 232**	*e*P	Pg	Pg	07 25 27.7	-1.7
KIF	**Kilpisjarvi**	**1.15 12**	*e*P	Pb	Pb	07 25 36.6	-0.1
KIF	**Kilpisjarvi**	**1.15 12**	PN	Pn	Pn	07 25 37.6	+0.3
KIF			MSG			07 25 50.0	
KIF	comp=Z,3.8nm,0.2s		SN	Sb	Sb	07 25 52.9	+0.8
HEF	**Hetta**	**1.42 67**	PN	Pn	Pn	07 25 40.5	-0.5
HEF			MSG			07 25 56.5	
HEF	comp=Z,1.2nm,0.2s		SN	Sn	Sn	07 26 01.5	+1.2
PAJU	**Pajala** baz=309	**1.44 126**	PG	Pn	Pn	07 25 39.6	-1.6
PAJU			SG	Sg	Sg	07 25 59.1	-1.0
ERTU	**Ertsjaerv**	**1.56 148**	PG	Pn	Pn	07 25 41.9	-1.0
ERTU			SN	Sn	Sn	07 26 03.4	-0.3
KALU	**Kalix**	**2.40 147**	PB	Pn	Pn	07 25 55.2	+0.8
KALU			SG	Sb	Sb	07 26 28.6	+0.5
TOF	**Tornio**	**2.45 136**	PG	Pb	Pb	07 25 57.3	-1.5
TOF			MSG			07 26 26.3	
TOF	comp=Z,0.8nm,0.2s		SG	Sb	Sb	07 26 28.6	-0.8
ARA0	**ARCESS Array S**	**2.56 47**	PG	Pb	Pb	07 25 59.0	-1.8
ARA0			SG	Sb	Sb	07 26 32.3	-0.5
RNF	**Rovaniemi**	**2.62 117**	PB	Pb	Pb	07 25 59.7	-2.0
RNF			SB	Sb	Sb	07 26 32.3	-2.0
RAJF	**Raja-Jooseppi**	**3.11 75**	SG	Sb	Sb	07 26 50.7	+2.3
KEV	**Kevo**	**3.12 50**	SB	Sb	Sb	07 26 46.9	-1.8
KU2	**Taivalkoski**	**3.87 121**	PB	Pn	Pn	07 26 18.3	+3.6
MSF	**Maaselka**	**4.03 115**	SG	Sb	Sb	07 27 17.3	+2.4

*CNRM **25** 07:26:03.4, 36°46N×7°76W, h73km, ML3.4*
*INMG **25** 07:26:08.4±1.7, 36°57N×7°72W, h21km±4km, ML1.8, Error ellipse: s-maj=6.6km s-min=5.3km az=33.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
*SFS **25** 07:26:08.7, 36°60N×7°74W, h26km, ML2.4/6, ML2.0/7, MLv1.8/7*
*MDD **25** 07:26:08.8±1.1, 36°64N×7°79W, h24km±5km, mb_Lg2.4/8, Error ellipse: s-maj=7.4km s-min=4.4km az=7.0*
*IGIL **25** 07:26:09.0, 36°57N×7°71W, h26km, ML1.6*
ISC 25 07:26:05.2±1.2, **36°44N**±0°03×**7°72W**±0°04, **h54**km±20km, **n42**, σ1§**50**/63, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.81**	**348**	Pg	**Pn**	**07 26 21.1**	**+0.5**
PBDV				Sg	**Sn**	**07 26 30.7**	**-1.2**
PBDV	**Barranco-do-Ve**	**0.81**	**348**	*e*P	**Pn**	**07 26 21.4**	**+0.8**
PBDV				*e*S	**Sn**	**07 26 30.6**	**-1.2**
PBDV				*i* IAML		07 26 31.4	
PBDV				*i* IAML		07 26 31.6	
PBDV				*i* IAML		07 26 32.0	
EXAYA	**Ayamonte**	**0.82**	**18**	Sg	**Sn**	**07 26 31.1**	**-0.8**
PVAQ	**Vaqueiros**	**0.96**	**0**	*e*P	**Pn**	**07 26 23.6**	**+1.1**
PVAQ				*e*S	**Sn**	**07 26 34.6**	**-0.5**
PVAQ				*i* IAML		07 26 35.4	
PVAQ				*i* IAML		07 26 35.4	
PVAQ				*i* IAML		07 26 35.5	
PVAQ	**Vaqueiros**	**0.96**	**0**	P	**Pn**	**07 26 21.4**	**-1.0**
EGRO	**El Granado**	**1.10**	**10**	Pg	**Pn**	**07 26 25.6**	**+1.2**
EGRO				Sg	**Sn**	**07 26 37.9**	**-0.7**
EGRO	**El Granado**	**1.10**	**10**	Pg	**Pn**	**07 26 25.6**	**+1.2**
EGRO				Sg	**Sn**	**07 26 37.9**	**-0.7**
EGRO				*i* IVmb_Lg		07 26 39.5	
PFVI	**Vila Bisbo**	**1.12**	**308**	Pn	**Pn**	**07 26 26.5**	**+1.9**
PFVI				Sn	**Sn**	**07 26 38.7**	**-0.4**
PFVI	**Vila Bisbo**	**1.12**	**308**	*e*P	**Pn**	**07 26 26.2**	**+1.6**
PFVI				*e*S	**Sn**	**07 26 38.8**	**-0.3**
PFVI				*i* IAML		07 26 39.7	
PFVI				*i* IAML		07 26 41.5	
PFVI				*i* IAML		07 26 43.8	
PFVI	**Vila Bisbo**	**1.12**	**308**	P	**Pn**	**07 26 23.7**	**-0.9**
MORF	**Marmelete**	**1.14**	**319**	*e*P	Pn	07 26 31.6	+6.7
MORF				*e*S	**Sn**	**07 26 39.0**	**-0.6**
MORF				*i* IAML		07 26 40.6	
MORF				*i* IAML		07 26 44.8	
MORF				*i* IAML		07 26 46.3	
PCVE	**Castro Verde**	**1.21**	**348**	Pn	**Pn**	**07 26 27.2**	**+1.4**
PCVE				Sn	**Sn**	**07 26 40.9**	**-0.4**
PCVE	**Castro Verde**	**1.21**	**348**	*e*P	**Pn**	**07 26 27.2**	**+1.4**
PCVE				*e*S	**Sn**	**07 26 40.9**	**-0.4**
PCVE				*i* IAML		07 26 41.1	
PCVE				*i* IAML		07 26 41.4	
PCVE				*i* IAML		07 26 41.6	
PTEO	**Sao Teotonio**	**1.36**	**324**	*e*S	**Sn**	**07 26 44.6**	**-0.2**
MESJ	**Messejana**	**1.45**	**344**	*e*P	**Pn**	**07 26 30.5**	**+1.4**
MESJ				*e*S	**Sn**	**07 26 46.2**	**-0.8**
MESJ				IAML		07 26 47.8	
	comp=E,7.9nm,0.1s						
MESJ	**Messejana**	**1.45**	**344**	*e*P	**Pn**	**07 26 30.6**	**+1.6**
MESJ				*e*S	**Sn**	**07 26 46.7**	**-0.2**
MESJ				*i* IAML		07 26 47.8	
MESJ				*i* IAML		07 26 47.9	
MESJ				*i* IAML		07 27 00.5	
ESPR	**Espera**	**1.56**	**74**	Pn	Pn	07 26 36.9	+6.4
EMIN	**Mina Concepcio**	**1.56**	**32**	Pn	**Pn**	**07 26 34.2**	**+3.6**
EMIN				Sn	**Sn**	**07 26 48.5**	**-1.3**
EMIN				*i* IVmb_Lg		07 26 53.6	
PBAR	**Barrancos**	**1.81**	**17**	*e*P	**Pn**	**07 26 34.4**	**+0.4**
PBAR				S	**Sn**	**07 26 55.3**	**-0.5**
PBAR				*i* IAML		07 26 58.6	
PBAR				*i* IAML		07 26 59.6	
PBAR				*i* IAML		07 27 00.8	
EVO	**Evora**	**2.10**	**354**	Sn	**Sn**	**07 27 01.5**	**-1.3**
EBAD	**Badajoz**	**2.38**	**13**	Pn	**Pn**	**07 26 42.6**	**+1.0**
EBAD				Sn	**Sn**	**07 27 08.5**	**-1.1**
EBAD				*i* IVmb_Lg		07 27 11.9	
PESTR	**Estremoz**	**2.42**	**2**	Pn	**Pn**	**07 26 43.4**	**+1.1**
PESTR				Sn	**Sn**	**07 27 09.5**	**-1.3**
PESTR	**Estremoz**	**2.42**	**2**	*e*S	**Sn**	**07 27 09.3**	**-1.5**
ECAB	**El Cabril**	**2.46**	**48**	Pn	**Pn**	**07 26 44.9**	**+2.1**
ECAB	**El Cabril**	**2.46**	**48**	Pn	**Pn**	**07 26 44.8**	**+2.1**
ECAB				Sn	**Sn**	**07 27 09.6**	**-2.0**
ECAB				*i* IVmb_Lg		07 27 13.9	
PMTG	**Montargil**	**2.65**	**351**	*e*P	**Pn**	**07 26 47.0**	**+1.6**
PMTG				*e*S	**Sn**	**07 27 15.7**	**-0.7**
PMTG				*i* IAML		07 27 16.9	
PMTG				*i* IAML		07 27 17.9	
PMTG				*i* IAML		07 27 17.9	
PMRV	**Marv??o**	**2.99**	**5**	*e*P	**Pn**	**07 26 51.3**	**+1.2**
PMRV				*e*S	**Sn**	**07 27 23.1**	**-1.7**
PMRV				*i* IAML		07 27 24.7	
PMRV				*i* IAML		07 27 25.5	
PMRV				*i* IAML		07 27 39.5	
EADA	**Adamuz**	**3.04**	**55**	Pn	**Pn**	**07 26 52.8**	**+2.0**
EADA				Sn	**Sn**	**07 27 25.5**	**-0.4**
EADA				*i* IVmb_Lg		07 27 27.5	
ZHG	**ZHG**	**3.12**	**163**	P	**Pn**	**07 26 52.3**	**+0.3**
ZHG	**ZHG**	**3.12**	**163**	S	**Sn**	**07 27 31.0**	**+3.0**
PSARD	**Sardoal**	**3.17**	**354**	*e*P	**Pn**	**07 26 54.3**	**+1.8**
PSARD				*e*S	**Sn**	**07 27 28.6**	**-0.5**
PSARD				*i* IAML		07 27 29.5	
PSARD				*i* IAML		07 27 29.5	
PSARD				*i* IAML		07 27 29.6	
PCBR	**Castelo Branco**	**3.40**	**3**	*e*P	**Pn**	**07 26 57.2**	**+1.6**
PCBR				*e*S	**Sn**	**07 27 34.1**	**-0.6**
PCBR				*i* IAML		07 27 34.8	
PCBR				*i* IAML		07 27 34.9	
PCBR				*i* IAML		07 27 36.0	
PCAS	**Casmilo, Conde**	**3.66**	**351**	*e*S	**Sn**	**07 27 37.6**	**-3.4**
PCAS				*i* IAML		07 27 42.0	
PCAS				*i* IAML		07 27 42.4	
PCAS				*i* IAML		07 27 42.9	
EPLA	**Plasencia**	**3.84**	**19**	Pn	**Pn**	**07 27 03.8**	**+2.0**
EPLA				Sn	**Sn**	**07 27 43.9**	**-1.6**
EPLA				*i* IVmb_Lg		07 27 45.9	
PSIM	**Granatula de C**	**3.94**	**52**	Sn	**Sn**	**07 27 47.1**	**-1.0**
PAB	**San Pablo**	**4.08**	**40**	Sn	**Sn**	**07 27 47.3**	**-4.4**
PAB				*i* IVmb_Lg		07 27 49.5	
MDT	**Midelt**	**4.44**	**144**	P	**Pn**	**07 27 08.7**	**-1.4**
MDT	**Midelt**	**4.44**	**144**	S	**Sn**	**07 28 00.7**	**+0.2**
OUK	**Oukaimeden**	**5.22**	**181**	P	**Pn**	**07 27 20.2**	**-0.9**
OUK	**Oukaimeden**	**5.22**	**181**	S	**Sn**	**07 28 19.5**	**-0.6**
OUZM	**OUZ**	**5.58**	**171**	P	**Pn**	**07 27 24.9**	**-0.8**
OUZM	**OUZ**	**5.58**	**171**	S	**Sn**	**07 28 28.9**	**+0.3**

*SFS **25** 07:42:43.0, 37°02N×5°29W, h5km, ML3.0/15, ML3.0/16, MLv2.9/16*
*IGIL **25** 07:42:42.3, 37°01N×5°28W, h4km*
*MDD **25** 07:42:42.7±0.2, 37°01N×5°28W, h4km±2km, mb_Lg3.0/22, Error ellipse: s-maj=2.1km s-min=1.4km az=4.0*
*INMG **25** 07:42:43.2±2.2, 36°97N×5°28W, h15km±3km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.5km az=142.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*CNRM **25** 07:42:44.7, 36°62N×5°57W, h115km, ML2.4*
ISC 25 07:42:41.3±0.9, **36°97N**±0°02×**5°28W**±0°01, **h18**km±4km, **n88**, σ1§**58**/184, **2C-2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	**Villanueva de**	**0.11**	**47**	Pg	**Pg**	**07 42 44.4**	**-0.7**
UMV12				Sg	**Sg**	**07 42 46.1**	**-1.5**
E1302	**La Puebla de C**	**0.16**	**9**	⇑Pg	**Pg**	**07 42 45.7**	**0.0**
E1302				Sg	**Sg**	**07 42 48.6**	**0.0**
E1302				*i* IVmb_Lg		07 42 52.9	
EXMOR	**Moron de la Fr**	**0.20**	**317**	Pg	**Pg**	**07 42 47.5**	**+1.3**
EXMOR				Sg	**Sg**	**07 42 50.6**	**+0.9**
ESPR	**Espera**	**0.48**	**257**	Sg	**Sn**	**07 43 00.3**	**-0.8**
ESPR				Pg	**Pn**	**07 42 52.6**	**-0.6**
ESPR	**Espera**	**0.48**	**257**	Pg	**Pn**	**07 42 52.5**	**-0.7**
ESPR				Sg	**Sb**	**07 42 58.2**	**+0.3**
ESPR				*i* IVmb_Lg		07 43 05.4	
EMIJ	**Mijas**	**0.57**	**135**	Sg	**Sb**	**07 43 02.1**	**+1.4**
EMIJ				Pg	**Pg**	**07 42 52.0**	**-0.7**
EMIJ	**Mijas**	**0.57**	**135**	Pg	**Pg**	**07 42 51.6**	**-1.1**
EMIJ				Sg	**Sb**	**07 43 02.1**	**+1.4**
EMAL	**Malaga-Limoner**	**0.71**	**107**	Pg	**Pg**	**07 42 55.7**	**+0.4**
CNIL	**Conil**	**0.87**	**226**	Pg	**Pn**	**07 42 60.0**	**+1.4**
EGOR	**Sierra Gorda,**	**0.94**	**81**	Pg	**Pn**	**07 43 00.2**	**+0.4**
EGOR				Sg	**Sn**	**07 43 14.8**	**+1.9**
EGOR	**Sierra Gorda,**	**0.94**	**81**	Pg	**Pn**	**07 42 59.8**	**0.0**
EGOR				Sg	**Sn**	**07 43 13.9**	**+0.9**
EGOR				*i* IVmb_Lg		07 43 18.2	
ECEU	**Ceuta**	**1.08**	**184**	Pg	**Pg**	**07 43 03.0**	**+0.8**
ECEU				Sg	**Sg**	**07 43 20.6**	**+4.3**
ECEU				*i* IVmb_Lg		07 43 29.7	
EXCBR	**El Cabril**	**1.10**	**354**	Pg	**Pg**	**07 43 02.9**	**+0.2**
EXCBR				Sg	**Sg**	**07 43 17.9**	**+0.7**
ECAB	**El Cabril**	**1.10**	**354**	Pn	**Pg**	**07 43 02.5**	**-0.2**
ECAB				Sn	**Sg**	**07 43 17.1**	**-0.1**
ECAB	**El Cabril**	**1.10**	**354**	Pg	**Pg**	**07 43 02.5**	**-0.2**
ECAB				Sg	**Sg**	**07 43 16.7**	**-0.5**
ECAB				*i* IVmb_Lg		07 43 19.7	
EXAGR	**Agron**	**1.16**	**87**	Pg	**Pg**	**07 43 05.3**	**+1.6**
EXAGR				Sg	**Sg**	**07 43 20.8**	**+2.0**
ARNO	**Arenosillo**	**1.17**	**277**	Pg	**Pg**	**07 43 03.8**	**-0.2**
ARNO				Sg	**Sg**	**07 43 21.2**	**+1.9**
SMIR	**Smir Dam**	**1.29**	**184**	P	**Pb**	**07 43 05.1**	**0.0**
SMIR	**Smir Dam**	**1.29**	**184**	S	**Sb**	**07 43 22.5**	**+1.2**
EADA	**Adamuz**	**1.31**	**25**	Pn	**Pb**	**07 43 05.7**	**+0.2**
EADA				Sn	**Sg**	**07 43 23.7**	**-0.1**
EADA	**Adamuz**	**1.31**	**25**	Pn	**Pb**	**07 43 05.6**	**+0.1**
EADA				Pg	**Pg**	**07 43 06.8**	**+0.2**
EADA				Sn	**Sg**	**07 43 22.9**	**-0.9**
EADA				Sg	**Sb**	**07 43 24.9**	**+2.9**
EADA				*i* IVmb_Lg		07 43 25.5	
ELGU	**Los Guajares,**	**1.33**	**94**	Pn	**Pg**	**07 43 06.4**	**-0.5**
ELGU				Sn	**Sg**	**07 43 25.4**	**+1.6**
ELGU	**Los Guajares,**	**1.33**	**94**	Pg	**Pb**	**07 43 05.5**	**-0.2**
ELGU				Sg	**Sg**	**07 43 27.4**	**+3.2**
ELGU				*i* IVmb_Lg		07 43 31.7	
EMIN	**Mina Concepcio**	**1.36**	**306**	Pn	**Pn**	**07 43 05.8**	**+0.3**
EMIN				Sn	**Sg**	**07 43 25.6**	**+0.1**
EMIN	**Mina Concepcio**	**1.36**	**306**	Pn	**Pn**	**07 43 05.8**	**+0.3**
EMIN				Pg	**Pg**	**07 43 07.2**	**-0.4**
EMIN				Sg	**Sg**	**07 43 25.5**	**+0.1**
EMIN				*i* IVmb_Lg		07 43 31.1	
EQTA	**Presa de Quent**	**1.48**	**80**	Pn	**Pg**	**07 43 09.3**	**-0.6**
EQTA				Sn	**Sg**	**07 43 29.6**	**+0.3**
EQUE	**Quentar**	**1.49**	**81**	Pn	**Pg**	**07 43 09.3**	**-0.6**
EQUE				Sg	**Sg**	**07 43 29.4**	**+0.1**
EQUE				*i* IVmb_Lg		07 43 34.0	
E0803	**Jimena (Jaen)**	**1.67**	**59**	Pn	**Pb**	**07 43 11.0**	**-0.7**
E0803				Pg	**Pg**	**07 43 13.2**	**-0.3**
E0803				Sg	**Sg**	**07 43 35.1**	**-0.2**
EXAYA	**Ayamonte**	**1.72**	**279**	Pg	**Pg**	**07 43 13.9**	**-0.5**
EXAYA				Sg	**Sg**	**07 43 36.3**	**-0.4**
E0802	**Ubeda,Jaen**	**1.84**	**55**	Pg	**Pg**	**07 43 15.5**	**-1.1**
E0802				Sn	**Sb**	**07 43 37.1**	**-0.1**
PBAR	**Barrancos**	**1.84**	**311**	Pn	**Pn**	**07 43 12.5**	**+0.5**
PBAR				Sn	**Sb**	**07 43 37.4**	**+0.2**
PBAR	**Barrancos**	**1.84**	**311**	*e*Pn	**Pn**	**07 43 12.6**	**+0.5**
PBAR				*e*Sg	**Sg**	**07 43 40.1**	**-0.6**
PBAR				*i* IAML		07 43 43.8	
PBAR				*i* IAML		07 43 48.5	
PBAR				*i* IAML		07 43 49.1	
EGRO	**El Granado**	**1.85**	**288**	Pn	**Pn**	**07 43 12.4**	**+0.4**
EGRO				Sn	**Sb**	**07 43 38.1**	**+0.8**
EGRO	**El Granado**	**1.85**	**288**	Pn	**Pn**	**07 43 12.5**	**+0.4**
EGRO				Sg	**Sg**	**07 43 39.5**	**-1.3**
EGRO				*i* IVmb_Lg		07 43 44.1	
EQES	**Quesada**	**1.94**	**64**	Pn	**Pb**	**07 43 15.2**	**-1.0**
EQES				Pg	**Pg**	**07 43 17.6**	**-1.0**
EQES				Sn	**Sb**	**07 43 39.3**	**-0.9**
EQES				Sg	**Sg**	**07 43 45.3**	**+1.5**
EQES				*i* IVmb_Lg		07 43 49.6	
PVAQ	**Vaqueiros**	**2.00**	**283**	⇓*i*Pn	**Pn**	**07 43 14.6**	**+0.5**
PVAQ				*e*Pg	**Pg**	**07 43 18.8**	**-0.8**
PVAQ				*e*Sn	**Sn**	**07 43 38.2**	**-0.4**
PVAQ				*e*Sg	**Sg**	**07 43 46.5**	**+0.9**
PVAQ				*i* IAML		07 43 47.2	
PVAQ				*i* IAML		07 43 50.3	
PVAQ				*i* IAML		07 43 57.1	
PVAQ	**Vaqueiros**	**2.00**	**283**	P	**Pn**	**07 43 14.8**	**+0.6**
PVAQ	**Vaqueiros**	**2.00**	**283**	S	**Sb**	**07 43 41.1**	**-0.5**
PALE	**Palemas**	**2.06**	**148**	P	**Pb**	**07 43 16.9**	**-1.3**
PALE	**Palemas**	**2.06**	**148**	S	**Sn**	**07 43 42.0**	**+1.6**
EALB	**Alboran**	**2.08**	**119**	Pn	**Pb**	**07 43 17.5**	**-1.0**
EALB				Sn	**Sb**	**07 43 44.1**	**0.0**
EALB				*i* IVmb_Lg		07 43 50.7	
PBDV	**Barranco-do-Ve**	**2.14**	**278**	Pn	**Pn**	**07 43 16.8**	**+0.7**
PBDV				Sn	**Sn**	**07 43 42.7**	**+0.4**
PBDV	**Barranco-do-Ve**	**2.14**	**278**	⇑*e*Pn	**Pn**	**07 43 16.9**	**+0.8**
PBDV				*e*Pg	**Pg**	**07 43 24.6**	**+2.3**
PBDV				*e*Sn	**Sn**	**07 43 42.0**	**-0.2**
PBDV				*e*Sg	**Sg**	**07 43 51.8**	**+1.7**
PBDV				*i* IAML		07 43 56.4	
PBDV				*i* IAML		07 43 58.7	
PBDV				*i* IAML		07 43 59.1	
PSIM	**Granatula de C**	**2.20**	**33**	Pn	**Pn**	**07 43 18.3**	**+1.3**
PSIM				Pg	**Pb**	**07 43 21.5**	**+0.9**
PSIM				Sg	**Sg**	**07 43 50.2**	**-1.9**
EBAD	**Badajoz**	**2.25**	**323**	Pn	**Pn**	**07 43 18.0**	**+0.4**
EBAD				Sn	**Sn**	**07 43 44.8**	**-0.1**
EBAD	**Badajoz**	**2.25**	**323**	Pn	**Pn**	**07 43 18.1**	**+0.5**
EBAD				Sn	**Sn**	**07 43 46.1**	**+1.2**
EBAD				*i* IVmb_Lg		07 43 56.5	
PCVE	**Castro Verde**	**2.30**	**287**	Pn	**Pn**	**07 43 18.7**	**+0.4**
PCVE	**Castro Verde**	**2.30**	**287**	⇓*i*Pn	**Pn**	**07 43 18.8**	**+0.5**
PCVE				*e*Pg	**Pg**	**07 43 25.4**	**0.0**
PCVE				*e*Sn	**Sb**	**07 43 51.5**	**+1.2**
PCVE				*e*Sg	**Sg**	**07 43 59.5**	**+4.3**
PCVE				*i* IAML		07 44 04.3	
PCVE				*i* IAML		07 44 06.3	
PCVE				*i* IAML		07 44 07.4	
PBEJ	**Beja**	**2.31**	**298**	*e*Pn	**Pn**	**07 43 19.1**	**+0.6**
PBEJ				*e*Pg	**Pg**	**07 43 27.1**	**+1.4**
PBEJ				*e*Sg	**Sg**	**07 43 56.2**	**+0.5**
PBEJ				*i* IAML		07 44 01.1	
PBEJ				*i* IAML		07 44 03.2	
PBEJ				*i* IAML		07 44 06.7	
ENIJ	**Nijar**	**2.46**	**89**	Sg	**Sg**	**07 44 00.1**	**-0.2**
MESJ	**Messejana**	**2.50**	**291**	*e*P	**Pn**	**07 43 21.7**	**+0.6**
MESJ	**Messejana**	**2.50**	**291**	*e*Pn	**Pn**	**07 43 21.7**	**+0.6**
MESJ				*e*Pg	**Pg**	**07 43 28.6**	**-0.6**
MESJ				*e*Sn	**Sn**	**07 43 51.9**	**+0.9**
MESJ				*e*Sg	**Sg**	**07 44 02.5**	**+0.9**
MESJ				*i* IAML		07 44 07.8	
MESJ				*i* IAML		07 44 10.4	
MESJ				*i* IAML		07 44 14.1	
PESTR	**Estremoz**	**2.63**	**317**	Pn	**Pn**	**07 43 24.8**	**+1.9**
PESTR				Sn	**Sn**	**07 43 55.5**	**+1.1**
PESTR	**Estremoz**	**2.63**	**317**	*e*Pn	**Pn**	**07 43 24.6**	**+1.7**
PESTR				*e*Sn	**Sn**	**07 43 55.5**	**+1.1**
PESTR				*e*Sg	**Sg**	**07 44 06.1**	**+0.2**
PESTR				*i* IAML		07 44 08.6	
PESTR				*i* IAML		07 44 10.9	
PESTR				*i* IAML		07 44 11.6	
PESTR	**Estremoz**	**2.63**	**317**	P	**Pb**	**07 43 27.8**	**-0.2**
PESTR	**Estremoz**	**2.63**	**317**	S	**Sb**	**07 44 02.7**	**+2.8**
EVO	**Evora**	**2.67**	**306**	Pn	**Pb**	**07 43 26.8**	**-1.7**
EVO				Sn	**Sn**	**07 43 55.4**	**+0.1**
EVO	**Evora**	**2.67**	**306**	*e*Pn	**Pn**	**07 43 24.2**	**+0.8**
EVO				*e*Pg	**Pg**	**07 43 31.8**	**-0.6**
EVO				*e*Sg	**Sg**	**07 44 08.0**	**+0.9**
EVO				*i* IAML		07 44 15.4	
EVO				*i* IAML		07 44 15.8	
PAB	**San Pablo**	**2.67**	**16**	Pn	**Pn**	**07 43 25.3**	**+1.8**
PAB				Sn	**Sn**	**07 43 57.3**	**+1.8**
PAB				Sg	**Sg**	**07 44 05.5**	**-1.6**
PAB				*i* IVmb_Lg		07 44 10.0	
AKLM	**AKL**	**2.71**	**155**	P	**Pn**	**07 43 23.5**	**-0.6**
AKLM	**AKL**	**2.71**	**155**	S	**Sn**	**07 43 53.8**	**-2.8**
MORF	**Marmelete**	**2.72**	**278**	*e*Pn	**Pn**	**07 43 25.5**	**+1.4**
MORF				*e*Pg	**Pg**	**07 43 32.4**	**-1.0**
MORF				*e*Sn	**Sn**	**07 43 57.5**	**+0.9**
MORF				*i* IAML		07 44 12.1	
MORF				*i* IAML		07 44 16.9	
MORF				*i* IAML		07 44 19.7	
PTEO	**Sao Teotonio**	**2.81**	**283**	*e*Pn	**Pn**	**07 43 26.1**	**+0.8**
PTEO				*e*Sn	**Sn**	**07 44 00.8**	**+2.1**
PTEO				*e*Sg	**Sg**	**07 44 15.7**	**+4.1**
PTEO				*i* IAML		07 44 18.5	
PTEO				*i* IAML		07 44 18.7	
PTEO				*i* IAML		07 44 23.4	
PFVI	**Vila Bisbo**	**2.84**	**274**	Pn	**Pn**	**07 43 26.5**	**+0.6**
PFVI				Sn	**Sn**	**07 44 00.9**	**+1.3**
PFVI	**Vila Bisbo**	**2.84**	**274**	*e*Pn	**Pn**	**07 43 26.3**	**+0.6**
PFVI				*e*Pg	**Pg**	**07 43 35.0**	**-0.8**
PFVI				*e*Sn	**Sn**	**07 43 59.9**	**+0.2**
PFVI				*e*Sg	**Sg**	**07 44 12.0**	**-0.7**
PFVI				*i* IAML		07 44 18.8	
PFVI				*i* IAML		07 44 19.4	
PFVI				*i* IAML		07 44 21.1	
PFVI	**Vila Bisbo**	**2.84**	**274**	P	**Pn**	**07 43 26.4**	**+0.6**
PFVI	**Vila Bisbo**	**2.84**	**274**	S	**Sn**	**07 43 59.3**	**-0.3**
ESBB	**Sonseca Array**	**2.89**	**21**	Pn	**Pn**	**07 43 28.0**	**+1.5**
ESBB				Sn	**Sn**	**07 44 00.2**	**-0.6**
ESBB				Sg	**Sg**	**07 44 12.3**	**-1.8**
PMRV	**Marv??o**	**2.96**	**326**	*e*Pn	**Pn**	**07 43 29.0**	**+1.5**
PMRV				*e*Pg	**Pg**	**07 43 39.8**	**+1.7**
PMRV				*e*Sn	**Sn**	**07 44 03.7**	**+1.1**
PMRV				*e*Sg	**Sg**	**07 44 14.5**	**-2.0**
PMRV				*i* IAML		07 44 19.4	
PMRV				*i* IAML		07 44 19.4	
PMRV				*i* IAML		07 44 19.7	
PMTG	**Montargil**	**3.13**	**313**	*e*Pn	**Pn**	**07 43 31.4**	**+1.6**
PMTG				*e*Pg	**Pg**	**07 43 39.8**	**-1.5**
PMTG				*e*Sn	**Sn**	**07 44 08.1**	**+1.5**
PMTG				*e*Sg	**Sg**	**07 44 21.3**	**-0.5**
PMTG				*i* IAML		07 44 24.1	
PMTG				*i* IAML		07 44 25.3	
PMTG				*i* IAML		07 44 28.0	
PCBR	**Castelo Branco**	**3.34**	**330**	*e*Pn	**Pn**	**07 43 34.5**	**+1.9**
PCBR				*e*Sn	**Sn**	**07 44 10.3**	**-1.6**
PCBR				*i* IAML		07 44 25.8	
PCBR				*e*Sg	**Sg**	**07 44 27.5**	**-1.2**
PCBR				*i* IAML		07 44 31.0	
PCBR				*i* IAML		07 44 31.1	
ETOB	**Tobarra**	**3.39**	**59**	Pn	**Pn**	**07 43 33.8**	**+0.4**
ETOB				Sn	**Sn**	**07 44 15.4**	**+2.2**
JBK	**JBK**	**3.44**	**139**	P	**Pn**	**07 43 34.6**	**+0.4**
JBK	**JBK**	**3.44**	**139**	S	**Sn**	**07 44 14.6**	**+0.1**
PSARD	**Sardoal**	**3.47**	**320**	*e*Pn	**Pn**	**07 43 35.8**	**+1.4**
PSARD				*e*Sn	**Sn**	**07 44 13.6**	**-1.4**
PSARD				*e*Sg	**Sg**	**07 44 30.2**	**-2.5**
PSARD				*i* IAML		07 44 31.4	
PSARD				*i* IAML		07 44 32.1	
PSARD				*i* IAML		07 44 32.9	
ZHG	**ZHG**	**3.69**	**198**	P	**Pn**	**07 43 36.9**	**-0.7**
ZHG	**ZHG**	**3.69**	**198**	S	**Sn**	**07 44 18.1**	**-2.5**
PCAS	**Casmilo, Conde**	**3.98**	**322**	*e*Pn	**Pn**	**07 43 45.9**	**+4.4**
PCAS				*e*Sn	**Sn**	**07 44 27.7**	**+0.1**
PCAS				*e*Sg	**Sg**	**07 44 48.2**	**-0.8**
PCAS				*i* IAML		07 44 52.7	
PCAS				*i* IAML		07 44 56.2	
PCAS				*i* IAML		07 44 59.1	
PVIS	**Viseu**	**4.26**	**332**	*e*Pn	**Pn**	**07 43 49.5**	**+4.2**
PVIS				*e*Sn	**Sn**	**07 44 32.8**	**-1.8**
PVIS				*e*Sg	**Sg**	**07 44 56.5**	**-1.5**
MVO	**Moncorvo**	**4.40**	**342**	*e*Pn	**Pn**	**07 43 48.0**	**+0.7**
MVO				*e*Sn	**Sn**	**07 44 37.4**	**-0.8**
MVO				*e*Sg	**Sg**	**07 45 00.8**	**-1.8**
MVO				*i* IAML		07 45 07.9	
MVO				*i* IAML		07 45 10.0	
MVO				*i* IAML		07 45 12.5	
PVRL	**Vila Real**	**4.70**	**337**	*e*Sn	**Sn**	**07 44 44.8**	**-0.5**
PVRL				*i* IAML		07 45 07.2	
PVRL				*e*Sg	**Sg**	**07 45 09.7**	**-2.3**
PVRL				*i* IAML		07 45 15.0	
PVRL				*i* IAML		07 45 15.2	
POLO	**Lamas de Olo**	**4.81**	**337**	*e*Pn	**Pn**	**07 43 49.5**	**-3.4**
POLO				*e*Sn	**Sn**	**07 44 47.9**	**-0.3**
POLO				*e*Sg	**Sg**	**07 45 13.1**	**-2.5**
POLO				*i* IAML		07 45 18.1	
POLO				*i* IAML		07 45 22.8	
POLO				*i* IAML		07 45 29.5	
PBRG	**Braganca**	**4.96**	**347**	*e*Sn	**Sn**	**07 44 50.3**	**-1.5**
PBRG				*e*Sg	**Sg**	**07 45 17.2**	**-3.1**
PBRG				*i* IAML		07 45 21.7	
PBRG				*i* IAML		07 45 22.2	
PBRG				*i* IAML		07 45 26.2	
PCAB	**Cabril**	**5.19**	**337**	*e*Sg	**Sg**	**07 45 26.3**	**-1.4**
OUK	**Oukaimeden**	**6.14**	**201**	P	**Pn**	**07 44 07.9**	**-3.5**

BHK					*e*S		**S**	**07 51 11.3 +5.0**
BHK					IAML			07 51 13.2
	comp=N,120nnm,0.3s							
BHK					IAML			07 51 15.7
	comp=E,92nm,0.2s							
AAK	**Ala-Archa**	**6.97**	**24**	P			**Pn**	**07 49 49.6 +0.4**
	comp=E,16nm,0.4s,baz=196,slow=6.5,SNR=52							
AAK					S		**S**	**07 51 05.5 -3.0**
	comp=E,21nm,0.5s,baz=333,slow=22,SNR=28							
AAK	**Ala-Archa**	**6.97**	**24**	P			**Pn**	**07 49 49.8 +0.6**
	SNR=23							
AAK	**Ala-Archa**	**6.97**	**24**	⇑Pn			**Pn**	**07 49 49.6 +0.4**
	comp=E,3.5nm,0.4s							
AAK					⇑Sn		**S**	**07 51 06.3 -2.2**
	comp=E,22nm,0.6s							
HRA	**Herat**	**7.10**	**257**				**Pn**	**07 49 50.7 -0.4**
KBK	**Karagaybulak**	**7.15**	**27**	P			**Pn**	**07 49 52.5 +1.0**
	SNR=9.7							
ULHL	**Ulahol**	**7.34**	**35**	P			**Pn**	**07 49 55.5 +1.4**
	SNR=7.3							
BOOM	**Boomskoye usch**	**7.40**	**32**	Pn			**Pn**	**07 49 55.0 +0.2**
SMLA	**Simla**	**7.54**	**132**	*e*P			**Pn**	**07 49 58.1 +1.6**
SMLA				*e*S			**S**	**07 51 19.0 -2.8**
SMLA				IAML				07 51 27.1
	comp=E,142nm,0.7s							
SMLA				IAML				07 51 27.2
	comp=N,143nm,0.7s							
TKM2	**Tokmak 2**	**7.62**	**29**	P			**Pn**	**07 49 58.2 +0.5**
	SNR=16							
KDJ	**Kajisay**	**7.71**	**39**				**Pn**	**07 49 59.1 +0.2**
TARG	**Taragay, Kyrgy**	**7.77**	**44**				**Pn**	**07 50 00.0 +0.2**
PRZ	**Przheval'sk**	**8.60**	**42**				**Pn**	**07 50 11.6 +1.1**
KUDL	**Kundal**	**9.56**	**147**	*e*P			**Pn**	**07 50 22.4 -0.4**
KUDL				*e*S			**S**	**07 52 04.0 -6.1**
KUDL				IAML				07 52 08.2
	comp=E,27nm,0.8s							
KUDL				IAML				07 52 12.2
	comp=N,16nm,0.7s							
PTH	**Pithoragarh**	**10.53**	**127**	*e*P			**Pn**	**07 50 36.1 +0.6**
PTH				*e*S			**S**	**07 52 27.4 -6.2**
PTH				IAML				07 52 32.9
	comp=N,12nm,0.3s							
PTH				IAML				07 52 34.3
	comp=E,10nm,0.3s							
MAKZ	**Makanchi**	**13.47**	**36**	Pn			**Pn**	**07 51 12.5 +0.1**
MKAR	**Makanchi Array**	**13.61**	**36**	Pn			**Pn**	**07 51 13.9 -0.1**
MKAR	**Makanchi Array**	**13.61**	**36**	P			**Pn**	**07 51 14.5 +0.4**
	comp=E,0.7nm,0.5s,baz=216,slow=17,SNR=7.4							
WMQ	**Urumqi**	**15.05**	**55**	*e*P			**P**	**07 51 34.3 +1.9**
WMQ				pmax			pmax	
	comp=Z,26nm,0.9s							
AB31	**Akbulak array**	**15.08**	**332**	P			**Pn**	**07 51 28.6 -3.5**
AB31	**Akbulak array**	**15.08**	**332**	P			**P**	**07 51 37.6 +5.0**
	comp=Z,1.3nm,0.5s,baz=140,slow=11,SNR=30							
ABKAR	**Akbulak array**	**15.08**	**332**	P			**Pn**	**07 51 29.9 -2.1**
KURBB	**Kurchatov Arra**	**15.38**	**19**	P			**P**	**07 51 36.8 +0.9**
	comp=Z,0.3nm,0.3s,baz=210,slow=10.0,SNR=5.1							
KURK	**Kurchatov**	**15.49**	**19**	P			**Pn**	**07 51 36.8 -0.2**
EVN	**Everest**	**16.06**	**117**	P			**Pn**	**07 51 46.1 +1.3**
BVAR	**Borovoye Array**	**16.69**	**360**	P			**Pn**	**07 51 51.1 -0.3**
	comp=Z,0.8nm,0.3s,baz=148,slow=12,SNR=5.4							
AKTO	**Aktyubinsk**	**16.77**	**331**	P			**P**	**07 51 51.4 +0.2**
	comp=Z,1.4nm,0.4s,baz=153,slow=7.5,SNR=5.8							
ZAA0	**Zalesovo Array**	**20.20**	**25**	P			**P**	**07 52 25.9 -2.3**
ZAA0				IAmb			IAmb	07 52 31.5
	comp=Z,3.6nm,1.1s							
ZALV	**Zalesovo Beam**	**20.20**	**25**	P			**P**	**07 52 25.9 -2.3**
ZALV	**Zalesovo Beam**	**20.20**	**25**	P			**P**	**07 52 29.5 +1.3**
	comp=Z,2.7nm,0.4s,baz=222,slow=12,SNR=4.1							
	comp=Z,2.7nm,0.4s							
SONM	**Songino Array**	**28.69**	**55**	IAmb			IAmb	07 54 32.4
	comp=Z,2.7nm,1.4s							
SONM	**Songino Array**	**28.69**	**55**	P			**P**	**07 53 48.9 +1.6**
	comp=Z,0.4nm,0.4s,baz=280,slow=8.6,SNR=1.5							
	comp=Z,0.4nm,0.4s							
HHC	**Hu-ho-hao-te**	**32.12**	**69**	*e*P			**P**	**07 54 19.3 +1.8**
HHC				pmax			pmax	
	comp=Z,12nm,0.6s							
HHC				pmax			pmax	
	comp=Z,100nm,5.6s							
FINES	**FINESS Array B**	**37.44**	**326**	P			**P**	**07 55 02.7 +0.1**
	comp=Z,1.3nm,0.8s,baz=101,slow=8.1,SNR=1.1							
	comp=Z,1.3nm,0.8s							
ARCES	**ARCESS Array B**	**41.17**	**338**	P			**P**	**07 55 34.0 +0.6**
	comp=Z,3.3nm,0.7s,baz=110,slow=7.1,SNR=10.0							
	comp=Z,3.3nm,0.7s							
NOA	**NORSAR Array B**	**44.32**	**323**	P			**P**	**07 55 58.0 -0.7**
	comp=Z,0.4nm,0.4s,baz=99,slow=8.2,SNR=3.2							
	comp=Z,0.4nm,0.4s							
NC204	**NORSAR Array S**	**44.56**	**323**	P			**P**	**07 55 57.9 -2.8**
NC204				IAmb			IAmb	07 56 24.4
	comp=Z,3.5nm,0.9s							
SPITS	**Spitsbergen Ar**	**47.58**	**347**	P			**P**	**07 56 25.2 +1.3**
	comp=Z,5.6nm,0.9s,baz=114,slow=13,SNR=1.6							
	comp=Z,5.6nm,0.9s							
ILAR	**Eielson Array**	**75.02**	**16**	P			**P**	**07 59 26.4 -1.4**
ILAR	**Eielson Array**	**75.02**	**16**	P			**P**	**07 59 28.2 +0.4**
	comp=Z,0.5nm,0.9s,baz=322,slow=5.1,SNR=5.0							
	comp=Z,0.5nm,0.9s							
G31M	**Satah River**	**75.32**	**10**	P			**P**	**07 59 28.8 -0.7**
G31M				IAmb			IAmb	08 00 04.8
	comp=Z,9.7nm,1.4s							
H29M	**Whitestone**	**75.36**	**12**	P			**P**	**07 59 28.8 -1.0**
H29M				IAmb			IAmb	07 59 56.1
	comp=Z,8.5nm,1.5s							
I28M	**Miner Creek**	**75.79**	**13**	P			**P**	**07 59 31.4 -0.9**
I28M				IAmb			IAmb	07 59 58.7
	comp=Z,3.7nm,1.4s							
SCRK	**Sand Creek**	**76.34**	**15**	P			**P**	**07 59 35.6 +0.1**
SCRK				IAmb			IAmb	07 59 35.8
	comp=Z,5.4nm,1.5s							
WRA	**Warramunga Arr**	**82.17**	**122**	P			**P**	**08 00 07.8 +0.3**
WRA	**Warramunga Arr**	**82.17**	**122**	P			**P**	**08 00 07.7 +0.1**
	comp=Z,0.7nm,0.5s,baz=321,slow=4.7,SNR=11							
	comp=Z,0.7nm,0.5s							
WR8	**Warramunga Arr**	**82.30**	**122**	P			**P**	**08 00 08.0 -0.1**
ASAR	**Alice Springs**	**84.42**	**125**	P			**P**	**08 00 19.6 +0.7**
	comp=Z,0.9nm,0.5s,baz=306,slow=4.9,SNR=14							
	comp=Z,0.9nm,0.5s							

*SJA **25** 08:04:19.8±0.7, 21°.37S×68°.77W, h136km±3km, ML3.6, MW3.6*
*GUC **25** 08:04:21.5±0.7, 21°.38S×68°.67W, h125km±4km, ML3.6*
ISC 25 08:04:20.5±1.5, 21°.37S±0°.03×68°.77W±0°.06, h136km±10km, n35, σ0°54/58, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.61**	**226**	⇑*i*P	**Pn**	**08 04 41.1**	**0.0**
PB09				*e*S	**Sn**	**08 04 56.5**	**-0.3**
PB09				IAML		08 04 58.4	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.61**	**226**	*e*P	**Pn**	**08 04 40.9**	**-0.2**
PB09				*e*S	**Sn**	**08 04 56.7**	**-0.1**
PB09				IAML		08 04 57.1	
	comp=Z,2μm,0.4s						
PB01	**IPOC Station P**	**0.74**	**296**	⇑*i*P	**Pn**	**08 04 41.8**	**-0.1**
PB01				*e*S	**Sn**	**08 04 57.5**	**-0.7**
PB01	**IPOC Station P**	**0.74**	**296**	*e*P	**Pn**	**08 04 41.5**	**-0.4**
PB01				*e*S	**Sn**	**08 04 58.3**	**+0.1**
PB01				IAML		08 04 59.0	
	comp=Z,3μm,0.2s						
PB02	**IPOC Station P**	**1.05**	**272**	⇑*i*P	**Pn**	**08 04 45.0**	**+0.4**
PB02				*e*S	**Sn**	**08 05 03.0**	**+0.2**
PB02	**IPOC Station P**	**1.05**	**272**	*e*P	**Pn**	**08 04 45.0**	**+0.4**
PB02				*e*S	**Sn**	**08 05 02.8**	**0.0**
PX03	**IPOC Station P**	**1.25**	**320**	*e*P	**Pn**	**08 04 46.0**	**-0.6**
PX03				*e*S	**Sn**	**08 05 06.1**	**-0.3**
PX03				IAML		08 05 07.1	
	comp=N,2μm,0.4s						
PB08	**IPOC Station P**	**1.27**	**344**	⇑*i*P	**Pn**	**08 04 47.4**	**+0.3**
PB08				*e*S	**Sn**	**08 05 07.6**	**+0.4**
PB08				IAML		08 05 08.7	
	comp=E,796nm,0.5s						
PB08	**IPOC Station P**	**1.27**	**344**	*e*P	**Pn**	**08 04 46.8**	**-0.3**
PB08				*e*S	**Sn**	**08 05 07.7**	**+0.5**
PB08				IAML		08 05 09.7	
	comp=Z,453nm,0.3s						
PATCX	**Punta Patache**	**1.40**	**293**	*e*P	**Pn**	**08 04 48.7**	**+0.6**
PATCX				*e*S	**Sn**	**08 05 09.7**	**+0.7**
PATCX	**Punta Patache**	**1.40**	**293**	*e*P	**Pn**	**08 04 48.7**	**+0.6**
PATCX				*e*S	**Sn**	**08 05 08.5**	**-0.6**
PATCX				IAML		08 05 11.7	
	comp=Z,910nm,0.8s						
PB06	**IPOC Station P**	**1.52**	**209**	⇑*i*P	**Pn**	**08 04 49.6**	**+0.1**
PB06				*e*S	**Sn**	**08 05 11.4**	**-0.2**
PB06				IAML		08 05 12.2	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.52**	**209**	*e*P	**Pn**	**08 04 49.7**	**+0.1**
PB06				*e*S	**Sn**	**08 05 11.5**	**-0.2**
PB06				IAML		08 05 12.9	
	comp=Z,658nm,0.3s						
TA01	**Diego Aracena**	**1.54**	**301**	*i*P	**Pn**	**08 04 49.8**	**+0.2**
TA01				*e*S	**Sn**	**08 05 11.8**	**+0.2**
TA01	**Diego Aracena**	**1.54**	**301**	*e*P	**Pn**	**08 04 49.9**	**+0.4**
TA01				*e*S	**Sn**	**08 05 11.5**	**-0.1**
TA01				IAML		08 05 13.7	
	comp=Z,520nm,0.4s						
AF01	**San Pedro de A**	**1.67**	**161**	*e*P	**Pn**	**08 04 51.7**	**+0.5**
AF01				*e*S	Sn	08 05 25.8	+11
AF01				IAML		08 05 29.9	
	comp=Z,189nm,0.9s						
TA02	**Huaiquique**	**1.68**	**310**	*e*P	**Pn**	**08 04 51.2**	**+0.1**
TA02	**Huaiquique**	**1.68**	**310**	*e*P	**Pn**	**08 04 51.2**	**+0.1**
TA02				*e*S	**Sn**	**08 05 15.9**	**+1.5**
TA02				IAML		08 05 19.3	
	comp=Z,690nm,0.1s						
GO01	**Chusmiza**	**1.74**	**347**	*e*P	**Pn**	**08 04 52.4**	**+0.1**
GO01				*e*S	**Sn**	**08 05 17.1**	**+0.6**
GO01	**Chusmiza**	**1.74**	**347**	*e*P	**Pn**	**08 04 52.4**	**+0.1**
GO01				*e*S	**Sn**	**08 05 16.4**	**0.0**
GO01				IAML		08 05 18.8	
	comp=Z,274nm,0.1s						
PB11	**IPOC Station P**	**1.80**	**332**	⇑*i*P	**Pn**	**08 04 52.6**	**-0.1**
PB11				*e*S	**Sn**	**08 05 17.4**	**+0.1**
PB11	**IPOC Station P**	**1.80**	**332**	*e*P	**Pn**	**08 04 52.6**	**-0.1**
PB11				*e*S	**Sn**	**08 05 16.4**	**-0.8**
PB11				IAML		08 05 19.6	
	comp=Z,372nm,0.3s						
PB05	**IPOC Station P**	**1.99**	**222**	*e*P	**Pn**	**08 04 55.1**	**+0.3**
PB05				*e*S	**Sn**	**08 05 20.6**	**-0.4**
PB05				IAML		08 05 25.8	
	comp=E,251nm,0.3s						
PB05	**IPOC Station P**	**1.99**	**222**	*e*P	**Pn**	**08 04 54.8**	**0.0**
PB05				*e*S	**Sn**	**08 05 20.9**	**-0.2**
PB05				IAML		08 05 21.1	
	comp=Z,233nm,0.6s						
PB10	**IPOC Station P**	**2.70**	**217**	*e*P	**Pn**	**08 05 03.6**	**+0.1**
PB10	**IPOC Station P**	**2.70**	**217**	*e*P	**Pn**	**08 05 03.8**	**+0.3**
PB10				*e*S	Sn	08 05 26.4	-10
PB16	**IPOC Station P**	**3.10**	**347**	⇓*e*P	**Pn**	**08 05 10.4**	**+1.2**
PB16	**IPOC Station P**	**3.10**	**347**	*e*P	**Pn**	**08 05 10.2**	**+1.0**
PB16				*e*S	**Sn**	**08 05 44.9**	**-1.7**
PB12	**IPOC Station P**	**3.11**	**332**	*e*P	**Pn**	**08 05 07.9**	**-0.9**
PB12	**IPOC Station P**	**3.11**	**332**	*e*P	**Pn**	**08 05 08.0**	**-0.9**
PB12				*e*S	**Sn**	**08 05 46.0**	**-0.2**
PB12				IAML		08 05 57.4	
	comp=Z,88nm,0.4s						
YJA	**Yavi**	**3.13**	**105**	*e*P	**Pn**	**08 05 09.6**	**+0.1**
YJA	**Yavi**	**3.13**	**105**	*e*P	**Pn**	**08 05 09.6**	**+0.1**
AP01	**Chacalluta**	**3.33**	**333**	*e*P	Pn	08 05 01.8	-10
AP01				IAML		08 05 59.8	
	comp=Z,202nm,0.5s						
PB14	**IPOC Station P**	**3.58**	**205**	*e*P	**Pn**	**08 05 14.7**	**-0.4**
PB14				*e*S	Sn	08 05 44.5	-13
PB14				IAML		08 06 06.8	
	comp=Z,51nm,0.4s						
GO02	**Mina Guanaco**	**3.85**	**191**	*e*P	**Pn**	**08 05 18.9**	**+0.2**
GO02				*e*S	Sn	08 05 46.3	-18
GO02				IAML		08 05 55.8	
	comp=Z,66nm,0.5s						

TRN 25 08:10:30.4, 11°.15N×61°.76W, h66km, MD3.8, North-west of Trinidad., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.50**	**155**	*e*P	Pn	08 10 42.5	-0.3
DMDM				*e*S	Sn	08 10 51.3	-0.6
TRN	**Trinidad (W)**	**0.61**	**145**	*e*P	Pn	08 10 43.7	-0.3
TRN				*e*S	Sn	08 10 53.3	-0.7
TPP	**Pointe-a-Pierr**	**0.89**	**160**	*e*P	Pn	08 10 48.6	+1.4
GRFF	**Grenada Fort F**	**0.89**	**2**	*e*P	Pn	08 10 46.8	-0.6
GRFF				*e*S	Sn	08 10 59.8	-0.1
GRGR	**Grenville**	**0.98**	**6**	*e*P	Pn	08 10 47.7	-0.8
GRGR				*e*S	Sn	08 11 01.2	-0.6
GRW	**Mount Saint Ca**	**1.00**	**6**	*e*P	Pn	08 10 49.5	+0.7
GRW				*e*S	Sn	08 11 03.6	+1.1
GRHS	**Sauteurs**	**1.07**	**6**	*e*P	Pn	08 10 48.7	-0.9
GRHS				*e*S	Sn	08 11 03.2	-0.7
GRSS	**Sisters**	**1.15**	**7**	*e*P	Pn	08 10 50.5	-0.1
GRSS				*e*S	Sn	08 11 06.0	+0.3
GCMP	**Grenada, Carri**	**1.36**	**14**	*e*P	Pn	08 10 52.7	-0.8
GCMP				*e*S	Sn	08 11 09.7	-1.0
SVB	**Belmont**	**2.16**	**13**	*e*P	Pn	08 11 04.3	+0.1
SVB				*e*S	Sn	08 11 30.6	+0.5
BBGH	**Gun Hill**	**2.92**	**47**	*e*P	Pn	08 11 16.1	+1.5
SLBI	**Saint Lucia, B**	**2.95**	**15**	*e*P	Pn	08 11 14.5	-0.5
SLBI				*e*S	Sn	08 11 47.2	-2.0
BIM	**Bigot**	**3.41**	**11**	*e*P	Pn	08 11 20.9	-0.4
BIM				*e*S	Sn	08 11 58.8	-1.7
ILAM	**Ilet Lapin Mar**	**3.70**	**13**	*e*P	Pn	08 11 24.4	-0.8
ILAM				*e*S	Sn	08 12 05.8	-1.8
SVN	**Savane Anatole**	**3.71**	**9**	*e*P	Pn	08 11 25.3	0.0
SVN				*e*S	Sn	08 12 05.9	-2.0
DSLB	**Salisbury**	**4.27**	**4**	*e*P	Pn	08 11 33.4	+0.4
DSLB				*e*S	Sn	08 12 19.7	-1.9
DWS	**Wesley**	**4.41**	**6**	*e*P	Pn	08 11 35.8	+0.9
DWS				*e*S	Sn	08 12 22.8	-2.2
DHSZ	**Broadband at M**	**5.09**	**360**	*e*P	Pn	08 11 44.0	-0.1
DHSZ				*e*S	Sn	08 12 40.0	-1.6
DSDZ	**La Diserade, G**	**5.17**	**7**	*e*P	Pn	08 11 44.5	-0.8
DSDZ				*e*S	Sn	08 12 40.0	-3.6
BAUV	**El Baul**	**6.56**	**251**	*e*P	Pn	08 12 04.5	+0.2
BAUV				*e*S	Sn	08 13 13.9	-3.9

*IDC **25** 08:21:52.8±0.7, 11°.15S×165°.00E, h0km, mb4.3/15, mbtmp4.3/17, ML4.5/2, MS3.7/24, Error ellipse: s-maj=22.2km s-min=16.9km az=104.0*
*NEIC **25** 08:21:54.9±1.3, 11°.16S±0°.08×165°.08E±0°.07, h10km±1km, mb4.9/27, Error ellipse: s-maj=17.7km s-min=3.7km az=41.0*
ISC 25 08:21:57.7±0.5, 11°.24S±0°.07×165°.03E±0°.07, h31km, n83, σ1°37/60, mb4.7/34, MS3.7/22, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.69**	**153**		**Pn**	**08 23 06.3**	**-0.1**
HNR	**Honiara**	**5.31**	**289**	Pn	**Pn**	**08 23 14.7**	**-0.2**
HNR	**Honiara**	**5.31**	**289**	Pn	**Pn**	**08 23 14.1**	**-0.8**
	21nm,0.3s,baz=117,slow=11,SNR=2.7						
HNR				Sn	**Sn**	**08 24 13.3**	**-1.8**
	34nm,0.3s,baz=350,slow=21,SNR=8.3						
HNR				LR	LR	08 25 08.3	
	comp=Z,816nm,20.9s,baz=169,slow=37						
	97nm,0.6s						
DZM	**Mont Dzumac**	**10.86**	**173**	Pn	**Pn**	**08 24 32.2**	**+1.0**
	2.7nm,0.3s,baz=336,slow=11,SNR=25						
	5.1nm,0.3s						
ONTNC	**Ouen Toro**	**11.10**	**173**	Pn	**Pn**	**08 24 33.7**	**-0.6**
PINNC	**Pines Island,**	**11.55**	**169**	Pn	**Pn**	**08 24 40.7**	**+0.2**
PMG	**Port Moresby**	**17.68**	**274**	LR	LR	08 32 12.5	
	comp=Z,451nm,19.7s,baz=144,slow=35						
EIDS	**Eidsvold**	**19.29**	**221**		**P**	**08 26 20.1**	**0.0**
MANU	**Manus Island**	**19.76**	**296**		**P**	**08 26 24.6**	**-0.7**
MANU				IAmb	IAmb	08 26 26.7	
	comp=Z,91nm,1.1s						
COEN	**Coen**	**21.50**	**260**		**P**	**08 26 43.6**	**-0.5**
COEN				IAmb	IAmb	08 26 47.2	
	comp=Z,44nm,1.2s						
ARMA	**Armidale**	**22.79**	**211**		**P**	**08 26 57.9**	**-0.1**
ARMA				IAmb	IAmb	08 27 01.4	
	comp=Z,33nm,1.1s						
JAY	**Jayapura**	**25.63**	**288**	LR	LR	08 38 19.0	
	comp=Z,89nm,19.1s,baz=3.5,slow=38						
SMPI	**Sarmi**	**27.68**	**287**	P	**P**	**08 27 40.4**	**-2.8**
	comp=Z,17nm,1.0s						
INKA	**Innaminka**	**28.08**	**231**		**P**	**08 27 47.4**	**+0.7**
INKA				IAmb	IAmb	08 27 48.8	
	comp=Z,13nm,0.9s						
HIZ	**Hauiti**	**28.55**	**164**	P	**P**	**08 27 50.9**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**29.58**	**3**	T	T	08 59 02.4	
	baz=184,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**29.59**	**3**	T	T	08 59 00.5	
	baz=184,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**29.60**	**3**	T	T	08 59 06.4	
	baz=184,slow=76,SNR=7.3						
STKA	**Stephens Creek**	**29.82**	**223**	IAmb	IAmb	08 28 09.3	
	comp=Z,130nm,1.4s						
STKA	**Stephens Creek**	**29.82**	**223**	P	**P**	**08 28 02.9**	**+0.8**
	comp=Z,8.0nm,0.8s,baz=41,slow=9.0,SNR=12						
STKA				LR	LR	08 39 20.8	
	comp=Z,238nm,18.1s,baz=28,slow=35						
	comp=Z,8.0nm,0.8s						
WB0	**Warramunga Arr**	**30.67**	**250**	P	**P**	**08 28 08.9**	**-0.9**
WB0				IAmb	IAmb	08 28 10.1	
	comp=Z,30nm,0.9s						
WRA	**Warramunga Arr**	**30.76**	**250**	P	**P**	**08 28 09.6**	**-0.9**
WRA	**Warramunga Arr**	**30.76**	**250**	P	**P**	**08 28 09.8**	**-0.8**
	comp=Z,16nm,0.9s,baz=81,slow=9.0,SNR=84						
WRA				PcP	**PcP**	**08 31 07.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=82,slow=2.9,SNR=8.3						
WRA				LR	LR	08 40 25.4	
	comp=Z,145nm,18.6s,baz=86,slow=36						
	comp=Z,16nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**30.81**	**3**	T	T	09 00 28.5	
	baz=182,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**30.81**	**3**	T	T	09 00 33.6	
	baz=182,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**30.82**	**3**	T	T	09 00 30.2	
	baz=182,slow=76,SNR=6.0						
GUMO	**Guam**	**31.75**	**320**	LR	LR	08 40 35.1	
	comp=Z,28nm,20.4s,baz=140,slow=35						
AS31	**Alice Springs**	**32.08**	**243**	P	**P**	**08 28 20.5**	**-1.7**
AS31				IAmb	IAmb	08 28 22.8	
	comp=Z,8.3nm,1.3s						
ASAR	**Alice Springs**	**32.08**	**243**	P	**P**	**08 28 21.7**	**-0.5**
	comp=Z,11nm,0.9s,baz=72,slow=9.7,SNR=68						
ASAR				PcP	**PcP**	**08 31 11.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=60,slow=2.6,SNR=9.9						
ASAR				LR	LR	08 39 59.2	
	comp=Z,225nm,18.7s,baz=104,slow=34						
	comp=Z,11nm,0.9s						
RPZ	**Rata Peaks**	**32.78**	**172**	P	**P**	**08 28 29.3**	**+1.3**
MTN	**Manton Dam**	**33.18**	**264**	P	**P**	**08 28 30.7**	**-1.1**
MTN				IAmb	IAmb	08 28 41.0	
	comp=Z,8.0nm,0.9s						
BBOO	**Buckleboo**	**34.19**	**227**	P	**P**	**08 28 40.8**	**+0.3**
BBOO				IAmb	IAmb	08 28 41.7	
	comp=Z,38nm,1.1s						
RAR	**Rarotonga**	**35.15**	**111**	LR	LR	08 38 45.6	
	comp=Z,36nm,21.8s,baz=293,slow=29						
KNRA	**Kununurra**	**35.52**	**259**	P	**P**	**08 28 50.8**	**-1.3**
KNRA				IAmb	IAmb	08 29 02.5	
	comp=Z,33nm,0.9s						
FITZ	**Fitzroy Crossi**	**38.65**	**255**	P	**P**	**08 29 17.6**	**-1.1**
	comp=Z,10nm,0.9s,baz=95,slow=8.4,SNR=5.5						
FITZ				LR	LR	08 44 04.3	
	comp=Z,235nm,19.6s,baz=46,slow=34						
	comp=Z,10nm,0.9s						
MIDW	**Midway**	**42.76**	**23**	P	**P**	**08 29 51.1**	**-1.3**
PPT	**Papeete**	**44.34**	**104**	LR	LR	08 45 40.9	
	comp=Z,86nm,21.0s,baz=289,slow=32						
PPT2	**Papeete2**	**44.34**	**104**	*e*S	**S**	**08 36 36.5**	**-1.6**
	comp=Z,43nm,28.0s						
PPT2				*e*LQ	LQ	08 40 30.3	
	comp=Z,85nm,24.8s						
PPT2				*e*LR	LR	08 42 21.7	
	comp=Z,121nm,23.8s						
PPT2				*e*LR	LR	08 42 30.0	
	comp=Z,189nm,26.5s						
TBI	**Tubuai**	**44.91**	**112**	*e*LR	LR	08 42 33.9	
	comp=Z,755nm,23.8s						
TBI				*e*LR	LR	08 42 43.2	
	comp=Z,747nm,30.0s						
KAPI	**Kappang**	**45.20**	**274**	LR	LR	08 48 45.1	
	comp=Z,40nm,18.4s,baz=156,slow=36						
NWAO	**Narrogin (SRO)**	**48.77**	**236**	LR	LR	08 51 21.3	
	comp=Z,295nm,18.3s,baz=86,slow=36						
MORW	**Morawa**	**48.92**	**241**	P	**P**	**08 30 41.2**	**0.0**
JMN	**Monobe**	**53.65**	**328**	P	**P**	**08 31 15.3**	**-1.2**
MJAR	**Matsushiro Arr**	**53.82**	**333**	IAmb	IAmb	08 31 17.6	
	comp=Z,2.4nm,1.4s						
MJAR	**Matsushiro Arr**	**53.82**	**333**	P	**P**	**08 31 15.6**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=144,slow=9.6,SNR=2.2						
	comp=Z,1.9nm,0.9s						
TAOE	**Nuku Hiva Isla**	**53.97**	**93**	*e*LR	LR	08 46 50.7	
	comp=Z,95nm,26.8s						
JNU	**Nakatsue**	**54.83**	**325**	P	**P**	**08 31 24.8**	**-0.3**
JNU				IAmb	IAmb	08 31 36.4	
	comp=Z,29nm,1.3s						
JNU	**Nakatsue**	**54.83**	**325**	LR	LR	08 54 14.4	
	comp=Z,66nm,18.2s,baz=7.5,slow=36						
JSD	**Sado**	**55.05**	**334**	P	**P**	**08 31 25.8**	**-0.8**
JSD

	comp=Z,34nm,18.0s,baz=274,slow=33						
LPIG	**La Paz**	**89.73**	**65**	LR	LR	09 07 13.5	
	comp=Z,30nm,20.3s,baz=322,slow=30						
NEW	**Newport**	**90.34**	**41**	LR	LR	09 11 41.5	
	comp=Z,26nm,19.7s,baz=311,slow=33						
BELA	**Belgrano 2**	**90.35**	**176**	P	**P**	**08 34 55.0**	**-0.4**
BELA				IAmb	IAmb	08 34 56.4	
	comp=Z,6.8nm,1.0s						
MKAR	**Makanchi Array**	**93.18**	**317**	P	**P**	**08 35 08.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=102,slow=6.1,SNR=3.0						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**94.20**	**47**	LR	LR	09 10 50.6	
	comp=Z,22nm,19.5s,baz=330,slow=31						
ANMO	**Albuquerque**	**95.13**	**56**	LR	LR	09 11 15.8	
	comp=Z,38nm,19.3s,baz=40,slow=31						
SNAA	**Sanae**	**96.88**	**184**	IAmb	IAmb	08 35 27.1	
	comp=Z,4.2nm,1.3s						
SNAA	**Sanae**	**96.88**	**184**	P	**P**	**08 35 24.9**	**-0.7**
	comp=Z,2.1nm,1.0s,baz=197,slow=5.7,SNR=4.1						
	comp=Z,2.1nm,1.0s						

*ASRS **25** 08:22:12.0±1.0, 54°.59N×83°.74E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 08:22:16.0±1.7, 54°.58N×83°.76E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=14.9km s-min=10.2km az=3.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**135**	I	I	08 27 30.0	
	0.1nm,1.0s,baz=317,slow=322,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.89**	**135**	Pg	Pg	08 22 32.2	-0.7
	1.3nm,0.3s,baz=316,slow=18,SNR=11						
ZALV				Lg	Lg	08 22 46.3	
	1.3nm,0.3s,baz=315,slow=28,SNR=5.9						
KURBB	**Kurchatov Arra**	**5.08**	**221**	Pn	Pn	08 23 33.1	-0.3
	0.1nm,0.3s,baz=38,slow=13,SNR=1.9						
KURBB				Lg	Lg	08 24 55.4	
	0.1nm,0.3s,baz=44,slow=32,SNR=4.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.85**	**187**	Pn	Pn	08 24 12.0	+0.6
	0.1nm,0.3s,baz=13,slow=13,SNR=2.2						
MKAR				Lg	Lg	08 26 24.9	
	0.1nm,0.3s,baz=5.7,slow=30,SNR=2.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	08 24 13.9	-0.5
	baz=72,slow=15,SNR=2.6						
	0.5nm,0.4s						

*DJA **25** 08:29:34.9±0.5, 4°.5S±5°.5×12°.8E±°, h10km, M3.7/8, MLv3.7/8*
*IDC **25** 08:29:34.2±1.8, 3°.65S×128°.74E, h0km, mb4.1/2, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=137.0km s-min=28.7km az=68.0*

ISC 25 08:29:34.6±1.5, 3°.78S±0°.10×128°.14E±0°.06, h9km±8km, n10, σ1s73/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.11**	**30**	P	**Pg**	**08 29 37.1**	**0.0**
AAI				S	**Sg**	**08 29 39.0**	**+0.1**
MSAI	**Masohi**	**0.90**	**61**	P	**Pn**	**08 29 52.2**	**-1.2**
MSAI				S	**Sn**	**08 30 04.2**	**-2.4**
NLAI	**Namlea**	**1.17**	**297**	P	**Pn**	**08 29 55.4**	**-1.8**
BNDI	**Bandanaira**	**1.91**	**113**	P	**Pn**	**08 30 06.6**	**-0.8**
SANI	**Sanana**	**2.75**	**309**	P	**Pn**	**08 30 18.9**	**-0.1**
FAKI	**Fak Fak**	**4.19**	**78**	P	**Pn**	**08 30 40.2**	**+1.4**
SWI	**Sorong**	**4.25**	**47**	P	**Pn**	**08 30 39.3**	**-0.4**
WRA	**Warramunga Arr**	**17.16**	**160**	P	**Pn**	**08 33 34.4**	**-0.5**
	0.3nm,0.3s,baz=340,slow=12,SNR=6.0						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**20.54**	**165**	P	Pn	08 34 15.5	-0.3
	9.5nm,0.6s,baz=344,slow=10,SNR=55						
ASAR				PcP	**PcP**	**08 38 24.0**	**-1.2**
	0.3nm,0.7s,baz=355,slow=2.5,SNR=2.1						
	9.5nm,0.6s						
MKAR	**Makanchi Array**	**64.53**	**327**	P	**P**	**08 40 15.2**	**+3.1**
	0.8nm,0.7s,baz=123,slow=7.5,SNR=4.7						
	0.8nm,0.7s						

TAP 25 08:32:35.7, 24°.62N×121°.18E, h5km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NFF	**Wufeng Townshi**	**0.05**	**279**	*i* P	Pg	08 32 37.5	+0.4
NFF				*i* S	Sg	08 32 38.6	+0.5
LIOB	**Emei**	**0.15**	**279**	P	Pg	08 32 39.6	+1.0
LIOB				S	Sg	08 32 42.4	+1.7
KSHI	**Guanxi Townshi**	**0.15**	**0**	*i* P	Pg	08 32 39.7	+0.9
KSHI				S	Sg	08 32 42.6	+1.8
NSTT	**Nanjuang**	**0.16**	**273**	P	Pg	08 32 39.7	+0.9
NSTT				S	Sg	08 32 42.5	+1.6
NSK	**Sanguang**	**0.17**	**72**	P	Pg	08 32 39.7	+0.6
NSK				*i* S	Sg	08 32 42.5	+1.1
YHNB	**Yeheng**	**0.19**	**76**	P	Pg	08 32 39.9	+0.5
YHNB				S	Sg	08 32 42.7	+0.8
NNS	**Nan Shan**	**0.26**	**135**	*e*P	Pb	08 32 41.9	-1.0
NNS				S	Sb	08 32 45.9	-1.7
NNSB	**Datong**	**0.27**	**136**	P	Pb	08 32 42.1	-1.0
NNSB				S	Sg	08 32 46.0	+1.4
NNSH	**Datong**	**0.27**	**136**	P	Pb	08 32 42.1	-1.0
NNSH				S	Sg	08 32 45.9	+1.4
LATG	**Datong**	**0.33**	**105**	P	Pb	08 32 43.5	-0.6
LATG				S	Sg	08 32 47.7	+1.2
NWLT	**Wulai**	**0.33**	**63**	P	Pg	08 32 42.6	+0.4
NWLT				*e*S	Sg	08 32 46.8	+0.2
ENTT	**Nioudou**	**0.35**	**87**	*e*P	Pg	08 32 43.3	+0.8
ENTT				*e*S	Sg	08 32 48.3	+1.1
FUSB	**Fushanzhiwuyua**	**0.40**	**70**	P	Pg	08 32 43.5	+0.1
FUSB				S	Sg	08 32 49.1	+0.4

TAP 25 08:32:38.8, 23°.98N×121°.02E, h19km, ML0.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPL	**Puli Township**	**0.07**	**304**	*e*P	Pg	08 32 42.6	+0.2
WUSB	**Renai**	**0.09**	**80**	*i* P	Pg	08 32 43.2	+0.5
WUSB				S	Sg	08 32 45.8	+0.4
OWD	**Renai**	**0.15**	**98**	P	Pg	08 32 43.5	+0.2
OWD				S	Sg	08 32 46.4	+0.1
TYC	**Yuchr**	**0.16**	**244**	*e*P	Pg	08 32 43.5	+0.2
TYC				*e*S	Sg	08 32 47.2	+0.9
SSLB	**Suanglung**	**0.20**	**197**	P	Pg	08 32 43.6	-0.2
SSLB				S	Sg	08 32 47.3	+0.1
VWDT	**VWDT**	**0.25**	**153**	P	Pg	08 32 44.8	+0.3
VWDT				S	Sg	08 32 48.6	+0.1
WHP	**Taichung City**	**0.31**	**348**	P	Pg	08 32 44.5	-1.1
WHP				S	Sb	08 32 50.6	+0.2
WHP	**Taichung City**	**0.31**	**348**	*e*P	Pg	08 32 44.6	-1.0
WHP				S	Sb	08 32 50.6	+0.2
LXIB	**Xiulin Townshi**	**0.36**	**83**	P	Pg	08 32 46.5	-0.1
LXIB				*e*S	Sg	08 32 51.2	-0.7
WARBT	**Fenglin Townsh**	**0.42**	**127**	*e*P	Pg	08 32 47.6	0.0
WARBT				*e*S	Sg	08 32 52.4	-1.1
ETLH	**Xiulin Townshi**	**0.48**	**61**	*e*P	Pg	08 32 48.5	-0.2
ETLH				*e*S	Sg	08 32 53.4	-1.9

*IDC **25** 08:35:07.3±3.9, 53°.84N×88°.19E, h0km, mbtmp2.8/2, ML2.5/1, Error ellipse: s-maj=36.5km s-min=20.4km az=48.0*

ASRS 25 08:35:08.0±1.2, 53°.59N×87°.88E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**282**	I	I	08 50 20.0	
	baz=92,slow=341,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.85**	**282**	Pg	Pg	08 35 43.5	+0.1
	1.0nm,0.3s,baz=90,slow=16,SNR=6.6						
ZALV				Lg	Lg	08 36 10.3	
	2.0nm,0.3s,baz=92,slow=26,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	08 36 48.6	+4.1
	0.1nm,0.3s,baz=60,slow=14,SNR=3.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	08 37 05.5	+4.3
	0.2nm,0.3s,baz=26,slow=12,SNR=1.1						

*OSPL **25** 09:06:00.7±1.6, 19°.74N×76°.39W, h0km±10km, ML2.8*
*SSNC **25** 09:06:01.5±1.8, 19°.72N×76°.31W, h4km±8km, MD3.1, ML3.0, MW3.1*
*JSN **25** 09:06:04.3±0.8, 19°.68N×76°.39W, h30km±431km, MD3.9*

ISC 25 09:06:00.7±1.0, 19°.81N±0°.04×76°.36W±0°.03, h29km±8km, n21, σ0s94/35, 1C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIV	**Chivirico**	**0.18**	**343**	*i* P	**Pb**	**09 06 06.7**	**+0.1**
CHIV				*e*S	**Sb**	**09 06 10.1**	**-0.5**
CHIV				IAML		09 06 10.3	
	comp=E,7μm,0.2s						
CHIV				IAML		09 06 10.3	
	comp=N,6μm,0.2s						
MARVS	**Santiago de Cu**	**0.47**	**66**	*i* P	**Pb**	**09 06 10.8**	**0.0**
MARVS				*e*S	**Sb**	**09 06 17.1**	**-0.4**
MARVS				IAML		09 06 17.6	
	comp=N,3μm,0.1s						
MARVS				IAML		09 06 18.8	
	comp=E,1μm,0.1s						
RCC	**Rio Carpintero**	**0.65**	**73**	*e*P	**Pb**	**09 06 13.8**	**+0.2**
RCC				*e*S	**Sb**	**09 06 22.4**	**0.0**
RCC				IAML		09 06 25.1	
	comp=N,617nm,0.2s						
RCC				IAML		09 06 25.2	
	comp=E,455nm,0.1s						
LMGC	**Las Mercedes**	**0.66**	**293**	*e*P	**Pn**	**09 06 14.6**	**+0.5**
LMGC				*e*S	**Sn**	**09 06 24.0**	**+0.5**
LMGC				IAML		09 06 25.8	
	comp=N,2μm,0.1s						
LMGC				IAML		09 06 26.8	
	comp=E,1μm,0.1s						
PINC	**Pinares de May**	**0.86**	**38**	*e*P	**Pn**	**09 06 16.7**	**-0.2**
HLGC	**Holguin**	**1.11**	**15**	*i* P	**Pb**	**09 06 22.0**	**+0.6**
HLGC				*i* S	**Sb**	**09 06 37.4**	**+1.8**
HLGC				IAML		09 06 39.5	
	comp=N,1μm,0.3s						
HLGC				IAML		09 06 39.7	
	comp=E,1μm,0.5s						
GTBY	**Guantanamo Bay**	**1.18**	**84**	*e*P	**Pn**	**09 06 22.1**	**+0.8**
GTBY				*e*S	**Sn**	**09 06 37.3**	**+0.9**
GTBY				IAML		09 06 40.7	
	comp=E,870nm,0.3s						
GTBY				IAML		09 06 40.8	
	comp=E,418nm,0.3s						
GTBY	**Guantanamo Bay**	**1.18**	**84**	*i* P	**Pb**	**09 06 22.6**	**+0.1**
GTBY				*e*S	**Sb**	**09 06 38.5**	**+1.0**
GTBY				IAML		09 06 40.3	
	comp=Z,442nm,0.1s						
NMDO	**Nuevo Mundo**	**1.50**	**60**	*e*P	**Pn**	**09 06 25.6**	**0.0**
QMBU	**Quimbuelo**	**1.51**	**75**	*e*P	**Pn**	**09 06 25.6**	**-0.2**
QMBU				*e*S	**Sn**	**09 06 43.1**	**-1.3**
QMBU				IAML		09 06 47.4	
	comp=E,234nm,0.3s						
QMBU				IAML		09 06 48.0	
	comp=N,256nm,0.2s						
MOAC	**Moa**	**1.56**	**57**	*e*P	**Pn**	**09 06 27.1**	**+0.6**
MOAC				*e*S	**Sb**	**09 06 47.5**	**-0.9**
MOAC				IAML		09 06 51.5	
	comp=N,72nm,0.3s						
MOAC				IAML		09 06 51.9	
	comp=E,117nm,0.2s						
GWJ	**Greenwich**	**1.76**	**192**	⇓*i*P	**Pn**	**09 06 30.0**	**+0.6**
STH	**Stony Hill**	**1.77**	**194**	⇓*i*P	**Pn**	**09 06 30.2**	**+0.7**
STH	**Stony Hill**	**1.77**	**194**	*e*P	**Pn**	**09 06 29.8**	**+0.3**
STH				*e*S	**Sn**	**09 06 48.2**	**-2.9**
HOJ	**Hope**	**1.83**	**192**	⇑*i*P	**Pn**	**09 06 31.3**	**+1.0**
CCCC	**Cccc**	**1.91**	**317**	*e*P	**Pn**	**09 06 31.1**	**-0.3**
CCCC				*e*S	**Sn**	**09 06 52.8**	**-1.7**
CCCC				IAML		09 06 54.6	
	comp=E,79nm,0.4s						
CCCC				IAML		09 06 55.1	
	comp=N,75nm,0.6s						
MTDJ	**Mount Denham**	**1.93**	**215**	⇓*i*P	**Pn**	**09 06 32.6**	**+1.0**
MTDJ	**Mount Denham**	**1.93**	**215**	*e*P	**Pn**	**09 06 32.3**	**+0.6**
MTDJ				*e*S	**Sn**	**09 06 54.2**	**-0.7**
MTDJ				IAML		09 06 57.4	
	comp=N,31nm,0.3s						
MTDJ				IAML		09 06 57.5	
	comp=N,45nm,0.2s						
MTDJ	**Mount Denham**	**1.93**	**215**	*i* P	**Pn**	**09 06 32.5**	**+0.8**
MTDJ				*e*S	**Sn**	**09 06 54.5**	**-0.4**
MTDJ				IAML		09 07 00.8	
	comp=Z,31nm,0.6s						
MASC	**Masc**	**2.04**	**79**	*e*P	**Pn**	**09 06 33.2**	**+0.2**
MASC				IAML		09 07 09.1	
	comp=N,76nm,0.4s						
MASC	**Masc**	**2.04**	**79**	*i* P	**Pn**	**09 06 34.0**	**+1.0**
MASC				*e*S	**Sb**	**09 07 01.3**	**-0.6**
MASC				IAML		09 07 09.2	
	comp=Z,66nm,0.8s						

*NEIC **25** 09:13:45.3±0.2, 19°.32N±0°.03×67°.29W±0°.06, h10km±1km, ML1.9/9, Md3.1/7(RSPR), Error ellipse: s-maj=9.6km s-min=4.6km az=247.0*
*SDD **25** 09:13:49.5±2.3, 19°.27N×67°.09W, h21km±10km, MD2.7, ML1.7, MW2.4*
*RSPR **25** 09:13:49.1, 19°.30N×67°.37W, h46km±11km, MD3.1/7*

ISC 25 09:13:46.4±1.6, 19°.26N±0°.06×67°.19W±0°.04, h9km±10km, n34, σ0s67/52, 26C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.80**	**175**	⇑*i*P	**Pb**	**09 14 03.1**	**+0.7**
AGPR				⇑*i*S	**Sg**	**09 14 13.2**	**+1.1**
AGPR				⇑*e*Sg	**Sb**	**09 14 14.1**	**+0.8**
AGPR				IAML		09 14 19.4	
	comp=N,64nm,2.1s						
AGPR	**Aguadilla, PR**	**0.80**	**175**	*i* P	**Pg**	**09 14 01.5**	**-0.2**
AGPR				*i* S	**Sg**	**09 14 12.6**	**+0.5**
AGPR				IAML		09 14 20.5	
	comp=N,104nm,1.7s						
IDE	**Isla Desecheo**	**0.91**	**197**		**Pb**	**09 14 04.5**	**+0.2**
IDE					**Sg**	**09 14 15.6**	**-0.2**
IDE	**Isla Desecheo**	**0.91**	**197**	⇑*e*P	**Pb**	**09 14 04.5**	**+0.2**
IDE	**Isla Desecheo**	**0.91**	**197**	*e*S	**Sg**	**09 14 15.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.00**	**156**	Pn	**Pn**	**09 14 06.6**	**0.0**
AOPR				IAML		09 14 20.1	
	comp=N,36nm,1.0s						
AOPR	**Arecibo Observ**	**1.00**	**156**	⇑*e*P	**Pn**	**09 14 06.7**	**0.0**
AOPR	**Arecibo Observ**	**1.00**	**156**	*e*S	**Sn**	**09 14 21.7**	**+0.8**
AOPR	**Arecibo Observ**	**1.00**	**156**	⇑*i*P	**Pg**	**09 14 05.8**	**+0.2**
AOPR				⇑*i*S	**Sn**	**09 14 20.9**	**-0.1**
AOPR				IAML		09 14 25.9	
	comp=N,34nm,0.2s						
AOPR	**Arecibo Observ**	**1.00**	**156**	*i* P	**Pg**	**09 14 04.8**	**-0.8**
AOPR				⇑*i*S	**Sg**	**09 14 17.9**	**-0.8**
AOPR				IAML		09 14 25.9	
	comp=N,34nm,0.2s						
LSP	**Las Mesas**	**1.09**	**175**		**Pb**	**09 14 07.4**	**0.0**
LSP					**Sg**	**09 14 20.8**	**-0.5**
LSP	**Las Mesas**	**1.09**	**175**	⇑*e*P	**Pb**	**09 14 07.4**	**0.0**
LSP	**Las Mesas**	**1.09**	**175**	*e*S	**Sg**	**09 14 20.8**	**-0.5**
ECPR	**Experimental S**	**1.22**	**140**	⇑*e*P	**Pg**	**09 14 11.0**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.25**	**177**		**Pn**	**09 14 09.2**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.25**	**177**	⇑*e*P	**Pb**	**09 14 10.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.25**	**177**	*e*S	**Sb**	**09 14 25.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.25**	**177**	⇑*i*P	**Pb**	**09 14 10.5**	**+0.3**
CRPR				⇑*i*S	**Sb**	**09 14 26.4**	**-0.1**
CRPR				⇑*e*Sg	**Sn**	**09 14 27.4**	**+0.3**
CRPR				IAML		09 14 30.3	
	comp=N,12nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.25**	**177**	⇑*i*P	**Pb**	**09 14 10.3**	**+0.1**
CRPR				⇑*i*S	**Sn**	**09 14 27.3**	**+0.3**
CRPR				IAML		09 14 27.8	
	comp=N,19nm,0.4s						
MLPR	**Magueyes Islan**	**1.29**	**174**	⇑*e*P	**Pn**	**09 14 10.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.29**	**174**	*e*S	**Sb**	**09 14 27.5**	**-0.1**
MLPR	**Magueyes Islan**	**1.29**	**174**	*i* P	**Pn**	**09 14 10.2**	**-0.4**
MLPR				⇑*i*S	**Sb**	**09 14 25.5**	**-2.2**
MLPR				IAML		09 14 30.7	
	comp=N,2.6nm,0.6s						
MLPR	**Magueyes Islan**	**1.29**	**174**	*i* P	**Pn**	**09 14 10.8**	**+0.2**
MLPR				*i* S	**Sb**	**09 14 27.2**	**-0.4**
MLPR				IAML		09 14 37.4	
	comp=N,8.3nm,2.6s						
OBIP	**Obispado Ponce**	**1.33**	**155**		**Pn**	**09 14 10.9**	**-0.3**
OBIP					**Sg**	**09 14 29.9**	**+0.6**
OBIP				IAML		09 14 39.8	
	comp=E,20nm,1.7s						
OBIP	**Obispado Ponce**	**1.33**	**155**	⇑*e*P	**Pb**	**09 14 11.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.33**	**155**	*e*S	**Sn**	**09 14 29.4**	**+0.3**
GCPR	**Guaynabo City**	**1.41**	**132**	Pn	**Pg**	**09 14 13.1**	**-0.4**
GCPR				IAML		09 14 28.0	
	comp=N,19nm,2.2s						
GCPR				IAML		09 15 07.4	
	comp=E,16nm,2.4s						
PDPR	**Patillas Dam,**	**1.66**	**138**	Pn	**Pn**	**09 14 15.7**	**0.0**
PDPR				IAML		09 14 59.4	
	comp=N,11nm,2.5s						
PDPR	**Patillas Dam,**	**1.66**	**138**	⇑*e*P	**Pb**	**09 14 16.6**	**-0.6**
PDPR	**Patillas Dam,**	**1.66**	**138**	*e*S	**Sb**	**09 14 38.4**	**+0.2**
MIDR	**Miches**	**1.78**	**261**	⇑*i*P	**Pb**	**09 14 18.3**	**-0.9**
MIDR				⇑*i*S	**Sn**	**09 14 39.2**	**-0.9**
MIDR				IAML		09 14 44.1	
	comp=N,3.1nm,0.3s						
MIDR				IAML		09 14 56.9	
	comp=N,16nm,1.7s						
MIDR	**Miches**	**1.78**	**261**	*i* P	**Pb**	**09 14 19.0**	**-0.2**
MIDR				*i* S	**Sb**	**09 14 41.4**	**-0.2**
MIDR				IAML		09 14 44.1	
	comp=N,3.1nm,0.3s						
MIDR				IAML		09 14 56.9	
	comp=N,16nm,1.7s						
HATOM	**Hato Mayor del**	**2.13**	**258**	*i* P	**Pb**	**09 14 24.5**	**-0.6**
HATOM				⇑*i*S	**Sn**	**09 14 49.7**	**+0.9**
HATOM				⇑*e*Sg	**Sg**	**09 14 56.7**	**+1.9**
HATOM				IAML		09 14 57.0	
	comp=N,4.3nm,0.7s						
HATOM	**Hato Mayor del**	**2.13**	**258**	⇑*i*P	**Pn**	**09 14 22.0**	**-0.1**
HATOM				⇑*i*S	**Sn**	**09 14 49.7**	**+0.9**
HATOM				IAML		09 15 06.7	
	comp=N,19nm,1.6s						

*SSNC **25** 09:23:04.9±1.1, 19°.77N×76°.34W, h11km±5km, MD3.0, ML2.8, MW2.9*
*JSN **25** 09:23:04.7±1.3, 19°.77N×76°.19W, h30km±999km, MD3.9*

ISC 25 09:23:03.2±1.1, 19°.80N±0°.04×76°.36W±0°.03, h21km±2km, n17, σ0s98/29, 2C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIV	**Chivirico**	**0.18**	**342**	⇓*i*P	**Pb**	**09 23 09.3**	**+0.2**
CHIV				*e*S	**Sb**	**09 23 12.0**	**-1.2**
CHIV				IAML		09 23 12.9	
	comp=E,3μm,0.2s						
CHIV				IAML		09 23 12.9	
	comp=N,2μm,0.2s						
MARVS	**Santiago de Cu**	**0.47**	**66**	⇓*i*P	**Pb**	**09 23 13.3**	**+0.6**
MARVS				*i* S	**Sb**	**09 23 19.6**	**+0.3**
RCC	**Rio Carpintero**	**0.65**	**73**	*e*P	**Pb**	**09 23 16.4**	**+0.5**
RCC				*e*S	**Sb**	**09 23 24.6**	**0.0**
RCC				IAML		09 23 27.8	
	comp=N,178nm,0.2s						
RCC				IAML		09 23 27.8	
	comp=E,194nm,0.1s						
LMGC	**Las Mercedes**	**0.66**	**293**	*e*P	**Pb**	**09 23 17.0**	**+0.9**
LMGC				*e*S	**Sb**	**09 23 25.8**	**+0.9**
LMGC				IAML		09 23 29.3	
	comp=N,822nm,0.2s						
LMGC				IAML		09 23 29.4	
	comp=E,529nm,0.2s						
PINC	**Pinares de May**	**0.86**	**38**	*e*P	**Pb**	**09 23 19.4**	**-0.1**
PINC				*e*S	**Sb**	**09 23 31.6**	**+1.0**
PINC				IAML		09 23 33.1	
	comp=E,492nm,0.2s						
PINC				IAML		09 23 34.3	
	comp=N,652nm,0.1s						
HLGC	**Holguin**	**1.12**	**14**	*e*P	**Pn**	**09 23 24.6**	**+1.0**
HLGC				*e*S	**Sb**	**09 23 40.0**	**+2.1**
HLGC				IAML		09 23 42.2	
	comp=N,539nm,0.3s						
HLGC				IAML		09 23 43.8	
	comp=E,450nm,0.2s						
SABCS	**La Quijada**	**1.13**	**60**	⇑*i*P	**Pn**	**09 23 24.0**	**+0.2**
SABCS				*e*S	**Sb**	**09 23 37.4**	**-0.8**
SABCS				IAML		09 23 45.3	
	comp=N,279nm,0.6s						
SABCS				IAML		09 23 45.8	
	comp=E,333nm,0.3s						
GTBY	**Guantanamo Bay**	**1.18**	**84**	*e*P	**Pb**	**09 23 25.2**	**+0.3**
GTBY				*e*S	**Sn**	**09 23 41.0**	**+1.2**
GTBY				IAML		09 23 43.4	
	comp=E,297nm,0.4s						
GTBY				IAML		09 23 43.4	
	comp=E,349nm,0.6s						
NMDO	**Nuevo Mundo**	**1.49**	**60**	*e*P	**Pn**	**09 23 28.6**	**-0.2**
QMBU	**Quimbuelo**	**1.50**	**75**	*e*P	**Pn**	**09 23 28.6**	**-0.3**
QMBU				*e*S	**Sn**	**09 23 46.4**	**-1.6**
QMBU				IAML		09 23 50.6	
	comp=N,109nm,0.3s						
QMBU				IAML		09 23 57.8	
	comp=N,137nm,0.6s						
QMBU				IAML		09 23 57.9	
	comp=E,150nm,0.5s						
MOAC	**Moa**	**1.56**	**57**	*e*P	**Pn**	**09 23 29.2**	**-0.6**
MOAC				*e*S	**Sn**	**09 23 49.1**	**-0.3**
MOAC				IAML		09 23 58.3	
	comp=E,64nm,0.3s						
MOAC				IAML		09 23 58.9	
	comp=N,47nm,0.6s						
GWJ	**Greenwich**	**1.76**	**192**	⇓*i*P	**Pn**	**09 23 32.6**	**0.0**
STH	**Stony Hill**	**1.77**	**194**	⇑*i*P	**Pn**	**09 23 32.9**	**+0.2**
HOJ	**Hope**	**1.83**	**192**	*i* P	**Pn**	**09 23 33.9**	**+0.5**
CCCC	**Cccc**	**1.92**	**317**	*e*P	**Pn**	**09 23 33.7**	**-0.9**
CCCC				*e*S	**Sn**	**09 23 55.7**	**-2.4**
CCCC				IAML		09 23 58.7	
	comp=N,39nm,0.1s						
CCCC				IAML		09 24 02.8	
	comp=E,44nm,0.4s						
MTDJ	**Mount Denham**	**1.93**	**216**	*i* P	**Pn**	**09 23 35.2**	**+0.4**
MTDJ	**Mount Denham**	**1.93**	**216**	*e*P	**Pn**	**09 23 35.0**	**+0.2**
MTDJ				*e*S	**Sn**	**09 23 57.3**	**-1.2**
MTDJ				IAML		09 23 59.1	
	comp=E,23nm,0.3s						
MTDJ				IAML		09 23 59.6	
	comp=E,26nm,0.1s						

*IDC **25** 09:35:46.1±0.8, 36°.89N×5°.23W, h0km, mb4.1/18, mbtmp4.1/22, ML3.9/4, MS3.7/38, Error ellipse: s-maj=25.9km s-min=12.9km az=99.0*
*NEIC **25** 09:35:47.8±0.9, 36°.95N±0°.06×5°.24W±0°.06, h10km±1km, mb4.4/28, Error ellipse: s-maj=9.9km s-min=7.2km az=152.0*
*MDD **25** 09

EXMOR	Moron de la Fr	0.20	316	⇓Pg	Pb	09 35 54.2 +1.0
EXMOR				Sg	Sb	09 35 57.9 +1.5
ESPR	Espera	0.48	257	Pg	Pb	09 35 59.5 +1.1
ESPR				Sg	Sb	09 36 06.2 +1.2
ESPR	Espera	0.48	257	⇓Pg	Pb	09 35 59.4 +1.1
ESPR				Sg	Sb	09 36 05.3 +0.3
ESPR				*i* IVmb_Lg		09 36 12.8
EMIJ	Mijas	0.58	136	Pg	Pg	09 35 58.9 -1.0
EMIJ				Sg	Sb	09 36 08.7 +0.9
EMIJ	Mijas	0.58	136	⇓Pg	Pg	09 35 58.9 -1.0
EMIJ				Sg	Sb	09 36 07.7 -0.1
EMAL	Malaga-Limoner	0.71	107	Pg	Pg	09 36 01.1 -1.3
EMAL				Sg	Sb	09 36 12.6 +0.8
CNIL	Conil	0.87	226	Pg	Pn	09 36 06.9 +1.1
SFS	San Fernando	0.91	236	Pg	Pn	09 36 08.1 +1.9
SFS				Sg	Sg	09 36 18.1 +0.1
SFS	San Fernando	0.91	236	Pg	Pn	09 36 08.1 +1.9
SFS				Sg	Sb	09 36 17.3 0.0
SFS	San Fernando	0.91	236		Pn	09 36 07.3 +1.1
SFS	San Fernando	0.91	236	P	Pn	09 36 08.1 +1.9
SFS	San Fernando	0.91	236	S	Sn	09 36 24.2 +5.4
EXBAR	Barbate	0.94	214	Pg	Pn	09 36 08.6 +1.9
EXBAR				Sg	Sn	09 36 19.3 -0.3
EGOR	Sierra Gorda,	0.94	82	Pg	Pg	09 36 07.0 +0.2
EGOR				Sg	Sn	09 36 21.1 +1.2
EGOR	Sierra Gorda,	0.94	82	⇑Pg	Pg	09 36 06.9 +0.2
EGOR				Sg	Sn	09 36 21.0 +1.0
EGOR				*i* IVmb_Lg		09 36 28.7
ECEU	Ceuta	1.08	184	Pg	Pg	09 36 10.0 +0.6
ECEU	Ceuta	1.08	184	⇑Pg	Pg	09 36 10.0 +0.6
ECEU				Sg	Sn	09 36 23.7 +0.5
ECAB	El Cabril	1.10	354	Pg	Pb	09 36 09.3 +0.4
ECAB				Sg	Sn	09 36 25.5 +1.7
ECAB	El Cabril	1.10	354	⇓Pg	Pb	09 36 09.5 +0.5
ECAB				Sg	Sb	09 36 24.0 +1.0
ECAB				*i* IVmb_Lg		09 36 27.0
EXAGR	Agron	1.16	87	Pg	Pg	09 36 10.8 0.0
EXAGR				Sg	Sn	09 36 26.8 +1.7
ARNO	Arenosillo	1.17	276	Pn	Pg	09 36 11.2 +0.1
ARNO				Sn	Sg	09 36 27.9 +1.5
CPS	Cap Spartel	1.29	203	P	Pg	09 36 14.0 +0.5
CPS	Cap Spartel	1.29	203	S	Sg	09 36 31.4 +1.0
SMIR	Smir Dam	1.30	184	P	Pg	09 36 13.0 -0.5
SMIR				P	Pg	09 36 13.0 -0.5
SMIR	Smir Dam	1.30	184	S	Sg	09 36 32.4 +2.0
EADA	Adamuz	1.31	25	Pn	Pn	09 36 13.0 +1.1
EADA				Sn	Sn	09 36 29.7 +0.8
EADA	Adamuz	1.31	25	Pg	Pn	09 36 12.9 +1.1
EADA				Sg	Sn	09 36 29.9 +1.0
EADA				*i* IVmb_Lg		09 36 32.8
ELGU	Los Guajares,	1.33	94	Pn	Pn	09 36 12.2 +0.1
ELGU				Sn	Sg	09 36 31.3 -0.1
ELGU	Los Guajares,	1.33	94	⇓Pg	Pn	09 36 12.3 +0.2
ELGU				Sg	Sg	09 36 31.5 +0.1
ELGU				*i* IVmb_Lg		09 36 42.1
EXGRA	Granada	1.35	80	Pg	Pg	09 36 15.4 +0.8
EXGRA				Sg	Sg	09 36 33.9 +1.7
EMIN	Mina Concepcio	1.36	306	Pn	Pn	09 36 13.1 +0.6
EMIN				Sn	Sb	09 36 32.5 +2.0
EMIN	Mina Concepcio	1.36	306	⇓Pg	Pn	09 36 13.1 +0.6
EMIN				Sg	Sb	09 36 32.2 +1.7
EMIN				*i* IVmb_Lg		09 36 36.7
EQTA	Presa de Quent	1.48	81	Pn	Pb	09 36 16.2 +0.7
EQUE	Quentar	1.48	81	Pg	Pb	09 36 16.1 +0.6
EQUE				Sg	Sn	09 36 33.8 +0.5
EQUE				*i* IVmb_Lg		09 36 40.4
E0803	Jimena (Jaen)	1.67	59	Pn	Pn	09 36 18.0 +1.2
E0803				Pg	Pg	09 36 20.2 -0.4
E0803				Sg	Sg	09 36 41.6 -0.7
EXAYA	Ayamonte	1.72	279	Pn	Pn	09 36 18.0 +0.6
EXAYA				Pg	Pg	09 36 21.3 -0.2
EXAYA				Sg	Sb	09 36 42.1 +1.3
E0802	Ubeda,Jaen	1.84	55	⇑Pn	Pn	09 36 19.9 +0.8
E0802				Sg	Sb	09 36 45.1 +0.9
PBAR	Barrancos	1.84	311	Pn	Pn	09 36 19.5 +0.4
PBAR				Sn	Sn	09 36 44.4 +2.4
PBAR	Barrancos	1.84	311	⇓*i*Pn	Pn	09 36 19.6 +0.5
PBAR				*e*Pg	Pg	09 36 24.0 +0.2
PBAR				*e*Sn	Sn	09 36 42.0 0.0
PBAR				*e*Sg	Sg	09 36 48.4 +0.6
PBAR				*i* IAML		09 36 58.0
PBAR				*i* IAML		09 37 04.4
PBAR				*i* IAML		09 37 04.7
EGRO	El Granado	1.85	288	Pn	Pn	09 36 19.8 +0.6
EGRO				Sn	Sb	09 36 46.8 +2.4
EGRO	El Granado	1.85	288	⇓Pn	Pn	09 36 19.7 +0.6
EGRO				⇓Pg	Pn	09 36 19.8 +0.6
EGRO				Sg	Sb	09 36 45.6 +1.2
EGRO				*i* IVmb_Lg		09 36 51.5
EQES	Quesada	1.94	64	⇑Pn	Pn	09 36 21.5 +0.9
EQES				⇑Pg	Pb	09 36 21.6 -1.7
EQES				Sn	Sn	09 36 46.6 +2.1
EQES				Sg	Sg	09 36 51.1 +0.2
EQES				*i* IVmb_Lg		09 36 56.9
EXEJI	El Ejido	1.99	95	Pn	Pn	09 36 21.9 +0.8
EXEJI				Sg	Sg	09 36 52.4 0.0
PVAQ	Vaqueiros	2.00	283		Pn	09 36 21.7 +0.5
PVAQ	Vaqueiros	2.00	283	⇓*i*Pn	Pn	09 36 21.8 +0.6
PVAQ				*e*Pg	Pg	09 36 26.4 -0.4
PVAQ				*e*Sn	Sn	09 36 45.6 -0.1
PVAQ				*e*Sg	Sb	09 36 51.4 +2.7
PVAQ				*i* IAML		09 36 57.6
PVAQ				*i* IAML		09 37 00.3
PVAQ				*i* IAML		09 37 01.0
PVAQ	Vaqueiros	2.00	283	P	Pn	09 36 21.8 +0.6
PVAQ	Vaqueiros	2.00	283	P	Pn	09 36 21.4 +0.1
PVAQ	Vaqueiros	2.00	283	S	Sn	09 36 47.8 +2.1
PALE	Palemas	2.06	148	P	Pn	09 36 23.3 +1.1
PALE	Palemas	2.06	148	S	Sb	09 36 49.3 -1.4
EALB	Alboran	2.08	119	Pn	Pn	09 36 22.8 +0.3
EALB				Sn	Sb	09 36 51.1 -0.1
EALB	Alboran	2.08	119	Pn	Pn	09 36 22.6 +0.2
EALB				⇓Pg	Pn	09 36 22.7 +0.3
EALB				Sn	Sb	09 36 50.3 -0.8
EALB				*i* IVmb_Lg		09 36 56.5
RSA	Sarsar	2.14	192	P	Pn	09 36 24.0 +0.8
RSA	Sarsar	2.14	192	S	Sn	09 36 49.5 +0.1
PBDV	Barranco-do-Ve	2.14	278	⇓*i*Pn	Pn	09 36 24.0 +0.7
PBDV				*e*Pg	Pg	09 36 31.6 +2.1
PBDV				*e*Sn	Sn	09 36 49.6 +0.2
PBDV				*e*Sg	Sg	09 36 59.1 +1.8
PBDV				*i* IAML		09 37 03.0
PBDV				*i* IAML		09 37 04.0
PBDV				*i* IAML		09 37 05.8
PSIM	Granatula de C	2.20	33	Pn	Pn	09 36 24.9 +0.9
PSIM				Pg	Pn	09 36 24.9 +0.9
PSIM				Sn	Sn	09 36 52.2 +1.4
PSIM				Sg	Sb	09 36 57.2 +2.7
EBAD	Badajoz	2.24	323	Sn	Sn	09 36 52.7 +0.8
EBAD				Pn	Pn	09 36 25.2 +0.6
EBAD	Badajoz	2.24	323	Pg	Pn	09 36 25.2 +0.6
EBAD				Pn	Pb	09 36 25.4 -3.0
EBAD				Sn	Sn	09 36 53.1 +1.2
EBAD				Sg	Sb	09 36 57.9 +2.0
EBAD				*i* IVmb_Lg		09 37 02.5
PCVE	Castro Verde	2.30	287	Sn	Sn	09 36 52.7 -0.5
PCVE				Pn	Pn	09 36 26.0 +0.6
PCVE	Castro Verde	2.30	287	⇓*i*Pn	Pn	09 36 26.0 +0.6
PCVE				*e*Pg	Pb	09 36 31.4 +2.0
PCVE				*e*Sg	Sg	09 37 02.9 +0.5
PCVE				*i* IAML		09 37 10.8
PCVE				*i* IAML		09 37 14.0
PCVE				*i* IAML		09 37 14.3
PBEJ	Beja	2.31	298	⇓*e*Pn	Pn	09 36 26.2 +0.7
PBEJ				*e*Pg	Pg	09 36 32.8 0.0
PBEJ				*e*Sg	Sg	09 37 03.5 +0.7
PBEJ				*i* IAML		09 37 09.9
PBEJ				*i* IAML		09 37 11.8
PBEJ				*i* IAML		09 37 13.6
ENIJ	Nijar	2.46	89	Sn	Sn	09 36 57.2 0.0
ENIJ				Pn	Pn	09 36 28.5 +0.9
ENIJ	Nijar	2.46	89	Pn	Pn	09 36 28.9 +1.3
ENIJ				Sg	Sg	09 37 07.6 +0.1
ENIJ				*i* IVmb_Lg		09 37 20.0
MESJ	Messejana	2.50	291	*e*P	Pn	09 36 28.9 +0.8
MESJ				*e*S	Sn	09 36 57.6 -0.5
MESJ				IAML		09 37 16.3
	comp=N,539nm,0.2s					
MESJ	Messejana	2.50	291		Pn	09 36 28.7 +0.6
MESJ	Messejana	2.50	291	⇓*i*Pn	Pn	09 36 28.9 +0.8
MESJ				*e*Sn	Sn	09 37 00.8 +2.7
MESJ				*e*Sg	Sg	09 37 10.3 +1.6
MESJ				*i* IAML		09 37 16.0
MESJ				*i* IAML		09 37 18.5
MESJ				*i* IAML		09 37 26.0
WMELI	Melilla	2.51	131	Pn	Pn	09 36 30.1 +1.8
EMEL	Melilla	2.52	131	Pn	Pn	09 36 29.5 +1.1
EMEL				Sn	Sn	09 36 59.6 +1.0
EMEL				*i* IVmb_Lg		09 37 14.7
EMLI	Melilla	2.52	131	Pn	Pn	09 36 28.8 +0.4
EMLI				Sn	Sn	09 36 56.8 -1.8
GOG	Mont Gurugu	2.55	133	P	Pn	09 36 29.9 +1.0
GOG	Mont Gurugu	2.55	133	S	Sn	09 37 01.9 +2.4
PESTR	Estremoz	2.63	317		Pn	09 36 30.7 +0.8
PESTR	Estremoz	2.63	317	*e*Pn	Pn	09 36 30.9 +0.9
PESTR				*e*Pg	Pg	09 36 37.9 -0.9
PESTR				*e*Sn	Sn	09 37 01.6 +0.2
PESTR				*e*Sg	Sg	09 37 11.2 -1.7
PESTR				*i* IAML		09 37 21.5
PESTR				*i* IAML		09 37 24.5
PESTR				*i* IAML		09 37 29.8
PESTR	Estremoz	2.63	317	P	Pn	09 36 30.7 +0.8
PESTR	Estremoz	2.63	317	S	Sn	09 37 04.3 +2.9
PAB	San Pablo	2.66	16	Pn	Pn	09 36 31.6 +1.1
PAB				Sn	Sn	09 36 59.7 -2.7
PAB				Sg	Sg	09 37 13.6 -0.5
PAB				*i* IVmb_Lg		09 37 17.4
PAB	San Pablo	2.66	16		Pn	09 36 32.2 +1.7
EVO	Evora	2.67	306	Sn	Sn	09 37 03.6 +1.3
EVO				Pn	Pn	09 36 31.3 +0.9
EVO	Evora	2.67	306	⇓*i*Pn	Pn	09 36 31.4 +0.9
EVO				*e*Pg	Pg	09 36 39.6 +0.1
EVO				*i* IAML		09 37 19.3
EVO				*i* IAML		09 37 33.1
MORF	Marmelete	2.72	278	*e*P	Pn	09 36 31.5 +0.3
MORF				*e*S	Sn	09 37 03.2 -0.4
MORF				IAML		09 37 18.2
	comp=N,1µm,0.2s					
MORF	Marmelete	2.72	278		Pn	09 36 31.5 +0.3
MORF	Marmelete	2.72	278	*e*Pn	Pn	09 36 31.5 +0.3
MORF				*e*Pg	Pg	09 36 39.7 -0.9
MORF				*e*Sn	Sn	09 37 04.0 +0.4
MORF				*i* IAML		09 37 18.3
MORF				*i* IAML		09 37 19.1
MORF				*i* IAML		09 37 19.3
AKLM	AKL	2.72	155	P	Pn	09 36 30.6 -0.6
AKLM	AKL	2.72	155	S	Sn	09 37 00.8 -2.9
PTEO	Sao Teotonio	2.81	283	⇓*i*Pn	Pn	09 36 33.2 +0.8
PTEO				*e*Pg	Pg	09 36 40.9 -1.3
PTEO				*e*Sn	Sn	09 37 05.8 0.0
PTEO				*e*Sg	Sg	09 37 18.9 +0.2
PTEO				*i* IAML		09 37 23.1
PTEO				*i* IAML		09 37 23.3
PTEO				*i* IAML		09 37 27.6
PFVI	Vila Bisbo	2.84	274		Pn	09 36 33.2 +0.3
PFVI	Vila Bisbo	2.84	274	⇓*i*Pn	Pn	09 36 33.2 +0.3
PFVI				*e*Pg	Pg	09 36 42.1 -0.9
PFVI				*e*Sn	Sn	09 37 07.1 +0.4
PFVI				*i* IAML		09 37 28.7
PFVI				*i* IAML		09 37 31.7
PFVI				*i* IAML		09 37 32.0
PFVI	Vila Bisbo	2.84	274	P	Pn	09 36 33.1 +0.3
PFVI				P	Pn	09 36 33.2 +0.3
PFVI	Vila Bisbo	2.84	274	S	Sn	09 37 07.5 +0.8
ESDC	Sonseca Array	2.88	21	Pn	Pn	09 36 34.4 +1.0
ESDC				Sn	Sn	09 37 09.5 +1.8
ESDC				Sg	Sb	09 37 18.3 +4.0
ESDC				*i* IVmb_Lg		09 37 23.6
ESDC	Sonseca Array	2.88	21		Pn	09 36 34.1 +0.6
ESDC	Sonseca Array	2.88	21	Pn	Pn	09 36 34.5 +1.0
	comp=N,32nm,0.3s,baz=200,slow=12,SNR=384					
ESDC				LR	LR	09 37 16.3
	comp=N,301nm,19.7s,baz=50,slow=31					
ESDC				Lg	Lg	09 37 18.6
	comp=N,275nm,0.3s,baz=202,slow=29,SNR=48					
	comp=N,69nm,0.3s					
ESBB	Sonseca Array	2.88	21	Pn	Pn	09 36 34.5 +1.0
ESBB				Sn	Sn	09 37 07.9 +0.1
ESBB				Sg	Sb	09 37 18.3 +4.0
ESBB	Sonseca Array	2.88	21		Pn	09 36 34.4 +1.0
ELOR	Lorca, Murcia	2.89	76	Pn	Pn	09 36 34.9 +1.3
ELOR				Pg	Pb	09 36 40.7 +1.3
ELOR				Sg	Sg	09 37 19.9 -1.4
ELOR				*i* IVmb_Lg		09 37 28.2
TLOR	Lorca, Murcia	2.94	76	Pn	Pn	09 36 35.6 +1.4
TLOR				Sn	Sn	09 37 12.4 +3.4
TLOR	Lorca, Murcia	2.94	76	Sg	Sb	09 37 18.7 +2.9
TLOR	Lorca, Murcia	2.94	76	Pn	Pn	09 36 35.8 +1.6
TLOR				Sg	Sg	09 37 23.4 +0.6
PMRV	Marv??o	2.96	326	*e*Pn	Pn	09 36 35.3 +0.7
PMRV				*e*Sn	Sn	09 37 09.4 -0.2
PMRV				*e*Sg	Sb	09 37 20.4 +4.0
PMRV				*i* IAML		09 37 29.3
PMRV				*i* IAML		09 37 31.6
PMRV				*i* IAML		09 37 33.2
EXBUL	Bullas, Murcia	3.06	69	Pn	Pn	09 36 38.2 +2.2
EXBUL				Sn	Sn	09 37 14.9 +2.7
EXBUL				Sg	Sg	09 37 26.8 -0.1
PMTG	Montargil	3.13	313	*e*Pn	Pn	09 36 37.4 +0.7
PMTG				*e*Pg	Pg	09 36 47.1 -1.3
PMTG				*e*Sn	Sn	09 37 14.1 +0.4
PMTG				*e*Sg	Sg	09 37 26.6 -2.2
PMTG				*i* IAML		09 37 35.8
PMTG				*i* IAML		09 37 38.5
PMTG				*i* IAML		09 37 44.7
EPLA	Plasencia	3.14	349	Pn	Pn	09 36 37.7 +0.7
EPLA				Sn	Sn	09 37 14.4 +0.3
EPLA				Sg	Sb	09 37 26.3 +4.5
EPLA				*i* IVmb_Lg		09 37 32.4
TAF	Taforalt	3.17	132	P	Pn	09 36 39.0 +1.5
EXMAZ	Mazarron	3.23	78	Pn	Pn	09 36 39.0 +0.9
EXMAZ				Sn	Sn	09 37 18.0 +1.9
EXMAZ				Sg	Sg	09 37 29.6 -2.4
RTC	Rabat Centre	3.25	204	Pn	Pn	09 36 39.3 +0.8
RTC				Sn	Sn	09 37 17.0 +0.3
RTC	Rabat Centre	3.25	204	P	Pn	09 36 37.3 -1.2
RTC	Rabat Centre	3.25	204	S	Sn	09 37 15.7 -1.0
EMUR	La Murta	3.33	74	Pn	Pn	09 36 40.1 +0.5
EMUR	La Murta	3.33	74	Pn	Pn	09 36 39.8 +0.3
EMUR				Pg	Pb	09 36 49.2 +2.4
EMUR				Sg	Sg	09 37 35.2 -0.1
EMUR				*i* IVmb_Lg		09 37 51.1
PCBR	Castelo Branco	3.34	329	*e*Pn	Pn	09 36 40.6 +0.9
PCBR				*e*Sn	Sn	09 37 18.3 -0.6
PCBR				*e*Sg	Sg	09 37 34.2 -1.5
PCBR				*i* IAML		09 37 38.5
PCBR				*i* IAML		09 37 40.1
PCBR				*i* IAML		09 37 44.8
ETOB	Tobarra	3.39	59	Sn	Sn	09 37 21.9 +1.7
ETOB				Pn	Pn	09 36 41.1 +0.7
JBK	JBK	3.44	139	P	Pn	09 36 42.2 +0.9
JBK	JBK	3.44	139	S	Sn	09 37 21.4 -0.2
IFR	Ifrane	3.46	178	Sn	Sn	09 37 20.5 -1.6
IFR				Pn	Pn	09 36 41.7 +0.2
CART	Cartagena	3.46	79	Sn	Sn	09 37 21.1 -0.8
CART				Pn	Pn	09 36 41.5 +0.2
CART	Cartagena	3.46	79		Pn	09 36 41.7 +0.3
CART	Cartagena	3.46	79	P	Pn	09 36 41.6 +0.2
CART	Cartagena	3.46	79	S	Sn	09 37 25.8 +3.9
PSARD	Sardoal	3.46	320	*e*Pn	Pn	09 36 42.2 +0.8
PSARD				*e*Pg	Pg	09 36 54.5 -0.3
PSARD				*e*Sn	Sn	09 37 22.7 +0.7
PSARD				*e*Sg	Sg	09 37 37.3 -2.4
PSARD				*i* IAML		09 37 47.8
PSARD				*i* IAML		09 37 48.0
PSARD				*i* IAML		09 37 48.6
LIS	Lisbon	3.52	301	*e*Pn	Pn	09 36 44.0 +1.8
LIS				*e*Sn	Sn	09 37 25.9 +2.5
LIS				*e*Sg	Sg	09 37 44.1 +2.5
LIS				*i* IAML		09 37 55.9
LIS				*i* IAML		09 37 58.1
LIS				*i* IAML		09 38 04.7
UCM	Universidad Co	3.68	25	Sn	Sn	09 37 26.9 -0.6
UCM				Pn	Pn	09 36 46.4 +1.9
ZHG	ZHG	3.70	198	P	Pn	09 36 44.4 -0.3
ZHG	ZHG	3.70	198	S	Sn	09 37 29.3 +1.4
PMAFR	Mafra	3.73	303	Pn	Pn	09 36 45.8 +0.7
PMAFR				Sn	Sn	09 37 30.9 +2.3
PMAFR	Mafra	3.73	303	*e*Pn	Pn	09 36 39.4 -5.7
PMAFR				*e*Sn	Sn	09 37 28.3 -0.3
PMAFR				*e*Sg	Sg	09 37 49.0 +0.7
PMAFR				*i* IAML		09 37 55.8
PMAFR				*i* IAML		09 37 58.9
PMAFR				*i* IAML		09 38 02.0
ETRV	Los Montesinos	3.74	72	Pg	Pb	09 36 54.5 +0.7
ETRV				Sg	Sb	09 37 43.8 +5.0
ETRV				*i* IVmb_Lg		09 38 09.9
PSBE	So Bento	3.75	313	*e*Pn	Pn	09 36 46.7 +1.3
PSBE				*e*Sn	Sn	09 37 29.4 +0.3
PSBE				*e*Sg	Sg	09 37 47.0 -1.9
PSBE				*i* IAML		09 37 58.6
PSBE				*i* IAML		09 38 07.7
PSBE				*i* IAML		09 38 12.1
GUD	Guadarrama	3.76	13	Pn	Pn	09 36 47.1 +1.5
GUD				Sn	Sn	09 37 27.7 -1.8
GUD				Sg	Sg	09 37 47.4 -1.8
GUD				*i* IVmb_Lg		09 37 54.5
MTE	Manteigas	3.85	333		Pn	09 36 47.6 +0.9
MTE	Manteigas	3.85	333	*e*Pn	Pn	09 36 49.4 +2.6
MTE				*e*Sn	Sn	09 37 31.4 -0.2
MTE				*e*Sg	Sg	09 37 49.4 -2.6
MTE				*i* IAML		09 37 56.4
MTE				*i* IAML		09 37 57.0
MTE				*i* IAML		09 37 59.0
YEBES	Yebes (Guadala	3.93	25	Pn	Pn	09 36 49.8 +1.9
YEBES				Sn	Sn	09 37 34.3 +0.7
YEBES				Sg	Sg	09 37 54.0 -0.6
YEBES				*i* IVmb_Lg		09 38 03.9
CZD	Col de Zad	3.94	177	P	Pn	09 36 47.3 -1.0
CZD	Col de Zad	3.94	177	S	Sn	09 37 32.1 -2.1
PCAS	Casmilo, Conde	3.98	322	*e*Pn	Pn	09 36 49.6 +1.1
PCAS				*e*Sn	Sn	09 37 33.9 -0.7
PCAS				*e*Sg	Sg	09 37 55.3 -0.7
PCAS				*i* IAML		09 38 02.1
PCAS				*i* IAML		09 38 02.4
PCAS				*i* IAML		09 38 03.5
EVIV	Cofrentes, Val	4.00	54	Pn	Pn	09 36 49.1 +0.3
EVIV				Pg	Pb	09 36 58.2 -0.1
EVIV				Sn	Sn	09 37 35.5 +0.3
EVIV				Sg	Sg	09 37 56.3 -0.4
EVIV				*i* IVmb_Lg		09 38 01.9
AFON	Font Roja	4.11	64	Pn	Pn	09 36 50.9 +0.5
AFON				Sg	Sg	09 38 00.4 0.0
AFON				*i* IVmb_Lg		09 38 18.0
MD01	Midelt array s	4.12	174		Pn	09 36 50.7 0.0
MD31	MD31	4.12	174		Pn	09 36 50.6 0.0
MD31	MD31	4.12	174	P	Pn	09 36 50.8 +0.2
MD31	MD31	4.12	174	S	Sn	09 37 35.5 -3.0
EJUZ	Juzbado, Salam	4.13	354	Pn	Pn	09 36 51.2 +0.5
EJUZ				Sn	Sn	09 37 38.7 +0.3
EJUZ				Sg	Sg	09 37 59.4 -1.5
MDT	Midelt	4.19	172	Pn	Pn	09 36 51.6 +0.1
	comp=N,6.5nm,0.3s,baz=355,slow=12,SNR=38					
MDT				Sn	Sn	09 37 39.1 -1.0
	comp=N,51nm,0.3s,baz=357,slow=17,SNR=16					
	comp=N,18nm,0.3s					
MDT	Midelt	4.19	172	P	Pn	09 36 51.7 +0.1
MDT				S	Sn	09 37 01.9 -38
PVIS	Viseu	4.25	332	*e*Pn	Pn	09 36 53.9 +1.5
PVIS				*e*Sn	Sn	09 37 40.3 -1.2
PVIS				*e*Sg	Sg	09 38 02.3 -2.7
ECHE	Chera	4.28	51	Pn	Pn	09 36 53.0 +0.4
ECHE				Sn	Sn	09 37 43.3 +1.3
ECHE				Sg	Sg	09 38 04.6 -1.1
ECHE				*i* IVmb_Lg		09 38 20.5
EBEN2	Beniarda presa	4.37	66	Pn	Pn	09 36 54.6 +0.7
EBEN2				Pg	Pb	09 37 07.2 +2.6
MVO	Moncorvo	4.40	342	*e*Pn	Pn	09 36 55.2 +0.9
MVO				*e*Sn	Sn	09 37 43.6 -1.5
MVO				*e*Sg	Sg	09 38 08.0 -1.6
MVO				*i* IAML		09 38 15.2
MVO				*i* IAML		09 38 19.8
MVO				*i* IAML		09 38 25.3
ETOR	Torete	4.58	32	Pn	Pn	09 36 58.3 +1.4
ETOR				Sn	Sn	09 37 49.0 -0.7
ETOR				Sg	Sg	09 38 15.6 +0.1
ETOR				*i* IVmb_Lg		09 38 24.7
PVRL	Vila Real	4.69	337	*e*Pn	Pn	09 36 59.2 +0.9
PVRL				*e*Sn	Sn	09 37 51.1 -1.2
PVRL				*e*Sg	Sg	09 38 16.7 -2.3
PVRL				*i* IAML		09 38 23.1
PVRL				*i* IAML		09 38 29.3
PVRL				*i* IAML		09 38 31.6
E0901	Celadas (Terue	4.77	42	Pn	Pn	09 37 00.8 +1.4
E0901				Sg	Sg	09 38 23.7 +2.3
E0901				*i* IVmb_Lg		09 38 40.2
POLO	Lamas de Olo	4.80	337	*e*Pn	Pn	09 37 00.7 +0.8
POLO				*e*Sn	Sn	09 37 53.7 -1.5
POLO				*e*Sg	Sg	09 38 21.0 -1.6
POLO				*i* IAML		09 38 25.4
POLO				*i* IAML		09 38 28.3
POLO				*i* IAML		09 38 36.8
PBRG	Braganca	4.95	347	*e*Pn	Pn	09 37 02.9 +1.0
PBRG				*e*Sn	Sn	09 37 57.0 -1.7
PBRG				*e*Sg	Sg	09 38 23.4 -4.0
PBRG				*i* IAML		09 38 29.5
PBRG				*i* IAML		09 38 33.2
PBRG				*i* IAML		09 38 34.1
EMOS	Mosqueruela	5.05	47	Pn	Pn	09 37 04.6 +1.1
EMOS				Sg	Sg	09 38 30.4 -0.3
EMOS				*i* IVmb_Lg		09 38 37.9
ECAL	Calabor	5.08	348	Sn	Sn	09 38 02.4 +0.4
ECAL				Pn	Pn	09 37 04.5 +0.7
ECAL	Calabor	5.08	348	Pn	Pn	09 37 04.0 +0.2
ECAL				Sn	Sn	09 38 00.8 -1.2
ECAL				Sg	Sg	09 38 29.2 -2.

EARI *i* IVmb_Lg 09 39 29.7
ELAN Lanestosa 6.40 12 Pn **Pn 09 37 22.9 +1.1**
ELAN Sn **Sn 09 38 31.6 -2.8**
ELAN Sg **Sg 09 39 11.8 -2.0**
ELAN *i* IVmb_Lg 09 39 41.0
STS Santiago 6.41 338 Pn **Pn 09 37 23.7 +1.7**
STS Sg **Sg 09 39 12.4 -1.7**
EARA Aranguren 6.45 25 Pn **Pn 09 37 24.3 +1.9**
EARA Sn **Sn 09 38 34.7 -0.8**
EARA Sg **Sg 09 39 16.9 +1.7**
EARA *i* IVmb_Lg 09 39 29.2
ALT03 Santillana del 6.45 8 Pn **Pn 09 37 24.4 +2.0**
ALT03 Sn **Sn 09 38 32.3 -3.2**
ALT03 Sg **Sg 09 39 13.1 -2.2**
EPON Pontenova 6.50 348 Pn **Pn 09 37 24.6 +1.4**
EPON Sn **Sn 09 38 34.8 -2.0**
EPON Sg **Sg 09 39 13.4 -3.6**
EPON *i* IVmb_Lg 09 39 27.2
EPOB Poblet 6.59 47 Pn **Pn 09 37 24.8 +0.4**
EPOB Sg **Sg 09 39 19.1 -0.8**
EPOB *i* IVmb_Lg 09 39 30.0
EMAZ Mazaricos 6.61 336 Pn **Pn 09 37 25.7 +1.2**
EMAZ Sn **Sn 09 38 35.8 -3.6**
EMAZ *i* IVmb_Lg 09 39 27.2
EORO Oroz-Betelu 6.64 26 Pn **Pn 09 37 27.2 +2.0**
EORO Sn **Sn 09 38 39.5 -1.0**
EORO Sg **Sg 09 39 21.9 +0.3**
EORO *i* IVmb_Lg 09 39 35.4
SJPF Ste Jean 6.87 26 *e*Pn **Pn 09 37 30.0 +1.8**
SJPF *e*Sn **Sn 09 38 42.1 -3.8**
SJPF *e*Sg **Sg 09 39 23.9 -4.8**
comp=N,255nm,0.7s
ETSF Etsaut 6.93 30 *e*Pn **Pn 09 37 30.7 +1.6**
ETSF *e*Sn **Sn 09 38 44.2 -3.4**
comp=N,48nm,0.3s
TTIG Tnine Tigouga, 6.94 203 P **Pn 09 37 26.7 -2.5**
TTIG Tnine Tigouga, 6.94 203 S **Sn 09 38 44.0 -3.8**
ETOS Mallorca 6.94 64 Sn **Sn 09 38 46.1 -1.6**
ETOS Pn **Pn 09 37 29.2 0.0**
ETOS Mallorca 6.94 64 Pn **Pn 09 37 28.8 -0.4**
ETOS *i* IVmb_Lg 09 39 22.0
EPF Esparros 7.42 34 *e*Pn **Pn 09 37 37.7 +1.9**
EPF *e*Sn **Sn 09 38 56.0 -3.6**
comp=N,84nm,0.5s
CEST Esterri de Car 7.53 40 **Pn 09 37 38.6 +1.2**
CORI Orista 7.55 46 **Pn 09 37 38.2 +0.7**
EJON La Jonquera 8.33 47 Pn **Pn 09 37 49.8 +1.5**
EJON La Jonquera 8.33 47 Pn **Pn 09 37 48.6 +0.4**
EJON *i* IVmb_Lg 09 40 37.1
MTLF Montolieu 8.56 40 *e*Pn **Pn 09 37 52.1 +0.7**
MTLF *e*Sg 09 40 16.7
comp=N,112nm,0.7s
LFF La Frestale 9.16 28 *e*Pn **Pn 09 38 00.6 +1.0**
LFF *e*Sn **Sn 09 39 37.3 -4.9**
comp=N,55nm,0.4s
CAF Calviac 9.68 33 *e*Pn **Pn 09 38 07.7 +0.9**
CAF *e*Sn Sn 09 39 40.6 -14
comp=N,1.1nm,0.1s
RJF Les Rejaudoux 9.76 29 *e*Pn **Pn 09 38 08.9 +1.0**
RJF *e*Sn **Sn 09 39 51.7 -5.3**
comp=N,27nm,0.6s
TANT Tantan 9.91 212 P **Pn 09 38 07.9 -2.1**
TANT Tantan 9.91 212 S **Sn 09 39 56.0 -4.8**
LASF Ste Croix 9.92 42 *e*Pn **Pn 09 38 09.8 -0.3**
MFF Saint Martin d 10.35 20 *e*Pn **Pn 09 38 14.9 -1.0**
MFF Saint Martin d 10.35 20 *e*Pn **Pn 09 38 16.4 +0.5**
MFF *e*Sn **Sn 09 40 05.3 -6.0**
comp=N,80nm,0.7s
MFF *e*Sn Sn 09 40 05.4 -5.9
comp=N,156nm,1.2s
SMRF Simiane la Rot 10.82 46 *e*Pn **Pn 09 38 24.1 +1.8**
TCF Toulx Ste Croi 10.85 29 *e*Pn **Pn 09 38 22.6 -0.2**
VIVF Saint-Julien-l 10.88 41 *e*Pn **Pn 09 38 22.7 -0.5**
QUIF Quistinic 11.04 7 *e*Pn **Pn 09 38 25.6 +0.3**
QUIF *e*Sn **Sn 09 40 21.9 -6.4**
comp=N,18nm,0.3s
BGF Bois d'Agland 11.32 30 *e*Pn **Pn 09 38 29.6 +0.4**
BGF *e*Sn **Sn 09 40 29.9 -5.3**
comp=N,26nm,0.5s
SGMF Saint Gilles 11.44 9 *e*Pn **Pn 09 38 32.1 +1.3**
SGMF *e*Sn **Sn 09 40 31.8 -6.4**
comp=N,13nm,0.4s
ROSF Rostrenen 11.45 7 *e*Pn **Pn 09 38 31.9 +1.0**
ROSF *e*Sn Sn 09 40 30.5 -7.7
comp=N,7.2nm,0.3s
ORIF Oris-en-Rattie 11.57 43 *e*P **Pn 09 38 36.7 +4.0**
AVF Avril sur Loir 11.71 31 *e*Pn **Pn 09 38 34.3 -0.3**
VSL Villasalto 11.79 73 Pn **Pn 09 38 35.9 +0.2**
SMF Signal de Mont 11.80 32 *e*Pn **Pn 09 38 35.6 -0.2**
GRR Gorron 11.85 14 *e*Pn **Pn 09 38 36.1 -0.3**
GRR *e*Sn Sn 09 40 38.3 -10
comp=N,2.5nm,0.2s
KEST Kesra 11.86 92 Pn **Pn 09 38 40.3 +3.6**
comp=N,0.6nm,0.3s,baz=268,slow=4.5,SNR=5.4
MBDF Montbardon 11.95 46 *e*Pn **Pn 09 38 37.3 -0.7**
SSF Saint Saulge 12.00 30 *e*Pn **Pn 09 38 38.4 0.0**
LDF La Druitiere 12.21 16 *e*Pn **Pn 09 38 40.8 -0.5**
LDF *e*Sn **Sn 09 40 49.2 -7.6**
FLN La Foliniere 12.29 15 *e*Pn **Pn 09 38 42.0 -0.4**
LOR Lormes 12.31 30 *e*Pn **Pn 09 38 43.3 +0.6**
CLF Chambon-Foret 12.35 24 **Pn 09 38 42.9 -0.3**
CABF La Chapelle 12.81 38 *e*Pn **Pn 09 38 50.1 +0.4**
SENIN Lac Senin/Sane 13.26 41 Pn **Pn 09 38 55.8 -0.1**
DOU Dourbes 14.92 25 *d*P **Pn 09 39 17.8 -0.4**
comp=Z,16nm,0.7s
BMRD Maredsous 15.15 25 *d*P **Pn 09 39 21.1 -0.3**
comp=Z,23nm,0.9s
RCHB Rochefort 15.19 27 *d*P **Pn 09 39 21.0 -0.9**
comp=Z,18nm,0.9s
BGES Gesves 15.33 26 *d*P **Pn 09 39 23.3 -0.5**
comp=Z,8.6nm,0.6s
BGES *d*PP **PbPb 09 40 12.6 -1.8**
BCLA Clavier 15.44 26 *d*P **Pn 09 39 24.9 -0.2**
comp=Z,11nm,0.7s
UCC Uccle 15.44 24 *d*P **Pn 09 39 25.0 -0.2**
FETA Feichten 15.54 45 *e*P **P 09 39 33.1 +2.2**
comp=Z,12nm,0.8s
BHOU Houvegnez 15.64 28 *d*P **Pn 09 39 27.7 -0.1**
comp=Z,9.5nm,0.8s
MEM Membach 15.85 27 *d*P **Pn 09 39 30.0 -0.4**
BTNL Ternell 15.87 27 *d*P **Pn 09 39 30.8 0.0**
comp=Z,11nm,0.8s
SQTA Sankt Quirin 15.92 45 *e*P **P 09 39 37.0 +1.9**
comp=Z,13nm,1.0s
MOTA Moosalm 15.93 44 *e*P **P 09 39 37.6 +2.4**
comp=Z,3.7nm,0.5s
CIMO Cimolais 16.16 49 Pn **Pn 09 39 34.7 +0.1**
WTTA Wattenberg 16.18 45 *e*P **P 09 39 40.1 +2.0**
comp=Z,9.6nm,0.9s
WATA Walderalm 16.19 45 P **P 09 39 40.0 +1.8**
comp=Z,6.1nm,0.6s
STAL STALIGIAL 16.30 50 Pn **Pn 09 39 36.6 +0.2**
STAL IAmb IAmb 09 39 55.1
comp=Z,20nm,1.0s
ABTA Abfaltersbach 16.42 48 *e*P **P 09 39 42.0 +1.3**
comp=Z,7.2nm,0.9s
SABO M.te Sabotino 16.73 52 **Pn 09 39 42.3 +0.5**
LESA Schwarzleotal 16.87 46 *e*Pn **P 09 39 45.8 +0.2**
comp=Z,4.3nm,0.7s
TAM Tamanrasset 16.94 144 P **Pn 09 39 44.2 -0.5**
TIP Timpagrande 17.48 76 P **Pn 09 39 50.8 -0.5**
TIP IAmb IAmb 09 40 01.7
comp=Z,18nm,1.1s
TIP Timpagrande 17.48 76 ⇑P **Pn 09 39 50.4 -0.9**
OBKA Obir 17.55 51 *e*Pn **P 09 39 55.4 +2.3**
comp=Z,5.6nm,0.6s
GEC2 GERESS Array S 18.21 43 P **Pn 09 39 59.5 -0.7**
GERES GERESS Array B 18.21 43 P **P 09 40 02.5 +2.1**
baz=234,slow=9.2,SNR=13
GERES LR LR 09 47 46.8
comp=Z,361nm,19.0s,baz=239,slow=40
comp=Z,2.9nm,0.9s
KHC Kasperske Hory 18.31 43 *e*P **P 09 40 04.3 +2.9**
KHC AMS AMS 09 48 00.0
comp=Z,600nm,10.8s
EKA Eskdalemuir Ar 18.41 4 P **Pn 09 40 04.8 +2.3**
baz=186,slow=12
comp=Z,3.0nm,0.8s
ARSA Arzberg 18.48 50 P **P 09 40 02.7 -0.6**
ARSA Arzberg 18.48 50 *e*Pn **Pn 09 40 04.8 +1.4**
comp=Z,0.9nm,0.2s
ZVC Zvikov 18.81 42 *e*P **Pn 09 40 09.6 +2.2**
ZVC AMS AMS 09 48 10.0
comp=Z,700nm,14.8s

CONA Conrad Observa 18.99 48 *e*P **P 09 40 09.7 +0.8**
comp=Z,1.7nm,0.4s
PRU Pruhonice 19.31 41 *e*P **Pn 09 40 15.4 +2.0**
CLL Collm 19.34 36 *e*PP Pn 09 40 26.0 +12
BRG Berggiesshubel 19.53 39 *e*P **P 09 40 15.3 +0.6**
BRG Amp 09 40 28.5
comp=Z,5.3nm,0.8s
KRUC Moravsky 19.84 46 *e*P **P 09 40 19.5 +1.4**
MODS Modra-Piesok 20.04 48 *e*P **P 09 40 21.8 +1.5**
MODS *e* 09 47 34.8
MORH Mrgy, Hungar 20.07 55 ⇓P **P 09 40 20.3 -0.3**
VRAC Vranov 20.08 45 P **P 09 40 21.9 +1.2**
comp=Z,2.4nm,0.5s,baz=228,slow=11,SNR=3.0
VRAC LR LR 09 49 28.0
comp=Z,291nm,19.6s,baz=242,slow=41
comp=Z,2.4nm,0.5s
VRAC Vranov 20.08 45 *e*P **P 09 40 21.9 +1.2**
SRO Srobarova 20.43 51 *e*P Pn 09 40 27.1 +0.4
JAVC Velka Javorina 20.49 47 *e*P **P 09 40 26.0 +0.8**
KRLC Kraliky 20.57 44 *e*P Pn 09 40 28.6 +0.2
MAUC Maruska 20.81 46 *e*P **P 09 40 30.4 +1.7**
MORC Moravsky Berou 20.84 45 P **P 09 40 29.2 +0.1**
MORC IAmb IAmb 09 40 34.9
comp=Z,16nm,0.7s
MORC Moravsky Berou 20.84 45 ⇑P Pn 09 40 31.1 -0.5
MORC Moravsky Berou 20.84 45 *e*P **P 09 40 31.0 +1.9**
STEB Steborice 21.05 45 *e*P **P 09 40 33.8 +2.5**
PSZ Piszkesteto 21.45 51 P **P 09 40 35.5 -0.2**
PSZ IAmb IAmb 09 40 38.9
comp=Z,9.4nm,1.0s
PSZ Piszkesteto 21.45 51 ⇓P **P 09 40 37.0 +1.3**
BOVS Bovan 21.57 64 ⇓P **P 09 40 37.1 +0.3**
LANS Liptovska Anna 21.68 48 *e*P **P 09 40 39.8 +1.7**
ITM Ithomi 21.68 81 P **P 09 40 37.1 -1.0**
ITM IAmb IAmb 09 40 46.9
comp=Z,28nm,1.1s
MDVR Moldovita 21.77 61 ⇓P **P 09 40 40.2 +1.1**
BZS Buzias 21.89 58 ⇓P **P 09 40 40.0 -0.4**
SIRR Siria 22.08 57 ⇑P **P 09 40 42.2 -0.2**
BLKB Belogradchik 22.26 64 ⇓P **P 09 40 45.2 +0.8**
SURR Surduc 22.27 58 ⇓P **P 09 40 45.4 +1.0**
HERR Herculane 22.28 61 ⇓P **P 09 40 45.0 +0.5**
GZR Gura Zlata 22.64 59 ⇑P **P 09 40 48.5 +0.1**
DRGR 22.92 56 ⇑P **P 09 40 51.3 -0.1**
MARR Marisel-Cluj 23.16 56 ⇑P **P 09 40 54.6 +0.8**
LOT Lotru 23.33 60 ⇓P **P 09 40 57.3 +1.6**
ARR Arges 23.92 60 ⇑P **P 09 41 02.8 +1.5**
IDI Anoyia 24.38 85 P **P 09 41 06.3 +0.7**
ELND Elena 24.52 66 ⇓P **P 09 41 09.3 +2.5**
TORD Torodi Ar. Bea 24.54 163 P **P 09 41 06.5 -0.6**
TORD Torodi Ar. Bea 24.54 163 P **P 09 41 07.9 +0.8**
comp=Z,2.8nm,0.6s,baz=340,slow=7.6,SNR=5.4
comp=Z,2.8nm,0.6s
DOPR Dopca 24.54 59 ⇑P **P 09 41 09.4 +2.4**
BUR08 Bucovina Ar. S 24.78 55 P **P 09 41 09.3 +0.1**
BUR08 IAmb IAmb 09 41 32.3
comp=Z,13nm,1.4s
BURAR Bucovina Array 24.78 55 P **P 09 41 09.5 +0.3**
BURAR Bucovina Array 24.78 55 ⇑P **P 09 41 11.4 +2.2**
MLR Muntele Rosu 24.85 60 P **P 09 41 09.7 -0.2**
MLR IAmb IAmb 09 41 32.4
comp=Z,17nm,1.0s
MLR Muntele Rosu 24.85 60 LR LR 09 50 42.4
comp=Z,413nm,20.3s,baz=272,slow=36
MLR Muntele Rosu 24.85 60 ⇑P **P 09 41 12.3 +2.5**
EZN Ezine 24.86 74 ⇑P **P 09 41 14.7 +4.9**
ISR Istrita 25.21 61 ⇓P **P 09 41 15.9 +2.8**
PLOR Plostina 25.39 60 ⇑P **P 09 41 19.0 +4.4**
VRI Vrincioaia 25.45 60 ⇑P **P 09 41 14.2 -0.9**
TESR Tescani 25.50 58 ⇑P **P 09 41 18.6 +2.9**
SUW Suwalki 25.97 40 P **P 09 41 20.0 +0.3**
HARR Harsova 26.14 62 ⇓P **P 09 41 26.9 +5.5**
HFS Hagfors 26.16 22 P **P 09 41 22.9 +1.5**
comp=Z,1.6nm,0.5s,baz=224,slow=9.8,SNR=5.0
HFS LR LR 09 51 44.6
comp=Z,75nm,18.8s,baz=196,slow=36
comp=Z,1.6nm,0.5s
NOA NORSAR Array B 26.24 18 P **P 09 41 24.6 +2.4**
comp=Z,1.1nm,0.9s,baz=209,slow=8.7,SNR=2.1
NOA LR LR 09 52 23.6
comp=Z,116nm,19.4s,baz=210,slow=38
comp=Z,1.1nm,0.9s
CFR Carcaliu 26.34 61 ⇓P **P 09 41 28.9 +5.7**
TIRR Tirgusor 26.46 63 ⇓P **P 09 41 29.5 +5.2**
TPGR Topolog 26.50 62 ⇓P **P 09 41 29.9 +5.2**
AKASG Malin Array Be 28.13 50 LR LR 09 55 26.3
comp=Z,110nm,18.4s,baz=271,slow=42
MNK Minsk 28.66 42 *i* P **P 09 41 42.5 -1.3**
MNK *i* P **P 09 41 42.5 -1.3**
MNK *i* P **P 09 41 42.5 -1.3**
comp=Z,23nm,0.6s,baz=246
MNK *i* PP **PnPn 09 42 30.1 -4.0**
MNK *i* PPP PPP 09 42 37.7
MNK *i* S **S 09 46 30.8 -0.8**
MNK *i* SS **SnSn 09 47 50.0 -1.9**
MNK *i* SSS SSS 09 48 04.6
MNK *i* LQ LQ 09 51 08.6
MNK *i* LR LR 09 52 59.8
MNK *i* LRM MLR 09 55 24.5
comp=Z,159nm,13.7s
MNK *i* LRM MLR 09 55 40.3
comp=E,575nm,21.5s
MNK *i* LRM MLR 09 55 52.3
comp=N,486nm,19.4s
DBIC Dimbokro 30.17 179 LR LR 09 54 31.0
comp=N,80nm,18.1s,baz=15,slow=37
FINES FINESS Array B 31.36 29 P **P 09 42 08.6 +0.9**
FINES FINESS Array B 31.36 29 P **P 09 42 09.8 +2.1**
comp=N,3.0nm,0.8s,baz=216,slow=9.4,SNR=3.9
FINES LR LR 09 55 00.6
comp=N,121nm,18.0s,baz=226,slow=37
comp=N,3.0nm,0.8s
JMIC Jan Mayen 34.12 358 LR LR 09 55 26.8
comp=N,139nm,19.5s,baz=214,slow=34
EIL Elat 34.20 90 LR LR 09 58 09.2
comp=N,56nm,18.9s,baz=332,slow=39
ARCES ARCESS Array B 36.62 18 P **P 09 42 54.2 +1.0**
comp=N,1.9nm,0.7s,baz=204,slow=7.6,SNR=4.8
ARCES PcP **PcP 09 45 17.3 +1.4**
comp=N,3.0nm,0.9s,baz=193,slow=3.7,SNR=3.9
ARCES LR LR 09 59 16.8
comp=N,160nm,20.0s,baz=228,slow=38
comp=N,1.9nm,0.7s
KBZ Khabaz 36.90 64 P **P 09 42 56.2 +0.4**
comp=N,0.5nm,0.5s,baz=246,slow=12,SNR=1.9
KBZ LR LR 09 59 00.4
comp=N,77nm,21.9s,baz=301,slow=38
comp=N,0.5nm,0.5s
ARTI Arti 45.94 44 P **P 09 44 10.5 +0.5**
ARTI Arti 45.94 44 P **P 09 44 10.1 +0.2**
comp=N,14nm,0.8s,baz=252,slow=6.0,SNR=16
ARTI LR LR 10 04 41.5
comp=N,105nm,19.9s,baz=251,slow=38
comp=N,14nm,0.8s
AKTO Aktyubinsk 46.32 52 P **P 09 44 13.6 +0.6**
comp=N,3.4nm,0.7s,baz=294,slow=4.5,SNR=9.8
AKTO LR LR 10 05 01.3
comp=N,92nm,18.3s,baz=304,slow=38
comp=N,3.4nm,0.7s
AB31 Akbulak array 47.75 53 P **P 09 44 24.2 0.0**
AB31 IAmb IAmb 09 44 25.3
comp=Z,3.7nm,0.8s
ABKAR Akbulak array 47.75 53 P **P 09 44 23.8 -0.4**
FURI Furi 48.57 114 LR LR 10 06 04.1
comp=Z,103nm,19.2s,baz=6.0,slow=38
BVAR Borovoye Array 53.34 47 P **P 09 45 07.3 +1.0**
comp=Z,1.5nm,0.7s,baz=302,slow=8.5,SNR=6.5
BVAR LR LR 10 10 17.0
comp=Z,106nm,19.0s,baz=286,slow=39
comp=Z,1.5nm,0.7s
SADO Sadowa 54.63 303 LR LR 10 06 25.4
comp=Z,284nm,18.1s,baz=78,slow=34
KK31 Karatay Array 56.51 58 P **P 09 45 29.4 -0.1**
KK31 IAmb IAmb 09 45 30.8
comp=Z,2.3nm,0.8s
KKAR Karatay Array 56.51 58 P **P 09 45 29.2 -0.2**
KURBB Kurchatov Arra 58.88 48 P **P 09 45 46.0 0.0**
comp=Z,4.3nm,0.7s,baz=294,slow=7.9,SNR=21
KURBB LR LR 10 13 15.7
comp=Z,122nm,18.1s,baz=171,slow=38
comp=Z,4.3nm,0.7s
KURK Kurchatov 58.90 48 **P 09 45 46.4 +0.3**
KURK IAmb IAmb 09 45 52.1
comp=Z,3.9nm,0.8s
AAK Ala-Archa 59.39 58 P **P 09 45 50.3 +0.4**

AAK IAmb IAmb 09 45 51.4
comp=Z,2.2nm,0.9s
AAK Ala-Archa 59.39 58 P **P 09 45 50.3 +0.4**
comp=Z,1.7nm,0.5s,baz=239,slow=2.9,SNR=5.4
AAK LR LR 10 15 27.9
comp=Z,105nm,18.8s,baz=306,slow=40
comp=Z,1.7nm,0.5s
ZAA0 Zalesovo Array 61.16 42 **P 09 46 01.1 -0.5**
ZALV Zalesovo Beam 61.16 42 LR LR 10 15 07.2
comp=Z,51nm,19.3s,baz=48,slow=39
TKL Tuckaleechee C 61.47 295 LR LR 10 12 02.2
comp=Z,56nm,18.0s,baz=26,slow=35
KSH Kashi 61.72 60 P **P 09 46 06.5 +0.8**
KSH pP pP 09 46 11.5 -0.2
KSH pmax pmax
comp=Z,9.0nm,0.8s
TARG Taragay, Kyrgy 62.01 57 IAmb IAmb 09 46 11.1
comp=Z,3.6nm,0.9s
MAKZ Makanchi 62.51 51 **P 09 46 11.0 +0.2**
MAKZ IAmb IAmb 09 46 12.7
comp=Z,5.3nm,0.9s
MK31 Makanchi Array 62.71 51 **P 09 46 12.7 +0.6**
MK31 IAmb IAmb 09 46 13.9
comp=Z,3.2nm,0.9s
MKAR Makanchi Array 62.71 51 P **P 09 46 12.4 +0.2**
comp=Z,3.6nm,0.8s,baz=283,slow=5.7,SNR=26
MKAR LR LR 10 15 35.6
comp=Z,92nm,18.4s,baz=284,slow=38
comp=Z,3.6nm,0.8s
SDV Santo Domingo 65.05 262 LR LR 10 11 23.3
comp=Z,15nm,19.6s,baz=74,slow=33
BDFB Brasilia 66.04 226 LR LR 10 11 53.0
comp=Z,33nm,19.9s,baz=130,slow=33
TIXI Tiksi 66.95 14 LR LR 10 21 04.7
comp=Z,57nm,18.6s,baz=210,slow=41
WMQ Urumqi 67.47 51 *e*P **P 09 46 41.8 -1.4**
WMQ pmax pmax
comp=Z,21nm,0.7s
LBTB Lobatse 68.18 150 LR LR 10 16 58.2
comp=Z,58nm,18.5s,baz=358,slow=36
BOSA Boshof 71.27 152 P **P 09 47 06.3 -0.4**
BOSA Boshof 71.27 152 P **P 09 47 06.5 -0.3**
comp=Z,1.9nm,0.6s,baz=341,slow=8.3,SNR=6.2
BOSA LR LR 10 18 08.5
comp=Z,60nm,19.2s,baz=20,slow=36
comp=Z,1.9nm,0.6s
ILAR Eielson Array 74.21 344 P **P 09 47 25.6 +1.9**
comp=Z,0.3nm,0.7s,baz=73,slow=3.1,SNR=3.0
comp=Z,0.3nm,0.7s
YAK Yakutsk 74.84 20 LR LR 10 24 09.6
comp=Z,44nm,20.3s,baz=4.5,slow=39
PDAR Pinedale Array 74.94 312 P **P 09 47 29.1 +0.4**
comp=Z,1.0nm,0.8s,baz=60,slow=6.5,SNR=8.3
comp=Z,1.0nm,0.8s
NEW Newport 75.73 320 LR LR 10 16 45.4
comp=Z,44nm,19.9s,baz=17,slow=32
SONM Songino Array 75.92 40 P **P 09 47 34.4 +0.4**
SONM Songino Array 75.92 40 P **P 09 47 34.9 +0.9**
comp=Z,1.0nm,0.8s,baz=306,slow=8.7,SNR=4.4
comp=Z,1.0nm,0.8s
ANMO Albuquerque 77.64 304 LR LR 10 19 25.2
comp=Z,32nm,20.5s,baz=118,slow=34
CPUP Villa Florida 79.77 226 LR LR 10 22 44.0
comp=Z,7.9nm,18.2s,baz=344,slow=35
MA2 Magadan 81.77 12 LR LR 10 28 55.4
comp=Z,28nm,20.0s,baz=328,slow=39
HHC Hu-ho-hao-te 83.34 43 *e*P **P 09 48 13.5 -0.9**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,170nm,5.8s
PFO Pinyon Flats O 84.92 309 LR LR 10 24 25.4
comp=Z,41nm,18.4s,baz=11,slow=34
PZH PanZhiHua 86.80 59 P **P 09 48 31.5 -0.6**
LPIG La Paz 86.94 298 LR LR 10 24 19.8
comp=Z,34nm,21.9s,baz=30,slow=34
CMAR Chiang Mai Arr 89.90 67 P **P 09 48 46.9 +0.2**
CMAR Chiang Mai Arr 89.90 67 P **P 09 48 47.0 +0.3**
comp=Z,1.0nm,0.3s,baz=319,slow=5.7,SNR=6.0
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 94.18 23 LR LR 10 39 16.0
comp=Z,41nm,19.3s,baz=344,slow=40
PLCA Paso Flores 97.75 224 LR LR 10 30 31.3
comp=Z,32nm,20.9s,baz=186,slow=34
JNU Nakatsue 99.14 36 LR LR 10 41 49.5
comp=Z,85nm,18.6s,baz=332,slow=40
WRA Warramunga Arr 140.98 75 PKhKP PKPpre 09 55 15.3
comp=Z,0.2nm,0.4s,baz=304,slow=3.2,SNR=2.8
ASAR Alice Springs 142.63 81 PKhKP PKPpre 09 55 16.5
comp=Z,0.3nm,0.6s,baz=298,slow=2.9,SNR=2.5
STKA Stephens Creek 152.29 89 **PKPbc 09 55 43.2 0.0**
STKA Stephens Creek 152.29 89 PKPbc **PKPbc 09 55 42.4 -0.8**
comp=Z,2.7nm,0.6s,baz=268,slow=3.2,SNR=6.3

CATAC ***25*** *09:37:58.3±0.5, 12°N±3°×8°8W±°, h15km, M3.4/15, MLv3.4/15, Error ellipse: s-maj=6.7km s-min=3.5km az=18.1, confirmed*
GCG ***25*** *09:38:01.5±0.6, 11°.66N×88°.53W, h35km±151km, MD3.7*
SNET ***25*** *09:38:01.4±1.2, 11°.89N×88°.43W, h9km, ML3.2*
ISC 25 09:37:56.8±2.4, 11°.5N±0°.1×88°.45W±0°.05, h20km, n46, σ0°81/60, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.72**	**30**	P	**Pn**	**09 38 26.0**	**+0.3**
CSGN				S	**Sn**	**09 38 46.8**	**-0.3**
POTN	**Potosi Cosigui**	**1.76**	**31**	S	**Sn**	**09 38 47.9**	**-0.3**
CRIN	**San Cristobal**	**1.82**	**48**	S	**Sn**	**09 38 50.0**	**+0.2**
PKGN	**Cerro Pekin**	**1.86**	**50**	P	**Pn**	**09 38 27.4**	**-0.2**
PKGN				S	**Sn**	**09 38 50.5**	**0.0**
CNCH	**Conchagua**	**1.88**	**18**	*e*P	**Pn**	**09 38 28.1**	**+0.1**
CNCH	**Conchagua**	**1.88**	**18**	P	**Pn**	**09 38 28.2**	**+0.3**
CNCH	**Conchagua**	**1.88**	**18**	S	**Sn**	**09 38 50.8**	**-0.4**
LCND	**La Caada**	**1.89**	**17**	*e*P	**Pn**	**09 38 28.3**	**+0.2**
LCND	**La Caada**	**1.89**	**17**	P	**Pn**	**09 38 28.5**	**+0.4**
LCY	**Lacayo**	**1.93**	**4**	*e*P	**Pn**	**09 38 29.0**	**+0.3**
COPN	**Copaltepe**	**1.94**	**69**	P	**Pn**	**09 38 29.1**	**+0.4**
RANC	**El Ranchito**	**1.94**	**5**	*e*P	**Pn**	**09 38 29.1**	**+0.2**
BLLM	**Bellamira**	**1.96**	**6**	*e*P	**Pn**	**09 38 29.4**	**+0.4**
POLN	**Al Sur del Vol**	**1.97**	**54**	P	**Pn**	**09 38 27.9**	**-1.3**
POLN				S	**Sn**	**09 38 53.0**	**-0.3**
PACA	**Pacayal**	**1.98**	**3**	*e*P	**Pn**	**09 38 29.9**	**+0.6**
PACA	**Pacayal**	**1.98**	**3**	P	**Pn**	**09 38 30.1**	**+0.8**
PACA	**Pacayal**	**1.98**	**3**	S	**Sn**	**09 38 52.7**	**-0.9**
CNGA	**Al SSO del Vol**	**1.98**	**59**	P	**Pn**	**09 38 29.4**	**+0.1**
CNGA				S	**Sn**	**09 38 53.2**	**-0.4**
CNGN	**Cerro Negro**	**1.98**	**59**	P	**Pn**	**09 38 29.7**	**+0.3**
CNRM	**Centro Naciona**	**2.00**	**8**	S	**Sn**	**09 38 53.5**	**-0.4**
CNRM	**Centro Naciona**	**2.00**	**8**	P	**Pn**	**09 38 29.5**	**0.0**
TECA	**Tecapa**	**2.00**	**358**	*e*P	**Pn**	**09 38 30.4**	**+0.8**
TECO	**Alcaldia de Te**	**2.07**	**351**	S	**Sn**	**09 38 55.8**	**+0.1**
TECO	**Alcaldia de Te**	**2.07**	**351**	P	**Pn**	**09 38 30.8**	**+0.3**
MOM2	**El Cardon**	**2.14**	**64**	P	**Pn**	**09 38 32.0**	**+0.6**
MOM2				S	**Sn**	**09 38 57.3**	**-0.2**
SCLA	**Alcaldia de Sa**	**2.22**	**353**	*e*P	**Pn**	**09 38 33.2**	**+0.6**
SCLA				*e*S	**Sn**	**09 38 59.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**2.22**	**353**	P	**Pn**	**09 38 33.4**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.22**	**353**	S	**Sn**	**09 38 59.5**	**-0.1**
PAVA	**Las Pavas**	**2.27**	**348**	P	**Pn**	**09 38 34.1**	**+0.8**
PAVA	**Las Pavas**	**2.27**	**348**	S	**Sn**	**09 39 00.4**	**-0.4**
JAYA	**Jayaque - finc**	**2.37**	**336**	*e*P	**Pn**	**09 38 35.1**	**+0.4**
JAYA				*e*S	**Sn**	**09 39 01.4**	**-1.9**
JAYA	**Jayaque - finc**	**2.37**	**336**	*i* P	**Pn**	**09 38 35.3**	**+0.5**
JAYA				*i* S	**Sn**	**09 39 02.3**	**-1.1**
JAYA	**Jayaque - finc**	**2.37**	**336**	P	**Pn**	**09 38 35.3**	**+0.5**
PMON	**Piamonte**	**2.37**	**339**	*e*P	**Pn**	**09 38 35.0**	**+0.3**
PMON				*e*S	**Sn**	**09 39 01.1**	**-2.2**
PIC2	**El Picacho**	**2.38**	**341**	*e*P	**Pn**	**09 38 36.2**	**+1.2**
SBLS	**San Blas**	**2.61**	**334**	*e*P	**Pn**	**09 38 39.1**	**+1.0**
MARCA	**Marcala la Paz**	**2.69**	**9**	*i* P	**Pn**	**09 38 40.5**	**+1.4**
MARCA				⇓*i* S	**Sn**	**09 39 11.3**	**+0.1**
NUBE	**Las Nubes**	**2.73**	**332**	*e*P	**Pn**	**09 38 40.4**	**+0.6**
NUBE				*e*S	**Sn**	**09 39 11.2**	**-1.1**
NUBE	**Las Nubes**	**2.73**	**332**	*i* P	**Pn**	**09 38 40.9**	**+1.1**
NUBE				*e*S	**Sn**	**09 39 11.5**	**-0.8**
NUBE	**Las Nubes**	**2.73**	**332**	P	**Pn**	**09 38 40.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.80**	**24**	P	**Pn**	**09 38 41.6**	**+0.9**
TGUH				S	**Sn**	**09 39 13.4**	**-0.6**
MATN	**Matagalpa**	**2.85**	**59**	S	**Sn**	**09 39 14.3**	**-0.9**
RBDL	**Robledal**	**2.88**	**335**	*e*P	**Pn**	**09 38 43.4**	**+1.6**
RBDL				*e*S	**Sn**	**09 39 14.1**	**-1.9**
RCVN	**Varillal2**	**3.03**	**46**	P	**Pn**	**09 38 44.3**	**+0.4**
ESQI	**Esquipulas**	**3.18**	**344**	S	**Sn**	**09 39 23.3**	**0.0**

ESQI	Esquipulas	3.18	344	P	Pn	09 38 47.1	+1.3

*IDC **25** 09:41:14.4±2.6, 3°.52S×140°.54E, h24km±20km, mb3.7/5, mbtmp3.9/6, ML4.5/1, MS3.2/3, Error ellipse: s-maj=49.6km s-min=17.0km az=105.0*

ISC 25 09:41:16.0±0.9, 3°.5S±0°.1×140°.2E±0°.3, h35km, n9, σ2°61/9, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.08	28	Pg	Pn	09 41 33.6	-1.1
	74nm,0.3s,baz=192,slow=12,SNR=22.6						
JAY				LR	LR	09 41 41.6	
	comp=Z,66nm,18.0s,baz=178,slow=27						
JAY				Lg	Lg	09 41 46.4	
	147nm,0.3s,baz=146,slow=18,SNR=9.7						
WRA	Warramunga Arr	17.34	199	P	Pn	09 45 15.4	0.0
	1.6nm,0.3s,baz=26,slow=12,SNR=31						
WRA				S	Sn	09 48 16.5	-11
	2.8nm,0.7s,baz=15,slow=21,SNR=6.4						
WRA				LR	LR	09 52 40.5	
	comp=Z,91nm,19.3s,baz=118,slow=39						
	4.3nm,0.5s						
GUMO	Guam	17.57	15	LR	LR	09 51 09.3	
	comp=Z,37nm,19.4s,baz=191,slow=34						
FITZ	Fitzroy Crossi	20.36	223	P	P	09 45 51.4	+1.7
	2.4nm,0.4s,baz=22,slow=12,SNR=9.2						
FITZ				S	S	09 49 30.7	-5.4
	7.9nm,0.8s,baz=199,slow=18,SNR=8.1						
	2.4nm,0.4s						
ASAR	Alice Springs	20.98	196	P	P	09 45 56.7	+0.3
	3.5nm,0.5s,baz=28,slow=10,SNR=43						
ASAR				S	S	09 49 49.7	+1.4
	3.2nm,0.9s,baz=12,slow=27,SNR=6.4						
	3.5nm,0.5s						
STKA	Stephens Creek	28.28	177	LR	LR	09 57 46.3	
	comp=Z,88nm,21.1s,baz=208,slow=35						
MKAR	Makanchi Array	71.30	322	P	P	09 52 34.3	+2.2
	0.2nm,0.4s,baz=106,slow=5.1,SNR=2.2						
	0.2nm,0.4s						
VNDA	Vanda	74.90	175	P	P	09 52 53.0	+0.2
	0.6nm,0.8s,baz=337,slow=5.5,SNR=6.0						
	0.6nm,0.8s						
ILAR	Eielson Array	85.91	24	P	P	09 53 51.0	-1.1
	0.9nm,0.6s,baz=261,slow=4.6,SNR=6.6						
	0.9nm,0.6s						

*SSNC **25** 09:42:45.1±1.1, 19°.75N×76°.33W, h3km±5km, MD2.8, ML2.3*

*JSN **25** 09:42:45.7±0.6, 19°.38N×75°.84W, h0km±999km, MD3.9*

ISC 25 09:42:44.3±1.0, 19°.80N±0°.04×76°.36W±0.03, h27km±8km, n16, σ0°95/29, 1C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIV	Chivirico	0.18	344	*i* P	Pb	09 42 50.1	+0.1
CHIV				eS	Sb	09 42 53.3	-0.5
CHIV				IAML		09 42 53.6	
	comp=E,1μm,0.2s						
CHIV				IAML		09 42 53.7	
	comp=N,1μm,0.2s						
MARVS	Santiago de Cu	0.48	66	*i* P	Pb	09 42 54.1	-0.1
MARVS				eS	Sb	09 43 00.6	-0.4
RCC	Rio Carpintero	0.65	73	eP	Pb	09 42 57.2	0.0
RCC				eS	Sb	09 43 05.8	-0.2
LMGC	Las Mercedes	0.66	293	*i* P	Pb	09 42 57.9	+0.6
LMGC				eS	Sb	09 43 07.0	+1.0
LMGC				IAML		09 43 07.4	
	comp=N,417nm,0.1s						
LMGC				IAML		09 43 07.5	
	comp=E,289nm,0.1s						
PINC	Pinares de May	0.87	38	eP	Pb	09 43 00.2	-0.5
PINC				eS	Sb	09 43 12.3	+0.4
HLGC	Holguin	1.12	15	eP	Pn	09 43 05.4	+1.2
HLGC				eS	Sn	09 43 20.2	+1.5
SABCS	La Quijada	1.13	60	eP	Pn	09 43 04.8	+0.5
SABCS				eS	Sn	09 43 18.9	-0.2
SABCS				IAML		09 43 21.7	
	comp=N,104nm,0.3s						
SABCS				IAML		09 43 22.1	
	comp=E,107nm,0.4s						
GTBY	Guantanamo Bay	1.18	84	eP	Pn	09 43 05.8	+0.7
NMDO	Nuevo Mundo	1.50	60	eP	Pn	09 43 09.2	-0.2
NMDO				eS	Sb	09 43 30.8	+0.8
QMBU	Quimbuelo	1.51	75	eP	Pn	09 43 09.3	-0.3
QMBU				eS	Sn	09 43 27.0	-1.4
MOAC	Moa	1.57	57	eP	Pn	09 43 11.0	+0.6
MOAC				eS	Sb	09 43 32.8	+0.7
GWJ	Greenwich	1.75	191	⇓*i*P	Pn	09 43 13.3	+0.3
STH	Stony Hill	1.77	194	⇑*i*P	Pn	09 43 13.6	+0.5
STH	Stony Hill	1.77	194	eP	Pn	09 43 13.4	+0.2
STH				eS	Sn	09 43 34.3	-0.5
CCCC	Cccc	1.91	317	⇓eP	Pn	09 43 14.8	-0.3
CCCC				eS	Sn	09 43 35.0	-3.4
CCCC				IAML		09 43 39.4	
	comp=N,19nm,0.4s						
CCCC				IAML		09 43 40.5	
	comp=E,17nm,0.3s						
MTDJ	Mount Denham	1.92	215	eP	Pn	09 43 15.8	+0.5
MTDJ				eS	Sn	09 43 38.2	-0.5
MTDJ				IAML		09 43 40.0	
	comp=E,7.4nm,0.3s						
MTDJ				IAML		09 43 40.6	
	comp=E,12nm,0.3s						

ZUR 25 09:46:44.6, 46°.20N×6°.25E, h1km±1km, MLh1.0/4, 1C, Error ellipse: s-maj=3550.3km s-min=1840.6km az=151.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG02	Monnetier-Morn	0.05	202	⇑Pg	Pg	09 46 46.0	+0.5
OG02				Sg	Sg	09 46 46.2	+0.1
SAVIG	Le Moulin, Sav	0.23	235	Sg	Sg	09 46 53.1	+1.2
RIVEL	MONT RIVEL	0.60	338	Sg	Sg	09 47 04.0	0.0

STR 25 09:47:24.1±0.6, 45°N±3°×±°, h0km, MLv1.7/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBF	Trabuc cave	0.78	226	Pg	Pb	09 47 39.9	-0.7
TRBF				Sg	Sb	09 47 51.5	-0.3
COLF	Collangettes	1.14	320	Pg	Pg	09 47 45.8	-0.2
COLF				Sg	Sg	09 48 01.2	+0.3
LEUC	Leucamp	1.57	275	Pg	Pn	09 47 52.9	-0.3
LEUC				Sg	Sg	09 48 15.1	+0.7

*UCR **25** 09:48:21.5±1.2, 8°.50N×83°.08W, h19km±2km, MW3.6*

*CATAC **25** 09:48:22.0±0.3, 9°N±3°×8°3W±°, h9km±1km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=5.9km s-min=2.8km az=1.4, confirmed*

*UPA **25** 09:48:21.5±0.8, 8°.57N×83°.06W, h15km±1km, ML3.2, MW3.2*

ISC 25 09:48:21.5±1.0, 8°.54N±0°.02×83°.07W±0°.01, h13km±8km, n106, σ1°02/147, 10C-35D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	Golfito	0.12	318	⇑*i*P	Pb	09 48 25.3	-0.4
FITO				eS	Sb	09 48 28.4	0.0
EDAD	Golfito	0.15	321	⇑*i*P	Pb	09 48 25.8	-0.4
EDAD				eS	Sb	09 48 29.0	-0.3
NELY	Ciudad Neily	0.17	48	⇓*i*P	Pb	09 48 26.7	+0.2
NELY				eS	Sb	09 48 31.1	+1.2
CDITO	Canoas	0.20	79	P	Pb	09 48 27.0	0.0
CDITO	Canoas	0.20	79	S	Sb	09 48 30.3	-0.5
PTJ1	Puerto Jimnez	0.23	270	⇑*i*P	Pb	09 48 27.1	-0.4
PTJ1	Puerto Jimnez	0.23	270	P	Pb	09 48 27.1	-0.4
PTJ1	Puerto Jimnez	0.23	270	S	Sb	09 48 32.2	+0.7
LPPC	Paso Canoas	0.23	91	⇓*i*P	Pb	09 48 27.4	-0.2
LPPC				eS	Sb	09 48 32.2	+0.5
PIRO	Carate, Puerto	0.29	243	⇑*i*P	Pg	09 48 27.9	+0.4
PIRO				eS	Sb	09 48 33.5	+0.1
PIRO	Carate, Puerto	0.29	243	P	Pg	09 48 27.9	+0.4
PIRO	Carate, Puerto	0.29	243	⇑*i*P	Pg	09 48 27.9	+0.4
PIRO				eS	Sb	09 48 33.6	+0.2
VITO	San Vito	0.30	20	⇓*i*P	Pb	09 48 29.0	+0.2
VITO				eS	Sb	09 48 34.2	+0.5
DMCAL	E. de Neily	0.31	64	⇓*i*P	Pb	09 48 28.8	-0.1
DMCAL				eS	Sb	09 48 35.1	+1.2
LESP3	La Esperanza,	0.31	115	⇓*i*P	Pg	09 48 28.3	+0.5
LESP3				AMP		09 48 28.4	
	comp=Z,1μm,0.2s						
LESP3				eS	Sb	09 48 33.5	-0.3
RSRNO	Rio Sereno	0.35	37	⇓*i*P	Pb	09 48 29.9	+0.3
RSRNO				eS	Sb	09 48 34.4	-0.7
MLIR3	Monte Lirio, C	0.35	44	eP	Pb	09 48 30.1	+0.3
SCLRA	Santa Clara, W	0.41	44	⇓*i*P	Pb	09 48 30.8	+0.1
BRU2	Volcan	0.46	56	⇓*i*P	Pb	09 48 31.3	-0.2
BRU2				AMP		09 48 31.4	
	comp=Z,6μm,0.1s						
BRU2				eS	Sb	09 48 37.6	-0.6
BRU2	Volcan	0.46	56	S	Sb	09 48 39.1	+0.8
BRU2	Volcan	0.46	56	P	Pb	09 48 31.3	-0.2
BRU2	Volcan	0.46	56	⇓*i*P	Pb	09 48 31.3	-0.2
BRU2				eS	Sb	09 48 38.9	+0.7
LMNES	Limones	0.48	154	⇓*i*P	Pg	09 48 31.5	+0.5
LMNES				eS	Sn	09 48 40.8	-1.6
TBS2		0.48	58	⇓*i*P	Pb	09 48 32.7	+0.7
EDP2	Potrero Grande	0.49	348	⇓*i*P	Pb	09 48 31.7	-0.3
EDP2				eS	Sb	09 48 39.9	+0.8
FIMO	Fila Mora	0.53	328	⇓eP	Pg	09 48 32.1	+0.1
FIMO				eS	Sb	09 48 39.8	-0.7
BC3P	Paso Ancho	0.54	59	⇓*i*P	Pg	09 48 32.3	+0.3
BC3P				AMP		09 48 33.7	
	comp=Z,2μm,0.2s						
BC3P				eS	Sg	09 48 39.8	+0.6
BAGA3	Bagala, Chiriq	0.54	97	⇓*i*P	Pb	09 48 32.6	-0.3
BAGA3				AMP		09 48 32.6	
	comp=Z,2μm,0.1s						
BAGA3				eS	Sb	09 48 40.5	-0.1
JEFFS	S de V. Baru	0.55	76	⇓*i*P	Pb	09 48 32.8	-0.3
JEFFS				eS	Sb	09 48 40.8	-0.1
PANP	Palmar Norte	0.57	318	⇓*i*P	Pg	09 48 32.3	-0.3
PANP				eS	Sb	09 48 41.0	-0.4
PTAR3	Potrerillos Ar	0.59	75	⇓*i*P	Pg	09 48 33.4	+0.3
PTAR3				eS	Sb	09 48 42.3	+0.2
DVD	David	0.62	99	eP	Pg	09 48 33.5	-0.1
DVD				AMP		09 48 33.7	
	comp=Z,2μm,0.1s						
DVD				eS	Sg	09 48 42.4	+0.5
BQTLY	Boquete Panama	0.64	70	⇓*i*P	Pg	09 48 34.0	0.0
BQTLY				eS	Sb	09 48 43.4	-0.3
LOCO3	Loma Colorada,	0.66	101	⇓*i*P	Pg	09 48 34.1	-0.2
LOCO3				AMP		09 48 35.2	
	comp=Z,777nm,0.2s						
LOCO3				eS	Sb	09 48 44.3	+0.3
PEDE3	Pedregal, Chir	0.66	103	eP	Pg	09 48 33.9	-0.4
PEDE3				AMP		09 48 34.4	
	comp=Z,695nm,0.1s						
PEDE3				eS	Sg	09 48 43.6	+0.5
BQSF3	Alto Boquete,	0.66	72	⇓*i*P	Pg	09 48 34.2	-0.2
BQSF3				AMP		09 48 34.6	
	comp=Z,2μm,0.1s						
BQSF3				eS	Sb	09 48 44.1	-0.1
WILLF	Boquete	0.67	71	⇓*i*P	Pg	09 48 34.2	-0.3
WILLF				eS	Sb	09 48 43.9	-0.4
LOMA3	Las Lomas, Chi	0.68	99	eP	Pg	09 48 34.7	0.0
LOMA3				eS	Sb	09 48 44.5	-0.2
BURE	Buenos Aires	0.69	337	⇓*i*P	Pg	09 48 34.5	-0.4
BURE				eS	Sb	09 48 45.0	+0.2
DAP26	falda E V. Bar	0.69	69	⇓*i*P	Pg	09 48 34.4	-0.5
DAP26				eS	Sg	09 48 44.3	+0.3
CHIR3	Chiriqui UPA,	0.75	101	eP	Pg	09 48 35.4	-0.5
PSOM3	Paja de Sombre	0.76	79	eP	Pg	09 48 35.4	-0.8
PSOM3				AMP		09 48 36.0	
	comp=Z,2μm,0.1s						
PSOM3				eS	Sg	09 48 46.4	+0.3
EDPE	Pejibaye, P	0.79	321	⇓eP	Pg	09 48 36.0	-0.9
EDPE				eS	Sg	09 48 47.0	-0.2
OCHAL	Ojochal	0.80	315	S	Sb	09 48 48.1	+0.2
SAJE	San Jernim	0.91	332	⇑*i*P	Pb	09 48 38.0	-1.3
PBNVO	Pueblo Nuevo,	0.94	68	⇓eP	Pb	09 48 38.2	-1.5
RBALA	Bur	0.97	69	⇓*i*P	Pb	09 48 38.9	-1.3
RBALA				eS	Sb	09 48 52.0	-1.0
CHGR2	Aguacate	1.00	66	eP	Pb	09 48 39.5	-1.2
CNI2	El Empalme, Bo	1.06	34	eP	Pb	09 48 39.0	-2.8
CEUA	Cerro Uatsi, L	1.09	7	eP	Pn	09 48 42.2	-0.3
CEUA				eS	Sn	09 48 59.3	+1.8
BRIBI	Bribri	1.11	13	⇓eP	Pg	09 48 42.7	-0.1
BRIBI				eS	Sn	09 49 00.3	+2.4
BUS1	Rivas	1.21	327	⇓eP	Pg	09 48 42.6	-2.0
BUS1				eS	Sb	09 49 00.1	-0.2
LAES	El Progreso Va	1.22	1	⇓*i*P	Pn	09 48 43.7	-0.6
LAES				eS	Sg	09 49 01.0	+0.1
KKNTU	Kakint@	1.29	76	⇓*i*P	Pn	09 48 43.5	-1.7
KKNTU				eS	Sb	09 49 00.4	-1.7
LLNJ	Naranjito	1.38	313	eP	Pn	09 48 45.2	-1.3
VERH	Veragua Rainfo	1.39	355	⇓*i*P	Pn	09 48 45.9	-0.8
PIEC	Cerro El Cedra	1.39	321	⇑eP	Pn	09 48 45.6	-1.2
REPA	Paraso	1.50	329	eP	Pn	09 48 47.9	-0.5
VINA	Juan Vinas	1.50	334	eP	Pn	09 48 47.5	-0.8
LCR2	La Lucha 2	1.51	322	S	Sg	09 49 10.0	-0.2
PICV	PH. Pirrs	1.55	314	eP	Pb	09 48 50.0	-0.2
PCAYA	Pacayas	1.55	332	eP	Pn	09 48 48.3	-0.8
PAR1A	Puntarenas Pro	1.57	312	eP	Pb	09 48 50.2	-0.3
RESJ	San Isidro (Tu	1.59	339	⇓*i*P	Pn	09 48 49.3	-0.2
ABRB	Las Abras (San	1.59	336	⇑*i*P	Pn	09 48 49.6	-0.1
CVTV	Tajo	1.60	335	eP	Pn	09 48 49.4	-0.5
LCOCO	El Coco	1.61	343	⇓eP	Pn	09 48 49.5	-0.2
LCOCO				eS	Sb	09 49 10.9	-0.5
CVTQ	Turrialba Volc	1.61	335	⇑eP	Pn	09 48 50.0	0.0
VTR0	Volcan Turrial	1.62	335	⇑eP	Pn	09 48 49.9	-0.3
CVTR	Volcan Turrial	1.62	335	eP	Pn	09 48 49.6	-0.6
VICA	Volcano Irazu	1.63	332	eP	Pn	09 48 49.9	-0.4
RVLA	Villa Bonita	1.64	342	eP	Pn	09 48 50.0	-0.1
ACOS	Acosta	1.65	319	eP	Pb	09 48 51.7	-0.2
EGUB	Earth Gu¡pi	1.74	343	⇓*i*P	Pn	09 48 51.9	+0.4
EGUB				eS	Sb	09 49 15.1	-0.1
SANTA	Santa Ana	1.77	322	eP	Pb	09 48 53.2	-0.7
HDC	Heredia	1.78	325	eP	Pb	09 48 53.2	-1.0
PURI	Puriscal	1.79	317	eP	Pb	09 48 53.6	-0.6
HEME	Heredia, Merce	1.79	324	eP	Pb	09 48 54.7	+0.4
TRT2	Tortugero	2.11	342	P	Pn	09 48 57.0	+0.4
TRT2	Tortugero	2.11	342	S	Sn	09 49 23.3	+0.6
TRT2	Tortugero	2.11	342	eP	Pn	09 48 56.5	-0.1
QUEU	Ciudad Quesada	2.23	323	eP	Pb	09 49 01.7	0.0
SOCE	Pocosol	2.39	320	eP	Pn	09 49 01.6	+1.2
MTEVE	Monteverde	2.48	316	eP	Pn	09 49 02.9	+1.2
FORC	Fortuna	2.48	321	eP	Pn	09 49 04.6	-1.5
VACR	Volcan Arenal	2.49	321	eP	Pb	09 49 04.1	-2.1
CASO	Castillo	2.50	319	eP	Pb	09 49 04.9	-1.4
ARE1	Arenal 1	2.51	320	eP	Pb	09 49 04.6	-1.9
VARE2	V. Arenal	2.51	320	eP	Pb	09 49 04.4	-2.1
CEDE	Laguna Cedeo	2.52	320	eP	Pb	09 49 04.2	-2.5
JTS	Las Juntas de	2.55	313	eP	Pn	09 49 03.8	+1.2
JTS	Las Juntas de	2.55	313	P	Pb	09 49 04.7	-2.4
JTS				S	Sn	09 49 33.2	-0.3
JTS	Las Juntas de	2.55	313	eP	Pb	09 49 04.6	-2.5
TABAC	Tabacon	2.57	320	eP	Pb	09 49 05.6	-1.9
CHIK	Chiripa	2.62	316	eP	Pb	09 49 07.5	-0.9
QUEB	Quebradon, Cot	2.75	319	eP	Pb	09 49 09.0	-1.5
TIMP	Tierras Morena	2.80	317	eP	Pb	09 49 08.7	-2.7
TENO	El Achiote	2.86	319	eP	Pb	09 49 10.0	-2.5
CUI	Cuipilapa	2.95	316	eP	Pn	09 49 10.7	+2.5
VMAR	Armenia, Volca	3.03	319	eP	Pn	09 49 10.9	+1.7
ALIBA	Liberia Airpor	3.18	310	eP	Pn	09 49 13.2	+1.9
LAPC	Finca la Perla	3.21	314	eP	Pn	09 49 13.5	+1.7
BCIP	Isla Barro Col	3.26	79	P	Pn	09 49 12.9	+0.6
BCIP	Isla Barro Col	3.26	79	eP	Pb	09 49 12.7	+0.4
BLUN	Bluefields	3.52	349	P	Pn	09 49 16.6	+0.7
BLUN				S	Sn	09 49 59.5	+2.1
CARN	Rivas	3.57	318	S	Sn	09 50 00.8	+2.0

*IDC **25** 10:17:48.6±2.3, 10°.42S×113°.50E, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, Error ellipse: s-maj=98.8km s-min=19.4km az=48.0*

*DJA **25** 10:17:53.7±0.6, 10°S±5°×11°3E±°, h10km, M4.1/17, mb4.1/2, MLv4.1/17*

ISC 25 10:17:51.0±0.9, 10°.70S±0°.09×113°.10E±0°.05, h28km, n24, σ1°67/26, mb3.5/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	2.45	25	P	Pn	10 18 28.6	-0.5
JAGI				S	Sn	10 18 56.4	-1.7
DNP	Denpasar	2.89	46	P	Pn	10 18 37.4	+2.2
BLJI	Banyuglugur	2.98	9	P	Pn	10 18 37.1	+0.7
ABJI	Asem Bagus	3.10	21	P	Pn	10 18 39.3	+1.3
PCJI	Pacitan	3.13	323	P	Pn	10 18 37.2	-1.3
SRBI	Singaraja	3.33	39	P	Pn	10 18 42.3	+1.1
SRBI				S	Sn	10 19 20.4	+0.5
NGJI	Ngawi	3.69	334	P	Pn	10 18 46.7	+0.6
KMMI	Kalianget	3.73	13	P	Pn	10 18 47.0	+0.3
UGM	Wanagama	3.76	317	P	Pn	10 18 47.9	+0.7
UGM				S	Sn	10 19 28.8	-1.8
YOGI	Yogyakarta	3.99	316	P	Pn	10 18 51.3	+1.1
TWSI	Taliwang, Sumb	4.21	63	P	Pn	10 18 54.0	+0.7
TWSI				S	Sn	10 19 38.9	-2.7
PLAI	Plampang	4.97	68	P	Pn	10 19 07.2	+3.4
KPJI	Karang Pucung	5.31	309	P	Pn	10 19 10.6	+2.2
	0.3nm17nm,0.9s						
KPJI				S	Sn	10 20 08.0	-0.7
	0.3nm17nm,0.9s						
FITZ	Fitzroy Crossi	14.19	123	Pn	Pn	10 21 07.3	-2.9
	0.3nm,0.3s,baz=308,slow=12,SNR=1.5						
FITZ				Sn	Sn	10 23 33.3	-14
	0.2nm,0.3s,baz=189,slow=20,SNR=2.2						
	0.8nm,0.3s						
WRA	Warramunga Arr	22.43	117	P	P	10 22 47.5	-0.3
	0.4nm,0.6s,baz=290,slow=11,SNR=5.7						
	0.4nm,0.6s						
ASAR	Alice Springs	23.65	126	P	P	10 23 00.4	+0.2
	0.7nm,0.6s,baz=299,slow=8.4,SNR=13						
	0.7nm,0.6s						
CMAR	Chiang Mai Arr	32.17	334	P	P	10 24 18.5	+2.0
	1.2nm,0.3s,baz=147,slow=8.7,SNR=4.3						
	1.2nm,0.3s						
H08S2	Diego Garcia H	40.18	271	T	T	11 08 24.0	
	baz=96,slow=74						
H08S3	Diego Garcia H	40.19	271	T	T	11 08 31.3	
	baz=96,slow=74						
H08S1	Diego Garcia H	40.20	271	T	T	11 08 31.6	
	baz=96						
USRK	Ussuriysk Ar.	57.27	16	P	P	10 27 35.0	-1.0
	1.4nm,0.6s,baz=169,slow=5.2,SNR=4.7						
	1.4nm,0.6s						
MKAR	Makanchi Array	63.52	337	P	P	10 28 18.3	-0.5
	0.2nm,0.4s,baz=164,slow=7.5,SNR=2.2						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	68.08	337	P	P	10 28 49.1	+1.2
	0.2nm,0.5s,baz=122,slow=3.5,SNR=1.4						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	68.73	343	P	P	10 28 54.4	+2.5
	0.5nm,0.5s,baz=130,slow=5.8,SNR=1.7						
	0.5nm,0.5s						

IDC 25 10:19:12.3±5.4, 17°.66N×144°.69E, h167km±45km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=141.4km s-min=24.2km az=113.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.05	178	P	Pn	10 20 13.6	-0.1
	48nm,0.6s,baz=355,slow=12,SNR=5.7						
GUMO				S	Sn	10 20 56.9	-4.7
	73nm,0.3s,baz=150,slow=18,SNR=8.6						
WRA	Warramunga Arr	38.72	196	P	P	10 26 20.4	0.0
	1.1nm,0.9s,baz=15,slow=8.9,SNR=7.4						
	1.1nm,0.9s						
ILAR	Eielson Array	65.00	26	P	P	10 29 34.1	+0.1
	0.4nm,0.4s,baz=251,slow=5.9,SNR=16						
	0.4nm,0.4s						
NVAR	Mina Array Bea	84.53	52	P	P	10 31 26.9	-0.2
	0.5nm,0.6s,baz=267,slow=6.0,SNR=5.1						
	0.5nm,0.6s						
PLCA	Paso Flores	141.97	135	PKP	PKPdf	10 38 22.2	-2.3
	1.0nm,0.8s,baz=270,slow=3.0,SNR=2.9						

*IDC **25** 10:23:28.2±1.1, 31°.90S×177°.84W, h0km, mb4.1/5, mbtmp4.1/5, MS3.1/1, Error ellipse: s-maj=43.3km s-min=29.4km az=172.0*

*NEIC **25** 10:23:29.7±0.5, 31°.9S±0°.1×177°.7W±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=28.4km s-min=17.7km az=90.0*

ISC 25 10:23:31.5±0.8, 31°.8S±0°.1×177°.8W±0°.2, h24km, n26, σ0°77/25, mb4.2/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.58	358	Pn	Pn	10 24 10.2	-1.6
URZ	Urewera	7.65	212	LR	LR	10 28 18.2	
	comp=Z,113nm,18.0s,baz=313,slow=38						
CAN	Canberra	27.81	254	P	P	10 29 18.8	-0.2
CAN				IAmb	IAmb	10 29 24.3	
	comp=Z,7.4nm,1.0s						
STKA	Stephens Creek	34.35	259	P	P	10 30 17.7	+1.2
	comp=Z,2.2nm,0.8s,baz=90,slow=12,SNR=1.6						
	comp=Z,2.2nm,0.8s						
BBOO	Buckleboo	38.77	256	P	P	10 30 54.0	-0.2
AS31	Alice Springs	43.23	268	P	P	10 31 31.4	+0.4
AS31				IAmb	IAmb	10 31 32.8	
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	43.23	268	P	P	10 31 30.5	-0.5
ASAR	Alice Springs	43.23	268	P	P	10 31 30.8	-0.3
	comp=Z,2.8nm,0.6s,baz=107,slow=7.3,SNR=36						
	comp=Z,2.8nm,0.6s						
WR8	Warramunga Arr	44.20	274	P	P	10 31 38.9	0.0
WR8				IAmb	IAmb	10 31 40.2	
	comp=Z,6.1nm,0.9s						
WRA	Warramunga Arr	44.34	274	P	P	10 31 40.4	+0.3
WRA	Warramunga Arr	44.34	274	P	P	10 31 39.7	-0.4
	comp=Z,2.6nm,0.7s,baz=114,slow=7.7,SNR=28						
	comp=Z,2.6nm,0.7s						
WB0	Warramunga Arr	44.37	274	P	P	10 31 40.5	+0.2
WB0				IAmb	IAm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.42**	**214**	Pn	Pn	10 45 54.9	-0.7
	0.5nm,0.3s,baz=18,slow=20,SNR=6.3						
URZ				Sn	Sn	10 47 22.2	+1.8
	1.0nm,0.3s,baz=292,slow=24,SNR=7.6 11nm,1.0s						
ASAR	**Alice Springs**	**43.34**	**269**	P	P	10 52 10.2	+0.1
	1.0nm,0.6s,baz=107,slow=7.3,SNR=15 1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.48**	**274**	P	P	10 52 19.0	-0.3
	0.6nm,0.4s,baz=112,slow=8.1,SNR=14 0.6nm,0.4s						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPbc	11 03 48.9	-0.7
	1.1nm,0.5s,baz=29,slow=3.2,SNR=6.8						

FUNV 25 10:59:42.8, 8.60N×72.45W, h9km, MW2.8, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.74**	**170**	*eP*	Pg	10 59 56.1	-1.1
CAPV				*eS*	Sg	11 00 07.4	+0.5
BAUV	**El Baul**	**4.37**	**85**	*eP*	Pn	11 00 48.8	-0.5
BAUV				*eS*	Sn	11 01 36.5	-3.9

RSNC 25 11:00:27.9±0.0, 7°N±2°×7°3W±°, h147km±3km, M2.1, ML1.9, MLv2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	P	Pn	11 00 47.7	-0.5
BARC				S	Sn	11 01 03.0	-0.6
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	11 00 49.5	0.0
BRJC				S	Sn	11 01 06.3	+0.4
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	11 00 50.6	0.0
PAMC				S	Sn	11 01 07.7	-0.1
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	11 00 51.8	-0.6
RUSC				S	Sn	11 01 10.8	-0.1
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	11 00 54.5	-1.0
PTBC				S	Sn	11 01 15.2	-1.3
OCAC	**Ocana**	**1.42**	**353**	P	Pn	11 00 55.9	-0.7
OCAC				S	Sn	11 01 18.5	-0.1
SPBC	**San Pablo de B**	**1.48**	**218**	P	Pn	11 00 55.7	-1.4
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	11 01 06.5	+0.2
CHIC				S	Sn	11 01 35.8	0.0
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	11 01 08.5	+1.8
ROSC				S	Sn	11 01 39.5	+3.0
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	11 01 09.6	+1.0
HELC				S	Sn	11 01 39.7	-0.1
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	11 01 12.8	+3.4
UREC				S	Sn	11 01 39.4	-1.9
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	11 01 12.8	+0.8
GUY2C				S	Sn	11 01 48.1	+2.1
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	11 01 10.7	-1.9
PTGC				S	Sn	11 01 44.1	-3.0
PRAC	**Prado**	**3.54**	**209**	P	Pn	11 01 21.3	-0.8
PRAC				S	Sn	11 02 03.3	-0.9
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	11 01 21.2	-2.5
SJCC				S	Sn	11 02 04.0	-3.0

FUNV 25 11:03:47.9, 8.40N×72.18W, h5km, MW3.0
RSNC 25 11:03:54.2±0.0, 8°N±8°×7°2W±°, h0km±10km, M1.8, ML1.7, MLv2.4
ISC 25 11:03:42.7±1.6, 8.42N±0.06×71.93W±0.05, h18km±5km, n7, σ0.83/13, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.66**	**215**	*eP*	**Pn**	**11 03 57.4**	**0.0**
CAPV				*eS*	**Sn**	**11 04 07.1**	**-0.4**
PAMC	**Pamplona, Colo**	**1.31**	**215**	P	**Pg**	**11 04 09.1**	**+0.9**
PAMC				S	**Sb**	**11 04 24.5**	**+0.7**
OCAC	**Ocana**	**1.38**	**263**	P	**Pg**	**11 04 10.5**	**+1.0**
OCAC				S	**Sg**	**11 04 26.2**	**-1.4**
BARC	**Barichara**	**2.19**	**214**	P	**Pg**	**11 04 25.7**	**+0.8**
BARC				S	**Sg**	**11 04 52.5**	**-1.0**
RUSC	**La Rusia**	**2.75**	**205**	P	**Pg**	**11 04 35.3**	**-0.4**
RUSC				S	**Sg**	**11 05 11.4**	**0.0**
SJCC	**San Jacinto, C**	**3.53**	**295**	P	**Pb**	**11 04 44.5**	**-0.2**
BAUV	**El Baul**	**3.88**	**82**	*eP*	**Pb**	**11 04 50.9**	**+0.2**
BAUV				*eS*	**Sb**	**11 05 37.2**	**-0.3**

JMA 25 11:08:16.9±0.3, 38°N±2°×13°5E±°, h428km, MV3.6/19, SEA OF JAPAN, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**2.82**	**90**	*eP*	P	11 09 21.1	+0.3
JYT	**Yasato**	**4.78**	**111**	*eP*	P	11 09 38.7	+0.8
JYT				*eS*	S	11 10 42.5	-1.6
JRG	**Rokugo**	**4.83**	**73**	*eP*	P	11 09 39.6	+1.2
JHO	**Hitachi**	**4.92**	**106**	*eS*	S	11 10 44.7	-1.8
JMK	**Ichinoseki**	**5.20**	**78**	*eP*	P	11 09 43.0	+1.1
BSO4	**Boso 4**	**5.51**	**123**	*eP*	P	11 09 46.5	+1.4
BSO3	**Boso 3**	**5.73**	**123**	*eP*	P	11 09 48.2	+1.0
BSO3				*eS*	S	11 11 01.8	+0.7
JCH	**Churui**	**8.02**	**53**	*eP*	P	11 10 12.0	-0.1
JCH				*eS*	S	11 11 40.5	-6.2

SNET 25 11:28:21.1±3.3, 12.87N×88.77W, h32km, ML3.3
CATAC 25 11:28:22.4±0.6, 13°N±4°×8°9W±°, h36km±6km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=9.4km s-min=3.6km az=13.4, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.61**	**0**	*eP*	Pn	11 28 34.9	+0.1
TECO				*eS*	Sn	11 28 44.6	+1.3
TECO	**Alcaldia de Te**	**0.61**	**0**	P	Pn	11 28 35.0	+0.3
TECA	**Tecapa**	**0.63**	**26**	*i P*	Pn	11 28 35.5	+0.3
RANC	**El Ranchito**	**0.70**	**44**	*eP*	Pn	11 28 29.4	-6.6
PACA	**Pacayal**	**0.70**	**40**	*eP*	Pn	11 28 36.5	+0.5
PACA				*eS*	Sn	11 28 46.9	+1.3
PACA	**Pacayal**	**0.70**	**40**	P	Pn	11 28 36.7	+0.7
PACA	**Pacayal**	**0.70**	**40**	S	Sn	11 28 47.4	+1.7
UESV	**Universidad de**	**0.71**	**360**	*eP*	Pn	11 28 36.4	+0.4
UESV	**Universidad de**	**0.71**	**360**	P	Pn	11 28 36.5	+0.5
UESV	**Universidad de**	**0.71**	**360**	S	Sn	11 28 47.6	+2.0
PQSS	**Presa 15 de Se**	**0.73**	**17**	S	Sn	11 28 48.2	+2.1
LFRS	**El Faro**	**0.74**	**339**	*eP*	Pn	11 28 36.8	+0.2
LALI	**Alcalda de L**	**0.77**	**317**	P	Pn	11 28 36.8	+0.1
LALI	**Alcalda de L**	**0.77**	**317**	S	Sn	11 28 48.5	+1.4
SCLA	**Alcaldia de Sa**	**0.77**	**4**	*eP*	Pn	11 28 37.8	+0.9
SCLA	**Alcaldia de Sa**	**0.77**	**4**	P	Pn	11 28 37.6	+0.7
SCLA	**Alcaldia de Sa**	**0.77**	**4**	S	Sn	11 28 49.8	+2.4
PAVA	**Las Pavas**	**0.80**	**349**	*eS*	Sn	11 28 49.5	+1.4
PAVA	**Las Pavas**	**0.80**	**349**	P	Pn	11 28 37.9	+0.6
PAVA	**Las Pavas**	**0.80**	**349**	S	Sn	11 28 49.8	+1.8
CNRM	**Centro Naciona**	**0.81**	**47**	S	Sn	11 28 49.8	+1.6
CNRM	**Centro Naciona**	**0.81**	**47**	P	Pn	11 28 37.9	+0.5
LOMA	**Loma Larga**	**0.81**	**332**	*eP*	Pn	11 28 37.5	0.0
LOMA				*eS*	Sn	11 28 49.1	+0.7
LOMA	**Loma Larga**	**0.81**	**332**	P	Pn	11 28 37.6	+0.1
IGN	**Direccin Gen**	**0.87**	**334**	S	Sn	11 28 51.0	+1.3
LFU	**La Fuente**	**0.88**	**339**	*eP*	Pn	11 28 39.2	+0.8
PIC2	**El Picacho**	**0.94**	**331**	*eP*	Pn	11 28 39.9	+0.6
PIC2				*eS*	Sn	11 28 53.1	+1.5
PMON	**Piamonte**	**0.94**	**327**	*eP*	Pn	11 28 39.2	0.0
PMON	**Piamonte**	**0.94**	**327**	P	Pn	11 28 39.3	+0.1
PMON	**Piamonte**	**0.94**	**327**	S	Sn	11 28 52.0	+0.5
BOQS	**Boqueron**	**0.94**	**329**	*eP*	Pn	11 28 39.6	+0.3
LCND	**La Caada**	**0.95**	**66**	*eP*	Pn	11 28 39.4	+0.2
LCND	**La Caada**	**0.95**	**66**	P	Pn	11 28 39.6	+0.3
LCND	**La Caada**	**0.95**	**66**	S	Sn	11 28 52.0	+0.4
JAYA	**Jayaque - finc**	**0.97**	**318**	*eP*	Pn	11 28 40.3	+0.6
JAYA				*eS*	Sn	11 28 52.6	+0.2
JAYA	**Jayaque - finc**	**0.97**	**318**	P	Pn	11 28 40.4	+0.7
CNCH	**Conchagua**	**0.99**	**69**	P	Pn	11 28 40.0	+0.1
CNCH	**Conchagua**	**0.99**	**69**	S	Sn	11 28 53.5	+0.9
SBLS	**San Blas**	**1.22**	**318**	*eP*	Pn	11 28 43.4	+0.1
POTN	**Potosi Cosigui**	**1.25**	**86**	P	Pn	11 28 43.9	+0.6
POTN				S	Sn	11 28 59.8	+0.9
NUBE	**Las Nubes**	**1.37**	**315**	*eP*	Pn	11 28 45.6	+0.4
NUBE				*eS*	Sn	11 29 02.4	+0.2
NUBE	**Las Nubes**	**1.37**	**315**	P	Pn	11 28 45.5	+0.3
RBDL	**Robledal**	**1.47**	**323**	*eP*	Pn	11 28 46.9	+0.3
MTO3	**Montecristo**	**1.57**	**339**	*eP*	Pn	11 28 48.0	+0.1
TGUH	**Tegucigalpa,Un**	**1.85**	**52**	P	Pn	11 28 51.8	+0.1
TGUH				S	Sn	11 29 13.6	-0.3

AUST 25 11:33:06.6±0.6, 19°S±5°×12°0E±°, h10km, mb3.9/5, ML2.5/7, Error ellipse: s-maj=15.4km s-min=5.4km az=134.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.19**	**125**	P	Pg	11 33 33.9	+4.5
MBWA	**Marble Bar**	**2.65**	**195**	P	Pn	11 33 50.9	+1.5
MBWA				S	Sn	11 34 22.2	+0.6
PSAC1	**Pilbara Seismi**	**3.00**	**192**	P	Pn	11 33 55.6	+1.5
PSAC1				S	Sn	11 34 30.3	+0.2
PSAC2	**Pilbara Seismi**	**3.01**	**190**	P	Pn	11 33 56.0	+1.7
PSAC2				S	Sn	11 34 30.8	+0.3
PSA00	**Pilbara Seismi**	**3.03**	**191**	P	Pn	11 33 56.1	+1.6
PSA00				S	Sn	11 34 31.2	+0.3
PSAB3	**Pilbara Seismi**	**3.04**	**191**	P	Pn	11 33 56.4	+1.6
FITZ	**Fitzroy Crossi**	**4.93**	**85**	P	Pn	11 34 21.0	+0.2
GIRL	**Giralia**	**7.10**	**234**	P	Pn	11 34 48.9	-1.7
	comp=Z,0.1nmcomp=Z,43nm,1.8s						
MEEK	**Meekatharra**	**8.19**	**192**	P	Pn	11 35 06.3	+0.6
	comp=Z,0.1nmcomp=Z,8.8nm,1.6s						
MEEK	**Meekatharra**	**8.19**	**192**	S	Sn	11 36 33.8	-4.6
KNRA	**Kununurra**	**8.44**	**71**	P	Pn	11 35 08.9	0.0
	comp=Z,0.0nmcomp=Z,12nm,1.4s						
WRKA	**Warakurna**	**9.69**	**133**	P	Pn	11 35 25.0	-1.1
	comp=Z,0.0nmcomp=Z,5.1nm,3.0s						
MORW	**Morawa**	**11.19**	**200**	P	Pn	11 35 45.9	-0.8
	comp=Z,16nm,2.8s						
WC4	**Warramunga Arr**	**13.16**	**98**	P	Pn	11 36 14.1	+0.4
WB2	**Warramunga Arr**	**13.17**	**98**	P	Pn	11 36 12.9	-1.0

KRNET 25 11:41:48.7±0.1, 41.72N×74.89E, h25km, mb2.7
NNC 25 11:41:48.4±1.9, 41.69N×74.88E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.3km s-min=6.8km az=171.0
KNET 25 11:41:49.7±0.8, 41.80N×74.92E, h19km±3km, ml1.9, Error ellipse: s-maj=5.7km s-min=3.0km az=18.0
SOME 25 11:41:49.1, 41.70N×74.88E, h15km
ISC 25 11:41:48.2±1.2, 41.74N±0.02×74.90E±0.02, h5km±10km, n47, σ1.36/82, 36C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.56**	**330**	⇑P	**Pb**	**11 42 00.4**	**-0.5**
	9.7nm,0.1s,SNR=49						
UCH				⇑S	**Sb**	**11 42 08.6**	**-0.8**
	142nm,0.2s						
UCH	**Uchtor**	**0.56**	**330**	⇑*i P*	**Pb**	**11 42 00.3**	**-0.5**
UCH				⇑*i S*	**Sb**	**11 42 08.5**	**-0.9**
JNKS	**Jany-Kuch**	**0.89**	**140**	⇑*i P*	**Pb**	**11 42 05.4**	**-0.8**
JNKS				⇑*i S*	**Sb**	**11 42 17.3**	**-1.2**
KBK	**Karagaybulak**	**0.92**	**2**	⇑P	**Pb**	**11 42 06.8**	**+0.1**
	55nm,0.1s,SNR=30						
KBK				⇑S	**Sb**	**11 42 19.5**	**+0.2**
	238nm,0.2s						
KBK	**Karagaybulak**	**0.92**	**2**	⇑*i P*	**Pb**	**11 42 06.4**	**-0.3**
KBK				⇑*i S*	**Sb**	**11 42 19.1**	**-0.2**
AAK	**Ala-Archa**	**0.94**	**342**	⇓P	**Pb**	**11 42 07.1**	**0.0**
	4.8nm,0.1s,SNR=11						
AAK				⇑S	**Sb**	**11 42 19.9**	**-0.2**
	43nm,0.2s						
AAK	**Ala-Archa**	**0.94**	**342**	⇑*i P*	**Pb**	**11 42 06.9**	**-0.3**
AAK				⇑*i S*	**Sb**	**11 42 19.8**	**-0.2**
BOOM	**Boomskoye usch**	**1.08**	**46**	⇓*i P*	**Pb**	**11 42 09.1**	**-0.3**
BOOM				⇓*i S*	**Sb**	**11 42 23.8**	**-0.1**
ULHL	**Ulahol**	**1.12**	**63**	⇑P	**Pb**	**11 42 09.7**	**-0.5**
	3.6nm,0.1s,SNR=16						
ULHL				⇑S	**Sb**	**11 42 24.4**	**-0.8**
	15nm,0.1s						
ULHL	**Ulahol**	**1.12**	**63**	⇑*i P*	**Pb**	**11 42 09.7**	**-0.5**
ULHL				⇑*i S*	**Sb**	**11 42 24.8**	**-0.4**
SALK	**Salom-Alik**	**1.18**	**224**	⇓*i P*	**Pg**	**11 42 10.2**	**-0.6**
SALK				⇓*i S*	**Sg**	**11 42 25.7**	**-0.4**
EKS2	**Erkin-Say**	**1.24**	**318**	⇑P	**Pg**	**11 42 12.2**	**+0.3**
	7.8nm,0.2s,SNR=8.3						
EKS2				⇑S	**Sb**	**11 42 28.2**	**-0.3**
	11nm,0.2s						
EKS2	**Erkin-Say**	**1.24**	**318**	⇑*i P*	**Pn**	**11 42 11.8**	**-0.6**
EKS2				⇑*i S*	**Sg**	**11 42 28.4**	**+0.3**
CHMS	**Chumysh**	**1.26**	**355**	⇑P	**Pg**	**11 42 12.8**	**+0.5**
	3.0nm,0.1s,SNR=5.7						
CHMS				⇑S	**Sn**	**11 42 29.3**	**-0.6**
	25nm,0.2s						
CHMS	**Chumysh**	**1.26**	**355**	⇑*i P*	**Pb**	**11 42 12.2**	**-0.3**
CHMS				⇑*i S*	**Sn**	**11 42 29.2**	**-0.8**
TKM2	**Tokmak 2**	**1.29**	**23**	⇓P	**Pg**	**11 42 13.2**	**+0.3**
	14nm,0.1s,SNR=17						
TKM2				⇑S	**Sn**	**11 42 30.3**	**-0.5**
	26nm,0.1s						
TKM2	**Tokmak 2**	**1.29**	**23**	⇑*i P*	**Pg**	**11 42 12.8**	**-0.1**
TKM2				⇑*i S*	**Sn**	**11 42 30.1**	**-0.7**
ARSB	**Arslanbob**	**1.50**	**254**	⇑*i P*	**Pn**	**11 42 15.7**	**-0.2**
ARSB				⇑*i S*	**Sb**	**11 42 35.3**	**-0.7**
KST	**Kastek**	**1.52**	**31**	P	**Pg**	**11 42 17.5**	**+0.1**
	10.0nm,0.1s						
KST				S	**Sg**	**11 42 38.1**	**+1.0**
	7.1nm,0.2s						
KST	**Kastek**	**1.52**	**31**	*eP*	**Pg**	**11 42 17.5**	**+0.1**
	10.0nm,0.1s						
KST				*eS*	**Sg**	**11 42 38.1**	**+1.0**
	7.1nm,0.2s						
USP	**Ospenovka**	**1.55**	**349**	⇓P	**Pg**	**11 42 17.7**	**-0.3**
	5.2nm,0.1s,SNR=26						
USP				⇑S	**Sg**	**11 42 38.6**	**+0.5**
	54nm,0.2s						
USP	**Ospenovka**	**1.55**	**349**	⇓*i P*	**Pb**	**11 42 17.1**	**-0.4**
USP				⇓*i S*	**Sg**	**11 42 37.8**	**-0.3**
MRKS	**Merke**	**1.60**	**309**	*eP*	**Pb**	**11 42 18.2**	**0.0**
	6.1nm,0.1s						
MRKS				*eS*	**Sb**	**11 42 39.0**	**+0.3**
	25nm,0.2s						
DGS	**Degeres**	**1.63**	**23**	S	**Sg**	**11 42 41.2**	**+0.6**
	9.8nm,0.2s						
SGDS	**Sogindy**	**1.72**	**353**	S	**Sg**	**11 42 43.8**	**+0.3**
	23nm,0.2s						
KDJ	**Kajisay**	**1.75**	**76**	⇑*i P*	**Pb**	**11 42 20.1**	**-0.7**
KDJ				⇑*i S*	**Sb**	**11 42 43.0**	**-0.2**
MTBS	**Maitube**	**1.79**	**39**	*eP*	**Pg**	**11 42 22.6**	**+0.1**
	7.4nm,0.1s						
MTBS				*eS*	**Sg**	**11 42 46.6**	**+0.9**
	14nm,0.2s						
IZV	**Izvestkoviy**	**1.81**	**44**	*eP*	**Pg**	**11 42 23.3**	**+0.4**
	2.4nm,0.1s						
IZV				*eS*	**Sg**	**11 42 47.7**	**+1.3**
	11nm,0.1s						
TNSS	**Tian-Shan**	**2.00**	**49**	Pg	**Pg**	**11 42 25.8**	**-0.6**
	4.5nm,0.3s						
TNSS				Lg	Lg	11 42 51.8	
	3.2nm,0.4s						
TNSS	**Tian-Shan**	**2.00**	**49**	*eP*	**Pg**	**11 42 25.8**	**-0.6**
	4.5nm,0.3s						
TNSS				*eS*	**Sg**	**11 42 51.8**	**-0.4**
	3.2nm,0.4s						
MDOK	**Medeo**	**2.13**	**48**	Pg	**Pg**	**11 42 28.6**	**-0.5**
	6.6nm,0.3s						
MDOK				Lg	Lg	11 42 56.9	
	5.3nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.17**	**89**	⇓*i P*	**Pn**	**11 42 25.9**	**+0.4**
TARG				⇓*i S*	**Sn**	**11 42 53.1**	**+0.1**
ARK	**Arkit**	**2.20**	**272**	⇑*i P*	**Pn**	**11 42 26.0**	**+0.5**
ARK				⇑*i S*	**Sn**	**11 42 53.0**	**-0.1**
KOTS	**Kotyrbulak**	**2.21**	**47**	Pg	**Pg**	**11 42 29.7**	**-0.9**
	8.1nm,0.2s						
KOTS				Lg	Lg	11 42 58.8	
	15nm,0.4s						
KOTS	**Kotyrbulak**	**2.21**	**47**	*eP*	**Pg**	**11 42 29.7**	**-0.9**
	8.1nm,0.2s						
KOTS				*eS*	**Sg**	**11 42 58.8**	**-0.5**
	15nm,0.4s						
KTBS	**Karatobe**	**2.37**	**33**	Pg	**Pg**	**11 42 32.3**	**-1.2**
	13nm,0.2s						
KTBS				Lg	Lg	11 43 03.3	
	26nm,0.3s						
KUU	**Kurty**	**2.40**	**26**	Pg	**Pg**	**11 42 33.0**	**-1.1**
KUU				Lg	Lg	11 43 04.1	
KUU	**Kurty**	**2.40**	**26**	*eP*	**Pg**	**11 42 33.0**	**-1.1**
KUU				*eS*	**Sg**	**11 43 04.1**	**-1.1**
SATY	**Saty**	**2.91**	**62**	Pg	**Pg**	**11 42 42.5**	**-1.4**
	0.9nm,0.1s						
SATY				Lg	Lg	11 43 20.8	
	10nm,0.2s						
ARXS	**Arharly**	**3.27**	**40**	Pg	**Pg**	**11 42 48.6**	**-2.3**
	3.7nm,0.3s						
ARXS				Lg	Lg	11 43 31.2	
	5.6nm,0.2s						
ARXS	**Arharly**	**3.27**	**40**	*eP*	**Pg**	**11 42 48.6**	**-2.3**
	3.7nm,0.3s						
ARXS				*eS*	**Sg**	**11 43 31.2**	**-2.1**
	5.6nm,0.2s						
KPKS	**Kokpek**	**3.28**	**57**	Pg	**Pg**	**11 42 49.5**	**-1.6**
	0.1nm,0.1s						
KPKS				Lg	Lg	11 43 32.8	
	2.3nm,0.2s						
KPKS	**Kokpek**	**3.28**	**57**	*eP*	**Pg**	**11 42 49.5**	**-1.6**
	0.1nm,0.1s						
KPKS				*eS*	**Sg**	**11 43 32.9**	**-0.8**
	2.3nm,0.2s						
KK31	**Karatay Array**	**3.52**	**294**	Pn	**Pn**	**11 42 45.6**	**+2.0**
	0.7nm,0.3s,baz=126,slow=12,SNR=5.1						
KK31				⇑Sn	**Sn**	**11 43 28.8**	**+3.1**
	4.0nm,0.6s,baz=124,slow=26						
BLB	**Baldybastay**	**3.53**	**47**	Pg	**Pg**	**11 42 53.7**	**-2.1**
	2.8nm,0.1s						
BLB				Lg	Lg	11 43 40.3	
	4.6nm,0.2s						
SHLS	**Shalkode**	**3.66**	**66**	Pg	**Pg**	**11 43 01.5**	**+3.2**
	4.8nm,0.3s						
SHLS				Lg	Lg	11 43 53.3	
	7.1nm,0.3s						
SHLS	**Shalkode**	**3.66**	**66**	*eP*	**Pg**	**11 43 01.5**	**+3.2**
	4.8nm,0.3s						
SHLS				*eS*	**Sg**	**11 43 53.3**	**+7.6**
	7.1nm,0.3s						

NNC 25 11:48:13.8±1.8, 41.67N×74.78E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.6km s-min=7.2km az=9.0
KRNET 25 11:48:15.3±0.1, 41.73N×74.91E, h26km, mb2.7
KNET 25 11:48:16.0±0.7, 41.84N×74.95E, h0km, ml2.1, Error ellipse: s-maj=5.6km s-min=2.6km az=18.0
SOME 25 11:48:16.3, 41.82N×74.88E, h10km
ISC 25 11:48:14.8±1.2, 41.76N±0.03×74.88E±0.02, h7km±10km, n49, σ1.36/85, 33C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.54**	**330**	⇑P	**Pb**	**11 48 26.7**	**-0.2**
	11nm,0.2s,SNR=18						
UCH				⇑S	**Sb**	**11 48 35.0**	**-0.1**
	103nm,0.2s						
UCH	**Uchtor**	**0.54**	**330**	⇑*i P*	**Pb**	**11 48 26.7**	**-0.2**
UCH				⇑*i S*	**Sb**	**11 48 35.0**	**-0.1**
KBK	**Karagaybulak**	**0.90**	**3**	⇓P	**Pb**	**11 48 33.2**	**+0.3**
	35nm,0.1s,SNR=20						
KBK				⇑S	**Sb**	**11 48 45.3**	**+0.1**
	246nm,0.2s						
KBK	**Karagaybulak**	**0.90**	**3**	⇑*i P*	**Pb**	**11 48 32.8**	**-0.1**
KBK				⇑*i S*	**Sb**	**11 48 45.2**	**+0.1**
JNKS	**Jany-Kuch**	**0.91**	**140**	⇑*i P*	**Pg**	**11 48 32.0**	**-0.4**
JNKS				⇑*i S*	**Sg**	**11 48 44.0**	**-0.2**
AAK	**Ala-Archa**	**0.92**	**342**	⇑P	**Pb**	**11 48 33.5**	**+0.2**
	7.7nm,0.2s,SNR=5.0						
AAK				⇑S	**Sb**	**11 48 46.1**	**+0.3**
	36nm,0.2s						
AAK	**Ala-Archa**	**0.92**	**342**	⇓P	**Pb**	**11 48 33.5**	**+0.2**
	0.4nm,0.3s						
AAK				⇓S	**Sb**	**11 48 46.0**	**+0.2**
	4.3nm,0.4s						
AAK	**Ala-Archa**	**0.92**	**342**	⇓*i P*	**Pb**	**11 48 33.3**	**0.0**
AAK				⇓*i S*	**Sb**	**11 48 46.3**	**+0.5**
BOOM	**Boomskoye usch**	**1.07**	**47**	⇑*i P*	**Pg**	**11 48 35.4**	**-0.1**
BOOM				⇑*i S*	**Sb**	**11 48 49.9**	**-0.3**
ULHL	**Ulahol**	**1.12**	**64**	⇓P	**Pg**	**11 48 36.1**	**-0.4**
	3.0nm,0.1s,SNR=10						
ULHL				⇑S	**Sg**	**11 48 51.1**	**0.0**
	12nm,0.1s						
ULHL	**Ulahol**	**1.12**	**64**	⇑*i P*	**Pg**	**11 48 36.0**	**-0.4**
ULHL				⇑*i S*	**Sg**	**11 48 51.1**	**0.0**
SALK	**Salom-Alik**	**1.19**	**223**	⇑*i P*	**Pn**	**11 48 36.8**	**-1.2**
SALK				⇑*i S*	**Sb**	**11 48 52.6**	**-0.7**
EKS2	**Erkin-Say**	**1.22**	**318**	⇑P	**Pb**	**11 48 38.5**	**+0.2**
	8.0nm,0.2s,SNR=5.3						
EKS2				⇑S	**Sn**	**11 48 55.2**	**0.0**
	6.8nm,0.2s						
EKS2	**Erkin-Say**	**1.22**	**318**	⇑*i P*	**Pb**	**11 48 38.3**	**0.0**
EKS2				⇑*i S*	**Sn**	**11 48 54.9**	**-0.3**
CHMS	**Chumysh**	**1.24**	**356**	⇓P	**Pg**	**11 48 39.0**	**+0.3**
	1.7nm,0.1s						
CHMS				⇑S	**Sn**	**11 48 55.3**	**-0.4**
	24nm,0.2s						
CHMS	**Chumysh**	**1.24**	**356**	⇓*i P*	**Pb**	**11 48 38.5**	**-0.1**
CHMS				⇓*i S*	**Sn**	**11 48 55.4**	**-0.3**
TKM2	**Tokmak 2**	**1.28**	**24**	⇓P	**Pg**	**11 48 39.6**	**+0.3**
	15nm,0.2s,SNR=44						
TKM2				⇑S	**Sn**	**11 48 56.8**	**0.0**
	24nm,0.1s						
TKM2	**Tokmak 2**	**1.28**	**24**	⇓*i P*	**Pb**	**11

ARXS	**Arharly**	**3.27**	**40**	Pg	**Pg**	**11 49 15.4**	**-2.0**
	2.8nm,0.3s						
ARXS				Lg	Lg	11 49 57.4	
	6.0nm,0.2s						
ARXS	**Arharly**	**3.27**	**40**	*e*P	**Pg**	**11 49 15.4**	**-2.0**
	2.8nm,0.3s						
ARXS				*e*S	**Sg**	**11 49 57.4**	**-2.4**
	6.0nm,0.2s						
KPKS	**Kokpek**	**3.29**	**57**	Pg	**Pg**	**11 49 16.1**	**-1.6**
	0.2nm,0.1s						
KPKS				Lg	Lg	11 49 58.5	
	2.8nm,0.2s						
KPKS	**Kokpek**	**3.29**	**57**	*e*P	**Pg**	**11 49 16.1**	**-1.6**
	0.2nm,0.1s						
KPKS				*e*S	**Sg**	**11 49 58.5**	**-1.8**
	2.8nm,0.2s						
UZB	**Uzynbulak**	**3.36**	**64**	Pg	**Pg**	**11 49 17.6**	**-1.7**
	2.9nm,0.2s						
UZB				Lg	Lg	11 50 01.1	
	1.9nm,0.1s						
UZB	**Uzynbulak**	**3.36**	**64**	*e*P	**Pg**	**11 49 17.6**	**-1.7**
	2.9nm,0.2s						
UZB				*e*S	**Sg**	**11 50 01.1**	**-1.8**
	1.9nm,0.1s						
KK31	**Karatay Array**	**3.50**	**294**	⇓Pn	**Pn**	**11 49 08.2**	**-1.5**
	0.3nm,0.2s,baz=130,slow=16,SNR=5.2						
KK31				⇓Sn	**Sn**	**11 49 51.5**	**+0.1**
	4.7nm,0.6s,baz=123,slow=24						
BLB	**Baldybastay**	**3.53**	**47**	Pg	**Pg**	**11 49 20.4**	**-2.0**
	1.3nm,0.2s						
BLB				Lg	Lg	11 50 06.1	
	6.0nm,0.3s						
SHLS	**Shalkode**	**3.67**	**66**	Pg	**Pg**	**11 49 28.8**	**+3.7**
	5.5nm,0.2s						
SHLS				Lg	Lg	11 50 20.4	
	11nm,0.3s						
SHLS	**Shalkode**	**3.67**	**66**	*e*P	**Pg**	**11 49 28.8**	**+3.7**
	5.5nm,0.2s						
SHLS				*e*S	**Sg**	**11 50 20.4**	**+7.8**
	11nm,0.3s						

SKHL ***25*** *12:15:26.8±0.1, 43°.30N×146°.00E, h45km±2km, mb4.4/4*
JMA ***25*** *12:15:26.6±0.2, 43°.3N±0°.6×145°.8E±0°.9, h51km±1km, MV2.8/36, OFF NEMURO PENINSULA*
ISC 25 12:15:26.1±1.8, **43°.27N**±0°.07×**145°.90E**±0°.07, **h51**km±9km, **n13**, σ0**s47/22**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.15**	**311**	P	**Pn**	**12 15 34.5**	**+0.3**
NEM2				S	**Sn**	**12 15 40.0**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.16**	**310**	*i* P	**Pn**	**12 15 34.5**	**+0.2**
NMR				*i* S	**Sn**	**12 15 40.2**	**0.0**
GLVR	**Golovnino**	**0.55**	**330**	*i* P	**Pn**	**12 15 38.1**	**+0.1**
GLVR				AMB	AMB	12 15 38.4	
	220nm,0.2s						
GLVR				*i* S	**Sn**	**12 15 46.2**	**-0.3**
GLVR				A	A	12 15 47.4	
	3μm,0.3s						
GLVR				A	A	12 15 47.4	
	2μm,0.3s						
JKHN	**Kushirohamanak**	**0.57**	**251**	P	**Pn**	**12 15 38.5**	**+0.2**
JKHN				S	**Sn**	**12 15 47.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.77**	**358**	*e*P	**Pn**	**12 15 40.6**	**-0.2**
YUK				AMB	AMB	12 15 41.2	
	250nm,0.3s						
YUK				*e*S	**Sn**	**12 15 51.0**	**-0.4**
YUK				A	A	12 15 52.3	
	510nm,0.2s						
YUK				A	A	12 15 52.3	
	650nm,0.2s						
AKK	**Akkeshi**	**0.81**	**252**	*i* P	**Pn**	**12 15 41.0**	**-0.3**
JNSB	**Nemuroshibetsu**	**0.82**	**308**	P	**Pn**	**12 15 41.3**	**-0.2**
JRA	**Rausu**	**0.88**	**320**	P	**Pn**	**12 15 42.2**	**0.0**
JRA				S	**Sn**	**12 15 53.7**	**-0.2**
JAK	**Akkeshi**	**0.92**	**253**	P	**Pn**	**12 15 42.5**	**-0.3**
JAK				S	**Sn**	**12 15 53.8**	**-1.2**
JAR	**Ashorobuto**	**1.55**	**272**	*i* P	**Pn**	**12 15 51.7**	**+0.3**
JAR				S	**Sn**	**12 16 11.1**	**+0.8**
JOB	**Onbets**	**1.55**	**257**	S	**Sn**	**12 16 10.4**	**+0.1**
JTKR	**Abashiri--Toko**	**1.61**	**297**	P	**Pn**	**12 15 52.7**	**+0.6**
KUR	**Kuril'sk**	**2.42**	**35**	*e*P	**Pn**	**12 16 03.7**	**+0.5**
KUR				AMB	AMB	12 16 04.4	
	40nm,0.3s						
KUR				*e*S	**Sn**	**12 16 31.1**	**-0.5**
KUR				A	A	12 16 32.3	
	90nm,0.3s						
KUR				A	A	12 16 32.3	
	80nm,0.3s						

SOME ***25*** *12:17:48.7, 40°.18N×77°.57E, h10km*
KRNET ***25*** *12:17:49.2±0.1, 40°.18N×77°.58E, h22km, mb3.0*
NNC ***25*** *12:17:50.6±0.7, 40°.26N×77°.60E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=4.4km s-min=4.1km az=18.0*
ISC 25 12:17:51.3±1.7, **40°.27N**±0°.08×**77°.42E**±0°.04, **h10**km, **n37**, σ2**s06/60**, **19C-18D**, **Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.48**	**11**	⇑*i*P	**Pb**	**12 18 17.8**	**-1.4**
TARG				⇑*i*S	**Sg**	**12 18 39.1**	**0.0**
JNKS	**Jany-Kuch**	**1.56**	**301**	⇑*i*P	**Pg**	**12 18 20.9**	**-0.3**
JNKS				⇑*i*S	**Sg**	**12 18 43.7**	**+2.3**
KDJ	**Kajisay**	**1.87**	**354**	⇓*i*P	**Pb**	**12 18 25.0**	**-0.6**
KDJ				⇓*i*S	**Sg**	**12 18 50.9**	**-0.4**
ULHL	**Ulahol**	**2.16**	**336**	⇓*i*P	**Pb**	**12 18 29.5**	**-1.2**
ULHL				⇓*i*S	**Sb**	**12 18 59.0**	**+1.3**
PRZ	**Przheval'sk**	**2.33**	**18**	⇓*e*P	**Pb**	**12 18 30.9**	**-2.6**
PRZ				⇓*e*S	**Sb**	**12 19 01.5**	**-0.9**
BOOM	**Boomskoye usch**	**2.48**	**334**	⇓*e*P	**Pb**	**12 18 34.0**	**-2.1**
BOOM				⇓*e*S	**Sb**	**12 19 06.9**	**+0.1**
TNSS	**Tian-Shan**	**2.79**	**353**	Pg	**Pb**	**12 18 41.9**	**+0.5**
	5.4nm,0.6s						
TNSS				Lg	Lg	12 19 20.3	
	12nm,0.5s						
TNSS	**Tian-Shan**	**2.79**	**353**	*e*P	**Pb**	**12 18 41.9**	**+0.5**
	5.4nm,0.6s						
TNSS				*e*S	**Sg**	**12 19 20.3**	**-0.5**
	12nm,0.5s						
SALK	**Salom-Alik**	**2.81**	**284**	⇓*i*P	**Pb**	**12 18 38.7**	**-3.0**
SALK				⇓*i*S	**Sb**	**12 19 14.6**	**-1.6**
SATY	**Saty**	**2.88**	**15**	Pg	**Pb**	**12 18 43.0**	**+0.2**
	16nm,0.5s						
SATY				Lg	Lg	12 19 22.1	
	18nm,0.4s						
MDOK	**Medeo**	**2.90**	**355**	Pg	**Pb**	**12 18 44.0**	**+0.8**
	3.9nm,0.2s						
MDOK				Lg	Lg	12 19 23.9	
	34nm,0.5s						
UCH	**Uchtor**	**2.94**	**313**	⇑*i*P	**Pb**	**12 18 40.7**	**-3.3**
UCH				⇑*i*S	**Sb**	**12 19 18.3**	**-1.8**
MTBS	**Maitube**	**2.95**	**346**	Pg	**Pg**	**12 18 45.4**	**-2.5**
	2.5nm,0.1s						
MTBS				Lg	Lg	12 19 26.1	
	15nm,0.3s						
MTBS	**Maitube**	**2.95**	**346**	*e*P	**Pg**	**12 18 45.4**	**-2.5**
	2.5nm,0.1s						
MTBS				*e*S	**Sg**	**12 19 26.1**	**0.0**
	15nm,0.3s						
KNDC	**Almaty**	**2.96**	**354**	⇓Pn	**Pb**	**12 18 41.0**	**-3.2**
	15nm,0.3s						
KNDC				⇑Sn	**Sg**	**12 19 25.2**	**-1.3**
	98nm,0.5s						
KOTS	**Kotyrbulak**	**2.97**	**356**	Pg	**Pg**	**12 18 45.6**	**-2.6**
	9.1nm,0.4s						
KOTS				Lg	Lg	12 19 26.5	
	22nm,0.2s						
KOTS	**Kotyrbulak**	**2.97**	**356**	*e*P	**Pg**	**12 18 45.6**	**-2.6**
	9.1nm,0.4s						
KOTS				*e*S	**Sg**	**12 19 26.5**	**-0.2**
	22nm,0.2s						
KST	**Kastek**	**2.98**	**339**	Pg	**Pg**	**12 18 46.2**	**-2.1**
	3.4nm,0.3s						
KST				Lg	Lg	12 19 27.6	
	27nm,0.3s						
KST	**Kastek**	**2.98**	**339**	*e*P	**Pg**	**12 18 46.2**	**-2.1**
	3.4nm,0.3s						
KST				*e*S	**Sg**	**12 19 27.6**	**+0.7**
	27nm,0.3s						
TKM2	**Tokmak 2**	**2.98**	**333**	⇑*i*P	**Pb**	**12 18 41.0**	**-3.6**
TKM2				⇑*i*S	**Sb**	**12 19 18.6**	**-2.5**
KBK	**Karagaybulak**	**3.02**	**323**	⇑*i*P	**Pn**	**12 18 41.6**	**+2.2**
KBK				⇑*i*S	**Sb**	**12 19 19.9**	**-2.4**
UZB	**Uzynbulak**	**3.11**	**22**	Pg	**Pb**	**12 18 47.0**	**+0.2**
	4.2nm,0.2s						
UZB				Lg	Lg	12 19 28.9	
	11nm,0.3s						
UZB	**Uzynbulak**	**3.11**	**22**	*e*P	**Pb**	**12 18 47.0**	**+0.2**
	4.2nm,0.2s						
UZB				*e*S	**Sg**	**12 19 28.9**	**-2.4**
	11nm,0.3s						
AAK	**Ala-Archa**	**3.23**	**318**	⇑Pn	**Pg**	**12 18 51.0**	**-2.1**
	2.4nm,0.8s						
AAK				⇓Sn	**Sg**	**12 19 36.2**	**+1.2**
	17nm,1.0s						
AAK	**Ala-Archa**	**3.23**	**318**	⇑*i*P	**Pn**	**12 18 44.5**	**+2.3**
AAK				⇑*i*S	**Sb**	**12 19 25.0**	**-3.3**
KURS	**Kuram**	**3.26**	**10**	Pg	**Pb**	**12 18 49.6**	**+0.2**
	3.8nm,0.3s						
KURS				Lg	Lg	12 19 33.3	
	7.0nm,0.4s						
SHLS	**Shalkode**	**3.26**	**27**	Pg	**Pg**	**12 18 51.7**	**-2.1**
	14nm,0.3s						
SHLS				Lg	Lg	12 19 36.6	
	16nm,0.3s						
SHLS	**Shalkode**	**3.26**	**27**	*e*P	**Pg**	**12 18 51.7**	**-2.1**
	14nm,0.3s						
SHLS				*e*S	**Sg**	**12 19 36.6**	**+0.5**
	16nm,0.3s						
KPKS	**Kokpek**	**3.33**	**16**	Pg	**Pb**	**12 18 51.0**	**+0.5**
	0.2nm,0.1s						
KPKS				Lg	Lg	12 19 35.7	
	8.2nm,0.3s						
CHMS	**Chumysh**	**3.38**	**325**	⇑*i*P	**Pn**	**12 18 46.5**	**+2.3**
CHMS				⇑*i*S	**Sn**	**12 19 28.3**	**+3.9**
PDGK	**Podgornoye**	**3.42**	**26**	⇓Pn	**Pb**	**12 18 51.7**	**-0.4**
	7.1nm,0.5s						
PDGK				⇓Sn	**Sg**	**12 19 37.5**	**-3.7**
	18nm,0.8s						
KTBS	**Karatobe**	**3.48**	**351**	Pg	**Pb**	**12 18 54.3**	**+1.2**
	3.7nm,0.3s						
KTBS				Lg	Lg	12 19 41.5	
	38nm,0.4s						
EKS2	**Erkin-Say**	**3.63**	**312**	⇑*i*P	**Pn**	**12 18 50.0**	**+2.3**
EKS2				⇑*i*S	**Sn**	**12 19 34.5**	**+3.8**
USP	**Ospenovka**	**3.71**	**325**	⇓*i*P	**Pn**	**12 18 50.9**	**+2.3**
USP				⇓*i*S	**Sn**	**12 19 36.1**	**+3.7**
KNOS	**Konyrlen**	**4.29**	**17**	Pg	**Pb**	**12 19 08.5**	**+1.7**
	2.0nm,0.3s						
KNOS				Lg	Lg	12 20 05.5	
	3.5nm,0.3s						
MAKZ	**Makanchi**	**7.32**	**25**	⇑Pn	**Pb**	**12 19 58.4**	**0.0**
	0.8nm,0.7s						
MAKZ				⇓Lg	Lg	12 20 19.0	
	1.9nm,0.5s						
MK31	**Makanchi Array**	**7.42**	**27**	Pn	**Pb**	**12 20 00.5**	**+0.5**
	0.4nm,0.4s,baz=243,slow=16,SNR=12						
MK31				⇓Lg	Lg	12 20 25.4	
	1.5nm,0.5s,baz=242,slow=28						

IDC ***25*** *13:15:53.8±1.4, 59°.79N×153°.02W, h85km±21km, mb3.5/9, mbtmp3.9/13, Error ellipse: s-maj=24.7km s-min=10.0km az=114.0*
NEIC ***25*** *13:15:56.1±0.6, 59°.72N±0°.03×152°.95W±0°.04, h104km±4km, Error ellipse: s-maj=5.6km s-min=1.7km az=149.0*
AEIC ***25*** *13:15:56.8±1.0, 59°.69N±0°.04×152°.92W±0°.08, h101km±4km, ML3.6, ML3.8/178(NEIC), Error ellipse: s-maj=6.3km s-min=4.9km az=126.0*
ISC 25 13:15:55.5±0.7, **59°.71N**±0°.04×**152°.88W**±0°.04, **h109**km±5km, **n247**, σ0**s91**/231, **mb3.8**/9, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.19**	**254**		**Pn**	**13 16 10.7**	**-0.1**
P19K	**Oil Pt**	**0.19**	**254**		**Pn**	**13 16 10.7**	**-0.1**
P19K					**Sn**	**13 16 21.6**	**-0.7**
ILS	**Iliamna Low So**	**0.27**	**339**		**Pn**	**13 16 10.8**	**-0.3**
ILS					**Sn**	**13 16 21.9**	**-1.0**
ILSW	**Iliamna Southw**	**0.31**	**334**		**Sn**	**13 16 22.1**	**-1.2**
ILSW	**Iliamna Southw**	**0.31**	**334**		**Pn**	**13 16 11.1**	**-0.3**
ILSW				IAML		13 16 22.9	
	comp=E,2μm,0.6s						
ILSW				IAML		13 16 23.1	
	comp=N,4μm,0.7s						
IVE	**Iliamna Volcan**	**0.32**	**347**		**Pn**	**13 16 11.0**	**-0.4**
IVE					**Sn**	**13 16 22.7**	**-0.7**
O20K	**Slope Mountain**	**0.40**	**18**		**Pn**	**13 16 11.8**	**0.0**
O20K					**Sn**	**13 16 23.7**	**-0.2**
AU22	**Augustine Moun**	**0.42**	**216**		**Pn**	**13 16 11.6**	**-0.1**
AU22					**Sn**	**13 16 23.3**	**-0.6**
AUL	**Augustine Lava**	**0.43**	**222**		**Pn**	**13 16 11.8**	**0.0**
AUL					**Sn**	**13 16 23.8**	**-0.3**
AGU	**Augustine-Summ**	**0.45**	**220**		**Pn**	**13 16 11.9**	**-0.2**
AGU					**Sn**	**13 16 24.2**	**-0.3**
AUJK	**Augustine Jueg**	**0.45**	**218**		**Sn**	**13 16 23.7**	**-0.5**
AUCH	**Augustine Cone**	**0.45**	**220**		**Pn**	**13 16 11.9**	**-0.1**
HOM	**Homer**	**0.63**	**94**		**Pn**	**13 16 13.6**	**+0.5**
HOM					**Sn**	**13 16 27.1**	**+0.7**
HOM				IAML		13 16 28.4	
	comp=E,3μm,0.5s						
RDWB	**Redoubt West**	**0.79**	**1**		**Pn**	**13 16 14.5**	**-0.2**
RDWB					**Sn**	**13 16 28.2**	**-0.9**
CNPM	**China Poot**	**0.85**	**101**		**Pn**	**13 16 15.5**	**+0.3**
CNPM				IAML		13 16 30.9	
	comp=E,2μm,0.5s						
CNPM				IAML		13 16 31.2	
	comp=N,3μm,0.5s						
CNPM	**China Poot**	**0.85**	**101**		**Sn**	**13 16 29.6**	**-0.4**
Q19K	**Cape Douglas,**	**0.87**	**207**		**Pn**	**13 16 15.1**	**-0.3**
Q19K				IAML		13 16 36.1	
	comp=N,1μm,1.1s						
Q19K				IAML		13 16 39.3	
	comp=E,1μm,0.8s						
O19K	**Port Alsworth**	**0.88**	**305**		**Pn**	**13 16 15.1**	**-0.2**
O19K					**Sn**	**13 16 29.3**	**-1.0**
O19K				IAML		13 16 29.9	
	comp=E,3μm,0.5s						
DFR	**Drift River**	**0.90**	**6**		**Sn**	**13 16 30.1**	**-0.8**
BRLK	**Bradley Lake**	**1.01**	**86**		**Pn**	**13 16 16.9**	**+0.1**
BRLK				IAML		13 16 34.3	
	comp=N,2μm,0.2s						
BRLK				IAML		13 16 34.4	
	comp=E,2μm,0.3s						
SYI	**Shuyak Island**	**1.13**	**167**		**Pn**	**13 16 18.6**	**+0.7**
SYI				IAML		13 16 35.8	
	comp=E,2μm,0.5s						
SYI				IAML		13 16 35.8	
	comp=N,2μm,0.4s						
O18K	**Koktuh Hills**	**1.19**	**278**		**Sn**	**13 16 34.8**	**-1.4**
P18K	**Big Mountain,**	**1.24**	**256**		**Sn**	**13 16 35.4**	**-1.8**
P18K	**Big Mountain,**	**1.24**	**256**		**Pn**	**13 16 18.5**	**-0.7**
CAPN	**Captain Cook N**	**1.37**	**38**		**Pn**	**13 16 22.9**	**+2.3**
N19K	**Bonanza Creek**	**1.37**	**325**		**Pn**	**13 16 20.7**	**-0.1**
KAHC	**Katmai Hardscr**	**1.53**	**227**		**Sn**	**13 16 42.0**	**-1.2**
SPCR	**Spurr Chakacha**	**1.54**	**12**		**Pn**	**13 16 23.0**	**+0.3**
SPU	**Mount Spurr**	**1.54**	**15**		**Pn**	**13 16 23.1**	**+0.4**
SLKM	**Skilak Lake**	**1.56**	**58**		**Pn**	**13 16 23.0**	**+0.1**
SLKM				IAML		13 16 46.0	
	comp=E,1μm,0.2s						
O22K	**Cooper Landing**	**1.76**	**62**		**Pn**	**13 16 26.0**	**+0.7**
SEW	**Seward**	**1.77**	**75**		**Pn**	**13 16 25.7**	**+0.2**
SEW				IAML		13 16 49.1	
	comp=E,437nm,0.3s						
SEW				IAML		13 16 52.2	
	comp=N,482nm,0.5s						
N18K	**Kilae Creek**	**1.79**	**304**		**Pn**	**13 16 25.5**	**-0.3**
KAKN	**Katmai Knife C**	**1.81**	**220**		**Sn**	**13 16 48.5**	**-0.9**
STLK	**Strandline Lak**	**1.87**	**16**		**Pn**	**13 16 27.3**	**+0.5**
STLK				IAML		13 16 51.6	
	comp=E,368nm,0.5s						
STLK				IAML		13 16 53.5	
	comp=N,483nm,0.5s						
KABU	**Katmai Buttres**	**1.90**	**222**		**Sn**	**13 16 51.1**	**-0.4**
KDAK	**Kodiak Island**	**1.93**	**175**		**Pn**	**13 16 27.2**	**-0.3**
KDAK				IAML		13 16 52.9	
	comp=N,1μm,0.3s						
KDAK				IAML		13 16 53.0	
	comp=N,1μm,0.3s						
KDAK	**Kodiak Island**	**1.93**	**175**	P	**Pn**	**13 16 27.2**	**-0.3**
	comp=N,238nm,0.3s,baz=53,slow=7.1,SNR=688						
KDAK				S	**Sn**	**13 16 51.0**	**-1.0**
	comp=N,284nm,0.3s,baz=270,slow=20,SNR=34						
SUA	**Susitna One**	**2.05**	**30**		**Pn**	**13 16 30.0**	**+0.8**
RC01	**Rabbit Creek A**	**2.09**	**47**		**Pn**	**13 16 30.1**	**+0.6**
CNTC	**Contact Creek**	**2.12**	**228**		**Pn**	**13 16 30.3**	**+0.2**
O17K	**Koliganek Bris**	**2.14**	**274**		**Pn**	**13 16 29.9**	**-0.2**
M20K	**Styx River**	**2.19**	**357**		**Pn**	**13 16 31.4**	**+0.5**
R18K	**Karluk**	**2.30**	**202**		**Pn**	**13 16 31.8**	**-0.4**
M18K	**Stony River**	**2.31**	**322**		**Pn**	**13 16 31.8**	**-0.5**
N17K	**Nushagak Hills**	**2.31**	**293**		**Pn**	**13 16 32.2**	**-0.1**
SKT	**Skwentna**	**2.38**	**16**		**Pn**	**13 16 33.5**	**+0.3**
SKT				IAML		13 17 05.2	
	comp=E,260nm,0.3s						
SKT				IAML		13 17 05.4	
	comp=N,301nm,0.4s						
M22K	**Willow**	**2.46**	**32**		**Pn**	**13 16 35.1**	**+0.8**
OHAK	**Old Harbor**	**2.50**	**185**		**Pn**	**13 16 34.0**	**-0.8**
OHAK				IAML		13 17 04.7	
	comp=N,378nm,0.5s						
OHAK				IAML		13 17 05.3	
	comp=E,248nm,0.5s						
OHAK	**Old Harbor**	**2.50**	**185**	P	**Pn**	**13 16 34.0**	**-0.8**
OHAK	**Old Harbor**	**2.50**	**185**	S	**Sn**	**13 17 03.3**	**-1.7**
PMR	**Palmer**	**2.64**	**43**		**Pn**	**13 16 36.4**	**-0.2**
PMR				IAML		13 17 08.4	
	comp=N,390nm,0.3s						
PMR				IAML		13 17 11.6	
	comp=E,362nm,0.3s						
PMR	**Palmer**	**2.64**	**43**	P	**Pn**	**13 16 36.0**	**-0.6**
PMR	**Palmer**	**2.64**	**43**	S	**Sn**	**13 17 06.8**	**-1.5**
O16K	**Kokwok River B**	**2.65**	**270**		**Pn**	**13 16 36.9**	**+0.1**
L19K	**White Mountain**	**2.67**	**340**		**Pn**	**13 16 37.0**	**0.0**
PLK5	**Peulik 5**	**2.69**	**232**		**Pn**	**13 16 37.6**	**+0.3**
P16K	**Nushagak River**	**2.70**	**258**		**Pn**	**13 16 38.1**	**+0.7**
P16K				IAML		13 17 13.1	
	comp=E,153nm,2.0s						
P16K				IAML		13 17 21.6	
	comp=N,154nm,2.4s						
PLK1	**Peulik 1**	**2.72**	**227**		**Pn**	**13 16 38.3**	**+0.5**
PLK4	**Peulik 4**	**2.76**	**223**		**Pn**	**13 16 38.9**	**+0.5**
PLK4	**Peulik 4**	**2.76**	**223**	IAML		13 17 12.4	
	comp=N,215nm,1.1s						
PLK4				IAML		13 17 15.2	
	comp=E,278nm,0.8s						
KNK	**Knik Glacier**	**2.77**	**50**		**Pn**	**13 16 38.3**	**-0.1**
P23K	**Montague Islan**	**2.78**	**82**		**Pn**	**13 16 39.1**	**+0.7**
P23K				IAML		13 17 13.7	
	comp=N,624nm,0.4s						
P23K				IAML		13 17 14.2	
	comp=E,463nm,0.4s						
M17K	**Holitna River**	**2.82**	**309**		**Pn**	**13 16 39.0**	**-0.1**
M17K				IAML		13 17 12.8	
	comp=E,136nm,0.8s						
M17K				IAML		13 17 31.6	
	comp=N,158nm,0.8s						
GHO	**Glory Hole Cre**	**2.84**	**41**	IAML		13 17 13.7	
	comp=E,593nm,0.3s						
GHO				IAML		13 17 19.8	
	comp=N,448nm,0.7s						
PLBL	**Peulik Blue Cr**	**2.88**	**227**		**Pn**	**13 16 40.7**	**+0.9**
CUT	**Chulitna**	**2.99**	**24**	IAML		13 17 24.6	
	comp=N,428nm,0.3s						
SML	**Sawmill**	**3.07**	**45**		**Pn**	**13 16 42.1**	**-0.2**
SML				IAML		13 17 18.3	
	comp=E,376nm,0.7s						
SML				IAML		13 17 20.8	
	comp=N,332nm,0.8s						
GLI	**Glacier Island**	**3.11**	**65**	IAML		13 17 18.6	
	comp=N,341nm,0.6s						
GLI				IAML		13 17 21.8	
	comp=E,414nm,0.3s						
PPLA	**Purkeypile**	**3.22**	**6**		**Pn**	**13 16 45.5**	**+1.1**
SII	**Sitkinak Islan**	**3.23**	**193**		**Pn**	**13 16 43.5**	**-0.9**
SII				IAML		13 17 21.1	
	comp=N,282nm,0.4s						
SII				IAML		13 17 24.0	
	comp=E,316nm,0.6s						
SII	**Sitkinak Islan**	**3.23**	**193**	P	**Pn**	**13 16 43.2**	**-1.3**
SII	**Sitkinak Islan**	**3.23**	**193**	S	**Sn**	**13 17 20.4**	**-1.9**
HIN	**Hinchinbrook I**	**3.27**	**75**		**Pn**	**13 16 45.1**	**+0.1**
HIN	**Hinchinbrook I**	**3.27**	**75**	IAML		13 17 23.5	
	comp=E,238nm,0.4s						
HIN				IAML		13 17 24.2	
	comp=N,258nm,0.8s						
MID	**Middleton Isla**	**3.34**	**92**		**Pn**	**13 16 46.0**	**+0.2**
MID	**Middleton Isla**	**3.34**	**92**	IAML		13 17 22.0	
	comp=N,395nm,3.0s						
SCM	**Sheep Creek Mo**	**3.46**	**49**	IAML		13 17 30.1	
	comp=N,372nm,0.9s						
O15K	**Ungalikthiuk R**	**3.59**	**265**		**Pn**	**13 16 50.1**	**+0.9**
L17K	**Donlin**	**3.60**	**315**		**Pn**	**13 16 48.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.66**	**74**	IAML		13 17 34.4	
	comp=N,98nm,0.6s						
EYAK				IAML		13 17 35.1	
	comp=E,86nm,0.2s						
EYAK	**Cordova Ski Ar**	**3.66**	**74**	P	**Pn**	**13 16 50.0**	**-0.2**
K20K	**Telida**	**3.71**	**352**		**Pn**	**13 16 51.1**	**+0.3**
DIV	**Divide**	**3.80**	**65**		**Pn**	**13 16 51.8**	**-0.3**
DIV	**Divide**	**3.80**	**65**	IAML		13 17 36.6	
	comp=E,131nm,0.4s						
DIV				IAML		13 17 38.0	
	comp=N,198nm,0.6s						
TRF	**Thorofare Moun**	**3.96**	**17**		**Pn**	**13 16 54.3**	**0.0**
TRF	**Thorofare Moun**	**3.96**	**17**	IAML		13 17 43.9	
	comp=N,96nm,0.4s						
TRF				IAML		13 18 07.0	
	comp=E,86nm,0.9s						
KTH	**Kantishna Hill**	**3.97**	**13**	IAML		13 18 14.5	
	comp=E,79nm,1.3s						
KTH				IAML		13 18 17.5	
	comp=N,77nm,1.0s						
K17K	**Iditarod**	**4.00**	**321**		**Pn**	**13 16 54.6**	**-0.1**
K17K				IAML		13 17 58.2	
	comp=N,50nm,0.9s						
CHIR	**Chirikof Islan**	**4.16**	**202**		**Pn**	**13 16 55.8**	**-1.1**
CHIR	**Chirikof Islan**	**4.16**	**202**	IAML		13 17 38.1	
	comp=E,239nm,2.4s						
CHIR				IAML		13 17 58.0	
	comp=N,242nm,2.2s						
CHIR	**Chirikof Islan**	**4.16**	**202**	P	**Pn**	**13 16 55.8**	**-1.1**
RND	**Reindeer**	**4.18**	**26**	IAML		13 17 45.4	
	comp=N,138nm,0.4s						
RND				IAML		13 17 45.5	
	comp=E,168nm,0.3s						
J18K	**Innoko River**	**4.20**	**336

GRIN	Grindle Hills	4.83	79			Pn	13 17 06.5 +0.5
PAX	Paxson	4.84	44	IAML			13 18 02.6
	comp=E,67nm,0.3s						
PAX				IAML			13 18 02.8
	comp=N,75nm,0.3s						
KHIT	Khitrov Hills	4.88	77			Pn	13 17 06.4 -0.3
VRDI	Verde Repeater	4.91	68			Pn	13 17 07.3 +0.2
VRDI	Verde Repeater	4.91	68	IAML			13 18 03.8
	comp=N,67nm,0.2s						
VRDI				IAML			13 18 07.2
	comp=E,47nm,0.5s						
CRQM	Cirque	4.97	74			Pn	13 17 07.8 -0.1
CRQM	Cirque	4.97	74	IAML			13 18 08.6
	comp=E,128nm,0.7s						
SNH	Sunshine Point	5.07	80			Pn	13 17 09.9 +0.7
WAX	Waxell Ridge	5.08	77			Pn	13 17 09.2 -0.1
L14K	Kuka Creek	5.12	293			Pn	13 17 10.3 +0.7
L14K	Kuka Creek	5.12	293	IAML			13 17 51.9
	comp=E,41nm,3.3s						
L14K				IAML			13 20 23.7
	comp=N,31nm,3.9s						
TGL	Tana Glacier	5.12	74			Pn	13 17 09.7 -0.1
TGL	Tana Glacier	5.12	74	IAML			13 18 07.3
	comp=E,74nm,0.8s						
TGL				IAML			13 18 08.4
	comp=N,83nm,0.5s						
MCARA	McCarthy VSAT	5.15	67			Pn	13 17 10.3 +0.1
J16K	Anvik River	5.16	317			Pn	13 17 10.2 -0.1
I20K	Naaghedeneel	5.17	352	IAML			13 19 05.7
	comp=E,81nm,2.7s						
I20K				IAML			13 19 15.8
	comp=N,74nm,2.3s						
NEA2	Nenana	5.22	18	IAML			13 18 16.0
	comp=N,21nm,0.7s						
WRH	Wood River Hil	5.29	23	IAML			13 18 10.8
	comp=N,34nm,0.4s						
WRH				IAML			13 18 10.9
	comp=E,42nm,0.4s						
ISLE	Juniper Island	5.34	76	IAML			13 18 15.5
	comp=E,84nm,1.0s						
BALM	Baldy	5.39	71			Pn	13 17 13.6 0.0
BAGL	Bagley Icefiel	5.46	77			Pn	13 17 14.5 +0.2
MESA	MESA	5.51	80			Pn	13 17 16.4 +1.1
RIDG	Independent Ri	5.56	40			Pn	13 17 16.4 +0.6
YAH	Yahtse	5.62	78			Pn	13 17 17.4 +0.7
GRNC	Granite Creek	5.64	75			Pn	13 17 17.2 +0.2
L26K	Log Cabin Wild	5.66	50			Pn	13 17 17.9 +0.7
COLA	College	5.69	22			Pn	13 17 17.4 0.0
COLA	College	5.69	22	P		Pn	13 17 17.3 -0.1
	comp=E,31nm,0.9s						
COLA	College	5.69	22	S		Sn	13 18 19.8 -1.6
	comp=E,31nm,0.9s						
BARN	Barnard Glacie	5.73	71			Pn	13 17 19.1 +1.0
IL31		5.80	26			Pn	13 17 18.3 -0.7
ILAR	Eielson Array	5.80	26	P		Pn	13 17 18.2 -0.8
	comp=E,10nm,0.4s,baz=221,slow=13,SNR=189						
ILAR				S		Sn	13 18 19.6 -4.5
	comp=E,3.4nm,0.3s,baz=212,slow=21,SNR=9.1						
RKAV	Rock Avalanche	5.82	79			Pn	13 17 20.4 +1.1
CTGM	Chitina Glacie	5.87	73			Pn	13 17 21.1 +1.1
TABL	Table Mountain	5.92	78			Pn	13 17 21.6 +0.8
SDPT	Sand Point	5.98	226	P		Pn	13 17 21.1 -0.4
SDPT	Sand Point	5.98	226	S		Sn	13 18 25.6 -3.0
POKR	Poker Plat Res	5.99	23			Pn	13 17 21.2 -0.3
SCRK	Sand Creek	6.00	41			Pn	13 17 21.4 -0.4
LOGN	Logan Glacier	6.02	74			Pn	13 17 23.0 +0.9
J25K	Salcha River,	6.05	32			Pn	13 17 22.2 -0.1
CHNA	Chernabura Isl	6.09	220	P		Pn	13 17 22.3 -0.6
	comp=E,41nm,1.4s						
SAMH	Samovar Hills	6.10	81			Pn	13 17 24.4 +1.3
H17K	Granite Mounta	6.19	331			Pn	13 17 24.0 -0.2
L27K	Beaver Creek,	6.28	53			Pn	13 17 26.6 +1.1
PCA	Pinnacle	6.36	81			Pn	13 17 27.8 +1.2
O28M	Mount Upton	6.41	75			Pn	13 17 28.5 +1.0
J26L	Joseph Creek	6.50	38			Pn	13 17 28.2 -0.3
YUK8	Steele Glacier	6.67	71			Pn	13 17 32.4 +1.4
BCPM	Bancas Point	6.68	82			Pn	13 17 32.1 +1.2
G18K	Tagagawik	6.75	339			Pn	13 17 31.7 -0.1
PNL	Peninsula	6.83	84	P		Pn	13 17 33.4 +0.5
O29M	Mount Kennedy	7.20	79			Pn	13 17 38.9 +0.9
YUK6	Outpost Mounta	7.31	74			Pn	13 17 40.6 +0.9
H25L	Birch Creek	7.32	23			Pn	13 17 39.0 -0.5
G24K	Hadweenzic Riv	7.43	17			Pn	13 17 40.3 -0.8
F20K	Avaraart Lake	7.48	351			Pn	13 17 42.2 +0.5
M29M	Somme Creek	7.51	62			Pn	13 17 42.8 +0.7
F21K	Alatna River	7.55	358			Pn	13 17 42.9 +0.2
YUK5	Granite Creek	7.57	73			Pn	13 17 42.8 -0.3
COLD	Coldfoot	7.65	8			Pn	13 17 43.9 -0.1
P29M	Windy Craggy	7.67	84			Pn	13 17 45.0 +0.7
G25K	Bearman Lake	7.71	20			Pn	13 17 44.2 -0.6
DAWY	Dawson	7.72	50			Pn	13 17 45.4 +0.4
HYT	Haines Junctio	7.73	75			Pn	13 17 46.2 +1.0
L29M	L29M	7.85	58			Pn	13 17 48.0 +1.3
I27K	Kandik River	7.86	36			Pn	13 17 46.4 -0.4
N30M	Aishikik Lake	7.97	70			Pn	13 17 48.6 +0.2
P30M	Million Dollar	8.01	80			Pn	13 17 50.0 +1.0
E19K	Redstone River	8.02	348			Pn	13 17 49.6 +0.6
F24K	Squaw Lake	8.15	14			Pn	13 17 50.4 -0.4
I28M	Miner Creek	8.29	40			Pn	13 17 52.6 -0.1
M30M	Minto, Yukon	8.29	63			Pn	13 17 53.5 +0.8
H27K	Steamboat Moun	8.33	33			Pn	13 17 52.0 -1.3
G26K	Porcupine Rive	8.33	25			Pn	13 17 52.3 -0.9
K29M	Barlow Dome	8.37	54			Pn	13 17 55.0 +1.1
PLBC	Pleasant Camp	8.38	85			Pn	13 17 54.9 +1.0
E17K	Hotham Inlet	8.41	335			Pn	13 17 55.0 +0.7
E18K	Tukpahlearik C	8.47	339			Pn	13 17 55.5 +0.4
E22K	Anaktuvuk Pass	8.48	3			Pn	13 17 55.9 +0.7
E23K	Chandalar	8.51	8			Pn	13 17 55.8 +0.1
F25K	Christian Rive	8.54	19			Pn	13 17 55.1 -1.0
BM05	Burnt Mountain	8.58	22			Pn	13 17 55.3 -1.4
N31M	Braeburn, Yuko	8.60	71			Pn	13 17 58.0 +1.1
G27K	Doyon Strip	8.73	31	Pn		Pn	13 17 58.0 -0.6
E21K	Killik River	8.79	357			Pn	13 17 59.6 +0.2
SKAG	Skagway	8.91	84	P		Pn	13 18 02.3 +1.3
	comp=E,29nm,0.7s						
WHY	Whitehorse	9.02	76			Pn	13 18 03.0 +0.4
E25K	Arctic Village	9.03	18			Pn	13 18 01.5 -1.2
TOLK	Toolik Lake Re	9.09	8	Pn		Pn	13 18 04.5 +1.0
D19K	Kuna River	9.11	348	Pn		Pn	13 18 04.7 +0.9
J30M	Hart River	9.14	51			Pn	13 18 05.2 +0.8
D20K	Etivluk River	9.19	351	Pn		Pn	13 18 05.3 +0.5
D22K	Ayikyak River	9.21	0			Pn	13 18 05.9 +0.8
H29M	Whitestone	9.27	39			Pn	13 18 05.8 -0.1
M31M	Drury Creek, Y	9.33	67			Pn	13 18 08.2 +1.4
BESE	Bessie Mountai	9.33	89			Pn	13 18 08.3 +1.4
D23K	Nanushuk River	9.35	5			Pn	13 18 07.4 +0.4
R32K	Eaglecrest	9.58	91	Pn		Pn	13 18 12.4 +2.2
SIT	Sitka	9.59	98	Pn		Pn	13 18 10.8 +0.5
SIT	Sitka	9.59	98	P		Pn	13 18 10.8 +0.5
	comp=E,53nm,1.6s						
D24K	Happy Valley	9.64	9	Pn		Pn	13 18 11.7 +0.7
JIS	Juneau Island	9.65	91	P		Pn	13 18 12.4 +1.3
	comp=E,22nm,1.6s						
F28M	Old Crow	9.79	30	Pn		Pn	13 18 12.4 -0.6
S32K	Killisnoo	9.81	95	Pn		Pn	13 18 14.4 +1.1
E27K	Coleen River	9.83	25	Pn		Pn	13 18 12.8 -0.7
N32M	Quiet Lake	9.89	73	Pn		Pn	13 18 16.0 +1.6
B21K	Ikpikpuk River	9.98	356	Pn		Pn	13 18 15.8 +0.3
D25K	Kavik River	10.04	13	Pn		Pn	13 18 16.2 -0.3
P33M	Teslin, Yukon	10.07	78	Pn		Pn	13 18 18.7 +1.8
C24K	Franklin Bluff	10.21	8	Pn		Pn	13 18 18.6 -0.1
C23K	Itkillik River	10.22	4	Pn		Pn	13 18 18.9 +0.2
B20K	Meade River	10.50	352	Pn		Pn	13 18 21.9 -0.7
Q32M	Nakina River	10.55	85	Pn		Pn	13 18 25.7 +2.2
MMPY	Sheldon Lake,	10.82	65	Pn		Pn	13 18 29.0 +2.0
E29M	Blow River	10.87	31	Pn		Pn	13 18 27.5 0.0
R33M	Jennings River	11.11	82	Pn		Pn	13 18 32.8 +1.8
CRAG	Craig	11.40	103	Pn		Pn	13 18 35.7 +0.9
CRAG	Craig	11.40	103	P		Pn	13 18 36.0 +1.3
	comp=E,58nm,1.6s						
S34M	Telegraph Cree	11.41	90	Pn		Pn	13 18 35.7 +0.9
DLBC	Dease Lake	11.81	86	P		Pn	13 18 41.5 +1.2
	comp=E,32nm,0.3s,baz=299,slow=6.4,SNR=54						
DLBC				S		Sn	13 20 49.2 -0.8
	comp=E,23nm,0.9s,baz=217,slow=20,SNR=1.9						
INK	Inuvik	12.04	36	P		Pn	13 18 43.3 +0.3
	comp=E,2.5nm,0.9s,baz=247,slow=23,SNR=7.2						
INK				S		Sn	13 20 51.3 -3.9
	comp=E,0.5nm,0.3s,baz=229,slow=20,SNR=1.6						
YKA	Yellowknife Ar	18.52	65	P		P	13 20 04.5 +1.6
	comp=E,2.8nm,0.8s,baz=274,slow=12,SNR=5.3						
PETK	Petropavlovsk-	27.56	278	P		P	13 21 30.8 -0.9
	comp=E,1.4nm,0.8s,baz=60,slow=9.1,SNR=1.9						
	comp=E,1.4nm,0.8s						
KSRS	Korea Array	53.30	283	P		P	13 25 03.8 +0.9
	comp=E,1.9nm,1.0s,baz=38,slow=6.8,SNR=4.1						
	comp=E,1.9nm,1.0s						
SONM	Songino Array	55.02	306	P		P	13 25 16.0 +0.8
	comp=E,0.6nm,0.5s,baz=32,slow=7.0,SNR=3.7						
	comp=E,0.6nm,0.5s						
ZALV	Zalesovo Beam	57.65	324	P		P	13 25 33.9 +0.3
	comp=E,1.3nm,0.6s,baz=29,slow=8.5,SNR=6.5						
	comp=E,1.3nm,0.6s						
NOA	NORSAR Array B	58.96	9	P		P	13 25 43.4 +0.6
	comp=E,0.7nm,0.8s,baz=347,slow=15,SNR=1.3						
	comp=E,0.7nm,0.8s						
BVAR	Borovoye Array	62.36	332	P		P	13 26 06.1 +0.2
	comp=E,0.4nm,0.4s,baz=358,slow=4.3,SNR=2.3						
	comp=E,0.4nm,0.4s						
KURBB	Kurchatov Arra	62.42	326	P		P	13 26 06.2 -0.1
	comp=E,0.4nm,0.4s,baz=28,slow=6.9,SNR=4.8						
	comp=E,0.4nm,0.4s						
EKA	Eskdalemuir Ar	62.79	19	P		P	13 26 08.4 -0.3
	comp=E,1.7nm,0.9s,baz=352,slow=6.0,SNR=3.6						
	comp=E,1.7nm,0.9s						
MKAR	Makanchi Array	64.70	321	P		P	13 26 20.9 -0.5
	comp=E,0.4nm,0.5s,baz=33,slow=6.2,SNR=6.8						
	comp=E,0.4nm,0.5s						

*IDC **25** 13:31:46.5±1.4, 3°.71N×126°.17E, h0km, mb3.5/7, mbtmp3.6/7, MS3.3/2, Error ellipse: s-maj=110.5km s-min=18.4km az=71.0*

ISC 25 13:31:59.9±1.4, 3°.6N±0°.2×126°.0E±0°.7, h116km, n9, σ1ϑ76/7, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	10.58	216	LR	LR	13 38 20.5	
	comp=Z,70nm,18.5s,baz=89,slow=36						
FITZ	Fitzroy Crossi	21.55	181	P	P	13 36 38.4	-1.7
	2.8nm,1.0s,baz=2.7,slow=12,SNR=2.3						
	2.8nm,1.0s						
WRA	Warramunga Arr	24.77	161	P	P	13 37 10.0	-1.0
	1.1nm,0.9s,baz=340,slow=11,SNR=9.7						
	1.1nm,0.9s						
ASAR	Alice Springs	28.16	165	P	P	13 37 42.7	+1.3
	0.2nm,0.7s,baz=354,slow=15,SNR=4.7						
	0.2nm,0.7s						
SONM	Songino Array	47.21	342	P	P	13 40 19.9	-1.3
	0.4nm,0.4s,baz=139,slow=9.5,SNR=1.8						
	0.4nm,0.4s						
MKAR	Makanchi Array	57.27	326	P	P	13 41 36.2	+0.8
	0.3nm,0.5s,baz=114,slow=7.8,SNR=4.4						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	61.48	328	P	P	13 42 03.9	-0.3
	0.3nm,0.5s,baz=123,slow=7.0,SNR=4.6						
	0.3nm,0.5s						
BVAR	Borovoye Array	67.05	327	P	P	13 42 42.7	+2.2
	0.8nm,0.9s,baz=132,slow=2.1,SNR=2.6						
	0.8nm,0.9s						
OPO	Ambohidratompo	80.57	251	LR	LR	14 15 04.5	
	comp=Z,42nm,19.1s,baz=150,slow=32						

*TXNET **25** 13:35:39.5, 31°.2N±0°.6×103°.6W±0°.5, h4km±2km, ML3.2/19, Error ellipse: s-maj=1.0km s-min=0.6km az=26.7, final*

NEIC 25 13:35:39.7±0.9, 31°.222N±0°.009×103°.59W±0°.01, h5km±1km, mb_Lg3.0/57, ML3.0/48, 2C-4D, Error ellipse: s-maj=2.6km s-min=1.6km az=208.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWM1	Layne Water Mi	0.04	285	⇑P	Pg	13 35 40.5	-0.3
LWM1				S	Sg	13 35 41.7	0.0
LWM2	Layne Water Mi	0.05	6	⇓P	Pg	13 35 40.4	-0.6
LWM2				S	Sg	13 35 41.6	-0.4
TPB03	Saragosa	0.15	154	P	Pg	13 35 43.2	+0.5
TPB03				S	Sg	13 35 46.1	+1.3
TPB10	Southeast of T	0.15	294	P	Pg	13 35 43.3	+0.5
TPB10				S	Sg	13 35 46.0	+1.2
PCOS	Crockett Middl	0.20	20		Pg	13 35 44.2	+0.5
PCOS					Sg	13 35 47.9	+1.6
PCOS	Crockett Middl	0.20	20	P	Pg	13 35 44.2	+0.5
PCOS				S	Sg	13 35 47.9	+1.6
TPB04	Verhalen	0.28	97	P	Pg	13 35 45.8	+0.7
TPB04				S	Sb	13 35 50.6	-1.7
PECS	Pecos	0.28	302		Pg	13 35 45.5	+0.4
PECS				IAML		13 35 53.3	
	4μm,0.4s						
PECS				IAML		13 35 53.5	
	3μm,0.5s						
PECS	Pecos	0.28	302	P	Pg	13 35 45.5	+0.4
PECS				S	Sg	13 35 50.3	+1.4
TPB16	Coyonosa	0.31	108	P	Pg	13 35 46.5	+0.8
TPB16				S	Sb	13 35 51.7	-1.4
TPB12	Southwest of T	0.31	268	⇓P	Pg	13 35 46.3	+0.5
TPB12				S	Sg	13 35 51.5	+1.5
TPB01	Permian Basin	0.32	211	⇓P	Pg	13 35 46.5	+0.5
TPB01				S	Sg	13 35 51.5	+1.3
TPB07	Mentone	0.36	350	P	Pg	13 35 47.2	+0.4
TPB07				S	Sg	13 35 52.5	+1.0
TPB05	Hovey Rd	0.38	143	P	Pg	13 35 47.7	+0.7
TPB05				S	Sb	13 35 53.9	-1.2
TPB13	Reeves - Culbe	0.40	327	S	Sg	13 35 54.0	+1.4
TPB19	West of Imperi	0.43	79	P	Pg	13 35 48.2	+0.2
TPB19				S	Sb	13 35 55.4	-1.2
TPB15	Southwest of C	0.43	91	P	Pg	13 35 48.5	+0.4
TPB15				S	Sb	13 35 55.4	-1.4
TPB06	Permian Basin	0.53	37	P	Pg	13 35 50.0	+0.1
TPB08	Permian Basin	0.67	119	P	Pg	13 35 52.9	+0.3
TPB08				S	Sb	13 36 03.2	-0.4
MNHN	Monahans	0.72	80		Pg	13 35 53.1	-0.5
MNHN					Sg	13 36 03.0	+0.1
MNHN	Monahans	0.72	80	P	Pg	13 35 52.8	-0.7
MNHN				S	Sg	13 36 03.2	+0.3
ALPN	Alpine	0.85	183		Pg	13 35 55.4	-0.6
ALPN					Sg	13 36 07.5	+0.6
ALPN				IAML		13 36 20.7	
	353nm,0.5s						
ALPN	Alpine	0.85	183	P	Pg	13 35 55.3	-0.6
ALPN				S	Sg	13 36 07.5	+0.6
CLNB	Carlsbad	1.07	347		Pg	13 35 59.8	-0.4
CLNB	Carlsbad	1.07	347	P	Pg	13 35 59.3	-0.9
CLNB				S	Sb	13 36 14.8	-0.3
NM01	Eunice	1.14	8	P	Pg	13 36 01.0	-0.6
NM01				S	Sg	13 36 16.4	0.0
ODSA	Odessa	1.26	45		Pg	13 36 02.5	-1.4
ODSA					Sg	13 36 19.9	-0.4
ODSA	Odessa	1.26	45	⇑P	Pg	13 36 02.5	-1.4
ODSA				S	Sg	13 36 19.9	-0.4
VHRN	Van Horn	1.27	250		Pg	13 36 03.5	-0.6
VHRN					Sg	13 36 20.7	+0.1
VHRN				IAML		13 36 28.1	
	288nm,0.5s						
VHRN	Van Horn	1.27	250	⇓P	Pg	13 36 03.5	-0.6
VHRN				S	Sg	13 36 20.7	+0.1
TMB02	Rankin	1.33	91	P	Pn	13 36 04.2	-0.8
TMB02				S	Sg	13 36 21.5	-1.0
TMB01	Midkiff	1.36	71	P	Pn	13 36 04.6	-0.9
TMB01				S	Sb	13 36 22.9	-0.6
MNTX	Cornudas Mount	1.60	288		Pn	13 36 09.0	+0.3
MNTX				IAML		13 36 35.1	
	121nm,0.3s						
MNTX	Cornudas Mount	1.60	288	P	Pn	13 36 09.0	+0.4
TMB04	Seminole	1.68	34	P	Pn	13 36 10.1	+0.2
TMB04				S	Sb	13 36 32.7	-0.1
TMB06	Greenwood	1.70	63	P	Pn	13 36 10.4	+0.2
CPRX	Cap Rock	1.82	353		Pn	13 36 12.5	+0.7
TX31	Lajitas Ar. Si	1.88	182	Pn	Pb	13 36 13.7	-0.9
OZNA	Ozona	2.13	97		Pn	13 36 17.4	+1.3
OZNA				IAmb_Lg		13 36 47.0	
	comp=Z,54nm,0.8s						
SGCY	Sterling City	2.21	71		Pn	13 36 17.7	+0.6
SGCY				IAmb_Lg		13 36 52.3	
	comp=Z,66nm,0.8s						
POST	Post	2.55	43		Pn	13 36 22.7	+0.9
POST				IAmb_Lg		13 37 03.6	
	comp=Z,51nm,0.7s						
SN07	Snyder 07	2.95	50	Pn	Pn	13 36 28.2	+0.9
SN07				IAmb_Lg		13 37 17.8	
	comp=Z,58nm,0.7s						
JCT	Junction City	3.34	102		Pn	13 36 34.1	+1.4
APMT	Aspermont	3.61	54	IAmb_Lg		13 37 38.1	
	comp=Z,43nm,0.9s						
ABTX	Abilene, Hawle	3.64	66	IAmb_Lg		13 37 45.2	
	comp=Z,31nm,0.8s						
Y22A	Socorro	3.93	314	IAML		13 37 48.5	
	comp=N,31nm,0.5s						
BRDY	Brady	3.93	88	IAmb_Lg		13 37 51.3	
	comp=Z,43nm,0.8s						
ANMO	Albuquerque	4.42	328	IAmb_Lg		13 38 06.7	
	comp=Z,13nm,0.8s						
PLPT	Palo Pinto	4.75	69	IAmb_Lg		13 38 23.8	
	comp=Z,30nm,0.9s						
RTBA	Rita Blanca	5.25	8	IAmb_Lg		13 38 39.3	
	comp=Z,22nm,0.8s						
WMOK	Wichita Mounta	5.35	48	Pn	Pn	13 37 00.7	+0.5
FW06	Azle	5.41	70	IAmb_Lg		13 38 46.6	
	comp=Z,28nm,1.1s						
X34A	Smith Ranch, M	5.90	54	IAmb_Lg		13 38 57.3	
	comp=Z,24nm,1.0s						
KSCO	Kaye Shedlock'	7.81	6	IAmb_Lg		13 40 05.1	
	comp=Z,15nm,0.8s						
TUL3	Leonard	8.01	52	IAmb_Lg		13 40 08.3	
	comp=Z,12nm,1.0s						
CBKS	Cedar Bluff	8.21	22	IAmb_Lg		13 40 22.6	
	comp=Z,12nm,0.8s						

*REN **25** 13:54:28.2±0.5, 39°.23N±0°.01×120°.10W±0°.01, h10km±2km, Error ellipse: s-maj=1.8km s-min=1.4km az=165.0*

*NEIC **25** 13:54:28.0±0.6, 39°.24N±0°.01×120°.10W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=177.0*

NCEDC 25 13:54:29.2±0.8, 39°.248N±0°.009×120°.10W±0°.01, h3km±1km, ML3.1/83, ML2.9/5(REN), ML2.7/65(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=190.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DONR	Donner Summit	0.20	301		Pg	13 54 32.9	-0.3
DONR					Sg	13 54 36.2	+0.4
YUBA	Cisco Grove, Y	0.35	285		Pg	13 54 35.5	-0.6
YUBA					Sg	13 54 40.5	-0.2
BABR	Babbit Peak	0.35	360		Pg	13 54 35.7	-0.5
BABR					Sg	13 54 41.1	+0.2
REN	Reno	0.37	37		Pg	13 54 35.9	-0.5
PEAR	Peavine Mounta	0.38	17		Pg	13 54 36.1	-0.4
PEAR					Sg	13 54 41.8	+0.3
LOY	Loyalton	0.42	346		Pg	13 54 36.9	-0.5
LOY					Sg	13 54 42.9	-0.1
BEKR	Beckworth	0.65	342		Pg	13 54 40.9	-0.9
BEKR					Sg	13 54 50.0	-0.2
BEKR				IAML		13 54 50.5	
	comp=N,665nm,0.3s						
EBP	Ebbets Pass	0.70	161		Pg	13 54 41.5	-1.3
EBP					Sg	13 54 50.6	-1.3
PAHR	Pah Rah Range	0.72	50		Pg	13 54 42.2	-0.9
PAHR					Sg	13 54 52.2	-0.2
PAHR	Pah Rah Range	0.72	50	IAML		13 54 52.9	
	comp=N,407nm,0.3s						
PAHR				IAML		13 54 53.6	
	comp=E,321nm,0.3s						
AFDM	Forest Hills D	0.74	246		Pg	13 54 42.3	-1.1
AFDM	Forest Hills D	0.74	246	IAML		13 54 47.0	
	comp=N,0.1nm,0.5s						
AFDM				IAML		13 54 52.6	
	comp=E,0.1nm,0.4s						
WAKR	Walker	0.91	145		Pg	13 54 45.3	-1.3
WAKR					Sg	13 54 57.6	-0.7
WAKR	Walker	0.91	145	IAML		13 55 02.7	
	comp=N,160nm,0.7s						
WELL	Weller Preserv	0.94	211		Pg	13 54 45.3	-2.0
SFRE	Sierra Foothil	0.95	271		Pg	13 54 45.6	-1.8
KPK	Kanaka Peak	0.99	290		Pg	13 54 46.9	-1.4
OWYM	Wyandotte	1.09	281		Pg	13 54 48.5	-1.7
PAM	Palermo	1.12	281		Pg	13 54 48.8	-1.8
ORV	Oroville	1.13	286		Pg	13 54 49.0	-1.8
ORV	Oroville	1.13	286	IAML		13 55 05.4	
	comp=N,136nm,0.2s						
ORV				IAML		13 55 07.5	
	comp=E,161nm,0.4s						
OSTM	Stimpson Lane	1.17	276		Pg	13 54 49.7	-1.9
CMB	Columbia Colle	1.23	191		Pg	13 54 50.3	-2.5
CMB				IAML		13 55 07.1	
	comp=N,203nm,0.2s						
CMB				IAML		13 55 07.3	
	comp=E,205nm,0.1s						
OGOM	Van Goodin Ran	1.24	290		Pg	13 54 51.1	-1.8
SUTB	Sutter Butte	1.31	270		Pg	13 54 52.2	-2.1
TVH1	TV Hill, Hawth	1.31	127		Pg	13 54 52.6	-1.8
OSUM	Sutter Buttes	1.36	272		Pn	13 54 53.4	-1.7
RYN	Ryan	1.38	116		Pn	13 54 53.4	-2.1
RYN				IAML		13 55 14.2	
	comp=E,115nm,0.2s						
RYN				IAML		13 55 18.9	
	comp=N,96nm,0.4s						
RYN	Ryan	1.38	116		Sg	13 55 13.2	-0.4
LCMM	Colby Mountain	1.42	310		Pn	13 54 54.5	-1.6
RUSS	Russell Ranch	1.55	244		Pn	13 54 57.3	-0.3
BUCR	Buckhorn Ranch	1.57	181		Pn	13 54 56.0	-2.1
LHV	Little Huntoon	1.60	128		Pn	13 54 57.9	-0.5
LHV				IAML		13 55 07.0	
	comp=E,104nm,0.4s						
LHV				IAML		13 55 27.6	
	comp=N,129nm,0.6s			

GROM	Round Mountain	2.10 289			Pn	13 55 04.9	-0.4
CMMM	Mount Mocho	2.10 212			Pn	13 55 04.3	-1.0
BGC	Bolinger Road	2.10 228			Pn	13 55 05.1	-0.3
CMPM	Mikes Peak	2.12 207			Pn	13 55 05.1	-0.4
CVLM	Vallecito	2.12 221			Pn	13 55 05.1	-0.4
GHGM	Hogback Ridge	2.12 268			Pn	13 55 05.4	-0.2
MHDM	Hidden Dam	2.13 176			Pn	13 55 06.3	+0.5
MCDM	Chidago Canyon	2.14 142			Pb	13 55 07.7	-1.0
LSHM	Sage Hen Hill	2.14 317			Pn	13 55 06.8	+0.8
NTYM	Taylor	2.18 248			Pn	13 55 06.3	-0.1
CNIC	Niles Canyon	2.20 222			Pn	13 55 05.9	-0.8
LTIM	Timbered Crate	2.20 332			Pn	13 55 07.2	+0.4
ARN	Arnold Ranch	2.21 211			Pn	13 55 06.6	-0.2
MHC	Mount Hamilton	2.26 213			Pn	13 55 07.2	-0.3
MHC				IAML		13 55 43.4	
	comp=N,62nm,0.6s						
MHC				IAML		13 55 43.5	
	comp=E,66nm,0.6s						
O02D	Mt. Diablo Mer	2.27 295			Pn	13 55 07.1	-0.6
FRI	Friant	2.27 172			Pn	13 55 07.9	+0.2
HOPS	Hopland Field	2.32 265			Pn	13 55 08.7	+0.3
GHS	Gilroy Hot Spr	2.40 207			Pn	13 55 09.5	0.0
MCCM	Marconi Confer	2.44 244		Pn	Pn	13 55 09.2	-0.7
MCCM				IAML		13 55 51.3	
	comp=N,43nm,0.8s						
GALB	Galbreath Wild	2.49 262			Pn	13 55 10.6	-0.1
JRSC	Jasper Ridge	2.49 223			Pn	13 55 10.5	-0.2
JRSC				IAML		13 55 47.0	
	comp=E,46nm,0.4s						
JRSC				IAML		13 55 48.5	
	comp=N,28nm,1.1s						
FTR	Fort Ross	2.50 254			Pn	13 55 10.6	-0.2
TPH	Tonopah	2.54 117			Pn	13 55 12.9	+1.4
TPH				IAML		13 55 54.5	
	comp=N,24nm,0.3s						
N02D	Trinity Center	2.64 312			Pn	13 55 13.5	+0.7
N02D				IAML		13 55 53.9	
	comp=N,28nm,0.6s						
N02D				IAML		13 55 57.1	
	comp=E,37nm,0.7s						
BMSM	Mercy Hot Spri	2.64 192			Pn	13 55 12.8	0.0
SAO	San Andreas Ge	2.70 204	Pn		Pn	13 55 13.3	-0.3
M02C	Callahan	3.00 316			Pn	13 55 18.1	+0.3
PMPB	Monarch Peak	3.08 191			Pn	13 55 18.0	-0.8
R11B	Troy Canyon, C	3.64 103			Pn	13 55 25.1	-1.6
ELK	Elko	4.02 67			Pn	13 55 30.9	-1.1
ELK	Elko	4.02 67		IAML		13 56 38.0	
	comp=E,7.6nm,0.5s						
ELK				IAML		13 56 39.9	
	comp=E,7.4nm,0.4s						
DUG	Dugway, Tooele	5.70 78	Pn		Pn	13 55 55.2	+0.2

UPA ***25*** *14:10:44.6±2.1, 7°.45N×80°.53W, h0km±4km, MW3.8*
CATAC ***25*** *14:10:46.7±0.5, 7°N±3°×8°0W±°, h10km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=6.1km s-min=4.9km az=175.1, confirmed*
RSNC ***25*** *14:10:46.4±0.7, 7°N±4°×8°0W±°, h50km±51km, M3.6, mb4.1, ML3.1*

ISC 25 14:10:43.6±0.9, **7°.35N**±0°.04×**80°.42W**±0°.02, **h13**km±5km, **n57**, σ1§**84**/98, **4C-8D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSI3	Tonosi	0.06	339	⇓iP	Pg	14 10 46.7	+0.5
TOSI3				eS	Sg	14 10 47.9	-0.1
PCRI3	Pocri, Los San	0.43	44	eP	Pb	14 10 53.7	+0.7
PCRI3				eS	Sb	14 11 00.7	+1.4
CACAO	El Cacao, Vera	0.44	269	⇓iP	Pg	14 10 51.8	-0.5
CACAO				eS	Sg	14 10 56.9	-1.3
AZU	Azuero	0.46	18	⇑iP	Pb	14 10 53.7	+0.1
AZU				eS	Sb	14 11 00.6	+0.3
PESE3	Pese, Herrera	0.59	341	⇑iP	Pg	14 10 55.2	+0.1
PESE3				eS	Sb	14 11 03.4	-0.6
CHIT3	Chitre	0.60	0	eP	Pb	14 10 55.7	-0.3
CHIT3				eS	Sb	14 11 03.9	-0.5
MARI3	Mariato, Verag	0.64	298	⇓iP	Pg	14 10 55.7	-0.4
MARI3				eS	Sg	14 11 05.2	+0.6
GMAL	Guarumal, Vera	0.91	297	⇓iP	Pg	14 11 00.4	-0.7
GMAL				eS	Sg	14 11 12.6	-0.4
CRIS3	El Cristo, Coc	0.92	348	⇓iP	Pg	14 11 00.9	-0.5
CRIS3				eS	Sb	14 11 13.0	-0.5
STIA3	Santiago, Vera	0.93	324	eP	Pg	14 11 00.6	-0.9
STIA3				eS	Sb	14 11 13.6	-0.1
RSUS3	Rio de Jesus,	0.97	311	⇓iP	Pg	14 11 01.3	-1.0
RSUS3				eS	Sg	14 11 13.6	-1.4
SFRA3	San Francisco,	1.05	329	eP	Pg	14 11 02.7	-1.2
SFRA3				eS	Sb	14 11 16.9	-0.3
CALO3	Calobre, Verag	1.05	337	⇑iP	Pg	14 11 03.0	-0.9
CALO3				eS	Sb	14 11 16.7	-0.6
MESA3	La Mesa, Verag	1.10	316	⇑iP	Pg	14 11 03.3	-1.4
MESA3				eS	Sg	14 11 17.4	-1.7
PNME	Penonome	1.13	5	eP	Pg	14 11 04.5	-0.9
PNME				eS	Sb	14 11 19.2	-0.4
CHOR3	La Chorrera	1.67	23	eP	Pg	14 11 15.0	-0.7
CHOR3				eS	Sg	14 11 37.3	-0.1
TABO3	Taboga, Panama	1.67	31	eP	Pb	14 11 13.8	-0.4
ZANG	Zanguenga, Cho	1.69	19	eP	Pb	14 11 14.1	-0.4
ZANG				eS	Sg	14 11 36.6	-1.3
ARRA3	Arraijan, Pana	1.77	25	iP	Pb	14 11 16.2	+0.2
ARRA3				eS	Sg	14 11 40.0	-0.7
FLAM	Flamenco Islan	1.78	29	eP	Pb	14 11 15.7	-0.4
FLAM				eS	Sg	14 11 38.9	-2.0
UPA	Univ. de Panam	1.84	28	eP	Pn	14 11 16.0	+1.2
UPA				eS	Sg	14 11 40.8	-2.2
GAMB1	Gamboa	1.89	22	eP	Pb	14 11 17.6	-0.4
GAMB1				eS	Sb	14 11 40.3	-1.2
BCIP	Isla Barro Col	1.90	18	eP	Pb	14 11 17.8	-0.2
BCIP				eS	Sg	14 11 42.8	-1.8
BCIP	Isla Barro Col	1.90	18	P	Pb	14 11 17.4	-0.6
BCIP				S	Sg	14 11 42.5	-2.1
BCIP	Isla Barro Col	1.90	18	P	Pb	14 11 17.4	-0.6
BCIP				S	Sg	14 11 42.5	-2.1
MLIR	Monte Lirio	1.96	17	⇓iP	Pb	14 11 18.8	-0.3
MLIR				eS	Sg	14 11 45.5	-1.3
FRIJ	El Hiral	1.98	20	⇓iP	Pb	14 11 18.9	-0.6
FRIJ				eS	Sg	14 11 45.0	-2.4
LOMA3	Las Lomas, Chi	2.23	299	eP	Pn	14 11 22.4	+2.2
DVD	David	2.28	298	eP	Pn	14 11 21.9	+1.0
PSOM3	Paja de Sombre	2.31	305	eP	Pn	14 11 22.7	+1.5
PSOM3				eS	Sn	14 11 49.9	+0.4
CHGR2	Aguacate	2.33	313	eP	Pn	14 11 23.3	+1.7
CHGR2				eS	Sn	14 11 50.7	+0.6
CNTA3	Canitas, Panam	2.40	39	eP	Pn	14 11 21.8	-0.7
PTAR3	Potrerillos Ar	2.45	303	eP	Pn	14 11 25.2	+1.9
PTAC	Punta Ardita,	2.60	94	P	Pn	14 11 25.8	+0.5
PTAC				S	Sn	14 11 54.2	-2.5
TOTI	Torti	2.61	53	eP	Pb	14 11 28.9	-1.4
TOTI				eS	Sg	14 12 05.4	-2.2
BC3P	Paso Ancho	2.61	304	eP	Pb	14 11 28.9	-1.5
BC3P				eS	Sn	14 11 58.6	+1.2
UPD2	Meteti	2.66	63	eP	Pn	14 11 28.5	+2.3
BRU2	Volcan	2.67	303	eP	Pn	14 11 29.1	+2.8
BRU2				eS	Sn	14 12 00.1	+1.5
BRU2	Volcan	2.67	303	P	Pn	14 11 29.2	+2.8
BRU2				S	Sb	14 12 02.6	-1.4
CDITO	Canoas	2.72	297	S	Sb	14 12 05.1	-0.2
SOLC	Bahia Solano	3.19	110	P	Pn	14 11 32.9	-0.5
SOLC				S	Sn	14 12 08.8	-2.5
APAC	Apartado, Choc	3.84	82	P	Pn	14 11 47.1	+4.7
APAC				S	Sn	14 12 29.3	+1.8
DBBC	Dabeiba	4.19	94	P	Pn	14 11 50.0	+2.7
DBBC				S	Sn	14 12 33.8	-2.3
CBOC	Ciudad Bolivar	4.62	108	P	Pn	14 11 54.4	+1.1
CBOC				S	Sn	14 12 45.5	-1.4
UREC	San Jos de Ur	4.86	85	eP	Pn	14 12 00.1	+3.7
UREC				eS	Sn	14 12 57.5	+4.8
UREC	San Jos de Ur	4.86	85	P	Pn	14 11 59.8	+3.4
MEDEC	Medelln, Ant	4.91	102	P	Pn	14 11 57.4	+0.1
HELC	Santa Helena	4.99	103	P	Pn	14 12 01.1	+2.6
HELC				S	Sn	14 13 01.1	+4.8
HELC	Santa Helena	4.99	103	P	Pn	14 12 02.1	+3.6
HELC				S	Sn	14 12 47.7	-8.6
SAIC	Isla e San And	5.31	346	P	Pn	14 12 04.0	+1.4
SAIC	53nm,1.0s			S	Sn	14 13 06.0	+2.3
GUY2C	Guyana, Caldas	5.45	113	P	Pn	14 12 07.0	+2.1
GUY2C	7.2nm,1.6s			S	Sn	14 13 04.6	-3.2
	7.2nm,1.6s						

ZARC	Zaragoza, Cauc	5.52	88	P	Pn	14 12 08.6	+3.2
	13nm,0.6s						
SJCC	San Jacinto, C	5.77	64	P	Pn	14 12 13.0	+4.1
PTBC	PUERTO BERRIO,	5.97	97	P	Pn	14 12 15.8	+4.1
PRVC	Isla de Provid	6.06	351	P	Pn	14 12 14.4	+1.5
	36nm,0.7s						
PRAC	Prado	6.58	123	P	Pn	14 12 19.7	-0.5
BARC	Barichara	7.22	96	P	Pn	14 12 29.3	+0.2

NOU ***25*** *14:21:07.5, 38°.47S×176°.16E, h161km, MLv3.5/14, North Island, New Zealand*
WEL ***25*** *14:21:09.8±1.0, 38°.3S±7°×17°6E±°, h139km±8km, M2.9/52, ML2.4/20, MLv2.9/52, Error ellipse: s-maj=9.9km s-min=8.8km az=92.2, confirmed*

ISC 25 14:21:07.1±1.7, **38°.37S**±0°.05×**176°.11E**±0°.04, **h165**km±9km, **n95**, σ0§**92**/101, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	Galatos Road	0.02	9	P	Pn	14 21 29.5	+0.3
HSRZ	Hossack Road	0.12	63	P	Pn	14 21 29.6	+0.5
HRRZ	Handcock Road	0.14	99	P	Pn	14 21 29.6	+0.4
WPRZ	Whakapapatarin	0.16	164	P	Pn	14 21 29.7	+0.5
UTU	Utuhina	0.20	20	P	Pn	14 21 29.9	+0.6
HLRZ	Highlands Stat	0.23	59	P	Pn	14 21 30.2	+0.8
KUTZ	Kaahu Road	0.25	241	P	Pn	14 21 29.9	+0.6
PRRZ	Plateau Road	0.26	120	P	Pn	14 21 29.8	+0.4
ALRZ	Allen Road	0.27	136	P	Pn	14 21 29.8	+0.4
ALRZ				S	Sn	14 21 45.8	-0.7
RRRZ	Republican Roa	0.32	85	P	Pn	14 21 29.9	+0.3
OMRZ	Omania	0.33	39	P	Pn	14 21 30.0	+0.3
KARZ	Kaharoa	0.36	17	P	Pn	14 21 30.2	+0.5
LIRZ	Lichensteins R	0.42	31	P	Pn	14 21 30.4	+0.5
TLZ	Tolley Road	0.45	275	P	Pn	14 21 30.7	+0.7
TLZ				S	Sn	14 21 47.4	-0.2
WATZ	Wairara	0.45	221	P	Pn	14 21 30.7	+0.6
HATZ	Hinemaiaia	0.52	181	P	Pn	14 21 30.9	+0.5
MRHZ	Matea Rd	0.53	152	P	Pn	14 21 30.8	+0.5
MUGZ	Murupara	0.53	102	P	Pn	14 21 30.5	+0.2
MUGZ				S	Sn	14 21 46.7	-1.4
KMRZ	Kaimai	0.54	346	P	Pn	14 21 30.9	+0.4
EDRZ	Edgecumbe	0.56	63	P	Pn	14 21 30.8	+0.2
RATZ	Rangitukua	0.56	208	P	Pn	14 21 31.2	+0.6
OPRZ	Ohinepanea	0.63	34	P	Pn	14 21 31.2	+0.3
OPRZ				S	Sn	14 21 47.9	-1.1
RITZ	Rihia Road	0.64	198	P	Pn	14 21 32.0	+1.0
TGRZ	Tauranga	0.65	11	P	Pn	14 21 31.3	+0.3
TGRZ				S	Sn	14 21 48.7	-0.5
KATZ	Kakaramea	0.69	208	P	Pn	14 21 32.2	+0.8
RTZ	Ruatahuna	0.73	110	P	Pn	14 21 32.1	+0.5
RTZ				S	Sn	14 21 49.1	-1.1
MTHZ	Maungataniwha	0.75	130	P	Pn	14 21 32.4	+0.8
MTHZ				S	Sn	14 21 49.3	-1.2
TOZ	Tahuroa Road	0.80	323	P	Pn	14 21 32.5	+0.7
URZ	Urewera	0.80	83	P	Pn	14 21 31.8	0.0
URZ	Urewera	0.80	83	P	Pn	14 21 31.9	+0.1
NTVZ	North Tongarir	0.80	205	P	Pn	14 21 32.9	+0.8
TMVZ	Te Maari	0.81	203	P	Pn	14 21 32.9	+0.8
ETVZ	East Tongariro	0.83	202	P	Pn	14 21 33.1	+0.8
WTVZ	West Tongariro	0.85	208	P	Pn	14 21 33.2	+0.8
BKZ	Black Stump Fm	0.85	159	P	Pn	14 21 32.8	+0.5
BKZ	Black Stump Fm	0.85	159	S	Sn	14 21 50.4	-1.4
BKZ	Black Stump Fm	0.85	159	P	Pn	14 21 32.9	+0.6
NNVZ	North Ngauruho	0.85	207	P	Pn	14 21 33.4	+0.9
OTVZ	Oturere	0.87	203	P	Pn	14 21 33.6	+1.1
TWVZ	Taurewa	0.88	216	P	Pn	14 21 33.4	+0.8
SNVZ	South Ngauruho	0.90	204	P	Pn	14 21 33.6	+0.8
NGZ	Ngauruhoe	0.90	206	P	Pn	14 21 33.5	+0.8
NMHZ	Naumai	0.91	143	P	Pn	14 21 34.4	+1.6
COVZ	Chateau Observ	0.94	208	P	Pn	14 21 33.7	+0.7
RAHZ	Arahi	0.94	126	P	Pn	14 21 34.2	+1.3
TUVZ	Tukino	0.97	201	P	Pn	14 21 34.3	+1.1
FWVZ	Far West T-bar	0.99	206	P	Pn	14 21 34.2	+0.7
HIZ	Hauiti	0.99	261	P	Pn	14 21 34.1	+0.8
HIZ	Hauiti	0.99	261	S	Sn	14 21 53.9	+0.5
HIZ	Hauiti	0.99	261	P	Pn	14 21 34.3	+1.0
MAVZ	Matarangi	0.99	205	P	Pn	14 21 34.7	+1.1
WHVZ	Whangaehu Hut	1.00	204	P	Pn	14 21 34.4	+0.8
TRVZ	Turoa	1.03	205	P	Pn	14 21 34.9	+1.1
RAGZ	Rawiri	1.04	98	P	Pn	14 21 34.6	+0.8
WNVZ	Wahianoa	1.04	202	P	Pn	14 21 34.8	+0.9
SNGZ	Shannon Statio	1.05	114	P	Pn	14 21 35.0	+1.2
MOVZ	Moawhango	1.07	195	P	Pn	14 21 34.6	+0.6
KWHZ	Kaweka Forest	1.08	167	P	Pn	14 21 35.2	+1.1
PKVZ	Pokaka	1.09	213	P	Pn	14 21 35.1	+0.9
MWZ	Matawai	1.12	89	P	Pn	14 21 34.9	+0.6
MTVZ	Mangateitei	1.13	206	P	Pn	14 21 35.5	+1.0
ARHZ	Aropaoanui	1.13	142	P	Pn	14 21 36.0	+1.6
MCHZ	McNeill Hill	1.17	157	P	Pn	14 21 36.5	+1.8
KRHZ	Kereru	1.29	171	P	Pn	14 21 37.0	+1.1
VRZ	Vera Road	1.30	234	P	Pn	14 21 37.5	+1.6
RUGZ	Raukumara Rang	1.30	73	P	Pn	14 21 35.8	-0.2
RIGZ	Rimuhau	1.34	105	P	Pn	14 21 37.6	+1.2
TKGZ	Te Karaka	1.37	94	P	Pn	14 21 38.2	+1.6
KNZ	Kokohu	1.39	119	P	Pn	14 21 37.9	+1.2
HAZ	Te Kaha	1.46	66	P	Pn	14 21 37.4	0.0
TWGZ	Tauwhareparae	1.49	83	P	Pn	14 21 39.1	+1.3
CKHZ	Cape Kidnapper	1.50	153	P	Pn	14 21 39.4	+1.6
KAHZ	Kahuranaki	1.55	157	P	Pn	14 21 39.8	+1.5
PNHZ	Pukenui	1.55	177	P	Pn	14 21 39.2	+0.8
WAZ	Wanganui	1.64	212	P	Pn	14 21 40.5	+1.3
KUZ	Kuaotunu	1.65	349	P	Pn	14 21 39.9	+0.5
KUZ	Kuaotunu	1.65	349	P	Pn	14 21 39.9	+0.5
ETAZ	East Tamaki Re	1.69	326	P	Pn	14 21 40.7	+0.8
TSZ	Takapari Road	1.69	184	P	Pn	14 21 40.8	+0.9
PUZ	Puketiti	1.72	81	P	Pn	14 21 40.6	+0.5
AWAZ	Awhitu Peninsu	1.74	318	P	Pn	14 21 41.3	+0.9
PWZ	Pawanui	1.76	161	P	Pn	14 21 41.7	+1.2
PXZ	Pawanui	1.76	161	P	Pn	14 21 41.6	+1.1
NEZ	North Egmont	1.81	240	P	Pn	14 21 43.2	+2.1
KHEZ	Kahui Hut	1.88	240	P	Pn	14 21 43.1	+1.2
MXZ	Matakaoa Point	1.92	66	P	Pn	14 21 43.2	+1.0
MXZ	Matakaoa Point	1.92	66	S	Sn	14 22 09.6	+0.3
MXZ	Matakaoa Point	1.92	66	P	Pn	14 21 43.2	+1.0
BFZ	Birch Farm	2.31	177	P	Pn	14 21 47.0	+0.2
BFZ	Birch Farm	2.31	177	P	Pn	14 21 47.1	+0.4
MRZ	Mangatainoka R	2.33	190	P	Pn	14 21 47.1	+0.2
SNZO	South Karori	3.13	200	P	Pn	14 21 56.0	-0.6
QRZ	Quartz Range	3.70	227	P	Pn	14 22 02.9	-0.9
KHZ	Kahutara	4.49	205	P	Pn	14 22 13.1	-1.0
ODZ	Otahua Downs	7.82	210	P	Pn	14 22 56.2	-1.8

SDD ***25*** *14:24:12.3±0.8, 19°.18N×67°.11W, h23km±35km, MD3.0, ML2.0, MW2.6*
RSPR ***25*** *14:24:16.7, 19°.06N×67°.15W, h29km±28km, MD2.9/9*

ISC 25 14:24:15.7±1.9, **18°.98N**±0°.08×**67°.15W**±0°.05, **h26**km±12km, **n25**, σ1§**18**/30, **8C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.51	176	⇑eP	Pb	14 24 25.8	-0.4
AGPR	Aguadilla, PR	0.51	176	eS	Sb	14 24 34.5	+1.3
AGPR	Aguadilla, PR	0.51	176	ePg	Pb	14 24 25.0	-1.1
AGPR				eSg	Sb	14 24 34.9	+1.7
AGPR				IAML		14 24 42.3	
	comp=N,96nm,0.2s						
IDE	Isla Desecheo	0.67	208	⇓eP	Pb	14 24 27.4	-1.4
IDE	Isla Desecheo	0.67	208	eS	Sb	14 24 37.9	+0.3
AOPR	Arecibo Observ	0.73	149	⇑eP	Pn	14 24 29.1	-1.2
AOPR	Arecibo Observ	0.73	149	eS	Sb	14 24 41.3	+1.8
AOPR	Arecibo Observ	0.73	149	ePg	Pn	14 24 28.7	-1.7
AOPR				eSg	Sb	14 24 40.1	+0.6
AOPR				IAML		14 24 46.7	
	comp=N,59nm,0.2s						
LSP	Las Mesas	0.80	176	⇑eP	Pn	14 24 30.0	-1.3
LSP	Las Mesas	0.80	176	eS	Sb	14 24 42.3	+0.7
CRPR	Cabo Rojo, PR	0.97	178	⇑eP	Pn	14 24 32.8	-0.7
CRPR	Cabo Rojo, PR	0.97	178	eS	Sn	14 24 46.7	+0.2
CRPR	Cabo Rojo, PR	0.97	178	ePg	Pn	14 24 32.9	-0.7
CRPR				eSg	Sn	14 24 48.1	+1.5
CRPR				IAML		14 24 57.0	
	comp=N,34nm,0.6s						
ECPR	Experimental S	0.99	131	⇑eP	Pn	14 24 33.6	-0.3
ECPR	Experimental S	0.99	131	eS	Sn	14 24 47.6	+0.4
MLPR	Magueyes Islan	1.01	174	⇑eP	Pn	14 24 33.2	-0.9
MLPR	Magueyes Islan	1.01	174	eS	Sn	14 24 47.8	+0.3
MLPR	Magueyes Islan	1.01	174	ePg	Pn	14 24 32.9	-1.2
MLPR				eSg	Sn	14 24 48.6	+1.1
MLPR				IAML		14 24 49.7	
	comp=N,7.9nm,1.7s						
OBIP	Obispado Ponce	1.06	151	⇑eP	Pn	14 24 34.6	-0.3
OBIP	Obispado Ponce	1.06	151	eS	Sn	14 24 50.0	+1.1
PDPR	Patillas Dam,	1.43	132	⇑eP	Pn	14 24 39.9	-0.2
PDPR	Patillas Dam,	1.43	132	eS	Sn	14 24 58.3	+0.3
MIDR	Miches	1.80	270	⇓eP	Pn	14 24 44.3	-0.8
MIDR	Miches	1.80	270	eS	Sn	14 25 06.1	-1.0
HATOM	Hato Mayor del	2.12	265	ePg	Pn	14 24 50.0	+0.4
HATOM				eSg	Sn	14 25 17.8	+2.7
HATOM				IAML		14 25 20.0	
	comp=N,21nm,1.8s						

NNC 25 14:45:36.8±5.4, **34°.84N×78°.79E, h0**km, **mb3.7, 2C-1D, Error ellipse: s-maj=45.1km s-min=42.4km az=82.0, Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	8.47	338	P	Pn	14 47 41.0	+0.1
AAK				S	Sn	14 49 19.8	+2.6
PDGK	Podgornoye	8.49	3	P	Pn	14 47 40.0	-1.1
PDGK				S	Sn	14 49 19.5	+1.8
MAKZ	Makanchi	12.19	10	⇓P	Pn	14 48 32.1	+0.4
	1.5nm,0.7s						
MAKZ				⇑S	Sn	14 50 48.5	+0.2
	7.1nm,2.2s						
MK31	Makanchi Array	12.23	11	P	Pn	14 48 32.3	+0.1
	0.7nm,0.7s,baz=196,slow=12,SNR=5.1						
MK31				⇑S	Sn	14 50 49.1	-0.1
	5.6nm,1.4s,baz=198,slow=21						

NNC 25 14:54:12.4±12.0, **38°.25N×73°.06E, h0**km, **mb3.7, mpv3.3, 2C-2D, Error ellipse: s-maj=99.5km s-min=72.7km az=161.0, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	4.49	2	Pg	Pn	14 55 20.2	-1.5
	3.5nm,0.7s						
MRKS				Lg	Lg	14 56 18.9	
	7.2nm,0.3s						
AAK	Ala-Archa	4.51	14	⇓Pn	Pn	14 55 22.5	+0.3
	24nm,2.5s						
AAK				⇑Sn	Sn	14 56 17.5	+2.1
	0.5nm,0.4s						
IUG	Iuzhnay	4.53	330	Pg	Pn	14 55 16.2	-6.0
	4.9nm,0.4s						
IUG				Lg	Lg	14 56 12.5	
	22nm,0.6s						
KK31	Karatay Array	5.22	339	⇓Pn	Pn	14 55 30.4	-1.3
	0.4nm,0.3s,baz=153,slow=11,SNR=8.4						
KK31				⇑Sn	Sn	14 56 32.9	+0.3
	3.3nm,0.4s,baz=152,slow=24						

IDC ***25*** *15:02:12.2±0.8, 13°.21N×87°.57W, h0km, mb4.1/8, mbtmp4.1/9, ML3.2/2, MS2.8/5, Error ellipse: s-maj=31.7km s-min=16.8km az=47.0*
SNET ***25*** *15:02:17.3±1.2, 12°.54N×88°.38W, h28km, ML4.6*
NEIC ***25*** *15:02:17.3±1.7, 12°.51N±0°.07×88°.33W±0°.04, h65km±9km, mb4.6/95, Error ellipse: s-maj=11.8km s-min=3.8km az=206.0*
CATAC ***25*** *15:02:17.6±0.2, 13°N±2°×8°8W±°, h34km, M4.6/32, MLv4.6/32, Error ellipse: s-maj=4.9km s-min=1.7km az=25.9, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.07; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-0.82; $M_{r\theta}$1.20; $M_{\theta\phi}$-0.36; $M_{\phi r}$-0.76; Fault plane solution: $M_0$1.69137×10^{15} NP1: ϕ_s49.38733°, δ31.20443°, λ-175.08401°. NP2: ϕ_s315.17979°, δ87.45535°, λ-58.88906°. Principal axes: T 1.8932, Plg34.9885°, Azm18.6951°; N -0.5313, Plg31.0769°, Azm133.6450°; P -1.3619, Plg39.5090°, Azm253.4452°; confirmed*
GCG ***25*** *15:02:21.2±1.2, 12°.77N×88°.50W, h27km±11km, MD4.1, ML3.7*
UCR ***25*** *15:02:49.2±1.2, 11°.17N×86°.31W, h0km±112km, MW3.9*

ISC 25 15:02:17.4±1.0, **12°.55N**±0°.05×**88°.35W**±0°.03, **h52**km±9km, **n204**, σ1§**50**/192, **mb4.6**/50, **MS3.4**/3, **3C-1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.88	61	P	Pn	15 02 34.1	+0.4
CSGN				S	Sn	15 02 46.8	+1.2
LCND	La Caada	0.88	30	eP	Pn	15 02 34.2	+0.6
LCND				eS	Sn	15 02 46.3	+0.8
LCND	La Caada	0.88	30	P	Pn	15 02 34.2	+0.6
CNCH	Conchagua	0.88	34	eP	Pn	15 02 34.4	+0.7
CNCH	Conchagua	0.88	34	S	Sn

MARCA **Marcala la Paz** 1.63 11 S Sn 15 03 05.1 +1.3
MARCA **Marcala la Paz** 1.63 11 P Pn 15 02 45.1 +1.2
LLGN **La Laguna** 1.71 340 *eP* Pn 15 02 45.6 +0.7
LLGN **La Laguna** 1.71 340 P Pn 15 02 45.5 +0.7
LLGN **La Laguna** 1.71 340 S Sn 15 03 07.0 +1.3
COPN **Copaltepe** 1.75 102 P Pn 15 02 45.8 +0.4
CEVE **Cerro Verde** 1.78 316 *eP* Pn 15 02 46.5 +0.5
CEVE *eS* Sn 15 03 09.0 +1.4
CEVE **Cerro Verde** 1.78 316 S Sn 15 03 08.7 +1.1
CEVE **Cerro Verde** 1.78 316 P Pn 15 02 46.7 +0.7
MOM2 **El Cardon** 1.82 93 P Pn 15 02 47.0 +0.7
MOM2 S Sn 15 03 09.3 +1.0
TGUH **Tegucigalpa,Un** 1.83 35 Pn 15 02 47.9 +1.3
TGUH Sn Sn 15 03 08.6 -0.1
TGUH **Tegucigalpa,Un** 1.83 35 P Pn 15 02 47.8 +1.3
TGUH S Sn 15 03 10.8 +2.1
UNIC **Universidad Ca** 1.85 321 P Pn 15 02 47.6 +0.9
UNIC **Universidad Ca** 1.85 321 S Sn 15 03 10.2 +1.2
NUBE **Las Nubes** 1.94 314⇓ *iP* Pn 15 02 48.7 +0.6
NUBE **Las Nubes** 1.94 314 P Pn 15 02 48.8 +0.6
NUBE **Las Nubes** 1.94 314 S Sn 15 03 11.5 0.0
LIMN **Finca el Limon** 2.00 75 P Pn 15 02 49.5 +0.7
LIMN S Sn 15 03 13.6 +0.9
TISN **Laguna Tiscapa** 2.07 101 P Pn 15 02 50.4 +0.7
USIM **UNAN** 2.07 102 Pn Pn 15 02 49.1 -0.6
USIM Sn Sn 15 03 13.9 -0.5
FAME **Alcaldia de Sa** 2.08 309 P Pn 15 02 50.4 +0.6
FAME **Alcaldia de Sa** 2.08 309 S Sn 15 03 15.3 +0.8
MGAN **Managua** 2.09 101 Pn 15 02 50.4 +0.5
MGAN Sn Sn 15 03 13.3 -1.5
MTO3 **Montecristo** 2.09 332 Pn 15 02 50.5 +0.3
MTO3 Sn Sn 15 03 14.7 -0.5
OCON **Estacion meteo** 2.12 59 P Pn 15 02 51.3 +0.9
OCON S Sn 15 03 16.9 +1.4
MAS3 **Al N del Volca** 2.18 103 P Pn 15 02 52.0 +0.7
MAS3 S Sn 15 03 17.2 0.0
ESQI **Esquipulas** 2.23 334 Pn 15 02 53.2 +1.3
ESQI **Esquipulas** 2.23 334 *eP* Pn 15 02 53.3 +1.4
SARH **Santa Rosa de** 2.25 350 *eP* Pn 15 02 54.1 +1.8
MATN **Matagalpa** 2.39 81 P Pn 15 02 54.0 -0.2
MATN **Matagalpa** 2.39 81 S Sn 15 03 23.4 +0.9
CARN **Rivas** 3.08 116 *eP* Pn 15 03 04.6 +1.1
APG **El Apazote** 3.19 320 Pn Pn 15 03 06.5 +1.1
comp=Z,0.5nm,0.3s,baz=121,slow=12,SNR=24
APG Sn Sn 15 03 48.0 +5.6
comp=Z,0.7nm,0.3s,baz=66,slow=20,SNR=4.0
APG **El Apazote** 3.19 320⇑ *eP* Pn 15 03 06.6 +1.3
LAPC **Finca la Perla** 3.36 121 *eP* Pn 15 03 08.3 +0.9
BUAI **Buenos Aires** 3.39 119 *eP* Pn 15 03 10.4 +2.6
VRLE **La Escondida,** 3.40 121 *eP* Pn 15 03 08.8 +0.8
STG2 **El Palmar, Qui** 3.50 303 *eP* Pn 15 03 16.0 +6.7
STG2 *eS* Sn 15 03 56.7 +7.1
MESS **Mesas** 3.57 120 *eP* Pn 15 03 11.6 +1.2
VMAR **Armenia, Volca** 3.60 118 *eP* Pn 15 03 11.9 +1.1
JUD3 **Juan Diaz 3** 3.63 130 Pn 15 03 12.7 +1.5
JUD3 **Juan Diaz 3** 3.63 130 *eP* Pn 15 03 12.2 +1.1
CUI **Cuipilapa** 3.64 121 *eP* Pn 15 03 12.3 +1.0
SIUN **Universidad Ur** 3.67 71 Pn 15 03 12.6 +0.9
TENO **El Achiote** 3.77 119 *eP* Pn 15 03 14.4 +1.2
RTAL **Retalhuleu** 3.81 302 Pn Pn 15 03 14.2 +0.7
JTS **Las Juntas de** 4.01 124 Pn 15 03 17.2 +0.8
JTS **Las Juntas de** 4.01 124 Pn Pn 15 03 17.3 +0.9
comp=Z,3.1nm,0.3s,baz=329,slow=19,SNR=8.1
JTS Sn Sn 15 03 58.0 -4.1
comp=Z,8.7nm,0.3s,baz=319,slow=18,SNR=3.6
JTS LR LR 15 04 19.4
comp=Z,32nm,20.9s,baz=290,slow=33
JTS **Las Juntas de** 4.01 124 *eP* Pn 15 03 18.1 +1.7
TABAC **Tabacon** 4.05 120 *eP* Pn 15 03 19.4 +2.3
ARE1 **Arenal 1** 4.12 120 *eP* Pn 15 03 19.1 +1.4
VARE2 **V. Arenal** 4.12 120 *eP* Pn 15 03 19.1 +1.2
HUEH **Huehuetenango** 4.12 312 Pn Pn 15 03 18.7 +0.6
JCR1 **Jicaral** 4.15 130 *eP* Pn 15 03 19.6 +1.3
SOCE **Pocosol** 4.24 120 Pn Pn 15 03 18.8 -0.7
PETF **Flores** 4.59 341 Pn 15 03 25.8 +1.6
PETF **Flores** 4.59 341 *eP* Pn 15 03 27.0 +2.8
PICV **PH. Pirrs** 5.00 125 *eP* Pn 15 03 32.2 +2.2
VICA **Volcano Irazu** 5.10 119 *eP* Pn 15 03 34.8 +3.2
CVTQ **Turrialba Volc** 5.15 119 *eP* Pn 15 03 33.5 +1.2
CVTR **Volcan Turrial** 5.15 119 *eP* Pn 15 03 36.0 +3.7
REPA **Paraso** 5.16 121 *eP* Pn 15 03 34.5 +2.3
CVTV **Tajo** 5.17 119 *eP* Pn 15 03 34.8 +2.3
ABRB **Las Abras (San** 5.20 119 *eP* Pn 15 03 36.3 +3.5
PIEC **Cerro El Cedra** 5.20 124 *eP* Pn 15 03 36.5 +3.7
BUS1 **Rivas** 5.41 123 *eP* Pn 15 03 39.2 +3.3
SAJE **San Jernim** 5.72 123 *eP* Pn 15 03 42.4 +2.5
DRK0 **Durika** 5.98 123 *eP* Pn 15 03 46.6 +3.1
PIRO **Carate, Puerto** 6.42 129 Pn 15 03 52.2 +2.9
TEIG **Tepich** 7.64 0 Pn 15 04 05.9 -0.1
TEIG **Tepich** 7.64 0 Pn Pn 15 04 01.3 -4.8
baz=128,slow=20,SNR=10.0
CMIG **Matias Romero** 7.77 306 Pn Pn 15 04 09.2 +1.3
comp=Z,1.6nm,0.3s,baz=121,slow=12,SNR=12
CMIG Sn Sn 15 05 33.5 -1.1
comp=Z,0.9nm,0.3s,baz=66,slow=18,SNR=2.1
comp=Z,3.7nm,0.4s
SDV **Santo Domingo** 17.78 100 P Pn 15 06 19.5 -2.0
comp=Z,2.4nm,0.4s,baz=301,slow=5.9,SNR=1.8
SDV LR LR 15 14 26.2
comp=Z,12nm,19.3s,baz=260,slow=43
833A **Chaparral WMA,** 18.78 328 P 15 06 31.0 -1.5
833A IAmb IAmb 15 06 35.4
comp=Z,37nm,0.9s
BAUV **El Baul** 20.27 98 P P 15 06 46.3 -2.5
DRIO **Del Rio** 20.30 328 P 15 06 47.2 -1.9
JCT **Junction City** 20.76 331 P P 15 06 53.9 -0.1
JCT IAmb IAmb 15 06 58.5
comp=Z,16nm,0.6s
BRDY **Brady** 21.08 334 P 15 06 56.5 -1.0
GOGA **Godfrey** 21.24 11 P P 15 06 58.3 -0.8
GOGA IAmb IAmb 15 07 03.0
comp=Z,13nm,0.7s
TXAR **Lajitas Array** 21.95 322 P P 15 07 08.1 +1.2
comp=Z,7.3nm,0.8s,baz=133,slow=9.7,SNR=70
TXAR PcP PcP 15 11 06.2 +2.0
comp=Z,0.5nm,0.8s,baz=146,slow=4.0,SNR=3.9
comp=Z,7.3nm,0.8s
HODGE **Hodges** 22.29 13 IAmb IAmb 15 07 12.6
comp=Z,19nm,0.7s
MIAR **Mount Ida** 22.41 349 IAmb IAmb 15 07 15.6
comp=Z,31nm,1.3s
SGCY **Sterling City** 22.58 331 IAmb IAmb 15 07 16.3
comp=Z,15nm,0.8s
JSC **Jenkinsville** 22.58 15 IAmb IAmb 15 07 15.6
comp=Z,24nm,1.0s
W50A **Signal Mountai** 22.72 6 IAmb IAmb 15 07 16.1
comp=Z,27nm,1.4s
LOOK **Love County** 22.82 341 IAmb IAmb 15 07 19.8
comp=Z,44nm,1.3s
BG3 **Lake Jocassee** 22.88 11 IAmb IAmb 15 07 18.2
comp=Z,23nm,1.3s
WHAR **Wooly Hollow** 22.93 352 IAmb IAmb 15 07 18.1
comp=Z,17nm,0.8s
PAULI **Pauline** 22.96 14 IAmb IAmb 15 07 19.0
comp=Z,13nm,0.8s
BIRD **Birdtown, Kers** 23.14 17 IAmb IAmb 15 07 20.3
comp=Z,16nm,0.7s
APMT **Aspermont** 23.32 334 P 15 07 20.1 -0.8
APMT IAmb IAmb 15 07 23.5
comp=Z,28nm,1.2s
TKL **Tuckaleechee C** 23.38 9 P P 15 07 20.9 -0.6
TKL IAmb IAmb 15 07 24.2
comp=Z,16nm,0.8s
ODSA **Odessa** 23.45 328 IAmb IAmb 15 07 24.6
comp=Z,22nm,0.9s
V53A **Saluda** 23.56 11 P P 15 07 22.7 -0.6
V53A IAmb IAmb 15 07 25.9
comp=Z,12nm,0.7s
X34A **Smith Ranch, M** 23.59 340 IAmb IAmb 15 07 25.2
comp=Z,25nm,0.7s
DKNS **Dickens** 23.95 333 IAmb IAmb 15 07 28.8
comp=Z,24nm,0.7s
U49A **Red Boiling Sp** 23.98 5 IAmb IAmb 15 07 27.6
comp=Z,20nm,1.4s
V55A **Taylorsville** 24.08 14 P P 15 07 27.9 -0.1
V55A IAmb IAmb 15 07 30.8
comp=Z,13nm,0.9s
T47A **Sharon Grove** 24.36 2 P 15 07 28.7 -1.8
T47A IAmb IAmb 15 07 31.9
comp=Z,17nm,0.8s
V58A **Windy Hill, Pi** 24.60 18 P P 15 07 31.9 -0.8
V58A IAmb IAmb 15 07 34.0
comp=Z,24nm,0.8s

CCM **Cathedral Cave** 25.54 355 P P 15 07 37.5 -3.7
RTBA **Rita Blanca** 27.09 334 IAmb IAmb 15 07 58.6
comp=Z,10.0nm,0.7s
Q54A **Coxs Mills** 27.16 13 IAmb IAmb 15 07 56.4
comp=Z,8.9nm,0.6s
PV05 **Paradox Valley** 31.45 328 IAmb IAmb 15 08 37.0
comp=Z,9.2nm,1.2s
PV12 **Saucer Basin,** 31.47 328 IAmb IAmb 15 08 37.5
comp=Z,14nm,0.9s
PV11 **David Mesa, Pa** 31.49 328 IAmb IAmb 15 08 37.1
comp=Z,8.0nm,0.7s
PV17 **East Wray Mesa** 31.52 328 IAmb IAmb 15 08 37.3
comp=Z,5.3nm,0.6s
PV16 **Nyswonger Mesa** 31.53 328 IAmb IAmb 15 08 37.8
comp=Z,12nm,1.3s
PV19 **Morning Glory** 31.56 328 IAmb IAmb 15 08 37.5
comp=Z,8.3nm,0.6s
PV04 **Paradox Valley** 31.58 328 IAmb IAmb 15 08 38.5
comp=Z,18nm,1.4s
PV10 **Paradox Valley** 31.64 328 IAmb IAmb 15 08 37.7
comp=Z,8.0nm,0.8s
PV23 **Carpenter Ridg** 31.68 328 IAmb IAmb 15 08 39.1
comp=Z,9.6nm,0.9s
F33A **5 Mile Ranch,** 33.86 350 P 15 08 53.0 -2.0
RSSD **Black Hills** 34.23 340 P P 15 08 56.4 -2.1
RSSD IAmb IAmb 15 09 00.5
comp=Z,3.6nm,0.6s
LPAZ **La Paz** 34.93 145 IAmb IAmb 15 09 10.3
comp=Z,2.5nm,1.4s
LPAZ **La Paz** 34.93 145 P P 15 09 08.8 +3.6
comp=Z,0.5nm,0.4s,baz=332,slow=7.1,SNR=2.1
comp=Z,0.5nm,0.4s
PD31 **Pinedale Array** 35.28 333 IAmb IAmb 15 09 09.0
comp=Z,7.5nm,1.4s
PDAR **Pinedale Array** 35.28 333 P P 15 09 07.8 +0.3
comp=Z,0.8nm,0.5s,baz=140,slow=8.3,SNR=15
PDAR PcP PcP 15 11 37.2 0.0
comp=Z,0.4nm,0.4s,baz=141,slow=3.4,SNR=4.3
comp=Z,0.8nm,0.5s
LOHW **Long Hollow** 36.42 332 IAmb IAmb 15 09 21.7
comp=Z,6.8nm,0.7s
FXWY **Fox Creek** 36.63 332 IAmb IAmb 15 09 23.4
comp=Z,5.4nm,1.1s
ELK **Elko** 36.68 325 LR LR 15 24 47.8
comp=Z,12nm,20.3s,baz=347,slow=37
RLMT **Red Lodge** 37.05 335 IAmb IAmb 15 09 25.6
comp=Z,5.7nm,0.7s
NVAR **Mina Array Bea** 37.06 319 P P 15 09 24.6 +1.9
comp=Z,1.0nm,0.6s,baz=129,slow=5.2,SNR=8.2
NVAR PcP PcP 15 11 46.7 +4.1
comp=Z,0.5nm,0.6s,baz=96,slow=2.1,SNR=3.6
comp=Z,1.0nm,0.6s
YHL **Hebgen Lake** 37.65 333 IAmb IAmb 15 09 32.4
comp=Z,7.7nm,0.8s
ULM **Lac du Bonnet** 38.10 352 P P 15 09 28.8 -2.4
comp=Z,7.6nm,0.5s,baz=164,slow=11,SNR=5.0
ULM LR LR 15 26 31.7
comp=Z,66nm,18.3s,baz=114,slow=39
comp=Z,7.6nm,0.5s
BOZ **Bozeman (W)** 38.43 333 IAmb IAmb 15 09 38.0
comp=Z,5.8nm,0.6s
DLMT **Dillon** 38.67 332 IAmb IAmb 15 09 39.2
comp=Z,8.7nm,0.8s
SCHQ **Schefferville** 45.45 17 P P 15 10 28.9 -2.2
SCHQ **Schefferville** 45.45 17 P P 15 10 26.2 -4.9
comp=Z,38nm,0.4s,baz=212,slow=13,SNR=13
BDFB **Brasilia** 48.75 124 IAmb IAmb 15 11 03.5
comp=Z,4.4nm,1.0s
BDFB **Brasilia** 48.75 124 P P 15 10 56.8 -0.7
comp=Z,1.4nm,0.3s,baz=308,slow=12,SNR=2.2
comp=Z,1.4nm,0.3s
M29M **Somme Creek** 61.17 336 P P 15 12 24.4 -2.1
G31M **Satah River** 62.22 341 P P 15 12 31.5 -1.8
H27K **Steamboat Moun** 64.25 339 P P 15 12 45.7 -1.1
H27K IAmb IAmb 15 12 48.4
comp=Z,4.5nm,0.9s
F28M **Old Crow** 64.40 341 P P 15 12 46.3 -1.5
F28M IAmb IAmb 15 12 48.7
comp=Z,5.5nm,0.7s
ILAR **Eielson Array** 65.58 336 P P 15 12 54.2 -1.3
comp=Z,1.8nm,1.0s,baz=114,slow=6.2,SNR=15
comp=Z,1.8nm,1.0s
BMAR **Burnt Mountain** 65.88 339 P P 15 12 56.1 -1.3
PPT **Papeete** 67.44 245 LR LR 15 36 23.5
comp=Z,27nm,21.6s,baz=2.0,slow=30
EKA **Eskdalemuir Ar** 77.06 36 P P 15 14 02.1 -2.8
comp=Z,1.3nm,0.7s,baz=279,slow=4.8,SNR=2.7
comp=Z,1.3nm,0.7s
STKA **Stephens Creek** 130.39 239 PKP PKiKP 15 21 27.7 +4.2
comp=Z,1.7nm,0.7s,baz=63,slow=4.5,SNR=3.7
WRA **Warramunga Arr** 138.45 254 PKhKP PKPpre 15 21 34.5
comp=Z,0.2nm,0.5s,baz=90,slow=3.3,SNR=5.1
WRA PKP PKiKP 15 21 41.7 +1.5
comp=Z,0.6nm,0.4s,baz=88,slow=1.9,SNR=21
ASAR **Alice Springs** 138.49 248 PKhKP PKPpre 15 21 34.4
comp=Z,0.2nm,0.4s,baz=95,slow=3.2,SNR=4.9
ASAR PKP PKiKP 15 21 42.9 +2.7
comp=Z,0.9nm,0.7s,baz=99,slow=1.9,SNR=14
FITZ **Fitzroy Crossi** 146.79 256 PKPbc PKiKP 15 21 58.8 +1.5
comp=Z,1.1nm,0.6s,baz=153,slow=2.3,SNR=6.2
CMAR **Chiang Mai Arr** 148.37 347 PKP PKPdf 15 21 55.8 +0.3
comp=Z,2.5nm,0.3s,baz=14,slow=2.2,SNR=13
CMAR PKPbc PKPbc 15 21 58.5 -0.4
comp=Z,1.6nm,0.5s,baz=9.8,slow=2.6,SNR=3.0

*IDC **25** 15:05:23.8±0.7,2°.60S×138°.33E, h0km, mb4.0/10, mbtmp3.9/13, ML3.7/3, MS3.4/5, Error ellipse: s-maj=18.1km s-min=15.2km az=22.0*
*DJA **25** 15:05:27.9±0.8,2°.S±6°.×13°.8E±°, h15km±8km, M4.2/6, mB4.9/1, mb4.3/1, MLv4.1/6, Mw(mB)4.2/1*
ISC 25 15:05:28.4±0.6,**2°.57S**±0°.08×**138°.45E**±0°.05,**h32**km,**n26,**
σ1°**15**/24,**mb4.1**/12,**MS3.4**/4,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.63**	**24**	P	**Pb**		**15 05 38.1**	**-3.1**
GENI	**Genyem**	**1.71**	**91**	P	**Pn**		**15 05 57.6**	**+1.5**
JAY	**Jayapura**	**2.25**	**89**	Pn	**Pn**		**15 06 04.7**	**+1.1**
	4.3nm,0.3s,baz=271,slow=9.8,SNR=22							
JAY				Lg	Lg		15 06 39.9	
	6.2nm,0.3s,baz=319,slow=20,SNR=4.3							
	14nm,0.3s							
JAY	**Jayapura**	**2.25**	**89**	P	**Pn**		**15 06 03.9**	**+0.4**
BAKI	**Biak**	**2.71**	**300**	P	**Pn**		**15 06 10.6**	**+0.7**
BAKI				S	**Sn**		**15 06 42.5**	**+0.9**
RKPI	**Ransiki, Papua**	**4.40**	**284**	P	**Pn**		**15 06 33.4**	**+0.4**
FAKI	**Fak Fak**	**6.21**	**267**	P	**Pn**		**15 06 58.2**	**+0.3**
BATI	**Baumata**	**16.53**	**242**	Pn	**P**		**15 09 20.0**	**-0.4**
	4.3nm,0.3s,baz=53,slow=19,SNR=2.4							
GUMO	**Guam**	**17.27**	**21**	LR	LR		15 14 15.5	
	comp=Z,76nm,21.6s,baz=183,slow=31							
WRA	**Warramunga Arr**	**17.73**	**193**	P	**Pn**		**15 09 32.0**	**-1.0**
	0.5nm,0.3s,baz=15,slow=12,SNR=14							
	0.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**19.90**	**218**	P	**P**		**15 09 57.4**	**0.0**
	0.1nm,0.3s,baz=60,slow=16,SNR=2.1							
	2.1nm,0.8s							
ASAR	**Alice Springs**	**21.43**	**191**	P	**P**		**15 10 12.6**	**-1.4**
	2.2nm,0.8s,baz=19,slow=12,SNR=16							
	2.2nm,0.8s							
JHJ	**Hachijo jima 2**	**35.52**	**2**	LR	LR		15 23 22.9	
	comp=Z,66nm,19.4s,baz=98,slow=30							
JNU	**Nakatsue**	**36.22**	**349**	LR	LR		15 23 58.5	
	comp=Z,38nm,20.3s,baz=198,slow=31							
CMAR	**Chiang Mai Arr**	**44.15**	**300**	P	**P**		**15 13 34.7**	**+0.3**
	0.7nm,0.3s,baz=114,slow=7.6,SNR=9.2							
	0.7nm,0.3s							
USRK	**Ussuriysk Ar.**	**46.92**	**354**	P	**P**		**15 13 57.1**	**+1.1**
	1.1nm,0.8s,baz=174,slow=16,SNR=2.0							
	1.1nm,0.8s							
LZH	**Lanzhou**	**50.22**	**323**	*eP*	**P**		**15 14 21.8**	**+0.1**
LZH				pP	pP		15 14 29.0	-2.6
LZH				pmax	pmax			
	comp=Z,19nm,1.3s							
GTA	**Gaotai**	**54.81**	**324**	*eP*	**P**		**15 14 58.0**	**+2.4**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**57.49**	**335**	P	**P**		**15 15 15.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=151,slow=3.3,SNR=1.3							
SONM				LR	LR		15 40 15.3	
	comp=Z,56nm,19.7s,baz=110,slow=36							
	comp=Z,0.4nm,0.5s							
MKAR	**Makanchi Array**	**69.52**	**322**	P	**P**		**15 16 34.8**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=113,slow=8.1,SNR=26							
MKAR				LR	LR		15 49 27.5	
	comp=Z,22nm,18.1s,baz=162,slow=38							
	comp=Z,3.1nm,0.7s							

ZALV **Zalesovo Beam** 71.69 330 P P 15 16 47.0 -0.1
comp=Z,1.4nm,0.6s,baz=117,slow=6.1,SNR=6.1
comp=Z,1.4nm,0.6s
KURBB **Kurchatov Arra** 73.47 325 P P 15 16 56.4 -1.3
comp=Z,2.0nm,0.9s,baz=113,slow=5.2,SNR=10
comp=Z,2.0nm,0.9s
VNDA **Vanda** 75.94 175 P P 15 17 11.4 -0.2
comp=Z,0.4nm,0.5s,baz=332,slow=4.2,SNR=6.0
comp=Z,0.4nm,0.5s
BVAR **Borovoye Array** 79.05 325 P P 15 17 29.2 -0.2
comp=Z,2.1nm,0.6s,baz=104,slow=6.1,SNR=10
comp=Z,2.1nm,0.6s
ILAR **Eielson Array** 85.81 24 P P 15 18 04.6 +0.1
comp=Z,0.7nm,0.7s,baz=262,slow=5.5,SNR=11
comp=Z,0.7nm,0.7s
LPAZ **La Paz** 147.73 126 PKPbc PKPbc 15 25 12.7 +0.9
comp=Z,1.3nm,0.7s,baz=227,slow=3.4,SNR=4.6

*IDC **25** 15:05:46.2±4.7,7°.05S×129°.39E, h250km±47km, mb3.3/3, mbtmp3.9/7, Error ellipse: s-maj=47.2km s-min=15.9km az=55.0*
ISC 25 15:05:45.9±1.4,**7°.2S**±0°.1×**129°.5E**±0°.1,**h250**km,**n7,**
σ2°**43**/11,**mb3.7**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.51**	**242**	P	**Pn**		**15 07 19.8**	**-0.7**
	10nm,0.4s,baz=90,slow=20,SNR=1.8							
BATI				S	**S**		**15 08 36.7**	**+0.5**
	8.9nm,0.3s,baz=37,slow=20,SNR=1.5							
FITZ	**Fitzroy Crossi**	**11.50**	**199**	P	**Pn**		**15 08 24.9**	**+1.6**
	1.8nm,0.9s,baz=27,slow=10,SNR=2.1							
FITZ				S	**S**		**15 10 29.9**	**-2.0**
	1.3nm,0.3s,baz=16,slow=18,SNR=2.0							
WRA	**Warramunga Arr**	**13.55**	**160**	P	**Pn**		**15 08 50.4**	**+1.8**
	0.9nm,0.4s,baz=339,slow=13,SNR=25							
WRA				S	**S**		**15 11 13.8**	**-5.2**
	0.9nm,0.4s,baz=334,slow=22,SNR=5.7							
ASAR	**Alice Springs**	**16.95**	**166**	P	**Pn**		**15 09 30.3**	**+1.0**
	1.0nm,0.4s,baz=346,slow=9.7,SNR=27							
ASAR				S	**S**		**15 12 33.6**	**+2.4**
	0.4nm,0.7s,baz=349,slow=24,SNR=1.7							
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**		**15 11 06.9**	**+1.3**
	1.7nm,0.8s,baz=337,slow=15,SNR=1.4							
	1.7nm,0.8s							
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**		**15 16 18.1**	**-0.6**
	1.0nm,0.5s,baz=126,slow=7.7,SNR=14							
	1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**72.38**	**329**	P	**P**		**15 16 43.9**	**-0.8**
	0.2nm,0.4s,baz=124,slow=5.8,SNR=1.8							
	0.2nm,0.4s							

*CATAC **25** 15:09:22.9±1.0, 13°.N±5°.×9°.0W±°, h3km±4km, M4.2/17, MLv4.2/17, Error ellipse: s-maj=12.2km s-min=5.2km az=21.5, confirmed*
*GCG **25** 15:09:25.5±1.4, 12°.99N×90°.00W, h21km±10km, MD4.1*
*SNET **25** 15:09:25.1±1.0, 12°.96N×89°.91W, h9km, ML4.1*
ISC 25 15:09:26.4±1.8,**12°.97N**±0°.08×**89°.89W**±0°.03,**h27**km±12km,
n69,σ1°**55**/84,**3C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.76**	**47**	*eP*	**Pb**		**15 09 40.4**	**-0.7**
LALI	**Alcalda de L**	**0.76**	**47**⇑	*eP*	**Pb**		**15 09 40.2**	**-0.8**
LALI				*eS*	**Sn**		**15 09 51.6**	**-0.4**
LALI	**Alcalda de L**	**0.76**	**47**	P	**Pb**		**15 09 40.4**	**-0.7**
LALI	**Alcalda de L**	**0.76**	**47**	S	**Sn**		**15 09 52.3**	**+0.4**
JAYA	**Jayaque - finc**	**0.81**	**32**	*eP*	**Pb**		**15 09 41.1**	**-0.9**
JAYA				*eS*	**Sb**		**15 09 52.7**	**+0.1**
JAYA	**Jayaque - finc**	**0.81**	**32**⇑	*iP*	**Pb**		**15 09 41.1**	**-0.9**
JAYA				*eS*	**Sn**		**15 09 53.4**	**0.0**
JAYA	**Jayaque - finc**	**0.81**	**32**	P	**Pb**		**15 09 41.1**	**-0.9**
ESSJ	**San Jos, E**	**0.84**	**315**	*eP*	Pn		15 09 49.3	+6.8
FAME	**Alcaldia de Sa**	**0.88**	**352**	P	**Pb**		**15 09 41.2**	**-1.9**
CEVE	**Cerro Verde**	**0.89**	**17**	*eP*	**Pb**		**15 09 42.5**	**-0.9**
CEVE				*eS*	**Sn**		**15 09 56.0**	**+0.3**
CEVE	**Cerro Verde**	**0.89**	**17**	P	**Pn**		**15 09 42.7**	**-0.8**
CEVE	**Cerro Verde**	**0.89**	**17**	S	**Sn**		**15 09 56.7**	**+1.0**
MAGS	**Ministerio de**	**0.93**	**40**	*eS*	**Sn**		**15 09 56.4**	**+0.1**
PMON	**Piamonte**	**0.93**	**37**	*eP*	**Pb**		**15 09 42.5**	**-1.5**
PMON	**Piamonte**	**0.93**	**37**	P	**Pb**		**15 09 42.5**	**-1.5**
NUBE	**Las Nubes**	**0.94**	**7**	*eP*	**Pb**		**15 09 42.6**	**-1.5**
NUBE				*eS*	**Sb**		**15 09 55.4**	**-0.8**
NUBE	**Las Nubes**	**0.94**	**7**⇓	*eP*	**Pb**		**15 09 42.6**	**-1.5**
NUBE				*eS*	**Sb**		**15 09 55.0**	**-1.2**
NUBE	**Las Nubes**	**0.94**	**7**	P	**Pb**		**15 09 42.6**	**-1.5**
PANCS	**Alcalda de**	**0.94**	**47**	*eP*	**Pb**		**15 09 43.2**	**-1.0**
PANCS	**Alcalda de**	**0.94**	**47**	P	**Pb**		**15 09 43.3**	**-1.0**
PANCS	**Alcalda de**	**0.94**	**47**	S	**Sn**		**15 09 57.0**	**+0.4**
CEDA	**San Andres**	**0.96**	**30**	*eP*	**Pb**		**15 09 43.5**	**-1.0**
CEDA	**San Andres**	**0.96**	**30**	P	**Pn**		**15 09 43.6**	**-0.6**
CEDA	**San Andres**	**0.96**	**30**	S	**Sn**		**15 09 57.6**	**+0.6**
BOQS	**Boqueron**	**0.97**	**38**	*eP*	**Pb**		**15 09 43.7**	**-1.0**
LOMA	**Loma Larga**	**0.97**	**46**	*eP*	**Pb**		**15 09 43.4**	**-1.3**
LOMA	**Loma Larga**	**0.97**	**46**	P	**Pb**		**15 09 43.6**	**-1.2**
LOMA	**Loma Larga**	**0.97**	**46**	S	**Sn**		**15 09 58.7**	**+1.3**
UEES	**Universidad Ev**	**0.98**	**40**	P	**Pb**		**15 09 43.6**	**-1.2**
UEES	**Universidad Ev**	**0.98**	**40**	S	**Sn**		**15 09 58.4**	**+0.9**
UTEC	**Universidad Te**	**0.99**	**43**	S	**Sn**		**15 09 58.9**	**+1.1**
IGN	**Direccin Gen**	**1.02**	**43**	P	**Pn**		**15 09 44.5**	**-0.6**
IGN	**Direccin Gen**	**1.02**	**43**	S	**Sn**		**15 09 59.3**	**+0.7**
LOAL	**Lomas de Alarc**	**1.03**	**6**	*eP*	**Pb**		**15 09 44.5**	**-1.1**
LOAL				*eS*	**Sn**		**15 09 59.0**	**+0.3**
LOAL	**Lomas de Alarc**	**1.03**	**6**	P	**Pb**		**15 09 44.6**	**-1.1**
LOAL	**Lomas de Alarc**	**1.03**	**6**	S	**Sn**		**15 09 58.6**	**-0.1**
UDBS	**Universidad Do**	**1.03**	**44**	P	**Pb**		**15 09 44.7**	**-0.5**
UDBS	**Universidad Do**	**1.03**	**44**	S	**Sn**		**15 09 59.9**	**+1.0**
LFRS	**El Faro**	**1.04**	**51**	*eP*	**Pn**		**15 09 44.5**	**-0.8**
UNIC	**Universidad Ca**	**1.06**	**18**	P	**Pn**		**15 09 45.0**	**-0.6**
UNIC	**Universidad Ca**	**1.06**	**18**	S	**Sn**		**15 10 00.3**	**+0.8**
LFU	**La Fuente**	**1.08**	**44**	*eP*	**Pb**		**15 09 45.6**	**-1.1**
LBRS	**Las Brisas**	**1.13**	**47**	*eP*	**Pb**		**15 09 46.2**	**-1.1**
PAVA	**Las Pavas**	**1.19**	**51**	*eP*	**Pb**		**15 09 47.1**	**-1.2**
PAVA	**Las Pavas**	**1.19**	**51**	P	**Pb**		**15 09 47.2**	**-1.2**
PAVA	**Las Pavas**	**1.19**	**51**	S	**Sb**		**15 10 05.4**	**+1.9**
TECO	**Alcaldia de Te**	**1.22**	**62**	P	**Pn**		**15 09 46.6**	**-1.1**
TECO	**Alcaldia de Te**	**1.22**	**62**	S	**Sb**		**15 10 05.6**	**+1.3**
UESV	**Universidad de**	**1.27**	**58**	P	**Pn**		**15 09 47.8**	**-0.6**
UESV	**Universidad de**	**1.27**	**58**	S	**Sb**		**15 10 06.8**	**+1.2**
PCG5	**San Vicente Pa**	**1.33**	**339**	*eP*	**Pb**		**15 09 51.1**	**+0.3**
PCG5				*iP*	**Pn**		**15 09 51.2**	**+1.9**
PCG5				*eS*	**Sb**		**15 10 09.3**	**+1.8**
FG8	**Yepocapa, Chim**	**1.44**	**333**	*eP*	**Pb**		**15 09 54.3**	**+1.6**
FG8

PB01 *i* S **Sn** **15 15 41.7 -0.1**
PB01 IAML 15 15 44.5
comp=N,913nm,0.3s
PB01 IPOC Station P 0.93 273 *e*P **Pn** **15 15 23.1 -0.2**
PB01 *e*S **Sn** **15 15 42.2 +0.4**
PB01 IAML 15 15 43.9
comp=Z,810nm,0.2s
PB09 IPOC Station P 0.99 224⇑ *i*P **Pn** **15 15 24.6 +0.6**
PB09 *i* S **Sn** **15 15 43.4 +0.5**
PB09 IAML 15 15 44.5
comp=N,1μm,0.4s
PB09 IPOC Station P 0.99 224 *e*P **Pn** **15 15 24.5 +0.6**
PB09 *e*S **Sn** **15 15 44.0 +1.2**
PB09 IAML 15 15 44.7
comp=Z,619nm,0.4s
PB08 IPOC Station P 1.13 327⇑ *i*P **Pn** **15 15 25.8 +0.3**
PB08 *i* S **Sn** **15 15 45.2 -0.2**
PB08 IAML 15 15 46.4
comp=E,2μm,0.5s
PB08 IPOC Station P 1.13 327 *e*P **Pn** **15 15 25.7 +0.3**
PB08 *e*S **Sn** **15 15 45.8 +0.4**
PB08 IAML 15 15 46.2
comp=Z,792nm,0.4s
PX03 IPOC Station P 1.26 303 *e*P **Pn** **15 15 25.7 -0.6**
PX03 *i* S **Sn** **15 15 46.6 -0.5**
PB02 IPOC Station P 1.32 260⇑ *i*P **Pn** **15 15 27.5 +0.6**
PB02 *i* S **Sn** **15 15 48.9 +0.7**
PB02 IAML 15 15 50.7
comp=E,3μm,0.4s
PB02 IPOC Station P 1.32 260 *e*P **Pn** **15 15 27.4 +0.4**
PB02 *e*S **Sn** **15 15 49.1 +0.9**
PB02 IAML 15 15 53.1
comp=Z,2μm,0.3s
HMBC Humberstone 1.53 302⇑ *i*P **Pn** **15 15 29.1 0.0**
HMBC *i* S **Sn** **15 15 51.9 -0.1**
HMBC IAML 15 15 53.5
comp=N,3μm,0.3s
HMBC Humberstone 1.53 302 *e*P **Pn** **15 15 29.2 0.0**
HMBC *e*S **Sn** **15 15 53.0 +0.9**
HMBC IAML 15 15 56.4
comp=Z,2μm,0.4s
GO01 Chusmiza 1.56 335⇓ *i*P **Pn** **15 15 29.9 +0.1**
GO01 *i* S **Sn** **15 15 53.0 -0.2**
GO01 IAML 15 15 56.6
comp=N,2μm,0.4s
GO01 Chusmiza 1.56 335 *e*P **Pn** **15 15 30.2 +0.4**
GO01 *e*S **Sn** **15 15 54.1 +0.9**
GO01 IAML 15 15 56.6
comp=Z,390nm,0.4s
PATCX Punta Patache 1.57 280⇑ *i*P **Pn** **15 15 30.0 +0.6**
PATCX *i* S **Sn** **15 15 53.2 +0.6**
PATCX IAML 15 15 56.2
comp=E,2μm,0.4s
PATCX Punta Patache 1.57 280 *e*P **Pn** **15 15 30.0 +0.6**
PATCX *e*S **Sn** **15 15 53.7 +1.0**
PATCX IAML 15 15 56.6
comp=Z,699nm,0.3s
TA01 Diego Aracena 1.66 288 *e*P **Pn** **15 15 30.4 +0.1**
TA01 *i* S **Sn** **15 15 53.9 -0.3**
TA01 IAML 15 15 56.4
comp=N,1μm,0.5s
TA01 Diego Aracena 1.66 288 *e*P **Pn** **15 15 27.9 -2.4**
TA01 *e*S **Sn** **15 15 55.4 +1.2**
TA01 IAML 15 15 58.1
comp=Z,363nm,0.2s
PB11 IPOC Station P 1.71 320⇓ *i*P **Pn** **15 15 31.1 0.0**
PB11 *i* S **Sn** **15 15 55.1 -0.5**
PB11 IAML 15 15 57.0
comp=E,2μm,0.2s
PB11 IPOC Station P 1.71 320 *e*P **Pn** **15 15 31.1 0.0**
PB11 *e*S **Sn** **15 15 55.2 -0.4**
PB11 IAML 15 15 56.4
comp=Z,576nm,0.2s
TA02 Huaiquique 1.73 298 *e*P **Pn** **15 15 31.0 -0.2**
TA02 *i* S **Sn** **15 15 55.4 -0.3**
TA02 IAML 15 15 57.1
comp=N,2μm,0.2s
TA02 Huaiquique 1.73 298 *e*P **Pn** **15 15 31.9 +0.7**
TA02 *e*S **Sn** **15 15 56.3 +0.6**
TA02 IAML 15 16 00.5
comp=Z,1μm,0.2s
AF01 San Pedro de A 1.88 171 IAML 15 16 22.6
comp=N,488nm,0.7s
AF01 San Pedro de A 1.88 171 *e*P **Pn** **15 15 34.5 +1.4**
AF01 *e*S **Sn** **15 15 58.0 -1.2**
AF01 IAML 15 16 21.8
comp=Z,401nm,1.1s
PB06 IPOC Station P 1.89 212⇑ *i*P **Pn** **15 15 33.6 +0.5**
PB06 *i* S **Sn** **15 15 59.4 +0.2**
PB06 IAML 15 16 00.3
comp=E,780nm,0.4s
PB06 IPOC Station P 1.89 212 *e*P **Pn** **15 15 33.5 +0.4**
PB06 *e*S **Sn** **15 15 59.6 +0.4**
PB06 IAML 15 16 00.2
comp=Z,484nm,0.3s
PB05 IPOC Station P 2.36 222⇑ *i*P **Pn** **15 15 38.9 +0.2**
PB05 *i* S **Sn** **15 16 08.7 -0.4**
PB05 IAML 15 16 14.6
comp=E,286nm,0.4s
PB05 IPOC Station P 2.36 222 *e*P **Pn** **15 15 38.9 +0.2**
PB05 *e*S **Sn** **15 16 10.2 +1.1**
PB05 IAML 15 16 15.4
comp=Z,162nm,0.4s
PB16 IPOC Station P 2.90 341⇓ *i*P **Pn** **15 15 46.5 +0.6**
PB16 *i* S **Sn** **15 16 21.7 0.0**
PB16 IAML 15 16 23.3
comp=N,121nm,0.6s
PB16 IPOC Station P 2.90 341 *e*P **Pn** **15 15 46.4 +0.6**
PB16 IAML 15 16 26.5
comp=Z,80nm,0.5s
YJA Yavi 2.98 112 *e*P **Pn** **15 15 45.8 -0.8**
YJA Yavi 2.98 112 *e*P **Pn** **15 15 46.2 -0.4**
YJA *e*S **Sn** **15 16 22.3 -1.0**
PB12 IPOC Station P 3.01 325 IAML 15 16 27.5
comp=E,247nm,0.1s
PB12 IPOC Station P 3.01 325 *e*P **Pn** **15 15 45.7 -0.9**
PB12 *e*S **Sn** **15 16 21.6 -1.8**
PB12 IAML 15 16 27.8
comp=Z,162nm,0.4s
PB10 IPOC Station P 3.07 218 *e*P **Pn** **15 15 47.6 +0.2**
PB10 *e*S **Sn** **15 16 20.4 -4.3**
PB10 IAML 15 16 30.4
comp=Z,69nm,0.3s
AP01 Chacalluta 3.21 327 *e*P **Pn** **15 15 50.4 +1.2**
AP01 *e*S **Sn** **15 16 32.8 +4.8**
AP01 IAML 15 17 09.3
comp=Z,305nm,0.5s
HJA Humahuaca 3.56 127 *e*P **Pn** **15 15 53.8 -0.1**
HJA *e*S **Sn** **15 16 41.8 +5.4**
SALTA 3.70 148 *e*P **Pn** **15 15 57.0 +1.1**
AZAP Zapla 4.45 135 *e*P **Pn** **15 16 04.7 -0.7**
LPAZ La Paz 4.79 4 P **Pn** **15 16 11.0 +0.7**
comp=Z,4.4nm,0.3s,baz=183,slow=6.8,SNR=38
LPAZ S **Sn** **15 17 06.2 +0.4**
comp=Z,1.8nm,0.4s,baz=153,slow=4.5,SNR=1.8
LPAZ La Paz 4.79 4 *e*P **Pn** **15 16 11.2 +0.8**
SIV San Ignacio 8.68 55 P **Pn** **15 16 56.9 -4.8**
comp=Z,7.2nm,0.3s,baz=237,slow=13,SNR=39
SIV S Sn 15 18 25.8 -12
comp=Z,0.9nm,0.4s,baz=164,slow=18,SNR=5.9
BDFB Brasilia 20.18 78 P **P** **15 19 20.5 -1.7**
comp=Z,3.1nm,0.5s,baz=236,slow=12,SNR=4.4
DBIC Dimbokro 68.25 73 P **P** **15 25 43.8 -0.4**
comp=Z,4.4nm,0.8s,baz=231,slow=8.9,SNR=5.1
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 76.86 70 P **P** **15 26 34.9 -0.2**
comp=Z,3.9nm,0.3s,baz=262,slow=3.9,SNR=3.7
comp=Z,3.9nm,0.3s
ZALV Zalesovo Beam 141.42 25 PKP **PKPdf** **15 34 13.6 +1.7**
comp=Z,0.3nm,0.3s,baz=296,slow=4.6,SNR=2.1
MKAR Makanchi Array 145.08 36 PKP **PKPdf** **15 34 20.2 +1.5**
comp=Z,1.6nm,0.7s,baz=316,slow=3.1,SNR=18

IDC 25 15:20:41.9±3.3,31°.99S×178°.45W,h0km,mb3.5/2,
mbtmp3.6/3,ML2.4/1,Error ellipse: s-maj=71.8km
s-min=37.7km az=110.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.24**	**209**	Pn	Pn	15 22 27.9	-1.0
	0.1nm,0.3s,baz=27,slow=4.5,SNR=1.4						
URZ				Sn	Sn	15 23 54.3	+2.6
	0.4nm,0.3s,baz=17,slow=17,SNR=5.9						
	5.5nm,0.9s						
ASAR	**Alice Springs**	**42.66**	**269**	P	P	15 28 39.8	-0.7
	0.6nm,0.9s,baz=112,slow=8.2,SNR=9.3						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**43.79**	**274**	P	P	15 28 50.1	+0.5
	0.7nm,0.8s,baz=114,slow=8.0,SNR=13						
	0.7nm,0.8s						
FINES	**FINESS Array B**	**146.49**	**339**	PKPbc	PKPdf	15 40 23.5	+0.7
	8.1nm,1.1s,baz=44,slow=4.6,SNR=3.8						

CATAC 25 15:43:10.6±0.5,12°N.3°×8°7W±°,h30km±3km,M3.2/13,
MLv3.2/13,6D,Error ellipse: s-maj=8.1km s-min=3.4km
az=34.5,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.61**	**40**	S	Sn	15 43 34.6	+2.5
CRIN	**San Cristobal**	**0.61**	**40**	⇓P	Pn	15 43 24.1	+0.9
PKGN	**Cerro Pekin**	**0.64**	**46**	⇓P	Pn	15 43 23.9	+0.3
PKGN				S	Sn	15 43 33.9	+1.3
POLN	**Al Sur del Vol**	**0.75**	**56**	⇓P	Pn	15 43 25.1	0.0
POLN				S	Sn	15 43 35.9	+0.4
CSGN	**Cosiguina Volc**	**0.75**	**352**	⇓P	Pb	15 43 25.3	+0.1
CSGN				S	Sn	15 43 36.0	+0.4
POTN	**Potosi Cosigui**	**0.77**	**356**	P	Pb	15 43 25.6	+0.1
POTN				S	Sn	15 43 36.5	+0.6
CNGA	**Al SSO del Vol**	**0.78**	**70**	P	Pb	15 43 25.6	0.0
CNGA				S	Sn	15 43 36.8	+0.6
CNGN	**Cerro Negro**	**0.78**	**70**	P	Pb	15 43 26.0	+0.3
CNGN	**Cerro Negro**	**0.78**	**70**	S	Sn	15 43 37.6	+1.3
COPN	**Copaltepe**	**0.84**	**93**	⇓P	Pn	15 43 26.4	+0.1
MOM2	**El Cardon**	**0.97**	**77**	⇓P	Pn	15 43 28.2	+0.1
MOM2				S	Sb	15 43 41.7	+0.5
APQ3	**Volcan Apoyequ**	**1.06**	**88**	P	Pn	15 43 29.7	+0.4
APQ3				S	Sb	15 43 43.5	-0.3
AESN	**El Sauce Leon**	**1.10**	**53**	S	Sb	15 43 45.1	-0.1
CNCH	**Conchagua**	**1.11**	**340**	S	Sb	15 43 45.1	-0.3
CNCH	**Conchagua**	**1.11**	**340**	P	Pn	15 43 30.2	0.0
UNAN	**Cigeo UNAN**	**1.16**	**96**	P	Pn	15 43 30.2	-0.5
UNAN				S	Sn	15 43 45.9	+0.4
MGAN	**Managua**	**1.18**	**94**	S	Sn	15 43 46.3	+0.3
MATN	**Matagalpa**	**1.64**	**65**	P	Pn	15 43 36.8	-0.7
MATN	**Matagalpa**	**1.64**	**65**	S	Sn	15 43 57.7	0.0
TGUH	**Tegucigalpa,Un**	**1.83**	**5**	P	Pn	15 43 40.4	+0.3
TGUH				S	Sn	15 44 02.9	+0.6

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*IPEC **25** 15:46:19.1±0.2,51°.48N×16°.18E,h1km,ML2.4/6,Error*
ellipse: s-maj=2.8km s-min=1.4km az=74.0
*DNK **25** 15:46:20.6±2.5,51°.48N×15°.74E,h22km±101km,ML3.0*
*PRU **25** 15:46:21.1,51°.42N×16°.11E,h0km*
*VIE **25** 15:46:21.2±0.5,51°.26N×15°.68E,h0km,mb2.5/2,ml2.6/5,*
Error ellipse: s-maj=3.6km s-min=2.2km az=174.0 66 km
NE of Liberec Suspected Mining induced.
ISC 25 15:46:17.6±0.8,51°.51N±0°.03×16°.05E±0°.02,h0km,n34,
σ1ş56/69,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**167**	*e*Pg	**Pb**	**15 46 31.9**	**-0.4**
KSP				*e*Sg	**Sb**	**15 46 41.2**	**-1.1**
CHVC	**Chvalec**	**0.92**	**180**	*e*PG	**Pb**	**15 46 36.7**	**+0.3**
CHVC				*e*SG	**Sb**	**15 46 48.4**	**-0.8**
OSTC	**Ostas**	**0.96**	**174**	*e*PG	**Pb**	**15 46 37.4**	**+0.3**
OSTC				*e*SG	**Sg**	**15 46 47.9**	**-0.4**
	comp=Z,44nm,0.3s						
UPC	**Upice**	**1.00**	**181**	*e*PG	**Pb**	**15 46 37.9**	**+0.1**
UPC				*e*SG	**Sb**	**15 46 50.9**	**-0.6**
DPC	**Dobruska-Polom**	**1.17**	**171**	*e*PG	**Pb**	**15 46 40.8**	**+0.1**
DPC				*e*SG	**Sg**	**15 46 55.9**	**+0.8**
PVCC	**Panska Ves**	**1.35**	**224**	*e*PG	**Pb**	**15 46 45.2**	**+1.4**
PVCC				*e*SG	**Sn**	**15 47 03.0**	**+0.6**
	comp=Z,75nm,0.4s						
PIVO	**Bartosovice**	**1.36**	**166**	*e*Pg	**Pn**	**15 46 44.0**	**+0.2**
	baz=350						
PIVO				*e*Sg	**Sg**	**15 47 00.4**	**-0.8**
	47nm,0.4s,baz=350						
BRG	**Berggiesshubel**	**1.47**	**245**	Pg	**Pb**	**15 46 47.5**	**+1.8**
BRG				Sg	**Sn**	**15 47 07.7**	**+2.4**
BRG				Amp		15 47 08.9	
	comp=Z,36nm,0.4s						
KRLC	**Kraliky**	**1.51**	**162**	*e*PG	**Pg**	**15 46 46.6**	**+0.2**
KRLC				*e*SG	**Sg**	**15 47 05.1**	**-0.8**
	comp=Z,34nm,0.4s						
RICC	**Richard**	**1.57**	**233**	*e*PG	**Pg**	**15 46 48.4**	**+0.8**
RYBC	**Ceska Rybna**	**1.70**	**180**	*e*Pn	**Pb**	**15 46 49.5**	**-0.2**
	baz=2.5						
RYBC				*e*Sg	**Sb**	**15 47 11.7**	**+0.1**
	comp=Z,35nm,0.3s,baz=2.5						
PRU	**Pruhonice**	**1.80**	**213**	*e*PG	**Pg**	**15 46 52.7**	**+0.7**
PRU				*e*SG	**Sg**	**15 47 15.9**	**+0.6**
	comp=Z,19nm,0.4s						
HSKC	**Hora Svate Kat**	**1.88**	**242**	*e*PG	**Pg**	**15 46 54.0**	**+0.4**
HSKC				*e*SG	**Sg**	**15 47 19.2**	**+1.2**
	comp=Z,25nm,0.4s						
STEB	**Steborice**	**1.92**	**145**	*e*PG	**Pb**	**15 46 53.7**	**+0.3**
STEB				*e*SG	**Sb**	**15 47 17.9**	**0.0**
	comp=Z,38nm,0.4s						
CLL	**Collm**	**1.92**	**265**	*e*Pn	**Pb**	**15 46 53.0**	**-0.4**
CLL				*e*Pg	**Pg**	**15 46 55.0**	**+0.6**
CLL				*i* x	x	15 46 58.9	
CLL				*e*x	x	15 47 11.0	
CLL				*e*Sg	**Sg**	**15 47 22.0**	**+2.8**
	comp=Z,16nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn	**Pn**	**15 46 52.8**	**+0.5**
	baz=334						
MORC				*e*Sg	**Sb**	**15 47 19.1**	**-0.5**
	comp=Z,26nm,0.5s,baz=334						
VRAC	**Vranov**	**2.23**	**171**	*e*Pn	**Pn**	**15 46 56.7**	**+0.9**
	baz=353						
VRAC				*e*Sg	**Sb**	**15 47 27.9**	**+1.1**
	comp=Z,16nm,0.5s,baz=353						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**15 46 59.9**	**+1.0**
	baz=357						
KRUC				*e*Sg	**Sg**	**15 47 35.1**	**-1.4**
	comp=Z,14nm,0.5s,baz=357						
OJC	**Ojcow**	**2.70**	**117**	*e*Pg	**Pg**	**15 47 11.3**	**+2.0**
OJC				*e*Sg	**Sg**	**15 47 44.3**	**0.0**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*PN	**Pn**	**15 47 05.0**	**+0.6**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*Pn	**Pn**	**15 47 04.9**	**+0.6**
	baz=340						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**15 47 05.8**	**+1.3**
KHC				*e*PG	**Pg**	**15 47 11.9**	**-0.4**
KHC				*e*SN	**Sn**	**15 47 39.6**	**0.0**
KHC				*e*SG	**Sg**	**15 47 49.6**	**+0.2**
LANS	**Liptovska Anna**	**3.22**	**136**	*e*PN	**Pb**	**15 47 12.8**	**-2.8**
LANS				*e*PG	**Pg**	**15 47 19.5**	**+0.3**
LANS				*e*SG	**Sg**	**15 48 02.9**	**+2.0**
MODS	**Modra-Piesok**	**3.23**	**165**	*e*PG	**Pg**	**15 47 20.3**	**+0.7**
MODS				*e*SG	**Sg**	**15 48 02.8**	**+1.3**
CONA	**Conrad Observa**	**3.58**	**182**	*e*Pn	**Pn**	**15 47 14.7**	**+0.2**
	comp=Z,0.1nm,0.1s						
CONA				*i* Sn	**Sn**	**15 47 55.5**	**-2.1**
	comp=Z,7.7nm,0.3s						
RONA	**Rosalia, Austr**	**3.81**	**178**	*i* Pn	**Pn**	**15 47 17.9**	**+0.3**
	comp=Z,0.4nm,0.2s						
RONA				*e*Sg	**Sg**	**15 48 18.0**	**-2.0**
	comp=Z,2.2nm,0.3s						
MOA	**Molln**	**3.84**	**198**	*i* Pn	**Pn**	**15 47 17.5**	**-0.5**
	comp=Z,0.3nm,0.1s						
MOA				*i* Sn	**Sn**	**15 48 01.4**	**-2.4**
	comp=Z,0.6nm,0.2s						
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*PN	**Pn**	**15 47 22.8**	**+3.8**
STHS				*e*PG	**Pg**	**15 47 34.2**	**+1.5**
STHS				*e*SG	**Sg**	**15 48 27.0**	**+3.5**
BIOA	**Bad Ischl, Aus**	**4.13**	**203**	*i* Pn	**Pn**	**15 47 21.1**	**-0.8**
	comp=Z,0.8nm,0.2s						
BIOA				*e*Sg	**Sg**	**15 48 30.0**	**-0.1**
	comp=Z,2.7nm,0.3s						
LUNU	**Lund**	**4.42**	**340**	*i* P	**Pn**	**15 47 26.5**	**+0.7**
LUNU				*i* S	**Sn**	**15 48 11.9**	**-5.9**
KBA	**Koelnbreinsper**	**4.77**	**203**	*i* Pn	**Pn**	**15 47 29.7**	**-1.2**
	comp=Z,0.9nm,0.6s						
KBA				*e*Sg	**Sg**	**15 48 48.2**	**-2.7**
	comp=Z,1.6nm,0.5s						
BJUU	**Bjuv**	**4.92**	**340**	*i* P	**Pn**	**15 47 32.8**	**+0.2**
BJUU				*i* S	**Sn**	**15 48 28.6**	**-1.6**
DEL	**Delary**	**5.14**	**346**	*i* P	**Pn**	**15 47 36.3**	**+0.7**
DEL				*e*S	**Sn**	**15 48 31.8**	**-3.8**
FABU	**Falkenberg**	**5.84**	**342**	*i* P	**Pn**	**15 47 46.2**	**+0.8**

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*IDC **25** 15:58:45.5±0.7,2°.70S×138°.32E,h0km,mb3.9/9,*
mbtmp3.9/13,ML3.9/4,MS3.1/2,Error ellipse:
s-maj=15.0km s-min=13.2km az=96.0
*DJA **25** 15:58:48.5±0.3,3°S±5°×13°8E±°,h10km,M4.0/7,mB4.8/1,*
mb4.1/1,MLv4.0/7,Mw(mB)4.0/1
ISC 25 15:58:49.6±0.7,2°.655±0°.07×138°.43E±0°.07,h32km,n23,
σ1ş88/24,mb3.9/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.71**	**23**	P	**Pb**	**15 59 00.0**	**-3.6**
GENI	**Genyem**	**1.73**	**88**	P	**Pn**	**15 59 19.5**	**+2.0**
JAY	**Jayapura**	**2.27**	**87**	Pn	**Pn**	**15 59 26.6**	**+1.7**
	5.9nm,0.3s,baz=269,slow=10,SNR=23						
JAY				Lg	Lg	16 00 01.1	
	8.6nm,0.3s,baz=307,slow=20,SNR=6.2						
	26nm,0.5s						
JAY	**Jayapura**	**2.27**	**87**	P	**Pn**	**15 59 26.4**	**+1.4**
BAKI	**Biak**	**2.74**	**302**	P	**Pn**	**15 59 32.0**	**+0.7**
RKPI	**Ransiki, Papua**	**4.40**	**285**	P	**Pn**	**15 59 54.0**	**-0.2**
RKPI				S	**Sn**	**16 00 46.2**	**+1.8**
FAKI	**Fak Fak**	**6.18**	**267**	P	**Pn**	**16 00 19.4**	**+0.7**
	0.1nm19nm,1.1s						
SWI	**Sorong**	**7.39**	**284**	P	**Pn**	**16 00 36.0**	**+0.8**
BATI	**Baumata**	**16.48**	**242**	Pn	**Pn**	**16 02 38.6**	**0.0**
	2.6nm,0.3s,baz=45,slow=2.9,SNR=1.4						
	7.2nm,0.4s						
GUMO	**Guam**	**17.35**	**21**	LR	LR	16 09 00.4	
	comp=Z,50nm,18.6s,baz=173,slow=35						
WRA	**Warramunga Arr**	**17.65**	**193**	P	**Pn**	**16 02 52.6**	**-0.5**
	0.4nm,0.3s,baz=15,slow=12,SNR=16						
WRA				S	Sn	16 06 01.4	-7.5
	0.7nm,0.9s,baz=16,slow=22,SNR=2.1						
	0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.83**	**218**	P	**P**	**16 03 17.7**	**-0.1**
	0.2nm,0.3s,baz=49,slow=11,SNR=6.3						
FITZ				S	**S**	**16 06 53.2**	**-6.4**
	2.4nm,1.0s,baz=63,slow=4.5,SNR=1.8						
	3.3nm,0.9s						
ASAR	**Alice Springs**	**21.35**	**191**	P	**P**	**16 03 34.5**	**+0.2**
	2.6nm,0.6s,baz=14,slow=12,SNR=37						
ASAR				S	**S**	**16 07 29.5**	**-0.4**
	1.2nm,1.1s,baz=14,slow=27,SNR=2.5						
	2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.17**	**300**	P	**P**	**16 06 56.7**	**+0.9**
	0.8nm,0.7s,baz=114,slow=8.1,SNR=12						
	0.8nm,0.7s						
SONM	**Songjino Array**	**57.55**	**335**	P	**P**	**16 08 36.9**	**+0.7**
	0.2nm,0.4s,baz=123,slow=7.2,SNR=1.5						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**57.87**	**14**	LR	LR	16 29 11.6	
	comp=Z,20nm,20.3s,baz=150,slow=32						
MKAR	**Makanchi Array**	**69.57**	**322**	P	**P**	**16 09 56.4**	**+0.8**
	2.7nm,0.8s,baz=118,slow=8.1,SNR=24						
	2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**71.74**	**330**	P	**P**	**16 10 07.9**	**-0.6**
	1.0nm,0.7s,baz=122,slow=7.0,SNR=4.7						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**73.52**	**325**	P	**P**	**16 10 20.0**	**+0.8**
	0.7nm,0.6s,baz=112,slow=5.3,SNR=6.5						
	0.7nm,0.6s						
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**16 10 34.0**	**+1.7**
	0.6nm,0.6s,baz=337,slow=6.1,SNR=8.7						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**79.10**	**325**	P	**P**	**16 10 51.6**	**+0.7**
	1.6nm,0.6s,baz=123,slow=5.3,SNR=7.1						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**85.89**	**24**	P	**P**	**16 11 25.7**	**-0.3**
	0.6nm,0.8s,baz=251,slow=5.8,SNR=5.8						
	0.6nm,0.8s						
LPAZ	**La Paz**	**147.70**	**127**	PKPbc	**PKiKP**	**16 18 35.4**	**+0.6**
	0.9nm,0.7s,baz=214,slow=3.6,SNR=5.1						

IDC 25 16:00:27.0±1.6,2°.67S×138°.37E,h0km,mb3.5/2,
mbtmp3.5/4,ML3.1/2,MS3.3/3,Error ellipse:
s-maj=33.4km s-min=19.0km az=172.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.34**	**86**	Pn	Pn	16 01 07.3	+0.4
	2.2nm,0.3s,baz=285,slow=20,SNR=9.8						
JAY				Lg	Lg	16 01 41.0	
	1.7nm,0.3s,baz=342,slow=20,SNR=1.5						
	24nm,0.7s						
PMG	**Port Moresby**	**11.01**	**128**	LR	LR	16 08 03.7	
	comp=Z,74nm,21.6s,baz=328,slow=42						
BATI	**Baumata**	**16.41**	**242**	LR	LR	16 12 44.1	
	comp=Z,183nm,18.5s,baz=129,slow=45						
WRA	**Warramunga Arr**	**17.62**	**193**	P	P	16 04 36.1	+0.9
	0.1nm,0.3s,baz=13,slow=12,SNR=1.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.32**	**191**	P	P	16 05 14.5	-1.2
	1.1nm,0.9s,baz=13,slow=11,SNR=1.9						
	1.1nm,0.9s						
YAK	**Yakutsk**	**64.86**	**355**	LR	LR	16 38 04.8	
	comp=Z,23nm,18.2s,baz=16,slow=35						
MKAR	**Makanchi Array**	**69.55**	**323**	P	P	16 11 37.8	0.0
	0.9nm,0.9s,baz=117,slow=6.5,SNR=3.6						
	0.9nm,0.9s						

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*IDC **25** 16:07:31.1±1.2,2°.84S×138°.36E,h0km,mb3.6/3,*
mbtmp3.6/6,ML3.4/3,Error ellipse: s-maj=20.4km
s-min=15.3km az=132.0
*DJA **25** 16:07:34.9±0.3,3°S±5°×13°8E±°,h10km,M3.6/7,mb3.7/3,*
MLv3.6/7
ISC 25 16:07:35.1±0.8,2°.68S±0°.08×138°.44E±0°.06,h32km,n11,
σ2ş01/12,mb3.7/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.74**	**22**	P	**Pb**	**16 07 46.6**	**-3.0**
GENI	**Genyem**	**1.73**	**87**	P	**Pn**	**16 08 05.7**	**+2.7**
JAY	**Jayapura**	**2.27**	**86**	Pn	**Pn**	**16 08 11.6**	**+1.1**
	4.3nm,0.3s,baz=270,slow=14,SNR=5.4						
JAY				Lg	Lg	16 08 45.8	
	3.1nm,0.3s,baz=294,slow=20,SNR=2.1						
	9.6nm,0.3s						
JAY	**Jayapura**	**2.27**	**86**	P	**Pn**	**16 08 12.5**	**+2.0**
BAKI	**Biak**	**2.76**	**302**	P	**Pn**	**16 08 18.9**	**+1.8**
FAKI	**Fak Fak**	**6.18**	**268**	P	**Pn**	**16 09 05.9**	**+1.6**
	0.0nm6.4nm,1.3s						
WRA	**Warramunga Arr**	**17.62**	**193**	P	**Pn**	**16 11 36.7**	**-1.6**
	0.3nm,0.3s,baz=13,slow=12,SNR=11						
WRA				S	Sn	16 14 42.9	-11
	1.6nm,1.3s,baz=17,slow=28,SNR=2.1						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.80**	**218**	P	**P**	**16 12 01.4**	**-1.7**
	baz=39,slow=6.5,SNR=1.8						
FITZ				S	S	16 15 32.0	-13
	1.3nm,0.9s,baz=17,slow=20,SNR=1.1						
	2.3nm,1.0s						
ASAR	**Alice Springs**	**21.32**	**191**	P	**P**	**16 12 19.3**	**-0.2**
	0.6nm,0.4s,baz=15,slow=10,SNR=21						
ASAR				S	**S**	**16 16 14.2**	**-0.5**
	0.4nm,1.0s,baz=16,slow=22,SNR=1.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**69.60**	**323**	P	**P**	**16 18 42.4**	**+1.2**
	0.6nm,0.8s,baz=118,slow=8.1,SNR=4.7						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**79.13**	**325**	P	**P**	**16 19 38.1**	**+1.5**
	0.

comp=N,35nm,0.3s
SDDR Presa de Saban 1.06 209 *i* P **Pn 16 12 21.5 -0.3**
SDDR *e*S **Sn 16 12 35.8 -0.7**
SDDR IAML 16 12 42.6
comp=Z,26nm,0.7s
LONE3 El Aguacate, B 1.46 208 *i* P **Pg 16 12 28.6 -0.3**
LONE3 *e*S **Sg 16 12 48.5 +0.5**
BANI BANI 1.55 166 *e*Pg **Pg 16 12 29.8 -0.8**
BANI IAML 16 12 57.5
comp=E,54nm,0.6s
BANI IAML 16 12 57.6
comp=N,59nm,0.8s
SMDR Samana, DR 1.59 113 *e*Pg **Pg 16 12 31.6 +0.2**
SMDR IAML 16 12 58.2
comp=N,39nm,0.4s
GRTK Grand Turk 1.64 347 *e*Pg **Pb 16 12 31.1 +0.1**
GRTK ⇑*e*Sg **Sg 16 12 53.3 -0.1**
GRTK IAML 16 12 54.6
comp=E,75nm,0.2s
GRTK IAML 16 12 57.4
comp=N,90nm,1.6s
GRTK Grand Turk 1.64 347 *i* P **Pb 16 12 31.2 +0.1**
GRTK *e*S **Sg 16 12 53.3 -0.1**
GRTK IAML 16 12 55.3
comp=Z,68nm,2.7s
HATOM Hato Mayor del 1.70 131⇑*e*Pg **Pg 16 12 33.2 -0.2**
HATOM ⇓*e*Sg **Sg 16 12 57.1 +1.5**
HATOM IAML 16 12 57.4
comp=E,22nm,0.3s
HATOM IAML 16 12 59.3
comp=N,22nm,0.5s
MIDR Miches 1.84 120 *e*Pg **Pg 16 12 35.2 -0.9**
MIDR IAML 16 13 01.9
comp=N,32nm,0.9s
MIDR IAML 16 13 01.9
comp=N,28nm,0.9s
MIDR IAML 16 13 03.6
comp=E,24nm,0.1s

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*IDC **25** 16:29:36.4±1.7, 19°.20S×69°.25W, h110km±15km, mb3.6/7, mbtmp4.1/12, Error ellipse: s-maj=20.2km s-min=13.3km az=88.0*
*SJA **25** 16:29:37.4±0.6, 19°.02S×69°.26W, h132km±3km, ML4.2, MW4.1*
*NEIC **25** 16:29:37.8±2.2, 19°.05S±0°.05×69°.35W±0°.10, h146km±7km, mb4.6/12, ML4.4(GUC), Error ellipse: s-maj=13.3km s-min=7.3km az=87.0*
*GUC **25** 16:29:39.7±0.7, 19°.04S×69°.25W, h123km±3km, ML4.4*
*VAO **25** 16:29:40.9±0.9, 18°.78S×69°.01W, h149km±6km, mb4.5*
ISC 25 16:29:36.8±0.6**, 19°.05S**±0°.03×**69°.21W**±0°.05**, h127**km±6km**, n103,** σ2°.07/127**, mb4.0**/8**, 6C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.61 179**			**Pn**	**16 29 59.0**	**+2.0**
GO01	**Chusmiza**	**0.61 179**		⇑*i* P	**Pn**	**16 29 58.9**	**+2.0**
GO01				*i* S	**Sn**	**16 30 14.1**	**+2.1**
GO01				IAML		16 30 14.9	
comp=E,17μm,0.2s							
GO01	**Chusmiza**	**0.61 179**		*e*P	**Pn**	**16 29 58.9**	**+2.0**
GO01				*e*S	**Sn**	**16 30 14.5**	**+2.4**
GO01				IAML		16 30 15.8	
comp=Z,5μm,0.1s							
PB16	**IPOC Station P**	**0.77 338**			**Pn**	**16 29 59.3**	**+1.1**
PB16	**IPOC Station P**	**0.77 338**		⇓*i* P	**Pn**	**16 29 59.8**	**+1.5**
PB16				*i* S	**Sn**	**16 30 15.3**	**+1.0**
PB16				IAML		16 30 15.8	
comp=N,6μm,0.4s							
PB16	**IPOC Station P**	**0.77 338**		*e*P	**Pn**	**16 29 59.7**	**+1.5**
PB16				*e*S	**Sn**	**16 30 15.6**	**+1.3**
PB16				IAML		16 30 17.1	
comp=Z,4μm,0.5s							
PB11	**IPOC Station P**	**0.82 211**			**Pn**	**16 29 59.7**	**+1.6**
PB11	**IPOC Station P**	**0.82 211**		⇑*i* P	**Pn**	**16 29 59.9**	**+1.8**
PB11				*i* S	**Sn**	**16 30 15.8**	**+1.5**
PB11				IAML		16 30 17.1	
comp=N,7μm,0.2s							
PB11	**IPOC Station P**	**0.82 211**		*e*P	**Pn**	**16 29 59.9**	**+1.8**
PB11				*e*S	**Sn**	**16 30 16.3**	**+2.1**
PB11				IAML		16 30 17.9	
comp=Z,4μm,0.4s							
PX02	**IPOC Station P**	**0.94 275**		*e*P	**Pn**	**16 29 59.5**	**+0.4**
PX02				*i* S	**Sn**	**16 30 15.7**	**-0.3**
PB08	**IPOC Station P**	**1.08 177**			**Pn**	**16 30 02.7**	**+1.9**
PB12	**IPOC Station P**	**1.15 292**			**Pn**	**16 30 02.3**	**+1.2**
PB12	**IPOC Station P**	**1.15 292**		⇑*i* P	**Pn**	**16 30 02.3**	**+1.2**
PB12				*i* S	**Sn**	**16 30 19.8**	**+0.4**
PB12				IAML		16 30 20.7	
comp=E,13μm,0.3s							
PB12	**IPOC Station P**	**1.15 292**		*e*P	**Pn**	**16 30 02.3**	**+1.2**
PB12				*e*S	**Sn**	**16 30 20.3**	**+0.8**
PB12				IAML		16 30 23.1	
comp=Z,3μm,0.4s							
AP01	**Chacalluta**	**1.27 302**			**Pn**	**16 30 03.5**	**+1.3**
AP01	**Chacalluta**	**1.27 302**		⇓*i* P	**Pn**	**16 30 03.8**	**+1.5**
AP01				*i* S	**Sn**	**16 30 22.5**	**+0.9**
AP01				IAML		16 30 24.4	
comp=E,12μm,0.4s							
AP01	**Chacalluta**	**1.27 302**		*e*P	**Pn**	**16 30 04.0**	**+1.7**
AP01				*e*S	**Sn**	**16 30 25.1**	**+3.6**
AP01				IAML		16 30 29.9	
comp=Z,3μm,0.5s							
HMBC	**Humberstone**	**1.38 208**			**Pn**	**16 30 04.7**	**+1.2**
HMBC	**Humberstone**	**1.38 208**		⇑*i* P	**Pn**	**16 30 05.2**	**+1.7**
HMBC				*i* S	**Sn**	**16 30 25.4**	**+1.5**
HMBC				IAML		16 30 28.7	
comp=N,8μm,0.6s							
HMBC	**Humberstone**	**1.38 208**		*e*P	**Pn**	**16 30 05.2**	**+1.7**
HMBC				*e*S	**Sn**	**16 30 26.1**	**+2.2**
HMBC				IAML		16 30 31.7	
comp=Z,3μm,0.3s							
PX03	**IPOC Station P**	**1.40 197**		*e*P	**Pn**	**16 30 05.1**	**+1.3**
PB18	**Visviri**	**1.48 350**			**Pn**	**16 30 07.9**	**+2.8**
PB18	**Visviri**	**1.48 350**		⇓*i* P	**Pn**	**16 30 08.0**	**+2.8**
TA02	**Huaiquique**	**1.49 216**		*e*P	**Pn**	**16 30 06.2**	**+1.6**
TA02				*i* S	**Sn**	**16 30 27.6**	**+1.7**
TA02				IAML		16 30 28.2	
comp=N,8μm,0.3s							
TA02	**Huaiquique**	**1.49 216**		*e*P	**Pn**	**16 30 06.4**	**+1.7**
TA02				*e*S	**Sn**	**16 30 30.2**	**+4.3**
TA02				IAML		16 30 31.2	
comp=Z,2μm,0.1s							
TA01	**Diego Aracena**	**1.76 211**			**Pn**	**16 30 09.0**	**+1.2**
TA01	**Diego Aracena**	**1.76 211**		*e*P	**Pn**	**16 30 09.2**	**+1.4**
TA01				*i* S	**Sn**	**16 30 32.5**	**+1.0**
TA01				IAML		16 30 36.6	
comp=N,2μm,0.5s							
TA01	**Diego Aracena**	**1.76 211**		*e*P	**Pn**	**16 30 09.3**	**+1.5**
TA01				*e*S	**Sn**	**16 30 33.3**	**+1.8**
TA01				IAML		16 30 38.1	
comp=Z,796nm,0.4s							
PATCX	**Punta Patache**	**1.97 207**			**Pn**	**16 30 12.4**	**+2.0**
PATCX	**Punta Patache**	**1.97 207**		*i* P	**Pn**	**16 30 12.4**	**+2.0**
PATCX				*i* S	**Sn**	**16 30 37.0**	**+0.9**
PATCX				IAML		16 30 45.4	
comp=E,2μm,0.3s							
PATCX	**Punta Patache**	**1.97 207**		*e*P	**Pn**	**16 30 11.8**	**+1.4**
PATCX				*e*S	**Sn**	**16 30 35.9**	**-0.2**
PATCX				IAML		16 30 40.9	
comp=Z,1μm,0.9s							
PB01	**IPOC Station P**	**2.00 188**			**Pn**	**16 30 13.2**	**+2.4**
PB01	**IPOC Station P**	**2.00 188**		⇑*i* P	**Pn**	**16 30 13.0**	**+2.2**
PB01				*i* S	**Sn**	**16 30 38.5**	**+1.8**
PB01				IAML		16 30 40.0	
comp=E,4μm,0.5s							
PB01	**IPOC Station P**	**2.00 188**		*e*P	**Pn**	**16 30 12.5**	**+1.7**
PB01				IAML		16 30 42.2	
comp=Z,1μm,0.3s							
PB02	**IPOC Station P**	**2.35 196**			**Pn**	**16 30 16.9**	**+1.9**
PB02	**IPOC Station P**	**2.35 196**		*e*P	**Pn**	**16 30 16.8**	**+1.8**
PB02				IAML		16 30 54.9	
comp=E,3μm,0.1s							
PB02	**IPOC Station P**	**2.35 196**		*e*P	**Pn**	**16 30 17.2**	**+2.1**
PB02				*e*S	**Sn**	**16 30 52.0**	**+7.5**
PB02				IAML		16 30 58.3	
comp=Z,2μm,0.5s							
PB09	**IPOC Station P**	**2.73 181**			**Pn**	**16 30 22.6**	**+2.5**
PB09	**IPOC Station P**	**2.73 181**		⇓*i* P	**Pn**	**16 30 23.1**	**+3.1**
PB09				IAML		16 31 03.2	
comp=E,1μm,0.3s							
PB09	**IPOC Station P**	**2.73 181**		*e*P	**Pn**	**16 30 23.0**	**+2.9**
PB09				IAML		16 31 02.1	
comp=Z,810nm,0.9s							
LPAZ	**La Paz**	**2.94 21**			**Pn**	**16 30 26.0**	**+2.8**
LPAZ	**La Paz**	**2.94 21**		P	**Pn**	**16 30 25.8**	**+2.7**
comp=Z,106nm,0.5s,baz=188,slow=8.6,SNR=582							
LPAZ				S	**Sn**	**16 31 01.0**	**+2.2**
comp=Z,76nm,0.5s,baz=125,slow=12,SNR=13							
LPAZ	**La Paz**	**2.94 21**		*e*P	**Pn**	**16 30 26.2**	**+3.0**
LPAZ				*e*S	**Sn**	**16 31 02.8**	**+4.1**
LPAZ	**La Paz**	**2.94 21**		*e*P	**Pn**	**16 30 25.0**	**+1.8**
PB03	**IPOC Station P**	**3.02 190**			**Pn**	**16 30 26.0**	**+2.2**
PB06	**IPOC Station P**	**3.65 185**			**Pn**	**16 30 34.4**	**+2.3**
PB06	**IPOC Station P**	**3.65 185**		*e*P	**Pn**	**16 30 34.3**	**+2.3**
PB06				IAML		16 31 37.4	
comp=Z,481nm,0.4s							
PB05	**IPOC Station P**	**3.89 194**			**Pn**	**16 30 36.7**	**+1.5**
PB05	**IPOC Station P**	**3.89 194**		*e*P	**Pn**	**16 30 36.9**	**+1.6**
PB05				IAML		16 31 38.9	
comp=Z,255nm,0.9s							
PB10	**IPOC Station P**	**4.61 196**			**Pn**	**16 30 45.5**	**+0.7**
PB10	**IPOC Station P**	**4.61 196**		*e*P	**Pn**	**16 30 45.7**	**+1.0**
PB10				IAML		16 31 39.5	
comp=Z,150nm,0.4s							
PB14	**IPOC Station P**	**5.66 191**			**Pn**	**16 30 59.1**	**+0.1**
GO02	**Mina Guanaco**	**6.09 183**			**Pn**	**16 31 06.2**	**+1.4**
AC02	**Maricunga**	**7.75 179**			**Pn**	**16 31 28.3**	**+1.0**
SIV	**San Ignacio**	**8.34 70**		P	**Pn**	**16 31 33.8**	**-1.1**
comp=Z,16nm,0.4s,baz=260,slow=11,SNR=115							
SIV				S	**Sn**	**16 33 02.0**	**-5.4**
comp=Z,3.6nm,0.6s,baz=351,slow=23,SNR=1.0							
NNA	**Nana**	**10.17 313**		P	**Pn**	**16 31 59.5**	**-0.1**
comp=Z,7.9nm,0.4s,baz=130,slow=16,SNR=1.8							
PTLB	**Pontes e Lacer**	**10.26 71**			**Pn**	**16 31 59.5**	**-1.3**
PTLB	**Pontes e Lacer**	**10.26 71**		*e*P	**Pn**	**16 31 59.5**	**-1.3**
VILB	**Vilhena**	**10.57 56**			**Pn**	**16 32 03.8**	**-1.1**
VILB	**Vilhena**	**10.57 56**		*e*P	**Pn**	**16 32 03.5**	**-1.5**
CZSB	**Cruzeiro do Su**	**11.76 343**		*e*P	**Pn**	**16 32 19.8**	**-1.0**
CFA	**Coronel Fontan**	**12.53 176**		P	**Pn**	**16 32 29.7**	**-1.0**
comp=Z,0.8nm,0.3s,baz=356,slow=14,SNR=5.4							
CFA				S	**Sn**	**16 34 41.3**	**-7.5**
comp=Z,1.8nm,0.5s,baz=308,slow=19,SNR=4.7							
CPUP	**Villa Florida**	**13.13 126**		Pn	**Pn**	**16 32 35.9**	**-2.6**
CPUP	**Villa Florida**	**13.13 126**		P	**Pn**	**16 32 38.1**	**-0.4**
comp=Z,0.6nm,0.6s,baz=343,slow=14,SNR=6.9							
SALV	**Santo Antonio**	**13.27 78**		*e*P	**Pn**	**16 32 40.1**	**-0.2**
PP1B	**Ponte de Pedra**	**13.68 86**		*e*P	**Pn**	**16 32 46.7**	**+1.0**
PDRB	**Porto dos Gac**	**14.12 60**		*e*P	**Pn**	**16 32 50.3**	**-1.0**
MT02	**Curacavi**	**14.25 187**		Pn	**Pn**	**16 32 51.8**	**-1.1**
CLDB	**Colider**	**15.29 60**		*e*P	**Pn**	**16 33 04.8**	**-1.3**
TEFE	**Tefe**	**16.08 17**		*e*P	**Pn**	**16 33 16.1**	**+0.3**
ITAB	**Concordia**	**17.67 121**		*e*P	**Pn**	**16 33 36.9**	**+1.8**
MACA	**Manacapuru-AM**	**17.86 29**		P	**P**	**16 33 32.6**	**-3.7**
MACA				IAmb	IAmb	16 33 39.8	
comp=Z,25nm,0.7s							
NPGB	**Novo Progresso**	**17.99 50**		*e*P	**P**	**16 33 37.1**	**-0.7**
CPSB	**Cacapava Do Su**	**18.22 131**		*e*P	**Pn**	**16 33 43.2**	**+1.6**
SNDB	**Serra Nova Dou**	**18.63 70**		*e*P	**P**	**16 33 45.2**	**+0.5**
ITTB	**Itaituba**	**19.65 44**		*e*P	**P**	**16 33 55.7**	**-0.1**
IPMB	**Ipameri, GO**	**19.94 90**		*e*P	**P**	**16 33 58.5**	**-0.5**
TRQA	**Tornquist**	**19.95 163**			**P**	**16 33 56.8**	**-2.1**
TRQA				IAmb	IAmb	16 34 02.7	
comp=Z,13nm,0.7s							
BDFB	**Brasilia**	**20.51 84**		P	**P**	**16 34 05.8**	**+0.6**
BDFB				IAmb	IAmb	16 34 09.5	
comp=Z,11nm,0.6s							
BDFB	**Brasilia**	**20.51 84**		P	**P**	**16 34 08.0**	**+2.9**
comp=Z,10nm,0.5s,baz=256,slow=8.3,SNR=20							
comp=Z,10nm,0.5s							
OTAV	**Otavalo**	**21.21 334**		*e*P	**P**	**16 34 12.2**	**-0.9**
PMNB	**Patos De Minas**	**21.56 92**		*e*P	**P**	**16 34 16.0**	**-0.4**
PLCA	**Paso Flores**	**21.64 183**		P	**P**	**16 34 17.0**	**0.0**
comp=Z,1.1nm,1.0s,baz=2.7,slow=14,SNR=5.5							
comp=Z,1.1nm,1.0s							
MAL2	**Monte Alegre,**	**22.43 43**			**P**	**16 34 24.3**	**-1.0**
MAL2				IAmb	IAmb	16 34 25.7	
comp=Z,28nm,0.8s							
PRPB	**Parauapebas**	**22.81 58**		*e*P	**P**	**16 34 27.7**	**-1.3**
BOAV	**Boa Vista**	**22.96 23**		P	**P**	**16 34 31.0**	**+0.6**
BOAV	**Boa Vista**	**22.96 23**		*e*P	**P**	**16 34 29.0**	**-1.4**
SMTB	**Santa Maria do**	**23.27 67**		*e*P	**P**	**16 34 33.5**	**+0.2**
JANB	**Januaria**	**24.12 84**		*e*P	**P**	**16 34 41.9**	**+0.8**
DIAM	**Diamantina, MG**	**24.20 92**		*e*P	**P**	**16 34 42.7**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.29 78**		*e*P	**P**	**16 34 42.7**	**+0.1**
RUSC	**La Rusia**	**25.08 351**		P	**P**	**16 34 47.8**	**-2.4**
RUSC				IAmb	IAmb	16 34 54.1	
comp=Z,9.7nm,0.7s							
BAUV	**El Baul**	**27.84 2**		P	**P**	**16 35 13.9**	**-0.6**
BAUV				IAmb	IAmb	16 35 29.9	
comp=Z,18nm,1.3s							
NBAN	**Anadia - AL**	**33.18 78**		*e*P	**P**	**16 36 02.0**	**+0.4**
RCBR	**Riachuelo**	**34.99 72**		P	**P**	**16 36 17.3**	**0.0**
PMSA	**Palmer Station**	**45.82 177**		P	P	16 37 40.3	-5.3
TXAR	**Lajitas Array**	**58.48 325**		P	**P**	**16 39 21.9**	**+2.1**
comp=Z,0.2nm,0.5s,baz=143,slow=5.3,SNR=4.7							
comp=Z,0.2nm,0.5s							
DBIC	**Dimbokro**	**68.33 74**		P	**P**	**16 40 26.0**	**+1.1**
comp=Z,3.2nm,0.5s,baz=266,slow=7.2,SNR=5.2							
comp=Z,3.2nm,0.5s							
QSPA	**South Pole Qui**	**71.12 180**		P	**P**	**16 40 38.5**	**-2.8**
PDAR	**Pinedale Array**	**71.86 330**		P	**P**	**16 40 47.9**	**+1.7**
comp=Z,0.3nm,0.3s,baz=136,slow=4.7,SNR=2.6							
comp=Z,0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.81 71**		P	**P**	**16 41 16.5**	**+1.4**
comp=Z,4.0nm,0.8s,baz=258,slow=5.5,SNR=2.3							
comp=Z,4.0nm,0.8s							
SYO	**Syowa Base**	**78.88 160**⇑		*e*P	**P**	**16 41 23.0**	**-2.6**
ESDC	**Sonseca Array**	**84.30 45**		P	**P**	**16 41 57.3**	**+2.7**
comp=Z,0.6nm,0.6s,baz=247,slow=5.3,SNR=4.9							
comp=Z,0.6nm,0.6s							

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*IDC **25** 16:31:26.6±1.0, 57°.21S×25°.77W, h0km, mb4.2/3, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=47.4km s-min=26.9km az=73.0*
ISC 25 16:31:35.2±1.0**, 57°.4S**±0°.2×**25°.9W**±0°.3**, h65**km**, n19,** σ1°.31/11**, 5D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.32 158**		⇓P	**Pn**	**16 35 06.0**	**-1.2**
comp=Z,0.9nm,0.2s							
VNA3	**Neumayer Olymp**	**15.53 160**		⇓P	**Pn**	**16 35 08.9**	**-0.9**
comp=Z,0.9nm,0.2s							
VNA2	**Neumayer--Watz**	**15.72 157**		⇓P	**Pn**	**16 35 11.0**	**-1.3**
comp=Z,0.7nm,0.2s,baz=316,slow=11							
SNAA	**Sanae**	**17.27 155**		⇓P	**Pn**	**16 35 31.3**	**-0.3**
comp=Z,28nm,0.4s							
SNAA	**Sanae**	**17.27 155**		P	**Pn**	**16 35 31.2**	**-0.3**
comp=Z,0.3nm,0.3s,baz=311,slow=9.3,SNR=20							
comp=Z,0.5nm,0.3s							
TROLL	**Troll, Antarti**	**18.77 153**		⇓P	**Pn**	**16 35 52.7**	**+2.9**
comp=Z,20nm,0.2s							
VNDA	**Vanda**	**45.30 182**		P	**P**	**16 39 46.4**	**+0.7**
comp=Z,0.9nm,0.6s,baz=179,slow=6.6,SNR=13							
comp=Z,0.9nm,0.6s							
H04S2	**CROZET ISLANDS**	**46.39 112**		T	T	17 30 53.0	
baz=226,slow=75,SNR=5.7							
H04S3	**CROZET ISLANDS**	**46.40 112**		T	T	17 30 54.2	
baz=226,slow=75,SNR=4.6							
H04S1	**CROZET ISLANDS**	**46.41 112**		T	T	17 30 53.3	
baz=226,slow=75,SNR=3.7							
H10S2	**ASCENSION HYDR**	**49.06 15**		T	T	17 34 01.4	
baz=32,slow=74,SNR=20							
H10S3	**ASCENSION HYDR**	**49.07 15**		T	T	17 33 58.2	
baz=188,slow=74,SNR=25							
H10N1	**ASCENSION HYDR**	**50.18 15**		T	T	17 35 24.7	
baz=188							
H10N3	**ASCENSION HYDR**	**50.18 15**		T	T	17 35 21.3	
baz=188,SNR=27							
H10N2	**ASCENSION HYDR**	**50.20 15**		T	T	17 35 27.3	
baz=188							
LPAZ	**La Paz**	**51.70 305**		P	**P**	**16 40 36.3**	**+0.1**
comp=Z,1.5nm,0.5s,baz=151,slow=3.1,SNR=7.6							
comp=Z,1.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.86 28**		P	**P**	**16 43 02.8**	**+0.1**
comp=Z,1.4nm,0.3s,baz=196,slow=5.2,SNR=3.3							
comp=Z,1.4nm,0.3s							
SONM	**Songino Array**	**150.10 88**		PKPbc	**PKPbc**	**16 51 16.7**	**-0.8**
comp=Z,0.4nm,0.5s,baz=232,slow=3.2,SNR=2.8							
ILAR	**Eielson Array**	**151.49 310**		PKPbc	**PKPbc**	**16 51 19.7**	**-0.4**
comp=Z,1.0nm,0.5s,baz=99,slow=0.5,SNR=13							

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*IDC **25** 16:38:59.6±9.6, 7°.68S×128°.36E, h190km±99km, mb3.4/3, mbtmp3.9/5, Error ellipse: s-maj=101.3km s-min=27.6km az=47.0*
ISC 25 16:38:59.5±1.4**, 7°.89S**±0°.10×**128°.5E**±0°.1**, h200**km**, n7,** σ1°.97/10**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.28 244**		P	**Pn**	**16 40 17.8**	**+0.2**
115nm,0.3s,baz=90,slow=3.0,SNR=22							
BATI				S	**Sn**	**16 41 19.2**	**0.0**
39nm,0.4s,baz=68,slow=19,SNR=6.4							
FITZ	**Fitzroy Crossi**	**10.52 195**		P	**Pn**	**16 41 26.3**	**+0.8**
3.7nm,0.4s,baz=17,slow=11,SNR=22							
FITZ				S	**Sn**	**16 43 19.9**	**-3.0**
5.9nm,0.4s,baz=73,slow=19,SNR=6.3							
WRA	**Warramunga Arr**	**13.26 155**		P	**Pn**	**16 41 59.8**	**-0.5**
0.3nm,0.3s,baz=339,slow=14,SNR=17							
WRA				S	S	16 44 22.9	-5.4
1.2nm,0.4s,baz=328,slow=23,SNR=8.5							
ASAR	**Alice Springs**	**16.53 162**		P	**Pn**	**16 42 44.2**	**+4.0**
1.2nm,0.5s,baz=338,slow=11,SNR=40							
ASAR				S	**S**	**16 45 41.7**	**-0.4**
0.7nm,0.6s,baz=326,slow=18,SNR=6.3							
MKAR	**Makanchi Array**	**68.15 328**		P	**P**	**16 49 38.0**	**0.0**
0.3nm,0.4s,baz=130,slow=7.8,SNR=5.8							
0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**71.72 335**		P	**P**	**16 49 58.5**	**-1.1**
0.6nm,0.5s,baz=124,slow=7.2,SNR=2.3							
0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**72.48 329**		P	**P**	**16 50 04.0**	**-0.2**
0.5nm,0.2s,baz=127,slow=4.9,SNR=4.4							
0.5nm,0.2s							

TRN 25 16:45:23.4, 17°.57N×61°.07W, h38km, MD3.5, East of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.69 278**		*e*P	**Pn**	16 45 37.9	+1.3
ANWB				*e*S	Sn	16 45 48.7	+2.6
DSDZ	**La Diserade, G**	**1.25 180**		*e*P	Pn	16 45 45.7	+1.4
DSDZ				*e*S	Sn	16 46 02.5	+2.5
MBWH	**Windy Hill**	**1.35 233**		*e*P	Pn	16 45 47.4	+1.7
MBWH				*e*S	Sn	16 46 04.4	+2.0
MLYT	**Lee's Yard**	**1.36 232**		*e*P	Pn	16 45 48.5	+2.6
MLYT				*e*S	Sn	16 46 05.6	+2.9
DHSZ	**Broadband at M**	**1.45 207**		*e*P	Pn	16 45 49.2	+2.1
DHSZ				*e*S	Sn	16 46 07.4	+2.5
ATGZ	**Broadband at L**	**1.60 203**		*e*P	Pn	16 45 49.9	+0.8
ATGZ				*e*S	Sn	16 46 10.0	+1.6
SKI	**Saint Kitts**	**1.61 262**		*e*P	Pn	16 45 50.5	+1.3
SKI				*e*S	Sn	16 46 11.3	+2.5
MMLZ	**Guadeloupe Bro**	**1.62 201**		*e*P	Pn	16 45 51.8	+2.4
MMLZ				*e*S	Sn	16 46 12.4	+3.3
TBG	**Guadaloupe-3**	**1.80 198**		*e*P	Pn	16 45 52.7	+0.8
TBG				*e*S	Sn	16 46 15.7	+2.3
DSLB	**Salisbury**	**2.15 189**		*e*P	Pn	16 45 59.1	+2.4
DSLB				*e*S	Sn	16 46 23.7	+1.6

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*TAP **25** 16:50:09.1, 24°.18N×121°.73E, h10km, ML2.9, C*
ISC 25 16:50:09.1±0.9**, 24°.17N**±0°.02×**121°.75E**±0°.03**, h10**km±5km**, n99,** σ0°.55/144**, 10D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.12 266**		⇓*i* P	**Pg**	**16 50 11.9**	**-0.1**
ETL				S	**Sg**	**16 50 14.0**	**-0.1**
EHP	**Heping Village**	**0.14 356**		*e*P	**Pg**	**16 50 12.8**	**+0.4**
EHP				S	**Sg**	**16 50 15.3**	**+0.6**
NACB	**Ninganchiao**	**0.14 272**		⇓*i* P	**Pg**	**16 50 12.2**	**-0.2**
NACB				*i* S	**Sg**	**16 50 14.3**	**-0.4**
EAHA	**Aohua**	**0.16 355**		P	**Pg**	**16 50 12.7**	**+0.1**
EAHA				S	**Sg**	**16 50 15.5**	**+0.4**
TWD	**Chiawan**	**0.17 239**		*i* P	**Pg**	**16 50 12.8**	**0.0**
TWD				*i* S	**Sg**	**16 50 15.4**	**+0.1**
HWA	**Hwalien**	**0.23 215**		*i* P	**Pg**	**16 50 14.7**	**+0.8**
ETLH	**Xiulin Townshi**	**0.25 279**		P	**Pg**	**16 50 14.1**	**-0.2**
ETLH				*e*S	**Sg**	**16 50 17.6**	**-0.1**
ENA	**Nanau**	**0.26 358**		*i* P	**Pg**	**16 50 14.4**	**0.0**
ENA				*i* S	**Sg**	**16 50 18.3**	**+0.4**
EWUT	**Wuta**	**0.28 5**		P	**Pg**	**16 50 14.8**	**+0.1**
EWUT				*i* S	**Sg**	**16 50 18.8**	**+0.3**
ETM	**Tongmen**	**0.31 230**		*e*P	**Pg**	**16 50 15.2**	**-0.2**
ETM				S	**Sg**	**16 50 19.6**	**+0.1**
TEYL	**Yanliau Villag**	**0.33 205**		*e*P	**Pb**	**16 50 17.1**	**0.0**
LXIB	**Xiulin Townshi**	**0.34 245**		*i* P	**Pg**	**16 50 15.7**	**-0.3**
LXIB				S	**Sg**	**16 50 20.6**	**0.0**
ESAO	**Su ao**	**0.41 12**		*e*P	**Pg**	**16 50 17.4**	**+0.1**
ESAO				*i* S	**Sg**	**16 50 22.4**	**-0.3**
SHUL	**Shoufeng**	**0.42 205**		*e*P	**Pb**	**16 50 18.8**	**+0.2**
LATG	**Datong**	**0.42 331**		⇓*i* P	**Pg**	**16 50 17.4**	**0.0**
LATG				S	**Sb**	**16 50 23.6**	**-1.6**
NNSB	**Datong**	**0.43

WFSB *eS* **Sg** **16 50 38.2 0.0**
TWQ1 Liyutan 0.91 282 *eP* **Pn** **16 50 27.8 -0.3**
TWF1 Yuli 0.91 207 *eP* **Pb** **16 50 26.9 -0.2**
SXI1 Grass Mountain 0.93 7 *eP* **Pb** **16 50 27.6 +0.2**
SBCB Hsinchu 0.94 312 *eP* **Pn** **16 50 29.4 +1.0**
NSY Sanyi 0.94 285 *eP* **Pn** **16 50 28.9 +0.5**
WHYT Xinyi Township 0.95 240 *eP* **Pn** **16 50 28.1 -0.4**
NMLH Miaoli 0.95 293 *eP* **Pn** **16 50 28.9 +0.4**
TWS1 Kuangyinshan 0.98 342 P **Pn** **16 50 29.0 +0.1**
TNOU National Taiwa 0.98 1 *eP* **Pb** **16 50 28.1 -0.1**
TCU Taichung 0.98 269 *eP* **Pn** **16 50 28.8 -0.2**
YM01 YM01 0.99 350 *i P* **Pn** **16 50 29.1 0.0**
YM01 *i S* **Sn** **16 50 43.0 -0.2**
ZUZH Zhuzihu 1.01 349 P **Pn** **16 50 29.3 -0.1**
WNT Mingjian 1.02 254 *eP* **Pn** **16 50 30.2 +0.7**
CHKH Chenggong 1.03 199 *eP* **Pg** **16 50 28.7 -0.1**
CHKH *eS* **Sn** **16 50 43.6 -0.4**
YM08 YM08 1.03 352 *eP* **Pn** **16 50 29.5 -0.1**
NTST Danshui 1.03 344 *eP* **Pn** **16 50 30.7 +1.1**
ANP Anpu 1.04 348 *eP* **Pn** **16 50 29.9 +0.1**
FULB Fuli 1.05 204 *eP* **Pg** **16 50 29.2 -0.1**
ALS Alishan 1.09 233 *eP* **Pn** **16 50 31.1 +0.4**
CHKT Chengkung 1.12 199 *eP* **Pn** **16 50 30.9 +0.1**
CHN5 Tsauling 1.14 240 *eP* **Pn** **16 50 31.9 +0.7**
CHN5 S **Sn** **16 50 47.7 +0.8**
YOJ Yonaguni jima 1.18 75 P Pg 16 50 39.1 +7.2
ELDTW Lidau 1.19 215 *eP* **Pb** **16 50 31.5 -0.3**
WDLH Douliu 1.21 247 *eP* **Pg** **16 50 33.0 +0.6**
EDH Donghe 1.26 199 *eP* **Pn** **16 50 30.7 -2.0**
WCKO Fanlu 1.28 236 P **Pg** **16 50 35.0 +1.3**
WTK Tuku 1.34 249 *eP* **Pg** **16 50 35.8 +1.0**
WTK *eS* **Sg** **16 50 55.2 +3.1**
STYH Taoyuan 1.34 222 *eP* **Pn** **16 50 33.9 +0.1**
TPUB Ta-pu 1.34 230 P **Pg** **16 50 34.9 0.0**
TPUB Ta-pu 1.34 230 *i P* **Pg** **16 50 34.9 0.0**
CHY Chiayi 1.39 242 *eP* **Pg** **16 50 36.2 +0.4**
WTP Ta-pu 1.39 229 *eP* **Pg** **16 50 36.0 +0.2**
TWK Hsinying 1.47 233 P **Pg** **16 50 36.9 -0.3**
TWGBT Beinan 1.48 205 P **Pg** **16 50 37.9 +0.4**
CHN1 Nanshi 1.49 229 *eP* **Pb** **16 50 36.6 -0.3**
WSL Shuilin Townsh 1.54 246 *eP* **Pg** **16 50 38.1 -0.6**
SCST Cishan 1.72 222 *eP* **Pg** **16 50 42.2 0.0**
SCST *eS* **Sg** **16 51 06.2 +1.7**
SSD Sandimen 1.75 216 *eP* **Pb** **16 50 41.5 +0.2**
TSMG Majia 1.78 215 *eP* **Pb** **16 50 41.6 -0.2**
MASBT Mashibuluo 1.86 214 *eP* **Pb** **16 50 43.0 -0.2**
MASBT *eS* **Sg** **16 51 08.1 -0.8**
EAST Anshuo 1.96 205 *eP* **Pn** **16 50 42.3 -0.2**

IDC 25 17:02:04.2±5.7, 2°.49S×138°.79E, **h0**km, **mb3.1**/2, **mbtmp3.2**/3, **ML3.2**/1, **MS3.7**/1, **Error ellipse: s-maj=232.3km s-min=31.8km az=86.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.89**	**194**	P	P	17 06 16.0	+0.6
	0.1nm,0.3s,baz=16,slow=12,SNR=5.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**21.58**	**192**	P	P	17 06 55.0	-0.8
	0.1nm,0.4s,baz=14,slow=12,SNR=2.0 0.1nm,0.4s						
PSI	**Prapat**	**40.19**	**277**	LR	LR	17 29 48.3	
	comp=Z,102nm,19.9s,baz=218,slow=41						
MKAR	**Makanchi Array**	**69.66**	**322**	P	P	17 13 15.8	0.0
	0.5nm,0.7s,baz=121,slow=6.9,SNR=4.4 0.5nm,0.7s						

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*IDC **25** 17:07:19.3±1.1, 55°.18S×27°.53W, h0km, mb4.0/3, mbtmp3.9/4, ML3.8/1, MS2.9/1, Error ellipse: s-maj=51.0km s-min=28.3km az=73.0*

ISC 25 17:07:20.7±1.0, **55°.2S**±0°.2×**27°.5W**±0°.3, **h10**km, **n16**, σ1§**03**/11, **5D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.66**	**159**	⫼P	**P**	17 11 27.1	**-0.3**
	comp=Z,2.2nm,0.8s						
VNA3	**Neumayer Olymp**	**17.87**	**161**	⫼P	**Pn**	17 11 29.0	**0.0**
	comp=Z,0.6nm,0.3s						
VNA2	**Neumayer--Watz**	**18.06**	**159**	⫼P	**Pn**	17 11 30.5	**-0.9**
	comp=Z,1.2nm,0.5s,baz=316,slow=12						
SNAA	**Sanae**	**19.61**	**157**	⫼P	**P**	17 11 48.2	**-0.6**
	comp=Z,20nm,0.5s						
SNAA	**Sanae**	**19.61**	**157**	P	**P**	17 11 48.0	**-0.8**
	comp=Z,0.3nm,0.3s,baz=304,slow=14,SNR=22						
SNAA				LR	LR	17 18 46.0	
	comp=Z,32nm,18.5s,baz=2.0,slow=35 comp=Z,1.4nm,0.6s						
TROLL	**Troll, Antarti**	**21.10**	**154**	⫼P	**P**	17 12 07.0	**+1.9**
	comp=Z,21nm,0.3s						
H10S2	**ASCENSION HYDR**	**47.22**	**17**	T	T	18 06 35.8	
	baz=16,slow=74,SNR=82						
H10S3	**ASCENSION HYDR**	**47.23**	**17**	T	T	18 06 28.3	
	baz=204,slow=74,SNR=75						
VNDA	**Vanda**	**47.43**	**183**	P	**P**	17 15 55.1	**+0.4**
	comp=Z,0.5nm,0.7s,baz=183,slow=7.1,SNR=3.7 comp=Z,0.5nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.34**	**17**	T	T	18 07 57.0	
	baz=203,slow=75,SNR=100						
H10N3	**ASCENSION HYDR**	**48.34**	**17**	T	T	18 08 19.4	
	baz=203,slow=75,SNR=83						
H10N2	**ASCENSION HYDR**	**48.36**	**17**	T	T	18 07 59.5	
	baz=203,slow=75,SNR=117						
LPAZ	**La Paz**	**49.74**	**305**	P	**P**	17 16 14.0	**+0.2**
	comp=Z,0.9nm,0.7s,baz=146,slow=3.6,SNR=2.5 comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.39**	**30**	P	**P**	17 18 46.6	**-0.2**
	comp=Z,2.5nm,0.3s,baz=182,slow=4.5,SNR=1.5 comp=Z,2.5nm,0.3s						
ILAR	**Eielson Array**	**149.41**	**313**	PKPbc	**PKPbc**	17 27 07.2	**-1.3**
	comp=Z,0.4nm,0.7s,baz=106,slow=2.4,SNR=4.3						
SONM	**Songino Array**	**150.84**	**85**	PKPbc	**PKiKP**	17 27 14.2	**+1.0**
	comp=Z,0.2nm,0.5s,baz=262,slow=2.2,SNR=1.5						

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*IDC **25** 17:11:24.2±0.7, 0°.17S×124°.42E, h0km, mb4.0/12, mbtmp4.0/13, ML3.8/1, MS3.4/8, Error ellipse: s-maj=48.2km s-min=13.4km az=73.0*
*DJA **25** 17:11:30.4±0.2, 0°.S±2°.×12°.5E±°, h10km, M4.5/20, mB5.1/3, mb4.5/8, MLv4.5/20, Mw(mB)4.4/3*
*NEIC **25** 17:11:32.6±2.0, 0°.11S±0°.08×124°.73E±°.06, h62km±8km, mb4.3/25, Error ellipse: s-maj=11.2km s-min=7.7km az=164.0*

ISC 25 17:11:32.9±0.5, **0°.15S**±0°.05×**124°.74E**±0°.05, **h73**km, **n81**, σ1§**52**/76, **mb4.2**/21, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.04**	**314**	P	**Pn**	17 11 49.3	**-2.8**
KMSI				S	**Sn**	17 12 03.0	**-3.4**
LUWI	**Luwuk**	**2.15**	**246**		**Pn**	17 12 05.8	**-0.9**
LUWI				Sn	**Sn**	17 12 31.9	**-0.6**
LUWI	**Luwuk**	**2.15**	**246**	P	**Pn**	17 12 08.6	**+1.9**
LUWI	**Luwuk**	**2.15**	**246**	P	**Pn**	17 12 07.0	**+0.3**
SANI	**Sanana**	**2.26**	**146**	P	**Pn**	17 12 05.4	**-2.8**
SANI	**Sanana**	**2.26**	**146**	P	**Pn**	17 12 05.6	**-2.6**
TNTI	**Ternate**	**2.79**	**71**		**Pn**	17 12 15.3	**0.0**
TNTI				Sn	**Sn**	17 12 45.3	**-2.6**
TNTI	**Ternate**	**2.79**	**71**	P	**Pn**	17 12 15.5	**+0.3**
TNTI	**Ternate**	**2.79**	**71**	P	**Pn**	17 12 14.8	**-0.4**
APSI	**Ampana**	**3.18**	**256**	P	**Pn**	17 12 21.0	**+0.5**
NLAI	**Namlea**	**3.87**	**142**	P	**Pn**	17 12 28.6	**-1.4**
TOLI2	**Tolitoli**	**4.15**	**288**		**Pn**	17 12 32.8	**-1.0**
TOLI2				Sn	**Sn**	17 13 18.3	**-2.8**
TOLI2	**Tolitoli**	**4.15**	**288**	P	**Pn**	17 12 35.5	**+1.7**
KDI	**Kendari**	**4.33**	**209**	P	**Pn**	17 12 36.1	**-0.2**
AAI	**Ambon**	**4.93**	**135**	P	**Pn**	17 12 44.4	**0.0**
MSAI	**Masohi**	**5.26**	**127**	P	**Pn**	17 12 49.6	**+0.7**
SPSI	**Sidrap Palu**	**6.24**	**233**	P	**Pn**	17 13 03.3	**+0.9**
BNSI	**Bone**	**6.26**	**228**	P	**Pn**	17 13 03.3	**+0.6**
	0.2nm50nm,0.8s						
SWI	**Sorong**	**6.56**	**96**	P	**Pn**	17 13 07.5	**+0.7**
	12nm,0.8s						
BNDI	**Bandanaira**	**6.75**	**130**	P	**Pn**	17 13 09.8	**+0.5**
	80nm,1.2s						
BKSI	**Bulukumba**	**6.90**	**222**	P	**Pn**	17 13 12.2	**+0.8**
	0.2nm17nm,0.5s						
KAPI	**Kappang**	**6.94**	**226**	Pn	**Pn**	17 13 08.8	**-3.1**
DAV	**Davao City (W)**	**7.22**	**7**	Pn	Pn	17 13 10.6	-5.2
BSSI	**Bau Bau, Buton**	**7.30**	**215**	P	**Pn**	17 13 17.3	**+0.3**
FAKI	**Fak Fak**	**8.00**	**110**	Pn	**Pn**	17 13 23.3	**-3.2**
FAKI	**Fak Fak**	**8.00**	**110**	P	**Pn**	17 13 24.9	**-1.5**
EDFI	**Ende, Flores**	**9.06**	**199**	P	**Pn**	17 13 41.4	**+0.3**
BATI	**Baumata**	**10.04**	**186**	LR	LR	17 17 56.9	
	comp=Z,354nm,21.1s,baz=349,slow=39						
PLAI	**Plampang**	**11.06**	**219**	P	**Pn**	17 14 05.0	**-3.3**
MTN	**Manton Dam**	**14.11**	**154**	Pn	**Pn**	17 14 46.2	**-3.2**
KNRA	**Kununurra**	**15.93**	**166**	Pn	**Pn**	17 15 10.8	**-1.9**
KNRA				IAmb	IAmb	17 15 23.9	
	comp=Z,29nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.86**	**177**	P	**P**	17 15 34.7	**-1.6**
FITZ	**Fitzroy Crossi**	**17.86**	**177**	P	**P**	17 15 36.2	**0.0**
	comp=Z,0.3nm,0.3s,baz=11,slow=10,SNR=12 comp=Z,5.8nm,0.8s						
MBWA	**Marble Bar**	**21.44**	**193**	P	**P**	17 16 13.1	**-2.1**
MBWA				IAmb	IAmb	17 16 14.0	
	comp=Z,16nm,1.1s						
WB0	**Warramunga Arr**	**21.67**	**155**	P	**P**	17 16 16.4	**-1.3**
WB0				IAmb	IAmb	17 16 52.6	
	comp=Z,20nm,1.2s						
WRAB	**Tennant Creek**	**21.80**	**155**	P	**P**	17 16 18.5	**-0.5**
WRAB				IAmb	IAmb	17 16 54.2	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**21.80**	**155**	P	**P**	17 16 18.3	**-0.8**
	comp=Z,5.5nm,0.9s,baz=333,slow=10,SNR=45 comp=Z,5.5nm,0.9s						
WR8	**Warramunga Arr**	**21.88**	**155**	P	**P**	17 16 19.2	**-0.7**
WR8				IAmb	IAmb	17 16 55.2	
	comp=Z,8.1nm,0.9s						
COEN	**Coen**	**22.83**	**128**	P	**P**	17 16 28.6	**-1.6**
COEN				IAmb	IAmb	17 16 36.8	
	comp=Z,9.6nm,1.0s						
TPUB	**Ta-pu**	**23.65**	**351**	P	**P**	17 16 36.5	**-1.4**
GIRL	**Giralia**	**24.58**	**204**	P	**P**	17 16 48.0	**+1.8**
AS31	**Alice Springs**	**25.01**	**160**		**P**	17 16 50.4	**+0.2**
ASAR	**Alice Springs**	**25.01**	**160**		**P**	17 16 50.0	**-0.2**
ASAR	**Alice Springs**	**25.01**	**160**	P	**P**	17 16 50.9	**+0.7**
	comp=Z,9.3nm,0.9s,baz=334,slow=8.3,SNR=54 comp=Z,9.3nm,0.9s						
JOW	**Kunigami**	**27.05**	**7**	LR	LR	17 26 54.3	
	comp=Z,40nm,21.6s,baz=354,slow=34						
FORT	**Forrest**	**30.62**	**174**	P	**P**	17 17 40.9	**+0.7**
CMAR	**Chiang Mai Arr**	**31.37**	**308**	LR	LR	17 30 17.2	
	comp=Z,34nm,19.0s,baz=125,slow=36						
INKA	**Innaminka**	**31.44**	**152**	P	**P**	17 17 49.4	**+1.9**
INKA				IAmb	IAmb	17 17 50.8	
	comp=Z,4.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**33.36**	**192**	P	**P**	17 18 04.8	**+0.6**
STKA	**Stephens Creek**	**35.35**	**155**	P	**P**	17 18 22.6	**+1.2**
STKA	**Stephens Creek**	**35.35**	**155**	P	**P**	17 18 22.8	**+1.3**
	comp=Z,5.3nm,0.7s,baz=331,slow=8.7,SNR=9.0 comp=Z,5.3nm,0.7s						
JHJ	**Hachijo jima 2**	**36.00**	**22**	LR	LR	17 33 06.4	
	comp=Z,94nm,21.9s,baz=96,slow=36						
MJAR	**Matsushiro Arr**	**38.59**	**18**	P	**P**	17 18 48.8	**-0.1**
MJAR	**Matsushiro Arr**	**38.59**	**18**	P	**P**	17 18 50.0	**+1.1**
	comp=Z,1.8nm,0.9s,baz=180,slow=11,SNR=2.8 comp=Z,1.8nm,0.9s						
ARMA	**Armidale**	**39.49**	**142**	P	**P**	17 18 58.9	**+2.3**
CAN	**Canberra**	**41.66**	**150**	P	**P**	17 19 17.2	**+2.8**
USRK	**Ussuriysk Ar.**	**44.63**	**7**	P	**P**	17 19 38.7	**+0.6**
	comp=Z,1.0nm,0.4s,baz=191,slow=6.4,SNR=8.0 comp=Z,1.0nm,0.4s						
ASAJ	**Asahikawa**	**46.87**	**18**	LR	LR	17 40 17.5	
	comp=Z,18nm,19.8s,baz=63,slow=37						
HILR	**Hailar Array B**	**49.70**	**356**	P	**P**	17 20 18.5	**+1.0**
	comp=Z,1.8nm,0.5s,baz=181,slow=13,SNR=2.6 comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**50.39**	**344**	P	**P**	17 20 23.4	**+0.5**
SONM	**Songino Array**	**50.39**	**344**	P	**P**	17 20 23.5	**+0.6**
	comp=Z,1.4nm,0.8s,baz=151,slow=6.6,SNR=6.3 comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**59.66**	**328**	P	**P**	17 21 29.1	**-0.5**
MKAR	**Makanchi Array**	**59.66**	**328**	P	**P**	17 21 30.0	**+0.3**
	comp=Z,0.8nm,0.5s,baz=122,slow=8.4,SNR=14 comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**59.84**	**327**	P	**P**	17 21 30.8	**0.0**
MAKZ				IAmb	IAmb	17 21 33.2	
	comp=Z,3.2nm,1.4s						
TUWZ	**Tuamarina**	**60.46**	**139**	P	**P**	17 21 36.3	**+1.2**
GVZ	**Greta Valley S**	**60.65**	**141**	P	**P**	17 21 38.6	**+2.1**
KHZ	**Kahutara**	**60.69**	**140**	P	**P**	17 21 37.2	**+0.5**
BKZ	**Black Stump Fm**	**61.13**	**136**	P	**P**	17 21 41.2	**+1.4**
AAK	**Ala-Archa**	**61.96**	**320**	LR	LR	17 52 10.8	
	comp=Z,46nm,18.2s,baz=70,slow=40						
YAK	**Yakutsk**	**62.14**	**3**	P	**P**	17 21 46.9	**+0.9**
ZALV	**Zalesovo Beam**	**63.18**	**335**	P	**P**	17 21 52.4	**-0.7**
ZALV	**Zalesovo Beam**	**63.18**	**335**	P	**P**	17 21 52.7	**-0.5**
	comp=Z,0.4nm,0.3s,baz=120,slow=7.7,SNR=2.5 comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**63.97**	**329**	P	**P**	17 21 56.8	**-1.6**
	comp=Z,0.7nm,0.6s,baz=127,slow=5.9,SNR=9.3 comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**63.98**	**329**	P	**P**	17 21 58.2	**-0.3**
KURK				IAmb	IAmb	17 22 00.1	
	comp=Z,2.1nm,0.7s						
BVAR	**Borovoye Array**	**69.52**	**328**	P	**P**	17 22 35.0	**+1.3**
	comp=Z,0.3nm,0.5s,baz=124,slow=3.8,SNR=2.3 comp=Z,0.3nm,0.5s						
TIXI	**Tiksi**	**71.73**	**1**	P	**P**	17 22 46.7	**-0.1**
TIXI				IAmb	IAmb	17 22 54.0	
	comp=Z,5.5nm,1.4s						
VNDA	**Vanda**	**79.86**	**172**	P	**P**	17 23 33.7	**+0.7**
VNDA	**Vanda**	**79.86**	**172**	P	**P**	17 23 34.5	**+1.4**
	comp=Z,1.0nm,0.9s,baz=312,slow=6.3,SNR=5.5 comp=Z,1.0nm,0.9s						
KDAK	**Kodiak Island**	**86.22**	**32**	LR	LR	17 58 35.0	
	comp=Z,76nm,20.5s,baz=237,slow=33						
BRTR	**Keskin Array B**	**90.94**	**310**	LR	LR	18 10 16.2	
	comp=Z,22nm,20.9s,baz=332,slow=39						
TORD	**Torodi Ar. Bea**	**122.12**	**285**	PKP	**PKPdf**	17 30 20.0	**-0.3**
	comp=Z,0.7nm,0.3s,baz=72,slow=4.7,SNR=0.9						

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*OSPL **25** 17:14:11.7±0.8, 19°.97N×76°.49W, h4km±9km, ML2.6*
*JSN **25** 17:14:14.7±0.9, 19°.83N×76°.49W, h29km±999km, MD3.4*
*SSNC **25** 17:14:14.0±1.3, 19°.76N×76°.33W, h3km±6km, MD3.1, ML2.7, MW3.0*

ISC 25 17:14:13.3±1.0, **19°.83N**±0°.04×**76°.38W**±0°.03, **h28**km±7km, **n20**, σ0§**76**/33, **1C-1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIV	**Chivirico**	**0.15**	**346**	*eP*	**Pb**	17 14 19.0	**+0.2**
CHIV				*eS*	**Sb**	17 14 22.3	**-0.2**
CHIV				IAML		17 14 22.5	
	comp=E,2μm,0.2s						
CHIV				IAML		17 14 22.5	
	comp=N,2μm,0.1s						
MARVS	**Santiago de Cu**	**0.48**	**69**	*eP*	**Pb**	17 14 23.0	**-0.3**
MARVS				*eS*	**Sb**	17 14 29.2	**-1.0**
MARVS				IAML		17 14 30.3	
	comp=N,754nm,0.2s						
MARVS				IAML		17 14 30.4	
	comp=E,332nm,0.1s						
YAR	**Yar**	**0.54**	**2**	*eP*	**Pb**	17 14 24.8	**+0.5**
YAR				*eS*	**Sb**	17 14 32.3	**+0.6**
YAR				IAML		17 14 32.6	
	comp=E,229nm,0.1s						
YAR				IAML		17 14 33.0	
	comp=N,194nm,0.1s						
LMGC	**Las Mercedes**	**0.64**	**292**	*eP*	**Pb**	17 14 26.9	**+1.0**
RCC	**Rio Carpintero**	**0.66**	**76**	*eP*	**Pb**	17 14 26.1	**-0.2**
RCC				*eS*	**Sb**	17 14 34.9	**-0.3**
RCC				IAML		17 14 36.0	
	comp=E,85nm,0.1s						
RCC				IAML		17 14 36.1	
	comp=N,134nm,0.1s						
PINC	**Pinares de May**	**0.85**	**40**	*eP*	**Pn**	17 14 29.1	**-0.3**
PINC				*eS*	**Sb**	17 14 40.8	**+0.2**
PINC				IAML		17 14 43.5	
	comp=E,590nm,0.1s						
PINC				IAML		17 14 44.9	
	comp=N,585nm,0.1s						
HLGC	**Holguin**	**1.10**	**16**	*eP*	**Pb**	17 14 34.2	**+0.5**
HLGC				*eS*	**Sb**	17 14 48.7	**+1.1**
HLGC				IAML		17 14 51.6	
	comp=N,350nm,0.4s						
HLGC				IAML		17 14 51.9	
	comp=E,327nm,0.3s						
GTBY	**Guantanamo Bay**	**1.20**	**85**	*eP*	**Pn**	17 14 34.5	**+0.3**
GTBY				*eS*	**Sb**	17 14 50.8	**+0.3**
GTBY				IAML		17 14 52.9	
	comp=E,192nm,0.2s						
GTBY				IAML		17 14 52.9	
	comp=E,204nm,0.2s						
GTBY	**Guantanamo Bay**	**1.20**	**85**	*i P*	**Pb**	17 14 35.1	**-0.3**
GTBY				*eS*	**Sb**	17 14 51.4	**+1.0**
GTBY				IAML		17 14 52.8	
	comp=Z,204nm,1.4s						
NMDO	**Nuevo Mundo**	**1.50**	**61**	*eP*	**Pn**	17 14 38.1	**-0.2**
QMBU	**Quimbuelo**	**1.52**	**76**	*eP*	**Pn**	17 14 38.3	**-0.3**
QMBU				*eS*	**Sn**	17 14 56.5	**-0.9**
MOAC	**Moa**	**1.57**	**58**	*eP*	**Pn**	17 14 39.4	**+0.2**
GWJ	**Greenwich**	**1.78**	**191**	⫼*iP*	**Pn**	17 14 42.4	**+0.1**
STH	**Stony Hill**	**1.79**	**193**	⫼*iP*	**Pn**	17 14 42.7	**+0.3**
CCCC	**Cccc**	**1.89**	**317**	*eP*	**Pn**	17 14 43.2	**-0.4**
CCCC				*eS*	**Sn**	17 15 04.1	**-2.4**
MTDJ	**Mount Denham**	**1.94**	**215**	*i P*	**Pn**	17 14 43.8	**-0.6**
MTDJ	**Mount Denham**	**1.94**	**215**	*eP*	**Pn**	17 14 43.9	**-0.6**
MTDJ				*eS*	**Sn**	17 15 07.7	**-0.2**
MTDJ	**Mount Denham**	**1.94**	**215**	*i P*	**Pn**	17 14 44.5	**+0.1**
MASC	**Masc**	**2.05**	**80**	*eP*	**Pn**	17 14 45.9	**+0.1**
MASC				*eS*	**Sb**	17 15 15.2	**+0.4**
MASC	**Masc**	**2.05**	**80**	*i P*	**Pn**	17 14 45.9	**+0.1**
MASC				*eS*	**Sn**	17 15 12.2	**+1.7**
MASC				IAML		17 15 21.7	
	comp=Z,23nm,0.8s						

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*NEIC **25** 17:17:52.6±1.7, 5°.91S±0°.06×148°.43E±0°.07, h102km±7km, mb4.6/43, Error ellipse: s-maj=11.0km s-min=8.6km az=108.0*
*IDC **25** 17:17:53.1±1.5, 5°.83S×148°.14E, h111km±13km, mb4.0/7, mbtmp4.5/11, MS3.4/3, Error ellipse: s-maj=20.7km s-min=9.4km az=117.0*

ISC 25 17:17:51.8±0.4, **5°.95S**±0°.05×**148°.39E**±0°.06, **h100**km, **n80**, σ1§**44**/83, **mb4.6**/31, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**199**		**Pn**	17 18 47.7	**+1.5**
PMG				Sn	**Sn**	17 19 28.9	**+0.6**
PMG	**Port Moresby**	**3.64**	**199**	P	**Pn**	17 18 47.8	**+1.5**
	270nm,0.4s,baz=25,slow=6.6,SNR=79						
PMG				S	**Sn**	17 19 29.6	**+1.3**
	202nm,0.4s,baz=51,slow=19,SNR=4.7						
PMG	**Port Moresby**	**3.64**	**199**	P	**Pn**	17 18 47.8	**+1.5**
MANU	**Manus Island**	**4.01**	**345**		**Pn**	17 18 51.9	**+0.7**
RABL	**Rabaul**	**4.15**	**65**		**Pn**	17 18 52.3	**-0.7**
JAY	**Jayapura**	**8.39**	**294**	P	**Pn**	17 19 49.6	**-1.0**
	3.6nm,0.5s,baz=150,slow=8.1,SNR=8.8						
COEN	**Coen**	**9.47**	**212**	Pn	**Pn**	17 20 05.5	**+0.2**
COEN				Sn	**Sn**	17 21 45.3	**-4.7**
HNR	**Honiara**	**11.96**	**108**	Pn	**Pn**	17 20 37.7	**-1.4**
HNR	**Honiara**	**11.96**	**108**	P	Pn	17 20 45.4	+6.3
	28nm,0.3s,baz=225,slow=2.9,SNR=5.5						
MTSU	**Mount Surprise**	**12.75**	**198**	P	**Pn**	17 20 51.7	**+2.2**
FAKI	**Fak Fak**	**16.37**	**280**		**P**	17 21 37.5	**+0.6**
QIS	**Mount Isa**	**16.84**	**210**	P	**Pn**	17 21 43.0	**+1.4**
	19nm,0.9s						
MTN	**Manton Dam**	**18.34**	**247**		**P**	17 21 59.2	**+0.6**
WB0	**Warramunga Arr**	**19.34**	**223**	P	**P**	17 22 10.4	**+1.0**
WB0				IAmb	IAmb	17 22 11.7	
	comp=Z,21nm,0.8s						
WR8	**Warramunga Arr**	**19.39**	**223**		**P**	17 22 11.3	**+1.2**
WRAB	**Tennant Creek**	**19.48**	**223**		**P**	17 22 12.3	**+1.4**
WRAB	**Tennant Creek**	**19.48**	**223**	P	**P**	17 22 12.4	**+1.4**
	comp=Z,36nm,0.6s						
EIDS	**Eidsvold**	**19.48**	**173**		**P**	17 22 13.0	**+2.1**
EIDS				IAmb	IAmb	17 22 16.6	
	comp=Z,30nm,0.8s						
EIDS	**Eidsvold**	**19.48**	**173**	P	**P**	17 22 13.2	**+2.3**
	comp=Z,40nm,0.9s						
WRA	**Warramunga Arr**	**19.49**	**223**		**P**	17 22 11.0	**-0.1**
WRA	**Warramunga Arr**	**19.49**	**223**	P	**P**	17 22 12.0	**+0.9**
	comp=Z,43nm,0.6s,baz=46,slow=11,SNR=332						
WRA				S	**S**	17 25 44.2	**-2.0**
	comp=Z,4.4nm,0.9s,baz=44,slow=21,SNR=9.6						
QLP	**Quilpie**	**20.90**	**190**	P	**P**	17 22 28.3	**+2.1**
	comp=Z,77nm,1.2s						
KNRA	**Kununurra**	**21.54**	**242**	P	**P**	17 22 33.2	**0.0**
AS31	**Alice Springs**	**22.46**	**217**		**P**	17 22 44.0	**+1.1**
AS31				IAmb	IAmb	17 22 44.6	
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**22.46**	**217**	P	**P**	17 22 44.0	**+1.1**
	comp=Z,20nm,0.5s,baz=42,slow=10,SNR=1066						
ASAR				S	**S**	17 26 44.2	**+1.6**
	comp=Z,8.7nm,0.9s,baz=35,slow=23,SNR=20 comp=Z,20nm,0.5s						
AUALC	**St Philip's Co**	**22.49**	**217**	P	**P**	17 22 44.4	**+1.2**
	comp=Z,36nm,0.8s						
INKA	**Innaminka**	**22.86**	**198**		**P**	17 22 47.9	**+1.1**
AULRC	**Lightning Ridg**	**23.36**	**181**	P	**P**	17 22 52.2	**+0.7**
	comp=Z,76nm,0.8s						
SOEI	**Soe**	**24

L14K				IAmb	IAmb	17 30 01.6	
	comp=Z,11nm,1.1s						
J14K	**Nanvaranak Lak**	**77.61**	**21**	P	**P**	**17 29 37.4**	**+0.7**
J14K				IAmb	IAmb	17 30 19.8	
	comp=Z,18nm,1.4s						
K15K	**Wolf Creek Mou**	**78.04**	**21**	P	**P**	**17 29 38.6**	**-0.5**
MKAR	**Makanchi Array**	**78.34**	**320**	P	**P**	**17 29 39.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=98,slow=3.1,SNR=2.0						
L16K	**Owhat River**	**78.44**	**23**	P	**P**	**17 29 41.5**	**+0.1**
ZALV	**Zalesovo Beam**	**79.71**	**327**	P	**P**	**17 29 46.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=94,slow=7.4,SNR=1.9						
	comp=Z,0.2nm,0.3s						
L18K	**Granite Mounta**	**79.81**	**23**	P	**P**	**17 29 49.3**	**+0.4**
L18K				IAmb	IAmb	17 30 29.0	
	comp=Z,12nm,1.5s						
L19K	**White Mountain**	**80.51**	**23**	P	**P**	**17 29 52.8**	**+0.1**
E19K	**Redstone River**	**82.63**	**18**	P	**P**	**17 30 03.9**	**+0.3**
E19K				IAmb	IAmb	17 30 10.9	
	comp=Z,9.9nm,1.4s						
D19K	**Kuna River**	**82.97**	**17**	P	**P**	**17 30 05.3**	**-0.1**
D19K				IAmb	IAmb	17 30 25.3	
	comp=Z,13nm,1.4s						
D22K	**Ayikyak River**	**84.83**	**18**	P	**P**	**17 30 15.3**	**+0.4**
D22K				IAmb	IAmb	17 30 48.1	
	comp=Z,16nm,1.5s						
ILAR	**Eielson Array**	**84.89**	**23**	P	**P**	**17 30 13.5**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=250,slow=5.2,SNR=21						
	comp=Z,1.9nm,0.7s						
D23K	**Nanushuk River**	**85.50**	**18**	P	**P**	**17 30 18.5**	**+0.3**
D23K				IAmb	IAmb	17 30 36.1	
	comp=Z,8.5nm,1.4s						
M27K	**Edge Creek, AK**	**86.01**	**26**	P	**P**	**17 30 21.3**	**+0.3**
M27K				IAmb	IAmb	17 30 22.3	
	comp=Z,5.2nm,0.9s						
HYT	**Haines Junctio**	**87.50**	**28**	P	**P**	**17 30 28.6**	**+0.4**
HYT				IAmb	IAmb	17 31 03.0	
	comp=Z,7.2nm,1.2s						
PTLB	**Pontes e Lacer**	**145.42**	**128**	PKPdf	**PKPdf**	**17 37 17.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**146.42**	**285**	PKPbc	**PKPdf**	**17 37 21.4**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=62,slow=3.0,SNR=1.5						

*IDC **25** 17:26:25.8±1.1, 0°.07S×126°.91E, h0km, mb3.8/7, mbtmp3.8/8, ML3.6/1, MS3.4/1, Error ellipse: s-maj=106.0km s-min=17.0km az=68.0*
*DJA **25** 17:26:32.2±0.2, 0°.S±2°×12°.7E±°, h10km, M4.2/18, mB4.9/4, mb4.3/7, MLv4.1/18, Mw(mB)4.2/4*
*NEIC **25** 17:26:33.9±1.1, 0°.16S±0°.04×126°.77E±0°.06, h56km±9km, mb4.0/13, Error ellipse: s-maj=10.6km s-min=3.9km az=120.0*

ISC 25 17:26:34.4±0.6, 0°.22S±0°.05×126°.75E±0°.06, h70km, n54, σ1§33/57, mb4.0/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**32**		**Pn**	**17 26 54.0**	**-0.9**
TNTI				Sn	**Sn**	**17 27 07.1**	**-3.2**
TNTI	**Ternate**	**1.16**	**32**	P	**Pn**	**17 26 54.2**	**-0.7**
TNTI				S	**Sn**	**17 27 09.5**	**-0.7**
SANI	**Sanana**	**1.97**	**203**	P	**Pn**	**17 27 03.9**	**-1.7**
SANI	**Sanana**	**1.97**	**203**	P	**Pn**	**17 27 04.0**	**-1.7**
SANI				S	**Sn**	**17 27 25.4**	**-4.1**
KMSI	**Cibinong**	**2.88**	**286**	P	**Pn**	**17 27 17.9**	**-0.1**
NLAI	**Namlea**	**3.02**	**173**	P	**Pn**	**17 27 19.3**	**-0.6**
AAI	**Ambon**	**3.73**	**157**	P	**Pn**	**17 27 29.7**	**+0.1**
MSAI	**Masohi**	**3.79**	**145**	P	**Pn**	**17 27 30.9**	**+0.5**
LUWI	**Luwuk**	**4.06**	**258**		**Pn**	**17 27 33.7**	**-0.4**
LUWI	**Luwuk**	**4.06**	**258**	P	**Pn**	**17 27 32.9**	**-1.1**
LUWI	**Luwuk**	**4.06**	**258**	P	**Pn**	**17 27 33.0**	**-1.1**
SWI	**Sorong**	**4.55**	**98**	P	**Pn**	**17 27 42.1**	**+1.3**
MRSI	**Marisa**	**4.86**	**278**	P	**Pn**	**17 27 44.5**	**-0.5**
APSI	**Ampana**	**5.15**	**262**	P	**Pn**	**17 27 48.7**	**-0.3**
BNDI	**Bandanaira**	**5.31**	**144**	P	**Pn**	**17 27 51.5**	**+0.4**
	0.4nm4μm62nm,1.3s						
KDI	**Kendari**	**5.55**	**228**	P	**Pn**	**17 27 54.7**	**+0.2**
FAKI	**Fak Fak**	**6.11**	**116**		**Pn**	**17 28 01.3**	**-0.9**
FAKI	**Fak Fak**	**6.11**	**116**	P	**Pn**	**17 28 02.7**	**+0.5**
FAKI	**Fak Fak**	**6.11**	**116**	P	**Pn**	**17 28 02.5**	**+0.3**
	0.1nm8.5nm,0.5s						
TOLI2	**Tolitoli**	**6.12**	**282**		**Pn**	**17 28 01.7**	**-0.5**
TOLI2	**Tolitoli**	**6.12**	**282**	P	**Pn**	**17 28 01.9**	**-0.3**
DAV	**Davao City (W)**	**7.33**	**351**	Pn	**Pn**	**17 28 16.1**	**-2.8**
BNSI	**Bone**	**7.83**	**238**	P	**Pn**	**17 28 25.9**	**+0.2**
BKSI	**Bulukumba**	**8.34**	**232**	P	**Pn**	**17 28 33.9**	**+1.3**
	12nm,0.8s						
KAPI	**Kappang**	**8.46**	**236**	P	**Pn**	**17 28 34.1**	**-0.2**
BSSI	**Bau Bau, Buton**	**8.59**	**227**	P	**Pn**	**17 28 37.2**	**+1.2**
MYLDM	**Lahad Datu**	**9.83**	**303**	Pn	**Pn**	**17 28 53.1**	**+0.1**
BATI	**Baumata**	**10.39**	**197**	LR	LR	17 34 53.3	
	comp=Z,201nm,18.0s,baz=236,slow=48						
MTN	**Manton Dam**	**13.27**	**161**	Pn	**Pn**	**17 29 35.8**	**-4.1**
KNRA	**Kununurra**	**15.49**	**173**	Pn	**Pn**	**17 30 09.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.80**	**183**	P	**P**	**17 30 36.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**17.80**	**183**	P	**Pn**	**17 30 38.2**	**+0.7**
	0.1nm,0.3s,baz=8.9,slow=11,SNR=1.7						
	2.0nm,0.8s						
WB0	**Warramunga Arr**	**20.82**	**159**	P	**P**	**17 31 09.4**	**-0.9**
WB0				IAmb	IAmb	17 31 16.1	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**20.96**	**160**	P	**P**	**17 31 10.1**	**-1.8**
WRA	**Warramunga Arr**	**20.96**	**160**	P	**P**	**17 31 11.0**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=337,slow=10,SNR=48						
	comp=Z,1.0nm,0.3s						
COEN	**Coen**	**21.23**	**131**	P	**P**	**17 31 14.5**	**-0.2**
AS31	**Alice Springs**	**24.32**	**164**	P	**P**	**17 31 45.7**	**+0.1**
AS31				IAmb	IAmb	17 31 48.2	
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**24.32**	**164**	P	**P**	**17 31 46.2**	**+0.6**
ASAR					**PcP**	**17 35 24.1**	**+0.1**
ASAR	**Alice Springs**	**24.32**	**164**	P	**P**	**17 31 46.6**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=343,slow=11,SNR=123						
ASAR				PcP	**PcP**	**17 35 24.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=348,slow=2.0,SNR=6.7						
	comp=Z,2.5nm,0.4s						
STKA	**Stephens Creek**	**34.48**	**157**	P	**P**	**17 33 16.9**	**+1.2**
STKA	**Stephens Creek**	**34.48**	**157**	P	**P**	**17 33 16.4**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=323,slow=15,SNR=3.3						
	comp=Z,1.7nm,0.3s						
XLT	**XiLinHaoTe**	**44.95**	**349**	*e*P	P	17 34 50.5	+8.0
XLT				sP	pP	17 34 57.0	-2.2
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	**Makanchi Array**	**60.82**	**327**	P	**P**	**17 36 39.8**	**+0.5**
MK31				IAmb	IAmb	17 37 19.0	
	comp=Z,1.8nm,1.4s						
MKAR	**Makanchi Array**	**60.82**	**327**	P	**P**	**17 36 39.4**	**+0.1**
MKAR	**Makanchi Array**	**60.82**	**327**	P	**P**	**17 36 39.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=124,slow=7.4,SNR=7.3						
	comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**61.00**	**326**	P	**P**	**17 36 40.8**	**+0.2**
MAKZ				IAmb	IAmb	17 37 01.1	
	comp=Z,2.2nm,1.3s						
ZALV	**Zalesovo Beam**	**64.11**	**334**	P	**P**	**17 37 01.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=1.7						
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**65.07**	**328**	P	**P**	**17 37 08.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=131,slow=6.4,SNR=4.6						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**65.08**	**329**	P	**P**	**17 37 08.0**	**+0.5**
KURK				IAmb	IAmb	17 37 31.7	
	comp=Z,1.2nm,0.7s						
BVAR	**Borovoye Array**	**70.64**	**328**	P	**P**	**17 37 41.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=101,slow=7.8,SNR=2.1						
	comp=Z,0.2nm,0.3s						
ABKAR	**Akbulak array**	**75.22**	**321**	P	**P**	**17 38 09.0**	**-0.6**
L18K	**Granite Mounta**	**83.94**	**27**	P	**P**	**17 38 57.4**	**+0.8**
D19K	**Kuna River**	**84.77**	**21**	P	**P**	**17 39 01.6**	**+0.9**
QSPA	**South Pole Qui**	**89.71**	**180**	P	**P**	**17 39 27.9**	**+3.1**

*SSNC **25** 17:29:10.8±1.2, 19°.76N×76°.33W, h7km±8km, MD3.2, ML2.6, MW3.2*
*JSN **25** 17:29:12.3±1.8, 19°.65N×76°.43W, h15km±999km, MD4.2*

ISC 25 17:29:08.1±1.0, 19°.73N±0°.03×76°.34W±0°.03, h31km±9km, n20, σ1§03/32, 1C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIV	**Chivirico**	**0.26**	**344**	*e*P	**Pb**	**17 29 15.3**	**+0.1**
CHIV				*e*S	**Sb**	**17 29 18.1**	**-1.8**
CHIV				IAML		17 29 18.9	
	comp=N,4μm,0.1s						
CHIV				IAML		17 29 19.1	
	comp=E,4μm,0.1s						
MARVS	**Santiago de Cu**	**0.50**	**56**	*e*P	**Pn**	**17 29 19.2**	**+0.1**
MARVS				*e*S	**Sn**	**17 29 25.4**	**-1.2**
YAR	**Yar**	**0.64**	**358**	*e*P	**Pb**	**17 29 21.1**	**+0.2**
YAR				*e*S	**Sn**	**17 29 28.6**	**-1.7**
YAR				IAML		17 29 29.5	
	comp=N,228nm,0.1s						
YAR				IAML		17 29 29.7	
	comp=E,196nm,0.1s						
RCC	**Rio Carpintero**	**0.66**	**66**	*e*P	**Pb**	**17 29 22.4**	**+1.2**
RCC				*e*S	**Sb**	**17 29 30.5**	**+0.3**
RCC				IAML		17 29 32.3	
	comp=N,109nm,0.1s						
RCC				IAML		17 29 32.5	
	comp=E,62nm,0.1s						
LMGC	**Las Mercedes**	**0.71**	**298**	*e*P	**Pb**	**17 29 23.2**	**+1.2**
LMGC				*e*S	**Sb**	**17 29 32.5**	**+0.9**
PINC	**Pinares de May**	**0.92**	**34**	*e*P	**Pb**	**17 29 25.2**	**-0.3**
PINC				*e*S	**Sb**	**17 29 37.2**	**-0.2**
PINC				IAML		17 29 38.5	
	comp=E,407nm,0.1s						
PINC				IAML		17 29 38.6	
	comp=N,353nm,0.1s						
SABCS	**La Quijada**	**1.15**	**56**	*e*P	**Pb**	**17 29 29.9**	**+0.4**
GTBY	**Guantanamo Bay**	**1.17**	**80**	*e*P	**Pb**	**17 29 31.1**	**+1.3**
GTBY				*e*S	**Sb**	**17 29 47.0**	**+2.3**
GTBY				IAML		17 29 49.8	
	comp=N,328nm,0.4s						
GTBY				IAML		17 29 50.1	
	comp=N,235nm,0.3s						
HLGC	**Holguin**	**1.19**	**13**	*e*P	**Pb**	**17 29 30.5**	**+0.4**
HLGC				*e*S	**Sb**	**17 29 45.6**	**+0.4**
NMDO	**Nuevo Mundo**	**1.52**	**57**	*e*P	**Pb**	**17 29 34.5**	**-1.2**
MOAC	**Moa**	**1.59**	**54**	*e*P	**Pb**	**17 29 36.2**	**-0.7**
MOAC				*e*S	**Sb**	**17 29 57.9**	**+1.2**
MOAC				IAML		17 30 02.8	
	comp=N,83nm,0.4s						
MOAC				IAML		17 30 04.0	
	comp=E,86nm,0.3s						
GWJ	**Greenwich**	**1.68**	**193**	||*i*P	**Pb**	**17 29 38.6**	**+0.1**
STH	**Stony Hill**	**1.70**	**195**	*i*P	**Pb**	**17 29 38.8**	**+0.1**
STH	**Stony Hill**	**1.70**	**195**	*e*P	**Pb**	**17 29 38.7**	**-0.1**
STH				*e*S	**Sb**	**17 29 58.7**	**-1.0**
HOJ	**Hope**	**1.75**	**193**	*i*P	**Pb**	**17 29 38.7**	**-1.0**
MTDJ	**Mount Denham**	**1.87**	**217**	||*i*P	**Pb**	**17 29 41.3**	**-0.4**
MTDJ				*i*S	**Sn**	**17 30 01.9**	**+1.1**
MTDJ	**Mount Denham**	**1.87**	**217**	*e*P	**Pb**	**17 29 41.1**	**-0.6**
MTDJ				*e*S	**Sn**	**17 30 01.6**	**+0.9**
CCCC	**Cccc**	**1.99**	**318**	*e*P	**Pn**	**17 29 39.6**	**0.0**
CCCC				IAML		17 30 04.2	
	comp=E,47nm,0.4s						
CCCC				IAML		17 30 05.1	
	comp=N,44nm,0.4s						
MASC	**Masc**	**2.03**	**77**	*e*P	**Pb**	**17 29 42.7**	**-1.7**
MASC				IAML		17 30 17.5	
	comp=N,45nm,0.4s						
MASC				IAML		17 30 20.4	
	comp=E,39nm,0.2s						
MCJ	**Malvern**	**2.20**	**216**	*i*P	**Pb**	**17 29 47.0**	**-0.3**

*JMA **25** 17:31:18.2±0.2, 43°.0N±0°.5×145°.3E±0°.8, h89km±1km, MV3.1/37, OFF NEMURO PENINSULA*
*SKHL **25** 17:31:18.3±0.4, 42°.90N×145°.40E, h86km±2km, mb4.5/4, msha5.6/4*

ISC 25 17:31:18.6±2.1, 42°.9N±0°.1×145°.26E±0°.07, h86km±11km, n14, σ0§36/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.16**	**332**	*i*P	**Pn**	**17 31 31.3**	**+0.3**
JKHN				*e*S	**Sn**	**17 31 40.8**	**+0.8**
AKK	**Akkeshi**	**0.32**	**284**	*i*P	**Pn**	**17 31 31.6**	**0.0**
JAK	**Akkeshi**	**0.42**	**278**	P	**Pn**	**17 31 32.2**	**0.0**
JAK				*e*S	**Sn**	**17 31 42.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.55**	**38**	*i*P	**Pn**	**17 31 32.9**	**-0.4**
NMR				*i*S	**Sn**	**17 31 43.5**	**-0.7**
NEM2	**Nemuro 2**	**0.55**	**40**	*e*P	**Pn**	**17 31 33.0**	**-0.3**
NEM2				*e*S	**Sn**	**17 31 43.7**	**-0.5**
GLVR	**Golovnino**	**0.82**	**13**	*e*P	**Pn**	**17 31 35.9**	**-0.1**
GLVR				AMB	AMB	17 31 36.8	
	110nm,0.2s						
GLVR				*e*S	**Sn**	**17 31 49.0**	**+0.1**
GLVR				A	A	17 31 50.5	
	860nm,0.2s						
GLVR				A	A	17 31 50.5	
	1μm,0.2s						
JRA	**Rausu**	**1.00**	**354**	*i*P	**Pn**	**17 31 37.8**	**-0.2**
JRA				*e*S	**Sn**	**17 31 52.4**	**-0.1**
JOB	**Onbets**	**1.05**	**268**	P	**Pn**	**17 31 38.5**	**0.0**
JOB				*e*S	**Sn**	**17 31 53.8**	**+0.3**
JAR	**Ashorobuto**	**1.15**	**289**	*i*P	**Pn**	**17 31 39.6**	**-0.1**
JAR				*e*S	**Sn**	**17 31 55.7**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.18**	**22**	*i*P	**Pn**	**17 31 40.0**	**-0.1**
YUK				AMB	AMB	17 31 40.2	
	210nm,0.3s						
YUK				*e*S	**Sn**	**17 31 56.5**	**+0.3**
YUK				A	A	17 31 56.9	
	510nm,0.2s						
YUK				A	A	17 31 56.9	
	410nm,0.2s						
JTKR	**Abashiri--Toko**	**1.43**	**317**	*i*P	**Pn**	**17 31 43.2**	**0.0**
JCH	**Churui**	**1.44**	**258**	*i*P	**Pn**	**17 31 43.2**	**-0.1**
JCH				S	**Sn**	**17 32 01.3**	**-0.7**
JMP	**Maruseppu**	**1.75**	**308**	P	**Pn**	**17 31 47.3**	**-0.1**
KUR	**Kuril'sk**	**2.96**	**38**	*e*P	**Pn**	**17 32 04.0**	**+0.5**
KUR				AMB	AMB	17 32 05.0	
	30nm,0.3s						
KUR				*e*S	**Sn**	**17 32 38.1**	**+0.1**
KUR				A	A	17 32 39.5	
	60nm,0.2s						
KUR				A	A	17 32 39.5	
	50nm,0.2s						

*IDC **25** 17:32:19.9±1.2, 5°.54S×147°.24E, h164km±10km, mb3.6/11, mbtmp4.2/15, Error ellipse: s-maj=15.0km s-min=9.0km az=101.0*
*NEIC **25** 17:32:22.6±1.9, 5°.61S±0°.05×147°.26E±0°.06, h176km±5km, mb4.5/41, Error ellipse: s-maj=10.5km s-min=5.1km az=52.0*

ISC 25 17:32:23.7±0.4, 5°.67S±0°.05×147°.25E±0°.06, h195km, n81, σ1§66/85, mb4.3/30, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.60**	**2**		**Pn**	**17 33 18.8**	**-1.7**
PMG	**Port Moresby**	**3.71**	**181**		**Pn**	**17 33 19.7**	**-2.0**
PMG				Sn	**Sn**	**17 34 03.2**	**-4.2**
PMG	**Port Moresby**	**3.71**	**181**	P	**Pn**	**17 33 19.9**	**-1.9**
	60nm,0.4s,baz=0.0,slow=11,SNR=111						
PMG				S	**Sn**	**17 34 03.1**	**-4.3**
	57nm,0.3s,baz=342,slow=20,SNR=10						
PMG	**Port Moresby**	**3.71**	**181**	P	**Pn**	**17 33 20.0**	**-1.7**
RABL	**Rabaul**	**5.12**	**74**	Pn	**Pn**	**17 33 38.1**	**-1.4**
JAY	**Jayapura**	**7.24**	**295**	P	**Pn**	**17 34 03.8**	**-3.2**
	5.7nm,0.5s,baz=124,slow=5.4,SNR=7.2						
JAY				S	**Sn**	**17 35 23.8**	**-5.3**
	4.9nm,0.5s,baz=271,slow=24,SNR=1.8						
COEN	**Coen**	**9.16**	**206**		**Pn**	**17 34 32.5**	**+0.3**
COEN				Sn	**Sn**	**17 36 13.1**	**-1.6**
COEN	**Coen**	**9.16**	**206**	P	**Pn**	**17 34 33.3**	**+1.2**
MTSU	**Mount Surprise**	**12.71**	**193**	P	**Pn**	**17 35 20.1**	**+2.3**
HNR	**Honiara**	**13.13**	**107**	Pn	**Pn**	**17 35 21.9**	**-1.3**
HNR	**Honiara**	**13.13**	**107**	P	**Pn**	**17 35 21.0**	**-2.1**
	13nm,0.4s,baz=292,slow=19,SNR=4.5						
QIS	**Mount Isa**	**16.55**	**206**	P	**Pn**	**17 36 05.6**	**+0.6**
MTN	**Manton Dam**	**17.42**	**245**		**P**	**17 36 13.9**	**+0.3**
WB0	**Warramunga Arr**	**18.78**	**221**	P	**P**	**17 36 28.9**	**+0.4**
WB0				IAmb	IAmb	17 36 30.1	
	comp=Z,24nm,0.9s						
WRAB	**Tennant Creek**	**18.93**	**220**	P	**P**	**17 36 30.7**	**+0.7**
WRA	**Warramunga Arr**	**18.94**	**220**		**P**	**17 36 29.5**	**-0.6**
WRA	**Warramunga Arr**	**18.94**	**220**	P	**P**	**17 36 30.5**	**+0.3**
	comp=Z,22nm,0.8s,baz=43,slow=11,SNR=77						
WRA				S	**S**	**17 39 55.0**	**-0.1**
	comp=Z,6.1nm,1.0s,baz=42,slow=20,SNR=7.6						
WRA				PcP	**PcP**	**17 40 47.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=33,slow=1.7,SNR=4.7						
EIDS	**Eidsvold**	**19.93**	**170**	P	**P**	**17 36 39.7**	**-1.0**
EIDS				IAmb	IAmb	17 37 17.6	
	comp=Z,17nm,1.3s						
KNRA	**Kununurra**	**20.69**	**240**	P	**P**	**17 36 48.3**	**-0.6**
KNRA				IAmb	IAmb	17 37 09.1	
	comp=Z,43nm,1.5s						
QLP	**Quilpie**	**20.99**	**188**	P	**P**	**17 36 55.6**	**+3.6**
AS31	**Alice Springs**	**22.02**	**214**		**P**	**17 37 03.2**	**+0.6**
ASAR	**Alice Springs**	**22.03**	**214**		**P**	**17 37 03.2**	**+0.5**
ASAR	**Alice Springs**	**22.03**	**214**	P	**P**	**17 37 03.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=36,slow=10,SNR=189						
ASAR				S	**S**	**17 40 56.0**	**+4.4**
	comp=Z,5.4nm,0.9s,baz=38,slow=23,SNR=15						
	comp=Z,16nm,0.8s						
AUALC	**St Philip's Co**	**22.06**	**214**	P	**P**	**17 37 05.9**	**+2.9**
INKA	**Innaminka**	**22.80**	**195**		**P**	**17 37 10.7**	**+1.0**
INKA				IAmb	IAmb	17 37 20.6	
	comp=Z,8.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**24.45**	**238**		**P**	**17 37 25.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**17 37 25.3**	**+0.5**
	comp=Z,18nm,0.6s,baz=67,slow=9.7,SNR=42						
	comp=Z,18nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**17 37 25.7**	**+0.9**
LUWI	**Luwuk**	**24.85**	**280**	P	**P**	**17 37 28.8**	**+0.3**
ARMA	**Armidale**	**24.96**	**171**	P	**P**	**17 37 29.6**	**+0.2**
ARMA				IAmb	IAmb	17 37 39.5	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**26.60**	**191**	P	**P**	**17 37 45.9**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=18,slow=13,SNR=3.7						
	comp=Z,0.8nm,0.3s						
AUSMG	**Snowy Mountain**	**30.63**	**178**	P	**P**	**17 38 19.2**	**-0.5**
FORT	**Forrest**	**30.81**	**214**	P	**P**	**17 38 21.9**	**+0.7**
FORT				IAmb	IAmb	17 38 40.4	
	comp=Z,18nm,1.1s						
UGM	**Wanagama**	**36.52**	**264**	P	**P**	**17 39 11.7**	**+0.8**
MORW	**Morawa**	**37.57**	**228**	P	**P**	**17 39 19.7**	**+0.2**
MORW				IAmb	IAmb	17 39 41.8	
	comp=Z,27nm,1.3s						
YHNB	**Yeheng**	**39.29**	**321**	P	**P**	**17 39 34.7**	**+0.7**
JNU	**Nakatsue**	**41.59**	**339**	P	**P**	**17 39 52.8**	**+0.2**
INU	**Inuyama**	**41.92**	**347**	P	**P**	**17 39 56.1**	**+1.0**
INU				IAmb	IAmb	17 39 56.8	
	comp=Z,23nm,1.4s						
RTZ	**Ruatahuna**	**42.44**	**145**	P	**P**	**17 39 60.0**	**+0.5**
BKZ	**Black Stump Fm**	**42.55**	**146**	P	**P**	**17 39 59.9**	**-0.4**
TCW	**Tory Channel**	**42.84**	**150**	P	**P**	**17 40 03.5**	**+1.0**
LBZ	**Lake Benmore**	**43.49**	**156**	P	**P**	**17 40 08.2**	**+0.5**
GVZ	**Greta Valley S**	**43.58**	**152**	P	**P**	**17 40 09.2**	**+0.7**
WHZ	**Wether Hill Ro**	**43.91**	**159**	P	**P**	**17 40 12.2**	**+1.1**
NJ2	**Nanjing**	**46.24**	**326**	*e*P	**P**	**17 40 32.5**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSRS	**Korea Array**	**46.53**	**339**	P	**P**	**17 40 28.3**	**-3.4**
	comp=Z,1.0nm,0.6s,baz=159,slow=7.7,SNR=4.2						
	comp=Z,1.0nm,0.6s						
PZH	**PanZhiHua**	**54.45**	**308**	P	**P**	**17 41 34.5**	**+3.2**
HHC	**Hu-ho-hao-te**	**56.68**	**328**	*e*P	**P**	**17 41 50.8**	**+3.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
SONM	**Songino Array**	**64.24**	**331**	IAmb	IAmb	17 42 39.9	
	comp=Z,2.6nm,1.4s						
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**17 42 36.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=123,slow=5.3,SNR=2.8						
	comp=Z,0.3nm,0.3s						
CASY	**Casey**	**65.64**	**195**	P	**P**	**17 42 46.5**	**0.0**
CASY				IAmb	IAmb	17 43 05.7	
	comp=Z,6.7nm,1.3s						
YAK	**Yakutsk**	**68.85**	**351**	P	**P**	**17 43 06.7**	**0.0**
YAK				IAmb	IAmb	17 43 08.2	
	comp=Z,4.2nm,0.7s						
VNDA	**Vanda**	**72.22**	**177**	P	**P**	**17 43 27.6**	**+0.6**
VNDA	**Vanda**	**72.22**	**177**	P	**P**	**17 43 27.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=347,slow=7.4,SNR=6.7						
	comp=Z,1.0nm,0.6s						
M14K	**Bethel**	**77.09**	**23**	P	**P**	**17 43 55.4**	**+0.4**
M14K				IAmb	IAmb	17 44 13.1	
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**77.40**	**320**	P	**P**	**17 43 56.4**	**-0.8**
MKAR	**Makanchi Array**	**77.40**	**320**	P	**P**	**17 43 56.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.6,SNR=7.7						
	comp=Z,0.3nm,0.4s						
MAKZ	**Makanchi**	**77.60**	**320**	P	**P**	**17 43 57.5**	**-0.9**
O16K	**Kokwok River B**	**77.98**	**25**	P	**P**	**17 44 00.6**	**+0.5**
O16K				IAmb	IAmb	17 44 17.1	
	comp=Z,11nm,1.2s						
M16K	**Timber Creek**	**78.43**	**24**	P	**P**	**17 44 03.2**	**+0.7**
M16K				IAmb	IAmb	17 44 47.2	
	comp=Z,18nm,1.2s						
ZALV	**Zalesovo Beam**	**78.86**	**328**	P	**P**	**17 44 03.4**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.8,SNR=2.2						
	comp=Z,0

SHUL	Shoufeng	0.41	203	P	Pb	17 42 00.3	+0.1
SHUL				S	Sb	17 42 08.7	+2.1
LATG	Datong	0.41	332	⇓iP	Pg	17 41 59.3	+0.1
LATG				S	Sg	17 42 05.0	+0.3
ESAO	Su ao	0.42	13	eP	Pg	17 41 59.2	+0.1
ESAO				S	Sg	17 42 04.6	-0.1
NNSB	Datong	0.42	308	⇓iP	Pg	17 41 59.3	+0.1
NNSB				i S	Sg	17 42 05.1	+0.4
NNS	Nan Shan	0.43	309	⇓iP	Pg	17 41 59.6	+0.1
NNS				S	Sg	17 42 05.4	+0.2
WHF	Hehuan Shan	0.44	267	⇓iP	Pg	17 41 59.6	0.0
WHF				S	Sg	17 42 05.4	0.0
TWC	Suao	0.45	13	⇓iP	Pg	17 41 59.9	+0.1
TWC				S	Sg	17 42 04.8	-0.9
ESL	Shilin	0.45	219	⇓iP	Pg	17 41 59.6	-0.2
ESL				S	Sb	17 42 07.5	-0.1
FUSS	Fushou	0.46	280	⇓iP	Pg	17 42 00.3	+0.3
FUSS				S	Sg	17 42 06.7	+0.5
NDS	Dongshan	0.46	357	⇓iP	Pg	17 42 00.3	+0.3
NDS				S	Sg	17 42 06.7	+0.5
TEGC	Jichi Village	0.49	202	eP	Pb	17 42 01.9	+0.3
TEGC				S	Sb	17 42 10.2	+1.3
ENTT	Nioudou	0.50	341	⇓iP	Pg	17 42 00.9	+0.3
ENTT				S	Sg	17 42 07.8	+0.6
EOS2	EOS2	0.51	61	P	Pb	17 42 02.6	+0.8
TWT	Tachien	0.52	279	⇓iP	Pb	17 42 01.8	-0.5
TWT				S	Sb	17 42 09.0	-0.9
EOS4	EOS4	0.53	95	eP	Pn	17 42 03.8	-0.3
EOS4				S	Sn	17 42 12.9	0.0
EOS3	EOS3	0.54	77	eP	Pb	17 42 03.2	+0.9
TDCB	Techi	0.54	279	⇓P	Pb	17 42 01.8	-0.7
TDCB				eS	Sg	17 42 08.0	-0.6
TWE	Neicheng	0.55	353	⇓iP	Pg	17 42 00.2	+0.3
TWE				S	Sg	17 42 09.2	+0.1
WARBT	Fenglin Townsh	0.56	216	⇓iP	Pg	17 42 01.4	-0.3
WARBT				S	Sb	17 42 10.2	-0.4
OWD	Renai	0.56	248	⇓P	Pb	17 42 01.8	-0.1
OWD				eS	Sg	17 42 09.3	+0.1
EGFH	Guangfu	0.57	210	eP	Pg	17 42 02.2	+0.1
EGFH				eS	Sb	17 42 11.5	+0.3
ILA	Ilan	0.59	1	eP	Pb	17 42 03.1	-0.3
ILA				S	Sb	17 42 11.5	-0.3
WUSB	Renai	0.60	253	⇓P	Pg	17 42 02.7	+0.2
WUSB				S	Sg	17 42 10.4	-0.1
YHNB	Yeheng	0.60	326	P	Pb	17 42 03.1	-0.5
YHNB	Yeheng	0.60	326	S	Sg	17 42 10.1	-0.4
YHNB	Yeheng	0.60	326	⇓iP	Pb	17 42 03.0	-0.5
YHNB				eS	Sg	17 42 09.9	-0.6
FUSB	Fushanzhiwuyua	0.60	347	⇓iP	Pb	17 42 03.1	-0.5
FUSB				S	Sg	17 42 11.2	+0.5
NSK	Sanguang	0.61	325	⇓iP	Pb	17 42 03.1	-0.6
NSK				eS	Sg	17 42 10.9	0.0
NWLT	Wulai	0.64	340	⇓iP	Pb	17 42 03.7	-0.5
NWLT				S	Sg	17 42 11.9	0.0
VWDT	VWDT	0.69	233	⇓iP	Pg	17 42 04.2	0.0
VWDT				eS	Sb	17 42 14.2	-0.2
EGS		0.69	14	eP	Pb	17 42 04.7	-0.4
NFF	Wufeng Townshi	0.73	309	eP	Pb	17 42 05.5	-0.2
NFF				eS	Sb	17 42 15.1	-0.7
HGSD	Ruisui	0.73	203	eP	Pb	17 42 05.7	0.0
WHP	Taichung City	0.73	279	⇓P	Pb	17 42 05.7	-0.1
WHP				eS	Sb	17 42 15.7	-0.2
EHY	Hungye	0.76	210	eP	Pg	17 42 05.0	-0.6
EHYH	Wanrong	0.76	208	eP	Pg	17 42 05.2	-0.5
WCS	Beigang Elemen	0.77	262	eP	Pb	17 42 05.9	-0.3
WCS				eS	Sb	17 42 16.0	-0.7
KSHI	Guanxi Townshi	0.80	320	eP	Pb	17 42 07.3	+0.5
KSHI				eS	Sb	17 42 18.4	+0.8
TIPB	Shuangxi	0.80	5	⇓P	Pb	17 42 06.6	-0.3
TIPB				eS	Sg	17 42 16.9	-0.1
LIOB	Emei	0.81	306	eP	Pb	17 42 07.3	+0.2
LIOB				eS	Sb	17 42 17.6	-0.5
NHDH	Xindian Distri	0.81	346	eP	Pb	17 42 07.2	+0.1
SSLB	Suanglung	0.81	242	P	Pb	17 42 06.8	-0.3
SSLB	Suanglung	0.81	242	S	Sg	17 42 16.6	-0.7
SSLB	Suanglung	0.81	242	⇓iP	Pg	17 42 06.5	-0.2
SSLB				S	Sg	17 42 16.1	-1.1
NSTT	Nanjuang	0.82	304	eP	Pb	17 42 07.2	+0.1
NSTT				eS	Sb	17 42 17.6	-0.6
SMLT	Sun Moon Lake	0.82	250	⇓iP	Pb	17 42 06.9	-0.4
SMLT				S	Sg	17 42 17.5	0.0
TWA	Mucha	0.82	350	eP	Pb	17 42 07.4	+0.2
TWA				eS	Sb	17 42 18.0	-0.3
TATO	Taipei	0.84	344	P	Pb	17 42 07.6	+0.1
TATO	Taipei	0.84	344	S	Sb	17 42 18.4	-0.3
TYC	Yuchr	0.85	252	eP	Pg	17 42 07.2	-0.1
TYC				eS	Sg	17 42 17.1	-1.3
TWB1	Santiao Chiao	0.86	15	eP	Pb	17 42 07.8	-0.2
YULB	Yu-li	0.87	208	P	Pb	17 42 08.5	+0.4
YULB	Yu-li	0.87	208	S	Sg	17 42 18.8	-0.4
YULB	Yu-li	0.87	208	eP	Pg	17 42 06.5	-1.3
YULB				eS	Sn	17 42 21.0	-0.9
ECBN	Changbin	0.89	197	eP	Pb	17 42 08.4	0.0
ECBN				S	Sn	17 42 21.6	-0.7
TAP	Taipei	0.89	346	eP	Pb	17 42 08.7	+0.3
TAP				eS	Sb	17 42 20.6	+0.2
NWF	Wu-fen Shan	0.90	2	eP	Pb	17 42 08.7	+0.1
NWF				eS	Sg	17 42 19.6	-0.4
WFSB	Wu-fen Shan	0.90	2	eP	Pb	17 42 08.8	+0.2
WFSB				eS	Sg	17 42 19.4	-0.6
TWQ1	Liyutan	0.90	282	eP	Pn	17 42 09.3	-0.2
TWQ1				eS	Sn	17 42 22.6	0.0
EYUL	Yuli	0.91	205	eP	Pb	17 42 08.7	+0.1
EYUL				eS	Sn	17 42 22.8	+0.1
TWF1	Yuli	0.91	207	eP	Pg	17 42 07.3	-1.2
TWF1				eS	Sn	17 42 22.8	-0.1
NSY	Sanyi	0.93	286	eP	Pn	17 42 10.4	+0.5
NSY				eS	Sn	17 42 24.1	+0.8
SBCB	Hsinchu	0.93	312	eP	Pn	17 42 10.0	+0.1
SBCB				eS	Sn	17 42 25.5	+2.2
SXI1	Grass Mountain	0.93	7	⇓P	Pb	17 42 09.2	+0.1
SXI1				eS	Sg	17 42 20.1	-0.9
NMLH	Miaoli	0.94	293	eP	Pn	17 42 10.1	0.0
NMLH				eS	Sn	17 42 25.0	+1.4
NCUH	Zhongli	0.94	328	eP	Pn	17 42 10.2	0.0
NCUH				eS	Sn	17 42 23.6	0.0
NCU	National Centr	0.94	328	eP	Pg	17 42 05.6	-3.6
NCU				eS	Sg	17 42 20.7	-0.7
HSN	Hsinchu	0.94	312	eP	Pn	17 42 10.1	-0.1
HSN				eS	Sn	17 42 24.7	+1.0
TCU	Taichung	0.97	269	eP	Pn	17 42 11.6	+1.0
TCU				eS	Sn	17 42 25.1	+0.7
TWS1	Kuangyinshan	0.97	342	⇑P	Pn	17 42 10.8	+0.2
TWS1				eS	Sn	17 42 24.2	-0.2
TNOU	National Taiwa	0.98	2	eP	Pb	17 42 10.2	+0.3
YM01	YM01	0.99	351	eP	Pn	17 42 10.7	-0.1
YM01				eS	Sb	17 42 23.5	+0.4
WJS	Zhushan	0.99	250	eP	Pn	17 42 11.4	+0.6
ZUZH	Zhuzihu	1.00	350	eP	Pn	17 42 11.1	0.0
ZUZH				eS	Sb	17 42 23.8	+0.1
WNT	Mingjian	1.01	254	eP	Pn	17 42 11.6	+0.6
WNT				eS	Sn	17 42 25.9	+0.6
CHKH	Chenggong	1.02	198	eP	Pg	17 42 10.4	-0.2
CHKH				eS	Sn	17 42 25.5	-0.1
YM08	YM08	1.02	352	eP	Pn	17 42 11.2	-0.1
NTST	Danshui	1.03	345	eP	Pn	17 42 11.7	+0.4
NTST				eS	Sn	17 42 26.0	+0.3
ANP	Anpu	1.03	349	eP	Pn	17 42 11.5	0.0
FULB	Fuli	1.05	203	eP	Pb	17 42 11.1	0.0
ALS	Alishan	1.08	233	⇓P	Pb	17 42 11.7	-0.1
ALS				eS	Sn	17 42 28.1	+0.7
WCHH	Zhanghua	1.08	266	eP	Pn	17 42 12.9	+0.9
WCHH				eS	Sn	17 42 28.1	+1.0
WCH1	Changhua City	1.10	265	eP	Pn	17 42 13.5	+1.2
WCH1				eS	Sn	17 42 29.2	+1.9
TWY	Chenhua	1.11	353	eP	Pn	17 42 13.7	+1.2
CHKT	Chengkung	1.12	198	eP	Pb	17 42 11.6	-0.7
CHKT				eS	Sn	17 42 28.3	+0.3
CHN5	Tsauling	1.13	240	⇓P	Pn	17 42 13.2	+0.5
CHN5				eS	Sn	17 42 29.4	+1.1
JYNG	Yonagunijimaku	1.13	75	eP	Pg	17 42 12.8	+0.1
ELDTW	Lidau	1.18	214	eP	Pb	17 42 11.7	-1.7
ELDTW				eS	Sn	17 42 30.6	+1.0
WGK	Gukeng	1.18	246	eP	Pn	17 42 14.3	+0.9
WGK				eS	Sn	17 42 31.4	+1.9
WDL	Douliou City	1.19	248	eP	Pg	17 42 14.5	+0.8
WDL				eS	Sn	17 42 31.6	+1.9
YOJ	Yonaguni jima	1.19	76	P	Pn	17 42 13.8	+0.2
YOJ	Yonaguni jima	1.19	76	S	Sn	17 42 31.3	+1.5
YOJ	Yonaguni jima	1.19	76	eP	Pn	17 42 13.8	+0.2
YOJ				eS	Sn	17 42 30.9	+1.1
YOJ	Yonaguni jima	1.19	76	P	Pn	17 42 13.7	+0.2
YOJ				eS	Sn	17 42 30.9	+1.1
WDLH	Douliu	1.20	247	eP	Pg	17 42 14.6	+0.6
WDLH				eS	Sn	17 42 31.9	+1.9
EDH	Donghe	1.26	199	eP	Pn	17 42 13.0	-1.4
EDH				eS	Sb	17 42 30.9	+0.1
WCKO	Fanlu	1.27	235	eP	Pg	17 42 15.8	+0.4
WCKO				eS	Sn	17 42 34.3	+2.6
CHN2	Minshiung	1.32	242	eP	Pg	17 42 17.0	+0.7
CHN2				eS	Sg	17 42 35.3	+1.8
WTK	Tuku	1.33	249	eP	Pg	17 42 16.8	+0.4
WTK				S	Sg	17 42 35.6	+1.9
STYH	Taoyuan	1.33	222	eP	Pn	17 42 15.6	+0.1
STYH				eS	Sg	17 42 33.4	-0.4
TPUB	Ta-pu	1.34	230	P	Pg	17 42 16.6	0.0
TPUB	Ta-pu	1.34	230	⇑P	Pg	17 42 16.2	-0.4
TPUB				eS	Sg	17 42 35.3	+1.3
WTCT	Ta-ch'eng	1.37	258	eS	Sg	17 42 36.1	+1.1
LONT	Longtian	1.38	204	eP	Pn	17 42 15.6	-0.5
LONT				eS	Sg	17 42 34.8	-0.4
CHY	Chiayi	1.38	241	eP	Pg	17 42 17.7	+0.3
CHY				eS	Sg	17 42 37.0	+1.7
WTP	Ta-pu	1.38	229	eP	Pb	17 42 16.9	+0.1
WTP				eS	Sg	17 42 36.4	+1.0
TWK	Hsinying	1.46	232	⇓P	Pg	17 42 18.7	-0.2
TWK				eS	Sg	17 42 39.2	+1.4
TWG	Pinlang	1.48	205	eP	Pn	17 42 16.4	-1.1
TWGBT	Beinan	1.48	204	P	Pn	17 42 15.4	-2.1
TWGBT	Beinan	1.48	204	eP	Pn	17 42 15.4	-2.1
SNST	Tainan City	1.48	231	eS	Sg	17 42 40.0	+1.5
CHN1	Nanshi	1.48	229	eP	Pg	17 42 18.8	-0.5
CHN1				eS	Sg	17 42 39.6	+1.0
WSF	Szhu	1.49	250	eS	Sg	17 42 40.1	+1.3
LDUT	Ludao	1.51	190	eS	Sn	17 42 35.0	-2.6
WSL	Shuilin Townsh	1.53	245	eP	Pg	17 42 19.8	-0.4
WSL				eS	Sg	17 42 41.7	+1.6
CHN8	Yiju	1.62	240	eP	Pb	17 42 21.0	+0.1
CHN8				eS	Sg	17 42 44.4	+1.2
SSHA	Shanhua	1.68	233	eS	Sg	17 42 46.3	+1.2
SCST	Cishan	1.72	222	eP	Pb	17 42 22.6	+0.1
SCST				eS	Sg	17 42 47.6	+1.5
ECL	Taimali	1.72	205	eP	Pn	17 42 20.4	-0.5
SCLT	Jiali	1.73	235	eS	Sg	17 42 46.9	+0.3
SSD	Sandimen	1.75	216	eP	Pb	17 42 22.2	-0.8
SSD				eS	Sb	17 42 45.8	+0.9
TSMG	Majia	1.77	215	eP	Pb	17 42 23.3	-0.1
TWM1	Shoushan	1.81	222	eP	Pg	17 42 24.9	-0.7
TWM1				eS	Sg	17 42 52.7	+3.7
IRIF	Iriomote-Funau	1.82	84	eP	Pg	17 42 22.3	+0.1
TSCK	Chigu Township	1.83	237	eP	Pb	17 42 23.5	-0.9
TSCK				eS	Sg	17 42 49.1	-0.6
MASBT	Mashibuluo	1.85	214	eP	Pn	17 42 22.7	0.0
MASBT				eS	Sb	17 42 48.3	+0.2
SCZT	Fangliau	2.06	210	eP	Pb	17 42 27.1	-1.3
SCZT				eS	Sg	17 42 55.6	-1.7
JKRS	Kuro-shima	2.07	88	eP	Pn	17 42 26.8	+1.1
PNG	Penghu	2.09	254	eP	Pn	17 42 26.7	+0.8
PNG				eS	Sb	17 42 53.5	-1.3
PHUB	P'eng-hu	2.09	252	eP	Pn	17 42 27.2	+1.3
PHUB				eS	Sb	17 42 53.7	-1.2
WDGT	Dungji	2.11	245	eP	Pn	17 42 27.3	+1.1
WDGT				eS	Sb	17 42 54.4	-1.1
LAY	Lan-yu	2.13	185	eP	Pn	17 42 26.1	-0.3
LAY				eS	Sn	17 42 50.3	-2.6
LYUB	Lan-yu	2.16	184	eS	Sn	17 42 49.7	-4.0
JIJ	Ishigaki jima	2.20	84	eP	Pn	17 42 27.7	+0.3
TWK1	Hengchun	2.38	201	eP	Pb	17 42 32.8	-1.0
TWK1				eS	Sn	17 42 59.4	+0.3
TWKBT	Hengchun	2.38	201	eP	Pn	17 42 31.9	+2.0
TWKBT				eS	Sn	17 43 01.1	+2.0
JISG	Ishigakijimahi	2.38	79	eP	Pn	17 42 30.3	+0.4
PTMZ	Houxiangcun	2.54	291	eP	Pn	17 42 31.9	-0.1
PTMZ				eS	Sn	17 43 02.9	-0.1
MATB	Ma-tsu	2.56	321	eP	Pn	17 42 32.1	-0.3
MATB				eS	Sn	17 43 03.3	-0.2
KNMB	Chin-men Tao	3.07	276	eP	Pn	17 42 39.5	0.0
AXDP	Jialang	3.51	283	eP	Pn	17 42 45.6	+0.1
AXDP				eS	Sn	17 43 26.0	-1.1
DSXP	Dongshan	3.98	264	eP	Pn	17 42 51.6	-0.2
DSXP				eS	Sn	17 43 37.7	-0.8
SXFK	Yanhouchang	4.32	302	eP	Pn	17 42 56.7	0.0
SXFK				eS	Sn	17 43 45.5	-1.7

SDD 25 18:00:34.7±0.9, 18°.96N×69°.03W, h81km±5km, MD3.0, ML2.2, MW3.3, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	Miches	0.03	318	⇑ePg	Pn	18 00 46.1	-0.1
MIDR				IAML		18 01 04.4	
	comp=N,24nm,2.3s						
MIDR	Miches	0.03	318	ePg	Pn	18 00 51.8	+5.6
MIDR				IAML		18 01 42.9	
	comp=N,31nm,2.2s						
SMDR	Samana, DR	0.36	335	ePg	Pn	18 00 47.2	-0.3
SMDR				⇑eSg	Sn	18 00 55.4	-1.6
SMDR				IAML		18 01 00.3	
	comp=N,77nm,0.8s						
SMDR	Samana, DR	0.36	335	⇑ePg	Pn	18 00 49.0	+1.4
SMDR				⇑eSg	Sn	18 00 56.7	-0.3
SMDR				IAML		18 01 00.3	
	comp=N,77nm,0.8s						
HATOM	Hato Mayor del	0.38	243	ePg	Pn	18 00 47.2	-0.4
HATOM				⇓eSg	Sn	18 00 55.7	-1.5
HATOM				IAML		18 01 17.2	
	comp=N,20nm,1.9s						
HATOM	Hato Mayor del	0.38	243	⇑ePg	Pn	18 00 50.5	+2.9
HATOM				IAML		18 01 01.0	
	comp=N,16nm,0.8s						
DR08	Loma La Naviza	0.94	270	⇑eSg	Sn	18 01 00.2	-6.8
DR08				IAML		18 01 01.1	
	comp=N,404nm,0.1s						
BANI	BANI	1.38	246	ePg	Pn	18 00 57.5	-1.2
BANI				⇑eSg	Sn	18 01 14.9	-1.8
BANI				IAML		18 01 52.6	
	comp=N,48nm,1.8s						
SODR	Sosua Marina B	1.66	299	⇑eSg	Sn	18 01 20.3	-2.7
SODR				IAML		18 02 02.8	
	comp=N,128nm,1.5s						
CRPR	Cabo Rojo, PR	2.05	117	ePg	Pn	18 01 06.1	-1.1
CRPR				IAML		18 02 12.7	
	comp=N,43nm,3.4s						
REDR	Restauracion	2.25	276	⇑eSg	Sn	18 01 45.0	+8.1
REDR				IAML		18 01 48.0	
	comp=N,13nm,0.8s						
MCDR	Montecristi	2.65	291	ePg	Pn	18 01 13.9	-1.4
MCDR				IAML		18 02 02.5	
	comp=N,54nm,1.5s						

*IDC **25** 18:07:41.6±0.8, 31°.62S×58°.42E, h0km, mb4.0/9, mbtmp4.0/9, MS3.3/1, Error ellipse: s-maj=26.5km s-min=22.9km az=113.0*
*NEIC **25** 18:07:42.1±1.1, 31°.7S±0°.1×58°.3E±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=24.5km s-min=22.1km az=237.0*

ISC 25 18:07:42.8±0.7, 31°.6S±0°.1×58°.3E±0°.1, h14km, n38, σ1§15/28, mb4.2/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	Vohitsoka	14.03	310	Pn	Pn	18 10 58.5	-2.8
H04N2	CROZET ISLANDS	15.43	197	T	T	18 27 07.6	
	baz=22,slow=74,SNR=860						
H04N1	CROZET ISLANDS	15.43	197	T	T	18 27 12.3	
	baz=22,slow=74,SNR=924						
H04N3	CROZET ISLANDS	15.45	197	T	T	18 27 11.2	
	baz=22,slow=74,SNR=761						
ABPO	Ambohimpanom	15.96	319	Pn	Pn	18 11 24.9	-2.2
H08S1	Diego Garcia H	27.23	32	T	T	18 41 43.6	
	baz=213,slow=74						
H08S2	Diego Garcia H	27.24	32	T	T	18 41 44.5	
	baz=213,slow=74						
H08S3	Diego Garcia H	27.25	32	T	T	18 41 45.2	
	baz=213						
QNGWA	Qangwa	35.37	281	P	P	18 14 38.2	-0.1
TSUM	Tsumeb	38.54	279	P	P	18 15 06.2	+0.9
TSUM	Tsumeb	38.54	279	P	P	18 15 06.7	+1.4
	2.3nm,0.9s,baz=128,slow=9.9,SNR=3.9						
TSUM				LR	LR	18 30 00.5	
	comp=Z,36nm,18.1s,baz=97,slow=35						
	2.3nm,0.9s						
H01W2	Cape Leeuwin H	46.35	110	T	T	19 05 16.9	
	baz=257,slow=75,SNR=42						
H01W3	Cape Leeuwin H	46.36	110	T	T	19 05 14.3	
	baz=257,slow=75,SNR=43						
H01W1	Cape Leeuwin H	46.37	110	T	T	19 05 14.4	
	baz=257,slow=75,SNR=54						
SNAA	Sanae	51.36	201	P	P	18 16 45.6	-1.0
SNAA				IAmb	IAmb	18 17 08.4	
	comp=Z,6.7nm,1.4s						
SNAA	Sanae	51.36	201	P	P	18 16 46.6	0.0
	comp=Z,1.2nm,1.0s,baz=73,slow=8.5,SNR=4.3						
	comp=Z,1.2nm,1.0s						
QSPA	South Pole Qui	58.62	180	P	P	18 17 37.7	-1.6
QSPA				IAmb	IAmb	18 17 54.2	
	comp=Z,3.7nm,1.1s						
QSPA	South Pole Qui	58.62	180	P	P	18 17 41.4	+2.2
	comp=Z,0.9nm,0.7s,baz=260,slow=5.5,SNR=5.6						
	comp=Z,0.9nm,0.7s						
CM31	Chiang Mai Arr	63.21	44	P	P	18 18 10.2	-0.6
CM31				IAmb	IAmb	18 18 13.5	
	comp=Z,4.5nm,0.9s						
CMAR	Chiang Mai Arr	63.21	44	P	P	18 18 10.0	-0.8
CMAR	Chiang Mai Arr	63.21	44	P	P	18 18 12.2	+1.4
	comp=Z,2.1nm,0.9s,baz=233,slow=7.3,SNR=16						
	comp=Z,2.1nm,0.9s						
ASAR	Alice Springs	66.31	104	P	P	18 18 29.6	-1.6
ASAR	Alice Springs	66.31	104	P	P	18 18 30.8	-0.4
	comp=Z,1.1nm,0.8s,baz=237,slow=5.7,SNR=13						
	comp=Z,1.1nm,0.8s						
AS31	Alice Springs	66.31	104	P	P	18 18 30.1	-1.1
AS31				IAmb	IAmb	18 18 34.0	
	comp=Z,2.9nm,1.5s						
WRA	Warramunga Arr	68.30	101	P	P	18 18 43.5	-0.3
	comp=Z,1.5nm,0.9s,baz=240,slow=5.5,SNR=8.6						
	comp=Z,1.5nm,0.9s						
WB0	Warramunga Arr	68.43	101	P	P	18 18 44.0	-0.6
WR8	Warramunga Arr	68.43	101	P	P	18 18 43.6	-1.1
KK31	Karatay Array	75.13	9	P	P	18 19 25.0	+0.7
KK31				IAmb	IAmb	18 19 58.5	
	comp=Z,3.2nm,1.5s						
KKAR	Karatay Array	75.13	9	P	P	18 19 24.7	+0.4
KDJ	Kajisay	75.36	14	P	P	18 19 26.7	+0.9
KDJ				IAmb	IAmb	18 19 28.8	
	comp=Z,4.2nm,0.9s						
PRZ	Przheval'sk	75.96	15	P	P	18 19 29.2	0.0
AB31	Akbulak array	80.45	1	P	P	18 19 54.2	+0.5
ABKAR	Akbulak array	80.45	1	P	P	18 19 53.9	+0.2
MKAR	Makanchi Array	80.94	16	P	P	18 19 56.4	-0.1
MKAR	Makanchi Array	80.94	16	P	P	18 19 57.2	+0.7
	comp=Z,0.8nm,0.9s,baz=184,slow=3.8,SNR=4.5						
	comp=Z,0.8nm,0.9s						
KURBB	Kurchatov Arra	83.75	13	P	P	18 20 12.4	+1.4
	comp=Z,1.3nm,0.9s,baz=204,slow=5.7,SNR=8.1						
	comp=Z,1.3nm,0.9s						
KURK	Kurchatov	83.86	13	P	P	18 20 11.7	+0.1
KURK				IAmb	IAmb	18 20 15.1	
	comp=Z,2.6nm,1.1s						
BVAR	Borovoye Array	84.88	7	P	P	18 20 18.9	+2.2
	comp=Z,1.8nm,0.9s,baz=181,slow=8.6,SNR=6.0						
	comp=Z,1.8nm,0.9s						

*IDC **25** 18:10:26.9±1.2, 1°.69N×91°.01W, h0km, mb3.9/7, mbtmp4.0/9, ML3.5/2, MS3.8/36, Error ellipse: s-maj=41.7km s-min=19.0km az=45.0*
*NEIC **25** 18:10:28.1±2.0, 1°.64N±0°.07×90°.8W±0°.1, h10km±1km, mb4.4/52, Error ellipse: s-maj=20.2km s-min=12.0km az=259.0*
*GCMT **25** 18:10:31.1±0.4, 1°.87N±0°.02×90°.82W±0°.03, h21km±1km, MW4.8/85, Moment Tensor Solution. s13,c15; s85,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.24±.10; $M_{\theta\theta}$0.55±.08; $M_{\phi\phi}$-0.30±.09; $M_{r\theta}$-0.23±.15; $M_{\theta\phi}$-1.65±.07; $M_{r\phi}$0.57±.16; Best double couple: $M_0$1.80500×10^{16} NP1:ϕ_s262.00000°, δ71.00000°, λ180.00000°. NP2: ϕ_s352.00000°, δ90.00000°, λ19.00000°. Principal axes: T 1.9530, Plg14.0000°, Azm219.0000°; N -0.2970, Plg71.0000°, Azm354.0000°; P -1.6560, Plg13.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 18:10:27.6±0.6, 1°.65N±0°.07×90°.82W±0°.08, h10km, n111, σ1§62/73, mb4.4/29, MS3.8/33, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	2.37	167		Pn	18 11 06.4	-0.2
JTS	Las Juntas de	10.38	34	LR	LR	18 15 56.3	
	comp=Z,μm,19.1s,baz=217,slow=32						
BRU2	Volcan	10.76	48	Pn	Pn	18 13 01.7	-0.2
COHC	Cochancay	12.26	109	Pn	Pn	18 13 21.3	-1.1
OTAV	Otavalo	12.45	96		Pn	18 13 23.8	-1.6
SLOR	San Lorenzo -	12.54	101	Pn	Pn	18 13 24.7	-2.0
MTO3	Montecristo	12.75	6		Pn	18 13 29.4	+0.1
APG	El Apazote	13

DUN6	Lazy B Ranch	35.22 333	P	P	18 17 22.5	+0.1
Y22A	Socorro	35.50 337	P	P	18 17 24.6	-0.2
Y22A			IAmb	IAmb	18 17 31.6	
	comp=Z,5.6nm,1.1s					
BNM	Barren Site	35.55 337		P	18 17 24.3	-1.0
LENM	Lemitar	35.70 337	P	P	18 17 25.5	-1.0
ANMO	Albuquerque	36.19 338	P	P	18 17 29.9	-0.8
ANMO	Albuquerque	36.19 338	LR	LR	18 31 33.2	
	comp=Z,170nm,18.7s,baz=251,slow=35					
CCM	Cathedral Cave	36.23 359	P	P	18 17 30.1	-0.7
RTBA	Rita Blanca	36.33 344	P	P	18 17 29.9	-1.9
RTBA			IAmb	IAmb	18 17 38.3	
	comp=Z,7.2nm,1.0s					
T25A	Trinidad	37.48 342	P	P	18 17 41.4	-0.3
T25A			IAmb	IAmb	18 17 48.6	
	comp=Z,6.1nm,0.9s					
P40A	Paris	37.72 358	P	P	18 17 43.6	+0.2
P40A			IAmb	IAmb	18 17 52.6	
	comp=Z,8.7nm,0.9s					
MDP	Montagnes des	38.26 84	LR	LR	18 33 47.0	
	comp=Z,118nm,18.1s,baz=302,slow=36					
SDCO	Great Sand Dun	38.38 341	P	P	18 17 50.3	+0.9
WUAZ	Wupatki	38.73 333		P	18 17 53.3	+1.0
WUAZ			IAmb	IAmb	18 17 59.1	
	comp=Z,9.0nm,1.1s					
MVCO	Mesa Verde	38.96 337	P	P	18 17 53.0	-1.3
PFO	Pinyon Flats O	39.84 326	LR	LR	18 31 34.1	
	comp=Z,79nm,20.1s,baz=128,slow=32					
PV13	Radium Mtn., P	39.91 338	P	P	18 18 02.2	0.0
PV02	Paradox Valley	39.92 338	P	P	18 18 03.1	+0.8
PV02			IAmb	IAmb	18 18 08.6	
	comp=Z,10.0nm,1.1s					
PV03	Paradox Valley	40.01 338	P	P	18 18 04.6	+1.7
PV18	Skein Mesa, Pa	40.02 338		P	18 18 03.8	+0.7
PV18			IAmb	IAmb	18 18 31.4	
	comp=Z,13nm,1.5s					
PV12	Saucer Basin,	40.05 338	P	P	18 18 04.3	+1.1
PV12			IAmb	IAmb	18 18 10.1	
	comp=Z,9.4nm,0.9s					
PV23	Carpenter Ridg	40.24 338	P	P	18 18 06.2	+1.3
PV23			IAmb	IAmb	18 18 11.6	
	comp=Z,9.9nm,0.9s					
ISCO	Idaho Springs	40.29 342		P	18 18 06.5	+1.1
QSM	Queen of Sheba	41.82 328	P	P	18 18 18.0	+0.3
QSM			IAmb	IAmb	18 18 24.4	
	comp=Z,8.8nm,1.4s					
TMUT	Trail Mountain	41.83 336	P	P	18 18 19.0	+0.9
TMUT			IAmb	IAmb	18 18 24.4	
	comp=Z,8.3nm,1.2s					
CPUP	Villa Florida	42.65 133	P	P	18 18 25.2	+0.6
CPUP	Villa Florida	42.65 133	P	P	18 18 26.3	+1.8
	comp=Z,0.6nm,0.6s,baz=293,slow=13,SNR=4.8					
CPUP			LR	LR	18 37 09.2	
	comp=Z,36nm,21.4s,baz=180,slow=37					
	comp=Z,0.6nm,0.6s					
BSUT	Blindstream Ca	42.72 337		P	18 18 26.5	+1.2
BSUT			IAmb	IAmb	18 18 32.0	
	comp=Z,8.3nm,1.0s					
TCUT	Toone Canyon	43.47 337	IAmb	IAmb	18 18 40.8	
	comp=Z,11nm,1.1s					
SADO	Sadowa	44.16 12	LR	LR	18 36 06.3	
	comp=Z,468nm,19.1s,baz=330,slow=35					
PDAR	Pinedale Array	44.24 340	P	P	18 18 37.6	+0.1
PDAR	Pinedale Array	44.24 340	P	P	18 18 38.2	+0.7
	comp=Z,0.7nm,0.8s,baz=144,slow=7.2,SNR=4.7					
PDAR			LR	LR	18 36 39.2	
	comp=Z,77nm,18.5s,baz=145,slow=36					
	comp=Z,0.7nm,0.8s					
NVAR	Mina Array Bea	44.42 329	LR	LR	18 34 24.8	
	comp=Z,42nm,21.7s,baz=91,slow=32					
ELK	Elko	44.75 334	IAmb	IAmb	18 18 47.9	
	comp=Z,4.0nm,1.1s					
ELK	Elko	44.75 334	LR	LR	18 36 07.5	
	comp=Z,88nm,18.8s,baz=156,slow=34					
FXWY	Fox Creek	45.52 339		P	18 18 48.3	+0.7
FXWY			IAmb	IAmb	18 18 51.2	
	comp=Z,3.9nm,1.1s					
BDFB	Brasilia	45.66 114	LR	LR	18 38 40.9	
	comp=Z,198nm,18.6s,baz=301,slow=37					
PLCA	Paso Flores	46.05 159	LR	LR	18 34 28.3	
	comp=Z,74nm,18.9s,baz=346,slow=31					
YHL	Hebgen Lake	46.63 340		P	18 18 56.6	+0.2
YHL			IAmb	IAmb	18 19 00.3	
	comp=Z,8.0nm,1.3s					
HLID	Hailey	46.72 336	IAmb	IAmb	18 19 03.1	
	comp=Z,4.1nm,0.9s					
ULM	Lac du Bonnet	48.61 356	LR	LR	18 40 13.8	
	comp=Z,116nm,18.5s,baz=178,slow=37					
PINE	Pine Mountain	49.77 332	IAmb	IAmb	18 19 26.5	
	comp=Z,5.7nm,0.9s					
TAOE	Nuku Hiva Isla	50.25 257	eLR	LR	18 33 48.1	
	comp=Z,121nm,26.0s					
NEW	Newport	51.68 338	LR	LR	18 41 21.1	
	comp=Z,60nm,18.9s,baz=115,slow=36					
RCBR	Riachuelo	55.34 98	LR	LR	18 44 21.5	
	comp=Z,56nm,18.1s,baz=260,slow=37					
PPT	Papeete	60.92 249	LR	LR	18 40 24.8	
	comp=Z,75nm,20.0s,baz=4.5,slow=30					
PPT2	Papeete2	60.93 249	eS	S	18 28 52.3	-7.7
	comp=Z,40nm,28.2s					
PPT2			eLQ	LQ	18 36 03.8	
	comp=Z,336nm,40.2s					
PPT2			eLR	LR	18 38 39.0	
	comp=Z,121nm,29.0s					
PPT2			eLR	LR	18 38 40.2	
	comp=Z,108nm,26.2s					
TBI	Tubuai	62.17 243	eS	S	18 29 22.8	+7.3
	comp=Z,537nm,35.5s					
TBI			eLQ	LQ	18 36 41.7	
	comp=Z,693nm,31.5s					
TBI			eLR	LR	18 39 20.8	
	comp=Z,705nm,27.0s					
FRB	Frobisher Bay	64.09 11	LR	LR	18 48 36.0	
	comp=Z,120nm,18.9s,baz=171,slow=36					
G29M	Pine Creek	72.89 342		P	18 21 57.5	+0.9
RES	Resolute Bay	72.99 359	LR	LR	18 53 07.2	
	comp=Z,46nm,21.1s,baz=16,slow=35					
J26L	Joseph Creek	73.28 339		P	18 21 59.8	+0.7
J26L			IAmb	IAmb	18 22 05.0	
	comp=Z,5.6nm,1.0s					
ILAR	Eielson Array	74.63 338	P	P	18 22 06.6	-0.2
ILAR	Eielson Array	74.63 338	P	P	18 22 06.8	0.0
	comp=Z,1.9nm,0.8s,baz=137,slow=4.5,SNR=13					
	comp=Z,1.9nm,0.8s					
BMAR	Burnt Mountain	75.26 341	P	P	18 22 10.6	+0.2
H24K	Noodor Dome	75.53 339	P	P	18 22 12.1	0.0
H24K			IAmb	IAmb	18 22 28.5	
	comp=Z,4.1nm,1.3s					
BORG	Borgarnes	79.86 24	LR	LR	18 56 35.9	
	comp=Z,60nm,18.1s,baz=183,slow=35					
DBIC	Dimbokro	85.80 83	LR	LR	18 57 58.4	
	comp=Z,34nm,19.8s,baz=280,slow=33					
MDT	Midelt	85.93 57	LR	LR	19 01 22.6	
	comp=Z,30nm,18.0s,baz=270,slow=36					
ESDC	Sonseca Array	86.53 51	P	P	18 23 11.6	+0.4
	comp=Z,0.4nm,0.8s,baz=276,slow=4.6,SNR=4.2					
ESDC			LR	LR	18 56 27.7	
	comp=Z,40nm,19.3s,baz=288,slow=32					
	comp=Z,0.4nm,0.8s					
QSPA	South Pole Qui	91.68 180	LR	LR	18 57 37.6	
	comp=Z,50nm,18.9s,baz=104,slow=31					
URZ	Urewera	92.64 232	LR	LR	18 57 42.1	
	comp=Z,71nm,18.1s,baz=327,slow=31					
NOA	NORSAR Array B	94.38 29	LR	LR	19 06 28.3	
	comp=Z,28nm,18.1s,baz=265,slow=36					
VNDA	Vanda	95.32 192	LR	LR	18 57 05.9	
	comp=Z,47nm,18.9s,baz=96,slow=29					
HFS	Hagfors	95.77 29	LR	LR	19 02 22.3	
	comp=Z,45nm,21.7s,baz=301,slow=32					
ARCES	ARCESS Array B	97.42 19	LR	LR	19 06 27.5	
	comp=Z,51nm,18.0s,baz=147,slow=34					
GERES	GERESS Array B	98.28 40	LR	LR	19 02 47.0	
	comp=Z,64nm,18.8s,baz=290,slow=32					
H11S2	WAKE ISLAND Hyl	01.30 289	T	T	20 17 09.1	
	baz=81,slow=77,SNR=7.3					
H11S1	WAKE ISLAND Hyl	01.30 289	T	T	20 17 14.1	
	baz=81,slow=77,SNR=7.6					
H11S3	WAKE ISLAND Hyl	01.31 289	T	T	20 17 22.2	
	baz=81,slow=77,SNR=6.1					
WRA	Warramunga Arr	132.28 244	PKP	PKPdf	18 29 43.5	+0.5
	comp=Z,0.3nm,0.8s,baz=115,slow=1.4,SNR=4.6					
CMAR	Chiang Mai Arr	157.83 335	PKPab	PKPab	18 30 58.6	+0.6
	comp=Z,0.4nm,0.7s,baz=21,slow=4.8,SNR=2.7					

*CATAC **25** 18:20:19.3±0.4, 12°N±2°×8°8W±°, h13km±2km, M4.1/23,*
MLv4.1/23, Error ellipse: s-maj=4.8km s-min=3.2km
az=53.0, confirmed
*SNET **25** 18:20:20.1±0.6, 12°.03N×87°.77W, h19km, ML3.7*
*UCR **25** 18:20:21.5±1.1, 12°.10N×87°.61W, h20km±9km, MW4.0*
*NEIC **25** 18:20:21.8±1.1, 12°.11N±0°.07×87°.59W±0°.04, h39km±19km,*
mb4.1/13, Error ellipse: s-maj=10.4km s-min=5.1km
az=173.0
*IDC **25** 18:20:23.2±1.9, 12°.45N×87°.15W, h52km±32km, mb3.5/3,*
mbtmp3.7/5, ML3.5/2, MS3.0/1, Error ellipse:
s-maj=112.8km s-min=11.8km az=41.0
ISC 25 18:20:20.1±1.3, 12°.05N±0°.04×87°.66W±0°.04, h30km±10km,
n82, σ1°37/102, mb4.1/10, 9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	Leon	0.88	62	S	Sn	18 20 49.5	+1.3
ALEN	Leon	0.88	62	P	Pn	18 20 36.5	+0.1
CRIN	San Cristobal	0.88	42		Pn	18 20 37.4	+0.8
CRIN	San Cristobal	0.88	42	S	Sn	18 20 49.8	+1.4
CRIN	San Cristobal	0.88	42	⇓P	Pn	18 20 37.6	+1.0
CRIN	San Cristobal	0.88	42	eP	Pn	18 20 37.0	+0.5
PKGN	Cerro Pekin	0.91	47	⇓P	Pn	18 20 37.4	+0.5
PKGN				S	Sn	18 20 51.4	+2.3
CSGN	Cosiguina Volc	0.93	6	⇓P	Pn	18 20 37.6	+0.4
CSGN				S	Sn	18 20 51.1	+1.5
CSGN	Cosiguina Volc	0.93	6	eP	Pn	18 20 37.5	+0.2
POTN	Potosi Cosigui	0.96	9	⇓P	Pb	18 20 38.0	-0.2
POTN				S	Sn	18 20 50.7	+0.5
POTN	Potosi Cosigui	0.96	9	eP	Pb	18 20 37.7	-0.6
HERN	Volcan Telica	0.99	55		Pn	18 20 37.3	-0.7
POLN	Al Sur del Vol	1.02	54	⇓P	Pb	18 20 38.5	-0.8
POLN				S	Sn	18 20 52.9	+1.1
CNGA	Al SSO del Vol	1.04	64	P	Pb	18 20 39.6	+0.1
CNGA				S	Sn	18 20 54.2	+1.9
CNGN	Cerro Negro	1.04	64		Pn	18 20 38.6	-0.1
CNGN	Cerro Negro	1.04	64	S	Sn	18 20 54.5	+2.2
CNGN	Cerro Negro	1.04	64	P	Pb	18 20 39.4	-0.2
CNGN	Cerro Negro	1.04	64	eP	Pn	18 20 38.8	0.0
COPN	Copaltepe	1.05	83	⇓P	Pb	18 20 39.6	-0.1
COPN	Copaltepe	1.05	83	⇓eP	Pb	18 20 39.4	-0.4
MOM2	El Cardon	1.22	71	⇓P	Pb	18 20 41.7	-0.8
MOM2				S	Sb	18 20 58.7	+0.8
CNCH	Conchagua	1.23	352	eP	Pn	18 20 41.9	+0.5
CNCH				eS	Sb	18 20 59.8	+1.3
LCND	La Caada	1.28	350	eP	Pb	18 20 42.7	-0.8
CRUN	El Crucero	1.33	93	P	Pn	18 20 43.8	+1.0
APQN	BB Volcan Apoy	1.34	82	P	Pn	18 20 42.8	0.0
APQN	BB Volcan Apoy	1.34	82	S	Sb	18 21 01.7	+0.2
USIM	UNAN	1.36	87	Pn	Pn	18 20 43.3	+0.2
UNAN	Cigeo UNAN	1.36	87	P	Pb	18 20 44.2	-0.8
UNAN				S	Sb	18 21 03.2	+1.1
TISN	Laguna Tiscapa	1.36	86	P	Pb	18 20 44.3	-0.7
MGAN	Managua	1.39	86		Pn	18 20 43.2	-0.2
MGAN	Managua	1.39	86	eP	Pn	18 20 44.2	+0.8
MGAN				eS	Sb	18 21 03.1	+0.4
WILN	Americas 2	1.45	85	P	Pn	18 20 45.2	+1.0
WILN				S	Sb	18 21 04.8	+0.3
MAS3	Al N del Volca	1.45	91	P	Pn	18 20 45.3	+0.9
MAS3				S	Sb	18 21 04.6	-0.1
MASN	Masaya	1.48	92	P	Pb	18 20 46.2	-0.8
MASN				S	Sb	18 21 06.3	+0.9
LCY	Lacayo	1.50	336	eP	Pn	18 20 45.5	+0.4
PACA	Pacayal	1.56	336	S	Sb	18 21 07.1	-0.6
PACA	Pacayal	1.56	336	P	Pn	18 20 46.8	+0.9
LIMN	Finca el Limon	1.62	51	⇓P	Pn	18 20 47.5	+0.8
LIMN				S	Sb	18 21 09.6	+0.1
NADN	Granada	1.62	100	eP	Pn	18 20 47.5	+0.8
OCON	Estacion meteo	1.95	36	P	Pn	18 20 52.5	+1.2
OCON				S	Sb	18 21 17.7	-1.4
BOAB	BOACO BROADBAN	.99	78		Pn	18 20 51.9	+0.2
MORN	Al O del Volca	2.03	104	P	Pn	18 20 53.1	+0.8
MORN				S	Sb	18 21 19.8	-1.5
TGUH	Tegucigalpa,Un	2.04	11		Pn	18 20 53.3	+0.8
RCFN	Al S de San Ju	2.04	44	P	Pn	18 20 54.0	+1.4
RCFN				S	Sb	18 21 20.8	-1.0
CONN	Concepcion	2.05	103	P	Pn	18 20 53.2	+0.6
CONN				S	Sb	18 21 20.1	-1.6
RCON	San Juan de Ri	2.05	46	P	Pn	18 20 54.0	+1.3
OMEN	Al SSO del Vol	2.06	105	P	Pn	18 20 51.6	-1.2
OMEN				S	Sb	18 21 21.0	-1.2
RCVN	Varillal2	2.10	43	P	Pn	18 20 54.7	+1.4
RCVN	Varillal2	2.10	43	S	Sb	18 21 21.5	-1.8
BOQS	Boqueron	2.31	317	eP	Pn	18 20 57.0	+0.7
JAYA	Jayaque - finc	2.37	313	eP	Pn	18 20 57.1	0.0
BUAI	Buenos Aires	2.56	117	eP	Pn	18 21 03.1	+3.5
JUD3	Juan Diaz 3	2.80	132		Pn	18 21 03.8	+0.8
CUI	Cuipilapa	2.81	119	eP	Pn	18 21 05.1	+2.0
MTO3	Montecristo	2.87	325		Pn	18 21 04.2	+0.2
TENO	El Achiote	2.95	117	eP	Pn	18 21 07.4	+2.4
ESQI	Esquipulas	2.99	327	Pn	Pn	18 21 06.8	+1.3
CHIK	Chiripa	3.14	120	eP	Pn	18 21 10.7	+3.1
JTS	Las Juntas de	3.18	123	P	Pn	18 21 08.7	+0.6
	8.3nm,0.3s,baz=312,slow=16,SNR=11						
JTS				S	Sn	18 21 44.6	-0.5
	26nm,0.4s,baz=282,slow=21,SNR=5.0						
	9.3nm,0.3s						
SIUN	Universidad Ur	3.27	59		Pn	18 21 09.7	+0.3
APG	El Apazote	4.01	317	P	Pn	18 21 23.6	+3.9
	0.2nm,0.5s,baz=142,slow=12,SNR=1.4						
APG				S	Sn	18 22 03.2	-2.7
	0.9nm,0.7s,baz=164,slow=11,SNR=3.8						
BUS1	Rivas	4.57	122	eP	Pn	18 21 30.3	+2.6
PIRO	Carate, Puerto	5.59	130		Pn	18 21 42.5	+1.2
CMIG	Matias Romero	8.60	307	P	Pn	18 22 29.0	+6.3
	0.3nm,0.3s,baz=148,slow=9.5,SNR=1.9						
CMIG				S	Sn	18 24 05.4	+6.6
	1.1nm,0.4s,baz=76,slow=22,SNR=1.5						
CMIG				LR	LR	18 26 20.3	
	comp=Z,94nm,20.4s,baz=150,slow=41						
	1.5nm,0.4s						
GOGA	Godfrey	21.61	10	P	P	18 25 09.2	+1.5
GOGA				IAmb	IAmb	18 25 11.6	
	comp=Z,7.3nm,0.8s						
GCPR	Guaynabo City	21.73	71	P	P	18 25 07.9	-1.2
Y49A	Blount Mountai	21.74	3	P	P	18 25 08.2	-0.9
Y49A				IAmb	IAmb	18 25 22.7	
	comp=Z,5.7nm,0.9s						
TXAR	Lajitas Array	22.76	322		P	18 25 21.1	+0.9
TXAR	Lajitas Array	22.76	322	P	P	18 25 20.7	+0.6
	comp=Z,6.2nm,0.8s,baz=130,slow=6.5,SNR=45						
	comp=Z,6.2nm,0.8s						
TX31	Lajitas Ar. Si	22.76	322	P	P	18 25 20.9	+0.7
TX31				IAmb	IAmb	18 25 22.3	
	comp=Z,6.8nm,0.9s						
JSC	Jenkinsville	22.89	14	P	P	18 25 20.3	-1.1
JSC				IAmb	IAmb	18 25 23.6	
	comp=Z,9.5nm,1.0s						
WHAR	Wooly Hollow	23.52	350	P	P	18 25 27.6	0.0
WHAR				IAmb	IAmb	18 25 48.5	
	comp=Z,8.9nm,1.3s						
ODSA	Odessa	24.22	328	P	P	18 25 34.5	+0.1
ODSA				IAmb	IAmb	18 25 36.4	
	comp=Z,7.9nm,0.9s						
POST	Post	24.47	331		P	18 25 36.1	-0.5
WMOK	Wichita Mounta	24.75	338	P	P	18 25 38.2	-0.9
MNTX	Cornudas Mount	25.48	323	P	P	18 25 46.5	+0.7
MSTX	Muleshoe	25.81	330		P	18 25 48.6	-0.3
CCM	Cathedral Cave	26.10	354	P	P	18 25 50.1	-1.2
CCM				IAmb	IAmb	18 25 51.8	
	comp=Z,3.1nm,0.6s						
PDAR	Pinedale Array	36.03	332	P	P	18 27 19.3	+0.2
	comp=Z,0.8nm,0.8s,baz=138,slow=7.1,SNR=7.5						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	66.31	336	P	P	18 31 04.0	-1.5
	comp=Z,0.2nm,0.6s,baz=114,slow=7.0,SNR=2.9						
	comp=Z,0.2nm,0.6s						
WRA	Warramunga Arr	138.96	253	PKP	PKPdf	18 39 44.2	-0.5
	comp=Z,0.6nm,1.0s,baz=92,slow=2.3,SNR=2.6						
CMAR	Chiang Mai Arr	149.00	348	PKPbc	PKPbc	18 40 05.8	-0.4
	comp=Z,0.7nm,0.7s,baz=347,slow=3.6,SNR=6.9						

*SDD **25** 19:15:46.0±1.7, 19°.73N×71°.67W, h23km±13km, MD3.0,*
ML2.6, MW3.0
*OSPL **25** 19:15:48.0±2.2, 19°.68N×71°.57W, h0km±18km, ML2.3*
ISC 25 19:15:46.6±1.1, 19°.68N±0°.03×71°.59W±0°.04, h7km±10km,
n13, σ0°74/21, 2C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	Montecristi	0.22	344	⇑eP	Pg	19 15 50.6	-0.4
MCDR				eS	Sg	19 15 54.2	+0.3
MCDR				IAML		19 15 57.1	
	comp=E,3μm,0.2s						
MCDR				IAML		19 15 57.3	
	comp=N,4μm,0.2s						
LOPP1	Punta Rusia, P	0.41	65	iP	Pg	19 15 53.8	-0.7
LOPP1				eS	Sg	19 15 59.9	+0.1
LOPP1				IAML		19 16 04.5	
	comp=Z,163nm,0.3s						
SDDR	Presa de Saban	0.75	158	ePg	Pg	19 16 01.1	+0.1
SDDR				⇓eSg	Sg	19 16 11.9	+1.1
SDDR				IAML		19 16 13.1	
	comp=E,112nm,0.2s						
SDDR				IAML		19 16 13.2	
	comp=N,102nm,0.3s						
SDDR	Presa de Saban	0.75	158	iP	Pg	19 16 00.6	-0.5
SDDR				eS	Sg	19 16 11.0	+0.1
SDDR				IAML		19 16 13.9	
	comp=Z,116nm,0.7s						
SC01	Santiago de Io	0.85	107	⇑ePg	Pg	19 16 02.6	-0.4
SC01				eSg	Sb	19 16 16.1	+0.7
SC01				IAML		19 16 20.0	
	comp=N,111nm,0.2s						
SC01				IAML		19 16 21.0	
	comp=E,122nm,0.3s						
SC01	Santiago de Io	0.85	107	iP	Pg	19 16 02.4	-0.6
SC01				eS	Sg	19 16 15.3	+1.2
LONE3	El Aguacate, B	1.08	173	iP	Pb	19 16 06.8	-0.9
LONE3				eS	Sb	19 16 21.8	-0.3
LONE3				IAML		19 16 23.9	
	comp=Z,80nm,0.3s						
LODU1	El Espartillar	1.33	175	iP	Pn	19 16 11.7	+0.2
LODU1				IAML		19 16 34.8	
	comp=Z,74nm,0.4s						
PAPH	Port-au-Prince	1.33	210	iP	Pn	19 16 11.3	-0.3
LOBH	Bahia de las A	1.81	181	iP	Pn	19 16 19.3	+1.1
LOBH				IAML		19 16 57.5	
	comp=Z,55nm,1.3s						
GRTK	Grand Turk	1.87	13	iP	Pb	19 16 21.0	-0.1
GRTK				eS	Sn	19 16 42.0	-0.9
HATOM	Hato Mayor del	2.27	113	ePg	Pn	19 16 25.1	+0.5
HATOM				IAML		19 16 58.3	
	comp=E,40nm,0.2s						
HATOM				IAML		19 17 03.4	
	comp=N,19nm,0.6s						
QMBU	Quimbuelo	3.07	280	ePg	Pn	19 16 36.9	+1.2
QMBU				IAML		19 17 24.1	
	comp=N,15nm,0.3s						

*NOU **25** 19:19:26.9, 40°.09S×174°.54E, h107km, MLv4.3/23, Cook*
Strait, New Zealand
*IDC **25** 19:19:27.7±4.1, 39°.71S×174°.26E, h78km±46km, mb3.4/3,*
mbtmp3.7/4, ML3.3/1, MS3.8/1, Error ellipse: s-maj=35.0km
s-min=29.0km az=31.0
*WEL **25** 19:19:29.3±0.6, 40°.S±.3°×17°4E±°, h85km±5km, M4.0/101,*
ML4.4/25, MLv4.0/101, Error ellipse: s-maj=5.1km
s-min=3.5km az=68.4, confirmed
ISC 25 19:19:27.0±0.9, 40°.11S±0°.03×174°.52E±0°.03, h118km±6km,
n177, σ0°82/193, mb3.6/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCDS	Wanganui Civil	0.44	67	P	Pn	19 19 44.2	-0.1
WCDS				S	Sn	19 19 56.5	-0.9
WAZ	Wanganui	0.50	46	P	Pn	19 19 44.9	+0.2
WAZ				S	Sn	19 19 57.2	-0.8
OHWZ	Ohakea	0.62	100	P	Pn	19 19 46.0	+0.5
OHWZ				S	Sn	19 19 58.7	-0.7
FXBS	Foxton Beach S	0.65	124	P	Pn	19 19 46.2	+0.6
FXBS				S	Sn	19 19 59.2	-0.6
LREZ	Lake Rotokare	0.65	352	P	Pn	19 19 45.7	-0.1
LREZ				S	Sn	19 19 59.4	-0.5
HOCS	Levin Horowhen	0.78	132	P	Pn	19 19 47.3	+0.5
HOCS				S	Sn	19 20 00.7	-1.0
OTKS	Otaki School	0.80	144	P	Pn	19 19 47.4	+0.4
OTKS				S	Sn	19 20 01.0	-1.1
KIW	Kapiti Island	0.81	159	P	Pn	19 19 47.2	+0.1
KIW				S	Sn	19 19 59.9	-2.4
FAHS	Feilding Agric	0.81	98	P	Pn	19 19 47.7	+0.7
FAHS				S	Sn	19 20 01.9	-0.3
PREZ	Palmer Road	0.81	340	P	Pn	19 19 46.9	-0.2
PREZ				S	Sn	19 20 01.4	-0.9
OPSS	Opunake Primar	0.83	322	P	Pn	19 19 46.9	-0.4
OPSS				S	Sn	19 20 01.7	-0.8
DUWZ	D'Urville Isla	0.83	213	P	Pn	19 19 47.1	-0.2
DUWZ				S	Sn	19 20 01.1	-1.6
NMEZ	Namu Road	0.85	324	P	Pn	19 19 47.1	-0.4
NMEZ				S	Sn	19 20 01.6	-1.2
PNMS	Monrad Interme	0.86	108	S	Sn	19 20 02.4	-0.6
OGWZ	Otaki Gorge	0.87	145	P	Pn	19 19 47.8	+0.3
OGWZ				S	Sn	19 20 01.6	-1.5
PNBS	Palmerston Nor	0.87	107	P	Pn	19 19 47.9	+0.4
PNBS				S	Sn	19 20 02.2	-0.9
PNRS	Palmerston Nor	0.88	105	P	Pn	19 19 48.4	+0.7
PNRS				S	Sn	19 20 02.4	-0.8
PAPS	Paraparaumu Pr	0.89	156	S	Sn	19 20 01.7	-1.8
NEZ	North Egmont	0.90	338	P	Pn	19 19 47.4	-0.6
KHEZ	Kahui Hut	0.90	334	P	Pn	19 19 47.6	-0.4
KHEZ	Kahui Hut	0.90	334	S	Sn	19 20 02.7	-1.1
KHEZ	Kahui Hut	0.90	334	P	Pn	19 19 47.6	-0.4
DREZ	Durham Road	0.95	345	P	Pn	19 19 48.2	-0.2
DREZ				S	Sn	19 20 03.3	-1.2
NBEZ	Newall Road No	0.98	329	P	Pn	19 19 48.5	-0.2
MRZ	Mangatainoka R	0.98	125	P	Pn	19 19 49.0	+0.3
POWZ	Post Office Ro	0.99	107	P	Pn	19 19 49.0	+0.2
VRZ	Vera Road	1.00	11	P	Pn	19 19 48.8	0.0
PKE	Pukeiti	1.00	335	P	Pn	19 19 48.5	-0.4
MTVZ	M

HIZ	Hauiti	1.61	9	P	Sn	19 20 16.6	-0.8
HIZ	Hauiti	1.61	9	P	Pn	19 19 55.6	-0.1
KWHZ	Kaweka Forest	1.61	66	P	Pn	19 19 55.8	+0.1
PRHZ	Porangahau	1.63	96	P	Pn	19 19 56.2	+0.5
CMWZ	Cape Campbell	1.66	188	P	Pn	19 19 57.3	+1.1
BSWZ	Blackbirch Sta	1.68	197	P	Pn	19 19 56.9	+0.5
WATZ	Wairara	1.68	34	P	Pn	19 19 56.7	+0.2
QRZ	Quartz Range	1.68	244	P	Pn	19 19 55.8	-0.6
QRZ	Quartz Range	1.68	244	S	Sn	19 20 17.6	-1.3
QRZ	Quartz Range	1.68	244	P	Pn	19 19 55.8	-0.6
HATZ	Hinemaiaia	1.72	46	P	Pn	19 19 56.1	-0.8
BKZ	Black Stump Fm	1.79	59	P	Pn	19 19 57.3	-0.5
BKZ	Black Stump Fm	1.79	59	P	Sn	19 20 19.9	-1.4
BKZ	Black Stump Fm	1.79	59	P	Pn	19 19 57.3	-0.5
PXZ	Pawanui	1.80	88	P	Pn	19 19 58.1	+0.3
MCHZ	McNeill Hill	1.80	69	P	Pn	19 19 58.0	+0.1
KAHZ	Kahuranaki	1.84	81	P	Pn	19 19 58.5	+0.2
MRNZ	Matariki Terra	1.86	225	P	Pn	19 19 58.8	+0.2
MRHZ	Matea Rd	1.94	50	P	Pn	19 19 58.8	-0.9
TLZ	Tolley Road	1.94	24	P	Pn	19 19 59.6	-0.1
CKHZ	Cape Kidnapper	2.02	78	P	Pn	19 20 00.4	-0.1
NMHZ	Naumai	2.03	61	P	Pn	19 20 01.0	+0.2
WPRZ	Whakapapatarin	2.03	39	P	Pn	19 20 00.6	-0.2
THZ	Tophouse	2.06	216	P	Pn	19 20 01.3	+0.1
ARHZ	Aropaoanui	2.09	67	P	Pn	19 20 01.2	-0.3
ALRZ	Allen Road	2.09	43	P	Pn	19 20 01.1	-0.4
GRRZ	Galatos Road	2.14	36	P	Pn	19 20 02.4	+0.2
MTHZ	Maungataniwha	2.19	56	P	Pn	19 20 02.0	-0.8
HRRZ	Handcock Road	2.19	39	P	Pn	19 20 03.3	+0.5
HSRZ	Hossack Road	2.24	37	P	Pn	19 20 03.4	0.0
RAHZ	Arahi	2.31	60	P	Pn	19 20 03.8	-0.5
WHHZ	Waihua	2.33	65	P	Pn	19 20 04.2	-0.4
RRRZ	Republican Roa	2.35	42	P	Pn	19 20 04.4	-0.4
NGRZ	Ngongotaha	2.38	33	P	Pn	19 20 05.9	+0.7
RTZ	Ruatahuna	2.42	53	P	Pn	19 20 04.8	-1.0
KHZ	Kahutara	2.42	197	P	Pn	19 20 06.1	+0.4
KHZ	Kahutara	2.42	197	P	Pn	19 20 06.1	+0.4
OMRZ	Omania	2.46	36	P	Pn	19 20 06.8	+0.6
KARZ	Kaharoa	2.48	33	P	Pn	19 20 07.1	+0.7
TOZ	Tahuroa Road	2.49	18	P	Pn	19 20 06.4	-0.2
SNGZ	Shannon Statio	2.55	60	P	Pn	19 20 07.0	-0.4
DSZ	Denniston Nort	2.63	231	P	Pn	19 20 08.2	-0.3
KNZ	Kokohu	2.67	67	P	Pn	19 20 07.8	-1.0
URZ	Urewera	2.73	48	P	Pn	19 20 08.7	-1.0
	5.2nm,0.3s,baz=292,slow=14,SNR=36						
URZ				S	Sn	19 20 40.2	-2.3
	368nm,0.6s,baz=99,slow=20,SNR=35						
	14nm,0.3s						
URZ	Urewera	2.73	48	P	Pn	19 20 08.0	-1.7
URZ	Urewera	2.73	48	S	Sn	19 20 40.8	-1.7
URZ	Urewera	2.73	48	P	Pn	19 20 08.3	-1.3
TGRZ	Tauranga	2.73	30	P	Pn	19 20 10.2	+0.5
RAGZ	Rawiri	2.76	55	P	Pn	19 20 10.3	+0.1
MHGZ	Mahia Peninsul	2.78	71	P	Pn	19 20 09.6	-0.8
PRGZ	Paritu Road	2.85	67	P	Pn	19 20 10.3	-1.1
RIGZ	Rimuhau	2.87	62	P	Pn	19 20 10.7	-0.9
MWZ	Matawai	2.93	54	P	Pn	19 20 10.8	-1.5
KBAZ	Karaka Road Bo	3.02	6	P	Pn	19 20 14.1	+0.6
AWAZ	Awhitu Peninsu	3.04	2	P	Pn	19 20 14.1	+0.4
MKAZ	Moumakai	3.04	10	P	Pn	19 20 13.5	-0.2
GVZ	Greta Valley S	3.07	201	P	Pn	19 20 13.8	-0.3
TKGZ	Te Karaka	3.07	58	P	Pn	19 20 13.0	-1.1
MYRZ	Mayor Island	3.12	26	P	Pn	19 20 15.8	+0.9
ETAZ	East Tamaki Re	3.16	6	P	Pn	19 20 15.6	+0.2
LTZ	Lake Taylor	3.17	212	P	Pn	19 20 14.7	-0.7
WTAZ	Waiatarua	3.17	1	P	Pn	19 20 16.2	+0.7
RUGZ	Raukumara Rang	3.26	50	P	Pn	19 20 14.8	-2.0
CNGZ	Carnagh Statio	3.29	62	P	Pn	19 20 15.9	-1.1
TWGZ	Tauwhareparae	3.31	55	P	Pn	19 20 16.2	-1.1
RVAZ	Riverhead Bore	3.33	1	P	Pn	19 20 18.2	+0.6
WIAZ	Waiheke Island	3.34	8	P	Pn	19 20 17.8	0.0
MBAZ	Motutapu North	3.34	5	P	Pn	19 20 18.0	+0.3
AMCZ	Amberley	3.37	204	P	Pn	19 20 17.3	-0.8
HAZ	Te Kaha	3.46	48	P	Pn	19 20 17.1	-2.2
KUZ	Kuaotunu	3.48	16	P	Pn	19 20 19.1	-0.5
KUZ	Kuaotunu	3.48	16	P	Pn	19 20 19.0	-0.6
INZ	Inchbonnie	3.49	220	P	Pn	19 20 19.2	-0.6
ABAZ	Army Bay	3.51	4	P	Pn	19 20 20.4	+0.4
PUZ	Puketiti	3.54	56	P	Pn	19 20 18.7	-1.7
PKAZ	Pakihiroa	3.56	52	P	Pn	19 20 18.6	-1.8
OXZ	Oxford	3.72	209	P	Pn	19 20 20.8	-1.9
OKCZ	Okains Bay	3.78	196	P	Pn	19 20 22.4	-1.1
WMGZ	Waiomatatini S	3.80	54	P	Pn	19 20 22.1	-1.7
MQZ	McQueen's Vall	3.86	201	P	Pn	19 20 22.7	-1.8
MXZ	Matakaoa Point	3.90	51	P	Pn	19 20 23.7	-1.4
GRZ	Great Barrier	3.92	11	P	Pn	19 20 25.0	-0.4
AKCZ	Akaroa Harbour	3.95	197	P	Pn	19 20 24.4	-1.4
RACZ	Rakaia	4.03	205	P	Pn	19 20 25.0	-1.9
MHCZ	Mount Hutt	4.07	212	P	Pn	19 20 26.2	-1.3
RPZ	Rata Peaks	4.44	215	P	Pn	19 20 32.4	0.0
OUZ	Omahuta	4.93	351	P	Pn	19 20 39.9	+0.9
ODZ	Otahua Downs	5.71	209	P	Pn	19 20 48.4	-1.0
JCZ	Jackson Bay	5.83	225	P	Pn	19 20 50.0	-1.1
SYZ	Scrubby Hill	7.53	210	P	Pn	19 21 13.9	-0.1
CTZ	Chatham Island	7.54	122	P	Pn	19 21 14.6	+0.5
ASAR	Alice Springs	37.82	283	P	P	19 26 33.6	+1.5
	1.0nm,1.1s,baz=120,slow=7.3,SNR=3.2						
	1.0nm,1.1s						
WRA	Warramunga Arr	39.75	288	P	P	19 26 50.4	+2.1
	0.5nm,0.5s,baz=126,slow=7.9,SNR=8.7						
	0.5nm,0.5s						
NWAO	Narrogin (SRO)	45.91	260	LR	LR	19 43 44.5	
	comp=Z,111nm,21.6s,baz=85,slow=32						
QSPA	South Pole Qui	50.02	180	P	P	19 28 16.6	+7.4
	0.7nm,0.3s,baz=263,slow=2.4,SNR=6.5						
	0.7nm,0.3s						
ARCES	ARCESS Array B	146.30	341	PKPbc	PKiKP	19 38 56.4	+0.7
	5.3nm,1.0s,baz=39,slow=3.5,SNR=4.9						

BJI ***25*** *19:23:35.8,29˚.94N×140˚.08E,h10km,mB4.8/11,mb4.4/45, Ms4.4/25,Ms7 4.2/27*

NEIC ***25*** *19:23:38.2±2.2,30˚.12N±0˚.07×139˚.7E±0˚.1,h10km±1km, mb4.6/36,Error ellipse: s-maj=17.4km s-min=10.8km az=245.0*

NIED ***25*** *19:23:38.1,29˚.47N×139˚.24E,h50km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 1016Nm; Mrr-0.62; Mθθ0.09; Mφφ0.53; Mrθ-1.49; Mθφ-0.24; Mφr1.81; Fault plane solution: M0 2.43000×1016 NP1: φs350.00000°,δ8.00000°,λ-62.00000°. NP2:φs141.00000°, δ83.00000°,λ-94.00000°.*

JMA ***25*** *19:23:38.1±0.2,29˚.5N±0˚.9×13˚.9E±˚,h50km,MV4.4/22, NEAR TORISHIMA IS*

MOS ***25*** *19:23:39.8±1.4,30˚.26N×139˚.48E,h10km,mb4.7/19,Error ellipse: s-maj=14.3km s-min=7.5km az=116.2*

GCMT ***25*** *19:23:42.2±0.3,29˚.89N±0˚.02×139˚.84E±0˚.02,h12km, MW4.8/95,Moment Tensor Solution. s16,c17; s95,c125; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.41±.07; Mθθ-1.21±.06; Mφφ1.62±.06; Mrθ-0.83±.18; Mθφ-0.95±.06; Mφr-0.04±.19; Best double couple: M0 1.92600×1016 NP1:φs25.00000°,δ66.00000°,λ-17.00000°. NP2: φs122.00000°,δ75.00000°,λ-155.00000°. Principal axes: T 1.9270, Plg5.0000°, Azm252.0000°; N -0.0040, Plg61.0000°, Azm152.0000°; P -1.9260, Plg28.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***25*** *19:23:51.9±2.5,30˚.36N×139˚.54E,h92km±21km,mb3.7/20, mbtmp4.1/24,MS3.9/51 Error ellipse: s-maj=17.6km s-min=14.5km az=93.0*

ISC 25 19:23:39.5±0.4,30˚.00N±0˚.05×140˚.06E±0˚.05,h10km,n197, *σ2s*62/131,**mb4.5**/56,**MS3.9**/64,**12C-6D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.44	147	*eP*	Pn	19 24 31.9	-1.3
CBIJ				*eS*	Sn	19 25 11.0	-3.1
JCJ	Chichijima	3.44	147		Pn	19 24 32.3	-1.0
JCJ				Sn	Sn	19 25 10.9	-3.2
TTO1	TONANKAI O.B.S	4.56	323	*eP*	Pn	19 24 46.5	-1.9
BSO1	Boso 1	4.71	9	*eP*	Pn	19 24 57.2	+7.1
BSO3	Boso 3	4.81	4	*eP*	Pn	19 24 58.9	+7.2
JSG	Sagara	4.93	342	Pn	Pn	19 24 46.5	-7.1
JIE	Ise	5.22	328	*eS*	Sn	19 25 58.9	+0.9
JOD2	Odawara 2	5.32	351	*eP*	Pn	19 25 01.9	+3.0
JTNC	Tanabenakahech	5.37	316	*eP*	Pn	19 24 57.5	-2.3
JTNC				*eS*	Sn	19 25 57.2	-4.4
INU	Inuyama	5.92	335		Pn	19 24 59.0	-8.3
JGF	Kuroka	6.03	339		Pn	19 25 01.7	-7.2
JRY	Ryogami san	6.08	351	*e*P	Pn	19 25 14.2	+4.7
JYT	Yasato	6.21	1	Pn	Pn	19 25 07.9	-3.4
JMN	Monobe	6.44	307	Pn	Pn	19 25 05.7	-8.8
JNG	Nsakai	6.60	346	*e*P	Pn	19 25 21.5	+4.8
MJAR	Matsushiro Arr	6.71	347		Pn	19 25 09.3	-8.8
MJAR	Matsushiro Arr	6.71	347	P	**Pn**	**19 25 22.1**	**+3.9**
	44nm,1.2s,baz=174,slow=15,SNR=34						
MJAR				LR	LR	19 28 07.3	
	comp=Z,3μm,18.4s,baz=147,slow=41						
MJAR	Matsushiro Arr	6.71	347	P	Pn	19 25 09.3	-8.8
MAJO	Matsushiro	6.71	347		Pn	19 25 09.3	-8.8
MAJO	Matsushiro	6.71	347	⇓*e*P	Pn	19 25 11.5	-6.7
MJB9	Matsu-Tunnel	6.71	347		Pn	19 25 09.8	-8.4
JMM	Marumori	7.87	4	Pn	Pn	19 25 28.0	-6.0
JNU	Nakatsue	8.43	294	Pn	Pn	19 25 33.3	-8.5
JNU	Nakatsue	8.43	294	P	**Pn**	**19 25 43.3**	**+1.5**
	11nm,0.9s,baz=126,slow=14,SNR=8.6						
JNU				LR	LR	19 28 43.1	
	comp=Z,1μm,18.2s,baz=110,slow=37						
JTM	Tenmabayashi	10.80	4	Pn	Pn	19 26 08.7	-5.5
JOW	Kunigami	10.84	256	Pn	Pn	19 26 09.3	-5.6
JOW	Kunigami	10.84	256	P	**Pn**	**19 26 18.6**	**+3.8**
	16nm,0.8s,baz=63,slow=11,SNR=5.4						
JOW				LR	LR	19 29 49.6	
	comp=Z,1μm,21.5s,baz=110,slow=34						
KSRS	Korea Array	12.54	310	P	**Pn**	**19 26 40.7**	**+2.8**
	3.9nm,1.1s,baz=120,slow=12,SNR=4.5						
KSAR	Wonju Array Be	12.56	309		Pn	19 26 29.1	-9.1
KSAR	Wonju Array Be	12.56	309	P	Pn	19 26 29.1	-9.1
ASAJ	Asahikawa	14.24	7	LR	LR	19 33 22.3	
	comp=Z,340nm,18.5s,baz=64,slow=41						
GUMO	Guam	16.92	164		**Pn**	**19 27 37.1**	**+0.5**
GUMO	Guam	16.92	164	LR	LR	19 32 57.7	
	comp=Z,531nm,18.2s,baz=1.5,slow=31						
GUMO	Guam	16.92	164	P	**Pn**	**19 27 37.1**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,317nm,1.3s						
YSS	Yuzhno-Sakhali	17.06	6	Pn	**Pn**	**19 27 34.1**	**-4.0**
YSS	Yuzhno-Sakhali	17.06	6	*e*P	**P**	**19 27 42.4**	**+2.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
SNY	Shenyang	17.79	316	⇑P	**P**	**19 27 49.8**	**+1.9**
SNY				S	**S**	**19 31 12.3**	**-0.1**
SNY				pmax	pmax		
	comp=N,24nm,1.8s						
SNY				pmax	pmax		
	comp=N,140nm,5.0s						
SNY				LR	LR		
	comp=N,470nm,11.8s						
SNY				LR	LR		
	comp=N,370nm,11.6s						
SNY				LR	LR		
	comp=N,490nm,9.0s						
CN2	Changchun	18.03	324	P	**P**	**19 27 52.0**	**+1.4**
CN2				pmax	pmax		
	comp=N,10.0nm,0.6s						
NJ2	Nanjing	18.29	282	*e*P	**Pn**	**19 27 51.5**	**-1.9**
NJ2				pmax	pmax		
	comp=N,6.0nm,0.5s						
NJ2				LR	LR		
	comp=N,580nm,11.9s						
NJ2				LR	LR		
	comp=N,440nm,13.6s						
NJ2				LR	LR		
	comp=N,580nm,15.7s						
TPUB	Ta-pu	18.59	254	P	P	19 27 50.3	-6.7
TPUB				IAmb	IAmb	19 28 02.8	
	comp=Z,93nm,1.5s						
TIA	Tai'an	20.17	294	P	**P**	**19 28 15.0**	**+0.9**
TIA				pmax	pmax		
	comp=Z,20nm,1.0s						
TIA				LR	LR		
	comp=Z,1μm,13.3s						
TIA				LR	LR		
	comp=Z,580nm,12.4s						
TIA				LR	LR		
	comp=Z,490nm,12.2s						
GRNR	Gornyy	20.93	354	⇑*i*P	**P**	**19 28 22.7**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,460nm,21.0s						
GRNR				MLR	MLR		
	comp=N,240nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,390nm,22.0s						
BJT	Baijiatuau	21.92	304	P	**P**	**19 28 31.2**	**-1.7**
BJT	Baijiatuau	21.92	304	P	**P**	**19 28 31.2**	**-1.7**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJI	Beijing	21.92	304	P	**P**	**19 28 35.0**	**+2.0**
BJI				S	**S**	**19 32 32.8**	**-2.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				LR	LR		
	comp=Z,280nm,16.0s						
BJI				LR	LR		
	comp=Z,150nm,16.0s						
BJI				LR	LR		
	comp=Z,280nm,14.1s						
WHN	Wuhan	22.20	278	P	**P**	**19 28 42.0**	**+5.9**
WHN				sP	pwP	19 28 49.8	+8.0
WHN				S	**S**	**19 32 41.0**	**+0.4**
WHN				pmax	pmax		
	comp=Z,140nm,1.3s						
WHN				LR	LR		
	comp=N,1μm,10.5s						
WHN				LR	LR		
	comp=E,1μm,7.9s						
WHN				LR	LR		
	comp=Z,2μm,7.8s						
HEH	HeiHe	22.36	338	*e*P	**P**	**19 28 36.0**	**-1.7**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HEH				LR	LR		
	comp=Z,360nm,12.7s						
HEH				LR	LR		
	comp=Z,750nm,12.6s						
HEH				LR	LR		
	comp=Z,880nm,13.1s						
TGY	Tagaytay City	23.70	232	LR	LR	19 38 16.6	
	comp=Z,226nm,18.6s,baz=117,slow=37						
LYN	LuoYang	23.73	288	P	**P**	**19 28 58.0**	**+6.1**
LYN				S	**S**	**19 33 16.8**	**+10**
LYN				sS	Sn	19 33 47.5	+19
LYN				pmax	pmax		
	comp=Z,70nm,1.4s						
LYN				LR	LR		
	comp=N,690nm,11.2s						
LYN				LR	LR		
	comp=E,1μm,13.3s						
LYN				LR	LR		
	comp=Z,1μm,17.2s						
SKR	Severo-Kuril's	23.92	26	⇓*e*P	**P**	**19 28 53.6**	**+0.2**
ZEA	Zeya	25.49	342	*e*P	**P**	**19 29 07.9**	**+0.1**
ZEA				*e*S	**S**	**19 33 26.6**	**-8.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
ZEA				smax	smax		
	comp=E,100nm,7.2s						
ZEA				MLR	MLR		
	comp=E,300nm,13.0s						
ZEA				MLR	MLR		
	comp=N,200nm,19.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,17.0s						
HHC	Hu-ho-hao-te	25.52	303	*e*P	**P**	**19 29 03.8**	**-4.5**
HHC				S	S	19 33 23.8	-12
HHC				pmax	pmax		
	comp=Z,33nm,0.7s						
HHC				pmax	pmax		
	comp=Z,86nm,3.7s						
HHC				LR	LR		
	comp=Z,310nm,11.7s						
HHC				LR	LR		
	comp=Z,370nm,11.8s						
HHC				LR	LR		
	comp=Z,500nm,12.0s						
H11N2	WAKE ISLAND Hy	26.35	107	T	T	19 57 14.0	
	baz=298,slow=75,SNR=362						
H11N1	WAKE ISLAND Hy	26.35	107	T	T	19 57 07.3	
	baz=298,slow=75,SNR=206						
H11N3	WAKE ISLAND Hy	26.37	107	T	T	19 57 05.3	
	baz=298,slow=75,SNR=300						
ENH	Enshi	26.41	278		P	**19 29 11.1**	**-5.3**
ENH				IAmb	IAmb	19 29 23.5	
	comp=Z,19nm,1.0s						
PETK	Petropavlovsk-	26.46	24	LR	LR	19 42 30.3	
	comp=Z,216nm,18.6s,baz=217,slow=42						
BTO	Baotou	26.58	302	*e*P	**P**	**19 29 17.0**	**-1.0**
BTO				sP	**pwP**	**19 29 24.5**	**+1.0**
BTO				PP	**PnPn**	**19 29 57.0**	**-1.3**
BTO				S	**S**	**19 33 51.0**	**-1.7**
BTO				pmax	pmax		
	comp=Z,11nm,1.1s						
BTO				pmax	pmax		
	comp=Z,430nm,4.0s						
BTO				LR	LR		
	comp=Z,1μm,12.8s						
BTO				LR	LR		
	comp=Z,990nm,15.1s						
BTO				LR	LR		
	comp=Z,1μm,16.2s						
XAN	Xi'an	26.65	287	⇑P	**P**	**19 29 17.8**	**-0.8**
XAN				pP	sP	19 29 24.0	+2.1
XAN				pmax	pmax		
	comp=Z,20nm,1.0s						
H11S3	WAKE ISLAND Hy	26.78	109	T	T	19 57 30.9	
	baz=301,slow=75,SNR=86						
H11S1	WAKE ISLAND Hy	26.78	109	T	T	19 57 25.5	
	baz=301,slow=75,SNR=85						
H11S2	WAKE ISLAND Hy	26.79	109	T	T	19 57 41.7	
	baz=301,slow=75,SNR=58						
QIZ	Qiongzhong	29.50	255	P	**P**	**19 29 43.0**	**-1.1**
QIZ				S	**S**	**19 34 40.5**	**+1.8**
QIZ				LR	LR		
	comp=Z,160nm,8.9s						
QIZ				LR	LR		
	comp=Z,280nm,7.6s						
QIZ				LR	LR		
	comp=Z,230nm,12.5s						
MA2	Magadan	30.46	11	LR	LR	19 42 25.9	
	comp=Z,189nm,18.7s,baz=206,slow=37						
LZH	Lanzhou	30.84	291	*e*P	P	19 30 01.8	+5.8
LZH				pP	pwP	19 30 08.8	+7.3
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
LZH				LR	LR		
	comp=N,450nm,13.6s						
LZH				LR	LR		
	comp=E,550nm,15.2s						
LZH				LR	LR		
	comp=Z,660nm,16.5s						
ULN	Ulaanbaatar	30.95	315		P	19 29 51.2	-5.7
ULN				IAmb	IAmb	19 30 12.4	
	comp=Z,13nm,1.1s						
ULN	Ulaanbaatar	30.95	315	⇓*e*P	**P**	**19 29 56.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,14nm,1.2s						
LZDM	Lanzhou Array	30.95	291	LR	LR	19 42 52.7	
	comp=Z,202nm,19.3s,baz=345,slow=38						
CD2	Chengdu	31.22	281	P	**P**	**19 29 58.0**	**-1.3**
CD2				S	**S**	**19 35 01.3**	**-4.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,1μm,11.0s						
CD2				LR	LR		
	comp=Z,650nm,12.1s						
CD2				LR	LR		
	comp=Z,520nm,11.1s						
SONM	Songino Array	31.34	314		P	19 29 54.0	-6.3
SONM	Songino Array	31.34	314	P	**P**	**19 29 59.7**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=121,slow=8.0,SNR=10						
SONM				LR	LR	19 43 00.4	
	comp=Z,124nm,18.2s,baz=103,slow=37						
	comp=Z,2.4nm,0.9s						
JAY	Jayapura	32.33	179	LR	LR	19 43 23.5	
	comp=Z,152nm,18.1s,baz=348,slow=36						
YAK	Yakutsk	32.76	351		P	19 30 08.1	-4.3
YAK				IAmb	IAmb	19 30 19.2	
	comp=Z,9.4nm,0.8s						
YAK	Yakutsk	32.76	351	P	**P**	**19 30 12.0**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=135,slow=22,SNR=4.8						
YAK				LR	LR	19 43 47.6	
	comp=Z,467nm,18.0s,baz=154,slow=37						
	comp=Z,3.9nm,0.6s						
YAK	Yakutsk	32.76	351	*e*P	**P**	**19 30 11.6**	**-0.7**
YAK				*e**PP	**pP**	**19 30 13.9**	**-0.6**
YAK				*e*		19 31 14.6	
YAK				*e*S	**S**	**19 35 26.4**	**-2.4**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
YAK				pmax	pmax		
	comp=Z,110nm,3.3s						
YAK				pmax	pmax		
	comp=E,88nm,3.3s						
YAK				pmax	pmax		
	comp=N,101nm,3.0s						
YAK				smax	smax		
	comp=N,43nm,11.0s						
YAK				MLR	MLR		
	comp=Z,483nm,17.0s						
YAK				MLR	MLR		
	comp=E,293nm,14.0s						
YAK				MLR	MLR		
	comp=N,209nm,16.0s						
PZH	PanZhiHua	33.83	274	P	**P**	**19 30 21.8**	**-0.5**
SEY	Seymchan	33.90	10	P	**P**	**19 30 22.9**	**+0.6**
	comp=N,5.2nm,0.9s,baz=194,slow=9.2,SNR=7.8						
SEY				LR	LR	19 44 37.0	
	comp=N,282nm,18.3s,baz=196,slow=37						
	comp=N,5.2nm,0.9s						
SEY	Seymchan	33.90	10	⇑*i*P	**P**	**19 30 23.8**	**+1.5**
GTA	Gaotai	34.16	297	*e*P	**P**	**19 30 23.3**	**-1.7**
GTA				sP	sP	19 30 30.5	+2.2
GTA				pmax	pmax		
	comp=N,3.0nm,1.7s						
GTA				LR	LR		
	comp=N,530nm,13.8s						
GTA				LR	LR		
	comp=N,200nm,13.8s						
GTA				LR	LR		
	comp=N,290nm,14.9s						
GOMU	GeErMu	38.14	292	P	**P**	**19 30 57.8**	**-1.6**
GOMU				pP	pP	19 31 02.0	+0.2
GOMU				sP	pwP	19 31 06.5	+1.6
GOMU				PcP	**PcP**	**19 33 13.5**	**-0.8**
GOMU				S	**S**	**19 36 47.5**	**-5.3**
GOMU				pmax	pmax		
	comp=N,13nm,0.8s						
GOMU				LR	LR		
	comp=N,200nm,16.0s						
GOMU				LR	LR		
	comp=N,120nm,15.8s						
GOMU				LR	LR		
	comp=N,200nm,15.5s						
CHTO	Chiang Mai	38.87	263		P	19 31 00.3	-5.1
CHTO	Chiang Mai	38.87	263	P	P	19 31 00.3	-5.0
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CMAR	Chiang Mai Arr	39.02	262	P	P	19 31 02.5	-4.1
CMAR	Chiang Mai Arr	39.02	262	P	**P**	**19 31 05.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=65,

BATI Baumata 42.98 204 LR LR 19 52 44.1
comp=Z,207nm,18.7s,baz=308,slow=40
HNR Honiara 43.62 151 P LR 19 47 09.5
comp=Z,78nm,20.0s,baz=3.5,slow=32
ZALV Zalesovo Beam 46.09 318 P P 19 32 00.0 -3.5
ZALV Zalesovo Beam 46.09 318 P **P** **19 32 01.9 -1.7**
comp=Z,0.6nm,0.4s,baz=93,slow=8.7,SNR=5.2
ZALV LR LR 19 50 47.5
comp=Z,109nm,19.1s,baz=94,slow=36
comp=Z,0.6nm,0.4s
MK31 Makanchi Array 47.21 308 *c iP* **P** **19 32 11.9 -0.6**
MKAR Makanchi Array 47.21 308 P 19 32 07.9 -4.7
MKAR Makanchi Array 47.21 308 P **P** **19 32 11.5 -1.1**
comp=Z,1.4nm,0.7s,baz=96,slow=9.6,SNR=16
comp=Z,1.4nm,0.7s
MKAR Makanchi Array 47.21 308 *eP* **P** **19 32 12.3 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
PSI Prapat 47.41 243 LR LR 19 54 05.2
comp=Z,72nm,18.1s,baz=70,slow=38
MAKZ Makanchi 47.42 308 P 19 32 09.8 -4.4
MAKZ IAmb IAmb 19 32 30.1
comp=Z,8.2nm,1.5s
MAKZ Makanchi 47.42 308 P P 19 32 09.8 -4.4
MAKZ pmax pmax
comp=Z,8.0nm,1.5s
LEM Lembang 48.07 226 LR LR 19 53 41.1
comp=Z,77nm,18.4s,baz=5.5,slow=37
KURK Kurchatov 49.64 313 P P 19 32 26.3 -4.8
KURK IAmb IAmb 19 32 53.7
comp=Z,3.1nm,0.7s
KURK Kurchatov 49.64 313⇓ *eP* **P** **19 32 29.7 -1.4**
KURK pmax pmax
comp=Z,9.0nm,1.4s
KURBB Kurchatov Arra 49.69 313 P **P** **19 32 29.5 -2.1**
comp=Z,0.5nm,0.3s,baz=89,slow=8.1,SNR=6.8
comp=Z,0.5nm,0.3s
WB0 Warramunga Arr 49.78 187 P **P** **19 32 31.2 -1.3**
FITZ Fitzroy Crossi 49.79 198 **P** **19 32 31.6 -0.9**
FITZ Fitzroy Crossi 49.79 198 LR LR 19 52 24.7
comp=Z,68nm,19.8s,baz=18,slow=34
WRAB Tennant Creek 49.94 187 **P** **19 32 33.1 -0.6**
WRAB IAmb IAmb 19 32 48.6
comp=Z,7.5nm,0.9s
WRAB Tennant Creek 49.94 187⇓ *eP* **P** **19 32 38.1 +4.4**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WR8 Warramunga Arr 49.95 187 **P** **19 32 32.1 -1.7**
WRA Warramunga Arr 49.95 187 **P** **19 32 31.8 -2.1**
WRA Warramunga Arr 49.95 187 P **P** **19 32 37.5 +3.7**
comp=Z,6.4nm,1.0s,baz=6.5,slow=7.5,SNR=6.4
WRA LR LR 19 52 02.8
comp=Z,88nm,21.9s,baz=3.0,slow=34
comp=Z,6.4nm,1.0s
TARG Taragay, Kyrgy 50.79 301 P P 19 32 34.4 -6.1
TARG IAmb IAmb 19 32 50.5
comp=Z,10nm,1.2s
TARG Taragay, Kyrgy 50.79 301 P P 19 32 34.4 -6.1
TARG pmax pmax
comp=Z,10.0nm,1.2s
E19K Redstone River 52.24 26 **P** **19 32 49.0 -1.5**
E19K IAmb IAmb 19 33 29.3
comp=Z,7.1nm,0.8s
KSH Kashi 52.52 299 P **P** **19 32 53.3 +0.2**
KSH sP pwP 19 33 02.0 +3.2
KSH pmax pmax
comp=Z,6.0nm,1.4s
AAK Ala-Archa 53.09 303 LR LR 19 55 30.4
comp=Z,87nm,19.7s,baz=80,slow=36
AAK Ala-Archa 53.09 303⇑ *eP* **P** **19 32 56.9 -0.5**
AAK pmax pmax
comp=Z,13nm,3.9s
KDAK Kodiak Island 53.21 38 LR LR 19 55 02.0
comp=Z,102nm,20.1s,baz=252,slow=35
ASAR Alice Springs 53.68 187 P **P** **19 32 59.4 -2.2**
ASAR Alice Springs 53.68 187 P P 19 33 07.4 +5.8
comp=Z,0.6nm,0.5s,baz=358,slow=5.8,SNR=11
ASAR LR LR 19 55 34.0
comp=Z,72nm,19.4s,baz=323,slow=35
comp=Z,0.6nm,0.5s
BVAR Borovoye Array 54.66 316 P **P** **19 33 07.5 -0.9**
comp=Z,1.9nm,0.7s,baz=93,slow=8.9,SNR=12
BVAR LR LR 19 56 17.0
comp=Z,120nm,18.9s,baz=79,slow=36
comp=Z,1.9nm,0.7s
BORK Borovoye 54.70 316⇓ *iP* **P** **19 33 06.9 -1.8**
NEA2 Nenana 55.15 30 P **P** **19 33 09.8 -2.1**
E23K Chandalar 55.20 26 P **P** **19 33 10.9 -1.3**
E23K IAmb IAmb 19 33 24.0
comp=Z,12nm,1.2s
F24K Squaw Lake 55.81 26 P **P** **19 33 15.4 -1.2**
F24K IAmb IAmb 19 33 19.1
comp=Z,5.0nm,0.8s
KK31 Karatay Array 55.90 304 P 19 33 13.7 -3.9
KK31 IAmb IAmb 19 33 28.5
comp=Z,13nm,1.4s
KK31 Karatay Array 55.90 304 P P 19 33 13.7 -3.9
KK31 pmax pmax
comp=Z,13nm,1.5s
KKAR Karatay Array 55.90 304 P P 19 33 13.3 -4.3
KKAR Karatay Array 55.90 304 P P 19 33 13.3 -4.3
ILAR Eielson Array 56.10 30 P **P** **19 33 16.9 -1.7**
ILAR Eielson Array 56.10 30 P **P** **19 33 18.9 +0.3**
comp=Z,1.1nm,0.7s,baz=272,slow=5.9,SNR=8.8
comp=Z,1.1nm,0.7s
ILAR Eielson Array 56.10 30 P **P** **19 33 19.0 +0.3**
F25K Christian Rive 56.67 26 P **P** **19 33 21.9 -0.9**
F25K IAmb IAmb 19 33 45.6
comp=Z,9.1nm,1.2s
E25K Arctic Village 56.72 26 **P** **19 33 21.8 -1.2**
GAR Garm 56.92 299 P 19 33 20.0 -5.1
F26K Sheenjek River 57.25 26 **P** **19 33 26.3 -0.5**
F26K IAmb IAmb 19 33 53.9
comp=Z,5.2nm,1.0s
SCRK Sand Creek 57.37 31 P **P** **19 33 27.9 0.0**
SCRK IAmb IAmb 19 33 39.6
comp=Z,4.0nm,0.8s
CHGR Chuyangaron 57.88 299 **P** **19 33 28.6 -3.2**
CHGR Chuyangaron 57.88 299 P **P** **19 33 28.6 -3.2**
CHGR pmax pmax
comp=Z,21nm,0.9s
PALK Pallekele 59.92 261 LR LR 20 00 37.2
comp=Z,68nm,19.6s,baz=57,slow=37
EPYK Eagle Plains 60.23 27 P **P** **19 33 47.6 0.0**
ARTI Arti 61.10 321 LR LR 20 01 28.4
comp=Z,77nm,19.0s,baz=71,slow=37
ARTI Arti 61.10 321 *c iP* **P** **19 33 51.8 -1.8**
ARTI 19 34 33.9
ARTI 19 36 04.5
ARTI S **S** **19 42 08.5 -4.1**
ARTI SS **SS** **19 46 02.5 -9.3**
ARTI pmax pmax
comp=Z,22nm,2.6s
STKA Stephens Creek 61.55 179 LR LR 20 00 55.2
comp=Z,81nm,19.0s,baz=15,slow=36
AKTO Aktyubinsk 62.66 315 LR LR 20 02 06.8
comp=Z,138nm,18.3s,baz=83,slow=37
KIRV Kirov 65.25 325 LR LR 20 05 01.0
comp=Z,151nm,18.6s,baz=65,slow=38
KIRV Kirov 65.25 325⇑ *eP* **P** **19 34 19.9 -1.2**
SPITS Spitsbergen Ar 67.20 349 LR LR 20 04 44.9
comp=Z,60nm,19.4s,baz=32,slow=37
BBB Bella Bella 67.98 42 LR LR 20 03 09.9
comp=Z,26nm,19.6s,baz=246,slow=35
BELG Belogornoye 68.25 319⇑ *eP* **P** **19 34 39.1 -1.2**
ARCES ARCESS Array B 70.19 340 LR LR 20 10 40.4
comp=Z,144nm,18.1s,baz=344,slow=40
OBN Obninsk 73.09 324 *eP* **P** **19 35 08.1 -1.7**
OBN *e**PP **pP** **19 35 12.6 +0.4**
OBN *e* 19 35 26.8
OBN *e* 19 37 50.0
OBN *e*PPP PPP 19 39 33.2
OBN pmax pmax
comp=Z,136nm,3.9s
OBN MLR MLR
comp=Z,191nm,16.0s
VSR Storozhevoye 73.52 320 *eP* P 19 35 06.7 -5.7
VSR pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 74.52 333 P **P** **19 35 16.2 -1.9**
FINES FINESS Array B 74.52 333 P **P** **19 35 16.7 -1.4**
comp=Z,8.8nm,1.1s,baz=68,slow=6.9,SNR=4.9
FINES LR LR 20 09 40.6
comp=Z,92nm,18.9s,baz=56,slow=37
comp=Z,8.8nm,1.1s
KBZ Khabaz 74.68 312 P **P** **19 35 18.5 -0.8**
comp=Z,1.9nm,0.8s,baz=59,slow=5.9,SNR=6.9
KBZ LR LR 20 10 23.9
comp=Z,81nm,18.9s,baz=68,slow=38
comp=Z,1.9nm,0.8s
KIV Kislovodsk 74.71 312 *eP* **P** **19 35 18.6 -1.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,58nm,18.0s
GNI Garni 75.06 308 LR LR 20 12 02.8
comp=Z,52nm,18.9s,baz=80,slow=39
YBH Yreka Blue Hor 75.63 50 LR LR 20 01 43.0
comp=Z,5.2nm,20.5s,baz=288,slow=30
PINE Pine Mountain 75.83 48 P **P** **19 35 25.9 -0.4**
PINE IAmb IAmb 19 35 38.2
comp=Z,8.7nm,1.0s
NEW Newport 76.03 42 LR LR 20 10 51.9
comp=Z,28nm,18.5s,baz=252,slow=37
URZ Urewera 76.21 151 LR LR 20 05 10.3
comp=Z,37nm,20.5s,baz=308,slow=32
RAR Rarotonga 77.07 124 LR LR 20 07 18.9
comp=Z,46nm,19.2s,baz=295,slow=34
MNK Minsk 77.70 326 *i P* **P** **19 35 39.3 +3.0**
comp=E,13nm,0.9s
MNK *i P* **P** **19 35 39.3 +3.0**
MNK *i P* **P** **19 35 39.3 +3.0**
comp=Z,9.0nm,0.9s,baz=56
MNK *i* PPP PPP 19 40 17.8
MNK *i* SSS SSS 19 53 50.4
MNK *i* LQ LQ 20 04 36.2
MNK *i* LR LR 20 11 00.9
MNK *i* LRM MLR 20 11 54.7
comp=N,171nm,18.1s
MNK *i* LRM MLR 20 12 30.2
comp=E,136nm,15.9s
MNK *i* LRM MLR 20 13 12.6
comp=Z,146nm,16.2s
MNK Minsk 77.70 326 *i P* **P** **19 35 39.3 +3.0**
MNK *i* 19 38 33.9
MNK *i* PPP PPP 19 40 17.8
MNK *i* S SKSac 19 45 32.0 -18
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK MLR MLR
comp=N,171nm,18.0s
MNK MLR MLR
comp=E,136nm,16.0s
MNK MLR MLR
comp=Z,146nm,16.0s
BEKR Beckworth 78.08 51 **P** **19 35 37.9 -1.1**
BEKR IAmb IAmb 19 35 49.9
comp=Z,6.1nm,1.1s
AKASG Malin Array Be 79.18 323 P **P** **19 35 42.9 -1.6**
comp=Z,0.6nm,0.5s,baz=49,slow=5.6,SNR=6.9
AKASG LR LR 20 12 37.3
comp=Z,143nm,20.7s,baz=28,slow=37
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 79.18 323 *i P* **P** **19 35 44.2 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 80.03 336 P **P** **19 35 47.8 -1.2**
comp=Z,2.9nm,0.9s,baz=27,slow=3.5,SNR=1.7
HFS LR LR 20 12 00.6
comp=Z,120nm,18.4s,baz=46,slow=36
comp=Z,2.9nm,0.9s
NVAR Mina Array Bea 80.19 51 P **P** **19 35 49.2 -1.4**
NVAR Mina Array Bea 80.19 51 P **P** **19 35 52.8 +2.2**
comp=Z,0.2nm,0.3s,baz=300,slow=5.7,SNR=6.8
NVAR LR LR 20 03 52.5
comp=Z,86nm,20.9s,baz=273,slow=30
comp=Z,0.2nm,0.3s
NOA NORSAR Array B 80.23 337 P **P** **19 35 49.0 -1.1**
comp=Z,1.7nm,0.9s,baz=27,slow=3.5,SNR=3.1
NOA LR LR 20 15 04.4
comp=Z,101nm,18.2s,baz=35,slow=38
comp=Z,1.7nm,0.9s
PPT Papeete 82.60 115 LR LR 20 08 03.2
comp=Z,41nm,19.4s,baz=345,slow=32
PPT2 Papeete2 82.61 115 *e*LR LR 20 02 03.0
comp=Z,126nm,26.8s
PPT2 *e*LR LR 20 02 04.4
comp=Z,101nm,26.5s
BR131 Keskin Array S 82.67 312⇑ *eP* **P** **19 36 00.9 -2.7**
BRTR Keskin Array B 82.67 312 P P 19 35 59.8 -3.9
BRTR Keskin Array B 82.67 312 P **P** **19 36 01.3 -2.4**
comp=Z,1.0nm,0.9s,baz=48,slow=4.3,SNR=5.3
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 82.67 312 *eP* **P** **19 36 02.2 -1.4**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
PDAR Pinedale Array 83.45 44 P **P** **19 36 06.7 -1.1**
PDAR Pinedale Array 83.45 44 P **P** **19 36 10.1 +2.4**
comp=Z,0.1nm,0.3s,baz=304,slow=1.1,SNR=5.5
comp=Z,0.1nm,0.3s
PFO Pinyon Flats O 83.96 55 LR LR 20 14 14.1
comp=Z,59nm,18.4s,baz=256,slow=36
MLR Muntele Rosu 84.02 320 LR LR 20 14 19.0
comp=Z,106nm,18.6s,baz=52,slow=36
TAOE Nuku Hiva Isla 85.65 103 *e*LR LR 20 03 25.0
comp=Z,140nm,26.4s
TBI Tubuai 85.97 120 *e*LR LR 20 03 34.7
comp=Z,675nm,32.8s
PV10 Paradox Valley 86.31 47 P **P** **19 36 21.2 -1.1**
VRAC Vranov 86.39 327 LR LR 20 17 50.0
comp=Z,134nm,18.6s,baz=33,slow=38
EIL Elat 87.24 303 LR LR 20 21 40.2
comp=Z,61nm,18.0s,baz=68,slow=40
TXAR Lajitas Array 95.33 52 P **P** **19 37 03.2 -1.2**
TXAR Lajitas Array 95.33 52 P **P** **19 37 07.9 +3.5**
comp=Z,0.6nm,0.8s,baz=289,slow=3.8,SNR=4.1
comp=Z,0.6nm,0.8s
RKT Rikitea 97.13 112 *e*LR LR 20 08 47.4
comp=Z,10μm,39.0s
NVL N'lazarevskaya 130.33 200 *e*PKIKP **PKiKP** **19 42 52.0 +2.0**
NVL *e* 19 45 04.9
NVL *e*PPP PPP 19 47 56.5
NVL *e* 19 50 03.4
NVL *e*SS SS 20 02 36.7 +7.0
NVL *e*SSS SSS 20 07 26.5
NVL pmax pmax
comp=Z,10.0nm,0.9s
NVL pmax pmax
comp=N,105nm,8.6s
LPAZ La Paz 150.80 68 **PKiKP** **19 43 37.0 +2.8**
LPAZ La Paz 150.80 68 PKPbc **PKiKP** **19 43 36.4 +2.2**
comp=N,6.0nm,0.8s,baz=307,slow=1.7,SNR=8.2
PLCA Paso Flores 152.96 122 **PKiKP** **19 43 42.1 +4.7**
PLCA Paso Flores 152.96 122 PKPbc **PKiKP** **19 43 41.0 +3.6**
comp=N,3.1nm,0.7s,baz=261,slow=5.7,SNR=6.6

*NEIC **25** 19:29:47.7±2.6, 18°.14S±0°.02×69°.39W±0°.07, h135km±5km, mb4.2/9, Error ellipse: s-maj=9.4km s-min=2.8km az=98.0*
*GUC **25** 19:29:48.2±0.6, 18°.12S×69°.49W, h137km±5km, ML3.6*
*VAO **25** 19:29:49.8±1.1, 18°.07S×69°.06W, h149km±7km, mb4.3*
*IDC **25** 19:29:49.3±1.9, 18°.11S×69°.03W, h142km±16km, mb3.9/5, mbtmp4.2/7, Error ellipse: s-maj=23.7km s-min=19.6km az=53.0*
ISC 25 19:29:47.0±0.6,**18°.11S**±0°.04×**69°.26W**±0°.06,**h130**km±6km,
n79,σ1°33/88,**mb4.0**/4,**1C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.32**	**227**		**Pn**	**19 30 06.9**	**+1.0**
PB16				Sn	**Sn**	**19 30 21.5**	**+1.3**
PB16	**IPOC Station P**	**0.32**	**227**	*eP*	**Pn**	**19 30 07.1**	**+1.2**
PB16				IAML		19 30 22.4	
comp=E,2μm,0.3s							
PB18	**Visviri**	**0.56**	**338**		**Pn**	**19 30 08.4**	**+1.3**
PB18				Sn	**Sn**	**19 30 24.8**	**+2.6**
PB18	**Visviri**	**0.56**	**338**	*eP*	**Pn**	**19 30 08.5**	**+1.5**
AP01	**Chacalluta**	**1.06**	**256**		**Pn**	**19 30 09.7**	**-0.7**
AP01				Sn	**Sn**	**19 30 27.5**	**-0.7**
AP01	**Chacalluta**	**1.06**	**256**	*eP*	**Pn**	**19 30 10.0**	**-0.4**
PB12	**IPOC Station P**	**1.13**	**244**		**Pn**	**19 30 10.3**	**-1.0**
PB12				Sn	**Sn**	**19 30 27.9**	**-1.8**
PB12	**IPOC Station P**	**1.13**	**244**	*eP*	**Pn**	**19 30 10.7**	**-0.5**
GO01	**Chusmiza**	**1.55**	**178**		**Pn**	**19 30 18.2**	**+2.2**
GO01	**Chusmiza**	**1.55**	**178**⇑	*eP*	**Pn**	**19 30 18.3**	**+2.2**
GO01				*e*S	**Sn**	**19 30 41.2**	**+2.9**
GO01				IAML		19 30 44.6	
comp=E,791nm,0.3s							
PB11	**IPOC Station P**	**1.68**	**193**		**Pn**	**19 30 18.0**	**+0.7**
PB11				Sn	**Sn**	**19 30 41.5**	**+1.0**
PB11	**IPOC Station P**	**1.68**	**193**	*eP*	**Pn**	**19 30 18.5**	**+1.2**
PB11				*i* S	**Sn**	**19 30 41.3**	**+0.8**
PB11				IAML		19 30 46.3	
comp=N,557nm,0.2s							
PB08	**IPOC Station P**	**2.02**	**177**		**Pn**	**19 30 23.2**	**+1.7**
PB08				Sn	**Sn**	**19 30 50.1**	**+2.1**
LPAZ	**La Paz**	**2.11**	**31**		**Pn**	**19 30 24.9**	**+1.9**
LPAZ				Sn	**Sn**	**19 30 51.5**	**+1.1**
LPAZ	**La Paz**	**2.11**	**31**	P	**Pn**	**19 30 25.0**	**+2.1**
comp=N,408nm,0.3s,baz=210,slow=8.1,SNR=3221							
LPAZ				S	**Sn**	**19 30 52.1**	**+1.7**
comp=N,81nm,0.5s,baz=276,slow=19,SNR=7.3							
LPAZ	**La Paz**	**2.11**	**31**	*eP*	**Pn**	**19 30 24.9**	**+1.9**
HMBC	**Humberstone**	**2.23**	**195**		**Pn**	**19 30 24.2**	**+0.3**
HMBC	**Humberstone**	**2.23**	**195**	*eP*	**Pn**	**19 30 25.1**	**+1.1**
HMBC				IAML		19 31 00.4	
comp=E,428nm,0.3s							
TA01	**Diego Aracena**	**2.59**	**200**		**Pn**	**19 30 28.4**	**+0.1**
TA01	**Diego Aracena**	**2.59**	**200**	*eP*	**Pn**	**19 30 29.0**	**+0.7**
TA01				IAML		19 31 01.5	
comp=N,203nm,0.4s							
PATCX	**Punta Patache**	**2.82**	**197**		**Pn**	**19 30 30.6**	**-0.8**
PB01	**IPOC Station P**	**2.92**	**184**		**Pn**	**19 30 33.2**	**+0.6**
PB01	**IPOC Station P**	**2.92**	**184**	*eP*	**Pn**	**19 30 33.9**	**+1.2**
PB01				IAML		19 31 11.4	
comp=N,274nm,0.3s							
PB02	**IPOC Station P**	**3.25**	**191**		**Pn**	**19 30 36.2**	**-0.6**
PB02	**IPOC Station P**	**3.25**	**191**	*eP*	**Pn**	**19 30 37.8**	**+0.9**
PB09	**IPOC Station P**	**3.66**	**180**		**Pn**	**19 30 43.1**	**+0.6**
PB09	**IPOC Station P**	**3.66**	**180**	*eP*	**Pn**	**19 30 44.2**	**+1.8**
PB06	**IPOC Station P**	**4.58**	**184**		**Pn**	**19 30 54.8**	**+0.2**
PB05	**IPOC Station P**	**4.80**	**190**		**Pn**	**19 30 57.2**	**-0.3**
PB10	**IPOC Station P**	**5.51**	**193**	Pn	**Pn**	**19 31 05.8**	**-1.1**
PB14	**IPOC Station P**	**6.57**	**189**		**Pn**	**19 31 19.3**	**-2.1**
GO02	**Mina Guanaco**	**7.02**	**182**		**Pn**	**19 31 25.9**	**-1.6**
SIV	**San Ignacio**	**8.11**	**76**	P	**Pn**	**19 31 40.7**	**-1.2**
comp=N,7.9nm,0.3s,baz=253,slow=7.9,SNR=27							
SIV				S	**Sn**	**19 33 09.7**	**-2.4**
comp=N,5.6nm,0.7s,baz=346,slow=24,SNR=12							
AC02	**Maricunga**	**8.68**	**179**	Pn	**Pn**	**19 31 47.3**	**-2.7**
NNA	**Nana**	**9.53**	**309**		Pn	19 31 57.5	-3.6
NNA	**Nana**	**9.53**	**309**	P	Pn	19 31 58.7	-2.4
comp=N,17nm,0.3s,baz=129,slow=13,SNR=5.4							
PTLB	**Pontes e Lacer**	**10.05**	**76**		**Pn**	**19 32 06.4**	**-1.6**
PTLB	**Pontes e Lacer**	**10.05**	**76**	*eP*	**Pn**	**19 32 08.1**	**+0.1**
VILB	**Vilhena**	**10.12**	**61**		**Pn**	**19 32 07.7**	**-1.4**
VILB	**Vilhena**	**10.12**	**61**	*eP*	**Pn**	**19 32 09.1**	**0.0**
BDQN	**Bodoquena, MS**	**12.04**	**103**	*eP*	**Pn**	**19 32 32.6**	**-1.7**
SALV	**Santo Antonio**	**13.16**	**82**	*eP*	**Pn**	**19 32 49.4**	**+0.4**
CFA	**Coronel Fontan**	**13.46**	**176**	P	**Pn**	**19 32 51.2**	**-1.7**
comp=N,1.0nm,0.4s,baz=0.0,slow=14,SNR=2.5							
CPUP	**Villa Florida**	**13.73**	**129**		**Pn**	**19 32 54.5**	**-1.8**
CPUP	**Villa Florida**	**13.73**	**129**	P	**Pn**	**19 32 54.8**	**-1.6**
comp=N,0.4nm,0.6s,baz=261,slow=13,SNR=3.9							
MT02	**Curacav**	**15.18**	**186**	Pn	**Pn**	**19 33 13.1**	**-1.4**
PTGB	**Pitanga**	**17.30**	**115**	*eP*	**Pn**	**19 33 40.6**	**0.0**
ITRB	**Iturama**	**17.95**	**98**	*eP*	**Pn**	**19 33 47.2**	**-1.2**
ITAB	**Concordia**	**18.21**	**123**		**P**	**19 33 49.3**	**-0.7**
ITAB	**Concordia**	**18.21**	**123**	*eP*	**Pn**	**19 33 50.1**	**-1.3**
SNDB	**Serra Nova Dou**	**18.38**	**73**	*eP*	**P**	**19 33 51.1**	**-0.9**
CPSB	**Cacapava Do Su**	**18.89**	**133**	*eP*	**Pn**	**19 33 57.9**	**-1.5**
ITTB	**Itaituba**	**19.02**	**46**	*eP*	**P**	**19 33 58.1**	**-0.8**
PLTB	**Pedras Altas**	**19.62**	**137**	P	**P**	**19 34 05.2**	**-0.1**
PLTB				IAmb	IAmb	19 34 05.8	
comp=Z,9.7nm,0.9s							
PLTB	**Pedras Altas**	**19.62**	**137**	*eP*	**P**	**19 34 05.2**	**-0.1**
IPMB	**Ipameri, GO**	**20.01**	**93**	*eP*	**P**	**19 34 09.4**	**-0.3**
BDFB	**Brasilia**	**20.48**	**86**	P	**P**	**19 34 14.7**	**-0.1**
BDFB				IAmb	IAmb	19 34 17.9	
comp=Z,5.1nm,0.5s							
BDFB	**Brasilia**	**20.48**	**86**	P	**P**	**19 34 15.0**	**+0.2**
comp=Z,4.5nm,0.4s,baz=268,slow=13,SNR=5.4							
comp=Z,4.5nm,0.4s							
TRQA	**Tornquist**	**20.86**	**164**	P	**P**	**19 34 19.8**	**+1.2**
VAO	**Valinhos**	**21.42**	**107**	P	**P**	**19 34 24.1**	**-0.7**
VAO				IAmb	IAmb	19 34 40.0	
comp=Z,14nm,1.3s							
PMNB	**Patos De Minas**	**21.67**	**95**	*eP*	**P**	**19 34 26.8**	**-0.7**
SMTB	**Santa Maria do**	**22.97**	**69**	*eP*	**P**	**19 34 39.9**	**-0.6**
JANB	**Januaria**	**24.09**	**86**	*eP*	**P**	**19 34 49.2**	**-1.5**
RUSC	**La Rusia**	**24.15**	**351**	P	**P**	**19 34 50.7**	**-1.0**
DIAM	**Diamantina, MG**	**24.30**	**94**	*eP*	**P**	**19 34 52.2**	**-0.5**
SNAA	**Sanae**	**65.57**	**161**	P	**P**	**19 40 17.7**	**+1.2**
SNAA				IAmb	IAmb	19 40 35.0	
comp=Z,3.1nm,1.4s							
SNAA	**Sanae**	**65.57**	**161**	P	**P**	**19 40 17.2**	**+0.7**
comp=Z,0.8nm,0.8s,baz=236,slow=14,SNR=6.4							
comp=Z,0.8nm,0.8s							
DBIC	**Dimbokro**	**68.13**	**75**	P	**P**	**19 40 33.1**	**-0.4**
DBIC	**Dimbokro**	**68.13**	**75**	P	**P**	**19 40 33.2**	**-0.3**
comp=Z,2.6nm,0.5s,baz=261,slow=5.5,SNR=6.0							
comp=Z,2.6nm,0.5s							
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**19 40 57.9**	**+1.1**
comp=Z,0.7nm,0.3s,baz=117,slow=14,SNR=6.3							
comp=Z,0.7nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.56**	**71**	P	**P**	**19 41 23.0**	**-0.6**
comp=Z,3.4nm,0.4s,baz=252,slow=4.2,SNR=6.7							
comp=Z,3.4nm,0.4s							
ASAR	**Alice Springs**	**132.72**	**209**	PKP	**PKPdf**	**19 48 47.8**	**+0.5**
comp=Z,0.2nm,0.6s,baz=130,slow=2.1,SNR=4.5							
WRA	**Warramunga Arr**	**135.65**	**213**	PKP	**PKPdf**	**19 48 53.6**	**+0.7**
comp=Z,0.4nm,0.6s,baz=139,slow=1.5,SNR=6.6							
ZALV	**Zalesovo Beam**	**139.01**	**23**	PKPdf	**PKPdf**	**19 48 57.7**	**-0.3**
ZALV	**Zalesovo Beam**	**139.01**	**23**	PKP	**PKPdf**	**19 48 58.3**	**+0.4**
comp=Z,0.3nm,0.3s,baz=321,slow=3.7,SNR=4.6							
MKAR	**Makanchi Array**	**143.04**	**33**	PKP	**PKPdf**	**19 49 04.8**	**-0.7**
comp=Z,0.3nm,0.7s,baz=318,slow=1.9,SNR=2.8							
USRK	**Ussuriysk Ar.**	**148.46**	**330**	PKPbc	**PKPdf**	**19 49 18.3**	**+3.6**
comp=Z,1.3nm,0.6s,baz=22,slow=2.5,SNR=5.2							
MJAR	**Matsushiro Arr**	**149.63**	**313**	PKPbc	**PKPbc**	**19 49 22.5**	**+0.9**
comp=Z,0.7nm,0.8s,baz=89,slow=2.3,SNR=4.0							
SONM	**Songino Array**	**150.15**	**6**	PKPbc	**PKPbc**	**19 49 23.4**	**+0.7**
comp=Z,1.0nm,0.4s,baz=327,slow=2.4,SNR=9.0							

*IDC **25** 20:04:39.8±6.0, 29°.59N×139°.59E, h39km±53km, mb3.2/7, mbtmp3.4/8, ML2.5/1, MS3.1/3, Error ellipse: s-maj=33.4km s-min=25.4km az=83.0*
ISC 25 20:04:35.8±1.2,**29°.6N**±0°.1×**139°.6E**±0°.3,**h10**km,**n18**,
σ0°62/7,**mb3.5**/8,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.07**	**351**	Pn	**Pn**	**20 06 19.7**	**+0.3**
0.1nm,0.3s,baz=167,slow=12,SNR=11							
9.5nm,0.9s							
JOW	**Kunigami**	**10.35**	**258**	LR	LR	20 11 02.4	
comp=Z,65nm,18.9s,baz=140,slow=37							
GUMO	**Guam**	**16.61**	**162**	LR	LR	20 13 40.9	
comp=Z,84nm,19.7s,baz=20,slow=32							
HILR	**Hailar Array B**	**25.03**	**328**	P	**P**	**20 10 00.6**	**+0.7**
0.5nm,0.3s,baz=133,slow=10,SNR=2.0							
0.5nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**26.61**	**105**	T	T	20 37 56.5	
baz=298,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**26.61**	**105**	T	T	20 37 56.7	
baz=298,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**26.63**	**105**	T	T	20 37 57.7	
baz=298,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hy**	**27.01**	**108**	T	T	20 38 34.7	
baz=301,slow=75,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**27.02**	**108**	T	T	20 38 33.6	
baz=301,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**27.03**	**108**	T	T	20 38 32.5	
baz=301,slow=75,SNR=4.5							
SONM	**Songino Array**	**31.37**	**315**	P	**P**	**20 10 56.9**	**+0.2**
0.2nm,0.5s,baz=117,slow=8.9,SNR=1.1							
0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**38.57**	**263**	LR	LR	20 28 07.3	
comp=Z,30nm,18.5s,baz=45,slow=36							
TIXI	**Tiksi**	**42.56**	**355**	P	**P**	**20 12 30.5**	**-0.8**
2.2nm,0.3s,baz=150,slow=7.7,SNR=4.4							
MKAR	**Makanchi Array**	**47.17**	**308**	P	P	20 13 07.3	-1.2
0.2nm,0.6s,baz=99,slow=7.4,SNR=5.4							
0.2nm,0.6s							
WRA	**Warramunga Arr**	**49.46**	**187**	P	**P**	**20 13 26.4**	**+0.1**
0.5nm,0.9s,baz=4.4,slow=7.9,SNR=7.7							
0.5nm,0.9s							
KURBB	**Kurchatov Arra**	**49.70**	**313**	P	**P**	**20 13 27.4**	**-0.5**
0.2nm,0.4s,baz=99,slow=8.3,SNR=2.6							
0.2nm,0.4s							
ILAR	**Eielson Array**	**56.69**	**29

CATAC 25 20:18:06.6±0.7, 12°N±3°×8°8W±°, h11km±3km, M2.8/7, MLv2.8/7, Error ellipse: s-maj=8.7km s-min=4.1km az=36.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	**Cerro Pekin**	**1.00**	**46**	P	Pb	20 18 25.9	0.0
PKGN				S	Sb	20 18 39.0	-0.1
CSGN	**Cosiguina Volc**	**1.00**	**9**	P	Pg	20 18 25.9	0.0
CSGN				S	Sb	20 18 39.2	-0.1
POTN	**Potosi Cosigui**	**1.03**	**11**	P	Pg	20 18 26.1	-0.4
POTN				S	Sb	20 18 40.8	+0.6
POLN	**Al Sur del Vol**	**1.11**	**53**	P	Pb	20 18 26.3	-1.5
CNGA	**Al SSO del Vol**	**1.12**	**63**	P	Pb	20 18 27.7	-0.3
COPN	**Copaltepe**	**1.12**	**80**	P	Pb	20 18 27.7	-0.3
CNGN	**Cerro Negro**	**1.12**	**62**	P	Pb	20 18 28.1	0.0
CNGN	**Cerro Negro**	**1.12**	**62**	S	Sn	20 18 43.4	-0.5
MOM2	**El Cardon**	**1.29**	**69**	S	Sb	20 18 46.8	-0.7
CNCH	**Conchagua**	**1.29**	**355**	S	Sn	20 18 48.3	+0.1
CNCH	**Conchagua**	**1.29**	**355**	P	Pn	20 18 30.0	-0.8
APQ3	**Volcan Apoyequ**	**1.35**	**77**	S	Sg	20 18 49.9	-0.2
WILN	**Americas 2**	**1.51**	**83**	S	Sb	20 18 53.6	-0.2
MAS3	**Al N del Volca**	**1.51**	**88**	S	Sn	20 18 53.1	-0.3
PACA	**Pacayal**	**1.59**	**338**	S	Sn	20 18 55.7	+0.1
LIMN	**Finca el Limon**	**1.70**	**51**	P	Pn	20 18 35.1	-1.3
LIMN				S	Sn	20 18 58.7	+0.5

*SNET **25** 20:19:39.0±1.7, 11°±95N×87°±89W, h15km±20km, ML2.4*

CATAC 25 20:19:38.5±0.7, 12°N±4°×8°8W±°, h15km±4km, M3.2/11, MLv3.2/11, Error ellipse: s-maj=9.4km s-min=4.0km az=31.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	**Cerro Pekin**	**1.02**	**45**	P	Pb	20 19 57.6	-0.4
PKGN				S	Sn	20 20 12.5	0.0
CSGN	**Cosiguina Volc**	**1.04**	**9**	P	Pb	20 19 58.0	-0.3
CSGN				S	Sn	20 20 13.6	+0.6
POTN	**Potosi Cosigui**	**1.07**	**11**	P	Pb	20 19 58.2	-0.6
POTN				S	Sg	20 20 13.0	-0.2
COPN	**Copaltepe**	**1.13**	**78**	P	Pb	20 19 59.5	-0.3
POLN	**Al Sur del Vol**	**1.13**	**52**	P	Pb	20 19 58.4	-1.5
POLN				S	Sb	20 20 12.4	-2.0
CNGA	**Al SSO del Vol**	**1.14**	**61**	P	Pb	20 19 59.8	-0.1
CNGA				S	Sn	20 20 16.0	+0.6
CNGN	**Cerro Negro**	**1.14**	**61**	P	Pn	20 20 00.2	+0.1
CNGN	**Cerro Negro**	**1.14**	**61**	S	Sn	20 20 15.5	0.0
MOM2	**El Cardon**	**1.30**	**68**	P	Pn	20 20 02.3	0.0
MOM2				S	Sb	20 20 17.5	-1.8
CNCH	**Conchagua**	**1.33**	**355**	*e*P	Pn	20 20 02.1	-0.6
CNCH				*e*S	Sb	20 20 20.0	-0.2
CNCH	**Conchagua**	**1.33**	**355**	P	Pn	20 20 02.5	-0.3
APQ3	**Volcan Apoyequ**	**1.36**	**76**	S	Sb	20 20 21.5	+0.5
LCND	**La Caada**	**1.37**	**353**	*e*S	Sb	20 20 21.6	+0.4
MAS3	**Al N del Volca**	**1.51**	**87**	P	Pn	20 20 01.2	-4.0
MAS3				S	Sb	20 20 25.1	-0.3
WILN	**Americas 2**	**1.51**	**82**	S	Sb	20 20 25.0	-0.4
PACA	**Pacayal**	**1.63**	**339**	*e*P	Pn	20 20 07.2	+0.3
PACA				*e*S	Sb	20 20 28.6	-0.2
PACA	**Pacayal**	**1.63**	**339**	P	Pn	20 20 07.5	+0.7
PACA	**Pacayal**	**1.63**	**339**	S	Sn	20 20 27.8	+0.2
LIMN	**Finca el Limon**	**1.73**	**50**	P	Pn	20 20 07.4	-0.8
LIMN				S	Sn	20 20 30.3	+0.2
RCVN	**Varillal2**	**2.21**	**42**	P	Pn	20 20 15.0	+0.2
JAYA	**Jayaque - finc**	**2.40**	**315**	*e*P	Pn	20 20 15.3	-2.1
JAYA				*e*S	Sn	20 20 43.9	-2.8
JAYA				IAML		20 20 47.9	
	comp=Z,25nm,0.2s						

*IDC **25** 20:19:59.3±0.5, 26°±18N×44°±77W, h0km, mb4.3/29, mbtmp4.3/29, MS3.8/51, Error ellipse: s-maj=15.6km s-min=11.6km az=177.0*

*NEIC **25** 20:20:00.7±1.3, 26°±2N±0°±1×44°±8W±0°±1, h10km±1km, mb4.8/171, Error ellipse: s-maj=18.5km s-min=17.1km az=133.0*

*GCMT **25** 20:20:03.7±0.2, 26°±37N±0°±03×44°±59W±0°±03, h12km±1km, MW4.9/99, Moment Tensor Solution. s9,c9; s99,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.89±.14; $M_{\theta\theta}$=0.81±.09; $M_{\phi\phi}$=1.08±.09; $M_{r\theta}$=0.29±.22; $M_{\theta\phi}$=0.85±.05; $M_{\phi r}$=-1.67±.30; Best double couple: M_0=2.45600×10^{16} NP1:ϕ_s=237.00000°, δ32.00000°, λ=-50.00000°. NP2: ϕ_s=13.00000°, δ66.00000°, λ=-112.00000°. Principal axes: T 2.1650, Plg18.0000°, Azm119.0000°; N 0.5810, Plg20.0000°, Azm22.0000°; P -2.7470, Plg63.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 20:20:00.5±0.4, 26°±14N±0°±08×44°±79W±0°±07, h12km, n210, $_o$0$_s$64/127, mb4.7/122, MS3.9/53, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**19.02**	**235**	T	T	20 43 39.7	
	SNR=10						
GCPR	**Guaynabo City**	**21.18**	**253**	P	**P**	**20 24 45.6**	**-0.3**
PDPR	**Patillas Dam,**	**21.25**	**252**	P	**P**	**20 24 46.5**	**-0.2**
SJG	**San Juan**	**21.32**	**252**	LR	LR	20 31 13.3	
	comp=Z,224nm,21.8s,baz=72,slow=32						
MDP	**Montagnes des**	**22.23**	**201**	LR	LR	20 31 42.3	
	comp=Z,130nm,20.6s,baz=16,slow=32						
DR12	**Loma Pena Alta**	**23.85**	**257**	P	**P**	**20 25 13.9**	**0.0**
BATG	**Bathurst New B**	**26.97**	**327**	P	**P**	**20 25 42.2**	**+0.3**
BATG				IAmb	IAmb	20 25 46.6	
	comp=Z,14nm,0.8s						
BAUV	**El Baul**	**27.92**	**236**	P	**P**	**20 25 50.8**	**+0.1**
BAUV				IAmb	IAmb	20 25 59.4	
	comp=Z,42nm,1.4s						
BOAV	**Boa Vista**	**28.04**	**215**		**P**	**20 25 51.9**	**+0.1**
G62A	**West of Eustis**	**28.09**	**319**	P	**P**	**20 25 52.2**	**+0.2**
H62A	**Milan**	**28.11**	**318**	P	**P**	**20 25 53.4**	**+1.2**
H62A				IAmb	IAmb	20 25 55.6	
	comp=Z,20nm,1.5s						
D62A	**Allapoint, All**	**28.37**	**324**	P	**P**	**20 25 54.4**	**0.0**
D62A				IAmb	IAmb	20 26 16.7	
	comp=Z,38nm,1.9s						
BBTS	**Babate**	**28.77**	**108**	LR	LR	20 34 30.5	
	comp=Z,218nm,19.5s,baz=261,slow=30						
SDV	**Santo Domingo**	**29.93**	**240**	LR	LR	20 38 08.4	
	comp=Z,56nm,19.4s,baz=71,slow=36						
K57A	**Scipio Center**	**30.73**	**311**	P	**P**	**20 26 15.3**	**-0.3**
K57A				IAmb	IAmb	20 26 18.9	
	comp=Z,11nm,1.0s						
RCBR	**Riachuelo**	**32.92**	**164**	LR	LR	20 36 19.1	
	comp=Z,83nm,20.8s,baz=8.5,slow=30						
SCHQ	**Schefferville**	**32.92**	**336**	P	**P**	**20 26 33.9**	**-0.8**
	comp=Z,56nm,0.9s,baz=137,slow=7.4,SNR=3.5						
SCHQ				LR	LR	20 38 50.6	
	comp=Z,1μm,18.3s,baz=116,slow=34						
SADO	**Sadowa**	**33.27**	**313**	LR	LR	20 37 58.8	
	comp=Z,4μm,20.3s,baz=149,slow=32						
RUSC	**La Rusia**	**33.69**	**238**		**P**	**20 26 41.5**	**-0.8**
RUSC				IAmb	IAmb	20 26 46.5	
	comp=Z,14nm,1.4s						
TKL	**Tuckaleechee C**	**34.59**	**295**	P	**P**	**20 26 49.1**	**-0.2**
TKL	**Tuckaleechee C**	**34.59**	**295**	P	**P**	**20 26 49.8**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=121,slow=10,SNR=4.3						
TKL				LR	LR	20 38 11.6	
	comp=Z,420nm,21.1s,baz=98,slow=32						
	comp=Z,3.7nm,0.8s						
ACSO	**Alum Creek Sta**	**34.64**	**304**	P	**P**	**20 26 50.0**	**+0.2**
ACSO				IAmb	IAmb	20 26 52.0	
	comp=Z,13nm,0.8s						
ROSC	**El Rosal**	**35.31**	**238**	LR	LR	20 41 24.4	
	comp=Z,80nm,20.6s,baz=49,slow=36						
MDT	**Midelt**	**35.45**	**70**	LR	LR	20 38 17.7	
	comp=Z,134nm,20.8s,baz=304,slow=31						
ESDC	**Sonseca Array**	**36.52**	**58**	LR	LR	20 37 59.3	
	comp=Z,126nm,19.8s,baz=271,slow=30						
Z47A	**Carrollton**	**38.05**	**291**	P	**P**	**20 27 18.5**	**-0.5**
Z47A				IAmb	IAmb	20 27 48.0	
	comp=Z,15nm,0.6s						
FRB	**Frobisher Bay**	**40.69**	**344**	LR	LR	20 42 43.5	
	comp=Z,339nm,21.7s,baz=122,slow=34						
SFJD	**Kangerlussuaq**	**41.03**	**357**	LR	LR	20 41 20.4	
	comp=Z,187nm,19.1s,baz=175,slow=31						
JTS	**Las Juntas de**	**41.08**	**255**	LR	LR	20 42 53.0	
	comp=Z,50nm,20.6s,baz=24,slow=33						
TBO	**Thunder Bay**	**41.22**	**315**	P	**P**	**20 27 45.4**	**+0.2**
TBO				IAmb	IAmb	20 27 47.5	
	comp=Z,35nm,1.0s						
OTAV	**Otavalo**	**41.41**	**237**	P	**P**	**20 27 47.0**	**-0.7**
BORG	**Borgarnes**	**41.45**	**15**	LR	LR	20 41 12.6	
	comp=Z,88nm,19.9s,baz=211,slow=31						
WHAR	**Wooly Hollow**	**41.52**	**294**	P	**P**	**20 27 48.5**	**+0.7**
BDFB	**Brasília**	**41.65**	**185**	P	**P**	**20 27 49.5**	**+0.5**
BDFB	**Brasília**	**41.65**	**185**	P	**P**	**20 27 50.0**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=35,slow=2.5,SNR=3.1						
BDFB				LR	LR	20 43 04.3	
	comp=Z,145nm,19.3s,baz=353,slow=33						
	comp=Z,1.1nm,0.3s						
EKA	**Eskdalemuir Ar**	**41.97**	**35**	P	**P**	**20 27 51.5**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=240,slow=6.7,SNR=4.3						
	comp=Z,2.8nm,0.8s						
DBIC	**Dimbokro**	**42.67**	**110**	P	**P**	**20 27 57.4**	**-0.1**
DBIC	**Dimbokro**	**42.67**	**110**	P	**P**	**20 27 57.6**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=324,slow=5.9,SNR=5.4						
DBIC				LR	LR	20 42 32.6	
	comp=Z,280nm,21.8s,baz=338,slow=32						
	comp=Z,6.4nm,0.9s						
MTO3	**Montecristo**	**43.22**	**263**		**P**	**20 28 02.1**	**-0.1**
MTO3				IAmb	IAmb	20 28 15.2	
	comp=Z,23nm,1.6s						
APG	**El Apazote**	**43.98**	**265**	P	**P**	**20 28 08.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=129,slow=8.0,SNR=5.6						
	comp=Z,0.6nm,0.8s						
EPLO	**Experimental L**	**44.22**	**315**		**P**	**20 28 09.8**	**+0.3**
EPLO				IAmb	IAmb	20 28 10.9	
	comp=Z,16nm,0.9s						
H10N2	**ASCENSION HYDR**	**44.79**	**135**	T	T	21 15 53.5	
	baz=320,slow=75,SNR=312						
H10N3	**ASCENSION HYDR**	**44.79**	**135**	T	T	21 15 51.1	
	baz=320,slow=75,SNR=218						
H10N1	**ASCENSION HYDR**	**44.81**	**135**	T	T	21 16 10.2	
	baz=320,slow=75,SNR=193						
TORD	**Torodi Ar. Bea**	**45.41**	**97**	P	**P**	**20 28 18.8**	**-0.6**
TORD				IAmb	IAmb	20 28 58.4	
	comp=Z,13nm,1.5s						
TORD	**Torodi Ar. Bea**	**45.41**	**97**	P	**P**	**20 28 19.7**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=307,slow=6.6,SNR=8.2						
TORD				LR	LR	20 46 40.7	
	comp=Z,218nm,18.5s,baz=310,slow=35						
	comp=Z,2.5nm,0.4s						
H10S3	**ASCENSION HYDR**	**45.54**	**136**	T	T	21 16 59.7	
	baz=319,slow=74,SNR=218						
H10S2	**ASCENSION HYDR**	**45.55**	**136**	T	T	21 17 00.9	
	baz=261,slow=74,SNR=81						
ULM	**Lac du Bonnet**	**45.70**	**316**	P	**P**	**20 28 21.6**	**+0.3**
	comp=Z,12nm,0.9s,baz=101,slow=8.2,SNR=5.9						
ULM				LR	LR	20 45 38.9	
	comp=Z,150nm,19.3s,baz=96,slow=34						
	comp=Z,12nm,0.9s						
ATAH	**Atahualpa**	**46.46**	**229**	LR	LR	20 50 04.6	
	comp=Z,36nm,18.6s,baz=36,slow=39						
SUMG	**Summit**	**46.61**	**3**	P	**P**	**20 28 28.3**	**-0.3**
SUMG				IAmb	IAmb	20 29 47.4	
	comp=Z,16nm,1.3s						
WMOK	**Wichita Mounta**	**46.87**	**294**	P	**P**	**20 28 30.8**	**0.0**
WMOK				IAmb	IAmb	20 28 32.9	
	comp=Z,7.1nm,0.9s						
KEST	**Kesra**	**46.90**	**65**	LR	LR	20 46 21.9	
	comp=Z,71nm,20.3s,baz=276,slow=34						
CMIG	**Matias Romero**	**47.20**	**270**	LR	LR	20 48 16.0	
	comp=Z,46nm,18.6s,baz=3.5,slow=36						
BRDY	**Brady**	**47.44**	**289**		**P**	**20 28 35.0**	**-0.2**
BRDY				IAmb	IAmb	20 28 36.9	
	comp=Z,6.6nm,0.9s						
DAVA	**Damuels**	**47.56**	**49**	*e*P	**P**	**20 28 37.5**	**+1.4**
	comp=Z,2.2nm,0.8s						
LPAZ	**La Paz**	**47.90**	**211**		**P**	**20 28 38.5**	**-1.0**
LPAZ				IAmb	IAmb	20 28 43.4	
	comp=Z,8.7nm,1.1s						
LPAZ	**La Paz**	**47.90**	**211**	P	**P**	**20 28 40.6**	**+1.1**
	comp=Z,6.7nm,1.0s,baz=8.8,slow=9.9,SNR=11						
LPAZ				LR	LR	20 48 45.7	
	comp=Z,57nm,18.6s,baz=20,slow=36						
	comp=Z,6.7nm,1.0s						
RETA	**Reutte**	**48.17**	**49**	*e*P	**P**	**20 28 41.2**	**+0.4**
	comp=Z,1.2nm,1.0s						
WATA	**Walderalm**	**48.71**	**49**	*e*pP	pP	20 28 46.8	-0.9
	comp=Z,1.7nm,0.7s						
WTTA	**Wattenberg**	**48.74**	**49**	*e*P	**P**	**20 28 45.1**	**-0.2**
	comp=Z,1.6nm,0.9s						
AMTX	**Amarillo**	**49.23**	**295**	P	**P**	**20 28 49.1**	**0.0**
POST	**Post**	**49.30**	**292**		**P**	**20 28 49.3**	**-0.3**
POST				IAmb	IAmb	20 28 51.7	
	comp=Z,17nm,1.0s						
ABTA	**Abfaltersbach**	**49.30**	**50**	*e*P	**P**	**20 28 50.1**	**+0.6**
	comp=Z,1.7nm,0.7s						
LESA	**Schwarzleotal**	**49.46**	**49**	*e*P	**P**	**20 28 51.1**	**+0.4**
	comp=Z,0.8nm,0.7s						
KBA	**Koelnbreinsper**	**49.89**	**49**	*e*P	**P**	**20 28 54.5**	**+0.4**
	comp=Z,1.2nm,1.1s						
BIOA	**Bad Ischl, Aus**	**50.13**	**49**	*e*P	**P**	**20 28 55.8**	**+0.1**
	comp=Z,1.5nm,1.2s						
MSTX	**Muleshoe**	**50.23**	**294**		**P**	**20 28 56.7**	**-0.1**
MSTX				IAmb	IAmb	20 28 58.7	
	comp=Z,11nm,1.1s						
FFC	**Flin Flon**	**50.25**	**321**	P	**P**	**20 28 56.5**	**0.0**
FFC				IAmb	IAmb	20 28 58.9	
	comp=Z,23nm,1.4s						
GERES	**GERESS Array B**	**50.26**	**47**	P	**P**	**20 28 57.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=254,slow=8.2,SNR=4.3						
GERES				LR	LR	20 47 26.6	
	comp=Z,45nm,18.0s,baz=284,slow=33						
	comp=Z,0.6nm,0.8s						
OBKA	**Obir**	**50.69**	**50**	*e*P	**P**	**20 29 00.1**	**+0.1**
	comp=Z,3.1nm,0.7s						
NOA	**NORSAR Array B**	**51.14**	**31**	P	**P**	**20 29 03.7**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=254,slow=7.9,SNR=6.2						
NOA				LR	LR	20 46 24.1	
	comp=Z,65nm,20.4s,baz=245,slow=31						
	comp=Z,2.6nm,0.8s						
GO01	**Chusmiza**	**51.33**	**210**	P	**P**	**20 29 04.4**	**-1.1**
GO01				IAmb	IAmb	20 29 06.8	
	comp=Z,14nm,1.1s						
ARSA	**Arzberg**	**51.39**	**49**	*e*P	**P**	**20 29 05.0**	**-0.1**
	comp=Z,1.3nm,0.7s						
PB11	**IPOC Station P**	**51.62**	**210**	P	**P**	**20 29 05.9**	**-1.4**
CONA	**Conrad Observa**	**51.64**	**48**	*e*P	**P**	**20 29 06.9**	**-0.2**
	comp=Z,1.0nm,1.0s						
PB08	**IPOC Station P**	**51.73**	**210**	P	**P**	**20 29 07.3**	**-1.0**
PB08				IAmb	IAmb	20 29 10.3	
	comp=Z,15nm,1.0s						
TXAR	**Lajitas Array**	**51.74**	**288**	P	**P**	**20 29 07.4**	**-0.8**
TXAR					**PcP**	**20 30 21.0**	**-0.5**
TXAR	**Lajitas Array**	**51.74**	**288**	P	**P**	**20 29 08.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=88,slow=7.7,SNR=9.2						
TXAR				PcP	**PcP**	**20 30 22.5**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=106,slow=4.0,SNR=5.3						
	comp=Z,1.2nm,0.8s						
RONA	**Rosalia, Austr**	**51.92**	**49**	*e*P	**P**	**20 29 09.2**	**-0.1**
	comp=Z,1.5nm,0.7s						
HFS	**Hagfors**	**52.08**	**33**	P	**P**	**20 29 10.5**	**+0.4**
	comp=Z,8.4nm,0.9s,baz=288,slow=6.1,SNR=5.0						
HFS				LR	LR	20 48 13.6	
	comp=Z,80nm,18.4s,baz=266,slow=33						
	comp=Z,8.4nm,0.9s						
VRAC	**Vranov**	**52.19**	**47**	LR	LR	20 47 19.3	
	comp=Z,54nm,19.8s,baz=283,slow=31						
VHRN	**Van Horn**	**52.58**	**290**		**P**	**20 29 15.0**	**+0.5**
ANMO	**Albuquerque**	**53.11**	**295**	P	**P**	**20 29 18.3**	**-0.1**
ANMO	**Albuquerque**	**53.11**	**295**	P	**P**	**20 29 19.3**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=107,slow=14,SNR=4.7						
ANMO				LR	LR	20 50 13.2	
	comp=Z,252nm,19.8s,baz=166,slow=34						
	comp=Z,3.3nm,0.9s						
CPUP	**Villa Florida**	**53.55**	**194**	P	**P**	**20 29 21.8**	**+0.5**
CPUP	**Villa Florida**	**53.55**	**194**	P	**P**	**20 29 22.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=347,slow=8.7,SNR=3.2						
	comp=Z,0.2nm,0.5s						
RLMT	**Red Lodge**	**54.30**	**308**		**P**	**20 29 26.7**	**-0.3**
RLMT				IAmb	IAmb	20 29 29.3	
	comp=Z,8.0nm,0.8s						
MVCO	**Mesa Verde**	**54.43**	**298**		**P**	**20 29 28.2**	**+0.1**
EGMT	**Eagleton**	**54.55**	**312**	P	**P**	**20 29 28.0**	**-0.5**
121A	**Cookes Peak, D**	**54.60**	**293**		**P**	**20 29 28.5**	**-0.9**
121A				IAmb	IAmb	20 30 36.6	
	comp=Z,23nm,1.4s						
BW06	**Boulder Array**	**54.65**	**305**	IAmb	IAmb	20 29 31.2	
	comp=Z,8.8nm,0.9s						
PD31	**Pinedale Array**	**54.65**	**305**	P	**P**	**20 29 29.3**	**-0.3**
PD31				IAmb	IAmb	20 29 31.2	
	comp=Z,8.2nm,0.8s						
PDAR	**Pinedale Array**	**54.65**	**305**	P	**P**	**20 29 29.0**	**-0.6**
PDAR	**Pinedale Array**	**54.65**	**305**	P	**P**	**20 29 30.1**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=90,slow=8.9,SNR=32						
PDAR				LR	LR	20 51 23.8	
	comp=Z,120nm,19.0s,baz=88,slow=34						
	comp=Z,6.9nm,0.9s						
RES	**Resolute Bay**	**54.86**	**346**	LR	LR	20 51 15.9	
	comp=Z,201nm,19.3s,baz=89,slow=34						
P18A	**Preston Nutter**	**55.48**	**301**	IAmb	IAmb	20 29 38.4	
	comp=Z,7.7nm,0.8s						
TPAW	**Teton Pass**	**55.61**	**306**	IAmb	IAmb	20 29 38.6	
	comp=Z,8.5nm,0.9s						
FXWY	**Fox Creek**	**55.65**	**306**		**P**	**20 29 37.2**	**+0.4**
YHL	**Hebgen Lake**	**55.67**	**308**	IAmb	IAmb	20 29 39.8	
	comp=Z,8.4nm,1.1s						
YHB	**Horse Butte**	**55.69**	**308**	IAmb	IAmb	20 29 40.0	
	comp=Z,14nm,0.9s						
SRU	**San Rafael Swe**	**55.76**	**301**	IAmb	IAmb	20 29 39.9	
	comp=Z,8.9nm,0.8s						
Q16A	**Castle Valley**	**56.29**	**301**	IAmb	IAmb	20 29 44.4	
	comp=Z,12nm,1.5s						
WUAZ	**Wupatki**	**56.99**	**297**		**P**	**20 29 46.4**	**-0.1**
WUAZ				IAmb	IAmb	20 29 49.7	
	comp=Z,10nm,1.0s						
DUG	**Dugway, Tooele**	**57.37**	**302**		**P**	**20 29 49.0**	**0.0**
DUG				IAmb	IAmb	20 29 51.2	
	comp=Z,9.2nm,0.8s						
YKA	**Yellowknife Ar**	**57.86**	**329**	P	**P**	**20 29 52.1**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=93,slow=6.9,SNR=6.3						
YKA				LR	LR	20 53 48.0	
	comp=Z,307nm,19.8s,baz=87,slow=35						
	comp=Z,5.2nm,0.9s						
KNB	**Kanab**	**57.88**	**299**	P	**P**	**20 29 53.2**	**+0.5**
HLID	**Hailey**	**58.11**	**307**		**P**	**20 29 54.6**	**+0.4**
CCUT	**Cedar City**	**58.21**	**299**	IAmb	IAmb	20 29 57.8	
	comp=Z,8.3nm,1.1s						
FINES	**FINESS Array B**	**58.27**	**32**	LR	LR	20 51 51.9	
	comp=Z,79nm,18.8s,baz=246,slow=33						
Y14A	**Wickenburg**	**58.62**	**295**	IAmb	IAmb	20 31 05.3	
	comp=Z,6.7nm,0.9s						
MLR	**Muntele Rosu**	**58.66**	**51**		**P**	**20 29 56.9**	**-1.0**
MLR				IAmb	IAmb	20 30 01.9	
	comp=Z,8.2nm,1.0s						
MLR	**Muntele Rosu**	**58.66**	**51**	LR	LR	20 52 54.6	
	comp=Z,40nm,18.7s,baz=288,slow=34						
SPR3	**Spring Creek 3**	**58.71**	**301**	IAmb	IAmb	20 30 01.5	
	comp=Z,5.9nm,0.8s						
LPIG	**La Paz**	**58.78**	**283**	LR	LR	20 54 13.0	
	comp=Z,64nm,20.8s,baz=30,slow=35						
ARCES	**ARCESS Array B**	**58.88**	**23**	P	**P**	**20 29 59.1**	**+0.1**
ARCES	**ARCESS Array B**	**58.88**	**23**	P	**P**	**20 29 59.5**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=8.7,slow=1.6,SNR=8.0						
	comp=Z,5.1nm,0.9s						
PLID	**Pearl Lake**	**59.05**	**309**		**P**	**20 30 00.6**	**-0.2**
PLID				IAmb	IAmb	20 30 02.6	
	comp=Z,7.6nm,0.8s						
ELK	**Elko**	**59.11**	**303**	IAmb	IAmb	20 30 03.1	
	comp=Z,6.8nm,0.9s						
ELK	**Elko**	**59.11**	**303**	P	**P**	**20 30 02.5**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=58,slow=4.5,SNR=17						
	comp=Z,5.6nm,0.9s						
MFID	**Camas Ranch**	**59.15**	**307**	IAmb	IAmb	20 30 03.5	
	comp=Z,10nm,0.9s						
NEW	**Newport**	**59.46**	**312**		**P**	**20 30 03.9**	**+0.6**
NEW	**Newport**	**59.46**	**312**	P	**P**	**20 30 04.5**	**+1.2**
	comp=Z,17nm,0.8s,baz=93,slow=6.9,SNR=20						
NEW				LR	LR	20 54 21.4	
	comp=Z,259nm,19.5s,baz=58,slow=35						
	comp=Z,17nm,0.8s						
PRN	**Pahroc Range**	**59.55**	**300**	IAmb	IAmb	20 30 07.8	
	comp=Z,6.9nm,1.2s						
V12A	**Nelson**	**59.73**	**298**	IAmb	IAmb	20 30 08.2	
	comp=Z,5.7nm,0.9s						
F10A	**Beach Ranch, E**	**59.79**	**310**	IAmb	IAmb	20 30 04.9	
	comp=Z,11nm,0.9s						
AKASG	**Malin Array Be**	**60.29**	**45**	P	**P**	**20 30 08.4**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=275,slow=6.2,SNR=5.1						
AKASG				LR	LR	20 54 22.8	
	comp=Z,60nm,18.5s,baz=317,slow=34						
	comp=Z,2.4nm,0.8s						
IRM	**Iron Mountain**	**60.30**	**296**	P	**P**	**20 30 09.9**	**+0.5**
LNOR	**Lincton Mounta**	**60.54**	**310**	IAmb	IAmb	20 30 12.6	
	comp=Z,14nm,1.1s						
TPNV	**Topopah Spring**	**60.58**	**299**	IAmb	IAmb	20 30 21.2	
	comp=Z,8.3nm,1.1s						
D08A	**Wollman Farm,**	**60.81**	**311**		**P**	**20 30 12.7**	**+0.1**
G08A	**Pilot Rock**	**61.09**	**309**		**P**	**20 30 14.6**	**0.0**
YUH	**Yuha Desert**	**61.29**	**294**	IAmb	IAmb	20 30 19.1	
	comp=Z,7.9nm,0.8s						
PFO	**Pinyon Flats O**	**61.49**	**296**

O30N	**Mendenhall**	**68.18 328**	IAmb	IAmb	20 31 02.2
	comp=Z,9.3nm,0.9s				
DAWY	**Dawson**	**68.79 332**	IAmb	IAmb	20 31 05.7
	comp=Z,12nm,1.1s				
EIL	**Elat**	**69.19 66**	LR	LR	21 00 58.9
	comp=Z,43nm,20.9s,baz=260,slow=36				
F26K	**Sheenjek River**	**69.56 336**		**P**	**20 31 09.2 +0.2**
F26K			IAmb	IAmb	20 31 11.5
	comp=Z,11nm,1.0s				
G26K	**Porcupine Rive**	**69.67 335**	P	**P**	**20 31 09.2 -0.5**
G26K			IAmb	IAmb	20 31 11.7
	comp=Z,9.0nm,0.9s				
D25K	**Kavik River**	**69.79 338**	IAmb	IAmb	20 31 12.5
	comp=Z,12nm,1.0s				
H09N1	**TRISTAN DA CUN**	**69.90 153**	T	T	21 47 22.4
	SNR=20				
H09W1	**TRISTAN DA CUN**	**69.92 153**	T	T	21 47 27.5
	SNR=29				
F25K	**Christian Rive**	**70.14 336**	IAmb	IAmb	20 31 15.3
	comp=Z,6.7nm,0.9s				
PLCA	**Paso Flores**	**70.71 200**	LR	LR	21 00 56.3
	comp=Z,39nm,21.6s,baz=68,slow=35				
KBZ	**Khabaz**	**70.84 50**	P	**P**	**20 31 17.8 +0.6**
	comp=Z,3.0nm,0.8s,baz=283,slow=6.3,SNR=11				
	comp=Z,3.0nm,0.8s				
E24K	**Your Creek**	**70.97 337**	IAmb	IAmb	20 31 22.9
	comp=Z,6.6nm,0.9s				
F24K	**Squaw Lake**	**70.97 337**	IAmb	IAmb	20 31 20.4
	comp=Z,6.8nm,0.8s				
IL31		**71.63 334**		**P**	**20 31 21.1 -0.5**
IL31			IAmb	IAmb	20 31 23.1
	comp=Z,8.5nm,0.9s				
ILAR	**Eielson Array**	**71.63 334**	P	**P**	**20 31 20.9 -0.7**
ILAR	**Eielson Array**	**71.63 334**	P	**P**	**20 31 22.3 +0.6**
	comp=Z,4.7nm,0.9s,baz=71,slow=4.6,SNR=31				
ILAR			LR	LR	21 03 54.2
	comp=Z,86nm,18.0s,baz=84,slow=37				
	comp=Z,4.7nm,0.9s				
CCB	**Clear Creek Bu**	**72.05 334**		**P**	**20 31 23.8 -0.4**
CCB			IAmb	IAmb	20 31 25.5
	comp=Z,6.3nm,1.0s				
D22K	**Ayikyak River**	**72.05 339**		**P**	**20 31 24.2 +0.1**
D22K			IAmb	IAmb	20 31 26.9
	comp=Z,13nm,0.9s				
G23K	**Bananza Creek**	**72.06 336**	IAmb	IAmb	20 31 26.7
	comp=Z,9.8nm,1.1s				
H23K	**Yukon River**	**72.24 335**	P	**P**	**20 31 25.2 -0.2**
I23K	**Minto, Yukon-K**	**72.45 335**	IAmb	IAmb	20 31 28.4
	comp=Z,6.6nm,1.0s				
I21K	**Tanana**	**73.44 335**	IAmb	IAmb	20 31 34.8
	comp=Z,9.6nm,1.1s				
KTH	**Kantishna Hill**	**73.75 333**	IAmb	IAmb	20 31 35.8
	comp=Z,12nm,1.0s				
J20K	**Nowinta River**	**74.73 335**	IAmb	IAmb	20 31 49.1
	comp=Z,28nm,1.7s				
TSUM	**Tsumeb**	**75.48 120**	LR	LR	20 56 43.4
	comp=Z,68nm,20.2s,baz=338,slow=29				
KDAK	**Kodiak Island**	**77.13 328**	LR	LR	21 06 06.2
	comp=Z,215nm,19.4s,baz=105,slow=36				
AKTO	**Aktyubinsk**	**77.91 40**	LR	LR	21 03 44.7
	comp=Z,71nm,19.3s,baz=282,slow=34				
AB31	**Akbulak array**	**79.56 40**		**P**	**20 32 06.1 -1.2**
LSZ	**Lusaka**	**81.99 111**	LR	LR	21 06 53.5
	comp=Z,50nm,18.3s,baz=308,slow=34				
TIXI	**Tiksi**	**82.38 2**		**P**	**20 32 21.8 -0.2**
TIXI			IAmb	IAmb	20 32 23.8
	comp=Z,7.3nm,0.8s				
BVAR	**Borovoye Array**	**83.21 33**	P	**P**	**20 32 28.1 +1.4**
	comp=Z,2.4nm,0.7s,baz=306,slow=3.5,SNR=16				
	comp=Z,2.4nm,0.7s				
MATP	**Matopo**	**84.81 116**	LR	LR	21 05 40.0
	comp=Z,47nm,18.1s,baz=346,slow=32				
LBTB	**Lobatse**	**84.86 121**	LR	LR	21 04 55.4
	comp=Z,81nm,18.3s,baz=334,slow=32				
BOSA	**Boshof**	**86.50 124**	LR	LR	21 06 19.8
	comp=Z,80nm,18.2s,baz=354,slow=32				
KURK	**Kurchatov**	**88.65 32**	P	**P**	**20 32 52.7 -0.9**
KURBB	**Kurchatov Arra**	**88.67 32**	P	**P**	**20 32 54.1 +0.4**
	comp=Z,1.0nm,0.9s,baz=310,slow=4.9,SNR=7.8				
	comp=Z,1.0nm,0.9s				
ZAA0	**Zalesovo Array**	**89.16 27**		**P**	**20 32 55.1 -0.8**
ZALV	**Zalesovo Beam**	**89.16 27**		**P**	**20 32 54.9 -1.0**
ZALV	**Zalesovo Beam**	**89.16 27**	P	**P**	**20 32 56.7 +0.7**
	comp=Z,1.3nm,0.7s,baz=316,slow=6.2,SNR=8.0				
	comp=Z,1.3nm,0.7s				
WMQ	**Urumqi**	**97.88 33**	*eP*	**P**	**20 33 34.3 -2.1**
WMQ			pmax	pmax	
	comp=Z,66nm,1.1s				
CMAR	**Chiang Mai Arr**	**123.37 42**		**PKPdf**	**20 38 56.9 -1.4**
CMAR	**Chiang Mai Arr**	**123.37 42**	PKP	**PKPdf**	**20 38 58.4 0.0**
	comp=Z,0.4nm,0.3s,baz=296,slow=3.3,SNR=4.9				
VNDA	**Vanda**	**127.04 187**	PKP	**PKPdf**	**20 39 04.3 +0.7**
	comp=Z,0.4nm,0.7s,baz=271,slow=3.1,SNR=4.0				

*AZER **25** 20:29:46.4, 38.°75N×48.°63E, h31km, ml2.6*
*TEH **25** 20:29:48.0, 38.°68N×48.°56E, h28km±32km*
ISC 25 20:29:48.1±0.9, 38.°72N±0.°03×48.°63E±0.°03, h32km±6km, n34, σ1°36/60, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.12**	**95**	P	**Pb**	**20 29 53.3**	**-0.6**
LKRN				S	**Sb**	**20 29 58.2**	**+0.4**
ASTR	**Astara**	**0.20**	**142**	P	**Pn**	**20 29 54.3**	**-0.6**
ASTR				S	**Sb**	**20 29 59.8**	**+0.7**
LRK	**Lerik**	**0.24**	**251**	P	**Pb**	**20 29 55.0**	**-0.3**
LRK				S	**Sn**	**20 30 01.2**	**+0.8**
YRD	**Yardimli**	**0.36**	**303**	P	**Pb**	**20 29 55.8**	**-1.0**
YRD				S	**Sb**	**20 30 02.4**	**-0.4**
GAS1	**Astara - Iran**	**0.37**	**154**	Pg	**Pb**	**20 29 56.3**	**-0.5**
GAS1				Sg	**Sn**	**20 30 03.4**	**+0.1**
GLBA	**Clilabad**	**0.55**	**340**	P	**Pb**	**20 29 58.1**	**-1.4**
GLBA				S	**Sn**	**20 30 07.2**	**-0.7**
GRMI	**Germi**	**0.58**	**279**	Pg	**Pb**	**20 29 59.0**	**-1.1**
SAAT	**Saatly**	**1.15**	**352**	P	**Pn**	**20 30 07.8**	**-0.2**
SAAT				S	**Sb**	**20 30 25.0**	**+0.9**
QRD	**Qoradiz**	**1.26**	**306**	P	**Pn**	**20 30 08.4**	**-1.1**
QRD				S	**Sn**	**20 30 24.4**	**-1.0**
ALIB	**&Aumlli-Bayram**	**1.27**	**13**	P	**Pb**	**20 30 11.8**	**+0.4**
BLQ	**Beylaqan**	**1.30**	**321**	P	**Pn**	**20 30 09.5**	**-0.5**
BLQ				S	**Sb**	**20 30 27.0**	**-1.4**
IHRS	**Heris**	**1.31**	**253**	Pg	**Pn**	**20 30 10.8**	**+0.4**
IHRS				Sg	**Sb**	**20 30 29.0**	**+0.1**
ZRD	**Zardab**	**1.72**	**335**	Pn	**Pn**	**20 30 16.0**	**+0.2**
ZRD				Sn	**Sb**	**20 30 39.1**	**-1.3**
IHSH	**Hashtrud**	**1.78**	**218**	Pg	**Pn**	**20 30 17.3**	**+0.4**
AGDM	**Agdam**	**1.82**	**320**	Pn	**Pn**	**20 30 16.8**	**-0.4**
AGDM				Sn	**Sb**	**20 30 41.3**	**-2.0**
GBS	**Qobustan**	**1.83**	**7**	Pn	**Pb**	**20 30 19.1**	**-1.9**
GBS				Sg	**Sb**	**20 30 45.0**	**+1.4**
BRDA	**Brd**	**1.91**	**324**	Pn	**Pn**	**20 30 19.0**	**+0.6**
BRDA				Sn	**Sb**	**20 30 44.9**	**-0.8**
ZNJK	**Zanjan**	**2.05**	**179**	Pn	**Pn**	**20 30 20.6**	**0.0**
PQL	**Pirkuli**	**2.07**	**359**	Pn	**Pn**	**20 30 21.7**	**+1.0**
PQL				Sn	**Sb**	**20 30 47.9**	**-2.6**
ORD	**Ordubad**	**2.07**	**277**	Pg	**Pn**	**20 30 22.4**	**+1.7**
ORD				Sn	**Sn**	**20 30 48.2**	**+2.8**
IML	**Ismayilli**	**2.10**	**351**	Pn	**Pn**	**20 30 21.0**	**-0.1**
IML				Sn	**Sb**	**20 30 48.6**	**-2.7**
ATGJ	**Altiaghaj**	**2.15**	**6**	Pn	**Pn**	**20 30 22.6**	**+0.8**
ATGJ				Sg	**Sb**	**20 30 55.5**	**+2.7**
JIR1	**Jirandeh**	**2.21**	**155**	Pn	**Pn**	**20 30 21.2**	**-1.6**
QBL	**Gabala**	**2.31**	**345**	Pn	**Pn**	**20 30 24.1**	**+0.2**
QBL				Sn	**Sn**	**20 30 52.9**	**+1.7**
IAZR	**Azarshahr**	**2.33**	**244**	Pn	**Pn**	**20 30 25.8**	**+1.3**
SIZA	**Siyzn**	**2.36**	**5**	Pn	**Pn**	**20 30 25.0**	**+0.2**
SIZA				Sg	**Sb**	**20 31 02.8**	**+3.9**
ISHB	**Shabestar**	**2.41**	**260**	Pn	**Pn**	**20 30 26.8**	**+1.4**
XNQ	**Khinaliq**	**2.48**	**351**	Pn	**Pn**	**20 30 26.2**	**-0.2**
XNQ				Sn	**Sn**	**20 30 57.2**	**+1.5**
GANJ	**Ganja**	**2.62**	**318**	Pn	**Pn**	**20 30 30.2**	**+1.9**
GANJ				Sn	**Sn**	**20 30 57.7**	**-1.3**
QUBA	**Quba, Azerbaij**	**2.63**	**358**	Pn	**Pn**	**20 30 29.8**	**+1.4**
QUBA				Sn	**Sn**	**20 31 01.2**	**+1.9**
IGZV	**Ghazvin**	**2.65**	**151**	Pn	**Pn**	**20 30 27.9**	**-0.9**
SEKA	**Sheki**	**2.72**	**337**	Pn	**Pn**	**20 30 29.4**	**-0.2**
SEKA				Sn	**Sn**	**20 31 00.5**	**-0.9**
GDB	**GEDABAY**	**2.99**	**313**	Pn	**Pn**	**20 30 33.7**	**+0.3**
GDB				Sn	**Sn**	**20 31 09.9**	**+1.8**
ZKTA	**Zakatala**	**3.30**	**333**	Pn	**Pn**	**20 30 38.6**	**+1.1**
ZKTA				Sn	**Sn**	**20 31 15.9**	**+0.3**

*IDC **25** 20:29:52.9±0.7, 3.°28S×130.°79E, h0km, mb4.0/12, mbtmp4.1/17, ML4.0/4, MS3.7/23, Error ellipse: s-maj=26.6km s-min=10.7km az=78.0*
*NEIC **25** 20:29:53.5±2.3, 3.°17S±0.°06×130.°58E±0.°04, h10km±1km, mb4.3/27, Error ellipse: s-maj=11.2km s-min=6.4km az=336.0*
*DJA **25** 20:29:58.7±0.2, 3.°S±3.°×13.°1E±.°, h41km±7km, M4.3/14, mB4.8/3, mb4.5/14, MLv4.2/13, Mw(mB)4.1/3*
ISC 25 20:29:55.4±0.4, 3.°29S±0.°04×130.°65E±0.°03, h24km, n98, σ2°20/84, mb4.1/20, MS3.8/19, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.43**	**211**	P	**Pb**	**20 30 22.8**	**+1.4**
FAKI	**Fak Fak**	**1.64**	**77**		**Pb**	**20 30 24.3**	**-0.7**
FAKI				Sn	**Sb**	**20 30 45.4**	**+0.1**
FAKI	**Fak Fak**	**1.64**	**77**	P	**Pb**	**20 30 24.9**	**-0.1**
FAKI				S	**Sn**	**20 30 43.1**	**0.0**
MSAI	**Masohi**	**1.71**	**268**	P	**Pb**	**20 30 27.7**	**+1.5**
AAI	**Ambon**	**2.48**	**261**	P	**Pb**	**20 30 37.7**	**-1.5**
SWI	**Sorong**	**2.49**	**14**	P	**Pn**	**20 30 35.0**	**+0.6**
KMPI	**Kaimana, Papua**	**3.08**	**97**	P	**Pn**	**20 30 44.8**	**+2.3**
NLAI	**Namlea**	**3.54**	**271**	P	**Pn**	**20 30 52.4**	**+3.5**
RKPI	**Ransiki, Papua**	**3.95**	**63**	P	**Pn**	**20 30 55.9**	**+1.4**
SAUI	**Saumlaki**	**4.71**	**172**	Pn	Pn	20 30 59.9	-5.1
SAUI				Sn	**Sn**	**20 31 51.8**	**-7.1**
SANI	**Sanana**	**4.81**	**285**	P	**Pn**	**20 31 07.3**	**+0.9**
TNTI	**Ternate**	**5.20**	**321**		**Pn**	**20 31 09.1**	**-2.6**
TNTI	**Ternate**	**5.20**	**321**	P	**Pn**	**20 31 13.0**	**+1.3**
BAKI	**Biak**	**5.84**	**69**	P	**Pn**	**20 31 24.7**	**+4.2**
KMSI	**Cibinong**	**7.69**	**300**	P	**Pn**	**20 31 47.5**	**+1.6**
LUWI	**Luwuk**	**8.18**	**286**	Pn	**Pn**	**20 31 49.5**	**-3.1**
LUWI	**Luwuk**	**8.18**	**286**	P	**Pn**	**20 31 54.1**	**+1.5**
	30nm,0.6s						
SOEI	**Soe**	**9.02**	**224**	Pn	**Pn**	**20 32 02.4**	**-2.0**
APSI	**Ampana**	**9.29**	**285**	P	**Pn**	**20 32 10.6**	**+2.6**
	75nm,0.8s						
MRSI	**Marisa**	**9.47**	**293**	P	**Pn**	**20 32 11.8**	**+1.4**
	25nm,0.7s						
MTN	**Manton Dam**	**9.51**	**177**		**Pn**	**20 32 10.5**	**-0.4**
BATI	**Baumata**	**9.76**	**225**	Pn	**Pn**	**20 32 17.3**	**+2.9**
	1.8nm,0.3s,baz=166,slow=4.7,SNR=4.7						
BATI				Sn	**Sn**	**20 34 07.8**	**+4.5**
	2.2nm,0.3s,baz=292,slow=17,SNR=1.3						
BATI				LR	LR	20 35 44.5	
	comp=Z,285nm,18.8s,baz=48,slow=36						
	6.8nm,0.4s						
EDFI	**Ende, Flores**	**10.43**	**238**	P	**Pn**	**20 32 27.3**	**+3.7**
	12nm,0.9s						
TOLI2	**Tolitoli**	**10.79**	**294**	Pn	**Pn**	**20 32 26.1**	**-2.4**
KAPI	**Kappang**	**11.00**	**261**	Pn	**Pn**	**20 32 29.2**	**-2.1**
KAPI	**Kappang**	**11.00**	**261**	Pn	**Pn**	**20 32 35.1**	**+3.8**
	1.3nm,0.3s,baz=94,slow=10,SNR=5.9						
KAPI				LR	LR	20 38 01.3	
	comp=Z,459nm,20.2s,baz=78,slow=44						
	8.1nm,0.8s						
KNRA	**Kununurra**	**12.45**	**188**	Pn	**Pn**	**20 32 47.9**	**-3.3**
FITZ	**Fitzroy Crossi**	**15.51**	**198**	Pn	**Pn**	**20 33 29.7**	**-3.0**
FITZ	**Fitzroy Crossi**	**15.51**	**198**	Pn	**Pn**	**20 33 34.1**	**+1.4**
	0.4nm,0.3s,baz=72,slow=12,SNR=8.3						
FITZ				Sn	**Sn**	**20 36 28.7**	**+4.7**
	0.2nm,0.3s,baz=118,slow=9.1,SNR=4.5						
FITZ				LR	LR	20 40 32.3	
	comp=Z,330nm,19.8s,baz=22,slow=41						
	0.9nm,0.4s						
COEN	**Coen**	**16.29**	**131**	Pn	**Pn**	**20 33 39.0**	**-3.7**
COEN				IAmb	IAmb	20 33 54.0	
	comp=Z,34nm,1.4s						
WRAB	**Tennant Creek**	**16.93**	**168**		**Pn**	**20 33 47.0**	**-3.9**
WRA	**Warramunga Arr**	**16.94**	**168**	Pn	**Pn**	**20 33 50.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=354,slow=13,SNR=27						
WRA				Sn	**Sn**	**20 37 00.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=344,slow=20,SNR=5.8						
	comp=Z,6.1nm,0.7s						
WR8	**Warramunga Arr**	**16.99**	**168**		**Pn**	**20 33 48.1**	**-3.4**
JAGI	**Jajag, Banyuwa**	**17.19**	**252**	P	**Pn**	**20 33 52.5**	**-1.6**
JAGI				IAmb	IAmb	20 34 19.0	
	comp=Z,29nm,1.1s						
PMG	**Port Moresby**	**17.50**	**111**	P	**P**	**20 33 59.4**	**+0.5**
PMG				IAmb	IAmb	20 34 06.3	
	comp=Z,23nm,1.2s						
PMG	**Port Moresby**	**17.50**	**111**	P	**Pn**	**20 33 58.7**	**+0.8**
	comp=Z,9.8nm,0.8s,baz=283,slow=12,SNR=3.0						
SBUM	**Sibu**	**19.28**	**287**	P	**P**	**20 34 16.1**	**-2.5**
TGY	**Tagaytay City**	**19.78**	**331**	LR	LR	20 44 24.4	
	comp=Z,150nm,19.4s,baz=118,slow=44						
AS31	**Alice Springs**	**20.50**	**171**		**P**	**20 34 30.3**	**-1.6**
AS31				IAmb	IAmb	20 34 38.4	
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**20.50**	**171**		**P**	**20 34 31.0**	**-0.9**
ASAR	**Alice Springs**	**20.50**	**171**	P	Pn	20 34 33.9	-0.3
	comp=Z,10nm,0.3s,baz=351,slow=11,SNR=128						
ASAR				S	**S**	**20 38 22.8**	**+2.4**
	comp=Z,1.8nm,0.8s,baz=344,slow=17,SNR=4.9						
	comp=Z,10nm,0.3s						
KSM	**Kuching**	**20.87**	**283**		**P**	**20 34 34.2**	**-1.8**
KSM				IAmb	IAmb	20 34 50.9	
	comp=Z,14nm,1.0s						
GUMO	**Guam**	**21.92**	**40**	LR	LR	20 43 08.0	
	comp=Z,98nm,20.5s,baz=238,slow=36						
KPJI	**Karang Pucung**	**21.99**	**259**	P	**P**	**20 34 48.4**	**+0.5**
LEM	**Lembang**	**23.20**	**260**	LR	LR	20 45 47.3	
	comp=Z,425nm,20.7s,baz=110,slow=41						
INKA	**Innaminka**	**26.16**	**159**	P	**P**	**20 35 26.6**	**-1.4**
INKA				IAmb	IAmb	20 35 50.8	
	comp=Z,5.2nm,1.1s						
MYKOM	**Kota Tinggi**	**27.25**	**280**	P	**P**	**20 35 36.1**	**-1.9**
MYKOM				IAmb	IAmb	20 35 46.2	
	comp=Z,10nm,0.8s						
HNR	**Honiara**	**29.74**	**103**	LR	LR	20 49 13.7	
	comp=Z,126nm,20.6s,baz=268,slow=39						
JOW	**Kunigami**	**30.03**	**356**	LR	LR	20 46 17.2	
	comp=Z,341nm,21.7s,baz=174,slow=33						
STKA	**Stephens Creek**	**30.25**	**161**	P	**P**	**20 36 05.2**	**+0.7**
STKA	**Stephens Creek**	**30.25**	**161**	P	**P**	**20 36 06.3**	**+1.9**
	comp=Z,2.5nm,0.8s,baz=342,slow=13,SNR=2.9						
	comp=Z,2.5nm,0.8s						
IPM	**Ipoh**	**30.59**	**284**	P	**P**	**20 36 07.5**	**-0.2**
KULM	**Kulim**	**31.15**	**286**	P	**P**	**20 36 11.6**	**-1.1**
PSI	**Prapat**	**32.28**	**280**	LR	LR	20 51 07.8	
	comp=Z,155nm,18.4s,baz=104,slow=39						
ARMA	**Armidale**	**33.49**	**146**	P	**P**	**20 36 33.9**	**+0.7**
JNU	**Nakatsue**	**36.21**	**0**	LR	LR	20 49 24.2	
	comp=Z,158nm,21.6s,baz=174,slow=32						
CMAR	**Chiang Mai Arr**	**37.97**	**306**	P	**P**	**20 37 09.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**37.97**	**306**	P	**P**	**20 37 14.2**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=137,slow=7.3,SNR=7.2						
	comp=Z,0.4nm,0.3s						
CHTO	**Chiang Mai**	**38.16**	**306**		**P**	**20 37 12.3**	**-0.9**
KSRS	**Korea Array**	**40.61**	**357**	P	**P**	**20 37 34.9**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=176,slow=9.1,SNR=4.8						
	comp=Z,1.4nm,0.7s						
BRDH	**Bariadhala**	**45.99**	**306**	LR	LR	20 59 50.0	
	comp=Z,184nm,18.1s,baz=157,slow=39						
HHC	**Hu-ho-hao-te**	**47.26**	**340**	*eP*	**P**	**20 38 28.8**	**+1.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,68nm,4.5s						
USRK	**Ussuriysk Ar.**	**47.29**	**1**	P	**P**	**20 38 27.2**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=175,slow=7.6,SNR=2.0						
	comp=Z,1.3nm,0.7s						
ASAJ	**Asahikawa**	**48.40**	**12**	LR	LR	20 57 58.7	
	comp=Z,90nm,21.6s,baz=184,slow=35						
XLT	**XiLinHaoTe**	**48.77**	**346**	*eP*	**P**	**20 38 40.8**	**+2.4**
XLT				sP	sP	20 38 55.8	+7.0
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PALK	**Pallekele**	**50.93**	**282**	LR	LR	21 01 11.4	
	comp=Z,99nm,21.5s,baz=126,slow=37						
GTA	**Gaotai**	**51.09**	**329**	*eP*	**P**	**20 38 58.5**	**+2.3**
GTA				sP	sP	20 39 16.5	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
EVN	**Everest**	**52.37**	**309**	P	**P**	**20 39 04.2**	**-2.4**
EVN				IAmb	IAmb	20 39 13.7	
	comp=Z,6.2nm,1.0s						
URZ	**Urewera**	**54.80**	**136**	LR	LR	21 04 51.0	
	comp=Z,67nm,18.3s,baz=306,slow=38						
SONM	**Songino Array**	**55.17**	**340**	P	**P**	**20 39 25.7**	**-0.5**
SONM				IAmb	IAmb	20 39 29.2	
	comp=Z,3.6nm,1.4s						
SONM	**Songino Array**	**55.17**	**340**	P	**P**	**20 39 28.0**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=156,slow=7.8,SNR=7.2						
SONM				LR	LR	21 07 34.5	
	comp=Z,36nm,19.4s,baz=162,slow=41						
	comp=Z,1.0nm,0.7s						
CASY	**Casey**	**64.44**	**189**	P	**P**	**20 40 30.4**	**+0.9**
YAK	**Yakutsk**	**65.14**	**359**	LR	LR	21 09 25.6	
	comp=Z,30nm,20.4s,baz=148,slow=36						
MKAR	**Makanchi Array**	**65.52**	**326**		**P**	**20 40 35.6**	**-1.2**
MKAR	**Makanchi Array**	**65.52**	**326**	P	**P**	**20 40 38.4**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=123,slow=8.4,SNR=10						
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**65.70**	**326**	P	**P**	**20 40 37.2**	**-0.8**
MAKZ				IAmb	IAmb	20 40 43.6	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**68.58**	**333**	P	**P**	**20 40 55.0**	**-1.0**
ZALV	**Zalesovo Beam**	**68.58**	**333**	P	**P**	**20 40 57.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=70,slow=4.9,SNR=3.7						
	comp=Z,0.3nm,0.3s						
GAR	**Garm**	**69.55**	**314**	P	**P**	**20 41 01.6**	**-1.0**
KURBB	**Kurchatov Arra**	**69.72**	**328**	P	**P**	**20 41 04.5**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=124,slow=5.6,SNR=5.7						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**69.72**	**328**		**P**	**20 41 02.7**	**-0.5**
KKAR	**Karatay Array**	**71.01**	**318**	P	**P**	**20 41 10.1**	**-1.2**
TIXI	**Tiksi**	**74.81**	**359**	LR	LR	21 14 23.1	
	comp=Z,66nm,21.1s,baz=201,slow=36						
BVAR	**Borovoye Array**	**75.30**	**327**	P	**P**	**20 41 37.9**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=128,slow=9.6,SNR=8.3						
	comp=Z,1.5nm,0.8s						
VNDA	**Vanda**	**76.03**	**173**	P	**P**	**20 41 40.1**	**-0.2**
VNDA	**Vanda**	**76.03**	**173**	P	**P**	**20 41 42.0**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=314,slow=8.0,SNR=4.5						
	comp=Z,0.6nm,0.7s						
SBA	**Scott Base**	**76.91**	**173**	P	**P**	**20 41 44.9**	**-0.3**
SBA				IAmb	IAmb	20 41 58.8	
	comp=Z,2.2nm,1.1s						
PPT	**Papeete**	**79.28**	**107**	LR	LR	21 16 16.2	
	comp=Z,18nm,19.9s,baz=360,slow=35						
AB31	**Akbulak array**	**80.03**	**321**	P	**P**	**20 42 00.5**	**-2.4**
AB31				IAmb	IAmb	20 42 25.4	
	comp=Z,2.9nm,1.1s						
ABKAR	**Akbulak array**	**80.03**	**321**	P	**P**	**20 42 00.8**	**-2.1**
ARTI	**Arti**	**83.00**	**328**	LR	LR	21 22 59.4	
	comp=Z,50nm,18.4s,baz=87,slow=38						
VOI	**Vohitsoka**	**83.08**	**248**	P	**P**	**20 42 18.1**	**-1.8**
QSPA	**South Pole Qui**	**86.66**	**180**	P	**P**	**20 42 38.6**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=313,slow=2.0,SNR=5.0						
	comp=Z,0.7nm,0.6s						
RAYN	**Ar Rayn**	**86.85**	**294**	P	**P**	**20 42 37.3**	**-1.4**
KBZ	**Khabaz**	**90.62**	**314**	LR	LR	21 32 24.2	
	comp=Z,29nm,18.2s,baz=51,slow=41						
ASF	**Jabal al Asfar**	**94.91**	**302**	LR	LR	21 31 24.1	
	comp=Z,14nm,21.0s,baz=87,slow=39						
EIL	**Elat**	**96.56**	**299**	LR	LR	21 34 18.7	
	comp=Z,22nm,19.2s,baz=80,slow=40						
BRTR	**Keskin Array B**	**97.48**	**309**	LR	LR	21 35 54.1	
	comp=Z,27nm,18.1s,baz=104,slow=41						

RSNC 25 20:30:13.4±0.0, 9.°N±1.°×7.°3W±.°, h116km±2km, M2.7, mb3.5, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.64**	**171**	P	Pn	20 30 31.5	-0.6
OCAC				S	Sn	20 30 45.6	-0.5
ARGC	**Ariguani, Magd**	**1.28**	**320**	P	Pn	20 30 38.6	+0.6
ARGC				S	Sn	20 30 57.8	+1.1
PAMC	**Pamplona, Colo**	**1.68**	**155**	P	Pn	20 30 43.6	+0.4
PAMC				S	Sn	20 31 06.2	+0.3
BRJC	**Barrancabermej**	**1.91**	**190**	P	Pn	20 30 45.3	-0.3
BRJC				S	Sn	20 31 10.0	-0.2
ZARC	**Zaragoza, Cauc**	**1.98**	**226**	P	Pn	20 30 46.4	0.0
ZARC				S	Sn	20 31 10.2	-1.4
SJCC	**San Jacinto, C**	**2.01**	**301**	P	Pn	20 30 46.4	-0.5
SJCC				S	Sn	20 31 10.9	-1.6
CRJC	**Cerrejon, Guaj**	**2.20**	**14**	P	Pn	20 30 48.0	-1.3
CRJC				S	Sn	20 31 14.3	-2.5
BARC	**Barichara**	**2.27**	**174

15nm,0.1s
MTBS eS **Sb** **20 37 12.2 -0.9**
43nm,0.2s
USP Ospenovka 0.82 301 ⇓P **Pg** **20 37 04.0 -0.5**
USP 23nm,0.2s,SNR=90
⇓S **Sg** **20 37 15.1 -0.3**
58nm,0.2s
USP Ospenovka 0.82 301 ⇑*i*P **Pb** **20 37 03.3 -0.8**
USP ⇑*i*S **Sb** **20 37 14.4 -0.4**
ULHL Ulahol 0.83 136 ⇑P **Pb** **20 37 03.6 -0.7**
10nm,0.1s,SNR=50
ULHL Ulahol 0.83 136 ⇑*i*P **Pb** **20 37 03.4 -0.9**
ULHL ⇑*i*S **Sb** **20 37 14.5 -0.7**
SGDS Sogindy 0.86 315 P **Pg** **20 37 04.8 -0.4**
13nm,0.1s
SGDS S **Sg** **20 37 16.0 -0.6**
34nm,0.1s
KRBS Karabastau 0.86 10 P **Pg** **20 37 04.7 -0.6**
19nm,0.2s
KRBS S **Sg** **20 37 15.9 -0.8**
25nm,0.1s
IZV Izvestkoviy 0.86 77 P **Pb** **20 37 04.5 -0.4**
13nm,0.1s
IZV S **Sb** **20 37 15.6 -0.6**
61nm,0.1s
IZV Izvestkoviy 0.86 77 *e*P **Pb** **20 37 04.5 -0.4**
13nm,0.1s
IZV *e*S **Sb** **20 37 15.6 -0.6**
61nm,0.1s
UCH Uchtor 0.94 229 ⇑P **Pb** **20 37 06.1 -0.2**
4.1nm,0.1s,SNR=8.8
UCH ⇓S **Sb** **20 37 18.6 +0.1**
57nm,0.2s
UCH Uchtor 0.94 229 ⇓*i*P **Pb** **20 37 05.5 -0.7**
UCH ⇓*i*S **Sb** **20 37 18.1 -0.3**
TNSS Tian-Shan 1.11 80 P **Pn** **20 37 08.6 -0.6**
3.6nm,0.1s
TNSS S **Sb** **20 37 22.7 -0.6**
10nm,0.2s
TNSS Tian-Shan 1.11 80 *e*P **Pn** **20 37 08.6 -0.6**
3.6nm,0.1s
TNSS *e*S **Sb** **20 37 22.7 -0.6**
10nm,0.2s
AAA Alma-Ata 1.12 71 P **Pg** **20 37 09.6 -0.6**
28nm,0.1s
AAA S **Sg** **20 37 24.4 -0.6**
8.2nm,0.1s
AAA Alma-Ata 1.12 71 *e*P **Pg** **20 37 09.6 -0.6**
28nm,0.1s
AAA *e*S **Sg** **20 37 24.4 -0.6**
8.2nm,0.1s
KNDC Almaty 1.16 71 ⇑P **Pg** **20 37 09.9 -1.0**
7.5nm,0.2s
KNDC ⇑S **Sg** **20 37 25.7 -0.5**
82nm,0.5s
MDOK Medeo 1.21 74 Pg **Pb** **20 37 10.5 -0.1**
14nm,0.2s
MDOK Lg Lg 20 37 26.0
40nm,0.3s
KUU Kurty 1.23 31 P **Pb** **20 37 10.7 -0.3**
3.3nm,0.0s
KUU S **Sn** **20 37 26.3 -0.4**
32nm,0.1s
KUU Kurty 1.23 31 *e*P **Pb** **20 37 10.7 -0.3**
3.3nm,0.0s
KUU *e*S **Sn** **20 37 26.2 -0.4**
32nm,0.1s
KTBS Karatobe 1.24 45 P **Pb** **20 37 11.0 -0.2**
5.1nm,0.1s
KTBS S **Sn** **20 37 27.0 0.0**
45nm,0.2s
EKS2 Erkin-Say 1.26 262 ⇑P **Pg** **20 37 11.9 -0.8**
28nm,0.2s,SNR=124
EKS2 ⇓S **Sg** **20 37 29.3 +0.1**
9.2nm,0.1s
EKS2 Erkin-Say 1.26 262 ⇑*i*P **Pn** **20 37 10.9 -0.1**
EKS2 ⇑*i*S **Sn** **20 37 27.6 +0.1**
KOTS Kotyrbulak 1.27 72 P **Pb** **20 37 11.7 -0.1**
8.9nm,0.1s
KOTS S **Sg** **20 37 28.1 -1.5**
35nm,0.2s
KOTS Kotyrbulak 1.27 72 *e*P **Pb** **20 37 11.7 -0.1**
8.9nm,0.1s
KOTS *e*S **Sg** **20 37 28.1 -1.5**
35nm,0.2s
KDJ Kajisay 1.46 119 ⇑*i*P **Pb** **20 37 14.4 -0.6**
KDJ ⇑*i*S **Sb** **20 37 33.6 +0.4**
MRKS Merke 1.65 267 P **Pg** **20 37 19.0 -1.1**
11nm,0.1s
MRKS S **Sg** **20 37 40.5 -1.1**
13nm,0.1s
MRKS Merke 1.65 267 *e*P **Pg** **20 37 19.0 -1.1**
11nm,0.1s
MRKS *e*S **Sg** **20 37 40.5 -1.1**
13nm,0.1s
JNKS Jany-Kuch 1.79 175 ⇑*e*P **Pb** **20 37 19.7 -1.0**
JNKS ⇑*e*S **Sb** **20 37 43.0 +0.1**
TARG Taragay, Kyrgy 2.06 122 ⇓*i*P **Pn** **20 37 23.4 +1.0**
TARG ⇓*i*S **Sb** **20 37 49.5 -1.4**
KURS Kuram 2.08 71 Pg **Pb** **20 37 25.9 +0.3**
2.6nm,0.3s
KURS Lg Lg 20 37 52.4
14nm,0.5s
SATY Saty 2.17 83 Pg **Pb** **20 37 27.7 +0.6**
8.1nm,0.2s
SATY Lg Lg 20 37 55.7
40nm,0.1s
ARXS Arharly 2.20 51 Pg **Pb** **20 37 27.9 +0.4**
2.1nm,0.1s
ARXS Lg Lg 20 37 55.9
23nm,0.2s
ARXS Arharly 2.20 51 *e*P **Pb** **20 37 27.9 +0.4**
2.1nm,0.1s
ARXS *e*S **Sb** **20 37 55.9 +1.5**
23nm,0.2s
PRZ Przheval'sk 2.20 99 ⇑*e*P **Pn** **20 37 24.8 +0.8**
PRZ ⇑*e*S **Sb** **20 37 52.5 -2.0**
SALK Salom-Alik 2.31 213 ⇑*i*P **Pn** **20 37 26.8 +1.2**
SALK ⇑*i*S **Sn** **20 37 55.4 +1.8**
ARSB Arslanbob 2.39 231 ⇑*e*P **Pn** **20 37 28.4 +1.7**
ARSB ⇑*e*S **Sb** **20 37 57.6 -2.5**
KPKS Kokpek 2.44 74 Pg **Pb** **20 37 32.2 +0.6**
0.2nm,0.1s
KPKS Lg Lg 20 38 03.3
20nm,0.3s
KPKS Kokpek 2.44 74 *e*P **Pb** **20 37 32.2 +0.6**
0.2nm,0.1s
KPKS *e*S **Sg** **20 38 03.4 -3.4**
20nm,0.3s
BLB Baldybastay 2.53 59 Pg **Pb** **20 37 33.7 +0.5**
12nm,0.1s
BLB Lg Lg 20 38 06.1
26nm,0.2s
UZB Uzynbulak 2.63 82 Pg **Pb** **20 37 36.2 +1.3**
2.0nm,0.1s
UZB Lg Lg 20 38 09.9
10nm,0.2s
UZB Uzynbulak 2.63 82 *e*P **Pb** **20 37 36.2 +1.3**
2.0nm,0.1s
UZB *e*S **Sg** **20 38 09.9 -3.0**
10nm,0.2s
ARK Arkit 2.80 249 ⇓*i*P **Pn** **20 37 33.5 +1.3**
ARK ⇓*i*S **Sn** **20 38 06.9 +1.4**
SHLS Shalkode 2.95 83 Lg Lg 20 38 29.4
6.2nm,0.3s
SHLS Shalkode 2.95 83 *e*P **Pg** **20 37 47.5 +2.6**
3.3nm,0.2s
SHLS *e*S **Sg** **20 38 29.4 +6.2**
6.2nm,0.3s
PDGK Podgornoye 2.99 79 ⇓Pn **Pn** **20 37 37.3 +2.4**
1.4nm,0.3s
PDGK ⇑Sn **Sb** **20 38 15.2 -2.0**
5.4nm,0.4s
KNOS Konyrlen 3.09 59 Lg Lg 20 38 23.6
5.1nm,0.3s
KK31 Karatay Array 3.64 276 Pn **Pn** **20 37 46.9 +3.2**
1.4nm,0.5s,baz=96,slow=16,SNR=67
KK31 ⇓Lg Lg 20 38 43.8
2.0nm,0.3s,baz=94,slow=29

CATAC 25 20:39:14.4±0.2,13°.7N±2°.×87°.0W±0°.9,h7km±2km,M2.8/16,
MLv2.8/16,Error ellipse: s-maj=4.0km s-min=1.8km
az=13.0,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.20**	**187**	P	Pg	20 39 19.7	+1.3
PKGN	**Cerro Pekin**	**0.23**	**168**	P	Pg	20 39 20.0	+1.0
PKGN				S	Sg	20 39 23.9	+1.7
POLN	**Al Sur del Vol**	**0.32**	**140**	P	Pg	20 39 21.5	+0.7
POLN				S	Sg	20 39 26.3	+1.2
POTN	**Potosi Cosigui**	**0.48**	**282**	P	Pg	20 39 24.3	+0.6
POTN				S	Sb	20 39 31.7	-0.7
CNGN	**Cerro Negro**	**0.51**	**141**	S	Sb	20 39 32.6	-0.8
CNGN	**Cerro Negro**	**0.51**	**141**	P	Pb	20 39 25.2	-0.6
CNGA	**Al SSO del Vol**	**0.51**	**142**	P	Pb	20 39 25.3	-0.5
CNGA				S	Sb	20 39 33.0	-0.5
CSGN	**Cosiguina Volc**	**0.53**	**279**	P	Pg	20 39 25.3	+0.7
CSGN				S	Sb	20 39 33.3	-0.6
LIMN	**Finca el Limon**	**0.66**	**76**	P	Pb	20 39 27.9	-0.6
LIMN				S	Sb	20 39 37.4	-0.5
MOM2	**El Cardon**	**0.70**	**131**	P	Pg	20 39 27.8	-0.1
MOM2				S	Sb	20 39 38.1	-0.7
CNCH	**Conchagua**	**0.87**	**296**	P	Pg	20 39 31.1	-0.1
CNCH	**Conchagua**	**0.87**	**296**	S	Sb	20 39 43.4	-0.5
OCON	**Estacion meteo**	**0.90**	**36**	P	Pg	20 39 30.7	-1.2
OCON				S	Sb	20 39 44.6	-0.2
LCND	**La Caada**	**0.94**	**296**	S	Sb	20 39 45.4	-0.2
LCND	**La Caada**	**0.94**	**296**	P	Pg	20 39 32.0	-0.4
RCFN	**Al S de San Ju**	**1.01**	**51**	P	Pg	20 39 33.7	-0.2
RCFN				S	Sg	20 39 47.5	+0.4
RCON	**San Juan de Ri**	**1.03**	**55**	P	Pg	20 39 34.2	0.0
RCON	**San Juan de Ri**	**1.03**	**55**	S	Sb	20 39 48.3	-0.2
RCVN	**Varillal2**	**1.06**	**50**	S	Sb	20 39 49.2	-0.1
RCVN	**Varillal2**	**1.06**	**50**	P	Pg	20 39 34.5	-0.3
MATN	**Matagalpa**	**1.07**	**88**	S	Sb	20 39 49.7	0.0
MATN	**Matagalpa**	**1.07**	**88**	P	Pg	20 39 33.6	-1.5
RCPN	**Sur Rio San Ju**	**1.10**	**55**	S	Sb	20 39 50.6	0.0
RCPN	**Sur Rio San Ju**	**1.10**	**55**	P	Pg	20 39 35.6	0.0
TGUH	**Tegucigalpa,Un**	**1.18**	**348**	P	Pg	20 39 36.7	-0.4
TGUH				S	Sb	20 39 53.2	+0.4
PACA	**Pacayal**	**1.39**	**294**	S	Sn	20 39 58.9	-0.1
PACA	**Pacayal**	**1.39**	**294**	P	Pn	20 39 39.8	-0.5

*IDC **25** 20:41:26.0±1.1,29°.41N×140°.18E,h0km,mb3.3/5,*
mbtmp3.4/7,ML2.9/2,MS3.6/3,Error ellipse: s-maj=37.7km
s-min=21.9km az=79.0
ISC 25 20:41:28.3±1.1,29°.5N±0°.1×140°.1E±0°.2,h10km,n16,
σ2°.59/8,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.26**	**348**	Pn	**Pn**	**20 43 14.2**	**-0.2**
	0.1nm,0.3s,baz=164,slow=14,SNR=8.1						
MJAR				LR	LR	20 45 41.4	
	comp=Z,269nm,20.0s,baz=158,slow=35						
	6.0nm,0.8s						
KSRS	**Korea Array**	**12.95**	**311**	Pn	**Pn**	**20 44 33.2**	**+0.9**
	0.1nm,0.3s,baz=116,slow=14,SNR=4.7						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.13**	**106**	T	T	21 14 32.5	
	baz=298,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**26.13**	**106**	T	T	21 14 41.1	
	baz=298,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**26.14**	**106**	T	T	21 14 44.2	
	baz=298,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**26.53**	**108**	T	T	21 15 08.7	
	baz=300,slow=75,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**26.54**	**108**	T	T	21 15 11.6	
	baz=300,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**26.55**	**108**	T	T	21 15 12.7	
	baz=300,slow=75,SNR=7.5						
SONM	**Songino Array**	**31.78**	**315**	P	**P**	**20 47 52.6**	**-0.3**
	0.5nm,0.7s,baz=103,slow=13,SNR=2.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**47.60**	**308**	P	**P**	**20 50 03.3**	**-1.0**
	0.3nm,0.7s,baz=81,slow=7.6,SNR=4.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**49.42**	**187**	P	**P**	**20 50 17.4**	**-1.1**
	0.4nm,0.8s,baz=5.6,slow=7.8,SNR=7.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**53.15**	**187**	P	**P**	**20 50 45.4**	**-1.1**
	0.2nm,0.7s,baz=20,slow=10.0,SNR=1.6						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**56.54**	**29**	P	**P**	**20 51 09.5**	**-1.0**
	0.5nm,0.7s,baz=269,slow=5.7,SNR=6.0						
	0.5nm,0.7s						
DZM	**Mont Dzumac**	**57.14**	**151**	LR	LR	21 10 48.0	
	comp=Z,64nm,21.6s,baz=76,slow=31						
AKTO	**Aktyubinsk**	**63.10**	**315**	LR	LR	21 20 12.2	
	comp=Z,50nm,18.1s,baz=244,slow=37						
LPAZ	**La Paz**	**150.93**	**69**	PKPbc	**PKPdf**	**21 01 22.3**	**+5.3**
	0.8nm,0.4s,baz=60,slow=2.4,SNR=4.6						

*IDC **25** 20:56:53.8±1.0,4°.17N×128°.95E,h0km,mb4.1/12,*
mbtmp4.1/12,MS3.2/1,Error ellipse: s-maj=76.2km
s-min=13.9km az=68.0
*NEIC **25** 20:56:55.4±1.6,4°.10N±0°.07×128°.74E±0°.09,h10km±1km,*
mb4.4/30,Error ellipse: s-maj=16.2km s-min=10.5km
az=66.0
*DJA **25** 20:56:56.2±1.1,4°N±11°×12°9E±°,h10km,M4.4/12,*
mB5.0/1,mb4.4/8,MLv4.4/12,Mw(mB)4.4/1
ISC 25 20:56:54.9±0.5,4°.12N±0°.06×128°.71E±0°.07,h10km,n69,
σ1°.24/72,mb4.4/21,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.20**	**262**	P	**Pn**	**20 57 46.5**	**+1.2**
SGSI				S	**Sn**	**20 58 22.2**	**-1.4**
TNTI	**Ternate**	**3.58**	**202**		**Pn**	**20 57 49.4**	**-1.2**
TNTI	**Ternate**	**3.58**	**202**	P	**Pn**	**20 57 51.3**	**+0.7**
DAV	**Davao City (W)**	**4.28**	**313**		**Pn**	**20 57 58.7**	**-1.5**
SWI	**Sorong**	**5.56**	**153**	P	**Pn**	**20 58 19.3**	**+1.5**
	0.1nm11nm,0.6s						
KMSI	**Cibinong**	**5.89**	**233**	P	**Pn**	**20 58 21.8**	**-0.5**
	0.8nm173nm,0.9s						
SANI	**Sanana**	**6.70**	**204**	P	**Pn**	**20 58 31.0**	**-2.5**
MRSI	**Marisa**	**7.67**	**242**	P	**Pn**	**20 58 49.7**	**+3.0**
FAKI	**Fak Fak**	**7.83**	**153**	Pn	**Pn**	**20 58 47.0**	**-2.0**
FAKI	**Fak Fak**	**7.83**	**153**	P	**Pn**	**20 58 51.1**	**+2.1**
LUWI	**Luwuk**	**7.84**	**229**	Pn	**Pn**	**20 58 51.5**	**+2.4**
LUWI	**Luwuk**	**7.84**	**229**	P	**Pn**	**20 58 50.4**	**+1.3**
	32nm,1.1s						
TOLI2	**Tolitoli**	**8.46**	**250**		**Pn**	**20 58 57.9**	**+0.3**
APSI	**Ampana**	**8.64**	**235**	P	**Pn**	**20 59 02.4**	**+2.3**
	55nm,1.1s						
KMPI	**Kaimana, Papua**	**9.20**	**147**	P	**Pn**	**20 59 08.0**	**+0.3**
	46nm,0.9s						
KAPI	**Kappang**	**12.74**	**225**	Pn	**Pn**	**20 59 56.3**	**0.0**
SBUM	**Sibu**	**16.55**	**265**	Pn	**Pn**	**21 00 45.8**	**-1.4**
MTN	**Manton Dam**	**17.02**	**172**	Pn	**Pn**	**21 00 52.7**	**-0.5**
MTN				IAmb	IAmb	21 00 58.4	
	comp=Z,20nm,1.4s						
GUMO	**Guam**	**18.52**	**58**	LR	LR	21 06 38.9	
	comp=Z,75nm,20.5s,baz=19,slow=32						
KNRA	**Kununurra**	**19.67**	**180**		**P**	**21 01 23.7**	**-0.5**
KNRA				IAmb	IAmb	21 01 30.8	
	comp=Z,31nm,1.4s						
TPUB	**Ta-pu**	**20.61**	**338**	P	**P**	**21 01 34.2**	**-0.2**
TPUB				IAmb	IAmb	21 02 02.4	
	comp=Z,40nm,1.4s						
SSLB	**Suanglung**	**20.94**	**340**	P	**P**	**21 01 37.9**	**-0.2**
SSLB				IAmb	IAmb	21 02 07.2	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.28**	**188**	P	**P**	**21 01 49.6**	**-2.8**
WB0	**Warramunga Arr**	**24.38**	**167**	P	**P**	**21 02 12.8**	**-0.7**
WRAB	**Tennant Creek**	**24.53**	**167**	P	**P**	**21 02 14.6**	**-0.3**
WRAB				IAmb	IAmb	21 02 16.5	
	comp=Z,7.5nm,0.6s						
WRA	**Warramunga Arr**	**24.54**	**167**	P	**P**	**21 02 15.2**	**+0.2**
	comp=Z,6.8nm,0.7s,baz=345,slow=10,SNR=52						
	comp=Z,6.8nm,0.7s						
AS31	**Alice Springs**	**28.07**	**170**	P	**P**	**21 02 46.7**	**-0.2**
ASAR	**Alice Springs**	**28.07**	**170**	P	**P**	**21 02 46.4**	**-0.5**
ASAR					**PcP**	**21 06 01.2**	**-0.3**
ASAR	**Alice Springs**	**28.07**	**170**	P	**P**	**21 02 47.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=352,slow=7.3,SNR=10						
ASAR				PcP	**PcP**	**21 06 02.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=348,slow=2.3,SNR=4.4						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.40**	**298**	P	**P**	**21 03 27.5**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=113,slow=8.1,SNR=1.5						
	comp=Z,0.2nm,0.4s						
FORT	**Forrest**	**34.70**	**181**	P	**P**	**21 03 44.0**	**-1.1**
BBOO	**Buckleboo**	**37.38**	**170**	P	**P**	**21 04 07.3**	**-0.7**
STKA	**Stephens Creek**	**37.84**	**162**	P	**P**	**21 04 11.3**	**-0.6**
STKA	**Stephens Creek**	**37.84**	**162**	P	**P**	**21 04 12.5**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=330,slow=9.0,SNR=7.8						
	comp=Z,3.0nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.77**	**66**	T	T	21 47 44.6	
	baz=253,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**39.78**	**66**	T	T	21 47 45.3	
	baz=253,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**39.78**	**66**	T	T	21 47 44.0	
	baz=253,slow=75,SNR=4.0						
XLT	**XiLinHaoTe**	**41.16**	**346**	*e*P	**P**	**21 04 43.0**	**+3.4**
XLT				pP	pwP	21 04 49.8	+1.2
XLT				pmax	pmax		
	comp=Z,19nm,0.9s						
PINNC	**Pines Island,**	**46.24**	**127**	P	**P**	**21 05 21.2**	**+0.6**
EVN	**Everest**	**46.36**	**305**	P	**P**	**21 05 22.6**	**+0.2**
EVN				IAmb	IAmb	21 05 54.6	
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**47.59**	**340**	P	**P**	**21 05 31.2**	**+0.1**
SONM	**Songino Array**	**47.59**	**340**	P	**P**	**21 05 31.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=146,slow=7.4,SNR=5.0						
	comp=Z,0.8nm,0.7s						
PALK	**Pallekele**	**47.86**	**276**	P	**P**	**21 05 32.4**	**-1.2**
PEA0B	**Petropavlovsk-**	**54.34**	**21**	P	**P**	**21 06 21.1**	**-0.5**
MKAR	**Makanchi Array**	**58.38**	**324**	P	**P**	**21 06 51.0**	**+0.4**
MKAR					**PcP**	**21 07 41.5**	**+0.1**
MKAR	**Makanchi Array**	**58.38**	**324**	P	**P**	**21 06 52.3**	**+1.7**
	comp=Z,1.7nm,0.5s,baz=113,slow=7.8,SNR=36						
MKAR				PcP	**PcP**	**21 07 41.9**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=134,slow=4.2,SNR=4.2						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**58.57**	**324**	P	**P**	**21 06 52.8**	**+0.9**
MAKZ				IAmb	IAmb	21 06 54.2	
	comp=Z,2.9nm,1.1s						
MAKZ				PcP	**PcP**	**21 07 41.4**	**-0.8**
KDJ	**Kajisay**	**59.39**	**317**	P	**P**	**21 06 58.1**	**+0.3**
KDJ				IAmb	IAmb	21 07 19.2	
	comp=Z,4.6nm,1.0s						
PYZ	**Puysegur Point**	**60.32**	**151**	P	**P**	**21 07 03.0**	**-0.9**
BOOM	**Boomskoye usch**	**60.37**	**317**	P	**P**	**21 07 03.5**	**-1.1**
LBZ	**Lake Benmore**	**60.91**	**147**	P	**P**	**21 07 08.2**	**+0.1**
SMY	**Shemya**	**61.14**	**30**	P	**P**	**21 07 08.8**	**-0.6**
ZALV	**Zalesovo Beam**	**61.16**	**332**	P	**P**	**21 07 08.7**	**-0.8**
ZALV	**Zalesovo Beam**	**61.16**	**332**	P	**P**	**21 07 09.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=127,slow=6.7,SNR=3.7						
	comp=Z,0.6nm,0.4s						
TCW	**Tory Channel**	**61.31**	**142**	P	**P**	**21 07 09.4**	**-1.4**
KURK	**Kurchatov**	**62.49**	**327**	P	**P**	**21 07 19.1**	**+0.5**
KURK				IAmb	IAmb	21 07 20.5	
	comp=Z,3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**62.49**	**327**	P	**P**	**21 07 20.1**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=123,slow=6.1,SNR=27						
	comp=Z,3.2nm,0.8s						
KK31	**Karatay Array**	**64.31**	**316**	P	**P**	**21 07 31.1**	**+0.3**
KK31				IAmb	IAmb	21 07 32.5	
	comp=Z,1.9nm,0.9s						
KKAR	**Karatay Array**	**64.31**	**316**	P	**P**	**21 07 31.3**	**+0.5**
BVAR	**Borovoye Array**	**68.08**	**326**	P	**P**	**21 07 56.0**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=115,slow=7.4,SNR=15						
	comp=Z,2.9nm,0.7s						
CASY	**Casey**	**71.45**	**188**	P	**P**	**21 08 16.1**	**+0.9**
AB31	**Akbulak array**	**73.11**	**320**	P	**P**	**21 08 25.7**	**+0.2**
AB31				IAmb	IAmb	21 08 27.1	
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**73.11**	**320**	P	**P**	**21 08 25.8**	**+0.3**
ABKAR				PcP	**PcP**	**21 08 39.7**	**-2.5**
ARTI	**Arti**	**75.76**	**327**	P	**P**	**21 08 40.5**	**-0.3**
ARTI				IAmb	IAmb	21 08 41.3	
	comp=Z,3.5nm,0.6s						
VNDA	**Vanda**	**83.56**	**173**	P	**P**	**21 09 23.0**	**+0.2**
VNDA	**Vanda**	**83.56**	**173**	P	**P**	**21 09 23.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=322,slow=6.8,SNR=5.1						
	comp=Z,0.4nm,0.5s						
MAW	**Mawson**	**84.80**	**201**	P	**P**	**21 09 29.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=75,slow=4.5,SNR=6.5						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**94.02**	**180**	P	**P**	**21 10 13.5**	**+0.3**
QSPA	**South Pole Qui**	**94.02**	**180**	P	**P**	**21 10 15.5**	**+2.4**
	comp=Z,2.4nm,0.8s,baz=307,slow=4.3,SNR=6.4						
	comp=Z,2.4nm,0.8s						

*IDC **25** 21:01:51.1±0.8,29°.80S×177°.50W,h0km,mb4.2/6,*
mbtmp4.2/7,ML4.4/1,MS3.2/1,Error ellipse: s-maj=31.2km
s-min=25.4km az=116.0
*NEIC **25** 21:01:53.9±1.2,30°.01S±0°.08×177°.5W±0°.2,h13km±5km,*
mb4.7/20,Error ellipse: s-maj=24.6km s-min=6.1km
az=64.0
ISC 25 21:01:56.5±0.8,30°.02S±0°.06×177°.6W±0°.1,h35km,n55,
σ1°.23/46,mb4.5/15,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.81**	**342**	Pg	**Pn**	**21 02 10.2**	**-1.2**
RAO				Sg	**Sn**	**21 02 21.1**	**-1.0**
URZ	**Urewera**	**9.30**	**207**	Pn	**Pn**	**21 04 04.7**	**-3.3**
	0.5nm,0.3s,baz=350,slow=2.6,SNR=2.4						
URZ				Sn	**Sn**	**21 05 48.9**	**-2.4**
	2.6nm,0.3s,baz=130,slow=17,SNR=8.9						
BKZ	**Black Stump Fm**	**10.32**	**206**	Pn	**Pn**	**21 04 21.9**	**-0.2**
DZM	**Mont Dzumac**	**16.34**	**295**	Pn	**P**	**21 05 46.6**	**+0.6**
	0.2nm,0.3s,baz=108,slow=20,SNR=1.0						
RPZ	**Rata Peaks**	**16.37**	**210**	Pn	**Pn**	**21 05 44.0**	**+0.4**
RPZ	**Rata Peaks**	**16.37**	**210**	Pn	**P**	**21 05 45.3**	**-0.8**
	1.4nm,0.3s,baz=60,slow=5.5,SNR=2.5						
	7.3nm,0.5s						
FOZ	**Fox Glacier**	**16.79**	**213**	Pn	**Pn**	**21 05 48.1**	**-0.7**
EIDS	**Eidsvold**	**28.04**	**272**	P	**P**	**21 07 46.6**	**+2.0**
EIDS				IAmb	IAmb	21 07 52.8	
	comp=Z,7.8nm,1.1s						
CAN	**Canberra**	**28.50**	**251**	P	**P**	**21 07 48.8**	**+0.2**
TOO	**Toolangi**	**31.41**	**246**	P	**P**	**21 08 15.2**	**+0.9**
TOO				IAmb	IAmb	21 08 17.4	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**21 08 46.0**	**+1.4**
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**21 08 46.7**	**+2.1**
	comp=Z,2.0nm,0.4s,baz=105,slow=12,SNR=8.3						
	comp=Z,2.0nm,0.4s						
INKA	**Innaminka**	**36.38**	**263**	P	**P**	**21 08 59.4**	**+1.9**
RABL	**Rabaul**	**38.40**	**306**	P	**P**	**21 09 13.5**	**-1.2**
BBOO	**Buckleboo**	**39.38**	**254**	P	**P**	**21 09 23.7**	**+0.9**
AS31	**Alice Springs**	**43.45**	**266**	P	**P**	**21 09 57.2**	**+0.9**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**21 09 57.2**	**+0.9**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**21 09 56.5**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=103,slow=7.1,SNR=38						
ASAR				PcP	**PcP**	**21 11 44.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=127,slow=3.7,SNR=2.0						
	comp=Z,1.5nm,0.4s						
WR8	**Warramunga Arr**	**44.26**	**272**	P	**P**	**21 10 03.2**	**+0.4**
WR8				IAmb	IAmb	21 10 07.6	
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**44.40**	**272**	P	**P**	**21 10 04.1**	**+0.1**
WRAB				IAmb	IAmb	21 10 40.3	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**21 10 04.2**	**+0.2**
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**21 10 04.3**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=111,slow=7.8,SNR=93						
	comp=Z,4.3nm,0.5s						
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**21 10 04.3**	**+0.1**
WB0		

H03S1 Juan Fernandez 80.42 123 T T 22 43 45.0
baz=238
H03S3 Juan Fernandez 80.42 123 T T 22 43 38.6
baz=238
H03N3 Juan Fernandez 80.59 123 T T 22 43 49.1
baz=240
H03N2 Juan Fernandez 80.60 123 T T 22 43 47.7
baz=240
H03N1 Juan Fernandez 80.61 123 T T 22 43 48.8
baz=240
PETK Petropavlovsk- 85.53 345 P **P** **21 14 30.9 +0.4**
comp=Z,1.6nm,0.9s,baz=123,slow=9.2,SNR=4.1
comp=Z,1.6nm,0.9s
MKAR Makanchi Array 117.78 310 PKP **PKiKP** **21 20 40.9 +2.1**
comp=Z,0.2nm,0.6s,baz=102,slow=3.0,SNR=2.3
KURBB Kurchatov Arra 121.06 314 PKP **PKPdf** **21 20 43.9 -1.1**
comp=Z,0.2nm,0.3s,baz=110,slow=2.1,SNR=6.2
BVAR Borovoye Array 126.36 316 PKP **PKPdf** **21 20 53.7 -1.4**
comp=Z,0.8nm,0.5s,baz=97,slow=1.3,SNR=5.7
H10S3 ASCENSION HYDR 137.93 154 T T 23 56 34.5
baz=204,slow=74,SNR=8.3
H10S2 ASCENSION HYDR 137.93 154 T T 23 56 46.9
baz=16,slow=74,SNR=7.9
H10N3 ASCENSION HYDR 139.01 154 T T 23 57 21.7
baz=203,slow=75,SNR=7.6
H10N1 ASCENSION HYDR 139.01 154 T T 23 57 22.0
baz=203,slow=75,SNR=8.5
H10N2 ASCENSION HYDR 139.03 154 T T 23 57 23.0
baz=203,slow=75,SNR=6.9
FINES FINESS Array B 144.90 340 PKP **PKPab** **21 21 27.1 -1.2**
comp=Z,2.3nm,0.5s,baz=54,slow=3.7,SNR=25
NOA NORSAR Array B 148.43 352 PKPbc **PKPbc** **21 21 38.3 -0.4**
comp=Z,0.7nm,0.7s,baz=7.1,slow=3.6,SNR=3.2
HFS Hagfors 148.94 349 PKPbc **PKPbc** **21 21 38.4 -1.5**
comp=Z,3.5nm,0.8s,baz=48,slow=2.2,SNR=6.0
AKASG Malin Array Be 151.19 323 PKPbc **PKPbc** **21 21 44.8 -0.9**
comp=Z,0.4nm,0.4s,baz=46,slow=3.0,SNR=1.8
MMAI Mount Meron Ar 151.75 285 PKPbc **PKiKP** **21 21 48.0 -0.1**
comp=Z,2.5nm,0.5s,baz=72,slow=4.7,SNR=12
BRTR Keskin Array B 152.70 299 PKPbc **PKiKP** **21 21 50.1 +0.2**
comp=Z,0.5nm,0.4s,baz=128,slow=3.9,SNR=4.1
GERES GERESS Array B 159.31 338 PKPab **PKPab** **21 22 28.7 +0.3**
comp=Z,0.9nm,1.0s,baz=32,slow=3.9,SNR=3.7

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*IDC **25** 21:02:43.9±6.8, 19°.50N×147°.41E, h88km±52km, mb3.6/6, mbtmp3.9/8, ML3.9/2, MS3.2/2, Error ellipse: s-maj=108.1km s-min=31.9km az=92.0*

ISC 25 21:02:38.3±3.2, 19°.7N±0°.1×147°.6E±0°.6, h29km, n10, σ1s47/9, mb3.9/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.63**	**204**	P	**Pn**	**21 04 15.7**	**+1.9**
	11nm,0.3s,baz=34,slow=18,SNR=5.3						
GUMO				S	**Sn**	**21 05 26.5**	**-1.9**
	64nm,0.5s,baz=37,slow=20,SNR=4.6 24nm,0.3s						
MJAR	**Matsushiro Arr**	**18.68**	**336**	P	**Pn**	**21 06 55.3**	**+0.6**
	0.1nm,0.3s,baz=161,slow=11,SNR=8.9 1.7nm,0.5s						
JNU	**Nakatsue**	**20.02**	**315**	LR	LR	21 13 45.1	
	comp=Z,56nm,18.4s,baz=154,slow=33						
KSRS	**Korea Array**	**24.63**	**320**	P	**P**	**21 07 57.6**	**+1.3**
	1.8nm,0.7s,baz=147,slow=8.8,SNR=5.0 1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**58.31**	**322**	P	**P**	**21 12 29.4**	**-1.1**
	0.7nm,0.7s,baz=117,slow=8.3,SNR=3.6 0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.06**	**313**	P	**P**	**21 12 35.4**	**-0.5**
	0.2nm,0.5s,baz=87,slow=8.6,SNR=3.6 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**61.77**	**318**	P	**P**	**21 12 53.4**	**-0.9**
	0.9nm,0.7s,baz=94,slow=7.4,SNR=8.5 0.9nm,0.7s						
BVAR	**Borovoye Array**	**66.84**	**320**	P	**P**	**21 13 26.7**	**-0.8**
	1.0nm,0.5s,baz=88,slow=6.9,SNR=5.5 1.0nm,0.5s						
PDAR	**Pinedale Array**	**85.84**	**46**	LR	LR	21 49 04.5	
	comp=Z,18nm,20.5s,baz=343,slow=32						
FINES	**FINESS Array B**	**86.71**	**336**	P	**P**	**21 15 18.5**	**-0.8**
	2.9nm,1.0s,baz=51,slow=4.4,SNR=4.5 2.9nm,1.0s						

DJA 25 21:11:34.1±0.9, 7°.5S±6°.7×10°.5E±°, h15km±5km, M3.8/14, mb4.3/1, MLv3.6/14, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.47**	**39**	P	Pb	21 11 44.7	+0.7
CGJI				S	Sb	21 11 51.4	+0.7
SBJI	**Serang**	**1.12**	**40**	P	Pb	21 11 54.5	-0.7
SKJI	**Sukabumi**	**1.15**	**91**	P	Pn	21 11 55.5	-0.1
DBJI	**Dramaga**	**1.41**	**73**	P	Pn	21 11 59.1	-0.1
KASI	**Kota Agung**	**1.70**	**328**	P	Pn	21 12 02.9	-0.4
CNJI	**Cibinong**	**1.75**	**101**	P	Pn	21 12 02.9	-1.0
KLI	**Kotabumi**	**2.17**	**346**	P	Pn	21 12 09.3	-0.4
LEM	**Lembang**	**2.21**	**86**	P	Pn	21 12 10.6	+0.2
LWLI	**Liwa**	**2.36**	**326**	P	Pn	21 12 13.1	+0.6
LWLI				S	Sn	21 12 42.0	+0.7
MDSI	**Maura Dua**	**2.76**	**334**	P	Pn	21 12 18.3	+0.5
KPJI	**Karang Pucung**	**3.52**	**96**	P	Pn	21 12 29.2	+0.9
MNAI	**Manna**	**3.56**	**317**	P	Pn	21 12 29.3	+0.4
TPI	**Tanjungpandan**	**4.76**	**28**	P	Pn	21 12 45.4	+0.1
PCJI	**Pacitan**	**5.85**	**102**	P	Pn	21 13 00.6	+0.2

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*IDC **25** 21:15:17.7±5.2, 7°.06S±129°.14E, h170km±50km, mb3.5/2, mbtmp4.2/6, Error ellipse: s-maj=49.8km s-min=19.5km az=55.0*

ISC 25 21:15:15.7±1.0, 7°.05S±0°.08×129°.22E±0°.08, h156km, n9, σ3s02/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.26**	**114**	P	**Pn**	**21 15 58.1**	**+3.8**
FAKI	**Fak Fak**	**5.10**	**36**	P	**Pn**	**21 16 28.5**	**-2.1**
DRS	**Darwin Rock St**	**5.60**	**163**	P	**Pn**	**21 16 41.1**	**+4.0**
BATI	**Baumata**	**6.32**	**240**	P	**Pn**	**21 16 49.5**	**+2.7**
	55nm,0.4s,baz=155,slow=4.8,SNR=20						
BATI				S	**Sn**	**21 17 58.3**	**+0.1**
	36nm,0.5s,baz=102,slow=9.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**11.52**	**197**	P	**Pn**	**21 17 56.8**	**+1.1**
	5.4nm,0.3s,baz=33,slow=11,SNR=44						
FITZ				S	**Sn**	**21 19 59.2**	**-3.9**
	3.7nm,0.2s,baz=88,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**13.74**	**159**	P	**Pn**	**21 18 24.4**	**+0.2**
	1.4nm,0.4s,baz=332,slow=14,SNR=39						
WRA				S	**Sn**	**21 20 51.3**	**-5.4**
	6.8nm,0.5s,baz=337,slow=22,SNR=15						
ASAR	**Alice Springs**	**17.12**	**165**	P	**Pn**	**21 19 07.2**	**+1.4**
	2.0nm,0.7s,baz=337,slow=9.7,SNR=22						
ASAR				S	**S**	**21 22 16.9**	**+1.2**
	0.9nm,0.7s,baz=337,slow=18,SNR=4.9						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**21 25 57.2**	**+0.1**
	0.7nm,0.5s,baz=114,slow=8.3,SNR=16 0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	**P**	**21 26 23.6**	**+0.4**
	0.9nm,0.5s,baz=129,slow=5.0,SNR=12 0.9nm,0.5s						

IDC 25 21:37:41.9±8.8, 6°.53S×130°.09E, h116km±90km, mb3.4/1, mbtmp3.9/5, ML3.7/4, Error ellipse: s-maj=71.8km s-min=29.3km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.33**	**240**	P	Pn	21 39 28.3	+1.8
	3.4nm,0.3s,baz=79,slow=10,SNR=2.5						
BATI				S	Sn	21 40 48.5	+0.3
	19nm,0.6s,baz=196,slow=23,SNR=4.3 11nm,0.4s						
FITZ	**Fitzroy Crossi**	**12.29**	**200**	P	Pn	21 40 31.7	-1.4
	0.2nm,0.3s,baz=34,slow=12,SNR=13						
FITZ				S	Sn	21 42 40.6	-7.8
	2.3nm,0.4s,baz=300,slow=20,SNR=6.7 0.6nm,0.2s						
WRA	**Warramunga Arr**	**13.96**	**163**	P	Pn	21 40 53.9	-0.9
	0.3nm,0.3s,baz=345,slow=14,SNR=17						
WRA				S	Sn	21 43 21.1	-7.7
	1.0nm,0.5s,baz=343,slow=21,SNR=7.5 1.4nm,0.7s						
ASAR	**Alice Springs**	**17.43**	**168**	P	Pn	21 41 38.7	+0.8
	0.4nm,0.3s,baz=338,slow=9.8,SNR=20						
ASAR				S	Sn	21 44 46.9	-5.5
	0.2nm,0.4s,baz=348,slow=25,SNR=4.2 1.2nm,0.5s						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	21 48 27.8	-0.2
	0.5nm,0.5s,baz=120,slow=8.1,SNR=5.5 0.5nm,0.5s						

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*IDC **25** 21:40:35.4±1.4, 25°.19N×129°.08E, h0km, mb3.7/5, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=70.3km s-min=18.5km az=72.0*
*NIED **25** 21:40:38.1, 25°.11N×128°.87E, h57km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=-2.26; $M_{\theta\theta}$1.15; $M_{\phi\phi}$ 1.11; $M_{r\theta}$-0.20; $M_{\theta\phi}$ 1.59; $M_{\phi r}$-1.93; Fault plane solution: $M_0$3.18000×10^{14} NP1: ϕ_s248.00000°, δ34.00000°, λ-50.00000°. NP2:ϕ_s22.00000°, δ65.00000°, λ-113.00000°.*
*JMA **25** 21:40:38.1±0.4, 25°.N±2°.×12°.9E±°, h57km, MV3.5/17, FAR S OFF OKINAWAJIMA*

ISC 25 21:40:35.0±3.2, 25°.11N±0°.06×128°.87E±0°.04, h5km±21km, n22, σ1s88/31, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.42**	**317**	P	**Pb**	**21 41 02.5**	**+0.5**
JJT3				S	**Sb**	**21 41 19.7**	**-0.6**
JNTH	**Nagotoyohara**	**1.59**	**332**	P	**Pb**	**21 41 04.5**	**-0.4**
JOW	**Kunigami**	**1.79**	**343**	Pn	**Pb**	**21 41 07.8**	**-0.5**
	47nm,0.3s,baz=159,slow=14,SNR=144						
JOW				Sn	**Sn**	**21 41 28.1**	**-1.7**
	94nm,0.3s,baz=114,slow=26,SNR=19						
JOW	**Kunigami**	**1.79**	**343**	P	**Pb**	**21 41 07.8**	**-0.5**
JYRO	**Yoronjima**	**1.94**	**349**	P	**Pb**	**21 41 09.9**	**-1.0**
JYRO				eS	**Sn**	**21 41 31.1**	**-2.3**
JAGN	**Aguni-jima**	**2.08**	**315**	P	**Pn**	**21 41 11.3**	**+0.8**
JAGN				S	**Sn**	**21 41 34.9**	**-1.9**
JIH	**Iheya**	**2.08**	**337**	P	**Pb**	**21 41 12.0**	**-1.2**
JIH				S	**Sn**	**21 41 35.4**	**-1.5**
JKE	**Kume jima 2**	**2.23**	**303**	P	**Pn**	**21 41 12.9**	**+0.2**
JKE				eS	**Sn**	**21 41 37.6**	**-3.1**
JMZ	**Minamidaito 2**	**2.24**	**71**	P	**Pn**	**21 41 13.0**	**+0.2**
JMZ				S	**Sn**	**21 41 38.7**	**-2.2**
JOKE	**Okinoerabujima**	**2.25**	**353**	S	**Sn**	**21 41 39.1**	**-2.1**
JKDJ	**Kitadaitoujima**	**2.35**	**69**	P	**Pb**	**21 41 15.4**	**-2.4**
JKDJ				S	**Sn**	**21 41 42.2**	**-1.2**
JTK	**Tokunoshima**	**2.66**	**2**	P	**Pn**	**21 41 20.0**	**+1.4**
JTK				eS	**Sn**	**21 41 48.5**	**-2.8**
JOGS	**Gusukube**	**3.16**	**264**	eS	**Sn**	**21 42 00.3**	**-3.3**
JZK	**Kikaishima**	**3.34**	**17**	eS	**Sn**	**21 42 08.5**	**+0.6**
JAM	**Amami Oshima**	**3.35**	**11**	S	**Sn**	**21 42 06.4**	**-1.8**
JIRB	**Irabujima**	**3.37**	**266**	eS	**Sn**	**21 42 05.0**	**-3.6**
USRK	**Ussuriysk Ar.**	**19.21**	**7**	P	**P**	**21 44 59.3**	**-0.4**
	0.1nm,0.3s,baz=166,slow=14,SNR=2.2 2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**43.48**	**323**	P	**P**	**21 48 40.8**	**+1.7**
	0.9nm,0.5s,baz=113,slow=8.2,SNR=5.7 0.9nm,0.5s						
WRA	**Warramunga Arr**	**45.10**	**173**	P	**P**	**21 48 52.8**	**+0.5**
	0.7nm,0.5s,baz=353,slow=8.6,SNR=7.1 0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**46.06**	**317**	P	**P**	**21 49 01.4**	**+1.7**
	0.6nm,0.5s,baz=107,slow=8.7,SNR=4.7 0.6nm,0.5s						
ASAR	**Alice Springs**	**48.73**	**174**	P	**P**	**21 49 23.4**	**+2.6**
	0.3nm,0.6s,baz=1.7,slow=14,SNR=5.5 0.3nm,0.6s						
BVAR	**Borovoye Array**	**51.49**	**319**	P	**P**	**21 49 42.5**	**+1.1**
	0.4nm,0.5s,baz=94,slow=8.8,SNR=2.9 0.4nm,0.5s						

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*NEIC **25** 21:43:49.5±0.9, 41°.48N±0°.01×112°.35W±0°.02, h5km±4km, Error ellipse: s-maj=2.6km s-min=2.0km az=105.0*

UUSS 25 21:43:49.7±0.9, 41°.48N±0°.01×112°.34W±0°.02, h2km±1km, ML2.5/12, ML2.5/74(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=67.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPU	**East Promontor**	**0.10**	**212**		Pg	21 43 51.9	+0.2
LTU	**Little Mountai**	**0.13**	**31**		Pg	21 43 52.6	+0.3
LTU	**Little Mountai**	**0.13**	**31**		Sg	21 43 55.1	+1.1
SPUT	**South Promonto**	**0.19**	**206**		Pg	21 43 53.6	+0.3
SPUT					Sg	21 43 57.1	+1.2
BCUT	**Brigham City**	**0.27**	**83**		Pg	21 43 55.2	+0.4
BCUT					Sg	21 43 59.5	+1.1
WVUT	**Wellsville**	**0.31**	**65**		Pg	21 43 56.0	+0.3
HVU	**Hansel Valley**	**0.45**	**313**		Pg	21 43 58.8	+0.5
HVU					Sg	21 44 05.3	+1.3
PTU	**Portage**	**0.45**	**1**		Pg	21 43 58.6	+0.2
NAIU	**Northern Antel**	**0.47**	**170**		Pg	21 43 58.8	+0.2
WBC	**Weber Canyon**	**0.47**	**136**		Pg	21 43 59.2	+0.5
HDU	**Hyde Park**	**0.54**	**53**		Pg	21 44 00.1	+0.1
MLI	**Malad Range**	**0.57**	**16**		Pg	21 44 01.0	+0.3
FPU	**Francis Peak**	**0.59**	**140**		Pg	21 44 01.4	+0.4
HWUT	**Hardware Ranch**	**0.59**	**77**		Pg	21 44 01.2	+0.1
SNUT	**Stansbury Nort**	**0.61**	**192**		Pg	21 44 01.8	+0.5
MCU	**Monte Cristo P**	**0.62**	**91**		Pg	21 44 01.9	+0.2
SAIU	**Southern Antel**	**0.63**	**169**		Pg	21 44 01.8	0.0
NPI	**North Pocatell**	**0.68**	**349**		Pg	21 44 03.1	+0.3
BGU	**Big Grassy Mou**	**0.76**	**224**		Pg	21 44 04.3	+0.1
BEI	**Bear River Ran**	**0.76**	**33**		Pg	21 44 04.6	+0.3
HRU	**Hogsback Ridge**	**0.77**	**154**		Pg	21 44 04.6	+0.2
TCUT	**Toone Canyon**	**0.79**	**117**		Pb	21 44 06.2	-0.1
RBU	**Red Butte Cany**	**0.80**	**150**		Pg	21 44 05.1	+0.1
NOQ	**North Oquirrh**	**0.84**	**169**		Pg	21 44 06.2	+0.4
N16A	**Rees Ranch, Co**	**0.90**	**131**		Pg	21 44 07.4	+0.5
CTU	**Camp Tracy**	**0.90**	**150**		Pg	21 44 07.3	+0.3
CTU	**Camp Tracy**	**0.90**	**150**	IAML		21 44 22.3	
	comp=N,99nm,0.3s						
CTU				IAML		21 44 22.5	
	comp=E,141nm,0.5s						
GMU	**Granite Mounta**	**1.00**	**154**		Pg	21 44 08.9	+0.1
JLU	**Jordanelle**	**1.10**	**142**		Pg	21 44 11.1	+0.2
JLU	**Jordanelle**	**1.10**	**142**	IAML		21 44 28.4	
	comp=E,68nm,0.5s						
JLU				IAML		21 44 28.4	
	comp=N,88nm,0.4s						
HLJ	**Hailstone**	**1.12**	**140**		Pg	21 44 11.5	+0.4
HTU	**Hoyt Peak**	**1.17**	**133**		Pg	21 44 12.2	+0.2
LHUT	**Little Humpy P**	**1.17**	**120**		Pb	21 44 12.7	-0.2
DUG	**Dugway, Tooele**	**1.33**	**196**		Pg	21 44 14.4	-0.8
DUG	**Dugway, Tooele**	**1.33**	**196**	IAML		21 44 38.0	
	comp=N,76nm,0.5s						
DUG				IAML		21 44 40.0	
	comp=N,88nm,0.7s						
DAU	**Daniels Canyon**	**1.34**	**142**		Pb	21 44 15.7	-0.1
BSUT	**Blindstream Ca**	**1.52**	**128**		Pg	21 44 18.6	-0.2
BSUT				IAML		21 44 40.7	
	comp=E,49nm,0.6s						
BSUT				IAML		21 44 44.8	
	comp=N,40nm,0.4s						
NLU	**North Lily Min**	**1.54**	**172**		Pn	21 44 17.5	-0.8
MPU	**Maple Canyon**	**1.56**	**160**		Pn	21 44 18.5	-0.2
AHID	**Auburn Hatcher**	**1.58**	**35**		Pn	21 44 18.8	-0.2
AHID	**Auburn Hatcher**	**1.58**	**35**	IAML		21 44 44.3	
	comp=N,103nm,0.3s						
TPAW	**Teton Pass**	**2.26**	**27**		Pn	21 44 29.4	+1.1
TPAW				IAML		21 45 02.1	
	comp=N,34nm,0.6s						
TPAW				IAML		21 45 06.7	
	comp=N,24nm,1.5s						
RDMU	**Red Mountain**	**2.28**	**112**	Pn	Pn	21 44 29.3	+0.6
RDMU				IAML		21 45 02.8	
	comp=E,32nm,0.3s						
RDMU				IAML		21 45 05.2	
	comp=N,31nm,0.6s						
SNOW	**Snow King Moun**	**2.30**	**30**	Pn	Pn	21 44 28.3	-0.7
SNOW				IAML		21 45 06.6	
	comp=N,28nm,0.5s						
SNOW				IAML		21 45 07.1	
	comp=N,25nm,0.6s						
ELK	**Elko**	**2.31**	**252**		Pb	21 44 31.3	-1.0
ELK				IAML		21 45 03.2	
	comp=N,18nm,0.4s						
TMUT	**Trail Mountain**	**2.34**	**158**		Pn	21 44 28.9	-0.7
TMUT				IAML		21 45 08.3	
	comp=E,25nm,0.6s						
TMUT				IAML		21 45 09.0	
	comp=N,22nm,0.9s						
FXWY	**Fox Creek**	**2.37**	**24**		Pn	21 44 30.0	+0.2
BW06	**Boulder Array**	**2.44**	**57**	Pn	Pn	21 44 31.1	+0.3
BW06				IAML		21 45 07.2	
	comp=N,30nm,0.9s						
PD31	**Pinedale Array**	**2.44**	**57**	Pn	Pn	21 44 31.5	+0.8
PDAR	**Pinedale Array**	**2.44**	**57**		Pn	21 44 31.9	+1.2
P18A	**Preston Nutter**	**2.44**	**139**		Pn	21 44 31.6	+0.7
P18A				IAML		21 45 03.3	
	comp=N,25nm,0.5s						
P18A				IAML		21 45 04.5	
	comp=E,18nm,0.4s						
LOHW	**Long Hollow**	**2.49**	**30**		Pn	21 44 31.0	-0.5
LOHW				IAML		21 45 08.3	
	comp=E,14nm,0.7s						
LOHW				IAML		21 45 10.5	
	comp=E,19nm,0.6s						
MOOW	**Moose Ponds**	**2.56**	**27**	Pn	Pn	21 44 33.7	+1.3
HLID	**Hailey**	**2.59**	**324**		Pb	21 44 34.9	-2.0
Q16A	**Castle Valley**	**2.71**	**160**	Pn	Pn	21 44 32.2	-2.2
SRU	**San Rafael Swe**	**2.74**	**149**		Pn	21 44 33.8	-1.1
SRU				IAML		21 45 16.9	
	comp=N,15nm,0.7s						
SRU				IAML		21 45 18.3	
	comp=E,18nm,0.8s						
FLWY	**Flagg Ranch**	**2.87**	**24**	Pn	Pn	21 44 37.7	+1.1
FLWY				IAML		21 45 12.2	
	comp=E,18nm,3.9s						
FLWY				IAML		21 45 36.8	
	comp=E,18nm,4.2s						
SPR3	**Spring Creek 3**	**2.91**	**212**		Pn	21 44 37.2	-0.1
SPR3				IAML		21 45 25.2	
	comp=N,10.0nm,0.7s						
MFID	**Camas Ranch**	**3.23**	**308**		Pb	21 44 46.5	-1.3
MFID				IAML		21 45 31.8	
	comp=N,16nm,1.3s						
MFID				IAML		21 45 34.4	
	comp=N,14nm,1.2s						
R11B	**Troy Canyon, C**	**4.00**	**220**	IAML		21 45 58.2	
	comp=N,5.8nm,0.5s						
R11B				IAML		21 46 44.6	
	comp=E,5.1nm,4.7s						

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*IDC **25** 21:52:32.7±1.5, 2°.99N×129°.16E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=84.6km s-min=19.2km az=67.0*

ISC 25 21:52:33.1±2.0, 3°.2N±0°.3×129°.7E±0°.6, h10km, n6, σ0s53/6, mb4.0/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**169**	P	**P**	**21 57 42.8**	**+0.1**
	0.3nm,0.3s,baz=344,slow=10,SNR=12 0.3nm,0.3s						
ASAR	**Alice Springs**	**27.01**	**171**	P	**P**	**21 58 15.3**	**-0.1**
	0.3nm,0.5s,baz=353,slow=7.3,SNR=7.3 0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.69**	**299**	P	**P**	**21 59 14.4**	**-0.2**
	0.6nm,0.3s,baz=120,slow=7.7,SNR=5.2 0.6nm,0.3s						
MKAR	**Makanchi Array**	**59.69**	**324**	P	**P**	**22 02 38.4**	**+0.6**
	0.6nm,0.4s,baz=113,slow=8.4,SNR=16 0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**62.42**	**332**	P	**P**	**22 02 55.7**	**-0.5**
	0.3nm,0.3s,baz=124,slow=5.0,SNR=2.3 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.79**	**326**	P	**P**	**22 03 05.8**	**+0.4**
	1.2nm,0.4s,baz=126,slow=6.2,SNR=9.6 1.2nm,0.4s						

IDC 25 21:53:12.0±5.6, 7°.05S×146°.85E, h121km±72km, mb2.8/2, mbtmp3.1/4, Error ellipse: s-maj=107.9km s-min=42.9km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.36**	**172**	P	Pn	21 53 50.6	+0.6
	6.0nm,0.4s,baz=320,slow=6.0,SNR=1.9						
PMG				S	Sn	21 54 19.8	+0.6
	39nm,0.4s,baz=120,slow=22,SNR=19						
WRA	**Warramunga Arr**	**17.65**	**222**	P	P	21 57 08.9	-0.7
	0.1nm,0.4s,baz=42,slow=11,SNR=1.3						
ASAR	**Alice Springs**	**20.67**	**216**	P	P	21 57 42.8	+0.3
	0.2nm,0.4s,baz=52,slow=9.1,SNR=7.3 0.2nm,0.4s						
MKAR	**Makanchi Array**	**78.21**	**321**	P	P	22 04 58.0	-0.2
	0.2nm,0.4s,baz=103,slow=6.2,SNR=2.7 0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.19**	**283**	PKPbc	PKPbc	22 12 35.6	-0.5
	1.7nm,0.3s,baz=74,slow=3.6,SNR=1.9						

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*DJA **25** 22:00:54.0±0.7, 6°.S±7°.×10°.4E±°, h10km, M3.6/7, MLv3.6/7*
*IDC **25** 22:00:58.3±4.4, 4°.88S×103°.84E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=186.4km s-min=31.5km az=50.0*

ISC 25 22:00:56.2±1.6, 6°.2S±0°.1×103°.84E±0°.10, h42km, n14, σ1s57/11, mb3.7/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.91**	**46**	P	**Pn**	**22 01 13.7**	**+1.1**
KASI				S	**Sn**	**22 01 23.1**	**-1.4**
LWLI	**Liwa**	**1.15**	**11**	P	**Pn**	**22 01 17.4**	**+1.4**
MDSI	**Maura Dua**	**1.69**	**12**	P	**Pn**	**22 01 25.3**	**+2.0**
CGJI	**Cibinong**	**1.90**	**104**	P	**Pn**	**22 01 27.8**	**+1.6**
MNAI	**Manna**	**1.98**	**334**	P	**Pn**	**22 01 28.1**	**+0.7**
LHSI	**Lahat**	**2.33**	**352**	P	**Pn**	**22 01 34.4**	**+2.3**
WRA	**Warramunga Arr**	**32.64**	**118**	P	P	22 07 37.5	+13
	0.4nm,0.8s,baz=289,slow=10.0,SNR=2.8 0.4nm,0.8s						
SONM	**Songino Array**	**53.80**	**2**	P	**P**	**22 10 13.5**	**-1.3**
	0.4nm,0.5s,baz=190,slow=7.3,SNR=3.8 0.4nm,0.5s						
MKAR	**Makanchi Array**	**56.08**	**342**	P	**P**	**22 10 30.6**	**-0.5**
	0.3nm,0.5s,baz=155,slow=8.1,SNR=7.5 0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**59.89**	**219**	T	T	23 17 14.7	
	baz=64,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**59.90**	**219**	T	T	23 17 17.4	
	baz=64,slow=75,SNR=8.5						
H04N3	**CROZET ISLANDS**	**59.90**	**219**	T	T	23 17 16.2	
	baz=64,slow=75,SNR=8.1						
KURBB	**Kurchatov Arra**	**60.63**	**342**	P	**P**	**22 11 03.1**	**+0.4**
	0.3nm,0.2s,baz=144,slow=6.5,SNR=1.4						
ZALV	**Zalesovo Beam**	**61.98**	**347**	P	**P**	**22 11 11.1**	**-0.7**
	0.6nm,0.3s,baz=162,slow=5.0,SNR=5.2 0.6nm,0.3s						

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*IDC **25** 22:19:06.1±2.2, 22°.13N×144°.84E, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=94.3km s-min=29.6km az=82.0*

**IS

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.52**	**336**		**Pn**		**22 20 44.9**	**-0.6**
KOFP					**Sn**		**22 20 54.4**	**-0.2**
KOSE	**Korovin Southe**	**0.57**	**342**		**Pn**		**22 20 45.8**	**-0.3**
KOSE					**Sn**		**22 20 56.2**	**+0.6**
KOKL	**Mount Kliuchef**	**0.59**	**333**		**Pn**		**22 20 45.8**	**-0.4**
KOKL					**Sn**		**22 20 55.9**	**0.0**
KOKV	**Korovin Volcan**	**0.61**	**336**		**Pn**		**22 20 46.4**	**-0.2**
KOKV					**Sn**		**22 20 57.1**	**+0.7**
KONE	**Korovin Northe**	**0.63**	**339**		**Pn**		**22 20 46.6**	**-0.1**
KONE					**Sn**		**22 20 57.1**	**+0.5**
KOWE	**Korovin West**	**0.64**	**332**		**Pn**		**22 20 46.8**	**0.0**
KOWE					**Sn**		**22 20 57.1**	**+0.2**
KONW	**Korovin Northw**	**0.66**	**335**		**Pn**		**22 20 47.0**	**+0.1**
KONW					**Sn**		**22 20 58.2**	**+1.0**
GSMY	**Great Sitkin M**	**1.44**	**280**		**Pn**		**22 20 57.0**	**-0.1**
GSMY					**Sn**		**22 21 15.4**	**+0.3**
GSTR	**Great Sitkin T**	**1.45**	**282**	Pn	**Pn**		**22 20 57.4**	**+0.2**
GSTR					**Sn**		**22 21 15.9**	**+0.6**
GSTD	**Great Sitkin T**	**1.50**	**281**		**Pn**		**22 20 57.5**	**-0.3**
GSTD					**Sn**		**22 21 16.9**	**+0.4**
GSCK	**Great Sitkin C**	**1.50**	**279**		**Pn**		**22 20 57.6**	**-0.3**
GSSP	**Great Sitkin S**	**1.52**	**282**		**Pn**		**22 20 58.4**	**+0.3**
ETKA	**Kagalaska Isla**	**1.64**	**273**		**Pn**		**22 20 59.4**	**-0.3**
ADAG	**Mount Adagdak**	**1.77**	**277**		**Pn**		**22 21 02.1**	**+0.7**
ADK	**Adak**	**1.82**	**274**		**Pn**		**22 21 02.1**	**+0.1**
ADK					Sn		**22 21 23.8**	**-0.2**
KIRH	**Kanaga Island**	**2.07**	**274**		**Pn**		**22 21 06.3**	**+0.8**
KIWB	**Kanaga Island**	**2.11**	**273**		**Pn**		**22 21 06.3**	**+0.4**
KIKV	**Kanaga Island**	**2.12**	**273**		**Pn**		**22 21 06.8**	**+0.6**
KIMD	**Kanaga Island**	**2.16**	**270**		**Pn**		**22 21 07.3**	**+0.6**
TAPA	**Tanaga Point A**	**2.52**	**272**		**Pn**		**22 21 11.9**	**+0.3**
TASE	**Tanaga Southea**	**2.66**	**272**		**Pn**		**22 21 14.6**	**+1.1**
N15K	**Kwethluk River**	**11.33**	**37**	Pn	**Pn**		**22 23 11.7**	**-0.2**
ILAR	**Eielson Array**	**18.98**	**37**	P	**Pn**		**22 24 52.1**	**+1.7**
	0.2nm,0.3s,baz=241,slow=11,SNR=7.8 0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**35.42**	**213**	T	T		23 05 02.6	
	baz=17,slow=76							
H11N3	**WAKE ISLAND Hy**	**35.42**	**213**	T	T		23 05 03.2	
	baz=17,slow=76							
H11N1	**WAKE ISLAND Hy**	**35.44**	**213**	T	T		23 05 04.0	
	baz=17,slow=76							
H11S1	**WAKE ISLAND Hy**	**36.62**	**212**	T	T		23 06 35.8	
	baz=22,slow=76							
H11S2	**WAKE ISLAND Hy**	**36.64**	**212**	T	T		23 06 33.0	
	baz=22,slow=76							
H11S3	**WAKE ISLAND Hy**	**36.64**	**212**	T	T		23 06 35.3	
	baz=22,slow=76							
NVAR	**Mina Array Bea**	**40.38**	**87**	P	**P**		**22 28 05.7**	**+0.8**
	0.4nm,0.6s,baz=294,slow=8.0,SNR=3.8 0.4nm,0.6s							
TXAR	**Lajitas Array**	**55.48**	**85**	P	**P**		**22 30 02.1**	**+0.7**
	1.0nm,0.6s,baz=319,slow=7.3,SNR=12 1.0nm,0.6s							
JMIC	**Jan Mayen**	**57.06**	**6**	LR	LR		22 55 16.9	
	comp=Z,54nm,19.7s,baz=138,slow=36							
MKAR	**Makanchi Array**	**62.18**	**311**	P	**P**		**22 30 46.6**	**-0.9**
	0.1nm,0.4s,baz=57,slow=5.3,SNR=1.8 0.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**74.07**	**280**	LR	LR		23 07 53.3	
	comp=Z,17nm,18.2s,baz=220,slow=39							
MLR	**Muntele Rosu**	**81.61**	**346**	LR	LR		23 13 11.1	
	comp=Z,27nm,20.5s,baz=334,slow=39							
WRA	**Warramunga Arr**	**84.57**	**228**	P	**P**		**22 32 57.4**	**-1.9**
	0.5nm,1.1s,baz=27,slow=5.1,SNR=2.3 0.5nm,1.1s							

TAP ***25*** *22:48:00.3, 24°.57N×122°.88E, h98km, ML4.0, C*
JMA ***25*** *22:48:00.1±0.2, 24°.N±2°×122°.9E±0°.5, h101km±1km, MV2.9/16, NW OFF ISHIGAKIJIMA IS*
IDC ***25*** *22:48:09.0±7.7, 24°.69N×123°.88E, h180km±77km, mb3.2/3, mbtmp3.9/5, Error ellipse: s-maj=86.6km s-min=23.6km az=80.0*

ISC 25 22:48:00.0±0.9, 24°.53N±0°.03×122°.90E±0°.02, h103km±5km, n157, σ1§23/281, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.09**	**153**	P	**Pn**		**22 48 14.3**	**0.0**
JYNG				S	**Sn**		**22 48 24.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.12**	**125**	P	**Pn**		**22 48 14.4**	**+0.1**
YOJ				S	**Sn**		**22 48 24.6**	**-0.4**
YOJ	**Yonaguni jima**	**0.12**	**125**	*i* P	**Pn**		**22 48 14.4**	**+0.1**
YOJ				*i* S	**Sn**		**22 48 24.5**	**-0.5**
EOS3	**EOS3**	**0.58**	**245**	*e*P	**Pn**		**22 48 11.9**	**+0.4**
EOS3				*e*S	**Sn**		**22 48 29.9**	**+0.9**
EOS2	**EOS2**	**0.62**	**259**	*e*P	**Pn**		**22 48 17.0**	**+0.2**
EOS2				*e*S	**Sn**		**22 48 29.5**	**+0.1**
EOS4	**EOS4**	**0.67**	**232**	*e*P	**Pn**		**22 48 17.3**	**+0.3**
EOS4				*e*S	**Sn**		**22 48 29.9**	**+0.1**
IRIF	**Iriomote-Funau**	**0.78**	**104**	*i* P	**Pn**		**22 48 18.6**	**+0.2**
IRIF				S	**Sn**		**22 48 32.0**	**-0.3**
EGS		**0.93**	**290**	P	**Pn**		**22 48 20.1**	**+0.2**
EGS				S	**Sn**		**22 48 32.6**	**-2.3**
HATJ	**Hateruma jima**	**0.95**	**120**	S	**Sn**		**22 48 35.7**	**+0.4**
TWB1	**Santiao Chiao**	**0.95**	**300**	P	**Pn**		**22 48 19.9**	**-0.2**
TWB1				S	**Sn**		**22 48 34.1**	**-1.2**
TWC	**Suao**	**0.96**	**275**	P	**Pn**		**22 48 19.6**	**-0.5**
TWC				*e*S	**Sn**		**22 48 33.5**	**-1.9**
ESAO	**Su ao**	**0.96**	**273**	*e*P	**Pn**		**22 48 20.0**	**-0.3**
ESAO				*e*S	**Sn**		**22 48 33.5**	**-1.9**
EWUT	**Wuta**	**1.02**	**265**	*e*P	**Pn**		**22 48 20.6**	**-0.3**
EWUT				*e*S	**Sn**		**22 48 35.4**	**-1.3**
JKRS	**Kuro-shima**	**1.05**	**106**	P	**Pn**		**22 48 21.9**	**+0.7**
JKRS				S	**Sn**		**22 48 37.6**	**+0.5**
ENA	**Nanau**	**1.06**	**265**	*e*P	**Pn**		**22 48 21.2**	**-0.1**
ENA				*e*S	**Sn**		**22 48 37.1**	**-0.3**
TIPB	**Shuangxi**	**1.07**	**294**	*e*P	**Pn**		**22 48 21.1**	**-0.3**
TIPB				*e*S	**Sn**		**22 48 35.9**	**-1.7**
ILA	**Ilan**	**1.07**	**283**	*e*S	**Sn**		**22 48 37.0**	**-0.6**
EAHA	**Aohua**	**1.08**	**259**	*e*P	**Pn**		**22 48 21.3**	**-0.2**
EAHA				*e*S	**Sn**		**22 48 36.5**	**-1.1**
NDS	**Dongshan**	**1.08**	**276**	*e*P	**Pn**		**22 48 21.8**	**+0.3**
NDS				*e*S	**Sn**		**22 48 36.6**	**-1.2**
SXI1	**Grass Mountain**	**1.08**	**301**	P	**Pn**		**22 48 21.5**	**-0.1**
SXI1				*e*S	**Sn**		**22 48 37.8**	**-0.2**
TWE	**Neicheng**	**1.14**	**280**	*e*P	**Pn**		**22 48 22.1**	**-0.1**
TWE				*e*S	**Sn**		**22 48 37.9**	**-0.9**
JIJ	**Ishigaki jima**	**1.15**	**98**	*i* P	**Pn**		**22 48 22.4**	**+0.2**
JIJ				S	**Sn**		**22 48 38.3**	**-0.7**
NWF	**Wu-fen Shan**	**1.15**	**298**	*e*P	**Pn**		**22 48 22.5**	**+0.1**
NWF				*e*S	**Sn**		**22 48 38.4**	**-0.9**
WFSB	**Wu-fen Shan**	**1.15**	**298**	*e*P	**Pn**		**22 48 22.6**	**+0.3**
WFSB				*e*S	**Sn**		**22 48 38.4**	**-0.7**
TNOU	**National Taiwa**	**1.19**	**301**	*e*P	**Pn**		**22 48 22.0**	**-0.7**
TNOU				*e*S	**Sn**		**22 48 39.4**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.22**	**281**	*e*P	**Pn**		**22 48 23.1**	**0.0**
FUSB				S	**Sn**		**22 48 39.6**	**-0.9**
ENTT	**Nioudou**	**1.22**	**275**	*e*P	**Pn**		**22 48 23.3**	**+0.2**
ENTT				S	**Sn**		**22 48 39.9**	**-0.7**
ETL	**Fush Village**	**1.22**	**252**	*e*P	**Pn**		**22 48 22.7**	**-0.5**
ETL				*e*S	**Sn**		**22 48 39.1**	**-1.5**
NACB	**Ninganchiao**	**1.24**	**254**	P	**Pn**		**22 48 22.8**	**-0.6**
NACB	**Ninganchiao**	**1.24**	**254**	*e*P	**Pn**		**22 48 22.8**	**-0.6**
NACB				*e*S	**Sn**		**22 48 39.5**	**-1.5**
LATG	**Datong**	**1.25**	**270**	*e*P	**Pn**		**22 48 23.7**	**+0.1**
LATG				*e*S	**Sn**		**22 48 40.8**	**-0.6**
TWD	**Chiawan**	**1.27**	**249**	P	**Pn**		**22 48 23.2**	**-0.5**
TWD				S	**Sn**		**22 48 40.2**	**-1.4**
TWA	**Mucha**	**1.28**	**291**	*e*P	**Pn**		**22 48 23.9**	**+0.1**
TWA				*e*S	**Sn**		**22 48 40.9**	**-0.8**
JISG	**Ishigakijimahi**	**1.29**	**87**	P	**Pn**		**22 48 24.0**	**+0.1**
JISG				S	**Sn**		**22 48 41.3**	**-0.6**
NWLT	**Wulai**	**1.29**	**281**	*e*P	**Pn**		**22 48 24.0**	**0.0**
NWLT				*e*S	**Sn**		**22 48 41.0**	**-1.1**
HWA	**Hwalien**	**1.30**	**245**	*e*P	**Pn**		**22 48 23.9**	**-0.2**
HWA				*e*S	**Sn**		**22 48 42.1**	**-0.2**
NHDH	**Xindian Distri**	**1.32**	**289**	*e*S	**Sn**		**22 48 41.3**	**-1.3**
PCYT	**Pengchaiyu**	**1.32**	**326**	*e*P	**Pn**		**22 48 24.7**	**+0.4**
ETLH	**Xiulin Townshi**	**1.33**	**256**	P	**Pn**		**22 48 24.1**	**-0.4**
YM01	**YM01**	**1.35**	**297**	P	**Pn**		**22 48 25.0**	**+0.3**
YM01				*e*S	**Sn**		**22 48 42.2**	**-1.2**
YM08	**YM08**	**1.36**	**299**	*e*P	**Pn**		**22 48 24.8**	**+0.1**
YM08				*e*S	**Sn**		**22 48 41.8**	**-1.6**
TEYL	**Yanliau Villag**	**1.36**	**241**	*e*P	**Pn**		**22 48 24.4**	**-0.4**
TEYL				*e*S	**Sn**		**22 48 42.2**	**-1.2**
ZUZH	**Zhuzihu**	**1.38**	**297**	*e*P	**Pn**		**22 48 25.1**	**+0.1**
ZUZH				*e*S	**Sn**		**22 48 42.8**	**-1.1**
NNSB	**Datong**	**1.39**	**266**	*e*P	**Pn**		**22 48 24.9**	**-0.3**
NNSB				*e*S	**Sn**		**22 48 43.2**	**-1.0**
TWY	**Chenhua**	**1.39**	**302**	*e*S	**Sn**		**22 48 43.0**	**-1.1**
YHNB	**Yeheng**	**1.39**	**276**	P	**Pn**		**22 48 25.3**	**+0.1**
YHNB	**Yeheng**	**1.39**	**276**	P	**Pn**		**22 48 25.4**	**+0.2**
YHNB	**Yeheng**	**1.39**	**276**	*e*P	**Pn**		**22 48 25.4**	**+0.2**
YHNB				*e*S	**Sn**		**22 48 43.3**	**-1.0**
NNS	**Nan Shan**	**1.39**	**266**	*e*P	**Pn**		**22 48 25.1**	**-0.1**
NNS				*e*S	**Sn**		**22 48 43.3**	**-1.0**
ETM	**Tongmen**	**1.40**	**247**	*i* P	**Pn**		**22 48 24.7**	**-0.5**
ETM				*e*S	**Sn**		**22 48 42.9**	**-1.4**
NSK	**Sanguang**	**1.41**	**276**	*i* P	**Pn**		**22 48 25.6**	**+0.2**
NSK				S	**Sn**		**22 48 43.4**	**-1.2**
SHUL	**Shoufeng**	**1.43**	**239**	P	**Pn**		**22 48 25.3**	**-0.3**
SHUL				*e*S	**Sn**		**22 48 43.8**	**-1.1**
LXIB	**Xiulin Townshi**	**1.45**	**250**	P	**Pn**		**22 48 25.3**	**-0.7**
LXIB				S	**Sn**		**22 48 44.0**	**-1.6**
NTST	**Danshui**	**1.46**	**296**	*e*P	**Pn**		**22 48 26.1**	**+0.2**
NTST				*e*S	**Sn**		**22 48 45.2**	**-0.4**
TWS1	**Kuangyinshan**	**1.46**	**293**	*e*S	**Sn**		**22 48 44.9**	**-0.7**
TEGC	**Jichi Village**	**1.49**	**237**	P	**Pn**		**22 48 26.1**	**-0.2**
TEGC				S	**Sn**		**22 48 45.9**	**-0.3**
ESL	**Shilin**	**1.52**	**242**	*e*P	**Pn**		**22 48 26.1**	**-0.5**
ESL				*e*S	**Sn**		**22 48 45.2**	**-1.7**
FUSS	**Fushou**	**1.54**	**260**	P	**Pn**		**22 48 27.2**	**+0.1**
FUSS				*e*S	**Sn**		**22 48 46.9**	**-0.8**
WHF	**Hehuan Shan**	**1.54**	**256**	*i* P	**Pn**		**22 48 27.1**	**-0.2**
WHF				S	**Sn**		**22 48 46.6**	**-1.4**
KSHI	**Guanxi Townshi**	**1.59**	**279**	*e*P	**Pn**		**22 48 27.6**	**+0.2**
KSHI				*e*S	**Sn**		**22 48 48.2**	**-0.1**
TWT	**Tachien**	**1.60**	**260**	*e*P	**Pn**		**22 48 28.5**	**+0.7**
TWT				*e*S	**Sn**		**22 48 48.3**	**-0.5**
EGFH	**Guangfu**	**1.60**	**238**	*e*P	**Pn**		**22 48 27.2**	**-0.4**
WARBT	**Fenglin Townsh**	**1.60**	**240**	*i* P	**Pn**		**22 48 27.1**	**-0.6**
WARBT				S	**Sn**		**22 48 47.1**	**-1.7**
TDCB	**Techi**	**1.61**	**260**	*e*P	**Pn**		**22 48 28.4**	**+0.4**
TDCB				*e*S	**Sn**		**22 48 48.1**	**-1.0**
NCUH	**Zhongli**	**1.62**	**286**	*e*P	**Pn**		**22 48 28.2**	**+0.3**
NCUH				*e*S	**Sn**		**22 48 48.7**	**-0.3**
NFF	**Wufeng Townshi**	**1.62**	**274**	*e*P	**Pn**		**22 48 28.2**	**+0.1**
NFF				*e*S	**Sn**		**22 48 48.3**	**-1.0**
JTJ	**Tarama**	**1.65**	**86**	P	**Pn**		**22 48 28.7**	**+0.5**
JTJ				S	**Sn**		**22 48 49.8**	**+0.2**
OWD	**Renai**	**1.68**	**250**	P	**Pn**		**22 48 28.5**	**-0.2**
OWD				*e*S	**Sn**		**22 48 48.8**	**-1.7**
HGSD	**Ruisui**	**1.70**	**233**	*e*P	**Pn**		**22 48 28.5**	**-0.4**
HGSD				*e*S	**Sn**		**22 48 49.8**	**-1.1**
WUSB	**Renai**	**1.71**	**252**	*e*P	**Pn**		**22 48 29.4**	**+0.2**
WUSB				*e*S	**Sn**		**22 48 50.4**	**-1.0**
LIOB	**Emei**	**1.72**	**274**	*e*P	**Pn**		**22 48 29.4**	**+0.3**
LIOB				*e*S	**Sn**		**22 48 50.8**	**-0.5**
NSTT	**Nanjuang**	**1.73**	**274**	*e*P	**Pn**		**22 48 29.5**	**+0.2**
NSTT				*e*S	**Sn**		**22 48 50.7**	**-0.8**
EHYH	**Wanrong**	**1.76**	**234**	*e*P	**Pn**		**22 48 29.3**	**-0.3**
EHYH				*e*S	**Sn**		**22 48 50.9**	**-1.3**
SBCB	**Hsinchu**	**1.76**	**279**	P	**Pn**		**22 48 30.0**	**+0.4**
SBCB				S	**Sn**		**22 48 52.0**	**-0.2**
EHY	**Hungye**	**1.77**	**235**	P	**Pn**		**22 48 29.3**	**-0.5**
EHY				*e*S	**Sn**		**22 48 50.7**	**-1.7**
HSN	**Hsinchu**	**1.78**	**279**	*e*S	**Sn**		**22 48 50.9**	**-1.6**
VWDT	**VWDT**	**1.78**	**245**	P	**Pn**		**22 48 30.3**	**+0.3**
VWDT				S	**Sn**		**22 48 52.2**	**-0.6**
ECBN	**Changbin**	**1.80**	**228**	P	**Pn**		**22 48 29.8**	**-0.3**
ECBN				S	**Sn**		**22 48 51.7**	**-1.3**
WHP	**Taichung City**	**1.80**	**262**	P	**Pn**		**22 48 31.3**	**+1.1**
WHP				*e*S	**Sn**		**22 48 53.1**	**-0.1**
YULB	**Yu-li**	**1.85**	**233**	P	**Pn**		**22 48 30.3**	**-0.6**
YULB	**Yu-li**	**1.85**	**233**	P	**Pn**		**22 48 30.4**	**-0.4**
YULB	**Yu-li**	**1.85**	**233**	*e*P	**Pn**		**22 48 30.5**	**-0.4**
YULB				*e*S	**Sn**		**22 48 52.4**	**-2.0**
EYUL	**Yuli**	**1.87**	**231**	P	**Pn**		**22 48 31.2**	**+0.2**
WCS	**Beigang Elemen**	**1.88**	**256**	*e*P	**Pn**		**22 48 31.9**	**+0.8**
WCS				*e*S	**Sn**		**22 48 55.3**	**+0.5**
TWF1	**Yuli**	**1.88**	**232**	*i* P	**Pn**		**22 48 31.0**	**-0.2**
TWF1				*e*S	**Sn**		**22 48 53.8**	**-1.2**
CHKH	**Chenggong**	**1.92**	**226**	*e*P	**Pn**		**22 48 30.9**	**-0.8**
CHKH				*e*S	**Sn**		**22 48 53.2**	**-2.5**
NMLH	**Miaoli**	**1.92**	**271**	*e*P	**Pn**		**22 48 32.1**	**+0.4**
NMLH				*e*S	**Sn**		**22 48 55.2**	**-0.6**
SSLB	**Suanglung**	**1.93**	**248**	P	**Pn**		**22 48 31.8**	**+0.1**
SSLB	**Suanglung**	**1.93**	**248**	P	**Pn**		**22 48 32.0**	**+0.2**
SSLB	**Suanglung**	**1.93**	**248**	*e*P	**Pn**		**22 48 31.9**	**+0.1**
SSLB				*e*S	**Sn**		**22 48 54.9**	**-1.2**
SMLT	**Sun Moon Lake**	**1.94**	**251**	*e*P	**Pn**		**22 48 32.6**	**+0.6**
SMLT				*e*S	**Sn**		**22 48 57.1**	**+0.7**
TWQ1	**Liyutan**	**1.95**	**265**	*e*P	**Pn**		**22 48 32.2**	**-0.4**
TWQ1				*e*S	**Sn**		**22 48 55.9**	**-0.6**
NSY	**Sanyi**	**1.95**	**267**	*e*P	**Pn**		**22 48 33.1**	**+1.0**
NSY				*e*S	**Sn**		**22 48 56.9**	**+0.3**
FULB	**Fuli**	**1.98**	**228**	*e*P	**Pn**		**22 48 32.0**	**-0.5**
FULB				*e*S	**Sn**		**22 48 56.0**	**-1.3**
CHKT	**Chengkung**	**2.00**	**225**	*e*P	**Pn**		**22 48 31.9**	**-0.8**
CHKT				*e*S	**Sn**		**22 48 55.5**	**-2.2**
WHYT	**Xinyi Township**	**2.05**	**246**	*e*P	**Pn**		**22 48 34.3**	**+1.0**
WHYT				*e*S	**Sn**		**22 48 58.8**	**0.0**
TCU	**Taichung**	**2.06**	**260**	*e*P	**Pn**		**22 48 34.4**	**+0.8**
TCU				*e*S	**Sn**		**22 48 59.8**	**+0.7**
WDJ	**Dajia District**	**2.07**	**265**	*e*S	**Sn**		**22 48 57.1**	**-2.1**
JIRB	**Irabujima**	**2.09**	**81**	P	**Pn**		**22 48 34.0**	**+0.2**
JIRB				S	**Sn**		**22 48 58.8**	**-0.9**
ECS	**Chishang**	**2.10**	**227**	*e*P	**Pn**		**22 48 34.3**	**+0.2**
ECS				*e*S	**Sn**		**22 49 00.5**	**+0.4**
WJS	**Zhushan**	**2.11**	**251**	*e*P	**Pn**		**22 48 35.8**	**+1.7**
WJS				*e*S	**Sn**		**22 49 01.9**	**+1.8**
WNT	**Mingjian**	**2.12**	**253**	*e*P	**Pn**		**22 48 35.6**	**+1.2**
WNT				*e*S	**Sn**		**22 49 01.8**	**+1.3**
EDH	**Donghe**	**2.13**	**224**	*e*P	**Pn**		**22 48 33.9**	**-0.6**
EDH				*e*S	**Sn**		**22 48 58.7**	**-2.1**
ALS	**Alishan**	**2.17**	**242**	P	**Pn**		**22 48 36.0**	**+0.8**
ALS				*e*S	**Sn**		**22 49 02.2**	**+0.2**
ELDTW	**Lidau**	**2.18**	**233**	P	**Pn**		**22 48 35.0**	**-0.2**
ELDTW				*e*S	**Sn**		**22 49 00.7**	**-1.3**
WCHH	**Zhanghua**	**2.18**	**259**	*e*P	**Pn**		**22 48 35.2**	**+0.2**
WCHH				*e*S	**Sn**		**22 49 01.4**	**-0.5**
WCH1	**Changhua City**	**2.19**	**258**	*e*S	**Sn**		**22 49 01.6**	**-0.5**
JMJ2	**Miyako jima3**	**2.22**	**84**	S	**Sn**		**22 49 02.7**	**-0.1**
CHN5	**Tsauling**	**2.23**	**246**	*e*P	**Pn**		**22 48 37.1**	**+1.3**
CHN5				*e*S	**Sn**		**22 49 03.5**	**+0.3**
LDUT	**Ludao**	**2.27**	**216**	*e*P	**Pn**		**22 48 35.5**	**-0.7**
LDUT				*e*S	**Sn**		**22 49 01.4**	**-2.5**
LONT	**Longtian**	**2.29**	**225**	*e*P	**Pn**		**22 48 36.1**	**-0.4**
LONT				*e*S	**Sn**		**22 49 02.9**	**-1.6**
JOGS	**Gusukube**	**2.29**	**84**	*e*S	**Sn**		**22 49 04.8**	**+0.4**
WGK	**Gukeng**	**2.30**	**249**	*e*P	**Pn**		**22 48 37.3**	**+0.7**
WGK				*e*S	**Sn**		**22 49 06.4**	**+1.9**
WDLH	**Douliu**	**2.31**	**249**	*e*P	**Pn**		**22 48 38.0**	**+1.2**
WDLH				*e*S	**Sn**		**22 49 06.7**	**+1.7**
WCKO	**Fanlu**	**2.37**	**243**	*e*P	**Pn**		**22 48 39.0**	**+1.5**
WCKO				*e*S	**Sn**		**22 49 08.0**	**+1.8**
STYH	**Taoyuan**	**2.37**	**236**	*e*P	**Pn**		**22 48 38.6**	**+1.0**
STYH				*e*S	**Sn**		**22 49 06.3**	**+0.1**
TWGBT	**Beinan**	**2.39**	**225**	P	**Pn**		**22 48 37.6**	**-0.2**
TWGBT	**Beinan**	**2.39**	**225**	P	**Pn**		**22 48 37.5**	**-0.2**
TWGBT	**Beinan**	**2.39**	**225**	*e*P	**Pn**		**22 48 37.2**	**-0.5**
TWGBT				*e*S	**Sn**		**22 49 05.0**	**-1.7**
TWG	**Pinlang**	**2.39**	**225**	*e*P	**Pn**		**22 48 37.2**	**-0.6**
TWG				*e*S	**Sn**		**22 49 05.2**	**-1.6**
TTN	**Taitung**	**2.39**	**223**	*e*P	**Pn**		**22 48 38.6**	**+0.8**
TTN				*e*S	**Sn**		**22 49 06.1**	**-0.7**
TPUB	**Ta-pu**	**2.41**	**240**	P	**Pn**		**22 48 39.3**	**+1.1**
TPUB	**Ta-pu**	**2.41**	**240**	P	**Pn**		**22 48 39.2**	**+1.1**
TPUB	**Ta-pu**	**2.41**	**240**	*e*P	**Pn**		**22 48 39.4**	**+1.3**
TPUB				*e*S	**Sn**		**22 49 08.1**	**+0.8**
CHN2	**Minshiung**	**2.43**	**246**	*e*P	**Pn**		**22 48 40.3**	**+2.0**
CHN2				*e*S	**Sn**		**22 49 10.4**	**+2.7**
WTK	**Tuku**	**2.44**	**250**	*e*P	**Pn**		**22 48 39.4**	**+0.9**
WTK				*e*S	**Sn**		**22 49 08.5**	**+0.5**
WTP	**Ta-pu**	**2.45**	**239**	*e*P	**Pn**		**22 48 39.2**	**+0.6**
WTP				*e*S	**Sn**		**22 49 09.7**	**+1.5**
CHY	**Chiayi**	**2.49**	**246**	*e*P	**Pn**		**22 48 40.5**	**+1.4**
CHY				*e*S	**Sn**		**22 49 10.3**	**+1.3**
TWK	**Hsinying**	**2.54**	**241**	*e*P	**Pn**		**22 48 41.0**	**+1.1**
TWK				*e*S	**Sn**		**22 49 10.9**	**+0.5**
CHN1	**Nanshi**	**2.55**	**239**	*e*P	**Pn**		**22 48 41.3**	**+1.4**
CHN1				*e*S	**Sn**		**22 49 12.0**	**+1.4**
ECL	**Taimali**	**2.63**	**223**	*e*P	**Pn**		**22 48 40.1**	**-0.8**
ECL				*e*S	**Sn**		**22 49 09.4**	**-2.9**
WSL	**Shuilin Townsh**	**2.64**	**248**	*e*P	**Pn**		**22 48 41.6**	**+0.5**
WSL				*e*S	**Sn**		**22 49 13.0**	**+0.3**
SSD	**Sandimen**	**2.74**	**230**	*e*P	**Pn**		**22 48 44.2**	**+1.9**
SSD				*e*S	**Sn**		**22 49 15.4**	**+0.5**
SCST	**Cishan**	**2.75**	**234**	*e*P	**Pn**		**22 48 44.3**	**+1.8**
SCST				*e*S	**Sn**		**22 49 18.2**	**+3.0**
TSMG	**Majia**	**2.75**	**229**	*e*P	**Pn**		**22 48 44.1**	**+1.5**
TSMG				*e*S	**Sn**		**22 49 17.4**	**+2.1**
LAY	**Lan-yu**	**2.78**	**207**	*e*P	**Pn**		**22 48 42.0**	**-0.9**
LAY				*e*S	**Sn**		**22 49 11.3**	**-4.5**
LYUB	**Lan-yu**	**2.79**	**206**	*e*P	**Pn**		**22 48 42.2**	**-1.0**
LYUB				*e*S	**Sn**		**22 49 11.8**	**-4.4**
MASBT	**Mashibuluo**	**2.83**	**228**	*e*P	**Pn**		**22 48 44.7**	**+1.1**
MASBT				*e*S	**Sn**		**22 49 18.4**	**+1.3**
EAST	**Anshuo**	**2.85**	**222**	*e*P	**Pn**		**22 48 44.1**	**+0.2**
EAST				*e*S	**Sn**		**22 49 16.3**	**-1.4**
TAWH	**Dawu Township**	**2.86**	**221**	*e*P	**Pn**		**22 48 43.9**	**0.0**
TAWH				*e*S	**Sn**		**22 49 16.1**	**-1.7**
TSCK	**Chigu Township**	**2.92**	**242**	*e*P	**Pn**		**22 48 45.4**	**+0.6**
TSCK				*e*S	**Sn**		**22 49 20.0**	**+0.7**
SCZT	**Fangliau**	**3.00**	**225**	*e*P	**Pn**		**22 48 47.3**	**+1.4**
SCZT				*e*S	**Sn**		**22 49 22.7**	**+1.5**
SMST	**Manzhou Townsh**	**3.14**	**218**	*e*P	**Pn**		**22 48 48.6**	**+0.9**
PHUB	**P'eng-hu**	**3.21**	**252**	*e*P	**Pn**		**22 48 47.8**	**-0.8**
PHUB				*e*S	**Sn**		**22 49 23.5**	**-2.6**
TWKBT	**Hengchun**	**3.22**	**217**	*e*P	**Pn**		**22 48 49.6**	**+0.9**
TWKBT				S	**Sn**		**22 49 26.2**	**-0.2**
WDGT	**Dungji**	**3.22**	**248**	P	**Pn**		**22 48 48.8**	**0.0**
WDGT				*e*S	**Sn**		**22 49 24.5**	**-2.0**
XPSS	**Dashiqiu**	**3.42**	**315**	*e*P	**Pn**		**22 48 50.4**	**-1.0**
VCHM	**Qimei**	**3.44**	**248**	*e*P	**Pn**		**22 48 51.7**	**0.0**

comp=Z,78nm,18.4s,baz=161,slow=36
JOW Kunigami 14.93 12 P **P 23 41 24.8 +1.8**
JOW Kunigami 14.93 12 S **Sn 23 44 08.4 +3.8**
SBUM Sibu 15.74 233 Pn 23 41 30.6 +0.5
SBUM IAmb IAmb 23 41 35.6
comp=Z,32nm,1.0s
SBUM Sibu 15.74 233 P **P 23 41 35.6 +3.6**
MTKI Muara Teweh, K 16.31 217 P **Pn 23 41 38.8 +1.6**
comp=Z,44nm,0.8s
RKPI Ransiki, Papua 16.54 145 P **Pn 23 41 41.8 +1.7**
FAKI Fak Fak 16.78 153 Pn 23 41 43.6 +0.6
SPSI Sidrap Palu 16.80 197 P **P 23 41 46.1 +2.3**
comp=Z,64nm,0.7s
KAPI Kappang 17.81 196 P 23 41 55.1 +0.2
KAPI Kappang 17.81 196 P **P 23 41 55.1 +0.2**
comp=Z,9.2nm,0.5s,baz=352,slow=17,SNR=5.3
KAPI LR LR 23 49 08.9
comp=Z,41nm,18.8s,baz=10.0,slow=38
KAPI Kappang 17.81 196 P **Pn 23 42 00.4 +4.9**
KSM Kuching 17.84 234 P 23 41 55.5 +0.2
KSM IAmb IAmb 23 41 58.9
comp=Z,39nm,0.9s
KSM Kuching 17.84 234 P **Pn 23 41 58.0 +2.1**
BBKI Banjar Baru 18.41 213 P **Pn 23 42 03.7 +1.0**
comp=Z,39nm,0.4s
GUMO Guam 19.68 84 LR LR 23 51 02.0
comp=Z,26nm,18.2s,baz=105,slow=40
EDFI Ende, Flores 21.03 188 P **P 23 42 31.8 +1.8**
comp=Z,49nm,0.9s
JNU Nakatsue 21.57 14 P **P 23 42 34.1 -1.4**
comp=Z,7.7nm,0.8s,baz=194,slow=4.2,SNR=2.9
comp=Z,7.7nm,0.8s
KMMI Kalianget 21.92 210 P **P 23 42 40.8 +1.4**
comp=Z,166nm,1.5s
PLAI Plampang 22.01 199 P **P 23 42 44.3 +4.0**
PLAI Plampang 22.01 199 P **P 23 42 40.1 -0.2**
comp=Z,101nm,1.1s
TWSI Taliwang, Sumb 22.22 201 P **P 23 42 42.3 -0.2**
comp=Z,63nm,1.3s
TPI Tanjungpandan 22.56 230 P **P 23 42 45.7 -0.4**
comp=Z,1μmcomp=Z,90nm,0.7s
ENH Enshi 22.87 324 P 23 42 47.7 -1.5
ENH Enshi 22.87 324 P **P 23 42 46.8 -2.3**
JMN Monobe 23.00 20 P **P 23 42 49.3 -1.0**
JMN IAmb IAmb 23 43 13.9
comp=Z,94nm,1.5s
JAGI Jajag, Banyuwa 23.08 208 P 23 42 51.4 +0.2
JAGI IAmb IAmb 23 42 54.9
comp=Z,49nm,0.9s
JAGI Jajag, Banyuwa 23.08 208 P **P 23 42 53.4 +2.2**
JAGI Jajag, Banyuwa 23.08 208 P **P 23 42 51.7 +0.5**
comp=Z,58nm,0.8s
MYKOM Kota Tinggi 23.14 245 P 23 42 50.5 -1.3
MYKOM Kota Tinggi 23.14 245 P **P 23 42 51.8 0.0**
BTDF Bukit Timah Da 23.41 244 P **P 23 42 53.9 -0.4**
NGJI Ngawi 23.50 215 P **P 23 42 57.6 +2.5**
comp=Z,58nm,1.1s
DSRI Dabo 23.65 239 P **P 23 42 56.8 +0.3**
comp=Z,8μmcomp=Z,42nm,1.0s
SMRI Semarang 23.83 217 P **P 23 42 57.9 -0.2**
SMRI Semarang 23.83 217 P **P 23 42 59.8 +1.7**
SMRI Semarang 23.83 217 P **P 23 42 59.8 +1.7**
comp=Z,126nm,0.9s
UGM Wanagama 24.47 216 P **P 23 43 04.4 +0.4**
IPM Ipoh 24.66 254 P 23 43 03.4 -2.3
IPM Ipoh 24.66 254 P **P 23 43 05.1 -0.6**
KULM Kulim 24.76 256 P **P 23 43 04.1 -2.5**
KSAR Wonju Array Be 25.29 6 P **P 23 43 09.6 -1.5**
KSRS Korea Array 25.31 6 P **P 23 43 11.3 +0.1**
comp=Z,7.1nm,0.9s,baz=180,slow=11,SNR=12
comp=Z,7.1nm,0.9s
LEM Lembang 25.44 223 LR LR 23 55 02.2
comp=Z,69nm,18.3s,baz=319,slow=40
CMAR Chiang Mai Arr 25.62 287 P **P 23 43 13.4 -1.0**
CMAR Chiang Mai Arr 25.62 287 P **P 23 43 14.2 -0.2**
comp=Z,2.2nm,0.6s,baz=96,slow=7.9,SNR=9.0
CMAR PcP **PcP 23 46 43.5 +0.7**
comp=Z,0.8nm,0.4s,baz=86,slow=0.6,SNR=6.6
CMAR ScP **ScP 23 50 11.2 -2.2**
comp=Z,0.5nm,0.3s,baz=87,slow=3.4,SNR=4.2
CMAR LR LR 23 53 56.3
comp=Z,30nm,18.1s,baz=85,slow=38
comp=Z,2.2nm,0.6s
CHTO Chiang Mai 25.69 288 P **P 23 43 14.5 -0.4**
XAN Xi'an 26.08 329 ⇑P **P 23 43 17.8 -0.6**
XAN pP pP 23 43 25.3 -15
XAN pmax pmax
comp=Z,36nm,0.8s
MJAR Matsushiro Arr 27.10 24 P **P 23 43 25.8 -1.7**
comp=Z,2.1nm,0.7s,baz=192,slow=9.0,SNR=5.2
MJAR LR LR 23 54 09.5
comp=Z,24nm,18.1s,baz=176,slow=36
comp=Z,2.1nm,0.7s
PSI Prapat 27.21 252 LR LR 23 56 33.8
comp=Z,116nm,18.3s,baz=82,slow=41
JYT Yasato 27.69 28 P **P 23 43 31.9 -0.7**
BJT Baijiatuau 28.72 346 P **P 23 43 41.7 -0.1**
FITZ Fitzroy Crossi 30.12 178 PcP **PcP 23 46 52.5 -1.3**
comp=Z,2.5nm,0.7s,baz=16,slow=7.5,SNR=5.5
COEN Coen 31.77 144 P **P 23 44 08.1 -0.9**
COEN IAmb IAmb 23 44 12.5
comp=Z,24nm,1.4s
USRK Ussuriysk Ar. 32.49 10 P **P 23 44 15.8 +0.8**
comp=Z,8.2nm,0.7s,baz=199,slow=8.2,SNR=13
comp=Z,8.2nm,0.7s
WB0 Warramunga Arr 33.16 163 P **P 23 44 19.9 -1.2**
WB0 IAmb IAmb 23 44 57.8
comp=Z,11nm,1.5s
WRA Warramunga Arr 33.31 163 P **P 23 44 21.1 -1.3**
WRA Warramunga Arr 33.31 163 P **P 23 44 20.8 -1.6**
comp=Z,1.1nm,0.4s,baz=343,slow=9.1,SNR=19
WRA PcP **PcP 23 47 01.4 -1.0**
comp=Z,3.7nm,0.5s,baz=340,slow=2.9,SNR=19
WRA S S 23 49 28.2 -7.6
comp=Z,0.7nm,0.8s,baz=336,slow=14,SNR=4.9
comp=Z,1.1nm,0.4s
WR8 Warramunga Arr 33.37 163 P **P 23 44 21.6 -1.4**
WR8 IAmb IAmb 23 44 29.6
comp=Z,17nm,1.4s
MBWA Marble Bar 33.52 188 P **P 23 44 22.8 -1.4**
MBWA IAmb IAmb 23 44 47.9
comp=Z,20nm,1.2s
ERM Erimo 33.77 25 P **P 23 44 27.6 +1.5**
GTA Gaotai 34.95 325 *e*P **P 23 44 37.8 +1.3**
GTA pmax pmax
comp=Z,7.0nm,1.4s
ASAJ Asahikawa 35.32 22 LR LR 23 58 44.6
comp=Z,29nm,19.3s,baz=32,slow=35
GIRL Giralia 36.13 197 P **P 23 44 47.4 +0.8**
AS31 Alice Springs 36.76 166 P 23 44 51.9 -0.1
ASAR Alice Springs 36.76 166 P **P 23 44 52.4 +0.4**
ASAR Alice Springs 36.76 166 P **P 23 44 51.5 -0.5**
comp=Z,8.2nm,0.5s,baz=342,slow=6.6,SNR=106
ASAR PcP **PcP 23 47 11.3 -1.2**
comp=Z,3.2nm,0.4s,baz=343,slow=2.8,SNR=14
ASAR S **S 23 50 25.1 -3.6**
comp=Z,2.1nm,0.7s,baz=327,slow=11,SNR=17
comp=Z,8.2nm,0.5s
HILR Hailar Array B 37.47 355 P **P 23 44 57.8 +0.1**
comp=Z,1.2nm,0.4s,baz=149,slow=12,SNR=1.5
comp=Z,1.2nm,0.4s
HEH HeiHe 38.00 3 *e*P **P 23 45 02.5 +0.3**
HEH pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 38.51 341 P 23 45 07.2 +0.6
SONM Songino Array 38.70 340 P **P 23 45 08.4 +0.2**
SONM IAmb IAmb 23 45 09.4
comp=Z,9.4nm,1.4s
SONM Songino Array 38.70 340 P **P 23 45 08.4 +0.2**
comp=Z,3.6nm,0.5s,baz=159,slow=9.5,SNR=15
SONM ScP **S 23 50 57.1 -0.7**
comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=3.7
SONM LR LR 00 00 54.9
comp=Z,56nm,18.8s,baz=51,slow=36
comp=Z,3.6nm,0.5s
EVN Everest 38.72 300 P **P 23 45 09.6 +0.3**
EVN IAmb IAmb 23 45 36.3
comp=Z,10.0nm,1.5s
H11S3 WAKE ISLAND Hy 40.87 76 T T 00 28 35.5
baz=265,slow=74
H11S1 WAKE ISLAND Hy 40.88 76 T T 00 28 33.7
baz=265,slow=74
H11S2 WAKE ISLAND Hy 40.88 76 T T 00 28 34.7
baz=265
H11N1 WAKE ISLAND Hy 41.13 74 T T 00 28 56.4
baz=266,slow=74
H11N2 WAKE ISLAND Hy 41.13 74 T T 00 28 53.8
baz=266
H11N3 WAKE ISLAND Hy 41.15 74 T T 00 28 57.7
baz=266,slow=74
INKA Innaminka 42.63 159 P **P 23 45 41.4 +0.8**
FORT Forrest 42.85 176 P **P 23 45 41.9 -0.4**
FORT IAmb IAmb 23 46 00.3
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 45.44 189 P **P 23 46 01.9 -1.1**
BBOO Buckleboo 46.05 167 P **P 23 46 08.4 +0.7**
STKA Stephens Creek 46.71 160 P **P 23 46 12.7 -0.2**
STKA Stephens Creek 46.71 160 P **P 23 46 12.5 -0.5**
comp=Z,3.6nm,0.7s,baz=333,slow=8.9,SNR=4.7
comp=Z,3.6nm,0.7s
PETK Petropavlovsk- 48.54 26 P **P 23 46 27.6 +0.7**
comp=Z,5.3nm,1.0s,baz=224,slow=0.5,SNR=5.7
PETK pP **pP 23 46 50.4 -0.2**
comp=Z,14nm,0.9s,baz=194,slow=4.9,SNR=11
comp=Z,5.3nm,1.0s
MKAR Makanchi Array 49.59 322 P **P 23 46 35.5 +0.4**
comp=Z,2.7nm,0.7s,baz=119,slow=8.5,SNR=27
MKAR PcP **PcP 23 47 54.5 -0.8**
comp=Z,1.7nm,0.7s,baz=113,slow=4.7,SNR=3.9
MKAR ScP **ScP 23 51 40.6 -1.1**
comp=Z,0.7nm,0.8s,baz=100,slow=5.5,SNR=5.7
comp=Z,2.7nm,0.7s
ARMA Armidale 49.65 149 P **P 23 46 37.0 +1.2**
MAKZ Makanchi 49.78 322 P **P 23 46 36.9 +0.4**
MAKZ IAmb IAmb 23 47 18.4
comp=Z,7.3nm,1.4s
NIL Nilore 51.41 303 P 23 46 48.9 -0.1
NIL IAmb IAmb 23 47 16.1
comp=Z,7.6nm,0.8s
MGBR Mount Gambier 51.84 164 P **P 23 46 52.1 +0.2**
ZAA0 Zalesovo Array 52.22 331 P 23 46 54.1 -0.5
ZALV Zalesovo Beam 52.22 331 P **P 23 46 54.3 -0.3**
ZALV Zalesovo Beam 52.22 331 P **P 23 46 54.1 -0.4**
comp=Z,2.1nm,0.6s,baz=112,slow=7.7,SNR=11
ZALV pP **pP 23 47 18.9 +0.3**
comp=Z,1.5nm,0.6s,baz=126,slow=6.4,SNR=2.7
comp=Z,2.1nm,0.6s
TOO Toolangi 53.21 159 P **P 23 47 03.4 +1.3**
TOO IAmb IAmb 23 47 11.1
comp=Z,9.5nm,1.2s
KURK Kurchatov 53.63 325 P 23 47 05.7 +0.7
KURK IAmb IAmb 23 47 08.0
comp=Z,9.8nm,0.8s
KURBB Kurchatov Arra 53.64 325 P **P 23 47 05.6 +0.5**
comp=Z,4.4nm,0.7s,baz=125,slow=7.3,SNR=26
KURBB pP **pP 23 47 28.2 -1.0**
comp=Z,5.6nm,0.9s,baz=121,slow=7.5,SNR=5.5
comp=Z,4.4nm,0.7s
GAR Garm 54.91 309 P 23 47 14.9 +0.3
CHGR Chuyangaron 55.71 309 P **P 23 47 20.9 +0.5**
CHGR IAmb IAmb 23 47 46.9
comp=Z,9.3nm,0.9s
KK31 Karatay Array 55.83 314 P **P 23 47 21.1 0.0**
KKAR Karatay Array 55.83 314 P **P 23 47 21.4 +0.3**
BVAR Borovoye Array 59.23 325 P **P 23 47 45.0 +0.3**
comp=Z,1.3nm,0.5s,baz=131,slow=8.2,SNR=9.4
BVAR pP **pP 23 48 09.5 +0.2**
comp=Z,2.6nm,0.7s,baz=126,slow=7.5,SNR=5.5
comp=Z,1.3nm,0.5s
AB31 Akbulak array 64.44 319 P 23 48 19.8 +0.1
ABKAR Akbulak array 64.44 319 P **P 23 48 19.4 -0.3**
BKZ Black Stump Fm 70.22 140 P **P 23 48 57.3 +0.9**
KHZ Kahutara 70.38 144 P **P 23 48 55.8 -1.3**
K15K Wolf Creek Mou 71.72 28 P **P 23 49 06.3 +1.3**
O15K Ungalikthiuk R 72.15 32 P **P 23 49 08.3 +0.7**
F17K Baldwin Pennin 72.51 24 P **P 23 49 10.2 +0.6**
F17K IAmb IAmb 23 49 14.3
comp=Z,17nm,1.2s
L16K Owhat River 72.60 29 P **P 23 49 11.6 +1.3**
L16K IAmb IAmb 23 49 45.6
comp=Z,26nm,1.4s
H17K Granite Mounta 72.82 26 P **P 23 49 12.8 +1.3**
H17K IAmb IAmb 23 49 38.8
comp=Z,11nm,1.0s
C18K Utukok River 72.92 22 P **P 23 49 12.8 +0.6**
C18K IAmb IAmb 23 49 37.8
comp=Z,23nm,1.4s
E18K Tukpahlearik C 72.93 23 P **P 23 49 12.7 +0.6**
E18K IAmb IAmb 23 49 39.0
comp=Z,6.7nm,0.8s
J17K VABM Dome 72.98 27 P **P 23 49 13.6 +1.1**
J17K IAmb IAmb 23 49 39.8
comp=Z,20nm,1.2s
K17K Iditarod 73.26 28 P **P 23 49 14.9 +0.8**
K17K IAmb IAmb 23 49 17.9
comp=Z,19nm,1.2s
G18K Tagagawik 73.47 25 P **P 23 49 17.0 +1.7**
G18K IAmb IAmb 23 49 42.1
comp=Z,7.9nm,0.9s
H18K Honhosa River 73.50 25 P **P 23 49 15.7 +0.1**
H18K IAmb IAmb 23 49 42.4
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 73.94 24 P **P 23 49 19.6 +1.5**
L18K Granite Mounta 73.96 29 P **P 23 49 19.4 +1.2**
L18K IAmb IAmb 23 49 47.2
comp=Z,14nm,1.4s
D19K Kuna River 74.01 22 P **P 23 49 20.1 +1.6**
D19K IAmb IAmb 23 49 45.8
comp=Z,19nm,1.1s
J18K Innoko River 74.05 27 P **P 23 49 20.5 +1.7**
E19K Redstone River 74.22 23 P **P 23 49 20.9 +1.2**
H19K Roundabout Mou 74.34 25 P **P 23 49 21.6 +1.2**
B20K Meade River 74.54 20 P **P 23 49 22.3 +0.9**
D20K Etivluk River 74.59 22 P **P 23 49 22.8 +1.0**
D20K IAmb IAmb 23 49 49.0
comp=Z,13nm,0.8s
GNI Garni 74.63 308 LR LR 00 25 14.2
comp=Z,37nm,18.7s,baz=81,slow=38
F20K Avaraart Lake 74.76 24 P **P 23 49 24.4 +1.6**
L19K White Mountain 74.82 29 P **P 23 49 24.6 +1.3**
L19K IAmb IAmb 23 49 50.5
comp=Z,10nm,1.1s
M19K Big River Lodg 75.02 29 P **P 23 49 26.4 +1.9**
M19K IAmb IAmb 23 49 54.2
comp=Z,10nm,1.2s
K20K Telida 75.23 27 P **P 23 49 27.3 +1.7**
K20K IAmb IAmb 23 49 45.7
comp=Z,13nm,1.4s
Q19K Cape Douglas, 75.32 32 P **P 23 49 25.5 -0.7**
B21K Ikpikpuk River 75.38 21 P **P 23 49 27.6 +1.3**
B21K IAmb IAmb 23 49 29.5
comp=Z,12nm,0.9s
RAYN Ar Rayn 75.46 291 P 23 49 27.2 -0.6
RAYN IAmb IAmb 23 49 27.7
comp=Z,4.6nm,0.6s
IMAR Indian Mountai 75.48 25 P **P 23 49 28.0 +1.0**
M20K Styx River 75.62 29 P **P 23 49 30.1 +2.1**
M20K IAmb IAmb 23 49 55.0
comp=Z,14nm,1.2s
KBZ Khabaz 75.80 312 P **P 23 49 28.8 -0.4**
comp=Z,2.5nm,1.0s,baz=94,slow=5.6,SNR=6.4
comp=Z,2.5nm,1.0s
B22K Teshekpuk Lake 75.84 20 P **P 23 49 28.2 -0.7**
KIV Kislovodsk 75.94 312 P **P 23 49 30.4 +0.2**
KIV IAmb IAmb 23 50 03.3
comp=Z,7.9nm,0.7s
SYI Shuyak Island 75.97 32 P **P 23 49 30.5 +0.6**
D22K Ayikyak River 76.03 22 P **P 23 49 31.5 +1.5**
PPLA Purkeypile 76.07 28 P **P 23 49 30.8 +0.2**
PPLA IAmb IAmb 23 49 42.5
comp=Z,24nm,1.4s
BPAW Bear Paw Mtn. 76.61 27 P 23 49 34.8 +1.3
BPAW IAmb IAmb 23 50 00.3
comp=Z,16nm,0.8s
D23K Nanushuk River 76.75 22 P **P 23 49 35.8 +1.7**
D23K IAmb IAmb 23 49 59.6
comp=Z,20nm,1.4s
SUA Susitna One 76.76 29 P **P 23 49 35.6 +1.2**
SUA IAmb IAmb 23 49 59.7
comp=Z,11nm,1.0s
C23K Itkillik River 76.79 21 P **P 23 49 35.8 +1.6**
C23K IAmb IAmb 23 50 02.8
comp=Z,16nm,1.1s
GURO Guroymak-BITLI 76.84 307 P 23 49 36.2 +0.8
GURO IAmb IAmb 23 49 36.9
comp=Z,4.7nm,0.7s
TOLK Toolik Lake Re 77.16 22 P **P 23 49 37.6 +1.2**
C24K Franklin Bluff 77.45 21 P **P 23 49 38.0 +0.1**
C24K IAmb IAmb 23 50 13.9
comp=Z,27nm,1.4s
MCK McKinley 77.53 27 P **P 23 49 39.2 +0.6**
MCK IAmb IAmb 23 50 04.6
comp=Z,12nm,0.8s
F24K Squaw Lake 77.81 23 P 23 49 41.7 +1.6
D25K Kavik River 78.28 21 P **P 23 49 43.8 +1.1**
D25K IAmb IAmb 23 50 08.7
comp=Z,22nm,1.5s
ILAR Eielson Array 78.37 26 P **P 23 49 43.5 +0.3**
comp=Z,0.5nm,0.7s,baz=262,slow=5.4,SNR=6.1
ILAR pP **pP 23 50 08.4 -0.6**
comp=Z,1.8nm,0.8s,baz=251,slow=5.9,SNR=11
comp=Z,0.5nm,0.7s
F28M Old Crow 80.86 23 P **P 23 49 58.1 +1.5**
F28M IAmb IAmb 23 50 25.8
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 81.84 349 P **P 23 50 01.8 +0.2**
comp=Z,18nm,1.1s,baz=94,slow=8.8,SNR=7.9
comp=Z,18nm,1.1s
ARCES ARCESS Array B 81.87 339 P **P 23 50 02.0 0.0**
comp=Z,2.3nm,0.7s,baz=77,slow=6.1,SNR=7.1
comp=Z,2.3nm,0.7s
MMAI Mount Meron Ar 82.91 302 P **P 23 50 07.2 -0.9**
comp=Z,2.0nm,0.7s,baz=117,slow=3.3,SNR=5.1
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 83.15 309 P **P 23 50 08.4 -0.9**
comp=Z,0.5nm,0.4s,baz=106,slow=4.7,SNR=5.4
comp=Z,0.5nm,0.4s
FINES FINESS Array B 83.48 331 P **P 23 50 09.9 -0.5**
comp=Z,1.7nm,0.7s,baz=77,slow=5.8,SNR=8.8
comp=Z,1.7nm,0.7s
AKASG Malin Array Be 84.12 320 P **P 23 50 12.4 -1.4**
comp=Z,1.5nm,0.7s,baz=66,slow=4.9,SNR=5.0
comp=Z,1.5nm,0.7s
BUR08 Bucovina Ar. S 87.41 318 P **P 23 50 30.1 -0.3**
MLR Muntele Rosu 87.47 316 P **P 23 50 30.4 -0.3**
U35K Hyder 88.34 33 P **P 23 50 32.7 -1.7**
HFS Hagfors 89.65 332 P **P 23 50 39.2 -1.3**
comp=Z,1.9nm,0.8s,baz=104,slow=5.2,SNR=1.6
comp=Z,1.9nm,0.8s
VNDA Vanda 92.03 172 P **P 23 50 50.3 -0.8**
VNDA Vanda 92.03 172 P **P 23 50 50.4 -0.7**
comp=Z,1.0nm,0.6s,baz=322,slow=6.1,SNR=17
comp=Z,1.0nm,0.6s
CLL Collm 93.66 324 *e*P **P 23 50 59.0 -0.2**
TXAR Lajitas Array 117.67 48 PKP **PKPdf 23 56 29.5 +0.3**
comp=Z,0.2nm,0.4s,baz=199,slow=0.7,SNR=6.2
PLCA Paso Flores 148.56 157 PKPbc **PKPdf 23 57 28.8 +2.8**
comp=Z,3.2nm,0.5s,baz=231,slow=2.6,SNR=23
CPUP Villa Florida 165.81 172 PKPab **PKPab 23 58 45.6 -1.8**
comp=Z,0.2nm,0.6s,baz=315,slow=1.4,SNR=3.7

NEIC ***25*** *23:57:34.5±1.8, 1°.91N±0°.08×126°.42E±0°.07, h35km±2km, mb4.6/34, Error ellipse: s-maj=16.0km s-min=8.8km az=221.0*
DJA ***25*** *23:57:34.5±0.3, 2°N±4°×12°6E±°, h10km, M4.5/11, mB4.7/2, mb4.6/2, MLv4.5/11, Mw(mB)4.0/2*
IDC ***25*** *23:57:37.1±3.5, 1°.84N×126°.44E, h65km±33km, mb4.0/20, mbtmp4.2/23, ML4.1/3, MS3.2/7, Error ellipse: s-maj=23.5km s-min=11.9km az=77.0*
ISC 25 23:57:35.3±0.4, 1°.87N±0°.05×126°.47E±0°.07, h47km, n80, σ1°18/77, mb4.5/38, MS3.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.42**	**140**		**Pn**	**23 57 59.3**	**+0.6**
TNTI				Sn	**Sn**	**23 58 17.0**	**+0.9**
TNTI	**Ternate**	**1.42**	**140**	P	**Pn**	**23 57 59.2**	**+0.6**
SGSI	**Sangihe**	**2.03**	**333**	P	**Pn**	**23 58 07.2**	**+0.2**
KMSI	**Cibinong**	**2.80**	**243**	P	**Pn**	**23 58 20.3**	**+2.7**
LUWI	**Luwuk**	**4.69**	**232**		**Pn**	**23 58 45.8**	**+2.2**
LUWI	**Luwuk**	**4.69**	**232**	P	**Pn**	**23 58 47.4**	**+3.8**
MRSI	**Marisa**	**4.73**	**253**	P	**Pn**	**23 58 47.5**	**+3.4**
NLAI	**Namlea**	**5.12**	**173**	P	**Pn**	**23 58 51.1**	**+1.7**
TOLI2	**Tolitoli**	**5.73**	**263**		**Pn**	**23 58 58.2**	**+0.4**
FAKI	**Fak Fak**	**7.49**	**129**		**Pn**	**23 59 22.3**	**+0.3**
MYLDM	**Lahad Datu**	**8.60**	**293**		**Pn**	**23 59 37.0**	**-0.2**
KAPI	**Kappang**	**9.58**	**224**	P	**Pn**	**23 59 52.4**	**+1.8**
	1.8nm,0.3s,baz=45,slow=16,SNR=2.3						
	4.8nm,0.4s						
SOEI	**Soe**	**11.76**	**191**		**Pn**	**00 00 19.2**	**-1.4**
SBUM	**Sibu**	**14.25**	**273**		**P**	**00 00 59.0**	**-1.6**
JAY	**Jayapura**	**14.89**	**107**	P	**Pn**	**00 01 03.7**	**+0.8**
	0.5nm,0.3s,baz=284,slow=11,SNR=6.3						
	1.7nm,0.5s						
MTN	**Manton Dam**	**15.34**	**163**		**Pn**	**00 01 07.1**	**-1.6**
MTN				IAmb	IAmb	00 01 18.4	
	comp=Z,12nm,0.6s						
KSM	**Kuching**	**16.16**	**269**	P	**P**	**00 01 20.8**	**-1.0**
KNRA	**Kununurra**	**17.58**	**173**		**Pn**	**00 01 36.5**	**-0.5**
KNRA				IAmb	IAmb	00 01 44.2	
	comp=Z,28nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**00 02 01.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**00 02 02.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=5.0,slow=8.0,SNR=15						
	comp=Z,3.1nm,0.6s						
TPUB	**Ta-pu**	**22.04**	**346**	P	**P**	**00 02 23.3**	**-2.7**
TPUB				IAmb	IAmb	00 02 43.2	
	comp=Z,90nm,1.5s						
YOJ	**Yonaguni jima**	**22.70**	**352**	P	**P**	**00 02 33.4**	**+0.3**
COEN	**Coen**	**22.84**	**134**	P	**P**	**00 02 34.9**	**+0.2**
COEN				IAmb	IAmb	00 02 36.1	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**22.87**	**160**	P	**P**	**00 02 33.8**	**-1.2**
WB0				IAmb	IAmb	00 02 36.1	
	comp=Z,36nm,1.1s						
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**00 02 34.9**	**-1.5**
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**00 02 35.5**	**-0.9**
	comp=Z,15nm,0.5s,baz=339,slow=11,SNR=75						
	comp=Z,15nm,0.5s						
MBWA	**Marble Bar**	**23.82**	**196**	P	**P**	**00 02 42.9**	**-1.2**
MBWA				IAmb	IAmb	00 02 43.9	
	comp=Z,26nm,1.3s						
AS31	**Alice Springs**	**26.40**	**165**	P	**P**	**00 03 07.0**	**-0.6**
ASAR	**Alice Springs**	**26.40**	**165**	P	**P**	**00 03 07.6**	**0.0**
	comp=Z,2.5nm,0.4s,baz=344,slow=7.9,SNR=58						
ASAR				LR	LR	00 14 46.8	
	comp=Z,54nm,18.1s,baz=16,slow=39						
	comp=Z,2.5nm,0.4s						
PSI	**Prapat**	**27.53**	**272**	LR	LR	00 15 16.1	
	comp=Z,101nm,18.1s,baz=98,slow=38						
NJ2	**Nanjing**	**30.86**	**347**	*e*P	**P**	**00 03 48.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
JNU	**Nakatsue**	**31.36**	**7**	LR	LR	00 18 30.2	
	comp=Z,37nm,19.3s,baz=198,slow=40						
CMAR	**Chiang Mai Arr**	**31.62**	**303**	P	**P**	**00 03 54.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=120,slow=7.2,SNR=5.4						
CMAR				LR	LR	00 16 09.5	
	comp=Z,26nm,21.4s,baz=120,slow=35						
	comp=Z,1.0nm,0.3s						
CHTO	**Chiang Mai**	**31.79**	**304**	P	**P**	**00 03 55.3**	**-0.2**
JMN	**Monobe**	**32.44**	**12**	P	**P**	**00 04 01.4**	**+0.3**
INKA	**Innaminka**	**32.49**	**156**	P	**P**	**00 04 01.6**	**+0.1**
INKA				IAmb	IAmb	00 04 06.5	
	comp=Z,7.2nm,1.4s						
FORT	**Forrest**	**32.51**	**177**	P	**P**	**00 04 00.9**	**-0.7**
FORT				IAmb	IAmb	00 04 05.5	
	comp=Z,9.0nm,0.8s						
PZH	**PanZhiHua**	**34.11**	**318**	P	**P**	**00 04 18.0**	**+2.1**
JGF	**Kuroka**	**35.05**	**16**	P	**P**	**00 04 22.9**	**-0.9**
JGF				IAmb	IAmb	00 04 43.3	
	comp=Z,20nm,1.4s						
KSRS	**Korea Array**	**35.43**	**2**	P	**P**	**00 04 28.0**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=172,slow=10,SNR=4.1						
	comp=Z,1.7nm,0.7s						
BBOO	**Buckleboo**	**35.67**	**166**	P	**P**	**00 04 29.1**	**0.0**
MJAR	**Matsushiro Arr**	**36.17**	**16**	P	**P**	**00 04 33.4**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=181,slow=9.0,SNR=8.9						
MJAR				LR	LR	00 22 55.5	
	comp=Z,12nm,18.1s,baz=204,slow=42						
	comp=Z,3.7nm,0.7s						
STKA	**Stephens Creek**	**36.51**	**158**	P	**P**	**00 04 36.3**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=325,slow=11,SNR=8.2						
	comp=Z,3.6nm,0.5s						
BRDH	**Bariadhala**	**39.62**	**304**	LR	LR	00 22 54.9	
	comp=Z,138nm,18.5s,baz=178,slow=38						
JTM	**Tenmabayashi**	**40.93**	**17**	P	**P**	**00 05 13.6**	**+0.4**
HHC	**Hu-ho-hao-te**	**41.08**	**343**	*e*P	**P**	**00 05 16.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,4.8s						
USRK	**Ussuriysk Ar.**	**42.43**	**6**	P	**P**	**00 05 26.3**	**+0.9**
	comp=Z,5.9nm,1.0s,baz=166,slow=8.4,SNR=5.0						
	comp=Z,5.9nm,1.0s						
ASAJ	**Asahikawa**	**44.44**	**17**	LR	LR	00 26 44.5	

comp=Z,24nm,18.6s,baz=19,slow=39
EVN Everest 45.90 308 P **P** **00 05 53.9 -0.4**
EVN IAmb IAmb 00 05 55.0
comp=Z,13nm,1.3s
HILR Hailar Array B 47.85 354 P **P** **00 06 09.5 +1.1**
comp=Z,1.6nm,0.5s,baz=166,slow=7.7,SNR=2.9
comp=Z,1.6nm,0.5s
SONM Songino Array 48.97 342 P **P** **00 06 17.1 0.0**
comp=Z,1.7nm,0.7s,baz=159,slow=9.7,SNR=6.4
SONM PcP **PcP** **00 07 41.2 +0.5**
comp=Z,0.8nm,0.7s,baz=174,slow=1.4,SNR=2.7
comp=Z,1.7nm,0.7s
PETK Petropavlovsk- 57.24 22 P **P** **00 07 18.1 +0.3**
comp=Z,1.5nm,0.5s,baz=214,slow=7.4,SNR=2.2
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 58.93 326 P **P** **00 07 29.0 -0.8**
MKAR Makanchi Array 58.93 326 P **P** **00 07 29.2 -0.6**
comp=Z,2.5nm,0.5s,baz=120,slow=7.5,SNR=39
comp=Z,2.5nm,0.5s
MAKZ Makanchi 59.11 326 P **P** **00 07 30.6 -0.5**
MAKZ IAmb IAmb 00 07 32.0
comp=Z,4.2nm,0.8s
BKZ Black Stump Fm 61.40 137 P **P** **00 07 45.9 -0.9**
ZALV Zalesovo Beam 62.12 334 P **P** **00 07 50.4 -0.9**
ZALV Zalesovo Beam 62.12 334 P **P** **00 07 49.7 -1.6**
comp=Z,1.0nm,0.6s,baz=108,slow=4.8,SNR=4.6
comp=Z,1.0nm,0.6s
KBL Kabul 62.45 308 P **P** **00 07 52.7 -1.5**
KBL IAmb IAmb 00 07 53.9
comp=Z,5.5nm,1.1s
GAR Garm 62.99 313 P **P** **00 07 56.8 -0.8**
GAR IAmb IAmb 00 07 59.8
comp=Z,7.1nm,0.8s
KURBB Kurchatov Arra 63.16 328 P **P** **00 07 58.0 -0.3**
comp=Z,5.7nm,0.6s,baz=128,slow=6.0,SNR=16
comp=Z,5.7nm,0.6s
KURK Kurchatov 63.16 328 P **P** **00 07 57.7 -0.6**
KK31 Karatay Array 64.41 318 P **P** **00 08 05.8 -1.0**
KK31 IAmb IAmb 00 08 07.4
comp=Z,3.2nm,1.1s
KKAR Karatay Array 64.41 318 P **P** **00 08 05.8 -1.0**
BVAR Borovoye Array 68.73 327 P **P** **00 08 33.6 -0.5**
comp=Z,0.9nm,0.4s,baz=106,slow=4.8,SNR=12
comp=Z,0.9nm,0.4s
TIXI Tiksi 69.69 1 P **P** **00 08 39.8 +0.1**
TIXI IAmb IAmb 00 08 40.3
comp=Z,3.8nm,0.8s
AB31 Akbulak array 73.42 321 P **P** **00 09 01.7 -0.8**
RAYN Ar Rayn 80.97 293 **P** **00 09 44.8 -0.7**
VNDA Vanda 81.63 173 P **P** **00 09 48.7 +0.8**
VNDA Vanda 81.63 173 P **P** **00 09 48.0 +0.1**
comp=Z,0.5nm,0.5s,baz=321,slow=6.0,SNR=5.4
comp=Z,0.5nm,0.5s
MAW Mawson 81.93 200 P **P** **00 09 49.6 +0.1**
comp=Z,0.6nm,0.6s,baz=22,slow=5.4,SNR=1.6
comp=Z,0.6nm,0.6s
H19K Roundabout Mou 82.96 24 P **P** **00 09 56.7 +1.7**
E19K Redstone River 83.04 22 IAmb IAmb 00 09 59.0
comp=Z,14nm,0.9s
KBZ Khabaz 84.06 314 P **P** **00 10 00.1 -1.0**
comp=Z,2.3nm,1.0s,baz=63,slow=4.5,SNR=3.5
comp=Z,2.3nm,1.0s
GURO Guroymak-BITLI 84.48 308 **P** **00 10 03.8 +0.2**
GURO IAmb IAmb 00 10 05.2
comp=Z,6.3nm,1.0s
SKT Skwentna 84.59 28 P **P** **00 10 04.0 +0.5**
ILAR Eielson Array 86.88 25 P **P** **00 10 13.6 -1.2**
comp=Z,0.3nm,0.7s,baz=270,slow=6.0,SNR=1.8
comp=Z,0.3nm,0.7s
ARPR Arapgir-MALATY 87.38 309 P **P** **00 10 18.0 +0.1**
ARPR IAmb IAmb 00 10 26.5
comp=Z,6.1nm,1.0s
BRTR Keskin Array B 90.99 310 P **P** **00 10 35.0 +0.1**
comp=Z,0.7nm,0.9s,baz=91,slow=4.9,SNR=4.2
comp=Z,0.7nm,0.9s
FINES FINESS Array B 93.33 332 P **P** **00 10 45.2 +0.2**
comp=Z,4.0nm,0.9s,baz=64,slow=3.2,SNR=4.9
comp=Z,4.0nm,0.9s

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*OSPL **26** 00:03:26.9±0.6, 18°.56N×70°.43W, h17km±6km, ML2.3*
*SDD **26** 00:03:27.4±2.1, 18°.56N×70°.43W, h12km±21km, MD2.9, ML1.6, MW2.5*
ISC 26 00:03:26.2±0.9, 18°.53N±0°.04×70°.40W±0°.03, h17km±8km, n11, σ2ˢ15/20, 11C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.14**	**164**	⇑*e*Pg	**Pb**	**00 03 30.6**	**+0.1**
BANI				⇑*e*Sg	**Sg**	**00 03 34.7**	**+1.6**
BANI				IAML		00 03 35.7	
comp=N,431nm,0.2s							
ABDR	**Alto Bandera**	**0.36**	**323**	⇑*e*Pg	**Pg**	**00 03 31.8**	**-2.1**
ABDR				⇑*e*Sg	**Sg**	**00 03 37.6**	**-1.5**
ABDR				IAML		00 03 50.6	
comp=N,0.2nm,0.2s							
SDD	**Santo Domingo**	**0.47**	**98**	*e*Sg	**Sb**	**00 03 43.3**	**+0.7**
SDD				IAML		00 04 12.3	
comp=N,17nm,1.2s							
DR08	**Loma La Naviza**	**0.56**	**39**	⇑*e*Pg	**Pg**	**00 03 36.6**	**-0.8**
DR08				⇑*e*Sg	**Sg**	**00 03 45.8**	**+0.8**
DR08				IAML		00 04 10.7	
comp=N,856nm,0.2s							
SDDR	**Presa de Saban**	**0.96**	**298**	⇑*e*Pg	**Pb**	**00 03 44.0**	**-0.4**
SDDR				⇑*e*Sg	**Sb**	**00 03 56.7**	**-0.1**
SDDR				IAML		00 03 59.8	
comp=N,22nm,0.6s							
HATOM	**Hato Mayor del**	**1.00**	**75**	⇑*e*Pg	**Pb**	**00 03 45.0**	**-0.1**
HATOM				⇑*e*Sg	**Sb**	**00 03 57.5**	**-0.5**
HATOM				IAML		00 04 00.1	
comp=N,18nm,0.2s							
LONE3	**El Aguacate, B**	**1.01**	**275**	*i* P	**Pb**	**00 03 43.9**	**-1.5**
LONE3				*e*S	**Sb**	**00 03 56.8**	**-1.6**
LODU1	**El Espartillar**	**1.04**	**261**	*i* P	**Pb**	**00 03 45.0**	**-0.8**
LODU1				*e*S	**Sb**	**00 03 58.3**	**-0.7**
LODU1				IAML		00 04 11.7	
comp=Z,52nm,2.7s							
REDR	**Restauracion**	**1.14**	**304**	⇑*e*Pg	**Pg**	**00 03 51.0**	**+2.7**
REDR				*e*Sg	**Sg**	**00 04 10.1**	**+6.9**
REDR				IAML		00 04 11.2	
comp=N,30nm,0.1s							
LOVI	**El Cajuil, Ovi**	**1.17**	**232**	*i* P	**Pn**	**00 03 47.0**	**-0.9**
LOVI				*e*S	**Sb**	**00 04 01.8**	**-1.2**
LOVI				IAML		00 04 13.9	
comp=Z,79nm,2.3s							
SMDR	**Samana, DR**	**1.37**	**56**	*e*Sg	**Sb**	**00 04 09.4**	**+0.6**
SMDR				IAML		00 04 16.3	
comp=N,53nm,0.9s							

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*TEH **26** 00:13:43.5, 39°.49N×51°.95E, h10km*
*AZER **26** 00:13:48.5, 39°.34N×51°.77E, h26km, ml2.7*
ISC 26 00:13:44.2±1.2, 39°.44N±0°.05×51°.91E±0°.06, h10km, n28, σ2ˢ22/43, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS	**Qobustan**	**2.53**	**297**	Pn	**Pb**	**00 14 30.2**	**+0.5**
GBS				Sn	**Sb**	**00 15 00.9**	**-0.1**
LKRN	**Lenkeran, Azer**	**2.54**	**254**	Pn	**Pb**	**00 14 27.9**	**-2.1**
LKRN				Sn	**Sn**	**00 14 58.0**	**+1.4**
ASTR	**Astara**	**2.58**	**251**	Pn	**Pb**	**00 14 28.9**	**-1.7**
ASTR				Sn	**Sn**	**00 14 58.5**	**+1.0**
ATGJ	**Altiaghaj**	**2.69**	**303**	Pn	**Pb**	**00 14 31.3**	**-1.2**
ATGJ				Sn	**Sb**	**00 15 05.0**	**-0.5**
GLBA	**Clilabad**	**2.74**	**267**	Pn	**Pb**	**00 14 31.6**	**-1.6**
GLBA				Sn	**Sn**	**00 15 02.7**	**+1.4**
SIZA	**Siyzn**	**2.83**	**306**	Pn	**Pb**	**00 14 34.0**	**-0.8**
SIZA				Sn	**Sb**	**00 15 08.6**	**-1.0**
PQL	**Pirkuli**	**2.88**	**299**	Pn	**Pb**	**00 14 34.6**	**-1.2**
PQL				Sn	**Sn**	**00 15 07.2**	**+2.0**
LRK	**Lerik**	**2.89**	**255**	Pn	**Pb**	**00 14 33.2**	**-2.7**
LRK				Sn	**Sn**	**00 15 05.5**	**+0.1**
YRD	**Yardimli**	**2.90**	**261**	Pn	**Pb**	**00 14 33.3**	**-2.8**
YRD				Sn	**Sn**	**00 15 05.9**	**+0.3**
MZPU	**Pul - Mazandar**	**3.00**	**185**	Pn	**Pn**	**00 14 33.5**	**+1.4**
IML	**Ismayilli**	**3.17**	**297**	Pn	**Pb**	**00 14 37.5**	**-3.1**
IML				Sn	**Sb**	**00 15 15.1**	**-4.1**
QUBA	**Quba, Azerbaij**	**3.24**	**307**	Sn	**Sb**	**00 15 17.5**	**-3.9**
IGLO	**Ghaloghah**	**3.30**	**152**	Pn	**Pn**	**00 14 37.4**	**+1.3**
IGZV	**Ghazvin**	**3.33**	**204**	Pn	**Pn**	**00 14 38.2**	**+1.7**
XNQ	**Khinaliq**	**3.37**	**302**	Pn	**Pb**	**00 14 40.5**	**-3.6**
XNQ				Sn	**Sn**	**00 15 19.8**	**+2.6**
BLQ	**Beylaqan**	**3.38**	**276**	Sn	**Sn**	**00 15 17.5**	**+0.4**
IALA	**Alasht**	**3.42**	**168**	Pn	**Pn**	**00 14 39.8**	**+1.9**
QSAR	**Qusar**	**3.47**	**308**	Pn	**Pb**	**00 14 42.1**	**-3.7**
IKIA	**Kiasar**	**3.52**	**156**	Pn	**Pn**	**00 14 41.1**	**+2.0**
QRD	**Qoradiz**	**3.56**	**272**	Pn	**Pn**	**00 14 42.3**	**+2.9**
QRD				Sn	**Sn**	**00 15 24.5**	**+3.0**
MRVT	**Maraveh tapeh**	**3.72**	**117**	Pn	**Pn**	**00 14 43.1**	**+1.3**
ZNJK	**Zanjan**	**3.76**	**224**	Pn	**Pn**	**00 14 44.6**	**+2.2**
IFIR	**Firoozkooh**	**3.85**	**170**	Pn	**Pn**	**00 14 46.2**	**+2.5**
IDMV	**Damavand**	**3.85**	**179**	Pn	**Pn**	**00 14 45.8**	**+2.0**
SEKA	**Sheki**	**4.01**	**298**	Pn	**Pn**	**00 14 48.5**	**+2.7**
SEKA				Sn	**Sn**	**00 15 35.3**	**+2.3**
ILAS	**Lasjerd**	**4.13**	**168**	Pn	**Pn**	**00 14 50.2**	**+2.6**
GANJ	**Ganja**	**4.46**	**288**	Pn	**Pn**	**00 14 54.4**	**+2.5**
GANJ				Sn	**Sn**	**00 15 43.1**	**-0.8**
GDB	**GEDABAY**	**4.89**	**287**	Pn	**Pn**	**00 15 00.8**	**+2.8**
GDB				Sn	**Sn**	**00 15 55.7**	**+0.8**

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*NEIC **26** 00:22:00.2±0.7, 13°.77N±0°.06×60°.41W±0°.07, h43km±41km, ML3.9/26, Error ellipse: s-maj=12.8km s-min=2.1km az=47.0*
*TRN **26** 00:22:00.1, 13°.72N×60°.68W, h27km, MD4.1, East of Saint Lucia.*
ISC 26 00:21:57.2±1.3, 13°.74N±0°.03×60°.47W±0°.06, h10km±10km, n43, σ0ˢ98/62, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBI	**Saint Lucia, B**	**0.56**	**300**	*e*P	**Pb**	**00 22 10.2**	**+1.0**
SLBI				*e*S	**Sb**	**00 22 17.9**	**+0.5**
MPOM	**Morne Pois Mar**	**0.80**	**332**		**Pb**	**00 22 13.9**	**+0.7**
MPOM					**Sb**	**00 22 24.3**	**+0.3**
MPOM				IAML		00 22 24.9	
comp=N,5μm,0.8s							
MPOM				IAML		00 22 24.9	
comp=E,8μm,0.6s							
SVB	**Belmont**	**0.89**	**239**	*e*P	**Pn**	**00 22 15.5**	**-0.3**
SVB				*e*S	**Sb**	**00 22 27.2**	**+0.5**
BIM	**Bigot**	**0.97**	**323**		**Pb**	**00 22 16.5**	**+0.4**
BIM					**Sb**	**00 22 29.1**	**0.0**
BIM				IAML		00 22 30.0	
comp=N,7μm,0.5s							
BIM	**Bigot**	**0.97**	**323**	*e*P	**Pn**	**00 22 16.8**	**-0.1**
BIM				*e*S	**Sb**	**00 22 29.8**	**+0.7**
BBGH	**Gun Hill**	**1.07**	**123**	Pn	**Pg**	**00 22 18.3**	**+0.5**
ILAM	**Ilet Lapin Mar**	**1.10**	**339**	*e*P	**Pb**	**00 22 18.6**	**+0.1**
ILAM				*e*S	**Sg**	**00 22 32.1**	**-0.8**
SVN	**Savane Anatole**	**1.29**	**329**	Pn	**Pg**	**00 22 22.0**	**0.0**
SVN				Sn	**Sg**	**00 22 37.5**	**-1.3**
SVN	**Savane Anatole**	**1.29**	**329**	*e*P	**Pg**	**00 22 22.3**	**+0.2**
SVN				*e*S	**Sn**	**00 22 38.8**	**+0.1**
GCMP	**Grenada, Carri**	**1.55**	**217**	*e*P	**Pn**	**00 22 25.1**	**+0.2**
GCMP				*e*S	**Sn**	**00 22 44.0**	**-1.2**
DLPL	**La Plaine**	**1.75**	**335**	*e*P	**Pb**	**00 22 30.1**	**+0.6**
DLPL				*e*S	**Sn**	**00 22 50.5**	**+0.3**
GRSS	**Sisters**	**1.81**	**218**	*e*P	**Pn**	**00 22 29.3**	**+0.8**
GRHS	**Sauteurs**	**1.89**	**217**	*e*P	**Pn**	**00 22 30.8**	**+1.3**
GRHS				*e*S	**Sn**	**00 22 51.9**	**-1.5**
DSLB	**Salisbury**	**1.93**	**332**	*e*P	**Pb**	**00 22 31.9**	**-0.5**
DSLB				*e*S	**Sn**	**00 22 54.3**	**-0.1**
GRW	**Mount Saint Ca**	**1.95**	**217**	*e*P	**Pb**	**00 22 32.9**	**0.0**
GRGR	**Grenville**	**1.97**	**216**		**Pn**	**00 22 31.8**	**+1.1**
GRGR				IAML		00 23 00.5	
comp=N,788nm,0.2s							
GRGR				IAML		00 23 07.2	
comp=N,699nm,0.5s							
GRGR	**Grenville**	**1.97**	**216**	*e*P	**Pn**	**00 22 32.1**	**+1.5**
DWS	**Wesley**	**1.99**	**336**	*e*P	**Pb**	**00 22 32.9**	**-0.7**
DWS				*e*S	**Sn**	**00 22 56.7**	**+0.7**
GRFF	**Grenada Fort F**	**2.08**	**216**	*e*P	**Pn**	**00 22 32.9**	**+0.7**
GRFF				*e*S	**Sn**	**00 22 55.6**	**-2.7**
MAGL	**Barre de l'ile**	**2.33**	**340**	Pn	**Pn**	**00 22 36.1**	**+0.4**
MAGL				IAML		00 23 12.4	
comp=N,394nm,0.6s							
MAGL				IAML		00 23 13.2	
comp=E,535nm,0.3s							
TDBA	**Terre de Bas,**	**2.38**	**332**		**Pn**	**00 22 36.9**	**+0.5**
TDBA				IAML		00 23 08.4	
comp=N,513nm,0.7s							
TDBA				IAML		00 23 11.3	
comp=E,509nm,0.7s							
TBG	**Guadaloupe-3**	**2.39**	**332**	*e*P	**Pn**	**00 22 36.2**	**-0.3**
TBG				*e*S	**Sn**	**00 23 05.5**	**-0.4**
CBE	**Ff, Capester**	**2.57**	**335**		**Pn**	**00 22 40.1**	**+1.2**
MMLZ	**Guadeloupe Bro**	**2.57**	**333**	*e*P	**Pb**	**00 22 41.6**	**-1.9**
MMLZ				*e*S	**Sn**	**00 23 10.1**	**-0.2**
DSDZ	**La Diserade, G**	**2.62**	**347**	*e*P	**Pn**	**00 22 40.0**	**+0.3**
GDSD	**La Dsirade Is**	**2.62**	**347**		**Pn**	**00 22 39.1**	**-0.6**
ATGZ	**Broadband at L**	**2.64**	**333**	*e*P	**Pn**	**00 22 41.5**	**+1.6**
DHSZ	**Broadband at M**	**2.81**	**334**	*e*P	**Pn**	**00 22 44.6**	**+2.3**
DHSZ				*e*S	**Sn**	**00 23 16.2**	**-0.1**
GDHS	**Morne Mazeau,**	**2.81**	**334**		**Pn**	**00 22 42.8**	**+0.4**
GDHS				IAML		00 23 32.7	
comp=E,557nm,0.5s							
GDHS				IAML		00 23 35.7	
comp=N,639nm,0.5s							
ABD	**La Joyeuse, An**	**2.89**	**340**	Pn	**Pn**	**00 22 43.9**	**+0.5**
ABD				IAML		00 23 27.2	
comp=E,280nm,0.7s							
ABD				IAML		00 23 29.1	
comp=N,227nm,0.6s							
TRN	**Trinidad (W)**	**3.20**	**197**	*e*P	**Pn**	**00 22 47.7**	**+0.1**
PSGH	**Port of Spain**	**3.22**	**198**	*e*P	**Pn**	**00 22 49.0**	**+1.1**
MBWH	**Windy Hill**	**3.42**	**331**	*e*P	**Pn**	**00 22 53.1**	**+2.4**
MBWH				*e*S	**Sn**	**00 23 30.6**	**-0.6**
ANWB	**Willy Bob**	**4.11**	**342**	Pn	**Pn**	**00 23 00.1**	**0.0**
ANWB	**Willy Bob**	**4.11**	**342**	*e*P	**Pn**	**00 23 01.1**	**+1.0**
ANWB				*e*S	**Sn**	**00 23 46.0**	**-2.3**
PDPR	**Patillas Dam,**	**6.83**	**309**	Pn	**Pn**	**00 23 38.0**	**+0.5**
SJG	**San Juan**	**6.98**	**309**		**Pn**	**00 23 40.1**	**+0.5**
GCPR	**Guaynabo City**	**7.05**	**311**	Pn	**Pn**	**00 23 41.8**	**+1.2**
CRPR	**Cabo Rojo, PR**	**7.67**	**304**	Pn	**Pn**	**00 23 49.4**	**+0.3**
BAUV	**El Baul**	**8.82**	**238**	Pn	**Pn**	**00 24 06.2**	**+1.4**
DR12	**Loma Pena Alta**	**9.92**	**302**	Pn	**Pn**	**00 24 20.5**	**+0.5**
BANI	**BANI**	**10.57**	**297**	Pn	**Pn**	**00 24 28.8**	**-0.2**
BOAV	**Boa Vista**	**11.27**	**180**	Pn	**Pn**	**00 24 38.0**	**-0.5**

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*NEIC **26** 00:26:45.4±1.8, 53°.10N±0°.06×161°.68W±0°.07, h10km±1km, mb4.4/127, ML4.1/18, ML4.1(AEIC), Error ellipse: s-maj=11.0km s-min=7.4km az=168.0*
*AEIC **26** 00:26:47.1±2.2, 52°.99N±0°.07×161°.68W±0°.05, h33km±4km, Error ellipse: s-maj=10.1km s-min=4.2km az=178.0*
*IDC **26** 00:26:49.1±0.6, 53°.11N×161°.78W, h34km±2km, mb4.0/31, mbtmp4.2/33, ML4.6/2, MS3.2/2, Error ellipse: s-maj=14.7km s-min=9.4km az=174.0*
ISC 26 00:26:45.9±0.5, 53°.09N±0°.06×161°.68W±0°.04, h15km±2km, n358, σ1ˢ06/377, mb4.3/75, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**2.05**	**331**		**Pn**	**00 27 19.1**	**-0.6**
FALS					**Sn**	**00 27 43.5**	**-1.5**
FALS	**False Pass**	**2.05**	**331**	P	**Pn**	**00 27 19.2**	**-0.6**
FALS	**False Pass**	**2.05**	**331**	S	**Sn**	**00 27 44.1**	**-0.9**
DT1	**Dutton Round H**	**2.06**	**350**		**Pn**	**00 27 19.2**	**-0.6**
DT1					**Sn**	**00 27 44.4**	**-0.8**
DOL	**Dolgoi Island**	**2.07**	**357**		**Pn**	**00 27 19.5**	**-0.6**
DOL					**Sn**	**00 27 44.8**	**-0.8**
SSLS	**Shishaldin Sou**	**2.13**	**321**		**Pn**	**00 27 20.7**	**-0.3**
SSLS					**Sn**	**00 27 46.2**	**-0.9**
CNBA	**Chernabura Isl**	**2.13**	**35**		**Pn**	**00 27 20.2**	**-0.7**
CNBA	**Chernabura Isl**	**2.13**	**35**		**Sn**	**00 27 45.6**	**-1.4**
CHNA	**Chernabura Isl**	**2.14**	**34**	P	**Pn**	**00 27 20.0**	**-1.0**
CHNA	**Chernabura Isl**	**2.14**	**34**	S	**Sn**	**00 27 45.3**	**-1.9**
ISNN	**Isanotski Nort**	**2.14**	**325**		**Pn**	**00 27 21.3**	**+0.2**
ISNN					**Sn**	**00 27 47.7**	**+0.3**
HAG	**Hague Volcano**	**2.24**	**357**		**Pn**	**00 27 22.8**	**+0.4**
PS4A	**Pavlof South-4**	**2.27**	**357**		**Pn**	**00 27 22.9**	**+0.1**
PS4A					**Sn**	**00 27 51.0**	**+0.6**
PS1A	**Pavlof South-1**	**2.34**	**359**		**Pn**	**00 27 24.3**	**+0.5**
PS1A					**Sn**	**00 27 52.9**	**+0.7**
PN7A	**Pavlof North-7**	**2.36**	**356**		**Pn**	**00 27 25.1**	**+1.0**
PN7A					**Pb**	**00 27 25.2**	**-2.9**
SDPT	**Sand Point**	**2.37**	**17**		**Pn**	**00 27 24.2**	**0.0**
SDPT				IAML		00 27 54.9	
comp=E,696nm,0.5s							
SDPT				IAML		00 28 02.0	
comp=N,634nm,0.6s							
SDPT	**Sand Point**	**2.37**	**17**	P	**Pn**	**00 27 23.8**	**-0.4**
AKSA	**Akutan Strait**	**2.61**	**295**		**Pn**	**00 27 26.8**	**-0.8**
AKSA					Pb	00 27 27.1	-5.3
AKSA					**Sn**	**00 27 56.6**	**-2.4**
S12K	**Black Hills**	**2.63**	**355**		**Pn**	**00 27 28.9**	**+1.1**
S12K				IAML		00 28 00.7
comp=N,2μm,0.5s						
AKUT	**Akutan**	**2.65**	**295**		**Pn**	**00 27 27.6**	**-0.5**
AKUT				IAML		00 28 00.8
comp=N,501nm,0.4s						
AKUT				IAML		00 28 01.2
comp=E,888nm,0.6s						
ZRO	**Akutan Zero**	**2.75**	**293**		**Pn**	**00 27 28.9**	**-0.5**
AKLV	**Akutan Long Va**	**2.77**	**295**		**Pn**	**00 27 28.9**	**-0.7**
AKMO	**Akutan Morgan**	**2.77**	**293**		**Pn**	**00 27 29.0**	**-0.6**
UNV	**Unalaska Valle**	**2.98**	**287**		**Pn**	**00 27 31.9**	**-0.6**
MSW	**Makushin Switc**	**3.16**	**287**		**Pn**	**00 27 34.6**	**-0.5**
MGOD	**Makushin Gods**	**3.19**	**285**		**Pn**	**00 27 34.8**	**-0.7**
VNSG	**Veniaminof 6**	**3.40**	**25**		**Pn**	**00 27 39.1**	**+0.8**
ANPB	**Aniakchak Plen**	**4.21**	**26**		**Pn**	**00 27 50.2**	**+0.7**
NIKH	**Nikolski High**	**4.33**	**271**	Pn	**Pn**	**00 27 49.0**	**-2.2**
NIKH				IAML		00 28 42.2
comp=N,219nm,0.7s						
NIKH				IAML		00 28 46.2
comp=E,194nm,0.9s						
CHIR	**Chirikof Islan**	**4.47**	**50**	Pn	**Pn**	**00 27 52.4**	**-0.7**
CHIR				IAML		00 28 46.6
comp=N,126nm,0.7s						
CHIR				IAML		00 28 55.6
comp=E,126nm,0.8s						
CHIR	**Chirikof Islan**	**4.47**	**50**	P	**Pn**	**00 27 52.5**	**-0.5**
R16K	**Pilot Point**	**5.06**	**26**	Pn	**Pn**	**00 28 01.5**	**+0.3**
R16K				IAML		00 29 03.1
comp=E,234nm,1.0s						
PLK4	**Peulik 4**	**5.47**	**32**		**Pn**	**00 28 07.6**	**+0.8**
PLK1	**Peulik 1**	**5.54**	**29**		**Pn**	**00 28 08.2**	**+0.6**
SII	**Sitkinak Islan**	**5.55**	**48**		**Pn**	**00 28 06.7**	**-1.2**
SII	**Sitkinak Islan**	**5.55**	**48**	P	**Pn**	**00 28 07.0**	**-0.9**
CNTC	**Contact Creek**	**6.14**	**30**		**Pn**	**00 28 16.2**	**+0.2**
O14K	**Tigyukauivet M**	**6.19**	**2**	Pn	**Pn**	**00 28 16.8**	**+0.2**
O15K	**Ungalikthiuk R**	**6.19**	**9**		**Pn**	**00 28 16.7**	**+0.1**
ANCK	**Angle Creek**	**6.20**	**32**		**Pn**	**00 28 17.4**	**+0.5**
MGLS	**Mageik Landsli**	**6.26**	**34**		**Pn**	**00 28 17.7**	**+0.1**
P16K	**Nushagak River**	**6.31**	**18**	Pn	**Pn**	**00 28 18.2**	**0.0**
KABU	**Katmai Buttres**	**6.33**	**32**		**Pn**	**00 28 19.3**	**+0.7**
OHAK	**Old Harbor**	**6.35**	**46**		**Pn**	**00 28 17.9**	**-0.8**
OHAK	**Old Harbor**	**6.35**	**46**	P	**Pn**	**00 28 17.7**	**-1.0**
KAWH	**Katmai**	**6.58**	**33**		**Pn**	**00 28 21.6**	**-0.3**
KARR	**Katmai Rainbow**	**6.70**	**33**		**Pn**	**00 28 23.6**	**0.0**
KAHC	**Katmai Hardscr**	**6.72**	**31**		**Pn**	**00 28 24.1**	**+0.2**
KAHG	**Katmai Hook Gl**	**6.75**	**34**		**Pn**	**00 28 24.4**	**0.0**
O16K	**Kokwok River B**	**6.82**	**16**		**Pn**	**00 28 25.4**	**+0.1**
N14K	**Kuskokwak Cree**	**6.85**	**360**	Pn	**Pn**	**00 28 26.0**	**+0.3**
KDAK	**Kodiak Island**	**6.99**	**44**		**Pn**	**00 28 26.9**	**-0.7**
KDAK	**Kodiak Island**	**6.99**	**44**	Pn	**Pn**	**00 28 27.1**	**-0.5**
comp=E,5.3nm,0.3s,baz=212,slow=5.8,SNR=61							
KDAK				Sn	**Sn**	**00 29 41.2**	**-5.5**
comp=E,6.3nm,0.3s,baz=25,slow=18,SNR=8.5							
KDAK				LR	LR	00 31 24.7	
comp=E,189nm,20.5s,baz=233,slow=39							
comp=E,10nm,0.3s							
N15K	**Kwethluk River**	**7.15**	**6**	Pn	**Pn**	**00 28 30.6**	**+0.8**
O17K	**Koliganek Bris**	**7.17**	**19**		**Pn**	**00 28 30.4**	**+0.4**
P18K	**Big Mountain,**	**7.27**	**27**		**Pn**	**00 28 31.7**	**+0.3**
Q19K	**Cape Douglas,**	**7.38**	**34**		**Pn**	**00 28 33.3**	**+0.3**
M13K	**Dall Lake**	**7.40**	**354**	Pn	**Pn**	**00 28 33.3**	**+0.1**
N16K	**Nishlik Lake**	**7.58**	**11**		**Pn**	**00 28 36.1**	**+0.4**
SYI	**Shuyak Island**	**7.61**	**40**		**Pn**	**00 28 35.4**	**-0.7**
M15K	**Kasigluk River**	**7.65**	**4**		**Pn**	**00 28 36.7**	**+0.2**
M14K	**Bethel**	**7.69**	**359**		**Pn**	**00 28 37.6**	**+0.5**
N17K	**Nushagak Hills**	**7.85**	**16**		**Pn**	**00 28 39.9**	**+0.4**
P19K	**Oil Pt**	**8.07**	**32**	Pn	**Pn**	**00 28 42.6**	**+0.1**
M16K	**Timber Creek**	**8.09**	**9**	Pn	**Pn**	**00 28 42.6**	**-0.2**
O19K	**Port Alsworth**	**8.19**	**27**		**Pn**	**00 28 44.7**	**+0.6**
N18K	**Kilae Creek**	**8.24**	**20**		**Pn**	**00 28 45.1**	**+0.3**
L14K	**Kuka Creek**	**8.29**	**357**		**Pn**	**00 28 46.1**	**+0.6**
ILSW	**Iliamna Southw**	**8.36**	**31**		**Pn**	**00 28 46.2**	**-0.3**
O20K	**Slope Mountain**	**8.60**	**32**		**Pn**	**00 28 50.1**	**+0.4**
L15K	**Ungalak Mounta**	**8.62**	**1**		**Pn**	**00 28 49.6**	**-0.3**
M17K	**Holitna River**	**8.64**	**14**		**Pn**	**00 28 50.5**	**+0.2**
CNPM	**China Poot**	**8.67**	**38**	Pn	**Pn**	**00 28 50.0**	**-0.7**
N19K	**Bonanza Creek**	**8.68**	**24**		**Pn**	**00 28 51.4**	**+0.5**
L16K	**Owhat River**	**8.73**	**7**	Pn	**Pn**	**00 28 51.0**	**-0.4**
GSCK	**Great Sitkin C**	**8.89**	**269**		**Pn**	**00 28 53.3**	**-0.4**
BRLK	**Bradley Lake**	**8.97**	**37**	Pn	**Pn**	**00 28 53.2**	**-1.5**
M18K	**Stony River**	**9.00**	**18**		**Pn**	**00 28 55.2**	**+0.1**
BRSE	**Bradley Lake

I23K	Minto, Yukon-K	13.61	23	Pn	Pn	00 29 57.2	-0.9
HDA	Harding Lake	13.64	28		Pn	00 29 55.0	-3.4
LOGN	Logan Glacier	13.64	47	Pn	Pn	00 29 59.1	+0.5
MENT	Mentasta	13.66	37		Pn	00 29 58.1	-0.7
PCA	Pinnacle	13.69	51	Pn	Pn	00 29 59.5	+0.3
F19K	Shaleruckik Mo	13.92	6	Pn	Pn	00 30 03.0	+0.6
BCPM	Bancas Point	13.93	52	Pn	Pn	00 30 02.1	-0.4
ILAR	Eielson Array	13.93	27	Pn	Pn	00 29 58.8	-3.7
ILAR	Eielson Array	13.93	27	Pn	Pn	00 29 58.2	-4.3
	comp=E,0.6nm,0.3s,baz=222,slow=13,SNR=24						
ILAR				Sn	Sn	00 32 25.1	-12
	comp=E,0.1nm,0.3s,baz=200,slow=7.8,SNR=2.4						
ILAR				LR	LR	00 35 49.8	
	comp=E,115nm,20.0s,baz=244,slow=39						
O28M	Mount Upton	13.98	48		Pn	00 30 03.8	+0.4
DOT	Dot Lake	13.99	34		Pn	00 30 02.8	-0.5
M27K	Edge Creek, AK	14.02	41	Pn	Pn	00 30 03.2	-0.6
G21K	Allakaket	14.06	14		Pn	00 30 05.4	+1.1
H23K	Yukon River	14.14	21	Pn	Pn	00 30 03.7	-1.7
SCRK	Sand Creek	14.23	33		Pn	00 30 05.1	-1.6
F20K	Avaraart Lake	14.31	9	Pn	Pn	00 30 07.3	-0.3
E18K	Tukpahlearik C	14.39	2	Pn	Pn	00 30 11.1	+2.3
L27K	Beaver Creek,	14.43	38		Pn	00 30 08.1	-1.3
BCAR	Beaver Creek A	14.44	38	Pn	Pn	00 30 08.8	-0.8
H24K	Noodor Dome	14.53	23	Pn	Pn	00 30 08.8	-1.9
O29M	Mount Kennedy	14.54	51		Pn	00 30 12.4	+1.3
E19K	Redstone River	14.58	7	Pn	Pn	00 30 12.8	+1.4
F21K	Alatna River	14.73	13		Pn	00 30 14.6	+1.1
P29M	Windy Craggy	14.74	54		Pn	00 30 13.4	-0.2
K27K	Chicken	14.91	35		Pn	00 30 14.9	-1.0
S31K	Pelican	15.17	61	Pn	Pn	00 30 19.3	0.0
S31K				IAmb	IAmb	00 30 38.0	
	comp=Z,25nm,1.2s						
HYT	Haines Junctio	15.22	50	Pn	Pn	00 30 20.9	+0.7
HYT				IAmb	IAmb	00 30 36.1	
	comp=Z,11nm,1.0s						
COLD	Coldfoot	15.25	17		Pn	00 30 20.3	0.0
COLD				IAmb	IAmb	00 30 32.7	
	comp=Z,9.7nm,0.8s						
C16K	Lisburne Hills	15.34	355	P	P	00 30 26.2	+0.1
C16K				IAmb	IAmb	00 30 29.7	
	comp=Z,25nm,1.0s						
I26K	Coal Creek Min	15.40	30		Pn	00 30 17.9	-4.5
I26K				IAmb	IAmb	00 30 37.2	
	comp=Z,7.5nm,0.6s						
M29M	Somme Creek	15.44	44		Pn	00 30 22.7	-0.3
M29M				IAmb	IAmb	00 30 41.4	
	comp=Z,21nm,0.7s						
D19K	Kuna River	15.55	5	P	P	00 30 29.4	+0.8
D19K				IAmb	IAmb	00 30 40.8	
	comp=Z,7.6nm,0.6s						
C18K	Utukok River	15.62	1	P	P	00 30 31.0	+1.7
C18K				IAmb	IAmb	00 30 47.1	
	comp=Z,21nm,1.1s						
N30M	Aishikik Lake	15.63	48		Pn	00 30 25.2	-0.3
E22K	Anaktuvuk Pass	15.82	14		P	00 30 31.1	-0.5
E22K				IAmb	IAmb	00 30 42.8	
	comp=Z,11nm,0.7s						
D20K	Etivluk River	15.86	7		Pn	00 30 29.4	+1.0
D20K				IAmb	IAmb	00 30 43.6	
	comp=Z,13nm,0.7s						
L29M	L29M	15.89	42		Pn	00 30 28.5	-0.2
L29M				IAmb	IAmb	00 30 47.9	
	comp=Z,24nm,1.1s						
SKAG	Skagway	15.89	56		Pn	00 30 27.5	-1.2
DAWY	Dawson	15.89	38		Pn	00 30 28.1	-0.7
DAWY				IAmb	IAmb	00 30 47.9	
	comp=Z,15nm,0.7s						
F24K	Squaw Lake	15.94	20	Pn	Pn	00 30 28.6	-0.7
BESE	Bessie Mountai	15.97	59	Pn	Pn	00 30 30.6	+0.7
S32K	Killisnoo	16.00	63	Pn	Pn	00 30 30.7	+0.6
E23K	Chandalar	16.09	16		Pn	00 30 31.0	-0.3
C19K	Lookout Ridge	16.10	3	Pn	Pn	00 30 31.6	+0.2
R32K	Eaglecrest	16.11	60	Pn	Pn	00 30 32.5	+1.0
M30M	Minto, Yukon	16.20	44		Pn	00 30 32.5	-0.2
N31M	Braeburn, Yuko	16.23	49		Pn	00 30 33.2	+0.1
E24K	Your Creek	16.31	18		Pn	00 30 34.0	-0.1
E24K				IAmb	IAmb	00 30 48.6	
	comp=Z,17nm,0.6s						
WHY	Whitehorse	16.40	52	P	P	00 30 37.5	-0.6
D22K	Ayikyak River	16.40	12		P	00 30 38.4	+0.4
D22K				IAmb	IAmb	00 30 50.3	
	comp=Z,22nm,0.7s						
G26K	Porcupine Rive	16.43	25		Pn	00 30 33.6	-1.9
F25K	Christian Rive	16.48	22	Pn	Pn	00 30 35.6	-0.7
K29M	Barlow Dome	16.48	40		Pn	00 30 36.2	-0.1
K29M				IAmb	IAmb	00 30 56.1	
	comp=Z,11nm,0.6s						
I28M	Miner Creek	16.52	33		Pn	00 30 35.7	-1.0
I28M				IAmb	IAmb	00 30 53.2	
	comp=Z,10nm,0.6s						
H27K	Steamboat Moun	16.53	29		Pn	00 30 33.9	-3.0
BMAR	Burnt Mountain	16.60	23	Pn	Pn	00 30 36.7	-1.0
TOLK	Toolik Lake Re	16.62	16		Pn	00 30 38.7	+0.7
TOLK				IAmb	IAmb	00 30 52.5	
	comp=Z,17nm,0.7s						
P32M	Atlin	16.72	56	Pn	Pn	00 30 38.8	-0.6
D23K	Nanushuk River	16.75	14	P	Pn	00 30 40.4	+0.8
G27K	Doyon Strip	16.90	28		Pn	00 30 41.5	0.0
F26K	Sheenjek River	16.91	23	Pn	Pn	00 30 41.6	-0.1
B21K	Ikpikpuk River	16.91	9		Pn	00 30 42.5	+0.9
B21K				IAmb	IAmb	00 30 58.7	
	comp=Z,12nm,0.7s						
E25K	Arctic Village	16.93	21	Pn	Pn	00 30 42.2	+0.3
D24K	Happy Valley	17.20	16		Pn	00 30 45.4	+0.1
P33M	Teslin, Yukon	17.29	54		Pn	00 30 46.9	+0.4
J30M	Hart River	17.30	38		P	00 30 47.9	-0.1
J30M				IAmb	IAmb	00 31 05.4	
	comp=Z,19nm,0.8s						
Q32M	Nakina River	17.36	59	P	P	00 30 49.9	+1.0
H29M	Whitestone	17.50	32		Pn	00 30 49.4	+0.4
H29M				IAmb	IAmb	00 31 05.9	
	comp=Z,26nm,0.8s						
C23K	Itkillik River	17.56	13		Pn	00 30 49.2	-0.5
C23K				IAmb	IAmb	00 31 02.8	
	comp=Z,26nm,0.9s						
I30M	Mount Dempster	17.61	37		Pn	00 30 50.5	0.0
I30M				IAmb	IAmb	00 31 07.3	
	comp=Z,28nm,0.7s						
G29M	Pine Creek	18.04	31		Pn	00 30 54.4	-1.3
G29M				IAmb	IAmb	00 31 01.5	
	comp=Z,35nm,1.1s						
EPYK	Eagle Plains	18.13	33	P	Pn	00 30 56.7	-0.1
DLBC	Dease Lake	18.48	61	Pn	Pn	00 31 02.8	+1.6
	comp=Z,1.2nm,0.3s,baz=247,slow=14,SNR=3.7						
	comp=Z,31nm,0.9s						
MMPY	Sheldon Lake,	18.61	47	P	P	00 31 01.7	-0.7
H31M	Peel River	18.64	36		Pn	00 31 03.0	0.0
H31M				IAmb	IAmb	00 31 18.9	
	comp=Z,44nm,0.8s						
G30M	tAoh Zraii Nji	18.64	32		P	00 31 02.7	-0.1
G30M				IAmb	IAmb	00 31 15.8	
	comp=Z,44nm,0.7s						
E29M	Blow River	19.03	27		P	00 31 07.0	0.0
F30M	Barrier River	19.16	31		Pn	00 31 08.9	-0.4
F30M				IAmb	IAmb	00 31 22.5	
	comp=Z,21nm,0.6s						
G31M	Satah River	19.25	33		Pn	00 31 09.8	-0.4
F31M	Tsiigehtchic	19.70	32		P	00 31 14.6	+0.3
F31M				IAmb	IAmb	00 31 20.3	
	comp=Z,30nm,1.1s						
INK	Inuvik	20.26	30		P	00 31 20.3	0.0
INK				IAmb	IAmb	00 31 35.3	
	comp=Z,9.4nm,0.7s						
INK	Inuvik	20.26	30	P	P	00 31 20.6	+0.3
	comp=Z,4.4nm,0.4s,baz=250,slow=11,SNR=28						
INK				S	S	00 35 05.3	-1.3
	comp=Z,2.2nm,1.1s,baz=206,slow=18,SNR=1.8						
	comp=Z,4.4nm,0.4s						
BILL	Bilibino	21.36	327	P	P	00 31 30.2	-1.9
BILL				IAmb	IAmb	00 31 47.4	
	comp=Z,14nm,1.1s						
PEA0B	Petropavlovsk-	24.16	286		P	00 32 00.7	-0.5
PETK	Petropavlovsk-	24.16	286		P	00 32 00.1	-1.1
PETK	Petropavlovsk-	24.16	286	P	P	00 32 00.8	-0.5
	comp=Z,17nm,0.6s,baz=79,slow=13,SNR=52						
PETK				pP	pwP	00 32 11.4	-0.5
	comp=Z,28nm,0.9s,baz=82,slow=15,SNR=15						
	comp=Z,17nm,0.6s						
YKA	Yellowknife Ar	26.21	50	P	P	00 32 21.7	+2.1
	comp=Z,1.9nm,0.8s,baz=274,slow=10,SNR=2.6						
YKA				pP	pwP	00 32 31.0	+1.0
	comp=Z,0.8nm,0.5s,baz=274,slow=11,SNR=2.9						
	comp=Z,1.9nm,0.8s						
I07A	Izee	28.94	91		P	00 32 45.3	+0.9
I07A				IAmb	IAmb	00 32 47.8	
	comp=Z,3.2nm,0.8s						
OVMT	Ovando	31.31	81	P	P	00 33 06.5	+1.2
BPMT	Black Pine Rid	31.35	82	P	P	00 33 03.0	-2.9
MFID	Camas Ranch	31.53	89		P	00 33 06.5	-0.8
MFID				IAmb	IAmb	00 33 10.0	
	comp=Z,2.5nm,0.9s						
HLID	Hailey	32.30	88		P	00 33 15.1	+1.0
HLID				IAmb	IAmb	00 33 17.1	
	comp=Z,3.0nm,0.8s						
BOZ	Bozeman (W)	32.87	83	P	P	00 33 18.7	-0.4
BOZ				IAmb	IAmb	00 33 31.2	
	comp=Z,3.6nm,0.8s						
NVAR	Mina Array Bea	33.06	99	P	P	00 33 21.6	+0.7
	comp=Z,1.0nm,0.7s,baz=292,slow=9.3,SNR=6.0						
	comp=Z,1.0nm,0.7s						
YHL	Hebgen Lake	33.53	83		P	00 33 26.1	+1.0
YHL				IAmb	IAmb	00 33 29.0	
	comp=Z,9.6nm,1.1s						
YHH	Holmes Hill	33.77	83	P	P	00 33 27.9	+0.8
YNR	Norris Junctio	33.91	83		P	00 33 29.8	+1.5
FXWY	Fox Creek	34.30	85	P	P	00 33 32.2	+0.5
AHID	Auburn Hatcher	34.75	86	P	P	00 33 37.5	+2.1
AHID				IAmb	IAmb	00 33 38.6	
	comp=Z,3.7nm,0.8s						
DUG	Dugway, Tooele	35.25	91	P	P	00 33 41.8	+2.0
DUG				IAmb	IAmb	00 33 42.9	
	comp=Z,2.6nm,0.7s						
BW06	Boulder Array	35.67	85	P	P	00 33 43.1	-0.4
BW06				IAmb	IAmb	00 33 46.1	
	comp=Z,3.7nm,0.8s						
PD31	Pinedale Array	35.67	85	P	P	00 33 43.3	-0.2
PD31				IAmb	IAmb	00 33 46.1	
	comp=Z,3.7nm,0.8s						
PDAR	Pinedale Array	35.67	85	P	P	00 33 43.2	-0.3
PDAR	Pinedale Array	35.67	85	P	P	00 33 45.4	+1.9
	comp=Z,3.2nm,0.7s,baz=305,slow=4.2,SNR=39						
PDAR				pP	pwP	00 33 55.1	+1.2
	comp=Z,2.3nm,0.8s,baz=309,slow=8.0,SNR=7.8						
	comp=Z,3.2nm,0.7s						
TMUT	Trail Mountain	36.77	91	P	P	00 33 52.8	-0.2
TMUT				IAmb	IAmb	00 33 58.5	
	comp=Z,4.3nm,1.1s						
RDMU	Red Mountain	36.97	88	P	P	00 33 55.6	+1.0
RDMU				IAmb	IAmb	00 33 57.4	
	comp=Z,4.0nm,0.7s						
O20A	White River Ci	38.04	88		P	00 34 05.3	+1.7
O20A				IAmb	IAmb	00 34 06.1	
	comp=Z,12nm,0.8s						
RSSD	Black Hills	38.20	80		P	00 34 06.0	+1.1
RSSD				IAmb	IAmb	00 34 07.1	
	comp=Z,9.4nm,0.8s						
PV04	Paradox Valley	38.73	91	P	P	00 34 10.7	+1.3
PV19	Morning Glory	38.74	91	P	P	00 34 10.0	+0.4
PV19				IAmb	IAmb	00 34 12.8	
	comp=Z,4.4nm,0.6s						
PV18	Skein Mesa, Pa	38.83	91	P	P	00 34 09.3	-1.0
PV18				IAmb	IAmb	00 34 12.6	
	comp=Z,5.0nm,0.5s						
PV03	Paradox Valley	38.86	91	P	P	00 34 08.6	-1.9
PV13	Radium Mtn., P	38.94	91	P	P	00 34 09.4	-1.8
PV13				IAmb	IAmb	00 34 25.1	
	comp=Z,5.1nm,0.8s						
PV02	Paradox Valley	38.96	91	P	P	00 34 10.9	-0.4
PV02				IAmb	IAmb	00 34 14.2	
	comp=Z,8.1nm,0.7s						
PV01	Paradox Valley	39.10	91	P	P	00 34 12.2	-0.5
PV01				IAmb	IAmb	00 34 15.0	
	comp=Z,3.8nm,0.6s						
ULM	Lac du Bonnet	39.62	67	P	P	00 34 16.7	+0.2
	comp=Z,4.2nm,0.5s,baz=305,slow=7.7,SNR=3.3						
	comp=Z,4.2nm,0.5s						
H11N2	WAKE ISLAND Hy	41.19	228	T	T	01 18 25.9	
	baz=28						
H11N3	WAKE ISLAND Hy	41.20	228	T	T	01 18 29.1	
	baz=28						
H11N1	WAKE ISLAND Hy	41.21	228	T	T	01 18 30.2	
	baz=28						
T25A	Trinidad	42.26	88	P	P	00 34 38.4	-0.3
T25A				IAmb	IAmb	00 34 42.2	
	comp=Z,9.0nm,1.0s						
H11S1	WAKE ISLAND Hy	42.35	228	T	T	01 19 51.3	
	baz=28,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	42.36	228	T	T	01 19 55.3	
	baz=28,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	42.37	228	T	T	01 19 52.6	
	baz=28,slow=76,SNR=21						
121A	Cookes Peak, D	43.35	96	P	P	00 34 46.1	-1.5
RTBA	Rita Blanca	43.73	88		P	00 34 50.0	-0.4
RTBA				IAmb	IAmb	00 34 52.7	
	comp=Z,6.9nm,1.0s						
CBKS	Cedar Bluff	43.98	83	P	P	00 34 52.0	-0.4
MJAR	Matsushiro Arr	44.37	273	P	P	00 34 55.4	0.0
	comp=Z,1.1nm,0.5s,baz=33,slow=7.2,SNR=4.0						
	comp=Z,1.1nm,0.5s						
R32A	Long Quarter,	44.85	83	P	P	00 34 58.5	-0.8
ELIS	Ellis County	45.98	86		P	00 35 07.3	-1.0
SMWD	Samnorwood	46.13	87	P	P	00 35 08.4	-1.0
N38A	Joes South For	46.58	76	P	P	00 35 11.7	-1.2
HILR	Hailar Array B	46.91	299	P	P	00 35 15.6	+0.2
	comp=Z,1.4nm,0.5s,baz=52,slow=9.3,SNR=2.1						
HILR				pP	pwP	00 35 24.9	-1.3
	comp=Z,1.8nm,0.4s,baz=54,slow=7.5,SNR=2.9						
	comp=Z,1.4nm,0.5s						
OK051	E0350 and S346	47.23	83	P	P	00 35 17.3	-0.7
WMOK	Wichita Mounta	47.26	87	P	P	00 35 17.8	-0.4
QUOK	Quay	47.53	84	P	P	00 35 19.2	-1.2
OK052	Battle Ridge R	47.59	84	P	P	00 35 19.7	-1.2
FNO	Franklin	47.73	85	P	P	00 35 21.8	-0.2
DEOK	Depew	47.88	84	P	P	00 35 22.0	-1.0
L42A	Oliver, Polo	47.89	73	P	P	00 35 21.4	-1.6
L42A				IAmb	IAmb	00 35 27.7	
	comp=Z,8.6nm,0.9s						
TXAR	Lajitas Array	48.11	96	P	P	00 35 26.2	+1.2
TXAR	Lajitas Array	48.11	96	P	P	00 35 26.4	+1.4
	comp=Z,2.1nm,0.8s,baz=298,slow=5.1,SNR=24						
TXAR				pP	pwP	00 35 36.2	+1.2
	comp=Z,1.5nm,0.7s,baz=309,slow=5.3,SNR=8.1						
	comp=Z,2.1nm,0.8s						
SPITS	Spitsbergen Ar	48.99	1	P	P	00 35 32.6	+1.5
	comp=Z,2.9nm,0.7s,baz=15,slow=6.3,SNR=5.1						
	comp=Z,2.9nm,0.7s						
BRDY	Brady	49.52	90	P	P	00 35 35.3	-0.4
BRDY				IAmb	IAmb	00 35 37.4	
	comp=Z,3.8nm,0.7s						
CCM	Cathedral Cave	49.53	78	P	P	00 35 34.6	-1.2
CCM				IAmb	IAmb	00 35 35.6	
	comp=Z,5.7nm,0.9s						
JCT	Junction City	49.61	92	P	P	00 35 36.1	-0.3
FW13	Cleburne	49.72	88	P	P	00 35 36.6	-0.6
DRIO	Del Rio	49.87	93		P	00 35 38.3	-0.1
DRIO				IAmb	IAmb	00 35 39.9	
	comp=Z,5.0nm,0.8s						
KSRS	Korea Array	49.91	281	P	P	00 35 39.0	+0.5
	comp=Z,1.6nm,0.6s,baz=39,slow=7.9,SNR=3.5						
KSRS				pP	pwP	00 35 49.5	0.0
	comp=Z,1.9nm,0.7s,baz=56,slow=6.4,SNR=4.2						
	comp=Z,1.6nm,0.6s						
USIN	University of	51.69	76	P	P	00 35 51.4	-0.7
WVT	Waverly	52.84	77	P	P	00 36 00.5	-0.1
WVT				IAmb	IAmb	00 36 01.2	
	comp=Z,11nm,0.8s						
SONM	Songino Array	54.85	305	IAmb	IAmb	00 36 26.6	
	comp=Z,3.3nm,1.1s						
SONM	Songino Array	54.85	305	P	P	00 36 16.1	+0.8
	comp=Z,1.4nm,0.5s,baz=38,slow=7.6,SNR=7.5						
SONM				pP	pwP	00 36 26.2	+0.2
	comp=Z,1.9nm,0.9s,baz=44,slow=7.0,SNR=5.4						
	comp=Z,1.4nm,0.5s						
FPAL	Fort Paine	55.25	77	P	P	00 36 17.5	-0.8
FPAL				IAmb	IAmb	00 36 18.1	
	comp=Z,6.3nm,0.7s						
J59A	Piesco	55.36	62	P	P	00 36 18.0	-0.9
J59A				IAmb	IAmb	00 36 29.6	
	comp=Z,4.1nm,0.7s						
SSPA	Standing Stone	55.45	67	P	P	00 36 18.5	-1.1
HHC	Hu-ho-hao-te	56.94	295	eP	P	00 36 29.0	-1.3
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,93nm,4.2s						
ARCES	ARCESS Array B	57.58	357	IAmb	IAmb	00 36 34.7	
	comp=Z,1.4nm,0.7s						
ARCES	ARCESS Array B	57.58	357	P	P	00 36 34.0	-0.3
	comp=Z,4.6nm,1.0s,baz=15,slow=7.3,SNR=5.2						
	comp=Z,4.6nm,1.0s						
ZALV	Zalesovo Beam	59.92	321	P	P	00 36 50.6	-0.1
	comp=Z,1.6nm,0.8s,baz=44,slow=9.1,SNR=7.3						
ZALV				pP	pwP	00 37 01.1	-0.3
	comp=Z,0.4nm,0.3s,baz=52,slow=7.7,SNR=3.9						
ZALV				PcP	PcP	00 37 36.2	-0.8
	comp=Z,0.7nm,0.4s,baz=18,slow=5.6,SNR=2.5						
	comp=Z,1.6nm,0.8s						
GTA	Gaotai	64.20	302	eP	P	00 37 19.8	-0.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LZDM	Lanzhou Array	64.73	297	P	P	00 37 23.8	+0.1
	comp=Z,1.5nm,0.3s,baz=44,slow=11,SNR=4.1						
	comp=Z,1.5nm,0.3s						
KURK	Kurchatov	64.81	322	P	P	00 37 24.9	+1.3
KURK	Kurchatov	64.81	322	IAmb	IAmb	00 37 35.8	
	comp=Z,2.4nm,1.1s						
KURBB	Kurchatov Arra	64.91	322	P	P	00 37 24.9	+0.6
	comp=Z,0.8nm,0.7s,baz=28,slow=6.4,SNR=3.9						
	comp=Z,0.8nm,0.7s						
FINES	FINESS Array B	65.65	356	P	P	00 37 28.9	+0.1
	comp=Z,4.1nm,0.8s,baz=20,slow=7.7,SNR=14						
	comp=Z,4.1nm,0.8s						
BVAR	Borovoye Array	65.69	328	P	P	00 37 30.1	+0.8
	comp=Z,2.3nm,0.6s,baz=46,slow=8.5,SNR=10						
	comp=Z,2.3nm,0.6s						
NB2	NORSAR Subarra	66.08	4	P	P	00 37 32.3	+0.6
	comp=Z,0.9nm,0.7s,baz=354,slow=6.2						
NOA	NORSAR Array B	66.08	4	P	P	00 37 32.6	+1.0
	comp=Z,2.3nm,0.8s,baz=355,slow=6.6,SNR=4.8						
NOA				pP	pwP	00 37 42.4	0.0
	comp=Z,2.4nm,0.9s,baz=358,slow=6.5,SNR=3.7						
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	66.57	318	P	P	00 37 35.0	0.0
	comp=Z,1.1nm,0.6s,baz=50,slow=6.5,SNR=14						
MKAR				pP	pwP	00 37 45.0	-0.7
	comp=Z,1.1nm,0.7s,baz=64,slow=7.2,SNR=7.6						
	comp=Z,1.1nm,0.6s						
WMQ	Urumqi	66.64	312	eP	P	00 37 38.8	+3.2
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s						
MAKZ	Makanchi	66.68	318	P	P	00 37 34.9	-0.8
MAKZ				IAmb	IAmb	00 37 36.0	
	comp=Z,2.3nm,0.8s						
HFS	Hagfors	67.07	3	P	P	00 37 38.5	+0.6
	comp=Z,6.0nm,0.6s,baz=35,slow=3.6,SNR=21						
HFS				pP	pwP	00 37 48.4	-0.3
	comp=Z,6.6nm,0.6s,baz=31,slow=3.5,SNR=5.2						
	comp=Z,6.0nm,0.6s						
KONO	Kongsberg	67.40	5	P	P	00 37 41.0	+1.0
EKA	Eskdalemuir Ar	70.50	13	P	P	00 38 00.6	+1.3
	comp=Z,1.6nm,0.7s,baz=337,slow=4.0,SNR=4.5						
EKA				pP	pwP	00 38 10.1	+0.1
	comp=Z,3.4nm,0.8s,baz=338,slow=3.9,SNR=3.9						
	comp=Z,1.6nm,0.7s						
PZH	PanZhiHua	73.02	291	P	P	00 38 13.5	-1.6
KSH	Kashi	75.18	317	P	P	00 38 31.5	+3.9
KSH				sP	PcP	00 38 41.8	+0.8
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	Malin Array Be	76.18	353	IAmb	IAmb	00 38 42.0	
	comp=Z,3.5nm,1.1s						
AKASG	Malin Array Be	76.18	353	P	P	00 38 32.5	-0.4
	comp=Z,2.9nm,0.5s,baz=10,slow=5.5,SNR=9.7						
AKASG				pP	pwP	00 38 42.8	-0.8
	comp=Z,2.5nm,0.5s,baz=12,slow=5.9,SNR=7.5						
	comp=Z,2.9nm,0.5s						
LANS	Liptovska Anna	78.13	359	eP	P	00 38 46.4	+2.4
GERES	GERESS Array B	78.37	3	P	P	00 38 46.6	+1.3
	comp=Z,0.9nm,0.7s,baz=353,slow=4.3,SNR=6.2						
GERES				pP	pwP	00 38 55.8	-0.3
	comp=Z,0.6nm,0.6s,baz=352,slow=4.0,SNR=4.6						
	comp=Z,0.9nm,0.7s						
MODS	Modra-Piesok	78.91	1	eP	P	00 38 50.4	+2.1
CONA	Conrad Observa	79.34	2	epP	P	00 38 50.3	-0.4
	comp=Z,3.0nm,1.1s						
BIOA	Bad Ischl, Aus	79.52	3	i pP	P	00 38 51.1	-0.5
	comp=Z,0.9nm,0.4s						
LESA	Schwarzleotal	79.75	4	epP	P	00 38 53.7	+0.7
	comp=Z,0.2nm,0.1s						
MOTA	Moosalm	79.76	5	epP	P	00 38 54.6	+1.6
	comp=Z,5.4nm,1.0s						
WATA	Walderalm	79.79	5	i pP	P	00 38 54.9	+1.6
	comp=Z,2.0nm,0.6s						
WTTA	Wattenberg	79.86	5	epP	P	00 38 55.1	+1.4
	comp=Z,3.8nm,0.8s						
SQTA	Sankt Quirin	79.89	5	i pP	P	00 38 55.5	+1.8
	comp=Z,4.8nm,0.9s						
ARSA	Arzberg	80.01	2	epP	P	00 38 56.2	+1.9
	comp=Z,0.6nm,0.3s						
FETA	Feichten	80.06	5	i pP	P	00 38 56.4	+1.6
	comp=Z,1.9nm,0.8s						
KBA	Koelnbreinsper	80.12	3	i pP	P	00 38 56.9	+1.8
	comp=Z,3.7nm,0.5s						
SOKA	Soboth	80.57	2	i pP	P	00 38 59.1	+1.7
	comp=Z,0.6nm,0.4s						
OBKA	Obir	80.73	3	i pP	P	00 38 59.9	+1.6
	comp=Z,6.0nm,0.7s						
CMAR	Chiang Mai Arr	80.93	288	P	P	00

CATM	**Catron**	**0.15**	**323**		Pg	00 32 37.0 +0.1
CATM					Sg	00 32 39.9 +0.7
PVMO	**Portageville**	**0.16**	**240**	Pg	Pg	00 32 36.5 -0.5
PVMO				IAML		00 32 39.9
	comp=N,2μm,0.3s					
PVMO				Sg	Sg	00 32 39.0 -0.2
PGVM	**Portageville**	**0.16**	**259**		Pg	00 32 37.0 0.0
PGVM					Sg	00 32 39.9 +0.5
FLPT	**Flippin**	**0.19**	**115**		Pg	00 32 37.4 -0.1
FLPT					Sg	00 32 40.8 +0.6
KEWM	**Kewanee**	**0.21**	**347**		Pg	00 32 37.9 -0.1
KEWM					Sg	00 32 41.4 +0.5
HENM	**Henderson Moun**	**0.23**	**12**		Pg	00 32 38.2 -0.1
HENM					Sg	00 32 42.0 +0.5
WADM	**Wardell**	**0.25**	**240**		Pg	00 32 38.5 -0.1
WADM					Sg	00 32 42.6 +0.7
PARMO	**Parma**	**0.25**	**314**		Pg	00 32 38.4 -0.2
PARMO				Sg	Sg	00 32 41.7 -0.2
HICK	**Hickman**	**0.25**	**78**		Pg	00 32 38.4 -0.3
HICK				Sg	Sg	00 32 41.8 -0.2
HICK				IAML		00 32 42.6
	comp=E,2μm,0.2s					
HICK				IAML		00 32 42.6
	comp=N,2μm,0.3s					
EPRM	**East Prairie**	**0.27**	**32**		Pg	00 32 38.8 -0.2
EPRM					Sg	00 32 43.0 +0.4
COKM	**Charter Oak**	**0.27**	**325**		Pg	00 32 39.0 -0.1
COKM					Sg	00 32 43.3 +0.6
MATM	**Matthews**	**0.29**	**348**		Pg	00 32 39.4 -0.1
MATM					Sg	00 32 43.7 +0.4
TOPM	**Tallapoosa**	**0.29**	**277**		Pg	00 32 39.2 -0.2
TOPM					Sg	00 32 43.8 +0.5
GLAT	**Glass**	**0.30**	**138**		Pg	00 32 39.4 -0.2
GLAT				Sg	Sg	00 32 43.2 -0.3
GLAT				IAML		00 32 44.1
	comp=E,1μm,0.2s					
GLAT				IAML		00 32 44.4
	comp=N,921nm,0.1s					
DWDM	**Dogwood**	**0.31**	**6**		Pg	00 32 39.6 -0.1
DWDM					Sg	00 32 44.2 +0.4
MIST	**Miston**	**0.32**	**176**		Pg	00 32 39.7 -0.3
MIST					Sg	00 32 44.9 +0.7
MLDM	**Malden**	**0.34**	**293**		Pg	00 32 40.2 -0.2
CHRM	**Charleston**	**0.39**	**21**		Pg	00 32 40.9 -0.4
BRGM	**Braggadocio**	**0.39**	**223**		Pg	00 32 41.0 -0.3
LNXT	**Lenox**	**0.39**	**175**		Pg	00 32 41.1 -0.2
LNXT	**Lenox**	**0.39**	**175**		Sg	00 32 46.2 -0.3
LNXT				IAML		00 32 51.6
	comp=E,498nm,0.2s					
LNXT				IAML		00 32 54.8
	comp=N,638nm,0.6s					
BETM	**Bethany**	**0.44**	**286**		Sg	00 32 48.2 +0.2
PEBM	**Pemiscott Bayo**	**0.46**	**215**		Sg	00 32 49.6 +0.9
PEBM				IAML		00 32 51.3
	comp=N,529nm,0.5s					
PEBM				IAML		00 32 57.5
	comp=E,430nm,0.5s					
PEBM	**Pemiscott Bayo**	**0.46**	**215**		Pg	00 32 42.3 -0.3
GUAMO	**Guam**	**0.47**	**328**		Pg	00 32 42.4 -0.4
CWPT	**Cottonwood Poi**	**0.49**	**189**		Pg	00 32 42.9 -0.3
FMKY	**Fulgham**	**0.53**	**71**		Pg	00 32 43.4 -0.6
UTMT	**University of**	**0.56**	**105**		Sg	00 32 52.2 +0.4
UTMT	**University of**	**0.56**	**105**		Pg	00 32 44.8 +0.4
HALT	**Halls**	**0.60**	**165**		Pg	00 32 44.9 -0.4
GNAR	**Gosnell**	**0.66**	**217**		Pg	00 32 46.1 -0.2
GNAR				IAML		00 33 03.7
	comp=N,472nm,0.6s					
GNAR				IAML		00 33 03.8
	comp=E,366nm,0.4s					
PBMO	**Poplar Bluff**	**0.78**	**292**		Pg	00 32 47.8 -0.8
PBMO					Sg	00 32 58.3 -0.4
PBMO				IAML		00 32 59.2
	comp=N,299nm,0.2s					
PBMO				IAML		00 33 06.8
	comp=E,251nm,0.2s					
CGM3	**Cape Girardeau**	**0.81**	**353**		Pg	00 32 48.2 -1.1
T45A	**Paducah**	**0.89**	**53**		Sg	00 33 00.9 -1.3
T45A				IAML		00 33 03.1
	comp=E,361nm,0.4s					
T45A	**Paducah**	**0.89**	**53**		Pg	00 32 50.0 -0.7
S44A	**Carbondale**	**1.22**	**10**		Pb	00 32 56.0 -1.0
S44A				IAML		00 33 12.6
	comp=E,203nm,0.1s					
SIUC	**Southern Illin**	**1.25**	**12**		Pn	00 32 55.7 -1.7
HBAR	**Harrisburg**	**1.30**	**225**		Pn	00 32 57.1 -1.0
HBAR				IAmb_Lg		00 33 14.9
	comp=Z,23nm,0.8s					
HBAR				IAML		00 33 21.6
	comp=E,202nm,0.7s					
HBAR				IAML		00 33 23.0
	comp=N,177nm,0.5s					
LCAR	**Lake Charles**	**1.38**	**253**		Pn	00 32 58.0 -1.2
LCAR					Sb	00 33 16.0 -1.3
MET	**Memphis--Engin**	**1.41**	**194**		Pn	00 32 58.6 -0.9
WVT	**Waverly**	**1.42**	**104**		Pn	00 32 58.9 -0.9
FVM	**French Village**	**1.65**	**335**		Pn	00 33 02.5 -0.5
PLAL	**Pickwick Lake**	**1.92**	**141**		Pn	00 33 05.8 -0.7
OXF	**Oxford**	**1.98**	**177**	IAmb_Lg		00 33 34.6
	comp=Z,24nm,0.9s					
OLIL	**Olney**	**2.51**	**27**	IAmb_Lg		00 33 53.4
	comp=Z,16nm,0.7s					
WHAR	**Wooly Hollow**	**2.54**	**243**	IAmb_Lg		00 34 00.9
	comp=Z,26nm,1.0s					
WCI	**Wyandotte Cave**	**3.11**	**55**	IAmb_Lg		00 34 15.2
	comp=Z,14nm,0.8s					
P43A	**Skaggs, Pawnee**	**3.15**	**0**	IAmb_Lg		00 34 11.5
	comp=Z,12nm,0.7s					
Z47A	**Carrollton**	**3.50**	**159**	IAmb_Lg		00 34 26.8
	comp=Z,13nm,0.8s					
BLO	**Bloomington**	**3.58**	**41**	IAmb_Lg		00 34 28.8
	comp=Z,10.0nm,0.8s					
W50A	**Signal Mountai**	**3.66**	**109**	IAmb_Lg		00 34 31.5
	comp=Z,9.9nm,0.7s					
T50A	**Nancy**	**3.81**	**81**	IAmb_Lg		00 34 40.3
	comp=Z,11nm,0.7s					
N41A	**Harden Midland**	**4.34**	**347**	IAmb_Lg		00 35 00.7
	comp=Z,9.4nm,0.7s					
P48A	**Milroy**	**4.39**	**46**	IAmb_Lg		00 34 54.3
	comp=Z,10.0nm,0.7s					
TKL	**Tuckaleechee C**	**4.74**	**98**	IAmb_Lg		00 35 13.4
	comp=Z,8.8nm,1.0s					
TUL3	**Leonard**	**5.09**	**265**	IAmb_Lg		00 35 19.7
	comp=Z,11nm,0.9s					
Q51A	**Peebles**	**5.52**	**61**	IAmb_Lg		00 35 33.4
	comp=Z,9.4nm,0.8s					
KAN08	**Anthony NE Sta**	**6.81**	**279**	IAmb_Lg		00 36 07.0
	comp=Z,8.0nm,0.7s					

BJI ***26*** *00:41:22.1, 52°.33N×170°.42W, h35km, mB5.5/74, mb5.3/87, Ms5.6/93, Ms7 5.4/90*

MOS ***26*** *00:41:23.2±0.9, 52°.35N×170°.25W, h35km, mb5.6/87, MS5.4/38, Error ellipse: s-maj=6.7km s-min=4.2km az=99.8*

IDC ***26*** *00:41:23.3±2.7, 52°.34N×170°.26W, h25km±17km, mb5.0/34, mbtmp5.2/36, ML4.7/2, MS5.2/84, Error ellipse: s-maj=13.9km s-min=9.6km az=176.0*

AEIC ***26*** *00:41:23.4±2.8, 52°.17N±0°.05×170°.10W±0°.07, h15km±2km, Error ellipse: s-maj=7.8km s-min=4.5km az=140.0*

NEIC ***26*** *00:41:25.3, 52°.33N×170°.19W, h36km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^17^Nm; Mrr6.26; Mθθ-5.23; Mφφ-1.03; Mrθ2.38; Mθφ-1.53; Mφr2.01; Fault plane solution: M0 6.77000×10^17^ NP1: φs259.78000°, δ32.67000°, λ104.49000°. NP2: φs62.70000°, δ58.49000°, λ80.88000°. Principal axes: T 7.0901, Plg75.0000°, Azm307.0000°; N -0.6882, Plg8.0000°, Azm67.0000°; P -6.4019, Plg13.0000°, Azm159.0000°;*

NEIC ***26*** *00:41:25.4, 52°.34N×170°.19W, h35km*

NEIC ***26*** *00:41:25.3, 52°.33N×170°.19W, h35km*

IPGP ***26*** *00:41:25.0, 52°.33N×170°.15W, h31km, Mw5.8, Fault plane solution: NP1:φs260.00000°, δ30.00000°, λ89.00000°. NP2:φs82.00000°, δ60.00000°, λ91.00000°.*

NEIC ***26*** *00:41:25.5±1.8, 52°.32N±0°.06×170°.17W±0°.07, h35km±1km, mb5.5/1053, ML5.6/18, Ms_20 5.4/455, Mwb5.7/251, Mww5.8/43, ML5.4(AEIC), Error ellipse: s-maj=11.1km s-min=5.8km az=151.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr3.80; Mθθ-3.61; Mφφ-0.19; Mrθ2.44; Mθφ-0.29; Mφr0.05; Fault plane solution: M0 4.45000×10^17^ NP1:φs87.14000°, δ61.64000°, λ91.82000°. NP2:φs263.32000°, δ28.41000°, λ86.64000°. Principal axes: T 4.5287, Plg73.0000°, Azm2.0000°; N -0.1715, Plg2.0000°, Azm266.0000°; P -4.3572, Plg17.0000°, Azm176.0000°;*

GCMT ***26*** *00:41:26.8±0.1, 52°.10N×170°.15W, h34km, MW5.8/160, Moment Tensor Solution. s153,c328; s160,c471; Duration: 1s9 Moment tensor: Scale 10^17^Nm; Mrr5.25±.05; Mθθ-5.07±.04; Mφφ-0.17±.04; Mrθ3.18±.05; Mθφ-1.18±.02; Mφr0.48±.05; Best double couple: M0 6.19500×10^17^ NP1:φs255.00000°, δ29.00000°, λ86.00000°. NP2:φs79.00000°, δ61.00000°, λ92.00000°. Principal axes: T 6.1540, Plg74.0000°, Azm355.0000°; N 0.0870, Plg2.0000°, Azm258.0000°; P -6.2360, Plg16.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

RSNC ***26*** *00:41:26.4±7.0, 51°.N±78°×16°.7W±16°.2, h0km, M5.8, mB6.1, mb5.6, Mw(mB)5.8, MwMwp6.9, Mwp6.8*

ISC 26 00:41:25.1±0.3,**52°.23N**±0°.04×**170°.15W**±0°.02,**h42**km±2km, **h42**km:**pP-P, n1999**, σ1.**26**/1673, **mb5.5**/660, **MS5.4**/369, **83C-61D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.62**	**25**		**Pn**	**00 41 36.6**	**-0.9**
CLCO					**Sn**	**00 41 46.8**	**+0.5**
NIKH	**Nikolski High**	**1.09**	**46**		**Pn**	**00 41 41.8**	**-2.0**
NIKH				Sn	**Sn**	**00 41 56.5**	**-1.2**
NIKH				IAML		00 42 03.5	
	comp=E,86μm,0.5s						
NIKH				IAML		00 42 08.7	
	comp=N,117μm,0.8s						
NIKH	**Nikolski High**	**1.09**	**46**	P	**Pn**	**00 41 42.4**	**-1.4**
NIKH	**Nikolski High**	**1.09**	**46**	S	**Sn**	**00 41 56.9**	**-0.7**
NIKH	**Nikolski High**	**1.09**	**46**	P	**Pn**	**00 41 42.0**	**-1.8**
	baz=231,SNR=125						
NIKH				S	**Sn**	**00 41 56.8**	**-0.9**
	baz=231						
OKCE	**Okmok Cone E**	**1.70**	**44**		**Pn**	**00 41 52.1**	**-0.2**
OKWE	**Okmok W'ng Wal**	**1.70**	**42**		**Pn**	**00 41 52.2**	**-0.1**
OKNC	**Okmok New Cone**	**1.74**	**44**		**Pn**	**00 41 53.0**	**+0.2**
OKNC					**Sn**	**00 42 16.2**	**+2.4**
OKRE	**Okmok R'deer P**	**1.77**	**42**		**Pn**	**00 41 53.8**	**+0.6**
OKFG	**Magazine Ridge**	**1.80**	**48**		**Pn**	**00 41 53.7**	**+0.1**
KOSE	**Korovin Southe**	**2.40**	**274**		**Pn**	**00 42 02.9**	**+1.0**
KOFP	**Korovin Flat P**	**2.43**	**273**		**Pn**	**00 42 02.9**	**+0.6**
KONE	**Korovin Northe**	**2.44**	**276**		**Pn**	**00 42 03.8**	**+1.4**
KONE					**Sn**	**00 42 36.5**	**+5.4**
KONW	**Korovin Northw**	**2.50**	**276**		**Pn**	**00 42 04.7**	**+1.5**
MAPS	**Pakushin South**	**2.50**	**49**		**Pn**	**00 42 03.7**	**+0.5**
MGOD	**Makushin Gods**	**2.53**	**50**		**Pn**	**00 42 03.6**	**0.0**
MGOD					**Sn**	**00 42 35.1**	**+2.0**
MREP	**Makushin Rep't**	**2.60**	**51**		**Pn**	**00 42 04.8**	**+0.2**
MSW	**Makushin Switc**	**2.64**	**49**		**Pn**	**00 42 05.4**	**+0.3**
MNAT	**Makushin Natee**	**2.67**	**50**		**Pn**	**00 42 05.5**	**0.0**
UNV	**Unalaska Valle**	**2.73**	**52**		**Pn**	**00 42 05.6**	**-0.7**
UNV				Sn	**Sn**	**00 42 40.6**	**+2.5**
UNV				IAML		00 42 51.3	
	comp=E,36μm,0.9s						
UNV	**Unalaska Valle**	**2.73**	**52**	P	**Pn**	**00 42 06.3**	**0.0**
	baz=237,SNR=184						
UNV				S	**Sn**	**00 42 38.5**	**+0.4**
	baz=237						
AKMO	**Akutan Morgan**	**3.11**	**51**		**Pn**	**00 42 12.9**	**+1.3**
ZRO	**Akutan Zero**	**3.13**	**52**		**Pn**	**00 42 13.2**	**+1.3**
AKBBA	**Akutan Broad B**	**3.15**	**52**		**Pn**	**00 42 13.9**	**+1.7**
AKLV	**Akutan Long Va**	**3.18**	**51**		**Pn**	**00 42 14.5**	**+1.9**
AKGG	**Akutan Green G**	**3.19**	**50**		**Pn**	**00 42 14.1**	**+1.5**
AKGG					**Sn**	**00 42 53.7**	**+4.4**
AKUT	**Akutan**	**3.25**	**52**		**Pn**	**00 42 13.6**	**+0.1**
AKUT				IAML		00 43 08.6	
	comp=N,23μm,1.1s						
AKUT				IAML		00 43 08.8	
	comp=E,18μm,1.5s						
AKSA	**Akutan Strait**	**3.29**	**53**		**Pn**	**00 42 15.6**	**+1.5**
GSTR	**Great Sitkin T**	**3.64**	**270**		**Pn**	**00 42 20.3**	**+1.4**
GSTR				Sn	**Sn**	**00 43 01.5**	**+0.8**
GSTR				IAML		00 43 19.0	
	comp=E,11μm,0.8s						
GSMY	**Great Sitkin M**	**3.65**	**269**		**Pn**	**00 42 19.7**	**+0.8**
GSCK	**Great Sitkin C**	**3.71**	**269**		**Pn**	**00 42 20.1**	**+0.2**
ADK	**Adak**	**4.05**	**268**	Pn	**Pn**	**00 42 24.7**	**+0.3**
ADK				IAML		00 43 32.0	
	comp=E,7μm,0.8s						
ADK	**Adak**	**4.05**	**268**	P	**Pn**	**00 42 24.4**	**-0.1**
ADK	**Adak**	**4.05**	**268**	S	**Sn**	**00 43 13.1**	**+2.5**
ADK	**Adak**	**4.05**	**268**	P	**Pn**	**00 42 24.7**	**+0.3**
KIWB	**Kanaga Island**	**4.34**	**268**		**Pn**	**00 42 29.1**	**+0.6**
KIWB				IAML		00 43 41.7	
	comp=E,7μm,0.8s						
KIWB				IAML		00 43 41.8	
	comp=N,6μm,0.7s						
P08K	**Saint George I**	**4.40**	**4**		**Pn**	**00 42 28.7**	**-0.5**
P08K	**Saint George I**	**4.40**	**4**	P	**Pn**	**00 42 28.3**	**-0.9**
	baz=185,SNR=6.8						
KIMD	**Kanaga Island**	**4.41**	**267**		**Pn**	**00 42 30.7**	**+1.4**
TAPA	**Tanaga Point A**	**4.75**	**268**		**Pn**	**00 42 34.9**	**+0.8**
FALS	**False Pass**	**4.80**	**54**		**Pn**	**00 42 34.3**	**-0.4**
FALS	**False Pass**	**4.80**	**54**	P	**Pn**	**00 42 35.3**	**+0.6**
FALS	**False Pass**	**4.80**	**54**	P	**Pn**	**00 42 33.0**	**-1.8**
	baz=240,SNR=7.2						
SPIA	**Saint Paul Isl**	**4.96**	**359**		**Pn**	**00 42 36.0**	**-0.9**
SPIA				IAML		00 43 54.9	
	comp=N,2μm,1.1s						
SPIA	**Saint Paul Isl**	**4.96**	**359**	P	**Pn**	**00 42 36.4**	**-0.6**
	baz=179,SNR=18						
S12K	**Black Hills**	**5.91**	**51**		**Pn**	**00 42 50.1**	**+0.1**
S12K	**Black Hills**	**5.91**	**51**	P	**Pn**	**00 42 49.5**	**-0.4**
	baz=238						
PS1A	**Pavlof South-1**	**5.92**	**54**		**Pn**	**00 42 52.1**	**+2.1**
SDPT	**Sand Point**	**6.53**	**58**		**Pn**	**00 42 57.6**	**-0.8**
SDPT	**Sand Point**	**6.53**	**58**	P	**Pn**	**00 42 58.7**	**+0.3**
SDPT	**Sand Point**	**6.53**	**58**	P	**Pn**	**00 42 59.2**	**+0.8**
	baz=246,SNR=19						
AMKA	**Amchitka**	**6.60**	**267**		**Pn**	**00 43 01.0**	**+1.5**
CNBA	**Chernabura Isl**	**6.81**	**63**		**Pn**	**00 43 02.1**	**-0.2**
CHNA	**Chernabura Isl**	**6.81**	**63**	P	**Pn**	**00 43 02.6**	**+0.3**
	baz=252,SNR=8.8						
VNKR	**Veniaminof 5**	**7.39**	**55**		**Pn**	**00 43 11.2**	**+0.9**
S14K	**Fog Glacier**	**7.42**	**53**	P	**Pn**	**00 43 10.2**	**-0.5**
	baz=242						
M11K	**Mekoryuk**	**8.47**	**13**		**Pn**	**00 43 24.4**	**-0.5**
M11K	**Mekoryuk**	**8.47**	**13**	P	**Pn**	**00 43 25.4**	**+0.5**
	baz=197,SNR=11						
O14K	**Tigyukauivet M**	**8.64**	**32**		**Pn**	**00 43 25.2**	**-2.1**
O14K	**Tigyukauivet M**	**8.64**	**32**	P	**Pn**	**00 43 26.9**	**-0.4**
	baz=220,SNR=6.2						
M13K	**Dall Lake**	**9.03**	**22**		**Pn**	**00 43 32.3**	**-0.3**
M13K	**Dall Lake**	**9.03**	**22**	P	**Pn**	**00 43 32.2**	**-0.4**
	baz=208,SNR=18						
N14K	**Kuskokwak Cree**	**9.04**	**28**		**Pn**	**00 43 32.9**	**0.0**
N14K	**Kuskokwak Cree**	**9.04**	**28**	P	**Pn**	**00 43 33.3**	**+0.4**
	baz=216,SNR=18						
O15K	**Ungalikthiuk R**	**9.07**	**36**		**Pn**	**00 43 33.4**	**+0.1**
O15K	**Ungalikthiuk R**	**9.07**	**36**	P	**Pn**	**00 43 32.9**	**-0.4**
	baz=225,SNR=37						
CHIR	**Chirikof Islan**	**9.27**	**61**		**Pn**	**00 43 35.2**	**-0.8**
CHIR	**Chirikof Islan**	**9.27**	**61**	P	**Pn**	**00 43 35.7**	**-0.3**
CHIR	**Chirikof Islan**	**9.27**	**61**	P	**Pn**	**00 43 35.7**	**-0.3**
	baz=254,SNR=11						
R17L	**Mt. Peulik Vol**	**9.60**	**50**	P	**Pn**	**00 43 40.6**	**+0.1**
	baz=242						
PLK4	**Peulik 4**	**9.60**	**50**		**Pn**	**00 43 40.3**	**-0.3**
M14K	**Bethel**	**9.66**	**25**		**Pn**	**00 43 40.8**	**-0.5**
M14K	**Bethel**	**9.66**	**25**	P	**Pn**	**00 43 41.3**	**0.0**
	baz=212,SNR=52						
P16K	**Nushagak River**	**9.67**	**40**		**Pn**	**00 43 38.7**	**-2.8**
P16K	**Nushagak River**	**9.67**	**40**	P	**Pn**	**00 43 42.0**	**+0.6**
	baz=231						
N15K	**Kwethluk River**	**9.72**	**31**		**Pn**	**00 43 42.1**	**0.0**
N15K	**Kwethluk River**	**9.72**	**31**	P	**Pn**	**00 43 42.8**	**+0.6**
	baz=220,SNR=34						
M15K	**Kasigluk River**	**9.96**	**28**		**Pn**	**00 43 47.2**	**+1.8**
M15K	**Kasigluk River**	**9.96**	**28**	P	**Pn**	**00 43 46.7**	**+1.3**
	baz=216,SNR=54						
O16K	**Kokwok River B**	**10.00**	**38**		**Pn**	**00 43 46.5**	**+0.6**
O16K	**Kokwok River B**	**10.00**	**38**	P	**Pn**	**00 43 46.8**	**+0.8**
	baz=228,SNR=131						
L14K	**Kuka Creek**	**10.01**	**21**		**Pn**	**00 43 47.7**	**+1.7**
L14K	**Kuka Creek**	**10.01**	**21**	P	**Pn**	**00 43 47.3**	**+1.3**
	baz=208,SNR=42						
Q16K	**King Salmon**	**10.01**	**45**	P	**Pn**	**00 43 45.8**	**-0.3**
	baz=236,SNR=24						
Q17K	**Contact Creek**	**10.13**	**48**	P	**Pn**	**00 43 48.7**	**+0.8**
	baz=240,SNR=28						
K13K	**Kusilvak Mount**	**10.18**	**15**		**Pn**	**00 43 46.9**	**-1.4**
K13K	**Kusilvak Mount**	**10.18**	**15**	P	**Pn**	**00 43 48.7**	**+0.3**
	baz=200,SNR=22						
SII	**Sitkinak Islan**	**10.26**	**59**		**Pn**	**00 43 47.4**	**-2.2**
SII	**Sitkinak Islan**	**10.26**	**59**	P	**Pn**	**00 43 48.9**	**-0.7**
SII	**Sitkinak Islan**	**10.26**	**59**	P	**Pn**	**00 43 49.5**	**-0.1**
	baz=252,SNR=14						
N16K	**Nishlik Lake**	**10.39**	**33**	P	**Pn**	**00 43 52.9**	**+1.6**
	baz=223,SNR=102						
P17K	**Kvichak River**	**10.40**	**42**	P	**Pn**	**00 43 51.7**	**+0.3**
	baz=234						
O17K	**Koliganek Bris**	**10.50**	**39**	P	**Pn**	**00 43 54.2**	**+1.4**
	baz=230,SNR=68						
L15K	**Ungalak Mounta**	**10.58**	**23**	P	**Pn**	**00 43 56.3**	**+2.5**
	baz=210,SNR=62						
Q18K	**Katmai Hardscr**	**10.72**	**47**	P	**Pn**	**00 43 55.9**	**-0.1**
	baz=240,SNR=51						
M16K	**Timber Creek**	**10.74**	**30**		**Pn**	**00 43 55.1**	**-0.9**
M16K	**Timber Creek**	**10.74**	**30**	P	**Pn**	**00 43 56.8**	**+0.7**
	baz=220,SNR=26						
OHAK	**Old Harbor**	**10.95**	**56**		**Pn**	**00 43 57.1**	**-1.8**
OHAK	**Old Harbor**	**10.95**	**56**	P	**Pn**	**00 43 56.5**	**-2.4**
OHAK	**Old Harbor**	**10.95**	**56**	P	**Pn**	**00 43 57.3**	**-1.6**
	baz=250,SNR=23						
N17K	**Nushagak Hills**	**10.97**	**36**		**Pn**	**00 43 57.8**	**-1.5**
N17K	**Nushagak Hills**	**10.97**	**36**	P	**Pn**	**00 43 60.0**	**+0.7**
	baz=227,SNR=142						
P18K	**Big Mountain,**	**11.03**	**44**		**Pn**	**00 43 59.4**	**-0.7**
P18K	**Big Mountain,**	**11.03**	**44**	P	**Pn**	**00 44 00.2**	**+0.2**
	baz=236,SNR=80						
K15K	**Wolf Creek Mou**	**11.11**	**21**		**Pn**	**00 44 00.1**	**-1.0**
K15K	**Wolf Creek Mou**	**11.11**	**21**	P	**Pn**	**00 44 02.9**	**+1.8**
	baz=209,SNR=51						
J14K	**Nanvaranak Lak**	**11.12**	**16**		**Pn**	**00 44 00.7**	**-0.5**
J14K	**Nanvaranak Lak**	**11.12**	**16**	P	**Pn**	**00 44 03.1**	**+1.8**
	baz=202,SNR=14						
L16K	**Owhat River**	**11.13**	**27**		**Pn**	**00 44 00.8**	**-0.6**
L16K	**Owhat River**	**11.13**	**27**	P	**Pn**	**00 44 03.6**	**+2.2**
	baz=216,SNR=71						
O18K	**Koktuh Hills**	**11.30**	**42**	P	**Pn**	**00 44 04.2**	**+0.5**
	baz=234,SNR=55						
Q19K	**Cape Douglas,**	**11.48**	**48**		**Pn**	**00 44 05.5**	**-0.8**
Q19K	**Cape Douglas,**	**11.48**	**48**	P	**Pn**	**00 44 05.9**	**-0.4**
	baz=242,SNR=31						
KDAK	**Kodiak Island**	**11.50**	**54**		**Pn**	**00 44 04.7**	**-1.8**
KDAK	**Kodiak Island**	**11.50**	**54**	Pn	**Pn**	**00 44 04.6**	**-1.9**
	comp=N,6.2nm,0.3s,baz=228,slow=4.5,SNR=82						
KDAK				Sn	**Sn**	**00 46 07.9**	**-5.5**
	comp=N,2.4nm,0.3s,baz=72,slow=20,SNR=1.5						
KDAK	**Kodiak Island**	**11.50**	**54**	P	**Pn**	**00 44 04.7**	**-1.8**
KDAK	**Kodiak Island**	**11.50**	**54**	P	**Pn**	**00 44 05.1**	**-1.4**
	baz=249						
M17K	**Holitna River**	**11.51**	**32**		**Pn**	**00 44 05.7**	**-0.9**
M17K	**Holitna River**	**11.51**	**32**	P	**Pn**	**00 44 07.3**	**+0.7**
	baz=223,SNR=37						
N18K	**Kilae Creek**	**11.55**	**37**		**Pn**	**00 44 07.6**	**+0.5**
N18K	**Kilae Creek**	**11.55**	**37**	P	**Pn**	**00 44 08.8**	**+1.6**
	baz=230,SNR=23						
GAMB	**Gambell**	**11.61**	**357**		**Pn**	**00 44 06.8**	**-1.2**
GAMB	**Gambell**	**11.61**	**357**	P	**Pn**	**00 44 10.0**	**+2.1**
	baz=175,SNR=5.5						
L17K	**Donlin**	**11.81**	**28**	P	**Pn**	**00 44 11.9**	**+1.3**
	baz=218,SNR=24						
O19K	**Port Alsworth**	**11.86**	**42**		**Pn**	**00 44 10.4**	**-1.0**
O19K	**Port Alsworth**	**11.86**	**42**	P	**Pn**	**00 44 12.5**	**+1.1**
	baz=235,SNR=10						
Q20K	**Shuyak Island**	**11.92**	**51**	P	**Pn**	**00 44 10.7**	**-1.5**
	baz=246,SNR=18						
SYI	**Shuyak Island**	**11.92**	**51**		**Pn**	**00 44 10.7**	**-1.5**
P19K	**Oil Pt**	**12.03**	**45**		**Pn**	**00 44 12.3**	**-1.3**
P19K	**Oil Pt**	**12.03**	**45**	P	**Pn**	**00 44 14.1**	**+0.5**
	baz=240,SNR=15						
M18K	**Stony River**	**12.12**	**34**	P	**Pn**	**00 44 15.6**	**+0.7**
	baz=227,SNR=78						
N19K	**Bonanza Creek**	**12.17**	**39**		**Pn**	**00 44 15.6**	**0.0**
N19K	**Bonanza Creek**	**12.17**	**39**	P	**Pn**	**00 44 16.6**	**+0.9**
	baz=232,SNR=56						
J16K	**Anvik River**	**12.18**	**21**		**Pn**	**00 44 15.2**	**-0.6**
J16K	**Anvik River**	**12.18**	**21**	P	**Pn**	**00 44 16.1**	**+0.3**
	baz=209,SNR=25						
ILSW	**Iliamna Southw**	**12.24**	**44**		**Pn**	**00 44 15.9**	**-0.7**
K17K	**Iditarod**	**12.27**	**26**		**Pn**	**00 44 18.0**	**+1.1**
K17K	**Iditarod**	**12.27**	**26**	P	**Pn**	**00 44 17.6**	**+0.6**
	baz=217,SNR=42						
L18K	**Granite Mounta**	**12.36**	**31**		**Pn**	**00 44 18.2**	**+0.1**
L18K	**Granite Mounta**	**12.36**	**31**	P	**Pn**	**00 44 17.3**	**-0.8**
	baz=222,SNR=46						
O20K	**Slope Mountain**	**12.51**	**44**	P	**Pn**	**00 44 20.1**	**-0.2**
	baz=239,SNR=7.0						
ANM	**Nome**	**12.62**	**9**		**Pn**	**00

baz=241
GCSA Galena City Sc 14.30 23 P Pn 00 44 45.4 +0.9
baz=215,SNR=18
H18K Honhosa River 14.30 20 P Pn 00 44 46.3 +1.7
baz=211,SNR=25
PPLA Purkeypile 14.33 35 P Pn 00 44 46.0 +0.8
baz=230,SNR=16
M22K Willow 14.43 41 Pn 00 44 46.6 +0.3
M22K Willow 14.43 41 P Pn 00 44 48.0 +1.7
baz=238,SNR=10.0
J20K Nowinta River 14.59 29 Pn 00 44 48.5 +0.1
J20K Nowinta River 14.59 29 P Pn 00 44 49.1 +0.7
baz=222,SNR=82
CUT Chulitna 14.74 38 Pn 00 44 51.2 +0.8
CUT Chulitna 14.74 38 P Pn 00 44 50.4 0.0
baz=236,SNR=8.4
PWL Port Wells 14.75 46 Pn 00 44 47.6 -3.0
PWL Port Wells 14.75 46 P Pn 00 44 47.5 -3.1
baz=244,SNR=18
PMR Palmer 14.75 42 Pn 00 44 50.3 -0.3
PMR Palmer 14.75 42 P Pn 00 44 50.3 -0.3
PMR Palmer 14.75 42 P Pn 00 44 52.1 +1.5
baz=240
P23K Montague Islan 14.82 49 P Pn 00 44 50.2 -1.3
baz=249,SNR=8.7
G18K Tagagawik 14.89 19 P Pn 00 44 52.5 +0.1
baz=209,SNR=15
F17K Baldwin Pennin 14.94 14 P Pn 00 44 53.2 +0.2
baz=202,SNR=8.3
CHUM Lake Minchumin 14.94 32 P Pn 00 44 52.2 -1.0
baz=227,SNR=11
KNK Knik Glacier 14.95 44 Pn 00 44 50.9 -2.4
KNK Knik Glacier 14.95 44 P Pn 00 44 51.2 -2.1
baz=242,SNR=9.9
I20K Naaghedeneel 14.96 27 Pn 00 44 53.2 -0.1
I20K Naaghedeneel 14.96 27 P Pn 00 44 54.5 +1.1
baz=220,SNR=14
H19K Roundabout Mou 15.05 22 Pn 00 44 56.1 +1.7
H19K Roundabout Mou 15.05 22 P Pn 00 44 55.2 +0.8
baz=214,SNR=47
Q23K Middleton Isla 15.13 52 P Pn 00 44 55.2 -0.4
baz=252
SML Sawmill 15.19 42 P Pn 00 44 54.3 -2.1
baz=241,SNR=21
GLI Glacier Island 15.30 47 P Pn 00 44 57.1 -0.8
baz=246
F18K Selawik 15.34 16 P Pn 00 44 57.2 -1.0
baz=205,SNR=11
TRF Thorofare Moun 15.35 35 P Pn 00 44 58.1 -0.5
baz=232,SNR=36
HIN Hinchinbrook I 15.39 49 Pn 00 44 56.3 -2.7
HIN IAmb IAmb 00 44 58.3
comp=Z,296nm,1.4s
H20K Anotleneega Mo 15.40 24 P Pn 00 44 59.3 +0.2
baz=218,SNR=19
M23K Glacier View 15.44 43 P Pn 00 44 57.2 -2.4
baz=242,SNR=43
E17K Hotham Inlet 15.46 12 P Pn 00 45 00.9 +1.1
baz=200,SNR=15
BPAW Bear Paw Mtn. 15.53 33 IAmb IAmb 00 45 08.0
comp=Z,163nm,0.8s
BPAW Bear Paw Mtn. 15.53 33 P Pn 00 45 01.3 +0.5
baz=229,SNR=114
FID Port Fidalgo 15.53 47 Pn 00 44 56.8 -4.0
SCM Sheep Creek Mo 15.62 43 Pn Pn 00 44 59.8 -2.3
SCM IAmb IAmb 00 45 09.2
comp=Z,225nm,0.7s
SCM Sheep Creek Mo 15.62 43 P Pn 00 44 59.8 -2.3
SCM pmax pmax
comp=Z,225nm,0.7s
SCM Sheep Creek Mo 15.62 43 P Pn 00 45 00.8 -1.3
baz=243,SNR=29
WAT1 Susitna Watana 15.63 39 P Pn 00 45 00.9 -1.2
baz=237
EYAK Cordova Ski Ar 15.79 49 Pn Pn 00 45 02.5 -1.6
EYAK Cordova Ski Ar 15.79 49 P Pn 00 45 02.0 -2.1
EYAK Cordova Ski Ar 15.79 49 P Pn 00 45 02.8 -1.3
baz=249
WAT6 Susitna Watana 15.82 40 P Pn 00 45 04.2 -0.4
baz=240,SNR=41
F19K Shaleruckik Mo 15.88 18 P Pn 00 45 06.1 +0.8
baz=209,SNR=19
D17K Noatak River 15.90 10 P P 00 45 07.5 -1.1
baz=196,SNR=8.1
E18K Tukpahlearik C 15.95 13 P Pn 00 45 06.6 +0.5
baz=202,SNR=29
I21K Tanana 15.96 29 P Pn 00 45 05.9 -0.3
baz=224,SNR=70
DIV Divide 16.00 47 Pn Pn 00 45 04.1 -2.7
MCK McKinley 16.00 36 P Pn 00 45 05.4 -1.5
baz=234,SNR=35
KLU Klutina 16.08 45 P Pn 00 45 04.5 -3.4
baz=246,SNR=48
H21K Melozitna Rive 16.08 26 P Pn 00 45 06.8 -1.0
baz=222
IMAR Indian Mountai 16.08 25 Pn 00 45 08.3 +0.6
KAIM Kayak Island 16.21 52 IAmb IAmb 00 45 15.8
comp=Z,272nm,0.8s
KAIM Kayak Island 16.21 52 P Pn 00 45 09.4 -0.1
baz=253
DHY Denali Highway 16.22 39 P Pn 00 45 07.9 -1.9
baz=239,SNR=24
MLY Manley 16.23 30 P Pn 00 45 09.7 -0.1
baz=227,SNR=86
M24K Tolsona, Glenn 16.23 43 P Pn 00 45 09.8 -0.1
baz=244,SNR=20
RAGM Ragged Mountai 16.23 50 IAmb IAmb 00 45 17.2
comp=Z,203nm,0.8s
RDOG Red Dog Mine 16.26 10 P P 00 45 12.1 -0.5
baz=196
C16K Lisburne Hills 16.27 6 P P 00 45 12.7 +0.1
C16K Lisburne Hills 16.27 6 P P 00 45 11.6 -1.1
baz=191
HMT Hamilton 16.41 50 IAmb IAmb 00 45 18.8
comp=Z,244nm,1.1s
BMRM Bremner River 16.46 48 P Pn 00 45 10.8 -2.0
baz=250,SNR=16
F20K Avaraart Lake 16.48 20 P P 00 45 13.8 -1.3
F20K Avaraart Lake 16.48 20 P P 00 45 13.7 -1.3
baz=213
NEA2 Nenana 16.48 33 P Pn 00 45 11.1 -1.8
baz=231,SNR=22
E19K Redstone River 16.54 18 P P 00 45 15.3 -0.4
baz=209,SNR=27
G21K Allakaket 16.56 24 P Pn 00 45 14.4 +0.6
baz=218,SNR=32
SUCK Suckling Hills 16.57 51 IAmb IAmb 00 45 19.9
comp=Z,226nm,1.0s
C17K DeLong Mountai 16.64 9 P Pn 00 45 15.4 +0.5
baz=195
H22K Ishtalitna Cre 16.65 27 P Pn 00 45 14.7 -0.3
baz=224,SNR=29
N25K Chitina, Valde 16.70 46 P Pn 00 45 14.2 -1.6
baz=248,SNR=32
I23K Minto, Yukon-K 16.74 31 P Pn 00 45 15.9 -0.3
baz=229,SNR=29
HARP HAARP 16.79 43 P Pn 00 45 16.0 -0.8
baz=244,SNR=37
PAX Paxson 16.92 41 P Pn 00 45 18.1 -0.4
baz=242,SNR=33
C18K Utukok River 17.02 11 P P 00 45 21.4 +0.3
baz=199,SNR=14
SNH Sunshine Point 17.05 51 IAmb IAmb 00 45 21.7
comp=Z,284nm,1.1s
COLA College 17.07 33 Pn 00 45 19.4 -0.8
COLA College 17.07 33 P Pn 00 45 19.4 -0.8
COLA College 17.07 33 P Pn 00 45 19.4 -0.8
COLA pmax pmax
comp=Z,98nm,0.7s
COLA College 17.07 33 P Pn 00 45 17.3 -2.9
baz=233
CRQE Cirque 17.09 49 P Pn 00 45 19.3 -1.4
baz=252,SNR=22
HDA Harding Lake 17.11 36 P Pn 00 45 18.7 -2.0
baz=236,SNR=46
WAX Waxell Ridge 17.11 51 IAmb IAmb 00 45 25.8
comp=Z,220nm,0.6s
F21K Alatna River 17.12 22 Pn 00 45 20.4 -0.6
F21K Alatna River 17.12 22 P P 00 45 21.5 -0.7
baz=217,SNR=17
H23K Yukon River 17.14 29 Pn 00 45 21.0 -0.2
H23K Yukon River 17.14 29 P P 00 45 21.7 -0.6
baz=227,SNR=44
K24K Donnelly Dome 17.21 38 Pn Pn 00 45 20.9 -1.2
K24K Donnelly Dome 17.21 38 P Pn 00 45 22.1 0.0
baz=239,SNR=16
TGL Tana Glacier 17.21 50 Pn 00 45 20.8 -1.4

D19K Kuna River 17.31 15 Pn 00 45 22.1 -1.1
D19K Kuna River 17.31 15 P P 00 45 24.4 +0.1
baz=206,SNR=17
MCARA McCarthy VSAT 17.33 47 P Pn 00 45 21.3 -2.2
baz=251,SNR=34
ILAR Eielson Array 17.34 35 Pn 00 45 20.8 -2.8
ILAR Eielson Array 17.34 35 P Pn 00 45 21.6 -2.1
comp=Z,1.2nm,0.3s,baz=230,slow=11,SNR=34
ILAR PcP PcP 00 50 04.2 +0.7
comp=Z,7.6nm,0.6s,baz=272,slow=3.2,SNR=15
ILAR LR LR 00 52 36.5
comp=Z,12μm,18.9s,baz=226,slow=39
comp=Z,9.9nm,0.7s
ILAR Eielson Array 17.34 35 P Pn 00 45 20.8 -2.8
POKR Poker Plat Res 17.36 33 P Pn 00 45 21.8 -2.1
baz=233
G22K Bettles 17.38 25 P Pn 00 45 23.2 -0.9
baz=221
E20K Nigu River 17.43 17 P P 00 45 25.3 -0.3
baz=210
MESA MESA 17.47 52 Pn 00 45 24.6 -0.9
MESA IAmb IAmb 00 45 30.2
comp=Z,287nm,0.7s
MESA MESA 17.47 52 P Pn 00 45 24.3 -1.2
baz=256,SNR=31
RIDG Independent Ri 17.54 39 P Pn 00 45 24.5 -1.7
RIDG Independent Ri 17.54 39 P P 00 45 26.3 -0.5
baz=241,SNR=19
YAH Yahtse 17.62 51 IAmb IAmb 00 45 31.8
comp=Z,274nm,0.8s
G23K Bananza Creek 17.62 27 Pn 00 45 26.1 -1.0
G23K Bananza Creek 17.62 27 P P 00 45 27.7 0.0
baz=224,SNR=42
MENT Mentasta 17.62 42 P Pn 00 45 26.0 -1.1
B18K Kokolik River 17.64 10 P P 00 45 27.5 -0.3
baz=197
C19K Lookout Ridge 17.66 13 Pn 00 45 26.0 -1.5
C19K Lookout Ridge 17.66 13 P P 00 45 27.5 -0.6
baz=202
F22K John River 17.66 23 P P 00 45 28.1 0.0
baz=219
H24K Noodor Dome 17.66 31 P Pn 00 45 27.2 -0.4
baz=230,SNR=56
M26K Nabesna, AK 17.71 44 P Pn 00 45 27.4 -0.8
baz=248,SNR=40
D20K Etivluk River 17.75 16 P P 00 45 29.3 +0.1
baz=208,SNR=16
J25K Salcha River, 17.79 36 P Pn 00 45 26.0 -3.3
baz=238,SNR=148
L26K Log Cabin Wild 17.81 42 P Pn 00 45 27.5 -2.0
baz=245,SNR=72
TABL Table Mountain 17.93 51 IAmb IAmb 00 45 34.5
comp=Z,497nm,1.5s
COLD Coldfoot 17.95 26 P 00 45 31.9 +0.6
COLD Coldfoot 17.95 26 P P 00 45 31.1 -0.2
baz=223,SNR=19
CTG Chitna Glacier 17.97 50 P Pn 00 45 30.2 -1.4
baz=254,SNR=23
SCRK Saseph Creek 17.99 39 P Pn 00 45 29.7 -2.0
baz=242,SNR=34
E21K Killik River 18.02 19 P P 00 45 33.3 +1.2
E21K Killik River 18.02 19 P Pn 00 45 31.6 -0.3
baz=214
M27K Edge Creek, AK 18.18 45 P P 00 45 32.3 -1.7
baz=249,SNR=47
E22K Anaktuvuk Pass 18.24 22 P Pn 00 45 35.9 +1.2
E22K Anaktuvuk Pass 18.24 22 P Pn 00 45 35.2 +0.6
baz=218,SNR=16
PCA Pinnacle 18.28 53 P P 00 45 35.0 -0.1
PCA IAmb IAmb 00 45 44.5
comp=Z,171nm,0.7s
PINM Pinnacle 18.28 53 P Pn 00 45 35.4 +0.2
baz=258,SNR=17
G24K Hadweenzic Riv 18.35 29 P P 00 45 35.0 -0.7
G24K IAmb IAmb 00 45 42.5
comp=Z,336nm,1.6s
G24K Hadweenzic Riv 18.35 29 P P 00 45 35.1 -0.6
baz=229,SNR=21
J26L Joseph Creek 18.40 38 P P 00 45 34.4 -2.0
J26L Joseph Creek 18.40 38 P P 00 45 34.3 -2.0
baz=241
L27K Beaver Creek, 18.46 43 P P 00 45 36.7 -0.3
baz=247,SNR=24
O28M Mount Upton 18.47 51 P P 00 45 36.7 -0.6
O28M Mount Upton 18.47 51 P Pn 00 45 38.5 +0.8
baz=256,SNR=41
C21K Knifeblade Rid 18.47 17 P Pn 00 45 38.5 +1.1
baz=211,SNR=15
BCAR Beaver Creek A 18.48 43 P P 00 45 35.7 -1.5
A19K Wainwright 18.52 10 P Pn 00 45 38.4 +0.5
baz=198
BCPM Bancas Point 18.56 53 P P 00 45 37.5 -0.5
H25L Birch Creek 18.59 32 P P 00 45 36.0 -2.3
baz=233,SNR=22
PNL Peninsula 18.62 54 P Pn 00 45 39.1 -0.3
PNL Peninsula 18.62 54 P Pn 00 45 39.0 -0.3
baz=260,SNR=20
D22K Ayikyak River 18.65 20 P Pn 00 45 39.8 +0.2
D22K Ayikyak River 18.65 20 P Pn 00 45 39.3 -0.3
baz=215,SNR=21
E23K Chandalar 18.71 24 P Pn 00 45 40.0 -0.4
E23K Chandalar 18.71 24 P P 00 45 39.7 -0.1
baz=222,SNR=18
K27K Chicken 18.76 40 P P 00 45 39.0 -1.2
K27K Chicken 18.76 40 P P 00 45 39.1 -1.1
baz=244,SNR=17
F24K Squaw Lake 18.79 27 P P 00 45 39.8 -0.7
F24K Squaw Lake 18.79 27 P Pn 00 45 40.8 -0.5
baz=226,SNR=22
YUK8 Steele Glacier 18.80 49 P P 00 45 39.6 -1.3
baz=255,SNR=38
G25K Bearman Lake 18.81 30 P P 00 45 39.9 -0.8
baz=231,SNR=19
B20K Meade River 18.83 14 P P 00 45 40.8 -0.1
B20K Meade River 18.83 14 P P 00 45 40.3 -0.5
baz=206
PET Petropavlovsk 18.89 285 P P 00 45 41.4 -0.3
PET Petropavlovsk 18.89 285 P Pn 00 45 42.5 -0.1
PET Petropavlovsk 18.89 285 eP Pn 00 45 42.0 -0.5
PET eS Sn 00 49 09.4 -3.4
PET pmax pmax
comp=Z,84nm,0.6s
PET pmax pmax
comp=Z,2μm,11.6s
PET pmax pmax
comp=Z,3μm,10.7s
PET MLR MLR
comp=Z,5μm,20.0s
PET MLR MLR
comp=Z,5μm,17.0s
PET Petropavlovsk 18.89 285 P Pn 00 45 42.4 -0.1
comp=Z,2μmcomp=Z,69nm,0.6s
B21K Ikpikpuk River 18.90 17 P P 00 45 41.6 -0.1
B21K Ikpikpuk River 18.90 17 P P 00 45 41.4 -0.2
baz=211
I26K Coal Creek Min 18.96 36 P P 00 45 40.3 -2.0
I26K Coal Creek Min 18.96 36 P P 00 45 40.4 -2.0
baz=239
E24K Your Creek 19.02 25 P Pn 00 45 43.8 -0.3
E24K Your Creek 19.02 25 P P 00 45 42.7 -0.3
baz=224
O29M Mount Kennedy 19.14 53 P P 00 45 45.0 +0.4
O29M Mount Kennedy 19.14 53 P Pn 00 45 45.2 -0.5
baz=259,SNR=67
D23K Nanushuk River 19.15 22 P P 00 45 44.6 +0.1
D23K Nanushuk River 19.15 22 P Pn 00 45 45.4 -0.3
baz=219
TOLK Toolik Lake Re 19.16 23 Pn 00 45 45.6 -0.1
TOLK Toolik Lake Re 19.16 23 P P 00 45 44.3 -0.3
baz=221,SNR=28
YUK4 Talbot Arm 19.33 50 P Pn 00 45 48.1 0.0
baz=256,SNR=70
YUK6 Outpost Mounta 19.38 51 P P 00 45 47.5 +0.2
baz=258,SNR=54
PEA0B Petropavlovsk- 19.44 285 P 00 45 47.9 +0.2
PEA0B IAmb IAmb 00 45 59.3
comp=Z,112nm,0.7s
PEA0B Petropavlovsk- 19.44 285 dP P 00 45 48.2 +0.5
PETK Petropavlovsk- 19.44 285 P P 00 45 47.5 -0.2
PETK Petropavlovsk- 19.44 285 ScP 00 53 41.8 +2.2
PETK Petropavlovsk- 19.44 285 P P 00 45 47.2 -0.5
comp=Z,30nm,0.3s,baz=77,slow=16,SNR=191
PETK PcP PcP 00 50 08.2 +0.9
comp=Z,7.9nm,0.8s,baz=106,slow=4.6,SNR=4.3
PETK ScP ScP 00 53 41.0 +1.4
comp=Z,7.3nm,1.0s,baz=161,slow=4.8,SNR=4.9

PETK LR LR 00 53 47.1
comp=Z,5μm,19.9s,baz=92,slow=38
comp=Z,88nm,0.5s
PETK Petropavlovsk- 19.44 285 P P 00 45 47.5 -0.2
P29M Windy Craggy 19.45 55 IAmb IAmb 00 46 02.6
comp=Z,305nm,0.9s
P29M Windy Craggy 19.45 55 P Pn 00 45 49.2 -0.1
baz=262,SNR=51
F25K Christian Rive 19.48 28 P Pn 00 45 48.7 -0.8
baz=230,SNR=59
BILL Bilibino 19.51 333 P P 00 45 48.0 -0.3
BILL Bilibino 19.51 333 eP Pn 00 45 49.2 -0.7
BILL pmax pmax
comp=Z,87nm,0.9s
G26K Porcupine Rive 19.65 31 P P 00 45 49.1 -0.8
baz=234,SNR=29
I27K Kandik River 19.67 36 P P 00 45 47.8 -2.4
baz=241
BMAR Burnt Mountain 19.69 30 P P 00 45 50.5 +0.1
M29M Somme Creek 19.71 46 P P 00 45 50.1 -0.6
baz=254,SNR=57
D24K Happy Valley 19.73 23 P P 00 45 50.0 -0.7
D24K Happy Valley 19.73 23 P P 00 45 49.5 -1.2
baz=222
B22K Teshekpuk Lake 19.73 17 P P 00 45 50.5 -0.2
B22K Teshekpuk Lake 19.73 17 P P 00 45 49.3 -1.4
baz=212
HYT Haines Junctio 19.76 51 P 00 45 51.9 +0.5
HYT IAmb IAmb 00 45 56.6
comp=Z,368nm,0.9s
HYT Haines Junctio 19.76 51 P Pn 00 45 52.2 -0.8
baz=259,SNR=214
E25K Arctic Village 19.84 27 P P 00 45 52.0 0.0
baz=229,SNR=22
DAWY Dawson 19.85 41 P P 00 45 52.4 +0.2
baz=248,SNR=35
C23K Itkillik River 19.86 20 P P 00 45 52.0 -0.1
C23K Itkillik River 19.86 20 P Pn 00 45 52.7 -1.2
baz=217,SNR=16
P30M Million Dollar 19.91 54 P Pn 00 45 54.6 -0.1
baz=262,SNR=211
F26K Sheenjek River 19.99 29 P P 00 45 53.1 -0.6
F26K Sheenjek River 19.99 29 P P 00 45 53.0 -0.6
baz=232,SNR=22
H27K Steamboat Moun 20.01 35 P 00 45 53.0 -0.9
H27K Steamboat Moun 20.01 35 P P 00 45 53.0 -0.9
baz=240,SNR=106
A22K Sinclair Lake 20.05 14 P P 00 45 54.2 0.0
baz=208
L29M L29M 20.05 45 P 00 45 54.2 -0.2
L29M L29M 20.05 45 P P 00 45 55.1 +0.7
baz=252,SNR=43
S31K Pelican 20.08 60 P P 00 45 55.5 +0.9
S31K IAmb IAmb 00 46 00.2
comp=Z,234nm,1.0s
S31K Pelican 20.08 60 P P 00 45 55.0 +0.3
baz=268,SNR=17
N30M Aishikik Lake 20.09 50 IAms_20 IAms_20 00 54 15.0
comp=Z,15μm,22.0s
N30M Aishikik Lake 20.09 50 P P 00 45 55.5 +0.7
baz=258,SNR=88
A21K Barrow 20.10 13 P P 00 45 55.4 +0.6
baz=205
PLBC Pleasant Camp 20.12 56 P Pn 00 45 56.5 -0.7
baz=264,SNR=124
C24K Franklin Bluff 20.19 22 P P 00 45 56.1 +0.4
C24K Franklin Bluff 20.19 22 P P 00 45 54.5 -1.1
baz=221
I28M Miner Creek 20.21 37 IAmb IAmb 00 46 04.0
comp=Z,86nm,0.6s
I28M Miner Creek 20.21 37 P P 00 45 53.4 -2.7
baz=244,SNR=82
G27K Doyon Strip 20.27 33 IAms_20 IAms_20 00 54 27.0
comp=Z,15μm,19.0s
G27K Doyon Strip 20.27 33 P P 00 45 53.4 -3.3
baz=238,SNR=33
R31K City Hall, Gus 20.36 59 P P 00 45 58.6 +0.9
baz=268,SNR=13
O30N Mendenhall 20.44 52 P Pn 00 45 59.7 -1.2
O30N IAmb IAmb 00 46 15.1
comp=Z,183nm,1.1s
O30N Mendenhall 20.44 52 P P 00 45 59.6 +1.0
baz=261,SNR=71
D25K Kavik River 20.45 24 P P 00 45 58.9 +0.3
D25K IAms_20 IAms_20 00 54 28.4
comp=Z,17μm,19.0s
D25K Kavik River 20.45 24 P P 00 45 58.3 -0.3
baz=225
M30M Minto, Yukon 20.49 47 P P 00 45 59.0 -0.1
M30M IAms_20 IAms_20 00 54 49.1
comp=Z,19μm,18.0s
M30M Minto, Yukon 20.49 47 P P 00 45 58.9 -0.2
baz=255,SNR=30
K29M Barlow Dome 20.55 43 IAms_20 IAms_20 00 55 01.4
comp=Z,19μm,20.0s
K29M Barlow Dome 20.55 43 P P 00 45 58.9 -0.9
baz=251
SIT Sitka 20.57 63 P 00 46 00.6 +0.7
SIT IAmb IAmb 00 46 04.4
comp=Z,254nm,1.3s
SIT Sitka 20.57 63 P Pn 00 46 02.1 -0.3
SIT Sitka 20.57 63 P P 00 46 00.6 +0.7
SIT pmax pmax
comp=Z,254nm,1.3s
SIT Sitka 20.57 63 P P 00 46 00.6 +0.7
baz=272,SNR=7.3
SKAG Skagway 20.65 56 P 00 46 01.7 +1.0
SKAG Skagway 20.65 56 P Pn 00 46 02.4 -0.9
SKAG Skagway 20.65 56 P P 00 46 01.6 +0.9
baz=265,SNR=245
N31M Braeburn, Yuko 20.71 50 IAmb IAmb 00 46 11.1
comp=Z,136nm,0.6s
N31M IAms_20 IAms_20 00 55 04.1
comp=Z,18μm,20.0s
N31M Braeburn, Yuko 20.71 50 P P 00 46 01.3 -0.2
baz=259,SNR=35
BESE Bessie Mountai 20.84 58 IAmb IAmb 00 46 06.9
comp=Z,250nm,1.1s
S32K Killisnoo 20.97 61 P 00 46 05.4 +1.2
S32K IAmb IAmb 00 46 16.6
comp=Z,278nm,1.2s
S32K Killisnoo 20.97 61 P P 00 46 05.1 +0.9
baz=271,SNR=36
SKR Severo-Kuril's 20.98 279 eP P 00 45 59.1 -5.2
SKR pmax pmax
comp=Z,159nm,0.7s
SKR pmax pmax
comp=Z,1μm,7.4s
SKR MLR MLR
comp=Z,5μm,21.0s
R32K Eaglecrest 21.00 59 P P 00 46 05.5 +0.9
R32K IAmb IAmb 00 46 11.2
comp=Z,174nm,1.1s
R32K Eaglecrest 21.00 59 P P 00 46 04.9 +0.3
baz=269,SNR=28
WHY Whitehorse 21.01 52 P 00 46 05.0 +0.2
WHY IAmb IAmb 00 46 10.9
comp=Z,372nm,1.0s
WHY Whitehorse 21.01 52 P P 00 46 04.8 0.0
baz=262,SNR=67
E27K Coleen River 21.05 30 P P 00 46 03.9 -1.2
baz=235,SNR=14
H29M Whitestone 21.13 36 P P 00 46 04.7 -1.3
H29M IAmb IAmb 00 46 12.3
comp=Z,261nm,0.8s
H29M IAms_20 IAms_20 00 54 45.6
comp=Z,16μm,19.0s
H29M Whitestone 21.13 36 P P 00 46 04.8 -1.1
baz=244,SNR=129
MAYO Mayo, Yukon 21.16 44 P P 00 46 07.0 +0.7
MAYO IAmb IAmb 00 46 14.5
comp=Z,110nm,0.7s
C26K Camden Bay 21.23 24 P P 00 46 07.0 0.0
baz=226
J30M Hart River 21.28 41 P P 00 46 06.9 -0.8
J30M IAms_20 IAms_20 00 54 25.8
comp=Z,20μm,22.0s
J30M Hart River 21.28 41 P P 00 46 05.6 -2.1
baz=251,SNR=31
F28M Old Crow 21.29 32 P P 00 46 07.5 -0.1
F28M IAms_20 IAms_20 00 55 07.4
comp=Z,17μm,19.0s
F28M Old Crow 21.29 32 P P 00 46 07.3 -0.3
baz=239,SNR=13
C27K Jago River 21.35 25 P P 00 46 09.5 +1.3
C27K Jago River 21.35 25 P P 00 46 05.5 -2.7
baz=229

P32M	**Atlin**	**21.48**	**56**	IAmb	IAmb	00 46 23.1	
	comp=Z,154nm,0.8s						
P32M	**Atlin**	**21.48**	**56**	P	**P**	**00 46 11.2**	**+1.5**
	baz=266,SNR=49						
I30M	**Mount Dempster**	**21.49**	**40**	IAMs_20	IAMs_20	00 54 57.1	
	comp=Z,19µm,20.0s						
I30M	**Mount Dempster**	**21.49**	**40**	P	**P**	**00 46 08.2**	**-1.7**
	baz=249,SNR=56						
G29M	**Pine Creek**	**21.57**	**35**	P	**P**	**00 46 09.6**	**-1.0**
G29M				IAmb	IAmb	00 46 28.2	
	comp=Z,146nm,0.8s						
G29M				IAMs_20	IAMs_20	00 55 19.0	
	comp=Z,20µm,18.0s						
G29M	**Pine Creek**	**21.57**	**35**	P	**P**	**00 46 09.1**	**-1.5**
	baz=243,SNR=66						
EPYK	**Eagle Plains**	**21.80**	**37**	P	**P**	**00 46 11.7**	**-1.5**
EPYK				IAmb	IAmb	00 46 18.0	
	comp=Z,135nm,0.7s						
EPYK				IAMs_20	IAMs_20	00 55 25.3	
	comp=Z,18µm,18.0s						
EPYK	**Eagle Plains**	**21.80**	**37**	P	**P**	**00 46 11.6**	**-1.5**
	baz=246,SNR=67						
U33K	**Whale Pass**	**21.84**	**65**	P	**P**	**00 46 15.7**	**+2.2**
U33K				IAmb	IAmb	00 46 22.4	
	comp=Z,120nm,0.9s						
U33K	**Whale Pass**	**21.84**	**65**	P	**P**	**00 46 16.3**	**+2.8**
	baz=276,SNR=6.1						
D27M	**Malcolm River**	**21.86**	**28**	P	**P**	**00 46 15.4**	**+1.6**
D27M	**Malcolm River**	**21.86**	**28**	P	**P**	**00 46 13.4**	**-0.4**
	baz=234						
CRAG	**Craig**	**21.91**	**67**		**P**	**00 46 15.6**	**+1.4**
CRAG	**Craig**	**21.91**	**67**	P	**P**	**00 46 15.7**	**+1.4**
CRAG	**Craig**	**21.91**	**67**	P	**P**	**00 46 12.9**	**-1.4**
	baz=277						
E28M	**Babbage River**	**21.92**	**30**	IAMs_20	IAMs_20	00 55 45.2	
	comp=Z,18µm,18.0s						
E28M	**Babbage River**	**21.92**	**30**	P	**P**	**00 46 14.1**	**-0.3**
	baz=237,SNR=26						
N32M	**Quiet Lake**	**21.94**	**51**	P	**P**	**00 46 14.2**	**-0.5**
	baz=263,SNR=79						
P33M	**Teslin, Yukon**	**21.98**	**54**	IAmb	IAmb	00 46 23.4	
	comp=Z,198nm,0.8s						
P33M	**Teslin, Yukon**	**21.98**	**54**	P	**P**	**00 46 15.9**	**+0.8**
	baz=266,SNR=128						
Q32M	**Nakina River**	**22.19**	**57**	IAmb	IAmb	00 46 24.6	
	comp=Z,158nm,0.8s						
Q32M	**Nakina River**	**22.19**	**57**	P	**P**	**00 46 17.3**	**-0.3**
	baz=269,SNR=47						
G30M	**tAoh Zraii Nji**	**22.24**	**35**	P	**P**	**00 46 16.9**	**-0.9**
G30M				IAMs_20	IAMs_20	00 55 49.0	
	comp=Z,19µm,18.0s						
G30M	**tAoh Zraii Nji**	**22.24**	**35**	P	**P**	**00 46 15.7**	**-2.1**
	baz=245,SNR=50						
WRAK	**Wrangell Islan**	**22.24**	**64**	P	**P**	**00 46 18.5**	**+0.6**
WRAK	**Wrangell Islan**	**22.24**	**64**	P	**P**	**00 46 18.2**	**+0.3**
	baz=275,SNR=8.3						
E29M	**Blow River**	**22.32**	**31**	P	**P**	**00 46 18.4**	**-0.3**
	baz=240,SNR=43						
SEY	**Seymchan**	**22.42**	**313**	LR	LR	00 54 41.1	
	comp=Z,10µm,20.6s,baz=98,slow=36						
SEY	**Seymchan**	**22.42**	**313**	⇓*i*P	**P**	**00 46 19.8**	**+0.1**
SEY				pmax	pmax		
	comp=Z,31nm,0.7s						
H31M	**Peel River**	**22.49**	**39**		**P**	**00 46 18.2**	**-2.2**
H31M				IAMs_20	IAMs_20	00 55 47.4	
	comp=Z,19µm,19.0s						
H31M	**Peel River**	**22.49**	**39**	P	**P**	**00 46 19.0**	**-1.5**
	baz=250,SNR=39						
D28M	**Stokes Point**	**22.56**	**29**	P	**P**	**00 46 18.5**	**-2.7**
	baz=237						
F30M	**Barrier River**	**22.66**	**34**	P	**P**	**00 46 20.7**	**-1.5**
	baz=244,SNR=19						
DIB	**Dawson Inlet,**	**22.67**	**72**		**P**	**00 46 22.2**	**-0.3**
H02S2	**DAWSON INLET T**	**22.67**	**72**	T	T	01 09 51.2	
	SNR=17						
V35K	**Ketchikan**	**22.78**	**67**	P	**P**	**00 46 23.2**	**-0.4**
V35K	**Ketchikan**	**22.78**	**67**	P	**P**	**00 46 24.0**	**+0.3**
	baz=278,SNR=9.8						
S34M	**Telegraph Cree**	**22.80**	**60**	IAmb	IAmb	00 46 33.9	
	comp=Z,115nm,0.8s						
S34M	**Telegraph Cree**	**22.80**	**60**	P	**P**	**00 46 25.0**	**+1.1**
	baz=273,SNR=50						
MA2	**Magadan**	**22.83**	**304**		**P**	**00 46 24.2**	**+0.1**
MA2				IAmb	IAmb	00 46 27.2	
	comp=Z,157nm,1.3s						
MA2	**Magadan**	**22.83**	**304**	LR	LR	00 54 28.9	
	comp=Z,6µm,21.9s,baz=92,slow=35						
MA2	**Magadan**	**22.83**	**304**	P	**P**	**00 46 24.8**	**+0.7**
MA2	**Magadan**	**22.83**	**304**	*ce*P	**P**	**00 46 25.8**	**+1.7**
MA2				pmax	pmax		
	comp=Z,84nm,0.8s						
MA2	**Magadan**	**22.83**	**304**	P	**P**	**00 46 24.1**	**0.0**
	comp=Z,2µmcomp=Z,127nm,0.8s						
R33M	**Jennings River**	**22.87**	**56**	P	**P**	**00 46 25.0**	**+0.3**
	baz=269,SNR=150						
G31M	**Satah River**	**22.92**	**36**	P	**P**	**00 46 24.1**	**-0.8**
G31M				IAmb	IAmb	00 46 45.0	
	comp=Z,293nm,1.8s						
G31M				IAMs_20	IAMs_20	00 55 59.7	
	comp=Z,15µm,18.0s						
G31M	**Satah River**	**22.92**	**36**	P	**P**	**00 46 24.1**	**-0.8**
	baz=248,SNR=30						
MOBC	**Moresby Island**	**22.98**	**72**	P	**P**	**00 46 26.9**	**+1.1**
MMPY	**Sheldon Lake,**	**23.00**	**48**	IAmb	IAmb	00 46 30.4	
	comp=Z,257nm,1.3s						
MMPY	**Sheldon Lake,**	**23.00**	**48**	P	**P**	**00 46 26.0**	**0.0**
	baz=261,SNR=68						
F31M	**Tsiigehtchic**	**23.31**	**35**	IAMs_20	IAMs_20	00 56 23.1	
	comp=Z,18µm,19.0s						
F31M	**Tsiigehtchic**	**23.31**	**35**	P	**P**	**00 46 26.1**	**-2.7**
	baz=248,SNR=25						
T35M	**Bob Quinn**	**23.34**	**62**	IAmb	IAmb	00 46 34.3	
	comp=Z,194nm,1.1s						
T35M	**Bob Quinn**	**23.34**	**62**	P	**P**	**00 46 30.4**	**+1.1**
	baz=276,SNR=59						
DLBC	**Dease Lake**	**23.37**	**59**	LR	LR	00 55 53.0	
	comp=Z,46µm,19.8s,baz=276,slow=37						
DLBC	**Dease Lake**	**23.37**	**59**	P	**P**	**00 46 30.5**	**+0.9**
	baz=272,SNR=100						
INK	**Inuvik**	**23.73**	**33**		**P**	**00 46 32.1**	**-0.7**
INK				IAmb	IAmb	00 46 34.5	
	comp=Z,165nm,1.4s						
INK	**Inuvik**	**23.73**	**33**	LR	LR	00 56 56.4	
	comp=Z,19µm,18.0s,baz=238,slow=39						
INK	**Inuvik**	**23.73**	**33**	P	**P**	**00 46 32.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,165nm,1.4s						
INK	**Inuvik**	**23.73**	**33**	P	**P**	**00 46 31.4**	**-1.3**
	baz=246,SNR=58						
RUBB	**Prince Rupert**	**23.73**	**69**	P	**P**	**00 46 33.6**	**+0.7**
RUBB				IAmb	IAmb	00 46 37.2	
	comp=Z,195nm,1.3s						
WTLY	**Watson Lake, Y**	**23.98**	**54**	P	**P**	**00 46 36.5**	**+1.2**
WTLY				IAmb	IAmb	00 46 39.3	
	comp=Z,458nm,1.9s						
WTLY	**Watson Lake, Y**	**23.98**	**54**	P	**P**	**00 46 35.7**	**+0.4**
	baz=270,SNR=27						
TGTN	**Hyland Airport**	**24.29**	**51**	P	**P**	**00 46 37.9**	**-0.2**
	baz=267,SNR=64						
LIRD	**Liard River Hi**	**25.36**	**56**	P	**P**	**00 46 48.6**	**+0.8**
	baz=273,SNR=54						
BBB	**Bella Bella**	**25.50**	**73**	P	**P**	**00 46 50.0**	**+0.9**
BBB				IAmb	IAmb	00 46 53.3	
	comp=Z,144nm,1.3s						
BBB	**Bella Bella**	**25.50**	**73**	LR	LR	00 54 39.0	
	comp=Z,3µm,21.2s,baz=293,slow=31						
TOAD	**Toad River Com**	**25.84**	**57**	P	**P**	**00 46 52.4**	**+0.1**
	baz=275,SNR=69						
KOTAN	**Kotaneelee Air**	**26.35**	**54**	P	**P**	**00 46 58.1**	**+1.3**
	baz=274,SNR=79						
WRGLY	**Wrigley**	**26.61**	**47**	P	**P**	**00 46 59.3**	**+0.3**
WRGLY				IAmb	IAmb	00 47 39.9	
	comp=Z,246nm,1.3s						
WRGLY	**Wrigley**	**26.61**	**47**	P	**P**	**00 47 00.1**	**+1.0**
	baz=268,SNR=19						
C36M	**Paulatuk**	**27.31**	**34**	IAMs_20	IAMs_20	00 58 53.3	
	comp=Z,13µm,18.0s						
C36M	**Paulatuk**	**27.31**	**34**	P	**P**	**00 47 04.7**	**-0.6**
	baz=255						
A36M	**Sachs Harbour**	**27.77**	**28**	P	**P**	**00 47 09.7**	**+0.4**
A36M				IAmb	IAmb	00 47 52.0	
	comp=Z,73nm,1.0s						
A36M	**Sachs Harbour**	**27.77**	**28**	P	**P**	**00 47 08.7**	**-0.6**
	baz=249						
OZB	**Mount Ozzard**	**28.19**	**79**	P	**P**	**00 47 14.6**	**+1.1**
OZB				IAmb	IAmb	00 47 19.9	
	comp=Z,93nm,1.2s						
TYV	**Tymovskoe**	**28.98**	**286**	*e*P	**P**	**00 47 19.1**	**-1.2**
TYV				*e*S	**S**	**00 52 07.3**	**-0.9**
TYV				pmax	pmax		
	comp=Z,16nm,1.0s						
TYV				pmax	pmax		
	comp=Z,400nm,5.0s						
TYV				smax	smax		
	comp=N,300nm,3.4s						
TYV				smax	smax		
	comp=E,700nm,3.4s						
TYV				MLR	MLR		
	comp=Z,5µm,19.0s						
CLRS	**Cowichan Lake**	**29.07**	**78**	IAmb	IAmb	00 47 25.4	
	comp=Z,76nm,1.1s						
PGC	**Sidney**	**29.55**	**78**	P	**P**	**00 47 28.1**	**+2.8**
LLLB	**Lillooet**	**29.71**	**74**	P	**P**	**00 47 28.3**	**+1.5**
NLWA	**Neilton Lookou**	**29.85**	**81**	P	**P**	**00 47 30.0**	**+1.9**
NLWA				IAmb	IAmb	00 47 32.7	
	comp=Z,84nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**30.08**	**272**	*e*P	**P**	**00 47 29.0**	**-1.1**
YUK				*e*S	**S**	**00 52 20.2**	**-5.3**
YUK				SS	**SnSn**	**00 54 00.4**	**-0.1**
YUK				SSS	SSS	00 54 19.1	
YUK				pmax	pmax		
	comp=Z,592nm,1.1s						
YUK				pmax	pmax		
	comp=N,388nm,0.8s						
RADR	**Rader Ridge**	**30.34**	**82**	P	**P**	**00 47 34.3**	**+1.9**
GNW	**Green Mountain**	**30.40**	**80**	P	**P**	**00 47 35.1**	**+2.2**
GNW				IAmb	IAmb	00 47 37.4	
	comp=Z,72nm,1.2s						
E03A	**Lebam**	**30.42**	**82**	P	**P**	**00 47 34.4**	**+1.3**
E03A				IAmb	IAmb	00 47 37.5	
	comp=Z,85nm,1.0s						
YSS	**Yuzhno-Sakhali**	**30.55**	**279**	*e*P	**P**	**00 47 31.3**	**-2.9**
YSS				*e*		00 48 32.7	
YSS				*e*S	**S**	**00 52 24.4**	**-8.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				pmax	pmax		
	comp=N,200nm,4.8s						
YSS				pmax	pmax		
	comp=Z,300nm,4.8s						
YSS				MLR	MLR		
	comp=Z,2µm,15.0s						
YSS				MLR	MLR		
	comp=E,2µm,16.0s						
YKAW3	**Yellowknife Wh**	**30.68**	**48**	IAmb	IAmb	00 47 38.0	
	comp=Z,33nm,0.8s						
YKA	**Yellowknife Ar**	**30.70**	**49**	P	**P**	**00 47 35.8**	**+0.4**
YKA	**Yellowknife Ar**	**30.70**	**49**	P	**P**	**00 47 33.9**	**-1.4**
	comp=Z,12nm,0.7s,baz=122,slow=9.4,SNR=49						
YKA				PcP	**PcP**	**00 50 33.6**	**+1.5**
	comp=Z,3.1nm,0.7s,baz=286,slow=3.5,SNR=4.1						
YKA				LR	LR	01 01 27.6	
	comp=Z,7µm,18.2s,baz=272,slow=39						
	comp=Z,12nm,0.7s						
YKAW1	**Yellowknife Wh**	**30.75**	**49**	P	**P**	**00 47 36.6**	**+0.7**
YKAW1				IAmb	IAmb	00 47 44.8	
	comp=Z,34nm,0.9s						
D05A	**Enumclaw**	**31.08**	**80**	P	**P**	**00 47 40.8**	**+1.9**
I02E	**Swisshome, OR**	**31.46**	**86**	P	**P**	**00 47 44.9**	**+2.6**
I02E				IAmb	IAmb	00 47 46.6	
	comp=Z,60nm,1.0s						
COR	**Corvallis**	**31.55**	**85**	P	**P**	**00 47 44.6**	**+1.6**
COR				IAmb	IAmb	00 48 02.6	
	comp=Z,98nm,1.4s						
COR	**Corvallis**	**31.55**	**85**	IAMs_20	IAMs_20	00 56 53.6	
	comp=Z,7µm,22.0s						
COR	**Corvallis**	**31.55**	**85**	P	**P**	**00 47 44.6**	**+1.6**
COR				pmax	pmax		
	comp=Z,98nm,1.4s						
G04A	**Mulino**	**31.74**	**83**	P	**P**	**00 47 46.5**	**+1.8**
G04A				IAmb	IAmb	00 47 48.8	
	comp=Z,101nm,1.0s						
LTY	**Liberty**	**31.84**	**79**	P	**P**	**00 47 46.6**	**+0.9**
LTY				IAmb	IAmb	00 47 49.5	
	comp=Z,62nm,1.3s						
H04D	**Lebanon**	**31.93**	**85**	P	**P**	**00 47 48.0**	**+1.6**
H04D				IAmb	IAmb	00 48 08.1	
	comp=Z,93nm,1.5s						
I03D	**Drain, OR**	**31.98**	**87**	P	**P**	**00 47 48.6**	**+1.7**
JKA	**Kamikawa-asahi**	**32.04**	**274**	P	**P**	**00 47 48.8**	**+1.3**
JKA				IAmb	IAmb	00 48 18.2	
	comp=Z,95nm,1.4s						
ASAJ	**Asahikawa**	**32.04**	**274**	LR	LR	01 00 06.5	
	comp=Z,4µm,21.2s,baz=76,slow=35						
ASAJ	**Asahikawa**	**32.04**	**274**	P	**P**	**00 47 48.8**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,95nm,1.4s						
B08A	**Colville Reser**	**32.15**	**76**	P	**P**	**00 47 49.1**	**+0.7**
B08A				IAmb	IAmb	00 47 52.3	
	comp=Z,84nm,0.9s						
H04A	**Detroit Lake**	**32.18**	**84**	P	**P**	**00 47 50.3**	**+1.6**
H04A				IAmb	IAmb	00 48 09.2	
	comp=Z,54nm,1.1s						
HOOD	**Mount Hood Mea**	**32.18**	**83**	P	**P**	**00 47 49.4**	**+0.5**
HOOD				IAmb	IAmb	00 48 07.5	
	comp=Z,54nm,0.9s						
HON	**Honolulu**	**32.25**	**158**	P	**P**	**00 47 51.0**	**+1.6**
HON	**Honolulu**	**32.25**	**158**	P	**P**	**00 47 51.0**	**+1.6**
HON				pmax	pmax		
	comp=Z,194nm,0.9s						
K02D	**Willamette Mer**	**32.33**	**88**	P	**P**	**00 47 51.7**	**+1.6**
MXC	**Moxie City**	**32.39**	**80**	P	**P**	**00 47 50.7**	**+0.2**
MXC				IAmb	IAmb	00 47 54.6	
	comp=Z,47nm,1.1s						
G05A	**Wamic**	**32.43**	**83**	P	**P**	**00 47 52.1**	**+1.3**
G05A				IAmb	IAmb	00 48 15.6	
	comp=Z,90nm,1.0s						
I04A	**Tendick Farm,**	**32.51**	**86**	P	**P**	**00 47 53.1**	**+1.5**
I04A				IAmb	IAmb	00 48 10.6	
	comp=Z,40nm,1.0s						
TIXI	**Tiksi**	**32.61**	**329**	P	**P**	**00 47 51.2**	**-0.9**
TIXI				IAmb	IAmb	00 48 11.7	
	comp=Z,21nm,0.3s						
TIXI				IAMs_20	IAMs_20	01 03 20.0	
	comp=Z,5µm,18.0s						
TIXI	**Tiksi**	**32.61**	**329**	LR	LR	01 01 48.9	
	comp=Z,4µm,20.9s,baz=112,slow=38						
TIXI	**Tiksi**	**32.61**	**329**	⇓*i*P	**P**	**00 47 51.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,17nm,1.4s						
E07A	**Sunnyside**	**32.67**	**80**	P	**P**	**00 47 54.1**	**+1.1**
E07A				IAmb	IAmb	00 47 57.0	
	comp=Z,156nm,1.8s						
GRNR	**Gornyy**	**32.67**	**289**	⇑*i*P	**P**	**00 47 51.4**	**-1.5**
GRNR				pmax	pmax		
	comp=Z,20nm,1.2s						
GRNR				MLR	MLR		
	comp=N,2µm,18.0s						
GRNR				MLR	MLR		
	comp=E,2µm,18.0s						
GRNR				MLR	MLR		
	comp=Z,3µm,20.0s						
L02F	**Cave Junction**	**32.71**	**89**	P	**P**	**00 47 53.9**	**+0.6**
WIFE	**Three Sisters-**	**32.73**	**85**	P	**P**	**00 47 54.7**	**+1.0**
WIFE				IAmb	IAmb	00 48 12.8	
	comp=Z,52nm,1.1s						
WAH2	**Wahluke Slope**	**32.75**	**79**	P	**P**	**00 47 53.9**	**+0.4**
WAH2				IAmb	IAmb	00 47 57.4	
	comp=Z,86nm,0.9s						
BBOR	**Butler Butte**	**32.83**	**87**	P	**P**	**00 47 55.1**	**+0.5**
ERM	**Erimo**	**32.84**	**271**	P	**P**	**00 47 55.8**	**+1.4**
ERM				IAmb	IAmb	00 48 00.2	
	comp=Z,63nm,0.8s						
ERM	**Erimo**	**32.84**	**271**	IAMs_20	IAMs_20	00 59 16.6	
	comp=Z,8µm,22.0s						
ERM	**Erimo**	**32.84**	**271**	P	**P**	**00 47 55.7**	**+1.3**
ERM	**Erimo**	**32.84**	**271**	P	**P**	**00 47 55.8**	**+1.4**
ERM				pmax	pmax		
	comp=Z,63nm,0.8s						
JEM	**Erimo**	**32.84**	**271**	P	**P**	**00 47 55.8**	**+1.4**
G06A	**Carlson Farm,**	**32.85**	**82**	P	**P**	**00 47 55.0**	**+0.5**
G06A				IAmb	IAmb	00 48 11.5	
	comp=Z,66nm,1.4s						
I05D	**Terrebonne, OR**	**32.88**	**84**	P	**P**	**00 47 55.7**	**+0.9**
I05D				IAmb	IAmb	00 48 16.2	
	comp=Z,165nm,1.6s						
YAK	**Yakutsk**	**32.91**	**311**	P	**P**	**00 47 53.4**	**-1.4**
YAK				IAmb	IAmb	00 47 55.9	
	comp=Z,65nm,0.7s						
YAK	**Yakutsk**	**32.91**	**311**	IAMs_20	IAMs_20	01 00 43.9	
	comp=Z,8µm,22.0s						
YAK	**Yakutsk**	**32.91**	**311**	LR	LR	01 01 02.9	
	comp=Z,7µm,21.7s,baz=84,slow=36						
YAK	**Yakutsk**	**32.91**	**311**	⇑*e*P	**P**	**00 47 53.2**	**-1.6**
YAK				pmax	pmax		
	comp=Z,90nm,1.0s						
HAWA	**Hanford**	**32.94**	**80**	P	**P**	**00 47 56.7**	**+1.4**
HAWA				IAmb	IAmb	00 47 59.3	
	comp=Z,96nm,1.1s						
F07A	**Phinny Hill Vi**	**32.95**	**81**	P	**P**	**00 47 56.4**	**+1.1**
F07A				IAmb	IAmb	00 47 59.5	
	comp=Z,104nm,1.2s						
KRPM	**Rodgers**	**32.98**	**91**	P	**P**	**00 47 57.5**	**+1.7**
KRPM				IAmb	IAmb	00 48 48.0	
	comp=Z,61nm,1.2s						
J04A	**Umpqua Nationa**	**32.99**	**86**	P	**P**	**00 47 57.3**	**+1.3**
J04A				IAmb	IAmb	00 48 19.5	
	comp=Z,51nm,0.9s						
D08A	**Wollman Farm,**	**32.99**	**78**	P	**P**	**00 47 56.8**	**+1.1**
D08A				IAmb	IAmb	00 47 59.3	
	comp=Z,62nm,0.9s						
C09A	**Chrisman Ranch**	**33.03**	**77**	P	**P**	**00 47 57.2**	**+1.1**
C09A				IAmb	IAmb	00 47 59.7	
	comp=Z,86nm,1.1s						
KMPM	**Mount Pierce**	**33.36**	**92**	P	**P**	**00 48 00.2**	**+1.1**
KMPM				IAmb	IAmb	00 48 32.7	
	comp=Z,55nm,0.9s						
PINE	**Pine Mountain**	**33.41**	**85**	P	**P**	**00 48 00.1**	**+0.5**
PINE				IAmb	IAmb	00 48 21.5	
	comp=Z,90nm,1.5s						
L04D	**Klamath Falls**	**33.43**	**88**	P	**P**	**00 48 00.2**	**+0.5**
YPT	**Yellepit**	**33.46**	**80**	P	**P**	**00 48 00.8**	**+1.0**
YPT				IAmb	IAmb	00 48 03.5	
	comp=Z,69nm,0.9s						
YBH	**Yreka Blue Hor**	**33.46**	**89**	P	**P**	**00 48 01.3**	**+1.4**
YBH	**Yreka Blue Hor**	**33.46**	**89**	LR	LR	00 58 32.6	
	comp=Z,343nm,20.7s,baz=292,slow=31						
YBH	**Yreka Blue Hor**	**33.46**	**89**	P	**P**	**00 48 01.3**	**+1.4**
YBH				pmax	pmax		
	comp=Z,21nm,1.1s						
J05D	**Fort Rock, OR**	**33.50**	**86**	P	**P**	**00 48 02.0**	**+1.7**
NEW	**Newport**	**33.51**	**75**	P	**P**	**00 48 00.9**	**+0.7**
NEW				IAmb	IAmb	00 48 03.6	
	comp=Z,120nm,1.2s						
NEW	**Newport**	**33.51**	**75**	LR	LR	01 01 12.9	
	comp=Z,2µm,18.3s,baz=298,slow=36						
NEW	**Newport**	**33.51**	**75**	P	**P**	**00 48 01.0**	**+0.7**
NEW				pmax	pmax		
	comp=Z,120nm,1.2s						
K04D	**Chiloquin, OR**	**33.55**	**87**	P	**P**	**00 48 02.5**	**+1.7**
K04D				IAmb	IAmb	00 48 45.9	
	comp=Z,40nm,0.8s						
M02C	**Callahan**	**33.56**	**90**	P	**P**	**00 48 03.2**	**+2.4**
M02C				IAmb	IAmb	00 49 05.9	
	comp=Z,81nm,1.6s						
E09A	**Wood Farm, Sta**	**33.72**	**79**	P	**P**	**00 48 03.1**	**+1.1**
KMRM	**Mail Ridge**	**33.73**	**92**	P	**P**	**00 48 03.1**	**+0.8**
KHBM	**Hayfork Bally**	**33.77**	**91**	P	**P**	**00 48 04.4**	**+1.7**
G08A	**Pilot Rock**	**33.84**	**81**	P	**P**	**00 48 04.2**	**+1.0**
G08A				IAmb	IAmb	00 48 06.8	
	comp=Z,50nm,1.2s						
N02D	**Trinity Center**	**33.90**	**90**	P	**P**	**00 48 05.6**	**+1.8**
LNOR	**Lincton Mounta**	**33.95**	**80**	P	**P**	**00 48 05.3**	**+1.1**
LNOR				IAmb	IAmb	00 48 08.0	
	comp=Z,84nm,1.3s						
K05A	**Summer Lake**	**34.02**	**86**	P	**P**	**00 48 06.7**	**+1.8**
K05A				IAmb	IAmb	00 48 22.8	
	comp=Z,55nm,0.9s						
M03C	**McCloud**	**34.08**	**89**	P	**P**	**00 48 06.9**	**+1.5**
KCPM	**Cahto Peak**	**34.12**	**93**	P	**P**	**00 48 07.3**	**+1.5**
KCPM				IAmb	IAmb	00 49 05.2	
	comp=Z,45nm,1.1s						
I07A	**Izee**	**34.13**	**83**	P	**P**	**00 48 07.1**	**+1.3**
I07A				IAmb	IAmb	00 48 09.8	
	comp=Z,78nm,1.1s						
O02D	**Mt. Diablo Mer**	**34.32**	**91**	P	**P**	**00 48 08.7**	**+1.3**
POHA	**Pohakuloa**	**34.36**	**155**	P	**P**	**00 48 09.0**	**+1.0**
POHA				IAmb	IAmb	00 48 23.8	
	comp=Z,73nm,0.9s						
POHA	**Pohakuloa**	**34.36**	**155**	IAMs_20	IAMs_20	00 59 39.6	
	comp=Z,8µm,21.0s						
DCMP	**DeCamp, Califo**	**34.41**	**93**	P	**P**	**00 48 09.3**	**+1.2**
HMH	**Humu'ula Sheep**	**34.52**	**155**	P	**P**	**00 48 11.5**	**+2.0**
F10A	**Beach Ranch, E**	**34.54**	**79**	P	**P**	**00 48 09.0**	**-0.3**
F10A				IAmb	IAmb	00 48 30.8	
	comp=Z,32nm,0.9s						
MLH	**Mauna Loa**	**34.65**	**155**	P	**P**	**00 48 12.5**	**+1.9**
AIN	**Ainahou**	**34.74**	**155**	P	**P**	**00 48 13.1**	**+1.7**
HATHI	**Halema'uma'u T**	**34.75**	**155**	P	**P**	**00 48 12.5**	**+1.3**
HATHI				IAmb	IAmb	00 48 27.0	
	comp=Z,85nm,1.0s						
HATC	**Hat Creek Radi**	**34.76**	**89**	P	**P**	**00 48 13.4**	**+2.2**
HATC				IAmb	IAmb	00 49 08.1	
	comp=Z,76nm,1.1s						
BYL	**Byron's Ledge**	**34.76**	**155**	P	**P**	**00 48 13.2**	**+1.8**
STCH	**Steam Cracks**	**34.82**	**155**	P	**P**	**00 48 13.3**	**+1.5**
STCH				IAmb	IAmb	00 49 32.9	
	comp=Z,72nm,1.1s						
JTM	**Tenmabayashi**	**34.84**	**271**	P	**P**	**00 48 12.2**	**+0.5**
O03E	**Paynes Creek**	**34.85**	**90**	P	**P**	**00 48 12.9**	**+0.8**
O03E				IAmb	IAmb	00 48 50.7	
	comp=Z,74nm,1.2s						
HOPS	**Hopland Field**	**34.86**	**93**	P	**P**	**00 48 12.0**	**0.0**
HOPS				IAmb	IAmb	00 48 16.0	
	comp=Z,44nm,1.2s						
HOPS				IAMs_20	IAMs_20	00 59 19.8	
	comp=Z,5µm,20.0s						
BMO	**Blue Mountains**	**35.07**	**81**	P	**P**	**00 48 14.7**	**+0.8**
BMO				IAmb	IAmb	00 48 17.6	
	comp=Z,78nm,1.5s						
BMO	**Blue Mountains**	**35.07**	**81**	P	**P**	**00 48 14.7**	**+0.8**
BMO				pmax	pmax		
	comp=Z,78nm,1.5s						
GDXM	**Geysers**	**35.14**	**93**	P	**P**	**00 48 16.1**	**+1.6**
MNRC	**McLaughlin Min**	**35.32**	**93**	P	**P**	**00 48 17.9**	**+1.9**
MNRC				IAmb	IAmb	00 49 35.0	

ZEA MLR MLR
comp=N,1μm,18.0s
ZEA MLR MLR
comp=Z,2μm,17.0s
WELL Weller Preserv 36.65 92 P **P 00 48 28.4 +1.1**
PAHR Pah Rah Range 36.69 89 P **P 00 48 29.2 +1.3**
PAHR IAmb IAmb 00 48 31.8
comp=Z,73nm,1.2s
RES Resolute Bay 36.71 25 LR LR 01 05 57.3
comp=Z,6μm,20.4s,baz=262,slow=40
MFID Camas Ranch 36.74 82 IAmb IAmb 00 48 30.9
comp=Z,45nm,0.8s
PNTR Pine Nut 36.94 90 IAmb IAmb 00 48 42.3
comp=Z,60nm,0.9s
H11N2 WAKE ISLAND Hy 37.05 218 T T 01 28 06.8
baz=22,slow=76,SNR=112
H11N3 WAKE ISLAND Hy 37.05 218 T T 01 28 10.1
SNR=145
H11N1 WAKE ISLAND Hy 37.06 218 T T 01 28 08.2
baz=12,slow=76,SNR=120
CMB Columbia Colle 37.10 92 P **P 00 48 32.7 +1.4**
CMB Columbia Colle 37.10 92 P **P 00 48 32.7 +1.4**
CMB pmax pmax
comp=Z,16nm,1.0s
FORD Fort Ord Natur 37.11 95 IAMs_20 IAMs_20 00 59 14.4
comp=Z,5μm,21.0s
SAO San Andreas Ge 37.26 95 P **P 00 48 33.1 +0.6**
SAO IAMs_20 IAMs_20 00 59 32.5
comp=Z,5μm,21.0s
SAO San Andreas Ge 37.26 95 P **P 00 48 33.1 +0.6**
SAO pmax pmax
comp=Z,18nm,1.1s
WAKR Walker 37.40 91 P **P 00 48 35.7 +1.8**
HLID Hailey 37.51 81 IAmb IAmb 00 48 38.5
comp=Z,42nm,1.0s
WAKE Wake Island 37.55 218 IAMs_20 IAMs_20 00 59 41.1
comp=Z,7μm,22.0s
BBGB Big Mountain B 37.63 95 P **P 00 48 37.8 +2.0**
BBGB IAmb IAmb 00 48 51.3
comp=Z,81nm,1.1s
HULI Fort Hunter Li 37.87 96 P **P 00 48 39.0 +1.3**
HULI IAmb IAmb 00 49 16.9
comp=Z,54nm,0.9s
HEH HeiHe 38.07 293 *e*P **P 00 48 37.0 -2.2**
HEH pP **pP 00 48 47.8 -2.7**
HEH PcP **PcP 00 50 53.8 +0.2**
HEH pmax pmax
comp=Z,110nm,0.7s
HEH LR LR
comp=Z,6μm,18.1s
HEH LR LR
comp=Z,2μm,17.5s
HEH LR LR
comp=Z,6μm,18.2s
BOZ Bozeman (W) 38.10 76 IAmb IAmb 00 48 42.8
comp=Z,114nm,1.4s
LHV Little Huntoon 38.13 91 P **P 00 48 41.5 +1.7**
LHV IAmb IAmb 00 48 59.4
comp=Z,63nm,1.4s
NVAR Mina Array Bea 38.14 90 P **P 00 48 41.4 +1.2**
comp=Z,26nm,0.8s,baz=296,slow=8.2,SNR=151
NVAR PcP **PcP 00 50 55.0 +0.7**
comp=Z,3.4nm,0.7s,baz=300,slow=2.3,SNR=4.0
NVAR ScP **ScP 00 54 39.9 +1.5**
comp=Z,1.6nm,0.7s,baz=316,slow=3.9,SNR=5.4
NVAR LR LR 01 02 06.3
comp=Z,2μm,20.4s,baz=298,slow=32
comp=Z,26nm,0.8s
MDPB Devils Postpil 38.16 92 IAmb IAmb 00 48 44.1
comp=Z,39nm,0.8s
JSD Sado 38.23 269 P **P 00 48 40.3 -0.4**
JSD IAmb IAmb 00 48 42.5
comp=Z,32nm,0.7s
H11S1 WAKE ISLAND Hy 38.24 217 T T 01 29 51.4
baz=23,slow=76,SNR=2910
H11S2 WAKE ISLAND Hy 38.25 217 T T 01 29 52.0
baz=23,slow=76,SNR=1984
H11S3 WAKE ISLAND Hy 38.25 217 T T 01 29 52.6
baz=23,slow=76,SNR=1108
PKD Bear Valley Ra 38.35 95 P **P 00 48 42.7 +0.9**
USRK Ussuriysk Ar. 38.45 282 P **P 00 48 41.2 -1.3**
comp=Z,14nm,0.7s,baz=61,slow=9.5,SNR=20
USRK PcP **PcP 00 50 56.6 +1.7**
comp=Z,9.3nm,0.7s,baz=68,slow=2.6,SNR=8.6
comp=Z,14nm,0.7s
BLKN Baker Lake 38.48 42 IAmb IAmb 00 48 44.0
comp=Z,28nm,0.5s
Q09A Carvers 38.58 89 P **P 00 48 45.5 +1.7**
Q09A IAmb IAmb 00 48 47.4
comp=Z,69nm,0.8s
ELK Elko 38.62 85 IAMs_20 IAMs_20 01 02 33.8
comp=Z,4μm,20.0s
ELK Elko 38.62 85 LR LR 01 03 24.5
comp=Z,4μm,19.3s,baz=308,slow=34
YHL Hebgen Lake 38.76 77 P **P 00 48 46.3 +0.8**
YHL IAmb IAmb 00 48 48.7
comp=Z,121nm,1.4s
YHB Horse Butte 38.81 77 P **P 00 48 46.7 +0.9**
YHB IAmb IAmb 00 48 48.3
comp=Z,53nm,0.9s
YMR Madison River 38.99 77 P **P 00 48 48.3 +1.0**
YMR IAmb IAmb 00 48 50.0
comp=Z,48nm,0.7s
TIN Tinemaha, Big 39.05 92 IAmb IAmb 00 48 52.0
comp=Z,139nm,1.1s
TIN IAMs_20 IAMs_20 01 00 52.7
comp=Z,5μm,22.0s
YNM Yellowstone No 39.12 77 P **P 00 48 50.1 +1.7**
YNM IAmb IAmb 00 48 52.1
comp=Z,75nm,1.1s
VLA Vladivostok 39.12 280⇑ *e*P **P 00 48 49.0 +0.9**
VLA pmax pmax
comp=Z,64nm,0.7s
YNR Norris Junctio 39.14 77 IAmb IAmb 00 48 52.3
comp=Z,121nm,1.1s
YFT Old Faithful 39.19 77 P **P 00 48 50.5 +1.6**
FFC Flin Flon 39.20 58 P **P 00 48 49.1 +0.4**
FFC IAmb IAmb 00 48 51.4
comp=Z,99nm,1.4s
FFC Flin Flon 39.20 58 IAMs_20 IAMs_20 01 04 51.5
comp=Z,4μm,20.0s
FFC Flin Flon 39.20 58 P **P 00 48 49.1 +0.4**
FFC pmax pmax
comp=Z,99nm,1.5s
FFC MLR MLR
comp=Z,4μm,20.0s
MJAR Matsushiro Arr 39.21 267 P **P 00 48 49.5 +0.5**
MJAR Matsushiro Arr 39.21 267 P **P 00 48 49.0 +0.1**
comp=Z,21nm,0.8s,baz=49,slow=7.4,SNR=38
MJAR PcP **PcP 00 50 58.2 +0.8**
comp=Z,9.6nm,0.8s,baz=90,slow=2.7,SNR=6.2
MJAR LR LR 01 03 02.7
comp=Z,4μm,22.0s,baz=55,slow=33
comp=Z,21nm,0.8s
MJAR Matsushiro Arr 39.21 267 P **P 00 48 49.5 +0.5**
MJAR 00 50 58.2
MJAR pmax pmax
comp=Z,30nm,1.4s
MAJO Matsushiro 39.21 267 P **P 00 48 49.6 +0.6**
MAJO IAmb IAmb 00 48 52.6
comp=Z,52nm,0.7s
MAJO Matsushiro 39.21 267 P **P 00 48 50.9 +1.9**
MAJO Matsushiro 39.21 267 P **P 00 48 49.6 +0.6**
MAJO pmax pmax
comp=Z,52nm,0.7s
MJB9 Matsu-Tunnel 39.21 267 P **P 00 48 50.5 +1.5**
MJB9 IAmb IAmb 00 48 53.8
comp=Z,63nm,0.7s
YPP Pitchstone Pla 39.30 77 P **P 00 48 51.3 +1.2**
VES Vestal, Richgr 39.31 94 P **P 00 48 50.8 +1.0**
VES IAmb IAmb 00 48 52.9
comp=Z,250nm,1.8s
VES IAMs_20 IAMs_20 01 00 57.7
comp=Z,5μm,21.0s
H17A Grant Village 39.37 77 P **P 00 48 51.8 +1.3**
H17A IAmb IAmb 00 48 55.1
comp=Z,68nm,1.1s
YNE Yellowstone No 39.38 76 P **P 00 48 51.3 +0.7**
LKWY Lake 39.38 77 P **P 00 48 52.3 +1.7**
LKWY IAmb IAmb 00 48 54.4
comp=Z,74nm,0.8s
LKWY Lake 39.38 77 P **P 00 48 52.3 +1.7**
LKWY pmax pmax
comp=Z,74nm,0.9s
YMP Mirror Lake Pl 39.44 76 P **P 00 48 51.0 -0.1**
YMP IAmb IAmb 00 48 53.9
comp=Z,49nm,0.9s
FLWY Flagg Ranch 39.47 77 P **P 00 48 51.8 +0.5**
FLWY IAmb IAmb 00 48 55.1
comp=Z,53nm,1.0s
FXWY Fox Creek 39.52 78 P **P 00 48 52.5 +0.8**
CWC Cottonwood Cre 39.54 92 IAMs_20 IAMs_20 01 01 01.6
comp=Z,5μm,22.0s
MOOW Moose Ponds 39.63 78 P **P 00 48 53.3 +0.7**
SNOW Snow King Moun 39.78 78 P **P 00 48 55.4 +1.5**
SNOW IAmb IAmb 00 48 57.8
comp=Z,92nm,1.5s
ISA Isabella, Lake 39.80 94 IAMs_20 IAMs_20 01 01 34.7
comp=Z,4μm,20.0s
MSHR Mys Shultsa 39.86 280⇓ *e*P **P 00 48 55.2 +0.9**
MSHR pmax pmax
comp=Z,36nm,0.7s
PSTR Posyet 40.04 280⇑ *e*P **P 00 48 55.8 +0.1**
MPMC Manual Prospec 40.15 92 P **P 00 48 57.4 +0.4**
MPMC IAMs_20 IAMs_20 01 01 31.8
comp=Z,5μm,22.0s
S11A Rachel 40.20 89 P **P 00 48 58.8 +1.4**
S11A IAmb IAmb 00 49 34.4
comp=Z,73nm,1.3s
SPR3 Spring Creek 3 40.23 86 P **P 00 48 59.1 +1.3**
CLC China Lake 40.24 93 P **P 00 48 58.5 +0.9**
CLC China Lake 40.24 93 P **P 00 48 58.5 +0.9**
CLC pmax pmax
comp=Z,49nm,1.5s
FURC Furnace Creek, 40.27 91 IAmb IAmb 00 49 01.0
comp=Z,68nm,0.8s
TPNV Topopah Spring 40.34 90 IAmb IAmb 00 49 01.5
comp=Z,61nm,0.8s
TPNV IAMs_20 IAMs_20 01 02 05.6
comp=Z,4μm,21.0s
JGF Kuroka 40.35 267 P **P 00 48 59.4 +0.9**
JGF IAmb IAmb 00 49 02.0
comp=Z,51nm,0.7s
JGF Kuroka 40.35 267 P **P 00 48 59.9 +1.4**
BNX BinXian 40.35 286⇑ P **P 00 48 56.8 -1.5**
BNX pP **pP 00 49 06.5 -3.2**
BNX PcP **PcP 00 51 01.0 +0.1**
BNX S **S 00 54 59.0 -4.1**
BNX pmax pmax
comp=Z,45nm,0.7s
BNX pmax pmax
comp=Z,560nm,8.4s
BNX LR LR
comp=Z,1μm,16.4s
BNX LR LR
comp=Z,2μm,15.9s
BNX LR LR
comp=Z,2μm,19.8s
LRMC Laurel Mtn Rad 40.41 93 P **P 00 48 59.6 +0.5**
DUG Dugway, Tooele 40.43 84 P **P 00 48 59.5 +0.3**
DUG IAmb IAmb 00 49 02.8
comp=Z,87nm,1.1s
DUG Dugway, Tooele 40.43 84 P **P 00 48 59.5 +0.3**
DUG pmax pmax
comp=Z,87nm,1.1s
JSG Sagara 40.45 265 P **P 00 49 00.9 +1.6**
JSG Sagara 40.45 265 P **P 00 49 01.5 +2.2**
TPO Tropico Hills 40.47 94 P **P 00 49 00.3 +0.8**
JHJ2 Mitsune 40.51 262 P **P 00 49 01.6 +1.8**
JHJ Hachijo jima 2 40.53 262 LR LR 01 02 13.4
comp=Z,1μm,20.7s,baz=104,slow=31
CCCA Chr Cany lake 40.57 93 P **P 00 49 01.8 +1.5**
CCCA IAmb IAmb 00 49 03.6
comp=Z,79nm,0.8s
INU Inuyama 40.72 267 P **P 00 49 02.0 +0.6**
TCUT Toone Canyon 40.74 82 P **P 00 49 03.1 +1.2**
TCUT IAmb IAmb 00 49 04.7
comp=Z,62nm,0.9s
PRN Pahroc Range 40.78 89 P **P 00 49 03.7 +1.5**
PRN IAmb IAmb 00 49 05.3
comp=Z,82nm,0.9s
CTU Camp Tracy 40.78 82 P **P 00 49 02.8 +0.6**
CTU IAmb IAmb 00 49 05.2
comp=Z,68nm,1.1s
BW06 Boulder Array 40.90 78 P **P 00 49 04.0 +0.8**
BW06 IAmb IAmb 00 49 05.6
comp=Z,70nm,0.8s
PD31 Pinedale Array 40.90 78 IAmb IAmb 00 49 05.6
comp=Z,69nm,0.8s
PDAR Pinedale Array 40.90 78 P **P 00 49 03.7 +0.6**
PDAR Pinedale Array 40.90 78 P **P 00 49 04.0 +0.8**
comp=Z,63nm,0.8s,baz=305,slow=4.4,SNR=445
PDAR LR LR 01 03 28.5
comp=Z,2μm,22.0s,baz=298,slow=32
comp=Z,63nm,0.8s
DGMT Dagmar 40.95 68 P **P 00 49 04.0 +0.7**
DGMT Dagmar 40.95 68 IAMs_20 IAMs_20 01 04 15.0
comp=Z,4μm,20.0s
PASC Pasadena Art C 40.97 95 P **P 00 49 04.7 +1.1**
SHOC Shoshone, Teco 41.00 92 P **P 00 49 05.0 +1.2**
SHOC IAmb IAmb 00 49 06.8
comp=Z,68nm,0.8s
MWC Mount Wilson 41.01 95 P **P 00 49 04.9 +0.8**
MWC IAmb IAmb 00 49 08.3
comp=Z,70nm,1.1s
MWC Mount Wilson 41.01 95 P **P 00 49 04.9 +0.8**
MWC pmax pmax
comp=Z,70nm,1.1s
JLU Jordanelle 41.02 82 P **P 00 49 05.0 +0.8**
JLU IAmb IAmb 00 49 07.5
comp=Z,85nm,1.3s
GSC Goldstone, Bar 41.06 93 P **P 00 49 06.1 +1.7**
GSC IAmb IAmb 00 49 07.9
comp=Z,113nm,1.0s
GSC Goldstone, Bar 41.06 93 P **P 00 49 06.1 +1.7**
GSC pmax pmax
comp=Z,113nm,1.0s
BFSC Mount Baldy Ra 41.25 95 P **P 00 49 06.8 +0.8**
BFSC IAmb IAmb 00 49 09.4
comp=Z,71nm,1.0s
MPU Maple Canyon 41.26 83 IAmb IAmb 00 49 09.4
comp=Z,68nm,1.1s
FCC Fort Churchill 41.40 50 P **P 00 49 07.3 +0.6**
FCC IAmb IAmb 00 49 08.8
comp=Z,122nm,0.8s
FCC Fort Churchill 41.40 50 P **P 00 49 07.3 +0.6**
FCC pmax pmax
comp=Z,122nm,0.8s
BSUT Blindstream Ca 41.48 82 P **P 00 49 08.9 +0.8**
BOD Bodaibo 41.71 309 *e*P **P 00 49 07.7 -1.6**
BOD pmax pmax
comp=Z,75nm,0.9s
ELS Elsinore Mount 41.79 95 IAmb IAmb 00 49 13.6
comp=Z,89nm,1.5s
ILON Igloolik, Nuna 41.96 32 P **P 00 49 10.8 -0.3**
ILON IAmb IAmb 00 49 12.1
comp=Z,59nm,0.8s
TMUT Trail Mountain 41.96 84 IAmb IAmb 00 49 15.6
comp=Z,122nm,1.1s
P17A Butcher Ranch, 42.14 83 IAmb IAmb 00 49 15.8
comp=Z,48nm,0.8s
Q16A Castle Valley 42.22 84 IAmb IAmb 00 49 18.3
comp=Z,85nm,0.9s
DNR Dunn Ranch,Anz 42.33 95 P **P 00 49 15.3 +0.4**
DNR IAmb IAmb 00 49 17.8
comp=Z,86nm,0.7s
P18A Preston Nutter 42.34 83 IAmb IAmb 00 49 18.2
comp=Z,90nm,0.9s
DANC Danby, Needles 42.38 92 P **P 00 49 15.1 0.0**
DANC IAmb IAmb 00 49 23.6
comp=Z,71nm,1.0s
PFO Pinyon Flats O 42.40 94 P **P 00 49 16.4 +0.9**
PFO Pinyon Flats O 42.40 94 IAMs_20 IAMs_20 01 03 22.1
comp=Z,4μm,20.0s
PFO Pinyon Flats O 42.40 94 LR LR 01 03 03.0
comp=Z,4μm,20.8s,baz=298,slow=31
PFO Pinyon Flats O 42.40 94 P **P 00 49 16.4 +0.9**
PFO pmax pmax
comp=Z,36nm,1.0s
PFO Pinyon Flats O 42.40 94 P **P 00 49 16.7 +1.2**
PFO pP **pP 00 49 25.6 -0.7**
TULEG Thule 42.42 20 IAMs_20 IAMs_20 01 09 58.6
comp=Z,6μm,18.0s
BELC Belle Mtn. Jos 42.42 94 IAMs_20 IAMs_20 01 03 28.5
comp=Z,4μm,20.0s
SRU San Rafael Swe 42.49 84 IAmb IAmb 00 49 19.8
comp=Z,117nm,0.9s
CPE Camp Elliot 42.50 96 P **P 00 49 17.4 +1.3**
CN2 Changchun 42.59 285 *e*P **P 00 49 16.5 -0.2**
CN2 *e*pP pP 00 49 28.5 +0.4
CN2 *e*S **S 00 55 34.5 -1.8**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
HILR Hailar Array B 42.72 296 P **P 00 49 17.1 -0.7**
comp=Z,15nm,0.5s,baz=61,slow=9.1,SNR=26
HILR PcP **PcP 00 51 08.6 -0.1**
comp=Z,11nm,0.8s,baz=101,slow=3.8,SNR=4.2
HILR LR LR 01 08 07.3
comp=Z,4μm,19.5s,baz=70,slow=38
comp=Z,15nm,0.5s
NEE2 Needles Airpor 42.76 92 P **P 00 49 19.5 +1.3**
NEE2 IAmb IAmb 00 49 20.8
comp=Z,47nm,0.7s
K22A Casper 42.79 77 IAmb IAmb 00 49 20.3
comp=Z,58nm,0.9s
TJX Tijuana 42.79 96 P **P 00 49 19.9 +1.4**
TJX IAmb IAmb 00 50 30.6
comp=Z,144nm,0.9s
HIA Hailar 42.88 295 IAMs_20 IAMs_20 01 07 50.4
comp=Z,5μm,20.0s
HIA Hailar 42.88 295 IAmb IAmb 00 49 19.4
comp=Z,40nm,0.7s
HIA Hailar 42.88 295 P **P 00 49 18.9 -0.1**
BAR Barrett 42.91 95 IAmb IAmb 00 49 22.9
comp=Z,63nm,1.1s
SALN Salton City 42.92 94 P **P 00 49 20.7 +1.3**
SALN IAmb IAmb 00 49 22.9
comp=Z,98nm,0.8s
BC3 Big Chuckawall 42.99 93 IAMs_20 IAMs_20 01 03 24.5
comp=Z,4μm,21.0s
U15A North Rim 43.10 88 IAmb IAmb 00 49 24.4
comp=Z,67nm,0.8s
CBX Cerro Bola 43.17 96 P **P 00 49 22.9 +1.3**
CBX IAmb IAmb 00 49 25.4
comp=Z,111nm,1.2s
RSSD Black Hills 43.41 73 P **P 00 49 23.8 +0.2**
RSSD Black Hills 43.41 73 P **P 00 49 23.8 +0.2**
RSSD pmax pmax
comp=Z,40nm,0.9s
CCX Cicese 43.47 96 P **P 00 49 24.6 +0.6**
CCX IAmb IAmb 00 49 27.4
comp=Z,83nm,1.3s
BLYC Blythe 43.50 93 IAmb IAmb 00 49 26.9
comp=Z,84nm,0.8s
HAYD Hayden 43.62 80 P **P 00 49 26.1 +0.8**
HAYD IAmb IAmb 00 49 28.1
comp=Z,206nm,1.8s
JMN Monobe 43.73 268 P **P 00 49 26.9 +0.8**
JMN Monobe 43.73 268 P **P 00 49 28.2 +2.1**
PV21 Cone Mtn., Par 43.78 83 IAmb IAmb 00 49 29.3
comp=Z,83nm,1.3s
GLA Glamis 43.79 94 IAmb IAmb 00 49 29.2
comp=Z,50nm,0.8s
ESJX Sierra Juarez 43.82 96 IAmb IAmb 00 49 29.9
comp=Z,62nm,0.9s
PV23 Carpenter Ridg 43.83 83 IAmb IAmb 00 49 29.9
comp=Z,181nm,1.3s
PV14 Lion Creek, Pa 43.87 83 IAmb IAmb 00 49 30.8
comp=Z,63nm,1.1s
MDND Maddock 43.88 66 IAMs_20 IAMs_20 01 06 41.3
comp=Z,4μm,20.0s
PV22 Blue Mesa, Par 43.91 83 IAmb IAmb 00 49 30.9
comp=Z,98nm,0.9s
PV20 West Nyswonger 43.92 83 IAmb IAmb 00 49 29.9
comp=Z,103nm,0.9s
CPBX Cerro Prieto 43.92 95 P **P 00 49 28.4 +0.8**
CPBX IAmb IAmb 00 49 31.0
comp=Z,96nm,1.3s
PV04 Paradox Valley 43.93 83 IAmb IAmb 00 49 30.0
comp=Z,82nm,0.8s
PV19 Morning Glory 43.93 83 IAmb IAmb 00 49 30.0
comp=Z,110nm,0.9s
PV17 East Wray Mesa 43.97 83 IAmb IAmb 00 49 30.3
comp=Z,92nm,0.8s
E28A Huff 43.97 69 IAMs_20 IAMs_20 01 05 59.7
comp=Z,4μm,20.0s
PV16 Nyswonger Mesa 43.97 83 IAmb IAmb 00 49 30.3
comp=Z,63nm,0.8s
PV05 Paradox Valley 44.01 84 IAmb IAmb 00 50 04.4
comp=Z,114nm,1.2s
PV12 Saucer Basin, 44.04 83 IAmb IAmb 00 49 31.0
comp=Z,118nm,0.8s
PV03 Paradox Valley 44.05 83 IAmb IAmb 00 49 30.9
comp=Z,76nm,0.9s
PV07 Paradox Valley 44.06 83 IAmb IAmb 00 49 31.5
comp=Z,110nm,1.2s
PV15 Paradox Valley 44.22 83 IAmb IAmb 00 49 33.4
comp=Z,98nm,1.0s
WUAZ Wupatki 44.26 88 IAmb IAmb 00 49 33.5
comp=Z,79nm,0.8s
WUAZ IAMs_20 IAMs_20 01 04 39.8
comp=Z,5μm,21.0s
PV01 Paradox Valley 44.30 83 IAmb IAmb 00 49 33.0
comp=Z,97nm,0.8s
Y14A Wickenburg 44.31 91 IAmb IAmb 00 49 33.8
comp=Z,88nm,1.2s
VTX Valle De La Tr 44.34 96 P **P 00 49 32.2 +1.2**
ULM Lac du Bonnet 44.64 62 P **P 00 49 32.8 -0.3**
comp=Z,64nm,1.1s,baz=295,slow=8.7,SNR=19
ULM PcP **PcP 00 51 16.2 +1.1**
comp=Z,11nm,0.5s,baz=346,slow=2.6,SNR=4.6
ULM LR LR 01 10 37.2
comp=Z,3μm,18.5s,baz=312,slow=39
comp=Z,64nm,1.1s
SNY Shenyang 44.86 284⇑ P **P 00 49 34.0 -0.9**
SNY S **S 00 56 06.3 -3.1**
SNY pmax pmax
comp=Z,30nm,1.0s
SNY pmax pmax
comp=Z,600nm,8.6s
SNY LR LR
comp=Z,2μm,19.6s
SNY LR LR
comp=Z,2μm,18.6s
SNY LR LR
comp=Z,3μm,24.9s
MVCO Mesa Verde 44.93 84 IAmb IAmb 00 50 13.2
comp=Z,49nm,1.2s
KSRS Korea Array 44.95 276 P **P 00 49 35.3 -0.3**
comp=Z,18nm,0.7s,baz=56,slow=7.2,SNR=38
KSRS PcP **PcP 00 51 16.9 +0.6**
comp=Z,5.8nm,0.9s,baz=47,slow=5.6,SNR=1.9
KSRS LR LR 01 06 21.6
comp=Z,1128μm,21.3s,baz=50,slow=33
comp=Z,18nm,0.7s
X16A Lo Mia Camp, P 44.95 89 IAmb IAmb 00 49 39.2
comp=Z,41nm,0.9s
KS19 Wonju Array Si 44.95 276 P **P 00 49 36.8 +1.1**
KS19 IAmb IAmb 00 49 39.5
comp=Z,59nm,1.2s
KSAR Wonju Array Be 44.98 276 P **P 00 49 35.2 -0.7**
KSAR Wonju Array Be 44.98 276 P **P 00 49 35.2 -0.7**
ISCO Idaho Springs 45.05 79 IAMs_20 IAMs_20 01 05 54.1
comp=Z,4μm,22.0s
SFX San Felipe 45.16 96 P **P 00 49 38.0 +0.6**
NEEM North Greenlan 45.26 16 *i* P **P 00 49 36.7 -1.3**
NEEM IAmb IAmb 00 49 40.4
comp=Z,79nm,0.6s
W18A Petrified Fore 45.53 87 P **P 00 49 41.6 +1.1**
W18A IAmb IAmb 00 49 44.0
comp=Z,85nm,1.1s
S22A 4UR Ranch, Cre 45.61 82 IAmb IAmb 00 49 45.8
comp=Z,48nm,1.2s
NOR Nord 45.66 5 *i* P **P 00 49 40.5 -0.2**
NOR IAmb IAmb 00 49 41.8
comp=Z,13nm,0.7s
INCN Inchon 45.72 277 P **P 00 49 41.9 +0.1**
INCN IAmb IAmb 00 49 43.7
comp=Z,45nm,0.7s
INCN Inchon 45.72 277 P **P 00 49 41.9 +0.1**
INCN pmax pmax
comp=Z,45nm,0.7s
INCN MLR MLR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 45.72 64 IAMs_20 IAMs_20 01 08 15.8
comp=Z,4μm,21.0s
214A Organ Pipe Nat 45.77 93 IAmb IAmb 00 49 45.5
comp=Z,105nm,1.1s
X18A Snowflake 45.79 88 P **P 00 49 43.8 +1.2**
X18A IAmb IAmb 00 49 46.3

comp=Z,41nm,1.2s
Q24A Divide 45.86 80 P **P 00 49 43.7 +0.4**
JTU Tsushima 45.95 272 P **P 00 49 45.0 +1.4**
TJN Taejon 45.98 276 P **P 00 49 44.9 +1.0**
TJN Taejon 45.98 276 *c i* P **P 00 49 43.5 -0.4**
JNU Nakatsue 45.99 269 IAmb IAmb 00 49 56.4
comp=Z,48nm,0.8s
JNU Nakatsue 45.99 269 LR LR 01 08 03.1
comp=Z,3μm,21.9s,baz=68,slow=35
JNU Nakatsue 45.99 269 P **P 00 49 44.8 +0.8**
SUSD Miller 46.19 70 IAMs_20 IAMs_20 01 07 04.7
comp=Z,3μm,21.0s
SDCO Great Sand Dun 46.41 81 IAmb IAmb 00 49 50.3
comp=Z,39nm,0.9s
TUC Tucson 46.78 91 P **P 00 49 51.4 +1.1**
TUC IAmb IAmb 00 49 53.1
comp=Z,60nm,0.9s
TUC Tucson 46.78 91 P **P 00 49 51.4 +1.1**
TUC pmax pmax
comp=Z,60nm,1.0s
TUC Tucson 46.78 91 P **P 00 49 51.4 +1.1**
TUC PcP **PcP 00 51 24.3 +1.3**
F33A 5 Mile Ranch, 46.89 67 IAmb IAmb 00 49 53.6
comp=Z,63nm,1.3s
F33A IAMs_20 IAMs_20 01 08 00.0
comp=Z,4μm,21.0s
ANMO Albuquerque 47.66 85 P **P 00 49 58.0 +0.7**
ANMO IAmb IAmb 00 50 00.4
comp=Z,45nm,1.1s
ANMO Albuquerque 47.66 85 IAMs_20 IAMs_20 01 09 31.5
comp=Z,3μm,18.0s
ANMO Albuquerque 47.66 85 LR LR 01 09 16.2
comp=Z,3μm,18.2s,baz=40,slow=35
ANMO Albuquerque 47.66 85 P **P 00 49 58.0 +0.7**
ANMO pmax pmax
comp=Z,45nm,1.2s
ANMO MLR MLR
comp=Z,3μm,18.0s
ANMO Albuquerque 47.66 85 P **P 00 49 57.9 +0.7**
ANMO pP **pP 00 50 07.5 -0.7**
ANMO PcP **PcP 00 51 27.0 +0.8**
DL2 Dalian 47.84 282 P **P 00 49 58.5 +0.2**
DL2 S **S 00 56 51.5 -0.6**
DL2 pmax pmax
comp=Z,47nm,1.0s
DL2 LR LR
comp=Z,2μm,18.7s
DL2 LR LR
comp=Z,2μm,18.6s
DL2 LR LR
comp=Z,3μm,21.9s
SBM South Baldy 47.86 87 P **P 00 50 00.7 +1.6**
ECSD EROS Data Cent 47.97 69 IAMs_20 IAMs_20 01 07 59.6
comp=Z,4μm,22.0s
ECSD EROS Data Cent 47.97 69 IAmb IAmb 00 49 59.8
comp=Z,36nm,0.8s
XLT XiLinHaoTe 48.01 291 *e*P **P 00 49 59.0 -0.7**
XLT S **S 00 56 51.0 -3.6**
XLT pmax pmax
comp=Z,19nm,1.1s
XLT pmax pmax
comp=Z,690nm,10.0s
XLT LR LR
comp=Z,260nm,19.5s
XLT LR LR
comp=Z,2μm,21.0s
XLT LR LR
comp=Z,4μm,20.4s
319A Douglas 48.34 91 IAmb IAmb 00 50 22.1
comp=Z,51nm,1.0s
121A Cookes Peak, D 48.47 88 IAmb IAmb 00 50 06.3
comp=Z,61nm,0.9s
RTBA Rita Blanca 48.94 81 IAmb IAmb 00 50 09.1
comp=Z,68nm,0.9s
TBO Thunder Bay 49.02 60 IAmb IAmb 00 50 08.9
comp=Z,60nm,1.0s
E38A The Farm, Brul 49.08 63 IAmb IAmb 00 50 10.3
comp=Z,53nm,0.8s
E38A IAMs_20 IAMs_20 01 13 26.7
comp=Z,4μm,18.0s
KBS Kingsbay 49.10 359 P **P 00 50 08.6 +1.0**
KBS IAmb IAmb 00 50 09.4
comp=Z,40nm,0.9s
KBS IAMs_20 IAMs_20 01 11 40.2
comp=Z,5μm,19.0s
KBS Kingsbay 49.10 359 *c i* P **P 00 50 08.7 +1.2**
KBS pmax pmax
comp=Z,144nm,2.5s
KBS Kingsbay 49.10 359 *i* P **P 00 50 06.4 -1.1**
L34A Svendsen Farm, 49.20 71 IAMs_20 IAMs_20 01 13 22.2
comp=Z,3μm,19.0s
SPMN Marine on St. 49.23 66 IAmb IAmb 00 50 09.8
comp=Z,25nm,0.8s
SPMN IAMs_20 IAMs_20 01 09 13.6
comp=Z,4μm,21.0s
FRB Frobisher Bay 49.37 35 LR LR 01 12 16.9
comp=Z,10μm,20.0s,baz=304,slow=38
I37A Lemond, Waseca 49.63 67 IAMs_20 IAMs_20 01 09 44.5
comp=Z,5μm,21.0s
SPITS Spitsbergen Ar 49.80 358 P **P 00 50 12.3 -0.6**
comp=Z,17nm,0.5s,baz=35,slow=5.5,SNR=13
SPITS PcP **PcP 00 51 33.0 0.0**
comp=Z,11nm,0.6s,baz=60,slow=3.5,SNR=4.1
SPITS LR LR 01 12 26.0
comp=Z,5μm,19.0s,baz=2.0,slow=38
comp=Z,17nm,0.5s
SPITS Spitsbergen Ar 49.80 358 P **P 00 50 12.8 -0.1**
SPITS 00 51 33.0
SPITS pmax pmax
comp=Z,133nm,1.7s
SPB2 Spitsbergen Ar 49.80 358 IAmb IAmb 00 50 29.6
comp=Z,36nm,1.1s
DAG Danmarks Havn 50.00 8 *i* P **P 00 50 13.6 -0.8**
DAG IAmb IAmb 00 50 15.4
comp=Z,33nm,0.5s
TLY Talaya 50.04 306 P **P 00 50 14.5 -0.6**
TLY IAmb IAmb 00 50 16.8
comp=Z,32nm,0.7s
TLY Talaya 50.04 306 P **P 00 50 12.7 -2.4**
TLY S **S 00 57 26.3 +3.5**
TLY Talaya 50.04 306 *c e* P **P 00 50 14.9 -0.2**
TLY pmax pmax
comp=Z,34nm,0.8s
N35A Tabor 50.32 72 P **P 00 50 17.4 +0.1**
N35A IAMs_20 IAMs_20 01 12 45.1
comp=Z,3μm,19.0s
BJI Beijing 50.36 287 P **P 00 50 17.5 -0.1**
BJI PcP **PcP 00 51 39.5 +3.9**
BJI S **S 00 57 26.3 -1.2**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI pmax pmax
comp=Z,220nm,9.1s
BJI LR LR
comp=Z,1μm,20.2s
BJI LR LR
comp=Z,1μm,21.0s
BJI LR LR
comp=Z,2μm,24.0s
MNTX Cornudas Mount 50.52 87 IAmb IAmb 00 50 21.6
comp=Z,36nm,0.8s
ULN Ulaanbaatar 50.59 300 P **P 00 50 18.9 -0.6**
ULN Ulaanbaatar 50.59 300 IAMs_20 IAMs_20 01 13 25.8
comp=Z,4μm,20.0s
ULN Ulaanbaatar 50.59 300 P **P 00 50 18.0 -1.5**
ULN S **S 00 57 33.9 +3.0**
ULN Ulaanbaatar 50.59 300 P **P 00 50 18.9 -0.6**
ULN pmax pmax
comp=Z,19nm,0.7s
ULN MLR MLR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 50.59 300 P **P 00 50 18.4 -1.1**
ULN PcP **PcP 00 51 36.8 +0.2**
AMTX Amarillo 50.62 82 IAmb IAmb 00 50 22.5
comp=Z,101nm,1.2s
G40A Rib Lake 50.65 64 IAmb IAmb 00 51 38.8
comp=Z,44nm,0.8s
G40A IAMs_20 IAMs_20 01 11 39.2
comp=Z,4μm,20.0s
KSU1 Kansas State U 50.88 74 IAmb IAmb 00 50 22.7
comp=Z,78nm,0.9s
JMZ Minamidaito 2 50.94 262 P **P 00 50 23.2 +1.1**
ILULI Ilulissat 50.96 24 IAMs_20 IAMs_20 01 13 52.3
comp=Z,3μm,20.0s
SONM Songino Array 50.96 300 P **P 00 50 21.2 -1.0**
SONM Songino Array 50.96 300 P **P 00 50 22.0 -0.2**
comp=Z,14nm,0.5s,baz=54,slow=6.3,SNR=58
SONM PcP **PcP 00 51 38.0 +0.1**
comp=Z,13nm,0.7s,baz=65,slow=2.5,SNR=8.4
SONM ScP **ScP 00 55 31.7 +1.2**
comp=Z,2.3nm,0.7s,baz=48,slow=3.6,SNR=4.7
SONM LR LR 01 15 03.8
comp=Z,4μm,18.7s,baz=51,slow=40
comp=Z,14nm,0.5s
ZAK Zakamensk 51.01 305 *e*P **P 00 50 22.1 -0.4**
ZAK pmax pmax
comp=Z,19nm,1.7s
SUMG Summit 51.06 17 IAMs_20 IAMs_20 01 12 02.7
comp=Z,4μm,21.0s
SUMG Summit 51.06 17 *i* P **P 00 50 23.3 +0.4**
SUMG IAmb IAmb 00 50 24.6
comp=Z,55nm,1.1s
HTMS Hat Mesa 51.06 85 P **P 00 50 23.9 +0.8**
SCIA State Center 51.06 69 IAMs_20 IAMs_20 01 10 08.5
comp=Z,4μm,21.0s
NOKA Waynoka 51.11 78 P **P 00 50 23.6 +0.3**
NOKA IAmb IAmb 00 50 25.1
comp=Z,53nm,0.7s
XMAS Kiritimati 51.12 164 P **P 00 50 24.8 +1.2**
XMAS IAmb IAmb 00 50 38.6
comp=Z,89nm,1.0s
I40A Norwalk 51.28 66 IAmb IAmb 00 50 35.1
comp=Z,33nm,0.7s
I40A IAMs_20 IAMs_20 01 10 49.0
comp=Z,4μm,20.0s
KAN08 Anthony NE Sta 51.30 77 IAmb IAmb 00 50 26.4
comp=Z,38nm,1.0s
SMWD Samnorwood 51.34 80 IAmb IAmb 00 50 27.2
comp=Z,54nm,0.7s
MOY Mondy 51.36 307 *e*P **P 00 50 25.9 +0.8**
MOY pmax pmax
comp=Z,25nm,2.0s
VHRN Van Horn 51.40 88 IAmb IAmb 00 50 29.2
comp=Z,119nm,1.2s
KAN01 Argonia South 51.48 77 IAmb IAmb 00 50 28.0
comp=Z,64nm,0.9s
F42A Maple Grove Fa 51.48 62 IAmb IAmb 00 50 44.5
comp=Z,50nm,0.6s
KAN14 Manchester OK 51.48 77 IAmb IAmb 00 50 27.9
comp=Z,93nm,1.7s
GC02 Grant County # 51.62 77 P **P 00 50 27.4 +0.3**
PECS Pecos 51.68 87 IAmb IAmb 00 50 30.9
comp=Z,49nm,1.2s
N38A Joes South For 51.77 70 IAMs_20 IAMs_20 01 13 49.2
comp=Z,2μm,19.0s
CROK Carrier 51.77 78 IAmb IAmb 00 50 29.6
comp=Z,65nm,0.8s
DKNS Dickens 51.90 82 IAmb IAmb 00 50 31.3
comp=Z,64nm,0.8s
ODSA Odessa 51.97 85 IAmb IAmb 00 50 31.6
comp=Z,43nm,0.8s
JOW Kunigami 52.01 266 P **P 00 50 31.1 +1.0**
JOW IAmb IAmb 00 50 45.5
comp=Z,126nm,1.6s
JOW Kunigami 52.01 266 LR LR 01 11 15.1
comp=Z,1μm,21.6s,baz=44,slow=34
L40A Anamosa 52.10 68 IAmb IAmb 00 50 48.9
comp=Z,64nm,1.1s
L40A IAMs_20 IAMs_20 01 11 10.9
comp=Z,4μm,21.0s
JFWS Jewell Farm 52.11 66 IAMs_20 IAMs_20 01 12 16.0
comp=Z,4μm,20.0s
JFWS Jewell Farm 52.11 66 IAmb IAmb 00 50 41.1
comp=Z,35nm,0.8s
PATS Pohnpei 52.13 221 IAMs_20 IAMs_20 01 07 49.6
comp=Z,5μm,22.0s
DBG Daneborg 52.14 10 *i* P **P 00 50 29.4 -1.1**
I42A Draeger Farm, 52.23 65 IAmb IAmb 00 50 32.6
comp=Z,45nm,0.6s
I42A IAMs_20 IAMs_20 01 11 28.1
comp=Z,4μm,20.0s
TIA Tai'an 52.31 283 P **P 00 50 31.8 -0.4**
TIA S **S 00 57 57.5 +3.1**
TIA pmax pmax
comp=Z,23nm,1.1s
TIA pmax pmax
comp=Z,610nm,6.5s
TIA LR LR
comp=Z,520nm,22.0s
TIA LR LR
comp=Z,2μm,20.6s
TIA LR LR
comp=Z,2μm,22.0s
SN07 Snyder 07 52.31 83 IAmb IAmb 00 50 34.9
comp=Z,142nm,1.6s
T35A Sooner Cattle 52.38 76 IAmb IAmb 00 50 33.9
comp=Z,68nm,0.9s
WMOK Wichita Mounta 52.48 80 IAMs_20 IAMs_20 01 10 11.7
comp=Z,3μm,21.0s
WMOK Wichita Mounta 52.48 80 IAmb IAmb 00 50 35.5
comp=Z,56nm,0.8s
H43A Windswept, Lux 52.49 63 IAmb IAmb 00 50 34.6
comp=Z,51nm,0.7s
H43A IAMs_20 IAMs_20 01 15 19.9
comp=Z,2μm,19.0s
ALPN Alpine 52.51 87 IAmb IAmb 00 50 35.9
comp=Z,38nm,0.7s
HHC Hu-ho-hao-te 52.52 291 *e*P **P 00 50 34.0 +0.1**
HHC pP pP 00 50 43.0 -2.7
HHC PP **PP 00 52 32.3 -0.5**
HHC S **S 00 57 54.5 -3.0**
HHC sS pS 00 58 09.3 -2.0
HHC ScS **ScS 01 00 17.5 -2.5**
HHC SS **SS 01 01 30.3 -5.2**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,510nm,6.1s
HHC LR LR
comp=Z,2μm,15.5s
HHC LR LR
comp=Z,2μm,15.5s
HHC LR LR
comp=Z,3μm,15.9s
GUMO Guam 52.62 240 LR LR 01 09 52.4
comp=Z,880nm,20.9s,baz=48,slow=32
APMT Aspermont 52.62 82 IAmb IAmb 00 50 37.0
comp=Z,140nm,1.4s
TARA Tarawa 52.64 201 IAMs_20 IAMs_20 01 07 50.6
comp=Z,4μm,21.0s
SFJD Kangerlussuaq 52.71 25 P **P 00 50 35.0 +0.3**
SFJD IAmb IAmb 00 50 37.5
comp=Z,182nm,1.9s
SFJD Kangerlussuaq 52.71 25 LR LR 01 14 34.7
comp=Z,5μm,21.4s,baz=310,slow=38
SFJD Kangerlussuaq 52.71 25 P **P 00 50 35.0 +0.3**
SFJD pmax pmax
comp=Z,182nm,1.9s
SFJD MLR MLR
comp=Z,6μm,22.0s
QUOK Quay 52.76 77 IAmb IAmb 00 50 36.9
comp=Z,64nm,0.9s
LPIG La Paz 52.94 98 LR LR 01 07 57.8
comp=Z,2μm,21.5s,baz=308,slow=30
HNS HongShan 52.96 285 ⇑P **P 00 50 37.3 +0.3**
HNS S **S 00 58 01.5 -1.7**
HNS pmax pmax
comp=Z,100nm,0.8s
HNS pmax pmax
comp=Z,780nm,7.2s
HNS LR LR
comp=Z,2μm,17.5s
HNS LR LR
comp=Z,4μm,17.8s
HNS LR LR
comp=Z,4μm,21.0s
L42A Oliver, Polo 53.02 67 IAmb IAmb 00 50 38.4
comp=Z,46nm,1.0s
L42A IAMs_20 IAMs_20 01 12 11.2
comp=Z,4μm,21.0s
X34A Smith Ranch, M 53.14 79 IAmb IAmb 00 50 41.5
comp=Z,87nm,1.3s
E46A Sault Ste Mari 53.15 60 IAMs_20 IAMs_20 01 13 08.1
comp=Z,4μm,21.0s
N41A Harden Midland 53.19 69 IAmb IAmb 00 50 39.2
comp=Z,53nm,0.6s
N41A IAMs_20 IAMs_20 01 11 55.9
comp=Z,4μm,21.0s
TX31 Lajitas Ar. Si 53.23 88 IAmb IAmb 00 50 41.5
comp=Z,65nm,0.8s
TXAR Lajitas Array 53.23 88 P **P 00 50 39.5 +0.2**
TXAR Lajitas Array 53.23 88 P **P 00 50 39.8 +0.6**
comp=Z,55nm,0.8s,baz=297,slow=5.4,SNR=454
TXAR LR LR 01 11 00.5
comp=Z,2μm,21.0s,baz=314,slow=33
comp=Z,55nm,0.8s
P40A Paris 53.28 71 IAMs_20 IAMs_20 01 14 46.2
comp=Z,3μm,18.0s
K43A Burlington 53.32 65 IAmb IAmb 00 50 39.9
comp=Z,42nm,0.8s
K43A IAMs_20 IAMs_20 01 13 03.0
comp=Z,4μm,20.0s
WTFS Witchita Falls 53.33 80 IAmb IAmb 00 50 41.1
comp=Z,29nm,0.8s
SSE Sheshan 53.33 275 P **P 00 50 38.8 -1.0**
SSE S **S 00 58 07.8 -0.7**
SSE pmax pmax
comp=Z,40nm,1.2s
SSE pmax pmax
comp=Z,350nm,5.7s
SSE LR LR
comp=Z,460nm,19.7s
SSE LR LR
comp=Z,480nm,18.5s
ABTX Abilene, Hawle 53.40 82 IAmb IAmb 00 50 42.9
comp=Z,67nm,0.9s
ABTX IAMs_20 IAMs_20 01 12 07.2
comp=Z,3μm,21.0s
SLBS Sierra La Lagu 53.47 98 P **P 00 50 42.2 +1.2**
SLBS IAmb IAmb 00 50 44.0
comp=Z,133nm,1.8s
TUL3 Leonard 53.48 77 IAmb IAmb 00 50 42.2
comp=Z,55nm,0.8s
BTO Baotou 53.57 291 *e*P **P 00 50 41.5 -0.1**
BTO pP **pP 00 50 53.0 -0.4**
BTO S **S 00 58 13.8 +2.1**
BTO pmax pmax
comp=Z,130nm,1.2s
BTO pmax pmax
comp=Z,2μm,8.7s
BTO LR LR
comp=Z,6μm,19.9s
BTO LR LR
comp=Z,6μm,20.0s
BTO LR LR
comp=Z,10μm,19.1s
I45A Fountain 53.62 63 IAmb IAmb 00 50 42.8
comp=Z,43nm,0.7s
I45A IAMs_20 IAMs_20 01 16 00.6
comp=Z,3μm,18.0s
OZNA Ozona 53.67 85 IAmb IAmb 00 50 44.0
comp=Z,52nm,0.8s
KNGR Kungurtug, Tuv 53.73 308 ⇓ *e*P **P 00 50 43.1 +0.5**
KNGR pmax pmax
comp=Z,37nm,0.9s
SAND Sanderson 53.74 86 IAmb IAmb 00 50 44.6
comp=Z,28nm,0.8s
RLO Rose Lookout 53.77 76 IAmb IAmb 00 50 44.0
comp=Z,63nm,0.8s
L44A Lake County Fo 53.90 66 IAMs_20 IAMs_20 01 13 00.3
comp=Z,5μm,20.0s
U38A Gravette 53.97 75 IAmb IAmb 00 50 45.1
comp=Z,57nm,0.8s
R40A Maddies Statio 53.97 72 IAmb IAmb 00 50 44.2
comp=Z,50nm,0.7s
R40A IAMs_20 IAMs_20 01 14 57.7
comp=Z,2μm,19.0s
TIY Taiyuan 54.09 287 *e*P **P 00 50 47.5 +2.1**
TIY sP **sP 00 51 03.8 +1.8**
TIY PP **PP 00 52 51.0 +4.1**
TIY S **S 00 58 21.3 +2.5**
TIY sS **sS 00 58 37.5 -1.3**
TIY ScS **ScS 01 00 32.3 +1.2**
TIY pmax pmax
comp=Z,430nm,9.3s
TIY LR LR
comp=Z,2μm,21.3s
TIY LR LR
comp=Z,2μm,19.9s
TIY LR LR
comp=Z,3μm,22.7s
NJ2 Nanjing 54.09 278 *e*P **P 00 50 46.3 +0.9**
NJ2 PcP **PcP 00 51 47.8 -2.0**
NJ2 S **S 00 58 18.3 -0.5**
NJ2 sS **pS 00 58 32.5 0.0**
NJ2 ScS **ScS 01 00 30.5 -0.5**
NJ2 pmax pmax
comp=Z,31nm,0.7s
NJ2 pmax pmax
comp=Z,400nm,5.2s
NJ2 LR LR
comp=Z,1μm,23.4s
NJ2 LR LR
comp=Z,2μm,23.3s
NJ2 LR LR
comp=Z,2μm,24.2s
HQIL Hanson Quary C 54.18 66 IAmb IAmb 00 51 00.3
comp=Z,47nm,0.9s
HQIL IAMs_20 IAMs_20 01 13 28.8
comp=Z,5μm,20.0s
HDIL Hopedale 54.19 68 IAMs_20 IAMs_20 01 12 37.1
comp=Z,4μm,21.0s
DY2G Dye2 54.23 24 *i* P **P 00 50 46.6 +0.3**
DY2G IAmb IAmb 00 50 48.9
comp=Z,40nm,0.5s
HHAR Hobbs 54.34 75 IAmb IAmb 00 50 47.6
comp=Z,36nm,0.8s
M44A Midewin, Midew 54.34 67 IAmb IAmb 00 50 47.6
comp=Z,50nm,0.8s
M44A IAMs_20 IAMs_20 01 12 52.2
comp=Z,4μm,20.0s
Z35A Perchaven, San 54.36 80 IAmb IAmb 00 51 02.8
comp=Z,57nm,1.1s
Z35A IAMs_20 IAMs_20 01 11 42.6
comp=Z,3μm,21.0s
FW06 Azle 54.42 80 IAmb IAmb 00 50 49.4
comp=Z,41nm,0.8s
P43A Skaggs, Pawnee 54.66 69 IAmb IAmb 00 50 49.9
comp=Z,69nm,0.8s
P43A IAMs_20 IAMs_20 01 12 28.8
comp=Z,4μm,21.0s
BRDY Brady 54.72 83 IAmb IAmb 00 50 52.1
comp=Z,96nm,1.2s
CCM Cathedral Cave 54.73 72 P **P 00 50 48.5 -1.5**
CCM IAmb IAmb 00 50 50.6
comp=Z,129nm,1.6s
CCM IAMs_20 IAMs_20 01 14 38.7
comp=Z,2μm,20.0s
CCM Cathedral Cave 54.73 72 P **P 00 50 48.5 -1.5**
CCM pmax pmax
comp=Z,129nm,1.6s
CCM MLR MLR
comp=Z,2μm,20.0s
CCM Cathedral Cave 54.73 72 P **P 00 50 48.4 -1.6**
CCM PcP **PcP 00 51 53.2 +1.0**
MGMO Mountain Grove 54.73 73 IAmb IAmb 00 50 49.9
comp=Z,73nm,0.9s
JCT Junction City 54.79 84 IAMs_20 IAMs_20 01 11 59.3
comp=Z,4μm,20.0s
L46A Eue Claire 54.91 65 IAmb IAmb 00 51 01.7
comp=Z,51nm,0.8s
L46A IAMs_20 IAMs_20 01 12 49.0
comp=Z,4μm,21.0s
J47A Sunmer 54.91 63 IAmb IAmb 00 50 52.3
comp=Z,31nm,0.7s
J47A IAMs_20 IAMs_20 01 14 29.0
comp=Z,3μm,20.0s
SLM Saint Louis 54.92 70 IAmb IAmb 00 50 51.8
comp=Z,52nm,0.7s
FW13 Cleburne 54.93 81 IAmb IAmb 00 50 53.2
comp=Z,57nm,0.8s
DRIO Del Rio 55.04 86 IAmb IAmb 00 50 53.2
comp=Z,44nm,0.8s
WHTX Lake Whitney, 55.16 81 IAMs_20 IAMs_20 01 11 57.0
comp=Z,5μm,22.0s
FVM French Village 55.25 71 IAmb IAmb 00 50 54.0
comp=Z,55nm,0.8s
SCO Scoresbysund 55.47 12 IAmb IAmb 00 50 57.4
comp=Z,103nm,1.5s
SCO Scoresbysund 55.47 12 *e*P **P 00 50 52.3 -2.5**
SFIN Lafayette 55.55 67 IAmb IAmb 00 50 56.6
comp=Z,54nm,0.8s
SFIN IAMs_20 IAMs_20 01 13 50.2
comp=Z,4μm,21.0s
Z38A Mt. Pleasant 55.78 78 IAmb IAmb 00 50 59.2
comp=Z,53nm,0.9s
HNDO Hondo 55.78 85 IAmb IAmb 00 50 58.4
comp=Z,20nm,0.7s
SCHQ Schefferville 55.87 43 P **P 00 50 58.4 +0.5**
comp=Z,1μm,0.8s,baz=320,slow=7.1,SNR=69

SCHQ				LR	LR	01 15 55.3			
	comp=Z,39µm,18.9s,baz=314,slow=37								
435B	**Jarrell**	**55.93**	**82**	IAmb	IAmb	00 51 00.8			
	comp=Z,58nm,0.8s								
WHAR	**Wooly Hollow**	**55.99**	**75**	IAmb	IAmb	00 51 00.4			
	comp=Z,61nm,1.3s								
P46A	**Rosedale**	**56.00**	**68**	IAMs_20	IAMs_20	01 13 54.1			
	comp=Z,4µm,22.0s								
N47A	**Urbana**	**56.01**	**66**	IAmb	IAmb	00 50 59.1			
	comp=Z,64nm,0.9s								
N47A				IAMs_20	IAMs_20	01 13 33.0			
	comp=Z,5µm,21.0s								
PBMO	**Poplar Bluff**	**56.07**	**72**	IAmb	IAmb	00 51 00.5			
	comp=Z,66nm,1.1s								
LCAR	**Lake Charles**	**56.13**	**73**	IAmb	IAmb	00 51 00.6			
	comp=Z,43nm,1.3s								
S44A	**Carbondale**	**56.13**	**71**	IAmb	IAmb	00 51 00.6			
	comp=Z,52nm,0.8s								
S44A				IAMs_20	IAMs_20	01 12 53.7			
	comp=Z,3µm,21.0s								
SIUC	**Southern Illin**	**56.14**	**71**	IAmb	IAmb	00 51 00.6			
	comp=Z,56nm,0.8s								
237A	**Washetta, Mont**	**56.16**	**80**	P	**P**	**00 51 00.3**	**0.0**		
237A				IAmb	IAmb	00 51 01.9			
	comp=Z,61nm,0.8s								
AAM	**Ann Arbor**	**56.18**	**63**	IAmb	IAmb	00 51 59.8			
	comp=Z,37nm,0.8s								
AAM				IAMs_20	IAMs_20	01 15 18.4			
	comp=Z,3µm,20.0s								
LYN	**LuoYang**	**56.22**	**284**	P	**P**	**00 51 00.8**	**+0.1**		
LYN				sP	sP	00 51 17.0	-0.4		
LYN				PcP	**PcP**	**00 51 57.5**	**-0.5**		
LYN				S	**S**	**00 58 45.3**	**-1.9**		
LYN				pmax	pmax				
	comp=Z,54nm,1.1s								
LYN				LR	LR				
	comp=Z,3µm,19.6s								
LYN				LR	LR				
	comp=Z,2µm,23.4s								
LYN				LR	LR				
	comp=Z,3µm,26.8s								
X40A	**Basin Creek Fa**	**56.22**	**76**	IAmb	IAmb	00 51 01.9			
	comp=Z,38nm,0.9s								
UALR	**University of**	**56.31**	**75**	IAmb	IAmb	00 51 02.4			
	comp=Z,38nm,0.9s								
JMIC	**Jan Mayen**	**56.39**	**7**	LR	LR	01 16 15.1			
	comp=Z,2µm,19.2s,baz=348,slow=37								
K50A	**Casco**	**56.42**	**62**	IAmb	IAmb	00 51 04.0			
	comp=Z,97nm,1.5s								
K50A				IAMs_20	IAMs_20	01 16 54.8			
	comp=Z,3µm,20.0s								
BLO	**Bloomington**	**56.69**	**68**	IAmb	IAmb	00 51 04.5			
	comp=Z,39nm,0.8s								
O48B	**Farmland**	**56.73**	**66**	IAMs_20	IAMs_20	01 15 07.2			
	comp=Z,4µm,20.0s								
PVMO	**Portageville**	**56.75**	**72**	P	**P**	**00 51 03.6**	**-0.9**		
N49A	**Columbus Grove**	**56.82**	**65**	IAmb	IAmb	00 52 02.2			
	comp=Z,29nm,0.7s								
N49A				IAMs_20	IAMs_20	01 14 18.5			
	comp=Z,3µm,21.0s								
PEBM	**Pemiscott Bayo**	**56.86**	**72**	P	**P**	**00 51 05.2**	**0.0**		
GNAR	**Gosnell**	**56.87**	**73**	P	**P**	**00 51 05.0**	**-0.3**		
GNAR				IAmb	IAmb	00 51 06.8			
	comp=Z,91nm,1.1s								
EF04	**Eagle Ford 04**	**56.92**	**84**	P	**P**	**00 51 06.5**	**+0.7**		
SADO	**Sadowa**	**56.93**	**58**	IAmb	IAmb	00 51 06.9			
	comp=Z,42nm,0.8s								
SADO	**Sadowa**	**56.93**	**58**	LR	LR	01 17 14.8			
	comp=Z,49µm,18.4s,baz=342,slow=38								
T45A	**Paducah**	**56.95**	**71**	IAMs_20	IAMs_20	01 15 18.4			
	comp=Z,3µm,19.0s								
YOJ	**Yonaguni jima**	**56.97**	**268**	P	**P**	**00 51 05.7**	**-0.4**		
YOJ	**Yonaguni jima**	**56.97**	**268**	P	**P**	**00 51 05.7**	**-0.4**		
YOJ				pmax	pmax				
	comp=Z,130nm,1.1s								
ANGG	**Ammassalik, Gr**	**56.99**	**21**	IAmb	IAmb	00 51 05.8			
	comp=Z,55nm,1.0s								
NATX	**Nacogdoches**	**57.02**	**79**	P	**P**	**00 51 07.0**	**+0.6**		
NATX				IAmb	IAmb	00 51 08.1			
	comp=Z,54nm,0.9s								
NATX				IAMs_20	IAMs_20	01 17 08.0			
	comp=Z,3µm,18.0s								
LNXT	**Lenox**	**57.08**	**72**	P	**P**	**00 51 05.8**	**-1.0**		
GLAT	**Glass**	**57.09**	**72**	P	**P**	**00 51 05.7**	**-1.1**		
Z41A	**Richland Creek**	**57.09**	**77**	IAmb	IAmb	00 51 09.3			
	comp=Z,95nm,1.3s								
P48A	**Milroy**	**57.12**	**67**	IAmb	IAmb	00 51 07.0			
	comp=Z,40nm,0.8s								
P48A				IAMs_20	IAMs_20	01 15 09.6			
	comp=Z,4µm,21.0s								
M50A	**Fremont**	**57.12**	**63**	IAmb	IAmb	00 51 07.8			
	comp=Z,23nm,0.8s								
M50A				IAMs_20	IAMs_20	01 15 47.5			
	comp=Z,3µm,20.0s								
735A	**Kenedy**	**57.16**	**84**	P	**P**	**00 51 07.9**	**+0.5**		
735A				IAMs_20	IAMs_20	01 13 34.1			
	comp=Z,5µm,21.0s								
ZAA0	**Zalesovo Array**	**57.21**	**317**	PcP	**PcP**	**00 52 01.8**	**+0.3**		
ZAA0				IAmb	IAmb	00 52 03.7			
	comp=Z,23nm,0.7s								
ZALV	**Zalesovo Beam**	**57.21**	**317**	P	**P**	**00 51 06.8**	**-0.6**		
ZALV	**Zalesovo Beam**	**57.21**	**317**	P	**P**	**00 51 07.1**	**-0.3**		
	comp=Z,5.1nm,0.5s,baz=39,slow=6.8,SNR=29								
ZALV				PcP	**PcP**	**00 52 01.8**	**+0.3**		
	comp=Z,21nm,0.6s,baz=42,slow=3.7,SNR=15								
ZALV				LR	LR	01 19 02.2			
	comp=Z,3µm,18.1s,baz=48,slow=40								
	comp=Z,5.1nm,0.5s								
O49A	**Covington**	**57.23**	**65**	IAmb	IAmb	00 52 03.7			
	comp=Z,25nm,0.8s								
O49A				IAMs_20	IAMs_20	01 15 32.6			
	comp=Z,4µm,20.0s								
HNVL	**Huntsville, TX**	**57.24**	**81**	P	**P**	**00 51 09.0**	**+1.0**		
CCAR	**Cane Creek**	**57.25**	**76**	P	**P**	**00 51 07.7**	**-0.3**		
WCI	**Wyandotte Cave**	**57.47**	**68**	P	**P**	**00 51 09.3**	**-0.2**		
WCI	**Wyandotte Cave**	**57.47**	**68**	IAMs_20	IAMs_20	01 18 34.0			
	comp=Z,3µm,18.0s								
WCI	**Wyandotte Cave**	**57.47**	**68**	P	**P**	**00 51 09.3**	**-0.2**		
WCI				pmax	pmax				
	comp=Z,134nm,1.4s								
WCI				MLR	MLR				
	comp=Z,4µm,18.0s								
WCI	**Wyandotte Cave**	**57.47**	**68**	P	**P**	**00 51 09.2**	**-0.4**		
MET	**Memphis--Engin**	**57.50**	**73**	P	**P**	**00 51 09.3**	**-0.4**		
TATO	**Taipei**	**57.53**	**270**	IAMs_20	IAMs_20	01 14 44.6			
	comp=Z,3µm,21.0s								
HKT	**Hockley**	**57.59**	**82**	P	**P**	**00 51 11.4**	**+1.0**		
HKT				IAMs_20	IAMs_20	01 14 34.9			
	comp=Z,3µm,20.0s								
HKT	**Hockley**	**57.59**	**82**	P	**P**	**00 51 11.4**	**+1.0**		
KEV	**Kevo**	**57.69**	**353**	P	**P**	**00 51 10.3**	**-0.3**		
KEV				IAmb	IAmb	00 51 44.2			
	comp=Z,122nm,1.6s								
KEV	**Kevo**	**57.69**	**353**	P	**P**	**00 51 10.3**	**-0.3**		
KEV				pmax	pmax				
	comp=Z,122nm,1.6s								
KEV				MLR	MLR				
	comp=Z,6µm,21.0s								
N51A	**Ashland**	**57.82**	**63**	IAmb	IAmb	00 51 14.4			
	comp=Z,67nm,1.1s								
N51A				IAMs_20	IAMs_20	01 17 57.0			
	comp=Z,3µm,21.0s								
YHNB	**Yeheng**	**57.82**	**269**	P	**P**	**00 51 13.0**	**+0.7**		
YHNB				IAmb	IAmb	00 52 32.0			
	comp=Z,122nm,1.6s								
YHNB				IAMs_20	IAMs_20	01 14 21.5			
	comp=Z,3µm,22.0s								
IVI	**Ivigtut**	**57.85**	**29**	IAMs_20	IAMs_20	01 16 39.6			
	comp=Z,4µm,21.0s								
IVI	**Ivigtut**	**57.85**	**29**	*i* P	**P**	**00 51 10.2**	**-1.6**		
T47A	**Sharon Grove**	**57.86**	**70**	IAMs_20	IAMs_20	01 13 57.4			
	comp=Z,3µm,21.0s								
WHN	**Wuhan**	**57.89**	**280**	P	**P**	**00 51 12.5**	**-0.1**		
WHN				S	**S**	**00 59 11.3**	**+2.1**		
WHN				sS	**sS**	**00 59 30.3**	**+1.4**		
WHN				pmax	pmax				
	comp=Z,160nm,0.9s								
WHN				pmax	pmax				
	comp=Z,1µm,5.2s								
WHN				LR	LR				
	comp=Z,4µm,19.8s								
WHN				LR	LR				
	comp=Z,4µm,19.0s								
WHN				LR	LR				
	comp=Z,4µm,16.9s								
HBVL	**Hebbronville**	**57.92**	**86**	IAmb	IAmb	00 51 15.6			
	comp=Z,38nm,0.7s								
M52A	**Chesterland**	**57.95**	**62**	IAMs_20	IAMs_20	01 17 53.3			
	comp=Z,4µm,20.0s								
ACSO	**Alum Creek Sta**	**57.96**	**64**	IAmb	IAmb	00 52 06.8			
	comp=Z,26nm,0.7s								
ACSO				IAMs_20	IAMs_20	01 14 53.6			
	comp=Z,3µm,22.0s								
ARCES	**ARCESS Array B**	**58.01**	**354**	P	**P**	**00 51 12.4**	**-0.4**		
ARCES	**ARCESS Array B**	**58.01**	**354**	P	**P**	**00 51 12.0**	**-0.9**		
	comp=Z,14nm,0.7s,baz=14,slow=6.8,SNR=33								
ARCES				PcP	**PcP**	**00 52 05.1**	**+0.7**		
	comp=Z,23nm,0.7s,baz=21,slow=5.2,SNR=8.3								
ARCES				LR	LR	01 16 00.2			
	comp=Z,4µm,21.9s,baz=1.0,slow=36								
	comp=Z,14nm,0.7s								
WVT	**Waverly**	**58.03**	**71**	P	**P**	**00 51 13.0**	**-0.5**		
WVT				IAmb	IAmb	00 51 16.1			
	comp=Z,76nm,1.1s								
WVT	**Waverly**	**58.03**	**71**	IAMs_20	IAMs_20	01 15 52.2			
	comp=Z,3µm,21.0s								
WVT	**Waverly**	**58.03**	**71**	P	**P**	**00 51 13.0**	**-0.5**		
WVT				pmax	pmax				
	comp=Z,76nm,1.2s								
WVT				MLR	MLR				
	comp=Z,3µm,21.0s								
WVT	**Waverly**	**58.03**	**71**	P	**P**	**00 51 13.4**	**-0.1**		
NACB	**Ninganchiao**	**58.05**	**269**	IAmb	IAmb	00 51 21.5			
	comp=Z,25nm,0.7s								
NACB				IAMs_20	IAMs_20	01 15 06.6			
	comp=Z,2µm,21.0s								
R49A	**Shelbyville**	**58.07**	**67**	IAmb	IAmb	00 51 15.3			
	comp=Z,74nm,1.7s								
R49A				IAMs_20	IAMs_20	01 15 07.7			
	comp=Z,4µm,21.0s								
ERPA	**Erie**	**58.29**	**61**	P	**P**	**00 51 15.2**	**0.0**		
143A	**Socs Landing,**	**58.32**	**76**	P	**P**	**00 51 15.8**	**+0.3**		
MEDO	**Medina**	**58.39**	**59**	IAmb	IAmb	00 51 17.3			
	comp=Z,60nm,0.8s								
P51A	**Williamsport**	**58.43**	**65**	IAmb	IAmb	00 52 08.5			
	comp=Z,44nm,0.6s								
R50A	**Paris**	**58.55**	**67**	IAmb	IAmb	00 51 17.9			
	comp=Z,33nm,0.8s								
R50A				IAMs_20	IAMs_20	01 16 05.5			
	comp=Z,4µm,21.0s								
Q51A	**Peebles**	**58.59**	**66**	IAMs_20	IAMs_20	01 16 14.4			
	comp=Z,4µm,20.0s								
Y45A	**Yeager Farm, C**	**58.61**	**74**	IAMs_20	IAMs_20	01 17 22.6			
	comp=Z,2µm,20.0s								
J55A	**Hilton**	**58.66**	**59**	IAmb	IAmb	00 51 19.4			
	comp=Z,49nm,0.8s								
O52A	**Adamsville**	**58.67**	**64**	IAmb	IAmb	00 51 18.5			
	comp=Z,48nm,0.8s								
O52A				IAMs_20	IAMs_20	01 18 23.8			
	comp=Z,3µm,20.0s								
LDAQ	**Lac Daran**	**58.68**	**51**	IAmb	IAmb	00 51 19.1			
	comp=Z,24nm,0.7s								
XAN	**Xi'an**	**58.68**	**286**	P	**P**	**00 51 17.5**	**-0.6**		
XAN				PP	**PP**	**00 53 30.0**	**+2.1**		
XAN				S	**S**	**00 59 21.0**	**+1.4**		
XAN				sS	sS	00 59 38.0	-1.6		
XAN				pmax	pmax				
	comp=Z,48nm,0.9s								
XAN				pmax	pmax				
	comp=Z,830nm,5.0s								
XAN				LR	LR				
	comp=Z,2µm,17.2s								
XAN				LR	LR				
	comp=Z,4µm,19.1s								
XAN				LR	LR				
	comp=Z,5µm,19.2s								
NRS	**Narsarsuaq**	**58.69**	**28**	*i* P	**P**	**00 51 17.2**	**-0.5**		
SSLB	**Suanglung**	**58.73**	**269**	IAMs_20	IAMs_20	01 15 36.6			
	comp=Z,2µm,21.0s								
SSLB	**Suanglung**	**58.73**	**269**	P	**P**	**00 51 20.1**	**+1.5**		
N53A	**Lisbon**	**58.74**	**63**	IAmb	IAmb	00 51 19.1			
	comp=Z,33nm,0.9s								
N53A				IAMs_20	IAMs_20	01 18 08.3			
	comp=Z,4µm,20.0s								
LVZ	**Lovozero**	**58.77**	**349**	P	**P**	**00 51 18.3**	**+0.1**		
LVZ	**Lovozero**	**58.77**	**349**	P	**P**	**00 51 18.3**	**+0.1**		
LVZ				pmax	pmax				
	comp=Z,69nm,0.6s								
LVZ	**Lovozero**	**58.77**	**349**	P	**P**	**00 51 17.8**	**-0.4**		
	comp=Z,121nm,0.7s								
YULB	**Yu-li**	**58.81**	**269**	P	**P**	**00 51 19.9**	**+0.8**		
YULB				IAmb	IAmb	00 51 43.9			
	comp=Z,75nm,1.3s								
P52A	**Corning**	**58.84**	**64**	IAmb	IAmb	00 52 09.8			
	comp=Z,30nm,0.8s								
PAOC	**Oil Creek Stat**	**58.88**	**61**	IAmb	IAmb	00 51 38.2			
	comp=Z,45nm,1.0s								
V48A	**Smith Brothers**	**58.89**	**71**	IAmb	IAmb	00 51 21.1			
	comp=Z,77nm,1.3s								
V48A				IAMs_20	IAMs_20	01 16 27.8			
	comp=Z,3µm,21.0s								
O53A	**New Philadelph**	**58.92**	**63**	IAmb	IAmb	00 52 10.6			
	comp=Z,38nm,0.7s								
CLTN	**Cedars of Leba**	**58.93**	**70**	IAmb	IAmb	00 51 21.1			
	comp=Z,38nm,1.0s								
U49A	**Red Boiling Sp**	**58.95**	**69**	IAmb	IAmb	00 51 21.5			
	comp=Z,33nm,0.8s								
U49A				IAMs_20	IAMs_20	01 14 43.4			
	comp=Z,4µm,21.0s								
MMNY	**Mt. Morris Dam**	**58.98**	**59**	IAmb	IAmb	00 51 22.2			
	comp=Z,44nm,0.9s								
DGZ	**Jazzator, Alta**	**59.09**	**312**	*d i* P	**P**	**00 51 20.9**	**0.0**		
DGZ				pmax	pmax				
	comp=Z,4.0nm,3.1s								
T50A	**Nancy**	**59.14**	**68**	IAmb	IAmb	00 51 23.0			
	comp=Z,81nm,1.3s								
T50A				IAMs_20	IAMs_20	01 15 53.2			
	comp=Z,4µm,22.0s								
APA	**Apatity**	**59.23**	**350**	‖ *i* P	**P**	**00 51 22.2**	**+0.9**		
APA				*i*		00 52 07.3			
APA				*i* S	**S**	**00 59 28.4**	**+2.8**		
APA				*i* SS	**SS**	**01 03 14.6**	**-4.8**		
APA				MLR	MLR				
	comp=Z,6µm,20.2s								
Q52A	**Bidwell**	**59.24**	**65**	P	**P**	**00 51 21.0**	**-0.9**		
Q52A				IAmb	IAmb	00 51 23.5			
	comp=Z,33nm,1.0s								
Q52A				IAMs_20	IAMs_20	01 15 20.5			
	comp=Z,3µm,21.0s								
TPUB	**Ta-pu**	**59.29**	**269**	IAMs_20	IAMs_20	01 15 57.4			
	comp=Z,3µm,21.0s								
QZH	**Quanzhou**	**59.33**	**272**	P	**P**	**00 51 21.5**	**-1.2**		
QZH				S	**S**	**00 59 31.0**	**+2.9**		
QZH				pmax	pmax				
	comp=Z,630nm,7.1s								
QZH				LR	LR				
	comp=Z,970nm,19.6s								
QZH				LR	LR				
	comp=Z,1µm,15.8s								
QZH				LR	LR				
	comp=Z,1µm,19.6s								
P53A	**Whipple**	**59.36**	**64**	IAmb	IAmb	00 51 37.2			
	comp=Z,30nm,0.8s								
P53A				IAMs_20	IAMs_20	01 19 31.6			
	comp=Z,3µm,19.0s								
LONY	**Lake Ozonia**	**59.38**	**56**	IAmb	IAmb	00 51 23.7			
	comp=Z,43nm,0.8s								
LMQ	**La Malbaie**	**59.41**	**51**	IAmb	IAmb	00 51 23.9			
	comp=Z,52nm,1.3s								
S51A	**Beattyville**	**59.41**	**67**	IAmb	IAmb	00 51 44.5			
	comp=Z,40nm,0.9s								
S51A				IAMs_20	IAMs_20	01 16 33.4			
	comp=Z,4µm,20.0s								
O54A	**Avella**	**59.43**	**63**	IAmb	IAmb	00 51 23.9			
	comp=Z,45nm,0.8s								
O54A				IAMs_20	IAMs_20	01 17 18.4			
	comp=Z,3µm,20.0s								
L56A	**Greenwood**	**59.58**	**60**	IAMs_20	IAMs_20	01 17 24.2			
	comp=Z,4µm,21.0s								
K57A	**Scipio Center**	**59.71**	**58**	IAmb	IAmb	00 51 26.3			
	comp=Z,45nm,0.8s								
FRNY	**Flat Rock**	**59.73**	**55**	IAmb	IAmb	00 51 25.7			
	comp=Z,27nm,0.9s								
146A	**Union**	**59.76**	**75**	IAMs_20	IAMs_20	01 20 14.2			
	comp=Z,2µm,19.0s								
SWET	**Sewanee**	**59.77**	**71**	IAmb	IAmb	00 51 26.8			
	comp=Z,30nm,0.9s								
Z47A	**Carrollton**	**59.95**	**74**	IAMs_20	IAMs_20	01 20 19.1			
	comp=Z,2µm,20.0s								
NCB	**Newcomb**	**60.02**	**56**	IAmb	IAmb	00 51 29.6			
	comp=Z,84nm,1.4s								
MCWV	**Mont Chateau**	**60.09**	**63**	IAmb	IAmb	00 51 28.7			
	comp=Z,50nm,0.8s								
MCWV				IAMs_20	IAMs_20	01 18 38.9			
	comp=Z,3µm,20.0s								
GTA	**Gaotai**	**60.12**	**297**	*e* P	**P**	**00 51 26.8**	**-1.3**		
GTA				S	**S**	**00 59 35.0**	**-3.2**		
GTA				SS	**SS**	**01 03 37.3**	**+2.4**		
GTA				pmax	pmax				
	comp=Z,29nm,1.2s								
GTA				pmax	pmax				
	comp=Z,500nm,10.2s								
GTA				LR	LR				
	comp=Z,3µm,19.6s								
GTA				LR	LR				
	comp=Z,3µm,21.8s								
GTA				LR	LR				
	comp=Z,6µm,21.4s								
W50A	**Signal Mountai**	**60.15**	**70**	IAMs_20	IAMs_20	01 17 17.0			
	comp=Z,3µm,21.0s								
LZH	**Lanzhou**	**60.20**	**291**	*e* P	**P**	**00 51 28.5**	**-0.2**		
LZH				pP	pP	00 51 37.0	-3.6		
LZH				S	**S**	**00 59 37.8**	**-1.6**		
LZH				SS	**SS**	**01 03 38.3**	**+1.9**		
LZH				pmax	pmax				
	comp=Z,76nm,1.5s								
LZH				pmax	pmax				
	comp=Z,630nm,4.5s								
LZH				LR	LR				
	comp=Z,4µm,17.5s								
LZH				LR	LR				
	comp=Z,3µm,19.0s								
LZH				LR	LR				
	comp=Z,5µm,19.7s								
TZTN	**Tazewell**	**60.21**	**68**	IAmb	IAmb	00 52 01.1			
	comp=Z,62nm,1.1s								
TZTN				IAMs_20	IAMs_20	01 16 36.5			
	comp=Z,4µm,21.0s								
J59A	**Piesco**	**60.24**	**57**	IAmb	IAmb	00 51 30.0			
	comp=Z,28nm,0.7s								
D62A	**Allapoint, All**	**60.35**	**51**	IAmb	IAmb	00 51 31.5			
	comp=Z,49nm,1.2s								
BINY	**Binghamton**	**60.36**	**58**	IAmb	IAmb	00 51 31.1			
	comp=Z,51nm,0.8s								
M57A	**Sunshine Farm,**	**60.37**	**60**	IAmb	IAmb	00 51 32.1			
	comp=Z,45nm,0.8s								
M57A				IAMs_20	IAMs_20	01 17 40.2			
	comp=Z,4µm,21.0s								
LZDM	**Lanzhou Array**	**60.37**	**291**	P	**P**	**00 51 30.3**	**+0.2**		
	comp=Z,13nm,0.6s,baz=0.0,slow=1.5,SNR=18								
LZDM				PcP	**PcP**	**00 52 15.9**	**+1.1**		
	comp=Z,13nm,0.5s,baz=283,slow=2.6,SNR=7.3								
LZDM				LR	LR	01 18 51.9			
	comp=Z,4µm,20.4s,baz=25,slow=37								
	comp=Z,13nm,0.6s								
CPCT	**Cooper Cave**	**60.42**	**69**	IAmb	IAmb	00 51 31.4			
	comp=Z,42nm,1.0s								
CNSH	**ChangSha**	**60.44**	**279**	P	**P**	**00 51 30.0**	**-0.3**		
CNSH				S	**S**	**00 59 40.3**	**-2.0**		
CNSH				pmax	pmax				
	comp=Z,63nm,1.0s								
CNSH				LR	LR				
	comp=Z,2µm,20.6s								
CNSH				LR	LR				
	comp=Z,2µm,24.0s								
CNSH				LR	LR				
	comp=Z,2µm,28.5s								
Y49A	**Blount Mountai**	**60.46**	**72**	IAmb	IAmb	00 51 30.8			
	comp=Z,52nm,0.8s								
E62A	**Clayton Lake**	**60.46**	**51**	IAmb	IAmb	00 51 31.1			
	comp=Z,20nm,0.8s								
SSPA	**Standing Stone**	**60.46**	**61**	P	**P**	**00 51 30.1**	**-0.2**		
SSPA	**Standing Stone**	**60.46**	**61**	P	**P**	**00 51 30.2**	**0.0**		
VT1	**Waterbury**	**60.51**	**55**	IAmb	IAmb	00 51 32.5			
	comp=Z,70nm,1.3s								
S54A	**Dingess, Beckl**	**60.59**	**65**	IAmb	IAmb	00 51 33.4			
	comp=Z,44nm,0.7s								
S54A				IAMs_20	IAMs_20	01 16 25.3			
	comp=Z,4µm,22.0s								
LRAL	**Lakeview Retre**	**60.70**	**73**	IAmb	IAmb	00 51 32.3			
	comp=Z,49nm,0.8s								
TKL	**Tuckaleechee C**	**60.71**	**69**	IAmb	IAmb	00 51 33.5			
	comp=Z,86nm,1.4s								
TKL	**Tuckaleechee C**	**60.71**	**69**	LR	LR	01 16 10.9			
	comp=Z,3µm,21.0s,baz=323,slow=34								
X51A	**Calhoun**	**60.86**	**70**	IAMs_20	IAMs_20	01 17 38.9			
	comp=Z,3µm,21.0s								
Q56A	**Snyder Ridge,**	**60.88**	**63**	IAmb	IAmb	00 51 51.8			
	comp=Z,28nm,0.9s								
Q56A				IAMs_20	IAMs_20	01 19 14.0			
	comp=Z,3µm,20.0s								
BORG	**Borgarnes**	**60.89**	**15**	IAmb	IAmb	00 52 14.0			
	comp=Z,51nm,1.1s								
BORG	**Borgarnes**	**60.89**	**15**	P	**P**	**00 51 34.1**	**+1.3**		
	comp=Z,15nm,0.7s,baz=11,slow=15,SNR=2.9								
BORG				LR	LR	01 21 06.5			
	comp=Z,2µm,18.6s,baz=339,slow=39								
	comp=Z,15nm,0.7s								
R55A	**Marlinton**	**60.91**	**64**	IAmb	IAmb	00 51 36.8			
	comp=Z,65nm,1.1s								
R55A				IAMs_20	IAMs_20	01 20 29.7			
	comp=Z,4µm,19.0s								
KSPA	**Keystone Colle**	**60.93**	**59**	IAmb	IAmb	00 51 35.1			
	comp=Z,26nm,0.8s								
N58A	**Sunbury**	**60.94**	**60**	IAMs_20	IAMs_20	01 17 57.3			
	comp=Z,4µm,21.0s								
LBNH	**Lisbon**	**60.99**	**54**	IAmb	IAmb	00 51 35.9			
	comp=Z,103nm,1.8s								
W52A	**Murphy**	**61.02**	**69**	IAmb	IAmb	00 51 35.7			
	comp=Z,41nm,1.1s								
ENH	**Enshi**	**61.02**	**283**	IAmb	IAmb	00 51 40.0			
	comp=Z,22nm,0.7s								
TRY	**Troy**	**61.19**	**57**	IAmb	IAmb	00 51 36.8			
	comp=Z,38nm,0.8s								

comp=Z,43nm,0.7s
KURBB **Kurchatov Arra** 62.27 318 P **P** 00 51 40.7 -1.6
comp=Z,22nm,0.6s,baz=44,slow=6.7,SNR=210
KURBB PcP **PcP** 00 52 22.1 +0.3
comp=Z,11nm,0.6s,baz=35,slow=3.4,SNR=8.9
KURBB LR LR 01 20 02.8
comp=Z,5μm,21.4s,baz=26,slow=37
KURBB PKP2bc **P'P'bc** 01 20 59.4 -2.2
comp=Z,0.3nm,0.7s,baz=246,slow=2.5,SNR=2.7
comp=Z,22nm,0.6s
152A **Waverly Hall** 62.30 72 P **P** 00 51 41.6 -1.2
152A IAmb IAmb 00 51 42.8
comp=Z,41nm,0.7s
152A IAMs_20 IAMs_20 01 21 35.0
comp=Z,2μm,19.0s
T57A **Hurt** 62.30 65 IAmb IAmb 00 51 45.0
comp=Z,33nm,0.8s
R58B **Mineral** 62.37 63 IAMs_20 IAMs_20 01 20 10.3
comp=Z,4μm,20.0s
HRV **Adam Dziewonsk** 62.43 56 P **P** 00 51 43.4 -0.1
HRV IAmb IAmb 00 51 45.2
comp=Z,42nm,1.1s
HRV **Adam Dziewonsk** 62.43 56 **P** 00 51 43.5 0.0
HRV IAMs_20 IAMs_20 01 20 03.3
comp=Z,5μm,18.0s
CPNY **Central Park** 62.43 58 P **P** 00 51 43.8 +0.3
KMSC **Kings Mountain** 62.47 68 IAMs_20 IAMs_20 01 17 37.3
comp=Z,4μm,20.0s
WSPT **Westport, CT** 62.49 58 IAmb IAmb 00 51 45.5
comp=Z,53nm,0.9s
GOGA **Godfrey** 62.49 70 IAMs_20 IAMs_20 01 18 39.1
comp=Z,3μm,21.0s
N62A **Caumsett State** 62.59 58 P **P** 00 51 44.2 -0.4
HODGE **Hodges** 62.59 69 IAmb IAmb 00 51 45.3
comp=Z,40nm,0.8s
BCX **Boston College** 62.75 55 P **P** 00 51 45.5 -0.1
BCX IAmb IAmb 00 51 47.8
comp=Z,74nm,1.5s
P61A **Hammonton** 62.80 60 P **P** 00 51 46.9 +0.9
451A **Vernon** 63.17 74 P **P** 00 51 48.1 -0.5
L64A **Middleborough** 63.21 56 IAmb IAmb 00 51 51.8
comp=Z,118nm,1.9s
W57A **Gilead** 63.22 67 IAmb IAmb 00 51 50.8
comp=Z,32nm,0.7s
WMQ **Urumqi** 63.24 308 *e*P **P** 00 51 49.3 +0.3
WMQ PcP **PcP** 00 52 27.5 +1.5
WMQ pmax pmax
comp=Z,34nm,0.9s
WMQ pmax pmax
comp=Z,320nm,10.3s
WMQ LR LR
comp=Z,3μm,21.1s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,3μm,22.3s
V58A **Windy Hill, Pi** 63.25 66 IAmb IAmb 00 51 50.3
comp=Z,50nm,0.9s
V58A IAMs_20 IAMs_20 01 18 59.8
comp=Z,3μm,20.0s
154A **Montrose** 63.27 71 IAMs_20 IAMs_20 01 19 02.9
comp=Z,3μm,22.0s
BIRD **Birdtown, Kers** 63.32 67 IAmb IAmb 00 51 51.6
comp=Z,49nm,0.9s
UNM **Universidad Na** 63.33 93 IAMs_20 IAMs_20 01 17 43.2
comp=Z,3μm,19.0s
R61A **Willards** 63.49 61 P **P** 00 51 52.1 +1.6
BVAR **Borovoye Array** 63.54 324 P **P** 00 51 50.1 -0.6
comp=Z,72nm,0.6s,baz=48,slow=7.2,SNR=225
BVAR PcP **PcP** 00 52 28.1 +1.1
comp=Z,42nm,0.6s,baz=38,slow=3.2,SNR=4.4
BVAR PKP2bc **P'P'bc** 01 20 54.9 -3.6
comp=Z,0.6nm,0.6s,baz=214,slow=4.9,SNR=3.6
BVAR LR LR 01 22 35.6
comp=Z,7μm,18.4s,baz=43,slow=39
comp=Z,72nm,0.6s
BORK **Borovoye** 63.55 324 ⇓*e*P **P** 00 51 50.9 +0.2
BORK pmax pmax
comp=Z,49nm,0.7s
MK31 **Makanchi Array** 63.55 313 P **P** 00 51 50.3 -0.6
MK31 **Makanchi Array** 63.55 313 P **P** 00 51 50.3 -0.6
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR **Makanchi Array** 63.55 313 P **P** 00 51 50.0 -1.0
MKAR **Makanchi Array** 63.55 313 P **P** 00 51 49.6 -1.3
comp=Z,12nm,0.7s,baz=55,slow=7.8,SNR=85
MKAR PcP **PcP** 00 52 27.6 +0.4
comp=Z,8.6nm,0.6s,baz=55,slow=5.9,SNR=6.2
MKAR LR LR 01 19 51.9
comp=Z,3μm,20.7s,baz=32,slow=36
comp=Z,12nm,0.7s
SVE **Sverdlovsk** 63.59 332 *ce*P **P** 00 51 51.5 +0.6
SVE *e*S **S** 01 00 22.0 +0.8
SVE pmax pmax
comp=Z,38nm,0.6s
MAKZ **Makanchi** 63.69 313 P **P** 00 51 50.9 -0.9
MAKZ IAMs_20 IAMs_20 01 19 54.5
comp=Z,2μm,20.0s
MAKZ **Makanchi** 63.69 313 P **P** 00 51 50.9 -0.9
MAKZ pmax pmax
comp=Z,11nm,0.6s
MAKZ MLR MLR
comp=Z,2μm,20.0s
MAKZ **Makanchi** 63.69 313 P **P** 00 51 50.6 -1.2
S61A **Accomac** 63.78 62 P **P** 00 51 52.5 +0.1
S61A IAmb IAmb 00 52 30.3
comp=Z,71nm,1.0s
TIGA **Tifton** 63.84 72 IAMs_20 IAMs_20 01 22 32.2
comp=Z,2μm,19.0s
CD2 **Chengdu** 63.96 287 P **P** 00 51 53.8 -0.1
CD2 pP pP 00 52 03.8 -2.1
CD2 sP sP 00 52 08.0 -2.6
CD2 S **S** 01 00 26.3 -0.4
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,1μm,7.7s
CD2 LR LR
comp=Z,3μm,20.2s
CD2 LR LR
comp=Z,3μm,19.6s
CD2 LR LR
comp=Z,3μm,19.4s
X58A **Rowland** 64.02 67 P **P** 00 51 53.9 -0.2
X58A IAmb IAmb 00 51 56.5
comp=Z,49nm,0.9s
HKPS **Hong Kong Po S** 64.04 273 IAMs_20 IAMs_20 01 17 49.3
comp=Z,2μm,21.0s
W59A **Clinton** 64.08 66 P **P** 00 51 55.4 +0.9
W59A IAmb IAmb 00 51 56.9
comp=Z,35nm,0.5s
GULI **GuiLin** 64.11 278 P **P** 00 51 53.8 -1.1
GULI S **S** 01 00 25.5 -3.1
GULI pmax pmax
comp=Z,54nm,1.0s
GULI pmax pmax
comp=Z,680nm,10.8s
GULI LR LR
comp=Z,1μm,20.1s
GULI LR LR
comp=Z,730nm,17.6s
GULI LR LR
comp=Z,2μm,21.8s
Y58A **Scranton** 64.31 67 P **P** 00 51 56.2 +0.2
ARTI **Arti** 64.61 333 P **P** 00 51 57.5 -0.2
ARTI **Arti** 64.61 333 LR LR 01 24 18.1
comp=Z,3μm,18.5s,baz=26,slow=40
ARTI **Arti** 64.61 333 *c i*P **P** 00 51 57.6 -0.1
ARTI 00 52 32.0
ARTI S **S** 01 00 36.4 +2.5
ARTI SS **SS** 01 04 43.9 -0.1
ARTI pmax pmax
comp=Z,42nm,0.5s
ARTI MLR MLR
comp=Z,3μm,18.0s
V61A **Roper** 64.66 64 P **P** 00 51 59.0 +0.7
HAL **Halifax** 64.72 49 P **P** 00 51 58.8 +0.2
HAL **Halifax** 64.72 49 P **P** 00 51 58.8 +0.2
HAL pmax pmax
comp=Z,177nm,1.6s
CSU **Charleston Sou** 64.75 68 P **P** 00 51 58.3 -0.6
KLMR **Klimovskoe** 64.80 344 *e*P **P** 00 51 57.2 -1.6
KLMR S **S** 01 00 34.1 -1.9
KLMR pmax pmax
comp=Z,53nm,1.3s
KLMR MLR MLR
comp=Z,3μm,16.0s
KIRV **Kirov** 64.96 338 LR LR 01 23 47.7
comp=Z,3μm,19.8s,baz=29,slow=39
KIRV **Kirov** 64.96 338 *d i*P **P** 00 51 59.7 -0.1
Y60A **Bolivia** 65.06 66 IAMs_20 IAMs_20 01 20 04.9
comp=Z,3μm,20.0s
BRZS **Berezniki** 65.12 321 *e*P **P** 00 52 00.9 -0.2
BRZS **Berezniki** 65.12 321 *e*P **P** 00 52 00.9 -0.2
GOMU **GeErMu** 65.17 297 P **P** 00 52 01.3 -0.8
GOMU S **S** 01 00 42.8 +0.6
GOMU pmax pmax
comp=Z,29nm,0.9s
GOMU LR LR
comp=Z,2μm,17.0s
GOMU LR LR
comp=Z,2μm,16.9s
GOMU LR LR
comp=Z,3μm,16.1s
456A **Hilliard** 65.28 71 IAMs_20 IAMs_20 01 20 17.2
comp=Z,3μm,20.0s
GYA **Guiyang** 65.49 282 ⇓P **P** 00 52 04.3 +0.3
GYA S **S** 01 00 43.0 -2.8
GYA pmax pmax
comp=Z,60nm,1.2s
GYA pmax pmax
comp=Z,590nm,9.3s
GYA LR LR
comp=Z,980nm,22.4s
GYA LR LR
comp=Z,1μm,21.4s
GYA LR LR
comp=Z,2μm,28.8s
AFI **Afiamalu** 65.87 182 P **P** 00 52 07.9 +1.6
AFI IAmb IAmb 00 52 59.4
comp=Z,42nm,1.0s
AFI **Afiamalu** 65.87 182 P **P** 00 52 07.9 +1.6
AFI pmax pmax
comp=Z,42nm,1.0s
FINES **FINESS Array B** 65.94 352 P **P** 00 52 05.9 -0.3
FINES **FINESS Array B** 65.94 352 P **P** 00 52 05.2 -1.0
comp=Z,18nm,0.6s,baz=20,slow=7.5,SNR=92
FINES LR LR 01 21 13.8
comp=Z,4μm,21.9s,baz=18,slow=36
comp=Z,18nm,0.6s
656A **Willston** 65.98 73 IAMs_20 IAMs_20 01 23 40.8
comp=Z,2μm,21.0s
TAOE **Nuku Hiva Isla** 66.05 147 *e*P P 00 51 58.4 -9.1
comp=Z,298nm,26.3s
TAOE **Nuku Hiva Isla** 66.05 147 *e*PP PP 00 54 25.3 -8.2
comp=Z,144nm,28.7s
TAOE *e*S **S** 01 00 45.7 -6.9
comp=Z,1μm,28.9s
TAOE *e*SS **SS** 01 04 59.8 -9.1
comp=Z,1μm,26.9s
TAOE *e*LQ LQ 01 08 36.7
comp=Z,2μm,30.1s
TAOE *e*LR LR 01 11 55.3
comp=Z,6μm,22.2s
HNR **Honiara** 66.56 212 LR LR 01 15 38.3
comp=Z,1μm,21.6s,baz=359,slow=31
FUTU **Fugatoga** 66.61 188 IAMs_20 IAMs_20 01 13 59.2
comp=Z,3μm,20.0s
TDK **Taldyqorghan** 66.67 314 *e*P **P** 00 52 11.0 -0.2
comp=Z,17nm,0.6s
TDK **Taldyqorghan** 66.67 314 *e*P **P** 00 52 10.9 -0.2
TDK pmax pmax
comp=Z,17nm,0.6s
NC405 **NORSAR Array S** 67.00 359 IAmb IAmb 00 52 41.9
comp=Z,25nm,0.8s
NB2 **NORSAR Subarra** 67.08 359 P **P** 00 52 13.1 -0.4
comp=Z,9.2nm,0.6s,baz=1.7,slow=6.9
NOA **NORSAR Array B** 67.08 359 P **P** 00 52 13.3 -0.2
comp=Z,5.7nm,0.5s,baz=0.7,slow=6.4,SNR=38
NOA LR LR 01 20 27.1
comp=Z,1μm,21.3s,baz=0.0,slow=35
comp=Z,5.7nm,0.5s
NAO01 **NORSAR Array S** 67.28 359 P **P** 00 52 14.9 +0.2
NAO01 IAmb IAmb 00 52 15.7
comp=Z,112nm,1.6s
PDGK **Podgornoye** 67.49 312 P **P** 00 52 16.3 -0.2
ARXS **Arharly** 67.54 314 *e*P **P** 00 52 16.0 -0.8
DWPF **Disney Wildern** 67.56 73 P **P** 00 52 17.3 +0.4
SHLS **Shalkode** 67.64 312 *e*P **P** 00 52 16.3 -1.1
comp=Z,17nm,0.6s
SHLS **Shalkode** 67.64 312 *e*P **P** 00 52 16.3 -1.1
SHLS pmax pmax
comp=Z,17nm,0.6s
CMIG **Matias Romero** 67.67 91 LR LR 01 17 35.8
comp=Z,2μm,21.6s,baz=305,slow=32
UZB **Uzynbulak** 67.84 312 *e*P **P** 00 52 18.5 -0.3
UZB **Uzynbulak** 67.84 312 *e*P **P** 00 52 18.5 -0.3
HFS **Hagfors** 67.95 358 P **P** 00 52 18.1 -0.9
comp=Z,18nm,0.4s,baz=27,slow=3.6,SNR=114
HFS PKiKP **PKiKP** 00 58 42.5 +1.3
comp=Z,2.8nm,0.9s,baz=29,slow=3.3,SNR=5.4
HFS LR LR 01 20 50.4
comp=Z,2μm,21.8s,baz=1.5,slow=35
comp=Z,18nm,0.4s
SATY **Saty** 68.19 313 *e*P **P** 00 52 20.8 -0.1
SATY **Saty** 68.19 313 *e*P **P** 00 52 20.8 -0.1
PZH **PanZhiHua** 68.40 286 P **P** 00 52 24.5 +2.0
PZH PcP **PcP** 00 52 47.8 +0.1
PZH PcS 00 56 50.0
PZH S **S** 01 01 16.3 -4.6
PZH SS **SS** 01 05 44.0 -0.4
PZH pmax pmax
comp=Z,80nm,1.1s
PZH pmax pmax
comp=Z,580nm,10.2s
PZH LR LR
comp=Z,1μm,19.8s
PZH LR LR
comp=Z,670nm,16.1s
PZH LR LR
comp=Z,1μm,18.6s
JAY **Jayapura** 68.43 234 LR LR 01 18 38.4
comp=Z,2μm,20.6s,baz=11,slow=33
JAY **Jayapura** 68.43 234 P **P** 00 52 22.7 +0.1
comp=Z,21nm,0.9s
PRZ **Przheval'sk** 68.65 312 IAmb IAmb 00 52 26.0
comp=Z,21nm,0.5s
MDOK **Medeo** 68.72 314 *e*P **P** 00 52 24.1 -0.2
MDOK **Medeo** 68.72 314 *e*P **P** 00 52 24.0 -0.2
AAA **Alma-Ata** 68.74 314 *e*P **P** 00 52 24.4 +0.1
AAA **Alma-Ata** 68.74 314 *e*P **P** 00 52 24.4 +0.1
GENI **Genyem** 68.77 235 P **P** 00 52 26.0 +1.4
comp=Z,2μmcomp=Z,88nm,0.8s
DAV **Davao City (W)** 68.81 254 IAMs_20 IAMs_20 01 18 01.1
comp=Z,2μm,20.0s
VSU **Vasula** 68.82 351 *d i*P **P** 00 52 23.2 -1.2
VSU pmax pmax
comp=Z,56nm,0.6s
KMI **Kunming** 68.84 284 ⇑P **P** 00 52 25.3 0.0
KMI S **S** 01 01 22.5 -3.8
KMI pmax pmax
comp=Z,35nm,1.1s
KMI pmax pmax
comp=Z,680nm,8.8s
KMI LR LR
comp=Z,1μm,19.5s
KMI LR LR
comp=Z,980nm,20.3s
KMI LR LR
comp=Z,2μm,27.3s
TNSS **Tian-Shan** 68.86 314 *e*P **P** 00 52 25.1 -0.4
TNSS **Tian-Shan** 68.86 314 *e*P **P** 00 52 25.1 -0.4
BIGH **Upper Bighouse** 69.07 8 *e*P **P** 00 52 26.2 +0.3
BIGH IAmb IAmb 00 52 27.7
comp=Z,26nm,0.7s
STRU **Stroemstad** 69.09 359 *i*P **P** 00 52 25.8 -0.3
QIZ **Qiongzhong** 69.12 274 P **P** 00 52 27.5 +0.7
QIZ PP **PP** 00 54 58.3 -1.4
QIZ S **S** 01 01 30.3 +1.0
QIZ SS **SS** 01 05 58.5 +3.0
QIZ pmax pmax
comp=Z,34nm,1.8s
QIZ pmax pmax
comp=Z,660nm,5.0s
QIZ LR LR
comp=Z,880nm,17.1s
QIZ LR LR
comp=Z,760nm,18.0s
QIZ LR LR
comp=Z,1μm,22.0s
KDJ **Kajisay** 69.48 313 IAmb IAmb 00 52 30.3
comp=Z,20nm,0.6s
TARG **Taragay, Kyrgy** 69.51 312 IAmb IAmb 00 52 32.2
comp=Z,30nm,0.5s
061Z **Ochoppi** 69.55 74 P **P** 00 52 29.5 +0.1
SGDS **Sogindy** 69.55 315 *e*P **P** 00 52 29.4 +0.1
TKM2 **Tokmak 2** 69.55 314 P **P** 00 52 29.3 -0.2
SNR=27
PMOR **Pomariorio Ree** 69.67 157 *e*P **P** 00 52 28.1 -2.0
comp=Z,79nm,0.9s
PMOR **Pomariorio Ree** 69.67 157 *e*LR LR 01 13 39.8
comp=Z,6μm,21.6s
USP **Ospenovka** 69.75 315 P **P** 00 52 30.5 0.0
SNR=35
SNART **Snartemo** 69.77 1 *i*P **P** 00 52 30.9 +0.6
ULHL **Ulahol** 69.81 314 P **P** 00 52 31.5 +0.4
SNR=7.4
HOMB **Homborsund** 69.86 1 *i*P **P** 00 52 30.2 -0.6
CHMS **Chumysh** 69.86 315 P **P** 00 52 31.5 +0.3
SNR=9.8
AKTO **Aktyubinsk** 69.89 330 LR LR 01 25 42.6
comp=Z,3μm,20.7s,baz=34,slow=38
VAH **Vaihoa** 69.97 157 *e*P **P** 00 52 32.5 +0.6
comp=Z,20nm,0.8s
MOS **Moscow** 69.98 344 *e*P **P** 00 52 29.6 -2.0
MOS pmax pmax
comp=Z,75nm,0.5s
MOS pmax pmax
comp=N,67nm,0.5s
MOS pmax pmax
comp=Z,100nm,0.5s
MOS pmax pmax
comp=N,100nm,0.5s
MOS MLR MLR
comp=Z,4μm,23.0s
MOS MLR MLR
comp=N,4μm,22.0s
MCD **Coleburn Disti** 70.03 7 *e*P **P** 00 52 32.2 +0.3
MCD IAmb IAmb 00 52 33.9
comp=Z,30nm,0.7s
KBK **Karagaybulak** 70.05 315 P **P** 00 52 32.3 -0.2
SNR=23
FRU1 **Bishkek** 70.06 315 IAmb IAmb 00 52 34.6
comp=Z,42nm,0.6s
TJOU **Tjoern** 70.09 359 *i*P **P** 00 52 32.2 -0.1
SANVU **Saraoutou** 70.20 203 IAMs_20 IAMs_20 01 17 44.0
comp=Z,2μm,20.0s
AAK **Ala-Archa** 70.26 315 P **P** 00 52 33.7 -0.1
AAK IAmb IAmb 00 52 35.6
comp=Z,24nm,0.6s
AAK **Ala-Archa** 70.26 315 IAMs_20 IAMs_20 01 25 35.4
comp=Z,2μm,20.0s
AAK **Ala-Archa** 70.26 315 LR LR 01 25 55.9
comp=Z,2μm,18.8s,baz=32,slow=38
AAK **Ala-Archa** 70.26 315 P **P** 00 52 33.8 -0.1
SNR=36
AAK **Ala-Archa** 70.26 315 *i*P **P** 00 52 33.4 -0.4
SNR=48
AAK **Ala-Archa** 70.26 315 P **P** 00 52 33.7 -0.1
AAK pmax pmax
comp=Z,24nm,0.6s
AAK **Ala-Archa** 70.26 315 P **P** 00 52 33.8 -0.1
AAK sP **pP** 00 52 47.6 +1.8
AAK PcP **PcP** 00 52 56.8 +1.4
AB31 **Akbulak array** 70.30 328 IAmb IAmb 00 52 35.4
comp=Z,40nm,0.5s
AB31 **Akbulak array** 70.30 328 P **P** 00 52 33.5 -0.2
ABKAR **Akbulak array** 70.30 328 P **P** 00 52 32.6 -1.1
BORU **Boraas** 70.47 358 *i*P **P** 00 52 34.5 -0.1
EKS2 **Erkin-Say** 70.56 315 P **P** 00 52 35.6 +0.1
SNR=28
UCH **Uchtor** 70.59 315 P **P** 00 52 36.3 +0.1
SNR=8.1
SOR **Soroa** 70.61 78 IAmb IAmb 00 52 38.4
comp=Z,79nm,1.3s
ONAU **Onsala** 70.73 359 *i*P **P** 00 52 35.8 -0.3
DRUM **Mains of Drumt** 70.75 7 *e*P **P** 00 52 36.1 -0.2
DRUM IAmb IAmb 00 52 37.6
comp=Z,39nm,0.8s
OBN **Obninsk** 70.75 344 P **P** 00 52 36.0 -0.3
OBN **Obninsk** 70.75 344 LR LR 01 27 14.3
comp=Z,4μm,20.3s,baz=324,slow=39
OBN **Obninsk** 70.75 344 *d i*P **P** 00 52 35.7 -0.6
OBN *i* 00 52 55.8
OBN pmax pmax
comp=Z,103nm,1.4s
OBN MLR MLR
comp=Z,4μm,20.0s
OBN **Obninsk** 70.75 344 P **P** 00 52 35.9 -0.4
comp=Z,60nm,0.5s
SLVN **Son La** 70.99 280 IAmb IAmb 00 52 40.6
comp=Z,37nm,0.8s
SLVN IAMs_20 IAMs_20 01 23 08.9
comp=Z,2μm,21.0s
SLVN **Son La** 70.99 280 P **P** 00 52 40.0 +1.6
BELG **Belogornoye** 71.03 337 LR LR 01 26 53.8
comp=Z,3μm,19.7s,baz=35,slow=38
BELG **Belogornoye** 71.03 337 *d i*P **P** 00 52 37.7 -0.3
BELG pmax pmax
comp=Z,22nm,0.6s
LAWE **Loch Awe, Argy** 71.15 9 *e*P **P** 00 52 38.6 -0.1
LAWE IAmb IAmb 00 52 40.3
comp=Z,15nm,0.7s
DZA **Taraz** 71.41 317 *e*P **P** 00 52 40.6 -0.1
DZA **Taraz** 71.41 317 *e*P **P** 00 52 40.5 -0.1
TNCH **TengChong** 71.41 287 ⇑*i*P **P** 00 52 41.5 +0.4
TNCH pP pP 00 52 50.3 -2.9
TNCH S **S** 01 01 58.0 +1.6
TNCH pmax pmax
comp=Z,73nm,0.5s
TNCH pmax pmax
comp=Z,770nm,4.4s
TNCH LR LR
comp=Z,1μm,20.5s
TNCH LR LR
comp=Z,1μm,21.7s
TNCH LR LR
comp=Z,2μm,27.7s
PMG **Port Moresby** 71.45 225 P **P** 00 52 41.2 +0.2
PMG **Port Moresby** 71.45 225 IAMs_20 IAMs_20 01 19 55.6
comp=Z,2μm,20.0s
PMG **Port Moresby** 71.45 225 LR LR 01 18 14.4
comp=Z,2μm,22.0s,baz=15,slow=31
PMG **Port Moresby** 71.45 225 P **P** 00 52 41.2 +0.2
PMG pmax pmax
comp=Z,20nm,1.0s
KKAR **Karatay Array** 71.58 318 P **P** 00 52 40.9 -0.7
KKAR **Karatay Array** 71.58 318 P **P** 00 52 40.9 -0.7
DEL **Delary** 71.62 358 *i*P **P** 00 52 40.9 -0.6
PGBU **Glenifferbraes** 71.68 8 *e*P **P** 00 52 42.3 +0.4
PGBU IAmb IAmb 00 52 43.5
comp=Z,34nm,0.7s
PPT **Papeete** 71.77 159 LR LR 01 16 56.1
comp=Z,1μm,21.5s,baz=313,slow=30
PPT2 **Papeete2** 71.79 159 *e*P **P** 00 52 38.6 -4.4
comp=Z,270nm,24.0s
PPT2 **Papeete2** 71.79 159 *e*P **P** 00 52 39.7 -3.3
comp=Z,44nm,1.4s
PPT2 *e*S **S** 01 02 01.6 +1.4
comp=Z,7μm,28.5s
PPT2 *e*SS **SS** 01 06 35.3 -2.1
comp=Z,1μm,28.0s
PPT2 *e*LQ LQ 01 11 38.6
comp=Z,890nm,24.8s
PPT2 *e*LR LR 01 14 27.9
comp=Z,3μm,29.0s
PPT2 *e*LR LR 01 14 35.7
comp=Z,5μm,27.5s
PAE **Paea** 71.86 159 *e*P **P** 00 52 41.0 -2.3
comp=Z,16nm,1.1s
PAE **Paea** 71.86 159 *e*LR LR 01 14 40.0
comp=Z,644nm,23.5s
ARSB **Arslanbob** 71.99 315 P **P** 00 52 44.1 -0.1
ARSB IAmb IAmb 00 53 18.9
comp=Z,108nm,1.6s
ARSB **Arslanbob** 71.99 315 P **P** 00 52 44.1 -0.1
ARSB pmax pmax
comp=Z,108nm,1.6s
PABE **Paberze** 72.00 352 P **P** 00 52 43.2 -0.6
SWI **Sorong** 72.02 244 P **P** 00 52 44.1 -0.4
comp=Z,1μmcomp=Z,71nm,1.1s
BJUU **Bjuv** 72.03 358 *i*P **P** 00 52 44.1 0.0
TVO **Taravao** 72.05 159 *e*P **P** 00 52 46.3 +1.8
comp=Z,12nm,0.8s
TVO **Taravao** 72.05 159 *e*LR LR 01 14 42.0
comp=Z,1μm,24.1s
LSA **Lhasa** 72.08 295 P **P** 00 52 42.5 -2.9
LSA S S 01 01 51.5 -13

LSA pmax pmax
comp=Z,39nm,1.1s
LSA LR LR
comp=Z,970nm,18.0s
LSA LR LR
comp=Z,1μm,20.8s
LSA LR LR
comp=Z,1μm,21.9s
LSA Lhasa 72.08 295 IAmb IAmb 00 52 48.1
comp=Z,57nm,0.7s
LSA Lhasa 72.08 295 P **P 00 52 46.3 +1.0**
LSA Lhasa 72.08 295 P **P 00 52 45.8 +0.4**
IDGL Inch Island, C 72.10 10 P **P 00 52 45.3 +0.9**
KSH Kashi 72.12 312 P **P 00 52 48.3 +3.3**
KSH pmax pmax
comp=Z,45nm,0.5s
KSH pmax pmax
comp=Z,420nm,6.7s
KSH LR LR
comp=Z,3μm,20.6s
KSH LR LR
comp=Z,3μm,19.6s
EKA Eskdalemuir Ar 72.27 8 P **P 00 52 45.2 -0.3**
comp=Z,20nm,0.8s,baz=349,slow=4.3,SNR=50
comp=Z,20nm,0.8s
ESK Eskdalemuir 72.28 8 *e*P **P 00 52 45.9 +0.4**
ESK IAmb IAmb 00 52 47.2
comp=Z,16nm,0.7s
NEWG New Galloway 72.39 8 *e*P **P 00 52 45.7 -0.4**
NEWG IAmb IAmb 00 52 47.7
comp=Z,10nm,0.8s
LUNU Lund 72.47 358 *i* P **P 00 52 46.4 -0.3**
MNK Minsk 72.59 349 *i* P **P 00 52 46.2 -1.2**
MNK *i* 00 53 03.3
MNK *i* 00 55 27.6
MNK *i* PPP PPP 00 57 12.2
MNK *i* S **S 01 02 09.3 +0.8**
MNK *i* 01 02 50.5
MNK *i* SS **SS 01 06 49.7 +2.9**
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,92nm,1.0s
MNK pmax pmax
comp=E,54nm,1.0s
MNK MLR MLR
comp=E,3μm,22.0s
MNK MLR MLR
comp=Z,4μm,21.0s
MNK MLR MLR
comp=N,1μm,19.0s
GAL1 Galloway 72.59 9 *e*P **P 00 52 47.4 0.0**
GAL1 IAmb IAmb 00 52 48.9
comp=Z,24nm,0.8s
CHM Chimkent 72.60 318 *e*P **P 00 52 47.8 +0.1**
CHM Chimkent 72.60 318 *e*P **P 00 52 47.8 +0.1**
LPSR Galich'ya Gora 72.73 342 *e*P **P 00 52 47.1 -1.1**
LPSR pmax pmax
comp=Z,26nm,1.0s
EDMD Edmundbyers 72.86 7 *e*P **P 00 52 49.0 0.0**
EDMD IAmb IAmb 00 52 50.6
comp=Z,16nm,0.7s
KMPI Kaimana, Papua 73.03 240 P **P 00 52 50.8 +0.3**
comp=Z,80nm,0.8s
FAKI Fak Fak 73.19 242 P **P 00 52 51.5 +0.1**
FAKI IAmb IAmb 00 53 15.8
comp=Z,62nm,1.2s
FAKI Fak Fak 73.19 242 P **P 00 52 51.6 +0.1**
comp=Z,2μmcomp=Z,817nmcomp=Z,56nm,1.6s
ILTH Belurgan, Co L 73.26 10 P **P 00 52 51.7 +0.4**
ILTH Belurgan, Co L 73.26 10 *e*P **P 00 52 51.4 +0.1**
ILTH IAmb IAmb 00 52 52.7
comp=Z,13nm,0.7s
VRH Novokhopyorsk 73.49 340 *e*P **P 00 52 51.3 -1.4**
VRH pmax pmax
comp=Z,51nm,1.4s
IGLA Glengowla, Co 73.50 12 P **P 00 52 53.1 +0.3**
IGLA Glengowla, Co 73.50 12 *e*P **P 00 52 52.8 0.0**
IGLA IAmb IAmb 00 52 54.3
comp=Z,31nm,0.7s
SUW Suwalki 73.55 352 *e*P **P 00 52 52.5 -0.6**
BBSR BB Station 73.65 58 P **P 00 52 54.7 +0.7**
BBSR IAmb IAmb 00 52 56.7
comp=Z,121nm,1.6s
BBSR BB Station 73.65 58 IAMs_20 IAMs_20 01 26 01.8
comp=Z,2μm,20.0s
RAR Rarotonga 73.68 170 LR LR 01 18 44.9
comp=Z,2μm,20.3s,baz=16,slow=30
VSR Storozhevoye 74.00 341 *e*P **P 00 52 53.3 -2.5**
VSR pmax pmax
comp=Z,30nm,1.2s
DSB Dublin 74.02 10 P **P 00 52 56.7 +0.8**
LBWR Ladybower, Pea 74.30 7 *e*P **P 00 52 57.7 +0.2**
LBWR IAmb IAmb 00 52 59.2
comp=Z,20nm,0.7s
TGUH Tegucigalpa,Un 74.67 87 P **P 00 53 01.0 +0.6**
TGUH IAmb IAmb 00 53 32.7
comp=Z,62nm,1.2s
TGUH IAMs_20 IAMs_20 01 22 21.3
comp=Z,2μm,22.0s
LLW Llanuwychllyn 74.68 8 *e*P **P 00 52 59.9 +0.2**
LLW IAmb IAmb 00 53 01.5
comp=Z,19nm,0.7s
FOEL Foel Wylfa 74.69 8 *e*P **P 00 53 00.4 +0.7**
FOEL IAmb IAmb 00 53 01.7
comp=Z,36nm,0.7s
GKP Gorka Klasztor 74.69 355 *e*P **P 00 53 00.1 +0.4**
VAL Valentia 74.84 13 P **P 00 53 02.0 +1.4**
IWEX Carrickbyrne, 74.84 10 P **P 00 53 02.0 +1.4**
SHL Shillong 74.85 292 IAmb IAmb 00 53 02.7
comp=Z,40nm,0.8s
SHL Shillong 74.85 292 P **P 00 53 00.2 -1.2**
CWF Charnwood Fore 74.99 7 *e*P **P 00 53 01.4 -0.1**
CWF IAmb IAmb 00 53 05.5
comp=Z,7.9nm,0.7s
GAR Garm 75.06 315 P **P 00 53 01.6 -0.7**
HLM1 Long Mynd 75.08 8 *e*P **P 00 53 02.1 +0.1**
HLM1 IAmb IAmb 00 53 03.7
comp=Z,11nm,0.7s
DLV Lat 75.38 271 P **P 00 53 03.7 -0.8**
DLV IAmb IAmb 00 54 13.6
comp=Z,44nm,0.9s
RSBS Rosebush, Pemb 75.47 9 *e*P **P 00 53 03.8 -0.5**
RSBS IAmb IAmb 00 53 05.9
comp=Z,30nm,0.7s
MCH1 Michaelchurch 75.59 8 *e*P **P 00 53 05.3 +0.4**
MCH1 IAmb IAmb 00 53 07.0
comp=Z,16nm,0.9s
EVN Everest 75.82 297 IAmb IAmb 00 53 11.5
comp=Z,28nm,0.6s
RNPP9 Sopachiv 75.85 350 P **P 00 53 06.5 +0.1**
BEL Belsk 75.90 353 *e*P **P 00 53 07.5 +0.8**
CHTO Chiang Mai 75.91 282 P **P 00 53 06.7 -0.6**
CHTO IAmb IAmb 00 53 08.8
comp=Z,31nm,0.7s
CHTO Chiang Mai 75.91 282 P **P 00 53 06.2 -1.1**
CHTO S **S 01 02 48.0 +1.1**
CHTO Chiang Mai 75.91 282 P **P 00 53 07.4 +0.1**
CHTO Chiang Mai 75.91 282 P **P 00 53 06.7 -0.6**
CHTO pmax pmax
comp=Z,31nm,0.7s
CHTO MLR MLR
comp=Z,1μm,18.0s
CHTO Chiang Mai 75.91 282 P **P 00 53 07.4 +0.1**
CHTO pP **pP 00 53 17.9 -1.7**
CHTO PcP **PcP 00 53 19.7 +0.1**
SANI Sanana 75.95 248 P **P 00 53 06.3 -1.2**
comp=Z,42nm,0.8s
RNPP5 Staryi Chortor 76.03 350 P **P 00 53 06.4 -1.1**
AK21 Malin Array Si 76.10 348 P **P 00 53 06.2 -1.6**
AK23 Malin Array Si 76.10 348 P **P 00 53 06.5 -1.3**
AK22 Malin Array Si 76.11 348 P **P 00 53 06.3 -1.6**
MI28 Mi28,Pidlybu 76.12 348 P **P 00 53 06.9 -1.1**
AK04 Malin Array Si 76.13 347 P **P 00 53 06.7 -1.3**
AKASG Malin Array Be 76.14 347 P **P 00 53 07.4 -0.7**
AKASG Malin Array Be 76.14 347 P **P 00 53 07.0 -1.1**
comp=Z,7.4nm,0.4s,baz=14,slow=5.5,SNR=39
AKASG LR LR 01 32 31.9
comp=Z,3μm,18.3s,baz=16,slow=40
comp=Z,7.4nm,0.4s
AKASG Malin Array Be 76.14 347 P **P 00 53 07.4 -0.7**
AKASG pmax pmax
comp=Z,30nm,1.5s
AKBB Malin Array Si 76.14 347 IAmb IAmb 00 53 08.3
comp=Z,30nm,0.9s
AKBB Malin Array Si 76.14 347 ⇑*i*P **P 00 53 06.3 -1.8**
AKBB pmax pmax
comp=Z,39nm,1.0s
AKBB Malin Array Si 76.14 347 P **P 00 53 06.9 -1.2**
KIEV Kiev 76.15 347 P **P 00 53 06.4 -1.7**
KIEV Kiev 76.15 347 ⇑P **P 00 53 07.5 -0.7**
KIEV Kiev 76.15 347 *i* P **P 00 53 06.3 -1.8**
SNR=15
KIEV Kiev 76.15 347 ⇑P **P 00 53 07.5 -0.7**
KIEV Kiev 76.15 347 P **P 00 53 06.7 -1.5**
comp=Z,145nm,1.2s
AK17 Malin Array Si 76.18 348 P **P 00 53 07.2 -1.1**
CM31 Chiang Mai Arr 76.18 282 IAmb IAmb 00 53 10.9
comp=Z,62nm,0.7s
CM31 Chiang Mai Arr 76.18 282 P **P 00 53 09.0 +0.2**
SNR=26
CMAR Chiang Mai Arr 76.18 282 P **P 00 53 08.9 +0.1**
comp=Z,56nm,0.7s,baz=26,slow=6.9,SNR=146
CMAR LR LR 01 27 07.6
comp=Z,821nm,21.4s,baz=45,slow=36
comp=Z,56nm,0.7s
CMAR Chiang Mai Arr 76.18 282 *i* P **P 00 53 09.1 +0.3**
CMAR pmax pmax
comp=Z,64nm,0.7s
TOLI2 Tolitoli 76.42 254 P **P 00 53 12.3 +2.1**
SIUN Universidad Ur 76.47 85 P **P 00 53 10.9 +0.5**
SIUN IAmb IAmb 00 53 12.6
comp=Z,27nm,1.0s
CHIV Chivirico 76.70 75 P **P 00 53 12.0 +0.3**
CHIV IAmb IAmb 00 53 13.7
comp=Z,115nm,0.8s
DZM Mont Dzumac 76.76 202 LR LR 01 21 18.8
comp=Z,3μm,20.6s,baz=3.5,slow=31
CLL Collm 76.81 358 IAMs_20 IAMs_20 01 26 05.5
comp=Z,2μm,20.0s
CLL Collm 76.81 358 *i* P **P 00 53 11.8 -0.1**
CLL *e**PP **PcP 00 53 23.0 0.0**
CLL pmax pmax
comp=Z,19nm,0.8s
CLL MLR MLR
comp=Z,2μm,20.4s
CLL Collm 76.81 358 P **P 00 53 11.5 -0.4**
comp=Z,28nm,1.7s
LUBAR Lubar, Ukraine 77.10 348 P **P 00 53 12.1 -1.4**
KSP Ksiaz 77.16 356 *e*P **P 00 53 13.4 -0.4**
KSP Ksiaz 77.16 356 P **P 00 53 13.5 -0.4**
comp=Z,31nm,1.6s
BRG Berggiesshubel 77.22 357 *e*P **P 00 53 14.4 +0.2**
BRG Amp 00 53 15.9
comp=Z,21nm,0.9s
BRG Berggiesshubel 77.22 357 S **S 01 03 03.0 +2.8**
BRDH Bariadhala 77.23 290 LR LR 01 31 28.6
comp=Z,2μm,18.4s,baz=38,slow=39
UCC Uccle 77.25 4 *d*P **P 00 53 14.6 +0.3**
MTDJ Mount Denham 77.38 77 IAmb IAmb 00 53 18.4
comp=Z,84nm,1.1s
MTDJ IAMs_20 IAMs_20 01 31 43.2
comp=Z,1μm,19.0s
TBI Tubuai 77.40 161 *e*P **P 00 53 16.5 +1.2**
comp=Z,1μm,27.2s
TBI Tubuai 77.40 161 *e*PP **PP 00 56 08.9 -1.6**
comp=Z,810nm,31.2s
TBI *e*S **S 01 03 03.5 +1.0**
comp=Z,7μm,38.2s
TBI *e*SS **SS 01 08 02.1 -0.4**
comp=Z,4μm,28.0s
TBI *e*LQ LQ 01 13 54.9
comp=Z,947nm,28.0s
TBI *e*LR LR 01 17 04.6
comp=Z,3μm,28.0s
TBI *e*LR LR 01 17 09.2
comp=Z,14μm,29.5s
CHVC Chvalec 77.43 356 *e*P **P 00 53 16.1 +0.7**
CHVC Chvalec 77.43 356 *e*P **P 00 53 16.1 +0.7**
OSTC Ostas 77.45 356 *e*P **P 00 53 16.2 +0.7**
OSTC Ostas 77.45 356 *e*P **P 00 53 16.2 +0.7**
MEM Membach 77.49 3 *d*P **P 00 53 15.1 -0.6**
comp=Z,19nm,1.0s
HSKC Hora Svate Kat 77.50 358 *e*P **P 00 53 16.1 +0.3**
HSKC AMS AMS 01 28 40.0
comp=Z,2μm,20.3s
BSTI Sart Tilman 77.50 3 *d*P **P 00 53 16.1 +0.3**
comp=Z,5.7nm,1.0s
GTBY Guantanamo Bay 77.51 74 IAMs_20 IAMs_20 01 31 33.2
comp=Z,2μm,18.0s
UPC Upice 77.51 356 *e*P **P 00 53 16.6 +0.8**
UPC AMS AMS 01 28 40.0
comp=Z,3μm,23.7s
UPC Upice 77.51 356 *e*P **P 00 53 16.6 +0.8**
UPC MLR MLR
comp=Z,3μm,23.7s
BTNL Ternell 77.52 2 *d*P **P 00 53 16.4 +0.6**
PVCC Panska Ves 77.54 357 *e*P **P 00 53 16.8 +0.8**
PVCC AMS AMS 01 27 40.0
comp=Z,2μm,18.8s
PVCC Panska Ves 77.54 357 *e*P **P 00 53 16.8 +0.8**
PVCC MLR MLR
comp=Z,2μm,18.8s
OJC Ojcow 77.58 353 *e*P **P 00 53 16.2 -0.1**
OJC Ojcow 77.58 353 P **P 00 53 16.5 +0.2**
comp=Z,40nm,1.3s
LVV L'vov 77.62 351 P **P 00 53 15.7 -0.8**
DPC Dobruska-Polom 77.65 356 *e*P **P 00 53 17.2 +0.5**
DPC AMS AMS 01 26 30.0
comp=Z,2μm,19.7s
DPC Dobruska-Polom 77.65 356 *e*P **P 00 53 17.2 +0.5**
DPC MLR MLR
comp=Z,2μm,19.7s
DPC Dobruska-Polom 77.65 356 P **P 00 53 16.9 +0.2**
comp=Z,34nm,1.4s
BCLA Clavier 77.66 3 *d*P **P 00 53 16.4 -0.2**
BGES Gesves 77.69 3 *d*P **P 00 53 16.7 -0.1**
comp=Z,14nm,1.0s
BHOU Houvegnez 77.74 3 *d*P **P 00 53 16.8 -0.4**
BMRD Maredsous 77.76 3 *d*P **P 00 53 16.9 -0.3**
comp=Z,31nm,0.9s
KRLC Kraliky 77.91 355 *e*P **P 00 53 18.5 +0.4**
KRLC AMS AMS 01 29 20.0
comp=Z,2μm,17.6s
KRLC Kraliky 77.91 355 *e*P **P 00 53 18.5 +0.4**
KRLC MLR MLR
comp=Z,2μm,17.6s
RCHB Rochefort 77.92 3 *d*P **P 00 53 17.8 -0.3**
comp=Z,21nm,0.9s
DOU Dourbes 77.96 3 *d*P **P 00 53 18.0 -0.3**
comp=Z,17nm,1.0s
HORU Horodok 77.96 349 P **P 00 53 18.0 -0.3**
STEB Steborice 77.99 355 *e*P **P 00 53 18.8 +0.3**
PRA Prague 78.01 357 *e*P **P 00 53 20.3 +1.7**
PRA AMS AMS 01 29 30.0
comp=Z,2μm,19.4s
PRA Prague 78.01 357 *e*P **P 00 53 20.3 +1.7**
PRA MLR MLR
comp=Z,2μm,19.4s
OKC Ostrava-Krasne 78.07 355 *e*P **P 00 53 19.7 +0.8**
OKC AMS AMS 01 31 10.0
comp=Z,3μm,16.5s
OKC Ostrava-Krasne 78.07 355 *e*P **P 00 53 19.7 +0.8**
OKC MLR MLR
comp=Z,3μm,16.5s
PRU Pruhonice 78.08 357 *e*P **P 00 53 19.7 +0.7**
PRU AMS AMS 01 33 40.0
comp=Z,2μm,18.5s
PRU Pruhonice 78.08 357 *e*P **P 00 53 19.7 +0.7**
PRU MLR MLR
comp=Z,2μm,18.5s
MORC Moravsky Berou 78.16 355 ⇓P **P 00 53 19.9 +0.3**
MORC Moravsky Berou 78.16 355 *e*P **P 00 53 19.3 -0.2**
MORC Moravsky Berou 78.16 355 ⇓P **P 00 53 19.9 +0.3**
MORS Morshin 78.31 351 P **P 00 53 19.9 -0.4**
NIE Niedzica 78.34 353 *e*P **P 00 53 21.3 +0.7**
NIE Niedzica 78.34 353 P **P 00 53 20.9 +0.4**
comp=Z,13nm,1.4s
WLF Walferdange 78.44 2 P **P 00 53 20.7 -0.3**
WLF IAmb IAmb 00 53 50.4
comp=Z,124nm,2.0s
WLF Walferdange 78.44 2 *d*P **P 00 53 20.2 -0.8**
WLF Walferdange 78.44 2 P **P 00 53 20.7 -0.3**
WLF pmax pmax
comp=Z,124nm,2.0s
GRA1 Grafenberg Arr 78.45 359 P **P 00 53 21.5 +0.4**
GRA1 IAmb IAmb 00 53 24.2
comp=Z,132nm,1.8s
GRF Grafenberg Arr 78.45 359 P **P 00 53 21.5 +0.4**
GRF pmax pmax
comp=Z,132nm,1.8s
NDNU Novodnistrovsk 78.45 348 P **P 00 53 19.9 -1.2**
GRFO Grafenberg 78.45 359 P **P 00 53 22.2 +1.1**
GRFO IAmb IAmb 00 53 24.1
comp=Z,125nm,1.8s
GRFO Grafenberg 78.45 359 P **P 00 53 22.2 +1.1**
GRFO pmax pmax
comp=Z,125nm,1.8s
MAUC Maruska 78.56 355 *e*P **P 00 53 22.6 +0.9**
KMPD K-Podol'skiy 78.59 349 P **P 00 53 20.3 -1.5**
GRTK Grand Turk 78.60 70 IAMs_20 IAMs_20 01 26 49.8
comp=Z,3μm,22.0s
ZVC Zvikov 78.64 357 *e*P **P 00 53 22.6 +0.5**
ZVC AMS AMS 01 29 50.0
comp=Z,3μm,21.4s
STNU Starunia 78.67 350 P **P 00 53 21.1 -1.2**
LANS Liptovska Anna 78.67 354 *e*P **P 00 53 23.0 +0.7**
LANS pmax pmax
comp=Z,24nm,0.9s
LANS Liptovska Anna 78.67 354 *e*P **P 00 53 23.0 +0.7**
VRAC Vranov 78.68 356 LR LR 01 30 50.7
comp=Z,1μm,19.1s,baz=7.5,slow=38
VRAC Vranov 78.68 356 ⇑P **P 00 53 22.8 +0.4**
VRAC Vranov 78.68 356 *e*P **P 00 53 22.3 -0.1**
VRAC Vranov 78.68 356 ⇑P **P 00 53 22.8 +0.4**
TREC Trest 78.74 356 *e*P **P 00 53 22.8 +0.1**
TREC AMS AMS 01 29 10.0
comp=Z,2μm,19.2s
TREC Trest 78.74 356 *e*P **P 00 53 22.8 +0.1**
TREC MLR MLR
comp=Z,2μm,19.2s
SORM Soroca 78.78 347 ⇓P **P 00 53 21.9 -0.9**
SORM Soroca 78.78 347 ⇓P **P 00 53 21.9 -0.9**
PRVC Isla de Provid 78.82 83 P **P 00 53 24.0 +0.5**
PRVC IAmb IAmb 00 53 45.9
comp=Z,65nm,1.0s
KRUC Moravsky 78.94 356 *e*P **P 00 53 23.4 -0.3**
ERBR Yeremizino-Bor 78.95 339 *e*P **P 00 53 23.8 -0.1**
ERBR *e**PP **PcP 00 53 32.3 -0.1**
ERBR *e*S **S 01 03 19.4 +0.4**
ERBR *e*SS **SS 01 08 22.5 -0.8**
ERBR pmax pmax
comp=Z,119nm,1.1s
ERBR MLR MLR
comp=Z,4μm,21.0s
GOF Gofitskoye 78.97 337 *i* P **P 00 53 24.0 0.0**
KHC Kasperske Hory 78.97 358 P **P 00 53 24.2 +0.2**
KHC IAmb IAmb 00 53 27.1
comp=Z,145nm,1.9s
KHC IAMs_20 IAMs_20 01 33 42.0
comp=Z,3μm,20.0s
KHC Kasperske Hory 78.97 358 *e*P **P 00 53 24.6 +0.6**
KHC AMS AMS 01 32 40.0
comp=Z,3μm,22.5s
KHC Kasperske Hory 78.97 358 ⇓*i*P **P 00 53 24.7 +0.7**
KHC pmax pmax
comp=Z,44nm,1.2s
KHC Kasperske Hory 78.97 358 P **P 00 53 24.5 +0.6**
comp=Z,30nm,1.4s
KSV Kosov 79.00 350 P **P 00 53 23.8 -0.3**
JTS Las Juntas de 79.01 87 LR LR 01 30 31.0
comp=Z,546nm,18.3s,baz=300,slow=37
HOLU Holmets 79.06 352 P **P 00 53 24.8 +0.4**
JAVC Velka Javorina 79.07 355 *e*P **P 00 53 25.5 +0.9**
MUKU Mukachevo 79.10 351 P **P 00 53 24.5 -0.1**
NSLU Nyzhne Selyshc 79.18 350 P **P 00 53 25.6 +0.5**
BRIU Brid 79.19 351 P **P 00 53 24.8 -0.3**
GEC2 GERESS Array S 79.25 357 IAmb IAmb 00 53 28.2
comp=Z,97nm,1.9s
GERES GERESS Array B 79.25 357 P **P 00 53 25.8 +0.2**
comp=Z,6.1nm,0.7s,baz=14,slow=5.4,SNR=56
comp=Z,6.1nm,0.7s
KECS Kecovo 79.26 353 *e*P **P 00 53 26.1 +0.6**
KECS Kecovo 79.26 353 *e*P **P 00 53 26.1 +0.6**
BERU Beregovo 79.32 351 P **P 00 53 26.1 +0.3**
KBL Kabul 79.34 314 P **P 00 53 25.1 -1.4**
KBL IAmb IAmb 00 53 47.8
comp=Z,22nm,0.6s
KBL Kabul 79.34 314 P **P 00 53 25.6 -0.9**
SNR=9.4
KBL Kabul 79.34 314 P **P 00 53 25.1 -1.4**
KBL pmax pmax
comp=Z,22nm,0.6s
KORU Korolevo 79.35 351 P **P 00 53 26.2 +0.2**
STU Stuttgart 79.38 0 IAmb IAmb 00 53 28.8
comp=Z,120nm,2.0s
RAKU Rahkiv 79.38 350 P **P 00 53 25.5 -0.7**
SMOL Smolenice 79.43 355 *e*P **P 00 53 27.2 +0.7**
SMOL pmax pmax
comp=Z,19nm,0.9s
TRSU Trosnyk 79.43 351 P **P 00 53 26.9 +0.5**
MODS Modra-Piesok 79.58 355 *e*P **P 00 53 28.0 +0.7**
MODS pmax pmax
comp=Z,80nm,1.0s
MODS Modra-Piesok 79.58 355 *e*P **P 00 53 28.0 +0.7**
BURAR Bucovina Array 79.67 350 P **P 00 53 27.8 -0.2**
BURAR Bucovina Array 79.67 350 ⇑P **P 00 53 27.9 0.0**
BURAR Bucovina Array 79.67 350 ⇑P **P 00 53 27.9 0.0**
MAK Makhachkala 79.75 333 *e*P **P 00 53 27.9 -0.4**
MAK *e* 00 56 24.2
MAK *e*PPP PPP 00 58 23.1
MAK *e*S **S 01 03 26.7 -0.9**
MAK *e*SS **SS 01 08 37.6 +2.1**
MAK *e*SSS SSS 01 12 02.6
MAK pmax pmax
comp=Z,57nm,0.6s
ZST Bratislava 79.77 355 *e*P **P 00 53 30.8 +2.5**
ZST pmax pmax
comp=Z,6.0nm,1.1s
ZST Bratislava 79.77 355 *e*P **P 00 53 30.8 +2.5**
BMR Baia Mare 79.80 351 ⇑P **P 00 53 29.0 +0.6**
BMR Baia Mare 79.80 351 ⇑P **P 00 53 29.0 +0.6**
BFO Black Forest 79.81 1 P **P 00 53 28.9 +0.3**
BFO IAmb IAmb 00 53 31.1
comp=Z,88nm,1.9s
BFO Black Forest 79.81 1 P **P 00 53 28.9 +0.3**
BFO pmax pmax
comp=Z,88nm,1.9s
PSZ Piszkesteto 79.86 353 IAmb IAmb 00 53 31.8
comp=Z,97nm,1.8s
PSZ Piszkesteto 79.86 353 ⇑P **P 00 53 30.1 +1.2**
PSZ Piszkesteto 79.86 353 ⇑P **P 00 53 30.1 +1.2**
LABN Labinsk 79.91 338 *e*P **P 00 53 27.4 -1.7**
LABN *e**PP **PcP 00 53 37.7 +1.1**
LABN *e*S **S 01 03 29.6 +0.4**
LABN pmax pmax
comp=Z,42nm,0.9s
LABN MLR MLR
comp=Z,3μm,22.0s
CLF Chambon-Foret 79.92 5 IAmb IAmb 00 53 31.3
comp=Z,73nm,0.9s
KVAR Kislovodsk Arr 80.09 337 LR LR 01 32 22.4
comp=Z,1μm,21.6s,baz=272,slow=38
CONA Conrad Observa 80.09 356 *i* P **P 00 53 30.8 +0.7**
comp=Z,39nm,1.0s,SNR=12
KIV Kislovodsk 80.09 337 P **P 00 53 29.8 -0.5**
KIV IAmb IAmb 00 53 34.1
comp=Z,48nm,0.7s
KIV IAMs_20 IAMs_20 01 34 22.1
comp=Z,2μm,19.0s
KIV Kislovodsk 80.09 337 P **P 00 53 28.4 -1.9**
KIV Kislovodsk 80.09 337 ⇑P **P 00 53 31.2 +0.9**
KIV Kislovodsk 80.09 337 *i* P **P 00 53 30.7 +0.4**
SNR=27
KIV Kislovodsk 80.09 337 *e*P **P 00 53 28.6 -1.7**
KIV *e* 00 56 29.5
KIV *e*S **S 01 03 30.4 -1.0**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV pmax pmax
comp=Z,117nm,3.5s
KIV MLR MLR
comp=Z,1μm,19.0s
KIV Kislovodsk 80.09 337 P **P 00 53 30.6 +0.4**
comp=Z,41nm,0.8s
KIV Kislovodsk 80.09 337 P **P 00 53 30.7 +0.4**
KIV pP **pP 00 53 40.7 -2.1**
MOA Molln 80.23 357 *i* P **P 00 53 31.3 +0.4**
comp=Z,10nm,0.9s
KBZ Khabaz 80.25 336 P **P 00 53 31.1 +0.1**
comp=Z,16nm,0.8s,baz=158,slow=1.1,SNR=52
KBZ LR LR 01 32 22.4
comp=Z,1μm,21.9s,baz=6.5,slow=38
comp=Z,16nm,0.8s

ARCR ARCALIA 80.29 350 ⇑P **P 00 53 32.1 +1.0**
NCK Nalchik 80.30 336⇑*e*P **P 00 53 31.4 +1.0**
NCK pmax pmax
comp=Z,161nm,1.7s
RONA Rosalia, Austr 80.30 356 *i* P **P 00 53 31.9 +0.6**
comp=Z,18nm,1.1s,SNR=10
SHA1 Shidzhatmaz 80.30 337*c e*P **P 00 53 31.3 -0.3**
VASR Vaslui 80.32 348 ⇑P **P 00 53 31.3 0.0**
MESR Meseseni 80.37 351 ⇑P **P 00 53 32.3 +0.7**
BIOA Bad Ischl, Aus 80.41 357 *i* P **P 00 53 32.1 +0.3**
comp=Z,22nm,0.9s,SNR=21
SC01 Santiago de lo 80.46 71 P **P 00 53 33.8 +1.3**
SC01 IAmb IAmb 00 53 35.5
comp=Z,59nm,0.8s
ANN Anapa 80.47 340 *e*P **P 00 53 31.3 -0.8**
ANN *e**PP **pP 00 53 42.0 -2.6**
ANN *e*S **S 01 03 36.9 +1.8**
ANN pmax pmax
comp=Z,56nm,1.1s
ANN MLR MLR
comp=Z,3μm,23.0s
SDDR Presa de Saban 80.49 71 IAmb IAmb 00 53 34.6
comp=Z,48nm,0.8s
SDDR IAMs_20 IAMs_20 01 27 15.0
comp=Z,2μm,21.0s
SBUM Sibu 80.50 262 P **P 00 53 33.2 +0.5**
TESR Tescani 80.59 348 ⇓P **P 00 53 32.1 -0.6**
TESR Tescani 80.59 348 P **P 00 53 31.7 -1.1**
comp=Z,29nm,1.7s
RETA Reutte 80.66 359 *i* P **P 00 53 34.1 +0.9**
comp=Z,9.3nm,1.1s
LESA Schwarzleotal 80.70 358 *i* P **P 00 53 33.8 +0.4**
comp=Z,33nm,1.5s,SNR=10
CJR Cluj-Napoca 80.74 350 ⇓P **P 00 53 32.9 -0.7**
CJR Cluj-Napoca 80.74 350 ⇓P **P 00 53 32.9 -0.7**
DRGR 80.75 351 ⇑P **P 00 53 33.3 -0.4**
DRGR 80.75 351 ⇑P **P 00 53 33.3 -0.4**
ARSA Arzberg 80.78 356 IAmb IAmb 00 53 37.0
comp=Z,152nm,2.0s
ARSA Arzberg 80.78 356 *i* P **P 00 53 34.7 +0.8**
comp=Z,25nm,1.0s,SNR=16
ONER Baraj Valea Uz 80.80 348 ⇑P **P 00 53 34.7 +0.8**
MOTA Moosalm 80.80 359 *i* P **P 00 53 34.2 +0.1**
comp=Z,32nm,1.0s,SNR=12
WATA Walderalm 80.81 359 *i* P **P 00 53 34.6 +0.5**
comp=Z,24nm,1.1s,SNR=11
MARR Marisel-Cluj 80.82 351 ⇑P **P 00 53 33.3 -0.8**
DAVA Damuels 80.87 360 *i* P **P 00 53 35.0 +0.6**
comp=Z,11nm,1.2s
WTTA Wattenberg 80.88 359 *i* P **P 00 53 34.9 +0.4**
comp=Z,22nm,1.1s,SNR=17
SQTA Sankt Quirin 80.92 359 *i* P **P 00 53 35.2 +0.5**
comp=Z,39nm,1.0s,SNR=14
GHRR 80.94 348 ⇑P **P 00 53 35.4 +0.8**
GHRR 80.94 348 P **P 00 53 34.8 +0.2**
SIM Simferopol' 80.97 343 *e*P **P 00 53 35.6 +0.8**
SIM *e*S **S 01 03 38.0 -2.3**
SIM MLR MLR
comp=Z,4μm,22.0s
KBA Koelnbreinsper 81.03 358 *i* P **P 00 53 36.4 +1.0**
comp=Z,85nm,1.0s,SNR=46
VARL Varlezi 81.04 347 ⇓P **P 00 53 35.2 +0.1**
AKT Akhty 81.06 332 *e*P **P 00 53 35.0 -0.5**
AKT *e* 00 53 41.7
AKT *e*S **S 01 03 43.7 +2.1**
AKT pmax pmax
comp=Z,86nm,0.7s
VLDR Vladesti 81.06 347 ⇑P **P 00 53 35.2 -0.1**
RKT Rikitea 81.08 148 *e*LR LR 01 18 58.3
comp=Z,18μm,35.2s
OZUR 81.11 349 ⇓P **P 00 53 35.7 +0.2**
TURR Turia 81.12 349 ⇑P **P 00 53 37.3 +1.7**
FETA Feichten 81.13 359 *i* P **P 00 53 36.1 +0.2**
comp=Z,32nm,1.0s,SNR=10
BOSR Bodos 81.14 349 ⇑P **P 00 53 35.4 -0.4**
SOC Sochi 81.14 339 *e*P **P 00 53 34.5 -1.2**
SOC *e* 00 56 39.2
SOC *e*PPP PPP 00 58 27.1
SOC *e*S **S 01 03 42.9 +0.8**
SOC *e*SS **SS 01 08 53.9 -2.3**
SOC *e*SSS SSS 01 12 22.2
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,3μm,20.0s
VSLR Vesyoloye 81.19 338*c i*P **P 00 53 35.8 -0.2**
VRI Vrincioaia 81.22 348 ⇓P **P 00 53 37.1 +1.0**
VRI Vrincioaia 81.22 348 ⇓P **P 00 53 37.1 +1.0**
VRI Vrincioaia 81.22 348 P **P 00 53 36.1 0.0**
SCTR Scanteiesti 81.24 347 ⇓P **P 00 53 35.9 -0.3**
PLOR Plostina 81.24 348 ⇑P **P 00 53 36.6 +0.3**
PLOR Plostina 81.24 348 ⇑P **P 00 53 36.6 +0.3**
PLOR5 Plostina Array 81.24 348 P **P 00 53 36.8 +0.5**
comp=Z,20nm,1.0s
ODBI Odobesti 81.28 348 ⇑P **P 00 53 38.4 +2.1**
ODBI Odobesti 81.28 348 P **P 00 53 37.4 +1.0**
comp=Z,22nm,0.8s
DOPR Dopca 81.28 349 ⇓P **P 00 53 37.0 +0.5**
SOKA Soboth 81.38 356 *i* P **P 00 53 37.4 +0.3**
comp=Z,48nm,1.0s,SNR=27
ABTA Abfaltersbach 81.38 358 *i* P **P 00 53 37.7 +0.6**
comp=Z,40nm,1.2s,SNR=15
NEGRR Negrea 81.39 347 ⇑P **P 00 53 37.7 +0.7**
PERS Pernice 81.41 356 *i* P **P 00 53 37.3 +0.1**
SCHL Schela 81.43 347 ⇑P **P 00 53 37.2 0.0**
SCHLR Schela 81.46 347 ⇑P **P 00 53 38.2 +0.8**
MYKA Terra Mystica 81.47 357 *i* P **P 00 53 38.4 +0.8**
comp=Z,13nm,1.1s,SNR=9.1
PIRO Carate, Puerto 81.47 87 P **P 00 53 37.2 -0.7**
PIRO IAmb IAmb 00 56 15.3
comp=Z,43nm,0.5s
BANI 81.49 71 P **P 00 53 38.9 +0.8**
BEHE Becsehely 81.50 355 P **P 00 53 38.1 +0.5**
BISRR Bisoca 81.53 348 P **P 00 53 38.8 +0.9**
comp=Z,74nm,1.7s
FUORN Ofenpass-Fuorn 81.53 360 IAmb IAmb 00 53 41.3
comp=Z,86nm,1.4s
FUORN IAMs_20 IAMs_20 01 21 05.5
comp=Z,1μm,19.0s
KOGS Kog 81.55 356 *i* P **P 00 53 37.7 -0.1**
OBKA Obir 81.56 357 *i* P **P 00 53 38.7 +0.6**
comp=Z,22nm,1.0s,SNR=13
MORH Mrgy, Hungar 81.65 354 P **P 00 53 36.4 -1.9**
comp=Z,5.6nm,2.6s
PRED Cave del Predi 81.66 357 P **P 00 53 38.0 -0.5**
GRER 81.66 348 ⇑P **P 00 53 40.2 +1.7**
TUE Stuetta 81.68 0 IAmb IAmb 00 53 42.6
comp=Z,39nm,1.0s
TUE Stuetta 81.68 0 P **P 00 53 39.8 +1.0**
comp=Z,191nm,1.2s
MLR Muntele Rosu 81.68 349 LR LR 01 32 42.0
comp=Z,5μm,21.0s,baz=355,slow=38
MLR Muntele Rosu 81.68 349 ⇑P **P 00 53 39.6 +0.9**
MLR Muntele Rosu 81.68 349 ⇑P **P 00 53 39.6 +0.9**
MLR Muntele Rosu 81.68 349 P **P 00 53 39.0 +0.3**
comp=Z,20nm,1.6s
CFR Carcaliu 81.71 347 ⇓P **P 00 53 38.5 -0.2**
CFR Carcaliu 81.71 347 ⇓P **P 00 53 38.5 -0.2**
DR12 Loma Pena Alta 81.75 70 P **P 00 53 40.0 +0.6**
SENIN Lac Senin/Sane 81.77 2 P **P 00 53 40.2 +0.9**
SURR Surduc 81.83 351 ⇓P **P 00 53 39.2 -0.2**
ROBS Robic 81.86 357 *e*P **P 00 53 39.4 -0.1**
KAPI Kappang 81.95 251 P **P 00 53 41.0 +0.7**
KAPI IAmb IAmb 00 53 57.4
comp=Z,108nm,1.9s
KAPI Kappang 81.95 251 LR LR 01 30 14.6
comp=Z,195nm,18.6s,baz=36,slow=36
KAPI Kappang 81.95 251 P **P 00 53 40.5 +0.2**
KAPI Kappang 81.95 251 P **P 00 53 41.0 +0.7**
KAPI pmax pmax
comp=Z,108nm,1.9s
ARR Arges 81.96 350 ⇓P **P 00 53 40.2 +0.1**
ISR Istrita 81.97 348 P **P 00 53 41.3 +1.1**
comp=Z,20nm,1.7s
TPGR Topolog 81.98 347 ⇑P **P 00 53 39.9 -0.3**
JURR Jurilovca 82.00 346 ⇑P **P 00 53 40.5 +0.3**
BZS Buzias 82.01 352 ⇓P **P 00 53 40.2 -0.1**
BZS Buzias 82.01 352 ⇓P **P 00 53 40.2 -0.1**
GZR Gura Zlata 82.12 351 ⇑P **P 00 53 40.5 -0.5**
GZR Gura Zlata 82.12 351 ⇑P **P 00 53 40.5 -0.5**
HARR Harsova 82.21 347 ⇓P **P 00 53 41.4 +0.1**
HARR Harsova 82.21 347 ⇓P **P 00 53 41.4 +0.1**
TLBR Topalu 82.34 347 ⇓P **P 00 53 42.1 +0.1**
TIRR Tirgusor 82.37 347 IAmb IAmb 00 53 43.5
comp=Z,32nm,0.8s
TIRR Tirgusor 82.37 347 ⇑P **P 00 53 42.5 +0.3**
TIRR Tirgusor 82.37 347 ⇑P **P 00 53 42.5 +0.3**
TIRR Tirgusor 82.37 347 P **P 00 53 42.0 -0.2**
comp=Z,56nm,0.8s
KSM Kuching 82.43 263 P **P 00 53 42.6 -0.3**
SULR 82.44 348 ⇓P **P 00 53 43.6 +1.1**
SALO Salr 82.53 360 IAmb IAmb 00 53 44.5
comp=Z,30nm,0.8s
LEHL Lehliu 82.57 348 ⇑P **P 00 53 43.6 +0.3**
MFTR Murfatlar 82.65 347 ⇑P **P 00 53 44.1 +0.4**
HERR Herculane 82.67 351 ⇑P **P 00 53 42.8 -0.9**
HUMR Humele 82.75 349 ⇑P **P 00 53 43.6 -0.5**
SSB Saint Sauveur 82.77 4 IAmb IAmb 00 53 46.5
comp=Z,27nm,1.0s
ICOR Ion Corvin 82.79 347 ⇓P **P 00 53 45.8 +1.4**
MDVR Moldovita 82.83 352 ⇓P **P 00 53 44.3 -0.3**
SGRR Singureni 82.93 348 ⇑P **P 00 53 44.7 -0.4**
BNI Bardonecchia 83.06 2 P **P 00 53 46.9 +0.9**
BNI IAmb IAmb 00 53 50.7
comp=Z,26nm,0.8s
BNI IAMs_20 IAMs_20 01 29 44.0
comp=Z,2μm,21.0s
BNI Bardonecchia 83.06 2 P **P 00 53 46.9 +0.9**
BNI pmax pmax
comp=Z,26nm,0.8s
BNI MLR MLR
comp=Z,2μm,21.0s
GNI Garni 83.13 334 P **P 00 53 47.2 +0.8**
GNI IAmb IAmb 00 54 29.1
comp=Z,42nm,1.0s
GNI Garni 83.13 334 LR LR 01 36 07.3
comp=Z,798nm,18.8s,baz=360,slow=40
GNI Garni 83.13 334 P **P 00 53 46.2 -0.3**
GNI Garni 83.13 334⇓*e*P **P 00 53 47.6 +1.2**
GNI pmax pmax
comp=Z,20nm,0.9s
GNI Garni 83.13 334 P **P 00 53 47.3 +0.8**
comp=Z,28nm,0.8s
BLY Banja Luka 83.20 355 ⇓P **P 00 53 46.3 -0.2**
PSN Preselentsi 83.22 347 *e*P **P 00 53 45.8 -0.8**
SOEI Soe 83.23 245 P **P 00 53 48.3 +1.2**
SOEI Soe 83.23 245 P **P 00 53 46.5 -0.6**
comp=Z,46nm,1.0s
VLAD Vladila 83.33 349 ⇑P **P 00 53 46.5 -0.7**
PRMA PARMA 83.39 360 P **P 00 53 48.0 +0.5**
RAZG Razgrad 83.51 348 ⇑P **P 00 53 47.9 -0.2**
AOPR Arecibo Observ 83.61 68 P **P 00 53 48.9 -0.1**
CRPR Cabo Rojo, PR 83.67 69 IAmb IAmb 00 53 51.8
comp=Z,44nm,0.7s
LOZB Loznitsa 83.69 348 ⇓P **P 00 53 48.9 -0.1**
UUPR Utuado, UPR, P 83.70 68 P **P 00 53 50.1 +0.6**
NEF NEVSHA 83.70 347 *e*P **P 00 53 48.8 -0.3**
PRD Provadia 83.79 347 *e*P **P 00 53 49.7 +0.2**
MSSA Maissana 83.84 0 IAmb IAmb 00 53 51.9
comp=Z,20nm,0.8s
EDFI Ende, Flores 83.86 247 P **P 00 53 47.6 -2.7**
comp=Z,23nm,0.8s
SZH Strazhitsa 83.87 348 *e*P **P 00 53 48.3 -1.7**
BLKB Belogradchik 83.89 351 ⇓P **P 00 53 49.2 -0.9**
PLVB Pleven 83.91 349 ⇑P **P 00 53 50.4 +0.2**
BATI Baumata 83.94 245 P **P 00 53 50.3 -0.3**
comp=Z,54nm,0.7s
BOVS Bovan 83.97 351 ⇓P **P 00 53 50.0 -0.4**
GCPR Guaynabo City 84.02 68 P **P 00 53 51.3 +0.2**
MPEP Malo Peshtene 84.04 350 *e*P **P 00 53 50.8 -0.1**
PVL Pavlikeni 84.11 349 *e*P **P 00 53 50.5 -0.7**
SJG San Juan 84.14 68 P **P 00 53 51.9 +0.2**
SJG IAMs_20 IAMs_20 01 31 29.5
comp=Z,3μm,22.0s
SJG San Juan 84.14 68 **P 00 53 52.5 +0.8**
SJG San Juan 84.14 68 LR LR 01 31 40.8
comp=Z,1μm,20.5s,baz=321,slow=36
SJG San Juan 84.14 68 P **P 00 53 51.9 +0.2**
SJG MLR MLR
comp=Z,3μm,22.0s
SJG San Juan 84.14 68 P **P 00 53 53.3 +1.6**
SJG PcP **PcP 00 53 56.3 +0.9**
SJG San Juan 84.14 68 P **P 00 53 52.1 +0.4**
comp=Z,638nmcomp=Z,40nm,1.2s
ELND Elena 84.21 348 ⇑P **P 00 53 51.6 -0.1**
PDPR Patillas Dam, 84.29 68 P **P 00 53 52.7 +0.2**
PDPR IAmb IAmb 00 53 54.8
comp=Z,48nm,1.1s
KOPT Kop Dagi 84.34 337 P **P 00 53 53.4 +0.6**
KOPT IAmb IAmb 00 53 55.5
comp=Z,28nm,1.1s
OSSC Osservatorio P 84.62 359 IAmb IAmb 00 53 55.2
comp=Z,56nm,1.0s
ILGA Ilgaz 84.81 342 P **P 00 53 55.5 +0.4**
ILGA IAmb IAmb 00 53 58.0
comp=Z,41nm,1.0s
VTS Vitosha 84.83 350 *e*P **P 00 53 54.4 -0.6**
PGAV Gavieira, Arco 84.88 13 *e*P **P 00 53 56.4 +1.2**
PGAV *i* IAmb IAmb 00 54 31.7
comp=Z,66nm,2.0s
PGAV *e*PP PP 00 57 23.2 +12
PGAV *e*S **S 01 04 21.8 +1.5**
PGAV *e*LR LR 01 23 57.5
PGAV *i* IAMs_20 IAMs_20 01 34 07.8
comp=Z,2μm,18.0s
TOKA Tokat 84.96 340 P **P 00 53 56.7 +1.1**
TOKA IAmb IAmb 00 53 58.1
comp=Z,46nm,0.8s
FDMO Fiordimonte 85.08 358 IAmb IAmb 00 54 26.7
comp=Z,32nm,1.0s
DIM Dimitrovgrad 85.12 348 *e*P **P 00 53 57.6 +1.3**
PLD Plovdiv 85.12 349 *e*P **P 00 53 56.6 +0.3**
PCAB Cabril 85.16 13 *e*P **P 00 53 57.5 +0.9**
PCAB *i* IAmb IAmb 00 54 29.3
comp=Z,54nm,1.7s
PBRG Braganca 85.25 12 *e*P **P 00 53 57.5 +0.5**
PBRG *i* IAmb IAmb 00 53 58.4
comp=Z,37nm,1.4s
CEST Esterri de Car 85.26 6 P **P 00 53 57.5 +0.3**
CEST IAmb IAmb 00 54 00.2
comp=Z,66nm,1.2s
NRCA Norcia 85.28 358 IAmb IAmb 00 54 00.9
comp=Z,47nm,1.0s
GURO Guroymak-BITLI 85.35 335 P **P 00 53 58.1 +0.4**
GURO IAmb IAmb 00 54 00.8
comp=Z,33nm,1.3s
CASP Castiglione de 85.36 359 P **P 00 53 57.6 +0.1**
KULM Kulim 85.37 273 P **P 00 53 57.7 -0.3**
PDG Podgorica 85.37 353 IAmb IAmb 00 53 58.5
comp=Z,20nm,0.9s
PDG Podgorica 85.37 353 ⇑P **P 00 53 57.5 -0.1**
KLYT Kilyos 85.42 346 ⇓P **P 00 53 59.4 +1.6**
CESX Cesi 85.51 358 IAmb IAmb 00 54 00.2
comp=Z,30nm,0.9s
SAHE Sakarya_HENDEK 85.52 344 ⇓P **P 00 53 59.3 +0.9**
POLO Lamas de Olo 85.53 13 *e*P **P 00 53 58.9 +0.4**
POLO *i* IAmb IAmb 00 54 01.4
comp=Z,20nm,1.4s
KDZ Kurdzhali 85.56 348 *e*P **P 00 53 57.8 -0.7**
CAMP Campotosto 85.57 357 IAmb IAmb 00 54 00.7
comp=Z,45nm,1.0s
RZN Rozhen 85.57 349 *e*P **P 00 53 58.4 -0.4**
KKB Krupnik 85.61 350 *e*P **P 00 54 00.3 +1.5**
PVRL Vila Real 85.63 13 *e*P **P 00 53 59.5 +0.6**
PVRL *i* IAmb IAmb 00 54 35.8
comp=Z,48nm,1.5s
SKO Skopje 85.64 351 *i* P **P 00 53 59.2 +0.3**
KNRA Kununurra 85.72 238 IAmb IAmb 00 54 19.8
comp=Z,69nm,1.8s
ARPR Arapgir-MALATY 85.73 338 IAMs_20 IAMs_20 01 37 21.3
comp=Z,1μm,20.0s
AQU L'Aquila 85.75 357 P **P 00 54 00.2 +0.7**
comp=Z,48nm,0.9s
IPM Ipoh 85.77 272 IAmb IAmb 00 54 37.9
comp=Z,19nm,0.8s
MMB Musomishta 85.83 350 *e*P **P 00 53 59.6 -0.3**
MDUB Mudurnu 85.83 344 P **P 00 54 01.3 +1.3**
MDUB IAmb IAmb 00 54 04.3
comp=Z,45nm,0.8s
MVO Moncorvo 85.84 13 *e*P **P 00 54 00.7 +0.7**
MVO *i* IAmb IAmb 00 54 01.4
comp=Z,31nm,1.4s
MVO *e*S **S 01 04 29.5 -0.3**
MVO *e*LR LR 01 24 29.3
MVO *i* IAMs_20 IAMs_20 01 30 00.1
comp=Z,2μm,22.0s
APAC Apartado, Choc 86.00 82 P **P 00 53 59.7 -1.4**
comp=Z,4μmcomp=Z,1μmcomp=Z,59nm,1.1s
INTR Introdacqua 86.08 357 P **P 00 54 01.5 +0.4**
INTR IAmb IAmb 00 54 03.4
comp=Z,50nm,1.1s
BR106 Keskin Array S 86.11 342 P **P 00 54 01.5 +0.1**
comp=Z,98nmcomp=Z,11nm,0.7s
BR131 Keskin Array S 86.11 342 P **P 00 54 01.4 -0.1**
SNR=11
BR131 Keskin Array S 86.11 342*c i*P **P 00 54 01.3 -0.1**
BRTR Keskin Array B 86.11 342 P **P 00 54 01.1 -0.4**
BRTR Keskin Array B 86.11 342 P **P 00 54 00.8 -0.7**
comp=Z,7.7nm,0.6s,baz=26,slow=2.3,SNR=49
BRTR LR LR 01 37 26.8
comp=Z,1μm,20.9s,baz=38,slow=39
comp=Z,7.7nm,0.6s
BRTR Keskin Array B 86.11 342 *i* P **P 00 54 01.7 +0.2**
BRTR pmax pmax
comp=Z,8.0nm,0.6s
BR105 Keskin Array S 86.12 342 P **P 00 54 02.2 +0.7**
comp=Z,118nmcomp=Z,12nm,0.9s
BR104 Keskin Array S 86.13 342 P **P 00 54 01.9 +0.4**
comp=Z,107nmcomp=Z,11nm,0.7s
ANTO Ankara 86.13 343 P **P 00 54 02.4 +0.9**
ANTO IAmb IAmb 00 54 04.8
comp=Z,41nm,1.2s
ANTO Ankara 86.13 343 IAMs_20 IAMs_20 01 38 07.7
comp=Z,1μm,20.0s
ANTO Ankara 86.13 343 P **P 00 53 59.2 -2.3**
ANTO Ankara 86.13 343 ⇓P **P 00 54 04.3 +2.8**
ANTO Ankara 86.13 343 ⇓P **P 00 54 04.3 +2.8**
ANTO Ankara 86.13 343 P **P 00 54 02.1 +0.6**
comp=Z,16nm,1.5s
PVIS Viseu 86.16 13 *e*P **P 00 54 02.4 +0.8**
SABA Saba 86.18 66 IAMs_20 IAMs_20 01 34 08.3
comp=Z,2μm,20.0s
VAY Valandovo 86.18 350 *i* P **P 00 54 01.3 -0.3**
WB0 Warramunga Arr 86.37 231 IAmb IAmb 00 54 41.0
comp=Z,20nm,1.1s
SEUS St. Eustatius 86.43 66 IAMs_20 IAMs_20 01 32 47.9
comp=Z,2μm,22.0s
BAND Balkesir-Ban 86.44 346 ⇑P **P 00 54 03.7 +0.8**
WR0 Warramunga Arr 86.46 231 P **P 00 54 02.7 -0.4**
BNN Bunyan 86.51 340 P **P 00 54 03.4 0.0**
BNN IAmb IAmb 00 54 05.4
comp=Z,43nm,1.1s
MTE Manteigas 86.52 13 *e*P **P 00 54 03.7 +0.3**
MTE *i* IAmb IAmb 00 54 24.7
comp=Z,28nm,1.8s
MTE *e*PP **PP 00 57 24.2 -0.1**
MTE *e*S **S 01 04 44.1 +7.7**
MTE *e*LR LR 01 24 41.0
MTE *i* IAMs_20 IAMs_20 01 35 04.2
comp=Z,2μm,18.0s
WRAB Tennant Creek 86.53 231 P **P 00 54 02.4 -1.0**
WRAB IAmb IAmb 00 54 40.9
comp=Z,70nm,1.7s
WRAB Tennant Creek 86.53 231 P **P 00 54 03.9 +0.5**
WRAB Tennant Creek 86.53 231⇓*i* P **P 00 54 02.8 -0.6**
WRAB pmax pmax
comp=Z,14nm,0.9s
WB2 Warramunga Arr 86.54 231 P **P 00 54 02.5 -0.9**
WRA Warramunga Arr 86.54 231 P **P 00 54 03.2 -0.3**
WRA Warramunga Arr 86.54 231 P **P 00 54 02.5 -1.0**
comp=Z,9.2nm,0.8s,baz=36,slow=5.7,SNR=54
WRA LR LR 01 29 09.2
comp=Z,1μm,20.9s,baz=24,slow=33
comp=Z,9.2nm,0.8s
WRA Warramunga Arr 86.54 231 P **P 00 54 03.2 -0.3**
WRA pmax pmax
comp=Z,4.0nm,1.7s
KIRS Kirsehir-Merke 86.63 341 ⇑P **P 00 54 04.9 +1.0**
PCAS Casmilo, Conde 86.72 14 *e*P **P 00 54 04.5 +0.2**
PCAS *i* IAmb IAmb 00 54 05.3
comp=Z,34nm,1.0s
MARD Mardin 86.84 336 P **P 00 54 05.5 +0.4**
ANWB Willy Bob 86.96 65 IAMs_20 IAMs_20 01 32 04.8
comp=Z,2μm,21.0s
ANWB Willy Bob 86.96 65 *e*P P 00 53 56.0 -10
EBR Ebro Roquetas 86.97 7 P **P 00 54 05.8 +0.4**
EBR Ebro Roquetas 86.97 7 P **P 00 54 05.8 +0.4**
PAOL Paolisi 87.03 356 P **P 00 54 05.7 -0.2**
PAOL IAmb IAmb 00 54 07.5
comp=Z,52nm,1.5s
PCBR Castelo Branco 87.08 13 *e*P **P 00 54 06.1 +0.1**
PSBE So Bento 87.20 14 *e*P **P 00 54 07.2 +0.6**
EZN Ezine 87.21 347 ⇑P **P 00 54 07.1 +0.5**
EZN Ezine 87.21 347 ⇑P **P 00 54 07.1 +0.5**
ACER Acerenza 87.21 355 IAmb IAmb 00 54 12.0
comp=Z,58nm,1.3s
PSARD Sardoal 87.21 14 *e*P **P 00 54 06.9 +0.2**
PSARD *i* IAmb IAmb 00 54 09.3
comp=Z,43nm,1.7s
MATE Matera 87.31 355 ⇓P **P 00 54 07.1 0.0**
PMRV Marv??o 87.49 13 *e*P **P 00 54 08.2 +0.2**
PMRV *e*PP PP 00 57 40.9 +8.7
PMRV *e*S **S 01 04 45.1 -0.7**
PMRV *e*LR LR 01 25 19.3
PMRV *i* IAMs_20 IAMs_20 01 35 45.2
comp=Z,2μm,20.0s
PMAFR Mafra 87.67 15 *e*P **P 00 54 09.2 +0.3**
ESBB Sonseca Array 87.69 11 IAmb IAmb 00 54 10.4
comp=Z,25nm,0.8s
ESDC Sonseca Array 87.69 11 P **P 00 54 08.6 -0.4**
ESDC IAmb IAmb 00 54 10.4
comp=Z,20nm,0.8s
ESDC Sonseca Array 87.69 11 P **P 00 54 08.7 -0.3**
comp=Z,22nm,0.8s,baz=346,slow=4.5,SNR=114
ESDC LR LR 01 33 02.8
comp=Z,1μm,21.9s,baz=0.5,slow=35
comp=Z,22nm,0.8s
LHMI Lhok Sumawe 87.69 275 P **P 00 54 09.8 +0.5**
OCAC Ocana 87.72 80 P **P 00 54 07.5 -2.1**
comp=Z,1μmcomp=Z,70nm,0.7s
PMTG Montargil 87.72 14 *e*P **P 00 54 09.1 0.0**
PMTG *i* IAmb IAmb 00 54 09.6
comp=Z,19nm,1.1s
PAB San Pablo 87.77 11 P **P 00 54 09.4 0.0**
PAB IAmb IAmb 00 54 10.7
comp=Z,15nm,0.9s
PAB San Pablo 87.77 11 IAMs_20 IAMs_20 01 32 18.7
comp=Z,2μm,22.0s
PAB San Pablo 87.77 11 P **P 00 54 09.4 0.0**
PAB pmax pmax
comp=Z,15nm,0.9s
PAB MLR MLR
comp=Z,2μm,22.0s
GAZ Gaziantep 87.83 338 IAmb IAmb 00 54 12.9
comp=Z,24nm,1.1s
JAGI Jajag, Banyuwa 88.00 254 P **P 00 54 10.9 +0.3**
JAGI IAmb IAmb 00 55 56.5
comp=Z,37nm,1.2s
CUC Castrocucco 88.01 355 P **P 00 54 09.8 -0.7**
CUC IAmb IAmb 00 54 12.2
comp=Z,31nm,1.4s
CUC IAMs_20 IAMs_20 01 38 22.0
comp=Z,2μm,20.0s
PESTR Estremoz 88.02 14 IAmb IAmb 00 54 11.4
comp=Z,32nm,0.9s
PESTR Estremoz 88.02 14 *e*P **P 00 54 10.4 -0.1**
PESTR *i* IAmb IAmb 00 54 11.1
comp=Z,44nm,1.0s
KEK Kerkira 88.03 352 P **P 00 54 10.9 +0.3**
KEK IAmb IAmb 00 54 15.8
comp=Z,28nm,0.9s
ABD La Joyeuse, An 88.09 65 IAMs_20 IAMs_20 01 30 54.7
comp=Z,1μm,22.0s
DHSZ Broadband at M 88.09 66 *e*P **P 00 54 09.9 -1.3**
GDHS Morne Mazeau, 88.09 66 IAMs_20 IAMs_20 01 33 40.6
comp=Z,2μm,22.0s
MANT Manisa 88.20 345 IAmb IAmb 00 54 12.9
comp=Z,19nm,0.8s
OUZ Omahuta 88.23 193 IAMs_20 IAMs_20 01 30 45.0
comp=Z,2μm,19.0s
EVO Evora 88.28 14 *e*P **P 00 54 11.5 -0.3**
EVO *i* IAmb IAmb 00 54 12.5
comp=Z,21nm,0.9s
MMLZ Guadeloupe Bro 88.33 66 *e*P **P 00 54 10.8 -1.5**
CBE Ff, Capester 88.35 66 P **P 00 54 12.1 -0.4**
CBE IAMs_20 IAMs_20 01 32 10.7
comp=Z,1μm,21.0s
PTBC PUERTO BERRIO, 88.36 82 P **P 00 54 11.5 -1.0**
comp=Z,32nm,0.9s
PSI Prapat 88.38 272 LR LR 01 31 53.8
comp=Z,344nm,21.7s,baz=1.0,slow=34
DSDZ La Diserade, G 88.45 65 *e*P **P 00 54 11.8 -1.1**
GDSD La Dsirade Is 88.45 65 IAMs_20 IAMs_20 01 32 50.4

comp=Z,2μm,22.0s
TDBA Terre de Bas, 88.51 66 P **P 00 54 13.6 +0.5**
ISP Isparta 88.53 344 P **P 00 54 12.7 -0.4**
ISP IAmb IAmb 00 54 14.4
comp=Z,24nm,0.9s
ISP IAMs_20 IAMs_20 01 36 07.6
comp=Z,2μm,22.0s
ISP Isparta 88.53 344 P **P 00 54 12.7 -0.4**
ISP pmax pmax
comp=Z,24nm,0.9s
ISP MLR MLR
comp=Z,2μm,22.0s
MAGL Barre de l'ile 88.62 66 IAMs_20 IAMs_20 01 32 58.1
comp=Z,2μm,22.0s
VSL Villasalto 88.65 0 IAMs_20 IAMs_20 01 40 04.1
comp=Z,2μm,21.0s
TIP Timpagrande 88.77 355 IAmb IAmb 00 54 17.2
comp=Z,28nm,1.4s
PBAR Barrancos 88.77 13 *e*P **P 00 54 14.0 -0.1**
PBAR *i* IAmb IAmb 00 54 15.5
comp=Z,42nm,1.3s
PAMC Pamplona, Colo 88.80 80 P **P 00 54 14.8 -0.3**
PBEJ Beja 88.80 14 *e*P **P 00 54 14.8 +0.6**
PBEJ *i* IAmb IAmb 00 54 16.1
comp=Z,26nm,1.5s
SDV Santo Domingo 88.82 77 P **P 00 54 14.9 +0.1**
SDV Santo Domingo 88.82 77 LR LR 01 36 10.8
comp=Z,517nm,19.2s,baz=343,slow=37
SDV Santo Domingo 88.82 77 *e*P **P 00 54 15.0 +0.1**
SDV Santo Domingo 88.82 77 P **P 00 54 14.0 -0.9**
comp=Z,945nmcomp=Z,58nm,0.9s
GUY2C Guyana, Caldas 88.84 83 P **P 00 54 15.5 +0.2**
comp=Z,757nmcomp=Z,47nm,1.3s
ARMA Armidale 88.84 212 IAmb IAmb 00 54 35.1
comp=Z,23nm,1.1s
DWS Wesley 88.92 66 *e*P **P 00 54 11.8 -3.3**
MESJ Messejana 88.93 14 *e*P **P 00 54 15.1 +0.2**
MESJ IAMs_20 IAMs_20 01 34 26.4
comp=Z,2μm,17.9s
MESJ Messejana 88.93 14 IAmb IAmb 00 54 15.8
comp=Z,32nm,1.5s
MESJ Messejana 88.93 14 *e*P **P 00 54 14.9 +0.1**
MESJ Messejana 88.93 14 *e*P **P 00 54 15.1 +0.2**
DSLB Salisbury 88.96 66 *e*P **P 00 54 11.8 -3.6**
BARC Barichara 89.09 80 P **P 00 54 15.1 -1.1**
PTEO Sao Teotonio 89.14 15 *e*P **P 00 54 16.3 +0.5**
PTEO *i* IAmb IAmb 00 54 17.2
comp=Z,44nm,1.4s
DLPL La Plaine 89.14 66 *e*P **P 00 54 15.9 -0.2**
PCVE Castro Verde 89.16 14 *e*P **P 00 54 16.4 +0.4**
PCVE *i* IAmb IAmb 00 54 18.8
comp=Z,23nm,1.3s
FITZ Fitzroy Crossi 89.37 239 LR LR 01 34 39.2
comp=Z,759nm,18.5s,baz=56,slow=36
FITZ Fitzroy Crossi 89.37 239 P **P 00 54 17.0 +0.1**
MORF Marmelete 89.39 15 *e*P **P 00 54 17.3 +0.3**
MORF IAMs_20 IAMs_20 01 29 39.5
comp=Z,2μm,26.0s
MORF Marmelete 89.39 15 *e*P **P 00 54 17.5 +0.4**
MORF *i* IAmb IAmb 00 54 19.8
comp=Z,52nm,1.5s
MORF Marmelete 89.39 15 *e*P **P 00 54 17.3 +0.3**
PVAQ Vaqueiros 89.43 14 IAmb IAmb 00 54 18.5
comp=Z,33nm,0.8s
PVAQ Vaqueiros 89.43 14 *e*P **P 00 54 17.4 +0.2**
PVAQ *e*PP PP 00 58 02.2 +15
PVAQ *e*S **S 01 05 05.1 +1.0**
PVAQ *e*LR LR 01 27 17.6
PVAQ *i* IAMs_20 IAMs_20 01 35 12.2
comp=Z,2μm,20.0s
PFVI Vila Bisbo 89.53 15 *e*P **P 00 54 17.5 -0.2**
PBDV Barranco-do-Ve 89.56 14 *e*P **P 00 54 18.6 +0.8**
SVN Savane Anatole 89.58 66 P **P 00 54 17.2 -1.1**
SVN IAMs_20 IAMs_20 01 31 56.6
comp=Z,1μm,21.0s
SVN Savane Anatole 89.58 66 *e*P **P 00 54 20.4 +2.1**
CEL Celeste 89.73 355 IAMs_20 IAMs_20 01 38 46.6
comp=Z,1μm,22.0s
ROSC El Rosal 89.78 82 P **P 00 54 20.5 +0.9**
ROSC IAmb IAmb 00 54 28.0
comp=Z,16nm,0.8s
ROSC El Rosal 89.78 82 P **P 00 54 20.9 +1.3**
comp=Z,12nm,0.6s,baz=130,slow=12,SNR=5.8
comp=Z,12nm,0.6s
ILAM Ilet Lapin Mar 89.81 66 P **P 00 54 18.8 -0.5**
ILAM IAMs_20 IAMs_20 01 32 00.3
comp=Z,1μm,20.0s
ILAM Ilet Lapin Mar 89.81 66 *e*P **P 00 54 20.4 +1.1**
BIM Bigot 89.90 66 P **P 00 54 20.2 +0.4**
BIM IAMs_20 IAMs_20 01 33 30.0
comp=Z,2μm,21.0s
BIM Bigot 89.90 66 *e*P **P 00 54 19.6 -0.2**
ASAR Alice Springs 89.94 229 P **P 00 54 19.1 -0.4**
comp=Z,28nm,0.9s,baz=34,slow=4.7,SNR=140
ASAR PKKPbc **PKKPbc 01 11 50.9 +1.2**
comp=Z,0.3nm,0.4s,baz=208,slow=2.2,SNR=4.3
ASAR LR LR 01 29 55.4
comp=Z,1μm,21.7s,baz=30,slow=32
comp=Z,28nm,0.9s
ORTC Ortega, Tolima 89.94 84 P **P 00 54 18.8 -1.2**
comp=Z,889nmcomp=Z,87nm,1.0s
MXZ Matakaoa Point 89.98 189 IAMs_20 IAMs_20 01 25 47.3
comp=Z,2μm,21.0s
CART Cartagena 90.06 9 P **P 00 54 19.9 -0.2**
CART IAmb IAmb 00 54 21.2
comp=Z,17nm,0.8s
CART IAMs_20 IAMs_20 01 34 36.2
comp=Z,2μm,22.0s
MPOM Morne Pois Mar 90.08 66 P **P 00 54 19.6 -0.9**
MPOM IAMs_20 IAMs_20 01 33 01.6
comp=Z,2μm,21.0s
POPC Popayan, Colom 90.14 86 P **P 00 54 19.9 -1.2**
comp=Z,477nmcomp=Z,17nm,1.4s
AKAS Kas 90.23 344 P **P 00 54 21.1 0.0**
BAUV El Baul 90.33 75 *e*P **P 00 54 23.4 +1.7**
ITM Ithomi 90.34 350 P **P 00 54 20.8 -0.7**
ITM IAmb IAmb 00 54 22.9
comp=Z,24nm,0.9s
SLBI Saint Lucia, B 90.36 66 *e*P **P 00 54 21.9 +0.1**
TOZ Tahuroa Road 90.46 191 P **P 00 54 23.0 +1.4**
TOZ IAmb IAmb 00 54 23.6
comp=Z,30nm,1.0s
INKA Innaminka 90.47 222 IAmb IAmb 00 54 24.2
comp=Z,14nm,0.9s
ARG Arkhangelos 90.49 345 P **P 00 54 21.4 -0.8**
ARG Arkhangelos 90.49 345 P **P 00 54 21.4 -0.8**
ARG pmax pmax
comp=Z,76nm,1.0s
LEM Lembang 90.61 260 LR LR 01 31 54.5
comp=Z,390nm,21.7s,baz=350,slow=34
CSS Mathiatis 90.78 341 IAmb IAmb 00 54 25.4
comp=Z,27nm,0.8s
CSS IAMs_20 IAMs_20 01 37 41.9
comp=Z,2μm,22.0s
URZ Urewera 90.80 190 LR LR 01 28 23.0
comp=Z,3μm,20.7s,baz=21,slow=31
SVB Belmont 90.81 67 *e*P **P 00 54 23.6 -0.3**
OTAV Otavalo 90.86 89 P **P 00 54 25.9 +1.1**
OTAV Otavalo 90.86 89 ⇑P **P 00 54 26.2 +1.5**
OTAV Otavalo 90.86 89 *e*P **P 00 54 25.1 +0.4**
KARP Karpathos 91.29 346 P **P 00 54 24.5 -1.4**
KARP IAMs_20 IAMs_20 01 37 15.2
comp=Z,1μm,22.0s
KARP Karpathos 91.29 346 P **P 00 54 25.3 -0.7**
GCMP Grenada, Carri 91.34 68 *e*P **P 00 54 23.6 -2.8**
GRHS Sauteurs 91.43 68 *e*P **P 00 54 27.6 +0.8**
FLOC Florencia 91.52 85 IAmb IAmb 00 55 11.5
comp=Z,25nm,1.0s
BBGH Gun Hill 91.87 66 IAMs_20 IAMs_20 01 36 46.0
comp=Z,2μm,21.0s
BBGH Gun Hill 91.87 66 *e*P **P 00 54 31.6 +2.7**
IDI Anoyia 91.87 348 LR LR 01 39 05.7
comp=Z,1μm,21.5s,baz=350,slow=38
PMPST Porto Santo, M 92.01 22 *e*P **P 00 54 30.9 +1.6**
PMPS Porto Santo 92.03 22 *e*P **P 00 54 30.5 +1.1**
PMOZ Porto Moniz, M 92.06 23 *e*P **P 00 54 30.3 +0.6**
PMOZ *e*LR LR 01 25 54.7
PMOZ *i* IAMs_20 IAMs_20 01 33 03.1
comp=Z,2μm,24.0s
SHME Shamm 92.18 319 *i*P **P 00 54 28.5 -1.6**
SNR=10
MMAI Mount Meron Ar 92.22 339 P **P 00 54 30.4 +0.1**
comp=Z,14nm,0.6s,baz=16,slow=6.3,SNR=34
MMAI LR LR 01 41 18.3
comp=Z,668nm,19.7s,baz=1.5,slow=39
comp=Z,14nm,0.6s
PMAR Madeira 92.22 22 *e*P **P 00 54 31.6 +1.1**
BANOM Banah 92.23 319 P **P 00 54 27.3 -3.1**
BANOM Banah 92.23 319 *i*P **P 00 54 29.3 -1.1**
SNR=8.2
KEST Kesra 92.41 0 P **P 00 54 31.2 0.0**
KEST Kesra 92.41 0 P **P 00 54 31.9 +0.7**
comp=Z,14nm,1.2s,baz=156,slow=2.8,SNR=6.7
comp=Z,14nm,1.2s
KEST Kesra 92.41 0 P **P 00 54 31.7 +0.6**
ASF Jabal al Asfar 92.68 337 LR LR 01 40 09.3
comp=Z,637nm,21.5s,baz=44,slow=38
MASF Masafi 92.78 319 P **P 00 54 32.6 -0.3**
MDH Madha 92.78 319 P **P 00 54 31.2 -1.7**
MSFE Esma-Masafi 92.79 319 *i*P **P 00 54 31.1 -1.9**
SNR=9.1
UOSS Minazif 93.14 319 P **P 00 54 32.8 -1.8**
UOSS IAmb IAmb 00 54 34.4
comp=Z,14nm,0.6s
UOSS Minazif 93.14 319 IAMs_20 IAMs_20 01 40 20.9
comp=Z,1μm,21.0s
UOSS Minazif 93.14 319 P **P 00 54 33.1 -1.6**
UOSS Minazif 93.14 319 *i*P **P 00 54 32.6 -2.1**
SNR=16
HATD Hatta, Dubai 93.27 319 P **P 00 54 34.0 -1.2**
SNR=5.6
HATD Hatta, Dubai 93.27 319 *i*P **P 00 54 33.7 -1.5**
SNR=19
NAZ Nazwa, Dubai 93.32 319 P **P 00 54 35.0 -0.5**
SNR=6.4
NAZ Nazwa, Dubai 93.32 319 *i*P **P 00 54 34.2 -1.2**
SNR=9.2
ASHO Ashiyiah 93.43 319 P **P 00 54 34.7 -1.3**
SNR=6.8
ASHO Ashiyiah 93.43 319 *i*P **P 00 54 34.5 -1.5**
SNR=23
FAQ Al Faqa, Dubai 93.56 319 P **P 00 54 36.2 -0.4**
WSAR Wadi Sarin 93.64 316 LR LR 01 42 36.2
comp=Z,7.7nm,19.5s,baz=52,slow=39
WSAR Wadi Sarin 93.64 316 P **P 00 54 36.6 -0.4**
SNR=7.6
SOHO SOHO 93.73 318 P **P 00 54 35.6 -1.7**
SOHO SOHO 93.73 318 *i*P **P 00 54 35.0 -2.3**
SNR=14
ASUD Al Ashush, Dub 93.78 319 P **P 00 54 37.0 -0.5**
SNR=6.5
ASUD Al Ashush, Dub 93.78 319 *i*P **P 00 54 36.5 -1.0**
SNR=15
STKA Stephens Creek 93.78 220 P **P 00 54 38.0 +0.9**
comp=Z,6.4nm,0.8s,baz=23,slow=6.5,SNR=6.2
STKA LR LR 01 32 32.0
comp=Z,2μm,20.6s,baz=24,slow=33
comp=Z,6.4nm,0.8s
GHAJ Ghor Haditha 93.83 338 IAmb IAmb 00 54 38.8
comp=Z,21nm,0.8s
HOQ Hoqain 93.90 317 P **P 00 54 37.6 -0.6**
AJN Ajban 93.97 320 P **P 00 54 38.1 -0.3**
SMDO Samad 94.05 317 P **P 00 54 38.7 -0.2**
ALNE Al Ain 94.11 319 P **P 00 54 38.2 -0.9**
SNR=7.9
ALNE Al Ain 94.11 319 *i*P **P 00 54 37.9 -1.2**
SNR=20
BHW Baring Head 94.16 191 IAMs_20 IAMs_20 01 29 50.8
comp=Z,2μm,21.0s
JLN Jalan Bani Buh 94.27 315 P **P 00 54 39.9 +0.1**
MD01 Midelt array s 94.31 12 P **P 00 54 39.6 -0.5**
MD31 MD31 94.31 12 IAmb IAmb 00 54 41.4
comp=Z,15nm,0.8s
MDT Midelt 94.38 12 LR LR 01 39 45.9
comp=Z,815nm,20.1s,baz=6.5,slow=37
SAKB Bahrain 94.38 324 P **P 00 54 40.1 -0.2**
ARQ Araqi 94.44 318 P **P 00 54 40.0 -0.6**
SNR=11
JRN Qarnain Island 94.46 322 P **P 00 54 40.3 -0.4**
JMDO Jabal Madar 94.64 316 P **P 00 54 40.8 -0.7**
RPN Rapa Nui 95.18 129 LR LR 01 27 55.0
comp=Z,1μm,21.2s,baz=345,slow=29
SMRA Abu-Samra 95.40 323 P **P 00 54 44.5 -0.4**
EIL Elat 95.54 338 LR LR 01 45 05.5
comp=Z,629nm,18.0s,baz=26,slow=40
PALK Pallekele 95.80 290 LR LR 01 40 44.4
comp=Z,798nm,21.9s,baz=13,slow=37
PALK Pallekele 95.80 290 P **P 00 54 48.0 +1.1**
PALK Pallekele 95.80 290 ⇑P **P 00 54 48.1 +1.1**
LTZ Lake Taylor 95.85 193 IAMs_20 IAMs_20 01 38 44.5
comp=Z,2μm,20.0s
INZ Inchbonnie 95.91 194 IAMs_20 IAMs_20 01 37 04.1
comp=Z,2μm,19.0s
MZR Muzera 95.97 320 P **P 00 54 46.9 -0.7**
SNR=7.8
MZR Muzera 95.97 320 *i*P **P 00 54 46.3 -1.3**
SNR=20
MACI Morro de la Ar 96.60 23 P **P 00 54 50.8 +0.1**
MQZ McQueen's Vall 96.70 192 IAMs_20 IAMs_20 01 33 54.1
comp=Z,2μm,20.0s
DQM DQM 97.03 315 P **P 00 54 52.0 -0.4**
RAYN Ar Rayn 98.39 327 P **P 00 54 57.5 -1.1**
RAYN IAmb IAmb 00 54 59.7
comp=Z,19nm,0.8s
RAYN Ar Rayn 98.39 327 P **P 00 54 58.3 -0.2**
RAYN Ar Rayn 98.39 327 *i*P **P 00 54 57.6 -1.0**
SNR=29
RAYN Ar Rayn 98.39 327 P **P 00 54 57.5 -1.1**
RAYN pmax pmax
comp=Z,19nm,0.8s
DOK Doka 99.64 318 P **Pdif 00 55 03.8 -0.4**
BOAV Boa Vista 100.00 73 **Pdif 00 55 05.6 -0.2**
BOAV Boa Vista 100.00 73 *e*P **Pdif 00 55 05.2 -0.6**
WHFO Wadi Hawf 100.42 318 P **Pdif 00 55 06.2 -1.5**
HMDM Hanimaadhoo 100.48 296 Pdif **Pdif 00 55 08.7 +0.8**
ABTO Aybut 101.12 318 P **Pdif 00 55 10.0 -0.8**
COCO West Island 101.37 265 Pdif **Pdif 00 55 11.1 -0.7**
TAM Tamanrasset 105.21 4 IAMs_20 IAMs_20 01 51 11.4
comp=Z,1μm,20.0s
SACV Santiago Islan 107.07 34 IAMs_20 IAMs_20 01 41 46.0
comp=Z,2μm,20.0s
ATD Arta Tunnel 110.43 325 IAMs_20 IAMs_20 01 52 11.5
comp=Z,1μm,20.0s
TA01 Diego Aracena 112.03 95 IAMs_20 IAMs_20 01 35 11.0
comp=Z,972nm,19.0s
FURI Furi 114.29 328 IAMs_20 IAMs_20 01 55 55.9
comp=Z,928nm,18.0s
TORD Torodi Ar. Bea 114.52 9 PKP PKPdf 01 00 01.2 +0.6
comp=Z,2.1nm,0.4s,baz=22,slow=3.1,SNR=2.8
GO02 Mina Guauaco 115.82 98 IAMs_20 IAMs_20 01 37 20.6
comp=Z,1μm,22.0s
H03N2 Juan Fernandez 116.32 111 T T 03 07 18.4
baz=322,slow=78,SNR=68
H03N1 Juan Fernandez 116.33 111 T T 03 07 19.2
baz=322,slow=78,SNR=103
H03N3 Juan Fernandez 116.33 111 T T 03 07 06.6
baz=322,slow=78,SNR=61
DBIC Dimbokro 120.00 17 PKP **PKPdf 01 00 10.9 -0.3**
comp=Z,2.6nm,0.4s,baz=23,slow=2.4,SNR=9.7
RCBR Riachuelo 120.43 56 IAMs_20 IAMs_20 01 51 36.0
comp=Z,1μm,19.0s
LODK Lodwar 120.49 330 **PKiKP 01 00 12.9 +0.6**
MT01 Popeta 121.09 106 IAMs_20 IAMs_20 01 40 06.8
comp=Z,1μm,20.0s
MT03 Universidad Ad 121.27 105 IAMs_20 IAMs_20 01 40 54.5
comp=Z,1μm,20.0s
BDFB Brasília 121.77 74 PKP **PKiKP 01 00 14.9 +0.3**
comp=Z,1.0nm,0.4s,baz=34,slow=1.9,SNR=4.6
BDFB Brasília 121.77 74 PKIKP **PKiKP 01 00 15.0 +0.3**
CPUP Villa Florida 124.19 90 PKP **PKPdf 01 00 18.9 +0.2**
comp=Z,0.9nm,0.6s,baz=171,slow=2.4,SNR=13
EDA Edea 124.21 360 IAMs_20 IAMs_20 02 00 12.8
comp=Z,976nm,19.0s
KIBK Kibwezi 125.01 325 IAMs_20 IAMs_20 02 01 45.4
comp=Z,997nm,20.0s
PLCA Paso Flores 126.19 112 PKP **PKiKP 01 00 22.8 +0.1**
comp=Z,5.9nm,0.8s,baz=271,slow=1.7,SNR=14
SPB Sao Paulo 128.22 79 IAMs_20 IAMs_20 01 57 59.9
comp=Z,1μm,21.0s
TRQA Tornquist 129.45 104 **PKPdf 01 00 28.9 +0.4**
TRQA Tornquist 129.45 104 PKIKP **PKPdf 01 00 28.9 +0.4**
SBA Scott Base 130.59 186 **PKiKP 01 00 31.0 +0.7**
SBA Scott Base 130.59 186 PKIKP **PKiKP 01 00 31.0 +0.7**
VNDA Vanda 130.65 188 PKP **PKPdf 01 00 28.9 -0.6**
comp=Z,1.1nm,1.2s,baz=339,slow=6.1,SNR=3.6
VNDA SKPab **SKPbc 01 03 46.8 -2.9**
comp=Z,1.9nm,1.2s,baz=360,slow=4.1,SNR=4.1
MG02 Cerro Sombrero 134.19 124 PKPdf **PKiKP 01 00 39.0 +0.8**
ABPO Ambohimpanom 135.88 304 PKPdf **PKiKP 01 00 43.2 +0.2**
ABPO Ambohimpanom 135.88 304 IAMs_20 IAMs_20 02 03 53.0
comp=Z,926nm,19.0s
ABPO Ambohimpanom 135.88 304 PKIKP **PKiKP 01 00 43.2 +0.2**
VOI Vohitsoka 138.51 303 **PKPdf 01 00 45.8 -0.3**
EFI East Falkland 139.54 117 PKPpre PKPpre 01 00 39.4
EFI PKPdf **PKiKP 01 00 49.8 +0.6**
EFI East Falkland 139.54 117 PKIKP **PKiKP 01 00 49.8 +0.6**
LSZ Lusaka 140.35 332 PKPpre 01 00 42.7
LSZ Lusaka 140.35 332 PKHKP PKPpre 01 00 42.7
QSPA South Pole Qui 141.99 180 PKPpre 01 00 48.6
QSPA South Pole Qui 141.99 180 PKhKP PKPpre 01 00 47.9
comp=Z,4.8nm,0.7s,baz=340,slow=0.8,SNR=18
BLWY Bulawayo 144.80 328 *i*P PKPbc 01 00 56.8 +0.3
PHDHD Phuduhudu 146.04 335 **PKPab 01 01 01.6 +0.7**
MUSN Musina, Limpop 146.37 325 *i*P **PKPab 01 01 02.9 +0.8**
TSUM Tsumeb 146.49 347 **PKPbc 01 01 01.4 -0.3**
TSUM Tsumeb 146.49 347 *i*P **PKPbc 01 01 01.4 -0.3**
KHWEE KHWEE 147.46 332 PKPbc **PKiKP 01 01 06.5 0.0**
LPHEP Lephephe 148.68 331 PKPbc **PKiKP 01 01 08.8 -0.2**
KGCAE Kacgae 149.18 337 PKPbc **PKPbc 01 01 09.3 +0.5**
WIN Windhoek 149.87 347 PKPbc **PKiKP 01 01 12.4 +0.8**
WIN Windhoek 149.87 347 PKP2 **PKiKP 01 01 12.4 +0.8**
WIN MLR MLR
comp=Z,2μm,22.0s
POGA Pongola 150.24 318 **PKPdf 01 01 07.2 +1.2**
POGA PKPbc **PKiKP 01 01 12.1 +0.1**
LBTB Lobatse 150.31 330 PKPbc **PKiKP 01 01 13.0 +0.7**
LBTB Lobatse 150.31 330 PKIKP **PKiKP 01 01 13.0 +0.7**
LBTB Lobatse 150.31 330 *i*P **PKPbc 01 01 09.6 -2.0**
MAW Mawson 150.46 218 PKPbc **PKPbc 01 01 10.3 -0.1**
comp=Z,19nm,0.8s,baz=100,slow=2.0,SNR=54
LKGWB Lokgwabe 150.62 338 PKPbc **PKiKP 01 01 12.7 -0.3**
PHPEN Phepeng 151.52 335 PKPbc **PKiKP 01 01 15.0 +0.2**
PHPEN PKPab **PKPab 01 01 23.4 +0.5**
HOPE Hope Point 152.58 113 **PKPbc 01 01 14.9 -0.8**
HOPE Hope Point 152.58 113 PKIKP **PKPbc 01 01 14.9 -0.8**
BOSA Boshof 153.77 328 PKP **PKPdf 01 01 12.4 +0.9**
comp=Z,20nm,1.2s,baz=70,slow=2.6,SNR=11
BOSA PKPbc **PKiKP 01 01 19.9 +0.5**
comp=Z,14nm,0.8s,baz=15,slow=2.3,SNR=38
BOSA PKPab **pPKPbc 01 01 30.9 -1.3**
comp=Z,19nm,0.6s,baz=23,slow=5.6,SNR=17
BOSA Boshof 153.77 328 *i*P **PKPbc 01 01 16.5 -2.8**
VNA3 Neumayer Olymp 159.00 162 ⇑PKPdf **PKPdf 01 01 15.0 -1.8**
comp=Z,4.5nm,0.7s
VNA2 Neumayer--Stat 159.68 164 ⇑PKPab **PKPab 01 01 52.3 -4.2**
comp=Z,5.1nm,0.6s,baz=134,slow=42
VNA2 ⇑PKPdf **PKPdf 01 01 16.3 -1.3**
comp=Z,4.4nm,0.7s,baz=262,slow=0.9
SNAA Sanae 159.68 168 ⇑PKPab **PKPab 01 01 54.7 -1.8**
comp=Z,83nm,0.7s
SNAA ⇑PKPdf **PKPdf 01 01 14.8 -2.8**
comp=Z,36nm,0.8s
SNAA Sanae 159.68 168 **PKPab 01 01 56.6 0.0**
SNAA Sanae 159.68 168 PKP **PKPdf 01 01 15.9 -1.7**
comp=Z,1.5nm,0.8s,baz=182,slow=1.6,SNR=10
SNAA PKPab **PKPab 01 01 56.4 -0.2**
comp=Z,3.5nm,0.8s,baz=220,slow=6.7,SNR=10
VNA1 Neumayer--Stat 159.75 163 ⇑PKPab **PKPab 01 01 56.3 -0.4**
comp=Z,7.7nm,1.0s
VNA1 ⇑PKPdf **PKPdf 01 01 15.9 -1.7**
comp=Z,2.5nm,0.9s
TROLL Troll, Antarti 159.88 173 ⇑PKPab **PKPab 01 01 57.4 -0.1**
comp=Z,283nm,0.8s
TROLL ⇑PKPdf **PKPdf 01 01 16.7 -1.2**
comp=Z,104nm,0.8s
NVL N'lazarevskaya 161.37 182 *e*PKIKP **PKPdf 01 01 24.4 +5.1**
NVL *e* 01 05 53.2
NVL *e*PPP PPP 01 09 39.5
NVL *e*SS SS 01 26 08.0 +8.1
NVL *e*SSS SSS 01 32 21.5
NVL pmax pmax
comp=Z,6.0nm,0.8s

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*IDC **26** 00:52:11.7±1.1,52°.39N×170°.08W,h0km,mb3.9/11,*
mbtmp4.0/13,ML3.5/2,Error ellipse: s-maj=33.3km
s-min=18.6km az=179.0
*AEIC **26** 00:52:15.5±3.1,52°.14N±0°.08×169°.8W±0°.1,h7km±5km,*
Error ellipse: s-maj=0.0km s-min=0.0km az=49.0
*NEIC **26** 00:52:17.8±1.9,52°.3N±0°.1×170°.1W±0°.1,h44km±8km,*
mb3.6/30,ML3.9/14,ML3.4(AEIC),Error ellipse:
s-maj=17.5km s-min=8.2km az=156.0

ISC 26 00:52:17.8±0.8,52°.3N±0°.1×170°.11W±0°.07,h44km,n84,
σ1§19/81,mb3.7/17,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.99**	**50**		**Pn**	**00 52 34.6**	**-0.7**
NIKH				Sn	**Sn**	**00 52 48.6**	**+0.5**
NIKH				IAML		00 52 55.1	
comp=N,2μm,0.5s							
UNV	**Unalaska Valle**	**2.65**	**54**		**Pn**	**00 52 57.6**	**-0.3**
AKUT	**Akutan**	**3.17**	**54**	Pn	**Pn**	**00 53 03.8**	**-1.2**
AKUT				IAML		00 54 44.9	
comp=N,414nm,0.1s							
GSTR	**Great Sitkin T**	**3.67**	**268**	Pn	**Pn**	**00 53 13.2**	**+1.1**
ADK	**Adak**	**4.08**	**266**	Pn	**Pn**	**00 53 18.3**	**+0.7**
ADK				IAML		00 54 23.0	
comp=N,119nm,0.5s							
ADK				IAML		00 54 24.8	
comp=N,96nm,0.8s							
P08K	**Saint George I**	**4.28**	**4**	Pn	**Pn**	**00 53 20.2**	**-0.1**
P08K				IAML		00 54 06.1	
comp=E,152nm,1.1s							
P08K				IAML		00 54 35.9	
comp=N,162nm,1.0s							
KIWB	**Kanaga Island**	**4.37**	**266**	Pn	**Pn**	**00 53 21.4**	**-0.2**
KIWB				IAML		00 54 27.6	
comp=N,80nm,0.9s							
KIWB				IAML		00 54 32.6	
comp=E,147nm,1.1s							
O14K	**Tigyukauivet M**	**8.53**	**32**	Pn	**Pn**	**00 54 17.3**	**-1.2**
N14K	**Kuskokwak Cree**	**8.93**	**28**	Pn	**Pn**	**00 54 27.7**	**+3.6**
O15K	**Ungalikthiuk R**	**8.97**	**36**	Pn	**Pn**	**00 54 28.4**	**+3.8**
M14K	**Bethel**	**9.55**	**25**	Pn	**Pn**	**00 54 32.4**	**-0.1**
O16K	**Kokwok River B**	**9.90**	**38**	Pn	**Pn**	**00 54 40.6**	**+3.3**
N17K	**Nushagak Hills**	**10.87**	**36**	Pn	**Pn**	**00 54 54.0**	**+3.5**
K15K	**Wolf Creek Mou**	**10.99**	**21**	Pn	**Pn**	**00 54 55.1**	**+2.9**
M17K	**Holitna River**	**11.40**	**32**	Pn	**Pn**	**00 54 57.5**	**-0.4**
KDAK	**Kodiak Island**	**11.42**	**55**		**Pn**	**00 54 56.7**	**-1.4**
KDAK	**Kodiak Island**	**11.42**	**55**	Pn	**Pn**	**00 54 57.1**	**-1.0**
comp=E,0.2nm,0.3s,baz=169,slow=3.0,SNR=7.9							
comp=E,8.1nm,1.0s							
N18K	**Kilae Creek**	**11.44**	**38**	Pn	**Pn**	**00 54 58.2**	**-0.3**
SYI	**Shuyak Island**	**11.83**	**51**	Pn	**Pn**	**00 55 03.0**	**-0.7**
N19K	**Bonanza Creek**	**12.06**	**39**	Pn	**Pn**	**00 55 06.7**	**-0.3**
K17K	**Iditarod**	**12.16**	**27**	Pn	**Pn**	**00 55 07.9**	**-0.2**
L18K	**Granite Mounta**	**12.25**	**31**	Pn	**Pn**	**00 55 09.1**	**-0.3**
J17K	**VABM Dome**	**12.52**	**23**	Pn	**Pn**	**00 55 13.5**	**+0.4**
M19K	**Big River Lodg**	**12.79**	**35**	Pn	**Pn**	**00 55 16.5**	**-0.4**
L19K	**White Mountain**	**12.82**	**34**	Pn	**Pn**	**00 55 17.6**	**+0.3**
J18K	**Innoko River**	**13.19**	**27**	Pn	**Pn**	**00 55 22.4**	**+0.1**
STLK	**Strandline Lak**	**13.51**	**40**	Pn	**Pn**	**00 55 26.1**	**-0.5**
SLKM	**Skilak Lake**	**13.66**	**45**	Pn	**Pn**	**00 55 27.7**	**-1.1**
ILAR	**Eielson Array**	**17.23**	**35**		**Pn**	**00 56 14.1**	**-0.9**
ILAR	**Eielson Array**	**17.23**	**35**	Pn	**Pn**	**00 56 14.2**	**-0.8**
comp=E,0.1nm,0.3s,baz=233,slow=12,SNR=4.0							
RIDG	**Independent Ri**	**17.43**	**39**		**P**	**00 56 18.1**	**-0.3**
J25K	**Salcha River,**	**17.68**	**36**		**Pn**	**00 56 19.4**	**-1.2**
J25K				IAmb	IAmb	00 56 25.0	
comp=Z,2.3nm,0.7s							
SCRK	**Sand Creek**	**17.88**	**39**		**Pn**	**00 56 22.8**	**-0.4**
M27K	**Edge Creek, AK**	**18.08**	**45**	P	**Pn**	**00 56 25.0**	**-0.5**
J26L	**Joseph Creek**	**18.30**	**38**		**Pn**	**00 56 28.3**	**+0.1**
J26L				IAmb	IAmb	00 56 33.4	
comp=Z,2.6nm,0.6s							
L27K	**Beaver Creek,**	**18.36**	**43**	P	**P**	**00 56 26.7**	**-1.8**
O28M	**Mount Upton**	**18.38**	**51**	P	**P**	**00 56 29.0**	**0.0**
O28M				IAmb	IAmb	00 56 43.6	
comp=Z,4.8nm,0.9s							
BCAR	**Beaver Creek A**	**18.38**	**43**	P	**P**	**00 56 27.4**	**-1.4**
B21K	**Ikpikpuk River**	**18.78**	**17**	P	**P**	**00 56 31.6**	**-1.4**
I26K	**Coal Creek Min**	**18.85**	**36**	P	**P**	**00 56 33.3**	**-0.5**
I26K				IAmb	IAmb	00 56 43.9	
comp=Z,2.2nm,0.8s							
P29M	**Windy Craggy**	**19.36**	**55**	P	**Pn**	**00 56 40.2**	**-0.7**
P29M				IAmb	IAmb	00 56 44.8	
comp=Z,5.1nm,0.8s							
PEA0B	**Petropavlovsk-**	**19.43**	**285**	P	**P**	**00 56 40.9**	**+0.7**
PETK	**Petropavlovsk-**	**19.43**	**285**	P	**P**	**00 56 40.2**	**0.0**
PETK	**Petropavlovsk-**	**19.43**	**285**	P	**P**	**00 56 40.4**	**+0.2**
comp=Z,1.0nm,0.3s,baz=85,slow=13,SNR=31							
comp=Z,2.8nm,0.4s							
M29M	**Somme Creek**	**19.61**	**47**	P	**Pn**	**00 56 43.1**	**-0.8**

HYT Haines Junctio 19.67 52 P Pn 00 56 44.5 -0.1
HYT IAmb IAmb 00 56 47.8
comp=Z,5.0nm,0.9s
F26K Sheenjek River 19.88 29 P P 00 56 42.6 -2.4
F26K IAmb IAmb 00 56 43.8
comp=Z,3.1nm,0.5s
H27K Steamboat Moun 19.90 35 P P 00 56 45.8 +0.5
H27K IAmb IAmb 00 56 50.9
comp=Z,3.3nm,0.9s
L29M L29M 19.96 45 Pn Pn 00 56 48.5 +0.6
N30M Aishikik Lake 20.00 50 P P 00 56 46.3 -0.2
N30M IAmb IAmb 00 56 48.8
comp=Z,4.6nm,1.1s
I28M Miner Creek 20.11 38 P P 00 56 46.6 -1.1
O30N Mendenhall 20.35 52 P Pn 00 56 51.9 -0.7
O30N IAmb IAmb 00 57 09.7
comp=Z,1.6nm,0.7s
SKAG Skagway 20.56 56 P P 00 56 53.4 +1.0
BESE Bessie Mountai 20.75 59 P P 00 56 55.7 +1.0
S32K Killisnoo 20.89 62 P P 00 56 54.0 -2.0
WHY Whitehorse 20.92 53 P P 00 56 57.2 +0.7
H29M Whitestone 21.03 36 P P 00 56 56.7 -0.7
Q32M Nakina River 22.11 58 P P 00 57 09.5 +0.2
G30M tAoh Zrail Nji 22.13 36 P P 00 57 09.6 +0.3
H31M Peel River 22.38 39 P P 00 57 12.0 0.0
H31M IAmb IAmb 00 57 23.5
comp=Z,1.3nm,0.8s
R33M Jennings River 22.79 56 P P 00 57 13.8 -2.7
R33M IAmb IAmb 00 57 21.1
comp=Z,3.7nm,1.1s
G31M Satah River 22.81 37 P P 00 57 16.0 -0.4
G31M IAmb IAmb 00 57 29.9
comp=Z,2.5nm,1.0s
MMPY Sheldon Lake, 22.91 48 P P 00 57 18.0 +0.4
MMPY IAmb IAmb 00 57 21.4
comp=Z,1.7nm,0.8s
INK Inuvik 23.62 34 P P 00 57 24.9 +0.6
INK IAmb IAmb 00 57 35.3
comp=Z,1.4nm,0.9s
H11S1 WAKE ISLAND Hy 38.34 217 T T 01 40 14.5
baz=20,slow=74,SNR=7.4
H11S2 WAKE ISLAND Hy 38.36 217 T T 01 40 12.4
baz=20,slow=74,SNR=6.8
H11S3 WAKE ISLAND Hy 38.36 217 T T 01 40 21.9
baz=20
PDAR Pinedale Array 40.85 79 P P 00 59 55.2 -0.1
comp=Z,0.5nm,0.6s,baz=295,slow=3.2,SNR=5.6
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 53.20 88 P P 01 01 32.3 +0.7
TXAR Lajitas Array 53.20 88 P P 01 01 32.5 +0.9
comp=Z,0.4nm,0.5s,baz=308,slow=5.7,SNR=5.8
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 57.90 354 P P 01 02 05.5 +0.8
comp=Z,3.5nm,0.9s,baz=6.2,slow=7.3,SNR=1.5
comp=Z,3.5nm,0.9s
KURK Kurchatov 62.09 318 P P 01 02 33.6 -0.1
KURBB Kurchatov Arra 62.20 318 P P 01 02 33.9 -0.5
comp=Z,0.4nm,0.6s,baz=43,slow=7.0,SNR=6.0
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 63.46 324 P P 01 02 43.1 +0.3
comp=Z,1.4nm,0.6s,baz=54,slow=7.6,SNR=6.9
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 63.49 313 P P 01 02 42.5 -0.7
MKAR Makanchi Array 63.49 313 P P 01 02 43.3 +0.2
comp=Z,0.2nm,0.4s,baz=33,slow=5.5,SNR=1.9
comp=Z,0.2nm,0.4s
FINES FINESS Array B 65.83 352 P P 01 02 57.7 -0.3
comp=Z,0.9nm,0.6s,baz=11,slow=5.7,SNR=5.1
comp=Z,0.9nm,0.6s
HFS Hagfors 67.84 358 P P 01 03 10.2 -0.6
comp=Z,4.2nm,1.0s,baz=14,slow=3.5,SNR=12
comp=Z,4.2nm,1.0s
BOOM Boomskoye usch 69.68 314 P P 01 03 22.9 +0.1
AB31 Akbulak array 70.22 328 P P 01 03 25.6 -0.2
AB31 IAmb IAmb 01 03 29.9
comp=Z,0.5nm,0.7s
ABKAR Akbulak array 70.22 328 P P 01 03 25.6 -0.1
CMAR Chiang Mai Arr 76.18 282 P P 01 04 01.8 +0.3
comp=Z,1.5nm,0.3s,baz=30,slow=8.5,SNR=7.0
comp=Z,1.5nm,0.3s
ESDC Sonseca Array 87.57 11 P P 01 05 02.0 +1.0
comp=Z,0.8nm,0.9s,baz=336,slow=5.4,SNR=4.4
comp=Z,0.8nm,0.9s
ASAR Alice Springs 90.03 229 P P 01 05 11.8 -0.8
comp=Z,0.4nm,0.5s,baz=32,slow=4.4,SNR=4.3
comp=Z,0.4nm,0.5s

WEL 26 00:52:51.1±1.0,32°S±13°×17°8E±2°4,h361km±34km, mB4.5/6,ML4.4/9,MLv4.4/8,Mw(mB)3.6/6,Error ellipse: s-maj=31.1km s-min=16.5km az=89.9,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**5.17**	**219**	P	Pn	00 54 15.5	+2.5
KUZ	**Kuaotunu**	**5.22**	**204**	P	Pn	00 54 14.2	+0.7
WIAZ	**Waiheke Island**	**5.49**	**208**	P	Pn	00 54 16.9	+0.4
MXZ	**Matakaoa Point**	**5.55**	**181**	P	Pn	00 54 15.3	-1.8
MXZ				S	S	00 55 26.1	-0.8
HAZ	**Te Kaha**	**5.76**	**185**	P	Pn	00 54 18.5	-1.1
HAZ				S	S	00 55 32.9	+1.6
WMGZ	**Waiomatatini S**	**5.80**	**180**	P	Pn	00 54 20.5	+0.5
WMGZ				S	S	00 55 34.7	+2.6
PKGZ	**Pakihiroa**	**5.86**	**182**	P	Pn	00 54 22.1	+1.5
PKGZ				S	S	00 55 35.0	+1.7
RUGZ	**Raukumara Rang**	**5.98**	**185**	P	Pn	00 54 22.5	+0.4
RUGZ				S	S	00 55 32.4	-3.6
PUZ	**Puketiti**	**6.06**	**181**	P	Pn	00 54 21.8	-1.1
PUZ				S	S	00 55 37.4	-0.1
TWGZ	**Tauwhareparae**	**6.17**	**183**	P	Pn	00 54 24.6	+0.4
TWGZ				S	S	00 55 41.9	+2.1
URZ	**Urewera**	**6.33**	**189**	P	Pn	00 54 25.3	-0.6
URZ	**Urewera**	**6.33**	**189**	P	Pn	00 54 25.6	-0.3
URZ				S	S	00 55 45.2	+2.2
MWZ	**Matawai**	**6.36**	**186**	P	Pn	00 54 26.0	-0.4
MWZ				S	S	00 55 44.8	+1.1
TKGZ	**Te Karaka**	**6.44**	**184**	P	Pn	00 54 23.9	-3.2
TKGZ				S	S	00 55 45.5	+0.3
CNGZ	**Carnagh Statio**	**6.47**	**181**	P	Pn	00 54 27.0	-0.5
RAGZ	**Rawiri**	**6.53**	**187**	P	Pn	00 54 28.1	-0.2
RAGZ				S	S	00 55 46.3	-1.0
RIGZ	**Rimuhau**	**6.71**	**184**	P	Pn	00 54 30.7	+0.3
RIGZ				S	S	00 55 52.6	+1.5
SNGZ	**Shannon Statio**	**6.82**	**187**	P	Pn	00 54 31.2	-0.4
SNGZ				S	S	00 55 55.6	+2.2
PRGZ	**Paritu Road**	**6.92**	**183**	P	Pn	00 54 33.1	+0.4
PRGZ				S	S	00 55 56.0	+0.5
MTHZ	**Maungataniwha**	**6.95**	**190**	P	Pn	00 54 33.7	+0.6
MTHZ				S	S	00 55 54.4	-1.8
MHGZ	**Mahia Peninsul**	**7.15**	**183**	P	P	00 54 36.9	+0.4
MHGZ				S	S	00 55 59.8	-0.5

*IDC **26** 01:00:37.7±2.1,52°.71N×169°.99W,h0km,mb3.6/5, mbtmp3.7/7,ML3.2/2,Error ellipse: s-maj=62.9km s-min=22.1km az=7.0*
*AEIC **26** 01:00:40.9±1.9,52°.2N±0°.2×170°.0W±0°.1,h19km±7km, Error ellipse: s-maj=30.8km s-min=7.5km az=164.0*
*NEIC **26** 01:00:43.7±1.6,52°.7N±0°.2×170°.10W±0°.07,h35km±2km, ML3.0(AEIC),Error ellipse: s-maj=39.4km s-min=6.3km az=174.0*

ISC 26 01:00:43.6±1.1,52°.6N±0°.3×170°.04W±0°.08,h44km,n14, σ0°55/14,mb3.5/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**63**	Pn	**Pn**	**01 00 59.1**	**+0.6**
ADK	**Adak**	**4.15**	**263**	Pn	**Pn**	**01 01 44.0**	**-0.2**
KIWB	**Kanaga Island**	**4.44**	**263**	Pn	**Pn**	**01 01 49.3**	**+1.1**
KDAK	**Kodiak Island**	**11.23**	**56**		**Pn**	**01 03 21.0**	**-0.2**
KDAK	**Kodiak Island**	**11.23**	**56**	Pn	**Pn**	**01 03 20.7**	**-0.5**
	0.1nm,0.3s,baz=313,slow=19,SNR=1.1						
	5.1nm,1.0s						
PEA0B	**Petropavlovsk-**	**19.40**	**284**	P	**P**	**01 05 05.7**	**+0.1**
PETK	**Petropavlovsk-**	**19.40**	**284**	P	**P**	**01 05 05.1**	**-0.5**
PETK	**Petropavlovsk-**	**19.40**	**284**	P	**P**	**01 05 05.7**	**0.0**
	0.5nm,0.3s,baz=85,slow=13,SNR=15						
	1.5nm,0.4s						
F10A	**Beach Ranch, E**	**34.41**	**80**	P	**P**	**01 07 26.7**	**+0.3**
PDAR	**Pinedale Array**	**40.76**	**79**	P	**P**	**01 08 20.9**	**+0.6**
	0.3nm,0.6s,baz=294,slow=3.6,SNR=3.8						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**53.15**	**89**	P	**P**	**01 09 56.3**	**-0.7**
	0.3nm,0.6s,baz=302,slow=5.6,SNR=3.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**62.03**	**318**	P	**P**	**01 10 58.9**	**-0.1**
	0.3nm,0.8s,baz=46,slow=6.6,SNR=2.5						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**63.27**	**324**	P	**P**	**01 11 06.8**	**-0.4**
	0.8nm,0.6s,baz=53,slow=9.6,SNR=4.5						
	0.8nm,0.6s						
HFS	**Hagfors**	**67.57**	**358**	P	**P**	**01 11 35.1**	**+0.3**
	3.8nm,1.1s,baz=2.9,slow=2.9,SNR=5.4						
	3.8nm,1.1s						

*CATAC **26** 01:01:23.1±0.5,6°N±2°×7°6W±°,h14km±3km,M4.7/13, MLv4.7/13,Error ellipse: s-maj=4.6km s-min=3.4km az=51.7,confirmed*
*VAO **26** 01:01:26.4±0.9,5°.57N×75°.67W,h60km±6km,mb4.8*
*NEIC **26** 01:01:26.8±2.1,5°.75N±0°.02×75°.91W±0°.06,h73km±5km, mb4.8/215,Error ellipse: s-maj=9.8km s-min=1.7km az=107.0*
*RSNC **26** 01:01:26.7±0.0,6°N±1°×7°6W±°,h45km±2km,M4.4,mB5.3, mb5.1,ML4.0,Mw4.6,Mw(mB)4.7*
*IDC **26** 01:01:27.8±1.8,5°.72N×75°.90W,h91km±16km,mb4.0/22, mbtmp4.3/24,MS3.9/4,Error ellipse: s-maj=15.8km s-min=10.3km az=59.0*

ISC 26 01:01:24.2±0.6,5°.81N±0°.02×75°.96W±0°.03,h56km±5km, n270,σ1°96/228,mb4.8/130,MS4.6/3,5C,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.07**	**311**	P	**Pn**	**01 01 33.3**	**+0.3**
CBOC				S	**Sn**	**01 01 39.6**	**+0.4**
HELC	**Santa Helena**	**0.57**	**49**	P	**Pn**	**01 01 37.5**	**+0.4**
HELC				S	**Sn**	**01 01 47.2**	**+0.9**
HELC	**Santa Helena**	**0.57**	**49**	P	**Pn**	**01 01 37.1**	**0.0**
HELC				S	**Sn**	**01 01 46.6**	**+0.3**
MEDEC	**Medelln, Ant**	**0.59**	**38**	P	**Pn**	**01 01 37.3**	**+0.2**
MEDEC				S	**Sn**	**01 01 46.4**	**0.0**
GUY2C	**Guyana, Caldas**	**0.83**	**135**	P	**Pn**	**01 01 41.2**	**+0.8**
GUY2C				S	**Sn**	**01 01 53.1**	**+0.9**
CMAN1	**Manizales, Cal**	**0.85**	**150**	P	**Pn**	**01 01 43.4**	**+2.9**
CMAN1				S	**Sn**	**01 01 53.8**	**+1.4**
DBBC	**Dabeiba**	**1.22**	**348**	P	**Pn**	**01 01 46.0**	**+0.8**
DBBC				S	**Sn**	**01 02 03.3**	**+2.5**
SOLC	**Bahia Solano**	**1.50**	**286**	P	**Pn**	**01 01 49.2**	**+0.3**
SOLC				S	**Sn**	**01 02 09.4**	**+2.0**
PTBC	**PUERTO BERRIO,**	**1.66**	**64**	P	**Pn**	**01 01 53.1**	**+2.1**
PTBC				S	**Sn**	**01 02 14.0**	**+2.8**
YOTC	**Yotoco, Valle**	**1.86**	**192**	P	**Pn**	**01 01 54.6**	**+0.7**
YOTC				S	**Sn**	**01 02 17.8**	**+1.5**
SPBC	**San Pablo de B**	**1.88**	**95**	P	**Pn**	**01 01 56.4**	**+2.3**
SPBC				S	**Sn**	**01 02 20.1**	**+3.3**
ROSC	**El Rosal**	**1.89**	**121**	P	**Pn**	**01 01 57.9**	**+3.3**
	2μm,0.4s,baz=44,slow=1.5,SNR=328						
ROSC	**El Rosal**	**1.89**	**121**	P	**Pn**	**01 01 57.7**	**+3.1**
ROSC				S	**Sn**	**01 02 17.6**	**+0.1**
UREC	**San Jos de Ur**	**1.97**	**12**	P	**Pn**	**01 01 57.1**	**+1.8**
UREC				S	**Sn**	**01 02 21.1**	**+2.2**
ZARC	**Zaragoza, Cauc**	**1.99**	**33**	P	**Pn**	**01 01 57.5**	**+1.9**
ZARC				S	**Sn**	**01 02 22.0**	**+2.6**
ORTC	**Ortega, Tolima**	**2.02**	**159**	P	**Pn**	**01 01 58.4**	**+2.4**
ORTC				S	**Sn**	**01 02 23.9**	**+3.7**
APAC	**Apartado, Choc**	**2.16**	**343**	P	**Pn**	**01 02 00.6**	**+2.7**
APAC				S	**Sn**	**01 02 27.6**	**+4.0**
PTAC	**Punta Ardita,**	**2.27**	**306**	P	**Pn**	**01 01 59.5**	**+0.2**
PTAC				S	**Sn**	**01 02 25.5**	**-0.7**
CVER	**Cruz Verde, Cu**	**2.27**	**124**	P	**Pn**	**01 02 02.8**	**+3.0**
CVER				S	**Sn**	**01 02 29.7**	**+2.8**
PRAC	**Prado**	**2.34**	**153**	P	**Pn**	**01 02 02.9**	**+2.5**
PRAC				S	**Sn**	**01 02 33.4**	**+5.3**
PRAC	**Prado**	**2.34**	**153**	P	**Pn**	**01 02 02.8**	**+2.4**
PRAC				S	**Sn**	**01 02 31.7**	**+3.6**
BRJC	**Barrancabermej**	**2.48**	**62**	P	**Pn**	**01 02 04.4**	**+2.1**
BRJC				S	**Sn**	**01 02 33.8**	**+2.4**
CHIC	**Chingaza**	**2.51**	**118**	P	**Pn**	**01 02 06.0**	**+3.0**
CHIC				S	**Sn**	**01 02 35.1**	**+2.5**
RUSC	**La Rusia**	**2.86**	**88**		**Pn**	**01 02 09.6**	**+1.7**
RUSC	**La Rusia**	**2.86**	**88**	P	**Pn**	**01 02 09.5**	**+1.7**
RUSC				S	**Sn**	**01 02 48.7**	**+7.4**
RUSC	**La Rusia**	**2.86**	**88**	P	**Pn**	**01 02 09.5**	**+1.7**
RUSC				S	**Sn**	**01 02 40.2**	**-1.1**
BARC	**Barichara**	**2.86**	**74**	P	**Pn**	**01 02 10.0**	**+2.3**
BARC				S	**Sn**	**01 02 44.4**	**+3.3**
URMC	**La Uribe, Meta**	**3.00**	**148**	P	**Pn**	**01 02 11.0**	**+1.6**
URMC				S	**Sn**	**01 02 46.8**	**+2.7**
LCBC	**Los crdobas,**	**3.05**	**352**	P	**Pn**	**01 02 11.7**	**+1.6**
LCBC				S	**Sn**	**01 02 49.3**	**+3.9**
BETC	**Betania**	**3.15**	**171**	P	**Pn**	**01 02 13.7**	**+2.2**
BETC				S	**Sn**	**01 02 50.4**	**+2.4**
POPC	**Popayan, Colom**	**3.33**	**192**	P	**Pn**	**01 02 15.8**	**+1.7**
POPC				S	**Sn**	**01 02 53.8**	**+1.2**
OCAC	**Ocana**	**3.56**	**47**	P	**Pn**	**01 02 19.4**	**+2.3**
OCAC				S	**Sn**	**01 03 00.4**	**+2.4**
GR1C	**Gorgona, Isla**	**3.56**	**218**	P	**Pn**	**01 02 16.3**	**-0.7**
PAMC	**Pamplona, Colo**	**3.57**	**65**	P	**Pn**	**01 02 20.0**	**+2.4**
PAMC				S	**Sn**	**01 03 02.1**	**+3.2**
SJCC	**San Jacinto, C**	**4.13**	**11**	P	**Pn**	**01 02 26.2**	**+1.3**
SJCC				S	**Sn**	**01 03 14.1**	**+2.1**
SJCC	**San Jacinto, C**	**4.13**	**11**	P	**Pn**	**01 02 26.3**	**+1.4**
SJCC				S	**Sn**	**01 03 13.8**	**+1.8**
MACC	**Macarena, Meta**	**4.21**	**150**	P	**Pn**	**01 02 27.2**	**+1.3**
FLOC	**Florencia**	**4.21**	**176**		**Pn**	**01 02 27.6**	**+1.5**
FLOC	**Florencia**	**4.21**	**176**	P	**Pn**	**01 02 27.7**	**+1.7**
FLOC				S	**Sn**	**01 03 16.7**	**+2.7**
FLOC	**Florencia**	**4.21**	**176**	P	**Pn**	**01 02 27.8**	**+1.7**
FLOC				S	**Sn**	**01 03 16.9**	**+2.9**
CRUC	**La Cruz**	**4.33**	**193**	P	**Pn**	**01 02 32.0**	**+4.0**
CRUC				S	**Sn**	**01 03 20.9**	**+3.5**
ARGC	**Ariguani, Magd**	**4.36**	**23**	P	**Pn**	**01 02 30.1**	**+2.1**
ARGC				S	**Sn**	**01 03 20.6**	**+3.0**
BCIP	**Isla Barro Col**	**5.09**	**311**		**Pn**	**01 02 37.3**	**-0.6**
BCIP	**Isla Barro Col**	**5.09**	**311**	P	**Pn**	**01 02 37.4**	**-0.6**
CMBC	**Cumbal**	**5.19**	**201**	P	**Pn**	**01 02 43.8**	**+4.0**
TULM	**Tulcn-Chalpat**	**5.38**	**200**	P	**Pn**	**01 02 46.4**	**+3.9**
	4μm468nm,1.0s						
SMRC	**Santa Marta, M**	**5.58**	**18**		**Pn**	**01 02 46.8**	**+2.0**
PTLC	**Puerto Leguiza**	**5.72**	**168**	P	Pn	01 02 53.6	+6.9
MAPC	**Malpelo**	**5.91**	**253**	P	**Pn**	**01 02 50.7**	**+1.4**
	3μm95nm,0.6s						
CUSE	**Cuicocha Este**	**5.99**	**204**	P	**Pn**	**01 02 53.7**	**+2.9**
CRJC	**Cerrejon, Guaj**	**6.00**	**30**	P	**Pn**	**01 02 51.6**	**+1.0**
	2μm105nm,0.8s						
CRJC				S	**Sn**	**01 03 56.6**	**-1.4**
	2μm105nm,0.8s						
OTAV	**Otavalo**	**6.07**	**204**		**Pn**	**01 02 52.5**	**+0.6**
OTAV	**Otavalo**	**6.07**	**204**	*eP*	**Pn**	**01 02 51.9**	**0.0**
SDV	**Santo Domingo**	**6.10**	**60**		**Pn**	**01 02 54.2**	**+2.2**
SDV	**Santo Domingo**	**6.10**	**60**	P	**Pn**	**01 02 54.9**	**+2.9**
	75nm,0.3s,baz=229,slow=14,SNR=42						
SDV				S	**Sn**	**01 04 01.2**	**+0.6**
	189nm,0.5s,baz=242,slow=23,SNR=7.9						
SDV				LR	LR	01 05 50.7	
	comp=Z,385nm,21.9s,baz=342,slow=43						
SDV	**Santo Domingo**	**6.10**	**60**	*eP*	**Pn**	**01 02 52.8**	**+0.8**
SDV	**Santo Domingo**	**6.10**	**60**	P	**Pn**	**01 02 53.9**	**+1.9**
	2μm172nm,0.7s						
SDV				S	**Sn**	**01 04 03.1**	**+2.5**
	2μm172nm,0.7s						
PAC1	**Pacto, Paraso**	**6.20**	**207**	P	**Pn**	**01 02 52.6**	**-0.7**
URIC	**Uribia, Colomb**	**7.04**	**34**	P	**Pn**	**01 03 05.5**	**+0.8**
BAUV	**El Baul**	**8.44**	**68**		**Pn**	**01 03 23.4**	**-0.6**
JTS	**Las Juntas de**	**9.96**	**297**	LR	LR	01 07 44.8	
	comp=Z,372nm,21.5s,baz=160,slow=38						
SIUN	**Universidad Ur**	**11.71**	**313**		**Pn**	**01 04 12.0**	**+3.4**
HOJ	**Hope**	**12.14**	**356**	*i* P	**Pn**	**01 04 17.0**	**+2.5**
MCJ	**Malvern**	**12.16**	**352**	*i* P	**Pn**	**01 04 12.1**	**-2.8**
GWJ	**Greenwich**	**12.21**	**357**	*i* P	**Pn**	**01 04 18.0**	**+2.4**
STH	**Stony Hill**	**12.22**	**356**	*i* P	**Pn**	**01 04 18.4**	**+2.8**
MTDJ	**Mount Denham**	**12.43**	**353**	*i* P	**Pn**	**01 04 21.2**	**+2.6**
ATAH	**Atahualpa**	**13.09**	**191**	P	**Pn**	**01 04 30.6**	**+2.7**
	4.9nm,0.9s,baz=39,slow=7.2,SNR=3.7						
SDDR	**Presa de Saban**	**13.86**	**19**		**Pn**	**01 04 40.0**	**+2.0**
DR12	**Loma Pena Alta**	**14.40**	**26**		**Pn**	**01 04 43.6**	**-1.6**
TEFE	**Tefe**	**14.62**	**129**	*eP*	**Pn**	**01 04 45.3**	**-2.7**
NMDO	**Nuevo Mundo**	**14.69**	**4**		**Pn**	**01 04 51.1**	**+2.2**
MTO3	**Montecristo**	**15.71**	**304**	P	**P**	**01 05 04.1**	**-1.2**
BOAV	**Boa Vista**	**15.76**	**102**		**Pn**	**01 04 59.3**	**-3.5**
BOAV	**Boa Vista**	**15.76**	**102**	*eP*	**Pn**	**01 04 58.9**	**-3.9**
MACA	**Manacapuru-AM**	**17.67**	**120**		**Pn**	**01 05 23.1**	**-3.5**
MACA	**Manacapuru-AM**	**17.67**	**120**	*eP*	**Pn**	**01 05 24.3**	**-2.3**
CMIG	**Matias Romero**	**21.65**	**303**	P	**P**	**01 06 13.2**	**+3.0**
	2.2nm,0.7s,baz=130,slow=7.9,SNR=4.0						
	2.2nm,0.7s						
ITTB	**Itaituba**	**22.58**	**116**	*eP*	**P**	**01 06 18.3**	**-2.0**
MDP	**Montagnes des**	**23.22**	**91**	P	**P**	**01 06 26.5**	**-0.2**
	9.8nm,0.4s,baz=271,slow=8.8,SNR=30						
	9.8nm,0.4s						
LPAZ	**La Paz**	**23.29**	**161**	P	**P**	**01 06 26.9**	**-1.0**
LPAZ	**La Paz**	**23.29**	**161**	P	**P**	**01 06 28.0**	**+0.1**
	8.6nm,0.6s,baz=335,slow=7.4,SNR=28						
	8.6nm,0.6s						
LPAZ	**La Paz**	**23.29**	**161**	*eP*	**P**	**01 06 25.7**	**-2.2**
NPGB	**Novo Progresso**	**24.20**	**122**	*eP*	**P**	**01 06 34.3**	**-1.5**
VILB	**Vilhena**	**24.34**	**140**	P	**P**	**01 06 35.4**	**-1.7**
VILB				IAmb	IAmb	01 07 06.9	
	comp=Z,64nm,1.0s						
VILB	**Vilhena**	**24.34**	**140**	*eP*	**P**	**01 06 35.1**	**-2.0**
PB16	**IPOC Station P**	**24.82**	**165**	P	**P**	**01 06 40.5**	**-1.6**
PDRB	**Porto dos Gac**	**25.80**	**132**	*eP*	**P**	**01 06 48.7**	**-1.6**
CLDB	**Colider**	**26.03**	**130**	*eP*	**P**	**01 06 50.4**	**-2.0**
PB11	**IPOC Station P**	**26.16**	**166**	IAmb	IAmb	01 06 55.1	
	comp=Z,24nm,0.8s						
GO01	**Chusmiza**	**26.18**	**165**	IAmb	IAmb	01 06 54.9	
	comp=Z,11nm,0.6s						
HMBC	**Humberstone**	**26.61**	**167**	IAmb	IAmb	01 06 58.2	
	comp=Z,34nm,1.1s						
PTLB	**Pontes e Lacer**	**26.91**	**142**	P	**P**	**01 06 59.3**	**-1.0**
PTLB	**Pontes e Lacer**	**26.91**	**142**	*eP*	**P**	**01 06 58.5**	**-1.8**
PB01	**IPOC Station P**	**27.43**	**167**	P	**P**	**01 07 05.0**	**-0.1**
PB01				IAmb	IAmb	01 07 06.1	
	comp=Z,15nm,0.7s						
SALV	**Santo Antonio**	**29.46**	**137**	*eP*	**P**	**01 07 22.2**	**-0.8**
SNDB	**Serra Nova Dou**	**30.23**	**126**	*eP*	**P**	**01 07 28.5**	**-1.4**
PP1B	**Ponte de Pedra**	**31.22**	**139**	*eP*	**P**	**01 07 38.1**	**-0.5**
V48A	**Smith Brothers**	**31.42**	**343**	IAmb	IAmb	01 07 43.0	
	comp=Z,23nm,1.0s						
SMTB	**Santa Maria do**	**31.82**	**117**	*eP*	**P**	**01 07 42.6**	**-1.4**
ARAG	**Araguaiana, MT**	**32.08**	**132**	*eP*	**P**	**01 07 44.2**	**-1.9**
WVT	**Waverly**	**32.08**	**342**	P	**P**	**01 07 46.8**	**+0.8**
WVT				IAmb	IAmb	01 07 48.1	
	comp=Z,33nm,1.6s						
WVT	**Waverly**	**32.08**	**342**	P	**P**	**01 07 47.0**	**+1.0**
WVT				PcP	**PcP**	**01 10 34.4**	**0.0**
X40A	**Basin Creek Fa**	**32.53**	**334**	IAmb	IAmb	01 07 51.2	
	comp=Z,9.7nm,0.9s						
T47A	**Sharon Grove**	**32.66**	**343**	IAmb	IAmb	01 07 53.3	
	comp=Z,16nm,0.9s						
LCAR	**Lake Charles**	**33.19**	**337**	IAmb	IAmb	01 07 57.3	
	comp=Z,25nm,1.3s						
BRDY	**Brady**	**33.30**	**322**	IAmb	IAmb	01 07 57.5	
	comp=Z,7.4nm,0.8s						
Q52A	**Bidwell**	**33.49**	**351**	IAmb	IAmb	01 08 01.3	
	comp=Z,15nm,1.0s						
PBMO	**Poplar Bluff**	**33.55**	**339**	IAmb	IAmb	01 08 00.4	
	comp=Z,15nm,0.7s						
Q51A	**Peebles**	**33.73**	**350**	IAmb	IAmb	01 08 03.2	
	comp=Z,32nm,1.5s						
CGM3	**Cape Girardeau**	**33.74**	**340**	IAmb	IAmb	01 08 02.0	
	comp=Z,10nm,0.7s						
S44A	**Carbondale**	**33.97**	**341**	IAmb	IAmb	01 08 04.2	
	comp=Z,16nm,0.8s						
PLPT	**Palo Pinto**	**33.99**	**325**	IAmb	IAmb	01 08 04.2	
	comp=Z,12nm,0.8s						
MVL	**Millersville**	**34.04**	**359**	IAmb	IAmb	01 08 06.2	
	comp=Z,7.0nm,0.8s						
P51A	**Williamsport**	**34.13**	**350**	IAmb	IAmb	01 08 06.6	
	comp=Z,13nm,1.0s						
HHAR	**Hobbs**	**34.52**	**334**	IAmb	IAmb	01 08 08.2	
	comp=Z,12nm,0.9s						
P48A	**Milroy**	**34.57**	**347**	IAmb	IAmb	01 08 09.3	
	comp=Z,18nm,1.0s						
ABTX	**Abilene, Hawle**	**34.63**	**323**	IAmb	IAmb	01 08 09.5	
	comp=Z,15nm,0.8s						
SSPA	**Standing Stone**	**34.71**	**357**	P	**P**	**01 08 11.3**	**+2.5**
SSPA				IAmb	IAmb	01 08 11.8	
	comp=Z,8.0nm,0.7s						
U38A	**Gravette**	**34.85**	**334**	IAmb	IAmb	01 08 10.7	
	comp=Z,12nm,0.7s						
BDFB	**Brasilia**	**34.93**	**128**	P	**P**	**01 08 10.6**	**-0.6**
BDFB				IAmb	IAmb	01 08 12.9	
	comp=Z,9.5nm,1.1s						
BDFB	**Brasilia**	**34.93**	**128**	P	**P**	**01 08 09.5**	**-1.6**
	comp=Z,5.2nm,0.8s,baz=286,slow=8.4,SNR=8.7						
BDFB				LR	LR	01 23 17.9	
	comp=Z,310nm,19.6s,baz=322,slow=38						
	comp=Z,5.2nm,0.8s						
CCM	**Cathedral Cave**	**34.98**	**339**	P	**P**	**01 08 11.4**	**+0.3**
CCM	**Cathedral Cave**	**34.98**	**339**	P	**P**	**01 08 11.6**	**+0.4**
CCM				PcP	**PcP**	**01 10 42.8**	**+0.2**
TXAR	**Lajitas Array**	**35.10**	**315**	P	**P**	**01 08 13.0**	**+0.6**
TXAR	**Lajitas Array**	**35.10**	**315**	P	**P**	**01 08 13.3**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=132,slow=11,SNR=8.9						
	comp=Z,1.7nm,1.0s						
O48B	**Farmland**	**35.28**	**348**

ECSD	EROS Data Cent	41.91	337	P	P	01 09 08.6	-0.8
NBAN	Anadia - AL	42.42	111	eP	P	01 09 12.2	-1.7
RIB01	Linhares ES	43.01	126	eP	P	01 09 16.2	-2.3
PLTB	Pedras Altas	43.02	152	P	P	01 09 15.1	-3.4
PLTB				IAmb	IAmb	01 09 42.8	
	comp=Z,22nm,1.5s						
ISCO	Idaho Springs	43.09	326	P	P	01 09 20.7	+1.4
214A	Organ Pipe Nat	43.14	312	IAmb	IAmb	01 09 22.4	
	comp=Z,13nm,1.1s						
PV15	Paradox Valley	43.80	322	IAmb	IAmb	01 09 27.7	
	comp=Z,22nm,1.1s						
PV02	Paradox Valley	43.87	322	IAmb	IAmb	01 09 28.2	
	comp=Z,36nm,1.4s						
PV13	Radium Mtn., P	43.89	322	IAmb	IAmb	01 09 28.2	
	comp=Z,22nm,1.3s						
WUAZ	Wupatki	43.98	317	IAmb	IAmb	01 09 29.1	
	comp=Z,9.4nm,0.8s						
PV12	Saucer Basin,	43.98	322	IAmb	IAmb	01 09 49.0	
	comp=Z,44nm,1.6s						
PV18	Skein Mesa, Pa	44.00	322	IAmb	IAmb	01 09 28.3	
	comp=Z,19nm,1.3s						
EYMN	Ely	44.03	345	IAmb	IAmb	01 09 27.3	
	comp=Z,20nm,0.8s						
O20A	White River Ci	44.81	324	IAmb	IAmb	01 11 07.2	
	comp=Z,20nm,1.7s						
U15A	North Rim	45.10	318	IAmb	IAmb	01 09 38.2	
	comp=Z,22nm,2.0s						
RSSD	Black Hills	45.41	332	P	P	01 09 38.2	+0.5
RSSD				IAmb	IAmb	01 09 39.5	
	comp=Z,28nm,1.6s						
RSSD	Black Hills	45.41	332	P	P	01 09 38.4	+0.7
AGMN	Agassiz Nation	45.61	341	IAmb	IAmb	01 09 39.9	
	comp=Z,21nm,1.3s						
KNB	Kanab	45.78	318	IAmb	IAmb	01 10 04.3	
	comp=Z,20nm,1.7s						
RDMU	Red Mountain	45.87	324	IAmb	IAmb	01 09 43.2	
	comp=Z,9.7nm,1.1s						
P17A	Butcher Ranch,	45.88	322	IAmb	IAmb	01 09 43.5	
	comp=Z,14nm,1.3s						
LCMT	Little Creek M	46.06	318	IAmb	IAmb	01 09 47.4	
	comp=Z,20nm,2.0s						
TMUT	Trail Mountain	46.06	322	IAmb	IAmb	01 09 45.2	
	comp=Z,14nm,1.5s						
BELC	Belle Mtn. Jos	46.47	313	IAmb	IAmb	01 09 48.7	
	comp=Z,13nm,1.3s						
BSUT	Blindstream Ca	46.55	323	IAmb	IAmb	01 09 49.2	
	comp=Z,14nm,1.1s						
PLCA	Paso Flores	46.58	174	P	P	01 09 47.2	+0.5
	comp=Z,2.0nm,0.7s,baz=358,slow=11,SNR=7.2						
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	46.58	174	eP	P	01 09 46.5	-0.2
PLCA	Paso Flores	46.58	174	P	P	01 09 46.9	+0.2
MPU	Maple Canyon	46.75	322	IAmb	IAmb	01 09 50.3	
	comp=Z,14nm,1.4s						
SHPR	Sheep Range	47.10	316	P	P	01 09 52.1	+1.1
BW06	Boulder Array	47.29	326	IAmb	IAmb	01 09 54.7	
	comp=Z,10nm,1.2s						
PD31	Pinedale Array	47.29	326	IAmb	IAmb	01 09 54.7	
	comp=Z,10.0nm,1.2s						
PDAR	Pinedale Array	47.29	326	P	P	01 09 52.4	-0.1
PDAR	Pinedale Array	47.29	326	P	P	01 09 52.7	+0.2
	comp=Z,3.1nm,0.9s,baz=126,slow=7.5,SNR=21						
PDAR				PcP	PcP	01 11 21.0	-1.9
	comp=Z,0.8nm,0.9s,baz=128,slow=2.0,SNR=2.5						
	comp=Z,3.1nm,0.9s						
TCUT	Toone Canyon	47.29	323	IAmb	IAmb	01 09 54.7	
	comp=Z,22nm,1.2s						
ULM	Lac du Bonnet	47.34	343	P	P	01 09 52.3	-0.1
	comp=Z,11nm,0.4s,baz=145,slow=8.8,SNR=11						
	comp=Z,11nm,0.4s						
AHID	Auburn Hatcher	48.15	325	IAmb	IAmb	01 10 00.6	
	comp=Z,8.8nm,1.1s						
SNOW	Snow King Moun	48.41	326	IAmb	IAmb	01 10 04.5	
	comp=Z,7.9nm,0.7s						
SCHQ	Schefferville	49.43	7	P	P	01 10 09.6	+1.1
	comp=Z,35nm,0.7s,baz=191,slow=6.8,SNR=7.5						
YHL	Hebgen Lake	49.55	327	IAmb	IAmb	01 10 12.6	
	comp=Z,14nm,1.0s						
NVAR	Mina Array Bea	50.22	316	P	P	01 10 16.6	+1.6
	comp=Z,1.6nm,0.9s,baz=122,slow=7.3,SNR=13						
NVAR				PcP	PcP	01 11 34.3	+0.8
	comp=Z,1.2nm,0.7s,baz=133,slow=4.3,SNR=4.8						
	comp=Z,1.6nm,0.9s						
BOZ	Bozeman (W)	50.27	328	IAmb	IAmb	01 10 17.1	
	comp=Z,5.5nm,0.9s						
DLMT	Dillon	50.64	327	IAmb	IAmb	01 10 20.2	
	comp=Z,18nm,1.4s						
MFID	Camas Ranch	51.29	323	IAmb	IAmb	01 10 50.0	
	comp=Z,5.2nm,0.8s						
PNTR	Pine Nut	51.43	317	IAmb	IAmb	01 10 29.2	
	comp=Z,28nm,1.8s						
PAHR	Pah Rah Range	51.58	317	P	P	01 10 26.2	+1.1
PLID	Pearl Lake	52.37	325	IAmb	IAmb	01 10 32.0	
	comp=Z,7.6nm,1.1s						
WVOR	Wild Horse Val	52.48	321	IAmb	IAmb	01 10 33.6	
	comp=Z,17nm,1.4s						
G08A	Pilot Rock	54.21	324	IAmb	IAmb	01 10 46.1	
	comp=Z,18nm,1.3s						
FRB	Frobisher Bay	58.07	4	P	P	01 11 11.5	+0.1
	comp=Z,5.5nm,0.8s,baz=180,slow=14,SNR=1.0						
	comp=Z,5.5nm,0.8s						
YKA	Yellowknife Ar	63.26	341	P	P	01 11 46.0	-0.8
	comp=Z,5.2nm,0.9s,baz=136,slow=6.0,SNR=10						
	comp=Z,5.2nm,0.9s						
DY2G	Dye2	63.95	13	iP	P	01 11 50.9	-0.6
DY2G				IAmb	IAmb	01 11 52.3	
	comp=Z,8.4nm,0.7s						
N32M	Quiet Lake	69.52	334	IAmb	IAmb	01 12 29.2	
	comp=Z,8.3nm,0.9s						
RES	Resolute Bay	69.69	355	P	P	01 12 27.2	-0.3
	comp=Z,3.4nm,0.8s,baz=90,slow=4.1,SNR=2.7						
	comp=Z,3.4nm,0.8s						
SUMG	Summit	70.50	11	P	P	01 12 33.3	+0.1
SUMG	Summit	70.50	11	iP	P	01 12 33.8	+0.6
SUMG				IAmb	IAmb	01 12 34.6	
	comp=Z,13nm,0.7s						
DBIC	Dimbokro	70.62	85	P	P	01 12 33.9	-0.5
	comp=Z,4.0nm,0.7s,baz=297,slow=6.7,SNR=7.8						
	comp=Z,4.0nm,0.7s						
O30N	Mendenhall	70.68	333	IAmb	IAmb	01 12 36.0	
	comp=Z,22nm,1.3s						
M30M	Minto, Yukon	71.72	335	P	P	01 12 40.9	+0.6
M30M				IAmb	IAmb	01 12 41.8	
	comp=Z,8.6nm,0.8s						
ESDC	Sonseca Array	72.46	50	P	P	01 12 45.4	+0.2
	comp=Z,1.4nm,0.9s,baz=264,slow=5.2,SNR=11						
	comp=Z,1.4nm,0.9s						
I30M	Mount Dempster	72.65	337	P	P	01 12 46.4	+0.5
I30M				IAmb	IAmb	01 14 04.4	
	comp=Z,18nm,1.7s						
NEEM	North Greenlan	72.81	6	iP	P	01 12 47.3	+0.5
NEEM				IAmb	IAmb	01 12 48.5	
	comp=Z,30nm,0.6s						
INK	Inuvik	73.03	341	P	P	01 12 48.0	+0.2
INK				IAmb	IAmb	01 12 48.3	
	comp=Z,5.6nm,0.6s						
BCAR	Beaver Creek A	74.03	334	P	P	01 12 55.1	+1.2
E28M	Babbage River	75.16	340	IAmb	IAmb	01 14 23.6	
	comp=Z,21nm,1.8s						
DOT	Dot Lake	75.19	335	IAmb	IAmb	01 13 01.9	
	comp=Z,7.8nm,0.8s						
J26L	Joseph Creek	75.24	336	IAmb	IAmb	01 14 04.7	
	comp=Z,16nm,1.5s						
EKA	Eskdalemuir Ar	75.48	34	P	P	01 13 02.0	-0.3
	comp=Z,1.6nm,0.7s,baz=251,slow=5.1,SNR=4.5						
	comp=Z,1.6nm,0.7s						
HDA	Harding Lake	76.62	335	IAmb	IAmb	01 13 09.2	
	comp=Z,6.8nm,0.7s						
ILAR	Eielson Array	76.69	335	P	P	01 13 08.8	-0.2
	comp=Z,2.0nm,0.8s,baz=113,slow=4.5,SNR=17						
	comp=Z,2.0nm,0.8s						
TORD	Torodi Ar. Bea	76.70	78	P	P	01 13 10.4	+0.3
	comp=Z,2.3nm,0.4s,baz=292,slow=5.0,SNR=3.5						
TORD				LR	LR	01 46 07.7	
	comp=Z,321nm,22.0s,baz=9.5,slow=35						
	comp=Z,2.3nm,0.4s						
FETA	Feichten	83.53	43	iP	P	01 13 47.5	+1.0
	comp=Z,6.1nm,1.0s						
CIMO	Cimolais	84.73	44	P	P	01 13 53.4	+0.9
ABTA	Abfaltersbach	84.76	44	iP	P	01 13 53.1	+0.4
	comp=Z,2.3nm,0.8s						
HFS	Hagfors	84.83	30	P	P	01 13 53.1	+0.5
	comp=Z,1.1nm,0.6s,baz=306,slow=4.8,SNR=1.4						
	comp=Z,1.1nm,0.6s						
SPITS	Spitsbergen Ar	84.83	12	P	P	01 13 53.6	+1.3
	comp=Z,2.0nm,0.4s,baz=182,slow=2.5,SNR=14						
	comp=Z,2.0nm,0.4s						
LESA	Schwarzleotal	84.84	43	iP	P	01 13 53.8	+0.8
	comp=Z,2.9nm,0.7s						
CLL	Collm	84.85	39	iP	P	01 13 54.6	+1.7
KBA	Koelnbreinsper	85.31	43	eP	P	01 13 56.5	+0.9
	comp=Z,5.7nm,1.6s						
GERES	GERESS Array B	85.44	42	P	P	01 13 56.9	+0.8
	comp=Z,1.4nm,0.7s,baz=263,slow=5.4,SNR=9.8						
	comp=Z,1.4nm,0.7s						
MOA	Molln	85.88	42	iP	P	01 13 58.8	+0.6
	comp=Z,5.9nm,1.0s						
SOKA	Soboth	86.49	44	iP	P	01 14 01.4	+0.1
	comp=Z,5.1nm,1.3s						
ARSA	Arzberg	86.78	43	iP	P	01 14 03.4	+0.8
	comp=Z,2.3nm,0.8s						
CONA	Conrad Observa	86.95	42	ePcP	P	01 14 04.3	+0.8
	comp=Z,7.7nm,1.6s						
RONA	Rosalia, Austr	87.26	43	eP	P	01 14 04.6	-0.3
	comp=Z,1.8nm,0.9s						
VNA3	Neumayer Olymp	88.04	163	⇑P	P	01 14 07.8	-0.2
	comp=Z,2.2nm,0.5s						
VNA2	Neumayer--Watz	88.59	162	⇑P	P	01 14 12.5	+1.9
	comp=Z,3.1nm,0.4s,baz=299,slow=4.2						
SNAA	Sanae	90.23	162	⇑P	P	01 14 15.5	-3.0
	comp=Z,28nm,0.5s						
SNAA	Sanae	90.23	162	IAmb	IAmb	01 15 29.4	
	comp=Z,18nm,2.0s						
SNAA	Sanae	90.23	162	P	P	01 14 17.9	-0.6
	comp=Z,1.3nm,0.6s,baz=262,slow=4.9,SNR=17						
	comp=Z,1.3nm,0.6s						
TROLL	Troll, Antarti	91.94	162	⇑P	P	01 14 27.0	+0.5
	comp=Z,109nm,0.4s						
QSPA	South Pole Qui	95.83	180	LR	LR	01 56 32.0	
	comp=Z,1μm,19.5s,baz=46,slow=34						
KURK	Kurchatov	119.58	18		PKPdf	01 20 06.5	-1.4
KURBB	Kurchatov Arra	119.63	18	PKP	PKPdf	01 20 06.5	-1.5
	comp=Z,0.1nm,0.5s,baz=331,slow=2.8,SNR=4.1						
MKAR	Makanchi Array	124.18	18	PKP	PKPdf	01 20 14.4	-2.4
	comp=Z,0.4nm,0.7s,baz=315,slow=2.7,SNR=2.5						
SONM	Songino Array	126.54	358	PKP	PKPdf	01 20 21.3	-0.2
	comp=Z,0.6nm,0.6s,baz=270,slow=1.4,SNR=2.9						
HHC	Hu-ho-hao-te	133.06	352	eP	PKPdf	01 20 29.3	-4.8
NJ2	Nanjing	139.79	340	eP	PKPdf	01 20 46.3	-0.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ASAR	Alice Springs	146.23	235		PKPdf	01 20 57.8	-0.5
ASAR	Alice Springs	146.23	235	PKPbc	PKPdf	01 20 58.0	-0.3
	comp=Z,3.8nm,0.6s,baz=112,slow=3.5,SNR=28						
WRA	Warramunga Arr	147.38	242	PKPbc	PKPdf	01 21 00.2	0.0
	comp=Z,3.0nm,0.7s,baz=108,slow=3.0,SNR=16						
PZH	PanZhiHua	147.80	4	PKPbc	PKPdf	01 20 57.5	-3.5
CMAR	Chiang Mai Arr	155.36	12		PKPab	01 21 37.7	0.0
CMAR	Chiang Mai Arr	155.36	12	PKPab	PKPab	01 21 37.0	-0.7
	comp=Z,2.5nm,0.3s,baz=328,slow=5.3,SNR=18						

*LDG **26** 01:05:00.9±0.0, 44°.99N×4°.38E, h5km, Md1.4/1, Ml1.5/1, Error ellipse: s-maj=0.8km s-min=0.8km az=2.0*

STR 26 01:05:01.2±0.0, 44°.99N±0°.08×4°.37E±0°.07, h10km, MLv1.5/11, LOCSAT earthModelD auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIVF	Saint-Julien-l	0.25	122	ePg	Pg	01 05 06.0	-0.4
VIVF				eSg	Sg	01 05 09.1	-0.8
	7.0nm,0.2s						
SSB	Saint Sauveur	0.31	23	Pg	Pg	01 05 07.2	-0.4
SSB				Sg	Sg	01 05 11.8	0.0
COLF	Collangettes	0.71	318	Pg	Pg	01 05 14.3	-0.7
COLF				Sg	Sg	01 05 23.5	-0.8
LBL	Lubilhac	0.83	287	Pg	Pg	01 05 16.8	-0.5
LBL				Sg	Sg	01 05 27.9	-0.2
TRBF	Trabuc cave	0.93	199	Pg	Pg	01 05 18.4	-0.8
TRBF				Sg	Sg	01 05 30.5	-0.9
LASF	Ste Croix	0.99	202	ePg	Pg	01 05 19.4	-0.8
LASF				eSg	Sg	01 05 32.3	-0.7
	1.3nm,0.2s						
PLDF	La Plantade	1.11	332	Pg	Pb	01 05 21.4	-1.2
PLDF				Sg	Sg	01 05 35.8	-1.3
OGSM	Saint Maurice	1.12	56	Pg	Pb	01 05 21.6	-1.2
OGSM				Sg	Sg	01 05 36.3	-1.1
LAJAS	L'Hospitalet-d	1.31	219	Sg	Sb	01 05 42.6	-0.3
LEUC	Leucamp	1.31	261	Pg	Pb	01 05 25.9	-0.1

*IDC **26** 01:16:35.1±0.9, 13°.13N×145°.67E, h0km, mb4.2/9, mbtmp4.2/9, Error ellipse: s-maj=24.4km s-min=19.7km az=74.0*
*NEIC **26** 01:16:38.0±1.8, 13°.12N±0°.10×145°.39E±0°.08, h10km±1km, mb4.4/11, Error ellipse: s-maj=16.6km s-min=13.6km az=173.0*

ISC 26 01:16:41.4±0.8, 13°.2N±0°.1×145°.4E±0°.2, h43km, n30, σ1$45/29, mb4.3/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.70	307		Pn	01 16 55.8	+0.8
GUMO	Guam	0.70	307	Pn	Pn	01 16 56.1	+1.2
	350nm,0.3s,baz=160,slow=12,SNR=24						
PATS	Pohnpei	14.14	115		Pn	01 19 51.4	-7.8
MJAR	Matsushiro Arr	24.17	346	P	P	01 21 50.1	-3.7
MAJO	Matsushiro	24.17	346	P	P	01 21 50.2	-3.6
MAJO				IAmb	IAmb	01 22 16.7	
	comp=Z,5.2nm,0.7s						
WB0	Warramunga Arr	34.48	199	P	P	01 23 23.5	-2.0
WB0				IAmb	IAmb	01 23 43.3	
	comp=Z,6.3nm,1.2s						
WR8	Warramunga Arr	34.62	198	P	P	01 23 26.4	-0.3
WR8				IAmb	IAmb	01 23 53.1	
	comp=Z,3.8nm,1.1s						
WRA	Warramunga Arr	34.66	199	P	P	01 23 26.9	-0.2
	comp=Z,0.9nm,0.5s,baz=22,slow=9.7,SNR=7.8						
	comp=Z,0.9nm,0.5s						
FITZ	Fitzroy Crossi	36.69	213	P	P	01 23 45.6	+1.2
ASAR	Alice Springs	38.30	197	P	P	01 23 57.9	-0.2
	comp=Z,0.8nm,0.6s,baz=21,slow=8.7,SNR=8.6						
	comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	44.96	283	P	P	01 24 50.3	-2.4
CMAR	Chiang Mai Arr	44.96	283	P	P	01 24 54.2	+1.5
	comp=Z,0.8nm,0.3s,baz=82,slow=5.9,SNR=4.3						
	comp=Z,0.8nm,0.3s						
MKAR	Makanchi Array	62.19	316	P	P	01 26 59.6	+1.0
MKAR	Makanchi Array	62.19	316	P	P	01 26 59.7	+1.1
	comp=Z,0.6nm,0.3s,baz=91,slow=8.2,SNR=13						
	comp=Z,0.6nm,0.3s						
ZALV	Zalesovo Beam	62.30	324	PcP	PcP	01 27 38.4	-0.2
	comp=Z,1.6nm,0.8s,baz=79,slow=3.2,SNR=5.0						
MAKZ	Makanchi	62.40	316	P	P	01 27 01.1	+1.1
MAKZ				IAmb	IAmb	01 27 13.1	
	comp=Z,2.2nm,0.9s						
J19K	Poorman	64.87	25	P	P	01 27 17.5	+1.6
KURK	Kurchatov	65.27	320	P	P	01 27 19.3	+0.6
KURK				IAmb	IAmb	01 27 20.3	
	comp=Z,3.7nm,0.8s						
KURBB	Kurchatov Arra	65.31	320	P	P	01 27 19.6	+0.6
	comp=Z,3.4nm,0.7s,baz=102,slow=6.8,SNR=34						
	comp=Z,3.4nm,0.7s						
ILAR	Eielson Array	68.72	25	P	P	01 27 39.9	-0.5
	comp=Z,0.9nm,0.6s,baz=249,slow=6.1,SNR=12						
	comp=Z,0.9nm,0.6s						
TOLK	Toolik Lake Re	68.81	21	P	P	01 27 42.3	+1.2
J26L	Joseph Creek	70.05	26	P	P	01 27 49.7	+0.9
J26L				IAmb	IAmb	01 28 09.0	
	comp=Z,2.9nm,0.8s						
BVAR	Borovoye Array	70.61	322	P	P	01 27 53.1	+0.8
	comp=Z,4.8nm,0.4s,baz=104,slow=7.6,SNR=36						
	comp=Z,4.8nm,0.4s						
AB31	Akbulak array	77.23	318	P	P	01 28 31.5	+0.4
AB31				IAmb	IAmb	01 28 32.2	
	comp=Z,3.6nm,1.1s						
ABKAR	Akbulak array	77.23	318	P	P	01 28 31.5	+0.4
NVAR	Mina Array Bea	86.75	51	P	P	01 29 22.6	+1.0
	comp=Z,0.4nm,0.6s,baz=266,slow=4.6,SNR=5.6						
	comp=Z,0.4nm,0.6s						
FINES	FINESS Array B	91.78	335	P	P	01 29 43.3	-1.2
FINES	FINESS Array B	91.78	335	P	P	01 29 43.9	-0.6
	comp=Z,6.0nm,1.0s,baz=33,slow=4.5,SNR=3.8						
	comp=Z,6.0nm,1.0s						
DBIC	Dimbokro	144.52	302	PKP	PKPdf	01 36 14.1	-0.2
	comp=Z,5.5nm,0.6s,baz=56,slow=3.1,SNR=11						
TRQA	Tornquist	145.23	140	PKPdf	PKPdf	01 36 15.1	+0.3

*DSN **26** 01:19:51.1±1.7, 27°.14N×55°.04E, h10km, ML2.7/5, Error ellipse: s-maj=21.4km s-min=7.7km az=16.0*
*TEH **26** 01:19:52.4, 27°.27N×55°.17E, h8km±123km*
*OMAN **26** 01:19:58.3±0.1, 26°.68N×54°.97E, h19km±1km, mb3.1/3, ml2.7/14, Error ellipse: s-maj=2.0km s-min=0.7km az=9.0*

ISC 26 01:19:51.9±0.9, 27°.03N±0°.06×55°.06E±0°.04, h10km, n39, σ1$71/52, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.89	316	Pg	Pg	01 20 08.3	-0.7
GENO	Geno	1.05	69	Pg	Pb	01 20 10.2	-2.2
SHME	Shamm	1.37	135	P	Pn	01 20 19.4	+2.3
SHME				S	Sn	01 20 37.0	+1.7
SHME	Shamm	1.37	135	P	Pn	01 20 17.0	-0.1
SHME				S	Sn	01 20 37.0	+1.7
IBND	Bandar-abas	1.38	72	Pg	Pb	01 20 16.0	-1.8
BANOM	Banah	1.56	135	P	Pn	01 20 21.0	+1.3
BANOM				S	Sn	01 20 42.4	+2.3
BANOM	Banah	1.56	135	P	Pn	01 20 20.6	+0.8
BANOM				S	Sn	01 20 43.3	+3.2
MASF	Masafi	1.92	149	P	Pn	01 20 25.4	+0.7
MASF				S	Sn	01 20 48.0	-1.0
JHRM	Jahrom	1.98	319	Pn	Pb	01 20 27.1	-1.0
MDH	Madha	2.05	147	P	Pn	01 20 28.5	+2.1
MDH	Madha	2.05	147	P	Pn	01 20 26.8	+0.4
NAZ	Nazwa, Dubai	2.10	165	P	Pn	01 20 28.6	+1.4
UOSS	Minazif	2.31	153	P	Pn	01 20 32.1	+2.0
UOSS				S	Sn	01 20 58.2	-0.4
UOSS	Minazif	2.31	153	P	Pn	01 20 31.7	+1.6
HATD	Hatta, Dubai	2.40	156	P	Pn	01 20 33.7	+2.5
ASUD	Al Ashush, Dub	2.40	174	P	Pn	01 20 32.4	+1.1
ASHO	Ashiyiah	2.50	159	P	Pn	01 20 35.0	+2.4
	SNR=38						
ASHO	Ashiyiah	2.50	159	P	Pn	01 20 34.7	+2.0
ALNE	Al Ain	3.02	168	P	Pn	01 20 41.9	+2.1
SOHO	SOHO	3.17	155	P	Pn	01 20 43.0	+1.1
KHGB	Koh Gabri	3.56	20	Pn	Pn	01 20 47.0	-0.4
SHMA	Al-Shehemyia	3.86	253	P	Pn	01 20 54.4	+3.1
ARQ	Araqi	3.91	160	P	Pn	01 20 54.4	+2.4
HOQ	Hoqain	3.99	149	P	Pn	01 20 54.7	+1.6
HOQ				S	Sn	01 21 39.3	-0.7
TRNA	Turayna	4.15	238	P	Pn	01 20 57.0	+1.6
	SNR=5.0						
MZR	Muzera	4.26	200	P	Pn	01 20 58.2	+1.4
MZR	Muzera	4.26	200	P	Pn	01 20 57.0	+0.2
SMRA	Abu-Samra	4.44	240	P	Pn	01 21 01.1	+1.7
SMRA				S	Sn	01 21 52.2	+1.1
SMDO	Samad	4.79	145	P	Pn	01 21 07.0	+2.8
	SNR=5.6						
SMDO				S	Sn	01 21 60.0	+0.1
WSAR	Wadi Sarin	4.97	139	P	Pn	01 21 09.2	+2.6
WSAR				S	Sn	01 22 05.1	+1.0
IRAM	Ramesheh	5.31	334	Pn	Pn	01 21 11.2	-0.2
JMDO	Jabal Madar	5.40	149	P	Pn	01 21 15.2	+2.7
JMDO				S	Sn	01 22 14.5	-0.3
JLN	Jalan Bani Buh	6.26	140	P	Pn	01 21 26.9	+2.5
DQM	DQM	7.42	162	P	Pn	01 21 41.0	+0.7
DOK	Doka	8.41	186	P	Pn	01 21 54.5	+0.6
DOK				S	Sn	01 23 26.7	-2.3
SHAO	Shalim	8.98	177	P	Pn	01 22 02.7	+1.0
SHAO				S	Sn	01 23 41.0	-1.9
WHFO	Wadi Hawf	9.14	188	P	Pn	01 22 04.4	+0.4
	SNR=7.9						
DMTO	DMTO	9.27	181	P	Pn	01 22 05.9	+0.3
ABTO	Aybut	9.77	190	P	Pn	01 22 12.8	+0.3
	SNR=20						

*NNC **26** 01:46:50.7±1.7, 42°.91N×78°.13E, h6km±6km, mpv2.6, Error ellipse: s-maj=11.8km s-min=10.1km az=76.0*
*KRNET **26** 01:46:50.8±0.1, 42°.94N×78°.09E, h22km, mb2.3*
*SOME **26** 01:46:50.9, 42°.92N×78°.07E, h15km*

ISC 26 01:46:50.9±0.9, 42°.92N±0°.04×78°.10E±0°.04, h16km±9km, n15, σ0$45/30, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.27	59	P	Pg	01 46 56.7	-0.1
	3.5nm,0.1s						
SATY				S	Sg	01 47 01.3	+0.5
	28nm,0.1s						
SATY	Saty	0.27	59	eP	Pg	01 46 56.7	-0.1
SATY				eS	Sg	01 47 01.3	+0.5
PRZ	Przheval'sk	0.49	153	⇑eP	Pb	01 47 01.1	-0.2
PRZ				⇑eS	Sg	01 47 07.6	+0.2
KPKS	Kokpek	0.69	38	P	Pg	01 47 03.9	-0.6
	2.1nm,0.1s						
KPKS				S	Sg	01 47 13.6	-0.1
	3.5nm,0.4s						
KPKS	Kokpek	0.69	38	eP	Pg	01 47 03.9	-0.6
KPKS				eS	Sg	01 47 13.6	-0.1
KPKS	Kokpek	0.69	38	eP	Pg	01 47 03.9	-0.6
	2.1nm,0.1s						
KPKS				eS	Sg	01 47 13.6	-0.1
	3.5nm,0.4s						
UZB	Uzynbulak	0.71	71	P	Pg	01 47 04.3	-0.6
	1.8nm,0.2s						
UZB				S	Sg	01 47 14.3	-0.1
	2.4nm,0.1s						
UZB	Uzynbulak	0.71	71	eP	Pg	01 47 04.3	-0.6
UZB				eS	Sg	01 47 14.3	-0.1
UZB	Uzynbulak	0.71	71	eP	Pg	01 47 04.3	-0.6
	1.8nm,0.2s						
UZB				eS

3.8nm,1.6s
PRAC Prado 6.14 215 P **Pn 01 56 02.9 -0.6**
4.5nm,1.7s
ORTC Ortega, Tolima 6.19 218 P **Pn 01 56 04.8 +0.6**
PCRV Puerto La Cruz 6.81 78 *e*P **Pn 01 56 14.2 +1.6**

DJA 26 02:03:14.2±0.4, 0°N±4°×12°4E±°, h109km±8km, M4.3/12, mb5.7/1, MLv3.6/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.55**	**24**	P	Pn	02 03 33.2	+1.9
LUWI	**Luwuk**	**1.48**	**222**	P	Pn	02 03 41.6	+0.9
LUWI				S	Sn	02 04 00.6	-0.3
MRSI	**Marisa**	**1.86**	**283**	P	Pn	02 03 46.5	+1.1
APSI	**Ampana**	**2.33**	**245**	P	Pn	02 03 51.5	+0.2
SANI	**Sanana**	**3.06**	**133**	P	Pn	02 04 01.2	+0.1
TNTI	**Ternate**	**3.67**	**79**	P	Pn	02 04 08.4	-0.8
KDI	**Kendari**	**4.16**	**196**	P	Pn	02 04 15.3	-0.4
NLAI	**Namlea**	**4.69**	**135**	P	Pn	02 04 25.1	+2.3
BASI	**Baing, Sumba**	**10.70**	**197**	P	Pn	02 05 43.4	-1.0

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*IDC **26** 02:04:11.2±12.0, 28°73S×178°49W, h148km±86km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=105.7km s-min=25.1km az=46.0*
*WEL **26** 02:04:18.1±1.0, 29°S±16°×17°8W±4°2, h218km±8km, M2.8/2, mB4.4/2, MLv2.8/2, Mw(mB)3.6/2, Error ellipse: s-maj=58.7km s-min=6.8km az=109.9, confirmed*
ISC 26 02:04:19.6±1.0, 29°28S±0°09×179°0W±0°1, h200km, n42, σ2°74/62, mb3.3/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.89**	**88**	P	**Pn**	**02 04 47.2**	**-1.4**
RIZ				S	**Sn**	**02 05 08.4**	**-2.7**
GLKZ	**Green Lake**	**0.90**	**89**	P	**Pn**	**02 04 48.2**	**-0.5**
GLKZ				S	**Sn**	**02 05 09.7**	**-1.4**
MXZ	**Matakaoa Point**	**8.57**	**195**	P	**Pn**	**02 06 22.0**	**+1.8**
MXZ				S	**Sn**	**02 08 00.7**	**+4.2**
WMGZ	**Waiomatatini S**	**8.80**	**194**	S	**Sn**	**02 08 04.4**	**+2.6**
HAZ	**Te Kaha**	**8.88**	**197**	P	**Pn**	**02 06 24.9**	**+0.7**
HAZ				S	**Sn**	**02 08 07.9**	**+4.1**
PKGZ	**Pakihiroa**	**8.92**	**195**	P	**Pn**	**02 06 24.6**	**-0.1**
PKGZ				S	**Sn**	**02 08 04.4**	**-0.3**
PUZ	**Puketiti**	**9.07**	**194**	P	**Pn**	**02 06 26.6**	**-0.1**
PUZ				S	**Sn**	**02 08 12.2**	**+3.8**
RUGZ	**Raukumara Rang**	**9.11**	**197**	P	**Pn**	**02 06 28.4**	**+1.1**
RUGZ				S	**Sn**	**02 08 08.7**	**-0.7**
TWGZ	**Tauwhareparae**	**9.24**	**195**	P	**Pn**	**02 06 31.1**	**+2.3**
TWGZ				S	**Sn**	**02 08 14.0**	**+1.7**
CNGZ	**Carnagh Statio**	**9.48**	**194**	S	**Sn**	**02 08 22.4**	**+4.4**
MWZ	**Matawai**	**9.50**	**197**	P	**Pn**	**02 06 32.0**	**-0.2**
MWZ				S	**Sn**	**02 08 21.4**	**+3.0**
TKGZ	**Te Karaka**	**9.52**	**195**	S	**Sn**	**02 08 22.7**	**+3.8**
URZ	**Urewera**	**9.54**	**199**	P	**Pn**	**02 06 33.9**	**+1.2**
	7.4nm,0.9s,baz=63,slow=16,SNR=9.5						
URZ				S	**Sn**	**02 08 24.8**	**+5.5**
	21nm,0.4s,baz=272,slow=23,SNR=32						
URZ	**Urewera**	**9.54**	**199**	P	**Pn**	**02 06 34.2**	**+1.5**
URZ				S	**Sn**	**02 08 22.4**	**+3.0**
RAGZ	**Rawiri**	**9.68**	**197**	S	**Sn**	**02 08 27.4**	**+4.6**
RIGZ	**Rimuhau**	**9.79**	**195**	P	Pn	02 06 31.5	-4.6
RIGZ				S	**Sn**	**02 08 26.7**	**+1.2**
MUGZ	**Murupara**	**9.84**	**200**	P	**Pn**	**02 06 36.0**	**-0.7**
SNGZ	**Shannon Statio**	**9.97**	**197**	P	**Pn**	**02 06 37.5**	**-0.8**
SNGZ				S	**Sn**	**02 08 30.1**	**+0.5**
PRGZ	**Paritu Road**	**9.97**	**194**	S	**Sn**	**02 08 27.4**	**-2.4**
MHGZ	**Mahia Peninsul**	**10.19**	**194**	S	**Sn**	**02 08 31.9**	**-2.9**
WAZ	**Wanganui**	**11.58**	**204**	S	**Sn**	**02 09 12.5**	**+4.2**
PRWZ	**Pori Road**	**11.99**	**199**	S	**Sn**	**02 09 17.5**	**-0.4**
MRZ	**Mangatainoka R**	**12.21**	**200**	P	**Pn**	**02 07 06.7**	**-0.3**
MRZ				S	**Sn**	**02 09 18.5**	**-4.5**
HOWZ	**Holdsworth Sta**	**12.44**	**200**	P	**Pn**	**02 07 07.8**	**-2.2**
HOWZ				S	**Sn**	**02 09 21.7**	**-6.9**
TMWZ	**Te Maipa**	**12.53**	**198**	P	**Pn**	**02 07 08.7**	**-2.3**
TMWZ				S	**Sn**	**02 09 25.9**	**-4.8**
KIW	**Kapiti Island**	**12.60**	**202**	P	**Pn**	**02 07 10.9**	**-1.0**
KIW				S	**Sn**	**02 09 27.4**	**-5.0**
DUWZ	**D'Urville Isla**	**12.89**	**205**	P	**Pn**	**02 07 14.3**	**-1.2**
DUWZ				S	**Sn**	**02 09 40.3**	**+1.0**
PAWZ	**Paruwai Farm**	**12.91**	**199**	P	**Pn**	**02 07 15.5**	**-0.4**
PAWZ				P	**S**	**02 09 35.0**	**-4.9**
MSWZ	**Moikau Station**	**13.00**	**200**	P	**Pn**	**02 07 15.7**	**-1.2**
MSWZ				P	**S**	**02 09 36.3**	**-5.6**
TCW	**Tory Channel**	**13.12**	**203**	P	**Pn**	**02 07 17.8**	**-0.6**
TCW				P	**S**	**02 09 42.7**	**-2.0**
PLWZ	**Palliser**	**13.14**	**199**	P	**Pn**	**02 07 19.3**	**+0.6**
PLWZ				S	**S**	**02 09 42.8**	**-2.3**
TUWZ	**Tuamarina**	**13.43**	**204**	P	**Pn**	**02 07 21.5**	**-0.8**
TUWZ				P	**S**	**02 09 50.1**	**-1.8**
TKNZ	**Takaka Hill**	**13.46**	**207**	P	**Pn**	**02 07 21.7**	**-1.0**
TKNZ				P	**S**	**02 09 55.1**	**+2.5**
ASAR	**Alice Springs**	**42.35**	**266**	P	**P**	**02 11 54.8**	**+0.5**
	0.4nm,0.6s,baz=96,slow=6.9,SNR=8.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.24**	**271**	P	**P**	**02 12 00.8**	**-0.5**
	0.2nm,0.3s,baz=109,slow=7.3,SNR=2.6						
	0.2nm,0.3s						
VNDA	**Vanda**	**49.13**	**185**	P	**P**	**02 12 48.8**	**+2.4**
	0.4nm,0.5s,baz=23,slow=6.8,SNR=5.4						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**60.83**	**180**	P	**P**	**02 14 12.2**	**+1.8**
	1.3nm,0.4s,baz=11,slow=1.3,SNR=7.3						
	1.3nm,0.4s						
MAW	**Mawson**	**73.06**	**201**	P	**P**	**02 15 27.6**	**+0.3**
	1.2nm,0.6s,baz=143,slow=7.0,SNR=8.2						
	1.2nm,0.6s						
SNAA	**Sanae**	**79.29**	**179**	P	**P**	**02 16 01.1**	**-1.3**
	0.9nm,0.9s,baz=185,slow=11,SNR=3.0						
	0.9nm,0.9s						
H03S2	**Juan Fernandez**	**81.77**	**124**	T	T	03 46 15.6	
	baz=242,slow=75,SNR=19						
H03S1	**Juan Fernandez**	**81.78**	**124**	T	T	03 46 16.5	
	baz=242,slow=75,SNR=19						
H03S3	**Juan Fernandez**	**81.79**	**124**	T	T	03 46 16.7	
	baz=242,slow=75,SNR=20						

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*NEIC **26** 02:09:04.8±1.5, 17°3S±0°1×172°7W±0°1, h10km±1km, mb4.5/8, Error ellipse: s-maj=23.7km s-min=18.6km az=71.0*
*IDC **26** 02:09:08.5±0.6, 17°60S×173°33W, h0km, mb4.2/14, mbtmp4.2/14, MS4.0/18, Error ellipse: s-maj=25.2km s-min=16.9km az=119.0*
ISC 26 02:09:06.8±0.5, 17°28S±0°08×172°65W±0°09, h10km, n65, σ2°67/44, mb4.4/17, MS4.1/18, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.15**	**125**		**Pn**	**02 09 54.6**	**-1.9**
AFI	**Afiamalu**	**3.45**	**14**	Sn	**Sb**	**02 10 47.2**	**-3.0**
RAR	**Rarotonga**	**12.77**	**110**	LR	LR	02 16 10.4	
	comp=Z,266nm,18.3s,baz=286,slow=32						
DZM	**Mont Dzumac**	**20.25**	**253**	LR	LR	02 20 03.8	
	comp=Z,458nm,18.0s,baz=87,slow=34						
PPT2	**Papeete2**	**22.01**	**94**	*e*S	**S**	**02 18 07.5**	**+2.7**
	1μm,27.0s						
PPT2				*e*LR	LR	02 19 10.6	
	464nm,26.0s						
PPT2				*e*LR	LR	02 19 17.9	
	358nm,29.2s						
PPT	**Papeete**	**22.02**	**94**	LR	LR	02 20 17.5	
	comp=Z,115nm,21.3s,baz=266,slow=30						
TBI	**Tubuai**	**22.55**	**109**	*e*S	**S**	**02 18 10.4**	**-4.3**
	3μm,27.8s						
TBI				*e*LR	LR	02 19 26.6	
	3μm,28.5s						
URZ	**Urewera**	**22.75**	**201**	P	**P**	**02 14 05.4**	**-3.8**
	6.2nm,0.4s,baz=18,slow=4.6,SNR=4.1						
	6.2nm,0.4s						
TOZ	**Tahuroa Road**	**22.89**	**205**		**P**	**02 14 07.9**	**-2.7**
RTZ	**Ruatahuna**	**23.11**	**201**		**P**	**02 14 11.1**	**-2.0**
RTZ				IAmb	IAmb	02 14 15.2	
	comp=Z,16nm,0.7s						
BKZ	**Black Stump Fm**	**23.78**	**201**		**P**	**02 14 16.2**	**-3.5**
BKZ				IAmb	IAmb	02 14 27.4	
	comp=Z,13nm,0.7s						
HNR	**Honiara**	**27.75**	**283**	LR	LR	02 24 03.7	
	comp=Z,550nm,19.9s,baz=128,slow=33						
TAOE	**Nuku Hiva Isla**	**32.70**	**79**	*e*LR	LR	02 24 33.4	
	comp=Z,162nm,23.2s						

RKT Rikitea 35.76 106 *e*LR LR 02 25 31.7
comp=Z,13μm,39.2s
JAY Jayapura 48.08 282 LR LR 02 37 16.1
comp=Z,141nm,19.2s,baz=18,slow=36
WB0 Warramunga Arr 50.11 258 P **P 02 17 58.3 -4.4**
WB0 IAmb IAmb 02 18 02.8
comp=Z,4.4nm,0.8s
WRA Warramunga Arr 50.14 258 P **P 02 17 58.9 -3.9**
WRA Warramunga Arr 50.14 258 P **P 02 17 58.7 -4.2**
comp=Z,2.8nm,0.8s,baz=95,slow=7.7,SNR=15
WRA PcP **PcP 02 19 23.4 +1.0**
comp=Z,0.5nm,0.7s,baz=89,slow=3.7,SNR=5.1
comp=Z,2.8nm,0.8s
AS31 Alice Springs 50.24 253 P **P 02 18 00.3 -3.3**
ASAR Alice Springs 50.24 253 P **P 02 17 59.7 -3.9**
ASAR Alice Springs 50.24 253 P **P 02 18 00.1 -3.6**
comp=Z,7.9nm,0.7s,baz=87,slow=8.5,SNR=52
ASAR PcP **PcP 02 19 23.5 +0.8**
comp=Z,3.0nm,0.7s,baz=101,slow=4.1,SNR=10
comp=Z,7.9nm,0.7s
GUMO Guam 51.96 304 LR LR 02 37 01.2
comp=Z,146nm,21.0s,baz=114,slow=32
KNRA Kununurra 56.02 262 P **P 02 18 43.3 -2.9**
VNDA Vanda 61.59 186 P **P 02 19 24.3 +0.3**
VNDA IAmb IAmb 02 19 32.5
comp=Z,3.2nm,1.4s
VNDA Vanda 61.59 186 P **P 02 19 24.2 +0.1**
comp=Z,0.5nm,0.8s,baz=347,slow=6.1,SNR=4.4
comp=Z,0.5nm,0.8s
MJAR Matsushiro Arr 70.83 320 P **P 02 20 26.3 +2.4**
comp=Z,2.5nm,0.7s,baz=152,slow=5.8,SNR=6.4
MJAR LR LR 02 46 39.1
comp=Z,158nm,21.6s,baz=136,slow=32
comp=Z,2.5nm,0.7s
JOW Kunigami 72.17 306 LR LR 02 46 26.0
comp=Z,196nm,20.5s,baz=348,slow=31
QSPA South Pole Qui 72.78 180 P **P 02 20 37.8 +2.4**
comp=Z,1.3nm,0.8s,baz=344,slow=2.3,SNR=6.6
comp=Z,1.3nm,0.8s
ASAJ Asahikawa 73.51 328 LR LR 02 47 04.7
comp=Z,174nm,21.5s,baz=122,slow=31
JNU Nakatsue 73.60 313 LR LR 02 45 50.0
comp=Z,130nm,21.1s,baz=120,slow=30
PETK Petropavlovsk- 74.63 342 P **P 02 20 43.3 -2.8**
PETK Petropavlovsk- 74.63 342 P P 02 20 50.5 +4.4
comp=Z,3.4nm,0.8s,baz=126,slow=7.7,SNR=6.2
comp=Z,3.4nm,0.8s
YBH Yreka Blue Hor 74.66 36 LR LR 02 46 41.6
comp=Z,6.1nm,18.9s,baz=41,slow=30
NVAR Mina Array Bea 75.24 41 P P 02 20 56.4 +6.1
comp=Z,0.9nm,0.7s,baz=224,slow=10.0,SNR=11
comp=Z,0.9nm,0.7s
KDAK Kodiak Island 76.61 11 LR LR 02 48 02.2
comp=Z,183nm,19.7s,baz=213,slow=30
BBB Bella Bella 79.24 26 LR LR 02 51 53.4
comp=Z,85nm,18.8s,baz=76,slow=32
TXAR Lajitas Array 81.06 56 P P 02 21 29.2 +6.6
comp=Z,0.9nm,1.0s,baz=241,slow=5.8,SNR=5.7
comp=Z,0.9nm,1.0s
NEW Newport 81.85 34 LR LR 02 51 06.3
comp=Z,130nm,18.5s,baz=154,slow=30
MA2 Magadan 82.16 342 LR LR 02 54 22.7
comp=Z,59nm,19.1s,baz=34,slow=33
PDAR Pinedale Array 83.18 41 P P 02 21 39.6 +6.0
comp=Z,2.1nm,0.8s,baz=219,slow=3.0,SNR=20
comp=Z,2.1nm,0.8s
ILAR Eielson Array 84.14 11 P P 02 21 42.5 +4.8
comp=Z,0.5nm,0.6s,baz=226,slow=6.5,SNR=11
ILAR LR LR 02 51 00.2
comp=Z,108nm,20.6s,baz=190,slow=30
comp=Z,0.5nm,0.6s
SEY Seychelles 84.51 345 LR LR 02 54 46.6
comp=Z,85nm,20.2s,baz=115,slow=32
MAW Mawson 86.25 198 P **P 02 21 51.1 +2.7**
comp=Z,1.0nm,0.6s,baz=80,slow=4.3,SNR=4.1
comp=Z,1.0nm,0.6s
HILR Hailar Array B 89.25 323 LR LR 02 57 42.8
comp=Z,109nm,21.1s,baz=175,slow=33
SNAA Sanae 91.00 177 P **P 02 22 12.5 +1.4**
comp=Z,2.2nm,1.2s,baz=154,slow=7.0,SNR=2.9
comp=Z,2.2nm,1.2s
CMAR Chiang Mai Arr 93.88 288 P **P 02 22 27.5 +2.3**
comp=Z,1.2nm,0.3s,baz=104,slow=4.4,SNR=9.0
CMAR LR LR 03 00 34.5
comp=Z,62nm,21.2s,baz=200,slow=33
comp=Z,1.2nm,0.3s
KURBB Kurchatov Arra 115.08 318 PKP **PKPdf 02 27 50.6 +2.5**
comp=Z,0.3nm,0.2s,baz=111,slow=2.3,SNR=4.2
BVAR Borovoye Array 119.80 322 PKP **PKiKP 02 28 00.2 +3.0**
comp=Z,1.3nm,0.6s,baz=103,slow=3.2,SNR=7.1
OSTC Ostas 146.05 350 *e*PKP **PKiKP 02 28 52.1 +1.8**
DPC Dobruska-Polom 146.23 350 *e*PKP **PKiKP 02 28 52.4 +1.6**
STEB Steborice 146.35 348 *e*PKP **PKiKP 02 28 52.2 +1.2**
KHC Kasperske Hory 147.83 352 *e*PKP **PKPab 02 28 56.5 +2.0**
BRTR Keskin Array B 148.06 320 PKPbc **PKPab 02 28 57.0 +1.1**
comp=Z,1.9nm,0.8s,baz=133,slow=2.3,SNR=13
GERES GERESS Array B 148.09 352 PKPbc **PKPab 02 28 57.7 +2.1**
comp=Z,1.1nm,0.8s,baz=35,slow=3.3,SNR=7.8
CONA Conrad Observa 148.64 349 *e*PKiKP **PKPab 02 28 59.0 +1.2**
comp=Z,4.4nm,1.0s
MOA Molln 148.99 351 *e*PKP **PKPab 02 29 03.1 +4.0**
comp=Z,6.8nm,1.2s
WATA Walderalm 149.82 354 *e*PKP **PKPab 02 29 01.3 -1.5**
comp=Z,2.7nm,1.0s
MOTA Moosalm 149.86 355 *i* PKP **PKPab 02 29 01.8 -1.1**
comp=Z,5.5nm,1.0s
KBA Koelnbreinsper 149.87 352 *e*PKiKP **PKPab 02 29 02.0 -1.0**
comp=Z,6.0nm,1.5s
WTTA Wattenberg 149.89 354 *i* PKP **PKPab 02 29 01.8 -1.2**
comp=Z,4.7nm,0.8s
SQTA Sankt Quirin 149.97 355 *e*PKiKP **PKPab 02 29 02.7 -0.6**
comp=Z,2.0nm,0.7s
SOKA Soboth 150.00 349 *i* PKP **PKPab 02 28 59.7 -3.7**
comp=Z,4.0nm,1.0s
DAVA Damuels 150.00 357 *e*PKiKP **PKPab 02 29 03.0 -0.5**
comp=Z,6.5nm,1.1s
FETA Feichten 150.21 355 *e*PKP **PKPab 02 29 02.5 -1.9**
comp=Z,5.1nm,1.2s
ABTA Abfaltersbach 150.30 353 *i* PKP **PKPab 02 29 01.8 -2.8**
comp=Z,6.8nm,0.9s

TRN 26 02:14:54.3, 14°66N×61°09W, h171km, MD3.8, Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.14**	**172**	*e*P	Pn	02 15 18.0	+0.9
BIM				*e*S	Sn	02 15 35.0	+0.4
SVN	**Savane Anatole**	**0.20**	**338**	*e*P	Pn	02 15 18.4	+1.2
SVN				*e*S	Sn	02 15 35.0	+0.2
ILAM	**Ilet Lapin Mar**	**0.24**	**61**	*e*P	Pn	02 15 18.3	+1.1
SLBI	**Saint Lucia, B**	**0.64**	**170**	*e*P	Pn	02 15 19.4	+0.7
SLBI				*e*S	Sn	02 15 37.3	-0.2
DLPL	**La Plaine**	**0.69**	**347**	*e*P	Pn	02 15 20.1	+1.0
DLPL				*e*S	Sn	02 15 38.6	+0.4
DSLB	**Salisbury**	**0.84**	**338**	*e*P	Pn	02 15 21.3	+1.3
DSLB				*e*S	Sn	02 15 40.9	+1.0
DWS	**Wesley**	**0.93**	**347**	*e*P	Pn	02 15 21.9	+1.3
DWS				*e*S	Sn	02 15 41.8	+0.8
TBG	**Guadaloupe-3**	**1.30**	**336**	*e*P	Pn	02 15 22.9	-0.8
SVB	**Belmont**	**1.38**	**186**	*e*P	Pn	02 15 25.4	+1.0
SVB				*e*S	Sn	02 15 48.0	+0.3
MMLZ	**Guadeloupe Bro**	**1.49**	**338**	*e*P	Pn	02 15 26.9	+1.6
ATGZ	**Broadband at L**	**1.56**	**337**	*e*P	Pn	02 15 25.9	-0.2
DSDZ	**La Diserade, G**	**1.65**	**1**	*e*P	Pn	02 15 28.2	+1.2
DHSZ	**Broadband at M**	**1.73**	**338**	*e*P	Pn	02 15 29.4	+1.5
DHSZ				*e*S	Sn	02 15 54.6	+0.7
GRHS	**Sauteurs**	**2.48**	**193**	*e*P	Pn	02 15 37.1	+0.8
GRHS				*e*S	Sn	02 16 07.6	-1.2
GRW	**Mount Saint Ca**	**2.54**	**193**	*e*P	Pn	02 15 38.5	+1.4
GRW				*e*S	Sn	02 16 10.1	-0.2
GRFF	**Grenada Fort F**	**2.67**	**194**	*e*S	Sn	02 16 12.9	0.0
ANWB	**Willy Bob**	**3.07**	**348**	*e*P	Pn	02 15 43.9	+0.5
ANWB				*e*S	Sn	02 16 19.9	-1.7
TRN	**Trinidad (W)**	**4.00**	**184**	*e*P	Pn	02 15 56.7	+1.5
TRN				*e*S	Sn	02 16 40.3	-2.4

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*ISN **26** 02:19:17.4±0.5, 32°83N×46°31E, h6km±2km, ML2.7*
*TEH **26** 02:19:18.4, 32°88N×46°39E, h10km±44km*
ISC 26 02:19:19.6±1.0, 32°88N±0°05×46°32E±0°05, h13km, n13, σ1°15/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR **Badra**		**0.40**	**305**	*e*Pg	**Pg**	**02 19 26.0**	**-1.6**
IBDR				*e*Sg	**Sg**	**02 19 32.0**	**-1.0**
IBDR				AML	AML	02 19 43.7	
	comp=N,439nm,0.3s						
IBDR				AML	AML	02 19 55.0	
	comp=E,398nm,0.2s						
RAFI	**Al-Rafai**	**1.17**	**189**	*e*Pn	**Pg**	**02 19 41.0**	**-1.1**
RAFI				*e*Sn	**Sn**	**02 19 59.0**	**+1.6**
GLG1	**Gilan-e-Gharb**	**1.28**	**344**	Pg	**Pn**	**02 19 43.3**	**0.0**
IGHG	**Ghaleghazi**	**1.46**	**8**	Pg	**Pn**	**02 19 46.2**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.51**	**23**	Pg	**Pn**	**02 19 46.9**	**+0.3**
BHD	**Baghdad**	**1.68**	**284**	*e*Pn	**Pn**	**02 19 49.0**	**+0.4**
BHD				*e*Sn	**Sb**	**02 20 12.0**	**+0.7**
BHD				AML	AML	02 20 20.7	
	comp=E,178nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**1.73**	**340**	Pg	**Pb**	**02 19 51.3**	**0.0**
IDOB	**Doab**	**1.80**	**59**	Pg	**Pb**	**02 19 51.4**	**-1.2**
IDHR	**Dehrash**	**1.81**	**2**	Pn	**Pb**	**02 19 52.0**	**-0.8**
IBZA	**Bozab**	**2.04**	**39**	Pn	**Pb**	**02 19 56.7**	**0.0**
SNQR	**Sonqor, Kerman**	**2.25**	**29**	Pn	**Pn**	**02 19 58.0**	**+1.1**
IKRK	**Kirkuk**	**3.00**	**327**	*e*Pn	**Pn**	**02 20 08.0**	**+1.1**
IKRK				*e*Sn	**Sn**	**02 20 45.0**	**+2.2**
IKRK				AML	AML	02 20 58.0	
	comp=N,34nm,0.6s						
IKRK				AML	AML	02 21 00.8	
	comp=E,28nm,0.5s						
HGHA	**Hamedan- Ghaye**	**3.34**	**38**	Pn	**Pn**	**02 20 12.7**	**+0.9**

IDC 26 02:22:23.6±3.1, 5°57N×126°34E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=267.8km s-min=30.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.54**	**163**	P	P	02 28 02.8	-0.5
	0.1nm,0.5s,baz=343,slow=9.1,SNR=1.2						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**29.98**	**166**	P	P	02 28 34.3	+0.3
	0.2nm,0.5s,baz=342,slow=6.9,SNR=6.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.84**	**325**	P	P	02 32 02.8	0.0
	0.1nm,0.3s,baz=124,slow=7.6,SNR=2.0						
	0.1nm,0.3s						

TRN 26 02:43:52.2, 18°07N×62°81W, h23km, MD3.5, East of St. Martin., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.73**	**175**	*e*P	Pn	02 44 09.3	+2.2
SKI				*e*S	Sn	02 44 21.1	+3.5
ANWB	**Willy Bob**	**1.05**	**112**	*e*P	Pb	02 44 13.4	+1.7
ANWB				*e*S	Sn	02 44 28.8	+3.3
MBFL	**Flemmings, Mon**	**1.43**	**156**	*e*P	Pb	02 44 18.5	+0.3
MBFL				*e*S	Sb	02 44 37.6	+1.6
MBWH	**Windy Hill**	**1.44**	**156**	*e*P	Pb	02 44 17.8	-0.6
DHSZ	**Broadband at M**	**2.04**	**151**	*e*P	Pb	02 44 27.0	-1.7
DHSZ				*e*S	Sb	02 44 52.2	-1.4
ATGZ	**Broadband at L**	**2.22**	**152**	*e*P	Pn	02 44 28.9	+1.3
ATGZ				*e*S	Sn	02 44 56.1	+1.9
MMLZ	**Guadeloupe Bro**	**2.29**	**151**	*e*P	Pn	02 44 30.4	+1.9
MMLZ				*e*S	Sn	02 44 57.4	+1.4
DSDZ	**La Diserade, G**	**2.41**	**136**	*e*P	Pn	02 44 32.0	+1.8
TBG	**Guadaloupe-3**	**2.47**	**153**	*e*P	Pb	02 44 33.7	-2.2
TBG				*e*S	Sn	02 45 03.1	+2.7
DSLB	**Salisbury**	**2.93**	**153**	*e*P	Pn	02 44 39.0	+1.6

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*DJA **26** 03:04:26.5±0.2, 0°N±2°×12°7E±°, h114km±4km, M4.2/18, mB4.9/3, mb4.1/8, MLv4.3/18, Mw(mB)4.2/3*
*NEIC **26** 03:04:26.7±2.0, 0°2N±0°1×127°6E±0°1, h133km±8km, mb4.5/6, Error ellipse: s-maj=20.0km s-min=15.7km az=101.0*
*IDC **26** 03:04:33.4±9.6, 0°26S×126°91E, h194km±96km, mb3.4/5, mbtmp3.9/7, MS3.9/2, Error ellipse: s-maj=80.2km s-min=17.1km az=52.0*
ISC 26 03:04:26.1±0.7, 0°15N±0°07×127°45E±0°10, h131km, n36, σ1°25/31, mb4.2/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.62**	**353**		**Pn**	**03 04 46.5**	**+0.5**
TNTI	**Ternate**	**0.62**	**353**	P	**Pn**	**03 04 46.5**	**+0.5**
TNTI				S	**Sn**	**03 05 02.1**	**+0.9**
LBMI	**Labuha**	**0.78**	**176**	P	**Pn**	**03 04 44.9**	**-2.3**
SANI	**Sanana**	**2.62**	**214**	P	Pn	03 05 03.6	-4.3
NLAI	**Namlea**	**3.38**	**186**	P	**Pn**	**03 05 15.8**	**-1.9**
KMSI	**Cibinong**	**3.49**	**277**	P	Pn	03 05 15.7	-3.4
MSAI	**Masohi**	**3.77**	**157**	P	**Pn**	**03 05 23.4**	**+0.5**
AAI	**Ambon**	**3.88**	**169**	P	**Pn**	**03 05 23.6**	**-0.7**
SGSI	**Sangihe**	**4.00**	**331**	P	**Pn**	**03 05 26.0**	**+0.1**
LUWI	**Luwuk**	**4.82**	**256**		**Pn**	**03 05 38.5**	**+1.7**
LUWI	**Luwuk**	**4.82**	**256**	P	Pn	03 05 32.6	-4.2
MRSI	**Marisa**	**5.51**	**273**	P	Pn	03 05 42.0	-4.1
FAKI	**Fak Fak**	**5.69**	**122**	P	**Pn**	**03 05 51.1**	**+2.7**
	0.0nm8.1nm,1.0s						
APSI	**Ampana**	**5.89**	**260**	P	Pn	03 05 47.8	-3.4
	4μm50nm,0.5s						
SPSI	**Sidrap Palu**	**8.69**	**242**	P	**Pn**	**03 06 28.3**	**-0.6**
	697nm48nm,0.5s						
BKSI	**Bulukumba**	**9.11**	**233**	P	**Pn**	**03 06 33.9**	**-0.6**
	36nm,0.5s						
KAPI	**Kappang**	**9.24**	**236**		**Pn**	**03 06 35.7**	**-0.5**
KAPI	**Kappang**	**9.24**	**236**	P	**Pn**	**03 06 35.5**	**-0.7**
	14nm,0.5s,baz=103,slow=6.4,SNR=6.9						
KAPI				S	Sn	03 08 08.8	-10
	9.1nm,0.4s,baz=180,slow=17,SNR=2.6						
TWSI	**Taliwang, Sumb**	**13.74**	**230**	P	**Pn**	**03 07 33.9**	**-1.6**
	17nm,2.5s						
FITZ	**Fitzroy Crossi**	**18.22**	**186**	P	**P**	**03 08 27.4**	**-1.7**
	1.1nm,0.8s,baz=352,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**21.08**	**162**	P	**P**	**03 08 58.8**	**-1.3**
WRA	**Warramunga Arr**	**21.08**	**162**	P	**P**	**03 08 59.6**	**-0.5**
	1.3nm,0.5s,baz=339,slow=11,SNR=11						
	1.3nm,0.5s						
WR8	**Warramunga Arr**	**21.14**	**161**	P	**P**	**03 09 00.2**	**-0.6**

URZ	**Urewera**	**7.96 211**	Pn	**Pn**	**03 13 57.2**	**+0.7**	
	0.4nm,0.3s,baz=202,slow=11,SNR=1.5						
URZ			Sn	**Sn**	**03 15 24.0**	**-1.3**	
	1.8nm,0.3s,baz=264,slow=5.0,SNR=12						
	3.0nm,0.6s						
BKZ	**Black Stump Fm**	**8.98 210**		**Pn**	**03 14 10.2**	**-0.3**	
STKA	**Stephens Creek**	**34.45 258**	P	**P**	**03 18 48.6**	**+0.8**	
STKA	**Stephens Creek**	**34.45 258**	P	**P**	**03 18 49.5**	**+1.7**	
	1.1nm,0.5s,baz=108,slow=9.6,SNR=1.5						
	1.1nm,0.5s						
AS31	**Alice Springs**	**43.27 268**	P	**P**	**03 20 01.0**	**-0.7**	
ASAR	**Alice Springs**	**43.27 268**	P	**P**	**03 20 00.5**	**-1.3**	
ASAR	**Alice Springs**	**43.27 268**	P	**P**	**03 20 01.2**	**-0.6**	
	3.5nm,0.7s,baz=104,slow=7.6,SNR=40						
	3.5nm,0.7s						
WR8	**Warramunga Arr**	**44.22 273**	P	**P**	**03 20 08.7**	**-0.7**	
WR8			IAmb	IAmb	03 20 09.7		
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**44.36 273**	P	**P**	**03 20 09.8**	**-0.6**	
	comp=Z,4.9nm,0.5s,baz=113,slow=7.8,SNR=54						
	comp=Z,4.9nm,0.5s						
WB0	**Warramunga Arr**	**44.39 273**	P	**P**	**03 20 10.1**	**-0.6**	
WB0			IAmb	IAmb	03 20 10.6		
	comp=Z,5.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.58 271**	P	**P**	**03 21 13.7**	**-0.1**	
FITZ			IAmb	IAmb	03 21 34.8		
	comp=Z,2.3nm,1.5s						
QSPA	**South Pole Qui**	**58.62 180**	P	**P**	03 22 06.4	+10	
	comp=Z,0.4nm,0.4s,baz=73,slow=0.1,SNR=6.3						
BELA	**Belgrano 2**	**68.68 172**	P	**P**	**03 23 02.9**	**+0.2**	
BELA			IAmb	IAmb	03 23 09.1		
	comp=Z,6.9nm,1.1s						
H03S2	**Juan Fernandez**	**79.69 123**	T	T	04 53 22.8		
	baz=237,slow=74,SNR=61						
H03S1	**Juan Fernandez**	**79.70 123**	T	T	04 53 21.2		
	baz=237,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**79.71 123**	T	T	04 53 20.1		
	baz=237,slow=74,SNR=74						
H03N3	**Juan Fernandez**	**79.89 123**	T	T	04 53 30.9		
	baz=241,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**79.89 123**	T	T	04 53 18.9		
	baz=241,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**79.90 123**	T	T	04 53 12.4		
	baz=241,slow=72,SNR=39						
FINES	**FINESS Array B**	**146.24 340**	PKPbc	**PKPab**	**03 31 39.9**	**-0.2**	
	comp=Z,2.1nm,0.5s,baz=45,slow=4.4,SNR=14						
HFS	**Hagfors**	**150.35 348**	PKPbc	**PKPbc**	**03 31 48.5**	**-1.8**	
	comp=Z,6.2nm,1.1s,baz=57,slow=5.3,SNR=2.3						

ROM 26 03:26:14.5±0.3, 43°.981N±0°.008×11°.88E±0°.02, h32km±2km, ML1.5/10, 1D, Error ellipse: s-maj=1.3km s-min=1.1km az=265.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.08**	**198**	P	Pb	03 26 19.6	-0.5
SFI				S	Sb	03 26 23.5	-0.4
SFI				AML	AML		
	comp=E,104μm,0.2s						
SFI				AML	AML		
	comp=N,79μm,1.4s						
SFI				AML	AML		
	comp=N,78μm,1.4s						
SFI				AML	AML		
	comp=E,104μm,0.2s						
LMD	**Lutirano**	**0.16**	**308**	P	Pb	03 26 20.3	-0.4
LMD				S	Sn	03 26 24.7	+0.1
LMD				AML	AML		
	comp=E,186μm,0.2s						
LMD				AML	AML		
	comp=N,142μm,0.2s						
ASQU	**Asqua**	**0.20**	**200**	P	Pn	03 26 21.2	-0.1
ASQU				S	Sn	03 26 26.1	+0.5
ASQU				AML	AML		
	comp=N,180μm,0.2s						
ASQU				AML	AML		
	comp=E,230μm,0.2s						
RUFI	**Rufina**	**0.30**	**243**	P	Pn	03 26 23.0	+0.3
RUFI				S	Sn	03 26 29.1	+0.9
BRIS	**BRISIGHELLA**	**0.32**	**302**	⇓P	Pb	03 26 21.7	-0.7
BRIS				S	Sb	03 26 27.4	-0.4
BRIS				AML	AML		
	comp=E,86μm,1.5s						
BRIS				AML	AML		
	comp=N,111μm,0.5s						
BRIS				AML	AML		
	comp=N,111μm,1.5s						
BRIS				AML	AML		
	comp=E,86μm,1.5s						
BRSN	**Barisano**	**0.34**	**25**	P	Pb	03 26 22.6	-0.1
BRSN				S	Sn	03 26 29.9	+1.1
CRE	**Caprese Michel**	**0.36**	**172**	P	Pb	03 26 23.4	+0.2
CRE				S	Sn	03 26 30.3	+0.5
CPGN	**Carpegna, Ital**	**0.36**	**119**	P	Pb	03 26 23.2	0.0
CPGN				S	Sn	03 26 29.7	-0.1
PARC	**Parchiule**	**0.42**	**142**	P	Pb	03 26 23.6	-0.3
PARC				S	Sn	03 26 31.2	+0.1
SSP9	**Sansepolcro**	**0.45**	**156**	P	Pn	03 26 24.8	+0.1
PE3	**Peglio**	**0.53**	**122**	P	Pb	03 26 25.5	0.0
APEC	**Apecchio**	**0.57**	**137**	P	Pb	03 26 26.1	-0.1
APEC				S	Sn	03 26 35.9	+1.1
NARO	**Abbazia di Nar**	**0.63**	**126**	P	Pb	03 26 27.0	-0.1
PIEI	**Pieia**	**0.65**	**133**	P	Pb	03 26 27.2	-0.3
PIEI				AML	AML		
	comp=N,17μm,1.6s						
PIEI				AML	AML		
	comp=E,22μm,1.6s						
PIEI				AML	AML		
	comp=N,17μm,1.6s						
PIEI				AML	AML		
	comp=E,22μm,0.4s						
PIEI				AML	AML		
	comp=N,17μm,0.4s						

ROM 26 03:26:37.3±0.4, 43°.99N±0°.01×11°.89E±0°.02, h32km±2km, ML1.6/25, 2C-3D, Error ellipse: s-maj=1.4km s-min=0.8km az=42.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**200**	⇓P	Pb	03 26 42.4	-0.5
SFI				S	Sb	03 26 46.4	-0.3
SFI				AML	AML		
	comp=N,147μm,0.1s						
SFI				AML	AML		
	comp=N,155μm,0.2s						
SFI				AML	AML		
	comp=E,168μm,0.2s						
SFI				AML	AML		
	comp=E,100μm,0.2s						
LMD	**Lutirano**	**0.16**	**305**	⇓P	Pb	03 26 43.0	-0.4
LMD				S	Sn	03 26 47.5	0.0
LMD				AML	AML		
	comp=E,223μm,0.2s						
LMD				AML	AML		
	comp=N,188μm,0.2s						
ASQU	**Asqua**	**0.20**	**201**	⇓P	Pb	03 26 44.0	+0.1
ASQU				S	Sn	03 26 48.6	0.0
ASQU				AML	AML		
	comp=E,284μm,0.2s						
ASQU				AML	AML		
	comp=N,222μm,0.2s						
RUFI	**Rufina**	**0.31**	**242**	P	Pn	03 26 45.8	+0.1
RUFI				S	Sn	03 26 52.1	+0.9
RUFI				AML	AML		
	comp=N,57μm,0.6s						
RUFI				AML	AML		
	comp=E,41μm,0.4s						
BRIS	**BRISIGHELLA**	**0.32**	**301**	⇑P	Pb	03 26 44.4	-0.8
BRIS				S	Sb	03 26 50.2	-0.3
BRIS				AML	AML		
	comp=E,97μm,0.2s						
BRIS				AML	AML		
	comp=N,120μm,0.2s						
BRIS				AML	AML		
	comp=N,251μm,0.8s						
BRSN	**Barisano**	**0.33**	**24**	P	Pb	03 26 45.5	+0.2
BRSN				S	Sn	03 26 52.7	+1.2
BRSN				AML	AML		
	comp=E,336μm,0.5s						
BRSN				AML	AML		
	comp=E,305μm,0.4s						
BRSN				AML	AML		
	comp=N,472μm,0.2s						
BRSN				AML	AML		
	comp=N,469μm,0.3s						
CPGN	**Carpegna, Ital**	**0.36**	**121**	P	Pb	03 26 46.0	0.0
CPGN				S	Sn	03 26 52.8	+0.1
CPGN				AML	AML		
	comp=E,73μm,0.6s						
CPGN				AML	AML		
	comp=E,145μm,0.8s						
CRE	**Caprese Michel**	**0.37**	**173**	P	Pb	03 26 45.8	-0.2
CRE				S	Sn	03 26 53.1	+0.3
CRE				AML	AML		
	comp=E,29μm,0.4s						
CRE				AML	AML		
	comp=N,63μm,0.2s						
PARC	**Parchiule**	**0.42**	**143**	⇑P	Pb	03 26 46.4	-0.3
PARC				S	Sn	03 26 53.9	-0.1
PARC				AML	AML		
	comp=N,26μm,0.3s						
PARC				AML	AML		
	comp=E,45μm,5.7s						
FIR	**Firenze**	**0.51**	**245**	AML	AML		
	comp=N,308μm,1.4s						
FIR				AML	AML		
	comp=E,303μm,1.5s						
FIR				AML	AML		
	comp=N,292μm,1.4s						
FIR				AML	AML		
	comp=E,303μm,1.5s						
FIR				AML	AML		
	comp=E,303μm,0.5s						
FIR				AML	AML		
	comp=E,234μm,0.4s						
FIR				AML	AML		
	comp=N,292μm,0.6s						
FIR				AML	AML		
	comp=N,308μm,0.6s						
BADI	**Badiali**	**0.54**	**152**	P	Pn	03 26 48.8	-0.1
BADI				S	Sn	03 26 57.8	+0.9
BADI				AML	AML		
	comp=N,22μm,0.3s						
BADI				AML	AML		
	comp=E,26μm,0.6s						
NARO	**Abbazia di Nar**	**0.63**	**127**	P	Pb	03 26 49.8	-0.1

TAP 26 03:33:08.6, 23°.13N×120°.92E, h6km±1km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**57**	*i* P	Pg	03 33 11.9	+0.9
ELDTW				*e*S	Sg	03 33 13.6	+0.9
STYH	**Taoyuan**	**0.14**	**288**	*i* P	Pg	03 33 12.4	+1.0
STYH				S	Sg	03 33 14.4	+1.1
STYT	**Tauyuan**	**0.15**	**283**	*i* P	Pg	03 33 12.6	+0.9
STYT				*i* S	Sg	03 33 14.8	+1.0
LONT	**Longtian**	**0.29**	**138**	*e*P	Pb	03 33 15.7	-0.6
WTP	**Ta-pu**	**0.30**	**293**	*e*P	Pb	03 33 16.0	-0.4
SGST	**Jiashian**	**0.31**	**262**	*e*P	Pg	03 33 15.2	+0.5
TPUB	**Ta-pu**	**0.32**	**303**	*e*P	Pb	03 33 16.2	-0.4
TWG	**Pinlang**	**0.34**	**155**	P	Pb	03 33 16.6	-0.4
TWGBT	**Beinan**	**0.34**	**154**	P	Pb	03 33 16.5	-0.6
CHN1	**Nanshi**	**0.36**	**279**	*e*P	Pb	03 33 17.5	0.0
CHN4	**Tsaushan**	**0.37**	**307**	*e*P	Pb	03 33 17.5	-0.1
EDH	**Donghe**	**0.39**	**113**	*e*P	Pb	03 33 18.0	+0.1
ALS	**Alishan**	**0.39**	**345**	*e*P	Pb	03 33 17.3	-0.9
TWF1	**Yuli**	**0.41**	**57**	*e*P	Pb	03 33 17.6	-0.7
YULB	**Yu-li**	**0.44**	**53**	*e*P	Pg	03 33 17.8	+0.8
SSD	**Sandimen**	**0.46**	**215**	*e*P	Pg	03 33 18.2	+0.7

*IDC **26** 03:34:26.3±1.1, 21°.41S×179°.30W, h609km±12km, mb3.9/23, mbtmp4.9/24, Error ellipse: s-maj=11.5km s-min=11.0km az=135.0*
*NOU **26** 03:34:26.4, 21°.47S×179°.19W, h626km, mb5.0/60, Fiji Islands Region*
*NEIC **26** 03:34:26.4±2.2, 21°.4S±0°.1×179°.23W±0°.10, h610km±5km, mb4.8/61, Error ellipse: s-maj=14.9km s-min=13.0km az=176.0*
ISC 26 03:34:25.6±0.3, 21°.53S±0°.05×179°.26W±0°.05, h604km, n398, σ1§24/413, mb4.8/102, 44C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**326**	P	**P**	**03 35 57.7**	**+2.1**
MSVF	**Nonsavu**	**4.55**	**326**	P	**P**	**03 35 57.7**	**+2.1**
MSVF	**Nonsavu**	**4.55**	**326**	S	**S**	**03 37 12.3**	**+3.6**
FUTU	**Fugatoga**	**7.26**	**9**		**P**	**03 36 19.3**	**+0.9**
RIZ	**Raoul Island**	**7.78**	**171**	P	**P**	**03 36 22.6**	**-0.3**
RIZ				S	**S**	**03 37 59.5**	**+0.5**
RAO	**Raoul Island**	**7.78**	**171**	P	**P**	**03 36 23.2**	**+0.3**
RAO	**Raoul Island**	**7.78**	**171**	S	**S**	**03 37 58.4**	**-0.7**
GLKZ	**Green Lake**	**7.79**	**171**	P	**P**	**03 36 23.4**	**+0.4**
GLKZ				S	**S**	**03 37 59.5**	**+0.2**
NIUE	**Niue**	**9.09**	**76**	P	**P**	**03 36 35.5**	**-0.1**
	comp=Z,389nm,0.8s						
NIUE	**Niue**	**9.09**	**76**		**P**	**03 36 35.6**	**-0.1**
NIUE	**Niue**	**9.09**	**76**	P	**P**	**03 36 35.4**	**-0.2**
AFI	**Afiamalu**	**10.40**	**44**		**P**	**03 36 46.8**	**-1.9**
AFI	**Afiamalu**	**10.40**	**44**	P	**P**	**03 36 46.8**	**-1.9**
MARNC	**Mare, Loyalty**	**11.83**	**268**	P	**P**	**03 37 03.2**	**+0.5**
MARNC	**Mare, Loyalty**	**11.83**	**268**	P	**S**	**03 39 13.9**	**+2.1**
PINNC	**Pines Island,**	**12.38**	**263**		**P**	**03 37 08.8**	**+0.7**
ONTNC	**Ouen Toro**	**13.28**	**264**	P	**P**	**03 37 17.4**	**0.0**
DZM	**Mont Dzumac**	**13.29**	**265**	P	**P**	**03 37 17.7**	**+0.2**
	comp=Z,41nm,0.6s,baz=90,slow=12,SNR=47						
OUZ	**Omahuta**	**15.01**	**203**	P	**P**	**03 37 36.6**	**+3.0**
GRZ	**Great Barrier**	**15.38**	**196**	P	**P**	**03 37 38.9**	**+2.0**
KOUNC	**Koumac, New Ca**	**15.39**	**271**	P	**P**	**03 37 39.0**	**+1.7**
WCZ	**Waipu Caves**	**15.41**	**200**	P	**P**	**03 37 40.5**	**+3.3**
KUZ	**Kuaotunu**	**15.78**	**195**	P	**P**	**03 37 42.0**	**+1.4**
KUZ	**Kuaotunu**	**15.78**	**195**	P	**P**	**03 37 42.5**	**+1.9**
WIAZ	**Waiheke Island**	**15.97**	**197**	P	**P**	**03 37 44.7**	**+2.4**
MBAZ	**Motutapu North**	**16.01**	**197**	P	**P**	**03 37 45.3**	**+2.6**
MXZ	**Matakaoa Point**	**16.12**	**187**	P	**P**	**03 37 42.5**	**-1.2**
ETAZ	**East Tamaki Re**	**16.18**	**197**	P	**P**	**03 37 46.8**	**+2.5**
MKAZ	**Moumakai**	**16.26**	**196**	P	**P**	**03 37 47.1**	**+2.2**
WMGZ	**Waiomatatini S**	**16.36**	**187**	P	**P**	**03 37 46.6**	**+0.7**
AWAZ	**Awhitu Peninsu**	**16.36**	**198**	P	**P**	**03 37 48.2**	**+2.3**
HAZ	**Te Kaha**	**16.37**	**188**	P	**P**	**03 37 45.2**	**-0.8**
HAZ				S	**S**	**03 40 23.3**	**-5.8**
PUZ	**Puketiti**	**16.62**	**187**	P	**P**	**03 37 48.3**	**-0.1**
TOZ	**Tahuroa Road**	**16.77**	**195**		**P**	**03 37 51.5**	**+1.9**
TOZ	**Tahuroa Road**	**16.77**	**195**	P	**P**	**03 37 51.1**	**+1.4**
URZ	**Urewera**	**16.96**	**190**	P	**P**	**03 37 48.8**	**-2.6**
	comp=Z,58nm,0.3s,baz=253,slow=3.1,SNR=96						
URZ				S	**S**	**03 40 34.6**	**-4.3**
	comp=Z,20nm,0.5s,baz=178,slow=22,SNR=13						
URZ	**Urewera**	**16.96**	**190**	P	**P**	**03 37 48.8**	**-2.6**
MWZ	**Matawai**	**16.98**	**189**	P	**P**	**03 37 49.7**	**-1.9**
RAGZ	**Rawiri**	**17.15**	**189**	P	**P**	**03 37 52.1**	**-1.1**
RTZ	**Ruatahuna**	**17.33**	**190**	P	**P**	**03 37 53.4**	**-1.5**
HIZ	**Hauiti**	**17.67**	**195**	P	**P**	**03 37 59.9**	**+2.0**
BKZ	**Black Stump Fm**	**17.95**	**191**	P	**P**	**03 37 58.7**	**-1.9**
NGZ	**Ngauruhoe**	**18.13**	**193**	P	**P**	**03 38 01.6**	**-0.7**
PXZ	**Pawanui**	**18.74**	**189**	P	**P**	**03 38 07.0**	**-0.6**
TSZ	**Takapari Road**	**18.91**	**191**	P	**P**	**03 38 09.1**	**-0.1**
BFZ	**Birch Farm**	**19.47**	**190**	P	**P**	**03 38 10.9**	**-3.3**
MRZ	**Mangataiinoka R**	**19.57**	**192**	P	**P**	**03 38 13.4**	**-1.7**
QRZ	**Quartz Range**	**20.46**	**198**	P	**P**	**03 38 23.9**	**+0.7**
NNZ	**Nelson**	**20.59**	**196**	P	**P**	**03 38 23.4**	**-0.9**
THZ	**Tophouse**	**21.23**	**196**	P	**P**	**03 38 28.9**	**-1.2**
DSZ	**Denniston Nort**	**21.52**	**198**	P	**P**	**03 38 32.7**	**0.0**
KHZ	**Kahutara**	**21.69**	**195**	P	**P**	**03 38 32.9**	**-1.2**
KHZ	**Kahutara**	**21.69**	**195**	P	**P**	**03 38 32.8**	**-1.2**
GVZ	**Greta Valley S**	**22.33**	**195**	P	**P**	**03 38 38.2**	**-1.6**
INZ	**Inchbonnie**	**22.52**	**198**	P	**P**	**03 38 40.6**	**-0.9**
OXZ	**Oxford**	**22.91**	**196**	P	**P**	**03 38 43.7**	**-1.3**
WVZ	**Waitaha Valley**	**23.05**	**199**	P	**P**	**03 38 45.4**	**-0.8**
MQZ	**McQueen's Vall**	**23.12**	**195**	P	**P**	**03 38 45.5**	**-1.3**
RPZ	**Rata Peaks**	**23.55**	**198**	P	**P**	**03 38 51.0**	**+0.4**
FOZ	**Fox Glacier**	**23.75**	**200**	P	**P**	**03 38 51.6**	**-0.8**
TARA	**Tarawa**	**23.99**	**340**	P	**P**	**03 38 54.6**	**-0.4**
TMZ	**Timaru**	**24.18**	**197**	P	**P**	**03 38 56.1**	**-0.1**
LBZ	**Lake Benmore**	**24.41**	**199**	P	**P**	**03 38 56.6**	**-1.6**
JCZ	**Jackson Bay**	**24.57**	**201**	P	**P**	**03 39 00.1**	**+0.3**
JCZ	**Jackson Bay**	**24.57**	**201**	P	**P**	**03 38 59.6**	**-0.2**
ODZ	**Otahua Downs**	**24.88**	**197**	P	**P**	**03 39 01.9**	**-0.5**
WKZ	**Wanaka**	**25.17**	**200**	P	**P**	**03 39 04.9**	**0.0**
AUWSH	**Wavell State H**	**25.85**	**251**	P	**P**	**03 39 12.6**	**+1.4**
MLZ	**Mavora Lakes**	**25.94**	**201**		**P**	**03 39 12.1**	**+0.4**
MLZ	**Mavora Lakes**	**25.94**	**201**	P	**P**	**03 39 12.1**	**+0.4**
TUZ	**Tuapeka**	**26.00**	**198**	P	**P**	**03 39 12.4**	**+0.2**
WHZ	**Wether Hill Ro**	**26.46**	**200**	P	**P**	**03 39 16.3**	**+0.1**
TW1H	**Toowoomba 1 Ha**	**26.81**	**251**	P	**P**	**03 39 21.2**	**+1.5**
APZ	**The Paps**	**27.28**	**199**	P	**P**	**03 39 23.6**	**+0.1**
EIDS	**Eidsvold**	**27.45**	**256**	P	**P**	**03 39 25.3**	**+0.1**
	comp=Z,92nm,0.8s						
EIDS	**Eidsvold**	**27.45**	**256**		**P**	**03 39 25.9**	**+0.7**
EIDS	**Eidsvold**	**27.45**	**256**	P	**P**	**03 39 25.7**	**+0.5**
ARMA	**Armidale**	**27.57**	**245**	P	**P**	**03 39 27.5**	**+1.3**
	comp=Z,47nm,0.8s						
ARMA	**Armidale**	**27.57**	**245**		**P**	**03 39 27.9**	**+1.6**
ARMA	**Armidale**	**27.57**	**245**	P	**P**	**03 39 27.8**	**+1.6**
AUNRC	**North Rockhamp**	**27.96**	**261**	P	**P**	**03 39 29.8**	**+0.1**
PPT	**Papeete**	**28.23**	**87**	P	**P**	**03 39 32.9**	**+0.8**
	comp=Z,18nm,0.7s,baz=45,slow=4.3,SNR=2.5						
	comp=Z,18nm,0.7s						
AUPHS	**Peel High Scho**	**28.33**	**244**	P	**P**	**03 39 34.3**	**+1.5**
MGCD	**Mangrove Creek**	**28.67**	**240**	P	**P**	**03 39 37.0**	**+1.2**
	comp=Z,84nm,0.7s						
SYDH	**Sydney Hard Ro**	**29.12**	**239**	P	**P**	**03 39 40.6**	**+1.0**
AULRC	**Lightning Ridg**	**30.53**	**248**	P	**P**	**03 39 52.6**	**+0.9**
CNB	**Canberra Magne**	**30.68**	**237**	P	**P**	**03 39 54.2**	**+1.2**
	comp=Z,68nm,1.2s						
CNB	**Canberra Magne**	**30.68**	**237**	P	**P**	**03 39 54.5**	**+1.5**
AUSIS	**Research Schoo**	**30.86**	**237**	P	**P**	**03 39 56.1**	**+1.5**
YNG	**Young**	**31.14**	**239**	P	**P**	**03 39 58.2**	**+1.3**
	comp=Z,25nm,2.8s						
TV1H	**Townsville Har**	**31.86**	**268**	P	**P**	**03 40 03.4**	**+0.2**
CMSA	**Cobar Meteorol**	**32.78**	**245**	P	**P**	**03 40 11.3**	**+0.5**
	comp=Z,83nm,0.7s						
CMSA	**Cobar Meteorol**	**32.78**	**245**	P	**P**	**03 40 11.2**	**+0.4**
QLP	**Quilpie**	**33.64**	**254**	P	**P**	**03 40 18.4**	**+0.4**
	comp=Z,285nm,0.8s						
QLP	**Quilpie**	**33.64**	**254**	P	**P**	**03 40 18.4**	**+0.4**
TOO	**Toolangi**	**34.34**	**234**	P	**P**	**03 40 24.2**	**+0.4**
	comp=Z,15nm,2.8s						
MTSU	**Mount Surprise**	**34.38**	**269**	P	**P**	**03 40 24.7**	**+0.3**
	comp=Z,85nm,0.7s						
MTSU	**Mount Surprise**	**34.38**	**269**	P	**P**	**03 40 24.4**	**0.0**
PMG	**Port Moresby**	**34.45**	**285**		**P**	**03 40 25.0**	**0.0**
PMG	**Port Moresby**	**34.45**	**285**	P	**P**	**03 40 25.0**	**0.0**
	comp=Z,98nm,0.7s,baz=93,slow=6.5,SNR=32						
	comp=Z,98nm,0.7s						
PMG	**Port Moresby**	**34.45**	**285**	P	**P**	**03 40 24.9**	**0.0**
PMG	**Port Moresby**	**34.45**	**285**	P	**P**	**03 40 24.9**	**0.0**
STKA	**Stephens Creek**	**36.29**	**245**	P	**P**	**03 40 39.8**	**-0.1**
	comp=Z,216nm,1.0s						
STKA	**Stephens Creek**	**36.29**	**245**		**P**	**03 40 40.8**	**+0.8**
STKA	**Stephens Creek**	**36.29**	**245**	P	**P**	**03 40 40.7**	**+0.8**
	comp=Z,22nm,0.5s,baz=93,slow=10,SNR=49						
STKA				ScP	**S**	**03 45 38.9**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=84,slow=4.2,SNR=3.4						
	comp=Z,22nm,0.5s						
STKA	**Stephens Creek**	**36.29**	**245**	P	**P**	**03 40 40.6**	**+0.7**
COEN	**Coen**	**36.49**	**276**	P	**P**	**03 40 42.1**	**+0.3**
	comp=Z,90nm,1.0s						
COEN	**Coen**	**36.49**	**276**		**P**	**03 40 42.5**	**+0.7**
COEN	**Coen**	**36.49**	**276**	P	**P**	**03 40 42.3**	**+0.5**
INKA	**Innaminka**	**36.76**	**252**		**P**	**03 40 45.3**	**+1.5**
QIS	**Mount Isa**	**38.33**	**264**	P	**P**	**03 40 56.0**	**-0.7**
	comp=Z,25nm,0.6s						
QIS	**Mount Isa**	**38.33**	**264**	P	**P**	**03 40 56.1**	**-0.6**
AUMBR	**Murray Bridge**	**38.65**	**240**	P	**P**	**03 40 59.4**	**+0.4**
HTT	**Hallett**	**38.71**	**243**	P	**P**	**03 40 59.9**	**+0.3**
WHYH	**Whyalla**	**39.79**	**244**	P	**P**	**03 41 08.5**	**+0.3**
BBOO	**Buckleboo**	**41.04**	**244**	P	**P**	**03 41 18.0**	**-0.1**
	comp=Z,67nm,2.8s						
BBOO	**Buckleboo**	**41.04**	**244**	P	**P**	**03 41 18.2**	**0.0**
AS31	**Alice Springs**	**43.15**	**258**		**P**	**03 41 34.8**	**0.0**
AS31				IAmb	IAmb	03 41 36.0	
	comp=Z,38nm,1.1s						
ASAR	**Alice Springs**	**43.15**	**258**	P	**P**	**03 41 34.7**	**-0.1**
	comp=Z,63nm,0.6s,baz=94,slow=7.7,SNR=754						
ASAR				PcP	**PcP**	**03 43 08.6**	**-1.8**
	comp=Z,4.8nm,0.7s,baz=88,slow=4.3,SNR=4.2						
ASAR				ScP	**ScP**	**03 46 05.7**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=112,slow=3.9,SNR=7.7						
ASAR				S	**S**	**03 47 15.9**	**-3.0**
	comp=Z,5.1nm,0.8s,baz=96,slow=16,SNR=15						
	comp=Z,63nm,0.6s						
WR8	**Warramunga Arr**	**43.15**	**263**		**P**	**03 41 34.3**	**-0.6**
AUALC	**St Philip's Co**	**43.16**	**258**	P	**P**	**03 41 34.7**	**-0.2**
JAY	**Jayapura**	**43.27**	**290**	P	**P**	**03 41 35.7**	**-0.2**
	comp=Z,2μmcomp=Z,155nm,0.8s						
WB0	**Warramunga Arr**	**43.29**	**264**	P	**P**	**03 41 35.3**	**-0.6**
WB2	**Warramunga Arr**	**43.29**	**263**	P	**P**	**03 41 35.2**	**-0.7**
WRAB	**Tennant Creek**	**43.30**	**263**	P	**P**	**03 41 35.0**	**-0.9**
WRAB	**Tennant Creek**	**43.30**	**263**	P	**P**	**03 41 35.0**	**-0.9**
WRAB				PcP	**PcP**	**03 43 11.4**	**+0.5**
WRA	**Warramunga Arr**	**43.30**	**263**	P	**P**	**03 41 35.6**	**-0.4**
	comp=Z,46nm,0.5s,baz=96,slow=5.5,SNR=319						
WRA				ScP	**ScP**	**03 46 05.9**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=93,slow=4.1,SNR=4.9						
WRA				S	**S**	**03 47 16.8**	**-4.3**
	comp=Z,1.5nm,0.7s,baz=96,slow=14,SNR=6.6						
	comp=Z,46nm,0.5s						
GENI	**Genyem**	**43.71**	**290**	P	**P**	**03 41 39.5**	**+0.3**
GENI	**Genyem**	**43.71**	**290**	P	**P**	**03 41 39.1**	**-0.1**
	comp=Z,153nm,0.9s						
SMPI	**Sarmi**	**45.27**	**290**	P	**P**	**03 41 50.0**	**-1.1**
	comp=Z,63nm,1.0s						
KDU	**Kakadu**	**46.81**	**273**	P	**P**	**03 42 02.0**	**-0.7**
	comp=Z,37nm,0.8s						
FORT	**Forrest**	**47.81**	**247**	P	**P**	**03 42 09.4**	**-0.6**
	comp=Z,51nm,0.7s						
FORT	**Forrest**	**47.81**	**247**		**P**

BLDU	Ballidu	57.56 247	P	P	03 43 18.6	-0.7
	comp=Z,25nm,0.9s					
BLDU	Ballidu	57.56 247	P	P	03 43 18.8	-0.5
MMRI	Maumere	57.63 273	P	P	03 43 19.2	-0.7
	comp=Z,93nm,0.9s					
MUN	Mundaring	57.82 245	P	P	03 43 20.7	-0.3
	comp=Z,35nm,1.2s					
MUN	Mundaring	57.82 245	P	P	03 43 21.1	+0.1
AUMAZ	Mazenod Senior	57.96 245	P	P	03 43 22.2	+0.3
MORW	Morawa	58.35 248	P	P	03 43 24.1	-0.6
	comp=Z,28nm,1.2s					
MORW	Morawa	58.35 248	P	P	03 43 24.2	-0.4
BKSI	Bulukumba	60.76 276	P	P	03 43 39.7	-1.1
	comp=Z,26nm,0.9s					
APSI	Ampana	61.06 281	P	P	03 43 41.9	-0.8
	comp=Z,50nm,0.9s					
GIRL	Giralia	61.15 255	P	P	03 43 43.5	+0.3
	comp=Z,61nm,2.1s					
CCD	Concordia, Ant	61.18 194	P	P	03 43 43.4	+0.4
KAPI	Kappang	61.22 276	P	P	03 43 42.9	-0.9
	comp=Z,4.4nm,0.2s,baz=135,slow=13,SNR=2.0					
	comp=Z,4.4nm,0.2s					
SPSI	Sidrap Palu	61.59 277	P	P	03 43 44.9	-1.3
	comp=Z,26nm,0.7s					
PLAI	Plampang	61.71 271	P	P	03 43 46.5	-0.5
PLAI	Plampang	61.71 271	P	P	03 43 46.4	-0.5
	comp=Z,1μmcomp=Z,97nm,1.0s					
CASY	Casey	62.53 205		P	03 43 51.8	+0.5
TWSI	Taliwang, Sumb	62.58 271	P	P	03 43 52.0	-0.6
	comp=Z,79nm,1.0s					
TOLI2	Tolitoli	62.68 283		P	03 43 52.5	-0.7
TOLI2			IAmb	IAmb	03 43 53.3	
	comp=Z,26nm,0.9s					
TOLI2	Tolitoli	62.68 283	P	P	03 43 52.4	-0.8
JAGI	Jajag, Banyuwa	65.21 270		P	03 44 07.6	-1.6
JAGI			IAmb	IAmb	03 44 08.4	
	comp=Z,62nm,1.0s					
JAGI	Jajag, Banyuwa	65.21 270	P	P	03 44 07.7	-1.6
JAGI	Jajag, Banyuwa	65.21 270	P	P	03 44 07.9	-1.3
	comp=Z,65nm,0.8s					
BLJI	Banyuglugur	65.97 271	P	P	03 44 13.1	-0.9
	comp=Z,68nm,0.7s					
PCJI	Pacitan	68.07 270	P	P	03 44 26.7	-0.1
QSPA	South Pole Qui	68.54 180	P	P	03 44 32.3	+3.4
QSPA			IAmb	IAmb	03 44 33.3	
	comp=Z,40nm,0.9s					
QSPA	South Pole Qui	68.54 180	P	P	03 44 32.3	+3.4
	comp=Z,36nm,0.9s,baz=347,slow=0.5,SNR=197					
QSPA	South Pole Qui	68.54 180	P	P	03 44 32.9	+4.0
UGM	Wanagama	68.77 270	P	P	03 44 30.1	-1.0
JOW	Kunigami	69.94 311	IAmb	IAmb	03 44 39.0	
	comp=Z,27nm,0.8s					
JOW	Kunigami	69.94 311	P	P	03 44 37.8	+0.1
	comp=Z,21nm,0.7s,baz=198,slow=6.0,SNR=4.8					
	comp=Z,21nm,0.7s					
MJAR	Matsushiro Arr	70.35 325	P	P	03 44 39.5	-0.4
MJAR	Matsushiro Arr	70.35 325	P	P	03 44 39.2	-0.7
	comp=Z,9.0nm,0.6s,baz=159,slow=6.0,SNR=22					
	comp=Z,9.0nm,0.6s					
MAJO	Matsushiro	70.35 325		P	03 44 39.1	-0.9
MAJO	Matsushiro	70.35 325	P	P	03 44 39.4	-0.6
MAJO	Matsushiro	70.35 325	P	P	03 44 39.3	-0.6
MJB9	Matsu-Tunnel	70.36 325	P	P	03 44 40.5	+0.5
MJB9			IAmb	IAmb	03 44 41.2	
	comp=Z,14nm,0.7s					
KPJI	Karang Pucung	70.45 270	P	P	03 44 40.4	-0.7
	comp=Z,41nm,0.9s					
LEM	Lembang	71.85 270	P	P	03 44 49.0	-0.4
	comp=Z,52nm,0.7s,baz=136,slow=14,SNR=6.0					
	comp=Z,52nm,0.7s					
LEM	Lembang	71.85 270	P	P	03 44 48.8	-0.6
	comp=Z,77nm,0.9s					
KSM	Kuching	72.40 279	P	P	03 44 52.2	-0.1
KSM			IAmb	IAmb	03 44 53.1	
	comp=Z,38nm,0.9s					
KSM	Kuching	72.40 279	P	P	03 44 52.3	-0.1
NACB	Ninganchiao	73.29 305	P	P	03 44 56.3	-0.9
NACB			IAmb	IAmb	03 44 57.1	
	comp=Z,39nm,0.9s					
NACB	Ninganchiao	73.29 305	P	P	03 44 56.5	-0.7
TPUB	Ta-pu	73.56 304	P	P	03 44 57.4	-1.4
TPUB	Ta-pu	73.56 304	P	P	03 44 57.2	-1.6
SSLB	Suanglung	73.57 304	IAmb	IAmb	03 44 58.5	
	comp=Z,34nm,0.7s					
SSLB	Suanglung	73.57 304	P	P	03 44 57.9	-0.9
KSRS	Korea Array	76.89 319	P	P	03 45 15.5	-1.4
	comp=Z,1.4nm,0.5s,baz=127,slow=6.5,SNR=5.0					
	comp=Z,1.4nm,0.5s					
PEA0B	Petropavlovsk-	76.97 346	IAmb	IAmb	03 45 17.5	
	comp=Z,21nm,0.8s					
PETK	Petropavlovsk-	76.97 346	P	P	03 45 15.1	-1.9
PETK	Petropavlovsk-	76.97 346	P	P	03 45 16.1	-0.9
	comp=Z,12nm,0.7s,baz=129,slow=4.9,SNR=31					
	comp=Z,12nm,0.7s					
BELA	Belgrano 2	78.69 173	P	P	03 45 25.7	-0.3
USRK	Ussuriysk Ar.	79.16 327	P	P	03 45 29.6	+0.7
	comp=Z,11nm,0.8s,baz=127,slow=4.4,SNR=17					
	comp=Z,11nm,0.8s					
NJ2	Nanjing	79.64 310	*e*P	P	03 45 32.0	+0.3
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
MAW	Mawson	80.20 200	P	P	03 45 34.2	+0.2
	comp=Z,2.7nm,0.6s,baz=152,slow=7.1,SNR=17					
	comp=Z,2.7nm,0.6s					
YBH	Yreka Blue Hor	81.83 39	IAmb	IAmb	03 45 44.9	
	comp=Z,3.3nm,0.8s					
YBH	Yreka Blue Hor	81.83 39	P	P	03 45 43.3	+0.4
	comp=Z,0.2nm,0.7s,baz=180,slow=2.0,SNR=3.6					
IPM	Ipoh	82.10 278	P	P	03 45 44.9	0.0
IPM	Ipoh	82.10 278	P	P	03 45 45.0	+0.2
PNTR	Pine Nut	82.13 43	P	P	03 45 45.0	+0.3
NVAR	Mina Array Bea	82.58 44	P	P	03 45 47.8	+0.9
	comp=Z,0.6nm,0.5s,baz=255,slow=6.0,SNR=8.2					
	comp=Z,0.6nm,0.5s					
BNX	BinXian	82.59 325	⇑P	P	03 45 46.3	-0.2
BNX			pmax	pmax		
	comp=Z,16nm,0.8s					
KULM	Kulim	82.75 279	P	P	03 45 48.3	+0.2
KULM			IAmb	IAmb	03 45 49.2	
	comp=Z,18nm,0.8s					
KULM	Kulim	82.75 279	P	P	03 45 48.2	+0.2
TIA	Tai'an	83.11 313	P	P	03 45 49.8	+0.5
TIA			pmax	pmax		
	comp=Z,22nm,1.0s					
O19K	Port Alsworth	83.93 12	IAmb	IAmb	03 45 52.6	
	comp=Z,21nm,0.8s					
ILSW	Iliamna Southw	83.98 13	IAmb	IAmb	03 45 52.9	
	comp=Z,16nm,0.8s					
KCSI	Kotacane, Aceh	84.75 276	P	P	03 45 57.1	-0.8
LYN	LuoYang	85.50 310	P	P	03 46 04.0	+3.0
LYN			pmax	pmax		
	comp=Z,43nm,0.4s					
HEH	HeiHe	85.57 329	*e*P	P	03 46 00.8	-0.2
HEH			pmax	pmax		
	comp=Z,15nm,0.6s					
ENH	Enshi	85.65 305	IAmb	IAmb	03 46 03.2	
	comp=Z,26nm,0.8s					
ENH	Enshi	85.65 305	P	P	03 46 00.8	-1.1
BJI	Beijing	85.80 316	P	P	03 46 02.5	+0.2
BJI			pmax	pmax		
	comp=Z,5.0nm,0.5s					
COYC	Coyhaique	86.18 138	P	P	03 46 05.6	+1.5
GHO	Glory Hole Cre	86.50 14	P	P	03 46 04.6	-0.6
GHO			IAmb	IAmb	03 46 05.4	
	comp=Z,20nm,0.7s					
J18K	Innoko River	86.55 10	IAmb	IAmb	03 46 05.8	
	comp=Z,10nm,0.8s					
TROLL	Troll, Antarti	86.70 181	⇑P	P	03 46 05.4	-0.8
	comp=Z,475nm,0.6s					
SNAA	Sanae	87.01 179	⇑P	P	03 46 06.4	-1.2
	comp=Z,53nm,0.5s					
SNAA	Sanae	87.01 179	P	P	03 46 06.7	-0.9
SNAA	Sanae	87.01 179	P	P	03 46 06.6	-1.1
	comp=Z,1.9nm,0.5s,baz=194,slow=14,SNR=43					
	comp=Z,1.9nm,0.5s					
VNA3	Neumayer Olymp	87.19 177	⇑P	P	03 46 07.5	-0.9
	comp=Z,14nm,0.5s					
LL02	Futaleuf	87.42 136	IAmb	IAmb	03 46 12.1	
	comp=Z,21nm,1.2s					
VNA2	Neumayer--Watz	87.62 177	⇑P	P	03 46 09.2	-1.2
	comp=Z,8.8nm,0.6s,baz=190,slow=4.9					
KTH	Kantishna Hill	87.67 12	P	P	03 46 09.0	-1.7
KTH			IAmb	IAmb	03 46 10.2	
	comp=Z,10nm,0.9s					
TRF	Thorofare Moun	87.70 13	P	P	03 46 09.8	-1.1
TRF			IAmb	IAmb	03 46 10.8	
	comp=Z,18nm,0.8s					
XAN	Xi'an	87.83 308	P	P	03 46 12.5	+0.5
XAN			pmax	pmax		
	comp=Z,24nm,0.8s					
VNA1	Neumayer--Stat	87.85 177	⇑P	P	03 46 10.4	-1.0
	comp=Z,14nm,0.8s					
RND	Reindeer	87.96 13	P	P	03 46 11.3	-0.7
RND			IAmb	IAmb	03 46 12.4	
	comp=Z,16nm,0.8s					
TXAR	Lajitas Array	88.60 58	P	P	03 46 17.2	+1.4
	comp=Z,0.9nm,0.8s,baz=215,slow=6.1,SNR=6.6					
	comp=Z,0.9nm,0.8s					
I21K	Tanana	88.94 11	IAmb	IAmb	03 46 17.3	
	comp=Z,13nm,1.2s					
HILR	Hailar Array B	89.02 325	P	P	03 46 16.9	-0.2
	comp=Z,3.0nm,0.6s,baz=134,slow=8.5,SNR=4.7					
	comp=Z,3.0nm,0.6s					
WRH	Wood River Hil	89.06 13	IAmb	IAmb	03 46 16.7	
	comp=Z,8.2nm,0.8s					
HHC	Hu-ho-hao-te	89.23 315	*e*P	P	03 46 19.0	+0.5
HHC			pmax	pmax		
	comp=Z,22nm,0.7s					
HHC			pmax	pmax		
	comp=Z,88nm,4.8s					
HDA	Harding Lake	89.25 13	IAmb	IAmb	03 46 37.2	
	comp=Z,38nm,2.0s					
CCB	Clear Creek Bu	89.27 13	P	P	03 46 16.7	-1.3
CMAR	Chiang Mai Arr	89.36 290	P	P	03 46 20.4	+0.9
CMAR	Chiang Mai Arr	89.36 290	P	P	03 46 21.1	+1.6
	comp=Z,12nm,0.8s,baz=132,slow=3.2,SNR=52					
	comp=Z,12nm,0.8s					
PLCA	Paso Flores	89.42 134	P	P	03 46 19.4	0.0
PLCA	Paso Flores	89.42 134	P	P	03 46 20.5	+1.0
	comp=Z,3.7nm,0.6s,baz=247,slow=5.7,SNR=9.7					
	comp=Z,3.7nm,0.6s					
PLCA	Paso Flores	89.42 134	P	P	03 46 20.3	+0.8
COLA	College	89.46 13	P	P	03 46 18.0	-0.8
CHTO	Chiang Mai	89.49 290	P	P	03 46 21.2	+1.1
CHTO			IAmb	IAmb	03 46 21.8	
	comp=Z,14nm,0.8s					
CHTO	Chiang Mai	89.49 290	P	P	03 46 19.2	-0.9
CHTO	Chiang Mai	89.49 290	P	P	03 46 20.9	+0.9
IL31		89.58 13	IAmb	IAmb	03 46 19.5	
	comp=Z,26nm,1.6s					
ILAR	Eielson Array	89.58 13	P	P	03 46 18.2	-1.1
	comp=Z,1.7nm,0.8s,baz=224,slow=5.3,SNR=25					
	comp=Z,1.7nm,0.8s					
PZH	PanZhiHua	90.16 298	P	P	03 46 23.5	+0.4
N32M	Quiet Lake	90.37 20	IAmb	IAmb	03 46 25.2	
	comp=Z,11nm,0.8s					
PDAR	Pinedale Array	90.52 44	P	P	03 46 23.9	-0.6
	comp=Z,0.3nm,0.5s,baz=210,slow=3.6,SNR=4.7					
	comp=Z,0.3nm,0.5s					
BI02	San Fabin de	90.82 130	P	P	03 46 25.6	-0.5
BI02			IAmb	IAmb	03 46 27.1	
	comp=Z,7.0nm,0.8s					
MT01	Popeta	92.13 128	P	P	03 46 31.9	-0.2
LZDM	Lanzhou Array	92.52 308	P	P	03 46 35.5	+1.4
	comp=Z,1.5nm,0.3s,baz=251,slow=4.5,SNR=3.7					
	comp=Z,1.5nm,0.3s					
WMQ	Urumqi	106.71 311	Pdif	Pdif	03 47 35.3	-1.7
ZALV	Zalesovo Beam	110.55 321	PKiKP	PKiKP	03 51 48.2	-2.0
	comp=Z,0.8nm,0.5s,baz=237,slow=1.2,SNR=4.9					
MKAR	Makanchi Array	111.05 313	PKiKP	PKiKP	03 51 49.7	-1.7
	comp=Z,0.6nm,0.6s,baz=179,slow=1.9,SNR=5.9					
MKAR			PKKPbc	PKKPbc	04 02 49.7	-1.2
	comp=Z,0.8nm,0.8s,baz=254,slow=4.5,SNR=4.8					
KURBB	Kurchatov Arra	114.00 317	PKiKP	PKiKP	03 51 54.8	-2.0
	comp=Z,0.9nm,0.6s,baz=93,slow=1.8,SNR=5.4					
KURBB			PKKPbc	PKKPab	04 02 47.0	-1.2
	comp=Z,0.9nm,0.8s,baz=268,slow=4.8,SNR=5.3					
KSH	Kashi	114.51 305	PKP	PKiKP	03 52 02.8	+4.4
BVAR	Borovoye Array	119.10 320	PKP	PKPdf	03 52 05.3	-1.3
	comp=Z,2.5nm,0.4s,baz=98,slow=1.2,SNR=9.4					
SPITS	Spitsbergen Ar	122.81 356	PKP	PKPdf	03 52 12.2	-0.9
	comp=Z,6.7nm,0.7s,baz=46,slow=4.2,SNR=4.8					
ARCES	ARCESS Array B	129.71 349	PKP	PKPdf	03 52 25.2	-1.3
	comp=Z,4.8nm,0.8s,baz=46,slow=3.5,SNR=9.7					
FINES	FINESS Array B	136.41 343	PKhKP	PKPpre	03 52 35.5	
	comp=Z,1.6nm,0.5s,baz=67,slow=6.4,SNR=9.3					
FINES			PKP	PKPdf	03 52 39.1	-0.1
	comp=Z,1.8nm,0.6s,baz=46,slow=4.0,SNR=1.8					
FINES			SKPbc	SKPbc	03 55 14.5	-1.2
	comp=Z,12nm,1.0s,baz=325,slow=1.7,SNR=4.5					
KBZ	Khabaz	138.74 312	SKP		03 55 21.1	
	comp=Z,1.3nm,0.7s,baz=84,slow=4.9,SNR=3.6					
NB2	NORSAR Subarra	139.85 352	PKP	PKPpre	03 52 37.9	
	comp=Z,0.3nm,0.5s,baz=10,slow=3.2					
NOA	NORSAR Array B	139.85 352	PKhKP	PKPpre	03 52 37.2	
	comp=Z,1.7nm,0.9s,baz=49,slow=1.8,SNR=5.7					
NOA			SKP		03 55 23.4	
	comp=Z,1.8nm,0.9s,baz=17,slow=4.3,SNR=3.2					
HFS	Hagfors	140.35 350	PKhKP	PKPpre	03 52 38.7	
	comp=Z,3.7nm,0.6s,baz=69,slow=4.9,SNR=15					
AKASG	Malin Array Be	143.32 329		PKPab	03 52 49.1	-1.4
AKASG	Malin Array Be	143.32 329	PKP	PKPab	03 52 49.2	-1.2
	comp=Z,22nm,0.7s,baz=44,slow=4.3,SNR=103					
AKASG			SKPbc	SKPbc	03 55 33.2	-1.0
	comp=Z,2.2nm,0.8s,baz=51,slow=1.8,SNR=4.8					
AKBB	Malin Array Si	143.32 329		PKPab	03 52 49.2	-1.3
KIEV	Kiev	143.33 329	PKPbc	PKPab	03 52 49.3	-1.2
KIEV	Kiev	143.33 329	⇑P	PKPab	03 52 49.4	-1.2
SUW	Suwalki	143.36 338	*e*PKP	PKPab	03 52 49.8	-0.7
ARPR	Arapgir-MALATY	143.44 307		PKPbc	03 52 52.0	+0.4
MI28	Mi28,Pidlybu	143.88 331	PKP	PKPbc	03 52 51.2	-1.2
RNPP9	Sopachiv	144.32 333	PKP	PKPdf	03 52 52.4	-1.3
LUBAR	Lubar, Ukraine	144.54 330	PKP	PKPdf	03 52 52.9	-1.3
SORM	Soroca	145.44 327	⇓P	PKPdf	03 52 56.2	+0.5
PURM	Purcari	145.63 323	⇓P	PKPbc	03 52 57.3	-0.5
HORU	Horodok	145.66 330	PKP	PKPdf	03 52 55.4	-0.7
BEL	Belsk	145.98 338	*e*PKP	PKPbc	03 52 58.7	+0.1
ILGA	Ilgaz	146.04 313		PKPbc	03 52 59.5	0.0
EKA	Eskdalemuir Ar	146.12 4	PKPbc	PKPbc	03 52 57.8	-1.1
	comp=Z,5.9nm,0.7s,baz=347,slow=2.9,SNR=15					
DRBR	Darabani	146.26 328	⇑P	PKPbc	03 52 58.5	-1.0
BR131	Keskin Array S	146.63 310		PKPbc	03 52 59.9	-1.1
BRTR	Keskin Array B	146.63 310		PKPbc	03 53 00.1	-0.9
BRTR	Keskin Array B	146.63 310	PKPbc	PKPbc	03 53 00.2	-0.8
	comp=Z,6.3nm,0.8s,baz=136,slow=4.3,SNR=45					
KIRS	Kirsehir-Merke	146.66 309	⇑P	PKPbc	03 53 00.5	-0.6
KWP	Kalwaria Pacla	147.00 333	*e*PKP	PKPbc	03 53 00.9	-0.5
ANTO	Ankara	147.17 311		PKPbc	03 53 01.9	-0.4
ANTO	Ankara	147.17 311	⇑P	PKPbc	03 53 02.1	-0.2
SCTR	Scanteiesti	147.19 324	⇓P	PKPbc	03 53 01.2	-0.9
GHRR		147.27 325	⇓P	PKPbc	03 53 02.7	+0.5
MMAI	Mount Meron Ar	147.28 298	PKPbc	PKPbc	03 53 02.7	-0.1
	comp=Z,6.7nm,0.5s,baz=72,slow=5.4,SNR=25					
BURAR	Bucovina Array	147.35 329	⇑P	PKPbc	03 53 02.6	0.0
CFR	Carcaliu	147.42 323	⇑P	PKPbc	03 53 02.2	-0.5
TPGR	Topolog	147.45 322	⇑P	PKPbc	03 53 02.6	-0.2
ONER	Baraj Valea Uz	147.63 326	⇑P	PKPbc	03 53 03.5	+0.3
OJC	Ojcow	147.66 337	*e*PKP	PKPbc	03 53 02.5	-0.7
VRI	Vrincioaia	147.76 325	⇑P	PKPbc	03 53 03.1	-0.5
PLOR	Plostina	147.81 325	⇑P	PKPbc	03 53 03.0	-0.7
HARR	Harsova	147.83 322	⇑P	PKPbc	03 53 03.3	-0.4
TURR	Turia	148.01 326	⇑P	PKPab	03 53 09.9	+0.6
NIE	Niedzica	148.13 336	*e*PKP	PKPbc	03 53 04.8	+0.4
KSP	Ksiaz	148.30 341	*e*PKP	PKPbc	03 53 04.8	+0.1
DOPR	Dopca	148.40 326	⇓P	PKPbc	03 53 05.1	-0.1
MLR	Muntele Rosu	148.42 325	⇑P	PKPbc	03 53 04.7	-0.7
OSTC	Ostas	148.58 341	⇑*e*PKP	PKPbc	03 53 05.4	0.0
CHVC	Chvalec	148.60 341	⇑*e*PKP	PKPbc	03 53 05.2	-0.3
CHVC			*e*PKPAB	PKPab	03 53 11.3	-0.2
STEB	Steborice	148.62 339	⇑*e*PKP	PKPbc	03 53 05.2	-0.3
STEB			*e*PKPAB	PKPab	03 53 11.9	+0.3
LANS	Liptovska Anna	148.67 336	*e*PKP	PKiKP	03 53 06.4	-0.3
LANS			*e*		03 53 12.2	
UPC	Upice	148.68 341	⇑*e*PKP	PKPbc	03 53 05.3	-0.4
DPC	Dobruska-Polom	148.73 341	⇑*e*PKP	PKPbc	03 53 05.6	-0.2
DPC			*e*PKPAB	PKPab	03 53 12.5	+0.4
CJR	Cluj-Napoca	148.77 329	⇑P	PKPbc	03 53 05.9	-0.2
CLL	Collm	148.77 345	*i* PKPbc	PKPbc	03 53 05.1	-0.7
	comp=Z,21nm,1.3s					
CLL			*i* PKPab	PKPab	03 53 11.4	-0.7
	comp=Z,8.0nm,0.8s					
CLL			*e*pPKPab	pPKPab	03 55 31.0	+6.4
CLL			*e*(SKPdf)		03 55 40.0	
CLL			*e*PP	PP	03 56 42.0	-0.2
KRLC	Kraliky	148.82 340	⇑*e*PKP	PKPbc	03 53 05.6	-0.5
KRLC			*e*PKPAB	PKPab	03 53 12.4	-0.1
MORC	Moravsky Berou	148.83 339	*e*PKP	PKPbc	03 53 05.5	-0.6
BRG	Berggiesshubel	148.94 344	*i* PKP	PKPbc	03 53 05.9	-0.4
BRG			Amp		03 53 06.4	
	comp=Z,4.7nm,0.6s					
BRG	Berggiesshubel	148.94 344	P	PKPab	03 53 12.4	-0.4
BRG			Amp		03 53 13.1	
	comp=Z,4.2nm,0.8s					
BRG			pPKP	pPKPab	03 55 32.1	+7.0
BRG			Amp		03 55 34.5	
	comp=Z,2.2nm,0.8s					
MARR	Marisel-Cluj	149.03 329	⇓P	PKPbc	03 53 06.2	-0.6
PVCC	Panska Ves	149.08 343	⇑*e*PKP	PKPbc	03 53 06.5	-0.1
PVCC			*e*PKPAB	PKPab	03 53 12.9	-0.6
MAUC	Maruska	149.08 338	⇑*e*PKP	PKPbc	03 53 06.7	0.0
DRGR		149.13 330	⇓P	PKPbc	03 53 06.3	-0.6
ARR	Arges	149.19 326	⇑P	PKPbc	03 53 07.3	+0.1
HSKC	Hora Svate Kat	149.31 344	⇑*e*PKP	PKPbc	03 53 06.9	-0.3
VRAC	Vranov	149.55 339	⇑P	PKPbc	03 53 06.8	-1.0
VRAC	Vranov	149.55 339	*e*PKP	PKPbc	03 53 07.1	-0.7
JAVC	Velka Javorina	149.57 338	*e*PKP	PKiKP	03 53 08.3	-0.3
PRU	Pruhonice	149.57 342	⇑*e*PKP	PKPbc	03 53 07.5	-0.3
PRU			*e*PKPAB	PKPab	03 53 14.9	-0.6
LOT	Lotru	149.58 327	⇑P	PKPbc	03 53 06.4	-1.7
KRUC	Moravsky	149.83 339	*e*PKP	PKPbc	03 53 07.5	-0.9
SIRR	Siria	150.01 330	⇓P	PKPbc	03 53 08.7	-0.2
ELND	Elena	150.08 321	⇑P	PKPbc	03 53 09.0	-0.3
GZR	Gura Zlata	150.11 328	⇑P	PKPbc	03 53 08.6	-0.8
MODS	Modra-Piesok	150.12 338	*e*PKP	PKPbc	03 53 09.3	+0.1
MODS			*e*		03 53 18.1	
ZVC	Zvikov	150.17 342	⇑*e*PKP	PKPbc	03 53 08.9	-0.3
SURR	Surduc	150.17 329	⇑P	PKPbc	03 53 08.8	-0.5
PLVB	Pleven	150.51 323	⇑P	PKPbc	03 53 08.9	-1.3
BZS	Buzias	150.51 329	⇓P	PKPbc	03 53 09.4	-0.7
KHC	Kasperske Hory	150.62 343	⇑*e*PKP	PKPbc	03 53 10.0	-0.3
KHC			*e*PKPAB	PKPab	03 53 20.0	0.0
HERR	Herculane	150.66 328	⇑P	PKPbc	03 53 09.8	-0.7
MEM	Membach	150.68 353	*d*PKP	PKPbc	03 53 09.2	-1.2
BTNL	Ternell	150.69 353	*d*PKP	PKPbc	03 53 09.9	-0.5
GERES	GERESS Array B	150.84 342	PKPbc	PKPbc	03 53 10.3	-0.6
	comp=Z,4.1nm,0.8s,baz=28,slow=3.2,SNR=30					
GERES			SKP		03 55 36.7	
	comp=Z,1.6nm,1.1s,baz=19,slow=3.4,SNR=5.8					
CONA	Conrad Observa	150.99 339	*i* PKP	PKPbc	03 53 10.8	-0.4
	comp=Z,12nm,1.0s					
CONA			*i* PKP	PKPab	03 53 22.1	+0.4
	comp=Z,7.2nm,0.7s					
RONA	Rosalia, Austr	151.03 338	*i* PKP	PKPbc	03 53 10.8	-0.6
	comp=Z,9.0nm,0.6s					
RONA			*e*PKP	PKPab	03 53 22.1	+0.3
	comp=Z,13nm,1.4s					
MDVR	Moldovita	151.08 328	⇑P	PKPbc	03 53 10.9	-0.7
MORH	Mrgy, Hungar	151.37 334	⇑P	PKPbc	03 53 11.5	-0.6
BLKB	Belogradchik	151.41 325	⇑P	PKPbc	03 53 11.6	-0.7
MOA	Molln	151.57 341	*i* PKP	PKPbc	03 53 11.6	-0.9
	comp=Z,1.8nm,0.6s					
MOA			*i* PKP	PKPab	03 53 24.0	0.0
	comp=Z,5.1nm,1.4s					
ARSA	Arzberg	151.69 338	*i* PKP	PKPbc	03 53 12.0	-0.8
	comp=Z,4.2nm,1.6s					
ARSA			*i* PKP	PKPab	03 53 24.4	-0.2
	comp=Z,2.2nm,0.6s					
BOVS	Bovan	151.90 327	⇑P	PKPbc	03 53 12.4	-0.9
BIOA	Bad Ischl, Aus	151.90 341	*i* PKP	PKPbc	03 53 11.8	-1.5
	comp=Z,4.4nm,1.1s					
BIOA			*e*PKP	PKPab	03 53 25.4	0.0
	comp=Z,6.8nm,0.9s					
SOKA	Soboth	152.35 339	*i* PKP	PKPbc	03 53 12.8	-1.6
	comp=Z,3.4nm,1.0s					
SOKA			*i* PKP	PKPab	03 53 26.9	-0.5
	comp=Z,4.7nm,0.9s					
LESA	Schwarzleotal	152.42 342	*i* PKP	PKPbc	03 53 13.5	-1.0
	comp=Z,4.8nm,1.1s					
LESA			*i* PKP	PKPab	03 53 27.1	-0.6
	comp=Z,5.5nm,1.2s					
KBA	Koelnbreinsper	152.54 341	*i* PKP	PKPbc	03 53 13.8	-1.0
	comp=Z,3.8nm,1.0s					
KBA			*i* PKP	PKPab	03 53 28.6	+0.2
	comp=Z,3.7nm,0.6s					
OBKA	Obir	152.66 339	*i* PKiKP	PKPbc	03 53 15.0	-0.1
	comp=Z,3.3nm,0.9s					
OBKA			*i* PKP	PKPab	03 53 28.0	-0.8
	comp=Z,3.4nm,0.7s					
WATA	Walderalm	152.80 344	*i* PKP	PKPbc	03 53 14.8	-0.5
	comp=Z,2.7nm,0.6s					
WATA			*i* PKP	PKPab	03 53 29.2	-0.2
	comp=Z,10nm,1.3s					
WTTA	Wattenberg	152.85 344	*i* PKP	PKPbc	03 53 14.5	-1.0
	comp=Z,2.9nm,0.5s					

TOIG	**Toxpalan**	**2.89 324**	*eP*	**Pn**	**03 42 43.0 +2.2**	
TOIG			*eS*	**Sn**	**03 43 16.0 +0.3**	
PATR	**El Naranjo**	**3.01 102**	*eP*	**Pn**	**03 42 41.9 -0.6**	
PATR			*eS*	**Sn**	**03 43 16.2 -2.6**	
THIG		**3.03 106**	*eP*	**Pn**	**03 42 44.4 +1.8**	
THIG			*eS*	**Sn**	**03 43 16.5 -2.6**	
PAVE	**Pavencul**	**3.05 100**	*eP*	**Pn**	**03 42 43.3 +0.3**	
PAVE			*eS*	**Sn**	**03 43 16.7 -3.1**	
CCIG	**Comitan**	**3.08 80**	*eP*	**Pn**	**03 42 45.2 +1.8**	
CCIG			*eS*	**Sn**	**03 43 18.2 -2.2**	
CHUJ	**Union Juarez**	**3.13 102**	*eP*	**Pn**	**03 42 43.8 -0.5**	
CHUJ			*eS*	**Sn**	**03 43 18.8 -3.1**	
HLIG	**Huajuapan de L**	**3.18 311**	*eP*	**Pn**	**03 42 47.4 +2.6**	
HLIG			*eS*	**Sn**	**03 43 21.6 -1.4**	
TPIG	**Tehuac#an**	**3.32 324**	*eP*	**Pn**	**03 42 49.3 +2.6**	
TPIG			*eS*	**Sb**	**03 43 32.1 -2.1**	
FTIG	**Fresnillo de T**	**3.47 309**	*eP*	**Pn**	**03 42 51.0 +2.2**	
FTIG			*eS*	**Sn**	**03 43 32.4 +2.3**	
TLIG	**Tlapa**	**3.63 300**	*eP*	**Pn**	**03 42 52.3 +1.4**	
TLIG			*eS*	**Sn**	**03 43 33.2 -0.7**	
HUEH	**Huehuetenango**	**3.67 96**		**Pn**	**03 42 53.1 +1.5**	
HUEH	**Huehuetenango**	**3.67 96**	*eP*	Pn	03 42 57.2 +5.6	
HUEH			*eS*	**Sn**	**03 43 36.7 +1.5**	
RTAL	**Retalhuleu**	**3.67 109**	Pn	**Pn**	**03 42 54.6 +3.1**	
RTAL	**Retalhuleu**	**3.67 109**	*eP*	**Pn**	**03 42 51.8 +0.3**	
RTAL			*eS*	**Sn**	**03 43 31.2 -3.8**	
HMTT	**Tlapaneco**	**3.74 304**	*eP*	Pn	03 42 57.6 +5.1	
HMTT			*eS*	**Sn**	**03 43 39.1 +2.4**	
POHV	**Veracruz**	**3.81 330**	*eP*	Pn	03 42 48.6 -5.2	
POHV			*eS*	**Sb**	**03 43 44.7 -4.1**	
CRIG	**Cruz Grande**	**3.82 285**	*eP*	**Pn**	**03 42 53.1 -0.4**	
CRIG			*eS*	**Sn**	**03 43 33.5 -5.0**	
JAUV	**Jalcomulco**	**3.88 338**	*eP*	**Pn**	**03 42 53.2 -1.1**	
JAUV			*eS*	**Sn**	**03 43 39.5 -0.6**	
LVIG	**Laguna Verde**	**4.10 345**	*eP*	**Pn**	**03 42 56.0 -1.3**	
LVIG			*eS*	**Sn**	**03 43 40.0 -5.4**	
DAIG	**Los Arroyos**	**4.38 287**	*eP*	Pn	03 42 53.5 -7.6	
DAIG			*eS*	**Sn**	**03 43 46.1 -6.2**	
PPCL	**Tochimilco**	**4.47 315**	*eP*	**Pn**	**03 43 06.2 +3.4**	
PPCL			*eS*	**Sn**	**03 43 59.1 +4.0**	
PPPT	**Popocatepetl**	**4.52 316**	*eP*	**Pn**	**03 43 06.5 +2.9**	
PPPT			*eS*	**Sb**	**03 44 02.3 -6.8**	
PPSX	**Xalitzintla**	**4.53 318**	*eP*	Pn	03 43 08.8 +5.3	
PPSX			*eS*	**Sn**	**03 43 58.1 +1.7**	
MEIG	**Mezcala**	**4.68 298**	*eP*	**Pn**	**03 43 06.1 +0.7**	
MEIG			*eS*	**Sn**	**03 43 59.1 -0.8**	
APG	**El Apazote**	**4.71 98**	Pn	**Pn**	**03 43 09.4 +3.5**	
	0.1nm,0.3s,baz=237,slow=19,SNR=11					
APG			Sn	**Sn**	**03 44 01.9 +1.1**	
	0.6nm,0.3s,baz=96,slow=14,SNR=4.1					
YAIG	**Yautepec**	**4.76 311**	*eP*	**Pn**	**03 43 07.5 +0.9**	
YAIG			*eS*	**Sn**	**03 44 05.0 +3.1**	
PLIG	**Platanillo**	**4.81 304**	*eP*	**Pn**	**03 43 07.6 +0.3**	
PLIG			*eS*	**Sn**	**03 44 07.8 +4.6**	
CXUV	**Coxquihui**	**4.92 334**	*eP*	**Pn**	**03 43 08.8 +0.2**	
CXUV			*eS*	**Sn**	**03 44 09.8 +4.1**	
CAIG	**El Cayaco**	**4.95 286**	*eP*	**Pn**	**03 43 08.5 -0.6**	
CAIG			*eS*	**Sn**	**03 43 59.4 -7.1**	
SCIG	**Sabancuy**	**5.06 50**	*eP*	**Pn**	**03 43 09.7 -0.8**	
SCIG			*eS*	**Sn**	**03 44 05.3 -3.8**	
UNM	**Universidad Na**	**5.14 314**	Pn	**Pn**	**03 43 14.1 +2.2**	
PBVM	**Pinon**	**5.16 316**	*eS*	**Sn**	**03 44 15.3 +3.8**	
VTVM	**Tizayuca**	**5.20 321**	*eP*	Pn	03 43 19.1 +6.3	
VTVM			*eS*	**Sn**	**03 44 17.3 +4.2**	
INVM	**La Marquesa**	**5.26 313**	*eP*	Pn	03 43 18.1 +4.5	
INVM			*eS*	**Sn**	**03 44 13.9 -0.7**	
PETF	**Flores**	**5.33 77**		**Pn**	**03 43 15.3 +1.0**	
PETF	**Flores**	**5.33 77**	*eP*	**Pn**	**03 43 16.1 +1.8**	
PETF			*eS*	**Sn**	**03 44 11.7 -4.2**	
ZUVM	**ZUMPANGO**	**5.43 319**	*eP*	Pn	03 43 10.7 -5.2	
ZUVM			*eS*	**Sn**	**03 44 20.9 +2.2**	
ARIG	**Puente Sto Nin**	**5.46 298**	*eP*	**Pn**	**03 43 18.4 +2.4**	
ARIG			*eS*	**Sn**	**03 44 15.8 -3.2**	
ACIG	**Acambay**	**6.07 315**	*eP*	**Pn**	**03 43 25.6 +1.0**	
ACIG			*eS*	**Sn**	**03 44 34.0 -0.4**	
ZIIG	**Zihuatanejo**	**6.20 288**	*eP*	Pn	03 43 20.0 -6.2	
ZIIG			*eS*	**Sn**	**03 44 33.4 -3.9**	
CTUV	**Llano Grande**	**6.39 333**	*eP*	Pn	03 43 21.9 -7.0	
CTUV			*eS*	**Sn**	**03 44 44.2 +2.2**	
RPIG	**Rio Verde**	**7.55 325**	*eP*	Pn	03 43 50.5 +5.6	
RPIG			*eS*	**Sn**	**03 45 15.0 +4.3**	
TEIG	**Tepich**	**8.02 55**		**Pn**	**03 43 50.0 -1.2**	
MMIG	**Aquila**	**8.11 289**	*eP*	**Pn**	**03 43 52.1 -0.4**	
MMIG			*eS*	**Sn**	**03 45 22.2 -2.1**	
MNGA	**Volcan de Coli**	**8.77 296**	*eP*	Pn	03 44 07.0 +5.3	
MNGA			*eS*	**Sn**	**03 45 38.1 -2.6**	
INCO	**Volcan de Coli**	**8.78 297**	*eP*	**Pn**	**03 44 06.0 +4.1**	
INCO			*eS*	**Sn**	**03 45 42.8 +1.6**	
SOMAC	**Volcano de Col**	**8.80 296**	*eP*	Pn	03 44 07.0 +4.8	
SOMAC			*eS*	**Sn**	**03 45 37.7 -4.1**	
CDAR	**Ciudad de Arme**	**8.92 292**	*eP*	**Pn**	**03 44 03.7 +0.2**	
CEGR	**Campo Tres**	**8.94 295**	*eP*	**Pn**	**03 44 03.3 -0.7**	
CEGR			*eS*	**Sn**	**03 45 40.5 -4.5**	
TXAR	**Lajitas Array**	**15.57 332**		**P**	**03 45 38.0 -0.7**	
TXAR	**Lajitas Array**	**15.57 332**	Pn	**Pn**	**03 45 36.3 +1.9**	
	0.1nm,0.3s,baz=155,slow=9.6,SNR=6.8					
	0.8nm,0.9s					
BRDY	**Brady**	**15.84 348**		**P**	**03 45 41.1 -0.4**	
LPIG	**La Paz**	**16.38 303**	LR	LR	03 51 48.6	
	comp=Z,61nm,19.9s,baz=174,slow=36					
ALPN	**Alpine**	**16.45 334**		**P**	**03 45 50.0 +1.5**	
SGCY	**Sterling City**	**16.95 343**		**P**	**03 45 56.4 +2.5**	
MNHN	**Monahans**	**16.96 338**		**P**	**03 45 58.6 +4.6**	
PLPT	**Palo Pinto**	**17.21 351**	P	**P**	**03 46 00.7 +3.9**	
PLPT			IAmb	IAmb	03 46 03.9	
	comp=Z,9.4nm,0.7s					
ABTX	**Abilene, Hawle**	**17.26 348**	P	**P**	**03 45 58.9 +1.6**	
ABTX			IAmb	IAmb	03 46 04.7	
	comp=Z,17nm,1.0s					
VHRN	**Van Horn**	**17.41 331**	P	**P**	**03 46 01.9 +2.8**	
Z41A	**Richland Creek**	**17.58 7**	P	**P**	**03 46 04.2 +3.4**	
Z41A			IAmb	IAmb	03 46 09.1	
	comp=Z,14nm,0.7s					
APMT	**Aspermont**	**18.04 347**	P	**P**	**03 46 09.9 +3.9**	
WTFS	**Witchita Falls**	**18.17 351**		**P**	**03 46 12.0 +4.7**	
WTFS			IAmb	IAmb	03 46 17.1	
	comp=Z,11nm,0.6s					
DKNS	**Dickens**	**18.55 345**		**P**	**03 46 16.0 +4.4**	
MIAR	**Mount Ida**	**18.78 4**		**Pn**	**03 46 18.0 +3.5**	
X34A	**Smith Ranch, M**	**18.91 354**		**Pn**	**03 46 17.2 +1.1**	
SMWD	**Samnorwood**	**19.78 348**	IAmb	IAmb	03 46 32.7	
	comp=Z,13nm,0.7s					
AMTX	**Amarillo**	**19.90 344**	IAmb	IAmb	03 46 33.9	
	comp=Z,6.0nm,0.6s					
121A	**Cookes Peak, D**	**20.20 328**	IAmb	IAmb	03 46 41.1	
	comp=Z,7.7nm,1.1s					
OK052	**Battle Ridge R**	**20.21 356**	P	Pn	03 46 31.2 -0.4	
FCAR	**Ozark Folk Cen**	**20.26 7**	P	Pn	03 46 32.3 +0.2	
ELIS	**Ellis County**	**20.57 350**	IAmb	IAmb	03 46 40.7	
	comp=Z,9.3nm,0.8s					
OK051	**E0350 and S346**	**20.72 356**	IAmb	IAmb	03 46 41.1	
	comp=Z,8.4nm,0.8s					
Y22A	**Socorro**	**20.95 332**	IAmb	IAmb	03 46 46.2	
	comp=Z,6.3nm,0.9s					
T35A	**Sooner Cattle**	**21.11 357**	P	**P**	**03 46 40.8 +1.3**	
RTBA	**Rita Blanca**	**21.65 344**	IAmb	IAmb	03 46 53.3	
	comp=Z,5.6nm,0.7s					
TUC	**Tucson**	**21.69 322**	P	**P**	**03 46 52.2 +6.5**	
T25A	**Trinidad**	**22.79 341**	IAmb	IAmb	03 47 05.3	
	comp=Z,5.3nm,0.8s					
X16A	**Lo Mia Camp, P**	**23.60 325**	IAmb	IAmb	03 47 14.1	
	comp=Z,4.4nm,0.9s					
WUAZ	**Wupatki**	**24.39 327**	IAmb	IAmb	03 47 21.1	
	comp=Z,6.2nm,1.0s					
SDV	**Santo Domingo**	**25.02 103**	LR	LR	03 57 35.7	
	comp=Z,54nm,20.6s,baz=274,slow=37					
PV01	**Paradox Valley**	**25.19 335**	IAmb	IAmb	03 47 28.2	
	comp=Z,6.1nm,0.9s					
PV13	**Radium Mtn., P**	**25.32 334**	IAmb	IAmb	03 47 29.2	
	comp=Z,3.8nm,0.8s					
PV03	**Paradox Valley**	**25.41 335**	IAmb	IAmb	03 47 30.1	
	comp=Z,9.1nm,1.3s					
PV18	**Skein Mesa, Pa**	**25.43 334**	IAmb	IAmb	03 47 38.0	
	comp=Z,4.3nm,0.8s					
BC3	**Big Chuckawall**	**25.48 318**	P	**P**	**03 47 29.3 +6.1**	
BC3			IAmb	IAmb	03 47 30.5	
	comp=Z,9.9nm,1.4s					
PV04	**Paradox Valley**	**25.55 335**	IAmb	IAmb	03 47 35.3	
	comp=Z,4.7nm,0.9s					
PDAR	**Pinedale Array**	**29.58 338**	P	**P**	**03 48 00.7 +0.7**	
	comp=Z,0.4nm,0.9s,baz=155,slow=5.2,SNR=1.8					
	comp=Z,0.4nm,0.9s					

NV11	**Mina Array Sit**	**30.26 323**	IAmb	IAmb	03 48 13.6
	comp=Z,3.8nm,1.1s				
NVAR	**Mina Array Bea**	**30.34 323**	P	**P**	**03 48 10.1 +3.3**
NVAR	**Mina Array Bea**	**30.34 323**	P	**P**	**03 48 09.9 +3.2**
	comp=Z,1.7nm,0.8s,baz=115,slow=5.0,SNR=11				
	comp=Z,1.7nm,0.8s				
YBH	**Yreka Blue Hor**	**35.05 323**	LR	LR	04 04 34.0
	comp=Z,7.4nm,18.9s,baz=201,slow=39				
BDFB	**Brasilia**	**56.14 122**	IAmb	IAmb	03 52 07.3
	comp=Z,3.0nm,1.1s				
BDFB	**Brasilia**	**56.14 122**	P	**P**	**03 51 39.0 +4.1**
	comp=Z,0.8nm,0.5s,baz=308,slow=10,SNR=1.6				
BDFB			LR	LR	04 16 03.7
	comp=Z,38nm,18.1s,baz=137,slow=36				
	comp=Z,0.8nm,0.5s				
ILAR	**Eielson Array**	**60.00 337**	P	**P**	**03 52 03.0 +1.8**
	comp=Z,1.1nm,1.1s,baz=134,slow=3.9,SNR=4.7				
	comp=Z,1.1nm,1.1s				

*CATAC **26** 03:59:59.9±0.2, 10°N±1°×8°3W±°, h1km, M3.5/14, MLv3.5/14, Error ellipse: s-maj=3.2km s-min=2.5km az=15.2, confirmed*
*UCR **26** 04:00:01.8±1.1, 9°49N×82°62W, h8km±4km, MW3.7*
*UPA **26** 04:00:02.4±1.6, 9°38N×82°65W, h6km±7km, MD3.7, MW3.6*

ISC 26 03:59:58.9±1.2, 9°53N±0°02×82°52W±0°02, h4km±11km, n104, σ0°83/121, 4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIBI	**Bribri**	**0.31**	**287**	*eP*	**Pn**	**04 00 08.6**	**-1.6**
BRIBI				*eS*	**Sb**	**04 00 14.3**	**+1.9**
CEUA	**Cerro Uatsi, L**	**0.43**	**282**	*eP*	**Pn**	**04 00 10.5**	**-1.4**
LAES	**El Progreso Va**	**0.57**	**294**	*eP*	**Pb**	**04 00 12.4**	**+0.9**
LAES				*eS*	**Sb**	**04 00 20.5**	**+0.4**
ALCO	**Alturas Coton,**	**0.66**	**208**	*eP*	**Pb**	**04 00 12.7**	**-0.4**
ALCO				*eS*	**Sg**	**04 00 20.4**	**+0.3**
CHGR2	**Aguacate**	**0.69**	**148**	*eP*	**Pn**	**04 00 15.9**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**0.71**	**153**	*eP*	**Pn**	**04 00 15.6**	**-0.1**
BC3P	**Paso Ancho**	**0.72**	**187**	⇓*iP*	**Pb**	**04 00 14.5**	**+0.4**
BC3P				*eS*	**Sb**	**04 00 24.1**	**-0.2**
RBALA	**Bur**	**0.74**	**151**	*eP*	**Pn**	**04 00 15.8**	**-0.4**
SCLRA	**Santa Clara, W**	**0.74**	**201**	*eP*	**Pb**	**04 00 14.6**	**+0.1**
DAP26	**falda E V. Bar**	**0.74**	**173**	*eP*	**Pn**	**04 00 15.3**	**-1.0**
TBS2		**0.75**	**191**	*eP*	**Pb**	**04 00 13.9**	**-0.6**
BRU2	**Volcan**	**0.75**	**193**	⇓*iP*	**Pb**	**04 00 14.8**	**+0.2**
BRU2				*eS*	**Sg**	**04 00 24.0**	**+0.9**
BRU2	**Volcan**	**0.75**	**193**	P	**Pb**	**04 00 14.9**	**+0.2**
BRU2	**Volcan**	**0.75**	**193**	*eP*	**Pb**	**04 00 14.8**	**+0.2**
DRK0	**Durika**	**0.77**	**250**	*eP*	**Pg**	**04 00 14.2**	**+0.5**
DRK0	**Durika**	**0.77**	**250**	P	**Pg**	**04 00 14.2**	**+0.5**
DRK0	**Durika**	**0.77**	**250**	S	**Sg**	**04 00 23.1**	**-0.5**
DRK0	**Durika**	**0.77**	**250**	*eP*	**Pg**	**04 00 14.1**	**+0.5**
DRK0				*eS*	**Sg**	**04 00 22.9**	**-0.7**
BQTLY	**Boquete Panama**	**0.77**	**176**	*eP*	**Pn**	**04 00 15.7**	**-1.0**
VERH	**Veragua Rainfo**	**0.77**	**301**	*eP*	**Pb**	**04 00 15.5**	**+0.5**
VERH				*eS*	**Sb**	**04 00 25.6**	**-0.2**
WILLF	**Boquete**	**0.78**	**174**	*eP*	**Pn**	**04 00 16.0**	**-0.9**
RSRNO	**Rio Sereno**	**0.79**	**206**	*eP*	**Pb**	**04 00 15.5**	**+0.2**
BQSF3	**Alto Boquete,**	**0.79**	**174**	⇓*iP*	**Pn**	**04 00 16.1**	**-0.8**
BQSF3				*eS*	**Sb**	**04 00 26.6**	**+0.2**
MLIR3	**Monte Lirio, C**	**0.79**	**202**	*eP*	**Pb**	**04 00 15.9**	**+0.6**
EDP2	**Potrero Grande**	**0.83**	**232**	*eP*	**Pg**	**04 00 15.3**	**+0.5**
EDP2				*eS*	**Sg**	**04 00 25.2**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.83**	**179**	⇓*eP*	**Pn**	**04 00 16.8**	**-0.7**
JEFFS	**S de V. Baru**	**0.86**	**181**	*eP*	**Pn**	**04 00 17.1**	**-0.8**
PSOM3	**Paja de Sombre**	**0.86**	**167**	*eP*	**Pn**	**04 00 17.5**	**-0.4**
PSOM3				*eS*	**Sb**	**04 00 29.1**	**+0.7**
BURE	**Buenos Aires**	**0.89**	**246**	*eP*	**Pg**	**04 00 16.0**	**+0.1**
BURE				*eS*	**Sg**	**04 00 26.3**	**-1.1**
DMCAL	**E. de Neily**	**0.90**	**198**	*eP*	**Pn**	**04 00 17.8**	**-0.6**
NELY	**Ciudad Neily**	**0.97**	**206**	*eP*	**Pn**	**04 00 18.9**	**-0.5**
KKNTU	**Kakint²**	**0.98**	**134**	*eP*	**Pn**	**04 00 20.4**	**+0.9**
SAJE	**San Jernim**	**1.00**	**259**	*eP*	**Pg**	**04 00 18.1**	**+0.1**
CDITO	**Canoas**	**1.01**	**200**	P	**Pn**	**04 00 19.4**	**-0.5**
CDITO	**Canoas**	**1.01**	**200**	S	**Sn**	**04 00 33.6**	**-1.0**
LPPC	**Paso Canoas**	**1.04**	**198**	*eP*	**Pb**	**04 00 19.7**	**+0.2**
EDAD	**Golfito**	**1.08**	**216**	*eP*	**Pg**	**04 00 20.0**	**+0.3**
PANP	**Palmar Norte**	**1.09**	**239**	*eP*	**Pb**	**04 00 20.5**	**+0.2**
DVD	**David**	**1.09**	**177**	*eP*	**Pb**	**04 00 20.3**	**0.0**
DVD				*eS*	**Sb**	**04 00 34.6**	**-0.4**
FITO	**Golfito**	**1.10**	**215**	*eP*	**Pg**	**04 00 20.2**	**+0.2**
EDPE	**Pejibaye, P**	**1.10**	**251**	*eP*	**Pg**	**04 00 20.3**	**+0.2**
IRES	**Siquirres**	**1.12**	**300**	*eP*	**Pb**	**04 00 20.9**	**0.0**
LCOCO	**El Coco**	**1.16**	**298**	*eP*	**Pn**	**04 00 22.0**	**0.0**
ZEDO	**Perez Zeledon**	**1.16**	**261**	*eP*	**Pg**	**04 00 21.0**	**-0.2**
OCHAL	**Ojochal**	**1.19**	**249**	S	**Sg**	**04 00 37.7**	**+0.4**
OCHAL	**Ojochal**	**1.19**	**249**	P	**Pn**	**04 00 22.3**	**-0.1**
RVLA	**Villa Bonita**	**1.20**	**299**	*eP*	**Pn**	**04 00 22.4**	**-0.1**
BUS1	**Rivas**	**1.21**	**271**	*eP*	**Pg**	**04 00 22.2**	**0.0**
RESJ	**San Isidro (Tu**	**1.22**	**294**	*eP*	**Pb**	**04 00 22.4**	**-0.1**
EGUB	**Earth Gu¡pi**	**1.25**	**303**	*eP*	**Pg**	**04 00 23.5**	**+0.5**
PTJ1	**Puerto Jimnez**	**1.26**	**218**	P	**Pb**	**04 00 23.1**	**-0.1**
PTJ1	**Puerto Jimnez**	**1.26**	**218**	S	**Sb**	**04 00 39.2**	**-0.6**
VINA	**Juan Vinas**	**1.26**	**287**	*eP*	**Pn**	**04 00 23.0**	**-0.5**
CVTV	**Tajo**	**1.30**	**291**	*eP*	**Pg**	**04 00 24.2**	**+0.2**
CVTR	**Volcan Turrial**	**1.32**	**292**	*eP*	**Pn**	**04 00 24.1**	**-0.4**
VTR0	**Volcan Turrial**	**1.32**	**292**	*eP*	**Pn**	**04 00 24.3**	**-0.2**
CVTQ	**Turrialba Volc**	**1.32**	**291**	*eP*	**Pb**	**04 00 24.4**	**-0.1**
REPA	**Paraso**	**1.36**	**283**	*eP*	**Pn**	**04 00 24.8**	**-0.1**
PIRO	**Carate, Puerto**	**1.38**	**216**	*eP*	**Pb**	**04 00 25.1**	**-0.3**
PIRO	**Carate, Puerto**	**1.38**	**216**	P	**Pn**	**04 00 24.7**	**-0.3**
PIRO	**Carate, Puerto**	**1.38**	**216**	*eP*	**Pn**	**04 00 24.6**	**-0.4**
VICA	**Volcano Irazu**	**1.38**	**289**	*eP*	**Pn**	**04 00 25.1**	**-0.4**
PIEC	**Cerro El Cedra**	**1.42**	**274**	*eP*	**Pn**	**04 00 25.4**	**-0.4**
PILE	**Guapiles**	**1.43**	**299**	*eP*	**Pn**	**04 00 25.3**	**-0.3**
REME3	**Remedios, Chir**	**1.46**	**152**	*eP*	**Pg**	**04 00 28.8**	**+1.9**
PITB	**Pirrs, San**	**1.49**	**275**	*eP*	**Pn**	**04 00 26.5**	**-0.2**
TRIO	**Tres Rios**	**1.50**	**284**	*eP*	**Pb**	**04 00 27.1**	**-0.4**
LLNJ	**Naranjito**	**1.56**	**268**	*eP*	**Pb**	**04 00 27.9**	**-0.6**
TRT2	**Tortugero**	**1.57**	**310**	S	**Sb**	**04 00 48.5**	**-0.4**
TRT2	**Tortugero**	**1.57**	**310**	P	**Pb**	**04 00 28.3**	**-0.3**
TRT2	**Tortugero**	**1.57**	**310**	*eP*	**Pn**	**04 00 27.8**	**+0.2**
LUJA	**Lujan**	**1.58**	**284**	*eP*	**Pb**	**04 00 28.3**	**-0.6**
QUEP	**Quepos**	**1.63**	**267**	S	**Sn**	**04 00 49.8**	**+0.1**
QUEP	**Quepos**	**1.63**	**267**	P	**Pb**	**04 00 29.3**	**-0.2**
ACOS	**Acosta**	**1.65**	**279**	*eP*	**Pn**	**04 00 29.1**	**+0.3**
PICV	**PH. Pirrs**	**1.66**	**273**	*eP*	**Pn**	**04 00 29.2**	**+0.3**
PAR1A	**Puntarenas Pro**	**1.71**	**272**	*eP*	**Pb**	**04 00 30.6**	**-0.4**
VPL1	**V. Platanar**	**1.96**	**292**	*eP*	**Pb**	**04 00 34.1**	**-1.2**
VPL2	**V. Platanar**	**1.96**	**292**	*eP*	**Pb**	**04 00 34.2**	**-1.1**
GMAL	**Guarumal, Vera**	**2.17**	**144**	*eP*	**Pb**	**04 00 38.4**	**-0.4**
GMAL				*eS*	**Sb**	**04 01 06.1**	**+0.1**
GMAL	**Guarumal, Vera**	**2.17**	**144**	*eP*	**Pb**	**04 00 38.1**	**-0.6**
ARZA	**Esparza**	**2.17**	**282**	*eP*	**Pb**	**04 00 37.4**	**-1.3**
COVE	**Coope Vega, Sa**	**2.20**	**303**	S	**Sb**	**04 01 05.6**	**-1.3**
COVE	**Coope Vega, Sa**	**2.20**	**303**	P	**Pn**	**04 00 37.3**	**+1.0**
SOCE	**Pocosol**	**2.24**	**292**	P	**Pb**	**04 00 38.3**	**-1.7**
SOCE	**Pocosol**	**2.24**	**292**	S	**Sn**	**04 01 06.2**	**+1.3**
SOCE	**Pocosol**	**2.24**	**292**	*eP*	**Pn**	**04 00 37.9**	**+1.1**
CEDE	**Laguna Cedeo**	**2.35**	**294**	*eP*	**Pn**	**04 00 40.0**	**+1.5**
ARE1	**Arenal 1**	**2.36**	**293**	*eP*	**Pn**	**04 00 39.9**	**+1.4**
VARE2	**V. Arenal**	**2.36**	**293**	*eP*	**Pn**	**04 00 39.7**	**+1.2**
TABAC	**Tabacon**	**2.42**	**294**	*eP*	**Pb**	**04 00 42.1**	**-1.0**
JTS	**Las Juntas de**	**2.52**	**288**	*eP*	**Pn**	**04 00 42.4**	**+1.8**
JTS	**Las Juntas de**	**2.52**	**288**	P	**Pn**	**04 00 42.1**	**+1.5**
JTS				S	**Sb**	**04 01 14.3**	**-1.7**
JTS	**Las Juntas de**	**2.52**	**288**	*eP*	**Pn**	**04 00 41.8**	**+1.2**
CBL1	**Cabuya**	**2.54**	**271**	*eP*	**Pn**	**04 00 41.4**	**+0.5**
CHIT3	**Chitre**	**2.60**	**127**	*eP*	**Pb**	**04 00 45.6**	**-0.5**
CHIT3				*eS*	**Sb**	**04 01 16.9**	**-1.5**
BCIP	**Isla Barro Col**	**2.67**	**98**	P	**Pb**	**04 00 45.4**	**-1.9**
BCIP				S	**Sn**	**04 01 16.7**	**+1.2**
BCIP	**Isla Barro Col**	**2.67**	**98**	*eP*	**Pb**	**04 00 45.4**	**-1.9**
CORNA	**Casa Canada**	**2.67**	**349**	*eP*	**Pn**	**04 00 43.6**	**+0.8**
TENO	**El Achiote**	**2.69**	**296**	*eP*	**Pn**	**04 00 44.1**	**+1.1**
GAMB1	**Gamboa**	**2.80**	**98**	*eP*	**Pb**	**04 00 47.8**	**-1.7**
GAMB1				*eS*	**Sb**	**04 01 24.4**	**+0.2**
CUI	**Cuipilapa**	**2.84**	**293**	*eP*	**Pn**	**04 00 46.4**	**+1.3**
VMAR	**Armenia, Volca**	**2.86**	**297**	*eP*	**Pn**	**04 00 46.1**	**+0.8**
JUD3	**Juan Diaz 3**	**3.04**	**282**	*eP*	**Pn**	**04 00 49.7**	**+1.8**

*IDC **26** 04:09:52.2±8.2, 21°71N×143°35E, h289km±83km, mb3.1/9, mbtmp3.8/9, Error ellipse: s-maj=44.0km s-min=17.6km az=80.0*

ISC 26 04:09:53.2±1.2, 21°7N±0°2×143°3E±0°3, h300km, n9, σ0°61/9, mb3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.61**	**323**	P	**P**	**04 14 10.0**	**-0.1**
	1.3nm,0.7s,baz=141,slow=9.2,SNR=2.7						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**42.30**	**193**	P	**P**	**04 17 18.4**	**+0.2**
	0.3nm,0.6s,baz=17,slow=9.3,SNR=5.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**46.01**	**192**	P	**P**	**04 17 47.3**	**-0.1**
	0.2nm,0.7s,baz=358,slow=8.0,SNR=1.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**54.81**	**313**	P	**P**	**04 18 52.6**	**-0.1**
	0.2nm,0.6s,baz=88,slow=10,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.63**	**317**	P	**P**	**04 19 12.4**	**+0.1**
	0.9nm,0.3s,baz=92,slow=8.3,SNR=5.9						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**61.98**	**27**	P	**P**	**04 19 41.3**	**-0.3**
	0.4nm,0.9s,baz=246,slow=5.1,SNR=2.5						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**62.77**	**319**	P	**P**	**04 19 46.7**	**-0.3**
	1.0nm,0.3s,baz=104,slow=7.0,SNR=7.1						
	1.0nm,0.3s						
ARCES	**ARCESS Array B**	**78.98**	**342**	P	**P**	**04 21 24.9**	**+1.3**
	3.1nm,0.9s,baz=57,slow=6.6,SNR=3.7						
	3.1nm,0.9s						
FINES	**FINESS Array B**	**83.25**	**335**	P	**P**	**04 21 45.5**	**-0.6**
	6.6nm,1.1s,baz=45,slow=3.2,SNR=5.8						
	6.6nm,1.1s						

TRN 26 04:16:11.7, 18°97N×62°62W, h21km, MD3.6, Far North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.52**	**148**	*eP*	Pb	04 16 39.0	-0.1
SKI	**Saint Kitts**	**1.63**	**184**	*eP*	Pb	04 16 41.0	-0.1
MLYT	**Lee's Yard**	**2.27**	**170**	*eP*	Pb	04 16 51.3	-0.8
DHSZ	**Broadband at M**	**2.81**	**163**	*eP*	Pn	04 16 57.4	+2.0
DHSZ				*eS*	Sn	04 17 30.6	+2.0
ATGZ	**Broadband at L**	**2.98**	**163**	*eP*	Pn	04 17 00.4	+2.6

comp=N,105nm,0.6s
DDI IAML 04 27 36.9
comp=E,199nm,0.3s
JOSI Joshimath 9.29 133 *e*P **Pn 04 26 07.8 +0.9**
JOSI *e*S **Sn 04 27 45.0 -4.7**
JOSI IAML 04 27 53.5
comp=N,64nm,0.5s
JOSI IAML 04 27 54.7
comp=E,73nm,0.2s
KUDL Kundal 9.88 155⇓ *e*P **Pn 04 26 16.1 +1.4**
KUDL *e*S **Sn 04 27 57.7 -6.0**
KUDL IAML 04 27 59.2
comp=E,39nm,0.7s
KUDL IAML 04 28 05.0
comp=N,25nm,0.3s
LGTI Lohaghat 10.51 135 *e*P **Pn 04 26 24.9 +1.6**
LGTI *e*S **Sn 04 28 11.7 -7.3**
LGTI IAML 04 28 17.6
comp=E,47nm,0.5s
LGTI IAML 04 28 18.7
comp=N,50nm,0.7s
MKAR Makanchi Array 12.39 36 P **Pn 04 26 49.8 +1.3**
comp=N,1.2nm,0.8s,baz=222,slow=14,SNR=7.9
KURBB Kurchatov Arra 14.29 18 P **Pn 04 27 13.1 +0.1**
comp=N,0.5nm,0.6s,baz=210,slow=12,SNR=4.2
KURK Kurchatov 14.39 18 Pn 04 27 13.1 -1.3
AB31 Akbulak array 14.78 328 Pn 04 27 17.0 -2.2
AB31 Akbulak array 14.78 328 ⇑P **Pn 04 27 16.7 -2.5**
comp=N,2.2nm,0.4s
AB31 ⇑S Sn 04 29 50.7 -12
comp=N,19nm,0.9s
ABKAR Akbulak array 14.78 328 Pn 04 27 17.1 -2.1
EVN Everest 15.69 122 Pn 04 27 29.6 -1.9
BVAR Borovoye Array 15.86 357 P **Pn 04 27 33.3 +0.4**
comp=N,1.0nm,0.4s,baz=158,slow=10,SNR=6.7
AKTO Aktyubinsk 16.49 328 P **P 04 27 41.7 +0.3**
comp=N,9.8nm,0.5s,baz=132,slow=8.2,SNR=19
ZAA0 Zalesovo Array 19.05 24 P **Pn 04 28 10.5 -0.8**
ZALV Zalesovo Beam 19.05 24 P **Pn 04 28 10.7 -0.6**
ZALV Zalesovo Beam 19.05 24 P **Pn 04 28 11.1 -0.3**
comp=N,2.1nm,0.3s,baz=209,slow=9.3,SNR=13
KBZ Khabaz 22.81 296 P **P 04 28 49.7 +0.2**
comp=N,1.0nm,0.7s,baz=229,slow=9.3,SNR=2.5
comp=N,1.0nm,0.7s
BRTR Keskin Array B 29.78 287 P **P 04 29 54.2 +1.7**
comp=N,0.4nm,0.6s,baz=97,slow=8.8,SNR=4.3
comp=N,0.4nm,0.6s
AKASG Malin Array Be 32.97 308 IAmb IAmb 04 30 47.4
comp=Z,5.3nm,1.4s
AKASG Malin Array Be 32.97 308 P **P 04 30 21.0 +0.8**
comp=Z,0.3nm,0.4s,baz=106,slow=9.7,SNR=1.4
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 32.97 308 P **P 04 30 20.3 +0.1**
AKBB IAmb IAmb 04 30 43.5
comp=Z,6.0nm,1.4s
ELL Elmali 33.21 282 P **P 04 30 24.6 +1.8**
ELL IAmb IAmb 04 30 34.0
comp=Z,5.3nm,1.0s
BURAR Bucovina Array 35.40 302 P **P 04 30 41.3 -0.1**
BUR08 Bucovina Ar. S 35.41 302 P **P 04 30 42.4 +0.9**
BUR08 IAmb IAmb 04 31 14.6
comp=Z,4.2nm,1.2s
FINES FINESS Array B 37.24 325 P **P 04 30 57.8 +1.0**
FINES FINESS Array B 37.24 325 P **P 04 30 57.6 +0.9**
comp=Z,3.0nm,1.0s,baz=120,slow=11,SNR=4.3
comp=Z,3.0nm,1.0s
ITM Ithomi 39.29 286 P **P 04 31 13.6 -0.7**
ARCES ARCESS Array B 40.73 337 IAmb IAmb 04 31 27.2
comp=Z,15nm,1.3s
ARCES ARCESS Array B 40.73 337 P **P 04 31 26.9 +1.2**
comp=Z,1.0nm,0.4s,baz=112,slow=8.1,SNR=12
comp=Z,1.0nm,0.4s
HFS Hagfors 42.88 321 P **P 04 31 44.2 +0.8**
comp=Z,2.9nm,0.4s,baz=96,slow=11,SNR=24
comp=Z,2.9nm,0.4s
NC303 NORSAR Array S 44.12 323 P **P 04 31 53.7 +0.4**
NB2 NORSAR Subarra 44.18 323 P **P 04 31 54.0 +0.2**
comp=Z,0.6nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 44.18 323 P **P 04 31 53.9 +0.1**
comp=Z,0.9nm,0.5s,baz=108,slow=7.1,SNR=5.1
comp=Z,0.9nm,0.5s
EKA Eskdalemuir Ar 52.19 316 P **P 04 32 55.5 0.0**
comp=Z,1.6nm,0.8s,baz=70,slow=6.1,SNR=6.1
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 57.65 298 P **P 04 33 35.8 +0.8**
comp=Z,0.5nm,0.7s,baz=63,slow=7.2,SNR=7.6
comp=Z,0.5nm,0.7s
TORD Torodi Ar. Bea 66.31 269 P **P 04 34 32.4 -0.8**
comp=Z,0.4nm,0.6s,baz=48,slow=7.2,SNR=3.8
INK Inuvik 73.13 10 P **P 04 35 15.5 +1.3**
INK IAmb IAmb 04 35 38.6
comp=Z,4.4nm,1.2s
H31M Peel River 75.36 11 P **P 04 35 28.1 +0.8**
H31M IAmb IAmb 04 36 04.2
comp=Z,11nm,1.4s

*AUST **26** 04:57:19.0±0.2, 18°S±2°×12°1E±°, h10km, mb4.5/23, ML3.7/8, Error ellipse: s-maj=6.6km s-min=4.1km az=127.9*
*NEIC **26** 04:57:19.6±2.8, 18°38S±0°07×120°63E±0°08, h10km±1km, mb4.2/4, Error ellipse: s-maj=12.6km s-min=11.1km az=250.0*
*IDC **26** 04:57:24.2±1.2, 18°79S×121°01E, h0km, mb3.6/4, mbtmp3.8/7, ML4.1/3, MS2.9/1, Error ellipse: s-maj=36.5km s-min=22.4km az=33.0*
ISC 26 04:57:18.3±0.7, 18°43S±0°05×120°58E±0°05, h10km, n57, σ2§50/64, mb3.9/5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.21**	**134**	P	Pg	04 57 47.1	+5.5
CAAN				S	**Sn**	**04 58 04.9**	**+7.1**
AUBRM	**Broome Senior**	**1.64**	**74**	P	**Pg**	**04 57 50.1**	**+0.5**
AUBRM				S	**Sg**	**04 58 13.0**	**+2.1**
MBWA	**Marble Bar**	**2.84**	**196**	P	**Pb**	**04 58 07.5**	**-1.5**
MBWA				S	**Sg**	**04 58 53.4**	**+4.0**
MBWA	**Marble Bar**	**2.84**	**196**		**Pb**	**04 58 07.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**4.82**	**87**	S	**Sn**	**04 59 25.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**4.82**	**87**	P	**Pn**	**04 58 33.4**	**+2.5**
FITZ	**Fitzroy Crossi**	**4.82**	**87**		**Pn**	**04 58 33.5**	**+2.6**
FITZ	**Fitzroy Crossi**	**4.82**	**87**	Pn	**Pn**	**04 58 33.4**	**+2.5**
	6.1nm,0.3s,baz=292,slow=11,SNR=224						
FITZ				Sn	**Sn**	**04 59 24.8**	**-2.0**
	17nm,0.3s,baz=355,slow=22,SNR=9.6						
FITZ				LR	LR	05 00 45.9	
	comp=Z,122nm,19.1s,baz=234,slow=45						
	14nm,0.3s						
GIRL	**Giralia**	**7.28**	**234**	P	**Pn**	**04 59 06.5**	**+1.8**
	comp=Z,0.1nmcomp=Z,43nm,1.3s						
GIRL				S	**Sn**	**05 00 23.9**	**-3.6**
GIRL	**Giralia**	**7.28**	**234**	Pn	**Pn**	**04 59 07.8**	**+3.1**
KNRA	**Kununurra**	**8.29**	**72**	P	**Pn**	**04 59 20.8**	**+2.3**
	comp=Z,0.1nmcomp=Z,44nm,0.5s						
KNRA				S	**Sn**	**05 00 50.6**	**-1.7**
KNRA	**Kununurra**	**8.29**	**72**		**Pn**	**04 59 19.9**	**+1.3**
MEEK	**Meekatharra**	**8.37**	**192**	P	**Pn**	**04 59 22.6**	**+2.8**
MEEK	**Meekatharra**	**8.37**	**192**	S	**Sn**	**05 00 50.7**	**-3.8**
CVQOZ	**Cooralya Stati**	**8.52**	**224**	P	**Pn**	**04 59 23.4**	**+1.7**
	comp=Z,0.9nmcomp=Z,182nm,0.7s						
CVQOZ				S	**Sn**	**05 00 52.3**	**-5.7**
EDFI	**Ende, Flores**	**9.68**	**7**	P	**Pn**	**04 59 37.1**	**-0.7**
WRKA	**Warakurna**	**9.73**	**134**	P	**Pn**	**04 59 41.1**	**+2.7**
	comp=Z,0.0nmcomp=Z,6.7nm,0.6s						
WRKA				S	**Sn**	**05 01 24.1**	**-3.8**
PLAI	**Plampang**	**9.92**	**344**	P	**Pn**	**04 59 41.3**	**+0.3**
	comp=Z,0.1nmcomp=Z,14nm,0.8s						
MORW	**Morawa**	**11.38**	**201**	P	**Pn**	**05 00 01.3**	**+0.3**
	comp=Z,0.2nmcomp=Z,25nm,1.7s						
MORW	**Morawa**	**11.38**	**201**	S	Sn	05 01 59.2	-9.0
MORW	**Morawa**	**11.38**	**201**		**Pn**	**05 00 01.9**	**+0.9**
DPH	**Darwin Parliam**	**11.53**	**61**	P	**Pn**	**05 00 04.3**	**+1.3**
	comp=Z,14nm,0.5s						
MTN	**Manton Dam**	**11.57**	**63**	P	**Pn**	**05 00 04.2**	**+0.5**
	comp=Z,39nm,0.4s						
MTN				S	**Sn**	**05 02 08.6**	**-4.6**
MTN	**Manton Dam**	**11.57**	**63**		**Pn**	**05 00 04.1**	**+0.4**
DRS	**Darwin Rock St**	**11.59**	**61**	P	**Pn**	**05 00 05.1**	**+1.2**
	comp=Z,10nm,0.7s						
DRS				P		05 02 08.7	
JAGI	**Jajag, Banyuwa**	**11.70**	**327**	P	**Pn**	**05 00 04.1**	**-1.3**
	comp=Z,42nm,0.9s						
JAGI	**Jajag, Banyuwa**	**11.70**	**327**	Pn	**Pn**	**05 00 03.6**	**-1.8**
AUKAT	**Katherine High**	**11.89**	**72**	P	**Pn**	**05 00 08.8**	**+0.8**
	comp=Z,36nm,0.5s						
LAROZ	**Larrimah, NT**	**12.41**	**79**	P	**Pn**	**05 00 16.2**	**+1.1**
BLDU	**Ballidu**	**12.64**	**195**	P	**Pn**	**05 00 19.1**	**+1.0**
	comp=Z,22nm,0.6s						
KDU	**Kakadu**	**12.79**	**65**	P	**Pn**	**05 00 20.2**	**-0.1**
	comp=Z,6.4nm,1.1s						
KMBL	**Kambalda**	**12.94**	**175**	P	**Pn**	**05 00 22.5**	**+0.2**
	comp=Z,8.1nm,1.3s						
WRA	**Warramunga Arr**	**13.09**	**99**		**Pn**	**05 00 24.9**	**+0.6**
WRA	**Warramunga Arr**	**13.09**	**99**	Pn	**Pn**	**05 00 24.6**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=273,slow=14,SNR=44						
WRA				Sn	**Sn**	**05 02 44.6**	**-5.5**
	comp=Z,2.1nm,0.3s,baz=274,slow=24,SNR=6.6						
	comp=Z,1.5nm,0.4s						
WB2	**Warramunga Arr**	**13.10**	**99**	P	**Pn**	**05 00 24.9**	**+0.4**
WR8	**Warramunga Arr**	**13.24**	**99**		**Pn**	**05 00 26.7**	**+0.2**
ASAR	**Alice Springs**	**13.48**	**115**	Pn	**Pn**	**05 00 30.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=288,slow=12,SNR=43						
ASAR				Sn	**Sn**	**05 02 53.6**	**-6.3**
	comp=Z,1.0nm,0.3s,baz=291,slow=23,SNR=9.6						
	comp=Z,3.7nm,0.5s						
AS31	**Alice Springs**	**13.48**	**115**		**Pn**	**05 00 30.8**	**+0.9**
FORT	**Forrest**	**14.05**	**153**	P	**Pn**	**05 00 37.0**	**-0.4**
	comp=Z,14nm,1.2s						
FORT	**Forrest**	**14.05**	**153**	Pn	**Pn**	**05 00 36.7**	**-0.7**
MUN	**Mundaring**	**14.06**	**195**	P	**Pn**	**05 00 37.5**	**-0.1**
	comp=Z,20nm,0.6s						
NWAO	**Narrogin (SRO)**	**14.75**	**191**	P	**Pn**	**05 00 46.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**14.75**	**191**	Pn	**Pn**	**05 00 46.1**	**-0.9**
	comp=Z,4.9nm,0.3s,baz=14,slow=13,SNR=30						
NWAO				Sn	Sn	05 03 16.6	-14
	comp=Z,4.2nm,0.3s,baz=67,slow=22,SNR=4.8						
RKGY	**Rocky Gully**	**16.44**	**191**	P	**Pn**	**05 01 09.2**	**+0.2**
	comp=Z,56nm,1.6s						
OOD	**Oodnadatta**	**16.72**	**127**	P	**Pn**	**05 01 12.6**	**-0.1**
	comp=Z,5.9nm,1.9s						
MULG	**Mulgathing**	**17.01**	**136**	P	**Pn**	**05 01 16.2**	**-0.2**
	comp=Z,24nm,0.9s						
QIS	**Mount Isa**	**18.06**	**100**	P	**P**	**05 01 31.6**	**+1.6**
	comp=Z,5.8nm,0.5s						
BBOO	**Buckleboo**	**19.96**	**139**	P	**Pn**	**05 01 53.4**	**+1.0**
	comp=Z,28nm,1.7s						
BBOO	**Buckleboo**	**19.96**	**139**	Pn	**Pn**	**05 01 53.3**	**+0.9**
COEN	**Coen**	**22.14**	**82**	P	**P**	**05 02 13.9**	**-0.4**
COEN				IAmb	IAmb	05 02 52.0	
	comp=Z,7.7nm,1.1s						
STKA	**Stephens Creek**	**23.21**	**129**	P	**P**	**05 02 28.0**	**+2.5**
	comp=Z,2.5nm,0.6s,baz=294,slow=12,SNR=3.6						
STKA				S	**S**	**05 06 32.1**	**-5.4**
	comp=Z,1.8nm,0.4s,baz=178,slow=21,SNR=2.9						
	comp=Z,2.5nm,0.6s						
VNDA	**Vanda**	**62.49**	**171**	P	**P**	**05 07 42.0**	**+0.5**
VNDA				IAmb	IAmb	05 07 51.4	
	comp=Z,3.1nm,1.4s						
VNDA	**Vanda**	**62.49**	**171**	P	**P**	**05 07 45.8**	**+4.3**
	comp=Z,0.4nm,0.7s,baz=309,slow=5.2,SNR=4.0						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**71.62**	**180**	P	P	05 08 45.1	+5.2
MKAR	**Makanchi Array**	**73.52**	**334**	P	**P**	**05 08 52.9**	**+1.6**
MKAR	**Makanchi Array**	**73.52**	**334**	P	P	05 09 01.2	+10
	comp=Z,0.4nm,0.6s,baz=126,slow=4.9,SNR=4.6						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**78.06**	**334**	P	P	05 09 28.2	+11
	comp=Z,0.4nm,0.7s,baz=143,slow=4.3,SNR=3.3						
	comp=Z,0.4nm,0.7s						

*DJA **26** 05:07:54.1±0.5, 3°N±4°×12°8E±°, h154km±4km, M4.4/14, mB4.9/3, mb4.4/6, MLv4.3/14, Mw(mB)4.2/3*
*IDC **26** 05:07:55.0±8.1, 2°94N×128°21E, h170km±79km, mb3.4/10, mbtmp3.9/10, Error ellipse: s-maj=35.5km s-min=15.8km az=73.0*
ISC 26 05:07:53.4±0.7, 3°02N±0°09×128°13E±0°09, h150km, n19, σ1§07/21, mb3.9/10, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**199**	P	**Pn**	**05 08 34.6**	**+1.8**
SGSI	**Sangihe**	**2.68**	**284**	P	**Pn**	**05 08 37.8**	**+1.0**
SGSI				S	**Sn**	**05 09 11.3**	**+1.1**
KMSI	**Cibinong**	**4.81**	**240**	P	**Pn**	**05 09 03.3**	**-1.0**
SWI	**Sorong**	**4.96**	**141**	P	**Pn**	**05 09 07.2**	**+0.8**
SANI	**Sanana**	**5.47**	**203**	P	**Pn**	**05 09 12.3**	**-0.8**
	0.2nm652nm41nm,0.6s						
NLAI	**Namlea**	**6.30**	**189**	P	**Pn**	**05 09 24.7**	**+0.6**
	0.2nm38nm,0.6s						
MSAI	**Masohi**	**6.37**	**173**	P	**Pn**	**05 09 25.4**	**+0.3**
	0.3nm7μm30nm,0.5s						
MRSI	**Marisa**	**6.68**	**248**	P	**Pn**	**05 09 29.6**	**+0.4**
FAKI	**Fak Fak**	**7.19**	**145**	P	**Pn**	**05 09 37.6**	**+1.5**
WRA	**Warramunga Arr**	**23.62**	**165**	P	**P**	**05 12 50.0**	**-0.9**
	1.5nm,0.6s,baz=344,slow=10,SNR=12						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**27.11**	**168**	P	**P**	**05 13 20.9**	**-1.6**
	0.2nm,0.7s,baz=349,slow=8.9,SNR=2.2						
ASAR				PcP	**PcP**	**05 16 39.1**	**-0.5**
	0.2nm,0.4s,baz=356,slow=2.3,SNR=5.6						
	0.2nm,0.7s						
LZDM	**Lanzhou Array**	**39.81**	**328**	P	**P**	**05 15 13.8**	**+1.5**
	1.3nm,0.3s,baz=156,slow=11,SNR=1.7						
	1.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**41.15**	**4**	P	**P**	**05 15 23.1**	**+0.2**
	2.6nm,0.7s,baz=179,slow=7.9,SNR=4.5						
	2.6nm,0.7s						
PETK	**Petropavlovsk-**	**55.57**	**21**	P	**P**	**05 17 13.3**	**+0.2**
	3.1nm,0.7s,baz=191,slow=5.3,SNR=7.6						
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**05 17 37.4**	**+0.5**
	1.2nm,0.6s,baz=112,slow=8.3,SNR=12						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**61.86**	**333**	P	**P**	**05 17 55.6**	**-1.0**
	0.4nm,0.4s,baz=128,slow=8.1,SNR=2.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.09**	**327**	P	**P**	**05 18 04.8**	**0.0**
	2.0nm,0.7s,baz=126,slow=6.0,SNR=15						
	2.0nm,0.7s						
BVAR	**Borovoye Array**	**68.68**	**327**	P	**P**	**05 18 40.1**	**-0.5**
	0.7nm,0.5s,baz=120,slow=8.5,SNR=2.3						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**05 20 10.7**	**-1.7**
	0.2nm,0.9s,baz=269,slow=7.5,SNR=1.4						
	0.2nm,0.9s						

*IDC **26** 05:10:52.5±4.8, 20°73S×169°42E, h0km, mb3.5/2, mbtmp3.4/3, ML2.9/1, MS2.6/1, Error ellipse: s-maj=206.8km s-min=29.6km az=146.0*
ISC 26 05:10:53.5±3.3, 21°S±1°×169°8E±0°6, h35km, n11, σ1§62/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**250**	Pn	**Pn**	**05 11 43.2**	**+0.1**
	1.6nm,0.3s,baz=328,slow=22,SNR=47						
DZM				Sn	**Sn**	**05 12 20.6**	**-0.7**
	3.1nm,0.3s,baz=177,slow=22,SNR=10						
DZM				LR	LR	05 12 30.8	
	comp=Z,90nm,18.9s,baz=134,slow=32						
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**33.20**	**265**	P	P	05 17 28.7	+1.4
	0.2nm,0.5s,baz=96,slow=8.3,SNR=5.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**33.27**	**259**	P	**P**	**05 17 28.6**	**+0.8**
	0.6nm,0.7s,baz=81,slow=9.3,SNR=9.2						
	0.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.25**	**353**	PKPbc	**PKiKP**	**05 30 29.8**	**-1.3**
	1.5nm,0.7s,baz=354,slow=2.9,SNR=5.1						
RONA	**Rosalia, Austr**	**145.80**	**328**	*e*PKP	**PKiKP**	**05 30 33.1**	**+0.5**
	2.8nm,0.9s						
GERES	**GERESS Array B**	**146.23**	**331**	PKPbc	**PKiKP**	**05 30 33.5**	**0.0**
	1.6nm,0.8s,baz=42,slow=6.3,SNR=8.1						
KBA	**Koelnbreinsper**	**147.68**	**329**	*e*PKP	**PKiKP**	**05 30 37.1**	**+0.5**
	4.1nm,1.4s						
LESA	**Schwarzleotal**	**147.74**	**330**	*e*PKP	**PKiKP**	**05 30 37.7**	**+1.1**
	4.3nm,1.4s						
MYKA	**Terra Mystica**	**147.85**	**328**	*e*PKP	**PKiKP**	**05 30 35.7**	**-1.2**
	0.3nm,0.3s						
ABTA	**Abfaltersbach**	**148.31**	**330**	*e*PKP	**PKPab**	**05 30 36.5**	**-2.7**
	5.2nm,1.4s						
WTTA	**Wattenberg**	**148.34**	**331**	*e*PKP	**PKPab**	**05 30 42.2**	**+2.8**
	3.9nm,0.9s						

*UCR **26** 05:12:00.5±1.1, 10°39N×86°31W, h1km±15km, MW4.1*
*CATAC **26** 05:12:05.7±0.5, 11°N±2°×8°6W±°, h20km±3km, M3.3/22, MLv3.3/22, Error ellipse: s-maj=5.7km s-min=3.6km az=35.3, confirmed*

ISC 26 05:12:01.9±1.7, 10°49N±0°05×86°26W±0°06, h12km±10km, n64, σ0§93/72, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	**Filadelfia**	**0.69**	**94**	*e*P	**Pg**	**05 12 16.3**	**+0.9**
DELF				*e*S	**Sb**	**05 12 27.5**	**+2.1**
ALIBA	**Liberia Airpor**	**0.71**	**82**	*e*P	**Pb**	**05 12 17.5**	**+1.3**
ELI1	**Hacienda Flor**	**0.71**	**78**	P	**Pn**	**05 12 17.9**	**+0.2**
ELI1	**Hacienda Flor**	**0.71**	**78**	*e*P	**Pn**	**05 12 17.9**	**+0.2**
JUD3	**Juan Diaz 3**	**0.78**	**115**	*e*P	**Pg**	**05 12 16.8**	**-0.2**
ERIA	**Liberia**	**0.82**	**80**	*e*P	**Pb**	**05 12 19.1**	**+1.0**
LCRUZ	**La Cruz**	**0.85**	**47**	*e*P	**Pb**	**05 12 19.7**	**+1.1**
LAPC	**Finca la Perla**	**0.86**	**71**	*e*P	**Pg**	**05 12 19.1**	**+0.7**
NICO	**Nicoya**	**0.87**	**114**	*e*P	**Pg**	**05 12 18.1**	**-0.7**
GPS3	**Bodega del ICE**	**0.92**	**73**	*e*P	**Pn**	**05 12 21.7**	**+1.1**
VRLE	**La Escondida,**	**0.93**	**71**	*e*P	**Pg**	**05 12 20.3**	**+0.5**
GPS2	**Hotel Rincn d**	**0.93**	**74**	*e*P	**Pg**	**05 12 20.4**	**+0.5**
GPS1	**Guardaparques**	**0.94**	**72**	*e*P	**Pg**	**05 12 20.6**	**+0.6**
VORI	**VORI**	**0.95**	**70**	*e*P	**Pg**	**05 12 20.8**	**+0.5**
BAGA	**Bagaces**	**0.98**	**88**	*e*P	**Pg**	**05 12 21.1**	**+0.3**
BUAI	**Buenos Aires**	**0.99**	**67**	*e*P	**Pn**	**05 12 22.3**	**+0.7**
CARN	**Rivas**	**1.00**	**46**	P	**Pb**	**05 12 22.2**	**+1.1**
CARN	**Rivas**	**1.00**	**46**	*e*P	**Pb**	**05 12 22.0**	**+0.9**
PEJA	**Penjamo Buenos**	**1.01**	**67**	*e*P	**Pg**	**05 12 21.6**	**+0.2**
ARIN	**Rivas**	**1.04**	**23**	S	**Sg**	**05 12 34.2**	**-1.4**
MESS	**Mesas**	**1.07**	**77**	*e*P	**Pg**	**05 12 22.4**	**-0.2**
CUI	**Cuipilapa**	**1.09**	**81**	*e*P	**Pg**	**05 12 22.7**	**-0.2**
VMAR	**Armenia, Volca**	**1.17**	**74**	*e*P	**Pb**	**05 12 24.1**	**+0.1**
INVE	**Universidad In**	**1.18**	**91**	*e*P	**Pb**	**05 12 23.8**	**-0.3**
MOTZ	**Rio Naranjo**	**1.18**	**81**	*e*P	**Pb**	**05 12 24.3**	**0.0**
OMEN	**AI SSO del Vol**	**1.19**	**31**	P	**Pb**	**05 12 23.3**	**-1.0**
OMEN				S	**Sb**	**05 12 37.8**	**-1.8**
MORN	**AI O del Volca**	**1.21**	**30**	P	**Pb**	**05 12 25.3**	**+0.6**
MORN				S	**Sb**	**05 12 38.5**	**-1.7**
TIMP	**Tierras Morena**	**1.22**	**86**	*e*P	**Pb**	**05 12 24.4**	**-0.6**
CONN	**Concepcion**	**1.23**	**30**	P	**Pb**	**05 12 25.4**	**+0.3**
CONN				S	**Sb**	**05 12 39.4**	**-1.6**
NADN	**Granada**	**1.27**	**10**	P	**Pn**	**05 12 26.2**	**+0.7**
NADN				S	**Sb**	**05 12 40.8**	**-1.2**
TENO	**El Achiote**	**1.28**	**80**	*e*P	**Pn**	**05 12 24.8**	**-0.8**
JUNT	**Juntas**	**1.29**	**99**	*e*P	**Pn**	**05 12 25.0**	**-0.8**
JCR1	**Jicaral**	**1.30**	**119**	*e*P	**Pn**	**05 12 24.2**	**-1.7**
JTS	**Las Juntas de**	**1.30**	**99**	*e*P	**Pn**	**05 12 25.0**	**-0.9**
QUEB	**Quebradon, Cot**	**1.35**	**84**	*e*P	**Pn**	**05 12 26.7**	**+0.2**
MTEVE	**Monteverde**	**1.42**	**97**	*e*P	**Pn**	**05 12 27.1**	**-0.5**
TABAC	**Tabacon**	**1.47**	**90**	*e*P	**Pn**	**05 12 28.6**	**+0.3**
CRUN	**El Crucero**	**1.48**	**358**	P	**Pn**	**05 12 29.0**	**+0.5**
MASN	**Masaya**	**1.49**	**4**	P	**Pn**	**05 12 29.0**	**+0.5**
MASN				S	**Sn**	**05 12 46.6**	**-1.3**
VARE2	**V. Arenal**	**1.51**	**91**	*e*P	**Pn**	**05 12 29.4**	**+0.6**
ARE1	**Arenal 1**	**1.52**	**91**	*e*P	**Pn**	**05 12 29.4**	**+0.6**
CEDE	**Laguna Cedeo**	**1.53**	**90**	*e*P	**Pn**	**05 12 29.6**	**+0.5**
FORC	**Fortuna**	**1.56**	**91**	*e*P	**Pn**	**05 12 30.4**	**+0.9**
UNAN	**Cigeo UNAN**	**1.61**	**360**	P	**Pn**	**05 12 30.8**	**+0.7**
SOCE	**Pocosol**	**1.62**	**94**	P	**Pb**	**05 12 32.4**	**+0.7**
SOCE	**Pocosol**	**1.62**	**94**	S	**Sn**	**05 12 52.1**	**+1.0**
SOCE	**Pocosol**	**1.62**	**94**	*e*P	**Pb**	**05 12 32.3**	**+0.7**
TISN	**Laguna Tiscapa**	**1.64**	**360**	P	**Pn**	**05 12 31.3**	**+0.7**
MGAN	**Managua**	**1.64**	**0**	P	**Pn**	**05 12 30.9**	**+0.4**
MGAN	**Managua**	**1.64**	**0**	S	**Sn**	**05 12 50.6**	**-1.1**
COPN	**Copaltepe**	**1.71**	**349**	P	**Pn**	**05 12 31.9**	**+0.4**
COVE	**Coope Vega, Sa**	**1.84**	**83**	P	**Pn**	**05 12 34.4**	**+1.1**
COVE	**Coope Vega, Sa**	**1.84**	**83**	S	**Sn**	**05 12 56.9**	**+0.4**
VPL2	**V. Platanar**	**1.85**	**96**	*e*P	**Pn**	**05 12 34.2**	**+0.6**
MOM2	**El Cardon**	**1.94**	**353**	P	**Pn**	**05 12 35.3**	**+0.6**
MOM2				S	**Sn**	**05 12 57.5**	**-1.6**
CNGA	**AI SSO del Vol**	**2.04**	**348**	P	**Pn**	**05 12 36.8**	**+0.7**
CNGA				S	**Sn**	**05 13 01.2**	**-0.2**
CNGN	**Cerro Negro**	**2.04**	**348**	S	**Sn**	**05 13 02.0**	**+0.5**
POTN	**Potosi Cosigui**	**2.77**	**334**	P	**Pn**	**05 12 46.8**	**+0.6**
RCPN	**Sur Rio San Ju**	**3.02**	**3**	P	**Pn**	**05 12 51.4**	**+1.8**
RCFN	**AI S de San Ju**	**3.02**	**1**	P	**Pn**	**05 12 50.4**	**+0.8**
RCVN	**Varillal2**	**3.07**	**1**	P	**Pn**	**05 12 51.6**	**+1.2**
CNCH	**Conchagua**	**3.17**	**331**	P	**Pn**	**05 12 52.5**	**+0.9**
LCND	**La Caada**	**3.22**	**330**	P	**Pn**	**05 12 53.1**	**+0.8**
PACA	**Pacayal**	**3.58**	**326**	P	**Pn**	**05 12 59.3**	**+2.0**

*NEIC **26** 05:47:29.9±2.8, 21°92S±0°08×169°9E±0°1, h10km±1km, mb4.6/17, Error ellipse: s-maj=16.4km s-min=13.3km az=115.0*
*IDC **26** 05:47:31.6±0.7, 21°78S×169°99E, h28km±4km, mb4.0/8, mbtmp4.1/9, ML3.9/1, MS3.7/27, Error ellipse: s-maj=27.6km s-min=18.2km az=145.0*
ISC 26 05:47:30.7±0.5, 21°90S±0°08×170°02E±0°07, h25km, n84, σ1§52/67, mb4.5/17, MS3.7/24, 5C, Southeast of Loyalty Islands

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

comp=Z,254nm,18.1s,baz=60,slow=38
MBWA Marble Bar 46.62 261 P P 05 55 57.7 +0.4
MBWA IAmb IAmb 05 56 15.8
comp=Z,7.7nm,0.9s
TAOE Nuku Hiva Isla 49.55 83 *e*LR LR 06 10 35.2
comp=Z,67nm,27.5s
RKT Rikitea 50.57 102 *e*LR LR 06 11 04.2
comp=Z,12μm,37.5s
KAPI Kappang 51.43 281 LR LR 06 18 56.9
comp=Z,45nm,18.1s,baz=120,slow=37
TOLI2 Tolitoli 53.20 289 P **P 05 56 48.0 +0.6**
VNDA Vanda 55.81 182 P **P 05 57 07.2 +1.9**
VNDA IAmb IAmb 05 57 08.9
comp=Z,3.9nm,1.4s
VNDA Vanda 55.81 182 LR LR 06 18 13.6
comp=Z,54nm,18.5s,baz=342,slow=33
SBA Scott Base 56.02 181 P **P 05 57 09.2 +2.3**
SBA IAmb IAmb 05 57 11.7
comp=Z,5.8nm,1.1s
MJAR Matsushiro Arr 65.44 332 P **P 05 58 12.4 +0.9**
MJAR IAmb IAmb 05 58 21.9
comp=Z,5.8nm,1.1s
MJAR Matsushiro Arr 65.44 332 P **P 05 58 10.8 -0.7**
comp=Z,0.9nm,0.3s,baz=144,slow=4.4,SNR=2.0
MJAR LR LR 06 23 42.5
comp=Z,30nm,21.9s,baz=152,slow=33
comp=Z,0.9nm,0.3s
MAJO Matsushiro 65.44 332 P **P 05 58 13.5 +2.0**
MAJO IAmb IAmb 05 58 20.7
comp=Z,5.3nm,1.0s
SSLB Suanglung 65.88 311 P **P 05 58 15.8 +1.1**
JNU Nakatsue 66.25 325 LR LR 06 23 25.7
comp=Z,46nm,21.4s,baz=124,slow=33
ASAJ Asahikawa 70.34 339 LR LR 06 25 03.2
comp=Z,46nm,21.9s,baz=160,slow=32
PETK Petropavlovsk- 75.46 352 LR LR 06 26 29.8
comp=Z,60nm,20.2s,baz=142,slow=31
MAW Mawson 76.26 202 P **P 05 59 17.8 +1.0**
comp=Z,1.7nm,0.8s,baz=121,slow=9.2,SNR=3.6
comp=Z,1.7nm,0.8s
KDAK Kodiak Island 85.29 19 LR LR 06 32 58.6
comp=Z,75nm,19.3s,baz=222,slow=32
TROLL Troll, Antarti 85.94 184 ⇑P **P 06 00 09.1 +0.6**
comp=Z,394nm,0.7s
SNAA Sanae 86.55 182 ⇑P **P 06 00 11.6 +0.2**
comp=Z,56nm,0.7s
SNAA Sanae 86.55 182 P **P 06 00 11.5 +0.2**
SNAA IAmb IAmb 06 00 22.5
comp=Z,6.8nm,1.2s
SNAA Sanae 86.55 182 P **P 06 00 11.6 +0.2**
comp=Z,3.6nm,0.9s,baz=188,slow=7.3,SNR=13
SNAA pP **sP 06 00 21.0 +0.6**
comp=Z,2.3nm,0.8s,baz=178,slow=14,SNR=4.5
SNAA LR LR 06 36 14.7
comp=Z,54nm,19.1s,baz=196,slow=34
comp=Z,3.6nm,0.9s
VNA3 Neumayer Olymp 87.11 180 ⇑P **P 06 00 14.2 +0.1**
comp=Z,10nm,0.8s
VNA2 Neumayer--Watz 87.41 181 ⇑P **P 06 00 16.1 +0.6**
comp=Z,9.8nm,0.7s,baz=158,slow=5.3
VNA1 Neumayer--Stat 87.69 181 ⇑P **P 06 00 16.1 -0.8**
comp=Z,7.6nm,0.9s
PFO Pinyon Flats O 89.11 53 LR LR 06 32 58.8
comp=Z,28nm,19.1s,baz=276,slow=31
YAK Yakutsk 89.62 342 LR LR 06 35 35.5
comp=Z,36nm,20.2s,baz=146,slow=32
LPIG La Paz 89.91 64 LR LR 06 35 11.2
comp=Z,24nm,18.8s,baz=278,slow=32
NVAR Mina Array Bea 90.01 48 P **P 06 00 28.9 +0.4**
comp=Z,0.5nm,0.7s,baz=218,slow=7.0,SNR=4.9
comp=Z,0.5nm,0.7s
ILAR Eielson Array 92.55 17 P **P 06 00 39.8 +0.4**
comp=Z,0.3nm,0.7s,baz=211,slow=4.3,SNR=4.2
ILAR LR LR 06 37 50.3
comp=Z,53nm,18.8s,baz=210,slow=33
comp=Z,0.3nm,0.7s
N30M Aishikik Lake 93.22 23 P **P 06 00 43.5 +0.8**
TXAR Lajitas Array 97.39 61 LR LR 06 38 12.1
comp=Z,25nm,18.5s,baz=291,slow=31
TIXI Tiksi 97.49 348 LR LR 06 38 52.3
comp=Z,44nm,20.1s,baz=198,slow=32
ARCES ARCESS Array B 127.82 345 PKP **PKPdf 06 06 33.3 -0.1**
comp=Z,1.9nm,0.9s,baz=64,slow=2.1,SNR=1.1
DPC Dobruska-Polom 144.90 330 *e*PKP **PKiKP 06 07 08.8 -0.6**
EKA Eskdalemuir Ar 146.23 353 PKPbc **PKPdf 06 07 07.7 +0.1**
comp=Z,6.0nm,0.7s,baz=0.2,slow=2.8,SNR=13
EKA pPKPbc **sPKPdf 06 07 16.6 -0.5**
comp=Z,7.8nm,0.7s,baz=358,slow=2.4,SNR=11
ZVC Zvikov 146.51 331 *e*PKP **PKPab 06 07 10.1 -0.6**
ZVC *ex* x 06 07 18.6
RONA Rosalia, Austr 146.72 327 *e*PKP **PKPab 06 07 11.1 -0.5**
comp=Z,3.0nm,0.8s
CONA Conrad Observa 146.78 328 *i*PKP **PKPab 06 07 11.6 -0.4**
comp=Z,6.8nm,1.2s,SNR=4.6
KHC Kasperske Hory 147.01 331 *e*PKP **PKPbc 06 07 11.4 +0.2**
KHC *ex* x 06 07 20.2
GERES GERESS Array B 147.17 331 PKPbc **pPKPab 06 07 20.2 -0.1**
comp=Z,5.2nm,0.6s,baz=36,slow=2.7,SNR=24
GERES pPKPbc **pPKPab 06 07 20.2 -0.1**
comp=Z,9.6nm,0.6s,baz=45,slow=3.3,SNR=21
ARSA Arzberg 147.41 327 *i*PKP **PKPbc 06 07 12.2 -0.1**
comp=Z,1.3nm,0.8s
MOA Molln 147.62 329 *e*PKP **PKPbc 06 07 12.9 0.0**
comp=Z,1.9nm,0.6s
BIOA Bad Ischl, Aus 148.03 329 *i*PKP **PKPbc 06 07 13.7 -0.3**
comp=Z,1.6nm,0.7s
SOKA Soboth 148.04 327 *i*PKP **PKPbc 06 07 13.1 -1.0**
comp=Z,4.3nm,1.0s
OBKA Obir 148.40 327 *i*PKP **PKPbc 06 07 13.2 -1.9**
comp=Z,7.0nm,1.5s
KBA Koelnbreinsper 148.60 329 *i*PKP **PKPbc 06 07 14.7 -1.0**
comp=Z,3.3nm,0.9s
LESA Schwarzleotal 148.67 330 *i*PKP **PKPbc 06 07 15.4 -0.4**
comp=Z,2.5nm,0.5s
MYKA Terra Mystica 148.77 328 *i*PKP **PKPbc 06 07 15.4 -0.7**
comp=Z,4.1nm,0.9s
ABTA Abfaltersbach 149.24 329 *i*PKP **PKPbc 06 07 16.2 -1.1**
comp=Z,4.2nm,0.8s
WATA Walderalm 149.24 331 *e*PKP **PKPdf 06 07 15.0 +1.9**
comp=Z,0.5nm,0.4s
WTTA Wattenberg 149.27 331 *i*PKP **PKPbc 06 07 15.2 -2.3**
comp=Z,2.2nm,0.6s
MOTA Moosalm 149.45 331 *i*PKP **PKPbc 06 07 16.1 -1.7**
comp=Z,3.8nm,0.6s,SNR=6.6
RETA Reutte 149.49 332 *i*PKP **PKPbc 06 07 16.3 -1.6**
comp=Z,1.4nm,0.6s
SQTA Sankt Quirin 149.50 331 *i*PKP **PKPbc 06 07 15.6 -2.3**
comp=Z,4.3nm,0.5s,SNR=4.6
FETA Feichten 149.86 331 *i*PKP **PKPbc 06 07 16.4 -2.5**
comp=Z,9.6nm,1.0s
DAVA Damuels 150.03 332 *i*PKP **PKPbc 06 07 17.7 -1.6**
comp=Z,6.5nm,1.0s

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*IDC **26** 05:49:26.1±0.9, 40°.99S×44°.35E, h0km, mb4.1/8, mbtmp4.1/8, MS3.6/17, Error ellipse: s-maj=32.5km s-min=25.1km az=159.0*
*NEIC **26** 05:49:27.9±2.1, 41°.1S±0°.1×44°.4E±0°.2, h10km±1km, mb4.3/16, Error ellipse: s-maj=26.0km s-min=14.7km az=46.0*
ISC 26 05:49:27.5±0.6, 41°.0S±0°.1×44°.4E±0°.1, h12km, n48, σ1§17/31, mb4.3/17, MS3.6/16, 4C, Crozet Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**7.63**	**138**	Pn	**Pn**	**05 51 17.3**	**-1.2**
GRHM	**Grahamstown, E**	**16.31**	**292**	Pn	**Pn**	**05 53 17.1**	**+0.7**
GRHM				IAmb	IAmb	05 53 31.2	
	comp=Z,42nm,1.4s						
VOI	**Vohitsoka**	**19.16**	**7**	P	**Pn**	**05 53 52.0**	**+0.3**
BOSA	**Boshof**	**19.96**	**302**	P	**Pn**	**05 54 00.8**	**-0.6**
BOSA	**Boshof**	**19.96**	**302**	LR	LR	06 00 25.7	
	comp=Z,101nm,20.7s,baz=176,slow=33						
LBTB	**Lobatse**	**22.37**	**310**	P	**P**	**05 54 24.7**	**-0.9**
LBTB				IAmb	IAmb	05 54 33.0	
	comp=Z,5.9nm,0.9s						
LBTB	**Lobatse**	**22.37**	**310**	LR	LR	06 01 51.4	
	comp=Z,99nm,19.7s,baz=134,slow=33						
LPHEP	**Lephephe**	**23.51**	**313**	P	**P**	**05 54 36.0**	**-1.4**
LPHEP				IAmb	IAmb	05 54 54.9	
	comp=Z,12nm,1.1s						
PHPEN	**Phepeng**	**23.68**	**304**	P	**P**	**05 54 39.2**	**+0.1**
PHPEN				IAmb	IAmb	05 54 43.8	
	comp=Z,22nm,1.4s						
MATP	**Matopo**	**24.59**	**322**	LR	LR	06 03 02.7	
	comp=Z,84nm,20.1s,baz=157,slow=33						
LKGWB	**Lokgwabe**	**25.70**	**304**	P	**P**	**05 54 54.0**	**-3.6**
MAW	**Mawson**	**28.49**	**165**	LR	LR	06 03 60.0	
	comp=Z,120nm,21.1s,baz=328,slow=31						
LSZ	**Lusaka**	**29.26**	**326**	LR	LR	06 06 11.3	
	comp=Z,163nm,19.3s,baz=152,slow=34						
TSUM	**Tsumeb**	**31.59**	**305**	LR	LR	06 07 17.7	
	comp=Z,66nm,19.9s,baz=151,slow=34						
SNAA	**Sanae**	**38.50**	**202**	⇑P	**P**	**05 56 49.9**	**+0.7**
	comp=Z,96nm,0.9s						
SNAA	**Sanae**	**38.50**	**202**	P	**P**	**05 56 49.4**	**+0.3**
SNAA				IAmb	IAmb	05 56 57.0	
	comp=Z,6.4nm,1.0s						
SNAA	**Sanae**	**38.50**	**202**	P	**P**	**05 56 49.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=56,slow=5.6,SNR=11						
SNAA				LR	LR	06 08 44.4	
	comp=Z,78nm,19.6s,baz=13,slow=30						
	comp=Z,2.7nm,0.9s						
VNA2	**Neumayer--Watz**	**39.54**	**204**	⇑P	**P**	**05 56 59.1**	**+1.3**
	comp=Z,6.7nm,0.8s,baz=63,slow=9.0						
VNA1	**Neumayer--Stat**	**39.71**	**205**	⇑P	**P**	**05 56 59.6**	**+0.5**
	comp=Z,4.8nm,1.0s						
VNA3	**Neumayer Olymp**	**40.34**	**204**	⇑P	**P**	**05 57 05.0**	**+0.5**
	comp=Z,7.1nm,0.9s						
CASY	**Casey**	**43.80**	**148**	P	**P**	**05 57 30.7**	**-2.0**
CASY				IAmb	IAmb	05 57 41.3	
	comp=Z,8.0nm,1.1s						
BELA	**Belgrano 2**	**47.98**	**196**	P	**P**	**05 58 04.2**	**-1.4**
BELA				IAmb	IAmb	05 58 12.7	
	comp=Z,3.1nm,1.0s						
QSPA	**South Pole Qui**	**49.19**	**180**	P	**P**	**05 58 16.8**	**+1.6**
QSPA	**South Pole Qui**	**49.19**	**180**	P	**P**	**05 58 16.0**	**+0.8**
	comp=Z,3.9nm,1.0s,baz=282,slow=2.6,SNR=9.8						
QSPA				LR	LR	06 17 40.2	
	comp=Z,122nm,18.1s,baz=269,slow=34						
	comp=Z,3.9nm,1.0s						
FURI	**Furi**	**49.94**	**353**	LR	LR	06 17 35.1	
	comp=Z,64nm,20.4s,baz=170,slow=34						
H01W2	**Cape Leeuwin H**	**53.98**	**108**	T	T	06 57 13.8	
	baz=242,slow=75,SNR=9.8						
H01W3	**Cape Leeuwin H**	**53.99**	**108**	T	T	06 57 14.4	
	baz=242,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**54.00**	**108**	T	T	06 57 15.0	
	baz=242,slow=75,SNR=10						
VNDA	**Vanda**	**55.79**	**166**	P	**P**	**05 59 04.6**	**+0.9**
VNDA				IAmb	IAmb	05 59 19.0	
	comp=Z,4.7nm,1.5s						
DBIC	**Dimbokro**	**65.48**	**304**	LR	LR	06 25 13.8	
	comp=Z,28nm,21.9s,baz=161,slow=33						
FORT	**Forrest**	**66.11**	**111**	P	**P**	**06 00 15.2**	**+0.7**
EIL	**Elat**	**70.87**	**351**	LR	LR	06 30 28.4	
	comp=Z,39nm,18.7s,baz=147,slow=35						
ASAR	**Alice Springs**	**74.50**	**108**	P	**P**	**06 01 05.4**	**-0.7**
ASAR	**Alice Springs**	**74.50**	**108**	P	**P**	**06 01 07.2**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=230,slow=5.3,SNR=8.6						
	comp=Z,1.2nm,0.8s						
STKA	**Stephens Creek**	**74.74**	**119**	P	**P**	**06 01 07.8**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=242,slow=2.9,SNR=7.0						
STKA				LR	LR	06 30 45.7	
	comp=Z,96nm,18.1s,baz=209,slow=33						
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**77.13**	**105**	P	**P**	**06 01 22.4**	**+1.2**
WRA	**Warramunga Arr**	**77.13**	**105**	P	**P**	**06 01 22.4**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=226,slow=4.5,SNR=15						
	comp=Z,1.7nm,0.8s						
WB0	**Warramunga Arr**	**77.28**	**105**	P	**P**	**06 01 23.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**77.81**	**52**	LR	LR	06 30 27.6	
	comp=Z,32nm,18.6s,baz=170,slow=32						
PLCA	**Paso Flores**	**79.50**	**224**	P	**P**	**06 01 34.3**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=90,slow=4.0,SNR=3.0						
	comp=Z,1.4nm,0.9s						
GNI	**Garni**	**80.78**	**0**	LR	LR	06 37 03.4	
	comp=Z,28nm,18.7s,baz=179,slow=35						
BRTR	**Keskin Array B**	**80.96**	**352**	P	**P**	**06 01 42.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=177,slow=8.5,SNR=2.0						
	comp=Z,0.2nm,0.5s						
CPUP	**Villa Florida**	**81.37**	**243**	P	**P**	**06 01 44.7**	**+0.5**
CPUP	**Villa Florida**	**81.37**	**243**	P	**P**	**06 01 44.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=2.3,slow=6.1,SNR=5.4						
	comp=Z,0.6nm,0.9s						
MDT	**Midelt**	**86.26**	**320**	LR	LR	06 41 43.1	
	comp=Z,39nm,18.5s,baz=162,slow=36						
AAK	**Ala-Archa**	**87.59**	**22**	LR	LR	06 38 50.8	
	comp=Z,45nm,18.6s,baz=152,slow=34						
ESDC	**Sonseca Array**	**91.59**	**325**	LR	LR	06 44 14.1	
	comp=Z,41nm,20.2s,baz=78,slow=36						
TXAR	**Lajitas Array**	**151.59**	**256**	PKPbc	**PKiKP**	**06 09 22.4**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=128,slow=4.9,SNR=21						

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*IDC **26** 06:02:31.5±4.8, 30°.08S×178°.99W, h369km±45km, mb3.0/3, mbtmp4.1/5, Error ellipse: s-maj=46.7km s-min=31.2km az=31.0*
ISC 26 06:02:29.4±0.9, 29°.91S±0°.09×178°.9W±0°.2, h300km, n42, σ1§56/51, mb3.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.09**	**54**	P	**Pn**	**06 03 12.4**	**+2.2**
GLKZ				S	**S**	**06 03 44.2**	**+1.5**
RIZ	**Raoul Island**	**1.10**	**53**	P	**Pn**	**06 03 12.9**	**+2.6**
RAO	**Raoul Island**	**1.10**	**54**	P	**Pn**	**06 03 12.9**	**+2.6**
MXZ	**Matakaoa Point**	**7.97**	**196**	P	Pn	06 04 27.4	+4.9
MXZ				S	**S**	**06 05 54.9**	**+0.7**
WMGZ	**Waiomatatini S**	**8.19**	**195**	P	Pn	06 04 30.0	+4.8
WMGZ				S	**S**	**06 06 00.7**	**+1.5**
WCZ	**Waipu Caves**	**8.25**	**221**	P	**Pn**	**06 04 29.3**	**+3.4**
HAZ	**Te Kaha**	**8.29**	**198**	P	**Pn**	**06 04 26.7**	**+0.4**
HAZ				S	**S**	**06 06 03.8**	**+2.5**
PUZ	**Puketiti**	**8.47**	**195**	P	**Pn**	**06 04 30.3**	**+1.7**
PUZ				S	**S**	**06 06 06.1**	**+0.6**
MWZ	**Matawai**	**8.90**	**198**	P	**Pn**	**06 04 33.7**	**-0.2**
MWZ				S	**S**	**06 06 14.6**	**-0.6**
URZ	**Urewera**	**8.95**	**200**	P	**Pn**	**06 04 34.7**	**+0.3**
	10nm,0.3s,baz=283,slow=2.4,SNR=28						
URZ				S	**S**	**06 06 16.4**	**+0.1**
	12nm,0.5s,baz=76,slow=21,SNR=10						
URZ	**Urewera**	**8.95**	**200**	P	**Pn**	**06 04 34.7**	**+0.3**
URZ				S	**S**	**06 06 15.3**	**-1.0**
RTZ	**Ruatahuna**	**9.32**	**200**	P	**Pn**	**06 04 40.8**	**+1.7**
SNGZ	**Shannon Statio**	**9.37**	**198**	P	**Pn**	**06 04 41.4**	**+1.7**
SNGZ				S	**S**	**06 06 25.8**	**-0.1**
KNZ	**Kokohu**	**9.51**	**196**	P	**P**	**06 04 43.8**	**-1.7**
MTHZ	**Maungataniwha**	**9.58**	**200**	P	**Pn**	**06 04 42.7**	**+0.5**
MTHZ				S	**S**	**06 06 30.6**	**+0.1**
MHGZ	**Mahia Peninsul**	**9.58**	**195**	P	**P**	**06 04 46.9**	**+0.6**
MHGZ				S	**S**	**06 06 32.0**	**+1.4**
MRHZ	**Matea Rd**	**9.69**	**202**	P	**P**	**06 04 45.8**	**-1.8**
NMHZ	**Naumai**	**9.81**	**200**	P	**P**	**06 04 47.3**	**-1.6**
NMHZ				S	**S**	**06 06 35.2**	**-0.7**
ARHZ	**Aropaoanui**	**9.91**	**199**	P	**P**	**06 04 48.4**	**-1.6**
ARHZ				S	**S**	**06 06 36.3**	**-1.8**
BKZ	**Black Stump Fm**	**9.97**	**201**	P	**Pn**	**06 04 48.6**	**+1.5**
BKZ				S	**S**	**06 06 37.7**	**-1.8**
HIZ	**Hauiti**	**10.00**	**209**	P	**P**	**06 04 52.0**	**+1.1**
TMVZ	**Te Maari**	**10.19**	**204**	P	**P**	**06 04 52.9**	**-0.3**
CKHZ	**Cape Kidnapper**	**10.26**	**198**	P	**Pn**	**06 04 52.1**	**+1.5**
CKHZ				S	**S**	**06 06 46.4**	**+0.4**
SNVZ	**South Ngauruho**	**10.28**	**204**	P	**P**	**06 04 52.8**	**-1.4**
NGZ	**Ngauruhoe**	**10.28**	**204**	P	**P**	**06 04 53.8**	**-0.4**
FWVZ	**Far West T-bar**	**10.37**	**204**	P	**Pn**	**06 04 52.8**	**+0.7**
WNVZ	**Wahianoa**	**10.42**	**204**	P	**Pn**	**06 04 53.9**	**+1.2**
MOVZ	**Moawhango**	**10.43**	**203**	P	**Pn**	**06 04 53.5**	**+0.8**
KAHZ	**Kahuranaki**	**10.44**	**198**	P	**Pn**	**06 04 52.8**	**0.0**
KRHZ	**Kereru**	**10.45**	**200**	P	**Pn**	**06 04 51.9**	**-1.0**
PKVZ	**Pokaka**	**10.47**	**205**	P	**Pn**	**06 04 54.7**	**+1.5**
PXZ	**Pawanui**	**10.67**	**198**	P	**Pn**	**06 04 55.2**	**-0.3**
PNHZ	**Pukenui**	**10.75**	**200**	P	**Pn**	**06 04 55.9**	**-0.7**
WPHZ	**Waipukurau**	**10.82**	**199**	P	**Pn**	**06 04 57.8**	**+0.5**
DVHZ	**Dannevirke**	**11.11**	**200**	P	**Pn**	**06 04 59.7**	**-1.3**
DZM	**Mont Dzumac**	**15.28**	**297**	P	**P**	**06 05 49.4**	**-0.3**
	8.6nm,0.5s,baz=189,slow=17,SNR=20						
ASAR	**Alice Springs**	**42.32**	**267**	P	P	06 09 50.4	-4.3
	0.8nm,0.6s,baz=100,slow=6.8,SNR=16						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**43.27**	**272**	P	P	06 09 57.6	-4.6
	0.9nm,0.6s,baz=110,slow=7.6,SNR=11						
	0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.55**	**270**	P	P	06 11 01.3	-4.3
	0.5nm,0.4s,baz=112,slow=5.4,SNR=1.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**116.83**	**310**	PKP	PKPdf	06 20 31.7	-6.4
	0.1nm,0.4s,baz=83,slow=4.9,SNR=2.2						
FINES	**FINESS Array B**	**144.40**	**340**	PKP	**PKPab**	**06 21 23.2**	**-5.1**
	2.4nm,0.5s,baz=58,slow=3.5,SNR=14						
HFS	**Hagfors**	**148.60**	**348**	PKPbc	**PKPdf**	**06 21 35.0**	**-1.3**
	1.6nm,0.6s,baz=33,slow=5.5,SNR=5.5						

IDC 26 06:11:45.8±15.0, 0°.16N×129°.17E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=243.5km s-min=161.1km az=157.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.61**	**166**	P	P	06 16 25.6	-1.3
	0.4nm,0.4s,baz=345,slow=11,SNR=5.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**24.13**	**169**	P	P	06 17 05.2	+1.6
	0.4nm,0.5s,baz=343,slow=9.1,SNR=10						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**33.97**	**161**	P	P	06 18 29.9	-1.2
	1.0nm,0.3s,baz=354,slow=9.2,SNR=1.8						
	1.0nm,0.3s						

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*IDC **26** 06:15:23.3±0.9, 28°.14N×142°.79E, h0km, mb4.0/9, mbtmp4.0/10, ML3.2/1, MS3.6/5, Error ellipse: s-maj=36.2km s-min=19.8km az=74.0*
*NEIC **26** 06:15:24.8±2.0, 28°.11N±0°.07×142°.9E±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=21.4km s-min=10.3km az=102.0*
*JMA **26** 06:15:26.0±0.1, 28°N±1°×14°1E±°, h90km, MV3.8/15, NEAR CHICHIJIMA ISLAND*
ISC 26 06:15:26.5±0.7, 28°.21N±0°.07×142°.9E±0°.1, h22km, n41, σ1§04/36, mb4.3/14, MS3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.29**	**211**	*e*P	**Pn**	**06 15 48.4**	**-0.8**
CBIJ				*e*S	**Sb**	**06 16 05.3**	**-0.9**
JCJ	**Chichijima**	**1.29**	**211**		**Pn**	**06 15 47.7**	**-1.5**
JHJ2	**Mitsune**	**5.57**	**332**	Pn	**Pn**	**06 16 50.6**	**+2.6**
BSO1	**Boso 1**	**6.63**	**346**	*e*P	**Pn**	**06 17 00.9**	**-1.3**
BSO1				*e*S	**Sn**	**06 18 15.3**	**-1.5**
BSO3	**Boso 3**	**6.89**	**343**	*e*P	**Pn**	**06 17 05.9**	**0.0**
JSG	**Sagara**	**7.61**	**329**	Pn	**Pn**	**06 17 17.5**	**+1.5**
JHO	**Hitachi**	**8.61**	**347**	*e*P	**Pn**	**06 17 28.6**	**-1.1**
JGF	**Kuroka**	**8.76**	**329**	Pn	**Pn**	**06 17 31.2**	**-0.6**
MJAR	**Matsushiro Arr**	**9.21**	**336**	Pn	**Pn**	**06 17 37.3**	**-0.7**
	0.2nm,0.3s,baz=149,slow=10,SNR=7.4						
	1.6nm,0.3s						
MAJO	**Matsushiro**	**9.21**	**336**	Pn	**Pn**	**06 17 37.7**	**-0.3**
JMM	**Marumori**	**9.79**	**350**	Pn	**Pn**	**06 17 44.5**	**-1.4**
H11N2	**WAKE ISLAND Hy**	**23.44**	**106**	T	T	06 45 22.6	
	baz=297,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**23.44**	**106**	T	T	06 45 13.8	
	baz=297,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**23.46**	**106**	T	T	06 45 22.4	
	baz=297,slow=75,SNR=9.4						
PEA0B	**Petropavlovsk-**	**27.17**	**20**	P	**P**	**06 21 07.4**	**-0.7**
PETK	**Petropavlovsk-**	**27.17**	**20**	P	**P**	**06 21 06.9**	**-1.2**
SONM	**Songino Array**	**34.38**	**315**	P	**P**	**06 22 12.7**	**+0.6**
SONM				IAmb	IAmb	06 22 25.6	
	comp=Z,1.8nm,0.8s						
WB0	**Warramunga Arr**	**48.41**	**191**	P	**P**	**06 24 06.3**	**-0.7**
WB0				IAmb	IAmb	06 24 08.1	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**48.59**	**191**		**P**	**06 24 07.3**	**-1.1**
WRA	**Warramunga Arr**	**48.59**	**191**	P	**P**	**06 24 08.1**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=12,slow=8.4,SNR=64						
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**49.09**	**318**	P	**P**	**06 24 12.4**	**+0.5**
ZALV	**Zalesovo Beam**	**49.09**	**318**	PcP	**PcP**	**06 25 34.5**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=98,slow=4.5,SNR=3.8						
ZALV				LR	LR	06 43 24.2	
	comp=Z,38nm,18.7s,baz=38,slow=34						
N15K	**Kwethluk River**	**49.63**	**33**	P	**P**	**06 24 16.6**	**+0.5**
MKAR	**Makanchi Array**	**50.28**	**309**	P	**P**	**06 24 20.5**	**-0.8**
MKAR	**Makanchi Array**	**50.28**	**309**	P	**P**	**06 24 20.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=95,slow=7.6,SNR=5.3						
	comp=Z,0.5nm,0.7s						
J17K	**VABM Dome**	**50.91**	**29**	P	**P**	**06 24 26.6**	**+1.0**
J17K				IAmb	IAmb	06 24 32.3	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**52.30**	**190**	P	**P**	**06 24 35.2**	**-1.3**
ASAR	**Alice Springs**	**52.30**	**190**	P	**P**	**06 24 35.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=2.7,slow=5.0,SNR=12						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**52.74**	**314**	P	**P**	**06 24 39.1**	**-0.4**
	comp=Z,7.6nm,1.2s,baz=91,slow=7.0,SNR=25						
	comp=Z,7.6nm,1.2s						
K20K	**Telida**	**53.10**	**30**	P	**P**	**06 24 42.0**	**0.0**
K20K				IAmb	IAmb	06 24 53.8	
	comp=Z,9.7nm,1.4s						
J20K	**Nowinta River**	**53.22**	**29**	P	**P**	**06 24 43.2**	**+0.3**
J20K				IAmb	IAmb	06 25 16.7	
	comp=Z,10nm,1.4s						
BVAR	**Borovoye Array**	**57.68**	**317**	P	**P**	**06 25 15.6**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=94,slow=9.2,SNR=8.6						
	comp=Z,1.8nm,0.6s						
KBZ	**Khabaz**	**77.73**	**313**	P	**P**	**06 27 21.8**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=166,slow=5.4,SNR=6.1						
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**79.31**	**52**	P	**P**	**06 27 32.2**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=307,slow=3.4,SNR=2.6						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**82.11**	**324**	LR	LR	07 05 08.6	
	comp=Z,28nm,19.2s,baz=23,slow=36						
NOA	**NORSAR Array B**	**82.82**	**339**	LR	LR	07 06 46.8	
	comp=Z,17nm,21.2s,baz=35,slow=37						
BRTR	**Keskin Array B**	**85.73**	**313**	P	**P**	**06 28 04.9**	**+0.7**
BRTR	**Keskin Array B**	**85.73**	**

TRIO	Tres Rios	0.77	49	eP		Pb	06 19 12.2	-1.1
ZARE	Zarcero	0.80	14	eP		Pb	06 19 13.6	-0.3
CORON	Coronado	0.81	45	eP		Pb	06 19 13.3	-0.6
REPA	Paraso	0.82	59	eP		Pb	06 19 13.2	-1.0
BUS1	Rivas	0.84	80	eP		Pb	06 19 13.5	-1.2
VPS8	V Poas	0.84	24	eP		Pb	06 19 14.2	-0.5
VPL1	V. Platanar	0.87	14	eP		Pb	06 19 14.3	-0.8
CVIMO	Finca Echandi	0.88	46	eP		Pb	06 19 14.7	-0.6
ZEDO	Perez Zeledon	0.89	93	eP		Pb	06 19 14.7	-0.7
PCAYA	Pacayas	0.92	56	eP		Pb	06 19 15.1	-0.8
VPL2	V. Platanar	0.92	13	eP		Pb	06 19 15.3	-0.6
QUEU	Ciudad Quesada	0.92	9	eP		Pb	06 19 16.0	+0.1
VICA	Volcano Irazu	0.93	52	eP		Pb	06 19 15.3	-0.9
MTEVE	Monteverde	0.94	345	eP		Pb	06 19 15.1	-1.1
JUNT	Juntas	0.95	337	eP		Pb	06 19 15.0	-1.3
JTS	Las Juntas de	0.95	338	eP		Pb	06 19 15.0	-1.4
VINA	Juan Vinas	0.96	59	eP		Pb	06 19 15.8	-0.7
SOCE	Pocosol	0.97	358	P		Pb	06 19 16.4	-0.4
SOCE	Pocosol	0.97	358	eP		Pb	06 19 16.1	-0.6
OCHAL	Ojochal	0.98	108	S		Sg	06 19 30.0	0.0
OCHAL	Ojochal	0.98	108	⇑P		Pb	06 19 15.7	-1.1
ARTO	Ro Cuarto	1.00	21	eP		Pb	06 19 16.4	-0.8
CVTQ	Turrialba Volc	1.00	53	eP		Pb	06 19 16.6	-0.8
VTR0	Volcan Turrial	1.01	53	eP		Pb	06 19 17.1	-0.6
CVTV	Tajo	1.02	54	eP		Pb	06 19 17.1	-0.5
CVTR	Volcan Turrial	1.02	53	eP		Pb	06 19 16.9	-0.8
EDPE	Pejibaye, P	1.03	104	eP		Pb	06 19 16.8	-0.9
CASO	Castillo	1.03	352	eP		Pb	06 19 16.8	-0.9
ARE1	Arenal 1	1.06	353	eP		Pb	06 19 17.6	-0.6
FORC	Fortuna	1.06	355	eP		Pb	06 19 17.7	-0.5
VARE2	V. Arenal	1.06	353	eP		Pb	06 19 17.7	-0.5
SAJE	San Jernim	1.06	93	eP		Pb	06 19 17.4	-0.9
VACR	Volcan Arenal	1.06	355	eP		Pb	06 19 17.6	-0.7
CHIK	Chiripa	1.08	343	eP		Pb	06 19 17.6	-0.9
CEDE	Laguna Cedeo	1.08	354	eP		Pb	06 19 18.1	-0.5
ITAL	Pital	1.08	16	eP		Pb	06 19 17.9	-0.7
TABAC	Tabacon	1.10	351	eP		Pb	06 19 18.4	-0.6
NICO	Nicoya	1.12	311	eP		Pn	06 19 17.7	-1.5
RESJ	San Isidro (Tu	1.12	56	eP		Pb	06 19 18.6	-0.6
REZ	Monterrey de S	1.12	354	eP		Pb	06 19 19.1	-0.2
TILA	Tilaran	1.12	340	eP		Pn	06 19 18.0	-1.4
PILE	Guapiles	1.12	44	eP		Pn	06 19 18.9	-0.5
CNAS	Canas	1.14	334	eP		Pn	06 19 19.3	-0.1
INVE	Universidad In	1.16	336	eP		Pn	06 19 18.9	-1.0
PLVR	Palo Verde	1.20	321	eP		Pn	06 19 19.1	-1.5
RVLA	Villa Bonita	1.21	54	eP		Pn	06 19 20.2	-0.2
LCOCO	El Coco	1.22	56	eP		Pn	06 19 20.3	-0.3
TIMP	Tierras Morena	1.25	340	eP		Pn	06 19 20.2	-0.9
QUEB	Quebradon, Cot	1.25	346	eP		Pn	06 19 20.6	-0.5
BURE	Buenos Aires	1.25	101	eP		Pn	06 19 20.6	-0.5
EGUB	Earth Gujpi	1.27	51	eP		Pn	06 19 21.2	-0.1
IRES	Siquirres	1.27	57	eP		Pn	06 19 21.0	-0.3
CARI	Cariari	1.27	41	eP		Pn	06 19 21.1	-0.2
FIMO	Fila Mora	1.28	109	eP		Pn	06 19 21.0	-0.6
BAGA	Bagaces	1.30	329	eP		Pn	06 19 20.9	-0.8
COVE	Coope Vega, Sa	1.32	8	S		Sn	06 19 38.5	-0.8
COVE	Coope Vega, Sa	1.32	8	P		Pn	06 19 21.5	-0.5
DRK0	Durika	1.33	96	S		Sb	06 19 40.0	+0.2
DRK0	Durika	1.33	96	⇓P		Pn	06 19 21.7	-0.6
DRK0	Durika	1.33	96	eP		Pn	06 19 21.7	-0.6
TENO	El Achiote	1.35	343	eP		Pn	06 19 21.5	-0.9
MOTZ	Rio Naranjo	1.36	339	eP		Pn	06 19 22.4	-0.2
CUI	Cuipilapa	1.37	335	eP		Pn	06 19 22.2	-0.5
DELF	Filadelfia	1.41	317	eP		Pn	06 19 22.2	-1.0
TRT2	Tortugero	1.42	36	⇓P		Pn	06 19 23.3	-0.1
TRT2	Tortugero	1.42	36	eP		Pn	06 19 23.2	-0.1
EDP2	Potrero Grande	1.44	105	eP		Pn	06 19 23.3	-0.4
MESS	Mesas	1.46	336	eP		Pn	06 19 23.7	-0.3
VERH	Veragua Rainfo	1.47	69	eP		Pn	06 19 24.1	0.0
ERIA	Liberia	1.48	325	eP		Pn	06 19 24.1	-0.2
VMAR	Armenia, Volca	1.49	340	eP		Pn	06 19 24.6	+0.1
ALIBA	Liberia Airpor	1.51	321	eP		Pn	06 19 25.0	+0.3
PTJ1	Puerto Jimnez	1.53	124	P		Pb	06 19 26.3	0.0
GPS2	Hotel Rincn d	1.54	331	eP		Pn	06 19 25.0	0.0
GPS1	Guardaparques	1.56	331	eP		Pn	06 19 25.2	-0.1
LAES	El Progreso Va	1.56	77	eP		Pn	06 19 26.0	+0.8
ELI1	Hacienda Flor	1.56	322	S		Sg	06 19 47.8	-0.7
ELI1	Hacienda Flor	1.56	322	P		Pn	06 19 26.1	+0.8
ELI1	Hacienda Flor	1.56	322	eP		Pn	06 19 25.1	-0.2
VRLE	La Escondida,	1.57	331	eP		Pn	06 19 25.6	-0.1
PIRO	Carate, Puerto	1.58	129	⇑P		Pb	06 19 28.1	+1.0
EDAD	Golfito	1.59	118	eP		Pn	06 19 24.4	-1.4
VORI	VORI	1.59	332	eP		Pn	06 19 25.7	-0.2
BUAI	Buenos Aires	1.64	333	eP		Pn	06 19 26.5	+0.1
CEUA	Cerro Uatsi, L	1.64	82	eP		Pb	06 19 28.2	-0.1
PEJA	Penjamo Buenos	1.65	334	eP		Pb	06 19 27.6	+0.5
BRIBI	Bribri	1.76	83	eP		Pb	06 19 29.9	-0.2
ALCO	Alturas Coton,	1.79	105	eP		Pb	06 19 27.6	-1.0
CDITO	Canoas	1.88	116	⇑P		Pb	06 19 31.5	-0.7
LCRUZ	La Cruz	1.96	328	eP		Pn	06 19 30.7	0.0
CARN	Rivas	2.00	333	⇑P		Pb	06 19 33.5	-0.7
CARN				S		Sb	06 19 59.1	+0.2
CARN	Rivas	2.00	333	eP		Pb	06 19 33.3	-0.9
BQTLY	Boquete Panama	2.19	107	eP		Pn	06 19 33.4	-0.8
WILLF	Boquete	2.22	107	eP		Pn	06 19 33.9	-0.6
OMEN	Al SSO del Vol	2.33	334	S		Sb	06 20 07.2	-1.3
MORN	Al O del Volca	2.37	334	P		Pn	06 19 38.6	+2.1
CONN	Concepcion	2.38	335	P		Pn	06 19 38.5	+2.0
PBNVO	Pueblo Nuevo,	2.42	102	eP		Pn	06 19 36.6	-0.5
RBALA	Bur	2.46	102	eP		Pn	06 19 37.4	-0.3
KKNTU	Kakint[9]	2.80	101	eP		Pn	06 19 42.4	0.0
COPN	Copaltepe	3.39	325	P		Pn	06 19 53.3	+2.8
MOM2	El Cardon	3.54	328	P		Pn	06 19 55.5	+2.9
MOM2				S		Sn	06 20 36.9	+2.7

*NNC **26** 06:26:37.2±5.9, 37°.81N×71°.78E, h250km±78km, mb2.1, mpv3.2, Error ellipse: s-maj=67.0km s-min=40.1km az=28.0*
*IDC **26** 06:26:39.9±15.0, 37°.52N×72°.14E, h272km±121km, mb3.4/2, mbtmp3.9/6, MS3.9/1, Error ellipse: s-maj=168.8km s-min=80.8km az=170.0*
ISC 26 06:26:28.0±2.2, 37°.1N±0°.2×71°.6E±0°.2, h150km, n10, σ1§52/11, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.94	21	⇑P	Pn	06 27 55.3	+1.4
	0.7nm,0.3s						
AAK				⇑S	Sn	06 28 59.9	-1.1
	9.7nm,0.7s						
KK31	Karatay Array	6.02	352	⇓P	Pn	06 27 57.4	+2.5
	1.8nm,0.3s,baz=160,slow=11,SNR=42						
KK31				⇓S	Sn	06 29 02.1	-0.9
	12nm,0.3s,baz=170,slow=16,SNR=24						
MKAR	Makanchi Array	12.50	36	P	Pn	06 29 22.1	+1.5
	0.5nm,0.6s,baz=214,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	14.38	18	P	P	06 29 45.8	-1.2
	0.6nm,0.4s,baz=205,slow=11,SNR=5.1						
AB31	Akbulak array	14.78	329	⇓P	P	06 29 51.2	-0.3
	0.5nm,0.5s						
AB31				⇑S	Sn	06 32 24.4	-8.9
	0.5nm,0.4s						
BVAR	Borovoye Array	15.92	357	P	P	06 30 03.6	-0.4
	1.3nm,0.3s,baz=158,slow=11,SNR=5.9						
ZALV	Zalesovo Beam	19.14	24	P	P	06 30 37.5	-1.9
	6.1nm,0.3s,baz=207,slow=10,SNR=40						
ARCES	ARCESS Array B	40.75	337	P	P	06 33 52.9	-0.8
	3.2nm,1.0s,baz=110,slow=7.9,SNR=1.6						
	3.2nm,1.0s						
HFS	Hagfors	42.87	321	P	P	06 34 10.8	-0.2
	1.5nm,0.8s,baz=96,slow=13,SNR=1.4						
	1.5nm,0.8s						
JHJ	Hachijo jima 2	54.83	72	LR	LR	07 00 27.8	
	comp=Z,104nm,21.0s,baz=92,slow=37						

*MEX **26** 06:28:16.4±0.4, 14°.52N×92°.23W, h80km±6km, MD3.9*
*GCG **26** 06:28:16.6±0.8, 14°.91N×92°.10W, h73km±6km, MD3.9, ML3.0*
ISC 26 06:28:11.1±1.9, 14°.12N±0°.08×92°.36W±0°.05, h30km±13km, n16, σ2§02/29, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.76	58	eP	Pn	06 28 29.0	+3.2
RTAL				eS	Sn	06 28 38.9	+2.5
SMCA	Catarina	0.79	20	eP	Pb	06 28 27.2	+0.8
SMCA				eS	Sb	06 28 35.6	-1.1
SMCA				IAML		06 28 36.5	
	comp=E,351nm,0.2s						
THIG		0.79	7	eP	Pn	06 28 27.6	+1.3
THIG				eS	Sb	06 28 36.8	-0.1
CHUJ	Union Juarez	1.00	14	eP	Pn	06 28 29.6	+0.3
CHUJ				eS	Sb	06 28 40.0	-3.1
PATR	El Naranjo	1.00	7	eP	Pn	06 28 29.7	+0.3
PATR				eS	Sb	06 28 40.2	-2.9
STG2	El Palmar, Qui	1.01	71	eP	Pn	06 28 29.8	+0.5
STG2				eS	Sb	06 28 40.7	-2.4
PAVE	Pavencul	1.09	9	eP	Pn	06 28 30.9	+0.4
PAVE				eS	Sn	06 28 42.1	-2.6
HUEH	Huehuetenango	1.46	35	eP	Pb	06 28 41.1	+3.4
HUEH				eS	Sn	06 28 53.6	-0.2
FG8	Yepocapa, Chim	1.75	85	eP	Pn	06 28 39.0	-0.6
PCIG		1.79	332	eP	Pn	06 28 41.4	+1.5
PCIG				eS	Sn	06 28 59.8	-1.7
CCIG	Comitan	2.17	6	eP	Pn	06 28 48.0	+2.7
CCIG				eS	Sn	06 29 08.9	-2.3
NUBE	Las Nubes	2.51	95	eP	Pb	06 28 55.5	-0.2
UXUV	UXUV	3.62	332	eP	Pn	06 29 07.0	+1.9
UXUV				eS	Sn	06 29 45.5	-1.3
PETF	Flores	3.68	40	eP	Pn	06 29 06.1	+0.2
PETF				eS	Sn	06 29 47.5	-0.8
CMIG	Matias Romero	3.83	321	eP	Pn	06 29 10.5	+2.5
CMIG				eS	Sn	06 29 49.4	-2.7
NEUV	Arroyo Zacate	4.88	318	eP	Pn	06 29 29.6	+7.2
NEUV				eS	Sn	06 30 16.4	-1.4

IDC 26 06:54:28.6±0.8, 51°.78N×74°.18E, h0km, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=32.0km s-min=7.0km az=27.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	Borovoye Array	2.64	300	Pn	Pn	06 55 12.4	+0.1
	0.1nm,0.3s,baz=120,slow=16,SNR=12						
BVAR				Pg	Pb	06 55 15.9	-0.8
	0.5nm,0.3s,baz=120,slow=16,SNR=33						
BVAR				Lg	Lg	06 55 50.5	
	1.1nm,0.3s,baz=114,slow=28,SNR=16						
	3.9nm,0.3s						
KURBB	Kurchatov Arra	2.97	111	Pn	Pn	06 55 17.0	+0.1
	0.2nm,0.3s,baz=299,slow=14,SNR=9.0						
KURBB				Pg	Pb	06 55 21.0	-1.3
	0.4nm,0.3s,baz=292,slow=18,SNR=9.4						
KURBB				Lg	Lg	06 55 59.0	
	0.3nm,0.3s,baz=291,slow=29,SNR=4.8						
	1.5nm,0.6s						
I46RU	ZALESOVO INFRA	6.80	67	I	I	07 32 30.0	
	baz=253,slow=311,SNR=2.8						
ZALV	Zalesovo Beam	6.80	67	Pn	Pn	06 56 08.8	-0.7
	0.2nm,0.3s,baz=260,slow=14,SNR=6.5						
ZALV				Sn	Sn	06 57 25.0	-2.4
	0.2nm,0.3s,baz=253,slow=24,SNR=3.5						
	1.5nm,0.6s						
MKAR	Makanchi Array	7.28	130	Pn	Pn	06 56 15.1	-1.0
	0.2nm,0.3s,baz=314,slow=10,SNR=5.7						
MKAR				Lg	Lg	06 58 15.8	
	0.3nm,0.3s,baz=320,slow=24,SNR=4.8						
	0.1nm,0.3s						
AAK	Ala-Archa	9.15	179	Lg	Lg	06 59 15.4	
	0.1nm,0.3s,baz=346,slow=17,SNR=3.7						

*AEIC **26** 06:55:38.5±1.8, 53°.52N±0°.05×167°.30W±0°.05, h15km±4km, Error ellipse: s-maj=7.9km s-min=1.4km az=150.0*
NEIC 26 06:55:37.6±0.8, 53°.36N±0°.05×167°.14W±0°.05, h13km±6km, ML2.7/6, ML2.3(AEIC), Error ellipse: s-maj=8.2km s-min=1.6km az=147.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.46	20		Pg	06 55 46.8	+0.1
MAPS	Pakushin South	0.46	15		Pg	06 55 46.6	-0.1
MAPS					Sg	06 55 52.8	-0.1
MREP	Makushin Rep't	0.51	27		Pb	06 55 48.0	-0.4
OKTU	Okmok Mt. Tuli	0.54	273		Pb	06 55 48.8	-0.1
OKTU					Sg	06 55 55.1	-0.2
MNAT	Makushin Natee	0.59	27		Pg	06 55 49.1	0.0
MSW	Makushin Switc	0.59	21		Pg	06 55 48.8	-0.3
MSW					Sg	06 55 55.8	-1.3
OKNC	Okmok New Cone	0.60	280		Sg	06 55 57.2	+0.1
UNV	Unalaska Valle	0.61	38		Pg	06 55 49.8	+0.2
UNV					Sg	06 55 57.8	+0.1
UNV	Unalaska Valle	0.61	38	IAML		06 55 58.2	
	comp=N,266nm,0.5s						
UNV				IAML		06 55 59.8	
	comp=E,234nm,0.2s						
OKCE	Okmok Cone E	0.62	277		Pg	06 55 49.8	+0.2
OKWE	Okmok W'ng Wal	0.67	280		Pg	06 55 50.7	+0.2
OKSP	Okmok Steeple	0.70	261		Pg	06 55 51.3	+0.2
OKSP					Sg	06 56 00.0	-0.3
AKMO	Akutan Morgan	0.99	42		Pg	06 55 56.7	0.0
AKMO					Sg	06 56 09.8	+0.2
ZRO	Akutan Zero	1.01	43		Pb	06 55 56.9	0.0
AKBBA	Akutan Broad B	1.03	44		Pb	06 55 57.3	0.0
AKBBA					Sg	06 56 10.8	0.0
AHB	Akutan Harbor	1.09	46		Pg	06 55 58.5	-0.1
AHB					Pn	06 55 58.8	+0.2
NIKH	Nikolski High	1.10	250		Pb	06 55 57.8	-0.7
NIKH				IAML		06 56 15.9	
	comp=E,138nm,1.2s						
NIKH	Nikolski High	1.10	250		Sb	06 56 11.9	-0.8
NIKH	Nikolski High	1.10	250	IAML		06 56 08.2	
	comp=N,134nm,1.1s						
AKUT	Akutan	1.12	46	Pn	Pb	06 55 58.5	-0.4
AKUT				IAML		06 56 15.1	
	comp=N,347nm,0.3s						
AKSA	Akutan Strait	1.16	47		Sn	06 56 15.3	+0.1

*NNC **26** 07:01:23.2±2.0, 50°.43N×79°.64E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=41.1km s-min=5.4km az=36.0, Suspected Mining explosion.*
*IDC **26** 07:01:24.8±1.0, 50°.08N×78°.74E, h0km, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=13.7km s-min=6.8km az=65.0*
ISC 26 07:01:24.1±1.2, 50°.07N±0°.06×78°.6E±0°.1, h0km, n9, σ1§15/10, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.56	356	Pg	Pb	07 01 35.5	-1.3
	1.7nm,0.3s,baz=165,slow=19,SNR=80						
KURBB				Lg	Lg	07 01 43.9	
	3.0nm,0.3s,baz=167,slow=31,SNR=11						
KURK	Kurchatov	0.65	2	⇑P	Pg	07 01 36.8	+0.3
	5.8nm,0.6s						
KURK				⇓S	Sb	07 01 47.1	-0.8
	24nm,0.6s						
MAKZ	Makanchi	3.97	144	⇓Pg	Pb	07 02 35.3	+0.4
	2.5nm,0.7s						
MAKZ				⇑Lg	Lg	07 03 24.5	
	16nm,0.7s						
MK31	Makanchi Array	4.10	142	⇑Pn	Pn	07 02 28.2	+0.1
	0.6nm,0.6s,baz=350,slow=13,SNR=8.3						
MK31				⇓Pg	Pb	07 02 36.4	-0.8
	1.8nm,0.5s,baz=331,slow=15,SNR=15						
MK31				⇓Lg	Lg	07 03 30.5	
	10nm,0.6s,baz=340,slow=27,SNR=16						
MKAR	Makanchi Array	4.10	142	Pn	Pn	07 02 28.7	+0.6
	0.2nm,0.3s,baz=327,slow=11,SNR=9.1						
MKAR				Pg	Pb	07 02 35.3	-1.9
	0.5nm,0.3s,baz=330,slow=14,SNR=15						
MKAR				Lg	Lg	07 03 29.7	
	1.6nm,0.3s,baz=337,slow=30,SNR=7.6						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	5.47	42	Pn	Pn	07 02 48.1	+1.3
	0.3nm,0.3s,baz=229,slow=14,SNR=12						
ZALV				Lg	Lg	07 04 12.1	
	0.1nm,0.3s,baz=219,slow=32,SNR=2.2						
	1.8nm,0.5s						
I46RU	ZALESOVO INFRA	5.47	42	I	I	07 34 20.0	
	baz=220,slow=314,SNR=3.5						
BVAR	Borovoye Array	5.91	303	Sn	Sn	07 04 01.9	+0.7
	0.1nm,0.3s,baz=112,slow=24,SNR=6.6						
BVAR				Lg	Lg	07 04 31.1	
	baz=112,slow=24,SNR=5.7						
AAK	Ala-Archa	7.95	202	Lg	Lg	07 05 35.3	
	0.2nm,0.3s,baz=47,slow=23,SNR=5.6						

*IDC **26** 07:02:12.0±0.8, 18°.02S×172°.39W, h24km±4km, mb3.7/9, mbtmp3.9/9, Error ellipse: s-maj=28.0km s-min=19.0km az=135.0*
ISC 26 07:02:13.0±0.7, 18°.1S±0°.2×172°.3W±0°.1, h35km, n10, σ1§50/15, mb3.8/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	Papeete2	21.67	92	eP	P	07 06 52.9	-7.9
	42nm,27.5s						
PPT2				eS	S	07 10 56.3	-2.8
	258nm,24.0s						
PPT2				eLR	LR	07 12 00.1	
	220nm,25.5s						
PPT2				eLR	LR	07 12 00.3	
	244nm,28.0s						
PPT2				eLR	LR	07 12 00.9	
	316nm,25.2s						
WRA	Warramunga Arr	50.29	259	P	P	07 11 06.2	-0.2
	2.6nm,0.6s,baz=97,slow=8.3,SNR=29						
WRA				pP	pP	07 11 14.4	+0.1
	1.6nm,0.5s,baz=97,slow=8.5,SNR=8.7						
	2.6nm,0.6s						
ASAR	Alice Springs	50.31	254	P	P	07 11 06.3	-0.3
	2.0nm,0.5s,baz=91,slow=7.5,SNR=31						
ASAR				pP	sP	07 11 15.0	-2.8
	3.1nm,0.8s,baz=93,slow=7.5,SNR=8.2						
	2.0nm,0.5s						
VNDA	Vanda	60.86	186	P	P	07 12 21.1	-0.4
	0.5nm,0.8s,baz=43,slow=11,SNR=4.7						
VNDA				pP	pP	07 12 29.5	-0.2
	0.5nm,0.7s,baz=343,slow=4.3,SNR=3.4						
	0.5nm,0.8s						
QSPA	South Pole Qui	72.01	180	P	P	07 13 35.2	+2.1
	1.7nm,0.8s,baz=92,slow=2.6,SNR=5.3						
	1.7nm,0.8s						
NVAR	Mina Array Bea	75.62	41	P	P	07 13 57.0	+2.2
	0.2nm,0.5s,baz=255,slow=5.0,SNR=2.8						
	0.2nm,0.5s						
TXAR	Lajitas Array	81.25	55	P	P	07 14 26.6	+0.7
	0.7nm,0.9s,baz=238,slow=6.8,SNR=4.8						
	0.7nm,0.9s						
PDAR	Pinedale Array	83.56	41	P	P	07 14 37.4	-0.4
	0.2nm,0.6s,baz=259,slow=4.1,SNR=2.5						
	0.2nm,0.6s						
ILAR	Eielson Array	84.84	11	P	P	07 14 43.6	+0.1
	0.6nm,1.0s,baz=208,slow=4.9,SNR=3.0						
ILAR				pP	pP	07 14 51.0	-1.2
	0.7nm,0.9s,baz=222,slow=5.9,SNR=3.1						
	0.6nm,1.0s						
MAW	Mawson	85.62	198	P	P	07 14 47.8	+0.3
	1.9nm,0.8s,baz=109,slow=7.9,SNR=5.5						
MAW				pP	pP	07 14 56.0	0.0
	1.9nm,0.8s,baz=172,slow=7.5,SNR=3.1						
	1.9nm,0.8s						

*IDC **26** 07:02:30.6±1.0, 17°.98S×172°.26W, h0km, mb4.3/8, mbtmp4.3/8, Error ellipse: s-maj=32.9km s-min=27.0km az=133.0*
ISC 26 07:02:34.0±0.9, 18°.0S±0°.2×172°.3W±0°.2, h21km, n8, σ0§99/8, mb4.3/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.35	259	P	P	07 11 29.6	-0.3
	2.7nm,0.4s,baz=98,slow=6.2,SNR=23						
	2.7nm,0.4s						
ASAR	Alice Springs	50.38	254	P	P	07 11 30.4	+0.4
	5.2nm,0.5s,baz=90,slow=8.2,SNR=27						
	5.2nm,0.5s						
VNDA	Vanda	60.91	186	P	P	07 12 44.6	-0.2
	1.6nm,0.9s,baz=19,slow=7.0,SNR=8.9						
	1.6nm,0.9s						
QSPA	South Pole Qui	72.06	180	P	P	07 13 57.9	+1.5
	3.9nm,0.9s,baz=30,slow=2.9,SNR=9.5						
	3.9nm,0.9s						
TXAR	Lajitas Array	81.18	55	P	P	07 14 48.7	+0.1
	0.9nm,1.1s,baz=189,slow=7.5,SNR=5.1						
	0.9nm,1.1s						
ILAR	Eielson Array	84.78	11	P	P	07 15 06.3	+0.1
	1.2nm,1.1s,baz=205,slow=4.4,SNR=4.5						
	1.2nm,1.1s						
MAW	Mawson	85.68	198	P	P	07 15 10.8	-0.1
	3.9nm,0.8s,baz=132,slow=5.0,SNR=8.1						
	3.9nm,0.8s						
SNAA	Sanae	90.26	177	P	P	07 15 31.3	-1.5
	1.1nm,1.0s,baz=201,slow=6.5,SNR=3.0						
	1.1nm,1.0s						

IDC 26 07:03:38.0±5.3, 12°.92S×167°.32E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=268.6km s-min=32.2km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.35	253	P	P	07 10 09.4	0.0
	0.2nm,0.5s,baz=84,slow=8.9,SNR=2.3						
	0.2nm,0.5s						
ASAR	Alice Springs	33.40	247	P	P	07 10 18.5	-0.1
	0.7nm,0.6s,baz=75,slow=10.0,SNR=17						
	0.7nm,0.6s						
ILAR	Eielson Array	84.80	18	P	P	07 16 13.9	0.0
	0.4nm,0.5s,baz=241,slow=3.8,SNR=10						
	0.4nm,0.5s						

*NEIC **26** 07:19:36.2±1.8, 39°.28N±0°.02×116°.43W±0°.02, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.9km az=350.0*
**REN 26 07:19:36.5±2.1, 39°.27N±0°.02×116°.42W±0°.02, h4km±5km, ML2.8/1, ML2.7/64(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=200.0

comp=N,51nm,0.6s
PNTR IAML 07 21 04.8
comp=E,59nm,0.9s
MCY Mercury 2.62 172 Pn 07 20 19.6 -0.1
MDPB Devils Postpil 2.65 233 Pn 07 20 18.8 -1.4
SHPR Sheep Range 2.93 160 Pn 07 20 25.1 +1.1
DUG Dugway, Tooele 2.93 70 Pn 07 20 24.7 +0.6
DUG IAML 07 21 11.3
comp=E,31nm,0.8s
DUG IAML 07 21 22.0
comp=E,27nm,0.6s
CCUT Cedar City 2.95 124 Pn 07 20 24.9 +0.5
CCUT IAML 07 21 13.4
comp=N,22nm,0.7s
CCUT IAML 07 21 14.1
comp=E,28nm,0.5s
SZCU Shurtz Canyon 3.10 121 Pn 07 20 24.8 -1.7
SZCU IAML 07 21 20.7
comp=N,27nm,0.3s
CMB Columbia Colle 3.34 250 Pn Pn 07 20 28.9 -0.6
LCMT Little Creek M 3.37 131 Pn Pn 07 20 28.9 -1.2
WELL Weller Preserv 3.46 258 Pn 07 20 31.0 -0.2
V12A Nelson 3.75 160 Pn 07 20 34.2 -1.0
U15A North Rim 4.33 130 Pn 07 20 43.0 -0.3
U15A IAML 07 22 00.4
comp=N,8.1nm,1.1s
U15A IAML 07 22 00.4
comp=E,8.9nm,0.8s
HWUT Hardware Ranch 4.38 56 Pn 07 20 43.6 -0.4
HWUT IAML 07 21 59.1
comp=E,6.3nm,2.9s
HWUT IAML 07 23 18.0
comp=E,9.9nm,4.5s
W13A Hualapai Mount 4.62 153 Pn 07 20 48.4 +1.0
W13A IAML 07 22 25.7
comp=N,5.6nm,4.2s
W13A IAML 07 23 24.6
comp=E,6.4nm,4.4s
MWC Mount Wilson 5.20 195 Pn 07 20 54.6 -0.6

*IDC **26** 07:38:42.8±1.5, 38°.31N×67°.70E, h0km, mb3.8/4, mbtmp3.7/7, ML3.0/3, MS2.8/1, Error ellipse: s-maj=28.1km s-min=24.2km az=90.0*
*ISU **26** 07:38:49, 38°.73N×67°.75E, h19km*
ISC 26 07:38:46.4±2.7, 38°.72N±0°.04×67°.65E±0°.04, h16km±19km, n25, σ2§46/34, mb3.7/4, 2C-4D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYS	**Baysun**	**0.62**	**215**	P	**Pb**	**07 38 57.8**	**-1.1**
BAYS				S	**Sb**	**07 39 07.4**	**0.0**
KTAB	**Kitab**	**0.73**	**305**	P	**Pb**	**07 39 01.3**	**+0.6**
KTAB				S	**Sb**	**07 39 12.6**	**+2.1**
PKMR	**Pachkamar**	**1.00**	**260**	P	**Pb**	**07 39 05.9**	**+0.5**
PKMR				S	**Sb**	**07 39 21.0**	**+2.6**
BXML	**Bakhmal**	**1.01**	**17**	P	**Pb**	**07 39 02.9**	**-2.7**
BXML				S	**Sb**	**07 39 16.5**	**-2.2**
ZRB	**Zarabog**	**1.24**	**240**	P	**Pn**	**07 39 09.4**	**+0.3**
ZRB				S	**Sn**	**07 39 26.2**	**+0.6**
DZI	**Dzhizak**	**1.40**	**5**	P	**Pn**	**07 39 10.0**	**-1.3**
DZI				S	**Sn**	**07 39 28.1**	**-1.3**
NUT	**Nurota**	**2.38**	**321**	S	**Sn**	**07 39 57.3**	**+3.7**
TGS	**TashGRES**	**3.06**	**27**	S	**Sb**	**07 40 19.7**	**+2.3**
MINT	**Mingtut**	**3.10**	**55**	S	**Sb**	**07 40 22.4**	**+3.6**
CHDK	**Chadak**	**3.28**	**46**	P	**Pn**	**07 39 38.3**	**+1.1**
CHMG	**Chimgan**	**3.35**	**32**	S	**Sn**	**07 40 21.1**	**+3.3**
CHMI	**Chimion**	**3.37**	**61**	P	**Pn**	**07 39 40.3**	**+1.9**
FRG	**Fergana**	**3.59**	**61**	S	**Sb**	**07 40 36.0**	**+3.0**
TMD	**Tamdy-Bulak**	**3.80**	**324**	S	**Sn**	**07 40 31.7**	**+3.0**
KK31	**Karatay Array**	**4.88**	**25**	⇓Pn	**Pn**	**07 39 59.7**	**+0.6**
	1.4nm,0.4s,baz=216,slow=14,SNR=31						
KK31				Pg	**Pb**	**07 40 13.1**	**+1.5**
	12nm,0.6s,baz=215,slow=33,SNR=14						
KK31				⇓Sn	**Sn**	**07 40 57.4**	**+2.1**
	4.0nm,0.3s,baz=167,slow=12,SNR=5.1						
KK31				⇓Lg	Lg	07 41 18.3	
	53nm,0.8s,baz=207,slow=30,SNR=13						
AAK	**Ala-Archa**	**6.51**	**51**	⇑Pn	**Pn**	**07 40 22.0**	**+0.4**
	1.5nm,0.5s						
AAK				⇓Sn	**Sn**	**07 41 39.8**	**+4.3**
	2.9nm,0.5s						
AAK				⇑Lg	Lg	07 42 07.9	
	7.6nm,0.8s						
MKAR	**Makanchi Array**	**13.43**	**48**	Pn	**Pn**	**07 41 54.4**	**-1.8**
	0.1nm,0.3s,baz=241,slow=12,SNR=7.2						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**14.17**	**29**	Pn	**Pn**	**07 42 04.4**	**-2.0**
	baz=216,slow=12,SNR=5.2						
KURBB				Lg	Lg	07 46 12.7	
	baz=216,slow=30,SNR=8.2						
	0.3nm,0.4s						
BVAR	**Bovoye Array**	**14.43**	**7**	Pn	**Pn**	**07 42 08.8**	**-1.1**
	0.1nm,0.3s,baz=167,slow=9.5,SNR=5.0						
BVAR				Sn	**Sn**	**07 44 43.4**	**-6.0**
	0.1nm,0.3s,baz=204,slow=25,SNR=3.0						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**19.22**	**32**	P	**P**	**07 43 08.2**	**-1.3**
	3.5nm,0.6s,baz=239,slow=9.9,SNR=19						
KBZ	**Khabaz**	**19.25**	**293**	LR	LR	07 52 14.7	
	comp=Z,31nm,21.3s,baz=160,slow=42						
ARCES	**ARCESS Array B**	**38.08**	**338**	P	**P**	**07 46 06.0**	**+2.2**
	2.4nm,0.8s,baz=118,slow=7.7,SNR=1.9						
	2.4nm,0.8s						
HFS	**Hagfors**	**39.67**	**321**	P	**P**	**07 46 18.7**	**+1.4**
	1.7nm,0.6s,baz=110,slow=13,SNR=6.4						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**85.41**	**120**	P	**P**	**07 51 21.5**	**-1.7**
	0.2nm,0.6s,baz=312,slow=5.3,SNR=1.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**87.70**	**123**	P	**P**	**07 51 32.1**	**-2.2**
	0.2nm,0.6s,baz=313,slow=4.8,SNR=4.4						
	0.2nm,0.6s						

*NEIC **26** 07:41:26.5±1.3, 21°.3S±0°.1×168°.80E±0°.07, h10km±1km, mb4.2/11, Error ellipse: s-maj=21.0km s-min=4.7km az=331.0*
*NOU **26** 07:41:27.5, 21°.09S×168°.58E, h0km, MLv4.2/11, Loyalty Islands*
*IDC **26** 07:41:33.2±1.4, 21°.13S×168°.40E, h38km±8km, mb3.6/4, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=38.8km s-min=29.3km az=167.0*
ISC 26 07:41:28.7±0.8, 21°.27S±0°.09×168°.61E±0°.07, h20km, n33, σ1§19/36, mb4.0/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.58**	**249**		**Pn**	**07 41 41.1**	**-0.7**
MARNC	**Mare, Loyalty**	**0.58**	**249**	P	**Pn**	**07 41 41.4**	**-0.4**
MARNC	**Mare, Loyalty**	**0.58**	**249**	S	**Sn**	**07 41 50.9**	**+0.1**
PINNC	**Pines Island,**	**1.72**	**219**		**Pb**	**07 41 59.0**	**-0.6**
PINNC	**Pines Island,**	**1.72**	**219**	P	**Pb**	**07 41 59.8**	**+0.2**
PINNC	**Pines Island,**	**1.72**	**219**	S	**Sb**	**07 42 23.4**	**+2.6**
YATNC	**Mamie plateau,**	**1.78**	**244**	P	**Pn**	**07 41 58.9**	**+0.5**
YATNC	**Mamie plateau,**	**1.78**	**244**	S	**Sb**	**07 42 22.2**	**-0.5**
OUENC	**Ouen Island, N**	**2.00**	**235**	P	**Pb**	**07 42 04.1**	**-0.4**
DZM	**Mont Dzumac**	**2.17**	**248**	Pn	**Pn**	**07 42 05.3**	**+1.5**
	63nm,0.3s,baz=98,slow=8.8,SNR=2649						
DZM				Sn	**Sb**	**07 42 33.2**	**-0.6**
	128nm,0.3s,baz=122,slow=22,SNR=15						
	168nm,0.3s						
ONTNC	**Ouen Toro**	**2.26**	**242**		**Pb**	**07 42 06.9**	**-1.8**
ONTNC	**Ouen Toro**	**2.26**	**242**	P	**Pb**	**07 42 08.0**	**-0.8**
ONTNC	**Ouen Toro**	**2.26**	**242**	S	**Sb**	**07 42 36.0**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.11**	**279**	P	**Pn**	**07 42 31.3**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.11**	**279**	S	**Sn**	**07 43 19.0**	**+1.2**
LHI	**Lord Howe Isla**	**13.31**	**218**	Pn	**Pn**	**07 44 35.8**	**-0.7**
BFZ	**Birch Farm**	**20.41**	**163**	P	**P**	**07 46 02.9**	**-1.6**
BFZ				IAmb	IAmb	07 46 17.4	
	comp=Z,47nm,1.2s						
KHZ	**Kahutara**	**21.49**	**170**	P	**P**	**07 46 15.2**	**-0.9**
KHZ				IAmb	IAmb	07 46 57.8	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**32.05**	**266**	P	**P**	**07 47 54.0**	**-0.4**
WB0				IAmb	IAmb	07 48 07.6	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**07 47 54.1**	**-0.5**
WRA	**Warramunga Arr**	**32.07**	**266**	P	**P**	**07 47 54.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=104,slow=7.9,SNR=1.9						
WRA				pP	**pwP**	**07 48 04.9**	**+0.8**
	comp=Z,1.4nm,1.0s,baz=94,slow=8.0,SNR=6.3						
	comp=Z,0.4nm,0.9s						
AS31	**Alice Springs**	**32.12**	**259**	P	**P**	**07 47 54.6**	**-0.3**
AS31				IAmb	IAmb	07 48 07.5	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**07 47 54.1**	**-0.9**
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**07 47 55.7**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=85,slow=9.0,SNR=20						
ASAR				pP	**pwP**	**07 48 07.0**	**+2.4**
	comp=Z,2.1nm,0.7s,baz=86,slow=8.7,SNR=13						
	comp=Z,0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.49**	**267**	P	**P**	**07 49 07.0**	**+0.5**
FITZ				IAmb	IAmb	07 49 18.6	
	comp=Z,2.0nm,0.8s						
GIRL	**Giralia**	**50.21**	**258**	P	**P**	**07 50 22.5**	**-1.1**
VNDA	**Vanda**	**56.39**	**182**	P	**P**	**07 51 07.4**	**-0.8**
QSPA	**South Pole Qui**	**68.79**	**180**	P	**P**	**07 52 30.9**	**-0.5**
QSPA				IAmb	IAmb	07 52 47.3	
	comp=Z,3.4nm,1.1s						
QSPA	**South Pole Qui**	**68.79**	**180**	P	**P**	**07 52 35.0**	**+3.6**
	comp=Z,1.2nm,0.8s,baz=4.6,slow=2.9,SNR=5.5						
	comp=Z,1.2nm,0.8s						
KDAK	**Kodiak Island**	**85.13**	**20**	P	**P**	**07 54 02.6**	**-0.3**
SNAA	**Sanae**	**87.12**	**183**	P	**P**	**07 54 12.0**	**-0.9**
SNAA				IAmb	IAmb	07 54 14.0	
	comp=Z,2.6nm,1.1s						
SNAA	**Sanae**	**87.12**	**183**	P	**P**	**07 54 13.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=170,slow=11,SNR=3.2						
	comp=Z,0.8nm,0.8s						
GERES	**GERESS Array B**	**145.97**	**330**	PKPbc	**PKPbc**	**08 01 07.6**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=29,slow=3.8,SNR=15						
GERES				pPKPbc	sPKPab	08 01 19.7	+5.4
	comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=2.9						

*IDC **26** 08:01:04.7±0.6, 20°.30S×168°.92E, h0km, mb4.3/14, mbtmp4.3/16, ML3.8/1, MS3.7/17, Error ellipse: s-maj=23.0km s-min=16.3km az=100.0*
*NEIC **26** 08:01:07.2±1.7, 20°.48S±0°.07×168°.77E±0°.08, h10km±1km, mb4.8/24, Error ellipse: s-maj=14.2km s-min=9.1km az=125.0*
*NOU **26** 08:01:09.1, 20°.63S×168°.61E, h0km, MLv4.2/7, Loyalty Islands*
ISC 26 08:01:10.5±0.4, 20°.47S±0°.05×168°.72E±0°.06, h35km, n102, σ1§38/95, mb4.5/24, MS3.6/15, 6C-1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.20**	**212**	Pn	**Pn**	**08 01 29.6**	**-1.1**
MARNC	**Mare, Loyalty**	**1.20**	**212**	P	**Pn**	**08 01 29.5**	**-1.2**
MARNC	**Mare, Loyalty**	**1.20**	**212**	S	**Sn**	**08 01 41.5**	**-4.3**
YATNC	**Mamie plateau,**	**2.33**	**227**	P	**Pn**	**08 01 44.5**	**-1.8**
PINNC	**Pines Island,**	**2.44**	**209**		**Pn**	**08 01 47.2**	**-0.7**
PINNC	**Pines Island,**	**2.44**	**209**	P	**Pn**	**08 01 47.2**	**-0.7**
OUENC	**Ouen Island, N**	**2.61**	**222**	P	**Pn**	**08 01 50.0**	**-0.2**
DZM	**Mont Dzumac**	**2.66**	**233**	Pn	**Pn**	**08 01 50.7**	**-0.2**
	14nm,0.3s,baz=59,slow=18,SNR=114						
DZM				Sn	**Sn**	**08 02 21.3**	**-0.6**
	28nm,0.3s,baz=338,slow=21,SNR=9.9						
	84nm,0.6s						
ONTNC	**Ouen Toro**	**2.79**	**229**		**Pn**	**08 01 52.4**	**-0.4**
ONTNC	**Ouen Toro**	**2.79**	**229**	P	**Pn**	**08 01 53.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.16**	**268**	P	**Pn**	**08 02 12.6**	**+1.1**
SANVU	**Saraoutou**	**5.20**	**344**	Pn	**Pn**	**08 02 24.7**	**-1.1**
MSVF	**Nonsavu**	**9.23**	**74**	Pn	**Pn**	**08 03 19.8**	**-1.4**
HNR	**Honiara**	**13.86**	**321**	LR	LR	08 09 00.4	
	comp=Z,137nm,19.7s,baz=161,slow=34						
URZ	**Urewera**	**19.16**	**160**	P	**Pn**	**08 05 32.3**	**+0.4**
	9.9nm,0.9s,baz=346,slow=18,SNR=1.6						
URZ				LR	LR	08 12 15.4	
	comp=Z,333nm,18.0s,baz=340,slow=35						
RTZ	**Ruatahuna**	**19.45**	**160**	P	**P**	**08 05 33.4**	**-0.7**
AFI	**Afiamalu**	**19.73**	**74**	P	**P**	**08 05 35.4**	**-2.0**
AFI				IAmb	IAmb	08 05 37.2	
	comp=Z,42nm,1.1s						
COEN	**Coen**	**25.23**	**281**	P	**P**	**08 06 33.0**	**-0.2**
COEN				IAmb	IAmb	08 06 48.2	
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**26.79**	**239**	P	**P**	**08 06 48.8**	**+1.4**
STKA	**Stephens Creek**	**26.79**	**239**	P	**P**	**08 06 49.2**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=83,slow=10,SNR=9.2						
STKA				LR	LR	08 17 32.4	
	comp=Z,178nm,18.8s,baz=24,slow=36						
	comp=Z,2.9nm,0.7s						
RAR	**Rarotonga**	**29.43**	**97**	LR	LR	08 16 24.5	
	comp=Z,70nm,21.1s,baz=262,slow=31						
WR8	**Warramunga Arr**	**32.08**	**265**	P	**P**	**08 07 33.9**	**-0.5**
WRA	**Warramunga Arr**	**32.23**	**265**	P	**P**	**08 07 35.3**	**-0.5**
WRA	**Warramunga Arr**	**32.23**	**265**	P	**P**	**08 07 35.8**	**0.0**
	comp=Z,2.5nm,0.8s,baz=93,slow=8.5,SNR=4.8						
WRA				PcP	**PcP**	**08 10 24.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=104,slow=3.0,SNR=2.7						
WRA				LR	LR	08 20 12.7	
	comp=Z,140nm,21.3s,baz=138,slow=35						
	comp=Z,2.5nm,0.8s						
AS31	**Alice Springs**	**32.37**	**258**		**P**	**08 07 37.6**	**+0.6**
ASAR	**Alice Springs**	**32.38**	**258**	P	**P**	**08 07 37.4**	**+0.4**
ASAR	**Alice Springs**	**32.38**	**258**	P	**P**	**08 07 37.9**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=84,slow=9.1,SNR=39						
ASAR				PcP	**PcP**	**08 10 24.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=104,slow=3.1,SNR=6.2						
ASAR				LR	LR	08 21 25.5	
	comp=Z,356nm,18.1s,baz=102,slow=38						
	comp=Z,4.0nm,0.7s						
JAY	**Jayapura**	**32.63**	**300**	LR	LR	08 20 58.8	
	comp=Z,87nm,18.6s,baz=188,slow=36						
KNRA	**Kununurra**	**38.22**	**270**	P	**P**	**08 08 27.8**	**+0.6**
KNRA				IAmb	IAmb	08 08 56.8	
	comp=Z,23nm,1.4s						
TBI	**Tubuai**	**38.81**	**102**	*e*S	**S**	**08 14 32.6**	**+4.9**
	comp=Z,157nm,26.5s						
TBI				*e*SS	SS	08 17 34.2	+15
	comp=Z,1μm,31.0s						
TBI				*e*LR	LR	08 19 43.9	
	comp=Z,1μm,31.8s						
PPT2	**Papeete2**	**39.46**	**93**	*e*S	**S**	**08 14 35.3**	**-2.4**
	comp=Z,54nm,24.2s						
PPT2				*e*SS	**SnSn**	**08 17 39.4**	**+4.6**
	comp=Z,60nm,27.8s						
PPT2				*e*LR	LR	08 19 34.7	
	comp=Z,191nm,24.8s						
PPT2				*e*LR	LR	08 19 43.0	
	comp=Z,134nm,25.8s						
PPT	**Papeete**	**39.46**	**93**	LR	LR	08 20 43.2	
	comp=Z,118nm,20.3s,baz=278,slow=30						
FITZ	**Fitzroy Crossi**	**40.65**	**266**	P	**P**	**08 08 49.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**40.65**	**266**	LR	LR	08 25 22.9	
	comp=Z,195nm,19.2s,baz=122,slow=36						
GUMO	**Guam**	**41.17**	**323**	LR	LR	08 24 47.6	
	comp=Z,63nm,18.1s,baz=129,slow=35						
BATI	**Baumata**	**44.50**	**276**	LR	LR	08 27 22.3	
	comp=Z,201nm,20.1s,baz=166,slow=35						
KAPI	**Kappang**	**49.95**	**281**	LR	LR	08 31 51.4	
	comp=Z,52nm,18.1s,baz=170,slow=37						
TAOE	**Nuku Hiva Isla**	**50.61**	**85**	*e*S	**S**	**08 17 19.0**	**-0.2**
	comp=Z,63nm,24.2s						
TAOE				*e*SS	**SS**	**08 20 58.2**	**+4.4**
	comp=Z,28nm,28.2s						
TAOE				*e*LR	LR	08 24 59.5	
	comp=Z,102nm,24.1s						
VNDA	**Vanda**	**57.20**	**182**	P	**P**	**08 10 53.4**	**-0.2**
VNDA	**Vanda**	**57.20**	**182**	P	**P**	**08 10 54.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=7.2,slow=6.2,SNR=3.6						
	comp=Z,0.6nm,0.8s						
CASY	**Casey**	**58.81**	**204**	P	**P**	**08 11 05.7**	**+0.7**
CASY				IAmb	IAmb	08 11 34.0	
	comp=Z,13nm,1.5s						
JOW	**Kunigami**	**61.21**	**319**	LR	LR	08 37 50.2	
	comp=Z,31nm,18.9s,baz=160,slow=36						
TWG	**Pinlang**	**63.34**	**310**	P	**P**	**08 11 38.4**	**+2.0**
YULB	**Yu-li**	**63.53**	**311**	P	**P**	**08 11 39.5**	**+1.8**
MJAR	**Matsushiro Arr**	**63.61**	**333**	P	**P**	**08 11 37.5**	**-0.4**
MJAR				IAmb	IAmb	08 11 59.5	
	comp=Z,5.0nm,1.4s						
MJAR	**Matsushiro Arr**	**63.61**	**333**	P	**P**	**08 11 36.7**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=162,slow=8.4,SNR=4.4						
	comp=Z,1.7nm,0.8s						
MJB9	**Matsu-Tunnel**	**63.62**	**333**	P	**P**	**08 11 38.6**	**+0.7**
MJB9				IAmb	IAmb	08 11 44.3	
	comp=Z,23nm,1.4s						
JNU	**Nakatsue**	**64.38**	**325**	LR	LR	08 40 06.4	
	comp=Z,39nm,18.0s,baz=6.0,slow=36						
ASAJ	**Asahikawa**	**68.58**	**340**	LR	LR	08 39 12.0	
	comp=Z,77nm,19.3s,baz=169,slow=33						
QSPA	**South Pole Qui**	**69.59**	**180**	P	**P**	**08 12 18.3**	**+2.4**
QSPA				IAmb	IAmb	08 12 38.7	
	comp=Z,8.9nm,1.2s						
QSPA	**South Pole Qui**	**69.59**	**180**	P	**P**	**08 12 18.2**	**+2.4**
	comp=Z,3.0nm,0.9s,baz=24,slow=3.4,SNR=8.4						
QSPA				LR	LR	08 41 35.8	
	comp=Z,70nm,18.1s,baz=51,slow=35						
	comp=Z,3.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**72.60**	**333**	P	**P**	**08 12 34.9**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=114,slow=10,SNR=4.7						
	comp=Z,4.5nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.89**	**353**	P	**P**	**08 12 41.3**	**-0.3**
PETK	**Petropavlovsk-**	**73.89**	**353**	P	**P**	**08 12 41.8**	**+0.3**
PETK	**Petropavlovsk-**	**73.89**	**353**	P	**P**	**08 12 40.1**	**-1.4**
	comp=Z,3.3nm,0.9s,baz=168,slow=11,SNR=4.1						
PETK				LR	LR	08 39 26.7	
	comp=Z,68nm,21.4s,baz=141,slow=31						
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**77.12**	**202**	P	**P**	**08 13 01.4**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=126,slow=7.5,SNR=12						
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.56**	**295**	P	**P**	**08 13 08.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**78.56**	**295**	P	**P**	**08 13 10.8**	**+1.9**
	comp=Z,3.0nm,0.3s,baz=139,slow=3.8,SNR=6.7						
	comp=Z,3.0nm,0.3s						
BELA	**Belgrano 2**	**80.92**	**175**	P	**P**	**08 13 20.2**	**-0.6**
BELA				IAmb	IAmb	08 13 21.6	
	comp=Z,14nm,1.3s						
SYO	**Syowa Base**	**83.62**	**196**	⇓*e*P	**P**	**08 13 36.0**	**+1.1**
SYO	**Syowa Base**	**83.62**	**196**	‖*e*sP	**P**	08 13 40.0	+5.1
M16K	**Timber Creek**	**85.28**	**15**	P	**P**	**08 13 41.4**	**-1.8**
L18K	**Granite Mounta**	**86.87**	**15**	P	**P**	**08 13 51.1**	**0.0**
L18K				IAmb	IAmb	08 14 12.3	
	comp=Z,23nm,1.4s						
J16K	**Anvik River**	**86.88**	**13**	P	**P**	**08 13 50.6**	**-0.5**
SAO	**San Andreas Ge**	**87.00**	**49**	P	**P**	**08 13 51.8**	**-0.5**
SAO				IAmb	IAmb	08 13 55.4	
	comp=Z,3.4nm,0.9s						
TROLL	**Troll, Antarti**	**87.28**	**184**	⇑P	**P**	**08 13 53.4**	**0.0**
	comp=Z,287nm,0.7s						
SONM	**Songino Array**	**87.91**	**323**	P	**P**	**08 13 57.3**	**+0.7**
SONM				IAmb	IAmb	08 14 11.1	
	comp=Z,3.3nm,1.0s						
SONM	**Songino Array**	**87.91**	**323**	P	**P**	**08 13 56.4**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=155,slow=8.2,SNR=5.9						
	comp=Z,1.0nm,0.8s						
SNAA	**Sanae**	**87.92**	**183**	⇑P	**P**	**08 13 55.7**	**-0.6**
	comp=Z,64nm,0.8s						
SNAA	**Sanae**	**87.92**	**183**	P	**P**	**08 13 56.1**	**-0.2**
SNAA				IAmb	IAmb	08 13 57.1	
	comp=Z,4.8nm,1.0s						
SNAA	**Sanae**	**87.92**	**183**	P	**P**	**08 13 55.5**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=173,slow=3.5,SNR=4.1						
	comp=Z,3.1nm,0.9s						
VNA3	**Neumayer Olymp**	**88.53**	**181**	⇑P	**P**	**08 13 58.7**	**-0.4**
	comp=Z,9.2nm,0.8s						
VNA2	**Neumayer--Watz**	**88.81**	**181**	⇑P	**P**	**08 14 00.5**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=167,slow=5.8						
VNA1	**Neumayer--Stat**	**89.11**	**181**	⇑P	**P**	**08 14 01.5**	**-0.3**
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**89.97**	**49**	P	**P**	**08 14 04.9**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=222,slow=9.2,SNR=9.9						
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	**91.54**	**17**	P	**P**	**08 14 10.4**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=237,slow=5.3,SNR=6.5						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**102.27**	**315**	P	**Pdif**	**08 15 01.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=111,slow=5.5,SNR=4.0						
BOSA	**Boshof**	**119.79**	**217**	PKP	**PKPdf**	**08 19 55.6**	**-2.2**
	comp=Z,1.2nm,0.5s,baz=167,slow=1.0,SNR=7.3						
ARCES	**ARCESS Array B**	**126.12**	**345**	PKP	**PKPdf**	**08 20 08.1**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=64,slow=2.1,SNR=4.7						
EKA	**Eskdalemuir Ar**	**144.65**	**352**	PKP	**PKPab**	**08 20 40.9**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=355,slow=2.2,SNR=7.3						
ZVC	**Zvikov**	**144.68**	**331**	*e*PKP	**PKPdf**	**08 20 42.9**	**-0.5**
RONA	**Rosalia, Austr**	**144.86**	**327**	*e*PKP	**PKPdf**	**08 20 43.4**	**-0.4**
	comp=Z,3.9nm,0.9s						
CONA	**Conrad Observa**	**144.93**	**328**	*i* PKP	**PKPdf**	**08 20 43.8**	**-0.2**
	comp=Z,5.5nm,1.3s						
KHC	**Kasperske Hory**	**145.18**	**331**	*e*PKP	**PKPdf**	**08 20 44.6**	**+0.3**
KHC				*ex*	x	08 20 55.0	
GERES	**GERESS Array B**	**145.33**	**331**	PKPbc	**PKPbc**	**08 20 43.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=20,slow=4.3,SNR=10						
ARSA	**Arzberg**	**145.55**	**327**	*i* PKP	**PKPab**	**08 20 45.2**	**-0.2**
	comp=Z,3.2nm,0.8s						
MOA	**Molln**	**145.76**	**329**	*i* PKP	**PKPab**	**08 20 46.5**	**+0.3**
	comp=Z,7.7nm,1.1s						
BIOA	**Bad Ischl, Aus**	**146.18**	**329**	*e*PKP	**PKPab**	**08 20 47.7**	**-0.1**
	comp=Z,3.2nm,0.9s						
SOKA	**Soboth**	**146.18**	**327**	*i* PKP	**PKPab**	**08 20 47.7**	**-0.2**
	comp=Z,3.9nm,1.2s						
OBKA	**Obir**	**146.54**	**327**	*i* PKP	**PKPab**	**08 20 48.8**	**-0.5**
	comp=Z,8.8nm,1.6s						
KBA	**Koelnbreinsper**	**146.75**	**329**	*i* PKP	**PKPab**	**08 20 50.4**	**+

PDGK ⇓Lg Lg 08 54 33.3
10nm,0.9s

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*SJA **26** 08:52:12.1±1.0, 32°.64S×69°.99W, h126km±3km, ML3.3, MW3.5*
*GUC **26** 08:52:13.8±0.8, 32°.63S×70°.12W, h110km±3km, ML3.5*
ISC 26 08:52:12.8±1.2, **32°.64S**±0°.02×**70°.00W**±0°.03, **h124**km±7km, **n68**, σ1§**29**/123, **13C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.48**	**255⇑**	*eP*	**Pn**	**08 52 30.7**	**-0.5**
VA03				*eS*	**Sn**	**08 52 43.7**	**-1.3**
VA03				IAML		08 52 44.8	
comp=E,4μm,0.4s							
VA03	**San Esteban**	**0.48**	**255**	*eP*	**Pn**	**08 52 30.9**	**-0.3**
VA03				IAML		08 52 44.9	
comp=Z,1μm,0.4s							
PEL	**Peldehue**	**0.76**	**229**	*eP*	**Pn**	**08 52 32.8**	**-0.3**
PEL				*eS*	**Sn**	**08 52 47.3**	**-1.2**
PEL	**Peldehue**	**0.76**	**229**	*eP*	**Pn**	**08 52 33.0**	**-0.2**
PEL				*eS*	**Sn**	**08 52 48.5**	**+0.1**
PEL				IAML		08 52 49.5	
comp=Z,452nm,0.2s							
MT04	**Ro Olivares**	**0.77**	**188⇑**	*eP*	**Pn**	**08 52 33.9**	**+0.5**
MT04				*eS*	**Sn**	**08 52 49.5**	**+0.5**
MT04	**Ro Olivares**	**0.77**	**188**	*eP*	**Pn**	**08 52 33.9**	**+0.5**
MT04				*eS*	**Sn**	**08 52 49.8**	**+0.8**
MT04				IAML		08 52 59.5	
comp=Z,214nm,0.2s							
MT10	**Hacienda Santa**	**0.77**	**215⇑**	*eP*	**Pn**	**08 52 33.6**	**+0.2**
MT10				*eS*	**Sn**	**08 52 48.9**	**0.0**
MT10				IAML		08 52 50.2	
comp=N,3μm,0.5s							
MT08	**Bocatoma Ro**	**0.80**	**181**	*eP*	**Pn**	**08 52 34.3**	**+0.7**
MT08				*eS*	**Sn**	**08 52 50.1**	**+0.6**
MT08	**Bocatoma Ro**	**0.80**	**181**	*eP*	**Pn**	**08 52 29.7**	**-3.9**
MT08				*eS*	Sn	08 53 02.2	+13
MT14	**Cerro Calıın**	**0.88**	**211⇑**	*eP*	**Pn**	**08 52 34.5**	**+0.4**
MT14				*eS*	**Sn**	**08 52 50.3**	**+0.1**
MT14				IAML		08 52 51.1	
comp=N,2μm,0.4s							
ROCH	**El Roble**	**0.91**	**249⇑**	*eP*	**Pn**	**08 52 34.4**	**-0.2**
ROCH				*eS*	**Sn**	**08 52 49.9**	**-1.1**
ROCH				IAML		08 52 51.5	
comp=E,2μm,0.3s							
ROC1	**El Roble**	**0.92**	**248**	*eP*	**Pn**	**08 52 34.4**	**-0.2**
ROC1				*eS*	**Sn**	**08 52 50.4**	**-0.8**
ARCO	**CERRO ARCO**	**0.92**	**103**	*eP*	**Pn**	**08 52 35.2**	**+0.5**
ARCO				*eS*	**Sn**	**08 52 51.8**	**+0.6**
ARCO				IAML		08 52 54.4	
comp=Z,853nm,0.4s							
MT03	**Universidad Ad**	**0.95**	**206⇑**	*eP*	**Pn**	**08 52 35.2**	**+0.4**
MT03				*eS*	**Sn**	**08 52 51.9**	**+0.3**
MT03				IAML		08 52 52.6	
comp=E,3μm,0.2s							
MT03	**Universidad Ad**	**0.95**	**206**	*eP*	Pn	08 52 30.1	-4.7
MT03				*eP*		08 52 35.3	
MT03				*eS*	**Sn**	**08 52 52.1**	**+0.6**
MT03				IAML		08 52 53.7	
comp=Z,1μm,0.2s							
MT05	**Renca**	**0.97**	**219⇑**	*eP*	**Pn**	**08 52 35.4**	**+0.4**
MT05				*eS*	**Sn**	**08 52 51.7**	**-0.1**
MT05	**Renca**	**0.97**	**219**	*eP*	**Pn**	**08 52 35.4**	**+0.4**
MT05				*eS*	**Sn**	**08 52 51.9**	**+0.2**
MT05				IAML		08 52 52.4	
comp=Z,2μm,0.3s							
ASAL	**Salagasta**	**0.99**	**87**	*eP*	**Pn**	**08 52 35.6**	**+0.5**
ASAL				*eS*	**Sn**	**08 52 52.4**	**+0.3**
CO04	**Los Peladeros**	**1.02**	**306⇑**	*eP*	**Pn**	**08 52 35.3**	**-0.3**
CO04				*eS*	**Sn**	**08 52 52.2**	**-0.7**
CO04				IAML		08 52 53.3	
comp=E,1μm,0.2s							
RTLS	**Leoncito**	**1.03**	**36**	*eP*	**Pn**	**08 52 36.4**	**+0.6**
RTLS				*eS*	**Sn**	**08 52 53.6**	**+0.4**
RTLS				IAML		08 52 53.7	
comp=Z,1μm,0.3s							
MT15	**Las Vizcachas**	**1.04**	**204⇑**	*eP*	**Pn**	**08 52 36.2**	**+0.5**
MT15				*eS*	**Sn**	**08 52 53.3**	**+0.3**
MT15				IAML		08 52 57.2	
comp=N,2μm,0.2s							
AAGR	**Agrelo**	**1.08**	**114**	*eP*	**Pn**	**08 52 36.9**	**+0.8**
AAGR				*eS*	**Sn**	**08 52 53.9**	**+0.2**
VA06	**Catapilco**	**1.09**	**274⇑**	*eP*	**Pn**	**08 52 35.7**	**-0.4**
VA06				*eS*	**Sn**	**08 52 52.2**	**-1.6**
VA06				IAML		08 52 53.0	
comp=N,2μm,0.3s							
MT02	**Curacav**	**1.14**	**237⇑**	*eP*	**Pn**	**08 52 36.3**	**-0.2**
MT02				*eS*	**Sn**	**08 52 53.6**	**-0.9**
MT02	**Curacav**	**1.14**	**237**	*eP*	**Pn**	**08 52 36.2**	**-0.3**
MT02				IAML		08 52 57.0	
comp=Z,194nm,0.2s							
LMEL	**Las Melosas**	**1.21**	**188**	*eP*	**Pn**	**08 52 38.7**	**+1.2**
LMEL				IAML		08 53 03.7	
comp=N,652nm,0.1s							
LMEL	**Las Melosas**	**1.21**	**188**	*eP*	**Pn**	**08 52 38.7**	**+1.2**
LMEL				IAML		08 53 05.1	
comp=Z,178nm,0.2s							
MT09	**Talagante**	**1.40**	**216⇑**	*eP*	**Pn**	**08 52 40.0**	**+0.5**
MT09				*eS*	**Sn**	**08 52 59.7**	**-0.1**
MT09				IAML		08 53 01.7	
comp=N,1μm,0.3s							
VA01	**Torpederas**	**1.44**	**254**	*eP*	**Pn**	**08 52 39.4**	**-0.3**
VA01				*eS*	**Sn**	**08 52 59.1**	**-1.0**
VA01				IAML		08 53 01.9	
comp=N,2μm,0.1s							
VA01	**Torpederas**	**1.44**	**254**	*eP*	**Pn**	**08 52 38.5**	**-1.2**
VA01				IAML		08 53 02.9	
comp=Z,180nm,0.3s							
BO04	**La Punta**	**1.44**	**201⇓**	*eP*	**Pn**	**08 52 40.8**	**+1.0**
BO04				*eS*	**Sn**	**08 53 01.2**	**+0.8**
BO04				IAML		08 53 02.6	
comp=N,453nm,0.3s							
AVIZ	**Vizcacheras**	**1.50**	**124**	*eP*	**Pn**	**08 52 41.7**	**+1.1**
AVIZ				*eS*	**Sn**	**08 52 56.8**	**-4.9**
ZON	**Zonda**	**1.57**	**46**	*eP*	**Pn**	**08 52 41.8**	**+0.4**
ZON				*eS*	**Sn**	**08 53 03.2**	**+0.1**
ZON				IAML		08 53 06.5	
comp=Z,127nm,0.7s							
MT01	**Popeta**	**1.61**	**220**	*eP*	**Pn**	**08 52 41.7**	**0.0**
MT01				*eS*	**Sn**	**08 53 02.9**	**-0.9**
MT01				IAML		08 53 05.5	
comp=E,618nm,0.3s							
MT01	**Popeta**	**1.61**	**220**	*eP*	**Pn**	**08 52 41.6**	**0.0**
MT01				IAML		08 53 05.6	
comp=Z,277nm,0.2s							
SJA	**San Juan**	**1.65**	**48**	*eP*	Pn	08 52 27.1	-15
SJA				*eS*	**Sn**	**08 53 09.2**	**+4.3**
CO02	**Combarbal**	**1.67**	**329⇑**	*eP*	**Pn**	**08 52 43.0**	**+0.4**
CO02				*eS*	**Sn**	**08 53 05.3**	**+0.1**
CO02	**Combarbal**	**1.67**	**329**	*eP*	**Pn**	**08 52 43.0**	**+0.4**
CO02				*eS*	**Sn**	**08 53 05.6**	**+0.3**
CO02				IAML		08 53 06.5	
comp=Z,706nm,0.6s							
CFA	**Coronel Fontan**	**1.82**	**56**	*eP*	**Pn**	**08 52 44.7**	**+0.4**
CFA				*eS*	**Sn**	**08 53 08.1**	**-0.3**
RTLL	**Cerro Villicun**	**1.84**	**45**	*eP*	**Pn**	**08 52 44.8**	**+0.2**
RTLL				*eS*	**Sn**	**08 53 09.2**	**+0.3**
RTLL				IAML		08 53 09.7	
comp=Z,402nm,0.4s							
CO03	**El Pedregal**	**1.89**	**342**	*eP*	**Pn**	**08 52 46.4**	**+1.1**
CO03				*eS*	**Sn**	**08 53 10.8**	**+0.8**
CO03				IAML		08 53 11.8	
comp=E,570nm,0.3s							
CO03	**El Pedregal**	**1.89**	**342**	*eP*	**Pn**	**08 52 46.2**	**+1.0**
CO03				*eS*	**Sn**	**08 53 10.9**	**+1.0**
CO03				IAML		08 53 13.0	
comp=Z,223nm,0.4s							
BO01	**Tunca**	**1.96**	**207**	*eP*	**Pn**	**08 52 46.3**	**+0.3**
BO01				*eS*	**Sn**	**08 53 11.5**	**+0.1**
BO01	**Tunca**	**1.96**	**207**	*eP*	**Pn**	**08 52 46.4**	**+0.3**
BO01				*eS*	**Sn**	**08 53 11.6**	**+0.1**
BO01				IAML		08 53 12.8	
comp=Z,89nm,0.4s							
ACCO	**Cerro Coronel**	**2.20**	**22**	*eP*	**Pn**	**08 52 50.4**	**+1.1**
ACCO				*eS*	**Sn**	**08 53 18.0**	**+0.8**
BO02	**Sierra Bellavi**	**2.24**	**197**	*eP*	**Pn**	**08 52 50.7**	**+1.2**
BO02				*eS*	**Sn**	**08 53 19.2**	**+1.5**
BO02				IAML		08 53 20.7	
comp=E,263nm,0.2s							
BO02	**Sierra Bellavi**	**2.24**	**197**	*eP*	**Pn**	**08 52 50.8**	**+1.3**
BO02				*eS*	**Sn**	**08 53 20.5**	**+2.8**
BO02				IAML		08 53 21.0	
comp=Z,148nm,0.2s							
CO06	**Fray Jorge**	**2.41**	**324**	*eP*	**Pn**	**08 52 52.5**	**+0.9**
CO06				*eS*	**Sn**	**08 53 20.5**	**-0.8**
CO06				IAML		08 53 27.0	
comp=N,186nm,0.4s							
ACAN	**Cantantal**	**2.41**	**82**	*eP*	**Pn**	**08 52 52.2**	**+0.6**
ACAN				*eS*	**Sn**	**08 53 20.2**	**-1.2**
BO03	**Pichilemu**	**2.47**	**221**	*eP*	**Pn**	**08 52 52.0**	**-0.3**
RFA	**San Rafael**	**2.48**	**149**	*eP*	**Pn**	**08 52 53.4**	**+0.8**
RFA				*eS*	**Sn**	**08 53 23.3**	**+0.2**
RFA				IAML		08 53 23.6	
comp=Z,43nm,0.7s							
AROD	**Rodeo**	**2.51**	**11**	*eP*	**Pn**	**08 52 55.4**	**+2.2**
AROD				*eS*	**Sn**	**08 53 25.9**	**+1.7**
GO04	**Tololo Observa**	**2.55**	**344**	*eP*	**Pn**	**08 52 54.4**	**+0.7**
GO04				*eS*	**Sn**	**08 53 25.6**	**+0.5**
GO04				IAML		08 53 31.2	
comp=Z,228nm,0.3s							
ACDV	**Cuesta del Vie**	**2.58**	**17**	*eP*	**Pn**	**08 52 55.9**	**+2.0**
ACDV				*eS*	**Sn**	**08 53 26.3**	**+0.8**
ACDV				IAML		08 53 35.2	
comp=Z,40nm,0.6s							
CO01	**Juntas del Tor**	**2.66**	**358**	*eP*	**Pn**	**08 52 52.0**	**-3.1**
CO01				*eS*	**Sn**	**08 53 30.1**	**+2.6**
CO01				IAML		08 53 35.0	
comp=Z,38nm,0.5s							
GO05	**Hualane**	**2.85**	**214**	*eP*	**Pn**	**08 52 57.4**	**+0.1**
GO05				*eS*	**Sn**	**08 53 31.4**	**-0.3**
GO05				IAML		08 53 43.3	
comp=Z,35nm,0.2s							
AVFE	**Valle Fertil**	**2.94**	**48**	*eP*	**Pn**	**08 52 59.0**	**+0.5**
AVFE				*eS*	**Sn**	**08 53 28.1**	**-5.6**
AVFE				IAML		08 53 33.7	
comp=Z,132nm,0.8s							
EDS3	**Malargue**	**3.16**	**171**	*eP*	**Pn**	**08 53 02.6**	**+1.1**
EDS3				*eS*	**Sn**	**08 53 36.4**	**-2.6**
ACHE	**Chepes**	**3.20**	**63**	*eP*	**Pn**	**08 53 02.6**	**+0.6**
ACHE				*eS*	**Sn**	**08 53 38.3**	**-1.7**
ML02	**Panimavida**	**3.33**	**200**	*eP*	**Pn**	**08 53 03.8**	**+0.3**
ML02				IAML		08 53 46.6	
comp=Z,42nm,0.3s							
AGUA	**GUANDACOL**	**3.40**	**23**	*eP*	**Pn**	**08 53 06.2**	**+1.6**
AGUA				IAML		08 53 26.0	
comp=Z,34nm,1.9s							
AGUA				*eS*	**Sn**	**08 53 44.5**	**-0.2**
MRA	**San Martin**	**3.63**	**88**	*eP*	**Pn**	**08 53 07.6**	**+0.1**
MRA				*eS*	Sn	08 53 38.9	-11
MRA				IAML		08 53 51.5	
comp=Z,92nm,0.9s							
LCO	**Las Campanas**	**3.67**	**350**	*eP*	**Pn**	**08 53 08.9**	**+0.6**
LCO				*eS*	**Sn**	**08 53 50.8**	**-0.4**
LCO				IAML		08 53 52.5	
comp=Z,119nm,0.2s							
ACLC	**CERRO LA CRUZ**	**4.14**	**40**	*eP*	**Pn**	**08 53 14.7**	**+0.2**
ACLC				*eS*	**Sn**	**08 54 01.1**	**-1.2**
ACLC				IAML		08 54 25.1	
comp=Z,32nm,0.5s							
BI02	**San Fabin de**	**4.15**	**194**	*eP*	**Pn**	**08 53 15.7**	**+1.3**
VCA	**Vinchina**	**4.19**	**22**	*eP*	**Pn**	**08 53 14.4**	**-0.8**
VCA				*eS*	**Sn**	**08 54 01.7**	**-1.8**
VCA				IAML		08 54 07.2	
comp=Z,29nm,0.5s							
AC04	**Llanos de Chal**	**4.52**	**348**	*eP*	**Pn**	**08 53 19.6**	**+0.2**
AC04				*eS*	**Sn**	**08 54 09.4**	**-1.7**
AC04				IAML		08 54 26.4	
comp=Z,23nm,0.5s							
TCA	**Tanti**	**4.78**	**76**	*eP*	**Pn**	**08 53 22.7**	**-0.2**
TCA				*eS*	**Sn**	**08 54 15.2**	**-2.2**
TCA				IAML		08 54 30.4	
comp=Z,40nm,0.6s							

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*IDC **26** 08:52:36.9±0.4, 15°.88S×172°.34W, h0km, mb4.9/26, mbtmp4.9/26, MS4.7/60, Error ellipse: s-maj=16.1km s-min=14.3km az=151.0*
*MOS **26** 08:52:37.9±2.0, 15°.71S×172°.36W, h11km, mb5.3/17, Error ellipse: s-maj=10.2km s-min=9.4km az=83.3*
*NEIC **26** 08:52:37.1, 15°.70S×171°.85W, h22km*
*NEIC **26** 08:52:37.1, 15°.80S×171°.95W, h22km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.75; $M_{\theta\theta}$-2.91; $M_{\phi\phi}$5.66; $M_{r\theta}$3.82; $M_{\theta\phi}$-1.24; $M_{\phi r}$7.62; Fault plane solution: $M_0$9.91000×10^{16} NP1: ϕ_s314.66000°, δ25.82000°, λ-157.92000°. NP2: ϕ_s204.60000°, δ80.58000°, λ-65.85000°. Principal axes: T 10.2211, Plg31.0000°, Azm275.0000°; N -0.6567, Plg24.0000°, Azm20.0000°; P -9.5644, Plg49.0000°, Azm141.0000°;*
*NEIC **26** 08:52:37.3±2.2, 15°.70S±0°.06×171°.87W±0°.09, h10km±1km, mb5.4/59, Mww5.3/13 Error ellipse: s-maj=14.1km s-min=9.9km az=78.0*
*BJI **26** 08:52:39.7, 15°.06S×171°.72W, h21km, mB5.8/17, mb5.3/44, Ms5.2/25, Ms7 4.9/28*
*NOU **26** 08:52:41.0, 16°.10S×172°.13W, h30km, mb5.4/77, Samoa Islands Region*
*GCMT **26** 08:52:43.3±0.1, 15°.75S±0°.01×172°.00W±0°.01, h12km, MW5.3/131, Moment Tensor Solution. s72, c111; s131, c222; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.16±.01; $M_{\theta\theta}$-0.33±.01; $M_{\phi\phi}$0.48±.01; $M_{r\theta}$0.39±.02; $M_{\theta\phi}$-0.18±.01; $M_{\phi r}$0.91±.02; Best double couple: $M_0$1.08700×10^{17} NP1:ϕ_s306.00000°, δ23.00000°, λ-167.00000°. NP2:ϕ_s204.00000°, δ85.00000°, λ-67.00000°. Principal axes: T 1.1290, Plg36.0000°, Azm274.0000°; N -0.0830, Plg22.0000°, Azm21.0000°; P -1.0450, Plg46.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 08:52:37.0±0.2, **15°.79S**±0°.04×**171°.94W**±0°.05, **h10**km, **n753**, σ1§**76**/711, **mb5.3**/109, **MS4.8**/73, **50C-23D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**5**		**Pn**	**08 53 06.9**	**-2.4**
AFI	**Afiamalu**	**1.88**	**5**	P	**Pn**	**08 53 07.3**	**-2.1**
AFI				S	**Sn**	**08 53 27.8**	**-5.4**
AFI	**Afiamalu**	**1.88**	**5**	P	**Pn**	**08 53 06.9**	**-2.4**
NIUE	**Niue**	**3.79**	**150**	P	**Pn**	**08 53 34.7**	**-0.8**
NIUE				S	**Sn**	**08 54 16.0**	**-4.2**
NIUE	**Niue**	**3.79**	**150**		**Pn**	**08 53 34.7**	**-0.8**
NIUE	**Niue**	**3.79**	**150**	P	**Pn**	**08 53 34.7**	**-0.8**
NIUE	**Niue**	**3.79**	**150**	S	**Sn**	**08 54 15.6**	**-4.6**
NIUE	**Niue**	**3.79**	**150**	P	**Pn**	**08 53 34.7**	**-0.8**
NIUE				S	**Sn**	**08 54 14.8**	**-5.4**
FUTU	**Fugatoga**	**6.15**	**283**		**Pn**	**08 54 08.3**	**+0.3**
FUTU	**Fugatoga**	**6.15**	**283**	P	**Pn**	**08 54 09.3**	**+1.3**
MSVF	**Nonsavu**	**9.78**	**257**		**Pn**	**08 54 59.6**	**+1.7**
MSVF	**Nonsavu**	**9.78**	**257**	P	**Pn**	**08 54 57.7**	**-0.2**
MSVF	**Nonsavu**	**9.78**	**257**	P	**Pn**	**08 54 59.6**	**+1.7**
FUNA	**Funafuti**	**11.28**	**309**		**Pn**	**08 55 18.0**	**-0.4**
FUNA	**Funafuti**	**11.28**	**309**	P	**Pn**	**08 55 20.8**	**+2.5**
RAR	**Rarotonga**	**12.74**	**117**		**Pn**	**08 55 37.5**	**-0.9**
RAR	**Rarotonga**	**12.74**	**117**	Pn	**Pn**	**08 55 37.6**	**-0.8**
4.8nm,0.3s,baz=256,slow=7.9,SNR=16							
RAR				Sn	Sn	08 57 50.6	-10
baz=13,slow=22							
RAR				LR	LR	08 59 37.8	
comp=Z,4μm,18.1s,baz=280,slow=32							
RAR	**Rarotonga**	**12.74**	**117**	P	**Pn**	**08 55 38.7**	**+0.4**
RAR	**Rarotonga**	**12.74**	**117**	P	**Pn**	**08 55 37.4**	**-0.9**
GLKZ	**Green Lake**	**14.49**	**201**	P	Pn	08 55 58.1	-4.2
GLKZ				S	Sn	08 58 28.7	-14
MARNC	**Mare, Loyalty**	**19.79**	**250**	P	**P**	**08 57 03.9**	**-3.8**
SANVU	**Saraoutou**	**20.09**	**268**		**P**	**08 57 10.6**	**-0.4**
SANVU				IAmb	IAmb	08 57 13.2	
comp=Z,357nm,1.4s							
SANVU	**Saraoutou**	**20.09**	**268**	P	**P**	**08 57 10.0**	**-1.0**
OUENC	**Ouen Island, N**	**21.09**	**249**	P	**P**	**08 57 21.8**	**0.0**
DZM	**Mont Dzumac**	**21.36**	**250**	P	**P**	**08 57 21.1**	**-3.8**
comp=Z,15nm,0.8s,baz=82,slow=12,SNR=7.8							
DZM				LR	LR	09 04 16.8	
comp=Z,4μm,21.4s,baz=86,slow=33							
comp=Z,15nm,0.8s							
ONTNC	**Ouen Toro**	**21.41**	**249**	P	**P**	**08 57 23.2**	**-2.0**
ONTNC				IAmb	IAmb	08 57 44.5	
comp=Z,101nm,0.9s							
ONTNC	**Ouen Toro**	**21.41**	**249**	P	**P**	**08 57 25.5**	**+0.3**
PPT	**Papeete**	**21.50**	**98**	P	**P**	**08 57 31.9**	**+5.7**
comp=Z,83nm,0.8s,baz=265,slow=5.2,SNR=8.5							
PPT				LR	LR	09 03 40.5	
comp=Z,2μm,20.2s,baz=272,slow=30							
comp=Z,83nm,0.8s							
PPT2	**Papeete2**	**21.50**	**98**	*e*P	**P**	**08 57 25.2**	**-1.1**
comp=Z,573nm,26.2s							
PPT2				*e*S	**S**	**09 01 16.8**	**-8.1**
comp=Z,5μm,26.8s							
PPT2				*e*LR	LR	09 02 28.4	
comp=Z,4μm,22.8s							
PPT2				*e*LR	LR	09 02 29.6	
comp=Z,4μm,24.0s							
PPTF	**Pamatai, Papee**	**21.51**	**98**	P	**P**	**08 57 31.7**	**+5.3**
TBI	**Tubuai**	**22.46**	**113**	*e*P	**P**	**08 57 34.9**	**-1.6**
comp=Z,2μm,27.5s							
TBI				*e*S	**S**	**09 01 39.4**	**-3.8**
comp=Z,24μm,28.5s							
TBI				*e*LR	LR	09 02 55.6	
comp=Z,6μm,25.0s							
TBI				*e*LR	LR	09 02 59.0	
comp=Z,25μm,25.5s							
TARA	**Tarawa**	**22.67**	**317**		**P**	**08 57 37.8**	**-1.0**
TARA				IAmb	IAmb	08 57 41.2	
comp=Z,193nm,1.0s							
TARA	**Tarawa**	**22.67**	**317**	P	**P**	**08 57 39.9**	**+1.1**
GRZ	**Great Barrier**	**23.26**	**207**	P	**P**	**08 57 46.1**	**+1.4**
OUZ	**Omahuta**	**23.28**	**211**	P	**P**	**08 57 44.3**	**-0.7**
MXZ	**Matakaoa Point**	**23.34**	**200**	P	**P**	**08 57 49.4**	**+3.9**
WCZ	**Waipu Caves**	**23.50**	**209**	P	**P**	**08 57 47.0**	**-0.2**
WMGZ	**Waiomatatini S**	**23.54**	**199**	P	**P**	**08 57 49.5**	**+2.0**
KUZ	**Kuaotunu**	**23.57**	**205**	P	**P**	**08 57 48.3**	**+0.5**
KUZ	**Kuaotunu**	**23.57**	**205**	P	**P**	**08 57 49.9**	**+2.1**
HAZ	**Te Kaha**	**23.69**	**201**	P	**P**	**08 57 51.1**	**+2.1**
PUZ	**Puketiti**	**23.82**	**199**	P	**P**	**08 57 51.0**	**+0.7**
ABAZ	**Army Bay**	**23.83**	**207**	P	**P**	**08 57 51.8**	**+1.5**
WIAZ	**Waiheke Island**	**23.86**	**206**	P	**P**	**08 57 51.8**	**+1.2**
RUGZ	**Raukumara Rang**	**23.91**	**201**	P	**P**	**08 57 53.2**	**+1.9**
MBAZ	**Motutapu North**	**23.94**	**207**	P	**P**	**08 57 52.9**	**+1.5**
TWGZ	**Tauwhareparae**	**24.00**	**200**	P	**P**	**08 57 53.4**	**+1.4**
RVAZ	**Riverhead Bore**	**24.08**	**207**	P	**P**	**08 57 55.1**	**+2.4**
ETAZ	**East Tamaki Re**	**24.08**	**206**	P	**P**	**08 57 54.6**	**+1.8**
MKAZ	**Moumakai**	**24.11**	**206**	P	**P**	**08 57 54.7**	**+1.7**
MWZ	**Matawai**	**24.30**	**200**	P	**P**	**08 57 56.0**	**+1.3**
URZ	**Urewera**	**24.37**	**201**	LR	LR	09 07 01.0	
comp=Z,827nm,18.2s,baz=13,slow=36							
URZ	**Urewera**	**24.37**	**201**	P	**P**	**08 57 54.7**	**-0.7**
TOZ	**Tahuroa Road**	**24.51**	**205**		**P**	**08 57 59.0**	**+2.4**
TOZ	**Tahuroa Road**	**24.51**	**205**	P	**P**	**08 57 59.2**	**+2.5**
RTZ	**Ruatahuna**	**24.73**	**201**	P	**P**	**08 58 00.7**	**+2.0**
RTZ				IAmb	IAmb	08 58 03.8	
comp=Z,70nm,0.8s							
RTZ	**Ruatahuna**	**24.73**	**201**	P	**P**	**08 58 00.2**	**+1.4**
KNZ	**Kokohu**	**24.87**	**200**	P	**P**	**08 58 05.6**	**+5.7**
TLZ	**Tolley Road**	**25.01**	**204**	P	**P**	**08 58 04.3**	**+3.1**
BKZ	**Black Stump Fm**	**25.40**	**201**	P	**P**	**08 58 04.5**	**-0.2**
BKZ	**Black Stump Fm**	**25.40**	**201**	P	**P**	**08 58 06.2**	**+1.5**
HIZ	**Hauiti**	**25.44**	**205**	P	**P**	**08 58 06.3**	**+1.3**
HIZ	**Hauiti**	**25.44**	**205**	P	**P**	**08 58 09.0**	**+3.9**
NGZ	**Ngauruhoe**	**25.73**	**203**	P	**P**	**08 58 10.9**	**+3.1**
VRZ	**Vera Road**	**26.00**	**204**	P	**P**	**08 58 14.3**	**+4.1**
PXZ	**Pawanui**	**26.05**	**200**	P	**P**	**08 58 15.2**	**+4.7**
TSZ	**Takapari Road**	**26.38**	**201**	P	**P**	**08 58 16.7**	**+3.1**
BFZ	**Birch Farm**	**26.84**	**200**	P	**P**	**08 58 21.4**	**+3.7**
MRZ	**Mangatainoka R**	**27.05**	**201**	P	**P**	**08 58 22.2**	**+2.6**
HNR	**Honiara**	**28.13**	**280**	LR	LR	09 08 12.8	
comp=Z,3μm,19.2s,baz=122,slow=34							
NNZ	**Nelson**	**28.34**	**204**	P	**P**	**08 58 34.5**	**+3.3**
QRZ	**Quartz Range**	**28.35**	**205**	P	**P**	**08 58 34.7**	**+3.4**
THZ	**Tophouse**	**28.99**	**204**	P	**P**	**08 58 38.3**	**+1.3**
KHZ	**Kahutara**	**29.32**	**202**	P	**P**	**08 58 41.6**	**+1.8**
DSZ	**Denniston Nort**	**29.42**	**205**	P	**P**	**08 58 43.7**	**+2.9**
LTZ	**Lake Taylor**	**30.11**	**204**	P	**P**	**08 58 47.6**	**+0.7**
INZ	**Inchbonnie**	**30.38**	**205**	P	**P**	**08 58 51.3**	**+2.0**
MQZ	**McQueen's Vall**	**30.76**	**202**	P	P	08 59 00.9	+8.3
WVZ	**Waitaha Valley**	**30.96**	**205**	P	**P**	**08 58 56.7**	**+2.4**
RPZ	**Rata Peaks**	**31.37**	**204**	P	P	08 59 03.5	+5.5
FOZ	**Fox Glacier**	**31.72**	**206**	P	**P**	**08 59 05.1**	**+4.1**
TAOE	**Nuku Hiva Isla**	**31.79**	**81**	*e*P	**P**	**08 59 01.4**	**-0.7**
comp=Z,113nm,25.7s							
TAOE				*e*LR	LR	09 07 10.0	
comp=Z,2μm,23.6s							
LBZ	**Lake Benmore**	**32.27**	**204**	P	**P**	**08 59 08.0**	**+2.1**
JCZ	**Jackson Bay**	**32.59**	**206**	P	**P**	**08 59 10.4**	**+1.5**
WKZ	**Wanaka**	**33.11**	**205**	P	**P**	**08 59 15.7**	**+2.5**
WHZ	**Wether Hill Ro**	**34.41**	**205**	P	**P**	**08 59 29.3**	**+4.7**
TW1H	**Toowoomba 1 Ha**	**35.39**	**245**	P	**P**	**08 59 31.5**	**-1.8**
RKT	**Rikitea**	**35.54**	**108**	*e*LR	LR	09 09 01.2	
comp=Z,15μm,26.2s							
EIDS	**Eidsvold**	**35.80**	**248**	P	P	08 59 31.6	-5.2
EIDS	**Eidsvold**	**35.80**	**248**	P	P	08

AUMBR **Murray Bridge** 47.54 237 P P 09 01 11.4 -1.5
AUJCS **Jamestown Cent** 47.76 239 P P 09 01 13.2 -1.4
AUMAR **Marden Senior** 48.02 237 P P 09 01 15.3 -1.3
JAY **Jayapura** 48.44 281 LR LR 09 20 44.5
comp=Z,940nm,20.5s,baz=88,slow=35
JAY **Jayapura** 48.44 281 P P 09 01 19.2 -0.9
comp=Z,29nm,1.1s
WHYH **Whyalla** 48.60 240 P P 09 01 19.0 -2.0
WR8 **Warramunga Arr** 50.97 257 P P 09 01 36.6 -2.7
WR8 IAmb IAmb 09 01 38.3
comp=Z,79nm,1.2s
WB0 **Warramunga Arr** 51.09 257 P P 09 01 37.5 -2.7
WRAB **Tennant Creek** 51.11 257 P P 09 01 37.4 -3.0
WRAB **Tennant Creek** 51.11 257 *ce*P P 09 01 37.7 -2.7
WRAB pmax pmax
comp=Z,136nm,1.7s
WB1 **Warramunga Ar.** 51.11 257 P P 09 01 37.9 -2.5
WRA **Warramunga Arr** 51.12 257 P P 09 01 37.3 -3.2
WRA **Warramunga Arr** 51.12 257 P P 09 01 37.4 -3.1
comp=Z,49nm,1.0s,baz=90,slow=6.9,SNR=199
WRA LR LR 09 21 37.8
comp=Z,946nm,21.5s,baz=94,slow=34
comp=Z,49nm,1.0s
WRA **Warramunga Arr** 51.12 257 *ce*P P 09 01 37.7 -2.8
WRA pmax pmax
comp=Z,49nm,1.0s
AS31 **Alice Springs** 51.32 252 P P 09 01 39.5 -2.5
AS31 IAmb IAmb 09 01 41.9
comp=Z,34nm,0.8s
ASAR **Alice Springs** 51.33 252 P P 09 01 39.1 -2.9
comp=Z,117nm,0.8s,baz=84,slow=8.5,SNR=315
ASAR LR LR 09 22 25.0
comp=Z,1µm,18.6s,baz=94,slow=35
comp=Z,117nm,0.8s
AUALC **St Philip's Co** 51.34 252 P P 09 01 39.2 -2.9
GUMO **Guam** 51.73 302 LR LR 09 21 49.5
comp=Z,362nm,19.4s,baz=132,slow=34
MTN **Manton Dam** 55.10 265 P P 09 02 07.2 -2.6
FORT **Forrest** 56.49 243 P P 09 02 17.1 -2.5
FORT IAmb IAmb 09 02 18.3
comp=Z,23nm,0.8s
RPN **Rapa Nui** 58.84 112 LR LR 09 21 28.8
comp=Z,504nm,21.6s,baz=266,slow=29
MSAI **Masohi** 59.41 276 P P 09 02 40.3 -0.1
comp=Z,47nm,0.8s
FITZ **Fitzroy Crossi** 59.50 258 LR LR 09 27 12.1
comp=Z,1µm,19.5s,baz=94,slow=35
SOEI **Soe** 62.31 267 P P 09 03 00.5 +0.2
SOEI **Soe** 62.31 267 P P 09 03 00.0 -0.3
SANI **Sanana** 62.59 276 P P 09 03 00.6 -1.4
SANI **Sanana** 62.59 276 P P 09 03 01.3 -0.7
comp=Z,40nm,0.9s
BATI **Baumata** 62.79 266 LR LR 09 28 00.0
comp=Z,768nm,22.0s,baz=136,slow=34
SBA **Scott Base** 62.98 185 P P 09 03 03.9 +0.4
SBA IAmb IAmb 09 03 11.5
comp=Z,20nm,0.8s
SBA **Scott Base** 62.98 185 P P 09 03 03.9 +0.4
SBA pmax pmax
comp=Z,20nm,0.9s
VNDA **Vanda** 63.13 186 P P 09 03 06.2 +1.6
VNDA **Vanda** 63.13 186 P P 09 03 06.3 +1.8
comp=Z,5.7nm,0.9s,baz=6.4,slow=6.6,SNR=36
VNDA LR LR 09 28 23.3
comp=Z,115nm,18.5s,baz=16,slow=34
comp=Z,5.7nm,0.9s
MBWA **Marble Bar** 64.60 254 P P 09 03 13.9 -1.3
MBWA **Marble Bar** 64.60 254 P P 09 03 14.1 -1.1
MEEK **Meekatharra** 64.96 248 P P 09 03 16.3 -1.2
EDFI **Ende, Flores** 65.02 268 P P 09 03 16.7 -1.4
comp=Z,922nmcomp=Z,104nm,1.0s
NWAO **Narrogin (SRO)** 65.65 241 P P 09 03 20.5 -1.3
NWAO **Narrogin (SRO)** 65.65 241 LR LR 09 32 17.4
comp=Z,423nm,18.1s,baz=102,slow=36
NWAO **Narrogin (SRO)** 65.65 241 P P 09 03 21.2 -0.6
NWAO **Narrogin (SRO)** 65.65 241 P P 09 03 20.5 -1.3
NWAO pmax pmax
comp=Z,119nm,1.3s
BLDU **Ballidu** 66.27 243 P P 09 03 24.8 -1.0
MUN **Mundaring** 66.58 242 P P 09 03 27.2 -0.6
AUMAZ **Mazenod Senior** 66.72 242 P P 09 03 29.0 +0.3
AUHAR **St Anne's Scho** 66.77 240 P P 09 03 29.2 +0.2
MORW **Morawa** 66.99 245 P P 09 03 28.3 -2.2
MORW **Morawa** 66.99 245 P P 09 03 29.5 -1.0
JHJ **Hachijo jima 2** 67.00 317 LR LR 09 26 37.3
comp=Z,359nm,22.0s,baz=95,slow=31
WBSI **Waikabubak, Su** 67.02 266 P P 09 03 31.3 +0.3
comp=Z,73nm,1.0s
BNSI **Bone** 67.61 272 P P 09 03 34.4 -0.2
comp=Z,1µmcomp=Z,41nm,1.1s
KAPI **Kappang** 67.79 271 LR LR 09 30 57.9
comp=Z,240nm,21.8s,baz=86,slow=34
SPSI **Sidrap Palu** 68.04 272 P P 09 03 36.5 -0.9
comp=Z,2µmcomp=Z,25nm,1.1s
TOLI2 **Tolitoli** 68.49 278 P P 09 03 41.0 +0.8
NIKH **Nikolski High** 68.53 2 P P 09 03 41.1 +1.6
baz=183
PLAI **Plampang** 68.76 267 P P 09 03 40.6 -1.3
SHEM **Shemya Is, Ala** 69.30 351 LR LR 09 27 14.9
comp=Z,724nm,21.3s,baz=109,slow=30
GIRL **Giralia** 69.43 251 P P 09 03 45.6 -0.3
UNV **Unalaska Valle** 69.51 3 P P 09 03 47.9 +2.3
baz=186
TWSI **Taliwang, Sumb** 69.64 266 P P 09 03 46.3 -1.0
JGF **Kuroka** 70.11 318 P P 09 03 49.6 -0.2
JGF IAmb IAmb 09 03 53.1
comp=Z,71nm,1.7s
JGF **Kuroka** 70.11 318 P P 09 03 52.0 +2.2
MJAR **Matsushiro Arr** 70.15 319 P P 09 03 49.5 -0.4
MJAR **Matsushiro Arr** 70.15 319 P P 09 03 50.2 +0.2
comp=Z,9.7nm,0.9s,baz=153,slow=5.8,SNR=16
MJAR LR LR 09 28 59.5
comp=Z,958nm,22.0s,baz=110,slow=31
comp=Z,9.7nm,0.9s
MAJO **Matsushiro** 70.15 319 P P 09 03 49.7 -0.3
MAJO **Matsushiro** 70.15 319 P P 09 03 51.5 +1.5
MAJO **Matsushiro** 70.15 319 P P 09 03 49.7 -0.3
MAJO pmax pmax
comp=Z,12nm,1.1s
MJB9 **Matsu-Tunnel** 70.15 319 P P 09 03 49.7 -0.3
MJB9 IAmb IAmb 09 04 36.7
comp=Z,40nm,1.6s
HULI **Fort Hunter Li** 70.38 42 P P 09 03 52.1 +0.7
HULI IAmb IAmb 09 03 56.3
comp=Z,20nm,0.9s
SAO **San Andreas Ge** 70.69 41 P P 09 03 51.3 -2.0
SAO **San Andreas Ge** 70.69 41 P P 09 03 51.3 -2.0
SAO pmax pmax
comp=Z,19nm,1.1s
PKD **Bear Valley Ra** 70.78 42 P P 09 03 52.1 -1.8
PKD IAmb IAmb 09 03 58.5
comp=Z,24nm,1.1s
CCX **Cicese** 71.07 48 P P 09 03 54.5 -1.1
CHNA **Chernabura Isl** 71.13 8 P P 09 03 56.7 +1.3
baz=192
CPE **Camp Elliot** 71.32 47 P P 09 03 56.5 -0.7
JMN **Monobe** 71.33 314 P P 09 03 59.5 +2.2
SRBI **Singaraja** 71.40 267 P P 09 03 57.8 -0.3
comp=Z,124nm,1.2s
ELS **Elsinore Mount** 71.52 46 P P 09 03 56.7 -1.7
ELS IAmb IAmb 09 04 02.9
comp=Z,33nm,1.7s
SDPT **Sand Point** 71.53 7 P P 09 03 59.4 +1.6
baz=192
VES **Vestal, Richgr** 71.66 43 P P 09 03 59.1 -0.1
VES IAmb IAmb 09 04 03.3
comp=Z,44nm,1.1s
TPO **Tropico Hills** 71.67 44 P P 09 03 59.3 -0.1
TPO IAmb IAmb 09 04 19.3
comp=Z,27nm,1.4s
S12K **Black Hills** 71.70 6 P P 09 03 59.6 +0.6
baz=190
JOW **Kunigami** 71.85 306 P P 09 03 59.9 -0.6
JOW IAmb IAmb 09 04 03.0
comp=Z,60nm,1.2s
JOW **Kunigami** 71.85 306 LR LR 09 30 57.6
comp=Z,508nm,20.2s,baz=114,slow=32
JOW **Kunigami** 71.85 306 P P 09 04 02.1 +1.6
MYLDM **Lahad Datu** 71.90 281 P P 09 04 01.8 +0.7
MYLDM **Lahad Datu** 71.90 281 P P 09 04 02.6 +1.5
SUTB **Sutter Butte** 72.02 39 P P 09 04 00.8 -0.4
SUTB IAmb IAmb 09 04 09.2
comp=Z,55nm,1.8s
DNR **Dunn Ranch,Anz** 72.03 46 P P 09 04 01.7 +0.1
DNR IAmb IAmb 09 04 08.2
comp=Z,58nm,2.0s
LPIG **La Paz** 72.05 58 LR LR 09 28 26.6
comp=Z,482nm,19.5s,baz=240,slow=30
PFO **Pinyon Flats O** 72.17 46 LR LR 09 29 23.4
comp=Z,571nm,18.8s,baz=246,slow=30
PFO **Pinyon Flats O** 72.17 46 *i*P P 09 04 01.1 -1.3
PFO pmax pmax
comp=Z,5.0nm,1.1s
JAGI **Jajag, Banyuwa** 72.33 266 P P 09 04 02.4 -1.3
ABJI **Asem Bagus** 72.41 267 P P 09 04 03.9 -0.2
comp=Z,111nm,1.0s
S14K **Fog Glacier** 72.55 7 P P 09 04 04.7 +0.6
baz=192
JKA **Kamikawa-asahi** 72.62 327 P P 09 04 06.0 +1.3
JKA **Kamikawa-asahi** 72.62 327 IAmb IAmb 09 05 25.1
comp=Z,66nm,1.4s
ASAJ **Asahikawa** 72.62 327 P P 09 04 06.0 +1.3
comp=Z,8.4nm,0.9s,baz=186,slow=5.8,SNR=3.9
ASAJ LR LR 09 31 49.5
comp=Z,271nm,20.7s,baz=164,slow=32
comp=Z,8.4nm,0.9s
ASAJ **Asahikawa** 72.62 327 P P 09 04 06.0 +1.3
CHIR **Chirikof Islan** 72.66 10 P P 09 04 05.6 +1.0
baz=196
CWC **Cottonwood Cre** 72.67 43 P P 09 04 05.4 0.0
TGY **Tagaytay City** 72.68 291 LR LR 09 31 46.5
comp=Z,761nm,21.0s,baz=42,slow=32
SPIA **Saint Paul Isl** 72.71 1 P P 09 04 05.2 +0.3
baz=182
MDPB **Devils Postpil** 72.72 42 P P 09 04 05.0 -0.8
KMMI **Kalianget** 72.85 267 P P 09 04 06.6 -0.1
comp=Z,90nm,1.1s
BBKI **Banjar Baru** 72.92 271 P P 09 04 06.9 -0.3
comp=Z,99nm,1.0s
BLJI **Banyuglugur** 73.03 267 P P 09 04 07.5 -0.4
YBH **Yreka Blue Hor** 73.07 36 LR LR 09 31 14.9
comp=Z,36nm,19.2s,baz=250,slow=32
JNU **Nakatsue** 73.09 313 P P 09 04 08.0 +0.2
JNU IAmb IAmb 09 04 44.5
comp=Z,60nm,1.3s
JNU **Nakatsue** 73.09 313 P P 09 04 08.2 +0.4
comp=Z,19nm,0.8s,baz=120,slow=5.3,SNR=8.1
JNU LR LR 09 30 58.7
comp=Z,300nm,19.7s,baz=116,slow=32
comp=Z,19nm,0.8s
PEA0B **Petropavlovsk-** 73.44 341 P P 09 04 08.9 -0.5
PEA0B IAmb IAmb 09 04 36.6
comp=Z,37nm,1.1s
PEA0B **Petropavlovsk-** 73.44 341 P P 09 04 08.9 -0.5
PEA0B pmax pmax
comp=Z,37nm,1.2s
PETK **Petropavlovsk-** 73.44 341 P P 09 04 08.3 -1.1
PETK **Petropavlovsk-** 73.44 341 P P 09 04 10.5 +1.1
comp=Z,17nm,0.9s,baz=109,slow=4.8,SNR=15
PETK LR LR 09 33 08.0
comp=Z,268nm,19.5s,baz=170,slow=33
comp=Z,17nm,0.9s
NVAR **Mina Array Bea** 73.69 41 P P 09 04 14.6 +3.2
comp=Z,12nm,1.0s,baz=228,slow=9.5,SNR=63
NVAR LR LR 09 31 19.6
comp=Z,750nm,18.9s,baz=240,slow=31
comp=Z,12nm,1.0s
R16K **Pilot Point** 74.06 8 P P 09 04 13.6 +0.7
baz=194
QSPA **South Pole Qui** 74.25 180 P P 09 04 18.0 +3.7
comp=Z,34nm,1.1s,baz=306,slow=3.0,SNR=3.4
QSPA LR LR 09 30 15.3
comp=Z,290nm,20.9s,baz=46,slow=30
R17L **Mt. Peulik Vol** 74.29 9 P P 09 04 14.8 +0.5
baz=196
OHAK **Old Harbor** 74.38 10 P P 09 04 14.5 -0.2
baz=199
R18K **Karluk** 74.52 10 P P 09 04 16.2 +0.7
baz=197
YSS **Yuzhno-Sakhali** 74.53 330 P P 09 04 17.8 +2.0
YSS **Yuzhno-Sakhali** 74.53 330 *e*P P 09 04 15.0 -0.8
YSS pmax pmax
comp=Z,700nm,4.1s
YSS pmax pmax
comp=Z,40nm,1.1s
Q17K **Contact Creek** 74.97 9 P P 09 04 18.7 +0.4
baz=196
KDAK **Kodiak Island** 75.04 11 LR LR 09 29 42.7
comp=Z,431nm,21.3s,baz=211,slow=30
KDAK **Kodiak Island** 75.04 11 P P 09 04 19.2 +0.6
baz=199
NGJI **Ngawi** 75.18 266 P P 09 04 21.2 +0.8
comp=Z,37nm,0.9s
PCJI **Pacitan** 75.25 266 P P 09 04 19.9 -0.9
Q16K **King Salmon** 75.26 8 P P 09 04 21.2 +1.4
baz=195
O14K **Tigyukauivet M** 75.28 6 P P 09 04 20.9 +0.9
baz=191
O15K **Ungalikthiuk R** 75.36 6 P P 09 04 21.3 +0.9
baz=192
P16K **Nushagak River** 75.43 7 P P 09 04 21.7 +0.9
baz=194
Q18K **Katmai Hardscr** 75.47 9 P P 09 04 22.7 +1.5
baz=197
P17K **Kvichak River** 75.79 8 P P 09 04 24.4 +1.6
baz=195
Q20K **Shuyak Island** 75.86 10 P P 09 04 24.1 +0.8
baz=199,SNR=5.1
N14K **Kuskokwak Cree** 75.91 5 P P 09 04 25.1 +1.7
baz=190
Q19K **Cape Douglas,** 75.95 10 P P 09 04 24.6 +0.8
baz=198
O16K **Kokwok River B** 75.96 7 P P 09 04 24.2 +0.4
baz=194
M11K **Mekoryuk** 76.05 3 P P 09 04 25.8 +1.5
baz=186
NACB **Ninganchiao** 76.05 300 P P 09 04 23.2 -2.0
NACB IAmb IAmb 09 04 26.9
comp=Z,66nm,1.2s
NACB **Ninganchiao** 76.05 300 P P 09 04 26.0 +0.8
P18K **Big Mountain,** 76.15 9 P P 09 04 25.2 +0.2
baz=196,SNR=7.3
M13K **Dall Lake** 76.26 4 P P 09 04 26.6 +1.1
baz=188
O17K **Koliganek Bris** 76.26 8 P P 09 04 26.4 +0.9
baz=195
N15K **Kwethluk River** 76.30 6 P P 09 04 26.5 +0.7
baz=192
SSLB **Suanglung** 76.43 300 P P 09 04 28.3 +0.9
YHNB **Yeheng** 76.44 301 P P 09 04 26.8 -0.7
YHNB **Yeheng** 76.44 301 P P 09 04 28.1 +0.6
TPUB **Ta-pu** 76.50 299 P P 09 04 26.4 -1.3
TPUB **Ta-pu** 76.50 299 P P 09 04 27.4 -0.4
O18K **Koktuh Hills** 76.59 9 P P 09 04 28.6 +1.2
baz=196,SNR=5.0
M14K **Bethel** 76.70 5 P P 09 04 29.1 +1.1
baz=190,SNR=6.5
P19K **Oil Pt** 76.70 10 P P 09 04 28.7 +0.6
baz=198
N16K **Nishlik Lake** 76.74 7 P P 09 04 29.7 +1.4
baz=193
M15K **Kasigluk River** 76.76 6 P P 09 04 29.1 +0.7
baz=191
ELK **Elko** 76.96 41 LR LR 09 33 40.4
comp=Z,740nm,18.6s,baz=233,slow=32
HOM **Homer** 76.98 10 P P 09 04 29.5 -0.1
baz=200
N17K **Nushagak Hills** 76.98 7 P P 09 04 30.4 +0.8
baz=194
O19K **Port Alsworth** 77.05 9 P P 09 04 31.4 +1.4
baz=197,SNR=7.3
SBUM **Sibu** 77.06 276 P P 09 04 30.6 -0.5
SBUM IAmb IAmb 09 04 32.8
comp=Z,41nm,1.1s
SBUM **Sibu** 77.06 276 P P 09 04 31.4 +0.3
O20K **Slope Mountain** 77.21 10 P P 09 04 31.9 +0.9
baz=199
BRSE **Bradley Lake S** 77.21 11 P P 09 04 32.2 +1.3
baz=201
L14K **Kuka Creek** 77.23 5 P P 09 04 33.7 +2.7
baz=189
M16K **Timber Creek** 77.26 6 P P 09 04 33.3 +2.1
baz=193
N18K **Kilae Creek** 77.30 8 P P 09 04 31.5 +0.1
baz=196
TYV **Tymovskoe** 77.34 332 *e*P P 09 04 30.1 -1.7
TYV pmax pmax
comp=Z,200nm,3.1s
TYV pmax pmax
comp=Z,18nm,1.1s
KSRS **Korea Array** 77.42 315 P P 09 04 34.4 +1.8
comp=Z,16nm,1.1s,baz=129,slow=6.0,SNR=19
comp=Z,16nm,1.1s
KSAR **Wonju Array Be** 77.44 315 P P 09 04 32.5 -0.2
KSAR **Wonju Array Be** 77.44 315 P P 09 04 32.5 -0.2
BBB **Bella Bella** 77.62 26 LR LR 09 35 01.1
comp=Z,198nm,18.8s,baz=234,slow=33
KPJI **Karang Pucung** 77.62 266 P P 09 04 33.5 -0.7
comp=Z,52nm,0.9s
N19K **Bonanza Creek** 77.62 9 P P 09 04 35.1 +1.8
baz=197
L15K **Ungalak Mounta** 77.66 5 P P 09 04 35.1 +1.8
baz=190,SNR=5.9
K13K **Kusilvak Mount** 77.68 4 P P 09 04 34.6 +1.1
baz=187
SEW **Seward** 77.79 11 P P 09 04 34.9 +0.8
baz=202
M17K **Holitna River** 77.80 7 P P 09 04 36.1 +1.9
baz=194
L16K **Owhat River** 77.88 6 P P 09 04 35.1 +0.5
baz=192
M18K **Stony River** 78.09 8 P P 09 04 36.6 +0.8
baz=196
P23K **Montague Islan** 78.10 12 P P 09 04 36.8 +0.9
baz=204
CAPN **Captain Cook N** 78.11 10 P P 09 04 35.9 +0.1
baz=200
K15K **Wolf Creek Mou** 78.26 5 P P 09 04 38.5 +1.8
baz=190,SNR=5.5
N20K **Mount Spurr** 78.34 10 P P 09 04 38.3 +1.0
baz=199
SPCR **Spurr Chakacha** 78.34 10 P P 09 04 39.2 +1.9
baz=199
L17K **Donlin** 78.42 6 P P 09 04 38.8 +1.2
baz=193,SNR=6.9
USRK **Ussuriysk Ar.** 78.55 322 P P 09 04 40.2 +1.5
comp=Z,7.7nm,1.0s,baz=72,slow=12,SNR=4.9
comp=Z,7.7nm,1.0s
KSM **Kuching** 78.62 275 P P 09 04 39.1 -0.7
KSM **Kuching** 78.62 275 P P 09 04 40.3 +0.5
RC01 **Rabbit Creek A** 78.66 11 P P 09 04 39.1 +0.2
baz=202,SNR=5.9
KAIM **Kayak Island** 78.68 14 P P 09 04 39.2 +0.2
baz=207
L18K **Granite Mounta** 78.68 7 P P 09 04 39.2 +0.1
baz=195
U33K **Whale Pass** 78.69 21 P P 09 04 40.3 +1.1
baz=218
PWL **Port Wells** 78.70 12 P P 09 04 40.1 +0.9
baz=203,SNR=7.9
SIT **Sitka** 78.72 19 P P 09 04 39.4 +0.1
baz=216
BBJI **Bungbulang** 78.81 265 P P 09 04 40.2 -0.8
SUA **Susitna One** 78.83 10 P P 09 04 40.1 +0.1
baz=201,SNR=14
M20K **Styx River** 78.84 9 P P 09 04 40.9 +0.8
baz=198,SNR=7.4
L19K **White Mountain** 78.88 8 P P 09 04 40.6 +0.4
baz=197
EYAK **Cordova Ski Ar** 78.94 13 P P 09 04 41.4 +0.9
baz=206
GLI **Glacier Island** 78.97 12 P P 09 04 41.5 +0.9
baz=204,SNR=8.7
K17K **Iditarod** 78.98 6 P P 09 04 41.7 +1.0
baz=193
LEM **Lembang** 79.00 266 LR LR 09 40 04.5
comp=Z,249nm,19.6s,baz=189,slow=36
LEM **Lembang** 79.00 266 P P 09 04 41.8 -0.3
BGLC **Bering Glacier** 79.11 14 P P 09 04 41.6 +0.2
baz=208
S31K **Pelican** 79.17 18 P P 09 04 42.6 +0.8
baz=215
SKT **Skwentna** 79.18 10 P P 09 04 42.6 +0.7
baz=200,SNR=7.1
KNK **Knik Glacier** 79.19 11 P P 09 04 43.1 +1.2
baz=203,SNR=7.3
WRAK **Wrangell Islan** 79.20 21 P P 09 04 43.0 +1.1
baz=219
M22K **Willow** 79.21 10 P P 09 04 43.2 +1.3
baz=201,SNR=12
PMR **Palmer** 79.23 11 P P 09 04 44.2 +2.2
PMR **Palmer** 79.23 11 P P 09 04 44.4 +2.4
baz=202,SNR=11
S32K **Killisnoo** 79.29 19 P P 09 04 44.1 +1.7
baz=216
L20K **Farewell, AK** 79.30 8 P P 09 04 42.9 +0.4
baz=198
GAMB **Gambell** 79.32 0 P P 09 04 44.1 +1.7
baz=180
J16K **Anvik River** 79.32 5 P P 09 04 44.1 +1.6
baz=191,SNR=7.7
CNJI **Cibinong** 79.35 265 P P 09 04 43.1 -0.7
comp=Z,2µmcomp=Z,81nm,1.2s
MESA **MESA** 79.49 15 P P 09 04 45.4 +1.6
baz=209
BMRM **Bremner River** 79.57 13 P P 09 04 46.2 +2.2
baz=207,SNR=11
J17K **VABM Dome** 79.57 6 P P 09 04 45.4 +1.6
baz=192,SNR=5.0
SML **Sawmill** 79.58 11 P P 09 04 46.3 +2.3
baz=203
U35K **Hyder** 79.64 22 P P 09 04 45.8 +1.4
baz=221
TXAR **Lajitas Array** 79.67 56 P P 09 04 48.9 +3.6
comp=Z,24nm,1.1s,baz=220,slow=4.9,SNR=114
TXAR LR LR 09 34 26.3
comp=Z,264nm,18.4s,baz=246,slow=31
comp=Z,24nm,1.1s
M23K **Glacier View** 79.68 11 P P 09 04 44.5 0.0
baz=204
R31K **City Hall, Gus** 79.69 18 P P 09 04 45.4 +0.8
baz=215
PNL **Peninsula** 79.70 16 P P 09 04 44.5 -0.2
baz=212
CRQE **Cirque** 79.72 14 P P 09 04 45.4 +0.5
baz=208,SNR=6.8
KLU **Klutina** 79.76 12 P P 09 04 45.9 +0.8
baz=205,SNR=6.2
CUT **Chulitna** 79.79 10 P P 09 04 46.4 +1.3
baz=201,SNR=6.6
SCM **Sheep Creek Mo** 79.79 12 P P 09 04 46.0 +0.8
baz=204,SNR=7.6
PINM **Pinnacle** 79.84 16 P P 09 04 46.4 +0.9
baz=211
J18K **Innoko River** 79.89 7 P P 09 04 47.0 +1.3
baz=195
I17K **Unalakleet** 79.90 5 P P 09 04 47.1 +1.4
baz=191
DBJI **Dramaga** 79.91 266 P P 09 04 46.8 -0.1
comp=Z,55nm,1.1s
PPLA **Purkeypile** 79.95 9 P P 09 04 47.8 +1.6
baz=199
R32K **Eaglecrest** 79.96 19 P P 09 04 47.7 +1.6
baz=216
ANMO **Albuquerque** 79.98 49 LR LR 09 34 39.1
comp=Z,594nm,18.8s,baz=335,slow=31
ANMO **Albuquerque** 79.98 49 *ce*P P 09 04 45.8 -1.3
ANMO pmax pmax
comp=Z,26nm,1.7s
K20K **Telida** 80.12 8 P P 09 04 47.3 +0.4
baz=197
P29M **Windy Craggy** 80.12 17 P P 09 04 47.2 +0.2
baz=213
N25K **Chitina, Valde** 80.14 13 P P 09 04 48.1 +0.9
baz=207,SNR=15
NEW **Newport** 80.25 34 LR LR 09 35 42.9
comp=Z,374nm,19.0s,baz=232,slow=32
ANM **Nome** 80.27 3 P P 09 04 48.3 +0.7
baz=186
M24K **Tolsona, Glenn** 80.27 12 P P 09 04 48.8 +1.0
baz=205,SNR=12
MCARA **McCarthy VSAT** 80.29 14 P P 09 04 49.4 +1.5
baz=208,SNR=6.0
CTG **Chitna Glacier** 80.32 15 P P 09 04 49.4 +1.2
baz=210,SNR=6.9
PLBC **Pleasant Camp** 80.37 18 P P 09 04 47.9 -0.3
baz=214
T35M **Bob Quinn** 80.37 22 P P 09 04 50.2 +1.8
baz=220
WAT6 **Susitna Watana** 80.40 11 P P 09 04 49.3 +0.7
baz=204,SNR=17
O28M **Mount Upton** 80.44 15 P P 09 04 50.0 +1.0
baz=211,SNR=8.2
O29M **Mount Kennedy** 80.46 16 P P 09 04 49.9 +1.0
baz=212,SNR=6.8
WAT1 **Susitna Watana** 80.48 11 P P 09 04 50.3 +1.4
baz=203
H16K **Elim** 80.53 4 P P 09 04 50.4 +1.4
baz=189
J19K **Poorman** 80.53 7 P P 09 04 50.7 +1.7

baz=196
SKAG Skagway 80.67 18 P P 09 04 53.3 +3.4
SKAG Skagway 80.67 18 P P 09 04 50.5 +0.6
baz=216
HARP HAARP 80.74 12 P P 09 04 52.2 +1.9
baz=206,SNR=5.8
P30M Million Dollar 80.75 17 P P 09 04 51.4 +1.0
baz=214
G15K Niukluk 80.77 3 P P 09 04 52.4 +2.1
baz=188
TRF Thorofare Moun 80.77 10 P P 09 04 52.7 +2.1
baz=201,SNR=14
S34M Telegraph Cree 80.78 21 P P 09 04 51.7 +1.2
baz=220,SNR=5.5
CHUM Lake Minchumin 80.86 9 P P 09 04 53.6 +2.7
baz=199,SNR=11
J20K Nowinta River 80.89 8 P P 09 04 52.3 +1.3
baz=197
CGJI Cibinong 80.91 266 P P 09 04 52.4 +0.2
comp=Z,3µmcomp=Z,115nm,1.1s
DHY Denali Highway 80.92 11 P P 09 04 53.0 +1.6
baz=204,SNR=7.4
MA2 Magadan 80.97 342 LR LR 09 39 48.8
comp=Z,267nm,18.9s,baz=113,slow=35
YUK8 Steele Glacier 80.99 15 P P 09 04 52.7 +0.8
baz=211,SNR=9.3
H17K Granite Mounta 81.00 5 P P 09 04 52.6 +1.0
baz=192
YUK6 Outpost Mounta 81.06 16 P P 09 04 52.2 -0.1
baz=212
GCSA Galena City Sc 81.11 6 P P 09 04 53.5 +1.4
baz=195
F14K Arctic Creek 81.13 2 P P 09 04 53.6 +1.4
baz=185
HYT Haines Junctio 81.19 16 P P 09 04 53.4 +0.6
baz=213,SNR=7.8
PAX Paxson 81.19 12 P P 09 04 54.6 +1.8
baz=206,SNR=8.9
M26K Nabesna, AK 81.20 13 P P 09 04 54.8 +2.0
baz=208
Q32M Nakina River 81.22 20 P P 09 04 54.6 +1.5
baz=218
MCK McKinley 81.25 10 P P 09 04 53.4 +0.4
MCK McKinley 81.25 10 P P 09 04 53.4 +0.4
MCK pmax pmax
comp=Z,76nm,0.9s
MCK McKinley 81.25 10 P P 09 04 55.3 +2.3
baz=202,SNR=43
BPAW Bear Paw Mtn. 81.27 9 P P 09 04 55.5 +2.5
baz=200,SNR=5.6
P32M Atlin 81.27 19 P P 09 04 54.7 +1.5
baz=217
G16K Koyuk River 81.27 4 P P 09 04 54.2 +1.2
baz=189
YUK4 Talbot Arm 81.32 16 P P 09 04 55.6 +1.9
baz=212,SNR=10
H18K Honhosa River 81.36 6 P P 09 04 55.0 +1.5
baz=193
M27K Edge Creek, AK 81.41 14 P P 09 04 55.5 +1.5
baz=209
F15K North Star Dit 81.44 3 P P 09 04 55.3 +1.4
baz=187
I20K Naaghedeneel 81.44 7 P P 09 04 55.4 +1.5
baz=197
G17K Kiwalik Mounta 81.50 5 P P 09 04 55.2 +1.0
baz=191
MENT Mentasta 81.52 13 P P 09 04 56.5 +2.1
NJ2 Nanjing 81.52 307 eP P 09 04 56.0 +0.9
NJ2 pmax pmax
comp=Z,13nm,0.6s
O30N Mendenhall 81.53 17 P P 09 04 55.0 +0.5
baz=215,SNR=6.2
DLBC Dease Lake 81.56 21 P P 09 04 56.5 +1.8
baz=220
PDAR Pinedale Array 81.63 41 P P 09 04 58.0 +2.3
comp=Z,5.0nm,0.8s,baz=208,slow=2.9,SNR=28
PDAR LR LR 09 36 31.6
comp=Z,463nm,18.8s,baz=234,slow=32
comp=Z,5.0nm,0.8s
L26K Log Cabin Wild 81.68 13 P P 09 04 56.7 +1.5
baz=208,SNR=12
WHY Whitehorse 81.78 17 P P 09 04 56.7 +0.7
baz=216
N30M Aishikik Lake 81.83 16 P P 09 04 56.8 +0.7
baz=214
K24K Donnelly Dome 81.89 11 P P 09 04 56.8 +0.4
baz=205,SNR=16
H19K Roundabout Mou 81.92 6 P P 09 04 57.7 +1.3
baz=195,SNR=7.0
R33M Jennings River 81.98 20 P P 09 04 58.4 +1.4
baz=220,SNR=5.9
RIDG Independent Ri 82.01 12 P P 09 04 58.3 +1.3
baz=206,SNR=14
NEA2 Nenana 82.03 10 P P 09 04 58.8 +1.8
baz=202,SNR=25
P33M Teslin, Yukon 82.04 19 P P 09 04 58.7 +1.5
baz=218
L27K Beaver Creek, 82.04 13 P P 09 04 58.6 +1.5
baz=209,SNR=8.4
G18K Tagagawik 82.06 5 P P 09 04 57.9 +0.8
baz=189
H20K Anotleneega Mo 82.06 7 P P 09 04 59.4 +2.2
baz=196,SNR=6.9
BNX BinXian 82.11 322 ⇓P P 09 04 58.8 +1.0
BNX pmax pmax
comp=Z,24nm,0.9s
I21K Tanana 82.14 8 P P 09 04 59.6 +2.0
baz=199
MLY Manley 82.18 9 P P 09 04 57.9 0.0
MLY IAmb IAmb 09 05 04.6
comp=Z,40nm,0.8s
MLY Manley 82.18 9 P P 09 04 57.8 -0.1
baz=200,SNR=35
N31M Braeburn, Yuko 82.20 17 P P 09 04 58.7 +0.6
baz=215,SNR=7.1
HDA Harding Lake 82.22 11 P P 09 05 00.2 +2.1
baz=204,SNR=35
CN2 Changchun 82.29 320 eP P 09 04 59.0 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
M29M Somme Creek 82.30 15 P P 09 05 01.2 +2.6
baz=212,SNR=13
F17K Baldwin Pennin 82.38 4 P P 09 05 01.4 +2.6
baz=190
SCRK Sand Creek 82.39 12 P P 09 05 01.2 +2.1
baz=207,SNR=16
H21K Melozitna Rive 82.48 8 P P 09 05 01.7 +2.3
baz=198,SNR=8.5
YNE Yellowstone No 82.49 39 P P 09 04 59.5 -0.8
YNE IAmb IAmb 09 06 04.6
comp=Z,26nm,0.6s
COLA College 82.49 10 P P 09 05 00.9 +1.5
COLA College 82.49 10 i P P 09 05 00.0 +0.6
COLA pmax pmax
comp=Z,107nm,0.9s
COLA College 82.49 10 P P 09 05 01.6 +2.2
baz=203
I23K Minto, Yukon-K 82.50 9 P P 09 05 00.4 +0.9
baz=202,SNR=22
IL31 82.57 11 P P 09 04 59.5 -0.3
IL31 IAmb IAmb 09 05 06.4
comp=Z,25nm,0.8s
ILAR Eielson Array 82.57 11 P P 09 05 01.6 +1.8
comp=Z,14nm,0.7s,baz=218,slow=5.5,SNR=50
ILAR LR LR 09 38 29.5
comp=Z,278nm,18.1s,baz=192,slow=33
comp=Z,14nm,0.7s
F18K Selawik 82.66 5 P P 09 05 01.8 +1.5
baz=192
J25K Salcha River, 82.70 11 P P 09 05 03.0 +2.4
baz=206
N32M Quiet Lake 82.70 18 P P 09 05 02.2 +1.5
baz=217
POKR Poker Plat Res 82.79 10 P P 09 05 03.1 +2.1
baz=204,SNR=12
K27K Chicken 82.83 13 P P 09 05 03.1 +1.9
baz=209,SNR=14
M30M Minto, Yukon 82.83 16 P P 09 05 03.3 +1.9
baz=214,SNR=10
H22K Ishtalitna Cre 82.90 8 P P 09 05 03.5 +1.9
baz=200
J26L Joseph Creek 82.95 12 P P 09 05 03.7 +1.8
baz=207,SNR=51
L29M L29M 82.95 15 P P 09 05 03.7 +1.8
baz=213,SNR=35
E17K Hotham Inlet 82.97 4 P P 09 05 03.8 +1.9
baz=190
F19K Shaleruckik Mo 83.06 6 P P 09 05 04.2 +1.9
baz=194,SNR=10.0
H23K Yukon River 83.10 9 P P 09 05 04.0 +1.4
baz=202
G21K Allakaket 83.21 7 P P 09 05 04.0 +0.9
baz=198
WTLY Watson Lake, Y 83.24 20 P P 09 05 04.2 +0.7
baz=221
PMSA Palmer Station 83.25 156 LR LR 09 36 43.6
comp=Z,672nm,18.4s,baz=240,slow=32
SEY Seymchan 83.27 344 P P 09 05 04.0 +0.5
comp=Z,14nm,0.9s,baz=154,slow=7.3,SNR=6.5
SEY LR LR 09 37 07.8
comp=Z,477nm,20.9s,baz=148,slow=32
comp=Z,14nm,0.9s
SEY Seymchan 83.27 344 P P 09 05 04.0 +0.5
H24K Noodor Dome 83.38 10 P P 09 05 05.4 +1.3
baz=203
E18K Tukpahlearik C 83.40 4 P P 09 05 05.4 +1.3
baz=191
BELA Belgrano 2 83.41 172 P P 09 05 04.7 +0.5
BELA IAmb IAmb 09 05 06.5
comp=Z,39nm,1.4s
DAWY Dawson 83.46 14 P P 09 05 05.4 +0.9
baz=211,SNR=43
F20K Avaraart Lake 83.47 6 P P 09 05 05.9 +1.5
baz=196,SNR=8.7
D17K Noatak River 83.51 3 P P 09 05 06.0 +1.3
baz=188
TOAD Toad River Com 83.56 22 P P 09 05 06.9 +1.7
baz=225,SNR=33
LIRD Liard River Hi 83.65 22 P P 09 05 07.7 +2.2
baz=224,SNR=6.2
K29M Barlow Dome 83.71 15 P P 09 05 06.5 +0.6
baz=213,SNR=17
E19K Redstone River 83.72 6 P P 09 05 07.5 +1.8
baz=194
I26K Coal Creek Min 83.74 12 P P 09 05 06.9 +1.0
baz=208
H03S2 Juan Fernandez 83.81 123 T T 10 39 08.4
baz=249,slow=75,SNR=5.8
H03S1 Juan Fernandez 83.83 123 T T 10 39 09.1
baz=249,slow=75,SNR=5.3
H03S3 Juan Fernandez 83.83 123 T T 10 39 11.8
baz=249,slow=75,SNR=4.5
G22K Bettles 83.85 8 P P 09 05 08.0 +1.6
baz=200,SNR=15
G23K Bananza Creek 83.86 9 P P 09 05 07.0 +0.4
baz=201,SNR=14
RDOG Red Dog Mine 83.87 3 P P 09 05 07.8 +1.3
baz=189
F21K Alatna River 83.89 7 P P 09 05 08.4 +1.7
baz=198
H03N2 Juan Fernandez 83.91 123 T T 10 39 02.8
baz=259
MAYO Mayo, Yukon 83.91 15 P P 09 05 08.2 +1.4
baz=215,SNR=8.4
H03N3 Juan Fernandez 83.91 123 T T 10 39 13.9
baz=259
H03N1 Juan Fernandez 83.93 123 T T 10 39 06.9
baz=259
C16K Lisburne Hills 83.97 2 P P 09 05 08.1 +1.2
baz=186
H25L Birch Creek 84.12 10 P P 09 05 08.6 +0.9
baz=205,SNR=6.8
G24K Hadweenzic Riv 84.24 10 P P 09 05 09.6 +1.2
baz=204
C17K DeLong Mountai 84.28 3 P P 09 05 08.9 +0.4
baz=188
I27K Kandik River 84.31 12 P P 09 05 11.2 +2.3
baz=209,SNR=16
COLD Coldfoot 84.32 8 P P 09 05 10.4 +1.6
baz=201,SNR=15
F22K John River 84.32 8 P P 09 05 10.0 +1.2
baz=199
QIZ Qiongzhong 84.36 291 P P 09 05 10.5 +0.4
QIZ S S 09 15 37.8 +1.3
QIZ pmax pmax
comp=Z,270nm,7.6s
QIZ LR LR
comp=Z,160nm,7.8s
QIZ LR LR
comp=Z,300nm,20.6s
QIZ LR LR
comp=Z,380nm,20.6s
MMPY Sheldon Lake, 84.39 18 P P 09 05 10.8 +1.5
baz=219,SNR=24
TGTN Hyland Airport 84.47 19 P P 09 05 11.0 +1.2
baz=222,SNR=14
HEH HeiHe 84.52 326 eP P 09 05 09.8 -0.4
HEH pmax pmax
comp=Z,6.0nm,1.2s
HEH LR LR
comp=Z,240nm,15.5s
HEH LR LR
comp=Z,410nm,16.6s
HEH LR LR
comp=Z,420nm,15.2s
G25K Bearman Lake 84.52 10 P P 09 05 10.8 +1.0
baz=205
I28M Miner Creek 84.53 13 P P 09 05 12.3 +2.2
baz=211,SNR=14
TIA Tai'an 84.53 310 P P 09 05 11.5 +0.9
TIA pmax pmax
comp=Z,12nm,0.9s
C18K Utukok River 84.57 4 P P 09 05 10.8 +0.7
baz=190
E20K Nigu River 84.59 6 P P 09 05 11.2 +1.0
baz=195
J30M Hart River 84.61 15 P P 09 05 10.5 0.0
baz=214,SNR=12
D19K Kuna River 84.65 5 P P 09 05 10.8 +0.3
baz=193
USHA Ushuaia 84.81 146 LR LR 09 36 44.0
comp=Z,970nm,18.1s,baz=258,slow=31
H27K Steamboat Moun 84.88 12 P P 09 05 14.0 +2.3
baz=209,SNR=16
KOTAN Kotaneelee Air 84.90 22 P P 09 05 12.7 +0.9
baz=226,SNR=7.0
MYKOM Kota Tinggi 84.91 273 P P 09 05 12.8 -0.2
MYKOM Kota Tinggi 84.91 273 P P 09 05 13.7 +0.7
F24K Squaw Lake 84.93 9 P P 09 05 14.7 +2.7
baz=203,SNR=12
E22K Anaktuvuk Pass 84.96 7 P P 09 05 14.8 +2.7
baz=199,SNR=15
D20K Etivluk River 85.00 6 P P 09 05 14.5 +2.3
baz=195
E21K Killik River 85.00 7 P P 09 05 14.2 +1.9
baz=197
BILL Bilibino 85.09 352 ceP P 09 05 13.1 +0.4
BILL pmax pmax
comp=Z,13nm,1.0s
G26K Porcupine Rive 85.09 11 P P 09 05 14.0 +1.4
baz=207,SNR=71
C19K Lookout Ridge 85.13 4 P P 09 05 14.3 +1.4
baz=192,SNR=7.7
I30M Mount Dempster 85.14 14 P P 09 05 14.2 +1.1
baz=214,SNR=23
E23K Chandalar 85.18 8 P P 09 05 14.1 +0.9
baz=202,SNR=12
B18K Kokolik River 85.24 4 P P 09 05 15.4 +2.0
baz=190
F25K Christian Rive 85.35 10 P P 09 05 15.5 +1.4
baz=205
E24K Your Creek 85.35 9 P P 09 05 15.7 +1.6
baz=202,SNR=9.9
G27K Doyon Strip 85.36 12 P P 09 05 15.5 +1.4
baz=209,SNR=12
H29M Whitestone 85.53 13 P P 09 05 16.3 +1.4
baz=212,SNR=19
D22K Ayikyak River 85.57 7 P P 09 05 17.0 +1.9
baz=198
C21K Knifeblade Rid 85.60 6 P P 09 05 17.5 +2.3
baz=196
F26K Sheenjek River 85.69 10 P P 09 05 17.5 +1.8
baz=207,SNR=20
TOLK Toolik Lake Re 85.73 8 P P 09 05 17.6 +1.6
baz=202,SNR=6.8
E25K Arctic Village 85.84 10 P P 09 05 16.7 +0.2
baz=205,SNR=16
D23K Nanushuk River 85.89 8 P P 09 05 17.6 +1.0
baz=200
EPYK Eagle Plains 86.02 13 P P 09 05 18.6 +1.2
baz=214,SNR=10
B21K Ikpikpuk River 86.07 6 P P 09 05 18.2 +0.7
baz=197
APG El Apazote 86.09 73 LR LR 09 36 21.5
comp=Z,34nm,19.4s,baz=242,slow=30
H31M Peel River 86.11 15 P P 09 05 18.8 +1.0
baz=216,SNR=5.9
G29M Pine Creek 86.19 13 P P 09 05 18.5 +0.3
baz=212,SNR=18
B20K Meade River 86.21 5 P P 09 05 18.2 0.0
baz=194
D24K Happy Valley 86.31 8 P P 09 05 20.2 +1.5
baz=202
F28M Old Crow 86.41 12 P P 09 05 20.7 +1.4
baz=211,SNR=11
ZEA Zeya 86.48 329 eP P 09 05 24.1 +4.2
ZEA pmax pmax
comp=Z,10.0nm,1.1s
E27K Coleen River 86.58 11 P P 09 05 22.2 +2.1
baz=209
G30M tAoh Zraii Nji 86.64 13 P P 09 05 21.8 +1.3
baz=214,SNR=16
C23K Itkillik River 86.72 7 P P 09 05 22.6 +1.9
baz=200
BJT Baijiatuau 86.76 313 P P 09 05 22.9 +1.3
BJI Beijing 86.76 313 P P 09 05 24.8 +3.2
BJI S S 09 16 01.5 +2.2
BJI pmax pmax
comp=Z,12nm,1.1s
BJI LR LR
comp=Z,100nm,16.8s
BJI LR LR
comp=Z,75nm,16.8s
BJI LR LR
comp=Z,160nm,19.6s
HNS HongShan 86.78 310 ⇓P P 09 05 23.5 +1.8
HNS S S 09 16 02.3 +2.6
HNS pmax pmax
comp=Z,35nm,1.3s
HNS LR LR
comp=Z,280nm,19.3s
HNS LR LR
comp=Z,310nm,17.8s
HNS LR LR
comp=Z,410nm,19.6s
D25K Kavik River 86.81 9 P P 09 05 23.0 +1.8
baz=204
C24K Franklin Bluff 86.85 8 P P 09 05 23.1 +1.7
baz=202
B22K Teshekpuk Lake 86.88 6 P P 09 05 23.4 +1.9
baz=198
G31M Satah River 87.03 14 P P 09 05 23.5 +1.3
baz=216,SNR=13
F30M Barrier River 87.25 13 P P 09 05 23.7 +0.3
baz=215,SNR=6.1
WRGLY Wrigley 87.26 20 P P 09 05 24.0 +0.6
baz=226
E28M Babbage River 87.33 11 P P 09 05 24.4 +0.7
baz=211,SNR=5.3
LYN LuoYang 87.42 307 P P 09 05 27.5 +2.6
LYN pP pwP 09 05 32.0 -2.4
LYN sP PcP 09 05 34.8 +7.9
LYN S S 09 16 03.5 -2.5
LYN pmax pmax
comp=Z,53nm,1.1s
LYN pmax pmax
comp=Z,350nm,4.3s
LYN LR LR
comp=Z,440nm,18.2s
LYN LR LR
comp=Z,440nm,20.3s
LYN LR LR
comp=Z,770nm,18.2s
E29M Blow River 87.46 12 P P 09 05 24.9 +0.5
baz=213,SNR=5.7
C27K Jago River 87.50 10 P P 09 05 24.7 +0.2
baz=207
F31M Tsiigehtchic 87.57 14 P P 09 05 25.9 +1.1
baz=216,SNR=15
MAW Mawson 87.86 198 P P 09 05 27.8 +1.3
comp=Z,11nm,0.8s,baz=146,slow=8.4,SNR=21
MAW LR LR 09 45 28.0
comp=Z,274nm,18.3s,baz=124,slow=36
comp=Z,11nm,0.8s
D28M Stokes Point 88.10 11 P P 09 05 28.2 +0.9
baz=212
PLCA Paso Flores 88.21 132 P P 09 05 31.2 +2.4
comp=Z,3.8nm,1.0s,baz=235,slow=2.8,SNR=5.8
PLCA LR LR 09 36 46.6
comp=Z,675nm,19.7s,baz=268,slow=30
comp=Z,3.8nm,1.0s
ENH Enshi 88.32 302 P P 09 05 31.7 +2.3
INK Inuvik 88.32 13 LR LR 09 43 03.7
comp=Z,321nm,18.2s,baz=111,slow=34
INK Inuvik 88.32 13 P P 09 05 31.4 +3.0
baz=217,SNR=11
IPM Ipoh 88.35 275 P P 09 05 31.1 +1.2
HILR Hailar Array B 88.48 323 P P 09 05 30.0 +0.3
comp=Z,1.7nm,0.4s,baz=111,slow=7.9,SNR=4.2
comp=Z,1.7nm,0.4s
GYA Guiyang 89.47 298 ⇓P P 09 05 38.0 +3.0
GYA S S 09 16 21.8 -4.2
GYA pmax pmax
comp=Z,26nm,1.0s
GYA pmax pmax
comp=Z,250nm,7.2s
GYA LR LR
comp=Z,190nm,5.3s
GYA LR LR
comp=Z,160nm,4.6s
GYA LR LR
comp=Z,88nm,5.9s
JTS Las Juntas de 89.90 79 LR LR 09 35 45.2
comp=Z,353nm,21.7s,baz=266,slow=29
YKA Yellowknife Ar 89.90 23 P P 09 05 37.3 +1.3
comp=Z,4.3nm,0.9s,baz=248,slow=5.0,SNR=12
YKA LR LR 09 39 11.3
comp=Z,187nm,18.8s,baz=261,slow=31
comp=Z,4.3nm,0.9s
PSI Prapat 89.92 273 LR LR 09 46 49.3
comp=Z,212nm,18.9s,baz=128,slow=36
XAN Xi'an 90.00 305 P P 09 05 39.5 +2.3
XAN S S 09 16 35.8 +5.3
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,240nm,4.1s
XAN LR LR
comp=Z,340nm,19.7s
XAN LR LR
comp=Z,440nm,19.6s
XAN LR LR
comp=Z,800nm,21.1s
YAK Yakutsk 90.03 336 LR LR 09 42 03.7
comp=Z,251nm,20.3s,baz=128,slow=33
YAK Yakutsk 90.03 336 i P P 09 05 37.1 +0.5
YAK pmax pmax
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 90.32 312 eP P 09 05 38.5 -0.1
HHC SKS SKSac 09 16 08.0 -2.2
HHC S S 09 16 29.0 -4.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.0s
HHC LR LR
comp=Z,210nm,15.1s
HHC LR LR
comp=Z,200nm,15.1s
HHC LR LR
comp=Z,250nm,15.7s
SLVN Son La 90.36 292 P P 09 05 39.6 +0.4
KCSI Kotacane, Aceh 91.22 273 P P 09 05 43.1 -0.2
comp=Z,24nm,1.5s
BTO Baotou 91.34 312 eP P 09 05 45.5 +2.1
BTO PP PP 09 09 18.8 -2.3
BTO pmax pmax
comp=Z,21nm,0.8s
BTO pmax pmax
comp=Z,340nm,5.1s
BTO LR LR
comp=Z,350nm,7.1s
BTO LR LR
comp=Z,300nm,5.2s
BTO LR LR
comp=Z,280nm,8.9s
ATAH Atahualpa 91.48 98 LR LR 09 38 27.5
comp=Z,1µm,18.8s,baz=259,slow=30
NNA Nana 91.60 103 LR LR 09 39 14.6
comp=Z,275nm,18.0s,baz=245,slow=30
TROLL Troll, Antarti 92.33 178 ⇑P P 09 05 48.9 +1.4
comp=Z,704nm,1.2s
VNA3 Neumayer Olymp 92.33 174 ⇑P P 09 05 46.4 -0.9

	comp=Z,14nm,1.0s					
SNAA	**Sanae**	**92.44 177**	⇑P		**P**	**09 05 49.1 +1.2**
	comp=Z,158nm,1.3s					
SNAA	**Sanae**	**92.44 177**	P		**P**	**09 05 48.5 +0.6**
SNAA			IAmb		IAmb	09 05 50.4
	comp=Z,24nm,1.3s					
SNAA	**Sanae**	**92.44 177**	P		**P**	**09 05 49.1 +1.2**
	comp=Z,11nm,1.2s,baz=194,slow=3.8,SNR=18					
SNAA			LR		LR	09 40 53.4
	comp=Z,377nm,21.9s,baz=194,slow=31					
	comp=Z,11nm,1.2s					
VNA2	**Neumayer--Watz**	**92.84 175**	⇑P		**P**	**09 05 51.3 +1.6**
	comp=Z,20nm,0.9s,baz=185,slow=2.2					
A36M	**Sachs Harbour**	**92.96 13**	P		**P**	**09 05 52.8 +2.9**
	baz=224					
VNA1	**Neumayer--Stat**	**93.03 175**	⇑P		**P**	**09 05 52.3 +1.8**
	comp=Z,38nm,1.0s					
ULM	**Lac du Bonnet**	**93.36 39**	LR		LR	09 44 10.2
	comp=Z,590nm,18.8s,baz=256,slow=33					
ULM	**Lac du Bonnet**	**93.36 39**	*i* P		**P**	**09 05 51.5 -0.8**
PZH	**PanZhiHua**	**93.70 296**	P		**P**	**09 05 55.0 +0.4**
CMAR	**Chiang Mai Arr**	**94.07 288**	P		**P**	**09 05 58.0 +1.7**
	comp=Z,7.0nm,0.9s,baz=99,slow=2.5,SNR=32					
CMAR			LR		LR	09 43 31.6
	comp=Z,216nm,21.4s,baz=90,slow=33					
	comp=Z,7.0nm,0.9s					
CMAR	**Chiang Mai Arr**	**94.07 288**	*i* P		**P**	**09 05 58.7 +2.4**
CMAR			pmax		pmax	
	comp=Z,8.0nm,0.9s					
CHTO	**Chiang Mai**	**94.16 288**	P		**P**	**09 05 56.1 -0.7**
CHTO			IAmb		IAmb	09 06 00.8
	comp=Z,14nm,1.1s					
CHTO	**Chiang Mai**	**94.16 288**	P		**P**	**09 05 57.8 +1.0**
CHTO	**Chiang Mai**	**94.16 288**	P		**P**	**09 05 56.1 -0.7**
CHTO			pmax		pmax	
	comp=Z,14nm,1.1s					
LZH	**Lanzhou**	**94.59 306**	*e*P		**P**	**09 06 02.3 +3.8**
LZH			sP		pwP	09 06 10.0 +1.9
LZH			pmax		pmax	
	comp=Z,30nm,1.0s					
LZH			LR		LR	
	comp=Z,270nm,18.1s					
LZH			LR		LR	
	comp=Z,440nm,19.4s					
LZH			LR		LR	
	comp=Z,580nm,18.1s					
LZDM	**Lanzhou Array**	**94.67 306**	P		**P**	**09 05 59.7 +0.6**
	comp=Z,1.3nm,0.3s,baz=77,slow=6.7,SNR=4.2					
LZDM			LR		LR	09 45 54.8
	comp=Z,229nm,20.3s,baz=90,slow=34					
	comp=Z,1.3nm,0.3s					
TIXI	**Tiksi**	**95.76 344**	LR		LR	09 44 03.3
	comp=Z,365nm,21.9s,baz=188,slow=32					
TIXI	**Tiksi**	**95.76 344**	*i* P		**P**	**09 06 02.1 -0.7**
TIXI			pmax		pmax	
	comp=Z,1.0nm,0.9s					
SONM	**Songino Array**	**96.07 318**	P		**P**	**09 06 06.1 +1.1**
	comp=Z,0.3nm,0.4s,baz=117,slow=5.6,SNR=3.7					
SONM			PP		**PP**	**09 09 57.2 -0.7**
	comp=Z,0.4nm,0.5s,baz=169,slow=8.6,SNR=3.6					
SONM			LR		LR	09 44 36.1
	comp=Z,254nm,21.5s,baz=110,slow=32					
	comp=Z,0.3nm,0.4s					
TKL	**Tuckaleechee C**	**97.58 55**	LR		LR	09 44 13.3
	comp=Z,296nm,19.5s,baz=247,slow=32					
LPAZ	**La Paz**	**98.36 110**	P		Pdif	09 06 19.8 +3.1
	comp=Z,0.7nm,0.7s,baz=338,slow=3.3,SNR=2.9					
LPAZ			LR		LR	09 41 18.6
	comp=Z,347nm,21.4s,baz=252,slow=30					
	comp=Z,0.7nm,0.7s					
GTA	**Gaotai**	**98.52 308**	*e*P		Pdif	09 06 19.5 +3.2
GTA			pmax		pmax	
	comp=Z,8.0nm,0.6s					
GTA			LR		LR	
	comp=Z,160nm,14.2s					
GTA			LR		LR	
	comp=Z,390nm,16.7s					
GTA			LR		LR	
	comp=Z,540nm,18.2s					
ROSC	**El Rosal**	**98.62 87**	LR		LR	09 41 14.1
	comp=Z,296nm,21.7s,baz=241,slow=30					
WMQ	**Urumqi**	**108.18 311**	Pdif		**Pdif**	**09 07 00.0 +1.0**
WMQ			LR		LR	
	comp=Z,110nm,19.9s					
ZALV	**Zalesovo Beam**	**110.39 322**	PP		**PP**	**09 11 41.7 -3.0**
	comp=Z,0.4nm,0.4s,baz=82,slow=11,SNR=3.5					
MKAR	**Makanchi Array**	**112.10 314**	Pdiff		**Pdif**	**09 07 18.9 +2.5**
	comp=Z,0.4nm,0.7s,baz=86,slow=6.2,SNR=3.5					
MKAR			PP		**PP**	**09 11 54.6 -2.6**
	comp=Z,1.8nm,1.0s,baz=104,slow=5.1,SNR=7.3					
KURK	**Kurchatov**	**114.36 319**	PKIKP		**PKiKP**	**09 11 17.5 +0.5**
KURBB	**Kurchatov Arra**	**114.42 319**	PKP		**PKiKP**	**09 11 17.5 +0.4**
	comp=Z,0.2nm,0.5s,baz=85,slow=2.1,SNR=5.3					
KURBB			PP		**PP**	**09 12 14.9 +1.4**
	comp=Z,2.5nm,1.0s,baz=89,slow=5.4,SNR=8.1					
BVAR	**Borovoye Array**	**119.05 322**	PKP		**PKiKP**	**09 11 27.8 +1.7**
	comp=Z,0.7nm,0.5s,baz=100,slow=7.5,SNR=2.0					
ARTI	**Arti**	**124.51 329**	*i* PKIKP		**PKPdf**	**09 11 36.2 -0.2**
ARTI						09 13 24.0
ARTI						09 18 47.4
ARTI			SS		SS	09 30 20.0 +4.6
ARCES	**ARCESS Array B**	**125.19 353**	PKP		**PKiKP**	**09 11 38.0 +0.4**
	comp=Z,2.5nm,0.8s,baz=46,slow=5.2,SNR=7.3					
KIRV	**Kirov**	**127.51 334**	*c* PKIKP		**PKPdf**	**09 11 41.9 -0.1**
FINES	**FINESS Array B**	**132.62 348**	PKhKP		PKPpre	09 11 47.0
	comp=Z,2.9nm,0.8s,baz=19,slow=4.7,SNR=4.1					
FINES			PKP		**PKiKP**	**09 11 52.6 -0.2**
	comp=Z,3.1nm,0.8s,baz=46,slow=4.0,SNR=4.3					
OBN	**Obninsk**	**135.03 337**	*i* PKIKP		**PKPdf**	**09 11 55.2 -1.1**
OBN			pmax		pmax	
	comp=Z,9.0nm,0.9s					
OBN			MLR		MLR	
	comp=Z,347nm,18.0s					
MAK	**Makhachkala**	**136.84 317**	*e*P		**Pdif**	**09 08 56.5 -10**
MAK			*e*			09 19 05.9
MAK			*e*SS		SS	09 32 42.2 -5.0
MAK			pmax		pmax	
	comp=Z,220nm,1.3s					
KIV	**Kislovodsk**	**139.39 321**	*i* PKIKP		**PKPdf**	**09 12 02.7 -2.3**
KIV			pmax		pmax	
	comp=Z,3.0nm,0.9s					
KIV			MLR		MLR	
	comp=Z,245nm,24.0s					
AKASG	**Malin Array Be**	**141.23 338**	PKP		**PKPdf**	**09 12 06.9 -1.0**
	comp=Z,0.5nm,0.4s,baz=39,slow=3.6,SNR=6.1					
AKASG	**Malin Array Be**	**141.23 338**	*i* PKIKP		**PKPdf**	**09 12 09.1 +1.2**
AKASG			pmax		pmax	
	comp=Z,1.0nm,0.4s					
AK21	**Malin Array Si**	**141.23 339**	PKP		**PKPdf**	**09 12 07.9 0.0**
CLL	**Collm**	**144.35 355**	*e*PKIKP		PKPbc	09 12 12.0 +0.3
CLL			*i*			09 12 17.3
CLL			pmax		pmax	
	comp=Z,10.0nm,0.8s					
CLL	**Collm**	**144.35 355**	*e*PKPdf		PKPbc	09 12 12.0 +0.3
CLL			*i* PKiKP		**PKiKP**	**09 12 17.3 +0.3**
	comp=Z,10.0nm,0.8s					
CLL			*ex*		x	09 12 25.0
BRG	**Berggiesshubel**	**144.69 354**	*e*PKP		**PKPdf**	**09 12 14.0 0.0**
BRG			Amp			09 12 17.7
	comp=Z,2.7nm,0.9s					
BRG	**Berggiesshubel**	**144.69 354**	P		**PKiKP**	**09 12 21.7 +3.9**
BRG			Amp			09 12 22.1
	comp=Z,5.2nm,0.9s					
OSTC	**Ostas**	**144.70 351**	*e*PKP		**PKPdf**	**09 12 15.2 +1.1**
OSTC	**Ostas**	**144.70 351**	*e*PKIKP		**PKPdf**	**09 12 15.2 +1.1**
UPC	**Upice**	**144.78 351**	*e*PKP		**PKiKP**	**09 12 18.3 +0.3**
UPC	**Upice**	**144.78 351**	*e*PKIKP		**PKiKP**	**09 12 18.3 +0.3**
DPC	**Dobruska-Polom**	**144.89 351**	*e*PKP		**PKPdf**	**09 12 15.0 +0.5**
DPC			*ex*		x	09 12 19.7
DPC	**Dobruska-Polom**	**144.89 351**	*e*PKIKP		**PKPdf**	**09 12 15.0 +0.5**
DPC			*e*			09 12 19.7
HSKC	**Hora Svate Kat**	**145.00 354**	*e*PKP		**PKiKP**	**09 12 19.5 +1.0**
STEB	**Steborice**	**145.05 349**	*e*PKP		**PKPdf**	**09 12 15.0 +0.3**
STEB			*ex*		x	09 12 29.9
KRLC	**Kraliky**	**145.08 350**	*e*PKP		**PKPdf**	**09 12 15.5 +0.7**
KRLC	**Kraliky**	**145.08 350**	*e*PKIKP		**PKPdf**	**09 12 15.5 +0.7**
MEM	**Membach**	**145.23 2**	*d*PKP		**PKiKP**	**09 12 19.7 +0.8**
BURAR	**Bucovina Array**	**145.24 340**	⇑P		**PKPbc**	**09 12 14.9 0.0**
BURAR	**Bucovina Array**	**145.24 340**	⇑PKP2		**PKPbc**	**09 12 14.9 0.0**
MORC	**Moravsky Berou**	**145.24 349**	⇓P		**PKPdf**	**09 12 16.9 +1.8**
MORC	**Moravsky Berou**	**145.24 349**	*e*PKP		**PKPdf**	**09 12 15.3 +0.2**
MORC	**Moravsky Berou**	**145.24 349**	⇓PKIKP		**PKPdf**	**09 12 16.9 +1.8**
BSTI	**Sart Tilman**	**145.24 3**	*d*PKP		**PKiKP**	**09 12 19.8 +0.9**
BTNL	**Ternell**	**145.26 2**	*d*PKP		**PKiKP**	**09 12 20.3 +1.3**
BCLA	**Clavier**	**145.39 3**	*d*PKP		**PKiKP**	**09 12 20.7 +1.5**
BGES	**Gesves**	**145.41 3**	*d*PKP		**PKiKP**	**09 12 20.6 +1.3**
LANS	**Liptovska Anna**	**145.45 347**	*e*PKIKP		**PKiKP**	**09 12 17.6 -1.8**
LANS			*e*			09 12 20.3
LANS	**Liptovska Anna**	**145.45 347**	*e*PKP		**PKiKP**	**09 12 17.6 -1.8**
LANS			*e*			09 12 20.2
BMRD	**Maredsous**	**145.48 4**	*d*PKP		**PKiKP**	**09 12 20.2 +0.8**
BHOU	**Houvegnez**	**145.49 2**	*d*PKP		**PKiKP**	**09 12 20.8 +1.3**
PRU	**Pruhonice**	**145.49 353**	*e*PKP		**PKPab**	**09 12 16.6 +0.9**
PRU			*ex*		x	09 12 20.5
PRU	**Pruhonice**	**145.49 353**	*e*PKIKP		**PKPab**	**09 12 16.6 +0.9**
PRU			*e*			09 12 20.5
MAUC	**Maruska**	**145.58 349**	*e*PKP		**PKPab**	**09 12 17.3 +1.2**
RCHB	**Rochefort**	**145.65 3**	*d*PKP		**PKiKP**	**09 12 23.2 +3.5**
TESR	**Tescani**	**145.67 337**	⇑P		**PKPab**	**09 12 17.1 +0.7**
DOU	**Dourbes**	**145.67 4**	*d*PKP		**PKiKP**	**09 12 21.8 +2.0**
GHRR		**145.75 336**	⇑P		**PKPab**	**09 12 17.7 +1.0**
VRAC	**Vranov**	**145.86 350**	⇓P		**PKPab**	**09 12 18.6 +1.5**
VRAC	**Vranov**	**145.86 350**	*e*PKP		**PKPab**	**09 12 18.4 +1.3**
VRAC	**Vranov**	**145.86 350**	⇓PKP2		**PKPab**	**09 12 18.6 +1.5**
TLCR		**145.88 333**	⇑P		**PKPab**	**09 12 18.2 +1.0**
TLCR		**145.88 333**	⇑PKIKP		**PKPab**	**09 12 18.2 +1.0**
ONER	**Baraj Valea Uz**	**145.91 337**	⇑P		**PKPab**	**09 12 18.3 +0.9**
ARCR	**ARCALIA**	**145.99 340**	⇑P		**PKiKP**	**09 12 20.1 -0.5**
NEGRR	**Negrea**	**145.99 335**	⇑P		**PKiKP**	**09 12 19.9 -0.7**
ZVC	**Zvíkov**	**146.07 353**	*e*PKP		**PKiKP**	**09 12 19.4 -1.3**
ZVC			*ex*		x	09 12 22.8
JAVC	**Velka Javorina**	**146.10 349**	*e*PKP		**PKiKP**	**09 12 19.9 -0.9**
KRUC	**Moravsky**	**146.13 350**	*e*PKP		**PKPab**	**09 12 18.8 +0.7**
CFR	**Carcaliu**	**146.18 334**	⇑P		**PKPbc**	**09 12 18.1 +0.4**
CFR	**Carcaliu**	**146.18 334**	⇑PKP2		**PKPbc**	**09 12 18.1 +0.4**
WLF	**Walferdange**	**146.18 2**	*d*PKP		**PKiKP**	**09 12 23.8 +3.0**
PLOR	**Plostina**	**146.22 336**	⇑P		**PKPab**	**09 12 18.6 0.0**
PLOR	**Plostina**	**146.22 336**	⇑PKP2		**PKPab**	**09 12 18.6 0.0**
TPGR	**Topolog**	**146.31 334**	⇑P		**PKPab**	**09 12 18.9 0.0**
OZUR		**146.34 338**	⇑P		**PKPab**	**09 12 18.9 -0.2**
KHC	**Kasperske Hory**	**146.45 353**	*e*PKP		**PKPab**	**09 12 19.9 +0.5**
KHC			*ex*		x	09 12 24.5
KHC			*ex*		x	09 12 32.7
KHC	**Kasperske Hory**	**146.45 353**	*e*PKP2		**PKPab**	**09 12 19.9 +0.5**
PSZ	**Piszkesteto**	**146.51 346**	⇑P		**PKiKP**	**09 12 21.4 -0.3**
PSZ	**Piszkesteto**	**146.51 346**	⇑PKP2		**PKiKP**	**09 12 21.4 -0.3**
DOPR	**Dopca**	**146.60 338**	⇑P		**PKPab**	**09 12 20.6 +0.6**
TIRR	**Tirgusor**	**146.63 333**	⇓P		**PKiKP**	**09 12 21.5 -0.4**
TIRR	**Tirgusor**	**146.63 333**	⇓PKP2		**PKiKP**	**09 12 21.5 -0.4**
MODS	**Modra-Piesok**	**146.64 349**	*e*PKP2		**PKiKP**	**09 12 21.2 -0.7**
MODS	**Modra-Piesok**	**146.64 349**	*e*PKP		**PKiKP**	**09 12 21.2 -0.7**
MODS			*e*			09 12 24.6
HARR	**Harsova**	**146.65 334**	⇑P		**PKPab**	**09 12 20.1 -0.1**
HARR	**Harsova**	**146.65 334**	⇑PKP2		**PKPab**	**09 12 20.1 -0.1**
GERES	**GERESS Array B**	**146.72 353**	PKPbc		**PKPab**	**09 12 20.6 +0.1**
	comp=Z,6.1nm,0.8s,baz=347,slow=5.5,SNR=20					
MARR	**Marisel-Cluj**	**146.75 341**	⇑P		**PKPbc**	**09 12 20.0 +0.5**
DRGR		**146.77 342**	⇓P		**PKPbc**	**09 12 19.8 +0.2**
DRGR		**146.77 342**	⇓PKP2		**PKPbc**	**09 12 19.8 +0.2**
MLR	**Muntele Rosu**	**146.79 337**	⇑P		**PKPab**	**09 12 21.4 +0.4**
MLR	**Muntele Rosu**	**146.79 337**	⇑PKP2		**PKPab**	**09 12 21.4 +0.4**
CONA	**Conrad Observa**	**147.31 350**	*i* pPKiKP		**PKPab**	**09 12 22.6 -0.2**
	comp=Z,30nm,1.6s,SNR=6.7					
CONA	**Conrad Observa**	**147.31 350**	*i* PKiKP		**PKPab**	**09 12 22.6 -0.2**
	comp=Z,30nm,1.6s,SNR=6.7					
BRTR	**Keskin Array B**	**147.34 322**	PKPbc		**PKPbc**	**09 12 22.1 +0.7**
	comp=Z,20nm,1.0s,baz=127,slow=1.9,SNR=38					
ARR	**Arges**	**147.38 338**	⇑P		**PKPab**	**09 12 23.2 0.0**
RONA	**Rosalia, Austr**	**147.46 350**	*e*pPKP		**PKPab**	**09 12 23.4 +0.1**
	comp=Z,24nm,1.1s					
DEV	**Deva**	**147.52 341**	⇑P		**PKiKP**	**09 12 24.4 +0.6**
DEV	**Deva**	**147.52 341**	⇑PKP2		**PKiKP**	**09 12 24.4 +0.6**
KIRS	**Kirsehir-Merke**	**147.54 321**	⇑P		**PKPbc**	**09 12 22.7 +0.7**
LOT	**Lotru**	**147.62 339**	⇑P		**PKPab**	**09 12 23.7 -0.4**
MOA	**Molln**	**147.63 352**	*i* PKiKP		**PKPab**	**09 12 23.4 -0.6**
	comp=Z,15nm,0.9s					
ANTO	**Ankara**	**147.74 323**	⇑P		**PKiKP**	**09 12 23.9 -0.6**
ANTO	**Ankara**	**147.74 323**	⇑PKP2		**PKiKP**	**09 12 23.9 -0.6**
BIOA	**Bad Ischl, Aus**	**147.86 353**	*i* pPKiKP		**PKPab**	**09 12 28.9 +4.0**
	comp=Z,23nm,0.9s					
SURR	**Surduc**	**147.88 341**	⇑P		**PKPbc**	**09 12 23.4 +0.9**
GZR	**Gura Zlata**	**148.00 340**	⇑P		**PKPbc**	**09 12 23.7 +0.7**
GZR	**Gura Zlata**	**148.00 340**	⇑PKP2		**PKPbc**	**09 12 23.7 +0.7**
ARSA	**Arzberg**	**148.03 350**	*i* PKP		**PKiKP**	**09 12 24.3 -0.5**
	comp=Z,8.4nm,1.0s					
BZS	**Buzias**	**148.16 342**	⇑P		**PKPbc**	**09 12 23.4 +0.1**
BZS	**Buzias**	**148.16 342**	⇑PKP2		**PKPbc**	**09 12 23.4 +0.1**
LESA	**Schwarzleotal**	**148.23 354**	*e*pPKiKP		**PKPab**	**09 12 28.1 +1.7**
	comp=Z,10nm,1.2s					
RETA	**Reutte**	**148.32 357**	*i* pPKP		**PKiKP**	**09 12 25.8 +0.3**
	comp=Z,24nm,1.3s					
MORH	**Mrgy, Hungar**	**148.40 346**	⇑P		**PKiKP**	**09 12 25.4 -0.2**
WATA	**Walderalm**	**148.41 355**	*i* pPKiKP		**PKPab**	**09 12 28.5 +1.2**
	comp=Z,18nm,1.1s					
MOTA	**Moosalm**	**148.44 356**	*i* pPKP		**PKPab**	**09 12 29.2 +1.8**
	comp=Z,24nm,1.0s,SNR=8.6					
WTTA	**Wattenberg**	**148.48 355**	*i* pPKP		**PKiKP**	**09 12 25.5 -0.4**
	comp=Z,22nm,1.3s,SNR=5.1					
WTTA	**Wattenberg**	**148.48 355**	*i* PKiKP		**PKiKP**	**09 12 25.5 -0.4**
	comp=Z,22nm,1.3s,SNR=5.1					
KBA	**Koelnbreinsper**	**148.50 353**	*e*pPKiKP		**PKPab**	**09 12 28.5 +0.8**
	comp=Z,7.8nm,1.3s					
SQTA	**Sankt Quirin**	**148.56 356**	*i* PKiKP		**PKiKP**	**09 12 25.7 -0.3**
	comp=Z,12nm,0.9s					
DAVA	**Damuels**	**148.56 358**	*i* pPKP		**PKiKP**	**09 12 26.4 +0.4**
	comp=Z,22nm,0.9s					
HERR	**Herculane**	**148.57 340**	⇑P		**PKPbc**	**09 12 25.0 +0.6**
SOKA	**Soboth**	**148.66 351**	*i* pPKiKP		**PKiKP**	**09 12 25.6 -0.6**
	comp=Z,22nm,1.0s,SNR=8.3					
SOKA	**Soboth**	**148.66 351**	*i* PKiKP		**PKiKP**	**09 12 25.6 -0.6**
	comp=Z,22nm,1.0s,SNR=8.3					
FETA	**Feichten**	**148.78 356**	*i* pPKP		**PKiKP**	**09 12 26.7 +0.1**
	comp=Z,20nm,1.2s					
MDVR	**Moldovita**	**148.88 341**	⇑P		**PKPbc**	**09 12 24.6 -0.7**
OBKA	**Obir**	**148.90 351**	*i* PKiKP		**PKiKP**	**09 12 26.7 0.0**
	comp=Z,7.9nm,1.0s					
MYKA	**Terra Mystica**	**148.90 353**	*i* PKiKP		**PKPbc**	**09 12 26.0 +0.7**
	comp=Z,9.5nm,1.0s					
ABTA	**Abfaltersbach**	**148.91 354**	*i* PKiKP		**PKPbc**	**09 12 26.0 +0.6**
	comp=Z,9.1nm,0.9s					
ELND	**Elena**	**148.95 334**	⇓P		**PKPbc**	**09 12 25.7 +0.2**
BLKB	**Belogradchik**	**149.59 339**	⇓P		**PKPbc**	**09 12 27.1 0.0**
MMAI	**Mount Meron Ar**	**149.90 310**	PKPbc		**PKiKP**	**09 12 29.2 0.0**
	comp=Z,10nm,0.9s,baz=50,slow=1.3,SNR=9.0					
BOVS	**Bovan**	**149.91 340**	⇑P		**PKiKP**	**09 12 28.4 -0.3**
BLY	**Banja Luka**	**150.12 347**	⇑P		**PKPbc**	**09 12 26.8 -1.5**
PGAV	**Gavieira, Arco**	**150.37 25**	*e*PKPab		**PKPab**	**09 12 35.4 0.0**
PCAB	**Cabril**	**150.68 25**	*e*PKPab		**PKPab**	**09 12 36.1 -0.5**
POLO	**Lamas de Olo**	**151.06 25**	*e*PKPbc		**PKiKP**	**09 12 32.5 +1.2**
POLO			*e*PKPab		**PKPab**	**09 12 36.9 -1.3**
PBRG	**Braganca**	**151.11 23**	*e*PKPab		**PKPab**	**09 12 36.8 -1.6**
PVRL	**Vila Real**	**151.17 25**	*e*PKPab		**PKPab**	**09 12 37.4 -1.2**
MVO	**Moncorvo**	**151.54 24**	*e*PKPbc		**PKiKP**	**09 12 33.1 +0.8**
MVO			*e*PKPab		**PKPab**	**09 12 38.5 -1.7**
PVIS	**Viseu**	**151.57 26**	*e*PKPab		**PKPab**	**09 12 38.3 -2.0**
PCAS	**Casmilo, Conde**	**151.85 28**	*e*PKPab		**PKPab**	**09 12 39.1 -2.3**
MTE	**Manteigas**	**151.98 26**	*e*PKPab		**PKPab**	**09 12 39.2 -2.8**
PSARD	**Sardoal**	**152.37 28**	*e*PKPab		**PKPab**	**09 12 40.1 -3.6**
PCBR	**Castelo Branco**	**152.47 26**	*e*PKPbc		**PKPbc**	**09 12 33.7 -0.1**
PCBR			*e*PKPab		**PKPab**	**09 12 40.0 -4.0**
PMTG	**Montargil**	**152.77 28**	*e*PKPab		**PKPab**	**09 12 40.5 -4.8**
PMRV	**Marv??o**	**152.85 27**	*e*PKPab		**PKPab**	**09 12 40.6 -5.0**
PESTR	**Estremoz**	**153.22 28**	*e*tx		tx	09 12 54.0
EVO	**Evora**	**153.30 29**	*e*tx		tx	09 12 54.2
PTEO	**Sao Teotonio**	**153.74 31**	*e*tx		tx	09 12 55.0
ESDC	**Sonseca Array**	**153.99 22**	PKPbc		**PKiKP**	**09 12 40.0 +2.6**
	comp=Z,1.5nm,0.8s,baz=339,slow=2.9,SNR=8.4					
KEST	**Kesra**	**160.11 357**	PKP		**PKPdf**	**09 12 38.9 +1.7**
	comp=Z,3.1nm,0.7s,baz=266,slow=4.3,SNR=2.1					
DBIC	**Dimbokro**	**164.43 124**	PKP		**PKPdf**	**09 12 42.5 +0.5**
	comp=Z,1.2nm,0.6s,baz=294,slow=1.5,SNR=3.4					
TORD	**Torodi Ar. Bea**	**173.30 112**	PKP		**PKPdf**	**09 12 47.5 -0.2**
	comp=Z,1.8nm,0.5s,baz=333,slow=1.6,SNR=4.0					
TORD			PKPab		**pPKPab**	**09 14 17.0 -0.1**
	comp=Z,0.9nm,0.3s,baz=265,slow=4.3,SNR=3.5					

AFAD 26 09:10:29.3, 39°.36N×29°.32E, h6km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMET	**Ktahya-Emet**	**0.01**	**358**	P	Pg	09 10 30.5	-0.1
EMET				S	Sg	09 10 31.6	+0.1
GDZ	**Gediz**	**0.30**	**156**	P	Pg	09 10 35.3	+0.1
GDZ				S	Sg	09 10 40.6	+1.4
GDZ				*i* IAML		09 10 45.0	
	comp=N,19nm,0.6s						
GDZ				*i* IAML		09 10 48.0	
	comp=E,26nm,2.2s						
DOMA	**Ktahya-Doman**	**0.51**	**34**	P	Pb	09 10 41.3	+0.5
DOMA				S	Sg	09 10 47.0	+1.1
DOMA				*i* IAML		09 11 02.0	
	comp=E,12nm,1.3s						
DURS	**Dursunbey**	**0.70**	**290**	P	Pg	09 10 43.1	+0.4
DURS				*i* IAML		09 10 53.0	
	comp=N,9.9nm,0.7s						
DURS				*i* IAML		09 10 53.0	
	comp=E,12nm,1.2s						

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*IDC **26** 09:20:51.8±2.5, 15°.56N×94°.47W, h0km, mb3.5/2, mbtmp3.5/3, ML3.0/2, MS4.2/1, Error ellipse: s-maj=40.2km s-min=21.6km az=25.0*

*MEX **26** 09:20:52.1±0.8, 15°.15N×94°.72W, h16km±11km, MD4.4*

ISC 26 09:20:48.3±0.9, 15°.15N±0°.05×94°.71W±0°.03, h10km, n49, σ2.9 90/90, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.48**	**295**	*e*P	**Pn**	**09 21 14.5**	**-0.5**
HUIG				*e*S	**Sn**	**09 21 30.7**	**-3.8**
PCIG		**1.54**	**69**	*e*P	**Pn**	**09 21 15.1**	**-0.8**
PCIG				*e*S	**Sn**	**09 21 32.6**	**-3.3**
CMIG	**Matias Romero**	**1.94**	**355**	Pn	**Pn**	**09 21 20.9**	**-0.4**
	59nm,0.3s,baz=169,slow=14,SNR=732						
CMIG				Sn	**Sn**	**09 21 43.0**	**-2.7**
	73nm,0.3s,baz=83,slow=20,SNR=32						
CMIG	**Matias Romero**	**1.94**	**355**	*e*P	**Pn**	**09 21 21.0**	**-0.4**
CMIG				*e*S	**Sn**	**09 21 42.3**	**-3.4**
UXUV	**UXUV**	**2.22**	**14**	*e*P	**Pn**	**09 21 25.6**	**+0.3**
UXUV				*e*S	**Sn**	**09 21 50.2**	**-2.6**
TGIG		**2.23**	**43**	*e*P	**Pn**	**09 21 25.9**	**+0.5**
TGIG				*e*S	**Sn**	**09 21 52.0**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.25**	**44**	*e*P	**Pn**	**09 21 26.3**	**+0.7**
TGBT				*e*S	**Sn**	**09 21 52.7**	**-0.7**
THIG		**2.38**	**96**	*e*P	**Pb**	**09 21 29.7**	**-1.6**
THIG				*e*S	**Sn**	**09 21 55.6**	**-1.0**
PATR	**El Naranjo**	**2.39**	**91**	*e*P	**Pn**	**09 21 27.4**	**-0.4**
PATR				*e*S	**Sn**	**09 21 55.6**	**-1.8**
PAVE	**Pavencul**	**2.45**	**89**	*e*P	**Pn**	**09 21 28.9**	**+0.3**
PAVE				*e*S	**Sn**	**09 21 57.4**	**-1.3**
PEIG	**Puerto Escondi**	**2.49**	**290**	*e*P	**Pn**	**09 21 28.6**	**-0.4**
PEIG				*e*S	**Sn**	**09 21 54.8**	**-4.8**
CHUJ	**Union Juarez**	**2.52**	**91**	*e*P	**Pn**	**09 21 29.5**	**0.0**
CHUJ				*e*S	**Sn**	**09 21 57.8**	**-2.6**
OXLC	**Oaxaca**	**2.70**	**315**	*e*P	**Pb**	**09 21 34.7**	**-2.2**
OXLC				*e*S	**Sn**	**09 22 03.3**	**-1.6**
OXBJ	**Oaxaca**	**2.71**	**315**	*e*P	**Pb**	**09 21 36.0**	**-1.2**
OXBJ				*e*S	**Sn**	**09 22 04.4**	**-0.8**
CCIG	**Comitan**	**2.72**	**65**	*e*P	**Pn**	**09 21 34.2**	**+1.9**
CCIG				*e*S	**Sn**	**09 22 05.

FITZ Fitzroy Crossi 42.12 209 P P 09 31 23.4 -0.7
AS31 Alice Springs 44.30 196 P P 09 31 39.8 -1.8
ASAR Alice Springs 44.30 196 P P 09 31 40.3 -1.3
ASAR Alice Springs 44.30 196 P P 09 31 40.5 -1.1
comp=Z,0.1nm,0.4s,baz=11,slow=6.1,SNR=4.5
comp=Z,0.1nm,0.4s
MBWA Marble Bar 47.62 214 P P 09 32 06.1 -1.6
NVAR Mina Array Bea 82.75 52 P P 09 35 54.8 +0.5
NVAR Mina Array Bea 82.75 52 P P 09 35 54.7 +0.4
comp=Z,0.8nm,0.7s,baz=272,slow=5.9,SNR=9.7
comp=Z,0.8nm,0.7s
TPNV Topopah Spring 84.78 53 P P 09 36 04.8 +0.3
TPNV IAmb IAmb 09 36 05.3
comp=Z,0.9nm,0.7s
PMD Palm Desert 85.82 56 P P 09 36 08.6 -1.0
PMD IAmb IAmb 09 36 27.5
comp=Z,1.0nm,0.8s
DUG Dugway, Tooele 86.12 49 P P 09 36 11.3 +0.1
DUG IAmb IAmb 09 36 11.7
comp=Z,0.7nm,0.6s
FINES FINESS Array B 86.25 335 P P 09 36 12.1 +1.1
PDAR Pinedale Array 87.37 45 P P 09 36 17.0 -0.3

*NEIC **26** 09:36:16.7±1.7,20°.2S±0°.1×177°.5W±0°.1,h493km±8km, mb4.4/38,Error ellipse: s-maj=18.7km s-min=15.8km az=146.0*
*IDC **26** 09:36:16.5±2.8,20°.15S×177°.65W,h490km±28km, mb3.3/14,mbtmp4.1/15,Error ellipse: s-maj=19.9km s-min=15.4km az=114.0*
ISC 26 09:36:16.9±0.4,20°.31S±0°.08×177°.55W±0°.08,h500km, n77,σ1°32/81,mb4.3/32,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.88**	**301**		**P**	**09 37 43.9**	**+0.9**
FUTU	**Fugatoga**	**5.99**	**355**	P	**P**	**09 37 53.3**	**+0.1**
NIUE	**Niue**	**7.29**	**82**	P	**P**	**09 38 05.1**	**-0.9**
AFI	**Afiamalu**	**8.42**	**42**	P	**P**	**09 38 14.9**	**-2.9**
MARNC	**Mare, Loyalty**	**13.53**	**263**	P	**P**	**09 39 11.9**	**+0.3**
PINNC	**Pines Island,**	**14.15**	**258**	P	**P**	**09 39 19.2**	**+1.0**
DZM	**Mont Dzumac**	**15.03**	**260**	P	**P**	**09 39 27.2**	**-0.3**
	7.0nm,0.8s,baz=98,slow=20,SNR=13						
URZ	**Urewera**	**18.48**	**193**	P	**P**	**09 39 58.1**	**-3.4**
URZ	7.6nm,0.7s,baz=245,slow=2.8,SNR=10.0			S	**S**	**09 42 58.4**	**-6.1**
	3.9nm,0.7s,baz=29,slow=20,SNR=1.3						
EIDS	**Eidsvold**	**29.30**	**254**	P	**P**	**09 41 38.3**	**0.0**
EIDS				IAmb	IAmb	09 42 06.1	
	comp=Z,12nm,1.4s						
ARMA	**Armidale**	**29.53**	**244**	P	**P**	**09 41 40.7**	**+0.4**
CAN	**Canberra**	**32.96**	**236**	P	**P**	**09 42 09.4**	**-0.3**
PMG	**Port Moresby**	**35.71**	**282**	P	**P**	**09 42 32.5**	**-0.5**
TOO	**Toolangi**	**36.35**	**234**	P	**P**	**09 42 38.5**	**+0.5**
TOO				IAmb	IAmb	09 43 06.6	
	comp=Z,14nm,1.4s						
COEN	**Coen**	**37.99**	**273**	P	**P**	**09 42 51.9**	**+0.1**
COEN				IAmb	IAmb	09 42 52.5	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**38.25**	**244**		**P**	**09 42 53.8**	**+0.2**
STKA	**Stephens Creek**	**38.25**	**244**	P	**P**	**09 42 53.7**	**+0.1**
	comp=Z,12nm,0.8s,baz=90,slow=11,SNR=14						
	comp=Z,12nm,0.8s						
INKA	**Innaminka**	**38.66**	**251**		**P**	**09 42 58.1**	**+1.1**
INKA				IAmb	IAmb	09 42 58.6	
	comp=Z,6.6nm,0.7s						
BBOO	**Buckleboo**	**43.01**	**243**	P	**P**	**09 43 31.3**	**-0.4**
WR8	**Warramunga Arr**	**44.89**	**262**		**P**	**09 43 45.9**	**-0.7**
WR8				IAmb	IAmb	09 43 46.6	
	comp=Z,25nm,1.4s						
AS31	**Alice Springs**	**44.97**	**256**		**P**	**09 43 47.0**	**-0.2**
AS31				IAmb	IAmb	09 43 47.4	
	comp=Z,8.8nm,0.7s						
ASAR	**Alice Springs**	**44.97**	**256**		**P**	**09 43 47.0**	**-0.1**
ASAR	**Alice Springs**	**44.97**	**256**	P	**P**	**09 43 46.7**	**-0.4**
	comp=Z,39nm,0.8s,baz=100,slow=7.6,SNR=438						
ASAR				PcP	**PcP**	**09 45 17.3**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=92,slow=3.6,SNR=4.2						
ASAR				ScP	**ScP**	**09 48 24.9**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=95,slow=4.1,SNR=2.9						
ASAR				S	**S**	**09 49 47.0**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=95,slow=15,SNR=12						
WB0	**Warramunga Arr**	**45.02**	**262**	P	**P**	**09 43 46.9**	**-0.7**
WB0				IAmb	IAmb	09 43 47.3	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**45.03**	**262**		**P**	**09 43 47.0**	**-0.6**
WRA	**Warramunga Arr**	**45.04**	**262**		**P**	**09 43 46.8**	**-0.9**
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**09 43 46.5**	**-1.2**
	comp=Z,4.1nm,0.3s,baz=98,slow=7.5,SNR=144						
WRA				PcP	**PcP**	**09 45 17.3**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=92,slow=3.1,SNR=3.6						
	comp=Z,4.1nm,0.3s						
MTN	**Manton Dam**	**49.58**	**270**	P	**P**	**09 44 21.2**	**-0.7**
MTN				IAmb	IAmb	09 44 21.7	
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**49.75**	**246**	P	**P**	**09 44 22.3**	**-0.7**
FORT				IAmb	IAmb	09 44 22.9	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**51.09**	**266**	P	**P**	**09 44 32.5**	**-0.5**
KNRA				IAmb	IAmb	09 44 32.8	
	comp=Z,11nm,0.8s						
FAKI	**Fak Fak**	**51.87**	**283**	P	**P**	**09 44 38.7**	**0.0**
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P	**P**	**09 44 50.2**	**+0.1**
SOEI	**Soe**	**56.91**	**271**	P	**P**	**09 45 14.1**	**-0.3**
SBA	**Scott Base**	**58.09**	**184**	P	**P**	**09 45 24.6**	**+3.4**
VNDA	**Vanda**	**58.14**	**185**	P	**P**	**09 45 23.9**	**+2.3**
VNDA	**Vanda**	**58.14**	**185**	P	**P**	**09 45 23.2**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=30,slow=23,SNR=2.1						
	comp=Z,0.3nm,0.7s						
MBWA	**Marble Bar**	**58.30**	**257**	P	**P**	**09 45 23.0**	**-0.7**
MBWA				IAmb	IAmb	09 45 23.6	
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.83**	**243**	P	**P**	**09 45 27.1**	**+0.1**
NWAO				IAmb	IAmb	09 45 30.5	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**60.29**	**247**	P	**P**	**09 45 36.4**	**-0.5**
MORW				IAmb	IAmb	09 45 37.2	
	comp=Z,22nm,1.3s						
GIRL	**Giralia**	**63.01**	**254**	P	**P**	**09 45 55.4**	**+0.7**
CASY	**Casey**	**64.31**	**205**	P	**P**	**09 46 02.6**	**+0.3**
CASY				IAmb	IAmb	09 46 03.1	
	comp=Z,4.2nm,1.1s						
QSPA	**South Pole Qui**	**69.76**	**180**	P	**P**	**09 46 39.3**	**+3.2**
QSPA	**South Pole Qui**	**69.76**	**180**	P	**P**	**09 46 39.0**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=303,slow=1.1,SNR=5.7						
	comp=Z,0.9nm,0.8s						
JGF	**Kuroka**	**70.12**	**322**	P	**P**	**09 46 38.5**	**-0.1**
JGF				IAmb	IAmb	09 47 03.8	
	comp=Z,26nm,1.5s						
MJAR	**Matsushiro Arr**	**70.31**	**323**	P	**P**	**09 46 39.3**	**-0.3**
MJAR	**Matsushiro Arr**	**70.31**	**323**	P	**P**	**09 46 39.1**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=160,slow=5.8,SNR=8.9						
	comp=Z,3.0nm,0.7s						
UGM	**Wanagama**	**70.39**	**269**	P	**P**	**09 46 40.4**	**-0.2**
KSM	**Kuching**	**73.80**	**278**	P	**P**	**09 47 00.3**	**-0.1**
PETK	**Petropavlovsk-**	**76.19**	**345**	P	**P**	**09 47 12.2**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=117,slow=8.8,SNR=4.7						
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**77.02**	**318**	P	**P**	**09 47 18.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=119,slow=7.7,SNR=3.2						
	comp=Z,1.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**79.04**	**326**	P	**P**	**09 47 29.5**	**+0.9**
	comp=Z,4.8nm,0.8s,baz=116,slow=4.5,SNR=6.3						
	comp=Z,4.8nm,0.8s						
BELA	**Belgrano 2**	**79.69**	**173**	P	**P**	**09 47 32.1**	**+0.5**
OHAK	**Old Harbor**	**79.87**	**13**	P	**P**	**09 47 32.5**	**-0.2**
OHAK				IAmb	IAmb	09 47 50.4	
	comp=Z,22nm,1.4s						
NVAR	**Mina Array Bea**	**80.60**	**43**	P	**P**	**09 47 37.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=217,slow=9.0,SNR=3.6						
	comp=Z,0.3nm,0.6s						
K05A	**Summer Lake**	**81.55**	**38**	P	**P**	**09 47 43.3**	**+1.3**
K05A				IAmb	IAmb	09 47 56.1	
	comp=Z,6.2nm,1.3s						
J05D	**Fort Rock, OR**	**81.70**	**38**	P	**P**	**09 47 44.0**	**+1.3**
MAW	**Mawson**	**81.88**	**200**	P	**P**	**09 47 43.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=192,slow=5.9,SNR=6.1						
	comp=Z,0.6nm,0.5s						
K15K	**Wolf Creek Mou**	**83.30**	**7**	P	**P**	**09 47 51.0**	**+0.9**
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**	**09 48 07.9**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=248,slow=4.3,SNR=2.5						
TXAR				pP	**pwP**	**09 49 59.2**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=239,slow=3.9,SNR=3.8						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**88.04**	**13**	P	**P**	**09 48 11.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=221,slow=5.7,SNR=14						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**09 48 16.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=224,slow=4.1,SNR=4.4						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.45**	**289**	P	**P**	**09 48 26.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**90.45**	**289**	P	**P**	**09 48 26.0**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=121,slow=3.1,SNR=19						
	comp=Z,2.2nm,0.6s						
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP	**PKiKP**	**09 53 52.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=48,slow=2.1,SNR=3.8						
KURBB	**Kurchatov Arra**	**114.19**	**317**	PKP	PKPdf	09 53 57.5	-1.4
	comp=Z,0.5nm,0.6s,baz=90,slow=1.6,SNR=5.3						
AAK	**Ala-Archa**	**116.51**	**308**	PKP	**PKPdf**	**09 54 03.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=224,slow=21,SNR=1.9						
BVAR	**Borovoye Array**	**119.20**	**320**	PKP	**PKPdf**	**09 54 07.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=323,slow=2.2,SNR=4.0						
ARCES	**ARCESS Array B**	**128.81**	**350**	PKP	**PKPdf**	**09 54 25.2**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=72,slow=1.5,SNR=5.4						
FINES	**FINESS Array B**	**135.71**	**344**	PKP	**PKPdf**	**09 54 40.0**	**+0.4**
	comp=Z,9.1nm,1.1s,baz=29,slow=3.2,SNR=3.6						
AKASG	**Malin Array Be**	**143.05**	**332**	PKhKP	PKPpre	09 54 49.6	
	comp=Z,2.7nm,0.5s,baz=44,slow=4.4,SNR=18						
EKA	**Eskdalemuir Ar**	**144.78**	**6**	PKP	**PKPdf**	**09 54 55.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=308,slow=4.0,SNR=3.9						
BRTR	**Keskin Array B**	**147.02**	**313**	PKPbc	**PKPbc**	**09 55 02.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=132,slow=5.3,SNR=6.6						
ASF	**Jabal al Asfar**	**147.06**	**298**	PKPbc	**PKPbc**	**09 55 03.6**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=44,slow=3.5,SNR=3.5						
CLL	**Collm**	**147.97**	**347**	*i* PKPbc	**PKPbc**	**09 55 05.2**	**-0.2**
MMAI	**Mount Meron Ar**	**148.08**	**300**	PKPbc	**PKPbc**	**09 55 06.8**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=206,slow=13,SNR=5.4						
MLR	**Muntele Rosu**	**148.29**	**328**	PKPbc	**PKPbc**	**09 55 06.7**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=81,slow=8.8,SNR=3.3						
EIL	**Elat**	**149.19**	**294**	PKPbc	**PKPbc**	**09 55 09.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=163,slow=21,SNR=1.5						
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	**PKPbc**	**09 55 10.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=28,slow=3.2,SNR=8.2						

*LDG **26** 09:52:18.6±0.1,45°.08N×4°.44E,h2km,Md1.8/1,Ml1.8/15, Error ellipse: s-maj=1.4km s-min=1.2km az=21.0*
STR 26 09:52:19.1±0.0,45°.09N±0°.06×4°.43E±0°.05,h6km, MLv1.6/16,LOCSAT earthModelID auvergne_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.21**	**22**	Pg	Pg	09 52 22.7	-0.6
SSB				Sg	Sg	09 52 25.9	-0.2
VIVF	**Saint-Julien-l**	**0.29**	**143**	*e*Pg	Pg	09 52 23.2	-1.6
VIVF				*e*Sg	Sg	09 52 27.0	-1.6
	7.9nm,0.2s						
COLF	**Collangettes**	**0.68**	**310**	Pg	Pg	09 52 31.4	-0.7
COLF				Sg	Sg	09 52 40.9	0.0
LBL	**Lubilhac**	**0.85**	**280**	Pg	Pg	09 52 35.2	-0.3
LBL				Pn	Pb	09 52 36.3	0.0
LBL				Sg	Sg	09 52 46.6	0.0
GRN	**Grenoble**	**0.94**	**80**	Pg	Pg	09 52 36.6	-0.6
GRN				Sg	Sg	09 52 49.8	+0.3
OGSM	**Saint Maurice**	**1.03**	**59**	Pg	Pg	09 52 38.1	-0.8
OGSM				Sg	Sg	09 52 52.3	0.0
TRBF	**Trabuc cave**	**1.04**	**199**	Pg	Pg	09 52 38.5	-0.5
TRBF				Sg	Sg	09 52 51.6	-0.9
ORIF	**Oris-en-Rattie**	**1.04**	**99**	*e*Pg	Pg	09 52 37.5	-1.6
ORIF				*e*Sg	Sg	09 52 51.4	-1.2
	0.5nm,0.2s						
PLDF	**La Plantade**	**1.05**	**327**	Pg	Pg	09 52 38.6	-0.8
PLDF				Pn	Pb	09 52 39.0	-0.8
PLDF				Sg	Sg	09 52 52.9	0.0
LASF	**Ste Croix**	**1.09**	**202**	*e*Pg	Pg	09 52 38.0	-2.1
LASF				*e*Sg	Sg	09 52 52.3	-1.9
	5.4nm,0.2s						
OGMY	**Moye**	**1.30**	**52**	Pn	Pn	09 52 42.7	-1.1
OGMY				Sg	Sg	09 53 00.4	-0.4
FRNF	**Fournols**	**1.35**	**283**	Pg	Pn	09 52 44.5	-0.1
FRNF				Sn	Sb	09 53 01.1	-1.4
LEUC	**Leucamp**	**1.37**	**257**	Pn	Pn	09 52 43.0	-1.8
LEUC				Pg	Pb	09 52 44.5	-0.7
LEUC				Sn	Sb	09 53 02.2	-0.8
SMRF	**Simiane la Rot**	**1.38**	**143**	*e*Pg	Pn	09 52 44.2	-0.7
SMRF				*e*Sg	Sb	09 53 02.7	-0.5
	0.7nm,0.2s						
LAJAS	**L'Hospitalet-d**	**1.41**	**218**	Pg	Pn	09 52 45.4	0.0
LAJAS				Sn	Sn	09 53 04.3	0.0
SMF	**Signal de Mont**	**1.61**	**345**	*e*Pg	Pn	09 52 48.0	-0.1
SMF				*e*Sg	Sb	09 53 09.7	-0.2
	1.3nm,0.2s						
RSL	**Roselend**	**1.66**	**68**	Pg	Pb	09 52 50.5	+0.4
LPL	**La Plagne**	**1.68**	**74**	*e*Pg	Pn	09 52 49.5	+0.3
LPL				*e*Sg	Sb	09 53 11.6	-0.4
	0.8nm,0.2s						
RRL	**Rocca Remolon**	**1.68**	**95**	Sn	Sn	09 53 10.7	-0.5
CAF	**Calviac**	**1.69**	**265**	*e*Pg	Pn	09 52 48.5	-0.7
CAF				*e*Sg	Sn	09 53 11.2	+0.1
	1.0nm,0.2s						
LPG	**La Plagne**	**1.69**	**75**	*e*Sg	Sb	09 53 12.5	+0.2
	0.8nm,0.2s						
BGF	**Bois d'Agland**	**1.84**	**324**	*e*Pg	Pb	09 52 53.0	-0.2
BGF				*e*Sg	Sb	09 53 16.5	0.0
	4.5nm,0.3s						
SLVF	**La Salvetat-Pe**	**1.85**	**242**	Pn	Pn	09 52 49.8	-1.5
AVF	**Avril sur Loir**	**1.86**	**337**	*e*Pg	Pb	09 52 52.7	-0.8
AVF				*e*Sg	Sb	09 53 16.9	-0.2
	1.5nm,0.2s						
CABF	**La Chapelle**	**1.91**	**37**	*e*Sg	Sb	09 53 18.6	0.0
TRIGF	**Trigance**	**1.95**	**133**	Pn	Pn	09 52 51.3	-1.5
TRIGF				Sn	Sn	09 53 15.1	-2.5
TCF	**Toulx Ste Croi**	**1.97**	**308**	*e*Pg	Pb	09 52 55.4	+0.1
TCF				*e*Sg	Sb	09 53 20.3	+0.2
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.07**	**277**	*e*Pn	Pn	09 52 51.2	-3.2
RJF	**Les Rejaudoux**	**2.07**	**277**	*e*Pg	Pb	09 52 57.2	+0.1
RJF				*e*Sg	Sb	09 53 24.0	+0.9
	2.1nm,0.4s						
SSF	**Saint Saulge**	**2.08**	**342**	*e*Pg	Pb	09 52 56.8	-0.4
SSF				*e*Sg	Sb	09 53 23.6	+0.4
	1.0nm,0.2s						
LOR	**Lormes**	**2.22**	**350**	*e*Pg	Pb	09 52 59.5	-0.1
	baz=175						
LOR				*e*Sg	Sb	09 53 27.6	+0.3
	2.3nm,0.2s						

*IDC **26** 09:59:38.1±8.2,15°.84N×93°.94W,h0km,mb3.7/3, mbtmp3.6/4,ML3.5/1,MS4.0/3,Error ellipse: s-maj=221.4km s-min=49.6km az=20.0*
*MEX **26** 09:59:38.5±0.7,15°.15N×94°.72W,h16km±9km,MD4.5*
*CATAC **26** 09:59:39.7±1.0,15°.N±7°.×9°.5W±°,h153km±17km,M4.6/7, MLv4.6/7,Error ellipse: s-maj=17.3km s-min=14.4km az=60.4,confirmed*
*NEIC **26** 09:59:40.6±2.3,15°.31N±0°.05×94°.67W±0°.05,h35km±2km, mb3.9/26,Md4.5/95(MEX),Error ellipse: s-maj=9.8km s-min=6.8km az=204.0*
ISC 26 09:59:38.4±0.7,15°.14N±0°.04×94°.73W±0°.02,h28km,n144, σ2°65/203,mb3.7/4,MS4.1/3,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.47**	**295**		**Pn**	**10 00 01.0**	**-2.1**
HUIG					**Sn**	**10 00 17.2**	**-4.2**
HUIG	**Huatulco**	**1.47**	**295**	*e*P	**Pn**	**10 00 01.0**	**-2.1**
HUIG				*e*S	**Sn**	**10 00 17.2**	**-4.2**
PCIG		**1.56**	**69**		**Pn**	**10 00 01.5**	**-2.7**
PCIG					**Sn**	**10 00 17.8**	**-5.7**
PCIG		**1.56**	**69**	*e*P	**Pn**	**10 00 01.5**	**-2.7**
PCIG				*e*S	**Sn**	**10 00 17.8**	**-5.7**
CMIG	**Matias Romero**	**1.94**	**356**		**Pn**	**10 00 07.5**	**-2.0**
CMIG					**Sn**	**10 00 29.5**	**-3.6**
CMIG	**Matias Romero**	**1.94**	**356**	LR	LR	10 00 54.8	
	comp=Z,197nm,21.7s,baz=178,slow=50						
CMIG	**Matias Romero**	**1.94**	**356**	*e*P	**Pn**	**10 00 07.5**	**-2.0**
CMIG				*e*S	**Sn**	**10 00 29.5**	**-3.6**
UXUV	**UXUV**	**2.23**	**14**		**Pn**	**10 00 12.2**	**-1.3**
UXUV					**Sn**	**10 00 37.5**	**-2.7**
UXUV	**UXUV**	**2.23**	**14**	*e*P	**Pn**	**10 00 12.2**	**-1.3**
UXUV				*e*S	**Sn**	**10 00 37.5**	**-2.7**
TGIG		**2.24**	**43**		**Pn**	**10 00 12.6**	**-1.1**
TGIG					**Sn**	**10 00 37.6**	**-2.9**
TGIG		**2.24**	**43**	*e*P	**Pn**	**10 00 12.6**	**-1.1**
TGIG				*e*S	**Sn**	**10 00 37.6**	**-2.9**
TGBT	**Tuxtla Gutierr**	**2.26**	**44**		**Pn**	**10 00 13.1**	**-0.8**
TGBT					**Sn**	**10 00 39.5**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.26**	**44**	*e*P	**Pn**	**10 00 13.1**	**-0.8**
TGBT				*e*S	**Sn**	**10 00 39.5**	**-1.4**
THIG		**2.39**	**95**		**Pn**	**10 00 14.7**	**-0.9**
THIG					**Sn**	**10 00 44.3**	**+0.3**
THIG		**2.39**	**95**	*e*P	**Pn**	**10 00 14.7**	**-0.9**
THIG				*e*S	**Sn**	**10 00 44.3**	**+0.3**
PATR	**El Naranjo**	**2.41**	**90**		**Pn**	**10 00 13.2**	**-2.9**
PATR					**Sn**	**10 00 39.5**	**-5.4**
PATR	**El Naranjo**	**2.41**	**90**	*e*P	**Pn**	**10 00 13.2**	**-2.9**
PATR				*e*S	**Sn**	**10 00 39.5**	**-5.4**
PAVE	**Pavencul**	**2.46**	**88**		**Pn**	**10 00 15.1**	**-1.7**
PAVE					**Sn**	**10 00 42.4**	**-3.8**
PAVE	**Pavencul**	**2.46**	**88**	*e*P	**Pn**	**10 00 15.1**	**-1.7**
PAVE				*e*S	**Sn**	**10 00 42.4**	**-3.8**
PEIG	**Puerto Escondi**	**2.48**	**290**		**Pn**	**10 00 15.4**	**-1.6**
PEIG					**Sn**	**10 00 41.2**	**-5.2**
PEIG	**Puerto Escondi**	**2.48**	**290**	*e*P	**Pn**	**10 00 15.4**	**-1.6**
PEIG				*e*S	**Sn**	**10 00 41.2**	**-5.2**
CHUJ	**Union Juarez**	**2.53**	**91**	*e*P	**Pn**	**10 00 15.9**	**-1.9**
CHUJ				*e*S	**Sn**	**10 00 44.9**	**-3.0**
OXLC	**Oaxaca**	**2.70**	**315**		**Pn**	**10 00 20.6**	**+0.5**
OXLC					**Sn**	**10 00 51.9**	**-0.1**
OXLC	**Oaxaca**	**2.70**	**315**	*e*P	**Pn**	**10 00 20.6**	**+0.5**
OXLC				*e*S	**Sn**	**10 00 51.9**	**-0.1**
OXBJ	**Oaxaca**	**2.71**	**315**		**Pn**	**10 00 20.6**	**+0.3**
OXBJ					**Sn**	**10 00 51.9**	**-0.4**
OXBJ	**Oaxaca**	**2.71**	**315**	*e*P	**Pn**	**10 00 20.6**	**+0.3**
OXBJ				*e*S	**Sn**	**10 00 51.9**	**-0.4**
OXIG	**Oaxaca**	**2.72**	**315**		**Pn**	**10 00 21.0**	**+0.5**
OXIG					**Sn**	**10 00 51.4**	**-1.2**
VHO	**Vista Hermosa**	**2.72**	**315**	*e*P	**Pn**	**10 00 21.0**	**+0.5**
VHO				*e*S	**Sn**	**10 00 51.4**	**-1.2**
CCIG	**Comitan**	**2.74**	**65**		**Pn**	**10 00 21.0**	**+0.4**
CCIG					**Sn**	**10 00 53.1**	**+0.1**
CCIG	**Comitan**	**2.74**	**65**	*e*P	**Pn**	**10 00 21.0**	**+0.4**
CCIG				*e*S	**Sn**	**10 00 53.1**	**+0.1**
NEUV	**Arroyo Zacate**	**2.76**	**338**		**Pn**	**10 00 19.4**	**-1.4**
NEUV					**Sn**	**10 00 50.9**	**-2.2**
NEUV	**Arroyo Zacate**	**2.76**	**338**	*e*P	**Pn**	**10 00 19.4**	**-1.4**
NEUV				*e*S	**Sn**	**10 00 50.9**	**-2.2**
RTAL	**Retalhuleu**	**2.99**	**101**		**Pn**	**10 00 23.3**	**-0.7**
RTAL	**Retalhuleu**	**2.99**	**101**	*e*P	**Pn**	**10 00 22.9**	**-1.1**
RTAL				*e*S	**Sn**	**10 00 55.1**	**-3.9**
RTAL	**Retalhuleu**	**2.99**	**101**	P	**Pn**	**10 00 25.3**	**+1.2**
RTAL	**Retalhuleu**	**2.99**	**101**	S	**Sn**	**10 01 00.5**	**+1.4**
HUEH	**Huehuetenango**	**3.12**	**86**		**Pn**	**10 00 26.3**	**+0.4**
HUEH	**Huehuetenango**	**3.12**	**86**	*e*P	**Pn**	**10 00 26.4**	**+0.6**
HUEH				*e*S	**Sn**	**10 01 04.0**	**+1.7**
HUEH	**Huehuetenango**	**3.12**	**86**	P	**Pn**	**10 00 26.8**	**+0.9**
HUEH	**Huehuetenango**	**3.12**	**86**	S	**Sn**	**10 01 06.5**	**+4.1**
YOIG	**Yosondua**	**3.20**	**303**		**Pn**	**10 00 27.3**	**+0.2**
YOIG					**Sn**	**10 01 01.1**	**-3.5**
YOIG	**Yosondua**	**3.20**	**303**	*e*P	**Pn**	**10 00 27.3**	**+0.2**
YOIG				*e*S	**Sn**	**10 01 01.1**	**-3.5**
PNIG	**Pinotepa**	**3.50**	**291**		**Pn**	**10 00 30.3**	**-0.7**
PNIG					**Sn**	**10 01 05.0**	**-6.7**
PNIG	**Pinotepa**	**3.50**	**291**	*e*P	**Pn**	**10 00 30.3**	**-0.7**
PNIG				*e*S	**Sn**	**10 01 05.0**	**-6.7**
TXIG	**Tlaxiaco**	**3.60**	**306**		**Pn**	**10 00 33.8**	**+1.2**
TXIG					**Sn**	**10 01 13.2**	**-1.1**
TXIG	**Tlaxiaco**	**3.60**	**306**	*e*P	**Pn**	**10 00 33.8**	**+1.2**
TXIG				*e*S	**Sn**	**10 01 13.2**	**-1.1**
TOIG	**Toxpalan**	**3.69**	**323**		**Pn**	**10 00 35.7**	**+1.9**
TOIG					**Sn**	**10 01 16.1**	**-0.3**
TOIG	**Toxpalan**	**3.69**	**323**	*e*P	**Pn**	**10 00 35.7**	**+1.9**
TOIG				*e*S	**Sn**	**10 01 16.1**	**-0.3**
HLIG	**Huajuapan de L**	**3.98**	**313**		**Pn**	**10 00 39.8**

ZIIG	**Zihuatanejo**	**6.92**	**292**		Pn		10 01 12.6	-5.3
ZIIG					Sn		10 02 26.9	-8.9
ZIIG	**Zihuatanejo**	**6.92**	**292**	*eP*	Pn		10 01 12.6	-5.3
ZIIG				*eS*	Sn		10 02 26.9	-8.9
TGUH	**Tegucigalpa,Un**	**7.29**	**98**	Pn	**Pn**		**10 01 22.9**	**-0.4**
MYIG	**Merida**	**7.48**	**39**		**Pn**		**10 01 26.1**	**+0.5**
MYIG					**Sn**		**10 02 43.5**	**-6.0**
MYIG	**Merida**	**7.48**	**39**	*eP*	**Pn**		**10 01 26.1**	**+0.5**
MYIG				*eS*	**Sn**		**10 02 43.5**	**-6.0**
MOIG	**Morelia**	**7.64**	**307**		**Pn**		**10 01 28.7**	**+0.6**
MOIG					Sn		10 02 43.8	-10
MOIG	**Morelia**	**7.64**	**307**	*eP*	**Pn**		**10 01 28.7**	**+0.6**
MOIG				*eS*	Sn		10 02 43.8	-10
TEIG	**Tepich**	**7.96**	**50**		**Pn**		**10 01 29.5**	**-2.7**
CNGN	**Cerro Negro**	**8.23**	**108**	Pn	**Pn**		**10 01 36.4**	**+0.4**
JUD3	**Juan Diaz 3**	**10.24**	**118**	Pn	**Pn**		**10 02 04.4**	**+0.8**
JTS	**Las Juntas de**	**10.68**	**116**	Pn	**Pn**		**10 02 10.8**	**+1.1**
SOR	**Soroa**	**13.44**	**54**	Pn	**Pn**		**10 02 44.3**	**-3.0**
HNDO	**Hondo**	**14.92**	**344**		**Pn**		**10 03 08.4**	**+0.9**
435B	**Jarrell**	**15.79**	**351**	Pn	**Pn**		**10 03 18.3**	**-0.5**
435B				IAmb	IAmb		10 03 24.7	
comp=Z,14nm,0.9s								
JCT	**Junction City**	**15.96**	**344**	Pn	**Pn**		**10 03 21.0**	**-0.1**
JCT				IAmb	IAmb		10 03 29.4	
comp=Z,5.4nm,0.7s								
TXAR	**Lajitas Array**	**16.36**	**331**		**Pn**		**10 03 26.9**	**+0.7**
TXAR	**Lajitas Array**	**16.36**	**331**	Pn	**Pn**		**10 03 27.3**	**+1.1**
baz=157,slow=13,SNR=11								
comp=Z,1.2nm,0.8s								
TX31	**Lajitas Ar. Si**	**16.36**	**331**		**Pn**		**10 03 26.7**	**+0.5**
BRDY	**Brady**	**16.54**	**347**		**Pn**		**10 03 28.9**	**+0.4**
OZNA	**Ozona**	**16.77**	**341**	P	**Pn**		**10 03 31.8**	**+0.4**
OZNA				IAmb	IAmb		10 03 38.8	
comp=Z,10nm,0.9s								
ALPN	**Alpine**	**17.23**	**333**		**Pn**		**10 03 38.0**	**+0.8**
SGCY	**Sterling City**	**17.69**	**342**	P	**Pn**		**10 03 42.9**	**+0.1**
SGCY				IAmb	IAmb		10 03 50.4	
comp=Z,13nm,1.1s								
PLPT	**Palo Pinto**	**17.89**	**350**	P	**Pn**		**10 03 44.6**	**-0.6**
PLPT				IAmb	IAmb		10 04 09.7	
comp=Z,10nm,1.0s								
ABTX	**Abilene, Hawle**	**17.97**	**346**	P	**Pn**		**10 03 45.3**	**-1.0**
ABTX				IAmb	IAmb		10 03 54.2	
comp=Z,7.9nm,0.8s								
VHRN	**Van Horn**	**18.19**	**331**		**Pn**		**10 03 49.9**	**+0.8**
APMT	**Aspermont**	**18.75**	**346**		**P**		**10 03 54.4**	**-0.9**
APMT				IAmb	IAmb		10 03 57.4	
comp=Z,5.5nm,0.8s								
LRAL	**Lakeview Retre**	**19.14**	**20**	P	**P**		**10 03 58.9**	**-0.6**
LRAL				IAmb	IAmb		10 04 05.9	
comp=Z,12nm,1.3s								
DKNS	**Dickens**	**19.28**	**344**		**P**		**10 04 01.4**	**+0.4**
DKNS				IAmb	IAmb		10 04 03.4	
comp=Z,8.8nm,1.0s								
MIAR	**Mount Ida**	**19.35**	**3**	P	**P**		**10 04 00.7**	**-1.0**
MIAR				IAmb	IAmb		10 04 19.7	
comp=Z,13nm,1.5s								
WMOK	**Wichita Mounta**	**19.85**	**350**	P	**P**		**10 04 07.5**	**+0.3**
SMWD	**Samnorwood**	**20.49**	**347**		**P**		**10 04 15.0**	**+0.8**
FCAR	**Ozark Folk Cen**	**20.79**	**6**	P	**P**		**10 04 16.5**	**-0.9**
FCAR				IAmb	IAmb		10 04 21.6	
comp=Z,5.4nm,1.0s								
OK052	**Battle Ridge R**	**20.85**	**355**	P	**P**		**10 04 17.7**	**-0.3**
RUSC	**La Rusia**	**23.16**	**111**	P	**P**		**10 04 43.2**	**-0.1**
SDCO	**Great Sand Dun**	**24.45**	**339**	P	**P**		**10 04 55.6**	**+0.3**
SDCO				IAmb	IAmb		10 05 01.0	
comp=Z,4.9nm,1.2s								
NVAR	**Mina Array Bea**	**31.15**	**323**	P	**P**		**10 05 58.8**	**+3.7**
comp=Z,0.4nm,0.7s,baz=130,slow=8.2,SNR=5.1								
comp=Z,0.4nm,0.7s								
ILAR	**Eielson Array**	**60.76**	**337**	P	**P**		**10 09 48.8**	**+1.4**
comp=Z,0.3nm,0.9s,baz=116,slow=7.0,SNR=3.3								
comp=Z,0.3nm,0.9s								
EKA	**Eskdalemuir Ar**	**78.58**	**36**	P	**P**		**10 11 35.9**	**-1.4**
comp=Z,1.8nm,0.7s,baz=285,slow=5.7,SNR=3.9								
comp=Z,1.8nm,0.7s								
HFS	**Hagfors**	**85.87**	**28**	LR	LR		10 49 58.0	
comp=Z,66nm,18.5s,baz=192,slow=36								
FINES	**FINESS Array B**	**90.57**	**24**	LR	LR		10 53 01.0	
comp=Z,75nm,19.4s,baz=239,slow=36								
OBN	**Obninsk**	**98.84**	**26**	LR	LR		10 57 57.8	
comp=Z,54nm,18.0s,baz=194,slow=36								

*NOU **26** 09:59:51.6, 42°.22S×173°.89E, h18km, MLv3.5/13, South Island, New Zealand*
*WEL **26** 09:59:51.9±0.3, 42°S±2°×17°4E±°, h5km, M3.1/30, ML3.4/8, MLv3.1/30, Error ellipse: s-maj=3.3km s-min=1.9km az=132.6, confirmed*
ISC 26 09:59:50.7±1.0, 42°.11S±0°.02×173°.82E±0°.03, h10km±8km, n93, σ1°27/106, South Pacific

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEKS	**Kekerengu Vall**	**0.19**	**40**	P	**Pb**	**09 59 55.9**	**-0.5**
KEKS				S	**Sg**	**09 59 59.3**	**+1.7**
GLOS	**29 km south-we**	**0.25**	**1**	P	**Pg**	**09 59 55.7**	**-0.1**
GLOS				S	**Sg**	**09 59 59.1**	**-0.2**
LOKS	**Mount Lookout**	**0.26**	**291**	P	**Pg**	**09 59 55.7**	**-0.5**
LOKS				S	**Sg**	**09 59 59.1**	**-0.8**
KIKS	**Kaikoura**	**0.34**	**197**	P	**Pn**	**09 59 59.8**	**-1.9**
KIKS				S	**Sb**	**10 00 06.1**	**+1.8**
WDFS	**Ward Fire Stat**	**0.37**	**41**	P	**Pb**	**09 59 59.5**	**+0.1**
WDFS				S	**Sb**	**10 00 05.7**	**+0.6**
KHZ	**Kahutara**	**0.37**	**213**	P	**Pb**	**09 59 59.6**	**+0.2**
KHZ	**Kahutara**	**0.37**	**213**	S	**Sb**	**10 00 06.0**	**+0.7**
KHZ	**Kahutara**	**0.37**	**213**	P	**Pb**	**09 59 59.7**	**+0.3**
KHZ				S	**Sb**	**10 00 06.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.39**	**7**	P	**Pg**	**09 59 58.7**	**+0.2**
BSWZ				S	**Sg**	**10 00 03.7**	**+0.1**
MOLW	**Molesworth Sta**	**0.41**	**272**	P	**Pg**	**09 59 59.0**	**0.0**
MOLW				S	**Sg**	**10 00 04.4**	**0.0**
CMWZ	**Cape Campbell**	**0.46**	**40**	P	**Pb**	**10 00 01.5**	**+0.5**
CMWZ				S	**Sb**	**10 00 09.2**	**+1.3**
SEDS	**Seddon Fire St**	**0.47**	**24**	P	**Pb**	**10 00 01.1**	**-0.1**
SEDS				S	**Sb**	**10 00 08.3**	**+0.1**
SDNS	**Seddon**	**0.50**	**29**	P	**Pb**	**10 00 01.9**	**+0.2**
SDNS				S	**Sb**	**10 00 10.1**	**+1.1**
WVFS	**Wairau Valley**	**0.59**	**324**	P	**Pg**	**10 00 02.0**	**-0.3**
BWRS	**Waikakaho Road**	**0.67**	**6**	P	**Pg**	**10 00 03.7**	**0.0**
TUWZ	**Tuamarina**	**0.68**	**8**	P	**Pb**	**10 00 04.3**	**-0.4**
THZ	**Tophouse**	**0.76**	**296**	P	**Pg**	**10 00 04.9**	**-0.5**
THZ				S	**Sg**	**10 00 14.4**	**-1.0**
WTMC	**Te Mara Farm W**	**0.76**	**227**	P	**Pn**	**10 00 06.8**	**-0.7**
CECS	**Cheviot Emerge**	**0.81**	**209**	P	**Pn**	**10 00 08.8**	**+0.5**
HAVS	**Havelock**	**0.83**	**358**	P	**Pg**	**10 00 06.2**	**-0.6**
HSES	**Hanmer Springs**	**0.84**	**240**	P	**Pb**	**10 00 07.7**	**+0.2**
NCBS	**Nelson Council**	**0.92**	**334**	P	**Pg**	**10 00 08.5**	**0.0**
NNZ	**Nelson**	**0.94**	**340**	P	**Pg**	**10 00 08.0**	**-0.9**
TCW	**Tory Channel**	**0.96**	**21**	P	**Pg**	**10 00 08.9**	**-0.3**
GVZ	**Greta Valley S**	**1.04**	**214**	P	**Pn**	**10 00 11.9**	**+0.6**
GVZ				S	**Sn**	**10 00 27.9**	**+1.9**
SNZO	**South Karori**	**1.04**	**40**	P	**Pn**	**10 00 11.3**	**0.0**
SNZO	**South Karori**	**1.04**	**40**	S	**Sn**	**10 00 27.0**	**+1.2**
BHW	**Baring Head**	**1.05**	**49**	P	**Pn**	**10 00 11.6**	**0.0**
MRNZ	**Matariki Terra**	**1.06**	**311**	P	**Pb**	**10 00 10.4**	**-0.8**
WEL	**Wellington**	**1.09**	**41**	P	**Pn**	**10 00 12.2**	**+0.1**
MOTS	**Motueka DOC wo**	**1.15**	**328**	P	**Pb**	**10 00 12.0**	**-0.7**
PLWZ	**Palliser**	**1.20**	**64**	P	**Pg**	**10 00 13.3**	**-0.5**
TKNZ	**Takaka Hill**	**1.25**	**329**	P	**Pn**	**10 00 13.4**	**-0.8**
MSWZ	**Moikau Station**	**1.27**	**58**	P	**Pb**	**10 00 14.4**	**-0.4**
DUWZ	**D'Urville Isla**	**1.30**	**4**	P	**Pn**	**10 00 14.6**	**-0.5**
LTZ	**Lake Taylor**	**1.33**	**239**	P	**Pg**	**10 00 15.9**	**-0.4**
CAW	**Cannon Point**	**1.37**	**44**	P	**Pb**	**10 00 15.9**	**-0.6**
PAWZ	**Paruwai Farm**	**1.41**	**60**	P	**Pn**	**10 00 15.9**	**-0.5**
KIW	**Kapiti Island**	**1.49**	**34**	P	**Pb**	**10 00 17.9**	**-0.6**
DSZ	**Denniston Nort**	**1.54**	**283**	P	**Pb**	**10 00 19.5**	**0.0**
TRWZ	**Traveller**	**1.57**	**64**	P	**Pn**	**10 00 17.9**	**-0.8**
MTW	**Mount Morrison**	**1.58**	**54**	P	**Pn**	**10 00 18.2**	**-0.6**
QRZ	**Quartz Range**	**1.60**	**322**	P	**Pn**	**10 00 19.4**	**+0.3**
QRZ	**Quartz Range**	**1.60**	**322**	S	**Sg**	**10 00 42.4**	**+0.1**
QRZ	**Quartz Range**	**1.60**	**322**	P	**Pn**	**10 00 19.4**	**+0.3**
OGWZ	**Otaki Gorge**	**1.64**	**39**	P	**Pn**	**10 00 19.6**	**0.0**
OKCZ	**Okains Bay**	**1.71**	**199**	P	**Pn**	**10 00 20.6**	**0.0**
HOWZ	**Holdsworth Sta**	**1.76**	**47**	P	**Pn**	**10 00 20.6**	**-0.6**
OXZ	**Oxford**	**1.79**	**226**	P	**Pn**	**10 00 21.1**	**-0.6**
MQZ	**McQueen's Vall**	**1.81**	**208**	P	**Pn**	**10 00 21.0**	**-0.9**
TMWZ	**Te Maipa**	**1.85**	**58**	P	**Pn**	**10 00 21.6**	**-0.9**
INZ	**Inchbonnie**	**1.86**	**250**	P	**Pb**	**10 00 23.6**	**-1.3**
AKCZ	**Akaroa Harbour**	**1.89**	**200**	P	**Pn**	**10 00 22.7**	**-0.3**
MRZ	**Mangatainoka R**	**1.96**	**43**	P	**Pn**	**10 00 23.5**	**-0.5**
RACZ	**Rakaia**	**2.04**	**217**	P	**Pn**	**10 00 24.3**	**-0.7**
MHCZ	**Mount Hutt**	**2.18**	**228**	P	**Pn**	**10 00 26.7**	**-0.5**
PRWZ	**Pori Road**	**2.24**	**47**	P	**Pb**	**10 00 32.1**	**+0.7**
BFZ	**Birch Farm**	**2.32**	**53**	P	**Pn**	**10 00 27.6**	**-1.4**
BFZ	**Birch Farm**	**2.32**	**53**	P	**Pn**	**10 00 27.6**	**-1.4**
WACZ	**Wakanui South**	**2.34**	**218**	P	**Pn**	**10 00 28.6**	**-0.7**
WVZ	**Waitaha Valley**	**2.47**	**246**	P	**Pn**	**10 00 32.4**	**+1.4**
WAZ	**Wanganui**	**2.51**	**21**	P	**Pb**	**10 00 34.7**	**-1.2**
RPZ	**Rata Peaks**	**2.59**	**231**	P	**Pn**	**10 00 32.6**	**-0.1**
RPZ	**Rata Peaks**	**2.59**	**231**	S	**Sn**	**10 01 03.9**	**-0.3**
RPZ	**Rata Peaks**	**2.59**	**231**	P	**Pn**	**10 00 32.4**	**-0.3**
TSZ	**Takapari Road**	**2.61**	**39**	P	**Pn**	**10 00 32.2**	**-0.8**
ARCZ	**Arundel**	**2.67**	**226**	P	**Pn**	**10 00 33.5**	**-0.3**
LREZ	**Lake Rotokare**	**2.68**	**10**	P	**Pb**	**10 00 40.2**	**+1.4**
PREZ	**Palmer Road**	**2.77**	**6**	P	**Pb**	**10 00 39.8**	**-0.6**
KHEZ	**Kahui Hut**	**2.81**	**3**	P	**Pb**	**10 00 39.2**	**-1.9**
KHEZ	**Kahui Hut**	**2.81**	**3**	P	**Pb**	**10 00 39.5**	**-1.5**
NBEZ	**Newall Road No**	**2.83**	**1**	P	**Pb**	**10 00 39.4**	**-2.0**
MTVZ	**Mangateitei**	**2.99**	**25**	P	**Pb**	**10 00 43.8**	**-0.4**
PKVZ	**Pokaka**	**3.04**	**23**	P	**Pb**	**10 00 43.0**	**-2.0**
VRZ	**Vera Road**	**3.06**	**14**	P	**Pb**	**10 00 42.0**	**-3.3**
TMZ	**Timaru**	**3.06**	**221**	P	**Pn**	**10 00 38.8**	**-0.5**
MOVZ	**Moawhango**	**3.07**	**29**	P	**Pb**	**10 00 43.7**	**-1.8**
WNVZ	**Wahianoa**	**3.09**	**27**	P	**Pb**	**10 00 43.5**	**-2.3**
TRVZ	**Turoa**	**3.10**	**26**	P	**Pb**	**10 00 43.8**	**-2.2**
WHVZ	**Whangaehu Hut**	**3.12**	**26**	P	**Pb**	**10 00 44.2**	**-2.3**
KRHZ	**Kereru**	**3.13**	**39**	P	**Pn**	**10 00 38.8**	**-1.4**
FWVZ	**Far West T-bar**	**3.14**	**25**	P	**Pb**	**10 00 43.9**	**-2.9**
TUVZ	**Tukino**	**3.16**	**27**	P	**Pb**	**10 00 44.9**	**-2.2**
NGZ	**Ngauruhoe**	**3.23**	**26**	P	**Pb**	**10 00 46.0**	**-2.2**
FOZ	**Fox Glacier**	**3.27**	**243**	P	**Pn**	**10 00 42.9**	**+0.9**
KAHZ	**Kahuranaki**	**3.27**	**46**	P	**Pn**	**10 00 41.2**	**-0.9**
TMVZ	**Te Maari**	**3.31**	**26**	P	**Pb**	**10 00 46.6**	**-3.1**
BKZ	**Black Stump Fm**	**3.57**	**36**	P	**Pn**	**10 00 46.9**	**+0.6**
HIZ	**Hauiti**	**3.67**	**13**	P	**Pn**	**10 00 50.8**	**+3.2**
HIZ	**Hauiti**	**3.67**	**13**	P	**Pb**	**10 00 51.5**	**-4.3**
ODZ	**Otahua Downs**	**3.73**	**217**	P	**Pn**	**10 00 47.6**	**-0.8**
ODZ	**Otahua Downs**	**3.73**	**217**	P	**Pn**	**10 00 47.4**	**-1.0**
AWAZ	**Awhitu Peninsu**	**5.08**	**8**	P	**Pn**	**10 01 10.4**	**+3.6**

*IDC **26** 10:06:55.2±1.3, 2°.42S×127°.32E, h0km, mb3.7/5, mbtmp3.8/8, ML3.9/3, MS3.8/2, Error ellipse: s-maj=48.2km s-min=20.3km az=65.0*
*DJA **26** 10:06:57.6±0.2, 3°S±3°×12°7E±°, h10km, M4.2/10, mB5.0/2, mb4.5/4, MLv4.0/10, Mw(mB)4.3/2*
ISC 26 10:06:57.3±0.8, 2°.50S±0°.08×126°.78E±0°.07, h10km, n20, σ1°17/21, mb3.8/5, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.80**	**156**	P	**Pg**	**10 07 13.1**	**+0.3**
NLAI				S	**Sg**	**10 07 23.6**	**+0.3**
SANI	**Sanana**	**0.91**	**300**	P	**Pg**	**10 07 14.7**	**-0.1**
SANI				S	**Sg**	**10 07 26.1**	**-0.5**
AAI	**Ambon**	**1.84**	**130**	P	**Pn**	**10 07 29.2**	**+0.1**
MSAI	**Masohi**	**2.31**	**111**	P	**Pn**	**10 07 35.8**	**+0.3**
MSAI				S	**Sn**	**10 08 04.7**	**+0.8**
BNDI	**Bandanaira**	**3.71**	**123**	P	**Pn**	**10 07 55.1**	**+0.3**
KMSI	**Cibinong**	**4.14**	**318**	P	**Pn**	**10 08 00.3**	**-0.3**
LUWI	**Luwuk**	**4.26**	**290**	P	**Pn**	**10 08 03.2**	**+0.9**
SWI	**Sorong**	**4.77**	**70**	P	**Pn**	**10 08 09.8**	**+0.5**
APSI	**Ampana**	**5.36**	**287**	P	**Pn**	**10 08 19.3**	**+1.8**
2μm121nm,0.5s							
FAKI	**Fak Fak**	**5.48**	**94**	P	**Pn**	**10 08 19.5**	**+0.4**
0.1nm8.8nm,0.6s							
MRSI	**Marisa**	**5.67**	**301**	P	**Pn**	**10 08 23.0**	**+1.3**
0.3nm981nm58nm,0.5s							
KAPI	**Kappang**	**7.44**	**250**	Pn	Pn	10 08 51.2	+5.2
4.3nm,0.3s,baz=78,slow=12,SNR=6.6							
KAPI				LR	LR	10 11 35.3	
comp=Z,89nm,19.5s,baz=9.5,slow=35							
12nm,0.3s							
FITZ	**Fitzroy Crossi**	**15.54**	**184**	Pn	**Pn**	**10 10 38.2**	**+1.5**
0.2nm,0.3s,baz=7.6,slow=15,SNR=1.5							
2.5nm,1.1s							
WRA	**Warramunga Arr**	**18.84**	**157**	P	**P**	**10 11 15.7**	**-1.9**
0.6nm,0.3s,baz=340,slow=11,SNR=21							
1.7nm,0.5s							
ASAR	**Alice Springs**	**22.14**	**162**	P	**P**	**10 11 51.7**	**-1.8**
1.0nm,0.4s,baz=343,slow=11,SNR=23							
1.0nm,0.4s							
STKA	**Stephens Creek**	**32.38**	**156**	P	**P**	**10 13 25.1**	**-2.3**
1.2nm,0.5s,baz=318,slow=15,SNR=2.9							
1.2nm,0.5s							
MKAR	**Makanchi Array**	**62.73**	**327**	P	**P**	**10 17 23.7**	**+1.0**
0.5nm,0.8s,baz=119,slow=8.4,SNR=3.3							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**67.02**	**329**	P	**P**	**10 17 51.7**	**+1.2**
0.3nm,0.6s,baz=122,slow=6.4,SNR=4.7							
0.3nm,0.6s							
BELG	**Belogornoye**	**85.35**	**323**	LR	LR	11 00 18.0	
comp=Z,357nm,21.7s,baz=112,slow=37							
QSPA	**South Pole Qui**	**87.45**	**180**	P	**P**	**10 19 45.1**	**+0.2**
0.5nm,0.8s,baz=324,slow=4.5,SNR=1.9							
0.5nm,0.8s							

*NEIC **26** 10:30:38.4±1.2, 43°.28N±0°.03×127°.2W±0°.2, h10km±2km, ML3.2/74, Error ellipse: s-maj=22.4km s-min=3.1km az=256.0*
*IDC **26** 10:30:44.8±4.4, 43°.72N×126°.15W, h0km, mb2.9/1, mbtmp3.2/5, ML3.2/4, MS2.9/5, Error ellipse: s-maj=54.7km s-min=18.7km az=83.0*
ISC 26 10:30:40.7±2.6, 43°.37N±0°.08×127°.0W±0°.2, h10km, n55, σ1°25/48, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.01**	**103**	Pn	**Pn**	**10 31 12.3**	**-2.4**
KEBM				IAML		10 32 06.4	
comp=E,100nm,3.2s							
I02E	**Swisshome, OR**	**2.39**	**71**	Pn	**Pn**	**10 31 18.6**	**-1.3**
I02E				IAML		10 32 28.1	
comp=N,51nm,3.1s							
I02E				IAML		10 32 44.7	
comp=E,68nm,2.0s							
K02D	**Willamette Mer**	**2.53**	**104**	Pn	**Pn**	**10 31 19.8**	**-2.1**
I03D	**Drain, OR**	**2.67**	**82**		**Pn**	**10 31 22.4**	**-1.3**
L02F	**Cave Junction**	**2.81**	**115**		**Pn**	**10 31 24.5**	**-1.2**
COR	**Corvallis**	**2.93**	**64**		**Pn**	**10 31 27.0**	**-0.2**
COR				IAML		10 32 06.4	
comp=E,48nm,3.4s							
COR				IAML		10 32 37.0	
comp=E,72nm,4.2s							
BUCK	**Buck Mountain**	**3.02**	**73**		**Pn**	**10 31 28.5**	**-0.1**
BUCK				IAML		10 32 09.9	
comp=N,54nm,3.8s							
BUCK				IAML		10 33 03.5	
comp=E,71nm,3.6s							
BBOR	**Butler Butte**	**3.19**	**97**		**Pn**	**10 31 30.4**	**-0.7**
G03D	**McMinnville, O**	**3.25**	**54**		**Pn**	**10 31 31.1**	**-0.6**
G03D				IAML		10 32 23.4	
comp=N,74nm,2.5s							
G03D				IAML		10 32 28.9	
comp=E,73nm,4.4s							
H04D	**Lebanon**	**3.28**	**68**		**Pn**	**10 31 32.1**	**0.0**
H04D				IAML		10 32 17.9	
comp=E,57nm,2.6s							
H04D				IAML		10 33 03.9	
comp=N,38nm,4.4s							
I04A	**Tendick Farm,**	**3.35**	**81**		**Pn**	**10 31 33.2**	**0.0**
I04A				IAML		10 32 42.6	
comp=E,24nm,4.8s							
F03A	**Seaside**	**3.54**	**43**	Pn	**Pn**	**10 31 34.9**	**-0.8**
YBH	**Yreka Blue Hor**	**3.56**	**116**	Pn	**Pn**	**10 31 36.4**	**+0.3**
YBH	**Yreka Blue Hor**	**3.56**	**116**	Pn	**Pn**	**10 31 36.2**	**+0.1**
baz=309,slow=7.5,SNR=7.9							
YBH				Sn	**Sn**	**10 32 16.1**	**-2.1**
baz=172,slow=18,SNR=3.8							
YBH				LR	LR	10 32 26.4	
comp=E,6.7nm,18.0s,baz=253,slow=32							
J04A	**Umpqua Nationa**	**3.56**	**90**		**Pn**	**10 31 36.2**	**0.0**
J04A				IAML		10 32 39.6	
comp=E,44nm,2.5s							
L04D	**Klamath Falls**	**3.63**	**107**	Pn	**Pn**	**10 31 36.5**	**-0.7**
L04D				IAML		10 32 36.4	
comp=N,30nm,4.7s							
L04D				IAML		10 33 36.0	
comp=E,30nm,4.0s							
M02C	**Callahan**	**3.65**	**121**	Pn	**Pn**	**10 31 35.4**	**-1.8**
H04A	**Detroit Lake**	**3.71**	**68**		**Pn**	**10 31 38.0**	**0.0**
H04A				IAML		10 33 36.9	
comp=N,24nm,3.9s							
H04A				IAML		10 34 03.0	
comp=E,25nm,4.3s							
G04A	**Mulino**	**3.72**	**59**		**Pn**	**10 31 38.3**	**+0.1**
G04A				IAML		10 32 16.6	
comp=E,56nm,2.1s							
G04A				IAML		10 33 01.1	
comp=N,65nm,2.2s							
RADR	**Rader Ridge**	**3.80**	**35**	Pn	**Pn**	**10 31 38.5**	**-0.8**
WIFE	**Three Sisters-**	**3.81**	**78**		**Pn**	**10 31 39.4**	**-0.2**
WIFE				IAML		10 32 12.4	
comp=E,47nm,3.9s							
WIFE				IAML		10 33 47.2	
comp=N,43nm,4.6s							
F04D	**Rainier, OR**	**3.92**	**45**	Pn	**Pn**	**10 31 39.8**	**-1.2**
E03A	**Lebam**	**4.00**	**36**	Pn	**Pn**	**10 31 41.0**	**-1.0**
E03A				IAML		10 32 54.9	
comp=E,57nm,1.8s							
I05D	**Terrebonne, OR**	**4.20**	**75**	Pn	**Pn**	**10 31 45.0**	**+0.2**
I05D				IAML		10 33 00.9	
comp=E,50nm,4.4s							
I05D				IAML		10 33 16.4	
comp=N,42nm,4.7s							
HOOD	**Mount Hood Mea**	**4.30**	**61**		**Pn**	**10 31 46.8**	**+0.6**
HOOD				IAML		10 32 31.4	
comp=E,28nm,3.7s							
HOOD				IAML		10 32 50.9	
comp=N,28nm,2.8s							
WISH	**Wishkah**	**4.38**	**30**	Pn	**Pn**	**10 31 46.2**	**-1.1**
PINE	**Pine Mountain**	**4.42**	**82**	Pn	**Pn**	**10 31 47.8**	**-0.2**
PINE				IAML		10 33 43.9	
comp=E,28nm,4.6s							
PINE				IAML		10 34 20.4	
comp=N,27nm,4.8s							
G05A	**Wamic**	**4.48**	**63**		**Pn**	**10 31 49.1**	**+0.4**
K05A	**Summer Lake**	**4.51**	**96**	Pn	**Pn**	**10 31 48.9**	**-0.4**
K05A				IAML		10 32 49.9	
comp=N,28nm,3.2s							
K05A				IAML		10 34 08.0	
comp=E,26nm,4.7s							
NLWA	**Neilton Lookou**	**4.58**	**28**	Pn	**Pn**	**10 31 49.3**	**-0.8**
G06A	**Carlson Farm,**	**4.93**	**66**		**Pn**	**10 31 54.8**	**0.0**
G06A				IAML		10 33 52.4	
comp=N,18nm,4.8s							
G06A				IAML		10 34 21.7	
comp=E,21nm,4.9s							
LON	**Longmire**	**4.99**	**46**		**Pn**	**10 31 56.2**	**+0.5**
LON				IAML		10 33 12.2	
comp=N,14nm,4.3s							
LON				IAML		10 35 19.7	
comp=E,13nm,5.0s							
GNW	**Green Mountain**	**5.12**	**33**		**Pn**	**10 31 56.6**	**-0.7**
GNW				IAML		10 34 10.4	
comp=N,16nm,3.5s							
GNW				IAML		10 35 16.5	
comp=E,19nm,4.8s							
D05A	**Enumclaw**	**5.20**	**41**		**Pn**	**10 31 59.0**	**+0.5**
B04A	**Port Angeles**	**5.29**	**26**	Pn	**Pn**	**10 31 59.2**	**-0.5**
I07A	**Izee**	**5.47**	**80**		**Pn**	**10 32 02.0**	**-0.3**
F07A	**Phinny Hill Vi**	**5.64**	**61**		**Pn**	**10 32 04.2**	**-0.3**
MXC	**Moxie City**	**5.73**	**54**		**Pn**	**10 32 05.7**	**-0.1**
CLRS	**Cowichan Lake**	**5.80**	**19**	Pn	**Pn**	**10 32 05.0**	**-1.8**
PGC	**Sidney**	**5.83**	**24**	Pn	**Pn**	**10 32 05.9**	**-1.1**
LTY	**Liberty**	**5.91**	**47**		**Pn**	**10 32 08.3**	**0.0**
G08A	**Pilot Rock**	**6.07**	**69**		**Pn**	**10 32 10.2**	**-0.4**
NVAR	**Mina Array Bea**	**8.22**	**124**	Pn	**Pn**	**10 32 43.6**	**+3.4**
comp=E,0.1nm,0.3s,baz=309,slow=15,SNR=6.0							
NVAR				LR	LR	10 36 07.9	
comp=E,52nm,20.5s,baz=291,slow=40							
comp=E,0.5nm,0.6s							
NEW	**

DBRK				Sn	Sb	10 47 30.4	-0.6
BRY	**Bratogost**	1.79	334	⇑ i Pn	Pb	10 47 09.7	-0.2
BRY				i Sn	Sg	10 47 34.0	-0.4
IGT	**Igoumenitsa**	1.85	162	Pg	Pn	10 47 08.8	+0.2
IGT				Sg	Sn	10 47 34.2	+2.2
IGT				AML	AML	10 47 46.8	
	0.2nm,0.4s						
IGT				AMd		10 48 33.3	
IGT	**Igoumenitsa**	1.85	162	ePg	Pn	10 47 09.3	+0.7
IGT				eSg	Sb	10 47 37.1	+3.2
NOCI	**Noci**	1.98	256	Pg	Pn	10 47 10.0	-0.4
NOCI				Sg	Sn	10 47 34.6	-0.7
NOCI				AML	AML	10 47 46.0	
	0.3nm,0.3s						
NOCI				AMd		10 48 29.4	
UPM	**Unac-Piva**	1.98	345	⇓ i Pn	Pb	10 47 12.6	-0.5
UPM				i Sn	Sg	10 47 38.9	-1.6
SJES	**Sjenica**	1.99	8	ePn	Pb	10 47 13.2	0.0
SJES				eSg	Sg	10 47 40.8	0.0
PLE	**Pljevlja**	2.04	356	⇓ i Pn	Pg	10 47 16.0	-0.1
PLE				i Sn	Sg	10 47 41.0	-1.5
STON	**Ston**	2.12	319	ePg	Pb	10 47 14.6	-0.7
STON				eSg	Sg	10 47 46.0	+1.2
SELS	**Selova**	2.24	30	ePn	Pn	10 47 15.1	+1.1
SELS				eSn	Sn	10 47 41.4	-0.3
VAY	**Valandovo**	2.25	88	i Pn	Pn	10 47 14.8	+0.7
BARS	**Barje**	2.25	47	ePn	Pn	10 47 14.4	+0.2
BARS				eSn	Sn	10 47 41.2	-0.9
IVAS	**Ivanjica**	2.32	10	ePn	Pn	10 47 16.0	+0.8
GOCS	**Kraljevo Serbi**	2.46	22	ePn	Pb	10 47 19.4	-1.9
GOCS				eSn	Sn	10 47 48.1	+0.7
BOSS	**Bosilegrad**	2.47	60	ePn	Pn	10 47 18.4	+1.2
BOSS				eSn	Sn	10 47 46.8	-0.7
LSTV	**Lastovo**	2.49	307	ePn	Pn	10 47 17.1	-0.4
LSTV				Sn	Sn	10 47 47.1	-0.9
BBLS	**Lazi&#263i**	2.58	357	ePn	Pn	10 47 20.2	+1.4
BBLS				eSn	Sb	10 47 52.1	-2.9
GRUS	**Gruza**	2.73	17	ePn	Pn	10 47 21.5	+0.8
MAKA	**Makarska**	2.76	317	ePn	Pn	10 47 21.8	+0.7
MAKA				Sn	Sn	10 47 54.1	-0.4
BOVS	**Bovan**	2.82	33	ePn	Pn	10 47 23.3	+1.3
BOVS				eSn	Sn	10 47 56.0	0.0
HVAR	**Hvar**	3.00	310	ePn	Pn	10 47 25.1	+0.7
HVAR				Sn	Sn	10 48 00.6	+0.1
ZAPS	**Zavoj**	3.00	48	ePn	Pn	10 47 25.7	+1.1
ZAPS				eSn	Sn	10 47 59.6	-1.1
ZAGS	**Zajecar**	3.19	37	ePn	Pn	10 47 28.4	+1.3
KUBS	**Kucevo**	3.48	25	ePn	Pn	10 47 30.3	-0.7
KUBS				eSn	Sn	10 48 09.5	-2.8
KIJV	**Kijevo**	3.59	320	ePn	Pn	10 47 33.2	+0.6
KIJV				Sn	Sn	10 48 15.6	+0.6
ZIRJ	**Zirje**	3.75	310	ePn	Pn	10 47 35.8	+0.9
ZIRJ				Sn	Sn	10 48 18.4	-0.7
MORI	**Morici**	3.85	313	ePn	Pn	10 47 37.2	+1.0
MORI				Sn	Sn	10 48 21.7	+0.2
DUGI	**Dugi Otok**	4.30	310	ePn	Pn	10 47 42.9	+0.6
VIRC	**Vir**	4.49	313	ePn	Pn	10 47 45.6	+0.7
VIRC				Sn	Sn	10 48 35.9	-1.3
BRJN	**Brijuni**	5.60	312	ePn	Pn	10 48 00.3	+0.1

*IDC **26** 10:50:03.0±6.4, 5°58S×107°39E, h0km, mb3.8/3, mbtmp3.8/3, MS3.0/2, Error ellipse: s-maj=127.7km s-min=21.5km az=97.0*
*DJA **26** 10:50:05.5±0.3, 7°S±3°×10°7E±°, h10km, M3.9/12, MLv3.9/12*
ISC 26 10:50:05.7±0.9, 7°07S±0°07×106°54E±0°04, h10km, n16, σ0°53/17, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	0.07	18	P	Pg	10 50 08.0	+0.1
SKJI				S	Sg	10 50 10.1	+0.6
DBJI	**Dramaga**	0.55	23	P	Pg	10 50 16.4	-0.1
CNJI	**Cibinong**	0.64	112	P	Pg	10 50 18.1	0.0
CNJI				S	Sb	10 50 27.0	-0.9
CGJI	**Cibinong**	0.95	298	P	Pg	10 50 23.8	-0.3
CGJI				S	Sb	10 50 37.0	0.0
SBJI	**Serang**	1.02	337	P	Pb	10 50 25.2	-0.4
LEM	**Lembang**	1.10	77	Pg	Pn	10 50 28.1	+0.8
	146nm,0.3s,baz=260,slow=6.7,SNR=66						
LEM				Lg	Lg	10 50 43.8	
	96nm,0.3s,baz=232,slow=20,SNR=13						
LEM	**Lembang**	1.10	77	P	Pg	10 50 26.1	-0.8
KPJI	**Karang Pucung**	2.39	96	P	Pn	10 50 44.4	-0.6
KASI	**Kota Agung**	2.54	307	P	Pn	10 50 46.8	-0.3
UGM	**Wanagama**	4.04	102	P	Pn	10 51 07.9	+0.2
MNAI	**Manna**	4.46	307	P	Pn	10 51 13.3	-0.2
KAPI	**Kappang**	13.30	82	LR	LR	10 58 10.4	
	comp=Z,76nm,18.8s,baz=298,slow=40						
CMAR	**Chiang Mai Arr**	26.45	344	LR	LR	11 07 39.1	
	comp=Z,24nm,18.2s,baz=150,slow=42						
WRA	**Warramunga Arr**	29.85	118	P	P	10 56 13.5	0.0
	0.7nm,1.0s,baz=294,slow=8.6,SNR=2.8						
	0.7nm,1.0s						
ASAR	**Alice Springs**	31.02	125	P	P	10 56 24.0	+0.1
	0.4nm,0.7s,baz=299,slow=9.0,SNR=3.0						
	0.4nm,0.7s						
STKA	**Stephens Creek**	40.94	132	P	P	10 57 49.5	+0.8
	4.8nm,0.9s,baz=315,slow=10.0,SNR=4.4						
	4.8nm,0.9s						

*IDC **26** 10:50:39.6±1.3, 24°18S×116°00W, h0km, mb3.7/4, mbtmp3.7/4, MS3.1/1, Error ellipse: s-maj=56.1km s-min=30.1km az=42.0*
ISC 26 10:50:40.7±1.3, 24°3S±0°3×116°1W±0°3, h10km, n15, σ0°58/8, mb3.8/4, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	6.74	116	LR	LR	10 54 07.8	
	comp=Z,171nm,19.8s,baz=276,slow=31						
H03N2	**Juan Fernandez**	33.67	114	T	T	11 32 39.9	
	baz=280,slow=75,SNR=61						
H03N3	**Juan Fernandez**	33.68	114	T	T	11 32 41.9	
	baz=280,slow=75,SNR=57						
H03N1	**Juan Fernandez**	33.68	114	T	T	11 32 47.5	
	baz=280,slow=75,SNR=65						
PLCA	**Paso Flores**	41.29	125	P	P	10 58 26.7	+0.2
	2.7nm,0.9s,baz=263,slow=11,SNR=3.8						
	2.7nm,0.9s						
LPAZ	**La Paz**	45.53	89	P	P	10 59 01.6	0.0
	1.4nm,0.7s,baz=254,slow=8.0,SNR=5.6						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	62.43	358	P	P	11 01 04.4	+0.3
	0.2nm,0.5s,baz=189,slow=5.3,SNR=2.3						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	67.00	5	P	P	11 01 34.2	+0.3
	0.2nm,0.5s,baz=177,slow=7.3,SNR=2.8						
	0.2nm,0.5s						
H11S2	**WAKE ISLAND Hy**	86.38	292	T	T	12 39 02.7	
	baz=118,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	86.39	292	T	T	12 39 07.5	
	baz=118,slow=75,SNR=80						
H11S3	**WAKE ISLAND Hy**	86.39	292	T	T	12 39 07.9	
	baz=118,slow=75,SNR=77						
ZALV	**Zalesovo Beam**	146.49	338	PKPbc	PKPdf	11 10 20.4	0.0
	0.9nm,0.6s,baz=59,slow=0.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	146.90	267	PKPbc	PKPab	11 10 25.8	+0.3
	0.4nm,0.3s,baz=40,slow=1.9,SNR=1.8						
BRTR	**Keskin Array B**	150.27	52	PKPbc	PKPbc	11 10 31.3	-1.1
	0.7nm,0.7s,baz=320,slow=3.8,SNR=4.0						
KURBB	**Kurchatov Arra**	151.37	340	PKPbc	PKPbc	11 10 34.2	-0.2
	0.7nm,0.2s,baz=29,slow=2.1,SNR=4.7						

*IDC **26** 10:54:06.8±0.8, 30°31N×87°51E, h0km, mb3.8/15, mbtmp3.8/17, ML3.2/1, Error ellipse: s-maj=26.2km s-min=16.3km az=54.0*
*NEIC **26** 10:54:09.9±1.1, 30°55N±0°08×87°39E±0°07, h10km±4km, mb4.0/21, Error ellipse: s-maj=11.3km s-min=8.9km az=187.0*
*NDI **26** 10:54:11.8±1.9, 30°61N×87°34E, h10km±10km, ML4.0, MW4.0*
ISC 26 10:54:09.4±0.5, 30°52N±0°06×87°34E±0°05, h10km, n59, σ1°57/66, mb3.9/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVN	**Everest**	2.59	190		Pn	10 54 53.5	+1.5
LSA	**Lhasa**	3.40	103		Pn	10 55 02.9	-0.1
TAWA	**Tawang**	4.92	125	eP	Pn	10 55 25.7	+2.0
TAWA				eS	Sn	10 56 21.3	+0.4
TAWA				IAML		10 56 34.5	
	comp=N,674nm,0.1s						
TAWA				IAML		10 56 36.7	
	comp=E,576nm,0.4s						
GAYA	**Gaya**	5.99	199	eP	Pn	10 55 41.2	+3.1
GAYA				eS	Sn	10 56 46.5	-0.3
GAYA				IAML		10 56 55.6	
	comp=E,380nm,0.1s						
GAYA				IAML		10 56 56.1	
	comp=N,456nm,0.3s						
TEZP	**TEZPUR**	6.18	128	eP	Pn	10 55 43.1	+2.4
TEZP				eS	Sn	10 56 50.6	-0.8
TEZP				IAML		10 56 52.9	
	comp=E,316nm,0.3s						
TEZP				IAML		10 56 56.1	
	comp=N,524nm,0.0s						
PTH	**Pithoragarh**	6.25	263	eP	Pn	10 55 45.2	+3.3
PTH				eS	Sn	10 56 52.0	-1.6
PTH				IAML		10 57 08.1	
	comp=N,128nm,0.4s						
PTH				IAML		10 57 08.4	
	comp=E,130nm,0.6s						
SHL	**Shillong**	6.36	140	Pn	Pn	10 55 42.1	-1.3
ZIRO	**ZIRO**	6.43	116	eP	Pn	10 55 45.6	+1.2
ZIRO				eS	Sn	10 56 56.7	-1.3
ZIRO				IAML		10 57 00.1	
	comp=E,174nm,1.2s						
ZIRO				IAML		10 57 03.5	
	comp=N,204nm,0.8s						
JOSI	**Joshimath**	6.71	272	eP	Pn	10 55 51.2	+2.9
JOSI				eS	Sn	10 57 01.8	-3.1
JOSI				IAML		10 57 17.7	
	comp=N,65nm,0.6s						
JOSI				IAML		10 57 19.7	
	comp=E,79nm,1.2s						
HNLY	**HANLEY**	7.48	290	eP	Pn	10 56 00.2	+1.1
HNLY				eS	Sn	10 57 17.8	-6.5
HNLY				IAML		10 57 37.7	
	comp=E,124nm,0.7s						
HNLY				IAML		10 57 38.2	
	comp=N,167nm,1.2s						
NIL	**Nilore**	12.35	288	Pn	Pn	10 57 05.0	-0.3
TARG	**Taragay, Kyrgy**	13.57	328		Pn	10 57 22.1	-0.3
BOOM	**Boomskoye usch**	15.04	326	Pn	Pn	10 57 40.9	-1.3
CHTO	**Chiang Mai**	15.70	135		Pn	10 57 51.2	+0.4
CHTO				IAmb	IAmb	10 57 53.7	
	comp=Z,5.2nm,0.8s						
ARSB	**Arslanbob**	15.84	317	Pn	Pn	10 57 52.9	+0.2
ARSB				IAmb	IAmb	10 58 04.5	
	comp=Z,9.8nm,1.2s						
AAK	**Ala-Archa**	15.88	323	Pn	Pn	10 57 52.9	-0.2
KBL	**Kabul**	15.94	289	Pn	Pn	10 57 54.2	+0.1
KBL				IAmb	IAmb	10 58 04.1	
	comp=Z,7.8nm,0.9s						
CM31	**Chiang Mai Arr**	15.97	136	Pn	Pn	10 57 54.2	-0.2
CMAR	**Chiang Mai Arr**	15.97	136	Pn	Pn	10 57 53.9	-0.5
CMAR	**Chiang Mai Arr**	15.97	136	Pn	Pn	10 57 50.6	-3.8
	comp=Z,0.8nm,0.6s,baz=322,slow=11,SNR=14						
GAR	**Garm**	16.33	306	Pn	Pn	10 57 59.1	+0.1
GAR				IAmb	IAmb	10 58 01.9	
	comp=Z,10nm,1.0s						
MKAR	**Makanchi Array**	16.72	348		Pn	10 58 03.3	-0.5
MKAR	**Makanchi Array**	16.72	348	Pn	Pn	10 58 04.7	+1.0
	comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=6.3						
	comp=Z,0.3nm,0.5s						
CHGR	**Chuyangaron**	17.01	303		Pn	10 58 08.0	+0.4
CHGR				IAmb	IAmb	10 58 26.5	
	comp=Z,9.1nm,0.7s						
KURBB	**Kurchatov Arra**	21.14	344	P	P	10 58 55.7	+1.3
	comp=Z,0.6nm,0.3s,baz=161,slow=10,SNR=8.7						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	21.21	345	P	P	10 58 55.6	+0.5
SONM	**Songino Array**	22.64	35	P	P	10 59 10.5	-0.2
SONM				IAmb	IAmb	10 59 13.8	
	comp=Z,3.3nm,1.0s						
SONM	**Songino Array**	22.64	35	P	P	10 59 11.8	+1.1
	comp=Z,3.3nm,0.9s,baz=222,slow=9.2,SNR=13						
	comp=Z,3.3nm,0.9s						
ULN	**Ulaanbaatar**	22.99	36	P	P	10 59 15.8	+1.4
ULN				IAmb	IAmb	10 59 17.7	
	comp=Z,5.1nm,1.1s						
ZALV	**Zalesovo Beam**	23.49	356	P	P	10 59 17.7	-1.4
ZALV	**Zalesovo Beam**	23.49	356	P	P	10 59 19.6	+0.5
	comp=Z,1.6nm,0.7s,baz=198,slow=9.3,SNR=5.6						
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	25.67	336	P	P	10 59 38.8	-0.6
	comp=Z,0.4nm,0.4s,baz=157,slow=7.7,SNR=2.3						
	comp=Z,0.4nm,0.4s						
AB31	**Akbulak array**	27.91	320		P	10 59 59.2	-0.3
ABKAR	**Akbulak array**	27.91	320	P	P	10 59 59.5	-0.1
ARTI	**Arti**	32.88	330	P	P	11 00 43.5	+0.1
BRTR	**Keskin Array B**	44.30	297	P	P	11 02 19.7	0.0
BRTR	**Keskin Array B**	44.30	297	P	P	11 02 20.2	+0.5
	comp=Z,0.3nm,0.3s,baz=93,slow=6.2,SNR=2.1						
	comp=Z,0.3nm,0.3s						
TIXI	**Tiksi**	46.85	17	P	P	11 02 39.4	+0.2
TIXI				IAmb	IAmb	11 02 43.0	
	comp=Z,3.3nm,1.1s						
TIXI	**Tiksi**	46.85	17	P	P	11 02 38.5	-0.6
	comp=Z,2.9nm,0.2s,baz=242,slow=5.1,SNR=5.5						
AKASG	**Malin Array Be**	47.17	313	P	P	11 02 42.2	+0.2
AKASG				IAmb	IAmb	11 02 42.3	
	comp=Z,2.5nm,1.1s						
AKASG	**Malin Array Be**	47.17	313	P	P	11 02 42.2	+0.2
	comp=Z,0.3nm,0.3s,baz=78,slow=7.0,SNR=4.3						
	comp=Z,0.3nm,0.3s						
ELL	**Elmali**	47.61	294		P	11 02 46.6	+0.8
FINES	**FINESS Array B**	50.02	327	P	P	11 03 03.5	-0.2
FINES	**FINESS Array B**	50.02	327	P	P	11 03 05.0	+1.2
	comp=Z,3.3nm,0.8s,baz=98,slow=8.3,SNR=6.7						
	comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	51.96	337	P	P	11 03 18.5	+0.3
ARCES	**ARCESS Array B**	51.96	337	P	P	11 03 19.2	+1.0
	comp=Z,3.6nm,0.9s,baz=101,slow=7.2,SNR=6.0						
	comp=Z,3.6nm,0.9s						
HFS	**Hagfors**	56.01	325	P	P	11 03 49.2	+1.3
	comp=Z,1.6nm,0.5s,baz=100,slow=7.7,SNR=9.4						
	comp=Z,1.6nm,0.5s						
NOA	**NORSAR Array B**	57.17	326	P	P	11 03 56.8	+0.5
	comp=Z,0.6nm,0.5s,baz=87,slow=7.2,SNR=3.3						
	comp=Z,0.6nm,0.5s						
GERES	**GERESS Array B**	57.32	311	P	P	11 03 59.4	+1.8
	comp=Z,0.6nm,0.7s,baz=72,slow=4.3,SNR=3.9						
	comp=Z,0.6nm,0.7s						
NAO01	**NORSAR Array S**	57.35	326	P	P	11 03 58.1	+0.6
NC204	**NORSAR Array S**	57.37	326	P	P	11 03 58.4	+0.6
WRA	**Warramunga Arr**	67.52	132	P	P	11 05 04.0	-2.0
	comp=Z,1.0nm,0.8s,baz=318,slow=6.1,SNR=4.4						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	69.98	135	P	P	11 05 21.0	-0.4
ASAR	**Alice Springs**	69.98	135	P	P	11 05 18.0	-3.4
	comp=Z,0.8nm,0.8s,baz=319,slow=6.6,SNR=7.7						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	76.10	21	P	P	11 05 56.8	-0.2
	comp=Z,0.4nm,0.9s,baz=310,slow=6.9,SNR=2.3						
	comp=Z,0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	79.74	279	P	P	11 06 18.0	-0.1
TORD				IAmb	IAmb	11 06 43.5	
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	79.74	279	P	P	11 06 18.7	+0.5
	comp=Z,0.6nm,0.3s,baz=56,slow=5.2,SNR=2.1						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	119.56	11	PKP	PKPdf	11 12 59.4	-0.6
	comp=Z,0.2nm,0.4s,baz=330,slow=1.3,SNR=7.1						
CPUP	**Villa Florida**	148.73	269	PKPbc	PKPbc	11 13 56.4	-1.0
	comp=Z,0.3nm,0.6s,baz=79,slow=5.5,SNR=3.8						

*NEIC **26** 10:55:44.8±1.4, 35°356N±0°008×117°856W±0°010, h6km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=120.0*
PAS 26 10:55:45.0±1.3, 35°349N±0°008×117°864W±0°010, h4km±2km, ML3.1/146, ML2.9/116(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=130.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	0.20	49	Pg	Pg	10 55 49.0	+0.1
LRMC				IAML		10 55 52.6	
	comp=N,4μm,0.2s						
CCAC	**Calif City Air**	0.23	213		Pg	10 55 49.9	+0.3
CCAC					Sg	10 55 53.4	+0.8
WBSM	**Bird Springs**	0.29	310		Pg	10 55 50.9	+0.1
WBSM					Sg	10 55 55.2	+0.5
SRTC	**Snort**	0.35	15		Pg	10 55 52.4	+0.4
SRTC					Sg	10 55 58.2	+1.6
WSHM	**Spangler Hills**	0.39	50		Pg	10 55 52.6	0.0
WSHM					Sg	10 55 58.1	+0.3
WSHM				IAML		10 56 00.0	
	comp=N,1μm,0.8s						
WSHM				IAML		10 56 00.1	
	comp=N,1μm,0.7s						
CCCA	**Chr Cany lake**	0.44	66		Pg	10 55 53.6	0.0
CCCA				IAML		10 56 03.3	
	comp=N,789nm,0.6s						
WORM	**Onyx Ranch**	0.46	318		Pg	10 55 53.7	-0.3
WORM					Sg	10 55 60.0	-0.1
TOW	**Tower One**	0.47	10		Pg	10 55 54.5	+0.4
TOW					Sb	10 56 01.7	-1.5
EDW2	**Edwards Air Fo**	0.48	193		Pg	10 55 53.9	-0.3
EDW2					Sg	10 56 00.4	-0.1
WNMM	**Nine Mile Cany**	0.49	356		Pg	10 55 54.4	-0.2
WNMM					Sg	10 56 01.1	+0.1
CLC	**China Lake**	0.51	25		Pg	10 55 54.6	-0.3
CLC					Sg	10 56 01.8	+0.1
CLC				IAML		10 56 02.8	
	comp=E,633nm,0.8s						
WHFM	**Hanning Flat**	0.53	311		Pg	10 55 54.9	-0.2
WHFM					Sg	10 56 02.1	+0.1
HYS	**Haystack Butte**	0.54	153		Pg	10 55 55.1	-0.3
HYS					Sg	10 56 02.8	+0.3
TPO	**Tropico Hills**	0.56	213		Pg	10 55 55.6	-0.1
TPO					Sg	10 56 03.8	+0.9
TPO				IAML		10 56 04.4	
	comp=E,706nm,0.5s						
TPO				IAML		10 56 07.6	
	comp=N,523nm,0.7s						
ISA	**Isabella, Lake**	0.59	302		Pg	10 55 56.1	-0.3
ISA				IAML		10 56 04.6	
	comp=N,624nm,0.4s						
ISA				IAML		10 56 07.2	
	comp=E,527nm,0.5s						
ISA	**Isabella, Lake**	0.59	302		Sg	10 56 04.3	+0.3
WVPM	**Volcano Peak E**	0.60	4		Pg	10 55 56.5	-0.2
WVPM					Sg	10 56 04.7	+0.2
JRC2	**Joshua Ridge**	0.63	4		Pg	10 55 57.0	-0.2
JRC2					Sg	10 56 05.7	+0.2
WRVM	**Rose V. Centra**	0.66	358		Pg	10 55 57.4	-0.3
WRVM					Sg	10 56 06.2	0.0
SBB	**Saddle Back Bu**	0.66	177		Pg	10 55 57.1	-0.6
SBB					Sg	10 56 06.1	-0.2
WCSM	**Coso Springs S**	0.68	7		Pg	10 55 57.8	-0.3
WCSM					Sg	10 56 06.9	-0.1
TEJ	**El Tejon**	0.69	260		Pg	10 55 57.6	-0.6
TEJ					Sg	10 56 06.7	-0.4
WASM	**Alta Sierra Ca**	0.69	305		Pg	10 55 58.0	-0.2
WASM					Sg	10 56 07.2	0.0
MFS	**McCloud Flat S**	0.77	1		Pg	10 55 59.3	-0.5
TJR	**Tejon Ranch**	0.79	246		Pg	10 55 59.4	-0.8
THC	**Tehachapi Micr**	0.79	236		Pg	10 55 59.7	-0.4
LEOC	**Leona Valley**	0.80	207		Pg	10 55 59.9	-0.6
ARVC	**Arvin**	0.82	255		Pg	10 56 00.3	-0.5
ARVC					Sg	10 56 11.7	+0.2
LRRC	**Littlerock Res**	0.83	189		Pg	10 56 00.5	-0.5
LRRC					Sg	10 56 11.9	+0.1
CJV	**Casa Juvan**	0.85	196		Pg	10 56 00.7	-0.6
CJV					Sg	10 56 12.5	+0.2
RRX	**Edison Barstow**	0.85	123		Pg	10 56 01.3	-0.1
RRX					Sg	10 56 12.4	-0.1
GSC	**Goldstone, Bar**	0.87	93		Pg	10 56 01.3	-0.4
BTPC	**Burnt Peak**	0.88	221		Sg	10 56 14.0	+0.5
HOLC	**Holcomb Ridge**	0.89	179		Pg	10 56 01.4	-0.7
HOLC					Sg	10 56 14.3	+0.7
JNH	**Juniper Hills**	0.90	185		Pg	10 56 01.9	-0.5
JNH					Sb	10 56 15.1	-0.7
OSI	**Osito Audit: C**	1.02	224		Pg	10 56 04.8	+0.3
OSI				IAML		10 56 20.5	
	comp=E,321nm,0.9s						
OSI				IAML		10 56 21.2	
	comp=N,207nm,0.5s						
OSI	**Osito Audit: C**	1.02	224		Sg	10 56 18.2	+0.4
QSM	**Queen of Sheba**	1.02	53		Pg	10 56 04.0	-0.6
QSM				IAML		10 56 20.0	
	comp=N,350nm,0.8s						
QSM				IAML		10 56 22.5	
	comp=E,342nm,0.6s						
CHFC	**Chilao Flat St**	1.02	188		Pg	10 56 04.4	-0.3
CWC	**Cottonwood Cre**	1.10	351		Pg	10 56 05.5	-0.7
CWC					Sg	10 56 19.8	-0.7
CWC				IAML		10 56 20.5	
	comp=N,279nm,0.2s						
CWC				IAML		10 56 23.1	
	comp=E,201nm,0.3s						
VES	**Vestal, Richgr**	1.11	297		Pg	10 56 05.5	-0.8
VES					Sg	10 56 20.4	-0.4
BFSC	**Mount Baldy Ra**	1.12	171		Pg	10 56 05.4	-1.1
BFSC				IAML		10 56 24.1	
	comp=N,372nm,0.5s						
BFSC				IAML		10 56 24.8	
	comp=E,320nm,0.2s						
SPG2	**Springville 2**	1.12	319		Sg	10 56 20.5	-0.7
MWC	**Mount Wilson**	1.13	188		Pg	10 56 06.9	+0.1
MWC				IAML		10 56 25.8	
	comp=E,364nm,0.3s						
SSK	**Sunset Peak**	1.14	173		Pg	10 56 06.2	-0.8
DECC	**Green Verdugo**	1.16	200		Sb	10 56 23.0	0.0
OAT	**Oat Mountain**	1.18

PMD	**Palm Desert**	**2.09**	**144**		Pn	10 56 20.1	-0.8
PMD				IAML		10 56 54.5	
	comp=N,58nm,0.5s						
PMD				IAML		10 56 54.8	
	comp=E,76nm,0.4s						
FRD	**Ford Ranch, An**	**2.12**	**150**		Pb	10 56 24.0	-0.2
FRD	**Ford Ranch, An**	**2.12**	**150**		Pb	10 56 24.1	-0.1
PKD	**Bear Valley Ra**	**2.26**	**286**		Pn	10 56 23.1	-0.2
MLAC	**Mammoth, Mammo**	**2.41**	**341**		Pb	10 56 29.0	-0.1
MCSM	**Casa Diablo Ho**	**2.45**	**340**		Pb	10 56 29.9	0.0
SHPR	**Sheep Range**	**2.48**	**61**		Pn	10 56 25.7	-0.7
MDPB	**Devils Postpil**	**2.48**	**337**		Pn	10 56 27.7	+1.2
MDPB				IAML		10 57 07.9	
	comp=E,71nm,0.6s						
MDPB				IAML		10 57 12.5	
	comp=N,55nm,0.6s						
V12A	**Nelson**	**2.49**	**80**		Pn	10 56 25.5	-0.9
IRM	**Iron Mountain**	**2.53**	**117**		Pn	10 56 25.9	-1.1
IRM				IAML		10 57 06.8	
	comp=E,59nm,0.5s						
IRM				IAML		10 57 09.0	
	comp=N,57nm,0.4s						
TPH	**Tonopah**	**2.77**	**11**		Pn	10 56 30.3	-0.1
HULI	**Fort Hunter Li**	**2.83**	**285**		Pn	10 56 30.6	-0.4
HULI				IAML		10 57 20.9	
	comp=N,31nm,0.8s						
HULI				IAML		10 57 41.7	
	comp=E,35nm,4.4s						
LHV	**Little Huntoon**	**2.94**	**350**		Pn	10 56 33.6	+1.1
LHV				IAML		10 57 41.0	
	comp=E,25nm,0.8s						
PRN	**Pahroc Range**	**3.06**	**47**		Pn	10 56 34.2	-0.2
PRN				IAML		10 57 32.6	
	comp=E,35nm,0.9s						
PRN				IAML		10 57 34.3	
	comp=N,30nm,0.7s						
BLYC	**Blythe**	**3.18**	**119**		Pn	10 56 34.8	-1.1
BLYC				IAML		10 57 31.3	
	comp=N,36nm,0.6s						
BLYC				IAML		10 57 37.1	
	comp=E,37nm,0.6s						
CBX	**Cerro Bola**	**3.19**	**161**		Pn	10 56 36.2	+0.1
W13A	**Hualapai Mount**	**3.27**	**93**		Pn	10 56 36.1	-1.1
W13A				IAML		10 57 30.7	
	comp=N,23nm,0.8s						
W13A				IAML		10 57 35.3	
	comp=E,21nm,0.5s						
CMB	**Columbia Colle**	**3.36**	**324**	Pn	Pn	10 56 39.1	+0.7
CMB				IAML		10 57 34.3	
	comp=N,23nm,1.0s						
CMB				IAML		10 57 40.0	
	comp=E,26nm,0.8s						
MHC	**Mount Hamilton**	**3.64**	**304**	Pn	Pn	10 56 41.8	-0.6
MHC				IAML		10 57 47.7	
	comp=E,15nm,1.1s						
MHC				IAML		10 57 51.2	
	comp=N,20nm,2.1s						
LCMT	**Little Creek M**	**4.09**	**65**	Pn	Pn	10 56 48.7	+0.2
KNB	**Kanab**	**4.41**	**66**	Pn	Pn	10 56 52.9	+0.1
U15A	**North Rim**	**4.65**	**75**		Pn	10 56 56.9	+0.5
U15A				IAML		10 58 11.6	
	comp=E,9.2nm,4.4s						
U15A				IAML		10 58 18.7	
	comp=N,9.4nm,5.0s						

*NEIC **26** 11:35:24.2±1.3, 19°.610N±0°.010×156°.54W±0°.04, h10km±2km, Error ellipse: s-maj=7.1km s-min=3.1km az=83.0*

HVO 26 11:35:27.1±2.2, 19°.602N±0°.010×156°.43W±0°.04, h1km±10km, ML3.4/53, ML3.4/50(NEIC), Error ellipse: s-maj=5.6km s-min=1.5km az=90.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.39**	**82**		Pb	11 35 36.0	-0.8
HUH	**Hualalai**	**0.57**	**81**		Pn	11 35 37.9	-0.1
HUH					Sg	11 35 46.2	+0.8
HUH				IAML		11 35 49.1	
	comp=E,3μm,0.3s						
HUH				IAML		11 35 49.2	
	comp=N,3μm,0.3s						
ALEP	**Alea Permanent**	**0.74**	**94**		Pg	11 35 40.9	-0.5
ALEP					Pn	11 35 51.3	+6.2
MHA	**Mahukona**	**0.77**	**40**		Sg	11 35 50.8	-0.9
MWH	**Mokuaweoweo**	**0.79**	**98**		Pg	11 35 41.2	-1.1
MWH					Sg	11 35 51.9	-0.8
HPAH	**Hawaii Prepara**	**0.81**	**58**		Pg	11 35 41.0	-1.7
HPAH	**Hawaii Prepara**	**0.81**	**58**	IAML		11 35 52.7	
	comp=N,1μm,0.3s						
KHU	**Kahuku**	**0.85**	**115**		Pg	11 35 41.8	-1.6
KHU					Pn	11 35 52.5	+6.2
POHA	**Pohakuloa**	**0.86**	**79**		Pg	11 35 41.9	-1.7
HMH	**Humu'ula Sheep**	**0.89**	**90**		Pg	11 35 42.9	-1.4
AIN	**Ainahou**	**0.94**	**104**		Pg	11 35 43.0	-2.2
AIN					Sg	11 35 55.0	-2.5
AIN	**Ainahou**	**0.94**	**104**	IAML		11 36 01.5	
	comp=E,837nm,0.3s						
AIN				IAML		11 36 03.9	
	comp=N,1μm,0.3s						
HPO	**Honuapo**	**0.97**	**122**		Pg	11 35 43.4	-2.3
MLH	**Mauna Loa**	**0.99**	**96**		Pg	11 35 43.9	-2.3
MLH					Sg	11 35 56.5	-2.5
HTC	**Hot Caves**	**1.04**	**110**		Pg	11 35 44.3	-2.8
WRMHI	**West Rim**	**1.08**	**100**		Pg	11 35 44.8	-3.1
UWE	**Uwekahuna**	**1.09**	**99**		Pg	11 35 44.9	-3.1
UWE					Sg	11 35 58.5	-3.6
UWE	**Uwekahuna**	**1.09**	**99**	IAML		11 36 07.6	
	comp=E,1μm,0.4s						
UWE				IAML		11 36 09.1	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**1.09**	**101**		Pg	11 35 44.9	-3.2
SDHHI					Sg	11 35 58.1	-4.1
RSD	**Rainshed**	**1.09**	**97**		Pg	11 35 45.1	-3.0
RSD					Pn	11 35 58.6	+8.9
RSD	**Rainshed**	**1.09**	**97**	IAML		11 35 59.9	
	comp=E,1μm,0.2s						
OBL	**Observatory Le**	**1.10**	**99**		Pg	11 35 44.9	-3.2
HLP	**Hilina Pali**	**1.10**	**106**		Pg	11 35 45.1	-3.1
HLP					Sg	11 35 58.5	-4.0
HLP	**Hilina Pali**	**1.10**	**106**	IAML		11 36 04.3	
	comp=N,862nm,0.4s						
HLP				IAML		11 36 12.4	
	comp=E,661nm,1.5s						
UWB	**Uwekahuna Bluf**	**1.10**	**99**		Pg	11 35 44.9	-3.4
UWB					Sg	11 35 58.4	-4.1
RIM	**Rim**	**1.11**	**100**		Pg	11 35 45.1	-3.3
RIM					Sg	11 35 58.8	-4.0
SBLHI	**Steaming Bluff**	**1.11**	**99**		Pg	11 35 44.9	-3.5
KKO	**Keanakako'i**	**1.12**	**100**		Pg	11 35 45.2	-3.4
HATHI	**Halema'uma'u T**	**1.12**	**99**		Pg	11 35 45.0	-3.5
HATHI	**Halema'uma'u T**	**1.12**	**99**	IAML		11 36 13.1	
	comp=E,608nm,0.5s						
HATHI				IAML		11 36 14.5	
	comp=N,641nm,0.6s						
BYL	**Byron's Ledge**	**1.12**	**100**		Pg	11 35 45.1	-3.5
BYL	**Byron's Ledge**	**1.12**	**100**	IAML		11 36 16.3	
	comp=N,576nm,0.5s						
HLK	**Haleakala**	**1.16**	**8**		Pg	11 35 45.8	-3.6
HLK				IAML		11 35 59.4	
	comp=N,955nm,0.5s						
HLK				IAML		11 36 03.8	
	comp=E,667nm,0.6s						
HLK	**Haleakala**	**1.16**	**8**		Sg	11 35 58.3	-6.2
PUH	**Pauahi**	**1.17**	**101**		Pg	11 35 45.6	-3.9
KNHH	**Kane Nui o Ham**	**1.21**	**100**		Pg	11 35 46.6	-3.7
STCH	**Steam Cracks**	**1.25**	**100**		Pg	11 35 46.8	-4.3
STCH	**Steam Cracks**	**1.25**	**100**	IAML		11 36 02.3	
	comp=N,504nm,0.1s						
NPOC	**North of Pu'u**	**1.26**	**99**		Pg	11 35 47.0	-4.4
NPOC					Sg	11 36 01.7	-6.0
JCUZ	**Jacuzzi**	**1.27**	**100**		Pg	11 35 47.1	-4.4
JCUZ					Sg	11 36 01.9	-6.1
KHLH	**Kahului Airpor**	**1.29**	**0**		Pg	11 35 47.9	-4.0
KHLH				IAML		11 36 03.2	
	comp=N,875nm,0.3s						
KHLH				IAML		11 36 03.8	
	comp=E,507nm,0.2s						
JOKA	**Jonika Flow**	**1.35**	**97**	Pn	Pg	11 35 48.1	-5.0
JOKA				IAML		11 36 05.4	
	comp=E,458nm,0.2s						
JOKA				IAML		11 36 06.7	
	comp=N,521nm,0.3s						
JOKA	**Jonika Flow**	**1.35**	**97**		Sg	11 36 04.1	-6.6
DHH	**Diamond Head**	**2.09**	**322**	Pn	Pn	11 35 57.9	-5.4
HON	**Honolulu**	**2.26**	**320**	Pn	Pn	11 36 00.5	-5.1
KIP	**Kipapa**	**2.34**	**321**	Pn	Pn	11 36 01.5	-5.2
KIP	**Kipapa**	**2.34**	**321**	IAML		11 37 29.4	
	comp=N,186nm,4.9s						
KEKH	**Kekaha**	**3.88**	**308**	Pn	Pn	11 36 21.9	-5.9

*PRU **26** 11:40:13.0, 51°.38N×16°.24E, h0km*

VIE 26 11:40:08.5±1.7, 51°.50N×16°.27E, h0km, mb2.6/1, ml2.5/3, Error ellipse: s-maj=11.4km s-min=7.7km az=179.0 69 km NW of Wroclaw Suspected Mining induced., Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**179**	*e*Pg	Pb	11 40 22.7	-0.2
KSP				*e*Sg	Sg	11 40 30.4	+0.7
CHVC	**Chvalec**	**0.93**	**189**	*e*PG	Pb	11 40 27.7	+0.2
CHVC				*e*SG	Sg	11 40 38.9	+0.7
OSTC	**Ostas**	**0.95**	**182**	*e*PG	Pb	11 40 28.3	+0.5
OSTC				*e*SG	Sb	11 40 40.0	-0.9
	comp=Z,19nm,0.3s						
UPC	**Upice**	**1.01**	**189**	*e*PG	Pb	11 40 29.0	+0.1
UPC				*e*SG	Sg	11 40 41.8	+0.9
	comp=Z,56nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**178**	*e*PG	Pb	11 40 31.6	+0.2
DPC				*e*SG	Sb	11 40 46.8	-0.1
	comp=Z,16nm,0.4s						
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG	Pb	11 40 38.2	+1.8
PVCC				*e*SG	Sn	11 40 56.1	+0.3
	comp=Z,58nm,0.2s						
KRLC	**Kraliky**	**1.47**	**167**	*e*PG	Pb	11 40 37.5	+0.8
KRLC				*e*SG	Sg	11 40 55.4	-0.2
	comp=Z,19nm,0.4s						
BRG	**Berggiesshubel**	**1.60**	**248**	Pg	Pg	11 40 40.4	+1.4
BRG				Sg	Sg	11 41 01.4	+1.7
BRG				Amp		11 41 02.6	
	comp=Z,13nm,0.3s						
RICC	**Richard**	**1.68**	**236**	*e*SG	Sg	11 41 03.4	+1.1
STEB	**Steborice**	**1.84**	**148**	*e*PG	Pg	11 40 44.1	+0.4
STEB				*e*SG	Sb	11 41 06.5	0.0
PRU	**Pruhonice**	**1.87**	**217**	*e*PG	Pg	11 40 44.5	+0.1
PRU				*e*SG	Sg	11 41 09.0	+0.3
MORC	**Moravsky Berou**	**1.91**	**154**	*e*PN	Pn	11 40 43.1	+0.8
MORC				*e*SG	Sg	11 41 09.7	-0.1
HSKC	**Hora Svate Kat**	**2.00**	**245**	*e*SG	Sg	11 41 12.8	-0.1
	comp=Z,15nm,0.5s						
CLL	**Collm**	**2.06**	**266**	*e*Pg	Pg	11 40 49.0	+1.1
CLL				*e*Sg	Sg	11 41 16.0	+1.4
VRAC	**Vranov**	**2.21**	**175**	*e*PN	Pn	11 40 47.2	+0.8
VRAC				*e*SG	Sb	11 41 18.1	+0.9
KRUC	**Moravsky**	**2.45**	**178**	*e*SG	Sg	11 41 25.9	-1.1
ZVC	**Zvikov**	**2.46**	**214**	*e*SG	Sg	11 41 26.7	-0.7
KHC	**Kasperske Hory**	**2.94**	**217**	*e*PG	Pg	11 41 03.5	-1.3
KHC				*e*SG	Sg	11 41 41.1	-1.7
MODS	**Modra-Piesok**	**3.20**	**168**	*e*SG	Sg	11 41 52.5	+1.2
CONA	**Conrad Observa**	**3.59**	**184**	*i* Pn	Pn	11 41 06.4	+0.9
	comp=Z,0.4nm,0.2s						
CONA				*e*Sg	Sg	11 42 03.6	-0.1
	comp=Z,4.9nm,0.4s						
RONA	**Rosalia, Austr**	**3.81**	**180**	*i* Pn	Pn	11 41 08.0	-0.4
	comp=Z,1.1nm,0.5s						
RONA				*e*Sg	Sg	11 42 09.0	-1.8
	comp=Z,1.5nm,0.4s						
MOA	**Molln**	**3.88**	**200**	*i* Pn	Pn	11 41 09.8	+0.4
	comp=Z,1.0nm,0.2s						
MOA				*e*Sg	Sg	11 42 12.5	-0.7
	comp=Z,1.7nm,0.2s						

*IDC **26** 11:45:03.1±6.3, 17°.32S×179°.08W, h514km±71km, mb2.8/7, mbtmp3.7/8, Error ellipse: s-maj=37.0km s-min=27.1km az=129.0*

ISC 26 11:45:05.2±0.9, 17°.3S±0°.3×179°.2W±0°.2, h539km, n9, σ0.52/9, mb3.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.32**	**248**	P	**P**	**11 48 07.5**	**-0.3**
	2.9nm,0.7s,baz=86,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**43.99**	**259**	**P**	**P**	**11 52 25.1**	**0.0**
	0.2nm,0.7s,baz=87,slow=7.8,SNR=1.5						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**44.22**	**254**	**P**	**P**	**11 52 27.7**	**+0.8**
	1.4nm,0.5s,baz=93,slow=7.9,SNR=9.8						
	1.4nm,0.5s						
QSPA	**South Pole Qui**	**72.78**	**180**	P	**P**	**11 55 38.5**	**-0.2**
	0.6nm,0.7s,baz=0.0,slow=1.0,SNR=5.9						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**11 56 16.4**	**0.0**
	0.4nm,0.7s,baz=250,slow=5.6,SNR=4.3						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.45**	**13**	P	**P**	**11 56 45.0**	**-0.5**
	0.3nm,0.4s,baz=225,slow=5.2,SNR=5.4						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.32**	**58**	P	**P**	**11 56 51.1**	**+0.5**
	0.2nm,0.7s,baz=245,slow=4.4,SNR=3.1						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**11 56 55.3**	**-0.4**
	0.2nm,0.5s,baz=258,slow=6.0,SNR=4.1						
	0.2nm,0.5s						
GERES	**GERESS Array B**	**146.80**	**344**	PKPbc	**PKPbc**	**12 03 47.4**	**+0.4**
	0.7nm,0.6s,baz=29,slow=3.0,SNR=5.0						

*NEIC **26** 11:48:22.5±1.4, 58°.47N±0°.04×137°.50W±0°.06, h10km±2km, Error ellipse: s-maj=7.0km s-min=3.4km az=214.0*
*PGC **26** 11:48:22.6±0.4, 58°.47N×137°.53W, h1km, ML4.0/26, Mw3.9, ML3.8(AEIC), 172km southwest of Skagway, Ak Southeastern Alaska*
*ANF **26** 11:48:22.1±0.4, 58°.49N×137°.48W, h3km±3km, ML4.0/41, Error ellipse: s-maj=2.0km s-min=1.2km az=14.0*
*IDC **26** 11:48:22.2±0.7, 58°.63N×137°.38W, h0km, mb3.6/11, mbtmp3.7/16, ML3.6/5, MS3.7/2, Error ellipse: s-maj=15.3km s-min=7.8km az=34.0*
*AEIC **26** 11:48:23.9±1.2, 58°.42N±0°.04×137°.51W±0°.08, h14km±6km, ML3.7, ML3.9/112(NEIC), Error ellipse: s-maj=7.9km s-min=3.7km az=222.0*

ISC 26 11:48:21.3±1.2, 58°.47N±0°.02×137°.57W±0°.02, h0km±8km, n280, σ1.45/341, mb3.8/12, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.87**	**125**		**Pg**	**11 48 38.2**	**+0.2**
S31K					**Sg**	**11 48 49.3**	**+0.1**
S31K	**Pelican**	**0.87**	**125**	P	**Pg**	**11 48 38.1**	**+0.2**
	baz=308,SNR=19						
S31K				S	**Sg**	**11 48 49.2**	**-0.1**
	baz=308						
R31K	**City Hall, Gus**	**0.96**	**93**		**Pg**	**11 48 39.9**	**+0.2**
R31K					**Sg**	**11 48 52.3**	**+0.2**
R31K	**City Hall, Gus**	**0.96**	**93**	P	**Pg**	**11 48 39.9**	**+0.2**
R31K				S	**Sg**	**11 48 52.0**	**0.0**
R31K	**City Hall, Gus**	**0.96**	**93**	P	**Pg**	**11 48 39.9**	**+0.2**
	baz=275,SNR=38						
R31K				S	**Sg**	**11 48 52.1**	**0.0**
	baz=275						
P29M	**Windy Craggy**	**1.17**	**356**		**Pb**	**11 48 43.5**	**-0.7**
P29M					**Sb**	**11 48 58.6**	**-1.3**
P29M	**Windy Craggy**	**1.17**	**356**	P	**Pb**	**11 48 43.5**	**-0.7**
P29M				S	**Sb**	**11 48 58.1**	**-1.8**
P29M	**Windy Craggy**	**1.17**	**356**	P	**Pb**	**11 48 43.6**	**-0.7**
	baz=174,SNR=198						
P29M				S	**Sb**	**11 48 58.7**	**-1.3**
	baz=174						
PLBC	**Pleasant Camp**	**1.17**	**32**		**Pb**	**11 48 43.5**	**-0.7**
PLBC					**Sb**	**11 48 58.3**	**-1.6**
PLBC	**Pleasant Camp**	**1.17**	**32**	P	**Pb**	**11 48 43.5**	**-0.7**
PLBC				S	**Sb**	**11 48 58.1**	**-1.8**
PLBC	**Pleasant Camp**	**1.17**	**32**	P	**Pb**	**11 48 43.6**	**-0.7**
	baz=212,SNR=286						
PLBC				S	**Sb**	**11 48 58.3**	**-1.6**
	baz=212						
BESE	**Bessie Mountai**	**1.43**	**85**		**Pn**	**11 48 47.4**	**-1.1**
BESE					**Sb**	**11 49 06.0**	**-1.4**
BESE				IAML		11 49 06.7	
	comp=N,2μm,0.4s						
BESE				IAML		11 49 07.3	
	comp=E,2μm,0.3s						
BESE	**Bessie Mountai**	**1.43**	**85**	Pn	**Pn**	**11 48 47.3**	**-1.1**
BESE				Sg	**Sb**	**11 49 05.6**	**-1.9**
YKU2	**Yakutat**	**1.51**	**315**		**Pn**	**11 48 49.6**	**+0.1**
YKU2					**Sn**	**11 49 09.3**	**-0.4**
YKU2	**Yakutat**	**1.51**	**315**	P	**Pn**	**11 48 50.2**	**+0.7**
SKAG	**Skagway**	**1.52**	**49**		**Pn**	**11 48 49.4**	**-0.4**
SKAG	**Skagway**	**1.52**	**49**		**Sn**	**11 49 08.5**	**-1.7**
SKAG	**Skagway**	**1.52**	**49**	P	**Pn**	**11 48 49.5**	**-0.2**
SKAG	**Skagway**	**1.52**	**49**	S	**Sn**	**11 49 08.9**	**-1.3**
SKAG	**Skagway**	**1.52**	**49**	P	**Pn**	**11 48 49.3**	**-0.4**
	baz=230,SNR=161						
SKAG				S	**Sn**	**11 49 08.5**	**-1.7**
	baz=230						
PNL	**Peninsula**	**1.53**	**323**		**Pn**	**11 48 48.7**	**-1.1**
PNL					**Sn**	**11 49 09.9**	**-0.5**
PNL	**Peninsula**	**1.53**	**323**	P	**Pn**	**11 48 49.7**	**-0.1**
PNL	**Peninsula**	**1.53**	**323**	S	**Sn**	**11 49 10.3**	**-0.1**
PNL	**Peninsula**	**1.53**	**323**	Pn	**Pn**	**11 48 48.7**	**-1.1**
PNL	**Peninsula**	**1.53**	**323**	P	**Pn**	**11 48 49.0**	**-0.9**
	baz=140,SNR=40						
PNL				S	**Sb**	**11 49 10.7**	**+0.4**
	baz=140						
R32K	**Eaglecrest**	**1.62**	**96**		**Pn**	**11 48 49.8**	**-1.2**
R32K				IAML		11 49 14.1	
	comp=E,815nm,0.4s						
R32K				IAML		11 49 14.8	
	comp=N,962nm,0.3s						
R32K	**Eaglecrest**	**1.62**	**96**	Pn	**Pn**	**11 48 50.0**	**-1.0**
R32K				Sg	**Sn**	**11 49 11.3**	**-1.2**
R32K	**Eaglecrest**	**1.62**	**96**	P	**Pn**	**11 48 49.9**	**-1.2**
	baz=279,SNR=36						
R32K				S	**Sn**	**11 49 11.3**	**-1.2**
	baz=279						
P30M	**Million Dollar**	**1.68**	**10**		**Pn**	**11 48 52.1**	**+0.1**
P30M					**Sb**	**11 49 14.6**	**-0.3**
P30M	**Million Dollar**	**1.68**	**10**	IAML		11 49 16.1	
	comp=E,2μm,0.7s						
P30M				IAML		11 49 16.2	
	comp=N,2μm,0.4s						
P30M	**Million Dollar**	**1.68**	**10**	Pn	**Pb**	**11 48 52.8**	**-0.4**
P30M				Sg	**Sb**	**11 49 14.2**	**-0.7**
P30M	**Million Dollar**	**1.68**	**10**	P	**Pn**	**11 48 52.0**	**+0.1**
	baz=190,SNR=234						
P30M				S	**Sb**	**11 49 14.1**	**-0.7**
	baz=190						
JIS	**Juneau Island**	**1.69**	**95**	P	**Pn**	**11 48 51.1**	**-0.8**
BCPM	**Bancas Point**	**1.83**	**325**		**Pn**	**11 48 53.1**	**-0.8**
BCPM				IAML		11 49 23.3	
	comp=N,2μm,0.4s						
BCPM				IAML		11 49 24.5	
	comp=E,2μm,0.3s						
SIT	**Sitka**	**1.86**	**139**		**Pn**	**11 48 53.6**	**-0.7**
SIT	**Sitka**	**1.86**	**139**	P	**Pn**	**11 48 54.6**	**+0.3**
SIT	**Sitka**	**1.86**	**139**	P	**Pn**	**11 48 53.6**	**-0.7**
	baz=322,SNR=9.5						
SIT				S	**Sb**	**11 49 19.0**	**-0.8**
	baz=322						
S32K	**Killisnoo**	**1.88**	**121**		**Pn**	**11 48 53.5**	**-1.1**
S32K	**Killisnoo**	**1.88**	**121**	P	**Pn**	**11 48 53.3**	**-1.3**
	baz=304,SNR=36						
S32K				S	**Sb**	**11 49 19.7**	**-0.8**
	baz=304						
O29M	**Mount Kennedy**	**1.91**	**345**		**Pn**	**11 48 55.6**	**+0.5**
O29M	**Mount Kennedy**	**1.91**	**345**	Pn	**Pn**	**11 48 55.7**	**+0.6**
O29M				Sg	**Sn**	**11 49 19.7**	**-0.2**
O29M	**Mount Kennedy**	**1.91**	**345**	P	**Pn**	**11 48 55.4**	**+0.2**
	baz=163,SNR=86						
O29M				S	**Sn**	**11 49 20.5**	**+0.6**
	baz=163						
YUK7	**Dusty Glacier**	**2.08**	**352**		**Pn**	**11 48 58.0**	**+0.4**
YUK7	**Dusty Glacier**	**2.08**	**352**	Pn	**Pn**	**11 48 58.2**	**+0.6**
YUK7				Sg	**Sb**	**11 49 26.6**	**0.0**
PINM	**Pinnacle**	**2.13**	**321**	P	**Pn**	**11 48 57.4**	**-0.8**
	baz=138,SNR=9.1						
PINM				Sb	**Sg**	**11 49 30.2**	**+0.5**
	baz=138						
PCA	**Pinnacle**	**2.14**	**321**		**Pn**	**11 48 57.5**	**-0.7**
PCA	**Pinnacle**	**2.14**	**321**	Pn	**Pn**	**11 48 57.5**	**-0.7**
P32M	**Atlin**	**2.28**	**59**		**Pn**	**11 48 59.6**	**-0.6**
P32M	**Atlin**	**2.28**	**59**	Pn	**Pn**	**11 48 59.8**	**-0.5**
P32M				Sg	**Sb**	**11 49 31.7**	**-0.4**
P32M	**Atlin**	**2.28**	**59**	P	**Pn**	**11 48 59.8**	**-0.5**
	baz=242,SNR=40						
P32M				Sb	**Sb**	**11 49 32.1**	**0.0**
	baz=242						
SAMH	**Samovar Hills**	**2.34**	**317**		**Pn**	**11 49 01.9**	**+0.9**
SAMH	**Samovar Hills**	**2.34**	**317**	Pn	**Pn**	**11 49 02.0**	**+1.0**
HYT	**Haines Junctio**	**2.36**	**1**		**Pn**	**11 49 01.6**	**+0.3**
HYT				IAML		11 49 36.1	
	comp=E,839nm,0.9s						
HYT				IAML		11 49 38.6	
	comp=N,528nm,0.8s						
HYT	**Haines Junctio**	**2.36**	**1**	Pn	**Pn**	**11 49 01.8**	**+0.4**
HYT				Pg	**Pb**	**11 49 04.7**	**0.0**
HYT				Sg	**Sb**	**11 49 33.9**	**-0.5**
HYT	**Haines Junctio**	**2.36**	**1**	P	**Pn**	**11 49 01.5**	**+0.1**
	baz=180,SNR=106						
HYT				Sb	**Sb**	**11 49 35.0**	**+0.6**
	baz=180						
CHX	**Chaix Hills**	**2.42**	**313**		**Pn**	**11 49 03.1**	**+0.9**
O30N	**Mendenhall**	**2.42**	**17**		**Pn**	**11 49 02.6**	**+0.5**
O30N				IAML		11 49 39.3	
	comp=N,460nm,0.6s						
O30N	**Mendenhall**	**2.42**	**17**	Pn	**Pn**	**11 49 02.7**	**+0.5**
O30N				Sg	**Sb**	**11 49 36.6**	**+0.5**
O30N	**Mendenhall**	**2.42**	**17**	P	**Pn**	**11 49 02.5**	**+0.4**
	baz=198,SNR=123						
O30N				Sb	**Sb**	**11 49 36.9**	**+0.8**
	baz=198						
YUK6	**Outpost Mounta**	**2.51**	**351**	Pn	**Pn**	**11 49 04.0**	**+0.5**
YUK6				Sg	**Sb**	**11 49 39.3**	**+0.4**
YUK6	**Outpost Mounta**	**2.51**	**351**	P	**Pn**	**11 49 03.8**	**+0.3**
	baz=170,SNR=40						
YUK6				Sb	**Sb**	**11 49 40.0**	**+1.1**
	baz=170						
WHY	**Whitehorse**	**2.58**	**31**		**Pn**	**11 49 04.7**	**+0.3**
WHY	**Whitehorse**	**2.58**	**31**	Pn	**Pn**	**11 49 04.7**	**+0.3**
WHY				Pg	**Pb**	**11 49 08.4**	**-0.1**
WHY				Sg	**Sb**	**11 49 41.9**	**+1.1**
WHY	**Whitehorse**	**2.58**	**31**	P	**Pn**	**11 49 04.6**	**+0.1**
	baz=213,SNR=218						
WHY				Sb	**Sb**	**11 49 42.1**	**+1.2**
	baz=213						

LOGN	**Logan Glacier**	**2.93 325**		**Pn**	**11 49 09.4 +0.2**	
LOGN			IAML		11 49 55.0	
	comp=E,214nm,0.7s					
LOGN			IAML		11 49 59.4	
	comp=N,261nm,0.8s					
LOGN	**Logan Glacier**	**2.93 325**	Pn	**Pn**	**11 49 09.1 -0.2**	
P33M	**Teslin, Yukon**	**2.99 52**		**Pn**	**11 49 09.8 -0.2**	
P33M			IAML		11 49 57.8	
	comp=E,212nm,0.6s					
P33M			IAML		11 49 58.0	
	comp=N,209nm,0.7s					
P33M	**Teslin, Yukon**	**2.99 52**	Pn	**Pn**	**11 49 09.6 -0.4**	
P33M			Pg	**Pb**	**11 49 16.2 +0.7**	
P33M			Sg	**Sb**	**11 49 53.8 +1.2**	
P33M	**Teslin, Yukon**	**2.99 52**	P	**Pn**	**11 49 09.6 -0.4**	
	baz=236					
P33M			Sb	**Sb**	**11 49 53.9 +1.4**	
	baz=236					
BRWY	**Burwash Landin**	**3.00 346**	Pn	**Pn**	**11 49 10.9 +0.8**	
N30M	**Aishikik Lake**	**3.01 4**	IAML		11 49 55.8	
	comp=E,268nm,0.5s					
N30M			IAML		11 50 04.6	
	comp=N,256nm,0.6s					
N30M	**Aishikik Lake**	**3.01 4**	Pn	**Pn**	**11 49 10.7 +0.5**	
N30M			Pg	**Pb**	**11 49 16.7 +1.0**	
N30M			Sg	**Sb**	**11 49 55.0 +2.1**	
N30M	**Aishikik Lake**	**3.01 4**	P	**Pn**	**11 49 10.7 +0.5**	
	baz=184,SNR=12					
N30M			Sb	**Sb**	**11 49 55.2 +2.3**	
	baz=184					
YUK8	**Steele Glacier**	**3.03 339**		**Pn**	**11 49 11.3 +0.6**	
YUK8	**Steele Glacier**	**3.03 339**	Pn	**Pn**	**11 49 11.4 +0.6**	
YUK8			Sg	**Sg**	**11 49 57.2 -1.4**	
YUK8	**Steele Glacier**	**3.03 339**	P	**Pn**	**11 49 11.2 +0.6**	
	baz=157					
YUK8			Sb	**Sb**	**11 49 56.5 +2.7**	
	baz=157					
BAGL	**Bagley Icefiel**	**3.07 313**		**Pn**	**11 49 12.0 +1.1**	
BAGL			Pb		11 49 12.2 -4.4	
GRNC	**Granite Creek**	**3.11 319**		**Pn**	**11 49 12.2 +0.5**	
GRNC			IAML		11 49 58.8	
	comp=N,266nm,0.9s					
GRNC	**Granite Creek**	**3.11 319**	Pn	**Pn**	**11 49 11.7 0.0**	
CTGM	**Chitina Glacie**	**3.15 324**		**Pn**	**11 49 12.6 +0.4**	
CTGM			IAML		11 50 06.2	
	comp=N,204nm,0.7s					
CTGM	**Chitina Glacie**	**3.15 324**	Pn	**Pn**	**11 49 12.3 +0.2**	
CTG	**Chitna Glacier**	**3.15 324**	P	**Pn**	**11 49 12.5 +0.4**	
	baz=140,SNR=18					
N31M	**Braeburn, Yuko**	**3.15 16**	Pn	**Pn**	**11 49 12.9 +0.7**	
N31M	**Braeburn, Yuko**	**3.15 16**	Pn	**Pn**	**11 49 12.9 +0.7**	
N31M			Pg	**Pb**	**11 49 19.2 +1.0**	
N31M			Sg	**Sb**	**11 49 59.5 +2.3**	
N31M	**Braeburn, Yuko**	**3.15 16**	P	**Pn**	**11 49 12.9 +0.7**	
	baz=197,SNR=36					
N31M			Sb	**Sb**	**11 49 59.3 +2.2**	
	baz=197					
BARK	**Barkley Ridge**	**3.17 310**		**Pn**	**11 49 13.1 +0.6**	
SNH	**Sunshine Point**	**3.20 305**	IAML		11 50 22.1	
	comp=E,326nm,0.8s					
SNH			IAML		11 50 22.2	
	comp=N,426nm,0.8s					
ISLE	**Juniper Island**	**3.24 313**		**Pn**	**11 49 14.1 +0.7**	
ISLE	**Juniper Island**	**3.24 313**	IAML		11 50 21.6	
	comp=N,247nm,0.9s					
ISLE			IAML		11 50 24.1	
	comp=E,249nm,0.7s					
BARN	**Barnard Glacie**	**3.32 323**		**Pn**	**11 49 15.5 +0.9**	
BARN	**Barnard Glacie**	**3.32 323**	IAML		11 50 04.0	
	comp=E,256nm,0.5s					
WAX	**Waxell Ridge**	**3.35 309**		**Pn**	**11 49 15.5 +0.7**	
WAX			IAML		11 50 22.5	
	comp=E,321nm,0.4s					
BGLC	**Bering Glacier**	**3.37 302**	Sb	**Sg**	**11 50 08.3 -1.1**	
	baz=117					
U33K	**Whale Pass**	**3.38 133**	Sb	**Sg**	**11 50 06.5 -3.1**	
	baz=317					
S34M	**Telegraph Cree**	**3.45 97**		**Pn**	**11 49 15.8 -0.4**	
S34M			IAML		11 50 12.7	
	comp=N,196nm,0.2s					
S34M			IAML		11 50 17.7	
	comp=E,213nm,0.5s					
S34M	**Telegraph Cree**	**3.45 97**	Pn	**Pn**	**11 49 15.4 -0.8**	
S34M	**Telegraph Cree**	**3.45 97**	P	**Pn**	**11 49 15.6 -0.6**	
	baz=282					
S34M			Sb	**Sb**	**11 50 07.6 +2.0**	
	baz=282					
KIAG	**Kiagna River**	**3.46 317**		**Pn**	**11 49 16.6 +0.1**	
KIAG	**Kiagna River**	**3.46 317**	Pn	**Pn**	**11 49 16.6 +0.1**	
WRAK	**Wrangell Islan**	**3.49 124**	Pn	**Pn**	**11 49 17.6 +0.9**	
WRAK	**Wrangell Islan**	**3.49 124**	P	**Pn**	**11 49 17.4 +0.7**	
	baz=309					
WRAK			Sb	**Sg**	**11 50 09.8 -3.5**	
	baz=309					
KHIT	**Khitrov Hills**	**3.51 307**		**Pn**	**11 49 17.5 +0.4**	
N32M	**Quiet Lake**	**3.51 38**		**Pn**	**11 49 17.1 0.0**	
N32M	**Quiet Lake**	**3.51 38**	Pn	**Pn**	**11 49 17.0 -0.1**	
N32M			Pg	**Pb**	**11 49 25.2 +0.9**	
N32M			Sg	**Sb**	**11 50 10.9 -3.2**	
N32M	**Quiet Lake**	**3.51 38**	P	**Pn**	**11 49 17.1 0.0**	
	baz=222					
N32M			Sb	**Sb**	**11 50 10.6 +3.1**	
	baz=222					
TGL	**Tana Glacier**	**3.52 313**		**Pn**	**11 49 18.0 +0.7**	
TGL			IAML		11 50 31.7	
	comp=E,126nm,0.8s					
BALM	**Baldy**	**3.53 319**		**Pn**	**11 49 17.8 +0.4**	
BALM	**Baldy**	**3.53 319**	Pn	**Pn**	**11 49 17.6 +0.2**	
R33M	**Jennings River**	**3.54 72**		**Pn**	**11 49 17.2 -0.4**	
R33M			IAML		11 50 13.5	
	comp=N,182nm,0.5s					
R33M			IAML		11 50 20.5	
	comp=E,138nm,1.1s					
R33M	**Jennings River**	**3.54 72**	Pn	**Pn**	**11 49 17.1 -0.5**	
R33M	**Jennings River**	**3.54 72**	P	**Pn**	**11 49 17.1 -0.5**	
	baz=258,SNR=8.2					
R33M			Sb	**Sb**	**11 50 10.7 +2.3**	
	baz=258					
CRQE	**Cirque**	**3.62 311**	P	**Pn**	**11 49 19.3 +0.6**	
	baz=126					
CRQE			Sb	**Sb**	**11 50 14.0 +3.4**	
	baz=126					
CRQM	**Cirque**	**3.64 311**		**Pn**	**11 49 19.3 +0.3**	
CRQM	**Cirque**	**3.64 311**	IAML		11 50 33.8	
	comp=E,168nm,0.9s					
CRQM			IAML		11 50 34.0	
	comp=N,252nm,0.9s					
PTPK	**Patty Peak**	**3.68 320**		**Pn**	**11 49 20.9 +1.4**	
PTPK	**Patty Peak**	**3.68 320**	Pn	**Pn**	**11 49 20.6 +1.1**	
BERG	**Berg Lake**	**3.68 304**		**Pn**	**11 49 20.2 +0.9**	
KAIM	**Kayak Island**	**3.81 295**	P	**Pn**	**11 49 21.8 +0.6**	
	baz=109					
KAIM			Sb	**Sb**	**11 50 19.4 +3.4**	
	baz=109					
CRAG	**Craig**	**3.87 139**	P	**Pn**	**11 49 21.7 -0.2**	
CRAG	**Craig**	**3.87 139**	Sb	**Sb**	**11 50 21.3 +3.7**	
	baz=323					
DLBC	**Dease Lake**	**3.96 87**	Pn	**Pn**	**11 49 23.0 -0.3**	
	comp=N,10nm,0.3s,baz=213,slow=7.2,SNR=68					
DLBC			Pg	**Pb**	**11 49 30.6 -1.4**	
	comp=N,15nm,0.3s,baz=270,slow=9.1,SNR=7.5					
DLBC			Sn	**Sn**	**11 50 07.5 -2.9**	
	comp=N,97nm,0.3s,baz=159,slow=14,SNR=5.2					
DLBC			Lg	Lg	11 50 23.6	
	comp=N,164nm,0.3s,baz=138,slow=20,SNR=13					
	comp=N,26nm,0.2s					
DLBC	**Dease Lake**	**3.96 87**	P	**Pn**	**11 49 22.9 -0.3**	
	baz=274					
DLBC			Sb	**Sb**	**11 50 23.3 +2.9**	
	baz=274					
M29M	**Somme Creek**	**4.01 354**		**Pn**	**11 49 25.0 +1.1**	
M29M	**Somme Creek**	**4.01 354**	IAML		11 50 29.4	
	comp=N,170nm,0.6s					
M29M			IAML		11 50 29.6	
	comp=E,179nm,0.6s					
M29M	**Somme Creek**	**4.01 354**	Pn	**Pn**	**11 49 25.1 +1.1**	
M29M	**Somme Creek**	**4.01 354**	P	**Pn**	**11 49 25.0 +1.1**	
	baz=173,SNR=19					
M29M			S	**Sn**	**11 50 12.0 +0.3**	
	baz=173					
MCARA	**McCarthy VSAT**	**4.01 319**	Pn	**Pn**	**11 49 25.1 +1.2**	
VRDI	**Verde Repeater**	**4.06 315**		**Pn**	**11 49 24.9 +0.2**	
M30M	**Minto, Yukon**	**4.13 5**		**Pn**	**11 49 26.2 +0.6**	
M30M			IAML		11 50 37.0	
	comp=E,130nm,0.7s					
M30M			IAML		11 50 41.5	
	comp=N,106nm,0.9s					
M30M	**Minto, Yukon**	**4.13 5**	Pn	**Pn**	**11 49 26.0 +0.3**	
M30M			Sg	**Sb**	**11 50 29.8 +4.4**	
M30M	**Minto, Yukon**	**4.13 5**	P	**Pn**	**11 49 25.9 +0.3**	
	baz=185,SNR=10.0					
M30M			Sb	**Sb**	**11 50 28.5 +3.2**	
	baz=185					
T35M	**Bob Quinn**	**4.20 108**		**Pn**	**11 49 26.5 0.0**	
T35M			IAML		11 50 42.6	
	comp=N,96nm,0.8s					
T35M	**Bob Quinn**	**4.20 108**	Pn	**Pn**	**11 49 26.0 -0.5**	
T35M	**Bob Quinn**	**4.20 108**	P	**Pn**	**11 49 26.4 0.0**	
	baz=294					
T35M			Sb	**Sg**	**11 50 31.9 -4.1**	
	baz=294					
GOAT	**Goat Mountain**	**4.22 303**		**Pn**	**11 49 27.1 +0.3**	
BMRM	**Bremner River**	**4.36 308**		**Pn**	**11 49 29.5 +0.8**	
BMRM	**Bremner River**	**4.36 308**	IAML		11 50 46.0	
	comp=E,114nm,0.6s					
BMRM			IAML		11 50 56.3	
	comp=N,115nm,0.8s					
BMRM	**Bremner River**	**4.36 308**	P	**Pn**	**11 49 29.5 +0.8**	
	baz=122,SNR=5.8					
M27K	**Edge Creek, AK**	**4.45 333**	IAML		11 50 56.6	
	comp=N,90nm,0.9s					
M27K			IAML		11 51 02.0	
	comp=E,68nm,1.6s					
M27K	**Edge Creek, AK**	**4.45 333**	P	**Pn**	**11 49 30.8 +0.8**	
	baz=149					
EYAK	**Cordova Ski Ar**	**4.66 300**		**Pn**	**11 49 32.8 +0.1**	
EYAK	**Cordova Ski Ar**	**4.66 300**	P	**Pn**	**11 49 33.1 +0.3**	
EYAK	**Cordova Ski Ar**	**4.66 300**	P	**Pn**	**11 49 33.0 +0.3**	
	baz=113					
L29M	**L29M**	**4.66 357**	Pn	**Pn**	**11 49 33.8 +0.9**	
L29M			Sg	**Sb**	**11 50 45.5 +5.1**	
L29M	**L29M**	**4.66 357**	P	**Pn**	**11 49 33.7 +0.9**	
	baz=176,SNR=14					
L29M			Sb	**Sb**	**11 50 44.7 +4.2**	
	baz=176					
N25K	**Chitina, Valde**	**4.72 315**	Pn	**Pn**	**11 49 34.7 +1.0**	
N25K	**Chitina, Valde**	**4.72 315**	P	**Pn**	**11 49 34.3 +0.6**	
	baz=128					
M26K	**Nabesna, AK**	**4.77 328**	P	**Pn**	**11 49 34.9 +0.5**	
	baz=143					
DIV	**Divide**	**4.93 306**	Pn	**Pn**	**11 49 36.2 -0.3**	
HIN	**Hinchinbrook I**	**4.95 297**		**Pn**	**11 49 37.5 +0.7**	
HIN	**Hinchinbrook I**	**4.95 297**	IAML		11 51 10.7	
	comp=E,80nm,2.0s					
HIN			IAML		11 51 15.8	
	comp=N,81nm,1.7s					
BCAR	**Beaver Creek A**	**5.05 338**	Pn	**Pn**	**11 49 38.3 +0.1**	
L27K	**Beaver Creek,**	**5.06 337**	Pn	**Pn**	**11 49 38.1 -0.2**	
L27K	**Beaver Creek,**	**5.06 337**	P	**Pn**	**11 49 38.5 +0.3**	
	baz=153					
FID	**Port Fidalgo**	**5.07 301**		**Pn**	**11 49 38.5 0.0**	
KLU	**Klutina**	**5.17 309**		**Pn**	**11 49 40.6 +0.7**	
KLU	**Klutina**	**5.17 309**	IAML		11 51 06.2	
	comp=E,60nm,0.8s					
KLU			IAML		11 51 06.2	
	comp=N,62nm,0.7s					
KLU	**Klutina**	**5.17 309**	P	**Pn**	**11 49 41.0 +1.1**	
	baz=122,SNR=8.4					
MMPY	**Sheldon Lake,**	**5.19 34**	Pn	**Pn**	**11 49 41.0 +0.9**	
MMPY			Pg	**Pb**	**11 49 57.1 +4.2**	
MMPY			Sg	**Sg**	**11 51 03.8 -4.1**	
MMPY	**Sheldon Lake,**	**5.19 34**	P	**Pn**	**11 49 40.9 +0.8**	
	baz=219,SNR=23					
MAYO	**Mayo, Yukon**	**5.21 8**	Pn	**Pn**	**11 49 41.4 +1.1**	
MAYO			Sg	**Sb**	**11 51 01.8 +5.7**	
P23K	**Montague Islan**	**5.28 291**		**Pn**	**11 49 41.4 +0.1**	
P23K	**Montague Islan**	**5.28 291**	IAML		11 51 08.5	
	comp=E,94nm,2.7s					
P23K			IAML		11 51 12.1	
	comp=N,62nm,3.6s					
P23K	**Montague Islan**	**5.28 291**	P	**Pn**	**11 49 41.4 +0.1**	
	baz=102					
K29M	**Barlow Dome**	**5.39 0**		**Pn**	**11 49 43.8 +0.9**	
K29M	**Barlow Dome**	**5.39 0**	Pn	**Pn**	**11 49 44.0 +1.1**	
K29M	**Barlow Dome**	**5.39 0**	P	**Pn**	**11 49 44.0 +1.1**	
	baz=180,SNR=19					
GLI	**Glacier Island**	**5.40 301**	P	**Pn**	**11 49 43.5 +0.5**	
	baz=112					
HARP	**HAARP**	**5.44 320**	P	**Pn**	**11 49 45.5 +2.0**	
	baz=133					
TGTN	**Hyland Airport**	**5.58 53**	Pn	**Pn**	**11 49 45.9 +0.4**	
TGTN	**Hyland Airport**	**5.58 53**	P	**Pn**	**11 49 45.9 +0.4**	
	baz=241,SNR=7.7					
M24K	**Tolsona, Glenn**	**5.62 314**	P	**Pn**	**11 49 47.4 +1.3**	
	baz=126					
DAWY	**Dawson**	**5.68 352**	Pn	**Pn**	**11 49 47.8 +0.9**	
DAWY	**Dawson**	**5.68 352**	P	**Pn**	**11 49 47.8 +0.9**	
	baz=170,SNR=25					
SCM	**Sheep Creek Mo**	**5.92 309**		**Pn**	**11 49 51.2 +1.0**	
SCM	**Sheep Creek Mo**	**5.92 309**	P	**Pn**	**11 49 51.1 +0.9**	
	baz=120					
PAX	**Paxson**	**5.95 323**	Pn	**Pn**	**11 49 51.5 +0.9**	
PAX	**Paxson**	**5.95 323**	P	**Pn**	**11 49 52.2 +1.6**	
	baz=136,SNR=5.8					
PWL	**Port Wells**	**5.96 298**		**Pn**	**11 49 50.1 -0.5**	
PWL	**Port Wells**	**5.96 298**	P	**Pn**	**11 49 50.4 -0.2**	
	baz=109					
K27K	**Chicken**	**5.98 341**	Pn	**Pn**	**11 49 50.7 -0.3**	
K27K			Sg	**Sg**	**11 51 27.6 -5.7**	
K27K	**Chicken**	**5.98 341**	P	**Pn**	**11 49 51.0 0.0**	
	baz=156					
DIB	**Dawson Inlet,**	**6.01 149**	Pn	**Pn**	**11 49 50.9 -0.4**	
H02S2	**DAWSON INLET T**	**6.01 149**	Pn	**Pn**	**11 49 51.1 -0.2**	
H02S2			Sn	**Sn**	**11 50 54.0 -6.7**	
M23K	**Glacier View**	**6.07 308**	P	**Pn**	**11 49 53.1 +1.0**	
	baz=119,SNR=9.2					
DOT	**Dot Lake**	**6.07 331**	Pn	**Pn**	**11 49 52.8 +0.5**	
J30M	**Hart River**	**6.15 5**	Pn	**Pn**	**11 49 54.7 +1.3**	
J30M			Sg	**Sg**	**11 51 33.0 -5.7**	
J30M	**Hart River**	**6.15 5**	P	**Pn**	**11 49 53.6 +0.1**	
	baz=186					
KNK	**Knik Glacier**	**6.22 303**	P	**Pn**	**11 49 54.6 +0.4**	
	baz=113,SNR=5.5					
SEW	**Seward**	**6.31 290**	P	**Pn**	**11 49 55.0 -0.4**	
	baz=100					
SCRK	**Sand Creek**	**6.33 333**	P	**Pn**	**11 49 56.4 +0.6**	
	baz=148					
SML	**Sawmill**	**6.33 306**	P	**Pn**	**11 49 56.7 +1.0**	
	baz=117					
WAT6	**Susitna Watana**	**6.49 314**	P	**Pn**	**11 49 59.1 +1.0**	
	baz=125,SNR=6.8					
PMR	**Palmer**	**6.58 303**	P	**Pn**	**11 49 59.4 +0.3**	
	baz=113,SNR=5.0					
DHY	**Denali Highway**	**6.66 318**	P	**Pn**	**11 50 01.0 +0.6**	
	baz=129					
K24K	**Donnelly Dome**	**6.66 327**	P	**Pn**	**11 50 01.9 +1.6**	
	baz=140					
RC01	**Rabbit Creek A**	**6.68 298**	P	**Pn**	**11 50 00.8 +0.3**	
	baz=108					
J26L	**Joseph Creek**	**6.69 337**	P	**Pn**	**11 50 01.0 +0.3**	
	baz=152					
SLKM	**Skilak Lake**	**6.76 293**	Pn	**Pn**	**11 50 01.8 +0.2**	
I30M	**Mount Dempster**	**6.80 4**	Pn	**Pn**	**11 50 03.8 +1.5**	
I30M	**Mount Dempster**	**6.80 4**	P	**Pn**	**11 50 03.0 +0.8**	
	baz=185,SNR=14					
WAT1	**Susitna Watana**	**6.94 314**	P	**Pn**	**11 50 05.5 +1.4**	
	baz=124					
I28M	**Miner Creek**	**7.09 352**	Pn	**Pn**	**11 50 07.6 +1.3**	
I28M	**Miner Creek**	**7.09 352**	P	**Pn**	**11 50 07.4 +1.2**	
	baz=170,SNR=18					
KOTAN	**Kotaneelee Air**	**7.12 71**	P	**Pn**	**11 50 06.8 +0.3**	
	baz=262					
J25K	**Salcha River,**	**7.20 332**	P	**Pn**	**11 50 08.2 +0.6**	
	baz=145					
SUA	**Susitna One**	**7.26 300**	Pn	**Pn**	**11 50 08.1 -0.5**	
SUA	**Susitna One**	**7.26 300**	P	**Pn**	**11 50 09.4 +0.8**	
	baz=108					
I26K	**Coal Creek Min**	**7.34 341**	Pn	**Pn**	**11 50 10.9 +1.3**	
I26K	**Coal Creek Min**	**7.34 341**	P	**Pn**	**11 50 10.6 +1.0**	
	baz=156					
CUT	**Chulitna**	**7.41 307**	P	**Pn**	**11 50 11.7 +1.1**	
	baz=116					
HDA	**Harding Lake**	**7.46 327**	Pn	**Pn**	**11 50 12.9 +1.7**	
H31M	**Peel River**	**7.51 10**		**Pn**	**11 50 13.4 +1.5**	
H31M	**Peel River**	**7.51 10**	Pn	**Pn**	**11 50 12.1 +0.2**	
H31M	**Peel River**	**7.51 10**	P	**Pn**	**11 50 12.8 +0.9**	
	baz=193					
MCK	**McKinley**	**7.62 319**	P	**Pn**	**11 50 14.8 +1.3**	
	baz=128					
ILAR	**Eielson Array**	**7.72 329**	Pn	**Pn**	**11 50 16.2 +1.4**	
ILAR	**Eielson Array**	**7.72 329**	Pn	**Pn**	**11 50 14.6 -0.1**	
	comp=N,0.3nm,0.3s,baz=155,slow=13,SNR=25					
ILAR			Sn	**Sn**	**11 51 40.8 -1.9**	
	comp=N,0.4nm,0.3s,baz=57,slow=16,SNR=4.2					
	comp=N,0.8nm,0.6s					
FNSB	**Fort Nelson**	**7.75 81**	Pn	**Pn**	**11 50 15.2 0.0**	
Q20K	**Shuyak Island**	**7.76 277**	P	**Pn**	**11 50 16.7 +1.4**	
	baz=85					
H29M	**Whitestone**	**7.79 358**	Pn	**Pn**	**11 50 16.9 +1.2**	
H29M	**Whitestone**	**7.79 358**	Pn	**Pn**	**11 50 16.4 +0.8**	
H29M	**Whitestone**	**7.79 358**	P	**Pn**	**11 50 16.9 +1.2**	
	baz=177					
SKT	**Skwentna**	**7.79 303**	P	**Pn**	**11 50 15.8 +0.1**	
	baz=110					
TRF	**Thorofare Moun**	**7.94 314**	P	**Pn**	**11 50 19.4 +1.4**	
	baz=123,SNR=9.3					
KDAK	**Kodiak Island**	**7.98 271**	Pn	**Pn**	**11 50 17.5 -0.8**	
	comp=N,0.7nm,0.3s,baz=340,slow=2.6,SNR=31					
KDAK			Sn	**Sn**	**11 51 43.7 -5.5**	
	comp=N,0.3nm,0.3s,baz=298,slow=21,SNR=1.1					
	comp=N,2.6nm,0.3s					
KDAK	**Kodiak Island**	**7.98 271**	P	**Pn**	**11 50 19.7 +1.3**	
	baz=79					
H27K	**Steamboat Moun**	**8.00 348**		**Pn**	**11 50 20.6 +2.0**	
H27K	**Steamboat Moun**	**8.00 348**	Pn	**Pn**	**11 50 19.9 +1.2**	
BBB	**Bella Bella**	**8.29 135**	Pn	**Pn**	**11 50 24.9 +2.4**	
	comp=N,0.2nm,0.3s,baz=308,slow=4.8,SNR=4.5					
BBB			Sn	**Sn**	**11 51 54.1 -2.6**	
	comp=N,0.1nm,0.3s,baz=100,slow=5.9,SNR=1.5					
	comp=N,10nm,0.9s					
OHAK	**Old Harbor**	**8.48 268**	P	**Pn**	**11 50 24.3 -0.9**	
BPAW	**Bear Paw Mtn.**	**8.57 317**	P	**Pn**	**11 50 27.8 +1.4**	
	baz=125					
G27K	**Doyon Strip**	**8.57 349**	P	**Pn**	**11 50 28.1 +1.6**	
	baz=165					
G31M	**Satah River**	**8.62 9**	Pn	**Pn**	**11 50 27.7 +0.7**	
G31M	**Satah River**	**8.62 9**	P	**Pn**	**11 50 27.9 +0.9**	
	baz=192					
F30M	**Barrier River**	**9.21 4**	Pn	**Pn**	**11 50 35.5 +0.3**	
L19K	**White Mountain**	**9.34 301**	P	**Pn**	**11 50 36.8 -0.1**	
	baz=106					
E27K	**Coleen River**	**9.91 351**	Pn	**Pn**	**11 50 46.2 +1.4**	
INK	**Inuvik**	**10.03 9**	Pn	**Pn**	**11 50 47.4 +1.0**	
	comp=N,0.1nm,0.3s,baz=200,slow=20,SNR=3.8					
INK			Sn	**Sn**	**11 52 34.6 -4.9**	
	comp=N,0.1nm,0.3s,baz=257,slow=25,SNR=1.7					
INK			Lg	Lg	11 53 32.6	
	comp=N,0.2nm,0.3s,baz=274,slow=17,SNR=7.8					
	comp=N,1.1nm,0.8s					
YKA	**Yellowknife Ar**	**11.99 61**	Pn	**Pn**	**11 51 12.8 -0.4**	
	comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=4.9					
PDAR	**Pinedale Array**	**23.47 120**	P	**P**	**11 53 35.5 +3.1**	
	comp=N,0.3nm,0.7s,baz=324,slow=9.7,SNR=2.9					
NVAR	**Mina Array Bea**	**23.62 140**	P	**P**	**11 53 35.9 +1.9**	
	comp=N,0.1nm,0.3s,baz=328,slow=11,SNR=3.8					
	comp=N,0.1nm,0.3s					
TXAR	**Lajitas Array**	**37.30 127**	P	**P**	**11 55 35.9 +1.0**	
	comp=N,0.2nm,0.8s,baz=329,slow=8.0,SNR=3.8					
	comp=N,0.2nm,0.8s					
TKL	**Tuckaleechee C**	**41.71 99**	LR	LR	12 15 24.5	
	comp=N,83nm,18.3s,baz=78,slow=39					
ARCES	**ARCESS Array B**	**51.71 7**	P	**P**	**11 57 29.7 +0.3**	
	comp=N,2.8nm,1.0s,baz=29,slow=4.1,SNR=1.2					
	comp=N,2.8nm,1.0s					
H11N2	**WAKE ISLAND Hy**	**55.55 250**	T	T	12 57 31.3	
	baz=31,slow=76,SNR=123					
H11N3	**WAKE ISLAND Hy**	**55.56 250**	T	T	12 57 31.6	
	baz=31,slow=76,SNR=128					
H11N1	**WAKE ISLAND Hy**	**55.57 250**	T	T	12 57 40.1	
	baz=31,slow=76,SNR=82					
H11S1	**WAKE ISLAND Hy**	**56.69 250**	T	T	12 58 56.6	
	baz=31,slow=76,SNR=48					
H11S2	**WAKE ISLAND Hy**	**56.70 250**	T	T	12 59 02.9	
	baz=31,slow=76,SNR=15					
H11S3	**WAKE ISLAND Hy**	**56.71 250**	T	T	12 58 53.4	
	baz=31,slow=76,SNR=22					
SONM	**Songino Array**	**61.75 317**	P	**P**	**11 58 42.3 +1.1**	
	comp=N,0.4nm,0.6s,baz=32,slow=5.8,SNR=2.2					
	comp=N,0.4nm,0.6s					
ZALV	**Zalesovo Beam**	**62.82 333**	P	**P**	**11 58 47.6 -0.4**	
	comp=N,0.3nm,0.3s,baz=16,slow=6.8,SNR=1.9					
	comp=N,0.3nm,0.3s					
BVAR	**Borovoye Array**	**66.57 342**	P	**P**	**11 59 12.3 -0.3**	
	comp=N,0.4nm,0.5s,baz=26,slow=6.9,SNR=1.7					
	comp=N,0.4nm,0.5s					
OBN	**Obninsk**	**66.67 4**	LR	LR	12 30 51.8	
	comp=N,47nm,18.8s,baz=264,slow=38					
KURBB	**Kurchatov Arra**	**67.33 336**	P	**P**	**11 59 17.0 -0.4**	
	comp=N,0.4nm,0.6s,baz=18,slow=6.8,SNR=3.2					
	comp=N,0.4nm,0.6s					
MKAR	**Makanchi Array**	**70.06 332**	P	**P**	**11 59 33.8 -0.8**	
	comp=N,0.5nm,0.7s,baz=45,slow=6.6,SNR=4.6					
	comp=N,0.5nm,0.7s					
AKASG	**Malin Array Be**	**70.65 9**	P	**P**	**11 59 37.3 -0.8**	
	comp=N,0.9nm,0.5s,baz=354,slow=6.4,SNR=5.1					
	comp=N,0.9nm,0.5s					
ESDC	**Sonseca Array**	**74.85 35**	P	**P**	**12 00 03.5 +0.2**	
	comp=N,0.6nm,0.7s,baz=340,slow=5.9,SNR=3.0					
	comp=N,0.6nm,0.7s					
CMAR	**Chiang Mai Arr**	**90.43 308**	P	**P**	**12 01 24.7 +0.1**	
	comp=N,0.9nm,0.7s,baz=6.3,slow=4.4,SNR=6.1					
	comp=N,0.9nm,0.7s					
QSPA	**South Pole Qui**	**148.28 180**	PKPbc	**PKPab**	**12 08 09.9 -1.0**	
	comp=N,0.8nm,0.7s,baz=105,slow=1.9,SNR=6.4					

NEIC ***26*** *12:08:37.4±1.1,22°.40S±0°.10×171°.67E±0°.10,h90km±6km, mb4.9/41,Error ellipse: s-maj=14.4km s-min=13.0km az=176.0*

GCMT ***26*** *12:08:40.4±0.2,22°.43S±0°.01×171°.54E±0°.01,h115km±2km, MW5.1/21,Moment Tensor Solution. s58,c70; s121,c192; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.19±.12; Mθθ-3.25±.15; Mφφ1.06±.14; Mr

TUWZ	Tuamarina	19.11 174	P	P	12 12 52.3	-0.8
KHZ	Kahutara	20.05 176	P	P	12 13 04.6	+1.2
RPZ	Rata Peaks	21.29 181	P	P	12 13 18.5	+1.9
	36nm,1.2s,baz=315,slow=8.4,SNR=4.3					
	36nm,1.2s					
CNB	Canberra Magne	23.25 231	P	P	12 13 37.6	+0.5
RAR	Rarotonga	26.64 93	LR	LR	12 22 42.3	
	comp=Z,51nm,20.9s,baz=266,slow=31					
PMG	Port Moresby	26.71 295	P	P	12 14 08.3	-0.2
PMG	Port Moresby	26.71 295	LR	LR	12 22 22.8	
	comp=Z,152nm,21.8s,baz=156,slow=31					
COEN	Coen	28.19 282	P	P	12 14 21.9	+0.3
COEN			IAmb	IAmb	12 14 24.0	
	comp=Z,34nm,1.4s					
COEN	Coen	28.19 282	P	P	12 14 22.8	+1.2
STKA	Stephens Creek	28.21 244	P	P	12 14 23.0	+1.3
STKA			IAmb	IAmb	12 14 24.1	
	comp=Z,67nm,1.1s					
STKA	Stephens Creek	28.21 244	P	P	12 14 22.9	+1.3
	comp=Z,6.6nm,0.9s,baz=111,slow=7.2,SNR=6.9					
STKA			LR	LR	12 23 59.6	
	comp=Z,158nm,21.9s,baz=54,slow=33					
	comp=Z,6.6nm,0.9s					
WR8	Warramunga Arr	34.58 267		P	12 15 17.1	-0.6
WR8			IAmb	IAmb	12 15 17.9	
	comp=Z,8.0nm,0.9s					
AS31	Alice Springs	34.60 260		P	12 15 17.9	-0.1
ASAR	Alice Springs	34.60 260	P	P	12 15 17.8	-0.2
ASAR	Alice Springs	34.60 260	P	P	12 15 17.4	-0.5
	comp=Z,15nm,0.8s,baz=88,slow=9.8,SNR=117					
ASAR			PcP	PcP	12 17 50.5	0.0
	comp=Z,0.7nm,0.6s,baz=118,slow=3.7,SNR=4.4					
ASAR			S	S	12 20 37.6	-2.7
	comp=Z,0.9nm,1.0s,baz=90,slow=15,SNR=4.1					
ASAR			LR	LR	12 30 51.1	
	comp=Z,116nm,18.1s,baz=71,slow=38					
	comp=Z,15nm,0.8s					
WB0	Warramunga Arr	34.71 267	P	P	12 15 18.4	-0.5
WB0			IAmb	IAmb	12 15 19.1	
	comp=Z,20nm,1.2s					
WRAB	Tennant Creek	34.72 267	P	P	12 15 17.5	-1.4
WRAB	Tennant Creek	34.72 267	P	P	12 15 18.3	-0.6
WRA	Warramunga Arr	34.73 267		P	12 15 18.4	-0.7
WRA	Warramunga Arr	34.73 267	P	P	12 15 17.3	-1.7
	comp=Z,3.7nm,0.7s,baz=96,slow=7.9,SNR=33					
WRA			PcP	PcP	12 17 51.0	+0.2
	comp=Z,0.9nm,0.9s,baz=100,slow=3.9,SNR=3.7					
WRA			S	S	12 20 38.6	-3.7
	comp=Z,4.4nm,1.1s,baz=99,slow=14,SNR=5.7					
	comp=Z,3.7nm,0.7s					
JAY	Jayapura	35.86 299	P	P	12 15 28.6	-0.2
TBI	Tubuai	35.87 99	*e*S	S	12 21 04.5	+4.9
	comp=Z,1μm,45.2s					
TBI			*e*SS	SnSn	12 23 33.6	+0.5
	comp=Z,2μm,45.0s					
TBI			*e*LR	LR	12 25 22.4	
	comp=Z,1μm,29.2s					
GENI	Genyem	36.25 298	P	P	12 15 32.1	+0.1
	comp=Z,26nm,1.6s					
PPT2	Papeete2	36.78 90	*e*S	S	12 21 13.6	-0.1
	comp=Z,137nm,27.0s					
PPT2			*e*SS	SS	12 23 57.0	-0.6
	comp=Z,701nm,28.0s					
PPT2			*e*LR	LR	12 25 37.6	
	comp=Z,354nm,28.0s					
PPT2			*e*LR	LR	12 25 45.1	
	comp=Z,220nm,27.0s					
PPT	Papeete	36.78 90	LR	LR	12 26 23.2	
	comp=Z,196nm,21.5s,baz=262,slow=29					
SMPI	Sarmi	37.78 298	P	P	12 15 45.1	+0.1
	comp=Z,24nm,2.0s					
MTN	Manton Dam	39.56 277	P	P	12 16 00.0	+0.1
MTN			IAmb	IAmb	12 16 00.8	
	comp=Z,33nm,1.4s					
DRS	Darwin Rock St	39.91 277	P	P	12 16 03.0	+0.2
BAKI	Biak	40.38 297	P	P	12 16 07.8	+1.1
	comp=Z,65nm,1.1s					
KNRA	Kununurra	40.88 272	P	P	12 16 11.1	+0.2
KNRA			IAmb	IAmb	12 16 11.6	
	comp=Z,24nm,1.1s					
FAKI	Fak Fak	42.73 291		P	12 16 25.7	-0.2
FAKI			IAmb	IAmb	12 16 26.6	
	comp=Z,46nm,1.3s					
FAKI	Fak Fak	42.73 291	P	P	12 16 26.0	+0.1
FAKI	Fak Fak	42.73 291	P	P	12 16 25.2	-0.7
	comp=Z,31nm,1.6s					
FITZ	Fitzroy Crossi	43.16 267	P	P	12 16 29.8	+0.5
FITZ			IAmb	IAmb	12 16 31.5	
	comp=Z,9.7nm,0.9s					
GUMO	Guam	44.29 321	LR	LR	12 32 33.6	
	comp=Z,69nm,19.7s,baz=135,slow=32					
SWI	Sorong	44.63 293	P	P	12 16 41.0	-0.1
	comp=Z,69nm,1.3s					
SOEI	Soe	46.94 278	P	P	12 17 00.8	+1.3
SOEI			IAmb	IAmb	12 17 07.2	
	comp=Z,43nm,1.3s					
SOEI	Soe	46.94 278	P	P	12 17 00.7	+1.2
	comp=Z,29nm,1.3s					
BATI	Baumata	47.34 277	P	P	12 17 02.3	-0.1
	comp=Z,39nm,1.2s					
MBWA	Marble Bar	47.94 261	P	P	12 17 06.9	-0.1
MBWA	Marble Bar	47.94 261	P	P	12 17 07.1	+0.1
MBWA	Marble Bar	47.94 261	P	P	12 17 07.5	+0.5
MEEK	Meekatharra	48.08 254	P	P	12 17 07.7	-0.4
TAOE	Nuku Hiva Isla	48.22 82	*e*S	S	12 23 53.4	-8.4
	comp=Z,33nm,27.4s					
TAOE			*e*LR	LR	12 31 02.9	
	comp=Z,233nm,27.4s					
SANI	Sanana	48.61 288	P	P	12 17 13.1	+0.9
SANI	Sanana	48.61 288	P	P	12 17 11.2	-1.0
	comp=Z,817nmcomp=Z,61nm,1.3s					
NWAO	Narrogin (SRO)	48.78 245	P	P	12 17 11.8	-1.6
NWAO			IAmb	IAmb	12 17 15.0	
	comp=Z,31nm,1.1s					
NWAO	Narrogin (SRO)	48.78 245	LR	LR	12 36 04.4	
	comp=Z,166nm,20.8s,baz=142,slow=34					
RKT	Rikitea	49.09 102	*e*LR	LR	12 31 30.8	
	comp=Z,5μm,33.5s					
BLDU	Ballidu	49.36 248	P	P	12 17 17.7	-0.1
EDFI	Ende, Flores	49.68 278	P	P	12 17 20.4	-0.1
	comp=Z,18nm,1.3s					
MORW	Morawa	50.07 250		P	12 17 22.0	-1.2
MORW			IAmb	IAmb	12 17 24.2	
	comp=Z,15nm,0.8s					
WSI	Waingapu	50.62 276	P	P	12 17 27.7	+0.2
WBSI	Waikabubak, Su	51.47 275	P	P	12 17 34.6	+0.7
	comp=Z,40nm,1.2s					
LUWI	Luwuk	51.92 287		P	12 17 37.4	+0.2
LUWI	Luwuk	51.92 287	P	P	12 17 38.0	+0.8
BKSI	Bulukumba	52.44 281	P	P	12 17 41.4	+0.3
	comp=Z,22nm,1.1s					
APSI	Ampana	52.98 287	P	P	12 17 45.8	+0.8
	comp=Z,39nm,1.2s					
TOLI2	Tolitoli	54.69 288	P	P	12 17 56.1	-1.4
VNDA	Vanda	55.40 183	P	P	12 18 01.4	-0.2
VNDA	Vanda	55.40 183	P	P	12 18 01.6	0.0
	comp=Z,0.8nm,0.8s,baz=293,slow=4.1,SNR=3.0					
	comp=Z,0.8nm,0.8s					
SBA	Scott Base	55.58 181	P	P	12 18 03.6	+0.7
SBA			IAmb	IAmb	12 18 06.3	
	comp=Z,14nm,1.1s					
SBA	Scott Base	55.58 181	P	P	12 18 04.4	+1.4
CASY	Casey	58.16 205	P	P	12 18 21.3	0.0
CASY			IAmb	IAmb	12 18 22.6	
	comp=Z,8.7nm,1.0s					
CASY	Casey	58.16 205	P	P	12 18 20.9	-0.4
CCD	Concordia, Ant	58.33 193	P	P	12 18 22.3	-0.6
SBUM	Sibu	62.89 285		P	12 18 54.3	0.0
SBUM			IAmb	IAmb	12 18 56.4	
	comp=Z,30nm,1.4s					
JHJ	Hachijo jima 2	62.96 330	LR	LR	12 42 39.0	
	comp=Z,17nm,21.9s,baz=76,slow=32					
LEM	Lembang	63.34 274	LR	LR	12 46 39.8	
	comp=Z,55nm,19.5s,baz=197,slow=36					
KSM	Kuching	64.18 283		P	12 19 02.7	-0.1
KSM			IAmb	IAmb	12 19 04.4	
	comp=Z,19nm,0.8s					
DBJI	Dramaga	64.24 274	P	P	12 19 03.6	+0.3
JOW	Kunigami	64.39 317	LR	LR	12 46 58.7	
	comp=Z,18nm,18.5s,baz=128,slow=36					
JOW	Kunigami	64.39 317	P	P	12 19 06.0	+2.1
JGF	Kuroka	66.13 330	P	P	12 19 15.2	+0.2
MJAR	Matsushiro Arr	66.52 331	P	P	12 19 16.3	-1.1
MJAR	Matsushiro Arr	66.52 331	P	P	12 19 16.3	-1.1
	comp=Z,1.6nm,0.6s,baz=168,slow=7.6,SNR=7.8					
MJAR			LR	LR	12 43 44.3	
	comp=Z,16nm,20.1s,baz=128,slow=32					
	comp=Z,1.6nm,0.6s					
MAJO	Matsushiro	66.52 331	P	P	12 19 17.5	+0.1
MDSI	Maura Dua	67.39 275	P	P	12 19 21.4	-2.0
JNU	Nakatsue	67.46 324	LR	LR	12 46 53.1	
	comp=Z,48nm,19.5s,baz=133,slow=34					
QSPA	South Pole Qui	67.70 180	P	P	12 19 24.5	-0.2
QSPA			IAmb	IAmb	12 19 28.9	
	comp=Z,11nm,1.2s					
QSPA	South Pole Qui	67.70 180	P	P	12 19 25.9	+1.2
	comp=Z,2.9nm,0.6s,baz=295,slow=1.4,SNR=35					
	comp=Z,2.9nm,0.6s					
JTU	Tsushima	69.32 324	P	P	12 19 38.0	+3.0
ASAJ	Asahikawa	71.29 338	LR	LR	12 45 19.5	
	comp=Z,37nm,20.8s,baz=162,slow=31					
KSRS	Korea Array	72.30 325	P	P	12 19 52.6	-0.4
	comp=Z,2.6nm,0.8s,baz=153,slow=6.1,SNR=6.1					
	comp=Z,2.6nm,0.8s					
KSAR	Wonju Array Be	72.31 325	P	P	12 19 53.7	+0.7
KS19	Wonju Array Si	72.36 325	P	P	12 19 54.2	+0.8
IPM	Ipoh	73.84 282	P	P	12 20 03.0	+0.3
NJ2	Nanjing	73.95 315	*e*P	P	12 20 03.3	+0.5
NJ2			pmax	pmax		
	comp=Z,13nm,0.6s					
PETK	Petropavlovsk-	76.12 351	P	P	12 20 14.6	-0.3
PETK	Petropavlovsk-	76.12 351	P	P	12 20 14.9	0.0
	comp=Z,1.0nm,0.6s,baz=183,slow=6.3,SNR=4.5					
PETK			LR	LR	12 47 31.0	
	comp=Z,60nm,20.3s,baz=145,slow=31					
	comp=Z,1.0nm,0.6s					
MAW	Mawson	76.35 202	P	P	12 20 16.4	+0.3
	comp=Z,2.1nm,0.9s,baz=118,slow=5.7,SNR=7.0					
	comp=Z,2.1nm,0.9s					
HNS	HongShan	79.96 317	⇑P	P	12 20 37.5	+1.1
BJI	Beijing	80.72 320	P	P	12 20 40.0	-0.4
BJI			pmax	pmax		
	comp=Z,4.0nm,1.9s					
CM31	Chiang Mai Arr	81.74 294	P	P	12 20 46.5	+0.1
CMAR	Chiang Mai Arr	81.74 294	P	P	12 20 46.5	+0.2
CMAR	Chiang Mai Arr	81.74 294	P	P	12 20 47.4	+1.0
	comp=Z,2.1nm,0.8s,baz=134,slow=4.0,SNR=16					
CMAR			LR	LR	12 59 11.2	
	comp=Z,14nm,18.4s,baz=230,slow=37					
	comp=Z,2.1nm,0.8s					
XAN	Xi'an	81.80 312	P	P	12 20 46.5	+0.1
XAN			pmax	pmax		
	comp=Z,19nm,1.1s					
CHTO	Chiang Mai	81.90 294		P	12 20 47.2	0.0
SYO	Syowa Base	82.53 196	⇑*i*P	P	12 20 49.8	+0.2
PZH	PanZhiHua	83.20 302	P	P	12 20 57.0	+3.0
MA2	Magadan	83.42 350	LR	LR	12 52 21.9	
	comp=Z,70nm,20.6s,baz=132,slow=31					
HHC	Hu-ho-hao-te	83.99 319	*e*P	P	12 21 00.3	+2.6
HHC			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HHC			pmax	pmax		
	comp=Z,150nm,4.4s					
KDAK	Kodiak Island	85.28 18	LR	LR	12 55 47.7	
	comp=Z,65nm,18.1s,baz=226,slow=33					
TROLL	Troll, Antarti	85.56 183	⇑P	P	12 21 03.6	-1.6
	comp=Z,235nm,0.8s					
SNAA	Sanae	86.12 182	⇑P	P	12 21 06.3	-1.5
	comp=Z,30nm,0.6s					
SNAA	Sanae	86.12 182	P	P	12 21 07.8	-0.1
SNAA	Sanae	86.12 182	P	P	12 21 06.4	-1.5
	comp=Z,2.3nm,1.0s,baz=229,slow=9.1,SNR=8.3					
	comp=Z,2.3nm,1.0s					
SEY	Seymchan	86.36 351	LR	LR	12 54 08.5	
	comp=Z,69nm,20.9s,baz=170,slow=32					
LZH	Lanzhou	86.41 311	*e*P	P	12 21 18.5	+8.6
LZH			pP	PcP	12 21 23.5	+11
LZH			pmax	pmax		
	comp=Z,19nm,1.4s					
VNA3	Neumayer Olymp	86.63 180	⇑P	P	12 21 07.9	-2.4
	comp=Z,1.2nm,0.3s					
VNA2	Neumayer--Watz	86.95 180	⇑P	P	12 21 10.5	-1.4
	comp=Z,2.7nm,0.4s,baz=176,slow=7.7					
PFO	Pinyon Flats O	88.27 53	LR	LR	12 58 55.6	
	comp=Z,33nm,18.2s,baz=242,slow=34					
MDPB	Devils Postpil	88.35 48	IAmb	IAmb	12 21 22.4	
	comp=Z,12nm,1.7s					
LHV	Little Huntoon	89.06 48	IAmb	IAmb	12 21 24.7	
	comp=Z,15nm,1.6s					
NVAR	Mina Array Bea	89.28 48	P	P	12 21 22.7	-0.9
NVAR	Mina Array Bea	89.28 48	P	P	12 21 23.9	+0.3
	comp=Z,1.0nm,0.7s,baz=225,slow=8.5,SNR=11					
NVAR			LR	LR	12 53 17.7	
	comp=Z,23nm,19.6s,baz=246,slow=30					
	comp=Z,1.0nm,0.7s					
TPNV	Topopah Spring	90.00 50		P	12 21 27.0	+0.1
TPNV			IAmb	IAmb	12 21 28.4	
	comp=Z,14nm,1.8s					
YAK	Yakutsk	90.50 342	LR	LR	12 56 38.9	
	comp=Z,42nm,20.8s,baz=143,slow=32					
SHPR	Sheep Range	90.56 51	P	P	12 21 28.1	-1.5
SHPR			IAmb	IAmb	12 21 32.8	
	comp=Z,8.8nm,2.0s					
ULN	Ulaanbaatar	90.65 323	P	P	12 21 29.8	+0.1
GTA	Gaotai	90.83 313	*e*P	P	12 21 31.3	+0.6
GTA			pmax	pmax		
	comp=Z,5.0nm,1.6s					
BBB	Bella Bella	90.93 32	LR	LR	12 55 03.9	
	comp=Z,28nm,19.1s,baz=238,slow=31					
SONM	Songino Array	91.01 322		P	12 21 31.0	-0.3
SONM	Songino Array	91.01 322	P	P	12 21 31.0	-0.3
	comp=Z,2.0nm,0.7s,baz=147,slow=4.0,SNR=15					
SONM			LR	LR	13 01 40.2	
	comp=Z,32nm,19.1s,baz=138,slow=35					
	comp=Z,2.0nm,0.7s					
ILAR	Eielson Array	92.59 17	P	P	12 21 36.9	-1.2
	comp=Z,0.3nm,0.7s,baz=207,slow=4.9,SNR=2.2					
ILAR			LR	LR	13 00 39.0	
	comp=Z,54nm,18.1s,baz=232,slow=34					
	comp=Z,0.3nm,0.7s					
BCAR	Beaver Creek A	92.73 19	P	P	12 21 39.5	+0.6
DLBC	Dease Lake	93.84 27	LR	LR	13 02 02.0	
	comp=Z,443nm,18.5s,baz=230,slow=34					
P33M	Teslin, Yukon	93.84 24	P	P	12 21 44.0	0.0
NEW	Newport	94.80 39	LR	LR	12 55 38.0	
	comp=Z,33nm,20.5s,baz=258,slow=30					
BRTR	Keskin Array B	140.41 306	PKP	PKPdf	12 27 54.9	-1.2
	comp=Z,0.4nm,0.4s,baz=114,slow=3.5,SNR=1.8					
BURAR	Bucovina Array	143.12 321	PKPdf	PKPdf	12 27 59.2	-1.4
MLR	Muntele Rosu	143.73 318	PKPdf	PKPbc	12 28 00.3	+0.7
MANT	Manisa	144.55 305	PKPdf	PKPbc	12 28 02.5	0.0
MORC	Moravsky Berou	145.84 330	PKPbc	PKPab	12 28 06.5	0.0
MORC	Moravsky Berou	145.84 330	*e*PKP	PKPbc	12 28 06.1	+0.1
PSZ	Piszkesteto	145.89 325	PKPdf	PKPdf	12 28 05.7	+0.3
BRG	Berggiesshubel	146.62 334	*e*PKP	PKPbc	12 28 08.0	-0.2
BRG			Amp		12 28 09.4	
	comp=Z,2.1nm,0.9s					
BRG	Berggiesshubel	146.62 334	P	PKiKP	12 28 18.4	+7.5
BRG			Amp		12 28 21.8	
	comp=Z,2.6nm,0.9s					
CLL	Collm	146.65 335	*e*PKPbc	PKPdf	12 28 07.0	+0.5
CLL			*ex*	x	12 28 19.0	
EKA	Eskdalemuir Ar	146.85 354	PKPbc	PKPdf	12 28 06.3	-0.3
	comp=Z,1.6nm,0.9s,baz=15,slow=3.6,SNR=3.4					
ESK	Eskdalemuir	146.87 355	PKPbc	PKPbc	12 28 09.1	+0.4
KRUC	Moravsky	146.88 330	*e*PKP	PKPbc	12 28 09.0	+0.1
RONA	Rosalia, Austr	147.87 328	*e*PKP	PKPbc	12 28 11.3	-0.5
	comp=Z,3.1nm,0.8s					
CONA	Conrad Observa	147.93 329	*i* PKP	PKPbc	12 28 11.9	-0.1
	comp=Z,7.3nm,1.8s					
KHC	Kasperske Hory	148.10 332	*e*PKP	PKPbc	12 28 11.5	-0.8
GERES	GERESS Array B	148.26 332	PKPbc	PKPbc	12 28 11.1	-1.7
	comp=Z,0.5nm,0.4s,baz=49,slow=3.0,SNR=0.8					
ARSA	Arzberg	148.56 328	*i* PKP	PKPbc	12 28 14.0	+0.5
	comp=Z,1.9nm,0.8s					
MOA	Molln	148.74 330	*e*PKP	PKiKP	12 28 15.1	-0.3
	comp=Z,6.1nm,1.2s					
SOKA	Soboth	149.20 328	*i* PKP	PKPbc	12 28 14.8	-0.5
	comp=Z,5.6nm,1.2s					
OBKA	Obir	149.56 328	*e*PKP	PKPbc	12 28 15.3	-0.8
	comp=Z,5.2nm,1.3s					
KBA	Koelnbreinsper	149.73 330	*e*PKP	PKPdf	12 28 13.3	+1.4
	comp=Z,2.6nm,0.7s					
LESA	Schwarzleotal	149.78 331	*e*PKP	PKiKP	12 28 17.2	-0.4
	comp=Z,8.6nm,1.4s					
ABTA	Abfaltersbach	150.36 330	*e*PKP	PKiKP	12 28 18.5	-0.3
	comp=Z,4.0nm,1.2s					
MOTA	Moosalm	150.53 332	*e*PKP	PKiKP	12 28 19.4	+0.1
	comp=Z,4.1nm,1.1s					
SQTA	Sankt Quirin	150.58 332	*e*PKP	PKPbc	12 28 17.5	-1.2
	comp=Z,2.9nm,0.8s					
FETA	Feichten	150.94 332	*e*PKP	PKiKP	12 28 19.9	-0.2
	comp=Z,6.7nm,1.3s					
DAVA	Damuels	151.09 334	*e*PKP	PKPdf	12 28 13.9	-0.1
	comp=Z,11nm,1.5s					

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*UPP **26** 12:18:04.1±2.4, 67°.56N×30°.77E, h0km, ML1.9, Presumed earthquake*
*HEL **26** 12:18:05.9±0.2, 67°.57N×30°.38E, h0km, ML1.8, Explosion*
*KOLA **26** 12:18:06.4, 67°.48N×30°.44E, h0km, ML2.2, Error ellipse: s-maj=5.6km s-min=2.6km az=20.0, Murmansk region, Kovdor district*

ISC 26 12:18:05.2±0.8, 67°.55N±0°.02×30°.47E±0°.02, h0km, n36, σ1.9±0.06/56, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	Varrio	0.38	301	PG	Pg	12 18 12.3	-0.2
VRF				SG	Sg	12 18 17.0	-0.5
APA0	Apatity Array	0.97	86	P	Pg	12 18 23.4	-0.4
APA0				S	Sb	12 18 37.1	-1.0
APA	Apatity	1.12	88	P	Pg	12 18 26.2	-0.5
RAJF	Raja-Jooseppi	1.23	320	PG	Pg	12 18 27.4	-1.4
RAJF				SN	Sn	12 18 48.2	+1.2
KVDA	Kovda	1.28	132	P	Pg	12 18 29.0	-0.7
OLKF	Oulanka, Finla	1.31	199	PG	Pg	12 18 29.6	-0.6
	baz=17						
OLKF				MSG		12 18 45.6	
	comp=Z,10nm,0.2s						
OLKF				SG	Sg	12 18 46.9	-0.3
KU6	Riekki	1.55	189	PG	Pb	12 18 34.6	-0.2
KU6				MSG		12 18 52.8	
	comp=Z,5.6nm,0.2s						
LVZ	Lovozero	1.63	76	P	Pb	12 18 35.4	-0.7
LVZ				S	Sb	12 18 56.8	-0.4
LVZ	Lovozero	1.63	76	PG	Pb	12 18 35.6	-0.5
LVZ				SN	Sb	12 18 56.6	-0.6
MSF	Maaselka	1.75	200	PG	Pn	12 18 37.3	+0.5
MSF				SG	Sb	12 19 00.2	-0.3
RNF	Rovaniemi	1.99	244	PG	Pn	12 18 40.8	+0.8
	baz=63						
RNF				SG	Sb	12 19 08.0	+0.5
KU1	Kurvinen	2.03	191	PG	Pb	12 18 42.1	-0.9
KU2	Taivalkoski	2.06	207	PG	Pb	12 18 42.4	-1.0
	baz=26						
RANF	Ranua	2.13	225	PG	Pn	12 18 42.9	+0.9
	baz=45						
RANF				SG	Sb	12 19 11.2	-0.3
TERR	Teriberka	2.38	44	S	Sb	12 19 18.4	-0.4
KEV	Kevo	2.55	332	PB	Pn	12 18 48.2	+0.5
KEV				SG	Sb	12 19 22.8	-0.8
VADS	Vadso	2.61	352	P	Pn	12 18 50.9	+2.3
VADS				S	Sn	12 19 22.8	+1.9
ARA0	ARCESS Array S	2.70	320	PB	Pn	12 18 50.4	+0.5
ARA0				SG	Sb	12 19 27.0	-1.0
ARCES	ARCESS Array B	2.70	320	P	Pn	12 18 50.7	+0.8
ARCES				S	Sn	12 19 25.0	+1.8
HEF	Hetta	2.71	292	PN	Pn	12 18 50.7	+0.8
	baz=102						
HEF				MSG		12 19 24.4	
	comp=Z,4.3nm,0.2s						
HEF				SG	Sb	12 19 27.5	-0.7
TOF	Tornio	2.85	242	PN	Pn	12 18 51.7	-0.2
TOF				MSG		12 19 29.1	
	comp=Z,2.2nm,0.2s						
TOF				SG	Sb	12 19 33.1	+0.9
PAJU	Pajala	2.91	263	P	Pn	12 18 52.7	0.0
PAJU				S	Sn	12 19 29.7	+1.4
OUL	Oulu	3.09	219	PB	Pb	12 18 59.1	-1.9
LANU	Lannavaara	3.26	283	PN	Pn	12 18 57.3	-0.2
LANU				SG	Sb	12 19 44.9	+0.9
KALU	Kalix	3.30	242	P	Pn	12 18 58.5	+0.5
KALU	Kalix	3.30	242	PB	Pb	12 19 02.6	-1.9
RMF	Romuvaara	3.36	184	PN	Pn	12 18 59.3	+0.4
ERTU	Ertsjaerv	3.40	257	P	Pn	12 18 60.0	+0.6
ERTU				S	Sn	12 19 42.0	+1.7
ERTU	Ertsjaerv	3.40	257	PN	Pn	12 18 59.8	+0.4
ERTU				SB	Sn	12 19 43.6	+3.3
OBF4	Vikkela, Lumij	3.51	221	PN	Pn	12 19 02.7	+1.7
DUNU	Dundret	3.86	268	P	Pn	12 19 05.9	+0.1
DUNU				S	Sn	12 19 53.3	+1.6
KUA	Kurravaara	3.88	281	P	Pn	12 19 05.9	-0.1
	baz=104						
KIF	Kilpisjarvi	3.88	296	PN	Pn	12 19 06.6	+0.6
KOVU	Salmi	3.96	285	P	Pn	12 19 07.5	+0.4
	baz=116						
HARU	Harads	4.00	254	P	Pn	12 19 07.3	-0.4
SJUU	Sjulsmark	4.10	244	P	Pn	12 19 08.8	-0.2

KOLA 26 12:19:14.0, 67°.53N×30°.54E, h0km, ML2.0, Error ellipse: s-maj=4.6km s-min=2.3km az=20.0, Kovdor City, Mines, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.94	84	P	Pg	12 19 30.1	-2.1
APA0				S	Sg	12 19 43.0	-1.4
APA	Apatity	1.10	87	P	Pg	12 19 32.7	-2.4
APA				S	Sg	12 19 47.9	-1.5
KVDA	Kovda	1.24	132	P	Pg	12 19 36.1	-1.7
KVDA				S	Sg	12 19 53.7	-0.2
LVZ	Lovozero	1.61	75	S	Sn	12 20 03.7	-1.5
TERR	Teriberka	2.38	43	S	Sn	12 20 24.5	+0.4
VADS	Vadso	2.64	351	S	Sn	12 20 29.7	-0.6
ARCES	ARCESS Array B	2.73	320	P	Pn	12 19 58.3	-0.8
ARCES				S	Sn	12 20 31.2	-1.6
FAUS	Fauske	5.87	276	S	Sn	12 21 45.9	-4.0

HEL 26 12:19:58.8±0.6, 67°.67N×30°.35E, h0km, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	Varrio	0.29	286	PG	Pg	12 20 05.0	+0.6
VRF				SG	Sg	12 20 05.8	-2.4
RAJF	Raja-Jooseppi	1.11	318	SN	Sb	12 20 36.2	+0.3
OLKF	Oulanka, Finla	1.41	196	PN	Pg	12 20 25.8	+0.1
OLKF				MSG		12 20 41.0	
	comp=Z,14nm,0.2s						
OLKF				SG	Sg	12 20 42.3	-1.6
LVZ	Lovozero	1.65	80

SHLS Shalkode 1.75 237 P **Pn 12 21 33.9 -0.1**
29nm,0.2s
SHLS S **Sn 12 21 53.7 -3.3**
32nm,0.4s
SHLS Shalkode 1.75 237 *e*P **Pn 12 21 33.9 -0.1**
29nm,0.2s
SHLS *e*S **Sn 12 21 53.7 -3.3**
32nm,0.4s
KAPS Kapalarasan 1.90 308 P **Pb 12 21 37.5 -0.2**
9.7nm,0.1s
KAPS S **Sn 12 21 59.8 -0.6**
88nm,0.2s
UZB Uzynbulak 2.03 242 P **Pg 12 21 41.0 -0.1**
21nm,0.2s
UZB S **Sb 12 22 06.4 +0.5**
30nm,0.3s
UZB Uzynbulak 2.03 242 *e*P **Pg 12 21 41.0 -0.1**
21nm,0.2s
UZB *e*S **Sb 12 22 06.4 +0.5**
30nm,0.3s
KPKS Kokpek 2.12 253 P **Pb 12 21 41.4 -0.1**
12nm,0.2s
KPKS S **Sn 12 22 06.8 +0.6**
162nm,0.6s
TDK Taldyqorghan 2.35 293 Pg **Pn 12 21 43.9 +1.8**
80nm,0.5s
TDK Lg Lg 12 22 10.9
79nm,0.3s
TDK Taldyqorghan 2.35 293 *e*P **Pn 12 21 42.1 -0.1**
80nm,0.5s
TDK *e*S **Sn 12 22 07.6 -4.1**
79nm,0.3s
SATY Saty 2.47 245 Pg **Pb 12 21 47.3 -0.2**
17nm,0.1s
SATY Lg Lg 12 22 16.7
58nm,0.1s
KURS Kuram 2.47 256 Pg **Pb 12 21 46.9 -0.6**
6.0nm,0.2s
KURS Lg Lg 12 22 16.1
38nm,0.5s
ARXS Arharly 2.62 273 Pg **Pn 12 21 47.2 +1.4**
14nm,0.3s
ARXS Lg Lg 12 22 16.9
61nm,0.6s
ARXS Arharly 2.62 273 *e*P **Pn 12 21 47.2 +1.4**
ARXS *e*S **Sn 12 22 16.9 -1.5**
MAKZ Makanchi 2.70 7 ⇑Pg **Pb 12 21 51.1 -0.3**
1.0nm,0.3s
MAKZ ⇓Lg Lg 12 22 25.8
5.4nm,0.3s
MK31 Makanchi Array 2.72 12 Pg **Pb 12 21 51.2 -0.5**
0.5nm,0.2s,baz=199,slow=13,SNR=98
MK31 ⇑Lg Lg 12 22 26.2
15nm,0.7s,baz=198,slow=25,SNR=20
MDOK Medeo 3.35 255 Pg **Pb 12 22 03.3 +0.7**
5.0nm,0.3s
MDOK Lg Lg 12 22 44.2
11nm,0.5s
KTBS Karatobe 3.48 265 Pg **Pb 12 22 02.8 -1.9**
2.5nm,0.3s
KTBS Lg Lg 12 22 43.4
36nm,0.7s
MTBS Maitube 3.79 256 Pg **Pb 12 22 10.9 +0.9**
8.3nm,0.2s
MTBS Lg Lg 12 22 57.2
11nm,0.4s
MTBS Maitube 3.79 256 *e*P **Pb 12 22 10.9 +0.9**
8.3nm,0.2s
MTBS *e*S **Sb 12 22 57.2 +0.6**
11nm,0.4s
ZSN Zaisan 4.08 34 Pg **Pg 12 22 20.6 +0.2**
ZSN Lg Lg 12 23 13.7
ZSN Zaisan 4.08 34 *e*P **Pg 12 22 20.6 +0.2**
ZSN *e*S **Sg 12 23 13.7 +0.5**
KST Kastek 4.14 257 Pg **Pb 12 22 17.9 +1.8**
7.2nm,0.5s
KST Lg Lg 12 23 09.2
16nm,0.6s
KST Kastek 4.14 257 *e*P **Pb 12 22 17.9 +1.8**
7.2nm,0.5s
KST *e*S **Sb 12 23 09.2 +2.5**
16nm,0.6s
KRBS Karabastau 4.21 266 Pg **Pb 12 22 14.8 -2.3**
3.2nm,0.5s
KRBS Lg Lg 12 23 04.8
2.9nm,0.6s
DGS Degeres 4.23 260 Pg **Pb 12 22 16.7 -0.8**
7.5nm,0.5s
DGS Lg Lg 12 23 07.4
17nm,0.6s

IDC 26 12:30:21.0±0.8, 13°.72N×120°.88E, h87km±10km, mb3.4/8, mbtmp3.7/8, Error ellipse: s-maj=46.5km s-min=14.7km az=61.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.39**	**9**	P	Pn	12 30 36.5	+1.8
	2μm,0.4s,baz=224,slow=8.7,SNR=40						
TGY				S	Sn	12 30 47.0	+2.0
	8μm,0.4s,baz=131,slow=19,SNR=26						
CMAR	**Chiang Mai Arr**	**21.59**	**286**	P	P	12 35 03.8	-0.1
	0.8nm,0.3s,baz=96,slow=9.9,SNR=14						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**35.98**	**158**	P	P	12 37 13.8	+0.2
	0.6nm,0.8s,baz=329,slow=10,SNR=4.8						
	0.6nm,0.8s						
SONM	**Songino Array**	**36.09**	**343**	P	P	12 37 14.7	+0.3
	0.5nm,0.4s,baz=140,slow=7.0,SNR=2.2						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**39.28**	**161**	P	P	12 37 40.9	-0.5
	0.4nm,0.7s,baz=338,slow=8.4,SNR=10						
ASAR				pP	pP	12 38 02.5	+0.1
	0.3nm,0.5s,baz=338,slow=6.8,SNR=3.3						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**46.12**	**324**	P	P	12 38 36.3	-0.3
	0.4nm,0.7s,baz=128,slow=7.4,SNR=4.5						
	0.4nm,0.7s						
STKA	**Stephens Creek**	**49.49**	**157**	P	P	12 39 02.2	-0.5
	0.5nm,0.3s,baz=344,slow=7.4,SNR=1.1						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**50.27**	**326**	P	P	12 39 08.4	0.0
	1.5nm,0.7s,baz=119,slow=9.1,SNR=10						
	1.5nm,0.7s						
BVAR	**Borovoye Array**	**55.86**	**326**	P	P	12 39 49.1	-0.3
	1.4nm,0.6s,baz=111,slow=8.1,SNR=7.7						
	1.4nm,0.6s						

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*IDC **26** 12:32:22.4±1.4, 34°.89N×135°.72E, h0km, mb3.5/2, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=28.7km s-min=13.3km az=149.0*
*NIED **26** 12:32:23.3, 35°.07N×135°.65E, h7km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}0.65; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-1.02; $M_{r\theta}$0.08; $M_{\theta\phi}$0.47; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.08000×10^14^ NP1: ϕ_s132.00000°, δ40.00000°, λ42.00000°. NP2: ϕ_s8.00000°, δ64.00000°, λ122.00000°.*
*JMA **26** 12:32:23.3±0.0, 35°.07N±0°.08×135°.65E±0°.09, h7km, MV3.5/20, MID KYOTO PREF*
JMA Felt II J1 at MID KYOTO PREF .
ISC 26 12:32:23.5±1.1, 35°.06N±0°.03×135°.65E±0°.03, h4km±11km, n14, σ°68/24, 6D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.30**	**318**	*i* P	**Pg**	**12 32 29.2**	**0.0**
JWT				S	**Sg**	**12 32 33.0**	**-0.2**
JHE	**Heguri**	**0.41**	**176**	*i* P	**Pg**	**12 32 31.6**	**+0.2**
JHE				S	**Sg**	**12 32 37.1**	**+0.4**
JKS	**Kasai**	**0.66**	**263**	⇓*i* P	**Pg**	**12 32 36.0**	**-0.2**
JKS				⇓S	**Sg**	**12 32 44.7**	**-0.2**
JKY	**Yasaka**	**0.72**	**322**	*i* P	**Pg**	**12 32 36.9**	**-0.4**
JKY				S	**Sg**	**12 32 46.1**	**-0.5**
TSUJ	**Tsu 2**	**0.72**	**119**	⇓*i* P	**Pg**	**12 32 37.1**	**-0.3**
TSUJ				⇓S	**Sg**	**12 32 46.6**	**-0.2**
JAWN	**Awajishima-nag**	**0.84**	**227**	⇓*i* P	**Pg**	**12 32 39.4**	**-0.2**
JAWN				⇓S	**Sg**	**12 32 50.8**	**+0.3**
JWY	**Kouya**	**0.84**	**183**	*i* P	**Pg**	**12 32 39.4**	**-0.2**
JWY				S	**Sg**	**12 32 50.5**	**-0.1**
JKSM	**Kasumi**	**0.96**	**303**	*i* P	**Pg**	**12 32 41.3**	**-0.7**
JKSM				S	**Sg**	**12 32 53.6**	**-0.7**
JKN2	**Miekihoku**	**0.97**	**148**	*i* P	**Pg**	**12 32 41.4**	**-0.7**
JKN2				S	**Sg**	**12 32 54.0**	**-0.6**
MJAR	**Matsushiro Arr**	**2.55**	**54**	Pn	**Pn**	**12 33 06.2**	**+0.5**
	0.7nm,0.3s,baz=240,slow=14,SNR=30						
MJAR				Pg	**Pb**	**12 33 10.6**	**+0.8**
	1.7nm,0.3s,baz=233,slow=20,SNR=32						
MJAR				Lg	Lg	12 33 44.7	
	0.7nm,0.3s,baz=230,slow=28,SNR=5.1						
	6.8nm,0.4s						
JNU	**Nakatsue**	**4.41**	**245**	Pn	**Pn**	**12 33 31.2**	**+0.1**
	0.7nm,0.3s,baz=56,slow=13,SNR=11						
JNU				Lg	Lg	12 34 39.9	
	0.8nm,0.3s,baz=168,slow=19,SNR=6.5						
	5.3nm,0.6s						
KSRS	**Korea Array**	**6.68**	**293**	Pn	**Pn**	**12 34 03.5**	**+1.1**
	0.8nm,0.6s,baz=104,slow=14,SNR=2.0						
SONM	**Songino Array**	**25.20**	**309**	P	**P**	**12 37 51.5**	**+1.2**
	0.8nm,0.4s,baz=110,slow=11,SNR=2.9						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**54.72**	**182**	P	**P**	**12 41 52.3**	**-1.7**
	0.2nm,0.8s,baz=359,slow=7.3,SNR=1.5						
	0.2nm,0.8s						

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*IDC **26** 12:33:12.8±0.6, 59°.91S×18°.42W, h0km, mb4.2/11, mbtmp4.1/11, MS4.1/38, Error ellipse: s-maj=24.2km s-min=16.6km az=48.0*
*NEIC **26** 12:33:15.2±1.3, 60°.1S±0°.1×18°.6W±0°.2, h10km±1km, mb5.0/42, Error ellipse: s-maj=19.4km s-min=14.5km az=216.0*
*GCMT **26** 12:33:17.2±0.2, 60°.27S±0°.02×18°.43W±0°.02, h12km, MW5.0/112, Moment Tensor Solution. s43,c52; s112,c164; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.50±.08; $M_{\theta\theta}$0.28±.10; $M_{\phi\phi}$3.22±.07; $M_{r\theta}$0.08±.34; $M_{\theta\phi}$-0.92±.07; $M_{\phi r}$0.11±.27; Best double couple: $M_0$3.49500×10^16^ NP1: ϕ_s342.00000°, δ44.00000°, λ-92.00000°. NP2: ϕ_s166.00000°, δ46.00000°, λ-88.00000°. Principal axes: T 3.4850, Plg1.0000°, Azm254.0000°; N 0.0180, Plg2.0000°, Azm344.0000°; P -3.5040, Plg88.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 12:33:15.7±0.4, 60°.18S±0°.07×18°.55W±0°.08, h18km, n112, σ1°29/71, mb4.9/31, MS4.1/37, 6C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.32**	**162**	⇑P	**Pn**	**12 35 56.2**	**-0.1**
	comp=Z,22nm,0.3s						
HOPE	**Hope Point**	**11.36**	**293**	Pn	**Pn**	**12 35 55.6**	**-1.1**
VNA3	**Neumayer Olymp**	**11.67**	**166**	⇑P	**Pn**	**12 35 59.8**	**-1.3**
	comp=Z,27nm,0.2s						
VNA2	**Neumayer--Watz**	**11.70**	**162**	⇑P	**Pn**	**12 36 00.5**	**-1.0**
	comp=Z,23nm,0.2s,baz=332,slow=15						
SNAA	**Sanae**	**13.12**	**158**	⇑P	**Pn**	**12 36 20.1**	**-0.8**
	comp=Z,964nm,0.4s						
SNAA	**Sanae**	**13.12**	**158**		**Pn**	**12 36 20.4**	**-0.5**
SNAA	**Sanae**	**13.12**	**158**	Pn	**Pn**	**12 36 19.9**	**-1.1**
	comp=Z,13nm,0.3s,baz=321,slow=13,SNR=314						
SNAA				Sn	**Sn**	**12 38 40.1**	**-6.2**
	comp=Z,0.6nm,0.3s,baz=351,slow=19,SNR=3.4						
SNAA				LR	LR	12 41 04.4	
	comp=Z,187nm,18.2s,baz=5.5,slow=35						
TROLL	**Troll, Antarti**	**14.49**	**153**	⇑P	**Pn**	**12 36 39.4**	**-0.3**
	comp=Z,1μm,0.5s						
BELA	**Belgrano 2**	**18.54**	**191**		**Pn**	**12 37 32.0**	**+0.9**
BELA				IAmb	IAmb	12 37 35.5	
	comp=Z,149nm,1.4s						
PMSA	**Palmer Station**	**21.14**	**238**	P	**P**	**12 37 59.1**	**0.0**
PMSA	**Palmer Station**	**21.14**	**238**	LR	LR	12 44 47.7	
	comp=Z,378nm,18.8s,baz=102,slow=33						
SMAI	**San Martin Ant**	**22.03**	**228**	P	**P**	**12 38 09.8**	**+1.1**
SMAI				IAmb	IAmb	12 38 25.7	
	comp=Z,92nm,1.2s						
EFI	**East Falkland**	**23.39**	**274**	P	**P**	**12 38 21.5**	**-1.6**
EFI				IAmb	IAmb	12 38 40.9	
	comp=Z,85nm,1.4s						
SYO	**Syowa Base**	**25.44**	**135**	⇑*i*pP	**P**	**12 38 43.2**	**+1.3**
SYO	**Syowa Base**	**25.44**	**135**	⇓*i*sP	sP	12 38 46.1	-2.3
USHA	**Ushuaia**	**26.78**	**259**	LR	LR	12 46 58.3	
	comp=Z,1μm,20.4s,baz=110,slow=31						
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**	**12 39 24.1**	**+0.7**
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**	**12 39 27.1**	**+3.6**
	comp=Z,14nm,1.0s,baz=227,slow=1.3,SNR=72						
QSPA				LR	LR	12 50 49.0	
	comp=Z,149nm,20.1s,baz=207,slow=35						
	comp=Z,14nm,1.0s						
MAW	**Mawson**	**34.04**	**137**	P	**P**	**12 39 59.6**	**+1.5**
	comp=Z,4.3nm,0.9s,baz=246,slow=11,SNR=12						
MAW				LR	LR	12 51 43.0	
	comp=Z,266nm,21.8s,baz=250,slow=32						
	comp=Z,4.3nm,0.9s						
PLTB	**Pedras Altas**	**36.66**	**305**		**P**	**12 40 20.4**	**-0.6**
GO07	**Milladeo Hill,**	**36.95**	**272**	P	**P**	**12 40 24.2**	**+0.9**
PLCA	**Paso Flores**	**37.17**	**278**	P	**P**	**12 40 24.8**	**-0.7**
PLCA	**Paso Flores**	**37.17**	**278**	P	**P**	**12 40 24.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=182,slow=7.1,SNR=3.0						
	comp=Z,0.9nm,0.6s						
H04S2	**CROZET ISLANDS**	**41.86**	**104**	T	T	13 26 21.8	
	baz=225,slow=75,SNR=180						
H04S3	**CROZET ISLANDS**	**41.87**	**104**	T	T	13 26 09.5	
	baz=225,slow=75,SNR=192						
H04S1	**CROZET ISLANDS**	**41.88**	**104**	T	T	13 26 17.5	
	baz=225,slow=75,SNR=131						
VAO	**Valinhos**	**42.14**	**319**	P	**P**	**12 41 07.0**	**+0.1**
VAO				IAmb	IAmb	12 41 37.0	
	comp=Z,37nm,1.6s						
SBA	**Scott Base**	**42.18**	**182**		**P**	**12 41 07.7**	**+1.2**
SBA				IAmb	IAmb	12 41 13.1	
	comp=Z,38nm,1.6s						
BO04	**La Punta**	**42.50**	**284**	P	**P**	**12 41 09.9**	**+0.2**
VNDA	**Vanda**	**42.55**	**180**		**P**	**12 41 11.5**	**+2.0**
VNDA	**Vanda**	**42.55**	**180**	P	**P**	**12 41 11.6**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=191,slow=8.6,SNR=42						
VNDA				LR	LR	12 57 57.6	
	comp=Z,148nm,21.3s,baz=172,slow=35						
	comp=Z,2.0nm,0.5s						
MT08	**Bocatoma Ro**	**42.66**	**285**	P	**P**	**12 41 12.5**	**+1.3**
MT09	**Talagante**	**42.86**	**284**	P	**P**	**12 41 13.3**	**+0.5**
MT09				IAmb	IAmb	12 41 14.2	
	comp=Z,24nm,1.1s						
MT16	**CCHEN**	**42.91**	**285**	P	**P**	**12 41 14.1**	**+1.1**
CPUP	**Villa Florida**	**42.97**	**304**	P	**P**	**12 41 13.9**	**+0.5**
CPUP	**Villa Florida**	**42.97**	**304**	P	**P**	**12 41 13.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=185,slow=15,SNR=5.4						
CPUP				LR	LR	12 57 54.8	
	comp=Z,57nm,20.8s,baz=17,slow=35						
	comp=Z,0.6nm,0.6s						
BOSA	**Boshof**	**43.13**	**63**	P	**P**	**12 41 14.7**	**-0.2**
BOSA	**Boshof**	**43.13**	**63**	P	**P**	**12 41 13.6**	**-1.3**
	comp=Z,5.0nm,0.8s,baz=213,slow=6.1,SNR=8.0						
BOSA				LR	LR	12 55 10.0	
	comp=Z,588nm,21.4s,baz=206,slow=31						
	comp=Z,5.0nm,0.8s						
PEL	**Peldehue**	**43.23**	**285**	P	**P**	**12 41 16.2**	**+0.6**
PEL				IAmb	IAmb	12 41 18.5	
	comp=Z,71nm,1.7s						
CFA	**Coronel Fontan**	**43.32**	**288**	LR	LR	12 58 05.0	
	comp=Z,206nm,22.0s,baz=154,slow=34						
VA03	**San Esteban**	**43.47**	**285**	P	**P**	**12 41 18.6**	**+1.0**
VA03				IAmb	IAmb	12 41 20.8	
	comp=Z,37nm,1.6s						
ZON	**Zonda**	**43.58**	**288**	P	**P**	**12 41 19.9**	**+1.4**
CO01	**Juntas del Tor**	**45.55**	**288**	P	**P**	**12 41 34.6**	**+0.2**
CO01				IAmb	IAmb	12 41 37.8	
	comp=Z,32nm,1.4s						
KOOLE	**Kule**	**45.92**	**53**	P	**P**	**12 41 37.7**	**+0.4**
KOOLE				IAmb	IAmb	12 41 40.8	
	comp=Z,13nm,1.0s						
LBTB	**Lobatse**	**46.40**	**61**		**P**	**12 41 40.1**	**-0.9**
LBTB				IAmb	IAmb	12 41 45.4	
	comp=Z,15nm,1.2s						
LBTB	**Lobatse**	**46.40**	**61**	LR	LR	12 57 28.1	
	comp=Z,994nm,19.9s,baz=208,slow=32						
KGCAE	**Kacgae**	**46.87**	**56**		**P**	**12 41 45.3**	**+0.6**
AC02	**Maricunga**	**47.74**	**291**	P	**P**	**12 41 52.2**	**+0.2**
AC02				IAmb	IAmb	12 41 54.9	
	comp=Z,22nm,1.4s						
LPHEP	**Lephephe**	**47.96**	**60**		**P**	**12 41 53.6**	**+0.5**
TSUM	**Tsumeb**	**48.34**	**48**	LR	LR	12 57 53.3	
	comp=Z,491nm,20.9s,baz=156,slow=31						
CASY	**Casey**	**48.34**	**155**	P	**P**	**12 41 57.0**	**+1.5**
CASY				IAmb	IAmb	12 42 06.1	
	comp=Z,9.8nm,1.1s						
BDFB	**Brasília**	**49.36**	**321**	LR	LR	13 00 50.1	
	comp=Z,167nm,19.2s,baz=145,slow=34						
GO02	**Mina Guanaco**	**49.38**	**292**	P	**P**	**12 42 04.5**	**+0.1**
QNGWA	**Qangwa**	**49.43**	**53**		**P**	**12 42 04.5**	**0.0**
QNGWA				IAmb	IAmb	12 42 07.7	
	comp=Z,19nm,1.3s						
PHDHD	**Phuduhudu**	**50.20**	**57**	IAmb	IAmb	12 42 13.8	
	comp=Z,26nm,1.3s						
H10S2	**ASCENSION HYDR**	**51.20**	**5**	T	T	13 37 37.0	
	baz=182,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**51.20**	**5**	T	T	13 37 46.3	
	baz=38,slow=74,SNR=29						
MATP	**Matopo**	**51.69**	**61**	LR	LR	13 00 56.6	
	comp=Z,630nm,19.3s,baz=206,slow=32						
PB03	**IPOC Station P**	**52.14**	**294**	IAmb	IAmb	12 42 27.7	
	comp=Z,26nm,1.3s						
PB01	**IPOC Station P**	**52.89**	**295**	IAmb	IAmb	12 42 33.3	
	comp=Z,27nm,1.3s						
PTLB	**Pontes e Lacer**	**53.47**	**309**		**P**	**12 42 34.9**	**+0.3**
PTLB				IAmb	IAmb	12 42 37.7	
	comp=Z,24nm,1.5s						
SIV	**San Ignacio**	**53.74**	**306**	P	**P**	**12 42 35.0**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=158,slow=9.7,SNR=5.0						
SIV				LR	LR	13 03 42.5	
	comp=Z,170nm,21.8s,baz=117,slow=34						
	comp=Z,1.1nm,0.5s						
GO01	**Chusmiza**	**53.95**	**296**	IAmb	IAmb	12 42 41.8	
	comp=Z,20nm,1.5s						
RCBR	**Riachuelo**	**55.81**	**339**	LR	LR	13 01 14.6	
	comp=Z,50nm,20.6s,baz=220,slow=30						
LSZ	**Lusaka**	**56.12**	**58**		**P**	**12 42 54.2**	**+0.2**
LSZ				IAmb	IAmb	12 42 57.3	
	comp=Z,9.6nm,1.0s						
LSZ	**Lusaka**	**56.12**	**58**	LR	LR	13 03 13.0	
	comp=Z,564nm,21.5s,baz=185,slow=32						
LPAZ	**La Paz**	**56.45**	**299**	P	**P**	**12 42 56.9**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=144,slow=6.6,SNR=9.0						
LPAZ				LR	LR	13 09 54.4	
	comp=Z,56nm,18.1s,baz=145,slow=39						
	comp=Z,2.4nm,0.6s						
OPO	**Ambohidratompo**	**62.03**	**78**	LR	LR	13 05 26.4	
	comp=Z,237nm,20.6s,baz=15,slow=31						
NNA	**Nana**	**64.17**	**292**	LR	LR	13 09 34.9	
	comp=Z,149nm,21.9s,baz=162,slow=34						
DBIC	**Dimbokro**	**67.52**	**15**	LR	LR	13 07 47.1	
	comp=Z,62nm,18.3s,baz=194,slow=31						
ATAH	**Atahualpa**	**69.15**	**293**	LR	LR	13 11 40.4	
	comp=Z,87nm,20.9s,baz=188,slow=33						
MDP	**Montagnes des**	**70.38**	**324**	LR	LR	13 12 17.6	
	comp=Z,51nm,20.2s,baz=102,slow=33						
BOAV	**Boa Vista**	**70.41**	**315**	P	**P**	**12 44 26.7**	**-1.9**
BOAV				IAmb	IAmb	12 44 35.8	
	comp=Z,13nm,1.3s						
TORD	**Torodi Ar. Bea**	**74.87**	**20**	P	**P**	**12 44 55.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.87**	**20**	P	**P**	**12 44 53.2**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=187,slow=4.8,SNR=2.7						
TORD				LR	LR	13 10 32.1	
	comp=Z,170nm,21.4s,baz=159,slow=30						
	comp=Z,0.7nm,0.3s						
OTAV	**Otavalo**	**75.70**	**297**	P	**P**	**12 45 01.5**	**+1.1**
OTAV				IAmb	IAmb	12 45 04.9	
	comp=Z,26nm,1.6s						
ROSC	**El Rosal**	**78.02**	**303**	LR	LR	13 19 28.4	
	comp=Z,151nm,21.6s,baz=302,slow=36						
RUSC	**La Rusia**	**78.46**	**304**	P	**P**	**12 45 15.8**	**-0.1**
SDV	**Santo Domingo**	**80.18**	**308**	LR	LR	13 21 31.0	
	comp=Z,92nm,20.0s,baz=98,slow=36						
NWAO	**Narrogin (SRO)**	**80.37**	**143**	LR	LR	13 15 34.6	
	comp=Z,85nm,21.3s,baz=228,slow=32						
URZ	**Urewera**	**81.07**	**192**	LR	LR	13 18 04.5	
	comp=Z,75nm,20.1s,baz=189,slow=33						
FURI	**Furi**	**82.28**	**57**	LR	LR	13 19 28.9	
	comp=Z,207nm,20.6s,baz=192,slow=34						
ATD	**Arta Tunnel**	**86.42**	**60**	LR	LR	13 22 05.6	
	comp=Z,19nm,20.1s,baz=171,slow=34						
STKA	**Stephens Creek**	**86.83**	**163**	LR	LR	13 21 42.7	
	comp=Z,126nm,21.2s,baz=212,slow=33						
SJG	**San Juan**	**86.97**	**315**	LR	LR	13 23 30.6	
	comp=Z,50nm,21.6s,baz=175,slow=35						
TBI	**Tubuai**	**87.68**	**224**	*e*LR	LR	13 13 44.7	
	comp=Z,836nm,37.5s						
TBI				*e*LR	LR	13 13 44.9	
	comp=Z,702nm,33.0s						
RAR	**Rarotonga**	**92.98**	**216**	LR	LR	13 19 47.7	
	comp=Z,107nm,20.8s,baz=150,slow=30						
PPT2	**Papeete2**	**93.03**	**226**	*e*LR	LR	13 16 15.9	
	comp=Z,202nm,25.5s						
PPT2				*e*LR	LR	13 16 16.6	
	comp=Z,141nm,22.5s						
PPT	**Papeete**	**93.05**	**226**	LR	LR	13 19 28.4	
	comp=Z,79nm,22.0s,baz=154,slow=30						
MDT	**Midelt**	**93.36**	**12**	LR	LR	13 23 16.2	
	comp=Z,127nm,18.6s,baz=210,slow=32						
ASAR	**Alice Springs**	**93.47**	**155**	P	**P**	**12 46 29.6**	**-0.5**
ASAR	**Alice Springs**	**93.47**	**155**	P	**P**	**12 46 29.2**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=187,slow=4.6,SNR=7.0						
ASAR				LR	LR	13 28 52.0	
	comp=Z,52nm,18.6s,baz=264,slow=36						
	comp=Z,0.3nm,0.8s						
AS31	**Alice Springs**	**93.47**	**155**	P	**P**	**12 46 29.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**96.78**	**146**	LR	LR	13 26 14.1	
	comp=Z,72nm,20.6s,baz=204,slow=33						
WRA	**Warramunga Arr**	**97.17**	**154**	P	**P**	**12 46 46.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=195,slow=4.9,SNR=2.7						
	comp=Z,0.5nm,0.8s						
TAOE	**Nuku Hiva Isla**	**97.26**	**238**	*e*LR	LR	13 18 22.3	
	comp=Z,157nm,24.0s						
KEST	**Kesra**	**98.29**	**23**	LR	LR	13 26 14.8	
	comp=Z,105nm,19.4s,baz=298,slow=32						
EIL	**Elat**	**99.66**	**45**	LR	LR	13 28 43.4	
	comp=Z,297nm,20.6s,baz=183,slow=34						
NVAR	**Mina Array Bea**	**127.06**	**284**	PKP	**PKiKP**	**12 52 18.8**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=116,slow=2.0,SNR=1.8						
WMQ	**Urumqi**	**134.33**	**76**	*e*PKP	**PKiKP**	**12 52 34.8**	**+2.0**
KURBB	**Kurchatov Arra**	**134.99**	**63**	PKP	**PKPdf**	**12 52 32.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=252,slow=1.8,SNR=4.8						
NJ2	**Nanjing**	**140.34**	**116**	*e*P	**PKiKP**	**12 52 45.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**143.96**	**100**	*e*P	PKPbc	12 52 46.8	-0.3
BJI	**Beijing**	**145.59**	**105**	P	**PKPab**	**12 52 53.0**	**+0.6**
SONM	**Songino Array**	**146.40**	**86**		**PKPdf**	**12 52 53.6**	**+0.4**
SONM	**Songino Array**	**146.40**	**86**	PKPbc	**PKPbc**	**12 52 54.2**	**-0.3**
	comp=Z,5.2nm,1.0s,baz=221,slow=2.7,SNR=14						
R33M	**Jennings River**	**147.32**	**299**	PKPdf	**PKPbc**	**12 52 56.7**	**-0.1**
KSRS	**Korea Array**	**148.87**	**122**	PKPbc	**PKPbc**	**12 53 01.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=154,slow=1.8,SNR=2.6						
M30M	**Minto, Yukon**	**151.31**	**302**		**PKPbc**	**12 53 05.8**	**-0.7**
CN2	**Changchun**	**152.89**	**111**	*e*P	**PKPdf**	**12 53 01.5**	**-1.9**
ILAR	**Eielson Array**	**156.27**	**303**	PKPab	**PKPab**	**12 53 35.6**	**-0.2**
ILAR	**Eielson Array**	**156.27**	**303**	PKPbc	PKPbc	12 53 16.8	
	comp=Z,1.2nm,1.2s,baz=114,slow=2.3,S

TA02	**Huaiquique**	**0.97 231**	*i* P		**Pn**	**12 46 30.1**	**+0.8**
TA02			*i* S		**Sn**	**12 46 45.6**	**+0.3**
TA02			IAML			12 46 50.0	
	comp=N,4μm,0.1s						
TA02	**Huaiquique**	**0.97 231**	*e*P		**Pn**	**12 46 29.5**	**+0.2**
TA02			*e*S		Sn	12 46 30.1	-15
TA02			IAML			12 46 47.1	
	comp=Z,2μm,0.1s						
PX02	**IPOC Station P**	**1.07 310**	*e*P		**Pn**	**12 46 30.3**	**-0.1**
PX02			*e*S		**Sn**	**12 46 46.8**	**-0.5**
TA01	**Diego Aracena**	**1.21 221⇑**	*i*P		**Pn**	**12 46 32.4**	**+0.6**
TA01			*i* S		**Sn**	**12 46 49.6**	**-0.1**
TA01	**Diego Aracena**	**1.21 221**	*e*P		**Pn**	**12 46 32.5**	**+0.6**
TA01			*e*S		**Sn**	**12 46 50.9**	**+1.1**
TA01			IAML			12 46 57.4	
	comp=Z,349nm,0.3s						
PB16	**IPOC Station P**	**1.32 353⇓**	*i*P		**Pn**	**12 46 35.3**	**+1.6**
PB16			*i* S		**Sn**	**12 46 54.4**	**+1.5**
PB16			IAML			12 46 56.0	
	comp=N,1μm,0.6s						
PB16	**IPOC Station P**	**1.32 353**	*e*P		**Pn**	**12 46 35.3**	**+1.6**
PB16			*e*S		**Sn**	**12 46 54.8**	**+1.8**
PB16			IAML			12 46 56.0	
	comp=Z,657nm,0.6s						
PB01	**IPOC Station P**	**1.39 186⇑**	*i*P		**Pn**	**12 46 35.0**	**+1.1**
PB01			*i* S		**Sn**	**12 46 54.3**	**+0.7**
PB01			IAML			12 46 55.6	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.39 186**	*e*P		**Pn**	**12 46 34.6**	**+0.6**
PB01			*e*S		**Sn**	**12 46 54.7**	**+1.1**
PB01			IAML			12 46 55.0	
	comp=Z,677nm,0.5s						
PATCX	**Punta Patache**	**1.40 214⇑**	*i*P		**Pn**	**12 46 34.6**	**+0.7**
PATCX			*i* S		**Sn**	**12 46 53.5**	**-0.1**
PATCX	**Punta Patache**	**1.40 214**	*e*P		**Pn**	**12 46 34.7**	**+0.7**
PATCX			*e*S		**Sn**	**12 46 54.8**	**+1.1**
PATCX			IAML			12 46 55.4	
	comp=Z,470nm,0.6s						
PB12	**IPOC Station P**	**1.40 317⇑**	*i*P		**Pn**	**12 46 34.8**	**+0.7**
PB12			*i* S		**Sn**	**12 46 53.4**	**-0.3**
PB12			IAML			12 46 55.8	
	comp=E,1μm,0.4s						
PB12	**IPOC Station P**	**1.40 317**	*e*P		**Pn**	**12 46 34.2**	**+0.1**
PB12			*e*S		**Sn**	**12 46 54.5**	**+0.8**
PB12			IAML			12 47 00.5	
	comp=Z,836nm,0.2s						
AP01	**Chacalluta**	**1.59 323**	*i* P		**Pn**	**12 46 37.1**	**+0.8**
AP01			*i* S		**Sn**	**12 46 58.0**	**+0.3**
AP01	**Chacalluta**	**1.59 323**	*e*P		**Pn**	**12 46 37.5**	**+1.3**
AP01			*e*S		**Sn**	**12 46 59.0**	**+1.3**
AP01			IAML			12 46 59.7	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**1.74 198**	*i* P		**Pn**	**12 46 39.1**	**+0.9**
PB02			*i* S		**Sn**	**12 47 00.8**	**-0.3**
PB02			IAML			12 47 05.8	
	comp=E,927nm,0.5s						
PB02	**IPOC Station P**	**1.74 198**	*e*P		**Pn**	**12 46 38.8**	**+0.6**
PB02			*e*S		**Sn**	**12 47 00.6**	**-0.5**
PB02			IAML			12 47 07.2	
	comp=Z,755nm,0.4s						
PB18	**Visviri**	**2.06 356**	IAML			12 47 21.7	
	comp=E,287nm,0.4s						
PB09	**IPOC Station P**	**2.14 178**	*i* P		**Pn**	**12 46 45.2**	**+2.0**
PB09			IAML			12 47 16.1	
	comp=E,311nm,0.4s						
PB09	**IPOC Station P**	**2.14 178**	*e*P		**Pn**	**12 46 44.8**	**+1.6**
PB09			*e*S		**Sn**	**12 47 12.5**	**+2.5**
PB09			IAML			12 47 12.9	
	comp=Z,260nm,0.4s						
PB06	**IPOC Station P**	**3.05 184⇓**	*e*P		**Pn**	**12 46 56.5**	**+1.5**
PB06	**IPOC Station P**	**3.05 184**	*e*P		**Pn**	**12 46 56.2**	**+1.2**
PB06			*e*S		Sn	12 47 19.1	-12
PB06			IAML			12 48 02.2	
	comp=Z,131nm,0.7s						
LPAZ	**La Paz**	**3.53 19**	P		**Pn**	**12 47 05.2**	**+3.2**
	comp=Z,4.0nm,0.4s,baz=190,slow=7.0,SNR=17						
LPAZ			S		**Sn**	**12 47 41.9**	**-1.5**
	comp=Z,4.6nm,0.6s,baz=212,slow=14,SNR=3.9						
LPAZ	**La Paz**	**3.53 19**	*e*P		**Pn**	**12 47 00.4**	**-1.5**
LPAZ	**La Paz**	**3.53 19**	*e*P		**Pn**	**12 47 05.2**	**+3.2**
PB10	**IPOC Station P**	**4.01 196**	*e*P		**Pn**	**12 47 07.7**	**0.0**
PB10			*e*S		Sn	12 47 38.8	-15
PB10			IAML			12 48 26.5	
	comp=Z,33nm,1.2s						
SIV	**San Ignacio**	**8.66 66**	P		**Pn**	**12 48 09.1**	**-1.6**
	comp=Z,6.7nm,0.5s,baz=262,slow=8.6,SNR=39						
VILB	**Vilhena**	**11.00 54**	*e*P		**Pn**	**12 48 43.9**	**+1.5**
BDQN	**Bodoquena, MS**	**11.85 96**	*e*P		**Pn**	**12 48 51.9**	**-1.7**
CLDB	**Colider**	**15.69 58**	*e*P		**P**	**12 49 44.0**	**-0.8**
SNDB	**Serra Nova Dou**	**18.95 69**	*e*P		**P**	**12 50 20.2**	**-0.4**
BB19B	**Bebedouro**	**19.55 98**	*e*P		**P**	**12 50 25.8**	**-1.4**
BDFB	**Brasilia**	**20.70 82**	P		**P**	**12 50 40.2**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=264,slow=10,SNR=3.7						
	comp=Z,2.7nm,0.6s						
BOAV	**Boa Vista**	**23.55 23**	*e*P		**P**	**12 51 09.5**	**+1.0**
JANB	**Januaria**	**24.30 83**	*e*P		**P**	**12 51 15.6**	**+0.2**
SDBA	**SAO DESIDERIO**	**24.54 77**	*e*P		**P**	**12 51 17.2**	**-0.3**
USHA	**Ushuaia**	**35.13 179**	LR		LR	13 08 39.8	
	comp=Z,254nm,19.1s,baz=324,slow=38						
RPN	**Rapa Nui**	**37.34 251**	LR		LR	13 05 47.1	
	comp=Z,90nm,18.7s,baz=142,slow=31						
QSPA	**South Pole Qui**	**70.53 180**	P		P	12 57 16.4	+5.7
	comp=Z,0.7nm,0.7s,baz=177,slow=3.3,SNR=3.2						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.11 71**	P		**P**	**12 57 48.9**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=236,slow=5.8,SNR=1.7						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**131.35 209**	PKP		**PKiKP**	**13 05 10.1**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=144,slow=2.2,SNR=1.4						
WRA	**Warramunga Arr**	**134.32 212**	PKP		**PKiKP**	**13 05 15.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=164,slow=2.1,SNR=2.7						

*IDC **26** 13:11:43.9±1.2, 53°.25N×35°.00W, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=35.8km s-min=22.7km az=30.0*

ISC 26 13:11:45.7±1.1, 53°.3N±0°.2×35°.0W±0°.2, h12km, n12, σ0§85/11, mb3.9/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.10**	**110**	P	**P**	**13 17 09.2**	**-0.9**
	2.5nm,1.0s,baz=314,slow=8.6,SNR=8.9						
	2.5nm,1.0s						
ARCES	**ARCESS Array B**	**31.53**	**36**	P	**P**	**13 18 08.0**	**+0.8**
	7.1nm,1.2s,baz=262,slow=6.3,SNR=4.0						
	7.1nm,1.2s						
H05N1	**Guadeloupe/Mar**	**42.14**	**219**	T	T	14 04 11.4	
BRTR	**Keskin Array B**	**47.35**	**78**	P	**P**	**13 20 18.3**	**-1.1**
	1.2nm,0.9s,baz=324,slow=6.1,SNR=5.6						
	1.2nm,0.9s						
PDAR	**Pinedale Array**	**48.79**	**289**	P	**P**	**13 20 31.0**	**+0.3**
	0.3nm,0.7s,baz=53,slow=7.9,SNR=2.8						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**49.47**	**130**	P	**P**	**13 20 36.8**	**+1.0**
	0.9nm,0.3s,baz=340,slow=8.4,SNR=4.2						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**51.21**	**329**	P	**P**	**13 20 47.7**	**-0.7**
	0.5nm,0.9s,baz=44,slow=6.6,SNR=5.6						
	0.5nm,0.9s						
BVAR	**Borovoye Array**	**57.26**	**44**	P	**P**	**13 21 33.5**	**+0.8**
	0.8nm,0.5s,baz=316,slow=6.2,SNR=5.3						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**62.39**	**41**	P	**P**	**13 22 07.8**	**-0.1**
	0.6nm,0.2s,baz=317,slow=7.6,SNR=1.3						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**66.95**	**42**	P	**P**	**13 22 38.0**	**+0.3**
	0.4nm,0.6s,baz=344,slow=5.3,SNR=5.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**145.74**	**18**	PKPbc	**PKPbc**	**13 31 23.9**	**-0.4**
	0.8nm,0.9s,baz=340,slow=2.6,SNR=3.8						
ASAR	**Alice Springs**	**149.27**	**20**	PKPbc	**PKPbc**	**13 31 33.5**	**-0.6**
	0.5nm,0.7s,baz=354,slow=2.3,SNR=7.2						

*IDC **26** 13:22:22.3±2.2, 0°.71S×132°.96E, h0km, mb3.9/3, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=102.9km s-min=21.2km az=78.0*

*DJA **26** 13:22:25.4±1.7, 1°.5S±6°×13°.3E±°, h15km±15km, M4.2/12, mB5.2/3, mb4.5/7, MLv4.1/12, Mw(mB)4.6/3*

ISC 26 13:22:26.6±1.2, 0°.6S±0°.1×133°.17E±0°.06, h32km, n14, σ1§06/16, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.34 132**		P	**Pn**	**13 22 49.3**	**+0.2**
RKPI				S	**Sn**	**13 23 06.9**	**+1.0**
SWI	**Sorong**	**1.93 263**		P	**Pn**	**13 22 57.8**	**+0.6**
SWI				S	**Sb**	**13 23 23.5**	**-1.4**
FAKI	**Fak Fak**	**2.47 202**		P	**Pn**	**13 23 04.6**	**-0.1**
BAKI	**Biak**	**2.99 101**		P	**Pn**	**13 23 12.1**	**+0.3**
KMPI	**Kaimana, Papua**	**3.07 170**		P	**Pn**	**13 23 14.0**	**+1.0**
MSAI	**Masohi**	**5.04 237**		P	**Pn**	**13 23 40.7**	**+0.7**
	3μm61nm,0.7s						
BNDI	**Bandanaira**	**5.07 220**		P	**Pn**	**13 23 42.1**	**+1.6**
AAI	**Ambon**	**5.84 238**		P	**Pn**	**13 23 52.0**	**+1.0**
NLAI	**Namlea**	**6.61 247**		P	**Pn**	**13 24 02.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.89 203**		P	**P**	**13 26 43.5**	**-1.1**
	0.1nm,0.3s,baz=31,slow=9.7,SNR=1.8						
FITZ				S	Sn	13 30 01.9	-14
	2.4nm,0.9s,baz=133,slow=19,SNR=1.9						
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**19.25 177**		P	**P**	**13 26 47.0**	**-1.4**
	0.2nm,0.3s,baz=354,slow=12,SNR=7.8						
WRA				S	S	13 30 14.9	-10
	0.5nm,0.7s,baz=358,slow=22,SNR=3.3						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**22.93 178**		P	**P**	**13 27 27.3**	**-0.9**
	1.3nm,0.4s,baz=356,slow=11,SNR=24						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**64.80 324**		P	**P**	**13 33 03.0**	**+0.7**
	0.7nm,0.5s,baz=110,slow=7.6,SNR=10						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**68.88 326**		P	**P**	**13 33 28.0**	**-0.1**
	0.5nm,0.3s,baz=127,slow=6.1,SNR=6.7						
	0.5nm,0.3s						

*CATAC **26** 13:34:32.3±0.4, 12°.N±3°.×8°.6W±°, h102km±3km, M3.1/25, MLv3.1/25, Error ellipse: s-maj=9.9km s-min=3.1km az=48.9, confirmed*

*UCR **26** 13:34:32.3±0.6, 11°.64N×86°.18W, h101km±6km, MW3.5*

ISC 26 13:34:31.7±1.7, 11°.61N±0°.07×86°.21W±0°.09, h118km±11km, n48, σ0§47/62, 5C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.23**	**51**	⇓P	**Pn**	**13 34 48.3**	**0.0**
NADN				S	**Sn**	**13 35 00.9**	**+0.2**
MAS3	**Al N del Volca**	**0.42**	**5**	P	**Pn**	**13 34 49.5**	**+0.4**
MAS3				S	**Sn**	**13 35 02.3**	**+0.1**
UNAN	**Cigeo UNAN**	**0.51**	**353**	⇓P	**Pn**	**13 34 49.5**	**-0.1**
UNAN				S	**Sn**	**13 35 03.0**	**0.0**
ABCN	**Banco Central**	**0.52**	**349**	S	**Sn**	**13 35 03.6**	**+0.4**
AERN	**Aeropuerto Man**	**0.54**	**4**	S	**Sn**	**13 35 03.7**	**+0.3**
TISN	**Laguna Tiscapa**	**0.54**	**354**	⇓P	**Pn**	**13 34 49.7**	**-0.1**
MGAN	**Managua**	**0.54**	**356**	S	**Sn**	**13 35 03.6**	**+0.3**
MGAN	**Managua**	**0.54**	**356**	⇓P	**Pn**	**13 34 49.8**	**0.0**
ALLN	**Telcor Managua**	**0.55**	**353**	S	**Sn**	**13 35 03.6**	**+0.1**
WILN	**Americas 2**	**0.55**	**2**	⇓P	**Pn**	**13 34 49.9**	**0.0**
WILN				S	**Sn**	**13 35 04.1**	**+0.5**
MORN	**Al O del Volca**	**0.55**	**96**	⇑P	**Pn**	**13 34 50.0**	**+0.1**
CONN	**Concepcion**	**0.57**	**94**	⇑P	**Pn**	**13 34 50.0**	**0.0**
OMEN	**Al SSO del Vol**	**0.58**	**99**	⇑P	**Pn**	**13 34 48.2**	**-1.9**
APQ2	**Apoyeque**	**0.60**	**349**	P	**Pn**	**13 34 51.0**	**+0.8**
APQ2				S	**Sn**	**13 35 04.2**	**+0.1**
AMTN	**Mateare**	**0.66**	**341**	S	**Sn**	**13 35 05.4**	**+0.5**
APQ3	**Volcan Apoyequ**	**0.68**	**347**	P	**Pn**	**13 34 50.2**	**-0.6**
APQ3				S	**Sn**	**13 35 05.4**	**+0.2**
COPN	**Copaltepe**	**0.68**	**327**	⇓P	**Pn**	**13 34 50.4**	**-0.4**
COPN	**Copaltepe**	**0.68**	**327**	*e*P	**Pn**	**13 34 50.1**	**-0.7**
LCRUZ	**La Cruz**	**0.77**	**133**	*e*P	**Pn**	**13 34 51.5**	**-0.1**
LCRUZ				*e*S	**Sn**	**13 35 06.2**	**-0.3**
CARN	**Rivas**	**0.79**	**122**	⇑P	**Pn**	**13 34 51.7**	**+0.1**
CARN				S	**Sn**	**13 35 07.2**	**+0.4**
MOM2	**El Cardon**	**0.87**	**342**	P	**Pn**	**13 34 52.5**	**+0.1**
MOM2				S	**Sn**	**13 35 07.8**	**-0.2**
CNGA	**Al SSO del Vol**	**1.01**	**332**	⇓P	**Pn**	**13 34 53.6**	**-0.1**
CNGA				S	**Sn**	**13 35 09.5**	**-0.9**
CNGN	**Cerro Negro**	**1.01**	**332**	S	**Sn**	**13 35 10.3**	**-0.1**
CNGN	**Cerro Negro**	**1.01**	**332**	P	**Pn**	**13 34 53.7**	**-0.1**
BUAI	**Buenos Aires**	**1.12**	**130**	*e*P	**Pn**	**13 34 55.1**	**+0.2**
PEJA	**Penjamo Buenos**	**1.13**	**129**	*e*P	**Pn**	**13 34 55.1**	**+0.1**
LAPC	**Finca la Perla**	**1.13**	**137**	*e*P	**Pn**	**13 34 54.8**	**-0.1**
VRLE	**La Escondida,**	**1.16**	**134**	*e*P	**Pn**	**13 34 55.4**	**0.0**
GPS2	**Hotel Rincn d**	**1.19**	**135**	*e*P	**Pn**	**13 34 56.1**	**+0.3**
POLN	**Al Sur del Vol**	**1.19**	**330**	P	**Pn**	**13 34 56.3**	**+0.6**
POLN				S	**Sn**	**13 35 12.9**	**-0.9**
ALIBA	**Liberia Airpor**	**1.20**	**147**	*e*P	**Pn**	**13 34 56.2**	**+0.5**
PKGN	**Cerro Pekin**	**1.30**	**325**	P	**Pn**	**13 34 56.8**	**+0.1**
PKGN				S	**Sn**	**13 35 16.0**	**+0.3**
MESS	**Mesas**	**1.32**	**131**	*e*P	**Pn**	**13 34 57.2**	**+0.1**
VMAR	**Armenia, Volca**	**1.33**	**126**	*e*P	**Pn**	**13 34 57.2**	**0.0**
MATN	**Matagalpa**	**1.35**	**12**	⇓P	**Pn**	**13 34 56.6**	**-0.8**
CRIN	**San Cristobal**	**1.36**	**323**	S	**Sn**	**13 35 17.0**	**-0.2**
CRIN	**San Cristobal**	**1.36**	**323**	⇓P	**Pn**	**13 34 57.6**	**0.0**
CUI	**Cuipilapa**	**1.39**	**132**	*e*P	**Pn**	**13 34 58.2**	**+0.3**
LIMN	**Finca el Limon**	**1.46**	**354**	⇑P	**Pn**	**13 34 58.8**	**+0.2**
LIMN				S	**Sn**	**13 35 19.8**	**+0.6**
TENO	**El Achiote**	**1.50**	**126**	*e*P	**Pn**	**13 34 59.2**	**0.0**
JUD3	**Juan Diaz 3**	**1.57**	**155**	*e*P	**Pn**	**13 35 00.4**	**+0.3**
INVE	**Universidad In**	**1.59**	**135**	*e*P	**Pn**	**13 35 00.7**	**+0.5**
SAJU	**San Juanillo,**	**1.60**	**162**	*e*P	**Pn**	**13 35 00.2**	**-0.1**
JTS	**Las Juntas de**	**1.80**	**136**	P	**Pn**	**13 35 02.0**	**-0.6**
JTS				S	**Sn**	**13 35 25.3**	**-1.0**
JTS	**Las Juntas de**	**1.80**	**136**	*e*P	**Pn**	**13 35 02.7**	**0.0**
CSGN	**Cosiguina Volc**	**1.90**	**316**	*e*P	**Pn**	**13 35 03.6**	**-0.3**
RCFN	**Al S de San Ju**	**1.92**	**360**	⇓P	**Pn**	**13 35 04.8**	**+0.5**
JCR1	**Jicaral**	**2.05**	**148**	*e*P	**Pn**	**13 35 06.3**	**+0.5**

*IDC **26** 13:35:10.7±2.7, 5°.83S×148°.38E, h210km±18km, mb3.5/4, mbtmp4.0/6, Error ellipse: s-maj=37.7km s-min=21.2km az=140.0*

ISC 26 13:35:08.9±1.6, 5°.8S±0°.2×148°.6E±0°.2, h200km, n12, σ1§58/14, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.88**	**201**	P	**Pn**	**13 36 10.1**	**+0.9**
	11nm,0.3s,baz=5.4,slow=6.7,SNR=15						
PMG				S	**Sn**	**13 36 56.7**	**0.0**
	35nm,0.4s,baz=176,slow=17,SNR=6.5						
PMG	**Port Moresby**	**3.88**	**201**	P	**Pn**	**13 36 10.1**	**+0.9**
COEN	**Coen**	**9.72**	**213**	P	**Pn**	**13 37 28.8**	**+4.2**
QIS	**Mount Isa**	**17.09**	**210**	P	**Pn**	**13 38 55.8**	**-0.6**
DRS	**Darwin Rock St**	**18.66**	**248**	P	**P**	**13 39 11.7**	**-0.4**
WRAB	**Tennant Creek**	**19.74**	**223**	P	**P**	**13 39 23.1**	**-0.6**
WRA	**Warramunga Arr**	**19.75**	**223**	P	**P**	**13 39 23.5**	**-0.3**
	2.5nm,0.3s,baz=48,slow=11,SNR=55						
WRA				S	**S**	**13 42 53.4**	**-2.2**
	1.5nm,0.6s,baz=42,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**22.72**	**217**	P	**P**	**13 39 53.8**	**-0.1**
	1.2nm,0.3s,baz=50,slow=8.6,SNR=36						
	1.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**25.52**	**239**	P	**P**	**13 40 18.1**	**-1.3**
	5.4nm,0.4s,baz=60,slow=10,SNR=22						
	5.4nm,0.4s						
VNDA	**Vanda**	**72.06**	**177**	P	**P**	**13 46 10.2**	**-0.5**
	0.4nm,0.7s,baz=326,slow=6.3,SNR=3.9						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**84.20**	**180**	P	**P**	**13 47 18.7**	**+1.0**
	0.4nm,0.5s,baz=353,slow=10,SNR=6.2						
	0.4nm,0.5s						
DBIC	**Dimbokro**	**153.57**	**273**	PKPbc	**PKPbc**	**13 54 44.8**	**-0.2**
	1.7nm,0.6s,baz=90,slow=3.0,SNR=1.9						

*IDC **26** 13:47:48.5±0.9, 53°.09N×35°.04W, h0km, mb3.8/10, mbtmp3.7/11, ML3.6/2, MS3.5/21, Error ellipse: s-maj=32.1km s-min=17.2km az=11.0*

ISC 26 13:47:50.3±0.9, 53°.1N±0°.2×35°.1W±0°.1, h13km, n32, σ0§60/14, mb3.8/9, MS3.4/19, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.91**	**337**	LR	LR	13 56 26.3	
	comp=Z,100nm,21.0s,baz=177,slow=33						
SCHQ	**Schefferville**	**18.70**	**288**	P	**Pn**	**13 52 08.5**	**-0.1**
	1.1nm,0.3s,baz=121,slow=8.2,SNR=4.2						
SCHQ				LR	LR	13 57 53.3	
	comp=Z,1μm,18.9s,baz=94,slow=32						
EKA	**Eskdalemuir Ar**	**18.71**	**70**	P	**Pn**	**13 52 08.6**	**-0.1**
	baz=298,slow=7.5						
	1.9nm,0.8s						
FRB	**Frobisher Bay**	**20.28**	**315**	LR	LR	13 57 56.0	
	comp=Z,123nm,19.1s,baz=66,slow=30						
ESDC	**Sonseca Array**	**25.06**	**110**	P	**P**	**13 53 14.5**	**+0.2**
	3.9nm,0.9s,baz=317,slow=8.6,SNR=19						
ESDC				LR	LR	14 00 57.2	
	comp=Z,114nm,18.8s,baz=316,slow=32						
	3.9nm,0.9s						
NOA	**NORSAR Array B**	**25.90**	**54**	LR	LR	14 01 43.4	
	comp=Z,38nm,18.5s,baz=245,slow=32						
SADO	**Sadovya**	**29.72**	**272**	LR	LR	14 04 56.7	
	comp=Z,815nm,18.6s,baz=75,slow=35						
MDT	**Midelt**	**29.75**	**121**	LR	LR	14 03 37.4	
	comp=Z,39nm,19.7s,baz=344,slow=32						
RES	**Resolute Bay**	**31.87**	**334**	LR	LR	14 04 47.6	
	comp=Z,76nm,20.4s,baz=32,slow=32						
VRAC	**Vranov**	**32.01**	**76**	LR	LR	14 06 34.0	
	comp=Z,80nm,18.0s,baz=314,slow=35						
FINES	**FINESS Array B**	**32.94**	**51**	LR	LR	14 06 03.2	
	comp=Z,40nm,19.6s,baz=240,slow=33						
KEST	**Kesra**	**35.47**	**101**	LR	LR	14 07 28.4	
	comp=Z,54nm,20.1s,baz=278,slow=33						
ULM	**Lac du Bonnet**	**36.84**	**291**	LR	LR	14 08 20.7	
	comp=Z,52nm,19.4s,baz=42,slow=33						
TKL	**Tuckaleechee C**	**38.09**	**263**	LR	LR	14 10 27.9	
	comp=Z,74nm,18.9s,baz=72,slow=36						
YKA	**Yellowknife Ar**	**40.80**	**316**	LR	LR	14 10 37.5	
	comp=Z,47nm,18.3s,baz=306,slow=34						
H05N1	**Guadeloupe/Mar**	**41.97**	**219**	T	T	14 40 16.0	
	SNR=4.4						
BRTR	**Keskin Array B**	**47.42**	**77**	P	**P**	**13 56 25.7**	**+1.3**
	2.8nm,0.9s,baz=300,slow=5.6,SNR=11						
BRTR				LR	LR	14 17 59.7	
	comp=Z,29nm,18.4s,baz=229,slow=38						
	2.8nm,0.9s						
PDAR	**Pinedale Array**	**48.84**	**290**	P	**P**	**13 56 35.6**	**+0.1**
	0.7nm,0.7s,baz=64,slow=6.8,SNR=6.8						
PDAR				LR	LR	14 15 37.6	
	comp=Z,42nm,18.9s,baz=22,slow=34						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**49.36**	**130**	P	**P**	**13 56 39.0**	**-0.4**
	0.4nm,0.3s,baz=328,slow=6.8,SNR=3.7						
	0.4nm,0.3s						
NEW	**Newport**	**49.54**	**300**	LR	LR	14 15 05.2	
	comp=Z,56nm,18.1s,baz=6.5,slow=33						
ILAR	**Eielson Array**	**51.37**	**329**	P	**P**	**13 56 54.7**	**+0.6**
	1.1nm,1.0s,baz=51,slow=5.5,SNR=6.8						
	1.1nm,1.0s						
ANMO	**Albuquerque**	**52.21**	**280**	LR	LR	14 18 39.6	
	comp=Z,102nm,18.8s,baz=118,slow=36						
DBIC	**Dimbokro**	**52.40**	**141**	LR	LR	14 16 14.6	
	comp=Z,63nm,20.0s,baz=34,slow=32						
TXAR	**Lajitas Array**	**54.49**	**273**	P	**P**	**13 57 17.8**	**+0.1**
	0.4nm,1.0s,baz=24,slow=10,SNR=1.9						
	0.4nm,1.0s						
NVAR	**Mina Array Bea**	**56.68**	**291**	LR	LR	14 20 48.2	
	comp=Z,42nm,18.7s,baz=14,slow=35						
BVAR	**Borovoye Array**	**57.43**	**44**	P	**P**	**13 57 38.2**	**0.0**
	0.9nm,0.6s,baz=326,slow=7.7,SNR=5.9						
	0.9nm,0.6s						
JTS	**Las Juntas de**	**58.39**	**242**	LR	LR	14 21 21.6	
	comp=Z,13nm,19.5s,baz=358,slow=34						
KURBB	**Kurchatov Arra**	**62.56**	**41**	P	**P**	**13 58 12.9**	**-0.6**
	0.6nm,0.8s,baz=324,slow=7.2,SNR=5.4						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**67.12**	**41**	P	**P**	**13 58 42.6**	**-0.7**
	0.6nm,0.7s,baz=327,slow=3.8,SNR=5.2						
	0.6nm,0.7s						
SONM	**Songino Array**	**74.27**	**26**	P	**P**	**13 59 26.8**	**-0.2**
	0.2nm,0.4s,baz=344,slow=4.8,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**145.94**	**18**	PKPbc	**PKPab**	**14 07 29.2**	**-0.7**
	1.8nm,0.9s,baz=343,slow=3.5,SNR=10						
ASAR	**Alice Springs**	**149.47**	**20**	PKPbc	**PKPbc**	**14 07 38.8**	**-0.3**
	0.9nm,0.7s,baz=353,slow=2.2,SNR=18						

IDC 26 13:48:38.8±7.2, 30°.23S×177°.75W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=300.8km s-min=56.6km az=155.0, Kermadec Islands

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

H10S3 ASCENSION HYDR 51.02 5 T T 15 04 25.0
baz=182,slow=74,SNR=6.5
H10N1 ASCENSION HYDR 52.13 5 T T 15 05 45.6
baz=180
H10N3 ASCENSION HYDR 52.13 5 T T 15 05 46.9
baz=180
H10N2 ASCENSION HYDR 52.14 5 T T 15 05 55.1
baz=180
SIV San Ignacio 53.66 306 P **P 14 09 21.0 -1.0**
comp=Z,0.7nm,0.5s,baz=163,slow=7.2,SNR=4.0
comp=Z,0.7nm,0.5s
LPAZ La Paz 56.39 299 P **P 14 09 42.7 +0.3**
comp=Z,1.4nm,0.7s,baz=143,slow=5.2,SNR=5.4
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 74.69 20 P **P 14 11 39.2 -0.6**
comp=Z,0.4nm,0.6s,baz=212,slow=7.4,SNR=2.8
comp=Z,0.4nm,0.6s
SONM Songino Array 146.35 86 PKPbc **PKPab 14 19 41.1 -0.1**
comp=Z,1.6nm,0.9s,baz=233,slow=3.7,SNR=6.9

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*IDC **26** 14:01:09.9±1.0, 60°.01S×18°.70W, h0km, mb3.7/6, mbtmp3.9/7, ML4.5/1, MS3.3/1, Error ellipse: s-maj=43.8km s-min=21.1km az=51.0*

ISC 26 14:01:12.5±0.9, 60°.0S±0°.1×18°.6W±0°.2, h18km, n27, σ1ŝ55/19, mb4.0/6, 5C, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.49**	**163**	P	**Pn**	**14 03 54.4**	**-1.0**
VNA1	**Neumayer--Stat**	**11.49**	**163**	⇑P	**Pn**	**14 03 54.4**	**-1.0**
	comp=Z,21nm,1.0s						
VNA3	**Neumayer Olymp**	**11.85**	**166**	P	**Pn**	**14 03 57.9**	**-2.4**
VNA3	**Neumayer Olymp**	**11.85**	**166**	⇑P	**Pn**	**14 03 57.9**	**-2.4**
	comp=Z,8.3nm,0.3s						
VNA2	**Neumayer--Watz**	**11.87**	**162**	P	**Pn**	**14 03 59.2**	**-1.5**
	baz=338,slow=15						
VNA2	**Neumayer--Watz**	**11.87**	**162**	⇑P	**Pn**	**14 03 59.2**	**-1.5**
	comp=Z,8.4nm,0.5s,baz=338,slow=15						
SNAA	**Sanae**	**13.29**	**158**	P	**Pn**	**14 04 18.4**	**-1.7**
SNAA	**Sanae**	**13.29**	**158**	⇑P	**Pn**	**14 04 18.4**	**-1.7**
	comp=Z,238nm,0.4s						
SNAA	**Sanae**	**13.29**	**158**	Pn	**Pn**	**14 04 18.8**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=317,slow=13,SNR=9.4						
	comp=Z,9.0nm,0.4s						
TROLL	**Troll, Antarti**	**14.65**	**154**	P	**Pn**	**14 04 37.8**	**-0.9**
TROLL	**Troll, Antarti**	**14.65**	**154**	⇑P	**Pn**	**14 04 37.8**	**-0.9**
	comp=Z,425nm,0.5s						
QSPA	**South Pole Qui**	**30.23**	**180**	P	**P**	**14 07 24.8**	**+3.0**
	comp=Z,1.5nm,0.6s,baz=219,slow=2.8,SNR=6.5						
MAW	**Mawson**	**34.18**	**138**	P	**P**	**14 07 56.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=255,slow=9.1,SNR=5.4						
MAW				LR	LR	14 18 51.1	
	comp=Z,52nm,20.9s,baz=265,slow=31						
	comp=Z,1.5nm,0.8s						
H04S2	**CROZET ISLANDS**	**41.92**	**104**	T	T	14 54 26.7	
	baz=225						
H04S3	**CROZET ISLANDS**	**41.93**	**104**	T	T	14 54 26.7	
	baz=225						
H04S1	**CROZET ISLANDS**	**41.94**	**104**	T	T	14 54 26.7	
	baz=225						
VNDA	**Vanda**	**42.72**	**180**	P	**P**	**14 09 08.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=196,slow=10.0,SNR=1.8						
	comp=Z,0.3nm,0.6s						
CPUP	**Villa Florida**	**42.86**	**304**	P	**P**	**14 09 08.3**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=15,slow=7.3,SNR=3.8						
	comp=Z,0.6nm,0.8s						
H10S2	**ASCENSION HYDR**	**51.03**	**5**	T	T	15 05 36.2	
	baz=182						
H10S3	**ASCENSION HYDR**	**51.03**	**5**	T	T	15 05 38.7	
	baz=38						
H10N1	**ASCENSION HYDR**	**52.14**	**5**	T	T	15 07 00.8	
	baz=186						
H10N3	**ASCENSION HYDR**	**52.14**	**5**	T	T	15 06 54.2	
	baz=186						
H10N2	**ASCENSION HYDR**	**52.16**	**5**	T	T	15 06 57.1	
	baz=186						
SIV	**San Ignacio**	**53.63**	**306**	P	**P**	**14 10 32.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=144,slow=8.7,SNR=3.6						
	comp=Z,0.7nm,0.5s						
LPAZ	**La Paz**	**56.36**	**299**	P	**P**	**14 10 53.7**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=215,slow=12,SNR=4.4						
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.71**	**20**	P	**P**	**14 12 51.2**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=172,slow=4.9,SNR=2.2						
	comp=Z,0.6nm,0.9s						
SONM	**Songino Array**	**146.40**	**86**	PKPbc	**PKPab**	**14 20 51.8**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=218,slow=3.8,SNR=4.7						

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*IDC **26** 14:03:26.0±2.6, 5°.95S×112°.82E, h592km±33km, mb2.9/14, mbtmp3.9/15, Error ellipse: s-maj=25.8km s-min=10.4km az=71.0*

*DJA **26** 14:03:25.8±0.2, 6°.S±4°.×11°.3E±°, h587km±3km, M4.0/26, mB4.8/3, mb3.9/15, MLv4.0/26, Mw(mB)4.0/3*

ISC 26 14:03:25.3±0.5, 6°.07S±0°.08×112°.81E±0°.07, h590km, n42, σ1ŝ32/50, mb3.5/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWJI	**Bawean**	**0.27**	**326**	P	**P**	**14 04 34.4**	**-0.2**
GRJI	**Gresik**	**0.90**	**201**	P	**P**	**14 04 36.1**	**+0.7**
GRJI				S	**S**	**14 05 32.7**	**+0.4**
TBJI	**Tambak Boyo**	**1.21**	**232**	P	**P**	**14 04 36.8**	**+0.7**
KMMI	**Kalianget**	**1.51**	**130**	P	**P**	**14 04 38.2**	**+1.3**
KMMI				S	**S**	**14 05 36.2**	**+1.1**
BLJI	**Banyuglugur**	**1.84**	**155**	P	**P**	**14 04 38.7**	**+0.6**
BLJI				S	**S**	**14 05 37.3**	**+0.1**
NGJI	**Ngawi**	**1.86**	**226**	P	**P**	**14 04 39.7**	**+1.5**
ABJI	**Asem Bagus**	**2.22**	**140**	P	**P**	**14 04 40.7**	**+1.0**
SMRI	**Semarang**	**2.54**	**247**	P	**P**	**14 04 42.0**	**+0.8**
PCJI	**Pacitan**	**2.66**	**217**	P	**P**	**14 04 41.4**	**-0.4**
JAGI	**Jajag, Banyuwa**	**2.73**	**151**	P	**P**	**14 04 41.7**	**-0.5**
UGM	**Wanagama**	**2.91**	**231**	P	**P**	**14 04 43.3**	**+0.1**
SRBI	**Singaraja**	**3.11**	**130**	P	**P**	**14 04 44.8**	**+0.5**
BBKI	**Banjar Baru**	**3.29**	**38**	P	**P**	**14 04 45.7**	**+0.2**
KPJI	**Karang Pucung**	**4.05**	**252**	P	**P**	**14 04 50.8**	**+0.4**
TWSI	**Taliwang, Sumb**	**4.83**	**123**	P	**P**	**14 04 55.1**	**-1.2**
LEM	**Lembang**	**5.21**	**261**	S	**S**	**14 06 12.2**	**-4.2**
	18nm,0.4s,baz=349,slow=23,SNR=2.1						
PLAI	**Plampang**	**5.64**	**119**	P	**P**	**14 05 01.8**	**-1.1**
	0.3nm35nm,1.4s						
CNJI	**Cibinong**	**5.77**	**257**	P	**P**	**14 05 02.7**	**-1.3**
	0.3nm21nm,1.4s						
TPI	**Tanjungpandan**	**6.10**	**302**	P	**P**	**14 05 07.4**	**+0.5**
	0.1nm35nm,0.7s						
SKJI	**Sukabumi**	**6.28**	**261**	P	**P**	**14 05 07.6**	**-0.9**
CGJI	**Cibinong**	**7.09**	**265**	P	**P**	**14 05 14.6**	**-1.2**
	2μm35nm,1.6s						
WBSI	**Waikabubak, Su**	**7.42**	**119**	P	**P**	**14 05 16.8**	**-2.2**
	39nm,1.3s						
BNSI	**Bone**	**7.46**	**77**	P	**P**	**14 05 19.5**	**+0.3**
	0.1nm25nm,0.9s						
BATI	**Baumata**	**11.50**	**112**	S	**S**	**14 08 01.6**	**-3.9**
	11nm,0.4s,baz=225,slow=14,SNR=2.1						
FITZ	**Fitzroy Crossi**	**17.31**	**135**	P	**P**	**14 06 56.1**	**+1.0**
	8.4nm,0.7s,baz=309,slow=5.0,SNR=20						
WRA	**Warramunga Arr**	**25.06**	**125**	PcP	**PcP**	**14 11 18.9**	**+0.2**
	0.8nm,0.8s,baz=317,slow=2.5,SNR=6.5						
WRA				S	**S**	**14 11 46.3**	**-2.4**
	1.0nm,0.8s,baz=293,slow=18,SNR=6.9						
ASAR	**Alice Springs**	**26.79**	**133**	P	**P**	**14 08 20.8**	**+0.8**
	0.3nm,0.5s,baz=306,slow=8.2,SNR=12						
ASAR				PcP	**PcP**	**14 11 23.2**	**+0.4**
	0.9nm,0.6s,baz=313,slow=2.1,SNR=12						
ASAR				S	**S**	**14 12 13.7**	**-2.1**
	0.3nm,0.6s,baz=303,slow=15,SNR=6.1						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.95**	**331**	P	**P**	**14 08 30.5**	**+0.5**
	0.6nm,0.4s,baz=156,slow=8.1,SNR=7.4						
CMAR				PcP	**PcP**	**14 11 26.7**	**+1.0**
	0.4nm,0.5s,baz=130,slow=2.9,SNR=1.0						
	0.6nm,0.4s						
KSRS	**Korea Array**	**45.54**	**17**	P	**P**	**14 10 53.6**	**+0.2**
	1.2nm,0.7s,baz=193,slow=8.1,SNR=3.3						
	1.2nm,0.7s						
SONM	**Songino Array**	**53.97**	**355**	P	**P**	**14 11 55.0**	**0.0**
	0.6nm,0.6s,baz=175,slow=9.9,SNR=4.0						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**59.19**	**336**	P	**P**	**14 12 30.2**	**-0.4**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=6.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.74**	**336**	P	**P**	**14 12 59.1**	**-1.0**
	0.2nm,0.4s,baz=148,slow=5.5,SNR=2.3						
KURBB				PcP	**PcP**	**14 13 29.0**	**-0.8**
	0.2nm,0.3s,baz=141,slow=3.2,SNR=4.8						
	0.2nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**64.26**	**342**	P	**P**	**14 13 02.1**	**-1.3**
	0.4nm,0.5s,baz=171,slow=10,SNR=2.0						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**68.92**	**334**	P	**P**	**14 13 31.9**	**-0.1**
	0.9nm,0.6s,baz=144,slow=6.9,SNR=5.4						
	0.9nm,0.6s						
MAW	**Mawson**	**69.98**	**198**	P	**P**	**14 13 39.0**	**+0.9**
	1.3nm,0.6s,baz=68,slow=5.9,SNR=9.2						
	1.3nm,0.6s						
PETK	**Petropavlovsk-**	**70.07**	**27**	P	**P**	**14 13 38.2**	**-0.7**
	1.1nm,0.6s,baz=230,slow=8.2,SNR=5.2						
	1.1nm,0.6s						
VNDA	**Vanda**	**75.86**	**170**	P	**P**	**14 14 12.3**	**+0.7**
	0.7nm,0.6s,baz=316,slow=7.1,SNR=14						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**14 14 56.8**	**+2.9**
	0.8nm,0.5s,baz=257,slow=0.6,SNR=18						
	0.8nm,0.5s						
BOSA	**Boshof**	**84.98**	**242**	P	**P**	**14 15 00.1**	**0.0**
	1.4nm,0.5s,baz=15,slow=3.4,SNR=7.4						
	1.4nm,0.5s						
BRTR	**Keskin Array B**	**85.57**	**311**	P	**P**	**14 15 01.9**	**-0.7**
	1.1nm,0.8s,baz=111,slow=5.4,SNR=6.6						
	1.1nm,0.8s						
CPUP	**Villa Florida**	**146.40**	**196**	PKPbc	**PKPbc**	**14 22 02.7**	**+0.9**
	0.4nm,0.5s,baz=77,slow=3.5,SNR=4.4						
BDFB	**Brasilia**	**151.25**	**221**	PKPbc	**PKPbc**	**14 22 14.0**	**-0.1**
	2.9nm,0.5s,baz=104,slow=4.2,SNR=4.1						

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*IDC **26** 14:08:51.9±1.1, 29°.72N×98°.87E, h0km, mb3.5/5, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=60.8km s-min=18.6km az=66.0*

ISC 26 14:08:53.6±0.9, 29°.65N±0°.06×98°.8E±0°.2, h10km, n9, σ1ŝ74/12, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**4.61**	**183**	Pn	**Pn**	**14 10 04.0**	**+0.5**
TNCH				Pg	**Pb**	**14 10 16.5**	**+1.8**
TNCH				Sn	**Sn**	**14 10 57.0**	**-0.3**
TNCH				Sg	**Sg**	**14 11 18.3**	**-3.4**
TNCH				smax	smax		
	comp=N,120nm,1.0s						
TNCH				smax	smax		
	comp=E,130nm,0.8s						
TNCH				LR	LR		
	comp=N,250nm,4.7s						
TNCH				LR	LR		
	comp=E,160nm,4.3s						
GOMU	**GeErMu**	**7.32**	**334**	P	**Pn**	**14 10 41.3**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.15**	**179**	Pn	**Pn**	**14 11 35.2**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=5.4,slow=12,SNR=4.3						
SONM	**Songino Array**	**19.09**	**16**	P	**Pn**	**14 13 16.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=188,slow=9.7,SNR=2.5						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**21.38**	**328**	P	**P**	**14 13 39.7**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=138,slow=11,SNR=7.8						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**25.88**	**330**	P	**P**	**14 14 26.1**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=139,slow=10,SNR=8.5						
	comp=Z,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**26.31**	**341**	P	**P**	**14 14 28.4**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=145,slow=10,SNR=2.2						
	comp=Z,0.5nm,0.4s						
WRA	**Warramunga Arr**	**60.06**	**141**	P	**P**	**14 19 01.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=329,slow=7.4,SNR=6.1						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**62.86**	**144**	P	**P**	**14 19 18.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=326,slow=7.0,SNR=4.1						
	comp=Z,0.2nm,0.6s						

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*IDC **26** 14:20:43.1±2.3, 29°.21S×178°.44W, h200km±20km, mb3.5/11, mbtmp4.0/12, Error ellipse: s-maj=20.4km s-min=16.4km az=110.0*

ISC 26 14:20:43.5±0.5, 29°.23S±0°.07×178°.8W±0°.1, h200km, n57, σ1ŝ51/59, mb3.5/12, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.79**	**91**	P	**Pn**	**14 21 14.6**	**+2.7**
GLKZ	**Green Lake**	**0.80**	**92**	P	**Pn**	**14 21 14.3**	**+2.4**
GLKZ				S	**Sn**	**14 21 37.3**	**+3.3**
WMGZ	**Waiomatatini S**	**8.87**	**194**	P	**Pn**	**14 22 48.6**	**+0.7**
WMGZ				S	**Sn**	**14 24 28.9**	**+1.5**
HAZ	**Te Kaha**	**8.96**	**197**	P	**Pn**	**14 22 49.9**	**+0.8**
HAZ				S	**Sn**	**14 24 28.6**	**-0.9**
PKGZ	**Pakihiroa**	**8.99**	**196**	P	**Pn**	**14 22 49.0**	**-0.5**
PKGZ				S	**Sn**	**14 24 32.4**	**+2.1**
PUZ	**Puketiti**	**9.14**	**195**	P	**Pn**	**14 22 50.2**	**-1.3**
PUZ				S	**Sn**	**14 24 34.9**	**+0.9**
RUGZ	**Raukumara Rang**	**9.18**	**198**	P	**Pn**	**14 22 52.5**	**+0.3**
RUGZ				S	**Sn**	**14 24 33.2**	**-1.9**
CNGZ	**Carnagh Statio**	**9.55**	**194**	P	**Pn**	**14 22 56.3**	**-0.4**
MWZ	**Matawai**	**9.57**	**197**	P	**Pn**	**14 22 56.1**	**-1.0**
MWZ				S	**Sn**	**14 24 44.2**	**+0.1**
TKGZ	**Te Karaka**	**9.59**	**196**	P	**Pn**	**14 22 58.7**	**+1.4**
TKGZ				S	**Sn**	**14 24 42.9**	**-1.6**
URZ	**Urewera**	**9.62**	**199**	P	**Pn**	**14 22 57.4**	**-0.2**
	3.6nm,0.2s,baz=86,slow=15,SNR=12						
URZ				S	**Sn**	**14 24 46.1**	**+1.0**
	15nm,0.3s,baz=45,slow=19,SNR=13						
URZ	**Urewera**	**9.62**	**199**	P	**Pn**	**14 22 57.8**	**+0.2**
URZ				S	**Sn**	**14 24 44.3**	**-0.9**
RTZ	**Ruatahuna**	**9.98**	**199**	P	**Pn**	**14 23 01.5**	**-1.0**
RTZ				S	**Sn**	**14 24 54.8**	**+0.7**
PXZ	**Pawanui**	**11.34**	**197**	P	**Pn**	**14 23 20.4**	**+0.6**
PXZ				S	**Sn**	**14 25 21.5**	**-4.7**
PNHZ	**Pukenui**	**11.41**	**200**	P	**Pn**	**14 23 20.1**	**-0.7**
PNHZ				S	**Sn**	**14 25 24.4**	**-3.7**
TSZ	**Takapari Road**	**11.62**	**200**	P	**Pn**	**14 23 23.1**	**-0.3**
TSZ				S	Sn	14 25 25.5	-7.5
RPZ	**Rata Peaks**	**16.57**	**207**	S	S	14 27 18.1	-8.3
	3.6nm,0.4s,baz=17,slow=21,SNR=1.3						
ASAR	**Alice Springs**	**42.46**	**266**	P	**P**	**14 28 21.4**	**+2.3**
	0.6nm,0.5s,baz=104,slow=6.9,SNR=16						
ASAR				ScP	**ScP**	**14 33 39.0**	**-0.9**
	0.4nm,0.6s,baz=107,slow=4.1,SNR=6.9						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.34**	**271**	P	**P**	**14 28 29.1**	**+3.0**
	0.8nm,0.6s,baz=108,slow=7.7,SNR=5.3						
WRA				PcP	**PcP**	**14 30 12.1**	**+0.9**
	1.0nm,0.6s,baz=113,slow=2.9,SNR=6.4						
WRA				ScP	**ScP**	**14 33 42.7**	**-0.7**
	0.6nm,1.0s,baz=104,slow=3.5,SNR=1.7						
	0.8nm,0.6s						
VNDA	**Vanda**	**49.18**	**185**	P	**P**	**14 29 10.6**	**-0.1**
	0.1nm,0.3s,baz=353,slow=4.4,SNR=2.5						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**60.87**	**180**	P	P	14 30 39.8	+5.1
	1.1nm,0.8s,baz=96,slow=1.3,SNR=7.3						
MJAR	**Matsushiro Arr**	**76.87**	**326**	P	**P**	**14 32 13.6**	**+0.2**
	3.8nm,0.8s,baz=162,slow=5.7,SNR=11						
	3.8nm,0.8s						
SNAA	**Sanae**	**79.34**	**179**	P	**P**	**14 32 27.5**	**+0.9**
	0.5nm,0.5s,baz=172,slow=7.1,SNR=2.2						
	0.5nm,0.5s						
H03S2	**Juan Fernandez**	**81.71**	**124**	T	T	16 02 19.4	
	baz=238,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**81.72**	**124**	T	T	16 02 34.7	
	baz=238,slow=74,SNR=5.8						
H03S3	**Juan Fernandez**	**81.73**	**124**	T	T	16 02 19.0	
	baz=238,slow=74,SNR=5.2						
H03N3	**Juan Fernandez**	**81.90**	**124**	T	T	16 02 51.9	
	baz=238						
H03N2	**Juan Fernandez**	**81.90**	**124**	T	T	16 02 51.9	
	baz=238						
H03N1	**Juan Fernandez**	**81.92**	**124**	T	T	16 02 51.9	
	baz=238						
KSRS	**Korea Array**	**82.99**	**320**	P	**P**	**14 32 47.5**	**+1.3**
	2.5nm,0.9s,baz=145,slow=8.8,SNR=6.3						
	2.5nm,0.9s						
PETK	**Petropavlovsk-**	**84.51**	**346**	P	**P**	**14 32 53.5**	**0.0**
	4.2nm,0.8s,baz=111,slow=5.9,SNR=6.5						
	4.2nm,0.8s						
USRK	**Ussurilysk Ar.**	**85.79**	**327**	P	**P**	**14 33 00.8**	**+0.8**
	3.7nm,0.9s,baz=143,slow=3.3,SNR=4.0						
	3.7nm,0.9s						
NVAR	**Mina Array Bea**	**87.88**	**43**	P	**P**	**14 33 09.6**	**-1.0**
	0.6nm,0.6s,baz=214,slow=8.0,SNR=5.2						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**92.37**	**58**	P	**P**	**14 33 29.1**	**-2.5**
	0.2nm,0.6s,baz=204,slow=3.3,SNR=3.5						
	0.2nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**95.79**	**44**	P	**P**	**14 33 45.2**	**-1.8**
	0.1nm,0.4s,baz=184,slow=6.6,SNR=1.9						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**116.47**	**311**	PKP	**PKPdf**	**14 39 02.4**	**-0.8**
	0.3nm,0.5s,baz=97,slow=2.5,SNR=6.8						
KURBB	**Kurchatov Arra**	**119.76**	**314**	PKP	**PKPdf**	**14 39 08.7**	**-0.7**
	0.4nm,0.4s,baz=116,slow=2.0,SNR=5.9						
BVAR	**Borovoye Array**	**125.06**	**316**	PKP	**PKPdf**	**14 39 19.3**	**-0.2**
	1.3nm,0.4s,baz=86,slow=1.9,SNR=12						
SPITS	**Spitsbergen Ar**	**130.49**	**356**	PKP	**PKPdf**	**14 39 28.5**	**-0.7**
	6.2nm,0.9s,baz=48,slow=2.1,SNR=5.2						
ARCES	**ARCESS Array B**	**137.30**	**348**	PKhKP	PKPpre	14 39 35.5	
	9.6nm,1.2s,baz=79,slow=2.6,SNR=3.7						
ARCES				PKP	**PKPdf**	**14 39 42.5**	**+0.4**
	3.5nm,0.8s,baz=76,slow=1.5,SNR=7.8						
H10S2	**ASCENSION HYDR**	**139.08**	**156**	T	T	17 16 19.0	
	baz=16,slow=74,SNR=5.6						
H10S3	**ASCENSION HYDR**	**139.08**	**156**	T	T	17 16 09.0	
	baz=204,slow=74,SNR=6.3						
H10N3	**ASCENSION HYDR**	**140.17**	**155**	T	T	17 17 45.1	
	baz=203,slow=75,SNR=6.7						
H10N1	**ASCENSION HYDR**	**140.17**	**155**	T	T	17 17 27.9	
	baz=203,slow=75,SNR=8.5						
H10N2	**ASCENSION HYDR**	**140.19**	**155**	T	T	17 17 48.0	
	baz=203,slow=75,SNR=10						
FINES	**FINESS Array B**	**143.80**	**340**	PKP	PKPab	14 39 51.5	-0.1
	4.4nm,0.6s,baz=59,slow=3.5,SNR=50						
KBZ	**Khabaz**	**143.85**	**305**	PKP	PKPbc	14 39 53.7	+0.8
	1.8nm,0.6s,baz=62,slow=3.3,SNR=5.0						
NB2	**NORSAR Subarra**	**147.49**	**351**	PKP	**PKPbc**	**14 40 02.2**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**147.49**	**351**	PKPbc	**PKPbc**	**14 40 02.1**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=15,slow=4.4,SNR=9.5						
HFS	**Hagfors**	**147.96**	**348**	PKPbc	**PKPbc**	**14 40 03.4**	**-1.0**
	comp=Z,5.5nm,0.6s,baz=90,slow=2.9,SNR=10						
AKASG	**Malin Array Be**	**149.94**	**323**	PKPbc	**PKPbc**	**14 40 09.6**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=47,slow=3.2,SNR=18						
MMAI	**Mount Meron Ar**	**150.53**	**286**	PKPbc	**PKiKP**	**14 40 12.6**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=95,slow=5.0,SNR=13						
BRTR	**Keskin Array B**	**151.40**	**300**	PKPbc	**PKPbc**	**14 40 13.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=80,slow=3.0,SNR=6.5						
EKA	**Eskdalemuir Ar**	**153.73**	**6**	PKPbc	**PKPbc**	**14 40 17.1**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=332,slow=1.4,SNR=2.5						
EKA				PKPab	**PKPab**	**14 40 29.8**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=337,slow=2.5,SNR=5.2						
GERES	**GERESS Array B**	**158.18**	**337**	PKPab	**PKPab**	**14 40 51.3**	**0.0**
	comp=Z,0.9nm,0.7s,baz=31,slow=6.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**163.99**	**182**	PKPab	**PKPab**	**14 41 17.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=161,slow=3.9,SNR=5.6						
ESDC	**Sonseca Array**	**168.76**	**21**	PKPab	**PKPab**	**14 41 36.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=328,slow=4.2,SNR=1.6						

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*IDC **26** 14:40:40.9±0.8, 38°.87N×73°.03E, h0km, mb3.7/15, mbtmp3.7/21, ML3.3/6, MS2.9/2, Error ellipse: s-maj=14.1km s-min=13.2km az=157.0*

*SOME **26** 14:40:40.2, 39°.33N×72°.50E, h0km*

*KRNET **26** 14:40:41.2±0.1, 39°.00N×73°.06E, h18km, mb4.4*

*NNC **26** 14:40:45.0±1.3, 39°.00N×73°.35E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=10.0km s-min=6.2km az=170.0*

ISC 26 14:40:41.7±0.7, 38°.97N±0°.04×73°.23E±0°.03, h10km, n86, σ2ŝ92/111, mb3.5/13, 37C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.22**	**295**	⇑eP	**Pn**	**14 41 02.0**	**-3.1**
DRK				⇑eS	**Sb**	**14 41 17.3**	**-3.7**
OHH	**Osh**	**1.59**	**348**	⇑eP	**Pn**	**14 41 10.0**	**0.0**
OHH				⇑eS	**Sn**	**14 41 31.1**	**+0.4**
SALK	**Salom-Alik**	**1.96**	**13**	⇑eP	**Pb**	**14 41 17.8**	**+0.1**
SALK				⇑eS	**Sb**	**14 41 44.5**	**+2.2**
KSH	**Kashi**	**2.20**	**75**	Pg	**Pn**	**14 41 16.0**	**-2.5**
KSH				Sg	**Sn**	**14 41 40.5**	**-5.3**
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,860nm,0.7s						
GAR	**Garm**	**2.27**	**272**	eP	**Pn**	**14 41 20.2**	**+0.8**
GAR				⇑eS	**Sn**	**14 41 48.5**	**+1.0**
ARSB	**Arslanbob**	**2.36**	**355**

KST *eS* **Sg** **14 43 06.4 -1.9**
comp=E,112nm,0.8s
KK31 Karatay Array 4.61 334 Pn **Pn** **14 41 55.1 +3.6**
comp=E,43nm,0.7s,baz=148,slow=12,SNR=336
KK31 ⇑Sn **Sn** **14 42 52.4 +7.3**
comp=E,75nm,0.6s,baz=152,slow=25,SNR=15
DGS Degeres 4.68 23 Pg **Pg** **14 42 08.8 -2.5**
comp=E,35nm,0.6s
DGS Lg Lg 14 43 12.6
comp=E,52nm,0.8s
IZV Izvestkoviy 4.80 31 Pg **Pg** **14 42 11.6 -2.1**
comp=E,17nm,0.6s
IZV Lg Lg 14 43 16.5
comp=E,54nm,0.8s
IZV Izvestkoviy 4.80 31 *eP* **Pg** **14 42 11.6 -2.1**
comp=E,17nm,0.6s
IZV *eS* **Sg** **14 43 16.6 +0.7**
comp=E,54nm,0.8s
MTBS Maitube 4.81 29 Pg **Pg** **14 42 11.4 -2.4**
comp=E,10nm,0.4s
MTBS Lg Lg 14 43 16.5
comp=E,25nm,0.4s
MTBS Maitube 4.81 29 *eP* **Pg** **14 42 11.4 -2.4**
comp=E,10nm,0.4s
MTBS *eS* **Sg** **14 43 16.6 +0.5**
comp=E,25nm,0.4s
TNSS Tian-Shan 4.94 34 Pg **Pg** **14 42 13.2 -3.2**
comp=E,7.7nm,0.4s
TNSS Lg Lg 14 43 20.0
comp=E,11nm,0.7s
TNSS Tian-Shan 4.94 34 *eP* **Pg** **14 42 13.2 -3.2**
comp=E,7.7nm,0.4s
TNSS *eS* **Sg** **14 43 20.0 -0.4**
comp=E,11nm,0.7s
KRBS Karabastau 5.07 21 Pg **Pg** **14 42 16.2 -2.6**
comp=E,23nm,0.6s
KRBS Lg Lg 14 43 23.7
comp=E,44nm,0.7s
MDOK Medeo 5.09 33 Pg **Pg** **14 42 15.7 -3.4**
comp=E,26nm,0.5s
MDOK Lg Lg 14 43 24.0
comp=E,40nm,0.7s
KNDC Almaty 5.10 32 ⇑Pg **Pg** **14 42 15.6 -3.7**
comp=E,115nm,0.8s
KNDC ⇑Lg Lg 14 43 26.6
comp=E,186nm,0.9s
PRZ Przheval'sk 5.27 47⇑*eP* **Pn** **14 42 04.8 +4.1**
PRZ ⇑*eS* **Sn** **14 43 05.7 +4.2**
KTBS Karatobe 5.40 28 Pg Pb 14 42 21.2 +5.0
comp=E,34nm,0.6s
KTBS Lg Lg 14 43 33.4
comp=E,33nm,0.7s
KUU Kurty 5.45 24 Pg Pb 14 42 21.8 +4.9
comp=E,4.6nm,0.0s
KUU Lg Lg 14 43 34.4
comp=E,27nm,0.6s
KUU Kurty 5.45 24 *eP* Pb 14 42 21.8 +4.9
comp=E,26nm,0.4s
KUU *eS* **Sg** **14 43 34.4 -2.1**
comp=E,27nm,0.6s
CHKK Chushkaly 5.64 29 Pg **Pg** **14 42 26.6 -3.1**
comp=E,11nm,0.5s
CHKK Lg Lg 14 43 42.1
comp=E,40nm,0.8s
CHKK Chushkaly 5.64 29 *eP* **Pg** **14 42 26.6 -3.1**
comp=E,11nm,0.5s
CHKK *eS* **Sg** **14 43 42.1 -0.6**
comp=E,40nm,0.8s
SATY Saty 5.66 42 Pg **Pg** **14 42 25.9 -4.1**
comp=E,19nm,0.6s
SATY Lg Lg 14 43 41.5
comp=E,41nm,1.0s
UZB Uzynbulak 6.05 45 Pg Pg 14 42 33.2 -4.4
comp=E,9.0nm,0.5s
UZB Lg Lg 14 43 54.3
comp=E,12nm,1.1s
UZB Uzynbulak 6.05 45 *eP* Pg 14 42 33.1 -4.4
comp=E,9.0nm,0.5s
UZB *eS* **Sg** **14 43 54.2 -1.6**
comp=E,12nm,1.1s
KPKS Kokpek 6.09 41 Pg **Pg** **14 42 35.7 -2.6**
comp=E,13nm,0.8s
KPKS Lg Lg 14 43 57.8
comp=E,21nm,0.6s
ARXS Arharly 6.27 32 Pg Pg 14 42 37.5 -4.3
comp=E,12nm,0.8s
ARXS Lg Lg 14 44 00.8
comp=E,40nm,0.6s
ARXS Arharly 6.27 32 *eP* Pg 14 42 37.5 -4.3
ARXS *eS* **Sg** **14 44 00.8 -2.1**
SHLS Shalkode 6.30 46 Pg **Pg** **14 42 44.6 +2.3**
comp=E,21nm,0.9s
SHLS Lg Lg 14 44 13.6
comp=E,24nm,0.7s
PDGK Podgornoye 6.42 45 ⇑Pn **Pn** **14 42 18.7 +2.2**
comp=E,5.4nm,0.7s
PDGK ⇑Pg **Pg** **14 42 42.0 -2.7**
comp=E,30nm,0.8s
PDGK ⇑Lg Lg 14 44 09.5
comp=E,34nm,0.9s
BLB Baldybastay 6.46 36 Pg **Pg** **14 42 41.6 -3.8**
comp=E,29nm,0.4s
BLB Lg Lg 14 44 08.7
comp=E,16nm,0.6s
MKAR Makanchi Array 10.26 37 Pn **Pn** **14 43 13.2 +4.3**
comp=E,0.1nm,0.3s,baz=225,slow=13,SNR=9.3
MKAR Lg Lg 14 46 12.9
comp=E,0.1nm,0.3s,baz=220,slow=24,SNR=1.9
comp=E,0.9nm,0.7s
KURBB Kurchatov Arra 12.24 16 Pn **Pn** **14 43 38.5 +2.5**
comp=E,0.1nm,0.3s,baz=206,slow=12,SNR=6.2
KURBB Lg Lg 14 47 06.3
baz=202,slow=28,SNR=5.0
comp=E,0.9nm,0.2s
BVAR Borovoye Array 14.19 353 Pn **Pn** **14 44 02.8 +0.1**
comp=E,0.1nm,0.3s,baz=148,slow=10,SNR=7.7
BVAR Lg Lg 14 48 09.8
baz=156,slow=22,SNR=4.2
comp=E,0.5nm,0.5s
AKTO Aktyubinsk 15.72 322 Pn **Pn** **14 44 22.4 -0.8**
comp=E,0.5nm,0.3s,baz=116,slow=16,SNR=13
AKTO Sn **Sn** **14 47 10.3 -7.0**
comp=E,0.1nm,0.3s,baz=187,slow=19,SNR=4.8
comp=E,2.3nm,0.5s
ZALV Zalesovo Beam 16.94 24 Pn **P** **14 44 40.1 -0.5**
comp=E,0.4nm,0.3s,baz=213,slow=12,SNR=10
comp=E,1.8nm,0.5s
ARTI Arti 20.01 335 P **P** **14 45 15.0 +0.6**
comp=E,1.0nm,0.4s,baz=181,slow=12,SNR=3.9
comp=E,1.0nm,0.4s
GTA Gaotai 20.59 80 *eP* Pn 14 45 23.0 -0.2
GTA pmax pmax
comp=Z,12nm,0.7s
KBZ Khabaz 23.19 292 P **P** **14 45 47.4 -1.1**
comp=Z,0.5nm,0.4s,baz=90,slow=9.1,SNR=1.6
comp=Z,0.5nm,0.4s
KVAR Kislovodsk Arr 23.34 292 P **P** **14 45 49.5 -0.8**
comp=Z,1.8nm,0.3s,baz=90,slow=19,SNR=1.4
comp=Z,1.8nm,0.3s
SONM Songino Array 25.51 59 P **P** **14 46 11.9 +1.6**
comp=Z,2.8nm,0.8s,baz=264,slow=11,SNR=11
comp=Z,2.8nm,0.8s
CMAR Chiang Mai Arr 30.26 125 P P 14 46 56.0 +3.1
comp=Z,0.3nm,0.4s,baz=346,slow=3.7,SNR=2.0
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 30.46 284 P **P** **14 46 55.5 +0.8**
comp=Z,0.2nm,0.4s,baz=82,slow=12,SNR=1.3
comp=Z,0.2nm,0.4s
PALK Pallekele 32.27 166 LR LR 14 59 31.9
comp=Z,37nm,19.3s,baz=198,slow=35
FINES FINESS Array B 36.48 324 P **P** **14 47 46.3 -0.4**
comp=Z,3.6nm,1.0s,baz=104,slow=7.9,SNR=7.7
comp=Z,3.6nm,1.0s
ARCES ARCESS Array B 39.58 336 P **P** **14 48 12.9 +0.2**
comp=Z,2.6nm,0.9s,baz=113,slow=8.3,SNR=6.2
comp=Z,2.6nm,0.9s
HFS Hagfors 42.26 320 P **P** **14 48 34.5 -0.4**
comp=Z,1.7nm,0.6s,baz=106,slow=9.9,SNR=7.3
comp=Z,1.7nm,0.6s
NOA NORSAR Array B 43.51 321 P **P** **14 48 45.4 +0.3**
comp=Z,0.7nm,0.7s,baz=93,slow=7.8,SNR=2.1
comp=Z,0.7nm,0.7s
ESDC Sonseca Array 57.88 297 P **P** **14 50 34.5 +0.6**
comp=Z,0.3nm,0.6s,baz=72,slow=6.1,SNR=2.0
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 67.54 269 P **P** **14 51 37.4 -1.1**
comp=Z,0.3nm,0.5s,baz=48,slow=7.4,SNR=3.9
comp=Z,0.3nm,0.5s
ILAR Eielson Array 71.92 17 P **P** **14 52 06.8 +2.1**
comp=Z,0.5nm,1.1s,baz=276,slow=7.5,SNR=4.2
comp=Z,0.5nm,1.1s
WRA Warramunga Arr 81.84 124 P **P** **14 53 00.9 -0.4**
comp=Z,0.2nm,0.4s,baz=316,slow=4.9,SNR=2.7
comp=Z,0.2nm,0.4s
ASAR Alice Springs 84.26 127 P **P** **14 53 16.6 +2.9**
comp=Z,0.1nm,0.6s,baz=316,slow=5.0,SNR=1.0
comp=Z,0.1nm,0.6s

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*IDC **26** 14:54:22.5±5.5,27.°35N×140.°22E,h398km±58km,mb3.2/8, mbtmp3.9/9,Error ellipse: s-maj=39.7km s-min=23.9km az=82.0*
*JMA **26** 14:54:22.2±0.2,28.°N±1.°×14.°1E±.°,h358km,MV3.8/11,W OFF OGASAWARA*
ISC 26 14:54:19.8±1.2,27.°6N±0.°1×140.°2E±0.°2,h350km,n11, σ1§27/12,mb3.5/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.86**	**104**	P	**Pn**	**14 55 11.3**	**+1.2**
CBIJ				S	**S**	**14 55 49.6**	**-0.9**
JHO	**Hitachi**	**9.03**	**2**	*eP*	**P**	**14 56 28.8**	**+0.5**
JHO				*eS*	**S**	**14 58 08.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**17.86**	**341**	P	**P**	**14 58 07.3**	**+2.3**
	1.4nm,0.7s,baz=149,slow=9.5,SNR=1.8						
WRA	**Warramunga Arr**	**47.56**	**187**	P	P	15 02 18.4	-3.1
	0.1nm,0.3s,baz=8.1,slow=7.6,SNR=1.7						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**51.43**	**314**	P	**P**	**15 02 50.0**	**-0.1**
	0.4nm,0.3s,baz=91,slow=7.9,SNR=9.8						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**56.48**	**317**	P	**P**	**15 03 26.1**	**-0.1**
	0.8nm,0.5s,baz=89,slow=6.3,SNR=6.1						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**58.17**	**29**	P	**P**	**15 03 37.5**	**-0.2**
	0.6nm,1.2s,baz=255,slow=5.7,SNR=1.8						
	0.6nm,1.2s						
ARCES	**ARCESS Array B**	**72.50**	**340**	P	**P**	**15 05 08.3**	**-0.4**
	3.9nm,1.0s,baz=69,slow=8.1,SNR=5.2						
	3.9nm,1.0s						
FINES	**FINESS Array B**	**76.73**	**333**	P	**P**	**15 05 32.1**	**-0.7**
	1.1nm,0.3s,baz=68,slow=5.8,SNR=14						
	1.1nm,0.3s						
HFS	**Hagfors**	**82.28**	**336**	P	**P**	**15 06 01.1**	**-1.5**
	11nm,1.2s,baz=56,slow=11,SNR=4.4						
	11nm,1.2s						
NOA	**NORSAR Array B**	**82.50**	**338**	P	**P**	**15 06 02.0**	**-1.8**
	0.4nm,0.5s,baz=69,slow=12,SNR=1.7						
	0.4nm,0.5s						

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*IDC **26** 15:07:06.8±4.2,22.°06N×142.°95E,h295km±42km, mb3.4/12,mbtmp4.1/14,Error ellipse: s-maj=31.2km s-min=11.9km az=80.0*
ISC 26 15:07:07.2±1.2,22.°1N±0.°1×142.°9E±0.°3,h300km,n14, σ0§68/14,mb3.7/11,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.97**	**345**	P	**P**	**15 10 22.4**	**-1.5**
	1.5nm,0.3s,baz=170,slow=11,SNR=12						
JNU	**Nakatsue**	**15.30**	**318**	P	**Pn**	**15 10 28.8**	**-0.4**
	9.0nm,1.0s,baz=180,slow=18,SNR=2.0						
KSRS	**Korea Array**	**20.05**	**323**	P	**P**	**15 11 19.1**	**+0.6**
	4.0nm,0.8s,baz=146,slow=8.8,SNR=15						
	4.0nm,0.8s						
SONM	**Songino Array**	**38.88**	**320**	P	**P**	**15 14 04.3**	**-0.1**
	0.7nm,0.4s,baz=125,slow=6.2,SNR=7.1						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**42.61**	**192**	P	**P**	**15 14 34.6**	**-0.2**
	1.0nm,0.5s,baz=12,slow=8.5,SNR=18						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**46.32**	**191**	P	**P**	**15 15 03.5**	**-0.4**
	0.3nm,0.5s,baz=17,slow=10.0,SNR=13						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**53.75**	**322**	P	**P**	**15 15 59.1**	**+0.1**
	1.5nm,0.4s,baz=111,slow=8.6,SNR=8.8						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**54.25**	**312**	P	**P**	**15 16 03.3**	**+0.5**
	0.2nm,0.4s,baz=88,slow=9.4,SNR=5.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**57.07**	**317**	P	**P**	**15 16 22.6**	**+0.1**
	1.5nm,0.5s,baz=92,slow=7.8,SNR=30						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**61.80**	**27**	P	**P**	**15 16 54.9**	**+0.4**
	0.7nm,0.9s,baz=264,slow=5.5,SNR=7.3						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**62.22**	**319**	P	**P**	**15 16 58.5**	**+1.1**
	1.9nm,0.4s,baz=96,slow=7.1,SNR=15						
	1.9nm,0.4s						
ARCES	**ARCESS Array B**	**78.47**	**341**	P	**P**	**15 18 35.5**	**+0.6**
	1.5nm,0.7s,baz=65,slow=8.6,SNR=4.4						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**82.72**	**334**	P	**P**	**15 18 57.4**	**-0.1**
	1.4nm,0.4s,baz=64,slow=4.6,SNR=22						
	1.4nm,0.4s						
HFS	**Hagfors**	**88.27**	**337**	P	**P**	**15 19 24.3**	**-0.3**
	3.0nm,0.9s,baz=69,slow=8.1,SNR=5.4						
	3.0nm,0.9s						

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*GEN **26** 15:10:18.3,45.°44N×6.°67E,h5km±2km,Ml1.5*
*ROM **26** 15:10:19.0±0.1,45.°425N±0.°006×6.°67E±0.°01,h13km±1km, ML1.6/23,Error ellipse: s-maj=0.9km s-min=0.3km az=308.0*
*LDG **26** 15:10:19.3±0.0,45.°42N×6.°67E,h2km,Md2.2/2,Ml2.3/16, Error ellipse: s-maj=1.0km s-min=0.8km az=84.0*
STR 26 15:10:19.1±0.0,45.°42N±0.°04×6.°66E±0.°04,h9km, MLv1.9/26,1C,LOCSAT earthModelID alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.10**	**39**	*eP*g	Pg	15 10 21.6	-0.3
LPG				*eS*g	Sg	15 10 23.5	-0.4
	261nm,0.2s						
LPL	**La Plagne**	**0.11**	**28**	*eP*g	Pg	15 10 21.5	-0.4
LPL				*eS*g	Sg	15 10 23.2	-0.8
	120nm,0.2s						
OGMO	**Fort Saint-Gob**	**0.21**	**175**	P	Pg	15 10 23.8	+0.4
OGMO				S	Sg	15 10 26.5	+0.2
OGMO	**Fort Saint-Gob**	**0.21**	**175**	Pg	Pg	15 10 23.7	+0.3
OGMO				Sg	Sg	15 10 27.0	+0.7
RSL	**Roselend**	**0.27**	**355**	P	Pg	15 10 24.1	-0.6
RSL				S	Sg	15 10 27.8	-0.5
RSL	**Roselend**	**0.27**	**355**	Pg	Pg	15 10 24.0	-0.6
RSL				Sg	Sg	15 10 27.9	-0.4
LSD	**Lago del Serru**	**0.34**	**83**	P	Pg	15 10 25.9	+0.1
LSD				S	Sg	15 10 30.4	0.0
LSD	**Lago del Serru**	**0.34**	**83**	⇑P	Pg	15 10 25.9	0.0
LSD				S	Sg	15 10 30.7	+0.3
LSD				AML	AML		
	comp=N,264μm,0.2s						
LSD				AML	AML		
	comp=E,143μm,1.3s						
LSD				AML	AML		
	comp=E,143μm,0.7s						
LSD				AML	AML		
	comp=N,228μm,0.1s						
LSD				AML	AML		
	comp=E,111μm,0.1s						
BNI	**Bardonecchia**	**0.36**	**178**	P	Pg	15 10 26.4	+0.2
BNI				S	Sg	15 10 31.4	+0.3
BNI	**Bardonecchia**	**0.36**	**178**	AML	AML		
	comp=N,101μm,0.1s						
BNI				AML	AML		
	comp=E,92μm,0.1s						
MRGE	**Morge**	**0.45**	**39**	P	Pg	15 10 27.7	-0.2
MRGE				S	Sg	15 10 33.9	-0.1
MRGE	**Morge**	**0.45**	**39**	P	Pg	15 10 27.7	-0.3
MRGE				S	Sg	15 10 34.1	+0.2
MRGE				AML	AML		
	comp=E,52μm,0.1s						
MRGE				AML	AML		
	comp=N,65μm,0.1s						
RRL	**Rocca Remolon**	**0.51**	**169**	P	Pg	15 10 29.2	+0.3
RRL				S	Sg	15 10 36.4	+0.8
RRL	**Rocca Remolon**	**0.51**	**169**	P	Pg	15 10 29.1	+0.2
RRL				S	Sg	15 10 36.6	+1.1
RRL				AML	AML		
	comp=N,117μm,1.5s						
RRL				AML	AML		
	comp=E,80μm,1.3s						
RRL				AML	AML		
	comp=N,117μm,0.5s						
RRL				AML	AML		
	comp=N,95μm,0.4s						
RRL				AML	AML		
	comp=E,67μm,0.3s						
RRL	**Rocca Remolon**	**0.51**	**169**	Pg	Pg	15 10 29.1	+0.2
RRL				Sg	Sb	15 10 36.7	-1.1
RSP	**Reno Superiore**	**0.51**	**122**	P	Pg	15 10 29.1	+0.2
RSP				S	Sg	15 10 35.9	+0.3
RSP	**Reno Superiore**	**0.51**	**122**	P	Pg	15 10 29.1	+0.2
RSP				AML	AML		
	comp=N,152μm,1.2s						
RSP				AML	AML		
	comp=N,152μm,0.8s						
RSP				AML	AML		
	comp=E,132μm,0.4s						
RSP				AML	AML		
	comp=E,119μm,0.1s						
RSP				AML	AML		
	comp=N,127μm,0.2s						
RSP				AML	AML		
	comp=E,111μm,0.1s						
RSP	**Reno Superiore**	**0.51**	**122**	Pg	Pg	15 10 29.1	+0.2
RSP				Sg	Sg	15 10 35.9	+0.3
REMY	**Saint-Rhmy-en**	**0.55**	**40**	P	Pg	15 10 30.0	+0.2
REMY				S	Sg	15 10 37.1	+0.1
REMY	**Saint-Rhmy-en**	**0.55**	**40**	P	Pg	15 10 29.9	+0.1
REMY				AML	AML		
	comp=E,33μm,0.2s						
REMY				AML	AML		
	comp=N,41μm,0.7s						
REMY	**Saint-Rhmy-en**	**0.55**	**40**	Pg	Pg	15 10 29.5	-0.3
REMY				Sg	Sg	15 10 37.5	+0.5
GRN	**Grenoble**	**0.67**	**255**	Pg	Pg	15 10 31.3	-0.7
GRN				Sg	Sg	15 10 41.1	+0.5
CIRO	**Champorcher**	**0.67**	**74**	P	Pg	15 10 31.7	-0.3
CIRO				S	Sg	15 10 40.2	-0.6
CIRO	**Champorcher**	**0.67**	**74**	P	Pg	15 10 31.7	-0.3
CIRO				S	Sg	15 10 40.2	-0.6
CIRO				AML	AML		
	comp=E,22μm,0.1s						
CIRO				AML	AML		
	comp=N,54μm,0.4s						
CIRO	**Champorcher**	**0.67**	**74**	Pg	Pg	15 10 31.7	-0.3
CIRO				Sg	Sg	15 10 40.3	-0.5
MBDF	**Montbardon**	**0.69**	**173**	*eP*g	Pg	15 10 32.5	0.0
MBDF				*eS*g	Sg	15 10 41.9	+0.3
	comp=N,17nm,0.3s						
OGSM	**Saint Maurice**	**0.70**	**286**	Pg	Pg	15 10 32.3	-0.3
OGSM				Sg	Sg	15 10 41.9	+0.1
OGMY	**Moye**	**0.71**	**311**	Pg	Pg	15 10 32.6	-0.2
OGMY				Sg	Sg	15 10 42.1	0.0
BHB	**Bricherasio**	**0.72**	**143**	P	Pg	15 10 33.2	+0.3
BHB				S	Sg	15 10 42.0	-0.3
BHB	**Bricherasio**	**0.72**	**143**	P	Pg	15 10 33.2	+0.3
BHB				AML	AML		
	comp=E,37μm,0.3s						
BHB				AML	AML		
	comp=N,64μm,0.2s						
BHB	**Bricherasio**	**0.72**	**143**	Pg	Pg	15 10 33.1	+0.2
BHB				Sg	Sg	15 10 42.6	+0.3
ORIF	**Oris-en-Rattie**	**0.74**	**228**	*eP*g	Pg	15 10 33.1	-0.3
ORIF				*eS*g	Sg	15 10 42.6	-0.4
	comp=N,12nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.74**	**228**	P	Pg	15 10 33.1	-0.3
ORIF				S	Sg	15 10 43.1	+0.1
ORIF	**Oris-en-Rattie**	**0.74**	**228**	Pg	Pg	15 10 33.1	-0.3
ORIF				Sg	Sg	15 10 42.9	-0.2
TRAV	**Traversella**	**0.77**	**82**	P	Pg	15 10 33.9	0.0
TRAV				S	Sg	15 10 43.5	-0.6
TRAV	**Traversella**	**0.77**	**82**	P	Pg	15 10 33.8	-0.2
TRAV				S	Sg	15 10 43.8	-0.2
TRAV				AML	AML		
	comp=E,65μm,1.6s						
TRAV				AML	AML		
	comp=N,78μm,1.6s						
TRAV				AML	AML		
	comp=N,78μm,0.4s						
TRAV				AML	AML		
	comp=E,65μm,0.4s						
TRAV				AML	AML		
	comp=E,50μm,0.2s						
TRAV				AML	AML		
	comp=N,71μm,0.1s						
TRAV	**Traversella**	**0.77**	**82**	Pg	Pg	15 10 33.9	-0.1
TRAV				Sg	Sg	15 10 43.8	-0.2
DIX	**Grande Dixence**	**0.85**	**38**	P	Pg	15 10 35.0	-0.5
DIX				S	Sg	15 10 47.1	+0.6
DIX	**Grande Dixence**	**0.85**	**38**	P	Pg	15 10 35.1	-0.3
DIX	**Grande Dixence**	**0.85**	**38**	Pg	Pg	15 10 35.0	-0.4
DIX				Sg	Sb	15 10 47.1	-0.6
CREF	**Crivoux**	**0.87**	**182**	Pg	Pg	15 10 35.7	-0.1
CREF				Sg	Sb	15 10 48.9	+0.7
SURF	**Saint Ours**	**0.94**	**173**	P	Pg	15 10 37.4	+0.2
SURF				S	Sb	15 10 50.8	+0.5
SURF	**Saint Ours**	**0.94**	**173**	Pg	Pg	15 10 37.3	+0.1
SURF				Sg	Sb	15 10 50.7	+0.4
AIGLE	**Aigle**	**0.95**	**13**	Pg	Pg	15 10 36.6	-0.7
OGAG	**Argentiere**	**0.96**	**185**	P	Pg	15 10 32.1	-5.5
OGAG				S	Sg	15 10 41.2	-9.0
OGAG	**Argentiere**	**0.96**	**185**	Pg	Pg	15 10 32.1	-5.6
PZZ	**Stroppo**	**0.97**	**160**	P	Pg	15 10 37.3	-0.4
PZZ				S	Sb	15 10 50.8	-0.2
PZZ	**Stroppo**	**0.97**	**160**	P	Pg	15 10 37.1	-0.5
PZZ				AML	AML		
	comp=N,64μm,0.3s						
PZZ				AML	AML		
	comp=E,59μm,0.2s						
PZZ	**Stroppo**	**0.97**	**160**	Pg	Pg	15 10 37.1	-0.5
PZZ				Sg	Sb	15 10 51.0	0.0
SATI	**Passo dei Sala**	**0.97**	**61**	P	Pb	15 10 38.2	0.0
SATI	**Passo dei Sala**	**0.97**	**61**	P	Pg	15 10 37.1	-0.5
SATI				AML	AML		
	comp=E,14μm,0.3s						
SATI				AML	AML		
	comp=N,11μm,0.2s						
SATI	**Passo dei Sala**	**0.97**	**61**	Pg	Pg	15 10 37.1	-0.6
OG35	**Corcelles**	**0.99**	**310**	Pg	Pg	15 10 37.7	-0.3
JAUF	**Jausiers**	**0.99**	**176**	Pg	Pg	15 10 38.1	0.0
JAUF				Sg	Sn	15 10 52.9	-0.6
EMBD	**Embd, Matterta**	**1.15**	**45**	Pg	Pb	15 10 41.1	0.0
GIMEL	**St. Georges /**	**1.15**	**346**	P	Pg	15 10 40.7	-0.5
GIMEL	**St. Georges /**	**1.15**	**346**	Pn	Pn	15 10 41.4	-0.1
GIMEL				Sn	Sn	15 10 59.0	+1.6
CABF	**La Chapelle**	**1.26**	**342**	*eP*g	Pn	15 10 42.9	0.0
CABF	**La Chapelle**	**1.26**	**342**	*eP*	Pg	15 10 44.2	+1.0
CABF				*eS*g	Sb	15 10 59.4	0.0
	comp=N,7.4nm,0.2s						
ENR	**Entracque**	**1.31**	**155**	Pg	Pn	15 10 43.3	-0.3
SPIF	**crte de Spivo**	**1.42**	**163**	Pg	Pb	15 10 45.8	0.0
RIVEL	**MONT RIVEL**	**1.44**	**339**	Pn	Pb	15 10 45.7	-0.3
RIVEL				Pg	Pg	15 10 47.1	+0.5
RIVEL				Sn	Sg	15 11 05.6	+0.3
SSB	**Saint Sauveur**	**1.50**	**265**	Pn	Pn	15 10 46.2	0.0
SSB				Pg	Pg	15 10 47.6	-0.1
SSB				Sn	Sn	15 11 04.9	-0.9
SSB				Sg	Sb	15 11 06.7	+0.5
VIVF	**Saint-Julien-l**	**1.51**	**249**	*eP*g	Pg	15 10 47.9	-0.2
VIVF				*eS*g	Sb	15 11 06.9	+0.3
	comp=N,6.3nm,0.2s						
BRANT	**Les Verrieres**	**1.53**	**355**	Pn	Pn	15 10 47.0	+0.3
BRANT				Sn	Sg	15 11 08.6	+0.4
PCP	**Piancastagn**	**1.60**	**122**	Pg	Pb	15 10 48.7	-0.1
SMRF	**Simiane la Rot**	**1.63**	**209**	*eP*g	Pb	15 10 49.6	+0.2
SMRF				*eS*g	Sg	15 11 11.3	-0.3
	comp=N,1.8nm,0.3s						
SBF	**Sospel**	**1.65**	**160**	*eP*g	Pg	15 10 50.5	-0.2
SBF				*eS*g	Sg	15 11 13.0	+0.9
	comp=N,9.0nm,0.3s						
TRIGF	**Trigance**	**1.68**	**186**	Pg	Pg	15 10 50.8	-0.5
CHMF	**Charmoille**	**1.83**	**360**	Pn	Pn	15 10 51.0	+0.2
CHMF				Pg	Pg	15 10 53.8	-0.4
CHMF				Sg	Sg	15 11 18.2	+0.2
LMR	**La Mourre**	**2.08**	**183**	*eP*g	Pg	15 10 58.2	-0.8
LMR				*eS*g	Sg	15 11 25.5	-0.5
	comp=N,2.0nm,0.2s						
COLF	**Collangettes**	**2.09**	**274**	Pg	Pb	15 10 57.8	+0.7
PLDF	**La Plantade**	**2.20**	**286**	Pg	Pg	15 11 00.2	-1.0
SMF	**Signal de Mont**	**2.31**	**303**	*eP*g	Pb	15 11 02.0	+1.0
SMF				*eS*g	Sg	15 11 32.0	-1.4
	comp=N,3.7nm,0.3s						
HINF	**Hinteralfeld**	**2.41**	**3**	*eP*n	Pn	15 10 58.1	-0.5
HINF				*eS*g	Sg	15 11 34.4	-1.9
	comp=N,1.6nm,0.2s						

HAU	**Haudompre**	**2.60 355**	*e*Pn	Pn	15 11 00.9	-0.4
HAU	**Haudompre**	**2.60 355**	*e*Pg	Pb	15 11 07.0	+1.2
HAU			*e*Sn	Sn	15 11 31.2	-1.8
HAU			*e*Sg	Sg	15 11 40.6	-1.9
	comp=N,4.3nm,0.3s					
AVF	**Avril sur Loir**	**2.68 302**	*e*Pg	Pb	15 11 08.5	+1.3
AVF			*e*Sg	Sg	15 11 42.6	-2.5
	comp=N,1.3nm,0.2s					
LOR	**Lormes**	**2.68 315**	*e*Pg	Pg	15 11 08.9	-1.5
LOR			*e*Sn	Sn	15 11 34.1	-0.9
LOR			*e*Sg	Sg	15 11 43.6	-1.6
	comp=N,1.5nm,0.2s					
SSF	**Saint Saulge**	**2.74 308**	*e*Pg	Pb	15 11 09.8	+1.6
SSF			*e*Sg	Sg	15 11 44.6	-2.3
	comp=N,2.1nm,0.3s					
BGF	**Bois d'Agland**	**2.89 295**	*e*Pg	Pg	15 11 13.5	-0.9
BGF			*e*Sn	Sn	15 11 39.8	-0.4
	comp=N,8.1nm,0.2s					
TCF	**Toulx Ste Croi**	**3.23 287**	*e*Pg	Pg	15 11 19.2	-1.7
TCF			*e*Sn	Sn	15 11 47.5	-1.0
TCF			*e*Sg	Sg	15 12 00.2	-2.5
	comp=N,1.2nm,0.2s					

*NEIC **26** 15:26:17.4±0.5, 19°.454N±0°.008×155°.448W±0°.006, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.4km az=86.0*

HVO 26 15:26:17.2±0.5,**19°.466N**±0°.008×**155°.438W**±0°.007, **h7**km±4km,**ML2.8**/42,**ML2.7**/44(NEIC),**Error ellipse: s-maj=1.2km s-min=0.9km az=204.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.06**	**61**		Pg	15 26 19.6	+0.4
MLH					Sg	15 26 21.4	+0.8
MLH	**Mauna Loa**	**0.06**	**61**	IAML		15 26 21.6	
	comp=N,2μm,0.4s						
MLH				IAML		15 26 21.7	
	comp=E,1μm,0.3s						
AIN	**Ainahou**	**0.10**	**191**		Pg	15 26 20.2	+0.6
AIN					Sg	15 26 22.3	+1.0
AIN	**Ainahou**	**0.10**	**191**	IAML		15 26 22.4	
	comp=E,21μm,0.3s						
AIN				IAML		15 26 22.6	
	comp=N,27μm,0.3s						
HMH	**Humu'ula Sheep**	**0.14**	**343**		Pg	15 26 20.9	+0.5
HMH					Sg	15 26 23.5	+0.9
HMH	**Humu'ula Sheep**	**0.14**	**343**	IAML		15 26 23.8	
	comp=E,1μm,0.3s						
HMH				IAML		15 26 23.8	
	comp=N,4μm,0.4s						
WRMHI	**West Rim**	**0.14**	**114**		Pg	15 26 20.6	+0.3
WRMHI					Sg	15 26 23.4	+1.0
UWE	**Uwekahuna**	**0.14**	**108**		Pg	15 26 20.8	+0.5
UWE					Sg	15 26 23.8	+1.3
UWE	**Uwekahuna**	**0.14**	**108**	IAML		15 26 25.4	
	comp=N,7μm,0.4s						
UWE				IAML		15 26 26.5	
	comp=E,9μm,0.4s						
MWH	**Mokuaweoweo**	**0.15**	**277**		Pg	15 26 20.9	+0.3
MWH					Sg	15 26 23.8	+0.8
MWH	**Mokuaweoweo**	**0.15**	**277**	IAML		15 26 24.6	
	comp=E,4μm,0.5s						
MWH				IAML		15 26 26.2	
	comp=N,3μm,0.5s						
RSD	**Rainshed**	**0.15**	**91**		Pg	15 26 21.1	+0.6
RSD					Sg	15 26 23.8	+1.1
RSD	**Rainshed**	**0.15**	**91**	IAML		15 26 24.2	
	comp=E,4μm,0.5s						
RSD				IAML		15 26 24.3	
	comp=N,3μm,0.3s						
OBL	**Observatory Le**	**0.15**	**108**		Pg	15 26 21.0	+0.5
OBL					Sg	15 26 23.9	+1.2
SDHHI	**Sand Hill**	**0.16**	**119**		Pg	15 26 21.0	+0.5
SDHHI					Sg	15 26 23.7	+1.0
UWB	**Uwekahuna Bluf**	**0.16**	**105**		Pg	15 26 21.0	+0.5
UWB					Sg	15 26 23.4	+0.6
SBLHI	**Steaming Bluff**	**0.17**	**104**		Pg	15 26 21.1	+0.4
SBLHI					Sg	15 26 23.8	+0.8
RIM	**Rim**	**0.17**	**114**		Pg	15 26 21.2	+0.4
RIM					Sg	15 26 24.3	+1.1
HATHI	**Halema'uma'u T**	**0.17**	**104**		Pg	15 26 21.2	+0.4
HATHI					Sg	15 26 24.2	+1.0
HATHI	**Halema'uma'u T**	**0.17**	**104**	IAML		15 26 26.3	
	comp=E,2μm,0.5s						
HATHI				IAML		15 26 26.4	
	comp=N,2μm,0.7s						
KKO	**Keanakako'i**	**0.18**	**113**		Pg	15 26 21.3	+0.5
KKO					Sg	15 26 24.3	+0.9
BYL	**Byron's Ledge**	**0.18**	**108**		Pg	15 26 21.2	+0.4
BYL					Sg	15 26 24.3	+1.0
BYL	**Byron's Ledge**	**0.18**	**108**	IAML		15 26 25.7	
	comp=N,1μm,0.6s						
BYL				IAML		15 26 27.0	
	comp=E,1μm,0.5s						
ALEP	**Alea Permanent**	**0.21**	**291**		Pg	15 26 21.7	+0.2
ALEP					Sg	15 26 25.1	+0.6
HLP	**Hilina Pali**	**0.21**	**144**		Pg	15 26 21.9	+0.5
HLP					Sg	15 26 25.5	+1.2
HLP	**Hilina Pali**	**0.21**	**144**	IAML		15 26 25.7	
	comp=E,3μm,0.2s						
HLP				IAML		15 26 25.7	
	comp=N,3μm,0.2s						
PUH	**Pauahi**	**0.23**	**114**		Pg	15 26 22.0	+0.2
PUH					Sg	15 26 25.6	+0.6
PUH	**Pauahi**	**0.23**	**114**	IAML		15 26 25.9	
	comp=E,757nm,0.7s						
PUH				IAML		15 26 29.2	
	comp=N,1μm,0.7s						
HTC	**Hot Caves**	**0.23**	**170**		Pg	15 26 22.1	+0.3
KNHH	**Kane Nui o Ham**	**0.27**	**109**		Pg	15 26 22.6	+0.1
KHU	**Kahuku**	**0.28**	**217**		Pg	15 26 22.6	-0.2
KHU					Sg	15 26 26.6	+0.1
POHA	**Pohakuloa**	**0.30**	**343**		Pg	15 26 23.1	-0.2
POHA	**Pohakuloa**	**0.30**	**343**	IAML		15 26 32.5	
	comp=N,525nm,0.5s						
POHA				IAML		15 26 33.1	
	comp=N,841nm,0.6s						
STCH	**Steam Cracks**	**0.31**	**105**		Pg	15 26 23.2	-0.1
STCH					Sg	15 26 27.8	+0.4
STCH	**Steam Cracks**	**0.31**	**105**	IAML		15 26 29.1	
	comp=E,26nm,0.4s						
STCH				IAML		15 26 29.1	
	comp=N,1μm,0.5s						
NPOC	**North of Pu'u**	**0.32**	**103**		Pg	15 26 23.4	-0.1
NPOC					Sg	15 26 28.3	+0.5
JOKA	**Jonika Flow**	**0.41**	**94**		Pg	15 26 25.0	-0.2
JOKA	**Jonika Flow**	**0.41**	**94**	IAML		15 26 31.8	
	comp=E,504nm,0.7s						
JOKA				IAML		15 26 33.3	
	comp=N,441nm,0.7s						
HUH	**Hualalai**	**0.43**	**300**		Pb	15 26 26.6	-0.7
HPAH	**Hawaii Prepara**	**0.61**	**337**		Pg	15 26 28.2	-0.9
HPAH					Sg	15 26 36.3	-0.7
HPAH	**Hawaii Prepara**	**0.61**	**337**	IAML		15 26 36.6	
	comp=N,299nm,1.4s						
HPAH				IAML		15 26 48.5	
	comp=E,281nm,0.6s						

*WEL **26** 15:31:42.8±0.4, 43°S±3°×17°1E±°, h5km, M3.3/19, ML3.4/9, MLv3.3/19, Error ellipse: s-maj=3.8km s-min=3.6km az=27.1, confirmed*

*NOU **26** 15:31:43.6, 43°.28S×170°.96E, h6km, MLv3.7/13, South Island, New Zealand*

ISC 26 15:31:43.5±0.8,**43°.26S**±0°.02×**170°.89E**±0°.02,**h12**km,**n64,** σ**1§00/67,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.21**	**328**	P	**Pg**	15 31 47.2	-0.9
WVZ				S	**Sg**	15 31 50.4	-0.8
HAFS	**Harihari Fire**	**0.27**	**294**	P	**Pg**	15 31 48.5	-0.5
KOKS	**Kokatahi**	**0.41**	**27**	P	**Pg**	15 31 50.5	-1.1
RPZ	**Rata Peaks**	**0.47**	**165**	P	**Pg**	15 31 52.4	-0.4
RPZ	**Rata Peaks**	**0.47**	**165**	S	**Sg**	15 31 59.3	0.0
RPZ	**Rata Peaks**	**0.47**	**165**	P	**Pg**	15 31 52.5	-0.4
RPZ				S	**Sg**	15 31 59.2	0.0
MHCZ	**Mount Hutt**	**0.57**	**119**	P	**Pg**	15 31 54.0	-0.6
APPS	**Arthurs Pass P**	**0.58**	**59**	P	**Pg**	15 31 54.0	-0.9
CSHS	**Castle Hill**	**0.61**	**88**	P	**Pg**	15 31 54.9	-0.5
MTHS	**Methven North**	**0.65**	**119**	P	**Pg**	15 31 56.0	-0.1
FGPS	**Fox Glacier Pa**	**0.67**	**252**	P	**Pg**	15 31 55.9	-0.6
INZ	**Inchbonnie**	**0.67**	**38**	P	**Pg**	15 31 54.8	-1.8
ARCZ	**Arundel**	**0.72**	**163**	P	**Pg**	15 31 57.0	-0.5
FOZ	**Fox Glacier**	**0.83**	**250**	P	**Pg**	15 31 58.7	-0.8
FOZ				S	**Sg**	15 32 11.0	+0.6
OXZ	**Oxford**	**0.84**	**95**	P	**Pg**	15 31 59.3	-0.5
FDCS	**Fairlie Distri**	**0.84**	**183**	P	**Pg**	15 31 59.4	-0.5
WACZ	**Wakanui South**	**0.97**	**135**	P	**Pg**	15 32 02.1	-0.2
RACZ	**Rakaia**	**1.02**	**118**	P	**Pb**	15 32 03.0	-0.2
LTZ	**Lake Taylor**	**1.12**	**65**	P	**Pb**	15 32 04.5	-0.4
TMZ	**Timaru**	**1.13**	**176**	P	**Pb**	15 32 04.5	-0.6
LBZ	**Lake Benmore**	**1.24**	**204**	P	**Pn**	15 32 05.9	-0.8
AMCZ	**Amberley**	**1.29**	**87**	P	**Pb**	15 32 07.6	-0.1
MQZ	**McQueen's Vall**	**1.36**	**110**	P	**Pn**	15 32 07.9	-0.4
AKCZ	**Akaroa Harbour**	**1.59**	**113**	P	**Pn**	15 32 11.1	-0.4
GVZ	**Greta Valley S**	**1.60**	**80**	P	**Pn**	15 32 11.6	0.0
OKCZ	**Okains Bay**	**1.65**	**107**	P	**Pn**	15 32 12.7	+0.4
DSZ	**Denniston Nort**	**1.66**	**24**	P	**Pn**	15 32 12.1	-0.3
JCZ	**Jackson Bay**	**1.73**	**241**	P	**Pb**	15 32 15.2	-0.1
JCZ	**Jackson Bay**	**1.73**	**241**	S	**Sb**	15 32 37.6	+0.6
JCZ	**Jackson Bay**	**1.73**	**241**	P	**Pn**	15 32 14.1	+0.6
ODZ	**Otahua Downs**	**1.80**	**186**	P	**Pn**	15 32 15.0	+0.7
ODZ	**Otahua Downs**	**1.80**	**186**	S	**Sb**	15 32 38.7	-0.1
ODZ	**Otahua Downs**	**1.80**	**186**	P	**Pn**	15 32 14.7	+0.4
WKZ	**Wanaka**	**2.07**	**220**	P	**Pn**	15 32 18.5	+0.4
THZ	**Tophouse**	**2.11**	**46**	P	**Pn**	15 32 19.7	+1.0
KHZ	**Kahutara**	**2.12**	**68**	P	**Pn**	15 32 19.5	+0.7
KHZ	**Kahutara**	**2.12**	**68**	P	**Pn**	15 32 19.7	+0.9
EAZ	**Earnscleugh**	**2.28**	**209**	P	**Pn**	15 32 20.8	-0.2
MRNZ	**Matariki Terra**	**2.32**	**37**	P	**Pn**	15 32 22.6	+1.1
MSZ	**Milford Sound**	**2.57**	**235**	P	**Pn**	15 32 27.3	+2.4
HHSZ	**Highcliff Hill**	**2.64**	**184**	P	**Pn**	15 32 27.0	+1.1
BSWZ	**Blackbirch Sta**	**2.69**	**56**	P	**Pn**	15 32 28.8	+2.1
TKNZ	**Takaka Hill**	**2.70**	**35**	P	**Pn**	15 32 27.8	+1.0
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	15 32 28.0	+1.0
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	15 32 27.3	+0.3
NNZ	**Nelson**	**2.75**	**43**	P	**Pn**	15 32 28.8	+1.4
TUZ	**Tuapeka**	**2.84**	**198**	P	**Pn**	15 32 29.2	+0.5
MLZ	**Mavora Lakes**	**2.90**	**222**	P	**Pn**	15 32 29.7	+0.2
TUWZ	**Tuamarina**	**2.91**	**52**	P	**Pn**	15 32 31.4	+1.8
TCW	**Tory Channel**	**3.24**	**52**	P	**Pn**	15 32 36.7	+2.6
DUWZ	**D'Urville Isla**	**3.33**	**44**	P	**Pn**	15 32 37.5	+2.0
SNZO	**South Karori**	**3.44**	**57**	P	**Pn**	15 32 36.6	-0.2
SYZ	**Scrubby Hill**	**3.51**	**200**	P	**Pn**	15 32 37.8	0.0
SYZ	**Scrubby Hill**	**3.51**	**200**	P	**Pn**	15 32 37.3	-0.5
OGWZ	**Otaki Gorge**	**4.01**	**54**	P	**Pn**	15 32 46.0	+1.2
NBEZ	**Newall Road No**	**4.57**	**30**	P	**Pn**	15 32 54.1	+1.6
KHEZ	**Kahui Hut**	**4.61**	**32**	P	**Pn**	15 32 53.7	+0.7
KHEZ	**Kahui Hut**	**4.61**	**32**	P	**Pn**	15 32 54.9	+1.9
PREZ	**Palmer Road**	**4.62**	**33**	P	**Pn**	15 32 55.0	+1.8
PKE	**Pukeiti**	**4.68**	**31**	P	**Pn**	15 32 55.9	+1.9
VRZ	**Vera Road**	**5.05**	**37**	P	**Pn**	15 33 00.4	+1.2
HIZ	**Hauiti**	**5.61**	**34**	P	**Pn**	15 33 07.2	+0.4
HIZ	**Hauiti**	**5.61**	**34**	P	**Pn**	15 33 07.2	+0.4
OUZ	**Omahuta**	**8.29**	**16**	P	**Pn**	15 33 44.8	+1.2

*MOS **26** 15:32:10.5±1.1, 44°.40N×148°.16E, h52km, mb4.2/12, Error ellipse: s-maj=8.6km s-min=7.5km az=85.7*

*NIED **26** 15:32:12.1, 44°.00N×147°.84E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.99; Mθθ-1.55; Mφφ-1.44; Mrθ5.19; Mθφ-2.56; Mφr5.56; Fault plane solution: M0 8.39000×10^14 NP1: φs230.00000°, δ12.00000°, λ97.00000°. NP2: φs43.00000°, δ78.00000°, λ88.00000°.*

*JMA **26** 15:32:12.1±0.3, 44°N±1°×14°8E±°, h0km, MV4.7/31, SE OFF ETOROFU*

*NEIC **26** 15:32:13.3±1.9, 44°.56N±0°.09×148°.0E±0°.1, h58km±7km, mb4.2/17, Error ellipse: s-maj=15.2km s-min=13.1km az=104.0*

*IDC **26** 15:32:13.8±2.5, 44°.41N×148°.06E, h63km±20km, mb3.6/18, mbtmp3.9/22, MS3.1/6, Error ellipse: s-maj=17.2km s-min=14.8km az=131.0*

*SKHL **26** 15:32:13.2±0.1, 44°.40N×148°.10E, h71km±6km, mb5.5/6*

ISC 26 15:32:10.7±1.3,**44°.27N**±0°.06×**148°.21E**±0°.07,**h42**km±11km, **n125,** σ**1§50**/130,**mb4.0**/35,**MS3.4**/3,**4D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.99**	**346**	*d* iPN	**Pn**	**15 32 27.9**	**-0.2**
KUR				*i* S	**Sn**	**15 32 39.9**	**-1.0**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=E,761nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,4μm,0.3s						
KUR	**Kuril'sk**	**0.99**	**346**	*i* P	**Pn**	**15 32 29.2**	**+1.1**
KUR				AMB	AMB	15 32 29.4	
	comp=E,2μm,0.2s						
KUR				*e*S	**Sn**	**15 32 41.3**	**+0.4**
KUR				A	A	15 32 41.6	
	comp=E,4μm,0.3s						
KUR				A	A	15 32 41.6	
	comp=E,6μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.71**	**263**	*d* iPN	**Pn**	**15 32 38.7**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.71**	**263**	*e*P	**Pn**	**15 32 38.8**	**+0.8**
YUK				AMB	AMB	15 32 40.5	
	comp=E,2μm,0.2s						
YUK				*e*S	**Sn**	**15 32 58.0**	**-0.6**
YUK				A	A	15 33 00.6	
	comp=E,4μm,0.3s						
YUK				A	A	15 33 00.6	
	comp=E,5μm,0.3s						
NEM2	**Nemuro 2**	**2.01**	**244**	P	**Pn**	**15 32 42.5**	**+0.5**
NEM2				*e*S	**Sn**	**15 33 04.3**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.01**	**244**	⇓ iPN	**Pn**	**15 32 42.4**	**+0.3**
NMR				*e*S	**Sn**	**15 33 04.4**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.01**	**244**	*e*P	**Pn**	**15 32 42.6**	**+0.5**
NMR				*e*S	**Sn**	**15 33 04.5**	**-1.6**
GLVR	**Golovnino**	**2.02**	**256**	*e*PN	**Pn**	**15 32 43.3**	**+1.2**
GLVR				*e*S	**Sn**	**15 33 05.5**	**-0.6**
GLVR				pmax	pmax		
	comp=E,127nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,454nm,0.1s						
GLVR				smax	smax		
	comp=N,6μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.1s						
GLVR	**Golovnino**	**2.02**	**256**	*e*P	**Pn**	**15 32 43.3**	**+1.2**
GLVR				AMB	AMB	15 32 45.9	
	comp=E,450nm,0.2s						
GLVR				*e*S	**Sn**	**15 33 05.5**	**-0.6**
GLVR				A	A	15 33 12.6	
	comp=E,6μm,0.2s						
GLVR				A	A	15 33 12.6	
	comp=E,2μm,0.2s						
RUSJ	**Misakicho**	**2.14**	**266**	*e*PN	**Pn**	**15 32 45.8**	**+2.0**
RUSJ				*e*S	**Sn**	**15 33 10.8**	**+1.6**
JRA	**Rausu**	**2.25**	**262**	*i* P	**Pn**	**15 32 47.4**	**+2.0**
JRA				*e*S	**Sn**	**15 33 12.6**	**+0.7**
JNSB	**Nemuroshibetsu**	**2.37**	**259**	P	**Pn**	**15 32 48.7**	**+1.7**
JNSB				*e*S	**Sn**	**15 33 16.1**	**+1.3**
JKHN	**Kushirohamanak**	**2.52**	**243**	P	**Pn**	**15 32 50.0**	**+1.0**
JKHN				*e*S	**Sn**	**15 33 17.5**	**-0.9**
AKK	**Akkeshi**	**2.75**	**244**	*e*P	**Pn**	**15 32 53.2**	**+1.0**
JAK	**Akkeshi**	**2.85**	**245**	*e*P	**Pn**	**15 32 54.4**	**+0.7**
JAK				*e*S	**Sn**	**15 33 25.2**	**-1.5**
JTKR	**Abashiri--Toko**	**3.12**	**266**	*e*P	**Pn**	**15 32 58.9**	**+1.7**
JAR	**Ashorobuto**	**3.36**	**255**	P	**Pn**	**15 33 02.8**	**+2.1**
JAR				*e*S	**Sn**	**15 33 40.8**	**+1.5**
JOB	**Onbets**	**3.46**	**248**	P	**Pn**	**15 33 03.7**	**+1.7**
JOB				S	**Sn**	**15 33 41.8**	**0.0**
JMP	**Maruseppu**	**3.50**	**267**	P	**Pn**	**15 33 04.6**	**+2.0**
JCH	**Churui**	**3.90**	**247**	*e*P	**Pn**	**15 33 10.0**	**+2.0**
JKA	**Kamikawa-asahi**	**4.04**	**270**		**Pn**	**15 33 12.1**	**+2.2**
ASAJ	**Asahikawa**	**4.04**	**270**	P	**Pn**	**15 33 12.7**	**+2.7**
	comp=E,12nm,0.4s,baz=52,slow=18,SNR=21						
ASAJ				S	**Sn**	**15 33 57.0**	**+0.9**
	comp=E,16nm,0.3s,baz=102,slow=22,SNR=1.7						
ASAJ				LR	LR	15 34 50.4	
	comp=E,174nm,18.4s,baz=136,slow=40						
ASAJ	**Asahikawa**	**4.04**	**270**	*e*P	**Pn**	**15 33 12.3**	**+2.3**
JEM	**Erimo**	**4.33**	**240**	P	**Pn**	**15 33 17.7**	**+3.7**
ERM	**Erimo**	**4.33**	**240**		**Pn**	**15 33 17.8**	**+3.8**
ERM	**Erimo**	**4.33**	**240**	P	**Pn**	**15 33 17.1**	**+3.1**
ERM	**Erimo**	**4.33**	**240**	PN	**Pn**	**15 33 17.8**	**+3.8**
JNBK	**Urakawa-nobuka**	**4.46**	**245**	*e*P	**Pn**	**15 33 17.1**	**+1.5**
YSS	**Yuzhno-Sakhali**	**4.67**	**307**		**Pn**	**15 33 16.9**	**-1.7**
YSS	**Yuzhno-Sakhali**	**4.67**	**307**	P	**Pn**	**15 33 20.0**	**+1.4**
YSS	**Yuzhno-Sakhali**	**4.67**	**307**	*e*PN	**Pn**	**15 33 18.2**	**-0.4**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS	**Yuzhno-Sakhali**	**4.67**	**307**	*e*P	**Pn**	**15 33 20.3**	**+1.7**
YSS				AMB	AMB	15 33 20.7	
	comp=Z,60nm,0.3s						
YSS				*e*S	**Sn**	**15 34 10.2**	**-1.4**
YSS				A	A	15 34 12.5	
	comp=Z,30nm,0.5s						
YSS				A	A	15 34 12.5	
	comp=Z,30nm,0.5s						
JTM	**Tenmabayashi**	**6.33**	**239**	Pn	**Pn**	**15 33 42.9**	**+1.6**
JTM	**Tenmabayashi**	**6.33**	**239**	P	**Pn**	**15 33 43.1**	**+1.8**
TYV	**Tymovskoe**	**7.59**	**332**	*e*PN	**Pn**	**15 33 57.2**	**-1.4**
TYV				pmax	pmax		
	comp=Z,12nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV	**Tymovskoe**	**7.59**	**332**	*e*P	**Pn**	**15 33 57.2**	**-1.4**
TYV				AMB	AMB	15 33 58.3	
	comp=Z,10.0nm,1.2s						
TYV				AMB	AMB	15 34 01.0	
	comp=Z,100nm,2.5s						
TYV				*e*S	Sn	15 35 11.0	-12
TYV				A	A	15 35 15.2	
	comp=Z,100nm,3.0s						
TYV				A	A	15 35 15.2	
	comp=Z,200nm,3.0s						
TYV				A	A	15 35 15.8	
	comp=Z,200nm,1.5s						
TYV				A	A	15 35 15.8	
	comp=Z,20nm,1.5s						
JMM	**Marumori**	**8.51**	**224**	Pn	**Pn**	**15 34 09.8**	**-1.4**
JMM	**Marumori**	**8.51**	**224**	P	**Pn**	**15 34 11.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**10.83**	**32**	Pn	**Pn**	**15 34 41.8**	**-1.2**
PEA0B	**Petropavlovsk-**	**10.83**	**32**	PN	**Pn**	**15 34 41.8**	**-1.2**
PETK	**Petropavlovsk-**	**10.83**	**32**	P	**Pn**	**15 34 45.1**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=218,slow=9.1,SNR=6.6						
MJAR	**Matsushiro Arr**	**10.85**	**228**	Pn	**Pn**	**15 34 43.9**	**+0.6**
MJAR	**Matsushiro Arr**	**10.85**	**228**	P	**Pn**	**15 34 44.4**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=29,slow=12,SNR=8.3						
MJAR				LR	LR	15 39 14.5	
	comp=Z,57nm,18.9s,baz=72,slow=39						
MAJO	**Matsushiro**	**10.85**	**228**	Pn	**Pn**	**15 34 42.8**	**-0.5**
MAJO	**Matsushiro**	**10.85**	**228**	*i* PN	**Pn**	**15 34 45.1**	**+1.8**
JGF	**Kuroka**	**12.01**	**228**	Pn	**Pn**	**15 34 57.0**	**-2.2**
JNU	**Nakatsue**	**17.49**	**236**	Pn	**Pn**	**15 36 09.3**	**-2.0**
JNU				IAmb	IAmb	15 36 15.7	
	comp=Z,24nm,1.1s						
JNU	**Nakatsue**	**17.49**	**236**	LR	LR	15 41 56.9	
	comp=Z,39nm,19.4s,baz=177,slow=33						
HILR	**Hailar Array B**	**20.08**	**295**	P	**Pn**	**15 36 41.8**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=98,slow=10.0,SNR=2.3						
YAK	**Yakutsk**	**20.83**	**335**	*i* P	Pn	15 36 49.3	-1.8
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**20.83**	**335**	*e*P	Pn	15 36 49.3	-1.8
BILL	**Bilibino**	**25.65**	**16**	*i* P	**P**	**15 37 36.7**	**+0.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL	**Bilibino**	**25.65**	**16**	*e*P	**P**	**15 37 36.7**	**+0.7**
HHC	**Hu-ho-hao-te**	**27.07**	**276**	*e*P	**P**	**15 37 51.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.8s						
BTO	**Baotou**	**28.25**	**276**	*e*P	**P**	**15 38 02.8**	**+3.0**
BTO				pmax	pmax		
	comp=Z,25nm,0.5s						
BTO				pmax	pmax		
	comp=Z,180nm,6.0s						
ULN	**Ulaanbaatar**	**28.54**	**292**	P	**P**	**15 37 58.6**	**-3.8**
ULN	**Ulaanbaatar**	**28.54**	**292**	*i* P	**P**	**15 38 02.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.54**	**292**	*e*P	**P**	**15 38 02.8**	**+0.4**
SONM	**Songino Array**	**28.98**	**292**	P	**P**	**15 38 06.9**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=78,slow=13,SNR=1.2						
	comp=Z,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.01**	**142**	T	T	16 09 00.8	
	baz=332,slow=76,SNR=111						
H11N1	**WAKE ISLAND Hy**	**29.03**	**142**	T	T	16 09 09.1	
	baz=332,slow=76,SNR=107						
H11N3	**WAKE ISLAND Hy**	**29.03**	**142**	T	T	16 09 09.5	
	baz=332,slow=76,SNR=108						
H11S1	**WAKE ISLAND Hy**	**30.00**	**143**	T	T	16 10 12.4	
	baz=333,slow=76,SNR=214						
H11S3	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	16 10 09.0	
	baz=333,slow=76,SNR=184						
H11S2	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	16 10 12.8	
	baz=333,slow=76,SNR=167						
TLY	**Talaya**	**30.34**	**300**	*i* P	**P**	**15 38 19.1**	**+0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	**Talaya**	**30.34**	**300**	*e*P	**P**	**15 38 19.1**	**+

comp=Z,3.0nm,1.0s
EVN Everest 51.05 273 P 15 41 09.3 -0.2
AAK Ala-Archa 51.82 296 *i* P **P 15 41 14.9 +0.4**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 51.82 296 *e*P **P 15 41 14.9 +0.4**
KK31 Karatay Array 54.15 298 P 15 41 30.1 -1.3
KK31 Karatay Array 54.15 298 P **P 15 41 30.2 -1.3**
KK31 pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 54.24 17 LR LR 16 08 45.7
comp=Z,27nm,18.5s,baz=29,slow=40
AB31 Akbulak array 57.33 309 P 15 41 52.8 -1.4
AB31 IAmb IAmb 15 41 54.4
comp=Z,1.3nm,0.6s
FINES FINESS Array B 64.75 333 P **P 15 42 43.1 -1.1**
comp=Z,2.3nm,0.6s,baz=33,slow=7.7,SNR=16
comp=Z,2.3nm,0.6s
WRA Warramunga Arr 65.15 194 P **P 15 42 48.2 +0.9**
comp=Z,1.2nm,0.8s,baz=12,slow=6.4,SNR=7.1
comp=Z,1.2nm,0.8s
ASAR Alice Springs 68.87 194 P **P 15 43 12.8 +2.0**
comp=Z,0.7nm,0.8s,baz=13,slow=6.0,SNR=11
comp=Z,0.7nm,0.8s
NOA NORSAR Array B 69.39 339 P **P 15 43 12.8 -0.9**
comp=Z,0.2nm,0.4s,baz=32,slow=6.5,SNR=4.2
comp=Z,0.2nm,0.4s
NOA NORSAR Array B 69.39 339 *e*P **P 15 43 14.4 +0.7**
HFS Hagfors 69.50 338 P **P 15 43 12.9 -1.4**
comp=Z,4.0nm,0.9s,baz=40,slow=7.7,SNR=6.2
comp=Z,4.0nm,0.9s
KIV Kislovodsk 69.98 312 *e*P **P 15 43 17.7 -0.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 69.98 312 *e*P **P 15 43 17.7 -0.1**
KBZ Khabaz 70.02 312 P **P 15 43 18.3 +0.5**
comp=Z,1.2nm,0.8s,baz=20,slow=4.3,SNR=4.8
comp=Z,1.2nm,0.8s
KBZ Khabaz 70.02 312 *e*P **P 15 43 18.9 +1.0**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 70.02 312 *e*P **P 15 43 18.9 +1.0**
AKASG Malin Array Be 71.61 324 IAmb IAmb 15 43 48.4
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 71.61 324 P **P 15 43 25.7 -1.7**
comp=Z,0.4nm,0.3s,baz=41,slow=6.0,SNR=3.2
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 71.61 324 *i* P **P 15 43 29.5 +2.1**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
VRAC Vranov 77.66 330 LR LR 16 24 38.5
comp=Z,12nm,18.7s,baz=8.0,slow=41
BRTR Keskin Array B 77.73 314 P **P 15 44 03.4 +0.1**
comp=Z,0.7nm,0.7s,baz=65,slow=3.8,SNR=4.6
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 81.72 57 P **P 15 44 26.5 +1.5**
comp=Z,0.3nm,0.5s,baz=293,slow=3.7,SNR=6.0
comp=Z,0.3nm,0.5s
MMAI Mount Meron Ar 81.76 309 P **P 15 44 25.6 +0.5**
comp=Z,1.6nm,0.5s,baz=33,slow=6.3,SNR=4.8
MMAI LR LR 16 26 42.5
comp=Z,33nm,18.4s,baz=126,slow=40
comp=Z,1.6nm,0.5s
H03N2 Juan Fernandez 142.19 90 T T 18 30 10.5
baz=304,slow=77,SNR=7.8
H03N3 Juan Fernandez 142.21 90 T T 18 30 14.2
baz=304,slow=77,SNR=11
H03N1 Juan Fernandez 142.21 90 T T 18 30 11.2
baz=304,slow=77,SNR=6.9
SNAA Sanae 149.19 197 PKPbc **PKPbc 15 51 52.4 -0.9**
comp=Z,0.9nm,0.8s,baz=217,slow=5.1,SNR=2.7

*SJA **26** 15:35:07.4±1.1,30.°04S×70.°17W,h130km,ML4.0,MW4.0*
*GUC **26** 15:35:09.1±0.7,30.°02S×70.°08W,h122km±2km,ML4.1*
ISC 26 15:35:08.4±1.2,30.°02S±0.°03×70.°09W±0.°05,h121km±9km,
n46,σ1°01/69,4C-14D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO01	**Juntas del Tor**	**0.05**	**358**	⇑*i*P		**Pn**	**15 35 25.3**	**+0.1**
CO01				*i* S		**Sn**	**15 35 37.1**	**-0.8**
GO04	**Tololo Observa**	**0.63**	**256**	⇑*i*P		**Pn**	**15 35 28.0**	**+0.4**
GO04				*i* S		**Sn**	**15 35 42.3**	**+0.2**
CO03	**El Pedregal**	**0.96**	**212**	⇓*i*P		**Pn**	**15 35 30.6**	**+0.4**
CO03				*i* S		**Sn**	**15 35 46.9**	**+0.2**
CO03				IAML			15 35 47.6	
comp=E,5μm,0.3s								
CO05	**La Serena**	**1.00**	**276**	⇑*i*P		**Pn**	**15 35 31.0**	**+0.6**
CO05				*i* S		**Sn**	**15 35 47.5**	**+0.3**
CO05				IAML			15 35 49.8	
comp=E,4μm,0.3s								
LCO	**Las Campanas**	**1.14**	**332**	⇑*i*P		**Pn**	**15 35 32.5**	**+0.2**
LCO				*i* S		**Sn**	**15 35 50.0**	**-0.2**
LCO	**Las Campanas**	**1.14**	**332**	*e*P		**Pn**	**15 35 32.4**	**+0.2**
LCO				*e*S		**Sn**	**15 35 50.6**	**+0.5**
CO02	**Combarbal**	**1.41**	**213**	⇓*i*P		**Pn**	**15 35 35.5**	**+0.6**
CO02				*i* S		**Sn**	**15 35 55.8**	**+0.6**
CO02				IAML			15 35 59.2	
comp=E,5μm,0.3s								
CO06	**Fray Jorge**	**1.48**	**244**	*i* P		**Pn**	**15 35 35.9**	**+0.3**
CO06				*i* S		**Sn**	**15 35 56.4**	**0.0**
CO06				IAML			15 36 07.3	
comp=N,2μm,0.3s								
AC04	**Llanos de Chal**	**2.01**	**334**	*i* P		**Pn**	**15 35 42.7**	**+0.8**
AC04	**Llanos de Chal**	**2.01**	**334**	*e*P		**Pn**	**15 35 42.7**	**+0.8**
AC04				*e*S		**Sn**	**15 36 06.8**	**-0.8**
VCA	**Vinchina**	**2.09**	**53**	⇓*e*P		**Pn**	**15 35 44.0**	**+0.9**
VCA				IAML			15 36 15.6	
comp=N,957nm,0.4s								
VCA	**Vinchina**	**2.09**	**53**	*e*P		**Pn**	**15 35 44.0**	**+0.9**
VCA				*e*S		**Sn**	**15 36 12.0**	**+2.4**
VCA				IAML			15 36 13.6	
comp=Z,693nm,0.3s								
CO04	**Los Peladeros**	**2.15**	**200**	⇓*i*P		**Pn**	**15 35 44.4**	**+0.4**
CO04				*i* S		**Sn**	**15 36 11.8**	**+0.5**
CO04				IAML			15 36 13.2	
comp=N,1μm,0.2s								
GO03	**Copiapo**	**2.42**	**357**	⇓*i*P		**Pn**	**15 35 47.8**	**+0.5**
GO03				*i* S		**Sn**	**15 36 16.6**	**-0.5**
GO03				IAML			15 36 19.6	
comp=N,562nm,0.3s								
GO03	**Copiapo**	**2.42**	**357**	*e*P		**Pn**	**15 35 47.9**	**+0.5**
GO03				*e*S		**Sn**	**15 36 18.4**	**+1.2**
AC06	**Mina Casimiro**	**2.67**	**355**	⇓*i*P		**Pn**	**15 35 50.7**	**+0.3**
AC06				IAML			15 36 26.7	
comp=E,574nm,0.5s								
VA06	**Catapilco**	**2.73**	**202**	⇓*i*P		**Pn**	**15 35 51.1**	**0.0**
VA06				IAML			15 36 30.1	
comp=N,578nm,0.2s								
VA03	**San Esteban**	**2.76**	**188**	⇓*i*P		**Pn**	**15 35 52.6**	**+0.9**
VA03				*i* S		**Sn**	**15 36 25.0**	**0.0**
VA03				IAML			15 36 28.6	
comp=E,631nm,0.2s								
AANI	**Anillaco**	**3.00**	**67**	*e*P		**Pn**	**15 35 55.0**	**+0.1**
AANI				*e*S		**Sn**	**15 36 29.4**	**-1.4**
ROCH	**El Roble**	**3.04**	**195**	⇓*i*P		**Pn**	**15 35 55.0**	**-0.5**
ROCH				*i* S		**Sn**	**15 36 31.9**	**+0.1**
ROCH				IAML			15 36 34.4	
comp=N,283nm,0.3s								
PEL	**Peldehue**	**3.15**	**189**	*i* P		**Pn**	**15 35 56.8**	**+0.1**
PEL				*i* S		**Sn**	**15 36 33.4**	**-0.7**
PEL				IAML			15 36 43.0	
comp=N,181nm,0.4s								
MT10	**Hacienda Santa**	**3.26**	**187**	*i* P		**Pn**	**15 35 59.0**	**+0.8**
AC02	**Maricunga**	**3.29**	**15**	⇓*e*P		**Pn**	**15 35 59.9**	**+0.9**
AC02				IAML			15 36 42.4	
comp=E,273nm,0.4s								
AC02	**Maricunga**	**3.29**	**15**	*e*P		**Pn**	**15 35 59.9**	**+0.9**
AC02				*e*S		**Sn**	**15 36 39.0**	**+1.1**
MT02	**Curacav**	**3.35**	**195**	*i* P		**Pn**	**15 35 58.6**	**-0.7**
MT02				IAML			15 36 49.0	
comp=N,231nm,0.5s								
MT14	**Cerro Cal¡n**	**3.38**	**186**	*i* P		**Pn**	**15 36 00.3**	**+0.5**
MT14				*i* S		**Sn**	**15 36 39.6**	**+0.1**
MT14				IAML			15 36 47.5	
comp=E,332nm,0.4s								
MT05	**Renca**	**3.40**	**189**	*e*P		**Pn**	**15 36 00.3**	**+0.3**
MT05				*i* S		**Sn**	**15 36 39.6**	**-0.4**
MT05				IAML			15 36 42.7	
comp=N,510nm,0.3s								
MT08	**Bocatoma Ro**	**3.41**	**179**	⇓*i*P		**Pn**	**15 36 02.1**	**+1.8**
MT16	**CCHEN**	**3.41**	**186**	*i* P		**Pn**	**15 36 00.9**	**+0.8**
MT16				*i* S		**Sn**	**15 36 39.9**	**-0.4**
MT16				IAML			15 36 42.8	
comp=N,104nm,0.2s								
MT03	**Universidad Ad**	**3.48**	**186**	*e*P		**Pn**	**15 36 01.6**	**+0.5**
MT15	**Las Vizcachas**	**3.58**	**186**	*i* P		**Pn**	**15 36 02.9**	**+0.5**
MT12	**Pirque**	**3.72**	**186**	⇓*e*P		**Pn**	**15 36 04.1**	**-0.1**
MT12				*i* S		**Sn**	**15 36 46.7**	**-0.8**
LMEL	**Las Melosas**	**3.81**	**181**	*e*P		**Pn**	**15 36 06.4**	**+0.8**
MT09	**Talagante**	**3.82**	**191**	*i* P		**Pn**	**15 36 04.7**	**-0.9**
AC01	**Pan de Azucar**	**3.89**	**353**	⇓*e*P		**Pn**	**15 36 06.0**	**-0.4**
AC01	**Pan de Azucar**	**3.89**	**353**	*e*P		**Pn**	**15 36 06.6**	**+0.1**
AC01				*e*S		**Sn**	**15 36 49.9**	**-1.6**
BO04	**La Punta**	**3.98**	**186**	⇓*e*P		**Pn**	**15 36 07.2**	**-0.5**
GO02	**Mina Guanaco**	**4.86**	**5**	*e*P		**Pn**	**15 36 19.3**	**-0.5**
GO02				*e*S		**Sn**	**15 37 18.6**	**+3.3**
TCA	**Tanti**	**4.91**	**107**	*e*P		**Pn**	**15 36 18.5**	**-1.7**
FSA	**Cafayete**	**5.33**	**44**	*e*P		**Pn**	**15 36 26.1**	**+0.2**
FSA				*e*S		**Sn**	**15 37 26.2**	**-0.1**
PB14	**IPOC Station P**	**5.38**	**357**	*e*P		**Pn**	**15 36 25.1**	**-1.8**
PB14				*e*S		Sn	15 37 11.5	-16
PB10	**IPOC Station P**	**6.50**	**356**	*e*P		**Pn**	**15 36 38.8**	**-2.8**
SALTA		**6.67**	**31**	*e*P		Pn	15 36 36.5	-7.8
AF01	**San Pedro de A**	**7.25**	**14**	*e*P		Pn	15 36 34.7	-17
PB06	**IPOC Station P**	**7.30**	**4**	*e*P		**Pn**	**15 36 50.0**	**-2.6**
PB09	**IPOC Station P**	**8.23**	**6**	*e*P		**Pn**	**15 37 03.4**	**-1.8**

*JMA **26** 15:45:57.2±0.2,25.°N±2.°×123.°5E±0.°6,h154km±3km,*
MV3.1/17,NW OFF ISHIGAKIJIMA IS
ISC 26 15:45:56.8±2.1,25.°0N±0.°2×123.°55E±0.°05,h162km±16km,
n20,σ0°51/29,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.70**	**166**	*i* P		**Pn**	**15 46 20.6**	**0.0**
IRIF				S		**Sn**	**15 46 38.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.74**	**221**	P		Pn	15 46 26.9	+6.1
YOJ	**Yonaguni jima**	**0.74**	**221**	*e*S		**Sn**	**15 46 38.8**	**-0.4**
JYNG	**Yonagunijimaku**	**0.79**	**224**	*e*P		**Pn**	**15 46 21.2**	**+0.1**
JYNG				S		**Sn**	**15 46 39.6**	**-0.1**
JISG	**Ishigakijimahi**	**0.82**	**122**	*i* P		**Pn**	**15 46 21.3**	**0.0**
JISG				S		**Sn**	**15 46 39.6**	**-0.4**
JIJ	**Ishigaki jima**	**0.85**	**140**	*i* P		**Pn**	**15 46 21.7**	**+0.2**
JIJ				S		**Sn**	**15 46 40.0**	**-0.5**
JKRS	**Kuro-shima**	**0.89**	**152**	P		**Pn**	**15 46 22.5**	**+0.7**
JKRS				S		**Sn**	**15 46 41.3**	**+0.3**
HATJ	**Hateruma jima**	**0.99**	**166**	*e*S		**Sn**	**15 46 43.1**	**+0.7**
JTJ	**Tarama**	**1.12**	**110**	P		**Pn**	**15 46 24.0**	**+0.4**
JTJ				S		**Sn**	**15 46 44.3**	**+0.1**
JIRB	**Irabujima**	**1.49**	**97**	P		**Pn**	**15 46 27.1**	**0.0**
JIRB				S		**Sn**	**15 46 49.3**	**-1.1**
JIKM	**Ikemajima**	**1.55**	**93**	*e*P		**Pn**	**15 46 28.1**	**+0.4**
JIKM				S		**Sn**	**15 46 50.6**	**-0.8**
JMJ	**Miyako jima 2**	**1.60**	**97**	P		**Pn**	**15 46 28.7**	**+0.5**
JMJ2	**Miyako jima3**	**1.64**	**99**	*e*P		**Pn**	**15 46 29.2**	**+0.6**
JMJ2				*e*S		**Sn**	**15 46 52.8**	**-0.5**
JOGS	**Gusukube**	**1.71**	**98**	P		**Pn**	**15 46 30.1**	**+0.7**
JOGS				S		**Sn**	**15 46 54.3**	**-0.2**
TATO	**Taipei**	**1.87**	**269**	P		**Pn**	**15 46 31.4**	**+0.3**
NACB	**Ninganchiao**	**1.97**	**245**	P		**Pn**	**15 46 32.5**	**+0.2**
YHNB	**Yeheng**	**2.00**	**260**	P		**Pn**	**15 46 33.3**	**+0.6**
YULB	**Yu-li**	**2.62**	**232**	P		**Pn**	**15 46 39.6**	**-0.3**
SSLB	**Suanglung**	**2.66**	**243**	P		**Pn**	**15 46 41.1**	**+0.6**
TPUB	**Ta-pu**	**3.17**	**238**	P		**Pn**	**15 46 46.3**	**-0.5**

*NIED **26** 15:48:44.7,25.°75N×129.°56E,h48km,MW3.6,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm;
M_{rr}=1.78; $M_{\theta\theta}$=0.42; $M_{\phi\phi}$2.20; $M_{r\theta}$1.33; $M_{\theta\phi}$1.58; $M_{\phi r}$0.54;
Fault plane solution: $M_0$2.90000×10^{14} NP1:
ϕ_s=354.00000°,δ43.00000°,λ-141.00000°. NP2:
ϕ_s=233.00000°,δ65.00000°,λ-54.00000°.
JMA 26 15:48:44.7±0.1,26.°N±1.°×129.°6E±0.°5,h48km,MV3.7/22,
NEAR MINAMI-DAITOJIMA IS,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.50**	**87**	*i* P		Pn	15 49 09.7	+0.5
JMZ				S		Sn	15 49 27.0	-0.6
JNTH	**Nagotoyohara**	**1.58**	**300**	*i* P		Pn	15 49 10.8	+0.6
JNTH				*e*S		Sn	15 49 29.3	-0.2
JOW	**Kunigami**	**1.58**	**314**	*i* P		Pn	15 49 11.1	+0.9
JOW				*e*S		Sn	15 49 29.0	-0.5
JKDJ	**Kitadaitoujima**	**1.58**	**82**	*i* P		Pn	15 49 11.0	+0.8
JKDJ				S		Sn	15 49 29.2	-0.3
JYRO	**Yoronjima**	**1.61**	**322**	P		Pn	15 49 11.6	+0.9
JYRO				S		Sn	15 49 30.2	-0.1
JJT3	**Tamagusuku3**	**1.64**	**284**	*i* P		Pn	15 49 12.2	+1.1
JJT3				S		Sn	15 49 31.9	+0.8
JOKE	**Okinoerabujima**	**1.83**	**331**	P		Pn	15 49 15.0	+1.3
JOKE				*e*S		Sn	15 49 36.9	+1.1
JIH	**Iheya**	**1.92**	**312**	P		Pn	15 49 15.8	+1.0
JIH				*e*S		Sn	15 49 38.0	+0.2
JTK	**Tokunoshima**	**2.10**	**345**	P		Pn	15 49 18.7	+1.3
JTK				*e*S		Sn	15 49 42.2	-0.2
JAGN	**Aguni-jima**	**2.24**	**292**	P		Pn	15 49 20.3	+1.0
JAGN				S		Sn	15 49 46.0	+0.2
JAMN	**Amaminishikomi**	**2.51**	**352**	*e*P		Pn	15 49 24.4	+1.4
JAMN				*e*S		Sn	15 49 52.6	+0.3
JKE	**Kume jima 2**	**2.56**	**284**	*i* P		Pn	15 49 23.9	+0.2
JKE				S		Sn	15 49 52.1	-1.4
JZK	**Kikaishima**	**2.59**	**8**	*e*S		Sn	15 49 55.5	+1.3
JAM	**Amami Oshima**	**2.66**	**1**	*e*P		Pn	15 49 26.3	+1.3
JAM				*e*S		Sn	15 49 55.5	-0.4
JTAJ	**Takarajima**	**3.41**	**355**	*e*S		Sn	15 50 13.7	-0.8
JOGS	**Gusukube**	**3.88**	**256**	P		Pn	15 49 43.0	+1.1
JOGS				*e*S		Sn	15 50 25.6	-0.6
JMJ2	**Miyako jima3**	**3.96**	**256**	*e*P		Pn	15 49 43.7	+0.8
JIKM	**Ikemajima**	**3.98**	**259**	*e*P		Pn	15 49 43.9	+0.7
JIRB	**Irabujima**	**4.07**	**258**	*e*P		Pn	15 49 44.7	+0.3

IDC 26 15:58:57.1±1.6,2.°45S×138.°22E,$h0^{km}$,mb3.3/2,
mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=30.9km
s-min=27.4km az=168.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.48**	**91**	Pn		Pn	15 59 38.5	-0.3
2.9nm,0.3s,baz=267,slow=18,SNR=20								
JAY				Sn		Sb	16 00 12.2	-1.6
1.2nm,0.3s,baz=324,slow=19,SNR=3.6								
20nm,0.7s								
WRA	**Warramunga Arr**	**17.79**	**192**	P		P	16 03 08.3	+1.1
0.1nm,0.3s,baz=15,slow=12,SNR=4.7								
0.7nm,0.7s								
ASAR	**Alice Springs**	**21.50**	**191**	P		P	16 03 46.8	-0.9
0.7nm,0.8s,baz=18,slow=11,SNR=13								
0.7nm,0.8s								
MKAR	**Makanchi Array**	**69.29**	**323**	P		P	16 10 06.4	+0.1
0.3nm,0.7s,baz=101,slow=7.5,SNR=3.6								
0.3nm,0.7s								

IDC 26 15:59:51.4±1.7,2.°52S×138.°16E,$h0^{km}$,mb3.2/2,
mbtmp3.2/4,ML3.2/2,MS4.0/1,Error ellipse:
s-maj=32.6km s-min=28.1km az=169.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.54**	**90**	Pn		Pn	16 00 32.7	-1.3
3.2nm,0.3s,baz=274,slow=19,SNR=7.6								
JAY				Sn		Sn	16 01 07.2	+1.5
0.2nm,0.3s,baz=307,slow=20,SNR=1.1								
11nm,0.5s								
WRA	**Warramunga Arr**	**17.71**	**192**	P		Pn	16 03 59.1	-0.5
0.1nm,0.3s,baz=8.6,slow=12,SNR=1.4								
0.5nm,0.9s								
ASAR	**Alice Springs**	**21.42**	**191**	P		P	16 04 40.8	-0.3
0.5nm,0.6s,baz=8.7,slow=10,SNR=4.5								
0.5nm,0.6s								
RPZ	**Rata Peaks**	**50.33**	**149**	LR		LR	16 28 32.9	
comp=Z,166nm,19.9s,baz=136,slow=34								
MKAR	**Makanchi Array**	**69.30**	**323**	P		P	16 11 01.5	+0.8
0.3nm,0.7s,baz=102,slow=6.1,SNR=2.4								
0.3nm,0.7s								

*VIE **26** 16:31:37.9±1.2,51.°40N×16.°58E,$h0^{km}$,mb2.5/2,ml2.5/6,*
Error ellipse: s-maj=8.2km s-min=5.7km az=5.0 46 km
NW of Wroclaw Suspected Mining induced.
*DNK **26** 16:31:38.6±1.0,51.°59N×16.°57E,$h8^{km}$±46^{km}*
*PRU **26** 16:31:40.0,51.°39N×16.°26E,$h0^{km}$*

ISC 26 16:31:37.3±0.9,51.°49N±0.°03×16.°21E±0.°03,$h0^{km}$,n30,
σ1°36/62,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**175**	*e*Pg		**Pg**	**16 31 50.0**	**+0.4**
KSP				*e*Sg		**Sg**	**16 31 57.8**	**-0.3**
CHVC	**Chvalec**	**0.91**	**186**	*e*PG		**Pg**	**16 31 55.1**	**+0.5**
CHVC				*e*SG		**Sg**	**16 32 06.6**	**+0.2**
OSTC	**Ostas**	**0.94**	**180**	*e*PG		**Pg**	**16 31 55.5**	**+0.4**
OSTC				*e*SG		**Sg**	**16 32 07.2**	**0.0**
UPC	**Upice**	**0.99**	**187**	*e*PG		**Pg**	**16 31 56.4**	**+0.2**
UPC				*e*SG		**Sb**	**16 32 10.1**	**-0.8**
comp=Z,71nm,0.5s								
DPC	**Dobruska-Polom**	**1.14**	**176**	*e*PG		**Pg**	**16 31 58.9**	**-0.2**
DPC				*e*SG		**Sg**	**16 32 13.8**	**-0.1**
comp=Z,22nm,0.5s								
PVCC	**Panska Ves**	**1.41**	**228**	*e*PG		**Pb**	**16 32 05.1**	**+0.6**
PVCC				*e*SG		**Sn**	**16 32 24.1**	**+0.6**
comp=Z,79nm,0.3s								
KRLC	**Kraliky**	**1.46**	**165**	*e*PG		**Pn**	**16 32 04.9**	**0.0**
KRLC				*e*SG		**Sg**	**16 32 22.2**	**-2.0**
comp=Z,13nm,0.4s								
BRG	**Berggiesshubel**	**1.55**	**247**	Pg		**Pg**	**16 32 08.0**	**+1.0**
BRG				Sg		**Sg**	**16 32 28.7**	**+1.6**
BRG				Amp			16 32 29.9	
comp=Z,18nm,0.3s								
PRU	**Pruhonice**	**1.84**	**216**	*e*SG		**Sb**	**16 32 35.7**	**+0.4**
STEB	**Steborice**	**1.85**	**147**	*e*PG		**Pn**	**16 32 10.8**	**+0.6**
STEB				*e*SG		**Sn**	**16 32 33.6**	**-0.7**
comp=Z,25nm,0.7s								
MORC	**Moravsky Berou**	**1.91**	**153**	*e*PN		**Pn**	**16 32 10.5**	**-0.6**
MORC				*e*SG		**Sn**	**16 32 36.2**	**+0.2**
HSKC	**Hora Svate Kat**	**1.96**	**244**	*e*PG		**Pb**	**16 32 14.3**	**+0.4**
HSKC				*e*SG		**Sg**	**16 32 40.4**	**+0.1**
comp=Z,18nm,0.3s								
CLL	**Collm**	**2.02**	**266**	*e*Pn		**Pb**	**16 32 14.0**	**-0.7**
CLL				*e*Pg		**Pg**	**16 32 16.0**	**+0.1**
CLL				*e*Sg		**Sg**	**16 32 44.0**	**+2.0**
comp=Z,12nm,0.6s								
VRAC	**Vranov**	**2.20**	**173**	*e*PN		**Pn**	**16 32 15.3**	**+0.3**
VRAC				*e*SG		**Sb**	**16 32 44.8**	**-0.8**
TREC	**Trest**	**2.25**	**192**	*e*PN		**Pn**	**16 32 15.9**	**+0.2**
TREC				*e*PG		**Pb**	**16 32 19.2**	**+0.5**
TREC				*e*SG		**Sg**	**16 32 48.4**	**-0.9**
ZVC	**Zvikov**	**2.42**	**213**	*e*PG		**Pg**	**16 32 22.8**	**-0.9**
ZVC				*e*SG		**Sg**	**16 32 53.9**	**-1.2**
KRUC	**Moravsky**	**2.43**	**177**	*e*SG		**Sg**	**16 32 54.3**	**-1.1**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg		**Pg**	**16 32 27.8**	**+0.6**
OJC				*e*Sg		**Sg**	**16 33 01.9**	**+0.9**
KHC	**Kasperske Hory**	**2.90**	**217**	*e*PN		**Pn**	**16 32 25.8**	**+1.1**
KHC				*e*PG		**Pb**	**16 32 31.2**	**+1.3**
KHC				*e*SN		**Sn**	**16 32 59.0**	**-1.3**
KHC				*e*SG		**Sg**	**16 33 09.4**	**-1.0**
LANS	**Liptovska Anna**	**3.14**	**137**	*e*PG		**Pg**	**16 32 36.1**	**-1.3**
LANS				*e*SG		**Sg**	**16 33 17.2**	**-0.8**
MODS	**Modra-Piesok**	**3.19**	**167**	*e*PG		**Pg**	**16 32 38.5**	**0.0**
MODS				*e*SG		**Sg**	**16 33 21.9**	**+2.1**
CONA	**Conrad Observa**	**3.57**	**184**	*e*Pg		**Pb**	**16 32 42.3**	**+1.0**
comp=Z,0.5nm,0.2s								
CONA				*i* Sg		**Sg**	**16 33 29.3**	**-2.6**
comp=Z,2.7nm,0.5s								
RONA	**Rosalia, Austr**	**3.79**	**179**	*e*Pg		**Pb**	**16 32 46.6**	**+1.5**
comp=Z,0.7nm,0.4s								
RONA				*e*Sg		**Sg**	**16 33 35.6**	**-3.5**
comp=Z,1.3nm,0.4s								
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*PG		**Pg**	**16 32 50.0**	**-0.6**
STHS				*e*SG		**Sg**	**16 33 43.0**	**+2.8**
MOA	**Molln**	**3.86**	**200**	*e*Pn		**Pn**	**16 32 39.3**	**+1.5**
comp=Z,1.6nm,0.3s								
MOA				*e*Sg		**Sg**	**16 33 38.9**	**-2.2**
comp=Z,2.6nm,0.4s								
BIOA	**Bad Ischl, Aus**	**4.15**	**205**	*e*Pg		**Pg**	**16 32 55.3**	**-1.5**
comp=Z,1.3nm,0.3s								
BIOA				*e*Sg		**Sg**	**16 33 50.0**	**-0.6**
comp=Z,8.0nm,0.6s								
ARSA	**Arzberg**	**4.27**	**186**	*e*Pn		**Pn**	**16 32 42.1**	**-1.3**
comp=Z,0.6nm,0.4s								
ARSA				*e*Sg		**Sb**	**16 33 49.1**	**+4.0**
comp=Z,3.2nm,0.5s								
LESA	**Schwarzleotal**	**4.67**	**211**	*e*Pn		**Pn**	**16 32 48.3**	**-0.9**
comp=Z,0.2nm,0.2s								
LESA				*e*Sg		**Sg**	**16 34 07.0**	**-0.4**
comp=Z,2.4nm,0.6s								
BJUU	**Bjuv**	**4.96**	**339**	*i* P		**Pn**	**16 32 53.1**	**+0.2**
BJUU				*e*S		**Sn**	**16 33 49.0**	**-2.0**
DEL	**Delary**	**5.18**	**345**	*i* P		**Pn**	**16 32 56.5**	**+0.6**
DEL				*e*S		**Sn**	**16 33 52.8**	**-3.4**

*IDC **26** 16:42:26.9±2.0,6.°58S×154.°99E,$h62^{km}$±18^{km},mb3.7/12,*
mbtmp4.0/16,MS3.3/4,Error ellipse: s-maj=17.7km
s-min=13.7km az=18.0
ISC 26 16:42:26.2±0.6,6.°52S±0.°10×155.°01E±0.°07,h56km,n23,
**σ1

0.3nm,0.5s
MAW Mawson 84.84 203 P **P** **16 54 53.7 -0.8**
2.8nm,1.2s,baz=65,slow=7.9,SNR=3.6
2.8nm,1.2s
LPIG La Paz 96.89 67 LR LR 17 32 35.1
comp=Z,23nm,19.4s,baz=239,slow=31

*ISK **26** 16:42:51.5, 36.°53N×25.°79E, h7km, ML2.3/12*
*ATH **26** 16:42:51.9, 36.°56N×25.°73E, h17km±1km, ML2.0/1,*
Manual Solution by S.Koutrakis First location: 2019/10/26 16:44:06, This location: 2019/10/26 17:07:33 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km
*THE **26** 16:42:52.1, 37°N±3°×2°6E±°, h9km±3km, M2.6/11, MLh2.6/11*
ISC 26 16:42:51.6±0.9, 36.°59N±0.°02×25.°76E±0.°02, h14km±8km, n40, σ0.°75/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR8	**Santorini-Mono**	**0.29**	**231**	P	**Pg**	**16 42 57.6**	**-0.1**
THR2	**Thira island,**	**0.30**	**241**	P	**Pg**	**16 42 57.7**	**0.0**
THERA	**Ancient Thera,**	**0.32**	**226**	P	**Pg**	**16 42 58.1**	**0.0**
THERA				S	**Sg**	**16 43 03.0**	**+0.3**
THERA	**Ancient Thera,**	**0.32**	**226**	P	**Pg**	**16 42 58.1**	**0.0**
THERA				S	**Sg**	**16 43 02.9**	**+0.3**
THR3	**Thira Island,**	**0.34**	**238**	P	**Pg**	**16 42 58.6**	**+0.1**
SAP3	**Santorini-Thir**	**0.37**	**245**	P	**Pg**	**16 42 58.9**	**0.0**
SAP3				S	**Sg**	**16 43 04.3**	**+0.3**
SAP3	**Santorini-Thir**	**0.37**	**245**	P	**Pg**	**16 42 59.0**	**0.0**
SAP3				S	**Sg**	**16 43 04.4**	**+0.4**
THR5	**Thira Island,**	**0.37**	**242**	P	**Pg**	**16 42 59.2**	**+0.1**
THR6	**Thira Island,**	**0.37**	**231**	P	**Pg**	**16 42 59.4**	**+0.3**
THR9	**Santorini-Faro**	**0.40**	**234**	P	**Pb**	**16 43 00.6**	**+0.3**
APE	**Apeiranthos**	**0.51**	**339**	S	**Sg**	**16 43 06.2**	**-2.3**
MHLO	**Agia Marina, M**	**1.09**	**276**	P	**Pb**	**16 43 12.6**	**+0.3**
MHLO				S	**Sb**	**16 43 26.4**	**0.0**
MHLO	**Agia Marina, M**	**1.09**	**276**	P	**Pb**	**16 43 11.3**	**-1.0**
MHLO				S	**Sb**	**16 43 25.9**	**-0.5**
NPS	**Neapolis**	**1.33**	**185**	P	**Pg**	**16 43 17.0**	**-0.2**
NPS				S	**Sb**	**16 43 32.9**	**-0.4**
BODT	**Bodrum**	**1.33**	**69**	Pn	**Pg**	**16 43 17.1**	**-0.1**
BODT				Sn	**Sg**	**16 43 36.3**	**+1.8**
BODT	**Bodrum**	**1.33**	**69**	P	**Pg**	**16 43 17.8**	**+0.6**
BODT				S	**Sg**	**16 43 36.6**	**+2.1**
SMG	**Samos**	**1.41**	**37**	P	**Pn**	**16 43 16.7**	**-0.1**
SMG				S	**Sg**	**16 43 37.1**	**+0.1**
SMG	**Samos**	**1.41**	**37**	P	**Pb**	**16 43 17.8**	**+0.1**
SMG				S	**Sg**	**16 43 36.9**	**-0.2**
DAT	**Datca**	**1.47**	**84**	Pn	**Pb**	**16 43 18.8**	**+0.1**
DAT				Sn	**Sg**	**16 43 38.8**	**-0.2**
IDI	**Anoyia**	**1.48**	**209**	Pn	**Pb**	**16 43 18.9**	**0.0**
IDI				Sn	**Sb**	**16 43 38.4**	**+0.9**
IDI	**Anoyia**	**1.48**	**209**	P	**Pn**	**16 43 17.0**	**-0.8**
IDI				S	**Sb**	**16 43 37.8**	**+0.3**
IDI	**Anoyia**	**1.48**	**209**	P	**Pn**	**16 43 17.5**	**-0.3**
IDI				S	**Sn**	**16 43 36.7**	**-0.3**
ZKR	**Zakros**	**1.52**	**166**	Pn	**Pb**	**16 43 19.0**	**-0.5**
KARP	**Karpathos**	**1.54**	**132**	Pn	**Pn**	**16 43 18.9**	**+0.3**
KARP				Sn	**Sb**	**16 43 39.4**	**+0.1**
KARP	**Karpathos**	**1.54**	**132**	P	**Pn**	**16 43 18.9**	**+0.3**
KARP				S	**Sg**	**16 43 40.0**	**-1.2**
KARP	**Karpathos**	**1.54**	**132**	P	**Pn**	**16 43 19.0**	**+0.3**
GCAM	**G?zelcaml?**	**1.62**	**46**	Pn	**Pb**	**16 43 21.2**	**0.0**
KARY	**Karystos**	**1.78**	**324**	P	**Pn**	**16 43 22.6**	**+0.6**
KARY				S	**Sn**	**16 43 44.8**	**+0.4**
CHOS	**Chios island**	**1.81**	**7**	Pn	**Pb**	**16 43 24.3**	**-0.2**
CHOS	**Chios island**	**1.81**	**7**	P	**Pn**	**16 43 23.1**	**+0.7**
URLA	**Izmir**	**1.89**	**20**	Pn	**Pb**	**16 43 25.5**	**-0.3**
ARG	**Arkhangelos**	**1.95**	**100**	Pn	**Pb**	**16 43 25.4**	**-1.4**
TURN	**Turunc**	**2.01**	**84**	Pn	**Pb**	**16 43 26.5**	**-1.3**
BLCB	**Balcova**	**2.06**	**29**	Pn	**Pb**	**16 43 28.3**	**-0.5**
DION	**Dionisos Attik**	**2.08**	**316**	P	**Pb**	**16 43 28.6**	**-0.5**
DION				S	**Sb**	**16 43 54.4**	**-0.4**
ATHU	**Athens Univers**	**2.09**	**312**	P	**Pn**	**16 43 27.4**	**+1.3**
PTL	**Penteli**	**2.10**	**315**	P	**Pb**	**16 43 28.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**51**	Pn	**Pb**	**16 43 29.6**	**-1.2**
GVD	**Gavdhos**	**2.21**	**218**	Pn	**Pn**	**16 43 29.4**	**+1.5**
VLI	**Veliai**	**2.27**	**274**	P	**Pn**	**16 43 27.7**	**-0.9**

DJA 26 16:54:13.8±0.3, 0°N±3°×12°3E±°, h99km±5km, M3.7/14, mB6.2/1, mb3.7/6, MLv3.6/14, Mw(mB)5.9/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.62**	**284**	P	Pn	16 54 31.0	+0.6
MRSI				S	Sn	16 54 44.2	+1.4
LUWI	**Luwuk**	**1.38**	**170**	P	Pn	16 54 38.7	+0.1
LUWI				S	Sn	16 54 58.7	+1.4
KMSI	**Cibinong**	**1.46**	**80**	P	Pn	16 54 40.2	+0.7
KMSI				S	Sn	16 55 01.1	+2.1
APSI	**Ampana**	**1.52**	**216**	P	Pn	16 54 40.8	+0.5
MPSI	**Mapaga**	**2.64**	**270**	P	Pn	16 54 55.8	+1.0
SANI	**Sanana**	**4.18**	**124**	P	Pn	16 55 12.6	-2.8
KDI	**Kendari**	**4.26**	**179**	P	Pn	16 55 15.9	-0.6
SPSI	**Sidrap Palu**	**5.09**	**213**	P	Pn	16 55 28.6	+0.9
	0.1nm9.4nm,0.5s						
BNSI	**Bone**	**5.29**	**207**	P	Pn	16 55 30.9	+0.4
	0.1nm20nm,1.0s						
BSSI	**Bau Bau, Buton**	**6.75**	**198**	P	Pn	16 55 51.0	+0.7

*MOS **26** 17:04:01.7±0.9, 36.°50N×71.°22E, h227km, mb4.5/22, Error ellipse: s-maj=5.6km s-min=3.8km az=88.9*
*IDC **26** 17:04:03.1±0.6, 36.°40N×71.°22E, h234km±5km, mb3.9/31, mbtmp4.6/37, Error ellipse: s-maj=10.2km s-min=7.4km az=20.0*
*BJI **26** 17:04:03.0, 36.°63N×71.°29E, h222km, mB4.8/8, mb4.7/30*
*NEIC **26** 17:04:03.0±1.3, 36.°54N±0.°03×71.°15E±0.°07, h226km±5km, mb4.4/98, Error ellipse: s-maj=8.6km s-min=4.5km az=94.0*
*NNC **26** 17:04:11.7±4.5, 37.°87N×71.°13E, h442km±107km, mb3.0, mpv4.6, Error ellipse: s-maj=93.1km s-min=33.3km az=161.0*
ISC 26 17:04:02.3±0.4, 36.°47N±0.°03×71.°23E±0.°03, h223km±3km, h223km:pP-P, n470, σ1.°30/522, mb4.3/118, 30C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.62**	**224**		**Pn**	**17 04 49.8**	**+0.6**
KBL				Sn	**S**	**17 05 25.3**	**-0.4**
KBL	**Kabul**	**2.62**	**224**	P	**Pn**	**17 04 50.2**	**+0.9**
	SNR=245						
KBL				S	**S**	**17 05 25.5**	**-0.3**
GAR	**Garm**	**2.63**	**344**		**Pn**	**17 04 49.5**	**+0.3**
GAR				Sn	**S**	**17 05 23.3**	**-2.5**
CHGR	**Chuyangaron**	**2.74**	**324**		**Pn**	**17 04 50.1**	**-0.2**
CHGR				Sn	**S**	**17 05 24.0**	**-3.8**
DRK	**Karamyk**	**3.04**	**8**	Pn	**Pn**	**17 04 54.7**	**+0.8**
DRK				Sn	**S**	**17 05 32.6**	**-1.7**
NIL	**Nilore**	**3.26**	**149**		**Pn**	**17 04 58.1**	**+2.0**
NIL				Sn	**S**	**17 05 39.8**	**+1.4**
NIL	**Nilore**	**3.26**	**149**	PN	**Pn**	**17 04 58.2**	**+2.0**
NIL						17 05 39.8	
SRNI	**Srinagar**	**3.78**	**128**	*e*P	**Pn**	**17 05 02.5**	**+0.2**
SRNI				*e*S	**S**	**17 05 47.0**	**-2.3**
SRNI				IAML		17 05 53.4	
	comp=N,893nm,0.1s						
SRNI				IAML		17 05 53.4	
	comp=E,934nm,0.1s						
JMU	**Jammu**	**4.81**	**140**	*e*P	**Pn**	**17 05 14.5**	**-0.4**
JMU				*e*S	**S**	**17 06 07.7**	**-4.5**
JMU				IAML		17 06 12.7	
	comp=E,628nm,0.4s						
JMU				IAML		17 06 24.0	
	comp=N,902nm,0.6s						
KSH	**Kashi**	**4.83**	**49**	P	**Pn**	**17 05 10.8**	**-4.3**
KSH				S	S	17 06 01.3	-11
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=N,1μm,0.7s						
ARSB	**Arslanbob**	**5.04**	**15**		**Pn**	**17 05 17.7**	**-0.1**
ARSB	**Arslanbob**	**5.04**	**15**	PN	**Pn**	**17 05 17.7**	**-0.1**
ALCI	**Alchi Leh**	**5.36**	**113**	*e*P	**Pn**	**17 05 20.0**	**-2.1**
ALCI				*e*S	**S**	**17 06 21.8**	**-3.5**
ALCI				IAML		17 06 25.9	
	comp=E,533nm,0.6s						
ALCI				IAML		17 06 25.9	
	comp=N,615nm,0.6s						
DHRM	**DHARAMSHALA**	**5.94**	**134**	*e*P	**Pn**	**17 05 29.6**	**+0.3**
DHRM				*e*S	**S**	**17 06 33.4**	**-4.9**
DHRM				IAML		17 06 38.9	
	comp=E,373nm,0.6s						
DHRM				IAML		17 06 39.2	
	comp=N,402nm,0.5s						
CHM	**Chimkent**	**5.98**	**348**	*e*P	**Pn**	**17 05 29.2**	**-0.4**
CHM	**Chimkent**	**5.98**	**348**	*e*PN	**Pn**	**17 05 29.1**	**-0.4**
UCH	**Uchtor**	**6.29**	**23**	P	**Pn**	**17 05 34.4**	**+0.4**
	SNR=110						
DZA	**Taraz**	**6.42**	**1**	*e*P	**Pn**	**17 05 35.1**	**-0.1**
DZA	**Taraz**	**6.42**	**1**	*e*PN	**Pn**	**17 05 35.0**	**-0.1**
EKS2	**Erkin-Say**	**6.49**	**17**	P	**Pn**	**17 05 36.5**	**+0.3**
	SNR=24						
BHK	**Bhakra**	**6.62**	**138**	*e*P	**Pn**	**17 05 41.7**	**+3.8**
BHK				IAML		17 06 54.3	
	comp=N,313nm,0.5s						
BHK				*e*S	**S**	**17 06 56.0**	**+2.0**
BHK				IAML		17 06 57.6	
	comp=E,437nm,0.3s						
BRLS	**Borolday**	**6.64**	**351**	*e*P	**Pn**	**17 05 34.6**	**-3.4**
BRLS	**Borolday**	**6.64**	**351**	*e*PN	**Pn**	**17 05 34.6**	**-3.4**
KK31	**Karatay Array**	**6.65**	**355**		**Pn**	**17 05 37.7**	**-0.4**
KK31	**Karatay Array**	**6.65**	**355**	P	**Pn**	**17 05 37.9**	**-0.2**
	comp=E,22nm,0.4s,baz=182,slow=12,SNR=645						
KK31				⇓S	**S**	**17 06 49.1**	**-5.4**
	comp=E,43nm,0.3s,baz=181,slow=17,SNR=16						
KK31	**Karatay Array**	**6.65**	**355**	*e*PN	**Pn**	**17 05 37.9**	**-0.2**
KKAR	**Karatay Array**	**6.65**	**355**		**Pn**	**17 05 37.5**	**-0.6**
KKAR	**Karatay Array**	**6.65**	**355**	PN	**Pn**	**17 05 37.5**	**-0.6**
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**17 05 38.5**	**+0.2**
	comp=E,40nm,0.3s,baz=167,slow=5.9,SNR=187						
AAK				S	**S**	**17 06 52.1**	**-2.8**
	comp=E,51nm,0.3s,baz=154,slow=17,SNR=14						
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**17 05 38.9**	**+0.5**
AAK				S	**S**	**17 06 53.3**	**-1.5**
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**17 05 38.7**	**+0.4**
	SNR=92						
AAK	**Ala-Archa**	**6.66**	**21**	⇑P	**Pn**	**17 05 38.7**	**+0.4**
	comp=E,7.4nm,0.4s						
AAK				⇓S	**S**	**17 06 51.8**	**-3.1**
	comp=E,106nm,0.6s						
AAK	**Ala-Archa**	**6.66**	**21**	*i* P	**Pn**	**17 05 38.7**	**+0.4**
	SNR=115						
AAK	**Ala-Archa**	**6.66**	**21**	*de*PN	**Pn**	**17 05 38.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,37nm,0.6s						
KBK	**Karagaybulak**	**6.81**	**24**	P	**Pn**	**17 05 41.1**	**+0.7**
	SNR=53						
FRU1	**Bishkek**	**6.86**	**21**		**Pn**	**17 05 40.9**	**+0.1**
FRU1	**Bishkek**	**6.86**	**21**	PN	**Pn**	**17 05 40.9**	**+0.1**
ULHL	**Ulahol**	**6.95**	**32**	P	**Pn**	**17 05 42.3**	**+0.2**
	SNR=14						
BOOM	**Boomskoye usch**	**7.03**	**30**		**Pn**	**17 05 43.4**	**+0.3**
BOOM	**Boomskoye usch**	**7.03**	**30**	PN	**Pn**	**17 05 43.4**	**+0.3**
CHMS	**Chumysh**	**7.06**	**21**	P	**Pn**	**17 05 43.4**	**0.0**
	SNR=12						
USP	**Ospenovka**	**7.24**	**19**	P	**Pn**	**17 05 45.0**	**-0.7**
	SNR=67						
SMLA	**Simla**	**7.26**	**135**	*e*P	**Pn**	**17 05 47.0**	**+1.0**
SMLA				*e*S	**S**	**17 07 05.1**	**-3.7**
SMLA				IAML		17 07 10.6	
	comp=N,413nm,0.7s						
SMLA				IAML		17 07 11.1	
	comp=E,339nm,0.1s						
TKM2	**Tokmak 2**	**7.27**	**26**	P	**Pn**	**17 05 46.6**	**+0.3**
	SNR=217						
KDJ	**Kajisay**	**7.29**	**37**		**Pn**	**17 05 46.8**	**+0.3**
KDJ	**Kajisay**	**7.29**	**37**	PN	**Pn**	**17 05 46.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**7.33**	**42**		**Pn**	**17 05 46.6**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.33**	**42**	PN	**Pn**	**17 05 46.6**	**-0.6**
SGDS	**Sogindy**	**7.45**	**19**	*e*P	**Pn**	**17 05 47.8**	**-0.6**
HRA	**Herat**	**7.63**	**257**		**Pn**	**17 05 51.5**	**+0.6**
TNSS	**Tian-Shan**	**7.90**	**32**	*e*P	**Pn**	**17 05 54.3**	**-0.2**
TNSS				*e*S	**S**	**17 07 23.6**	**-0.7**
TNSS	**Tian-Shan**	**7.90**	**32**	*e*PN	**Pn**	**17 05 54.3**	**-0.2**
TNSS				*e*S	**S**	**17 07 23.5**	**-0.7**
AAA	**Alma-Ata**	**8.03**	**31**	*e*P	**Pn**	**17 05 56.0**	**+0.1**
AAA	**Alma-Ata**	**8.03**	**31**	*e*PN	**Pn**	**17 05 55.9**	**+0.1**
MDOK	**Medeo**	**8.04**	**32**	*e*P	**Pn**	**17 05 56.1**	**-0.1**
MDOK				*e*S	**S**	**17 07 26.8**	**-0.6**
MDOK	**Medeo**	**8.04**	**32**	*e*PN	**Pn**	**17 05 56.0**	**-0.1**
MDOK				*e*S	**S**	**17 07 26.7**	**-0.6**
KNDC	**Almaty**	**8.05**	**31**	⇑P	**Pn**	**17 05 56.9**	**+0.7**
	comp=E,79nm,0.5s						
KNDC				⇓S	**S**	**17 07 23.2**	**-4.2**
	comp=E,86nm,0.7s						
KNDC	**Almaty**	**8.05**	**31**	PN	**Pn**	**17 05 56.9**	**+0.7**
PRZ	**Przheval'sk**	**8.17**	**40**		**Pn**	**17 05 57.7**	**-0.1**
PRZ	**Przheval'sk**	**8.17**	**40**	PN	**Pn**	**17 05 57.7**	**-0.1**
DDI	**Dehra Dun**	**8.37**	**135**	*e*P	**Pn**	**17 06 00.8**	**+0.5**
DDI				*e*S	**S**	**17 07 27.7**	**-7.3**
DDI				IAML		17 07 33.7	
	comp=E,268nm,0.5s						
DDI				IAML		17 07 34.9	
	comp=N,356nm,0.3s						
SATY	**Saty**	**8.59**	**38**	*e*P	**Pn**	**17 06 02.6**	**-0.5**
SATY				*e*S	**S**	**17 07 39.2**	**-0.9**
SATY	**Saty**	**8.59**	**38**	*e*PN	**Pn**	**17 06 02.6**	**-0.5**
SATY				*e*S	**S**	**17 07 39.2**	**-0.9**
UZB	**Uzynbulak**	**8.96**	**40**	*e*P	**Pn**	**17 06 08.1**	**+0.1**
UZB	**Uzynbulak**	**8.96**	**40**	*e*PN	**Pn**	**17 06 08.0**	**+0.1**
JOSI	**Joshimath**	**9.11**	**128**	*e*P	**Pn**	**17 06 11.3**	**+1.3**
JOSI				*e*S	**S**	**17 07 45.5**	**-7.3**
JOSI				IAML		17 07 55.0	
	comp=N,205nm,0.7s						
JOSI				IAML		17 07 55.4	
	comp=E,249nm,0.6s						
SHLS	**Shalkode**	**9.20**	**41**	*e*P	**Pn**	**17 06 13.8**	**+2.8**
SHLS	**Shalkode**	**9.20**	**41**	*e*P	**Pn**	**17 06 13.7**	**+2.8**
PDGK	**Podgornoye**	**9.34**	**40**	⇑P	**Pn**	**17 06 11.9**	**-0.8**
	comp=E,13nm,0.4s						
PDGK				⇓S	S	17 07 47.2	-11
	comp=E,61nm,0.8s						
PDGK	**Podgornoye**	**9.34**	**40**	P	**Pn**	**17 06 11.9**	**-0.8**
KUDL	**Kundal**	**9.41**	**150**	*e*P	**Pn**	**17 06 13.1**	**-0.6**
KUDL				*e*S	**S**	**17 07 51.7**	**-7.8**
KUDL				IAML		17 07 54.4	
	comp=E,100nm,0.9s						
KUDL				IAML		17 07 55.6	
	comp=N,55nm,0.5s						
TDK	**Taldyqorghan**	**10.11**	**30**	*e*P	**Pn**	**17 06 22.3**	**-0.2**
	comp=N,22nm,0.6s						
TDK	**Taldyqorghan**	**10.11**	**30**	*e*P	**Pn**	**17 06 22.3**	**-0.2**
TDK				pmax	pmax		
	comp=Z,22nm,0.6s						
PTH	**Pithoragarh**	**10.21**	**130**	*e*P	**Pn**	**17 06 23.8**	**-0.4**
PTH				*e*S	**S**	**17 08 11.5**	**-7.4**
PTH				IAML		17 08 15.4	
	comp=N,20nm,0.4s						
PTH				IAML		17 08 17.9	
	comp=E,44nm,0.8s						
LGTI	**Lohaghat**	**10.30**	**130**	*e*P	**Pn**	**17 06 24.2**	**-0.8**
LGTI				*e*S	S	17 08 09.9	-11
MAKZ	**Makanchi**	**13.07**	**34**	P	**Pn**	**17 06 59.1**	**-0.7**
MAKZ	**Makanchi**	**13.07**	**34**	P	**Pn**	**17 06 59.1**	**-0.7**
MK31	**Makanchi Array**	**13.21**	**35**	*ce*P	**Pn**	**17 07 00.6**	**-0.9**
MKAR	**Makanchi Array**	**13.21**	**35**	P	**Pn**	**17 07 00.3**	**-1.1**
MKAR	**Makanchi Array**	**13.21**	**35**	P	**Pn**	**17 07 01.0**	**-0.5**
	comp=E,32nm,0.5s,baz=215,slow=14,SNR=182						
MKAR	**Makanchi Array**	**13.21**	**35**	P	**Pn**	**17 07 01.0**	**-0.5**
NGCH	**Negor - Chabah**	**14.05**	**221**	P	**P**	**17 07 15.1**	**+1.9**
WMQ	**Urumqi**	**14.56**	**55**	*e*P	**P**	**17 07 20.5**	**+1.7**
ZSN	**Zaisan**	**14.92**	**38**	*e*P	**Pn**	**17 07 22.2**	**-0.2**
ZSN	**Zaisan**	**14.92**	**38**	*e*P	**Pn**	**17 07 22.2**	**-0.2**
KURBB	**Kurchatov Arra**	**15.10**	**18**	P	**Pn**	**17 07 23.5**	**-0.9**
	comp=E,14nm,0.6s,baz=208,slow=10,SNR=45						
KURK	**Kurchatov**	**15.20**	**18**	P	**P**	**17 07 24.4**	**-1.3**
KURK				IAmb	IAmb	17 07 27.9	
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**15.20**	**18**	P	**P**	**17 07 24.8**	**-1.0**
KURK	**Kurchatov**	**15.20**	**18**	*ce*P	**P**	**17 07 24.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,39nm,1.7s						
AB31	**Akbulak array**	**15.21**	**331**	P	**P**	**17 07 24.5**	**-1.3**
AB31				IAmb	IAmb	17 07 29.4	
	comp=Z,9.4nm,0.8s						
ABKAR	**Akbulak array**	**15.21**	**331**	P	**P**	**17 07 24.2**	**-1.5**
SEM	**Semipalatinsk**	**15.38**	**22**	*e*P	**P**	**17 07 27.4**	**-0.5**
	comp=Z,12nm,0.7s						
SEM	**Semipalatinsk**	**15.38**	**22**	*e*P	**P**	**17 07 27.4**	**-0.5**
SEM				pmax	pmax		
	comp=Z,12nm,0.7s						
EVN	**Everest**	**15.67**	**118**	P	**Pn**	**17 07 32.6**	**+0.4**
BANOM	**Banah**	**16.52**	**235**	P	**P**	**17 07 41.0**	**+0.5**
BANOM	**Banah**	**16.52**	**235**	*i* P	**P**	**17 07 40.3**	**-0.2**
	SNR=18						
SHME	**Shamm**	**16.54**	**235**	P	**Pn**	**17 07 42.8**	**+0.7**
	SNR=5.7						
SHME	**Shamm**	**16.54**	**235**	*i* P	**P**	**17 07 40.7**	**0.0**
	SNR=5.7						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**17 07 41.6**	**-0.4**
	comp=Z,29nm,0.5s						
BVAR				S	**S**	**17 10 40.2**	**-2.2**
BORK	**Borovoye**	**16.59**	**358**	*ce*P	**Pn**	**17 07 42.1**	**-0.2**
BORK				pmax	pmax		
	comp=Z,16nm,0.5s						
AKTO	**Aktyubinsk**	**16.90**	**330**	P	**P**	**17 07 45.1**	**+0.7**
	comp=Z,46nm,0.5s,baz=138,slow=8.8,SNR=109						
AKTO				S	**S**	**17 10 47.1**	**-2.0**
	comp=Z,3.8nm,0.8s,baz=139,slow=19,SNR=3.8						
MDH	**Madha**	**16.95**	**233**	P	**P**	**17 07 45.9**	**+0.7**
MASF	**Masafi**	**17.00**	**234**	P	**Pn**	**17 07 47.8**	**+0.4**
	SNR=6.4						
MSFE	**Esma-Masafi**	**17.00**	**234**	*i* P	**Pn**	**17 07 46.8**	**-0.7**
	SNR=6.4						
WSAR	**Wadi Sarin**	**17.10**	**223**	P	**Pn**	**17 07 48.4**	**-0.2**
	SNR=6.4						
BIDO	**Bidbid**	**17.16**	**225**	P	**P**	**17 07 48.2**	**+0.7**
UOSS	**Minazif**	**17.26**	**232**	P	**P**	**17 07 49.0**	**+0.4**
UOSS	**Minazif**	**17.26**	**232**	P	**P**	**17 07 49.1**	**+0.5**
UOSS	**Minazif**	**17.26**	**232**	*i* P	**P**	**17 07 48.9**	**+0.3**
	SNR=8.5						
HATD	**Hatta, Dubai**	**17.39**	**232**	P	**P**	**17 07 50.6**	**+0.6**
	SNR=7.5						
HATD	**Hatta, Dubai**	**17.39**	**232**	P	**P**	**17 07 50.4**	**+0.3**
ASHO	**Ashiyiah**	**17.54**	**232**	P	**P**	**17 07 52.4**	**+0.7**
ASHO	**Ashiyiah**	**17.54**	**232**	*i* P	**Pn**	**17 07 53.0**	**-0.8**
	SNR=21						
SMDO	**Samad**	**17.57**	**224**	P	**Pn**	**17 07 54.0**	**-0.2**
JLN	**Jalan Bani Buh**	**17.58**	**219**	P	**Pn**	**17 07 54.2**	**0.0**
	SNR=8.2						
NAZ	**Nazwa, Dubai**	**17.58**	**234**	P	**P**	**17 07 52.8**	**+0.7**
HOQ	**Hoqain**	**17.59**	**227**	P	**Pn**	**17 07 53.8**	**-0.6**
SOHO	**SOHO**	**17.64**	**230**	P	**P**	**17 07 51.6**	**-1.1**
DGZ	**Jazzator, Alta**	**17.70**	**37**	*d* iP	**Pn**	**17 07 54.6**	**-0.9**
FAQ	**Al Faqa, Dubai**	**17.80**	**233**	P	**P**	**17 07 54.8**	**+0.4**
FAQ	**Al Faqa, Dubai**	**17.80**	**233**	P	**P**	**17 07 54.3**	**-0.2**
LSA	**Lhasa**	**17.99**	**106**	P	**P**	**17 07 56.5**	**-0.4**
LSA	**Lhasa**	**17.99**	**106**	P	**Pn**	**17 07 59.1**	**-0.3**
LSA				IAmb	IAmb	17 08 02.1	
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**17.99**	**106**	P	**Pn**	**17 08 00.5**	**+1.1**
LSA	**Lhasa**	**17.99**	**106**	P	**Pn**	**17 07 59.1**	**-0.3**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
ASUD	**Al Ashush, Dub**	**18.05**	**234**	P	**P**	**17 07 57.8**	**+0.6**
JMDO	**Jabal Madar**	**18.09**	**223**	P	**Pn**	**17 07 59.7**	**-0.5**
	SNR=10						
ALNE	**Al Ain**	**18.19**	**231**	P	**P**	**17 07 59.3**	**+0.7**
ALNE	**Al Ain**	**18.19**	**231**	*i* P	**P**	**17 07 59.5**	**+0.8**
	SNR=18						
ARQ	**Araqi**	**18.24**	**228**	P	**P**	**17 08 00.5**	**+1.2**
	SNR=7.6						
ARQ				S	**S**	**17 11 17.3**	**+1.0**
AJN	**Ajban**	**18.32**	**234**	P	**P**	**17 08 00.6**	**+0.5**
AJN	**Ajban**	**18.32**	**234**	P	**P**	**17 08 00.5**	**+0.5**
AKT	**Akhty**	**18.93**	**293**	*e*P	**P**	**17 08 06.0**	**-0.6**
AKT				*e*S	**S**	**17 11 27.8**	**-1.8**
AKT				pmax	pmax		
	comp=Z,16nm,0.6s						
GOMU	**GeErMu**	**19.00**	**84**	P	**P**	**17 08 09.0**	**+1.3**
GOMU				pP	Pn	17 08 12.5	+1.3
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MHTO	**MHTO**	**19.29**	**220**	P	**Pn**	**17 08 12.9**	**-1.4**
UMZA	**Um Al Zommool**	**19.54**	**230**	P	**P**	**17 08 13.2**	**+0.1**
MZWR	**Madinat Zayed**	**19.60**	**235**	P	**P**	**17 08 12.8**	**-1.0**
ZAA0	**Zalesovo Array**	**19.87**	**24**		**P**	**17 08 16.2**	**-0.2**
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**P**	**17 08 16.1**	**-0.3**
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**P**	**17 08 16.4**	**0.0**
	comp=Z,15nm,0.3s,baz=215,slow=11,SNR=131						
ZALV				S	**S**	**17 11 45.1**	**-2.5**
	comp=Z,1.8nm,0.6s,baz=214,slow=20,SNR=2.5						
SHMA	**Al-Shehemyia

comp=Z,6.8nm,0.8s
RAYN Ar Rayn 25.66 247 P **P 17 09 11.7 -0.2**
RAYN Ar Rayn 25.66 247 P **P 17 09 11.6 -0.2**
RAYN Ar Rayn 25.66 247 P **P 17 09 11.5 -0.3**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
KIRV Kirov 26.35 334 P **P 17 09 18.5 +1.0**
comp=Z,18nm,0.6s,baz=152,slow=5.4,SNR=11
KIRV pP **pP 17 10 04.1 +1.8**
comp=Z,9.3nm,0.7s,baz=223,slow=0.4,SNR=3.0
comp=Z,18nm,0.6s
GAZ Gaziantep 27.16 282 P **P 17 09 24.8 -0.4**
GAZ IAmb IAmb 17 09 27.7
comp=Z,7.8nm,0.7s
PZH PanZhiHua 27.75 102 P **P 17 09 33.3 +2.8**
SONM Songino Array 28.20 55 P **P 17 09 34.8 +0.5**
SONM Songino Array 28.20 55 P **P 17 09 35.6 +1.3**
comp=Z,5.1nm,0.8s,baz=262,slow=9.9,SNR=17
SONM pP **pP 17 10 21.8 +1.6**
comp=Z,2.3nm,0.7s,baz=261,slow=9.9,SNR=4.0
comp=Z,5.1nm,0.8s
ULN Ulaanbaatar 28.64 55 P **P 17 09 38.2 0.0**
ULN IAmb IAmb 17 09 40.7
comp=Z,4.7nm,0.8s
ULN Ulaanbaatar 28.64 55 P **P 17 09 40.0 +1.8**
KIRS Kirsehir-Merke 29.47 287 ⇑P **P 17 09 44.6 -1.0**
MMAI Mount Meron Ar 29.54 274 P **P 17 09 46.4 +0.2**
comp=Z,2.3nm,0.8s,baz=33,slow=5.5,SNR=3.6
MMAI PcP **PcP 17 12 45.2 -0.2**
comp=Z,1.2nm,0.5s,baz=87,slow=5.9,SNR=2.7
comp=Z,2.3nm,0.8s
BR104 Keskin Array S 29.62 288 P **P 17 09 47.5 +0.5**
comp=Z,57nmcomp=Z,7.2nm,0.9s
BR131 Keskin Array S 29.62 288 P **P 17 09 47.1 +0.1**
BR131 IAmb IAmb 17 09 48.7
comp=Z,5.9nm,0.7s
BR131 Keskin Array S 29.62 288 *i* P **P 17 09 47.9 +0.9**
BRTR Keskin Array B 29.62 288 P **P 17 09 47.1 +0.1**
BRTR Keskin Array B 29.62 288 P **P 17 09 47.3 +0.3**
comp=Z,4.4nm,0.7s,baz=103,slow=9.0,SNR=32
BRTR PcP **PcP 17 12 44.4 -1.2**
comp=Z,0.4nm,0.7s,baz=76,slow=6.1,SNR=1.6
comp=Z,4.4nm,0.7s
BR106 Keskin Array S 29.64 288 P **P 17 09 47.7 +0.6**
comp=Z,62nmcomp=Z,7.6nm,0.8s
BR105 Keskin Array S 29.64 288 P **P 17 09 47.9 +0.8**
comp=Z,58nmcomp=Z,8.1nm,0.8s
OBN Obninsk 30.09 319 P **P 17 09 49.2 -1.4**
OBN Obninsk 30.09 319 P **P 17 09 50.9 +0.3**
comp=Z,12nm,0.4s,baz=95,slow=13,SNR=3.9
comp=Z,12nm,0.4s
OBN Obninsk 30.09 319 *eP* **P 17 09 50.6 0.0**
OBN *i* 17 11 00.3
OBN pmax pmax
comp=Z,11nm,0.6s
ANTO Ankara 30.26 288 P **P 17 09 53.3 +0.8**
comp=Z,5.7nm,0.8s
CMAR Chiang Mai Arr 30.27 119 P **P 17 09 52.4 -0.3**
CMAR Chiang Mai Arr 30.27 119 P **P 17 09 52.5 -0.2**
comp=Z,1.0nm,1.0s,baz=296,slow=8.8,SNR=8.0
CMAR pP **pP 17 10 40.1 +1.3**
comp=Z,2.2nm,0.8s,baz=313,slow=9.8,SNR=8.4
CMAR ScP **ScP 17 16 05.9 -2.5**
comp=Z,0.5nm,0.6s,baz=315,slow=3.9,SNR=4.8
comp=Z,1.0nm,1.0s
BTO Baotou 30.45 70 *eP* **P 17 09 54.8 +0.6**
BTO pmax pmax
comp=Z,37nm,0.7s
BTO pmax pmax
comp=Z,120nm,4.7s
HHC Hu-ho-hao-te 31.60 70 *eP* **P 17 10 05.8 +1.6**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,100nm,4.1s
KLMR Klimovskoe 31.60 331 *eP* **P 17 10 02.4 -1.5**
KLMR pmax pmax
comp=Z,17nm,1.1s
BORA Eskisehir 32.05 289 P **P 17 10 07.0 -1.1**
BORA IAmb IAmb 17 10 09.6
comp=Z,5.7nm,0.9s
ENH Enshi 32.39 90 P **P 17 10 11.8 +0.6**
ENH IAmb IAmb 17 10 13.9
comp=Z,12nm,1.2s
AK09 Malin Array Si 33.06 309 P **P 17 10 16.9 +0.2**
AK10 Malin Array Si 33.08 309 P **P 17 10 17.1 +0.3**
AK07 Malin Array Si 33.10 309 P **P 17 10 17.3 +0.3**
AKASG Malin Array Be 33.11 309 P **P 17 10 16.4 -0.7**
AKASG Malin Array Be 33.11 309 P **P 17 10 16.9 -0.2**
comp=Z,5.5nm,0.7s,baz=83,slow=7.0,SNR=22
comp=Z,5.5nm,0.7s
AKASG Malin Array Be 33.11 309 *i* P **P 17 10 17.2 +0.1**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 33.11 309 IAmb IAmb 17 10 17.6
comp=Z,7.7nm,0.6s
AKBB Malin Array Si 33.11 309 *ceP* **P 17 10 16.3 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 33.11 309 P **P 17 10 17.1 0.0**
KIEV Kiev 33.12 309 P **P 17 10 16.9 -0.3**
KIEV IAmb IAmb 17 10 17.6
comp=Z,6.9nm,0.6s
KIEV Kiev 33.12 309 ⇑P **P 17 10 17.8 +0.6**
KIEV Kiev 33.12 309 P **P 17 10 17.3 +0.1**
KIEV Kiev 33.12 309 P **P 17 10 17.8 +0.6**
KIEV Kiev 33.12 309 P **P 17 10 17.1 -0.1**
AK16 Malin Array Si 33.18 309 P **P 17 10 17.7 0.0**
TPGR Topolog 33.22 298 ⇑P **P 17 10 18.4 +0.2**
AK20 Malin Array Si 33.26 309 P **P 17 10 18.2 -0.1**
SORM Soroca 33.38 304 ⇑P **P 17 10 20.0 +0.5**
SORM Soroca 33.38 304 P **P 17 10 19.9 +0.5**
CFR Carcaliu 33.42 299 ⇑P **P 17 10 20.2 +0.4**
CFR Carcaliu 33.42 299 P **P 17 10 20.2 +0.4**
LYN LuoYang 33.44 81 P **P 17 10 23.3 +3.1**
LYN pmax pmax
comp=Z,30nm,0.5s
LUBAR Lubar, Ukraine 33.94 307 P **P 17 10 24.3 0.0**
LUBAR pP **pP 17 11 11.0 +1.3**
NDNU Novodnistrovsk 34.07 305 P **P 17 10 26.1 +0.7**
MI28 Mi28,Pidlybu 34.12 309 P **P 17 10 26.0 +0.2**
VRI Vrincioaia 34.41 300 ⇑P **P 17 10 29.4 +1.0**
VRI Vrincioaia 34.41 300 P **P 17 10 29.4 +1.0**
VRI Vrincioaia 34.41 300 P **P 17 10 29.0 +0.6**
comp=Z,10nm,2.2s
BISRR Bisoca 34.42 299 P **P 17 10 29.7 +1.1**
comp=Z,29nm,2.5s
PLOR5 Plostina Array 34.45 300 P **P 17 10 30.2 +1.4**
comp=Z,17nm,2.0s
PLOR Plostina 34.46 300 ⇑P **P 17 10 29.4 +0.5**
PLOR Plostina 34.46 300 P **P 17 10 29.4 +0.5**
TESR Tescani 34.47 301 ⇑P **P 17 10 29.5 +0.6**
TESR Tescani 34.47 301 P **P 17 10 29.7 +0.9**
comp=Z,14nm,2.9s
KMPD K-Podol'skiy 34.67 305 P **P 17 10 30.6 +0.1**
KMPD P **P 17 10 30.1 -0.4**
HORU Horodok 34.73 306 P **P 17 10 31.6 +0.5**
TURR Turia 34.90 300 ⇑P **P 17 10 32.1 -0.5**
MLR Muntele Rosu 34.96 299 P **P 17 10 33.0 -0.2**
MLR Muntele Rosu 34.96 299 P **P 17 10 34.4 +1.1**
comp=Z,16nm,0.8s,baz=118,slow=1.1,SNR=32
comp=Z,16nm,0.8s
MLR Muntele Rosu 34.96 299 ⇑P **P 17 10 34.1 +0.8**
MLR Muntele Rosu 34.96 299 P **P 17 10 35.2 +1.9**
RNPP5 Staryi Chortor 35.28 309 P **P 17 10 35.9 +0.2**
RNPP9 Sopachiv 35.30 310 P **P 17 10 36.1 +0.3**
RNPP8 Varash 35.31 309 P **P 17 10 36.4 +0.5**
DOPR Dopca 35.34 300 ⇑P **P 17 10 36.6 +0.3**
NACGM Naroch 35.37 316 *eP* **P 17 10 36.8 +0.4**
comp=Z,35nm,0.9s,baz=103
KARP Karpathos 35.43 282 P **P 17 10 38.1 +0.8**
comp=Z,100nm,1.2s
BURAR Bucovina Array 35.46 303 P **P 17 10 37.8 +0.3**
BURAR Bucovina Array 35.46 303 ⇓P **P 17 10 38.7 +1.3**
BURAR Bucovina Array 35.46 303 P **P 17 10 38.7 +1.3**
KSV Kosov 35.58 304 P **P 17 10 38.9 +0.5**
ATD Arta Tunnel 35.65 233 P **P 17 10 40.0 +0.7**
ATD IAmb IAmb 17 10 42.5
comp=Z,11nm,0.9s
ARR Arges 35.89 299 ⇑P **P 17 10 41.5 +0.5**
STNU Starunia 35.97 305 P **P 17 10 43.0 +1.4**
WHN Wuhan 36.21 87 P **P 17 10 46.0 +2.2**
WHN pmax pmax
comp=Z,22nm,0.7s
LVV L'vov 36.33 307 P **P 17 10 45.4 +0.7**

LOT Lotru 36.49 299 ⇑P **P 17 10 46.8 +0.6**
MARR Marisel-Cluj 36.90 301 ⇑P **P 17 10 50.7 +1.1**
HILR Hailar Array B 37.17 54 P **P 17 10 52.7 +0.9**
comp=Z,1.8nm,0.4s,baz=282,slow=11,SNR=5.4
comp=Z,1.8nm,0.4s
DRGR 37.17 302 ⇑P **P 17 10 52.4 +0.5**
DRGR 37.17 302 P **P 17 10 52.4 +0.5**
BERU Beregovo 37.20 304 P **P 17 10 53.5 +1.6**
IDI Anoyia 37.29 282 P **P 17 10 52.0 -1.0**
IDI Anoyia 37.29 282 P **P 17 10 52.5 -0.5**
comp=Z,13nm,0.8s,baz=62,slow=4.9,SNR=2.8
comp=Z,13nm,0.8s
HOLU Holmets 37.37 304 P **P 17 10 54.6 +1.2**
BLKB Belogradchik 37.41 296 ⇓P **P 17 10 53.4 -0.5**
FIA1 FINESS Array S 37.62 326 P **P 17 10 54.8 -0.5**
FINES FINESS Array B 37.62 326 P **P 17 10 55.7 +0.4**
FINES FINESS Array B 37.62 326 P **P 17 10 55.6 +0.3**
comp=Z,9.2nm,0.7s,baz=114,slow=8.6,SNR=42
comp=Z,9.2nm,0.7s
FINES FINESS Array B 37.62 326 P **P 17 10 55.7 +0.4**
SURR Surduc 37.63 300 ⇑P **P 17 10 55.9 +0.3**
SIRR Siria 37.92 301 ⇑P **P 17 10 58.8 +0.7**
MDVR Moldovita 37.99 298 ⇓P **P 17 10 58.3 -0.4**
BZS Buzias 37.99 300 ⇑P **P 17 10 58.3 -0.4**
BZS Buzias 37.99 300 P **P 17 10 58.2 -0.4**
STHS Stebnicka Huta 38.13 306 *eP* **P 17 10 59.5 -0.3**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 38.13 306 *eP* **P 17 10 59.5 -0.3**
KECS Kecovo 38.64 304 *eP* **P 17 11 05.1 +1.1**
KECS Kecovo 38.64 304 *eP* **P 17 11 05.1 +1.1**
NIE Niedzica 38.75 306 P **P 17 11 06.5 +1.6**
comp=Z,7.9nm,1.2s
OJC Ojcow 39.07 307 P **P 17 11 08.2 +0.6**
comp=Z,18nm,2.9s
LANS Liptovska Anna 39.30 305 *eP* **P 17 11 11.5 +2.0**
LANS Liptovska Anna 39.30 305 *eP* **P 17 11 11.5 +2.0**
MORH Mrgy, Hungar 40.01 301 ⇑P **P 17 11 15.3 -0.1**
MORH Mrgy, Hungar 40.01 301 P **P 17 11 15.6 +0.2**
comp=Z,2.9nm,1.7s
MAUC Maruska 40.36 306 *eP* **P 17 11 20.0 +1.8**
VADS Vadso 40.41 339 *eP* **P 17 11 19.4 +1.1**
MORC Moravsky Berou 40.53 307 P **P 17 11 20.5 +0.9**
MORC IAmb IAmb 17 11 21.6
comp=Z,8.1nm,0.7s
MORC Moravsky Berou 40.53 307 *eP* **P 17 11 20.8 +1.1**
MORC Moravsky Berou 40.53 307 P **P 17 11 20.5 +0.9**
MORC pmax pmax
comp=Z,8.0nm,0.7s
KRLC Kraliky 41.02 307 *eP* **P 17 11 24.6 +1.0**
KRLC Kraliky 41.02 307 *eP* **P 17 11 24.6 +1.0**
VRAC Vranov 41.17 306 ⇑P **P 17 11 25.7 +0.8**
VRAC Vranov 41.17 306 *eP* **P 17 11 26.1 +1.3**
VRAC Vranov 41.17 306 P **P 17 11 25.6 +0.8**
ARA0 ARCESS Array S 41.25 338 *eP* **P 17 11 26.2 +1.0**
ARCES ARCESS Array B 41.25 338 P **P 17 11 25.0 -0.2**
ARCES ARCESS Array B 41.25 338 P **P 17 11 25.8 +0.6**
comp=Z,6.3nm,0.5s,baz=115,slow=7.8,SNR=57
comp=Z,6.3nm,0.5s
DPC Dobruska-Polom 41.30 307 *eP* **P 17 11 27.1 +1.2**
DPC Dobruska-Polom 41.30 307 *eP* **P 17 11 27.1 +1.2**
DPC Dobruska-Polom 41.30 307 P **P 17 11 27.1 +1.2**
KSP Ksiaz 41.31 308 P **P 17 11 26.7 +0.8**
comp=Z,11nm,2.6s
KRUC Moravsky 41.32 305 *eP* **P 17 11 27.0 +1.0**
CHVC Chvalec 41.47 308 *eP* **P 17 11 28.5 +1.3**
CHVC Chvalec 41.47 308 *eP* **P 17 11 28.5 +1.3**
RONA Rosalia, Austr 41.48 303 *eP* **P 17 11 27.9 +0.5**
comp=Z,3.7nm,0.7s,SNR=4.7
UPC Upice 41.49 308 *eP* **P 17 11 28.5 +1.1**
UPC Upice 41.49 308 *eP* **P 17 11 28.5 +1.1**
CONA Conrad Observa 41.75 304 *i* P **P 17 11 30.7 +1.1**
comp=Z,6.9nm,0.8s
ZEA Zeya 41.95 47 *eP* **P 17 11 33.2 +2.2**
ZEA *e* 17 12 22.2
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ARSA Arzberg 42.05 303 *i* P **P 17 11 32.8 +0.8**
comp=Z,5.2nm,1.4s
HEH HeiHe 42.12 53 *eP* **P 17 11 33.5 +1.1**
HEH pmax pmax
comp=Z,24nm,0.7s
GROS Grobnik 42.15 302 *eP* **P 17 11 33.2 +0.3**
HAMF Hammerfest 42.33 339 *eP* **P 17 11 35.3 +1.5**
PERS Pernice 42.40 302 *i* P **P 17 11 35.4 +0.6**
SOKA Soboth 42.45 302 *eP* **P 17 11 36.1 +0.9**
comp=Z,8.1nm,0.7s,SNR=15
PRU Pruhonice 42.46 307 *eP* **P 17 11 36.0 +0.8**
PRU Pruhonice 42.46 307 *eP* **P 17 11 36.0 +0.8**
TIP Timpagrande 42.58 291 P **P 17 11 35.6 -0.8**
TIP IAmb IAmb 17 11 53.3
comp=Z,11nm,1.3s
ZVC Zvikov 42.73 306 *eP* **P 17 11 38.6 +1.2**
SGRT San Giovanni R 42.75 295 P **P 17 11 36.5 -1.2**
SGRT IAmb IAmb 17 11 39.3
comp=Z,12nm,1.0s
GBRS Gornja Briga 42.75 300 *eP* **P 17 11 38.9 +1.2**
BRG Berggiesshubel 42.79 308 *i* P **P 17 11 39.0 +1.1**
BRG Amp 17 11 39.7
comp=Z,8.3nm,0.7s
BRG Berggiesshubel 42.79 308 P P 17 11 45.8 +7.9
BRG Amp 17 11 46.5
comp=Z,3.4nm,0.9s
OBKA Obir 42.80 302 *eP* **P 17 11 37.9 -0.2**
comp=Z,5.4nm,1.0s
DEL Delary 42.82 317 *i* P **P 17 11 38.6 +0.7**
MOA Molln 42.83 304 *i* P **P 17 11 38.8 +0.6**
comp=Z,7.6nm,0.9s,SNR=8.4
JETT Jettan, Norway 42.87 336 *eP* **P 17 11 39.3 +1.1**
LUNU Lund 43.02 315 *i* P **P 17 11 40.4 +0.9**
CUC Castrocucco 43.09 292 P **P 17 11 39.1 -1.3**
CUC IAmb IAmb 17 11 42.8
comp=Z,9.8nm,0.8s
GERES GERESS Array B 43.10 305 P **P 17 11 40.9 +0.4**
comp=Z,1.3nm,0.7s,baz=81,slow=8.2,SNR=9.0
GERES PP **PP 17 13 23.8 -1.4**
comp=Z,1.3nm,0.8s,baz=60,slow=10,SNR=5.6
comp=Z,1.3nm,0.7s
KHC Kasperske Hory 43.16 306 *eP* **P 17 11 41.9 +1.1**
KHC Kasperske Hory 43.16 306 *eP* **P 17 11 41.9 +1.1**
KHC Kasperske Hory 43.16 306 P **P 17 11 41.7 +0.9**
comp=Z,7.8nm,0.9s
HFS Hagfors 43.21 322 P **P 17 11 41.2 +0.1**
comp=Z,11nm,0.6s,baz=105,slow=9.8,SNR=55
comp=Z,11nm,0.6s
CLL Collm 43.36 309 *i* P **P 17 11 43.1 +0.7**
CLL *e**PP **pP 17 12 30.0 +0.1**
CLL Collm 43.36 309 *i* P **P 17 11 43.0 +0.7**
CLL Collm 43.36 309 *i* P **P 17 11 43.1 +0.7**
CLL *ep*P **pP 17 12 30.0 +0.1**
CLL *es*P **sP 17 12 53.0 -2.2**
CLL *e*PP **PcP 17 13 27.0 +0.4**
FABU Falkenberg 43.48 317 *i* P **P 17 11 43.6 +0.4**
BORU Boraas 43.48 318 *i* P **P 17 11 43.4 +0.2**
COP Copenhagen 43.60 315 *i* P **P 17 11 44.7 +0.6**
YAK Yakutsk 43.88 35 P **P 17 11 45.4 -1.0**
YAK IAmb IAmb 17 11 47.4
comp=Z,7.5nm,0.7s
YAK Yakutsk 43.88 35 *ceP* **P 17 11 46.5 +0.2**
YAK pmax pmax
comp=Z,14nm,1.7s
FAUS Fauske 43.92 332 *eP* **P 17 11 47.5 +0.9**
ONAU Onsala 43.93 318 *eP* **P 17 11 46.8 +0.1**
LESA Schwarzleotal 43.95 303 *i* P **P 17 11 47.5 +0.3**
comp=Z,7.3nm,0.9s,SNR=8.3
STEI Steigen 44.09 333 *eP* **P 17 11 49.1 +1.2**
STAL STALIGIAL 44.09 302 P **P 17 11 47.0 -1.4**
ABTA Abfaltersbach 44.16 302 *i* P **P 17 11 48.5 -0.4**
comp=Z,1.9nm,0.7s
RAUS Rausandaksla 44.16 331 *eP* **P 17 11 49.1 +0.6**
CIMO Cimolais 44.27 302 P **P 17 11 48.0 -1.7**
CIMO IAmb IAmb 17 11 50.6
comp=Z,7.8nm,0.8s
NC602 NORSAR Array S 44.33 323 P **P 17 11 49.4 -0.6**
NC602 NORSAR Array S 44.33 323 *eP* **P 17 11 50.0 +0.1**
LEIR Leirfjorden 44.45 330 *eP* **P 17 11 51.4 +0.6**
NC303 NORSAR Array S 44.46 323 P **P 17 11 51.1 +0.1**
NB201 NORSAR Array S 44.48 323 P **P 17 11 51.1 -0.1**
NB2 NORSAR Subarra 44.52 323 P **P 17 11 51.3 -0.2**
comp=Z,3.7nm,0.5s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.52 323 P **P 17 11 51.3 -0.2**
baz=94,slow=7.9
NOA NORSAR Array B 44.52 323 P **P 17 11 51.2 -0.2**
comp=Z,6.3nm,0.6s,baz=96,slow=7.7,SNR=26

NOA pP **pP 17 12 39.8 +0.3**
comp=Z,1.0nm,0.7s,baz=96,slow=8.1,SNR=2.2
comp=Z,6.3nm,0.6s
VAGH Vaagaholmen 44.52 331 *eP* **P 17 11 53.0 +1.7**
STOK Stokkvaagen 44.54 331 *eP* **P 17 11 52.0 +0.6**
KS19 Wonju Array Si 44.66 71 P **P 17 11 53.6 +0.7**
WTTA Wattenberg 44.67 303 *i* P **P 17 11 52.6 -0.5**
comp=Z,6.4nm,1.0s,SNR=4.7
KSAR Wonju Array Be 44.69 71 P **P 17 11 54.2 +1.1**
KSAR Wonju Array Be 44.69 71 P **P 17 11 54.2 +1.1**
WATA Walderalm 44.70 303 *i* P **P 17 11 52.2 -1.1**
comp=Z,4.4nm,0.8s
KSRS Korea Array 44.71 71 P **P 17 11 53.0 -0.3**
comp=Z,1.0nm,0.6s,baz=288,slow=6.6,SNR=7.8
comp=Z,1.0nm,0.6s
KSRS Korea Array 44.71 71 P **P 17 11 53.0 -0.3**
NBO00 NORSAR Array S 44.73 323 P **P 17 11 53.2 +0.1**
NBO00 IAmb IAmb 17 12 30.1
comp=Z,33nm,1.3s
LOF Lofoten 44.76 333 *eP* **P 17 11 53.7 +0.6**
NC204 NORSAR Array S 44.76 323 P **P 17 11 53.3 -0.1**
MURB Monte Urbino 44.77 298 P **P 17 11 53.0 -0.7**
MURB IAmb IAmb 17 11 56.5
comp=Z,16nm,0.8s
CTI Castel Tesino 44.86 302 P **P 17 11 53.9 -0.5**
CTI Castel Tesino 44.86 302 P **P 17 11 53.9 -0.5**
CTI pmax pmax
comp=Z,3.0nm,1.1s
SQTA Sankt Quirin 44.97 303 *i* P **P 17 11 54.9 -0.4**
comp=Z,3.9nm,0.9s
MOTA Moosalm 45.02 304 *i* P **P 17 11 55.2 -0.6**
comp=Z,3.8nm,0.7s,SNR=6.1
KONO Kongsberg 45.23 321 P **P 17 11 56.1 -0.9**
KONO IAmb IAmb 17 12 37.8
comp=Z,39nm,1.5s
KONO Kongsberg 45.23 321 P **P 17 11 56.1 -0.9**
KONO pmax pmax
comp=Z,39nm,1.5s
KONO Kongsberg 45.23 321 *eP* **P 17 11 56.8 -0.3**
FETA Feichten 45.32 303 *i* P **P 17 11 57.9 -0.3**
comp=Z,5.2nm,0.9s,SNR=5.5
FUORN Ofenpass-Fuorn 45.70 303 P **P 17 12 00.7 -0.5**
TIXI Tiksi 45.73 22 P **P 17 12 00.4 -0.3**
TIXI Tiksi 45.73 22 *ceP* **P 17 12 01.7 +0.9**
TIXI pmax pmax
comp=Z,12nm,2.5s
HOMB Homborsund 45.77 319 *eP* **P 17 12 01.9 +0.7**
HOMB Homborsund 45.77 319 *eP* **P 17 12 01.7 +0.5**
DAVA Damuels 45.85 304 *i* P **P 17 12 02.0 -0.3**
comp=Z,14nm,0.7s,SNR=10
TUE Stuetta 46.35 303 P **P 17 12 05.4 -0.8**
TUE Stuetta 46.35 303 P **P 17 12 05.9 -0.4**
LODK Lodwar 46.59 234 P **P 17 12 07.9 -0.4**
MSSA Maissana 46.67 300 P **P 17 12 07.7 -0.9**
SPB2 Spitsbergen Ar 47.56 347 P **P 17 12 15.4 +0.5**
SPB2 IAmb IAmb 17 12 44.8
comp=Z,27nm,1.1s
SPITS Spitsbergen Ar 47.57 347 P **P 17 12 16.2 +1.3**
comp=Z,3.7nm,0.5s,baz=116,slow=11,SNR=17
comp=Z,3.7nm,0.5s
SENIN Lac Senin/Sane 47.76 303 P **P 17 12 16.4 -0.8**
BNI Bardonecchia 48.48 301 P **P 17 12 21.7 -0.9**
BNI Bardonecchia 48.48 301 P **P 17 12 21.7 -0.9**
BNI pmax pmax
comp=Z,11nm,1.4s
KBS Kingsbay 48.69 347 P **P 17 12 23.2 -0.2**
KBS Kingsbay 48.69 347 P **P 17 12 23.2 -0.2**
KBS pmax pmax
comp=Z,31nm,1.2s
KEST Kesra 49.23 289 P **P 17 12 28.6 +0.3**
KEST Kesra 49.23 289 P **P 17 12 28.3 0.0**
comp=Z,5.3nm,0.6s,baz=81,slow=3.8,SNR=12
comp=Z,5.3nm,0.6s
KIBK Kibwezi 49.45 226 P **P 17 12 31.4 +1.2**
KIBK IAmb IAmb 17 12 36.0
comp=Z,11nm,0.5s
SSB Saint Sauveur 49.89 302 P **P 17 12 33.2 +0.1**
SSB IAmb IAmb 17 12 33.5
comp=Z,16nm,1.4s
SSB Saint Sauveur 49.89 302 P **P 17 12 33.2 +0.1**
SSB pmax pmax
comp=Z,15nm,1.4s
EKA Eskdalemuir Ar 52.44 316 P **P 17 12 50.5 -1.3**
comp=Z,5.6nm,0.9s,baz=92,slow=7.5,SNR=6.6
comp=Z,5.6nm,0.9s
CORI Orista 52.56 299 P **P 17 12 52.8 -0.1**
CORI IAmb IAmb 17 13 04.1
comp=Z,22nm,1.4s
YSS Yuzhno-Sakhali 52.69 55 *i* P **P 17 12 55.6 +1.9**
YSS pmax pmax
comp=Z,25nm,1.2s
CEST Esterri de Car 52.93 300 P **P 17 12 55.0 -0.8**
CEST IAmb IAmb 17 13 16.8
comp=Z,12nm,1.3s
DAG Danmarks Havn 54.81 344 *i* P **P 17 13 09.0 +0.4**
DAG IAmb IAmb 17 13 10.4
comp=Z,6.5nm,0.8s
ESBB Sonseca Array 57.64 298 P **P 17 13 29.0 -0.2**
ESDC Sonseca Array 57.64 298 P **P 17 13 28.6 -0.7**
ESDC Sonseca Array 57.64 298 P **P 17 13 28.9 -0.3**
comp=Z,3.9nm,0.8s,baz=58,slow=7.2,SNR=31
comp=Z,3.9nm,0.8s
PAB San Pablo 57.96 298 P **P 17 13 31.1 -0.5**
PAB IAmb IAmb 17 13 41.2
comp=Z,11nm,1.4s
PAB San Pablo 57.96 298 P **P 17 13 31.1 -0.5**
PAB pmax pmax
comp=Z,11nm,1.5s
BILL Bilibino 58.55 26 *i* P **P 17 13 37.0 +2.0**
BILL pmax pmax
comp=Z,3.0nm,1.1s
SUMG Summit 61.16 341 P **P 17 13 54.0 +0.9**
SUMG IAmb IAmb 17 13 55.3
comp=Z,5.9nm,0.7s
SUMG Summit 61.16 341 P **P 17 13 54.0 +0.9**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 61.16 341 *i* P **P 17 13 54.7 +1.5**
SUMG IAmb IAmb 17 13 55.4
comp=Z,6.0nm,0.7s
PVAQ Vaqueiros 61.25 297 P **P 17 13 53.4 -0.5**
VOI Vohitsoka 62.48 206 P **P 17 14 02.0 -0.3**
VOI IAmb IAmb 17 14 04.5
comp=Z,9.2nm,1.0s
FOMA Nahampoana Res 65.26 204 P **P 17 14 20.3 +0.2**
LSZ Lusaka 65.57 226 P **P 17 14 22.4 0.0**
LSZ IAmb IAmb 17 14 23.5
comp=Z,5.9nm,0.8s
LSZ Lusaka 65.57 226 P **P 17 14 22.4 0.0**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
TORD Torodi Ar. Bea 65.91 269 P **P 17 14 22.2 -2.4**
TORD IAmb IAmb 17 14 24.4
comp=Z,4.6nm,0.6s
TORD Torodi Ar. Bea 65.91 269 P **P 17 14 22.3 -2.2**
comp=Z,3.6nm,0.3s,baz=45,slow=7.2,SNR=4.5
comp=Z,3.6nm,0.3s
C19K Lookout Ridge 68.31 17 P **P 17 14 39.9 +1.0**
C19K IAmb IAmb 17 14 43.5
comp=Z,7.7nm,1.2s
D19K Kuna River 69.12 17 P **P 17 14 44.5 +0.7**
F21K Alatna River 71.22 17 P **P 17 14 56.5 0.0**
F21K IAmb IAmb 17 15 29.1
comp=Z,17nm,1.5s
BMAR Burnt Mountain 72.93 14 P **P 17 15 07.7 +0.9**
QNGWA Qangwa 73.06 229 P **P 17 15 08.2 0.0**
QNGWA IAmb IAmb 17 15 09.6
comp=Z,5.5nm,0.9s
J19K Poorman 73.25 20 P **P 17 15 09.2 +0.6**
J19K IAmb IAmb 17 15 22.8
comp=Z,18nm,1.5s
C36M Paulatuk 73.89 6 P **P 17 15 12.7 +0.5**
K20K Telida 74.18 19 P **P 17 15 16.0 +2.0**
F31M Tsiigehtchic 74.69 10 P **P 17 15 17.8 +1.0**
F31M IAmb IAmb 17 15 46.7
comp=Z,11nm,1.4s
FITZ Fitzroy Crossi 74.72 127 P **P 17 15 18.2 +0.5**
ILAR Eielson Array 74.76 16 P **P 17 15 17.4 0.0**
comp=Z,0.4nm,0.7s,baz=325,slow=5.9,SNR=2.3
ILAR pP **pP 17 16 12.3 +1.4**
comp=Z,0.9nm,0.9s,baz=327,slow=5.1,SNR=5.1
comp=Z,0.4nm,0.7s
LBTB Lobatse 74.78 222 P **P 17 15 18.1 0.0**
LBTB IAmb IAmb 17 15 19.4
comp=Z,15nm,1.4s

LBTB	**Lobatse**	**74.78**	**222**	P	**P**	**17 15 18.1**	**0.0**
LBTB				pmax	pmax		
comp=Z,15nm,1.4s							
DBIC	**Dimbokro**	**74.89**	**267**	P	**P**	**17 15 18.6**	**-0.2**
DBIC				IAmb	IAmb	17 15 57.7	
comp=Z,7.5nm,1.1s							
DBIC	**Dimbokro**	**74.89**	**267**	P	**P**	**17 15 17.1**	**-1.7**
comp=Z,3.1nm,0.5s,baz=88,slow=6.5,SNR=5.3							
comp=Z,3.1nm,0.5s							
DBIC	**Dimbokro**	**74.89**	**267**	P	**P**	**17 15 18.6**	**-0.2**
DBIC				pmax	pmax		
comp=Z,8.0nm,1.1s							
TSUM	**Tsumeb**	**75.05**	**232**	P	**P**	**17 15 19.5**	**-0.3**
TSUM				IAmb	IAmb	17 15 20.6	
comp=Z,2.7nm,0.6s							
KNRA	**Kununurra**	**75.05**	**123**	P	**P**	**17 15 19.7**	**+0.1**
KNRA				IAmb	IAmb	17 15 25.5	
comp=Z,16nm,1.4s							
H29M	**Whitestone**	**75.13**	**12**	P	**P**	**17 15 20.3**	**+0.9**
I28M	**Miner Creek**	**75.56**	**13**	P	**P**	**17 15 21.9**	**-0.1**
LKGWB	**Lokgwabe**	**76.53**	**226**	P	**P**	**17 15 26.2**	**-1.8**
BOSA	**Boshof**	**77.84**	**220**	P	**P**	**17 15 34.8**	**-0.4**
BOSA				IAmb	IAmb	17 15 59.8	
comp=Z,11nm,1.4s							
BOSA	**Boshof**	**77.84**	**220**	P	**P**	**17 15 34.2**	**-1.0**
comp=Z,2.0nm,0.7s,baz=40,slow=6.9,SNR=5.3							
comp=Z,2.0nm,0.7s							
BOSA	**Boshof**	**77.84**	**220**	P	**P**	**17 15 34.8**	**-0.4**
BOSA				pmax	pmax		
comp=Z,11nm,1.5s							
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**17 15 51.2**	**-1.9**
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**17 15 52.7**	**-0.3**
comp=Z,0.8nm,0.7s,baz=348,slow=13,SNR=4.9							
comp=Z,0.8nm,0.7s							
WB0	**Warramunga Arr**	**81.73**	**122**	P	**P**	**17 15 55.3**	**-0.8**
WRA	**Warramunga Arr**	**81.81**	**122**	P	**P**	**17 15 55.9**	**-0.7**
WRA	**Warramunga Arr**	**81.81**	**122**	P	**P**	**17 15 55.6**	**-0.9**
comp=Z,3.1nm,0.8s,baz=323,slow=4.8,SNR=32							
WRA				pP	**pP**	**17 16 52.0**	**+0.7**
comp=Z,1.0nm,0.7s,baz=314,slow=5.4,SNR=4.8							
comp=Z,3.1nm,0.8s							
Q32M	**Nakina River**	**82.93**	**12**	P	**P**	**17 16 03.2**	**+1.1**
Q32M				IAmb	IAmb	17 16 16.9	
comp=Z,16nm,1.5s							
AS31	**Alice Springs**	**84.08**	**125**	P	**P**	**17 16 07.6**	**-0.6**
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**17 16 07.7**	**-0.4**
ASAR					**pP**	**17 17 02.5**	**-0.6**
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**17 16 07.5**	**-0.6**
comp=Z,3.8nm,0.6s,baz=310,slow=5.1,SNR=108							
ASAR				pP	**pP**	**17 17 04.3**	**+1.2**
comp=Z,1.5nm,0.8s,baz=313,slow=5.0,SNR=5.9							
comp=Z,3.8nm,0.6s							
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**17 16 07.7**	**-0.4**
ASAR				*PP	**pP**	**17 17 02.5**	**-0.6**
FORT	**Forrest**	**85.51**	**134**	P	**P**	**17 16 14.8**	**-0.2**
FORT				IAmb	IAmb	17 16 37.6	
comp=Z,9.7nm,1.2s							
QSPA	**South Pole Qui**	**126.26**	**180**		**PKiKP**	**17 22 38.0**	**+0.2**
QSPA	**South Pole Qui**	**126.26**	**180**	PKP	**PKiKP**	**17 22 38.3**	**+0.6**
comp=Z,1.5nm,0.8s,baz=261,slow=4.1,SNR=5.2							
CPUP	**Villa Florida**	**135.40**	**268**	PKP	**PKPdf**	**17 22 54.4**	**-1.4**
comp=Z,0.1nm,0.3s,baz=108,slow=1.2,SNR=4.0							
PLCA	**Paso Flores**	**149.99**	**250**	PKPbc	**PKPbc**	**17 23 25.1**	**-1.0**
comp=Z,2.6nm,0.7s,baz=71,slow=2.4,SNR=6.0							

*GRAL **26** 17:13:26.9±0.3,35°.19N×37°.91E,h1km±6km,MD3.5*
*AFAD **26** 17:13:31.3,34°.97N×37°.66E,h6km±5km,ML2.6*
ISC 26 17:13:27.6±1.8,35°.10N±0°.05×37°.94E±0°.07,h20km±7km, n18,σ0°91/27,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**1.52**	**236**	*eP*	**Pb**	**17 13 54.2**	**-1.0**
FKH				*eS*	**Sb**	**17 14 14.2**	**+0.1**
BEIL	**Beino**	**1.55**	**249**	*eP*	**Pn**	**17 13 54.1**	**0.0**
BEIL				*eS*	**Sb**	**17 14 14.4**	**-0.4**
RHAN	**Hatay/Reyhanl**	**1.59**	**317**	P	**Pg**	**17 13 59.3**	**+1.0**
RHAN				S	**Sg**	**17 14 19.3**	**+0.4**
RHAN				*i* IAML		17 14 26.0	
comp=N,83nm,0.4s							
KUZU	**Kuzuini**	**1.81**	**337**	P	**Pg**	**17 14 02.7**	**+0.2**
KUZU				S	**Sg**	**17 14 26.5**	**+0.4**
KUZU				*i* IAML		17 14 39.0	
comp=N,105nm,0.4s							
HWQ	**Hawqa**	**1.84**	**244**	*eP*	**Pn**	**17 13 58.5**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.86**	**17**	P	**Pb**	**17 13 60.0**	**-0.9**
SURC				S	**Sb**	**17 14 24.4**	**+0.7**
NZIP	**Nizip/Gaziante**	**1.95**	**354**	P	**Pg**	**17 14 06.3**	**+1.1**
NZIP				*i* IAML		17 14 37.0	
comp=N,45nm,0.4s							
NZIP				*i* IAML		17 14 41.0	
comp=E,62nm,0.5s							
HASA	**Hatay-Hassa-Ha**	**2.03**	**325**	P	**Pg**	**17 14 05.3**	**-1.2**
HASA				S	**Sg**	**17 14 32.5**	**-0.4**
HASA				*i* IAML		17 14 42.0	
comp=N,48nm,0.8s							
HASA				*i* IAML		17 14 45.0	
comp=E,47nm,0.6s							
ZAHL	**Zahle**	**2.10**	**234**	*eP*	**Pn**	**17 14 02.5**	**+0.7**
ASUZ	**Hatay-Arsuz**	**2.12**	**305**	P	**Pb**	**17 14 05.4**	**+0.1**
BHL	**Bhannes**	**2.23**	**238**	*eP*	**Pn**	**17 14 04.1**	**+0.5**
SANL	**SANLIURFA_Merk**	**2.23**	**22**	P	**Pn**	**17 14 04.0**	**+0.5**
GZT	**Gaziantep**	**2.27**	**352**	P	**Pg**	**17 14 12.4**	**+1.2**
GZT				S	**Sg**	**17 14 40.2**	**-0.6**
GZT				*i* IAML		17 14 53.0	
comp=E,39nm,0.4s							
KAMA	**Osmaniye**	**2.32**	**334**	P	**Pb**	**17 14 07.3**	**-1.5**
KAMA				S	**Sb**	**17 14 38.2**	**+1.0**
RCY	**Rachaya**	**2.37**	**228**	*eP*	**Pn**	**17 14 06.2**	**+0.8**
QRWL	**Qaraoun**	**2.43**	**231**	*eP*	**Pn**	**17 14 07.0**	**+0.8**
SHBL	**Chebaa**	**2.52**	**227**	*eP*	**Pn**	**17 14 08.4**	**+0.8**
AKCA	**Adyaman/G¶l**	**2.70**	**356**	P	**Pg**	**17 14 19.1**	**-0.2**
AKCA				S	**Sg**	**17 14 52.3**	**-2.0**
AKCA				*i* IAML		17 15 06.0	
comp=E,32nm,0.6s							
AKCA				*i* IAML		17 15 14.0	
comp=N,38nm,0.6s							

*IDC **26** 17:16:26.2±8.9, 18°.67S×170°.87E,h253km±52km, mb3.5/3, mbtmp4.0/4, Error ellipse: s-maj=120.0km s-min=83.3km az=131.0*
*NEIC **26** 17:16:31.5±2.0, 18°.71S±0°.10×170°.3E±0°.2,h248km±2km, mb4.1/6, Error ellipse: s-maj=21.3km s-min=13.4km az=105.0*
ISC 26 17:16:29.3±1.5, 18°.72S±0°.09×170°.5E±0°.2,h250km,n23, σ2°20/20,mb3.9/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.59**	**220**	Pn	**Pn**	**17 17 30.1**	**+1.8**
MARNC				Sn	**S**	**17 18 09.6**	**-5.6**
SANVU	**Saraoutou**	**4.52**	**316**	Pn	**Pn**	**17 17 40.4**	**+1.0**
PINNC	**Pines Island,**	**4.81**	**216**	Pn	**Pn**	**17 17 46.3**	**+3.5**
PINNC				Sn	**S**	**17 18 38.1**	**-3.1**
DZM	**Mont Dzumac**	**5.05**	**228**	P	**Pn**	**17 17 46.5**	**+0.7**
6.3nm,0.8s,baz=73,slow=20,SNR=9.0							
DZM				S	**S**	**17 18 50.9**	**+4.2**
3.3nm,0.5s,baz=93,slow=18,SNR=1.6							
ONTNC	**Ouen Toro**	**5.20**	**226**	Pn	**Pn**	**17 17 48.8**	**+1.3**
STKA	**Stephens Creek**	**29.12**	**238**	P	**P**	**17 22 06.4**	**-0.8**
STKA	**Stephens Creek**	**29.12**	**238**	P	**P**	**17 22 06.5**	**-0.8**
1.7nm,0.6s,baz=52,slow=12,SNR=2.6							
1.7nm,0.6s							
WR8	**Warramunga Arr**	**33.94**	**262**	P	**P**	**17 22 48.9**	**-0.5**
WR8				IAmb	IAmb	17 22 58.8	
comp=Z,3.5nm,1.1s							
WB0	**Warramunga Arr**	**34.05**	**262**	P	**P**	**17 22 49.7**	**-0.7**
WB0				IAmb	IAmb	17 23 14.6	
comp=Z,4.1nm,1.2s							
WRA	**Warramunga Arr**	**34.09**	**262**	P	**P**	**17 22 49.9**	**-0.8**
comp=Z,0.5nm,0.6s,baz=96,slow=8.6,SNR=8.2							
comp=Z,0.5nm,0.6s							
AS31	**Alice Springs**	**34.39**	**255**	P	**P**	**17 22 53.6**	**+0.2**
AS31				IAmb	IAmb	17 22 54.0	
comp=Z,3.3nm,0.3s							
ASAR	**Alice Springs**	**34.40**	**255**	P	**P**	**17 22 53.3**	**-0.1**
ASAR	**Alice Springs**	**34.40**	**255**	P	**P**	**17 22 53.5**	**+0.1**
comp=Z,3.2nm,0.4s,baz=80,slow=8.9,SNR=178							
comp=Z,3.2nm,0.4s							
KNRA	**Kununurra**	**39.91**	**268**	P	**P**	**17 23 39.8**	**+0.2**
KNRA				IAmb	IAmb	17 24 13.4	
comp=Z,23nm,1.4s							

FITZ	**Fitzroy Crossi**	**42.47**	**263**	P	**P**	**17 24 01.6**	**+1.3**
H03S2	**Juan Fernandez**	**95.78**	**128**	T	T	19 16 34.7	
baz=243							
H03S1	**Juan Fernandez**	**95.79**	**128**	T	T	19 16 30.6	
baz=243							
H03S3	**Juan Fernandez**	**95.80**	**128**	T	T	19 16 33.5	
baz=243							
H03N2	**Juan Fernandez**	**95.95**	**128**	T	T	19 17 10.0	
baz=236							
H03N3	**Juan Fernandez**	**95.95**	**128**	T	T	19 17 04.2	
baz=236							
H03N1	**Juan Fernandez**	**95.97**	**128**	T	T	19 17 09.5	
baz=236							
RCBR	**Riachuelo**	**144.35**	**131**		**PKPab**	**17 35 35.0**	**-0.4**
GRFO	**Grafenberg**	**144.90**	**336**		**PKPdf**	**17 35 36.8**	**+0.3**

*IDC **26** 17:27:44.2±0.7,2°.39S×140°.18E,h0km,mb3.8/10, mbtmp3.8/11,ML4.0/1,Error ellipse: s-maj=19.1km s-min=8.1km az=15.0*
*DJA **26** 17:27:45.7±0.5,2°.5±4°.×14°.0E±°.,h10km,M4.1/5,MLv4.1/5*
*NEIC **26** 17:27:46.6±1.8,2°.45S±0°.09×140°.34E±0°.09,h26km±3km, mb4.1/18,Error ellipse: s-maj=13.4km s-min=12.1km az=208.0*
ISC 26 17:27:46.8±0.8,2°.52S±0°.06×140°.33E±0°.04,h30km±5km, n55,σ1°64/57,mb3.9/15,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.18**	**245**	P	**Pb**	**17 27 52.6**	**-0.3**
GENI				S	**Sb**	**17 27 56.8**	**-0.1**
JAY	**Jayapura**	**0.37**	**90**	Pg	**Pb**	**17 27 55.0**	**-0.4**
593nm,0.3s,baz=242,slow=11,SNR=4982							
JAY				Lg	Lg	17 28 01.5	
583nm,0.3s,baz=270,slow=20,SNR=6.6							
JAY	**Jayapura**	**0.37**	**90**	P	**Pb**	**17 27 55.2**	**-0.2**
JAY				S	**Sb**	**17 28 00.2**	**-0.9**
SMPI	**Sarmi**	**1.70**	**288**	P	**Pn**	**17 28 14.8**	**+0.3**
SMPI				S	**Sn**	**17 28 35.3**	**0.0**
WAMI	**Wamena**	**2.11**	**230**	P	**Pb**	**17 28 23.9**	**-0.6**
WAMI				S	**Sb**	**17 28 50.9**	**+0.6**
BAKI	**Biak**	**4.42**	**287**	P	**Pn**	**17 28 52.6**	**+0.6**
FAKI	**Fak Fak**	**8.08**	**267**	Pn	**Pn**	**17 29 43.5**	**+1.2**
FAKI				Sn	**Sn**	**17 31 10.9**	**-1.8**
COEN	**Coen**	**11.71**	**166**	Pn	**Pn**	**17 30 33.5**	**+1.4**
MTN	**Manton Dam**	**13.72**	**221**		**Pn**	**17 30 59.2**	**-0.2**
KNRA	**Kununurra**	**17.35**	**220**		**Pn**	**17 31 47.3**	**+0.4**
KNRA				IAmb	IAmb	17 32 07.3	
comp=Z,11nm,0.9s							
SOEI	**Soe**	**17.51**	**245**		**Pn**	**17 31 49.4**	**+0.4**
WB0	**Warramunga Arr**	**18.10**	**198**	P	**Pn**	**17 31 56.3**	**0.0**
BATI	**Baumata**	**18.23**	**244**	P	**P**	**17 32 02.9**	**+5.0**
comp=Z,25nm,0.7s,baz=109,slow=4.8,SNR=8.0							
WR8	**Warramunga Arr**	**18.25**	**198**	P	**Pn**	**17 31 57.5**	**-0.5**
WR8				IAmb	IAmb	17 32 17.5	
comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**18.28**	**198**	P	**P**	**17 31 55.4**	**-3.0**
WRA	**Warramunga Arr**	**18.28**	**198**	P	**Pn**	**17 31 59.4**	**+1.0**
comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=26							
WRA				S	**Sn**	**17 35 16.1**	**-5.8**
comp=Z,0.6nm,0.8s,baz=20,slow=22,SNR=3.3							
comp=Z,2.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.15**	**222**		**P**	**17 32 28.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.15**	**222**	P	**P**	**17 32 30.9**	**+1.2**
comp=Z,6.5nm,1.0s,baz=58,slow=7.8,SNR=8.3							
FITZ				S	**S**	**17 36 21.4**	**-2.2**
comp=Z,2.9nm,0.7s,baz=320,slow=19,SNR=3.6							
comp=Z,6.5nm,1.0s							
AS31	**Alice Springs**	**21.93**	**196**		**P**	**17 32 37.8**	**-0.2**
AS31				IAmb	IAmb	17 32 50.0	
comp=Z,2.1nm,0.5s							
ASAR	**Alice Springs**	**21.93**	**196**	P	**P**	**17 32 37.9**	**-0.1**
ASAR	**Alice Springs**	**21.93**	**196**	P	**P**	**17 32 39.9**	**+1.9**
comp=Z,2.4nm,0.5s,baz=27,slow=9.7,SNR=69							
ASAR				S	**S**	**17 36 40.9**	**+2.1**
comp=Z,0.4nm,0.7s,baz=14,slow=28,SNR=2.4							
comp=Z,2.4nm,0.5s							
EIDS	**Eidsvold**	**24.97**	**156**	P	**P**	**17 33 07.1**	**-0.9**
EIDS				IAmb	IAmb	17 33 45.4	
comp=Z,10nm,1.2s							
INKA	**Innaminka**	**25.09**	**179**	P	**P**	**17 33 08.9**	**0.0**
INKA				IAmb	IAmb	17 33 25.8	
comp=Z,4.7nm,1.2s							
JAGI	**Jajag, Banyuwa**	**26.71**	**256**	P	**P**	**17 33 23.7**	**-0.2**
FORT	**Forrest**	**30.41**	**201**	P	**P**	**17 33 57.0**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**33.30**	**50**	T	T	18 09 26.6	
baz=232,slow=75,SNR=20							
H11S2	**WAKE ISLAND Hy**	**33.31**	**50**	T	T	18 09 25.5	
baz=232,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**33.32**	**50**	T	T	18 09 33.0	
baz=232,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**34.18**	**49**	T	T	18 10 37.1	
baz=229,slow=76,SNR=7.0							
H11N2	**WAKE ISLAND Hy**	**34.20**	**49**	T	T	18 10 38.8	
baz=229,slow=76,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**34.20**	**49**	T	T	18 10 40.2	
baz=229,slow=76,SNR=6.0							
KULM	**Kulim**	**40.39**	**281**	P	**P**	**17 35 22.2**	**-0.4**
KULM				IAmb	IAmb	17 36 01.4	
comp=Z,7.4nm,1.1s							
CMAR	**Chiang Mai Arr**	**45.76**	**299**	P	**P**	**17 36 04.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**45.76**	**299**	P	**P**	**17 36 07.2**	**+1.2**
comp=Z,0.2nm,0.4s,baz=114,slow=6.7,SNR=5.3							
comp=Z,0.2nm,0.4s							
DGAR	**Diego Garcia**	**67.75**	**263**	P	**P**	**17 38 40.1**	**-2.2**
MKAR	**Makanchi Array**	**70.63**	**322**	P	**P**	**17 38 59.1**	**-0.5**
MKAR	**Makanchi Array**	**70.63**	**322**	P	**P**	**17 39 01.0**	**+1.4**
comp=Z,0.5nm,0.6s,baz=120,slow=7.4,SNR=7.9							
comp=Z,0.5nm,0.6s							
MAKZ	**Makanchi**	**70.83**	**322**	P	**P**	**17 39 00.4**	**-0.4**
MAKZ				IAmb	IAmb	17 39 03.4	
comp=Z,1.6nm,0.9s							
ZALV	**Zalesovo Beam**	**72.59**	**329**	P	**P**	**17 39 10.8**	**-0.4**
ZALV	**Zalesovo Beam**	**72.59**	**329**	P	**P**	**17 39 10.9**	**-0.3**
comp=Z,0.5nm,0.5s,baz=118,slow=8.6,SNR=3.5							
comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**74.50**	**324**	P	**P**	**17 39 23.0**	**+0.5**
KURBB	**Kurchatov Arra**	**74.51**	**324**	P	**P**	**17 39 23.8**	**+1.2**
comp=Z,0.2nm,0.3s,baz=112,slow=5.3,SNR=2.5							
comp=Z,0.2nm,0.3s							
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**17 39 31.0**	**+1.3**
VNDA				IAmb	IAmb	17 39 32.3	
comp=Z,1.1nm,0.9s							
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**17 39 31.7**	**+2.0**
comp=Z,0.7nm,0.8s,baz=322,slow=6.9,SNR=6.2							
comp=Z,0.7nm,0.8s							
KKAR	**Karatay Array**	**77.13**	**315**	P	**P**	**17 39 36.3**	**-1.5**
O15K	**Ungalikthiuk R**	**77.23**	**27**	P	**P**	**17 39 36.4**	**-1.6**
BVAR	**Borovoye Array**	**80.08**	**325**	P	**P**	**17 39 54.5**	**+0.7**
comp=Z,1.0nm,0.8s,baz=109,slow=6.7,SNR=4.2							
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**84.99**	**24**	P	**P**	**17 40 19.4**	**+0.3**
ILAR	**Eielson Array**	**84.99**	**24**	P	**P**	**17 40 19.8**	**+0.7**
comp=Z,0.5nm,0.8s,baz=256,slow=5.6,SNR=4.2							
comp=Z,0.5nm,0.8s							
QSPA	**South Pole Qui**	**87.43**	**180**	P	**P**	**17 40 31.7**	**+0.4**
QSPA				IAmb	IAmb	17 40 57.4	
comp=Z,2.3nm,1.1s							
QSPA	**South Pole Qui**	**87.43**	**180**	P	**P**	**17 40 35.2**	**+4.0**
comp=Z,1.3nm,0.7s,baz=16,slow=4.4,SNR=8.4							
comp=Z,1.3nm,0.7s							
LPAZ	**La Paz**	**146.24**	**125**		**PKPdf**	**17 47 23.0**	**-2.2**
LPAZ	**La Paz**	**146.24**	**125**	PKPbc	**PKiKP**	**17 47 28.9**	**-0.5**
comp=Z,0.9nm,0.6s,baz=301,slow=1.2,SNR=2.3							
CPUP	**Villa Florida**	**146.62**	**150**		**PKPdf**	**17 47 23.6**	**-1.3**
CPUP	**Villa Florida**	**146.62**	**150**	PKPbc	**PKPab**	**17 47 28.6**	**+1.2**
comp=Z,0.4nm,0.8s,baz=236,slow=3.6,SNR=4.7							

*HVO **26** 17:30:00.6±0.6, 18°.24N±0°.04×155°.65W±0°.08,h7km±2km, Error ellipse: s-maj=13.6km s-min=6.8km az=275.0*
NEIC 26 17:29:55.1±0.4, 18°.15N±0°.04×155°.70W±0°.08,h10km±2km, ML3.0/46,Md2.7/7(HVO),Error ellipse: s-maj=12.4km s-min=7.0km az=269.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**1.09**	**4**	Pn		17 30 16.6	-0.1
KHU				Sg		17 30 29.3	-1.1
HTC	**Hot Caves**	**1.12**	**15**	Pn		17 30 17.1	+0.2
HLP	**Hilina Pali**	**1.20**	**18**	Pg		17 30 18.3	+0.1
HLP				IAML		17 30 31.8	
comp=N,299nm,0.2s							
AIN	**Ainahou**	**1.24**	**10**		Pg	17 30 19.0	+0.1
PUH	**Pauahi**	**1.30**	**20**		Pn	17 30 19.2	-0.2
PUH				IAML		17 30 33.3	
comp=N,225nm,3.1s							
KKO	**Keanakako'i**	**1.31**	**18**		Pn	17 30 19.5	0.0
OBL	**Observatory Le**	**1.32**	**17**		Pn	17 30 19.6	-0.1
KNHH	**Kane Nui o Ham**	**1.32**	**22**		Pn	17 30 19.5	-0.2
UWE	**Uwekahuna**	**1.32**	**17**		Pn	17 30 19.6	-0.1
BYL	**Byron's Ledge**	**1.32**	**18**		Pn	17 30 19.5	-0.2
BYL				IAML		17 30 45.0	
comp=N,251nm,3.1s							
BYL				IAML		17 30 45.3	
comp=E,193nm,1.6s							
MWH	**Mokuaweoweo**	**1.33**	**4**	Pn	Pn	17 30 20.0	-0.3
MWH				IAML		17 30 36.0	
comp=E,292nm,2.5s							
MWH				IAML		17 30 57.7	
comp=N,288nm,3.6s							
HATHI	**Halema'uma'u T**	**1.33**	**18**		Pn	17 30 19.8	-0.1
HATHI				IAML		17 30 42.7	
comp=N,237nm,3.9s							
HATHI				IAML		17 31 04.7	
comp=E,192nm,3.5s							
SBLHI	**Steaming Bluff**	**1.33**	**18**		Pn	17 30 19.7	-0.2
STCH	**Steam Cracks**	**1.34**	**24**		Pn	17 30 19.8	-0.2
NPOC	**North of Pu'u**	**1.36**	**24**		Pn	17 30 20.0	-0.2
RSD	**Rainshed**	**1.37**	**17**	Pn	Pn	17 30 20.1	-0.3
RSD				IAML		17 30 26.4	
comp=E,248nm,4.2s							
MLH	**Mauna Loa**	**1.37**	**12**		Pn	17 30 20.6	+0.1
MLH	**Mauna Loa**	**1.37**	**12**	IAML		17 30 59.8	
comp=N,252nm,2.8s							
JOKA	**Jonika Flow**	**1.44**	**27**		Pn	17 30 21.0	-0.2
JOKA	**Jonika Flow**	**1.44**	**27**	IAML		17 30 44.5	
comp=N,226nm,1.3s							
HMH	**Humu'ula Sheep**	**1.46**	**8**		Pn	17 30 22.0	+0.2
HMH	**Humu'ula Sheep**	**1.46**	**8**	IAML		17 31 11.3	
comp=E,198nm,4.3s							
HUH	**Hualalai**	**1.53**	**355**	Pn	Pn	17 30 23.1	+0.3
POHA	**Pohakuloa**	**1.61**	**5**	Pn	Pn	17 30 23.4	-0.3
POHA				IAML		17 30 42.7	
comp=E,150nm,4.0s							
POHA				IAML		17 30 56.0	
comp=E,143nm,3.1s							
HPAH	**Hawaii Prepara**	**1.87**	**360**	Pn	Pn	17 30 26.9	-0.4
HPAH				IAML		17 30 51.5	
comp=E,134nm,0.5s							
HPAH				IAML		17 31 05.4	
comp=N,117nm,3.0s							
MHA	**Mahukona**	**2.04**	**355**	Pn	Pn	17 30 29.5	0.0
HLK	**Haleakala**	**2.65**	**349**	Pn	Pn	17 30 38.6	+0.5
HON	**Honolulu**	**3.83**	**326**	Pn	Pn	17 30 53.7	-0.4
KEKH	**Kekaha**	**5.37**	**316**	Pn	Pn	17 31 15.0	-0.2

*IDC **26** 17:39:39.6±0.8, 21°.79S×170°.03E,h0km,mb3.9/11, mbtmp3.9/12,ML3.7/1,MS3.3/6,Error ellipse: s-maj=24.1km s-min=21.9km az=118.0*
*NEIC **26** 17:39:40.2±1.1, 21°.81S±0°.04×169°.95E±0°.09,h10km±1km, mb4.5/21,Error ellipse: s-maj=15.0km s-min=5.2km az=101.0*
ISC 26 17:39:42.8±0.5, 21°.79S±0°.08×169°.90E±0°.08,h25km,n80, σ1°19/80,mb4.4/21,MS3.4/5,5C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.42**	**250**		**Pn**	**17 40 21.2**	**+0.5**
PINNC				Sn	**Sn**	**17 40 48.1**	**-1.4**
DZM	**Mont Dzumac**	**3.22**	**264**	Pn	**Pn**	**17 40 33.2**	**+1.4**
8.2nm,0.3s,baz=122,slow=19,SNR=188							
DZM				Sn	**Sn**	**17 41 10.3**	**+0.8**
17nm,0.3s,baz=180,slow=20,SNR=15							
17nm,0.3s							
ONTNC	**Ouen Toro**	**3.24**	**260**		**Pn**	**17 40 32.2**	**+0.3**
ONTNC				Sn	**Sn**	**17 41 10.4**	**+0.7**
SANVU	**Saraoutou**	**6.80**	**338**	Pn	**Pn**	**17 41 20.4**	**-0.6**
HNR	**Honiara**	**15.57**	**321**	LR	LR	17 47 47.2	
comp=Z,97nm,19.8s,baz=216,slow=31							
MRNZ	**Matariki Terra**	**19.70**	**174**	P	**P**	**17 44 08.8**	**-1.5**
PLWZ	**Palliser**	**20.23**	**168**	P	**P**	**17 44 13.9**	**-2.1**
INKA	**Innaminka**	**27.09**	**251**	P	**P**	**17 45 23.2**	**-0.4**
STKA	**Stephens Creek**	**27.11**	**242**	P	**P**	**17 45 23.0**	**-0.8**
STKA	**Stephens Creek**	**27.11**	**242**	P	**P**	**17 45 26.1**	**+2.3**
4.0nm,0.8s,baz=73,slow=12,SNR=5.6							
4.0nm,0.8s							
BBOO	**Buckleboo**	**31.89**	**243**	P	**P**	**17 46 04.4**	**-1.8**
WR8	**Warramunga Arr**	**33.08**	**267**	P	**P**	**17 46 15.3**	**-1.5**
WR8				IAmb	IAmb	17 46 31.3	
comp=Z,9.1nm,1.4s							
AS31	**Alice Springs**	**33.20**

VNA2 Neumayer--Watz 87.52 181 ⇑P **P 17 52 28.5 +0.5**
comp=Z,5.4nm,0.7s,baz=162,slow=6.1
VNA1 Neumayer--Stat 87.81 181 ⇑P **P 17 52 29.5 +0.1**
comp=Z,3.9nm,0.9s
SONM Songino Array 89.62 323 P **P 17 52 37.8 -0.6**
SONM IAmb IAmb 17 52 50.3
comp=Z,1.9nm,0.9s
SONM Songino Array 89.62 323 P **P 17 52 39.8 +1.5**
comp=Z,1.0nm,0.8s,baz=123,slow=5.3,SNR=4.7
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 90.02 48 P **P 17 52 39.6 -1.0**
NVAR Mina Array Bea 90.02 48 P **P 17 52 40.3 -0.4**
comp=Z,0.2nm,0.4s,baz=251,slow=1.0,SNR=1.9
comp=Z,0.2nm,0.4s
ILAR Eielson Array 92.47 17 P **P 17 52 50.8 -0.2**
ILAR Eielson Array 92.47 17 P **P 17 52 52.0 +1.0**
comp=Z,0.3nm,0.8s,baz=200,slow=6.7,SNR=2.0
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 127.67 345 PKP **PKPdf 17 58 45.1 -0.1**
comp=Z,3.3nm,1.0s,baz=49,slow=1.9,SNR=2.3
VRAC Vranov 145.33 329 *e*P **PKPdf 17 59 19.1 +0.8**
BRG Berggiesshubel 145.41 333 P **PKiKP 17 59 23.2 +0.8**
BRG Amp 17 59 23.5
comp=Z,4.4nm,0.7s
BRG Berggiesshubel 145.41 333 P **PKiKP 17 59 28.4 +6.0**
BRG Amp 17 59 29.6
comp=Z,10nm,0.8s
CLL Collm 145.47 334 *i* PKPbc **PKPab 17 59 19.4 +0.7**
CLL *i* x x 17 59 27.7
KRUC Moravsky 145.59 329 *e*P **PKPab 17 59 19.9 +0.6**
EKA Eskdalemuir Ar 146.10 353 PKPbc **PKPbc 17 59 20.1 -0.2**
comp=Z,1.6nm,0.4s,baz=2.1,slow=2.8,SNR=8.2
ZVC Zvikov 146.36 331 *e*PKP **PKPab 17 59 22.7 +0.6**
RONA Rosalia, Austr 146.56 327 *i* PKP **PKPab 17 59 23.6 +0.6**
comp=Z,3.8nm,1.1s
CONA Conrad Observa 146.62 328 *e*PKP **PKPab 17 59 23.4 +0.1**
comp=Z,3.7nm,0.9s
KHC Kasperske Hory 146.86 331 *e*PKP **PKPab 17 59 23.8 -0.3**
KHC *ex* x 17 59 32.7
GERES GERESS Array B 147.01 331 PKPbc **PKPab 17 59 24.1 -0.7**
comp=Z,3.6nm,0.7s,baz=33,slow=3.2,SNR=18
ARSA Arzberg 147.25 327 *e*PKP **PKiKP 17 59 28.5 +2.2**
comp=Z,2.6nm,1.2s
MOA Molln 147.46 329 *e*PKP **PKPbc 17 59 25.4 +0.8**
comp=Z,1.4nm,0.5s
BIOA Bad Ischl, Aus 147.87 329 *e*PKP **PKPab 17 59 29.3 +1.1**
comp=Z,1.4nm,0.5s
SOKA Soboth 147.88 327 *i* PKP **PKPbc 17 59 26.1 +0.3**
comp=Z,3.3nm,0.9s
OBKA Obir 148.24 327 *i* PKP **PKPbc 17 59 26.8 +0.1**
comp=Z,5.9nm,1.4s
KBA Koelnbreinsper 148.44 329 *i* PKP **PKPab 17 59 30.9 +0.3**
comp=Z,4.3nm,0.9s
LESA Schwarzleotal 148.51 330 *e*PKP **PKPbc 17 59 27.8 +0.3**
comp=Z,1.6nm,0.4s
MYKA Terra Mystica 148.61 328 *i* PKP **PKPbc 17 59 27.7 +0.1**
comp=Z,4.0nm,0.7s
ABTA Abfaltersbach 149.08 329 *e*PKP **PKPbc 17 59 29.1 +0.2**
comp=Z,4.6nm,0.8s
WATA Walderalm 149.09 331 *i* PKP **PKPbc 17 59 29.5 +0.5**
comp=Z,10nm,1.3s
WTTA Wattenberg 149.11 331 *i* PKP **PKPbc 17 59 29.5 +0.4**
comp=Z,12nm,1.2s
MOTA Moosalm 149.29 331 *i* PKP **PKiKP 17 59 30.2 -0.5**
comp=Z,9.3nm,1.2s
RETA Reutte 149.34 332 *e*PKP **PKPab 17 59 33.3 -0.9**
comp=Z,5.3nm,1.2s
SQTA Sankt Quirin 149.34 331 *i* PKP **PKPbc 17 59 30.1 +0.5**
comp=Z,14nm,1.1s
FETA Feichten 149.71 331 *i* PKP **PKiKP 17 59 31.2 -0.4**
comp=Z,7.6nm,1.1s
DAVA Damuels 149.88 332 *e*PKP **PKPab 17 59 35.4 -1.0**
comp=Z,8.2nm,1.4s

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*IDC **26** 17:41:10.5±0.9, 34°.19N×137°.39E, h343km±12km, mb2.8/7, mbtmp3.4/9, Error ellipse: s-maj=24.2km s-min=16.2km az=67.0*
*JMA **26** 17:41:11.2±0.3, 34°N±1°×13°7E±°, h347km±2km, MV2.9/33, ENSYUNADA*
ISC 26 17:41:10.9±0.8, 34°.23N±0°.09×137°.26E±0°.08, h347km, n34, σ0§75/38, mb2.9/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.32**	**134**	*e*P	**Pn**	**17 41 55.0**	**+0.8**
TTO3	**TONANKAI O.B.S**	**0.39**	**163**	*e*P	**Pn**	**17 41 55.5**	**+1.0**
JAA	**Atsumi**	**0.41**	**346**	P	**Pn**	**17 41 55.2**	**+0.7**
JIE	**Ise**	**0.49**	**289**	P	**Pn**	**17 41 55.1**	**+0.4**
JIE				*e*S	**S**	**17 42 28.9**	**-1.0**
TK02	**Tokai 2**	**0.50**	**125**	*e*P	**Pn**	**17 41 55.5**	**+0.9**
TTO2	**TONANKAI O.B.S**	**0.53**	**201**	*e*P	**Pn**	**17 41 55.4**	**+0.8**
TTO1	**TONANKAI O.B.S**	**0.73**	**213**	*e*P	**Pn**	**17 41 55.7**	**+0.6**
INU	**Inuyama**	**1.13**	**350**	P	**Pn**	**17 41 57.2**	**+0.4**
JGF	**Kuroka**	**1.37**	**3**	P	**Pn**	**17 41 58.2**	**+0.2**
JYTA	**Yamagatataniai**	**1.42**	**342**	P	**Pn**	**17 41 58.7**	**+0.5**
JYTA				S	**S**	**17 42 35.1**	**-1.2**
JTNC	**Tanabenakahech**	**1.43**	**254**	*e*P	**Pn**	**17 41 58.4**	**0.0**
JYN	**Shimob**	**1.64**	**40**	*e*P	**Pn**	**17 42 00.9**	**+1.3**
JOD2	**Odawara 2**	**1.82**	**55**	*e*P	**Pn**	**17 42 01.3**	**+0.6**
JWT	**Wachi**	**1.85**	**305**	*i* P	**Pn**	**17 42 01.1**	**+0.2**
JKG	**Kaga**	**2.18**	**340**	P	**Pn**	**17 42 03.4**	**+0.3**
JRY	**Ryogami san**	**2.23**	**37**	P	**Pn**	**17 42 04.6**	**+1.0**
JRY				*e*S	**S**	**17 42 45.8**	**0.0**
JAI	**Aioi**	**2.38**	**260**	P	**Pn**	**17 42 04.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.43**	**18**	P	**Pn**	**17 42 05.3**	**+0.2**
	4.3nm,0.5s,baz=188,slow=9.7,SNR=31						
MJAR				S	**S**	**17 42 48.0**	**-0.7**
	6.4nm,0.8s,baz=194,slow=15,SNR=11						
MAJO	**Matsushiro**	**2.43**	**18**	P	**Pn**	**17 42 05.7**	**+0.6**
MAT	**Matsushiro**	**2.43**	**18**	*e*P	**Pn**	**17 42 05.8**	**+0.7**
JMN	**Monobe**	**2.86**	**261**	P	**Pn**	**17 42 08.7**	**-0.1**
JMN	**Monobe**	**2.86**	**261**	*e*P	**Pn**	**17 42 08.7**	**-0.1**
BSO1	**Boso 1**	**3.10**	**81**	*e*P	**Pn**	**17 42 09.4**	**-0.8**
JHS	**Saijyo**	**3.50**	**284**	P	**Pn**	**17 42 15.2**	**+0.4**
JMM	**Marumori**	**4.62**	**37**	P	**Pn**	**17 42 25.1**	**-1.0**
JNU	**Nakatsue**	**5.44**	**260**	P	**Pn**	**17 42 36.7**	**+1.4**
KSRS	**Korea Array**	**8.23**	**296**	P	**Pn**	**17 43 08.2**	**+0.6**
	1.2nm,0.8s,baz=109,slow=12,SNR=5.0						
CMAR	**Chiang Mai Arr**	**37.51**	**255**	P	**P**	**17 47 52.9**	**0.0**
	0.4nm,0.6s,baz=50,slow=6.6,SNR=4.5						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.39**	**315**	P	**P**	**17 48 25.0**	**+0.9**
	0.3nm,0.3s,baz=114,slow=3.6,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.81**	**304**	P	**P**	**17 48 37.0**	**+1.3**
	0.3nm,0.6s,baz=89,slow=12,SNR=4.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.12**	**310**	P	**P**	**17 48 54.3**	**+0.6**
	0.3nm,0.5s,baz=91,slow=6.7,SNR=4.3						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**53.65**	**31**	P	**P**	**17 49 56.5**	**-0.8**
	0.6nm,1.0s,baz=276,slow=7.5,SNR=2.2						
	0.6nm,1.0s						
WRA	**Warramunga Arr**	**53.95**	**183**	P	**P**	**17 49 59.5**	**-0.5**
	0.4nm,0.3s,baz=359,slow=7.6,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**57.67**	**184**	P	**P**	**17 50 25.9**	**-0.3**
	0.1nm,0.3s,baz=352,slow=4.8,SNR=7.6						
	0.1nm,0.3s						

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*IDC **26** 17:41:15.1±2.1, 31°.78N×87°.28E, h0km, mb3.2/4, mbtmp3.2/7, ML3.3/3, Error ellipse: s-maj=73.9km s-min=21.6km az=70.0*
ISC 26 17:41:19.6±1.9, 31°.8N±0°.2×87°.2E±0°.4, h35km, n7, σ1§52/7, mb3.2/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.44**	**347**	P	**Pn**	**17 44 53.7**	**-1.0**
	0.1nm,0.3s,baz=161,slow=12,SNR=6.6						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.98**	**139**	Pn	**Pn**	**17 45 13.0**	**-1.5**
	0.1nm,0.3s,baz=323,slow=11,SNR=5.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**19.88**	**344**	P	**P**	**17 45 47.6**	**-0.1**
	0.1nm,0.3s,baz=158,slow=11,SNR=5.2						
	0.3nm,0.3s						
SONM	**Songino Array**	**21.64**	**37**	P	**P**	**17 46 07.3**	**+0.4**
	0.5nm,0.6s,baz=213,slow=11,SNR=4.4						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**22.19**	**356**	P	**P**	**17 46 13.0**	**+0.4**
	0.4nm,0.3s,baz=177,slow=7.4,SNR=3.9						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**68.45**	**132**	P	**P**	**17 52 17.8**	**-0.5**
	0.4nm,0.9s,baz=319,slow=6.4,SNR=5.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**70.95**	**135**	P	**P**	**17 52 36.0**	**+2.3**
	0.2nm,0.8s,baz=339,slow=9.3,SNR=1.8						
	0.2nm,0.8s						

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*DJA **26** 17:49:38.6±0.4, 2°N±5°×12°4E±°, h298km±3km, M3.9/16, mb3.8/13, MLv3.9/16*
*IDC **26** 17:49:45.2±3.5, 1°.65N×124°.20E, h389km±42km, mb2.8/5, mbtmp3.6/6, Error ellipse: s-maj=60.2km s-min=12.5km az=74.0*
ISC 26 17:49:38.4±0.7, 1°.72N±0°.09×124°.22E±0°.09, h300km, n22, σ1§76/23, mb3.0/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.16**	**192**	P	**Pn**	**17 50 20.5**	**+0.9**
MRSI	**Marisa**	**2.59**	**242**	P	**Pn**	**17 50 31.4**	**+1.2**
LUWI	**Luwuk**	**3.10**	**208**	P	**Pn**	**17 50 34.8**	**-0.3**
TNTI	**Ternate**	**3.29**	**107**	P	**Pn**	**17 50 37.4**	**+0.4**
APSI	**Ampana**	**3.66**	**225**	P	**Pn**	**17 50 41.1**	**+0.1**
SANI	**Sanana**	**4.14**	**155**	P	**Pn**	**17 50 45.2**	**-1.0**
NLAI	**Namlea**	**5.71**	**150**	P	**Pn**	**17 51 05.0**	**+0.8**
	16nm,0.6s						
BNSI	**Bone**	**7.33**	**214**	P	**Pn**	**17 51 25.7**	**+1.8**
	29nm,1.0s						
SWI	**Sorong**	**7.50**	**110**	P	**Pn**	**17 51 27.4**	**+1.6**
	0.0nm13nm,0.9s						
BKSI	**Bulukumba**	**8.10**	**210**	P	**Pn**	**17 51 34.3**	**+1.1**
	9.1nm,0.7s						
FAKI	**Fak Fak**	**9.26**	**120**	P	**Pn**	**17 51 47.8**	**+0.3**
	20nm,1.1s						
BAKI	**Biak**	**12.24**	**104**	P	**P**	**17 52 26.8**	**+1.8**
	10nm,0.9s						
WBSI	**Waikabubak, Su**	**12.27**	**203**	P	**Pn**	**17 52 25.1**	**+0.8**
	26nm,1.2s						
PLAI	**Plampang**	**12.29**	**211**	P	**P**	**17 52 26.0**	**+0.4**
	33nm,1.1s						
PCJI	**Pacitan**	**16.31**	**233**	P	**P**	**17 53 09.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.74**	**176**	P	**P**	**17 53 47.5**	**+0.8**
	2.7nm,1.0s,baz=4.5,slow=12,SNR=2.1						
KASI	**Kota Agung**	**20.97**	**250**	P	**P**	**17 53 59.0**	**-0.1**
WRA	**Warramunga Arr**	**23.71**	**156**	P	**P**	**17 54 23.3**	**-0.7**
	1.3nm,0.7s,baz=331,slow=11,SNR=12						
WRA				S	**S**	**17 58 10.2**	**-6.5**
	0.1nm,0.5s,baz=338,slow=16,SNR=1.6						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**26.93**	**160**	P	**P**	**17 54 52.7**	**-0.2**
	0.3nm,0.6s,baz=339,slow=8.5,SNR=13						
	0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**42.86**	**8**	P	**P**	**17 57 07.2**	**-0.4**
	0.9nm,0.4s,baz=191,slow=7.0,SNR=5.4						
	0.9nm,0.4s						
SONM	**Songino Array**	**48.46**	**344**	P	**P**	**17 57 49.8**	**-1.5**
	0.5nm,0.6s,baz=167,slow=7.0,SNR=2.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**57.82**	**327**	P	**P**	**17 58 58.5**	**-0.5**
	0.1nm,0.5s,baz=118,slow=6.9,SNR=1.9						
	0.1nm,0.5s						

IDC 26 17:58:31.5±1.7, 2°.52S×138°.29E, h0km, mb3.1/2, mbtmp3.0/4, ML3.0/2, MS3.5/1, Error ellipse: s-maj=31.7km s-min=19.1km az=174.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**90**	Pn	Pn	17 59 13.8	+1.5
	1.2nm,0.3s,baz=265,slow=11,SNR=9.7						
JAY				Lg	Lg	17 59 47.0	
	0.7nm,0.3s,baz=335,slow=17,SNR=1.2						
	7.0nm,0.5s						
BATI	**Baumata**	**16.42**	**242**	LR	LR	18 09 52.6	
	comp=Z,153nm,18.6s,baz=300,slow=42						
WRA	**Warramunga Arr**	**17.75**	**192**	P	Pn	18 02 40.2	0.0
	0.1nm,0.3s,baz=16,slow=12,SNR=4.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**21.45**	**191**	P	P	18 03 21.3	-0.3
	0.5nm,0.8s,baz=10,slow=11,SNR=8.3						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**69.38**	**323**	P	P	18 09 41.2	-0.2
	0.1nm,0.4s,baz=122,slow=5.2,SNR=1.8						
	0.1nm,0.4s						

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*MDD **26** 18:09:48.3±0.3, 37°.03N×5°.30W, h6km±1km, mb_Lg2.4/26, Error ellipse: s-maj=2.2km s-min=1.3km az=0.0*
*SFS **26** 18:09:48.1, 37°.02N×5°.30W, h0km, ML2.4/12, ML2.2/14, MLv2.0/14*
*INMG **26** 18:09:48.6±1.7, 36°.96N×5°.27W, h13km±2km, ML2.0, Error ellipse: s-maj=2.3km s-min=1.8km az=170.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*IGIL **26** 18:09:48.9, 37°.03N×5°.30W, h6km*
*CNRM **26** 18:09:49.1, 36°.85N×5°.43W, h86km, ML2.7*
ISC 26 18:09:47.2±0.8, 36°.99N±0°.02×5°.28W±0°.01, h16km±5km, n70, σ1§00/146, 2C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	**Villanueva de**	**0.11**	**53**	⇑Pg	**Pg**	**18 09 50.1**	**-0.7**
UMV12				Sg	**Sg**	**18 09 53.2**	**+0.1**
E1302	**La Puebla de C**	**0.15**	**12**	Pg	**Pg**	**18 09 51.6**	**+0.3**
E1302				Sg	**Sb**	**18 09 55.5**	**+0.8**
E1302				*i* IVmb_Lg		18 09 57.5	
ESPR	**Espera**	**0.47**	**256**	Pg	**Pn**	**18 09 58.9**	**-0.5**
ESPR	**Espera**	**0.47**	**256**	Pg	**Pb**	**18 09 58.6**	**+1.4**
ESPR				Sg	**Sg**	**18 10 03.2**	**+0.1**
ESPR				*i* IVmb_Lg		18 10 14.6	
EMIJ	**Mijas**	**0.59**	**135**	Pg	**Pg**	**18 09 57.3**	**-1.6**
EMIJ	**Mijas**	**0.59**	**135**	Pg	**Pg**	**18 09 57.6**	**-1.3**
EMIJ				Sg	**Sg**	**18 10 07.0**	**+0.3**
EMAL	**Malaga-Limoner**	**0.72**	**108**	Pg	**Pn**	**18 10 02.5**	**-0.3**
EMAL				Sg	**Sg**	**18 10 10.5**	**-0.3**
EGOR	**Sierra Gorda,**	**0.95**	**82**	Pg	**Pb**	**18 10 05.1**	**-0.3**
EGOR				Sg	**Sg**	**18 10 18.7**	**+0.6**
EGOR	**Sierra Gorda,**	**0.95**	**82**	Pg	**Pn**	**18 10 06.6**	**+0.6**
EGOR				Sg	**Sn**	**18 10 19.5**	**+0.2**
EGOR				*i* IVmb_Lg		18 10 25.3	
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pn**	**18 10 08.2**	**+0.2**
ECAB				Sg	**Sb**	**18 10 22.4**	**+0.5**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pg**	**18 10 08.5**	**+0.1**
ECAB				Sg	**Sn**	**18 10 23.0**	**+0.3**
ECAB				*i* IVmb_Lg		18 10 25.1	
SMIR	**Smir Dam**	**1.30**	**183**	P	**Pb**	**18 10 11.4**	**+0.1**
SMIR	**Smir Dam**	**1.30**	**183**	S	**Sb**	**18 10 27.5**	**-0.3**
EADA	**Adamuz**	**1.31**	**25**	Pn	**Pb**	**18 10 11.5**	**0.0**
EADA				Sg	**Sb**	**18 10 27.7**	**-0.3**
EADA	**Adamuz**	**1.31**	**25**	Pg	**Pb**	**18 10 11.5**	**0.0**
EADA				Sg	**Sg**	**18 10 29.1**	**-0.4**
EADA				*i* IVmb_Lg		18 10 32.8	
ELGU	**Los Guajares,**	**1.33**	**95**	Pn	**Pg**	**18 10 13.3**	**+0.3**
ELGU				Sn	**Sg**	**18 10 32.4**	**+2.1**
ELGU	**Los Guajares,**	**1.33**	**95**	Pg	**Pg**	**18 10 13.3**	**+0.3**
ELGU				Sg	**Sg**	**18 10 31.9**	**+1.5**
ELGU				*i* IVmb_Lg		18 10 39.6	
EMIN	**Mina Concepcio**	**1.35**	**306**	Pn	**Pn**	**18 10 11.9**	**+0.4**
EMIN				Sn	**Sg**	**18 10 31.2**	**+0.2**
EMIN	**Mina Concepcio**	**1.35**	**306**	Pg	**Pn**	**18 10 11.9**	**+0.4**
EMIN				Sg	**Sg**	**18 10 30.9**	**-0.1**
EMIN				*i* IVmb_Lg		18 10 33.8	
EQTA	**Presa de Quent**	**1.49**	**81**	Pn	**Pg**	**18 10 16.1**	**+0.1**
EQTA				Sn	**Sg**	**18 10 35.0**	**-0.3**
EQUE	**Quentar**	**1.49**	**81**	Pg	**Pb**	**18 10 15.4**	**+0.8**
EQUE				Sg	**Sg**	**18 10 35.2**	**-0.2**
EQUE				*i* IVmb_Lg		18 10 39.2	
E0803	**Jimena (Jaen)**	**1.68**	**59**	Pn	**Pn**	**18 10 16.8**	**+0.8**
E0803				Pg	**Pg**	**18 10 18.7**	**-0.7**
E0803				Sn	**Sn**	**18 10 37.2**	**+0.1**
E0803				Sg	**Sg**	**18 10 42.6**	**+1.3**
PBAR	**Barrancos**	**1.83**	**311**	Pn	**Pn**	**18 10 19.1**	**+1.0**
PBAR				Sn	**Sb**	**18 10 42.7**	**-0.4**
PBAR	**Barrancos**	**1.83**	**311**	*e*Pn	**Pn**	**18 10 18.8**	**+0.8**
PBAR				*e*Sn	**Sb**	**18 10 42.3**	**-0.7**
PBAR				*i* IAML		18 10 50.5	
PBAR				*i* IAML		18 10 53.5	
PBAR				*i* IAML		18 10 53.6	
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**18 10 18.6**	**+0.5**
EGRO				Sn	**Sb**	**18 10 44.1**	**+0.9**
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**18 10 18.6**	**+0.5**
EGRO				Pg	**Pg**	**18 10 22.6**	**+0.1**
EGRO				Sn	**Sn**	**18 10 41.8**	**+0.7**
EGRO				Sg	**Sg**	**18 10 46.0**	**-0.4**
EGRO				*i* IVmb_Lg		18 10 49.4	
E0802	**Ubeda,Jaen**	**1.84**	**55**	Pn	**Pn**	**18 10 18.9**	**+0.6**
E0802				Pg	**Pb**	**18 10 21.4**	**+0.9**
E0802				Sn	**Sn**	**18 10 41.3**	**+0.1**
E0802				Sg	**Sg**	**18 10 46.0**	**-0.5**
EQES	**Quesada**	**1.94**	**64**	Pn	**Pn**	**18 10 21.0**	**+1.4**
EQES				Pg	**Pb**	**18 10 23.3**	**+1.0**
EQES				Sn	**Sn**	**18 10 43.4**	**-0.4**
EQES				Sg	**Sg**	**18 10 50.2**	**+0.4**
EQES				*i* IVmb_Lg		18 10 54.1	
PVAQ	**Vaqueiros**	**1.99**	**283**	⇓*e*Pn	**Pn**	**18 10 20.6**	**+0.4**
PVAQ				*e*Pg	**Pg**	**18 10 24.8**	**-0.6**
PVAQ				*e*Sn	**Sn**	**18 10 44.7**	**-0.1**
PVAQ				*i* IAML		18 10 58.7	
PVAQ				*i* IAML		18 10 59.5	
PVAQ				*i* IAML		18 11 05.3	
PVAQ	**Vaqueiros**	**1.99**	**283**	P	**Pn**	**18 10 20.7**	**+0.5**
PVAQ	**Vaqueiros**	**1.99**	**283**	S	**Sn**	**18 10 43.4**	**-1.4**
PBDV	**Barranco-do-Ve**	**2.13**	**278**	Pn	**Pn**	**18 10 23.0**	**+0.8**
PBDV				Sn	**Sn**	**18 10 47.4**	**-0.9**
PBDV	**Barranco-do-Ve**	**2.13**	**278**	⇑*e*Pn	**Pn**	**18 10 23.0**	**+0.8**
PBDV				*e*Sn	**Sn**	**18 10 48.4**	**0.0**
PBDV				*i* IAML		18 10 51.1	
PBDV				*i* IAML		18 10 56.1	
PBDV				*i* IAML		18 11 01.8	
PSIM	**Granatula de C**	**2.19**	**33**	Pn	**Pn**	**18 10 24.0**	**+0.9**
PSIM				Sn	**Sn**	**18 10 49.5**	**-0.4**
PSIM				Sg	**Sg**	**18 10 57.0**	**-0.9**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**18 10 24.1**	**+0.4**
EBAD				Sn	**Sn**	**18 10 51.4**	**+0.5**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**18 10 24.0**	**+0.4**
EBAD				Sn	**Sn**	**18 10 51.5**	**+0.6**
EBAD				Sg	**Sg**	**18 10 58.7**	**-0.4**
EBAD				*i* IVmb_Lg		18 11 02.4	
PCVE	**Castro Verde**	**2.29**	**287**	Pn	**Pn**	**18 10 24.9**	**+0.5**
PCVE	**Castro Verde**	**2.29**	**287**	⇓*e*Pn	**Pn**	**18 10 24.9**	**+0.5**
PCVE				*e*Sn	**Sn**	**18 10 54.3**	**+2.1**
PCVE				*i* IAML		18 11 07.0	
PCVE				*i* IAML		18 11 07.4	
PCVE				*i* IAML		18 11 18.6	
PBEJ	**Beja**	**2.30**	**298**	*e*Pn	**Pn**	**18 10 25.1**	**+0.5**
PBEJ				*e*Sn	**Sb**	**18 10 56.8**	**+0.2**
PBEJ				*i* IAML		18 11 06.7	
PBEJ				*i* IAML		18 11 08.9	
PBEJ				*i* IAML		18 11 10.9	
MESJ	**Messejana**	**2.49**	**291**	*e*P	**Pn**	**18 10 27.7**	**+0.6**
MESJ	**Messejana**	**2.49**	**291**	*e*Pn	**Pn**	**18 10 27.8**	**+0.6**
MESJ				*e*Pg	**Pg**	**18 10 35.5**	**+0.5**
MESJ				*e*Sn	**Sn**	**18 10 58.7**	**+1.6**
MESJ				*e*Sg	**Sg**	**18 11 07.0**	**-0.2**
MESJ				*i* IAML		18 11 15.5	
MESJ				*i* IAML		18 11 15.8	
MESJ				*i* IAML		18 11 16.9	
PESTR	**Estremoz**	**2.62**	**317**	*e*Pn	**Pn**	**18 10 30.2**	**+1.3**
PESTR				*e*Sn	**Sn**	**18 11 01.2**	**+0.9**
PESTR				*e*Sg	**Sg**	**18 11 10.2**	**-1.2**
PESTR				*i* IAML		18 11 12.7	
PESTR				*i* IAML		18 11 15.0	
PESTR				*i* IAML		18 11 20.8	
PESTR	**Estremoz**	**2.62**	**317**	P	**Pn**	**18 10 29.8**	**+0.9**
PESTR	**Estremoz**	**2.62**	**317**	S	**Sn**	**18 11 00.6**	**+0.3**
EVO	**Evora**	**2.66**	**306**	*e*Pn	**Pb**	**18 10 32.5**	**-2.0**
EVO				*e*Sg	**Sg**	**18 11 14.9**	**+2.2**
PAB	**San Pablo**	**2.66**	**16**	Pn	**Pn**	**18 10 31.5**	**+1.9**
PAB				Sn	**Sn**	**18 11 00.3**	**-1.3**
PAB				Sg	**Sg**	**18 11 12.3**	**-0.5**
PAB				*i* IVmb_Lg		18 11 15.1	
MORF	**Marmelete**	**2.71**	**278**	*e*P	**Pn**	**18 10 31.0**	**+0.9**
MORF	**Marmelete**	**2.71**	**278**	*e*Pn	**Pn**	**18 10 31.1**	**+0.9**
MORF				*e*Pg	**Pg**	**18 10 38.5**	**-0.7**
MORF				*e*Sn	**Sn**	**18 11 03.6**	**+0.9**
MORF				*i* IAML		18 11 17.9	
MORF				*i* IAML		18 11 19.9	
MORF				*i* IAML		18 11 25.5	
PTEO	**Sao Teotonio**	**2.80**	**283**	*e*Pn	**Pn**	**18 10 32.0**	**+0.6**
PTEO				*e*Sn	**Sn**	**18 11 04.2**	**-0.6**
PTEO				*i* IAML		18 11 25.1	
PTEO				*i* IAML		18 11 30.2	
PTEO				*i* IAML		18 11 31.9	
PFVI	**Vila Bisbo**	**2.84**	**274**	*e*Pn	**Pn**	**18 10 32.2**	**+0.3**
PFVI				*e*Pg	**Pg**	**18 10 41.0**	**-0.6**
PFVI				*e*Sn	**Sn**	**18 11 05.9**	**+0.2**
PFVI				*e*Sg	**Sg**	**18 11 19.8**	**+1.3**
PFVI				*i* IAML		18 11 22.3	
PFVI				*i* IAML		18 11 23.8	
PFVI				*i* IAML		18 11 37.1	
PFVI	**Vila Bisbo**	**2.84**	**274**	P	**Pn**	**18 10 30.9**	**-1.0**
PFVI	**Vila Bisbo**	**2.84**	**274**	S	**Sn**	**18 11 04.0**	**-1.7**
ESDC	**Sonseca Array**	**2.88**	**21**	Pn	**Pn**	**18 10 33.5**	**+0.9**
ESDC				Sn	**Sn**	**18 11 05.7**	**-1.1**
ESDC				Sg	**Sg**	**18 11 18.5**	**-1.3**
ESDC				*i* IVmb_Lg		18 11 21.5	
ESBB	**Sonseca Array**	**2.88**	**21**	Pn	**Pn**	**18 10 33.5**	**+0.9**
ESBB				Sn	**Sn**	**18

44nm,0.4s
TARG Taragay, Kyrgy 1.83 278⇑eP Pb 18 22 59.8 -0.9
TARG ⇑eS Sb 18 23 23.4 -0.6
UZB Uzynbulak 1.87 332 eP Pn 18 23 00.2 +0.9
18nm,0.4s
UZB eS Sb 18 23 24.9 -0.2
34nm,0.3s
KTMS Ketmen 1.95 3 eP Pb 18 23 02.2 -0.3
KTMS eS Sb 18 23 27.9 +0.7
18nm,0.2s
KDJ Kajisay 2.36 287⇑eP Pn 18 23 07.0 +1.0
KDJ ⇑eS Sn 18 23 35.8 +0.3
TNSS Tian-Shan 2.88 303 eP Pb 18 23 18.0 -0.5
0.7nm,0.3s
TNSS eS Sb 18 23 54.9 +0.7
4.3nm,0.6s
ULHL Ulahol 3.06 285⇑eP Pn 18 23 16.9 +1.1
ULHL ⇑eS Sn 18 23 53.1 +0.2
ARXS Arharly 3.23 328 eP Pb 18 23 23.7 -0.8
ARXS eS Sb 18 24 05.1 +1.0
MTBS Maitube 3.25 301 eP Pb 18 23 22.9 -1.8
2.5nm,0.3s
MTBS eS Sb 18 24 03.2 -1.4
7.6nm,0.4s
BOOM Boomskoye usch 3.34 289⇑eP Pn 18 23 20.8 +1.3
BOOM ⇑eS Sn 18 23 59.7 0.0
CHKK Chushkaly 3.35 316 eP Pb 18 23 25.6 -0.8
11nm,0.5s
CHKK eS Sb 18 24 08.2 +0.7
14nm,0.3s
JNKS Jany-Kuch 3.47 264⇑eP Pn 18 23 22.2 +0.8
JNKS ⇑eS Sn 18 24 02.2 -0.8
KST Kastek 3.52 297 eP Pb 18 23 28.6 -0.7
1.3nm,0.3s
KST eS Sb 18 24 13.5 +1.1
8.5nm,0.6s
TKM2 Tokmak 2 3.72 294⇑eP Pn 18 23 26.1 +1.4
TKM2 ⇑eS Sn 18 24 09.0 0.0
KBK Karagaybulak 4.09 288⇑eP Pn 18 23 31.3 +1.4
KBK ⇑eS Sn 18 24 17.8 -0.4
UCH Uchtor 4.33 282⇓eP Pn 18 23 34.5 +1.2
UCH ⇓eS Sn 18 24 23.5 -0.8
AAK Ala-Archa 4.41 287⇑eP Pn 18 23 35.6 +1.4
AAK ⇑eS Sn 18 24 25.5 -0.6
USP Ospenovka 4.59 295⇑eP Pn 18 23 38.1 +1.5
USP ⇑eS Sn 18 24 29.8 -0.5
SALK Salom-Alik 4.87 265⇓eP Pn 18 23 41.6 +1.1
SALK ⇓eS Sn 18 24 35.6 -1.7
EKS2 Erkin-Say 4.94 286⇑eP Pn 18 23 42.8 +1.4
EKS2 ⇑eS Sn 18 24 37.7 -1.2

IDC 26 18:25:26.3±2.0, 5°47S×145°75E, h0km, mb3.6/2, mbtmp4.0/5, ML1.6/1, Error ellipse: s-maj=41.1km s-min=31.5km az=82.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.15**	**160**	Pn	Pn	18 26 30.4	-0.6
	2.5nm,0.3s,baz=342,slow=6.4,SNR=11						
PMG				Sn	Sn	18 27 14.5	-5.8
	3.6nm,0.3s,baz=345,slow=18,SNR=13						
	7.1nm,0.3s						
HNR	**Honiara**	**14.61**	**106**	Pn	Pn	18 28 55.6	+1.1
	12nm,0.3s,baz=297,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**18.17**	**217**	P	P	18 29 42.0	+1.4
	1.5nm,0.3s,baz=43,slow=12,SNR=42						
ASAR	**Alice Springs**	**21.39**	**211**	P	P	18 30 14.9	-0.9
	1.8nm,0.4s,baz=34,slow=12,SNR=100						
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**76.30**	**321**	P	P	18 37 17.3	0.0
	0.4nm,1.0s,baz=103,slow=5.0,SNR=2.5						
	0.4nm,1.0s						

*IDC **26** 18:42:40.9±2.2, 52°20N×174°15W, h0km, mb3.5/3, mbtmp3.7/5, ML4.3/2, Error ellipse: s-maj=60.8km s-min=28.9km az=1.0*
*AEIC **26** 18:42:53.9±4.8, 52°0N±0°1×173°31W±0°08, h69km±6km, Error ellipse: s-maj=16.8km s-min=7.1km az=170.0*
*NEIC **26** 18:42:54.3±1.1, 52°3N±0°2×173°3W±0°1, h83km±7km, mb3.9/28, ML4.0/14, ML3.6(AEIC), Error ellipse: s-maj=24.3km s-min=7.6km az=163.0*
ISC 26 18:42:53.9±1.0, 52°2N±0°2×173°26W±0°06, h80km±9km, n76, σ0°97/84, mb3.6/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**0.51**	**289**		**Pn**	**18 43 07.6**	**-0.2**
KOSE					**Sn**	**18 43 18.9**	**+0.8**
KOFP	**Korovin Flat P**	**0.52**	**281**		**Pn**	**18 43 07.6**	**-0.3**
KOFP					**Sn**	**18 43 18.2**	**-0.2**
KONE	**Korovin Northe**	**0.57**	**292**		**Pn**	**18 43 08.2**	**-0.1**
KONE					**Sn**	**18 43 19.2**	**+0.2**
KOKV	**Korovin Volcan**	**0.58**	**288**		**Pn**	**18 43 08.2**	**-0.3**
KOKV					**Sn**	**18 43 19.6**	**+0.3**
KOKL	**Mount Kliuchef**	**0.59**	**284**		**Pn**	**18 43 08.5**	**-0.2**
KOKL					**Sn**	**18 43 19.1**	**-0.4**
KONW	**Korovin Northw**	**0.62**	**291**		**Pn**	**18 43 08.8**	**0.0**
KONW					**Sn**	**18 43 20.4**	**+0.6**
KOWE	**Korovin West**	**0.63**	**287**		**Pn**	**18 43 09.0**	**+0.1**
KOWE					**Sn**	**18 43 21.4**	**+1.2**
GSIG	**Igitkin Island**	**1.65**	**264**		**Pn**	**18 43 20.6**	**-0.6**
GSTR	**Great Sitkin T**	**1.73**	**268**		**Sn**	**18 43 43.3**	**-0.3**
GSTR	**Great Sitkin T**	**1.73**	**268**		**Pn**	**18 43 22.3**	**+0.1**
GSMY	**Great Sitkin M**	**1.73**	**266**		**Pn**	**18 43 21.8**	**-0.4**
GSMY					**Sn**	**18 43 43.2**	**-0.5**
GSTD	**Great Sitkin T**	**1.78**	**267**		**Pn**	**18 43 22.6**	**-0.4**
GSTD					**Sn**	**18 43 44.6**	**-0.4**
GSCK	**Great Sitkin C**	**1.80**	**266**		**Pn**	**18 43 22.9**	**-0.3**
GSCK					**Sn**	**18 43 45.3**	**0.0**
ETKA	**Kagalaska Isla**	**1.97**	**262**		**Pn**	**18 43 25.2**	**-0.2**
ETKA					**Sn**	**18 43 48.8**	**-0.5**
ADAG	**Mount Adagdak**	**2.07**	**266**		**Pn**	**18 43 27.1**	**+0.3**
ADAG					**Sn**	**18 43 52.9**	**+1.2**
ADK	**Adak**	**2.13**	**263**		**Pn**	**18 43 27.7**	**+0.2**
ADK				IAML		18 43 54.5	
	2um,0.3s						
ADK	**Adak**	**2.13**	**263**		**Sn**	**18 43 53.0**	**-0.3**
KIWB	**Kanaga Island**	**2.42**	**264**	Pn	**Pn**	**18 43 31.7**	**+0.3**
KIWB					**Sn**	**18 43 59.9**	**-0.4**
KIWB				IAML		18 44 06.4	
	comp=N,614nm,0.5s						
KIWB				IAML		18 44 10.3	
	comp=E,514nm,0.7s						
KIMD	**Kanaga Island**	**2.49**	**262**		**Pn**	**18 43 32.8**	**+0.4**
KIMD					**Sn**	**18 44 03.6**	**+1.7**
NIKH	**Nikolski High**	**2.80**	**72**		**Pn**	**18 43 37.0**	**+0.4**
NIKH				Sn	**Sn**	**18 44 10.3**	**+1.0**
NIKH				IAML		18 44 18.0	
	comp=N,366nm,0.8s						
NIKH				IAML		18 44 19.6	
	comp=E,350nm,0.6s						
OKTU	**Okmok Mt. Tuli**	**3.39**	**67**		**Pn**	**18 43 46.6**	**+2.0**
MREP	**Makushin Rep't**	**4.26**	**65**		**Pn**	**18 43 58.1**	**+1.7**
UNV	**Unalaska Valle**	**4.41**	**65**	Pn	**Pn**	**18 43 59.0**	**+0.7**
AKUT	**Akutan**	**4.91**	**64**	Pn	**Pn**	**18 44 07.1**	**+1.9**
AKUT				IAML		18 45 03.2	
	comp=N,59nm,1.2s						
P08K	**Saint George I**	**4.93**	**25**	Pn	**Pn**	**18 44 06.5**	**+1.1**
P08K				IAML		18 44 50.2	
	comp=E,142nm,1.1s						
P08K				IAML		18 44 51.3	
	comp=N,169nm,1.1s						
S12K	**Black Hills**	**7.49**	**58**	Pn	**Pn**	**18 44 36.9**	**-3.4**
P16K	**Nushagak River**	**11.01**	**45**	Pn	**Pn**	**18 45 25.2**	**-3.0**
KDAK	**Kodiak Island**	**13.11**	**57**	Pn	**Pn**	**18 45 55.6**	**-1.0**
KDAK	**Kodiak Island**	**13.11**	**57**	Pn	**Pn**	**18 45 56.1**	**-0.4**
	comp=N,2.8nm,0.3s,baz=252,slow=20,SNR=20						
	comp=N,7.0nm,0.8s						
L18K	**Granite Mounta**	**13.44**	**35**	Pn	**Pn**	**18 46 00.4**	**-0.6**
SYI	**Shuyak Island**	**13.46**	**53**		**Pn**	**18 46 00.2**	**-1.1**
L19K	**White Mountain**	**14.08**	**38**	Pn	**Pn**	**18 46 09.5**	**+0.1**
M19K	**Big River Lodg**	**14.10**	**39**	Pn	**Pn**	**18 46 10.1**	**+0.6**
BRLK	**Bradley Lake**	**14.59**	**50**	Pn	**Pn**	**18 46 16.9**	**+0.9**
STLK	**Strandline Lak**	**14.91**	**43**	Pn	**Pn**	**18 46 20.1**	**0.0**
SLKM	**Skilak Lake**	**15.18**	**48**	P	**Pn**	**18 46 23.6**	**0.0**
SEW	**Seward**	**15.39**	**50**	P	**Pn**	**18 46 24.8**	**-1.3**
GHO	**Glory Hole Cre**	**16.27**	**44**	P	**Pn**	**18 46 38.2**	**+0.9**
GHO				IAmb	IAmb	18 46 49.6	
	comp=Z,9.6nm,1.1s						
KTH	**Kantishna Hill**	**16.35**	**37**	P	**Pn**	**18 46 39.2**	**+0.9**
KTH				IAmb	IAmb	18 46 54.6	
	comp=Z,16nm,1.4s						
TRF	**Thorofare Moun**	**16.53**	**38**	P	**P**	**18 46 42.3**	**+0.4**
BPAW	**Bear Paw Mtn.**	**16.64**	**36**	P	**P**	**18 46 43.4**	**+0.4**
HIN	**Hinchinbrook I**	**16.87**	**50**	P	**Pn**	**18 46 44.3**	**-0.5**
SCM	**Sheep Creek Mo**	**16.99**	**45**	P	**Pn**	**18 46 45.6**	**-0.7**
SCM				IAmb	IAmb	18 47 18.6	
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**17.20**	**38**	P	**Pn**	**18 46 47.8**	**-0.9**
MCK				IAmb	IAmb	18 47 28.5	
	comp=Z,9.8nm,1.4s						
MLY	**Manley**	**17.28**	**33**	P	**Pn**	**18 46 50.6**	**+0.9**
DHY	**Denali Highway**	**17.49**	**41**	P	**Pn**	**18 46 52.4**	**0.0**
I23K	**Minto, Yukon-K**	**17.82**	**34**	P	**P**	**18 46 55.9**	**+0.1**
HDA	**Harding Lake**	**18.29**	**38**	P	**P**	**18 47 00.5**	**-0.6**
HDA				IAmb	IAmb	18 47 02.9	
	comp=Z,9.1nm,1.3s						
IL31		**18.50**	**37**	P	**P**	**18 47 01.2**	**-2.1**
ILAR	**Eielson Array**	**18.50**	**37**	P	**P**	**18 47 01.4**	**-1.9**
ILAR	**Eielson Array**	**18.50**	**37**	P	**P**	**18 47 01.3**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=242,slow=10,SNR=30						
	comp=Z,1.4nm,0.6s						
H24K	**Noodor Dome**	**18.72**	**33**	P	**P**	**18 47 06.2**	**+0.3**
H24K				IAmb	IAmb	18 47 09.8	
	comp=Z,9.6nm,1.4s						
RIDG	**Independent Ri**	**18.81**	**41**	P	**P**	**18 47 06.2**	**-0.6**
RIDG				IAmb	IAmb	18 47 12.9	
	comp=Z,6.9nm,1.1s						
J25K	**Salcha River,**	**18.99**	**38**	P	**P**	**18 47 08.1**	**-0.7**
J25K				IAmb	IAmb	18 47 09.6	
	comp=Z,9.0nm,0.8s						
SCRK	**Sand Creek**	**19.25**	**41**	P	**P**	**18 47 11.0**	**-0.7**
SCRK				IAmb	IAmb	18 47 12.6	
	comp=Z,3.7nm,0.8s						
D22K	**Ayikyak River**	**19.39**	**23**	P	**P**	**18 47 13.1**	**+0.1**
D22K				IAmb	IAmb	18 47 28.0	
	comp=Z,12nm,1.3s						
TABL	**Table Mountain**	**19.46**	**52**	P	**P**	**18 47 12.1**	**-2.1**
J26L	**Joseph Creek**	**19.64**	**40**	P	**P**	**18 47 15.7**	**-0.2**
O28M	**Mount Upton**	**19.99**	**52**	P	**P**	**18 47 19.6**	**-0.3**
O28M				IAmb	IAmb	18 47 51.5	
	comp=Z,11nm,1.4s						
K27K	**Chicken**	**20.05**	**42**	P	**P**	**18 47 20.6**	**+0.4**
K27K				IAmb	IAmb	18 47 54.4	
	comp=Z,6.9nm,1.4s						
DAWY	**Dawson**	**21.17**	**43**	P	**P**	**18 47 32.5**	**+0.1**
H29M	**Whitestone**	**22.32**	**38**	P	**P**	**18 47 43.9**	**-0.6**
INK	**Inuvik**	**24.84**	**34**	P	**P**	**18 48 08.0**	**-0.2**
INK				IAmb	IAmb	18 48 19.7	
	comp=Z,4.6nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**35.90**	**213**	T	T	19 27 56.7	
	baz=21,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**35.91**	**213**	T	T	19 27 51.8	
	baz=21,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**35.92**	**213**	T	T	19 27 57.4	
	baz=21,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**37.10**	**213**	T	T	19 29 05.5	
	baz=20,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**37.12**	**213**	T	T	19 29 06.2	
	baz=20,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**37.12**	**213**	T	T	19 29 07.3	
	baz=20,slow=76,SNR=7.7						
PD31	**Pinedale Array**	**42.78**	**76**	P	**P**	**18 50 43.7**	**+0.1**
PD31				IAmb	IAmb	18 50 45.0	
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**42.78**	**76**	P	**P**	**18 50 43.2**	**-0.4**
PDAR	**Pinedale Array**	**42.78**	**76**	P	**P**	**18 50 44.8**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=301,slow=3.8,SNR=13						
	comp=Z,1.3nm,0.7s						
PV02	**Paradox Valley**	**46.05**	**81**	P	**P**	**18 51 09.9**	**+0.2**
TXAR	**Lajitas Array**	**55.15**	**86**	P	**P**	**18 52 17.8**	**-0.2**
TXAR	**Lajitas Array**	**55.15**	**86**	P	**P**	**18 52 18.3**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=297,slow=5.5,SNR=3.6						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.16**	**311**	P	P	18 53 00.8	-5.6
	comp=Z,0.2nm,0.6s,baz=54,slow=7.3,SNR=4.6						
	comp=Z,0.2nm,0.6s						

DJA 26 18:49:32.9±0.4, 1°N±3°×12°5E±°, h33km±8km, M4.0/19, mB5.1/1, mb4.0/11, MLv4.1/19, Mw(mB)4.4/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.50**	**252**	P	Pn	18 49 58.0	+0.5
TNTI	**Ternate**	**1.98**	**98**	P	Pn	18 50 03.8	-0.2
SGSI	**Sangihe**	**2.63**	**3**	P	Pn	18 50 13.1	0.0
SANI	**Sanana**	**3.12**	**169**	P	Pn	18 50 18.1	-1.8
LUWI	**Luwuk**	**3.35**	**232**	P	Pn	18 50 24.1	+1.1
APSI	**Ampana**	**4.23**	**243**	P	Pn	18 50 36.4	+1.3
NLAI	**Namlea**	**4.57**	**158**	P	Pn	18 50 39.2	-0.6
AAI	**Ambon**	**5.46**	**149**	P	Pn	18 50 51.8	-0.2
MSAI	**Masohi**	**5.60**	**141**	P	Pn	18 50 55.3	+1.4
KDI	**Kendari**	**5.69**	**209**	P	Pn	18 50 55.2	0.0
SWI	**Sorong**	**6.15**	**108**	P	Pn	18 51 01.8	+0.3
	0.1nm5.9nm,1.1s						
SPSI	**Sidrap Palu**	**7.52**	**229**	P	Pn	18 51 20.8	+0.5
	0.0nm7.1nm,1.1s						
BNSI	**Bone**	**7.57**	**224**	P	Pn	18 51 19.8	-1.2
	0.1nm14nm,1.4s						
FAKI	**Fak Fak**	**7.89**	**120**	P	Pn	18 51 25.3	-0.1
	22nm,1.2s						
BKSI	**Bulukumba**	**8.24**	**220**	P	Pn	18 51 31.1	+0.9
	5.8nm,0.8s						
BSSI	**Bau Bau, Buton**	**8.66**	**214**	P	Pn	18 51 36.2	+0.2
	7.9nm,0.8s						

*IDC **26** 18:50:00.3±1.1, 2°42S×138°29E, h0km, mb3.6/6, mbtmp3.7/10, ML3.6/4, MS3.1/3, Error ellipse: s-maj=27.8km s-min=21.2km az=86.0*
ISC 26 18:50:03.7±0.9, 2°5S±0°1×138°5E±0°1, h32km, n12, σ0°94/10, mb3.6/6, MS3.1/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**91**	Pn	**Pb**	**18 50 42.1**	**-0.2**
	4.3nm,0.3s,baz=266,slow=7.2,SNR=36						
JAY				Lg	Lg	18 51 12.1	
	4.5nm,0.3s,baz=225,slow=20,SNR=5.4						
	23nm,0.5s						
BATI	**Baumata**	**16.65**	**242**	Pn	**Pn**	**18 53 54.5**	**-0.3**
	1.7nm,0.3s,baz=62,slow=15,SNR=3.9						
	11nm,0.6s						
WRA	**Warramunga Arr**	**17.84**	**193**	P	**Pn**	**18 54 09.2**	**-0.3**
	0.2nm,0.3s,baz=17,slow=12,SNR=13						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.02**	**218**	P	**P**	**18 54 35.1**	**+1.0**
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.2						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**21.54**	**192**	P	**P**	**18 54 50.2**	**-0.1**
	0.8nm,0.5s,baz=18,slow=11,SNR=19						
	0.8nm,0.5s						
JNU	**Nakatsue**	**36.14**	**349**	LR	LR	19 08 34.6	
	comp=Z,33nm,20.8s,baz=162,slow=31						
CMAR	**Chiang Mai Arr**	**44.17**	**300**	P	**P**	**18 58 09.1**	**-0.9**
	0.3nm,0.6s,baz=130,slow=5.8,SNR=4.2						
CMAR				LR	LR	19 18 12.2	
	comp=Z,24nm,18.1s,baz=175,slow=38						
	0.3nm,0.6s						
PETK	**Petropavlovsk-**	**57.68**	**14**	LR	LR	19 19 54.3	
	comp=Z,15nm,21.8s,baz=127,slow=31						
MKAR	**Makanchi Array**	**69.50**	**322**	P	**P**	**19 01 09.6**	**+0.4**
	0.6nm,0.6s,baz=114,slow=7.5,SNR=7.0						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**71.65**	**330**	P	**P**	**19 01 22.6**	**+0.5**
	0.3nm,0.4s,baz=108,slow=7.7,SNR=2.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**73.44**	**325**	P	**P**	**19 01 32.4**	**-0.5**
	0.2nm,0.6s,baz=113,slow=4.8,SNR=1.3						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**79.03**	**325**	P	**P**	**19 02 06.4**	**+1.8**
	0.7nm,0.6s,baz=120,slow=5.7,SNR=4.9						
	0.7nm,0.6s						

*IDC **26** 19:02:55.3±1.9, 3°28S×129°41E, h0km, mb3.6/3, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=111.6km s-min=23.9km az=73.0*
*DJA **26** 19:02:57.4±0.5, 4°S±4°×12°8E±°, h10km, M3.6/6, MLv3.6/6*
ISC 26 19:02:57.5±1.3, 3°65S±0°09×128°41E±0°06, h9km±9km, n9, σ1°23/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**261**	P	**Pg**	**19 03 02.0**	**0.0**
AAI				S	**Sg**	**19 03 05.2**	**+0.2**
MSAI	**Masohi**	**0.60**	**60**	P	**Pb**	**19 03 10.2**	**0.0**
MSAI				S	**Sb**	**19 03 18.6**	**-0.2**
NLAI	**Namlea**	**1.37**	**287**	P	**Pn**	**19 03 21.7**	**-1.0**
SANI	**Sanana**	**2.89**	**303**	P	**Pn**	**19 03 43.6**	**-0.2**
SANI				S	**Sn**	**19 04 18.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**14.61**	**190**	Pn	**P**	**19 06 31.6**	**+0.7**
	0.1nm,0.3s,baz=11,slow=10,SNR=2.4						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**17.19**	**161**	P	**Pn**	**19 06 56.1**	**-2.0**
	0.1nm,0.3s,baz=343,slow=12,SNR=4.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**20.59**	**166**	P	**P**	**19 07 37.9**	**+0.9**
	5.0nm,0.9s,baz=348,slow=11,SNR=32						
	5.0nm,0.9s						
MKAR	**Makanchi Array**	**64.58**	**327**	P	**P**	**19 13 37.4**	**+2.2**
	0.4nm,0.7s,baz=107,slow=8.0,SNR=5.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**68.85**	**329**	P	**P**	**19 14 01.7**	**-0.6**
	0.2nm,0.5s,baz=130,slow=6.1,SNR=4.5						
	0.2nm,0.5s						

*DSN **26** 19:08:29.9±1.0, 26°90N×55°45E, h10km, ML2.6/9, Error ellipse: s-maj=16.2km s-min=4.5km az=35.0*
*OMAN **26** 19:08:30.7±0.1, 26°80N×55°29E, h17km, mb3.7/3, ml2.8/17, Error ellipse: s-maj=1.8km s-min=0.8km az=20.0*
*TEH **26** 19:08:35.7, 26°89N×55°35E, h16km±13km*
ISC 26 19:08:31.5±1.2, 26°58N±0°03×55°27E±0°04, h3km±11km, n42, σ1°06/57, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.94**	**124**	P	**Pb**	**19 08 50.4**	**0.0**
	SNR=16						
SHME				S	**Sn**	**19 09 05.0**	**-0.6**
SHME	**Shamm**	**0.94**	**124**	P	**Pb**	**19 08 50.2**	**-0.2**
SHME				S	**Sn**	**19 09 04.8**	**-0.8**
UMQ	**Umm Al-Quwin**	**1.10**	**161**	P	**Pn**	**19 08 54.5**	**+0.7**
UMQ				S	**Sn**	**19 09 12.0**	**+2.5**
BANOM	**Banah**	**1.13**	**125**	P	**Pg**	**19 08 53.6**	**+0.4**
BANOM				S	**Sn**	**19 09 10.9**	**+0.6**
BANOM	**Banah**	**1.13**	**125**	P	**Pb**	**19 08 53.3**	**-0.4**
BANOM				S	**Sn**	**19 09 10.4**	**+0.1**
BNDS	**Bandar-Abbas**	**1.15**	**44**	Pg	**Pb**	**19 08 53.6**	**-0.6**
GENO	**Geno**	**1.15**	**44**	Pg	**Pb**	**19 08 53.3**	**-0.9**
LAR1	**LAR**	**1.35**	**324**	Pg	**Pg**	**19 08 58.6**	**+1.1**
LAR1				Sg	**Sg**	**19 09 15.7**	**+0.6**
IBND	**Bandar-abas**	**1.43**	**52**	Pg	**Pg**	**19 08 59.2**	**+0.3**
MASF	**Masafi**	**1.44**	**146**	P	**Pg**	**19 08 59.1**	**0.0**
	SNR=6.4						
MASF				S	**Sg**	**19 09 19.5**	**+1.7**
MSFE	**Esma-Masafi**	**1.45**	**146**	P	**Pb**	**19 08 58.8**	**-0.4**
MDH	**Madha**	**1.57**	**144**	P	**Pb**	**19 09 01.1**	**-0.1**
	SNR=5.5						
MDH				S	**Sg**	**19 09 22.8**	**+0.7**
MDH	**Madha**	**1.57**	**144**	P	**Pb**	**19 09 00.6**	**-0.7**
NAZ	**Nazwa, Dubai**	**1.62**	**167**	P	**Pb**	**19 09 01.9**	**-0.2**
UOSS	**Minazif**	**1.83**	**152**	P	**Pb**	**19 09 05.7**	**+0.1**
UOSS				S	**Sg**	**19 09 29.8**	**-0.4**
UOSS	**Minazif**	**1.83**	**152**	P	**Pb**	**19 09 04.8**	**-0.8**
FAQ	**Al Faqa, Dubai**	**1.84**	**171**	P	**Pb**	**19 09 05.8**	**-0.1**
HATD	**Hatta, Dubai**	**1.91**	**156**	P	**Pb**	**19 09 07.2**	**+0.2**
HATD				S	**Sg**	**19 09 31.9**	**-1.0**
HATD	**Hatta, Dubai**	**1.91**	**156**	P	**Pb**	**19 09 05.4**	**-1.6**
ASUD	**Al Ashush, Dub**	**1.94**	**178**	P	**Pb**	**19 09 07.6**	**+0.1**
ASUD				S	**Sg**	**19 09 34.0**	**+0.1**
ASUD	**Al Ashush, Dub**	**1.94**	**178**	P	**Pb**	**19 09 07.5**	**-0.1**
ASHO	**Ashiyiah**	**2.01**	**159**	P	**Pb**	**19 09 07.3**	**-1.5**
ASHO				S	**Sg**	**19 09 35.8**	**-0.4**
ASHO	**Ashiyiah**	**2.01**	**159**	P	**Pn**	**19 09 06.7**	**+0.3**
AJN	**Ajban**	**2.02**	**187**	P	**Pb**	**19 09 07.4**	**-1.5**
ALNE	**Al Ain**	**2.54**	**170**	P	**Pb**	**19 09 16.0**	**-1.9**
SOHO	**SOHO**	**2.69**	**155**	P	**Pn**	**19 09 16.1**	**+0.4**
SOHO	**SOHO**	**2.69**	**155**	P	**Pb**	**19 09 17.7**	**-2.6**
MZWR	**Madinat Zayed**	**3.07**	**205**	P	**Pn**	**19 09 21.6**	**+0.6**
NGRK	**Negar Kerman**	**3.32**	**23**	Pn	**Pn**	**19 09 24.0**	**-0.8**
ARQ	**Araqi**	**3.42**	**160**	P	**Pn**	**19 09 27.5**	**+1.8**
ARQ				S	**Sn**	**19 10 08.6**	**+1.8**
HOQ	**Hoqain**	**3.51**	**148**	P	**Pn**	**19 09 26.2**	**-0.8**
HOQ				S	**Sn**	**19 10 11.1**	**+2.1**
UMZA	**Um Al Zommool**	**3.84**	**182**	P	**Pn**	**19 09 32.7**	**+1.1**
KHGB	**Koh Gabri**	**3.93**	**15**	Pn	**Pn**	**19 09 32.7**	**-0.4**
TRNA	**Turayna**	**4.10**	**244**	P	**Pn**	**19 09 33.8**	**-1.3**
TRNA				S	**Sn**	**19 10 23.4**	**-0.1**
SMDO	**Samad**	**4.32**	**144**	P	**Pn**	**19 09 38.2**	**0.0**
JMDO	**Jabal Madar**	**4.92**	**148**	P	**Pn**	**19 09 44.2**	**-2.1**
MHTO	**MHTO**	**6.09**	**156**	P	**Pn**	**19 10 02.0**	**-0.4**
	SNR=12						
DQM	**DQM**	**6.94**	**162**	P	**Pn**	**19 10 12.9**	**-1.2**
DOK	**Doka**	**7.99**	**188**	P	**Pn**	**19 10 28.1**	**-0.5**
SHAO	**Shalim**	**8.52**	**178**	P	**Pn**	**19 10 36.5**	**+0.6**
WHFO	**Wadi Hawf**	**8.73**	**189**	P	**Pn**	**19 10 37.7**	**-1.0**
	SNR=27						
ABTO	**Aybut**	**9.36**	**192**	P	**Pn**	**19 10 46.1**	**-1.4**

SCB 26 19:25:52.2±1.2, 21°76S×66°31W, h246km±9km, MB5.9, ML3.1/3, Error ellipse: s-maj=9.3km s-min=5.9km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.80**	**51**	Pg	Pn	19 26 25.9	-0.5
MOCB				Sg	S	19 26 52.7	-0.5
MOCB				IAML		19 26 55.2	
	22nm,0.4s						

DSP	**Deep Springs**	**0.39 95**		Pg	19 39 14.0	0.0
DSP				Sg	19 39 19.4	+0.2
TIN	**Tinemaha, Big**	**0.39 153**		Pg	19 39 14.4	+0.2
TIN				Sg	19 39 19.9	+0.6
TIN			IAML		19 39 25.7	
	comp=E,2μm,0.4s					
MLHM	**Little Hot Cre**	**0.40 314**		Pg	19 39 14.7	+0.4
MGPM	**Gravel Pit**	**0.42 302**		Pg	19 39 15.0	+0.2
MLCM	**Laurel Creek C**	**0.42 300**		Pg	19 39 14.9	+0.1
MCBM	**Casa Benchmark**	**0.43 305**		Pg	19 39 15.2	+0.3
MCBM				Sg	19 39 21.1	+0.6
MCSM	**Casa Diablo Ho**	**0.44 305**		Pg	19 39 15.4	+0.2
MEMM	**East Mammoth H**	**0.47 304**		Pg	19 39 15.9	+0.3
MMLB	**Mammoth Lakes**	**0.49 302**		Pg	19 39 16.3	+0.3
MMLB				Sg	19 39 23.3	+0.8
MMPM	**Mammoth Pass**	**0.50 295**		Pg	19 39 16.2	-0.1
MLIM	**Lincoln Peak**	**0.51 298**		Pg	19 39 16.6	+0.2
MLIM				Sg	19 39 24.0	+1.0
MDYM	**Dry Creek**	**0.51 300**		Pg	19 39 16.7	+0.2
MDYM				Sg	19 39 24.2	+1.0
MRDM	**Red Cones**	**0.52 292**		Pg	19 39 16.6	0.0
ANTCA	**Antelope Range**	**0.52 350**		Pg	19 39 16.5	-0.1
MINS	**Minaret Summit**	**0.54 298**		Pg	19 39 17.0	-0.1
MINS				Sg	19 39 24.9	+0.7
MDPB	**Devils Postpil**	**0.55 295**		Pg	19 39 17.0	-0.1
MDPB				Sg	19 39 24.6	+0.2
MDPB			IAML		19 39 25.5	
	comp=E,2μm,0.4s					
MDPB			IAML		19 39 26.2	
	comp=N,2μm,0.6s					
MDCM	**Deadman Creek**	**0.56 303**		Pg	19 39 17.3	0.0
LCH	**Last Change Ra**	**0.67 104**		Pg	19 39 18.9	-0.4
LCH				Sg	19 39 28.0	-0.1
KCC	**Kaiser Creek**	**0.69 264**		Pg	19 39 19.5	-0.3
KCC				Sg	19 39 28.5	-0.4
LHV	**Little Huntoon**	**0.85 357**		Pg	19 39 22.7	-0.1
LHV				Sg	19 39 34.4	+0.5
LHV			IAML		19 39 36.6	
	comp=N,390nm,0.4s					
LHV			IAML		19 39 39.4	
	comp=E,570nm,0.6s					
GMN	**Gold Mountain**	**0.96 96**		Pg	19 39 24.6	-0.3
GMN				Sg	19 39 37.0	-0.3
GMN			IAML		19 39 43.9	
	comp=N,394nm,0.7s					
GRAC	**Grapevine Rang**	**0.96 115**		Pg	19 39 24.8	-0.1
GRAC	**Grapevine Rang**	**0.96 115**		Sb	19 39 37.9	-0.3
GRAC	**Grapevine Rang**	**0.96 115**	Pg	Pg	19 39 24.7	-0.2
CGO	**Cerro Gordo**	**1.00 148**		Pg	19 39 25.1	-0.6
NV08	**Mina Array Sit**	**1.01 6**		Pg	19 39 25.4	-0.4
CWC	**Cottonwood Cre**	**1.01 163**		Pg	19 39 24.6	-1.3
CWC			IAML		19 39 39.3	
	comp=N,408nm,0.2s					
CWC			IAML		19 39 40.1	
	comp=E,451nm,0.2s					
MMIM	**Miami Mountain**	**1.03 271**		Pg	19 39 25.6	-0.6
NVAR	**Mina Array Bea**	**1.03 7**		Pg	19 39 25.8	-0.6
NV09	**Mina Array Sit**	**1.03 5**		Pg	19 39 26.0	-0.4
NV11	**Mina Array Sit**	**1.05 13**		Pg	19 39 26.3	-0.5
FRI	**Friant**	**1.08 248**		Pg	19 39 26.4	-0.8
KARE	**Kearney REC, C**	**1.16 227**		Pg	19 39 27.9	-0.9
MHDM	**Hidden Dam**	**1.18 257**		Pb	19 39 28.4	-0.7
TPH	**Tonopah**	**1.19 55**		Pg	19 39 28.9	-0.4
TPH			IAML		19 39 47.6	
	comp=E,470nm,0.5s					
TPH			IAML		19 39 49.6	
	comp=N,410nm,0.9s					
TPH	**Tonopah**	**1.19 55**		Sg	19 39 44.5	-0.2
SGV	**South Grapevin**	**1.21 110**		Pb	19 39 29.1	-0.6
RYN	**Ryan**	**1.23 357**		Pb	19 39 29.6	-0.4
RYN			IAML		19 39 46.8	
	comp=E,284nm,0.5s					
SPG2	**Springville 2**	**1.23 192**		Pb	19 39 29.0	-0.9
VOG	**Valley Oaks Go**	**1.31 215**		Pn	19 39 31.0	0.0
WAKR	**Walker**	**1.35 325**		Pn	19 39 31.6	-0.1
WAKR			IAML		19 39 51.7	
	comp=E,194nm,0.5s					
LEGD	**La Grand CA**	**1.36 263**		Pn	19 39 31.6	-0.2
MFS	**McCloud Flat S**	**1.37 159**		Pn	19 39 31.8	-0.2
BUCR	**Buckhorn Ranch**	**1.38 282**		Pn	19 39 31.5	-0.5
WCSM	**Coso Springs S**	**1.48 158**		Pb	19 39 34.1	-0.2
JRC2	**Joshua Ridge**	**1.51 160**		Pb	19 39 34.7	-0.2
MPMC	**Manual Prospec**	**1.55 150**		Pn	19 39 34.6	+0.1
FURC	**Furnace Creek,**	**1.58 126**		Pn	19 39 34.7	-0.1
FURC			IAML		19 39 59.9	
	comp=N,139nm,0.8s					
FURC			IAML		19 40 03.4	
	comp=E,237nm,0.7s					
WCT	**Wildcat Mounta**	**1.58 112**		Pn	19 39 35.0	+0.1
WCT			IAML		19 39 59.6	
	comp=E,147nm,0.4s					
WCT			IAML		19 40 00.0	
	comp=N,237nm,0.5s					
WNMM	**Nine Mile Cany**	**1.62 164**		Pb	19 39 36.1	-0.4
VES	**Vestal, Richgr**	**1.64 198**		Pn	19 39 36.2	+0.6
CMB	**Columbia Colle**	**1.66 293**		Pn	19 39 36.2	+0.3
CMB	**Columbia Colle**	**1.66 293**		Pn	19 39 36.0	+0.1
CMB	**Columbia Colle**	**1.66 293**	IAML		19 39 59.0	
	comp=N,191nm,0.4s					
WASM	**Alta Sierra Ca**	**1.66 183**		Pb	19 39 36.9	-0.5
WSRE	**Westside REC,**	**1.71 232**		Pb	19 39 38.0	0.0
WORM	**Onyx Ranch**	**1.71 174**		Pb	19 39 37.6	-0.6
CLC	**China Lake**	**1.73 156**		Pn	19 39 37.1	+0.3
ISA	**Isabella, Lake**	**1.74 181**		Pb	19 39 38.0	-0.7
ISA			IAML		19 40 02.9	
	comp=N,170nm,0.3s					
Q09A	**Carvers**	**1.75 35**		Pn	19 39 37.6	+0.3
SRTC	**Snort**	**1.80 161**		Pb	19 39 39.2	-0.5
TPNV	**Topopah Spring**	**1.82 104**		Pn	19 39 38.0	-0.2
TPNV			IAML		19 40 08.6	
	comp=N,162nm,0.9s					
TPNV			IAML		19 40 12.7	
	comp=N,184nm,0.8s					
SDH	**Striped Hills**	**1.85 113**		Pn	19 39 39.2	+0.5
GWY	**Greenwater Val**	**1.88 130**		Pn	19 39 38.4	-0.7
GWY			IAML		19 40 10.7	
	comp=E,98nm,0.7s					
PNTR	**Pine Nut**	**1.91 332**		Pn	19 39 39.5	0.0
PNTR			IAML		19 40 11.4	
	comp=N,163nm,0.8s					
NSP	**Numbskull Pass**	**1.92 110**		Pn	19 39 39.8	+0.3
QSM	**Queen of Sheba**	**1.92 138**		Pn	19 39 39.4	-0.1
QSM			IAML		19 40 09.7	
	comp=E,103nm,0.7s					
QSM			IAML		19 40 12.0	
	comp=N,108nm,0.6s					
AMDNV	**Amargosa**	**1.98 118**		Pn	19 39 40.5	+0.2
BMSM	**Mercy Hot Spri**	**2.01 249**		Pb	19 39 42.4	-1.0
AVNL	**Avenal, CA USA**	**2.02 227**		Pb	19 39 42.5	-1.1
CCCA	**Chr Cany lake**	**2.07 155**		Pn	19 39 41.2	-0.4
CCCA			IAML		19 40 14.1	
	comp=N,112nm,0.4s					
CCCA			IAML		19 40 20.5	
	comp=E,88nm,0.7s					
WELL	**Weller Preserv**	**2.07 301**		Pb	19 39 43.9	-0.5
SCKWR	**San Luis Creek**	**2.10 265**		Pb	19 39 44.4	-0.3
CTM	**Castle Mountai**	**2.11 226**		Pb	19 39 43.9	-1.1
MCY	**Mercury**	**2.13 110**		Pn	19 39 43.0	+0.5
PSMM	**Smith Mountain**	**2.17 233**		Pn	19 39 44.3	+1.3
TEJ	**El Tejon**	**2.18 185**		Pb	19 39 45.5	-0.6
PHFM	**Heflinger Ranc**	**2.18 226**		Pn	19 39 44.2	+1.1
DTP	**Desert Tortois**	**2.19 167**		Pb	19 39 46.4	+0.1
THIS	**South End of C**	**2.20 221**		Pb	19 39 45.0	-1.6
PAGB	**Antelope Grade**	**2.21 221**		Pn	19 39 44.5	+1.1
PKD	**Bear Valley Ra**	**2.22 230**		Pn	19 39 44.3	+0.6
PKLM	**Kerr Lake**	**2.22 224**		Pn	19 39 44.9	+1.3
PPTM	**Peach Tree Val**	**2.23 235**		Pn	19 39 45.1	+1.3
PVCM	**Vineyard Canyo**	**2.23 229**		Pn	19 39 44.9	+1.1
SLD	**San Luis Dam**	**2.23 262**		Pb	19 39 46.3	-0.7
PHPM	**Hope Ranch**	**2.24 231**		Pn	19 39 45.0	+1.2
PBPM	**Bitterwater Pu**	**2.24 216**		Pn	19 39 45.4	+1.5
LRV	**Little Rabbit**	**2.27 245**		Pb	19 39 47.2	-0.6
HPCM	**Pacheco Lake**	**2.28 262**		Pn	19 39 46.1	+1.7
MTOS	**Mt Oso, Westle**	**2.29 273**		Pb	19 39 46.6	-1.5
ARVC	**Arvin**	**2.29 188**		Pb	19 39 47.7	-0.3
PWKM	**Work Ranch**	**2.29 227**		Pn	19 39 45.8	+1.2
SHOC	**Shoshone, Teco**	**2.31 130**		Pn	19 39 44.7	-0.1
SHOC			IAML		19 40 23.8	
	comp=E,111nm,0.7s					
SHOC			IAML		19 40 32.5	
	comp=N,113nm,1.0s					
CARC	**Carrizo Plain**	**2.37 209**		Pn	19 39 47.5	+1.8
CRGC	**Crocker Grade**	**2.39 206**		Pb	19 39 48.1	-1.7
TSCN	**Private Proper**	**2.40 220**		Pn	19 39 47.8	+1.7
GHS	**Gilroy Hot Spr**	**2.41 264**		Pn	19 39 48.1	+1.9
PAHR	**Pah Rah Range**	**2.41 343**		Pn	19 39 46.9	+0.5
BJOM	**Mount Johnson**	**2.42 252**		Pb	19 39 48.5	-1.7
CMMM	**Mount Mocho**	**2.42 272**		Pn	19 39 48.1	+1.7
CSTL	**Corral Hollow**	**2.43 276**		Pn	19 39 47.7	+1.3
DONR	**Donner Summit**	**2.44 324**		Pb	19 39 51.6	+0.9
BSGM	**Shirttail Gulc**	**2.45 247**		Pn	19 39 48.1	+1.3
ARN	**Arnold Ranch**	**2.45 270**		Pb	19 39 48.9	-1.9
R11B	**Troy Canyon, C**	**2.46 67**		Pn	19 39 46.9	-0.1
R11B			IAML		19 40 25.0	
	comp=N,78nm,0.4s					
SAO	**San Andreas Ge**	**2.48 256**		Pn	19 39 48.9	+1.8
SCZ	**Santa Cruz**	**2.49 252**		Pn	19 39 48.9	+1.6
THC	**Tehachapi Micr**	**2.50 184**		Pb	19 39 51.3	-0.4
PEAR	**Peavine Mounta**	**2.50 332**		Pb	19 39 52.1	+0.4
BJCM	**Johnson Can.**	**2.50 251**		Pn	19 39 49.4	+1.9
FRP	**Fremont Peak**	**2.51 256**		Pn	19 39 49.2	+1.6
YUBA	**Cisco Grove, Y**	**2.53 320**		Pb	19 39 53.3	+1.0
LCUV	**Le Cuvier**	**2.53 227**		Pn	19 39 49.0	+1.1
MHC	**Mount Hamilton**	**2.54 270**		Pn	19 39 48.9	+0.8
MHC			IAML		19 40 28.5	
	comp=E,88nm,1.1s					
MHC			IAML		19 40 34.1	
	comp=N,106nm,0.6s					
PCCM	**Crazy Canyon**	**2.54 240**		Pn	19 39 49.4	+1.4
HULI	**Fort Hunter Li**	**2.63 239**		Pn	19 39 50.2	+1.0
HULI			IAML		19 40 33.3	
	comp=N,106nm,0.6s					
PRN	**Pahroc Range**	**2.71 89**		Pn	19 39 50.7	+0.2
PRN			IAML		19 40 35.9	
	comp=E,80nm,0.4s					
PRN			IAML		19 40 42.0	
	comp=N,74nm,0.5s					
SHPR	**Sheep Range**	**2.79 108**		Pn	19 39 52.0	+0.5
BEKR	**Beckworth**	**2.88 329**		Pn	19 39 52.5	-0.3
SUTB	**Sutter Butte**	**3.19 306**		Pn	19 39 56.8	-0.2
ORV	**Oroville**	**3.21 313**		Pb	19 40 03.3	-0.5
ORV	**Oroville**	**3.21 313**	Pn	Pn	19 39 57.3	+0.1
ORV			IAML		19 40 51.3	
	comp=E,19nm,0.6s					
ORV			IAML		19 40 59.3	
	comp=N,16nm,2.1s					
DANC	**Danby, Needles**	**3.72 137**		Pn	19 40 05.2	+1.0
O03E	**Paynes Creek**	**3.89 319**		Pn	19 40 07.1	+0.5
O03E			IAML		19 41 15.5	
	comp=N,25nm,0.9s					
BELC	**Belle Mtn. Jos**	**3.94 149**		Pn	19 40 07.1	-0.3
CCUT	**Cedar City**	**4.05 86**		Pn	19 40 09.7	+0.7
ELK	**Elko**	**4.17 36**		Pn	19 40 11.2	+0.6
ELK			IAML		19 41 20.0	
	comp=N,21nm,0.6s					
ELK			IAML		19 41 20.5	
	comp=N,21nm,0.5s					
LCMT	**Little Creek M**	**4.18 94**		Pn	19 40 11.7	+1.0
IRM	**Iron Mountain**	**4.21 139**		Pn	19 40 13.0	+2.0

*SFS **26** 19:45:44.4,36.°97N×5.°29W,h5km,ML2.4/12,ML2.0/16, MLv1.9/16*
*INMG **26** 19:45:45.3±1.6,36.°99N×5.°29W,h14km±2km,ML1.9,Error ellipse: s-maj=2.4km s-min=2.0km az=165.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*IGIL **26** 19:45:45.0,37.°01N×5.°32W,h6km*
*CNRM **26** 19:45:50.1,36.°42N×6.°30W,h90km*
MDD 26 19:45:44.3±0.3,37.°02N×5.°32W,h6km±2km,mb_Lg2.3/23, Error ellipse: s-maj=2.6km s-min=1.3km az=178.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMV12	**Villanueva de**	**0.12**	**73**	Pg	Pg	19 45 46.5	-0.3
UMV12				Sg	Sg	19 45 48.9	+0.5
E1302	**La Puebla de C**	**0.13**	**26**	Pg	Pg	19 45 48.1	+1.0
E1302				Sg	Sg	19 45 50.9	+2.0
E1302				*i* lVmb_Lg		19 45 55.0	
ESPR	**Espera**	**0.46**	**252**	Pg	Pb	19 45 54.7	-0.1
ESPR	**Espera**	**0.46**	**252**	Pg	Pb	19 45 54.2	-0.7
ESPR				Sg	Sg	19 45 59.5	+0.4
ESPR				*i* lVmb_Lg		19 46 07.4	
EMIJ	**Mijas**	**0.63**	**136**	Pg	Pg	19 45 53.8	-2.6
EMAL	**Malaga-Limoner**	**0.75**	**109**	Pg	Pg	19 45 57.0	-1.8
EMAL				Sg	Sg	19 46 06.4	-2.3
EGOR	**Sierra Gorda,**	**0.97**	**84**	Pg	Pg	19 46 02.9	0.0
EGOR	**Sierra Gorda,**	**0.97**	**84**	Pg	Pg	19 46 02.7	-0.3
EGOR				Sg	Sg	19 46 15.7	+0.1
EGOR				*i* lVmb_Lg		19 46 21.8	
ECAB	**El Cabril**	**1.06**	**356**	Pg	Pg	19 46 04.4	-0.3
ECAB				Sg	Sb	19 46 19.7	+0.3
ECAB	**El Cabril**	**1.06**	**356**	Pg	Pg	19 46 04.5	-0.3
ECAB				Sg	Sb	19 46 19.1	-0.3
ECAB				*i* lVmb_Lg		19 46 21.9	
EADA	**Adamuz**	**1.29**	**27**	Pn	Pn	19 46 07.9	-1.1
EADA				Sn	Sg	19 46 25.0	-0.8
EADA	**Adamuz**	**1.29**	**27**	Pg	Pn	19 46 07.8	-1.2
EADA				Sg	Sg	19 46 25.1	-0.8
EADA				*i* lVmb_Lg		19 46 28.1	
EMIN	**Mina Concepcio**	**1.32**	**305**	Pn	Pn	19 46 08.0	-1.4
EMIN				Sn	Sn	19 46 27.6	+0.3
EMIN	**Mina Concepcio**	**1.32**	**305**	Pg	Pn	19 46 07.8	-1.6
EMIN				Sg	Sb	19 46 25.5	-1.2
EMIN				*i* lVmb_Lg		19 46 31.7	
ELGU	**Los Guajares,**	**1.36**	**96**	Pn	Pn	19 46 09.2	-0.8
ELGU	**Los Guajares,**	**1.36**	**96**	Pg	Pn	19 46 09.2	-0.8
ELGU				Sg	Sb	19 46 27.3	-0.7
ELGU				*i* lVmb_Lg		19 46 36.3	
EQTA	**Presa de Quent**	**1.51**	**82**	Pn	Pn	19 46 12.1	+0.1
EQTA				Sn	Sn	19 46 30.9	-1.3
EQUE	**Quentar**	**1.51**	**82**	Pg	Pn	19 46 12.3	+0.2
EQUE				Sg	Sg	19 46 32.8	-0.1
EQUE				*i* lVmb_Lg		19 46 35.4	
E0803	**Jimena (Jaen)**	**1.68**	**60**	Pn	Pn	19 46 12.5	-1.9
E0803				Pg	Pb	19 46 15.6	-0.2
E0803				Sn	Sn	19 46 33.7	-2.7
E0803				Sg	Sg	19 46 39.5	+1.1
PBAR	**Barrancos**	**1.79**	**311**	Pn	Pn	19 46 14.7	-1.2
PBAR				Sn	Sn	19 46 39.1	+0.1
PBAR	**Barrancos**	**1.79**	**311**	*e*Pn	Pn	19 46 14.7	-1.2
PBAR				*e*Sn	Sn	19 46 38.4	-0.5
PBAR				*i* IAML		19 46 44.8	
PBAR				*i* IAML		19 46 45.4	
PBAR				*i* IAML		19 46 45.5	
EGRO	**El Granado**	**1.81**	**287**	Pn	Pn	19 46 14.7	-1.4
EGRO				Sn	Sn	19 46 39.7	+0.5
EGRO	**El Granado**	**1.81**	**287**	Pn	Pn	19 46 14.7	-1.3
EGRO				Sn	Sn	19 46 37.3	-2.0
EGRO				Sg	Sg	19 46 41.7	-0.6
EGRO				*i* lVmb_Lg		19 46 44.8	
EQES	**Quesada**	**1.95**	**66**	Pn	Pn	19 46 17.4	-0.8
EQES				Pg	Pb	19 46 20.1	-0.3
EQES				Sn	Sn	19 46 40.7	-2.4
EQES				Sg	Sg	19 46 47.5	+0.3
EQES				*i* lVmb_Lg		19 46 51.0	
PVAQ	**Vaqueiros**	**1.96**	**282**	*e*Pn	Pn	19 46 16.7	-1.5
PVAQ				*e*Pg	Pb	19 46 20.8	+0.4
PVAQ				*e*Sn	Sn	19 46 40.0	-3.1
PVAQ				*e*Sg	Sg	19 46 48.1	+0.9
PVAQ				*i* IAML		19 46 49.5	
PVAQ				*i* IAML		19 46 49.9	
PVAQ				*i* IAML		19 46 50.0	
PVAQ	**Vaqueiros**	**1.96**	**282**	P	Pn	19 46 16.4	-1.7
PVAQ	**Vaqueiros**	**1.96**	**282**	S	Sn	19 46 35.3	-7.7
PBDV	**Barranco-do-Ve**	**2.10**	**277**	Pn	Pn	19 46 19.0	-1.1
PBDV				Sn	Sn	19 46 43.7	-3.0
PBDV	**Barranco-do-Ve**	**2.10**	**277**	*e*Pn	Pn	19 46 18.9	-1.3
PBDV				*e*Sn	Sn	19 46 44.4	-2.2
PBDV				*i* IAML		19 46 46.2	
PBDV				*e*Sg	Sg	19 46 51.3	-0.6
PBDV				*i* IAML		19 46 54.9	
PBDV				*i* IAML		19 47 01.4	
PSIM	**Granatula de C**	**2.18**	**34**	Pn	Pn	19 46 20.5	-0.9
PSIM				Pg	Pb	19 46 24.1	-0.2
PSIM				Sn	Sn	19 46 45.7	-3.1
PSIM				Sg	Sg	19 46 53.1	-1.4
EBAD	**Badajoz**	**2.20**	**323**	Pn	Pn	19 46 20.1	-1.3
EBAD				Sn	Sn	19 46 47.1	-1.8
EBAD	**Badajoz**	**2.20**	**323**	Pn	Pn	19 46 20.1	-1.3
EBAD				Sn	Sn	19 46 47.2	-1.8
EBAD				*i* lVmb_Lg		19 46 49.6	
EBAD				Sg	Sg	19 46 53.9	-1.0
PCVE	**Castro Verde**	**2.26**	**287**	Pn	Pn	19 46 20.8	-1.5
PCVE	**Castro Verde**	**2.26**	**287**	*e*Pn	Pn	19 46 20.9	-1.3
PCVE				*e*Pg	Pg	19 46 29.6	+2.0
PCVE				*e*Sn	Sn	19 46 48.8	-1.7
PCVE				*e*Sg	Sg	19 46 56.3	-0.5
PCVE				*i* IAML		19 46 57.7	
PCVE				*i* IAML		19 46 59.9	
PCVE				*i* IAML		19 47 00.4	
PBEJ	**Beja**	**2.27**	**297**	*e*Pn	Pn	19 46 21.7	-0.7
PBEJ				*e*Sn	Sn	19 46 49.5	-1.2
PBEJ				*e*Sg	Sg	19 46 56.6	-0.6
MESJ	**Messejana**	**2.45**	**290**	*e*P	Pn	19 46 23.7	-1.2
MESJ	**Messejana**	**2.45**	**290**	*e*Pn	Pn	19 46 23.8	-1.1
MESJ				*e*Sn	Sn	19 46 54.2	-1.1
MESJ				*e*Sg	Sg	19 47 03.1	-0.1
MESJ				*i* IAML		19 47 09.2	
MESJ				*i* IAML		19 47 09.7	
MESJ				*i* IAML		19 47 10.6	
PESTR	**Estremoz**	**2.58**	**316**	*e*Pn	Pn	19 46 25.9	-0.8
PESTR				*e*Sn	Sn	19 46 56.6	-1.8
PESTR				*e*Sg	Sg	19 47 08.5	+1.3
PESTR				*i* IAML		19 47 10.5	
PESTR				*i* IAML		19 47 11.0	
PESTR				*i* IAML		19 47 11.3	
PESTR	**Estremoz**	**2.58**	**316**	P	Pb	19 46 29.3	-1.7
PESTR	**Estremoz**	**2.58**	**316**	S	Sb	19 47 04.2	+1.1
EVO	**Evora**	**2.62**	**306**	Pn	Pn	19 46 27.3	+0.1
EVO	**Evora**	**2.62**	**306**	*e*Pn	Pn	19 46 27.4	+0.2
EVO				*e*Pg	Pg	19 46 34.0	-0.5
EVO				*e*Sn	Sn	19 46 57.0	-2.4
EVO				*e*Sg	Sg	19 47 09.3	+0.8
PAB	**San Pablo**	**2.64**	**16**	Pn	Pn	19 46 27.7	+0.1
PAB				Sn	Sn	19 46 58.3	-1.7
PAB				Sg	Sg	19 47 07.7	-1.4
PAB				*i* lVmb_Lg		19 47 11.3	
MORF	**Marmelete**	**2.68**	**277**	*e*Pn	Pn	19 46 27.0	-1.1
MORF				*e*Sn	Sn	19 46 59.9	-1.0
MORF				*i* IAML		19 47 01.5	
MORF				*e*Sg	Sg	19 47 09.9	-0.5
MORF				*i* IAML		19 47 13.9	
MORF				*i* IAML		19 47 21.7	
PTEO	**Sao Teotonio**	**2.77**	**282**	*e*Pn	Pn	19 46 28.2	-1.1
PTEO				*e*Sn	Sn	19 47 00.1	-3.0
PTEO				*i* IAML		19 47 17.9	
PTEO				*i* IAML		19 47 18.3	
PTEO				*i* IAML		19 47 20.4	
PFVI	**Vila Bisbo**	**2.81**	**273**	*e*Sn	Sn	19 47 00.3	-3.8
PFVI				*i* IAML		19 47 05.9	
PFVI				*i* IAML		19 47 10.3	
PFVI				*i* IAML		19 47 15.3	
PFVI	**Vila Bisbo**	**2.81**	**273**	P	Pn	19 46 25.8	-4.0
PFVI	**Vila Bisbo**	**2.81**	**273**	S	Sn	19 46 49.8	-14
ESDC	**Sonseca Array**	**2.86**	**21**	Pn	Pn	19 46 30.4	-0.3
ESDC				Sn	Sn	19 47 03.3	-2.1
ESDC				Sg	Sg	19 47 14.4	-1.8
ESDC				*i* lVmb_Lg		19 47 15.4	
ESBB	**Sonseca Array**	**2.86**	**21**	Pn	Pn	19 46 29.1	-1.5
ESBB				Sn	Sn	19 47 03.0	-2.5
ESBB				Sg	Sg	19 47 14.5	-1.8
PMRV	**Marv??o**	**2.91**	**326**	*e*Pn	Pn	19 46 31.7	+0.4
PMRV				*e*Sn	Sn	19 47 04.2	-2.4
PMRV				*e*Sg	Sg	19 47 16.6	-1.3
PMRV				*i* IAML		19 47 20.1	
PMRV				*i* IAML		19 47 23.0	
PMRV				*i* IAML		19 47 23.0	
PMTG	**Montargil**	**3.08**	**313**	*e*Pn	Pn	19 46 32.0	-1.1
PMTG				*e*Sn	Sn	19 47 10.0	-0.7
PMTG				*e*Sg	Sg	19 47 20.6	-2.7
PMTG				*i* IAML		19 47 26.6	
PMTG				*i* IAML		19 47 29.9	
PMTG				*i* IAML		19 47 30.6	
EPLA	**Plasencia**	**3.10**	**349**	Pn	Pn	19 46 32.2	-1.8
EPLA				Sn	Sn	19 47 08.6	-2.8
EPLA				Sg	Sg	19 47 22.5	-1.6
EPLA				*i* lVmb_Lg		19 47 26.9	
PCBR	**Castelo Branco**	**3.29**	**330**	*e*Sn	Sn	19 47 14.1	-1.9
ETOB	**Tobarra**	**3.40**	**60**	Pn	Pn	19 46 36.6	-1.5
ETOB	**Tobarra**	**3.40**	**60**	Pn	Pn	19 46 37.1	-0.9
ETOB				Sn	Sn	19 47 15.4	-3.3
ETOB				*i* lVmb_Lg		19 47 24.2	
ETOB				Sg	Sg	19 47 32.0	-1.5
PSARD	**Sardoal**	**3.42**	**320**	*e*Pn	Pn	19 46 37.5	-0.7
PSARD				*e*Sn	Sn	19 47 17.6	-1.5
PSARD				*e*Sg	Sg	19 47 32.8	-1.3
PSARD				*i* IAML		19 47 36.6	
PSARD				*i* IAML		19 47 38.2	
PSARD				*i* IAML		19 47 42.6	
ZHG	**ZHG**	**3.72**	**197**	P	Pn	19 46 37.0	-5.4
ZHG	**ZHG**	**3.72**	**197**	S	Sn	19 47 14.9	-12
PCAS	**Casmilo, Conde**	**3.93**	**322**	*e*Sn	Sn	19 47 30.0	-1.6
PCAS				*i* IAML		19 47 53.3	
PCAS				*i* IAML		19 48 01.0	
PCAS				*i* IAML		19 48 05.9	
MD31	**MD31**	**4.16**	**174**	P	Pn	19 46

MASI S **Sn** **20 01 35.9 +0.6**
KSI Kapahiang 1.70 116 P **Pn** **20 01 28.5 +1.5**
PDSI Padang 2.07 343 P **Pn** **20 01 32.6 +0.5**
MNAI Manna 2.38 128 P **Pn** **20 01 36.1 -0.2**
SISI Saibi 2.52 308 P **Pn** **20 01 39.1 +0.8**
PPI Padang Panjang 2.52 345 P **Pn** **20 01 39.4 +1.1**
MDSI Maura Dua 3.48 117 P **Pn** **20 01 53.3 +1.8**
DSRI Dabo 4.26 56 P **Pn** **20 02 03.1 +0.9**
H08S2 Diego Garcia H 28.83 259 T T 20 36 28.5
baz=83,slow=75,SNR=5.7
H08S3 Diego Garcia H 28.84 260 T T 20 36 28.5
baz=83,slow=75,SNR=8.0
H08S1 Diego Garcia H 28.85 259 T T 20 36 28.0
baz=83,slow=75,SNR=4.3
WRA Warramunga Arr 36.62 120 P **P** **20 08 01.0 -1.1**
0.2nm,0.4s,baz=303,slow=8.9,SNR=5.6
0.2nm,0.4s
ASAR Alice Springs 37.86 126 P **P** **20 08 12.1 -0.5**
0.1nm,0.3s,baz=301,slow=8.5,SNR=2.3
0.1nm,0.3s
SONM Songino Array 50.74 5 P **P** **20 09 55.1 -0.1**
0.6nm,0.8s,baz=185,slow=8.0,SNR=3.9
0.6nm,0.8s
MKAR Makanchi Array 52.19 344 P **P** **20 10 05.3 -0.6**
0.5nm,0.5s,baz=159,slow=8.4,SNR=6.8
0.5nm,0.5s
OPO Ambohidratompo 54.94 249 LR LR 20 27 38.2
comp=Z,24nm,21.8s,baz=183,slow=29
ZALV Zalesovo Beam 58.25 349 P **P** **20 10 48.2 -1.2**
1.5nm,0.7s,baz=180,slow=5.6,SNR=7.0
1.5nm,0.7s
H04N2 CROZET ISLANDS 60.71 217 T T 21 16 09.6
baz=60,slow=74,SNR=27
H04N1 CROZET ISLANDS 60.73 217 T T 21 16 11.1
baz=60,slow=74,SNR=23
H04N3 CROZET ISLANDS 60.73 217 T T 21 16 07.5
baz=60,slow=74,SNR=22
H04S1 CROZET ISLANDS 60.98 216 T T 21 16 28.9
baz=58
H04S3 CROZET ISLANDS 61.00 216 T T 21 16 28.0
baz=58
H04S2 CROZET ISLANDS 61.00 216 T T 21 16 30.3
baz=58
BVAR Borovoye Array 61.40 339 P **P** **20 11 10.6 -0.5**
0.5nm,0.5s,baz=140,slow=5.8,SNR=2.0
0.5nm,0.5s

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*IDC **26** 20:28:46.6±0.4,52°.98N×173°.43E,h0km,mb4.5/33, mbtmp4.5/36,ML4.6/3,MS4.3/78,Error ellipse: s-maj=11.8km s-min=7.9km az=21.0*
*KRSC **26** 20:28:48.1±1.9,52°.96N×173°.16E,h59km±21km,Mc5.4, Ml5.1*
*NEIC **26** 20:28:48.5,53°.07N×173°.33E,h22km*
*AEIC **26** 20:28:48.2±3.6,53°.21N±0°.05×173°.59E±0°.09,h10km±3km, Error ellipse: s-maj=8.7km s-min=4.9km az=49.0*
*NEIC **26** 20:28:48.5,52°.87N×173°.33E,h22km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr1.15; Mθθ-5.26; Mφφ4.10; Mrθ-0.14; Mθφ-2.95; Mφr-2.88; Fault plane solution: M0 6.32000×10^16^ NP1: φs115.55000°,δ64.71000°,λ165.11000°. NP2: φs212.03000°,δ76.57000°,λ26.06000°. Principal axes: T 6.3983, Plg28.0000°, Azm76.0000°; N -0.1585, Plg61.0000°, Azm237.0000°; P -6.2398, Plg8.0000°, Azm342.0000°;*
*NEIC **26** 20:28:49.6±2.0,53°.05N±0°.07×173°.37E±0°.07,h15km±3km, mb5.3/212,Mww5.1/19 Error ellipse: s-maj=11.0km s-min=4.3km az=207.0*
*MOS **26** 20:28:51.8±1.1,53°.05N×173°.15E,h48km,mb5.2/68, MS4.7/11,Error ellipse: s-maj=6.0km s-min=4.0km az=43.4*
*GCMT **26** 20:28:52.6±0.1,53°.16N±0°.01×173°.28E±0°.01,h17km, MW5.2/145,Moment Tensor Solution. s94,c144; s145,c249; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr0.18±.01; Mθθ-0.71±.01; Mφφ0.52±.01; Mrθ-0.32±.03; Mθφ-0.15±.01; Mφr-0.45±.04; Best double couple: M0 0.86000×10^17^ NP1:φs125.00000°,δ48.00000°, λ168.00000°. NP2:φs223.00000°,δ81.00000°,λ42.00000°. Principal axes: T 0.8420, Plg35.0000°, Azm93.0000°; N 0.0360, Plg47.0000°, Azm232.0000°; P -0.8770, Plg21.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 20:28:49.5±0.6,52°.97N±0°.04×173°.30E±0°.03,h19km±2km, n977,σ1s79/996,mb5.1/236,MS4.5/110,45C-9D,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.55**	**116**	Pg	**Pg**	**20 28 59.8**	**-0.7**
SHEM					**Sb**	**20 29 08.6**	**+0.8**
SHEM	**Shemya Is, Ala**	**0.55**	**116**	Pn	**Pg**	**20 28 59.3**	**-1.2**
	2μm,0.3s,baz=349,slow=4.9,SNR=101						
SHEM				Sn	**Sb**	**20 29 09.1**	**+1.3**
	14μm,0.3s,baz=242,slow=19,SNR=25						
SMY	**Shemya**	**0.55**	**116**		**Pg**	**20 28 59.8**	**-0.7**
SMY				Sg	**Sb**	**20 29 08.1**	**+0.3**
SMY	**Shemya**	**0.55**	**116**	P	**Pb**	**20 29 00.5**	**+0.1**
SMY	**Shemya**	**0.55**	**116**	P	**Pg**	**20 29 00.0**	**-0.5**
SMY				S	**Sb**	**20 29 09.0**	**+1.2**
BKI	**Bering**	**4.86**	**300**	P	**Pn**	**20 30 00.4**	**-1.0**
BKI				S	**Sn**	**20 30 53.6**	**-3.4**
BKI	**Bering**	**4.86**	**300**	*e*P	**Pn**	**20 30 00.4**	**-1.0**
BKI				*e*S	**Sn**	**20 30 53.7**	**-3.4**
GAKI	**Gareloi-Kavalg**	**5.05**	**103**		**Pn**	**20 30 03.1**	**-1.0**
KIMD	**Kanaga Island**	**5.93**	**98**		**Pn**	**20 30 14.7**	**-1.5**
KIMD					**Sn**	**20 31 24.3**	**+0.8**
KIKV	**Kanaga Island**	**5.94**	**97**		**Pn**	**20 30 15.7**	**-0.6**
KIWB	**Kanaga Island**	**5.95**	**97**		**Pn**	**20 30 15.7**	**-0.9**
ADK	**Adak**	**6.23**	**96**		**Pn**	**20 30 18.7**	**-1.6**
ADK	**Adak**	**6.23**	**96**	P	**Pn**	**20 30 20.1**	**-0.2**
	91nm,1.4s						
ADK	**Adak**	**6.23**	**96**	P	**Pn**	**20 30 19.0**	**-1.3**
GSCK	**Great Sitkin C**	**6.51**	**94**		**Pn**	**20 30 23.2**	**-1.0**
GSTD	**Great Sitkin T**	**6.51**	**94**		**Pn**	**20 30 23.3**	**-1.0**
GSMY	**Great Sitkin M**	**6.57**	**94**		**Pn**	**20 30 23.1**	**-1.9**
GSIG	**Igitkin Island**	**6.66**	**94**		**Pn**	**20 30 25.2**	**-1.0**
KBTR	**Krutoberegovo**	**6.90**	**302**	P	**Pn**	**20 30 29.4**	**0.0**
KBTR				S	**Sn**	**20 31 45.2**	**-2.1**
KBTR	**Krutoberegovo**	**6.90**	**302**	*e*P	**Pn**	**20 30 29.5**	**0.0**
KBTR				*e*S	**Sn**	**20 31 45.3**	**-2.1**
MKZ	**Mys Kozlova**	**7.04**	**288**	P	**Pn**	**20 30 30.9**	**-0.5**
MKZ				S	**Sn**	**20 31 44.3**	**-6.5**
MKZ	**Mys Kozlova**	**7.04**	**288**	*e*P	**Pn**	**20 30 31.0**	**-0.5**
MKZ				*e*S	**Sn**	**20 31 44.3**	**-6.5**
KOWE	**Korovin West**	**7.60**	**90**		**Pn**	**20 30 38.5**	**-0.7**
KOWE					**Sn**	**20 32 01.8**	**-2.9**
KONW	**Korovin Northw**	**7.62**	**89**		**Pn**	**20 30 38.9**	**-0.5**
KONW					**Sn**	**20 32 02.4**	**-2.8**
KOKL	**Mount Kliuchef**	**7.64**	**90**		**Pn**	**20 30 38.2**	**-1.5**
KOKL					**Sn**	**20 32 02.8**	**-2.8**
KOFP	**Korovin Flat P**	**7.71**	**90**		**Pn**	**20 30 40.1**	**-0.6**
KOSE	**Korovin Southe**	**7.72**	**90**		**Pn**	**20 30 39.6**	**-1.3**
TUMD	**Tumrok D**	**7.91**	**292**	P	**Pn**	**20 30 42.7**	**-0.6**
TUMD				S	**Sn**	**20 32 07.8**	**-4.4**
TUMD	**Tumrok D**	**7.91**	**292**	*e*P	**Pn**	**20 30 42.8**	**-0.6**
TUMD				*e*S	**Sn**	**20 32 07.9**	**-4.4**
BZGR	**Bezymyannyi-Gr**	**7.92**	**297**	*e*S	**Sn**	**20 32 09.3**	**-3.4**
KZV	**Kizimen**	**7.95**	**291**	P	**Pn**	**20 30 44.4**	**+0.4**
KZV	**Kizimen**	**7.95**	**291**	*e*P	**Pn**	**20 30 44.5**	**+0.4**
SPN	**Mys Shipunski**	**8.00**	**276**	P	**Pn**	**20 30 45.3**	**+0.7**
SPN	**Mys Shipunski**	**8.00**	**276**	*e*P	**Pn**	**20 30 45.4**	**+0.7**
BZMR	**Bezymyannaya**	**8.03**	**297**	*e*S	**Sn**	**20 32 12.3**	**-3.2**
BZWR	**Bezymyannyi-We**	**8.04**	**297**	*e*S	**Sn**	**20 32 12.8**	**-2.8**
KLY	**Klyuchi**	**8.06**	**300**	P	**Pn**	**20 30 44.7**	**-0.7**
KLY				S	**Sn**	**20 32 10.5**	**-5.4**
KLY	**Klyuchi**	**8.06**	**300**	*e*P	**Pn**	**20 30 44.8**	**-0.7**
KLY				*e*S	**Sn**	**20 32 10.5**	**-5.4**
KIRR	**Kirishev**	**8.12**	**297**	P	**Pn**	**20 30 48.2**	**+1.9**
KIRR				S	**Sn**	**20 32 12.2**	**-5.3**
KIRR	**Kirishev**	**8.12**	**297**	*e*P	**Pn**	**20 30 48.2**	**+1.9**
KIRR				*e*S	**Sn**	**20 32 12.3**	**-5.3**
KMNR	**Kamenistaya**	**8.12**	**295**	P	**Pn**	**20 30 47.6**	**+1.3**
KMNR				S	**Sn**	**20 32 14.8**	**-2.7**
KMNR	**Kamenistaya**	**8.12**	**295**	*e*P	**Pn**	**20 30 47.7**	**+1.3**
KMNR				*e*S	**Sn**	**20 32 14.8**	**-2.7**
KPT	**Kopyto**	**8.18**	**297**	*e*S	**Sn**	**20 32 17.1**	**-2.0**
KII	**Karymskiy**	**8.32**	**283**	P	**Pn**	**20 30 49.4**	**+0.3**
KII				S	**Sn**	**20 32 17.8**	**-4.8**
KII	**Karymskiy**	**8.32**	**283**	*e*P	**Pn**	**20 30 49.4**	**+0.3**
KII				*e*S	**Sn**	**20 32 17.8**	**-4.8**
KOZ	**Kozyrevsk**	**8.40**	**297**	P	**Pn**	**20 30 52.0**	**+2.0**
KOZ				S	**Sn**	**20 32 20.6**	**-3.6**
KOZ	**Kozyrevsk**	**8.40**	**297**	*e*P	**Pn**	**20 30 52.1**	**+2.0**
KOZ				*e*S	**Sn**	**20 32 20.7**	**-3.6**
NLC	**Nalytchevo**	**8.41**	**277**	P	**Pn**	**20 30 51.9**	**+1.8**
NLC				S	**Sn**	**20 32 17.5**	**-6.9**
NLC	**Nalytchevo**	**8.41**	**277**	*e*P	**Pn**	**20 30 51.9**	**+1.8**
NLC				*e*S	**Sn**	**20 32 17.5**	**-6.9**
TILK	**Tilichiki**	**8.46**	**335**	P	**Pn**	**20 30 51.6**	**+0.8**
TILK	**Tilichiki**	**8.46**	**335**	*e*P	**Pn**	**20 30 51.6**	**+0.8**
OSSR	**Ossora**	**8.49**	**322**	P	**Pn**	**20 30 51.6**	**+0.3**
OSSR	**Ossora**	**8.49**	**322**	*e*P	**Pn**	**20 30 51.6**	**+0.3**
UGLR	**Uglovaya**	**8.72**	**277**	P	**Pn**	**20 30 54.7**	**+0.2**
UGLR	**Uglovaya**	**8.72**	**277**	*e*P	**Pn**	**20 30 54.8**	**+0.2**
SMAR	**Somma**	**8.73**	**278**	P	**Pn**	**20 30 55.0**	**+0.3**
SMAR	**Somma**	**8.73**	**278**	*e*P	**Pn**	**20 30 55.1**	**+0.3**
KRER	**Koryakskii**	**8.76**	**278**	P	**Pn**	**20 30 56.2**	**+1.1**
KRER	**Koryakskii**	**8.76**	**278**	*e*P	**Pn**	**20 30 56.3**	**+1.1**
AVH	**Avacha**	**8.76**	**278**	P	**Pn**	**20 30 55.9**	**+0.8**
AVH	**Avacha**	**8.76**	**278**	*e*P	**Pn**	**20 30 55.9**	**+0.8**
DALK	**Dalny**	**8.77**	**276**	P	**Pn**	**20 30 57.2**	**+2.0**
DALK	**Dalny**	**8.77**	**276**	*e*P	**Pn**	**20 30 57.3**	**+2.0**
KRX	**Arik**	**8.81**	**278**	P	**Pn**	**20 30 56.1**	**+0.3**
KRX				S	**Sn**	**20 32 27.0**	**-7.6**
KRX	**Arik**	**8.81**	**278**	*e*P	**Pn**	**20 30 56.2**	**+0.3**
KRX				*e*S	**Sn**	**20 32 27.0**	**-7.6**
KOK	**Koryaka**	**8.82**	**278**	P	**Pn**	**20 30 57.0**	**+1.0**
KOK				S	**Sn**	**20 32 31.3**	**-3.5**
KOK	**Koryaka**	**8.82**	**278**	*e*P	**Pn**	**20 30 57.0**	**+1.0**
KOK				*e*S	**Sn**	**20 32 31.4**	**-3.5**
PET	**Petropavlovsk**	**8.84**	**276**		**Pn**	**20 30 56.9**	**+0.8**
PET	**Petropavlovsk**	**8.84**	**276**	P	**Pn**	**20 30 57.8**	**+1.8**
PET				S	**Sn**	**20 32 28.5**	**-6.4**
PET	**Petropavlovsk**	**8.84**	**276**	*e*P	**Pn**	**20 30 57.9**	**+1.8**
PET				*e*S	**Sn**	**20 32 28.6**	**-6.4**
PET	**Petropavlovsk**	**8.84**	**276**	Pn	**Pn**	**20 30 59.3**	**+3.3**
	98nm,1.4s						
INSR	**Institute**	**8.86**	**276**	*e*S	**Sn**	**20 32 31.8**	**-3.8**
RUS	**Russkaya**	**8.99**	**272**	*e*S	**Sn**	**20 32 33.5**	**-5.4**
ESO	**Esso**	**9.00**	**295**	P	**Pn**	**20 30 59.0**	**+0.7**
ESO				S	**Sn**	**20 32 33.1**	**-6.0**
ESO	**Esso**	**9.00**	**295**	*e*P	**Pn**	**20 30 59.0**	**+0.7**
ESO				*e*S	**Sn**	**20 32 33.1**	**-6.0**
KRMR	**Karymshinskiy**	**9.17**	**275**	P	**Pn**	**20 31 01.6**	**+1.0**
KRMR				S	**Sn**	**20 32 39.1**	**-4.1**
KRMR	**Karymshinskiy**	**9.17**	**275**	*e*P	**Pn**	**20 31 01.6**	**+1.0**
KRMR				*e*S	**Sn**	**20 32 39.1**	**-4.1**
MTVR	**Mutnovka**	**9.19**	**273**	P	**Pn**	**20 31 02.1**	**+1.1**
MTVR				S	**Sn**	**20 32 38.9**	**-4.9**
MTVR	**Mutnovka**	**9.19**	**273**	*e*P	**Pn**	**20 31 02.1**	**+1.1**
MTVR				*e*S	**Sn**	**20 32 39.0**	**-4.9**
GNL	**Ganaly**	**9.22**	**281**	P	**Pn**	**20 31 02.6**	**+1.2**
GNL	**Ganaly**	**9.22**	**281**	*e*P	**Pn**	**20 31 02.7**	**+1.2**
GRL	**Gorelyy**	**9.24**	**273**	P	**Pn**	**20 31 03.9**	**+2.2**
GRL				S	**Sn**	**20 32 40.7**	**-4.4**
GRL	**Gorelyy**	**9.24**	**273**	*e*P	**Pn**	**20 31 04.0**	**+2.2**
GRL				*e*S	**Sn**	**20 32 40.8**	**-4.4**
ASAK	**Asacha**	**9.37**	**273**	P	**Pn**	**20 31 05.9**	**+2.4**
ASAK				S	**Sn**	**20 32 43.3**	**-5.0**
ASAK	**Asacha**	**9.37**	**273**	*e*P	**Pn**	**20 31 06.0**	**+2.4**
ASAK				*e*S	**Sn**	**20 32 43.3**	**-5.0**
KDTR	**Khodutka, Kamc**	**9.38**	**269**	P	**Pn**	**20 31 03.9**	**+0.4**
KDTR				S	**Sn**	**20 32 40.6**	**-7.7**
KDTR	**Khodutka, Kamc**	**9.38**	**269**	*e*P	**Pn**	**20 31 04.0**	**+0.4**
KDTR				*e*S	**Sn**	**20 32 40.6**	**-7.7**
PEA0B	**Petropavlovsk-**	**9.40**	**277**		**Pn**	**20 31 04.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**9.40**	**277**	P	**Pn**	**20 31 05.1**	**+1.3**
PEA0B				S	**Sn**	**20 32 42.6**	**-6.3**
PETK	**Petropavlovsk-**	**9.40**	**277**		**Pn**	**20 31 04.7**	**+0.9**
PETK	**Petropavlovsk-**	**9.40**	**277**	Pn	**Pn**	**20 31 05.5**	**+1.7**
	7.5nm,0.3s,baz=86,slow=19,SNR=157						
PETK				Sn	**Sn**	**20 32 46.6**	**-2.2**
	10nm,0.3s,baz=172,slow=21,SNR=6.5						
PETK				LR	LR	20 34 32.4	
	comp=Z,2μm,21.3s,baz=97,slow=36						
	172nm,1.1s						
PALN	**Palana**	**9.64**	**315**	P	**Pn**	**20 31 09.1**	**+2.0**
PALN	**Palana**	**9.64**	**315**	*e*P	**Pn**	**20 31 09.1**	**+2.0**
APC	**Apacha**	**9.74**	**276**	P	**Pn**	**20 31 11.3**	**+2.8**
APC				S	**Sn**	**20 32 51.3**	**-6.0**
APC	**Apacha**	**9.74**	**276**	*e*P	**Pn**	**20 31 11.3**	**+2.8**
APC				*e*S	**Sn**	**20 32 51.3**	**-6.0**
PAU	**Pauzhetka**	**10.23**	**268**	P	**Pn**	**20 31 16.8**	**+1.7**
PAU	**Pauzhetka**	**10.23**	**268**	*e*P	**Pn**	**20 31 16.9**	**+1.7**
KMSK	**Kamenskaya**	**10.24**	**341**	P	**Pn**	**20 31 14.0**	**-1.2**
KMSK	**Kamenskaya**	**10.24**	**341**	*e*P	**Pn**	**20 31 14.1**	**-1.2**
SPIA	**Saint Paul Isl**	**10.33**	**59**	P	**Pn**	**20 31 14.4**	**-2.0**
	baz=253						
P08K	**Saint George I**	**10.55**	**63**	Pn	**Pn**	**20 31 18.6**	**-0.9**
P08K	**Saint George I**	**10.55**	**63**	P	**Pn**	**20 31 18.3**	**-1.2**
	baz=258						
NIKH	**Nikolski High**	**10.77**	**83**		**Pn**	**20 31 22.7**	**+0.2**
NIKH	**Nikolski High**	**10.77**	**83**	P	**Pn**	**20 31 24.3**	**+1.8**
	703nm,1.6s						
NIKH	**Nikolski High**	**10.77**	**83**	P	**Pn**	**20 31 21.3**	**-1.2**
	baz=278						
SKR	**Severo-Kuril's**	**10.88**	**265**	P	**Pn**	**20 31 24.7**	**+0.8**
SKR				S	**Sn**	**20 33 19.0**	**-6.0**
SKR	**Severo-Kuril's**	**10.88**	**265**	*e*P	**Pn**	**20 31 24.8**	**+0.8**
SKR				*e*S	**Sn**	**20 33 19.1**	**-6.0**
UNV	**Unalaska Valle**	**12.09**	**78**		**Pn**	**20 31 40.1**	**-0.4**
UNV	**Unalaska Valle**	**12.09**	**78**	P	**Pn**	**20 31 39.6**	**-0.9**
	baz=274						
AKUT	**Akutan**	**12.50**	**76**		**Pn**	**20 31 46.2**	**+0.1**
GAMB	**Gambell**	**13.34**	**30**	P	**Pn**	**20 31 56.4**	**-1.2**
	baz=223						
M11K	**Mekoryuk**	**13.45**	**48**	P	**Pn**	**20 31 57.9**	**-1.2**
	baz=246						
FALS	**False Pass**	**13.84**	**73**	P	**Pn**	**20 32 03.5**	**-0.9**
	baz=272						
MA2	**Magadan**	**14.11**	**307**	Pn	**Pn**	**20 32 09.4**	**+1.3**
MA2	**Magadan**	**14.11**	**307**	Pn	**Pn**	**20 32 09.7**	**+1.6**
	0.4nm,0.3s,baz=128,slow=12,SNR=1.8						
MA2				LR	LR	20 37 05.0	
	comp=Z,1μm,18.3s,baz=102,slow=35						
	18nm,0.9s						
S12K	**Black Hills**	**14.61**	**69**		**Pn**	**20 32 14.0**	**-1.0**
S12K	**Black Hills**	**14.61**	**69**	P	**Pn**	**20 32 13.3**	**-1.7**
	baz=270						
M13K	**Dall Lake**	**14.77**	**50**	P	**Pn**	**20 32 16.2**	**-0.9**
	baz=250						
K13K	**Kusilvak Mount**	**14.80**	**44**	P	**Pn**	**20 32 16.7**	**-0.9**
	baz=243						
SEY	**Seymchan**	**14.85**	**320**	Pn	**Pn**	**20 32 19.2**	**+1.1**
	0.4nm,0.3s,baz=107,slow=12,SNR=11						
SEY				LR	LR	20 37 36.1	
	comp=Z,2μm,18.1s,baz=116,slow=36						
SEY	**Seymchan**	**14.85**	**320**	*e*P	**Pn**	**20 32 18.5**	**+0.4**
SEY				pmax	pmax		
	comp=Z,41nm,1.6s						
L14K	**Kuka Creek**	**15.41**	**48**		**Pn**	**20 32 26.5**	**+0.9**
L14K				IAmb	IAmb	20 32 29.3	
	comp=Z,166nm,1.3s						
L14K	**Kuka Creek**	**15.41**	**48**	P	**Pn**	**20 32 24.3**	**-1.3**
	baz=248,SNR=7.4						
N14K	**Kuskokwak Cree**	**15.41**	**53**	P	**Pn**	**20 32 24.4**	**-1.2**
	baz=254						
O14K	**Tigyukauivet M**	**15.46**	**56**	P	**Pn**	**20 32 25.0**	**-1.2**
	baz=257						
BILL	**Bilibino**	**15.49**	**350**		**Pn**	**20 32 26.9**	**+0.3**
BILL				IAmb	IAmb	20 32 34.9	
	comp=Z,114nm,1.2s						
BILL	**Bilibino**	**15.49**	**350**	P	**Pn**	**20 32 28.1**	**+1.5**
SDPT	**Sand Point**	**15.51**	**71**	P	**Pn**	**20 32 25.4**	**-1.5**
	baz=272						
M14K	**Bethel**	**15.53**	**50**		**Pn**	**20 32 28.4**	**+1.2**
M14K	**Bethel**	**15.53**	**50**	P	**Pn**	**20 32 25.3**	**-1.8**
	baz=251,SNR=18						
TNA	**Tin City**	**15.76**	**30**	P	**Pn**	**20 32 27.9**	**-2.1**
	baz=226						
ANM	**Nome**	**15.93**	**35**	P	**Pn**	**20 32 30.1**	**-2.2**
	baz=233						
S14K	**Fog Glacier**	**16.02**	**67**	P	**Pn**	**20 32 32.3**	**-1.4**
	baz=270						
CHNA	**Chernabura Isl**	**16.05**	**72**	P	**Pn**	**20 32 32.4**	**-1.5**
	baz=275						
L15K	**Ungalak Mounta**	**16.07**	**47**	P	**Pn**	**20 32 32.4**	**-1.8**
	baz=249						
M15K	**Kasigluk River**	**16.11**	**51**	P	**Pn**	**20 32 33.7**	**-0.9**
	baz=253,SNR=20						
O15K	**Ungalikthiuk R**	**16.16**	**57**		**Pn**	**20 32 35.7**	**+0.3**
O15K				IAmb	IAmb	20 32 42.0	
	comp=Z,280nm,1.2s						
O15K	**Ungalikthiuk R**	**16.16**	**57**	P	**Pn**	**20 32 34.4**	**-1.0**
	baz=259,SNR=12						
F14K	**Arctic Creek**	**16.19**	**31**	P	**Pn**	**20 32 34.2**	**-1.4**
	baz=229						
N15K	**Kwethluk River**	**16.25**	**53**		**Pn**	**20 32 36.7**	**+0.2**
N15K				IAmb	IAmb	20 32 43.9	
	comp=Z,250nm,0.9s						
N15K	**Kwethluk River**	**16.25**	**53**	P	**Pn**	**20 32 35.6**	**-0.9**
	baz=256,SNR=7.6						
K15K	**Wolf Creek Mou**	**16.29**	**45**	P	**Pn**	**20 32 35.7**	**-1.2**
	baz=247,SNR=12						
G15K	**Niukluk**	**16.65**	**35**	P	**Pn**	**20 32 40.0**	**-1.5**
	baz=235						
F15K	**North Star Dit**	**16.88**	**32**	P	**Pn**	**20 32 43.3**	**-1.1**
	baz=232,SNR=8.2						
N16K	**Nishlik Lake**	**16.96**	**53**	P	**Pn**	**20 32 43.7**	**-1.9**
	baz=256						
L16K	**Owhat River**	**16.98**	**48**	P	**P**	**20 32 47.0**	**-0.5**
L16K	**Owhat River**	**16.98**	**48**	P	**Pn**	**20 32 44.1**	**-1.6**
	baz=252,SNR=5.0						
M16K	**Timber Creek**	**17.02**	**51**	P	**Pn**	**20 32 45.4**	**-0.7**
	baz=254						
P16K	**Nushagak River**	**17.07**	**58**	P	**Pn**	**20 32 45.8**	**-1.0**
	baz=262						
J16K	**Anvik River**	**17.09**	**43**	P	**Pn**	**20 32 45.6**	**-1.4**
	baz=245,SNR=6.6						
H16K	**Elim**	**17.09**	**37**	P	**Pn**	**20 32 45.1**	**-2.0**
	baz=239,SNR=7.0						
O16K	**Kokwok River B**	**17.11**	**56**		**Pn**	**20 32 47.7**	**+0.4**
O16K	**Kokwok River B**	**17.11**	**56**	P	**Pn**	**20 32 45.7**	**-1.7**
	baz=260,SNR=6.3						
R16K	**Pilot Point**	**17.15**	**63**	P	**Pn**	**20 32 45.7**	**-2.1**
	baz=267						
I17K	**Unalakleet**	**17.31**	**41**	P	**Pn**	**20 32 48.6**	**-1.2**
	baz=243,SNR=7.0						
G16K	**Koyuk River**	**17.46**	**35**	P	**Pn**	**20 32 50.9**	**-0.7**
	baz=236						
O17K	**Koliganek Bris**	**17.64**	**56**	P	**Pn**	**20 32 53.2**	**-0.7**
	baz=261						
L17K	**Donlin**	**17.64**	**48**	P	**Pn**	**20 32 53.0**	**-1.0**
	baz=252						
Q16K	**King Salmon**	**17.72**	**59**	P	**Pn**	**20 32 54.2**	**-0.7**
	baz=264,SNR=7.5						
N17K	**Nushagak Hills**	**17.74**	**53**	P	**Pn**	**20 32 53.5**	**-1.6**
	baz=258,SNR=5.5						
J17K	**VABM Dome**	**17.76**	**43**	P	**Pn**	**20 32 54.1**	**-1.2**
	baz=247						
M17K	**Holitna River**	**17.83**	**50**	P	**Pn**	**20 32 54.9**	**-1.3**
	baz=255,SNR=12						
K17K	**Iditarod**	**17.84**	**46**	P	**P**	**20 32 57.2**	**+0.3**
K17K				IAmb	IAmb	20 33 03.5	
	comp=Z,200nm,1.2s						
K17K	**Iditarod**	**17.84**	**46**	P	**Pn**	**20 32 55.1**	**-1.2**
	baz=250,SNR=20						
P17K	**Kvichak River**	**17.89**	**58**	P	**Pn**	**20 32 55.9**	**-1.1**
	baz=263						
Q17K	**Contact Creek**	**18.09**	**61**	P	**Pn**	**20 32 57.8**	**-1.7**
	baz=267						
H17K	**Granite Mounta**	**18.11**	**38**	P	**Pn**	**20 32 59.9**	**+0.3**
H17K	**Granite Mounta**	**18.11**	**38**	P	**Pn**	**20 32 57.8**	**-1.9**
	baz=242,SNR=6.8						
G17K	**Kiwalik Mounta**	**18.12**	**36**	P	**Pn**	**20 32 57.0**	**-2.8**
	baz=239,SNR=27						
CHIR	**Chirikof Islan**	**18.24**	**69**	P	**Pn**	**20 32 59.8**	**-1.5**
	baz=274						
KUR	**Kuril'sk**	**18.29**	**255**	*i* P	**P**	**20 33 04.1**	**+2.1**
L18K	**Granite Mounta**	**18.39**	**48**	P	**P**	**20 33 00.9**	**-2.1**
	baz=254						
N18K	**Kilae Creek**	**18.40**	**53**	P	**P**	**20 33 01.2**	**-1.9**
	baz=259,SNR=14						
C16K	**Lisburne Hills**	**18.41**	**25**	P	**P**	**20 33 01.5**	**-1.7**
	baz=224						
F17K	**Baldwin Pennin**	**18.43**	**33**	P	**Pn**	**20 33 04.8**	**+1.3**
F17K				IAmb	IAmb	20 33 09.7	
	comp=Z,116nm,0.9s						
F17K	**Baldwin Pennin**	**18.43**	**33**	P	**P**	**20 33 01.5**	**-1.8**
	baz=235,SNR=11						
P18K	**Big Mountain,**	**18.53**	**57**	P	**P**	**20 33 03.3**	**-1.3**
	baz=264						
Q18K	**Katmai Hardscr**	**18.57**	**60**	P	**P**	**20 33 03.9**	**-1.3**
	baz=266,SNR=16						
O18K	**Koktuh Hills**	**18.60**	**56**	P	**P**	**20 33 04.1**	**-1.3**
	baz=262						
M18K	**Stony River**	**18.60**	**51**	P	**P**	**20 33 03.8**	**-1.5**
	baz=257,SNR=12						
E17K	**Hotham Inlet**	**18.62**	**31**	P	**P**	**20 33 03.4**	**-2.1**
	baz=233						
D17K	**Noatak River**	**18.63**	**29**	P	**P**	**20 33 04.0**	**-1.7**
	baz=229						
**

baz=254,SNR=26
O20K Slope Mountain 19.91 56 P **P** 20 33 18.9 -0.9
baz=264,SNR=12
M20K Styx River 19.94 50 P **P** 20 33 18.6 -1.5
baz=259
Q20K Shuyak Island 19.94 60 P **P** 20 33 18.5 -1.5
baz=269,SNR=7.6
J20K Nowinta River 20.08 43 P **P** 20 33 20.7 -0.8
baz=252,SNR=62
B18K Kokolik River 20.09 26 P **P** 20 33 19.8 -1.8
baz=228
YUK Yuzh-Kuril'sk 20.15 255 *i* P **P** 20 33 21.6 -0.8
I20K Naaghedeneel 20.16 42 P **P** 20 33 21.6 -0.7
baz=250,SNR=7.1
N20K Mount Spurr 20.26 52 P **P** 20 33 22.1 -1.4
baz=262
SPCR Spurr Chakacha 20.26 52 P **P** 20 33 22.3 -1.2
baz=262,SNR=48
H20K Anotleneega Mo 20.26 39 P **P** 20 33 22.4 -1.0
baz=247,SNR=32
E19K Redstone River 20.31 33 P **P** 20 33 23.1 -0.9
baz=239,SNR=15
HOM Homer 20.37 57 P **P** 20 33 24.3 -0.4
baz=267,SNR=9.2
YSS Yuzhno-Sakhali 20.45 265 P Pn 20 33 27.1 -0.7
YSS IAmb IAmb 20 33 37.5
comp=Z,87nm,1.0s
YSS Yuzhno-Sakhali 20.45 265 *e*P Pn 20 33 31.4 +3.7
YSS *e*S Sn 20 37 16.4 -1.1
YSS pmax pmax
comp=Z,400nm,5.6s
YSS pmax pmax
comp=N,400nm,5.0s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=E,1μm,17.0s
STLK Strandline Lak 20.48 52 P Pn 20 33 27.8 -0.3
STLK IAmb IAmb 20 33 29.9
comp=Z,76nm,0.8s
C19K Lookout Ridge 20.53 28 P Pn 20 33 27.9 -0.7
C19K IAmb IAmb 20 33 33.0
comp=Z,106nm,0.8s
C19K Lookout Ridge 20.53 28 P **P** 20 33 25.2 -1.2
baz=232,SNR=13
PPLA Purkeypile 20.58 48 P **P** 20 33 26.3 -0.8
baz=257,SNR=24
D19K Kuna River 20.60 30 P **P** 20 33 26.1 -1.0
baz=236,SNR=23
F20K Avaraart Lake 20.62 35 P **P** 20 33 26.0 -1.3
baz=242
SKT Skwentna 20.70 50 P **P** 20 33 27.6 -0.6
baz=260,SNR=51
CAPN Captain Cook N 20.71 54 P **P** 20 33 27.4 -1.0
baz=264
BRLK Bradley Lake 20.76 57 P **P** 20 33 29.3 +0.4
BRLK IAmb IAmb 20 33 31.1
comp=Z,154nm,0.8s
CHUM Lake Minchumin 20.77 45 P **P** 20 33 27.9 -1.1
baz=255,SNR=34
BRSE Bradley Lake S 20.83 57 P **P** 20 33 27.9 -1.8
baz=267,SNR=15
A19K Wainwright 20.85 24 P **P** 20 33 28.5 -1.2
baz=227
IMAR Indian Mountai 20.88 39 P **P** 20 33 31.4 +1.2
SUA Susitna One 20.99 52 P **P** 20 33 30.0 -1.5
baz=263,SNR=22
E20K Nigu River 21.07 32 P **P** 20 33 30.3 -1.9
baz=239,SNR=42
H21K Melozitna Rive 21.12 40 P **P** 20 33 31.5 -1.2
baz=250,SNR=47
D20K Etivluk River 21.18 30 P **P** 20 33 34.7 +1.3
D20K Etivluk River 21.18 30 P **P** 20 33 31.8 -1.5
baz=237,SNR=12
G21K Allakaket 21.18 37 P **P** 20 33 32.0 -1.4
baz=247,SNR=40
I21K Tanana 21.29 41 P **P** 20 33 33.8 -0.7
baz=252,SNR=26
M22K Willow 21.33 51 P **P** 20 33 34.4 -0.5
baz=263,SNR=7.7
CUT Chulitna 21.35 49 P **P** 20 33 34.6 -0.6
baz=261,SNR=11
O22K Cooper Landing 21.39 55 P **P** 20 33 35.1 -0.5
baz=266,SNR=20
BPAW Bear Paw Mtn. 21.39 45 P **P** 20 33 35.2 -0.4
baz=256,SNR=24
RC01 Rabbit Creek A 21.43 53 P **P** 20 33 35.7 -0.5
baz=265,SNR=13
F21K Alatna River 21.48 36 P **P** 20 33 37.8 +1.1
F21K IAmb IAmb 20 33 41.7
comp=Z,81nm,0.8s
F21K Alatna River 21.48 36 P **P** 20 33 35.7 -0.9
baz=245,SNR=44
SEW Seward 21.50 56 P **P** 20 33 35.4 -1.4
baz=267,SNR=14
TRF Thorofare Moun 21.54 47 P **P** 20 33 36.1 -1.4
baz=258,SNR=67
MLY Manley 21.74 42 P **P** 20 33 37.7 -1.8
baz=254,SNR=45
H22K Ishtalitna Cre 21.75 40 P **P** 20 33 36.7 -2.9
baz=251
B20K Meade River 21.76 27 P **P** 20 33 40.9 +1.4
B20K IAmb IAmb 20 33 43.5
comp=Z,54nm,0.8s
B20K Meade River 21.76 27 P **P** 20 33 37.1 -2.4
baz=234
PMR Palmer 21.77 52 P **P** 20 33 38.9 -0.9
PMR Palmer 21.77 52 P **P** 20 33 42.3 +2.5
comp=Z,45nm,0.7s
PMR Palmer 21.77 52 P **P** 20 33 38.9 -0.9
PMR pmax pmax
comp=Z,35nm,0.8s
PMR Palmer 21.77 52 P **P** 20 33 38.5 -1.2
baz=264,SNR=5.7
E21K Killik River 21.87 32 P **P** 20 33 39.5 -1.3
baz=242
C21K Knifeblade Rid 21.97 30 P **P** 20 33 41.0 -0.8
baz=239,SNR=10
JKA Kamikawa-asahi 22.02 259 P **P** 20 33 44.6 +2.0
JKA IAmb IAmb 20 34 04.6
comp=Z,120nm,1.2s
ASAJ Asahikawa 22.02 259 LR LR 20 43 09.3
comp=Z,900nm,18.2s,baz=9.5,slow=39
ASAJ Asahikawa 22.02 259 P **P** 20 33 44.6 +2.0
ASAJ pmax pmax
comp=Z,120nm,1.2s
F22K John River 22.06 35 P **P** 20 33 41.4 -1.4
baz=246
G22K Bettles 22.07 37 P **P** 20 33 41.5 -1.4
baz=248
KNK Knik Glacier 22.08 52 P **P** 20 33 42.1 -1.0
baz=265,SNR=62
PWL Port Wells 22.10 54 P **P** 20 33 42.2 -1.1
baz=267,SNR=33
SML Sawmill 22.18 51 P **P** 20 33 43.4 -0.8
baz=264,SNR=126
MCK McKinley 22.19 46 P **P** 20 33 42.9 -1.4
baz=259,SNR=69
WAT1 Susitna Watana 22.21 49 P **P** 20 33 43.3 -1.1
baz=262
B21K Ikpikpuk River 22.27 29 P **P** 20 33 43.6 -1.4
baz=238,SNR=32
NEA2 Nenana 22.32 44 P **P** 20 33 44.6 -1.0
baz=257,SNR=39
I23K Minto, Yukon-K 22.34 42 P **P** 20 33 44.2 -1.6
baz=255,SNR=32
E22K Anaktuvuk Pass 22.45 34 P **P** 20 33 45.5 -1.5
baz=245,SNR=25
H23K Yukon River 22.45 41 P **P** 20 33 45.4 -1.7
baz=253
M23K Glacier View 22.46 51 P **P** 20 33 45.6 -1.6
baz=265,SNR=92
D22K Ayikyak River 22.50 32 P **P** 20 33 45.9 -1.6
baz=242,SNR=24
P23K Montague Islan 22.53 56 P **P** 20 33 46.8 -1.0
baz=270,SNR=13
WAT6 Susitna Watana 22.54 49 P **P** 20 33 46.2 -2.0
baz=263,SNR=39
G23K Bananza Creek 22.55 38 P **P** 20 33 46.7 -1.4
baz=251,SNR=48
SCM Sheep Creek Mo 22.65 51 P **P** 20 33 48.0 -1.3
baz=265,SNR=87
COLD Coldfoot 22.66 37 P **P** 20 33 49.1 -0.1
COLD Coldfoot 22.66 37 P **P** 20 33 47.8 -1.4
baz=249,SNR=10
GLI Glacier Island 22.70 54 P **P** 20 33 48.6 -1.1
baz=268,SNR=6.8
GRNR Gornyy 22.71 279 ⇓*i*P **P** 20 33 52.5 +2.5
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,950nm,20.0s
GRNR MLR MLR
comp=Z,580nm,19.0s
DHY Denali Highway 22.77 48 P **P** 20 33 49.9 -0.7
baz=262,SNR=34
COLA College 22.89 44 P **P** 20 33 52.0 +0.4
COLA College 22.89 44 P **P** 20 33 52.4 +0.8
comp=Z,131nm,0.8s
COLA College 22.89 44 P **P** 20 33 52.0 +0.4
COLA pmax pmax
comp=Z,154nm,0.8s
COLA College 22.89 44 P **P** 20 33 50.4 -1.3
baz=257
A22K Sinclair Lake 22.94 26 P **P** 20 33 50.6 -1.4
baz=235
ERM Erimo 22.95 254 P **P** 20 33 55.1 +2.7
ERM IAmb IAmb 20 34 12.5
comp=Z,159nm,1.2s
ERM Erimo 22.95 254 P **P** 20 33 55.1 +2.7
ERM pmax pmax
comp=Z,159nm,1.3s
B22K Teshekpuk Lake 23.00 28 P **P** 20 33 53.5 +0.8
B22K Teshekpuk Lake 23.00 28 P **P** 20 33 51.2 -1.5
baz=238
Q23K Middleton Isla 23.06 58 P **P** 20 33 52.4 -1.0
baz=272
H24K Noodor Dome 23.11 41 P **P** 20 33 53.6 -0.4
baz=255,SNR=59
POKR Poker Plat Res 23.12 43 P **P** 20 33 52.7 -1.3
baz=257,SNR=52
E23K Chandalar 23.17 35 P **P** 20 33 55.3 +0.7
E23K IAmb IAmb 20 33 58.3
comp=Z,42nm,0.8s
E23K Chandalar 23.17 35 P **P** 20 33 53.5 -1.1
baz=248,SNR=24
HDA Harding Lake 23.18 45 P **P** 20 33 53.4 -1.2
baz=260,SNR=21
D23K Nanushuk River 23.18 33 P **P** 20 33 53.9 -0.7
baz=245,SNR=11
M24K Tolsona, Glenn 23.22 51 P **P** 20 33 55.3 +0.2
baz=266,SNR=53
ILAR Eielson Array 23.27 44 P **P** 20 33 55.0 -0.6
ILAR Eielson Array 23.27 44 P **P** 20 33 55.7 +0.1
comp=Z,44nm,0.8s,baz=253,slow=8.5,SNR=231
ILAR PcP **PcP** 20 37 41.5 -0.8
comp=Z,1.1nm,0.7s,baz=259,slow=2.7,SNR=4.3
ILAR LR LR 20 44 13.8
comp=Z,632nm,19.2s,baz=248,slow=40
comp=Z,44nm,0.8s
KLU Klutina 23.30 52 P **P** 20 33 56.0 0.0
KLU IAmb IAmb 20 33 59.1
comp=Z,70nm,0.6s
KLU Klutina 23.30 52 P **P** 20 33 55.7 -0.3
baz=267,SNR=37
EYAK Cordova Ski Ar 23.36 55 P **P** 20 33 56.5 +0.1
comp=Z,89nm,0.8s
EYAK Cordova Ski Ar 23.36 55 P **P** 20 33 55.9 -0.5
baz=270,SNR=23
TOLK Toolik Lake Re 23.41 34 P **P** 20 33 57.5 +0.5
TOLK IAmb IAmb 20 34 00.9
comp=Z,50nm,0.8s
TOLK Toolik Lake Re 23.41 34 P **P** 20 33 56.7 -0.3
baz=247,SNR=22
G24K Hadweenzic Riv 23.50 39 P **P** 20 33 57.8 0.0
baz=254,SNR=29
E24K Your Creek 23.57 36 P **P** 20 33 58.3 -0.3
baz=249
K24K Donnelly Dome 23.59 47 P **P** 20 33 57.9 -0.8
baz=262
C23K Itkillik River 23.59 31 P **P** 20 33 58.6 0.0
baz=243,SNR=28
F24K Squaw Lake 23.60 37 P **P** 20 33 57.9 -0.9
baz=251,SNR=7.8
PAX Paxson 23.62 49 P **P** 20 33 58.5 -0.7
baz=264,SNR=63
HARP HAARP 23.72 50 P **P** 20 33 59.9 -0.1
baz=266,SNR=12
D24K Happy Valley 23.87 33 P **P** 20 34 01.0 -0.3
baz=247
J25K Salcha River, 23.89 45 P **P** 20 34 00.1 -1.5
baz=261
BMRM Bremner River 23.92 54 P **P** 20 34 02.2 +0.3
baz=270,SNR=48
N25K Chitina, Valde 23.94 52 P **P** 20 34 02.3 +0.1
baz=268,SNR=57
RIDG Independent Ri 23.99 47 P **P** 20 34 02.0 -0.6
baz=263,SNR=28
KAIM Kayak Island 24.03 56 P **P** 20 34 02.0 -0.9
baz=272
H25L Birch Creek 24.03 41 P **P** 20 34 02.6 -0.3
baz=256,SNR=19
G25K Bearman Lake 24.05 39 P **P** 20 34 03.1 +0.1
baz=255,SNR=17
C24K Franklin Bluff 24.14 32 P **P** 20 34 04.4 +0.6
C24K IAmb IAmb 20 34 06.6
comp=Z,106nm,1.1s
C24K Franklin Bluff 24.14 32 P **P** 20 34 03.3 -0.5
baz=246
SCRK Sand Creek 24.39 46 P **P** 20 34 06.0 -0.4
baz=264,SNR=91
F25K Christian Rive 24.45 37 P **P** 20 34 07.0 +0.2
baz=254,SNR=51
L26K Log Cabin Wild 24.59 49 P **P** 20 34 07.8 -0.3
baz=266,SNR=22
E25K Arctic Village 24.62 36 P **P** 20 34 08.2 -0.1
baz=253,SNR=47
J26L Joseph Creek 24.64 45 P **P** 20 34 07.8 -0.8
baz=263,SNR=75
CRQE Cirque 24.66 54 P **P** 20 34 08.9 0.0
baz=272,SNR=38
YAK Yakutsk 24.66 309 P **P** 20 34 07.8 -0.8
YAK IAmb IAmb 20 34 27.4
comp=Z,59nm,0.8s
YAK Yakutsk 24.66 309 LR LR 20 43 35.6
comp=Z,1μm,18.2s,baz=94,slow=36
YAK Yakutsk 24.66 309 *de*P **P** 20 34 07.5 -1.2
YAK pmax pmax
comp=Z,117nm,2.5s
MCARA McCarthy VSAT 24.69 53 P **P** 20 34 08.7 -0.2
baz=270,SNR=124
M26K Nabesna, AK 24.72 50 P **P** 20 34 08.4 -0.8
baz=268
D25K Kavik River 24.74 33 P **P** 20 34 08.7 -0.7
baz=249
BMAR Burnt Mountain 24.80 38 P **P** 20 34 10.2 +0.3
I26K Coal Creek Min 24.93 43 P **P** 20 34 10.2 -0.8
baz=262
G26K Porcupine Rive 24.98 39 P **P** 20 34 12.1 +0.6
baz=257,SNR=87
F26K Sheenjek River 25.02 38 P **P** 20 34 12.4 +0.5
baz=255,SNR=37
K27K Chicken 25.24 47 P **P** 20 34 13.8 -0.1
baz=265
M27K Edge Creek, AK 25.24 50 P **P** 20 34 14.2 +0.1
baz=269
MESA MESA 25.25 56 P **P** 20 34 13.9 -0.4
baz=274,SNR=15
L27K Beaver Creek, 25.29 49 P **P** 20 34 14.3 0.0
baz=268,SNR=112
BCAR Beaver Creek A 25.31 49 P **P** 20 34 15.2 +0.6
C26K Camden Bay 25.43 32 P **P** 20 34 15.0 -0.5
baz=250,SNR=5.1
CTG Chitna Glacier 25.51 54 P **P** 20 34 15.7 -0.9
baz=272,SNR=30
I27K Kandik River 25.61 43 P **P** 20 34 15.2 -2.1
baz=262
C27K Jago River 25.73 33 P **P** 20 34 16.6 -1.6
baz=252
H27K Steamboat Moun 25.73 41 P **P** 20 34 16.9 -1.5
baz=261,SNR=17
G27K Doyon Strip 25.78 40 P **P** 20 34 19.4 +0.6
G27K IAmb IAmb 20 34 23.4
comp=Z,60nm,1.1s
G27K Doyon Strip 25.78 40 P **P** 20 34 18.6 -0.2
baz=260,SNR=52
E27K Coleen River 26.08 37 P **P** 20 34 21.8 +0.4
E27K IAmb IAmb 20 34 25.7
comp=Z,46nm,0.9s
E27K Coleen River 26.08 37 P **P** 20 34 20.2 -1.3
baz=257,SNR=26
O28M Mount Upton 26.09 54 P **P** 20 34 21.7 -0.2
baz=274,SNR=25
PINM Pinnacle 26.11 56 P **P** 20 34 20.2 -1.6
baz=275,SNR=6.5
YUK8 Steele Glacier 26.26 53 P **P** 20 34 23.4 -0.1
baz=273,SNR=11
I28M Miner Creek 26.28 43 P **P** 20 34 22.9 -0.5
baz=264,SNR=19
DAWY Dawson 26.42 47 P **P** 20 34 24.4 -0.2
baz=268,SNR=42
D27M Malcolm River 26.55 35 P **P** 20 34 26.4 +0.7
D27M IAmb IAmb 20 34 28.1
comp=Z,39nm,1.1s
D27M Malcolm River 26.55 35 P **P** 20 34 25.0 -0.7
baz=256
PNL Peninsula 26.58 56 P **P** 20 34 25.5 -0.6
baz=277
F28M Old Crow 26.60 39 P **P** 20 34 26.3 +0.1
baz=260,SNR=19
YUK4 Talbot Arm 26.80 53 P **P** 20 34 28.0 -0.2
baz=274
M29M Somme Creek 26.83 50 P **P** 20 34 28.3 -0.1
baz=272,SNR=18
TIXI Tiksi 26.85 331 P **P** 20 34 28.4 0.0
TIXI Tiksi 26.85 331 LR LR 20 45 03.8
comp=Z,710nm,20.5s,baz=148,slow=36
TIXI Tiksi 26.85 331 *ce*P **P** 20 34 28.7 +0.4
TIXI pmax pmax
comp=Z,35nm,1.3s
E28M Babbage River 26.91 36 P **P** 20 34 28.8 -0.2
baz=259,SNR=8.4
O29M Mount Kennedy 26.92 55 P **P** 20 34 29.1 -0.1
baz=276,SNR=8.2
YUK6 Outpost Mounta 26.96 54 P **P** 20 34 29.3 -0.5
baz=275
L29M L29M 26.97 49 P **P** 20 34 29.3 -0.3
baz=271,SNR=16
H29M Whitestone 27.00 42 P **P** 20 34 29.7 -0.1
baz=264,SNR=14
ZEA Zeya 27.13 290 *e*P **P** 20 34 31.4 +0.4
ZEA *e*S **S** 20 39 02.4 -5.7
ZEA *e* 20 39 19.8
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA smax smax
comp=E,100nm,5.5s
ZEA MLR MLR
comp=N,800nm,14.0s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,500nm,18.0s
G29M Pine Creek 27.21 40 P **P** 20 34 31.8 +0.1
baz=264,SNR=33
K29M Barlow Dome 27.24 47 P **P** 20 34 32.0 -0.1
baz=270,SNR=28
HYT Haines Junctio 27.39 54 P **P** 20 34 33.5 -0.1
baz=276,SNR=13
P29M Windy Craggy 27.42 56 P **P** 20 34 33.8 +0.2
baz=278,SNR=5.7
E29M Blow River 27.47 37 P **P** 20 34 33.9 0.0
baz=261,SNR=11
N30M Aishikik Lake 27.54 52 P **P** 20 34 35.0 +0.3
baz=275
M30M Minto, Yukon 27.60 50 P **P** 20 34 35.0 -0.3
baz=273
EPYK Eagle Plains 27.68 42 P **P** 20 34 35.5 -0.4
baz=266,SNR=12
P30M Million Dollar 27.74 55 P **P** 20 34 36.5 -0.1
baz=278
I30M Mount Dempster 27.76 44 P **P** 20 34 36.1 -0.6
baz=268
J30M Hart River 27.77 46 P **P** 20 34 36.9 +0.1
baz=270,SNR=13
G30M tAoh Zraii Nji 27.93 40 P **P** 20 34 36.6 -1.5
baz=265
O30N Mendenhall 28.09 54 P **P** 20 34 38.2 -1.5
baz=277
PLBC Pleasant Camp 28.14 56 P **P** 20 34 38.4 -1.6
baz=279
F30M Barrier River 28.15 39 P **P** 20 34 38.6 -1.5
baz=264,SNR=12
N31M Braeburn, Yuko 28.16 52 P **P** 20 34 38.6 -1.7
baz=276
HEH HeiHe 28.25 283 *e*P **P** 20 34 40.8 -0.3
HEH pP **pP** 20 34 45.0 -2.0
HEH S **S** 20 39 25.0 -0.8
HEH pmax pmax
comp=Z,13nm,1.0s
HEH pmax pmax
comp=Z,290nm,5.5s
HEH LR LR
comp=Z,1μm,18.5s
HEH LR LR
comp=Z,1μm,19.0s
HEH LR LR
comp=Z,2μm,18.2s
USRK Ussuriysk Ar. 28.35 269 P **P** 20 34 44.0 +2.0
comp=Z,2.6nm,0.8s,baz=58,slow=12,SNR=5.2
comp=Z,2.6nm,0.8s
S31K Pelican 28.48 60 P **P** 20 34 40.5 -2.5
baz=282
H31M Peel River 28.62 43 P **P** 20 34 42.3 -1.9
baz=269
SKAG Skagway 28.66 56 P **P** 20 34 43.6 -1.0
baz=280
G31M Satah River 28.69 41 P **P** 20 34 42.9 -1.9
baz=267,SNR=15
WHY Whitehorse 28.69 54 P **P** 20 34 42.9 -2.2
baz=278
F31M Tsiigehtchic 28.92 40 P **P** 20 34 45.8 -1.1
baz=267,SNR=7.1
INK Inuvik 29.07 38 P **P** 20 34 47.1 -1.1
baz=265,SNR=12
SIT Sitka 29.16 61 P **P** 20 34 49.2 +0.1
baz=284
R32K Eaglecrest 29.30 59 P **P** 20 34 50.2 -0.2
baz=283,SNR=9.0
P32M Atlin 29.44 56 P **P** 20 34 52.0 +0.3
baz=281,SNR=15
S32K Killisnoo 29.46 60 P **P** 20 34 51.4 -0.3
S32K IAmb IAmb 20 34 54.9
comp=Z,48nm,1.0s
S32K Killisnoo 29.46 60 P **P** 20 34 51.8 +0.1
baz=284,SNR=7.5
MJAR Matsushiro Arr 29.46 250 P **P** 20 34 54.1 +2.1
MJAR Matsushiro Ar 29.46 250 P **P** 20 34 53.3 +1.3
comp=Z,2.0nm,1.0s,baz=37,slow=7.8,SNR=8.9
MJAR PcP **PcP** 20 37 57.5 +0.3
comp=Z,0.7nm,0.6s,baz=27,slow=0.9,SNR=2.2
MJAR LR LR 20 45 25.6
comp=Z,458nm,21.6s,baz=69,slow=34
comp=Z,2.0nm,1.0s
MAJO Matsushiro 29.46 250 P **P** 20 34 54.9 +2.9
MAJO Matsushiro 29.46 250 *i* P **P** 20 34 54.2 +2.2
MAJO pmax pmax
comp=Z,15nm,1.1s
N32M Quiet Lake 29.49 52 P **P** 20 34 52.6 +0.5
baz=279
P33M Teslin, Yukon 29.77 54 P **P** 20 34 55.3 +0.7
baz=280,SNR=22
PSTR Posyet 29.93 267 *i* P **P** 20 34 58.4 +2.3
MMPY Sheldon Lake, 30.14 49 P **P** 20 34 58.7 +0.8
baz=278,SNR=6.7
Q32M Nakina River 30.30 57 P **P** 20 35 00.4 +0.9
baz=283,SNR=21
BNX BinXian 30.31 275 ⇓P **P** 20 34 59.8 +0.4
BNX S **S** 20 40 00.8 +2.5
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,250nm,5.2s
BNX LR LR
comp=Z,1μm,21.1s
BNX LR LR
comp=Z,620nm,16.3s
BNX LR LR
comp=Z,820nm,19.0s
U33K Whale Pass 30.59 62 P **P** 20 35 03.2 +1.5
baz=287
CRAG Craig 30.78 64 P **P** 20 35 05.3 +1.9
CRAG Craig 30.78 64 P **P** 20 35 05.1 +1.7
baz=288
R33M Jennings River 30.86 56 P **P** 20 35 05.8 +1.6
baz=283,SNR=17
WRAK Wrangell Islan 30.91 62 P **P** 20 35 06.4 +1.9
baz=287,SNR=6.3
INU Inuyama 30.99 250 P **P** 20 35 04.5 -0.9
INU IAmb IAmb 20 35 07.4
comp=Z,66nm,1.8s
JHJ Hachijo jima 2 31.10 244 LR LR 20 45 24.9

comp=Z,272nm,19.6s,baz=59,slow=32
S34M Telegraph Cree 31.14 58 P **P 20 35 08.1 +1.6**
baz=285,SNR=16
DLBC Dease Lake 31.56 57 LR LR 20 48 20.0
comp=Z,7μm,22.0s,baz=265,slow=37
DLBC Dease Lake 31.56 57 P **P 20 35 11.0 +0.6**
baz=285,SNR=13
V35K Ketchikan 31.64 63 P **P 20 35 12.3 +1.2**
baz=289,SNR=9.7
TGTN Hyland Airport 31.71 51 P **P 20 35 12.5 +0.8**
baz=282,SNR=9.3
WTLY Watson Lake, Y 31.76 54 P **P 20 35 13.4 +1.2**
baz=283,SNR=9.1
T35M Bob Quinn 31.85 60 P **P 20 35 14.9 +1.9**
baz=287,SNR=25
DIB Dawson Inlet, 31.91 67 P **P 20 35 14.2 +0.7**
A36M Sachs Harbour 32.14 31 P **P 20 35 15.6 +0.4**
baz=267
MOBC Moresby Island 32.22 67 P **P 20 35 17.4 +1.2**
U35K Hyder 32.30 62 P **P 20 35 17.2 +0.4**
baz=289
C36M Paulatuk 32.52 36 P **P 20 35 18.9 +0.4**
baz=272,SNR=9.5
CN2 Changchun 32.52 273 *e*P **P 20 35 19.8 +0.9**
CN2 *es*P sP 20 35 26.0 -0.9
CN2 *e*S **S 20 40 32.5 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
HG4B Hotspring 32.98 68 P **P 20 35 24.2 +1.3**
HILR Hailar Array B 33.03 286 P **P 20 35 24.3 +0.9**
comp=Z,0.7nm,0.3s,baz=72,slow=11,SNR=4.6
HILR LR LR 20 48 59.9
comp=Z,812nm,20.4s,baz=75,slow=37
comp=Z,0.7nm,0.3s
BOD Bodaibo 33.07 303 *e*P **P 20 35 22.8 -0.7**
BOD pmax pmax
comp=Z,36nm,1.6s
HIA Hailar 33.16 286 P **P 20 35 26.8 +2.3**
HIA IAmb IAmb 20 35 31.1
comp=Z,59nm,1.9s
HIA Hailar 33.16 286 P **P 20 35 26.8 +2.3**
HIA pmax pmax
comp=Z,59nm,1.9s
LIRD Liard River Hi 33.26 54 P **P 20 35 26.4 +1.2**
baz=286,SNR=6.7
H11N2 WAKE ISLAND Hy 33.55 191 T T 21 10 59.8
baz=6.0,slow=76,SNR=1217
WRGLY Wrigley 33.56 47 P **P 20 35 29.9 +2.2**
baz=282,SNR=7.4
H11N3 WAKE ISLAND Hy 33.56 191 T T 21 11 01.5
baz=6.0,slow=76,SNR=77
H11N1 WAKE ISLAND Hy 33.56 191 T T 21 11 00.4
baz=6.0,slow=76,SNR=2861
TOAD Toad River Com 33.85 55 P **P 20 35 32.5 +2.2**
baz=288,SNR=27
KOTAN Kotaneelee Air 34.05 53 P **P 20 35 33.2 +1.2**
baz=287,SNR=10
BBB Bella Bella 34.76 67 P **P 20 35 39.1 +0.9**
BBB Bella Bella 34.76 67 LR LR 20 47 58.5
comp=Z,349nm,21.6s,baz=304,slow=33
H11S1 WAKE ISLAND Hy 34.78 191 T T 21 12 29.1
baz=5.8,slow=76,SNR=2465
H11S3 WAKE ISLAND Hy 34.79 191 T T 21 12 34.6
baz=5.8,slow=76,SNR=2841
H11S2 WAKE ISLAND Hy 34.79 191 T T 21 12 35.6
baz=5.8,slow=76,SNR=1510
KSRS Korea Array 34.88 262 P **P 20 35 41.6 +2.2**
comp=Z,5.5nm,1.0s,baz=55,slow=8.5,SNR=8.9
comp=Z,5.5nm,1.0s
KSAR Wonju Array Be 34.91 262 P **P 20 35 42.1 +2.4**
KSAR Wonju Array Be 34.91 262 P **P 20 35 42.1 +2.4**
CIT Chita 35.47 293 *e*P **P 20 35 44.8 +0.4**
CIT *e* 20 37 06.0
CIT *e* 20 38 16.4
CIT pmax pmax
comp=Z,82nm,2.5s
JNU Nakatsue 36.12 254 P **P 20 35 51.4 +1.2**
JNU IAmb IAmb 20 35 58.6
comp=Z,49nm,1.2s
JNU Nakatsue 36.12 254 LR LR 20 49 53.7
comp=Z,463nm,21.8s,baz=64,slow=35
CBB Campbell River 37.28 69 P **P 20 36 01.0 +1.1**
YKA Yellowknife Ar 37.66 46 P **P 20 36 02.7 -0.2**
YKA Yellowknife Ar 37.66 46 P **P 20 36 03.3 +0.4**
comp=Z,16nm,0.8s,baz=293,slow=9.2,SNR=23
comp=Z,16nm,0.8s
YKA Yellowknife Ar 37.66 46*ce*P **P 20 36 04.0 +1.1**
YKA pmax pmax
comp=Z,17nm,0.8s
OZB Mount Ozzard 37.73 71 P **P 20 36 05.1 +1.4**
KIP Kipapa 38.42 134*ce*P **P 20 36 11.7 +2.0**
KIP pmax pmax
comp=Z,129nm,2.5s
CLRS Cowichan Lake 38.58 70 P **P 20 36 11.8 +0.9**
CLRS IAmb IAmb 20 36 13.8
comp=Z,78nm,0.9s
LLLB Lillooet 38.95 67 P **P 20 36 14.9 +1.0**
LLLB IAmb IAmb 20 36 17.1
comp=Z,79nm,0.9s
B04A Port Angeles 39.33 71 P **P 20 36 18.0 +0.8**
B04A IAmb IAmb 20 36 20.2
comp=Z,131nm,1.3s
RES Resolute Bay 40.30 24 LR LR 20 55 09.4
comp=Z,286nm,19.6s,baz=245,slow=39
TLY Talaya 41.05 297 *i* P **P 20 36 31.6 +0.2**
TLY pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 41.16 291 P **P 20 36 32.8 +0.3**
ULN Ulaanbaatar 41.16 291 P **P 20 36 32.8 +0.3**
ULN pmax pmax
comp=Z,43nm,1.8s
COR Corvallis 41.36 75 P **P 20 36 34.9 +1.0**
COR Corvallis 41.36 75 P **P 20 36 34.9 +1.0**
COR pmax pmax
comp=Z,185nm,0.9s
SONM Songino Array 41.55 291 P **P 20 36 36.4 +0.7**
SONM Songino Array 41.55 291 P **P 20 36 36.4 +0.7**
comp=Z,2.4nm,0.5s,baz=63,slow=7.3,SNR=22
SONM PcP **PcP 20 38 33.3 +0.6**
comp=Z,1.4nm,0.7s,baz=62,slow=2.7,SNR=2.4
SONM ScP **ScP 20 42 21.2 -0.3**
comp=Z,1.7nm,0.9s,baz=48,slow=2.1,SNR=6.6
SONM LR LR 20 54 42.8
comp=Z,643nm,20.3s,baz=66,slow=37
comp=Z,2.4nm,0.5s
ZAK Zakamensk 41.92 296 *e*P **P 20 36 36.8 -1.8**
ZAK pmax pmax
comp=Z,17nm,1.8s
TIA Tai'an 42.21 270 P **P 20 36 42.5 +1.5**
TIA pmax pmax
comp=Z,7.0nm,0.5s
TIA pmax pmax
comp=Z,180nm,5.2s
TIA LR LR
comp=Z,210nm,25.4s
TIA LR LR
comp=Z,710nm,26.1s
TIA LR LR
comp=Z,850nm,28.2s
JOW Kunigami 42.31 250 P **P 20 36 45.0 +3.1**
JOW IAmb IAmb 20 36 50.4
comp=Z,49nm,0.9s
JOW Kunigami 42.31 250 LR LR 20 54 20.6
comp=Z,151nm,21.4s,baz=60,slow=36
HAWA Hanford 42.51 71 P **P 20 36 43.8 +0.4**
HAWA IAmb IAmb 20 36 45.7
comp=Z,74nm,0.9s
WIFE Three Sisters- 42.53 75 P **P 20 36 44.4 +0.6**
HHC Hu-ho-hao-te 42.59 279 *e*P **P 20 36 43.0 -1.2**
HHC sP pP 20 36 50.5 +0.2
HHC S **S 20 43 04.0 -1.9**
HHC SS **SS 20 46 06.5 -9.2**
HHC ScS **ScS 20 46 43.8 -0.6**
HHC pmax pmax
comp=Z,3.0nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.2s
HHC LR LR
comp=Z,710nm,15.5s
HHC LR LR
comp=Z,580nm,15.7s
HHC LR LR
comp=Z,510nm,15.5s
NEW Newport 42.82 67 P **P 20 36 46.4 +0.5**
NEW IAmb IAmb 20 36 47.9
comp=Z,62nm,0.9s
NEW Newport 42.82 67 LR LR 20 52 25.6
comp=Z,524nm,21.4s,baz=312,slow=33
NEW Newport 42.82 67 P **P 20 36 46.4 +0.5**
NEW pmax pmax
comp=Z,63nm,0.9s
HNS HongShan 42.89 273 ⇓P **P 20 36 49.5 +3.0**
HNS S **S 20 43 09.5 -0.5**
HNS SS **SS 20 46 16.3 -5.1**
HNS pmax pmax
comp=Z,40nm,1.1s
HNS LR LR
comp=Z,550nm,20.4s
HNS LR LR
comp=Z,580nm,20.3s
HNS LR LR
comp=Z,860nm,19.1s
SSE Sheshan 43.29 261 P **P 20 36 49.3 -0.5**
SSE S **S 20 43 16.8 +0.8**
SSE pmax pmax
comp=Z,13nm,0.9s
SSE pmax pmax
comp=Z,73nm,3.7s
SSE LR LR
comp=Z,270nm,18.8s
SSE LR LR
comp=Z,160nm,19.0s
KHMM Horse Mountain 43.32 80 P **P 20 36 51.4 +1.3**
KHMM IAmb IAmb 20 36 53.1
comp=Z,47nm,1.0s
YBH Yreka Blue Hor 43.40 78 P **P 20 36 52.0 +1.3**
YBH IAmb IAmb 20 36 53.7
comp=Z,56nm,1.0s
YBH Yreka Blue Hor 43.40 78 LR LR 20 54 04.6
comp=Z,33nm,18.3s,baz=286,slow=35
YBH Yreka Blue Hor 43.40 78 P **P 20 36 52.0 +1.3**
YBH pmax pmax
comp=Z,56nm,1.0s
M02C Callahan 43.52 79 P **P 20 36 52.8 +1.1**
M02C IAmb IAmb 20 36 54.8
comp=Z,40nm,1.1s
BTO Baotou 43.66 280 *e*P **P 20 36 52.5 -0.4**
BTO sP **pP 20 36 59.0 +0.1**
BTO S **S 20 43 22.8 +1.2**
BTO pmax pmax
comp=Z,10.0nm,0.4s
BTO pmax pmax
comp=Z,190nm,4.9s
BTO LR LR
comp=Z,2μm,16.5s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,3μm,19.1s
NJ2 Nanjing 44.01 264 *e*P **P 20 36 57.5 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,4.7s
NJ2 LR LR
comp=Z,380nm,18.7s
NJ2 LR LR
comp=Z,460nm,19.7s
NJ2 LR LR
comp=Z,520nm,15.9s
O02D Mt. Diablo Mer 44.31 80 P **P 20 36 58.9 +0.8**
O02D IAmb IAmb 20 37 00.9
comp=Z,38nm,1.2s
BLKN Baker Lake 44.47 38 P **P 20 36 58.9 +0.1**
BLKN IAmb IAmb 20 37 00.6
comp=Z,45nm,1.0s
JTMT Jette 44.69 66 P **P 20 37 01.5 +0.5**
HATC Hat Creek Radi 44.70 78 P **P 20 37 01.5 +0.3**
PLID Pearl Lake 45.28 70 P **P 20 37 05.8 -0.1**
GUMO Guam 45.32 221 LR LR 20 52 54.7
comp=Z,241nm,20.0s,baz=42,slow=32
MSO Missoula 45.41 67 P **P 20 37 06.8 +0.1**
MSO IAmb IAmb 20 37 08.5
comp=Z,56nm,1.1s
BEKR Beckworth 45.95 79 P **P 20 37 11.5 +0.3**
BEKR IAmb IAmb 20 37 13.1
comp=Z,28nm,1.1s
LYN LuoYang 46.14 272 P P 20 37 20.0 +7.5
LYN S **S 20 44 05.0 +7.7**
LYN pmax pmax
comp=Z,55nm,1.3s
LYN pmax pmax
comp=Z,290nm,5.7s
LYN LR LR
comp=Z,490nm,17.9s
LYN LR LR
comp=Z,780nm,22.7s
LYN LR LR
comp=Z,1μm,19.6s
NEEM North Greenlan 46.96 12 *i* P **P 20 37 19.5 +0.7**
NEEM IAmb IAmb 20 37 21.1
comp=Z,26nm,0.9s
EGMT Eagleton 47.00 63 P **P 20 37 19.5 +0.3**
FFC Flin Flon 47.08 52 P **P 20 37 20.0 +0.4**
FFC IAmb IAmb 20 37 21.6
comp=Z,28nm,1.1s
FFC Flin Flon 47.08 52 P **P 20 37 20.0 +0.4**
FFC pmax pmax
comp=Z,28nm,1.1s
WHN Wuhan 47.79 266 P **P 20 37 27.8 +2.4**
WHN S **S 20 44 24.0 +3.1**
WHN pmax pmax
comp=Z,62nm,0.9s
NVAR Mina Array Bea 48.10 79 P **P 20 37 28.2 +0.1**
NVAR **PcP 20 38 56.4 +0.9**
NVAR Mina Array Bea 48.10 79 P **P 20 37 28.6 +0.5**
comp=Z,20nm,0.8s,baz=298,slow=7.6,SNR=58
NVAR PcP **PcP 20 38 56.6 +1.1**
comp=Z,1.8nm,0.7s,baz=307,slow=5.4,SNR=1.9
NVAR LR LR 20 53 31.2
comp=Z,312nm,22.0s,baz=290,slow=31
comp=Z,20nm,0.8s
YHL Hebgen Lake 48.14 68 P **P 20 37 28.5 +0.1**
SPITS Spitsbergen Ar 48.35 354 P **P 20 37 28.7 -0.5**
comp=Z,2.7nm,0.5s,baz=59,slow=6.9,SNR=12
SPITS LR LR 20 56 31.5
comp=Z,312nm,21.7s,baz=14,slow=34
comp=Z,2.7nm,0.5s
SPITS Spitsbergen Ar 48.35 354 P **P 20 37 28.9 -0.3**
SPITS pmax pmax
comp=Z,59nm,1.2s
SPB2 Spitsbergen Ar 48.35 354 P **P 20 37 28.7 -0.5**
ELK Elko 48.41 74 P **P 20 37 30.6 +0.2**
ELK IAmb IAmb 20 37 32.6
comp=Z,17nm,0.7s
ELK Elko 48.41 74 LR LR 20 54 33.1
comp=Z,503nm,21.8s,baz=314,slow=32
ELK Elko 48.41 74 P **P 20 37 30.6 +0.2**
ELK pmax pmax
comp=Z,17nm,0.7s
XAN Xi'an 48.63 274 P P 20 37 38.0 +6.1
XAN pmax pmax
comp=Z,21nm,1.2s
XAN pmax pmax
comp=Z,200nm,5.5s
XAN LR LR
comp=Z,710nm,15.8s
XAN LR LR
comp=Z,1μm,17.7s
XAN LR LR
comp=Z,1μm,17.5s
YMP Mirror Lake Pl 48.78 67 P **P 20 37 33.8 +0.5**
YMP IAmb IAmb 20 37 35.6
comp=Z,37nm,0.9s
TPH Tonopah 48.98 78 P **P 20 37 34.9 +0.1**
TPH IAmb IAmb 20 37 36.8
comp=Z,58nm,1.2s
TPH Tonopah 48.98 78 P **P 20 37 34.9 +0.1**
TPH pmax pmax
comp=Z,58nm,1.2s
LOHW Long Hollow 49.24 69 P **P 20 37 37.0 +0.3**
LOHW IAmb IAmb 20 37 38.9
comp=Z,22nm,1.2s
ZAA0 Zalesovo Array 49.32 309 P **P 20 37 36.3 -0.6**
ZALV Zalesovo Beam 49.32 309 P **P 20 37 35.6 -1.3**
ZALV Zalesovo Beam 49.32 309 P **P 20 37 36.0 -0.9**
comp=Z,1.3nm,0.5s,baz=48,slow=5.2,SNR=7.6
ZALV PcP **PcP 20 38 59.6 +0.3**
comp=Z,1.4nm,0.7s,baz=58,slow=5.4,SNR=1.4
ZALV LR LR 21 00 11.9
comp=Z,664nm,18.5s,baz=55,slow=38
comp=Z,1.3nm,0.5s
DGMT Dagmar 49.69 60 P **P 20 37 39.7 -0.2**
ISA Isabella, Lake 49.84 82 P **P 20 37 40.8 -0.4**
ISA Isabella, Lake 49.84 82 P **P 20 37 40.8 -0.4**
ISA pmax pmax
comp=Z,12nm,1.1s
UPNV Upernavik 49.98 17 *i* P **P 20 37 42.7 +1.0**
UPNV IAmb IAmb 20 37 45.0
comp=Z,83nm,1.1s
MPMC Manual Prospec 50.16 81 P **P 20 37 43.9 0.0**
LZH Lanzhou 50.28 280 *e*P **P 20 37 46.8 +2.1**
LZH pP sP 20 37 52.0 -0.7
LZH S **S 20 44 57.0 +0.7**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,1μm,17.1s
LZH LR LR
comp=Z,940nm,16.8s
DAG Danmarks Havn 50.30 4 *i* P **P 20 37 44.0 -0.1**
DAG IAmb IAmb 20 37 46.5
comp=Z,8.7nm,0.9s
PD31 Pinedale Array 50.37 69 P **P 20 37 45.2 -0.1**
PD31 IAmb IAmb 20 37 47.2
comp=Z,56nm,1.1s
PDAR Pinedale Array 50.37 69 P **P 20 37 45.0 -0.4**
PDAR Pinedale Array 50.37 69 P **P 20 37 45.4 0.0**
comp=Z,32nm,0.8s,baz=302,slow=3.6,SNR=216
PDAR LR LR 20 57 43.9
comp=Z,249nm,21.0s,baz=330,slow=34
GTA Gaotai 50.45 286 *e*P **P 20 37 46.8 +0.9**
GTA S **S 20 44 58.8 +0.4**
GTA pmax pmax
comp=Z,11nm,0.6s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,1μm,17.4s
CTU Camp Tracy 50.46 72 P **P 20 37 46.6 +0.6**
CTU IAmb IAmb 20 37 47.9
comp=Z,21nm,0.9s
LZDM Lanzhou Array 50.46 280 LR LR 21 00 37.1
comp=Z,724nm,19.1s,baz=35,slow=38
ENH Enshi 50.92 270 P **P 20 37 50.5 +1.1**
PASC Pasadena Art C 51.03 83 P **P 20 37 49.8 -0.4**
PASC IAmb IAmb 20 37 51.5
comp=Z,44nm,1.5s
NIAQ Niaqornat 52.06 18 *i* P **P 20 37 58.8 +1.5**
NIAQ IAmb IAmb 20 37 59.9
comp=Z,28nm,0.6s
SAATT Saattut 52.41 17 *i* P **P 20 38 00.6 +0.7**
SAATT IAmb IAmb 20 38 03.1
comp=Z,13nm,0.8s
PFO Pinyon Flats O 52.45 82 P **P 20 38 00.7 -0.2**
PFO Pinyon Flats O 52.45 82 LR LR 20 55 55.2
comp=Z,382nm,21.2s,baz=287,slow=31
PFO Pinyon Flats O 52.45 82 P **P 20 38 00.7 -0.2**
PFO pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills 52.55 64 P **P 20 38 01.8 +0.2**
RSSD IAmb IAmb 20 38 02.9
comp=Z,31nm,0.8s
RSSD PcP **PcP 20 39 12.5 +0.8**
DBG Daneborg 52.68 5 *i* P **P 20 38 01.6 -0.2**
DBG IAmb IAmb 20 38 04.4
comp=Z,8.9nm,0.8s
ULM Lac du Bonnet 52.77 54 P **P 20 38 02.9 0.0**
comp=Z,50nm,0.9s,baz=304,slow=6.5,SNR=23
ULM LR LR 21 01 32.6
comp=Z,735nm,18.3s,baz=312,slow=37
comp=Z,50nm,0.9s
ULM Lac du Bonnet 52.77 54 *i* P **P 20 38 03.5 +0.6**
SUMG Summit 52.81 11 P **P 20 38 03.5 +0.1**
SUMG IAmb IAmb 20 38 05.8
comp=Z,42nm,1.4s
SUMG Summit 52.81 11 P **P 20 38 03.5 +0.1**
SUMG pmax pmax
comp=Z,42nm,1.4s
SUMG Summit 52.81 11 *i* P **P 20 38 03.6 +0.1**
W13A Hualapai Mount 52.96 79 P **P 20 38 05.3 +0.5**
CBX Cerro Bola 53.24 83 P **P 20 38 07.2 +0.4**
CBX IAmb IAmb 20 38 08.6
comp=Z,73nm,1.5s
GDH Godhavn 53.37 19 *i* P **P 20 38 07.6 +0.6**
GDH IAmb IAmb 20 38 08.9
comp=Z,42nm,1.0s
ZSN Zaisan 53.41 302 *e*P **P 20 38 08.2 +0.5**
ZSN Zaisan 53.41 302 *e*P **P 20 38 08.1 +0.5**
ILULI Ilulissat 53.87 18 *i* P **P 20 38 10.2 -0.4**
ILULI IAmb IAmb 20 38 12.1
comp=Z,17nm,0.8s
CD2 Chengdu 53.93 275 P **P 20 38 13.3 +1.6**
CD2 sP pP 20 38 18.3 +0.5
CD2 S **S 20 45 45.5 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,650nm,13.1s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,680nm,18.2s
GULI GuiLin 54.02 265 P **P 20 38 14.5 +2.1**
GULI S **S 20 45 51.3 +3.9**
GULI pmax pmax
comp=Z,16nm,1.2s
GULI pmax pmax
comp=Z,190nm,6.2s
GULI LR LR
comp=Z,270nm,18.4s
GULI LR LR
comp=Z,280nm,22.8s
GULI LR LR
comp=Z,320nm,18.6s
FRB Frobisher Bay 54.10 29 LR LR 21 03 51.2
comp=Z,264nm,19.2s,baz=310,slow=39
WUAZ Wupatki 54.16 77 P **P 20 38 14.5 +1.0**
WUAZ IAmb IAmb 20 38 16.0
comp=Z,59nm,1.4s
KURK Kurchatov 54.31 309 P **P 20 38 13.4 -0.7**
KURK Kurchatov 54.31 309 P **P 20 38 14.8 +0.7**
WMQ Urumqi 54.33 297 *e*P **P 20 38 14.8 +0.3**
WMQ pP sP 20 38 22.8 0.0
WMQ ScP **ScP 20 43 13.3 -2.0**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ LR LR
comp=Z,3μm,17.1s
WMQ LR LR
comp=Z,2μm,16.3s
WMQ LR LR
comp=Z,720nm,23.1s
KURBB Kurchatov Arra 54.41 309 P **P 20 38 14.8 -0.1**
comp=Z,7.3nm,0.5s,baz=49,slow=7.3,SNR=28
KURBB LR LR 21 02 32.1
comp=Z,519nm,18.5s,baz=161,slow=37
comp=Z,7.3nm,0.5s
ISCO Idaho Springs 54.56 69 P **P 20 38 17.4 +0.9**
ISCO IAmb IAmb 20 38 19.5
comp=Z,31nm,1.1s
ISCO Idaho Springs 54.56 69 P **P 20 38 17.4 +0.9**
ISCO pmax pmax
comp=Z,31nm,1.1s
MVCO Mesa Verde 54.67 73 P **P 20 38 17.5 +0.2**
MVCO IAmb IAmb 20 38 19.5
comp=Z,27nm,0.9s
MK31 Makanchi Array 55.15 303 P **P 20 38 19.2 -1.2**
MK31 Makanchi Array 55.15 303*ce*P **P 20 38 19.4 -1.0**
MKAR Makanchi Array 55.15 303 P **P 20 38 19.2 -1.2**
MKAR Makanchi Array 55.15 303 P **P 20 38 19.6 -0.8**
comp=Z,3.1nm,0.5s,baz=53,slow=6.0,SNR=74
MKAR LR LR 21 01 38.9
comp=Z,690nm,20.0s,baz=26,slow=36
comp=Z,3.1nm,0.5s
MAKZ Makanchi 55.30 303 P **P 20 38 20.1 -1.4**

MAKZ	**Makanchi**	**55.30 303**	P	**P**	**20 38 20.1 -1.4**	
MAKZ			pmax	pmax		
	comp=Z,10.0nm,1.0s					
GYA	**Guiyang**	**55.39 269**	⇑P	**P**	**20 38 25.8 +3.3**	
GYA			S	**S**	**20 46 06.8 +0.8**	
GYA			pmax	pmax		
	comp=Z,9.0nm,1.7s					
GYA			pmax	pmax		
	comp=Z,140nm,6.5s					
GYA			LR	LR		
	comp=Z,580nm,17.8s					
GYA			LR	LR		
	comp=Z,350nm,20.7s					
GYA			LR	LR		
	comp=Z,450nm,20.8s					
GOMU	**GeErMu**	**55.53 286**	P	**P**	**20 38 24.0 +0.3**	
GOMU			pP	pP	20 38 27.3 -2.5	
GOMU			sP	sP	20 38 31.3 -0.7	
GOMU			S	**S**	**20 46 08.3 +0.1**	
GOMU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
GOMU			LR	LR		
	comp=Z,950nm,18.0s					
GOMU			LR	LR		
	comp=Z,1μm,18.2s					
GOMU			LR	LR		
	comp=Z,330nm,18.2s					
ARCES	**ARCESS Array B**	**55.56 347**	P	**P**	**20 38 22.4 -0.6**	
ARCES	**ARCESS Array B**	**55.56 347**	P	**P**	**20 38 23.6 +0.6**	
	comp=Z,8.1nm,1.0s,baz=34,slow=8.8,SNR=5.9					
ARCES			LR	LR	21 04 41.8	
	comp=Z,183nm,19.1s,baz=32,slow=39					
	comp=Z,8.1nm,1.0s					
LVZ	**Lovozero**	**55.57 342**	P	**P**	**20 38 22.4 -0.7**	
LVZ	**Lovozero**	**55.57 342**	P	**P**	**20 38 22.4 -0.7**	
LVZ			pmax	pmax		
	comp=Z,111nm,1.6s					
SFJD	**Kangerlussuaq**	**55.87 19**	P	**P**	**20 38 24.8 -0.4**	
SFJD			IAmb	IAmb	20 39 55.7	
	comp=Z,55nm,1.5s					
SFJD	**Kangerlussuaq**	**55.87 19**	LR	LR	21 06 48.4	
	comp=Z,114nm,18.1s,baz=325,slow=41					
SFJD	**Kangerlussuaq**	**55.87 19**	P	**P**	**20 38 24.8 -0.4**	
SFJD			pmax	pmax		
	comp=Z,55nm,1.5s					
SFJD	**Kangerlussuaq**	**55.87 19**	*i* P	**P**	**20 38 25.3 +0.2**	
SFJD			IAmb	IAmb	20 38 26.2	
	comp=Z,15nm,0.6s					
SDCO	**Great Sand Dun**	**56.03 71**	P	**P**	**20 38 27.8 +0.7**	
JMIC	**Jan Mayen**	**56.34 1**	LR	LR	21 03 15.5	
	comp=Z,86nm,19.2s,baz=218,slow=37					
BVAR	**Borovoye Array**	**56.42 315**	P	**P**	**20 38 29.1 -0.2**	
	comp=Z,2.2nm,0.5s,baz=58,slow=6.5,SNR=13					
BVAR			LR	LR	21 04 23.0	
	comp=Z,802nm,19.3s,baz=47,slow=38					
	comp=Z,2.2nm,0.5s					
BORK	**Borovoye**	**56.44 315**	*ce*P	**P**	**20 38 29.6 +0.2**	
BORK			pmax	pmax		
	comp=Z,14nm,2.5s					
EYMN	**Ely**	**56.45 53**	P	**P**	**20 38 29.8 +0.1**	
TUC	**Tucson**	**56.76 79**	P	**P**	**20 38 32.2 +0.1**	
TUC			IAmb	IAmb	20 38 34.5	
	comp=Z,60nm,1.7s					
TUC	**Tucson**	**56.76 79**	P	**P**	**20 38 32.2 +0.1**	
TUC			pmax	pmax		
	comp=Z,60nm,1.7s					
ECSD	**EROS Data Cent**	**56.78 60**	P	**P**	**20 38 31.7 -0.3**	
ECSD			IAmb	IAmb	20 38 33.4	
	comp=Z,32nm,1.1s					
TBO	**Thunder Bay**	**56.97 52**	P	**P**	**20 38 33.5 +0.2**	
T25A	**Trinidad**	**57.07 71**	P	**P**	**20 38 35.0 +0.5**	
DY2G	**Dye2**	**57.16 18**	*i* P	**P**	**20 38 34.3 -0.4**	
DY2G			IAmb	IAmb	20 38 35.5	
	comp=Z,20nm,0.9s					
ANMO	**Albuquerque**	**57.43 74**	P	**P**	**20 38 36.9 -0.1**	
ANMO			IAmb	IAmb	20 38 39.5	
	comp=Z,28nm,1.1s					
ANMO	**Albuquerque**	**57.43 74**	LR	LR	21 03 04.4	
	comp=Z,394nm,18.8s,baz=50,slow=36					
ANMO	**Albuquerque**	**57.43 74**	*ce*P	**P**	**20 38 37.9 +0.9**	
ANMO			pmax	pmax		
	comp=Z,34nm,1.3s					
Y22A	**Socorro**	**57.85 75**	P	**P**	**20 38 40.5 +0.5**	
PZH	**PanZhiHua**	**58.33 273**	P	**P**	**20 38 45.0 +1.6**	
PZH			S	**S**	**20 46 44.3 -0.6**	
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			LR	LR		
	comp=Z,280nm,15.5s					
PZH			LR	LR		
	comp=Z,330nm,12.0s					
PZH			LR	LR		
	comp=Z,270nm,15.3s					
TDK	**Taldyqorghan**	**58.35 304**	*e*P	**P**	**20 38 43.5 +0.3**	
	comp=Z,9.7nm,0.9s					
TDK	**Taldyqorghan**	**58.35 304**	*e*P	**P**	**20 38 43.4 +0.3**	
TDK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
121A	**Cookes Peak, D**	**58.37 77**	P	**P**	**20 38 43.9 +0.3**	
121A			IAmb	IAmb	20 38 47.5	
	comp=Z,14nm,0.8s					
RTBA	**Rita Blanca**	**58.52 70**	P	**P**	**20 38 45.0 +0.4**	
ARTI	**Arti**	**58.65 324**	P	**P**	**20 38 44.7 -0.4**	
ARTI			IAmb	IAmb	20 39 05.7	
	comp=Z,22nm,1.0s					
ARTI	**Arti**	**58.65 324**	P	**P**	**20 38 44.6 -0.4**	
	comp=Z,4.0nm,0.5s,baz=43,slow=6.9,SNR=10					
ARTI			LR	LR	21 06 04.4	
	comp=Z,412nm,18.2s,baz=35,slow=38					
	comp=Z,4.0nm,0.5s					
ARTI	**Arti**	**58.65 324**	*c i* P	**P**	**20 38 45.3 +0.3**	
ARTI			S	**S**	**20 46 51.3 +3.2**	
ARTI			SS	**SS**	**20 50 37.5 -2.6**	
ARTI			pmax	pmax		
	comp=Z,38nm,2.8s					
QIZ	**Qiongzhong**	**59.08 261**	P	**P**	**20 38 48.0 -0.5**	
QIZ			S	**S**	**20 46 56.3 +1.8**	
QIZ			SS	**SS**	**20 50 55.3 +6.9**	
QIZ			pmax	pmax		
	comp=Z,29nm,1.4s					
QIZ			LR	LR		
	comp=Z,250nm,11.0s					
QIZ			LR	LR		
	comp=Z,320nm,12.5s					
QIZ			LR	LR		
	comp=Z,320nm,17.2s					
SHLS	**Shalkode**	**59.12 302**	*e*P	**P**	**20 38 47.2 -1.5**	
	comp=Z,16nm,1.3s					
SHLS	**Shalkode**	**59.12 302**	*e*P	**P**	**20 38 47.1 -1.5**	
SHLS			pmax	pmax		
	comp=Z,16nm,1.3s					
UZB	**Uzynbulak**	**59.36 302**	*e*P	**P**	**20 38 50.5 +0.2**	
UZB	**Uzynbulak**	**59.36 302**	*e*P	**P**	**20 38 50.4 +0.2**	
SATY	**Saty**	**59.73 302**	*e*P	**P**	**20 38 53.5 +0.6**	
	comp=Z,7.4nm,0.8s					
SATY	**Saty**	**59.73 302**	*e*P	**P**	**20 38 53.5 +0.6**	
SATY			pmax	pmax		
	comp=Z,7.0nm,0.8s					
SCIA	**State Center**	**59.84 60**	P	**P**	**20 38 53.8 +0.4**	
KIRV	**Kirov**	**59.88 330**	LR	LR	21 06 38.8	
	comp=Z,415nm,20.7s,baz=42,slow=38					
KIRV	**Kirov**	**59.88 330**	*i* P	**P**	**20 38 54.4 +1.0**	
PRZ	**Przheval'sk**	**60.15 302**	P	**P**	**20 38 54.9 -0.9**	
PRZ			IAmb	IAmb	20 39 21.3	
	comp=Z,27nm,1.1s					
PRZ	**Przheval'sk**	**60.15 302**	P	**P**	**20 38 54.9 -0.9**	
PRZ			pmax	pmax		
	comp=Z,27nm,1.1s					
MDOK	**Medeo**	**60.35 303**	*e*P	**P**	**20 38 57.4 +0.3**	
MDOK	**Medeo**	**60.35 303**	*e*P	**P**	**20 38 57.4 +0.3**	
AAA	**Alma-Ata**	**60.38 303**	*e*P	**P**	**20 38 57.3 0.0**	
	comp=Z,15nm,1.0s					
AAA	**Alma-Ata**	**60.38 303**	*e*P	**P**	**20 38 57.2 0.0**	
AAA			pmax	pmax		
	comp=Z,15nm,1.0s					
TNSS	**Tian-Shan**	**60.49 303**	*e*P	**P**	**20 38 58.5 +0.1**	
TNSS	**Tian-Shan**	**60.49 303**	*e*P	**P**	**20 38 58.5 +0.1**	
ELIS	**Ellis County**	**60.66 68**	P	**P**	**20 38 59.8 +0.6**	
KLMR	**Klimovskoe**	**60.69 336**	*e*P	**P**	**20 38 57.0 -1.9**	
KLMR			pmax	pmax		
	comp=Z,28nm,1.3s					
KLMR			MLR	MLR		
	comp=Z,1μm,16.0s					
SLVN	**Son La**	**60.89 267**	P	**P**	**20 39 00.7 -0.3**	
SLVN			IAmb	IAmb	20 39 09.4	
	comp=Z,64nm,1.8s					
TARG	**Taragay, Kyrgy**	**61.00 302**	P	**P**	**20 39 02.2 +0.4**	
TARG	**Taragay, Kyrgy**	**61.00 302**	P	**P**	**20 39 02.3 +0.4**	
TARG			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KDJ	**Kajisay**	**61.03 302**	P	**P**	**20 39 02.0 +0.2**	
KDJ			IAmb	IAmb	20 39 11.9	
	comp=Z,34nm,1.4s					
KDJ	**Kajisay**	**61.03 302**	P	**P**	**20 39 02.0 +0.2**	
KDJ			pmax	pmax		
	comp=Z,34nm,1.4s					
TNCH	**TengChong**	**61.37 274**	P	**P**	**20 39 06.5 +2.2**	
TNCH			pP	pP	20 39 09.0 -1.5	
TNCH			sP	sP	20 39 11.0 -1.7	
TNCH			S	**S**	**20 47 20.3 -3.8**	
TNCH			pmax	pmax		
	comp=Z,17nm,1.8s					
TNCH			pmax	pmax		
	comp=Z,180nm,4.1s					
TNCH			LR	LR		
	comp=Z,240nm,13.0s					
TNCH			LR	LR		
	comp=Z,330nm,14.6s					
TNCH			LR	LR		
	comp=Z,620nm,20.1s					
BOOM	**Boomskoye usch**	**61.40 303**	P	**P**	**20 39 03.8 -0.5**	
BOOM			IAmb	IAmb	20 39 33.4	
	comp=Z,17nm,1.0s					
BOOM	**Boomskoye usch**	**61.40 303**	P	**P**	**20 39 03.8 -0.5**	
BOOM			pmax	pmax		
	comp=Z,17nm,1.0s					
IVI	**Ivigtut**	**61.48 21**	P	**P**	**20 39 03.7 -0.5**	
IVI			IAmb	IAmb	20 39 06.0	
	comp=Z,37nm,1.0s					
SCHQ	**Schefferville**	**61.62 35**	P	**P**	**20 39 05.6 +0.2**	
SCHQ	**Schefferville**	**61.62 35**	P	**P**	**20 39 05.6 +0.2**	
	comp=Z,530nm,0.8s,baz=337,slow=6.8,SNR=43					
SCHQ			LR	LR	21 07 41.9	
	comp=Z,4μm,18.8s,baz=320,slow=38					
JAY	**Jayapura**	**61.68 218**	LR	LR	21 00 14.3	
	comp=Z,186nm,21.1s,baz=10.0,slow=31					
FRU1	**Bishkek**	**61.82 304**	P	**P**	**20 39 07.4 +0.4**	
FRU1	**Bishkek**	**61.82 304**	P	**P**	**20 39 07.4 +0.4**	
FRU1			pmax	pmax		
	comp=Z,59nm,1.5s					
SMPI	**Sarmi**	**61.96 220**	P	**P**	**20 39 09.1 +1.1**	
	comp=Z,29nm,1.4s					
AAK	**Ala-Archa**	**62.02 304**	P	**P**	**20 39 08.6 +0.1**	
AAK			IAmb	IAmb	20 39 31.7	
	comp=Z,11nm,0.8s					
AAK	**Ala-Archa**	**62.02 304**	LR	LR	21 05 58.5	
	comp=Z,382nm,20.0s,baz=44,slow=36					
AAK	**Ala-Archa**	**62.02 304**	P	**P**	**20 39 08.6 +0.1**	
AAK			pmax	pmax		
	comp=Z,11nm,0.9s					
BORG	**Borgarnes**	**62.07 7**	LR	LR	21 08 20.4	
	comp=Z,144nm,18.4s,baz=348,slow=38					
BAKI	**Biak**	**62.27 223**	P	P	20 39 15.4 +5.2	
	comp=Z,36nm,1.1s					
LSA	**Lhasa**	**62.32 283**	P	P	20 39 05.8 -5.2	
LSA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
LSA	**Lhasa**	**62.32 283**	P	**P**	**20 39 10.2 -0.8**	
LSA	**Lhasa**	**62.32 283**	P	**P**	**20 39 10.2 -0.8**	
LSA			pmax	pmax		
	comp=Z,12nm,1.0s					
HDIL	**Hopedale**	**62.85 58**	P	**P**	**20 39 13.5 -0.3**	
FINES	**FINESS Array B**	**62.99 343**	P	**P**	**20 39 13.9 -0.4**	
FINES	**FINESS Array B**	**62.99 343**	P	**P**	**20 39 14.0 -0.4**	
	comp=Z,3.2nm,0.8s,baz=17,slow=2.0,SNR=7.5					
FINES			LR	LR	21 08 59.2	
	comp=Z,229nm,21.2s,baz=40,slow=38					
	comp=Z,3.2nm,0.8s					
FINES	**FINESS Array B**	**62.99 343**	*ce*P	**P**	**20 39 14.3 -0.1**	
FINES			pmax	pmax		
	comp=Z,3.0nm,0.8s					
LPIG	**La Paz**	**63.04 85**	LR	LR	21 00 27.2	
	comp=Z,133nm,21.8s,baz=280,slow=30					
TXAR	**Lajitas Array**	**63.12 76**	P	**P**	**20 39 15.9 0.0**	
TXAR	**Lajitas Array**	**63.12 76**	P	**P**	**20 39 16.3 +0.4**	
	comp=Z,37nm,0.7s,baz=304,slow=4.0,SNR=358					
HNR	**Honiara**	**63.20 195**	LR	LR	21 02 41.7	
	comp=Z,177nm,20.3s,baz=5.0,slow=32					
DZA	**Taraz**	**63.39 306**	*e*P	**P**	**20 39 17.8 +0.3**	
	comp=Z,3.6nm,0.5s					
DZA	**Taraz**	**63.39 306**	*e*P	**P**	**20 39 17.7 +0.3**	
DZA			pmax	pmax		
	comp=Z,4.0nm,0.5s					
AKTO	**Aktyubinsk**	**63.44 320**	LR	LR	21 10 42.3	
	comp=Z,390nm,18.8s,baz=36,slow=40					
HHAR	**Hobbs**	**63.54 64**	P	**P**	**20 39 17.8 -0.6**	
HHAR			IAmb	IAmb	20 39 18.6	
	comp=Z,17nm,0.7s					
KSH	**Kashi**	**63.57 301**	P	**P**	**20 39 22.8 +4.0**	
KSH			pmax	pmax		
	comp=Z,20nm,1.4s					
KSH			LR	LR		
	comp=Z,910nm,23.4s					
KSH			LR	LR		
	comp=Z,1μm,22.0s					
KSH			LR	LR		
	comp=Z,450nm,16.5s					
AB31	**Akbulak array**	**63.60 318**	P	**P**	**20 39 18.6 0.0**	
ABKAR	**Akbulak array**	**63.60 318**	P	**P**	**20 39 18.1 -0.6**	
KK31	**Karatay Array**	**63.63 307**	P	**P**	**20 39 18.7 -0.3**	
KK31			IAmb	IAmb	20 39 28.8	
	comp=Z,27nm,1.3s					
KK31	**Karatay Array**	**63.63 307**	P	**P**	**20 39 18.7 -0.3**	
KK31			pmax	pmax		
	comp=Z,27nm,1.3s					
KKAR	**Karatay Array**	**63.63 307**	P	**P**	**20 39 18.4 -0.6**	
KKAR	**Karatay Array**	**63.63 307**	P	**P**	**20 39 18.4 -0.6**	
CCM	**Cathedral Cave**	**63.68 61**	P	**P**	**20 39 18.4 -1.0**	
CCM	**Cathedral Cave**	**63.68 61**	P	**P**	**20 39 18.4 -1.0**	
ARSB	**Arslanbob**	**63.75 304**	P	**P**	**20 39 19.9 -0.1**	
ARSB			IAmb	IAmb	20 39 35.0	
	comp=Z,19nm,1.1s					
ARSB	**Arslanbob**	**63.75 304**	P	**P**	**20 39 19.9 -0.1**	
ARSB			pmax	pmax		
	comp=Z,19nm,1.1s					
TNTI	**Ternate**	**64.45 233**	P	**P**	**20 39 25.7 +1.1**	
TNTI			IAmb	IAmb	20 40 42.7	
	comp=Z,13nm,0.5s					
JCT	**Junction City**	**64.52 73**	P	**P**	**20 39 25.3 +0.2**	
JCT	**Junction City**	**64.52 73**	P	**P**	**20 39 25.3 +0.2**	
JCT			pmax	pmax		
	comp=Z,70nm,0.8s					
SADO	**Sadowa**	**64.60 49**	LR	LR	21 07 41.3	
	comp=Z,5μm,20.7s,baz=350,slow=36					
CHM	**Chimkent**	**64.66 307**	*e*P	**P**	**20 39 26.2 +0.4**	
CHM	**Chimkent**	**64.66 307**	*e*P	**P**	**20 39 26.1 +0.4**	
OLIL	**Olney**	**64.82 59**	P	**P**	**20 39 26.8 0.0**	
DRIO	**Del Rio**	**64.83 74**	P	**P**	**20 39 26.9 -0.2**	
DRIO			IAmb	IAmb	20 39 28.4	
	comp=Z,28nm,1.1s					
SHL	**Shillong**	**64.95 280**	P	**P**	**20 39 26.8 -1.3**	
SHL			IAmb	IAmb	20 39 34.9	
	comp=Z,33nm,1.2s					
SHL	**Shillong**	**64.95 280**	P	**P**	**20 39 26.8 -1.3**	
SHL			pmax	pmax		
	comp=Z,33nm,1.2s					
MIAR	**Mount Ida**	**65.02 65**	P	**P**	**20 39 28.5 +0.3**	
MIAR	**Mount Ida**	**65.02 65**	P	**P**	**20 39 28.5 +0.3**	
MIAR			pmax	pmax		
	comp=Z,71nm,1.2s					
LCAR	**Lake Charles**	**65.20 63**	P	**P**	**20 39 28.3 -1.0**	
LCAR			IAmb	IAmb	20 39 29.7	
	comp=Z,14nm,0.7s					
NC204	**NORSAR Array S**	**65.25 351**	P	**P**	**20 39 29.0 -0.4**	
NB2	**NORSAR Subarra**	**65.44 351**	P	**P**	**20 39 32.0 +1.5**	
	comp=Z,0.9nm,0.5s,baz=12,slow=6.9					
NOA	**NORSAR Array B**	**65.44 351**	P	**P**	**20 39 31.1 +0.6**	
	comp=Z,4.4nm,1.0s,baz=12,slow=6.4,SNR=6.0					
NOA			LR	LR	21 11 04.6	
	comp=Z,90nm,18.8s,baz=20,slow=39					
	comp=Z,4.4nm,1.0s					
FAKI	**Fak Fak**	**65.47 226**	P	**P**	**20 39 30.6 -0.6**	
FAKI			IAmb	IAmb	20 39 38.8	
	comp=Z,31nm,1.0s					
BELG	**Belogornoye**	**65.59 327**	P	**P**	**20 39 31.3 -0.2**	
	comp=Z,12nm,0.8s,baz=64,slow=2.3,SNR=9.8					
	comp=Z,12nm,0.8s					
BELG	**Belogornoye**	**65.59 327**	*i* P	**P**	**20 39 32.6 +1.0**	
BELG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
MOS	**Moscow**	**65.66 334**	*e*P	**P**	**20 39 31.0 -1.0**	
MOS			MLR	MLR		
	comp=Z,600nm,17.0s					
DRK	**Karamyk**	**65.73 304**	P	**P**	**20 39 32.5 -0.6**	
DRK			IAmb	IAmb	20 39 43.6	
	comp=Z,57nm,1.7s					
DRK	**Karamyk**	**65.73 304**	P	**P**	**20 39 32.5 -0.6**	
DRK			pmax	pmax		
	comp=Z,57nm,1.7s					
CHTO	**Chiang Mai**	**65.81 269**	P	**P**	**20 39 34.2 +0.7**	
CHTO	**Chiang Mai**	**65.81 269**	P	**P**	**20 39 34.2 +0.7**	
CHTO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
HFS	**Hagfors**	**66.06 349**	P	**P**	**20 39 33.7 -0.8**	
	comp=Z,1.9nm,0.5s,baz=41,slow=2.9,SNR=13					
	comp=Z,1.9nm,0.5s					
CM31	**Chiang Mai Arr**	**66.08 269**	P	**P**	**20 39 35.5 +0.3**	
CMAR	**Chiang Mai Arr**	**66.08 269**	P	**P**	**20 39 35.8 +0.6**	
CMAR	**Chiang Mai Arr**	**66.08 269**	P	**P**	**20 39 36.4 +1.1**	
	comp=Z,2.6nm,0.7s,baz=21,slow=7.3,SNR=14					
CMAR			LR	LR	21 10 05.4	
	comp=Z,239nm,20.5s,baz=55,slow=38					
	comp=Z,2.6nm,0.7s					
CMAR	**Chiang Mai Arr**	**66.08 269**	P	**P**	**20 39 35.8 +0.6**	
WCI	**Wyandotte Cave**	**66.13 58**	P	**P**	**20 39 35.0 -0.3**	
WCI	**Wyandotte Cave**	**66.13 58**	P	**P**	**20 39 35.0 -0.3**	
WCI			pmax	pmax		
	comp=Z,41nm,1.0s					
EVN	**Everest**	**66.16 285**	P	**P**	**20 39 36.5 +0.1**	
ERPA	**Erie**	**66.25 51**	P	**P**	**20 39 36.1 +0.1**	
ACSO	**Alum Creek Sta**	**66.26 54**	P	**P**	**20 39 36.2 +0.1**	
ACSO			IAmb	IAmb	20 39 37.4	
	comp=Z,19nm,1.0s					
OBN	**Obninsk**	**66.49 335**	LR	LR	21 10 39.1	
	comp=Z,500nm,20.8s,baz=352,slow=38					
OBN	**Obninsk**	**66.49 335**	*i* P	**P**	**20 39 38.4 +1.1**	
OBN			*i*		20 39 50.7	
OBN			*i*		20 40 10.8	
OBN			pmax	pmax		
	comp=Z,6.0nm,1.0s					
OBN			MLR	MLR		
	comp=Z,473nm,18.0s					
NATX	**Nacogdoches**	**66.50 68**	P	**P**	**20 39 38.0 +0.3**	
MMNY	**Mt. Morris Dam**	**66.74 49**	P	**P**	**20 39 38.8 -0.3**	
GAR	**Garm**	**66.84 304**	P	**P**	**20 39 39.5 -0.5**	
WVT	**Waverly**	**66.92 60**	P	**P**	**20 39 40.2 -0.2**	
WVT	**Waverly**	**66.92 60**	P	**P**	**20 39 40.2 -0.2**	
WVT			pmax	pmax		
	comp=Z,36nm,0.9s					
KONO	**Kongsberg**	**66.97 351**	*ce*P	**P**	**20 39 39.7 -0.6**	
KONO			pmax	pmax		
	comp=Z,66nm,2.5s					
HKT	**Hockley**	**67.19 70**	P	**P**	**20 39 41.8 -0.3**	
HKT			IAmb	IAmb	20 39 44.0	
	comp=Z,23nm,0.8s					
HKT	**Hockley**	**67.19 70**	*i* P	**P**	**20 39 42.8 +0.7**	
HKT			pmax	pmax		
	comp=Z,26nm,0.9s					
BRDH	**Bariadhala**	**67.27 278**	LR	LR	21 11 15.0	
	comp=Z,309nm,19.1s,baz=34,slow=38					
MRSI	**Marisa**	**67.40 238**	P	**P**	**20 39 43.7 +0.1**	
	comp=Z,32nm,1.3s					
TOLI2	**Tolitoli**	**67.46 239**	P	**P**	**20 39 43.2 -0.8**	
TOLI2			IAmb	IAmb	20 39 50.8	
	comp=Z,19nm,1.0s					
CHGR	**Chuyangaron**	**67.68 305**	P	**P**	**20 39 45.1 -0.2**	
CHGR	**Chuyangaron**	**67.68 305**	P	**P**	**20 39 45.1 -0.2**	
CHGR			pmax	pmax		
	comp=Z,47nm,0.9s					
MCWV	**Mont Chateau**	**68.23 53**	P	**P**	**20 39 48.2 -0.5**	
LUWI	**Luwuk**	**68.28 236**	P	**P**	**20 39 48.7 -0.4**	
LUWI			IAmb	IAmb	20 40 02.1	
	comp=Z,40nm,1.1s					
LUWI	**Luwuk**	**68.28 236**	P	P	20 39 43.9 -5.2	
SSPA	**Standing Stone**	**68.40 51**	P	**P**	**20 39 49.0 -0.6**	
PKME	**Peaks-Kenny Pk**	**68.46 42**	P	**P**	**20 39 48.8 -1.1**	
PKME			IAmb	IAmb	20 39 51.2	
	comp=Z,24nm,1.1s					
TZTN	**Tazewell**	**68.82 57**	P	**P**	**20 39 52.1 -0.2**	
TZTN			IAmb	IAmb	20 39 54.1	
	comp=Z,28nm,0.8s					
W50A	**Signal Mountai**	**68.95 59**	P	**P**	**20 39 52.5 -0.7**	
MNK	**Minsk**	**69.11 339**	*i* P	**P**	**20 39 54.1 +0.3**	
MNK			*i*		20 40 17.8	
MNK			*i*		20 42 26.6	
MNK			*i* PPP	PPP	20 44 06.8	
MNK			*i* S	**S**	**20 49 00.4 +2.5**	
MNK			*i* SS	**SS**	**20 53 27.6 +4.8**	
MNK			pmax	pmax		
	comp=N,26nm,1.3s					
MNK			pmax	pmax		
	comp=Z,13nm,0.9s					
MNK			pmax	pmax		
	comp=E,11nm,0.9s					
MNK			MLR	MLR		
	comp=E,245nm,15.0s					
MNK			MLR	MLR		
	comp=Z,271nm,13.0s					
MNK			MLR	MLR		
	comp=N,391nm,17.0s					
CPCT	**Cooper Cave**	**69.17 59**	P	**P**	**20 39 53.9 -0.7**	
CPCT			IAmb	IAmb	20 39 55.8	
	comp=Z,40nm,1.1s					
VSR	**Storozhevoye**	**69.25 331**	*e*P	**P**	**20 39 54.1 -0.6**	
VSR			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TKL	**Tuckaleechee C**	**69.39 58**	P	**P**	**20 39 55.5 -0.4**	
TKL			IAmb	IAmb	20 39 56.8	
	comp=Z,17nm,0.8s					
TKL	**Tuckaleechee C**	**69.39 58**	LR	LR	21 12 01.9	
	comp=Z,640nm,18.2s,baz=318,slow=37					
TKL	**Tuckaleechee C**	**69.39 58**	P	**P**	**20 39 55.5 -0.4**	
TKL			pmax	pmax		
	comp=Z,17nm,0.8s					
VORD	**Divnogorie**	**69.43 331**	*e*P	**P**	**20 39 53.8 -2.1**	
VORD			pmax	pmax		
	comp=Z,4.0nm,0.9s					
NIL	**Nilore**	**69.44 299**	P	**P**	**20 39 55.6 -0.6**	
NIL			IAmb	IAmb	20 40 05.3	
	comp=Z,29nm,1.1s					
NIL	**Nilore**	**69.44 299**	P	**P**	**20 39 55.7 -0.6**	
NIL			pmax	pmax		
	comp=Z,29nm,1.1s					
LRAL	**Lakeview Retre**	**69.73 62**	P	**P**	**20 39 57.1 -0.9**	
LRAL			IAmb	IAmb	20 39 58.6	
	comp=Z,23nm,0.8s					
LMN	**Caledonia Moun**	**69.74 39**	P	**P**	**20 39 57.1 -0.8**	
LMN			IAmb	IAmb	20 39 59.1	
	comp=Z,46nm,1.2s					
SAUI	**Saumlaki**	**70.41 225**	P	**P**	**20 40 03.1 +0.8**	
SAUI	**Saumlaki**	**70.41 225**	P	P	20 40 10.9 +8.6	
KBL	**Kabul**	**70.94 302**	P	**P**	**20 40 04.8 -0.9**	
KBL			IAmb	IAmb	20 40 13.8	
	comp=Z,25nm,1.2s					
KBL	**Kabul**	**70.94 302**	P	**P**	**20 40 04.8 -0.9**	
KBL			pmax	pmax		
	comp=Z,25nm,1.3s					
SBUM	**Sibu**	**70.97 248**	P	**P**	**20 40 05.8 +0.1**	
SBUM			IAmb	IAmb	20 40 13.8	
	comp=Z,17nm,1.2s					
GOGA	**Godfrey**	**71.30 59**	P	**P**	**20 40 07.3 -0.2**	
GOGA			IAmb	IAmb	20 40 08.7	
	comp=Z,48nm,1.5s					
GOGA	**Godfrey**	**71.30 59**	P	**P**	**20 40 07.4 -0.2**	
GOGA			pmax	pmax		
	comp=Z,48nm,1.5s					
EKA	**Eskdalemuir Ar**	**72.02 358**	P	**P**	**20 40 10.5 -1.0**	
	comp=Z,3.0nm,0.6s,baz=8.7,slow=5.2,SNR=8.3					
	comp=Z,3.0nm,0.6s					
BBSI	**Bau Bau**	**72.21 234**	P	P	20 40

comp=Z,68nm,24.7s
TAOE eS **S** **20 49 44.9 -1.3**
comp=Z,65nm,22.2s
TAOE Nuku Hiva Isla 73.19 131 eLR LR 21 02 37.2
comp=Z,569nm,21.7s
KAPI Kappang 73.21 237 LR LR 21 08 26.5
comp=Z,64nm,21.0s,baz=42,slow=32
BKSI Bulukumba 73.29 236 P **P** **20 40 23.4 +3.8**
comp=Z,18nm,0.9s
LUBAR Lubar, Ukraine 73.42 338 P **P** **20 40 20.1 +0.1**
MAK Makhachkala 73.67 322 c iP **P** **20 40 17.1 -4.4**
MAK e 20 43 00.4
MAK ePPP PPP 20 44 45.5
MAK eS **SKiKP** **20 49 45.3 -4.5**
MAK eSS **SS** **20 54 29.4 -3.7**
MAK eSSS SSS 20 57 50.9
MAK pmax pmax
comp=Z,155nm,1.3s
MAK MLR MLR
comp=Z,704nm,16.0s
ERBR Yeremizino-Bor 73.72 328 eP **P** **20 40 22.9 +1.1**
ERBR eS **S** **20 49 54.8 +3.4**
ERBR pmax pmax
comp=Z,15nm,0.8s
ERBR MLR MLR
comp=Z,345nm,17.0s
BSSI Bau Bau, Buton 73.81 236 P **P** **20 40 25.0 +2.4**
HRA Herat 74.45 307 P **P** **20 40 26.3 -0.2**
BBKI Banjar Baru 74.45 242 P **P** **20 40 27.0 +0.6**
comp=Z,42nm,1.1s
KVAR Kislovodsk Arr 74.54 325 LR LR 21 16 32.4
comp=Z,256nm,21.6s,baz=279,slow=38
KIV Kislovodsk 74.54 325 P **P** **20 40 26.7 -0.1**
KIV Kislovodsk 74.54 325 eP **P** **20 40 27.6 +0.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,219nm,18.0s
LABN Labinsk 74.60 327 eP **P** **20 40 31.6 +4.7**
LABN pmax pmax
comp=Z,11nm,0.8s
KBZ Khabaz 74.67 325 P **P** **20 40 28.3 +1.0**
comp=Z,2.2nm,0.7s,baz=342,slow=1.6,SNR=7.1
KBZ LR LR 21 18 27.9
comp=Z,314nm,18.3s,baz=38,slow=40
comp=Z,2.2nm,0.7s
KBZ Khabaz 74.67 325 ceP **P** **20 40 29.0 +1.7**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 74.74 325 i P **P** **20 40 28.8 +0.7**
NDNU Novodnistrovsk 74.75 337 P **P** **20 40 28.5 +0.7**
CLL Collm 74.78 347 eP **P** **20 40 29.0 +1.1**
CLL Collm 74.78 347 eP **P** **20 40 29.0 +1.1**
CLL e(pP) **pP** **20 40 31.0 -2.7**
CLL ex x 20 40 50.0
KWP Kalwaria Pacla 74.78 341 P **P** **20 40 30.9 +3.0**
comp=Z,34nm,1.2s
MTN Manton Dam 74.85 223 P **P** **20 40 29.1 +0.5**
MTN IAmb IAmb 20 40 36.1
comp=Z,31nm,1.1s
AKT Akhty 74.86 321 eP **P** **20 40 28.1 -0.6**
AKT e 20 40 40.8
AKT ePPP PPP 20 45 00.8
AKT eS **S** **20 50 03.2 -1.4**
AKT pmax pmax
comp=Z,13nm,1.1s
SORM Soroca 74.95 337 ⇑P P 20 40 38.6 +10
KMPD K-Podol'skiy 74.99 338 P **P** **20 40 30.3 +1.2**
SOEI Soe 75.12 230 P **P** **20 40 31.0 +0.7**
SOEI IAmb IAmb 20 40 48.9
comp=Z,38nm,1.0s
SOEI Soe 75.12 230 P **P** **20 40 31.5 +1.1**
comp=Z,48nm,1.0s
DPC Dobruska-Polom 75.23 345 eP **P** **20 40 33.2 +2.6**
DPC Dobruska-Polom 75.23 345 eP **P** **20 40 33.2 +2.6**
DPC Dobruska-Polom 75.23 345 P **P** **20 40 32.4 +1.8**
STHS Stebnicka Huta 75.27 342 eP **P** **20 40 32.9 +2.1**
STHS Stebnicka Huta 75.27 342 eP **P** **20 40 32.9 +2.1**
KULM Kulim 75.37 259 P **P** **20 40 31.3 -0.5**
STEB Steborice 75.40 344 eP **P** **20 40 33.9 +2.4**
KRLC Kraliky 75.42 345 epP pP 20 40 37.5 -0.1
KRLC Kraliky 75.42 345 eP P 20 40 37.5 +5.8
NIE Niedzica 75.45 342 P **P** **20 40 34.2 +2.4**
comp=Z,5.9nm,2.9s
IPM Ipoh 75.79 258 P **P** **20 40 33.7 -0.6**
BATI Baumata 75.80 231 P **P** **20 40 33.5 -0.6**
comp=Z,36nm,0.9s
LANS Liptovska Anna 75.86 343 eP **P** **20 40 37.1 +2.9**
LANS Liptovska Anna 75.86 343 eP **P** **20 40 37.1 +2.9**
SOC Sochi 75.87 327 eP **P** **20 40 33.2 -1.1**
SOC e 20 43 19.3
SOC ePPP PPP 20 45 12.1
SOC eS **S** **20 50 16.4 +1.0**
SOC eSS **SS** **20 55 08.2 +1.8**
SOC MLR MLR
comp=Z,286nm,18.0s
MAUC Maruska 75.94 344 eP **P** 20 40 40.2 +5.6
BRIU Brid 75.95 340 P **P** **20 40 36.8 +2.2**
KORU Korolevo 76.10 340 P **P** **20 40 37.4 +1.9**
BUR08 Bucovina Ar. S 76.14 338 P **P** **20 40 35.9 0.0**
BUR08 IAmb IAmb 20 40 50.3
comp=Z,47nm,1.8s
BURAR Bucovina Array 76.16 338 P **P** **20 40 36.1 +0.1**
BURAR Bucovina Array 76.16 338 ⇓P **P** **20 40 37.4 +1.4**
BURAR Bucovina Array 76.16 338 ⇓P **P** **20 40 37.4 +1.4**
VRAC Vranov 76.20 345 P **P** **20 40 35.9 -0.2**
comp=Z,1.4nm,0.7s,baz=16,slow=7.3,SNR=5.1
VRAC LR LR 21 18 23.1
comp=Z,130nm,18.2s,baz=24,slow=39
comp=Z,1.4nm,0.7s
VRAC Vranov 76.20 345 eP **P** **20 40 36.5 +0.4**
SIM Simferopol' 76.36 331 P P 20 40 43.0 +5.9
SIM pmax pmax
comp=Z,8.0nm,0.9s
SIM MLR MLR
comp=Z,400nm,21.0s
JAVC Velka Javorina 76.45 344 eP **P** **20 40 39.3 +1.7**
KRUC Moravsky 76.47 345 eP **P** **20 40 40.1 +2.5**
KHC Kasperske Hory 76.83 346 eP **P** **20 40 42.3 +2.6**
KHC Kasperske Hory 76.83 346 ceP **P** **20 40 40.1 +0.4**
KHC pmax pmax
comp=Z,19nm,2.5s
KHC Kasperske Hory 76.83 346 P **P** **20 40 41.2 +1.5**
comp=Z,6.9nm,2.2s
PSZ Piszkesteto 76.97 342 P **P** **20 40 41.2 +0.7**
PSZ IAmb IAmb 20 41 03.6
comp=Z,29nm,1.4s
PSZ Piszkesteto 76.97 342 P **P** **20 40 41.2 +0.7**
PSZ pmax pmax
comp=Z,29nm,1.4s
MODS Modra-Piesok 76.99 344 eP **P** **20 40 44.0 +3.4**
MODS Modra-Piesok 76.99 344 eP **P** **20 40 44.0 +3.4**
GERES GERESS Array B 77.09 346 P **P** **20 40 40.9 -0.3**
comp=Z,0.4nm,0.5s,baz=23,slow=6.8,SNR=5.2
GERES LR LR 21 19 48.0
comp=Z,146nm,18.5s,baz=17,slow=40
comp=Z,0.4nm,0.5s
GNI Garni 77.14 322 LR LR 21 18 54.7
comp=Z,629nm,19.8s,baz=36,slow=39
GNI Garni 77.14 322 i P **P** **20 40 43.0 +1.2**
GNI pmax pmax
comp=Z,17nm,1.2s
GNI Garni 77.14 322 P **P** **20 40 44.5 +2.7**
comp=Z,15nm,1.0s
VLDR Vladesti 77.16 336 ⇑P **P** **20 40 43.7 +2.2**
PPT Papeete 77.23 144 LR LR 21 11 03.1
comp=Z,197nm,19.0s,baz=354,slow=33
PPT2 Papeete2 77.25 144 ePKIKP **P** **20 40 37.9 -4.4**
comp=Z,36nm,27.2s
PPT2 eS **S** **20 50 27.7 -3.3**
comp=Z,97nm,25.0s
PPT2 eSS **SS** **20 55 31.1 +1.4**
comp=Z,106nm,24.8s
PPT2 eLR LR 21 04 22.9
comp=Z,319nm,28.5s
PPT2 eLR LR 21 04 36.2
comp=Z,308nm,23.2s
PPT2 eLR LR 21 04 39.7
comp=Z,765nm,41.8s
TURR Turia 77.45 337 ⇑P **P** **20 40 46.8 +3.5**
VRI Vrincioaia 77.46 337 ⇑P **P** **20 40 44.7 +1.4**
VRI Vrincioaia 77.46 337 ⇑P **P** **20 40 44.7 +1.4**
DRGR 77.49 340 ⇑P **P** **20 40 45.1 +1.7**
DRGR 77.49 340 ⇑P **P** **20 40 45.1 +1.7**
RAR Rarotonga 77.49 154 LR LR 21 11 47.8
comp=Z,122nm,19.3s,baz=338,slow=33
PLOR Plostina 77.50 337 ⇑P P 20 40 49.4 +5.9
PLOR Plostina 77.50 337 ⇑P P 20 40 49.4 +5.9
MARR Marisel-Cluj 77.51 339 ⇑P **P** **20 40 45.9 +2.2**
CMIG Matias Romero 77.63 78 LR LR 21 12 41.4
comp=Z,118nm,20.4s,baz=348,slow=34
CONA Conrad Observa 77.66 345 i pP **P** **20 40 47.1 +2.7**
comp=Z,8.0nm,1.5s
DOPR Dopca 77.68 338 ⇓P **P** **20 40 47.3 +2.8**
CFR Carcaliu 77.77 336 ⇑P **P** **20 40 47.2 +2.3**
CFR Carcaliu 77.77 336 ⇑P **P** **20 40 47.2 +2.3**
RONA Rosalia, Austr 77.81 344 epP **P** **20 40 47.8 +2.6**
comp=Z,3.2nm,1.2s
NEHR Nehoiu 77.98 337 ⇑P P 20 40 51.1 +5.0
TPGR Topolog 77.99 335 ⇑P **P** **20 40 47.6 +1.4**
MLR Muntele Rosu 78.00 337 P **P** **20 40 45.9 -0.5**
MLR Muntele Rosu 78.00 337 LR LR 21 17 26.8
comp=Z,247nm,19.9s,baz=33,slow=37
MLR Muntele Rosu 78.00 337 ⇑P **P** **20 40 49.2 +2.8**
MLR Muntele Rosu 78.00 337 P **P** **20 40 45.9 -0.5**
MLR pmax pmax
comp=Z,11nm,1.1s
MLR Muntele Rosu 78.00 337 P **P** **20 40 49.1 +2.7**
comp=Z,13nm,2.8s
SIRR Siria 78.20 340 ⇑P **P** **20 40 49.2 +1.9**
BIOA Bad Ischl, Aus 78.23 346 i pP **P** **20 40 48.4 +0.9**
comp=Z,14nm,1.3s
ARSA Arzberg 78.37 345 i pP **P** **20 40 49.7 +1.4**
comp=Z,3.3nm,0.9s
KNRA Kununurra 78.38 224 P **P** **20 40 49.1 +0.5**
KNRA IAmb IAmb 20 41 02.6
comp=Z,21nm,1.1s
PSI Prapat 78.38 259 LR LR 21 19 09.8
comp=Z,78nm,18.3s,slow=38
ARR Arges 78.42 338 ⇑P **P** **20 40 50.2 +1.5**
SURR Surduc 78.60 340 ⇑P **P** **20 40 50.8 +1.3**
LESA Schwarzleotal 78.62 347 i pP **P** **20 40 50.4 +0.6**
comp=Z,6.1nm,1.4s
KOPT Kop Dagi 78.78 325 P **P** **20 40 50.9 -0.1**
GZR Gura Zlata 78.81 339 ⇑P **P** **20 40 51.1 +0.3**
GZR Gura Zlata 78.81 339 ⇑P **P** **20 40 51.1 +0.3**
RETA Reutte 78.81 348 eP **P** **20 40 50.6 -0.2**
comp=Z,12nm,1.7s
BZS Buzias 78.83 340 ⇑P **P** **20 40 52.2 +1.4**
BZS Buzias 78.83 340 ⇑P **P** **20 40 52.2 +1.4**
MORH Mrgy, Hungar 78.84 342 ⇑P **P** **20 40 52.2 +1.4**
MORH Mrgy, Hungar 78.84 342 P **P** **20 40 52.3 +1.4**
comp=Z,5.1nm,2.3s
WATA Walderalm 78.86 347 i pP **P** **20 40 53.3 +2.2**
comp=Z,7.2nm,1.3s
KBA Koelnbreinsper 78.87 346 epP **P** **20 40 54.8 +3.6**
comp=Z,7.0nm,0.7s
MOTA Moosalm 78.91 348 epP **P** **20 40 52.7 +1.2**
comp=Z,7.4nm,1.4s
WTTA Wattenberg 78.92 347 ePcP P 20 40 57.8 +6.3
comp=Z,5.0nm,0.8s
SOKA Soboth 79.00 345 epP **P** **20 40 54.1 +2.2**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 79.02 348 i pP **P** **20 40 54.1 +2.1**
comp=Z,16nm,1.7s
HYB Hyderabad 79.09 284 eP **P** **20 40 53.6 +0.8**
HYB IVmB_BB 20 40 54.4
comp=Z,832nm,3.6s
HYB eS **S** **20 50 51.3 +0.1**
DAVA Damuels 79.12 349 epP **P** **20 40 54.1 +1.5**
comp=Z,14nm,2.0s
OBKA Obir 79.24 345 epP **P** **20 40 55.7 +2.5**
comp=Z,4.6nm,0.8s
MYKA Terra Mystica 79.26 346 i P **P** **20 40 53.4 +0.1**
comp=Z,8.7nm,1.2s
FETA Feichten 79.28 348 i pP **P** **20 40 56.0 +2.5**
comp=Z,4.3nm,1.1s
ABTA Abfaltersbach 79.31 347 i pP **P** **20 40 55.5 +2.0**
comp=Z,5.9nm,1.0s
HERR Herculane 79.37 339 ⇑P **P** **20 40 55.5 +1.7**
PRED Cave del Predi 79.46 346 P **P** **20 40 53.1 -1.3**
GURO Guroymak-BITLI 79.54 323 P **P** **20 40 54.0 -1.0**
MDVR Moldovita 79.61 340 ⇑P **P** **20 40 56.6 +1.4**
FUORN Ofenpass-Fuorn 79.73 348 P **P** **20 40 55.7 -0.3**
WB0 Warramunga Arr 79.89 217 P **P** **20 40 56.4 -0.4**
WB0 IAmb IAmb 20 41 04.6
comp=Z,26nm,1.0s
WRAB Tennant Creek 80.06 217 ceP **P** **20 40 58.3 +0.6**
WRAB pmax pmax
comp=Z,18nm,1.3s
WRA Warramunga Arr 80.07 217 P **P** **20 40 57.4 -0.4**
WRA Warramunga Arr 80.07 217 P **P** **20 40 57.9 +0.1**
comp=Z,6.4nm,0.8s,baz=30,slow=5.5,SNR=46
WRA LR LR 21 19 51.1
comp=Z,23nm,18.5s,baz=350,slow=38
comp=Z,6.4nm,0.8s
WRA Warramunga Arr 80.07 217 P **P** **20 40 57.4 -0.4**
WRA pmax pmax
comp=Z,1.0nm,1.0s
PLVB Pleven 80.30 337 ⇑P **P** **20 40 57.8 -1.1**
ARPR Arapgir-MALATY 80.35 326 P **P** **20 40 58.7 -0.7**
BLKB Belogradchik 80.52 339 ⇑P **P** **20 40 01.0 +0.9**
BOVS Bovan 80.71 340 ⇓P **P** **20 41 01.5 +0.4**
TEOL Teolo 80.79 347 P **P** **20 41 01.6 +0.1**
TEOL IAmb IAmb 20 41 21.5
comp=Z,31nm,0.7s
KRJI Kerinci 80.82 254 P **P** **20 41 04.0 +1.9**
MARD Mardin 81.09 323 P **P** **20 41 03.3 -0.1**
LEM Lembang 81.18 246 LR LR 21 16 54.9
comp=Z,43nm,20.5s,baz=164,slow=36
BR106 Keskin Array S 81.29 330 P **P** **20 41 06.6 +2.2**
comp=Z,5.7nm,0.9s
BR131 Keskin Array S 81.29 330 P **P** **20 41 04.0 -0.4**
BR131 Keskin Array S 81.29 330 P **P** **20 41 04.0 -0.4**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 81.29 330 P **P** **20 41 04.6 +0.2**
BRTR Keskin Array B 81.29 330 P **P** **20 41 05.5 +1.0**
comp=Z,1.5nm,0.6s,baz=66,slow=3.2,SNR=11
BRTR LR LR 21 20 36.2
comp=Z,121nm,21.7s,baz=33,slow=38
comp=Z,1.5nm,0.6s
BRTR Keskin Array B 81.29 330 P **P** **20 41 04.6 +0.2**
BR105 Keskin Array S 81.30 330 P **P** **20 41 05.8 +1.3**
comp=Z,48nmcomp=Z,6.9nm,0.8s
BR104 Keskin Array S 81.30 330 P **P** **20 41 05.2 +0.7**
comp=Z,43nmcomp=Z,6.5nm,0.8s
BNN Bunyan 81.39 328 P **P** **20 41 05.2 +0.3**
ANTO Ankara 81.41 330 P **P** **20 41 07.2 +2.2**
comp=Z,2.4nm,1.2s
KIRS Kirsehir-Merke 81.75 329 ⇑P **P** **20 41 09.8 +3.1**
MNAI Manna 81.79 252 P **P** **20 41 07.5 +0.3**
FITZ Fitzroy Crossi 81.86 225 P **P** **20 41 08.4 +1.1**
FITZ Fitzroy Crossi 81.86 225 LR LR 21 13 04.5
comp=Z,99nm,20.1s,baz=4.5,slow=32
MSSA Maissana 82.09 348 P **P** **20 41 09.1 +0.6**
MSSA IAmb IAmb 20 41 35.2
comp=Z,14nm,0.9s
PDG Podgorica 82.37 341 ⇑P **P** **20 41 11.1 +1.3**
GAZ Gaziantep 82.46 326 P **P** **20 41 11.7 +1.2**
TBI Tubuai 82.61 146 eS **S** **20 51 20.7 -6.4**
comp=Z,2μm,30.8s
TBI Tubuai 82.61 146 eLR LR 21 06 55.6
comp=Z,1μm,28.2s
OSSC Osservatorio P 82.65 347 P **P** **20 41 11.7 +0.4**
OSSC IAmb IAmb 20 41 31.1
comp=Z,18nm,1.2s
AS31 Alice Springs 83.64 216 P **P** **20 41 17.4 +0.9**
ASAR Alice Springs 83.65 216 P **P** **20 41 17.3 +0.8**
ASAR Alice Springs 83.65 216 P **P** **20 41 17.7 +1.2**
comp=Z,3.3nm,0.7s,baz=13,slow=5.3,SNR=51
ASAR LR LR 21 20 17.8
comp=Z,56nm,18.5s,baz=313,slow=37
comp=Z,3.3nm,0.7s
ASAR Alice Springs 83.65 216 P **P** **20 41 17.3 +0.8**
ARMA Armidale 85.16 199 P **P** **20 41 24.8 +0.7**
BIDO Bidbid 85.41 304 P P 20 41 33.5 +7.8
CSS Mathiatis 85.76 328 P **P** **20 41 28.1 +0.9**
CSS IAmb IAmb 20 44 31.9
comp=Z,44nm,1.5s
HOQ Hoqain 85.77 304 P P 20 41 37.0 +10
PALK Pallekele 85.81 276 LR LR 21 23 06.7
comp=Z,217nm,20.5s,baz=28,slow=38
SMDO Samad 85.84 303 P P 20 41 38.4 +10
MMAI Mount Meron Ar 86.85 326 P **P** **20 41 33.3 +0.5**
comp=Z,0.3nm,0.4s,baz=14,slow=6.5,SNR=1.5
MMAI LR LR 21 24 48.4
comp=Z,156nm,18.1s,baz=54,slow=39
comp=Z,0.3nm,0.4s
ASF Jabal al Asfar 87.10 324 LR LR 21 26 42.5
comp=Z,188nm,18.8s,baz=90,slow=40
ESDC Sonseca Array 87.70 358 P **P** **20 41 35.9 -0.8**
ESDC Sonseca Array 87.70 358 P **P** **20 41 36.6 -0.1**
comp=Z,1.2nm,0.9s,baz=359,slow=4.9,SNR=6.8
comp=Z,1.2nm,0.9s
JTS Las Juntas de 88.85 75 LR LR 21 21 46.8
comp=Z,72nm,21.6s,baz=300,slow=36
STKA Stephens Creek 88.90 207 P **P** **20 41 42.8 +0.7**
STKA Stephens Creek 88.90 207 P **P** **20 41 43.4 +1.3**
comp=Z,6.4nm,0.8s,baz=346,slow=7.6,SNR=11
STKA LR LR 21 16 40.1
comp=Z,99nm,19.8s,baz=0.2,slow=32
comp=Z,6.4nm,0.8s
STKA Stephens Creek 88.90 207 P **P** **20 41 42.8 +0.7**
STKA pmax pmax
comp=Z,60nm,1.1s
EIL Elat 90.06 325 LR LR 21 29 04.1
comp=Z,128nm,18.7s,baz=333,slow=40
DR12 Loma Pena Alta 90.46 57 P **P** **20 41 50.2 +0.2**
KEST Kesra 90.56 347 P **P** **20 41 49.9 -0.4**
KEST IAmb IAmb 20 41 51.5
comp=Z,30nm,1.9s
KEST Kesra 90.56 347 P **P** **20 41 50.8 +0.5**
comp=Z,2.7nm,1.0s,baz=0.0,slow=4.0,SNR=2.3
KEST LR LR 21 25 38.0
comp=Z,102nm,18.2s,baz=343,slow=38
comp=Z,2.7nm,1.0s
URZ Urewera 90.92 177 LR LR 21 23 04.7
comp=Z,79nm,18.2s,baz=352,slow=36
FORT Forrest 92.23 218 P **P** **20 41 58.0 +0.4**
FORT IAmb IAmb 20 42 29.1
comp=Z,8.9nm,1.1s
SJG San Juan 92.66 55 LR LR 21 26 48.8
comp=Z,175nm,18.7s,baz=336,slow=38
SDV Santo Domingo 98.07 64 LR LR 21 29 53.6
comp=Z,107nm,18.7s,baz=339,slow=37
NWAO Narrogin (SRO) 98.45 225 LR LR 21 26 27.1
comp=Z,144nm,18.5s,baz=244,slow=35
ROSC El Rosal 99.37 69 LR LR 21 31 16.0
comp=Z,66nm,19.2s,baz=43,slow=38
VNDA Vanda 130.42 183 **PKiKP** **20 47 58.2 +0.5**
VNDA Vanda 130.42 183 PKP **PKiKP** **20 47 57.9 +0.1**
comp=Z,0.4nm,0.7s,baz=3.1,slow=4.2,SNR=3.9
SBA Scott Base 130.62 182 **PKiKP** **20 47 58.8 +0.7**
SBA Scott Base 130.62 182 PKIKP **PKiKP** **20 47 58.8 +0.7**
CPUP Villa Florida 134.08 75 PKP **PKPdf** **20 48 04.0 -1.3**
comp=Z,0.3nm,0.6s,baz=243,slow=3.0,SNR=3.3
CPUP Villa Florida 134.08 75 PKIKP **PKPdf** **20 48 04.0 -1.3**
PLCA Paso Flores 136.07 100 **PKPdf** **20 48 07.2 -1.5**
PLCA Paso Flores 136.07 100 **PKPdf** **20 48 09.1 +0.4**
comp=Z,3.1nm,0.9s,baz=343,slow=5.5,SNR=4.5
PLCA Paso Flores 136.07 100 PKIKP **PKPdf** **20 48 07.2 -1.5**
QSPA South Pole Qui 142.72 180 PKP **PKPdf** **20 48 18.7 -1.2**
comp=Z,2.1nm,0.7s,baz=54,slow=0.4,SNR=22
MAW Mawson 144.73 218 PKP PKPbc 20 48 22.7 +0.3
comp=Z,20nm,0.7s,baz=80,slow=3.8,SNR=98
BOSA Boshof 146.16 303 **PKPdf** **20 48 27.8 +0.6**
BOSA Boshof 146.16 303 PKPbc **PKPbc** **20 48 28.3 +0.1**
comp=Z,4.9nm,0.6s,baz=23,slow=3.0,SNR=14
BOSA Boshof 146.16 303 PKP2 **PKPdf** **20 48 27.8 +0.6**
SMAI San Martin Ant 148.25 142 PKPbc **PKPbc** **20 48 33.3 +0.6**
BELA Belgrano 2 153.04 167 **PKPbc** **20 48 43.7 -0.1**
SYO Syowa Base 153.31 215 ⇓ epPKPdf **PKiKP** **20 48 45.3 +0.6**
SYO Syowa Base 153.31 215 ⇑ ePKiKP **PKiKP** **20 48 48.5 +3.8**
NVL N'lazarevskaya 160.29 198 ePKIKP **PKPdf** **20 48 47.5 +1.5**
NVL e 20 53 10.5
NVL ePPP PPP 20 56 53.6
NVL eSSS SSS 21 19 35.5
NVL pmax pmax
comp=Z,8.0nm,1.0s
NVL pmax pmax
comp=E,75nm,8.4s
TROLL Troll, Antarti 160.47 189 ⇑P **PKPab** **20 49 27.3 -0.5**
comp=Z,124nm,0.7s
SNAA Sanae 161.15 184 PKPab **PKPab** **20 49 30.2 -0.4**
comp=Z,1.2nm,0.8s,baz=176,slow=4.0,SNR=3.6
VNA3 Neumayer Olymp 161.61 177 P **PKPab** **20 49 31.8 -0.9**

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*SNET **26** 21:11:26.0±1.1, 12°.63N×87°.97W, h55km±999km, ML3.6*
*CATAC **26** 21:11:26.6±0.5, 13°N±4°×8°8W±°, h38km±5km, M3.6/18, MLv3.6/18, Error ellipse: s-maj=10.8km s-min=3.1km az=28.5, confirmed*

ISC 26 21:11:26.3±1.5, 12°.65N±0°.09×87°.95W±0°.06, h60km±16km, n36, σ0°73/45, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.50**	**49**	P	P	**Pn**	**21 11 38.1**	**-0.3**
CSGN				S	S	**Sn**	**21 11 47.2**	**0.0**
POTN	**Potosi Cosigui**	**0.56**	**51**	P	P	**Pn**	**21 11 38.8**	**-0.1**
POTN				S	S	**Sn**	**21 11 48.4**	**+0.4**
CNCH	**Conchagua**	**0.64**	**10**	eP	P	**Pn**	**21 11 39.7**	**-0.2**
CNCH				eS	S	**Sn**	**21 11 50.2**	**+0.3**
CNCH	**Conchagua**	**0.64**	**10**	P	P	**Pn**	**21 11 39.8**	**-0.2**
LCND	**La Caada**	**0.66**	**5**	⇓ iP	P	**Pn**	**21 11 39.9**	**-0.2**
LCND				eS	S	**Sn**	**21 11 50.9**	**+0.7**
LCY	**Lacayo**	**0.84**	**336**	eP	P	**Pn**	**21 11 42.2**	**-0.3**
RANC	**El Ranchito**	**0.85**	**337**	eP	P	**Pn**	**21 11 42.5**	**-0.1**
RANC	**El Ranchito**	**0.85**	**337**	P	P	**Pn**	**21 11 42.7**	**+0.1**
CRIN	**San Cristobal**	**0.88**	**86**	S	S	**Sn**	**21 11 56.6**	**+1.6**
CRIN	**San Cristobal**	**0.88**	**86**	P	P	**Pn**	**21 11 43.1**	**+0.3**
PACA	**Pacayal**	**0.90**	**336**	eP	P	**Pn**	**21 11 43.0**	**-0.2**
PACA	**Pacayal**	**0.90**	**336**	P	P	**Pn**	**21 11 42.8**	**-0.4**
PACA	**Pacayal**	**0.90**	**336**	S	S	**Sn**	**21 11 56.1**	**+0.5**
PKGN	**Cerro Pekin**	**0.95**	**88**	P	P	**Pn**	**21 11 43.9**	**+0.3**
PKGN				S	S	**Sn**	**21 11 56.7**	**+0.2**
TECA	**Tecapa**	**1.00**	**327**	eP	P	**Pn**	**21 11 44.3**	**-0.3**
TECA				eS	S	**Sn**	**21 11 57.5**	**-0.6**
QUEN	**Al S del Volca**	**1.07**	**93**	P	P	**Pn**	**21 11 45.5**	**+0.2**
HERN	**Volcan Telica**	**1.09**	**92**	P	P	**Pn**	**21 11 44.5**	**-1.1**
HERN	**Volcan Telica**	**1.09**	**92**	S	S	**Sn**	**21 11 59.3**	**-0.6**
HOYN	**Al Sur del Vol**	**1.09**	**92**	P	P	**Pn**	**21 11 45.8**	**+0.2**
POLN	**Al Sur del Vol**	**1.11**	**90**	P	P	**Pn**	**21 11 43.8**	**-1.9**
POLN				S	S	**Sn**	**21 11 58.2**	**-2.1**
CNGA	**Al SSO del Vol**	**1.23**	**97**	P	P	**Pn**	**21 11 47.3**	**0.0**
CNGN	**Cerro Negro**	**1.23**	**97**	P	P	**Pn**	**21 11 47.2**	**-0.2**
CNGN	**Cerro Negro**	**1.23**	**97**	S	S	**Sn**	**21 12 03.6**	**+0.5**
UESV	**Universidad de**	**1.28**	**320**	S	S	**Sn**	**21 12 04.3**	**-0.1**
COPN	**Copaltepe**	**1.40**	**109**	P	P	**Pn**	**21 11 49.6**	**-0.1**
MOM2	**El Cardon**	**1.44**	**98**	P	P	**Pn**	**21 11 50.4**	**+0.2**
MOM2				S	S	**Sn**	**21 12 08.6**	**+0.4**
LFRS	**El Faro**	**1.46**	**312**	eP	P	**Pn**	**21 11 50.2**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.55**	**25**	P	P	**Pn**	**21 11 52.1**	**+0.3**
LOMA	**Loma Larga**	**1.55**	**310**	eP	P	**Pn**	**21 11 51.5**	**-0.3**
LOMA	**Loma Larga**	**1.55**	**310**	S	S	**Sn**	**21 12 10.6**	**-0.4**
LOMA	**Loma Larga**	**1.55**	**310**	P	P	**Pn**	**21 11 53.0**	**+1.1**
LIMN	**Finca el Limon**	**1.60**	**75**	P	P	**Pn**	**21 11 52.3**	**-0.1**
MAS3	**Al N del Volca**	**1.84**	**109**	P	P	**Pn**	**21 11 57.2**	**+1.6**
MAS3				S	S	**Sn**	**21 12 16.8**	**-1.0**
RCVN	**Varillal2**	**1.95**	**61**	P	P	**Pn**	**21 11 57.6**	**+0.5**
MATN	**Matagalpa**	**1.99**	**82**	P	P	**Pn**	**21 11 56.5**	**-1.2**
RCPN	**Sur Rio San Ju**	**2.01**	**64**	P	P	**Pn**	**21 11 58.5**	**+0.5**

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*WEL **26** 21:14:16.1±0.4, 42°S±2°×17°4E±°, h11km±3km, M3.2/26, ML3.4/19, MLv3.2/26, Error ellipse: s-maj=3.4km s-min=2.8km az=143.7, confirmed*
*NOU **26** 21:14:17.2, 41°.66S×174°.26E, h1km, MLv3.7/10, Cook Strait, New Zealand*

ISC 26 21:14:16.3±0.8, 41°.70S±0°.02×174°.27E±0°.02, h17km±6km, n83, σ0°98/94, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**221**	P	P	**Pg**	**21 14 19.7**	**+0.1**
CMWZ				S	S	**Sg**	**21 14 22.7**	**+0.8**
SDNS	**Seddon**	**0.11**	**291**	P	P	**Pb**	**21 14 19.7**	**-0.2**
SDNS				S	S	**Sb**	**21 14 22.5**	**+0.3**
SEDS	**Seddon Fire St**	**0.15**	**281**	P	P	**Pb**	**21 14 20.1**	**-0.5**
SEDS				S	S	**Sb**	**21 14 23.2**	**-0.2**
WDFS	**Ward Fire Stat**	**0.16**	**218**	P	P	**Pb**	**21 14 21.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.29**	**267**	P	P	**Pg**	**21 14 22.5**	**-0.2**
BSWZ				S	S	**Sg**	**21 14 27.3**	**+0.2**
MGCS	**Blenheim Marlb**	**0.31**	**308**	P	P	**Pg**	**21 14 22.5**	**-0.5**
MGCS				S	S	**Sg**	**21 14 27.5**	**-0.1**
KEKS	**Kekerengu Vall**	**0.33**	**220**	P	P	**Pg**	**21 14 23.9**	**+0.5**
TUWZ	**Tuamarina**	**0.37**	**318**	P	P	**Pg**	**21 14 23.7**	**-0.3**
TUWZ				S	S	**Sg**	**21 14 28.6**	**-0.5**
GLOS	**29 km south-we**	**0.37**	**245**	P	P	**Pg**	**21 14 24.5**	**+0.5**
BWRS	**Waikakaho Road**	**0.38**	**314**	P	P	**Pg**	**21 14 23.5**	**-0.7**
BWRS				S	S	**Sg**	**21 14 29.1**	**-0.4**

TCW	**Tory Channel**	**0.49**	**1**	P		**Pg**	**21 14 25.4 -0.8**
TCW				S		**Sg**	**21 14 31.8 -1.0**
SNZO	**South Karori**	**0.51**	**40**	P		**Pg**	**21 14 26.0 -0.5**
SNZO	**South Karori**	**0.51**	**40**	S		**Sg**	**21 14 33.4 0.0**
BHW	**Baring Head**	**0.54**	**57**	P		**Pg**	**21 14 27.2 +0.1**
WEL	**Wellington**	**0.56**	**42**	P		**Pg**	**21 14 27.2 -0.2**
WEL				S		**Sg**	**21 14 35.3 +0.3**
PLWZ	**Palliser**	**0.75**	**80**	P		**Pg**	**21 14 31.6 +0.6**
MSWZ	**Moikau Station**	**0.79**	**69**	P		**Pb**	**21 14 32.0 +0.4**
MSWZ				S		**Sn**	**21 14 44.7 +0.7**
NNZ	**Nelson**	**0.82**	**306**	P		**Pb**	**21 14 31.4 -0.8**
CAW	**Cannon Point**	**0.84**	**46**	P		**Pb**	**21 14 32.2 -0.3**
KHZ	**Kahutara**	**0.90**	**217**	P		**Pb**	**21 14 33.9 +0.5**
KHZ	**Kahutara**	**0.90**	**217**	S		**Sn**	**21 14 47.7 +1.0**
KHZ	**Kahutara**	**0.90**	**217**	P		**Pb**	**21 14 34.1 +0.7**
PAWZ	**Paruwai Farm**	**0.93**	**70**	P		**Pb**	**21 14 34.1 +0.1**
DUWZ	**D'Urville Isla**	**0.94**	**344**	P		**Pb**	**21 14 33.3 -0.8**
KIW	**Kapiti Island**	**0.97**	**30**	P		**Pb**	**21 14 34.0 -0.6**
KIW				S		**Sb**	**21 14 46.9 -0.2**
THZ	**Tophouse**	**1.02**	**266**	P		**Pb**	**21 14 35.3 -0.3**
MTW	**Mount Morrison**	**1.07**	**60**	P		**Pb**	**21 14 36.0 -0.4**
TRWZ	**Traveller**	**1.11**	**75**	P		**Pb**	**21 14 36.3 -0.7**
OGWZ	**Otaki Gorge**	**1.11**	**38**	P		**Pn**	**21 14 36.6 -0.5**
MRNZ	**Matariki Terra**	**1.17**	**284**	P		**Pn**	**21 14 38.1 +0.1**
TKNZ	**Takaka Hill**	**1.19**	**304**	P		**Pn**	**21 14 37.8 -0.4**
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P		**Pn**	**21 14 38.4 -0.4**
TMWZ	**Te Maipa**	**1.36**	**65**	P		**Pn**	**21 14 39.7 -0.8**
MRZ	**Mangatainoka R**	**1.44**	**44**	P		**Pn**	**21 14 41.2 -0.3**
GVZ	**Greta Valley S**	**1.56**	**215**	P		**Pn**	**21 14 43.0 -0.3**
QRZ	**Quartz Range**	**1.58**	**303**	P		**Pn**	**21 14 44.1 +0.6**
QRZ	**Quartz Range**	**1.58**	**303**	P		**Pn**	**21 14 44.3 +0.8**
OHWZ	**Ohakea**	**1.69**	**28**	P		**Pb**	**21 14 47.2 +0.3**
PRWZ	**Pori Road**	**1.72**	**49**	P		**Pn**	**21 14 44.8 -0.7**
POWZ	**Post Office Ro**	**1.73**	**41**	P		**Pn**	**21 14 45.9 +0.3**
BFZ	**Birch Farm**	**1.81**	**56**	P		**Pn**	**21 14 46.0 -0.7**
DSZ	**Denniston Nort**	**1.84**	**268**	P		**Pn**	**21 14 48.2 +1.0**
AMCZ	**Amberley**	**1.90**	**219**	P		**Pn**	**21 14 47.2 -0.7**
WAZ	**Wanganui**	**2.02**	**16**	P		**Pb**	**21 14 52.8 +0.2**
OKCZ	**Okains Bay**	**2.21**	**203**	P		**Pn**	**21 14 50.9 -1.3**
PNHZ	**Pukenui**	**2.31**	**40**	P		**Pn**	**21 14 53.0 -0.6**
WPHZ	**Waipukurau**	**2.32**	**46**	P		**Pn**	**21 14 52.5 -1.2**
MQZ	**McQueen's Vall**	**2.33**	**210**	P		**Pn**	**21 14 51.9 -1.9**
INZ	**Inchbonnie**	**2.33**	**243**	P		**Pn**	**21 14 54.1 +0.2**
PREZ	**Palmer Road**	**2.36**	**358**	P		**Pb**	**21 14 57.9 -0.5**
AKCZ	**Akaroa Harbour**	**2.39**	**204**	P		**Pn**	**21 14 53.2 -1.4**
KHEZ	**Kahui Hut**	**2.41**	**355**	P		**Pb**	**21 14 58.1 -1.2**
KHEZ	**Kahui Hut**	**2.41**	**355**	P		**Pb**	**21 14 58.9 -0.4**
NBEZ	**Newall Road No**	**2.45**	**353**	P		**Pb**	**21 15 00.8 +0.9**
PKE	**Pukeiti**	**2.51**	**355**	P		**Pb**	**21 14 59.6 -1.4**
PKVZ	**Pokaka**	**2.55**	**19**	P		**Pb**	**21 15 01.3 -0.3**
MOVZ	**Moawhango**	**2.56**	**27**	P		**Pb**	**21 15 00.6 -1.2**
WNVZ	**Wahianoa**	**2.58**	**24**	P		**Pn**	**21 15 00.6 +3.1**
VRZ	**Vera Road**	**2.60**	**8**	P		**Pb**	**21 15 01.4 -1.1**
KRHZ	**Kereru**	**2.60**	**39**	P		**Pn**	**21 14 56.6 -1.0**
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P		**Pb**	**21 15 02.2 -0.7**
MAVZ	**Matarangi**	**2.62**	**22**	P		**Pb**	**21 15 03.2 +0.2**
TUVZ	**Tukino**	**2.65**	**24**	P		**Pb**	**21 15 02.5 -0.9**
COVZ	**Chateau Observ**	**2.68**	**22**	P		**Pb**	**21 15 04.5 +0.6**
NGZ	**Ngauruhoe**	**2.72**	**22**	P		**Pb**	**21 15 05.1 +0.6**
SNVZ	**South Ngauruho**	**2.72**	**23**	P		**Pb**	**21 15 05.0 +0.4**
OTVZ	**Oturere**	**2.75**	**23**	P		**Pb**	**21 15 04.7 -0.4**
NNVZ	**North Ngauruho**	**2.77**	**22**	P		**Pb**	**21 15 04.8 -0.5**
WTVZ	**West Tongariro**	**2.77**	**22**	P		**Pb**	**21 15 05.2 -0.2**
TMVZ	**Te Maari**	**2.81**	**23**	P		**Pb**	**21 15 05.9 -0.2**
KRVZ	**Karewarewa**	**2.81**	**22**	P		**Pb**	**21 15 06.1 0.0**
NTVZ	**North Tongariр**	**2.81**	**23**	P		**Pb**	**21 15 05.9 -0.3**
WACZ	**Wakanui South**	**2.87**	**218**	P		**Pn**	**21 14 59.9 -1.2**
WVZ	**Waitaha Valley**	**2.95**	**241**	P		**Pn**	**21 15 02.3 -0.1**
BKZ	**Black Stump Fm**	**3.05**	**35**	P		**Pn**	**21 15 04.6 +0.8**
RPZ	**Rata Peaks**	**3.11**	**229**	P		**Pb**	**21 15 09.3 -1.8**
HIZ	**Hauiti**	**3.22**	**8**	P		**Pn**	**21 15 08.9 +2.9**
HIZ	**Hauiti**	**3.22**	**8**	P		**Pn**	**21 15 09.5 +3.5**
TMZ	**Timaru**	**3.59**	**221**	P		**Pn**	**21 15 10.2 -1.0**
FOZ	**Fox Glacier**	**3.76**	**239**	P		**Pn**	**21 15 13.5 0.0**
LBZ	**Lake Benmore**	**4.02**	**227**	P		**Pn**	**21 15 16.3 -0.8**
ODZ	**Otahua Downs**	**4.26**	**217**	P		**Pn**	**21 15 23.5 +3.2**
ODZ	**Otahua Downs**	**4.26**	**217**	P		**Pn**	**21 15 18.5 -1.8**

*IDC **26** 21:26:50.7±3.1, 0.°84N×126.°61E, h65km±26km, mb3.9/12, mbtmp4.3/15, ML4.3/3, Error ellipse: s-maj=35.9km s-min=10.5km az=71.0*
*DJA **26** 21:26:50.6±0.2, 1.°N±2.°×12.°7E±.°, h61km±4km, M4.3/25, mb4.5/25, mB5.0/2, MLv4.2/19, Mw(mB)4.3/2*
*NEIC **26** 21:26:50.6±0.8, 0.°86N±0.°09×126.°57E±0.°06, h65km±7km, mb4.4/24, Error ellipse: s-maj=13.9km s-min=8.3km az=190.0*
ISC 26 21:26:50.6±0.4, **0.°78N**±0.°05×**126.°54E**±0.°05, **h65**km, **n88**, σ1§**15**/95, **mb4.3**/26, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.83**	**90**		**Pn**	**21 27 06.0**	**-0.7**
TNTI				Sn	**Sn**	21 27 18.2	-0.4
TNTI	**Ternate**	**0.83**	**90**	P	**Pn**	21 27 06.2	-0.5
TNTI	**Ternate**	**0.83**	**90**	S	**Sn**	21 27 18.2	-0.4
TNTI	**Ternate**	**0.83**	**90**	P	**Pn**	21 27 06.0	-0.7
TNTI				S	**Sn**	21 27 17.9	-0.7
KMSI	**Cibinong**	**2.56**	**265**	P	**Pn**	21 27 30.3	+0.5
SANI	**Sanana**	**2.86**	**191**	P	**Pn**	21 27 33.6	-0.3
SANI	**Sanana**	**2.86**	**191**	P	**Pn**	21 27 33.5	-0.3
SGSI	**Sangihe**	**3.06**	**341**	P	**Pn**	21 27 37.7	+1.2
NLAI	**Namlea**	**4.03**	**172**	P	**Pn**	21 27 50.8	+1.0
LUWI	**Luwuk**	**4.17**	**244**		**Pn**	21 27 52.5	+0.7
LUWI	**Luwuk**	**4.17**	**244**	P	**Pn**	21 27 52.5	+0.7
LUWI	**Luwuk**	**4.17**	**244**	P	**Pn**	21 27 53.6	+1.8
MRSI	**Marisa**	**4.60**	**266**	P	**Pn**	21 27 57.7	0.0
MSAI	**Masohi**	**4.74**	**150**	P	**Pn**	21 28 01.4	+1.8
SWI	**Sorong**	**5.00**	**109**	P	**Pn**	21 28 03.0	-0.1
APSI	**Ampana**	**5.17**	**251**	P	**Pn**	21 28 05.8	+0.4
	0.6nm1μm142nm,1.0s						
TOLI2	**Tolitoli**	**5.76**	**273**		**Pn**	21 28 13.4	-0.1
TOLI2	**Tolitoli**	**5.76**	**273**	P	**Pn**	21 28 13.4	-0.1
KDI	**Kendari**	**6.12**	**220**	P	**Pn**	21 28 19.4	+1.0
FAKI	**Fak Fak**	**6.79**	**123**		**Pn**	21 28 27.3	-0.3
FAKI	**Fak Fak**	**6.79**	**123**	P	**Pn**	21 28 29.4	+1.8
FAKI	**Fak Fak**	**6.79**	**123**	P	**Pn**	21 28 29.2	+1.6
BBSI	**Bau Bau**	**7.38**	**212**	P	**Pn**	21 28 38.1	+2.4
	50nm,0.8s						
BNSI	**Bone**	**8.23**	**231**	P	**Pn**	21 28 47.6	+0.3
	37nm,0.6s						
SPSI	**Sidrap Palu**	**8.24**	**235**	P	**Pn**	21 28 48.5	+1.0
BKSI	**Bulukumba**	**8.82**	**227**	P	**Pn**	21 28 57.4	+2.0
	33nm,0.5s						
KAPI	**Kappang**	**8.89**	**230**	Pn	**Pn**	21 28 56.5	+0.1
KAPI	**Kappang**	**8.89**	**230**	P	**Pn**	21 28 58.2	+1.9
	4.4nm,0.3s,baz=64,slow=8.4,SNR=13						
KAPI				S	**Sn**	21 30 33.2	-1.8
	8.6nm,0.3s,baz=285,slow=16,SNR=2.3						
	18nm,0.4s						
KAPI	**Kappang**	**8.89**	**230**	P	**Pn**	21 28 56.8	+0.4
BSSI	**Bau Bau, Buton**	**9.15**	**221**	P	**Pn**	21 29 01.1	+1.2
	38nm,1.1s						
BAKI	**Biak**	**9.77**	**102**	P	**Pn**	21 29 10.3	+1.9
	64nm,1.4s						
EDFI	**Ende, Flores**	**10.63**	**207**	P	**Pn**	21 29 22.1	+1.9
	14nm,0.9s						
BATI	**Baumata**	**11.28**	**195**	P	**Pn**	21 29 30.4	+1.4
	2.1nm,0.3s,baz=129,slow=17,SNR=1.8						
	8.4nm,0.4s						
MTN	**Manton Dam**	**14.28**	**162**	Pn	**Pn**	21 30 08.2	-1.4
SBUM	**Sibu**	**14.40**	**277**		**Pn**	21 30 12.0	+0.8
KSM	**Kuching**	**16.24**	**273**		**Pn**	21 30 34.3	-0.4
KNRA	**Kununurra**	**16.50**	**172**		**Pn**	21 30 37.9	0.0
KNRA				IAmb	IAmb	21 30 39.1	
	comp=Z,13nm,0.6s						
PCJI	**Pacitan**	**17.72**	**239**	P	**Pn**	21 30 55.1	+2.1
	comp=Z,52nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.78**	**183**	P	**P**	21 31 04.7	0.0
FITZ	**Fitzroy Crossi**	**18.78**	**183**	P	**P**	21 31 05.1	+0.4
	comp=Z,0.6nm,0.3s,baz=17,slow=9.9,SNR=16						
	comp=Z,1.6nm,0.3s						
KPJI	**Karang Pucung**	**19.32**	**245**	P	**P**	21 31 11.9	+1.2
	comp=Z,26nm,1.8s						
LEM	**Lembang**	**20.33**	**248**	P	**P**	21 31 22.3	+0.4
	comp=Z,9.1nm,0.6s,baz=360,slow=18,SNR=3.9						
	comp=Z,9.1nm,0.6s						
CNJI	**Cibinong**	**20.96**	**247**	P	**P**	21 31 28.9	+0.5
	comp=Z,31nm,1.2s						
WB0	**Warramunga Arr**	**21.82**	**160**	P	**P**	21 31 37.3	-0.3
WB0				IAmb	IAmb	21 31 40.0	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**21.97**	**160**		**P**	**21 31 37.2**	**-2.0**
WRA	**Warramunga Arr**	**21.97**	**160**	P	**P**	**21 31 39.1**	**-0.1**
	comp=Z,22nm,0.6s,baz=339,slow=11,SNR=137						
WRA				S	**S**	**21 35 36.0**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=340,slow=20,SNR=2.4						
	comp=Z,22nm,0.6s						
COEN	**Coen**	**22.05**	**132**	P	**P**	**21 31 40.0**	**-0.1**
COEN				IAmb	IAmb	21 31 47.8	
	comp=Z,17nm,1.1s						
CGJI	**Cibinong**	**22.06**	**250**	P	**P**	**21 31 38.1**	**-2.1**
	comp=Z,33nm,1.4s						
MBWA	**Marble Bar**	**22.80**	**197**	P	**P**	**21 31 47.4**	**-0.6**
MBWA				IAmb	IAmb	21 32 05.4	
	comp=Z,24nm,1.5s						
MDSI	**Maura Dua**	**22.94**	**257**	P	**P**	**21 31 49.5**	**-0.1**
SSLB	**Suanglung**	**23.50**	**347**		**P**	**21 31 52.9**	**-2.0**
SSLB				IAmb	IAmb	21 32 24.3	
	comp=Z,12nm,1.0s						
MASI	**Maura Aman, Be**	**24.60**	**261**	P	**P**	**21 32 05.7**	**+0.7**
AS31	**Alice Springs**	**25.33**	**164**		**P**	**21 32 11.6**	**0.0**
ASAR	**Alice Springs**	**25.33**	**164**		**P**	**21 32 12.2**	**+0.6**
ASAR	**Alice Springs**	**25.33**	**164**	P	**P**	**21 32 12.0**	**+0.5**
	comp=Z,3.7nm,0.4s,baz=344,slow=7.6,SNR=57						
ASAR				PcP	**PcP**	**21 35 43.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=347,slow=2.6,SNR=5.0						
ASAR				S	**S**	**21 36 34.5**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=346,slow=19,SNR=4.3						
	comp=Z,3.7nm,0.4s						
IPM	**Ipoh**	**25.74**	**279**	P	**P**	**21 32 14.5**	**-0.9**
FORT	**Forrest**	**31.42**	**177**	P	**P**	**21 33 05.9**	**+0.3**
FORT				IAmb	IAmb	21 33 07.6	
	comp=Z,6.3nm,0.7s						
WHN	**Wuhan**	**31.78**	**340**	P	**P**	**21 33 10.0**	**+1.1**
NJ2	**Nanjing**	**31.94**	**348**	*eP*	**P**	**21 33 13.5**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
BBOO	**Buckleboo**	**34.60**	**166**	P	**P**	**21 33 33.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**34.66**	**194**	P	**P**	**21 33 33.0**	**-0.8**
PZH	**PanZhiHua**	**34.97**	**319**	P	**P**	**21 33 39.5**	**+2.6**
STKA	**Stephens Creek**	**35.47**	**158**	P	**P**	**21 33 41.5**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=332,slow=10.0,SNR=8.4						
	comp=Z,3.7nm,0.6s						
CAN	**Canberra**	**41.59**	**152**	P	**P**	**21 34 31.3**	**-1.0**
HHC	**Hu-ho-hao-te**	**42.13**	**343**	*eP*	**P**	**21 34 38.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,68nm,4.0s						
EVN	**Everest**	**46.63**	**309**	P	**P**	**21 35 12.6**	**-0.8**
EVN				IAmb	IAmb	21 35 17.4	
	comp=Z,3.6nm,0.9s						
SONM	**Songino Array**	**50.02**	**342**	P	**P**	**21 35 39.6**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=144,slow=7.6,SNR=4.1						
	comp=Z,0.7nm,0.4s						
WMQ	**Urumqi**	**55.04**	**326**	*eP*	**P**	**21 36 14.0**	**-1.7**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**21 36 48.7**	**-0.9**
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**21 36 49.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=122,slow=8.8,SNR=21						
MKAR				PcP	**PcP**	**21 37 35.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=131,slow=4.0,SNR=4.8						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**60.05**	**326**	P	**P**	**21 36 50.1**	**-0.7**
MAKZ				IAmb	IAmb	21 36 54.9	
	comp=Z,6.7nm,1.4s						
BKZ	**Black Stump Fm**	**60.55**	**137**	P	**P**	**21 36 54.1**	**-0.3**
RTZ	**Ruatahuna**	**60.63**	**136**	P	**P**	**21 36 54.6**	**-0.5**
ZALV	**Zalesovo Beam**	**63.12**	**334**	P	**P**	**21 37 10.5**	**-0.9**
ZALV	**Zalesovo Beam**	**63.12**	**334**	P	**P**	**21 37 11.3**	**0.0**
	comp=Z,1.7nm,0.7s,baz=120,slow=5.8,SNR=9.6						
	comp=Z,1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	**P**	**21 37 18.0**	**0.0**
	comp=Z,2.2nm,0.6s,baz=130,slow=6.2,SNR=33						
	comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**64.12**	**328**	P	**P**	**21 37 17.8**	**-0.2**
KURK				IAmb	IAmb	21 37 23.4	
	comp=Z,7.8nm,1.1s						
KKAR	**Karatay Array**	**65.26**	**318**	P	**P**	**21 37 25.1**	**-0.5**
BVAR	**Borovoye Array**	**69.68**	**328**	P	**P**	**21 37 53.7**	**+0.4**
	comp=Z,5.8nm,0.9s,baz=130,slow=6.4,SNR=16						
	comp=Z,5.8nm,0.9s						
AB31	**Akbulak array**	**74.31**	**321**	P	**P**	**21 38 20.3**	**-0.8**
AB31				IAmb	IAmb	21 38 22.4	
	comp=Z,3.5nm,0.9s						
ABKAR	**Akbulak array**	**74.31**	**321**	P	**P**	**21 38 20.4**	**-0.6**
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**21 38 55.9**	**+0.6**
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**21 38 56.3**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=316,slow=6.9,SNR=32						
	comp=Z,1.0nm,0.5s						
VOI	**Vohitsoka**	**80.77**	**248**	P	**P**	**21 38 56.8**	**-1.1**
SBA	**Scott Base**	**81.46**	**172**	P	**P**	**21 39 01.8**	**+1.6**
SBA				IAmb	IAmb	21 39 15.4	
	comp=Z,4.8nm,1.4s						
RAYN	**Ar Rayn**	**81.46**	**294**	P	**P**	**21 39 00.1**	**-1.3**
RAYN				IAmb	IAmb	21 39 02.7	
	comp=Z,3.1nm,0.8s						
KBZ	**Khabaz**	**84.86**	**314**	P	**P**	**21 39 17.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=90,slow=8.1,SNR=2.3						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**87.83**	**25**	P	**P**	**21 39 30.6**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=235,slow=3.2,SNR=1.5						
	comp=Z,0.3nm,0.9s						

*IDC **26** 21:33:22.7±1.8, 2.°38N×128.°95E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=148.7km s-min=21.2km az=71.0*
*DJA **26** 21:33:25.7±0.6, 2.°N±7.°×12.°9E±.°, h10km, M3.6/6, MLv3.6/6*
ISC 26 21:33:27.5±1.1, **2.°3N**±0.°1×**129.°0E**±0.°1, **h35**km, **n7**, σ0§**22**/7, **mb3.5**/5, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.23**	**229**	P	**Pn**	**21 34 01.9**	**0.0**
SWI	**Sorong**	**3.81**	**144**	P	**Pn**	**21 34 23.7**	**0.0**
WRA	**Warramunga Arr**	**22.66**	**167**	P	**P**	**21 38 25.8**	**-0.1**
	0.3nm,0.5s,baz=344,slow=9.5,SNR=2.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.20**	**170**	P	**P**	**21 38 59.3**	**+0.2**
	0.2nm,0.4s,baz=350,slow=7.9,SNR=4.8						
	0.2nm,0.4s						
SONM	**Songino Array**	**49.44**	**340**	P	**P**	**21 42 14.3**	**+0.1**
	0.3nm,0.6s,baz=167,slow=7.2,SNR=1.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.08**	**325**	P	**P**	**21 43 31.4**	**+0.2**
	0.4nm,0.5s,baz=116,slow=8.1,SNR=7.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.22**	**327**	P	**P**	**21 43 58.5**	**-0.3**
	0.4nm,0.5s,baz=130,slow=5.2,SNR=8.2						
	0.4nm,0.5s						

*IDC **26** 21:45:43.4±1.2, 6.°48S×150.°51E, h0km, mb3.9/7, mbtmp4.0/9, ML2.0/1, Error ellipse: s-maj=35.1km s-min=22.3km az=109.0*
*NEIC **26** 21:45:45.7±2.2, 6.°53S±0.°09×150.°36E±0.°10, h10km±1km, mb4.2/11, Error ellipse: s-maj=21.8km s-min=6.1km az=135.0*
ISC 26 21:45:48.6±0.7, **6.°50S**±0.°09×**150.°4E**±0.°1, **h33**km, **n25**, σ1§**24**/26, **mb3.9**/8, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.92**	**38**	Pn	**Pn**	**21 46 32.9**	**+0.1**
PMG	**Port Moresby**	**4.28**	**227**		**Pn**	**21 46 52.3**	**+0.8**
PMG	**Port Moresby**	**4.28**	**227**	Pn	**Pn**	**21 46 53.5**	**+2.0**
	5.4nm,0.3s,baz=16,slow=8.9,SNR=17						
PMG				Sn	**Sn**	**21 47 40.5**	**+0.1**
	14nm,0.3s,baz=347,slow=15,SNR=15						
	39nm,0.6s						
JAY	**Jayapura**	**10.40**	**292**	Pn	**Pn**	**21 48 14.8**	**-0.8**
	7.4nm,0.6s,baz=145,slow=16,SNR=5.3						
EIDS	**Eidsvold**	**18.77**	**178**	P	**P**	**21 50 02.7**	**-2.4**
EIDS				IAmb	IAmb	21 50 05.0	
	comp=Z,15nm,1.2s						
MTN	**Manton Dam**	**19.96**	**250**	P	**P**	**21 50 17.4**	**-0.8**
MTN				IAmb	IAmb	21 50 32.7	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**20.35**	**228**	P	**P**	**21 50 22.3**	**-0.1**
WB0				IAmb	IAmb	21 50 44.1	
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**20.50**	**228**	P	**P**	**21 50 22.4**	**-1.6**
WRA	**Warramunga Arr**	**20.50**	**228**	P	**P**	**21 50 24.4**	**+0.3**
	comp=Z,8.9nm,1.0s,baz=52,slow=11,SNR=16						
	comp=Z,8.9nm,1.0s						
KNRA	**Kununurra**	**23.05**	**245**	P	**P**	**21 50 50.3**	**-0.9**
AS31	**Alice Springs**	**23.27**	**221**	P	**P**	**21 50 52.0**	**-1.5**
ASAR	**Alice Springs**	**23.27**	**221**	P	**P**	**21 50 51.9**	**-1.5**
ASAR	**Alice Springs**	**23.27**	**221**	P	**P**	**21 50 53.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=55,slow=9.1,SNR=19						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**26.54**	**197**	P	**P**	**21 51 22.6**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=15,slow=9.3,SNR=5.1						
	comp=Z,1.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.71**	**242**	P	**P**	**21 51 23.7**	**-1.5**
FITZ				IAmb	IAmb	21 51 28.9	
	comp=Z,4.0nm,1.5s						
SONM	**Songino Array**	**66.50**	**329**	P	**P**	**21 56 36.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=130,slow=4.5,SNR=3.1						
	comp=Z,0.4nm,0.5s						
EVN	**Everest**	**70.17**	**303**	P	**P**	**21 56 59.0**	**-0.2**
EVN				IAmb	IAmb	21 57 06.4	
	comp=Z,2.5nm,0.9s						
VNDA	**Vanda**	**71.24**	**177**	P	**P**	**21 57 04.2**	**+0.2**
VNDA				IAmb	IAmb	21 57 33.3	
	comp=Z,1.7nm,1.3s						
VNDA	**Vanda**	**71.24**	**177**	P	**P**	**21 57 04.5**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=323,slow=4.8,SNR=3.9						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**21 58 14.6**	**+1.8**
QSPA				IAmb	IAmb	21 58 18.7	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**21 58 13.8**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=15,slow=1.5,SNR=3.8						
	comp=Z,1.6nm,1.0s						
ILAR	**Eielson Array**	**84.65**	**23**	P	**P**	**21 58 18.7**	**+0.1**
ILAR	**Eielson Array**	**84.65**	**23**	P	**P**	**21 58 17.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=257,slow=5.5,SNR=7.1						
	comp=Z,0.8nm,0.8s						
BCAR	**Beaver Creek A**	**85.97**	**25**	P	**P**	**21 58 26.6**	**+1.3**
G26K	**Porcupine Rive**	**86.76**	**21**	P	**P**	**21 58 30.8**	**+1.8**

*IDC **26** 22:03:00.7±1.4, 6.°15S×150.°67E, h0km, mb3.6/6, mbtmp3.7/7, ML1.7/1, Error ellipse: s-maj=53.9km s-min=23.9km az=117.0*
ISC 26 22:03:08.2±1.2, **6.°2S**±0.°2×**150.°3E**±0.°3, **h48**km, **n7**, σ1§**58**/8, **mb3.5**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.44**	**224**	Pn	**Pn**	**22 04 14.2**	**+1.2**
	2.2nm,0.3s,baz=10,slow=7.0,SNR=12						
PMG				Sn	**Sn**	**22 05 00.9**	**-2.6**
	14nm,0.3s,baz=344,slow=16,SNR=12						
	27nm,0.7s						
WRA	**Warramunga Arr**	**20.66**	**227**	P	**P**	**22 07 45.1**	**+1.1**
	1.8nm,0.7s,baz=53,slow=11,SNR=11						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**23.45**	**221**	P	**P**	**22 08 14.6**	**+1.1**
	0.5nm,0.6s,baz=56,slow=8.8,SNR=12						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**26.79**	**197**	P	**P**	**22 08 44.1**	**+0.3**
	2.3nm,0.9s,baz=0.0,slow=11,SNR=2.9						
	2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**80.97**	**327**	P	**P**	**22 15 17.9**	**+0.

BVAR	**Borovoye Array**	**79.08**	**325**	P	**P**	**22 28 18.8**	**+1.0**
	0.6nm,0.5s,baz=117,slow=5.3,SNR=5.4						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.89**	**24**	P	**P**	**22 28 52.9**	**-0.2**
	0.5nm,0.9s,baz=282,slow=6.0,SNR=4.1						
	0.5nm,0.9s						
QSPA	**South Pole Qui**	**87.31**	**180**	P	P	22 28 58.2	-2.0
	1.2nm,1.0s,baz=287,slow=3.6,SNR=3.2						
	1.2nm,1.0s						
LPAZ	**La Paz**	**147.73**	**127**	PKPbc	**PKPbc**	**22 36 01.0**	**+1.0**
	0.6nm,0.5s,baz=203,slow=4.0,SNR=3.6						

*ISK **26** 22:19:46.7, 36°.50N×28°.71E, h5km, ML2.7/13*
*AFAD **26** 22:19:46.8, 36°.48N×28°.72E, h13km±3km, ML2.4*
*THE **26** 22:19:48.2, 36°.N±3°.×2°.9E±°, h0km±3km, M2.7/4, MLh2.7/4*
ISC 26 22:19:47.1±1.1, 36°.50N±0°.03×28°.71E±0°.02, h5km±9km, n53, σ0°88/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.32**	**352**	Pg	**Pg**	**22 19 53.7**	**+0.5**
DALY				Sg	**Sb**	**22 19 59.7**	**-1.0**
FETY	**Fethiye**	**0.33**	**67**	P	Pg	22 19 45.3	-8.3
SABU	**Mula-Dalaman**	**0.38**	**33**	P	**Pg**	**22 19 54.6**	**+0.1**
SABU				S	**Sb**	**22 20 01.4**	**-1.3**
SABU				*i* IAML		22 20 03.0	
	comp=N,282nm,0.3s						
IZZE	**Mula-Seydike**	**0.42**	**99**	P	**Pg**	**22 19 55.1**	**-0.2**
IZZE				S	**Sg**	**22 20 00.3**	**-0.6**
IZZE				*i* IAML		22 20 03.0	
	comp=E,572nm,0.2s						
IZZE				*i* IAML		22 20 06.0	
	comp=N,702nm,0.4s						
TURN	**Turunc**	**0.46**	**306**	Pg	**Pg**	**22 19 56.1**	**+0.1**
TURN				Sg	**Sb**	**22 20 04.1**	**-0.8**
TURN	**Turunc**	**0.46**	**306**	P	**Pg**	**22 19 56.2**	**+0.3**
TURN				S	**Sg**	**22 20 01.8**	**-0.2**
ARG	**Arkhangelos**	**0.55**	**239**	P	**Pg**	**22 19 57.2**	**-0.5**
ARG				S	**Sg**	**22 20 05.3**	**+0.5**
CAME	**Cameli-Denizli**	**0.65**	**47**	Pg	**Pg**	**22 20 00.1**	**+0.5**
CAME				Sg	**Sb**	**22 20 10.3**	**-0.2**
YER	**Yerkesik**	**0.71**	**332**	Pg	**Pb**	**22 20 02.3**	**+0.2**
YER	**Yerkesik**	**0.71**	**332**	P	**Pb**	**22 20 02.9**	**+0.7**
YER				S	**Sb**	**22 20 13.7**	**+1.4**
AKAS	**Kas**	**0.78**	**110**	Pg	**Pb**	**22 20 02.3**	**-0.9**
AKAS	**Kas**	**0.78**	**110**	P	**Pg**	**22 20 02.0**	**0.0**
AKAS				S	**Sb**	**22 20 12.7**	**-1.3**
AKAS				*i* IAML		22 20 20.0	
	comp=E,158nm,0.4s						
AKAS				*i* IAML		22 20 22.0	
	comp=N,323nm,0.6s						
KNIK	**Mula-Seydike**	**0.78**	**64**	P	**Pg**	**22 20 02.2**	**+0.2**
KNIK				S	**Sg**	**22 20 11.9**	**-0.2**
KNIK				*i* IAML		22 20 16.0	
	comp=N,128nm,0.9s						
CAEL	**Denizli, Camel**	**0.79**	**38**	P	**Pb**	**22 20 03.6**	**+0.1**
CAEL				S	**Sb**	**22 20 14.0**	**-0.6**
CAEL				*i* IAML		22 20 25.0	
	comp=E,120nm,0.7s						
CAEL				*i* IAML		22 20 33.0	
	comp=N,148nm,1.0s						
MULA	**Mugla, Merkez-**	**0.81**	**338**	P	**Pb**	**22 20 03.5**	**-0.3**
MULA				S	**Sg**	**22 20 11.7**	**-1.6**
DNZT	**Denizli-Tavas-**	**0.81**	**18**	P	**Pg**	**22 20 02.7**	**0.0**
DNZT				S	**Sg**	**22 20 13.4**	**0.0**
DAT	**Datca**	**0.94**	**284**	Pg	**Pb**	**22 20 05.6**	**-0.4**
DAT	**Datca**	**0.94**	**284**	P	**Pg**	**22 20 05.0**	**-0.1**
DAT				S	**Sb**	**22 20 18.1**	**-0.6**
DAT				*i* IAML		22 20 24.0	
	comp=N,107nm,0.5s						
DAT	**Datca**	**0.94**	**284**	P	**Pb**	**22 20 05.5**	**-0.4**
DAT				S	**Sb**	**22 20 18.9**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.97**	**10**	P	**Pg**	**22 20 05.6**	**-0.2**
TAVA				S	**Sb**	**22 20 20.0**	**+0.2**
ELL	**Elmali**	**1.00**	**75**	Pg	**Pb**	**22 20 07.2**	**+0.2**
GOLH	**Golhisar**	**1.00**	**43**	P	**Pb**	**22 20 06.8**	**-0.3**
GOLH				S	**Sg**	**22 20 19.5**	**+0.2**
GOLH				*i* IAML		22 20 31.0	
	comp=E,78nm,1.0s						
YAZI	**Mula-Dat§a-**	**1.02**	**280**	P	**Pg**	**22 20 06.4**	**-0.3**
YAZI				*i* IAML		22 20 26.0	
	comp=N,74nm,0.4s						
APMY	**Acipayam-Deniz**	**1.08**	**26**	Pg	**Pb**	**22 20 08.5**	**+0.2**
DNIZ	**Denizli-Tavas-**	**1.15**	**13**	P	**Pg**	**22 20 09.3**	**+0.1**
DNIZ				S	**Sb**	**22 20 25.0**	**+0.1**
BDRM	**Kayabasi**	**1.16**	**299**	P	**Pn**	**22 20 10.1**	**0.0**
BDRM				S	**Sb**	**22 20 25.2**	**+0.2**
BDRM				*i* IAML		22 20 29.0	
	comp=E,125nm,0.5s						
BODT	**Bodrum**	**1.25**	**297**	Pn	**Pn**	**22 20 12.1**	**+0.8**
BODT	**Bodrum**	**1.25**	**297**	P	**Pn**	**22 20 12.4**	**+1.1**
BODT				S	**Sn**	**22 20 30.2**	**+1.6**
ESEN	**Aydn-Nazilli**	**1.32**	**348**	P	**Pg**	**22 20 12.6**	**+0.1**
ESEN				S	**Sb**	**22 20 29.4**	**-0.3**
AYDN	**Tasoluk**	**1.33**	**330**	P	**Pg**	**22 20 12.7**	**+0.1**
AYDN				S	**Sg**	**22 20 29.1**	**-0.8**
AYDN				*i* IAML		22 20 34.0	
	comp=N,63nm,0.9s						
AYDN				*i* IAML		22 20 36.0	
	comp=E,69nm,0.5s						
AKUM	**Antalya-Kumluc**	**1.33**	**97**	P	**Pg**	**22 20 12.9**	**+0.3**
INCE	**Denizli-Bozkur**	**1.39**	**30**	P	**Pg**	**22 20 14.2**	**+0.5**
INCE				S	**Sb**	**22 20 31.9**	**+0.1**
INCE				*i* IAML		22 20 40.0	
	comp=E,67nm,0.9s						
KORT	**Korkueli**	**1.41**	**69**	Pn	**Pg**	**22 20 14.9**	**+0.7**
KORT	**Korkueli**	**1.41**	**69**	P	**Pg**	**22 20 15.5**	**+1.3**
KORT				S	**Sn**	**22 20 35.6**	**+2.9**
NAZL	**Nazilli-Aydin**	**1.49**	**347**	Pn	**Pg**	**22 20 15.7**	**-0.1**
DDIM	**Aydin, Didim**	**1.51**	**309**	P	**Pg**	**22 20 18.2**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**336**	Pn	**Pb**	**22 20 17.1**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.61**	**42**	P	**Pg**	**22 20 18.1**	**+0.1**
BRDR				S	**Sn**	**22 20 37.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.68**	**316**	Pn	**Pb**	**22 20 18.4**	**-0.1**
GCAM	**G?zelcaml?**	**1.68**	**316**	P	**Pg**	**22 20 18.9**	**-0.4**
GCAM				*i* IAML		22 20 45.0	
	comp=E,49nm,0.6s						
GCAM				*i* IAML		22 21 22.0	
	comp=N,63nm,2.0s						
BUCA	**Burdur, Bucak-**	**1.70**	**60**	P	**Pg**	**22 20 19.9**	**+0.2**
BUCA				*i* IAML		22 20 44.0	
	comp=E,36nm,1.9s						
KIRA	**zmir-Kiraz**	**1.71**	**352**	P	**Pb**	**22 20 18.7**	**-0.4**
KIRA				S	**Sn**	**22 20 39.2**	**-0.7**
IZMR	**zmir-demi**	**1.74**	**340**	P	**Pn**	**22 20 18.6**	**+0.6**
IZMR				S	**Sn**	**22 20 38.6**	**-1.9**
ODEM	**Odemis-Izmir**	**1.84**	**344**	Pn	**Pb**	**22 20 20.5**	**-0.8**
SMG	**Samos**	**1.92**	**309**	P	**Pn**	**22 20 21.1**	**+0.7**
SMG				S	**Sb**	**22 20 47.6**	**+0.7**
PASA	**Karahalli, USA**	**1.94**	**18**	P	**Pn**	**22 20 21.8**	**+0.9**
PASA				S	**Sn**	**22 20 43.3**	**-2.5**
MANT	**Manisa**	**1.99**	**357**	P	**Pn**	**22 20 22.2**	**+0.6**
MANT				S	**Sn**	**22 20 44.2**	**-2.8**
KULA	**Kula-Manisa**	**2.01**	**359**	Pn	**Pn**	**22 20 22.9**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.09**	**33**	P	**Pb**	**22 20 25.7**	**+0.1**
USAK	**Uak-Merkez**	**2.22**	**6**	P	**Pn**	**22 20 25.6**	**+0.9**
BLCB	**Balcova**	**2.30**	**325**	P	**Pn**	**22 20 26.3**	**+0.6**
NPS	**Neapolis**	**2.80**	**245**	P	**Pn**	**22 20 33.1**	**+0.5**
IDI	**Anoyia**	**3.33**	**250**	P	**Pn**	**22 20 40.8**	**+0.9**

IDC 26 22:20:23.4±14.0, 15°.05S×165°.73E, h0km, mb3.7/3, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=243.8km s-min=37.6km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.01**	**175**	Pn	Pn	22 22 07.6	0.0
	0.4nm,0.3s,baz=313,slow=18,SNR=7.9						
DZM				Sn	Sn	22 23 28.9	+0.8
	0.3nm,0.3s,baz=150,slow=23,SNR=1.6						
	2.8nm,0.6s						
STKA	**Stephens Creek**	**27.66**	**229**	P	P	22 26 13.0	-0.1
	1.2nm,0.4s,baz=35,slow=10,SNR=5.4						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**30.30**	**256**	P	P	22 26 35.9	-0.8
	0.2nm,0.6s,baz=83,slow=7.8,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**31.16**	**249**	P	P	22 26 45.0	+0.6
	0.4nm,0.4s,baz=77,slow=9.2,SNR=10						
	0.4nm,0.4s						

*IDC **26** 22:30:44.0±1.0, 44°.69N×80°.81E, h0km, mb3.5/4, mbtmp3.4/10, ML3.1/6, MS3.5/1, Error ellipse: s-maj=13.8km s-min=9.8km az=118.0*
*SOME **26** 22:30:44.1, 44°.67N×80°.80E, h15km*
*NNC **26** 22:30:45.1±0.3, 44°.62N×80°.75E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=3.7km s-min=1.9km az=119.0*
ISC 26 22:30:44.7±0.6, 44°.63N±0°.03×80°.80E±0°.03, h10km, n63, σ2°13/89, mb3.5/4, 9C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.21**	**303**	P	**Pn**	**22 31 07.2**	**-0.7**
	62nm,0.2s						
KAPS				S	**Sn**	**22 31 24.3**	**-0.1**
	681nm,0.2s						
KTMS	**Ketmen**	**1.23**	**195**	P	**Pg**	**22 31 07.5**	**-0.8**
KTMS				S	**Sn**	**22 31 24.0**	**-0.7**
	183nm,0.3s						
KTMS	**Ketmen**	**1.23**	**195**	*e*P	**Pg**	**22 31 07.5**	**-0.8**
KTMS				*e*S	**Sn**	**22 31 24.0**	**-0.7**
	183nm,0.3s						
PDGK	**Podgornoye**	**1.60**	**216**	⇑P	**Pb**	**22 31 14.2**	**-0.4**
	82nm,0.3s						
PDGK				⇓S	**Sg**	**22 31 36.5**	**+0.1**
	595nm,0.5s						
TDK	**Taldyqorghan**	**1.74**	**283**	P	**Pg**	**22 31 17.8**	**-0.3**
	546nm,0.4s						
TDK				S	**Sg**	**22 31 41.8**	**+1.0**
	6.5nm,0.5s						
TDK	**Taldyqorghan**	**1.74**	**283**	*e*P	**Pg**	**22 31 17.8**	**-0.3**
	546nm,0.4s						
TDK				*e*S	**Sg**	**22 31 41.8**	**+1.0**
	6.5nm,0.5s						
SHLS	**Shalkode**	**1.76**	**214**	P	**Pn**	**22 31 14.3**	**-1.1**
	130nm,0.3s						
SHLS				S	**Sn**	**22 31 36.3**	**-1.6**
	975nm,0.2s						
SHLS	**Shalkode**	**1.76**	**214**	*e*P	**Pn**	**22 31 14.3**	**-1.1**
	130nm,0.3s						
SHLS				*e*S	**Sn**	**22 31 36.3**	**-1.6**
	975nm,0.2s						
KPKS	**Kokpek**	**1.92**	**233**	Pg	**Pb**	**22 31 19.8**	**0.0**
	0.5nm,0.2s						
KPKS				Lg	Lg	22 31 45.5	
	526nm,0.5s						
UZB	**Uzynbulak**	**1.96**	**221**	Pg	**Pb**	**22 31 20.1**	**-0.5**
	131nm,0.3s						
UZB				Lg	Lg	22 31 46.7	
	454nm,0.3s						
UZB	**Uzynbulak**	**1.96**	**221**	*e*P	**Pb**	**22 31 20.1**	**-0.5**
	131nm,0.3s						
UZB				*e*S	**Sg**	**22 31 46.7**	**-1.0**
	454nm,0.3s						
ARXS	**Arharly**	**2.17**	**260**	Pg	**Pb**	**22 31 24.3**	**+0.2**
	164nm,0.3s						
ARXS				Lg	Lg	22 31 53.6	
	646nm,0.3s						
ARXS	**Arharly**	**2.17**	**260**	*e*P	**Pb**	**22 31 24.3**	**+0.2**
ARXS				*e*S	**Sg**	**22 31 53.6**	**-0.8**
KURS	**Kuram**	**2.21**	**240**	Pg	**Pb**	**22 31 24.5**	**-0.3**
	44nm,0.5s						
KURS				Lg	Lg	22 31 54.4	
	77nm,0.3s						
MAKZ	**Makanchi**	**2.33**	**20**	⇓Pn	**Pb**	**22 31 25.0**	**-1.8**
	13nm,0.5s						
MAKZ				⇑Sn	**Sb**	**22 31 55.3**	**-0.4**
	141nm,0.5s						
SATY	**Saty**	**2.33**	**229**	Pg	**Pb**	**22 31 26.9**	**-0.1**
	205nm,0.3s						
SATY				Lg	Lg	22 31 58.6	
	1μm,0.4s						
MK31	**Makanchi Array**	**2.41**	**25**	⇑Pn	**Pb**	**22 31 26.1**	**-2.1**
	35nm,0.6s,baz=202,slow=13,SNR=1248						
MK31				⇑Sn	**Sb**	**22 31 57.1**	**-0.8**
	174nm,0.6s,baz=206,slow=24,SNR=24						
MKAR	**Makanchi Array**	**2.41**	**25**	Pn	**Pb**	**22 31 25.8**	**-2.4**
	14nm,0.3s,baz=206,slow=15,SNR=418						
MKAR				Lg	Lg	22 31 56.1	
	9.6nm,0.3s,baz=200,slow=17,SNR=9.7						
	21nm,0.3s						
CHKK	**Chushkaly**	**2.84**	**256**	Pg	**Pb**	**22 31 35.8**	**+0.2**
	15nm,0.3s						
CHKK				Lg	Lg	22 32 13.2	
	195nm,0.3s						
CHKK	**Chushkaly**	**2.84**	**256**	*e*P	**Pb**	**22 31 35.8**	**+0.2**
	15nm,0.3s						
CHKK				*e*S	**Sg**	**22 32 13.2**	**-2.9**
	195nm,0.3s						
MDOK	**Medeo**	**3.08**	**243**	Pg	**Pb**	**22 31 40.3**	**+0.6**
	18nm,0.4s						
MDOK				Lg	Lg	22 32 20.5	
	68nm,0.5s						
KTBS	**Karatobe**	**3.10**	**254**	Pg	**Pb**	**22 31 40.2**	**+0.3**
	22nm,0.5s						
KTBS				Lg	Lg	22 32 20.5	
	277nm,0.6s						
KNDC	**Almaty**	**3.11**	**244**	⇓Pg	**Pg**	**22 31 42.5**	**-1.7**
	62nm,0.5s						
KNDC				⇑Lg	Lg	22 32 21.4	
	224nm,0.6s						
AAA	**Alma-Ata**	**3.14**	**245**	Pg	**Pb**	**22 31 41.5**	**+0.8**
AAA				Lg	Lg	22 32 22.4	
AAA	**Alma-Ata**	**3.14**	**245**	*e*P	**Pb**	**22 31 41.5**	**+0.8**
AAA				*e*S	**Sg**	**22 32 22.4**	**-3.2**
TNSS	**Tian-Shan**	**3.21**	**242**	Pg	**Pg**	**22 31 44.0**	**-2.2**
	5.1nm,0.4s						
TNSS				Lg	Lg	22 32 26.7	
	18nm,0.4s						
TNSS	**Tian-Shan**	**3.21**	**242**	*e*P	**Pg**	**22 31 44.0**	**-2.2**
	5.1nm,0.4s						
TNSS				*e*S	**Sg**	**22 32 26.7**	**-1.1**
	18nm,0.4s						
KUU	**Kurty**	**3.29**	**259**	Pg	**Pb**	**22 31 42.7**	**-0.4**
	4.3nm,0.2s						
KUU				Lg	Lg	22 32 24.7	
	191nm,0.5s						
KUU	**Kurty**	**3.29**	**259**	*e*P	**Pb**	**22 31 42.7**	**-0.4**
	4.3nm,0.2s						
KUU				*e*S	**Sb**	**22 32 24.7**	**+1.6**
	191nm,0.5s						
MTBS	**Maitube**	**3.49**	**246**	Pg	**Pb**	**22 31 47.7**	**+1.0**
	30nm,0.3s						
MTBS				Lg	Lg	22 32 33.2	
	224nm,0.3s						
MTBS	**Maitube**	**3.49**	**246**	*e*P	**Pb**	**22 31 47.7**	**+1.0**
	30nm,0.3s						
MTBS				*e*S	**Sg**	**22 32 33.2**	**-3.7**
	224nm,0.3s						
KRBS	**Karabastau**	**3.80**	**258**	Pg	**Pb**	**22 31 52.5**	**+0.6**
	35nm,0.5s						
KRBS				Lg	Lg	22 32 41.6	
	51nm,0.6s						
KST	**Kastek**	**3.84**	**247**	Pg	**Pb**	**22 31 53.9**	**+1.3**
	28nm,0.5s						
KST				Lg	Lg	22 32 43.9	
	44nm,0.5s						
KST	**Kastek**	**3.84**	**247**	*e*P	**Pb**	**22 31 53.9**	**+1.3**
	28nm,0.5s						
KST				*e*S	**Sg**	**22 32 44.0**	**-4.0**
	44nm,0.5s						
DGS	**Degeres**	**3.88**	**251**	Pg	**Pb**	**22 31 53.6**	**+0.2**
	38nm,0.4s						
DGS				Lg	Lg	22 32 43.6	
	133nm,0.5s						
ZSN	**Zaisan**	**4.00**	**44**	Pg	**Pb**	**22 31 55.8**	**+0.5**
	14nm,0.5s						
ZSN				Lg	Lg	22 32 47.0	
	55nm,0.5s						
ZSN	**Zaisan**	**4.00**	**44**	*e*P	**Pb**	**22 31 55.8**	**+0.5**
	14nm,0.5s						
ZSN				*e*S	**Sb**	**22 32 47.0**	**+3.3**
	55nm,0.5s						
ULHL	**Ulahol**	**4.08**	**236**	P	**Pn**	**22 31 50.8**	**+3.3**
	SNR=12						
TKM2	**Tokmak 2**	**4.13**	**247**	P	**Pg**	**22 32 01.7**	**-2.2**
	SNR=5.9						
SGDS	**Sogindy**	**4.60**	**257**	Pg	**Pg**	**22 32 09.7**	**-3.1**
	9.4nm,0.3s						
SGDS				Lg	Lg	22 33 10.8	
	27nm,0.5s						
CHMS	**Chumysh**	**4.67**	**252**	P	**Pn**	**22 31 57.7**	**+2.4**
	SNR=7.0						
KBK	**Karagaybulak**	**4.68**	**247**	P	**Pn**	**22 31 58.5**	**+2.9**
	SNR=13						
USP	**Ospenovka**	**4.75**	**256**	P	**Pn**	**22 31 58.7**	**+2.4**
	SNR=11						
AAK	**Ala-Archa**	**4.99**	**249**	Pn	**Pn**	**22 32 02.2**	**+2.4**
	0.8nm,0.3s,baz=76,slow=9.8,SNR=8.4						
AAK				Lg	Lg	22 33 23.5	
	4.8nm,0.3s,baz=334,slow=23,SNR=9.5						
	2.5nm,0.4s						
AAK	**Ala-Archa**	**4.99**	**249**	P	**Pn**	**22 32 02.6**	**+2.8**
	SNR=5.2						
AAK	**Ala-Archa**	**4.99**	**249**	⇑Pn	**Pn**	**22 32 02.0**	**+2.2**
	1.0nm,0.5s						
AAK				⇑Pg	**Pg**	**22 32 16.2**	**-4.0**
	3.7nm,0.5s						
AAK				⇑Lg	Lg	22 33 23.9	
	15nm,0.6s						
WMQ	**Urumqi**	**5.02**	**97**	Pn	**Pn**	**22 32 02.3**	**+2.1**
WMQ				Sn	**Sn**	**22 32 59.0**	**+0.7**
WMQ				smax	smax		
	comp=N,39nm,0.9s						
WMQ				smax	smax		
	comp=E,28nm,0.9s						
UCH	**Uchtor**	**5.17**	**245**	P	**Pn**	**22 32 06.2**	**+3.6**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.46**	**251**	P	**Pn**	**22 32 08.8**	**+2.6**
	SNR=5.3						
SEM	**Semipalatinsk**	**5.79**	**357**	Pg	**Pb**	**22 32 30.1**	**+4.1**
	comp=E,6.6nm,0.3s						
SEM				Lg	Lg	22 33 45.8	
	comp=E,21nm,0.4s						
SEM	**Semipalatinsk**	**5.79**	**357**	*e*P	**Pb**	**22 32 30.1**	**+4.1**
	comp=E,6.6nm,0.3s						
SEM				*e*S	**Sg**	**22 33 45.8**	**-4.9**
	comp=E,21nm,0.4s						
MRKS	**Merke**	**5.80**	**254**	Pg	**Pb**	**22 32 30.1**	**+4.0**
	comp=E,3.1nm,0.4s						
MRKS				Lg	Lg	22 33 45.8	
	comp=E,28nm,0.5s						
MRKS	**Merke**	**5.80**	**254**	*e*P	**Pb**	**22 32 30.1**	**+4.0**
	comp=E,3.1nm,0.4s						
MRKS				*e*S	**Sg**	**22 33 45.8**	**-5.2**
	comp=E,28nm,0.5s						
KURBB	**Kurchatov Arra**	**6.19**	**346**	Pn	**Pn**	**22 32 15.3**	**-0.8**
	comp=E,0.2nm,0.3s,baz=157,slow=11,SNR=9.0						
KURBB				Sn	**Sn**	**22 33 26.3**	**-0.6**
	comp=E,0.6nm,0.3s,baz=157,slow=26,SNR=4.1						
KURBB				Lg	Lg	22 33 58.1	
	comp=E,0.9nm,0.3s,baz=172,slow=29,SNR=6.6						
	comp=E,0.5nm,0.3s						
KK31	**Karatay Array**	**7.59**	**262**	Pn	**Pn**	**22 32 37.2**	**+1.8**
	comp=E,0.8nm,0.5s,baz=72,slow=14,SNR=11						
KK31				Pg	**Pg**	**22 33 05.8**	**-4.1**
	comp=E,2.9nm,0.6s,baz=73,slow=17,SNR=9.7						
KK31				⇑Lg	Lg	22 34 44.9	
	comp=E,5.5nm,0.4s,baz=81,slow=22,SNR=11						
ZALV	**Zalesovo Beam**	**9.69**	**14**	Pn	**Pn**	**22 33 05.0**	**+0.9**
	comp=E,0.8nm,0.3s,baz=205,slow=13,SNR=12						
ZALV				Sn	**Sn**	**22 34 49.7**	**-3.2**
	comp=E,1.6nm,0.3s,baz=213,slow=27,SNR=8.9						
ZALV				Lg	Lg	22 35 48.3	
	comp=E,0.2nm,0.3s,baz=202,slow=27,SNR=5.2						
	comp=E,1.8nm,0.4s						
BVAR	**Borovoye Array**	**10.84**	**325**	Pn	**Pn**	**22 33 20.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=140,slow=14,SNR=6.9						
BVAR				Sn	**Sn**	**22 35 17.6**	**-3.4**
	comp=E,0.1nm,0.3s,baz=144,slow=25,SNR=2.9						
BVAR				Lg	Lg	22 36 23.2	
	comp=E,0.1nm,0.3s,baz=125,slow=22,SNR=6.0						
	comp=E,0.5nm,0.4s						
SONM	**Songino Array**	**17.97**	**71**	P	**P**	**22 34 54.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=268,slow=11,SNR=2.1						
	comp=E,0.2nm,0.5s						
BRTR	**Keskin Array B**	**34.90**	**279**	P	**P**	**22 37 38.7**	**+2.2**
	comp=E,0.4nm,0.7s,baz=71,slow=11,SNR=2.7						
	comp=E,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**37.02**	**331**	P	**P**	**22 37 54.9**	**+0.7**
	comp=E,1.3nm,0.8s,baz=94,slow=11,SNR=3.7						
	comp=E,1.3nm,0.8s						
ASAJ	**Asahikawa**	**43.22**	**68**	LR	LR	22 56 47.4	
	comp=E,56nm,19.1s,baz=144,slow=36						
WRA	**Warramunga Arr**	**80.69**	**130**	P	**P**	**22 42 59.3**	**+1.3**
	comp=E,0.1nm,0.4s,baz=331,slow=5.5,SNR=1.9						
	comp=E,0.1nm,0.4s						
ASAR	**Alice Springs**	**83.48**	**132**	P	**P**	**22 43 14.3**	**+1.7**
	comp=E,0.4nm,1.0s,baz=327,slow=5.3,SNR=2.3						
	comp=E,0.4nm,1.0s						

*OMAN **26** 22:34:24.8±0.9, 26°.88N×55°.18E, h10km, mb4.0/5, ml3.1/20, Error ellipse: s-maj=8.1km s-min=5.7km az=18.0*
*IDC **26** 22:34:24.1±6.5, 26°.51N×55°.36E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=134.3km s-min=40.4km az=169.0*
*DSN **26** 22:34:26.5±0.9, 26°.83N×55°.32E, h10km, ML2.9/9, Error ellipse: s-maj=11.3km s-min=2.6km az=22.0*
*TEH **26** 22:34:27.1, 26°.61N×55°.23E, h9km±19km*
ISC 26 22:34:27.7±1.2, 26°.83N±0°.03×55°.25E±0°.04, h17km±9km, n54, σ1°55/67, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**1.00**	**55**	Pg	**Pn**	**22 34 49.3**	**+2.3**
SHME	**Shamm**	**1.12**	**134**	P	**Pn**	**22 34 47.4**	**-1.1**
	SNR=13						
SHME				S	**Sn**	**22 35 03.0**	**-0.4**
SHME	**Shamm**	**1.12**	**134**	*e*P	**Pb**	**22 34 47.3**	**-1.2**
	SNR=13						
SHME				S	**Sn**	**22 35 02.4**	**-1.0**
LAR1	**LAR**	**1.14**	**317**	Pg	**Pg**	**22 34 52.2**	**+2.5**
IBND	**Bandar-abas**	**1.31**	**62**	Pg	**Pg**	**22 34 54.3**	**+1.4**
BANOM	**Banah**	**1.31**	**133**	P	**Pb**	**22 34 50.6**	**-1.2**
BANOM	**Banah**	**1.31**	**133**	*e*P	**Pn**	**22 34 49.9**	**-1.2**
	SNR=118						
BANOM				S	**Sn**	**22 35 07.4**	**-0.8**
UMQ	**Umm Al-Quwin**	**1.35**	**164**	P	**Pb**	**22 34 51.5**	**-1.0**
UMQ				S	**Sg**	**22 35 11.5**	**+0.1**
MASF	**Masafi**	**1.67**	**150**	P	**Pn**	**22 34 56.0**	**-0.2**
	SNR=32						
MASF				S	**Sb**	**22 35 17.3**	**-1.4**
MSFE	**Esma-Masafi**	**1.68**	**151**	*e*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**4.71**	**139**	P	**Pn**	**22 35 39.2**	**+1.2**
WSAR				S	**Sn**	**22 36 31.9**	**-0.3**
JMDO	**Jabal Madar**	**5.15**	**149**	P	**Pn**	**22 35 44.6**	**+0.7**
JMDO				S	**Sn**	**22 36 42.6**	**-0.3**
IRAM	**Ramesheh**	**5.55**	**334**	Pn	Pn	22 35 54.7	+5.0
JLN	**Jalan Bani Buh**	**6.01**	**140**	P	**Pn**	**22 35 54.1**	**-1.7**
MHTO	**MHTO**	**6.33**	**156**	P	**Pn**	**22 35 59.0**	**-1.1**
	SNR=15						
SRVN	**Saravan**	**6.40**	**83**	Pn	**Pn**	**22 36 04.6**	**+3.4**
DQM	**DQM**	**7.19**	**162**	P	**Pn**	**22 36 10.7**	**-1.2**
DOK	**Doka**	**8.24**	**187**	P	**Pn**	**22 36 24.9**	**-1.5**
SHAO	**Shalim**	**8.77**	**178**	P	**Pn**	**22 36 32.4**	**-1.3**
WHFO	**Wadi Hawf**	**8.97**	**189**	P	**Pn**	**22 36 35.0**	**-1.6**
	SNR=50						
DMTO	**DMTO**	**9.07**	**182**	P	**Pn**	**22 36 36.5**	**-1.4**
ABTO	**Aybut**	**9.60**	**191**	P	**Pn**	**22 36 42.6**	**-2.6**
BRTR	**Keskin Array B**	**22.11**	**311**	P	**P**	**22 39 24.7**	**+2.5**
	0.8nm,0.6s,baz=132,slow=12,SNR=6.6						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**34.77**	**31**	P	**P**	**22 41 18.0**	**+1.1**
	0.6nm,0.6s,baz=240,slow=8.7,SNR=4.0						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**39.77**	**339**	P	**P**	**22 42 00.7**	**+1.5**
	3.9nm,1.0s,baz=140,slow=8.9,SNR=4.9						
	3.9nm,1.0s						
ESDC	**Sonseca Array**	**50.32**	**301**	P	**P**	**22 43 24.4**	**+0.9**
	0.2nm,0.5s,baz=73,slow=7.2,SNR=5.6						
	0.2nm,0.5s						

IDC 26 22:37:38.1±2.9, 6°.48S×128°.49E, h0km, mb3.6/1, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=315.3km s-min=31.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**158**	Pn	Pn	22 41 03.8	-1.5
	0.1nm,0.3s,baz=332,slow=13,SNR=2.0						
WRA				Sn	Sn	22 43 32.3	-15
	0.2nm,0.3s,baz=349,slow=24,SNR=5.1						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**17.86**	**164**	P	P	22 41 49.0	0.0
	0.1nm,0.3s,baz=349,slow=11,SNR=8.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**66.98**	**327**	P	P	22 48 32.9	0.0
	0.4nm,0.6s,baz=122,slow=5.7,SNR=5.4						
	0.4nm,0.6s						

*IDC **26** 22:40:16.3±6.9, 18°.14S×177°.67W, h488km±70km, mb3.3/10, mbtmp4.1/10, Error ellipse: s-maj=37.4km s-min=21.0km az=83.0*
*NEIC **26** 22:40:25.2±1.4, 18°.15±0°.1×178°.08W±0°.07, h571km±9km, mb4.1/21, Error ellipse: s-maj=21.8km s-min=8.9km az=171.0*
ISC 26 22:40:26.0±0.7, 18°.1S±0°.1×178°.1W±0°.1, h590km, n49, σ1^{9}17/52, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.70**	**275**	P	**P**	**22 41 47.8**	**-1.1**
FUTU	**Fugatoga**	**3.80**	**359**	P	**P**	**22 41 47.4**	**-2.1**
AFI	**Afiamalu**	**7.37**	**56**	P	P	22 42 14.8	-4.4
MARNC	**Mare, Loyalty**	**13.49**	**253**	P	**P**	**22 43 20.5**	**+0.6**
EIDS	**Eidsvold**	**29.48**	**250**	P	**P**	**22 45 43.4**	**-0.5**
EIDS				IAmb	IAmb	22 46 01.1	
	comp=Z,4.1nm,0.9s						
ARMA	**Armidale**	**30.10**	**240**	P	**P**	**22 45 49.3**	**0.0**
ARMA				IAmb	IAmb	22 46 09.4	
	comp=Z,6.1nm,1.1s						
CAN	**Canberra**	**33.82**	**233**	P	**P**	**22 46 20.8**	**+0.2**
TOO	**Toolangi**	**37.27**	**231**	P	**P**	**22 46 49.4**	**+0.2**
COEN	**Coen**	**37.41**	**271**	P	**P**	**22 46 50.7**	**+0.1**
COEN				IAmb	IAmb	22 46 51.6	
	comp=Z,7.8nm,0.9s						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**22 47 01.8**	**+0.2**
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**22 47 02.0**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=96,slow=10,SNR=12						
	comp=Z,3.5nm,0.5s						
BBOO	**Buckleboo**	**43.57**	**241**	P	**P**	**22 47 38.9**	**-0.3**
BBOO				IAmb	IAmb	22 47 39.7	
	comp=Z,6.5nm,0.8s						
WB0	**Warramunga Arr**	**44.86**	**260**	P	**P**	**22 47 48.8**	**-0.5**
WB0				IAmb	IAmb	22 47 51.9	
	comp=Z,2.7nm,0.4s						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**22 47 48.6**	**-1.0**
WRA					**PcP**	**22 49 18.6**	**+0.3**
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**22 47 49.1**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=96,slow=7.1,SNR=58						
WRA				PcP	**PcP**	**22 49 18.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=2.9,SNR=3.2						
	comp=Z,2.4nm,0.5s						
AS31	**Alice Springs**	**45.03**	**254**	P	**P**	**22 47 50.2**	**-0.4**
AS31				IAmb	IAmb	22 47 51.3	
	comp=Z,5.1nm,0.5s						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**22 47 50.1**	**-0.5**
ASAR					**PcP**	**22 49 19.0**	**+0.3**
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**22 47 50.4**	**-0.2**
	comp=Z,12nm,0.6s,baz=87,slow=8.9,SNR=234						
ASAR				PcP	**PcP**	**22 49 19.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=104,slow=3.8,SNR=9.1						
	comp=Z,12nm,0.6s						
MTN	**Manton Dam**	**49.10**	**269**	P	**P**	**22 48 20.4**	**-0.7**
MTN				IAmb	IAmb	22 48 42.4	
	comp=Z,6.4nm,1.0s						
FORT	**Forrest**	**50.19**	**245**	P	**P**	**22 48 28.0**	**-0.9**
FORT				IAmb	IAmb	22 48 28.5	
	comp=Z,3.3nm,0.6s						
KNRA	**Kununurra**	**50.77**	**264**	P	**P**	**22 48 32.8**	**-0.5**
KNRA				IAmb	IAmb	22 49 01.7	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.30**	**261**	P	**P**	**22 48 51.3**	**0.0**
SOEI	**Soe**	**56.38**	**270**	P	**P**	**22 49 12.3**	**-0.7**
SOEI				IAmb	IAmb	22 49 15.2	
	comp=Z,8.5nm,0.7s						
MBWA	**Marble Bar**	**58.32**	**256**	P	**P**	**22 49 25.1**	**-0.9**
MBWA				IAmb	IAmb	22 49 52.2	
	comp=Z,5.4nm,0.9s						
VNDA	**Vanda**	**60.25**	**185**	P	**P**	**22 49 34.6**	**-3.2**
	comp=Z,0.7nm,1.1s,baz=315,slow=1.4,SNR=2.9						
	comp=Z,0.7nm,1.1s						
MJAR	**Matsushiro Arr**	**68.27**	**323**	P	**P**	**22 50 28.9**	**-0.2**
MJAR	**Matsushiro Arr**	**68.27**	**323**	P	**P**	**22 50 29.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=166,slow=5.6,SNR=5.8						
	comp=Z,1.0nm,0.5s						
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**22 50 52.1**	**+1.7**
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**22 50 50.4**	**0.0**
	comp=Z,1.1nm,1.0s,baz=16,slow=2.1,SNR=2.5						
	comp=Z,1.1nm,1.0s						
SSLB	**Suanglung**	**72.61**	**303**	P	**P**	**22 50 54.0**	**-0.9**
TPUB	**Ta-pu**	**72.64**	**302**	P	**P**	**22 50 54.0**	**-1.1**
PEA0B	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**22 51 02.4**	**+0.4**
PETK	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**22 51 01.9**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=116,slow=11,SNR=4.7						
	comp=Z,2.9nm,0.9s						
MAW	**Mawson**	**83.76**	**200**	P	**P**	**22 51 54.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=146,slow=3.6,SNR=1.8						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**22 52 03.0**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=209,slow=3.9,SNR=2.4						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**22 52 22.4**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=114,slow=3.8,SNR=4.3						
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**126.58**	**350**	PKP	**PKPdf**	**22 58 22.6**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=5.7,slow=1.2,SNR=5.9						
BRTR	**Keskin Array B**	**145.16**	**315**	PKPbc	**PKPdf**	**22 58 58.2**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=70,slow=3.5,SNR=5.6						
MMAI	**Mount Meron Ar**	**146.52**	**303**	PKPbc	**PKPbc**	**22 59 04.2**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=74,slow=6.2,SNR=5.4						
GERES	**GERESS Array B**	**147.90**	**345**	PKPbc	**PKPbc**	**22 59 06.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=354,slow=4.0,SNR=4.6						
RONA	**Rosalia, Austr**	**148.24**	**341**	*e*PKP	**PKiKP**	**22 59 08.1**	**+0.4**
	comp=Z,1.0nm,1.0s						
RDO	**Rodhopi**	**149.40**	**324**	PKPbc	**PKPbc**	**22 59 09.6**	**+0.1**
KBA	**Koelnbreinsper**	**149.63**	**344**	*e*PKP	**PKPbc**	**22 59 11.1**	**+1.0**
	comp=Z,0.5nm,0.4s						
WTTA	**Wattenberg**	**149.86**	**347**	*e*PKP	**PKPbc**	**22 59 11.4**	**+0.7**
	comp=Z,2.6nm,0.6s						
MYKA	**Terra Mystica**	**149.97**	**344**	*e*PKiKP	**PKiKP**	**22 59 15.0**	**+3.6**
	comp=Z,0.8nm,0.5s						
SQTA	**Sankt Quirin**	**150.00**	**347**	*e*PKiKP	**PKiKP**	**22 59 14.3**	**+2.8**
	comp=Z,1.9nm,0.9s						
ABTA	**Abfaltersbach**	**150.15**	**345**	*e*PKiKP	**PKiKP**	**22 59 14.3**	**+2.5**
	comp=Z,1.7nm,1.1s						
FETA	**Feichten**	**150.28**	**348**	*e*PKP	**PKiKP**	**22 59 12.9**	**+0.8**
	comp=Z,5.2nm,1.6s						
CIMO	**Cimolais**	**150.58**	**345**	PKPbc	**PKPbc**	**22 59 12.1**	**0.0**

*NEIC **26** 22:48:19.2±1.0, 21°.44S±0°.09×179°.0W±0°.2, h559km±8km, mb4.1/19, Error ellipse: s-maj=25.1km s-min=13.3km az=87.0*
*IDC **26** 22:48:21.8±5.5, 21°.32S×179°.25W, h588km±63km, mb3.2/11, mbtmp4.1/11, Error ellipse: s-maj=28.5km s-min=18.1km az=62.0*
ISC 26 22:48:23.0±0.6, 21°.4S±0°.1×179°.3W±0°.1, h604km, n40, σ0^{8}92/40, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**325**	P	P	22 49 46.7	-5.4
FUTU	**Fugatoga**	**7.17**	**9**	P	P	22 50 08.6	-6.3
MARNC	**Mare, Loyalty**	**11.79**	**267**	P	**P**	**22 50 58.0**	**-1.7**
TOZ	**Tahuroa Road**	**16.86**	**194**	P	**P**	**22 51 45.6**	**-2.3**
TOZ				IAmb	IAmb	22 51 46.0	
	comp=Z,6.3nm,0.8s						
EIDS	**Eidsvold**	**27.43**	**256**	P	**P**	**22 53 22.4**	**0.0**
EIDS				IAmb	IAmb	22 53 32.7	
	comp=Z,5.8nm,1.1s						
ARMA	**Armidale**	**27.57**	**245**	P	**P**	**22 53 24.4**	**+0.7**
ARMA				IAmb	IAmb	22 53 31.1	
	comp=Z,8.2nm,1.1s						
TOO	**Toolangi**	**34.37**	**234**	P	**P**	**22 54 21.6**	**+0.2**
TOO				IAmb	IAmb	22 54 22.5	
	comp=Z,2.6nm,0.7s						
STKA	**Stephens Creek**	**36.29**	**245**	P	**P**	**22 54 37.5**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=88,slow=9.7,SNR=7.9						
	comp=Z,3.9nm,0.6s						
BBOO	**Buckleboo**	**41.04**	**244**	P	**P**	**22 55 15.4**	**-0.1**
AS31	**Alice Springs**	**43.12**	**258**		**P**	**22 55 32.2**	**+0.2**
AS31				IAmb	IAmb	22 55 33.2	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**43.12**	**258**	P	**P**	**22 55 31.9**	**-0.1**
ASAR				PcP	**PcP**	**22 57 08.7**	**+1.0**
ASAR	**Alice Springs**	**43.12**	**258**	P	**P**	**22 55 32.5**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=94,slow=8.1,SNR=93						
ASAR				PcP	**PcP**	**22 57 08.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=96,slow=3.7,SNR=4.6						
	comp=Z,8.6nm,0.8s						
WB0	**Warramunga Arr**	**43.25**	**264**	P	**P**	**22 55 33.2**	**+0.2**
WRA	**Warramunga Arr**	**43.27**	**263**		**P**	**22 55 32.8**	**-0.3**
WRA	**Warramunga Arr**	**43.27**	**263**	P	**P**	**22 55 33.3**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=94,slow=7.8,SNR=47						
	comp=Z,1.7nm,0.3s						
FORT	**Forrest**	**47.81**	**247**	P	**P**	**22 56 07.3**	**0.0**
FORT				IAmb	IAmb	22 56 07.8	
	comp=Z,5.3nm,0.6s						
KNRA	**Kununurra**	**49.39**	**267**	P	**P**	**22 56 19.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**51.70**	**263**	P	**P**	**22 56 37.0**	**+1.1**
MBWA	**Marble Bar**	**56.46**	**258**	P	**P**	**22 57 09.8**	**+0.5**
MBWA				IAmb	IAmb	22 57 10.5	
	comp=Z,9.0nm,0.8s						
SBA	**Scott Base**	**56.88**	**183**	P	**P**	**22 57 11.8**	**+0.7**
SBA				IAmb	IAmb	22 57 13.3	
	comp=Z,2.5nm,1.0s						
VNDA	**Vanda**	**56.89**	**185**	P	**P**	**22 57 11.2**	**0.0**
VNDA	**Vanda**	**56.89**	**185**	P	**P**	**22 57 11.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=358,slow=6.5,SNR=15						
	comp=Z,0.8nm,0.5s						
MORW	**Morawa**	**58.35**	**248**	P	**P**	**22 57 22.4**	**+0.4**
MORW				IAmb	IAmb	22 57 23.1	
	comp=Z,11nm,1.1s						
CASY	**Casey**	**62.61**	**205**	P	**P**	**22 57 48.9**	**-0.3**
CASY				IAmb	IAmb	22 57 49.7	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**22 58 28.7**	**+1.8**
QSPA				IAmb	IAmb	22 58 30.0	
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**22 58 29.1**	**+2.2**
	comp=Z,5.0nm,0.7s,baz=346,slow=0.6,SNR=47						
	comp=Z,5.0nm,0.7s						
SSLB	**Suanglung**	**73.47**	**304**	P	**P**	**22 58 56.0**	**+0.4**
MAW	**Mawson**	**80.28**	**200**	P	**P**	**22 59 31.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=135,slow=8.4,SNR=9.8						
	comp=Z,1.1nm,0.6s						
SNAA	**Sanae**	**87.12**	**179**	P	**P**	**23 00 03.9**	**-1.6**
SNAA	**Sanae**	**87.12**	**179**	P	**P**	**23 00 04.2**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=194,slow=4.0,SNR=6.0						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**88.58**	**58**	P	**P**	**23 00 13.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=210,slow=7.2,SNR=4.2						
	comp=Z,0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**23 00 16.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**23 00 16.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=137,slow=2.5,SNR=6.6						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**89.49**	**13**	P	**P**	**23 00 15.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=215,slow=4.8,SNR=4.4						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**90.47**	**44**	P	**P**	**23 00 20.1**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=246,slow=2.9,SNR=4.4						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**118.99**	**320**	PKP	**PKiKP**	**23 06 04.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=119,slow=3.2,SNR=2.6						
ARCES	**ARCESS Array B**	**129.60**	**349**	PKP	**PKPdf**	**23 06 23.9**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=329,slow=1.4,SNR=5.1						
BRTR	**Keskin Array B**	**146.53**	**310**		**PKPbc**	**23 06 58.3**	**+0.2**
BRTR	**Keskin Array B**	**146.53**	**310**	PKPbc	**PKPbc**	**23 06 58.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=162,slow=2.1,SNR=3.7						
BURAR	**Bucovina Array**	**147.24**	**329**	PKPbc	**PKPbc**	**23 07 00.3**	**+0.6**

CATAC 26 23:09:02.8±0.6, 12°N±2°.×8°8W±°., h15km±4km, M3.4/28, MLv3.4/28, Error ellipse: s-maj=5.2km s-min=2.9km az=36.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**0.91**	**61**	P	Pb	23 09 20.1	-0.2
CRIN	**San Cristobal**	**0.92**	**42**	P	Pn	23 09 21.1	-0.2
CRIN	**San Cristobal**	**0.92**	**42**	S	Sn	23 09 33.7	-0.6
PKGN	**Cerro Pekin**	**0.95**	**47**	P	Pb	23 09 20.9	-0.1
CSGN	**Cosiguina Volc**	**0.96**	**7**	P	Pb	23 09 21.3	0.0
CSGN				S	Sg	23 09 34.6	+0.4
POTN	**Potosi Cosigui**	**0.99**	**10**	P	Pb	23 09 21.6	-0.2
POTN				S	Sg	23 09 35.5	+0.3
CNGN	**Cerro Negro**	**1.08**	**63**	P	Pb	23 09 23.1	-0.1
CNGN	**Cerro Negro**	**1.08**	**63**	S	Sg	23 09 37.5	-0.3
COPN	**Copaltepe**	**1.08**	**81**	P	Pb	23 09 23.2	0.0
MOM2	**El Cardon**	**1.24**	**70**	P	Pn	23 09 25.7	0.0
MOM2				S	Sn	23 09 42.1	-0.1
CNCH	**Conchagua**	**1.26**	**353**	P	Pn	23 09 25.5	-0.5
CNCH	**Conchagua**	**1.26**	**353**	S	Sn	23 09 42.8	-0.1
LCND	**La Caada**	**1.30**	**351**	P	Pn	23 09 26.0	-0.5
APQ3	**Volcan Apoyequ**	**1.31**	**79**	S	Sb	23 09 43.7	-0.1
UNAN	**Cigeo UNAN**	**1.38**	**86**	P	Pn	23 09 27.1	-0.5
TISN	**Laguna Tiscapa**	**1.39**	**85**	P	Pn	23 09 27.6	-0.1
WILN	**Americas 2**	**1.47**	**84**	P	Pn	23 09 28.4	-0.4
MAS3	**Al N del Volca**	**1.47**	**89**	P	Pn	23 09 28.8	-0.1
PACA	**Pacayal**	**1.58**	**337**	P	Pn	23 09 30.0	-0.4
LIMN	**Finca el Limon**	**1.66**	**51**	P	Pn	23 09 31.2	-0.2
LIMN				S	Sn	23 09 53.1	+0.6
PQSS	**Presa 15 de Se**	**1.82**	**332**	P	Pn	23 09 33.4	-0.1
TECO	**Alcaldia de Te**	**1.86**	**325**	P	Pn	23 09 33.8	-0.3
ARIN	**Rivas**	**1.89**	**107**	P	Pn	23 09 35.0	+0.4
UESV	**Universidad de**	**1.94**	**326**	P	Pn	23 09 34.9	-0.4
MATN	**Matagalpa**	**1.94**	**62**	P	Pn	23 09 34.5	-0.9
SCLA	**Alcaldia de Sa**	**1.96**	**329**	P	Pn	23 09 35.7	+0.1
SCLA	**Alcaldia de Sa**	**1.96**	**329**	S	Sn	23 10 00.2	+0.2
OCON	**Estacion meteo**	**1.99**	**36**	P	Pn	23 09 36.1	+0.1
MORN	**Al O del Volca**	**2.04**	**103**	P	Pn	23 09 37.1	+0.4
CONN	**Concepcion**	**2.06**	**102**	P	Pn	23 09 37.0	0.0
CONN				S	Sn	23 10 03.0	+0.5
TGUH	**Tegucigalpa,Un**	**2.07**	**11**	P	Pn	23 09 37.2	+0.1
TGUH				S	Sn	23 10 04.0	+1.2
OMEN	**Al SSO del Vol**	**2.07**	**104**	P	Pn	23 09 36.7	-0.4
OMEN				S	Sn	23 10 03.1	+0.4
RCON	**San Juan de Ri**	**2.09**	**45**	P	Pn	23 09 37.2	-0.3
RCVN	**Varillal2**	**2.13**	**43**	P	Pn	23 09 38.5	+0.5
RCPN	**Sur Rio San Ju**	**2.16**	**46**	P	Pn	23 09 38.4	0.0
CARN	**Rivas**	**2.27**	**111**	P	Pn	23 09 39.7	-0.1
PMON	**Piamonte**	**2.32**	**317**	P	Pn	23 09 40.7	+0.1
JAYA	**Jayaque - finc**	**2.37**	**314**	P	Pn	23 09 41.2	-0.1

*SOME **26** 23:10:31.8, 39°.35N×72°.77E, h15km*
*KRNET **26** 23:10:33.9±0.1, 39°.50N×72°.68E, h15km, mb3.3*
*NNC **26** 23:10:44.4±2.7, 39°.99N×72°.59E, h0km, mb3.7, mpv3.4,*

Error ellipse: s-maj=21.8km s-min=13.2km az=175.0
ISC 26 23:10:35.5±1.0, 39°.56N±0°.05×72°.58E±0°.03, h10km, n33, σ1^{8}91/54, 19C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.60**	**263**	⇓*e*P	**Pg**	**23 10 46.9**	**-0.4**
DRK				⇓*e*S	**Sb**	**23 10 56.5**	**-0.6**
SFK	**Sufi-Kurgan**	**0.85**	**57**	⇑*e*P	**Pg**	**23 10 49.6**	**-2.3**
SFK				⇑*e*S	**Sg**	**23 11 01.1**	**-1.9**
OHH	**Osh**	**0.98**	**9**	⇑*e*P	**Pg**	**23 10 53.4**	**-1.0**
OHH				⇑*e*S	**Sb**	**23 11 07.8**	**+0.1**
SALK	**Salom-Alik**	**1.63**	**35**	⇓*e*P	**Pn**	**23 11 04.5**	**0.0**
SALK				⇓*e*S	**Sb**	**23 11 26.7**	**+0.1**
ARSB	**Arslanbob**	**1.79**	**10**	⇑*e*P	**Pb**	**23 11 08.0**	**-0.6**
ARSB				⇑*e*S	**Sg**	**23 11 32.9**	**-0.3**
GAR	**Garm**	**1.84**	**253**	⇓*e*P	**Pb**	**23 11 09.0**	**-0.3**
GAR				⇓*e*S	**Sg**	**23 11 34.5**	**-0.2**
ARK	**Arkit**	**2.29**	**348**	⇓*e*P	**Pb**	**23 11 15.5**	**-1.5**
ARK				⇓*e*S	**Sb**	**23 11 46.0**	**+0.6**
JNKS	**Jany-Kuch**	**2.79**	**57**	⇑*e*P	**Pn**	**23 11 21.3**	**+0.8**
JNKS				⇑*e*S	**Sn**	**23 11 55.8**	**+1.4**
CHGR	**Chuyangaron**	**2.81**	**252**	⇑*e*P	**Pn**	**23 11 22.6**	**+2.0**
CHGR				⇑*e*S	**Sb**	**23 11 58.1**	**-2.2**
UCH	**Uchtor**	**3.05**	**28**	⇓*e*P	**Pn**	**23 11 25.6**	**+1.4**
UCH				⇓*e*S	**Sn**	**23 12 03.4**	**+2.5**
MRKS	**Merke**	**3.22**	**9**	Pg	**Pb**	**23 11 34.2**	**+1.2**
	6.2nm,0.4s						
MRKS				Lg	Lg	23 12 15.3	
	14nm,0.5s						
MRKS	**Merke**	**3.22**	**9**	*e*P	**Pb**	**23 11 31.4**	**-1.5**
	6.2nm,0.4s						
MRKS				*e*S	**Sb**	**23 12 14.7**	**+2.4**
	14nm,0.5s						
EKS2	**Erkin-Say**	**3.23**	**16**	⇑*e*P	**Pn**	**23 11 28.2**	**+1.7**
EKS2				⇑*e*S	**Sn**	**23 12 07.9**	**+2.8**
AAK	**Ala-Archa**	**3.40**	**25**	⇓Pn	**Pb**	**23 11 33.2**	**-2.8**
	3.3nm,0.5s						
AAK				⇑Lg	Lg	23 12 17.7	
	2.5nm,0.5s						
AAK	**Ala-Archa**	**3.40**	**25**	⇓*e*P	**Pn**	**23 11 30.4**	**+1.6**
AAK				⇓*e*S	**Sn**	**23 12 11.8**	**+2.5**
DZA	**Taraz**	**3.46**	**345**	Pg	**Pb**	**23 11 37.3**	**+0.3**
	21nm,0.2s						
DZA				Lg	Lg	23 12 19.1	
	55nm,0.2s						
KBK	**Karagaybulak**	**3.58**	**29**	⇑*e*P	**Pn**	**23 11 32.9**	**+1.6**
KBK				⇑*e*S	**Sn**	**23 12 15.9**	**+2.2**
FRU1	**Bishkek**	**3.60**	**25**	⇓*e*P	**Pn**	**23 11 33.3**	**+1.8**
FRU1				⇓*e*S	**Sn**	**23 12 16.8**	**+2.7**
CHMS	**Chumysh**	**3.81**	**25**	Pg	**Pn**	**23 11 38.2**	**+3.9**
	30nm,0.2s						
CHMS				Lg	Lg	23 12 19.5	
	49nm,0.2s						
CHMS	**Chumysh**	**3.81**	**25**	⇓*e*P	**Pn**	**23 11 36.0**	**+1.7**
CHMS				⇓*e*S	**Sn**	**23 12 21.4**	**+2.2**
ULHL	**Ulahol**	**3.87**	**45**	⇑*e*P	**Pn**	**23 11 36.4**	**+1.2**
ULHL				⇑*e*S	**Sn**	**23 12 22.1**	**+1.3**
KK31	**Karatay Array**	**3.87**	**337**	Pn	**Pb**	**23 11 40.6**	**-3.3**
	1.2nm,0.2s,baz=143,slow=11,SNR=65						
KK31				⇓Lg	Lg	23 12 28.1	
	16nm,0.7s,baz=137,slow=21,SNR=9.1						
BOOM	**Boomskoye usch**	**3.88**	**40**	⇑*e*P	**Pn**	**23 11 36.8**	**+1.4**
BOOM				⇑*e*S	**Sn**	**23 12 22.8**	**+1.6**
USP	**Ospenovka**	**3.98**	**21**	⇓*e*P	**Pn**	**23 11 38.4**	**+1.7**
USP		

ISC 26 23:24:18.4±0.8, 67°79N±0°03×20°35E±0°03, h0km, n22, σ0°76/32, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.17**	**358**	P	**Pg**	**23 24 21.8**	**+0.3**
	baz=186						
KUA				S	**Sg**	**23 24 23.8**	**+0.1**
KOVU	**Salmi**	**0.44**	**351**	P	**Pg**	**23 24 26.6**	**-0.2**
KOVU				S	**Sg**	**23 24 32.1**	**-0.4**
NIKU	**Nikkaluokta**	**0.51**	**279**	P	**Pg**	**23 24 27.5**	**-0.6**
LANU	**Lannavaara**	**0.67**	**67**	PB	**Pb**	**23 24 33.4**	**+0.5**
LANU				SG	**Sb**	**23 24 42.1**	**-0.8**
DUNU	**Dundret**	**0.68**	**173**	P	**Pb**	**23 24 32.6**	**-0.5**
SALU	**Saltoluokta**	**0.82**	**241**	P	**Pg**	**23 24 33.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.23**	**8**	*e*P	**Pg**	**23 24 41.2**	**-0.8**
KIF	**Kilpisjarvi**	**1.23**	**8**	PG	**Pn**	**23 24 42.8**	**0.0**
KIF				MSG		23 24 58.0	
	comp=Z,4.8nm,0.2s						
KIF				SG	**Sb**	**23 24 58.3**	**-0.6**
PAJU	**Pajala**	**1.31**	**125**	P	**Pn**	**23 24 44.3**	**+0.4**
PAJU				S	**Sn**	**23 25 02.9**	**+0.7**
HEF	**Hetta**	**1.39**	**62**	*e*P	**Pg**	**23 24 44.5**	**-0.4**
HEF	**Hetta**	**1.39**	**62**	PG	**Pb**	**23 24 45.3**	**+0.1**
	baz=242						
HEF				MSG		23 25 02.6	
	comp=Z,3.7nm,0.2s						
HEF				SG	**Sn**	**23 25 04.2**	**+0.2**
ERTU	**Ertsjaerv**	**1.43**	**149**	P	**Pb**	**23 24 46.7**	**+0.8**
ERTU	**Ertsjaerv**	**1.43**	**149**	PN	**Pb**	**23 24 47.0**	**+1.1**
	baz=334						
ERTU				SN	**Sn**	**23 25 06.6**	**+1.5**
HARU	**Harads**	**1.65**	**171**	P	**Pb**	**23 24 50.0**	**+0.3**
TRO	**Tromso**	**1.92**	**345**	SG	**Sb**	**23 25 18.0**	**-0.8**
KALU	**Kalix**	**2.27**	**147**	PG	**Pb**	**23 24 59.9**	**-0.3**
KALU				SG	**Sg**	**23 25 31.0**	**-0.3**
TOF	**Tornio**	**2.32**	**136**	PG	**Pb**	**23 25 01.3**	**+0.2**
TOF				MSG		23 25 29.8	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sg**	**23 25 32.9**	**0.0**
RNF	**Rovaniemi**	**2.50**	**116**	PB	**Pb**	**23 25 03.8**	**-0.3**
RNF				SG	**Sg**	**23 25 37.5**	**-1.1**
ARA0	**ARCESS Array S**	**2.57**	**45**	SG	**Sb**	**23 25 37.6**	**+0.1**
RAJF	**Raja-Jooseppi**	**3.06**	**73**	SB	**Sb**	**23 25 50.7**	**-0.7**
RANF	**Ranua**	**3.10**	**122**	SG	**Sg**	**23 25 56.6**	**-1.2**
KEV	**Kevo**	**3.12**	**48**	SN	**Sn**	**23 25 48.8**	**+2.1**

SDD 26 23:34:33.9±1.3, 18°15N×69°08W, h58km±24km, MD2.9, ML2.0, MW3.1, 5C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.56**	**38**	⇑*e*Pg	Pn	23 34 48.8	+2.4
HIDR				*e*Sg	Sn	23 35 03.4	+8.0
HIDR				IAML		23 35 42.0	
	comp=N,42nm,0.5s						
HIDR	**Higuey Centro**	**0.56**	**38**	⇓*e*Pg	Pn	23 34 44.7	-1.7
HIDR				⇑*e*Sg	Sn	23 34 54.8	-0.6
HIDR				IAML		23 35 07.6	
	comp=N,37nm,0.2s						
HATOM	**Hato Mayor del**	**0.69**	**336**	⇑*e*Pg	Pn	23 34 47.5	-0.5
HATOM				⇑*e*Sg	Sn	23 34 56.8	-1.5
HATOM				IAML		23 34 56.9	
	comp=N,32nm,0.1s						
HATOM	**Hato Mayor del**	**0.69**	**336**	⇑*e*Pg	Pn	23 34 47.5	-0.5
HATOM				IAML		23 34 56.9	
	comp=N,30nm,0.1s						
HATOM				⇓*e*Sg	Sn	23 34 56.9	-1.4
MIDR	**Miches**	**0.83**	**2**	⇓*e*Pg	Pn	23 34 49.4	-0.2
MIDR				*e*Pg	Pn	23 34 49.4	-0.2
MIDR				IAML		23 35 02.1	
	comp=N,19nm,0.2s						
MIDR	**Miches**	**0.83**	**2**	⇓*e*Pg	Pn	23 34 49.4	-0.2
MIDR				⇓*e*Sg	Sn	23 34 59.3	-1.9
MIDR				IAML		23 35 01.1	
	comp=N,22nm,0.2s						
DR08	**Loma La Naviza**	**1.20**	**312**	⇓*e*Pg	Pn	23 34 50.9	-3.7
DR08				⇓*e*Sg	Sn	23 35 02.3	-7.7
DR08				IAML		23 35 02.9	
	comp=N,816nm,0.2s						
BANI	**BANI**	**1.23**	**281**	*e*Pg	Pn	23 34 54.1	-0.9
BANI				IAML		23 35 08.8	
	comp=N,105nm,2.8s						
BANI				⇓*e*Sg	Sn	23 35 09.1	-1.8

*MOS **26** 23:36:30.5±1.2, 44°42N×149°12E, h47km, mb4.3/7, Error ellipse: s-maj=10.2km s-min=7.5km az=70.4*
MOS Felt (II) at Kuril'sk.
*NIED **26** 23:36:31.3, 44°64N×149°12E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}=0.84; $M_{\theta\theta}$=0.78; $M_{\phi\phi}$=0.06; $M_{r\theta}$=0.39; $M_{\theta\phi}$=-0.55; $M_{\phi r}$=-0.03; Fault plane solution: M_0=1.04000×10¹⁵ NP1: ϕ_s=132.00000°, δ=36.00000°, λ=-69.00000°. NP2: ϕ_s=287.00000°, δ=57.00000°, λ=-105.00000°.*
*JMA **26** 23:36:31.3±1.0, 45°N±4°×14°9E±°, h30km, MV4.7/11, SE OFF ETOROFU*
*SKHL **26** 23:36:32.0±0.2, 44°40N×149°20E, h65km±4km, mb5.2/4*
*IDC **26** 23:36:33.2±2.5, 44°52N×149°01E, h52km±21km, mb3.5/15, mbtmp3.8/19, ML3.4/4, MS3.1/4, Error ellipse: s-maj=17.1km s-min=14.1km az=132.0*

ISC 26 23:36:32.4±1.3, 44°36N±0°07×149°13E±0°08, h47km±11km, n73, σ1°00/76, mb3.8/19, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.25**	**314**	*d*iPN	**Pn**	**23 36 51.8**	**-1.7**
KUR	**Kuril'sk**	**1.25**	**314**	*e*P	**Pn**	**23 36 52.8**	**-0.7**
KUR				AMB	AMB	23 36 53.7	
	1μm,0.4s						
KUR				*e*S	**Sn**	**23 37 08.5**	**-0.7**
KUR				A	A	23 37 09.6	
	5μm,0.3s						
KUR				A	A	23 37 09.6	
	3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.37**	**263**	*e*PN	**Pn**	**23 37 07.0**	**-1.8**
YUK				*e*S	**Sn**	**23 37 36.0**	**-0.7**
YUK				pmax	pmax		
	comp=E,214nm,0.2s						
YUK				pmax	pmax		
	comp=Z,630nm,0.2s						
YUK				pmax	pmax		
	comp=N,208nm,0.1s						
YUK				smax	smax		
	comp=N,589nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.37**	**263**	*e*P	**Pn**	**23 37 09.4**	**+0.6**
YUK				AMB	AMB	23 37 11.6	
	comp=E,650nm,0.3s						
YUK				*e*S	**Sn**	**23 37 37.3**	**+0.6**
YUK				A	A	23 37 39.4	
	comp=E,710nm,0.3s						
YUK				A	A	23 37 39.4	
	comp=E,1μm,0.3s						
NEM2	**Nemuro 2**	**2.65**	**249**	*e*P	**Pn**	**23 37 12.2**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.65**	**249**	⇓*i*PN	**Pn**	**23 37 12.3**	**-0.3**
NMR				*e*S	**Sn**	**23 37 42.3**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.65**	**249**	*e*P	**Pn**	**23 37 12.3**	**-0.3**
NMR				*e*S	**Sn**	**23 37 42.6**	**-1.0**
RUSJ	**Misakicho**	**2.80**	**266**	*e*PN	**Pn**	**23 37 16.0**	**+1.3**
RUSJ				*e*S	**Sn**	**23 37 48.9**	**+1.7**
JRA	**Rausu**	**2.92**	**263**	*e*P	**Pn**	**23 37 17.7**	**+1.4**
JRA				*e*S	**Sn**	**23 37 52.2**	**+2.2**
AKK	**Akkeshi**	**3.39**	**248**	*e*P	**Pn**	**23 37 23.1**	**+0.4**
JAK	**Akkeshi**	**3.49**	**249**	*e*P	**Pn**	**23 37 24.2**	**+0.1**
JAK				*e*S	**Sn**	**23 38 05.7**	**+1.5**
JTKR	**Abashiri--Toko**	**3.78**	**266**	*e*P	**Pn**	**23 37 29.9**	**+1.9**
JAR	**Ashorobuto**	**4.02**	**257**	*e*P	**Pn**	**23 37 32.8**	**+1.3**
JOB	**Onbets**	**4.11**	**251**	*e*P	**Pn**	**23 37 33.5**	**+0.8**
JCH	**Churui**	**4.55**	**249**	*e*P	**Pn**	**23 37 38.8**	**+0.2**
ASAJ	**Asahikawa**	**4.70**	**269**	P	**Pn**	**23 37 42.1**	**+1.3**
	comp=E,1.9nm,0.3s,baz=54,slow=10,SNR=7.1						
ASAJ				S	**Sn**	**23 38 34.0**	**0.0**
	comp=E,12nm,0.7s,baz=258,slow=13,SNR=1.6						
	comp=E,4.4nm,0.3s						
JNBK	**Urakawa-nobuka**	**5.10**	**248**	*e*P	**Pn**	**23 37 46.3**	**+0.1**
YSS	**Yuzhno-Sakhali**	**5.17**	**302**	*e*PN	**Pn**	**23 37 48.9**	**+1.9**
YSS				*e*S	**Sn**	**23 38 45.4**	**0.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,30nm,0.6s						
YSS	**Yuzhno-Sakhali**	**5.17**	**302**	*e*P	**Pn**	**23 37 49.0**	**+1.9**
YSS				AMB	AMB	23 37 52.1	
	comp=E,20nm,0.8s						
YSS				*e*S	**Sn**	**23 38 45.4**	**0.0**
YSS				A	A	23 38 48.2	
	comp=E,30nm,0.7s						
YSS				A	A	23 38 48.2	
	comp=E,30nm,0.7s						
SKR	**Severo-Kuril's**	**7.89**	**34**	*i*PN	**Pn**	**23 38 24.9**	**+0.5**
SKR	**Severo-Kuril's**	**7.89**	**34**	*e*P	**Pn**	**23 38 24.9**	**+0.5**
PAU	**Pauzhetka**	**8.78**	**33**	*e*P	**Pn**	**23 38 37.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**10.41**	**30**	*i*PN	**Pn**	**23 38 58.7**	**-0.3**
PETK	**Petropavlovsk-**	**10.41**	**30**	P	**Pn**	**23 38 58.7**	**-0.2**
	comp=E,1.0nm,0.3s,baz=222,slow=14,SNR=28						
PETK				LR	LR	23 42 51.7	
	comp=E,87nm,18.9s,baz=173,slow=37						
	comp=E,5.8nm,0.6s						
PET	**Petropavlovsk**	**10.70**	**33**	*i*PN	**Pn**	**23 39 02.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,18nm,1.0s						
PET	**Petropavlovsk**	**10.70**	**33**	*e*P	**Pn**	**23 39 02.8**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**11.38**	**230**	*e*PN	**Pn**	**23 39 12.1**	**-0.2**
MAJO	**Matsushiro**	**11.40**	**231**	*i*PN	**Pn**	**23 39 12.1**	**-0.5**
MJAR	**Matsushiro Arr**	**11.40**	**231**	P	**Pn**	**23 39 12.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=7.7						
	comp=Z,1.9nm,0.6s						
MA2	**Magadan**	**15.27**	**3**	LR	LR	23 45 12.0	
	comp=Z,52nm,19.8s,baz=122,slow=34						
SEY	**Seymchan**	**18.70**	**5**	P	**P**	**23 40 44.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=1.9						
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**21.04**	**334**	LR	LR	23 49 26.8	
	comp=Z,51nm,20.7s,baz=130,slow=37						
BILL	**Bilibino**	**25.39**	**15**	*i*P	**P**	**23 41 56.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**25.39**	**15**	*e*P	**P**	**23 41 56.0**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.68**	**143**	T	T	00 13 09.4	
	baz=333,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.70**	**143**	T	T	00 13 20.7	
	baz=333,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.70**	**143**	T	T	00 13 13.4	
	baz=333,slow=76						
SONM	**Songino Array**	**29.56**	**292**	P	**P**	**23 42 30.6**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=78,slow=7.4,SNR=1.7						
SONM				LR	LR	23 54 54.8	
	comp=Z,56nm,18.2s,baz=184,slow=37						
	comp=Z,0.3nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**29.69**	**145**	T	T	00 14 33.6	
	baz=335,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.69**	**145**	T	T	00 14 31.2	
	baz=335,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.71**	**145**	T	T	00 14 31.2	
	baz=335,slow=76						
ILAR	**Eielson Array**	**40.15**	**37**	P	**P**	**23 44 02.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=267,slow=8.3,SNR=5.2						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.77**	**307**	P	**P**	**23 44 15.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.9,SNR=2.0						
ZALV				PcP	**PcP**	**23 46 12.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=85,slow=3.6,SNR=3.7						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**45.56**	**298**	*i*P	**P**	**23 44 47.6**	**+0.2**
MKAR	**Makanchi Array**	**45.56**	**298**	P	**P**	**23 44 46.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=82,slow=6.6,SNR=5.3						
MKAR				PcP	**PcP**	**23 46 25.7**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=71,slow=3.5,SNR=4.0						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**46.37**	**304**	P	**P**	**23 44 53.8**	**+0.1**
KURK						23 46 27.4	
KURK	**Kurchatov**	**46.37**	**304**	*e*P	**P**	**23 44 53.8**	**+0.1**
KURBB	**Kurchatov Arra**	**46.46**	**304**	P	**P**	**23 44 53.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=69,slow=7.5,SNR=3.2						
KURBB				PcP	**PcP**	**23 46 27.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=74,slow=3.3,SNR=2.2						
	comp=Z,0.4nm,0.4s						
ARTI	**Arti**	**54.98**	**317**	*i*P	**P**	**23 45 59.1**	**+0.7**
ARTI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
FINES	**FINESS Array B**	**64.97**	**334**	P	**P**	**23 47 05.3**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=29,slow=4.4,SNR=4.1						
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.97**	**334**	*i*P	**P**	**23 47 06.3**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**65.41**	**195**	P	**P**	**23 47 10.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=16,slow=6.9,SNR=11						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**65.41**	**195**	*i*P	**P**	**23 47 11.6**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**65.66**	**324**	*i*P	**P**	**23 47 10.5**	**-0.8**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**68.42**	**51**	P	**P**	**23 47 29.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=267,slow=2.8,SNR=4.7						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**69.12**	**195**	P	**P**	**23 47 35.3**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=13,slow=5.8,SNR=17						
	comp=Z,1.2nm,0.7s						
NOA	**NORSAR Array B**	**69.54**	**340**	P	**P**	**23 47 35.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=30,slow=6.7,SNR=4.5						
	comp=Z,0.4nm,0.6s						
HFS	**Hagfors**	**69.67**	**338**	P	**P**	**23 47 35.7**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=48,slow=4.6,SNR=7.3						
	comp=Z,1.2nm,0.7s						
KIV	**Kislovodsk**	**70.41**	**313**	*e*P	**P**	**23 47 42.5**	**+1.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV	**Kislovodsk**	**70.41**	**313**	*e*P	**P**	**23 47 42.5**	**+1.0**
KBZ	**Khabaz**	**70.45**	**312**	P	**P**	**23 47 41.7**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=62,slow=5.2,SNR=3.9						
	comp=Z,1.6nm,0.9s						
KBZ	**Khabaz**	**70.45**	**312**	*e*P	**P**	**23 47 41.6**	**0.0**
AKASG	**Malin Array Be**	**71.92**	**325**	P	**P**	**23 47 48.9**	**-1.4**
	comp=Z,0.3nm,0.2s,baz=42,slow=6.6,SNR=4.2						
	comp=Z,0.3nm,0.2s						
AKASG	**Malin Array Be**	**71.92**	**325**	*i*P	**P**	**23 47 50.9**	**+0.5**
GERES	**GERESS Array B**	**79.31**	**332**	P	**P**	**23 48 32.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=35,slow=4.9,SNR=3.7						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**81.12**	**58**	P	**P**	**23 48 43.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=301,slow=3.9,SNR=19						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**121.86**	**177**	PKP	**PKiKP**	**23 55 20.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=315,slow=1.4,SNR=1.9						
H03N2	**Juan Fernandez**	**141.54**	**90**	T	T	02 33 58.1	
	baz=305,slow=77,SNR=17						
H03N3	**Juan Fernandez**	**141.55**	**90**	T	T	02 33 48.5	
	baz=305,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**141.55**	**90**	T	T	02 33 54.1	
	baz=305,slow=77,SNR=13						
SNAA	**Sanae**	**149.46**	**197**	PKPbc	**PKPbc**	**23 56 15.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=180,slow=1.0,SNR=5.7						
PLCA	**Paso Flores**	**150.74**	**97**	PKPbc	**PKPbc**	**23 56 19.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=22,slow=5.4,SNR=3.6						
CPUP	**Villa Florida**	**152.09**	**59**	PKPbc	**PKPbc**	**23 56 22.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=247,slow=1.8,SNR=2.2						

TRN 26 23:43:08.1, 13°35N×58°80W, h60km, MD3.9, East of Barbados., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBI	**Saint Lucia, B**	**2.22**	**288**	*e*P	Pn	23 43 43.3	+0.8
SLBI				*e*S	Sn	23 44 09.0	+0.2
SVB	**Belmont**	**2.39**	**268**	*e*P	Pn	23 43 46.6	+1.6
SVB				*e*S	Sn	23 44 14.7	+1.5
ILAM	**Ilet Lapin Mar**	**2.46**	**305**	*e*P	Pn	23 43 47.6	+1.8
ILAM				*e*S	Sn	23 44 16.9	+2.1
BIM	**Bigot**	**2.49**	**298**	*e*P	Pn	23 43 48.0	+1.7
BIM				*e*S	Sn	23 44 16.9	+1.3
GCMP	**Grenada, Carri**	**2.70**	**252**	*e*P	Pn	23 43 50.7	+1.5
GCMP				*e*S	Sn	23 44 21.5	+0.7
SVN	**Savane Anatole**	**2.73**	**303**	*e*P	Pn	23 43 51.2	+1.5
SVN				*e*S	Sn	23 44 21.8	+0.2
GRSS	**Sisters**	**2.94**	**249**	*e*P	Pn	23 43 54.1	+1.7
GRSS				*e*S	Sn	23 44 27.2	+0.7
GRHS	**Sauteurs**	**2.99**	**248**	*e*P	Pn	23 43 55.3	+2.1
GRHS				*e*S	Sn	23 44 28.5	+0.7
GRW	**Mount Saint Ca**	**3.04**	**247**	*e*P	Pn	23 43 56.6	+2.8
GRW				*e*S	Sn	23 44 30.2	+1.2
GRGR	**Grenville**	**3.04**	**247**	*e*P	Pn	23 43 55.7	+1.9
GRGR				*e*S	Sn	23 44 30.5	+1.5
DLPL	**La Plaine**	**3.08**	**310**	*e*P	Pn	23 43 56.2	+1.8
DLPL				*e*S	Sn	23 44 29.7	-0.4
GRFF	**Grenada Fort F**	**3.15**	**246**	*e*P	Pn	23 43 56.1	+0.8
GRFF				*e*S	Sn	23 44 32.5	+0.7
DSLB	**Salisbury**	**3.28**	**309**	*e*P	Pn	23 43 58.9	+1.8
DSLB				*e*S	Sn	23 44 36.8	+1.8
DWS	**Wesley**	**3.28**	**312**	*e*P	Pn	23 43 58.8	+1.6
DWS				*e*S	Sn	23 44 35.6	+0.6
DSDZ	**La Diserade, G**	**3.67**	**324**	*e*P	Pn	23 44 03.4	+1.0
DSDZ				*e*S	Sn	23 44 45.3	+0.8
TRN	**Trinidad (W)**	**3.71**	**224**	*e*P	Pn	23 44 05.2	+2.2
TRN				*e*S	Sn	23 44 44.5	-0.8
TBG	**Guadaloupe-3**	**3.71**	**312**	*e*P	Pn	23 44 01.8	-1.2
TBG				*e*S	Sn	23 44 44.0	-1.4
MMLZ	**Guadeloupe Bro**	**3.86**	**314**	*e*P	Pn	23 44 07.0	+2.0
MMLZ				*e*S	Sn	23 44 50.2	+1.2
ATGZ	**Broadband at L**	**3.93**	**314**	*e*P	Pn	23 44 06.1	+0.1
ATGZ				*e*S	Sn	23 44 50.7	-0.2
DHSZ	**Broadband at M**	**4.08**	**316**	*e*P	Pn	23 44 09.7	+1.7
DHSZ				*e*S	Sn	23 44 54.9	+0.3
MBWH	**Windy Hill**	**4.70**	**316**	*e*P	Pn	23 44 17.4	+0.8
MBWH				*e*S	Sn	23 45 09.7	-0.1
ANWB	**Willy Bob**	**5.17**	**327**	*e*P	Pn	23 44 24.3	+1.4
ANWB				*e*S	Sn	23 45 21.1	-0.1

*MDD **26** 23:45:34.9±1.6, 44°91N×13°11W, h0km, Mb4.3/6, M_mb3.7/6, Error ellipse: s-maj=20.6km s-min=12.0km az=29.0*
*INMG **26** 23:45:36.1±1.1, 45°02N×13°63W, h10km, ML2.4, Error ellipse: s-maj=8.5km s-min=5.1km az=77.0, #DIST_RANGE: REGIONAL #IPMA_REGION: North Atlantic Ocean*

ISC 26 23:45:36.0±4.0, 44°6N±0°1×13°2W±0°2, h10km, n28, σ1°26/48, 5C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.46**	**117**	Pn	**Pn**	**23 46 30.7**	**+0.9**
EMAZ				⇑*i*IVmb_VC		23 46 31.0	
	668nm,SNR=1.7						
EMAZ				Sn	**Sn**	**23 47 10.3**	**-0.5**
STS	**Santiago**	**3.76**	**116**	Pn	**Pn**	**23 46 33.8**	**-0.2**
STS				Sn	**Sn**	**23 47 17.8**	**-0.4**
EAGO	**Agolada(Pontev**	**4.10**	**115**	Pn	**Pn**	**23 46 39.2**	**+0.6**
EAGO				⇑*i*IVmb_VC		23 46 39.7	
	456nm,SNR=2.2						
EAGO				Sn	**Sn**	**23 47 25.4**	**-1.3**
PGAV	**Gavieira, Arco**	**4.44**	**125**	*e*P	**Pn**	**23 46 44.5**	**+1.0**
PGAV				*e*S	**Sn**	**23 47 36.4**	**+1.1**
PGAV				*i*IAML		23 47 38.0	
PGAV				*i*IAML		23 47 38.1	
PGAV				*i*IAML		23 47 38.3	
ELOB	**Lobios**	**4.63**	**125**	⇑*i*IVmb_VC		23 46 45.3	
	296nm,SNR=1.7						
ELOB				Pn	**Pn**	**23 46 46.3**	**+0.3**
ELOB				Sn	**Sn**	**23 47 40.4**	**+0.6**
PCAB	**Cabril**	**4.75**	**126**	*e*P	**Pn**	**23 46 48.5**	**+1.0**
PCAB				*e*S	**Sn**	**23 47 43.3**	**+0.6**
PCAB				*i*IAML		23 47 45.5	
PCAB				*i*IAML		23 47 46.6	
PCAB				*i*IAML		23 47 47.9	
POLO	**Lamas de Olo**	**5.10**	**128**	*e*P	**Pn**	**23 46 53.2**	**+0.7**
POLO				*e*S	**Sn**	**23 47 51.4**	**0.0**
POLO				*i*IAML		23 47 53.6	
POLO				*i*IAML		23 47 54.4	
POLO				*i*IAML		23 47 54.9	
PVRL	**Vila Real**	**5.21**	**128**	*e*P	**Pn**	**23 46 55.5**	**+1.6**
PVRL				*e*S	**Sn**	**23 47 55.0**	**+1.0**
PVRL				*i*IAML		23 47 56.5	
PVRL				*i*IAML		23 47 56.7	
PVRL				*i*IAML		23 47 57.3	
ECAL	**Calabor**	**5.39**	**118**	Pn	**Pn**	**23 46 57.5**	**+1.0**
ECAL				⇑*i*IVmb_VC		23 46 58.5	
	159nm,SNR=1.1						
ECAL				Sn	**Sn**	**23 47 58.7**	**0.0**
PBRG	**Braganca**	**5.46**	**119**	*e*P	**Pn**	**23 46 59.0**	**+1.5**
PBRG				*e*S	**Sn**	**23 48 00.2**	**-0.2**
PBRG				*i*IAML		23 48 02.5	
PBRG				*i*IAML		23 48 03.8	
PBRG				*i*IAML		23 48 04.3	
PVIS	**Viseu**	**5.50**	**133**	*e*P	**Pn**	**23 46 59.1**	**+1.1**
PVIS				*e*S	**Sn**	**23 48 01.8**	**+0.5**
MVO	**Moncorvo**	**5.67**	**125**	*e*P	**Pn**	**23 47 01.2**	**+0.9**
MVO				*e*S	**Sn**	**23 48 05.7**	**+0.2**
MVO				*i*IAML		23 48 07.0	
MVO				*i*IAML		23 48 08.8	
MVO				*i*IAML		23 48 09.9	
PCAS	**Casmilo, Conde**	**5.72**	**141**	*e*P	**Pn**	**23 47 02.2**	**+1.2**
PCAS				*e*S	**Sn**	**23 48 07.1**	**+0.4**
PCAS				*i*IAML		23 48 09.5	
PCAS				*i*IAML		23 48 23.1	
PCAS				*i*I

OJC			*e*Sg	**Sg**	23 52 22.1	**+0.5**
KRLC	**Kraliky**	**1.07 271**	*e*PG	**Pg**	23 52 12.8	**-1.0**
KRLC			*e*SG	**Sg**	23 52 26.4	**-1.3**
LANS	**Liptovska Anna**	**1.13 144**	*e*PG	**Pg**	23 52 15.2	**+0.3**
LANS			*e*SG	**Sg**	23 52 28.6	**-1.0**
LANS			*e*LG	Lg	23 52 34.4	
JAVC	**Velka Javorina**	**1.31 203**	*e*PG	**Pg**	23 52 18.4	**0.0**
JAVC	**Velka Javorina**	**1.31 203**	*e*Pg	**Pg**	23 52 18.3	**-0.1**
	baz=22					
NIE	**Niedzica**	**1.37 118**	*e*Pg	**Pn**	23 52 19.6	**0.0**
NIE			*e*Sg	**Sn**	23 52 39.5	**+1.1**
DPC	**Dobruska-Polom**	**1.39 283**	*e*PG	**Pg**	23 52 19.2	**-0.7**
DPC			*e*SG	**Sg**	23 52 37.5	**-0.5**
	comp=Z,81nm,0.5s					
VRAC	**Vranov**	**1.42 238**	⇓P	**Pn**	23 52 19.7	**-0.6**
VRAC			⇓S	**Sg**	23 52 38.3	**-0.7**
VRAC	**Vranov**	**1.42 238**	*e*PG	**Pn**	23 52 19.8	**-0.6**
VRAC			*e*SG	**Sg**	23 52 38.2	**-0.7**
VRAC	**Vranov**	**1.42 238**	*e*Pg	**Pn**	23 52 19.7	**-0.6**
	baz=56					
VRAC			*e*Sg	**Sg**	23 52 38.1	**-0.8**
	56nm,0.5s,baz=56					
OSTC	**Ostas**	**1.51 290**	*e*PG	**Pn**	23 52 20.8	**-0.8**
OSTC			*e*SG	**Sg**	23 52 41.5	**-0.3**
	comp=Z,46nm,0.7s					
KSP	**Ksiaz**	**1.58 300**	*e*Pg	**Pn**	23 52 21.4	**-1.1**
KSP			*e*Sg	**Sn**	23 52 43.5	**-0.1**
CHVC	**Chvalec**	**1.62 290**	*e*PG	**Pn**	23 52 22.7	**-0.4**
CHVC			*e*SG	**Sb**	23 52 44.9	**-0.1**
	comp=Z,24nm,0.4s					
UPC	**Upice**	**1.62 287**	*e*PG	**Pn**	23 52 22.9	**-0.2**
UPC			*e*SG	**Sn**	23 52 44.4	**-0.3**
	comp=Z,29nm,0.5s					
KRUC	**Moravsky**	**1.67 234**	*e*PN	**Pn**	23 52 23.8	**0.0**
KRUC			*e*SG	**Sn**	23 52 46.0	**0.0**
KRUC	**Moravsky**	**1.67 234**	*e*Pn	**Pn**	23 52 23.7	**0.0**
	baz=51					
KRUC			*e*Sg	**Sn**	23 52 45.9	**0.0**
	60nm,0.6s,baz=51					
MODS	**Modra-Piesok**	**1.86 205**	*e*PN	**Pb**	23 52 28.1	**0.0**
MODS			*e*SG	**Sb**	23 52 52.2	**+0.3**
STHS	**Stebnicka Huta**	**1.93 109**	*e*PN	**Pb**	23 52 29.2	**-0.1**
STHS			*e*SG	**Sg**	23 52 55.1	**-0.1**
STHS			*e*LG	Lg	23 52 58.5	
TREC	**Trest**	**2.07 249**	*e*SG	**Sb**	23 52 57.6	**-0.4**
KECS	**Kecovo**	**2.07 139**	*e*PN	**Pb**	23 52 31.0	**-0.7**
KECS			*e*SN	**Sn**	23 52 54.2	**-1.6**
KECS			*e*LG	Lg	23 53 00.9	
PSZ	**Piszkesteto**	**2.35 156**	⇑P	**Pn**	23 52 32.5	**-0.7**
PRU	**Pruhonice**	**2.52 270**	*e*SG	**Sb**	23 53 10.7	**-0.1**
	comp=Z,17nm,0.6s					
PVCC	**Panska Ves**	**2.53 282**	*e*PG	**Pb**	23 52 39.9	**+0.4**
PRA	**Prague**	**2.59 272**	*e*SG	**Sb**	23 53 13.0	**+0.3**
	comp=Z,15nm,0.4s					
CONA	**Conrad Observa**	**2.73 219**	*e*Pn	**Pn**	23 52 37.9	**-0.5**
	0.2nm,0.3s					
CONA			Sn	**Sn**	23 53 12.9	**+0.6**
	7.1nm,0.7s					
RONA	**Rosalia, Austr**	**2.76 212**	*e*Pn	**Pn**	23 52 38.6	**-0.2**
	0.8nm,0.3s					
RONA			*e*Sn	**Sn**	23 53 13.4	**+0.6**
	3.1nm,0.4s					
BRG	**Berggiesshubel**	**2.99 287**	Pg	**Pb**	23 52 48.1	**+0.8**
BRG			Sg	**Sg**	23 53 27.3	**-1.9**
BRG			Amp		23 53 29.7	
	comp=Z,11nm,0.5s					
HSKC	**Hora Svate Kat**	**3.26 281**	*e*SG	**Sg**	23 53 36.8	**-1.0**
KHC	**Kasperske Hory**	**3.30 255**	*e*PN	**Pn**	23 52 45.5	**-0.7**
KHC			*e*PG	**Pb**	23 52 54.0	**+1.3**
KHC			*e*SG	**Sg**	23 53 36.9	**-2.4**
	comp=Z,15nm,0.4s					
ARSA	**Arzberg**	**3.42 216**	*e*Pn	**Pn**	23 52 47.5	**-0.3**
	comp=Z,0.4nm,0.3s					
ARSA			*i* Sn	**Sn**	23 53 29.7	**+0.6**
	comp=Z,1.9nm,0.4s					
MOA	**Molln**	**3.54 233**	*i* Pn	**Pn**	23 52 49.2	**-0.2**
	comp=Z,0.5nm,0.3s					
MOA			*e*Sg	**Sg**	23 53 44.4	**-2.4**
	comp=Z,4.8nm,0.5s					
CLL	**Collm**	**3.68 292**	*e*Pg	**Pg**	23 53 06.0	**+2.3**
CLL			*e*Sg	**Sg**	23 53 49.0	**-2.3**
	comp=Z,12nm,0.6s					
MORH	**Mrgy, Hungar**	**3.86 178**	⇓P	**Pn**	23 52 53.0	**-0.7**
BIOA	**Bad Ischl, Aus**	**3.96 235**	*i* Pn	**Pn**	23 52 55.2	**-0.1**
	comp=Z,1.2nm,0.3s					
BIOA			*e*Sg	**Sg**	23 53 59.0	**-1.5**
	comp=Z,11nm,0.5s					
DRGR		**4.34 137**	⇓P	**Pn**	23 53 00.2	**-0.3**
SIRR	**Siria**	**4.37 149**	⇓P	**Pn**	23 53 00.3	**-0.6**
KBA	**Koelnbreinsper**	**4.52 230**	*e*Sg	**Sb**	23 54 13.0	**+4.5**
	comp=Z,3.2nm,0.5s					
MARR	**Marisel-Clui**	**4.61 136**	⇓P	**Pn**	23 53 04.2	**0.0**
LESA	**Schwarzleotal**	**4.64 237**	*i* Pn	**Pn**	23 53 03.7	**-1.0**
	comp=Z,0.3nm,0.3s					
LESA			*e*Sg	**Sg**	23 54 19.4	**-2.9**
	comp=Z,4.5nm,0.4s					
BZS	**Buzias**	**4.94 153**	⇓P	**Pn**	23 53 08.7	**0.0**
SURR	**Surduc**	**4.97 149**	⇑P	**Pn**	23 53 09.0	**-0.1**
BURAR	**Bucovina Array**	**5.10 116**	⇓P	**Pn**	23 53 11.8	**+0.8**
WTTA	**Wattenberg**	**5.31 241**	*e*Sg	**Sg**	23 54 39.8	**-4.0**
	comp=Z,2.8nm,0.4s					

*SCB **27** 00:17:35.7±1.1,21°.63S×66°.68W,h222km±12km,ML2.6/2,*
Error ellipse: s-maj=8.2km s-min=6.4km az=1.0
*GUC **27** 00:17:36.9±0.8,21°.60S×67°.13W,h276km±10km,ML3.3*
ISC 27 00:17:34.8±2.5,21°.60S±0°.07×66°.70W±0°.07,
h231km±19km,σ1§64/30,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.05**	**71**	Pg	**Pn**	**00 18 09.2**	**+0.5**
MOCB				Sg	**S**	**00 18 33.3**	**-1.8**
MOCB				IAML		00 18 33.9	
	48nm,0.4s						
YJA	**Yavi**	**1.25 118**		Pg	**Pn**	**00 18 10.6**	**+0.7**
PB09	**IPOC Station P**	**2.37 265**		*e*P	**Pn**	**00 18 22.1**	**+2.5**
PB09				*i* S	**S**	**00 18 55.2**	**+0.7**
PB01	**IPOC Station P**	**2.65 282**		*e*P	**Pn**	**00 18 23.6**	**+1.1**
PB01				*i* S	**S**	**00 18 59.5**	**-0.2**
PB01				IAML		00 19 00.6	
	comp=E,51nm,0.1s						
PB08	**IPOC Station P**	**2.71 302**		*e*P	**Pn**	**00 18 25.0**	**+1.6**
PB08				*i* S	**S**	**00 19 02.2**	**+0.8**
PB06	**IPOC Station P**	**2.88 247**		*i* S	**S**	**00 19 03.7**	**-0.6**
PB06				IAML		00 19 05.4	
	comp=E,31nm,0.3s						
PB02	**IPOC Station P**	**2.99 275**		*e*P	**Pn**	**00 18 26.8**	**+0.7**
PB02				*i* S	**S**	**00 19 04.5**	**-1.8**
PB02				IAML		00 19 05.3	
	comp=N,47nm,0.3s						
GO01	**Chusmiza**	**3.02 309**		*e*P	**Pn**	**00 18 28.7**	**+1.7**
GO01				*i* S	**S**	**00 19 08.3**	**+0.6**
GO01				IAML		00 19 14.6	
	comp=N,51nm,0.1s						
HMBC	**Humberstone**	**3.25 293**		*e*P	**Pn**	**00 18 29.4**	**+0.2**
HMBC				*i* S	**S**	**00 19 09.6**	**-2.3**
HMBC				IAML		00 19 11.1	
	comp=E,46nm,0.2s						
PATCX	**Punta Patache**	**3.31 283**		*e*P	**Pn**	**00 18 30.6**	**+0.8**
PATCX				*i* S	**S**	**00 19 11.0**	**-1.9**
PATCX				IAML		00 19 13.7	
	comp=E,23nm,0.2s						
PB11	**IPOC Station P**	**3.31 303**		*e*P	**Pn**	**00 18 30.4**	**+0.5**
PB11				*i* S	**S**	**00 19 11.4**	**-1.7**
TA01	**Diego Aracena**	**3.41 287**		*e*P	**Pn**	**00 18 30.8**	**0.0**
TA01				*i* S	**S**	**00 19 11.7**	**-3.1**
TA01				IAML		00 19 12.6	
	comp=E,11nm,0.2s						
SOET	**ToroToro**	**3.57**	**14**	Pg	**Pn**	**00 18 33.9**	**+0.8**
PB16	**IPOC Station P**	**4.18 320**		*e*P	**Pn**	**00 18 42.5**	**+1.8**
PB16				*i* S	**S**	**00 19 33.1**	**+0.7**
PB16				IAML		00 19 34.8	
	comp=N,7.3nm,0.6s						
PB16	**IPOC Station P**	**4.18 320**		Pg	**Pn**	**00 18 42.4**	**+1.8**
PB16				Sg	**S**	**00 19 32.4**	**-0.1**
PB16				IAML		00 19 34.9	
	comp=N,4.2nm,0.4s						
PB12	**IPOC Station P**	**4.52 310**		*e*P	**Pn**	**00 18 44.2**	**0.0**
PB12				*i* S	**S**	**00 19 34.9**	**-4.1**
PB12				IAML		00 19 40.7	
	comp=E,12nm,0.3s						
PB14	**IPOC Station P**	**4.55 228**		Pg	**Pn**	**00 18 45.5**	**+0.8**

*IDC **27** 00:18:38.5±1.1,18°.96S×177°.89E,h0km,mb4.1/6,*
mbtmp4.1/6,MS3.4/9,Error ellipse: s-maj=37.1km
s-min=27.6km az=151.0
ISC 27 00:18:43.9±1.1,19°.0S±0°.2×177°.9E±0°.2,h35km,n15,
σ0§97/7,mb4.1/6,MS3.6/6,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.13 252**		LR	LR	00 25 01.9	
	comp=Z,344nm,18.6s,baz=82,slow=34						
URZ	**Urewera**	**19.24 182**		LR	LR	00 28 11.5	
	comp=Z,88nm,21.1s,baz=306,slow=30						
HNR	**Honiara**	**19.76 296**		LR	LR	00 29 55.4	
	comp=Z,59nm,18.2s,baz=350,slow=34						
RAR	**Rarotonga**	**21.12 100**		LR	LR	00 31 56.7	
	comp=Z,38nm,18.3s,baz=250,slow=38						
PPT	**Papeete**	**30.93 93**		LR	LR	00 36 13.3	
	comp=Z,28nm,18.0s,baz=242,slow=34						
STKA	**Stephens Creek**	**35.02 241**		P	**P**	**00 25 33.8**	**+0.4**
	7.2nm,1.1s,baz=105,slow=9.5,SNR=5.3						
	7.2nm,1.1s						
WRA	**Warramunga Arr**	**40.96 261**		P	**P**	**00 26 22.5**	**-1.1**
	1.0nm,0.9s,baz=101,slow=7.0,SNR=5.0						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**41.10 255**		P	**P**	**00 26 24.4**	**-0.4**
	3.9nm,0.8s,baz=84,slow=8.6,SNR=34						
ASAR				LR	LR	00 43 04.5	
	comp=Z,90nm,18.4s,baz=264,slow=36						
	3.9nm,0.8s						
MJAR	**Matsushiro Arr**	**66.71 326**		P	**P**	**00 29 32.6**	**+1.1**
	1.0nm,0.7s,baz=152,slow=8.1,SNR=1.7						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**71.10 180**		P	**P**	**00 29 59.0**	**+0.5**
	2.0nm,1.0s,baz=27,slow=3.4,SNR=6.9						
	2.0nm,1.0s						
BBB	**Bella Bella**	**84.96**	**30**	LR	LR	01 04 20.3	
	comp=Z,21nm,20.0s,baz=210,slow=32						
TXAR	**Lajitas Array**	**89.56**	**59**	P	**P**	**00 31 37.8**	**-0.4**
	0.8nm,1.0s,baz=209,slow=2.7,SNR=7.9						
	0.8nm,1.0s						
PDAR	**Pinedale Array**	**90.57**	**45**	LR	LR	01 08 04.6	
	comp=Z,21nm,19.4s,baz=324,slow=33						
JTS	**Las Juntas de**	**100.01**	**83**	LR	LR	01 08 52.6	
	comp=Z,28nm,19.0s,baz=17,slow=30						
GERES	**GERESS Array B**	**147.56 340**		PKPbc	**PKPbc**	**00 38 23.8**	**-0.8**
	0.8nm,0.8s,baz=30,slow=2.6,SNR=4.9						

*IDC **27** 00:39:21.1±1.1,26°.18N×104°.38E,h0km,mb3.6/9,*
mbtmp3.6/10,ML4.3/1,Error ellipse: s-maj=36.3km
s-min=19.2km az=59.0
ISC 27 00:39:26.2±1.1,26°.2N±0°.1×104°.5E±0°.2,h35km,n10,
σ1§02/10,mb3.6/9,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**9.74 356**		Pn	**Pn**	**00 41 44.8**	**+0.6**
	baz=162,slow=15						
	2.5nm,0.4s						
SONM	**Songino Array**	**21.64**	**4**	P	**P**	**00 44 13.5**	**-0.1**
	1.4nm,0.6s,baz=190,slow=10,SNR=6.9						
	1.4nm,0.6s						
KSRS	**Korea Array**	**22.81**	**55**	P	**P**	**00 44 25.5**	**-0.5**
	0.8nm,0.8s,baz=232,slow=12,SNR=2.2						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**27.04 325**		P	**P**	**00 45 03.4**	**-1.8**
	0.1nm,0.3s,baz=134,slow=7.8,SNR=5.6						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**31.31 338**		P	**P**	**00 45 42.9**	**0.0**
	0.6nm,0.4s,baz=138,slow=9.3,SNR=6.6						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**31.44 328**		P	**P**	**00 45 44.9**	**+0.8**
	0.6nm,0.4s,baz=135,slow=8.7,SNR=5.7						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**54.27 145**		P	**P**	**00 48 48.3**	**-0.7**
	0.5nm,0.8s,baz=324,slow=7.0,SNR=3.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**57.18 148**		P	**P**	**00 49 11.1**	**+1.2**
	0.3nm,0.8s,baz=336,slow=8.7,SNR=4.4						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**59.52 302**		P	**P**	**00 49 26.7**	**+0.4**
	0.5nm,0.9s,baz=93,slow=5.9,SNR=3.2						
	0.5nm,0.9s						
HFS	**Hagfors**	**68.03 327**		P	**P**	**00 50 20.9**	**-0.8**
	2.9nm,0.9s,baz=75,slow=6.1,SNR=2.6						
	2.9nm,0.9s						

*IDC **27** 00:44:11.3±5.0,36°.23N×71°.23E,h210km±45km,mb3.2/7,*
mbtmp3.8/11,Error ellipse: s-maj=39.3km s-min=19.9km
az=31.0
ISC 27 00:44:10.8±1.1,36°.32N±0°.10×71°.0E±0°.1,h200km,n22,
σ2§08/26,mb3.4/6,4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.48**	**23**	P	**Pn**	**00 45 46.8**	**+2.2**
	SNR=50						
EKS2	**Erkin-Say**	**6.67**	**18**	P	**Pn**	**00 45 49.7**	**+2.9**
	SNR=6.2						
KK31	**Karatay Array**	**6.78 357**		⇓Pn	**Pn**	**00 45 50.0**	**+2.0**
	1.6nm,0.2s,baz=177,slow=12,SNR=17						
KK31				⇓Sn	**Sn**	**00 47 02.4**	**-3.0**
	12nm,0.3s,baz=196,slow=37,SNR=4.6						
AAK	**Ala-Archa**	**6.85**	**22**	P	**Pn**	**00 45 51.7**	**+2.6**
	12nm,0.3s,baz=176,slow=3.5,SNR=47						
AAK				S	**Sn**	**00 47 06.3**	**-0.8**
	4.6nm,0.3s,baz=202,slow=11,SNR=4.4						
AAK	**Ala-Archa**	**6.85**	**22**	P	**Pn**	**00 45 51.6**	**+2.6**
	SNR=15						
AAK	**Ala-Archa**	**6.85**	**22**	⇓Pn	**Pn**	**00 45 51.1**	**+2.0**
	2.6nm,0.4s						
AAK				⇓Sn	**Sn**	**00 47 05.2**	**-1.9**
	7.6nm,0.7s						
KBK	**Karagaybulak**	**7.01**	**24**	P	**Pn**	**00 45 54.0**	**+2.8**
	SNR=6.7						
ULHL	**Ulahol**	**7.16**	**33**	P	**Pn**	**00 45 54.9**	**+1.7**
	SNR=5.5						
CHMS	**Chumysh**	**7.25**	**22**	P	**Pn**	**00 45 57.1**	**+2.9**
	SNR=7.1						
USP	**Ospenovka**	**7.43**	**20**	P	**Pn**	**00 45 58.4**	**+1.9**
	SNR=13						
TKM2	**Tokmak 2**	**7.47**	**27**	P	**Pn**	**00 45 59.2**	**+2.1**
	SNR=12						
MKAR	**Makanchi Array**	**13.41**	**35**	P	**Pn**	**00 47 11.8**	**-1.5**
	0.2nm,0.5s,baz=213,slow=9.2,SNR=2.6						
BVAR	**Borovoye Array**	**16.71 359**		P	**Pn**	**00 47 53.5**	**+0.2**
	1.1nm,0.5s,baz=166,slow=9.5,SNR=5.8						
AKTO	**Aktyubinsk**	**16.95 330**		P	**Pn**	**00 47 57.7**	**+1.5**
	5.7nm,0.5s,baz=139,slow=10,SNR=14						
AKTO				S	**S**	**00 50 57.5**	**-3.8**
	0.7nm,0.4s,baz=101,slow=10,SNR=1.8						
ZALV	**Zalesovo Beam**	**20.06**	**24**	P	**P**	**00 48 28.8**	**+0.3**
	0.5nm,0.3s,baz=212,slow=9.2,SNR=3.8						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**37.65 326**		P	**P**	**00 51 07.3**	**+1.1**
	2.2nm,1.0s,baz=123,slow=7.0,SNR=8.0						
	2.2nm,1.0s						
ARCES	**ARCESS Array B**	**41.32 338**		P	**P**	**00 51 37.2**	**+0.8**
	1.9nm,0.8s,baz=107,slow=6.5,SNR=6.6						
	1.9nm,0.8s						
HFS	**Hagfors**	**43.23 322**		P	**P**	**00 51 52.4**	**+0.6**
	2.7nm,1.0s,baz=108,slow=4.7,SNR=9.8						
	2.7nm,1.0s						
NOA	**NORSAR Array B**	**44.54 323**		P	**P**	**00 52 02.7**	**+0.4**
	0.5nm,0.5s,baz=102,slow=7.2,SNR=1.3						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.75 269**		P	**P**	**00 54 33.6**	**-0.8**
	1.6nm,0.3s,baz=46,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**81.87 122**		P	**P**	**00 56 06.4**	**-1.5**
	0.1nm,0.4s,baz=318,slow=5.3,SNR=1.8						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**84.13 125**		P	**P**	**00 56 18.5**	**-0.9**
	0.3nm,0.6s,baz=313,slow=5.5,SNR=2.1						
	0.3nm,0.6s						

*IDC **27** 00:49:30.6±0.7,2°.56S×138°.18E,h0km,mb3.8/9,*
mbtmp3.7/12,ML3.2/3,MS2.9/2,Error ellipse:
s-maj=16.2km s-min=13.4km az=92.0
ISC 27 00:49:35.7±0.8,2°.6S±0°.1×138°.3E±0°.1,h35km,n13,
σ1§60/13,mb3.8/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.44**	**89**	Pn	**Pn**	**00 50 12.2**	**-1.0**
	2.1nm,0.3s,baz=266,slow=13,SNR=8.9						
JAY				Lg	Lg	00 50 50.5	
	1.2nm,0.3s,baz=312,slow=23,SNR=6.2						
JAY				LR	LR	00 51 35.3	
	comp=Z,238nm,20.2s,baz=222,slow=50						
	5.8nm,0.3s						
GUMO	**Guam**	**17.32**	**22**	LR	LR	00 59 34.6	
	comp=Z,31nm,19.2s,baz=113,slow=35						
WRA	**Warramunga Arr**	**17.70 192**		P	**Pn**	**00 53 38.7**	**-1.0**
	0.1nm,0.3s,baz=13,slow=12,SNR=7.1						
	1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.80 218**		P	**P**	**00 54 02.2**	**-1.1**
	baz=20,slow=15,SNR=2.5						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**21.41 191**		P	**P**	**00 54 18.9**	**-1.8**
	1.0nm,0.6s,baz=19,slow=11,SNR=17						
ASAR				S	**S**	**00 58 19.9**	**+3.3**
	1.2nm,1.0s,baz=14,slow=22,SNR=4.9						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.97 300**		P	**P**	**00 57 38.7**	**-1.2**
	0.6nm,0.3s,baz=104,slow=7.5,SNR=2.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**69.39 323**		P	**P**	**01 00 40.6**	**+0.5**
	1.2nm,0.7s,baz=109,slow=7.5,SNR=12						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**71.57 330**		P	**P**	**01 00 52.9**	**-0.4**
	0.7nm,0.6s,baz=116,slow=6.9,SNR=4.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**73.34 325**		P	**P**	**01 01 03.4**	**-0.4**
	0.7nm,0.8s,baz=118,slow=5.4,SNR=6.0						
	0.7nm,0.8s						
VNDA	**Vanda**	**75.98 175**		P	**P**	**01 01 18.2**	**-0.5**
	0.4nm,0.9s,baz=322,slow=5.6,SNR=3.4						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**78.92 325**		P	**P**	**01 01 35.7**	**+0.1**
	1.3nm,0.6s,baz=108,slow=4.8,SNR=4.4						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**85.88**	**25**	P	**P**	**01 02 13.4**	**+1.8**
	0.4nm,0.8s,baz=230,slow=5.6,SNR=2.4						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**87.39 180**		P	**P**	**01 02 21.0**	**+1.8**
	0.7nm,0.8s,baz=336,slow=3.7,SNR=3.8						
	0.7nm,0.8s						

IDC 27 01:04:29.9±1.6,2°.60S×138°.28E,h0km,mb3.1/2,
mbtmp3.1/4,ML2.9/2,Error ellipse: s-maj=31.6km
s-min=19.0km az=174.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.43**	**88**	Pn	Pn	01 05 10.8	-0.1
	1.3nm,0.3s,baz=300,slow=20,SNR=6.8						
JAY				Lg	Lg	01 05 46.4	
	0.2nm,0.3s,baz=288,slow=20,SNR=1.9						
	4.7nm,0.6s						
WRA	**Warramunga Arr**	**17.66 192**		P	P	01 08 38.2	-0.4
	0.1nm,0.3s,baz=9.8,slow=12,SNR=1.3						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**21.37 191**		P	P	01 09 18.4	-0.7
	0.3nm,0.5s,baz=15,slow=12,SNR=6.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.43 323**		P	P	01 15 40.4	+0.4
	0.2nm,0.6s,baz=119,slow=5.1,SNR=4.1						
	0.2nm,0.6s						

*IDC **27** 01:59:44.3±5.7,17°.43S×177°.63W,h395km±55km,*
mb3.5/10,mbtmp4.2/11,Error ellipse: s-maj=29.3km
s-min=16.9km az=60.0
*NEIC **27** 01:59:59.0±2.3,17°.7S±0°.1×178°.1W±0°.1,h521km±7km,*
mb4.2/16,Error ellipse: s-maj=22.4km s-min=17.4km
az=223.0
ISC 27 01:59:57.6±0.6,17°.4S±0°.1×178°.1W±0°.1,h550km,n63,
σ2§47/60,mb4.2/22,5C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.04 360**		P	**P**	**02 01 14.4**	**+1.3**
MSVF	**Nonsavu**	**3.69 264**		P	**P**	**02 01 18.4**	**+1.0**
AFI	**Afiamalu**	**6.99**	**61**	P	**P**	**02 01 43.6**	**-2.0**
DZM	**Mont Dzumac**	**15.29 250**		P	**P**	**02 03 04.8**	**-5.4**
	5.0nm,0.8s,baz=90,slow=17,SNR=2.0						
URZ	**Urewera**	**21.23 190**		P	**P**	**02 03 59.6**	**-5.0**
	3.3nm,0.3s,baz=0.0,slow=5.1,SNR=9.7						
	3.3nm,0.3s						
ARMA	**Armidale**	**30.47 239**		P	**P**	**02 05 27.2**	**+0.9**
TOO	**Toolangi**	**37.74 230**		P	**P**	**02 06 27.7**	**+0.7**
TOO				IAmb	IAmb	02 06 29.3	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**39.15 241**			**P**	**02 06 39.7**	**+1.2**
STKA	**Stephens Creek**	**39.15 241**		P	**P**	**02 06 39.2**	**+0.7**
	comp=Z,6.7nm,0.5s,baz=92,slow=9.9,SNR=19						
	comp=Z,6.7nm,0.5s						
INKA	**Innaminka**	**39.23 247**		P	P	02 06 41.0	+1.8
INKA				IAmb	IAmb	02 06 41.1	
	comp=Z,4.3nm,0.5s						
JAY	**Jayapura**	**43.05 285**		P	**P**	**02 07 11.7**	**+2.0**
	comp=Z,7.3nm,0.8s,baz=108,slow=9.6,SNR=4.2						
	comp=Z,7.3nm,0.8s						
BBOO	**Buckleboo**	**43.93 241**		P	**P**	**02 07 17.2**	**+1.0**
WR8	**Warramunga Arr**	**44.87 259**			**P**	**02 07 24.2**	**+0.5**
WR8				IAmb	IAmb	02 07 27.0	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**45.02 259**			**P**	**02 07 25.1**	**+0.3**
WRA	**Warramunga Arr**	**45.02 259**		P	**P**	**02 07 25.6**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=89,slow=6.8,SNR=57						
WRA				PcP	**pP**	**02

FINES	FINESS Array B	132.75	344	PKP	PKiKP	02 18 12.3 +1.3
	comp=Z,2.7nm,0.9s,baz=20,slow=1.6,SNR=2.0					
ILGA	Ilgaz	143.89	317	PKPbc	PKiKP	02 18 33.6 -1.2
BUR08	Bucovina Ar. S	144.26	333		PKiKP	02 18 35.4 +0.2
BURAR	Bucovina Array	144.28	333	PKPdf	PKiKP	02 18 35.3 +0.1
BRTR	Keskin Array B	144.61	316	PKPdf	PKiKP	02 18 35.1 -1.1
MLR	Muntele Rosu	145.52	330	PKPdf	PKiKP	02 18 38.4 +0.5
MMAI	Mount Meron Ar	146.10	304	PKPbc	PKiKP	02 18 40.2 +0.8
	comp=Z,0.8nm,0.4s,baz=69,slow=4.6,SNR=4.1					
GERES	GERESS Array B	147.17	346	PKPbc	PKPab	02 18 42.3 -0.5
	comp=Z,1.1nm,0.5s,baz=22,slow=2.7,SNR=12					
CONA	Conrad Observa	147.44	342	*i* PKiKP	PKPab	02 18 44.0 +0.1
	comp=Z,4.3nm,1.3s					
RONA	Rosalia, Austr	147.52	342	*e*PKP	PKPab	02 18 43.8 -0.4
	comp=Z,0.9nm,0.5s					
MOA	Molln	147.95	344	*i* PKP	PKPab	02 18 44.8 -1.2
	comp=Z,0.4nm,0.3s					
LESA	Schwarzleotal	148.74	346	*i* PKP	PKPab	02 18 46.5 -2.8
	comp=Z,0.7nm,0.2s					
KBA	Koelnbreinsper	148.90	345	*e*PKP	PKPab	02 18 46.4 -3.7
	comp=Z,0.6nm,0.3s					
WATA	Walderalm	149.07	347	*i* PKP	PKPab	02 18 47.1 -3.6
	comp=Z,0.6nm,0.2s					
RETA	Reutte	149.09	348	*e*PKP	PKPab	02 18 47.5 -3.2
	comp=Z,0.6nm,0.3s					
WTTA	Wattenberg	149.13	347	*i* PKP	PKPab	02 18 47.6 -3.4
	comp=Z,2.3nm,0.3s					
MOTA	Moosalm	149.16	348	*i* PKP	PKPab	02 18 47.3 -3.8
	comp=Z,0.5nm,0.3s					
MYKA	Terra Mystica	149.24	344	*i* PKP	PKPab	02 18 46.9 -4.4
	comp=Z,0.7nm,0.3s					
SQTA	Sankt Quirin	149.26	348	*i* PKP	PKPab	02 18 47.6 -3.9
	comp=Z,1.1nm,0.5s					
ABTA	Abfaltersbach	149.42	346	*i* PKP	PKPab	02 18 47.6 -4.5
	comp=Z,1.2nm,0.4s					
FETA	Feichten	149.54	348	*i* PKP	PKPab	02 18 48.5 -4.2
	comp=Z,0.7nm,0.5s					
CIMO	Cimolais	149.84	345		PKPab	02 18 48.8 -5.1
FUORN	Ofenpass-Fuorn	150.02	348	PKPbc	PKPab	02 18 50.5 -4.3

*IDC **27** 01:59:58.2±1.0, 36.°32N×28.°74E, h0km, mb3.4/4, mbtmp3.5/11, ML3.3/6, MS2.7/1, Error ellipse: s-maj=17.0km s-min=15.6km az=7.0*
*ATH **27** 01:59:59.9, 36.°36N×28.°76E, h8km±2km, ML3.2/5, Manual Solution by F.Xalaris First location: 2019/10/27 02:01:58, This location: 2019/10/27 05:32:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **27** 01:59:59.6, 36.°49N×28.°70E, h5km, ML3.5/20*
*AFAD **27** 01:59:59.8, 36.°47N×28.°69E, h11km±3km, MW3.6*
*NIC **27** 02:00:00.4, 36.°20N×28.°76E, h6km±1km, Ml2.9/10*
*THE **27** 02:00:02.2, 36°N±3.°×2.°9E±.°, h7km±5km, M3.3/7, MLh3.3/7*
*GII **27** 02:00:03.1±0.0, 36.°10N×28.°89E, h10km, Mws3.5, confirmed*

ISC 27 02:00:00.1±0.9, **36.°42N**±0.°02×**28.°72E**±0.°01, **h13**km±7km, **n166**, σ1§67/218, **mb3.1**/3, **4C-10D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDI1	**Rhodes Town Ha**	**0.40**	**275**	P	**Pg**	**02 00 08.5**	**+0.5**
RDI1				S	**Sg**	**02 00 14.2**	**+0.9**
RODB	**Rodos**	**0.40**	**274**	P	**Pg**	**02 00 08.0**	**0.0**
RODB				S	**Sg**	**02 00 14.4**	**+1.0**
DALY	**Dalyan (Mula)**	**0.40**	**353**	Pg	**Pg**	**02 00 07.1**	**-1.0**
DALY				Sg	**Sg**	**02 00 13.3**	**-0.2**
IZZE	**Mula-Seydike**	**0.41**	**87**	P	**Pg**	**02 00 08.4**	**+0.1**
IZZE				S	**Sb**	**02 00 14.7**	**-0.8**
SABU	**Mula-Dalaman**	**0.45**	**27**	P	**Pg**	**02 00 08.6**	**-0.4**
SABU				S	**Sg**	**02 00 14.4**	**-0.7**
ARG	**Arkhangelos**	**0.52**	**247**	P	**Pg**	**02 00 10.1**	**-0.1**
ARG				S	**Sb**	**02 00 18.8**	**+0.3**
ARG	**Arkhangelos**	**0.52**	**247**	P	**Pg**	**02 00 10.0**	**-0.2**
ARG				S	**Sb**	**02 00 19.3**	**+0.9**
ARG				AML	AML	02 00 25.2	
	4.1nm,0.5s						
ARG				AML	AML	02 00 25.5	
	4.8nm,0.3s						
ARG	**Arkhangelos**	**0.52**	**247**	P	**Pg**	**02 00 10.0**	**-0.2**
ARG				S	**Sg**	**02 00 16.8**	**-0.3**
TURN	**Turunc**	**0.52**	**313**	Pg	**Pg**	**02 00 09.9**	**-0.4**
TURN				Sg	**Sg**	**02 00 17.2**	**0.0**
TURN	**Turunc**	**0.52**	**313**	P	**Pg**	**02 00 09.5**	**-0.8**
TURN				S	**Sg**	**02 00 16.2**	**-1.0**
CAME	**Cameli-Denizli**	**0.70**	**42**	Pg	**Pg**	**02 00 13.5**	**-0.3**
CAME				Sg	**Sb**	**02 00 23.9**	**-0.2**
AKAS	**Kas**	**0.74**	**104**	Pg	**Pn**	**02 00 15.9**	**-0.5**
AKAS	**Kas**	**0.74**	**104**	P	**Pb**	**02 00 15.1**	**+0.1**
AKAS				S	**Sb**	**02 00 25.7**	**+0.6**
RGE1	**Gennadi, Rhode**	**0.74**	**239**	P	**Pg**	**02 00 14.4**	**-0.1**
RGE1				S	**Sb**	**02 00 24.8**	**-0.2**
YER	**Yerkesik**	**0.80**	**334**	Pg	**Pg**	**02 00 15.7**	**+0.2**
YER	**Yerkesik**	**0.80**	**334**	P	**Pb**	**02 00 16.1**	**+0.3**
YER				S	**Sb**	**02 00 27.6**	**+1.1**
KNIK	**Mula-Seydike**	**0.81**	**58**	P	**Pg**	**02 00 15.2**	**-0.6**
KNIK				S	**Sb**	**02 00 27.2**	**+0.1**
CAEL	**Denizli, Camel**	**0.85**	**34**	P	**Pg**	**02 00 16.0**	**-0.7**
CAEL				S	**Sg**	**02 00 27.0**	**-0.8**
DNZT	**Denizli-Tavas-**	**0.89**	**16**	P	**Pg**	**02 00 16.8**	**-0.6**
DNZT				S	**Sg**	**02 00 27.5**	**-1.5**
MULA	**Mugla, Merkez-**	**0.89**	**339**	P	**Pg**	**02 00 16.4**	**-1.0**
MULA				S	**Sg**	**02 00 27.3**	**-1.8**
DAT	**Datca**	**0.97**	**289**	Pg	**Pg**	**02 00 18.6**	**-0.1**
DAT	**Datca**	**0.97**	**289**	P	**Pg**	**02 00 18.9**	**+0.2**
DAT				S	**Sg**	**02 00 31.1**	**-0.2**
DAT	**Datca**	**0.97**	**289**	P	**Pn**	**02 00 19.5**	**0.0**
DAT				S	**Sb**	**02 00 32.0**	**+0.5**
DEMR	**Demre-Antalya**	**0.98**	**100**	Pg	**Pn**	**02 00 20.1**	**+0.6**
ELL	**Elmali**	**1.01**	**71**	Pg	**Pn**	**02 00 20.1**	**-0.1**
ELL	**Elmali**	**1.01**	**71**	P	**Pb**	**02 00 19.8**	**+0.2**
ELL				S	**Sn**	**02 00 36.9**	**+2.5**
ELL				AML	AML	02 00 42.6	
	6.3nm,0.4s						
ELL				AML	AML	02 00 42.8	
	5.5nm,1.0s						
ELL	**Elmali**	**1.01**	**71**	P	**Pg**	**02 00 19.3**	**-0.4**
YAZI	**Mula-Dat§a-**	**1.05**	**285**	P	**Pb**	**02 00 19.8**	**-0.4**
YAZI				S	**Sb**	**02 00 33.0**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.06**	**9**	P	**Pb**	**02 00 19.2**	**-1.1**
TAVA				S	**Sg**	**02 00 32.0**	**-2.3**
GOLH	**Golhisar**	**1.06**	**39**	P	**Pb**	**02 00 19.6**	**-0.8**
GOLH				S	**Sb**	**02 00 34.6**	**+0.3**
APMY	**Acipayam-Deniz**	**1.15**	**24**	Pn	**Pb**	**02 00 21.4**	**-0.5**
MLSB	**Milas**	**1.16**	**320**	Pn	**Pb**	**02 00 20.7**	**-1.2**
BDRM	**Kayabasi**	**1.21**	**303**	P	**Pg**	**02 00 23.4**	**+0.1**
BDRM				S	**Sb**	**02 00 37.9**	**-0.5**
DNIZ	**Denizli-Tavas-**	**1.23**	**12**	P	**Pn**	**02 00 22.6**	**-0.5**
DNIZ				S	**Sb**	**02 00 38.2**	**-1.0**
BODT	**Bodrum**	**1.30**	**300**	Pn	**Pg**	**02 00 25.2**	**+0.2**
BODT	**Bodrum**	**1.30**	**300**	P	**Pg**	**02 00 25.4**	**+0.4**
BODT				S	**Sg**	**02 00 42.6**	**+0.7**
AKUM	**Antalya-Kumluc**	**1.32**	**94**	P	**Pb**	**02 00 24.5**	**-0.1**
AKUM				S	**Sg**	**02 00 45.6**	**+3.1**
ESEN	**Aydn-Nazilli**	**1.41**	**348**	P	**Pn**	**02 00 25.8**	**+0.4**
ESEN				S	**Sn**	**02 00 43.5**	**-0.4**
AYDN	**Tasoluk**	**1.41**	**332**	P	**Pb**	**02 00 26.2**	**0.0**
AYDN				S	**Sn**	**02 00 43.8**	**-0.2**
KORT	**Korkueli**	**1.44**	**66**	Pn	**Pg**	**02 00 27.9**	**+0.2**
KORT	**Korkueli**	**1.44**	**66**	P	**Pg**	**02 00 27.8**	**+0.1**
KORT				S	**Sg**	**02 00 48.9**	**+2.6**
INCE	**Denizli-Bozkur**	**1.46**	**28**	P	**Pb**	**02 00 27.4**	**+0.2**
INCE				S	**Sg**	**02 00 46.8**	**-0.4**
KEMT	**Kemer-ANTALYA**	**1.49**	**82**	Pn	**Pg**	**02 00 28.9**	**+0.1**
KLNA	**Kalymnos**	**1.50**	**292**	P	**Pb**	**02 00 27.6**	**-0.2**
DDIM	**Aydin, Didim**	**1.57**	**312**	P	**Pb**	**02 00 29.0**	**0.0**
NAZL	**Nazilli-Aydin**	**1.58**	**348**	Pn	**Pn**	**02 00 28.8**	**+0.9**
ANTB	**Antalya**	**1.63**	**72**	Pn	**Pg**	**02 00 30.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**337**	Pn	**Pn**	**02 00 30.0**	**+0.9**
BRDR	**BURDUR-Merkez**	**1.67**	**40**	P	**Pb**	**02 00 31.0**	**+0.3**
BRDR				S	**Sg**	**02 00 53.8**	**0.0**
BUCA	**Burdur, Bucak-**	**1.73**	**58**	P	**Pb**	**02 00 32.5**	**+0.7**
GCAM	**G?zelcaml?**	**1.74**	**318**	Pn	**Pn**	**02 00 30.8**	**+0.7**
GCAM	**G?zelcaml?**	**1.74**	**318**	P	**Pn**	**02 00 30.6**	**+0.6**
KIRA	**zmir-Kiraz**	**1.79**	**352**	P	**Pn**	**02 00 31.5**	**+0.6**
KIRA				S	**Sn**	**02 00 54.6**	**+1.0**
IZMR	**zmir-demi**	**1.82**	**341**	P	**Pn**	**02 00 31.9**	**+0.8**
IZMR				S	**Sn**	**02 00 52.9**	**-1.2**
BASM	**Basmaki-Afyon**	**1.84**	**35**	Pn	**Pb**	**02 00 32.8**	**-0.8**
ODEM	**Odemis-Izmir**	**1.92**	**345**	Pn	**Pn**	**02 00 33.5**	**+0.9**
SMG	**Samos**	**1.98**	**311**	P	**Pn**	**02 00 33.9**	**+0.6**
SMG				S	**Sn**	**02 00 58.4**	**+0.3**
SMG	**Samos**	**1.98**	**311**	P	**Pn**	**02 00 34.0**	**+0.6**
ISP	**Isparta**	**2.01**	**45**	Pn	**Pb**	**02 00 35.8**	**-0.8**
ISP	**Isparta**	**2.01**	**45**	P	**Pb**	**02 00 37.6**	**+1.0**
ISP	**Isparta**	**2.01**	**45**	P	**Pb**	**02 00 35.7**	**-0.9**
PASA	**Karahalli, USA**	**2.02**	**17**	P	**Pn**	**02 00 35.0**	**+1.0**
MANT	**Manisa**	**2.07**	**357**	P	**Pn**	**02 00 36.1**	**+1.3**
KULA	**Kula-Manisa**	**2.09**	**359**	Pn	**Pn**	**02 00 36.2**	**+1.2**
KRL1	**Karlovasi Samo**	**2.11**	**311**	P	**Pb**	**02 00 37.5**	**-0.7**
KZIL	**AFYON_Kizioren**	**2.16**	**31**	P	**Pn**	**02 00 37.5**	**+1.6**
DGB	**zmir**	**2.19**	**319**	P	**Pn**	**02 00 37.0**	**+0.8**
BAGO	**Egridir - ISPA**	**2.28**	**46**	P	**Pn**	**02 00 39.3**	**+1.8**
USAK	**Uak-Merkez**	**2.31**	**6**	P	**Pn**	**02 00 39.0**	**+1.1**
BLCB	**Balcova**	**2.37**	**326**	P	**Pn**	**02 00 39.1**	**+0.4**
BNAZ	**Uak-Banaz**	**2.44**	**22**	P	**Pn**	**02 00 41.6**	**+1.9**
AKHS	**Akhisar**	**2.56**	**344**	P	**Pn**	**02 00 41.9**	**+0.6**
URLA	**Izmir**	**2.57**	**320**	P	**Pn**	**02 00 43.4**	**+1.9**
THR8	**Santorini-Mono**	**2.61**	**271**	P	**Pn**	**02 00 43.6**	**+1.6**
DEMI	**Demirci**	**2.62**	**0**	P	**Pn**	**02 00 42.7**	**+0.4**
SEDI	**Konya, Seydise**	**2.64**	**66**	P	**Pb**	**02 00 45.5**	**-1.9**
SNT5	**Nea Kammeni, S**	**2.68**	**271**	P	**Pn**	**02 00 43.4**	**+0.5**
THR6	**Thira Island,**	**2.68**	**270**	P	**Pn**	**02 00 44.7**	**+1.8**
THR9	**Santorini-Faro**	**2.71**	**270**	P	**Pn**	**02 00 44.7**	**+1.4**
THR5	**Thira Island,**	**2.72**	**271**	P	**Pn**	**02 00 44.9**	**+1.5**
YVAC	**Isparta, Yalva**	**2.73**	**47**	P	**Pn**	**02 00 46.2**	**+2.4**
GDZ	**Gediz**	**2.73**	**13**	P	**Pn**	**02 00 44.4**	**+0.6**
NPS	**Neapolis**	**2.77**	**246**	P	**Pn**	**02 00 45.7**	**+1.5**
CHOS	**Chios island**	**2.89**	**314**	P	**Pn**	**02 00 47.2**	**+1.3**
CHOS	**Chios island**	**2.89**	**314**	P	**Pn**	**02 00 47.3**	**+1.3**
DOGA	**KONYA_Doganhis**	**2.90**	**54**	P	**Pn**	**02 00 48.0**	**+1.9**
KURO	**Afyon-Bolvadin**	**2.91**	**37**	P	**Pn**	**02 00 48.3**	**+2.1**
UCKU	**Afyonkarahisar**	**3.09**	**43**	P	**Pn**	**02 00 50.9**	**+2.3**
BYAT	**Afyon-Bayat**	**3.10**	**35**	P	**Pn**	**02 00 50.5**	**+1.7**
AKMS	**Akamas**	**3.26**	**114**	P	**Pn**	**02 00 50.8**	**-0.2**
AKMS				S	**Sn**	**02 01 29.6**	**0.0**
AKMS				AML	AML	02 01 34.0	
	0.2nm,0.4s						
AKMS				AML	AML	02 01 35.8	
	0.1nm,0.3s						
AKMS	**Akamas**	**3.26**	**114**	P	**Pn**	**02 00 50.5**	**-0.4**
KONT	**Konya--Tatoy**	**3.29**	**61**	P	**Pn**	**02 00 54.2**	**+2.9**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**02 00 52.9**	**+1.3**
IDI	**Anoyia**	**3.31**	**251**	Pn	**Pn**	**02 00 53.1**	**+1.5**
	31nm,0.5s,baz=67,slow=7.7,SNR=60						
IDI				Sn	**Sn**	**02 01 32.6**	**+1.8**
	11nm,0.3s,baz=96,slow=18,SNR=7.4						
ALFC	**Alefka**	**3.40**	**111**	P	**Pn**	**02 00 52.6**	**-0.3**
ALFC				S	**Sn**	**02 01 34.0**	**+0.9**
ALFC				AML	AML	02 01 38.7	
	0.1nm,0.2s						
ALFC				AML	AML	02 01 40.0	
	0.1nm,0.3s						
ALFC	**Alefka**	**3.40**	**111**	P	**Pn**	**02 00 52.6**	**-0.3**
NATA	**Nata**	**3.54**	**116**	P	**Pn**	**02 00 54.9**	**+0.1**
NATA				AML	AML	02 01 47.2	
	0.2nm,0.6s						
NATA				AML	AML	02 01 48.5	
	0.3nm,0.6s						
SIGR	**SIGRI**	**3.59**	**322**	P	**Pn**	**02 00 57.0**	**+1.5**
TROD	**Troodos**	**3.68**	**112**	P	**Pn**	**02 00 56.4**	**-0.6**
TROD				S	**Sn**	**02 01 40.9**	**+0.5**
TROD				AML	AML	02 01 52.1	
	0.1nm,0.5s						
TROD				AML	AML	02 01 53.2	
	0.1nm,0.5s						
XYLS	**Xyliatos**	**3.79**	**110**	P	**Pn**	**02 00 58.3**	**-0.1**
XYLS				S	**Sn**	**02 01 43.4**	**+0.5**
XYLS				AML	AML	02 01 48.9	
	0.1nm,0.2s						
XYLS				AML	AML	02 01 53.0	
	0.1nm,0.4s						
APOL	**The Sanctuary**	**3.81**	**116**	P	**Pn**	**02 00 58.2**	**-0.2**
APOL				S	**Sn**	**02 01 42.9**	**-0.1**
CSS	**Mathiatis**	**4.03**	**110**	P	**Pn**	**02 01 01.6**	**+0.1**
CSS				S	**Sn**	**02 01 50.1**	**+1.6**
CSS				AML	AML	02 01 55.4	
CSS				AML	AML	02 02 00.6	
CSS	**Mathiatis**	**4.03**	**110**	P	**Pn**	**02 01 01.8**	**+0.3**
CSS	**Mathiatis**	**4.03**	**110**	S	**Sn**	**02 01 47.2**	**-1.4**
ASGA	**Asgata**	**4.04**	**112**	P	**Pn**	**02 01 01.7**	**+0.1**
ASGA				S	**Sn**	**02 01 49.2**	**+0.4**
ASGA				AML	AML	02 01 58.9	
	0.1nm,0.6s						
ASGA				AML	AML	02 02 01.7	
	0.1nm,0.4s						
MVOU	**Mavrovouni**	**4.24**	**108**	P	**Pn**	**02 01 04.1**	**-0.3**
MVOU				S	**Sn**	**02 01 54.1**	**+0.4**
MVOU				AML	AML	02 02 01.1	
MVOU				AML	AML	02 02 02.2	
SAHE	**Sakarya_HENDEK**	**4.73**	**20**	⇓P	**Pn**	**02 01 13.6**	**+2.4**
KIRS	**Kirsehir-Merke**	**4.93**	**55**	⇑P	**Pn**	**02 01 16.3**	**+2.3**
BRTR	**Keskin Array B**	**5.10**	**48**	Pn	**Pn**	**02 01 18.1**	**+1.8**
	0.6nm,0.3s,baz=235,slow=16,SNR=27						
BRTR				Sn	**Sn**	**02 02 18.9**	**+3.8**
	0.6nm,0.3s,baz=224,slow=24,SNR=7.5						
BRTR				LR	LR	02 03 46.4	
	comp=Z,76nm,18.6s,baz=170,slow=44						
	2.5nm,0.6s						
HNTI	**Hanita**	**6.27**	**120**	P	**Pn**	**02 01 32.1**	**-0.2**
HNTI	**Hanita**	**6.27**	**120**	S	**Sn**	**02 02 41.0**	**-2.9**
MMA0B	**Mount Meron ar**	**6.47**	**120**	P	**Pn**	**02 01 34.9**	**-0.2**
MMA0B	**Mount Meron ar**	**6.47**	**120**	S	**Sn**	**02 02 46.4**	**-2.5**
MMAI	**Mount Meron Ar**	**6.47**	**120**	Pn	**Pn**	**02 01 34.0**	**-1.1**
	2.4nm,0.3s,baz=301,slow=12,SNR=20						
MMAI				Sn	**Sn**	**02 02 45.8**	**-3.0**
	3.1nm,0.3s,baz=303,slow=28,SNR=6.2						
	2.1nm,0.4s						
GEM	**Giv'at Ha'Em**	**6.55**	**117**	P	**Pn**	**02 01 36.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**6.55**	**117**	S	**Sn**	**02 02 47.6**	**-3.1**
NATI	**Neve Ativ**	**6.58**	**117**	P	**Pn**	**02 01 36.4**	**0.0**
NATI	**Neve Ativ**	**6.58**	**117**	S	**Sn**	**02 02 48.3**	**-3.1**
MMLI	**Mount Malkishu**	**6.82**	**124**	P	**Pn**	**02 01 39.4**	**-0.5**
MMLI	**Mount Malkishu**	**6.82**	**124**	S	**Sn**	**02 02 53.5**	**-3.8**
SALP	**Salfit**	**6.90**	**127**	P	**Pn**	**02 01 40.5**	**-0.5**
SALP	**Salfit**	**6.90**	**127**	S	**Sn**	**02 02 56.0**	**-3.3**
AMAZ	**Amatzia**	**7.09**	**132**	P	**Pn**	**02 01 42.9**	**-0.7**
AMAZ	**Amatzia**	**7.09**	**132**	S	**Sn**	**02 03 00.6**	**-3.5**
KZIT	**Kziot**	**7.25**	**138**	P	**Pn**	**02 01 45.6**	**-0.3**
KZIT	**Kziot**	**7.25**	**138**	S	**Sn**	**02 03 04.0**	**-4.1**
YTIR	**Yattir**	**7.33**	**132**	P	**Pn**	**02 01 46.3**	**-0.6**
YTIR	**Yattir**	**7.33**	**132**	S	**Sn**	**02 03 06.2**	**-3.9**
DSI	**Dead Sea**	**7.35**	**129**	P	**Pn**	**02 01 46.3**	**-0.8**
DSI	**Dead Sea**	**7.35**	**129**	S	**Sn**	**02 03 06.9**	**-3.5**
MSBI	**Mazada**	**7.51**	**131**	P	**Pn**	**02 01 48.8**	**-0.5**
MSBI	**Mazada**	**7.51**	**131**	S	**Sn**	**02 03 10.9**	**-3.5**
PLVB	**Pleven**	**7.64**	**337**	⇓P	**Pn**	**02 01 51.5**	**+0.5**
GHAJ	**Ghor Haditha**	**7.65**	**130**	P	**Pn**	**02 01 50.9**	**-0.3**
GHAJ	**Ghor Haditha**	**7.65**	**130**	S	**Sn**	**02 03 13.8**	**-3.9**
ICOR	**Ion Corvin**	**7.72**	**355**	⇓P	**Pn**	**02 01 54.2**	**+2.0**
ZFRI	**Zfri**	**7.96**	**135**	P	**Pn**	**02 01 54.3**	**-1.1**
ZFRI	**Zfri**	**7.96**	**135**	S	**Sn**	**02 03 20.1**	**-5.2**
ASF	**Jabal al Asfar**	**7.98**	**120**	Pn	**Pn**	**02 01 54.5**	**-1.5**
	0.2nm,0.3s,baz=311,slow=10,SNR=1.3						
ASF				Sn	**Sn**	**02 03 24.8**	**-1.4**
	0.1nm,0.3s,baz=241,slow=18,SNR=1.3						
	0.4nm,0.3s						
PRNI	**Paran**	**8.01**	**137**	P	**Pn**	**02 01 55.4**	**-0.9**
PRNI	**Paran**	**8.01**	**137**	S	**Sn**	**02 03 21.8**	**-5.1**
TIRR	**Tirgusor**	**8.03**	**358**	⇓P	**Pn**	**02 01 58.7**	**+2.3**
KRMI	**Paran Flat**	**8.05**	**140**	P	**Pn**	**02 01 55.9**	**-0.9**
KRMI	**Paran Flat**	**8.05**	**140**	S	**Sn**	**02 03 23.4**	**-4.3**
TLBR	**Topalu**	**8.13**	**357**	⇑P	**Pn**	**02 01 59.9**	**+2.1**
HRFI	**Mount Harif**	**8.28**	**138**	P	**Pn**	**02 01 59.0**	**-0.9**
HRFI				P	**Pn**	**02 01 59.0**	**-0.9**
HRFI	**Mount Harif**	**8.28**	**138**	S	**Sn**	**02 03 28.7**	**-4.6**
HRFI				S	**Sn**	**02 03 29.4**	**-3.9**
HARR	**Harsova**	**8.28**	**356**	⇑P	**Pn**	**02 02 02.1**	**+2.2**
MBRI	**Mt Berech**	**8.40**	**140**	P	**Pn**	**02 02 01.0**	**-0.7**
MBRI	**Mt Berech**	**8.40**	**140**	S	**Sn**	**02 03 31.7**	**-4.8**
EIL	**Elat**	**8.52**	**140**	Pn	**Pn**	**02 02 01.7**	**-1.5**
	0.7nm,0.3s,baz=330,slow=9.1,SNR=12						
EIL				Sn	**Sn**	**02 03 33.9**	**-5.4**
	2.2nm,0.3s,baz=327,slow=17,SNR=9.1						
	2.6nm,0.5s						
EIL	**Elat**	**8.52**	**140**	P	**Pn**	**02 02 02.4**	**-0.9**
EIL	**Elat**	**8.52**	**140**	S	**Sn**	**02 03 34.7**	**-4.6**
CFR	**Carcaliu**	**8.76**	**357**	⇓P	**Pn**	**02 02 08.6**	**+2.2**
MLR	**Muntele Rosu**	**9.30**	**348**	Pn	**Pn**	**02 02 16.3**	**+2.3**
	0.3nm,0.3s,baz=170,slow=12,SNR=7.5						
MLR				Sn	**Sn**	**02 04 01.8**	**+3.3**
	0.1nm,0.3s,baz=152,slow=20,SNR=1.4						
	2.8nm,0.8s						
MLR	**Muntele Rosu**	**9.30**	**348**	⇓P	**Pn**	**02 02 16.7**	**+2.7**
PLOR	**Plostina**	**9.55**	**351**	⇓P	**Pn**	**02 02 19.9**	**+2.5**
TESR	**Tescani**	**10.20**	**352**	⇑P	**Pn**	**02 02 28.0**	**+1.8**
JOSR	**Joseni**	**10.55**	**348**	⇓P	**Pn**	**02 02 32.5**	**+1.4**
BURAR	**Bucovina Array**	**11.48**	**348**	⇓P	**Pn**	**02 02 46.7**	**+2.9**
VRAC	**Vranov**	**15.62**	**329**	⇓P	**Pn**	**02 03 41.6**	**+1.6**
GERES	**GERESS Array B**	**16.58**	**323**	Pn	**P**	**02 03 54.3**	**-0.5**
	baz=107,slow=17,SNR=4.0						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**25.10**	**357**	P	**P**	**02 05 25.0**	**+0.8**
	2.4nm,0.9s,baz=162,slow=8.0,SNR=10						
	2.4nm,0.9s						
ESDC	**Sonseca Array**	**25.86**	**287**	P	**P**	**02 05 31.0**	**-0.5**
	0.2nm,0.5s,baz=81,slow=9.7,SNR=5.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**33.53**	**233**	P	**P**	**02 06 39.4**	**-0.3**
	0.2nm,0.4s,baz=27,slow=9.7,SNR=4.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**40.66**	**58**	P	**P**	**02 07 41.0**	**+1.0**
	0.3nm,0.7s,baz=284,slow=5.8,SNR=2.8						
	0.3nm,0.7s						

*IDC **27** 02:05:29.4±0.4, 3.°08N×127.°02E, h0km, mb4.7/35, mbtmp4.6/35, MS3.6/29, Error ellipse: s-maj=19.7km s-min=9.1km az=80.0*
*BJI **27** 02:05:33.7, 2.°56N×127.°16E, h75km, mB5.0/16, mb4.8/47, Ms4.4/6, Ms7 4.1/8*
*MOS **27** 02:05:34.9±1.0, 3.°11N×127.°01E, h51km, mb5.0/35, Error ellipse: s-maj=11.7km s-min=5.9km az=116.8*
*DJA **27** 02:05:35.6±0.9, 3.°N±2.°×12.°7E±.°, h18km±8km, M4.9/33, mb5.0/33, mB5.4/12, MLv5.0/19, Mw(mB)4.8/12*
*NEIC **27** 02:05:38.0±2.4, 3.°05N±0.°07×127.°10E±0.°07, h58km±5km, mb5.0/65, Error ellipse: s-maj=11.2km s-min=9.7km az=50.0*

ISC 27 02:05:37.2±0.5, **3.°07N**±0.°04×**127.°13E**±0.°05, **h55**km±3km, **h55**km:**pP-P**, **n279**, σ1§53/274, **mb4.8**/99, **MS3.7**/35, **18C-9D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.71**	**291**	P	**Pn**	**02 06 03.2**	**-1.5**
TNTI	**Ternate**	**2.30**	**174**		**Pn**	**02 06 13.2**	**+0.5**
TNTI	**Ternate**	**2.30**	**174**	P	**Pn**	**02 06 13.2**	**+0.5**
TNTI	**Ternate**	**2.30**	**174**	P	**Pn**	**02 06 13.4**	**+0.7**
KMSI	**Cibinong**	**4.01**	**232**	P	**Pn**	**02 06 37.1**	**+0.9**
KMSI				S	**Sn**	**02 07 25.6**	**+3.7**
DAV	**Davao City (W)**	**4.26**	**339**		Pn	02 06 44.3	+4.7
DAV	**Davao City (W)**	**4.26**	**339**	Pg	Pn	02 06 45.0	+5.4
	0.2nm,0.3s,baz=205,slow=11,SNR=6.1						
DAV				Lg	Lg	02 07 37.6	
	0.3nm,0.3s,baz=207,slow=14,SNR=8.4						
SANI	**Sanana**	**5.22

comp=Z,63nm,1.4s
MBWA Marble Bar 25.15 196 P **P 02 10 57.5 0.0**
QIS Mount Isa 26.48 153 P **P 02 11 07.8 -1.8**
AS31 Alice Springs 27.39 166 P **P 02 11 16.7 -0.9**
ASAR Alice Springs 27.39 166 P **P 02 11 16.4 -1.3**
ASAR Alice Springs 27.39 166 P **P 02 11 16.1 -1.5**
comp=Z,5.3nm,0.4s,baz=348,slow=7.6,SNR=122
ASAR PcP **PcP 02 14 36.0 +0.3**
comp=Z,2.1nm,0.4s,baz=354,slow=2.4,SNR=6.4
ASAR S **S 02 15 55.7 +1.5**
comp=Z,2.4nm,1.0s,baz=350,slow=18,SNR=5.9
comp=Z,5.3nm,0.4s
NJ2 Nanjing 29.86 346 *e*P **P 02 11 42.0 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WHN Wuhan 29.88 337 P P 02 11 44.5 +4.8
JNU Nakatsue 30.10 6 P **P 02 11 40.7 -0.9**
JNU IAmb IAmb 02 11 43.8
comp=Z,22nm,0.9s
JNU Nakatsue 30.10 6 P **P 02 11 41.1 -0.6**
comp=Z,18nm,0.8s,baz=148,slow=6.7,SNR=8.5
JNU LR LR 02 23 01.5
comp=Z,121nm,21.8s,baz=159,slow=35
comp=Z,18nm,0.8s
MEEK Meekatharra 30.66 195 P **P 02 11 46.2 -0.6**
CMAR Chiang Mai Arr 31.55 301 P **P 02 11 53.1 -1.5**
comp=Z,4.7nm,0.6s,baz=121,slow=7.4,SNR=19
CMAR PcP **PcP 02 14 46.8 +0.3**
comp=Z,1.9nm,0.3s,baz=126,slow=1.0,SNR=8.9
CMAR LR LR 02 24 15.0
comp=Z,39nm,21.5s,baz=100,slow=36
comp=Z,4.7nm,0.6s
CMAR Chiang Mai Arr 31.55 301 *ce*P **P 02 11 53.2 -1.5**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 31.70 302 P **P 02 11 54.4 -1.6**
CHTO Chiang Mai 31.70 302 P **P 02 11 54.4 -1.6**
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 31.70 302 P **P 02 11 54.3 -1.7**
CHTO pP **pP 02 12 08.4 -1.0**
JHJ Hachijo jima 2 32.15 20 LR LR 02 23 30.1
comp=Z,71nm,19.4s,baz=170,slow=34
INKA Innaminka 33.33 158 P **P 02 12 09.4 -0.6**
FORT Forrest 33.68 179 IAmb IAmb 02 12 15.2
comp=Z,14nm,0.8s
PZH PanZhiHua 33.69 316 P **P 02 12 15.3 +1.9**
KSRS Korea Array 34.22 1 P **P 02 12 17.6 -0.1**
comp=Z,9.2nm,0.8s,baz=178,slow=9.7,SNR=27
KSRS PcP **PcP 02 14 54.4 +0.9**
comp=Z,2.6nm,0.8s,baz=180,slow=3.5,SNR=6.1
KSRS LR LR 02 24 48.0
comp=Z,36µm,21.8s,baz=180,slow=34
comp=Z,9.2nm,0.8s
TIA Tai'an 34.25 346 P **P 02 12 18.5 +0.5**
TIA pmax pmax
comp=Z,9.0nm,1.0s
KS19 Wonju Array Si 34.27 1 P **P 02 12 18.3 +0.2**
KS19 IAmb IAmb 02 12 19.2
comp=Z,23nm,0.9s
MAJO Matsushiro 34.84 16 *i* P **P 02 12 23.1 0.0**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 34.84 16 P **P 02 12 22.2 -0.9**
comp=Z,3.6nm,0.8s,baz=179,slow=9.3,SNR=14
MJAR PcP **PcP 02 14 56.2 +0.9**
comp=Z,1.6nm,0.6s,baz=181,slow=3.4,SNR=5.1
MJAR LR LR 02 23 58.6
comp=Z,185nm,20.8s,baz=244,slow=32
comp=Z,3.6nm,0.8s
HNR Honiara 34.98 111 LR LR 02 25 40.1
comp=Z,110nm,21.4s,baz=308,slow=34
XAN Xi'an 35.18 333 P **P 02 12 24.5 -1.6**
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,190nm,5.8s
HNS HongShan 36.02 343 ⇓P **P 02 12 34.0 +0.8**
EIDS Eidsvold 36.59 142 P **P 02 12 37.5 -0.7**
EIDS IAmb IAmb 02 12 38.2
comp=Z,18nm,0.9s
BBOO Buckleboo 36.68 167 IAmb IAmb 02 12 39.0
comp=Z,24nm,1.0s
STKA Stephens Creek 37.38 160 P **P 02 12 44.4 -0.5**
STKA Stephens Creek 37.38 160 P **P 02 12 44.4 -0.5**
comp=Z,22nm,0.6s,baz=334,slow=8.6,SNR=63
STKA PcP **PcP 02 15 03.4 +0.4**
comp=Z,5.1nm,0.6s,baz=315,slow=6.5,SNR=4.1
STKA LR LR 02 29 34.9
comp=Z,123nm,20.1s,baz=286,slow=39
comp=Z,22nm,0.6s
BJT Baijiatuau 38.09 346 P **P 02 12 51.2 +0.4**
BJT Baijiatuau 38.09 346 P **P 02 12 51.2 +0.4**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 38.09 346 P **P 02 12 50.9 +0.1**
BJI Beijing 38.11 346 P **P 02 12 51.0 +0.1**
BJI pmax pmax
comp=Z,23nm,1.0s
LZDM Lanzhou Array 39.24 329 P **P 02 13 00.2 -0.7**
comp=Z,1.2nm,0.3s,baz=209,slow=11,SNR=3.7
LZDM LR LR 02 31 31.6
comp=Z,70nm,18.9s,baz=160,slow=40
comp=Z,1.2nm,0.3s
LZH Lanzhou 39.27 330 *e*P **P 02 13 01.8 +0.9**
LZH sP sP 02 13 24.3 +3.4
LZH pmax pmax
comp=Z,27nm,1.1s
LZH LR LR
comp=Z,190nm,19.3s
LZH LR LR
comp=Z,230nm,20.3s
LZH LR LR
comp=Z,270nm,21.6s
HHC Hu-ho-hao-te 40.14 342 *e*P **P 02 13 10.0 +2.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,68nm,3.6s
BTO Baotou 40.43 340 *e*P **P 02 13 12.3 +1.9**
BTO sP sP 02 13 42.5 +12
BTO PP **PnPn 02 14 51.3 +2.7**
BTO S **S 02 19 17.5 +2.3**
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,180nm,6.7s
BTO LR LR
comp=Z,260nm,5.2s
BTO LR LR
comp=Z,280nm,5.8s
BTO LR LR
comp=Z,240nm,5.4s
CN2 Changchun 40.58 358 P **P 02 13 12.3 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SHL Shillong 40.59 307 P **P 02 13 10.3 -1.7**
SHL IAmb IAmb 02 13 12.2
comp=Z,28nm,0.8s
SHL Shillong 40.59 307 P **P 02 13 10.3 -1.7**
SHL pmax pmax
comp=Z,28nm,0.8s
ARMA Armidale 40.70 147 P **P 02 13 13.2 +0.4**
ARMA IAmb IAmb 02 13 13.6
comp=Z,23nm,0.6s
USRK Ussuriysk Ar. 41.18 5 P **P 02 13 16.6 +0.3**
comp=Z,8.9nm,0.8s,baz=178,slow=6.8,SNR=11
comp=Z,8.9nm,0.8s
MDJ Mudanjiang 41.43 3 P **P 02 13 19.3 +0.9**
MDJ pmax pmax
comp=Z,24nm,0.9s
MDJ Mudanjiang 41.43 3 P **P 02 13 18.6 +0.2**
MDJ IAmb IAmb 02 13 20.3
comp=Z,17nm,0.9s
MDJ Mudanjiang 41.43 3 P **P 02 13 17.8 -0.6**
XLT XiLinHaoTe 41.82 348 *e*P **P 02 13 21.8 +0.1**
XLT pmax pmax
comp=Z,17nm,0.8s
XLT pmax pmax
comp=Z,160nm,6.5s
BNX BinXian 42.49 0 ⇑P **P 02 13 28.0 +0.9**
BNX pmax pmax
comp=Z,15nm,0.8s
ASAJ Asahikawa 43.10 16 P **P 02 13 32.5 +0.5**
comp=Z,10nm,0.8s,baz=228,slow=5.6,SNR=5.4
ASAJ LR LR 02 29 44.4
comp=Z,138nm,20.3s,baz=136,slow=34
comp=Z,10nm,0.8s
LSA Lhasa 43.17 312 IAmb IAmb 02 13 33.7
comp=Z,12nm,0.7s
GTA Gaotai 43.86 329 *e*P **P 02 13 38.3 -0.1**
GTA sP sP 02 14 08.5 +10
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA LR LR
comp=Z,140nm,13.5s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,190nm,17.4s
EVN Everest 45.70 307 P **P 02 13 52.9 -1.0**
YSS Yuzhno-Sakhali 45.77 15 *e*P **P 02 13 56.5 +3.3**
YSS pmax pmax
comp=Z,10.0nm,1.2s
HIA Hailar 46.45 353 *i* P **P 02 13 58.7 0.0**
HIA pmax pmax
comp=Z,10.0nm,1.0s
HILR Hailar Array B 46.74 353 P **P 02 14 01.1 +0.2**
comp=Z,3.3nm,0.5s,baz=173,slow=13,SNR=5.6
comp=Z,3.3nm,0.5s
HEH HeiHe 47.01 0 *e*P **P 02 14 02.0 -1.0**
HEH pmax pmax
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 47.86 342 P **P 02 14 10.6 +0.8**
ULN IAmb IAmb 02 14 11.9
comp=Z,20nm,0.9s
ULN Ulaanbaatar 47.86 342 P **P 02 14 10.6 +0.8**
ULN pmax pmax
comp=Z,21nm,1.0s
SONM Songino Array 48.04 341 P **P 02 14 11.2 0.0**
SONM Songino Array 48.04 341 P **P 02 14 10.8 -0.4**
comp=Z,4.6nm,0.6s,baz=159,slow=8.9,SNR=21
comp=Z,4.6nm,0.6s
SONM Songino Array 48.04 341 P **P 02 14 11.2 0.0**
SONM pmax pmax
comp=Z,7.0nm,0.9s
HYB Hyderabad 49.72 290 *e*P **P 02 14 20.2 -4.2**
HYB IVmB_BB 02 14 21.3
comp=Z,650nm,3.3s
HYB *e*pP **pwP 02 14 38.4 -2.2**
HYB *e*PcP **PcP 02 15 47.1 +2.1**
HYB *e*PP **PP 02 16 24.3 +4.9**
HYB *e*S **S 02 21 37.9 +8.0**
HYB IVMs_BB IVMs_BB 02 24 38.7
comp=Z,1µm,3.8s
ZEA Zeya 50.50 0 *e*P **P 02 14 30.0 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
TLY Talaya 52.27 342 P **P 02 14 43.5 +0.5**
TLY IAmb IAmb 02 14 44.7
comp=Z,12nm,0.9s
TLY Talaya 52.27 342 *ce*P **P 02 14 43.0 0.0**
TLY pmax pmax
comp=Z,26nm,1.7s
WMQ Urumqi 53.49 325 *e*P **P 02 14 54.0 +1.8**
WMQ LR LR
comp=Z,170nm,24.1s
PETK Petropavlovsk- 55.88 22 P **P 02 15 09.6 +0.3**
comp=Z,4.5nm,0.8s,baz=182,slow=4.7,SNR=4.6
PETK LR LR 02 39 24.2
comp=Z,24nm,20.1s,baz=229,slow=36
comp=Z,4.5nm,0.8s
DGZ Jazzator, Alta 57.36 330 *i* P **P 02 15 19.8 -0.2**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
MK31 Makanchi Array 58.32 325 *ce*P **P 02 15 25.7 -1.0**
MKAR Makanchi Array 58.32 325 P **P 02 15 25.8 -0.9**
comp=Z,5.9nm,0.6s,baz=121,slow=8.5,SNR=72
MKAR LR LR 02 42 30.8
comp=Z,68nm,21.3s,baz=93,slow=38
comp=Z,5.9nm,0.6s
TARG Taragay, Kyrgy 58.50 318 P **P 02 15 28.1 -0.4**
TARG Taragay, Kyrgy 58.50 318 P **P 02 15 28.1 -0.4**
TARG pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 58.51 325 P **P 02 15 27.0 -0.9**
MAKZ IAmb IAmb 02 15 27.7
comp=Z,6.4nm,0.8s
MAKZ Makanchi 58.51 325 P **P 02 15 27.1 -0.9**
MAKZ Makanchi 58.51 325 P **P 02 15 26.8 -1.1**
KSH Kashi 58.79 315 P **P 02 15 30.3 +0.1**
KSH sP sP 02 15 54.0 +3.5
KSH pmax pmax
comp=Z,4.0nm,0.9s
YAK Yakutsk 58.85 1 P **P 02 15 30.1 +0.2**
YAK Yakutsk 58.85 1 P **P 02 15 29.7 -0.3**
comp=Z,26nm,0.7s,baz=194,slow=22,SNR=6.7
comp=Z,26nm,0.7s
YAK Yakutsk 58.85 1 *e*P **P 02 15 29.0 -1.0**
YAK *e**PP **pwP 02 15 45.0 -1.9**
YAK *e* 02 16 17.8
YAK *e*S **S 02 23 30.5 -0.9**
YAK *e**SS **sS 02 23 56.6 +1.1**
YAK *e* 02 25 13.2
YAK *e*SS **SS 02 27 27.0 +1.4**
YAK pmax pmax
comp=Z,16nm,0.7s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK pmax pmax
comp=Z,343nm,7.1s
YAK pmax pmax
comp=N,182nm,6.8s
YAK pmax pmax
comp=E,106nm,3.8s
YAK smax smax
comp=E,407nm,4.8s
YAK smax smax
comp=N,224nm,5.1s
MA2 Magadan 59.24 14 LR LR 02 38 34.7
comp=N,40nm,21.8s,baz=254,slow=34
LBZ Lake Benmore 60.92 146 P **P 02 15 44.5 0.0**
AAK Ala-Archa 61.11 318 LR LR 02 45 33.6
comp=N,50nm,21.6s,baz=101,slow=39
ZAA0 Zalesovo Array 61.35 333 P **P 02 15 46.1 -1.2**
ZAA0 IAmb IAmb 02 15 47.2
comp=Z,6.8nm,0.9s
ZALV Zalesovo Beam 61.35 333 P **P 02 15 46.0 -1.3**
comp=Z,4.1nm,0.6s,baz=127,slow=6.6,SNR=21
ZALV LR LR 02 43 10.4
comp=Z,43nm,20.8s,baz=108,slow=37
comp=Z,4.1nm,0.6s
ARSB Arslanbob 61.60 316 IAmb IAmb 02 16 13.3
comp=Z,16nm,1.5s
URZ Urewera 61.79 137 LR LR 02 44 24.5
comp=Z,88nm,18.4s,baz=284,slow=38
RTZ Ruatahuna 61.88 137 P **P 02 15 50.1 -1.2**
KBL Kabul 62.24 308 P **P 02 15 51.6 -2.3**
KBL IAmb IAmb 02 15 53.7
comp=Z,11nm,0.7s
KBL Kabul 62.24 308 P **P 02 15 51.6 -2.3**
KBL pmax pmax
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 62.50 327 P **P 02 15 54.2 -0.8**
comp=Z,6.8nm,0.5s,baz=129,slow=6.4,SNR=50
comp=Z,6.8nm,0.5s
KURK Kurchatov 62.51 328 P **P 02 15 54.2 -0.8**
KURK Kurchatov 62.51 328 *ce*P **P 02 15 54.4 -0.7**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 62.51 328 P **P 02 15 54.2 -0.8**
KURK pP **pP 02 16 09.9 +0.5**
SEY Seymchan 62.58 13 P **P 02 15 55.1 -0.3**
comp=Z,4.2nm,0.9s,baz=156,slow=22,SNR=3.1
comp=Z,4.2nm,0.9s
SEY Seymchan 62.58 13 *i* P **P 02 15 55.6 +0.3**
SEY pmax pmax
comp=Z,7.0nm,1.1s
CHGR Chuyangaron 63.40 312 IAmb IAmb 02 16 02.8
comp=Z,11nm,0.6s
KK31 Karatay Array 63.98 317 P **P 02 16 03.8 -1.3**
KK31 Karatay Array 63.98 317 P **P 02 16 03.8 -1.3**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 63.98 317 P **P 02 16 03.7 -1.4**
KKAR Karatay Array 63.98 317 P **P 02 16 03.7 -1.4**
BVAR Borovoye Array 68.08 327 P **P 02 16 30.6 -0.6**
comp=Z,3.5nm,0.5s,baz=131,slow=8.1,SNR=26
BVAR LR LR 02 46 13.5
comp=Z,46nm,20.6s,baz=127,slow=36
comp=Z,3.5nm,0.5s
BORK Borovoye 68.13 327 *ce*P **P 02 16 31.1 -0.4**
BORK pmax pmax
comp=Z,27nm,1.7s
BORK Borovoye 68.13 327 P **P 02 16 30.8 -0.7**
TIXI Tiksi 68.49 1 P **P 02 16 32.8 -0.6**
TIXI Tiksi 68.49 1 P **P 02 16 32.5 -0.9**
comp=Z,4.1nm,0.4s,baz=228,slow=3.4,SNR=13
TIXI LR LR 02 44 49.3
comp=Z,50nm,21.9s,baz=200,slow=34
comp=Z,4.1nm,0.4s
TIXI Tiksi 68.49 1 *ce*P **P 02 16 33.3 0.0**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 70.08 15 *i* P **P 02 16 42.3 -1.0**
BILL pmax pmax
comp=Z,5.0nm,1.4s
CASY Casey 70.22 187 P **P 02 16 44.5 +0.4**
CASY Casey 70.22 187 P **P 02 16 44.7 +0.6**
AB31 Akbulak array 72.91 321 P **P 02 16 59.8 -0.8**
AB31 IAmb IAmb 02 17 00.8
comp=Z,10nm,0.8s
ABKAR Akbulak array 72.91 321 P **P 02 16 59.6 -1.0**
SVE Sverdlovsk 74.72 328 *e*P **P 02 17 10.8 -0.3**
SVE pmax pmax
comp=Z,28nm,1.1s
RAR Rarotonga 75.42 113 LR LR 02 49 49.0
comp=Z,20nm,18.4s,baz=278,slow=35
ARTI Arti 75.78 328 P **P 02 17 16.5 -0.8**
ARTI IAmb IAmb 02 17 16.9
comp=Z,17nm,0.6s
ARTI Arti 75.78 328 *c* *i*P **P 02 17 16.1 -1.1**
ARTI S **S 02 26 53.0 -2.0**
ARTI SS **SS 02 31 44.2 -3.5**
ARTI pmax pmax
comp=Z,35nm,1.5s
ARTI Arti 75.78 328 P **P 02 17 15.9 -1.3**
AKT Akhty 80.03 311 *e*P **P 02 17 38.9 -2.4**
AKT *e* 02 17 45.8
AKT *e**PP **pP 02 17 54.9 -1.3**
AKT *e**SP **sP 02 18 04.0 +1.9**
AKT *e*S **S 02 27 38.9 -2.7**
AKT pmax pmax
comp=Z,13nm,0.9s
KIRV Kirov 80.99 329 *ce*P **P 02 17 45.8 0.0**
RAYN Ar Rayn 81.11 293 P **P 02 17 46.4 -0.9**
RAYN IAmb IAmb 02 17 47.2
comp=Z,8.2nm,0.8s
RAYN Ar Rayn 81.11 293 P **P 02 17 46.4 -0.9**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 81.11 293 P **P 02 17 46.4 -0.9**
BELG Belogornoye 81.17 322 *i* P **P 02 17 45.8 -1.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
ABPO Ambohimpanom 81.47 250 P **P 02 17 48.9 -0.6**
ABPO Ambohimpanom 81.47 250 P **P 02 17 48.9 -0.6**
ABPO pmax pmax
comp=Z,4.0nm,0.6s
E19K Redstone River 81.68 22 IAmb IAmb 02 18 00.5
comp=Z,15nm,0.9s
VOI Vohitsoka 82.19 248 P **P 02 17 52.9 -0.3**
VOI IAmb IAmb 02 17 53.9
comp=Z,13nm,1.0s
GNI Garni 82.21 310 LR LR 02 59 06.4
comp=Z,22nm,21.3s,baz=93,slow=39
GNI Garni 82.21 310 *i* P **P 02 17 53.9 +0.9**
GNI pmax pmax
comp=Z,11nm,1.2s
KDAK Kodiak Island 82.23 32 LR LR 02 47 37.6
comp=Z,153nm,21.5s,baz=245,slow=31
VNDA Vanda 82.73 173 P **P 02 17 55.1 +0.4**
VNDA Vanda 82.73 173 P **P 02 17 54.9 +0.2**
comp=Z,3.2nm,0.7s,baz=318,slow=6.1,SNR=23
comp=Z,3.2nm,0.7s
VNDA Vanda 82.73 173 P **P 02 17 55.1 +0.4**
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA Vanda 82.73 173 P **P 02 17 55.1 +0.4**
H21K Melozitna Rive 83.11 24 P **P 02 17 58.6 +1.6**
H21K IAmb IAmb 02 18 41.1
comp=Z,38nm,1.9s
MAW Mawson 83.28 200 P **P 02 17 57.9 +0.2**
comp=Z,6.3nm,0.7s,baz=73,slow=5.8,SNR=21
comp=Z,6.3nm,0.7s
SBA Scott Base 83.64 172 P **P 02 18 00.7 +1.4**
KBZ Khabaz 83.72 313 P **P 02 17 60.0 -0.5**
comp=Z,3.2nm,0.8s,baz=166,slow=6.0,SNR=9.4
comp=Z,3.2nm,0.8s
KBZ Khabaz 83.72 313 P **P 02 18 00.0 -0.5**
ATD Arta Tunnel 83.80 281 IAmb IAmb 02 18 03.5
comp=Z,15nm,0.8s
KIV Kislovodsk 83.88 314 *e*P **P 02 18 01.3 -0.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,32nm,19.0s
PPT Papeete 84.53 108 LR LR 02 49 37.0
comp=Z,24nm,21.3s,baz=266,slow=31
PPT2 Papeete2 84.53 108 *e*LR LR 02 44 46.3
PPT2 comp=Z,78nm,25.2s
PPT2 *e*LR LR 02 44 46.3
comp=Z,108nm,30.0s
SML Sawmill 84.72 28 P **P 02 18 05.9 +0.7**
VRH Novokhopyorsk 84.74 321 *e*P **P 02 18 03.7 -1.8**
VRH pmax pmax
comp=Z,18nm,0.8s
TBI Tubuai 85.16 114 *e*LR LR 02 45 03.3
comp=Z,460nm,30.2s
TBI *e*LR LR 02 45 03.9
comp=Z,787nm,34.0s
ILAR Eielson Array 85.52 25 P **P 02 18 08.2 -0.9**
comp=Z,0.5nm,0.6s,baz=253,slow=5.3,SNR=5.9
comp=Z,0.5nm,0.6s
KLMR Klimovskoe 86.17 331 *e*P **P 02 18 10.7 -1.7**
KLMR pmax pmax
comp=Z,30nm,1.5s
LPSR Galich'ya Gora 86.48 322 *e*P **P 02 18 13.3 -0.8**
LPSR pmax pmax
comp=Z,19nm,0.9s
OBN Obninsk 87.82 325 ⇓*i*P **P 02 18 19.2 -1.3**
OBN *i* S **SKSac 02 28 48.1 +4.0**
OBN *i* SS **SS 02 34 50.7 +4.1**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,46nm,15.0s
GAZ Gaziantep 88.10 307 IAmb IAmb 02 18 24.3
comp=Z,10nm,0.8s
KIBK Kibwezi 89.21 268 P **P 02 18 28.8 +0.7**
KIBK IAmb IAmb 02 18 29.1
comp=Z,4.5nm,0.9s
MMAI Mount Meron Ar 89.79 303 P **P 02 18 29.9 -0.5**
comp=Z,1.1nm,0.6s,baz=80,slow=10,SNR=2.7
comp=Z,1.1nm,0.6s
KIRS Kirsehir-Merke 90.58 309 ⇑P **P 02 18 32.6 -1.3**
BR104 Keskin Array S 90.74 310 P **P 02 18 34.4 -0.4**
comp=Z,3.6nm,0.8s
BR131 Keskin Array S 90.75 310 *i* P **P 02 18 34.1 -0.8**
BRTR Keskin Array B 90.75 310 *ce*P **P 02 18 34.0 -0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BR106 Keskin Array S 90.76 310 P **P 02 18 34.5 -0.4**
comp=Z,4.1nm,0.8s
BR105 Keskin Array S 90.76 310 P **P 02 18 34.5 -0.4**
comp=Z,4.7nm,0.9s
SPITS Spitsbergen Ar 91.19 349 P **P 02 18 35.4 -0.6**
comp=Z,7.1nm,1.1s,baz=293,slow=12,SNR=9.3
comp=Z,7.1nm,1.1s
ARCES ARCESS Array B 91.20 340 P **P 02 18 34.6 -1.5**
comp=Z,4.3nm,0.8s,baz=91,slow=5.1,SNR=11
ARCES LR LR 03 03 47.6
comp=Z,22nm,18.4s,baz=70,slow=38
comp=Z,4.3nm,0.8s
ANTO Ankara 91.38 310 P **P 02 18 37.4 -0.3**
SYO Syowa Base 91.96 201 ⇓*e*PcP **PcP 02 18 43.1 +2.8**
FINES FINESS Array B 92.59 332 P **P 02 18 40.5 -2.2**
comp=Z,0.9nm,0.5s,baz=68,slow=5.1,SNR=9.3
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 92.65 321 IAmb IAmb 02 18 42.8
comp=Z,4.6nm,1.2s
AKASG Malin Array Be 92.65 321 P **P 02 18 41.5 -1.7**
comp=Z,0.4nm,0.4s,baz=77,slow=3.8,SNR=4.1
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 92.65 321 *ce*P **P 02 18 44.0 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.7s

AK07	Malin Array Si	92.68	321	P	P	02 18 41.8	-1.5
QSPA	South Pole Qui	92.98	180	P	P	02 18 47.6	+3.1
QSPA				IAmb	IAmb	02 21 57.5	
	comp=Z,15nm,1.8s						
QSPA	South Pole Qui	92.98	180	P	P	02 18 45.9	+1.4
	comp=Z,1.6nm,0.6s,baz=239,slow=1.8,SNR=16						
	comp=Z,1.6nm,0.6s						
TAOE	Nuku Hiva Isla	93.15	99	eLR	LR	02 48 43.6	
	comp=Z,98nm,24.4s						
SORM	Soroca	93.59	318	⇓P	P	02 18 46.5	-1.0
SORM	Soroca	93.59	318	P	P	02 18 46.5	-1.0
TIRR	Tirgusor	94.08	315	⇓P	P	02 18 48.4	-1.5
TIRR	Tirgusor	94.08	315	P	P	02 18 48.4	-1.5
DLBC	Dease Lake	94.10	31	LR	LR	02 55 23.2	
	comp=Z,369nm,21.9s,baz=255,slow=32						
CFR	Carcaliu	94.17	316	⇓P	P	02 18 49.1	-1.3
CFR	Carcaliu	94.17	316	P	P	02 18 49.0	-1.3
NEGRR	Negrea	94.30	316	⇑P	P	02 18 49.8	-1.1
HARR	Harsova	94.39	315	⇑P	P	02 18 50.2	-1.1
HARR	Harsova	94.39	315	P	P	02 18 50.2	-1.1
TESR	Tescani	94.99	317	⇓P	P	02 18 52.6	-1.5
VRI	Vrincioaia	95.04	316	⇑P	P	02 18 53.9	-0.4
VRI	Vrincioaia	95.04	316	P	P	02 18 53.9	-0.4
PLOR	Plostina	95.10	316	⇓P	P	02 18 53.6	-1.0
PLOR	Plostina	95.10	316	P	P	02 18 53.6	-1.0
NEHR	Nehoiu	95.42	316	⇓P	P	02 18 55.7	-0.4
TURR	Turia	95.50	317	⇑P	P	02 18 55.2	-1.2
MLR	Muntele Rosu	95.65	316	IAmb	IAmb	02 18 57.2	
	comp=Z,4.1nm,0.8s						
MLR	Muntele Rosu	95.65	316	P	P	02 18 56.8	-0.5
	comp=Z,2.2nm,0.6s,baz=117,slow=4.5,SNR=5.4						
	comp=Z,2.2nm,0.6s						
MLR	Muntele Rosu	95.65	316	⇑P	P	02 18 56.3	-0.9
BUR08	Bucovina Ar. S	95.76	318	IAmb	IAmb	02 18 59.9	
	comp=Z,4.6nm,1.0s						
BBB	Bella Bella	96.58	37	LR	LR	02 53 02.7	
	comp=Z,27nm,20.7s,baz=250,slow=30						
RES	Resolute Bay	98.38	10	LR	LR	03 08 12.1	
	comp=Z,20nm,18.8s,baz=11,slow=38						
HFS	Hagfors	98.78	332	P	P	02 19 09.5	-1.4
	comp=Z,1.1nm,0.7s,baz=62,slow=3.4,SNR=4.2						
HFS				LR	LR	03 08 35.6	
	comp=Z,31nm,18.1s,baz=66,slow=38						
NOA	NORSAR Array B	99.55	334	P	Pdif	02 19 12.8	-1.6
	comp=Z,0.7nm,0.6s,baz=76,slow=7.3,SNR=2.5						
NOA				LR	LR	03 09 11.0	
	comp=Z,40nm,18.1s,baz=75,slow=38						
	comp=Z,0.7nm,0.6s						
KHC	Kasperske Hory	102.82	322	iP	Pdif	02 19 27.9	-1.3
KHC				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PDAR	Pinedale Array	111.58	41	PKKPab	PKKPab	02 35 09.4	-1.3
	comp=Z,0.3nm,0.7s,baz=123,slow=3.7,SNR=4.7						
SCHQ	Schefferville	121.14	9	PKP	PKiKP	02 24 24.1	+0.1
	comp=Z,45nm,0.9s,baz=290,slow=2.4,SNR=5.5						
TXAR	Lajitas Array	121.68	53	PKP	PKPdf	02 24 25.6	-0.2
	comp=Z,0.4nm,0.8s,baz=185,slow=2.6,SNR=6.0						
TORD	Torodi Ar. Bea	123.50	288		PKiKP	02 24 29.7	-0.1
TORD	Torodi Ar. Bea	123.50	288	PKP	PKPdf	02 24 29.2	-0.3
	comp=Z,0.6nm,0.3s,baz=340,slow=13,SNR=16						
DBIC	Dimbokro	131.10	282	PKP	PKiKP	02 24 44.5	-0.6
	comp=Z,1.9nm,0.6s,baz=45,slow=1.4,SNR=4.1						
CFA	Coronel Fontan	148.14	155	PKPbc	PKPdf	02 25 15.2	+0.8
	comp=Z,2.2nm,0.4s,baz=245,slow=2.9,SNR=12						
CPUP	Villa Florida	156.48	170	PKP	PKPdf	02 25 27.0	+0.1
	comp=Z,0.2nm,0.5s,baz=39,slow=0.7,SNR=2.0						
CPUP				PKPab	PKPab	02 25 55.5	+0.2
	comp=Z,0.8nm,0.9s,baz=146,slow=1.2,SNR=4.4						
CPUP	Villa Florida	156.48	170	PKIKP	PKPdf	02 25 27.0	+0.1
LPAZ	La Paz	160.06	132		PKPab	02 26 13.8	+1.7
LPAZ	La Paz	160.06	132	PKPab	PKPab	02 26 13.3	+1.3
	comp=Z,2.1nm,0.8s,baz=193,slow=3.5,SNR=7.6						
SIV	San Ignacio	164.04	148	PKP	PKPdf	02 25 36.5	+0.3
	comp=Z,0.5nm,0.6s,baz=193,slow=6.4,SNR=3.8						
SIV				PKPab	PKPab	02 26 33.6	+1.5
	comp=Z,2.3nm,0.8s,baz=149,slow=3.2,SNR=9.4						

*SDD **27** 02:05:53.9±0.8, 18°.83N×68°.83W, h114km±6km, MD3.2, ML2.6, MW3.1*
*RSPR **27** 02:05:54.5, 18°.51N×68°.93W, h104km±1km, MD2.8/8*
ISC 27 02:05:54.5±1.9, 18°.6N±0°.2×68°.91W±0°.05, h103km±13km, n20, σ0°.65/24, 4C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	Higuey Centro	0.18	104	eS	Sn	02 06 20.2	+0.3
HIDR	Higuey Centro	0.18	104	ePg	Pn	02 06 08.6	-0.4
HIDR			⇑	eSg	Sn	02 06 20.4	+0.5
HIDR				IAML		02 06 20.8	
	comp=N,164nm,0.1s						
MIDR	Miches	0.37	338	⇓eP	Pn	02 06 09.8	0.0
MIDR	Miches	0.37	338	eS	Sn	02 06 22.5	+1.2
MIDR	Miches	0.37	338	ePg	Pn	02 06 09.2	-0.6
MIDR				IAML		02 06 23.3	
	comp=N,32nm,0.1s						
HATOM	Hato Mayor del	0.48	289	ePg	Pn	02 06 10.2	-0.3
HATOM			⇓	eSg	Sn	02 06 22.9	+0.5
HATOM				IAML		02 06 23.2	
	comp=N,108nm,0.1s						
DR08	Loma La Naviza	1.11	287	⇓ePg	Pn	02 06 15.8	-0.6
DR08			⇑	eSg	Sn	02 06 32.0	-0.9
DR08				IAML		02 06 33.0	
	comp=N,574nm,0.2s						
IDE	Isla Desecheo	1.38	100	⇓eP	Pn	02 06 19.0	-0.5
IDE	Isla Desecheo	1.38	100	eS	Sn	02 06 37.8	-0.6
BANI	BANI	1.40	260	ePg	Pn	02 06 20.6	+0.7
BANI			⇑	eSg	Sn	02 06 39.1	+0.1
BANI				IAML		02 06 53.5	
	comp=N,44nm,4.1s						
AGPR	Aguadilla, PR	1.71	95	⇓eP	Pn	02 06 23.7	+0.2
AGPR	Aguadilla, PR	1.71	95	eS	Sn	02 06 46.4	+0.7
LSP	Las Mesas	1.79	105	⇓eP	Pn	02 06 25.3	+0.7
LSP	Las Mesas	1.79	105	eS	Sn	02 06 47.4	0.0
CRPR	Cabo Rojo, PR	1.82	110	⇑eP	Pn	02 06 24.4	-0.5
CRPR	Cabo Rojo, PR	1.82	110	eS	Sn	02 06 47.4	-0.6
MLPR	Magueyes Islan	1.89	110	⇓eP	Pn	02 06 25.4	-0.3
MLPR	Magueyes Islan	1.89	110	eS	Sn	02 06 49.2	-0.4
UUPR	Utuado, UPR, P	2.11	100	⇓eP	Pn	02 06 29.8	+1.2
UUPR	Utuado, UPR, P	2.11	100	eS	Sn	02 06 54.2	-0.6

*AEIC **27** 02:09:22.0±2.1, 54°.8N±0°.1×150°.2W±0°.2, h12km±8km, Error ellipse: s-maj=17.8km s-min=13.0km az=165.0*
NEIC 27 02:09:16.3±2.1, 54°.7N±0°.1×150°.17W±0°.09, h10km±2km, ML3.3/14, ML3.7(AEIC), Error ellipse: s-maj=18.1km s-min=8.9km az=181.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	3.05	326		Pn	02 10 04.4	-0.1
OHAK					Sn	02 10 37.9	-3.0
OHAK	Old Harbor	3.05	326	IAML		02 10 39.1	
	comp=E,61nm,1.1s						
OHAK				IAML		02 10 39.3	
	comp=N,49nm,0.5s						
KDAK	Kodiak Island	3.34	337		Pn	02 10 08.6	+0.2
KDAK					Sn	02 10 45.0	-3.1
KDAK	Kodiak Island	3.34	337	IAML		02 10 49.0	
	comp=N,31nm,0.4s						
SYI	Shuyak Island	4.07	343		Pn	02 10 18.8	+0.3
SYI					Sn	02 11 02.9	-3.3
SYI	Shuyak Island	4.07	343	IAML		02 11 06.0	
	comp=N,32nm,0.3s						
SYI				IAML		02 11 07.2	
	comp=E,62nm,0.3s						
MGLS	Mageik Landsli	4.39	323		Pn	02 10 23.5	+0.6
KAWH	Katmai	4.46	327		Pn	02 10 25.0	+1.0
KAKN	Katmai Knife C	4.48	325		Pn	02 10 25.0	+0.8
ACHA	Angle Creek He	4.50	323	Pn	Pn	02 10 25.6	+1.0
CNPM	China Poot	4.84	354		Pn	02 10 28.6	-0.4
CNPM					Pn	02 10 29.8	+0.7
CNPM					Sn	02 11 21.1	-4.0
CNPM	China Poot	4.84	354	IAML		02 11 25.1	
	comp=N,36nm,0.3s						
CNPM				IAML		02 11 41.2	
	comp=E,14nm,0.9s						
MID	Middleton Isla	5.15	22	Pn	Pn	02 10 32.7	-0.6
P19K	Oil Pt	5.20	343		Pn	02 10 34.6	+0.5
P19K					Sn	02 11 30.2	-3.9
P19K	Oil Pt	5.20	343	IAML		02 11 35.5	
	comp=N,55nm,0.4s						
SEW	Seward	5.40	4		Pn	02 10 35.9	-0.8
P23K	Montague Islan	5.49	15		Pn	02 10 37.4	-0.5
P23K					Sn	02 11 36.0	-5.0
IVE	Iliamna Volcan	5.51	345		Pn	02 10 38.1	-0.4
IVE					Sn	02 11 39.5	-2.3
SLKM	Skilak Lake	5.79	360		Sn	02 11 43.4	-5.1
HIN	Hinchinbrook I	6.01	18		Pn	02 10 44.9	-0.3
KAIM	Kayak Island	6.06	29		Pn	02 10 45.6	-0.3
PWL	Port Wells	6.22	8		Pn	02 10 47.2	-0.8
PWL					Sn	02 11 53.5	-5.6
EYAK	Cordova Ski Ar	6.29	20		Pn	02 10 48.9	-0.1
EYAK					Sn	02 11 56.2	-4.7
FID	Port Fidalgo	6.35	17		Pn	02 10 49.2	-0.5
GLI	Glacier Island	6.38	14		Pn	02 10 49.8	-0.3
NICHA	Nichawak Mount	6.45	29		Pn	02 10 51.5	+0.4
O16K	Kokwok River B	6.50	322		Pn	02 10 51.7	-0.1
BERG	Berg Lake	6.65	29		Pn	02 10 53.9	-0.1
GRIN	Grindle Hills	6.67	31		Pn	02 10 54.6	+0.4
SNH	Sunshine Point	6.74	33		Pn	02 10 55.3	+0.1
KNK	Knik Glacier	6.76	7		Pn	02 10 55.3	-0.1
KHIT	Khitrov Hills	6.82	30		Pn	02 10 56.5	+0.2
DIV	Divide	6.83	18		Pn	02 10 56.3	-0.1
STLK	Strandline Lak	6.84	353		Sn	02 12 12.2	-2.2
S12K	Black Hills	6.87	283		Pn	02 10 57.2	+0.2
BMRM	Bremner River	6.92	23		Pn	02 10 57.8	+0.2
WAX	Waxell Ridge	6.95	31		Pn	02 10 57.8	-0.2
DT1	Dutton Round H	6.99	278		Pn	02 10 57.6	-0.9
DT1					Sn	02 12 14.8	-3.3
BARK	Barkley Ridge	7.02	33		Pn	02 10 59.5	+0.4
MESA	MESA	7.03	36		Pn	02 11 00.1	+0.9
GHO	Glory Hole Cre	7.09	5		Pn	02 11 00.2	+0.2
CRQM	Cirque	7.11	29		Pn	02 11 00.7	+0.3
KLU	Klutina	7.14	17		Pn	02 11 00.9	+0.2
SML	Sawmill	7.16	7		Pn	02 11 00.8	-0.1
TGL	Tana Glacier	7.20	30		Pn	02 11 01.9	+0.3
BAGL	Bagley Icefiel	7.22	34		Pn	02 11 02.1	+0.5
YAH	Yahtse	7.23	35		Pn	02 11 02.7	+0.6
CHX	Chaix Hills	7.24	39		Pn	02 11 02.9	+0.9
SCM	Sheep Creek Mo	7.27	11		Pn	02 11 02.5	0.0
RKAV	Rock Avalanche	7.32	37		Pn	02 11 03.8	+0.5
SAMH	Samovar Hills	7.41	39		Pn	02 11 05.4	+1.0
VRDI	Verde Repeater	7.42	26		Pn	02 11 04.7	0.0
KIAG	Kiagna River	7.47	31		Pn	02 11 05.5	+0.2
N25K	Chitina, Valde	7.49	21		Pn	02 11 05.8	+0.3
TABL	Table Mountain	7.50	37		Pn	02 11 06.0	+0.3
GRNC	Granite Creek	7.51	33		Pn	02 11 06.1	+0.2
GLB	Gilahina Butte	7.52	24		Pn	02 11 06.0	+0.2
BALM	Baldy	7.57	30		Pn	02 11 06.7	+0.1
PCA	Pinnacle	7.58	41		Pn	02 11 07.5	+0.8
PTPK	Patty Peak	7.65	29		Pn	02 11 09.0	+1.1
MCARA	McCarthy VSAT	7.66	27		Pn	02 11 08.4	+0.6
BCPM	Bancas Point	7.73	43		Pn	02 11 09.1	+0.3
BARN	Barnard Glacie	7.79	32		Pn	02 11 10.0	+0.3
CTGM	Chitina Glacie	7.82	33		Pn	02 11 10.1	+0.1
LOGN	Logan Glacier	7.82	35		Pn	02 11 10.3	+0.2
WASW	Wrangell South	7.87	21		Pn	02 11 11.9	+1.1
O28M	Mount Upton	8.06	37		Pn	02 11 13.9	+0.4
P29M	Windy Craggy	8.34	49		Pn	02 11 17.0	-0.1
O29M	Mount Kennedy	8.37	43		Pn	02 11 18.3	+0.7
YUK8	Steele Glacier	8.57	36		Pn	02 11 22.0	+1.5
YUK7	Dusty Glacier	8.68	43		Pn	02 11 22.9	+1.0
YUK6	Outpost Mounta	8.84	41		Pn	02 11 25.4	+1.2
P30M	Million Dollar	8.93	47		Pn	02 11 26.0	+0.8
BC02	Beaver Creek A	9.38	24		Pn	02 11 31.6	+0.2
M29M	Somme Creek	9.84	34		Pn	02 11 38.6	+0.9

*AEIC **27** 02:13:15.8±1.2, 56°.0N±0°.1×150°.1W±0°.1, h10km±8km, Error ellipse: s-maj=15.4km s-min=9.0km az=159.0*
NEIC 27 02:13:12.0±0.9, 56°.04N±0°.05×150°.2W±0°.1, h10km±2km, ML3.4/32, ML3.4(AEIC), Error ellipse: s-maj=12.9km s-min=6.0km az=120.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.09	306		Pn	02 13 46.5	-0.5
OHAK	Old Harbor	2.09	306	P	Pn	02 13 46.6	-0.4
OHAK	Old Harbor	2.09	306	S	Sn	02 14 10.8	-2.2
KDAK	Kodiak Island	2.19	324	Pn	Pn	02 13 48.4	0.0
KDAK	Kodiak Island	2.19	324		Sn	02 14 14.1	-1.4
KDAK	Kodiak Island	2.19	324	IAML		02 14 14.4	
	57nm,1.0s						
KDAK				IAML		02 14 15.2	
	92nm,0.6s						
SII	Sitkinak Islan	2.29	285		Sn	02 14 16.3	-1.8
SYI	Shuyak Island	2.84	336	Pn	Pn	02 13 57.6	+0.2
SYI	Shuyak Island	2.84	336		Sn	02 14 31.3	-0.2
SYI	Shuyak Island	2.84	336	IAML		02 14 32.9	
	comp=N,68nm,0.5s						
SYI				IAML		02 14 33.7	
	comp=E,79nm,1.0s						
KAHG	Katmai Hook Gl	3.42	318		Pn	02 14 06.7	+1.4
MGLS	Mageik Landsli	3.44	310		Pn	02 14 06.3	+0.8
KAWH	Katmai	3.44	315		Pn	02 14 06.8	+1.2
KARR	Katmai Rainbow	3.48	317		Pn	02 14 08.0	+1.8
KAKN	Katmai Knife C	3.49	312		Pn	02 14 07.3	+1.0
CNPM	China Poot	3.54	351	Pn	Pn	02 14 06.6	-0.4
CNPM	China Poot	3.54	351		Sn	02 14 47.0	-1.9
CNPM	China Poot	3.54	351	IAML		02 14 49.9	
	comp=N,84nm,0.5s						
CNPM				IAML		02 14 51.9	
	comp=E,57nm,0.6s						
KAHC	Katmai Hardscr	3.70	317		Pn	02 14 10.5	+1.3
KAHC					Sn	02 14 52.4	-0.5
MID	Middleton Isla	3.97	30	Pn	Pn	02 14 12.1	-0.7
P19K	Oil Pt	3.97	337		Sn	02 14 58.7	-0.9
SEW	Seward	4.09	5	Pn	Pn	02 14 13.6	-0.9
P23K	Montague Islan	4.23	19	Pn	Pn	02 14 16.0	-0.4
P23K	Montague Islan	4.23	19		Sn	02 15 03.0	-2.9
P23K	Montague Islan	4.23	19	IAML		02 15 03.3	
	comp=E,49nm,0.5s						
P23K				IAML		02 15 04.5	
	comp=N,50nm,1.0s						
IVE	Iliamna Volcan	4.26	340		Pn	02 14 16.8	-0.2
IVE					Sn	02 15 06.2	-0.6
SLKM	Skilak Lake	4.48	360		Pn	02 14 19.5	-0.4
SLKM	Skilak Lake	4.48	360	IAML		02 15 13.9	
	comp=E,35nm,0.6s						
SLKM				IAML		02 15 16.5	
	comp=N,36nm,0.9s						
HIN	Hinchinbrook I	4.78	22	Pn	Pn	02 14 23.8	-0.2
HIN				IAML		02 15 17.3	
	comp=N,31nm,1.0s						
HIN				IAML		02 15 17.5	
	comp=E,36nm,1.0s						
PWL	Port Wells	4.93	11	Pn	Pn	02 14 25.4	-0.6
PWL	Port Wells	4.93	11		Sn	02 15 20.0	-3.0
PWL	Port Wells	4.93	11	IAML		02 15 22.0	
	comp=N,26nm,0.9s						
PWL				IAML		02 15 26.1	
	comp=E,26nm,1.0s						
KAIM	Kayak Island	4.96	36	Pn	Pn	02 14 26.1	-0.2
EYAK	Cordova Ski Ar	5.09	25		Pn	02 14 28.1	0.0
EYAK				IAML		02 15 24.6	
	comp=E,26nm,0.9s						
EYAK				IAML		02 15 29.4	
	comp=N,21nm,0.6s						
EYAK	Cordova Ski Ar	5.09	25	P	Pn	02 14 28.0	-0.1
EYAK	Cordova Ski Ar	5.09	25	S	Sn	02 15 24.2	-2.7
FID	Port Fidalgo	5.11	21	Pn	Pn	02 14 27.8	-0.7
FID				IAML		02 15 23.5	
	comp=N,24nm,0.8s						
GLI	Glacier Island	5.11	17	Pn	Pn	02 14 28.1	-0.4
GLI				IAML		02 15 28.9	
	comp=E,26nm,0.9s						
GLI				IAML		02 15 50.2	
	comp=N,30nm,1.1s						
SPU	Mount Spurr	5.25	350	Pn	Pn	02 14 30.0	-0.4
SUCK	Suckling Hills	5.28	37		Pn	02 14 30.9	+0.1
SUCK				IAML		02 15 34.5	
	comp=E,26nm,1.2s						
HMT	Hamilton	5.32	34		Pn	02 14 31.6	+0.2
KNK	Knik Glacier	5.46	9	Pn	Pn	02 14 33.0	-0.4
BGLC	Bering Glacier	5.49	39		Pn	02 14 33.6	0.0
STLK	Strandline Lak	5.54	352	Pn	Pn	02 14 34.0	-0.4
BERG	Berg Lake	5.54	35		Pn	02 14 34.2	-0.3
DIV	Divide	5.60	22		Pn	02 14 35.4	+0.2
SNH	Sunshine Point	5.69	40	Pn	Pn	02 14 36.4	-0.1
BMRM	Bremner River	5.74	28		Pn	02 14 37.2	0.0
GHO	Glory Hole Cre	5.79	6		Pn	02 14 38.3	+0.5
SML	Sawmill	5.86	9		Pn	02 14 38.9	+0.1
SDPT	Sand Point	5.87	267		Pn	02 14 38.4	-0.5
SDPT	Sand Point	5.87	267	P	Pn	02 14 39.5	+0.6
WAX	Waxell Ridge	5.87	38		Pn	02 14 38.8	-0.3
KLU	Klutina	5.90	20		Pn	02 14 39.5	+0.2
SCM	Sheep Creek Mo	5.99	13		Pn	02 14 41.2	+0.5
CRQM	Cirque	6.00	35		Pn	02 14 40.9	0.0
MESA	MESA	6.01	43	Pn	Pn	02 14 40.9	-0.2
TGL	Tana Glacier	6.10	36		Pn	02 14 42.1	-0.1
ISLE	Juniper Island	6.16	39		Pn	02 14 43.0	0.0
VRDI	Verde Repeater	6.27	31		Pn	02 14 44.6	0.0
N25K	Chitina, Valde	6.29	25		Pn	02 14 44.6	-0.1
RKAV	Rock Avalanche	6.33	44		Pn	02 14 45.3	-0.1
GLB	Gilahina Butte	6.35	29		Pn	02 14 45.4	-0.1
M24K	Tolsona, Glenn	6.42	17		Pn	02 14 46.4	-0.2
GRNC	Granite Creek	6.46	40		Pn	02 14 47.0	-0.1
MCARA	McCarthy VSAT	6.52	32		Pn	02 14 48.1	+0.2
M17K	Holitna River	6.57	328		Pn	02 14 49.2	+0.7
PCA	Pinnacle	6.65	48		Pn	02 14 49.7	0.0
WAT6	Susitna Watana	6.68	10		Pn	02 14 49.8	-0.4
WACK	Wrangell Chich	6.68	24		Pn	02 14 50.8	+0.5
BARN	Barnard Glacie	6.72	38		Pn	02 14 51.0	+0.3
CTGM	Chitina Glacie	6.77	40		Pn	02 14 51.5	+0.1
LOGN	Logan Glacier	6.79	41		Pn	02 14 51.5	-0.3
PNL	Peninsula	6.80	53		Pn	02 14 51.8	0.0
PNL	Peninsula	6.80	53	P	Pn	02 14 51.7	0.0
BCPM	Bancas Point	6.84	51		Pn	02 14 52.2	+0.1
DT1	Dutton Round H	6.93	267		Pn	02 14 52.1	-1.4
O28M	Mount Upton	7.07	44		Pn	02 14 56.0	+0.4
O29M	Mount Kennedy	7.47	50		Pn	02 15 00.8	-0.1
P29M	Windy Craggy	7.55	56		Pn	02 15 01.8	-0.1
S31K	Pelican	7.85	70		Pn	02 15 04.2	-1.8
PLBC	Pleasant Camp	8.14	59		Pn	02 15 09.8	-0.2
SIT	Sitka	8.27	77	P	Pn	02 15 09.0	-2.8
S32K	Killisnoo	8.69	74		Pn	02 15 15.9	-1.7
M29M	Somme Creek	8.78	38		Pn	02 15 19.3	+0.4
JIS	Juneau Island	8.87	69	P	Pn	02 15 20.0	0.0
COLA	College	8.94	6	P	Pn	02 15 22.3	+1.4
L29M	L29M	9.34	36		Pn	02 15 25.8	-0.7
P32M	Atlin	9.47	61		Pn	02 15 27.8	-0.5

*MOS **27** 02:16:02.9±1.1, 43°.21N×146°.92E, h46km, mb4.4/11, Error ellipse: s-maj=11.6km s-min=7.3km az=119.7*
*JMA **27** 02:16:03.3±0.2, 43°.3N±0°.7×14°.7E±°, h43km±2km, MV4.0/33, E OFF HOKKAIDO*
JMA Felt I J1 at E OFF HOKKAIDO .
*NIED **27** 02:16:03.3, 43°.25N×146°.86E, h43km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}8.09; $M_{\theta\theta}$-2.40; $M_{\phi\phi}$-5.69; $M_{r\theta}$1.65; $M_{\theta\phi}$-3.96; $M_{\phi r}$2.91; Fault plane solution: $M_0$8.86000×10^{14} NP1: ϕ_s215.00000°, δ34.00000°, λ93.00000°. NP2:ϕ_s32.00000°, δ56.00000°, λ88.00000°.*
*SKHL **27** 02:16:03.6±0.1, 43°.10N×146°.90E, h52km±6km, mb4.9/5*
*IDC **27** 02:16:05.8±3.2, 43°.31N×146°.84E, h53km±29km, mb3.6/19, mbtmp3.9/22, ML4.2/2, MS3.1/1, Error ellipse: s-maj=19.1km s-min=18.2km az=107.0*
*NEIC **27** 02:16:07.6±1.0, 43°.2N±0°.1×146°.7E±0°.2, h58km±8km, mb4.3/11, Error ellipse: s-maj=19.3km s-min=15.4km az=152.0*
ISC 27 02:16:04.8±1.5, 43°.25N±0°.06×146°.81E±0°.06, h40km±12km, n97, σ1°.27/109, mb4.1/34, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.79	279	P	Pn	02 16 18.6	-0.8
NEM2				eS	Sn	02 16 29.4	-0.6
NMR	Nemuro--Hokkai	0.80	279	⇓iPN	Pn	02 16 18.6	-1.0
NMR				eS	Sn	02 16 29.5	-0.8
NMR	Nemuro--Hokkai	0.80	279	iP	Pn	02 16 18.7	-0.9
NMR				eS	Sn	02 16 30.0	-0.3
YUK	Yuzh-Kuril'sk	1.04	319	diPN	Pn	02 16 22.3	-0.6
YUK				eS	Sn	02 16 34.4	-1.9
YUK				pmax	pmax		
	comp=N,380nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,459nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
YUK	Yuzh-Kuril'sk	1.04	319	eP	Pn	02 16 22.5	-0.4
YUK				AMB	AMB	02 16 23.3	
	comp=E,810nm,0.2s						
YUK				eS	Sn	02 16 36.7	+0.4
YUK				A	A	02 16 37.7	
	comp=E,2μm,0.4s						
YUK				A	A	02 16 37.7	
	comp=E,4μm,0.4s						
GLVR	Golovnino	1.06	298	ePN	Pn	02 16 22.5	-0.6
GLVR				eS	Sn	02 16 33.9	-2.8
GLVR				pmax	pmax		
	comp=Z

YSS A A 02 18 13.4
comp=E,20nm,0.7s
JTM Tenmabayashi 4.94 242 Pn **Pn 02 17 16.0 -0.4**
MJAR Matsushiro Arr 9.41 227 P **Pn 02 18 17.3 -0.5**
comp=E,0.9nm,0.5s,baz=24,slow=14,SNR=1.3
MJAR S **Sn 02 20 06.1 +3.8**
comp=E,0.4nm,0.4s,baz=308,slow=31,SNR=2.0
HILR Hailar Array B 19.63 298 P **P 02 20 29.9 0.0**
baz=83,slow=12
comp=E,1.8nm,0.4s
YAK Yakutsk 21.36 338 *i* P **P 02 20 46.5 -1.8**
YAK pmax pmax
comp=Z,5.0nm,0.8s
BILL Biiibino 26.91 16 *i* P **P 02 21 44.4 +2.7**
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL Biiibino 26.91 16 *eP* **P 02 21 44.4 +2.7**
ULN Ulaanbaatar 28.00 293 *i* P **P 02 21 52.2 +0.4**
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 28.00 293 *eP* **P 02 21 52.2 +0.4**
SONM Songino Array 28.44 293 P **P 02 21 55.7 0.0**
comp=Z,1.0nm,0.5s,baz=84,slow=8.5,SNR=3.5
comp=Z,1.0nm,0.5s
H11N2 WAKE ISLAND Hy 28.89 138 T T 02 52 38.1
baz=329,slow=75,SNR=284
H11N1 WAKE ISLAND Hy 28.90 138 T T 02 52 40.3
baz=329,slow=75,SNR=270
H11N3 WAKE ISLAND Hy 28.91 138 T T 02 52 41.8
baz=329,slow=75,SNR=269
H11S1 WAKE ISLAND Hy 29.84 140 T T 02 53 48.4
baz=330,slow=76,SNR=471
H11S3 WAKE ISLAND Hy 29.85 140 T T 02 53 50.0
baz=330,slow=76,SNR=313
H11S2 WAKE ISLAND Hy 29.86 140 T T 02 53 56.8
baz=330,slow=76,SNR=342
E19K Redstone River 38.03 31 P **P 02 23 19.8 +1.0**
F20K Avaraart Lake 38.54 32 P **P 02 23 23.7 +0.7**
F20K IAmb IAmb 02 24 04.0
comp=Z,4.9nm,1.2s
ILAR Eielson Array 42.03 36 P **P 02 23 50.8 -1.2**
comp=Z,0.4nm,0.6s,baz=276,slow=7.3,SNR=7.2
comp=Z,0.4nm,0.6s
BMAR Burnt Mountain 42.88 32 P **P 02 24 00.4 +1.5**
F26K Sheenjek River 43.05 31 P **P 02 24 01.4 +1.3**
MK31 Makanchi Array 44.60 298 *de*P **P 02 24 13.2 +0.3**
MKAR Makanchi Array 44.60 298 P **P 02 24 13.2 +0.3**
MKAR Makanchi Array 44.60 298 P **P 02 24 12.8 -0.2**
comp=Z,2.2nm,0.5s,baz=81,slow=9.5,SNR=22
comp=Z,2.2nm,0.5s
MKAR Makanchi Array 44.60 298 P **P 02 24 13.2 +0.3**
MAKZ Makanchi 44.80 298 P **P 02 24 14.7 +0.2**
MAKZ IAmb IAmb 02 24 15.9
comp=Z,4.3nm,1.1s
MAKZ Makanchi 44.80 298 P **P 02 24 14.7 +0.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 45.61 304 P **P 02 24 20.4 -0.4**
KURK Kurchatov 45.61 304 *eP* **P 02 24 20.4 -0.4**
KURBB Kurchatov Arra 45.69 304 P **P 02 24 20.4 -1.0**
comp=Z,1.6nm,0.4s,baz=75,slow=8.7,SNR=5.7
comp=Z,1.6nm,0.4s
G30M tAoh Zraii Nji 46.17 32 P **P 02 24 26.1 +1.1**
G30M IAmb IAmb 02 24 52.3
comp=Z,8.6nm,1.1s
BVAR Borovoye Array 49.63 310 P **P 02 24 51.5 -0.5**
comp=Z,0.5nm,0.4s,baz=74,slow=8.8,SNR=2.7
comp=Z,0.5nm,0.4s
BOOM Boomskoye usch 50.46 295 P **P 02 24 58.8 +0.1**
BOOM Boomskoye usch 50.46 295 P **P 02 24 58.8 +0.1**
BOOM pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 53.73 298 P **P 02 25 23.0 +0.2**
KKAR Karatay Array 53.73 298 P **P 02 25 23.0 +0.2**
ARTI Arti 54.65 317 *i* P **P 02 25 29.3 +0.1**
ARTI pmax pmax
comp=Z,3.0nm,1.4s
YKA Yellowknife Ar 56.35 33 P **P 02 25 38.7 -2.6**
comp=Z,1.3nm,0.7s,baz=296,slow=7.0,SNR=3.4
comp=Z,1.3nm,0.7s
AB31 Akbulak array 57.18 309 P **P 02 25 47.6 +0.1**
AB31 IAmb IAmb 02 25 57.8
comp=Z,2.3nm,0.8s
ABKAR Akbulak array 57.18 309 P **P 02 25 47.5 +0.1**
WRA Warramunga Arr 63.92 193 P **P 02 26 33.0 -0.5**
comp=Z,0.7nm,0.8s,baz=14,slow=6.9,SNR=5.2
comp=Z,0.7nm,0.8s
FINES FINESS Array B 65.21 333 P **P 02 26 40.5 -1.0**
FINES FINESS Array B 65.21 333 P **P 02 26 40.1 -1.4**
comp=Z,2.0nm,0.8s,baz=346,slow=3.9,SNR=8.0
comp=Z,2.0nm,0.8s
FINES FINESS Array B 65.21 333 P **P 02 26 40.5 -1.0**
OBN Obninsk 65.57 324 *eP* **P 02 26 43.5 -0.4**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 65.57 324 *eP* **P 02 26 43.5 -0.4**
ASAR Alice Springs 67.64 193 P **P 02 26 57.2 -0.3**
comp=Z,0.4nm,0.8s,baz=20,slow=5.9,SNR=3.2
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 68.05 58 P **P 02 27 01.2 +0.8**
comp=Z,0.4nm,0.6s,baz=295,slow=7.3,SNR=3.1
comp=Z,0.4nm,0.6s
KIV Kislovodsk 69.91 312 *eP* **P 02 27 12.8 +1.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 69.91 312 *eP* **P 02 27 12.9 +1.2**
KBZ Khabaz 69.94 311 P **P 02 27 11.7 0.0**
comp=Z,2.5nm,0.8s,baz=334,slow=3.3,SNR=7.2
comp=Z,2.5nm,0.8s
KBZ Khabaz 69.94 311 *ceP* **P 02 27 13.0 +1.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 69.94 311 *eP* **P 02 27 13.0 +1.3**
NOA NORSAR Array B 69.98 339 P **P 02 27 11.1 -0.6**
comp=Z,0.8nm,0.6s,baz=37,slow=5.9,SNR=2.8
comp=Z,0.8nm,0.6s
HFS Hagfors 70.05 337 P **P 02 27 10.9 -1.2**
comp=Z,1.6nm,0.7s,baz=23,slow=5.7,SNR=8.8
comp=Z,1.6nm,0.7s
AKASG Malin Array Be 71.83 324 P **P 02 27 22.1 -0.9**
comp=Z,1.0nm,0.5s,baz=42,slow=6.4,SNR=5.0
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 71.83 324 P **P 02 27 22.9 -0.2**
AKBB IAmb IAmb 02 27 38.2
comp=Z,3.2nm,0.9s
AKBB Malin Array Si 71.83 324 P **P 02 27 22.9 -0.2**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
KIEV Kiev 71.85 324 P **P 02 27 22.8 -0.3**
KIEV IAmb IAmb 02 27 38.2
comp=Z,2.9nm,0.9s
KIEV Kiev 71.85 324 P **P 02 27 22.8 -0.3**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
PFO Pinyon Flats O 72.26 60 *ceP* P 02 27 30.5 +4.4
PFO pmax pmax
comp=Z,4.0nm,1.1s
BUR08 Bucovina Ar. S 75.88 324 P **P 02 27 47.6 +0.6**
BUR08 IAmb IAmb 02 28 15.9
comp=Z,5.5nm,1.3s
BURAR Bucovina Array 75.89 324 P **P 02 27 47.6 +0.6**
BRTR Keskin Array B 77.71 313 P **P 02 27 57.0 -0.4**
comp=Z,0.4nm,0.7s,baz=60,slow=7.3,SNR=4.0
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 77.71 313 *ceP* **P 02 27 58.5 +1.0**
EKA Eskdalemuir Ar 78.53 343 P **P 02 28 00.7 -0.8**
comp=Z,0.8nm,0.6s,baz=24,slow=3.4,SNR=1.7
comp=Z,0.8nm,0.6s
GERES GERESS Array B 79.47 331 P **P 02 28 06.6 -0.3**
comp=Z,0.1nm,0.3s,baz=50,slow=6.5,SNR=1.8
comp=Z,0.1nm,0.3s
MMAI Mount Meron Ar 81.59 308 P **P 02 28 18.4 -0.2**
comp=Z,1.3nm,0.6s,baz=44,slow=6.4,SNR=6.1
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 83.13 56 P **P 02 28 27.6 +0.9**
TXAR Lajitas Array 83.13 56 P **P 02 28 27.1 +0.4**
comp=Z,0.6nm,0.7s,baz=299,slow=3.6,SNR=11
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 83.13 56 P **P 02 28 27.6 +0.9**
BELA Belgrano 2 145.26 179 PKPbc **PKPdf 02 35 36.5 -0.1**

***IDC 27** 02:17:09.2±2.4,6°.54S×130°.06E,h0km,mb3.5/1,*
mbtmp3.5/4,ML3.7/3,Error ellipse: s-maj=89.1km
s-min=30.3km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.30**	**240**	Sn	Sn	02 20 17.7	-3.2
3.5nm,0.3s,baz=135,slow=21,SNR=1.9							
FITZ	**Fitzroy Crossi**	**12.27**	**200**	Pn	Pn	02 20 03.9	-1.4
0.4nm,0.3s,baz=20,slow=12,SNR=13							
FITZ				Sn	Sn	02 22 08.5	-14
0.2nm,0.3s,baz=342,slow=20,SNR=1.7							
WRA	**Warramunga Arr**	**13.96**	**163**	Pn	Pn	02 20 28.4	+0.1
0.3nm,0.3s,baz=348,slow=13,SNR=9.1							
WRA				Sn	Sn	02 22 49.7	-14
0.6nm,0.3s,baz=335,slow=22,SNR=9.0							
0.3nm,0.3s							
ASAR	**Alice Springs**	**17.43**	**168**	P	P	02 21 15.2	-0.1
0.2nm,0.3s,baz=349,slow=14,SNR=8.7							
ASAR				S	Sn	02 24 14.7	-14
0.4nm,0.5s,baz=355,slow=28,SNR=5.6							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	02 28 09.5	0.0
0.2nm,0.5s,baz=114,slow=7.8,SNR=2.6							
0.2nm,0.5s							

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*IDC **27** 02:23:01.6±2.8,3°.37N×126°.91E,h0km,mb3.6/4,*
mbtmp3.6/4,MS3.0/1,Error ellipse: s-maj=299.6km
s-min=22.6km az=67.0
*DJA **27** 02:23:21.7±1.1,4°.N±9°×12°.8E±°,h141km±11km,M4.1/12,*
mB4.7/2,mb4.3/5,MLv4.0/12,Mw(mB)3.9/2
ISC 27 02:23:18.1±1.3,3°.7N±0°.1×128°.0E±0°.1,h150km,n11,
σ2§14/10,mb3.6/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.44**	**270**	P	**Pn**	**02 24 01.3**	**+2.7**
TNTI	**Ternate**	**2.96**	**192**	P	**Pn**	**02 24 06.8**	**+1.8**
SWI	**Sorong**	**5.58**	**144**	P	**Pn**	**02 24 42.0**	**+2.7**
0.1nm16nm,0.4s							
SANI	**Sanana**	**6.03**	**199**	P	**Pn**	**02 24 44.9**	**-0.4**
LUWI	**Luwuk**	**7.01**	**228**	P	**Pn**	**02 25 00.2**	**+1.9**
0.2nm2μm24nm,0.9s							
MSAI	**Masohi**	**7.05**	**172**	P	**Pn**	**02 25 00.9**	**+2.0**
WRA	**Warramunga Arr**	**24.30**	**165**	P	**P**	**02 28 21.2**	**-0.6**
0.3nm,0.4s,baz=342,slow=9.6,SNR=8.2							
0.3nm,0.4s							
ASAR	**Alice Springs**	**27.79**	**168**	P	**P**	**02 28 51.6**	**-1.7**
0.1nm,0.3s,baz=347,slow=9.1,SNR=2.9							
0.1nm,0.3s							
JNU	**Nakatsue**	**29.41**	**5**	LR	LR	02 42 51.9	
comp=Z,28nm,19.9s,baz=164,slow=40							
MKAR	**Makanchi Array**	**58.31**	**325**	P	**P**	**02 32 56.5**	**-0.9**
0.7nm,0.4s,baz=124,slow=7.9,SNR=8.6							
0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**62.45**	**327**	P	**P**	**02 33 23.8**	**-1.5**
0.9nm,0.5s,baz=126,slow=6.1,SNR=5.0							
0.9nm,0.5s							

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*NEIC **27** 02:25:32.5±2.2,7°.4S±0°.1×128°.30E±0°.08,h162km±8km,*
mb4.3/16,Error ellipse: s-maj=14.9km s-min=11.1km
az=184.0
*DJA **27** 02:25:32.1±0.2,8°.S±2°.×12°.8E±°,h169km±5km,M4.7/19,*
mB5.3/9,mb4.6/19,MLv4.8/17,Mw(mB)4.7/9
*IDC **27** 02:25:33.2±1.9,7°.47S×128°.10E,h174km±19km,mb3.8/11,*
mbtmp4.4/15,Error ellipse: s-maj=17.2km s-min=12.8km
az=53.0
ISC 27 02:25:30.6±0.4,7°.57S±0°.05×128°.25E±0°.05,h151km,n76,
σ1§94/79,mb4.1/19,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.05**	**98**	Pn	**Pn**	**02 26 21.1**	**+2.5**
SAUI	**Saumlaki**	**3.05**	**98**	P	**Pn**	**02 26 22.7**	**+4.1**
SAUI	**Saumlaki**	**3.05**	**98**	P	**Pn**	**02 26 21.3**	**+2.7**
SAUI				S	**Sn**	02 26 56.1	+0.3
BNDI	**Bandanaira**	**3.44**	**29**	P	**Pn**	**02 26 26.2**	**+2.5**
AAI	**Ambon**	**3.85**	**359**	P	**Pn**	**02 26 31.2**	**+2.2**
MSAI	**Masohi**	**4.25**	**9**	P	**Pn**	**02 26 37.6**	**+3.5**
NLAI	**Namlea**	**4.45**	**345**	P	**Pn**	**02 26 40.2**	**+3.4**
SOEI	**Soe**	**4.50**	**241**		**Pn**	**02 26 41.1**	**+3.5**
SOEI	**Soe**	**4.50**	**241**	P	**Pn**	**02 26 41.2**	**+3.6**
SOEI	**Soe**	**4.50**	**241**	P	**Pn**	**02 26 40.9**	**+3.3**
BATI	**Baumata**	**5.24**	**240**	P	**Pn**	**02 26 49.9**	**+2.7**
196nm,0.3s,baz=114,slow=6.8,SNR=91							
BATI				S	**Sn**	**02 27 48.0**	**+0.9**
243nm,0.4s,baz=203,slow=23,SNR=6.0							
BATI	**Baumata**	**5.24**	**240**	P	**Pn**	**02 26 50.2**	**+3.0**
8μm312nm,0.6s							
DRS	**Darwin Rock St**	**5.49**	**152**	P	**Pn**	**02 26 52.8**	**+2.2**
SANI	**Sanana**	**5.92**	**338**	P	**Pn**	**02 26 57.6**	**+1.2**
MTN	**Manton Dam**	**5.96**	**152**		**Pn**	**02 26 58.5**	**+1.7**
MMRI	**Maumere**	**6.05**	**259**		**Pn**	**02 27 01.2**	**+3.2**
MMRI	**Maumere**	**6.05**	**259**	P	**Pn**	**02 27 01.2**	**+3.2**
0.6nm127nm,0.8s							
FAKI	**Fak Fak**	**6.09**	**41**		**Pn**	**02 26 57.6**	**-1.0**
FAKI	**Fak Fak**	**6.09**	**41**	P	**Pn**	**02 26 57.9**	**-0.7**
FAKI	**Fak Fak**	**6.09**	**41**	P	**Pn**	**02 26 57.6**	**-1.0**
KMPI	**Kaimana, Papua**	**6.67**	**55**	P	**Pn**	**02 27 06.8**	**+0.5**
SWI	**Sorong**	**7.30**	**24**	P	**Pn**	**02 27 14.6**	**-0.1**
0.5nm2μm113nm,0.7s							
KNRA	**Kununurra**	**8.08**	**176**		**Pn**	**02 27 26.1**	**+1.0**
WSI	**Waingapu**	**8.14**	**255**	P	**Pn**	**02 27 26.7**	**+0.8**
RKPI	**Ransiki, Papua**	**8.43**	**45**	P	**Pn**	**02 27 28.7**	**-1.1**
WBSI	**Waikabubak, Su**	**9.00**	**256**	P	**Pn**	**02 27 37.5**	**+0.1**
42nm,0.5s							
BAKI	**Biak**	**10.07**	**51**	P	**Pn**	**02 27 52.1**	**+0.5**
2μm113nm,0.6s							
PLAI	**Plampang**	**10.44**	**262**	P	**Pn**	**02 27 57.7**	**+1.2**
PLAI	**Plampang**	**10.44**	**262**	P	**Pn**	**02 27 56.4**	**-0.1**
43nm,0.8s							
FITZ	**Fitzroy Crossi**	**10.77**	**193**	P	**Pn**	**02 27 58.5**	**-2.4**
27nm,0.5s,baz=32,slow=12,SNR=77							
FITZ				S	**Sn**	**02 29 55.4**	**-4.6**
16nm,0.3s,baz=101,slow=18,SNR=6.4							
JAY	**Jayapura**	**13.38**	**69**	P	**P**	**02 28 38.1**	**-0.8**
3.5nm,0.5s,baz=221,slow=11,SNR=5.4							
WB0	**Warramunga Arr**	**13.51**	**154**		**Pn**	**02 28 35.8**	**-0.6**
WRAB	**Tennant Creek**	**13.64**	**155**	P	**Pn**	**02 28 37.9**	**-0.1**
WRA	**Warramunga Arr**	**13.65**	**155**	P	**Pn**	**02 28 36.5**	**-1.5**
2.8nm,0.3s,baz=334,slow=11,SNR=56							
WRA				S	Sn	02 31 00.7	-8.6
26nm,0.6s,baz=334,slow=22,SNR=8.9							
COEN	**Coen**	**15.97**	**115**		**P**	**02 29 07.5**	**-0.2**
COEN	**Coen**	**15.97**	**115**	P	**P**	**02 29 09.1**	**+1.5**
AS31	**Alice Springs**	**16.90**	**162**	P	**Pn**	**02 29 20.5**	**+2.1**
ASAR	**Alice Springs**	**16.90**	**162**	P	**Pn**	**02 29 20.2**	**+1.9**
7.3nm,0.5s,baz=342,slow=11,SNR=125							
ASAR				S	**S**	**02 32 21.3**	**-5.0**
4.1nm,0.5s,baz=331,slow=17,SNR=9.6							
PCJI	**Pacitan**	**16.93**	**267**	P	**P**	**02 29 16.7**	**-1.4**
54nm,2.2s							
QIS	**Mount Isa**	**16.96**	**141**	P	**Pn**	**02 29 19.9**	**+0.9**
PMG	**Port Moresby**	**18.79**	**97**	P	**Pn**	**02 29 41.6**	**+0.8**
PMG	**Port Moresby**	**18.79**	**97**	P	**Pn**	**02 29 42.0**	**+1.2**
47nm,0.7s,baz=271,slow=5.3,SNR=24							
SBUM	**Sibu**	**18.84**	**301**	P	**Pn**	**02 29 42.4**	**+1.0**
SBUM				IAmb	IAmb	02 29 46.5	
comp=Z,22nm,1.1s							
MANU	**Manus Island**	**19.82**	**75**	P	**Pn**	**02 29 51.2**	**-1.6**
MANU				IAmb	IAmb	02 29 54.2	
comp=Z,13nm,0.9s							
KSM	**Kuching**	**20.02**	**296**	P	**P**	**02 29 52.8**	**+0.9**
FORT	**Forrest**	**23.09**	**180**	P	**P**	**02 30 24.3**	**+1.2**
FORT				IAmb	IAmb	02 30 56.2	
comp=Z,4.6nm,0.7s							
INKA	**Innaminka**	**23.30**	**151**	P	**P**	**02 30 26.8**	**+1.8**
INKA				IAmb	IAmb	02 30 28.9	
comp=Z,6.8nm,0.8s							
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**02 31 00.6**	**+0.3**
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**02 31 00.8**	**+0.5**
comp=Z,1.2nm,0.5s,baz=326,slow=9.7,SNR=3.5							
STKA				pP	**pwP**	**02 31 36.4**	**+2.4**
comp=Z,4.7nm,0.7s,baz=327,slow=9.5,SNR=5.6							
comp=Z,1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**38.79**	**312**	P	**P**	**02 32 41.4**	**+0.5**
comp=Z,1.1nm,0.4s,baz=143,slow=7.1,SNR=6.4							
comp=Z,1.1nm,0.4s							
PZH	**PanZhiHua**	**42.53**	**324**	P	**P**	**02 33 14.0**	**+2.5**
KSRS	**Korea Array**	**44.78**	**360**	P	**P**	**02 33 28.8**	**-0.5**
comp=Z,0.8nm,0.5s,baz=182,slow=9.5,SNR=2.1							
comp=Z,0.8nm,0.5s							
LZDM	**Lanzhou Array**	**49.07**	**333**	P	**P**	**02 34 01.7**	**-1.2**
comp=Z,1.2nm,0.3s,baz=168,slow=7.4,SNR=2.1							
comp=Z,1.2nm,0.3s							
HHC	**Hu-ho-hao-te**	**50.57**	**344**	*eP*	**P**	**02 34 17.3**	**+3.4**
HHC				pmax	pmax		
comp=Z,11nm,0.6s							
HHC				pmax	pmax		
comp=Z,70nm,4.5s							
USRK	**Ussuriysk Ar.**	**51.63**	**3**	P	**P**	**02 34 20.4**	**-1.2**
comp=Z,1.4nm,0.5s,baz=127,slow=6.3,SNR=2.7							
comp=Z,1.4nm,0.5s							
EVN	**Everest**	**53.38**	**313**		**P**	**02 34 35.1**	**-0.5**
EVN				IAmb	IAmb	02 34 36.5	
comp=Z,3.7nm,0.6s							
GTA	**Gaotai**	**53.65**	**333**	*eP*	**P**	**02 34 37.0**	**+0.2**
GTA				pmax	pmax		
comp=Z,6.0nm,0.7s							
SONM	**Songino Array**	**58.45**	**343**	IAmb	IAmb	02 35 11.3	
comp=Z,1.8nm,0.8s							
SONM	**Songino Array**	**58.45**	**343**	P	**P**	**02 35 10.4**	**-0.3**
comp=Z,1.6nm,0.7s,baz=152,slow=6.7,SNR=6.2							
comp=Z,1.6nm,0.7s							
MKAR	**Makanchi Array**	**67.76**	**328**	P	**P**	**02 36 11.2**	**-0.8**
comp=Z,2.0nm,0.6s,baz=122,slow=7.8,SNR=19							
comp=Z,2.0nm,0.6s							
ZAA0	**Zalesovo Array**	**71.33**	**335**		**P**	**02 36 32.3**	**-1.4**
ZAA0				IAmb	IAmb	02 36 32.9	
comp=Z,4.1nm,0.8s							
ZALV	**Zalesovo Beam**	**71.33**	**335**		**P**	**02 36 32.2**	**-1.4**
ZALV	**Zalesovo Beam**	**71.33**	**335**	P	**P**	**02 36 32.1**	**-1.6**
comp=Z,3.4nm,0.5s,baz=124,slow=5.4,SNR=18							
comp=Z,3.4nm,0.5s							
KURBB	**Kurchatov Arra**	**72.09**	**329**	P	**P**	**02 36 37.5**	**-0.9**
comp=Z,6.3nm,0.7s,baz=132,slow=5.0,SNR=74							
comp=Z,6.3nm,0.7s							
KURK	**Kurchatov**	**72.11**	**329**		**P**	**02 36 37.6**	**-0.8**
KURK				IAmb	IAmb	02 36 38.8	
comp=Z,7.6nm,0.8s							
BVAR	**Borovoye Array**	**77.62**	**328**	P	**P**	**02 37 09.2**	**-0.9**
comp=Z,2.9nm,0.6s,baz=133,slow=6.5,SNR=16							
comp=Z,2.9nm,0.6s							
AB31	**Akbulak array**	**81.88**	**322**	P	**P**	**02 37 32.0**	**-1.1**
ABKAR	**Akbulak array**	**81.88**	**322**	P	**P**	**02 37 31.8**	**-1.3**
QSPA	**South Pole Qui**	**82.42**	**180**	IAmb	IAmb	02 37 38.8	
comp=Z,1.9nm,0.9s							
QSPA	**South Pole Qui**	**82.42**	**180**	P	**P**	**02 37 38.0**	**+2.3**
comp=Z,1.1nm,0.8s,baz=337,slow=6.4,SNR=5.5							
comp=Z,1.1nm,0.8s							
ARTI	**Arti**	**85.35**	**328**	P	**P**	**02 37 48.7**	**-1.9**
ARTI				IAmb	IAmb	02 37 49.8	
comp=Z,7.3nm,0.8s							
PDAR	**Pinedale Array**	**118.52**	**45**	PKP	**PKPdf**	**02 44 00.1**	**-1.0**
comp=Z,0.3nm,0.7s,baz=90,slow=0.1,SNR=3.7							
TXAR	**Lajitas Array**	**126.70**	**59**	PKP	**PKPdf**	**02 44 16.3**	**-0.6**
comp=Z,0.4nm,1.0s,baz=255,slow=2.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**127.21**	**281**	PKP	**PKPdf**	**02 44 16.9**	**-1.3**
comp=Z,0.7nm,0.7s,baz=60,slow=2.6,SNR=4.4							
CPUP	**Villa Florida**	**145.87**	**171**	PKPbc	**PKPdf**	**02 44 52.4**	**+0.2**
comp=Z,0.2nm,0.3s,baz=203,slow=1.8,SNR=2.9							
LPAZ	**La Paz**	**151.28**	**146**	PKPbc	**PKPbc**	**02 45 08.2**	**+0.1**
comp=Z,0.7nm,0.3s,baz=166,slow=4.2,SNR=6.7							

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*IDC **27** 02:33:02.8±1.4,59°.93N×152°.30W,h104km±22km,*
mb3.7/10,mbtmp4.0/13,Error ellipse: s-maj=34.0km
s-min=13.3km az=116.0
*NEIC **27** 02:33:03.7±0.8,60°.08N±0°.03×152°.67W±0°.07,h97km±4km,*
Error ellipse: s-maj=5.1km s-min=4.7km az=50.0
*AEIC **27** 02:33:04.8±0.9,60°.08N±0°.04×152°.63W±0°.07,h92km±2km,*
ML3.3,ML3.5/176(NEIC),Error ellipse: s-maj=5.9km
s-min=4.7km az=198.0
ISC 27 02:33:03.5±0.7,60°.05N±0°.04×152°.59W±0°.04,h99km±5km,
n192,σ0§70/174,mb4.2/10,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.03**	**332**		**Pn**	**02 33 17.3**	**0.0**
O20K					**Sn**	**02 33 27.7**	**+0.1**
IVE	**Iliamna Volcan**	**0.22**	**261**		**Pn**	**02 33 17.3**	**-0.4**
IVE					**Sn**	**02 33 27.8**	**-0.5**
ILS	**Iliamna Low So**	**0.26**	**248**		**Pn**	**02 33 17.5**	**-0.4**
ILS					**Sn**	**02 33 28.3**	**-0.3**
ILSW	**Iliamna Southw**	**0.28**	**256**		**Pn**	**02 33 17.4**	**-0.6**
ILSW				Sn	**Sn**	**02 33 28.4**	**-0.4**
RDWB	**Redoubt West**	**0.45**	**344**		**Pn**	**02 33 18.6**	**-0.4**
P19K	**Oil Pt**	**0.52**	**219**		**Pn**	**02 33 19.3**	**0.0**
P19K				Sn	**Sn**	**02 33 30.8**	**-0.3**
P19K				IAML		02 33 31.7	
comp=N,2μm,0.6s							
P19K				IAML		02 33 31.7	
comp=E,2μm,0.5s							
DFR	**Drift River**	**0.54**	**355**		**Pn**	**02 33 19.3**	**-0.2**
DFR					**Sn**	**02 33 30.9**	**-0.7**
RDJH	**Redoubt Jeurge**	**0.55**	**349**		**Pn**	**02 33 19.4**	**-0.3**
HOM	**Homer**	**0.62**	**129**		**Pn**	**02 33 20.7**	**+0.6**
HOM				Sn	**Sn**	**02 33 33.9**	**+1.4**
HOM				IAML		02 33 34.7	
comp=E,2μm,0.2s							
AUW	**Augustine West**	**0.82**	**213**		**Pn**	**02 33 22.2**	**+0.3**
AUJK	**Augustine Jueg**	**0.82**	**211**		**Pn**	**02 33 22.1**	**+0.3**
AUJK					**Sn**	**02 33 35.9**	**+0.2**
CNPM	**China Poot**	**0.87**	**127**		**Pn**	**02 33 22.8**	**+0.4**
CNPM				Sn	**Sn**	**02 33 37.2**	**+0.6**
CNPM				IAML		02 33 38.0	
comp=E,2μm,0.6s							
CNPM				IAML		02 33 38.2	
comp=N,2μm,0.4s							
Q19K	**Port Alsworth**	**0.88**	**280**		**Pn**	**02 33 22.1**	**-0.3**
Q19K				Sn	**Sn**	**02 33 36.0**	**-0.6**
BRLK	**Bradley Lake**	**0.91**	**108**		**Pn**	**02 33 23.0**	**+0.2**
BRLK				IAML		02 33 39.3	
comp=E,2μm,0.3s							
BRSE	**Bradley Lake S**	**0.98**	**108**		**Pn**	**02 33 23.8**	**+0.2**
BRSE					**Sn**	**02 33 39.2**	**+0.4**
CAPN	**Captain Cook N**	**1.01**	**44**		**Pn**	**02 33 25.8**	**+1.9**
SPU	**Mount Spurr**	**1.16**	**13**		**Pn**	**02 33 25.8**	**+0.1**
N19K	**Bonanza Creek**	**1.21**	**310**		**Pn**	**02 33 26.1**	**-0.1**
N19K				IAML		02 33 42.8	
comp=E,496nm,0.7s							
N19K				IAML		02 33 43.0	
comp=N,351nm,0.7s							
Q19K	**Cape Douglas,**	**1.25**	**206**		**Pn**	**02 33 26.4**	**-0.3**
Q19K				IAML		02 33 48.2	
comp=E,847nm,1.1s							
Q19K				IAML		02 33 49.9	
comp=N,777nm,0.7s							
SLKM	**Skilak Lake**	**1.27**	**68**		**Sn**	**02 33 44.3**	**-0.2**
SLKM	**Skilak Lake**	**1.27**	**68**		**Pn**	**02 33 26.9**	**+0.1**
SYI	**Shuyak Island**	**1.45**	**176**		**Pn**	**02 33 29.5**	**+0.5**
SYI				IAML		02 33 50.1	
comp=N,733nm,0.3s							

PMR IAML 02 34 08.6
comp=E,466nm,0.3s
PMR Palmer 2.29 46 P Pn 02 33 39.5 -0.2
PMR Palmer 2.29 46 S Sn 02 34 07.1 -0.4
ACHA Angle Creek He 2.32 218 Pn 02 33 40.6 +0.4
N17K Nushagak Hills 2.34 284 Pn 02 33 40.2 -0.1
N17K IAML 02 34 07.4
comp=N,132nm,0.6s
ANCK Angle Creek 2.39 220 Pn 02 33 41.3 +0.2
L19K White Mountain 2.40 334 Pn 02 33 41.4 +0.2
L19K IAML 02 34 10.4
comp=E,125nm,0.6s
L19K IAML 02 34 10.6
comp=N,130nm,1.0s
P23K Montague Islan 2.61 89 Pn 02 33 43.9 0.0
P23K IAML 02 34 17.6
comp=E,424nm,0.4s
CUT Chulitna 2.61 24 IAML 02 34 22.9
comp=N,324nm,0.2s
CUT IAML 02 34 27.4
comp=E,361nm,0.4s
L22K Petersville 2.63 19 Pn 02 33 45.0 +0.7
SML Sawmill 2.73 48 Pn 02 33 45.5 0.0
M17K Holitna River 2.74 302 Pn 02 33 45.5 -0.1
M17K IAML 02 34 19.4
comp=E,134nm,0.9s
M17K IAML 02 34 25.7
comp=N,113nm,0.7s
O16K Kokwok River B 2.82 263 Pn 02 33 46.6 0.0
GLI Glacier Island 2.85 71 Pn 02 33 45.6 -1.5
GLI Glacier Island 2.85 71 IAML 02 34 20.4
comp=N,293nm,0.3s
GLI IAML 02 34 21.2
comp=E,305nm,0.4s
PPLA Purkeypile 2.86 4 Pn 02 33 48.5 +1.1
OHAK Old Harbor 2.86 188 Pn 02 33 46.1 -1.2
OHAK IAML 02 34 20.0
comp=N,125nm,0.3s
OHAK IAML 02 34 20.3
comp=E,78nm,0.2s
OHAK Old Harbor 2.86 188 P **Pn 02 33 46.6 -0.7**
L18K Granite Mounta 2.94 319 IAML 02 34 23.1
comp=N,83nm,1.0s
HIN Hinchinbrook I 3.06 81 Pn 02 33 48.9 -1.1
HIN Hinchinbrook I 3.06 81 IAML 02 34 26.4
comp=N,181nm,0.6s
HIN IAML 02 34 26.9
comp=E,213nm,0.5s
N16K Nishlik Lake 3.11 280 Pn 02 33 50.2 -0.4
FID Port Fidalgo 3.11 74 Pn 02 33 48.9 -1.8
FID Port Fidalgo 3.11 74 IAML 02 34 26.3
comp=E,255nm,0.4s
SCM Sheep Creek Mo 3.13 53 IAML 02 34 31.5
comp=E,245nm,0.7s
SCM IAML 02 34 31.9
comp=N,238nm,0.5s
MID Middleton Isla 3.23 98 Pn 02 33 52.3 +0.2
MID Middleton Isla 3.23 98 IAML 02 34 32.5
comp=E,126nm,1.1s
MID IAML 02 34 34.0
comp=N,129nm,1.0s
M16K Timber Creek 3.29 290 Pn 02 33 53.0 0.0
WAT7 Susitna Watana 3.32 31 Pn 02 33 53.6 +0.2
K20K Telida 3.39 349 Pn 02 33 55.1 +0.7
EYAK Cordova Ski Ar 3.44 79 Pn 02 33 53.6 -1.4
EYAK Cordova Ski Ar 3.44 79 IAML 02 34 34.4
comp=E,46nm,0.5s
EYAK IAML 02 34 34.6
comp=N,94nm,0.5s
EYAK Cordova Ski Ar 3.44 79 P **Pn 02 33 55.3 +0.3**
EYAK Cordova Ski Ar 3.44 79 S **Sn 02 34 33.5 -1.3**
WAT6 Susitna Watana 3.45 41 Pn 02 33 55.6 +0.3
L17K Donlin 3.47 309 Pn 02 33 55.0 -0.4
DIV Divide 3.53 69 IAML 02 34 37.0
comp=N,175nm,0.3s
DIV IAML 02 34 40.5
comp=E,87nm,0.4s
TRF Thorofare Moun 3.58 17 Pn 02 33 57.0 0.0
TRF IAML 02 34 44.6
comp=E,54nm,0.7s
TRF IAML 02 35 00.3
comp=N,72nm,0.9s
KTH Kantishna Hill 3.60 12 Pn 02 33 57.0 -0.2
KTH Kantishna Hill 3.60 12 IAML 02 34 47.8
comp=N,41nm,0.9s
M24K Tolsona, Glenn 3.74 54 Pn 02 33 59.6 +0.5
M24K IAML 02 34 45.2
comp=N,164nm,0.6s
L16K Owhat River 3.75 299 Pn 02 33 59.0 -0.1
N15K Kwethluk River 3.76 275 Pn 02 34 00.1 +0.8
O15K Ungalikthiuk R 3.78 260 Pn 02 34 00.1 +0.6
RND Reindeer 3.81 26 Pn 02 34 00.4 +0.4
RND IAML 02 34 48.7
comp=E,54nm,0.3s
RND IAML 02 34 49.1
comp=N,46nm,0.5s
K17K Iditarod 3.83 317 IAML 02 34 45.0
comp=E,50nm,1.0s
K17K IAML 02 34 45.3
comp=N,40nm,1.1s
DHY Denali Highway 3.93 37 IAML 02 34 49.6
comp=N,147nm,0.4s
BMRM Bremner River 4.05 73 Pn 02 34 02.1 -1.2
BMRM Bremner River 4.05 73 IAML 02 35 06.1
comp=E,86nm,0.7s
BMRM IAML 02 35 12.6
comp=N,72nm,0.9s
MCK McKinley 4.08 24 Pn 02 34 04.7 +1.1
MCK IAML 02 34 57.8
comp=E,34nm,0.4s
MCK IAML 02 34 58.5
comp=N,36nm,0.6s
KAIM Kayak Island 4.11 88 Pn 02 34 03.8 -0.2
KAIM Kayak Island 4.11 88 IAML 02 34 54.3
comp=E,75nm,0.3s
KAIM IAML 02 34 54.5
comp=N,73nm,0.7s
N25K Chitina, Valde 4.21 65 IAML 02 34 53.3
comp=N,72nm,0.2s
N25K IAML 02 34 54.6
comp=E,69nm,0.3s
NICHA Nichawak Mount 4.32 84 Pn 02 34 06.9 0.0
SUCK Suckling Hills 4.42 86 Pn 02 34 08.6 +0.4
SUCK Suckling Hills 4.42 86 IAML 02 34 59.4
comp=N,52nm,0.9s
SUCK IAML 02 34 59.4
comp=E,34nm,0.9s
BERG Berg Lake 4.45 82 Pn 02 34 08.3 -0.3
BERG Berg Lake 4.45 82 IAML 02 35 17.1
comp=N,102nm,0.4s
WACK Wrangell Chich 4.46 61 Pn 02 34 08.7 -0.3
O14K Tigyukauivet M 4.47 263 Pn 02 34 08.6 -0.3
PAX Paxson 4.49 46 IAML 02 35 03.8
comp=E,55nm,0.4s
PAX IAML 02 35 08.0
comp=N,53nm,0.6s
WASW Wrangell South 4.51 62 Pn 02 34 09.4 -0.2
GLB Gilahina Butte 4.53 68 Pn 02 34 09.0 -0.8
GLB Gilahina Butte 4.53 68 IAML 02 35 01.4
comp=E,58nm,0.3s
GLB IAML 02 35 02.8
comp=N,50nm,0.4s
J17K VABM Dome 4.56 320 IAML 02 35 27.8
comp=E,21nm,0.7s
GRIN Grindle Hills 4.64 83 Pn 02 34 11.2 0.0
L15K Ungalak Mounta 4.64 294 Pn 02 34 10.9 -0.3
VRDI Verde Repeater 4.65 71 Pn 02 34 10.5 -1.0
VRDI Verde Repeater 4.65 71 IAML 02 35 05.3
comp=E,32nm,0.6s
VRDI IAML 02 35 07.0
comp=N,44nm,0.6s
KHIT Khitrov Hills 4.67 81 Pn 02 34 11.5 -0.3
CRQM Cirque 4.74 77 Pn 02 34 12.6 -0.1
CRQM Cirque 4.74 77 IAML 02 35 06.3
comp=E,53nm,0.5s
I20K Naaghedeneel 4.84 350 Pn 02 34 14.1 +0.2
I20K IAML 02 34 60.0
comp=N,50nm,1.1s
I20K IAML 02 35 47.2
comp=E,36nm,0.8s
NEA2 Nenana 4.84 18 Pn 02 34 13.9 0.0
WAX Waxell Ridge 4.87 81 Pn 02 34 14.4 +0.1
K15K Wolf Creek Mou 4.88 301 Pn 02 34 14.4 +0.1
SNH Sunshine Point 4.88 84 Pn 02 34 14.8 +0.3
SNH Sunshine Point 4.88 84 IAML 02 35 08.9
comp=N,52nm,0.5s
SNH IAML 02 35 16.4
comp=E,36nm,1.0s
MCARA McCarthy VSAT 4.88 70 Pn 02 34 14.1 -0.4
MCARA McCarthy VSAT 4.88 70 IAML 02 35 13.9
comp=N,77nm,0.3s
TGL Tana Glacier 4.89 78 Pn 02 34 14.8 +0.1
TGL Tana Glacier 4.89 78 IAML 02 35 09.3
comp=E,35nm,0.3s
TGL IAML 02 35 10.8
comp=N,40nm,0.4s
WRH Wood River Hil 4.91 23 Pn 02 34 14.6 -0.2
WRH Wood River Hil 4.91 23 IAML 02 35 11.8
comp=N,20nm,0.5s
WRH IAML 02 35 13.2
comp=E,18nm,0.6s
J16K Anvik River 5.00 314 Pn 02 34 15.9 -0.2
BARK Barkley Ridge 5.05 82 Pn 02 34 17.0 +0.2
PTPK Patty Peak 5.12 73 Pn 02 34 18.5 +0.6
CCB Clear Creek Bu 5.12 24 Pn 02 34 17.2 -0.5
CCB Clear Creek Bu 5.12 24 IAML 02 35 14.3
comp=N,16nm,0.7s
CCB IAML 02 35 21.1
comp=E,16nm,0.5s
L14K Kuka Creek 5.12 289 Pn 02 34 18.2 +0.6
L14K Kuka Creek 5.12 289 IAML 02 35 48.6
comp=N,17nm,1.1s
KIAG Kiagna River 5.14 76 Pn 02 34 17.5 -0.6
I21K Tanana 5.15 3 IAML 02 36 11.2
comp=E,15nm,1.1s
BALM Baldy 5.16 75 Pn 02 34 17.5 -0.7
M26K Nabesna, AK 5.20 59 IAML 02 35 17.0
comp=N,37nm,0.5s
M26K IAML 02 35 20.0
comp=E,29nm,0.4s
RIDG Independent Ri 5.20 41 Pn 02 34 19.3 +0.4
BAGL Bagley Icefiel 5.25 81 Pn 02 34 19.7 +0.3
COLA College 5.31 22 Pn 02 34 19.7 -0.6
COLA College 5.31 22 P **Pn 02 34 20.7 +0.5**
MESA MESA 5.33 84 Pn 02 34 21.4 +0.7
I23K Minto, Yukon-K 5.33 15 Pn 02 34 21.1 +0.6
I23K Minto, Yukon-K 5.33 15 IAML 02 36 02.9
comp=N,12nm,0.9s
DOT Dot Lake 5.41 45 Pn 02 34 21.9 +0.3
GRNC Granite Creek 5.42 78 Pn 02 34 22.2 +0.3
YAH Yahtse 5.42 82 Pn 02 34 22.3 +0.4
IL01 5.43 27 Pn 02 34 21.5 -0.2
IL31 5.43 27 Pn 02 34 21.5 -0.2
ILAR Eielson Array 5.43 27 P **Pn 02 34 21.7 -0.1**
comp=N,5.1nm,0.4s,baz=211,slow=13,SNR=112
ILAR S **Sn 02 35 21.4 -1.4**
comp=N,2.2nm,0.4s,baz=223,slow=21,SNR=5.8
BARN Barnard Glacie 5.49 75 Pn 02 34 22.9 +0.1
H20K Anotleneega Mo 5.56 350 Pn 02 34 24.3 +0.7
POKR Poker Plat Res 5.61 23 Pn 02 34 24.4 +0.1
RKAV Rock Avalanche 5.62 83 Pn 02 34 25.6 +0.9
CTGM Chitina Glacie 5.64 76 Pn 02 34 25.1 +0.3
TABL Table Mountain 5.72 81 Pn 02 34 26.5 +0.5
CHX Chaix Hills 5.75 85 Pn 02 34 26.9 +0.6
LOGN Logan Glacier 5.79 77 Pn 02 34 27.6 +0.7
SAMH Samovar Hills 5.91 84 Pn 02 34 29.7 +1.2
H23K Yukon River 5.96 12 Pn 02 34 29.9 +0.9
IM05 Indian Mountai 5.97 356 Pn 02 34 30.0 +0.9
PCA Pinnacle 6.18 84 Pn 02 34 32.6 +0.5
O28M Mount Upton 6.19 78 Pn 02 34 33.4 +1.0
H24K Noodor Dome 6.19 18 Pn 02 34 32.4 +0.2
BCPM Bancas Point 6.50 85 Pn 02 34 36.9 +0.5
PNL Peninsula 6.66 88 P **Pn 02 34 38.8 +0.2**
O29M Mount Kennedy 7.00 82 Pn 02 34 43.9 +0.6
YUK6 Outpost Mounta 7.09 77 Pn 02 34 44.9 +0.3
M29M Somme Creek 7.22 65 Pn 02 34 46.4 0.0
DAWY Dawson 7.39 51 Pn 02 34 47.0 -1.5
P29M Windy Craggy 7.50 87 Pn 02 34 50.6 +0.6
H27K Steamboat Moun 7.96 34 Pn 02 34 55.5 -0.7
PLBC Pleasant Camp 8.22 87 Pn 02 35 00.6 +0.9
J30M Hart River 8.81 52 Pn 02 35 08.2 +0.3
BESE Bessie Mountai 9.19 92 Pn 02 35 14.3 +1.3
SIT Sitka 9.51 101 P **Pn 02 35 17.7 +0.5**
JIS Juneau Island 9.52 93 Pn 02 35 18.6 +1.3
JIS Juneau Island 9.52 93 P **Pn 02 35 19.1 +1.8**
S32K Killisnoo 9.71 98 Pn 02 35 20.5 +0.5
CRAG Craig 11.35 105 P **Pn 02 35 43.7 +1.5**
DLBC Dease Lake 11.65 88 P **Pn 02 35 47.4 +1.0**
comp=N,32nm,0.3s,baz=249,slow=11,SNR=30
INK Inuvik 11.67 37 P **Pn 02 35 46.4 0.0**
comp=N,2.2nm,0.6s,baz=252,slow=15,SNR=10
INK S **Sn 02 37 53.5 -1.0**
comp=N,2.8nm,0.8s,baz=234,slow=17,SNR=4.9
PETK Petropavlovsk- 27.66 278 P **P 02 38 41.4 -0.2**
comp=N,1.6nm,0.7s,baz=65,slow=11,SNR=1.5
comp=N,1.6nm,0.7s
SPITS Spitsbergen Ar 41.85 3 P **P 02 40 42.0 -0.9**
comp=N,7.5nm,1.0s,baz=17,slow=10,SNR=6.5
comp=N,7.5nm,1.0s
SONM Songino Array 54.92 306 P **P 02 42 24.9 +1.2**
comp=N,1.8nm,0.5s,baz=45,slow=6.3,SNR=11
comp=N,1.8nm,0.5s
ZALV Zalesovo Beam 57.45 324 P **P 02 42 41.8 +0.3**
comp=N,1.1nm,0.5s,baz=21,slow=7.0,SNR=5.0
comp=N,1.1nm,0.5s
FINES FINESS Array B 58.83 1 P **P 02 42 50.8 0.0**
comp=N,2.7nm,1.1s,baz=12,slow=9.8,SNR=1.7
comp=N,2.7nm,1.1s
HFS Hagfors 59.67 8 P **P 02 42 56.0 -0.7**
comp=N,1.5nm,0.8s,baz=125,slow=9.0,SNR=1.7
comp=N,1.5nm,0.8s
KURK Kurchatov 62.10 326 P **P 02 43 13.5 +0.3**
BVAR Borovoye Array 62.12 332 P **P 02 43 13.3 -0.1**
comp=N,1.7nm,0.6s,baz=50,slow=7.6,SNR=6.3
comp=N,1.7nm,0.6s
KURBB Kurchatov Arra 62.21 326 P **P 02 43 13.5 -0.5**
comp=N,0.6nm,0.5s,baz=29,slow=6.9,SNR=5.7
comp=N,0.6nm,0.5s
EKA Eskdalemuir Ar 62.41 19 P **P 02 43 15.1 -0.2**
comp=N,0.5nm,0.4s,baz=325,slow=8.6,SNR=1.9
comp=N,0.5nm,0.4s
MKAR Makanchi Array 64.52 321 P **P 02 43 28.2 -1.1**
comp=N,0.2nm,0.4s,baz=23,slow=6.6,SNR=4.4
comp=N,0.2nm,0.4s
BOSA Boshof 148.53 4 PKPbc **PKPdf 02 52 36.8 +2.2**
comp=N,1.2nm,0.9s,baz=44,slow=3.8,SNR=5.6

IDC 27 02:36:50.6±1.4, 3°.10S×138°.72E, h0km, mb3.5/2, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=32.2km s-min=15.8km az=154.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.07**	**74**	Pn	Pn	02 37 27.4	+0.7
	2.9nm,0.3s,baz=227,slow=8.2,SNR=12						
JAY				Lg	Lg	02 37 55.9	
	3.4nm,0.3s,baz=288,slow=20,SNR=4.5						
	7.9nm,0.3s						
WRA	**Warramunga Arr**	**17.27**	**194**	P	Pn	02 40 53.7	+0.2
	0.2nm,0.3s,baz=16,slow=12,SNR=8.8						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.66**	**220**	P	P	02 41 21.1	-0.2
	baz=50,slow=7.9,SNR=1.5						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**20.97**	**192**	P	P	02 41 35.2	-0.3
	0.6nm,0.5s,baz=19,slow=11,SNR=12						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**70.10**	**322**	P	P	02 48 05.0	+0.1
	0.7nm,0.8s,baz=102,slow=6.1,SNR=4.4						
	0.7nm,0.8s						

*IDC **27** 02:51:28.7±0.7, 2°.57S×138°.42E, h0km, mb3.9/9, mbtmp3.9/13, ML4.0/4, MS3.4/3, Error ellipse: s-maj=17.6km s-min=14.9km az=7.0*
*NEIC **27** 02:51:30.4±1.7, 2°.7S±0°.1×138°.4E±0°.1, h10km±1km, mb4.1/9, Error ellipse: s-maj=21.2km s-min=15.5km az=329.0*
*DJA **27** 02:51:32.4±0.8, 2°.S±7°.×13°.8E±°, h12km±8km, M4.2/8, mB5.3/2, mb4.3/3, MLv4.1/8, Mw(mB)4.7/2*
ISC 27 02:51:30.6±0.6, 2°.75S±0°.07×138°.43E±0°.07, h10km, n40, σ1°.54/34, mb4.0/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.80**	**20**	P	Pg	02 51 42.8	-3.3
GENI	**Genyem**	**1.74**	**85**	P	**Pn**	**02 52 02.0**	**+1.1**
JAY	**Jayapura**	**2.28**	**84**	Pn	**Pn**	**02 52 09.4**	**+1.0**
	20nm,0.3s,baz=245,slow=10.0,SNR=67						
JAY				Lg	Lg	02 52 40.5	
	16nm,0.3s,baz=163,slow=19,SNR=9.5						
	88nm,0.6s						
JAY	**Jayapura**	**2.28**	**84**	P	**Pn**	**02 52 09.1**	**+0.7**
SRPI	**Serui, Papua**	**2.36**	**292**	P	**Pn**	**02 52 09.2**	**-0.2**
BAKI	**Biak**	**2.79**	**304**	P	**Pn**	**02 52 15.2**	**-0.2**
RKPI	**Ransiki, Papua**	**4.42**	**286**	P	**Pn**	**02 52 38.9**	**+1.0**
FAKI	**Fak Fak**	**6.18**	**268**	P	**Pn**	**02 53 04.2**	**+2.2**
	0.1nm1μm17nm,0.6s						
SWI	**Sorong**	**7.41**	**284**	P	**Pn**	**02 53 20.0**	**+1.1**
	0.1nm1μm17nm,0.6s						
COEN	**Coen**	**12.09**	**157**	Pn	**Pn**	**02 54 23.2**	**+0.2**
MTN	**Manton Dam**	**12.36**	**215**	Pn	**Pn**	**02 54 27.9**	**+1.1**
WB0	**Warramunga Arr**	**17.37**	**193**		**Pn**	**02 55 33.3**	**0.0**
WB0				IAmb	IAmb	02 55 57.7	
	comp=Z,7.2nm,0.9s						
GUMO	**Guam**	**17.44**	**21**	LR	LR	03 01 30.3	
	comp=Z,52nm,20.1s,baz=94,slow=35						
WR8	**Warramunga Arr**	**17.53**	**192**		**Pn**	**02 55 35.0**	**-0.4**
WR8				IAmb	IAmb	02 56 17.2	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**17.55**	**193**	P	**Pn**	**02 55 35.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=1.7,slow=12,SNR=18						
WRA				S	**Sn**	**02 58 45.8**	**-5.4**
	comp=Z,1.1nm,0.8s,baz=19,slow=23,SNR=2.5						
	comp=Z,2.6nm,0.7s						
KAPI	**Kappang**	**18.77**	**263**	P	**P**	**02 55 51.4**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=113,slow=12,SNR=4.9						
	comp=Z,5.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.75**	**219**	P	**P**	**02 56 00.8**	**0.0**
FITZ	**Fitzroy Crossi**	**19.75**	**219**	P	**P**	**02 56 01.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=24,slow=10.0,SNR=6.9						
FITZ				S	S	02 59 34.1	-9.5
	comp=Z,1.8nm,0.6s,baz=190,slow=18,SNR=2.5						
	comp=Z,1.4nm,0.6s						
AS31	**Alice Springs**	**21.25**	**192**		**P**	**02 56 17.1**	**-0.1**
ASAR	**Alice Springs**	**21.25**	**192**	P	**P**	**02 56 17.6**	**+0.4**
ASAR	**Alice Springs**	**21.25**	**192**	P	**P**	**02 56 17.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=22,slow=11,SNR=24						
ASAR				S	**S**	**03 00 11.4**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=17,slow=23,SNR=4.0						
	comp=Z,1.4nm,0.6s						
LEM	**Lembang**	**30.97**	**261**	LR	LR	03 13 21.2	
	comp=Z,116nm,19.0s,baz=210,slow=42						
URZ	**Urewera**	**49.97**	**140**	LR	LR	03 21 06.7	
	comp=Z,42nm,20.7s,baz=272,slow=36						
SONM	**Songino Array**	**57.63**	**335**	P	**P**	**03 01 20.4**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.3,SNR=2.2						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**69.65**	**323**		**P**	**03 02 39.4**	**-1.0**
MKAR	**Makanchi Array**	**69.65**	**323**	P	**P**	**03 02 39.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=114,slow=8.2,SNR=19						
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**71.83**	**330**	P	P	03 02 51.2	-2.2
	comp=Z,0.4nm,0.4s,baz=96,slow=7.4,SNR=2.5						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**73.60**	**325**	P	**P**	**03 03 02.4**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=122,slow=4.9,SNR=1.9						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**75.77**	**175**	P	**P**	**03 03 16.9**	**+0.7**
VNDA				IAmb	IAmb	03 03 54.3	
	comp=Z,1.2nm,1.1s						
VNDA	**Vanda**	**75.77**	**175**	P	**P**	**03 03 16.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=335,slow=7.1,SNR=6.9						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**79.18**	**325**	P	**P**	**03 03 34.7**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=111,slow=7.7,SNR=5.4						
	comp=Z,1.2nm,0.6s						
M16K	**Timber Creek**	**79.50**	**26**	P	**P**	**03 03 36.0**	**-1.3**
ABKAR	**Akbulak array**	**84.57**	**320**	P	**P**	**03 04 02.5**	**-1.7**
ILAR	**Eielson Array**	**85.98**	**24**	P	P	03 04 08.8	-2.1
ILAR	**Eielson Array**	**85.98**	**24**	P	P	03 04 08.7	-2.2
	comp=Z,0.8nm,0.6s,baz=264,slow=5.2,SNR=25						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**87.20**	**180**	P	P	03 04 14.5	-2.6
QSPA				IAmb	IAmb	03 04 25.9	
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**87.20**	**180**	P	**P**	**03 04 19.5**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=360,slow=2.6,SNR=5.5						
	comp=Z,0.8nm,0.7s						
J26L	**Joseph Creek**	**87.31**	**25**	P	**P**	**03 04 16.3**	**-1.3**
J26L				IAmb	IAmb	03 04 20.9	
	comp=Z,6.4nm,1.4s						
H27K	**Steamboat Moun**	**88.48**	**24**	P	**P**	**03 04 23.3**	**+0.3**
LPAZ	**La Paz**	**147.65**	**127**	PKPbc	**PKPdf**	**03 11 17.3**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=232,slow=4.2,SNR=8.1						

*NEIC **27** 03:08:43.9±0.8, 19°.29N±0°.02×67°.36W±0°.05, h10km±1km, ML2.2/10, Md2.7/13(RSPR), Error ellipse: s-maj=9.5km s-min=2.9km az=246.0*
*RSPR **27** 03:08:47.0, 19°.33N×67°.39W, h22km±27km, MD2.7/13*
*SDD **27** 03:08:47.6±2.3, 19°.23N×67°.16W, h15km±11km, MD3.0, ML2.3, MW2.8*
*OSPL **27** 03:08:47.8±0.4, 19°.16N×67°.41W, h19km±4km, ML2.1*
ISC 27 03:08:45.9±1.5, 19°.24N±0°.07×67°.31W±0°.03, h22km±8km, n53, σ0°.63/65, 26C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.79**	**166**		**Pn**	**03 09 01.6**	**-0.2**
AGPR					**Sn**	**03 09 12.7**	**-0.2**
AGPR	**Aguadilla, PR**	**0.79**	**166**	⇑*eP*	**Pn**	**03 09 01.6**	**-0.2**
AGPR	**Aguadilla, PR**	**0.79**	**166**	*eS*	**Sn**	**03 09 12.7**	**-0.2**
AGPR	**Aguadilla, PR**	**0.79**	**166**	⇑*iP*	**Pn**	**03 09 01.5**	**-0.2**
AGPR				⇑*iS*	**Sb**	**03 09 11.1**	**-0.2**
AGPR				IAML		03 09 19.6	
	comp=N,113nm,0.8s						
AGPR	**Aguadilla, PR**	**0.79**	**166**	*i* P	**Pn**	**03 09 01.0**	**-0.8**
AGPR				*eS*	**Sb**	**03 09 11.1**	**-0.2**
AGPR				IAML		03 09 14.1	
	comp=Z,90nm,0.6s						
IDE	**Isla Desecheo**	**0.86**	**191**		**Pn**	**03 09 02.7**	**-0.1**
IDE					**Sn**	**03 09 14.5**	**-0.2**
IDE	**Isla Desecheo**	**0.86**	**191**	⇑*eP*	**Pn**	**03 09 02.7**	**-0.1**
IDE	**Isla Desecheo**	**0.86**	**191**	*eS*	**Sn**	**03 09 14.5**	**-0.2**
PRSN	**Puerto Rico Se**	**1.03**	**171**		**Pb**	**03 09 05.2**	**+0.1**
PRSN					**Sn**	**03 09 19.0**	**+0.2**
PRSN	**Puerto Rico Se**	**1.03**	**171**	⇑*eP*	**Pb**	**03 09 05.2**	**+0.1**
PRSN	**Puerto Rico Se**	**1.03**	**171**	*eS*	**Sn**	**03 09 19.0**	**+0.2**
PRSN	**Puerto Rico Se**	**1.03**	**171**	⇑*iP*	**Pb**	**03 09 05.6**	**+0.5**
PRSN				⇑*iS*	**Sb**	**03 09 17.4**	**-0.7**
PRSN				IAML		03 09 21.6	
	comp=N,212nm,0.2s						
EMPR	**Esperanza - Ma**	**1.06**	**136**		**Pb**	**03 09 05.5**	**-0.1**
EMPR	**Esperanza - Ma**	**1.06**	**136**	⇑*eP*	**Pb**	**03 09 05.5**	**-0.1**
LSP	**Las Mesas**	**1.08**	**169**		**Pb**	**03 09 05.5**	**-0.4**
LSP					**Sb**	**03 09 20.1**	**+0.5**
LSP	**Las Mesas**	**1.08**	**169**	⇑*eP*	**Pb**	**03 09 05.5**	**-0.4**
LSP	**Las Mesas**	**1.08**	**169**	*eS*	**Sb**	**03 09 20.1**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.13**	**150**	Pn	**Pb**	**03 09 07.2**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.13**	**150**		**Sb**	**03 09 21.1**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.13**	**150**	⇑*eP*	**Pb**	**03 09 07.1**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.13**	**150**	*eS*	**Sb**	**03 09 21.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.24**	**171**		**Pn**	**03 09 07.7**	**-0.2**
CRPR					**Sb**	**03 09 24.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.24**	**171**	IAML		03 09 25.1	
	comp=E,41nm,0.3s						
CRPR				IAML		03 09 27.2	
	comp=N,52nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.24**	**171**	⇑*eP*	**Pn**	**03 09 07.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.24**	**171**	*eS*	**Sb**	**03 09 24.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.24**	**171**	⇑*iP*	**Pb**	**03 09 09.3**	**+0.7**
CRPR				⇑*iS*	**Sn**	**03 09 23.4**	**-0.6**
CRPR				IAML		03 09 26.6	
	comp=N,44nm,1.2s						
CRPR	**Cabo Rojo, PR**	**1.24**	**171**	*i* P	**Pn**	**03 09 07.8**	**-0.2**
CRPR				IAML		03 09 26.0	
	comp=Z,40nm,0.3s						
ECPR	**Experimental S**	**1.28**	**136**	⇑*eP*	**Pn**	**03 09 08.4**	**-0.1**
ECPR	**Experimental S**	**1.28**	**136**	*eS*	**Sn**	**03 09 25.5**	**+0.5**
MLPR	**Magueyes Islan**	**1.29**	**169**	⇑*eP*	**Pn**	**03 09 08.6**	**0.0**
MLPR	**Magueyes Islan**	**1.29**	**169**	*eS*	**Sn**	**03 09 25.1**	**0.0**
MLPR	**Magueyes Islan**	**1.29**	**169**	⇑*iP*	**Pn**	**03 09 08.4**	**-0.2**
MLPR				⇑*iS*	**Sn**	**03 09 24.5**	**-0.7**
MLPR				IAML		03 09 31.6	
	comp=N,11nm,0.2s						
OBIP	**Obispado Ponce**	**1.36**	**151**		**Pn**	**03 09 09.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.36**	**151**		**Sn**	**03 09 27.3**	**+0.2**
OBIP	**Obispado Ponce**	**1.36**	**151**	IAML		03 09 26.7	
	comp=E,40nm,0.3s						
OBIP	**Obispado Ponce**	**1.36**	**151**	⇑*eP*	**Pn**	**03 09 09.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.36**	**151**	*eS*	**Sn**	**03 09 27.3**	**+0.2**
GCPR	**Guaynabo City**	**1.48**	**128**		**Pn**	**03 09 11.3**	**0.0**

GCPR						Sb	03 09 31.1	-0.1
GCPR	Guaynabo City	1.48	128	⇑	eP	Pn	03 09 11.3	0.0
GCPR	Guaynabo City	1.48	128		eS	Sb	03 09 31.1	-0.1
HIDR	Higuey Centro	1.48	244	⇑	iP	Pb	03 09 11.4	-1.4
HIDR				⇑	iS	Sb	03 09 33.9	+2.6
HIDR					IAML		03 09 42.1	
	comp=N,86nm,0.2s							
SJG	San Juan	1.57	135			Pn	03 09 12.8	+0.4
SJG	San Juan	1.57	135		IAML		03 09 38.0	
	comp=N,32nm,0.3s							
SJG	San Juan	1.57	135	⇑	eP	Pn	03 09 12.8	+0.4
SJG	San Juan	1.57	135		eS	Sb	03 09 33.5	-0.2
SJG	San Juan	1.57	135		iP	Pb	03 09 13.5	-0.8
SJG					eS	Sn	03 09 32.1	0.0
SJG					IAML		03 09 37.4	
	comp=Z,21nm,0.3s							
IGPR	InterUniversit	1.70	138			Pb	03 09 15.2	-1.3
IGPR						Sn	03 09 36.6	+1.2
IGPR	InterUniversit	1.70	138	⇑	eP	Pb	03 09 15.2	-1.3
IGPR	InterUniversit	1.70	138		eS	Sn	03 09 36.6	+1.2
PDPR	Patillas Dam,	1.72	135		Pn	Pn	03 09 14.8	+0.3
PDPR					IAML		03 09 42.5	
	comp=N,26nm,0.3s							
PDPR					IAML		03 09 44.7	
	comp=E,20nm,0.1s							
PDPR	Patillas Dam,	1.72	135	⇑	eP	Pn	03 09 15.1	+0.5
PDPR	Patillas Dam,	1.72	135		eS	Sn	03 09 37.2	+1.4
HATOM	Hato Mayor del	2.01	257	⇑	iP	Pb	03 09 21.7	-0.2
HATOM				⇑	iS	Sb	03 09 46.5	-0.1
HATOM					IAML		03 09 55.1	
	comp=N,12nm,0.9s							

*GII **27** 03:14:37.4±0.0, 35°.132N±0°.004×38°.565E±0°.005, h0km, confirmed*
*AFAD **27** 03:14:40.3, 34°.66N×38°.04E, h6km±5km, ML2.9*
*GRAL **27** 03:14:43.8±0.3, 34°.99N×38°.09E, h0km±6km, MD3.3*
ISC 27 03:14:42.5±1.5, 35°.01N±0°.03×38°.03E±0°.05, h1km±12km, n36, σ1§17/52, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	1.54	241	eP	Pb	03 15 11.3	-0.6
FKH				eS	Sg	03 15 31.8	-0.1
BEIL	Beino	1.59	253	eP	Pb	03 15 12.2	-0.4
BEIL				eS	Sg	03 15 33.5	-0.1
RHAN	Hatay/Reyhanl	1.71	317	P	Pb	03 15 14.5	-0.2
RHAN				S	Sb	03 15 36.6	0.0
RHAN				iIAML		03 15 45.0	
	comp=N,112nm,0.5s						
HWQ	Hawqa	1.86	248	eP	Pb	03 15 16.2	-1.3
KUZU	Kuzuini	1.92	337	P	Pg	03 15 20.3	+0.9
KUZU				S	Sb	03 15 43.9	+0.9
SURC	SANLIURFA_SURC	1.93	14	P	Pb	03 15 18.2	-0.2
SURC				S	Sb	03 15 43.5	+0.5
SURC				iIAML		03 15 54.0	
	comp=E,56nm,1.0s						
NZIP	Nizip/Gaziante	2.05	352	P	Pg	03 15 21.7	-0.2
NZIP				S	Sn	03 15 44.7	+0.2
NZIP				iIAML		03 15 59.0	
	comp=E,74nm,0.5s						
ZAHL	Zahle	2.11	238	eP	Pb	03 15 19.6	-2.0
HASA	Hatay-Hassa-Ha	2.14	325	P	Pb	03 15 20.9	-1.2
HASA				S	Sg	03 15 51.5	+0.1
HASA				iIAML		03 16 03.0	
	comp=E,64nm,0.5s						
BHL	Bhannes	2.25	241	eP	Pn	03 15 21.4	+0.5
SANL	SANLIURFA_Merk	2.29	20	P	Pb	03 15 23.4	-1.3
RCY	Rachaya	2.36	231	eP	Pn	03 15 22.9	+0.4
GZT	Gaziantep	2.37	351	P	Pb	03 15 26.9	+0.7
GZT				S	Sb	03 15 56.5	+0.6
GZT				iIAML		03 16 11.0	
	comp=E,53nm,0.4s						
QRWL	Qaraoun	2.43	234	eP	Pn	03 15 23.8	+0.4
KAMA	Osmaniye	2.44	334	P	Pn	03 15 23.9	+0.4
KAMA				S	Sb	03 15 55.3	-2.4
ATAB	Bozova	2.47	5	P	Pg	03 15 31.1	+1.3
ATAB				S	Sb	03 15 56.1	-2.4
SHBL	Chebaa	2.52	229	eP	Pn	03 15 25.0	+0.4
NATI	Neve Ativ	2.58	228	P	Pn	03 15 25.2	-0.2
NATI	Neve Ativ	2.58	228	S	Sb	03 16 01.4	-0.3
HANM	anlurfa/Hi	2.66	15	P	Pb	03 15 28.4	-2.5
HANM				S	Sb	03 16 04.2	+0.2
GEM	Giv'at Ha'Em	2.66	228	P	Pn	03 15 26.6	+0.1
GEM	Giv'at Ha'Em	2.66	228	S	Sb	03 16 04.3	+0.3
KSHT	Keshet	2.73	223	P	Pn	03 15 27.4	-0.2
KSHT	Keshet	2.73	223	S	Sb	03 16 06.6	+0.4
AKCA	Adyaman/G¶l	2.79	354	P	Pn	03 15 29.6	+1.2
AKCA				S	Sb	03 16 08.2	+0.2
AKCA				iIAML		03 16 24.0	
	comp=E,48nm,1.1s						
AKCA				iIAML		03 16 32.0	
	comp=N,53nm,0.5s						
AZEY	Adyaman-Merk	2.80	4	P	Pb	03 15 31.5	-1.9
ANDN	Andirin	2.91	333	P	Pb	03 15 35.0	-0.2
ANDN				S	Sb	03 16 10.0	-1.3
NARI	Adyaman-Kaht	2.93	11	P	Pn	03 15 30.6	+0.3
NARI				S	Sg	03 16 15.7	-1.0
MMA0B	Mount Meron ar	2.95	228	P	Pn	03 15 31.4	+0.8
MMA0B	Mount Meron ar	2.95	228	S	Sb	03 16 12.9	+0.4
MMC7	Mount Meron ar	2.95	229	P	Pn	03 15 32.0	+1.4
HNTI	Hanita	3.05	232	P	Pn	03 15 32.6	+0.8
HNTI	Hanita	3.05	232	S	Sb	03 16 15.4	+0.1
AKCD	Akcadag	3.28	359	P	Pn	03 15 35.8	+0.6
AKCD				S	Sn	03 16 15.3	+0.4
AKCD				iIAML		03 16 35.0	
	comp=N,22nm,0.6s						
AKCD				iIAML		03 16 43.0	
	comp=E,20nm,0.6s						
SAIM	ADANA	3.35	333	P	Pn	03 15 37.6	+1.5
SAIM				S	Sb	03 16 20.6	-3.5
ELZG	Elazig	3.57	12	P	Pn	03 15 41.6	+2.5
ELZG				iIAML		03 16 52.0	
	comp=N,17nm,0.6s						

GII 27 03:29:16.1±0.0, 33°.076N±0°.001×35°.954E±0°.001, h5km, Mws1.6, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSHT	Keshet	0.15	232	P	Pg	03 29 19.7	+0.5
KSHT	Keshet	0.15	232	S	Sg	03 29 22.1	+0.8
KDZV	Kedmat Zvi	0.22	258	P	Pg	03 29 20.9	+0.4
KDZV	Kedmat Zvi	0.22	258	S	Sg	03 29 25.3	+1.9
NATI	Neve Ativ	0.26	316	P	Pg	03 29 22.0	+0.8
NATI	Neve Ativ	0.26	316	S	Sb	03 29 26.6	-1.5
LVBS	Lehavot Habash	0.26	284	P	Pg	03 29 21.8	+0.5
LVBS	Lehavot Habash	0.26	284	S	Sg	03 29 26.2	+1.5
GEM	Giv'at Ha'Em	0.28	299	P	Pg	03 29 22.1	+0.6
GEM	Giv'at Ha'Em	0.28	299	S	Sb	03 29 27.2	-1.4
HDNS	Had-Ness	0.30	241	P	Pg	03 29 22.6	+0.7
HDNS	Had-Ness	0.30	241	S	Sb	03 29 28.0	-1.2
GOSH	HaGoshrim	0.31	297	P	Pg	03 29 22.7	+0.6
GOSH	HaGoshrim	0.31	297	S	Sb	03 29 28.4	-1.1
KIRY	Kiryat Shemona	0.35	292	P	Pg	03 29 23.6	+0.7
KIRY	Kiryat Shemona	0.35	292	S	Sb	03 29 29.4	-1.2
RSPN	Rosh Pina	0.36	253	P	Pg	03 29 23.6	+0.6
RSPN	Rosh Pina	0.36	253	S	Sb	03 29 29.8	-1.2
KNHM	Kefar Nahum	0.37	239	P	Pg	03 29 24.0	+0.7
KNHM	Kefar Nahum	0.37	239	S	Sb	03 29 29.7	-1.5
MTLA	Metula	0.37	303	P	Pg	03 29 23.9	+0.5
MTLA	Metula	0.37	303	S	Sb	03 29 29.9	-1.5
MSAM	Misgav Am	0.38	297	P	Pg	03 29 24.1	+0.6
MSAM	Misgav Am	0.38	297	S	Sb	03 29 30.7	-0.9
GOLA	Golan Heights	0.44	215	P	Pb	03 29 25.6	-0.8
GOLA	Golan Heights	0.44	215	S	Sb	03 29 32.4	-0.9
MMA0B	Mount Meron ar	0.47	263	P	Pb	03 29 26.1	-0.8
MMA0B	Mount Meron ar	0.47	263	S	Sb	03 29 33.0	-1.1
MMC7	Mount Meron ar	0.47	264	P	Pg	03 29 25.9	+0.7
MMC7	Mount Meron ar	0.47	264	S	Sb	03 29 33.1	-1.3

*GII **27** 03:40:27.0±0.0, 34°.84N×27°.96E, h30km, Mws2.8, confirmed*
*AFAD **27** 03:40:39.1, 35°.64N×27°.94E, h11km±2km, ML2.0*
ISC 27 03:40:29.2±2.3, 34°.83N±0°.06×28°.0E±0°.1, h33km±15km, n26, σ1§70/34, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	Mula-Seydike	1.87	31	P	Pb	03 41 03.7	+1.0
IZZE				S	Sb	03 41 26.6	+0.8
AKAS	Kas	1.90	42	P	Pb	03 41 05.3	+2.0
AKAS				S	Sb	03 41 27.4	+0.8
TURN	Turunc	1.94	5	P	Pb	03 41 04.8	+0.8
SABU	Mula-Dalaman	2.13	21	P	Pb	03 41 07.1	0.0
SABU				S	Sn	03 41 24.4	-3.3
SABU				iIAML		03 41 30.0	
	comp=N,19nm,2.5s						
KNIK	Mula-Seydike	2.37	32	P	Pb	03 41 12.0	+0.8
KNIK				S	Sb	03 41 34.7	-5.4
KNIK				iIAML		03 41 48.0	
	comp=E,16nm,2.8s						
KNIK				iIAML		03 42 10.0	
	comp=N,14nm,2.4s						
DNZT	Denizli-Tavas-	2.57	18	P	Pb	03 41 13.9	-0.8
DNZT				S	Sn	03 41 38.7	-0.1
GOLH	Golhisar	2.70	27	P	Pb	03 41 16.7	-0.2
GOLH				S	Sn	03 41 43.3	+1.3
GOLH				iIAML		03 42 09.0	
	comp=E,17nm,2.7s						
TAVA	DENIZLI_Tavas	2.72	15	P	Pn	03 41 14.7	+4.1
TAVA				S	Sn	03 41 42.4	0.0
KORT	Korkueli	2.87	40	P	Pb	03 41 20.0	+0.2
KORT				iIAML		03 42 47.0	
	comp=N,8.4nm,2.2s						
DNIZ	Denizli-Tavas-	2.90	16	P	Pn	03 41 16.6	+3.5
DNIZ				S	Sn	03 41 48.1	+1.2
CSS	Mathiatis	4.36	87	P	Pn	03 41 32.2	-0.9
CSS	Mathiatis	4.36	87	S	Sn	03 42 22.6	-0.2
DSI	Dead Sea	6.97	116	P	Pn	03 42 07.5	-1.4
DSI	Dead Sea	6.97	116	S	Sn	03 43 28.0	+1.0
MSBI	Mazada	7.08	118	P	Pn	03 42 09.6	-0.8
MSBI	Mazada	7.08	118	S	Sn	03 43 30.5	+0.7
KRMI	Paran Flat	7.36	128	P	Pn	03 42 13.8	-0.5
KRMI	Paran Flat	7.36	128	S	Sn	03 43 36.4	-0.3
PRNI	Paran	7.39	125	P	Pn	03 42 14.2	-0.5
PRNI	Paran	7.39	125	S	Sn	03 43 37.2	-0.3
HRFI	Mount Harif	7.61	127	P	Pn	03 42 17.2	-0.6
HRFI	Mount Harif	7.61	127	S	Sn	03 43 42.6	-0.3
MBRI	Mt Berech	7.69	129	P	Pn	03 42 18.4	-0.6
MBRI	Mt Berech	7.69	129	S	Sn	03 43 45.1	+0.1
EIL	Elat	7.80	129	P	Pn	03 42 19.6	-0.7
EIL	Elat	7.80	129	S	Sn	03 43 47.6	+0.1

*SNET **27** 03:54:33.4±2.7, 13°.66N×90°.35W, h45km, ML2.7*
*GCG **27** 03:54:34.3±0.5, 13°.70N×90°.17W, h68km±6km, MD4.0*
ISC 27 03:54:38.4±2.4, 13°.7N±0°.1×89°.96W±0°.09, h60km±15km, n13, σ1§66/23, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.27	39	eP	Pn	03 54 46.8	-1.8
NUBE				eS	Sn	03 54 56.4	+0.6
NUBE	Las Nubes	0.27	39	eP	Pn	03 54 46.8	-1.8
NUBE				eS	Sn	03 54 56.6	+0.7
CEVE	Cerro Verde	0.35	67	eP	Pn	03 54 48.4	-0.9
CEVE				eS	Sn	03 54 59.0	+1.9
SBLS	San Blas	0.35	66	eP	Pn	03 54 47.7	-1.6
SBLS				eP		03 54 48.0	
SBLS				eS	Sn	03 54 58.6	+1.4
SNJE	San Jose	0.38	63	eP	Pn	03 54 48.2	-1.3
SNJE				eP		03 54 48.3	
SNJE				eS	Sn	03 54 59.8	+2.3
RBDL	Robledal	0.49	32	eP	Pn	03 54 49.1	-1.4
RBDL				eS	Sn	03 55 00.6	+1.3
JAYA	Jayaque - finc	0.49	94	eP	Pn	03 54 49.0	-1.5
JAYA				eS	Sn	03 55 01.0	+1.7
JAYA	Jayaque - finc	0.49	94	iP	Pn	03 54 49.1	-1.5
JAYA				e	Sn	03 55 00.1	+0.8
JAYA				eS	Sn	03 55 00.1	+0.8
PMON	Piamonte	0.62	88	eP	Pn	03 54 50.3	-1.6
PMON				eS	Sn	03 55 03.7	+1.9
LOMA	Loma Larga	0.76	94	eS	Sn	03 55 07.6	+2.9
FG16	Alotenango, Sa	0.79	317	eP	Pn	03 54 53.1	-0.9
FG8	Yepocapa, Chim	0.81	314	eP	Pn	03 54 53.9	-0.3
MTO3	Montecristo	0.91	39	eP	Pn	03 54 54.0	-1.5

*BEO **27** 03:59:11.3±0.5, 40°.28N×20°.96E, h0km, ML2.6/9*
*ATH **27** 03:59:13.2, 40°.48N×20°.77E, h8km±1km, ML3.0/11, Manual Solution by F.Xalaris First location: 2019/10/27 04:00:27, This location: 2020/10/19 07:42:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*PDG **27** 03:59:13.3±0.6, 40°.49N×20°.80E, h6km±1km, ML2.9/11, Error ellipse: s-maj=1.3km s-min=2.6km az=0.0*
*TIR **27** 03:59:13.8, 40°.53N×20°.92E, h25km±1km, Md3.7/3, Ml3.2/6*
*THE **27** 03:59:14.4, 41°№1°×2°1E±°, h0km±1km, M2.8/28, MLh2.8/28*
*SKO **27** 03:59:15.4, 40°.50N×20°.76E, h10km, ML2.9*
ISC 27 03:59:13.9±0.8, 40°.49N±0°.01×20°.82E±0°.02, h10km±5km, n109, σ1§31/164, 2C-9D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.14	350	P	Pg	03 59 17.0	-0.2
KBN				S	Sg	03 59 19.7	+0.2
KBN	Korca	0.14	350	⇓ iPg	Pg	03 59 17.0	-0.2
KBN				Sg	Sg	03 59 19.6	+0.2
KBN				AML	AML	03 59 20.2	
	24nm,0.3s						
KBN				AMd		04 00 58.7	
NEST	Nestorio	0.19	113	P	Pg	03 59 18.4	+0.3
NEST				S	Sg	03 59 22.2	+1.3
NEST	Nestorio	0.19	113	⇑ iPg	Pg	03 59 18.3	+0.3
NEST				Sn	Sg	03 59 20.9	0.0
NEST				AML	AML	03 59 22.5	
	15nm,0.3s						
NEST				AML	AML	03 59 22.6	
	12nm,0.2s						
NEST				AMd		04 01 29.7	
NEST	Nestorio	0.19	113	P	Pg	03 59 18.3	+0.3
NEST				S	Sg	03 59 21.3	+0.4
PENT	Pentalofos	0.38	140	P	Pg	03 59 21.2	-0.4
PENT	Pentalofos	0.38	140	P	Pg	03 59 21.1	-0.4
PENT				S	Sg	03 59 26.8	+0.1
LMS2	Laimos Florina	0.42	36	P	Pg	03 59 22.2	-0.1
LMS2				S	Sg	03 59 28.3	+0.3
OHR	Ohrid	0.62	359	iPg	Pb	03 59 26.4	-0.5
OHR				iSg	Sb	03 59 36.4	+0.7
OHR				eLg	Lg	03 59 36.9	
	comp=E,1μm,0.6s						
OHR				eLg	Lg	03 59 37.4	
	comp=N,390nm,0.6s						
JAN	Janina	0.83	178	P	Pg	03 59 28.2	-1.8
NASA	Naoussa	0.96	81	P	Pg	03 59 32.1	-0.4
VLO	Vlora	1.01	269	P	Pb	03 59 34.0	+0.6
VLO				S	Sn	03 59 49.2	+0.9
VLO	Vlora	1.01	269	⇓ ePn	Pg	03 59 33.7	+0.4
VLO				Sn	Sn	03 59 48.4	+0.1
VLO				AML	AML	03 59 51.4	
	comp=N,3.8nm,0.4s						
VLO				AML	AML	03 59 53.3	
	comp=N,3.0nm,0.5s						
IGT	Igoumenitsa	1.03	201	⇓ ePn	Pg	03 59 32.0	-1.7
IGT				Sn	Sn	03 59 49.9	+1.2
IGT				AML	AML	03 59 50.7	
	comp=N,1.1nm,0.5s						
KEK	Kerkira	1.10	226	P	Pn	03 59 36.6	+1.2
KEK				S	Sn	03 59 52.5	+1.9
KEK	Kerkira	1.10	226	⇓ ePn	Pn	03 59 36.7	+1.3
KEK				Sn	Sn	03 59 52.8	+2.2
KEK				AMd		04 01 49.9	
KRK1	kERKIRA	1.11	219	P	Pg	03 59 34.0	-1.3
TIR	Tirane	1.12	320	⇓ ePn	Pg	03 59 35.1	-0.3
TIR				Sn	Sn	03 59 51.4	+0.3
TIR				AML	AML	03 59 59.5	
	comp=N,1.0nm,0.8s						
TIR				AML	AML	04 00 00.9	
	comp=N,0.5nm,0.5s						
TIR	Tirane	1.12	320	iPg	Pg	03 59 35.0	-0.4
TIR				iSg	Sn	03 59 54.0	+2.9
LFKM	Lefkimmi	1.19	209	P	Pn	03 59 37.6	+1.0
LFKM				S	Sn	03 59 55.4	+2.5
TETR	Tetrakomo, Epi	1.20	163	P	Pg	03 59 36.1	-0.8
TETR				S	Sn	03 59 55.5	+2.4
TETR	Tetrakomo, Epi	1.20	163	P	Pg	03 59 36.5	-0.4
THL	Klokotos Trika	1.30	135	P	Pn	03 59 37.8	-0.4
THL				S	Sn	03 59 57.7	+2.1
THL	Klokotos Trika	1.30	135	P	Pn	03 59 37.8	-0.4
LIT	Litokhoron	1.34	106	iSg	Sn	03 59 59.7	+3.2
SKO	Skopje	1.55	17	iPn	Pg	03 59 43.5	-0.3
SKO				iSn	Sg	04 00 06.8	+2.9
VAY	Valandovo	1.57	57	iPg	Pg	03 59 43.1	-0.9
VAY				iSg	Sg	04 00 06.3	+1.9
VAY				eLg	Lg	04 00 09.2	
	comp=E,97nm,0.6s						
VAY				eLg	Lg	04 00 10.4	
	comp=N,150nm,0.9s						
AMPL	Ampelaki	1.59	169	P	Pn	03 59 42.0	-0.2
THE	Thessaloniki	1.64	84	⇓ ePn	Pn	03 59 42.7	-0.1
THE				Sn	Sb	04 00 04.3	-0.7
TSLK	Tsoukalades, L	1.67	184	P	Pb	03 59 44.8	+0.1
TSLK				S	Sg	04 00 08.9	+1.3
TSLK	Tsoukalades, L	1.67	184	P	Pn	03 59 43.4	+0.2
LKD2	Lefkada island	1.70	184	⇓ ePn	Pb	03 59 46.0	+0.6
LKD2				Sn	Sg	04 00 09.5	+0.8
LKD2				AML	AML	04 00 18.4	
	comp=N,0.9nm,0.9s						
KNT	Kendrikon	1.72	66	P	Pn	03 59 44.2	+0.3
KNT				S	Sg	04 00 07.8	-1.3
KNT	Kendrikon	1.72	66	iPn	Pb	03 59 44.6	-1.0
KNT				iSn	Sg	04 00 12.2	+3.1
KNT	Kendrikon	1.72	66	P	Pn	03 59 44.1	+0.3
EVR	Evrytania	1.75	154	P	Pb	03 59 46.0	-0.2
EVR				S	Sg	04 00 09.8	-0.3
EVR	Evrytania	1.75	154	P	Pn	03 59 44.3	0.0
NYDR	Nydri-Lefkada	1.78	183	P	Pb	03 59 46.7	+0.1
MAKR	Makrakomi, Fth	1.79	145	P	Pb	03 59 46.2	-0.6
EVGI	Lefkada island	1.87	184	P	Pb	03 59 47.5	-0.6
AGG	Agios Georgios	1.87	141	P	Pn	03 59 46.2	+0.2
AGG	Agios Georgios	1.87	141	P	Pn	03 59 45.8	-0.2
ULC	Ulcinj	1.89	322	⇓ iPn	Pb	03 59 48.3	-0.2
ULC				eSn	Sg	04 00 14.5	-0.2
PVO	Paravola	1.95	163	P	Pb	03 59 48.9	-0.6
SOH	Sokhos	1.96	79	P	Pn	03 59 47.9	+0.7
SOH	Sokhos	1.96	79	iPn	Pn	03 59 48.2	+1.0
SOH				iSn	Sb	04 00 13.7	-0.5
SOH	Sokhos	1.96	79	P	Pn	03 59 47.4	+0.2
FSK	Fiskardo	2.04	186	P	Pb	03 59 50.0	-1.0
ANX	Ano Chora	2.08	155	P	Pb	03 59 51.5	-0.3
DRME	Dracevica, Mon	2.09	325	ePn	Pb	03 59 51.3	-0.7
DRME				eSn	Sg	04 00 20.3	-0.9
DRME	Dracevica, Mon	2.09	325	ePn	Pn	03 59 50.7	+1.7
DRME				eSn	Sb	04 00 19.6	+1.6
NEO	Neokhori	2.20	122	P	Pn	03 59 50.7	+0.3
NEO	Neokhori	2.20	122	P	Pn	03 59 50.8	+0.3
SRS	Serrai	2.20	73	iPn	Pb	03 59 52.4	-1.4
SRS				iSn	Sb	04 00 19.8	-1.3
SRS	Serrai	2.20	73	ePn	Pn	03 59 49.2	-1.3
SRS				eSn	Sn	04 00 16.1	-1.6
PVY	Plav	2.20	343	ePn	Pb	03 59 53.9	+0.1
PVY				eSn	Sg	04 00 23.7	-0.9
PVY	Plav	2.20	343	ePn	Pb	03 59 52.5	-1.3
PVY				eSn	Sb	04 00 22.7	+1.5
KKB	Krupnik	2.21	52	iPn	Pb	03 59 52.4	-1.5
KKB				iSn	Sb	04 00 20.7	-0.6
EFP	Efpalio	2.23	157	P	Pb	03 59 53.4	-0.8
AXAR	Agios Charalam	2.23	140	P	Pn	03 59 51.9	+0.9
PDG	Podgorica	2.27	329	P	Pn	03 59 52.9	+1.6
PDG	Podgorica	2.27	329	ePn	Pn	03 59 53.2	+1.8
PDG				eSn	Sg	04 00 25.4	-1.3
PDG	Podgorica	2.27	329	ePn	Pn	03 59 52.6	+1.2
PDG				iSn	Sb	04 00 23.1	+0.1
DMLN	Damoulianata-K	2.27	189	P	Pn	03 59 52.5	+1.0
SERG	Sergoula	2.29	155	P	Pb	03 59 54.1	-1.1
BUM	Brajici-Budva	2.32	322	ePn	Pn	03 59 53.5	+1.3
BUM				iSn	Sb	04 00 24.3	-0.2
VLS	Valsamata	2.32	184	P	Pn	03 59 52.9	+0.8
AXS	Araxos	2.33	169	P	Pb	03 59 54.6	-1.4
KALE	Kalithea	2.33	154	P	Pb	03 59 54.7	-1.4
BOSS	Bosilegrad	2.36	31	ePn	Pn	03 59 53.8	+1.1
BOSS				eSn	Sb	04 00 24.7	-1.1
PSDA	Pessada-Kefalo	2.38	184	P	Pn	03 59 53.9	+0.9
OUR	Ouranopolis	2.42	93	P	Pn	03 59 54.9	+1.4
BARS	Barje	2.44	18	iPn	Pn	03 59 54.8	+1.0
BARS	Barje	2.44	18	ePn	Pn	03 59 54.5	+0.7
BARS				eSn	Sb	04 00 27.5	-0.6
MMB	Musomishta	2.46	64	P	Pn	03 59 54.9	+0.9
MMB	Musomishta	2.46	64	iPn	Pn	03 59 55.1	+1.0
MMB				iSn	Sn	04 00 25.9	+1.8
CEME	Cevo	2.50	326	⇓ iPn	Pn	03 59 56.1	+1.4
CEME				eSn	Sb	04 00 29.1	-0.7
KOME	Kolasin	2.55	338	ePn	Pb	03 59 57.9	-1.9
KOME				eSn	Sb	04 00 30.9	-0.4
KOME	Kolasin	2.55	338	ePn	Pn	03 59 57.7	+2.3
KOME				eSn	Sb	04 00 31.3	0.0
HCY	Herceg Novi	2.62	319	⇑ iPn	Pn	03 59 57.2	+0.9
HCY				iSn	Sn	04 00 31.0	+2.8
NKME	Niksic	2.67	329	ePn	Pn	03 59 58.7	+1.7
NKME				eSn	Sb	04 00 33.4	-1.2
SELS	Selova	2.74	5	ePn	Pn	03 59 58.6	+0.7
SELS				eSn	Sb	04 00 34.6	-2.0
VTS	Vitosha	2.79	40	ePn	Pn	03 59 58.9	+0.1
VTS				eSn	Sn	04 00 33.6	+0.9
SJES	Sjenica	2.84	347	ePn	Pn	04 00 00.7	+1.3
SJES				eSn	Sb	04 00 38.2	-1.4
NOCI	Noci	2.87	277	P	Pn	03 59 59.9	+0.2
TREB	Trebinje	2.89	321	ePn	Pn	03 59 59.9	-0.1
BRY	Bratogost	2.95	325	ePn	Pn	04 00 03.3	+2.3
PLE	Pljevlja	3.03	340	ePn	Pn	04 00 04.5	+2.5
PLE				eSn	Sb	04 00 42.7	-2.4
PLE	Pljevlja	3.03	340	ePn	Pn	04 00 04.5	+2.5
PLE				iSn	Sb	04 00 42.7	-2.4

comp=N,129nm,0.3s
MIDR Miches 1.26 339⇑ eP Pn 04 12 47.3 -1.0
MIDR Miches 1.26 339⇑ iP Pn 04 12 47.4 -0.8
MIDR ⇑ iS Sn 04 13 03.0 -1.3
MIDR IAML 04 13 03.7
comp=N,184nm,0.4s
CRPR Cabo Rojo, PR 1.41 81 Pn 04 12 49.8 -0.3
CRPR Sn 04 13 07.2 -0.5
CRPR Cabo Rojo, PR 1.41 81 IAML 04 13 16.8
comp=N,42nm,2.1s
CRPR IAML 04 13 27.1
comp=E,31nm,2.2s
CRPR Cabo Rojo, PR 1.41 81⇑ eP Pn 04 12 49.8 -0.3
CRPR Cabo Rojo, PR 1.41 81 eS Sn 04 13 07.2 -0.5
CRPR Cabo Rojo, PR 1.41 81 i P Pn 04 12 49.9 -0.3
CRPR IAML 04 13 07.4
comp=Z,23nm,0.2s
SDD Santo Domingo 1.44 297 Sn 04 13 08.7 +0.3
SDD Santo Domingo 1.44 297 eS Sn 04 13 08.7 +0.3
SDD Santo Domingo 1.44 297 eS Sn 04 13 09.1 +0.7
LSP Las Mesas 1.46 75 Pn 04 12 51.1 +0.2
LSP Sn 04 13 08.9 -0.2
LSP Las Mesas 1.46 75⇑ eP Pn 04 12 51.1 +0.2
LSP Las Mesas 1.46 75 eS Sn 04 13 08.9 -0.2
MLPR Magueyes Islan 1.47 83⇑ eP Pn 04 12 50.5 -0.5
MLPR Magueyes Islan 1.47 83 eS Sn 04 13 08.7 -0.4
AGPR Aguadilla, PR 1.54 64 Sn 04 13 11.1 +0.1
AGPR Aguadilla, PR 1.54 64⇑ iP Pn 04 12 55.4 +3.5
AGPR ⇑ iS Sn 04 13 11.7 +0.7
AGPR IAML 04 13 21.0
comp=N,51nm,0.8s
DR08 Loma La Naviza 1.80 310⇑ iP Pn 04 12 54.7 -0.8
DR08 ⇑ iS Sn 04 13 15.6 -1.7
DR08 IAML 04 13 18.1
comp=N,2μm,0.2s
OBIP Obispado Ponce 1.89 82 Pn 04 12 56.6 -0.1
OBIP Sn 04 13 18.9 -0.5
OBIP Obispado Ponce 1.89 82⇑ eP Pn 04 12 56.6 -0.1
OBIP Obispado Ponce 1.89 82 eS Sn 04 13 18.9 -0.5
NADR Nagua 1.97 322⇑ iP Pn 04 12 58.9 +1.1
NADR ⇑ iS Sn 04 13 21.1 -0.3
NADR IAML 04 13 26.9
comp=N,200nm,0.5s
EMPR Esperanza - Ma 2.06 71 Sn 04 13 23.5 0.0
EMPR Esperanza - Ma 2.06 71 eS Sn 04 13 23.5 0.0
ECPR Experimental S 2.16 76⇑ eP Pn 04 13 00.0 -0.5
ECPR Experimental S 2.16 76 eS Sn 04 13 26.3 +0.1
SFDR San Fco. de Ma 2.17 313⇑ iP Pn 04 13 01.3 +0.8
SFDR ⇑ iS Sn 04 13 24.4 -1.9
SFDR IAML 04 13 31.0
comp=N,192nm,0.9s
SJG San Juan 2.33 82 eS Sn 04 13 29.5 -0.7
IGPR InterUniversit 2.35 86 Sn 04 13 31.6 +0.8
IGPR InterUniversit 2.35 86 eS Sn 04 13 31.6 +0.8
GCPR Guaynabo City 2.42 78 Pn 04 13 03.5 -0.4
GCPR IAML 04 13 57.4
comp=N,13nm,2.8s
GCPR Guaynabo City 2.42 78 Sn 04 13 31.7 -0.8
GCPR Guaynabo City 2.42 78 IAML 04 13 30.5
comp=E,17nm,1.4s
GCPR Guaynabo City 2.42 78⇑ eP Pn 04 13 03.5 -0.4
GCPR Guaynabo City 2.42 78 eS Sn 04 13 31.7 -0.8
PDPR Patillas Dam, 2.44 84 Pn Pn 04 13 03.5 -0.7
PDPR IAML 04 13 39.0
comp=E,14nm,0.2s
PDPR Patillas Dam, 2.44 84⇑ eP Pn 04 13 04.3 +0.1
PDPR Patillas Dam, 2.44 84 eS Sn 04 13 33.3 +0.4
SC01 Santiago de lo 2.61 309 i P Pn 04 13 08.8 +2.2
SC01 eS Sn 04 13 37.0 -0.1
SC01 IAML 04 13 44.2
comp=Z,38nm,1.9s
LOVI El Cajuil, Ovi 2.66 270 i P Pn 04 13 07.6 +0.3
LOVI eS Sn 04 13 36.9 -1.5
LOVI IAML 04 13 40.9
comp=Z,46nm,0.7s
LODU1 El Espartillar 2.81 282 i P Pn 04 13 10.8 +1.4
LONE3 El Aguacate, B 2.86 287 i P Pn 04 13 11.0 +1.0

*IDC **27** 04:17:45.7±1.8, 21°.38S×174°.32W, h0km, mb4.1/6, mbtmp4.1/6, MS3.9/1, Error ellipse: s-maj=79.0km s-min=27.6km az=148.0*
ISC 27 04:17:50.2±1.8, 21°.4S±0°.5×174°.3W±0°.3, h30km, n10, σ0°95/11, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.53**	**92**	Pn	Pn	04 20 50.1	-10
	3.4nm,0.3s,baz=316,slow=21,SNR=2.2						
RAR				Sn	Sn	04 23 04.3	-25
	1.4nm,0.3s,baz=226,slow=23,SNR=2.1						
JAY	**Jayapura**	**47.62**	**287**	LR	LR	04 43 09.5	
	comp=Z,134nm,21.4s,baz=354,slow=32						
ASAR	**Alice Springs**	**47.69**	**257**	P	**P**	**04 26 23.8**	**-0.6**
	2.5nm,0.8s,baz=92,slow=8.1,SNR=25						
ASAR				PcP	**PcP**	**04 27 53.6**	**+0.1**
	0.4nm,0.6s,baz=97,slow=3.9,SNR=2.4						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**47.91**	**262**	P	**P**	**04 26 24.9**	**-1.2**
	1.4nm,0.8s,baz=100,slow=7.8,SNR=9.9						
WRA				PcP	**PcP**	**04 27 55.3**	**+0.9**
	0.6nm,0.5s,baz=102,slow=2.7,SNR=3.6						
	1.4nm,0.8s						
MJAR	**Matsushiro Arr**	**73.03**	**322**	P	**P**	**04 29 17.1**	**-0.3**
	1.0nm,0.5s,baz=155,slow=5.8,SNR=6.9						
	1.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.36**	**41**	P	**P**	**04 29 53.3**	**-0.2**
	0.6nm,0.5s,baz=204,slow=2.3,SNR=4.0						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**88.47**	**11**	P	**P**	**04 30 39.0**	**-0.1**
	0.5nm,0.7s,baz=211,slow=6.3,SNR=5.6						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**04 31 06.5**	**+2.0**
	1.4nm,0.3s,baz=102,slow=4.2,SNR=4.9						
	1.4nm,0.3s						
AKASG	**Malin Array Be**	**145.43**	**333**	PKPbc	**PKPbc**	**04 37 24.6**	**-0.5**
	1.6nm,0.6s,baz=44,slow=3.5,SNR=7.0						
BRTR	**Keskin Array B**	**149.99**	**314**	PKP	**PKPdf**	**04 37 32.8**	**-0.5**
	0.3nm,0.7s,baz=120,slow=3.8,SNR=2.3						
BRTR				PKPbc	**PKPbc**	**04 37 38.2**	**0.0**
	0.6nm,0.8s,baz=34,slow=0.5,SNR=4.3						

*VIE **27** 04:20:59.1±0.6, 51°.45N×16°.05E, h0km, mb2.4/2, ml2.6/5, Error ellipse: s-maj=5.8km s-min=4.1km az=47.0 78 km WNW of Wroclaw Suspected Mining induced.*
*PRU **27** 04:21:00.4, 51°.45N×16°.08E, h0km*
ISC 27 04:20:59.3±1.1, 51°.46N±0°.05×16°.05E±0°.03, h0km, n27, σ0°72/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**166**	ePg	**Pg**	**04 21 11.8**	**+0.4**
KSP				eSg	**Sg**	**04 21 20.6**	**+1.1**
CHVC	**Chvalec**	**0.87**	**180**	ePG	**Pg**	**04 21 16.4**	**+0.5**
CHVC				eSG	**Sb**	**04 21 28.6**	**-0.8**
OSTC	**Ostas**	**0.91**	**173**	ePG	**Pg**	**04 21 17.0**	**+0.4**
OSTC				eSG	**Sb**	**04 21 29.7**	**-0.8**
	comp=Z,38nm,0.3s						
UPC	**Upice**	**0.95**	**181**	ePG	**Pb**	**04 21 18.2**	**-0.4**
UPC				eSG	**Sb**	**04 21 30.9**	**-0.8**
	comp=Z,90nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**171**	ePG	**Pg**	**04 21 20.8**	**+0.1**
DPC				eSG	**Sg**	**04 21 35.5**	**+0.3**
	comp=Z,33nm,0.7s						
PVCC	**Panska Ves**	**1.32**	**226**	ePG	**Pg**	**04 21 24.7**	**+0.2**
PVCC				eSG	**Sn**	**04 21 42.9**	**-0.3**
	comp=Z,84nm,0.2s						
BRG	**Berggiesshubel**	**1.45**	**247**	Pg	**Pb**	**04 21 27.3**	**+0.2**
BRG				Sg	**Sn**	**04 21 47.3**	**+0.9**
BRG				Amp		04 21 49.4	
	comp=Z,34nm,0.4s						
KRLC	**Kraliky**	**1.46**	**161**	ePG	**Pn**	**04 21 25.8**	**-1.1**
KRLC				eSG	**Sg**	**04 21 46.0**	**-0.1**
	comp=Z,19nm,0.5s						
PRU	**Pruhonice**	**1.75**	**214**	ePG	**Pb**	**04 21 31.7**	**-0.6**
PRU				eSG	**Sg**	**04 21 56.5**	**+0.9**
	comp=Z,17nm,0.5s						
HSKC	**Hora Svate Kat**	**1.86**	**244**	ePG	**Pb**	**04 21 33.5**	**-0.6**
HSKC				eSG	**Sg**	**04 21 58.9**	**0.0**
	comp=Z,23nm,0.3s						
STEB	**Steborice**	**1.88**	**144**	ePG	**Pb**	**04 21 34.2**	**-0.2**
STEB				eSG	**Sb**	**04 21 58.0**	**-0.4**
	comp=Z,48nm,0.4s						
CLL	**Collm**	**1.92**	**267**	ePg	**Pb**	**04 21 35.0**	**0.0**
CLL				ex	x	04 21 38.0	
CLL				eSg	**Sb**	**04 21 59.0**	**-0.5**
	comp=Z,12nm,0.6s						
MORC	**Moravsky Berou**	**1.93**	**150**	ePN	**Pn**	**04 21 32.2**	**-1.2**
MORC				eSG	**Sb**	**04 21 59.4**	**-0.6**
OKC	**Ostrava-Krasne**	**2.10**	**140**	eSG	**Sb**	**04 22 04.8**	**0.0**
VRAC	**Vranov**	**2.18**	**171**	ePN	**Pn**	**04 21 37.2**	**+0.4**
VRAC				eSG	**Sb**	**04 22 07.1**	**0.0**
TREC	**Trest**	**2.19**	**190**	eSG	**Sg**	**04 22 09.5**	**-0.2**
KRUC	**Moravsky**	**2.41**	**175**	ePN	**Pn**	**04 21 39.3**	**-0.6**
KRUC				eSG	**Sg**	**04 22 16.2**	**-0.3**
OJC	**Ojcow**	**2.68**	**116**	ePg	**Pg**	**04 21 49.9**	**-0.7**
OJC				eSg	**Sg**	**04 22 25.5**	**+0.2**
KHC	**Kasperske Hory**	**2.82**	**215**	ePN	**Pn**	**04 21 45.0**	**-0.6**
KHC				ePG	**Pb**	**04 21 50.7**	**+0.3**
KHC				eSG	**Sg**	**04 22 29.1**	**-0.6**
	comp=Z,11nm,0.4s						
LANS	**Liptovska Anna**	**3.18**	**135**	ePN	**Pn**	**04 21 51.9**	**+1.3**
LANS				ePG	**Pg**	**04 22 02.1**	**+1.9**
LANS				eSG	**Sg**	**04 22 39.4**	**-2.0**
MODS	**Modra-Piesok**	**3.19**	**165**	eSG	**Sg**	**04 22 42.9**	**+1.3**
CONA	**Conrad Observa**	**3.53**	**182**	i Pn	**Pn**	**04 21 55.4**	**0.0**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**04 22 53.3**	**+0.5**
	comp=Z,5.8nm,0.3s						
MOA	**Molln**	**3.79**	**198**	ePn	**Pn**	**04 21 59.2**	**+0.2**
	comp=Z,0.6nm,0.3s						
STHS	**Stebnicka Huta**	**3.90**	**120**	ePN	**Pn**	**04 22 01.2**	**+0.8**
STHS				ePG	**Pg**	**04 22 13.6**	**-0.3**
STHS				eSG	**Sg**	**04 23 04.9**	**+0.5**
BIOA	**Bad Ischl, Aus**	**4.08**	**204**	ePn	**Pn**	**04 22 03.3**	**+0.4**
	comp=Z,1.9nm,0.3s						
ARSA	**Arzberg**	**4.22**	**185**	ePn	**Pn**	**04 22 05.0**	**+0.1**
	comp=Z,0.8nm,0.5s						
KBA	**Koelnbreinsper**	**4.73**	**203**	ePn	**Pn**	**04 22 11.9**	**0.0**
	comp=Z,0.7nm,0.3s						

*MOS **27** 04:32:24.4±1.2, 62°.87N×148°.35W, h72km, mb4.8/16, Error ellipse: s-maj=18.5km s-min=6.3km az=92.8*
*NEIC **27** 04:32:26.8, 62°.88N×148°.31W, h73km*
*NEIC **27** 04:32:26.9±1.5, 62°.88N±0°.03×148°.30W±0°.05, h74km±3km, Error ellipse: s-maj=4.7km s-min=3.1km az=160.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.48; $M_{\theta\theta}$2.81; $M_{\phi\phi}$-1.33; $M_{r\theta}$2.69; $M_{\theta\phi}$0.90; $M_{r\phi}$4.75; Fault plane solution: $M_0$6.05000×10^{15} NP1: ϕ_s110.29000°, δ23.45000°, λ-17.13000°. NP2: ϕ_s216.08000°, δ83.27000°, λ-112.51000°. Principal axes: T 5.6879, Plg34.0000°, Azm325.0000°; N 0.6604, Plg22.0000°, Azm219.0000°; P -6.3483, Plg47.0000°, Azm103.0000°;*
*AEIC **27** 04:32:26.9±1.4, 62°.88N±0°.03×148°.30W±0°.05, h75km±4km, ML4.5, mb4.8/260(NEIC), ML4.8/264(NEIC), Mwr4.5/129(NEIC) Error ellipse: s-maj=5.0km s-min=3.1km az=159.0*
*IDC **27** 04:32:26.4±0.5, 62°.97N×148°.51W, h72km±3km, mb4.1/31, mbtmp4.4/35, MS3.3/24, Error ellipse: s-maj=10.2km s-min=8.5km az=16.0*
*ANF **27** 04:32:27.4±0.1, 62°.87N×148°.26W, h68km±1km, ML4.9/122, Error ellipse: s-maj=0.7km s-min=0.6km az=28.0*
ISC 27 04:32:26.2±0.4, 62°.90N±0°.02×148°.32W±0°.03, h71km±3km, h71km:pP-P, n819, σ1°26/710, mb4.8/171, 22C-9D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAT1	**Susitna Watana**	**0.13**	**237**		**Pn**	**04 32 37.6**	**+0.9**
WAT1					**Sn**	**04 32 45.8**	**+1.4**
WAT1	**Susitna Watana**	**0.13**	**237**	P	**Pn**	**04 32 37.6**	**+0.9**
	baz=74						
WAT1				S	**Sn**	**04 32 45.6**	**+1.2**
	baz=74						
WAT7	**Susitna Watana**	**0.25**	**255**		**Pn**	**04 32 38.1**	**+0.9**
WAT7					**Sn**	**04 32 46.8**	**+1.3**
WAT6	**Susitna Watana**	**0.41**	**140**		**Pn**	**04 32 39.0**	**+0.5**
WAT6					**Sn**	**04 32 48.2**	**+0.7**
WAT6	**Susitna Watana**	**0.41**	**140**	P	**Pn**	**04 32 39.0**	**+0.5**
	baz=321,SNR=1000						
WAT6				S	**Sn**	**04 32 48.3**	**+0.8**
	baz=321						
DHY	**Denali Highway**	**0.47**	**67**		**Pn**	**04 32 39.9**	**+1.0**
DHY	**Denali Highway**	**0.47**	**67**		**Sn**	**04 32 49.8**	**+1.6**
DHY	**Denali Highway**	**0.47**	**67**	P	**Pn**	**04 32 40.0**	**+1.0**
	baz=243,SNR=1000						
DHY				S	**Sn**	**04 32 49.9**	**+1.6**
	baz=243						
RND	**Reindeer**	**0.56**	**335**		**Sn**	**04 32 51.5**	**+1.7**
RND	**Reindeer**	**0.56**	**335**		**Pn**	**04 32 41.0**	**+1.2**
RND				IAML		04 32 51.7	
	comp=E,40μm,0.6s						
RND				IAML		04 32 52.0	
	comp=N,33μm,0.3s						
MCK	**McKinley**	**0.88**	**342**		**Pn**	**04 32 44.7**	**+1.5**
MCK				IAML		04 32 58.7	
	comp=E,24μm,0.7s						
MCK				IAML		04 32 58.8	
	comp=N,30μm,0.8s						
MCK	**McKinley**	**0.88**	**342**		**Sn**	**04 32 57.6**	**+1.6**
MCK	**McKinley**	**0.88**	**342**	P	**Pn**	**04 32 44.7**	**+1.5**
	baz=160,SNR=1000						
MCK				S	**Sn**	**04 32 57.8**	**+1.9**
	baz=160						
CUT	**Chulitna**	**1.03**	**242**		**Pn**	**04 32 45.9**	**+0.9**
CUT	**Chulitna**	**1.03**	**242**		**Sn**	**04 33 00.2**	**+1.1**
CUT	**Chulitna**	**1.03**	**242**	P	**Pn**	**04 32 45.9**	**+0.9**
	baz=62,SNR=1000						
CUT				S	**Sn**	**04 33 00.4**	**+1.4**
	baz=62						
TRF	**Thorofare Moun**	**1.05**	**303**		**Sn**	**04 33 02.0**	**+2.2**
TRF	**Thorofare Moun**	**1.05**	**303**		**Pn**	**04 32 46.8**	**+1.3**
TRF	**Thorofare Moun**	**1.05**	**303**	P	**Pn**	**04 32 46.8**	**+1.3**
	baz=122,SNR=1000						
TRF				S	**Sn**	**04 33 02.1**	**+2.2**
	baz=122						
SML	**Sawmill**	**1.09**	**180**		**Pn**	**04 32 46.6**	**+0.6**
SML				IAML		04 33 07.6	
	comp=N,23μm,0.6s						
SML	**Sawmill**	**1.09**	**180**		**Sn**	**04 33 01.4**	**+0.7**
SML	**Sawmill**	**1.09**	**180**	P	**Pn**	**04 32 46.6**	**+0.6**
	baz=1.8,SNR=1000						
SML				S	**Sn**	**04 33 01.1**	**+0.4**
	baz=1.8						
M23K	**Glacier View**	**1.14**	**166**		**Pn**	**04 32 47.1**	**+0.6**
M23K	**Glacier View**	**1.14**	**166**	P	**Pn**	**04 32 46.9**	**+0.4**
	baz=347,SNR=1000						
M23K				S	**Sn**	**04 33 03.5**	**+1.8**
	baz=347						
SCM	**Sheep Creek Mo**	**1.16**	**156**		**Pn**	**04 32 47.5**	**+0.7**
SCM	**Sheep Creek Mo**	**1.16**	**156**		**Sn**	**04 33 04.3**	**+2.0**
SCM	**Sheep Creek Mo**	**1.16**	**156**	P	**Pn**	**04 32 47.5**	**+0.7**
	baz=338,SNR=1000						
SCM				S	**Sn**	**04 33 04.4**	**+2.1**
	baz=338						
GHO	**Glory Hole Cre**	**1.17**	**194**		**Pn**	**04 32 47.6**	**+0.7**
GHO				IAML		04 33 05.8	
	comp=E,24μm,0.4s						
L22K	**Petersville**	**1.19**	**253**		**Pn**	**04 32 48.1**	**+1.0**
M24K	**Tolsona, Glenn**	**1.27**	**128**		**Pn**	**04 32 49.7**	**+1.5**
M24K	**Tolsona, Glenn**	**1.27**	**128**	P	**Pn**	**04 32 49.8**	**+1.5**
	baz=309,SNR=1000						
M24K				S	**Sn**	**04 33 07.3**	**+2.5**
	baz=309						
PAX	**Paxson**	**1.30**	**86**		**Sn**	**04 33 07.1**	**+1.6**
PAX	**Paxson**	**1.30**	**86**		**Pn**	**04 32 49.7**	**+1.1**
PAX				IAML		04 33 08.4	
	comp=N,19μm,0.2s						
PAX	**Paxson**	**1.30**	**86**	P	**Pn**	**04 32 49.7**	**+1.1**
	baz=267,SNR=1000						
PAX				S	**Sn**	**04 33 07.3**	**+1.8**
	baz=267						
KTH	**Kantishna Hill**	**1.35**	**300**		**Pn**	**04 32 50.8**	**+1.6**
KTH				IAML		04 33 10.1	
	comp=E,12μm,0.9s						
PMR	**Palmer**	**1.36**	**197**		**Pn**	**04 32 50.2**	**+1.0**
PMR				IAML		04 33 09.1	
	comp=E,13μm,0.6s						
PMR				IAML		04 33 09.4	
	comp=N,14μm,0.4s						
PMR	**Palmer**	**1.36**	**197**	P	**Pn**	**04 32 50.2**	**+1.0**
PMR	**Palmer**	**1.36**	**197**	P	**Pn**	**04 32 50.3**	**+1.0**
	baz=17,SNR=896						
PMR				S	**Sn**	**04 33 08.1**	**+1.5**
	baz=17						
BWN	**Browne**	**1.38**	**339**		**Pn**	**04 32 50.5**	**+1.0**
BWN				IAML		04 33 09.0	
	comp=N,17μm,1.0s						
BWN				IAML		04 33 17.6	
	comp=E,12μm,0.7s						
M22K	**Willow**	**1.42**	**217**		**Pn**	**04 32 51.3**	**+1.2**
M22K				IAML		04 33 13.1	
	comp=E,16μm,0.3s						
M22K				IAML		04 33 17.5	
	comp=N,17μm,0.4s						
M22K	**Willow**	**1.42**	**217**	P	**Pn**	**04 32 51.2**	**+1.1**
	baz=37,SNR=308						
M22K				S	**Sn**	**04 33 10.0**	**+1.9**
	baz=37						
K24K	**Donnelly Dome**	**1.46**	**50**		**Pn**	**04 32 53.2**	**+2.6**
K24K	**Donnelly Dome**	**1.46**	**50**	P	**Pn**	**04 32 53.2**	**+2.6**
	baz=231,SNR=342						
K24K				S	**Sn**	**04 33 12.9**	**+3.7**
	baz=231						
KNK	**Knik Glacier**	**1.49**	**183**		**Sn**	**04 33 12.2**	**+2.4**
KNK	**Knik Glacier**	**1.49**	**183**		**Pn**	**04 32 52.2**	**+1.2**
KNK	**Knik Glacier**	**1.49**	**183**	P	**Pn**	**04 32 52.2**	**+1.2**
	baz=3.6,SNR=1000						
KNK				S	**Sn**	**04 33 11.8**	**+2.0**
	baz=3.6						
HARP	**HAARP**	**1.54**	**108**	P	**Pn**	**04 32 53.1**	**+1.4**
	baz=290,SNR=1000						
HARP				S	**Sn**	**04 33 13.5**	**+2.5**
	baz=290						
WRH	**Wood River Hil**	**1.58**	**4**		**Sn**	**04 33 12.1**	**+0.2**
WRH	**Wood River Hil**	**1.58**	**4**		**Pn**	**04 32 53.1**	**+0.9**
HDA	**Harding Lake**	**1.64**	**21**		**Pn**	**04 32 54.1**	**+1.2**
HDA				IAML		04 33 15.4	
	comp=E,9μm,0.5s						
HDA	**Harding Lake**	**1.64**	**21**	P	**Pn**	**04 32 54.2**	**+1.2**
	baz=201,SNR=1000						
HDA				S	**Sn**	**04 33 13.9**	**+0.8**
	baz=201						
BPAW	**Bear Paw Mtn.**	**1.70**	**316**		**Pn**	**04 32 54.6**	**+0.8**
BPAW	**Bear Paw Mtn.**	**1.70**	**316**	P	**Pn**	**04 32 54.7**	**+0.9**
	baz=134,SNR=1000						
BPAW				S	**Sn**	**04 33 14.5**	**-0.2**
	baz=134						
NEA2	**Nenana**	**1.73**	**349**		**Pn**	**04 32 54.8**	**+0.6**
NEA2				IAML		04 33 16.6	
	comp=N,5μm,0.8s						
NEA2				IAML		04 33 16.7	
	comp=E,8μm,0.6s						
NEA2	**Nenana**	**1.73**	**349**	P	**Pn**	**04 32 54.9**	**+0.6**
	baz=168,SNR=598						
NEA2				S	**Sn**	**04 33 15.7**	**+0.2**
	baz=168						
SKT	**Skwentna**	**1.75**	**240**		**Pn**	**04 32 55.8**	**+1.3**
SKT				IAML		04 33 22.8	
	comp=N,9μm,0.4s						
SKT				IAML		04 33 23.1	
	comp=E,9μm,0.4s						
SKT	**Skwentna**	**1.75**	**240**	P	**Pn**	**04 32 55.9**	**+1.3**
	baz=58,SNR=831						
SKT				S	**Sn**	**04 33 18.0**	**+1.9**
	baz=58						
CCB	**Clear Creek Bu**	**1.77**	**7**		**Pn**	**04 32 55.5**	**+0.8**
CCB				IAML		04 33 18.7	
	comp=E,6μm,0.5s						
PPLA	**Purkeypile**	**1.77**	**272**		**Pn**	**04 32 56.1**	**+1.3**
PPLA				IAML		04 33 20.0	
	comp=E,12μm,0.5s						
PPLA				IAML		04 33 20.9	
	comp=N,10μm,0.7s						
PPLA	**Purkeypile**	**1.77**	**272**	P	**Pn**	**04 32 56.1**	**+1.3**
	baz=89,SNR=415						
PPLA				S	**Sn**	**04 33 18.6**	**+2.0**
	baz=89						
RIDG	**Independent Ri**	**1.78**	**60**		**Pn**	**04 32 56.4**	**+1.5**
RIDG				IAML		04 33 21.0	
	comp=N,8μm,0.4s						
RIDG	**Independent Ri**	**1.78**	**60**	P	**Pn**	**04 32 56.5**	**+1.6**
	baz=242,SNR=701						
RIDG				S	**Sn**	**04 33 18.8**	**+2.2**
	baz=242						
KLU	**Klutina**	**1.80**	**140**		**Pn**	**04 32 55.9**	**+0.7**
KLU				IAML		04 33 22.7	
	comp=N,8μm,0.5s						
KLU				IAML		04 33 31.9	
	comp=E,8μm,0.5s						
KLU	**Klutina**	**1.80**	**140**	P	**Pn**	**04 32 55.9**	**+0.7**
	baz=323,SNR=1000						
KLU				S	**Sn**	**04 33 17.6**	**+0.3**
	baz=323						
SUA	**Susitna One**	**1.83**	**219**	IAML		04 33 27.2	
	comp=N,6μm,0.9s						
SUA				IAML		04 33 27.4	
	comp=E,9μm,0.9s						
SUA	**Susitna One**	**1.83**	**219**	P	**Pn**	**04 32 57.6**	**+1.9**
	baz=38,SNR=425						
SUA				S	**Sn**	**04 33 20.3**	**+2.2**
	baz=38						
RC01	**Rabbit Creek A**	**1.93**	**201**		**Pn**	**04 32 57.9**	**+1.0**
RC01	**Rabbit Creek A**	**1.93**	**201**	P	**Pn**	**04 32 57.7**	**+0.8**
	baz=21,SNR=337						
FIS	**Fire Island**	**1.98**	**208**		**Pn**	**04 33 00.6**	**+3.2**
IL01		**1.99**	**18**		**Pn**	**04 32 58.4**	**+0.9**
ILAR	**Eielson Array**	**1.99**	**18**		**Pn**	**04 32 58.6**	**+1.0**
ILAR	**Eielson Array**	**1.99**	**18**	P	**Pn**	**04 32 58.2**	**+0.6**
	comp=E,573nm,0.4s,baz=201,slow=14,SNR=7981						
ILAR				S	**Sn**	**04 33 18.9**	**-2.6**
	comp=E,2μm,0.7s,baz=201,slow=22,SNR=36						
COLA	**College**	**2.00**	**6**		**Pn**	**04 32 58.8**	**+1.1**
COLA	**College**	**2.00**	**6**	P	**Pn**	**04 32 58.6**	**+0.9**
COLA	**College**	**2.00**	**6**	S	**Sn**	**04 33 22.2**	**+0.5**
COLA	**College**	**2.00**	**6**	*c iP*	**Pn**	**04 32 58.6**	**+0.9**
COLA	**College**	**2.00**	**6**	P	**Pn**	**04 32 58.8**	**+1.1**
	baz=185						
PWL	**Port Wells**	**2.05**	**180**	IAML		04 33 32.8	
	comp=E,9μm,0.5s						
PWL	**Port Wells**	**2.05**	**180**	P	**Pn**	**04 32 59.2**	**+0.8**
	baz=1.0,SNR=370						
CHUM	**Lake Minchumin**	**2.05**	**301**		**Pn**	**04 32 59.6**	**+1.1**
CHUM	**Lake Minchumin**	**2.05**	**301**	P	**Pn**	**04 32 59.6**	**+1.1**
	baz=117,SNR=353						
DOT	**Dot Lake**	**2.07**	**67**		**Pn**	**04 32 59.5**	**+0.8**
DOT				IAML		04 33 45.6	
	comp=E,4μm,0.7s						
MENT	**Mentasta**	**2.10**	**87**		**Pn**	**04 33 00.2**	**+1.0**
MENT				IAML		04 33 45.5	
	comp=N,7μm,0.6s						
MENT	**Mentasta**	**2.10**	**87**	P	**Pn**	**04 33 00.4**	**+1.2**
GLI	**Glacier Island**	**2.11**	**164**		**Pn**	**04 32 59.5**	**+0.3**
GLI	**Glacier Island**	**2.11**	**164**	P	**Pn**	**04 32 59.5**	**+0.3**
	baz=345,SNR=238						
DIV	**Divide**	**2.14**	**145**		**Pn**	**04 32 59.7**	**-0.1**
DIV				IAML		04 33 40.6	
	comp=N,6μm,0.6s						
DIV				IAML		04 33 43.6	
	comp=E,4μm,0.7s						
WASW	**Wrangell South**	**2.16**	**115**		**Pn**	**04 33 01.1**	**+1.0**
J25K	**Salcha River,**	**2.16**	**36**	IAML		04 33 31.9	
	comp=E,3μm,0.3s						

L26K	Log Cabin Wild	2.27 85		Pn	04 33 02.8 +1.3
L26K			IAML		04 33 36.1
	comp=N,7μm,0.4s				
L26K			IAML		04 33 40.6
	comp=E,8μm,0.5s				
L26K	Log Cabin Wild	2.27 85	P	Pn	04 33 02.7 +1.2
	baz=268,SNR=554				
I23K	Minto, Yukon-K	2.31 349		Pn	04 33 03.0 +1.2
I23K			IAML		04 33 49.2
	comp=N,3μm,0.6s				
I23K	Minto, Yukon-K	2.31 349	P	Pn	04 33 03.0 +1.2
	baz=168,SNR=549				
MLY	Manley	2.39 335		Pn	04 33 04.2 +1.2
MLY			IAML		04 33 33.4
	comp=N,6μm,0.7s				
MLY			IAML		04 33 33.4
	comp=E,4μm,0.7s				
MLY	Manley	2.39 335	P	Pn	04 33 04.3 +1.2
	baz=152,SNR=524				
M20K	Styx River	2.46 248	IAML		04 33 36.2
	comp=N,5μm,0.5s				
M20K			IAML		04 33 37.9
	comp=E,3μm,0.6s				
M20K	Styx River	2.46 248	P	Pn	04 33 05.4 +1.3
	baz=64,SNR=381				
SPU	Mount Spurr	2.46 227		Pn	04 33 06.3 +2.2
SPCR	Spurr Chakacha	2.50 229	P	Pn	04 33 06.8 +2.2
	baz=46,SNR=310				
M26K	Nabesna, AK	2.51 99	IAML		04 33 45.6
	comp=N,3μm,0.5s				
M26K			IAML		04 33 48.7
	comp=E,4μm,0.5s				
M26K	Nabesna, AK	2.51 99	P	Pn	04 33 05.3 +0.6
	baz=283,SNR=206				
O22K	Cooper Landing	2.52 196	P	Pn	04 33 05.4 +0.7
	baz=16				
CAPN	Captain Cook N	2.52 213		Pn	04 33 08.6 +3.7
SLKM	Skilak Lake	2.56 202		Pn	04 33 06.4 +1.0
SLKM	Skilak Lake	2.56 202	IAML		04 33 47.2
	comp=N,5μm,0.6s				
GLB	Gilahina Butte	2.57 123	IAML		04 33 55.9
	comp=N,3μm,0.7s				
L20K	Farewell, AK	2.60 263	P	Pn	04 33 06.6 +0.8
	baz=79,SNR=12				
BMRM	Bremner River	2.61 136		Pn	04 33 06.3 +0.2
BMRM	Bremner River	2.61 136	P	Pn	04 33 06.3 +0.2
	baz=319,SNR=481				
K20K	Telida	2.65 283		Pn	04 33 07.5 +0.9
K20K	Telida	2.65 283	IAML		04 33 38.1
	comp=E,3μm,0.4s				
K20K	Telida	2.65 283	P	Pn	04 33 07.6 +1.0
	baz=98,SNR=206				
HIN	Hinchinbrook I	2.66 160	IAML		04 33 54.0
	comp=N,4μm,0.9s				
HIN			IAML		04 33 54.5
	comp=E,5μm,0.6s				
EYAK	Cordova Ski Ar	2.66 151		Pn	04 33 07.0 +0.5
EYAK			IAML		04 33 50.2
	comp=E,3μm,0.5s				
EYAK			IAML		04 33 52.5
	comp=N,2μm,0.5s				
EYAK	Cordova Ski Ar	2.66 151	P	Pn	04 33 07.1 +0.5
EYAK	Cordova Ski Ar	2.66 151	P	Pn	04 33 07.0 +0.5
	baz=334,SNR=925				
J26L	Joseph Creek	2.66 51	P	Pn	04 33 07.8 +1.1
	baz=234,SNR=516				
I21K	Tanana	2.80 327	IAML		04 33 43.3
	comp=N,3μm,0.7s				
I21K	Tanana	2.80 327	P	Pn	04 33 09.8 +1.3
	baz=143,SNR=400				
VRDI	Verde Repeater	2.84 124		Pn	04 33 09.7 +0.4
SEW	Seward	2.86 191		Pn	04 33 10.9 +1.6
SEW			IAML		04 33 53.6
	comp=E,3μm,0.6s				
SEW			IAML		04 33 54.0
	comp=N,3μm,0.7s				
SEW	Seward	2.86 191	P	Pn	04 33 10.7 +1.4
	baz=11,SNR=52				
GOAT	Goat Mountain	2.88 142		Pn	04 33 09.9 +0.1
J20K	Nowinta River	2.91 299	IAML		04 33 47.9
	comp=E,2μm,0.9s				
J20K			IAML		04 34 05.8
	comp=N,2μm,0.7s				
J20K	Nowinta River	2.91 299	P	Pn	04 33 11.4 +1.4
	baz=114,SNR=696				
MCARA	McCarthy VSAT	2.91 119		Pn	04 33 11.4 +1.3
MCARA			IAML		04 34 12.6
	comp=E,3μm,0.9s				
MCARA	McCarthy VSAT	2.91 119	P	Pn	04 33 11.5 +1.3
	baz=304,SNR=268				
P23K	Montague Islan	2.94 171		Pn	04 33 10.5 -0.1
P23K			IAML		04 33 56.1
	comp=E,4μm,0.3s				
P23K	Montague Islan	2.94 171	P	Pn	04 33 10.4 -0.1
	baz=352				
H24K	Noodor Dome	2.96 4	P	Pn	04 33 12.1 +1.3
	baz=183,SNR=197				
L27K	Beaver Creek,	2.97 84	P	Pn	04 33 11.3 +0.5
	baz=269,SNR=705				
BCAR	Beaver Creek A	2.99 84		Pn	04 33 11.6 +0.5
H23K	Yukon River	2.99 350		Pn	04 33 12.5 +1.3
H23K	Yukon River	2.99 350	P	Pn	04 33 12.4 +1.3
	baz=169,SNR=140				
M19K	Big River Lodg	3.00 253		Pn	04 33 12.2 +0.9
M19K	Big River Lodg	3.00 253	IAML		04 33 51.8
	comp=E,2μm,0.6s				
M19K			IAML		04 33 52.0
	comp=N,2μm,0.5s				
M19K	Big River Lodg	3.00 253	P	Pn	04 33 12.2 +0.9
	baz=68				
K27K	Chicken	3.02 65	P	Pn	04 33 12.2 +0.6
	baz=250				
M27K	Edge Creek, AK	3.02 97	P	Pn	04 33 12.9 +1.1
	baz=283,SNR=149				
RAGM	Ragged Mountai	3.06 144		Pn	04 33 12.2 +0.1
DFR	Drift River	3.11 224		Pn	04 33 14.3 +1.5
L19K	White Mountain	3.11 260		Pn	04 33 13.9 +1.0
L19K	White Mountain	3.11 260	IAML		04 33 52.9
	comp=N,3μm,0.6s				
L19K	White Mountain	3.11 260	P	Pn	04 33 13.7 +0.8
	baz=74,SNR=173				
HMT	Hamilton	3.22 141		Pn	04 33 14.5 +0.2
PTPK	Patty Peak	3.25 119		Pn	04 33 15.6 +0.8
CRQM	Cirque	3.26 129		Pn	04 33 15.2 +0.2
CRQE	Cirque	3.28 129	P	Pn	04 33 15.2 0.0
	baz=313,SNR=132				
CRQE			S	Sn	04 33 51.9 -1.3
	baz=313				
H22K	Ishtalitna Cre	3.29 338	P	Pn	04 33 16.5 +1.3
	baz=155,SNR=163				
I26K	Coal Creek Min	3.31 41	P	Pn	04 33 16.9 +1.3
	baz=225				
I20K	Naaghedeneel	3.33 308	P	Pn	04 33 17.2 +1.5
	baz=122,SNR=142				
BERG	Berg Lake	3.34 137		Pn	04 33 15.8 -0.2
BRSE	Bradley Lake S	3.38 201		Pn	04 33 17.1 +0.7
BRSE	Bradley Lake S	3.38 201	P	Pn	04 33 17.4 +0.9
	baz=20,SNR=16				
TGL	Tana Glacier	3.38 127	IAML		04 34 08.8
	comp=N,2μm,0.6s				
TGL			IAML		04 34 16.6
	comp=E,3μm,0.7s				
BRLK	Bradley Lake	3.38 203	IAML		04 34 08.4
	comp=N,2μm,0.8s				
NICHA	Nichawak Mount	3.38 140		Pn	04 33 16.4 -0.2
H21K	Melozitna Rive	3.39 327	P	Pn	04 33 17.7 +1.1
	baz=143,SNR=414				
J19K	Poorman	3.46 292	IAML		04 34 00.2
	comp=N,2μm,0.7s				
J19K	Poorman	3.46 292	P	Pn	04 33 18.9 +1.3
	baz=106,SNR=957				
O20K	Slope Mountain	3.50 218		Pn	04 33 20.3 +2.1
O20K	Slope Mountain	3.50 218	P	Pn	04 33 20.2 +2.1
	baz=35				
KAIM	Kayak Island	3.52 146		Pn	04 33 18.2 -0.1
KAIM	Kayak Island	3.52 146	IAML		04 34 22.2
	comp=N,1μm,0.6s				
KAIM			IAML		04 34 26.3
	comp=E,2μm,0.6s				
KAIM	Kayak Island	3.52 146	P	Pn	04 33 18.3 -0.1
	baz=330				
H25L	Birch Creek	3.55 17		Pn	04 33 20.5 +1.8
H25L	Birch Creek	3.55 17	P	Pn	04 33 20.5 +1.8
	baz=198,SNR=148				
SUCK	Suckling Hills	3.58 140	IAML		04 34 20.6
	comp=E,2μm,0.9s				
N19K	Bonanza Creek	3.59 237	P	Pn	04 33 21.1 +1.6
	baz=52,SNR=32				
Q23K	Middleton Isla	3.61 164	P	Pn	04 33 20.1 +0.5
	baz=346				
MID	Middleton Isla	3.61 164		Pn	04 33 19.8 +0.2
MID	Middleton Isla	3.61 164	IAML		04 34 18.7
	comp=N,2μm,0.6s				
MID			IAML		04 34 31.0
	comp=E,2μm,0.9s				
HOM	Homer	3.62 208		Pn	04 33 20.8 +1.0
HOM	Homer	3.62 208	P	Pn	04 33 21.4 +1.6
	baz=25				
BARN	Barnard Glacie	3.64 117		Pn	04 33 20.9 +0.7
BARN	Barnard Glacie	3.64 117	IAML		04 34 27.9
	comp=N,2μm,0.9s				
BARN			IAML		04 34 30.9
	comp=E,975nm,0.9s				
ISLE	Juniper Island	3.66 126	IAML		04 34 17.4
	comp=E,2μm,0.8s				
ISLE			IAML		04 34 29.9
	comp=N,2μm,1.0s				
CNPM	China Poot	3.67 204		Pn	04 33 21.5 +1.1
CNPM			IAML		04 34 16.6
	comp=N,2μm,0.5s				
CNPM			IAML		04 34 18.5
	comp=E,3μm,0.6s				
BGLC	Bering Glacier	3.69 137		Pn	04 33 21.8 +1.2
BGLC	Bering Glacier	3.69 137	P	Pn	04 33 21.6 +1.0
	baz=321				
ILS	Iliamna Low So	3.73 220		Pn	04 33 22.3 +1.0
ILSW	Iliamna Southw	3.73 221		Pn	04 33 21.5 +0.1
ILSW	Iliamna Southw	3.73 221	IAML		04 34 17.8
	comp=E,978nm,0.9s				
SNH	Sunshine Point	3.78 134		Pn	04 33 21.9 -0.1
SNH	Sunshine Point	3.78 134	IAML		04 34 25.1
	comp=E,2μm,0.6s				
SNH			IAML		04 34 25.4
	comp=N,879nm,0.7s				
M18K	Stony River	3.79 251		Pn	04 33 23.2 +1.2
M18K	Stony River	3.79 251	P	Pn	04 33 23.3 +1.2
	baz=65				
GRNC	Granite Creek	3.80 122	IAML		04 34 31.6
	comp=N,992nm,0.7s				
BAGL	Bagley Icefiel	3.83 126		Pn	04 33 22.3 -0.2
CTG	Chitna Glacier	3.83 117	P	Pn	04 33 23.3 +0.7
	baz=303,SNR=98				
G24K	Hadweenzic Riv	3.84 5		Pn	04 33 23.9 +1.2
G24K	Hadweenzic Riv	3.84 5	IAML		04 34 19.9
	comp=E,984nm,0.6s				
G24K	Hadweenzic Riv	3.84 5	P	Pn	04 33 24.0 +1.3
	baz=185,SNR=148				
H20K	Anotleneega Mo	3.87 315	P	Pn	04 33 24.4 +1.2
	baz=129,SNR=268				
IMAR	Indian Mountai	3.89 325		Pn	04 33 24.4 +1.0
G23K	Bananza Creek	3.90 350	P	Pn	04 33 25.0 +1.4
	baz=168,SNR=293				
L18K	Granite Mounta	3.93 264	P	Pn	04 33 24.8 +0.8
	baz=77,SNR=36				
O19K	Port Alsworth	3.95 229	IAML		04 34 21.1
	comp=E,1μm,0.5s				
O19K			IAML		04 34 37.8
	comp=N,2μm,0.5s				
O19K	Port Alsworth	3.95 229	P	Pn	04 33 26.3 +2.1
	baz=45,SNR=15				
I27K	Kandik River	3.99 44		Pn	04 33 26.0 +1.2
I27K	Kandik River	3.99 44	P	Pn	04 33 25.9 +1.2
	baz=230,SNR=104				
G25K	Bearman Lake	4.00 13		Pn	04 33 26.3 +1.5
G25K	Bearman Lake	4.00 13	P	Pn	04 33 26.5 +1.7
	baz=194,SNR=266				
P19K	Oil Pt	4.03 218		Pn	04 33 26.7 +1.4
P19K	Oil Pt	4.03 218	IAML		04 34 38.4
	comp=N,1μm,0.6s				
P19K	Oil Pt	4.03 218	P	Pn	04 33 26.9 +1.5
	baz=34,SNR=6.2				
YAH	Yahtse	4.04 126	IAML		04 34 31.5
	comp=E,754nm,0.7s				
YAH			IAML		04 34 35.0
	comp=N,1μm,0.7s				
LOGN	Logan Glacier	4.04 118	IAML		04 34 35.5
	comp=E,687nm,1.2s				
LOGN			IAML		04 34 42.2
	comp=N,770nm,1.0s				
MESA	MESA	4.09 129	IAML		04 34 32.5
	comp=E,2μm,0.6s				
MESA			IAML		04 34 32.7
	comp=N,2μm,0.6s				
MESA	MESA	4.09 129	P	Pn	04 33 26.2 -0.1
	baz=315,SNR=17				
DAWY	Dawson	4.17 70		Pn	04 33 28.1 +0.8
DAWY			IAML		04 34 40.5
	comp=E,629nm,0.7s				
DAWY			IAML		04 34 43.6
	comp=N,797nm,0.8s				
DAWY	Dawson	4.17 70	P	Pn	04 33 28.1 +0.8
	baz=257,SNR=448				
TABL	Table Mountain	4.22 123	IAML		04 34 36.1
	comp=N,594nm,0.8s				
GCSA	Galena City Sc	4.22 300	P	Pn	04 33 29.5 +1.7
	baz=112,SNR=214				
N18K	Kilae Creek	4.23 242	P	Pn	04 33 29.2 +1.2
	baz=55,SNR=22				
G21K	Allakaket	4.26 331		Pn	04 33 29.8 +1.4
G21K	Allakaket	4.26 331	IAML		04 34 21.1
	comp=N,896nm,0.7s				
G21K			IAML		04 34 32.6
	comp=E,570nm,0.7s				
G21K	Allakaket	4.26 331	P	Pn	04 33 30.0 +1.6
	baz=146				
G22K	Bettles	4.26 343		Pn	04 33 29.9 +1.5
G22K	Bettles	4.26 343	P	Pn	04 33 30.0 +1.6
	baz=160				
AUJK	Augustine Jueg	4.33 217		Pn	04 33 30.5 +1.1
YUK8	Steele Glacier	4.33 108		Pn	04 33 30.6 +0.9
YUK8	Steele Glacier	4.33 108	P	Pn	04 33 30.7 +0.9
	baz=295,SNR=117				
O28M	Mount Upton	4.40 115		Pn	04 33 31.0 +0.3
O28M	Mount Upton	4.40 115	P	Pn	04 33 31.0 +0.3
	baz=302,SNR=91				
COLD	Coldfoot	4.42 350	P	Pn	04 33 32.3 +1.7
	baz=168,SNR=600				
H19K	Roundabout Mou	4.42 310		Pn	04 33 32.0 +1.4
H19K	Roundabout Mou	4.42 310	P	Pn	04 33 32.0 +1.4
	baz=123,SNR=155				
H27K	Steamboat Moun	4.45 38		Pn	04 33 31.9 +0.9
H27K			IAML		04 34 39.0
	comp=E,643nm,0.7s				
H27K	Steamboat Moun	4.45 38	P	Pn	04 33 32.3 +1.3
	baz=224,SNR=79				
I28M	Miner Creek	4.47 51	IAML		04 34 26.9
	comp=E,820nm,0.6s				
I28M			IAML		04 34 27.4
	comp=N,970nm,0.5s				
I28M	Miner Creek	4.47 51	P	Pn	04 33 32.5 +1.1
	baz=238,SNR=175				
G26K	Porcupine Rive	4.50 23	IAML		04 34 52.1
	comp=N,473nm,1.1s				
G26K			IAML		04 34 54.0
	comp=E,669nm,1.0s				
G26K	Porcupine Rive	4.50 23	P	Pn	04 33 32.9 +1.1
	baz=207,SNR=107				
O18K	Koktuh Hills	4.50 230	P	Pn	04 33 33.4 +1.6
	baz=45				
M17K	Holitna River	4.53 255		Pn	04 33 32.6 +0.4
M17K			IAML		04 34 26.0
	comp=E,1μm,0.6s				
M17K			IAML		04 34 27.6
	comp=N,1μm,0.5s				
M17K	Holitna River	4.53 255	P	Pn	04 33 33.2 +1.0
	baz=67,SNR=22				
SAMH	Samovar Hills	4.55 124		Pn	04 33 33.0 +0.4
M29M	Somme Creek	4.57 91	P	Pn	04 33 33.4 +0.6
	baz=280,SNR=387				
K17K	Iditarod	4.58 272	IAML		04 34 26.2
	comp=E,776nm,0.9s				
K17K			IAML		04 34 46.7
	comp=N,717nm,0.8s				
K17K	Iditarod	4.58 272	P	Pn	04 33 34.2 +1.3
	baz=84,SNR=89				
F24K	Squaw Lake	4.64 2	IAML		04 34 30.1
	comp=N,504nm,0.7s				
F24K	Squaw Lake	4.64 2	P	Pn	04 33 35.3 +1.6
	baz=182,SNR=176				
L29M	L29M	4.65 83	IAML		04 34 57.2
	comp=E,984nm,0.6s				
L29M			IAML		04 34 57.5
	comp=N,921nm,0.9s				
L29M	L29M	4.65 83	P	Pn	04 33 34.6 +0.8
	baz=272,SNR=210				
L17K	Donlin	4.69 265	P	Pn	04 33 35.4 +1.1
	baz=77,SNR=37				
SYI	Shuyak Island	4.74 207	IAML		04 34 35.4
	comp=E,558nm,0.7s				
SYI			IAML		04 34 49.5
	comp=N,631nm,0.8s				
Q20K	Shuyak Island	4.74 207	P	Pn	04 33 35.8 +0.7
	baz=24				
Q19K	Cape Douglas,	4.75 216		Pn	04 33 36.3 +1.0
Q19K	Cape Douglas,	4.75 216	P	Pn	04 33 36.3 +1.0
	baz=31				
PCA	Pinnacle	4.78 122		Pn	04 33 35.8 +0.2
PINM	Pinnacle	4.78 122	P	Pn	04 33 36.0 +0.4
	baz=309,SNR=54				
YUK4	Talbot Arm	4.80 105	P	Pn	04 33 36.7 +0.7
	baz=292,SNR=53				
BM05	Burnt Mountain	4.81 17		Pn	04 33 37.4 +1.4
BMAR	Burnt Mountain	4.81 17		Pn	04 33 37.5 +1.4
N17K	Nushagak Hills	4.84 245		Pn	04 33 37.8 +1.4
N17K	Nushagak Hills	4.84 245	IAML		04 35 02.2
	comp=E,451nm,0.7s				
N17K	Nushagak Hills	4.84 245	P	Pn	04 33 37.8 +1.4
	baz=57,SNR=7.3				
G27K	Doyon Strip	4.85 33	P	Pn	04 33 37.4 +0.9
	baz=218,SNR=85				
F25K	Christian Rive	4.85 12		Pn	04 33 37.5 +1.0
F25K	Christian Rive	4.85 12	P	Pn	04 33 37.9 +1.4
	baz=194,SNR=157				
F21K	Alatna River	4.86 336		Pn	04 33 38.2 +1.5
F21K	Alatna River	4.86 336	IAML		04 34 33.9
	comp=N,668nm,0.6s				
F21K	Alatna River	4.86 336	P	Pn	04 33 38.4 +1.7
	baz=151,SNR=142				
F22K	John River	4.91 342		Pn	04 33 39.4 +2.1
F22K	John River	4.91 342	P	Pn	04 33 38.8 +1.5
	baz=159				
J17K	VABM Dome	4.91 281	IAML		04 34 34.1
	comp=E,375nm,0.5s				
J17K			IAML		04 34 35.7
	comp=N,416nm,0.8s				
J17K	VABM Dome	4.91 281	P	Pn	04 33 38.3 +1.0
	baz=91				
K29M	Barlow Dome	4.95 74	IAML		04 35 06.6
	comp=N,391nm,0.8s				
K29M	Barlow Dome	4.95 74	P	Pn	04 33 38.5 +0.5
	baz=263,SNR=164				
H18K	Honhosa River	4.96 302	P	Pn	04 33 39.6 +1.6
	baz=113,SNR=151				
G19K	Purcell Mounta	4.99 315	P	Pn	04 33 40.0 +1.5
	baz=127,SNR=6.9				
YUK6	Outpost Mounta	5.10 108	P	Pn	04 33 40.6 +0.5
	baz=297,SNR=52				
BCPM	Bancas Point	5.11 121		Pn	04 33 39.5 -0.5
BCPM	Bancas Point	5.11 121	IAML		04 34 39.7
	comp=E,467nm,0.4s				
BCPM			IAML		04 34 39.9
	comp=N,651nm,0.4s				
F26K	Sheenjek River	5.12 18		Pn	04 33 41.5 +1.2
F26K	Sheenjek River	5.12 18	P	Pn	04 33 41.5 +1.2
	baz=202,SNR=299				
E24K	Your Creek	5.20 359		Pn	04 33 42.8 +1.5
E24K	Your Creek	5.20 359	P	Pn	04 33 42.9 +1.5
	baz=179,SNR=119				
E23K	Chandalar	5.21 355		Pn	04 33 42.6 +1.1
E23K	Chandalar	5.21 355	IAML		04 34 43.3
	comp=E,354nm,0.7s				
E23K			IAML		04 34 45.1
	comp=N,335nm,0.8s				
E23K	Chandalar	5.21 355	P	Pn	04 33 43.2 +1.7
	baz=173,SNR=318				
F20K	Avaraart Lake	5.22 326		Pn	04 33 43.3 +1.8
F20K	Avaraart Lake	5.22 326	IAML		04 34 43.9
	comp=E,369nm,0.5s				
F20K	Avaraart Lake	5.22 326	P	Pn	04 33 43.1 +1.7
	baz=140,SNR=292				
O17K	Koliganek Bris	5.26 237	P	Pn	04 33 43.5 +1.4
	baz=50				
M30M	Minto, Yukon	5.31 88		Pn	04 33 43.0 +0.2
M30M	Minto, Yukon	5.31 88	IAML		04 35 16.3
	comp=N,342nm,0.9s				
M30M			IAML		04 35 25.3
	comp=E,276nm,1.0s				
M30M	Minto, Yukon	5.31 88	P	Pn	04 33 43.0 +0.2
	baz=278,SNR=47				
O29M	Mount Kennedy	5.33 115		Pn	04 33 43.7 +0.5
O29M	Mount Kennedy	5.33 115	P	Pn	04 33 43.5 +0.3
	baz=303,SNR=40				
L16K	Owhat River	5.34 262	IAML		04 34 45.6
	comp=N,305nm,0.8s				
L16K	Owhat River	5.34 262	P	Pn	04 33 44.0 +0.8
	baz=72,SNR=16				
M16K	Timber Creek	5.36 254	IAML		04 34 44.8
	comp=E,318nm,0.7s				
M16K			IAML		04 34 46.9
	comp=N,389nm,0.6s				
M16K	Timber Creek	5.36 254	P	Pn	04 33 44.1 +0.6
	baz=65				
E25K	Arctic Village	5.37 11		Pn	04 33 44.8 +1.2
E25K	Arctic Village	5.37 11	IAML		04 34 45.8
	comp=E,417nm,0.7s				
E25K			IAML		04 34 48.0
	comp=N,321nm,0.6s				
E25K	Arctic Village	5.37 11	P	Pn	04 33 44.8 +1.2
	baz=193,SNR=96				
KAHC	Katmai Hardscr	5.38 221		Pn	04 33 44.7 +0.9
Q18K	Katmai Hardscr	5.38 221	P	Pn	04 33 44.6 +0.8
	baz=35,SNR=5.4				
PNL	Peninsula	5.38 123		Pn	04 33 43.0 -0.8
PNL	Peninsula	5.38 123	P	Pn	04 33 43.2 -0.6
PNL	Peninsula	5.38 123	S	Sn	04 34 43.2 -1.2
PNL	Peninsula	5.38 123	P	Pn	04 33 44.2 +0.3
	baz=311,SNR=46				
YUK7	Dusty Glacier	5.39 112		Pn	04 33 44.3 +0.2
G18K	Tagagawik	5.40 308		Pn	04 33 45.5 +1.6
G18K	Tagagawik	5.40 308	P	Pn	04 33 45.5 +1.6
	baz=119				
KARR	Katmai Rainbow	5.41 218		Pn	04 33 45.2 +1.0
P17K	Kvichak River	5.42 230	P	Pn	04 33 45.7 +1.5
	baz=44				
H29M	Whitestone	5.43 48		Pn	04 33 45.2 +0.8
H29M	Whitestone	5.43 48	P	Pn	04 33 45.3 +0.9
	baz=236,SNR=61				
E22K	Anaktuvuk Pass	5.46 346	P	Pn	04 33 46.6 +1.9
	baz=163,SNR=55				
N30M	Aishikik Lake	5.46 100	P	Pn	04 33 45.1 +0.3
	baz=290,SNR=59				
H17K	Granite Mounta	5.51 297		Pn	04 33 47.4 +2.0
H17K	Granite Mounta	5.51 297	P	Pn	04 33 47.2 +1.7
	baz=107,SNR=128				
HYT	Haines Junctio	5.53 107	P	Pn	04 33 46.4 +0.6
	baz=297,SNR=128				
N16K	Nishlik Lake	5.54 249		Pn	04 33 47.2 +1.3
N16K	Nishlik Lake	5.54 249	P	Pn	04 33 47.2 +1.3
	baz=60,SNR=9.8				
KDAK	Kodiak Island	5.55 204		Pn	04 33 45.2 -0.8
KDAK	Kodiak Island	5.55 204	P	Pn	04 33 45.0 -1.1
	comp=N,20nm,0.2s,baz=22,slow=5.1,SNR=99				
KDAK			S	Sn	04 34 43.3 -5.1
	comp=N,139nm,0.5s,baz=41,slow=19,SNR=12				
KDAK			LR	LR	04 35 38.9
	comp=N,191nm,20.7s,baz=346,slow=34				
KDAK	Kodiak Island	5.55 204	*i* P	Pn	04 33 46.0 -0.1
KDAK	Kodiak Island	5.55 204	P	Pn	04 33 46.0 -0.1
	baz=21				
J30M	Hart River	5.58 67	P	Pn	04 33 47.9 +1.3
	baz=258,SNR=167				
J16K	Anvik River	5.59 279	P	Pn	04 33 47.7 +1.1
	baz=89,SNR=42				
F19K	Shaleruckik Mo	5.64 319		Pn	04 33 48.7 +1.5
F19K	Shaleruckik Mo	5.64 319	P	Pn	04 33 48.8 +1.5
	baz=130				
I17K	Unalakleet	5.65 286		Pn	04 33 49.3 +1.9
I17K	Unalakleet	5.65 286	P	Pn	04 33 49.3 +1.9
	baz=95,SNR=98				
MAYO	Mayo, Yukon	5.66 77		Pn	04 33 48.3 +0.8
MAYO	Mayo, Yukon	5.66 77	P	Pn	04 33 48.2 +0.6
	baz=268,SNR=16				
KAKN	Katmai Knife C	5.68 219		Pn	04 33 49.0 +1.0
I30M	Mount Dempster	5.74 61		Pn	04 33 49.0 +0.4
I30M	Mount Dempster	5.74 61	P	Pn	04 33 48.9 +0.2
	baz=251,SNR=60				
O16K	Kokwok River B	5.76 239		Pn	04 33 50.5 +1.5
O16K	Kokwok River B	5.76 239	P	Pn	04 33 50.3 +1.3
	baz=51				
TOLK	Toolik Lake Re	5.79 355		Pn	04 33 51.5 +2.1

TOLK	Toolik Lake Re	5.79	355	P	Pn	04 33 51.5 +2.1
	baz=174,SNR=115					
F28M	Old Crow	5.91	33		Pn	04 33 52.1 +1.1
F28M	Old Crow	5.91	33	P	Pn	04 33 52.4 +1.4
	baz=220,SNR=38					
E19K	Redstone River	5.92	325	P	Pn	04 33 52.9 +1.8
	baz=136					
G29M	Pine Creek	5.95	43		Pn	04 33 52.5 +1.0
G29M	Pine Creek	5.95	43	P	Pn	04 33 52.9 +1.4
	baz=232,SNR=15					
Q17K	Contact Creek	5.96	222	P	Pn	04 33 52.9 +1.2
	baz=36					
G17K	Kiwalik Mounta	5.98	301	P	Pn	04 33 53.5 +1.6
	baz=110,SNR=28					
E27K	Coleen River	6.00	25	P	Pn	04 33 53.0 +0.9
	baz=210,SNR=38					
E21K	Killik River	6.04	340	P	Pn	04 33 54.5 +1.8
	baz=154					
N31M	Braeburn, Yuko	6.04	98		Pn	04 33 53.6 +0.8
N31M	Braeburn, Yuko	6.04	98	P	Pn	04 33 53.5 +0.8
	baz=289,SNR=43					
P29M	Windy Craggy	6.06	118	P	Pn	04 33 54.2 +1.1
	baz=307,SNR=129					
EPYK	Eagle Plains	6.08	50		Pn	04 33 53.7 +0.4
EPYK	Eagle Plains	6.08	50	P	Pn	04 33 54.3 +1.0
	baz=240,SNR=33					
F18K	Selawik	6.11	312		Pn	04 33 54.9 +1.3
F18K	Selawik	6.11	312	P	Pn	04 33 55.3 +1.7
	baz=122,SNR=35					
P30M	Million Dollar	6.11	112		Pn	04 33 54.6 +0.9
P30M	Million Dollar	6.11	112	P	Pn	04 33 54.5 +0.8
	baz=302					
K15K	Wolf Creek Mou	6.13	270		Pn	04 33 55.1 +1.1
K15K	Wolf Creek Mou	6.13	270	P	Pn	04 33 55.1 +1.1
	baz=79					
D23K	Nanushuk River	6.17	352		Pn	04 33 57.1 +2.7
D23K	Nanushuk River	6.17	352	P	Pn	04 33 57.2 +2.7
	baz=170,SNR=35					
O30N	Mendenhall	6.17	105	P	Pn	04 33 54.9 +0.3
	baz=295,SNR=48					
OHAK	Old Harbor	6.21	206		Pn	04 33 54.7 -0.4
OHAK	Old Harbor	6.21	206	P	Pn	04 33 55.4 +0.3
OHAK	Old Harbor	6.21	206	P	Pn	04 33 55.0 0.0
	baz=22					
N15K	Kwethluk River	6.26	249		Pn	04 33 56.9 +1.2
N15K	Kwethluk River	6.26	249	P	Pn	04 33 56.8 +1.1
	baz=59,SNR=6.8					
L15K	Ungalak Mounta	6.26	265		Pn	04 33 56.4 +0.6
L15K	Ungalak Mounta	6.26	265	P	Pn	04 33 56.4 +0.6
	baz=73					
D22K	Ayikyak River	6.27	345		Pn	04 33 58.0 +2.2
D22K	Ayikyak River	6.27	345	P	Pn	04 33 57.8 +2.0
	baz=161					
M15K	Kasigluk River	6.27	255		Pn	04 33 56.0 +0.1
M15K	Kasigluk River	6.27	255	P	Pn	04 33 56.9 +1.1
	baz=64					
D24K	Happy Valley	6.29	358	P	Pn	04 33 58.2 +2.1
	baz=178					
E20K	Nigu River	6.29	332		Pn	04 33 58.1 +2.0
E20K	Nigu River	6.29	332	P	Pn	04 33 58.2 +2.0
	baz=145					
H16K	Elim	6.41	292		Pn	04 33 59.6 +1.8
H16K	Elim	6.41	292	P	Pn	04 33 59.4 +1.6
	baz=100					
D25K	Kavik River	6.50	6		Pn	04 34 00.1 +1.0
D25K	Kavik River	6.50	6	P	Pn	04 34 01.3 +2.2
	baz=188,SNR=49					
G30M	tAoh Zraii Nji	6.57	46	P	Pn	04 34 00.4 +0.4
	baz=237,SNR=27					
F17K	Baldwin Pennin	6.58	308		Pn	04 34 02.0 +2.0
F17K	Baldwin Pennin	6.58	308	P	Pn	04 34 02.1 +2.0
	baz=117,SNR=13					
R17L	Mt. Peulik Vol	6.62	221	P	Pn	04 34 01.8 +1.0
	baz=34					
G16K	Koyuk River	6.63	298		Pn	04 34 02.4 +1.7
G16K	Koyuk River	6.63	298	P	Pn	04 34 02.6 +1.9
	baz=106,SNR=24					
O15K	Ungalikthiuk R	6.72	241		Pn	04 34 04.1 +2.1
O15K	Ungalikthiuk R	6.72	241	P	Pn	04 34 03.4 +1.4
	baz=52					
H31M	Peel River	6.73	58		Pn	04 34 02.2 +0.1
H31M	Peel River	6.73	58	P	Pn	04 34 03.0 +0.8
	baz=250,SNR=15					
PLBC	Pleasant Camp	6.73	115	P	Pn	04 34 02.5 +0.4
	baz=306,SNR=29					
D20K	Etivluk River	6.75	333		Pn	04 34 04.0 +1.5
D20K	Etivluk River	6.75	333	P	Pn	04 34 04.2 +1.7
	baz=146					
WHY	Whitehorse	6.76	103		Pn	04 34 03.1 +0.5
WHY	Whitehorse	6.76	103	P	Pn	04 34 03.1 +0.5
	baz=295,SNR=43					
E28M	Babbage River	6.77	28		Pn	04 34 03.5 +0.8
E28M	Babbage River	6.77	28	P	Pn	04 34 03.6 +0.9
	baz=216,SNR=11					
M14K	Bethel	6.81	258		Pn	04 34 04.6 +1.4
M14K	Bethel	6.81	258	P	Pn	04 34 04.8 +1.6
	baz=66,SNR=11					
C21K	Knifeblade Rid	6.81	340		Pn	04 34 05.4 +2.2
C21K	Knifeblade Rid	6.81	340	P	Pn	04 34 05.3 +2.1
	baz=154,SNR=110					
C24K	Franklin Bluff	6.86	359		Pn	04 34 05.7 +1.9
C24K	Franklin Bluff	6.86	359	P	Pn	04 34 05.7 +1.9
	baz=178					
E18K	Tukpahlearik C	6.88	317		Pn	04 34 06.2 +2.1
E18K	Tukpahlearik C	6.88	317	P	Pn	04 34 06.3 +2.1
	baz=126,SNR=36					
D19K	Kuna River	6.91	329		Pn	04 34 06.2 +1.5
D19K	Kuna River	6.91	329	P	Pn	04 34 06.4 +1.7
	baz=140					
L14K	Kuka Creek	6.92	263		Pn	04 34 06.0 +1.4
L14K	Kuka Creek	6.92	263	P	Pn	04 34 06.2 +1.5
	baz=71,SNR=11					
E29M	Blow River	6.99	33		Pn	04 34 06.7 +1.1
E29M	Blow River	6.99	33	P	Pn	04 34 07.4 +1.8
	baz=223,SNR=40					
C27K	Jago River	7.01	13		Pn	04 34 07.9 +2.0
C27K	Jago River	7.01	13	P	Pn	04 34 07.5 +1.6
	baz=197,SNR=50					
C23K	Itkillik River	7.03	353		Pn	04 34 08.2 +2.0
C23K	Itkillik River	7.03	353	P	Pn	04 34 08.3 +2.1
	baz=171,SNR=35					
D27M	Malcolm River	7.03	22		Pn	04 34 07.8 +1.4
D27M	Malcolm River	7.03	22	P	Pn	04 34 07.9 +1.6
	baz=208,SNR=35					
R16K	Pilot Point	7.05	225	P	Pn	04 34 07.7 +1.1
	baz=37					
F30M	Barrier River	7.06	43		Pn	04 34 07.6 +0.9
F30M	Barrier River	7.06	43	P	Pn	04 34 08.0 +1.3
	baz=234,SNR=11					
N14K	Kuskokwak Cree	7.07	251		Pn	04 34 07.3 +0.5
N14K	Kuskokwak Cree	7.07	251	P	Pn	04 34 08.0 +1.2
	baz=60					
E17K	Hotham Inlet	7.09	312		Pn	04 34 08.6 +1.5
E17K	Hotham Inlet	7.09	312	P	Pn	04 34 08.7 +1.7
	baz=120,SNR=41					
SKAG	Skagway	7.16	113	P	Pn	04 34 08.7 +0.7
SKAG	Skagway	7.16	113	P	Pn	04 34 08.6 +0.6
	baz=304,SNR=19					
C26K	Camden Bay	7.18	9		Pn	04 34 09.8 +1.5
C26K	Camden Bay	7.18	9	P	Pn	04 34 10.1 +1.9
	baz=192					
G31M	Satah River	7.20	50	P	Pn	04 34 08.7 +0.2
	baz=242,SNR=17					
B21K	Ikpikpuk River	7.21	342		Pn	04 34 09.9 +1.3
B21K	Ikpikpuk River	7.21	342	P	Pn	04 34 10.5 +1.9
	baz=156,SNR=60					
G15K	Niukluk	7.23	294		Pn	04 34 10.9 +1.9
G15K	Niukluk	7.23	294	P	Pn	04 34 10.9 +1.9
	baz=100					
O14K	Tigyukauivet M	7.26	246		Pn	04 34 10.5 +1.1
O14K	Tigyukauivet M	7.26	246	P	Pn	04 34 11.1 +1.7
	baz=54					
N32M	Quiet Lake	7.38	97		Pn	04 34 11.3 +0.3
N32M	Quiet Lake	7.38	97	P	Pn	04 34 11.6 +0.6
	baz=290,SNR=17					
D28M	Stokes Point	7.53	27		Pn	04 34 15.3 +2.4
D28M	Stokes Point	7.53	27	P	Pn	04 34 14.5 +1.5
	baz=215,SNR=5.5					
M13K	Dall Lake	7.57	258		Pn	04 34 15.8 +2.2
M13K	Dall Lake	7.57	258	P	Pn	04 34 15.2 +1.6
	baz=64					
F15K	North Star Dit	7.63	299		Pn	04 34 16.1 +1.7
F15K	North Star Dit	7.63	299	P	Pn	04 34 16.2 +1.7
	baz=104,SNR=8.4					
F31M	Tsiigehtchic	7.63	47	P	Pn	04 34 14.5 +0.1
	baz=240,SNR=19					
K13K	Kusilvak Mount	7.64	270		Pn	04 34 15.8 +1.2
K13K	Kusilvak Mount	7.64	270	P	Pn	04 34 15.8 +1.2
	baz=76,SNR=9.2					
C19K	Lookout Ridge	7.73	329		Pn	04 34 16.6 +0.8
C19K	Lookout Ridge	7.73	329	P	Pn	04 34 16.7 +0.9
	baz=138,SNR=9.0					
B22K	Teshekpuk Lake	7.74	347		Pn	04 34 17.5 +1.6
B22K	Teshekpuk Lake	7.74	347	P	Pn	04 34 17.5 +1.6
	baz=162,SNR=24					
ANM	Nome	7.75	290	P	Pn	04 34 17.2 +1.2
	baz=95					
S31K	Pelican	7.75	124		Pn	04 34 15.6 -0.6
S31K	Pelican	7.75	124	P	Pn	04 34 15.7 -0.5
	baz=315,SNR=8.1					
P32M	Atlin	7.78	109	P	Pn	04 34 16.6 0.0
	baz=301,SNR=11					
C18K	Utukok River	7.82	323		Pn	04 34 18.5 +1.4
C18K	Utukok River	7.82	323	P	Pn	04 34 18.8 +1.7
	baz=131,SNR=48					
D17K	Noatak River	7.83	314		Pn	04 34 18.8 +1.8
D17K	Noatak River	7.83	314	P	Pn	04 34 19.3 +2.3
	baz=121,SNR=7.5					
MMPY	Sheldon Lake,	7.83	84	P	Pn	04 34 17.7 +0.4
	baz=279,SNR=22					
P33M	Teslin, Yukon	7.87	103	P	Pn	04 34 17.9 +0.1
	baz=296,SNR=16					
B20K	Meade River	7.96	338		Pn	04 34 19.4 +0.5
B20K	Meade River	7.96	338	P	Pn	04 34 20.2 +1.4
	baz=149,SNR=9.7					
RDOG	Red Dog Mine	7.96	317		Pn	04 34 20.5 +1.6
RDOG	Red Dog Mine	7.96	317	P	Pn	04 34 21.1 +2.2
	baz=124,SNR=28					
INK	Inuvik	8.16	42	P	Pn	04 34 22.3 +0.6
	comp=N,19nm,0.5s,baz=242,slow=18,SNR=72					
INK				S	Sn	04 35 49.8 -2.4
	comp=N,201nm,0.7s,baz=158,slow=33,SNR=18					
INK	Inuvik	8.16	42	P	Pn	04 34 22.3 +0.6
	baz=235,SNR=19					
R32K	Eaglecrest	8.22	118	P	Pn	04 34 21.9 -0.6
	baz=310,SNR=22					
F14K	Arctic Creek	8.27	296		Pn	04 34 24.7 +1.7
F14K	Arctic Creek	8.27	296	P	Pn	04 34 24.6 +1.5
	baz=100,SNR=6.0					
JIS	Juneau Island	8.27	118	P	Pn	04 34 22.4 -0.7
C17K	DeLong Mountai	8.28	319		Pn	04 34 24.9 +1.6
C17K	DeLong Mountai	8.28	319	P	Pn	04 34 24.9 +1.6
	baz=125,SNR=11					
B18K	Kokolik River	8.46	326		Pn	04 34 27.1 +1.4
B18K	Kokolik River	8.46	326	P	Pn	04 34 27.6 +1.8
	baz=134,SNR=18					
A22K	Sinclair Lake	8.54	345		Pn	04 34 27.9 +1.1
A22K	Sinclair Lake	8.54	345	P	Pn	04 34 28.2 +1.4
	baz=159,SNR=10					
S32K	Killisnoo	8.74	122		Pn	04 34 28.9 -0.6
S32K	Killisnoo	8.74	122	P	Pn	04 34 29.5 0.0
	baz=314,SNR=18					
Q32M	Nakina River	8.75	110	P	Pn	04 34 29.9 0.0
	baz=304,SNR=20					
SIT	Sitka	8.75	126	P	Pn	04 34 29.4 -0.3
SIT	Sitka	8.75	126	P	Pn	04 34 29.4 -0.3
	baz=317,SNR=17					
C16K	Lisburne Hills	8.85	315		Pn	04 34 32.8 +1.8
C16K	Lisburne Hills	8.85	315	P	Pn	04 34 32.8 +1.8
	baz=119,SNR=14					
M11K	Mekoryuk	8.87	262	P	Pn	04 34 32.9 +1.6
	baz=66					
A19K	Wainwright	8.90	331		Pn	04 34 33.6 +1.9
A19K	Wainwright	8.90	331	P	Pn	04 34 33.4 +1.7
	baz=139					
TNA	Tin City	8.94	296		Pn	04 34 33.1 +0.9
TNA	Tin City	8.94	296	P	Pn	04 34 33.8 +1.6
	baz=98					
A21K	Barrow	9.04	343	P	Pn	04 34 34.9 +1.2
	baz=155					
R33M	Jennings River	9.09	105		Pn	04 34 35.0 +0.6
R33M	Jennings River	9.09	105	P	Pn	04 34 35.0 +0.6
	baz=300,SNR=13					
TGTN	Hyland Airport	9.46	89	P	Pn	04 34 39.7 +0.3
	baz=287,SNR=12					
WTLY	Watson Lake, Y	9.73	98	P	Pn	04 34 43.8 +0.7
	baz=295,SNR=10.0					
SDPT	Sand Point	9.80	225	P	Pn	04 34 44.5 +0.5
S34M	Telegraph Cree	9.85	113		Pn	04 34 44.8 +0.2
S34M	Telegraph Cree	9.85	113	P	Pn	04 34 45.1 +0.5
	baz=308,SNR=18					
DLBC	Dease Lake	10.01	108	P	Pn	04 34 46.7 -0.3
	comp=N,49nm,0.3s,baz=304,slow=11,SNR=48					
DLBC				LR	LR	04 39 18.4
	comp=N,778nm,19.8s,baz=278,slow=41					
DLBC	Dease Lake	10.01	108	P	Pn	04 34 47.1 +0.1
	baz=304,SNR=7.0					
U33K	Whale Pass	10.27	125	P	Pn	04 34 50.3 -0.1
	baz=318					
WRAK	Wrangell Islan	10.34	122		Pn	04 34 50.9 -0.6
WRAK	Wrangell Islan	10.34	122	P	Pn	04 34 51.6 +0.2
	baz=315,SNR=18					
GAMB	Gambell	10.53	285	P	Pn	04 34 55.4 +1.5
	baz=84					
CRAG	Craig	10.76	127		Pn	04 34 56.6 -0.5
CRAG	Craig	10.76	127	P	Pn	04 34 57.8 +0.7
CRAG	Craig	10.76	127	P	Pn	04 34 57.6 +0.6
	baz=320					
T35M	Bob Quinn	10.80	115		Pn	04 34 58.5 +0.7
T35M	Bob Quinn	10.80	115	P	Pn	04 34 58.2 +0.4
	baz=311,SNR=13					
V35K	Ketchikan	11.43	124		Pn	04 35 07.0 +0.8
V35K	Ketchikan	11.43	124	P	Pn	04 35 06.7 +0.5
	baz=318,SNR=6.4					
U35K	Hyder	11.62	119		Pn	04 35 08.9 +0.1
U35K	Hyder	11.62	119	P	Pn	04 35 09.1 +0.3
	baz=314					
C36M	Paulatuk	11.69	46		Pn	04 35 07.6 -2.0
C36M	Paulatuk	11.69	46	P	Pn	04 35 10.5 +0.8
	baz=248					
KOTAN	Kotaneelee Air	11.88	93	P	Pn	04 35 12.9 +0.5
	baz=294					
A36M	Sachs Harbour	12.60	34		Pn	04 35 22.0 0.0
A36M	Sachs Harbour	12.60	34	P	Pn	04 35 22.3 +0.3
	baz=235					
BBB	Bella Bella	15.18	126	P	Pn	04 35 56.4 +0.3
	comp=N,23nm,1.2s,baz=322,slow=13,SNR=19					
BBB				LR	LR	04 41 22.1
	comp=N,80nm,21.8s,baz=268,slow=35					
YKAW3	Yellowknife Wh	15.35	76	P	Pn	04 35 58.4 +0.1
YKAW3				IAmb	IAmb	04 36 03.4
	comp=Z,23nm,0.6s					
YKA	Yellowknife Ar	15.38	76	P	Pn	04 35 58.2 -0.3
	comp=Z,5.1nm,0.6s,baz=281,slow=12,SNR=28					
YKA				LR	LR	04 42 16.0
	comp=Z,92nm,19.6s,baz=274,slow=38					
YKA	Yellowknife Ar	15.38	76	*ce*P	Pn	04 35 58.2 -0.3
YKA				pmax	pmax	
	comp=Z,7.0nm,0.6s					
ADK	Adak	18.67	247	P	P	04 36 39.1 +1.0
BILL	Bilibino	19.16	305	*i* P	Pn	04 36 46.0 +1.1
BILL				pmax	pmax	
	comp=Z,7.0nm,1.0s					
NLWA	Neilton Lookou	20.69	127	IAmb	IAmb	04 37 03.6
	comp=Z,65nm,1.1s					
E03A	Lebam	21.52	128	P	P	04 37 10.2 +1.3
E03A				IAmb	IAmb	04 37 14.8
	comp=Z,67nm,1.2s					
D05A	Enumclaw	21.55	125	P	P	04 37 08.6 -0.7
D05A				IAmb	IAmb	04 37 15.3
	comp=Z,68nm,1.2s					
RES	Resolute Bay	21.64	35	P	P	04 37 08.7 -1.4
	comp=Z,2.1nm,0.4s,baz=236,slow=11,SNR=14					
RES				S	S	04 41 07.5 +2.2
	comp=Z,6.7nm,0.9s,baz=212,slow=13,SNR=5.2					
	comp=Z,2.1nm,0.4s					
LON	Longmire	21.99	125	P	P	04 37 16.2 +2.2
NEW	Newport	22.61	116	P	P	04 37 20.8 +0.1
NEW	Newport	22.61	116	LR	LR	04 46 41.2
	comp=Z,115nm,18.7s,baz=317,slow=38					
HOOD	Mount Hood Mea	23.25	127	IAmb	IAmb	04 37 29.8
	comp=Z,48nm,1.0s					
F07A	Phinny Hill Vi	23.42	123	IAmb	IAmb	04 37 59.3
	comp=Z,23nm,0.9s					
E09A	Wood Farm, Sta	23.60	120	P	P	04 37 30.9 +0.6
I05D	Terrebonne, OR	24.21	127	IAmb	IAmb	04 37 39.0
	comp=Z,74nm,1.5s					
PINE	Pine Mountain	24.83	128	IAmb	IAmb	04 38 13.1
	comp=Z,39nm,1.3s					
FFC	Flin Flon	24.84	88	P	P	04 37 40.9 -0.5
SEY	Seymchan	26.18	297	P	P	04 37 51.1 -2.3
	comp=Z,4.4nm,0.5s,baz=94,slow=7.5,SNR=14					
SEY				LR	LR	04 48 02.1
	comp=Z,80nm,20.3s,baz=58,slow=36					
	comp=Z,4.4nm,0.5s					
SEY	Seymchan	26.18	297	*i* P	P	04 37 54.1 +0.7
SEY				pmax	pmax	
	comp=Z,4.0nm,1.0s					
WVOR	Wild Horse Val	26.85	126	IAmb	IAmb	04 38 30.0
	comp=Z,27nm,1.3s					
YHL	Hebgen Lake	27.80	113	IAmb	IAmb	04 38 12.2
	comp=Z,30nm,1.3s					
YMR	Madison River	28.04	113	IAmb	IAmb	04 38 14.3
	comp=Z,38nm,1.1s					
YNE	Yellowstone No	28.18	111	IAmb	IAmb	04 38 15.2
	comp=Z,35nm,1.2s					
YMP	Mirror Lake Pl	28.33	112	IAmb	IAmb	04 38 16.3
	comp=Z,21nm,1.2s					
RLMT	Red Lodge	28.40	110	IAmb	IAmb	04 38 16.6
	comp=Z,28nm,1.2s					
PET	Petropavlovsk	28.98	275	*i* P	P	04 38 18.2 -0.3
PET				pmax	pmax	
	comp=Z,23nm,1.1s					
TPAW	Teton Pass	29.01	114	IAmb	IAmb	04 38 24.2
	comp=Z,25nm,1.4s					
PETK	Petropavlovsk-	29.36	276	P	P	04 38 21.5 -0.4
	comp=Z,2.7nm,0.8s,baz=63,slow=9.1,SNR=2.4					
PETK				LR	LR	04 49 39.7
	comp=Z,55nm,20.3s,baz=152,slow=35					
	comp=Z,2.7nm,0.8s					
BW06	Boulder Array	30.18	114	IAmb	IAmb	04 38 33.0
	comp=Z,25nm,1.1s					
PD31	Pinedale Array	30.18	114	IAmb	IAmb	04 38 33.0
	comp=Z,25nm,1.1s					
PDAR	Pinedale Array	30.18	114	P	P	04 38 31.5 +1.9
PDAR	Pinedale Array	30.18	114	P	P	04 38 31.2 +1.6
	comp=Z,22nm,1.1s,baz=323,slow=6.3,SNR=65					
PDAR				sP	sP	04 38 55.7 +0.6
	comp=Z,2.3nm,0.7s,baz=338,slow=5.6,SNR=3.0					
PDAR				PcP	PcP	04 41 28.3 -0.6
	comp=Z,0.6nm,0.5s,baz=317,slow=3.3,SNR=4.5					
PDAR				LR	LR	04 50 60.0
	comp=Z,38nm,21.3s,baz=316,slow=37					
	comp=Z,22nm,1.1s					
NVAR	Mina Array Bea	30.49	129	P	P	04 38 34.0 +1.7
NVAR	Mina Array Bea	30.49	129	P	P	04 38 33.8 +1.5
	comp=Z,3.0nm,0.7s,baz=316,slow=8.3,SNR=18					
NVAR				PcP	PcP	04 41 30.0 +0.2
	comp=Z,1.1nm,0.7s,baz=330,slow=4.8,SNR=3.2					
NVAR				LR	LR	04 51 47.8
	comp=Z,53nm,18.8s,baz=288,slow=38					
	comp=Z,3.0nm,0.7s					
TIXI	Tiksi	30.54	322	P	P	04 38 31.0 -1.1
	comp=Z,3.8nm,0.6s,baz=78,slow=8.9,SNR=17					
TIXI				PcP	PcP	04 41 28.9 0.0
	comp=Z,1.6nm,0.2s,baz=83,slow=3.1,SNR=1.4					
TIXI				LR	LR	04 53 25.2
	comp=Z,52nm,18.3s,baz=198,slow=41					
	comp=Z,3.8nm,0.6s					
TIXI	Tiksi	30.54	322	*ce*P	P	04 38 31.3 -0.8
TIXI				pmax	pmax	
	comp=Z,5.0nm,0.8s					
NV11	Mina Array Sit	30.54	129	IAmb	IAmb	04 39 03.0
	comp=Z,16nm,1.1s					
ULM	Lac du Bonnet	30.59	90	P	P	04 38 33.5 +0.6
	comp=Z,16nm,0.8s,baz=301,slow=5.7,SNR=7.4					
ULM				LR	LR	04 50 48.8
	comp=Z,55nm,20.5s,baz=8.5,slow=36					
	comp=Z,16nm,0.8s					
TPH	Tonopah	31.19	128	IAmb	IAmb	04 38 59.1
	comp=Z,11nm,0.7s					
NEEM	North Greenlan	31.27	25	*e*P	P	04 38 38.8 0.0
RSSD	Black Hills	31.48	106	P	P	04 38 42.5 +1.5
BSUT	Blindstream Ca	31.55	117	IAmb	IAmb	04 38 44.6
	comp=Z,15nm,1.1s					
R11B	Troy Canyon, C	31.55	126	IAmb	IAmb	04 39 12.1
	comp=Z,12nm,1.0s					
EPLO	Experimental L	31.98	89	IAmb	IAmb	04 38 46.3
	comp=Z,16nm,0.8s					
AGMN	Agassiz Nation	32.00	92	IAmb	IAmb	04 38 46.3
	comp=Z,14nm,0.7s					
TPNV	Topopah Spring	32.54	128	IAmb	IAmb	04 39 20.9
	comp=Z,11nm,1.1s					
Q16A	Castle Valley	32.76	119	IAmb	IAmb	04 38 55.1
	comp=Z,13nm,1.1s					
SRU	San Rafael Swe	32.85	118	IAmb	IAmb	04 38 55.9
	comp=Z,19nm,1.1s					
O20A	White River Ci	32.92	115	IAmb	IAmb	04 38 56.0
	comp=Z,22nm,1.4s					
HAYD	Hayden	33.01	113	IAmb	IAmb	04 38 57.2
	comp=Z,22nm,0.9s					
QSM	Queen of Sheba	33.20	129	IAmb	IAmb	04 39 27.0
	comp=Z,16nm,1.2s					
LCMT	Little Creek M	33.60	124	IAmb	IAmb	04 39 02.3
	comp=Z,9.6nm,0.9s					
F33A	5 Mile Ranch,	33.63	96	IAmb	IAmb	04 39 01.1
	comp=Z,12nm,0.9s					
KNB	Kanab	33.76	123	IAmb	IAmb	04 39 03.9
	comp=Z,12nm,0.9s					
PV22	Blue Mesa, Par	34.05	117	IAmb	IAmb	04 39 05.6
	comp=Z,19nm,1.1s					
PV04	Paradox Valley	34.12	117	IAmb	IAmb	04 39 07.0
	comp=Z,11nm,1.0s					
PV20	West Nyswonger	34.14	117	IAmb	IAmb	04 39 06.5
	comp=Z,26nm,1.4s					
V12A	Nelson	34.14	127	IAmb	IAmb	04 39 35.5
	comp=Z,16nm,1.1s					
PV16	Nyswonger Mesa	34.19	117	IAmb	IAmb	04 39 07.6
	comp=Z,16nm,1.4s					
PV07	Paradox Valley	34.19	117	IAmb	IAmb	04 39 06.7
	comp=Z,12nm,0.9s					
PV17	East Wray Mesa	34.20	117	IAmb	IAmb	04 39 07.0
	comp=Z,20nm,1.3s					
PV11	David Mesa, Pa	34.21	117	IAmb	IAmb	04 39 07.2
	comp=Z,9.4nm,0.8s					
PV12	Saucer Basin,	34.23	117	IAmb	IAmb	04 39 17.3
	comp=Z,14nm,1.3s					
PV18	Skein Mesa, Pa	34.24	117	IAmb	IAmb	04 39 07.4
	comp=Z,24nm,1.3s					
PV03	Paradox Valley	34.26	117	IAmb	IAmb	04 39 07.5
	comp=Z,19nm,1.5s					
ISCO	Idaho Springs	34.30	112	IAmb	IAmb	04 39 08.5
	comp=Z,11nm,1.2s					
PV05	Paradox Valley	34.31	118	IAmb	IAmb	04 39 08.0
	comp=Z,15nm,1.1s					
PV15	Paradox Valley	34.34	117	IAmb	IAmb	04 39 08.0
	comp=Z,15nm,1.0s					
PV13	Radium Mtn., P	34.35	117	IAmb	IAmb	04 39 09.1
	comp=Z,22nm,1.3s					
PV01	Paradox Valley	34.48	117	I

ANMO Albuquerque 38.08 117 LR LR 04 56 28.8
comp=Z,50nm,18.5s,baz=89,slow=38
ANMO Albuquerque 38.08 117 *ce*P **P** **04 39 37.7 -0.2**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
214A Organ Pipe Nat 38.27 127 IAmb IAmb 04 40 09.7
comp=Z,26nm,1.4s
RTBA Rita Blanca 38.35 112 IAmb IAmb 04 39 42.2
comp=Z,18nm,1.1s
TUC Tucson 38.70 124 P **P** **04 39 43.9 +1.0**
TUC IAmb IAmb 04 40 13.6
comp=Z,16nm,1.2s
Y22A Socorro 38.76 119 IAmb IAmb 04 39 46.3
comp=Z,6.8nm,0.8s
SPITS Spitsbergen Ar 38.85 5 P **P** **04 39 43.5 -0.1**
comp=Z,1.6nm,0.5s,baz=12,slow=7.9,SNR=15
comp=Z,1.6nm,0.5s
DBG Daneborg 38.88 20 *e*P **P** **04 39 44.1 +0.2**
DBG IAmb IAmb 04 39 47.4
comp=Z,5.8nm,0.9s
DY2G Dye2 39.12 38 *e*P **P** **04 39 47.4 +1.1**
P38A Dawn 39.77 99 IAmb IAmb 04 40 21.3
comp=Z,7.8nm,0.9s
319A Douglas 40.11 123 P **P** **04 39 56.5 +1.8**
319A IAmb IAmb 04 39 58.0
comp=Z,8.1nm,0.8s
AMTX Amarillo 40.13 112 P **P** **04 39 56.0 +1.2**
SCHQ Schefferville 40.16 63 P **P** **04 39 54.7 0.0**
comp=Z,34nm,0.3s,baz=314,slow=6.7,SNR=22
VLDQ Val d'Or 40.50 77 P **P** **04 39 56.6 -1.0**
VLDQ IAmb IAmb 04 39 57.3
comp=Z,15nm,1.0s
P40A Paris 40.52 98 IAmb IAmb 04 40 26.3
comp=Z,12nm,0.9s
T35A Sooner Cattle 40.66 105 IAmb IAmb 04 40 00.1
comp=Z,21nm,1.0s
OK048 Pawnee Station 40.88 106 IAmb IAmb 04 40 02.6
comp=Z,15nm,0.8s
OK052 Battle Ridge R 41.30 106 IAmb IAmb 04 40 05.8
comp=Z,17nm,0.9s
DKNS Dickens 41.49 112 IAmb IAmb 04 40 07.4
comp=Z,18nm,0.8s
WMOK Wichita Mounta 41.49 109 IAmb IAmb 04 40 07.6
comp=Z,13nm,0.9s
FNO Franklin 41.66 107 IAmb IAmb 04 40 08.6
comp=Z,24nm,1.0s
TUL3 Leonard 41.82 105 IAmb IAmb 04 40 09.5
comp=Z,20nm,1.2s
SN07 Snyder 07 42.00 112 IAmb IAmb 04 40 11.5
comp=Z,15nm,0.8s
U38A Gravette 42.00 103 IAmb IAmb 04 40 10.1
comp=Z,29nm,1.5s
APMT Aspermont 42.12 111 IAmb IAmb 04 40 12.1
comp=Z,12nm,0.9s
SADO Sadowa 42.28 82 LR LR 04 57 33.9
comp=Z,528nm,20.4s,baz=326,slow=36
VHRN Van Horn 42.32 119 IAmb IAmb 04 40 15.8
comp=Z,16nm,0.8s
MGMO Mountain Grove 42.36 100 IAmb IAmb 04 40 13.2
comp=Z,11nm,0.9s
ASAJ Asahikawa 42.74 278 LR LR 04 59 10.6
comp=Z,26nm,19.3s,baz=158,slow=38
OLIL Olney 42.96 95 IAmb IAmb 04 40 19.2
comp=Z,23nm,0.9s
TRQ Mont Tremblant 43.22 77 P **P** **04 40 20.1 +0.2**
TRQ IAmb IAmb 04 40 20.4
comp=Z,10nm,0.6s
S44A Carbondale 43.28 97 IAmb IAmb 04 40 48.8
comp=Z,16nm,0.9s
SIUC Southern Illin 43.28 97 IAmb IAmb 04 40 22.4
comp=Z,16nm,0.8s
Z35A Perchaven, San 43.35 108 IAmb IAmb 04 40 22.3
comp=Z,13nm,0.8s
PBMO Poplar Bluff 43.50 99 IAmb IAmb 04 40 23.6
comp=Z,13nm,0.7s
OZNA Ozona 43.78 114 IAmb IAmb 04 40 26.0
comp=Z,14nm,0.6s
MIAR Mount Ida 43.94 104 IAmb IAmb 04 40 27.1
comp=Z,15nm,1.2s
FW13 Cleburne 44.11 109 IAmb IAmb 04 40 28.4
comp=Z,13nm,0.8s
TX31 Lajitas Ar. Si 44.13 118 IAmb IAmb 04 40 29.4
comp=Z,7.3nm,0.7s
TXAR Lajitas Array 44.13 118 P **P** **04 40 28.9 +1.5**
TXAR Lajitas Array 44.13 118 P **P** **04 40 28.8 +1.4**
comp=Z,7.2nm,0.7s,baz=329,slow=6.6,SNR=103
TXAR PcP **PP** **04 42 11.1 -0.2**
comp=Z,2.7nm,0.8s,baz=327,slow=4.4,SNR=7.2
TXAR LR LR 04 58 26.6
comp=Z,53nm,18.6s,baz=336,slow=35
comp=Z,7.2nm,0.7s
WCI Wyandotte Cave 44.19 94 P **P** **04 40 27.7 0.0**
WCI IAmb IAmb 04 40 28.1
comp=Z,9.1nm,0.7s
SAND Sanderson 44.21 116 IAmb IAmb 04 40 29.9
comp=Z,12nm,0.8s
BRDY Brady 44.36 112 IAmb IAmb 04 40 30.3
comp=Z,10.0nm,0.8s
WHTX Lake Whitney, 44.41 110 IAmb IAmb 04 40 30.6
comp=Z,13nm,1.0s
E62A Clayton Lake 45.14 73 P **P** **04 40 35.4 +0.3**
E62A IAmb IAmb 04 40 36.5
comp=Z,23nm,1.4s
P53A Whipple 45.42 88 IAmb IAmb 04 40 38.0
comp=Z,12nm,0.6s
T50A Nancy 45.84 93 IAmb IAmb 04 40 41.9
comp=Z,17nm,1.0s
CLTN Cedars of Leba 45.93 96 IAmb IAmb 04 40 42.9
comp=Z,9.9nm,1.0s
SSPA Standing Stone 46.10 84 P **P** **04 40 43.1 +0.3**
SSPA IAmb IAmb 04 40 43.4
comp=Z,11nm,0.8s
PKME Peaks-Kenny Pk 46.30 74 IAmb IAmb 04 40 45.2
comp=Z,15nm,0.9s
LPIG La Paz 46.31 129 LR LR 05 02 32.9
comp=Z,38nm,20.3s,baz=346,slow=39
BORG Borgarnes 46.78 28 LR LR 05 02 14.6
comp=Z,24nm,19.0s,baz=322,slow=38
USRK Ussuriysk Ar. 47.43 286 P **P** **04 40 52.1 -0.9**
comp=Z,2.3nm,0.6s,baz=59,slow=5.9,SNR=2.6
comp=Z,2.3nm,0.6s
TKL Tuckaleechee C 47.45 94 LR LR 05 02 06.8
comp=Z,42nm,18.4s,baz=319,slow=37
FPAL Fort Paine 47.54 96 IAmb IAmb 04 40 55.0
comp=Z,21nm,1.2s
ARCES ARCESS Array B 47.78 3 IAmb IAmb 04 41 05.3
comp=Z,27nm,1.5s
ARCES ARCESS Array B 47.78 3 P **P** **04 40 54.8 -0.7**
comp=Z,1.5nm,0.3s,baz=350,slow=7.1,SNR=42
ARCES PcP **PcP** **04 42 22.8 -0.4**
comp=Z,0.9nm,0.5s,baz=13,slow=3.4,SNR=4.4
comp=Z,1.5nm,0.3s
V53A Saluda 47.88 93 IAmb IAmb 04 40 58.4
comp=Z,16nm,1.3s
MDJ Mudanjiang 48.15 288 P **P** **04 40 58.3 -0.3**
MDJ pmax pmax
comp=Z,15nm,0.8s
R58B Mineral 48.26 87 IAmb IAmb 04 41 01.2
comp=Z,16nm,1.1s
HILR Hailar Array B 48.35 299 P **P** **04 41 00.2 0.0**
comp=Z,5.2nm,0.4s,baz=47,slow=8.8,SNR=10
comp=Z,5.2nm,0.4s
HODGE Hodges 49.33 93 IAmb IAmb 04 41 08.7
comp=Z,8.9nm,0.6s
CN2 Changchun 50.59 291 P **P** **04 41 17.0 -0.2**
CN2 pP pP 04 41 33.0 -2.5
CN2 pmax pmax
comp=Z,20nm,0.7s
MJAR Matsushiro Arr 50.81 275 P **P** **04 41 19.1 +0.1**
comp=Z,0.6nm,0.6s,baz=358,slow=8.5,SNR=2.9
MJAR pP **pP** **04 41 37.2 -0.1**
comp=Z,4.3nm,0.8s,baz=12,slow=7.2,SNR=9.5
comp=Z,0.6nm,0.6s
ULN Ulaanbaatar 54.60 307 P **P** **04 41 47.2 +0.2**
ULN IAmb IAmb 04 42 07.3
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 54.60 307 *ce*P **P** **04 41 47.5 +0.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
KSRS Korea Array 54.70 284 P **P** **04 41 48.0 +0.4**
comp=Z,2.4nm,0.7s,baz=31,slow=7.0,SNR=7.3
KSRS pP **pP** **04 42 06.5 +0.5**
comp=Z,5.7nm,0.7s,baz=25,slow=7.2,SNR=13
comp=Z,2.4nm,0.7s
SONM Songino Array 54.86 307 IAmb IAmb 04 42 09.4
comp=Z,6.6nm,0.8s
SONM Songino Array 54.86 307 P **P** **04 41 48.8 -0.1**
comp=Z,3.6nm,0.8s,baz=22,slow=6.3,SNR=9.0
comp=Z,3.6nm,0.8s
NB2 NORSAR Subarra 55.41 12 P **P** **04 41 51.8 -0.7**
comp=Z,0.9nm,0.6s,baz=348,slow=7.4
NOA NORSAR Array B 55.41 12 P **P** **04 41 52.0 -0.5**
comp=Z,1.2nm,0.6s,baz=343,slow=5.7,SNR=4.4
NOA LR LR 05 07 42.2
comp=Z,8.3nm,18.5s,baz=340,slow=38
comp=Z,1.2nm,0.6s
FINES FINESS Array B 55.90 3 P **P** **04 41 54.8 -1.1**
comp=Z,5.6nm,0.5s,baz=1.3,slow=8.3,SNR=86
FINES pP **pP** **04 42 14.2 -0.2**
comp=Z,2.8nm,0.6s,baz=15,slow=7.9,SNR=2.7
comp=Z,5.6nm,0.5s
ZALV Zalesovo Beam 56.32 325 P **P** **04 41 57.1 -1.8**
ZALV Zalesovo Beam 56.32 325 P **P** **04 41 57.3 -1.7**
comp=Z,2.5nm,0.4s,baz=28,slow=6.7,SNR=11
ZALV pP **pP** **04 42 16.4 -1.1**
comp=Z,3.0nm,0.6s,baz=25,slow=6.6,SNR=4.9
comp=Z,2.5nm,0.4s
ZALV Zalesovo Beam 56.32 325 *i*P **P** **04 41 57.5 -1.5**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
KLMR Klimovskoe 56.42 355 *e*P **P** **04 41 57.9 -1.7**
KLMR *e**PP **pP** **04 42 15.3 -2.9**
KLMR pmax pmax
comp=Z,17nm,1.3s
HFS Hagfors 56.53 11 P **P** **04 41 59.5 -0.9**
comp=Z,3.0nm,0.5s,baz=14,slow=1.8,SNR=31
comp=Z,3.0nm,0.5s
CMIG Matias Romero 58.63 116 LR LR 05 08 02.7
comp=Z,29nm,19.0s,baz=5.5,slow=36
HHC Hu-ho-hao-te 58.79 299 *e*P **P** **04 42 17.8 +1.1**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.5s
EKA Eskdalemuir Ar 59.02 22 P **P** **04 42 18.1 +0.2**
comp=Z,1.9nm,0.5s,baz=330,slow=5.4,SNR=17
comp=Z,1.9nm,0.5s
ARTI Arti 59.25 343 P **P** **04 42 18.8 -0.7**
ARTI Arti 59.25 343 LR LR 05 08 44.4
comp=Z,22nm,21.0s,baz=241,slow=37
ARTI Arti 59.25 343 *c i*P **P** **04 42 20.3 +0.8**
ARTI *PP **pP** **04 42 35.9 -2.4**
ARTI 04 43 06.6
ARTI S **S** **04 50 25.4 +3.8**
ARTI SS **SS** **04 54 17.9 +1.9**
ARTI pmax pmax
comp=Z,13nm,1.4s
BTO Baotou 59.61 300 *e*P **P** **04 42 24.3 +1.9**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,100nm,5.6s
BORK Borovoye 60.48 334 *ce*P **P** **04 42 27.7 -0.3**
BORK pmax pmax
comp=Z,7.0nm,1.7s
BVAR Borovoye Array 60.49 334 P **P** **04 42 27.1 -0.9**
comp=Z,2.7nm,0.4s,baz=35,slow=9.3,SNR=18
BVAR pP **pP** **04 42 46.9 0.0**
comp=Z,4.9nm,0.7s,baz=46,slow=6.4,SNR=7.7
BVAR sP **sP** **04 42 54.6 -0.4**
comp=Z,4.8nm,0.7s,baz=38,slow=7.5,SNR=5.7
BVAR LR LR 05 12 04.7
comp=Z,72nm,18.2s,baz=214,slow=39
comp=Z,2.7nm,0.4s
KURK Kurchatov 60.83 328 P **P** **04 42 29.3 -1.1**
KURK IAmb IAmb 04 42 50.0
comp=Z,8.6nm,1.3s
KURK Kurchatov 60.83 328 P **P** **04 42 29.4 -1.0**
KURBB Kurchatov Arra 60.94 328 P **P** **04 42 29.4 -1.7**
comp=Z,1.0nm,0.5s,baz=29,slow=7.4,SNR=11
KURBB pP **pP** **04 42 48.9 -1.0**
comp=Z,0.9nm,0.4s,baz=26,slow=6.6,SNR=6.0
comp=Z,1.0nm,0.5s
OBN Obninsk 62.26 357 ⇓*e*P **P** **04 42 42.0 +2.1**
OBN pmax pmax
comp=Z,5.0nm,0.8s
NJ2 Nanjing 63.24 288 *e*P **P** **04 42 47.8 +1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 63.50 324 *ce*P **P** **04 42 47.6 -0.7**
MKAR Makanchi Array 63.50 324 P **P** **04 42 47.0 -1.3**
MKAR Makanchi Array 63.50 324 P **P** **04 42 46.7 -1.7**
comp=Z,1.6nm,0.4s,baz=44,slow=6.9,SNR=19
MKAR pP **pP** **04 43 06.0 -1.3**
comp=Z,2.1nm,0.7s,baz=38,slow=6.6,SNR=6.0
comp=Z,1.6nm,0.4s
GTA Gaotai 64.54 307 *e*P **P** **04 42 54.5 -0.9**
GTA pP pP 04 43 14.5 +0.2
GTA sP sP 04 43 23.3 +1.0
GTA pmax pmax
comp=Z,6.0nm,0.8s
HSKC Hora Svate Kat 65.92 13 *e*P **P** **04 43 04.4 +0.4**
AB31 Akbulak array 65.97 340 P **P** **04 43 03.5 -0.8**
AB31 IAmb IAmb 04 43 24.0
comp=Z,6.3nm,0.7s
ABKAR Akbulak array 65.97 340 P **P** **04 43 03.7 -0.6**
LZDM Lanzhou Array 66.11 302 P **P** **04 43 06.7 +0.9**
comp=Z,1.2nm,0.4s,baz=64,slow=9.9,SNR=1.5
comp=Z,1.2nm,0.4s
CHVC Chvalec 66.19 11 *e*P **P** **04 43 06.0 +0.3**
CHVC Chvalec 66.19 11 *e*P **P** **04 43 06.0 +0.3**
OSTC Ostas 66.23 11 *e*P **P** **04 43 06.5 +0.5**
OSTC Ostas 66.23 11 *e*P **P** **04 43 06.5 +0.5**
DPC Dobruska-Polom 66.44 11 *e*P **P** **04 43 07.9 +0.5**
DPC *ex* x 04 43 14.4
DPC Dobruska-Polom 66.44 11 *e*P **P** **04 43 07.9 +0.5**
DPC Dobruska-Polom 66.44 11 P **P** **04 43 08.0 +0.5**
MI28 MI28,Pidlybu 66.47 3 P **P** **04 43 07.3 -0.2**
PRU Pruhonice 66.64 12 *e*P **P** **04 43 08.9 +0.3**
PRU Pruhonice 66.64 12 *e*P **P** **04 43 08.9 +0.3**
AK21 Malin Array Si 66.65 2 P **P** **04 43 07.7 -0.9**
AK22 Malin Array Si 66.67 2 P **P** **04 43 07.9 -0.8**
AK20 Malin Array Si 66.69 2 P **P** **04 43 08.0 -0.8**
AKASG Malin Array Be 66.73 2 P **P** **04 43 08.0 -1.1**
comp=Z,3.2nm,0.4s,baz=1.2,slow=6.5,SNR=18
AKASG pP **pP** **04 43 26.9 -1.2**
comp=Z,1.4nm,0.5s,baz=1.0,slow=6.3,SNR=2.5
comp=Z,3.2nm,0.4s
AKBB Malin Array Si 66.73 2 P **P** **04 43 08.4 -0.8**
AKBB IAmb IAmb 04 43 08.8
comp=Z,6.7nm,0.6s
AKBB Malin Array Si 66.73 2 *ce*P **P** **04 43 08.7 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 66.73 2 P **P** **04 43 08.3 -0.8**
AK15 Malin Array Si 66.73 2 P **P** **04 43 08.6 -0.5**
KIEV Kiev 66.74 2 P **P** **04 43 08.2 -0.9**
KIEV IAmb IAmb 04 43 08.8
comp=Z,6.0nm,0.6s
KIEV Kiev 66.74 2 P **P** **04 43 08.3 -0.9**
comp=Z,47nm,2.5s
KRLC Kraliky 66.76 10 *e*P **P** **04 43 09.8 +0.4**
KRLC *ex* x 04 43 16.3
KRLC Kraliky 66.76 10 *e*P **P** **04 43 09.8 +0.4**
OJC Ojcow 66.84 8 P **P** **04 43 09.8 0.0**
comp=Z,9.1nm,3.0s
STEB Steborice 66.97 10 *e*P **P** **04 43 10.6 -0.1**
MORC Moravsky Berou 67.11 10 P **P** **04 43 11.4 -0.2**
MORC Moravsky Berou 67.11 10 ⇑P **P** **04 43 11.5 -0.2**
MORC Moravsky Berou 67.11 10 *e*P **P** **04 43 11.6 -0.1**
ZVC Zvikov 67.15 12 *e*P **P** **04 43 12.2 +0.3**
KHC Kasperske Hory 67.40 13 *e*P **P** **04 43 14.1 +0.6**
KHC Kasperske Hory 67.40 13 *e*P **P** **04 43 14.1 +0.6**
KHC Kasperske Hory 67.40 13 P **P** **04 43 14.0 +0.6**
comp=Z,5.8nm,2.5s
GUMO Guam 67.49 255 LR LR 05 09 48.1
comp=Z,16nm,21.2s,baz=82,slow=33
VRAC Vranov 67.50 11 ⇑P **P** **04 43 13.9 -0.2**
VRAC Vranov 67.50 11 *e*P **P** **04 43 14.2 +0.1**
MAUC Maruska 67.55 10 *e*P **P** **04 43 14.8 +0.4**
KWP Kalwaria Pacla 67.59 6 P **P** **04 43 14.6 0.0**
NIE Niedzica 67.67 8 P **P** **04 43 15.8 +0.7**
GERES GERESS Array B 67.69 13 P **P** **04 43 15.6 +0.2**
comp=Z,1.2nm,0.5s,baz=5.4,slow=7.7,SNR=12
comp=Z,1.2nm,0.5s
STHS Stebnicka Huta 67.73 7 *e*P **P** **04 43 15.2 -0.3**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 67.73 7 *e*P **P** **04 43 15.2 -0.3**
KRUC Moravsky 67.73 11 *e*P **P** **04 43 15.5 0.0**
LANS Liptovska Anna 67.88 9 *e*P **P** **04 43 17.4 +0.9**
LANS pmax pmax
comp=Z,3.0nm,0.5s
LANS Liptovska Anna 67.88 9 *e*P **P** **04 43 17.4 +0.9**
JAVC Velka Javorina 68.04 10 *e*P **P** **04 43 18.3 +0.8**
MODS Modra-Piesok 68.49 10 *e*P **P** **04 43 20.6 +0.3**
MODS Modra-Piesok 68.49 10 *e*P **P** **04 43 20.6 +0.3**
STNU Starunia 68.59 5 P **P** **04 43 20.7 -0.2**
HOLU Holmets 68.68 7 P **P** **04 43 21.2 -0.2**
CONA Conrad Observa 68.81 11 *e*P **P** **04 43 22.5 +0.1**
comp=Z,1.8nm,0.5s,SNR=4.9
MOTA Moosalm 68.89 15 *i*P **P** **04 43 23.2 +0.2**
comp=Z,1.3nm,0.5s
BRIU Brid 68.90 6 P **P** **04 43 22.6 -0.2**
WATA Walderalm 68.95 15 *i*P **P** **04 43 23.8 +0.4**
comp=Z,1.7nm,0.4s
LESA Schwarzleotal 68.99 14 *e*P **P** **04 43 24.2 +0.7**
comp=Z,4.0nm,0.8s
SQTA Sankt Quirin 69.03 15 *e*P **P** **04 43 24.4 +0.6**
comp=Z,2.5nm,0.7s,SNR=4.3
WTTA Wattenberg 69.03 14 *i*P **P** **04 43 24.3 +0.4**
comp=Z,3.3nm,0.4s
RONA Rosalia, Austr 69.07 11 *i*P **P** **04 43 24.3 +0.4**
comp=Z,0.9nm,0.4s
NSLU Nyzhne Selyshc 69.10 5 P **P** **04 43 23.8 -0.3**
PSZ Piszkesteto 69.13 8 ⇑P **P** **04 43 25.5 +1.1**
FETA Feichten 69.17 15 *i*P **P** **04 43 25.5 +0.8**
comp=Z,1.6nm,0.6s
GOMU GeErMu 69.19 309 P **P** **04 43 24.3 -1.0**
GOMU pP pP 04 43 27.5 -17
GOMU sP PcP 04 43 32.3 -16
GOMU pmax pmax
comp=Z,2.0nm,0.6s
SORM Soroca 69.28 2 ⇑P **P** **04 43 21.2 -3.9**
SENIN Lac Senin/Sane 69.36 18 P **P** **04 43 26.9 +0.9**
AAK Ala-Archa 69.39 328 P **P** **04 43 25.8 -0.3**
AAK Ala-Archa 69.39 328 *ce*P **P** **04 43 26.6 +0.5**
AAK pmax pmax
comp=Z,8.0nm,2.5s
KBA Koelnbreinsper 69.40 13 *e*P **P** **04 43 26.7 +0.6**
comp=Z,8.8nm,0.7s
TUE Stuetta 69.53 16 IAmb IAmb 04 43 28.7
comp=Z,5.8nm,0.6s
TUE Stuetta 69.53 16 P **P** **04 43 28.0 +1.0**
comp=Z,41nm,1.5s
BURAR Bucovina Array 69.72 5 ⇓P **P** **04 43 27.2 -0.7**
KK31 Karatay Array 69.88 331 P **P** **04 43 27.9 -1.1**
KKAR Karatay Array 69.88 331 P **P** **04 43 29.0 0.0**
OBKA Obir 70.09 12 *i*P **P** **04 43 30.6 +0.3**
comp=Z,7.5nm,0.5s,SNR=14
SJG San Juan 70.49 88 LR LR 05 18 03.3
comp=Z,16nm,18.8s,baz=312,slow=39
MARR Marisel-Cluj 70.56 6 ⇓P **P** **04 43 32.4 -0.8**
SIRR Siria 70.89 7 ⇑P **P** **04 43 35.1 0.0**
SURR Surduc 71.43 7 ⇑P **P** **04 43 37.6 -0.7**
VRI Vrincioaia 71.51 4 ⇑P **P** **04 43 37.6 -1.2**
PLOR Plostina 71.53 4 ⇓P **P** **04 43 38.9 0.0**
BZS Buzias 71.54 7 ⇓P **P** **04 43 38.7 -0.2**
GZR Gura Zlata 71.82 7 ⇓P **P** **04 43 40.3 -0.5**
BISRR Bisoca 71.83 4 P **P** **04 43 42.2 +1.4**
MLR Muntele Rosu 71.86 4 ⇑P **P** **04 43 42.0 +0.9**
KSH Kashi 71.95 325 P **P** **04 43 44.3 +2.6**
KSH pP pP 04 44 03.8 +2.7
KSH pmax pmax
comp=Z,5.0nm,0.7s
CFR Carcaliu 72.24 3 ⇓P **P** **04 43 42.5 -0.6**
HERR Herculane 72.31 7 ⇑P **P** **04 43 45.3 +1.7**
MDVR Moldovita 72.37 7 ⇓P **P** **04 43 43.8 -0.3**
HARR Harsova 72.72 3 ⇑P **P** **04 43 45.4 -0.6**
KIV Kislovodsk 73.13 352 *e*P **P** **04 43 49.2 +0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
BOVS Bovan 73.52 8 ⇓P **P** **04 43 50.4 -0.3**
ESDC Sonseca Array 73.86 28 P **P** **04 43 54.1 +1.2**
ESDC Sonseca Array 73.86 28 P **P** **04 43 54.1 +1.2**
comp=Z,2.0nm,0.9s,baz=342,slow=6.2,SNR=21
comp=Z,2.0nm,0.9s
PDG Podgorica 74.55 10 ⇑P **P** **04 43 56.3 -0.5**
PZH PanZhiHua 75.25 299 P **P** **04 44 01.5 +0.3**
BAUV El Baul 77.66 95 P **P** **04 44 14.0 -0.8**
BRTR Keskin Array B 77.71 358 P **P** **04 44 14.5 -0.5**
comp=Z,0.4nm,0.8s,baz=321,slow=1.8,SNR=2.6
comp=Z,0.4nm,0.8s
RUSC La Rusia 78.07 101 P **P** **04 44 16.9 -0.8**
RUSC IAmb IAmb 04 44 18.1
comp=Z,20nm,1.1s
ROSC El Rosal 78.44 102 IAmb IAmb 04 44 21.7
comp=Z,6.6nm,0.7s
ROSC El Rosal 78.44 102 P **P** **04 44 20.4 +0.8**
comp=Z,6.4nm,0.5s,baz=102,slow=15,SNR=4.3
comp=Z,6.4nm,0.5s
KEST Kesra 80.09 18 IAmb IAmb 04 44 32.0
comp=Z,20nm,1.4s
KEST Kesra 80.09 18 P **P** **04 44 28.4 +0.5**
comp=Z,2.6nm,0.7s,baz=347,slow=1.9,SNR=4.3
comp=Z,2.6nm,0.7s
CMAR Chiang Mai Arr 83.59 298 P **P** **04 44 45.0 -1.4**
comp=Z,1.2nm,0.3s,baz=31,slow=3.8,SNR=1.7
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 118.24 354 *c i*PKIKP **PKPdf** **04 51 05.0 -0.3**
KMBO pmax pmax
comp=Z,5.0nm,0.3s
VNDA Vanda 143.46 196 PKhKP PKPpre 04 51 46.8
comp=Z,1.0nm,0.7s,baz=348,slow=5.1,SNR=9.0
BOSA Boshof 145.45 10 PKPbc **PKPdf** **04 51 56.0 +0.5**
comp=Z,4.1nm,0.4s,baz=351,slow=2.9,SNR=48
QSPA South Pole Qui 152.71 180 **PKiKP** **04 52 14.8 +1.7**
QSPA South Pole Qui 152.71 180 PKPbc **PKiKP** **04 52 14.1 +1.0**
comp=Z,2.2nm,0.6s,baz=45,slow=1.4,SNR=26
SNAA Sanae 164.30 139 PKPab **PKPab** **04 53 12.8 -1.5**
comp=Z,1.5nm,0.9s,baz=250,slow=7.0,SNR=4.6
SNAA Sanae 164.30 139 PKIKP **PKPdf** **04 52 12.7 -6.8**
MAW Mawson 166.22 236 PKPab **PKPab** **04 53 22.0 -0.7**
comp=Z,0.6nm,0.8s,baz=68,slow=5.4,SNR=1.4
NVL N'lazarevskaya 168.96 144 *e*PKP2 PKPab 04 53 44.9 +10
NVL pmax pmax
comp=Z,13nm,1.1s

IDC 27 04:40:45.3±1.3, 2.655×138.43E, h0km, mb3.5/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=28.4km s-min=18.1km az=171.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.28**	**87**	Pn	Pb	04 41 26.0	-1.4
	4.0nm,0.3s,baz=243,slow=11,SNR=16						
JAY				Lg	Lg	04 41 57.1	
	5.2nm,0.3s,baz=65,slow=19,SNR=4.7						
	18nm,0.4s						
WRA	**Warramunga Arr**	**17.65**	**193**	P	Pn	04 44 52.2	-0.6
	0.3nm,0.3s,baz=16,slow=13,SNR=5.5						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**21.35**	**191**	P	P	04 45 34.6	+0.3
	0.3nm,0.5s,baz=23,slow=10,SNR=10						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.57**	**322**	P	P	04 51 56.9	+0.6
	0.7nm,0.7s,baz=128,slow=5.9,SNR=3.6						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**85.89**	**24**	P	P	04 53 25.4	-1.4
	0.3nm,0.7s,baz=268,slow=5.7,SNR=4.3						
	0.3nm,0.7s						

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*TAP **27** 04:53:46.6, 24.02N×121.50E, h34km, ML3.9, B*
*JMA **27** 04:53:47.1±0.1, 24.0N±0.2×121.6E±0.6, h29km, MV3.4/15, TAIWAN REGION*
ISC 27 04:53:46.8±0.8, 24.01N±0.01×121.52E±0.01, h30km±3km, n194, σ1.904/371, 19C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.05**	**214**	*i* P	**Pb**	**04 53 52.3**	**+0.3**
ETM				*i* S	**Sb**	**04 53 55.9**	**+0.3**
HWA	**Hwalien**	**0.08**	**112**	*i* P	**Pb**	**04 53 53.0**	**+0.9**
HWA				*e*S	**Sb**	**04 53 57.0**	**+1.3**
TWD	**Chiawan**	**0.10**	**43**	⇑*i*P	**Pb**	**04 53 52.6**	**+0.4**
TWD				*i* S	**Sb**	**04 53 56.5**	**+0.6**
TEYL	**Yanliau Villag**	**0.15**	**154**	*i* P	**Pn**	**04 53 53.4**	**+0.2**
TEYL				*e*S	**Sb**	**04 53 58.1**	**+1.5**
ETL	**Fush Village**	**0.18**	**31**	*i* P	**Pb**	**04 53 53.0**	**+0.1**
ETL				*i* S	**Sn**	**04 53 57.5**	**-0.1**
NACB	**Ninganchiao**	**0.18**	**21**	S	**Sb**	**04 53 52.7**	**-4.3**
NACB	**Ninganchiao**	**0.18**	**21**	S	**Sn**	**04 53 57.4**	**-0.2**
NACB	**Ninganchiao**	**0.18**	**21**	⇑*i*P	**Pb**	**04 53 52.9**	**0.0**
NACB				*i* S	**Sb**	**04 53 57.2**	**+0.1**
ETLH	**Xiulin Townshi**	**0.20**	**349**	⇑*i*P	**Pb**	**04 53 53.4**	**+0.1**
ETLH				*i* S	**Sb**	**04 53 57.6**	**0.0**

ESL	Shilin	0.21	203	i P	Pb	04 53 53.1	-0.2	WDL			i S	Sb	04 54 18.5	+1.5	IRIF			eS	Sn	04 54 44.2	+0.7
ESL				i S	Sb	04 53 57.5	0.0	ECS	Chishang	0.95	197	i P	Pb	04 54 04.6	-0.2	SMST	Manzhou Townsh	2.08	198	eP	Pn	04 54 20.4	+0.7
SHUL	Shoufeng	0.22	171	i P	Pn	04 53 54.0	-0.1	ECS			eS	Sb	04 54 17.2	+0.1	SMST			eS	Sn	04 54 46.0	+1.6
SHUL				i S	Sn	04 53 59.7	+1.1	WDLH	Douliu	0.96	251	i P	Pb	04 54 04.9	0.0	VCHM	Qimei	2.08	248	i P	Pn	04 54 20.2	+0.6
WHF	Hehuan Shan	0.27	300⇑	iP	Pb	04 53 54.4	-0.1	WDLH			i S	Sb	04 54 18.0	+0.8	VCHM			i S	Sn	04 54 45.5	+0.9
WHF				i S	Sb	04 53 59.6	0.0	TATO	Taipei	0.96	358	P	Pb	04 54 04.8	-0.2	HATJ	Hateruma jima	2.09	88	eP	Pn	04 54 20.5	+0.8
TEGC	Jichi Village	0.30	177	i P	Pb	04 53 54.7	+0.4	TATO	Taipei	0.96	358	S	Sb	04 54 17.8	+0.3	HATJ			eS	Sn	04 54 45.6	+0.9
TEGC				eS	Sn	04 54 01.5	+1.0	TATO	Taipei	0.96	358	i P	Pb	04 54 04.6	-0.4	HEN	Hengchun	2.12	200	P	Pn	04 54 22.1	+1.8
WARBT	Fenglin Townsh	0.32	204	i P	Pb	04 53 54.0	-0.6	TATO			S	Sb	04 54 17.8	+0.3	HEN			eS	Sn	04 54 46.9	+1.3
WARBT				S	Sb	04 53 59.5	-0.4	TWA	Mucha	0.97	3	i P	Pn	04 54 04.6	+0.2	TWK1	Hengchun	2.16	198	i P	Pn	04 54 20.9	+0.1
OWD	Renai	0.32	261⇓	iP	Pb	04 53 54.7	-0.1	TWA			i S	Sb	04 54 17.4	-0.2	TWK1			eS	Sn	04 54 46.8	+0.3
OWD				i S	Sb	04 53 59.9	-0.3	TIPB	Shuangxi	1.00	16	i P	Pn	04 54 04.6	-0.2	TWKBT	Hengchun	2.16	198	i P	Pn	04 54 20.8	0.0
EGFH	Guangfu	0.35	195	i P	Pb	04 53 54.3	-0.7	TIPB			i S	Sn	04 54 17.9	0.0	TWKBT			eS	Sn	04 54 46.7	+0.2
EGFH				i S	Sb	04 54 00.2	-0.4	NCUH	Zhongli	1.00	342	i P	Pb	04 54 05.9	+0.1	TSEB	Hengchuen, Pin	2.17	195	eP	Pn	04 54 22.1	+1.1
FUSS	Fushou	0.35	313	i P	Pb	04 53 55.4	+0.1	NCUH			i S	Sb	04 54 20.0	+1.4	TSEB			S	Sn	04 54 47.8	+0.9
FUSS				i S	Sb	04 54 01.0	0.0	NCU	National Centr	1.01	342	eP	Pn	04 54 00.6	-4.3	JKRS	Kuro-shima	2.28	84	P	Pn	04 54 23.4	+1.0
EHP	Heping Village	0.36	33	P	Pb	04 53 54.7	-0.5	NCU			eS	Sn	04 54 15.5	-2.5	JKRS			eS	Sn	04 54 51.2	+1.6
EHP				i S	Sn	04 54 01.4	-0.7	NTY	Taoyuan	1.01	348	i P	Pb	04 54 06.2	+0.4	JIJ	Ishigaki jima	2.42	81	P	Pn	04 54 24.7	+0.4
WUSB	Renai	0.37	268⇓	iP	Pb	04 53 55.5	+0.1	NTY			i S	Sb	04 54 20.9	+2.2	JIJ			eS	Sn	04 54 52.8	-0.1
WUSB				i S	Sb	04 54 01.3	0.0	WCKO	Fanlu	1.01	236	i P	Pb	04 54 06.1	+0.2	PTMZ	Houxiangcun	2.42	296	i P	Pn	04 54 23.5	-0.8
EAHA	Aohua	0.38	32⇑	iP	Pb	04 53 55.0	-0.4	WCKO			i S	Sb	04 54 20.6	+1.7	PTMZ			i S	Sn	04 54 50.4	-2.5
EAHA				i S	Sb	04 54 01.2	-0.1	TAP	Taipei	1.03	359	eP	Pb	04 54 05.8	-0.3	MATB	Ma-tsu	2.57	326	i P	Pn	04 54 25.5	-0.9
TWT	Tachien	0.40	308⇓	iP	Pb	04 53 56.2	+0.2	TAP			S	Sb	04 54 19.9	+0.6	MATB			eS	Sn	04 54 55.3	-1.4
TWT				i S	Sb	04 54 02.5	+0.3	NHY	Taipei	1.03	2	eP	Pb	04 54 06.6	+0.5	JISG	Ishigakijimahi	2.61	77	eP	Pn	04 54 27.4	+0.5
TDCB	Techi	0.41	306⇓	iP	Pb	04 53 56.1	+0.1	NHY			i S	Sb	04 54 19.4	+0.1	JISG			S	Sn	04 54 57.5	-0.1
TDCB				i S	Sb	04 54 02.1	-0.3	EDH	Donghe	1.05	191	i P	Pn	04 54 04.0	-1.5	KNM	Kinmen	2.85	279	i P	Pn	04 54 31.3	+1.1
VWDT	VWDT	0.43	234	i P	Pb	04 53 56.6	+0.4	EDH			i S	Sn	04 54 18.4	-0.7	KNM			i S	Sn	04 55 04.7	+1.1
VWDT				i S	Sb	04 54 03.1	+0.5	CHN2	Minshiung	1.07	244	i P	Pb	04 54 07.4	+0.6	KNMB	Chin-men Tao	2.90	280	i P	Pn	04 54 30.3	-0.6
NNSB	Datong	0.44	343⇑	iP	Pb	04 53 56.4	-0.1	CHN2			i S	Sb	04 54 22.1	+1.6	KNMB			S	Sn	04 55 02.9	-1.8
NNSB				S	Sb	04 54 03.1	+0.1	RLNB	Erlin	1.07	264	P	Pb	04 54 06.6	-0.2	JTJ	Tarama	2.97	77	eP	Pn	04 54 32.8	+0.9
NNSH	Datong	0.44	343⇑	iP	Pb	04 53 56.3	-0.2	RLNB			S	Sb	04 54 21.4	+0.9	MHZQ	Yeshan	3.08	313	i P	Pn	04 54 32.2	-1.1
NNSH				eS	Sb	04 54 03.4	+0.4	CHN4	Tsaushan	1.07	233	i P	Pb	04 54 07.0	+0.1	MHZQ			eS	Sn	04 55 07.6	-1.4
NNS	Nan Shan	0.45	342⇑	iP	Pb	04 53 56.8	-0.1	CHN4			i S	Sb	04 54 23.1	+2.5	XPSS	Dashiqiu	3.15	338	eP	Pn	04 54 33.3	-0.8
NNS				i S	Sb	04 54 03.5	+0.1	STYH	Taoyuan	1.08	220	i P	Pn	04 54 06.5	+0.6	XPSS			i S	Sn	04 55 08.9	-2.1
ENA	Nanau	0.46	25⇑	iP	Pb	04 53 56.4	-0.4	STYH			i S	Sb	04 54 20.7	0.0	AXDP	Jialang	3.36	286	i P	Pn	04 54 36.4	-0.8
ENA				i S	Sb	04 54 03.3	-0.2	TPUB	Ta-pu	1.08	230	P	Pb	04 54 06.5	-0.5	AXDP			eS	Sn	04 55 12.8	-3.3
EWUT	Wuta	0.49	28⇑	iP	Pb	04 53 56.8	-0.4	TPUB	Ta-pu	1.08	230	i P	Pb	04 54 06.9	-0.1	JMJ2	Miyako jima3	3.54	77	eP	Pn	04 54 41.2	+1.4
EWUT				i S	Sb	04 54 03.8	-0.5	TPUB			i S	Sb	04 54 21.9	+1.1									
WPL	Puli Township	0.52	271	i P	Pb	04 53 57.3	-0.3	TWB1	Santiao Chiao	1.08	23	i P	Pn	04 54 05.9	-0.1									
WPL				i S	Sb	04 54 05.3	+0.3	TWB1			i S	Sb	04 54 20.2	-0.6									
HGSD	Ruisui	0.52	190	i P	Pb	04 53 57.0	-0.7	NWF	Wu-fen Shan	1.08	12	i P	Pn	04 54 05.8	-0.2									
HGSD				S	Sn	04 54 06.8	+0.8	NWF			S	Sb	04 54 20.6	-0.4									
EHY	Hungye	0.53	200	i P	Pb	04 53 56.5	-1.4	WFSB	Wu-fen Shan	1.08	12	i P	Pn	04 54 06.2	+0.2									
EHY				i S	Sn	04 54 06.0	-0.4	WFSB			S	Sb	04 54 20.8	-0.1									
EHYH	Wanrong	0.54	198	i P	Pb	04 53 56.2	-1.8	NHW	Xinwu Township	1.08	337	P	Pb	04 54 07.4	+0.3									
EHYH				i S	Sb	04 54 04.5	-0.9	NHW			S	Sb	04 54 22.5	+1.6									
DPDB	Guoxing	0.55	273	i P	Pb	04 53 57.9	-0.2	WTK	Tuku	1.09	253	i P	Pb	04 54 06.8	-0.3									
DPDB				eS	Sb	04 54 06.1	+0.3	WTK			i S	Sb	04 54 21.3	+0.3									
WCS	Beigang Elemen	0.56	275⇓	iP	Pb	04 53 58.0	-0.3	TWS1	Kuangyinshan	1.09	355	i P	Pn	04 54 06.7	-0.5									
WCS				eS	Sb	04 54 06.3	+0.2	TWS1			i S	Sb	04 54 21.9	+0.8									
SSLB	Suanglung	0.57	247	P	Pb	04 53 57.8	-0.6	STYT	Tauyuan	1.10	220	i P	Pn	04 54 06.7	+0.1									
SSLB	Suanglung	0.57	247	S	Sb	04 54 05.4	-0.9	STYT			S	Sb	04 54 21.9	+0.6									
SSLB	Suanglung	0.57	247	⇓	iP	Pb	04 53 57.9	-0.6	WTP	Ta-pu	1.13	228	i P	Pb	04 54 07.6	-0.2								
SSLB				i S	Sb	04 54 05.2	-1.1	WTP			S	Sb	04 54 22.9	+0.8									
SMLT	Sun Moon Lake	0.58	258	⇓	iP	Pb	04 53 58.4	-0.4	CHY	Chiayi	1.13	243	i P	Pb	04 54 07.7	-0.1								
SMLT				i S	Sb	04 54 06.5	-0.4	CHY			i S	Sb	04 54 23.0	+0.9									
WHP	Taichung City	0.59	297	⇓	iP	Pb	04 53 58.6	-0.3	SXI1	Grass Mountain	1.13	16	i P	Pn	04 54 06.8	+0.1								
WHP				i S	Sb	04 54 06.8	-0.3	SXI1			eS	Sb	04 54 23.3	+1.1									
TYC	Yuchr	0.62	261	⇓	iP	Pb	04 53 58.7	-0.5	YM01	YM01	1.13	2	i P	Pn	04 54 06.7	0.0								
TYC				i S	Sb	04 54 07.3	-0.4	YM01			i S	Sn	04 54 21.6	+0.4									
ENTT	Nioudou	0.63	4⇑	iP	Pb	04 53 59.2	-0.3	WTCT	Ta-ch'eng	1.15	263	i P	Pb	04 54 07.6	-0.5									
ENTT				i S	Sb	04 54 08.1	0.0	WTCT			i S	Sb	04 54 23.2	+0.6									
ESAO	Su ao	0.64	27	i P	Pb	04 53 59.1	-0.5	ZUZH	Zhuzihu	1.15	1	i P	Pn	04 54 06.9	0.0									
ESAO				eS	Sb	04 54 07.5	-0.7	ZUZH			i S	Sn	04 54 21.5	-0.2									
NDS	Dongshan	0.65	16	i P	Pb	04 53 58.9	-0.9	NTST	Danshui	1.15	357	i P	Pb	04 54 07.6	-0.6									
NDS				i S	Sb	04 54 08.2	-0.3	NTST			i S	Sb	04 54 22.9	+0.1									
YULB	Yu-li	0.65	199	P	Pb	04 53 58.7	-1.0	LONT	Longtian	1.16	198	i P	Pn	04 54 05.2	-1.7									
YULB	Yu-li	0.65	199	S	Sb	04 54 05.5	-3.0	LONT			eS	Sn	04 54 21.7	0.0									
YULB	Yu-li	0.65	199	i P	Pb	04 53 57.9	-1.8	TNOU	National Taiwa	1.16	11	i P	Pn	04 54 06.7	-0.3									
YULB				i S	Sb	04 54 08.6	+0.1	TNOU			i S	Sn	04 54 21.6	-0.3									
TWC	Suao	0.67	26⇑	iP	Pb	04 53 59.5	-0.6	ANP	Anpu	1.17	360	i P	Pb	04 54 08.2	-0.5									
TWC				i S	Sb	04 54 08.6	-0.5	ANP			eS	Sb	04 54 23.9	+0.4									
YHNB	Yeheng	0.67	348	P	Pb	04 54 00.2	0.0	YM08	YM08	1.18	3	i P	Pn	04 54 06.7	-0.5									
YHNB	Yeheng	0.67	348	S	Sb	04 54 09.3	0.0	YM08			eS	Sn	04 54 21.8	-0.4									
YHNB	Yeheng	0.67	348	⇑	iP	Pb	04 54 00.1	-0.1	TWK	Hsinying	1.20	232	i P	Pb	04 54 08.9	-0.2								
YHNB				i S	Sb	04 54 08.7	-0.6	TWK			i S	Sb	04 54 25.9	+1.6									
NSK	Sanguang	0.68	347	⇑	iP	Pn	04 54 00.2	-0.3	WMLT	Mailiao	1.21	261	eP	Pb	04 54 08.8	-0.3								
NSK				i S	Sb	04 54 09.0	-0.6	WMLT			i S	Sb	04 54 25.6	+1.2									
EYUL	Yuli	0.68	196	i P	Pn	04 54 00.3	-0.2	CHN1	Nanshi	1.23	228	⇓	iP	Pb	04 54 09.4	-0.1								
EYUL				i S	Sn	04 54 10.5	+0.4	CHN1			i S	Sb	04 54 26.5	+1.5									
TWF1	Yuli	0.69	198	i P	Pn	04 53 58.5	-2.0	WSF	Szhu	1.25	253	i P	Pb	04 54 09.2	-0.6									
TWF1				eS	Sb	04 54 08.5	-1.1	WSF			i S	Sb	04 54 25.7	+0.2									
WHYT	Xinyi Township	0.69	243	i P	Pn	04 54 00.4	-0.1	TWG	Pinlang	1.25	199	i P	Pn	04 54 06.1	-2.2									
WHYT				i S	Sn	04 54 10.2	0.0	TWG			S	Sn	04 54 22.1	-2.1									
ECBN	Changbin	0.69	186	⇑	iP	Pn	04 53 60.2	-0.6	TWGBT	Beinan	1.25	199	P	Pn	04 54 06.4	-1.9								
ECBN				i S	Sn	04 54 10.3	-0.2	TWGBT	Beinan	1.25	199	S	Sn	04 54 23.1	-2.0								
TWE	Neicheng	0.72	10⇑	iP	Pn	04 54 00.4	-0.6	TWGBT	Beinan	1.25	199	i P	Pn	04 54 06.0	-2.3									
TWE				i S	Sb	04 54 10.4	-0.2	TWGBT			S	Sn	04 54 22.3	-1.9									
NFF	Wufeng Townshi	0.72	329	i P	Pb	04 54 01.0	0.0	SGST	Jiashian	1.26	223	i P	Pn	04 54 08.9	+0.4									
NFF				i S	Sb	04 54 10.1	-0.6	SGST			S	Sb	04 54 27.5	+1.5									
EOS4	EOS4	0.73	81	P	Pb	04 54 01.0	0.0	TWY	Chenhua	1.26	3	i P	Pb	04 54 10.3	+0.2									
EOS4				S	Sn	04 54 10.9	+0.1	TWY			eS	Sb	04 54 26.7	+0.7									
YUS	Yu-Shan	0.73	226	i P	Pn	04 54 01.1	-0.5	WSL	Shuilin Townsh	1.28	248	i P	Pb	04 54 09.9	-0.5									
YUS				i S	Sb	04 54 11.6	+0.2	WSL			i S	Sb	04 54 27.2	+0.7									
FUSB	Fushanzhiwuyua	0.75	4⇑	iP	Pn	04 54 00.9	-0.5	TTN	Taitung	1.29	196	P	Pn	04 54 07.8	-1.1									
FUSB				i S	Sb	04 54 11.2	-0.3	TTN			eS	Sb	04 54 26.5	-0.3									
WJS	Zhushan	0.75	256	i P	Pb	04 54 01.8	+0.4	ICHU	Yijhu	1.31	241	i P	Pb	04 54 10.3	-0.5									
WJS				i S	Sn	04 54 12.5	+0.8	ICHU			i S	Sb	04 54 28.5	+1.2									
WWF	Wufeng	0.76	273	i P	Pb	04 54 02.1	+0.6	LDUT	Ludao	1.33	182	i P	Pn	04 54 07.6	-1.8									
WWF				eS	Sn	04 54 13.6	+1.8	LDUT			i S	Sn	04 54 24.5	-1.5									
EOS2	EOS2	0.77	58	eP	Pb	04 54 02.8	+1.2	JYNG	Yonagunijimaku	1.37	71	eP	Pn	04 54 10.4	+0.5									
EOS2				eS	Sn	04 54 15.8	+3.9	JYNG			eS	Sb	04 54 28.1	-0.9									
TWQ1	Liyutan	0.77	296	⇓	iP	Pb	04 54 01.8	+0.1	CHN8	Yiju	1.37	242	i P	Pb	04 54 11.1	-0.8								
TWQ1				S	Sn	04 54 13.0	+0.9	CHN8			i S	Sb	04 54 30.4	+1.3									
NWLT	Wulai	0.77	359	⇑	iP	Pn	04 54 01.2	-0.4	SSHA	Shanhua	1.43	233	i P	Pb	04 54 12.7	-0.2								
NWLT				i S	Sb	04 54 11.2	-0.7	SSHA			i S	Sb	04 54 32.8	+2.2									
EOS3	EOS3	0.78	69	eP	Pb	04 54 02.4	+0.6	YOJ	Yonaguni jima	1.43	71	P	Pn	04 54 11.2	+0.5									
EOS3				eS	Sb	04 54 14.7	+2.7	YOJ	Yonaguni jima	1.43	71	S	Sb	04 54 29.7	-1.0									
WNT	Mingjian	0.78	261	⇓	iP	Pb	04 54 02.1	+0.2	YOJ	Yonaguni jima	1.43	71	eP	Pn	04 54 11.2	+0.5								
WNT				i S	Sb	04 54 13.3	+1.1	YOJ			eS	Sn	04 54 29.4	+0.9									
WNT1	Nantou City	0.78	263	i P	Pb	04 54 02.5	+0.5	YOJ	Yonaguni jima	1.43	71	i P	Pn	04 54 10.9	+0.2									
WNT1				S	Sb	04 54 13.3	+1.1	YOJ			i S	Sn	04 54 29.2	+0.7									
ILA	Ilan	0.78	15	P	Pn	04 54 00.2	-1.6	SHHT	Tainan City	1.46	228	i P	Pb	04 54 13.8	+0.4									
ILA				eS	Sb	04 54 11.8	-0.5	SHHT			eS	Sb	04 54 35.0	+3.4									
LIOB	Emei	0.79	324	i P	Pb	04 54 02.5	+0.5	SCST	Cishan	1.46	220	i P	Pb	04 54 13.1	-0.3									
LIOB				i S	Sb	04 54 13.1	+0.6	SCST			i S	Sb	04 54 34.8	+3.1									
TCU	Taichung	0.79	280	i P	Pb	04 54 02.4	+0.4	SCLT	Jiali	1.48	236	i P	Pb	04 54 12.8	-0.9									
TCU				i S	Sb	04 54 13.7	+1.3	SCLT			i S	Sb	04 54 32.9	+0.9									
NSY	Sanyi	0.81	300	⇓	iP	Pb	04 54 02.9	+0.5	ECL	Taimali	1.50	201	i P	Pb	04 54 10.4	-1.2								
NSY				i S	Sb	04 54 14.5	+1.5	ECL			i S	Sn	04 54 29.6	-0.6									
CHKH	Chenggong	0.82	188	i P	Pn	04 54 02.1	-1.1	SSD	Sandimen	1.50	213	i P	Pn	04 54 09.4	+1.2									
CHKH				i S	Sn	04 54 12.9	-0.5	SSD			i S	Sb	04 54 32.5	-0.2									
ALS	Alishan	0.82	233	⇑	iP	Pn	04 54 02.6	0.0	TSMG	Majia	1.53	212	i P	Pb	04 54 13.9	-0.6								
ALS				S	Sb	04 54 14.0	+0.2	TSMG			S	Sb	04 54 33.0	-0.5									
NJD	Zhudong	0.83	331	i P	Pb	04 54 03.3	+0.6	TWM1	Shoushan	1.55	221	i P	Pb	04 54 15.1	+0.1									
NJD				S	Sb	04 54 15.1	+1.6	TWM1			eS	Sb	04 54 35.6	+1.3									
KSHI	Guanxi Townshi	0.83	338	i P	Pb	04 54 03.3	+0.6	TSCK	Chigu Township	1.57	237	i P	Pn	04 54 13.8	+1.2									
KSHI				i S	Sb	04 54 14.8	+1.2	TSCK			i S	Sb	04 54 34.8	0.0									
FULB	Fuli	0.83	195	i P	Pn	04 54 01.6	-1.0	SGLT	Jiouru	1.59	217	eP	Pb	04 54 14.9	-0.7									
FULB				i S	Sb	04 54 15.8	+2.1	SGLT			eS	Sb	04 54 36.4	+1.1									
NMLH	Miaoli	0.85	308	i P	Pb	04 54 03.2	+0.1	MASBT	Mashibuluo	1.61	211	i P	Pn	04 54 13.5	+0.2									
NMLH				i S	Sb	04 54 15.1	+0.8	MASBT			S	Sb	04 54 36.2	+0.2									
WYL	Yuanlin Townsh	0.86	267	i P	Pb	04 54 03.6	+0.3	PCYT	Pengchaiyu	1.69	17	eP	Pn	04 54 12.9	-1.4									
WYL				S	Sb	04 54 15.9	+1.4	PCYT			eS	Sn	04 54 35.6	+0.7									
WDJ	Dajia District	0.88	293	i P	Pb	04 54 03.6	+0.1	EAST	Anshuo	1.73	201	i P	Pn	04 54 16.4	+1.4									
WDJ				S	Sb	04 54 16.6	+1.7	EAST			eS	Sn	04 54 37.4	+1.3									
CHN5	Tsauling	0.88	242	i P	Pb	04 54 03.5	-0.1	TAW	Tawu	1.74	199	eP	Pn	04 54 16.0	+1.0									
CHN5				i S	Sb	04 54 16.3	+1.3	TAW			eS	Sn	04 54 36.3	+0.2									
WCHH	Zhanghua	0.89	275	i P	Pb	04 54 03.8	+0.1	TAWH	Dawu Township	1.76	200	i P	Pn	04 54 16.7	+1.5									
WCHH				S	Sb	04 54 16.4	+1.2	TAWH			eS	Sn	04 54 37.6	+0.9									
NTC	Toucheng	0.89	18	eP	Pb	04 54 04.3	+0.6	WSSB	Gushan	1.79	221	P	Pb	04 54 17.4	-1.5									
NTC				eS	Sb	04 54 15.9	+0.7	WSSB			eS	Sb	04 54 41.3	+0.3									
HSN1	Hsinchu	0.90	329	i P	Pb	04 54 04.6	+0.8	SCZT	Fangliau	1.83	207	i P	Pb	04 54 16.4	+0.2									
HSN1				S	Sb	04 54 17.8	+2.4	SCZT			i S	Sb	04 54 41.0	-1.2									
WCH1	Changhua City	0.90	274	i P	Pb	04 54 04.1	+0.3	PHUB	P'eng-hu	1.85	255	i P	Pn	04 54 17.0	+0.5									
WCH1				S	Sb	04 54 17.1	+1.6	PHUB			i S	Sn	04 54 39.6	+0.7									
EGS		0.91	24	i P	Pn	04 54 01.3	-2.3	PNG	Penghu	1.86	257	i P	Pn	04 54 16.8	+0.2									
EGS				eS	Sb	04 54 16.5	+0.5	PNG			i S	Sn	04 54 39.7	+0.7									
CHKT	Chengkung	0.92	189	i P	Pn	04 54 02.5	-1.1	WDGT	Dungji	1.86	247	i P	Pn	04 54 17.2	+0.5									
CHKT				i S	Sn	04 54 15.7	-0.1	WDGT			i S	Sn	04 54 39.9	+0.7									
SBCB	Hsinchu	0.92	328	i P	Pb	04 54 05.0	+0.7	SLIU	Shizi	1.90	201	i P	Pb	04 54 19.1	-1.8									
SBCB				S	Sb	04 54 16.9	+0.6	SLIU			eS	Sn	04 54 41.1	+0.8									
WGK	Gukeng	0.94	250	i P	Pb	04 54 04.7	+0.2	LAY	Lan-yu	1.96	179	i P	Pn	04 54 16.7	-1.4									
WGK				i S	Sb	04 54 18.0	+1.4	LAY			S	Sn	04 54 40.5	-1.1									
ELDTW	Lidau	0.94	210	i P	Pn	04 54 02.9	-1.2	TWP	Hsiaoliuchiu	1.97	213	P	Pb	04 54 21.6	-0.4									
ELDTW				i S	Sb	04 54 16.9	0.0	TWP			eS	Sb	04 54 46.9	+0.7									
HSN	Hsinchu	0.94	328	i P	Pb	04 54 05.4	+0.8	LYUB	Lan-yu	2.00	178	i P	Pn	04 54 16.1	-2.4									
HSN				i S	Sb	04 54 18.6	+1.9	LYUB			eS	Sn	04 54 40.1	-2.4									
WDL	Douliou City	0.95	252	i P	Pb	04 54 05.4	+0.6	IRIF	Iriomote-Funau	2.04	80	eP	Pn	04 54 19.6	+0.5									

SLM ***27*** *05:07:55.0±0.6,36°.277N±0°.008×89°.51W±0°.01,h8km±2km,*
Error ellipse: s-maj=1.5km s-min=1.2km az=97.0
NEIC 27 05:07:55.6±0.6,36°.276N±0°.005×89°.50W±0°.01,h6km±2km,
mb_Lg2.7/35,**ML2.8**/26,**Md2.7**/27(SLM),**Error ellipse:**
s-maj=1.5km s-min=0.6km az=116.0,New Madrid
region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WYBT	Wynnburg	0.07	5		Pg	05 07 57.3	0.0
WYBT					Sg	05 07 59.4	+0.8
MIST	Miston	0.10	179		Pg	05 07 57.8	-0.1
MIST					Sg	05 08 00.1	+0.7
PPLM	Point Pleasant	0.14	333		Pg	05 07 58.5	0.0
PPLM					Sg	05 08 01.3	+0.8
GLAT	Glass	0.17	92		Pg	05 07 58.8	-0.3
GLAT				Sg	Sg	05 08 01.5	0.0
GLAT				IAML		05 08 02.5	
	comp=E,5μm,0.2s						
GLAT				IAML		05 08 03.0	
	comp=N,4μm,0.2s						
LNXT	Lenox	0.17	176		Pg	05 07 59.0	-0.1
LNXT				Sg	Sg	05 08 01.9	+0.4
LNXT				IAML		05 08 02.4	
	comp=E,2μm,0.1s						
LNXT				IAML		05 08 03.0	
	comp=N,2μm,0.3s						
POBM	Portage Bay	0.18	316		Pg	05 07 59.1	-0.2
FLPT	Flippin	0.20	48		Pg	05 07 59.4	-0.2
PENMO	Penman	0.20	330		Pg	05 07 59.4	-0.2
PVMO	Portageville	0.21	311		Pg	05 07 59.5	-0.3
PVMO				Sg	Sg	05 08 02.8	+0.3
PVMO				IAML		05 08 03.3	
	comp=N,2μm,0.3s

comp=Z,18nm,1.3s
R50A Paris 4.59 63 IAmb_Lg 05 10 23.1
comp=Z,13nm,1.3s
P38A Dawn 4.62 318 Pn Pn 05 09 04.7 -1.2
P38A IAmb_Lg 05 10 32.3
comp=Z,16nm,0.7s
W52A Murphy 4.69 103 IAmb_Lg 05 10 25.3
comp=Z,8.2nm,0.7s
TZTN Tazewell 4.81 85 IAmb_Lg 05 10 39.7
comp=Z,12nm,1.0s
TUL3 Leonard 5.10 268 Pn Pn 05 09 10.8 -1.9
152A Waverly Hall 5.34 131 IAmb_Lg 05 10 58.9
comp=Z,11nm,0.8s
N38A Joes South For 5.37 328 IAmb_Lg 05 10 58.4
comp=Z,18nm,0.7s
BG3 Lake Jocassee 5.50 102 IAmb_Lg 05 11 04.4
comp=Z,10nm,0.9s
QUOK Quay 5.82 271 IAmb_Lg 05 11 11.9
comp=Z,15nm,0.8s
OK048 Pawnee Station 6.01 274 IAmb_Lg 05 11 17.4
comp=Z,16nm,1.1s
JSC Jenkinsville 7.03 104 Pn 05 09 37.2 -1.8

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*SLM **27** 05:08:08.3±0.9, 36°.276N±0°.009×89°.51W±0°.01, h8km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=66.0*
NEIC 27 05:08:09.2±1.0, 36°.276N±0°.004×89°.51W±0°.01, h8km±2km, mb_Lg2.7/65, ML2.9/20, Md2.8/24(SLM), Error ellipse: s-maj=1.4km s-min=0.6km az=80.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WYBT	**Wynnburg**	**0.07**	**8**		Pg	05 08 10.6	-0.5
WYBT					Sg	05 08 12.7	+0.1
MIST	**Miston**	**0.10**	**177**		Pg	05 08 11.0	-0.6
MIST					Sg	05 08 13.3	0.0
PPLM	**Point Pleasant**	**0.14**	**335**		Pg	05 08 11.8	-0.4
PPLM					Sg	05 08 14.4	+0.1
LNXT	**Lenox**	**0.17**	**175**		Pg	05 08 12.2	-0.6
LNXT				Sg	Sg	05 08 15.3	+0.1
LNXT				IAML		05 08 15.5	
	comp=E,4μm,0.1s						
LNXT				IAML		05 08 16.2	
	comp=N,4μm,0.3s						
GLAT	**Glass**	**0.18**	**92**		Pg	05 08 12.3	-0.6
POBM	**Portage Bay**	**0.18**	**317**		Pg	05 08 12.4	-0.5
POBM					Sg	05 08 15.6	+0.2
PENMO	**Penman**	**0.20**	**331**		Pg	05 08 12.7	-0.5
PVMO	**Portageville**	**0.21**	**312**	Pg	Pg	05 08 12.7	-0.7
PVMO				IAML		05 08 16.5	
	comp=N,3μm,0.4s						
WADM	**Wardell**	**0.25**	**291**		Pg	05 08 13.6	-0.5
WADM					Sg	05 08 17.6	+0.1
CWPT	**Cottonwood Poi**	**0.28**	**200**		Pg	05 08 14.3	-0.5
CWPT					Sg	05 08 18.7	+0.2
MARMO	**Marston**	**0.28**	**333**		Pg	05 08 14.2	-0.6
MARMO					Sg	05 08 18.9	+0.2
BRGM	**Braggadocio**	**0.29**	**256**		Pg	05 08 14.4	-0.5
BRGM					Sg	05 08 18.8	0.0
NMMO	**New Madrid**	**0.31**	**354**		Sg	05 08 19.6	0.0
PEBM	**Pemiscott Bayo**	**0.33**	**240**	Pg	Pg	05 08 15.0	-0.7
PEBM				IAML		05 08 23.2	
	comp=E,1μm,0.5s						
PEBM				IAML		05 08 23.5	
	comp=N,1μm,0.5s						
HICK	**Hickman**	**0.35**	**40**	Pg	Pg	05 08 16.2	+0.2
CATM	**Catron**	**0.35**	**342**		Pg	05 08 15.4	-0.8
CATM					Sg	05 08 21.0	+0.2
SJMO	**Saint John's B**	**0.35**	**4**		Sg	05 08 20.8	0.0
HALT	**Halls**	**0.39**	**159**	Pg	Pb	05 08 17.7	-0.7
HALT				IAML		05 08 30.5	
	comp=N,993nm,0.6s						
TOPM	**Tallapoosa**	**0.40**	**309**		Sg	05 08 22.0	-0.1
PARMO	**Parma**	**0.43**	**333**	Sg	Sg	05 08 23.4	0.0
COKM	**Charter Oak**	**0.47**	**338**		Sg	05 08 24.4	0.0
GNAR	**Gosnell**	**0.52**	**233**	Pg	Pg	05 08 19.4	+0.2
GNAR				IAML		05 08 29.6	
	comp=N,514nm,0.4s						
T45A	**Paducah**	**1.02**	**43**		Pg	05 08 28.5	-0.3
HBAR	**Harrisburg**	**1.18**	**233**		Pg	05 08 30.9	-0.8
HBAR				IAML		05 08 50.1	
	comp=E,346nm,0.4s						
LCAR	**Lake Charles**	**1.35**	**262**		Pn	05 08 33.0	-1.3
LCAR				IAML		05 08 50.6	
	comp=E,116nm,0.3s						
LCAR				IAML		05 08 52.8	
	comp=N,185nm,0.2s						
WVT	**Waverly**	**1.37**	**96**		Pn	05 08 33.2	-1.4
S44A	**Carbondale**	**1.43**	**8**		Pn	05 08 35.1	-0.4
S44A				IAmb_Lg		05 08 55.7	
	comp=Z,57nm,0.8s						
SIUC	**Southern Illin**	**1.46**	**9**		Pn	05 08 34.9	-0.9
SIUC				IAmb_Lg		05 08 57.0	
	comp=Z,53nm,0.9s						
PLAL	**Pickwick Lake**	**1.74**	**137**		Pn	05 08 38.9	-0.8
OXF	**Oxford**	**1.76**	**177**		Pn	05 08 39.4	-0.6
FVM	**French Village**	**1.86**	**337**	Pn	Pn	05 08 41.4	+0.1
T47A	**Sharon Grove**	**2.06**	**69**		Pn	05 08 43.9	-0.2
FCAR	**Ozark Folk Cen**	**2.15**	**260**		Pn	05 08 45.9	+0.5
USIN	**University of**	**2.24**	**41**	IAmb_Lg		05 09 24.3	
	comp=Z,26nm,1.1s						
CCM	**Cathedral Cave**	**2.25**	**323**		Pn	05 08 46.5	-0.3
CCM	**Cathedral Cave**	**2.25**	**323**		Pn	05 08 46.8	-0.1
MGMO	**Mountain Grove**	**2.38**	**292**		Pn	05 08 48.6	0.0
Y45A	**Yeager Farm, C**	**2.41**	**181**	IAmb_Lg		05 09 25.2	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**2.46**	**247**	IAmb_Lg		05 09 30.0	
	comp=Z,44nm,1.0s						
X48A	**Hartselle**	**2.71**	**131**	IAmb_Lg		05 09 36.8	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**2.98**	**313**	IAmb_Lg		05 09 49.0	
	comp=Z,16nm,0.9s						
SWET	**Sewanee**	**3.10**	**109**	IAmb_Lg		05 09 48.9	
	comp=Z,15nm,0.8s						
Z47A	**Carrollton**	**3.29**	**158**	IAmb_Lg		05 09 60.0	
	comp=Z,17nm,0.8s						
Y49A	**Blount Mountai**	**3.50**	**133**	IAmb_Lg		05 10 09.6	
	comp=Z,20nm,0.8s						
146A	**Union**	**3.65**	**174**	IAmb_Lg		05 10 12.4	
	comp=Z,24nm,1.0s						
P40A	**Paris**	**3.82**	**329**	IAmb_Lg		05 10 11.2	
	comp=Z,28nm,0.9s						
T50A	**Nancy**	**3.83**	**77**	IAmb_Lg		05 10 13.0	
	comp=Z,21nm,0.7s						
LRAL	**Lakeview Retre**	**3.84**	**147**	IAmb_Lg		05 10 13.0	
	comp=Z,12nm,0.7s						
Z41A	**Richland Creek**	**4.05**	**223**	IAmb_Lg		05 10 21.2	
	comp=Z,12nm,0.9s						
HDIL	**Hopedale**	**4.28**	**2**	IAmb_Lg		05 10 34.3	
	comp=Z,19nm,0.7s						
P48A	**Milroy**	**4.53**	**44**	IAmb_Lg		05 10 29.6	
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**4.69**	**96**	IAmb_Lg		05 10 40.8	
	comp=Z,13nm,1.0s						
W52A	**Murphy**	**4.69**	**103**	IAmb_Lg		05 10 38.9	
	comp=Z,14nm,0.7s						
TZTN	**Tazewell**	**4.81**	**85**	IAmb_Lg		05 10 50.1	
	comp=Z,16nm,0.9s						
S51A	**Beattyville**	**4.93**	**72**	IAmb_Lg		05 10 48.9	
	comp=Z,21nm,1.0s						
250A	**Grady**	**5.06**	**147**	IAmb_Lg		05 10 55.9	
	comp=Z,18nm,0.7s						
Y52A	**Lilburn**	**5.07**	**117**	IAmb_Lg		05 10 53.9	
	comp=Z,9.2nm,0.7s						
152A	**Waverly Hall**	**5.35**	**131**	IAmb_Lg		05 10 55.9	
	comp=Z,9.7nm,0.7s						
N38A	**Joes South For**	**5.37**	**328**	IAmb_Lg		05 11 01.2	
	comp=Z,22nm,0.7s						
V53A	**Saluda**	**5.46**	**94**	IAmb_Lg		05 11 08.6	
	comp=Z,9.2nm,0.7s						
SSFO	**Shawnee State**	**5.57**	**62**	IAmb_Lg		05 11 06.7	
	comp=Z,19nm,1.0s						
Q51A	**Peebles**	**5.61**	**59**	IAmb_Lg		05 11 13.2	
	comp=Z,8.7nm,0.8s						
T35A	**Sooner Cattle**	**5.67**	**279**	IAmb_Lg		05 11 13.4	
	comp=Z,20nm,0.8s						
OK052	**Battle Ridge R**	**5.91**	**269**	IAmb_Lg		05 11 27.3	
	comp=Z,15nm,1.0s						
OK051	**E0350 and S346**	**5.92**	**274**	IAmb_Lg		05 11 17.0	
	comp=Z,35nm,1.2s						
P51A	**Williamsport**	**6.02**	**56**	IAmb_Lg		05 11 18.9	
	comp=Z,13nm,0.8s						
FNO	**Franklin**	**6.50**	**263**	IAmb_Lg		05 11 33.4	
	comp=Z,12nm,1.2s						

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*KRNET **27** 05:29:44.8±0.1, 41°.18N×78°.91E, mb5.6*
*SOME **27** 05:29:44.2, 41°.05N×78°.83E, h15km, MS4.5*
*IDC **27** 05:29:45.6±0.4, 41°.04N×78°.81E, h0km, mb4.9/35, mbtmp4.9/41, ML3.9/6, MS4.2/71, Error ellipse: s-maj=10.5km s-min=7.5km az=36.0*
*BJI **27** 05:29:46.1, 41°.21N×78°.82E, h10km, mB5.2/36, mb4.9/67, ML5.1/10, Ms4.7/65, Ms7 4.4/62*
*MOS **27** 05:29:46.5±1.0, 41°.16N×78°.94E, h14km, mb5.3/58, MS4.4/15, Error ellipse: s-maj=4.8km s-min=3.2km az=119.1*
*NNC **27** 05:29:46.8±1.7, 41°.16N×78°.88E, h0km, mb5.9, mpv5.7, Error ellipse: s-maj=12.5km s-min=9.2km az=155.0*
*GCMT **27** 05:29:48.2±0.2, 41°.22N±0°.01×78°.75E±0°.03, h12km, MW4.9/107, Moment Tensor Solution. s38,c45; s107,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.58±.06; $M_{\theta\theta}$-2.57±.06; $M_{\phi\phi}$-0.01±.06; $M_{r\theta}$-0.19±.21; $M_{\theta\phi}$-0.70±.05; $M_{\phi r}$-0.83±.23; Best double couple: $M_0$2.80300×10^{16} NP1:ϕ_s91.00000°, δ43.00000°, λ114.00000°. NP2:ϕ_p240.00000°, δ51.00000°, λ70.00000°. Principal axes: T 2.8250, Plg74.0000°, Azm89.0000°; N -0.0490, Plg16.0000°, Azm253.0000°; P -2.7810, Plg4.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 05:29:48.2±1.4, 41°.25N±0°.05×78°.86E±0°.04, h10km±1km, mb5.1/295, Mwr4.7/22 Error ellipse: s-maj=9.1km s-min=5.0km az=20.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.34; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$-0.13; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.37; $M_{\phi r}$-0.56; Fault plane solution: $M_0$1.53000×10^{16} NP1:ϕ_s95.11000°, δ56.19000°, λ116.32000°. NP2:ϕ_p233.47000°, δ41.87000°, λ56.49000°. Principal axes: T 1.6535, Plg67.0000°, Azm58.0000°; N -0.2835, Plg22.0000°, Azm260.0000°; P -1.3700, Plg8.0000°, Azm167.0000°;*
*NEIC **27** 05:29:48.3, 41°.26N×78°.86E, h10km*
ISC 27 05:29:48.0±0.4, 41°.18N±0°.02×78°.79E±0°.02, h13km±2km, h13km:pP-P, n1128, o1966/1119, mb5.1/267, MS4.3/102, 92C-47D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.92**	**307**		**Pg**	**05 30 04.0**	**-1.9**
TARG					**Sg**	**05 30 18.2**	**+0.2**
PRZ	**Przheval'sk**	**1.33**	**347**		**Pn**	**05 30 11.2**	**-1.4**
PRZ	**Przheval'sk**	**1.33**	**347**	⇑*iP*	**Pn**	**05 30 10.7**	**-1.9**
PRZ				⇑*iS*	**Sb**	**05 30 29.8**	**-0.4**
PRZ	**Przheval'sk**	**1.33**	**347**	PG	**Pn**	**05 30 11.2**	**-1.4**
KDJ	**Kajisay**	**1.54**	**309**		**Pn**	**05 30 15.0**	**-0.4**
KDJ	**Kajisay**	**1.54**	**309**	⇓*iP*	**Pn**	**05 30 14.8**	**-0.5**
KDJ				⇓*iS*	**Sb**	**05 30 36.6**	**+0.7**
KDJ	**Kajisay**	**1.54**	**309**	PN	**Pn**	**05 30 15.0**	**-0.4**
SATY	**Saty**	**1.90**	**351**	Pg	**Pb**	**05 30 21.7**	**-1.0**
	5μm,0.4s						
SATY				Lg	Lg	05 30 49.8	
	11μm,0.6s						
SATY	**Saty**	**1.90**	**351**	*e*P	**Pn**	**05 30 21.2**	**+0.9**
SATY				*e*S	**Sn**	**05 30 45.3**	**+1.1**
SATY	**Saty**	**1.90**	**351**	*e*PN	**Pn**	**05 30 21.2**	**+0.9**
SATY				*e*S	**Sn**	**05 30 45.2**	**+1.1**
UZB	**Uzynbulak**	**1.97**	**5**	Pg	**Pn**	**05 30 22.6**	**+1.3**
	3μm,0.4s						
UZB				Lg	Lg	05 30 50.1	
	5μm,0.7s						
UZB	**Uzynbulak**	**1.97**	**5**	*e*P	**Pn**	**05 30 22.6**	**+1.3**
	3μm,0.4s						
UZB				*e*S	**Sg**	**05 30 50.1**	**-1.4**
	17μm,0.6s						
UZB	**Uzynbulak**	**1.97**	**5**	*e*P	**Pn**	**05 30 22.1**	**+0.8**
UZB				*e*S	**Sn**	**05 30 46.9**	**+0.8**
UZB	**Uzynbulak**	**1.97**	**5**	*e*PN	**Pn**	**05 30 22.1**	**+0.8**
UZB				*e*S	**Sn**	**05 30 46.8**	**+0.8**
SHLS	**Shalkode**	**2.04**	**14**	*e*P	**Pg**	**05 30 26.2**	**-1.0**
	8μm,0.7s						
SHLS				*e*S	**Sg**	**05 30 56.2**	**+2.6**
	38μm,0.9s						
SHLS	**Shalkode**	**2.04**	**14**	*e*P	**Pb**	**05 30 24.9**	**-0.1**
SHLS				*e*S	**Sb**	**05 30 51.3**	**+1.0**
SHLS	**Shalkode**	**2.04**	**14**	*e*PN	**Pb**	**05 30 24.9**	**-0.1**
SHLS				*e*S	**Sb**	**05 30 51.3**	**+1.0**
ULHL	**Ulahol**	**2.19**	**300**	P	**Pb**	**05 30 28.5**	**+1.0**
	SNR=50						
ULHL	**Ulahol**	**2.19**	**300**	⇑*iP*	**Pn**	**05 30 25.6**	**+1.3**
ULHL				⇑*iS*	**Sb**	**05 30 55.4**	**+0.7**
PDGK	**Podgornoye**	**2.21**	**13**	⇑Pg	**Pn**	**05 30 26.2**	**+1.6**
	5μm,0.7s						
PDGK				⇑Lg	Lg	05 30 59.9	
	5μm,0.5s						
KPKS	**Kokpek**	**2.29**	**358**	Pg	**Pb**	**05 30 29.0**	**-0.2**
	16nm,0.9s						
KPKS				Lg	Lg	05 31 00.8	
	15μm,0.5s						
TNSS	**Tian-Shan**	**2.31**	**324**	Pg	**Pb**	**05 30 29.4**	**-0.4**
	3μm,0.4s						
TNSS				Lg	Lg	05 31 02.1	
	4μm,0.9s						
TNSS	**Tian-Shan**	**2.31**	**324**	*e*P	**Pb**	**05 30 29.4**	**-0.4**
	1μm,0.8s						
TNSS				*e*S	**Sg**	**05 31 01.8**	**-0.4**
	6μm,0.7s						
TNSS	**Tian-Shan**	**2.31**	**324**	*e*P	**Pn**	**05 30 27.9**	**+1.7**
TNSS				*e*S	**Sb**	**05 30 57.0**	**-1.3**
TNSS	**Tian-Shan**	**2.31**	**324**	*e*PN	**Pn**	**05 30 27.8**	**+1.7**
TNSS				*e*S	**Sb**	**05 30 57.0**	**-1.3**
KURS	**Kuram**	**2.35**	**349**	Pg	**Pb**	**05 30 30.5**	**+0.2**
	11μm,0.8s						
KURS				Lg	Lg	05 31 03.8	
	5μm,0.8s						
MDOK	**Medeo**	**2.37**	**327**	Pg	**Pb**	**05 30 30.5**	**-0.1**
	9μm,0.5s						
MDOK				Lg	Lg	05 31 03.6	
	15μm,0.7s						
MDOK	**Medeo**	**2.37**	**327**	*e*P	**Pn**	**05 30 28.5**	**+1.8**
MDOK	**Medeo**	**2.37**	**327**	*e*PN	**Pn**	**05 30 28.5**	**+1.8**
JNKS	**Jany-Kuch**	**2.37**	**268**	⇑*iP*	**Pn**	**05 30 28.2**	**+1.3**
JNKS				⇑*iS*	**Sb**	**05 31 00.0**	**-0.1**
KNDC	**Almaty**	**2.45**	**327**	⇑Pn	**Pb**	**05 30 31.7**	**-0.2**
	16μm,1.1s						
KNDC				⇑Lg	Lg	05 31 07.8	
	10μm,0.7s						
AAA	**Alma-Ata**	**2.46**	**326**	Pg	**Pb**	**05 30 32.4**	**+0.3**
	20μm,0.4s						
AAA				Lg	Lg	05 31 06.6	
	10μm,0.6s						
AAA	**Alma-Ata**	**2.46**	**326**	*e*P	**Pb**	**05 30 32.4**	**+0.3**
	20μm,0.4s						
AAA				*e*S	**Sg**	**05 31 06.6**	**-0.5**
	10μm,0.6s						
AAA	**Alma-Ata**	**2.46**	**326**	*e*P	**Pn**	**05 30 29.9**	**+2.0**
AAA	**Alma-Ata**	**2.46**	**326**	*e*PN	**Pn**	**05 30 29.9**	**+2.0**
BOOM	**Boomskoye usch**	**2.50**	**303**		**Pb**	**05 30 32.0**	**-0.9**
BOOM	**Boomskoye usch**	**2.50**	**303**	⇑*iP*	**Pn**	**05 30 30.0**	**+1.4**
BOOM				⇑*iS*	**Sb**	**05 31 02.8**	**-0.9**
BOOM	**Boomskoye usch**	**2.50**	**303**	PN	**Pb**	**05 30 32.0**	**-0.9**
KTMS	**Ketmen**	**2.54**	**27**	*e*P	**Pb**	**05 30 32.7**	**-0.9**
	1μm,0.3s						
KTMS				*e*S	**Sg**	**05 31 07.5**	**-2.3**
	2μm,0.4s						
MTBS	**Maitube**	**2.62**	**319**	Pg	**Pb**	**05 30 34.0**	**-1.0**
	11μm,0.7s						
MTBS				Lg	Lg	05 31 09.8	
	9μm,0.6s						
MTBS	**Maitube**	**2.62**	**319**	*e*P	**Pb**	**05 30 34.0**	**-1.0**
	11μm,0.7s						
MTBS				*e*S	**Sb**	**05 31 09.8**	**+2.7**
	9μm,0.6s						
KSH	**Kashi**	**2.72**	**233**	Pn	**Pg**	**05 30 40.8**	**+0.7**
KSH				smax	smax		
	comp=N,4μm,0.9s						
KSH				smax	smax		
	comp=E,4μm,1.1s						
KST	**Kastek**	**2.81**	**312**	Pg	**Pb**	**05 30 38.2**	**+0.1**
	10μm,0.5s						
KST				Lg	Lg	05 31 15.8	
	8μm,0.5s						
KST	**Kastek**	**2.81**	**312**	*e*P	**Pb**	**05 30 37.7**	**-0.5**
	10μm,0.5s						
KST				*e*S	**Sg**	**05 31 15.8**	**-2.5**
	8μm,0.5s						
TKM2	**Tokmak 2**	**2.95**	**307**	P	**Pb**	**05 30 38.0**	**-2.5**
	SNR=1415						
TKM2	**Tokmak 2**	**2.95**	**307**	⇑*iP*	**Pn**	**05 30 36.1**	**+1.3**
TKM2				⇑*iS*	**Sn**	**05 31 13.4**	**+3.3**
KTBS	**Karatobe**	**2.97**	**329**	Pg	**Pb**	**05 30 40.8**	**-0.1**
	6μm,0.4s						
KTBS				Lg	Lg	05 31 20.2	
	12μm,0.5s						
CHKK	**Chushkaly**	**2.99**	**334**	Pg	**Pb**	**05 30 41.0**	**-0.1**
	2μm,0.7s						
CHKK				Lg	Lg	05 31 21.8	
	12μm,0.7s						
CHKK	**Chushkaly**	**2.99**	**334**	*e*P	**Pb**	**05 30 41.0**	**-0.1**
	2μm,0.7s						
CHKK				*e*S	**Sg**	**05 31 21.8**	**-2.1**
	12μm,0.7s						
ARXS	**Arharly**	**3.11**	**347**	*e*P	**Pb**	**05 30 42.2**	**-1.1**
ARXS				*e*S	**Sb**	**05 31 24.1**	**+2.9**
ARXS	**Arharly**	**3.11**	**347**	*i* PN	**Pb**	**05 30 40.4**	**-2.9**
KBK	**Karagaybulak**	**3.23**	**298**	P	**Pb**	**05 30 42.1**	**-3.1**
	SNR=94						
KBK	**Karagaybulak**	**3.23**	**298**	⇑*e*P	**Pn**	**05 30 39.9**	**+1.3**
KBK				⇑*i*S	**Sn**	**05 31 20.2**	**+3.3**
KUU	**Kurty**	**3.26**	**327**	*e*P	**Pb**	**05 30 43.5**	**-2.2**
	384nm,1.0s						
KUU				*e*S	**Sb**	**05 31 25.7**	**+0.3**
	6μm,0.9s						
KUU	**Kurty**	**3.26**	**327**	*e*P	**Pn**	**05 30 40.5**	**+1.5**
KUU	**Kurty**	**3.26**	**327**	*e*PN	**Pn**	**05 30 40.4**	**+1.5**
UCH	**Uchtor**	**3.37**	**290**	P	**Pn**	**05 30 43.5**	**+2.8**
	SNR=44						
UCH	**Uchtor**	**3.37**	**290**	⇓*iP*	**Pn**	**05 30 42.3**	**+1.5**
UCH				⇓*iS*	**Sn**	**05 31 24.1**	**+3.2**
FRU1	**Bishkek**	**3.50**	**299**		**Pn**	**05 30 46.3**	**+4.0**
FRU1	**Bishkek**	**3.50**	**299**	⇑*iP*	**Pn**	**05 30 43.9**	**+1.6**
FRU1				⇑*iS*	**Sn**	**05 31 27.1**	**+3.5**
FRU1	**Bishkek**	**3.50**	**299**	PN	**Pn**	**05 30 46.3**	**+4.0**
CHMS	**Chumysh**	**3.51**	**302**	P	**Pn**	**05 30 45.5**	**+3.1**
	SNR=24						
CHMS	**Chumysh**	**3.51**	**302**	Lg	Lg	05 33 30.1	
	2μm,1.9s						
CHMS	**Chumysh**	**3.51**	**302**	⇑*iP*	**Pn**	**05 30 43.7**	**+1.3**
CHMS				⇑*iS*	**Sn**	**05 31 26.9**	**+3.1**
AAK	**Ala-Archa**	**3.52**	**296**		**Pn**	**05 30 46.2**	**+3.6**
AAK	**Ala-Archa**	**3.52**	**296**	Pn	**Pb**	**05 30 45.3**	**+2.7**
	13nm,0.3s,baz=123,slow=8.6,SNR=246						
AAK				Pg	**Pb**	**05 30 50.7**	**+0.4**
	125nm,0.3s,baz=134,slow=12,SNR=74						
AAK				Lg	Lg	05 31 38.2	
	53nm,0.3s,baz=281,slow=23,SNR=3.9						
AAK				LR	LR	05 32 17.5	
	comp=Z,4μm,18.6s,baz=107,slow=42						
	100nm,0.6s						
AAK	**Ala-Archa**	**3.52**	**296**	P	**Pn**	**05 30 46.3**	**+3.6**
AAK				S	**Sb**	**05 31 29.4**	**-3.6**
AAK	**Ala-Archa**	**3.52**	**296**	P	**Pb**	**05 30 47.0**	**-3.3**
	SNR=108						
AAK	**Ala-Archa**	**3.52**	**296**	⇓Pn	**Pn**	**05 30 46.0**	**+3.4**
	99nm,0.6s						
AAK				⇓Pg	**Pb**	**05 30 52.5**	**+2.1**
	960nm,0.7s						
AAK				⇓Lg	Lg	05 31 43.8	
	662nm,0.6s						
AAK	**Ala-Archa**	**3.52**	**296**	⇓*iP*	**Pn**	**05 30 44.1**	**+1.5**
AAK				⇓*iS*	**Sn**	**05 31 27.4**	**+3.2**
SALK	**Salom-Alik**	**3.77**	**267**	⇓*iP*	**Pn**	**05 30 47.7**	**+1.7**
SALK				⇓*iS*	**Sn**	**05 31 33.6**	**+3.2**
USP	**Ospenovka**	**3.81**	**305**	P	**Pn**	**05 30 49.2**	**+2.8**
	SNR=43						
USP	**Ospenovka**	**3.81**	**305**	⇓*iP*	**Pn**	**05 30 47.8**	**+1.4**
USP				⇓*iS*	**Sn**	**05 31 33.8**	**+2.7**
SGDS	**Sogindy**	**3.83**	**308**	Pg	**Pb**	**05 30 55.8**	**+0.3**
	345nm,0.5s						
SGDS				Lg	Lg	05 31 47.1	
	1μm,0.7s						
SGDS	**Sogindy**	**3.83**	**308**	*e*P	**Pn**	**05 30 49.0**	**+2.3**
TDK	**Taldyqorghan**	**3.83**	**356**	Pg	**Pb**	**05 30 55.8**	**+0.3**
	5μm,0.6s						
TDK				Lg	Lg	05 31 47.9	
	10μm,0.8s						
TDK	**Taldyqorghan**	**3.83**	**356**	*e*P	**Pb**	**05 30 55.1**	**-0.4**
	2μm,0.5s						
TDK				*e*S	**Sb**	**05 31 45.6**	**+3.8**
	10μm,0.6s						
TDK	**Taldyqorghan**	**3.83**	**356**	*e*P	**Pn**	**05 30 48.1**	**+1.4**
TDK				*e*S	**Sn**	**05 31 33.4**	**+1.8**
TDK	**Taldyqorghan**	**3.83**	**356**	*e*PN	**Pn**	**05 30 48.1**	**+1.4**
TDK				*e*S	**Sn**	**05 31 33.4**	**+1.8**
EKS2	**Erkin-Say**	**4.02**	**293**	P	**Pn**	**05 30 53.0**	**+3.6**
	SNR=50						
EKS2	**Erkin-Say**	**4.02**	**293**	⇑*iP*	**Pn**	**05 30 51.2**	**+1.7**
EKS2				⇑*iS*	**Sn**	**05 31 39.4**	**+2.9**
KAPS	**Kapalarasan**	**4.12**	**6**	Pg	**Pb**	**05 31 00.4**	**-0.1**
	902nm,0.5s						
KAPS				Lg	Lg	05 31 55.9	
SFK	**Sufi-Kurgan**	**4.19**	**256**	⇑*iP*	**Pn**	**05 30 53.6**	**+1.7**
SFK				⇑*iS*	**Sn**	**05 31 43.6**	**+2.8**
ARSB	**Arslanbob**	**4.38**	**274**		**Pn**	**05 30 57.3**	**+2.9**
ARSB	**Arslanbob**	**4.38**	**274**	⇓*iP*	**Pn**	**05 30 56.2**	**+1.8**
ARSB				⇓*iS*	**Sn**	**05 31 48.4**	**+3.0**
ARSB	**Arslanbob**	**4.38**	**274**	PN	**Pn**	**05 30 57.3**	**+2.9**
MRKS	**Merke**	**4.43**	**292**	*e*P	**Pb**	**05 31 08.6**	**+2.8**
	1μm,0.6s						
MRKS				*e*S	**Sg**	**05 32 09.1**	**-1.3**
	994nm,1.4s						
OHH	**Osh**	**4.60**	**264**	⇑*e*P	**Pn**	**05 30 58.7**	**+1.3**
OHH				⇑*e*S	**Sn**	**05 31 53.0**	**+2.2**
ARK	**Arkit**	**5.17**	**279**	⇑*e*P	**Pn**	**05 31 07.1**	**+1.9**
ARK				⇑*e*S	**Sn**	**05 32 06.6**	**+1.9**
DRK	**Karamyk**	**5.61**	**255**		**Pn**	**05 31 15.2**	**+3.8**
DRK	**Karamyk**	**5.61**	**255**	⇑*e*P

ZSN				*e*S	**Sn**	**05 33 06.7 +1.5**
ZSN	**Zaisan**	**7.63**	**33**	*e*P	**Pn**	**05 31 39.9 +1.0**
ZSN				*e*S	**Sn**	**05 33 06.7 +1.5**
CHGR	**Chuyangaron**	**7.82**	**254**		**Pn**	**05 31 43.0 +1.4**
CHGR	**Chuyangaron**	**7.82**	**254**	P	**Pn**	**05 31 43.0 +1.4**
HNLY	**HANLEY**	**8.39**	**179**	*e*P	Pn	05 31 55.7 +5.9
HNLY				*e*S	**Sn**	**05 33 21.0 -3.7**
HNLY				IAML		05 33 30.8
	comp=N,81nm,1.3s					
HNLY				IAML		05 34 31.1
	comp=E,96nm,3.1s					
TSSA	**Tissa**	**8.59**	**195**	*e*P	**Pn**	**05 31 54.2 +2.0**
TSSA				*e*S	**Sn**	**05 33 26.1 -3.0**
TSSA				IAML		05 33 32.1
	comp=N,1μm,1.7s					
TSSA				IAML		05 33 32.8
	comp=E,952nm,0.6s					
NIL	**Nilore**	**8.71**	**212**		**Pn**	**05 31 56.2 +2.4**
NIL	**Nilore**	**8.71**	**212**	P	**Pn**	**05 31 56.0 +2.2**
NIL				P	**Pn**	**05 31 56.0 +2.2**
NIL	**Nilore**	**8.71**	**212**	P	**Pn**	**05 31 56.2 +2.4**
JMU	**Jammu**	**9.00**	**201**	*e*P	**Pn**	**05 31 59.3 +1.6**
JMU				*e*S	**Sn**	**05 33 34.6 -4.3**
JMU				IAML		05 33 44.7
	comp=N,966nm,0.9s					
JMU				IAML		05 34 59.9
	comp=E,1μm,1.2s					
THN	**Thein Dam**	**9.07**	**197**	*e*P	**Pn**	**05 32 00.0 +1.4**
THN				*e*S	**Sn**	**05 33 36.7 -3.9**
THN				IAML		05 33 46.1
	comp=N,3μm,0.5s					
THN				IAML		05 33 49.1
	comp=E,4μm,0.3s					
DHRM	**DHARAMSHALA**	**9.13**	**193**	*e*P	**Pn**	**05 32 02.1 +2.3**
DHRM				*e*S	**Sn**	**05 33 38.4 -4.2**
DHRM				IAML		05 33 45.8
	comp=E,2μm,0.8s					
DHRM				IAML		05 33 47.1
	comp=N,2μm,1.2s					
KURBB	**Kurchatov Arra**	**9.45**	**359**	Pn	**Pn**	**05 32 05.1 +1.4**
	comp=N,0.4nm,0.3s,baz=184,slow=12,SNR=47					
KURBB				Lg	Lg	05 34 40.9
	comp=N,2.7nm,0.3s,baz=191,slow=33,SNR=9.2					
KURBB				LR	LR	05 35 55.3
	comp=N,3μm,19.9s,baz=184,slow=39					
	comp=N,10.0nm,0.7s					
KURBB	**Kurchatov Arra**	**9.45**	**359**	⇑Pn	**Pn**	**05 32 05.8 +2.1**
	comp=N,51nm,0.7s					
KURBB				⇓Pg		05 32 39.6
	comp=N,103nm,0.7s					
KURBB				⇑Lg	Lg	05 34 49.5
	comp=N,2μm,0.9s					
KURK	**Kurchatov**	**9.54**	**359**		**Pn**	**05 32 07.2 +2.3**
KURK	**Kurchatov**	**9.54**	**359**	P	**Pn**	**05 32 07.8 +2.8**
KURK				S	**Sn**	**05 33 56.1 +4.1**
KURK	**Kurchatov**	**9.54**	**359**	⇓Pn	**Pn**	**05 32 06.7 +1.8**
	comp=N,24nm,0.8s					
KURK				⇑Pg		05 32 42.7
	comp=N,41nm,0.8s					
KURK				⇑Lg	Lg	05 34 50.3
	comp=N,2μm,1.4s					
KURK	**Kurchatov**	**9.54**	**359**	P	**Pn**	**05 32 05.1 +0.1**
BRZS	**Berezniki**	**9.79**	**336**	*e*P	**Pn**	**05 32 09.9 +1.4**
BRZS	**Berezniki**	**9.79**	**336**	*e*P	**Pn**	**05 32 09.8 +1.4**
BHK	**Bhakra**	**9.93**	**192**	*e*P	**Pn**	**05 32 11.3 +0.9**
BHK				*e*S	**Sn**	**05 33 54.9 -6.9**
BHK				IAML		05 34 03.3
	comp=N,550nm,0.5s					
BHK				IAML		05 35 27.2
	comp=E,469nm,2.7s					
SMLA	**Simla**	**10.12**	**188**	*e*P	**Pn**	**05 32 13.5 +0.5**
SMLA				*e*S	**Sn**	**05 34 00.7 -5.6**
SMLA				IAML		05 34 05.4
	comp=E,790nm,0.7s					
SMLA				IAML		05 34 05.9
	comp=N,664nm,1.0s					
KBL	**Kabul**	**10.16**	**232**		**Pn**	**05 32 16.3 +2.5**
KBL	**Kabul**	**10.16**	**232**	P	**Pn**	**05 32 15.3 +1.6**
	SNR=16					
KBL				S	**Sn**	**05 34 08.7 +1.0**
KBL	**Kabul**	**10.16**	**232**	P	**Pn**	**05 32 16.3 +2.5**
DGZ	**Jazzator, Alta**	**10.46**	**33**	*i* P	**Pn**	**05 32 17.9 +0.2**
JOSI	**Joshimath**	**10.62**	**176**	*e*P	**Pn**	**05 32 19.6 -0.5**
JOSI				*e*S	**Sn**	**05 34 13.2 -5.8**
JOSI				IAML		05 34 26.1
	comp=E,242nm,0.6s					
JOSI				IAML		05 34 29.7
	comp=N,196nm,0.5s					
DDI	**Dehra Dun**	**10.85**	**183**	*e*P	**Pn**	**05 32 25.3 +2.2**
DDI				*e*S	**Sn**	**05 34 17.5 -6.9**
DDI				IAML		05 34 21.4
	comp=E,466nm,1.2s					
DDI				IAML		05 34 21.5
	comp=N,688nm,1.1s					
DDI				IAML		05 34 25.6
	comp=E,568nm,1.1s					
DDI				IAML		05 34 33.4
	comp=N,685nm,0.6s					
PTH	**Pithoragarh**	**11.66**	**174**	*e*P	**Pn**	**05 32 34.6 +0.3**
PTH				*e*S	Sn	05 34 35.2 -9.3
LGTI	**Lohaghat**	**11.76**	**174**	*e*P	**Pn**	**05 32 36.6 +1.1**
LGTI				*e*S	**Sn**	**05 34 40.4 -6.3**
LGTI				IAML		05 34 47.2
	comp=N,111nm,0.3s					
NDI	**New Delhi**	**12.53**	**186**	*e*P	**Pn**	**05 32 46.8 +0.7**
NDI				IAmb	IAmb	05 32 50.8
	comp=Z,92nm,0.7s					
NDI				*e*S	**Sn**	**05 34 57.1 -8.5**
NPLP	**NPLP New Delhi**	**12.58**	**187**	*e*P	**Pn**	**05 32 47.1 +0.4**
NPLP				IAmb	IAmb	05 32 49.0
	comp=Z,571nm,0.2s					
NPLP				*e*S	**Sn**	**05 34 58.1 -8.6**
KUDL	**Kundal**	**13.14**	**189**	*e*P	**Pn**	**05 32 55.1 +0.8**
KUDL				*e*S	**Sn**	**05 35 11.5 -8.9**
KUDL				IAML		05 35 15.9
	comp=E,155nm,0.3s					
KUDL				IAML		05 35 22.4
	comp=N,146nm,0.5s					
BVA0	**Borovoye Array**	**13.15**	**337**	⇓Pn	**Pn**	**05 32 53.3 -1.1**
	comp=N,124nm,0.9s					
BVA0				⇑Lg	Lg	05 36 49.8
	comp=N,462nm,1.1s					
BVAR	**Borovoye Array**	**13.15**	**337**	Pn	**Pn**	**05 32 54.0 -0.4**
	comp=N,0.3nm,0.3s,baz=148,slow=12,SNR=88					
BVAR				Sn	**Sn**	**05 35 17.2 -3.1**
	comp=N,0.2nm,0.3s,baz=143,slow=22,SNR=2.2					
BVAR				Lg	Lg	05 36 35.5
	comp=N,0.4nm,0.3s,baz=149,slow=25,SNR=3.8					
BVAR				LR	LR	05 38 12.5
	comp=N,3μm,20.7s,baz=147,slow=38					
	comp=N,30nm,0.7s					
BORK	**Borovoye**	**13.19**	**337**	*ce*P	**Pn**	**05 32 55.1 +0.2**
BORK				pmax	pmax	
	comp=Z,116nm,1.7s					
ZAA0	**Zalesovo Array**	**13.40**	**16**		**Pn**	**05 32 56.5 -1.3**
ZALV	**Zalesovo Beam**	**13.40**	**16**	Pn	**Pn**	**05 32 57.0 -0.7**
	comp=Z,0.9nm,0.3s,baz=198,slow=12,SNR=73					
ZALV				Sn	**Sn**	**05 35 25.2 -1.3**
	comp=Z,2.7nm,0.3s,baz=194,slow=24,SNR=5.7					
ZALV				Lg	Lg	05 36 50.1
	comp=Z,0.9nm,0.3s,baz=206,slow=29,SNR=2.5					
ZALV				LR	LR	05 38 22.9
	comp=Z,2μm,19.6s,baz=180,slow=38					
	comp=Z,40nm,0.9s					
ZALV	**Zalesovo Beam**	**13.40**	**16**	*i* P	**Pn**	**05 32 57.0 -0.7**
ZALV				pmax	pmax	
	comp=Z,41nm,0.9s					
GOMU	**GeErMu**	**13.46**	**106**	P	**Pn**	**05 32 56.0 -3.1**
GOMU				sP	P	05 33 03.5 -5.0
GOMU				pmax	pmax	
	comp=Z,24nm,0.5s					
GOMU				LR	LR	
	comp=Z,530nm,7.8s					
GOMU				LR	LR	
	comp=Z,640nm,7.9s					
GOMU				LR	LR	
	comp=Z,440nm,7.7s					
HRA	**Herat**	**14.73**	**248**		**Pn**	**05 33 14.5 -1.7**
EVN	**Everest**	**14.74**	**151**		**Pn**	**05 33 15.3 -1.6**
LSA	**Lhasa**	**15.23**	**135**	P	**Pn**	**05 33 21.5 -1.8**
LSA				S	**Sn**	**05 36 16.8 +4.7**
LSA				pmax	pmax	
	comp=Z,22nm,0.9s					
LSA				LR	LR	
	comp=Z,500nm,19.4s					
LSA				LR	LR	
	comp=Z,720nm,18.0s					
LSA				LR	LR	
	comp=Z,1μm,16.5s					
LSA	**Lhasa**	**15.23**	**135**		**Pn**	**05 33 23.2 -0.1**
LSA				IAmb	IAmb	05 33 32.0
	comp=Z,74nm,0.8s					
LSA	**Lhasa**	**15.23**	**135**	P	**Pn**	**05 33 23.2 -0.1**
LSA				pmax	pmax	
	comp=Z,74nm,0.8s					
AB31	**Akbulak array**	**15.52**	**308**		**Pn**	**05 33 25.4 -1.0**
AB31	**Akbulak array**	**15.52**	**308**	⇑Pn	**Pn**	**05 33 27.0 +0.6**
	comp=Z,13nm,0.6s					
AB31				⇑Lg	Lg	05 38 07.8
	comp=Z,167nm,1.2s					
ABKAR	**Akbulak array**	**15.52**	**308**		**Pn**	**05 33 25.4 -1.0**
GTA	**Gaotai**	**16.14**	**89**	*e*P	**Pn**	**05 33 30.5 -4.1**
GTA				SS	**S**	**05 36 48.5 +1.7**
GTA				pmax	pmax	
	comp=Z,13nm,0.8s					
GTA				LR	LR	
	comp=Z,1μm,13.4s					
GTA				LR	LR	
	comp=Z,1μm,12.0s					
GTA				LR	LR	
	comp=Z,2μm,15.6s					
AKTO	**Aktyubinsk**	**17.14**	**310**	P	**Pn**	**05 33 47.1 0.0**
	comp=Z,1.2nm,0.3s,baz=111,slow=12,SNR=27					
AKTO				Lg	Lg	05 38 46.3
	comp=Z,0.2nm,0.3s,baz=208,slow=18,SNR=3.6					
AKTO				LR	LR	05 40 41.5
	comp=Z,2μm,21.0s,baz=122,slow=38					
	comp=Z,20nm,1.0s					
GAYA	**Gaya**	**17.19**	**160**	*e*P	**P**	**05 33 49.5 0.0**
GAYA				IAmb	IAmb	05 33 50.7
	comp=Z,47nm,0.7s					
GAYA				*e*S	**Sn**	**05 37 03.0 +4.0**
BHPL	**Bhopal**	**17.92**	**184**	*e*P	**P**	**05 33 59.0 +1.4**
BHPL				IAmb	IAmb	05 34 01.9
	comp=Z,141nm,1.3s					
BHPL				*e*S	**S**	**05 37 21.1 -2.1**
NRDN	**NARMADA NAGAR**	**18.46**	**185**	*e*P	**Pn**	**05 34 05.2 +1.6**
NRDN				*e*S	**S**	**05 37 32.3 -1.7**
MOY	**Mondy**	**18.48**	**48**	*e*P	**Pn**	**05 34 08.9 +5.1**
MOY				pmax	pmax	
	comp=Z,58nm,1.7s					
TEZP	**TEZPUR**	**18.57**	**137**	*e*P	**Pn**	**05 34 05.6 +0.7**
TEZP				IAmb	IAmb	05 34 07.5
	comp=Z,308nm,1.5s					
TEZP				*e*S	**S**	**05 37 34.4 -1.7**
SHL	**Shillong**	**18.99**	**141**	P	**P**	**05 34 07.5 -2.0**
SHL				IAmb	IAmb	05 34 11.8
	comp=Z,144nm,0.8s					
SHL	**Shillong**	**18.99**	**141**	P	**P**	**05 34 07.9 -1.6**
	SNR=37					
SHL	**Shillong**	**18.99**	**141**	*e*P	**Pn**	**05 34 10.8 +0.6**
SHL				IAmb	IAmb	05 34 11.9
	comp=Z,101nm,0.7s					
SHL				*e*S	**S**	**05 37 45.8 +0.8**
SHL	**Shillong**	**18.99**	**141**	P	**P**	**05 34 07.5 -2.0**
SHL				pmax	pmax	
	comp=Z,144nm,0.8s					
ZAK	**Zakamensk**	**19.33**	**53**	*e*P	**P**	**05 34 12.9 -0.1**
ZAK				pmax	pmax	
	comp=Z,50nm,1.5s					
SVE	**Sverdlovsk**	**19.57**	**329**	*ce*P	**Pn**	**05 34 16.7 -0.1**
SVE				*e*S	**Sn**	**05 37 58.4 +2.2**
SVE				pmax	pmax	
	comp=Z,135nm,1.3s					
SVE				MLR	MLR	
	comp=Z,3μm,12.0s					
KOHI	**KOHIMA**	**19.98**	**136**	*e*P	**P**	**05 34 20.6 +0.3**
KOHI				IAmb	IAmb	05 34 28.4
	comp=Z,956nm,1.8s					
KOHI				*e*S	**Sn**	**05 38 06.9 +0.3**
TLY	**Talaya**	**20.00**	**50**	*i* P	**P**	**05 34 20.4 +0.2**
TLY				pmax	pmax	
	comp=Z,13nm,1.0s					
LZDM	**Lanzhou Array**	**20.13**	**97**	P	**P**	**05 34 22.1 0.0**
	comp=Z,51nm,0.8s,baz=282,slow=10,SNR=21					
LZDM				LR	LR	05 44 01.9
	comp=Z,700nm,18.5s,baz=175,slow=43					
	comp=Z,51nm,0.8s					
ARTI	**Arti**	**20.19**	**326**	P	**P**	**05 34 22.7 +0.6**
ARTI				IAmb	IAmb	05 34 25.0
	comp=Z,60nm,0.7s					
ARTI	**Arti**	**20.19**	**326**	P	Pn	05 34 23.3 -0.8
	comp=Z,38nm,0.7s,baz=134,slow=6.2,SNR=59					
ARTI				S	**S**	**05 38 00.1 -8.2**
	comp=Z,10nm,0.9s,baz=147,slow=24,SNR=1.7					
ARTI				LR	LR	05 42 35.8
	comp=Z,2μm,19.3s,baz=143,slow=38					
	comp=Z,38nm,0.7s					
ARTI	**Arti**	**20.19**	**326**	*c i* P	**P**	**05 34 23.0 +0.8**
ARTI						05 34 39.0
ARTI				S	Sn	05 38 10.7 -0.3
ARTI				SS	**SnSn**	**05 38 29.0 +3.6**
ARTI				pmax	pmax	
	comp=Z,119nm,1.5s					
ARTI				MLR	MLR	
	comp=Z,2μm,16.0s					
LZH	**Lanzhou**	**20.19**	**96**	*e*P	**P**	**05 34 22.8 +0.2**
LZH				pP	pP	05 34 26.0 -0.9
LZH				sP	sP	05 34 28.8 0.0
LZH				S	Sn	05 38 10.3 -1.4
LZH				SS	**SnSn**	**05 38 31.0 +5.0**
LZH				pmax	pmax	
	comp=Z,100nm,1.1s					
LZH				pmax	pmax	
	comp=Z,640nm,4.6s					
LZH				LR	LR	
	comp=Z,990nm,11.9s					
LZH				LR	LR	
	comp=Z,1μm,12.7s					
LZH				LR	LR	
	comp=Z,2μm,15.1s					
IRK	**Irkutsk**	**20.57**	**49**	*e*P	**P**	**05 34 25.5 -0.9**
IRK				pmax	pmax	
	comp=Z,179nm,1.9s					
IMP	**Imphal**	**20.62**	**138**	*e*P	**P**	**05 34 27.8 +0.6**
IMP				IAmb	IAmb	05 34 30.8
	comp=Z,79nm,1.0s					
IMP				*e*S	**S**	**05 38 19.1 +1.7**
SONM	**Songino Array**	**20.71**	**62**	P	**P**	**05 34 28.2 +0.1**
SONM				IAmb	IAmb	05 34 37.0
	comp=Z,78nm,0.8s					
SONM	**Songino Array**	**20.71**	**62**	P	**P**	**05 34 29.0 +0.9**
	comp=Z,48nm,0.8s,baz=262,slow=11,SNR=94					
SONM				LR	LR	05 42 56.5
	comp=Z,763nm,20.3s,baz=274,slow=38					
	comp=Z,48nm,0.8s					
SONM	**Songino Array**	**20.71**	**62**	P	**P**	**05 34 28.2 +0.1**
SONM				pmax	pmax	
	comp=Z,78nm,0.8s					
ULN	**Ulaanbaatar**	**21.15**	**62**	P	**P**	**05 34 32.6 -0.3**
ULN				IAmb	IAmb	05 34 46.3
	comp=Z,64nm,1.0s					
ULN	**Ulaanbaatar**	**21.15**	**62**	P	**P**	**05 34 33.3 +0.4**
ULN				P	**P**	**05 34 33.3 +0.4**
ULN				S	**S**	**05 38 24.1 -3.8**
ULN				S	**S**	**05 38 24.1 -3.8**
ULN	**Ulaanbaatar**	**21.15**	**62**	P	**P**	**05 34 32.6 -0.3**
ULN				pmax	pmax	
	comp=Z,64nm,1.0s					
BRDH	**Bariadhala**	**21.39**	**146**	P	**P**	**05 34 34.2 -1.1**
	comp=Z,120nm,0.5s,baz=7.1,slow=13,SNR=7.3					
BRDH				LR	LR	05 45 24.7
	comp=Z,684nm,19.4s,baz=324,slow=44					
	comp=Z,120nm,0.5s					
NGCH	**Negor - Chabah**	**21.54**	**228**	P	**P**	**05 34 38.3 +1.3**
CD2	**Chengdu**	**22.57**	**109**	P	**P**	**05 34 47.5 -0.6**
CD2				pP	pP	05 34 51.0 -1.2
CD2				sP	sP	05 34 53.5 -1.0
CD2				S	**S**	**05 38 55.0 -0.2**
CD2				sS	pS	05 39 01.0 +0.1
CD2				pmax	pmax	
	comp=Z,100nm,1.0s					
CD2				pmax	pmax	
	comp=Z,260nm,4.9s					
CD2				LR	LR	
	comp=Z,700nm,8.6s					
CD2				LR	LR	
	comp=Z,670nm,8.4s					
CD2				LR	LR	
	comp=Z,770nm,9.0s					
TNCH	**TengChong**	**22.99**	**128**	P	**P**	**05 34 52.5 -0.2**
TNCH				pP	pP	05 34 55.0 -1.9
TNCH				sP	sP	05 34 58.0 -0.8
TNCH				S	**S**	**05 38 57.0 -6.1**
TNCH				sS	pS	05 39 03.0 -5.7
TNCH				SS	**SnSn**	**05 39 42.0 +7.0**
TNCH				pmax	pmax	
	comp=Z,120nm,1.0s					
TNCH				LR	LR	
	comp=Z,830nm,15.8s					
TNCH				LR	LR	
	comp=Z,640nm,17.7s					
TNCH				LR	LR	
	comp=Z,2μm,19.2s					
MAK	**Makhachkala**	**23.23**	**285**	*e*P	**P**	**05 34 51.4 -3.4**
MAK				*e*S	**S**	**05 39 01.8 -4.6**
MAK				pmax	pmax	
	comp=Z,196nm,1.2s					
MAK				MLR	MLR	
	comp=Z,1μm,13.0s					
AKT	**Akhty**	**23.27**	**281**	*e*P	**P**	**05 34 55.8 +0.4**
AKT				*e*PPP	PPP	05 35 29.3
AKT				*e*S	**S**	**05 39 09.8 +2.4**
AKT				pmax	pmax	
	comp=Z,105nm,1.1s					
BTO	**Baotou**	**23.55**	**81**	*e*P	**P**	**05 34 56.5 -1.7**
BTO				PP	**PnPn**	**05 35 29.8 +4.9**
BTO				S	**S**	**05 39 11.5 -0.5**
BTO				pmax	pmax	
	comp=Z,57nm,0.9s					
BTO				pmax	pmax	
	comp=Z,740nm,3.8s					
BTO				LR	LR	
	comp=Z,1μm,5.9s					
BTO				LR	LR	
	comp=Z,730nm,4.8s					
BTO				LR	LR	
	comp=Z,670nm,8.3s					
HYB	**Hyderabad**	**23.68**	**181**	*e*P	**P**	**05 35 00.9 +1.4**
HYB				IVmB_BB		05 35 05.8
	comp=Z,841nm,2.0s					
HYB				*e*PcP	**PcP**	**05 38 41.8 -2.0**
HYB				*e*S	**S**	**05 39 15.2 +1.1**
HYB				*e*ScS	**ScS**	**05 46 10.2 +1.7**
HYB				IVMs_BB	IVMs_BB	05 46 41.1
	comp=Z,973nm,5.3s					
PZH	**PanZhiHua**	**23.94**	**121**	P	**P**	**05 35 03.0 +1.0**
PZH				S	**S**	**05 39 16.5 -1.8**
PZH				pmax	pmax	
	comp=Z,60nm,1.5s					
PZH				pmax	pmax	
	comp=Z,500nm,4.7s					
PZH				LR	LR	
	comp=Z,880nm,18.8s					
PZH				LR	LR	
	comp=Z,790nm,18.7s					
PZH				LR	LR	
	comp=Z,2μm,18.8s					
BANOM	**Banah**	**24.04**	**238**	P	**P**	**05 35 03.4 +0.5**
BANOM				P	**P**	**05 35 03.4 +0.5**
WSAR	**Wadi Sarin**	**24.62**	**230**	P	**P**	**05 35 09.8 +1.6**
HHC	**Hu-ho-hao-te**	**24.66**	**80**	*e*P	**P**	**05 35 08.5 0.0**
HHC				sP	sP	05 35 16.5 +1.4
HHC				PP	**PnPn**	**05 35 44.0 +4.1**
HHC				S	**S**	**05 39 25.5 -4.2**
HHC				sS	sS	05 39 40.0 +2.8
HHC				pmax	pmax	
	comp=Z,20nm,0.6s					
HHC				pmax	pmax	
	comp=Z,370nm,4.5s					
HHC				LR	LR	
	comp=Z,420nm,10.6s					
HHC				LR	LR	
	comp=Z,350nm,10.9s					
HHC				LR	LR	
	comp=Z,390nm,10.8s					
UOSS	**Minazif**	**24.80**	**236**	P	**P**	**05 35 11.0 +1.3**
XAN	**Xi'an**	**24.83**	**97**	P	**P**	**05 35 09.8 -0.2**
XAN				pP	sP	05 35 19.5 +2.9
XAN				S	**S**	**05 39 31.3 -1.1**
XAN				pmax	pmax	
	comp=Z,42nm,0.9s					
XAN				pmax	pmax	
	comp=Z,380nm,3.8s					
XAN				LR	LR	
	comp=Z,1μm,12.4s					
XAN				LR	LR	
	comp=Z,1μm,10.3s					
XAN				LR	LR	
	comp=Z,2μm,12.9s					
JLN	**Jalan Bani Buh**	**25.04**	**227**	P	**P**	**05 35 13.2 +1.3**
JLN				P	**P**	**05 35 13.2 +1.3**
ASHO	**Ashiyiah**	**25.08**	**236**	P	**P**	**05 35 13.0 +0.6**
	SNR=9.7					
ASHO				P	**P**	**05 35 13.0 +0.6**
	SNR=9.7					
SMDO	**Samad**	**25.09**	**230**	P	**P**	**05 35 15.6 +3.1**
	SNR=6.0					
HOQ	**Hoqain**	**25.13**	**232**	P	**P**	**05 35 16.7 +3.9**
HOQ				P	**P**	**05 35 16.7 +3.9**
SOHO	**SOHO**	**25.19**	**234**	P	**P**	**05 35 13.4 +0.2**
KIRV	**Kirov**	**25.41**	**323**	LR	LR	05 45 49.8
	comp=Z,2μm,18.0s,baz=119,slow=38					
KIRV	**Kirov**	**25.41**	**323**	*ce*P	**P**	**05 35 16.0 +1.1**
KMI	**Kunming**	**25.54**	**121**	⇑P	**P**	**05 35 17.0 +0.3**
KMI				S	**S**	**05 39 49.5 +5.3**
KMI				pmax	pmax	
	comp=Z,80nm,0.7s					
KMI				LR	LR	
	comp=Z,600nm,17.5s					
KMI				LR	LR	
	comp=Z,940nm,16.8s					
KMI				LR	LR	
	comp=Z,1μm,20.6s					
ASUD	**Al Ashush, Dub**	**25.58**	**237**	P	**P**	**05 35 17.4 +0.6**
ASUD				P	**P**	**05 35 17.4 +0.6**
JMDO	**Jabal Madar**	**25.60**	**229**	P	**P**	**05 35 20.2 +3.2**
GNI	**Garni**	**25.76**	**279**	P	**P**	**05 35 20.7 +2.2**
GNI	**Garni**	**25.76**	**279**	LR	LR	05 47 02.4
	comp=Z,465nm,18.6s,baz=67,slow=40					
GNI	**Garni**	**25.76**	**279**	P	**P**	**05 35 22.9 +4.4**
GNI				P	**P**	**05 35 22.9 +4.4**
GNI	**Garni**	**25.76**	**279**	P	**P**	**05 35 20.7 +2.2**
GNI				pmax	pmax	
	comp=Z,72nm,1.0s					
ARQ	**Araqi**	**25.79**	**233**	P	**P**	**05 35 22.1 +3.4**
	SNR=8.3					
CIT	**Chita**	**25.99**	**54**	*e*P	**P**	**05 35 20.2 -0.2**
CIT				*e*		05 35 55.4
CIT				*e*		05 36 14.4
CIT				*e*		05 39 54.0
CIT				*e*		05 46 11.3
CIT				pmax	pmax	
	comp=Z,133nm,2.0s					
NCK	**Nalchik**	**26.00**	**287**	*i* P	**P**	**05 35 21.4 +0.8**
NCK				pmax	pmax	
	comp=Z,15nm,0.8s					
TIY	**Taiyuan**	**26.11**	**87**	*e*P	**P**	**05 35 22.5 +0.8**
TIY				S	**S**	**05 39 58.0 +5.1**
TIY				pmax	pmax	
	comp=Z,52nm,1.3s					
TIY				pmax	pmax	
	comp=Z,340nm,3.5s					
TIY				LR	LR	
	comp=Z,660nm,13.1s					
TIY				LR	LR	
	comp=Z,510nm,12.4s					
TIY				LR	LR	
	comp=Z,650nm,15.1s					
GOF	**Gofitskoye**	**26.25**	**291**	*ce*P	**P**	**05 35 25.2 +2.5**
KBZ	**Khabaz**	**26.48**	**288**	P	**P**	**05 35 24.3 -0.5**
	comp=Z,5.9nm,0.8s,baz=106,slow=7.6,SNR=15					
KBZ				LR	LR	05 47 40.7
	comp=Z,742nm,18.8s,baz=82,slow=40					
	comp=Z,5.9nm,0.8s					
KVAR	**Kislovodsk Arr**	**26.60**	**288**	LR	LR	05 46 29.0
	comp=Z,922nm,18.6s,baz=231,slow=38					
KIV	**Kislovodsk**	**26.60**	**288**	P	**P**	**05 35 26.6 +0.5**
KIV				IAmb	IAmb	05 35 50.3
	comp=Z,37nm,0.8s					
KIV	**Kislovodsk**	**26.60**	**288**	*e*P	**P**	**05 35 27.0 +0.9**
KIV				*e*S	**S**	**05 40 03.2 +2.7**
KIV				pmax	pmax	
	comp=Z,17nm,1.0s					
KIV				MLR	MLR	
	comp=Z,424nm,15.0s					

KIV	**Kislovodsk**	**26.60 288**	P	**P**	**05 35 28.5 +2.4**
	comp=Z,33nm,0.8s				
SHA1	**Shidzhatmaz**	**26.65 288**	*i* P	**P**	**05 35 27.3 +0.6**
MHTO	**MHTO**	**26.77 228**	P	**P**	**05 35 29.6 +2.0**
MHTO			P	**P**	**05 35 29.6 +2.0**
ENH	**Enshi**	**27.06 104**	P	**P**	**05 35 30.2 0.0**
ENH			IAmb	IAmb	05 36 02.4
	comp=Z,37nm,0.8s				
ENH	**Enshi**	**27.06 104**	P	**P**	**05 35 30.4 +0.1**
GYA	**Guiyang**	**27.27 114**	⇑P	**P**	**05 35 32.3 0.0**
GYA			pmax	pmax	
	comp=Z,15nm,0.7s				
GYA			LR	LR	
	comp=Z,660nm,13.4s				
GYA			LR	LR	
	comp=Z,720nm,10.7s				
GYA			LR	LR	
	comp=Z,520nm,14.5s				
LYN	**LuoYang**	**27.28 93**	P	**P**	**05 35 32.5 +0.4**
LYN			pP	sP	05 35 37.5 -1.2
LYN			pmax	pmax	
	comp=Z,27nm,0.7s				
LYN			pmax	pmax	
	comp=Z,260nm,5.2s				
LYN			LR	LR	
	comp=Z,800nm,11.7s				
LYN			LR	LR	
	comp=Z,620nm,11.0s				
LYN			LR	LR	
	comp=Z,530nm,10.3s				
VRH	**Novokhopyorsk**	**27.28 304**	*e*P	**P**	**05 35 32.8 +0.8**
VRH			pmax	pmax	
	comp=Z,57nm,1.5s				
BOD	**Bodaibo**	**27.86 41**	*e*P	**P**	**05 35 36.8 -0.3**
BOD			pmax	pmax	
	comp=Z,59nm,1.4s				
LABN	**Labinsk**	**27.93 290**	*e*P	**P**	**05 35 40.4 +2.6**
LABN			pmax	pmax	
	comp=Z,41nm,0.7s				
LABN			MLR	MLR	
	comp=Z,1μm,17.0s				
HNS	**HongShan**	**27.93 86**	⇓P	**P**	**05 35 39.3 +1.4**
HNS			S	**S**	**05 40 26.8 +5.5**
HNS			pmax	pmax	
	comp=Z,28nm,0.9s				
HNS			LR	LR	
	comp=Z,460nm,14.5s				
HNS			LR	LR	
	comp=Z,690nm,14.5s				
HNS			LR	LR	
	comp=Z,830nm,14.7s				
ERBR	**Yeremizino-Bor**	**27.99 292**	*e*P	**P**	**05 35 39.2 +0.8**
ERBR			*e*		05 36 28.6
ERBR			pmax	pmax	
	comp=Z,63nm,1.6s				
ERBR			MLR	MLR	
	comp=Z,971nm,17.0s				
CHTO	**Chiang Mai**	**28.18 136**	P	**P**	**05 35 39.4 -0.9**
CHTO			IAmb	IAmb	05 35 44.4
	comp=Z,24nm,0.9s				
CHTO	**Chiang Mai**	**28.18 136**	P	**P**	**05 35 41.2 +0.9**
CHTO			P	**P**	**05 35 41.2 +0.9**
CHTO	**Chiang Mai**	**28.18 136**	P	**P**	**05 35 40.9 +0.6**
CHTO	**Chiang Mai**	**28.18 136**	P	**P**	**05 35 39.4 -0.9**
CHTO			pmax	pmax	
	comp=Z,24nm,0.9s				
GURO	**Guroymak-BITLI**	**28.20 277**	P	**P**	**05 35 40.8 +0.3**
BJI	**Beijing**	**28.27 80**	P	**P**	**05 35 41.0 +0.1**
BJI			pmax	pmax	
	comp=Z,4.0nm,0.7s				
BJT	**Baijiatuau**	**28.27 80**	P	**P**	**05 35 40.9 0.0**
BJT	**Baijiatuau**	**28.27 80**	P	**P**	**05 35 40.9 0.0**
BJT			pmax	pmax	
	comp=Z,8.0nm,1.0s				
CM31	**Chiang Mai Arr**	**28.47 137**	P	**P**	**05 35 42.7 -0.2**
CM31			IAmb	IAmb	05 36 09.1
	comp=Z,27nm,1.0s				
CMAR	**Chiang Mai Arr**	**28.47 137**	P	**P**	**05 35 42.6 -0.3**
CMAR	**Chiang Mai Arr**	**28.47 137**	P	**P**	**05 35 42.4 -0.5**
	comp=Z,9.1nm,0.9s,baz=319,slow=9.4,SNR=20				
CMAR			PcP	**PcP**	**05 38 54.4 -0.4**
	comp=Z,3.5nm,0.9s,baz=310,slow=2.1,SNR=4.3				
CMAR			LR	LR	05 48 55.3
	comp=Z,417nm,20.6s,baz=330,slow=40				
	comp=Z,9.1nm,0.9s				
VORD	**Divnogorie**	**28.78 303**	*e*P	**P**	**05 35 44.7 -0.7**
VORD			pmax	pmax	
	comp=Z,30nm,0.9s				
SOC	**Sochi**	**28.79 288**	*e*P	**P**	**05 35 45.1 -0.4**
SOC			*e*PPP	PPP	05 36 46.3
SOC			*e*S	**S**	**05 40 35.6 +0.9**
SOC			MLR	MLR	
	comp=Z,387nm,15.0s				
VSR	**Storozhevoye**	**28.88 304**	*e*P	**P**	**05 35 45.3 -1.0**
VSR			pmax	pmax	
	comp=Z,10.0nm,0.8s				
SLVN	**Son La**	**29.02 125**	P	**P**	**05 35 49.5 +1.7**
LPSR	**Galich'ya Gora**	**29.17 307**	*e*P	**P**	**05 35 49.2 +0.4**
LPSR			pmax	pmax	
	comp=Z,57nm,1.6s				
MARD	**Mardin**	**29.53 275**	P	**P**	**05 35 53.6 +1.3**
MARD			IAmb	IAmb	05 35 56.3
	comp=Z,30nm,0.9s				
HILR	**Hailar Array B**	**29.66 60**	P	**P**	**05 35 54.4 +1.2**
	comp=Z,1.3nm,0.4s,baz=200,slow=11,SNR=4.9				
	comp=Z,1.3nm,0.4s				
TIA	**Tai'an**	**30.16 87**	P	**P**	**05 35 58.5 +0.8**
TIA			pmax	pmax	
	comp=Z,17nm,1.2s				
TIA			LR	LR	
	comp=Z,560nm,19.5s				
TIA			LR	LR	
	comp=Z,530nm,11.9s				
TIA			LR	LR	
	comp=Z,620nm,22.9s				
ANN	**Anapa**	**30.23 291**	*e*P	**P**	**05 35 59.2 +0.9**
ANN			*e**PP	**pP**	**05 36 02.6 -0.4**
ANN			*e*S	**S**	**05 41 02.6 +5.2**
ANN			pmax	pmax	
	comp=Z,38nm,0.8s				
ANN			MLR	MLR	
	comp=E,740nm,14.0s				
ANN			MLR	MLR	
	comp=N,353nm,15.0s				
ANN			MLR	MLR	
	comp=Z,717nm,15.0s				
MOS	**Moscow**	**30.42 313**	*e*P	**P**	**05 35 58.3 -1.5**
MOS			*e*PPP	PPP	05 37 06.4
MOS			pmax	pmax	
	comp=Z,101nm,1.1s				
WHN	**Wuhan**	**30.52 99**	P	**P**	**05 36 01.5 +0.5**
WHN			sP	**sP**	**05 36 09.5 +1.9**
WHN			pmax	pmax	
	comp=Z,84nm,1.0s				
WHN			LR	LR	
	comp=Z,1μm,10.3s				
DOK	**Doka**	**30.83 231**	P	**P**	**05 36 04.6 +0.8**
DOK			P	**P**	**05 36 04.6 +0.8**
OBN	**Obninsk**	**30.91 311**	P	**P**	**05 36 04.4 +0.3**
OBN	**Obninsk**	**30.91 311**	LR	LR	05 48 53.4
	comp=Z,817nm,18.7s,baz=32,slow=37				
OBN	**Obninsk**	**30.91 311**	*e*P	**P**	**05 36 03.8 -0.3**
OBN			*e*		05 37 04.3
OBN			*e*		05 39 01.3
OBN			*e*S	S	05 41 16.9 +9.2
OBN			pmax	pmax	
	comp=Z,50nm,1.3s				
OBN			MLR	MLR	
	comp=Z,715nm,18.0s				
OBN	**Obninsk**	**30.91 311**	P	**P**	**05 36 04.9 +0.8**
	comp=Z,35nm,0.9s				
KLMR	**Klimovskoe**	**30.91 323**	*e*P	**P**	**05 36 03.5 -0.6**
KLMR			*e*		05 38 59.1
KLMR			pmax	pmax	
	comp=Z,66nm,1.5s				
KLMR			MLR	MLR	
	comp=Z,2μm,15.0s				
WHFO	**Wadi Hawf**	**31.59 230**	P	**P**	**05 36 08.9 -1.6**
WHFO			P	**P**	**05 36 08.9 -1.6**
GAZ	**Gaziantep**	**32.26 277**	P	**P**	**05 36 17.7 +1.3**
GAZ			IAmb	IAmb	05 36 20.4
	comp=Z,20nm,0.9s				
ABTO	**Aybut**	**32.31 230**	P	**P**	**05 36 17.1 +0.2**
ABTO			P	**P**	**05 36 17.1 +0.2**
SIM	**Simferopol'**	**32.54 292**	*e*P	**P**	**05 36 19.9 +1.2**
SIM			*e*S	**S**	**05 41 33.8 +0.3**
SIM			pmax	pmax	
	comp=Z,39nm,0.8s				
SIM			smax	smax	
	comp=N,73nm,18.5s				
SIM			MLR	MLR	
	comp=Z,259nm,21.6s				
BNN	**Bunyan**	**32.73 280**	P	**P**	**05 36 20.2 -0.3**
RAYN	**Ar Rayn**	**32.92 248**	P	**P**	**05 36 22.5 +0.3**
RAYN			IAmb	IAmb	05 36 30.9
	comp=Z,14nm,0.8s				
RAYN	**Ar Rayn**	**32.92 248**	P	**P**	**05 36 22.6 +0.4**
RAYN	**Ar Rayn**	**32.92 248**	P	**P**	**05 36 23.0 +0.8**
NJ2	**Nanjing**	**33.18 93**	*e*P	**P**	**05 36 25.0 +0.7**
NJ2			pmax	pmax	
	comp=Z,9.0nm,0.6s				
NJ2			LR	LR	
	comp=Z,610nm,15.5s				
NJ2			LR	LR	
	comp=Z,470nm,12.6s				
NJ2			LR	LR	
	comp=Z,750nm,13.6s				
SNY	**Shenyang**	**33.26 74**	⇑P	**P**	**05 36 20.5 -4.4**
SNY			S	**S**	**05 41 38.5 -6.2**
SNY			pmax	pmax	
	comp=Z,9.0nm,1.3s				
SNY			pmax	pmax	
	comp=Z,230nm,4.3s				
SNY			LR	LR	
	comp=N,250nm,15.1s				
SNY			LR	LR	
	comp=E,630nm,15.5s				
SNY			LR	LR	
	comp=Z,810nm,15.4s				
ILGA	**Ilgaz**	**33.67 285**	P	**P**	**05 36 29.7 +0.9**
PALK	**Pallekele**	**33.81 177**	LR	LR	05 51 02.9
	comp=Z,911nm,19.6s,baz=352,slow=38				
KIRS	**Kirsehir-Merke**	**34.07 282**	⇑P	**P**	**05 36 33.2 +1.1**
BR131	**Keskin Array S**	**34.10 283**	P	**P**	**05 36 33.5 +1.1**
BR131	**Keskin Array S**	**34.10 283**	P	**P**	**05 36 33.7 +1.2**
	SNR=27				
BR131	**Keskin Array S**	**34.10 283**	P	**P**	**05 36 33.5 +1.1**
BR131			pmax	pmax	
	comp=Z,50nm,0.8s				
BRTR	**Keskin Array B**	**34.10 283**	P	**P**	**05 36 33.6 +1.2**
BRTR	**Keskin Array B**	**34.10 283**	P	**P**	**05 36 33.5 +1.1**
	comp=Z,36nm,0.7s,baz=95,slow=7.8,SNR=165				
BRTR			PcP	**PcP**	**05 39 09.6 -0.1**
	comp=Z,1.6nm,0.8s,baz=100,slow=4.0,SNR=1.7				
BRTR			LR	LR	05 52 28.7
	comp=Z,200nm,20.5s,baz=70,slow=40				
	comp=Z,36nm,0.7s				
BR104	**Keskin Array S**	**34.10 283**	P	**P**	**05 36 33.7 +1.2**
	comp=Z,358nmcomp=Z,50nm,0.8s				
BR106	**Keskin Array S**	**34.11 283**	P	**P**	**05 36 33.8 +1.2**
	comp=Z,355nmcomp=Z,52nm,0.8s				
BR106			pP	**sP**	**05 36 39.5 +0.3**
	comp=Z,355nmcomp=Z,52nm,0.8s				
BR105	**Keskin Array S**	**34.12 283**	P	**P**	**05 36 33.9 +1.3**
	comp=Z,443nmcomp=Z,65nm,0.8s				
CN2	**Changchun**	**34.15 70**	P	**P**	**05 36 30.3 -2.4**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			pmax	pmax	
	comp=Z,200nm,3.0s				
CN2			LR	LR	
	comp=Z,700nm,15.0s				
CN2			LR	LR	
	comp=Z,500nm,15.0s				
CN2			LR	LR	
	comp=Z,500nm,15.0s				
ZEA	**Zeya**	**34.41 52**	*e*P	**P**	**05 36 36.2 +1.4**
ZEA			pmax	pmax	
	comp=Z,10.0nm,1.4s				
ZEA			MLR	MLR	
	comp=N,300nm,14.0s				
ZEA			MLR	MLR	
	comp=Z,300nm,19.0s				
QIZ	**Qiongzhong**	**34.48 120**	P	**P**	**05 36 36.5 +0.8**
QIZ			S	**S**	**05 42 05.0 +1.1**
QIZ			pmax	pmax	
	comp=Z,36nm,1.6s				
QIZ			LR	LR	
	comp=Z,430nm,17.3s				
QIZ			LR	LR	
	comp=Z,770nm,15.7s				
QIZ			LR	LR	
	comp=Z,1μm,19.4s				
ASF	**Jabal al Asfar**	**34.50 269**	LR	LR	05 51 52.5
	comp=Z,159nm,20.2s,baz=70,slow=38				
HEH	**HeiHe**	**34.59 58**	*e*P	**P**	**05 36 36.8 +0.4**
HEH			pmax	pmax	
	comp=Z,27nm,0.9s				
HEH			LR	LR	
	comp=Z,390nm,15.1s				
HEH			LR	LR	
	comp=Z,430nm,18.5s				
HEH			LR	LR	
	comp=Z,610nm,18.4s				
ANTO	**Ankara**	**34.68 283**	P	**P**	**05 36 38.1 +0.7**
ANTO			IAmb	IAmb	05 36 41.0
	comp=Z,22nm,0.8s				
ANTO	**Ankara**	**34.68 283**	P	**P**	**05 36 39.0 +1.7**
ANTO	**Ankara**	**34.68 283**	⇑P	**P**	**05 36 38.9 +1.5**
ANTO	**Ankara**	**34.68 283**	P	**P**	**05 36 38.8 +1.5**
ANTO	**Ankara**	**34.68 283**	P	**P**	**05 36 39.1 +1.7**
	comp=Z,240nmcomp=Z,17nm,0.7s				
AK09	**Malin Array Si**	**35.13 303**	P	**P**	**05 36 41.8 +0.8**
AK09			pP	**sP**	**05 36 47.7 +0.1**
BNX	**BinXian**	**35.14 66**	⇓P	**P**	**05 36 41.8 +0.6**
BNX			pmax	pmax	
	comp=Z,10.0nm,0.8s				
AK08	**Malin Array Si**	**35.15 303**	P	**P**	**05 36 41.9 +0.7**
AK10	**Malin Array Si**	**35.15 303**	P	**P**	**05 36 41.7 +0.5**
AK03	**Malin Array Si**	**35.16 303**	P	**P**	**05 36 41.8 +0.5**
AKASG	**Malin Array Be**	**35.16 303**	P	**P**	**05 36 40.6 -0.8**
AKASG	**Malin Array Be**	**35.16 303**	P	**P**	**05 36 42.0 +0.7**
	comp=Z,6.0nm,0.7s,baz=72,slow=9.4,SNR=23				
AKASG			LR	LR	05 54 04.0
	comp=Z,501nm,18.3s,baz=88,slow=41				
	comp=Z,6.0nm,0.7s				
AKASG	**Malin Array Be**	**35.16 303**	*i* P	**P**	**05 36 42.0 +0.7**
AKASG			pmax	pmax	
	comp=Z,11nm,0.7s				
AKBB	**Malin Array Si**	**35.16 303**	P	**P**	**05 36 41.7 +0.4**
AKBB			IAmb	IAmb	05 36 43.9
	comp=Z,34nm,0.8s				
AKBB	**Malin Array Si**	**35.16 303**	P	**P**	**05 36 41.7 +0.4**
AKBB			pmax	pmax	
	comp=Z,34nm,0.9s				
AK01	**Malin Array Si**	**35.17 303**	P	**P**	**05 36 41.5 +0.1**
KIEV	**Kiev**	**35.17 303**	P	**P**	**05 36 41.7 +0.2**
KIEV			IAmb	IAmb	05 36 43.9
	comp=Z,30nm,0.8s				
KIEV	**Kiev**	**35.17 303**	⇑P	**P**	**05 36 41.9 +0.4**
KIEV	**Kiev**	**35.17 303**	P	**P**	**05 36 41.8 +0.4**
KIEV	**Kiev**	**35.17 303**	P	**P**	**05 36 41.6 +0.2**
	comp=Z,165nm,0.8s				
AK02	**Malin Array Si**	**35.18 303**	P	**P**	**05 36 41.5 0.0**
AK05	**Malin Array Si**	**35.18 303**	P	**P**	**05 36 41.6 +0.1**
PURM	**Purcari**	**35.22 296**	⇑P	**P**	**05 36 43.6 +1.8**
JOF	**Joensuu**	**35.25 324**	*e*P	**P**	**05 36 42.8 +0.9**
MMAI	**Mount Meron Ar**	**35.26 271**	P	**P**	**05 36 43.8 +1.4**
	comp=Z,2.9nm,0.5s,baz=80,slow=7.9,SNR=3.8				
MMAI			LR	LR	05 52 32.3
	comp=Z,109nm,19.9s,baz=45,slow=39				
	comp=Z,2.9nm,0.5s				
SSE	**Sheshan**	**35.38 93**	P	**P**	**05 36 43.5 +0.1**
SSE			S	**S**	**05 42 15.5 -2.2**
SSE			pmax	pmax	
	comp=Z,16nm,0.9s				
SSE			pmax	pmax	
	comp=Z,79nm,3.4s				
SSE			LR	LR	
	comp=Z,140nm,9.4s				
SSE			LR	LR	
	comp=Z,220nm,10.4s				
MDUB	**Mudurnu**	**35.67 285**	IAmb	IAmb	05 37 04.8
	comp=Z,23nm,0.6s				
LVZ	**Lovozero**	**35.70 333**	P	**P**	**05 36 46.4 +0.7**
LVZ			IAmb	IAmb	05 36 48.3
	comp=Z,33nm,0.8s				
LVZ	**Lovozero**	**35.70 333**	P	**P**	**05 36 46.7 +0.9**
LVZ	**Lovozero**	**35.70 333**	P	**P**	**05 36 46.3 +0.5**
	comp=Z,62nm,0.9s				
SAHE	**Sakarya_HENDEK**	**35.81 286**	⇑P	**P**	**05 36 48.7 +1.7**
MNK	**Minsk**	**35.86 309**	*i* P	**P**	**05 36 49.0 +1.7**
	comp=E,13nm,0.8s				
MNK			*i* P	**P**	**05 36 49.0 +1.7**
	comp=N,41nm,0.8s				
MNK			*i* P	**P**	**05 36 49.0 +1.7**
	comp=Z,72nm,0.8s,baz=90				
MNK			*i* PP	**PP**	**05 38 09.8 +1.2**
MNK			*i* PPP	PPP	05 38 23.6
MNK			*i* PcP	**PcP**	**05 39 15.2 +0.9**
MNK			*i* S	**S**	**05 42 28.6 +4.0**
MNK			*i* SS	**SnSn**	**05 44 47.6 +0.1**
MNK			*i* SSS	SSS	05 45 08.6
MNK			*i* LQ	LQ	05 48 49.7
MNK			*i* LR	LR	05 50 26.1
MNK			*i* LRM	MLR	05 52 07.7
	comp=N,386nm,17.8s				
MNK			*i* LRM	MLR	05 52 13.2
	comp=Z,397nm,16.2s				
MNK			*i* LRM	MLR	05 52 21.6
	comp=E,230nm,15.9s				
MNK	**Minsk**	**35.86 309**	*i* P	**P**	**05 36 49.0 +1.7**
MNK			*i*		05 38 09.8
MNK			*i* PPP	PPP	05 38 23.5
MNK			*i*		05 39 15.2
MNK			*i* S	**S**	**05 42 28.6 +4.0**
MNK			*i* SS	**SnSn**	**05 44 47.5 +0.1**
MNK			pmax	pmax	
	comp=Z,72nm,0.8s				
MNK			pmax	pmax	
	comp=N,41nm,0.8s				
MNK			pmax	pmax	
	comp=E,13nm,0.8s				
MNK			MLR	MLR	
	comp=N,386nm,18.0s				
MNK			MLR	MLR	
	comp=Z,397nm,16.0s				
MNK			MLR	MLR	
	comp=E,230nm,16.0s				
GHAJ	**Ghor Haditha**	**35.91 268**	P	**P**	**05 36 48.1 +0.2**
GHAJ			IAmb	IAmb	05 36 51.8
	comp=Z,20nm,0.9s				
APA	**Apatity**	**35.99 332**	⇓*i* P	**P**	**05 36 47.9 -0.3**
APA			*i*		05 38 05.7
APA			*i*		05 39 14.6
APA			*e*S	**S**	**05 42 24.6 -1.6**
APA			*i* SS	**SnSn**	**05 44 45.7 -4.4**
APA			MLR	MLR	
	comp=Z,2μm,17.5s				
SORM	**Soroca**	**36.00 299**	⇑P	**P**	**05 36 49.3 +0.7**
SORM	**Soroca**	**36.00 299**	P	**P**	**05 36 49.2 +0.7**
MI28	**Mi28,Pidlybu**	**36.13 303**	P	**P**	**05 36 49.9 +0.3**
LUBAR	**Lubar, Ukraine**	**36.17 302**	P	**P**	**05 36 50.6 +0.6**
JURR	**Jurilovca**	**36.24 293**	⇑P	**P**	**05 36 51.9 +1.3**
BORA	**Eskisehir**	**36.39 284**	IAmb	IAmb	05 36 55.1
	comp=Z,18nm,0.8s				
NACGM	**Naroch**	**36.51 310**	*e*P	**P**	**05 36 53.9 +1.1**
TPGR	**Topolog**	**36.53 293**	⇑P	**P**	**05 36 54.3 +1.1**
NDNU	**Novodnistrovsk**	**36.58 299**	P	**P**	**05 36 54.5 +1.0**
YAK	**Yakutsk**	**36.59 38**	P	**P**	**05 36 52.1 -1.3**
YAK	**Yakutsk**	**36.59 38**	LR	LR	05 52 14.7
	comp=Z,247nm,20.7s,baz=254,slow=37				
YAK	**Yakutsk**	**36.59 38**	*e*P	**P**	**05 36 51.5 -1.9**
YAK			*e**PP	**pP**	**05 36 57.1 -0.8**
YAK			*e*		05 38 13.3
YAK			*e*		05 39 13.1
YAK			*e*S	**S**	**05 42 34.8 -0.7**
YAK			*e**SS	**sS**	**05 42 44.4 +1.4**
YAK			*e*SS	**SnSn**	**05 45 07.5 +2.7**
YAK			*e*		05 47 05.7
YAK			pmax	pmax	
	comp=Z,26nm,1.3s				
YAK			pmax	pmax	
	comp=N,9.0nm,1.8s				
YAK			pmax	pmax	
	comp=E,17nm,1.5s				
YAK			pmax	pmax	
	comp=Z,104nm,2.2s				
YAK			pmax	pmax	
	comp=N,120nm,3.5s				
YAK			pmax	pmax	
	comp=E,206nm,4.3s				
YAK			smax	smax	
	comp=N,177nm,3.5s				
YAK			smax	smax	
	comp=E,112nm,3.9s				
YAK			MLR	MLR	
	comp=Z,294nm,23.0s				
YAK			MLR	MLR	
	comp=N,179nm,21.0s				
YAK			MLR	MLR	
	comp=E,175nm,24.0s				
TIRR	**Tirgusor**	**36.63 292**	⇑P	**P**	**05 36 54.8 +0.9**
TIRR	**Tirgusor**	**36.63 292**	P	**P**	**05 36 54.8 +0.9**
TIRR	**Tirgusor**	**36.63 292**	P	**P**	**05 36 55.1 +1.2**
	comp=E,15nm,1.0s				
CFR	**Carcaliu**	**36.66 294**	⇓P	**P**	**05 36 55.1 +0.8**
CFR	**Carcaliu**	**36.66 294**	P	**P**	**05 36 55.1 +0.8**
VSU	**Vasula**	**36.68 316**	*ce*P	**P**	**05 36 54.8 +0.6**
VSU			pmax	pmax	
	comp=Z,58nm,1.3s				
MFTR	**Murfatlar**	**36.68 292**	⇓P	**P**	**05 36 55.9 +1.4**
INCN	**Inchon**	**36.82 80**	P	**P**	**05 36 55.6 -0.1**
INCN	**Inchon**	**36.82 80**	P	**P**	**05 36 55.2 -0.5**
INCN	**Inchon**	**36.82 80**	P	**P**	**05 36 55.9 +0.1**
INCN	**Inchon**	**36.82 80**	P	**P**	**05 36 55.7 -0.1**
INCN			pmax	pmax	
	comp=Z,39nm,0.7s				
ISAL	**Salakas**	**36.88 311**	*e*P	**P**	**05 36 57.4 +1.4**
MDJ	**Mudanjiang**	**36.89 67**	P	**P**	**05 36 58.3 +2.1**
MDJ			pmax	pmax	
	comp=Z,16nm,1.2s				
HARR	**Harsova**	**36.91 293**	⇑P	**P**	**05 36 57.8 +1.4**
HARR	**Harsova**	**36.91 293**	P	**P**	**05 36 58.2 +1.8**
ISP	**Isparta**	**37.02 281**	*ce*P	**P**	**05 36 59.2 +1.7**
ISP			pmax	pmax	
	comp=Z,19nm,0.7s				
HORU	**Horodok**	**37.11 301**	P	**P**	**05 36 59.0 +0.9**
ICOR	**Ion Corvin**	**37.13 292**	⇑P	**P**	**05 36 59.9 +1.6**
EIL	**Elat**	**37.17 266**	LR	LR	05 53 56.0
	comp=Z,191nm,20.2s,baz=352,slow=39				
KMPD	**K-Podol'skiy**	**37.18 300**	P	**pP**	**05 36 59.1 -4.3**
KMPD			P	**P**	**05 36 58.8 +0.2**
RNPP9	**Sopachiv**	**37.20 304**	P	**P**	**05 36 59.6 +0.8**
FIA1	**FINESS Array S**	**37.35 321**	P	**P**	**05 37 00.2 +0.4**
FINES	**FINESS Array B**	**37.35 321**	P	**P**	**05 36 60.0 +0.1**
FINES	**FINESS Array B**	**37.35 321**	P	**P**	**05 37 00.8 +0.9**
	comp=Z,19nm,0.7s,baz=102,slow=7.6,SNR=47				
FINES			LR	LR	05 52 52.0
	comp=Z,1μm,19.3s,baz=104,slow=37				
	comp=Z,19nm,0.7s				
TESR	**Tescani**	**37.41 296**	⇑P	**P**	**05 37 01.6 +1.0**
VRI	**Vrincioaia**	**37.49 295**	⇑P	**P**	**05 37 02.8 +1.5**
VRI	**Vrincioaia**	**37.49 295**	P	**P**	**05 37 02.8 +1.5**
PLOR	**Plostina**	**37.54 295**	⇑P	**P**	**05 37 03.3 +1.5**
PLOR	**Plostina**	**37.54 295**	P	**P**	**05 37 03.8 +2.0**
BISRR	**Bisoca**	**37.57 295**	⇑P	**P**	**05 37 03.7 +1.7**
KS19	**Wonju Array Si**	**37.73 79**	P	**P**	**05 37 02.0 -1.4**
KS19			IAmb	IAmb	05 37 07.5
	comp=Z,41nm,1.4s				
KSAR	**Wonju Array Be**	**37.77 79**	P	**P**	**05 37 03.0 -0.7**
KSAR	**Wonju Array Be**	**37.77 79**	P	**P**	**05 37 03.0 -0.7**
ISR	**Istrita**	**37.78 294**	⇓P	**P**	**05 37 06.0 +2.2**
ISR	**Istrita**	**37.78 294**	P	**P**	**05 37 06.0 +2.2**
KSRS	**Korea Array**	**37.79 79**	P	**P**	**05 37 03.5 -0.4**
	comp=Z,8.8nm,0.7s,baz=284,slow=9.1,SNR=22				
	comp=Z,8.8nm,0.7s				
ELL	**Elmali**	**37.87 280**	P	**P**	**05 37 05.1 +0.3**
ELL	**Elmali**	**37.87 280**	P	**P**	**05 37 05.1 +0.3**
ELL			pmax	pmax	
	comp=Z,14nm,0.8s				
NEHR	**Nehoiu**	**37.88 295**	⇑P	**P**	**05 37 06.9 +2.2**
PHSR	**Pinarhisar**	**37.99 288**	⇑P	**P**	**05 37 07.7 +2.2**
KEF	**Keuruu**	**38.02 322**	*e*P	**P**	**05 37 06.5 +1.0**
MEF	**Metsahovi**	**38.03 319**	*e*P	**P**	**05 37 07.1 +1.5**
MLR	**Muntele Rosu**	**38.10 295**	IAmb	IAmb	05 37 11.0
	comp=Z,27nm,0.9s				
MLR	**Muntele Rosu**	**38.10 295**	LR	LR	05 55 55.4
	comp=Z,775nm,20.3s,baz=80,slow=41				
MLR	**Muntele Rosu**	**38.10 295**	⇓P	**P**	**05 37 09.2 +2.5**
MLR	**Muntele Rosu**	**38.10 295**	P	**P**	**05 37 09.1 +2.5**
PABE	**Paberze**	**38.11 311**	*e*P	**P**	**05 37 07.7 +1.3**
VSVD	**Vaisvydziai**	**38.12 312**	*e*P	**P**	**05 37 07.8 +1.3**
BURAR	**Bucovina Array**	**38.16 298**		**P**	**05 37 07.9 +0.8**
BURAR	**Bucovina Array**	**38.16 298**	⇑P	**P**	**05 37 08.8 +1.6**

BURAR **Bucovina Array** 38.16 298 P P 05 37 08.7 +1.6
BUR08 **Bucovina Ar. S** 38.17 298 P 05 37 08.0 +0.9
VADS **Vadso** 38.35 335 *eP* P 05 37 09.2 +1.1
DOPR **Dopca** 38.38 296 ⇓P P 05 37 11.2 +2.3
SUW **Suwalki** 38.64 309 *eP* P 05 37 12.3 +1.5
SUW **Suwalki** 38.64 309 P P 05 37 11.1 +0.3
SUW **Suwalki** 38.64 309 P P 05 37 11.1 +0.3
USRK **Ussuriysk Ar.** 38.65 67 P P 05 37 10.5 -0.6
comp=Z,9.0nm,0.9s,baz=296,slow=8.3,SNR=12
comp=Z,9.0nm,0.9s
ELND **Elena** 38.79 291 ⇑P P 05 37 13.6 +1.3
KEV **Kevo** 38.97 334 P P 05 37 13.7 +0.2
KEV IAmb IAmb 05 37 16.2
comp=Z,40nm,0.8s
KEV **Kevo** 38.97 334 P P 05 37 13.7 +0.2
KEV pmax pmax
comp=Z,40nm,0.8s
ARR **Arges** 39.03 295 ⇓P P 05 37 15.5 +1.1
VAF **Ylistaro** 39.14 323 *eP* P 05 37 16.6 +1.6
TIXI **Tiksi** 39.14 23 P P 05 37 14.3 -0.5
TIXI IAmb IAmb 05 37 17.9
comp=Z,27nm,0.8s
TIXI **Tiksi** 39.14 23 LR LR 05 54 21.6
comp=Z,837nm,18.7s,baz=258,slow=38
TIXI **Tiksi** 39.14 23 P P 05 37 14.8 0.0
LHMI **Lhok Sumawe** 39.31 151 P P 05 37 16.9 0.0
LHMI **Lhok Sumawe** 39.31 151 P P 05 37 18.8 +1.9
ARA0 **ARCESS Array S** 39.40 334 *eP* P 05 37 17.7 +0.7
ARCES **ARCESS Array B** 39.40 334 P 05 37 18.0 +0.9
ARCES **ARCESS Array B** 39.40 334 P P 05 37 17.8 +0.7
comp=Z,61nm,0.7s,baz=101,slow=5.3,SNR=126
ARCES PcP PcP 05 39 25.6 +0.6
comp=Z,5.6nm,0.7s,baz=124,slow=5.9,SNR=3.0
ARCES LR LR 05 54 31.7
comp=Z,930nm,18.1s,baz=98,slow=38
comp=Z,61nm,0.7s
EZN **Ezine** 39.41 286 ⇑P P 05 37 18.9 +1.3
EZN **Ezine** 39.41 286 P P 05 37 18.8 +1.3
KWP **Kalwaria Pacla** 39.45 302 *eP* P 05 37 19.5 +1.8
LOT **Lotru** 39.60 295 ⇑P P 05 37 21.0 +1.8
MARR **Marisel-Cluj** 39.76 297 ⇑P P 05 37 21.3 +0.8
SJUU **Sjulsmark** 39.94 327 *eP* P 05 37 22.5 +0.9
DRGR 40.01 298 ⇑P P 05 37 24.0 +1.5
DRGR 40.01 298 P P 05 37 23.9 +1.5
R9F13 **Warsaw-Wawer** 40.04 306 *eP* P 05 37 24.0 +1.4
LANU **Lannavaara** 40.25 331 *eP* P 05 37 24.8 +0.6
GZR **Gura Zlata** 40.29 295 ⇑P P 05 37 26.0 +1.1
GZR **Gura Zlata** 40.29 295 P P 05 37 26.0 +1.1
BEL **Belsk** 40.31 306 *eP* P 05 37 26.3 +1.5
HAMF **Hammerfest** 40.33 335 *eP* P 05 37 26.1 +1.4
STHS **Stebnicka Huta** 40.43 302 *eP* P 05 37 25.9 0.0
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS **Stebnicka Huta** 40.43 302 *eP* P 05 37 25.9 0.0
SURR **Surduc** 40.65 296 ⇑P P 05 37 29.0 +1.3
HERR **Herculane** 40.67 295 ⇑P P 05 37 29.1 +1.1
KULM **Kulim** 40.74 145 P 05 37 28.2 -0.5
KULM **Kulim** 40.74 145 P P 05 37 29.1 +0.4
SIRR **Siria** 40.83 297 ⇓P P 05 37 30.8 +1.6
BLKB **Belogradchik** 40.84 293 ⇑P P 05 37 31.3 +1.9
BZS **Buzias** 41.03 296 ⇑P P 05 37 32.3 +1.5
BZS **Buzias** 41.03 296 P P 05 37 32.3 +1.5
NIE **Niedzica** 41.03 302 *eP* P 05 37 32.5 +1.7
KECS **Kecovo** 41.10 301 *eP* P 05 37 33.9 +2.5
KECS pmax pmax
comp=Z,18nm,0.7s
KECS **Kecovo** 41.10 301 *eP* P 05 37 33.9 +2.5
JETT **Jettan, Norway** 41.14 333 *eP* P 05 37 32.0 +0.5
MDVR **Moldovita** 41.18 295 ⇑P P 05 37 33.5 +1.3
OJC **Ojcow** 41.20 303 *eP* P 05 37 33.3 +1.1
UPP **Uppsala** 41.41 318 *eP* P 05 37 34.6 +0.8
BOVS **Bovan** 41.51 293 ⇑P P 05 37 36.2 +1.4
PSZ **Piszkesteto** 41.61 300 ⇑P P 05 37 37.7 +2.0
PSZ **Piszkesteto** 41.61 300 *eP* P 05 37 37.0 +1.2
PSZ **Piszkesteto** 41.61 300 P P 05 37 37.7 +2.0
LANS **Liptovska Anna** 41.62 302 *eP* P 05 37 38.0 +2.3
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS **Liptovska Anna** 41.62 302 *eP* P 05 37 38.0 +2.3
VAY **Valandovo** 41.62 290 *i P* P 05 37 37.1 +1.4
IPM **Ipoh** 41.63 145 P 05 37 34.6 -1.4
IPM **Ipoh** 41.63 145 P P 05 37 35.0 -1.0
TRO **Tromso** 41.66 333 *eP* P 05 37 36.2 +0.5
JNU **Nakatsue** 41.76 84 P 05 37 37.0 -0.1
JNU **Nakatsue** 41.76 84 LR LR 05 57 45.5
comp=Z,170nm,20.8s,baz=328,slow=40
JNU **Nakatsue** 41.76 84 P P 05 37 36.9 -0.1
IDI **Anoyia** 42.18 280 LR LR 05 58 38.1
comp=Z,205nm,21.1s,baz=64,slow=41
SKO **Skopje** 42.21 291 *i P* P 05 37 42.1 +1.5
GKP **Gorka Klasztor** 42.24 308 *eP* P 05 37 42.0 +1.4
PSI **Prapat** 42.29 149 P P 05 37 40.6 -1.0
comp=Z,9.0nm,0.6s,baz=340,slow=6.6,SNR=13
PSI PcP PcP 05 39 35.0 -0.3
comp=Z,5.0nm,0.5s,baz=307,slow=4.6,SNR=5.7
PSI LR LR 05 58 57.2
comp=Z,237nm,18.1s,baz=252,slow=41
comp=Z,9.0nm,0.6s
STEB **Steborice** 42.53 303 *eP* P 05 37 44.8 +1.7
MAUC **Maruska** 42.62 302 *eP* P 05 37 46.1 +2.2
FAUS **Fauske** 42.68 329 *eP* P 05 37 45.0 +1.0
MORC **Moravsky Berou** 42.71 303 P 05 37 45.0 +0.4
MORC **Moravsky Berou** 42.71 303 ⇑P P 05 37 45.5 +0.9
MORC **Moravsky Berou** 42.71 303 *eP* P 05 37 45.4 +0.8
MORC **Moravsky Berou** 42.71 303 P P 05 37 45.5 +0.9
STEI **Steigen** 42.75 330 *eP* P 05 37 45.8 +1.2
JAVC **Velka Javorina** 42.84 302 *eP* P 05 37 47.7 +2.0
MORH **Mrgy, Hungar** 42.87 298 *eP* P 05 37 46.4 +0.5
MORH **Mrgy, Hungar** 42.87 298 ⇓P P 05 37 46.5 +0.7
JOW **Kunigami** 42.89 94 LR LR 05 58 51.1
comp=Z,324nm,18.1s,baz=306,slow=41
SMOL **Smolenice** 43.08 301 *eP* P 05 37 49.2 +1.7
SMOL pmax pmax
comp=Z,10.0nm,1.1s
RAUS **Rausandaksla** 43.11 328 *eP* P 05 37 48.2 +0.6
KRLC **Kraliky** 43.12 304 *eP* P 05 37 48.5 +0.5
KRLC **Kraliky** 43.12 304 *eP* P 05 37 48.5 +0.5
RUDO **Rudo** 43.13 294 *eP* P 05 37 48.9 +0.8
ATD **Arta Tunnel** 43.18 237 LR LR 05 58 00.9
comp=Z,7.1nm,21.8s,baz=22,slow=39
MODS **Modra-Piesok** 43.21 301 *eP* P 05 37 50.0 +1.4
MODS pmax pmax
comp=Z,40nm,1.4s
MODS **Modra-Piesok** 43.21 301 *eP* P 05 37 50.0 +1.4
KSP **Ksiaz** 43.26 305 *eP* P 05 37 50.2 +1.2
DPC **Dobruska-Polom** 43.35 304 *eP* P 05 37 51.5 +1.7
DPC AMS AMS 05 56 30.0
comp=Z,600nm,23.6s
DPC **Dobruska-Polom** 43.35 304 *eP* P 05 37 51.5 +1.7
DPC MLR MLR
comp=Z,600nm,23.6s
ZST **Bratislava** 43.37 301 *eP* P 05 37 53.0 +3.1
ZST **Bratislava** 43.37 301 *eP* P 05 37 52.9 +3.1
HFS **Hagfors** 43.37 319 P P 05 37 50.3 +0.5
comp=Z,18nm,0.8s,baz=111,slow=6.5,SNR=20
HFS LR LR 05 56 28.9
comp=Z,1μm,19.4s,baz=86,slow=37
comp=Z,18nm,0.8s
OSTC **Ostas** 43.37 304 *eP* P 05 37 52.2 +2.3
OSTC **Ostas** 43.37 304 *eP* P 05 37 52.2 +2.3
LOF **Lofoten** 43.40 330 *eP* P 05 37 50.2 +0.4
VRAC **Vranov** 43.42 303 LR LR 05 57 01.3
comp=Z,344nm,20.8s,baz=76,slow=38
VRAC **Vranov** 43.42 303 ⇑P P 05 37 51.9 +1.5
VRAC **Vranov** 43.42 303 *eP* P 05 37 51.5 +1.2
VRAC **Vranov** 43.42 303 P P 05 37 51.8 +1.5
VAGH **Vaagaholmen** 43.43 328 *eP* P 05 37 51.5 +1.4
CHVC **Chvalec** 43.47 305 *eP* P 05 37 52.5 +1.8
CHVC **Chvalec** 43.47 305 *eP* P 05 37 52.5 +1.8
LEIR **Leirfjorden** 43.48 327 *eP* P 05 37 50.5 0.0
UPC **Upice** 43.51 304 *eP* P 05 37 52.9 +1.9
UPC **Upice** 43.51 304 *eP* P 05 37 52.9 +1.9
STOK **Stokkvaagen** 43.52 328 *eP* P 05 37 50.9 +0.1
PDG **Podgorica** 43.59 292 IAmb IAmb 05 37 54.8
comp=Z,32nm,0.8s
PDG **Podgorica** 43.59 292 ⇑P P 05 37 53.4 +1.6
ITM **Ithomi** 43.59 284 IAmb IAmb 05 37 53.1
comp=Z,20nm,0.7s
KRUC **Moravsky** 43.60 302 *eP* P 05 37 53.1 +1.3
DEL **Delary** 43.68 313 *i P* P 05 37 52.0 -0.3
KLINJ **Klinje** 43.82 294 *eP* P 05 37 56.7 +3.0
NSS **Namsos** 43.96 325 *eP* P 05 37 54.3 -0.1
BEHE **Becsehely** 44.04 299 *eP* P 05 37 55.5 +0.2

LUNU **Lund** 44.04 312 *i P* P 05 37 56.2 +1.0
BORU **Boraas** 44.12 315 *i P* P 05 37 56.2 +0.5
TREB **Trebinje** 44.13 293 *eP* P 05 37 56.9 +0.8
BJUU **Bjuv** 44.21 313 *i P* P 05 37 57.8 +1.3
NC405 **NORSAR Array S** 44.26 320 IAmb IAmb 05 38 00.4
comp=Z,36nm,0.8s
BLY **Banja Luka** 44.28 296 *eP* P 05 37 54.9 -2.4
BLY **Banja Luka** 44.28 296 ⇓P P 05 37 58.3 +1.0
NC602 **NORSAR Array S** 44.38 320 IAmb IAmb 05 38 01.1
comp=Z,27nm,0.8s
NC602 **NORSAR Array S** 44.38 320 *eP* P 05 37 58.2 +0.4
MNSI **Mandailing Nat** 44.38 150 P P 05 37 59.8 +1.5
comp=Z,2μmcomp=Z,22nm,1.0s
KOGS **Kog** 44.40 299 *i P* P 05 38 00.3 +2.1
PVCC **Panska Ves** 44.40 305 *eP* P 05 38 00.0 +1.8
PVCC **Panska Ves** 44.40 305 *eP* P 05 38 00.0 +1.8
SPB2 **Spitsbergen Ar** 44.45 345 P P 05 37 58.4 +0.2
SPB2 IAmb IAmb 05 38 08.5
comp=Z,30nm,0.8s
SPITS **Spitsbergen Ar** 44.45 345 P P 05 38 00.0 +1.8
comp=Z,11nm,0.7s,baz=103,slow=10,SNR=9.5
SPITS LR LR 06 00 06.0
comp=Z,897nm,18.8s,baz=106,slow=41
comp=Z,11nm,0.7s
NB201 **NORSAR Array S** 44.47 320 P 05 37 59.0 +0.3
NB201 IAmb IAmb 05 38 03.0
comp=Z,24nm,1.0s
NB2 **NORSAR Subarra** 44.51 320 P P 05 37 59.2 +0.2
comp=Z,11nm,0.6s,baz=85,slow=7.9
NB2 **NORSAR Subarra** 44.51 320 P P 05 37 59.2 +0.2
baz=85,slow=7.9
NOA **NORSAR Array B** 44.51 320 P P 05 37 59.2 +0.2
comp=Z,16nm,0.8s,baz=86,slow=7.9,SNR=37
NOA LR LR 05 57 04.0
comp=Z,954nm,19.0s,baz=85,slow=37
comp=Z,16nm,0.8s
PRU **Pruhonice** 44.55 304 *eP* P 05 38 01.0 +1.7
PRU **Pruhonice** 44.55 304 *eP* P 05 38 01.0 +1.7
NAO01 **NORSAR Array S** 44.69 320 P P 05 38 00.7 +0.4
NAO01 IAmb IAmb 05 38 03.3
comp=Z,25nm,0.8s
BRG **Berggiesshubel** 44.71 305 *eP* P 05 38 02.1 +1.5
BRG Amp 05 38 04.6
comp=Z,16nm,0.9s
NBO00 **NORSAR Array S** 44.72 320 IAmb IAmb 05 38 23.0
comp=Z,22nm,1.1s
STRU **Stroemstad** 44.76 317 *eP* P 05 38 01.2 +0.3
STRU **Stroemstad** 44.76 317 *i P* P 05 38 00.6 -0.2
PERS **Pernice** 45.09 299 *i P* P 05 38 04.2 +0.5
CLL **Collm** 45.18 306 IAmb IAmb 05 38 07.9
comp=Z,25nm,0.9s
CLL **Collm** 45.18 306 *i P* P 05 38 05.1 +0.8
CLL pmax pmax
comp=Z,47nm,1.3s
CLL **Collm** 45.18 306 *i P* P 05 38 05.1 +0.8
comp=Z,47nm,1.3s
CLL *e*PP **PP** 05 39 50.0 +0.3
CLL *e*PPP PPP 05 40 29.0
CLL *i* ScP **ScP** 05 43 36.6 0.0
CLL *e*x x 05 45 42.0
CLL *e*SS SS 05 48 18.0 +12
CLL Lm MLR 05 58 00.0
comp=N,400nm,18.5s
CLL Lm MLR 05 58 00.0
comp=E,400nm,19.0s
YSS **Yuzhno-Sakhali** 45.19 60 *eP* P 05 38 03.5 -0.9
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,700nm,16.0s
MYKOM **Kota Tinggi** 45.27 143 P P 05 38 06.6 +1.2
MOA **Molln** 45.29 301 *eP* P 05 38 05.9 +0.5
comp=Z,9.5nm,1.1s
INU **Inuyama** 45.35 78 P 05 38 05.5 -0.5
INU IAmb IAmb 05 38 18.8
comp=Z,33nm,1.4s
GEC2 **GERESS Array S** 45.38 303 IAmb IAmb 05 38 09.7
comp=Z,41nm,1.3s
GERES **GERESS Array B** 45.38 303 P P 05 38 07.3 +1.2
comp=Z,12nm,0.8s,baz=74,slow=8.1,SNR=41
GERES LR LR 05 58 21.0
comp=Z,368nm,19.0s,baz=80,slow=38
comp=Z,12nm,0.8s
KHC **Kasperske Hory** 45.38 303 *eP* P 05 38 07.3 +1.3
KHC **Kasperske Hory** 45.38 303 *eP* P 05 38 07.3 +1.3
DOMB **Dombas** 45.43 322 *eP* P 05 38 06.9 +0.6
KONO **Kongsberg** 45.48 318 P P 05 38 06.7 +0.1
KONO **Kongsberg** 45.48 318 *ce*P P 05 38 08.2 +1.6
KONO pmax pmax
comp=Z,68nm,2.5s
KONO **Kongsberg** 45.48 318 *eP* P 05 38 07.2 +0.6
JGF **Kuroka** 45.50 77 P 05 38 06.2 -1.0
JGF IAmb IAmb 05 38 07.3
comp=Z,23nm,1.0s
JGF **Kuroka** 45.50 77 P P 05 38 06.3 -0.8
KBS **Kingsbay** 45.50 346 P P 05 38 07.7 +1.1
KBS **Kingsbay** 45.50 346 *ce*P P 05 38 08.4 +1.9
KBS pmax pmax
comp=Z,26nm,0.7s
KBS **Kingsbay** 45.50 346 *i P* P 05 38 08.1 +1.5
LJU **Ljubljana** 45.66 299 *i P* P 05 38 09.1 +0.8
MJAR **Matsushiro Arr** 45.72 76 P P 05 38 08.2 -0.6
MJAR **Matsushiro Arr** 45.72 76 P P 05 38 08.0 -0.9
comp=Z,5.7nm,0.9s,baz=286,slow=9.5,SNR=16
MJAR LR LR 05 59 25.6
comp=Z,116nm,18.7s,baz=302,slow=39
comp=Z,5.7nm,0.9s
MJAR **Matsushiro Arr** 45.72 76 P P 05 38 08.3 -0.6
MJAR pmax pmax
comp=Z,11nm,1.3s
BIOA **Bad Ischl, Aus** 45.74 301 *eP* P 05 38 09.6 +0.7
comp=Z,14nm,1.4s
PPI **Padang Panjang** 45.85 149 P P 05 38 10.7 +0.8
comp=Z,2μmcomp=Z,14nm,0.7s
SKAR **Skarslia** 45.97 320 *eP* P 05 38 12.6 +2.0
ASAJ **Asahikawa** 45.97 64 LR LR 05 58 48.5
comp=Z,224nm,18.6s,baz=114,slow=38
ASAJ **Asahikawa** 45.97 64 P P 05 38 10.6 -0.1
ASAJ pmax pmax
comp=Z,40nm,1.2s
JKA **Kamikawa-asahi** 45.98 64 P P 05 38 10.6 -0.1
MATE **Matera** 46.01 291 *eP* P 05 38 08.5 -2.6
MOL **Molde** 46.07 322 *eP* P 05 38 12.9 +1.7
HOMB **Homborsund** 46.26 316 *eP* P 05 38 13.5 +0.8
PDSI **Padang** 46.29 149 P P 05 38 12.8 -0.7
comp=Z,48nm,1.3s
SABO **M.te Sabotino** 46.29 299 IAmb IAmb 05 38 15.6
comp=Z,21nm,1.0s
AKN **Aaknes** 46.38 322 *eP* P 05 38 15.4 +1.7
ACER **Acerenza** 46.50 291 IAmb IAmb 05 38 17.9
comp=Z,20nm,0.8s
TIP **Timpagrande** 46.54 289 ⇓P P 05 38 15.5 +0.2
GRFO **Grafenberg** 46.70 304 P P 05 38 17.1 +0.7
GRFO **Grafenberg** 46.70 304 P P 05 38 17.1 +0.7
GRFO pmax pmax
comp=Z,39nm,0.8s
SNART **Snartemo** 46.92 317 *i P* P 05 38 18.0 +0.1
SEY **Seymchan** 47.09 37 LR LR 05 59 59.6
comp=Z,376nm,19.1s,baz=283,slow=38
SEY **Seymchan** 47.09 37 *i P* P 05 38 19.8 +0.6
SEY pmax pmax
comp=Z,8.0nm,0.9s
BER **Bergen** 47.47 320 *eP* P 05 38 22.6 +0.5
ASK **Askoy** 47.51 320 *eP* P 05 38 21.9 -0.7
CAMP **Campotosto** 47.61 295 IAmb IAmb 05 38 41.6
comp=Z,17nm,1.0s
FDMO **Fiordimonte** 47.64 295 IAmb IAmb 05 38 31.9
comp=Z,14nm,0.8s
AQU **L'Aquila** 47.68 294 *eP* P 05 38 24.7 +0.5
NRCA **Norcia** 47.70 295 IAmb IAmb 05 38 36.4
comp=Z,14nm,0.9s
FETA **Feichten** 47.83 301 *eP* P 05 38 25.5 0.0
comp=Z,4.2nm,0.9s
FURI **Furi** 47.84 239 LR LR 06 01 33.8
comp=Z,153nm,18.5s,baz=34,slow=40
CESX **Cesi** 48.15 295 IAmb IAmb 05 38 30.5
comp=Z,15nm,0.9s
STU **Stuttgart** 48.24 304 *eP* P 05 38 29.8 +1.4
FUORN **Ofenpass-Fuorn** 48.27 301 IAmb IAmb 05 38 36.4
comp=Z,12nm,0.8s
JHJ **Hachijo jima 2** 48.40 79 LR LR 06 00 45.5
comp=Z,140nm,19.3s,baz=49,slow=38
ZCCA **Zocca** 48.59 298 IAmb IAmb 05 38 42.6
comp=Z,17nm,0.8s
KSM **Kuching** 48.70 136 P P 05 38 33.3 +1.1

OSSC **Osservatorio P** 48.71 297 IAmb IAmb 05 38 34.8
comp=Z,18nm,1.0s
SBUM **Sibu** 48.91 133 P 05 38 33.4 -0.4
SBUM IAmb IAmb 05 38 37.7
comp=Z,19nm,1.0s
SBUM **Sibu** 48.91 133 P P 05 38 34.0 +0.2
BFO **Black Forest** 48.93 303 P 05 38 33.8 +0.1
BFO IAmb IAmb 05 38 39.6
comp=Z,16nm,0.9s
BFO **Black Forest** 48.93 303 P P 05 38 33.8 +0.1
BFO pmax pmax
comp=Z,16nm,0.9s
BTNL **Ternell** 49.55 307 *d*P P 05 38 41.0 +2.6
comp=Z,13nm,1.1s
MSSA **Maissana** 49.58 298 P 05 38 39.1 +0.3
MSSA IAmb IAmb 05 38 50.4
comp=Z,13nm,0.8s
MEM **Membach** 49.62 307 *d*P P 05 38 39.7 +0.8
ECH **Echery** 49.71 304 IAmb IAmb 05 38 42.4
comp=Z,34nm,1.3s
WLF **Walferdange** 49.84 306 P 05 38 41.2 +0.6
WLF IAmb IAmb 05 38 45.2
comp=Z,28nm,1.0s
WLF **Walferdange** 49.84 306 *d*P P 05 38 41.8 +1.2
comp=Z,18nm,1.0s
WLF **Walferdange** 49.84 306 P P 05 38 41.2 +0.6
WLF pmax pmax
comp=Z,28nm,1.0s
BSTI **Sart Tilman** 49.89 307 *d*P P 05 38 43.0 +2.0
BCLA **Clavier** 50.10 307 *d*P P 05 38 44.9 +2.3
comp=Z,13nm,1.2s
RCHB **Rochefort** 50.24 307 *d*P P 05 38 44.2 +0.6
comp=Z,10nm,1.0s
BGES **Gesves** 50.25 307 *d*P P 05 38 44.9 +1.2
comp=Z,12nm,1.0s
NOR **Nord** 50.34 349 *i P* P 05 38 44.8 +0.8
NOR IAmb IAmb 05 38 47.4
comp=Z,25nm,1.2s
MYLDM **Lahad Datu** 50.42 124 P P 05 38 46.8 +1.5
BMRD **Maredsous** 50.47 307 *d*P P 05 38 46.0 +0.7
STKI **Sintang** 50.50 136 P P 05 38 48.6 +2.6
DOU **Dourbes** 50.64 307 *d*P P 05 38 49.0 +2.4
TPI **Tanjungpandan** 51.02 142 P P 05 38 52.8 +2.9
comp=Z,3μmcomp=Z,15nm,1.1s
BNI **Bardonecchia** 51.17 300 IAmb IAmb 05 38 54.7
comp=Z,20nm,1.0s
BILL **Bilibino** 51.67 29 P P 05 38 54.0 -0.1
BILL IAmb IAmb 05 38 59.0
comp=Z,50nm,1.5s
BILL **Bilibino** 51.67 29 *ce*P P 05 38 54.7 +0.6
BILL pmax pmax
comp=Z,20nm,1.0s
DAG **Danmarks Havn** 51.99 343 *i P* P 05 38 56.5 +0.1
DAG IAmb IAmb 05 38 58.8
comp=Z,50nm,0.8s
PETK **Petropavlovsk-** 52.35 48 LR LR 06 03 19.1
comp=Z,99nm,20.9s,baz=300,slow=38
SSB **Saint Sauveur** 52.47 301 IAmb IAmb 05 39 03.0
comp=Z,20nm,1.2s
DBG **Daneborg** 53.20 340 *i P* P 05 39 05.5 +0.1
DBG IAmb IAmb 05 39 08.2
comp=Z,12nm,0.8s
EKA **Eskdalemuir Ar** 53.22 315 P P 05 39 05.8 0.0
comp=Z,14nm,0.7s,baz=77,slow=7.8,SNR=24
comp=Z,14nm,0.7s
KEST **Kesra** 53.35 288 IAmb IAmb 05 39 10.5
comp=Z,19nm,1.1s
KEST **Kesra** 53.35 288 P P 05 39 07.1 -0.1
comp=Z,9.8nm,1.0s,baz=127,slow=5.1,SNR=6.7
KEST LR LR 06 07 17.7
comp=Z,82nm,18.0s,baz=294,slow=42
comp=Z,9.8nm,1.0s
KEST **Kesra** 53.35 288 P P 05 39 07.0 -0.1
LEM **Lembang** 54.60 144 LR LR 06 07 36.1
comp=Z,104nm,18.6s,baz=121,slow=42
TOLI2 **Tolitoli** 55.00 125 IAmb IAmb 05 39 26.5
comp=Z,30nm,1.3s
TOLI2 **Tolitoli** 55.00 125 P P 05 39 19.8 +0.5
BBKI **Banjar Baru** 55.26 134 P P 05 39 24.3 +3.2
CEST **Esterri de Car** 55.76 299 IAmb IAmb 05 39 27.7
comp=Z,30nm,1.3s
MRSI **Marisa** 56.21 125 P P 05 39 30.6 +2.6
comp=Z,40nm,1.0s
KIBK **Kibwezi** 56.99 231 P 05 39 33.9 +0.3
APSI **Ampana** 57.12 126 P P 05 39 36.1 +1.7
comp=Z,2μmcomp=Z,45nm,0.9s
BORG **Borgarnes** 57.61 330 LR LR 06 04 09.3
comp=Z,621nm,18.2s,baz=50,slow=36
NEEM **North Greenlan** 57.71 349 *i P* P 05 39 38.2 +0.1
NEEM IAmb IAmb 05 39 40.6
comp=Z,45nm,1.1s
SUMG **Summit** 58.58 342 IAmb IAmb 05 39 50.4
comp=Z,15nm,1.0s
KAPI **Kappang** 59.27 131 LR LR 06 08 01.6
comp=Z,159nm,20.5s,baz=278,slow=39
BKSI **Bulukumba** 59.74 130 P P 05 39 51.6 -1.1
comp=Z,16nm,1.1s
ESBB **Sonseca Array** 60.62 299 IAmb IAmb 05 40 00.9
comp=Z,31nm,1.5s
ESDC **Sonseca Array** 60.62 299 P P 05 39 58.5 -0.1
ESDC IAmb IAmb 05 40 00.8
comp=Z,15nm,1.4s
ESDC **Sonseca Array** 60.62 299 P P 05 39 58.1 -0.5
comp=Z,6.0nm,1.1s,baz=55,slow=7.2,SNR=24
ESDC LR LR 06 08 36.6
comp=Z,125nm,20.9s,baz=54,slow=38
comp=Z,6.0nm,1.1s
SANI **Sanana** 60.71 123 P P 05 39 59.1 -0.2
SANI **Sanana** 60.71 123 P P 05 39 59.6 +0.3
comp=Z,753nmcomp=Z,42nm,1.3s
A19K **Wainwright** 60.82 20 P P 05 39 57.2 -2.2
baz=312
C16K **Lisburne Hills** 60.91 23 P P 05 39 58.3 -1.7
baz=309
PAB **San Pablo** 60.94 299 P P 05 40 00.9 +0.1
PAB IAmb IAmb 05 40 03.2
comp=Z,24nm,1.4s
PAB **San Pablo** 60.94 299 P P 05 40 01.0 +0.1
PAB pmax pmax
comp=Z,24nm,1.4s
A21K **Barrow** 61.13 18 P P 05 39 59.8 -1.6
baz=315
B18K **Kokolik River** 61.19 21 P P 05 40 01.2 -0.7
baz=311
C17K **DeLong Mountai** 61.40 22 P P 05 40 02.3 -1.1
baz=311
GAMB **Gambell** 61.60 28 P P 05 40 03.7 -1.0
baz=306
A22K **Sinclair Lake** 61.73 17 P P 05 40 04.6 -0.9
baz=316
RDOG **Red Dog Mine** 61.75 22 P P 05 40 04.8 -1.0
baz=311
TNA **Tin City** 61.82 26 P P 05 40 05.4 -0.7
baz=308
C18K **Utukok River** 61.83 21 P P 05 40 05.6 -0.7
baz=312
MVO **Moncorvo** 61.86 301 *eP* P 05 40 07.8 +0.8
MVO *i* IAmb IAmb 05 40 09.5
comp=Z,43nm,1.9s
B20K **Meade River** 61.93 19 P P 05 40 05.9 -0.9
baz=315
D17K **Noatak River** 61.94 22 P P 05 40 06.1 -0.8
baz=311
C19K **Lookout Ridge** 61.95 20 P P 05 40 06.3 -0.8
baz=313
PCAB **Cabril** 62.22 302 *eP* P 05 40 10.4 +1.1
PGAV **Gavieira, Arco** 62.24 303 *eP* P 05 40 10.8 +1.2
POLO **Lamas de Olo** 62.24 302 *eP* P 05 40 10.3 +0.8
POLO *i* IAmb IAmb 05 40 54.2
comp=Z,24nm,1.8s
F14K **Arctic Creek** 62.39 25 P P 05 40 09.4 -0.6
baz=309
B22K **Teshekpuk Lake** 62.57 18 P P 05 40 10.8 -0.3
baz=318
MTE **Manteigas** 62.59 301 *eP* P 05 40 13.0 +1.1
MTE *i* IAmb IAmb 05 40 57.2
comp=Z,52nm,2.0s
PVIS **Viseu** 62.65 301 *eP* P 05 40 10.5 -1.8
E17K **Hotham Inlet** 62.71 23 P P 05 40 11.8 -0.4
baz=312
D19K **Kuna River** 62.76 20 IAmb IAmb 05 40 16.5
comp=Z,16nm,0.8s
D19K **Kuna River** 62.76 20 P P 05 40 11.6 -0.9
baz=315
F15K **North Star Dit** 62.77 25 P P 05 40 12.1 -0.5
baz=311
B21K **Ikpikpuk River** 62.82 18 IAmb IAmb 05 40 15.5

comp=Z,21nm,1.1s
B21K Ikpikpuk River 62.82 18 P P 05 40 12.3 -0.6
baz=317
E18K Tukpahlearik C 62.83 22 IAmb IAmb 05 40 14.5
comp=Z,16nm,0.9s
E18K Tukpahlearik C 62.83 22 P P 05 40 12.3 -0.6
baz=313
D20K Ettivluk River 62.99 20 P P 05 40 13.4 -0.7
baz=316
PMRV Marv??o 63.01 300 eP P 05 40 15.8 +1.1
PMRV i IAmb IAmb 05 40 35.4
comp=Z,34nm,1.6s
TAM Tamanrasset 63.05 278 P 05 40 15.3 0.0
TAM Tamanrasset 63.05 278 P P 05 40 15.3 0.0
TAM pmax pmax
comp=Z,28nm,0.6s
C21K Knifeblade Rid 63.12 19 P P 05 40 14.3 -0.6
baz=317
GUMO Guam 63.21 95 LR LR 06 08 55.6
comp=Z,34nm,20.6s,baz=20,slow=37
ANM Nome 63.29 26 P P 05 40 15.1 -0.9
baz=310
F17K Baldwin Pennin 63.31 23 P P 05 40 15.7 -0.5
baz=313
PCAS Casmilo, Conde 63.40 301 eP P 05 40 18.1 +1.0
PCAS i IAmb IAmb 05 40 27.8
comp=Z,48nm,1.9s
E20K Nigu River 63.43 20 P P 05 40 16.4 -0.6
baz=316
G15K Niukluk 63.44 25 P P 05 40 16.1 -0.9
baz=311
PESTR Estremoz 63.44 299 eP P 05 40 19.2 +1.7
PBAR Barrancos 63.45 299 eP P 05 40 17.9 +0.3
PBAR i IAmb IAmb 05 40 21.1
comp=Z,35nm,1.6s
C23K Itkillik River 63.58 17 P P 05 40 17.1 -0.8
baz=320
F18K Selawik 63.67 22 P P 05 40 17.9 -0.6
baz=314
G16K Koyuk River 63.70 24 P P 05 40 17.8 -0.9
baz=312
E19K Redstone River 63.73 21 P P 05 40 18.3 -0.7
baz=316
PMTG Montargil 63.75 300 eP P 05 40 19.6 +0.1
PMTG i IAmb IAmb 05 40 24.6
comp=Z,25nm,1.6s
D22K Ayikyak River 63.84 18 P P 05 40 19.2 -0.4
baz=319
E21K Killik River 63.85 19 P P 05 40 19.3 -0.5
baz=318
EVO Evora 63.90 299 eP P 05 40 21.9 +1.4
EVO i IAmb IAmb 05 40 24.9
comp=Z,20nm,1.6s
ILULI Ilulissat 63.91 342 i P P 05 40 19.7 -0.3
ILULI IAmb IAmb 05 40 22.2
comp=Z,18nm,0.6s
F19K Shaleruckik Mo 64.03 22 P P 05 40 20.7 -0.2
baz=316
PBEJ Beja 64.08 299 eP P 05 40 22.8 +1.1
PBEJ i IAmb IAmb 05 40 24.6
comp=Z,29nm,1.5s
C24K Franklin Bluff 64.09 17 P P 05 40 20.2 -1.0
baz=322
G17K Kiwalik Mounta 64.14 24 P P 05 40 21.1 -0.5
baz=314
D23K Nanushuk River 64.24 18 P P 05 40 22.1 -0.2
baz=320
H16K Elim 64.25 25 P P 05 40 21.5 -0.9
baz=313
PVAQ Vaqueiros 64.32 298 eP P 05 40 24.3 +1.0
PVAQ i IAmb IAmb 05 40 26.7
comp=Z,38nm,1.6s
RES Resolute Bay 64.35 358 LR LR 06 10 18.9
comp=Z,86nm,21.9s,baz=12,slow=38
PCVE Castro Verde 64.41 298 eP P 05 40 25.8 +1.9
MESJ Messejana 64.42 299 eP P 05 40 25.9 +2.0
MESJ i IAmb IAmb 05 41 02.0
comp=Z,21nm,1.6s
F20K Avaraart Lake 64.44 21 IAmb IAmb 05 40 59.0
comp=Z,16nm,1.4s
F20K Avaraart Lake 64.44 21 P P 05 40 22.9 -0.6
baz=317
G18K Tagagawik 64.45 23 P P 05 40 23.0 -0.7
baz=315
D24K Happy Valley 64.51 17 P P 05 40 23.5 -0.5
baz=322
E22K Anaktuvuk Pass 64.61 19 IAmb IAmb 05 40 44.6
comp=Z,9.5nm,0.9s
E22K Anaktuvuk Pass 64.61 19 P P 05 40 24.3 -0.5
baz=320,SNR=5.5
C26K Camden Bay 64.72 15 P P 05 40 24.8 -0.6
baz=325
MDT Midelt 64.73 292 LR LR 06 14 28.8
comp=Z,40nm,18.1s,baz=40,slow=41
DY2G Dye2 64.74 339 i P P 05 40 25.6 -0.3
DY2G IAmb IAmb 05 40 28.9
comp=Z,24nm,0.9s
TOLK Toolik Lake Re 64.75 18 IAmb IAmb 05 40 27.0
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 64.75 18 P P 05 40 24.9 -0.7
baz=321
H17K Granite Mounta 64.76 24 P P 05 40 25.0 -0.7
MD01 Midelt array s 64.81 292 P 05 40 26.9 +0.1
MD31 MD31 64.81 292 IAmb IAmb 05 40 29.4
comp=Z,11nm,1.1s
F21K Alatna River 64.89 20 P P 05 40 26.0 -0.6
baz=319,SNR=7.1
D25K Kavik River 64.91 16 P P 05 40 25.9 -0.8
baz=324
F22K John River 65.01 19 P P 05 40 26.4 -0.9
baz=320
H18K Honhosa River 65.07 23 P P 05 40 26.8 -0.9
baz=316
E23K Chandalar 65.20 18 IAmb IAmb 05 40 32.6
comp=Z,12nm,0.9s
E23K Chandalar 65.20 18 P P 05 40 27.8 -0.9
baz=322
C27K Jago River 65.20 15 IAmb IAmb 05 40 39.9
comp=Z,15nm,1.1s
C27K Jago River 65.20 15 P P 05 40 28.1 -0.4
baz=326
I17K Unalakleet 65.25 25 P P 05 40 28.2 -0.7
baz=314
K13K Kusilvak Mount 65.27 28 P P 05 40 28.4 -0.7
baz=312
H19K Roundabout Mou 65.35 22 P P 05 40 29.0 -0.5
baz=317
G21K Allakaket 65.42 20 IAmb IAmb 05 41 10.1
comp=Z,27nm,1.4s
G21K Allakaket 65.42 20 P P 05 40 29.2 -0.8
baz=319
E24K Your Creek 65.44 18 IAmb IAmb 05 40 31.6
comp=Z,15nm,1.3s
E24K Your Creek 65.44 18 P P 05 40 28.9 -1.3
baz=322
G22K Bettles 65.62 19 P P 05 40 30.5 -0.7
baz=320
J16K Anvik River 65.71 25 P P 05 40 31.1 -0.8
baz=315
COLD Coldfoot 65.71 19 P P 05 40 31.2 -0.7
baz=321,SNR=11
SOEI Soe 65.71 130 P P 05 40 31.3 -1.3
SOEI Soe 65.71 130 P P 05 40 33.1 +0.5
comp=Z,40nm,0.8s
M11K Mekoryuk 65.75 30 P P 05 40 31.7 -0.4
baz=311
IMAR Indian Mountai 65.76 21 P P 05 40 31.5 -0.7
GCSA Galena City Sc 65.80 23 P P 05 40 31.7 -0.7
baz=317
H20K Anotleneega Mo 65.82 22 P P 05 40 31.6 -1.0
baz=318,SNR=9.5
A36M Sachs Harbour 65.86 8 P P 05 40 32.0 -0.8
baz=340
F24K Squaw Lake 66.03 18 P P 05 40 33.0 -0.9
baz=323
D27M Malcolm River 66.05 14 IAmb IAmb 05 40 36.7
comp=Z,12nm,1.0s
D27M Malcolm River 66.05 14 P P 05 40 33.3 -0.8
baz=328
E25K Arctic Village 66.06 17 P P 05 40 33.4 -0.7
baz=325
K15K Wolf Creek Mou 66.10 26 P P 05 40 33.3 -1.1
baz=314
J17K VABM Dome 66.11 25 P P 05 40 33.5 -1.0
baz=316
G23K Bananza Creek 66.16 19 P P 05 40 33.9 -0.9
baz=322

SPIA Saint Paul Isl 66.23 34 P P 05 40 34.8 -0.5
baz=310
H21K Melozitna Rive 66.26 21 IAmb IAmb 05 40 37.7
comp=Z,12nm,1.0s
H21K Melozitna Rive 66.26 21 P P 05 40 34.6 -0.8
baz=320
OPO Ambohidratompo 66.28 213 LR LR 06 06 12.4
comp=Z,81nm,21.1s,baz=162,slow=33
L14K Kuka Creek 66.37 28 P P 05 40 34.9 -1.2
baz=314
D28M Stokes Point 66.38 14 P P 05 40 35.2 -0.9
baz=330
H22K Ishtalitna Cre 66.46 20 P P 05 40 35.6 -1.0
baz=321
I20K Naaghedeneel 66.46 22 P P 05 40 35.8 -0.8
baz=319
F25K Christian Rive 66.47 17 IAmb IAmb 05 40 39.4
comp=Z,11nm,1.0s
F25K Christian Rive 66.47 17 P P 05 40 36.0 -0.8
baz=325
L15K Ungalak Mounta 66.54 27 P P 05 40 35.8 -1.5
baz=314
ABPO Ambohimpanom 66.67 213 P 05 40 39.1 +0.4
ABPO IAmb IAmb 05 40 42.9
comp=Z,14nm,0.9s
ABPO Ambohimpanom 66.67 213 P P 05 40 39.1 +0.4
ABPO pmax pmax
comp=Z,14nm,0.9s
F26K Sheenjek River 66.72 16 P P 05 40 37.1 -1.3
baz=326
J19K Poorman 66.73 23 IAmb IAmb 05 40 41.1
comp=Z,17nm,1.2s
J19K Poorman 66.73 23 P P 05 40 37.4 -1.0
baz=318
M13K Dall Lake 66.77 29 P P 05 40 37.5 -1.2
baz=314
G24K Hadweenzic Riv 66.78 18 IAmb IAmb 05 40 39.5
comp=Z,8.4nm,0.8s
G24K Hadweenzic Riv 66.78 18 P P 05 40 37.6 -1.1
baz=324
E27K Coleen River 66.83 15 IAmb IAmb 05 40 41.4
comp=Z,14nm,1.1s
E27K Coleen River 66.83 15 P P 05 40 37.8 -1.3
baz=328
BMAR Burnt Mountain 66.84 17 P P 05 40 39.2 +0.1
I21K Tanana 66.85 21 IAmb IAmb 05 40 41.5
comp=Z,18nm,1.1s
I21K Tanana 66.85 21 P P 05 40 37.9 -1.2
baz=320
K17K Iditarod 66.85 25 P P 05 40 38.2 -1.0
baz=316
E28M Babbage River 66.87 14 IAmb IAmb 05 40 41.0
comp=Z,11nm,1.1s
E28M Babbage River 66.87 14 P P 05 40 38.3 -1.0
baz=329
P08K Saint George I 66.90 34 P P 05 40 38.4 -1.2
baz=310
H23K Yukon River 66.98 20 IAmb IAmb 05 40 42.7
comp=Z,16nm,1.0s
H23K Yukon River 66.98 20 P P 05 40 39.0 -1.0
baz=322
J20K Nowinta River 67.02 22 IAmb IAmb 05 40 49.5
comp=Z,13nm,0.9s
J20K Nowinta River 67.02 22 P P 05 40 39.3 -1.0
baz=319
M14K Bethel 67.03 28 P P 05 40 39.7 -0.6
baz=314
G25K Bearman Lake 67.05 18 P P 05 40 39.2 -1.2
baz=325
L16K Owhat River 67.20 26 P P 05 40 40.4 -1.0
baz=316
MLY Manley 67.30 20 P P 05 40 41.4 -0.7
baz=322
E29M Blow River 67.36 14 P P 05 40 41.7 -0.6
baz=331
H24K Noodor Dome 67.38 19 P P 05 40 41.6 -1.1
baz=324
G26K Porcupine Rive 67.42 17 IAmb IAmb 05 40 54.0
comp=Z,14nm,1.2s
G26K Porcupine Rive 67.42 17 P P 05 40 41.9 -0.8
baz=326
M15K Kasigluk River 67.51 27 P P 05 40 42.4 -1.0
baz=315
H25L Birch Creek 67.53 18 P P 05 40 42.2 -1.2
baz=325
I23K Minto, Yukon-K 67.56 20 IAmb IAmb 05 40 48.1
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 67.56 20 P P 05 40 42.6 -1.1
baz=322
F28M Old Crow 67.66 15 IAmb IAmb 05 41 13.2
comp=Z,13nm,1.2s
F28M Old Crow 67.66 15 P P 05 40 43.6 -0.7
baz=329
K20K Telida 67.67 23 IAmb IAmb 05 40 47.1
comp=Z,18nm,1.2s
K20K Telida 67.67 23 P P 05 40 43.7 -0.7
baz=319
N14K Kuskokwak Cree 67.71 28 P P 05 40 43.8 -0.9
baz=315
L18K Granite Mounta 67.73 25 P P 05 40 44.1 -0.7
baz=318
CHUM Lake Minchumin 67.77 22 P P 05 40 44.3 -0.6
baz=321
M16K Timber Creek 67.87 26 P P 05 40 45.5 -0.2
baz=316
BPAW Bear Paw Mtn. 67.96 21 IAmb IAmb 05 40 48.1
comp=Z,17nm,1.2s
BPAW Bear Paw Mtn. 67.96 21 P P 05 40 45.7 -0.6
baz=322
G27K Doyon Strip 67.99 16 P P 05 40 45.5 -0.9
baz=328
POKR Poker Plat Res 68.08 19 P P 05 40 46.0 -0.9
baz=324
NEA2 Nenana 68.08 20 IAmb IAmb 05 40 50.1
comp=Z,15nm,1.2s
NEA2 Nenana 68.08 20 P P 05 40 45.5 -1.5
baz=323
M17K Holitna River 68.09 26 P P 05 40 46.3 -0.8
baz=318
N15K Kwethluk River 68.10 27 P P 05 40 46.3 -0.8
baz=316
COLA College 68.17 20 P P 05 40 47.6 +0.2
COLA College 68.17 20 P P 05 40 47.4 -0.1
COLA College 68.17 20 P P 05 40 47.6 +0.2
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 68.17 20 P P 05 40 46.7 -0.7
baz=324
INK Inuvik 68.18 12 P P 05 40 46.3 -1.1
baz=334
L19K White Mountain 68.33 24 P P 05 40 48.0 -0.6
baz=319
N16K Nishlik Lake 68.33 27 P P 05 40 47.6 -1.1
baz=317
O14K Tigyukauivet M 68.34 29 P P 05 40 47.9 -0.8
baz=315
L20K Farewell, AK 68.39 23 P P 05 40 47.5 -1.5
baz=320
NRS Narsarsuaq 68.42 334 i P P 05 40 51.6 +2.6
NRS IAmb IAmb 05 40 54.2
comp=Z,14nm,0.6s
F30M Barrier River 68.42 14 IAmb IAmb 05 41 04.7
comp=Z,17nm,1.1s
F30M Barrier River 68.42 14 P P 05 40 47.6 -1.4
baz=333
ILAR Eielson Array 68.50 19 P 05 40 48.7 -0.9
ILAR Eielson Array 68.50 19 P P 05 40 48.5 -1.0
comp=Z,5.6nm,0.9s,baz=316,slow=5.1,SNR=35
ILAR LR LR 06 14 30.3
comp=Z,276nm,18.8s,baz=302,slow=39
comp=Z,5.6nm,0.9s
ILAR Eielson Array 68.50 19 P P 05 40 48.7 -0.9
C36M Paulatuk 68.50 9 P P 05 40 48.3 -1.1
baz=342
H27K Steamboat Moun 68.51 16 P P 05 40 48.8 -0.9
baz=328
M18K Stony River 68.54 25 P P 05 40 48.8 -1.1
baz=319
G29M Pine Creek 68.63 15 IAmb IAmb 05 41 00.0
comp=Z,14nm,1.0s
G29M Pine Creek 68.63 15 P P 05 40 49.1 -1.2
baz=331
TRF Thorofare Moun 68.67 21 P P 05 40 50.0 -0.9
baz=322
M19K Big River Lodg 68.68 24 P P 05 40 50.0 -0.8
baz=320
HDA Harding Lake 68.78 19 IAmb IAmb 05 40 54.7
comp=Z,15nm,1.4s

HDA Harding Lake 68.78 19 P P 05 40 50.4 -0.9
baz=325
MCK McKinley 68.81 21 P P 05 40 50.7 -0.8
baz=323
G30M tAoh Zraii Nji 68.90 14 P P 05 40 50.9 -1.3
baz=332
O15K Ungalikthiuk R 68.91 28 P P 05 40 51.2 -1.0
baz=316
F31M Tsiigehtchic 68.92 13 IAmb IAmb 05 41 30.5
comp=Z,26nm,1.4s
F31M Tsiigehtchic 68.92 13 P P 05 40 51.0 -1.2
baz=334
I26K Coal Creek Min 68.94 18 IAmb IAmb 05 41 25.3
comp=Z,8.8nm,0.9s
I26K Coal Creek Min 68.94 18 P P 05 40 51.1 -1.2
baz=327,SNR=7.3
J25K Salcha River, 69.00 19 P P 05 40 52.1 -0.6
baz=326
I27K Kandik River 69.03 17 P P 05 40 52.2 -0.7
baz=328
M20K Styx River 69.08 24 P P 05 40 51.9 -1.5
baz=320
N18K Kilae Creek 69.13 25 P P 05 40 52.5 -1.2
baz=319
H29M Whitestone 69.17 15 IAmb IAmb 05 41 18.6
comp=Z,24nm,1.4s
H29M Whitestone 69.17 15 P P 05 40 52.7 -1.0
baz=331
O16K Kokwok River B 69.21 27 P P 05 40 53.1 -1.0
baz=318
G31M Satah River 69.30 13 P P 05 40 53.6 -0.9
baz=334
EPYK Eagle Plains 69.35 14 IAmb IAmb 05 41 24.2
comp=Z,11nm,1.0s
EPYK Eagle Plains 69.35 14 P P 05 40 53.8 -1.2
baz=332
O17K Koliganek Bris 69.42 27 P P 05 40 53.9 -1.4
baz=318
VOI Vohitsoka 69.44 212 P 05 40 56.3 +0.3
VOI Vohitsoka 69.44 212 P P 05 40 56.5 +0.5
SKT Skwentna 69.48 23 IAmb IAmb 05 40 57.2
comp=Z,20nm,1.0s
SKT Skwentna 69.48 23 P P 05 40 54.0 -1.7
baz=322
N19K Bonanza Creek 69.48 25 P P 05 40 55.3 -0.6
baz=320
CUT Chulitna 69.50 22 P P 05 40 54.7 -1.1
baz=322
I28M Miner Creek 69.52 16 P P 05 40 54.9 -1.1
baz=330,SNR=6.2
J26L Joseph Creek 69.52 18 P P 05 40 55.2 -0.9
baz=327
K24K Donnelly Dome 69.57 19 P P 05 40 55.7 -0.6
baz=326
NIKH Nikolski High 69.59 37 P P 05 40 55.8 -0.8
baz=312
WAT1 Susitna Watana 69.64 21 P P 05 40 55.8 -1.0
baz=324
P16K Nushagak River 69.66 27 P P 05 40 56.0 -0.9
baz=318
DHY Denali Highway 69.76 20 IAmb IAmb 05 41 02.1
comp=Z,7.8nm,0.8s
DHY Denali Highway 69.76 20 P P 05 40 55.9 -1.7
baz=324
STLK Strandline Lak 69.77 23 IAmb IAmb 05 41 01.8
comp=Z,13nm,1.2s
RIDG Independent Ri 69.85 19 IAmb IAmb 05 40 59.7
comp=Z,14nm,0.8s
RIDG Independent Ri 69.85 19 P P 05 40 56.6 -1.4
baz=326
SCRK Sand Creek 69.86 19 P P 05 40 57.2 -1.1
baz=327,SNR=6.8
N20K Mount Spurr 69.89 24 P P 05 40 56.9 -1.5
baz=321
SPCR Spurr Chakacha 69.89 24 P P 05 40 57.2 -1.1
baz=321
O18K Koktuh Hills 69.98 26 P P 05 40 58.3 -0.6
baz=320
O19K Port Alsworth 70.01 25 P P 05 40 58.4 -0.5
baz=320
UNV Unalaska Valle 70.04 35 P P 05 40 58.4 -0.9
baz=313
WAT6 Susitna Watana 70.06 21 P P 05 40 58.2 -1.3
baz=324
M22K Willow 70.07 22 P P 05 40 57.6 -1.6
baz=323
P17K Kvichak River 70.07 27 P P 05 40 58.0 -1.3
baz=319
SUA Susitna One 70.12 23 P P 05 40 58.7 -1.1
baz=322
K27K Chicken 70.27 18 P P 05 40 59.4 -1.1
baz=328
H31M Peel River 70.30 14 IAmb IAmb 05 41 02.6
comp=Z,11nm,0.8s
H31M Peel River 70.30 14 P P 05 40 59.4 -1.4
baz=334,SNR=7.3
P18K Big Mountain, 70.33 26 P P 05 40 59.8 -1.2
baz=320
PAX Paxson 70.34 20 IAmb IAmb 05 41 04.5
comp=Z,15nm,1.2s
PAX Paxson 70.34 20 P P 05 41 00.5 -0.6
baz=326
I30M Mount Dempster 70.44 15 IAmb IAmb 05 41 03.2
comp=Z,14nm,0.8s
I30M Mount Dempster 70.44 15 P P 05 41 00.6 -1.2
baz=332,SNR=15
PMR Palmer 70.48 22 IAmb IAmb 05 41 03.3
comp=Z,19nm,1.0s
PMR Palmer 70.48 22 P P 05 41 02.1 +0.3
PMR Palmer 70.48 22 P P 05 41 00.6 -1.2
baz=324
SML Sawmill 70.53 22 P P 05 41 00.6 -1.7
baz=324
CAPN Captain Cook N 70.55 23 P P 05 41 00.6 -1.7
baz=322
M23K Glacier View 70.71 21 P P 05 41 01.9 -1.4
baz=325
RC01 Rabbit Creek A 70.71 23 P P 05 41 01.8 -1.5
baz=323
SCM Sheep Creek Mo 70.79 21 P P 05 41 02.3 -1.6
baz=325
KNK Knik Glacier 70.81 22 P P 05 41 02.9 -1.1
baz=324
L26K Log Cabin Wild 70.82 19 P P 05 41 03.1 -0.8
baz=328
DAWY Dawson 70.84 17 P P 05 41 03.0 -1.1
baz=330,SNR=7.6
M24K Tolsona, Glenn 70.87 21 P P 05 41 03.1 -1.2
baz=326
HARP HAARP 70.89 20 P P 05 41 03.4 -1.1
baz=326,SNR=5.1
R16K Pilot Point 70.90 28 P P 05 41 03.9 -0.5
baz=318
Q17K Contact Creek 70.97 27 P P 05 41 03.9 -1.2
baz=319
Q18K Katmai Hardscr 70.97 27 P P 05 41 03.8 -1.3
baz=320
J30M Hart River 71.03 15 P P 05 41 03.6 -1.7
baz=333,SNR=6.3
S14K Fog Glacier 71.12 30 P P 05 41 04.7 -1.3
baz=317
L27K Beaver Creek, 71.16 18 IAmb IAmb 05 41 08.5
comp=Z,12nm,1.0s
L27K Beaver Creek, 71.16 18 P P 05 41 04.7 -1.3
baz=329,SNR=7.6
BCAR Beaver Creek A 71.16 18 P P 05 41 06.0 0.0
O22K Cooper Landing 71.20 23 P P 05 41 04.6 -1.7
baz=323
Q19K Cape Douglas, 71.21 26 P P 05 41 04.7 -1.6
baz=321
HOM Homer 71.28 24 P P 05 41 05.5 -1.2
baz=322
PWL Port Wells 71.30 22 P P 05 41 05.5 -1.4
baz=324
K29M Barlow Dome 71.44 16 IAmb IAmb 05 41 09.7
comp=Z,12nm,0.9s
K29M Barlow Dome 71.44 16 P P 05 41 06.3 -1.5
baz=332,SNR=11
M26K Nabesna, AK 71.44 19 P P 05 41 06.9 -0.9
baz=328
KLU Klutina 71.45 21 P P 05 41 06.8 -1.0
baz=326
BRSE Bradley Lake S 71.49 24 P P 05 41 07.0 -1.1
baz=323
SEW Seward 71.59 23 P P 05 41 08.0 -0.5
baz=324
GLI Glacier Island 71.64 22 P P 05 41 08.5 -0.3
baz=325

N25K	Chitina, Valde	71.70	20	IAmb	IAmb	05 41 16.7	
	comp=Z,26nm,1.1s						
N25K	Chitina, Valde	71.70	20	P	P	05 41 08.3	-1.1
	baz=327,SNR=10.0						
M27K	Edge Creek, AK	71.75	19	IAmb	IAmb	05 41 12.3	
	comp=Z,19nm,1.1s						
M27K	Edge Creek, AK	71.75	19	P	P	05 41 08.8	-1.0
	baz=329						
TORD	Torodi Ar. Bea	71.79	272	P	P	05 41 06.6	-4.0
TORD				IAmb	IAmb	05 41 11.7	
	comp=Z,11nm,0.8s						
TORD	Torodi Ar. Bea	71.79	272	P	P	05 41 09.0	-1.6
	comp=Z,16nm,0.8s,baz=39,slow=6.5,SNR=26						
	comp=Z,16nm,0.8s						
Q20K	Shuyak Island	71.87	25	P	P	05 41 08.8	-1.5
	baz=322						
L29M	L29M	71.95	17		P	05 41 10.4	-0.4
L29M				IAmb	IAmb	05 41 13.0	
	comp=Z,14nm,1.1s						
L29M	L29M	71.95	17	P	P	05 41 10.6	-0.3
	baz=332,SNR=8.1						
MAYO	Mayo, Yukon	71.99	16	IAmb	IAmb	05 41 20.6	
	comp=Z,19nm,0.8s						
MAYO	Mayo, Yukon	71.99	16	P	P	05 41 09.6	-1.4
	baz=333						
R18K	Karluk	72.00	27	P	P	05 41 10.1	-1.0
	baz=321						
GLB	Gilahina Butte	72.05	20	IAmb	IAmb	05 41 21.2	
	comp=Z,17nm,1.3s						
CHNA	Chernabura Isl	72.18	31	P	P	05 41 11.2	-1.0
	baz=318						
BMRM	Bremner River	72.24	21	IAmb	IAmb	05 41 15.3	
	comp=Z,16nm,0.8s						
BMRM	Bremner River	72.24	21	P	P	05 41 11.6	-1.0
	baz=327						
FRB	Frobisher Bay	72.25	345	LR	LR	06 16 11.6	
	comp=Z,155nm,21.9s,baz=44,slow=38						
P23K	Montague Islan	72.27	22	P	P	05 41 12.5	-0.2
	baz=325						
EYAK	Cordova Ski Ar	72.28	21	IAmb	IAmb	05 41 14.7	
	comp=Z,20nm,1.0s						
EYAK	Cordova Ski Ar	72.28	21	P	P	05 41 12.0	-0.8
	baz=326						
MCARA	McCarthy VSAT	72.30	20	IAmb	IAmb	05 41 19.4	
	comp=Z,12nm,0.8s						
MCARA	McCarthy VSAT	72.30	20	P	P	05 41 12.4	-0.5
	baz=328						
VRDI	Verde Repeater	72.32	20	IAmb	IAmb	05 41 15.4	
	comp=Z,20nm,0.9s						
KDAK	Kodiak Island	72.45	26	P	P	05 41 13.4	-0.3
KDAK	Kodiak Island	72.45	26	P	P	05 41 13.7	-0.1
	comp=Z,18nm,0.8s,baz=340,slow=4.9,SNR=4.8						
KDAK				LR	LR	06 15 53.8	
	comp=Z,294nm,18.0s,baz=326,slow=38						
	comp=Z,18nm,0.8s						
KDAK	Kodiak Island	72.45	26	P	P	05 41 13.5	-0.3
KDAK				pmax	pmax		
	comp=Z,53nm,1.0s						
KDAK	Kodiak Island	72.45	26	P	P	05 41 13.5	-0.3
	baz=322						
M29M	Somme Creek	72.47	17		P	05 41 14.2	+0.2
M29M	Somme Creek	72.47	17	P	P	05 41 13.4	-0.6
	baz=331,SNR=7.1						
OHAK	Old Harbor	72.66	27	P	P	05 41 14.3	-0.8
	baz=321						
M30M	Minto, Yukon	72.71	16	P	P	05 41 14.3	-1.1
	baz=333						
MBWA	Marble Bar	72.73	140		P	05 41 16.2	+0.3
MBWA	Marble Bar	72.73	140	P	P	05 41 15.5	-0.4
MBWA	Marble Bar	72.73	140	P	P	05 41 15.8	-0.1
CRQE	Cirque	72.82	20	P	P	05 41 15.3	-0.8
	baz=328						
SII	Sitkinak Islan	72.87	28	P	P	05 41 15.3	-1.1
	baz=321						
TGL	Tana Glacier	72.88	20	IAmb	IAmb	05 41 30.1	
	comp=Z,22nm,1.1s						
CHIR	Chirikof Islan	72.93	29	P	P	05 41 16.3	-0.3
	baz=320						
Q23K	Middleton Isla	73.05	22	P	P	05 41 16.4	-0.8
	baz=326						
CTG	Chitna Glacier	73.08	19	P	P	05 41 16.7	-1.0
	baz=329						
CTGM	Chitina Glacie	73.08	19	IAmb	IAmb	05 41 28.4	
	comp=Z,21nm,1.2s						
LSZ	Lusaka	73.10	231	P	P	05 41 18.5	+0.2
LSZ	Lusaka	73.10	231	LR	LR	06 13 35.0	
	comp=Z,101nm,20.8s,baz=90,slow=36						
LSZ	Lusaka	73.10	231	P	P	05 41 18.4	0.0
LSZ				P	P	05 41 18.4	0.0
LSZ	Lusaka	73.10	231	P	P	05 41 18.5	+0.2
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GRNC	Granite Creek	73.18	19	IAmb	IAmb	05 41 22.0	
	comp=Z,13nm,0.8s						
YUK8	Steele Glacier	73.19	18	P	P	05 41 17.3	-1.1
	baz=331						
FITZ	Fitzroy Crossi	73.23	134	P	P	05 41 18.9	+0.1
FITZ	Fitzroy Crossi	73.23	134	LR	LR	06 17 15.7	
	comp=Z,30nm,18.1s,baz=316,slow=39						
FITZ	Fitzroy Crossi	73.23	134	P	P	05 41 18.7	-0.2
YUK4	Talbot Arm	73.39	18	P	P	05 41 18.1	-1.5
	baz=332						
YAH	Yahtse	73.50	20	IAmb	IAmb	05 41 22.7	
	comp=Z,18nm,0.9s						
O28M	Mount Upton	73.53	19	P	P	05 41 20.1	-0.5
	baz=330						
MESA	MESA	73.61	20	P	P	05 41 19.8	-1.0
	baz=329						
N30M	Aishikik Lake	73.64	17	P	P	05 41 19.9	-1.0
	baz=333						
MMPY	Sheldon Lake,	73.77	14	P	P	05 41 20.9	-0.7
	baz=337						
YUK6	Outpost Mounta	73.81	18	P	P	05 41 21.0	-1.1
	baz=332						
N31M	Braeburn, Yuko	73.91	16	IAmb	IAmb	05 41 24.9	
	comp=Z,15nm,0.8s						
N31M	Braeburn, Yuko	73.91	16	P	P	05 41 21.0	-1.4
	baz=334,SNR=8.2						
PCA	Pinnacle	74.10	19	IAmb	IAmb	05 41 26.7	
	comp=Z,17nm,0.8s						
PINM	Pinnacle	74.11	19	P	P	05 41 21.7	-1.9
	baz=330						
HYT	Haines Junctio	74.12	18	IAmb	IAmb	05 41 26.5	
	comp=Z,19nm,0.8s						
HYT	Haines Junctio	74.12	18	P	P	05 41 22.9	-0.9
	baz=332,SNR=13						
O29M	Mount Kennedy	74.33	18	P	P	05 41 24.4	-0.6
	baz=332						
WRGLY	Wrigley	74.43	10	P	P	05 41 25.2	-0.2
	baz=343						
O30N	Mendenhall	74.48	17	IAmb	IAmb	05 41 28.3	
	comp=Z,11nm,0.8s						
O30N	Mendenhall	74.48	17	P	P	05 41 25.0	-0.7
	baz=333,SNR=10						
PNL	Peninsula	74.69	19	P	P	05 41 26.4	-0.6
	baz=331						
BLKN	Baker Lake	74.76	358		P	05 41 27.8	+0.6
BLKN				IAmb	IAmb	05 41 31.5	
	comp=Z,14nm,0.8s						
N32M	Quiet Lake	74.77	15	IAmb	IAmb	05 41 40.6	
	comp=Z,12nm,0.8s						
N32M	Quiet Lake	74.77	15	P	P	05 41 26.9	-0.5
	baz=336						
WHY	Whitehorse	74.84	16		P	05 41 27.6	-0.4
WHY	Whitehorse	74.84	16	P	P	05 41 27.4	-0.6
	baz=334						
P30M	Million Dollar	74.87	18	P	P	05 41 27.1	-1.0
	baz=333						
P29M	Windy Craggy	75.12	18	P	P	05 41 28.8	-0.7
	baz=332						
PLBC	Pleasant Camp	75.60	18	P	P	05 41 31.4	-0.8
	baz=333,SNR=6.2						
P33M	Teslin, Yukon	75.68	16	IAmb	IAmb	05 41 34.3	
	comp=Z,15nm,1.1s						
P33M	Teslin, Yukon	75.68	16	P	P	05 41 32.2	-0.6
	baz=336,SNR=10						
SKAG	Skagway	75.83	17	P	P	05 41 34.6	+1.1
SKAG	Skagway	75.83	17	P	P	05 41 33.4	-0.1
	baz=334						
P32M	Atlin	76.06	16	P	P	05 41 34.7	-0.2
	baz=335						
YKA	Yellowknife Ar	76.11	6	P	P	05 41 35.2	+0.2
YKA	Yellowknife Ar	76.11	6	P	P	05 41 34.7	-0.4
	comp=Z,6.7nm,0.9s,baz=343,slow=6.2,SNR=10						
YKA				LR	LR	06 16 44.2	
	comp=Z,182nm,20.7s,baz=248,slow=37						
	comp=Z,6.7nm,0.9s						
YKA	Yellowknife Ar	76.11	6	P	P	05 41 35.2	+0.2
YKAW1	Yellowknife Wh	76.14	6	IAmb	IAmb	05 41 39.6	
	comp=Z,21nm,1.1s						
WTLY	Watson Lake, Y	76.55	14	P	P	05 41 36.7	-0.9
	baz=339						
R33M	Jennings River	76.81	15	IAmb	IAmb	05 41 41.1	
	comp=Z,11nm,0.9s						
R33M	Jennings River	76.81	15	P	P	05 41 38.4	-0.8
	baz=337,SNR=8.2						
MEEK	Meekatharra	76.91	144	P	P	05 41 39.7	-0.3
Q32M	Nakina River	76.94	16	P	P	05 41 39.0	-1.0
	baz=336						
S31K	Pelican	76.97	18	P	P	05 41 39.2	-0.7
	baz=334						
MATP	Matopo	77.01	228	LR	LR	06 17 36.3	
	comp=Z,61nm,18.1s,baz=54,slow=37						
R32K	Eaglecrest	77.08	17	P	P	05 41 39.7	-0.9
	baz=335						
KOTAN	Kotaneelee Air	77.31	11	P	P	05 41 41.7	-0.2
	baz=342						
LIRD	Liard River Hi	77.67	13	P	P	05 41 43.2	-0.8
	baz=341,SNR=5.1						
S32K	Killisnoo	77.80	18	P	P	05 41 43.9	-0.7
	baz=335						
DLBC	Dease Lake	77.88	15	LR	LR	06 20 50.2	
	comp=Z,1μm,18.2s,baz=308,slow=39						
DLBC	Dease Lake	77.88	15	P	P	05 41 44.6	-0.5
	baz=338						
MORW	Morawa	77.94	147		P	05 41 45.5	-0.2
MORW	Morawa	77.94	147	P	P	05 41 45.4	-0.2
SIT	Sitka	78.00	18	P	P	05 41 45.2	-0.5
	baz=334						
S34M	Telegraph Cree	78.14	16	IAmb	IAmb	05 41 49.3	
	comp=Z,19nm,0.9s						
S34M	Telegraph Cree	78.14	16	P	P	05 41 46.2	-0.3
	baz=337,SNR=13						
TOAD	Toad River Com	78.35	12	P	P	05 41 47.0	-0.7
	baz=342,SNR=7.0						
T35M	Bob Quinn	79.19	16	P	P	05 41 51.9	-0.5
	baz=338						
WRAK	Wrangell Islan	79.26	17	IAmb	IAmb	05 41 55.8	
	comp=Z,23nm,0.9s						
WRAK	Wrangell Islan	79.26	17	P	P	05 41 52.0	-0.7
	baz=337						
U33K	Whale Pass	79.37	18	P	P	05 41 52.4	-0.8
	baz=336						
WB0	Warramunga Arr	79.57	128		P	05 41 55.1	+0.3
BLDU	Ballidu	79.57	147	P	P	05 41 54.1	-0.5
WRAB	Tennant Creek	79.67	128	P	P	05 41 55.9	+0.5
WRAB				IAmb	IAmb	05 41 56.4	
	comp=Z,25nm,0.9s						
WRAB	Tennant Creek	79.67	128	P	P	05 41 55.1	-0.3
WRAB	Tennant Creek	79.67	128	P	P	05 41 55.9	+0.5
WRAB				pmax	pmax		
	comp=Z,25nm,1.0s						
WRA	Warramunga Arr	79.67	128		P	05 41 55.0	-0.3
WRA	Warramunga Arr	79.67	128	P	P	05 41 54.8	-0.6
	comp=Z,16nm,0.8s,baz=327,slow=5.5,SNR=97						
	comp=Z,16nm,0.8s						
WRA	Warramunga Arr	79.67	128	P	P	05 41 55.1	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WR8	Warramunga Arr	79.78	128		P	05 41 56.0	0.0
WR8				IAmb	IAmb	05 41 56.8	
	comp=Z,23nm,0.9s						
KHWEE	KHWEE	79.94	229	IAmb	IAmb	05 42 07.0	
	comp=Z,18nm,0.8s						
SCHQ	Schefferville	79.95	341	IAmb	IAmb	05 42 01.5	
	comp=Z,91nm,1.1s						
SCHQ	Schefferville	79.95	341	P	P	05 41 57.7	+1.2
	comp=Z,46nm,0.9s,baz=10,slow=11,SNR=2.7						
SCHQ				LR	LR	06 21 11.5	
	comp=Z,1μm,18.4s,baz=23,slow=38						
	comp=Z,46nm,0.9s						
CRAG	Craig	79.96	18	P	P	05 41 56.6	0.0
	baz=336						
PMG	Port Moresby	80.32	111		P	05 41 59.2	+0.1
PMG	Port Moresby	80.32	111	P	P	05 41 58.5	-0.6
	comp=Z,20nm,0.7s,baz=354,slow=9.2,SNR=9.0						
	comp=Z,20nm,0.7s						
PMG	Port Moresby	80.32	111	P	P	05 41 59.6	+0.5
PMG	Port Moresby	80.32	111	*ce*P	P	05 42 00.0	+0.9
PMG				pmax	pmax		
	comp=Z,24nm,0.7s						
V35K	Ketchikan	80.43	17	P	P	05 41 58.8	-0.3
	baz=337						
MUN	Mundaring	80.57	148	P	P	05 41 59.5	-0.5
COEN	Coen	80.81	118		P	05 42 01.8	+0.1
COEN	Coen	80.81	118	P	P	05 42 01.6	-0.1
DBIC	Dimbokro	80.87	271	P	P	05 42 01.8	-0.3
DBIC	Dimbokro	80.87	271	P	P	05 42 01.4	-0.7
	comp=Z,7.6nm,0.7s,baz=70,slow=7.2,SNR=8.5						
DBIC				LR	LR	06 22 03.8	
	comp=Z,51nm,18.9s,baz=60,slow=39						
	comp=Z,7.6nm,0.7s						
DBIC	Dimbokro	80.87	271	P	P	05 42 01.8	-0.3
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
POGA	Pongola	80.94	221	IAmb	IAmb	05 42 04.9	
	comp=Z,22nm,0.8s						
NWAO	Narrogin (SRO)	81.81	148		P	05 42 06.1	-0.4
NWAO	Narrogin (SRO)	81.81	148	P	P	05 42 06.0	-0.5
NWAO	Narrogin (SRO)	81.81	148	P	P	05 42 05.7	-0.9
NWAO	Narrogin (SRO)	81.81	148	P	P	05 42 06.1	-0.5
NWAO				pmax	pmax		
	comp=Z,21nm,0.7s						
LBTB	Lobatse	82.27	227		P	05 42 09.8	+0.5
LBTB				IAmb	IAmb	05 42 11.3	
	comp=Z,12nm,0.9s						
LBTB	Lobatse	82.27	227	LR	LR	06 19 56.2	
	comp=Z,47nm,20.1s,baz=42,slow=37						
LBTB	Lobatse	82.27	227	P	P	05 42 09.8	+0.5
LBTB				pmax	pmax		
	comp=Z,12nm,1.0s						
ASAR	Alice Springs	82.30	131	P	P	05 42 08.8	-0.5
	comp=Z,16nm,0.7s,baz=322,slow=5.4,SNR=167						
ASAR				LR	LR	06 23 39.8	
	comp=Z,142nm,19.0s,baz=292,slow=39						
	comp=Z,16nm,0.7s						
AUALC	St Philip's Co	82.30	131	P	P	05 42 08.8	-0.6
TSUM	Tsumeb	82.58	237	LR	LR	06 20 50.4	
	comp=Z,136nm,20.0s,baz=115,slow=37						
QIS	Mount Isa	83.34	125	P	P	05 42 15.0	+0.2
KOOLE	Kule	83.82	232	IAmb	IAmb	05 42 22.4	
	comp=Z,13nm,0.8s						
BBB	Bella Bella	84.12	16	LR	LR	06 23 58.1	
	comp=Z,110nm,18.2s,baz=307,slow=39						
BBTS	Babate	84.42	284	LR	LR	06 27 33.0	
	comp=Z,56nm,18.2s,baz=78,slow=41						
FFC	Flin Flon	84.47	0		P	05 42 19.6	-0.6
FFC				IAmb	IAmb	05 42 20.2	
	comp=Z,11nm,0.9s						
FFC	Flin Flon	84.47	0	P	P	05 42 19.6	-0.6
FFC				pmax	pmax		
	comp=Z,11nm,1.0s						
MTSU	Mount Surprise	84.58	120	P	P	05 42 21.7	+0.5
FORT	Forrest	84.84	139		P	05 42 22.2	0.0
BOSA	Boshof	85.30	225	IAmb	IAmb	05 43 05.8	
	comp=Z,20nm,1.5s						
BOSA	Boshof	85.30	225	P	P	05 42 24.1	-0.6
	comp=Z,5.1nm,0.8s,baz=25,slow=4.3,SNR=7.6						
BOSA				LR	LR	06 20 18.5	
	comp=Z,65nm,20.6s,baz=30,slow=36						
	comp=Z,5.1nm,0.8s						
BATG	Bathurst New B	86.55	337	P	P	05 42 31.2	+0.4
TV1H	Townsville Har	87.02	119	P	P	05 42 33.5	+0.3
ULM	Lac du Bonnet	88.83	357	LR	LR	06 26 31.8	
	comp=Z,158nm,18.1s,baz=14,slow=38						
B08A	Colville Reser	89.41	12	IAmb	IAmb	05 42 46.1	
	comp=Z,12nm,1.1s						
HNR	Honiara	89.56	103	LR	LR	06 23 50.1	
	comp=Z,59nm,19.6s,baz=210,slow=36						
NEW	Newport	89.83	11	IAmb	IAmb	05 42 48.0	
	comp=Z,9.0nm,0.9s						
NEW	Newport	89.83	11	LR	LR	06 29 24.6	
	comp=Z,50nm,18.1s,baz=340,slow=40						
C09A	Chrisman Ranch	90.12	11	IAmb	IAmb	05 42 49.5	
	comp=Z,10nm,0.9s						
QLP	Quilpie	90.63	125	P	P	05 42 50.7	+0.5
MXC	Moxie City	90.99	13	IAmb	IAmb	05 42 53.7	
	comp=Z,12nm,1.0s						
E09A	Wood Farm, Sta	91.39	12	IAmb	IAmb	05 42 55.8	
	comp=Z,9.2nm,0.9s						
MSO	Missoula	91.64	9	IAmb	IAmb	05 42 56.2	
	comp=Z,10nm,1.4s						
F10A	Beach Ranch, E	92.06	11	IAmb	IAmb	05 42 58.6	
	comp=Z,7.6nm,1.0s						
SADO	Sadowa	92.17	344	LR	LR	06 27 40.1	
	comp=Z,2μm,20.3s,baz=28,slow=38						
AUNRC	North Rockhamp	92.36	119	P	P	05 42 58.5	+0.3
HTT	Hallett	92.60	133	P	P	05 42 58.9	-0.3
STKA	Stephens Creek	92.94	131	P	P	05 42 59.3	-1.5
	comp=Z,3.5nm,0.7s,baz=319,slow=7.0,SNR=6.6						
STKA				LR	LR	06 30 31.3	
	comp=Z,69nm,18.6s,baz=252,slow=39						
	comp=Z,3.5nm,0.7s						
BOZ	Bozeman (W)	93.11	7	IAmb	IAmb	05 43 03.4	
	comp=Z,7.8nm,0.9s						
EIDS	Eidsvold	94.11	120	P	P	05 43 06.5	+0.2
FLWY	Flagg Ranch	94.69	7	IAmb	IAmb	05 43 11.9	
	comp=Z,9.3nm,0.8s						
RSSD	Black Hills	95.04	2		P	05 43 10.7	-0.1
RSSD				IAmb	IAmb	05 43 12.6	
	comp=Z,6.9nm,1.1s						
RSSD	Black Hills	95.04	2	P	P	05 43 10.7	-0.1
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CMSA	Cobar Meteorol	95.08	128	P	P	05 43 10.4	-0.2
YBH	Yreka Blue Hor	95.20	16	LR	LR	06 32 01.7	
	comp=Z,5.6nm,18.4s,baz=329,slow=39						
PDAR	Pinedale Array	96.10	6	P	P	05 43 15.0	-0.7
PDAR	Pinedale Array	96.10	6	P	P	05 43 14.7	-0.9
	comp=Z,1.2nm,0.8s,baz=24,slow=3.0,SNR=11						
PDAR				PKKP	PKKPdf	05 59 59.0	-2.0
	comp=Z,0.4nm,0.8s,baz=152,slow=3.4,SNR=4.6						
PDAR				LR	LR	06 31 42.3	
	comp=Z,65nm,18.9s,baz=345,slow=39						
	comp=Z,1.2nm,0.8s						
HWUT	Hardware Ranch	97.06	8	IAmb	IAmb	05 43 22.5	
	comp=Z,5.3nm,0.8s						
NVAR	Mina Array Bea	99.25	14	LR	LR	06 32 49.7	
	comp=Z,89nm,21.9s,baz=273,slow=38						
MAW	Mawson	109.13	186	PKiKP	PKiKP	05 48 16.1	-0.2
	comp=Z,1.2nm,0.8s,baz=333,slow=6.8,SNR=4.0						
TXAR	Lajitas Array	109.80	2	Pdiff	Pdif	05 44 21.3	+4.4
	comp=Z,0.2nm,0.8s,baz=14,slow=6.8,SNR=2.8						
TXAR				PKKPbc	PKKPbc	05 59 21.5	+0.1
	comp=Z,0.7nm,0.8s,baz=169,slow=2.4,SNR=9.8						
NVL	N'lazarevskaya	121.39	201	*e*PKiKP	PKiKP	05 48 40.5	+0.7
NVL				*e*		05 50 10.4	
NVL				*e*SS	SS	06 06 49.1	+3.3
NVL				*e*SSS	SSS	06 11 15.2	
NVL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NVL				pmax	pmax		
	comp=N,158nm,21.6s						
TROLL	Troll, Antarti	124.59	202	⇓P	PKPdf	05 48 45.3	-0.7
	comp=Z,281nm,0.8s						
SNAA	Sanae	125.98	203	⇓P	PKPdf	05 48 47.5	-1.1
	comp=Z,46nm,0.9s						
SNAA	Sanae	125.98	203	PKP	PKiKP	05 48 49.1	+0.1
	comp=Z,1.8nm,0.8s,baz=180,slow=1.5,SNR=7.2						
VNA2	Neumayer--Watz	127.08	204	⇓P	PKiKP	05 48 51.3	+0.1
	comp=Z,4.9nm,0.6s,baz=57,slow=4.2						
VNA1	Neumayer--Stat	127.26	205	⇓P	PKiKP	05 48 51.8	+0.3
	comp=Z,3.8nm,0.8s						
VNA3	Neumayer Olymp	127.89	204	⇓P	PKPdf	05 48 51.2	-1.0
	comp=Z,6.2nm,0.7s						
ROSC	El Rosal	128.02	325	PKP	PKPdf	05 48 54.7	0.0
	comp=Z,8.1nm,0.9s,baz=143,slow=20,SNR=5.7						
VNDA	Vanda	128.34	164	PKP	PKPdf	05 48 50.6	-2.3
	comp=Z,2.4nm,0.9s,baz=282,slow=5.1,SNR=14						
SBA	Scott Base	129.45	164		PKiKP	05 48 57.5	+1.8
SBA	Scott Base	129.45	164	PKIKP	PKiKP	05 48 57.5	+1.8
QSPA	South Pole Qui	130.96	180		PKiKP	05 49 00.5	+1.3
QSPA	South Pole Qui	130.96	180	PKP	PKPdf	05 48 58.3	+0.1
	comp=Z,7.3nm,0.7s,baz=278,slow=1.1,SNR=34						
PPT2	Papeete2	132.48	75	*e*LR	LR	06 31 10.1	
	comp=Z,41nm,22.8s						
PPT2				*e*LR	LR	06 31 17.3	
	comp=Z,91nm,29.5s						
TAOE	Nuku Hiva Isla	132.88	58	*e*LR	LR	06 31 13.6	
	comp=Z,57nm,23.0s						
SALV	Santo Antonio	133.44	289	*e*P	PKiKP	05 49 05.3	-0.3
TBI	Tubuai	136.09	81	*e*LR	LR	06 32 53.7	
	comp=Z,460nm,30.8s						
TBI				*e*LR	LR	06 32 57.0	
	comp=Z,1μm,28.5s						
CPUP	Villa Florida	141.04	278	PKhKP	PKPpre	05 49 11.3	
	comp=Z,0.6nm,0.8s,baz=63,slow=5.1,SNR=3.2						
LPAZ	La Paz	142.21	301	PKhKP	PKPpre	05 49 15.0	
	comp=Z,1.8nm,0.7s,baz=49,slow=10.0,SNR=6.9						
LPAZ	La Paz	142.21	301	*e*P	PKPdf	05 49 20.9	-0.3
PB11	IPOC Station P	145.72	299		PKPdf	05 49 26.9	+0.1
TRQA	Tornquist	149.79	263		PKPbc	05 49 37.0	-0.6
TRQA	Tornquist	149.79	263	PKP2	PKPbc	05 49 37.0	-0.6
AC01	Pan de Azucar	150.62	291		PKPbc	05 49 40.1	+0.2
LCO	Las Campanas	152.39	286		PKPbc	05 49 44.0	-0.2
LCO	Las Campanas	152.39	286	PKIKP	PKPbc	05 49 44.0	-0.2
PLCA	Paso Flores	156.90	261	PKPab	PKPab	05 50 11.2	-1.8
	comp=Z,3.4nm,0.8s,baz=69,slow=3.8,SNR=6.4						

*IDC **27** 05:41:56.5±0.7,54°.48N×160°.97W,h0km,mb4.2/27,*
mbtmp4.2/31,ML4.1/4,MS3.3/3,Error ellipse:
s-maj=18.7km s-min=13.2km az=1.0
*NEIC **27** 05:42:01.5±2.0,54°.42N±0°.03×160°.69W±0°.05,h30km±5km,*
mb4.3/43,ML4.1/30,ML4.0(AEIC),Error ellipse:
s-maj=5.1km s-min=3.7km az=207.0
*AEIC **27** 05:42:02.3±2.4,54°.41N±0°.04×160°.73W±0°.05,h20km±4km,*
Error ellipse: s-maj=6.3km s-min=3.8km az=189.0

ISC 27 05:41:59.4±1.5,54°.42N±0°.06×160°.70W±0°.03,h16km±8km,
n211,σ1§43/217,mb4.3/36,MS2.9/3,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.76	58		Pn	05 42 15.7	+0.3
CNBA					Sn	05 42 27.5	+0.9
SDPT	Sand Point	0.94	8		Pn	05 42 18.0	+0.1
SDPT					Sg	05 42 28.5	-1.4
SDPT				IAML		05 42 38.4	
	comp=N,5μm,0.6s						
SDPT				IAML		05 42 38.5	
	comp=E,4μm,0.4s						
DOL	Dolgoi Island	0.99	318		Pg	05 42 18.3	-0.3
DOL					Sn	05 42 31.9	-0.3
HAG	Hague Volcano	1.13	323		Pg	05 42 21.0	-0.3
PS4A	Pavlof South-

R16K IAML 05 44 04.9
comp=N,629nm,2.6s
MSW Makushin Switc 3.61 264 Pn 05 42 55.2 +0.6
MGOD Makushin Gods 3.69 263 Pn 05 42 56.4 +0.6
ANCK Angle Creek 4.77 35 Pn 05 43 12.0 +1.5
O15K Ungalikthiuk R 4.79 5 Pn 05 43 12.7 +1.9
O15K IAML 05 44 45.1
comp=N,92nm,0.8s
O15K IAML 05 44 48.5
comp=E,110nm,1.2s
ACHA Angle Creek He 4.83 36 Pn **Pn 05 43 12.9 +1.4**
MGLS Mageik Landsli 4.83 37 Pn 05 43 12.8 +1.4
O14K Tigyukauivet M 4.85 357 Pn 05 43 13.4 +1.7
O14K IAML 05 44 54.4
comp=N,112nm,1.3s
O14K IAML 05 44 55.3
comp=E,100nm,2.7s
P16K Nushagak River 4.85 17 Pn 05 43 12.5 +0.8
OHAK Old Harbor 5.03 53 Pn **Pn 05 43 14.5 +0.4**
OHAK IAML 05 44 58.6
comp=N,102nm,2.4s
KAWH Katmai 5.15 37 Pn 05 43 16.7 +0.9
O16K Kokwok River B 5.38 14 Pn 05 43 20.8 +1.9
O16K IAML 05 45 13.4
comp=E,79nm,0.8s
O16K IAML 05 45 13.4
comp=N,83nm,0.9s
N14K Kuskokwak Cree 5.54 355 Pn 05 43 22.7 +1.6
KDAK Kodiak Island 5.65 50 Pn **Pn 05 43 22.8 +0.2**
comp=N,1.5nm,0.3s,baz=222,slow=1.5,SNR=12
KDAK Sn **Sn 05 44 23.1 -4.1**
comp=N,1.6nm,0.3s,baz=237,slow=13,SNR=1.1
comp=N,6.1nm,0.4s
N15K Kwethluk River 5.77 3 Pn 05 43 25.9 +1.6
Q19K Cape Douglas, 5.96 38 Pn **Pn 05 43 27.8 +0.9**
SPIA Saint Paul Isl 6.05 301 Pn 05 43 28.5 +0.4
N16K Nishlik Lake 6.16 9 Pn 05 43 30.9 +1.3
N16K Pb 05 43 32.0 -14
M13K Dall Lake 6.17 348 Pn 05 43 32.0 +2.3
SYI Shuyak Island 6.22 44 Pn 05 43 31.3 +0.9
M15K Kasigluk River 6.29 0 Pn 05 43 32.2 +0.8
M15K Pb 05 43 32.6 -16
M14K Bethel 6.38 354 Pn 05 43 34.0 +1.4
M11K Mekoryuk 6.67 336 Pn **Pn 05 43 38.0 +1.4**
M16K Timber Creek 6.68 7 Pn 05 43 36.5 -0.3
O19K Port Alsworth 6.74 28 Pn 05 43 39.8 +2.3
L14K Kuka Creek 7.02 352 Pn 05 43 42.8 +1.5
M17K Holitna River 7.21 13 Pn 05 43 45.4 +1.4
N19K Bonanza Creek 7.22 25 Pn 05 43 49.5 +5.3
L15K Ungalak Mounta 7.29 357 Pn 05 43 45.9 +0.9
M18K Stony River 7.54 18 Pn 05 43 49.6 +1.0
BRLK Bradley Lake 7.56 41 Pn 05 43 48.6 -0.2
K13K Kusilvak Mount 7.81 346 Pn 05 43 54.5 +2.2
K15K Wolf Creek Mou 7.91 357 Pn 05 43 55.2 +1.7
L18K Granite Mounta 8.10 13 Pn 05 43 56.9 +0.8
SPU Mount Spurr 8.19 31 Pn **Pn 05 43 58.8 +1.3**
M19K Big River Lodg 8.21 21 Pn 05 44 01.7 +4.1
SEW Seward 8.34 42 Pn 05 44 00.2 +0.8
L19K White Mountain 8.36 19 Pn 05 44 00.1 +0.3
K17K Iditarod 8.41 8 Pn 05 44 01.1 +0.6
M20K Styx River 8.48 25 Pn 05 44 06.0 +4.6
RC01 Rabbit Creek A 8.88 37 Pn **Pn 05 44 09.3 +2.4**
J16K Anvik River 8.89 0 Pn 05 44 08.8 +1.8
SKT Skwentna 8.98 29 Pn **Pn 05 44 10.0 +1.7**
P23K Montague Islan 9.12 47 Pn **Pn 05 44 10.8 +0.7**
PWL Port Wells 9.24 41 Pn 05 44 12.8 +1.0
PMR Palmer 9.44 36 Pn **Pn 05 44 15.2 +0.7**
I17K Unalakleet 9.49 0 Pn **Pn 05 44 16.3 +1.0**
KNK Knik Glacier 9.55 38 Pn **Pn 05 44 17.1 +0.9**
K20K Telida 9.59 18 Pn 05 44 20.9 +4.2
HIN Hinchinbrook I 9.71 46 Pn 05 44 18.5 +0.2
GLI Glacier Island 9.73 43 Pn **Pn 05 44 18.4 -0.2**
SML Sawmill 9.86 36 Pn **Pn 05 44 20.9 +0.5**
FID Port Fidalgo 9.91 45 Pn **Pn 05 44 20.6 -0.5**
J19K Poorman 9.94 13 Pn 05 44 23.5 +2.1
EYAK Cordova Ski Ar 10.11 47 Pn **Pn 05 44 23.2 -0.5**
SCM Sheep Creek Mo 10.24 38 Pn 05 44 25.5 0.0
J20K Nowinta River 10.33 16 Pn 05 44 30.3 +3.6
KAIM Kayak Island 10.40 51 Pn **Pn 05 44 28.3 +0.6**
DIV Divide 10.41 44 Pn **Pn 05 44 28.0 +0.1**
RAGM Ragged Mountai 10.49 49 Pn **Pn 05 44 28.7 -0.3**
TRF Thorofare Moun 10.51 26 Pn **Pn 05 44 29.2 -0.2**
KLU Klutina 10.55 42 Pn 05 44 30.3 +0.4
BMRM Bremner River 10.80 46 Pn 05 44 33.6 +0.3
M24K Tolsona, Glenn 10.83 39 Pn 05 44 34.2 +0.5
N25K Chitina, Valde 11.14 43 Pn 05 44 40.1 +2.1
GLB Gilahina Butte 11.38 45 Pn 05 44 41.4 +0.2
VRDI Verde Repeater 11.42 46 Pn 05 44 42.3 +0.5
TGL Tana Glacier 11.47 49 Pn **Pn 05 44 43.2 +0.7**
PAX Paxson 11.64 37 Pn 05 44 44.7 0.0
H21K Melozitna River 11.93 16 Pn 05 44 52.5 +3.9
GRNC Granite Creek 11.94 50 Pn 05 44 49.3 +0.3
TABL Table Mountain 12.11 52 Pn 05 44 53.5 +2.2
M26K Nabesna, AK 12.21 42 Pn 05 44 54.3 +1.7
CTGM Chitina Glacie 12.23 50 P 05 44 59.7 -5.6
RIDG Independent Ri 12.36 35 Pn 05 44 57.0 +2.5
ILAR Eielson Array 12.48 28 Pn **Pn 05 44 53.7 -2.3**
comp=N,0.2nm,0.3s,baz=218,slow=13,SNR=8.8
ILAR LR LR 05 50 21.9
comp=N,146nm,18.9s,baz=260,slow=40
O28M Mount Upton 12.67 52 Pn 05 44 59.9 +0.9
J25K Salcha River, 12.80 31 Pn 05 45 00.6 +0.1
O29M Mount Kennedy 13.27 55 Pn 05 45 08.8 +1.8
J26L Joseph Creek 13.28 34 Pn 05 45 11.3 +4.2
P29M Windy Craggy 13.51 58 Pn 05 45 12.4 +2.1
I26K Coal Creek Min 13.96 32 P **P 05 45 23.8 -0.5**
M29M Somme Creek 14.08 46 Pn 05 45 18.5 +0.4
C18K Utukok River 14.28 359 P 05 45 28.2 +0.4
E22K Anaktuvuk Pass 14.38 13 Pn 05 45 24.3 +2.2
D20K Etivluk River 14.47 6 P **P 05 45 30.7 +0.8**
DAWY Dawson 14.48 40 P 05 45 33.2 +3.1
L29M L29M 14.51 44 P 05 45 33.6 +3.1
O30N Mendenhall 14.58 54 P **P 05 45 31.2 -0.1**
BESE Bessie Mountai 14.82 63 P **P 05 45 37.5 +3.5**
E24K Your Creek 14.85 18 P **P 05 45 32.6 -1.6**
H27K Steamboat Moun 15.08 31 Pn **Pn 05 45 32.6 +1.0**
I28M Miner Creek 15.08 35 Pn 05 45 29.8 -1.8
I28M IAmb IAmb 05 45 39.1
comp=Z,8.5nm,0.5s
WHY Whitehorse 15.13 55 Pn **Pn 05 45 33.4 +1.0**
WHY IAmb IAmb 05 45 56.4
comp=Z,9.3nm,1.0s
TOLK Toolik Lake Re 15.18 16 Pn 05 45 34.0 +1.2
TOLK IAmb IAmb 05 45 42.9
comp=Z,6.7nm,0.8s
D23K Nanushuk River 15.31 14 Pn 05 45 35.5 +1.0
D23K IAmb IAmb 05 45 58.0
comp=Z,12nm,1.2s
E25K Arctic Village 15.47 22 Pn **Pn 05 45 37.5 +0.8**
D24K Happy Valley 15.76 16 Pn 05 45 40.5 +0.1
CRAG Craig 15.84 75 Pn **Pn 05 45 41.5 0.0**
CRAG IAmb IAmb 05 46 02.6
comp=Z,39nm,1.2s
J30M Hart River 15.89 41 Pn 05 45 42.8 +0.5
J30M IAmb IAmb 05 45 54.9
comp=Z,19nm,0.8s
C23K Itkillik River 16.13 13 Pn 05 45 45.1 0.0
C23K IAmb IAmb 05 45 50.4
comp=Z,13nm,0.7s
Q32M Nakina River 16.19 62 Pn **Pn 05 45 46.9 +0.7**
I30M Mount Dempster 16.20 38 Pn 05 45 46.3 +0.2
I30M IAmb IAmb 05 45 52.9
comp=Z,25nm,0.8s
C24K Franklin Bluff 16.29 15 Pn 05 45 46.8 -0.3
C24K IAmb IAmb 05 45 47.4
comp=Z,20nm,0.8s
E27K Coleen River 16.45 26 Pn **Pn 05 45 50.1 +0.8**
F28M Old Crow 16.50 29 Pn **Pn 05 45 50.8 +0.9**
G29M Pine Creek 16.59 32 Pn 05 45 50.9 -0.2
G29M IAmb IAmb 05 45 54.5
comp=Z,28nm,1.1s
EPYK Eagle Plains 16.69 35 Pn 05 45 52.2 -0.1
EPYK IAmb IAmb 05 45 56.1
comp=Z,14nm,0.9s
G30M tAoh Zraii Nji 17.20 33 P **Pn 05 45 57.6 -1.2**
G30M IAmb IAmb 05 46 02.4
comp=Z,8.6nm,0.6s
H31M Peel River 17.22 38 P **Pn 05 45 58.7 -0.3**
H31M IAmb IAmb 05 46 07.4
comp=Z,16nm,0.8s
DLBC Dease Lake 17.35 64 P **Pn 05 46 01.0 +0.4**
comp=Z,0.8nm,0.3s,baz=342,slow=20,SNR=1.4
comp=Z,13nm,0.8s
E29M Blow River 17.58 28 P **Pn 05 46 02.4 -0.9**
G31M Satah River 17.81 35 P **Pn 05 46 05.1 -1.2**
F31M Tsiigehtchic 18.27 34 P **Pn 05 46 11.3 -0.4**
INK Inuvik 18.81 32 IAmb IAmb 05 46 24.6
comp=Z,5.3nm,0.8s
INK Inuvik 18.81 32 P **P 05 46 17.3 -0.5**
comp=Z,0.6nm,0.3s,baz=245,slow=9.0,SNR=7.3
comp=Z,3.0nm,0.5s
BBB Bella Bella 19.51 83 IAmb IAmb 05 46 28.2
comp=Z,54nm,1.2s
BBB Bella Bella 19.51 83 P **Pn 05 46 27.2 +0.3**
comp=Z,0.2nm,0.3s,baz=284,slow=17,SNR=3.1
comp=Z,23nm,1.1s
C36M Paulatuk 22.32 34 P **P 05 46 54.9 -0.9**
C36M IAmb IAmb 05 47 18.5
comp=Z,35nm,1.2s
A36M Sachs Harbour 23.18 27 P **P 05 47 04.0 -0.8**
A36M IAmb IAmb 05 47 07.2
comp=Z,17nm,0.9s
PEA0B Petropavlovsk- 24.37 284 P **P 05 47 15.5 -0.9**
PETK Petropavlovsk- 24.37 284 P **P 05 47 15.7 -0.8**
PETK Petropavlovsk- 24.37 284 P **P 05 47 15.4 -1.1**
comp=Z,7.2nm,0.8s,baz=80,slow=13,SNR=13
comp=Z,7.2nm,0.8s
YKA Yellowknife Ar 24.93 53 P **P 05 47 21.0 -0.3**
YKA Yellowknife Ar 24.93 53 P **P 05 47 22.8 +1.4**
comp=Z,1.2nm,0.7s,baz=276,slow=10,SNR=4.2
YKA LR LR 05 58 57.4
comp=Z,41nm,21.4s,baz=50,slow=41
comp=Z,1.2nm,0.7s
YBH Yreka Blue Hor 28.01 101 LR LR 05 56 29.5
comp=Z,5.9nm,19.5s,baz=314,slow=31
NVAR Mina Array Bea 32.73 102 P **P 05 48 30.5 -0.9**
NVAR Mina Array Bea 32.73 102 P **P 05 48 33.2 +1.8**
comp=Z,0.2nm,0.3s,baz=285,slow=13,SNR=2.2
comp=Z,0.2nm,0.3s
PDAR Pinedale Array 35.02 88 P **P 05 48 52.3 +1.1**
comp=Z,0.3nm,0.5s,baz=305,slow=6.9,SNR=3.7
comp=Z,0.3nm,0.5s
PV18 Skein Mesa, Pa 38.29 93 P 05 49 20.5 +1.3
PV18 IAmb IAmb 05 49 21.0
comp=Z,6.3nm,0.6s
PV12 Saucer Basin, 38.31 93 P **P 05 49 21.0 +1.7**
PV12 IAmb IAmb 05 49 22.9
comp=Z,13nm,1.3s
PV03 Paradox Valley 38.32 93 P **P 05 49 21.1 +1.7**
PV03 IAmb IAmb 05 49 21.1
comp=Z,3.7nm,0.7s
PV13 Radium Mtn., P 38.40 93 P 05 49 21.9 +1.8
PV02 Paradox Valley 38.42 93 P **P 05 49 21.7 +1.5**
PV01 Paradox Valley 38.57 93 P 05 49 23.3 +1.8
PV01 IAmb IAmb 05 49 23.7
comp=Z,5.3nm,0.6s
H11N2 WAKE ISLAND Hy 42.51 228 T T 06 35 26.6
baz=27,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 42.52 228 T T 06 35 26.7
baz=27,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 42.53 228 T T 06 35 06.3
baz=27,slow=76,SNR=10
H11S1 WAKE ISLAND Hy 43.68 228 T T 06 36 46.7
baz=26,slow=76
H11S2 WAKE ISLAND Hy 43.69 228 T T 06 36 54.0
baz=26,slow=76
H11S3 WAKE ISLAND Hy 43.70 228 T T 06 36 46.9
baz=26,slow=76
VHRN Van Horn 45.85 98 P **P 05 50 22.8 +2.0**
VHRN IAmb IAmb 05 50 34.5
comp=Z,4.4nm,1.1s
SPITS Spitsbergen Ar 47.65 1 P **P 05 50 32.0 -2.1**
comp=Z,4.8nm,0.8s,baz=55,slow=6.0,SNR=4.3
comp=Z,4.8nm,0.8s
TX31 Lajitas Ar. Si 47.69 98 P 05 50 34.3 -0.9
TX31 IAmb IAmb 05 50 47.8
comp=Z,2.8nm,0.9s
TXAR Lajitas Array 47.69 98 P **P 05 50 35.9 +0.8**
TXAR Lajitas Array 47.69 98 P **P 05 50 36.2 +1.0**
comp=Z,1.3nm,0.7s,baz=304,slow=5.4,SNR=14
TXAR PcP **PcP 05 52 03.8 -0.5**
comp=Z,0.2nm,0.5s,baz=337,slow=3.3,SNR=6.2
comp=Z,1.3nm,0.7s
KSRS Korea Array 50.21 281 P **P 05 50 54.0 -0.3**
comp=Z,0.8nm,0.6s,baz=57,slow=6.2,SNR=4.5
comp=Z,0.8nm,0.6s
HDBT Hernando Brdge 51.40 82 P **P 05 51 06.4 +3.2**
WVT Waverly 52.00 79 P **P 05 51 07.5 -0.2**
SONM Songino Array 54.57 304 P **P 05 51 26.4 -0.3**
comp=Z,1.6nm,0.8s,baz=53,slow=7.6,SNR=5.2
SONM PcP **PcP 05 52 27.8 -1.8**
comp=Z,0.5nm,0.5s,baz=40,slow=2.5,SNR=3.7
comp=Z,1.6nm,0.8s
ARCES ARCESS Array B 56.27 357 P **P 05 51 36.9 -1.5**
ARCES ARCESS Array B 56.27 357 P **P 05 51 36.8 -1.6**
comp=Z,0.9nm,0.4s,baz=12,slow=7.4,SNR=15
comp=Z,0.9nm,0.4s
HHC Hu-ho-hao-te 56.89 295 *eP* **P 05 51 46.5 +3.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,250nm,6.2s
ZALV Zalesovo Beam 59.24 321 P **P 05 51 58.5 -0.9**
comp=Z,1.0nm,0.4s,baz=56,slow=10,SNR=4.1
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 64.20 323 P **P 05 52 32.0 -1.0**
comp=Z,3.0nm,1.2s,baz=20,slow=7.1,SNR=3.5
comp=Z,3.0nm,1.2s
FIA1 FINESS Array S 64.35 356 P **P 05 52 32.8 -0.9**
FINES FINESS Array B 64.35 356 P **P 05 52 32.8 -0.9**
FINES FINESS Array B 64.35 356 P **P 05 52 32.5 -1.2**
comp=Z,4.0nm,0.6s,baz=19,slow=7.7,SNR=44
comp=Z,4.0nm,0.6s
NB2 NORSAR Subarra 64.70 4 P **P 05 52 35.4 -0.7**
comp=Z,1.7nm,0.6s,baz=356,slow=6.9
NOA NORSAR Array B 64.70 4 P **P 05 52 35.4 -0.7**
comp=Z,3.8nm,0.8s,baz=356,slow=6.5,SNR=7.4
comp=Z,3.8nm,0.8s
BVAR Borovoye Array 64.85 329 P **P 05 52 36.7 -0.5**
comp=Z,3.3nm,0.6s,baz=46,slow=7.2,SNR=7.3
comp=Z,3.3nm,0.6s
ARTI Arti 65.03 337 P 05 52 37.4 -0.8
ARTI Arti 65.03 337 P **P 05 52 36.7 -1.5**
comp=Z,3.4nm,0.4s,baz=2.5,slow=4.0,SNR=5.7
comp=Z,3.4nm,0.4s
HFS Hagfors 65.70 3 P **P 05 52 41.6 -1.0**
comp=Z,7.1nm,0.6s,baz=26,slow=3.8,SNR=35
comp=Z,7.1nm,0.6s
MKAR Makanchi Array 65.96 318 P **P 05 52 43.9 -0.6**
MKAR Makanchi Array 65.96 318 P **P 05 52 43.3 -1.2**
comp=Z,1.5nm,0.6s,baz=41,slow=6.4,SNR=7.7
comp=Z,1.5nm,0.6s
EKA Eskdalemuir Ar 69.06 14 P **P 05 53 03.8 0.0**
comp=Z,2.5nm,0.6s,baz=351,slow=5.9,SNR=6.9
comp=Z,2.5nm,0.6s
AKTO Aktyubinsk 70.59 335 P **P 05 53 12.5 -0.8**
comp=Z,4.0nm,0.8s,baz=9.7,slow=4.8,SNR=3.5
comp=Z,4.0nm,0.8s
PZH PanZhiHua 73.06 292 P **P 05 53 30.5 +1.8**
KSH Kashi 74.58 318 P **P 05 53 40.5 +3.1**
AKASG Malin Array Be 74.92 353 P **P 05 53 38.0 -1.0**
AKASG IAmb IAmb 05 53 38.9
comp=Z,4.2nm,1.2s
AKASG Malin Array Be 74.92 353 P **P 05 53 37.8 -1.2**
comp=Z,3.6nm,0.5s,baz=10,slow=5.9,SNR=17
comp=Z,3.6nm,0.5s
STHS Stebnicka Huta 76.52 359 *eP* **P 05 53 48.0 -0.3**
GERES GERESS Array B 77.00 4 P **P 05 53 50.9 -0.2**
comp=Z,0.8nm,0.7s,baz=1.3,slow=5.7,SNR=6.5
comp=Z,0.8nm,0.7s
KBZ Khabaz 80.17 343 P **P 05 54 08.5 0.0**
comp=Z,2.8nm,0.9s,baz=27,slow=2.3,SNR=6.2
comp=Z,2.8nm,0.9s
CMAR Chiang Mai Arr 81.04 289 P **P 05 54 13.2 -0.4**
CMAR Chiang Mai Arr 81.04 289 P **P 05 54 12.7 -0.9**
comp=Z,3.2nm,0.2s,baz=14,slow=5.3,SNR=12
comp=Z,3.2nm,0.2s
ESDC Sonseca Array 84.17 18 P **P 05 54 29.6 0.0**
comp=Z,1.7nm,0.9s,baz=341,slow=5.3,SNR=10
comp=Z,1.7nm,0.9s
BRTR Keskin Array B 85.42 349 P **P 05 54 35.4 -0.6**
BRTR Keskin Array B 85.42 349 P **P 05 54 35.7 -0.3**
comp=Z,0.6nm,0.7s,baz=48,slow=1.8,SNR=5.0
comp=Z,0.6nm,0.7s
WRA Warramunga Arr 92.43 239 P **P 05 55 07.3 -1.9**
comp=Z,0.7nm,0.7s,baz=44,slow=5.3,SNR=6.7
comp=Z,0.7nm,0.7s
ASAR Alice Springs 95.79 237 P **P 05 55 23.2 -1.3**
comp=Z,0.6nm,0.8s,baz=16,slow=7.0,SNR=5.3
ASAR PP **PP 05 59 20.6 +3.8**
comp=Z,0.3nm,0.6s,baz=19,slow=9.6,SNR=7.1
comp=Z,0.6nm,0.8s
MDP Montagnes des 96.25 72 LR LR 06 39 32.1
comp=Z,25nm,20.4s,baz=34,slow=36
QSPA South Pole Qui 144.20 180 PKPdf 06 01 32.5 -0.4
QSPA South Pole Qui 144.20 180 PKP **PKPdf 06 01 32.2 -0.7**
comp=Z,3.5nm,0.8s,baz=55,slow=1.3,SNR=34
BOSA Boshof 153.85 348 PKPbc **PKiKP 06 01 58.3 +0.7**
comp=Z,4.2nm,1.1s,baz=0.0,slow=1.0,SNR=1.6
MAW Mawson 155.75 220 PKPab **PKPab 06 02 15.4 -2.1**
comp=Z,1.1nm,0.8s,baz=90,slow=5.5,SNR=4.4

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*KRNET **27** 05:44:10.6±0.1,41°.13N×78°.94E,h17km,mb3.7*
*IDC **27** 05:44:17.0±2.8,41°.55N×78°.66E,h0km,mb3.3/2,*
mbtmp3.3/4,ML3.2/2,Error ellipse: s-maj=46.0km
s-min=14.4km az=171.0
ISC 27 05:44:15.8±1.7,41°.29N±0°.07×78°.67E±0°.07,h10km,n21,
σ2§17/37,26C-7D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.78**	**304**	⇑*iP*			**Pg**	**05 44 30.3**	**-0.7**
TARG				⇑*iS*			**Sn**	**05 44 45.0**	**-0.3**
PRZ	**Przheval'sk**	**1.21**	**350**	⇑*iP*			**Pn**	**05 44 37.1**	**-1.8**
PRZ				⇑*iS*			**Sg**	**05 44 56.7**	**+2.0**
KDJ	**Kajisay**	**1.40**	**307**	⇓*iP*			**Pb**	**05 44 41.1**	**-0.9**
ULHL	**Ulahol**	**2.05**	**298**	⇑*iP*			**Pb**	**05 44 51.5**	**-1.7**
ULHL				⇑*iS*			**Sg**	**05 45 21.2**	**-0.5**
JNKS	**Jany-Kuch**	**2.29**	**265**	⇑*iP*			**Pn**	**05 44 53.7**	**-0.1**
JNKS				⇑*iS*			**Sb**	**05 45 25.4**	**-0.4**
BOOM	**Boomskoye usch**	**2.37**	**301**	⇑*iP*			**Pn**	**05 44 55.8**	**+1.0**
BOOM				⇑*iS*			**Sb**	**05 45 28.8**	**+0.9**
TKM2	**Tokmak 2**	**2.81**	**306**	⇑*iP*			**Pn**	**05 45 02.0**	**+1.1**
TKM2				⇑*iS*			**Sb**	**05 45 39.4**	**-1.2**
KBK	**Karagaybulak**	**3.09**	**297**	⇑*iP*			**Pn**	**05 45 05.8**	**+1.0**
KBK				⇑*iS*			**Sb**	**05 45 46.1**	**-2.7**
UCH	**Uchtor**	**3.25**	**288**	⇓*iP*			**Pn**	**05 45 07.9**	**+0.7**
UCH				⇓*iS*			**Sn**	**05 45 49.8**	**+3.7**
FRU1	**Bishkek**	**3.37**	**298**	⇑*eP*			**Pn**	**05 45 10.1**	**+1.6**
FRU1				⇑*eS*			**Sb**	**05 45 53.1**	**-3.6**
CHMS	**Chumysh**	**3.38**	**302**	⇑*iP*			**Pn**	**05 45 09.7**	**+1.1**
CHMS				⇑*iS*			**Sn**	**05 45 52.8**	**+4.1**
AAK	**Ala-Archa**	**3.39**	**295**	Pn			**Pb**	**05 45 12.8**	**-3.3**
	4.8nm,0.3s,baz=110,slow=15,SNR=19								
AAK				Pg			**Pg**	**05 45 17.6**	**-3.2**
	4.8nm,0.3s,baz=137,slow=12,SNR=11								
AAK				Lg			Lg	05 46 03.0	
	4.3nm,0.3s,baz=126,slow=23,SNR=3.6								
	6.3nm,0.4s								
AAK	**Ala-Archa**	**3.39**	**295**	⇑*iP*			**Pn**	**05 45 10.0**	**+1.1**
AAK				⇑*iS*			**Sn**	**05 45 53.2**	**+3.9**
USP	**Ospenovka**	**3.67**	**304**	⇑*iP*			**Pn**	**05 45 13.8**	**+1.2**
USP				⇑*iS*			**Sn**	**05 45 59.9**	**+3.9**
SALK	**Salom-Alik**	**3.69**	**265**	⇓*iP*			**Pn**	**05 45 13.2**	**+0.2**
SALK				⇓*iS*			**Sn**	**05 45 58.9**	**+2.3**
EKS2	**Erkin-Say**	**3.90**	**292**	⇓*iP*			**Pn**	**05 45 16.8**	**+1.0**
EKS2				⇓*iS*			**Sn**	**05 46 05.2**	**+3.5**
ARSB	**Arslanbob**	**4.29**	**272**	⇑*eP*			**Pn**	**05 45 21.8**	**+0.6**
ARSB				⇑*eS*			**Sn**	**05 46 13.9**	**+2.6**
ARK	**Arkit**	**5.06**	**278**	⇑*iP*			**Pn**	**05 45 32.6**	**+0.8**
ARK				⇑*iS*			**Sn**	**05 46 32.3**	**+2.0**
MKAR	**Makanchi Array**	**6.09**	**24**	Pn			**Pn**	**05 45 46.5**	**+0.7**
	0.3nm,0.3s,baz=211,slow=14,SNR=8.4								
MKAR				Lg			Lg	05 47 18.2	
	1.3nm,0.3s,baz=208,slow=29,SNR=5.1								
	0.6nm,0.3s								
SONM	**Songino Array**	**20.74**	**62**	P			Pn	05 48 59.3	+0.4
	1.3nm,0.9s,baz=262,slow=10.0,SNR=3.5								
	1.3nm,0.9s								
BRTR	**Keskin Array B**	**33.99**	**283**	P			**P**	**05 51 01.1**	**+1.5**
	0.4nm,0.6s,baz=62,slow=9.9,SNR=2.4								
	0.4nm,0.6s								

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*KRNET **27** 05:44:32.9±0.1,41°.15N×78°.88E,h17km,mb4.1*
*IDC **27** 05:44:34.6±1.0,41°.05N×78°.82E,h0km,mb3.6/7,*
mbtmp3.6/10,ML2.6/3,MS2.7/1,Error ellipse:
s-maj=21.2km s-min=18.3km az=25.0
*SOME **27** 05:44:34.2,41°.10N×78°.80E,h15km,MS3.2*
*NNC **27** 05:44:36.2±1.1,41°.22N×78°.78E,h0km,mb4.5,mpv4.1,*
Error ellipse: s-maj=7.6km s-min=5.1km az=157.0
ISC 27 05:44:37.0±1.7,41°.26N±0°.06×78°.71E±0°.03,h7km±10km,
n58,σ1§60/85,mb3.6/5,24C-14D,Kyrgyzstan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.82**	**305**	⇑*iP*			**Pg**	**05 44 52.1**	**-0.8**
TARG				⇑*iS*			**Sn**	**05 45 06.3**	**-1.8**
PRZ	**Przheval'sk**	**1.25**	**349**	⇓*iP*			**Pn**	**05 44 59.6**	**-1.4**
PRZ				⇓*iS*			**Sn**	**05 45 18.8**	**+0.6**
KDJ	**Kajisay**	**1.44**	**308**	⇑*iP*			**Pn**	**05 45 02.8**	**-0.9**
KDJ				⇑*iS*			**Sg**	**05 45 24.7**	**+1.5**
KDJ	**Kajisay**	**1.44**	**308**	⇓*iS*			**Pn**	**05 45 03.3**	**-0.4**
SATY	**Saty**	**1.81**	**353**	Pg			**Pb**	**05 45 10.8**	**+0.2**
	124nm,0.5s								
SATY				Lg			Lg	05 45 37.5	
	334nm,0.3s								
UZB	**Uzynbulak**	**1.90**	**7**	Pg			**Pb**	**05 45 11.1**	**-1.0**
	136nm,0.5s								
UZB				Lg			Lg	05 45 37.8	
	227nm,0.4s								
UZB	**Uzynbulak**	**1.90**	**7**	*eP*			**Pb**	**05 45 11.1**	**-1.0**
	136nm,0.5s								
UZB				*eS*			**Sg**	**05 45 37.8**	**-0.3**
	419nm,0.6s								
SHLS	**Shalkode**	**1.98**	**16**	*eP*			**Pg**	**05 45 15.5**	**+0.6**
	452nm,0.4s								
SHLS				*eS*			**Sg**	**05 45 44.8**	**+4.3**
	994nm,0.6s								
ULHL	**Ulahol**	**2.09**	**299**	⇑*iP*			**Pb**	**05 45 13.5**	**-1.9**
ULHL				⇑*iS*			**Sg**	**05 45 43.5**	**-0.7**
PDGK	**Podgornoye**	**2.15**	**15**	⇑⇑Pg			**Pb**	**05 45 15.1**	**-1.2**
	80nm,0.5s								
PDGK				⇑Lg			Lg	05 45 46.0	
	539nm,0.7s								
KPKS	**Kokpek**	**2.21**	**360**	Pg			**Pb**	**05 45 17.1**	**-0.2**
	0.6nm,0.3s								
KPKS				Lg			Lg	05 45 48.0	
	365nm,0.6s								
TNSS	**Tian-Shan**	**2.21**	**324**	Pg			**Pb**	**05 45 18.0**	**+0.5**
	72nm,0.4s								
TNSS				Lg			Lg	05 45 49.8	
	135nm,0.7s								
TNSS	**Tian-Shan**	**2.21**	**324**	*eP*			**Pb**	**05 45 18.0**	**+0.5**
	76nm,0.5s								
TNSS				*eS*			**Sg**	**05 45 49.4**	**+1.5**
	176nm,0.6s								
KURS	**Kuram**	**2.26**	**350**	Pg			**Pb**	**05 45 18.8**	**+0.6**
	114nm,0.7s								
KURS				Lg			Lg	05 45 50.8	
	216nm,0.4s								
MDOK	**Medeo**	**2.27**	**328**	Pg			**Pb**	**05 45 18.8**	**+0.4**
	253nm,0.4s								
MDOK				Lg			Lg	05 45 51.0	
	412nm,0.9s								
JNKS	**Jany-Kuch**	**2.32**	**266**	⇑*iP*			**Pn**	**05 45 16.0**	**+0.2**
JNKS				⇑*iS*			**Sb**	**05 45 47.7**	**-0.4**
KNDC	**Almaty**	**2.35**	**327**	⇓Pg			**Pb**	**05 45 20.0**	**+0.4**
	395nm,0.9s								
KNDC				⇓Lg			Lg	05 45 53.3	
	740nm,0.6s								
AAA	**Alma-Ata**	**2.36**	**326**	*eP*			**Pg**	**05 45 21.7**	**-0.5**
	246nm,0.2s								
AAA				*eS*			**Sg**	**05 45 55.7**	**+2.9**
	50nm,0.3s								
IZV	**Izvestkoviy**	**2.36**	**319**	Pg			**Pb**	**05 45 20.6**	**+0.6**
IZV				Lg			Lg	05 45 54.0	
IZV	**Izvestkoviy**	**2.36**	**319**	*eP*			**Pb**	**05 45 20.6**	**+0.6**
	78nm,0.3s								
IZV				*eS*			**Sg**	**05 45 54.0**	**+1.1**
	381nm,0.5s								
BOOM	**Boomskoye usch**	**2.41**	**302**	⇓*iP*			**Pn**	**05 45

27nm,0.3s
MTBS eS Sg 05 45 57.9 -0.1
414nm,0.7s
KST Kastek 2.71 312 Pg Pb 05 45 26.7 +0.8
184nm,0.7s
KST Lg Lg 05 46 04.3
274nm,0.6s
KST Kastek 2.71 312 eP Pb 05 45 26.7 +0.8
112nm,0.3s
KST eS Sg 05 46 04.3 +0.3
344nm,0.5s
TKM2 Tokmak 2 2.85 307 ⇑iP Pn 05 45 24.1 +1.0
TKM2 ⇑iS Sb 05 46 01.6 -1.9
CHKK Chushkaly 2.89 334 Pg Pb 05 45 29.5 +0.6
60nm,0.3s
CHKK Lg Lg 05 46 09.0
461nm,0.4s
CHKK Chushkaly 2.89 334 eP Pb 05 45 29.5 +0.6
60nm,0.3s
CHKK eS Sg 05 46 09.0 -0.7
461nm,0.4s
DGS Degeres 2.95 313 Pg Pb 05 45 30.3 +0.4
121nm,0.5s
DGS Lg Lg 05 46 10.7
246nm,0.6s
ARXS Arharly 3.02 348 Pg Pb 05 45 31.8 +0.6
66nm,0.4s
ARXS Lg Lg 05 46 13.3
421nm,0.7s
ARXS Arharly 3.02 348 eP Pb 05 45 31.8 +0.6
ARXS eS Sg 05 46 13.2 -0.8
KBK Karagaybulak 3.13 298 ⇑iP Pn 05 45 28.0 +1.0
KBK ⇑iS Sb 05 46 08.2 -3.4
KUU Kurty 3.16 327 eP Pb 05 45 33.9 +0.4
5.0nm,0.1s
KUU eS Sg 05 46 16.7 -1.8
154nm,0.3s
UCH Uchtor 3.29 289 ⇑iP Pn 05 45 30.2 +0.9
UCH ⇑iS Sb 05 46 12.0 -4.2
FRU1 Bishkek 3.41 298 ⇑iP Pn 05 45 32.0 +1.3
FRU1 ⇑iS Sb 05 46 15.4 -4.1
AAK Ala-Archa 3.43 295 Pg Pb 05 45 39.6 +1.4
6.7nm,0.3s,baz=110,slow=12,SNR=6.8
AAK Lg Lg 05 46 26.4
6.4nm,0.3s,baz=293,slow=22,SNR=7.6
AAK LR LR 05 47 06.0
comp=Z,103nm,19.8s,baz=78,slow=42
AAK Ala-Archa 3.43 295 ⇓Pg Pb 05 45 39.5 +1.3
18nm,0.7s
AAK ⇑Lg Lg 05 46 26.7
104nm,1.0s
AAK Ala-Archa 3.43 295 ⇑iP Pn 05 45 32.2 +1.1
AAK ⇑iS Sn 05 46 15.3 +3.2
SALK Salom-Alik 3.71 266 ⇓eP Pn 05 45 35.9 +1.0
SALK ⇓eS Sn 05 46 21.4 +2.4
TDK Taldyqorghan 3.75 357 Pg Pb 05 45 44.0 +0.5
35nm,0.3s
TDK Lg Lg 05 46 34.0
359nm,0.7s
TDK Taldyqorghan 3.75 357 eP Pb 05 45 44.0 +0.5
8.2nm,0.1s
TDK eS Sg 05 46 34.3 -3.0
362nm,0.5s
KAPS Kapalarasan 4.05 6 Pg Pb 05 45 49.8 +1.1
14nm,0.3s
KAPS Lg Lg 05 46 44.2
117nm,0.5s
ARSB Arslanbob 4.32 273 ⇓eP Pn 05 45 44.3 +1.1
ARSB ⇓eS Sn 05 46 36.0 +2.2
MRKS Merke 4.35 292 eP Pb 05 45 56.4 +2.6
11nm,0.3s
MRKS eS Sg 05 46 55.3 -1.2
40nm,0.5s
MK31 Makanchi Array 6.11 24 ⇑Pn Pn 05 46 08.8 +1.2
1.2nm,0.4s,baz=206,slow=14,SNR=10
MK31 ⇓Sn Sn 05 47 21.6 +3.9
8.1nm,0.7s,baz=206,slow=23,SNR=4.2
MK31 ⇑Lg Lg 05 47 47.0
18nm,0.7s,baz=206,slow=25,SNR=4.7
MKAR Makanchi Array 6.11 24 Pn Pn 05 46 08.7 +1.1
0.4nm,0.3s,baz=208,slow=14,SNR=4.7
MKAR Lg Lg 05 47 48.2
2.4nm,0.3s,baz=204,slow=27,SNR=4.6
1.9nm,0.3s
KK31 Karatay Array 6.36 290 ⇑Pn Pn 05 46 14.4 +3.3
4.7nm,0.9s,baz=108,slow=15,SNR=9.3
KK31 Pg Pg 05 46 37.4 -1.5
8.1nm,0.7s,baz=98,slow=16,SNR=7.2
KK31 ⇓Lg Lg 05 47 59.6
5.7nm,0.5s,baz=96,slow=26,SNR=4.5
KURBB Kurchatov Arra 9.37 359 Pn Pn 05 46 53.3 +1.0
baz=193,slow=12,SNR=0.9
KURBB Lg Lg 05 49 32.3
0.3nm,0.3s,baz=190,slow=31,SNR=2.9
0.7nm,1.0s
BVAR Borovoye Array 13.05 337 Lg Lg 05 51 26.5
baz=152,slow=28,SNR=3.7
ZALV Zalesovo Beam 13.34 16 Pn Pn 05 47 47.6 +1.0
0.2nm,0.3s,baz=195,slow=16,SNR=1.8
0.8nm,0.5s
SONM Songino Array 20.73 62 P P 05 49 17.6 -0.5
0.9nm,0.5s,baz=264,slow=11,SNR=3.9
0.9nm,0.5s
BRTR Keskin Array B 34.02 283 P P 05 51 22.1 +0.5
0.8nm,0.8s,baz=99,slow=9.0,SNR=5.2
0.8nm,0.8s
ARCES ARCESS Array B 39.30 334 P P 05 52 06.8 +0.7
1.4nm,0.7s,baz=108,slow=8.8,SNR=6.1
1.4nm,0.7s
GERES GERESS Array B 45.28 303 P P 05 52 56.0 +0.8
0.2nm,0.4s,baz=64,slow=11,SNR=1.6
0.2nm,0.4s
TORD Torodi Ar. Bea 71.73 272 P P 05 55 58.6 -1.5
0.6nm,0.3s,baz=45,slow=6.1,SNR=2.6
0.6nm,0.3s
WRA Warramunga Arr 79.77 128 P P 05 56 43.4 -2.5
0.4nm,0.7s,baz=331,slow=5.2,SNR=2.6
0.4nm,0.7s
ASAR Alice Springs 82.40 131 P P 05 56 57.6 -2.2
0.4nm,0.7s,baz=326,slow=5.7,SNR=6.5
0.4nm,0.7s

*IDC **27** 05:52:39.4±1.9, 0°.88N×97°.39E, h0km, mb3.6/4, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=57.5km s-min=24.7km az=60.0*
*DJA **27** 05:52:43.8±0.6, 1°.N±4°.×9°.8E±°, h10km, M3.5/7, MLv3.5/7*
ISC 27 05:52:43.9±1.0, 1°.16N±0°.08×97°.70E±0°.08, h27km, n21, σ0§96/10, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.34**	**154**	P	**Pn**	**05 53 06.7**	**-0.1**
PBSI				S	**Sn**	**05 53 22.8**	**-1.0**
SNSI	**Sinabang, Aceh**	**1.85**	**312**	P	**Pb**	**05 53 16.5**	**-0.5**
MNSI	**Mandailing Nat**	**1.92**	**101**	P	**Pb**	**05 53 18.1**	**-0.1**
MNSI				S	Sn	05 53 30.0	-8.0
PSI	**Prapat**	**2.04**	**37**	Pn	**Pb**	**05 53 19.7**	**-0.7**
3.2nm,0.3s,baz=172,slow=19,SNR=4.3							
8.1nm,0.4s							
KCSI	**Kotacane, Aceh**	**2.35**	**2**	P	**Pb**	**05 53 25.0**	**-0.6**
H08S2	**Diego Garcia H**	**26.62**	**250**	T	T	06 25 21.7	
baz=71,slow=75,SNR=115							
H08S3	**Diego Garcia H**	**26.62**	**250**	T	T	06 25 21.8	
baz=71,slow=75,SNR=157							
H08S1	**Diego Garcia H**	**26.64**	**250**	T	T	06 25 18.7	
baz=71,slow=75,SNR=95							
H01W3	**Cape Leeuwin H**	**39.02**	**158**	T	T	06 41 19.3	
baz=333,slow=76,SNR=4.7							
H01W2	**Cape Leeuwin H**	**39.03**	**158**	T	T	06 41 26.0	
baz=333,slow=76,SNR=5.5							
H01W1	**Cape Leeuwin H**	**39.04**	**158**	T	T	06 41 28.8	
baz=333,slow=76,SNR=4.9							
WRA	**Warramunga Arr**	**41.59**	**122**	P	**P**	**06 00 30.0**	**+0.1**
0.3nm,0.7s,baz=298,slow=8.7,SNR=3.4							
0.3nm,0.7s							
ASAR	**Alice Springs**	**42.97**	**127**	P	**P**	**06 00 41.5**	**+0.3**
0.3nm,0.7s,baz=295,slow=8.6,SNR=5.2							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**47.40**	**346**	P	**P**	**06 01 17.9**	**+2.0**
0.9nm,0.5s,baz=159,slow=9.3,SNR=9.2							
0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	**P**	**06 02 02.7**	**-0.5**
1.1nm,0.5s,baz=173,slow=7.3,SNR=2.3							
1.1nm,0.5s							
H04N2	**CROZET ISLANDS**	**62.02**	**214**	T	T	07 09 57.5	
baz=55,slow=74,SNR=286							
H04N1	**CROZET ISLANDS**	**62.03**	**214**	T	T	07 09 58.1	
baz=55,slow=74,SNR=289							
H04N3	**CROZET ISLANDS**	**62.04**	**214**	T	T	07 09 56.1	
baz=55,slow=74,SNR=232							
H04S1	**CROZET ISLANDS**	**62.35**	**214**	T	T	07 10 05.8	
baz=54,slow=76,SNR=51							
H04S3	**CROZET ISLANDS**	**62.37**	**214**	T	T	07 10 06.1	
baz=54,slow=76,SNR=58							
H04S2	**CROZET ISLANDS**	**62.37**	**214**	T	T	07 10 02.4	
baz=54,slow=76,SNR=36							

*IDC **27** 05:56:21.7±6.0, 36°.31N×71°.03E, h168km±54km, mb3.4/6, mbtmp3.8/9, MS3.9/2, Error ellipse: s-maj=46.3km s-min=21.6km az=33.0*
*NNC **27** 05:56:25.8±8.1, 37°.11N×70°.77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=64.4km s-min=53.3km az=164.0*
ISC 27 05:56:24.8±1.1, 36.70N±0°.09×71.1E±0°.1, h188km, n14, σ1§75/16, mb3.6/4, 5C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.41**	**356**	⇑P	**Pn**	**05 57 57.8**	**+0.6**
1.7nm,0.3s,baz=184,slow=14,SNR=29							
KK31				S	**Sn**	**05 59 07.2**	**-3.0**
10nm,0.5s,baz=185,slow=18,SNR=21							
AAK	**Ala-Archa**	**6.50**	**23**	P	**Pn**	**05 58 00.1**	**+1.7**
2.3nm,0.3s,baz=180,slow=4.5,SNR=8.7							
AAK				S	**Sn**	**05 59 11.3**	**-1.2**
3.3nm,0.5s,baz=191,slow=8.1,SNR=4.7							
AAK	**Ala-Archa**	**6.50**	**23**	⇑P	**Pn**	**05 57 58.7**	**+0.3**
0.4nm,0.4s							
AAK				⇑S	**Sn**	**05 59 10.9**	**-1.6**
5.6nm,0.7s							
MKAR	**Makanchi Array**	**13.10**	**36**	P	**P**	**05 59 27.6**	**+0.3**
1.0nm,1.0s,baz=216,slow=12,SNR=4.2							
AB31	**Akbulak array**	**14.93**	**331**	⇑P	**P**	**05 59 48.5**	**+1.0**
1.3nm,0.8s							
AB31				⇑S	**Sn**	**06 02 30.9**	**-2.2**
1.6nm,0.7s							
BVAR	**Borovoye Array**	**16.33**	**359**	P	**Pn**	**06 00 04.3**	**+0.9**
0.3nm,0.4s,baz=161,slow=9.2,SNR=2.0							
ZALV	**Zalesovo Beam**	**19.71**	**25**	P	**P**	**06 00 40.7**	**+1.0**
0.7nm,0.3s,baz=200,slow=12,SNR=1.6							
0.7nm,0.3s							
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**06 03 50.8**	**+2.1**
3.2nm,1.0s,baz=110,slow=7.9,SNR=4.0							
3.2nm,1.0s							
HFS	**Hagfors**	**42.93**	**322**	P	**P**	**06 04 06.3**	**+1.6**
1.8nm,0.6s,baz=94,slow=13,SNR=6.2							
1.8nm,0.6s							
YAK	**Yakutsk**	**43.78**	**36**	LR	LR	06 22 17.0	
comp=Z,67nm,19.6s,baz=210,slow=35							
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**06 06 48.3**	**-1.6**
0.9nm,0.3s,baz=44,slow=7.5,SNR=1.0							
0.9nm,0.3s							
SHEM	**Shemya Is, Ala**	**68.78**	**39**	LR	LR	06 42 17.9	
comp=Z,138nm,18.8s,baz=104,slow=40							
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**06 08 22.2**	**-2.0**
0.4nm,0.5s,baz=324,slow=5.0,SNR=6.4							
0.4nm,0.5s							
ASAR	**Alice Springs**	**84.34**	**125**	P	**P**	**06 08 34.4**	**-1.5**
0.5nm,0.6s,baz=311,slow=4.7,SNR=8.8							
0.5nm,0.6s							

*NNC **27** 06:14:04.6±0.6, 42°.90N×76°.74E, h0km, mb3.2, mpv3.8, Error ellipse: s-maj=4.4km s-min=2.9km az=160.0*
*KRNET **27** 06:14:04.8±0.1, 42°.95N×76°.75E, h20km, mb3.5*
*SOME **27** 06:14:05.1, 42°.95N×76°.73E, h20km*
*KNET **27** 06:14:06.1±0.5, 42°.90N×76°.64E, h20km±6km, ml2.8, Error ellipse: s-maj=3.5km s-min=2.2km az=62.0*
ISC 27 06:14:05.6±0.8, 42°.96N±0°.02×76°.73E±0°.01, h15km±5km, n64, σ1§19/121, 34C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZV	**Izvestkoviy**	**0.11**	**311**	eP	**Pg**	**06 14 09.4**	**+0.2**
IZV				eS	**Sg**	**06 14 12.2**	**+0.6**
IZV	**Izvestkoviy**	**0.11**	**311**	eP	**Pg**	**06 14 09.4**	**+0.2**
246nm,0.1s							
IZV				eS	**Sg**	**06 14 12.2**	**+0.6**
640nm,0.1s							
TNSS	**Tian-Shan**	**0.18**	**64**	eP	**Pg**	**06 14 09.8**	**-0.4**
TNSS				eS	**Sg**	**06 14 13.2**	**0.0**
TNSS	**Tian-Shan**	**0.18**	**64**	eP	**Pg**	**06 14 09.8**	**-0.4**
148nm,0.1s							
TNSS				eS	**Sg**	**06 14 13.2**	**0.0**
260nm,0.1s							
MTBS	**Maitube**	**0.28**	**308**	P	**Pg**	**06 14 12.2**	**+0.7**
110nm,0.1s							
MTBS				S	**Sg**	**06 14 16.1**	**+0.5**
1μm,0.3s							
MTBS	**Maitube**	**0.28**	**308**	eP	**Pg**	**06 14 12.2**	**+0.7**
55nm,0.1s							
MTBS				eS	**Sg**	**06 14 16.2**	**+0.5**
790nm,0.1s							
AAA	**Alma-Ata**	**0.28**	**29**	eP	**Pg**	**06 14 11.7**	**+0.1**
2μm,0.1s							
AAA				eS	**Sg**	**06 14 16.1**	**+0.4**
673nm,0.1s							
KNDC	**Almaty**	**0.31**	**34**	⇑P	**Pg**	**06 14 12.0**	**-0.1**
414nm,0.2s							
KNDC				⇑S	**Sb**	**06 14 17.1**	**-0.7**
521nm,0.2s							
MDOK	**Medeo**	**0.31**	**49**	eP	**Pg**	**06 14 11.6**	**-0.5**
MDOK				eS	**Sg**	**06 14 16.3**	**-0.3**
KST	**Kastek**	**0.57**	**279**	P	**Pg**	**06 14 16.5**	**-0.3**
47nm,0.2s							
KST				S	**Sg**	**06 14 24.8**	**+0.4**
154nm,0.2s							
KST	**Kastek**	**0.57**	**279**	eP	**Pg**	**06 14 17.0**	**+0.2**
32nm,0.1s							
KST				eS	**Sg**	**06 14 24.8**	**+0.4**
154nm,0.2s							
BOOM	**Boomskoye usch**	**0.75**	**231**	⇓iP	**Pg**	**06 14 19.1**	**-1.1**
BOOM				⇓iS	**Sg**	**06 14 29.1**	**-1.0**
KTBS	**Karatobe**	**0.75**	**357**	P	**Pg**	**06 14 19.4**	**-0.8**
51nm,0.1s							
KTBS				S	**Sg**	**06 14 29.6**	**-0.5**
345nm,0.3s							
DGS	**Degeres**	**0.76**	**292**	P	**Pg**	**06 14 20.5**	**+0.1**
24nm,0.1s							
DGS				S	**Sg**	**06 14 30.1**	**-0.2**
144nm,0.2s							
ULHL	**Ulahol**	**0.80**	**207**	⇓P	**Pg**	**06 14 20.2**	**-0.9**
77nm,0.2s,SNR=28							
ULHL				⇑S	**Sg**	**06 14 30.7**	**-1.0**
383nm,0.1s							
ULHL	**Ulahol**	**0.80**	**207**	⇓iP	**Pg**	**06 14 20.0**	**-1.2**
ULHL				⇓iS	**Sg**	**06 14 30.7**	**-1.0**
TKM2	**Tokmak 2**	**0.83**	**268**	⇑P	**Pb**	**06 14 20.7**	**-1.2**
29nm,0.1s,SNR=28							
TKM2				⇑S	**Sb**	**06 14 32.0**	**-1.0**
298nm,0.1s							
TKM2	**Tokmak 2**	**0.83**	**268**	⇑iP	**Pb**	**06 14 20.9**	**-1.0**
TKM2				⇑iS	**Sb**	**06 14 32.4**	**-0.6**
KDJ	**Kajisay**	**0.90**	**158**	⇑iP	**Pb**	**06 14 21.4**	**-1.6**
KDJ				⇑iS	**Sb**	**06 14 33.3**	**-1.5**
CHKK	**Chushkaly**	**0.91**	**12**	P	**Pb**	**06 14 22.4**	**-0.8**
52nm,0.1s							
CHKK				S	**Sb**	**06 14 34.0**	**-1.2**
530nm,0.1s							
CHKK	**Chushkaly**	**0.91**	**12**	eP	**Pb**	**06 14 22.4**	**-0.8**
CHKK				eS	**Sb**	**06 14 34.0**	**-1.2**
CHKK	**Chushkaly**	**0.91**	**12**	eP	**Pb**	**06 14 22.4**	**-0.8**
52nm,0.1s							
CHKK				eS	**Sb**	**06 14 34.0**	**-1.2**
530nm,0.1s							
KUU	**Kurty**	**0.97**	**343**	eP	**Pb**	**06 14 22.2**	**-2.0**
28nm,0.1s							
KUU				eS	**Sb**	**06 14 33.8**	**-3.2**
140nm,0.2s							
KRBS	**Karabastau**	**1.06**	**314**	P	**Pb**	**06 14 24.9**	**-0.9**
49nm,0.1s							
KRBS				S	**Sb**	**06 14 39.0**	**-0.6**
42nm,0.2s							
KRBS	**Karabastau**	**1.06**	**314**	eP	**Pb**	**06 14 25.3**	**-0.5**
KRBS				eS	**Sb**	**06 14 39.0**	**-0.6**
KURS	**Kuram**	**1.18**	**63**	P	**Pn**	**06 14 26.6**	**-1.1**
13nm,0.1s							
KURS				S	**Sb**	**06 14 41.0**	**-1.8**
94nm,0.3s							
SATY	**Saty**	**1.23**	**85**	P	**Pn**	**06 14 27.6**	**-0.9**
29nm,0.1s							
SATY				S	**Sb**	**06 14 42.7**	**-1.8**
240nm,0.1s							
PRZ	**Przheval'sk**	**1.32**	**111**	⇑iP	**Pn**	**06 14 28.8**	**-0.9**
PRZ				⇑iS	**Sb**	**06 14 46.2**	**-0.8**
KBK	**Karagaybulak**	**1.35**	**258**	⇓P	**Pn**	**06 14 29.9**	**-0.2**
145nm,0.1s,SNR=34							
KBK				⇑S	**Sb**	**06 14 48.5**	**+0.7**
309nm,0.3s							
KBK	**Karagaybulak**	**1.35**	**258**	⇑iP	**Pn**	**06 14 29.9**	**-0.2**
KBK				⇑iS	**Sb**	**06 14 48.1**	**+0.3**
CHMS	**Chumysh**	**1.45**	**272**	⇑P	**Pn**	**06 14 31.4**	**0.0**
18nm,0.1s,SNR=16							
CHMS				⇓S	**Sb**	**06 14 51.2**	**+0.5**
96nm,0.1s							
CHMS	**Chumysh**	**1.45**	**272**	⇓iP	**Pn**	**06 14 31.5**	**+0.1**
CHMS				⇓iS	**Sb**	**06 14 51.2**	**+0.5**
TARG	**Taragay, Kyrgy**	**1.47**	**147**	⇓iP	**Pn**	**06 14 31.4**	**-0.5**
TARG				⇓iS	**Sn**	**06 14 50.5**	**-0.6**
ARXS	**Arharly**	**1.48**	**32**	P	**Pn**	**06 14 31.8**	**-0.1**
134nm,0.2s							
ARXS				S	**Sn**	**06 14 50.6**	**-0.5**
257nm,0.2s							
ARXS	**Arharly**	**1.48**	**32**	eP	**Pn**	**06 14 31.8**	**-0.1**
134nm,0.2s							
ARXS				eS	**Sn**	**06 14 50.6**	**-0.5**
257nm,0.2s							
KPKS	**Kokpek**	**1.52**	**70**	P	**Pb**	**06 14 32.9**	**-0.6**
0.3nm,0.3s							
KPKS				S	**Sb**	**06 14 51.9**	**-0.7**
126nm,0.2s							
KPKS	**Kokpek**	**1.52**	**70**	eP	**Pb**	**06 14 32.9**	**-0.6**
KPKS				eS	**Sb**	**06 14 52.2**	**-0.4**
KPKS	**Kokpek**	**1.52**	**70**	eP	**Pb**	**06 14 32.9**	**-0.6**
16nm,0.1s							
KPKS				eS	**Sb**	**06 14 52.2**	**-0.4**
126nm,0.2s							
FRU1	**Bishkek**	**1.55**	**265**	⇑iP	**Pb**	**06 14 33.6**	**-0.5**
FRU1				⇑iS	**Sb**	**06 14 54.2**	**+0.6**
USP	**Ospenovka**	**1.66**	**281**	⇑P	**Pn**	**06 14 35.0**	**+0.8**
32nm,0.2s,SNR=115							
USP				⇓S	**Sb**	**06 14 57.6**	**+0.8**
117nm,0.1s							
USP	**Ospenovka**	**1.66**	**281**	⇑iP	**Pn**	**06 14 35.1**	**+0.8**
USP				⇑iS	**Sb**	**06 14 57.3**	**+0.6**
AAK	**Ala-Archa**	**1.68**	**260**	P	**Pn**	**06 14 35.5**	**+0.9**
22nm,0.2s,SNR=58							
AAK				⇓S	**Sb**	**06 14 58.1**	**+0.8**
81nm,0.4s							
AAK	**Ala-Archa**	**1.68**	**260**	⇑Pg	**Pn**	**06 14 35.4**	**+0.8**
3.2nm,0.4s							
AAK				⇓Lg	Lg	06 14 58.0	
15nm,0.5s							
AAK	**Ala-Archa**	**1.68**	**260**	⇓iP	**Pn**	**06 14 35.5**	**+0.9**
AAK				⇓iS	**Sb**	**06 14 57.8**	**+0.5**
UZB	**Uzynbulak**	**1.69**	**83**	P	**Pb**	**06 14 35.5**	**-1.0**
17nm,0.2s							
UZB				S	**Sb**	**06 14 57.3**	**-0.3**
56nm,0.2s							
UZB	**Uzynbulak**	**1.69**	**83**	eP	**Pb**	**06 14 36.1**	**-0.4**
UZB				eS	**Sb**	**06 14 57.5**	**-0.2**
UZB	**Uzynbulak**	**1.69**	**83**	eP	**Pb**	**06 14 36.1**	**-0.4**
13nm,0.1s							
UZB				eS	**Sb**	**06 14 57.5**	**-0.2**
80nm,0.1s							
UCH	**Uchtor**	**1.79**	**247**	P	**Pb**	**06 14 37.8**	**-0.6**
24nm,0.2s,SNR=38							
UCH				⇓S	**Sb**	**06 15 01.7**	**+0.8**
46nm,0.3s							
UCH	**Uchtor**	**1.79**	**247**	⇑iP	**Pn**	**06 14 37.4**	**+0.9**
UCH				⇑iS	**Sb**	**06 15 00.8**	**-0.1**
SHLS	**Shalkode**	**2.01**	**83**	Pg	**Pg**	**06 14 47.5**	**+3.4**
4.6nm,0.1s							
SHLS				Lg	Lg	06 15 16.0	
83nm,0.4s							
SHLS	**Shalkode**	**2.01**	**83**	eP	**Pg**	**06 14 47.5**	**+3.4**
8.1nm,0.1s							
SHLS				eS	**Sg**	**06 15 17.2**	**+6.8**
46nm,0.3s							
PDGK	**Podgornoye**	**2.05**	**79**	⇑Pn	**Pb**	**06 14 41.1**	**-1.6**
15nm,0.7s							
PDGK				⇑Sn	**Sb**	**06 15 08.3**	**+0.2**
27nm,0.3s							
JNKS	**Jany-Kuch**	**2.06**	**203**	⇑iP	**Pn**	**06 14 40.6**	**+0.6**
JNKS				⇑iS	**Sn**	**06 15 06.8**	**+1.2**
EKS2	**Erkin-Say**	**2.19**	**263**	⇑P	**Pb**	**06 14 43.5**	**-1.5**
9.8nm,0.1s,SNR=11							
EKS2	**Erkin-Say**	**2.19**	**263**	⇑iP	**Pn**	**06 14 42.6**	**+0.9**
EKS2				⇑iS	**Sn**	**06 15 10.3**	**+1.7**
TDK	**Taldyqorghan**	**2.37**	**30**	Pg	**Pb**	**06 14 47.7**	**-0.4**
63nm,0.5s							
TDK				Lg	Lg	06 15 17.3	
299nm,0.4s							
TDK	**Taldyqorghan**	**2.37**	**30**	eP	**Pb**	**06 14 47.7**	**-0.4**
63nm,0.5s							
TDK				eS	**Sb**	**06 15 17.3**	**+0.1**
299nm,0.4s							
MRKS	**Merke**	**2.58**	**266**	Pg	**Pb**	**06 14 52.6**	**+0.9**
8.8nm,0.1s							
MRKS				Lg	Lg	06 15 25.9	
63nm,0.3s							
MRKS	**Merke**	**2.58**	**266**	eP	**Pb**	**06 14 52.2**	**+0.4**
3.1nm,0.1s							
MRKS				eS	**Sb**	**06 15 25.1**	**+1.7**
63nm,0.3s							
KAPS	**Kapalarasan**	**3.00**	**38**	Pg	**Pb**	**06 14 58.6**	**-0.1**
4.0nm,0.1s							
KAPS				Lg	Lg	06 15 36.1	
133nm,0.3s							
SALK	**Salom-Alik**	**3.00**	**227**	⇑eP	**Pn**	**06 14 53.6**	**+0.8**
SALK				⇑eS	**Sn**	**06 15 29.0**	**+0.3**
ARSB	**Arslanbob**	**3.23**	**241**	⇓eP	**Pn**	**06 14 57.0**	**+1.0**
ARSB				⇓eS	**Sn**	**06 15 35.1**	**+0.8**
KK31	**Karatay Array**	**4.56**	**274**	⇑Pg	**Pb**	**06 15 27.1**	**+1.8**
0.8nm,0.3s,baz=90,slow=16,SNR=18							
KK31				⇑Lg	Lg	06 16 30.0	
14nm,0.6s,baz=88,slow=28,SNR=22							
BRLS	**Borolday**	**5.06**	**273**	eP	**Pg**	**06 15 39.6**	**-2.7**
0.1nm,0.1s							
BRLS				eS	**Sg**	**06 16 46.5**	**-1.3**
6.9nm,0.5s							

*CATAC **27** 06:16:41.6±0.8, 11°N±5°.×8°.7W±°, h25km±10km, M3.5/23, MLv3.5/23, Error ellipse: s-maj=13.1km s-min=5.0km az=39.1, confirmed*
*UCR **27** 06:16:44.8±0.8, 11°.63N×87°.01W, h20km, MW3.9*
ISC 27 06:16:45.8±1.7, 11°.46N±0°.06×87°.24W±0°.08, h49km, n43, σ1§72/41, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.95**	**42**	P	**Pn**	**06 17 01.7**	**-1.2**
UNAN	**Cigeo UNAN**	**1.15**	**56**	P	**Pn**	**06 17 04.3**	**-1.2**
CNGA	**Al SSO del Vol**	**1.15**	**27**	P	**Pn**	**06 17 04.5**	**-1.1**
APQ2	**Apoyeque**	**1.16**	**51**	P	**Pn**	**06 17 04.0**	**-1.6**
CNGN	**Cerro Negro**	**1.16**	**27**	P	**Pn**	**06 17 04.6**	**-1.2**
TISN	**Laguna Tiscapa**	**1.17**	**54**	P	**Pn**	**06 17 04.4**	**-1.3**
MAS3	**Al N del Volca**	**1.18**	**62**	P	**Pn**	**06 17 04.5**	**-1.5**
MGAN	**Managua**	**1.19**	**55**	P	**Pn**	**06 17 04.8**	**-1.2**
APQN	**BB Volcan Apoy**	**1.19**	**51**	P	**Pn**	**06 17 03.9**	**-2.2**
MOM2	**El Cardon**	**1.22**	**37**	P	**Pn**	**06 17 05.5**	**-1.0**
PKGN	**Cerro Pekin**	**1.23**	**12**	P	**Pn**	**06 17 05.6**	**-1.0**
WILN	**Americas 2**	**1.24**	**56**	P	**Pn**	**06 17 05.3**	**-1.4**
WILN				S	**Sn**	**06 17 24.9**	**+2.4**
CRIN	**San Cristobal**	**1.25**	**9**	P	**Pn**	**06 17 06.1**	**-0.9**
CSGN	**Cosiguina Volc**	**1.54**	**348**	P	**Pn**	**06 17 09.6**	**-1.3**
CSGN	**Cosiguina Volc**	**1.54**	**348**	eP	**Pn**	**06 17 09.7**	**-1.2**
POTN	**Potosi Cosigui**	**1.55**	**350**	P	**Pn**	**06 17 10.0**	**-1.0**
POTN				S	**Sn**	**06 17 30.7**	**+0.7**
MORN	**Al O del Volca**	**1.56

TENO	El Achiote	2.34	109	eP	Pn	06 17 19.8 -2.2
QUEB	Quebradon, Cot	2.45	110	eP	Pn	06 17 27.0 +3.7
JTS	Las Juntas de	2.53	117	eP	Pn	06 17 27.1 +2.6
ARE1	Arenal 1	2.67	112	eP	Pn	06 17 30.4 +4.1
VARE2	V. Arenal	2.67	112	eP	Pn	06 17 30.5 +4.1
CEDE	Laguna Cedeo	2.67	111	eP	Pn	06 17 30.0 +3.6
ACOS	Acosta	3.45	118	eP	Pn	06 17 37.4 +0.3
PAR1A	Puntarenas Pro	3.47	122	eP	Pn	06 17 37.2 -0.1
PIEC	Cerro El Cedra	3.71	119	eP	Pn	06 17 40.8 0.0
BUS1	Rivas	3.92	119	eP	Pn	06 17 43.4 -0.6
DRK0	Durika	4.50	119	eP	Pn	06 17 53.6 +2.0

*KEA **27** 06:37:26.8, 35.′84N×128.′20E, h17km, ML3.6/1*
*KMA **27** 06:37:26.9±0.1, 35.′42N×128.′49E, h11km±1km, Error ellipse: s-maj=0.9km s-min=0.7km az=131.0*
*JMA **27** 06:37:26.3±0.4, 36.°N±1.′×12.°9E±.′, h23km, MV3.6/24, S KOREAN PENINSULA REG*

ISC 27 06:37:25.9±0.9, 35.′44N±0.′04×128.′48E±0.′03, h10km, n21, σ0.9/96/25, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EURB	Uiryeong-eup	0.20	232	P	Pg	06 37 31.2	+1.2
	SNR=1443						
EURB				S	Sg	06 37 33.9	+1.0
MIYA	Miryang-si	0.22	78	P	Pg	06 37 31.7	+1.2
	SNR=104						
JNYA	Jinyeong	0.25	130	P	Pg	06 37 31.9	+0.8
	SNR=293						
CGDA	Cheongdo	0.27	36	P	Pg	06 37 32.8	+1.5
	SNR=166						
KSHAC	HAPCHEON	0.28	294	P	Pb	06 37 33.0	+0.1
	SNR=209						
KSMAS	Masan	0.28	164	P	Pg	06 37 32.3	+0.7
	SNR=645						
HACA	Hapcheon Acc B	0.31	264	P	Pg	06 37 33.3	+1.2
	SNR=415						
JUCA	Juchon	0.35	125	P	Pg	06 37 33.5	+0.7
	SNR=61						
GACA	Gaecheon	0.36	203	P	Pg	06 37 33.6	+0.6
	SNR=444						
YALB	Yaro	0.37	321	P	Pb	06 37 34.7	+0.2
	SNR=519						
MSNA0	Miryangsannae	0.41	70	P	Pb	06 37 35.0	-0.3
	SNR=183						
YGAA	Yongam	0.42	347	P	Pb	06 37 35.6	+0.2
	SNR=321						
MLGA	Mulgeum	0.44	107	P	Pg	06 37 35.2	+0.7
	SNR=79						
KSJIN	Jinju	0.46	233	P	Pg	06 37 35.5	+0.6
	SNR=160						
JTU	Tsushima	1.19	140	P	Pn	06 37 48.1	-0.5
JTU				S	Sb	06 38 03.4	-0.6
JTSM	Tsushimamitsus	1.33	146	P	Pn	06 37 50.2	-0.3
JTSM				S	Sb	06 38 07.6	-0.4
JII	Iki	1.94	147	eP	Pn	06 37 60.0	+1.1
JHGM	Hagimishima	2.28	106	eP	Pn	06 38 02.9	-0.6
JTY	Toyota	2.43	118	eP	Pn	06 38 05.2	-0.5
JGT2	ShimaneMisato	3.32	95	eP	Pn	06 38 17.6	-0.3
HJU	Haeju	3.41	320	Pg	Pb	06 38 24.0	-2.3
HJU				Sg	Sb	06 39 06.6	-1.3
HJU				AML	AML		
	comp=N,398nm,0.7s						
HJU				AML	AML		
	comp=E,222nm,0.6s						
HJU				AML	AML		
	comp=Z,130nm,0.6s						

*NEIC **27** 06:45:21.6±1.2, 14.°29S±0.′06×74.°73W±0.′04, h118km±12km, mb4.2/10, Error ellipse: s-maj=9.2km s-min=4.9km az=156.0*
*IDC **27** 06:45:23.4±1.3, 13.°93S×74.°42W, h92km±13km, mb3.5/7, mbtmp3.9/10, MS3.0/1, Error ellipse: s-maj=24.4km s-min=10.0km az=37.0*
*VAO **27** 06:45:30.1±0.8, 13.°68S×73.°90W, h107km±8km, mb4.1*

ISC 27 06:45:21.7±0.6, 14.°23S±0.′07×74.°63W±0.′08, h100km, n59, σ1.9/51/60, mb3.9/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.10	316		Pn	06 46 09.3	+0.4
NNA				Sn	Sn	06 46 44.8	-0.4
NNA	Nana	3.10	316	P	Pn	06 46 09.6	+0.7
	403nm,0.4s,baz=134,slow=12,SNR=182						
NNA				S	Sn	06 46 45.8	+0.5
	517nm,0.4s,baz=209,slow=19,SNR=12						
PB12	IPOC Station P	6.00	137		Pn	06 46 48.9	+0.7
PB12				Sn	Sn	06 47 56.1	+0.5
PB16	IPOC Station P	6.39	130		Pn	06 46 54.8	+1.0
LPAZ	La Paz	6.60	109		Pn	06 46 58.8	+2.1
LPAZ	La Paz	6.60	109	P	Pn	06 46 58.1	+1.4
	7.0nm,0.5s,baz=303,slow=7.6,SNR=56						
LPAZ				S	Sn	06 48 11.8	+1.0
	9.1nm,0.7s,baz=200,slow=25,SNR=10						
LPAZ				LR	LR	06 50 08.7	
	comp=Z,118nm,18.9s,baz=328,slow=44						
LPAZ	La Paz	6.60	109	eP	Pn	06 46 59.3	+2.6
PB11	IPOC Station P	7.27	140		Pn	06 47 06.0	+0.5
GO01	Chusmiza	7.50	137		Pn	06 47 10.1	+1.2
TA01	Diego Aracena	7.60	147	Pn	Pn	06 47 07.7	-2.0
PATCX	Punta Patache	7.82	148	Pn	Pn	06 47 10.8	-2.0
PB08	IPOC Station P	7.87	139		Pn	06 47 12.3	-1.4
ATAH	Atahualpa	7.96	332	P	Pn	06 47 16.0	+0.9
	4.9nm,0.4s,baz=139,slow=9.3,SNR=10						
ATAH				S	Sn	06 48 42.3	-1.5
	14nm,0.8s,baz=213,slow=19,SNR=1.8						
PB01	IPOC Station P	8.36	145	Pn	Pn	06 47 19.7	-0.5
PB02	IPOC Station P	8.37	148		Pn	06 47 19.7	-0.6
PB09	IPOC Station P	9.10	147	Pn	Pn	06 47 30.2	-0.1
PB06	IPOC Station P	9.70	151	Pn	Pn	06 47 37.5	-1.0
PB10	IPOC Station P	10.00	158	Pn	Pn	06 47 41.7	-0.8
PB14	IPOC Station P	11.08	160	Pn	Pn	06 47 56.1	-1.3
COHC	Cochancay	12.55	338		Pn	06 48 15.6	-1.1
SIV	San Ignacio	13.21	99	P	Pn	06 48 24.4	-1.1
	1.4nm,0.6s,baz=280,slow=14,SNR=11						
SLOR	San Lorenzo -	13.95	344		Pn	06 48 35.0	-0.6
VILB	Vilhena	14.09	87		Pn	06 48 37.5	+0.6
VILB	Vilhena	14.09	87	eP	Pn	06 48 34.1	-2.8
OTAV	Otavalo	14.87	345	Pn	Pn	06 48 45.7	-1.6
PTLB	Pontes e Lacer	15.03	97		Pn	06 48 48.0	-0.9
PTLB	Pontes e Lacer	15.03	97	eP	Pn	06 48 48.5	-0.4
FLOC	Florencia	15.75	356	Pn	Pn	06 48 56.7	-1.3
FLOC				IAmb	IAmb	06 49 18.2	
	comp=Z,5.9nm,1.0s						
CO05	La Serena	15.92	169	Pn	Pn	06 48 56.8	-3.2
CO05				IAmb	IAmb	06 49 19.3	
	comp=Z,36nm,1.2s						
CO02	Combarbal	17.22	169	P	Pn	06 49 13.4	-2.7
CO02				IAmb	IAmb	06 49 53.4	
	comp=Z,22nm,1.2s						
MACA	Manacapuru-AM	17.62	53	P	P	06 49 19.1	-1.4
MACA				IAmb	IAmb	06 49 21.3	
	comp=Z,13nm,0.6s						
MACA	Manacapuru-AM	17.62	53	eP	P	06 49 18.8	-1.8
CLDB	Colider	18.68	82	eP	P	06 49 32.5	+0.2
AQDB	Aquidauana	19.10	112	eP	Pn	06 49 39.9	+1.3
H03N1	Juan Fernandez	19.51	191	T	T	07 08 57.9	
	baz=12,slow=74,SNR=215						
H03N2	Juan Fernandez	19.52	191	T	T	07 08 59.2	
	baz=12,slow=74,SNR=226						
H03N3	Juan Fernandez	19.53	191	T	T	07 08 58.5	
	baz=12,slow=74,SNR=225						
RUSC	La Rusia	20.05	4		P	06 49 46.2	-1.4
CPUP	Villa Florida	20.18	129	P	P	06 49 47.0	-1.4
CPUP	Villa Florida	20.18	129	P	Pn	06 49 50.1	-1.0
	comp=Z,0.8nm,0.8s,baz=250,slow=6.0,SNR=5.0						
	comp=Z,0.8nm,0.8s						
NPGB	Novo Progresso	20.23	71	eP	P	06 49 47.8	-1.3
ITTB	Itaituba	21.05	64	eP	P	06 49 56.3	-1.5
BOAV	Boa Vista	21.64	41	P	P	06 50 03.5	-0.7
BOAV				IAmb	IAmb	06 50 09.7	
	comp=Z,5.5nm,1.0s						
BOAV	Boa Vista	21.64	41	eP	P	06 50 02.9	-1.3
ARAG	Araguaiana, MT	22.09	97	eP	P	06 50 10.4	+1.5
SNDB	Serra Nova Dou	22.84	87	eP	P	06 50 16.3	-0.3
PSAL	Palomas, Salto	22.93	140	eP	P	06 50 25.1	+7.8
SDV	Santo Domingo	23.31	10	P	P	06 50 20.0	-1.2
	comp=Z,3.4nm,0.4s,baz=262,slow=7.1,SNR=4.2						
	comp=Z,3.4nm,0.4s						
SDV	Santo Domingo	23.31	10	eP	P	06 50 23.2	+1.9
BAUV	El Baul	23.94	16		P	06 50 24.7	-2.0
TXAR	Lajitas Array	51.59	327	P	P	06 54 19.8	+1.7
	comp=Z,0.3nm,0.6s,baz=145,slow=7.8,SNR=2.5						
TXAR				pP	pP	06 54 45.2	+1.7
	comp=Z,0.4nm,0.8s,baz=146,slow=7.8,SNR=3.1						
	comp=Z,0.3nm,0.6s						
SNAA	Sanae	70.88	161	P	P	06 56 25.3	-2.3
SNAA				IAmb	IAmb	06 56 57.7	
	comp=Z,4.5nm,1.1s						
SNAA	Sanae	70.88	161	P	P	06 56 30.9	+3.3
	comp=Z,0.9nm,0.8s,baz=288,slow=7.7,SNR=7.2						
SNAA				pP	pP	06 56 56.3	+2.1
	comp=Z,1.8nm,0.8s,baz=278,slow=5.0,SNR=7.7						
	comp=Z,0.9nm,0.8s						
QSPA	South Pole Qui	75.91	180	P	P	06 57 02.6	+5.3
	comp=Z,1.2nm,1.0s,baz=183,slow=2.1,SNR=6.5						
	comp=Z,1.2nm,1.0s						
TORD	Torodi Ar. Bea	80.32	74	P	P	06 57 22.3	-0.1
	comp=Z,1.2nm,0.4s,baz=271,slow=4.7,SNR=2.4						
	comp=Z,1.2nm,0.4s						
ESDC	Sonseca Array	84.70	47	P	P	06 57 46.6	+1.9
	comp=Z,1.6nm,0.9s,baz=252,slow=5.2,SNR=9.7						
	comp=Z,1.6nm,0.9s						
ZALV	Zalesovo Beam	137.21	18	PKP	PKiKP	07 04 35.0	0.0
	comp=Z,1.0nm,0.5s,baz=348,slow=8.7,SNR=3.8						
KURBB	Kurchatov Arra	137.69	25	PKP	PKiKP	07 04 36.4	+0.3
	comp=Z,0.3nm,0.3s,baz=318,slow=2.9,SNR=1.3						
MKAR	Makanchi Array	142.23	26	PKP	PKiKP	07 04 44.0	-1.5
	comp=Z,0.3nm,0.7s,baz=300,slow=3.2,SNR=2.3						

IDC 27 06:47:49.9±4.0, 0.′65S×98.′99E, h0km, mb3.4/3, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=161.4km s-min=26.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.99	360	P	Pn	06 52 14.5	+0.6
	0.4nm,0.3s,baz=175,slow=11,SNR=5.3						
	1.0nm,0.3s						
H08S2	Diego Garcia H	27.31	255	T	T	07 21 31.0	
	baz=76,slow=76,SNR=43						
H08S3	Diego Garcia H	27.32	255	T	T	07 21 30.5	
	baz=76,slow=76,SNR=48						
H08S1	Diego Carcia H	27.33	255	T	T	07 21 30.9	
	baz=76,slow=76,SNR=22						
WRA	Warramunga Arr	39.54	121	P	P	06 55 22.2	-0.8
	0.1nm,0.3s,baz=299,slow=8.0,SNR=1.6						
	0.1nm,0.3s						
ASAR	Alice Springs	40.85	127	P	P	06 55 34.6	+0.7
	0.2nm,0.5s,baz=304,slow=8.4,SNR=1.7						
	0.2nm,0.5s						
MKAR	Makanchi Array	49.47	345	P	P	06 56 41.3	-0.7
	0.5nm,0.5s,baz=154,slow=8.8,SNR=6.3						
	0.5nm,0.5s						
H04N2	CROZET ISLANDS	61.29	216	T	T	08 04 22.1	
	baz=57,slow=75,SNR=14						
H04N1	CROZET ISLANDS	61.30	216	T	T	08 04 18.3	
	baz=57,slow=75,SNR=49						
H04N3	CROZET ISLANDS	61.31	216	T	T	08 04 18.6	
	baz=57,slow=75,SNR=32						
H04S1	CROZET ISLANDS	61.60	215	T	T	08 04 43.2	
	baz=56,slow=75,SNR=9.1						
H04S3	CROZET ISLANDS	61.61	215	T	T	08 04 42.7	
	baz=56,slow=75,SNR=9.7						
H04S2	CROZET ISLANDS	61.62	215	T	T	08 04 44.5	
	baz=56,slow=75,SNR=5.1						

*IDC **27** 06:54:41.3±0.6, 2.°61S×138.°33E, h0km, mb4.1/12, mbtmp4.0/17, ML3.6/4, MS3.4/3, Error ellipse: s-maj=19.7km s-min=15.2km az=66.0*
*NEIC **27** 06:54:43.7±1.2, 2.°57S±0.′06×138.°38E±0.′06, h10km±1km, mb4.1/20, Error ellipse: s-maj=13.0km s-min=6.6km az=230.0*

ISC 27 06:54:46.1±0.5, 2.°68S±0.′06×138.°35E±0.′06, h32km, n49, σ1.9/31/50, mb4.1/16, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.36	86	Pn	Pn	06 55 22.1	-0.6
	13nm,0.3s,baz=237,slow=7.9,SNR=36						
JAY				Sn	Sn	06 55 51.9	+1.2
	4.7nm,0.3s,baz=307,slow=20,SNR=7.3						
JAY				LR	LR	06 56 09.4	
	comp=Z,292nm,18.0s,baz=274,slow=37						
	47nm,0.4s						
FAKI	Fak Fak	6.09	268	Pn	Pn	06 56 13.8	-0.3
PMG	Port Moresby	11.02	128		Pn	06 57 22.5	+0.9
PMG	Port Moresby	11.02	128	Pn	Pn	06 57 20.8	-0.8
	7.2nm,0.7s,baz=322,slow=18,SNR=2.4						
COEN	Coen	12.18	157	Pn	Pn	06 57 38.1	+0.6
MTN	Manton Dam	12.36	215	Pn	Pn	06 57 41.6	+1.5
SOEI	Soe	15.65	243	Pn	Pn	06 58 26.6	+2.0
SOEI				IAmb	IAmb	06 58 46.3	
	comp=Z,18nm,0.8s						
KNRA	Kununurra	15.99	216	Pn	Pn	06 58 30.0	+1.2
KNRA				IAmb	IAmb	06 58 36.9	
	comp=Z,13nm,0.8s						
BATI	Baumata	16.38	242	LR	LR	07 05 38.0	
	comp=Z,156nm,18.3s,baz=176,slow=40						
WB0	Warramunga Arr	17.41	193	P	Pn	06 58 46.9	+0.1
WB0				IAmb	IAmb	06 59 11.5	
	comp=Z,8.3nm,0.8s						
WR8	Warramunga Arr	17.57	192	P	Pn	06 58 47.6	-1.1
WRAB	Tennant Creek	17.58	193	P	P	06 58 50.3	+0.6
WRAB				IAmb	IAmb	06 58 59.0	
	comp=Z,8.1nm,1.0s						
WRA	Warramunga Arr	17.60	193	P	Pn	06 58 48.7	-0.3
WRA	Warramunga Arr	17.60	193	P	Pn	06 58 48.5	-0.5
	comp=Z,0.4nm,0.3s,baz=16,slow=12,SNR=18						
WRA				S	Sn	07 01 59.1	-5.1
	comp=Z,0.8nm,0.8s,baz=11,slow=22,SNR=3.1						
	comp=Z,1.5nm,0.7s						
KAPI	Kappang	18.69	262	P	Pn	06 59 03.5	+0.9
KAPI				IAmb	IAmb	06 59 17.7	
	comp=Z,21nm,1.1s						
KAPI	Kappang	18.69	262	P	P	06 59 02.2	+0.3
	comp=Z,0.3nm,0.3s,baz=23,slow=14,SNR=1.3						
	comp=Z,2.1nm,0.3s						
FITZ	Fitzroy Crossi	19.75	218	P	P	06 59 13.5	0.0
FITZ	Fitzroy Crossi	19.75	218	P	P	06 59 12.9	-0.5
	comp=Z,0.1nm,0.3s,baz=63,slow=16,SNR=1.3						
	comp=Z,1.5nm,0.8s						
AS31	Alice Springs	21.30	191	P	P	06 59 31.2	+0.9
ASAR	Alice Springs	21.30	191	P	P	06 59 31.1	+0.8
ASAR	Alice Springs	21.30	191	P	P	06 59 30.4	+0.2
	comp=Z,1.5nm,0.7s,baz=22,slow=11,SNR=30						
ASAR				S	S	07 03 25.2	-0.2
	comp=Z,0.7nm,0.8s,baz=11,slow=25,SNR=4.2						
	comp=Z,1.5nm,0.7s						
EIDS	Eidsvold	25.68	153	P	P	07 00 12.7	-0.7
EIDS				IAmb	IAmb	07 00 41.6	
	comp=Z,5.3nm,0.9s						
MBWA	Marble Bar	25.80	223	P	P	07 00 15.8	+1.3
MBWA				IAmb	IAmb	07 00 21.8	
	comp=Z,6.4nm,1.1s						
KSRS	Korea Array	41.09	347	P	P	07 02 26.1	-0.8
	comp=Z,0.9nm,0.7s,baz=160,slow=8.7,SNR=3.2						
	comp=Z,0.9nm,0.7s						
CMAR	Chiang Mai Arr	44.11	300	P	P	07 02 51.6	-0.2
CMAR	Chiang Mai Arr	44.11	300	P	P	07 02 49.7	-2.1
	comp=Z,0.9nm,0.3s,baz=102,slow=8.1,SNR=6.5						
	comp=Z,0.9nm,0.3s						
CHTO	Chiang Mai	44.25	301	P	P	07 02 52.0	-1.0
HILR	Hailar Array B	54.46	345	P	P	07 04 10.5	0.0
	comp=Z,0.4nm,0.3s,baz=151,slow=6.5,SNR=1.4						
	comp=Z,0.4nm,0.3s						
GTA	Gaotai	54.83	324	eP	P	07 04 15.8	+2.3
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	Songino Array	57.54	335	P	P	07 04 32.7	0.0
SONM	Songino Array	57.54	335	P	P	07 04 30.5	-2.2
	comp=Z,4.3nm,0.4s,baz=116,slow=6.6,SNR=2.1						
	comp=Z,4.3nm,0.4s						
EVN	Evenset	58.12	305	P	P	07 04 36.5	-1.3
MKAR	Makanchi Array	69.55	323	P	P	07 05 51.7	-0.2
MKAR	Makanchi Array	69.55	323	P	P	07 05 52.9	+1.0
	comp=Z,3.5nm,0.7s,baz=116,slow=8.2,SNR=31						
	comp=Z,3.5nm,0.7s						
MAKZ	Makanchi	69.74	322	P	P	07 05 52.6	-0.6
ZALV	Zalesovo Beam	71.73	330	P	P	07 06 04.7	-0.3
	comp=Z,0.7nm,0.4s,baz=100,slow=6.3,SNR=3.8						
	comp=Z,0.7nm,0.4s						
BOOM	Boomskoye usch	71.88	316	P	P	07 06 07.7	+1.2
KURK	Kurchatov	73.48	325	P	P	07 06 14.9	-0.6
KURK				IAmb	IAmb	07 06 42.3	
	comp=Z,1.6nm,0.8s						
KURBB	Kurchatov Arra	73.50	325	P	P	07 06 16.1	+0.6
	comp=Z,1.1nm,0.9s,baz=111,slow=5.5,SNR=6.3						
	comp=Z,1.1nm,0.9s						
VNDA	Vanda	75.84	175	P	P	07 06 30.3	+1.6
VNDA				IAmb	IAmb	07 06 45.0	
	comp=Z,1.1nm,0.8s						
VNDA	Vanda	75.84	175	P	P	07 06 28.2	-0.5
	comp=Z,0.4nm,0.6s,baz=325,slow=7.2,SNR=5.3						
	comp=Z,0.4nm,0.6s						
SBA	Scott Base	76.61	174	P	P	07 06 34.5	+1.4
BVAR	Borovoye Array	79.08	325	P	P	07 06 47.8	+0.5
	comp=Z,1.7nm,0.5s,baz=104,slow=7.4,SNR=8.5						
	comp=Z,1.7nm,0.5s						
ILAR	Eielson Array	85.96	24	P	P	07 07 22.0	-0.9
	comp=Z,1.1nm,0.6s,baz=265,slow=4.5,SNR=22						
	comp=Z,1.1nm,0.6s						
QSPA	South Pole Qui	87.26	180	P	P	07 07 30.7	+1.3
QSPA				IAmb	IAmb	07 07 34.2	
	comp=Z,1.6nm,0.9s						
QSPA	South Pole Qui	87.26	180	P	P	07 07 31.9	+2.5
	comp=Z,1.9nm,1.1s,baz=303,slow=1.8,SNR=7.1						
	comp=Z,1.9nm,1.1s						
KIRV	Kirov	91.71	328	LR	LR	07 50 54.2	
	comp=Z,29nm,20.2s,baz=103,slow=37						
LPAZ	La Paz	147.75	127	PKPdf	PKPdf	07 14 25.3	-1.4
LPAZ	La Paz	147.75	127	PKPbc	PKPbc	07 14 29.5	0.0
	comp=Z,0.7nm,0.3s,baz=283,slow=6.6,SNR=10						

*CATAC **27** 07:03:16.8±0.9, 10.°N±7.°×7.°9W±.°, h1km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=17.7km s-min=8.6km az=140.9, confirmed*
*RSNC **27** 07:03:16.8±1.3, 10.°N±4.°×7.°9W±.°, h17km±12km, M2.9, mB5.5, mb4.2, ML2.9, Mw(mB)5.0*
*UPA **27** 07:03:20.5±3.2, 9.°67N×78.°83W, h14km±11km, ML4.2, MW4.0*

ISC 27 07:03:14.7±1.4, 9.°85N±0.′05×78.°76W±0.′02, h11km±10km, n45, σ1.9/95/74, 3C, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	Chepo, Panama	0.76	208	eS	Sn	07 03 40.5	-2.2
TOTI	Torti	1.01	154	↑iP	Pn	07 03 36.7	+1.9
TOTI				AMP		07 03 37.0	
	comp=Z,45μm,0.1s						
TOTI				eS	Sn	07 03 50.0	+1.0
FRIJ	El Hiral	1.14	237	eP	Pn	07 03 36.8	+0.3
FRIJ				AMP		07 03 39.2	
	comp=Z,5μm,0.2s						
FRIJ				eS	Sb	07 03 51.0	-0.1
UPA	Univ. de Panam	1.15	222	eP	Pg	07 03 37.1	+0.4
UPA				eS	Sn	07 03 51.6	-0.8
GAMB1	Gamboa	1.18	232	↑iP	Pg	07 03 37.8	+0.4
GAMB1				AMP		07 03 40.6	
	comp=Z,10μm,0.1s						
GAMB1				eS	Sb	07 03 52.4	-0.1
FLAM	Flamenco Islan	1.20	220	eP	Pg	07 03 38.2	+0.4
FLAM				AMP		07 03 38.6	
	comp=Z,5μm,0.2s						
FLAM				eS	Sg	07 03 52.7	-0.7
MLIR	Monte Lirio	1.23	241	eP	Pb	07 03 38.5	+0.5
MLIR				AMP		07 03 41.1	
	comp=Z,4μm,0.1s						
MLIR				eS	Sn	07 03 54.6	0.0
BCIP	Isla Barro Col	1.26	238	eP	Pb	07 03 38.9	+0.5
BCIP				AMP		07 03 41.5	
	comp=Z,18μm,0.1s						
BCIP				eS	Sb	07 03 54.7	0.0
BCIP	Isla Barro Col	1.26	238	P	Pn	07 03 38.4	+0.2
BCIP				S	Sb	07 03 54.6	0.0
TABO3	Taboga, Panama	1.30	217	eP	Pg	07 03 40.1	+0.3
TABO3				AMP		07 03 40.5	
	comp=Z,943nm,0.0s						
TABO3				eS	Sg	07 03 56.1	-0.6
ZANG	Zanguenga, Cho	1.40	231	eP	Pg	07 03 41.7	+0.1
ZANG				eS	Sg	07 04 00.8	+0.9
UPD2	Meteti	1.48	150	eP	Pg	07 03 43.3	+0.1
UPD2				eS	Sg	07 04 01.8	-0.7
PNME	Penonome	2.05	229	eP	Pb	07 03 52.2	+0.2
CRIS3	El Cristo, Coc	2.42	229	eP	Pb	07 03 59.6	+1.3
CRIS3				eS	Sn	07 04 24.2	+0.3
CHIT3	Chitre	2.49	221	eP	Pb	07 03 57.8	-1.7
CHIT3				eS	Sn	07 04 24.6	-0.9
AZU	Azuero	2.53	216	eP	Pb	07 03 57.8	-2.3
AZU				AMP		07 04 00.9	
	comp=Z,363nm,0.2s						
AZU				eS	Sn	07 04 25.3	-1.3
CALO3	Calobre, Verag	2.55	234	eP	Pb	07 04 01.4	+0.9
CALO3				eS	Sb	07 04 29.8	-2.2
LCBC	Los crdobas,	2.56	112	P	Pb	07 03 59.4	-1.2
LCBC				S	Sb	07 04 30.6	-1.5
ACHO3	Achotines, Los	2.79	210	eP	Pb	07 04 04.4	-0.1
STIA3	Santiago, Vera	2.79	232	eP	Pb	07 04 02.5	-2.0
PTAC	Punta Ardita,	2.84	161	eP	Pb	07 04 03.7	-1.7
PTAC	Punta Ardita,	2.84	161	P	Pb	07 04 03.6	-1.8
PTAC				S	Sn	07 04 35.3	+1.0
APAC	Apartado, Choc	2.90	132	P	Pb	07 04 04.7	-1.7
APAC				S	Sb	07 04 39.9	-1.9
MESA3	La Mesa, Verag	2.93	235	eP	Pb	07 04 06.6	-0.3
TOSI3	Tonosi	2.94	215	eP	Pb	07 04 04.7	-2.4
RSUS3	Rio de Jesus,	3.01	232	eP	Pb	07 04 07.8	-0.5
GMAL	Guarumal, Vera	3.20	230	eP	Pb	07 04 09.0	-2.6
GMAL				eS	Sn	07 04 43.0	-0.2
SJCC	San Jacinto, C	3.53	89	eP	Pn	07 04 12.8	+3.2
SJCC	San Jacinto, C	3.53	89	P	Pn	07 04 12.5	+3.0
SJCC				S	Sn	07 04 51.3	0.0
UREC	San Jos de Ur	3.81	123	eP	Pb	07 04 19.0	-3.0
UREC				eS	Sn	07 05 01.5	+3.3
UREC	San Jos de Ur

FALS					Sn	07 08 09.8	-1.1
UNV	**Unalaska Valle**	**1.35**	**278**		Pn	07 07 55.9	-0.4
MNAT	**Makushin Natee**	**1.46**	**279**		Pn	07 07 57.8	-0.1
MREP	**Makushin Rep't**	**1.49**	**276**		Pn	07 07 58.5	+0.3
MSW	**Makushin Switc**	**1.53**	**280**		Pn	07 07 58.8	+0.1
MSW					Sn	07 08 17.9	+0.6
MGOD	**Makushin Gods**	**1.57**	**275**		Pn	07 07 59.6	+0.3
DT1	**Dutton Round H**	**1.83**	**38**		Pn	07 08 02.8	0.0
DT1					Sn	07 08 26.3	+1.6
S12K	**Black Hills**	**2.38**	**31**	Pn	Pn	07 08 10.3	-0.2
S12K				IAML		07 08 36.9	
	comp=N,26nm,1.1s						
S12K				IAML		07 08 45.0	
	comp=E,47nm,1.1s						
SDPT	**Sand Point**	**2.75**	**51**	Pn	Pn	07 08 15.0	-0.5
SDPT				IAML		07 09 22.6	
	comp=N,22nm,1.0s						
SDPT				IAML		07 09 47.5	
	comp=E,36nm,1.1s						

*GCG **27** 07:15:57.8±0.6, 14˚.04N×90˚.13W, h163km±7km, MD4.1, ML3.7*
*SNET **27** 07:15:58.6±0.8, 14˚.05N×90˚.12W, h157km, ML3.1*
*CATAC **27** 07:15:59.3±0.6, 14˚N±6˚×9˚0W±˚, h149km±4km, M3.1/18, MLv3.1/18, Error ellipse: s-maj=13.9km s-min=6.4km az=24.3, confirmed*

ISC 27 07:15:59.0±2.2, 14˚.03N±0˚.09×90˚.03W±0˚.05, h164km±13km, n38, σ0°99/44, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.19**	**175**	P	**Pn**	**07 16 19.9**	**-1.2**
LOAL	**Lomas de Alarc**	**0.24**	**98**	P	**Pn**	**07 16 20.6**	**-0.6**
NUBE	**Las Nubes**	**0.28**	**118**	*i* P	**Pn**	**07 16 20.6**	**-0.8**
NUBE	**Las Nubes**	**0.28**	**118**	P	**Pn**	**07 16 20.4**	**-1.0**
CEVE	**Cerro Verde**	**0.44**	**117**	*e*P	**Pn**	**07 16 21.8**	**-0.3**
CEVE				*e*S	**Sn**	**07 16 40.6**	**+0.9**
CEVE	**Cerro Verde**	**0.44**	**117**	P	**Pn**	**07 16 21.7**	**-0.3**
UNIC	**Universidad Ca**	**0.47**	**96**	P	**Pn**	**07 16 21.5**	**-0.5**
FG16	**Alotenango, Sa**	**0.52**	**297**	*i* P	**Pn**	**07 16 23.4**	**+1.0**
FG16				*i* S	**Sn**	**07 16 43.8**	**+3.5**
FG16				IAML		07 16 52.5	
	comp=E,2μm,0.2s						
FG8	**Yepocapa, Chim**	**0.56**	**294**	*i* P	**Pn**	**07 16 23.5**	**+1.0**
JAYA	**Jayaque - finc**	**0.68**	**124**	*e*P	**Pn**	**07 16 22.7**	**-0.4**
JAYA	**Jayaque - finc**	**0.68**	**124**	*i* P	**Pn**	**07 16 22.5**	**-0.6**
JAYA				*i* S	**Sn**	**07 16 41.6**	**0.0**
JAYA	**Jayaque - finc**	**0.68**	**124**	P	**Pn**	**07 16 22.5**	**-0.6**
MTO3	**Montecristo**	**0.74**	**61**	*i* P	**Pn**	**07 16 23.0**	**-0.6**
MTO3	**Montecristo**	**0.74**	**61**	P	**Pn**	**07 16 23.0**	**-0.6**
MTO3	**Montecristo**	**0.74**	**61**	S	**Sn**	**07 16 41.1**	**-1.4**
PMON	**Piamonte**	**0.76**	**114**	P	**Pn**	**07 16 22.7**	**-0.9**
BOQS	**Boqueron**	**0.79**	**112**	*e*P	**Pn**	**07 16 23.8**	**-0.1**
UEES	**Universidad Ev**	**0.83**	**112**	P	**Pn**	**07 16 24.1**	**+0.1**
ESQI	**Esquipulas**	**0.85**	**52**	*e*P	**Pn**	**07 16 24.2**	**0.0**
ESQI				*e*S	**Sn**	**07 16 43.2**	**-0.3**
ESQI	**Esquipulas**	**0.85**	**52**	P	**Pn**	**07 16 23.9**	**-0.3**
ESQI	**Esquipulas**	**0.85**	**52**	S	**Sn**	**07 16 42.8**	**-0.7**
ESSG	**Sabana Grande**	**0.85**	**294**	*i* P	**Pn**	**07 16 22.4**	**-1.8**
ESSG				IAML		07 16 41.7	
	comp=E,722nm,0.7s						
ESSG				*i* S	**Sn**	**07 16 42.1**	**-1.3**
LALI	**Alcalda de L**	**0.88**	**128**	*e*P	**Pn**	**07 16 24.4**	**+0.1**
LOMA	**Loma Larga**	**0.92**	**115**	P	**Pn**	**07 16 25.2**	**+0.5**
LBRS	**Las Brisas**	**1.00**	**107**	*e*P	**Pn**	**07 16 25.5**	**+0.2**
LLGN	**La Laguna**	**1.06**	**83**	*e*P	**Pn**	**07 16 25.6**	**-0.2**
LLGN	**La Laguna**	**1.06**	**83**	P	**Pn**	**07 16 25.3**	**-0.5**
PAVA	**Las Pavas**	**1.11**	**106**	P	**Pn**	**07 16 26.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.31**	**104**	P	**Pn**	**07 16 28.3**	**+0.4**
TECO	**Alcaldia de Te**	**1.31**	**112**	P	**Pn**	**07 16 27.8**	**0.0**
STG2	**El Palmar, Qui**	**1.36**	**287**	*i* P	**Pn**	**07 16 30.4**	**+1.9**
SARH	**Santa Rosa de**	**1.44**	**59**	*i* P	**Pn**	**07 16 29.5**	**+0.3**
SARH				*i* S	**Sn**	**07 16 53.3**	**+1.0**
SARH	**Santa Rosa de**	**1.44**	**59**	P	**Pn**	**07 16 29.4**	**+0.3**
SOKI	**Kika Raxquin**	**1.54**	**301**	*i* P	**Pn**	**07 16 30.0**	**-0.6**
RTAL	**Retalhuleu**	**1.69**	**287**	P	**Pn**	**07 16 30.2**	**-1.4**
LCND	**La Caada**	**2.20**	**109**	P	**Pn**	**07 16 37.9**	**+0.6**
CNCH	**Conchagua**	**2.26**	**109**	P	**Pn**	**07 16 38.7**	**+0.5**
POLN	**Al Sur del Vol**	**3.42**	**113**	P	**Pn**	**07 16 51.2**	**-1.1**

CATAC 27 07:17:00.4±1.1, 12˚N±4˚×8˚8W±˚, h1km, M3.1/5, MLv3.1/5, Error ellipse: s-maj=10.3km s-min=7.8km az=83.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.91**	**58**	P	Pg	07 17 17.6	-0.3
PKGN	**Cerro Pekin**	**0.95**	**61**	P	Pg	07 17 17.3	-1.4
PKGN				S	Sg	07 17 30.7	-0.3
POLN	**Al Sur del Vol**	**1.09**	**66**	P	Pg	07 17 19.9	-1.4
CNGA	**Al SSO del Vol**	**1.14**	**76**	S	Sb	07 17 37.9	-0.5
CNGN	**Cerro Negro**	**1.15**	**75**	P	Pn	07 17 24.9	+1.2
CNGN				S	Sg	07 17 37.6	+0.3
COPN	**Copaltepe**	**1.21**	**91**	S	Sb	07 17 40.6	+0.1
MOM2	**El Cardon**	**1.34**	**80**	P	Pb	07 17 26.4	+0.1
MOM2				S	Sg	07 17 43.2	-0.3
UNAN	**Cigeo UNAN**	**1.53**	**94**	S	Sn	07 17 48.7	-0.8
MGAN	**Managua**	**1.55**	**92**	S	Sn	07 17 49.3	-0.7
WILN	**Americas 2**	**1.61**	**92**	S	Sn	07 17 50.8	-0.6
MAS3	**Al N del Volca**	**1.63**	**96**	S	Sn	07 17 51.5	-0.6
ELI1	**Hacienda Flor**	**2.72**	**125**	S	Sn	07 18 20.7	+1.8

*SJA **27** 07:28:19.2±1.4, 22˚.01S×68˚.43W, h80km, ML3.1, MW3.5*
*GUC **27** 07:28:21.6±0.8, 21˚.94S×68˚.67W, h130km±5km, ML3.4*

ISC 27 07:28:21.1±1.9, 21˚.97S±0˚.05×68˚.7W±0˚.1, h132km±13km, n17, σ0°68/28, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.55**	**289⇑**	*e*P	**Pn**	**07 28 40.9**	**0.0**
PB09				*e*S	**Sn**	**07 28 55.5**	**-0.4**
PB06	**IPOC Station P**	**1.10**	**228⇑**	*e*P	**Pn**	**07 28 45.9**	**+0.6**
PB06				*e*S	**Sn**	**07 29 04.1**	**+0.4**
PB06				IAML		07 29 05.5	
	comp=E,725nm,0.3s						
PB01	**IPOC Station P**	**1.19**	**321⇑**	*e*P	**Pn**	**07 28 45.9**	**-0.2**
PB01				*e*S	**Sn**	**07 29 04.5**	**-0.7**
PB01				IAML		07 29 05.8	
	comp=E,888nm,0.3s						
PB02	**IPOC Station P**	**1.30**	**300⇑**	*e*P	**Pn**	**07 28 47.4**	**+0.1**
PB02				*e*S	**Sn**	**07 29 06.5**	**-0.7**
PB02				IAML		07 29 11.0	
	comp=E,858nm,0.2s						
PATCX	**Punta Patache**	**1.78**	**310**	*e*P	**Pn**	**07 28 52.7**	**0.0**
PATCX	**Punta Patache**	**1.78**	**310**	*i* P	**Pn**	**07 28 52.3**	**-0.4**
PATCX				*e*S	**Sn**	**07 29 17.9**	**+1.0**
PATCX				IAML		07 29 21.1	
	comp=Z,116nm,0.1s						
PB08	**IPOC Station P**	**1.88**	**346⇑**	*e*P	**Pn**	**07 28 54.7**	**+0.6**
PB08				*e*S	**Sn**	**07 29 19.1**	**-0.2**
PB08				IAML		07 29 20.7	
	comp=E,260nm,0.7s						
TA01	**Diego Aracena**	**1.98**	**315**	*e*P	**Pn**	**07 28 54.9**	**0.0**
TA01				*e*S	**Sn**	**07 29 20.0**	**-0.8**
TA01				IAML		07 29 22.1	
	comp=E,317nm,0.4s						
TA01	**Diego Aracena**	**1.98**	**315**	*i* P	**Pn**	**07 28 54.1**	**-0.8**
TA01				*e*S	**Sn**	**07 29 21.5**	**+0.8**
TA01				IAML		07 29 22.6	
	comp=Z,87nm,0.3s						
TA02	**Huaiquique**	**2.17**	**321**	*i* P	**Pn**	**07 28 58.2**	**+1.0**
TA02				*e*S	**Sn**	**07 29 25.1**	**+0.2**
TA02				IAML		07 29 29.3	
	comp=Z,171nm,0.1s						
PB10	**IPOC Station P**	**2.31**	**228**	*e*P	**Pn**	**07 28 59.6**	**+0.7**
PB10	**IPOC Station P**	**2.31**	**228**	*i* P	**Pn**	**07 28 59.2**	**+0.3**
PB10				IAML		07 29 31.0	
	comp=Z,32nm,0.3s						
GO01	**Chusmiza**	**2.34**	**348**	*e*P	**Pn**	**07 29 00.5**	**+0.6**
GO01				*e*S	**Sn**	**07 29 29.7**	**+0.1**
GO01				IAML		07 29 31.5	
	comp=E,314nm,0.3s						
PB11	**IPOC Station P**	**2.38**	**337**	*e*P	**Pn**	**07 28 59.8**	**-0.3**
PB11				*e*S	**Sn**	**07 29 28.9**	**-1.1**
PB11				IAML		07 29 30.1	
	comp=E,272nm,0.5s						
PB14	**IPOC Station P**	**3.08**	**211**	*i* P	**Pn**	**07 29 09.8**	**+0.8**
PB14				IAML		07 29 49.9	
	comp=Z,30nm,0.3s						
PB16	**IPOC Station P**	**3.70**	**348**	*i* P	**Pn**	**07 29 18.0**	**+0.5**
PB16				IAML		07 30 20.1	
	comp=Z,30nm,0.7s						
AC01	**Pan de Azucar**	**4.51**	**202**	*i* P	**Pn**	**07 29 26.3**	**-1.3**
AC01				IAML		07 31 02.6	
	comp=Z,21nm,1.6s						

*SVSA **27** 07:42:11.6±1.1, 37˚.43N×24˚.49W, h5km, ML3.9(INMG), Error ellipse: s-maj=5.2km s-min=2.6km az=70.0, #DIST_RANGE: LOCAL #IPMA_REGION: NE Ilhus das Formigas*

ISC 27 07:42:09.9±1.7, 37˚.47N±0˚.07×24˚.55W±0˚.09, h30km±11km, n25, σ0°89/43, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.58**	**303**	*e*P	**Pb**	**07 42 21.8**	**0.0**
BART				*e*S	**Sb**	**07 42 29.6**	**-0.2**
BART				*i* IAML		07 42 30.1	
BART				*i* IAML		07 42 30.6	
BART				*i* IAML		07 42 31.7	
PSMN	**Pico do Norte,**	**0.62**	**222**	*e*P	**Pb**	**07 42 22.1**	**-0.2**
PSMN				*e*S	**Sb**	**07 42 30.4**	**-0.3**
PSMN				*i* IAML		07 42 30.8	
PSMN				*i* IAML		07 42 34.2	
PSMN				*i* IAML		07 42 43.1	
PPOV	**Povoa§£o**	**0.62**	**297**	*e*P	Pn	07 42 37.1	+14
PPOV				*e*S	Sn	07 42 45.5	+14
PPOV				*i* IAML		07 42 46.1	
PPOV				*i* IAML		07 42 46.2	
PPOV				*i* IAML		07 42 46.4	
PGRON	**Lagoa das Cont**	**0.72**	**295**	*e*P	**Pn**	**07 42 24.3**	**+0.2**
PGRON				*e*S	**Sn**	**07 42 34.0**	**-0.1**
PGRON				*i* IAML		07 42 34.2	
PGRON				*i* IAML		07 42 34.7	
PGRON				*i* IAML		07 42 35.2	
PCALD	**Caldeiras da R**	**0.81**	**294**	*e*P	**Pn**	**07 42 25.6**	**+0.3**
PCALD				*e*S	**Sb**	**07 42 36.0**	**-0.2**
CMLA	**Cha da Macela**	**0.83**	**291**	*e*P	**Pn**	**07 42 25.8**	**+0.3**
CMLA				*e*S	**Sn**	**07 42 37.0**	**+0.3**
CMLA				*i* IAML		07 42 39.0	
CMLA				*i* IAML		07 42 39.3	
CMLA				*i* IAML		07 42 42.4	
PDA	**Ponta Delgada**	**0.93**	**288**	*e*P	**Pn**	**07 42 27.2**	**+0.4**
PDA				*e*S	**Sb**	**07 42 39.5**	**+0.1**
PDA				*i* IAML		07 42 41.0	
PDA				*i* IAML		07 42 41.1	
PDA				*i* IAML		07 42 42.2	
PSET	**Sete Cidades**	**0.99**	**291**	*e*P	**Pn**	**07 42 28.4**	**+0.6**
PSET				*e*S	**Sn**	**07 42 40.9**	**+0.1**
PSET				*i* IAML		07 42 42.7	
PSET				*i* IAML		07 42 44.3	
PSET				*i* IAML		07 42 46.2	
PSCM	**Serra do Cume**	**2.37**	**302**	*e*P	**Pn**	**07 42 47.3**	**+0.5**
PSCM				*e*S	**Sn**	**07 43 13.9**	**-0.9**
PSCM				*i* IAML		07 43 16.5	
PSCM				*i* IAML		07 43 16.9	
PSCM				*i* IAML		07 43 17.9	
ADH	**Angra Heroismo**	**2.43**	**300**	*e*P	**Pn**	**07 42 48.1**	**+0.6**
ADH				*e*S	**Sn**	**07 43 15.1**	**-1.0**
ADH				*i* IAML		07 43 16.9	
ADH				*i* IAML		07 43 21.4	
ADH				*i* IAML		07 43 21.7	
PAGU	**Agualva, Azore**	**2.45**	**303**	*e*P	**Pn**	**07 42 48.5**	**+0.7**
PAGU				*e*S	**Sn**	**07 43 15.9**	**-0.8**
PAGU				*i* IAML		07 43 18.4	
PAGU				*i* IAML		07 43 18.5	
PAGU				*i* IAML		07 43 18.6	
PSBA	**Serra de Santa**	**2.54**	**302**	*e*P	**Pn**	**07 42 50.0**	**+0.8**
PSBA				*e*S	**Sn**	**07 43 18.4**	**-0.7**
PSBA				*i* IAML		07 43 21.2	
PSBA				*i* IAML		07 43 21.5	
PSBA				*i* IAML		07 43 23.1	
PID	**Ribeirinha**	**2.98**	**290**	*e*P	**Pn**	**07 42 56.9**	**+1.7**
PID				*e*S	**Sn**	**07 43 28.6**	**-1.3**
PID				*i* IAML		07 43 30.3	
PID				*i* IAML		07 43 31.1	
PID				*i* IAML		07 43 33.0	
PMAN	**Manadas**	**3.02**	**294**	*e*P	**Pn**	**07 42 56.4**	**+0.7**
PMAN				*e*S	**Sn**	**07 43 29.9**	**-1.0**
PMAN				*i* IAML		07 43 33.0	
PMAN				*i* IAML		07 43 33.4	
PMAN				*i* IAML		07 43 33.4	
PPNO	**Prainha do Nor**	**3.10**	**290**	*e*P	**Pn**	**07 42 58.6**	**+1.8**
PPNO				*e*S	**Sn**	**07 43 32.0**	**-0.9**
PPNO				*i* IAML		07 43 32.9	
PPNO				*i* IAML		07 43 34.7	
ROSA	**Rosais**	**3.17**	**294**	*e*P	**Pn**	**07 42 58.7**	**+1.0**
ROSA				*e*S	**Sn**	**07 43 33.5**	**-0.9**
ROSA				*i* IAML		07 43 36.1	
ROSA				*i* IAML		07 43 36.3	
ROSA				*i* IAML		07 43 36.6	
PICO	**Pico**	**3.23**	**290**	*e*P	**Pn**	**07 43 00.1**	**+1.4**
PICO				*e*S	**Sn**	**07 43 35.4**	**-0.6**
PICO				*i* IAML		07 43 38.4	
PICO				*i* IAML		07 43 38.5	
PICO				*i* IAML		07 43 38.6	
PCAN	**Candelaria**	**3.26**	**289**	*e*P	**Pn**	**07 43 01.0**	**+1.9**
PCAN				*e*S	**Sn**	**07 43 36.2**	**-0.6**
PCAN				*i* IAML		07 43 38.0	
PCAN				*i* IAML		07 43 39.0	
PCAN				*i* IAML		07 43 39.3	
HOR	**Horta**	**3.39**	**289**	*e*S	**Sn**	**07 43 38.8**	**-1.2**
HOR				*i* IAML		07 43 41.6	
HOR				*i* IAML		07 43 41.9	
HOR				*i* IAML		07 43 42.1	
PFCBR	**Castelo Branco**	**3.45**	**289**	*e*P	**Pn**	**07 43 02.5**	**+0.9**
PFCBR				*e*S	**Sn**	**07 43 40.5**	**-1.0**
PFCBR				*i* IAML		07 43 43.8	
PFCBR				*i* IAML		07 43 44.6	
PFCBR				*i* IAML		07 43 46.0	
CALA	**Caldeira**	**3.46**	**290**	*e*P	**Pn**	**07 43 03.2**	**+1.4**
CALA				*e*S	**Sn**	**07 43 41.0**	**-0.8**
CALA				*i* IAML		07 43 44.5	
CALA				*i* IAML		07 43 45.6	
CALA				*i* IAML		07 43 48.5	
PMOZ	**Porto Moniz, M**	**7.60**	**125**	*e*P	**Pn**	**07 43 58.8**	**+0.1**
PMAR	**Madeira**	**7.85**	**125**	*e*P	**Pn**	**07 44 02.1**	**-0.1**
PMPST	**Porto Santo, M**	**8.02**	**121**	*e*P	**Pn**	**07 44 04.8**	**+0.5**
PMPS	**Porto Santo**	**8.03**	**121**	*e*P	**Pn**	**07 44 04.0**	**-0.5**

*DJA **27** 07:42:11.5±0.2, 9˚S±2˚×11˚1E±˚, h10km, M5.0/31, mb4.9/13, mB5.5/8, MLv4.9/31, Mw(mB)5.0/8*
*NEIC **27** 07:42:14.1±1.6, 9˚.07S±0˚.04×111˚.40E±0˚.07, h68km±6km, mb4.5/46, Error ellipse: s-maj=9.8km s-min=5.9km az=74.0*
*IDC **27** 07:42:15.3±1.9, 8˚.84S×111˚.49E, h67km±16km, mb4.1/26, mbtmp4.4/28, MS3.7/25, Error ellipse: s-maj=14.0km s-min=9.6km az=49.0*

ISC 27 07:42:13.2±0.8, 9˚.08S±0˚.05×111˚.39E±0˚.05, h57km±7km, n178, σ1°74/168, mb4.5/48, MS3.8/21, 3C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.90**	**347**	P	**Pn**	**07 42 29.1**	**-0.8**
PCJI				S	**Sn**	**07 42 41.5**	**-0.6**
WOJI	**Wonogiri, Jawa**	**1.32**	**340**	P	**Pn**	**07 42 35.3**	**-0.1**
WOJI				S	**Sn**	**07 42 52.1**	**+0.2**
UGM	**Wanagama**	**1.44**	**323**		**Pn**	**07 42 37.1**	**+0.1**
UGM				Sn	**Sn**	**07 42 56.4**	**+1.4**
UGM	**Wanagama**	**1.44**	**323**	P	**Pn**	**07 42 37.6**	**+0.5**
UGM	**Wanagama**	**1.44**	**323**	P	**Pn**	**07 42 36.9**	**-0.2**
UGM				S	**Sn**	**07 42 55.1**	**+0.1**
YOGI	**Yogyakarta**	**1.66**	**319**	P	**Pn**	**07 42 40.0**	**0.0**
YOGI				S	**Sn**	**07 43 00.6**	**+0.4**
NGJI	**Ngawi**	**1.70**	**2**	P	**Pn**	**07 42 44.7**	**+4.1**
SMRI	**Semarang**	**2.23**	**335**		**Pn**	**07 42 49.6**	**+1.9**
SMRI	**Semarang**	**2.23**	**335**	P	**Pn**	**07 42 50.3**	**+2.6**
SMRI	**Semarang**	**2.23**	**335**	P	**Pn**	**07 42 50.1**	**+2.4**
TBJI	**Tambak Boyo**	**2.29**	**11**	P	**Pn**	**07 42 51.0**	**+2.4**
GRJI	**Gresik**	**2.41**	**27**	P	**Pn**	**07 42 52.6**	**+2.4**
BLJI	**Banyuglugur**	**2.55**	**59**	P	**Pn**	**07 42 54.6**	**+2.4**
JAGI	**Jajag, Banyuwa**	**2.80**	**78**		**Pn**	**07 42 57.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**2.80**	**78**	P	**Pn**	**07 42 56.8**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.80**	**78**	P	**Pn**	**07 42 56.7**	**+1.2**
KPJI	**Karang Pucung**	**2.99**	**305**	P	**Pn**	**07 42 58.9**	**+0.8**
ABJI	**Asem Bagus**	**3.09**	**66**	P	**Pn**	**07 43 02.1**	**+2.6**
KMMI	**Kalianget**	**3.25**	**52**	P	**Pn**	**07 43 03.1**	**+1.3**
BWJI	**Bawean**	**3.45**	**21**	P	**Pn**	**07 43 06.0**	**+1.6**
DNP	**Denpasar**	**3.80**	**84**	P	**Pn**	**07 43 11.1**	**+1.9**
SRBI	**Singaraja**	**3.91**	**76**	P	**Pn**	**07 43 12.9**	**+2.2**
JCJI	**Jatiwangi**	**4.02**	**310**	P	**Pn**	**07 43 10.0**	**-2.3**
BBJI	**Bungbulang**	**4.03**	**293**	P	**Pn**	**07 43 12.4**	**-0.2**
LEM	**Lembang**	**4.36**	**301**	P	**Pn**	**07 43 18.8**	**+1.7**
	148nm,0.5s,baz=42,slow=12,SNR=17						
LEM				S	**Sn**	**07 44 09.2**	**+2.6**
	186nm,0.7s,baz=165,slow=20,SNR=4.3						
LEM				LR	LR	07 45 03.5	
	comp=Z,704nm,20.3s,baz=144,slow=39						
LEM	**Lembang**	**4.36**	**301**	P	**Pn**	**07 43 18.1**	**+1.1**
CNJI	**Cibinong**	**4.57**	**292**	P	**Pn**	**07 43 18.8**	**-1.0**
SKJI	**Sukabumi**	**5.21**	**293**	P	**Pn**	**07 43 28.7**	**+0.1**
DBJI	**Dramaga**	**5.24**	**298**	P	**Pn**	**07 43 29.5**	**+0.5**
	1.3nm12μm129nm,0.9s						
TWSI	**Taliwang, Sumb**	**5.44**	**87**	P	**Pn**	**07 43 33.0**	**+1.3**
	1.1nm3μm107nm,0.7s						
CGJI	**Cibinong**	**6.15**	**293**	P	**Pn**	**07 43 41.6**	**+0.1**
	0.6nm91nm,0.6s						
PLAI	**Plampang**	**6.32**	**88**	P	**Pn**	**07 43 46.2**	**+2.4**
PLAI	**Plampang**	**6.32**	**88**	P	**Pn**	**07 43 45.2**	**+1.4**
	2μm175nm,1.0s						
BBKI	**Banjar Baru**	**6.55**	**32**	P	**Pn**	**07 43 50.6**	**+3.6**
	6μm116nm,1.1s						
TPI	**Tanjungpandan**	**7.30**	**329**	P	**Pn**	**07 43 58.4**	**+1.1**
WBSI	**Waikabubak, Su**	**7.92**	**95**	P	**Pn**	**07 44 07.6**	**+1.8**
	1μm131nm,1.3s						
WSI	**Waingapu**	**8.81**	**95**	P	**Pn**	**07 44 19.5**	**+1.5**
STKI	**Sintang**	**9.09**	**1**	P	**Pn**	**07 44 24.2**	**+2.5**
KAPI	**Kappang**	**9.23**	**65**	P	**Pn**	**07 44 24.9**	**+1.2**
	4.1nm,0.3s,baz=235,slow=16,SNR=4.0						
KAPI				LR	LR	07 48 16.7	
	comp=Z,441nm,21.7s,baz=262,slow=40						
BKSI	**Bulukumba**	**9.43**	**67**	P	**Pn**	**07 44 28.6**	**+2.1**
BNSI	**Bone**	**9.82**	**62**	P	**Pn**	**07 44 35.4**	**+3.5**
	1μm44nm,0.9s						
EDFI	**Ende, Flores**	**10.18**	**89**	P	**Pn**	**07 44 35.9**	**-1.0**
KSM	**Kuching**	**10.54**	**354**		**Pn**	**07 44 41.9**	**+0.3**
KSM	**Kuching**	**10.54**	**354**	P	**Pn**	**07 44 44.9**	**+3.3**
MMRI	**Maumere**	**10.73**	**88**	Pn	**Pn**	**07 44 44.2**	**0.0**
DSRI	**Dabo**	**10.91**	**321**	P	**Pn**	**07 44 48.4**	**+1.7**
	23nm,0.8s						
SBUM	**Sibu**	**11.48**	**4**		**Pn**	**07 44 53.9**	**-0.7**
SBUM	**Sibu**	**11.48**	**4**	P	**Pn**	**07 44 58.5**	**+4.0**
BATI	**Baumata**	**12.15**	**96**	P	**Pn**	**07 45 02.9**	**-0.8**
	33nm,0.3s,baz=240,slow=20,SNR=3.2						
BATI				S	**Sn**	**07 47 11.5**	**-6.2**
	30nm,0.5s,baz=290,slow=14,SNR=1.5						
SOEI	**Soe**	**12.72**	**94**		**Pn**	**07 45 10.9**	**-0.7**
SOEI	**Soe**	**12.72**	**94**	P	**Pn**	**07 45 14.5**	**+2.9**
SOEI	**Soe**	**12.72**	**94**	P	**Pn**	**07 45 14.3**	**+2.7**
MYKOM	**Kota Tinggi**	**13.15**	**325**	Pn	**Pn**	**07 45 16.5**	**-0.9**
GIRL	**Giralia**	**13.76**	**169**		Pn	07 45 21.1	-4.5
MBWA	**Marble Bar**	**14.45**	**147**		Pn	07 45 30.5	-4.3
SANI	**Sanana**	**16.11**	**65**	P	**P**	**07 45 59.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**16.49**	**124**	Pn	**Pn**	**07 45 59.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**16.49**	**124**	P	**Pn**	**07 45 59.5**	**-1.4**
	4.9nm,0.7s,baz=317,slow=11,SNR=9.1						
FITZ				S	Sn	07 48 49.1	-14
	8.7nm,0.7s,baz=343,slow=19,SNR=7.6						
FITZ				LR	LR	07 52 15.2	
	comp=Z,268nm,21.5s,baz=296,slow=36						
IPM	**Ipoh**	**16.98**	**322**		**Pn**	**07 46 06.0**	**-1.0**
PSI	**Prapat**	**17.14**	**313**	LR	LR	07 53 18.3	
	comp=Z,274nm,19.6s,baz=176,slow=39						
KNRA	**Kununurra**	**18.18**	**113**	P	**P**	**07 46 20.8**	**-0.7**
KNRA				IAmb	IAmb	07 46 47.6	
	comp=Z,23nm,1.1s						
MEEK	**Meekatharra**	**18.76**	**160**	P	**P**	**07 46 28.0**	**+0.3**
SAUI	**Saumlaki**	**19.72**	**88**	P	**P**	**07 46 37.2**	**-1.1**
MTN	**Manton Dam**	**19.74**	**103**	P	**Pn**	**07 46 40.0**	**-0.4**
MTN				IAmb	IAmb	07 46 47.4	
	comp=Z,20nm,0.8s						
LHMI	**Lhok Sumawe**	**20.23**	**314**	P	**P**	**07 46 43.1**	**-0.7**
LHMI				IAmb	IAmb	07 46 45.7	
	comp=Z,42nm,0.8s						
MORW	**Morawa**	**20.36**	**168**	P	**P**	**07 46 43.2**	**-1.9**
MORW				IAmb	IAmb	07 46 49.9	
	comp=Z,12nm,0.8s						
FAKI	**Fak Fak**	**21.62**	**75**	P	**P**	**07 46 55.6**	**-3.2**
FAKI				IAmb	IAmb	07 47 13.6	
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.34**	**168**	P	**P**	**07 47 24.4**	**-1.4**
NWAO				IAmb	IAmb	07 47

comp=Z,1.8nm,0.7s,baz=200,slow=8.8,SNR=5.8
comp=Z,1.8nm,0.7s
BJI Beiging 49.07 5 P **P 07 50 54.5 -0.2**
BJI pmax pmax
comp=Z,5.0nm,0.6s
HHC Hu-ho-hao-te 49.68 0 *e*P **P 07 51 03.5 +4.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,69nm,4.0s
MAJO Matsushiro 51.91 27 P **P 07 51 15.4 -0.9**
MAJO IAmb IAmb 07 51 16.1
comp=Z,4.8nm,0.8s
MJAR Matsushiro Arr 51.91 27 P **P 07 51 14.6 -1.6**
MJAR IAmb IAmb 07 51 15.8
comp=Z,5.9nm,1.1s
MJAR Matsushiro Arr 51.91 27 P **P 07 51 14.7 -1.6**
comp=Z,6.1nm,0.6s,baz=199,slow=7.8,SNR=22
MJAR LR LR 08 13 57.7
comp=Z,44nm,19.6s,baz=218,slow=37
comp=Z,6.1nm,0.6s
JYT Yasato 52.59 29 P **P 07 51 21.0 -0.3**
USRK Ussuriysk Ar. 56.22 18 P **P 07 51 47.0 -0.5**
comp=Z,12nm,1.0s,baz=192,slow=5.0,SNR=9.0
comp=Z,12nm,1.0s
JTM Tenmabayashi 56.67 27 P **P 07 51 48.8 -2.0**
SONM Songino Array 56.84 356 P **P 07 51 51.1 -0.9**
SONM IAmb IAmb 07 52 16.5
comp=Z,4.7nm,0.6s
SONM Songino Array 56.84 356 P **P 07 51 50.7 -1.3**
comp=Z,3.9nm,0.4s,baz=165,slow=8.4,SNR=2.0
comp=Z,3.9nm,0.4s
HILR Hailar Array B 58.84 6 P **P 07 52 05.0 -0.9**
comp=Z,1.9nm,0.4s,baz=182,slow=9.1,SNR=3.7
comp=Z,1.9nm,0.4s
HEH HeiHe 60.72 12 *e*P **P 07 52 18.0 -0.7**
HEH pmax pmax
comp=Z,17nm,0.9s
GAR Garm 61.19 324 P **P 07 52 20.4 -2.0**
MKAR Makanchi Array 61.38 338 **P 07 52 22.7 -0.7**
MKAR Makanchi Array 61.38 338 P **P 07 52 22.4 -0.9**
comp=Z,8.4nm,0.7s,baz=147,slow=7.5,SNR=56
comp=Z,8.4nm,0.7s
AAK Ala-Archa 61.51 330 **P 07 52 23.8 -0.6**
AAK IAmb IAmb 07 52 24.9
comp=Z,4.2nm,1.1s
AAK Ala-Archa 61.51 330 LR LR 08 24 16.1
comp=Z,83nm,18.2s,baz=152,slow=41
MAKZ Makanchi 61.51 337 **P 07 52 23.7 -0.5**
MAKZ IAmb IAmb 07 52 24.5
comp=Z,4.2nm,0.9s
CHGR Chuyangaron 61.64 323 **P 07 52 22.9 -2.5**
RPZ Rata Peaks 61.99 135 LR LR 08 19 20.4
comp=Z,143nm,20.0s,baz=279,slow=36
YSS Yuzhno-Sakhali 62.39 24 P **P 07 52 30.1 +0.1**
H04N2 CROZET ISLANDS 62.60 222 T T 09 00 37.9
baz=70,slow=75,SNR=26
H04N1 CROZET ISLANDS 62.61 222 T T 09 00 32.2
baz=70,slow=75,SNR=25
H04N3 CROZET ISLANDS 62.62 222 T T 09 00 33.4
baz=70,slow=75,SNR=24
KK31 Karatay Array 63.88 328 P **P 07 52 38.8 -1.3**
KKAR Karatay Array 63.88 328 P **P 07 52 38.4 -1.7**
URZ Urewera 65.39 128 LR LR 08 20 17.2
comp=Z,108nm,21.9s,baz=276,slow=35
KURBB Kurchatov Arra 65.95 338 P **P 07 52 52.7 -0.6**
comp=Z,3.5nm,0.5s,baz=155,slow=5.3,SNR=40
comp=Z,3.5nm,0.5s
KURK Kurchatov 65.99 338 **P 07 52 52.7 -0.9**
KURK IAmb IAmb 07 52 54.1
comp=Z,8.6nm,0.8s
ZAA0 Zalesovo Array 66.69 343 **P 07 52 56.8 -1.2**
ZAA0 IAmb IAmb 07 52 57.7
comp=Z,9.6nm,0.9s
ZALV Zalesovo Beam 66.69 343 **P 07 52 57.0 -1.0**
ZALV Zalesovo Beam 66.69 343 P **P 07 52 57.0 -1.0**
comp=Z,5.1nm,0.4s,baz=137,slow=4.5,SNR=22
ZALV LR LR 08 24 03.2
comp=Z,72nm,21.3s,baz=78,slow=38
comp=Z,5.1nm,0.4s
MAW Mawson 66.70 198 P **P 07 52 59.3 +1.4**
comp=Z,0.9nm,0.7s,baz=5.3,slow=14,SNR=2.4
MAW LR LR 08 17 53.1
comp=Z,80nm,19.9s,baz=44,slow=32
comp=Z,0.9nm,0.7s
BVAR Borovoye Array 71.02 335 P **P 07 53 24.3 -0.6**
comp=Z,8.2nm,0.7s,baz=140,slow=8.4,SNR=39
BVAR LR LR 08 26 41.7
comp=Z,62nm,21.2s,baz=157,slow=38
comp=Z,8.2nm,0.7s
YAK Yakutsk 72.31 9 P **P 07 53 31.2 -1.3**
VNDA Vanda 73.16 170 P **P 07 53 38.3 +0.9**
VNDA Vanda 73.16 170 P **P 07 53 39.0 +1.6**
comp=Z,0.2nm,0.4s,baz=1.7,slow=4.0,SNR=1.1
VNDA LR LR 08 22 24.1
comp=Z,28nm,21.4s,baz=338,slow=33
comp=Z,0.2nm,0.4s
KIBK Kibwezi 73.19 270 P **P 07 53 37.0 -1.9**
KIBK IAmb IAmb 07 53 41.9
comp=Z,3.5nm,0.7s
PETK Petropavlovsk- 73.37 27 P **P 07 53 38.8 -0.2**
PETK Petropavlovsk- 73.37 27 P **P 07 53 38.2 -0.8**
comp=Z,3.3nm,0.9s,baz=272,slow=2.9,SNR=5.5
comp=Z,3.3nm,0.9s
AB31 Akbulak array 73.45 328 **P 07 53 39.2 -0.3**
ABKAR Akbulak array 73.45 328 **P 07 53 39.1 -0.4**
KMBO Kilima Mbogo 74.16 271 P **P 07 53 46.2 +1.4**
comp=Z,1.6nm,0.4s,baz=85,slow=3.2,SNR=3.0
comp=Z,1.6nm,0.4s
FURI Furi 74.58 282 LR LR 08 21 37.4
comp=Z,69nm,21.2s,baz=130,slow=32
ARTI Arti 78.45 333 **P 07 54 07.6 -0.2**
ARTI Arti 78.45 333 LR LR 08 33 09.5
comp=Z,62nm,18.4s,baz=158,slow=39
QSPA South Pole Qui 80.92 180 P **P 07 54 21.9 +0.6**
QSPA South Pole Qui 80.92 180 P **P 07 54 24.8 +3.4**
comp=Z,2.0nm,1.0s,baz=270,slow=3.4,SNR=6.9
QSPA LR LR 08 27 33.5
comp=Z,56nm,20.6s,baz=338,slow=34
comp=Z,2.0nm,1.0s
KBZ Khabaz 81.11 317 P **P 07 54 23.1 +0.5**
comp=Z,3.7nm,0.7s,baz=101,slow=5.9,SNR=10
comp=Z,3.7nm,0.7s
BOSA Boshof 82.34 242 P **P 07 54 29.1 -0.5**
BOSA IAmb IAmb 07 54 41.9
comp=Z,9.6nm,1.2s
BOSA Boshof 82.34 242 P **P 07 54 30.9 +1.2**
comp=Z,1.3nm,0.4s,baz=150,slow=2.6,SNR=8.4
comp=Z,1.3nm,0.4s
MMAI Mount Meron Ar 83.34 305 P **P 07 54 35.7 +1.1**
comp=Z,0.6nm,0.3s,baz=84,slow=15,SNR=1.5
comp=Z,0.6nm,0.3s
BR131 Keskin Array S 86.46 311 P **P 07 54 49.4 -0.8**
BR131 IAmb IAmb 07 54 51.2
comp=Z,4.9nm,0.9s
BRTR Keskin Array B 86.46 311 **P 07 54 48.6 -1.6**
BRTR Keskin Array B 86.46 311 P **P 07 54 50.0 -0.2**
comp=Z,4.4nm,1.0s,baz=126,slow=6.3,SNR=15
comp=Z,4.4nm,1.0s
SNAA Sanae 88.83 197 P **P 07 55 02.3 +1.4**
SNAA IAmb IAmb 07 55 21.8
comp=Z,4.9nm,1.3s
SNAA Sanae 88.83 197 P **P 07 55 02.9 +2.1**
comp=Z,1.4nm,0.7s,baz=138,slow=4.7,SNR=15
SNAA LR LR 08 31 51.5
comp=Z,30nm,18.1s,baz=174,slow=33
comp=Z,1.4nm,0.7s
VNA2 Neumayer--Watz 90.47 197 ⇑P **P 07 55 10.3 +1.8**
comp=Z,0.5nm,0.1s,baz=321,slow=13
VNA1 Neumayer--Stat 90.86 197 ⇑P **P 07 55 05.6 -4.7**
comp=Z,0.6nm,0.2s
VNA3 Neumayer Olymp 90.94 196 ⇑P **P 07 55 08.1 -2.5**
comp=Z,0.9nm,0.2s
BELA Belgrano 2 91.14 187 **P 07 55 10.1 -1.4**
BELA IAmb IAmb 07 55 15.9
comp=Z,2.5nm,1.0s
AKASG Malin Array Be 92.03 321 P **P 07 55 14.9 -1.0**
AKASG IAmb IAmb 07 55 35.2
comp=Z,3.9nm,1.3s
AKASG Malin Array Be 92.03 321 P **P 07 55 15.6 -0.4**
comp=Z,2.7nm,1.0s,baz=83,slow=4.5,SNR=3.1
comp=Z,2.7nm,1.0s
BURAR Bucovina Array 94.06 317 P **P 07 55 26.3 +0.7**
BURAR IAmb IAmb 07 55 26.9
comp=Z,1.1nm,0.8s
TBI Tubuai 94.74 114 *e*LR LR 08 26 07.9
comp=Z,511nm,33.8s
FINES FINESS Array B 95.67 331 P **P 07 55 30.4 -2.0**
FINES FINESS Array B 95.67 331 P **P 07 55 31.0 -1.4**
comp=Z,3.0nm,1.0s,baz=176,slow=9.2,SNR=4.2
comp=Z,3.0nm,1.0s
PPT2 Papeete2 95.79 109 *e*LR LR 08 26 34.9
comp=Z,112nm,29.2s
PPT2 *e*LR LR 08 26 35.9
comp=Z,66nm,26.2s
TAOE Nuku Hiva Isla 106.57 102 *e*LR LR 08 31 34.0
comp=Z,43nm,24.5s
PDAR Pinedale Array 130.95 40 PKP **PKiKP 08 01 20.7 +0.8**
comp=Z,0.3nm,0.7s,baz=337,slow=3.6,SNR=3.0
TXAR Lajitas Array 141.48 54 PKhKP PKPpre 08 01 32.7
comp=Z,0.2nm,0.6s,baz=252,slow=2.9,SNR=4.0
TXAR PKP **PKiKP 08 01 40.1 -1.4**
comp=Z,0.4nm,0.6s,baz=251,slow=0.3,SNR=6.1
CPUP Villa Florida 143.13 197 PKP **PKPdf 08 01 40.8 -0.9**
comp=Z,0.6nm,1.0s,baz=178,slow=1.8,SNR=3.5
BRDY Brady 144.13 48 **PKPdf 08 01 43.5 +0.2**
HBVL Hebbronville 146.43 54 **PKiKP 08 01 51.9 +0.3**
M57A Sunshine Farm, 147.00 12 **PKPab 08 01 51.4 0.0**
AQDB Aquidauana 148.00 203 **PKPab 08 01 55.2 -0.7**
BDFB Brasilia 148.07 220 PKPbc **PKPab 08 01 55.7 -0.7**
comp=Z,2.2nm,0.7s,baz=137,slow=3.3,SNR=6.6
LPAZ La Paz 154.79 181 PKP **PKPdf 08 02 02.2 +0.9**
comp=Z,0.4nm,0.6s,baz=222,slow=8.1,SNR=2.2
LPAZ PKPab **pPKPbc 08 02 27.1 +1.6**
comp=Z,0.5nm,0.6s,baz=149,slow=3.7,SNR=2.6

IDC 27 07:54:15.8±2.7, 7°.28N×121°.78E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=397.9km s-min=28.8km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.74**	**156**	P	P	08 00 23.8	-0.3
	0.5nm,0.5s,baz=335,slow=9.7,SNR=6.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**32.96**	**159**	P	P	08 00 52.9	+0.4
	0.1nm,0.7s,baz=331,slow=9.5,SNR=2.0						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**51.87**	**326**	P	P	08 03 25.9	-0.1
	0.6nm,0.8s,baz=124,slow=7.2,SNR=3.9						
	0.6nm,0.8s						

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*NOU **27** 08:03:29.4, 42°.47S×178°.59E, h192km, ML4.4/8, Off E. Coast of S. Island, N.Z.*
*WEL **27** 08:03:40.2±0.9, 42°.5±6°.×17°.8E±°, h33km, M3.6/14, ML3.9/15, MLv3.6/14, Error ellipse: s-maj=8.6km s-min=5.6km az=152.1, confirmed*
*IDC **27** 08:03:42.5±2.8, 41°.59S×176°.70E, h0km, mb3.6/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=53.8km s-min=31.2km az=55.0*

ISC 27 08:03:36.3±2.1, 42°.09S±0°.05×177°.94E±0°.07, h24km±15km, n132, σ1§94/146, mb3.5/4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**1.82**	**292**	P	**Pn**	**08 04 05.2**	**-1.0**
TRWZ				S	**Sn**	**08 04 26.4**	**-2.1**
TMWZ	**Te Maipa**	**1.83**	**302**	P	**Pb**	**08 04 08.0**	**-1.0**
TMWZ				S	**Sn**	**08 04 26.7**	**-1.9**
BFZ	**Birch Farm**	**1.90**	**317**	P	**Pb**	**08 04 10.0**	**-0.3**
ANWZ	**Angora Road**	**1.97**	**325**	P	**Pn**	**08 04 09.6**	**+1.5**
ANWZ				S	**Sn**	**08 04 30.6**	**-1.5**
PAWZ	**Paruwai Farm**	**2.01**	**290**	P	**Pn**	**08 04 09.7**	**+0.9**
PAWZ				S	**Sn**	**08 04 30.4**	**-2.7**
MTW	**Mount Morrison**	**2.05**	**296**	P	**Pn**	**08 04 09.8**	**+0.5**
MTW				S	**Sn**	**08 04 31.3**	**-2.9**
PRHZ	**Porangahau**	**2.07**	**331**	P	**Pn**	**08 04 10.8**	**+1.2**
PRHZ				S	**Sn**	**08 04 31.8**	**-2.8**
PLWZ	**Palliser**	**2.08**	**284**	P	**Pn**	**08 04 10.0**	**+0.4**
PLWZ				S	**Sn**	**08 04 31.9**	**-2.8**
MSWZ	**Moikau Station**	**2.12**	**288**	P	**Pn**	**08 04 08.0**	**-2.2**
PRWZ	**Pori Road**	**2.14**	**315**	P	**Pb**	**08 04 13.0**	**-1.3**
HOWZ	**Holdsworth Sta**	**2.18**	**302**	P	**Pn**	**08 04 11.5**	**+0.4**
HOWZ				S	**Sn**	**08 04 34.0**	**-3.3**
PXZ	**Pawanui**	**2.22**	**338**	P	**Pn**	**08 04 12.5**	**+1.0**
PWZ	**Pawanui**	**2.22**	**338**	P	**Pn**	**08 04 12.7**	**+1.2**
PWZ				S	**Sn**	**08 04 38.4**	**+0.3**
DVHZ	**Dannevirke**	**2.24**	**323**	P	**Pn**	**08 04 13.1**	**+1.3**
DVHZ				S	**Sn**	**08 04 36.0**	**-2.7**
MRZ	**Mangatainoka R**	**2.28**	**308**	P	**Pn**	**08 04 13.2**	**+0.7**
MRZ				S	**Sn**	**08 04 36.0**	**-3.7**
WPHZ	**Waipukurau**	**2.32**	**330**	P	**Pn**	**08 04 14.5**	**+1.5**
WPHZ				S	**Sn**	**08 04 40.0**	**-0.8**
POWZ	**Post Office Ro**	**2.36**	**315**	P	**Pn**	**08 04 14.8**	**+1.3**
KAHZ	**Kahuranaki**	**2.43**	**340**	P	**Pn**	**08 04 15.8**	**+1.2**
OGWZ	**Otaki Gorge**	**2.44**	**301**	P	**Pn**	**08 04 16.5**	**+1.8**
TSZ	**Takapari Road**	**2.52**	**323**	P	**Pn**	**08 04 17.1**	**+1.3**
TSZ				S	**Sn**	**08 04 43.0**	**-2.7**
PNHZ	**Pukenui**	**2.54**	**328**	P	**Pn**	**08 04 17.5**	**+1.4**
SNZO	**South Karori**	**2.55**	**287**	P	**Pb**	**08 04 21.7**	**+0.4**
KIW	**Kapiti Island**	**2.59**	**297**	P	**Pn**	**08 04 17.7**	**+1.1**
TCW	**Tory Channel**	**2.88**	**287**	P	**Pn**	**08 04 21.8**	**+1.1**
WHHZ	**Waihua**	**3.06**	**350**	P	**Pn**	**08 04 24.2**	**+1.0**
KNZ	**Kokohu**	**3.08**	**356**	P	**Pn**	**08 04 23.3**	**0.0**
BKZ	**Black Stump Fm**	**3.12**	**339**	P	**Pn**	**08 04 25.1**	**+1.0**
BKZ	**Black Stump Fm**	**3.12**	**339**	P	**Pn**	**08 04 25.3**	**+1.2**
MOVZ	**Moawhango**	**3.16**	**328**	P	**Pn**	**08 04 26.9**	**+2.4**
PRGZ	**Paritu Road**	**3.17**	**359**	P	**Pn**	**08 04 24.4**	**-0.3**
WAZ	**Wanganui**	**3.24**	**315**	P	**Pn**	**08 04 28.6**	**+3.0**
WAZ				S	**Sn**	**08 05 02.2**	**-1.2**
RAHZ	**Arahi**	**3.24**	**348**	P	**Pn**	**08 04 26.7**	**+1.1**
KHZ	**Kahutara**	**3.28**	**263**	P	**Pn**	**08 04 26.8**	**+0.7**
KHZ	**Kahutara**	**3.28**	**263**	P	**Pn**	**08 04 26.9**	**+0.7**
WNVZ	**Wahianoa**	**3.29**	**326**	P	**Pn**	**08 04 29.2**	**+2.7**
MTVZ	**Mangateitei**	**3.29**	**324**	P	**Pn**	**08 04 29.4**	**+3.0**
TUVZ	**Tukino**	**3.31**	**328**	P	**Pn**	**08 04 29.7**	**+2.9**
WHVZ	**Whangaehu Hut**	**3.33**	**327**	P	**Pn**	**08 04 29.8**	**+2.8**
TRVZ	**Turoa**	**3.33**	**326**	P	**Pn**	**08 04 29.8**	**+2.7**
MTHZ	**Maungataniwha**	**3.34**	**345**	P	**Pn**	**08 04 28.1**	**+1.1**
MAVZ	**Matarangi**	**3.35**	**327**	P	**Pn**	**08 04 30.1**	**+2.6**
FWVZ	**Far West T-bar**	**3.37**	**327**	P	**Pn**	**08 04 30.1**	**+2.6**
RIGZ	**Rimuhau**	**3.39**	**358**	P	**Pn**	**08 04 27.8**	**+0.1**
SNVZ	**South Ngauruho**	**3.39**	**328**	P	**Pn**	**08 04 30.4**	**+2.5**
OTVZ	**Oturere**	**3.40**	**329**	P	**Pn**	**08 04 30.5**	**+2.5**
ETVZ	**East Tongariro**	**3.41**	**329**	P	**Pn**	**08 04 30.3**	**+2.3**
NGZ	**Ngauruhoe**	**3.42**	**328**	P	**Pn**	**08 04 30.6**	**+2.5**
COVZ	**Chateau Observ**	**3.42**	**327**	P	**Pn**	**08 04 30.8**	**+2.6**
PKVZ	**Pokaka**	**3.42**	**324**	P	**Pn**	**08 04 30.9**	**+2.7**
TMVZ	**Te Maari**	**3.43**	**329**	P	**Pn**	**08 04 30.6**	**+2.3**
NNVZ	**North Ngauruho**	**3.45**	**328**	P	**Pn**	**08 04 31.0**	**+2.4**
NTVZ	**North Tongarir**	**3.45**	**329**	P	**Pn**	**08 04 31.0**	**+2.4**
MRHZ	**Matea Rd**	**3.46**	**340**	P	**Pn**	**08 04 30.5**	**+1.9**
KRVZ	**Karewarewa**	**3.47**	**329**	P	**Pn**	**08 04 31.4**	**+2.5**
WTVZ	**West Tongariro**	**3.47**	**328**	P	**Pn**	**08 04 31.2**	**+2.3**
RITZ	**Rihia Road**	**3.49**	**332**	P	**Pn**	**08 04 31.5**	**+2.4**
HATZ	**Hinemaiaia**	**3.50**	**336**	P	**Pn**	**08 04 31.2**	**+2.0**
NNZ	**Nelson**	**3.53**	**283**	P	**Pn**	**08 04 31.2**	**+1.6**
RTZ	**Ruatahuna**	**3.55**	**348**	P	**Pn**	**08 04 31.0**	**+1.0**
KATZ	**Kakaramea**	**3.55**	**330**	P	**Pn**	**08 04 32.4**	**+2.4**
TWVZ	**Taurewa**	**3.57**	**327**	P	**Pn**	**08 04 32.4**	**+2.2**
CNGZ	**Carnagh Statio**	**3.61**	**3**	P	**Pn**	**08 04 31.7**	**+1.0**
RAGZ	**Rawiri**	**3.62**	**353**	P	**Pn**	**08 04 31.8**	**+1.0**
RATZ	**Rangitukua**	**3.62**	**332**	P	**Pn**	**08 04 33.0**	**+2.1**
TKGZ	**Te Karaka**	**3.65**	**359**	P	**Pn**	**08 04 31.8**	**+0.6**
MURZ	**Murupara**	**3.72**	**346**	P	**Pn**	**08 04 33.7**	**+2.5**
GVZ	**Greta Valley S**	**3.73**	**255**	P	**Pn**	**08 04 33.4**	**+1.0**
ALRZ	**Allen Road**	**3.73**	**340**	P	**Pn**	**08 04 34.0**	**+1.6**
LREZ	**Lake Rotokare**	**3.76**	**313**	P	**Pn**	**08 04 36.6**	**+3.9**
MWZ	**Matawai**	**3.77**	**355**	P	**Pn**	**08 04 32.9**	**0.0**
THZ	**Tophouse**	**3.77**	**273**	P	**Pn**	**08 04 33.8**	**+0.8**
WATZ	**Wairara**	**3.78**	**333**	P	**Pn**	**08 04 34.8**	**+1.8**
PRRZ	**Plateau Road**	**3.78**	**341**	P	**Pn**	**08 04 34.6**	**+1.6**
WPRZ	**Whakapapatarin**	**3.82**	**339**	P	**Pn**	**08 04 35.1**	**+1.5**
VRZ	**Vera Road**	**3.83**	**320**	P	**Pn**	**08 04 36.3**	**+2.6**
URZ	**Urewera**	**3.88**	**350**	Sn	**Sn**	**08 05 13.4**	**-5.8**
	6.9nm,0.3s,baz=231,slow=23,SNR=1.6						
URZ	**Urewera**	**3.88**	**350**	P	**Pn**	**08 04 35.1**	**+0.6**
URZ	**Urewera**	**3.88**	**350**	P	**Pn**	**08 04 35.0**	**+0.6**
TKNZ	**Takaka Hill**	**3.88**	**284**	P	**Pn**	**08 04 36.3**	**+1.8**
RRRZ	**Republican Roa**	**3.91**	**343**	P	**Pn**	**08 04 36.0**	**+1.3**
TWGZ	**Tauwhareparae**	**3.91**	**0**	P	**Pn**	**08 04 35.7**	**+0.8**
MRNZ	**Matariki Terra**	**3.94**	**278**	P	**Pn**	**08 04 36.7**	**+1.4**
KUTZ	**Kaahu Road**	**3.95**	**335**	P	**Pn**	**08 04 36.9**	**+1.6**
HSRZ	**Hossack Road**	**3.99**	**340**	P	**Pn**	**08 04 37.7**	**+1.7**
TARZ	**Mount Tarawera**	**4.01**	**344**	P	**Pn**	**08 04 37.7**	**+1.5**
PUZ	**Puketiti**	**4.02**	**4**	P	**Pn**	**08 04 36.4**	**-0.1**
NEZ	**North Egmont**	**4.06**	**313**	P	**Pn**	**08 04 41.2**	**+4.2**
EDRZ	**Edgecumbe**	**4.09**	**347**	P	**Pn**	**08 04 38.5**	**+1.1**
KHEZ	**Kahui Hut**	**4.09**	**312**	P	**Pn**	**08 04 40.2**	**+2.8**
AKCZ	**Akaroa Harbour**	**4.10**	**243**	P	**Pn**	**08 04 38.5**	**+1.1**
RUGZ	**Raukumara Rang**	**4.13**	**357**	P	**Pn**	**08 04 38.0**	**0.0**
PKE	**Pukeiti**	**4.17**	**313**	P	**Pn**	**08 04 42.4**	**+3.9**
TLZ	**Tolley Road**	**4.18**	**333**	P	**Pn**	**08 04 39.9**	**+1.2**
MQZ	**McQueen's Vall**	**4.21**	**246**	P	**Pn**	**08 04 39.3**	**+0.5**
LTZ	**Lake Taylor**	**4.25**	**259**	P	**Pn**	**08 04 40.4**	**+0.9**
QRZ	**Quartz Range**	**4.26**	**285**	P	**Pn**	**08 04 41.3**	**+1.7**
QRZ	**Quartz Range**	**4.26**	**285**	P	**Pn**	**08 04 41.3**	**+1.7**
HIZ	**Hauiti**	**4.28**	**326**	P	**Pn**	**08 04 41.9**	**+2.0**
HIZ	**Hauiti**	**4.28**	**326**	P	**Pn**	**08 04 42.0**	**+2.0**
CTZ	**Chatham Island**	**4.32**	**114**	P	**Pn**	**08 04 42.6**	**+2.2**
CTZ				S	Sn	08 05 27.0	-3.0
HAZ	**Te Kaha**	**4.33**	**358**	P	**Pn**	**08 04 40.9**	**+0.3**
OXZ	**Oxford**	**4.52**	**252**	P	**Pn**	**08 04 44.0**	**+0.7**
MXZ	**Matakaoa Point**	**4.53**	**4**	P	**Pn**	**08 04 43.3**	**-0.1**
DSZ	**Denniston Nort**	**4.59**	**272**	P	**Pn**	**08 04 45.7**	**+1.5**
TOZ	**Tahuroa Road**	**4.74**	**336**	P	**Pn**	**08 04 47.6**	**+1.3**
WACZ	**Wakanui South**	**4.84**	**245**	P	**Pn**	**08 04 49.1**	**+1.5**
INZ	**Inchbonnie**	**4.85**	**260**	P	**Pn**	**08 04 49.2**	**+1.5**
MHCZ	**Mount Hutt**	**4.90**	**251**	P	**Pn**	**08 04 49.4**	**+0.9**
ARCZ	**Arundel**	**5.29**	**247**	P	**Pn**	**08 04 55.6**	**+1.8**
RPZ	**Rata Peaks**	**5.31**	**250**	Pn	**Pn**	**08 04 54.7**	**+0.6**
	2.8nm,0.3s,baz=34,slow=15,SNR=2.2						
RPZ				Sn	**Sn**	**08 05 50.0**	**-4.5**
	3.6nm,0.3s,baz=346,slow=17,SNR=2.3						
	5.9nm,0.3s						
RPZ	**Rata Peaks**	**5.31**	**250**	P	**Pn**	**08 04 55.2**	**+1.1**
WVZ	**Waitaha Valley**	**5.41**	**257**	P	**Pn**	**08 04 56.9**	**+1.5**
MKAZ	**Moumakai**	**5.42**	**336**	P	**Pn**	**08 04 57.0**	**+1.4**
TMZ	**Timaru**	**5.56**	**243**	P	**Pn**	**08 04 59.2**	**+1.7**
KUZ	**Kuaotunu**	**5.61**	**341**	P	**Pn**	**08 04 59.0**	**+0.9**
AWAZ	**Awhitu Peninsu**	**5.63**	**332**	P	**Pn**	**08 05 00.3**	**+1.8**
ETAZ	**East Tamaki Re**	**5.64**	**335**	P	**Pn**	**08 05 00.0**	**+1.5**
WIAZ	**Waiheke Island**	**5.72**	**337**	P	**Pn**	**08 05 01.2**	**+1.5**
EPAZ	**Eden Park BICE**	**5.77**	**334**	P	**Pn**	**08 05 01.9**	**+1.5**
WTAZ	**Waiatarua**	**5.77**	**332**	P	**Pn**	**08 05 02.5**	**+2.0**
MBAZ	**Motutapu North**	**5.81**	**335**	P	**Pn**	**08 05 02.5**	**+1.5**
RVAZ	**Riverhead Bore**	**5.92**	**333**	P	**Pn**	**08 05 04.3**	**+1.9**
ABAZ	**Army Bay**	**5.99**	**335**	P	**Pn**	**08 05 05.2**	**+1.8**
ODZ	**Otahua Downs**	**6.07**	**238**	P	**Pn**	**08 05 06.4**	**+2.0**
LBZ	**Lake Benmore**	**6.11**	**245**	P	**Pn**	**08 05 07.0**	**+2.0**
GRZ	**Great Barrier**	**6.14**	**341**	P	**Pn**	**08 05 06.6**	**+1.0**
WCZ	**Waipu Caves**	**6.75**	**334**	P	**Pn**	**08 05 16.0**	**+2.2**
EAZ	**Earnscleugh**	**7.00**	**240**	P	**Pn**	**08 05 19.3**	**+2.0**
STKA	**Stephens Creek**	**30.57**	**278**	P	**P**	**08 09 48.5**	**+0.5**
	1.1nm,0.6s,baz=110,slow=12,SNR=4.4						
	1.1nm,0.6s						
VNDA	**Vanda**	**36.16**	**186**	P	P	08 10 49.5	+13
	0.7nm,0.4s,baz=60,slow=15,SNR=9.8						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**40.78**	**283**	P	**P**	**08 11 18.2**	**+2.5**
	0.2nm,0.7s,baz=129,slow=7.6,SNR=5.1						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**42.82**	**287**	P	**P**	**08 11 33.0**	**+0.7**
	0.3nm,0.8s,baz=124,slow=9.6,SNR=1.2						
	0.3nm,0.8s						

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*NOU **27** 08:19:20.2, 22°.00S×169°.28E, h0km, MLv3.5/6, Southeast of Loyalty Islands*
*IDC **27** 08:19:21.5±2.0, 20°.53S×168°.64E, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, MS2.9/2, Error ellipse: s-maj=95.9km s-min=22.7km az=145.0*

ISC 27 08:19:21.7±1.2, 21°.9S±0°.2×169°.33E±0°.09, h25km, n13, σ0§68/13, mb3.6/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.27**	**287**	P	**Pn**	**08 19 44.0**	**+0.2**
MARNC	**Mare, Loyalty**	**1.27**	**287**	S	**Sb**	**08 20 00.8**	**0.0**
PINNC	**Pines Island,**	**1.90**	**247**	P	**Pn**	**08 19 52.5**	**0.0**
YATNC	**Mamie plateau,**	**2.27**	**265**	P	**Pn**	**08 19 57.9**	**+0.3**
OUENC	**Ouen Island, N**	**2.37**	**256**	P	**Pn**	**08 19 59.0**	**0.0**
DZM	**Mont Dzumac**	**2.69**	**265**	Pn	**Pn**	**08 20 04.3**	**+0.9**
	8.1nm,0.3s,baz=99,slow=18,SNR=168						
DZM				Sn	**Sn**	**08 20 35.4**	**+0.1**
	13nm,0.3s,baz=99,slow=20,SNR=3.9						
DZM				LR	LR	08 21 05.4	
	comp=Z,88nm,19.9s,baz=229,slow=41						
	22nm,0.3s						
ONTNC	**Ouen Toro**	**2.71**	**260**	P	**Pn**	**08 20 04.2**	**+0.6**
PMG	**Port Moresby**	**24.64**	**297**	LR	LR	08 32 58.2	
	comp=Z,85nm,18.0s,baz=145,slow=35						
ASAR	**Alice Springs**	**32.67**	**260**	P	**P**	**08 25 52.3**	**+0.2**
	0.6nm,0.9s,baz=72,slow=9.1,SNR=8.6						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**32.70**	**267**	P	**P**	**08 25 51.0**	**-1.4**
	0.2nm,0.7s,baz=97,slow=8.1,SNR=1.2						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**90.47**	**48**	P	**P**	**08 32 22.6**	**+0.9**
	1.8nm,0.8s,baz=253,slow=7.4,SNR=5.4						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**92.70**	**17**	P	**P**	**08 32 30.4**	**-0.6**
	0.3nm,0.8s,baz=219,slow=4.0,SNR=4.2						
	0.3nm,0.8s						
GERES	**GERESS Array B**	**146.82**	**330**	PKPbc	**PKPbc**	**08 39 01.5**	**-0.2**
	0.4nm,0.6s,baz=29,slow=2.4,SNR=2.7						

**GII 27 08:33:32

LCO IAML 08 34 24.0
comp=Z,40μm,0.5s
AC04 Llanos de Chal 1.15 30 Pg 08 34 14.7 +1.1
AC04 Sn Sg **08 34 29.6 +1.0**
AC04 Llanos de Chal 1.15 30 *eP* **Pg 08 34 14.7 +1.1**
AC04 *i* S Sn **08 34 30.2 +0.2**
AC04 IAML 08 34 34.6
comp=N,9μm,0.2s
AC04 Llanos de Chal 1.15 30 *eP* **Pb 08 34 14.0 +0.2**
AC04 *e*S Sn **08 34 32.0 +2.0**
AC04 IAML 08 34 35.6
comp=Z,4μm,0.3s
GO04 Tololo Observa 1.26 140 Pg 08 34 16.6 +0.8
GO04 Sn Sn **08 34 32.7 -0.6**
GO04 Tololo Observa 1.26 140 *eP* **Pg 08 34 16.3 +0.5**
GO04 *i* S Sn **08 34 32.6 -0.6**
CO06 Fray Jorge 1.47 177 Pn 08 34 19.1 +0.6
CO06 Fray Jorge 1.47 177 *eP* **Pn 08 34 18.9 +0.4**
CO06 *i* S Sn **08 34 36.6 -1.4**
CO01 Juntas del Tor 1.62 119 Pb 08 34 22.4 +0.4
CO01 Sn Sb **08 34 42.1 -0.6**
CO01 Juntas del Tor 1.62 119 *eP* **Pb 08 34 22.1 +0.1**
CO01 *i* S Sg **08 34 42.5 -1.3**
CO01 IAML 08 34 45.0
comp=N,8μm,0.3s
CO01 Juntas del Tor 1.62 119 *eP* **Pb 08 34 22.4 +0.4**
CO01 *e*S Sg **08 34 43.1 -0.7**
CO01 IAML 08 34 44.5
comp=Z,5μm,0.2s
CO03 El Pedregal 1.87 151 Pn 08 34 25.0 +1.0
CO03 Sn Sn **08 34 48.3 +0.4**
CO03 El Pedregal 1.87 151 *eP* **Pn 08 34 24.9 +0.8**
CO03 *i* S Sb **08 34 48.9 -0.7**
CO03 IAML 08 34 50.6
comp=E,6μm,0.4s
CO03 El Pedregal 1.87 151 *eP* Pn 08 34 19.2 -4.8
CO03 *e*P **Pb 08 34 24.1 -1.9**
CO03 *e*S Sg **08 34 50.6 -1.0**
CO03 IAML 08 34 53.5
comp=Z,3μm,0.3s
GO03 Copiapo 2.07 40 Pn 08 34 28.2 +1.3
GO03 Copiapo 2.07 40 *eP* **Pn 08 34 28.0 +1.1**
GO03 *i* S Sb **08 34 54.5 -1.1**
GO03 IAML 08 35 04.0
comp=N,6μm,0.8s
CO02 Combarbal 2.09 163 Pn 08 34 28.4 +1.3
CO02 Combarbal 2.09 163 *eP* **Pn 08 34 28.3 +1.1**
CO02 *i* S Sn **08 34 53.1 -0.5**
CO02 IAML 08 34 57.8
comp=N,9μm,0.3s
CO02 Combarbal 2.09 163 *eP* **Pn 08 34 27.6 +0.4**
CO02 *e*S Sn **08 34 54.4 +0.9**
CO02 IAML 08 35 02.7
comp=Z,3μm,0.4s
AROD Rodeo 2.19 117 *eP* **Pb 08 34 32.0 +0.3**
AROD *e*S Sn **08 34 54.2 -1.9**
AC06 Mina Casimiro 2.20 34 Pn 08 34 30.5 +1.9
AC06 Mina Casimiro 2.20 34 *eP* **Pn 08 34 30.2 +1.7**
AC06 IAML 08 35 07.6
comp=E,2μm,0.5s
ACDV Cuesta del Vie 2.47 114 *eP* **Pb 08 34 36.3 -0.1**
ACCO Cerro Coronel 2.70 122 *eP* **Pb 08 34 40.0 -0.4**
CO04 Los Peladeros 2.91 167 *eP* **Pn 08 34 40.0 +1.5**
CO04 IAML 08 35 27.2
comp=N,2μm,0.4s
VCA Vinchina 3.12 82⇓*eP* **Pb 08 34 46.6 -0.9**
VCA Vinchina 3.12 82 *eP* **Pb 08 34 46.4 -1.2**
AC01 Pan de Azucar 3.20 19 Pn 08 34 42.3 -0.1
AC01 Pan de Azucar 3.20 19 *eP* **Pn 08 34 42.2 -0.1**
AC01 IAML 08 35 37.3
comp=E,1μm,0.3s
AC01 Pan de Azucar 3.20 19 *eP* **Pn 08 34 42.0 -0.4**
AC01 *e*S Sn **08 35 19.2 -1.6**
AC01 IAML 08 35 37.9
comp=Z,898nm,0.5s
AC02 Maricunga 3.29 45 Pn 08 34 46.2 +2.2
AC02 Maricunga 3.29 45 *eP* **Pn 08 34 46.0 +2.0**
AC02 Maricunga 3.29 45 *eP* **Pn 08 34 46.2 +2.2**
AC02 *e*S **Sb 08 35 28.2 -2.9**
AC02 IAML 08 35 42.3
comp=Z,1μm,0.5s
RTLS Leoncito 3.33 142 *eP* **Pb 08 34 48.7 -2.5**
VA06 Catapilco 3.37 174 Pn 08 34 45.5 +0.9
VA06 Catapilco 3.37 174 *eP* **Pn 08 34 45.5 +0.9**
RTLL Cerro Villicun 3.53 128 *eP* **Pn 08 34 50.6 +3.8**
VA03 San Esteban 3.69 164 Pn 08 34 51.4 +2.2
VA03 San Esteban 3.69 164 *eP* **Pn 08 34 51.0 +1.9**
VA03 *i* S **Sn 08 35 33.0 0.0**
VA03 San Esteban 3.69 164 *eP* **Pn 08 34 50.6 +1.4**
ROCH El Roble 3.81 171 *eP* Pb 08 34 52.0 -7.3
ROCH *eP* **Pn 08 34 51.9 +1.0**
VA01 Torpederas 3.81 179 Pn 08 34 50.9 +0.2
VA01 Torpederas 3.81 179 *eP* **Pn 08 34 50.8 +0.2**
VA01 Torpederas 3.81 179 *eP* **Pn 08 34 50.3 -0.4**
CFA Coronel Fontan 3.85 129 P **Pn 08 34 54.2 +2.9**
comp=Z,7.7nm,0.3s,baz=327,slow=8.5,SNR=153
CFA S **Sn 08 35 38.9 +2.1**
comp=Z,98nm,0.5s,baz=288,slow=19,SNR=5.7
CFA LR LR 08 36 37.3
comp=Z,191nm,20.1s,baz=292,slow=43
comp=Z,29nm,0.3s
PEL Peldehue 4.03 167 Pn 08 34 55.0 +1.2
PEL Peldehue 4.03 167 *eP* **Pn 08 34 55.2 +1.5**
PEL *i* S **Sn 08 35 41.1 -0.1**
MT02 Curacav 4.08 173 Pn 08 34 54.9 +0.5
MT02 Curacav 4.08 173 *eP* **Pn 08 34 54.1 -0.3**
MT05 Renca 4.26 169 Pn 08 34 58.2 +1.3
MT16 CCHEN 4.34 167 Pn 08 35 00.1 +2.1
MT03 Universidad Ad 4.41 167 Pn 08 35 00.9 +1.9
GO02 Mina Guanaco 4.45 26 Pn 08 35 00.6 +0.8
MT09 Talagante 4.61 172 Pn 08 35 03.1 +1.3
MT01 Popeta 4.67 175 Pn 08 35 03.0 +0.5
PB14 IPOC Station P 4.71 15 Pn 08 35 03.0 -0.3
BO04 La Punta 4.87 169 Pn 08 35 06.6 +1.3
BO01 Tunca 5.20 174 Pn 08 35 10.3 +0.5
BO02 Sierra Bellavi 5.63 172 Pn 08 35 16.4 +0.6
PB10 IPOC Station P 5.76 11 Pn **Pn 08 35 17.7 +0.2**
TCA Tanti 6.53 111⇓*eP* **Pn 08 35 29.1 +0.9**
ML02 Panimavida 6.55 178 Pn 08 35 28.4 +0.1
BI02 San Fabin de 7.45 177 Pn 08 35 41.2 +0.4
H03N1 Juan Fernandez 7.46 234 P **Pn 08 35 40.2 -0.3**
baz=111,slow=18,SNR=224
H03N1 S Sn 08 36 57.8 -7.4
baz=261,slow=76,SNR=9.8
H03N1 T T 08 43 28.4
baz=61,slow=71,SNR=824
H03N2 Juan Fernandez 7.47 234 P **Pn 08 35 40.2 -0.5**
baz=111,slow=18,SNR=143
H03N2 S Sn 08 36 57.8 -7.7
baz=261,slow=76,SNR=6.3
H03N2 T T 08 43 37.0
baz=61,slow=71,SNR=908
H03N3 Juan Fernandez 7.47 234 P **Pn 08 35 40.0 -0.7**
baz=111,slow=18,SNR=163
H03N3 S Sn 08 36 57.4 -8.3
baz=261,slow=76,SNR=5.5
H03N3 T T 08 43 37.4
baz=61,slow=71,SNR=1109
BI05 Punta Hualpn 7.62 189 Pn 08 35 41.9 -1.1
H03S3 Juan Fernandez 7.67 231 P **Pn 08 35 41.9 -1.5**
baz=193,slow=78,SNR=68
H03S3 S Sn 08 37 00.2 -10
baz=106,slow=73,SNR=12
H03S3 T T 08 43 39.4
baz=51,slow=74,SNR=11
H03S1 Juan Fernandez 7.68 231 P **Pn 08 35 41.7 -1.8**
baz=193,slow=78,SNR=59
H03S1 S Sn 08 36 59.8 -11
baz=106,slow=73,SNR=10
H03S1 T T 08 43 43.3
baz=51,slow=74,SNR=7.0
H03S2 Juan Fernandez 7.69 231 P **Pn 08 35 41.9 -1.8**
baz=193,slow=78,SNR=60
H03S2 S Sn 08 37 00.2 -11
baz=106,slow=73,SNR=11
H03S2 T T 08 43 40.1
baz=51,slow=74,SNR=7.3
PB12 IPOC Station P 10.62 7 Pn **Pn 08 36 23.3 -0.9**
LR05 Currie 11.01 181 Pn **Pn 08 36 28.6 -0.7**
PLCA Paso Flores 11.55 176 Pn **Pn 08 36 36.2 -0.7**
PLCA Paso Flores 11.55 176 P **Pn 08 36 37.0 +0.1**
comp=Z,0.3nm,0.3s,baz=344,slow=9.9,SNR=16
comp=Z,1.1nm,0.5s

TRQA Tornquist 11.99 140 Pn 08 36 43.4 +0.4
CPUP Villa Florida 13.07 81 Pn 08 36 55.4 -2.2
CPUP Villa Florida 13.07 81 P **Pn 08 36 58.1 +0.5**
comp=Z,0.1nm,0.3s,baz=101,slow=12,SNR=4.6
comp=Z,0.3nm,0.6s
LPAZ La Paz 13.27 15 Pn **Pn 08 37 01.2 +0.2**
LPAZ La Paz 13.27 15 P **Pn 08 37 04.6 +3.5**
comp=Z,0.2nm,0.3s,baz=197,slow=4.8,SNR=9.9
comp=Z,1.1nm,0.5s
PLTB Pedras Altas 15.84 104 Pn **Pn 08 37 35.1 +0.1**
SIV San Ignacio 16.41 39 P **P 08 37 44.9 -0.4**
baz=224,slow=12,SNR=13
SIV LR LR 08 45 06.6
comp=Z,116nm,21.3s,baz=117,slow=41
comp=Z,1.1nm,0.4s
ITAB Concordia 17.39 88 P **Pn 08 37 53.8 -0.9**
VAO Valinhos 23.06 80 P **P 08 38 56.9 -0.9**
VAO IAmb IAmb 08 39 04.8
comp=Z,22nm,1.3s
BDFB Brasilia 25.68 63 P **P 08 39 21.3 -1.1**
BDFB IAmb IAmb 08 39 30.6
comp=Z,12nm,1.2s
BDFB Brasilia 25.68 63 P **P 08 39 21.7 -0.7**
comp=Z,1.3nm,0.5s,baz=249,slow=9.1,SNR=4.8
comp=Z,1.3nm,0.5s
FLOC Florencia 30.84 352 P **P 08 40 06.1 -2.3**
FLOC IAmb IAmb 08 40 18.2
comp=Z,14nm,1.3s
RUSC La Rusia 34.91 358 P **P 08 40 46.2 +1.6**
RUSC IAmb IAmb 08 40 51.8
comp=Z,5.5nm,0.8s
PMSA Palmer Station 35.92 174 LR LR 08 54 13.8
comp=Z,72nm,20.8s,baz=96,slow=34
SNAA Sanae 55.94 159⇑P **P 08 43 29.6 -0.4**
comp=Z,82nm,0.4s
SNAA Sanae 55.94 159 P **P 08 43 29.4 -0.6**
SNAA IAmb IAmb 08 43 31.0
comp=Z,12nm,1.2s
SNAA Sanae 55.94 159 P **P 08 43 29.9 -0.1**
comp=Z,4.1nm,0.5s,baz=276,slow=8.3,SNR=34
comp=Z,4.1nm,0.5s
TROLL Troll, Antarti 57.65 159⇑P **P 08 43 42.3 +0.1**
comp=Z,194nm,0.7s
QSPA South Pole Qui 61.02 180 P **P 08 44 08.3 +2.7**
QSPA IAmb IAmb 08 44 41.1
comp=Z,6.2nm,1.4s
QSPA South Pole Qui 61.02 180 P **P 08 44 08.4 +2.8**
comp=Z,1.9nm,0.7s,baz=147,slow=1.6,SNR=17
HNDO Hondo 64.05 333 P **P 08 44 27.7 +1.6**
JCT Junction City 65.10 333 P **P 08 44 32.7 -0.2**
JCT IAmb IAmb 08 44 35.6
comp=Z,3.3nm,0.6s
TXAR Lajitas Array 65.71 330 P **P 08 44 39.1 +2.1**
TXAR Lajitas Array 65.71 330 P **P 08 44 38.6 +1.6**
comp=Z,0.8nm,0.6s,baz=152,slow=8.3,SNR=13
comp=Z,0.8nm,0.6s
PEBM Pemiscott Bayo 67.17 344 P **P 08 44 44.6 -1.5**
LCAR Lake Charles 67.45 343 P **P 08 44 48.8 +0.9**
LCAR IAmb IAmb 08 44 49.9
comp=Z,3.2nm,0.9s
T45A Paducah 67.76 345 P **P 08 44 48.7 -1.1**
PBMO Poplar Bluff 67.94 344 P **P 08 44 52.0 +1.1**
PBMO IAmb IAmb 08 44 52.5
comp=Z,5.0nm,0.7s
VNDA Vanda 68.85 191 P **P 08 44 55.9 -0.3**
VNDA Vanda 68.85 191 P **P 08 44 57.3 +1.1**
comp=Z,0.7nm,0.8s,baz=132,slow=3.5,SNR=5.1
comp=Z,0.7nm,0.8s
DBIC Dimbokro 73.44 72 P **P 08 45 23.8 -1.2**
DBIC Dimbokro 73.44 72 P **P 08 45 24.8 -0.2**
comp=Z,2.4nm,0.7s,baz=236,slow=3.6,SNR=4.2
DBIC LR LR 09 15 15.6
comp=Z,30nm,21.9s,baz=151,slow=34
comp=Z,2.4nm,0.7s
MAW Mawson 77.70 164 P **P 08 45 48.0 -0.5**
comp=Z,0.8nm,0.5s,baz=215,slow=7.9,SNR=8.1
comp=Z,0.8nm,0.5s
PDAR Pinedale Array 79.62 333 P **P 08 45 59.3 -0.4**
PDAR Pinedale Array 79.62 333 P **P 08 46 00.4 +0.7**
comp=Z,0.5nm,0.6s,baz=133,slow=6.8,SNR=5.9
comp=Z,0.5nm,0.6s
BOSA Boshof 82.08 118 P **P 08 46 12.4 -0.8**
BOSA IAmb IAmb 08 46 29.3
comp=Z,5.1nm,1.2s
BOSA Boshof 82.08 118 P **P 08 46 12.8 -0.4**
comp=Z,1.8nm,0.8s,baz=232,slow=6.0,SNR=3.1
comp=Z,1.8nm,0.8s
GCMT Greycliff 82.20 334 P **P 08 46 11.9 -1.4**
TORD Torodi Ar. Bea 82.34 70 P **P 08 46 13.9 -0.6**
TORD IAmb IAmb 08 46 23.8
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 82.34 70 P **P 08 46 14.3 -0.2**
comp=Z,1.8nm,0.5s,baz=253,slow=2.3,SNR=2.3
comp=Z,1.8nm,0.5s
ESDC Sonseca Array 93.06 46 LR LR 09 25 19.3
comp=Z,32nm,19.1s,baz=268,slow=33
ASAR Alice Springs 121.94 208 PKP **PKPdf 08 52 46.5 -0.8**
comp=Z,0.4nm,0.5s,baz=135,slow=2.1,SNR=6.4
WRA Warramunga Arr 125.05 210 PKP **PKPdf 08 52 52.8 -0.6**
comp=Z,1.4nm,0.6s,baz=162,slow=1.7,SNR=19
H11S2 WAKE ISLAND Hyl 25.97 272 T T 11 11 41.6
baz=114,slow=74,SNR=19
H11S1 WAKE ISLAND Hyl 25.98 272 T T 11 11 40.9
baz=114,slow=74,SNR=22
H11S3 WAKE ISLAND Hyl 25.98 272 T T 11 11 43.6
baz=114,slow=74,SNR=20
H11N3 WAKE ISLAND Hyl 26.26 274 T T 11 12 01.6
baz=112,slow=75,SNR=11
H11N1 WAKE ISLAND Hyl 26.27 274 T T 11 12 03.4
baz=112,slow=75,SNR=6.5
H11N2 WAKE ISLAND Hyl 26.28 274 T T 11 12 04.9
baz=112,slow=75,SNR=12
KURBB Kurchatov Arra 149.06 38 PKPbc **PKPbc 08 53 40.5 +0.4**
comp=Z,2.5nm,0.6s,baz=303,slow=3.1,SNR=21
AAK Ala-Archa 149.75 55 PKiKP 08 53 44.1 +0.8
AAK **PKPab 08 53 49.2 +1.5**
ZALV Zalesovo Beam 149.95 28 PKPbc 08 53 43.4 +1.1
ZALV Zalesovo Beam 149.95 28 PKP **PKPdf 08 53 37.6 +0.2**
comp=Z,0.7nm,0.4s,baz=319,slow=3.0,SNR=2.3
ZALV PKPbc **PKPbc 08 53 42.8 +0.5**
comp=Z,18nm,1.0s,baz=306,slow=3.2,SNR=19
MKAR Makanchi Array 153.21 42 PKPbc 08 53 50.7 +0.6
MKAR Makanchi Array 153.21 42 PKPbc **PKPbc 08 53 50.0 0.0**
comp=Z,1.2nm,0.7s,baz=299,slow=2.2,SNR=11

*SSNC **27** 08:54:21.1±1.4, 18°.41N×76°.83W, h5km±10km, MD2.9, ML1.5*
*JSN **27** 08:54:21.8±0.3, 18°.22N×76°.77W, h16km±4km, MD2.2*
ISC 27 08:54:19.8±1.1, 18°.3N±0°.1×76°.80W±0°.07, h28km±16km, n9, σ1§12/14, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.21**	**181**	⇑*iP*		**Pb**	**08 54 25.5**	**-0.5**
GWJ	**Greenwich**	**0.23**	**161**	⇑*iP*		**Pb**	**08 54 25.7**	**-0.6**
MTDJ	**Mount Denham**	**0.70**	**265**	*i* P		**Pn**	**08 54 35.0**	**+1.1**
MTDJ	**Mount Denham**	**0.70**	**265**	*eP*		**Pn**	**08 54 33.4**	**-0.5**
MTDJ				*e*S		**Sb**	**08 54 44.2**	**+1.3**
MTDJ				IAML			08 54 45.1	
	13nm,0.5s							
MTDJ				IAML			08 54 45.7	
	comp=Z,24nm,0.6s							
LMGC	**Las Mercedes**	**1.77**	**354**	*eP*		**Pn**	**08 54 48.2**	**-0.4**
LMGC				*e*S		**Sn**	**08 55 09.2**	**-1.1**
LMGC				IAML			08 55 11.8	
	comp=E,7.4nm,0.1s							
LMGC				IAML			08 55 13.1	
	comp=N,5.3nm,0.1s							
MARVS	**Santiago de Cu**	**1.90**	**27**	*eP*		**Pn**	**08 54 51.8**	**+1.4**
MARVS				IAML			08 55 15.8	
	comp=N,1.0nm,0.2s							
MARVS				IAML			08 55 16.6	
	comp=E,2.1nm,0.1s							
RCC	**Rio Carpintero**	**1.99**	**32**	*eP*		**Pn**	**08 54 52.7**	**+1.0**
RCC				*e*S		**Sn**	**08 55 16.0**	**+0.4**
PINC	**Pinares de May**	**2.39**	**23**	*eP*		**Pn**	**08 54 57.7**	**+0.7**
PINC				*e*S		**Sn**	**08 55 24.5**	**-0.9**
PINC				IAML			08 55 26.7	
	comp=N,2.5nm,0.3s							
PINC				IAML			08 55 27.0	
	comp=E,1.6nm,0.1s							
QMBU	**Quimbuelo**	**2.67**	**44**	*eP*		**Pn**	**08 55 01.7**	**+0.7**
QMBU				*e*S		**Sn**	**08 55 31.0**	**-1.6**
QMBU				IAML			08 55 35.8	
	comp=N,5.5nm,0.7s							
QMBU				IAML			08 55 36.2	
	comp=E,9.9nm,0.9s							

*SOME **27** 08:59:27.1, 41°.07N×78°.87E, h15km*
*NNC **27** 08:59:28.2±3.7, 41°.13N×78°.67E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=25.1km s-min=16.9km az=173.0*
*KRNET **27** 08:59:30.2±0.1, 41°.43N×78°.91E, h9km, mb2.7*
ISC 27 08:59:30.1±2.1, 41°.20N±0°.08×78°.76E±0°.05, h12km±12km, n22, σ1§47/37, 12C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.89**	**307**	⇑*iP*		**Pg**	**08 59 47.1**	**-0.3**
TARG				⇑*i*S		**Sg**	**08 59 59.9**	**+0.8**
PRZ	**Przheval'sk**	**1.31**	**348**	⇓*eP*		**Pn**	**08 59 52.0**	**-2.4**
PRZ				⇓*e*S		**Sb**	**09 00 07.8**	**-3.8**
KDJ	**Kajisay**	**1.51**	**309**	⇑*eP*		**Pb**	**08 59 58.0**	**-0.1**
KDJ				⇑*i*S		**Sn**	**09 00 18.2**	**+1.5**
SATY	**Saty**	**1.88**	**352**	Pg		**Pb**	**09 00 04.1**	**-0.3**
SATY				Lg		Lg	09 00 30.8	
UZB	**Uzynbulak**	**1.96**	**6**	*eP*		**Pb**	**09 00 04.1**	**-1.6**
	0.7nm,0.1s							
UZB				*e*S		**Sb**	**09 00 30.7**	**+0.6**
	10nm,0.3s							
SHLS	**Shalkode**	**2.02**	**15**	Pg		**Pg**	**09 00 09.0**	**+0.1**
	9.2nm,0.5s							
SHLS				Lg		Lg	09 00 39.4	
	78nm,0.5s							
SHLS	**Shalkode**	**2.02**	**15**	*eP*		**Pg**	**09 00 09.0**	**+0.1**
	1.2nm,0.1s							
SHLS				*e*S		**Sg**	**09 00 39.4**	**+4.3**
	71nm,0.3s							
ULHL	**Ulahol**	**2.16**	**300**	⇑*iP*		**Pb**	**09 00 09.8**	**+0.6**
ULHL				⇑*i*S		**Sb**	**09 00 38.5**	**+2.6**
PDGK	**Podgornoye**	**2.19**	**14**	⇑Pg		**Pb**	**09 00 09.4**	**-0.4**
	6.3nm,0.6s							
PDGK				⇓Lg		Lg	09 00 40.7	
	25nm,0.7s							
TNSS	**Tian-Shan**	**2.28**	**324**	Pg		**Pb**	**09 00 12.1**	**+0.8**
	2.9nm,0.6s							
TNSS				Lg		Lg	09 00 44.5	
	6.3nm,0.4s							
TNSS	**Tian-Shan**	**2.28**	**324**	*eP*		**Pb**	**09 00 12.1**	**+0.8**
	2.0nm,0.1s							
TNSS				*e*S		**Sg**	**09 00 44.5**	**+1.2**
	6.3nm,0.4s							
JNKS	**Jany-Kuch**	**2.35**	**268**	⇓*eP*		**Pg**	**09 00 14.4**	**-0.8**
JNKS				⇓*e*S		**Sg**	**09 00 46.0**	**+0.3**
KOTS	**Kotyrbulak**	**2.37**	**329**	*eP*		**Pb**	**09 00 12.8**	**-0.1**
	9.9nm,0.3s							
KOTS				*e*S		**Sg**	**09 00 45.6**	**-0.8**
	30nm,0.5s							
KNDC	**Almaty**	**2.42**	**327**	Pg		**Pn**	**09 00 11.1**	**+1.6**
	31nm,0.6s							
KNDC				⇑Lg		Lg	09 00 41.2	
	18nm,0.3s							
IZV	**Izvestkoviy**	**2.43**	**320**	*eP*		**Pb**	**09 00 13.9**	**+0.1**
	11nm,0.5s							
IZV				*e*S		**Sg**	**09 00 47.6**	**-0.7**
	15nm,0.3s							
BOOM	**Boomskoye usch**	**2.47**	**302**	⇑*iP*		**Pb**	**09 00 14.0**	**-0.5**
BOOM				⇑*i*S		**Sb**	**09 00 45.8**	**+0.8**
MTBS	**Maitube**	**2.59**	**319**	*eP*		**Pb**	**09 00 17.3**	**+0.8**
	1.1nm,0.1s							
MTBS				*e*S		**Sg**	**09 00 53.4**	**0.0**
	8.5nm,0.3s							
KST	**Kastek**	**2.78**	**312**	*eP*		**Pb**	**09 00 20.4**	**+0.7**
	11nm,0.4s							
KST				*e*S		**Sg**	**09 00 58.9**	**-0.5**
	16nm,0.5s							
TKM2	**Tokmak 2**	**2.92**	**307**	⇑*iP*		**Pb**	**09 00 20.0**	**-2.1**
TKM2				⇑*i*S		**Sb**	**09 00 56.2**	**-1.6**
KTBS	**Karatobe**	**2.94**	**329**	Pg		**Pb**	**09 00 23.3**	**+0.8**
	4.7nm,0.3s							
KTBS				Lg		Lg	09 01 03.4	
	18nm,0.6s							
ARXS	**Arharly**	**3.09**	**347**	*eP*		**Pb**	**09 00 25.6**	**+0.6**
ARXS				*e*S		**Sg**	**09 01 07.7**	**-1.6**
KNOS	**Konyrlen**	**3.17**	**5**	Pg		**Pb**	**09 00 26.5**	**+0.1**
	2.4nm,0.3s							
KNOS				Lg		Lg	09 01 09.6	
	16nm,0.7s							

*IDC **27** 09:05:31.1±3.0, 20°.27S×178°.61W, h569km±33km, mb3.1/7, mbtmp4.1/8, Error ellipse: s-maj=20.9km s-min=17.3km az=154.0*
ISC 27 09:05:32.3±0.8, 20°.3S±0°.2×178°.7W±0°.1, h587km, n13, σ1§14/14, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.02**	**260**	P		**P**	**09 08 30.1**	**-1.6**
	4.7nm,0.9s,baz=93,slow=19,SNR=1.4							
ASAR	**Alice Springs**	**43.97**	**257**	P		**P**	**09 12 49.4**	**+0.5**
	3.3nm,0.6s,baz=98,slow=7.7,SNR=68							
ASAR				PcP		**PcP**	**09 14 22.2**	**+0.7**
	0.3nm,0.5s,baz=91,slow=3.1,SNR=4.8							
ASAR				S		**S**	**09 18 40.9**	**+1.6**
	0.4nm,0.8s,baz=94,slow=16,SNR=4.7							
	3.3nm,0.6s							
WRA	**Warramunga Arr**	**44.03**	**262**	P		**P**	**09 12 49.4**	**0.0**
	1.8nm,0.6s,baz=98,slow=8.4,SNR=32							
	1.8nm,0.6s							
VNDA	**Vanda**	**58.05**	**185**	P		**P**	**09 14 28.7**	**-0.9**
	0.3nm,0.5s,baz=18,slow=4.7,SNR=2.2							
	0.3nm,0.5s							
QSPA	**South Pole Qui**	**69.76**	**180**	P		**P**	**09 15 45.3**	**+1.1**
	2.2nm,0.8s,baz=86,slow=1.2,SNR=17							
	2.2nm,0.8s							
PETK	**Petropavlovsk-**	**75.94**	**346**	P		**P**	**09 16 19.9**	**+0.5**
	6.0nm,1.1s,baz=159,slow=4.9,SNR=2.1							
	6.0nm,1.1s							
ILAR	**Eielson Array**	**88.27**	**13**	P		**P**	**09 17 21.6**	**+0.1**
	0.6nm,0.7s,baz=224,slow=6.5,SNR=8.7							
	0.6nm,0.7s							
PDAR	**Pinedale Array**	**89.24**	**43**	P		**P**	**09 17 26.8**	**-0.1**
	0.2nm,0.6s,baz=221,slow=4.9,SNR=2.0							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**118.54**	**320**	PKP		**PKPdf**	**09 23 14.4**	**+0.4**
	0.8nm,0.5s,baz=90,slow=1.4,SNR=2.9							
HFS	**Hagfors**	**139.25**	**351**	PKhKP		PKPpre	09 23 45.4	
	1.6nm,0.6s,baz=95,slow=3.3,SNR=1.6							
AKASG	**Malin Array Be**	**142.55**	**331**	PKP		**PKPdf**	**09 23 56.7**	**-2.3**
	2.0nm,0.4s,baz=44,slow=4.2,SNR=15							
BRTR	**Keskin Array B**	**146.26**	**312**	PKPbc		**PKPbc**	**09 24 08.8**	**+0.4**
	0.6nm,0.5s,baz=128,slow=4.2,SNR=3.9							
GERES	**GERESS Array B**	**149.85**	**344**	PKPbc		**PKPbc**	**09 24 17.4**	**+0.4**
	0.6nm,0.7s,baz=14,slow=2.8,SNR=4.3							

*CATAC **27** 09:12:10.0±1.2, 13°N±7°×9°0W±°, h21km±7km, M2.8/6, MLv2.8/6, Error ellipse: s-maj=15.4km s-min=7.3km az=23.4, confirmed*
*GCG **27** 09:12:11.1±0.7, 13°.47N×90°.37W, h36km±12km, MD3.6*
ISC 27 09:12:10.0±3.1, 13°.3N±0°.2×90°.39W±0°.09, h38km, n15, σ0§89/17, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.64**	**35**	P		**Pn**	**09 12 22.3**	**-0.3**
FAME	**Alcaldia de Sa**	**0.64**	**35**	S		**Sn**	**09 12 30.5**	**-1.0**
NUBE	**Las Nubes**	**0.83**	**46**	*eP*		**Pn**	**09 12 25.2**	**-0.1**
NUBE				*e*S		**Sn**	**09 12 36.0**	**-0.5**
NUBE	**Las Nubes**	**0.83**	**46**	P		**Pn**	**09 12 25.3**	**-0.1**
NUBE	**Las Nubes**	**0.83**	**46**	S		**Sn**	**09 12 36.4**	**-0.1**
PCGS	**San Vicente Pa**	**0.89**	**1**	*eP*		**Pn**	**09 12 28.7**	**+2.6**
LOAL	**Lomas de Alarc**	**0.90**	**41**	P		**Pn**	**09 12 25.7**	**-0.4**
LOAL	**Lomas de Alarc**	**0.90**	**41**	S		**Sn**	**09 12 38.5**	**+0.5**
CEVE	**Cerro Verde**	**0.90**	**56**	P		**Pn**	**09 12 27.0**	**+0.6**
JAYA	**Jayaque - finc**	**0.97**	**70**	*eP*		**Pn**	**09 12 27.2**	**-0.1**
JAYA				*e*S		**Sn**	**09 12 40.2**	**+0.2**
JAYA	**Jayaque - finc**	**0.97**	**70**	P		**Pn**	**09 12 27.4**	**+0.1**
UNIC	**Universidad Ca**	**1.05**	**51**	P		**Pn**	**09 12 28.7**	**+0.4**
ESSG	**Sabana Grande**	**1.14**	**338**	*eP*		**Pn**	**09 12 28.9**	**-0.6**
ESSG				*e*S		**Sn**	**09 12 42.7**	**-1.2**
JUAM	**Asuncion Mita**	**1.21**	**33**	*i*			09 14 08.6	
MTO3	**Montecristo**	**1.47**	**43**	*eP*		**Pn**	**09 12 34.4**	**+0.3**

*IDC **27** 09:25:03.5±3.2, 17°.70S×178°.19W, h432km±33km, mb3.2/10, mbtmp4.0/10, Error ellipse: s-maj=20.3km*

s-min=17.1km az=119.0

ISC 27 09:25:04.7±0.7, 17°.7S±0°.2×178°.2W±0°.2, h450km, n16, σ1§26/19, mb3.6/12, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.87**	**259**	P	**P**	**09 32 37.2**	**-0.6**
	0.3nm,0.3s,baz=96,slow=6.8,SNR=6.2						
WRA				PcP	**PcP**	**09 34 10.6**	**+0.2**
	0.3nm,0.5s,baz=100,slow=3.1,SNR=1.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.04**	**254**	P	**P**	**09 32 39.4**	**+0.2**
	2.4nm,0.6s,baz=90,slow=8.1,SNR=72						
ASAR				PcP	**PcP**	**09 34 11.3**	**+0.3**
	0.7nm,0.5s,baz=99,slow=4.1,SNR=10						
ASAR				ScP	**ScP**	**09 37 22.4**	**+2.3**
	0.1nm,0.6s,baz=102,slow=4.0,SNR=4.4						
	2.4nm,0.6s						
VNDA	**Vanda**	**60.66**	**185**	P	**P**	**09 34 29.9**	**-0.4**
	0.6nm,0.5s,baz=5.1,slow=6.9,SNR=3.3						
	0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**09 35 18.2**	**+1.1**
	1.4nm,0.7s,baz=150,slow=6.6,SNR=8.7						
	1.4nm,0.7s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**09 35 45.4**	**+1.9**
	4.0nm,0.6s,baz=28,slow=3.5,SNR=40						
	4.0nm,0.6s						
NVAR	**Mina Array Bea**	**79.14**	**44**	P	**P**	**09 36 22.4**	**+0.4**
	0.7nm,0.6s,baz=240,slow=4.2,SNR=5.0						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.65**	**13**	P	**P**	**09 36 53.4**	**-0.8**
	0.2nm,0.6s,baz=234,slow=5.9,SNR=2.9						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**85.72**	**58**	P	**P**	**09 36 56.4**	**+0.9**
	0.7nm,0.7s,baz=219,slow=6.3,SNR=10						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.07**	**43**	P	**P**	**09 37 01.8**	**0.0**
	0.2nm,0.5s,baz=243,slow=4.2,SNR=2.6						
	0.2nm,0.5s						
TROLL	**Troll, Antarti**	**90.50**	**180**	⇑P	**P**	**09 37 16.0**	**-1.3**
	comp=Z,189nm,0.6s						
SNAA	**Sanae**	**90.79**	**179**	⇑P	**P**	**09 37 17.1**	**-1.3**
	comp=Z,40nm,0.6s						
SNAA	**Sanae**	**90.79**	**179**	P	**P**	**09 37 17.2**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=204,slow=9.6,SNR=11						
	comp=Z,1.6nm,0.6s						
VNA3	**Neumayer Olymp**	**90.92**	**176**	⇑P	**P**	**09 37 17.9**	**-1.1**
	comp=Z,5.7nm,0.5s						
VNA2	**Neumayer--Watz**	**91.36**	**177**	⇑P	**P**	**09 37 19.9**	**-1.1**
	comp=Z,5.4nm,0.6s,baz=185,slow=4.9						
BRTR	**Keskin Array B**	**144.79**	**315**	PKP	**PKPab**	**09 43 49.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=35,slow=5.3,SNR=2.3						
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	**PKiKP**	**09 43 56.8**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=22,slow=4.8,SNR=3.8						

*SOME **27** 09:40:50.4, 41°.12N×78°.77E, h10km*
*KRNET **27** 09:40:51.0±0.1, 41°.20N×78°.81E, h14km, mb3.3*
*NNC **27** 09:40:52.0±0.9, 41°.19N×78°.78E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=5.9km s-min=3.6km az=164.0

ISC 27 09:40:52.4±1.5, 41°.15N±0°.07×78°.73E±0°.04, h10km, n49, σ1§69/73, 19C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.90**	**310**	⇑*i*P	**Pg**	**09 41 08.9**	**-0.9**
TARG				⇑*i*S	**Sg**	**09 41 21.9**	**+0.4**
PRZ	**Przheval'sk**	**1.35**	**350**	⇑*e*P	**Pn**	**09 41 16.3**	**-1.2**
PRZ				⇑*e*S	**Sn**	**09 41 35.1**	**-0.5**
KDJ	**Kajisay**	**1.51**	**311**	⇑*i*P	**Pb**	**09 41 19.7**	**-1.0**
KDJ				⇑*i*S	**Sb**	**09 41 40.6**	**+0.6**
SATY	**Saty**	**1.92**	**353**	Pg	**Pb**	**09 41 27.0**	**-0.5**
	35nm,0.5s						
SATY				Lg	Lg	09 41 53.5	
	66nm,0.3s						
UZB	**Uzynbulak**	**2.00**	**6**	Pg	**Pb**	**09 41 27.4**	**-1.6**
	27nm,0.3s						
UZB				Lg	Lg	09 41 54.0	
	33nm,0.5s						
UZB	**Uzynbulak**	**2.00**	**6**	*e*P	**Pb**	**09 41 27.4**	**-1.6**
	27nm,0.3s						
UZB				*e*S	**Sb**	**09 41 54.0**	**0.0**
	60nm,0.5s						
SHLS	**Shalkode**	**2.08**	**15**	Pg	**Pg**	**09 41 31.8**	**-0.3**
	58nm,0.4s						
SHLS				Lg	Lg	09 42 01.7	
	237nm,0.4s						
SHLS	**Shalkode**	**2.08**	**15**	*e*P	**Pg**	**09 41 31.8**	**-0.3**
	21nm,0.2s						
SHLS				*e*S	**Sg**	**09 42 01.7**	**+2.6**
	382nm,0.4s						
ULHL	**Ulahol**	**2.16**	**301**	⇓*i*P	**Pb**	**09 41 31.4**	**-0.2**
ULHL				⇓*i*S	**Sb**	**09 42 00.2**	**+1.7**
PDGK	**Podgornoye**	**2.25**	**14**	⇑Pg	**Pb**	**09 41 31.4**	**-1.7**
	27nm,0.6s						
PDGK				⇓Lg	Lg	09 42 02.8	
	52nm,0.5s						
TNSS	**Tian-Shan**	**2.30**	**325**	Pg	**Pb**	**09 41 34.5**	**+0.3**
	15nm,0.3s						
TNSS				Lg	Lg	09 42 06.4	
	25nm,0.8s						
TNSS	**Tian-Shan**	**2.30**	**325**	*e*P	**Pb**	**09 41 34.5**	**+0.3**
	7.2nm,0.3s						
TNSS				*e*S	**Sg**	**09 42 06.4**	**+0.1**
	24nm,0.4s						
KPKS	**Kokpek**	**2.31**	**359**	Pg	**Pb**	**09 41 33.4**	**-0.7**
	0.4nm,0.3s						
KPKS				Lg	Lg	09 42 04.6	
	42nm,0.3s						
JNKS	**Jany-Kuch**	**2.32**	**269**	⇓*i*P	**Pb**	**09 41 33.9**	**-0.6**
JNKS				⇓*i*S	**Sb**	**09 42 04.9**	**+1.6**
MDOK	**Medeo**	**2.36**	**329**	Pg	**Pb**	**09 41 35.2**	**+0.1**
	34nm,0.4s						
MDOK				Lg	Lg	09 42 07.5	
	72nm,0.6s						
KURS	**Kuram**	**2.37**	**350**	Pg	**Pb**	**09 41 34.8**	**-0.4**
	32nm,0.8s						
KURS				Lg	Lg	09 42 07.0	
	38nm,0.4s						
KOTS	**Kotyrbulak**	**2.40**	**331**	Pg	**Pb**	**09 41 35.9**	**+0.2**
	57nm,0.5s						
KOTS				Lg	Lg	09 42 08.7	
	81nm,0.4s						
KOTS	**Kotyrbulak**	**2.40**	**331**	*e*P	**Pb**	**09 41 35.9**	**+0.2**
	57nm,0.5s						
KOTS				*e*S	**Sg**	**09 42 08.7**	**-0.7**
	81nm,0.4s						
KNDC	**Almaty**	**2.44**	**328**	⇑Pg	**Pb**	**09 41 36.8**	**+0.4**
	90nm,0.6s						
KNDC				⇑Lg	Lg	09 42 10.3	
	118nm,0.6s						
IZV	**Izvestkoviy**	**2.45**	**321**	Pg	**Pb**	**09 41 37.3**	**+0.6**
	58nm,0.3s						
IZV				Lg	Lg	09 42 11.4	
	63nm,0.5s						
IZV	**Izvestkoviy**	**2.45**	**321**	*e*P	**Pb**	**09 41 37.3**	**+0.6**
	58nm,0.3s						
IZV				*e*S	**Sg**	**09 42 11.4**	**+0.3**
	63nm,0.5s						
AAA	**Alma-Ata**	**2.46**	**327**	Pg	**Pg**	**09 41 37.7**	**-1.7**
	49nm,0.1s						
AAA				Lg	Lg	09 42 11.7	
	11nm,0.3s						
AAA	**Alma-Ata**	**2.46**	**327**	*e*P	**Pg**	**09 41 37.7**	**-1.7**
	49nm,0.1s						
AAA				*e*S	**Sg**	**09 42 11.7**	**+0.5**
	11nm,0.3s						
BOOM	**Boomskoye usch**	**2.47**	**304**	⇑*i*P	**Pb**	**09 41 35.1**	**-1.9**
BOOM				⇑*i*S	**Sb**	**09 42 07.2**	**-0.4**
KTMS	**Ketmen**	**2.59**	**27**	Pg	**Pb**	**09 41 38.7**	**-0.2**
	16nm,0.5s						
KTMS				Lg	Lg	09 42 13.3	
	70nm,0.5s						
KTMS	**Ketmen**	**2.59**	**27**	*e*P	**Pb**	**09 41 38.7**	**-0.2**
	16nm,0.5s						
KTMS				*e*S	**Sg**	**09 42 13.3**	**-2.2**
	70nm,0.5s						
MTBS	**Maitube**	**2.61**	**320**	Pg	**Pb**	**09 41 40.2**	**+0.9**
	43nm,0.4s						
MTBS				Lg	Lg	09 42 15.7	
	47nm,0.4s						
MTBS	**Maitube**	**2.61**	**320**	*e*P	**Pb**	**09 41 40.2**	**+0.9**
	43nm,0.4s						
MTBS				*e*S	**Sg**	**09 42 15.7**	**-0.5**
	47nm,0.4s						
KST	**Kastek**	**2.79**	**313**	Pg	**Pb**	**09 41 42.8**	**+0.4**
	38nm,0.5s						
KST				Lg	Lg	09 42 20.4	
	39nm,0.4s						
KST	**Kastek**	**2.79**	**313**	*e*P	**Pb**	**09 41 42.8**	**+0.4**
	38nm,0.5s						
KST				*e*S	**Sg**	**09 42 20.4**	**-1.6**
	39nm,0.4s						
TKM2	**Tokmak 2**	**2.92**	**308**	⇑*i*P	**Pb**	**09 41 41.4**	**-3.3**
TKM2				⇑*i*S	**Sb**	**09 42 17.7**	**-2.9**
BLB	**Baldybastay**	**2.95**	**357**	Pg	**Pb**	**09 41 44.7**	**-0.4**
	31nm,0.2s						
BLB				Lg	Lg	09 42 23.6	
	81nm,0.5s						
KTBS	**Karatobe**	**2.97**	**330**	Pg	**Pb**	**09 41 45.6**	**+0.2**
	19nm,0.4s						
KTBS				Lg	Lg	09 42 25.0	
	40nm,0.3s						
CHKK	**Chushkaly**	**2.99**	**335**	Pg	**Pb**	**09 41 45.5**	**-0.2**
	6.6nm,0.1s						
CHKK				Lg	Lg	09 42 25.0	
	54nm,0.7s						
CHKK	**Chushkaly**	**2.99**	**335**	*e*P	**Pb**	**09 41 45.5**	**-0.2**
	6.6nm,0.1s						
CHKK				*e*S	**Sb**	**09 42 25.0**	**+2.8**
	54nm,0.7s						
DGS	**Degeres**	**3.03**	**315**	Pg	**Pb**	**09 41 47.0**	**+0.6**
	29nm,0.4s						
DGS				Lg	Lg	09 42 27.6	
	24nm,0.5s						
ARXS	**Arharly**	**3.13**	**348**	Pg	**Pb**	**09 41 48.0**	**-0.1**
	20nm,0.4s						
ARXS				Lg	Lg	09 42 29.4	
	45nm,0.4s						
ARXS	**Arharly**	**3.13**	**348**	*e*P	**Pb**	**09 41 48.0**	**-0.1**
ARXS				*e*S	**Sg**	**09 42 29.4**	**-3.4**
KUU	**Kurty**	**3.26**	**328**	Pg	**Pb**	**09 41 50.0**	**-0.2**
	3.1nm,0.1s						
KUU				Lg	Lg	09 42 32.0	
	23nm,0.4s						
KUU	**Kurty**	**3.26**	**328**	*e*P	**Pb**	**09 41 50.0**	**-0.2**
	2.0nm,0.0s						
KUU				*e*S	**Sb**	**09 42 32.7**	**+2.8**
	6.8nm,0.1s						
UCH	**Uchtor**	**3.33**	**290**	⇑*e*P	**Pb**	**09 41 48.1**	**-3.7**
UCH				⇑*i*S	**Sb**	**09 42 29.6**	**-3.0**
KRBS	**Karabastau**	**3.40**	**319**	Pg	**Pb**	**09 41 52.8**	**+0.1**
	7.1nm,0.4s						
KRBS				Lg	Lg	09 42 38.2	
	11nm,0.7s						
FRU1	**Bishkek**	**3.47**	**300**	⇓*e*P	**Pn**	**09 41 49.2**	**+2.7**
FRU1				⇓*e*S	**Sn**	**09 42 31.5**	**+3.8**
AAK	**Ala-Archa**	**3.49**	**297**	⇑Pg	**Pb**	**09 41 55.6**	**+1.3**
	6.4nm,1.0s						
AAK				⇓Lg	Lg	09 42 43.0	
	12nm,0.8s						
KAPS	**Kapalarasan**	**4.15**	**6**	Pg	**Pb**	**09 42 06.5**	**+0.9**
	5.2nm,0.3s						
KAPS				Lg	Lg	09 43 00.8	
	31nm,0.5s						
MRKS	**Merke**	**4.40**	**293**	Pg	**Pb**	**09 42 12.2**	**+2.5**
	2.0nm,0.3s						
MRKS				Lg	Lg	09 43 10.3	
	7.5nm,0.5s						
MRKS	**Merke**	**4.40**	**293**	*e*P	**Pb**	**09 42 12.1**	**+2.3**
	0.3nm,0.1s						
MRKS				*e*S	**Sg**	**09 43 10.5**	**-3.1**
	7.5nm,0.5s						
MK31	**Makanchi Array**	**6.20**	**23**	⇑Pn	**Pn**	**09 42 25.3**	**+1.4**
	0.4nm,0.3s,baz=202,slow=12,SNR=5.8						
MK31				⇓Pg	**Pg**	**09 42 46.7**	**-4.3**
	0.5nm,0.3s						
MK31				⇑Sn	**Sn**	**09 43 37.7**	**+3.0**
	1.0nm,0.5s						
MK31				⇓Lg	Lg	09 44 06.3	
	1.3nm,0.5s						
KK31	**Karatay Array**	**6.41**	**290**	⇑Pg	**Pg**	**09 42 52.2**	**-2.9**
	1.2nm,0.7s						
KK31				⇓Lg	Lg	09 44 16.4	
	5.2nm,1.0s						

*SLM **27** 09:41:17.5±1.6, 38°.30N±0°.02×88°.70W±0°.02, h27km±4km,*
Error ellipse: s-maj=2.8km s-min=2.7km az=63.0

NEIC 27 09:41:17.5±1.2, 38°.304N±0°.010×88°.70W±0°.02, h18km±7km, mb_Lg2.4/19, ML2.9/16, Md2.5/12(SLM), Error ellipse: s-maj=2.2km s-min=1.4km az=108.0, Southern Illinois

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLIL	**Olney**	**0.64**	**48**		Pg	09 41 29.4	-0.8
OLIL					Sg	09 41 38.5	-0.2
OLIL				IAML		09 41 38.7	
	comp=E,384nm,0.4s						
OLIL				IAML		09 41 38.8	
	comp=N,448nm,0.3s						
Q44A	**Meyer Farm, Va**	**0.65**	**338**		Pg	09 41 29.6	-0.7
Q44A					Sg	09 41 38.8	-0.2
SIUC	**Southern Illin**	**0.71**	**215**		Pb	09 41 30.8	-0.7
SIUC	**Southern Illin**	**0.71**	**215**	Sg	Sb	09 41 40.9	-0.1
SIUC				IAML		09 41 41.2	
	comp=N,707nm,0.2s						
SIUC	**Southern Illin**	**0.71**	**215**	Pg	Pb	09 41 30.5	-1.0
S44A	**Carbondale**	**0.75**	**216**		Pb	09 41 31.1	-0.9
S44A	**Carbondale**	**0.75**	**216**	Sg	Sb	09 41 41.4	-0.6
USIN	**University of**	**0.89**	**112**	Pg	Pb	09 41 32.7	-1.7
USIN				Sg	Sb	09 41 45.1	-0.8
USIN				IAML		09 41 47.1	
	comp=N,294nm,0.2s						
USIN				IAML		09 41 47.2	
	comp=E,390nm,0.1s						
MOKY	**Morganfield**	**0.91**	**136**		Pb	09 41 33.7	-1.2
BVIL	**Belleville**	**0.98**	**283**		Pb	09 41 35.0	-1.0
LOKY	**Lockhart**	**1.11**	**163**		Pn	09 41 36.9	-1.4
SLM	**Saint Louis**	**1.25**	**286**		Pn	09 41 39.2	-0.9
SLM	**Saint Louis**	**1.25**	**286**		Sb	09 41 56.0	-0.3
CGM3	**Cape Girardeau**	**1.26**	**217**		Pn	09 41 39.6	-0.6
CGM3					Sb	09 41 56.1	-0.5
CGM3	**Cape Girardeau**	**1.26**	**217**	IAML		09 41 57.1	
	comp=E,211nm,0.2s						
CGM3				IAML		09 41 58.2	
	comp=N,218nm,0.2s						
T45A	**Paducah**	**1.28**	**178**		Pn	09 41 40.0	-0.6
T45A				IAML		09 42 00.3	
	comp=N,223nm,0.3s						
T45A	**Paducah**	**1.28**	**178**		Sb	09 41 57.1	-0.2
FVM	**French Village**	**1.40**	**257**		Pn	09 41 41.5	-0.6
FVM	**French Village**	**1.40**	**257**		Sn	09 41 59.9	-0.2
SMKY	**Sacramento**	**1.43**	**127**		Pn	09 41 42.2	-0.5
JCMO	**Jefferson Coll**	**1.46**	**269**		Pn	09 41 42.4	-0.7
LLKY	**Land-Between-t**	**1.46**	**161**		Pn	09 41 42.4	-0.7
P43A	**Skaggs, Pawnee**	**1.48**	**335**		Pn	09 41 43.0	-0.3
P43A				IAmb_Lg		09 42 06.4	
	comp=Z,16nm,0.8s						
CHRM	**Charleston**	**1.54**	**200**		Pn	09 41 44.2	0.0
DWDM	**Dogwood**	**1.63**	**203**		Pn	09 41 45.8	+0.4
FMKY	**Fulgham**	**1.65**	**186**		Pn	09 41 45.5	-0.1
EPRM	**East Prairie**	**1.67**	**198**		Pn	09 41 45.9	+0.1
GUAMO	**Guam**	**1.68**	**213**		Pn	09 41 46.0	0.0
MATM	**Matthews**	**1.69**	**205**		Pn	09 41 46.6	+0.5
KEWM	**Kewanee**	**1.75**	**204**		Pn	09 41 47.8	+0.7
P46A	**Rosedale**	**1.76**	**41**	Pn	Pn	09 41 47.2	+0.1
P46A				IAmb_Lg		09 42 13.5	
	comp=Z,15nm,0.7s						
SJMO	**Saint John's B**	**1.78**	**200**		Pn	09 41 47.8	+0.4
COKM	**Charter Oak**	**1.79**	**207**		Pn	09 41 47.9	+0.4
HICK	**Hickman**	**1.81**	**194**		Pn	09 41 48.2	+0.3
T47A	**Sharon Grove**	**1.83**	**136**		Pn	09 41 47.6	-0.5
PARMO	**Parma**	**1.84**	**207**		Pn	09 41 48.8	+0.5
CATM	**Catron**	**1.85**	**204**		Pn	09 41 48.8	+0.4
WCI	**Wyandotte Cave**	**1.90**	**92**		Pn	09 41 49.3	+0.2
BLO	**Bloomington**	**1.91**	**62**		Pn	09 41 49.6	+0.3
BLO				IAmb_Lg		09 42 20.0	
	comp=Z,14nm,0.8s						
UTMT	**University of**	**1.96**	**184**	IAmb_Lg		09 42 22.5	
	comp=Z,23nm,0.8s						
CCM	**Cathedral Cave**	**2.02**	**264**	Pn	Pn	09 41 50.9	+0.2
CCM					Pb	09 41 51.4	-2.3
PPLM	**Point Pleasant**	**2.02**	**201**		Pn	09 41 51.8	+1.1
PBMO	**Poplar Bluff**	**2.05**	**223**		Pn	09 41 51.0	-0.1
GLAT	**Glass**	**2.08**	**193**	Pn	Pn	09 41 51.6	0.0
WVT	**Waverly**	**2.28**	**162**	Pn	Pn	09 41 53.9	-0.5
HDIL	**Hopedale**	**2.29**	**349**	Pn	Pn	09 41 54.8	+0.3
PEBM	**Pemiscott Bayo**	**2.38**	**203**	IAmb_Lg		09 42 38.9	
	comp=Z,27nm,0.8s						
GNAR	**Gosnell**	**2.56**	**205**	Pn	Pn	09 41 57.9	-0.3
GNAR				IAmb_Lg		09 42 42.2	
	comp=Z,17nm,0.7s						
R49A	**Shelbyville**	**2.78**	**89**		Pn	09 42 00.8	-0.4
R40A	**Maddies Statio**	**2.81**	**271**		Pn	09 42 00.8	-0.8
P48A	**Milroy**	**2.81**	**65**		Pn	09 42 00.8	-0.8
P48A				IAmb_Lg		09 42 50.0	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**2.88**	**296**	Pn	Pn	09 42 02.9	+0.3
P40A				IAmb_Lg		09 42 48.4	
	comp=Z,19nm,0.8s						
CLTN	**Cedars of Leba**	**2.91**	**139**	IAmb_Lg		09 42 56.8	
	comp=Z,6.8nm,1.3s						
U49A	**Red Boiling Sp**	**2.94**	**127**		Pn	09 42 04.0	+0.7
V48A	**Smith Brothers**	**2.97**	**149**	Pn	Pn	09 42 03.5	-0.3
V48A				IAmb_Lg		09 42 52.2	
	comp=Z,6.5nm,0.8s						
PLAL	**Pickwick Lake**	**3.35**	**171**	Pn	Pn	09 42 08.1	-1.0
WHAR	**Wooly Hollow**	**4.16**	**225**	Pn	Pn	09 42 20.1	-0.1
N38A	**Joes South For**	**4.29**	**307**	IAmb_Lg		09 43 35.2	
	comp=Z,15nm,0.8s						
SSFO	**Shawnee State**	**4.34**	**83**	Pn	Pn	09 42 22.0	-0.6
TKL	**Tuckaleechee C**	**4.75**	**122**	Pn	Pn	09 42 27.6	-0.6
S54A	**Dingess, Beckl**	**5.86**	**93**	Pn	Pn	09 42 43.1	-0.4

*SNET **27** 09:46:58.6±0.6, 13°.38N×90°.44W, h32km, ML2.8*
*GCG **27** 09:46:59.3±0.8, 13°.52N×90°.44W, h31km±6km, MD3.7*

ISC 27 09:47:00.9±2.3, 13°.47N±0°.09×90°.39W±0°.10, h38km, n9, σ1§44/12, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.14**	**308**	*e*P	**Pn**	**09 47 11.5**	**0.0**
NUBE	**Las Nubes**	**0.73**	**54**	*e*P	**Pn**	**09 47 13.8**	**-1.0**
NUBE	**Las Nubes**	**0.73**	**54**	*i*P	**Pn**	**09 47 13.9**	**-1.0**
NUBE				*i*S	**Sn**	**09 47 25.4**	**+0.6**
FG8	**Yepocapa, Chim**	**0.80**	**348**	*e*P	**Pn**	**09 47 18.5**	**+2.7**
JAYA	**Jayaque - finc**	**0.93**	**79**	*e*P	**Pn**	**09 47 16.8**	**-0.9**
JAYA				*e*S	**Sn**	**09 47 30.3**	**+0.5**
JAYA	**Jayaque - finc**	**0.93**	**79**	*i*P	**Pn**	**09 47 16.7**	**-0.9**
JAYA				*e*S	**Sn**	**09 47 30.0**	**+0.2**
ESSG	**Sabana Grande**	**1.00**	**335**	*e*P	**Pn**	**09 47 16.3**	**-2.3**
LOMA	**Loma Larga**	**1.19**	**82**	*e*S	**Sn**	**09 47 37.6**	**+1.4**
LOMA				*e*S		09 47 38.8	
MTO3	**Montecristo**	**1.35**	**47**	*e*P	**Pn**	**09 47 23.1**	**-0.5**

SJA 27 09:49:16.9±1.2, 27°.41S×63°.22W, h37km±57km, ML3.5, MW3.2, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AANI	**Anillaco**	**3.57**	**246**	*e*P	Pn	09 50 12.7	+2.7
AANI				*e*S	Sn	09 50 54.6	+3.6
AANI				IAML		09 50 57.4	
	comp=Z,222nm,0.3s						
ACLC	**CERRO LA CRUZ**	**3.86**	**238**	*e*P	Pn	09 50 17.7	+3.8
ACLC				*e*S	Sn	09 51 00.7	+2.7
ACLC				IAML		09 51 13.9	
	comp=Z,29nm,0.3s						
VCA	**Vinchina**	**4.60**	**252**	*e*P	Pn	09 50 26.3	+2.2
VCA				*e*S	Sn	09 51 20.2	+3.9
VCA				IAML		09 51 28.3	
	comp=Z,59nm,0.3s						
AVFE	**Valle Fertil**	**4.93**	**228**	*e*P	Pn	09 50 32.2	+3.7
AVFE				*e*S	Sn	09 51 27.4	+3.1
AVFE				IAML		09 51 54.4	
	comp=Z,14nm,0.3s						
AGUA	**GUANDACOL**	**5.09**	**245**	*e*P	Pn	09 50 34.3	+3.7
AGUA				*e*S	Sn	09 51 31.0	+2.8
AGUA				IAML		09 51 45.3	
	comp=Z,27nm,0.4s						

*NOU **27** 09:54:42.1, 22°.56S×171°.83E, h0km, MLv4.2/5, Southeast of Loyalty Islands*
*IDC **27** 09:54:54.5±0.9, 22°.68S×170°.73E, h0km, mb4.0/7, mbtmp3.9/8, ML3.7/1, MS3.5/3, Error ellipse: s-maj=33.1km s-min=26.0km az=174.0*
*NEIC **27** 09:54:56.2±1.8, 22°.77S±0°.04×170°.68E±0°.08, h10km±1km, mb4.4/11, Error ellipse: s-maj=13.2km s-min=7.0km az=70.0*

ISC 27 09:54:59.4±0.6, 22°.7S±0°.1×170°.67E±0°.08, h33km, n48, σ1§00/46, mb4.3/14, 4C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.72**	**296**	Pn	**Pn**	**09 55 40.5**	**-0.3**
MARNC	**Mare, Loyalty**	**2.72**	**296**	P	**Pn**	**09 55 40.4**	**-0.5**
PINNC	**Pines Island,**	**2.98**	**271**		**Pn**	**09 55 44.9**	**+0.5**
PINNC	**Pines Island,**	**2.98**	**271**	P	**Pn**	**09 55 45.1**	**+0.7**
OUENC	**Ouen Island, N**	**3.55**	**274**	P	**Pn**	**09 55 52.9**	**+0.7**
YATNC	**Mamie plateau,**	**3.55**	**279**	P	**Pn**	**09 55 52.4**	**+0.1**
ONTNC	**Ouen Toro**	**3.92**	**275**	Pn	**Pn**	**09 55 56.2**	**-1.0**
ONTNC	**Ouen Toro**	**3.92**	**275**	P	**Pn**	**09 55 59.0**	**+1.7**
DZM	**Mont Dzumac**	**3.96**	**278**	Pn	**Pn**	**09 55 57.9**	**-0.1**
	5.4nm,0.3s,baz=107,slow=7.2,SNR=280						
DZM				Sn	**Sn**	**09 56 42.4**	**-0.9**
	5.3nm,0.3s,baz=183,slow=22,SNR=3.7						
	15nm,0.4s						
MSVF	**Nonsavu**	**8.50**	**56**	Pn	**Pn**	**09 57 00.1**	**-0.3**
URZ	**Urewera**	**16.48**	**162**	LR	LR	10 03 58.5	
	comp=Z,94nm,18.1s,baz=322,slow=33						
STKA	**Stephens Creek**	**27.35**	**244**	LR	LR	10 10 25.5	
	comp=Z,115nm,21.4s,baz=223,slow=34						
WR8	**Warramunga Arr**	**33.75**	**268**	P	**P**	**10 01 36.5**	**-1.8**
WR8				IAmb	IAmb	10 01 54.2	
	comp=Z,6.4nm,1.4s						
AS31	**Alice Springs**	**33.75**	**261**	P	**P**	**10 01 36.9**	**-1.4**
ASAR	**Alice Springs**	**33.76**	**261**	P	**P**	**10 01 38.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=96,slow=9.4,SNR=18						
	comp=Z,1.9nm,0.9s						
WRA	**Warramunga Arr**	**33.90**	**268**	P	**

CONA	Conrad Observa	147.76 328	*e*PKP	PKPab	10 14 43.5	+0.2
	comp=Z,0.1nm,0.2s					
GERES	GERESS Array B	148.14 331	PKPbc	PKPbc	10 14 41.6	-0.2
	comp=Z,1.7nm,0.8s,baz=28,slow=6.0,SNR=8.7					
MOA	Molln	148.59 329	*e*PKP	PKiKP	10 14 45.1	+0.7
	comp=Z,0.4nm,0.4s					
KBA	Koelnbreinsper	149.58 329	*e*PKP	PKiKP	10 14 47.0	+0.3
	comp=Z,1.0nm,0.4s					
LESA	Schwarzleotal	149.65 330	*e*PKP	PKiKP	10 14 47.3	+0.5
	comp=Z,2.0nm,0.4s					
MYKA	Terra Mystica	149.75 328	*e*PKP	PKiKP	10 14 47.5	+0.6
	comp=Z,0.9nm,0.4s					
ABTA	Abfaltersbach	150.21 329	*e*PKP	PKiKP	10 14 48.5	+0.6
	comp=Z,0.8nm,0.3s					
MOTA	Moosalm	150.42 331	*e*PKP	PKiKP	10 14 48.8	+0.4
	comp=Z,2.6nm,0.7s					
SQTA	Sankt Quirin	150.47 331	*e*PKP	PKiKP	10 14 48.9	+0.4
	comp=Z,3.1nm,0.5s					
FETA	Feichten	150.83 331	*e*PKP	PKiKP	10 14 49.5	+0.2
	comp=Z,0.7nm,0.4s					

*IDC **27** 10:01:00.9±2.5, 23°.71S×179°.90E, h502km±23km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=22.2km az=178.0*

ISC 27 10:01:03.0±1.1, 24°.2S±0°.1×179°.9E±0°.2, h526km, n8, σ2§22/11, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.56	277	P	P	10 03 46.9	-0.6
	4.9nm,0.9s,baz=106,slow=3.9,SNR=1.5						
URZ	Urewera	14.25	189	P	P	10 04 03.9	-0.9
	1.9nm,0.3s,baz=315,slow=6.6,SNR=6.0						
URZ				S	S	10 06 33.1	-1.6
	3.8nm,0.6s,baz=71,slow=23,SNR=8.6						
STKA	Stephens Creek	34.54	248	P	P	10 07 08.3	+0.9
	1.4nm,0.5s,baz=92,slow=9.7,SNR=4.5						
	1.4nm,0.5s						
ASAR	Alice Springs	41.90	261	P	P	10 08 07.4	-0.2
	1.9nm,0.5s,baz=95,slow=7.0,SNR=76						
ASAR				ScP	ScP	10 12 54.4	+3.1
	0.7nm,0.8s,baz=93,slow=3.4,SNR=8.6						
	1.9nm,0.5s						
WRA	Warramunga Arr	42.30	266	P	P	10 08 10.1	-0.6
	4.8nm,0.6s,baz=104,slow=8.2,SNR=51						
WRA				ScP	ScP	10 12 55.2	+2.3
	0.1nm,0.3s,baz=103,slow=3.8,SNR=4.6						
	4.8nm,0.6s						
QSPA	South Pole Qui	65.92	180	P	P	10 10 59.2	+2.7
	0.8nm,0.7s,baz=46,slow=8.1,SNR=7.1						
	0.8nm,0.7s						
TXAR	Lajitas Array	90.65	58	P	P	10 13 09.4	-0.3
	0.6nm,0.7s,baz=212,slow=6.3,SNR=10						
	0.6nm,0.7s						
HFS	Hagfors	142.79	349	PKP	PKPdf	10 19 32.4	-3.5
	1.3nm,0.4s,baz=11,slow=1.5,SNR=10						

*IDC **27** 10:09:20.3±1.0, 79°.25N×2°.57E, h0km, mb3.7/4, mbtmp3.8/10, ML3.1/4, MS3.1/13, Error ellipse: s-maj=31.9km s-min=14.4km az=21.0*
*DNK **27** 10:09:20.2±1.1, 79°.24N×3°.64E, h13km±8km, ML2.3*
*FCIAR **27** 10:09:21.0, 79°.22N×3°.69E, h10km, station ZFI2 has station magnitude of 3.60 station OMEGA has station magnitude of 3.50*
*NEIC **27** 10:09:21.1±1.6, 79°.2N±0°.1×3°.3E±0°.4, h10km±2km, mb4.1/5, Error ellipse: s-maj=19.8km s-min=12.5km az=6.0*
*BER **27** 10:09:22.1±2.8, 79°.29N×3°.33E, h10km, Mw4.2, ML2.5(DNK), Confirmed Earthquake*
*KOLA **27** 10:09:24.2, 79°.00N×4°.30E, h0km, ML2.8, Error ellipse: s-maj=31.7km s-min=20.9km az=170.0, Greenland sea, Knipovich ridge, north*

ISC 27 10:09:20.1±0.6, 79°.23N±0°.05×3°.15E±0°.04, h10km, n58, σ2§49/71, mb3.7/5, MS3.5/10, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.70	96		Pn	10 09 50.0	+0.2
KBS	Kingsbay	1.70	96	P	Pb	10 09 50.9	-0.5
KBS				S	Sn	10 10 08.4	-3.1
KBS	Kingsbay	1.70	96	⇑*i*P	Pn	10 09 50.0	+0.2
KBS				*e*S	Sn	10 10 08.7	-2.8
KBS				IAML		10 10 09.5	
	comp=Z,212nm,0.6s						
KBS	Kingsbay	1.70	96	*i*P	Pn	10 09 48.4	-1.4
KBS				*i*S	Sn	10 10 09.0	-2.6
BRBB	Barentsburg B	2.46	112	P	Pn	10 10 00.3	+0.1
BRBB				S	Sn	10 10 28.0	-2.2
BRBB	Barentsburg B	2.46	112	*e*P	Pn	10 10 00.7	+0.5
BRBB				*e*S	Sn	10 10 28.2	-2.0
BRBA	Barentsburg A	2.48	113	*e*P	Pn	10 10 02.3	+1.8
BRBA				*e*S	Sn	10 10 28.3	-2.4
SPA0	Spitsbergen Ar	2.81	105	*e*P	Pn	10 10 06.3	+1.4
SPA0				*e*S	Sn	10 10 38.1	-0.6
SPA0	Spitsbergen Ar	2.81	105	*e*P	Pn	10 10 06.2	+1.2
SPITS	Spitsbergen Ar	2.81	105	Pn	Pn	10 10 05.9	+0.9
	comp=Z,100nm,0.3s,baz=296,slow=14,SNR=1448						
SPITS				Sn	Sn	10 10 39.3	+0.6
	baz=274,slow=11						
SPITS	Spitsbergen Ar	2.81	105	P	Pn	10 10 05.8	+0.9
SPITS				S	Sn	10 10 37.6	-1.1
SPB2	Spitsbergen Ar	2.81	105		Pn	10 10 05.8	+0.9
SPB2				Sn	Sn	10 10 37.2	-1.6
HSPB	Hornsund (broa	3.39	125	P	Pn	10 10 13.6	+0.6
HSPB				S	Sn	10 10 49.9	-3.2
HSPB	Hornsund (broa	3.39	125	*e*P	Pn	10 10 12.0	-1.0
HSPB				*e*S	Sn	10 10 50.0	-3.2
HSPB	Hornsund (broa	3.39	125	*e*P	Pn	10 10 13.5	+0.6
HSPB				IAML		10 10 54.9	
	comp=Z,66nm,0.4s						
NOR	Nord	4.06	315	*e*P	Pn	10 10 22.7	+0.6
NOR				*i*S	Sn	10 11 07.5	-2.1
NOR	Nord	4.06	315	*i*P	Pn	10 10 22.0	-0.1
NOR				*i*S	Sn	10 11 07.5	-2.1
NOR				IAML		10 11 14.7	
	comp=Z,7.0nm,0.5s						
DAG	Danmarks Havn	5.14	253	*i*P	Pn	10 10 37.6	+0.7
DAG				*i*S	Sn	10 11 33.9	-2.4
DAG				IAML		10 11 50.4	
	comp=Z,14nm,0.7s						
DAG	Danmarks Havn	5.14	253	*i*P	Pn	10 10 37.6	+0.7
DAG				*i*S	Sn	10 11 33.9	-2.4
DAG				IAML		10 11 34.8	
	comp=Z,38nm,0.2s						
HOPEN	Hopen	5.32	110	*e*P	Pn	10 10 38.1	-1.3
HOPEN				*e*S	Sn	10 11 34.7	-6.0
HOPEN	Hopen	5.32	110	*e*P	Pn	10 10 39.8	+0.4
HOPEN				*e*S	Sn	10 11 35.7	-5.0
HOPEN				IAML		10 11 41.3	
	comp=Z,41nm,0.3s						
DBG	Daneborg	7.22	239	*i*P	Pn	10 11 04.8	-0.6
DBG				*e*S	Sn	10 12 20.6	-6.7
DBG				IAML		10 12 38.3	
	comp=Z,9.9nm,1.6s						
DBG	Daneborg	7.22	239	*i*P	Pn	10 11 04.8	-0.6
DBG				*i*S	Sn	10 12 22.5	-4.8
DBG				IAML		10 12 31.0	
	comp=Z,8.4nm,0.5s						
ZFI2	Zemlya Franca-	7.72	57	*e*P	Pn	10 11 13.8	+1.5
ZFI2				*e*S	Sn	10 12 33.6	-5.9
	comp=Z,18nm,0.8s						
OMEGA	Omega	7.74	57	*e*P	Pn	10 11 13.8	+1.3
OMEGA				*e*S	Sn	10 12 33.6	-6.4
	comp=Z,14nm,1.3s						
JNW	Jan Mayen West	8.73	206	*e*P	Pn	10 11 28.3	+2.1
JNE	Jan Mayen East	8.76	205	*e*P	Pn	10 11 29.5	+3.0
JMIC	Jan Mayen	8.78	206	*e*P	Pn	10 11 28.5	+1.7
NEEM	North Greenlan	10.76	288	*i*P	Pn	10 11 51.3	-2.8
NEEM				*i*S	Sn	10 13 44.3	-10
NEEM	North Greenlan	10.76	288	*i*P	Pn	10 11 51.3	-2.8
NEEM				*i*S	Sn	10 13 44.3	-10
SCO	Scoresbysund	10.80	230	Pn	Pn	10 11 54.7	+0.2
KEV	Kevo	11.30	134	Pn	Pn	10 12 02.2	+0.9
ARCES	ARCESS Array B	11.31	137		Pn	10 12 00.8	-0.6
ARCES	ARCESS Array B	11.31	137	Pn	Pn	10 12 01.5	+0.1
	comp=Z,0.3nm,0.3s,baz=340,slow=12,SNR=12						
ARCES				Sn	Sn	10 14 03.2	-4.3
	comp=Z,0.1nm,0.3s,baz=335,slow=21,SNR=2.8						
ARCES				LR	LR	10 16 29.8	
	comp=Z,30nm,20.6s,baz=106,slow=38						
	comp=Z,0.6nm,0.4s						

SUMG	Summit	11.79 258		Pn	10 12 08.6	+0.3
NOA	NORSAR Array B	18.44 168	LR	LR	10 19 31.3	
	comp=Z,24nm,19.0s,baz=285,slow=33					
SFJD	Kangerlussuaq	18.77 260	P	P	10 13 37.7	-1.2
	comp=Z,2.8nm,0.3s,baz=10,slow=11,SNR=27					
SFJD			LR	LR	10 21 22.3	
	comp=Z,87nm,18.7s,baz=348,slow=39					
POIN	Pond Inlet	18.94 294	P	Pn	10 13 41.5	+0.2
POIN			IAmb	IAmb	10 13 47.4	
	comp=Z,18nm,1.2s					
FINES	FINESS Array B	19.16 145	P	Pn	10 13 47.1	+3.0
	comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=4.2					
FINES			LR	LR	10 21 13.7	
	comp=Z,25nm,19.1s,baz=28,slow=37					
	comp=Z,4.6nm,1.0s					
HFS	Hagfors	19.46 164	P	Pn	10 13 49.8	+2.1
	comp=Z,0.1nm,0.3s,baz=8.8,slow=11,SNR=4.9					
HFS			LR	LR	10 19 36.8	
	comp=Z,34nm,21.8s,baz=95,slow=32					
	comp=Z,1.5nm,0.5s					
RES	Resolute Bay	19.98 310	P	Pn	10 13 53.2	-0.5
RES			IAmb	IAmb	10 13 54.7	
	comp=Z,5.7nm,0.9s					
RES	Resolute Bay	19.98 310	P	P	10 13 52.3	+0.3
	comp=Z,0.3nm,0.3s,baz=37,slow=10,SNR=9.1					
	comp=Z,2.6nm,0.6s					
KIRV	Kirov	25.21 117	LR	LR	10 25 12.8	
	comp=Z,37nm,19.0s,baz=77,slow=38					
AKASG	Malin Array Be	30.07 146	LR	LR	10 27 37.8	
	comp=Z,18nm,20.9s,baz=59,slow=36					
BUR08	Bucovina Ar. S	32.70 152	P	P	10 15 52.5	+0.2
BURAR	Bucovina Array	32.73 152	P	P	10 15 53.1	+0.5
I30M	Mount Dempster	33.87 331	P	P	10 16 04.4	+2.1
I30M			IAmb	IAmb	10 16 11.6	
	comp=Z,3.2nm,1.2s					
BVAR	Borovoye Array	34.24 98	P	P	10 16 09.8	+4.3
	comp=Z,0.5nm,0.5s,baz=338,slow=11,SNR=2.0					
BVAR			LR	LR	10 33 15.0	
	comp=Z,47nm,18.9s,baz=261,slow=42					
	comp=Z,0.5nm,0.5s					
MLR	Muntele Rosu	34.91 152	LR	LR	10 29 27.9	
	comp=Z,51nm,18.1s,baz=49,slow=34					
KURBB	Kurchatov Arra	38.06 91	P	P	10 16 42.2	+4.0
	comp=Z,0.9nm,0.2s,baz=338,slow=7.1,SNR=1.6					
	comp=Z,0.9nm,0.2s					
BRTR	Keskin Array B	41.39 144	LR	LR	10 37 57.3	
	comp=Z,27nm,18.2s,baz=110,slow=41					
MKAR	Makanchi Array	42.44 89	P	P	10 17 15.2	+0.7
	comp=Z,0.3nm,0.4s,baz=350,slow=7.9,SNR=0.8					
	comp=Z,0.3nm,0.4s					
ULM	Lac du Bonnet	42.77 291	LR	LR	10 33 54.8	
	comp=Z,76nm,18.5s,baz=299,slow=35					
SADO	Sadowa	44.98 273	LR	LR	10 36 16.1	
	comp=Z,484nm,19.6s,baz=358,slow=36					
AAK	Ala-Archa	44.99 99	LR	LR	10 41 32.7	
	comp=Z,81nm,18.6s,baz=174,slow=43					
TXAR	Lajitas Array	64.46 292	P	P	10 19 57.8	+1.4
	comp=Z,0.3nm,0.6s,baz=26,slow=7.3,SNR=5.3					
	comp=Z,0.3nm,0.6s					
LPIG	La Paz	70.71 297	LR	LR	10 51 55.9	
	comp=Z,40nm,18.7s,baz=272,slow=36					
TGY	Tagaytay City	81.22 60	LR	LR	11 00 41.7	
	comp=Z,199nm,21.6s,baz=114,slow=38					

*ISK **27** 10:18:46.4, 40°.88N×28°.21E, h11km, ML3.5/46*
*AFAD **27** 10:18:46.5, 40°.88N×28°.21E, h7km±3km, ML3.1*
*THE **27** 10:18:48.3, 41°.N±3°.2°8E±°, h16km±26km, M3.1/12, MLh3.1/12*
*ATH **27** 10:18:53.2, 40°.70N×27°.52E, h11km±4km, ML3.1/6, Manual Solution by F.Xalaris First location: 2019/10/27 10:21:08, This location: 2019/10/27 10:44:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 27 10:18:46.9±0.8, 40°.87N±0°.02×28°.17E±0°.01, h16km±6km, n123, σ1§38/164, 14C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOTS	Marmara Eregli	0.19	309	Pg	Pg	10 18 51.2	-0.2
BOTS				Sg	Sg	10 18 54.7	+0.2
SINB	Sinanoba-Istan	0.30	65	Pg	Pg	10 18 52.7	-0.7
SINB				Sg	Sg	10 18 56.8	-1.0
ELBA	Catalca	0.34	35	P	Pg	10 18 53.2	-0.8
ELBA				S	Sg	10 18 57.8	-0.9
ELBA				*i* IAML		10 19 01.0	
	comp=N,919nm,0.2s						
ELBA				*i* IAML		10 19 01.0	
	comp=E,2μm,0.6s						
SLVT	Silivri	0.36	5	Pg	Pg	10 18 53.9	-0.4
YKBL	Yakuplu-Istanb	0.39	72	Pg	Pg	10 18 54.2	-0.7
YKBL				Sg	Sg	10 19 00.1	-0.3
CTKS	Kestanelik-??a	0.44	35	Pg	Pg	10 18 55.0	-0.8
CTKS				Sg	Sg	10 19 01.4	-0.4
TKR	Tekirdag	0.50	284	Pg	Pg	10 18 56.9	+0.1
TKR				Sg	Sb	10 19 05.0	+0.7
MRMT	Marmara Adasi	0.52	239	Pg	Pg	10 18 57.2	0.0
MRMT				Sg	Sb	10 19 05.8	+0.9
BAND	Balkesir-Ban	0.52	186	P	Pg	10 18 56.9	-0.4
BAND				S	Sg	10 19 04.0	-0.2
BAND				*i* IAML		10 19 05.0	
	comp=N,565nm,0.3s						
BAND				*i* IAML		10 19 05.0	
	comp=E,752nm,0.3s						
BAND	Balkesir-Ban	0.52	186	⇓P	Pg	10 18 56.7	-0.6
BAND				⇓S	Sg	10 19 04.3	0.0
BGKT	Bogazkoy	0.55	56	Pg	Pg	10 18 56.9	-0.9
EDC	Edincik	0.58	204	Pg	Pb	10 18 58.5	-0.1
CTYL	Yalikoy Yolu	0.61	8	Pg	Pg	10 18 58.8	-0.1
CTYL	Yalikoy Yolu	0.61	8	⇓P	Pg	10 18 58.3	-0.6
CTYL				⇓S	Sg	10 19 06.7	-0.3
KCTX	Karacabey (Bur	0.62	167	Pg	Pg	10 18 58.9	-0.3
BRGA	Burgazada-Ista	0.68	89	Pg	Pg	10 18 59.6	-0.6
HYBA	Heybeliada-Ist	0.69	90	Pg	Pg	10 18 59.7	-0.7
ISK	Istanbul-Kandi	0.70	74	Pg	Pg	10 18 59.4	-1.2
BUYA	Buyukada-Istan	0.72	90	Pg	Pg	10 19 00.7	-0.3
MDNY	Mudanya-Bursa	0.74	133	Pg	Pg	10 19 00.9	-0.4
VIZE	Kirklareli, Vi	0.75	341	P	Pg	10 19 01.0	-0.6
VIZE				S	Sg	10 19 11.4	0.0
VIZE				*i* IAML		10 19 14.0	
	comp=N,2μm,0.2s						
VIZE				*i* IAML		10 19 14.0	
	comp=E,2μm,0.4s						
KLYT	Kilyos	0.76	60	Pg	Pg	10 19 00.8	-0.9
KLYT	Kilyos	0.76	60	⇓P	Pg	10 19 00.9	-0.9
KLYT				⇓S	Sg	10 19 11.1	-0.6
RKY	Sarkoy-Tekirda	0.78	257	Pg	Pg	10 19 02.0	-0.1
KRBG	Karabiga-Canak	0.82	235	Pg	Pb	10 19 03.0	+0.2
TUZL	Tuzla-Istanbul	0.83	94	Pg	Pg	10 19 02.2	-0.9
KURT	Yalova, Merkez	0.84	109	P	Pg	10 19 02.3	-0.9
KURT				S	Sg	10 19 13.5	-0.7
KURT				*i* IAML		10 19 15.0	
	comp=E,1μm,0.3s						
KURT				*i* IAML		10 19 16.0	
	comp=N,1μm,0.5s						
PHSR	Pinarhisar	0.90	327	Pg	Pb	10 19 04.5	+0.3
PHSR	Pinarhisar	0.90	327	⇑P	Pb	10 19 04.7	+0.5
PHSR				⇑S	Sg	10 19 16.4	+0.1
GONE	Gonen-Balikesi	0.91	204	Pg	Pb	10 19 04.7	+0.5
YLVH	Yalova	0.93	101	Pg	Pg	10 19 04.4	-0.5
YLV	Yalova	0.96	108	Pg	Pg	10 19 04.7	-0.9
ORLT	Orhaneli	0.99	146	Pg	Pg	10 19 05.7	-0.4
ULDT	Uludag	1.04	135	P	Pg	10 19 06.1	-0.9
ULDT				S	Sb	10 21 6	+1.6
ULDT				*i* IAML		10 19 22.0	
	comp=N,625nm,0.3s						
ULDT				*i* IAML		10 19 23.0	
	comp=E,692nm,0.4s						
HRT	Hereke	1.14	92	Pn	Pg	10 19 07.6	-1.2
ARMN	Kirklareli, Me	1.14	331	P	Pg	10 19 07.8	-1.1
ARMN				S	Sg	10 19 23.4	-0.3
ARMN				*i* IAML		10 19 24.0	
	comp=E,243nm,0.2s						
ARMN				*i* IAML		10 19 27.0	
	comp=N,374nm,0.4s						
SILT	Sile	1.15	75	Pn	Pg	10 19 08.0	-1.0
SILT	Sile	1.15	75	⇑P	Pg	10 19 08.1	-1.0
SILT				⇑S	Sg	10 19 23.0	-1.0
YENI	Yenice-Canakka	1.18	218	Pn	Pg	10 19 08.9	-0.7
LPK	Lapseki	1.19	246	Pn	Pg	10 19 09.0	-0.8
SEMS	Kocaeli-K¶rfe	1.19	90	P	Pg	10 19 08.2	-1.6
SEMS				S	Sg	10 19 24.1	-1.2
SEMS				*i* IAML		10 19 25.0	
	comp=N,744nm,0.3s						
SEMS				*i* IAML		10 19 25.0	
	comp=E,733nm,0.6s						
OSMT	Osmaniye	1.19	103	Pn	Pg	10 19 08.8	-1.1
UKOP	Uzunkopru-Edir	1.19	283	Pn	Pb	10 19 09.7	+0.6
CANM	Can-anakkale	1.21	225	Pn	Pg	10 19 09.8	-0.5
KIRK	Kırklareli	1.22	319	P	Pg	10 19 09.2	-1.1
KIRK				S	Sg	10 19 25.6	-0.6
KIRK				*i* IAML		10 19 27.0	
	comp=E,363nm,0.4s						
KIRK				*i* IAML		10 19 28.0	
	comp=N,258nm,0.5s						
ADVT	Abdulvahap	1.27	110	Pn	Pn	10 19 09.9	-0.1
ERIK	Erikli-Kesan	1.28	261	Pn	Pn	10 19 10.2	+0.1
DST	Dursunbey	1.31	165	Pn	Pn	10 19 11.5	+0.9
GELI	Tayfur-Gelibol	1.38	250	Pn	Pn	10 19 11.7	+0.3
HISA	Bilecik-Osmane	1.39	106	P	Pn	10 19 11.6	-0.2
HISA				S	Sb	10 19 30.7	+0.6
HISA				*i* IAML		10 19 31.0	
	comp=E,626nm,0.5s						
HISA				*i* IAML		10 19 32.0	
	comp=N,764nm,0.4s						
CAVI	Cavuskoy	1.44	117	Pn	Pn	10 19 12.9	+0.6
SFL1	Soufli	1.45	283	P	Pn	10 19 12.8	+0.4
SFL1				S	Sn	10 19 27.1	-4.0
EDRB	Edirne	1.45	313	Pn	Pn	10 19 12.8	+0.3
COMU	Canakkale	1.51	240	Pn	Pn	10 19 14.5	+1.2
YAYO	Edremit-Balk	1.52	214	Pn	Pb	10 19 14.8	+0.2
CAVK	Edirne/Enez-Ca	1.53	264	⇓P	Pn	10 19 13.9	+0.3
CAVK				⇑S	Sg	10 19 37.2	+0.9
ENEZ	Enez	1.54	266	Pn	Pn	10 19 14.3	+0.6
ENEZ	Enez	1.54	266	P	Pn	10 19 13.9	+0.3
ENEZ				S	Sn	10 19 33.6	+0.3
SAUV	Serdivan-Sakar	1.64	94	Pn	Pn	10 19 15.3	+0.2
TRGA	Dikaia	1.64	301	P	Pg	10 19 18.3	-0.2
TRGA				S	Sn	10 19 36.0	+0.2
ALEX	Alexandroupoli	1.72	270	P	Pn	10 19 16.7	+0.6
ALEX				S	Sn	10 19 32.1	-5.7
GPA	Golpazari	1.73	109	Pn	Pn	10 19 17.1	+0.8
TVSB	Tavsanli	1.73	145	Pn	Pn	10 19 16.8	+0.4
EZN	Ezine	1.76	234	Pn	Pn	10 19 17.6	+0.9
EZN	Ezine	1.76	234	P	Pn	10 19 16.6	-0.1
EZN				S	Sn	10 19 39.8	+1.1
EZN	Ezine	1.76	234	⇓P	Pb	10 19 19.2	+0.4
EZN				⇓S	Sg	10 19 43.2	-0.3
EZNE	Ezine-Canakkal	1.78	232	Pn	Pn	10 19 18.2	+1.3
SOMA	Soma-Manisa	1.78	196	Pn	Pn	10 19 18.4	+1.4
GULT	Gulveren	1.84	103	Pn	Pn	10 19 18.4	+0.6
GADA	Gvkgeada	1.86	249	Pn	Pn	10 19 19.4	+1.3
GADA	Gvkgeada	1.86	249	P	Pn	10 19 18.5	+0.4
GADA				S	Sn	10 19 41.6	+0.3
SMAA	Simav-Kutahya	1.88	160	Pn	Pn	10 19 19.4	+1.0
BOZC	Bozcaada	1.92	238	Pn	Pn	10 19 20.5	+1.6
GORD	Gordes-Manisa	1.96	180	Pn	Pn	10 19 20.4	+0.8
RDO	Rodhopi	2.01	279	Pn	Pn	10 19 21.0	+0.8
RDO	Rodhopi	2.01	279	P	Pn	10 19 20.5	+0.3
RDO				S	Sn	10 19 45.5	+0.5
RDO	Rodhopi	2.01	279	P	Pn	10 19 20.5	+0.3
RDO				S	Sn	10 19 41.5	-3.5
SHAP	Saphane-Kutahy	2.02	156	Pn	Pn	10 19 21.0	+0.7
JMB	Yambol	2.03	323	P	Pn	10 19 20.5	0.0
JMB				S	Sn	10 19 45.7	+0.1
SAHE	Sakarya_HENDEK	2.03	90	⇓P	Pn	10 19 21.2	+0.7
SAHE				⇓S	Sn	10 19 47.7	+2.1
DKL	Dikili	2.05	209	Pn	Pn	10 19 21.8	+1.2
SMTH	Samothraki Isl	2.05	260	P	Pn	10 19 20.4	-0.3
SMTH				S	Sn	10 19 46.5	+0.6
SMTH	Samothraki Isl	2.05	260	P	Pn	10 19 20.4	-0.3
SMTH				S	Sn	10 19 40.3	-5.7
GEDZ	Gediz	2.06	152	Pn	Pn	10 19 21.6	+0.7
GPNR	Gulpinar-Canak	2.11	228	Pn	Pn	10 19 22.5	+1.0
PRK	Paraskevi	2.18	223	P	Pn	10 19 23.0	+0.5
PRK				S	Sn	10 19 51.1	+1.9
PRK	Paraskevi	2.18	223	P	Pn	10 19 23.4	+0.9
PRK				S	Sn	10 19 46.2	-3.0
KDZ	Kurdzhali	2.27	290	Pn	Pn	10 19 24.9	+1.2
KDZ	Kurdzhali	2.27	290	P	Pn	10 19 23.6	-0.1
DIM	Dimitrovgrad	2.27	302	P	Pn	10 19 23.4	-0.4
SIGR	SIGRI	2.43	228	P	Pn	10 19 27.3	+1.3
SIGR				S	Sn	10 19 56.7	+1.3
SIGR	SIGRI	2.43	228	P	Pn	10 19 26.5	+0.6
LIA	Limnos Island	2.48	248	P	Pn	10 19 26.8	+0.2
LIA	Limnos Island	2.48	248	P	Pn	10 19 26.6	0.0
LIA				S	Sn	10 19 50.5	-6.1
KALB	Balgarevo	2.54	4	⇓P	Pn	10 19 28.6	+1.2
ELND	Elena	2.68	321	⇓P	Pn	10 19 30.0	+0.7
ELND				⇓S	Sn	10 20 04.0	+2.6
RZN	Rozhen	2.71	289	P	Pn	10 19 30.5	+0.5
KAVA	Kavala	2.77	274	P	Pn	10 19 31.1	+0.5
KAVA	Kavala	2.77	274	P	Pn	10 19 31.1	+0.5
KAVA				S	Sn	10 19 59.4	-4.4
SZH	Strazhitsa	2.90	326	P	Pn	10 19 33.0	+0.6
RAZG	Razgrad	2.96	336	⇓P	Pn	10 19 33.9	+0.6
SMG	Samos	3.33	199	P	Pn	10 19 41.3	+3.0
MMB	Musomishta	3.40	283	P	Pn	10 19 40.6	+1.3
SRS	Serrai	3.48	276	P	Pn	10 19 40.4	0.0
SRS	Serrai	3.48	276	P	Pn	10 19 40.6	+0.2
TIRR	Tirgusor	3.59	3	⇓P	Pn	10 19 42.5	+0.7
PLVB	Pleven	3.65	315	⇑P	Pn	10 19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.17**	**303**		**Pb**	**10 27 21.7**	**-0.6**
HNR				Sn	**Sb**	**10 27 38.9**	**+1.3**
HNR	**Honiara**	**1.17**	**303**	Pn	**Pb**	**10 27 22.1**	**-0.2**
	777nm,0.3s,baz=150,slow=6.5,SNR=174						
HNR				Sn	**Sb**	**10 27 39.1**	**+1.6**
	2μm,0.3s,baz=120,slow=16,SNR=14						
HNR				LR	LR	10 27 47.1	
	comp=Z,841nm,21.2s,baz=44,slow=44						
SANVU	**Saraoutou**	**8.12**	**132**		**Pn**	**10 28 58.0**	**-0.1**
DZM	**Mont Dzumac**	**13.05**	**157**	Pn	**Pn**	**10 30 05.9**	**+0.2**
	0.1nm,0.3s,baz=338,slow=19,SNR=1.2						
DZM				LR	LR	10 34 33.9	
	comp=Z,180nm,18.5s,baz=40,slow=35						
	5.1nm,1.0s						
MARNC	**Mare, Loyalty**	**13.23**	**150**	Pn	**Pn**	**10 30 07.9**	**-0.2**
ONTNC	**Ouen Toro**	**13.27**	**157**	Pn	**Pn**	**10 30 10.7**	**+2.1**
PMG	**Port Moresby**	**13.60**	**272**	LR	LR	10 35 44.9	
	comp=Z,205nm,18.1s,baz=140,slow=39						
PATS	**Pohnpei**	**17.00**	**351**		**Pn**	**10 30 58.1**	**0.0**
PATS				IAmb	IAmb	10 31 04.5	
	comp=Z,106nm,1.5s						
EIDS	**Eidsvold**	**17.86**	**210**	P	**Pn**	**10 31 10.1**	**+1.3**
INKA	**Innaminka**	**25.89**	**224**		**P**	**10 32 32.1**	**-0.2**
WR8	**Warramunga Arr**	**27.32**	**246**		**P**	**10 32 44.0**	**-1.4**
WR8				IAmb	IAmb	10 32 52.0	
	comp=Z,19nm,1.5s						
CAN	**Canberra**	**27.39**	**202**	P	**P**	**10 32 45.8**	**-0.1**
CAN				IAmb	IAmb	10 33 14.6	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**27.46**	**246**	P	**P**	**10 32 43.9**	**-2.8**
WRA	**Warramunga Arr**	**27.46**	**246**	P	**P**	**10 32 46.0**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=74,slow=9.7,SNR=17						
WRA				PcP	**PcP**	**10 36 03.9**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=99,slow=2.7,SNR=2.6						
	comp=Z,3.3nm,0.8s						
STKA	**Stephens Creek**	**28.13**	**217**	P	**P**	**10 32 52.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=42,slow=14,SNR=4.1						
	comp=Z,1.9nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**28.95**	**11**	T	T	11 01 52.8	
	baz=194,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.95**	**11**	T	T	11 01 52.8	
	baz=194,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.96**	**11**	T	T	11 01 53.9	
	baz=194,slow=76,SNR=15						
AS31	**Alice Springs**	**29.12**	**239**	P	P	10 32 60.0	-1.4
ASAR	**Alice Springs**	**29.12**	**239**	P	**P**	**10 33 00.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=63,slow=10,SNR=13						
ASAR				LR	LR	10 43 52.2	
	comp=Z,89nm,19.6s,baz=336,slow=35						
	comp=Z,0.3nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**30.17**	**11**	T	T	11 03 32.6	
	baz=193,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**30.18**	**11**	T	T	11 03 28.7	
	baz=193,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.19**	**11**	T	T	11 03 29.6	
	baz=193,slow=76,SNR=28						
BKZ	**Black Stump Fm**	**32.13**	**157**	P	**P**	**10 33 27.9**	**+0.1**
BBOO	**Buckleboo**	**32.22**	**222**	P	**P**	**10 33 27.7**	**-0.9**
RAR	**Rarotonga**	**39.31**	**111**	LR	LR	10 49 25.3	
	comp=Z,18nm,18.0s,baz=234,slow=34						
PPT	**Papeete**	**48.51**	**105**	LR	LR	10 50 51.4	
	comp=Z,27nm,20.3s,baz=285,slow=30						
MJAR	**Matsushiro Arr**	**51.06**	**336**	IAmb	IAmb	10 36 16.7	
	comp=Z,4.5nm,1.4s						
MJAR	**Matsushiro Arr**	**51.06**	**336**	P	P	10 36 01.5	-1.3
	comp=Z,1.3nm,0.8s,baz=153,slow=8.3,SNR=2.6						
	comp=Z,1.3nm,0.8s						
JKA	**Kamikawa-asahi**	**56.44**	**344**	P	**P**	**10 36 41.3**	**-0.7**
KSRS	**Korea Array**	**56.50**	**329**	P	**P**	**10 36 42.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=148,slow=8.6,SNR=5.8						
	comp=Z,1.1nm,0.7s						
KSAR	**Wonju Array Be**	**56.51**	**329**	P	P	10 36 41.3	-1.3
USRK	**Ussuriysk Ar.**	**60.06**	**336**	P	**P**	**10 37 06.7**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=145,slow=7.0,SNR=6.6						
	comp=Z,3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.41**	**295**	P	**P**	**10 37 55.7**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=107,slow=4.7,SNR=4.3						
	comp=Z,1.2nm,0.3s						
VNDA	**Vanda**	**67.43**	**180**	P	**P**	**10 37 55.0**	**-0.5**
VNDA				IAmb	IAmb	10 38 20.4	
	comp=Z,4.4nm,1.5s						
VNDA	**Vanda**	**67.43**	**180**	P	**P**	**10 37 54.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=338,slow=4.4,SNR=3.6						
	comp=Z,0.4nm,0.6s						
LZDM	**Lanzhou Array**	**70.69**	**314**	P	**P**	**10 38 16.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=86,slow=8.8,SNR=1.1						
	comp=Z,0.9nm,0.3s						
SONM	**Songino Array**	**75.14**	**325**	P	**P**	**10 38 44.0**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=101,slow=7.5,SNR=2.3						
	comp=Z,2.7nm,0.6s						
QSPA	**South Pole Qui**	**79.92**	**180**	P	**P**	**10 39 10.7**	**+1.5**
QSPA				IAmb	IAmb	10 39 19.4	
	comp=Z,4.6nm,0.9s						
QSPA	**South Pole Qui**	**79.92**	**180**	P	**P**	**10 39 10.8**	**+1.7**
	comp=Z,3.2nm,1.0s,baz=12,slow=2.0,SNR=12						
	comp=Z,3.2nm,1.0s						
MAW	**Mawson**	**83.83**	**202**	P	**P**	**10 39 29.2**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=112,slow=6.7,SNR=19						
	comp=Z,4.2nm,0.8s						
M26K	**Nabesna, AK**	**84.13**	**23**	P	**P**	**10 39 32.0**	**+0.8**
M26K				IAmb	IAmb	10 39 34.0	
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**84.16**	**20**	P	**P**	**10 39 30.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=239,slow=5.6,SNR=7.7						
	comp=Z,0.4nm,0.6s						
O28M	**Mount Upton**	**84.35**	**25**	P	**P**	**10 39 33.1**	**+0.5**
O28M				IAmb	IAmb	10 39 35.3	
	comp=Z,6.3nm,1.0s						
M27K	**Edge Creek, AK**	**84.54**	**23**	P	**P**	**10 39 34.3**	**+1.0**
M27K				IAmb	IAmb	10 39 35.7	
	comp=Z,3.9nm,0.7s						
BCAR	**Beaver Creek A**	**84.97**	**23**	P	**P**	**10 39 34.6**	**-0.7**
K27K	**Chicken**	**85.40**	**22**	P	**P**	**10 39 38.1**	**+0.7**
K27K				IAmb	IAmb	10 39 40.2	
	comp=Z,9.1nm,1.2s						
L29M	**L29M**	**86.40**	**23**	P	**P**	**10 39 41.8**	**-0.7**
NVAR	**Mina Array Bea**	**89.04**	**51**	P	**P**	**10 39 56.7**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=256,slow=6.0,SNR=4.6						
	comp=Z,1.3nm,0.8s						
PFO	**Pinyon Flats O**	**89.42**	**56**	LR	LR	11 15 28.7	
	comp=Z,24nm,18.0s,baz=190,slow=32						
MKAR	**Makanchi Array**	**89.60**	**318**	P	P	10 39 57.0	-1.2
MKAR	**Makanchi Array**	**89.60**	**318**	P	**P**	**10 39 58.6**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=100,slow=6.3,SNR=5.0						
	comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**90.03**	**325**	P	**P**	**10 39 59.2**	**-0.7**
ZALV	**Zalesovo Beam**	**90.03**	**325**	P	**P**	**10 39 59.7**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=126,slow=7.3,SNR=2.2						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**92.93**	**321**	P	P	10 40 12.2	-1.2
	comp=Z,0.3nm,0.5s,baz=104,slow=3.4,SNR=4.6						
	comp=Z,0.3nm,0.5s						

KRNET ***27*** *10:52:37.4±0.1, 41°.11N×78°.91E, h18km, mb5.0*
IDC ***27*** *10:52:38.7±0.5, 41°.08N×78°.88E, h0km, mb4.3/25, mbtmp4.3/31, ML3.6/6, MS3.8/46, Error ellipse: s-maj=12.1km s-min=8.3km az=39.0*
SOME ***27*** *10:52:39.1, 41°.23N×78°.78E, h5km, MS4.1*
MOS ***27*** *10:52:39.2±1.1, 41°.14N×78°.87E, h10km, mb4.8/23, Error ellipse: s-maj=6.1km s-min=3.8km az=109.3*
BJI ***27*** *10:52:39.2, 41°.14N×78°.87E, h10km, mB4.7/13, mb4.5/44, ML4.8/9, Ms4.2/26, Ms7 4.0/28*
NEIC ***27*** *10:52:41.3±1.8, 41°.31N±0°.04×78°.86E±0°.03, h10km±1km, mb4.6/41, Mwr4.3/15, Error ellipse: s-maj=7.4km s-min=4.2km az=181.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.43; Mθθ-3.23; Mφφ-0.20; Mrθ0.22; Mθφ-0.69; Mφr-0.26; Fault plane solution: M₀3.42000×10¹⁵ NP1:φs82.66000°, δ46.54000°, λ96.85000°. NP2:φs252.75000°, δ43.89000°, λ82.83000°. Principal axes: T 3.4610, Plg85.0000°, Azm63.0000°; N -0.0784, Plg5.0000°, Azm258.0000°; P -3.3827, Plg1.0000°, Azm168.0000°;*
NNC ***27*** *10:52:41.8±0.9, 41°.25N×78°.76E, h0km, mb5.4, mpv5.2 Error ellipse: s-maj=6.2km s-min=4.3km az=164.0*
NEIC ***27*** *10:52:41.4, 41°.32N×78°.85E, h10km*
ISC 27 10:52:40.0±0.7, 41°.19N±0°.03×78°.80E±0°.02, h6km±4km, n331, σ1$74/364, mb4.6/69, MS3.8/56, 48C-26D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.92**	**306**		**Pg**	**10 52 56.7**	**-1.1**
TARG				Sg	**Sg**	**10 53 09.4**	**-0.4**
TARG	**Taragay, Kyrgy**	**0.92**	**306**	⇑*iP*	**Pg**	**10 52 56.7**	**-1.1**
TARG				⇑*iS*	**Sg**	**10 53 10.8**	**+1.0**
TARG	**Taragay, Kyrgy**	**0.92**	**306**	PG	**Pg**	**10 52 56.7**	**-1.1**
TARG						10 53 09.4	
PRZ	**Przheval'sk**	**1.33**	**347**		**Pn**	**10 53 04.2**	**-1.1**
PRZ					**Sg**	**10 53 21.9**	**-0.9**
PRZ	**Przheval'sk**	**1.33**	**347**	⇑*iP*	**Pn**	**10 53 03.8**	**-1.5**
PRZ				⇑*iS*	**Sb**	**10 53 23.1**	**+0.3**
PRZ	**Przheval'sk**	**1.33**	**347**	PG	**Pn**	**10 53 04.2**	**-1.1**
PRZ						10 53 21.9	
KDJ	**Kajisay**	**1.54**	**308**		**Pn**	**10 53 07.8**	**-0.3**
KDJ					**Sb**	**10 53 29.4**	**+0.6**
KDJ	**Kajisay**	**1.54**	**308**	⇑*iP*	**Pn**	**10 53 07.3**	**-0.8**
KDJ				⇑*iS*	**Sb**	**10 53 29.2**	**+0.4**
KDJ	**Kajisay**	**1.54**	**308**	PN	**Pn**	**10 53 07.8**	**-0.3**
KDJ						10 53 29.4	
SATY	**Saty**	**1.89**	**351**	P	**Pb**	**10 53 14.5**	**-0.5**
	2μm,0.6s						
SATY				S	**Sb**	**10 53 39.9**	**+0.9**
	2μm,0.5s						
SATY	**Saty**	**1.89**	**351**	*eP*	**Pb**	**10 53 14.4**	**-0.7**
SATY	**Saty**	**1.89**	**351**	*ePN*	**Pb**	**10 53 14.3**	**-0.7**
UZB	**Uzynbulak**	**1.96**	**5**	Pg	**Pb**	**10 53 16.1**	**-0.2**
	989nm,0.2s						
UZB				Lg	Lg	10 53 43.0	
	2μm,0.6s						
UZB	**Uzynbulak**	**1.96**	**5**	*eP*	**Pb**	**10 53 16.1**	**-0.2**
	981nm,0.3s						
UZB				*eS*	**Sg**	**10 53 43.0**	**-0.2**
	4μm,0.4s						
UZB	**Uzynbulak**	**1.96**	**5**	*eP*	**Pb**	**10 53 15.5**	**-0.8**
UZB	**Uzynbulak**	**1.96**	**5**	*ePN*	**Pb**	**10 53 15.4**	**-0.8**
SHLS	**Shalkode**	**2.03**	**14**	Pg	**Pg**	**10 53 19.7**	**+0.8**
	3μm,0.6s						
SHLS				Lg	Lg	10 53 49.4	
	8μm,0.3s						
SHLS	**Shalkode**	**2.03**	**14**	*eP*	**Pg**	**10 53 19.7**	**+0.8**
	2μm,0.7s						
SHLS				*eS*	**Sg**	**10 53 49.4**	**+4.2**
	23μm,0.5s						
SHLS	**Shalkode**	**2.03**	**14**	*eP*	**Pg**	**10 53 18.6**	**-0.4**
SHLS	**Shalkode**	**2.03**	**14**	*ePN*	**Pg**	**10 53 18.5**	**-0.4**
ULHL	**Ulahol**	**2.19**	**300**	P	**Pb**	**10 53 19.6**	**-0.5**
	SNR=2124						
ULHL	**Ulahol**	**2.19**	**300**	⇓*iP*	**Pn**	**10 53 16.8**	**-0.3**
ULHL				⇓*iS*	**Sn**	**10 53 45.8**	**+1.2**
PDGK	**Podgornoye**	**2.20**	**13**	⇓Pn	**Pb**	**10 53 19.3**	**-1.0**
	1μm,0.6s						
PDGK				⇑Lg	Lg	10 53 51.4	
	8μm,0.6s						
KPKS	**Kokpek**	**2.28**	**358**	Pg	**Pb**	**10 53 21.9**	**+0.3**
	4.9nm,0.8s						
KPKS				Lg	Lg	10 53 52.0	
	4μm,0.5s						
KPKS	**Kokpek**	**2.28**	**358**	*eP*	**Pb**	**10 53 20.3**	**-1.3**
KPKS	**Kokpek**	**2.28**	**358**	*ePN*	**Pb**	**10 53 20.2**	**-1.3**
TNSS	**Tian-Shan**	**2.31**	**324**	Pg	**Pb**	**10 53 22.3**	**+0.1**
	616nm,0.7s						
TNSS				Lg	Lg	10 53 53.8	
	2μm,0.7s						
TNSS	**Tian-Shan**	**2.31**	**324**	*eP*	**Pb**	**10 53 22.3**	**+0.1**
	616nm,0.7s						
TNSS				*eS*	**Sg**	**10 53 53.8**	**-0.3**
	2μm,0.7s						
TNSS	**Tian-Shan**	**2.31**	**324**	*eP*	**Pb**	**10 53 21.9**	**-0.4**
TNSS	**Tian-Shan**	**2.31**	**324**	*ePN*	**Pb**	**10 53 21.8**	**-0.4**
KURS	**Kuram**	**2.34**	**349**	Pg	**Pb**	**10 53 23.2**	**+0.5**
	4μm,1.2s						
KURS				Lg	Lg	10 53 54.7	
	1μm,0.4s						
MDOK	**Medeo**	**2.36**	**327**	Pg	**Pb**	**10 53 23.6**	**+0.5**
	2μm,0.7s						
MDOK				Lg	Lg	10 53 55.9	
	3μm,0.6s						
MDOK	**Medeo**	**2.36**	**327**	*eP*	**Pb**	**10 53 22.7**	**-0.4**
MDOK	**Medeo**	**2.36**	**327**	*ePN*	**Pb**	**10 53 22.7**	**-0.4**
KOTS	**Kotyrbulak**	**2.40**	**329**	Pg	**Pb**	**10 53 24.2**	**+0.5**
	3μm,0.5s						
KOTS				Lg	Lg	10 53 56.9	
	8μm,0.7s						
KOTS	**Kotyrbulak**	**2.40**	**329**	*eP*	**Pb**	**10 53 24.2**	**+0.5**
	3μm,0.5s						
KOTS				*eS*	**Sg**	**10 53 56.9**	**-0.2**
	8μm,0.7s						
KNDC	**Almaty**	**2.44**	**327**	⇑Pn	**Pb**	**10 53 24.4**	**+0.1**
	14μm,1.2s						
KNDC				⇑Lg	Lg	10 53 58.6	
	10μm,0.8s						
AAA	**Alma-Ata**	**2.46**	**326**	Pg	**Pb**	**10 53 25.4**	**+0.8**
	2μm,0.2s						
AAA				Lg	Lg	10 53 58.6	
	326nm,0.7s						
AAA	**Alma-Ata**	**2.46**	**326**	*eP*	**Pb**	**10 53 25.4**	**+0.8**
	2μm,0.2s						
AAA				*eS*	**Sg**	**10 53 58.6**	**-0.4**
	326nm,0.7s						
IZV	**Izvestkoviy**	**2.46**	**319**	Pg	**Pb**	**10 53 25.2**	**+0.4**
	513nm,0.4s						
IZV				Lg	Lg	10 53 58.2	
	2μm,0.6s						
IZV	**Izvestkoviy**	**2.46**	**319**	*eP*	**Pb**	**10 53 25.2**	**+0.4**
	513nm,0.4s						
IZV				*eS*	**Sg**	**10 53 58.2**	**-0.9**
	2μm,0.6s						
BOOM	**Boomskoye usch**	**2.50**	**302**	Pn	**Pb**	**10 53 23.8**	**-1.6**
BOOM	**Boomskoye usch**	**2.50**	**302**	⇑*iP*	**Pn**	**10 53 21.3**	**-0.1**
BOOM				⇑*iS*	**Sn**	**10 53 53.1**	**+0.8**
BOOM	**Boomskoye usch**	**2.50**	**302**	PN	**Pb**	**10 53 23.8**	**-1.6**
KTMS	**Ketmen**	**2.53**	**27**	Pg	**Pg**	**10 53 27.2**	**-1.4**
	647nm,0.5s						
KTMS				Lg	Lg	10 54 01.1	
	2μm,0.6s						
KTMS	**Ketmen**	**2.53**	**27**	*eP*	**Pg**	**10 53 27.2**	**-1.4**
	647nm,0.5s						
KTMS				*eS*	**Sg**	**10 54 01.1**	**-0.3**
	2μm,0.6s						
MTBS	**Maitube**	**2.62**	**319**	Pg	**Pb**	**10 53 26.7**	**-0.7**
	3μm,0.4s						
MTBS				Lg	Lg	10 54 01.0	
	2μm,0.5s						
MTBS	**Maitube**	**2.62**	**319**	*eP*	**Pb**	**10 53 26.7**	**-0.7**
	3μm,0.4s						
MTBS				*eS*	**Sb**	**10 54 01.0**	**+1.1**
	2μm,0.5s						
KSH	**Kashi**	**2.73**	**233**	Pn	**Pg**	**10 53 34.0**	**+1.7**
KSH				Sn	Sg	10 54 20.5	+13
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,2μm,0.9s						
BLB	**Baldybastay**	**2.92**	**355**	Pg	**Pb**	**10 53 32.8**	**+0.4**
	1μm,0.6s						
BLB				Lg	Lg	10 54 12.1	
	6μm,0.8s						
TKM2	**Tokmak 2**	**2.95**	**307**	P	**Pb**	**10 53 30.9**	**-2.1**
	SNR=642						
TKM2	**Tokmak 2**	**2.95**	**307**	⇑*iP*	**Pn**	**10 53 27.5**	**0.0**
TKM2				⇑*iS*	**Sn**	**10 54 04.0**	**+0.7**
CHKK	**Chushkaly**	**2.98**	**334**	Pg	**Pb**	**10 53 34.2**	**+0.6**
	514nm,0.9s						
CHKK				Lg	Lg	10 54 14.1	
	3μm,0.6s						
CHKK	**Chushkaly**	**2.98**	**334**	*eP*	**Pb**	**10 53 34.2**	**+0.6**
	514nm,0.9s						
CHKK				*eS*	**Sg**	**10 54 14.1**	**-1.7**
	3μm,0.6s						
DGS	**Degeres**	**3.04**	**313**	Pg	**Pb**	**10 53 35.7**	**+1.0**
	1μm,0.9s						
DGS				Lg	Lg	10 54 16.1	
	4μm,0.6s						
ARXS	**Arharly**	**3.11**	**347**	*eP*	**Pb**	**10 53 35.5**	**-0.1**
ARXS				*eS*	**Sb**	**10 54 15.6**	**+1.7**
ARXS	**Arharly**	**3.11**	**347**	*i* PN	**Pb**	**10 53 32.9**	**-2.8**
KBK	**Karagaybulak**	**3.23**	**298**	P	**Pb**	**10 53 35.6**	**-2.2**
	SNR=53						
KBK	**Karagaybulak**	**3.23**	**298**	⇓*iP*	**Pn**	**10 53 31.2**	**-0.2**
KBK				⇓*iS*	**Sn**	**10 54 10.7**	**+0.5**
KUU	**Kurty**	**3.26**	**327**	*eP*	**Pb**	**10 53 37.7**	**-0.6**
	202nm,0.5s						
KUU				*eS*	**Sb**	**10 54 19.9**	**+1.8**
	2μm,0.9s						
UCH	**Uchtor**	**3.37**	**289**	P	**Pn**	**10 53 36.2**	**+2.6**
	SNR=66						
UCH	**Uchtor**	**3.37**	**289**	⇓*iP*	**Pn**	**10 53 33.5**	**-0.1**
UCH				⇓*iS*	**Sn**	**10 54 14.2**	**0.0**
KRBS	**Karabastau**	**3.41**	**318**	Pg	**Pb**	**10 53 41.3**	**+0.5**
	371nm,0.7s						
KRBS				Lg	Lg	10 54 25.9	
	693nm,0.7s						
FRU1	**Bishkek**	**3.50**	**299**	Pn	**Pn**	**10 53 38.5**	**+3.4**
FRU1	**Bishkek**	**3.50**	**299**	⇑*iP*	**Pn**	**10 53 35.4**	**+0.3**
FRU1				⇑*iS*	**Sn**	**10 54 17.7**	**+0.8**
FRU1	**Bishkek**	**3.50**	**299**	PN	**Pn**	**10 53 38.5**	**+3.4**
CHMS	**Chumysh**	**3.51**	**302**	P	**Pn**	**10 53 36.9**	**+1.8**
	SNR=26						
CHMS	**Chumysh**	**3.51**	**302**	⇑*iP*	**Pn**	**10 53 35.2**	**0.0**
CHMS				⇑*iS*	**Sn**	**10 54 17.4**	**+0.3**
AAK	**Ala-Archa**	**3.52**	**296**	Pn	**Pn**	**10 53 38.3**	**+2.9**
AAK	**Ala-Archa**	**3.52**	**296**	Pn	**Pn**	**10 53 39.0**	**+3.6**
	9.9nm,0.3s,baz=125,slow=9.4,SNR=76						
AAK				Pg	**Pb**	**10 53 44.4**	**+1.6**
	36nm,0.3s,baz=114,slow=12,SNR=36						
AAK				LR	LR	10 54 30.4	
	comp=Z,95nm,20.0s,baz=110,slow=31						
AAK				Lg	Lg	10 54 31.9	
	47nm,0.3s,baz=18,slow=20,SNR=11						
	29nm,0.4s						
AAK	**Ala-Archa**	**3.52**	**296**	P	**Pn**	**10 53 38.7**	**+3.3**
	SNR=53						
AAK	**Ala-Archa**	**3.52**	**296**	⇑Pn	**Pn**	**10 53 38.7**	**+3.3**
	469nm,1.1s						
AAK				⇓Lg	Lg	10 54 31.1	
	873nm,0.8s						
AAK	**Ala-Archa**	**3.52**	**296**	⇓*iP*	**Pn**	**10 53 35.3**	**-0.1**
AAK				⇓*iS*	**Sn**	**10 54 17.8**	**+0.3**
SALK	**Salom-Alik**	**3.78**	**267**	⇑*iP*	**Pn**	**10 53 38.7**	**-0.2**
SALK				⇑*iS*	**Sn**	**10 54 23.1**	**-0.7**
USP	**Ospenovka**	**3.81**	**304**	P	**Pn**	**10 53 41.4**	**+2.1**
	SNR=26						
USP	**Ospenovka**	**3.81**	**304**	⇑*iP*	**Pn**	**10 53 39.3**	**+0.1**
USP				⇑*iS*	**Sn**	**10 54 24.6**	**+0.3**
TDK	**Taldyqorghan**	**3.82**	**356**	*eP*	**Pb**	**10 53 49.1**	**+1.3**
	859nm,0.7s						
TDK				*eS*	**Sg**	**10 54 39.0**	**-3.7**
	4μm,0.6s						
TDK	**Taldyqorghan**	**3.82**	**356**	*eP*	**Pn**	**10 53 42.3**	**+2.9**
TDK	**Taldyqorghan**	**3.82**	**356**	*ePN*	**Pn**	**10 53 42.3**	**+2.9**
SGDS	**Sogindy**	**3.83**	**308**	Pg	**Pb**	**10 53 48.7**	**+0.7**
	72nm,0.3s						
SGDS				Lg	Lg	10 54 38.6	
	634nm,0.7s						
SGDS	**Sogindy**	**3.83**	**308**	*eP*	**Pn**	**10 53 43.0**	**+3.5**
EKS2	**Erkin-Say**	**4.03**	**293**	P	**Pn**	**10 53 45.9**	**+3.6**
	SNR=14						
EKS2	**Erkin-Say**	**4.03**	**293**	⇑*iP*	**Pn**	**10 53 42.3**	**0.0**
EKS2				⇑*iS*	**Sn**	**10 54 29.9**	**+0.1**
KAPS	**Kapalarasan**	**4.12**	**5**	Pg	**Pb**	**10 53 54.5**	**+1.7**
	92nm,0.4s						
KAPS				Lg	Lg	10 54 48.5	
	1μm,0.7s						
SFK	**Sufi-Kurgan**	**4.20**	**256**	⇓*iP*	**Pn**	**10 53 44.2**	**-0.6**
SFK				⇓*iS*	**Sn**	**10 54 32.8**	**-1.5**
ARSB	**Arslanbob**	**4.39**	**274**	⇓*eP*	**Pn**	**10 53 47.0**	**-0.3**
ARSB				⇓*eS*	**Sn**	**10 54 37.9**	**-0.9**
MRKS	**Merke**	**4.44**	**292**	Pg	**Pb**	**10 54 00.9**	**+2.5**
	327nm,0.8s						
MRKS				Lg	Lg	10 54 59.3	
	439nm,0.9s						
MRKS	**Merke**	**4.44**	**292**	*eP*	**Pb**	**10 54 00.9**	**+2.5**
	341nm,0.5s						
MRKS				*eS*	**Sg**	**10 54 59.3**	**-3.2**
	534nm,1.0s						
OHH	**Osh**	**4.61**	**264**	⇓*iP*	**Pn**	**10 53 49.9**	**-0.4**
OHH				⇓*iS*	**Sn**	**10 54 42.5**	**-1.6**
ARK	**Arkit**	**5.17**	**279**	⇓*eP*	**Pn**	**10 53 57.7**	**-0.3**
ARK				⇓*eS*	**Sn**	**10 54 56.6**	**-1.4**
DRK	**Karamyk**	**5.62**	**255**	Pn	**Pn**	**10 54 07.5**	**+3.3**
DRK	**Karamyk**	**5.62**	**255**	⇑*eP*	**Pn**	**10 54 03.8**	**-0.5**
DRK				⇑*eS*	**Sn**	**10 55 06.6**	**-2.6**
DRK	**Karamyk**	**5.62**	**255**	PN	**Pn**	**10 54 07.6**	**+3.3**
TRKS	**Terek-Say**	**5.78**	**276**	⇑*eP*	**Pn**	**10 54 05.8**	**-0.5**
TRKS				⇑*eS*	**Sn**	**10 55 10.4**	**-2.6**
DZA	**Taraz**	**5.82**	**289**	*eP*	**Pg**	**10 54 27.4**	**-4.0**
	46nm,0.1s						
DZA				*eS*	**Sg**	**10 55 45.0**	**-1.7**
	662nm,0.8s						
MAKZ	**Makanchi**	**6.07**	**21**		**Pn**	**10 54 10.9**	**+0.7**
MAKZ	**Makanchi**	**6.07**	**21**	⇑Pn	**Pn**	**10 54 11.6**	**+1.4**
	76nm,0.8s						
MAKZ				⇓Lg	Lg	10 55 52.3	
	519nm,1.1s						
MAKZ	**Makanchi**	**6.07**	**21**	PN	**Pn**	**10 54 10.9**	**+0.7**
MK31	**Makanchi Array**	**6.14**	**23**	Pn	**Pn**	**10 54 12.7**	**+

comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=34
BVAR Sn **Sn** **10 58 09.4 -4.0**
baz=162,slow=24,SNR=1.5
BVAR Lg Lg 10 59 39.8
comp=Z,0.2nm,0.3s,baz=113,slow=31,SNR=5.9
BVAR LR LR 11 01 05.1
comp=Z,665nm,20.7s,baz=154,slow=38
comp=Z,5.4nm,0.5s
BORK Borovoye 13.18 337 *ce*P **Pn** **10 55 48.5 +0.9**
BORK pmax pmax
comp=Z,38nm,1.7s
ZAA0 Zalesovo Array 13.39 16 **Pn** **10 55 50.0 -0.5**
ZALV Zalesovo Beam 13.39 16 **Pn** **10 55 50.0 -0.5**
ZALV Zalesovo Beam 13.39 16 Pn **Pn** **10 55 50.2 -0.2**
comp=Z,0.4nm,0.3s,baz=195,slow=11,SNR=30
ZALV Sn **Sn** **10 58 21.0 +1.5**
comp=Z,0.7nm,0.3s,baz=196,slow=20,SNR=3.9
ZALV Lg Lg 10 59 45.3
comp=Z,0.3nm,0.3s,baz=211,slow=25,SNR=5.1
ZALV LR LR 11 01 15.4
comp=Z,796nm,18.8s,baz=263,slow=38
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 13.39 16 *i* P **Pn** **10 55 50.2 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.9s
GOMU GeErMu 13.46 107 P **Pn** **10 55 48.8 -3.0**
GOMU S **Sn** **10 58 14.3 -7.6**
GOMU LR LR
comp=Z,180nm,9.6s
GOMU LR LR
comp=Z,170nm,9.1s
GOMU LR LR
comp=Z,110nm,11.0s
EVN Everest 14.75 151 Pn **Pn** **10 56 08.0 -1.7**
LSA Lhasa 15.23 135 P **Pn** **10 56 15.3 -0.8**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 15.23 135 Pn **Pn** **10 56 16.9 +0.8**
LSA Lhasa 15.23 135 P **Pn** **10 56 16.9 +0.8**
LSA pmax pmax
comp=Z,18nm,0.9s
AB31 Akbulak array 15.52 308 **Pn** **10 56 18.4 -0.8**
AB31 Akbulak array 15.52 308 ⇓Pn **Pn** **10 56 21.3 +2.1**
comp=Z,6.0nm,0.8s
AB31 ⇑Lg Lg 11 00 56.5
comp=Z,21nm,1.0s
ABKAR Akbulak array 15.52 308 **Pn** **10 56 18.6 -0.6**
KNGR Kungurtug, Tuv 16.04 48 *i* P **Pn** **10 56 26.9 +0.8**
GTA Gaotai 16.13 89 *e*P **Pn** **10 56 24.0 -3.4**
GTA SS **S** **10 59 40.0 -0.1**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA LR LR
comp=Z,430nm,12.0s
GTA LR LR
comp=Z,340nm,12.0s
GTA LR LR
comp=Z,390nm,13.1s
AKTO Aktyubinsk 17.14 310 P **Pn** **10 56 40.7 +0.7**
comp=Z,0.6nm,0.3s,baz=104,slow=9.8,SNR=11
AKTO LR LR 11 03 33.5
comp=Z,322nm,21.5s,baz=183,slow=38
comp=Z,4.5nm,0.6s
SHL Shillong 18.99 141 **P** **10 57 01.5 -1.0**
SHL IAmb IAmb 10 57 04.7
comp=Z,35nm,1.0s
SHL Shillong 18.99 141 P **P** **10 57 01.5 -1.0**
SHL pmax pmax
comp=Z,35nm,1.0s
ZAK Zakamensk 19.32 53 *e*P **Pn** **10 57 06.2 -0.6**
ZAK pmax pmax
comp=Z,16nm,1.4s
SVE Sverdlovsk 19.57 329 *e*P **P** **10 57 09.0 +0.7**
SVE *e*S **S** **11 00 50.6 +1.2**
SVE pmax pmax
comp=Z,61nm,1.3s
SVE MLR MLR
comp=Z,692nm,11.0s
TLY Talaya 19.98 50 *i* P **Pn** **10 57 15.6 +0.9**
LZDM Lanzhou Array 20.12 97 P **P** **10 57 14.4 -0.6**
comp=Z,1.9nm,0.3s,baz=279,slow=12,SNR=7.0
comp=Z,1.9nm,0.3s
ARTI Arti 20.18 326 **P** **10 57 14.7 -0.3**
ARTI IAmb IAmb 10 57 19.7
comp=Z,38nm,1.2s
ARTI Arti 20.18 326 P Pn 10 57 16.1 -0.8
comp=Z,18nm,1.0s,baz=131,slow=8.9,SNR=17
ARTI Lg Lg 11 03 20.6
comp=Z,0.2nm,0.3s,baz=98,slow=9.5,SNR=7.1
ARTI LR LR 11 05 18.6
comp=Z,586nm,18.3s,baz=114,slow=37
comp=Z,18nm,1.0s
ARTI Arti 20.18 326 *d* iP Pn 10 57 16.3 -0.6
ARTI 10 57 32.5
ARTI S Sn 11 01 04.6 +0.5
ARTI SS **SnSn** **11 01 23.1 +4.6**
ARTI pmax pmax
comp=Z,43nm,1.3s
ARTI MLR MLR
comp=Z,517nm,16.0s
LZH Lanzhou 20.19 96 *e*P **P** **10 57 15.5 +0.1**
LZH sP sP 10 57 22.3 +3.2
LZH pmax pmax
comp=Z,16nm,1.0s
LZH LR LR
comp=Z,330nm,12.4s
LZH LR LR
comp=Z,510nm,12.0s
LZH LR LR
comp=Z,450nm,12.9s
IRK Irkutsk 20.56 49 *e*P **P** **10 57 15.2 -4.0**
IRK pmax pmax
comp=E,69nm,1.9s
SONM Songino Array 20.70 62 **P** **10 57 20.2 -0.7**
SONM Songino Array 20.70 62 P **P** **10 57 20.6 -0.4**
comp=E,9.2nm,0.8s,baz=262,slow=10,SNR=8.6
comp=E,9.2nm,0.8s
ULN Ulaanbaatar 21.14 62 **P** **10 57 25.2 -0.5**
ULN IAmb IAmb 10 57 39.2
comp=Z,41nm,1.4s
ULN Ulaanbaatar 21.14 62 *ce*P **P** **10 57 26.3 +0.6**
ULN pmax pmax
comp=Z,37nm,2.5s
BRDH Bariadhala 21.39 146 P **P** **10 57 27.6 -0.7**
comp=Z,80nm,0.3s,baz=343,slow=8.9,SNR=3.9
BRDH LR LR 11 07 51.3
comp=Z,202nm,19.0s,baz=257,slow=43
CD2 Chengdu 22.57 109 P **P** **10 57 41.0 0.0**
CD2 pP pP 10 57 43.0 -0.4
CD2 sP sP 10 57 45.3 +0.6
CD2 pmax pmax
comp=Z,30nm,0.9s
TNCH TengChong 22.99 128 P **P** **10 57 47.5 +1.8**
TNCH pP sP 10 57 51.3 +1.9
TNCH pmax pmax
comp=Z,130nm,2.1s
MAK Makhachkala 23.23 285 *e*P **P** **10 57 44.3 -3.5**
MAK *e*S **S** **11 01 54.4 -5.7**
MAK pmax pmax
comp=Z,125nm,1.1s
MAK MLR MLR
comp=Z,275nm,17.0s
AKT Akhty 23.27 281 *e*P **P** **10 57 47.6 -0.8**
AKT *e*PPP PPP 10 58 22.7
AKT *e*S **S** **11 02 00.9 -0.2**
AKT pmax pmax
comp=Z,40nm,1.3s
AKT MLR MLR
comp=Z,287nm,15.0s
BTO Baotou 23.55 81 *e*P **P** **10 57 49.3 -1.8**
BTO sP **sP** **10 57 56.5 +1.7**
BTO PP pP 10 58 19.0 +25
BTO S **S** **11 02 03.0 -2.5**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,240nm,4.0s
BTO LR LR
comp=Z,620nm,5.2s
BTO LR LR
comp=Z,410nm,6.1s
BTO LR LR
comp=Z,680nm,14.6s
PZH PanZhiHua 23.94 121 P **P** **10 57 57.3 +2.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s

HHC Hu-ho-hao-te 24.65 80 *e*P **P** **10 58 01.8 +0.4**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,170nm,4.1s
HHC LR LR
comp=Z,160nm,12.6s
HHC LR LR
comp=Z,170nm,11.3s
HHC LR LR
comp=Z,160nm,13.9s
XAN Xi'an 24.82 97 P **P** **10 58 03.0 0.0**
XAN S **S** **11 02 27.5 +1.5**
XAN pmax pmax
comp=Z,15nm,0.8s
XAN pmax pmax
comp=Z,120nm,5.0s
XAN LR LR
comp=Z,570nm,11.5s
XAN LR LR
comp=Z,350nm,11.0s
XAN LR LR
comp=Z,370nm,14.4s
KIRV Kirov 25.41 323 LR LR 11 08 41.8
comp=Z,377nm,18.0s,baz=118,slow=38
KIRV Kirov 25.41 323 *ce*P **P** **10 58 09.4 +1.5**
KMI Kunming 25.54 121 P **P** **10 58 10.5 +0.8**
KMI pmax pmax
comp=Z,31nm,0.7s
KMI LR LR
comp=Z,300nm,13.9s
KMI LR LR
comp=Z,270nm,13.2s
KMI LR LR
comp=Z,240nm,19.5s
GNI Garni 25.76 279 LR LR 11 09 17.3
comp=Z,85nm,20.3s,baz=60,slow=39
GNI Garni 25.76 279 *ce*P **P** **10 58 14.3 +2.7**
GNI pmax pmax
comp=Z,27nm,1.3s
KBZ Khabaz 26.48 288 P **P** **10 58 19.8 +2.0**
comp=Z,1.0nm,0.5s,baz=125,slow=18,SNR=3.9
KBZ LR LR 11 10 32.7
comp=Z,184nm,18.2s,baz=62,slow=40
comp=Z,1.0nm,0.5s
KVAR Kislovodsk Arr 26.60 288 LR LR 11 09 21.8
comp=Z,249nm,19.4s,slow=38
KIV Kislovodsk 26.61 288 *e*P **P** **10 58 19.1 0.0**
KIV *e*S **S** **11 02 54.7 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,98nm,15.0s
SHA1 Shidzhatmaz 26.65 288 *i* P **P** **10 58 22.2 +2.5**
GYA Guiyang 27.27 114 ⇑P **P** **10 58 30.0 +4.8**
GYA pmax pmax
comp=Z,16nm,0.9s
VRH Novokhopyorsk 27.28 304 *e*P **P** **10 58 25.9 +0.9**
VRH pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 28.18 136 **P** **10 58 33.2 0.0**
CHTO Chiang Mai 28.18 136 P **P** **10 58 33.3 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
BJI Beijing 28.26 80 P **P** **10 58 35.5 +1.7**
BJI LR LR
comp=Z,92nm,12.6s
BJI LR LR
comp=Z,91nm,14.3s
BJI LR LR
comp=Z,130nm,16.2s
CMAR Chiang Mai Arr 28.48 137 **P** **10 58 37.9 +2.0**
CMAR Chiang Mai Arr 28.48 137 P **P** **10 58 34.5 -1.4**
comp=Z,1.1nm,0.5s,baz=315,slow=9.9,SNR=7.7
CMAR LR LR 11 11 48.5
comp=Z,110nm,20.5s,baz=330,slow=40
comp=Z,1.1nm,0.5s
CMAR Chiang Mai Arr 28.48 137 P **P** **10 58 37.9 +2.0**
VORD Divnogorie 28.78 303 *e*P **P** **10 58 38.0 -0.4**
VORD pmax pmax
comp=Z,8.0nm,1.0s
SOC Sochi 28.79 288 *e*P **P** **10 58 38.3 -0.2**
SOC *e* 10 59 28.5
SOC *e*PPP PPP 10 59 40.7
SOC *e*S **S** **11 03 28.1 -0.3**
SOC *e*SS **SnSn** **11 04 53.1 +3.9**
SOC *e*SSS SSS 11 05 14.4
SOC MLR MLR
comp=Z,184nm,18.0s
LPSR Galich'ya Gora 29.17 307 *e*P **P** **10 58 42.5 +0.7**
LPSR pmax pmax
comp=Z,17nm,0.9s
MARD Mardin 29.54 275 P **P** **10 58 46.7 +1.3**
MARD IAmb IAmb 10 58 49.5
comp=Z,14nm,1.0s
MOS Moscow 30.42 313 *e*P **P** **10 58 49.4 -3.4**
KLMR Klimovskoe 30.90 323 *e*P **P** **10 58 56.5 -0.5**
KLMR pmax pmax
comp=Z,31nm,1.6s
OBN Obninsk 30.91 311 *e*P **P** **10 58 57.7 +0.6**
OBN pmax pmax
comp=Z,9.0nm,1.0s
NJ2 Nanjing 33.17 93 *e*P **P** **10 59 17.5 +0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
ILGA Ilgaz 33.67 285 **P** **10 59 23.1 +1.3**
ILGA IAmb IAmb 10 59 33.4
comp=Z,12nm,1.1s
PALK Pallekele 33.81 177 *i* P P 10 59 29.7 +6.7
BR131 Keskin Array S 34.10 283 P **P** **10 59 26.3 +0.9**
BR131 Keskin Array S 34.10 283 *i* P **P** **10 59 26.4 +0.9**
BRTR Keskin Array B 34.10 283 P **P** **10 59 26.4 +0.9**
comp=Z,5.9nm,0.7s,baz=90,slow=7.5,SNR=32
BRTR LR LR 11 13 43.9
comp=Z,61nm,19.9s,baz=90,slow=37
comp=Z,5.9nm,0.7s
ZEA Zeya 34.40 52 *e*P **P** **10 59 30.2 +2.5**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
QIZ Qiongzhong 34.48 120 P **P** **10 59 29.5 +0.8**
QIZ PP **PP** **11 00 44.3 -2.5**
QIZ S **S** **11 04 59.8 +2.3**
QIZ LR LR
comp=Z,230nm,13.2s
QIZ LR LR
comp=Z,270nm,16.6s
QIZ LR LR
comp=Z,350nm,18.3s
HEH HeiHe 34.58 58 *e*P **P** **10 59 29.8 +0.5**
HEH pmax pmax
comp=Z,13nm,1.2s
AKASG Malin Array Be 35.16 303 P **P** **10 59 34.9 +0.6**
comp=Z,0.5nm,0.3s,baz=76,slow=8.4,SNR=8.0
AKASG LR LR 11 15 53.4
comp=Z,109nm,19.0s,baz=72,slow=40
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 35.16 303 *i* P **P** **10 59 34.9 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 35.16 303 **P** **10 59 34.5 +0.1**
AKBB IAmb IAmb 10 59 37.1
comp=Z,9.7nm,0.9s
AKBB Malin Array Si 35.16 303 *ce*P **P** **10 59 34.8 +0.5**
AKBB pmax pmax
comp=Z,12nm,1.0s
KIEV Kiev 35.17 303 P **P** **10 59 34.3 -0.1**
KIEV IAmb IAmb 10 59 37.1
comp=Z,8.8nm,0.9s
KIEV Kiev 35.17 303 P **P** **10 59 34.3 -0.1**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
LVZ Lovozero 35.69 333 *ce*P **P** **10 59 38.7 0.0**
LVZ pmax pmax
comp=Z,57nm,2.5s
MNK Minsk 35.86 309 *i* P **P** **10 59 42.9 +2.5**
comp=E,10.0nm,0.8s
MNK *i* P **P** **10 59 42.9 +2.5**
comp=N,18nm,0.8s,baz=90
MNK *i* P **P** **10 59 42.9 +2.5**
comp=Z,25nm,0.8s
MNK *i* PP **PP** **11 01 03.6 +2.0**
MNK *i* PPP PPP 11 01 17.3
MNK *i* PcP **PcP** **11 02 12.4 +4.9**
MNK *i* S **S** **11 05 22.3 +4.1**
MNK *i* SS **SnSn** **11 07 34.4 -6.3**
MNK *i* LQ LQ 11 11 39.9

MNK *i* LR LR 11 13 23.1
MNK *i* LRM MLR 11 14 29.0
comp=E,476nm,13.8s
MNK *i* LRM MLR 11 14 31.7
comp=N,372nm,16.4s
MNK *i* LRM MLR 11 14 55.5
comp=Z,87nm,16.0s
MNK Minsk 35.86 309 *i* P **P** **10 59 42.8 +2.5**
MNK *i* 11 01 03.5
MNK *i* PPP PPP 11 01 17.3
MNK *i* 11 02 12.3
MNK *i* S **S** **11 05 22.3 +4.1**
MNK *i* SS **SnSn** **11 07 34.4 -6.3**
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=E,476nm,14.0s
MNK MLR MLR
comp=N,372nm,16.0s
MNK MLR MLR
comp=Z,87nm,16.0s
NACGM Naroch 36.50 310 *e*P **P** **10 59 47.7 +1.9**
comp=Z,22nm,0.8s,baz=90
YAK Yakutsk 36.58 38 LR LR 11 14 40.6
comp=Z,125nm,19.0s,baz=254,slow=36
YAK Yakutsk 36.58 38 *ce*P **P** **10 59 48.5 +2.2**
YAK pmax pmax
comp=Z,24nm,1.3s
EIL Elat 37.17 266 LR LR 11 16 58.1
comp=Z,65nm,20.6s,baz=344,slow=39
FINES FINESS Array B 37.35 321 P **P** **10 59 53.9 +1.1**
FINES FINESS Array B 37.35 321 P **P** **10 59 53.5 +0.7**
comp=Z,4.6nm,0.7s,baz=101,slow=8.9,SNR=15
FINES LR LR 11 15 43.7
comp=Z,292nm,19.0s,baz=100,slow=37
comp=Z,4.6nm,0.7s
FINES FINESS Array B 37.35 321 P **P** **10 59 53.9 +1.1**
KSRS Korea Array 37.78 79 P **P** **10 59 56.0 -0.8**
comp=Z,4.0nm,0.9s,baz=285,slow=8.9,SNR=12
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 38.11 295 **P** **11 00 00.2 +0.5**
MLR IAmb IAmb 11 00 10.9
comp=Z,8.2nm,0.9s
MLR Muntele Rosu 38.11 295 LR LR 11 18 48.3
comp=Z,164nm,20.1s,baz=82,slow=41
MLR Muntele Rosu 38.11 295 P **P** **11 00 00.2 +0.5**
MLR pmax pmax
comp=Z,8.0nm,0.9s
BUR08 Bucovina Ar. S 38.17 298 **P** **11 00 00.7 +0.5**
BUR08 IAmb IAmb 11 00 10.2
comp=Z,15nm,1.4s
VADS Vadso 38.34 335 *e*P **P** **11 00 02.3 +1.2**
USRK Ussuriysk Ar. 38.64 67 P **P** **11 00 04.6 +0.6**
comp=Z,4.2nm,0.8s,baz=296,slow=3.9,SNR=5.5
comp=Z,4.2nm,0.8s
TIXI Tiksi 39.13 23 P **P** **11 00 06.7 -1.0**
TIXI IAmb IAmb 11 00 09.6
comp=Z,13nm,1.1s
TIXI Tiksi 39.13 23 LR LR 11 17 14.0
comp=Z,281nm,18.9s,baz=206,slow=38
TIXI Tiksi 39.13 23 *ce*P **P** **11 00 07.6 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
ARA0 ARCESS Array S 39.40 334 *e*P **P** **11 00 11.0 +1.0**
ARCES ARCESS Array B 39.40 334 P **P** **11 00 09.8 -0.2**
ARCES IAmb IAmb 11 00 11.7
comp=Z,15nm,0.9s
ARCES ARCESS Array B 39.40 334 P **P** **11 00 10.4 +0.4**
comp=Z,12nm,0.7s,baz=102,slow=9.2,SNR=72
ARCES LR LR 11 17 24.5
comp=Z,212nm,19.1s,baz=82,slow=38
comp=Z,12nm,0.7s
HAMF Hammerfest 40.32 335 *e*P **P** **11 00 18.8 +1.1**
STHS Stebnicka Huta 40.43 302 *e*P P 11 00 24.0 +5.1
STHS Stebnicka Huta 40.43 302 *e*P P 11 00 24.0 +5.1
JETT Jettan, Norway 41.13 333 *e*P **P** **11 00 25.8 +1.4**
OJC Ojcow 41.20 303 **P** **11 00 25.1 0.0**
OJC Ojcow 41.20 303 P **P** **11 00 25.2 0.0**
TRO Tromso 41.66 333 *e*P **P** **11 00 29.3 +0.6**
STEB Steborice 42.53 303 *e*P **P** **11 00 39.0 +2.9**
FAUS Fauske 42.68 329 *e*P **P** **11 00 37.7 +0.6**
MORC Moravsky Berou 42.71 303 *e*P **P** **11 00 38.4 +0.8**
STEI Steigen 42.74 330 *e*P **P** **11 00 38.3 +0.7**
JAVC Velka Javorina 42.84 302 *e*P **P** **11 00 40.8 +2.1**
JOW Kunigami 42.88 94 LR LR 11 21 37.2
comp=Z,87nm,19.1s,baz=12,slow=41
RAUS Rausandaksla 43.11 328 *e*P **P** **11 00 41.3 +0.8**
DPC Dobruska-Polom 43.35 304 *e*P **P** **11 00 43.3 +0.5**
DPC Dobruska-Polom 43.35 304 *e*P **P** **11 00 43.3 +0.5**
HFS Hagfors 43.37 319 P **P** **11 00 43.0 +0.3**
comp=Z,2.8nm,0.7s,baz=108,slow=9.3,SNR=11
HFS LR LR 11 19 20.9
comp=Z,279nm,19.9s,baz=84,slow=37
comp=Z,2.8nm,0.7s
VRAC Vranov 43.42 303 LR LR 11 19 00.3
comp=Z,92nm,21.7s,baz=68,slow=36
VAGH Vaagaholmen 43.43 328 *e*P **P** **11 00 43.3 +0.2**
LEIR Leirfjorden 43.47 327 *e*P **P** **11 00 44.9 +1.4**
UPC Upice 43.51 304 *e*P **P** **11 00 45.4 +1.4**
UPC Upice 43.51 304 *e*P **P** **11 00 45.4 +1.4**
STOK Stokkvaagen 43.52 328 *e*P **P** **11 00 44.3 +0.4**
KRUC Moravsky 43.61 302 *e*P **P** **11 00 45.8 +1.0**
NSS Namsos 43.95 325 *e*P **P** **11 00 47.5 +0.2**
NC602 NORSAR Array S 44.38 320 *e*P **P** **11 00 51.2 +0.4**
SPA0 Spitsbergen Ar 44.44 345 *e*P **P** **11 00 51.0 -0.2**
SPITS Spitsbergen Ar 44.44 345 P **P** **11 00 52.5 +1.3**
comp=Z,6.7nm,0.8s,baz=101,slow=13,SNR=5.6
SPITS LR LR 11 22 58.8
comp=Z,228nm,18.8s,baz=112,slow=41
comp=Z,6.7nm,0.8s
NB2 NORSAR Subarra 44.51 320 P **P** **11 00 52.1 +0.2**
comp=Z,1.7nm,0.6s,baz=85,slow=7.9
NB2 NORSAR Subarra 44.51 320 P **P** **11 00 52.1 +0.2**
baz=85,slow=7.9
NOA NORSAR Array B 44.51 320 P **P** **11 00 52.2 +0.3**
comp=Z,2.9nm,0.7s,baz=84,slow=8.0,SNR=5.2
NOA LR LR 11 19 56.1
comp=Z,223nm,18.5s,baz=90,slow=37
comp=Z,2.9nm,0.7s
BRG Berggiesshubel 44.71 305 *e*P **P** **11 00 54.7 +1.1**
BRG Amp 11 00 57.4
comp=Z,11nm,1.2s
CLL Collm 45.18 306 *i* P **P** **11 00 57.3 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 45.18 306 *i* P **P** **11 00 57.3 0.0**
comp=Z,8.0nm,1.1s
CLL *e*PP **PP** **11 02 44.0 +1.3**
GERES GERESS Array B 45.38 303 P **P** **11 01 00.1 +1.0**
comp=Z,2.6nm,0.9s,baz=63,slow=8.9,SNR=15
GERES LR LR 11 20 22.7
comp=Z,117nm,19.1s,baz=63,slow=37
comp=Z,2.6nm,0.9s
KHC Kasperske Hory 45.38 303 *e*P **P** **11 01 01.0 +2.0**
KHC Kasperske Hory 45.38 303 *e*P **P** **11 01 01.0 +2.0**
MJAR Matsushiro Arr 45.72 76 P **P** **11 01 00.7 -1.1**
comp=Z,2.3nm,0.8s,baz=285,slow=9.3,SNR=6.3
comp=Z,2.3nm,0.8s
ASAJ Asahikawa 45.96 64 LR LR 11 21 42.3
comp=Z,108nm,18.2s,baz=120,slow=38
MA2 Magadan 46.87 42 LR LR 11 19 48.1
comp=Z,34nm,19.8s,baz=281,slow=35
CIMO Cimolais 46.95 300 P **P** **11 01 11.0 -0.5**
CIMO IAmb IAmb 11 01 16.9
comp=Z,7.1nm,1.4s
SEY Seymchan 47.08 37 LR LR 11 21 17.3
comp=Z,88nm,18.7s,baz=292,slow=36
FURI Furi 47.85 239 LR LR 11 24 08.6
comp=Z,81nm,18.9s,baz=46,slow=40
BILL Bilibino 51.66 29 P **P** **11 01 47.4 +0.4**
BILL IAmb IAmb 11 01 49.9
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 51.99 343 *i* P **P** **11 01 49.5 +0.1**
DAG IAmb IAmb 11 01 52.1
comp=Z,11nm,0.8s
DBG Daneborg 53.20 340 *i* P **P** **11 01 59.4 +1.0**
DBG IAmb IAmb 11 02 01.1
comp=Z,4.6nm,0.9s
EKA Eskdalemuir Ar 53.22 315 P **P** **11 01 58.8 0.0**
comp=Z,0.8nm,0.3s,baz=83,slow=7.0,SNR=9.2
comp=Z,0.8nm,0.3s
KEST Kesra 53.35 288 LR LR 11 28 19.5

comp=Z,27nm,20.2s,baz=296,slow=40
KMBO Kilima Mbogo 56.50 233 LR LR 11 27 54.6
comp=Z,100nm,19.4s,baz=102,slow=38
BORG Borgarnes 57.61 330 LR LR 11 26 42.5
comp=Z,122nm,19.8s,baz=59,slow=35
NEEM North Greenlan 57.70 349 *i* P **P 11 02 33.0 +1.8**
NEEM IAmb IAmb 11 02 37.9
comp=Z,32nm,1.0s
ESDC Sonseca Array 60.62 299 P **P 11 02 51.5 -0.1**
comp=Z,2.8nm,1.1s,baz=60,slow=6.2,SNR=11
ESDC LR LR 11 31 30.1
comp=Z,49nm,18.1s,baz=56,slow=38
comp=Z,2.8nm,1.1s
RES Resolute Bay 64.34 358 LR LR 11 34 59.0
comp=Z,40nm,18.2s,baz=9.0,slow=39
MDT Midelt 64.74 292 LR LR 11 34 59.3
comp=Z,21nm,19.0s,baz=48,slow=39
MD01 Midelt array s 64.81 292 P **P 11 03 19.7 -0.1**
SFJD Kangerlussuaq 65.49 341 LR LR 11 35 24.4
comp=Z,60nm,19.2s,baz=3.0,slow=39
COLD Coldfoot 65.70 19 P **P 11 03 24.7 -0.1**
E29M Blow River 67.34 14 P **P 11 03 35.4 0.0**
E29M IAmb IAmb 11 03 40.4
comp=Z,8.5nm,1.4s
ILAR Eielson Array 68.48 19 P **P 11 03 41.2 -1.3**
comp=Z,1.6nm,0.9s,baz=316,slow=4.7,SNR=15
ILAR LR LR 11 37 52.4
comp=Z,120nm,18.8s,baz=300,slow=40
comp=Z,1.6nm,0.9s
J26L Joseph Creek 69.51 18 P **P 11 03 48.1 -0.9**
J26L IAmb IAmb 11 03 57.8
comp=Z,3.8nm,0.9s
I30M Mount Dempster 70.43 15 **P 11 03 54.0 -0.7**
I30M IAmb IAmb 11 04 00.9
comp=Z,5.6nm,0.9s
BCAR Beaver Creek A 71.15 18 P **P 11 03 59.0 -0.1**
K29M Barlow Dome 71.42 16 P **P 11 04 00.8 0.0**
TORD Torodi Ar. Bea 71.80 272 P **P 11 04 02.1 -1.5**
comp=Z,1.7nm,0.4s,baz=48,slow=6.7,SNR=2.8
comp=Z,1.7nm,0.4s
FRB Frobisher Bay 72.24 345 LR LR 11 39 14.3
comp=Z,72nm,18.9s,baz=6.0,slow=39
VRDI Verde Repeater 72.31 20 P **P 11 04 06.3 0.0**
VRDI IAmb IAmb 11 04 11.3
comp=Z,6.3nm,1.0s
KDAK Kodiak Island 72.44 26 LR LR 11 40 49.8
comp=Z,97nm,18.7s,baz=5.8,slow=40
N31M Braeburn, Yuko 73.90 16 P **P 11 04 15.1 -0.3**
N31M IAmb IAmb 11 04 26.7
comp=Z,7.9nm,0.9s
HYT Haines Junctio 74.11 18 P **P 11 04 16.7 -0.1**
HYT IAmb IAmb 11 04 23.7
comp=Z,4.8nm,0.8s
O30N Mendenhall 74.47 17 P **P 11 04 18.6 -0.2**
P33M Teslin, Yukon 75.67 16 P **P 11 04 25.5 -0.3**
YKA Yellowknife Ar 76.10 6 P **P 11 04 27.0 -1.0**
comp=Z,2.2nm,0.9s,baz=338,slow=5.6,SNR=2.5
YKA LR LR 11 39 36.6
comp=Z,67nm,20.5s,baz=317,slow=37
comp=Z,2.2nm,0.9s
DLBC Dease Lake 77.87 15 LR LR 11 43 24.2
comp=Z,623nm,19.8s,baz=221,slow=39
WB0 Warramunga Arr 79.57 128 **P 11 04 47.9 -0.1**
WRAB Tennant Creek 79.67 128 P **P 11 04 48.2 -0.3**
WRAB Tennant Creek 79.67 128 P **P 11 04 48.2 -0.3**
WRAB pmax pmax
comp=Z,12nm,1.0s
WRA Warramunga Arr 79.67 128 **P 11 04 48.7 +0.2**
WRA Warramunga Arr 79.67 128 P **P 11 04 47.4 -1.1**
comp=Z,8.7nm,1.0s,baz=327,slow=5.3,SNR=41
comp=Z,8.7nm,1.0s
WRA Warramunga Arr 79.67 128 P **P 11 04 48.7 +0.2**
WRA pmax pmax
comp=Z,1.0nm,1.5s
WR8 Warramunga Arr 79.78 128 **P 11 04 49.0 -0.1**
SCHQ Schefferville 79.94 341 LR LR 11 43 39.8
comp=Z,315nm,18.5s,baz=34,slow=38
KHWEE KHWEE 79.95 229 P **P 11 04 50.5 +0.4**
COEN Coen 80.81 118 P **P 11 04 55.0 +0.3**
AS31 Alice Springs 82.30 131 **P 11 05 02.1 -0.3**
ASAR Alice Springs 82.30 131 **P 11 05 02.1 -0.3**
ASAR Alice Springs 82.30 131 P **P 11 05 01.6 -0.8**
comp=Z,5.7nm,0.7s,baz=324,slow=5.4,SNR=59
comp=Z,5.7nm,0.7s
ASAR Alice Springs 82.30 131 P **P 11 05 02.1 -0.3**
TSUM Tsumeb 82.59 237 LR LR 11 43 22.5
comp=Z,78nm,18.7s,baz=333,slow=37
BBB Bella Bella 84.11 16 LR LR 11 45 21.0
comp=Z,42nm,21.5s,baz=3.5,slow=38
ULM Lac du Bonnet 88.82 357 LR LR 11 47 20.3
comp=Z,65nm,21.3s,baz=346,slow=37
NEW Newport 89.82 11 P **P 11 05 38.7 -0.7**
NEW IAmb IAmb 11 05 44.7
comp=Z,3.7nm,1.0s
NEW Newport 89.82 11 LR LR 11 48 47.4
comp=Z,40nm,21.0s,baz=323,slow=38
NEW Newport 89.82 11 P **P 11 05 38.7 -0.7**
NEW pmax pmax
comp=Z,4.0nm,1.0s
C09A Chrisman Ranch 90.11 11 P **P 11 05 40.0 -0.7**
C09A IAmb IAmb 11 05 42.3
comp=Z,5.1nm,1.1s
SADO Sadowa 92.17 344 LR LR 11 50 42.5
comp=Z,906nm,19.6s,baz=2.0,slow=38
STKA Stephens Creek 92.94 131 P **P 11 05 51.9 -1.9**
comp=Z,2.0nm,0.8s,baz=340,slow=10,SNR=3.3
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 96.09 6 P **P 11 06 07.0 -1.7**
comp=Z,0.5nm,0.9s,baz=71,slow=6.4,SNR=3.7
PDAR LR LR 11 53 32.7
comp=Z,29nm,19.9s,baz=330,slow=38
comp=Z,0.5nm,0.9s
VNDA Vanda 128.35 164 PKP **PKPdf 11 11 45.6 -0.5**
comp=Z,0.4nm,0.5s,baz=304,slow=2.5,SNR=4.5
QSPA South Pole Qui 130.97 180 PKP **PKiKP 11 11 53.0 +0.8**
comp=Z,1.2nm,0.7s,baz=266,slow=1.1,SNR=9.6

*SOME **27** 11:09:18.4,41°.12N×78°.83E,h10km*
*NNC **27** 11:09:18.8±1.1,41°.13N×78°.78E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=7.7km s-min=5.6km az=161.0
*KRNET **27** 11:09:19.7±0.1,41°.19N×78°.81E,h11km,mb2.9*
ISC 27 11:09:18.0±2.5,41°.10N±0°.08×78°.75E±0°.06,h9km±16km,
n33,σ1°51/50,10C-12D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.95 312**		⇑*iP*	**Pb**	**11 09 37.5**	**+0.6**
TARG				⇑*iS*	**Sb**	**11 09 50.8**	**+1.0**
PRZ	**Przheval'sk**	**1.41 350**		⇓*eP*	**Pg**	**11 09 45.3**	**+0.2**
PRZ				⇓*eS*	**Sg**	**11 10 04.0**	**+0.6**
KDJ	**Kajisay**	**1.56 312**		⇑*iP*	**Pg**	**11 09 48.7**	**+0.7**
KDJ				⇑*iS*	**Sg**	**11 10 09.4**	**+1.1**
SATY	**Saty**	**1.98 353**		Pg	**Pg**	**11 09 55.4**	**-0.5**
SATY	8.5nm,0.4s			Lg	Lg	11 10 22.4	
	23nm,0.3s						
UZB	**Uzynbulak**	**2.06**	**6**	Pg	**Pb**	**11 09 55.9**	**+0.2**
UZB	8.3nm,0.6s			Lg	Lg	11 10 22.9	
	23nm,0.3s						
UZB	**Uzynbulak**	**2.06**	**6**	*eP*	**Pb**	**11 09 55.9**	**+0.2**
UZB	4.0nm,0.3s			*eS*	**Sg**	**11 10 22.9**	**-1.2**
	23nm,0.3s						
ULHL	**Ulahol**	**2.20 302**		⇓*iP*	**Pb**	**11 09 59.7**	**+1.6**
ULHL				⇓*iS*	**Sg**	**11 10 28.9**	**+0.2**
PDGK	**Podgornoye**	**2.30**	**14**	⇓Pg	**Pb**	**11 09 59.8**	**+0.1**
PDGK	5.3nm,0.5s			⇓Lg	Lg	11 10 30.6	
	41nm,0.6s						
JNKS	**Jany-Kuch**	**2.34 270**		⇓*iP*	**Pb**	**11 10 02.5**	**+2.0**
JNKS				⇓*iS*	**Sg**	**11 10 33.2**	**+0.1**
KPKS	**Kokpek**	**2.37 359**		Pg	**Pb**	**11 10 01.5**	**+0.6**
KPKS	0.4nm,0.3s			Lg	Lg	11 10 32.7	
	19nm,0.5s						
MDOK	**Medeo**	**2.42 329**		Pg	**Pb**	**11 10 03.5**	**+1.7**
MDOK	14nm,0.6s			Lg	Lg	11 10 36.1	
	28nm,0.6s						
KURS	**Kuram**	**2.43 350**		Pg	**Pb**	**11 10 03.3**	**+1.4**
KURS	9.3nm,0.8s			Lg	Lg	11 10 36.1	
	9.5nm,0.5s						
KOTS	**Kotyrbulak**	**2.46 331**		*eP*	**Pg**	**11 10 04.3**	**-0.8**
KOTS	16nm,0.4s			*eS*	**Sg**	**11 10 37.3**	**+0.4**
	38nm,0.4s						
KNDC	**Almaty**	**2.50 329**		⇑Pg	**Pb**	**11 10 01.6**	**-1.5**
KNDC	19nm,0.5s			⇑Lg	Lg	11 10 38.1	
	47nm,0.6s						
IZV	**Izvestkoviy**	**2.51 321**		Pg	**Pb**	**11 10 05.3**	**+2.0**
IZV	5.1nm,0.4s			Lg	Lg	11 10 39.1	
	34nm,0.7s						
IZV	**Izvestkoviy**	**2.51 321**		*eP*	**Pb**	**11 10 05.3**	**+2.0**
IZV	5.1nm,0.4s			*eS*	**Sg**	**11 10 39.1**	**+0.6**
	34nm,0.7s						
BOOM	**Boomskoye usch**	**2.52 305**		⇑*iP*	**Pb**	**11 10 03.9**	**+0.4**
BOOM				⇑*iS*	**Sb**	**11 10 36.1**	**+1.4**
MTBS	**Maitube**	**2.67 320**		Pg	**Pb**	**11 10 07.3**	**+1.4**
MTBS	4.6nm,0.3s			Lg	Lg	11 10 43.2	
	20nm,0.7s						
MTBS	**Maitube**	**2.67 320**		*eP*	**Pb**	**11 10 07.9**	**+2.0**
MTBS	2.7nm,0.2s			*eS*	**Sg**	**11 10 43.4**	**-0.2**
	19nm,0.3s						
KST	**Kastek**	**2.84 314**		Pg	**Pb**	**11 10 11.1**	**+2.1**
KST	7.1nm,0.5s			Lg	Lg	11 10 49.4	
	16nm,0.9s						
KST	**Kastek**	**2.84 314**		*eP*	**Pg**	**11 10 11.6**	**-0.8**
KST	7.1nm,0.5s			*eS*	**Sg**	**11 10 49.9**	**+0.6**
	16nm,0.5s						
TKM2	**Tokmak 2**	**2.97 309**		⇓*iP*	**Pb**	**11 10 09.8**	**-1.4**
TKM2				⇓*iS*	**Sb**	**11 10 46.6**	**-1.2**
BLB	**Baldybastay**	**3.01 356**		Pg	**Pb**	**11 10 13.4**	**+1.6**
BLB	7.7nm,0.1s			Lg	Lg	11 10 52.8	
	68nm,0.7s						
KTBS	**Karatobe**	**3.03 330**		Pg	**Pb**	**11 10 13.8**	**+1.7**
KTBS	6.3nm,0.3s			Lg	Lg	11 10 53.6	
	14nm,0.5s						
CHKK	**Chushkaly**	**3.05 335**		Pg	**Pb**	**11 10 14.2**	**+1.8**
CHKK	96nm,0.3s			Lg	Lg	11 10 54.0	
	28nm,0.4s						
CHKK	**Chushkaly**	**3.05 335**		*eP*	**Pb**	**11 10 14.2**	**+1.8**
CHKK	96nm,0.3s			*eS*	**Sg**	**11 10 54.0**	**-1.9**
	28nm,0.4s						
ARXS	**Arharly**	**3.19 348**		Pg	**Pb**	**11 10 16.2**	**+1.4**
ARXS	4.6nm,1.0s			Lg	Lg	11 10 58.1	
	48nm,0.6s						
ARXS	**Arharly**	**3.19 348**		*eP*	**Pb**	**11 10 16.6**	**+1.8**
ARXS				*eS*	**Sg**	**11 10 58.5**	**-1.9**
KNOS	**Konyrlen**	**3.28**	**5**	Pg	**Pb**	**11 10 18.2**	**+1.8**
KNOS	4.8nm,0.5s			Lg	Lg	11 11 01.0	
	26nm,0.8s						
KUU	**Kurty**	**3.31 328**		*eP*	**Pb**	**11 10 19.0**	**+2.1**
KUU	3.6nm,0.0s			*eS*	**Sg**	**11 11 02.4**	**-2.0**
	1.8nm,0.0s						
UCH	**Uchtor**	**3.37 291**		⇑*iP*	**Pb**	**11 10 16.5**	**-1.6**
UCH				⇑*iS*	**Sb**	**11 10 58.3**	**-1.0**
KRBS	**Karabastau**	**3.45 320**		Pg	**Pb**	**11 10 21.6**	**+2.2**
KRBS	2.5nm,0.6s			Lg	Lg	11 11 07.1	
	3.8nm,0.5s						
FRU1	**Bishkek**	**3.52 301**		⇓*eP*	**Pb**	**11 10 17.8**	**-2.6**
FRU1				⇓*eS*	**Sb**	**11 11 00.4**	**-2.8**

*NNC **27** 11:14:55.7±4.8,41°.19N×78°.72E,h0km,mb3.5,mpv3.0,*
Error ellipse: s-maj=32.2km s-min=25.4km az=163.0
*KRNET **27** 11:14:57.1±0.1,41°.48N×78°.89E,h9km,mb2.6*
*SOME **27** 11:14:57.4,41°.18N×78°.72E,h15km*
ISC 27 11:14:56.8±2.0,41°.27N±0°.07×78.72E±0°.06,h19km±3km,
n22,σ1°26/36,13C-3D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.82 304**		⇑*iP*	**Pb**	**11 15 13.7**	**+0.9**
TARG				⇑*iS*	**Sb**	**11 15 25.8**	**+2.1**
PRZ	**Przheval'sk**	**1.23 349**		⇑*eP*	**Pn**	**11 15 18.0**	**-1.3**
PRZ				⇑*eS*	**Sb**	**11 15 33.2**	**-2.1**
KDJ	**Kajisay**	**1.44 307**		⇑*iP*	**Pg**	**11 15 24.3**	**-0.3**
KDJ				⇑*iS*	**Sg**	**11 15 44.2**	**+0.8**
SATY	**Saty**	**1.80 353**		P	**Pg**	**11 15 31.6**	**+0.1**
SATY	2.8nm,0.2s			S	**Sg**	**11 15 56.4**	**+1.4**
	7.8nm,0.2s						
UZB	**Uzynbulak**	**1.89**	**7**	Pg	**Pg**	**11 15 33.3**	**+0.1**
UZB	1.0nm,0.1s			Lg	Lg	11 15 59.1	
	6.3nm,0.4s						
UZB	**Uzynbulak**	**1.89**	**7**	*eP*	**Pg**	**11 15 33.3**	**+0.1**
UZB	1.0nm,0.1s			*eS*	**Sg**	**11 15 59.1**	**+1.4**
	5.7nm,0.3s						
PDGK	**Podgornoye**	**2.13**	**15**	⇑Pg	**Pn**	**11 15 32.7**	**+1.0**
PDGK	1.7nm,0.3s			⇓Lg	Lg	11 16 02.9	
	12nm,0.6s						
KPKS	**Kokpek**	**2.19 359**		Pg	**Pg**	**11 15 38.4**	**-0.5**
KPKS	0.3nm,0.2s			Lg	Lg	11 16 08.0	
	11nm,0.3s						
MDOK	**Medeo**	**2.26 327**		Pg	**Pg**	**11 15 39.4**	**-0.8**
MDOK	5.1nm,0.6s			Lg	Lg	11 16 09.6	
	7.1nm,0.5s						
KOTS	**Kotyrbulak**	**2.30 329**		*eP*	**Pg**	**11 15 39.9**	**-1.0**
KOTS	4.7nm,0.4s			*eS*	**Sg**	**11 16 10.6**	**-0.2**
	18nm,0.4s						
JNKS	**Jany-Kuch**	**2.32 266**		⇓*eP*	**Pg**	**11 15 40.8**	**-0.7**
JNKS				⇓*eS*	**Sg**	**11 16 12.8**	**+1.1**
KNDC	**Almaty**	**2.34 327**		⇑Pg	**Pn**	**11 15 35.6**	**+1.2**
KNDC	17nm,0.5s			⇑Lg	Lg	11 16 08.4	
	7.2nm,0.5s						
IZV	**Izvestkoviy**	**2.36 319**		Pg	**Pg**	**11 15 41.3**	**-0.8**
IZV	6.5nm,0.4s			Lg	Lg	11 16 13.1	
	5.7nm,0.2s						
IZV	**Izvestkoviy**	**2.36 319**		*eP*	**Pg**	**11 15 41.3**	**-0.8**
IZV	0.4nm,0.1s			*eS*	**Sg**	**11 16 13.0**	**+0.2**
	2.5nm,0.1s						
BOOM	**Boomskoye usch**	**2.41 301**		⇑*eP*	**Pb**	**11 15 40.0**	**+0.4**
BOOM				⇑*iS*	**Sb**	**11 16 11.5**	**+2.5**
MTBS	**Maitube**	**2.52 318**		*eP*	**Pg**	**11 15 44.7**	**-0.5**
MTBS	0.5nm,0.1s			*eS*	**Sg**	**11 16 18.5**	**+0.7**
	2.7nm,0.1s						
KST	**Kastek**	**2.71 312**		*eP*	**Pg**	**11 15 47.7**	**-1.1**
KST	3.1nm,0.3s			*eS*	**Sg**	**11 16 23.7**	**-0.2**
	6.5nm,0.4s						
KTBS	**Karatobe**	**2.87 329**		Pg	**Pg**	**11 15 50.0**	**-1.8**
KTBS	2.8nm,0.3s			Lg	Lg	11 16 28.0	
	5.3nm,0.5s						
CHKK	**Chushkaly**	**2.88 334**		*eP*	**Pg**	**11 15 51.8**	**-0.2**
CHKK	20nm,0.1s			*eS*	**Sg**	**11 16 31.0**	**+1.6**
	6.0nm,0.4s						
ARXS	**Arharly**	**3.01 348**		*eP*	**Pg**	**11 15 53.7**	**-0.9**
ARXS				*eS*	**Sg**	**11 16 34.4**	**+0.7**
KNOS	**Konyrlen**	**3.10**	**6**	Pg	**Pg**	**11 15 54.6**	**-1.7**
KNOS	1.7nm,0.3s			Lg	Lg	11 16 36.2	
	9.2nm,0.6s						
FRU1	**Bishkek**	**3.41 298**		⇑*eP*	**Pb**	**11 15 54.4**	**-2.3**
FRU1				⇑*eS*	**Sb**	**11 16 36.1**	**-1.7**

*SJA **27** 11:44:10.2±0.7,23°.51S×66°.86W,h217km±6km,ML4.0,*
MW4.0
*IDC **27** 11:44:10.3±1.6,23°.46S×66°.61W,h185km±15km,mb3.7/8,*
mbtmp4.1/13,MS3.2/3,Error ellipse: s-maj=19.8km
s-min=12.7km az=92.0
*NEIC **27** 11:44:11.7±1.8,23°.51S±0°.07×66°.9W±0°.1,h205km±7km,*
mb4.2/13,Error ellipse: s-maj=16.2km s-min=10.1km
az=95.0
ISC 27 11:44:10.7±0.6,23°.54S±0°.04×66°.86W±0°.04,h201km±5km,
n95,σ1°53/113,mb4.0/10,8C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.83 145**		⇑*iP*	**Pn**	**11 44 42.0**	**+1.9**
SALTA				*i* S	**S**	**11 45 05.5**	**+2.6**
SALTA		**0.83 145**		*eP*	**Pn**	**11 44 41.9**	**+1.9**
SALTA				*eS*	**S**	**11 45 05.2**	**+2.4**
AF01	**San Pedro de A**	**1.35 295**			**Pn**	**11 44 45.4**	**+1.9**
AF01				Sn	**S**	**11 45 08.7**	**+0.2**
AF01	**San Pedro de A**	**1.35 295**		*i* P	**Pn**	**11 44 46.0**	**+2.5**
AF01	**San Pedro de A**	**1.35 295**		*eP*	**Pn**	**11 44 45.6**	**+2.1**
AF01				*eS*	S	11 45 26.3	+18
SLA	**San Lorenzo**	**1.71 134**		*eP*	**Pn**	**11 44 49.0**	**+2.5**
AZAP	**Zapla**	**1.78 113**		*eP*	**Pn**	**11 44 48.5**	**+1.3**
YJA	**Yavi**	**1.84 43**		*eP*	**Pn**	**11 44 49.7**	**+1.6**
YJA				*eS*	**S**	**11 45 13.8**	**-2.8**
YJA				IAML		11 45 19.3	
	comp=Z,33nm,0.7s						
PB06	**IPOC Station P**	**2.63 288**			**Pn**	**11 44 57.6**	**+1.4**
PB06				Sn	**S**	**11 45 32.0**	**+0.9**
PB06	**IPOC Station P**	**2.63 288**		⇑*iP*	**Pn**	**11 44 57.9**	**+1.7**
PB06				*i* S	**S**	**11 45 32.1**	**+1.0**
PB06				IAML		11 45 32.5	
	comp=N,3μm,0.2s						
FSA	**Cafayete**	**2.68 163**		*eP*	**Pn**	**11 44 58.5**	**+1.7**
PB09	**IPOC Station P**	**2.80 308**			**Pn**	**11 44 59.4**	**+1.2**
PB09				Sn	**S**	**11 45 36.0**	**+1.3**
PB09	**IPOC Station P**	**2.80 308**		⇑*iP*	**Pn**	**11 45 00.1**	**+1.9**
PB09				*i* S	**S**	**11 45 35.2**	**+0.6**
PB09				IAML		11 45 39.0	
	comp=N,543nm,0.4s						
GO02	**Mina Guanaco**	**2.97 236**			**Pn**	**11 45 01.5**	**+1.2**
GO02	**Mina Guanaco**	**2.97 236**		⇓*iP*	**Pn**	**11 45 01.9**	**+1.6**
GO02				*i* S	**S**	**11 45 40.1**	**+1.7**
PB03	**IPOC Station P**	**3.05 298**			**Pn**	**11 45 01.8**	**+0.6**
PB10	**IPOC Station P**	**3.39 270**			**Pn**	**11 45 06.2**	**+1.3**
PB10				Sn	**S**	**11 45 46.0**	**-0.9**
PB10	**IPOC Station P**	**3.39 270**		*i* P	**Pn**	**11 45 06.3**	**+1.3**
PB10				*i* S	**S**	**11 45 45.8**	**-1.1**
PB10	**IPOC Station P**	**3.39 270**		*eP*	**Pn**	**11 45 06.3**	**+1.3**
PB10				*eS*	**S**	**11 45 46.6**	**-0.3**
PB10				IAML		11 45 48.8	
	comp=Z,490nm,0.3s						
PB14	**IPOC Station P**	**3.42 251**			**Pn**	**11 45 06.2**	**+0.6**
PB14	**IPOC Station P**	**3.42 251**		*eP*	**Pn**	**11 45 06.6**	**+1.0**
PB14				*eS*	**S**	**11 45 48.3**	**+0.4**
PB14				IAML		11 45 50.0	
	comp=Z,308nm,0.3s						
PB01	**IPOC Station P**	**3.48 315**			**Pn**	**11 45 06.6**	**+0.4**
PB01	**IPOC Station P**	**3.48 315**		⇑*iP*	**Pn**	**11 45 06.8**	**+0.6**
PB01				*i* S	**S**	**11 45 48.1**	**-0.8**
PB02	**IPOC Station P**	**3.57 308**			**Pn**	**11 45 07.8**	**+0.5**
AC02	**Maricunga**	**3.87 212**			**Pn**	**11 45 12.9**	**+1.5**
AC02	**Maricunga**	**3.87 212**		*eP*	**Pn**	**11 45 12.9**	**+1.5**
AC02				*eS*	**S**	**11 45 58.8**	**+0.4**
PB08	**IPOC Station P**	**4.00 327**			**Pn**	**11 45 14.0**	**+1.1**
PB08	**IPOC Station P**	**4.00 327**		⇑*iP*	**Pn**	**11 45 14.2**	**+1.4**
PB08				*i* S	**S**	**11 46 01.2**	**+0.2**
PATCX	**Punta Patache**	**4.08 311**			**Pn**	**11 45 13.4**	**-0.2**
TA01	**Diego Aracena**	**4.27 313**			**Pn**	**11 45 15.9**	**0.0**
TA01	**Diego Aracena**	**4.27 313**		*eP*	**Pn**	**11 45 15.7**	**-0.2**
TA01				*eS*	**S**	**11 46 05.2**	**-1.3**
TA01				IAML		11 46 09.3	
	comp=Z,161nm,0.5s						
TA01				IAML		11 46 09.6	
	comp=Z,160nm,0.5s						
AC01	**Pan de Azucar**	**4.28 232**			**Pn**	**11 45 15.6**	**-0.3**
AC01	**Pan de Azucar**	**4.28 232**		*eP*	**Pn**	**11 45 15.9**	**0.0**
AC01				*eS*	**S**	**11 46 05.2**	**-1.5**
AC01				*eS*	S	11 46 06.3	-0.4
AC01				IAML		11 46 09.1	
	comp=Z,227nm,0.3s						
HMBC	**Humberstone**	**4.29 319**			**Pn**	**11 45 15.7**	**-0.7**
GO01	**Chusmiza**	**4.42 330**		Pn	**Pn**	**11 45 18.9**	**+0.7**
TA02	**Huaiquique**	**4.45 316**		*eP*	**Pn**	**11 45 17.4**	**-0.7**
TA02				*eS*	**S**	**11 46 09.3**	**-1.3**
TA02				IAML		11 46 12.8	
	comp=Z,219nm,0.3s						
PB11	**IPOC Station P**	**4.57 325**			**Pn**	**11 45 19.6**	**-0.3**
AC06	**Mina Casimiro**	**4.94 219**			**Pn**	**11 45 23.6**	**-0.8**
GO03	**Copiapo**	**5.06 216**			**Pn**	**11 45 25.3**	**-0.6**
VCA	**Vinchina**	**5.32 193**		*eP*	**Pn**	**11 45 26.3**	**-2.9**
VCA				*eP*		11 45 31.2	
PB16	**IPOC Station P**	**5.74 334**			**Pn**	**11 45 34.9**	**-0.3**
PB12	**IPOC Station P**	**5.87 326**			**Pn**	**11 45 35.1**	**-1.4**
AC04	**Llanos de Chal**	**6.00 218**			**Pn**	**11 45 36.1**	**-1.8**
LPAZ	**La Paz**	**7.31 350**			**Pn**	**11 45 56.6**	**+0.9**
LPAZ	**La Paz**	**7.31 350**		P	**Pn**	**11 45 56.0**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=160,slow=4.6,SNR=34						
LPAZ				S	**S**	**11 47 16.2**	**-2.5**
	comp=Z,2.8nm,0.5s,baz=252,slow=20,SNR=6.0						
LPAZ				LR	LR	11 49 29.5	
	comp=Z,37nm,18.8s,baz=120,slow=44						
CO05	**La Serena**	**7.46 211**		Pn	**Pn**	**11 45 55.6**	**-1.3**
GO04	**Tololo Observa**	**7.49 207**			**Pn**	**11 45 55.9**	**-1.5**
CO03	**El Pedregal**	**8.03 204**			**Pn**	**11 46 03.2**	**-1.1**
CFA	**Coronel Fontan**	**8.13 188**		P	**Pn**	**11 46 05.2**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=1.8,slow=10,SNR=50						
CFA				S	**S**	**11 47 31.4**	**-5.8**
	comp=Z,4.7nm,0.3s,baz=84,slow=21,SNR=13						
ZON	**Zonda**	**8.14 191**			**Pn**	**11 46 05.6**	**-0.2**
CO06	**Fray Jorge**	**8.28 210**		Pn	**Pn**	**11 46 05.7**	**-1.9**
CO02	**Combarbal**	**8.47 205**			**Pn**	**11 46 08.2**	**-1.9**
CPUP	**Villa Florida**	**9.09 110**		P	**Pn**	**11 46 14.5**	**-3.5**
	comp=Z,0.3nm,0.5s,baz=260,slow=6.2,SNR=2.3						
SIV	**San Ignacio**	**9.27**	**37**	P	**Pn**	**11 46 18.2**	**-2.4**
	comp=Z,16nm,0.5s,baz=220,slow=11,SNR=129						
VA03	**San Esteban**	**9.75 199**			**Pn**	**11 46 25.4**	**-1.3**
MT02	**Curacav**	**10.39 200**		Pn	**Pn**	**11 46 31.7**	**-3.1**
LMEL	**Las Melosas**	**10.68 195**		Pn	**Pn**	**11 46 36.9**	**-1.9**
MT09	**Talagante**	**10.82 199**			**Pn**	**11 46 37.7**	**-2.9**
PTLB	**Pontes e Lacer**	**10.85**	**44**		**Pn**	**11 46 40.2**	**-0.7**
BO04	**La Punta**	**10.92 197**		Pn	**Pn**	**11 46 40.9**	**-0.8**
MT01	**Popeta**	**10.98 200**		Pn	**Pn**	**11 46 40.6**	**-1.9**
BO02	**Sierra Bellavi**	**11.72 196**			**Pn**	**11 46 51.8**	**-0.3**
VILB	**Vilhena**	**12.28**	**32**		**Pn**	**11 46 59.5**	**+0.3**
TRQA	**Tornquist**	**15.06 165**		P	**P**	**11 47 33.1**	**-1.1**
TRQA				IAmb	IAmb	11 47 35.9	
	comp=Z,6.6nm,0.9s						
PLCA	**Paso Flores**	**17.42 189**		P	**Pn**	**11 48 00.6**	**-1.3**
PLCA	**Paso Flores**	**17.42 189**		P	**Pn**	**11 48 01.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=357,slow=12,SNR=7.3						
VAO	**Valinhos**	**18.29**	**92**	P	**P**	**11 48 10.0**	**+0.3**
BDFB	**Brasilia**	**19.40**	**70**	P	**P**	**11 48 22.3**	**+0.4**
BDFB				IAmb	IAmb	11 48 23.0	
	comp=Z,4.2nm,0.6s						
BDFB	**Brasilia**	**19.40**	**70**	P	**P**	**11 48 21.7**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=242,slow=9.9,SNR=6.6						
LL02	**Futaleuf**	**20.03 191**		P	Pn	11 48 29.9	-2.8
LL02				IAmb	IAmb	11 48 38.8	
	comp=Z,4.0nm,0.8s						
MACA	**Manacapuru-AM**	**21.12**	**17**	P	**P

comp=Z,3.1nm,0.5s,baz=146,slow=3.6,SNR=61
comp=Z,3.1nm,0.5s
VNDA Vanda 75.17 190 P P 11 55 32.7 +2.3
VNDA Vanda 75.17 190 P P 11 55 32.4 +2.0
comp=Z,0.6nm,0.4s,baz=117,slow=2.3,SNR=8.1
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 76.28 69 P P 11 55 37.2 -0.5
comp=Z,0.8nm,0.3s,baz=263,slow=4.6,SNR=1.8
comp=Z,0.8nm,0.3s
BOSA Boshof 80.83 117 P P 11 56 02.3 -0.3
BOSA IAmb IAmb 11 56 30.9
comp=Z,18nm,1.5s
BOSA Boshof 80.83 117 P P 11 56 02.5 -0.1
comp=Z,2.7nm,1.0s,baz=228,slow=3.8,SNR=7.2
comp=Z,2.7nm,1.0s
EGMT Eagleton 80.97 332 P P 11 56 02.7 0.0
MAW Mawson 81.84 163 P P 11 56 08.3 +1.3
comp=Z,2.0nm,0.8s,baz=218,slow=7.2,SNR=8.9
MAW LR LR 12 29 53.1
comp=Z,48nm,20.8s,baz=11,slow=34
comp=Z,2.0nm,0.8s
LBTB Lobatse 82.45 114 P P 11 56 10.3 -0.9
LBTB IAmb IAmb 11 56 42.2
comp=Z,16nm,1.5s
LBTB Lobatse 82.45 114 P P 11 56 10.9 -0.3
comp=Z,1.7nm,0.5s,baz=246,slow=6.5,SNR=5.4
comp=Z,1.7nm,0.5s
ASAR Alice Springs 128.93 205 PKP PKiKP 12 02 55.5 -0.4
comp=Z,0.3nm,0.8s,baz=148,slow=1.8,SNR=4.6
WRA Warramunga Arr 132.09 207 PKP PKiKP 12 03 02.1 -0.2
comp=Z,0.2nm,0.4s,baz=147,slow=1.8,SNR=2.0
ZALV Zalesovo Beam 142.93 28 PKP PKPdf 12 03 18.7 -1.2
comp=Z,0.6nm,0.3s,baz=343,slow=1.5,SNR=1.6
MKAR Makanchi Array 146.09 39 PKPbc PKPab 12 03 26.9 -1.1
comp=Z,1.3nm,0.7s,baz=299,slow=3.3,SNR=14
CMAR Chiang Mai Arr 165.81 108 PKPab PKPab 12 04 53.2 +0.4
comp=Z,0.8nm,0.7s,baz=228,slow=3.8,SNR=4.9

IDC 27 11:47:36.8±3.2, 30°.14S×177°.16W, $h0^{km}$, mb3.7/2, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=73.4km s-min=37.6km az=114.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.38**	**209**	Pn	Pn	11 49 54.0	+0.7
URZ	0.1nm,0.3s,baz=36,slow=19,SNR=2.0			Sn	Sn	11 51 37.8	-1.7
	0.5nm,0.3s,baz=82,slow=21,SNR=7.4 7.2nm,1.0s						
ASAR	**Alice Springs**	**43.85**	**266**	P	P	11 55 45.3	+0.2
	0.5nm,0.8s,baz=104,slow=7.1,SNR=14 0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.82**	**271**	P	P	11 55 52.5	-0.4
	0.8nm,0.4s,baz=111,slow=7.8,SNR=12 0.8nm,0.4s						
QSPA	**South Pole Qui**	**59.97**	**180**	P	P	11 57 51.3	+6.5
	0.4nm,0.8s,baz=9.6,slow=3.7,SNR=1.4						
H03S2	**Juan Fernandez**	**80.00**	**123**	T	T	13 29 16.6	
	baz=238						
H03S1	**Juan Fernandez**	**80.01**	**123**	T	T	13 29 17.7	
	baz=238						
H03S3	**Juan Fernandez**	**80.01**	**123**	T	T	13 29 16.8	
	baz=238						
FINES	**FINESS Array B**	**145.15**	**341**	PKPbc	PKPbc	12 07 14.1	-1.0
	1.1nm,0.7s,baz=48,slow=2.1,SNR=5.7						

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*IDC **27** 12:02:14.0±1.0, 53°.97N×164°.33W, $h0^{km}$, mb3.9/19, mbtmp4.0/22, ML4.2/2, Error ellipse: s-maj=26.4km s-min=16.1km az=169.0*
*AEIC **27** 12:02:19.2±1.8, 53°.85N±0°.06×164°.00W±0°.07, $h26^{km}\pm5^{km}$, Error ellipse: s-maj=9.6km s-min=4.2km az=149.0*
*NEIC **27** 12:02:20.2±1.4, 53°.89N±0°.05×164°.03W±0°.07, $h42^{km}\pm8^{km}$, mb3.8/13, ML4.0/18, ML3.8(AEIC), Error ellipse: s-maj=8.9km s-min=4.9km az=150.0*

ISC 27 12:02:20.5±1.2, 53°.92N±0°.08×164°.00W±0°.05, $h50^{km}\pm10^{km}$, n126, σ1§10/124, mb4.1/19, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.80**	**360**		**Pn**	**12 02 35.0**	**-0.6**
SSLS					**Sn**	**12 02 46.2**	**-0.3**
WEBT	**Westdahl Beart**	**0.81**	**327**		**Pn**	**12 02 35.2**	**-0.5**
WEBT					**Sn**	**12 02 47.6**	**+0.8**
SSBA	**Shishaldin**	**0.86**	**355**		**Pn**	**12 02 35.9**	**-0.5**
SSBA					**Sn**	**12 02 48.0**	**0.0**
ISNN	**Isanotski Nort**	**0.93**	**8**		**Pn**	**12 02 37.4**	**+0.2**
ISNN					**Sn**	**12 02 50.6**	**+1.1**
FALS	**False Pass**	**1.00**	**20**		**Pn**	**12 02 37.9**	**-0.2**
FALS	**False Pass**	**1.00**	**20**		**Sn**	**12 02 51.5**	**+0.2**
FALS	**False Pass**	**1.00**	**20**	P	**Pn**	**12 02 38.0**	**-0.2**
AKSA	**Akutan Strait**	**1.03**	**283**		**Pn**	**12 02 37.7**	**-0.9**
AKSA					**Sn**	**12 02 51.3**	**-0.6**
AKUT	**Akutan**	**1.07**	**282**		**Pn**	**12 02 38.3**	**-0.9**
AKUT					**Sn**	**12 02 52.7**	**-0.2**
AKUT	**Akutan**	**1.07**	**282**	IAML		12 02 53.1	
	comp=N,3μm,0.3s						
AKUT				IAML		12 02 53.6	
	comp=E,2μm,0.3s						
AKUT	**Akutan**	**1.07**	**282**	P	**Pn**	**12 02 38.6**	**-0.5**
AKBBA	**Akutan Broad B**	**1.16**	**280**		**Pn**	**12 02 39.5**	**-0.9**
AKLV	**Akutan Long Va**	**1.18**	**283**		**Pn**	**12 02 39.9**	**-0.8**
AKLV					**Sn**	**12 02 54.9**	**-0.8**
ZRO	**Akutan Zero**	**1.18**	**279**		**Pn**	**12 02 40.0**	**-0.7**
AKGG	**Akutan Green G**	**1.21**	**284**		**Pn**	**12 02 40.6**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.24**	**281**		**Pn**	**12 02 40.9**	**-0.6**
UNV	**Unalaska Valle**	**1.49**	**268**		**Pn**	**12 02 43.5**	**-1.3**
DT1	**Dutton Round H**	**1.56**	**39**		**Pn**	**12 02 45.5**	**-0.2**
MNAT	**Makushin Natee**	**1.59**	**270**		**Pn**	**12 02 45.2**	**-1.1**
MREP	**Makushin Rep't**	**1.63**	**267**		**Pn**	**12 02 46.1**	**-0.8**
MSW	**Makushin Switc**	**1.65**	**271**		**Pn**	**12 02 46.1**	**-0.9**
MGOD	**Makushin Gods**	**1.71**	**267**		**Pn**	**12 02 47.1**	**-0.7**
MAPS	**Pakushin South**	**1.75**	**268**		**Pn**	**12 02 47.5**	**-0.9**
DOL	**Dolgoi Island**	**1.75**	**44**		**Pn**	**12 02 48.4**	**0.0**
HAG	**Hague Volcano**	**1.86**	**40**		**Pn**	**12 02 50.4**	**+0.5**
PS4A	**Pavlof South-4**	**1.90**	**40**		**Pn**	**12 02 50.5**	**+0.1**
PN7A	**Pavlof North-7**	**1.91**	**37**		**Pn**	**12 02 51.2**	**+0.5**
PS1A	**Pavlof South-1**	**2.00**	**40**		**Pn**	**12 02 52.8**	**+1.0**
S12K	**Black Hills**	**2.11**	**31**		**Pn**	**12 02 53.7**	**+0.4**
S12K				IAML		12 03 25.9	
	comp=N,1μm,0.3s						
S12K				IAML		12 03 26.2	
	comp=E,1μm,0.3s						
OKTU	**Okmok Mt. Tuli**	**2.47**	**259**		**Pn**	**12 02 58.8**	**+0.5**
SDPT	**Sand Point**	**2.50**	**54**		**Pn**	**12 02 59.1**	**+0.5**
SDPT				IAML		12 03 41.8	
	comp=N,732nm,0.8s						
SDPT				IAML		12 03 48.0	
	comp=E,580nm,0.9s						
SDPT	**Sand Point**	**2.50**	**54**	P	**Pn**	**12 02 59.8**	**+1.2**
OKSP	**Okmok Steeple**	**2.65**	**257**		**Pn**	**12 03 01.0**	**+0.3**
CNBA	**Chernabura Isl**	**2.73**	**69**		**Pn**	**12 03 01.5**	**-0.3**
CHNA	**Chernabura Isl**	**2.73**	**69**	P	**Pn**	**12 03 02.4**	**+0.6**
NIKH	**Nikolski High**	**3.06**	**254**	Pn	**Pn**	**12 03 05.2**	**-1.1**
NIKH				IAML		12 03 52.3	
	comp=E,304nm,0.8s						
NIKH				IAML		12 03 54.2	
	comp=N,500nm,0.7s						
NIKH	**Nikolski High**	**3.06**	**254**	P	**Pn**	**12 03 06.3**	**0.0**
VNKR	**Veniaminof 5**	**3.41**	**50**		**Pn**	**12 03 11.8**	**+0.7**
P08K	**Saint George I**	**4.16**	**312**	Pn	**Pn**	**12 03 20.1**	**-1.3**
P08K				IAML		12 05 07.8	
	comp=E,273nm,2.6s						
P08K				IAML		12 05 24.4	
	comp=N,254nm,3.0s						
SPIA	**Saint Paul Isl**	**4.82**	**315**		**Pn**	**12 03 29.9**	**-0.5**
O14K	**Tigyukauivet M**	**5.56**	**15**	Pn	**Pn**	**12 03 41.6**	**+1.1**
O15K	**Ungalashiuk R**	**5.75**	**22**	Pn	**Pn**	**12 03 44.7**	**+1.4**
P16K	**Nushagak River**	**6.11**	**31**		**Pn**	**12 03 49.4**	**+1.3**
N14K	**Kuskokwak Cree**	**6.15**	**11**	Pn	**Pn**	**12 03 49.9**	**+1.2**
M13K	**Dall Lake**	**6.52**	**3**	Pn	**Pn**	**12 03 55.2**	**+1.5**
O16K	**Kokwok River B**	**6.55**	**27**		**Pn**	**12 03 54.2**	**+0.1**
M11K	**Mekoryuk**	**6.59**	**350**	Pn	**Pn**	**12 03 55.2**	**+0.5**
OHAK	**Old Harbor**	**6.92**	**57**	P	**Pn**	**12 04 00.1**	**+1.0**
M14K	**Bethel**	**6.94**	**8**		**Pn**	**12 03 59.9**	**+0.4**
M15K	**Kasigluk River**	**7.03**	**13**		**Pn**	**12 04 01.9**	**+1.2**
L14K	**Kuka Creek**	**7.48**	**5**		**Pn**	**12 04 08.0**	**+1.2**
KDAK	**Kodiak Island**	**7.50**	**54**	Pn	**Pn**	**12 04 07.2**	**+0.1**
KDAK	**Kodiak Island**	**7.50**	**54**	Pn	**Pn**	**12 04 05.7**	**-1.4**
	comp=N,1.2nm,0.3s,baz=214,slow=2.2,SNR=10						
KDAK				Sn	**Sn**	**12 05 25.1**	**-5.5**
	baz=29,slow=7.2						
	comp=N,12nm,0.9s						
M16K	**Timber Creek**	**7.62**	**19**	Pn	**Pn**	**12 04 10.3**	**+1.5**
L15K	**Ungalak Mounta**	**7.90**	**9**		**Pn**	**12 04 13.5**	**+1.0**
ADK	**Adak**	**7.94**	**260**	P	**Pn**	**12 04 15.9**	**+2.7**
N18K	**Kilae Creek**	**8.07**	**30**	Pn	**Pn**	**12 04 15.2**	**+0.2**
L16K	**Owhat River**	**8.18**	**15**		**Pn**	**12 04 16.2**	**-0.2**
M17K	**Holitna River**	**8.28**	**22**		**Pn**	**12 04 19.2**	**+1.4**
L18K	**Granite Mounta**	**9.17**	**22**	Pn	**Pn**	**12 04 31.6**	**+1.6**
K17K	**Iditarod**	**9.31**	**16**	Pn	**Pn**	**12 04 32.8**	**+0.9**
J16K	**Anvik River**	**9.56**	**9**	Pn	**Pn**	**12 04 35.8**	**+0.5**
J17K	**VABM Dome**	**9.84**	**13**	Pn	**Pn**	**12 04 40.6**	**+1.4**
M20K	**Styx River**	**9.85**	**31**		**Pn**	**12 04 40.9**	**+1.6**
K20K	**Telida**	**10.77**	**25**		**Pn**	**12 04 52.9**	**+1.0**
J20K	**Nowinta River**	**11.45**	**22**		**Pn**	**12 05 02.5**	**+1.4**
HIN	**Hinchinbrook I**	**11.48**	**49**	Pn	**Pn**	**12 05 00.6**	**-1.0**
EYAK	**Cordova Ski Ar**	**11.88**	**49**	P	**Pn**	**12 05 08.1**	**+1.1**
KLU	**Klutina**	**12.25**	**45**		**Pn**	**12 05 10.9**	**-1.2**
M24K	**Tolsona, Glenn**	**12.47**	**42**	Pn	**Pn**	**12 05 14.1**	**-1.1**
I21K	**Tanana**	**12.80**	**23**		**Pn**	**12 05 17.3**	**-2.1**
N25K	**Chitina, Valde**	**12.86**	**45**	Pn	**Pn**	**12 05 19.5**	**-1.0**
WAX	**Waxell Ridge**	**13.16**	**52**	Pn	**Pn**	**12 05 23.5**	**-1.1**
VRDI	**Verde Repeater**	**13.19**	**48**	Pn	**Pn**	**12 05 24.0**	**-1.0**
I23K	**Minto, Yukon-K**	**13.44**	**27**		**Pn**	**12 05 28.5**	**+0.3**
MESA	**MESA**	**13.50**	**53**	Pn	**Pn**	**12 05 28.9**	**-0.3**
YAH	**Yahtse**	**13.65**	**53**	Pn	**Pn**	**12 05 30.6**	**-0.8**
ILAR	**Eielson Array**	**13.89**	**32**	Pn	**Pn**	**12 05 31.5**	**-2.8**
	comp=N,0.3nm,0.7s,baz=225,slow=11,SNR=4.1						
H23K	**Yukon River**	**13.92**	**25**		**Pn**	**12 05 34.6**	**-0.2**
O28M	**Mount Upton**	**14.51**	**52**	Pn	**Pn**	**12 05 42.8**	**-0.1**
O29M	**Mount Kennedy**	**15.15**	**55**		**Pn**	**12 05 50.8**	**-0.4**
O29M				IAmb	IAmb	12 06 16.9	
	comp=Z,7.3nm,1.1s						
HYT	**Haines Junctio**	**15.79**	**53**	Pn	**Pn**	**12 05 59.5**	**+0.1**
HYT				IAmb	IAmb	12 06 13.8	
	comp=Z,5.2nm,1.0s						
M29M	**Somme Creek**	**15.84**	**47**		**Pn**	**12 05 59.8**	**-0.2**
M29M				IAmb	IAmb	12 06 07.1	
	comp=Z,11nm,1.0s						
M30M	**Minto, Yukon**	**16.62**	**48**	Pn	**Pn**	**12 06 09.2**	**-0.5**
I28M	**Miner Creek**	**16.62**	**37**	Pn	**Pn**	**12 06 09.2**	**-0.7**
J30M	**Hart River**	**17.55**	**42**	Pn	**Pn**	**12 06 20.8**	**-0.6**
J30M				IAmb	IAmb	12 06 29.4	
	comp=Z,3.5nm,0.7s						
I30M	**Mount Dempster**	**17.81**	**40**	Pn	**Pn**	**12 06 23.1**	**-1.4**
N32M	**Quiet Lake**	**17.97**	**54**		**P**	**12 06 26.6**	**+0.2**
N32M				IAmb	IAmb	12 06 44.7	
	comp=Z,6.5nm,0.8s						
MMPY	**Sheldon Lake,**	**19.09**	**50**		**Pn**	**12 06 39.8**	**-0.2**
MMPY				IAmb	IAmb	12 06 46.9	
	comp=Z,5.3nm,0.8s						
DLBC	**Dease Lake**	**19.30**	**63**	P	**Pn**	**12 06 42.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=221,slow=16,SNR=4.0						
	comp=Z,18nm,1.0s						
INK	**Inuvik**	**20.28**	**33**	P	**P**	**12 06 50.5**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=278,slow=9.3,SNR=18						
	comp=Z,2.4nm,0.8s						
PEA0B	**Petropavlovsk-**	**22.61**	**284**	P	**P**	**12 07 16.6**	**-0.1**
PETK	**Petropavlovsk-**	**22.61**	**284**	P	**P**	**12 07 15.8**	**-1.0**
PETK	**Petropavlovsk-**	**22.61**	**284**	P	**P**	**12 07 13.4**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=17						
	comp=Z,0.6nm,0.3s						
C36M	**Paulatuk**	**23.83**	**34**	P	**P**	**12 07 28.3**	**-0.2**
NVAR	**Mina Array Bea**	**34.55**	**98**	P	**P**	**12 09 06.1**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=328,slow=14,SNR=1.5						
	comp=Z,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**40.76**	**225**	T	T	12 53 28.4	
	baz=26,slow=76,SNR=246						
H11N3	**WAKE ISLAND Hy**	**40.77**	**225**	T	T	12 53 29.8	
	baz=26,slow=76,SNR=210						
H11N1	**WAKE ISLAND Hy**	**40.78**	**225**	T	T	12 53 29.8	
	baz=26,slow=76,SNR=161						
H11S1	**WAKE ISLAND Hy**	**41.94**	**224**	T	T	12 54 57.8	
	baz=26,slow=76,SNR=656						
H11S2	**WAKE ISLAND Hy**	**41.95**	**224**	T	T	12 55 03.5	
	baz=26,slow=76,SNR=420						
H11S3	**WAKE ISLAND Hy**	**41.95**	**224**	T	T	12 54 55.4	
	baz=26,slow=76,SNR=327						
TXAR	**Lajitas Array**	**49.56**	**95**	P	**P**	**12 11 07.2**	**+0.8**
TXAR	**Lajitas Array**	**49.56**	**95**	P	**P**	**12 11 08.7**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=326,slow=6.5,SNR=3.6						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**56.66**	**356**	P	**P**	**12 11 57.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=10,slow=7.6,SNR=12						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.40**	**321**	P	**P**	**12 12 44.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=7.5,SNR=2.3						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**64.25**	**327**	P	**P**	**12 12 50.8**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=33,slow=6.3,SNR=3.5						
	comp=Z,1.7nm,0.6s						
FINES	**FINESS Array B**	**64.71**	**355**	P	**P**	**12 12 52.1**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=17,slow=6.7,SNR=9.1						
	comp=Z,1.2nm,0.5s						
ARTI	**Arti**	**64.72**	**336**	P	**P**	**12 12 52.9**	**0.0**
	comp=Z,2.8nm,0.4s,baz=67,slow=13,SNR=3.8						
	comp=Z,2.8nm,0.4s						
MKAR	**Makanchi Array**	**65.02**	**316**	P	**P**	**12 12 53.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.2,SNR=2.7						
	comp=Z,0.2nm,0.3s						
NC405	**NORSAR Array S**	**65.27**	**2**	P	**P**	**12 12 56.5**	**+0.1**
NOA	**NORSAR Array B**	**65.33**	**3**	P	**P**	**12 12 56.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=357,slow=6.3,SNR=2.4						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**66.28**	**1**	P	**P**	**12 13 02.7**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=35,slow=5.3,SNR=11						
	comp=Z,3.1nm,0.5s						
AKTO	**Aktyubinsk**	**70.20**	**333**	P	**P**	**12 13 28.4**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=20,slow=4.7,SNR=3.8						
	comp=Z,3.8nm,0.6s						
AKASG	**Malin Array Be**	**75.16**	**351**	P	**P**	**12 13 56.3**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=13,slow=5.6,SNR=6.3						
	comp=Z,1.1nm,0.4s						
GERES	**GERESS Array B**	**77.59**	**2**	P	**P**	**12 14 10.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=7.8,slow=7.9,SNR=1.7						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**79.36**	**287**	P	**P**	**12 14 20.9**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=11,slow=5.5,SNR=12						
	comp=Z,1.8nm,0.9s						
ESDC	**Sonseca Array**	**85.20**	**15**	P	**P**	**12 14 52.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=347,slow=3.8,SNR=7.4						
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**85.50**	**346**	P	**P**	**12 14 53.6**	**+0.7**
BRTR	**Keskin Array B**	**85.50**	**346**	P	**P**	**12 14 53.8**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=33,slow=1.7,SNR=10						
	comp=Z,2.0nm,0.8s						
AS31	**Alice Springs**	**93.90**	**234**	P	**P**	**12 15 33.1**	**+0.6**
AS31				IAmb	IAmb	12 16 12.8	
	comp=Z,1.2nm,1.3s						
ASAR	**Alice Springs**	**93.90**	**234**	P	**P**	**12 15 32.9**	**+0.5**
ASAR	**Alice Springs**	**93.90**	**234**	P	**P**	**12 15 32.5**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=33,slow=4.0,SNR=4.3						
	comp=Z,0.2nm,0.6s						
H03N2	**Juan Fernandez**	**113.56**	**115**	T	T	14 24 28.7	
	baz=322,slow=77,SNR=206						
H03N1	**Juan Fernandez**	**113.57**	**115**	T	T	14 24 31.5	
	baz=322,slow=77,SNR=173						
H03N3	**Juan Fernandez**	**113.57**	**115**	T	T	14 24 29.2	
	baz=322,slow=77,SNR=131						

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*NEIC **27** 12:03:22.9±1.3, 37°.24N±0°.06×71°.94E±0°.08, $h143^{km}\pm8^{km}$, mb4.4/21, Error ellipse: s-maj=9.5km s-min=8.5km az=102.0*
*IDC **27** 12:03:22.3±2.4, 37°.20N×72°.09E, $h138^{km}\pm22^{km}$, mb3.6/15, mbtmp4.1/20, Error ellipse: s-maj=18.9km s-min=15.8km az=16.0*
*NNC **27** 12:03:23.5±5.9, 37°.71N×71°.60E, $h0^{km}$, mb4.6, mpv4.2, Error ellipse: s-maj=46.3km s-min=32.2km az=8.0*

ISC 27 12:03:22.3±0.5, 37°.22N±0°.05×71°.94E±0°.06, h142^{km}, n86, σ1§92/100, mb4.2/22, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.19**	**325**		**Pn**	**12 03 59.1**	**-0.3**
DRK	**Karamyk**	**2.26**	**357**		**Pn**	**12 04 01.8**	**+1.4**
CHGR	**Chuyangaron**	**2.63**	**304**		**Pn**	**12 04 04.7**	**0.0**
KBL	**Kabul**	**3.56**	**222**		**Pn**	**12 04 18.0**	**+1.3**
NIL	**Nilore**	**3.72**	**163**		**Pn**	**12 04 20.9**	**+2.2**
SRNI	**Srinagar**	**3.91**	**142**	*e*S	**Sn**	**12 05 07.2**	**+0.5**
ARSB	**Arslanbob**	**4.18**	**11**		**Pn**	**12 04 24.7**	**-0.1**
JMU	**Jammu**	**5.10**	**151**	*e*P	**Pn**	**12 04 36.6**	**-0.3**
JMU				*e*S	**Sn**	**12 05 33.2**	**-1.9**
JMU				IAML		12 05 34.4	
	comp=E,480nm,0.8s						
JMU				IAML		12 05 36.8	
	comp=N,313nm,0.9s						
ALCI	**Alchi Leh**	**5.21**	**124**	*e*P	**Pn**	**12 04 39.1**	**+0.4**
ALCI				*e*S	**Sn**	**12 05 34.8**	**-3.5**
ALCI				IAML		12 05 39.1	
	comp=E,288nm,0.7s						
ALCI				IAML		12 05 39.4	
	comp=N,358nm,0.6s						
UCH	**Uchtor**	**5.38**	**21**	P	**Pn**	**12 04 42.0**	**+0.9**
	SNR=136						
TSSA	**Tissa**	**5.57**	**140**	*e*P	**Pn**	**12 04 44.3**	**+1.0**
TSSA				*e*S	**Sn**	**12 05 43.2**	**-3.3**
TSSA				IAML		12 05 46.7	
	comp=N,376nm,0.4s						
TSSA				IAML		12 05 46.7	
	comp=E,248nm,0.4s						
EKS2	**Erkin-Say**	**5.62**	**14**	P	**Pn**	**12 04 44.9**	**+1.0**
	SNR=28						
AAK	**Ala-Archa**	**5.76**	**19**	P	**Pn**	**12 04 46.5**	**+0.8**
	comp=E,24nm,0.3s,baz=204,slow=7.3,SNR=97						
AAK				S	**Sn**	**12 05 49.1**	**-1.8**
	comp=E,32nm,0.4s,baz=172,slow=12,SNR=20						
AAK	**Ala-Archa**	**5.76**	**19**	P	**Pn**	**12 04 47.0**	**+1.2**
	SNR=62						
AAK	**Ala-Archa**	**5.76**	**19**	⇓P	**Pn**	**12 04 46.1**	**+0.4**
	comp=E,18nm,0.6s						
AAK				⇑S	**Sn**	**12 05 48.2**	**-2.7**
	comp=E,147nm,1.1s						
KBK	**Karagaybulak**	**5.90**	**22**	P	**Pn**	**12 04 49.5**	**+1.8**
	SNR=10						
FRU1	**Bishkek**	**5.95**	**19**	Pn	**Pn**	**12 04 49.1**	**+0.9**
KK31	**Karatay Array**	**5.98**	**350**		**Pn**	**12 04 48.7**	**+0.1**
KK31	**Karatay Array**	**5.98**	**350**	⇓P	**Pn**	**12 04 48.0**	**-0.6**
	comp=E,9.3nm,0.2s,baz=168,slow=12,SNR=273						
KK31				⇑S	**Sn**	**12 05 51.2**	**-4.8**
	comp=E,372nm,0.6s,baz=167,slow=20,SNR=38						
KKAR	**Karatay Array**	**5.98**	**350**		**Pn**	**12 04 48.5**	**-0.1**
ULHL	**Ulahol**	**6.02**	**32**	P	**Pn**	**12 04 49.9**	**+0.6**
	SNR=14						
BOOM	**Boomskoye usch**	**6.10**	**29**		**Pn**	**12 04 50.3**	**0.0**
DHRM	**DHARAMSHALA**	**6.12**	**143**	*e*P	**Pn**	**12 04 51.5**	**+0.9**
DHRM				*e*S	**Sn**	**12 05 55.3**	**-4.4**
DHRM				IAML		12 05 59.5	
	comp=N,262nm,0.7s						
DHRM				IAML		12 06 00.4	
	comp=E,363nm,0.2s						
CHMS	**Chumysh**	**6.16**	**20**	P	**Pn**	**12 04 51.9**	**+0.9**
	SNR=13						
TKM2	**Tokmak 2**	**6.35**	**25**	P	**Pn**	**12 04 54.4**	**+0.7**
	SNR=34						
USP	**Ospenovka**	**6.35**	**17**	P	**Pn**	**12 04 53.9**	**+0.4**
	SNR=12						
KDJ	**Kajisay**	**6.35**	**38**		**Pn**	**12 04 55.0**	**+1.3**
TARG	**Taragay, Kyrgy**	**6.39**	**43**		**Pn**	**12 04 54.6**	**+0.2**
BHK	**Bhakra**	**6.87**	**146**	*e*P	**Pn**	**12 05 04.5**	**+3.9**
BHK				IAML		12 06 16.5	
	comp=N,287nm,0.3s						
BHK				IAML		12 06 17.8	
	comp=E,373nm,0.4s						
BHK				*e*S	**Sn**	**12 06 18.5**	**+1.0**
PRZ	**Przheval'sk**	**7.23**	**41**		**Pn**	**12 05 06.0**	**+0.5**
SMLA	**Simla**	**7.46**	**143**	*e*P	**Pn**	**12 05 08.5**	**+0.1**
SMLA				*e*S	**Sn**	**12 06 26.1**	**-5.5**
SMLA				IAML		12 06 29.1	
	comp=N,271nm,0.4s						
SMLA				IAML		12 06 31.6	
	comp=E,397nm,0.2s						
PDGK	**Podgornoye**	**8.40**	**41**	⇑P	**Pn**	**12 05 21.5**	**+0.5**
	comp=E,4.8nm,0.7s						
PDGK				⇓S	**Sn**	**12 07 00.9**	**+6.6**
	comp=E,14nm,0.8s						
DDI	**Dehra Dun**	**8.55**	**142**	*e*P	**Pn**	**12 05 23.4**	**+0.2**
DDI				*e*S	Sn	12 06 50.6	-7.6
DDI				IAML		12 06 55.9	
	comp=N,84nm,0.4s						
DDI				IAML		12 06 56.9	
	comp=E,91nm,0.1s						
JOSI	**Joshimath**	**9.17**	**134**	*e*P	**Pn**	**12 05 32.4**	**+0.8**
JOSI				*e*S	**Sn**	**12 07 07.6**	**-5.7**
JOSI				IAML		12 07 11.1	
	comp=N,82nm,0.4s						
JOSI				IAML		12 07 11.2	
	comp=E,76nm,0.6s						
KUDL	**Kundal**	**9.82**	**156**	*e*P	**Pn**	**12 05 40.4**	**+0.

ARCES ARCESS Array B 40.78 337 P P 12 10 49.8 +0.8
ARCES IAmb IAmb 12 11 19.5
comp=Z,18nm,1.5s
ARCES ARCESS Array B 40.78 337 P P 12 10 50.0 +1.0
comp=Z,5.1nm,0.8s,baz=113,slow=8.2,SNR=12
comp=Z,5.1nm,0.8s
HEH HeiHe 41.21 53 *eP* **P 12 10 54.5 +1.7**
HEH pmax pmax
comp=Z,8.0nm,0.8s
IPM Ipoh 42.07 134 P P 12 11 00.2 -0.1
IPM IAmb IAmb 12 11 44.6
comp=Z,8.8nm,1.1s
HFS Hagfors 42.98 321 P P 12 11 07.6 +0.6
comp=Z,5.0nm,0.6s,baz=103,slow=12,SNR=12
comp=Z,5.0nm,0.6s
GERES GERESS Array B 43.14 305 P P 12 11 10.2 +1.6
comp=Z,0.4nm,0.8s,baz=61,slow=6.0,SNR=1.8
comp=Z,0.4nm,0.8s
CUC Castrocucco 43.34 292 P P 12 11 11.2 +0.9
NB201 NORSAR Array S 44.23 323 P P 12 11 17.0 0.0
NOA NORSAR Array B 44.27 323 P P 12 11 18.0 +0.7
comp=Z,0.6nm,0.5s,baz=92,slow=7.9,SNR=3.8
comp=Z,0.6nm,0.5s
TIXI Tiksi 44.83 22 P P 12 11 21.7 +0.2
TIXI IAmb IAmb 12 11 23.0
comp=Z,5.5nm,0.8s
KONO Kongsberg 45.01 321 P P 12 11 23.1 -0.1
EKA Eskdalemuir Ar 52.30 316 P P 12 12 19.6 +0.7
comp=Z,1.4nm,0.6s,baz=74,slow=6.4,SNR=4.1
comp=Z,1.4nm,0.6s
ESDC Sonseca Array 57.79 298 P P 12 12 59.5 +0.8
comp=Z,1.6nm,0.8s,baz=56,slow=7.4,SNR=13
comp=Z,1.6nm,0.8s
C19K Lookout Ridge 67.42 18 P P 12 14 02.1 +0.1
C19K IAmb IAmb 12 14 26.3
comp=Z,6.8nm,1.1s
D19K Kuna River 68.23 18 P P 12 14 07.0 -0.1
D19K IAmb IAmb 12 14 24.7
comp=Z,17nm,1.4s
D22K Ayikyak River 69.18 16 P P 12 14 13.5 +0.6
C27K Jago River 70.31 13 P P 12 14 21.1 +1.3
INK Inuvik 73.07 10 P P 12 14 36.9 +0.6
comp=Z,4.5nm,1.1s,baz=356,slow=8.6,SNR=5.5
comp=Z,4.5nm,1.1s
ILAR Eielson Array 73.88 16 P P 12 14 41.1 0.0
comp=Z,1.1nm,0.9s,baz=295,slow=4.1,SNR=8.7
comp=Z,1.1nm,0.9s

*SOME **27** 12:24:21.4, 41.°10N×78.°80E, h10km*
*NNC **27** 12:24:23.0±1.1, 41.°16N×78.°83E, h0km, mb3.8, mpv3.3,*
Error ellipse: s-maj=7.1km s-min=4.6km az=161.0
*KRNET **27** 12:24:23.1±0.1, 41.°21N×78.°87E, h18km, mb3.1*
ISC 27 12:24:26.1±2.0, 41.°30N±0.°06×78.°68E±0.°05, h1km±11km,
n41, σ1°**48/62, 16C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.79**	**304**	⇑*iP*	**Pg**	**12 24 41.3**	**+0.1**
TARG				⇑*iS*	**Sb**	**12 24 54.8**	**+0.6**
PRZ	**Przheval'sk**	**1.21**	**350**	⇑*eP*	**Pn**	**12 24 48.4**	**-1.9**
PRZ				⇑*eS*	**Sn**	**12 25 06.7**	**-0.7**
KDJ	**Kajisay**	**1.40**	**307**	⇑*iP*	**Pn**	**12 24 51.9**	**-1.1**
KDJ				⇑*iS*	**Sg**	**12 25 13.1**	**+2.1**
SATY	**Saty**	**1.77**	**354**	Pg	**Pb**	**12 24 58.5**	**-1.0**
	8.2nm,0.4s						
SATY				Lg	Lg	12 25 25.7	
	49nm,0.1s						
UZB	**Uzynbulak**	**1.87**	**8**	Pg	**Pn**	**12 24 59.1**	**-0.3**
	8.9nm,0.4s						
UZB				Lg	Lg	12 25 26.9	
	33nm,0.5s						
UZB	**Uzynbulak**	**1.87**	**8**	*eP*	**Pb**	**12 24 59.7**	**-1.5**
	7.3nm,0.2s						
UZB				*eS*	**Sg**	**12 25 27.2**	**+1.1**
	32nm,0.3s						
SHLS	**Shalkode**	**1.95**	**17**	Pg	**Pg**	**12 25 03.2**	**-0.2**
	44nm,0.3s						
SHLS				Lg	Lg	12 25 33.6	
	126nm,0.5s						
SHLS	**Shalkode**	**1.95**	**17**	*eP*	**Pg**	**12 25 03.5**	**+0.1**
	38nm,0.3s						
SHLS				*eS*	**Sg**	**12 25 33.7**	**+5.0**
	126nm,0.5s						
ULHL	**Ulahol**	**2.06**	**298**	⇑*eP*	**Pb**	**12 25 03.4**	**-1.0**
ULHL				⇑*iS*	**Sg**	**12 25 32.7**	**+0.5**
PDGK	**Podgornoye**	**2.12**	**16**	⇑Pg	**Pb**	**12 25 03.8**	**-1.6**
	12nm,0.5s						
PDGK				⇑Lg	Lg	12 25 35.1	
	91nm,0.8s						
TNSS	**Tian-Shan**	**2.17**	**324**	Pg	**Pb**	**12 25 06.2**	**-0.1**
	5.3nm,0.4s						
TNSS				Lg	Lg	12 25 38.6	
	15nm,0.7s						
TNSS	**Tian-Shan**	**2.17**	**324**	*eP*	**Pb**	**12 25 06.2**	**-0.1**
	5.3nm,0.4s						
TNSS				*eS*	**Sg**	**12 25 38.6**	**+2.9**
	15nm,0.7s						
KPKS	**Kokpek**	**2.17**	**0**	Pg	**Pb**	**12 25 05.3**	**-0.9**
	0.2nm,0.1s						
KPKS				Lg	Lg	12 25 37.0	
	82nm,0.4s						
KURS	**Kuram**	**2.22**	**350**	Pg	**Pb**	**12 25 07.0**	**-0.1**
	8.8nm,0.6s						
KURS				Lg	Lg	12 25 39.8	
	20nm,0.5s						
MDOK	**Medeo**	**2.23**	**328**	Pg	**Pb**	**12 25 07.2**	**-0.1**
	29nm,0.7s						
MDOK				Lg	Lg	12 25 40.1	
	56nm,0.8s						
KOTS	**Kotyrbulak**	**2.26**	**330**	Pg	**Pb**	**12 25 07.9**	**+0.1**
	28nm,0.5s						
KOTS				Lg	Lg	12 25 41.2	
	119nm,0.9s						
KOTS	**Kotyrbulak**	**2.26**	**330**	*eP*	**Pb**	**12 25 07.9**	**+0.1**
	27nm,0.4s						
KOTS				*eS*	**Sg**	**12 25 41.2**	**+2.4**
	119nm,0.9s						
JNKS	**Jany-Kuch**	**2.30**	**265**	⇑*iP*	**Pb**	**12 25 06.3**	**-2.2**
JNKS				⇑*iS*	**Sb**	**12 25 37.4**	**-0.1**
KNDC	**Almaty**	**2.30**	**327**	⇓Pg	**Pb**	**12 25 08.1**	**-0.4**
	23nm,0.4s						
KNDC				⇑Lg	Lg	12 25 43.3	
	116nm,0.8s						
IZV	**Izvestkoviy**	**2.32**	**319**	Pg	**Pb**	**12 25 07.3**	**-1.5**
	23nm,0.5s						
IZV				Lg	Lg	12 25 40.7	
	47nm,0.6s						
IZV	**Izvestkoviy**	**2.32**	**319**	*eP*	**Pb**	**12 25 07.7**	**-1.2**
	7.7nm,0.2s						
IZV				*eS*	**Sg**	**12 25 40.9**	**+0.2**
	24nm,0.2s						
BOOM	**Boomskoye usch**	**2.37**	**301**	⇑*eP*	**Pb**	**12 25 07.4**	**-2.3**
BOOM				⇑*eS*	**Sb**	**12 25 39.8**	**+0.3**
MTBS	**Maitube**	**2.48**	**318**	Pg	**Pb**	**12 25 10.8**	**-0.7**
	5.9nm,0.1s						
MTBS				Lg	Lg	12 25 46.6	
	39nm,0.4s						
MTBS	**Maitube**	**2.48**	**318**	*eP*	**Pb**	**12 25 11.1**	**-0.5**
	3.7nm,0.1s						
MTBS				*eS*	**Sg**	**12 25 46.9**	**+1.0**
	32nm,0.3s						
KST	**Kastek**	**2.67**	**312**	Pg	**Pb**	**12 25 14.9**	**+0.1**
	22nm,0.6s						
KST				Lg	Lg	12 25 53.3	
	26nm,0.6s						
KST	**Kastek**	**2.67**	**312**	*eP*	**Pb**	**12 25 14.9**	**+0.1**
	22nm,0.6s						
KST				*eS*	**Sg**	**12 25 53.3**	**+1.5**
	26nm,0.6s						
BLB	**Baldybastay**	**2.80**	**357**	Pg	**Pb**	**12 25 16.3**	**-0.8**
	13nm,0.4s						
BLB				Lg	Lg	12 25 55.7	
	64nm,0.5s						
KTBS	**Karatobe**	**2.83**	**329**	Pg	**Pb**	**12 25 17.5**	**0.0**
	9.4nm,0.5s						
KTBS				Lg	Lg	12 25 57.8	
	49nm,0.3s						
CHKK	**Chushkaly**	**2.85**	**335**	Pg	**Pb**	**12 25 17.4**	**-0.3**
CHKK				Lg	Lg	12 25 58.4	
CHKK	**Chushkaly**	**2.85**	**335**	*eP*	**Pb**	**12 25 18.0**	**+0.3**
	12nm,0.1s						
CHKK				*eS*	**Sg**	**12 25 58.6**	**+1.1**
	52nm,0.3s						
ARXS	**Arharly**	**2.98**	**348**	Pg	**Pb**	**12 25 19.5**	**-0.6**
	12nm,0.7s						
ARXS				Lg	Lg	12 26 01.4	
	61nm,0.6s						
ARXS	**Arharly**	**2.98**	**348**	*eP*	**Pb**	**12 25 19.5**	**-0.6**
ARXS				*eS*	**Sg**	**12 26 01.4**	**-0.5**
KNOS	**Konyrlen**	**3.08**	**7**	Pg	**Pb**	**12 25 21.5**	**-0.4**
	12nm,0.6s						
KNOS				Lg	Lg	12 26 04.7	
	52nm,0.6s						
KUU	**Kurty**	**3.12**	**327**	*eP*	**Pb**	**12 25 22.8**	**+0.4**
	3.1nm,0.1s						
KUU				*eS*	**Sg**	**12 26 06.6**	**+0.3**
	7.0nm,0.1s						
FRU1	**Bishkek**	**3.37**	**298**	⇓*eP*	**Pn**	**12 25 21.3**	**+1.3**
FRU1				⇓*eS*	**Sb**	**12 26 03.9**	**-4.4**
AAK	**Ala-Archa**	**3.40**	**295**	⇓Pg	**Pb**	**12 25 28.3**	**+1.1**
	2.3nm,0.8s						
AAK				⇓Lg	Lg	12 26 15.6	
	8.4nm,0.8s						
SALK	**Salom-Alik**	**3.69**	**265**	⇓*eP*	**Pn**	**12 25 25.4**	**+0.9**
SALK				⇓*eS*	**Sn**	**12 26 11.4**	**+2.6**
SFK	**Sufi-Kurgan**	**4.14**	**254**	⇓*eP*	**Pn**	**12 25 31.4**	**+0.7**
SFK				⇓*eS*	**Sn**	**12 26 21.4**	**+1.5**
ARSB	**Arslanbob**	**4.29**	**272**	⇓*eP*	**Pn**	**12 25 34.0**	**+1.3**
ARSB				⇓*eS*	**Sn**	**12 26 25.2**	**+1.7**
MK31	**Makanchi Array**	**6.08**	**24**	⇓Pn	**Pn**	**12 25 57.5**	**+0.4**
	0.4nm,0.5s,baz=205,slow=13,SNR=4.1						
MK31				⇓Sn	**Sn**	**12 27 07.2**	**-0.2**
	0.2nm,0.3s						
MK31				⇓Lg	Lg	12 27 39.4	
	1.1nm,0.6s						
KK31	**Karatay Array**	**6.33**	**289**	⇑Pg	**Pg**	**12 26 24.1**	**-3.3**
	0.7nm,0.6s,baz=115,slow=16,SNR=4.8						
KK31				⇓Lg	Lg	12 27 49.8	
	0.9nm,0.6s,baz=102,slow=26,SNR=3.5						

*AEIC **27** 12:26:28.3±0.9, 53.°58N±0.°07×165.°21W±0.°05, h51km±9km,*
Error ellipse: s-maj=9.7km s-min=3.8km az=177.0
NEIC 27 12:26:27.9±0.7, 53.°50N±0.°06×165.°11W±0.°06, h35km±2km,
ML3.1/12, **ML2.8**(AEIC), **Error ellipse: s-maj=10.1km**
s-min=5.7km az=341.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.73**	**332**		Pn	12 26 41.2	-0.5
AKSA					Sn	12 26 51.2	-0.3
AHB	**Akutan Harbor**	**0.75**	**326**		Pn	12 26 41.9	-0.1
AKUT	**Akutan**	**0.75**	**329**		Pn	12 26 41.3	-0.7
AKBBA	**Akutan Broad B**	**0.77**	**321**		Pn	12 26 42.3	-0.1
AKBBA					Sn	12 26 53.3	+0.5
ZRO	**Akutan Zero**	**0.79**	**319**		Pn	12 26 42.4	-0.1
AKMO	**Akutan Morgan**	**0.80**	**318**		Pn	12 26 42.7	0.0
AKLV	**Akutan Long Va**	**0.83**	**323**		Pn	12 26 43.0	-0.2
AKLV					Sn	12 26 54.8	+0.5
AKGG	**Akutan Green G**	**0.87**	**324**		Pn	12 26 43.7	0.0
UNV	**Unalaska Valle**	**0.90**	**293**		Sn	12 26 55.3	-0.5
UNV	**Unalaska Valle**	**0.90**	**293**		Pn	12 26 43.4	-0.7
UNV				IAML		12 26 57.8	
	comp=N,420nm,0.4s						
MNAT	**Makushin Natee**	**1.01**	**293**		Pn	12 26 45.7	0.0
MREP	**Makushin Rep't**	**1.02**	**288**		Pn	12 26 45.5	-0.3
MSW	**Makushin Switc**	**1.08**	**293**		Pn	12 26 46.6	0.0
MSW					Sn	12 27 01.2	+0.9
MGOD	**Makushin Gods**	**1.09**	**286**		Pn	12 26 46.5	-0.3
WEBT	**Westdahl Beart**	**1.11**	**11**		Pn	12 26 46.8	-0.3
FALS	**False Pass**	**1.69**	**35**		Sn	12 27 15.2	+0.1
FALS	**False Pass**	**1.69**	**35**	Pn	Pn	12 26 53.5	-1.4
OKTU	**Okmok Mt. Tuli**	**1.76**	**267**		Pn	12 26 56.4	+0.4
NIKH	**Nikolski High**	**2.31**	**258**		Pn	12 27 03.4	-0.1
NIKH				IAML		12 27 38.6	
	comp=N,176nm,0.7s						
S12K	**Black Hills**	**2.83**	**38**	Pn	Pn	12 27 12.1	+1.5
S12K				IAML		12 27 56.8	
	comp=E,53nm,1.1s						
S12K				IAML		12 27 57.5	
	comp=N,64nm,1.1s						
SDPT	**Sand Point**	**3.28**	**54**	Pn	Pn	12 27 16.9	+0.2
SDPT				IAML		12 27 49.0	
	comp=E,48nm,1.2s						
SDPT				IAML		12 28 13.9	
	comp=N,54nm,1.2s						

RSNC 27 12:47:22.3±0.0, 7.°N±1.°×7.°3W±.°, h150km±2km, **M3.3, mb3.6,**
ML3.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**191**	P	Pn	12 47 42.5	-0.5
BARC				S	Sn	12 47 58.0	-0.7
BRJC	**Barrancabermej**	**0.62**	**284**	P	Pn	12 47 44.2	-0.1
BRJC				S	Sn	12 48 01.1	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	12 47 45.4	+0.2
PAMC				S	Sn	12 48 02.5	-0.2
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	12 47 46.4	-0.6
RUSC				S	Sn	12 48 05.0	-0.9
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	P	Pn	12 47 48.9	-1.3
PTBC				S	Sn	12 48 10.3	-1.2
OCAC	**Ocana**	**1.42**	**353**	P	Pn	12 47 50.9	-0.3
OCAC				S	Sn	12 48 12.4	-1.0
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	12 47 51.4	-0.4
SPBC				S	Sn	12 48 13.2	-1.2
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	12 47 54.7	-0.8
ZARC				S	Sn	12 48 19.8	-1.2
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	12 48 00.4	-0.5
CHIC				S	Sn	12 48 30.0	-0.5
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	12 48 02.2	+0.9
ROSC				S	Sn	12 48 32.5	+1.2
HELC	**Santa Helena**	**2.46**	**255**	P	Pn	12 48 02.3	-0.9
HELC				S	Sn	12 48 33.7	-1.0
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	12 48 03.9	+0.4
CVER				S	Sn	12 48 35.5	+0.3
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	12 48 06.5	-0.2
GUY2C				S	Sn	12 48 39.9	-0.9
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	12 48 05.7	-1.4
PTGC				S	Sn	12 48 39.0	-2.7
CBOC	**Ciudad Bolivar**	**3.01**	**252**	P	Pn	12 48 09.9	-0.1
CBOC				S	Sn	12 48 45.0	-1.8
DBBC	**Dabeiba**	**3.05**	**274**	P	Pn	12 48 09.8	-0.6
DBBC				S	Sn	12 48 46.5	-1.2
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	12 48 14.3	+1.9
ARGC				S	Sn	12 48 51.6	+0.4
SDV	**Santo Domingo**	**3.22**	**50**	P	Pn	12 48 12.2	-0.5
SDV				S	Sn	12 48 49.5	-2.2
PRAC	**Prado**	**3.54**	**209**	P	Pn	12 48 16.3	-0.4
PRAC				S	Sn	12 48 57.8	-1.1
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	12 48 16.7	-0.4
ORTC				S	Sn	12 49 00.1	+0.5
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	12 48 16.2	-0.9
APAC				S	Sn	12 48 57.8	-1.7
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	12 48 16.8	-1.5
SJCC				S	Sn	12 48 57.7	-4.0
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	12 48 19.3	-0.2
URMC				S	Sn	12 49 02.4	-1.6
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	P	Pn	12 48 23.0	-2.0
CRJC				S	Sn	12 49 11.6	-2.3
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	12 48 25.2	-0.9
YOTC				S	Sn	12 49 15.9	+0.2
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	12 48 27.6	-0.9
SMRC				S	Sn	12 49 16.0	-4.0
PTAC	**Punta Ardita,**	**4.65**	**274**	P	Pn	12 48 29.9	-1.2
PTAC				S	Sn	12 49 24.5	-0.1
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	12 48 29.7	-2.1
MACC				S	Sn	12 49 20.4	-5.6
BETC	**Betania**	**4.71**	**209**	P	Pn	12 48 30.9	-1.1
BETC				S	Sn	12 49 23.5	-2.7
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	12 48 33.2	-2.3
URIC				S	Sn	12 49 26.9	-5.7
FLOC	**Florencia**	**5.77**	**206**	P	Pn	12 48 45.8	-0.3
FLOC				S	Sn	12 49 48.7	-2.9
BCIP	**Isla Barro Col**	**7.03**	**290**	P	Pn	12 48 59.3	-3.5
BCIP				S	Sn	12 50 17.4	-4.2

IDC 27 12:48:31.2±2.1, 3.°55S×139.°16E, h0km, **mb3.3**/2,
mbtmp3.3/3, **ML3.3**/1, **Error ellipse: s-maj=62.8km**
s-min=16.5km az=135.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.85**	**56**	Pn	Pn	12 49 03.9	-0.5
	1.6nm,0.3s,baz=233,slow=12,SNR=9.7						
JAY				Lg	Lg	12 49 30.2	
	1.4nm,0.3s,baz=316,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**16.96**	**196**	Pn	Pn	12 52 30.4	+0.3
	0.1nm,0.3s,baz=16,slow=12,SNR=5.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**20.64**	**194**	P	P	12 53 12.4	-0.1
	0.3nm,0.4s,baz=20,slow=9.8,SNR=11						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**86.41**	**24**	P	P	13 01 15.5	+0.2
	0.5nm,0.9s,baz=246,slow=5.8,SNR=2.5						
	0.5nm,0.9s						

*JMA **27** 13:26:09.7±0.1, 24.°0N±0.°7×122.°4E±0.°2, h26km±2km,*
MV2.5/10, TAIWAN REGION
*TAP **27** 13:26:10.4, 24.°12N×122.°35E, h29km, ML2.8, C*
ISC 27 13:26:07.9±1.1, **23.°97N**±0.°02×**122.°42E**±0.°02, **h17**km±8km,
n102, σ0°**73**/163, **1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.17**	**329**	⇑*iP*	**Pb**	**13 26 15.0**	**+2.5**
EOS4				*i* S	**Sb**	**13 26 18.5**	**+3.0**
EOS3	**EOS3**	**0.33**	**344**	*i* P	**Pn**	**13 26 16.6**	**-1.2**
EOS3				S	**Sb**	**13 26 21.3**	**+1.2**
EOS2	**EOS2**	**0.48**	**339**	P	**Pb**	**13 26 18.9**	**+1.1**
EOS2				S	**Sb**	**13 26 25.3**	**+0.8**
JYNG	**Yonagunijimaku**	**0.68**	**45**	P	**Pn**	**13 26 22.9**	**+0.1**
JYNG				*eS*	**Sn**	**13 26 32.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.73**	**48**	*eP*	**Pn**	**13 26 24.0**	**+0.5**
YOJ				*eS*	**Sn**	**13 26 34.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.73**	**48**	*i P*	**Pn**	**13 26 23.9**	**+0.5**
YOJ				*eS*	**Sn**	**13 26 33.8**	**-0.4**
ETL	**Fush Village**	**0.75**	**285**	P	**Pb**	**13 26 23.0**	**+0.5**
ETL				*eS*	**Sn**	**13 26 34.2**	**-0.5**
EWUT	**Wuta**	**0.75**	**309**	*i P*	**Pb**	**13 26 22.7**	**+0.2**
EWUT				S	**Sg**	**13 26 31.8**	**-0.7**
TEYL	**Yanliau Villag**	**0.76**	**262**	*eP*	**Pn**	**13 26 24.1**	**+0.4**
TWD	**Chiawan**	**0.76**	**278**	P	**Pg**	**13 26 22.9**	**+0.1**
TWD				*eS*	**Sn**	**13 26 34.9**	**0.0**
ENA	**Nanau**	**0.77**	**307**	P	**Pg**	**13 26 23.3**	**+0.4**
ENA				S	**Sb**	**13 26 33.4**	**+0.4**
NACB	**Ninganchiao**	**0.78**	**285**	P	**Pg**	**13 26 23.6**	**+0.5**
NACB	**Ninganchiao**	**0.78**	**285**	*i P*	**Pg**	**13 26 23.4**	**+0.3**
NACB				S	**Sb**	**13 26 33.5**	**+0.2**
ESAO	**Su ao**	**0.80**	**319**	P	**Pb**	**13 26 23.2**	**-0.1**
ESAO				S	**Sb**	**13 26 31.8**	**-2.0**
SHUL	**Shoufeng**	**0.80**	**257**	*eP*	**Pn**	**13 26 24.7**	**+0.3**
TWC	**Suao**	**0.82**	**321**	P	**Pb**	**13 26 23.4**	**-0.3**
TWC				S	**Sb**	**13 26 32.2**	**-2.2**
ETM	**Tongmen**	**0.84**	**270**	P	**Pg**	**13 26 24.5**	**+0.1**
ETM				*eS*	**Sg**	**13 26 35.9**	**+0.3**
ETLH	**Xiulin Townshi**	**0.89**	**286**	P	**Pg**	**13 26 25.2**	**0.0**
ETLH				*i* S	**Sb**	**13 26 36.7**	**+0.3**
ESL	**Shilin**	**0.91**	**260**	*eP*	**Pb**	**13 26 25.5**	**+0.2**
NDS	**Dongshan**	**0.92**	**316**	*eP*	**Pb**	**13 26 24.6**	**-0.8**
WARBT	**Fenglin Townsh**	**0.98**	**255**	P	**Pb**	**13 26 26.4**	**+0.1**
WARBT				*eS*	**Sb**	**13 26 38.2**	**-0.8**
TWE	**Neicheng**	**1.01**	**318**	*eP*	**Pb**	**13 26 27.2**	**+0.2**
TWE				*eS*	**Sb**	**13 26 40.0**	**0.0**
ENTT	**Nioudou**	**1.02**	**311**	*eP*	**Pn**	**13 26 27.7**	**+0.2**
HGSD	**Ruisui**	**1.03**	**243**	*eP*	**Pg**	**13 26 28.0**	**+0.1**
NNSB	**Datong**	**1.05**	**296**	P	**Pb**	**13 26 27.5**	**-0.1**
NNSB				S	**Sb**	**13 26 40.3**	**-0.9**
NNS	**Nan Shan**	**1.06**	**296**	*eP*	**Pb**	**13 26 28.1**	**+0.2**
NNS				S	**Sb**	**13 26 40.8**	**-0.7**
WHF	**Hehuan Shan**	**1.07**	**280**	*eP*	**Pb**	**13 26 28.1**	**0.0**
WHF				S	**Sb**	**13 26 42.4**	**+0.4**
EHYH	**Wanrong**	**1.09**	**244**	*eP*	**Pg**	**13 26 29.8**	**+0.8**
EHYH				*eS*	**Sg**	**13 26 44.0**	**+0.6**
FUSB	**Fushanzhiwuyua**	**1.09**	**316**	P	**Pb**	**13 26 28.5**	**+0.1**
FUSB				*eS*	**Sb**	**13 26 42.2**	**-0.2**
ECBN	**Changbin**	**1.10**	**234**	*eP*	**Pg**	**13 26 29.5**	**+0.3**
ECBN				*eS*	**Sn**	**13 26 43.5**	**+0.2**
EHY	**Hungye**	**1.10**	**245**	*eP*	**Pg**	**13 26 29.2**	**-0.2**
TWB1	**Santiao Chiao**	**1.10**	**339**	*eP*	**Pb**	**13 26 28.4**	**-0.2**
TWB1				*eS*	**Sb**	**13 26 41.4**	**-1.3**
FUSS	**Fushou**	**1.11**	**285**	*eP*	**Pg**	**13 26 29.3**	**-0.1**
TIPB	**Shuangxi**	**1.13**	**332**	*eP*	**Pn**	**13 26 29.0**	**0.0**
TIPB				S	**Sb**	**13 26 42.5**	**-1.0**
OWD	**Renai**	**1.13**	**269**	*eP*	**Pn**	**13 26 29.1**	**-0.1**
OWD				*eS*	**Sb**	**13 26 42.9**	**-0.8**
NWLT	**Wulai**	**1.16**	**314**	*eP*	**Pn**	**13 26 29.6**	**+0.2**
NWLT				*eS*	**Sb**	**13 26 42.9**	**-1.3**
TWT	**Tachien**	**1.17**	**284**	*eP*	**Pg**	**13 26 30.5**	**-0.1**
TWT				*eS*	**Sb**	**13 26 44.8**	**+0.2**
YULB	**Yu-li**	**1.18**	**241**	P	**Pg**	**13 26 30.3**	**-0.4**
YULB	**Yu-li**	**1.18**	**241**	*i P*	**Pg**	**13 26 30.4**	**-0.4**
YULB				*eS*	**Sg**	**13 26 46.5**	**+0.5**
YHNB	**Yeheng**	**1.18**	**306**	P	**Pn**	**13 26 29.9**	**+0.2**
YHNB	**Yeheng**	**1.18**	**306**	*eP*	**Pn**	**13 26 29.9**	**+0.2**
TDCB	**Techi**	**1.18**	**284**	*eP*	**Pb**	**13 26 30.1**	**+0.1**
VWDT	**VWDT**	**1.19**	**260**	*i P*	**Pg**	**13 26 30.6**	**-0.2**
VWDT				*eS*	**Sg**	**13 26 46.4**	**0.0**
WUSB	**Renai**	**1.19**	**271**	*i P*	**Pb**	**13 26 30.4**	**+0.3**
WUSB				S	**Sb**	**13 26 45.4**	**+0.2**
NSK	**Sanguang**	**1.19**	**306**	*eP*	**Pn**	**13 26 29.7**	**-0.1**
NSK				*eS*	**Sb**	**13 26 44.2**	**-1.1**
TWF1	**Yuli**	**1.20**	**239**	*i P*	**Pg**	**13 26 30.7**	**-0.4**
TWF1				*eS*	**Sg**	**13 26 46.5**	**-0.2**
CHKH	**Chenggong**	**1.22**	**231**	*eP*	**Pg**	**13 26 31.1**	**-0.4**
SXI1	**Grass Mountain**	**1.22**	**336**	P	**Pn**	**13 26 29.7**	**-0.6**
SXI1				*eS*	**Sb**	**13 26 45.0**	**-1.1**
NWF	**Wu-fen Shan**	**1.24**	**332**	*eP*	**Pn**	**13 26 30.3**	**-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB				eS	Sg	13 27 04.0	-1.0
WTP	**Ta-pu**	**1.80**	**247**	eP	Pb	13 26 40.6	+0.1
WTP				eS	Sb	13 27 04.1	+1.2
JISG	**Ishigakijimahi**	**1.83**	**70**	eS	Sb	13 27 03.6	0.0
WTK	**Tuku**	**1.88**	**262**	eP	Pb	13 26 42.2	+0.5
WTK				eS	Sb	13 27 06.8	+1.8
CHN1	**Nanshi**	**1.90**	**246**	eP	Pb	13 26 42.2	+0.1
CHN1				eS	Sb	13 27 06.0	+0.4
TWK	**Hsinying**	**1.90**	**249**	P	Pb	13 26 42.3	+0.1
TWK				S	Sb	13 27 07.1	+1.4
SNST	**Tainan City**	**1.91**	**247**	eP	Pb	13 26 42.9	+0.6
SNST				eS	Sb	13 27 07.6	+1.7
ECL	**Taimali**	**1.92**	**225**	eP	Pb	13 26 42.6	+0.1
ECL				eS	Sn	13 27 03.2	-0.3
TSMG	**Majia**	**2.06**	**233**	eP	Pb	13 26 44.9	+0.1
SCST	**Cishan**	**2.07**	**239**	eP	Pb	13 26 45.6	+0.6
LAY	**Lan-yu**	**2.08**	**203**	eP	Pb	13 26 43.6	-1.6
LYUB	**Lan-yu**	**2.10**	**202**	eP	Pb	13 26 42.9	+0.5
LYUB				eS	Sn	13 27 08.2	+0.1
MASBT	**Mashibuluo**	**2.12**	**231**	eP	Pb	13 26 44.7	-1.3
EAST	**Anshuo**	**2.14**	**223**	eP	Pb	13 26 44.8	-1.4
TAWH	**Dawu Township**	**2.15**	**221**	eP	Pb	13 26 45.2	-1.2
TWM1	**Shoushan**	**2.16**	**238**	eP	Pb	13 26 47.4	+0.9
TSCK	**Chigu Township**	**2.29**	**249**	eP	Pb	13 26 47.4	-1.4

*IDC **27** 13:29:45.1±0.6, 19°.09N×67°.27W, h0km, mb3.8/12, mbtmp3.9/14, ML2.9/2, MS3.3/7, Error ellipse: s-maj=18.4km s-min=14.0km az=54.0*
*SDD **27** 13:29:47.3±1.7, 19°.27N×67°.11W, h31km±44km, MD4.2, ML4.2, MW4.2*
*NEIC **27** 13:29:47.8±2.0, 19°.16N±0°.03×67°.23W±0°.04, h10km±1km, mb4.4/24, ML4.3/18, ML4.3/9(RSPR), Error ellipse: s-maj=6.5km s-min=4.5km az=228.0*
*CATAC **27** 13:29:48.8±1.1, 19°.N±6°.×6°.7W±°, h16km±5km, M4.7/6, mb4.6/3, mB4.9/2, MLv4.7/6, Mw(mB)4.2/2, Error ellipse: s-maj=13.7km s-min=4.9km az=22.1, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.35; $M_{\theta\theta}$=2.13; $M_{\phi\phi}$=2.48; $M_{r\theta}$=0.54; $M_{r\phi}$=0.38; $M_{\theta\phi}$=0.80; Fault plane solution: M_0=2.54574×10^{15} NP1:ϕ_s=319.08668°, δ68.33527°, λ179.57566°. NP2:ϕ_s=49.24334°, δ89.60564°, λ21.66527°. Principal axes: T 2.7423, Plg15.4212°, Azm276.2669°; N -0.4542, Plg68.3313°, Azm50.2360°; P -2.2880, Plg14.8435°, Azm182.0746°; confirmed*
*OSPL **27** 13:29:49.5±1.4, 19°.15N×67°.15W, h2km±7km, ML4.1*
*RSPR **27** 13:29:52.2, 19°.15N×67°.29W, h20km±9km, MD3.9/9*
ISC 27 13:29:48.0±0.9, 19°.14N±0°.03×67°.24W±0°.02, h18km±3km, n184, σ1$64/200, mb4.2/17, MS3.3/6, 21C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**170**		**Pn**	**13 30 02.8**	**+0.1**
AGPR					**Sn**	**13 30 12.2**	**-0.6**
AGPR	**Aguadilla, PR**	**0.68**	**170**	↑eP	**Pn**	**13 30 02.8**	**+0.1**
AGPR	**Aguadilla, PR**	**0.68**	**170**	↓ePg	**Pg**	**13 30 02.0**	**+0.6**
AGPR				↑eSg	**Sn**	**13 30 13.2**	**+0.4**
AGPR				IAML		13 30 14.1	
	comp=N,9μm,0.3s						
AGPR	**Aguadilla, PR**	**0.68**	**170**	P	**Pg**	**13 30 02.1**	**+0.6**
AGPR				S	**Sn**	**13 30 12.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.68**	**170**	i P	**Pg**	**13 30 02.0**	**+0.6**
AGPR				eS	**Sn**	**13 30 11.5**	**-1.3**
AGPR				IAML		13 30 17.8	
	comp=Z,7μm,0.2s						
IDE	**Isla Desecheo**	**0.78**	**197**		**Pg**	**13 30 04.0**	**+0.7**
IDE					**Sn**	**13 30 15.6**	**+0.2**
IDE	**Isla Desecheo**	**0.78**	**197**	↓iP	**Pg**	**13 30 04.0**	**+0.7**
IDE	**Isla Desecheo**	**0.78**	**197**	eS	**Sn**	**13 30 15.6**	**+0.2**
PRSN	**Puerto Rico Se**	**0.92**	**174**		**Pg**	**13 30 06.2**	**+0.2**
PRSN					**Sn**	**13 30 19.8**	**+1.0**
PRSN	**Puerto Rico Se**	**0.92**	**174**	↑eP	**Pg**	**13 30 06.2**	**+0.2**
PRSN	**Puerto Rico Se**	**0.92**	**174**	eS	**Sn**	**13 30 19.8**	**+1.0**
EMPR	**Esperanza - Ma**	**0.94**	**134**		**Pb**	**13 30 05.8**	**0.0**
EMPR	**Esperanza - Ma**	**0.94**	**134**		**Sn**	**13 30 21.3**	**+2.0**
EMPR	**Esperanza - Ma**	**0.94**	**134**	↑iP	**Pn**	**13 30 08.2**	**+1.9**
EMPR	**Esperanza - Ma**	**0.94**	**134**	eS	**Sn**	**13 30 21.3**	**+2.0**
LSP	**Las Mesas**	**0.97**	**171**		**Pg**	**13 30 07.0**	**+0.1**
LSP					**Sn**	**13 30 20.4**	**+0.4**
LSP	**Las Mesas**	**0.97**	**171**	↑eP	**Pg**	**13 30 07.0**	**+0.1**
LSP	**Las Mesas**	**0.97**	**171**	eS	**Sn**	**13 30 20.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.01**	**151**		**Pb**	**13 30 06.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.01**	**151**		**Sg**	**13 30 20.7**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.01**	**151**	↑eP	**Pg**	**13 30 08.8**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.01**	**151**	eS	**Sg**	**13 30 20.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**174**		**Pb**	**13 30 08.7**	**-0.3**
CRPR				IAML		13 30 33.2	
	comp=E,5μm,0.7s						
CRPR				IAML		13 30 33.6	
	comp=N,6μm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.14**	**174**		**Sg**	**13 30 25.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.14**	**174**	↓eP	**Pg**	**13 30 11.2**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**174**	eS	**Sg**	**13 30 25.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.14**	**174**	↓ePg	**Pb**	**13 30 09.0**	**-0.1**
CRPR				↑eSg	**Sg**	**13 30 24.4**	**-0.5**
CRPR				IAML		13 30 29.6	
	comp=N,6μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.14**	**174**	i P	**Pb**	**13 30 09.0**	**-0.1**
CRPR				eS	**Sg**	**13 30 24.3**	**-0.5**
CRPR				IAML		13 30 33.5	
	comp=Z,6μm,0.3s						
ECPR	**Experimental S**	**1.17**	**134**	↑iP	**Pg**	**13 30 10.9**	**+0.3**
ECPR	**Experimental S**	**1.17**	**134**	eS	**Sg**	**13 30 25.8**	**-0.1**
MLPR	**Magueyes Islan**	**1.18**	**171**	↑iP	**Pn**	**13 30 09.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.18**	**171**	eS	**Sg**	**13 30 25.9**	**-0.4**
MLPR	**Magueyes Islan**	**1.18**	**171**	↓ePg	**Pn**	**13 30 09.5**	**0.0**
MLPR				↑eSg	**Sg**	**13 30 25.6**	**-0.8**
MLPR				IAML		13 30 30.1	
	comp=N,1μm,0.4s						
GBPR	**Guanica, Bosqu**	**1.21**	**164**		**Pb**	**13 30 10.6**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.21**	**164**	↑eP	**Pb**	**13 30 10.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.25**	**151**		**Pn**	**13 30 10.6**	**+0.1**
OBIP				IAML		13 30 29.9	
	comp=E,5μm,0.4s						
OBIP				IAML		13 30 34.0	
	comp=N,5μm,0.5s						
OBIP	**Obispado Ponce**	**1.25**	**151**		**Sg**	**13 30 27.9**	**-0.5**
OBIP	**Obispado Ponce**	**1.25**	**151**	↑eP	**Pb**	**13 30 11.2**	**+0.3**
OBIP	**Obispado Ponce**	**1.25**	**151**	eS	**Sg**	**13 30 27.9**	**-0.5**
GCPR	**Guaynabo City**	**1.37**	**127**		**Pn**	**13 30 12.2**	**0.0**
GCPR				IAML		13 30 38.7	
	comp=N,3μm,0.8s						
GCPR	**Guaynabo City**	**1.37**	**127**		**Sg**	**13 30 32.4**	**-0.1**
GCPR	**Guaynabo City**	**1.37**	**127**	↑eP	**Pb**	**13 30 13.4**	**+0.3**
GCPR	**Guaynabo City**	**1.37**	**127**	eS	**Sg**	**13 30 32.4**	**-0.1**
SJG	**San Juan**	**1.45**	**135**		**Pn**	**13 30 13.4**	**+0.1**
SJG				IAML		13 30 43.2	
	comp=N,3μm,0.6s						
SJG	**San Juan**	**1.45**	**135**	Pn	**Pn**	**13 30 13.8**	**+0.6**
	comp=N,234nm,0.3s,baz=318,slow=13,SNR=266						
SJG				Sn	**Sb**	**13 30 32.8**	**+0.1**
	comp=N,492nm,0.3s,baz=252,slow=20,SNR=12						
SJG	**San Juan**	**1.45**	**135**	↓eP	**Pb**	**13 30 15.6**	**+1.1**
SJG	**San Juan**	**1.45**	**135**	eS	**Sb**	**13 30 33.3**	**+0.6**
SJG	**San Juan**	**1.45**	**135**	P	**Pn**	**13 30 14.3**	**+1.0**
SJG				S	**Sn**	**13 30 31.7**	**-0.2**
SJG	**San Juan**	**1.45**	**135**	i P	**Pn**	**13 30 14.0**	**+0.7**
SJG				eS	**Sb**	**13 30 32.7**	**+0.1**
SJG				IAML		13 30 45.6	
	comp=Z,2μm,0.4s						
SJG	**San Juan**	**1.45**	**135**	P	**Pn**	**13 30 13.9**	**+0.6**
SJG				S	**Sb**	**13 30 33.3**	**+0.6**
HIDR	**Higuey Centro**	**1.50**	**249**	↑eP	**Pb**	**13 30 15.7**	**+0.3**
HIDR	**Higuey Centro**	**1.50**	**249**	eS	**Sb**	**13 30 35.8**	**+1.7**
HIDR	**Higuey Centro**	**1.50**	**249**	↓ePg	**Pn**	**13 30 14.7**	**+0.7**
HIDR				↑eSg	**Sb**	**13 30 35.0**	**+0.9**
HIDR				IAML		13 30 38.1	
	comp=N,4μm,0.7s						
IGPR	**InterUniversit**	**1.59**	**137**		**Pb**	**13 30 16.9**	**+0.1**
IGPR					**Sb**	**13 30 36.3**	**-0.1**
IGPR	**InterUniversit**	**1.59**	**137**	↑eP	**Pb**	**13 30 16.9**	**+0.1**
IGPR	**InterUniversit**	**1.59**	**137**	eS	**Sb**	**13 30 36.3**	**-0.1**
IGPR	**InterUniversit**	**1.59**	**137**	S	**Sn**	**13 30 34.8**	**-0.4**
IGPR	**InterUniversit**	**1.59**	**137**	P	**Pn**	**13 30 15.5**	**+0.4**
PDPR	**Patillas Dam,**	**1.61**	**134**		**Pn**	**13 30 15.4**	**0.0**
PDPR	**Patillas Dam,**	**1.61**	**134**	↑eP	**Pb**	**13 30 17.4**	**+0.3**
PDPR	**Patillas Dam,**	**1.61**	**134**	eS	**Sb**	**13 30 38.3**	**+1.3**
MIDR	**Miches**	**1.72**	**265**	↑eP	**Pn**	**13 30 19.0**	**+2.0**
MIDR	**Miches**	**1.72**	**265**	↓ePg	**Pn**	**13 30 17.8**	**+0.8**
MIDR				↑eSg	**Sb**	**13 30 42.7**	**+2.3**
MIDR				IAML		13 30 46.1	
	comp=N,2μm,0.6s						
SMDR	**Samana, DR**	**1.85**	**275**	↓iP	**Pn**	**13 30 18.6**	**-0.1**
DR12	**Loma Pena Alta**	**2.06**	**260**		**Pn**	**13 30 22.5**	**+0.8**
HATOM	**Hato Mayor del**	**2.06**	**260**	↓ePg	**Pn**	**13 30 23.2**	**+1.5**
HATOM				↑eSg	**Sb**	**13 30 49.7**	**-0.4**
HATOM				IAML		13 30 57.1	
	comp=N,1μm,0.5s						
SDD	**Santo Domingo**	**2.62**	**255**		**Pn**	**13 30 30.5**	**+1.1**
SDD				IAML		13 31 12.8	
	comp=E,1μm,1.3s						
SDD				IAML		13 31 15.2	
	comp=N,945nm,0.7s						
SDD	**Santo Domingo**	**2.62**	**255**		**Sb**	**13 31 05.7**	**-0.6**
SDD	**Santo Domingo**	**2.62**	**255**	↓eP	**Pn**	**13 30 31.6**	**+2.2**
SDD	**Santo Domingo**	**2.62**	**255**	S	**Sb**	**13 31 04.9**	**-1.5**
SDD	**Santo Domingo**	**2.62**	**255**	P	**Pn**	**13 30 31.3**	**+1.9**
SDD	**Santo Domingo**	**2.62**	**255**	i P	**Pn**	**13 30 31.4**	**+1.9**
SDD				eS	**Sn**	**13 31 03.7**	**+2.9**
BANI	**BANI**	**3.05**	**256**		**Pn**	**13 30 36.8**	**+1.4**
SC01	**Santiago de lo**	**3.31**	**275**		**Pn**	**13 30 40.3**	**+1.5**
SC01	**Santiago de lo**	**3.31**	**275**	↓eP	**Pn**	**13 30 41.4**	**+2.5**
SC01	**Santiago de lo**	**3.31**	**275**	P	**Pn**	**13 30 40.3**	**+1.5**
SC01	**Santiago de lo**	**3.31**	**275**	IAML		13 31 48.3	
	comp=Z,1μm,1.0s						
SDDR	**Presa de Saban**	**3.83**	**268**		**Pn**	**13 30 47.4**	**+1.3**
SDDR	**Presa de Saban**	**3.83**	**268**	↑eP	**Pn**	**13 30 49.1**	**+3.0**
SDDR	**Presa de Saban**	**3.83**	**268**	P	**Pn**	**13 30 48.5**	**+2.4**
SDDR				S	**Sn**	**13 31 34.6**	**+3.9**
SDDR	**Presa de Saban**	**3.83**	**268**	eP	**Pn**	**13 30 47.6**	**+1.5**
SDDR				eS	**Sn**	**13 31 33.0**	**+2.3**
SDDR				eSg	**Sb**	**13 31 46.9**	**+5.7**
SDDR				IVMs_BB	IVMs_BB	13 31 48.6	
	comp=Z,3μm,2.4s						
SDDR				IVMs_BB	IVMs_BB	13 31 49.4	
	comp=Z,2μm,2.7s						
SDDR	**Presa de Saban**	**3.83**	**268**	P	**Pn**	**13 30 49.0**	**+2.9**
LONE3	**El Aguacate, B**	**4.03**	**263**	i P	**Pn**	**13 30 51.7**	**+2.8**
SABA	**Saba**	**4.08**	**111**		**Pn**	**13 30 50.1**	**+0.6**
SABA				IAML		13 31 57.2	
	comp=N,365nm,1.0s						
SABA				IAML		13 31 59.6	
	comp=E,940nm,0.7s						
LODU1	**El Espartillar**	**4.09**	**260**	i P	**Pn**	**13 30 52.9**	**+3.3**
GRTK	**Grand Turk**	**4.35**	**303**	P	**Pn**	**13 30 51.1**	**-2.0**
GRTK				S	**Sn**	**13 31 39.5**	**-3.9**
LOBH	**Bahia de las A**	**4.37**	**254**	i P	**Pn**	**13 30 55.9**	**+2.5**
LOBH				eS	**Sn**	**13 31 45.6**	**+1.8**
ANWB	**Willy Bob**	**5.38**	**105**	P	**Pn**	**13 31 10.8**	**+3.5**
	comp=E,116nm,0.7s						
GDHS	**Morne Mazeau,**	**5.95**	**118**		**Pn**	**13 31 16.0**	**+0.9**
H05N1	**Guadeloupe/Mar**	**6.53**	**115**	Pn	**Pn**	**13 31 21.5**	**-1.6**
H05N1				Sn	**Sn**	**13 32 40.7**	**+3.6**
QMBU	**Quimbuelo**	**7.21**	**280**	eP	**Pn**	**13 31 29.1**	**-3.4**
QMBU				eS	Sn	13 32 44.8	-9.3
QMBU				IVMs_BB	IVMs_BB	13 32 53.8	
	comp=E,226nm,3.7s						
QMBU				IVMs_BB	IVMs_BB	13 32 57.5	
	comp=N,158nm,2.8s						
MOAC	**Moa**	**7.42**	**283**	↑eP	Pn	13 31 30.2	-5.2
MOAC				eS	Sn	13 32 48.8	-10
NMDO	**Nuevo Mundo**	**7.42**	**282**	↑eP	Pn	13 31 31.4	-4.0
NMDO				eS	Sn	13 32 49.1	-10
GTBY	**Guantanamo Bay**	**7.46**	**277**	eP	**Pn**	**13 31 33.0**	**-3.0**
GTBY	**Guantanamo Bay**	**7.46**	**277**	P	**Pn**	**13 31 32.7**	**-3.3**
	comp=N,44nm,1.1s						
GTBY				S	**Sn**	**13 32 54.7**	**-5.5**
	comp=N,44nm,1.1s						
ILAM	**Ilet Lapin Mar**	**7.48**	**125**	Pn	**Pn**	**13 31 36.9**	**+0.7**
BIM	**Bigot**	**7.48**	**127**	Pn	**Pn**	**13 31 36.9**	**+0.6**
SABCS	**La Quijada**	**7.70**	**280**	eP	**Pn**	**13 31 35.9**	**-3.4**
SABCS				eS	Sn	13 32 57.0	-9.1
H05S1	**Guadeloupe/Mar**	**7.72**	**126**	Pn	**Pn**	**13 31 40.2**	**+0.7**
H05S1				Sn	**Sn**	**13 33 07.0**	**+0.5**
RCC	**Rio Carpintero**	**8.02**	**277**	eP	Pn	13 31 39.5	-4.1
RCC				eS	Sn	13 33 05.3	-8.6
PINC	**Pinares de May**	**8.16**	**281**	eP	Pn	13 31 41.7	-3.8
PINC				eS	Sn	13 33 06.9	-10
MARVS	**Santiago de Cu**	**8.21**	**277**	eP	**Pn**	**13 31 43.0**	**-3.2**
MARVS				eS	Sn	13 33 10.1	-8.4
HLGC	**Holguin**	**8.47**	**283**	eP	**Pn**	**13 31 47.0**	**-2.9**
URIC	**Uribia, Colomb**	**8.70**	**212**	P	Pn	13 31 46.9	-6.1
LMGC	**Las Mercedes**	**9.25**	**277**	eP	**Pn**	**13 31 57.1**	**-3.4**
LMGC				eS	Sn	13 33 35.4	-8.8
PCRV	**Puerto La Cruz**	**9.26**	**164**	eP	**Pn**	**13 32 03.3**	**+2.6**
CRJC	**Cerrejon, Guaj**	**9.74**	**215**	P	**Pn**	**13 32 07.3**	**0.0**
	comp=N,17nm,0.6s						
CCCC	**Cccc**	**10.10**	**283**	↑eP	Pn	13 32 01.7	-10
TRN	**Trinidad (W)**	**10.15**	**145**	eP	**Pn**	**13 32 15.8**	**+2.9**
TRN	**Trinidad (W)**	**10.15**	**145**	eS	**Sn**	**13 34 04.0**	**-2.3**
BAUV	**El Baul**	**10.17**	**184**		**Pn**	**13 32 13.9**	**+0.8**
SDV	**Santo Domingo**	**10.71**	**198**	Pn	**Pn**	**13 32 21.5**	**+0.7**
	comp=N,1.8nm,0.3s,baz=17,slow=14,SNR=9.3						
SDV				Sn	**Sn**	**13 34 16.5**	**-3.9**
	comp=N,1.7nm,0.3s,baz=12,slow=9.3,SNR=2.1						
	comp=N,3.2nm,0.5s						
SJCC	**San Jacinto, C**	**11.98**	**221**	P	**Pn**	**13 32 35.9**	**-2.1**
OCAC	**Ocana**	**12.34**	**209**	P	**Pn**	**13 32 45.2**	**+2.2**
	comp=N,696nmcomp=N,44nm,0.5s						
PAMC	**Pamplona, Colo**	**12.88**	**205**	P	**Pn**	**13 32 50.1**	**-0.5**
BBSR	**BB Station**	**13.37**	**9**	Pn	**Pn**	**13 32 56.4**	**-0.5**
ZARC	**Zaragoza, Cauc**	**13.74**	**214**	P	**Pn**	**13 33 02.7**	**+0.7**
	comp=N,9.2nm,0.5s						
BARC	**Barichara**	**13.75**	**206**	P	**Pn**	**13 33 04.8**	**+2.5**
UREC	**San Jos de Ur**	**13.89**	**217**	P	**Pn**	**13 33 05.4**	**+1.3**
RUSC	**La Rusia**	**14.35**	**204**		**Pn**	**13 33 10.4**	**-0.3**
RUSC	**La Rusia**	**14.35**	**204**	P	**Pn**	**13 33 10.5**	**-0.2**
RUSC	**La Rusia**	**14.35**	**204**	P	**Pn**	**13 33 10.9**	**+0.2**
	comp=N,24nm,0.9s						
PTBC	**PUERTO BERRIO,**	**14.36**	**210**	P	**Pn**	**13 33 08.4**	**-2.1**
APAC	**Apartado, Choc**	**14.39**	**220**	P	**Pn**	**13 33 09.1**	**-1.8**
SPBC	**San Pablo de B**	**14.97**	**207**	P	**Pn**	**13 33 20.7**	**+1.8**
	comp=N,13nm,0.6s						
HELC	**Santa Helena**	**15.19**	**213**	P	**P**	**13 33 26.8**	**-0.3**
HELC	**Santa Helena**	**15.19**	**213**	P	**P**	**13 33 25.5**	**-1.6**
CBOC	**Ciudad Bolivar**	**15.72**	**214**	P	**Pn**	**13 33 30.0**	**+1.2**
	comp=N,15nm,1.0s						
BCIP	**Isla Barro Col**	**15.72**	**233**	P	**Pn**	**13 33 27.7**	**-1.0**
	comp=N,10nm,1.0s						
CHIC	**Chingaza**	**15.76**	**205**	P	**Pn**	**13 33 31.2**	**+1.7**
	comp=N,10nm,1.2s						
ROSC	**El Rosal**	**15.80**	**207**	Pn	**Pn**	**13 33 30.4**	**+0.3**
ROSC				IAmb	IAmb	13 33 54.5	
	comp=Z,19nm,0.8s						
ROSC	**El Rosal**	**15.80**	**207**	Pn	**Pn**	**13 33 30.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=104,slow=17,SNR=1.3						
ROSC				Sn	**Sn**	**13 36 26.3**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=1.2						
	comp=Z,5.6nm,0.6s						
ROSC	**El Rosal**	**15.80**	**207**	P	**Pn**	**13 33 32.4**	**+2.3**
	comp=Z,23nm,0.9s						
GUY2C	**Guyana, Caldas**	**15.94**	**211**	P	**P**	**13 33 35.3**	**-0.2**
ORTC	**Ortega, Tolima**	**17.04**	**208**	P	**Pn**	**13 33 46.5**	**+1.0**
	comp=Z,29nm,0.9s						
PRAC	**Prado**	**17.06**	**207**	P	**P**	**13 33 49.5**	**+2.1**
656A	**Willston**	**17.25**	**309**		**Pn**	**13 33 48.7**	**+0.7**
656A				IAmb	IAmb	13 34 01.9	
	comp=Z,95nm,1.3s						
URMC	**La Uribe, Meta**	**17.27**	**205**	P	**P**	**13 33 52.1**	**+2.3**
YOTC	**Yotoco, Valle**	**17.50**	**212**	P	**P**	**13 33 56.2**	**+3.9**
BOAV	**Boa Vista**	**17.89**	**158**		**Pn**	**13 33 56.2**	**+0.2**
BOAV	**Boa Vista**	**17.89**	**158**	P	**Pn**	**13 33 56.0**	**-0.1**
Y58A	**Scranton**	**18.41**	**325**	P	**Pn**	**13 34 04.4**	**+2.2**
V61A	**Roper**	**18.52**	**335**		**Pn**	**13 34 06.2**	**+2.6**
X58A	**Rowland**	**18.74**	**327**	P	**P**	**13 34 07.1**	**+1.3**
X58A				IAmb	IAmb	13 34 19.2	
	comp=Z,26nm,1.1s						
SGC2	**Sao Gabriel da**	**19.18**	**179**	P	**P**	**13 34 11.6**	**+0.9**
	comp=Z,15nm,0.7s						
JTS	**Las Juntas de**	**19.25**	**245**	LR	LR	13 41 47.0	
	comp=Z,64nm,18.1s,baz=56,slow=38						
FLOC	**Florencia**	**19.30**	**206**	P	**P**	**13 34 11.9**	**-0.2**
FLOC				IAmb	IAmb	13 34 41.1	
	comp=Z,32nm,1.2s						
FLOC	**Florencia**	**19.30**	**206**	P	**Pn**	**13 34 15.2**	**+2.0**
OTAV	**Otavalo**	**21.77**	**212**		**P**	**13 34 39.1**	**-0.2**
OTAV				IAmb	IAmb	13 35 09.6	
	comp=Z,9.5nm,1.0s						
TKL	**Tuckaleechee C**	**22.00**	**322**	LR	LR	13 45 08.1	
	comp=Z,50nm,18.2s,baz=95,slow=42						
MACA	**Manacapuru-AM**	**23.08**	**163**	P	**P**	**13 34 52.3**	**-0.5**
ATAH	**Atahualpa**	**28.33**	**204**	LR	LR	13 49 04.0	
	comp=Z,72nm,18.9s,baz=34,slow=41						
VILB	**Vilhena**	**32.64**	**167**	P	**P**	**13 36 17.5**	**-1.5**
TXAR	**Lajitas Array**	**34.61**	**294**	P	**P**	**13 36 36.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=100,slow=8.7,SNR=11						
TXAR				PcP	**PcP**	**13 39 12.2**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=95,slow=4.1,SNR=1.9						
TXAR				ScP	**ScP**	**13 42 56.3**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=98,slow=4.1,SNR=5.9						
	comp=Z,0.6nm,0.6s						
TX31	**Lajitas Ar. Si**	**34.61**	**294**	P	**P**	**13 36 37.2**	**+1.0**
TX31				IAmb	IAmb	13 36 59.3	
	comp=Z,2.4nm,0.8s						
LPAZ	**La Paz**	**35.22**	**181**	P	**P**	**13 36 41.1**	**-1.0**
LPAZ	**La Paz**	**35.22**	**181**	P	**P**	**13 36 38.4**	**-3.6**
	comp=Z,0.7nm,0.4s,baz=343,slow=7.3,SNR=5.0						
MNTX	**Cornudas Mount**	**36.47**	**298**	P	**P**	**13 36 53.3**	**+1.2**
SDCO	**Great Sand Dun**	**38.08**	**307**	P	**P**	**13 37 06.1**	**0.0**
GO01	**Chusmiza**	**38.62**	**183**	P	**P**	**13 37 08.1**	**-2.8**
GO01				IAmb	IAmb	13 37 52.4	
	comp=Z,7.5nm,1.1s						
BDFB	**Brasilia**	**39.40**	**150**	IAmb	IAmb	13 37 30.8	
	comp=Z,7.5nm,1.3s						
BDFB	**Brasilia**	**39.40**	**150**	P	**P**	**13 37 16.2**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=328,slow=15,SNR=4.6						
BDFB				LR	LR	13 54 17.8	
	comp=Z,45nm,20.4s,baz=349,slow=37						
	comp=Z,2.4nm,0.6s						
LPIG	**La Paz**	**40.23**	**285**	LR	LR	13 55 49.1	
	comp=Z,48nm,19.1s,baz=126,slow=39						
PDAR	**Pinedale Array**	**42.67**	**313**	P	**P**	**13 37 44.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=92,slow=7.0,SNR=4.2						
	comp=Z,0.2nm,0.4s						
RLMT	**Red Lodge**	**43.33**	**316**	P	**P**	**13 37 50.1**	**+0.9**
CPUP	**Villa Florida**	**46.21**	**168**	P	**P**	**13 38 10.3**	**-1.7**
CPUP	**Villa Florida**	**46.21**	**168**	P	**P**	**13 38 10.2**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=253,slow=19,SNR=3.6						
	comp=Z,0.8nm,0.6s						
OVMT	**Ovando**	**46.47**	**318**	P	**P**	**13 38 15.1**	**+1.0**
NVAR	**Mina Array Bea**	**48.06**	**305**	P	**P**	**13 38 25.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=80,slow=9.2,SNR=1.9						
	comp=Z,0.2nm,0.4s						
NEW	**Newport**	**49.49**	**318**	P	**P**	**13 38 37.8**	**+0.4**
NEW				IAmb	IAmb	13 38 51.2	
	comp=Z,2.9nm,0.8s						
ESDC	**Sonseca Array**	**57.63**	**55**	P	**P**	**13 39 39.2**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=268,slow=6.6,SNR=12						
	comp=Z,1.7nm,0.7s						
PLCA	**Paso Flores**	**59.65**	**183**	IAmb	IAmb	13 40 18.9	
	comp=Z,5.2nm,1.2s						
PLCA	**Paso Flores**	**59.65**	**183**	P	**P**	**13 39 49.5**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=0.0,slow=9.1,SNR=3.2						
	comp=Z,0.6nm,0.7s						
EKA	**

SJG	San Juan	3.44 106	eS	Sn	13 45 57.6 -2.4

NEIC ***27*** *13:48:12.5±0.8, 4°.80S±0°.04×149°.1E±0°.1, h614km±9km, mb4.1/25, Error ellipse: s-maj=20.2km s-min=5.5km az=98.0*
IDC ***27*** *13:48:12.3±1.1, 4°.83S×148°.92E, h614km±13km, mb2.9/10, mbtmp4.0/12, Error ellipse: s-maj=22.5km s-min=10.0km az=104.0*
ISC 27 13:48:11.4±0.5, **4°.79S**±0°.07×**149°.01E**±0°.09, **h600**km, **n51**, σ0**94**/52, **mb3.8**/20, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MANU	Manus Island	3.18	329		P	13 49 33.8	+2.1
RABL	Rabaul	3.21	79	P	P	13 49 32.5	+0.7
PMG	Port Moresby	4.94	202	P	P	13 49 45.6	+1.8
PMG	75nm,0.3s,baz=22,slow=11,SNR=89			S	S	13 51 00.2	+1.0
JAY	9.7nm,0.7s,baz=18,slow=20,SNR=1.2 Jayapura	8.59	285	P	P	13 50 17.3	+0.9
JAY	15nm,0.5s,baz=116,slow=4.4,SNR=17			S	S	13 51 57.5	-1.4
COEN	12nm,1.1s,baz=99,slow=19,SNR=1.3 Coen	10.77	212	P	P	13 50 39.2	+1.4
PATS	Pohnpei	14.82	39	P	P	13 51 18.4	+0.3
FAKI	Fak Fak	16.82	276	P	P	13 51 37.3	+0.9
WB0	Warramunga Arr	20.59	222	P	P	13 52 10.9	+0.3
WB0	comp=Z,3.3nm,1.1s			IAmb	IAmb	13 52 27.0	
WR8	Warramunga Arr	20.66	222	P	P	13 52 11.5	+0.3
WR8	comp=Z,5.8nm,1.5s			IAmb	IAmb	13 52 32.2	
WRA	Warramunga Arr	20.75	222	P	P	13 52 11.2	-0.9
WRA	Warramunga Arr	20.75	222	P	P	13 52 12.1	+0.1
WRA	comp=Z,0.3nm,0.3s,baz=48,slow=9.8,SNR=11			S	S	13 55 23.6	-2.5
AS31	comp=Z,0.4nm,1.0s,baz=49,slow=17,SNR=2.3 Alice Springs	23.75	216	P	P	13 52 38.8	+0.1
ASAR	comp=Z,0.3nm,0.3s Alice Springs	23.75	216	P	P	13 52 38.4	-0.3
ASAR	Alice Springs	23.75	216	P	P	13 52 38.8	+0.1
ASAR	comp=Z,0.6nm,0.4s,baz=41,slow=9.3,SNR=25			S	S	13 56 11.4	-1.9
INKA	comp=Z,0.1nm,0.6s,baz=33,slow=19,SNR=2.0 Innaminka	24.14	198	P	P	13 52 41.4	-0.6
CAN	comp=Z,0.6nm,0.4s Canberra	30.38	180	P	P	13 53 36.6	+0.2
RTZ	Ruatahuna	42.18	147	P	P	13 55 12.6	-0.5
RTZ	comp=Z,21nm,1.3s			IAmb	IAmb	13 55 34.7	
BKZ	Black Stump Fm	42.31	148	P	P	13 55 13.6	-0.5
MJAR	Matsushiro Arr	42.34	347	P	P	13 55 13.5	-0.8
MJAR	comp=Z,4.5nm,1.3s			IAmb	IAmb	13 55 50.3	
MJAR	Matsushiro Arr	42.34	347	P	P	13 55 13.8	-0.5
TUWZ	comp=Z,1.2nm,0.8s,baz=152,slow=5.4,SNR=4.2 comp=Z,1.2nm,0.8s Tuamarina	42.76	152	P	P	13 55 17.0	-0.5
USRK	Ussuriysk Ar.	51.12	344	P	P	13 56 20.9	+0.9
PETK	comp=Z,1.9nm,0.5s,baz=169,slow=6.1,SNR=4.4 comp=Z,1.9nm,0.5s Petropavlovsk-	58.15	6	P	P	13 57 08.6	-0.3
PETK	Petropavlovsk-	58.15	6	P	P	13 57 08.8	-0.1
SONM	comp=Z,2.2nm,0.5s,baz=192,slow=6.7,SNR=12 comp=Z,2.2nm,0.5s Songino Array	64.35	330	P	P	13 57 49.4	-0.3
SONM	Songino Array	64.35	330	P	P	13 57 49.3	-0.3
SPIA	comp=Z,0.4nm,0.3s,baz=146,slow=4.7,SNR=5.1 comp=Z,0.4nm,0.3s Saint Paul Isl	70.03	22	P	P	13 58 24.1	+0.3
VNDA	Vanda	73.00	177	P	P	13 58 40.5	-0.3
VNDA	Vanda	73.00	177	P	P	13 58 40.7	-0.1
TIXI	comp=Z,0.3nm,0.5s,baz=340,slow=5.5,SNR=14 comp=Z,0.3nm,0.5s Tiksi	77.43	354	P	P	13 59 05.3	-0.1
MKAR	Makanchi Array	77.86	320	P	P	13 59 08.2	-0.1
J17K	comp=Z,0.3nm,0.4s,baz=106,slow=9.1,SNR=6.5 comp=Z,0.3nm,0.4s VABM Dome	78.31	21	P	P	13 59 09.7	-0.6
J17K	comp=Z,16nm,1.4s			IAmb	IAmb	13 59 26.2	
L18K	Granite Mounta	78.52	23	P	P	13 59 11.6	+0.2
L18K	comp=Z,17nm,1.4s			IAmb	IAmb	13 59 52.3	
ZALV	Zalesovo Beam	79.07	327	P	P	13 59 13.6	-1.0
ZALV	Zalesovo Beam	79.07	327	P	P	13 59 13.8	-0.8
L19K	comp=Z,0.7nm,0.4s,baz=104,slow=8.0,SNR=1.5 comp=Z,0.7nm,0.4s White Mountain	79.21	23	P	P	13 59 14.6	-0.5
L19K	comp=Z,15nm,1.4s			IAmb	IAmb	13 59 17.4	
G18K	Tagagawik	79.96	19	P	P	13 59 18.7	-0.2
G18K	comp=Z,11nm,1.3s			IAmb	IAmb	13 59 38.6	
E19K	Redstone River	81.34	18	P	P	13 59 26.1	0.0
E19K	comp=Z,9.1nm,1.2s			IAmb	IAmb	13 59 55.2	
KURBB	Kurchatov Arra	81.48	323	P	P	13 59 27.6	+0.6
D19K	comp=Z,1.1nm,0.3s,baz=104,slow=7.4,SNR=6.3 Kuna River	81.69	17	P	P	13 59 27.8	0.0
D19K	comp=Z,8.2nm,1.4s			IAmb	IAmb	13 59 37.8	
M24K	Tolsona, Glenn	82.75	25	P	P	13 59 33.4	0.0
ILAR	Eielson Array	83.60	23	P	P	13 59 35.5	-1.9
ILAR	Eielson Array	83.60	23	P	P	13 59 35.7	-1.7
J25K	comp=Z,1.1nm,0.7s,baz=247,slow=5.2,SNR=14 comp=Z,1.1nm,0.7s Salcha River,	84.12	23	P	P	13 59 39.2	-0.9
J25K	comp=Z,2.2nm,0.8s			IAmb	IAmb	13 59 40.2	
K27K	Chicken	85.22	24	P	P	13 59 45.2	-0.1
K27K	comp=Z,5.5nm,1.5s			IAmb	IAmb	14 00 21.8	
I28M	Miner Creek	86.58	23	P	P	13 59 51.8	-0.1
I28M	comp=Z,3.8nm,1.2s			IAmb	IAmb	14 00 24.6	
DCMP	DeCamp, Califo	91.20	51	P	P	14 00 13.2	-0.7
GO04	Tololo Observa	128.42	135		PKPpre	14 06 02.8	
AC02	Maricunga	131.54	133		PKPpre	14 06 02.5	
AF01	San Pedro de A	134.40	129		PKPpre	14 06 11.3	
TORD	Torodi Ar. Bea	146.69	287	PKPbc	PKPdf	14 06 47.2	+2.0
	comp=Z,0.3nm,0.3s,baz=80,slow=3.6,SNR=6.2						

IDC ***27*** *13:48:39.7±0.7, 19°.17N×67°.30W, h0km, mb3.7/7, mbtmp3.9/9, ML3.1/2, MS3.3/4, Error ellipse: s-maj=22.4km s-min=16.1km az=37.0*
NEIC ***27*** *13:48:42.1±1.6, 19°.18N±0°.03×67°.16W±0°.02, h10km±1km, mb4.5/38, ML4.0/16, ML3.9/10(RSPR), Error ellipse: s-maj=5.8km s-min=3.3km az=342.0*
SDD ***27*** *13:48:43.2±0.9, 19°.21N×67°.14W, h17km±4km, MD3.5, ML4.0, MW4.0*
OSPL ***27*** *13:48:43.3±3.2, 19°.22N×67°.18W, h13km±20km, ML4.0*
RSPR ***27*** *13:48:46.2, 19°.13N×67°.32W, h28km±28km, MD3.6/10*
ISC 27 13:48:43.4±1.1, **19°.16N**±0°.04×**67°.28W**±0°.03, **h29**km±8km, **n176**, σ2**08**/193, **mb4.3**/18, **22C-10D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.70	167		Pb	13 48 56.8	-0.4
AGPR					Sn	13 49 06.9	-0.5
AGPR	Aguadilla, PR	0.70	167	⇓eP	Pb	13 48 56.8	-0.4
AGPR	Aguadilla, PR	0.70	167	⇑iP	Pb	13 48 56.3	-0.9
AGPR				⇑iS	Sb	13 49 06.0	-0.6
AGPR				IAML		13 49 14.1	
AGPR	comp=N,7μm,0.2s Aguadilla, PR	0.70	167	iP	Pb	13 48 56.3	-0.9
AGPR				eS	Sb	13 49 06.1	-0.5
AGPR				IAML		13 49 08.6	
IDE	comp=Z,4μm,0.2s Isla Desecheo	0.79	193		Pb	13 48 58.2	-0.5
IDE					Sn	13 49 09.7	+0.2
IDE	Isla Desecheo	0.79	193	⇓iP	Pb	13 48 58.2	-0.5
IDE	Isla Desecheo	0.79	193	eS	Sn	13 49 09.7	+0.2
PRSN	Puerto Rico Se	0.94	172		Pb	13 49 00.9	-0.3
PRSN					Sn	13 49 13.7	+0.4
PRSN	Puerto Rico Se	0.94	172	⇓eP	Pb	13 49 00.9	-0.3
PRSN	Puerto Rico Se	0.94	172	eS	Sn	13 49 13.7	+0.4
EMPR	Esperanza - Ma	0.98	133		Pn	13 49 00.4	-0.9
EMPR	Esperanza - Ma	0.98	133		Sn	13 49 15.2	+1.0
EMPR	Esperanza - Ma	0.98	133	⇑eP	Pb	13 49 02.4	+0.6
EMPR	Esperanza - Ma	0.98	133	eS	Sn	13 49 15.2	+1.0
LSP	Las Mesas	0.99	169		Pn	13 49 01.2	-0.3
LSP					Sn	13 49 14.5	-0.1
LSP	Las Mesas	0.99	169	⇑eP	Pn	13 49 01.2	-0.3
LSP	Las Mesas	0.99	169	eS	Sn	13 49 14.5	-0.1
UUPR	Utuado, UPR, P	1.04	149		Pn	13 49 00.6	-1.6
UUPR	Utuado, UPR, P	1.04	149		Sn	13 49 16.3	+0.5
UUPR	Utuado, UPR, P	1.04	149	⇓iP	Pb	13 49 03.8	+0.8
UUPR	Utuado, UPR, P	1.04	149	eS	Sn	13 49 16.3	+0.5
CRPR	Cabo Rojo, PR	1.16	172		Pn	13 49 03.0	-0.7
CRPR				IAML		13 49 23.1	
CRPR	comp=N,4μm,0.5s			IAML		13 49 27.3	
CRPR	comp=E,3μm,0.8s						
CRPR	Cabo Rojo, PR	1.16	172		Sb	13 49 18.9	-0.5
CRPR	Cabo Rojo, PR	1.16	172	⇑iP	Pn	13 49 03.4	-0.2
CRPR	Cabo Rojo, PR	1.16	172	⇓iP	Pn	13 49 03.5	-0.2
CRPR				⇑iS	Sn	13 49 18.5	0.0
CRPR				IAML		13 49 23.0	
CRPR	comp=N,5μm,0.4s Cabo Rojo, PR	1.16	172	iP	Pn	13 49 03.2	-0.5
CRPR				eS	Sn	13 49 18.4	-0.1
CRPR				IAML		13 49 22.8	
MLPR	comp=Z,4μm,0.3s Magueyes Islan	1.20	169	⇑eP	Pn	13 49 04.2	-0.1
MLPR	Magueyes Islan	1.20	169	eS	Sb	13 49 20.3	-0.5
MLPR	Magueyes Islan	1.20	169	⇑iP	Pn	13 49 04.0	-0.4
MLPR				iS	Sn	13 49 19.6	-0.1
MLPR				IAML		13 49 24.3	
ECPR	comp=N,970nm,0.5s Experimental S	1.21	134	⇑eP	Pb	13 49 05.1	-0.5
ECPR	Experimental S	1.21	134	eS	Sb	13 49 20.7	-0.1
GBPR	Guanica, Bosqu	1.24	162		Pb	13 49 05.3	-0.9
GBPR	Guanica, Bosqu	1.24	162	⇑eP	Pb	13 49 05.3	-0.9
OBIP	Obispado Ponce	1.28	150		Pn	13 49 04.7	-0.7
OBIP				IAML		13 49 24.1	
OBIP	comp=E,3μm,0.5s			IAML		13 49 26.7	
OBIP	comp=N,4μm,0.7s Obispado Ponce	1.28	150		Sb	13 49 22.4	-0.5
OBIP	Obispado Ponce	1.28	150	⇑eP	Pn	13 49 05.3	-0.1
OBIP	Obispado Ponce	1.28	150	eS	Sb	13 49 22.4	-0.5
GCPR	Guaynabo City	1.41	126		Pn	13 49 06.2	-1.0
GCPR	Guaynabo City	1.41	126		Sb	13 49 26.5	-0.3
GCPR	Guaynabo City	1.41	126	⇑eP	Pb	13 49 07.6	-1.5
GCPR	Guaynabo City	1.41	126	eS	Sb	13 49 26.5	-0.3
HIDR	Higuey Centro	1.47	248	⇑eP	Pn	13 49 09.2	+1.2
HIDR	Higuey Centro	1.47	248	⇓iP	Pn	13 49 08.8	+0.8
HIDR				⇑iS	Sb	13 49 29.0	+0.5
HIDR				IAML		13 49 33.9	
SJG	comp=N,4μm,0.3s San Juan	1.49	134	Pn	Pn	13 49 07.9	-0.4
SJG				IAML		13 49 38.7	
SJG	comp=N,2μm,0.3s			IAML		13 49 40.4	
SJG	comp=N,2μm,0.5s San Juan	1.49	134	Pn	Pn	13 49 08.1	-0.2
SJG	comp=N,168nm,0.3s,baz=318,slow=14,SNR=163			Sn	Sb	13 49 27.8	-1.3
SJG	comp=N,296nm,0.3s,baz=68,slow=20,SNR=11			LR	LR	13 49 58.1	
SJG	comp=N,729nm,19.6s,baz=310,slow=52 San Juan	1.49	134	⇑eP	Pb	13 49 09.9	-0.6
SJG	San Juan	1.49	134	eS	Sb	13 49 28.1	-1.0
SJG	San Juan	1.49	134	iP	Pn	13 49 08.1	-0.2
SJG				eS	Sb	13 49 27.1	-1.9
SJG				IAML		13 49 38.5	
SJG	comp=Z,952nm,0.5s San Juan	1.49	134	P	Pn	13 49 07.8	-0.5
IGPR	InterUniversit	1.63	137		Pb	13 49 10.9	-1.8
IGPR					Sn	13 49 30.5	+0.3
IGPR	InterUniversit	1.63	137	⇓iP	Pb	13 49 10.9	-1.8
IGPR	InterUniversit	1.63	137	eS	Sn	13 49 30.5	+0.3
PDPR	Patillas Dam,	1.65	133		Pn	13 49 09.7	-0.7
PDPR	Patillas Dam,	1.65	133	⇑eP	Pb	13 49 11.4	-1.7
PDPR	Patillas Dam,	1.65	133	eS	Sb	13 49 32.5	-1.0
MIDR	Miches	1.68	264	⇓iP	Pn	13 49 12.1	+1.2
MIDR	Miches	1.68	264	⇑iP	Pn	13 49 12.2	+1.3
MIDR				⇓iS	Sn	13 49 33.1	+1.5
MIDR				IAML		13 49 38.8	
MIDR	comp=N,755nm,0.4s			IAML		13 49 41.2	
MIDR	comp=N,1μm,1.2s						
SMDR	Samana, DR	1.81	274	⇑iP	Pn	13 49 12.8	+0.2
DR12	Loma Pena Alta	2.02	260		Pn	13 49 17.0	+1.4
HATOM	Hato Mayor del	2.02	260	⇑iP	Pn	13 49 17.6	+2.0
HATOM				⇑iS	Sn	13 49 41.7	+1.7
HATOM				IAML		13 49 54.9	
SDD	comp=N,1μm,0.8s Santo Domingo	2.59	255		Pn	13 49 25.6	+2.2
SDD				IAML		13 50 07.1	
SDD	comp=E,762nm,1.6s			IAML		13 50 09.4	
SDD	comp=N,919nm,0.7s Santo Domingo	2.59	255		Sb	13 49 59.5	-1.0
SDD	Santo Domingo	2.59	255	⇓eP	Pn	13 49 25.8	+2.4
BANI	BANI	3.01	256		Pn	13 49 31.5	+2.1
SC01	Santiago de lo	3.27	275		Pn	13 49 34.7	+2.0
SC01	Santiago de lo	3.27	275	⇑eP	Pn	13 49 35.5	+2.8
SC01	Santiago de lo	3.27	275	iP	Pn	13 49 35.2	+2.5
SC01				IAML		13 50 42.4	
SC01	comp=Z,1μm,0.8s						
LOPP1	Punta Rusia, P	3.76	281	iP	Pn	13 49 40.6	+1.1
SDDR	Presa de Saban	3.79	268		Pn	13 49 42.1	+2.1
SDDR	Presa de Saban	3.79	268	⇑eP	Pn	13 49 43.0	+2.9
SDDR	Presa de Saban	3.79	268	eP	Pn	13 49 42.2	+2.1
SDDR				eS	Sn	13 50 28.9	+5.1
SDDR				eSg	Sb	13 50 38.9	+3.6
SDDR				IAML		13 50 44.0	
SDDR	comp=Z,930nm,0.6s			IAML		13 50 44.3	
SDDR	comp=Z,997nm,0.7s						
SDDR	Presa de Saban	3.79	268	iP	Pn	13 49 42.5	+2.5
SDDR	Presa de Saban	3.79	268	P	Pn	13 49 42.4	+2.4
LONE3	El Aguacate, B	3.99	263	iP	Pn	13 49 45.8	+2.9
LOVI	El Cajuil, Ovi	4.11	251	iP	Pn	13 49 46.4	+2.1
GRTK	Grand Turk	4.31	304	iP	Pn	13 49 45.0	-2.0
GRTK				eS	Sn	13 50 33.7	-2.6
GRTK	Grand Turk	4.31	304	P	Pn	13 49 43.9	-3.1
ANWB	Willy Bob	5.42	105	P	Pn	13 50 01.6	-0.8
GDHS	comp=Z,119nm,0.7s Morne Mazeau,	5.99	118	Pn	Pn	13 50 09.9	-0.3
GDSD	La Dsirade Is	6.56	115	Pn	Pn	13 50 16.7	-1.4
H05N1	Guadeloupe/Mar	6.57	115	Pn	Pn	13 50 18.7	+0.5
MASC	Masc	6.63	280	eP	Pn	13 50 16.3	-2.6
QMBU	Quimbuelo	7.17	280	eP	Pn	13 50 23.2	-3.2
QMBU				eS	Sn	13 51 40.9	-6.1
QMBU				IAML		13 51 45.7	
QMBU	comp=E,47nm,0.2s			IAML		13 51 45.8	
QMBU	comp=N,43nm,0.2s						
MOAC	Moa	7.38	283	⇑eP	Pn	13 50 25.7	-3.5
NMDO	Nuevo Mundo	7.38	282	eP	Pn	13 50 25.6	-3.7
GTBY	Guantanamo Bay	7.42	277	eP	Pn	13 50 26.5	-3.3
GTBY				eS	Sn	13 51 47.5	-5.6
GTBY				IAML		13 51 53.3	
GTBY	comp=N,17nm,0.2s			IAML		13 51 55.1	
GTBY	comp=N,21nm,0.2s Guantanamo Bay	7.42	277	P	Pn	13 50 27.7	-2.2
SABCS	comp=N,61nm,1.2s La Quijada	7.66	280	eP	Pn	13 50 30.1	-3.0
SABCS				eS	Sn	13 51 52.0	-7.1
SABCS				IAML		13 51 58.9	
SABCS	comp=E,29nm,0.3s			IAML		13 51 59.4	
SABCS	comp=N,27nm,0.3s						
H05S1	Guadeloupe/Mar	7.76	126	Pn	Pn	13 50 35.1	+0.6
H05S1				Sn	Sn	13 51 58.7	-2.7
RCC	Rio Carpintero	7.98	277	eP	Pn	13 50 34.8	-2.7
RCC				eS	Sn	13 52 01.2	-5.6
PINC	Pinares de May	8.12	281	eP	Pn	13 50 35.1	-4.3
PINC				eS	Sn	13 52 02.7	-7.6
PINC				IAML		13 52 07.3	
PINC	comp=E,12nm,0.1s			IAML		13 52 07.7	
PINC	comp=N,12nm,0.2s						
MARVS	Santiago de Cu	8.17	277	eP	Pn	13 50 37.9	-2.3
MARVS				eS	Sn	13 52 05.0	-6.5
MARVS				IAML		13 52 11.4	
MARVS	comp=N,9.0nm,0.3s			IAML		13 52 12.3	
MARVS	comp=E,16nm,0.3s						
HLGC	Holguin	8.43	283	⇑eP	Pn	13 50 41.8	-2.0
YAR	Yar	8.63	280	eP	Pn	13 50 43.0	-3.5
CHIV	Chivirico	8.65	277	Pn	Pn	13 50 45.0	-1.7
URIC	Uribia, Colomb	8.69	212	P	Pn	13 50 49.3	+2.0
LMGC	comp=E,17nm,1.2s Las Mercedes	9.21	277	eP	Pn	13 50 51.4	-3.0
LMGC				eS	Sn	13 52 29.4	-7.8
CRJC	Cerrejon, Guaj	9.73	215	P	Pn	13 51 00.7	-0.9
CCCC	comp=E,8.1nm,0.7s Cccc	10.05	283	eP	Pn	13 50 57.2	-8.7
BAUV	El Baul	10.18	184		Pn	13 51 07.5	-0.3
SDV	Santo Domingo	10.72	198	Pn	Pn	13 51 16.5	+1.3
SDV	comp=E,1.1nm,0.3s,baz=15,slow=12,SNR=3.9 comp=E,0.8nm,0.3s,baz=18,slow=6.4,SNR=2.0			Sn	Sn	13 53 11.0	-3.4
SDV	comp=E,93nm,20.3s,baz=52,slow=39 comp=E,3.0nm,0.4s			LR	LR	13 55 36.1	
SDV	Santo Domingo	10.72	198	P	Pn	13 51 19.8	+4.6
SJCC	San Jacinto, C	11.96	221	P	Pn	13 51 23.1	-9.1
OCAC	Ocana	12.34	209	P	Pn	13 51 28.8	-8.6
PAMC	Pamplona, Colo	12.87	205	P	Pn	13 51 45.8	+0.8
BBSR	BB Station	13.36	10	Pn	Pn	13 51 50.8	-0.3
BRJC	Barrancabermej	13.65	208	P	Pn	13 51 52.7	-2.4
ZARC	Zaragoza, Cauc	13.73	213	P	Pn	13 51 55.4	-1.0
BARC	comp=E,1μmcomp=E,7.9nm,0.9s Barichara	13.75	205	P	Pn	13 51 59.3	+2.6
UREC	San Jos de Ur	13.88	216	P	Pn	13 52 00.0	+1.6
RUSC	La Rusia	14.35	204		Pn	13 52 06.0	+0.9
RUSC	La Rusia	14.35	204	P	Pn	13 52 06.0	+0.9
PTBC	comp=E,14nm,0.6s PUERTO BERRIO,	14.36	210	P	Pn	13 52 01.5	-3.4
APAC	Apartado, Choc	14.38	220	P	Pn	13 52 06.0	+0.8
SPBC	comp=E,20nm,0.6s San Pablo de B	14.97	207	P	Pn	13 52 14.3	+1.1
HELC	comp=E,1μmcomp=E,8.9nm,0.6s Santa Helena	15.19	213	P	Pn	13 52 15.4	-1.0
BCIP	comp=E,9.7nm,0.8s Isla Barro Col	15.70	232	P	Pn	13 52 23.9	+1.2
CHIC	comp=E,13nm,1.1s Chingaza	15.75	204	P	Pn	13 52 25.6	+1.8
ROSC	comp=E,9.9nm,0.9s El Rosal	15.80	207	IAmb	IAmb	13 52 48.6	
ROSC	comp=Z,14nm,0.6s El Rosal	15.80	207	Pn	Pn	13 52 25.4	+1.0
ROSC	comp=Z,1.8nm,0.3s,baz=53,slow=20,SNR=4.0 comp=Z,4.7nm,0.4s			Sn	Sn	13 55 18.7	-0.2
GUY2C	Guyana, Caldas	15.94	211	P	P	13 52 29.2	-0.4
ORTC	Ortega, Tolima	17.04	208	P	P	13 52 41.7	+0.3
PRAC	comp=Z,17nm,0.8s Prado	17.05	207	P	P	13 52 43.8	+2.2
URMC	La Uribe, Meta	17.27	205	P	P	13 52 46.5	+2.5
456A	Hilliard	17.62	314		P	13 52 48.0	+0.4
BOAV	Boa Vista	17.93	158		Pn	13 52 50.7	0.0
BOAV	Boa Vista	17.93	158	P	P	13 52 51.0	-0.1
NHSC	New Hope	18.06	323		P	13 52 54.4	+1.9
Y58A	Scranton	18.37	326	P	Pn	13 52 58.2	+2.2
V61A	Roper	18.49	336	P	Pn	13 52 59.2	+1.8
FLOC	Florencia	19.30	206	P	Pn	13 53 07.3	-0.2
FLOC				IAmb	IAmb	13 53 42.3	
BIRD	comp=Z,19nm,1.1s Birdtown, Kers	19.36	325	P	Pn	13 53 09.3	+1.2
BIRD				IAmb	IAmb	13 53 15.3	
W57A	comp=Z,43nm,1.2s Gilead	19.51	327	P	Pn	13 53 10.8	+1.1
W57A				IAmb	IAmb	13 53 16.8	
JSC	comp=Z,35nm,1.5s Jenkinsville	19.53	323	P	Pn	13 53 10.3	+0.3
JSC				IAmb	IAmb	13 53 15.6	
TEIG	comp=Z,16nm,1.2s Tepich	19.80	277	P	Pn	13 53 13.8	+0.5
TEIG				IAmb	IAmb	13 53 14.3	
MDP	comp=Z,26nm,1.2s Montagnes des	19.97	133	LR	LR	14 02 10.7	
TKL	comp=Z,50nm,19.7s,baz=242,slow=41 Tuckaleechee C	21.96	322	IAmb	IAmb	13 54 02.2	
TKL	comp=Z,21nm,1.3s Tuckaleechee C	21.96	322	P	P	13 53 44.2	+9.3
TKL	comp=Z,4.9nm,0.5s,baz=135,slow=12,SNR=19			S	S	13 57 27.2	-8.7
MACA	comp=Z,2.2nm,0.6s,baz=134,slow=9.5,SNR=1.5 Manacapuru-AM	23.11	163	P	P	13 53 47.2	0.0
HRV	Adam Dziewonsk	23.56	352	P	P	13 53 53.7	+2.3
HRV				IAmb	IAmb	13 54 22.9	
ATAH	comp=Z,20nm,1.1s Atahualpa	28.33	204	LR	LR	14 07 03.8	
TUL3	comp=Z,48nm,19.1s,baz=31,slow=39 Leonard	30.14	309	P	P	13 54 51.9	+1.0
TUL3				IAmb	IAmb	13 54 56.1	
T35A	comp=Z,16nm,1.3s Sooner Cattle	31.11	311	P	P	13 55 01.0	+1.5
T35A				IAmb	IAmb	13 55 33.0	
NNA	comp=Z,5.1nm,0.9s Nana	32.35	198	P	P	13 55 11.0	+0.5
TXAR	Lajitas Array	34.56	294	P	P	13 55 31.0	+1.1
TXAR	Lajitas Array	34.56	294	P	P	13 55 31.6	+1.7
TXAR	comp=Z,0.6nm,0.6s,baz=94,slow=8.3,SNR=8.1			PcP	PcP	13 58 04.8	+0.5
TX31	comp=Z,0.2nm,0.8s,baz=98,slow=2.3,SNR=2.4 comp=Z,0.6nm,0.6s Lajitas Ar. Si	34.57	294	P	P	13 55 31.5	+1.6
LPAZ	La Paz	35.23	181	IAmb	IAmb	13 56 06.0	
LPAZ	comp=Z,5.0nm,1.5s La Paz	35.23	181	P	P	13 55 29.5	-6.8
MNTX	comp=Z,0.4nm,0.3s,baz=348,slow=2.4,SNR=2.5 Cornudas Mount	36.42	298	P	P	13 55 47.6	+1.8
EPLO	Experimental L	37.07	331	P	P	13 55 52.9	+1.9
EPLO				IAmb	IAmb	13 55 57.9	
PB16	comp=Z,9.0nm,1.0s IPOC Station P	37.32	183	P	P	13 55 51.4	-2.6
SDCO	Great Sand Dun	38.04	307	P	P	13 56 00.3	+0.6
PV13	Radium Mtn., P	40.67	307	P	P	13 56 21.8	+0.2
PV13				IAmb	IAmb	13 56 40.0	
PV17	comp=Z,6.1nm,1.0s East Wray Mesa	40.81	307	P	P	13 56 24.5	+1.8
PDAR	Pinedale Array	42.63	313	P	P	13 56 37.5	-0.1
RLMT	comp=Z,0.3nm,0.3s,baz=102,slow=6.1,SNR=4.2 comp=Z,0.3nm,0.3s Red Lodge	43.30	316	P	P	13 56 44.5	+1.6
SNOW	Snow King Moun	43.69	314	P	P	13 56 47.0	+0.8
SNOW				IAmb	IAmb	13 56 48.7	
AC02	comp=Z,16nm,1.1s Maricunga	45.76	182	P	P	13 57 02.7	-0.3
AC02				IAmb	IAmb	13 57 25.6	
CPUP	comp=Z,6.3nm,0.7s Villa Florida	46.24

comp=Z,0.2nm,0.5s,baz=98,slow=3.4,SNR=6.6

NEIC ***27*** *13:51:35.8±1.0, 19°.23N±0°.04×67°.24W±0°.01, h10km±1km, ML3.6/16, Md3.1/19(RSPR), Error ellipse: s-maj=6.2km s-min=2.7km az=195.0*
OSPL ***27*** *13:51:39.7±1.4, 19°.05N×67°.20W, h5km±12km, ML3.3*
RSPR ***27*** *13:51:41.2, 19°.04N×67°.28W, h10km±31km, MD3.1/19*
SDD ***27*** *13:51:44.0±2.3, 18°.94N×67°.41W, h18km±33km, MD3.3, ML3.3, MW3.7*

ISC 27 13:51:37.3±1.4, 19°.08N±0°.05×67°.26W±0°.03, h8km±10km, n64, σ0°95/79, 18C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.62**	**167**		**Pn**	**13 51 51.5**	**-1.0**
AGPR					**Sb**	**13 52 00.7**	**+1.4**
AGPR	**Aguadilla, PR**	**0.62**	**167**	⇑*iP*	**Pn**	**13 51 51.5**	**-1.0**
AGPR	**Aguadilla, PR**	**0.62**	**167**	*eS*	**Sb**	**13 52 00.7**	**+1.4**
AGPR	**Aguadilla, PR**	**0.62**	**167**	*i P*	**Pb**	**13 51 51.1**	**+0.7**
AGPR				*eS*	**Sg**	**13 51 57.5**	**-0.1**
AGPR				IAML		13 52 03.4	
	comp=Z,2μm,0.2s						
IDE	**Isla Desecheo**	**0.72**	**197**		**Pn**	**13 51 53.0**	**-0.7**
IDE					**Sn**	**13 52 04.1**	**-0.8**
IDE	**Isla Desecheo**	**0.72**	**197**	⇓*iP*	**Pn**	**13 51 53.0**	**-0.7**
IDE	**Isla Desecheo**	**0.72**	**197**	*eS*	**Sn**	**13 52 04.1**	**-0.8**
PRSN	**Puerto Rico Se**	**0.86**	**173**		**Pb**	**13 51 55.1**	**+0.6**
PRSN					**Sn**	**13 52 08.5**	**0.0**
PRSN	**Puerto Rico Se**	**0.86**	**173**	⇓*eP*	**Pb**	**13 51 55.1**	**+0.6**
PRSN	**Puerto Rico Se**	**0.86**	**173**	*eS*	**Sn**	**13 52 08.5**	**0.0**
LSP	**Las Mesas**	**0.91**	**170**		**Pn**	**13 51 56.0**	**-0.2**
LSP					**Sn**	**13 52 10.2**	**+0.4**
LSP	**Las Mesas**	**0.91**	**170**	⇑*iP*	**Pn**	**13 51 56.0**	**-0.5**
LSP	**Las Mesas**	**0.91**	**170**	*eS*	**Sn**	**13 52 10.2**	**+0.4**
EMPR	**Esperanza - Ma**	**0.91**	**131**		**Pn**	**13 51 57.1**	**+0.7**
EMPR					**Sn**	**13 52 09.1**	**-0.6**
EMPR	**Esperanza - Ma**	**0.91**	**131**	Pg	**Pg**	**13 51 54.9**	**0.0**
EMPR	**Esperanza - Ma**	**0.91**	**131**	⇑*eP*	**Pn**	**13 51 57.1**	**+0.7**
EMPR	**Esperanza - Ma**	**0.91**	**131**	*eS*	**Sn**	**13 52 09.1**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.97**	**148**		**Pn**	**13 51 57.0**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.97**	**148**	Pg	**Pg**	**13 51 55.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.97**	**148**	⇓*eP*	**Pn**	**13 51 57.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.07**	**172**		**Pg**	**13 51 57.8**	**-0.2**
CRPR				IAML		13 52 17.9	
	comp=N,1μm,0.6s						
CRPR				IAML		13 52 22.1	
	comp=E,1μm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.07**	**172**		**Sn**	**13 52 13.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.07**	**172**	⇑*eP*	**Pn**	**13 51 58.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.07**	**172**	*eS*	**Sn**	**13 52 13.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.07**	**172**	⇑*iP*	**Pn**	**13 52 02.8**	**+4.2**
CRPR				⇑*iS*	**Sb**	**13 52 12.9**	**+0.5**
CRPR				IAML		13 52 17.8	
	comp=N,1μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.07**	**172**	*i P*	**Pb**	**13 51 58.0**	**-0.2**
CRPR				*eS*	**Sb**	**13 52 12.3**	**-0.1**
CRPR				IAML		13 52 17.8	
	comp=Z,1μm,0.3s						
MLPR	**Magueyes Islan**	**1.12**	**170**	⇑*iP*	**Pb**	**13 51 59.1**	**+0.1**
MLPR	**Magueyes Islan**	**1.12**	**170**	⇑*iP*	**Pn**	**13 52 02.4**	**+3.1**
MLPR				⇑*iS*	**Sn**	**13 52 14.6**	**-0.3**
MLPR				IAML		13 52 19.1	
	comp=N,359nm,0.5s						
ECPR	**Experimental S**	**1.14**	**132**	⇑*eP*	**Pg**	**13 51 58.7**	**-0.5**
ECPR	**Experimental S**	**1.14**	**132**	*eS*	**Sg**	**13 52 13.8**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.15**	**162**		**Pn**	**13 52 00.3**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.15**	**162**	⇑*eP*	**Pn**	**13 52 00.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.20**	**149**		**Pg**	**13 52 00.0**	**-0.4**
OBIP					**Sb**	**13 52 16.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.20**	**149**	IAML		13 52 17.4	
	comp=N,1μm,0.5s						
OBIP				IAML		13 52 18.6	
	comp=E,2μm,0.4s						
OBIP	**Obispado Ponce**	**1.20**	**149**	⇑*eP*	**Pg**	**13 52 00.0**	**-0.4**
OBIP	**Obispado Ponce**	**1.20**	**149**	*eS*	**Sb**	**13 52 16.3**	**+0.3**
GCPR	**Guaynabo City**	**1.35**	**124**		**Pn**	**13 52 01.8**	**-0.7**
GCPR					**Sn**	**13 52 20.6**	**+0.1**
GCPR	**Guaynabo City**	**1.35**	**124**	⇑*eP*	**Pn**	**13 52 01.8**	**-0.7**
GCPR	**Guaynabo City**	**1.35**	**124**	*eS*	**Sn**	**13 52 20.6**	**+0.1**
SJG	**San Juan**	**1.42**	**132**		**Pn**	**13 52 02.9**	**-0.5**
SJG				IAML		13 52 30.0	
	comp=E,754nm,0.3s						
SJG				IAML		13 52 31.9	
	comp=E,876nm,0.3s						
SJG	**San Juan**	**1.42**	**132**	⇓*iP*	**Pg**	**13 52 04.6**	**0.0**
SJG	**San Juan**	**1.42**	**132**	*eS*	**Sb**	**13 52 22.2**	**-0.2**
SJG	**San Juan**	**1.42**	**132**	*i P*	**Pn**	**13 52 03.0**	**-0.5**
SJG				*eS*	**Sb**	**13 52 21.6**	**-0.8**
SJG				IAML		13 52 27.5	
	comp=Z,482nm,0.3s						
HIDR	**Higuey Centro**	**1.46**	**251**	⇑*iP*	**Pn**	**13 52 04.2**	**+0.2**
HIDR	**Higuey Centro**	**1.46**	**251**	*eS*	**Sg**	**13 52 24.2**	**-0.2**
HIDR	**Higuey Centro**	**1.46**	**251**	⇑*iP*	**Pb**	**13 52 04.9**	**+0.1**
HIDR				⇑*iS*	**Sn**	**13 52 21.2**	**-2.1**
HIDR				IAML		13 52 27.5	
	comp=N,868nm,0.7s						
IGPR	**InterUniversit**	**1.56**	**135**		**Pn**	**13 52 05.2**	**0.0**
IGPR					**Sb**	**13 52 25.9**	**-0.2**
IGPR	**InterUniversit**	**1.56**	**135**	⇑*eP*	**Pn**	**13 52 05.2**	**0.0**
IGPR	**InterUniversit**	**1.56**	**135**	*eS*	**Sb**	**13 52 25.9**	**-0.2**
PDPR	**Patillas Dam,**	**1.58**	**132**		**Pn**	**13 52 04.9**	**-0.6**
PDPR				IAML		13 52 28.3	
	comp=N,571nm,0.5s						
PDPR	**Patillas Dam,**	**1.58**	**132**	⇑*eP*	**Pn**	**13 52 05.6**	**+0.1**
PDPR	**Patillas Dam,**	**1.58**	**132**	*eS*	**Sb**	**13 52 26.7**	**-0.1**
MIDR	**Miches**	**1.70**	**267**	⇑*iP*	**Pn**	**13 52 08.1**	**+0.9**
MIDR	**Miches**	**1.70**	**267**	*eS*	**Sb**	**13 52 30.4**	**+0.2**
MIDR	**Miches**	**1.70**	**267**	⇑*iP*	**Pn**	**13 52 08.2**	**+0.9**
MIDR				⇑*iS*	**Sn**	**13 52 28.3**	**-0.8**
MIDR				IAML		13 52 38.0	
	comp=N,316nm,0.4s						
MIDR				IAML		13 52 38.2	
	comp=N,322nm,0.3s						
SMDR	**Samana, DR**	**1.84**	**277**	⇑*eP*	**Pn**	**13 52 09.8**	**+0.7**
DR12	**Loma Pena Alta**	**2.03**	**262**	Pn	**Pn**	**13 52 11.5**	**-0.4**
HATOM	**Hato Mayor del**	**2.03**	**262**	⇑*iP*	**Pn**	**13 52 12.6**	**+0.8**
HATOM				*i* S	**Sn**	**13 52 36.4**	**-1.0**
HATOM				IAML		13 52 44.7	
	comp=N,394nm,0.6s						
SDD	**Santo Domingo**	**2.59**	**257**		**Pn**	**13 52 18.9**	**-0.6**
SDD				IAML		13 53 01.5	
	comp=E,213nm,1.2s						
SDD	**Santo Domingo**	**2.59**	**257**		**Sb**	**13 52 55.9**	**-0.1**
SDD	**Santo Domingo**	**2.59**	**257**	⇓*eP*	**Pb**	**13 52 23.8**	**-0.3**
BANI	**BANI**	**3.02**	**257**	Pn	**Pn**	**13 52 23.8**	**-1.7**
SC01	**Santiago de lo**	**3.30**	**277**	Pn	**Pn**	**13 52 32.1**	**+2.8**
SDDR	**Presa de Saban**	**3.81**	**269**		**Pn**	**13 52 38.5**	**+2.1**

GCG ***27*** *14:17:11.7±1.2, 12°.70N×89°.98W, h14km±8km, MD4.5*
CATAC ***27*** *14:17:12.2±0.5, 13°.N±2°.×9°.0W±°., h18km±4km, M4.6/27, MLv4.6/27, Error ellipse: s-maj=4.6km s-min=3.3km az=47.1, confirmed*
IDC ***27*** *14:17:13.1±0.7, 13°.75N×89°.11W, h0km, mb3.9/10, mbtmp4.2/14, ML3.6/3, MS3.5/10, Error ellipse: s-maj=32.1km s-min=13.1km az=44.0*
SNET ***27*** *14:17:13.1±1.5, 12°.74N×89°.75W, h15km, ML4.5*
NEIC ***27*** *14:17:13.8±2.0, 12°.77N±0°.07×89°.89W±0°.06, h24km±6km, mb4.6/55, Error ellipse: s-maj=12.3km s-min=7.1km az=215.0*
RSNC ***27*** *14:17:19.3±1.4, 13°.N±7°.×8°.9W±1°.3, h46km±11km, M4.2, mB5.0, mb4.8, ML3.9, Mw(mB)4.3*
UCR ***27*** *14:17:26.4±0.9, 12°.77N×88°.77W, h16km, MW4.4*

ISC 27 14:17:14.6±1.3, 12°.80N±0°.04×89°.78W±0°.04, h32km±9km, n296, σ1°.9$42/282, mb4.5/30, MS3.5/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.82**	**33**	*eP*	**Pb**	**14 17 29.7**	**-0.7**
LALI				*eS*	**Sb**	**14 17 39.4**	**-1.7**
LALI	**Alcalda de L**	**0.82**	**33**	*i P*	**Pb**	**14 17 30.0**	**-0.4**
LALI				*i* S	**Sb**	**14 17 42.8**	**+1.7**
LALI	**Alcalda de L**	**0.82**	**33**	P	**Pb**	**14 17 29.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.91**	**21**	*eP*	**Pn**	**14 17 30.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.91**	**21**	*eP*	**Pn**	**14 17 30.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.91**	**21**	P	**Pn**	**14 17 31.1**	**-0.2**
PANCS	**Alcalda de**	**1.00**	**36**	*eP*	**Pn**	**14 17 32.5**	**0.0**
PANCS	**Alcalda de**	**1.00**	**36**	S	**Sb**	**14 17 47.8**	**+1.5**
PANCS	**Alcalda de**	**1.00**	**36**	P	**Pn**	**14 17 32.3**	**-0.2**
MAGS	**Ministerio de**	**1.00**	**29**	*eP*	**Pn**	**14 17 32.5**	**-0.1**
PMON	**Piamonte**	**1.01**	**27**	*eP*	**Pn**	**14 17 32.0**	**-0.7**
PMON	**Piamonte**	**1.01**	**27**	P	**Pn**	**14 17 32.0**	**-0.7**
PMON	**Piamonte**	**1.01**	**27**	S	**Sb**	**14 17 47.9**	**+1.1**
ESSJ	**San Jos, E**	**1.03**	**317**	*i P*	Pb	14 17 37.8	+3.9
LOMA	**Loma Larga**	**1.03**	**35**	*eP*	**Pn**	**14 17 32.8**	**-0.2**
LOMA				*eS*	**Sb**	**14 17 47.9**	**+0.7**
LOMA	**Loma Larga**	**1.03**	**35**	S	**Sn**	**14 17 49.0**	**+2.7**
LOMA	**Loma Larga**	**1.03**	**35**	P	**Pn**	**14 17 33.1**	**+0.1**
CEVE	**Cerro Verde**	**1.03**	**9**	*eP*	**Pn**	**14 17 32.7**	**-0.4**
CEVE	**Cerro Verde**	**1.03**	**9**	P	**Pn**	**14 17 33.0**	**-0.1**
CEVE	**Cerro Verde**	**1.03**	**9**	S	**Sn**	**14 17 49.4**	**+2.8**
SBLS	**San Blas**	**1.04**	**9**	*eP*	**Pn**	**14 17 32.8**	**-0.5**
SBLS				*eP*	**Pn**	**14 17 32.9**	**-0.5**
BOQS	**Boqueron**	**1.05**	**28**	*eP*	**Pn**	**14 17 33.3**	**0.0**
UEES	**Universidad Ev**	**1.05**	**30**	*eP*	**Pn**	**14 17 33.1**	**-0.2**
UEES	**Universidad Ev**	**1.05**	**30**	S	**Sb**	**14 17 49.4**	**+1.5**
UEES	**Universidad Ev**	**1.05**	**30**	P	**Pn**	**14 17 33.6**	**+0.4**
FAME	**Alcaldia de Sa**	**1.06**	**348**	S	**Sb**	**14 17 47.1**	**-0.9**
FAME	**Alcaldia de Sa**	**1.06**	**348**	P	**Pn**	**14 17 32.7**	**-0.6**
UTEC	**Universidad Te**	**1.06**	**32**	P	**Pn**	**14 17 33.4**	**0.0**
UTEC	**Universidad Te**	**1.06**	**32**	S	**Sn**	**14 17 48.6**	**+1.6**
CEDA	**San Andres**	**1.06**	**21**	*eP*	**Pn**	**14 17 33.2**	**-0.2**
CEDA	**San Andres**	**1.06**	**21**	P	**Pn**	**14 17 33.5**	**+0.1**
CEDA	**San Andres**	**1.06**	**21**	S	**Sb**	**14 17 49.4**	**+1.2**
PIC2	**El Picacho**	**1.07**	**29**	*eP*	**Pn**	**14 17 33.8**	**+0.1**
SNJE	**San Jose**	**1.07**	**9**	*eP*	**Pn**	**14 17 33.2**	**-0.4**
SNJE				*eP*	**Pn**	**14 17 33.3**	**-0.4**
UESS	**Universidad de**	**1.07**	**32**	*eP*	**Pn**	**14 17 33.9**	**+0.3**
LFRS	**El Faro**	**1.08**	**41**	*eP*	**Pn**	**14 17 33.5**	**-0.1**
IGN	**Direccin Gen**	**1.08**	**33**	P	**Pn**	**14 17 34.4**	**+0.7**
IGN	**Direccin Gen**	**1.08**	**33**	S	**Sn**	**14 17 49.7**	**+2.0**
NUBE	**Las Nubes**	**1.09**	**0**	*i P*	**Pn**	**14 17 33.3**	**-0.6**
NUBE	**Las Nubes**	**1.09**	**0**	*i P*	**Pn**	**14 17 33.4**	**-0.5**
NUBE	**Las Nubes**	**1.09**	**0**	P	**Pn**	**14 17 33.5**	**-0.5**
NUBE	**Las Nubes**	**1.09**	**0**	S	**Sn**	**14 17 49.6**	**+1.6**
UDBS	**Universidad Do**	**1.09**	**34**	*eP*	**Pn**	**14 17 34.0**	**+0.2**
UDBS				*eS*	**Sn**	**14 17 49.1**	**+1.1**
UDBS	**Universidad Do**	**1.09**	**34**	P	**Pn**	**14 17 34.1**	**+0.2**
RTR	**El Retiro**	**1.09**	**7**	*eP*	**Pn**	**14 17 33.8**	**-0.2**
QUEZ	**Alcaldia de Qu**	**1.14**	**26**	*eP*	**Pn**	**14 17 35.0**	**+0.6**
QUEZ				*eS*	**Sn**	**14 17 50.0**	**+1.0**
LFU	**La Fuente**	**1.14**	**35**	*eP*	**Pn**	**14 17 34.9**	**+0.3**
LBRS	**Las Brisas**	**1.18**	**38**	*eP*	**Pn**	**14 17 35.2**	**+0.2**
LOAL	**Lomas de Alarc**	**1.19**	**0**	*eP*	**Pn**	**14 17 35.2**	**0.0**
LOAL				*eS*	**Sn**	**14 17 51.6**	**+1.4**
LOAL	**Lomas de Alarc**	**1.19**	**0**	P	**Pn**	**14 17 35.6**	**+0.4**
LOAL	**Lomas de Alarc**	**1.19**	**0**	S	**Sb**	**14 17 52.5**	**+0.8**
UNIC	**Universidad Ca**	**1.19**	**11**	P	**Pn**	**14 17 35.4**	**+0.2**
UNIC	**Universidad Ca**	**1.19**	**11**	S	**Sb**	**14 17 52.4**	**+0.4**
TECO	**Alcaldia de Te**	**1.22**	**53**	*eP*	**Pn**	**14 17 35.4**	**-0.1**
TECO	**Alcaldia de Te**	**1.22**	**53**	P	**Pn**	**14 17 35.7**	**+0.1**
TECO	**Alcaldia de Te**	**1.22**	**53**	S	**Sn**	**14 17 52.5**	**+1.5**
SNVI	**San Vicente**	**1.22**	**49**	*eP*	**Pn**	**14 17 35.7**	**0.0**
PAVA	**Las Pavas**	**1.22**	**42**	*eP*	**Pn**	**14 17 36.3**	**+0.6**
PAVA				*eS*	**Sn**	**14 17 52.5**	**+1.3**
PAVA	**Las Pavas**	**1.22**	**42**	P	**Pn**	**14 17 36.3**	**+0.6**
PAVA	**Las Pavas**	**1.22**	**42**	S	**Sn**	**14 17 53.7**	**+2.5**
UESV	**Universidad de**	**1.28**	**49**	*eP*	**Pn**	**14 17 36.3**	**0.0**
UESV				*eS*	**Sn**	**14 17 54.0**	**+1.6**
UESV	**Universidad de**	**1.28**	**49**	P	**Pn**	**14 17 37.1**	**+0.8**
UESV	**Universidad de**	**1.28**	**49**	S	**Sn**	**14 17 54.4**	**+2.1**
RBDL	**Robledal**	**1.30**	**4**	*i P*	**Pn**	**14 17 36.9**	**0.0**
RBDL				*eS*	**Sb**	**14 17 56.5**	**+1.3**
SCLA	**Alcaldia de Sa**	**1.36**	**49**	*eP*	**Pn**	**14 17 38.7**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.36**	**49**	S	**Sn**	**14 17 56.7**	**+2.2**
SCLA	**Alcaldia de Sa**	**1.36**	**49**	P	**Pn**	**14 17 38.7**	**+1.2**
TECA	**Tecapa**	**1.43**	**61**	*eP*	**Pn**	**14 17 38.2**	**-0.3**
PQSS	**Presa 15 de Se**	**1.44**	**55**	*eP*	**Pn**	**14 17 39.8**	**+1.2**
PCG5	**San Vicente Pa**	**1.52**	**338**	*i P*	**Pb**	**14 17 42.1**	**-0.2**
JUAM	**Asuncion Mita**	**1.52**	**3**	*i P*	**Pn**	**14 17 40.2**	**+0.5**
JUAM				*i* S	**Sb**	**14 18 02.0**	**+0.6**
PACA	**Pacayal**	**1.57**	**65**	*eP*	**Pn**	**14 17 41.9**	**+1.4**
PACA	**Pacayal**	**1.57**	**65**	P	**Pn**	**14 17 41.1**	**+0.7**
PACA	**Pacayal**	**1.57**	**65**	S	**Sn**	**14 18 02.2**	**+2.4**
LCY	**Lacayo**	**1.58**	**67**	*eP*	**Pn**	**14 17 40.5**	**0.0**
LLGN	**La Laguna**	**1.58**	**31**	*eP*	**Pn**	**14 17 41.4**	**+0.9**
LLGN				*eS*	**Sn**	**14 18 03.0**	**+3.1**
LLGN	**La Laguna**	**1.58**	**31**	P	**Pn**	**14 17 41.5**	**+0.9**
LLGN	**La Laguna**	**1.58**	**31**	S	**Sb**	**14 18 04.0**	**+1.1**
RANC	**El Ranchito**	**1.59**	**67**	*eP*	**Pn**	**14 17 40.8**	**+0.1**
VSM	**San Miguel**	**1.60**	**67**	*eP*	**Pn**	**14 17 41.0**	**+0.1**
FG8	**Yepocapa, Chim**	**1.63**	**333**	*i P*	**Pb**	**14 17 44.6**	**+0.3**
FG8				*i* S	Sb	14 18 12.5	+8.0
MTO3	**Montecristo**	**1.64**	**15**		**Pn**	**14 17 41.6**	**+0.1**
MTO3	**Montecristo**	**1.64**	**15**	*eP*	**Pn**	**14 17 41.9**	**+0.4**
MTO3				*eS*	**Sn**	**14 18 04.3**	**+2.7**
MTO3	**Montecristo**	**1.64**	**15**	*i P*	**Pn**	**14 17 42.1**	**+0.6**
MTO3	**Montecristo**	**1.64**	**15**	P	**Pn**	**14 17 42.1**	**+0.6**
ESQI	**Esquipulas**	**1.80**	**14**	Pn	**Pn**	**14 17 43.7**	**+0.1**
ESQI	**Esquipulas**	**1.80**	**14**	*eP*	**Pn**	**14 17 44.3**	**+0.7**
ESSG	**Sabana Grande**	**1.87**	**327**	*i P*	**Pn**	**14 17 42.6**	**-1.9**
ESSG				*i* S	**Sn**	**14 18 08.1**	**+0.9**
LCND	**La Caada**	**1.91**	**75**	*eP*	**Pn**	**14 17 45.0**	**-0.1**
LCND	**La Caada**	**1.91**	**75**	P	**Pn**	**14 17 45.0**	**-0.1**
GCG4	**OSOP**	**1.92**	**338**	*i* S	**Sb**	**14 18 10.4**	**-2.3**
CNCH	**Conchagua**	**1.96**	**76**	*eP*	**Pn**	**14 17 45.3**	**-0.5**
CNCH				*eP*	**Pb**	**14 17 46.8**	**-3.0**
CNCH	**Conchagua**	**1.96**	**76**	P	**Sb**	**14 18 10.6**	**-3.2**
CNCH				S	**Sn**	**14 18 11.6**	**+2.3**
CSGN	**Cosiguina Volc**	**2.18**	**85**	P	**Pn**	**14 17 49.2**	**+0.5**
CSGN				S	**Sn**	**14 18 16.9**	**+2.2**
CSGN	**Cosiguina Volc**	**2.18**	**85**	*eP*	**Pn**	**14 17 49.0**	**+0.2**
SARH	**Santa Rosa de**	**2.20**	**27**	*i P*	**Pn**	**14 17 50.3**	**+1.3**
SARH	**Santa Rosa de**	**2.20**	**27**	P	**Pn**	**14 17 50.6**	**+1.5**
POTN	**Potosi Cosigui**	**2.23**	**85**	P	**Pn**	**14 17 49.5**	**+0.1**
POTN	**Potosi Cosigui**	**2.23**	**85**	*eP*	**Pn**	**14 17 49.8**	**+0.4**
RTAL	**Retalhuleu**	**2.52**	**313**		**Pn**	**14 17 51.2**	**-2.3**
SOKI	**Kika Raxquin**	**2.55**	**322**	*i P*	**Pn**	**14 17 53.5**	**-0.7**
CRIN	**San Cristobal**	**2.67**	**92**		**Pn**	**14 17 55.6**	**+0.1**
CRIN	**San Cristobal**	**2.67**	**92**	P	**Pn**	**14 17 55.6**	**+0.1**
CRIN	**San Cristobal**	**2.67**	**92**	*eP*	**Pn**	**14 17 55.6**	**+0.1**
CRIN	**San Cristobal**	**2.67**	**92**	P	**Pn**	**14 17 55.4**	**-0.1**
PKGN	**Cerro Pekin**	**2.74**	**92**	P	**Pn**	**14 17 56.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.74**	**63**		**Pn**	**14 17 56.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.74**	**63**	P	**Pn**	**14 17 57.1**	**+0.5**
HERN	**Volcan Telica**	**2.89**	**94**	Pn	**Pn**	**14 17 57.0**	**-1.6**
POLN	**Al Sur del Vol**	**2.90**	**93**	P	**Pn**	**14 17 55.4**	**-3.3**
HUEH	**Huehuetenango**	**3.00**	**326**		**Pn**	**14 18 01.2**	**+0.9**
CNGA	**Al SSO del Vol**	**3.02**	**95**	P	**Pn**	**14 17 59.9**	**-0.5**
CNGN	**Cerro Negro**	**3.03**	**95**		**Pn**	**14 17 59.8**	**-0.7**
CNGN	**Cerro Negro**	**3.03**	**95**	P	**Pn**	**14 17 59.4**	**-1.0**
CNGN	**Cerro Negro**	**3.03**	**95**	*eP*	**Pn**	**14 17 59.7**	**-0.7**
CNGN	**Cerro Negro**	**3.03**	**95**	P	**Pn**	**14 18 00.2**	**-0.2**
COPN	**Copaltepe**	**3.18**	**101**	P	**Pn**	**14 18 01.1**	**-1.4**
COPN	**Copaltepe**	**3.18**	**101**	*eP*	**Pn**	**14 18 01.6**	**-0.9**
MOM2	**El Cardon**	**3.24**	**96**	P	**Pn**	**14 18 02.8**	**-0.5**
MGAN	**Managua**	**3.52**	**100**		**Pn**	**14 18 06.6**	**-0.5**
MGAN	**Managua**	**3.52**	**100**	*eP*	**Pn**	**14 18 06.3**	**-0.8**
MGAN	**Managua**	**3.52**	**100**	P	**Pn**	**14 18 06.3**	**-0.8**
NADN	**Granada**	**3.81**	**106**	*eP*	**Pn**	**14 18 11.0**	**-0.2**
LCRUZ	**La Cruz**	**4.41**	**112**	*eP*	**Pn**	**14 18 19.2**	**-0.3**
CARN	**Rivas**	**4.47**	**111**	*eP*	**Pn**	**14 18 19.7**	**-0.5**
ELI1	**Hacienda Flor**	**4.67**	**117**	*eP*	**Pn**	**14 18 24.5**	**+1.6**
ALIBA	**Liberia Airpor**	**4.70**	**117**	*eP*	**Pn**	**14 18 24.8**	**+1.4**
LAPC	**Finca la Perla**	**4.72**	**115**	*eP*	**Pn**	**14 18 24.7**	**+1.1**
BUAI	**Buenos Aires**	**4.76**	**113**	*eP*	**Pn**	**14 18 23.3**	**-1.0**
DELF	**Filadelfia**	**4.76**	**119**	*eP*	**Pn**	**14 18 25.6**	**+1.4**
VRLE	**La Escondida,**	**4.77**	**114**	*eP*	**Pn**	**14 18 24.7**	**+0.3**
SAJU	**San Juanillo,**	**4.83**	**124**	*eP*	**Pn**	**14 18 25.6**	**+0.4**
JUD3	**Juan Diaz 3**	**4.92**	**122**		**Pn**	**14 18 27.1**	**+0.6**
JUD3	**Juan Diaz 3**	**4.92**	**122**	*eP*	**Pn**	**14 18 27.3**	**+0.8**
MESS	**Mesas**	**4.94**	**114**	*eP*	**Pn**	**14 18 27.3**	**+0.6**
SIUN	**Universidad Ur**	**4.96**	**79**		**Pn**	**14 18 27.1**	**+0.1**
VMAR	**Armenia, Volca**	**4.98**	**113**	*eP*	**Pn**	**14 18 27.1**	**-0.3**
CUI	**Cuipilapa**	**5.00**	**115**	*eP*	**Pn**	**14 18 28.3**	**+0.7**
NICO	**Nicoya**	**5.01**	**122**	*eP*	**Pn**	**14 18 28.3**	**+0.6**
TENO	**El Achiote**	**5.15**	**113**	*eP*	**Pn**	**14 18 30.1**	**+0.5**
TIMP	**Tierras Morena**	**5.16**	**115**	*eP*	**Pn**	**14 18 30.8**	**+1.0**
INVE	**Universidad In**	**5.17**	**116**	*eP*	**Pn**	**14 18 31.2**	**+1.3**
QUEB	**Quebradon, Cot**	**5.25**	**114**	*eP*	**Pn**	**14 18 31.4**	**+0.4**
TILA	**Tilaran**	**5.26**	**116**	*eP*	**Pn**	**14 18 32.5**	**+1.4**
JTS	**Las Juntas de**	**5.35**	**117**		**Pn**	**14 18 33.1**	**+0.7**
JTS	**Las Juntas de**	**5.35**	**117**		**Sn**	**14 19 31.0**	**-2.0**
JTS	**Las Juntas de**	**5.35**	**117**	Pn	**Pn**	**14 18 33.5**	**+1.1**
	114nm,0.4s,baz=294,slow=20,SNR=118						
JTS				Sn	**Sn**	**14 19 31.0**	**-2.0**
	4.5nm,0.3s,baz=304,slow=18,SNR=1.2						
JTS				Lg	Lg	14 20 02.8	
	baz=315,slow=20						
JTS	**Las Juntas de**	**5.35**	**117**	*eP*	**Pn**	**14 18 33.3**	**+0.9**
JTS	**Las Juntas de**	**5.35**	**117**	P	**Pn**	**14 18 33.5**	**+1.1**
	3μm129nm,0.4s						
CASO	**Castillo**	**5.48**	**115**	*eP*	**Pn**	**14 18 35.1**	**+0.9**
ARE1	**Arenal 1**	**5.48**	**115**	*eP*	**Pn**	**14 18 35.3**	**+1.1**
VARE2	**V. Arenal**	**5.48**	**115**	*eP*	**Pn**	**14 18 35.4**	**+1.2**
CEDE	**Laguna Cedeo**	**5.48**	**114**	*eP*	**Pn**	**14 18 35.4**	**+1.2**
VACR	**Volcan Arenal**	**5.51**	**114**	*eP*	**Pn**	**14 18 36.4**	**+1.8**
FORC	**Fortuna**	**5.52**	**114**	*eP*	**Pn**	**14 18 36.2**	**+1.5**
CBL1	**Cabuya**	**5.60**	**124**	*eP*	**Pn**	**14 18 36.7**	**+0.9**
SOCE	**Pocosol**	**5.60**	**115**		**Pn**	**14 18 36.2**	**+0.3**
SOCE	**Pocosol**	**5.60**	**115**	*eP*	**Pn**	**14 18 37.0**	**+1.1**
ROBF	**Roble, Puntare**	**5.69**	**119**	*eP*	**Pn**	**14 18 38.7**	**+1.7**
VPL2	**V. Platanar**	**5.85**	**115**	*eP*	**Pn**	**14 18 40.6**	**+1.3**
HDC	**Heredia**	**6.22**	**116**		**Pn**	**14 18 44.8**	**+0.4**
HDC	**Heredia**	**6.22**	**116**	*eP*	**Pn**	**14 18 46.0**	**+1.6**
ACOS	**Acos

MACA Manacapuru-AM 32.97 117 P **P 14 23 46.8 0.0**
MACA Manacapuru-AM 32.97 117 *e*P **P 14 23 46.9 +0.1**
SADO Sadowa 33.13 14 LR LR 14 37 35.8
comp=Z,853nm,19.1s,baz=9.5,slow=38
PDAR Pinedale Array 34.42 334 P **P 14 23 58.0 -1.4**
comp=Z,0.1nm,0.3s,baz=118,slow=4.5,SNR=1.7
comp=Z,0.1nm,0.3s
AGMN Agassiz Nation 35.75 353 IAmb IAmb 14 24 08.9
comp=Z,9.3nm,0.7s
NVAR Mina Array Bea 35.96 320 P **P 14 24 13.4 +0.7**
NVAR Mina Array Bea 35.96 320 P **P 14 24 14.6 +1.8**
comp=Z,3.7nm,0.7s,baz=122,slow=8.2,SNR=14
NVAR PcP **PcP 14 26 41.5 +2.3**
comp=Z,1.1nm,0.7s,baz=97,slow=2.7,SNR=3.9
comp=Z,3.7nm,0.7s
LPAZ La Paz 35.97 143 sP 14 24 23.0 -2.8
LPAZ La Paz 35.97 143 P P 14 24 21.3 +7.8
comp=Z,1.0nm,0.4s,baz=340,slow=15,SNR=7.5
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 37.67 354 LR LR 14 40 57.8
comp=Z,97nm,20.2s,baz=166,slow=39
DLMT Dillon 37.81 334 IAmb IAmb 14 24 31.9
comp=Z,5.4nm,0.3s
ITTB Itaituba 37.88 115 *e*P **P 14 24 27.4 -1.7**
VILB Vilhena 38.93 130 *e*P **P 14 24 40.2 +2.3**
BPMT Black Pine Rid 39.02 334 P **P 14 24 37.6 -1.0**
NPGB Novo Progresso 39.49 118 *e*P **P 14 24 40.8 -1.8**
YBH Yreka Blue Hor 40.64 321 LR LR 14 42 04.3
comp=Z,4.4nm,18.6s,baz=124,slow=37
SCHQ Schefferville 45.63 18 P **P 14 25 28.9 -3.1**
SCHQ Schefferville 45.63 18 P P 14 25 27.6 -4.4
comp=Z,64nm,0.5s,baz=215,slow=9.5,SNR=11
SCHQ PP **PcP 14 27 08.3 -1.5**
comp=Z,26nm,0.7s,baz=264,slow=10,SNR=1.7
MURT Porto Murtinho 46.59 137 *e*P **P 14 25 42.1 +2.3**
ARAG Araguaiana, MT 47.05 126 *e*P **P 14 25 43.9 +0.3**
SMTB Santa Maria do 47.12 115 *e*P **P 14 25 42.7 -1.5**
H03N2 Juan Fernandez 47.13 168 T T 15 16 25.1
baz=346,slow=76,SNR=7.4
H03N1 Juan Fernandez 47.14 168 T T 15 16 24.5
baz=346,slow=76,SNR=8.2
H03N3 Juan Fernandez 47.15 168 T T 15 16 22.4
baz=346,slow=76,SNR=7.7
BDFB Brasilia 50.06 123 P **P 14 26 07.0 0.0**
BDFB IAmb IAmb 14 26 14.4
comp=Z,3.8nm,0.9s
BDFB Brasilia 50.06 123 P **P 14 26 08.6 +1.6**
comp=Z,2.3nm,0.5s,baz=316,slow=9.7,SNR=4.9
comp=Z,2.3nm,0.5s
FRB Frobisher Bay 53.02 12 LR LR 14 47 10.8
comp=Z,30nm,21.8s,baz=280,slow=35
RIB01 Linhares ES 58.18 122 *e*P **P 14 27 05.9 -0.1**
SFJD Kangerlussuaq 60.02 17 LR LR 14 52 42.4
comp=Z,42nm,19.6s,baz=290,slow=36
RES Resolute Bay 61.94 358 LR LR 14 56 23.7
comp=Z,50nm,19.4s,baz=25,slow=38
ILAR Eielson Array 64.78 337 P **P 14 27 49.1 -0.8**
comp=Z,0.8nm,0.9s,baz=112,slow=7.3,SNR=5.0
comp=Z,0.8nm,0.9s
BWN Browne 65.56 335 P **P 14 27 55.6 +0.6**
I23K Minto, Yukon-K 65.90 336 P **P 14 27 56.4 -0.7**
I23K IAmb IAmb 14 28 24.1
comp=Z,11nm,1.4s
P16K Nushagak River 67.93 329 P **P 14 28 10.2 +0.1**
EKA Eskdalemuir Ar 77.67 36 P P 14 29 03.8 -4.2
comp=Z,1.5nm,0.7s,baz=280,slow=5.3,SNR=2.5
comp=Z,1.5nm,0.7s
ASCN Ascension 77.70 101 P **P 14 29 08.6 -0.4**
ESDC Sonseca Array 78.76 52 P **P 14 29 12.9 -1.6**
comp=Z,0.3nm,0.9s,baz=277,slow=5.0,SNR=1.9
comp=Z,0.3nm,0.9s
ARCES ARCESS Array B 86.58 19 P **P 14 29 52.3 -2.2**
comp=Z,2.4nm,0.9s,baz=308,slow=4.4,SNR=4.0
ARCES LR LR 15 09 18.9
comp=Z,38nm,18.7s,baz=158,slow=37
comp=Z,2.4nm,0.9s
TORD Torodi Ar. Bea 88.55 77 IAmb IAmb 14 30 07.4
comp=Z,1.4nm,1.5s
TORD Torodi Ar. Bea 88.55 77 P **P 14 30 03.9 -1.1**
comp=Z,0.3nm,0.5s,baz=297,slow=4.7,SNR=1.6
comp=Z,0.3nm,0.5s
TIXI Tiksi 91.86 349 P **P 14 30 19.4 +0.1**
TIXI IAmb IAmb 14 30 50.4
comp=Z,5.7nm,1.4s
KURK Kurchatov 115.94 8 **PKiKP 14 35 54.2 -0.1**
KURBB Kurchatov Arra 116.02 8 PKP **PKiKP 14 35 54.3 -0.2**
comp=Z,0.2nm,0.7s,baz=343,slow=1.1,SNR=2.3
SONM Songino Array 117.93 348 PKP **PKiKP 14 35 59.1 +0.6**
comp=Z,0.3nm,0.5s,baz=338,slow=3.1,SNR=2.3
KSRS Korea Array 118.74 326 PKP **PKiKP 14 36 02.5 +2.4**
comp=Z,0.6nm,0.5s,baz=18,slow=1.9,SNR=2.6
MKAR Makanchi Array 120.25 6 PKP **PKiKP 14 36 03.9 +1.0**
comp=Z,0.3nm,0.8s,baz=14,slow=3.0,SNR=2.1
WRA Warramunga Arr 137.17 254 PKP **PKiKP 14 36 40.3 +2.9**
comp=Z,0.4nm,0.6s,baz=88,slow=2.2,SNR=10
ASAR Alice Springs 137.28 249 PKP **PKiKP 14 36 40.8 +3.2**
comp=Z,0.4nm,0.7s,baz=85,slow=2.0,SNR=4.7
ASAR SKP 14 40 18.0
comp=Z,0.3nm,0.8s,baz=93,slow=3.6,SNR=4.1
CMAR Chiang Mai Arr 147.77 344 PKPbc **PKPbc 14 36 56.8 -0.4**
comp=Z,1.8nm,0.6s,baz=13,slow=1.9,SNR=14

NEIC ***27*** *14:25:35.0±1.3, 18°.0S±0°.1×178°.1W±0°.1, h523km±9km, mb4.5/21, Error ellipse: s-maj=20.6km s-min=14.6km az=124.0*
IDC ***27*** *14:25:35.2±8.9, 17°.83S×178°.25W, h531km±97km, mb3.0/5, mbtmp3.9/5, Error ellipse: s-maj=50.0km s-min=39.5km az=176.0*
ISC 27 14:25:36.8±0.7, 18°.0S±0°.1×178°.3W±0°.1, h550km, n30, σ0°55/30, mb4.4/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.47**	**273**		**P**	**14 26 54.3**	**-0.7**
FUTU	**Fugatoga**	**3.63**	**3**	P	P	14 26 52.8	-3.3
AFI	**Afiamalu**	**7.46**	**58**	P	P	14 27 20.2	-9.1
MARNC	**Mare, Loyalty**	**13.33**	**253**	P	**P**	**14 28 28.7**	**-0.4**
TARA	**Tarawa**	**21.04**	**335**	P	**P**	**14 29 41.3**	**-1.1**
HIZ	**Hauiti**	**21.34**	**195**	P	**P**	**14 29 45.0**	**+0.2**
ODZ	**Otahua Downs**	**28.55**	**197**	P	**P**	**14 30 47.6**	**-0.8**
ODZ				IAmb	IAmb	14 31 28.4	
comp=Z,45nm,1.4s							
ARMA	**Armidale**	**30.00**	**240**	P	**P**	**14 31 02.1**	**+0.7**
ARMA				IAmb	IAmb	14 31 05.4	
comp=Z,20nm,1.5s							
TAU	**Tasmania Unive**	**38.27**	**222**	P	**P**	**14 32 09.6**	**-0.7**
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**14 32 14.5**	**+0.6**
STKA				IAmb	IAmb	14 32 51.4	
comp=Z,23nm,1.4s							
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**14 32 14.5**	**+0.6**
comp=Z,0.8nm,0.5s,baz=80,slow=11,SNR=2.9							
comp=Z,0.8nm,0.5s							
INKA	**Innaminka**	**38.81**	**248**	P	**P**	**14 32 16.1**	**+1.1**
WAKE	**Wake Island**	**39.84**	**338**	P	**P**	**14 32 23.6**	**+0.4**
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**14 32 51.9**	**+0.1**
BBOO				IAmb	IAmb	14 33 12.3	
comp=Z,24nm,1.4s							
WR8	**Warramunga Arr**	**44.56**	**260**	P	**P**	**14 33 00.5**	**0.0**
WR8				IAmb	IAmb	14 33 03.8	
comp=Z,6.8nm,1.4s							
WB0	**Warramunga Arr**	**44.68**	**260**	P	**P**	**14 33 01.4**	**0.0**
WB0				IAmb	IAmb	14 33 01.8	
comp=Z,7.9nm,1.4s							
WRA	**Warramunga Arr**	**44.72**	**260**	P	**P**	**14 33 01.6**	**-0.1**
WRA	**Warramunga Arr**	**44.72**	**260**	P	**P**	**14 33 01.5**	**-0.1**
comp=Z,0.7nm,0.4s,baz=95,slow=8.1,SNR=34							
WRA				PcP	**PcP**	**14 34 32.6**	**+0.4**
comp=Z,0.1nm,0.3s,baz=94,slow=3.4,SNR=1.8							
comp=Z,0.7nm,0.4s							
AS31	**Alice Springs**	**44.87**	**254**		**P**	**14 33 03.0**	**+0.2**
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**14 33 02.7**	**-0.1**
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**14 33 03.1**	**+0.4**
comp=Z,5.6nm,0.5s,baz=92,slow=7.8,SNR=172							
ASAR				PcP	**PcP**	**14 34 32.7**	**+0.1**
comp=Z,0.3nm,0.5s,baz=94,slow=3.4,SNR=5.2							
comp=Z,5.6nm,0.5s							
FORT	**Forrest**	**50.07**	**245**	P	**P**	**14 33 41.2**	**-0.4**
FORT				IAmb	IAmb	14 34 24.8	
comp=Z,10.0nm,1.2s							
KNRA	**Kununurra**	**50.58**	**264**	P	**P**	**14 33 46.2**	**+0.7**
KNRA				IAmb	IAmb	14 33 55.1	
comp=Z,28nm,1.4s							
JYT	**Yasato**	**66.66**	**324**	P	**P**	**14 35 33.5**	**+0.3**
QSPA	**South Pole Qui**	**72.10**	**180**	P	**P**	**14 36 06.0**	**+0.5**
QSPA	**South Pole Qui**	**72.10**	**180**	P	**P**	**14 36 06.3**	**+0.7**
comp=Z,0.4nm,0.5s,baz=5.6,slow=7.8,SNR=1.5							
comp=Z,0.4nm,0.5s							
HOPS	**Hopland Field**	**76.65**	**41**	P	**P**	**14 36 31.7**	**+0.3**
HOPS				IAmb	IAmb	14 37 02.1	
comp=Z,85nm,1.4s							
PV01	**Paradox Valley**	**85.90**	**48**	P	**P**	**14 37 18.9**	**-0.3**
PV01				IAmb	IAmb	14 37 20.2	
comp=Z,11nm,1.4s							
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**14 37 18.9**	**-0.5**
comp=Z,0.3nm,0.8s,baz=249,slow=5.1,SNR=3.7							
comp=Z,0.3nm,0.8s							
C18K	**Utukok River**	**87.24**	**6**	P	**P**	**14 37 24.9**	**+0.4**
C18K				IAmb	IAmb	14 38 02.7	
comp=Z,9.6nm,1.1s							

SCB 27 14:39:34.8±1.3, 20°.72S×67°.41W, h211km±18km, MB3.7, ML2.2/2, Error ellipse: s-maj=9.5km s-min=6.0km az=1.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.74**	**108**	Pg	Pn	14 40 13.0	+0.9
MOCB				Sg	S	14 40 40.3	-0.4
MOCB				IAML		14 40 41.6	
55nm,0.5s							
YJA	**Yavi**	**2.28**	**130**	Pg	Pn	14 40 18.7	+1.2
SOET	**ToroToro**	**3.00**	**30**	Pg	Pn	14 40 25.9	+0.5
PB16	**IPOC Station P**	**3.09**	**320**	Pg	Pn	14 40 27.7	+1.0
BBOE	**La Paz, Chanca**	**3.93**	**352**	Pg	Pn	14 40 37.2	+0.5
BBOD	**La Paz, Gloria**	**4.22**	**344**	Pg	Pn	14 40 39.9	-0.4
LPAZ	**La Paz**	**4.46**	**351**	Pg	Pn	14 40 44.4	+1.0
LPAZ				Sg	S	14 41 35.7	-1.3
LPAZ				IAML		14 41 40.1	
0.3nm,0.4s							
BBOB	**La Paz, Bander**	**4.61**	**351**	Pg	Pn	14 40 46.0	+0.9
PB14	**IPOC Station P**	**4.77**	**215**	Pg	Pn	14 40 46.9	+0.1
SIV	**San Ignacio**	**7.64**	**53**	Pg	Pn	14 41 23.2	-0.3

TIR ***27*** *15:46:30.7, 41°.38N×19°.31E, h14km±2km, Md2.8/6, Ml2.6/5*
BEO ***27*** *15:46:34.8±0.6, 41°.51N×19°.77E, h8km±3km, ML2.1/9*
PDG ***27*** *15:46:35.4±0.3, 41°.51N×19°.40E, h22km, ML2.5/10, Error ellipse: s-maj=0.9km s-min=2.1km az=0.0*
ISC 27 15:46:33.1±1.1, 41°.45N±0°.03×19°.46E±0°.03, h11km±9km, n43, σ1°.03/75, 6C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.32**	**108**	Pg	**Pg**	**15 46 38.8**	**-0.8**
TIR				Sg	**Sg**	**15 46 43.4**	**-0.4**
TIR				AML	AML	15 46 45.0	
5.9nm,0.2s							
TIR				AMd		15 47 11.4	
ULC	**Ulcinj**	**0.54**	**342**	↑*i*Pg	**Pg**	**15 46 44.4**	**+0.7**
ULC				*e*Sg	**Sb**	**15 46 52.5**	**0.0**
DRME	**Dracevica, Mon**	**0.77**	**344**	*e*Pg	**Pb**	**15 46 49.3**	**+0.7**
DRME				*e*Sg	**Sn**	**15 47 01.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.77**	**344**	↑*i*Pg	**Pb**	**15 46 48.6**	**0.0**
DRME				*i* Sg	**Sn**	**15 47 00.1**	**-1.4**
BUM	**Brajici-Budva**	**0.95**	**334**	*e*Pg	**Pb**	**15 46 51.9**	**+0.1**
BUM				*e*Sg	**Sn**	**15 47 06.0**	**-0.2**
PDG	**Podgorica**	**0.99**	**351**	Pg	**Pb**	**15 46 51.1**	**-1.3**
PDG				Sg	**Sn**	**15 47 06.2**	**-1.0**
PDG				AML	AML	15 47 10.9	
2μm,0.1s							
PDG				AMd		15 47 48.5	
PDG	**Podgorica**	**0.99**	**351**	*e*Pg	**Pn**	**15 46 53.2**	**+0.1**
PDG				*e*Sg	**Sn**	**15 47 06.7**	**-0.4**
PDG	**Podgorica**	**0.99**	**351**	↑*i*Pg	**Pn**	**15 46 53.2**	**+0.1**
PDG				*i* Sg	**Sn**	**15 47 07.8**	**+0.7**
OHR	**Ohrid**	**1.06**	**108**	*i* Pn	**Pn**	**15 46 53.4**	**-0.2**
CEME	**Cevo**	**1.17**	**340**	↑*i*Pg	**Pg**	**15 46 56.0**	**+0.3**
CEME				*i* Sg	**Sn**	**15 47 12.9**	**+1.3**
HCY	**Herceg Novi**	**1.23**	**324**	↑*i*Pg	**Pg**	**15 46 57.2**	**+0.3**
HCY				*e*Sg	**Sn**	**15 47 14.7**	**+1.7**
KBN	**Korca**	**1.30**	**129**	Pn	**Pn**	**15 46 57.2**	**0.0**
KBN				Sn	**Sn**	**15 47 15.0**	**+0.3**
KBN				AMd		15 47 48.5	
NKME	**Niksic**	**1.37**	**344**	↓*i*Pg	**Pb**	**15 46 59.4**	**+0.5**
NKME				*i* Sg	**Sg**	**15 47 18.8**	**+1.4**
KOME	**Kolasin**	**1.40**	**2**	*e*Pg	**Pb**	**15 47 00.0**	**+0.6**
KOME				*e*Sg	**Sg**	**15 47 17.9**	**-0.4**
KOME	**Kolasin**	**1.40**	**2**	*e*Pg	**Pb**	**15 46 59.6**	**+0.2**
KOME				*i* Sg	**Sg**	**15 47 19.7**	**+1.4**
TREB	**Trebinje**	**1.52**	**327**	*e*Pn	**Pg**	**15 47 02.5**	**+0.3**
DBRK	**Dubrovnik**	**1.57**	**322**	*e*Pn	**Pn**	**15 47 01.5**	**+0.6**
DBRK				Sn	**Sg**	**15 47 22.1**	**-1.5**
SKO	**Skopje**	**1.57**	**70**	*i* Pn	**Pn**	**15 47 02.5**	**+1.5**
NEST	**Nestorio**	**1.58**	**130**	Pn	**Pn**	**15 47 01.4**	**+0.1**
NEST				Sn	**Sn**	**15 47 24.0**	**+2.3**
NEST				AML	AML	15 47 29.2	
0.1nm,0.5s							
NEST				AMd		15 48 08.8	
BRY	**Bratogost**	**1.61**	**335**	↓*i*Pg	**Pb**	**15 47 03.4**	**+0.4**
BRY				*i* Sg	**Sg**	**15 47 23.7**	**-1.2**
UPM	**Unac-Piva**	**1.80**	**347**	↑*i*Pn	**Pn**	**15 47 04.7**	**+0.3**
UPM				*i* Sn	**Sb**	**15 47 28.2**	**-0.8**
SJES	**Sjenica**	**1.85**	**12**	*e*Pn	**Pn**	**15 47 06.0**	**+1.0**
SJES				*e*Sg	**Sb**	**15 47 30.7**	**+0.4**
NOCI	**Noci**	**1.93**	**251**	Pn	**Pn**	**15 47 04.7**	**-1.2**
NOCI				Sn	**Sn**	**15 47 29.2**	**-1.0**
NOCI				AML	AML	15 47 43.4	
0.2nm,0.3s							
NOCI				AMd		15 48 15.9	
STON	**Ston**	**1.94**	**318**	*e*Pn	**Pn**	**15 47 06.4**	**+0.4**
STON				Sn	**Sn**	**15 47 29.1**	**-1.1**
STON	**Ston**	**1.94**	**318**	*e*Pn	**Pb**	**15 47 09.0**	**+0.6**
STON				*e*Sn	**Sg**	**15 47 34.8**	**-0.6**
IGT	**Igoumenitsa**	**2.02**	**161**	Pn	**Pn**	**15 47 07.3**	**+0.1**
IGT				Sn	**Sn**	**15 47 33.9**	**+1.4**
IGT				AML	AML	15 47 41.2	
IGT				AMd		15 48 28.7	
IGT	**Igoumenitsa**	**2.02**	**161**	*e*Pn	**Pn**	**15 47 08.7**	**+1.5**
SELS	**Selova**	**2.16**	**34**	*e*Pg	**Pn**	**15 47 09.1**	**0.0**
SELS				*e*Sg	**Sn**	**15 47 36.6**	**+0.8**
IVAS	**Ivanjica**	**2.19**	**13**	*e*Pn	**Pn**	**15 47 09.0**	**-0.6**
BARS	**Barje**	**2.22**	**51**	*e*Pn	**Pn**	**15 47 09.0**	**-0.9**
BARS				*e*Sn	**Sn**	**15 47 34.8**	**-2.6**
LSTV	**Lastovo**	**2.33**	**305**	*e*Pn	**Pn**	**15 47 11.6**	**+0.3**
GOCS	**Kraljevo Serbi**	**2.36**	**26**	*e*Pn	**Pn**	**15 47 12.9**	**+1.0**
MAKA	**Makarska**	**2.58**	**316**	*e*Pn	**Pn**	**15 47 15.3**	**+0.5**
MAKA				Sn	**Sn**	**15 47 46.1**	**-0.2**
GRUS	**Gruza**	**2.61**	**20**	*e*Sn	**Sn**	**15 47 45.5**	**-1.4**
RICI	**Ricice**	**2.68**	**321**	*e*Pn	**Pn**	**15 47 16.9**	**+0.7**
TRUS	**Trudelj**	**2.86**	**14**	*e*Pn	**Pn**	**15 47 20.5**	**+1.8**
ZAPS	**Zavoj**	**2.98**	**51**	*e*Sn	**Sn**	**15 47 53.3**	**-2.7**
KIJV	**Kijevo**	**3.41**	**320**	*i* Pn	**Pn**	**15 47 27.1**	**+0.9**
KIJV				Sn	**Sn**	**15 48 06.8**	**+0.1**
ZIRJ	**Zirje**	**3.58**	**309**	*e*Pn	**Pn**	**15 47 29.2**	**+0.6**
ZIRJ				Sn	**Sn**	**15 48 09.5**	**-1.4**
MORI	**Morici**	**3.68**	**312**	*e*Pn	**Pn**	**15 47 30.6**	**+0.7**
MORI				Sn	**Sn**	**15 48 12.3**	**-0.9**
DUGI	**Dugi Otok**	**4.12**	**310**	*e*Pn	**Pn**	**15 47 37.0**	**+0.9**
DUGI				Sn	**Sn**	**15 48 23.0**	**-1.3**
VIRC	**Vir**	**4.31**	**313**	*e*Pn	**Pn**	**15 47 39.4**	**+0.8**
VIRC				Sn	**Sn**	**15 48 27.5**	**-1.4**
BRJN	**Brijuni**	**5.42**	**312**	*e*Pn	**Pn**	**15 47 54.3**	**+0.4**
BRJN				Sn	**Sn**	**15 48 54.4**	**-1.8**

IDC ***27*** *16:01:37.0±6.2, 22°.89S×178°.16W, h203km±55km, mb3.7/14, mbtmp4.3/15, MS4.1/1, Error ellipse: s-maj=19.7km s-min=15.7km az=72.0*
NEIC ***27*** *16:01:44.8±1.4, 22°.87S±0°.10×178°.3W±0°.1, h272km±3km, mb4.6/49, Error ellipse: s-maj=16.1km s-min=13.4km az=120.0*
NOU ***27*** *16:01:48.0, 23°.05S×177°.57W, h356km, mb4.5/26, South of Fiji Islands*
ISC 27 16:01:46.6±0.4, 22°.99S±0°.06×178°.15W±0°.06, h300km, n175, σ1°.67/171, mb4.3/35, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.24**	**178**	Pn	**Pn**	**16 03 16.2**	**-2.5**
GLKZ	**Green Lake**	**6.25**	**178**	P	**Pn**	**16 03 18.0**	**-0.8**
GLKZ				S	**S**	**16 04 33.4**	**+0.3**
NIUE	**Niue**	**8.61**	**65**	Pn	**Pn**	**16 03 48.4**	**+0.6**
NIUE	**Niue**	**8.61**	**65**	P	**Pn**	**16 03 44.2**	**-3.6**
NIUE	**Niue**	**8.61**	**65**	P	**Pn**	**16 03 48.4**	**+0.6**
NIUE				S	**S**	**16 05 22.0**	**-4.3**
FUTU	**Fugatoga**	**8.64**	**0**	Pn	Pn	16 03 40.6	-7.5
AFI	**Afiamalu**	**10.87**	**35**		**Pn**	**16 04 12.7**	**-2.9**
AFI	**Afiamalu**	**10.87**	**35**	P	**Pn**	**16 04 13.3**	**-2.3**
AFI	**Afiamalu**	**10.87**	**35**	P	**Pn**	**16 04 12.5**	**-3.1**
AFI				S	S	16 06 05.0	-13
PINNC	**Pines Island,**	**13.29**	**269**	P	P	16 04 50.4	+5.5
NFK	**Norfolk Island**	**13.88**	**241**	P	Pn	16 04 56.5	+4.7
OUZ	**Omahuta**	**14.15**	**209**	P	**Pn**	**16 04 56.7**	**+1.8**
GRZ	**Great Barrier**	**14.33**	**201**	P	**Pn**	**16 04 58.1**	**+1.1**
WCZ	**Waipu Caves**	**14.45**	**205**	P	**Pn**	**16 04 60.0**	**+1.5**
KUZ	**Kuaotunu**	**14.69**	**200**	P	**Pn**	**16 05 01.6**	**+0.3**
MXZ	**Matakaoa Point**	**14.84**	**191**	P	**P**	**16 05 00.3**	**-1.5**
MXZ	**Matakaoa Point**	**14.84**	**191**	P	**P**	**16 05 00.8**	**-1.0**
MXZ	**Matakaoa Point**	**14.84**	**191**	P	**P**	**16 05 00.6**	**-1.1**
ABAZ	**Army Bay**	**14.86**	**203**	P	**Pn**	**16 05 04.5**	**+1.3**
WIAZ	**Waiheke Island**	**14.93**	**201**	P	**Pn**	**16 05 04.8**	**+0.8**
MBAZ	**Motutapu North**	**14.98**	**202**	P	**Pn**	**16 05 05.7**	**+0.9**
WMGZ	**Waiomatatini S**	**15.07**	**191**	P	**P**	**16 05 02.2**	**-2.1**
RVAZ	**Riverhead Bore**	**15.10**	**203**	P	**Pn**	**16 05 07.0**	**+1.0**
HAZ	**Te Kaha**	**15.12**	**192**	P	**P**	**16 05 02.2**	**-2.7**
EPAZ	**Eden Park BICE**	**15.13**	**202**	P	**Pn**	**16 05 07.5**	**+1.0**
ETAZ	**East Tamaki Re**	**15.14**	**202**	P	**Pn**	**16 05 07.1**	**+0.5**
PKGZ	**Pakihiroa**	**15.17**	**191**	P	**P**	**16 05 05.6**	**+0.1**
MKAZ	**Moumakai**	**15.20**	**201**	P	**Pn**	**16 05 07.2**	**0.0**
WTAZ	**Waiatarua**	**15.25**	**203**	P	**Pn**	**16 05 08.6**	**+0.8**
AWAZ	**Awhitu Peninsu**	**15.34**	**202**	P	**Pn**	**16 05 09.2**	**+0.3**
PUZ	**Puketiti**	**15.34**	**191**	P	**P**	**16 05 04.1**	**-3.3**
RUGZ	**Raukumara Rang**	**15.35**	**193**	P	**P**	**16 05 06.6**	**-0.9**
TGRZ	**Tauranga**	**15.45**	**197**	P	**Pn**	**16 05 10.0**	**-0.3**
OPRZ	**Ohinepanea**	**15.48**	**196**	P	**P**	**16 05 09.2**	**+0.3**
TWGZ	**Tauwhareparae**	**15.49**	**191**	P	**P**	**16 05 09.2**	**+0.2**
KMRZ	**Kaimai**	**15.65**	**198**	P	**Pn**	**16 05 12.4**	**-0.2**
TOZ	**Tahuroa Road**	**15.67**	**199**	P	**Pn**	**16 05 12.1**	**-0.6**
LIRZ	**Lichensteins R**	**15.68**	**196**	P	**P**	**16 05 11.6**	**+0.6**
SANVU	**Saraoutou**	**15.73**	**296**	P	**Pn**	**16 05 15.5**	**+1.8**
KARZ	**Kaharoa**	**15.73**	**197**	P	**Pn**	**16 05 12.6**	**-0.9**
MWZ	**Matawai**	**15.73**	**193**	P	**P**	**16 05 07.7**	**-4.0**
URZ	**Urewera**	**15.75**	**194**	P	**P**	**16 05 09.1**	**-2.6**
41nm,0.3s,baz=264,slow=1.8,SNR=89							
URZ				S	**S**	**16 07 54.5**	**-7.6**
15nm,0.4s,baz=86,slow=16,SNR=18							
URZ	**Urewera**	**15.75**	**194**	P	**P**	**16 05 10.9**	**-0.9**
URZ	**Urewera**	**15.75**	**194**	P	**P**	**16 05 08.7**	**-3.1**
OMRZ	**Omania**	**15.78**	**196**	P	**P**	**16 05 12.2**	**+0.1**
RAGZ	**Rawiri**	**15.91**	**193**	P	**P**	**16 05 12.5**	**-1.1**
RRRZ	**Republican Roa**	**15.96**	**195**	P	**P**	**16 05 13.4**	**-0.8**
RTZ	**Ruatahuna**	**16.12**	**194**		**P**	**16 05 13.2**	**-2.7**
RTZ	**Ruatahuna**	**16.12**	**194**	P	**P**	**16 05 14.8**	**-1.1**
TLZ	**Tolley Road**	**16.21**	**198**	P	**P**	**16 05 17.2**	**+0.3**
KNZ	**Kokohu**	**16.37**	**192**	P	**P**	**16 05 17.0**	**-1.6**
HIZ	**Hauiti**	**16.59**	**200**	P	**Pn**	**16 05 22.6**	**-0.9**
BKZ	**Black Stump Fm**	**16.75**	**195**		**P**	**16 05 19.2**	**-3.6**
BKZ				IAmb	IAmb	16 05 27.3	
comp=Z,23nm,0.6s							
BKZ	**Black Stump Fm**	**16.75**	**195**	P	**P**	**16 05 22.1**	**-0.7**
BKZ	**Black Stump Fm**	**16.75**	**195**	P	**P**	**16 05 19.3**	**-3.5**
VRZ	**Vera Road**	**17.18**	**199**	P	**P**	**16 05 27.9**	**+0.6**
PXZ	**Pawanui**	**17.50**	**193**	P	**P**	**16 05 27.1**	**-3.7**
BFZ	**Birch Farm**	**18.26**	**194**	P	**P**	**16 05 38.4**	**-0.5**
BFZ				IAmb	IAmb	16 05 45.2	
comp=Z,50nm,1.2s							
BFZ	**Birch Farm**	**18.26**	**194**	P	**P**	**16 05 38.1**	**-0.8**
BFZ	**Birch Farm**	**18.26**	**194**	P	**P**	**16 05 36.1**	**-2.8**
MRZ	**Mangatainoka R**	**18.39**	**195**	P	**P**	**16 05 36.8**	**-3.5**
SNZO	**South Karori**	**19.23**	**197**	P	**P**	**16 05 48.3**	**-0.9**
QRZ	**Quartz Range**	**19.44**	**202**	P	**P**	**16 05 50.5**	**-1.0**
QRZ	**Quartz Range**	**19.44**	**202**	P	**P**	**16 05 50.9**	**-0.6**
QRZ	**Quartz Range**	**19.44**	**202**	P	**P**	**16 05 50.5**	**-1.0**
NNZ	**Nelson**	**19.52**	**199**	P	**P**	**16 05 49.7**	**-2.6**
THZ	**Tophouse**	**20.16**	**200**	P	**P**	**16 05 58.2**	**-0.9**
THZ	**Tophouse**	**20.16**	**200**	P	**P**	**16 05 56.4**	**-2.7**
DSZ	**Denniston Nort**	**20.50**	**202**	P	**P**	**16 06 01.9**	**-0.7**
KHZ	**Kahutara**	**20.57**	**198**	P	**P**	**16 06 01.5**	**-1.6**
KHZ	**Kahutara**	**20.57**	**198**	P	**P**	**16 06 01.5**	**-1.6**
GVZ	**Greta Valley S**	**21.22**	**198**	P	**P**	**16 06 07.8**	**-1.6**
LTZ	**Lake Taylor**	**21.28**	**200**	P	**P**	**16 06 07.8**	**-2.2**
INZ	**Inchbonnie**	**21.50**	**201**		**P**	**16 06 10.4**	**-1.5**
INZ	**Inchbonnie**	**21.50**	**201**	P	**P**	**16 06 10.4**	**-1.5**
OXZ	**Oxford**

BLDU Ballidu 57.94 247 P P 16 11 07.6 -0.7
MORW Morawa 58.78 249 P P 16 11 13.6 -0.6
MORW IAmb IAmb 16 11 14.2
comp=Z,12nm,1.1s
MORW Morawa 58.78 249 P P 16 11 13.5 -0.6
CASY Casey 61.66 206 P 16 11 32.3 -0.6
PLAI Plampang 62.78 272 P P 16 11 40.5 -0.6
QSPA South Pole Qui 67.09 180 P 16 12 11.8 +3.7
QSPA IAmb IAmb 16 12 12.9
comp=Z,5.4nm,0.8s
QSPA South Pole Qui 67.09 180 P P 16 12 10.0 +2.0
comp=Z,5.2nm,0.8s,baz=22,slow=1.1,SNR=32
comp=Z,5.2nm,0.8s
MJAR Matsushiro Arr 72.13 324 IAmb IAmb 16 12 43.7
comp=Z,1.7nm,0.9s
MJAR Matsushiro Arr 72.13 324 P P 16 12 38.3 -0.6
comp=Z,1.4nm,0.7s,baz=166,slow=5.4,SNR=4.4
comp=Z,1.4nm,0.7s
YULB Yu-li 74.76 304 P P 16 12 53.8 -0.6
SSLB Suanglung 75.24 304 P P 16 12 56.5 -0.6
SSLB IAmb IAmb 16 13 05.0
comp=Z,25nm,1.2s
UNV Unalaska Valle 77.18 7 P P 16 13 07.1 -0.1
PETK Petropavlovsk- 78.64 345 P P 16 13 15.1 -0.2
comp=Z,5.2nm,0.9s,baz=189,slow=6.5,SNR=4.5
comp=Z,5.2nm,0.9s
MAW Mawson 79.18 200 P P 16 13 18.8 +0.6
comp=Z,1.9nm,0.7s,baz=134,slow=7.1,SNR=12
comp=Z,1.9nm,0.7s
NVAR Mina Array Bea 82.93 43 P P 16 13 39.6 +1.1
comp=Z,1.7nm,0.9s,baz=220,slow=7.5,SNR=5.0
comp=Z,1.7nm,0.9s
KULM Kulim 83.98 278 P P 16 13 44.2 0.0
KULM IAmb IAmb 16 14 09.6
comp=Z,27nm,1.5s
H03S2 Juan Fernandez 84.70 124 T T 17 47 11.3
baz=246,slow=74,SNR=4.2
H03S1 Juan Fernandez 84.72 124 T T 17 47 10.6
baz=246,slow=74,SNR=8.6
H03S3 Juan Fernandez 84.72 124 T T 17 47 14.8
baz=246,slow=74,SNR=7.0
SNAA Sanae 85.53 179 P P 16 13 52.2 +1.3
comp=Z,0.6nm,0.7s,baz=212,slow=7.0,SNR=2.5
comp=Z,0.6nm,0.7s
K15K Wolf Creek Mou 86.03 8 P P 16 13 54.3 +1.2
L18K Granite Mounta 86.64 10 P P 16 13 56.7 +0.7
L18K IAmb IAmb 16 13 58.4
comp=Z,16nm,1.4s
STLK Strandline Lak 86.83 12 P P 16 13 56.5 -0.6
STLK IAmb IAmb 16 14 39.8
comp=Z,11nm,1.5s
SUA Susitna One 87.01 13 P P 16 13 58.5 +0.5
KNK Knik Glacier 87.45 14 P P 16 14 00.2 +0.3
KNK IAmb IAmb 16 14 09.7
comp=Z,20nm,1.2s
GHO Glory Hole Cre 87.67 13 P P 16 14 01.4 +0.4
E09A Wood Farm, Sta 87.87 37 IAmb IAmb 16 14 04.8
comp=Z,4.8nm,1.1s
F10A Beach Ranch, E 88.06 38 IAmb IAmb 16 14 05.5
comp=Z,4.9nm,0.8s
SCM Sheep Creek Mo 88.08 14 P P 16 14 03.8 +0.8
SCM IAmb IAmb 16 14 28.6
comp=Z,22nm,1.4s
J19K Poorman 88.48 10 P P 16 14 05.2 +0.5
J19K IAmb IAmb 16 14 08.8
comp=Z,8.2nm,1.4s
TXAR Lajitas Array 88.51 57 P P 16 14 08.3 +2.5
comp=Z,1.0nm,0.9s,baz=212,slow=7.9,SNR=10.0
comp=Z,1.0nm,0.9s
TRF Thorofare Moun 88.91 12 P 16 14 06.9 0.0
TRF IAmb IAmb 16 14 08.3
comp=Z,10nm,0.7s
RND Reindeer 89.15 13 P P 16 14 08.8 +0.9
RND IAmb IAmb 16 14 12.6
comp=Z,8.1nm,0.8s
S34M Telegraph Cree 89.61 23 IAmb IAmb 16 14 13.2
comp=Z,5.3nm,0.8s
CCB Clear Creek Bu 90.47 13 P P 16 14 14.0 +0.1
CCB IAmb IAmb 16 14 18.4
comp=Z,3.1nm,1.1s
IMAR Indian Mountai 90.63 10 P P 16 14 15.2 +0.6
ILAR Eielson Array 90.77 13 P P 16 14 15.3 0.0
comp=Z,0.5nm,0.5s,baz=217,slow=5.3,SNR=12
comp=Z,0.5nm,0.5s
CMAR Chiang Mai Arr 90.81 290 P P 16 14 18.4 +1.8
comp=Z,0.9nm,0.8s,baz=136,slow=3.2,SNR=7.8
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 90.87 43 P P 16 14 17.3 +0.6
PDAR Pinedale Array 90.87 43 P P 16 14 16.4 -0.3
comp=Z,0.8nm,0.8s,baz=197,slow=3.1,SNR=8.0
comp=Z,0.8nm,0.8s
LMEL Las Melosas 91.20 128 P P 16 14 20.4 +1.9
ARCES ARCESS Array B 131.33 349 PKP PKPdf 16 20 22.3 -0.3
comp=Z,0.9nm,0.5s,baz=5.7,slow=2.4,SNR=8.7
FINES FINESS Array B 138.11 343 PKP PKPdf 16 20 35.5 +0.2
comp=Z,2.6nm,0.9s,baz=45,slow=3.0,SNR=5.7
NOA NORSAR Array B 141.43 353 PKhKP PKPpre 16 20 39.6
comp=Z,1.2nm,0.9s,baz=10,slow=2.5,SNR=2.5
HFS Hagfors 141.97 350 PKhKP PKPpre 16 20 37.2
comp=Z,1.7nm,0.5s,baz=67,slow=3.9,SNR=8.9
AKASG Malin Array Be 145.10 329 PKPbc PKPdf 16 20 47.5 -0.7
comp=Z,1.7nm,0.4s,baz=44,slow=4.2,SNR=14
EKA Eskdalemuir Ar 147.49 5 PKPbc PKPbc 16 20 55.0 0.0
comp=Z,1.4nm,0.6s,baz=274,slow=0.9,SNR=6.4
BRTR Keskin Array B 148.35 309 PKPbc PKPbc 16 20 57.5 -0.6
comp=Z,0.6nm,0.5s,baz=136,slow=5.3,SNR=5.8
MMAI Mount Meron Ar 148.85 296 PKPbc PKPbc 16 20 59.5 +0.1
comp=Z,0.5nm,0.3s,baz=98,slow=5.1,SNR=1.5
CLL Collm 150.44 346 *i* x x 16 21 06.4
comp=Z,4.0nm,0.6s
CLL Collm 150.44 346 *i* PKPbc **PKPbc 16 21 02.5 0.0**
comp=Z,11nm,0.8s
GERES GERESS Array B 152.54 343 PKPbc PKPbc 16 21 06.8 -0.7
comp=Z,0.8nm,0.7s,baz=27,slow=3.3,SNR=7.2
GERES PKPab **PKPab 16 21 19.8 +0.7**
comp=Z,0.3nm,0.5s,baz=38,slow=3.7,SNR=3.6
TORD Torodi Ar. Bea 170.21 179 PKPab PKPab 16 22 38.5 +1.7
comp=Z,0.4nm,0.7s,baz=163,slow=1.5,SNR=2.7

*SDD **27** 16:02:38.6±1.6, 19°.37N×67°.11W, h31km±51km, MD3.6, ML3.1, MW3.3*
*NEIC **27** 16:02:38.3±0.9, 19°.26N±0°.04×67°.03W±0°.02, h10km±1km, ML2.9/14, Md2.9/14(RSPR), Error ellipse: s-maj=6.4km s-min=3.4km az=20.0*
*OSPL **27** 16:02:39.9±0.4, 19°.32N×67°.06W, h18km±2km, ML3.0*
*RSPR **27** 16:02:41.0, 19°.32N×67°.08W, h34km±19km, MD2.9/14*
ISC 27 16:02:37.3±1.5,**19°.33N**±0°.06×**67°.01W**±0°.03,**h17**km±9km,
n61, σ0°.**62**/76,**22C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.86**	**186**		**Pn**	**16 02 54.7**	**0.0**
AGPR					**Sg**	**16 03 06.3**	**+0.7**
AGPR	**Aguadilla, PR**	**0.86**	**186**	⇓*e*P	**Pn**	**16 02 54.7**	**0.0**
AGPR	**Aguadilla, PR**	**0.86**	**186**	⇑*e*Pg	**Pn**	**16 02 54.7**	**0.0**
AGPR				⇓*e*Sg	**Sn**	**16 03 06.7**	**-0.2**
AGPR				IAML		16 03 07.4	
comp=N,1μm,0.3s							
AGPR	**Aguadilla, PR**	**0.86**	**186**	*i* P	**Pn**	**16 02 54.7**	**0.0**
AGPR				*e*S	**Sg**	**16 03 06.1**	**+0.5**
AGPR				IAML		16 03 08.8	
comp=Z,557nm,0.2s							
EMPR	**Esperanza - Ma**	**0.96**	**152**	Pn	**Pn**	**16 02 56.9**	**+0.9**
EMPR					**Sb**	**16 03 06.8**	**-1.2**
EMPR	**Esperanza - Ma**	**0.96**	**152**	⇑*e*P	**Pn**	**16 02 56.7**	**+0.7**
EMPR	**Esperanza - Ma**	**0.96**	**152**	*e*S	**Sn**	**16 03 10.8**	**+1.5**
IDE	**Isla Desecheo**	**1.04**	**205**		**Pb**	**16 02 56.8**	**0.0**
IDE					**Sg**	**16 03 11.2**	**+0.2**
IDE	**Isla Desecheo**	**1.04**	**205**	⇓*i*P	**Pb**	**16 02 56.8**	**0.0**
IDE	**Isla Desecheo**	**1.04**	**205**	*e*S	**Sg**	**16 03 11.2**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.11**	**166**		**Pg**	**16 02 59.0**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.11**	**166**		**Sb**	**16 03 11.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.11**	**166**	⇑*e*P	**Pg**	**16 02 58.9**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.11**	**166**	*e*S	**Sb**	**16 03 11.9**	**-0.3**
PRSN	**Puerto Rico Se**	**1.12**	**187**		**Pg**	**16 02 58.6**	**-0.3**
PRSN					**Sb**	**16 03 12.3**	**-0.1**
PRSN	**Puerto Rico Se**	**1.12**	**187**	⇑*e*P	**Pg**	**16 02 58.6**	**-0.3**
PRSN	**Puerto Rico Se**	**1.12**	**187**	*e*S	**Sb**	**16 03 12.3**	**-0.1**
LSP	**Las Mesas**	**1.15**	**184**		**Pb**	**16 02 59.1**	**+0.3**
LSP					**Sb**	**16 03 12.5**	**-1.0**
LSP	**Las Mesas**	**1.15**	**184**	⇑*e*P	**Pb**	**16 02 59.1**	**+0.3**
LSP	**Las Mesas**	**1.15**	**184**	*e*S	**Sb**	**16 03 12.5**	**-1.0**
ECPR	**Experimental S**	**1.18**	**149**	⇑*e*P	**Pg**	**16 02 60.0**	**-0.2**
ECPR	**Experimental S**	**1.18**	**149**	*e*S	**Sb**	**16 03 14.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.32**	**184**		**Pb**	**16 03 01.8**	**+0.1**
CRPR				IAML		16 03 21.2	
comp=N,360nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.32**	**184**		**Sn**	**16 03 17.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.32**	**184**	⇑*e*P	**Pb**	**16 03 01.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.32**	**184**	⇑*e*Pg	**Pb**	**16 03 01.6**	**-0.1**
CRPR				⇑*e*Sg	**Sb**	**16 03 18.6**	**+0.3**
CRPR				IAML		16 03 21.0	
comp=N,412nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.32**	**184**	*i* P	**Pb**	**16 03 01.8**	**+0.1**
CRPR				*e*S	**Sn**	**16 03 17.6**	**-0.5**
CRPR				IAML		16 03 19.2	
comp=Z,564nm,0.3s							
OBIP	**Obispado Ponce**	**1.34**	**163**		**Pb**	**16 03 01.8**	**-0.1**
OBIP				Sn	**Sn**	**16 03 17.2**	**-1.4**
OBIP				IAML		16 03 21.0	
comp=E,367nm,0.3s							
OBIP				IAML		16 03 22.4	
comp=N,277nm,0.4s							
OBIP	**Obispado Ponce**	**1.34**	**163**	⇑*e*P	**Pb**	**16 03 02.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.34**	**163**	*e*S	**Sn**	**16 03 18.6**	**+0.1**
GCPR	**Guaynabo City**	**1.34**	**139**		**Pb**	**16 03 02.5**	**+0.4**
GCPR	**Guaynabo City**	**1.34**	**139**		**Sg**	**16 03 20.2**	**-0.5**
GCPR	**Guaynabo City**	**1.34**	**139**	⇑*e*P	**Pg**	**16 03 02.8**	**-0.5**
GCPR	**Guaynabo City**	**1.34**	**139**	*e*S	**Sg**	**16 03 20.2**	**-0.5**
MLPR	**Magueyes Islan**	**1.36**	**181**	⇑*e*P	**Pb**	**16 03 02.3**	**0.0**
MLPR	**Magueyes Islan**	**1.36**	**181**	*e*S	**Sb**	**16 03 19.8**	**+0.5**
MLPR	**Magueyes Islan**	**1.36**	**181**	⇑*e*Pg	**Pb**	**16 03 02.2**	**0.0**
MLPR				⇑*e*Sg	**Sb**	**16 03 19.9**	**+0.6**
MLPR				IAML		16 03 28.1	
comp=N,61nm,0.3s							
SJG	**San Juan**	**1.46**	**146**	Pn	**Pb**	**16 03 03.6**	**-0.4**
SJG	**San Juan**	**1.46**	**146**	IAML		16 03 25.9	
comp=N,136nm,0.5s							
SJG				IAML		16 03 32.0	
comp=N,122nm,0.3s							
SJG	**San Juan**	**1.46**	**146**	⇓*e*P	**Pb**	**16 03 04.4**	**+0.3**
SJG	**San Juan**	**1.46**	**146**	*e*S	**Sn**	**16 03 22.3**	**+0.6**
SJG	**San Juan**	**1.46**	**146**	*i* P	**Pb**	**16 03 04.0**	**0.0**
SJG				*e*S	**Sn**	**16 03 21.9**	**+0.2**
SJG				IAML		16 03 35.2	
comp=Z,55nm,0.3s							
IGPR	**InterUniversit**	**1.61**	**148**		**Pb**	**16 03 06.7**	**+0.1**
IGPR					**Sb**	**16 03 26.3**	**-0.2**
IGPR	**InterUniversit**	**1.61**	**148**	⇓*e*P	**Pb**	**16 03 06.7**	**+0.1**
IGPR	**InterUniversit**	**1.61**	**148**	*e*S	**Sb**	**16 03 26.3**	**-0.2**
PDPR	**Patillas Dam,**	**1.61**	**144**		**Pb**	**16 03 06.2**	**-0.3**
PDPR				IAML		16 03 32.9	
comp=E,84nm,0.1s							
PDPR	**Patillas Dam,**	**1.61**	**144**	⇑*e*P	**Pb**	**16 03 06.6**	**+0.1**
PDPR	**Patillas Dam,**	**1.61**	**144**	*e*S	**Sg**	**16 03 28.2**	**-1.0**
HIDR	**Higuey Centro**	**1.77**	**246**	⇑*e*P	**Pn**	**16 03 06.9**	**-0.3**
HIDR	**Higuey Centro**	**1.77**	**246**	*e*S	**Sn**	**16 03 29.1**	**-0.3**
MIDR	**Miches**	**1.96**	**260**	⇓*e*P	**Pn**	**16 03 09.9**	**+0.2**
MIDR	**Miches**	**1.96**	**260**	*e*S	**Sn**	**16 03 32.4**	**-1.5**
MIDR	**Miches**	**1.96**	**260**	⇑*e*Pg	**Pn**	**16 03 10.1**	**+0.4**
MIDR				⇑*e*Sg	**Sn**	**16 03 33.8**	**-0.1**
MIDR				IAML		16 03 55.0	
comp=N,37nm,0.6s							
SMDR	**Samana, DR**	**2.06**	**269**	⇑*e*P	**Pn**	**16 03 10.8**	**-0.3**
SMDR	**Samana, DR**	**2.06**	**269**	*e*S	**Sn**	**16 03 35.1**	**-1.2**
DR12	**Loma Pena Alta**	**2.31**	**257**		**Pn**	**16 03 15.4**	**+0.9**
HATOM	**Hato Mayor del**	**2.31**	**257**	⇑*e*Pg	**Pn**	**16 03 15.4**	**+0.9**
HATOM				⇑*e*Sg	**Sn**	**16 03 42.6**	**0.0**
HATOM				IAML		16 03 56.5	
comp=N,36nm,0.4s							
DR08	**Loma La Naviza**	**2.87**	**263**	⇓*e*Pg	**Pn**	**16 03 23.8**	**+1.5**
DR08				⇑*e*Sg	**Sn**	**16 03 56.0**	**-0.5**
DR08				IAML		16 04 03.9	
comp=N,992nm,0.2s							
SDD	**Santo Domingo**	**2.88**	**253**	Pn	**Pn**	**16 03 24.2**	**+1.8**
SDD				IAML		16 04 36.0	
comp=N,59nm,2.9s							
SDD				IAML		16 05 04.5	
comp=E,41nm,2.6s							
BANI	**BANI**	**3.31**	**254**	Pn	**Pn**	**16 03 28.2**	**-0.2**
SDDR	**Presa de Saban**	**4.06**	**266**		**Pn**	**16 03 40.1**	**+1.4**

*IDC **27** 16:05:47.6±0.9, 6°.78N×124°.79E, h0km, mb3.9/8, mbtmp3.9/9, ML4.5/1, MS3.1/2, Error ellipse: s-maj=16.4km s-min=10.5km az=155.0*
*NEIC **27** 16:05:50.7±0.8, 6°.84N±0°.06×124°.90E±0°.06, h13km±4km, mb4.3/17, Error ellipse: s-maj=9.8km s-min=7.6km az=133.0*
*DJA **27** 16:05:52.3±0.5, 7°N±4°×12°5E±°, h20km±7km, M4.8/25, mB5.4/9, mb4.6/25, MLv4.7/10, Mw(mB)4.9/9, MwMwp5.3/1, Mwp5.5/1*
ISC 27 16:05:50.2±0.6,**6°.88N**±0°.06×**124°.91E**±0°.08,**h13**km,**n52,**
σ1°**01**/53,**mb4.0**/16,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.69**	**74**		**Pb**	**16 06 04.5**	**+0.5**
DAV	**Davao City (W)**	**0.69**	**74**	Pg	**Pb**	**16 06 04.7**	**+0.6**
0.8nm,0.3s,baz=214,slow=12,SNR=42							
DAV				Lg	Lg	16 06 14.5	
8.1nm,0.3s,baz=230,slow=10,SNR=81							
DAV	**Davao City (W)**	**0.69**	**74**	P	**Pn**	**16 06 05.0**	**-0.7**
SGSI	**Sangihe**	**3.23**	**169**	P	**Pn**	**16 06 38.9**	**-1.8**
SGSI				S	**Sn**	**16 07 19.7**	**+0.7**
KMSI	**Cibinong**	**6.33**	**188**	P	**Pn**	**16 07 24.4**	**+1.1**
KMSI				S	**Sn**	**16 08 37.3**	**+1.7**
TNTI	**Ternate**	**6.54**	**158**	Pn	**Pn**	**16 07 26.0**	**-0.2**
TNTI	**Ternate**	**6.54**	**158**	P	**Pn**	**16 07 28.3**	**+2.1**
0.1nm32nm,0.8s							
TNTI				S	**Sn**	**16 08 40.8**	**+0.1**
0.1nm32nm,0.8s							
MRSI	**Marisa**	**7.02**	**205**	P	**Pn**	**16 07 34.2**	**+1.5**
0.3nm79nm,0.7s							
MRSI				S	**Sn**	**16 08 53.5**	**+1.0**
0.3nm79nm,0.7s							
TOLI2	**Tolitoli**	**7.06**	**216**	Pn	**Pn**	**16 07 32.8**	**-0.5**
APSI	**Ampana**	**8.40**	**203**	P	**Pn**	**16 07 53.0**	**+1.3**
676nm36nm,0.5s							
SANI	**Sanana**	**8.93**	**173**	P	**Pn**	**16 07 58.4**	**-0.7**
35nm,0.9s							
I39PW	**PALAU INFRASON**	**9.58**	**86**	I	I	17 07 10.0	
baz=269,slow=288,SNR=0.6							
SWI	**Sorong**	**9.96**	**140**	P	**Pn**	**16 08 15.2**	**+2.0**
11nm,0.8s							
NLAI	**Namlea**	**10.29**	**168**	P	**Pn**	**16 08 16.4**	**-1.2**
40nm,0.8s							
MSAI	**Masohi**	**10.92**	**158**	P	**Pn**	**16 08 26.7**	**+0.4**
22nm,1.0s							
AAI	**Ambon**	**10.99**	**163**	P	**Pn**	**16 08 25.7**	**-1.6**
SPSI	**Sidrap Palu**	**11.93**	**206**	P	**Pn**	**16 08 41.3**	**+1.1**
RKPI	**Ransiki, Papua**	**12.45**	**132**	P	**Pn**	**16 08 47.9**	**+0.7**
10μm23nm,0.9s							
BKSI	**Bulukumba**	**13.03**	**202**	P	**Pn**	**16 08 56.1**	**+0.9**
BAKI	**Biak**	**13.75**	**125**	P	**Pn**	**16 09 05.0**	**0.0**
19nm,1.0s							
MMRI	**Maumere**	**15.64**	**190**	P	**Pn**	**16 09 31.3**	**+0.8**
26nm,1.2s							
SAUI	**Saumlaki**	**16.08**	**157**	P	**P**	**16 09 39.9**	**+0.4**
SAUI	**Saumlaki**	**16.08**	**157**	P	**Pn**	**16 09 36.8**	**+0.6**
TWG	**Pinlang**	**16.28**	**347**	Pn	**Pn**	**16 09 38.9**	**+0.3**
SOEI	**Soe**	**16.54**	**182**	P	**Pn**	**16 09 42.8**	**+0.6**
24nm,1.1s							
BATI	**Baumata**	**17.02**	**184**	Pn	**Pn**	**16 09 47.0**	**-1.1**
1.5nm,0.3s,baz=68,slow=7.8,SNR=4.2							
7.7nm,0.4s							
BATI	**Baumata**	**17.02**	**184**	P	**Pn**	**16 09 48.7**	**+0.5**
JOW	**Kunigami**	**20.10**	**9**	LR	LR	16 17 12.2	
comp=Z,34nm,20.6s,baz=96,slow=34							
MTN	**Manton Dam**	**20.55**	**162**	P	**P**	**16 10 28.5**	**-0.2**
KNRA	**Kununurra**	**22.73**	**170**	P	**P**	**16 10 51.6**	**-0.5**
KNRA				IAmb	IAmb	16 11 02.7	
comp=Z,16nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.83**	**178**	P	**P**	**16 11 12.2**	**-0.2**
JNU	**Nakatsue**	**26.69**	**11**	LR	LR	16 22 38.7	
comp=Z,71nm,19.9s,baz=238,slow=38							
WB0	**Warramunga Arr**	**28.07**	**161**	P	**P**	**16 11 40.6**	**-1.1**
WB0				IAmb	IAmb	16 12 22.1	
comp=Z,4.9nm,0.9s							
WRA	**Warramunga Arr**	**28.22**	**161**	P	**P**	**16 11 41.4**	**-1.6**
comp=Z,1.3nm,0.6s,baz=337,slow=10.0,SNR=11							
comp=Z,1.3nm,0.6s							
WR8	**Warramunga Arr**	**28.29**	**161**	P	**P**	**16 11 42.5**	**-1.1**
WR8				IAmb	IAmb	16 11 58.7	
comp=Z,3.9nm,0.8s							
AS31	**Alice Springs**	**31.60**	**164**	P	**P**	**16 12 12.2**	**-0.8**
ASAR	**Alice Springs**	**31.60**	**164**	P	**P**	**16 12 12.2**	**-0.8**
comp=Z,1.1nm,0.5s,baz=341,slow=7.0,SNR=29							
comp=Z,1.1nm,0.5s							
MJAR	**Matsushiro Arr**	**31.93**	**20**	P	**P**	**16 12 15.9**	**+0.2**
comp=Z,1.2nm,0.8s,baz=193,slow=9.0,SNR=2.0							
comp=Z,1.2nm,0.8s							
INKA	**Innaminka**	**37.67**	**157**	P	**P**	**16 13 04.8**	**-0.5**
INKA				IAmb	IAmb	16 13 05.7	
comp=Z,1.7nm,0.6s							
USRK	**Ussuriysk Ar.**	**37.69**	**8**	P	**P**	**16 13 06.0**	**+0.8**
comp=Z,2.2nm,0.8s,baz=183,slow=7.6,SNR=5.0							
comp=Z,2.2nm,0.8s							
BBOO	**Buckleboo**	**40.87**	**166**	P	**P**	**16 13 31.6**	**-0.5**
BBOO				IAmb	IAmb	16 13 32.5	
comp=Z,9.7nm,0.6s							
STKA	**Stephens Creek**	**41.70**	**158**	P	**P**	**16 13 38.1**	**-0.7**
STKA	**Stephens Creek**	**41.70**	**158**	P	**P**	**16 13 37.6**	**-1.2**
comp=Z,2.2nm,0.6s,baz=344,slow=8.6,SNR=7.4							
comp=Z,2.2nm,0.6s							
TOO	**Toolangi**	**48.21**	**158**	P	**P**	**16 14 31.1**	**+0.4**
TOO				IAmb	IAmb	16 15 03.7	
comp=Z,11nm,1.5s							
MKAR	**Makanchi Array**	**53.96**	**325**	P	**P**	**16 15 12.2**	**-1.6**
MKAR	**Makanchi Array**	**53.96**	**325**	P	**P**	**16 15 12.6**	**-1.2**
comp=Z,0.4nm,0.8s,baz=126,slow=9.4,SNR=4.9							
comp=Z,0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**58.13**	**327**	P	**P**	**16 15 43.9**	**+0.3**
comp=Z,0.6nm,0.7s,baz=126,slow=5.9,SNR=5.7							
comp=Z,0.6nm,0.7s							
KURK	**Kurchatov**	**58.13**	**327**	P	**P**	**16 15 43.5**	**0.0**
KURK				IAmb	IAmb	16 15 54.5	
comp=Z,1.1nm,0.7s							
MSWZ	**Moikau Station**	**66.53**	**141**	P	**P**	**16 16 39.4**	**-0.6**
H17K	**Granite Mounta**	**77.53**	**25**	P	**P**	**16 17 46.3**	**+0.7**
ILAR	**Eielson Array**	**83.06**	**26**	P	**P**	**16 18 13.9**	**-1.4**
comp=Z,0.7nm,1.0s,baz=269,slow=7.5,SNR=4.2							
comp=Z,0.7nm,1.0s							
J26L	**Joseph Creek**	**84.50**	**26**	P	**P**	**16 18 23.6**	**+0.8**
J26L				IAmb	IAmb	16 18 32.9	
comp=Z,2.5nm,1.0s							

*SDD **27** 16:10:11.8±1.8, 19°.30N×67°.20W, h31km±48km, MD3.6, ML2.8, MW3.2*
*NEIC **27** 16:10:11.2±1.1, 19°.31N±0°.08×67°.07W±0°.04, h25km±10km, ML3.1/12, Md3.1/14(RSPR), Error ellipse: s-maj=11.8km s-min=5.9km az=184.0*
*RSPR **27** 16:10:13.0, 19°.33N×67°.09W, h45km±13km, MD3.1/14*
*OSPL **27** 16:10:12.0±0.3, 19°.29N×67°.07W, h16km±2km, ML3.1*
ISC 27 16:10:10.4±1.7,**19°.29N**±0°.06×**67°.10W**±0°.04,**h17**km±9km,
n54, σ0°**59**/67,**13C-9D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.81**	**181**		**Pn**	**16 10 27.1**	**-0.1**
AGPR					**Sn**	**16 10 38.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.81**	**181**	⇑*e*P	**Pn**	**16 10 27.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.81**	**181**	*e*S	**Sn**	**16 10 38.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.81**	**181**	⇑*e*Pg	**Pg**	**16 10 26.6**	**+0.3**
AGPR				⇓*e*Sg	**Sn**	**16 10 38.7**	**-0.2**
AGPR				IAML		16 10 39.3	
comp=N,1μm,0.3s							
AGPR	**Aguadilla, PR**	**0.81**	**181**	*i* P	**Pg**	**16 10 26.5**	**+0.2**
AGPR				*e*S	**Sg**	**16 10 37.4**	**+0.3**
AGPR				IAML		16 10 40.7	
comp=Z,628nm,0.3s							
IDE	**Isla Desecheo**	**0.96**	**202**		**Pb**	**16 10 28.7**	**0.0**
IDE					**Sn**	**16 10 43.3**	**+0.7**
IDE	**Isla Desecheo**	**0.96**	**202**	⇓*i*P	**Pb**	**16 10 28.7**	**0.0**
IDE	**Isla Desecheo**	**0.96**	**202**	*e*S	**Sn**	**16 10 43.3**	**+0.7**
EMPR	**Esperanza - Ma**	**0.97**	**146**		**Pn**	**16 10 29.8**	**+0.5**
EMPR					**Sn**	**16 10 44.0**	**+1.3**
EMPR	**Esperanza - Ma**	**0.97**	**146**	⇓*i*P	**Pn**	**16 10 29.8**	**+0.5**
EMPR	**Esperanza - Ma**	**0.97**	**146**	*e*S	**Sn**	**16 10 44.0**	**+1.3**
PRSN	**Puerto Rico Se**	**1.06**	**183**		**Pn**	**16 10 30.8**	**+0.1**
PRSN					**Sn**	**16 10 45.4**	**+0.4**
PRSN	**Puerto Rico Se**	**1.06**	**183**	⇑*e*P	**Pn**	**16 10 30.8**	**+0.1**
PRSN	**Puerto Rico Se**	**1.06**	**183**	*e*S	**Sn**	**16 10 45.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.09**	**161**		**Pg**	**16 10 31.3**	**-0.2**
UUPR					**Sg**	**16 10 45.8**	**0.0**
UUPR	**Utuado, UPR, P**	**1.09**	**161**	Pn	**Pb**	**16 10 30.9**	**0.0**
UUPR	**Utuado, UPR, P**	**1.09**	**161**	⇑*e*P	**Pg**	**16 10 31.3**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.09**	**161**	*e*S	**Sg**	**16 10 45.8**	**0.0**
LSP	**Las Mesas**	**1.10**	**180**		**Pg**	**16 10 31.7**	**-0.2**
LSP					**Sb**	**16 10 45.4**	**+0.1**
LSP	**Las Mesas**	**1.10**	**180**	⇓*e*P	**Pg**	**16 10 31.7**	**-0.2**
LSP	**Las Mesas**	**1.10**	**180**	*e*S	**Sb**	**16 10 45.4**	**+0.1**
ECPR	**Experimental S**	**1.19**	**144**	⇑*e*P	**Pn**	**16 10 32.3**	**-0.1**
ECPR	**Experimental S**	**1.19**	**144**	*e*S	**Sg**	**16 10 48.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.27**	**181**		**Pn**	**16 10 33.8**	**+0.2**
CRPR					**Sn**	**16 10 50.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.27**	**181**	IAML		16 10 53.0	
comp=N,428nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.27**	**181**

KBS				S	Sg	16 13 02.9	-1.5
KBS	**Kingsbay**	**1.77**	**240**	*e*P	**Pn**	**16 12 38.4**	**+0.8**
KBS				*e*Pg	**Pg**	**16 12 42.8**	**+1.3**
KBS				*e*Sg	**Sg**	**16 13 03.0**	**-1.4**
KBS				IAML		16 13 07.4	
	comp=Z,56nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.86**	**203**	Pn	**Pn**	**16 12 39.8**	**+0.9**
	baz=20,slow=18						
SPA0				Pg	**Pg**	**16 12 42.7**	**-0.6**
	baz=22,slow=16						
SPA0				Sg	**Sg**	**16 13 07.1**	**-0.4**
	baz=20,slow=28						
SPA0	**Spitsbergen Ar**	**1.86**	**203**	Pn	**Pn**	**16 12 39.8**	**+0.9**
	baz=20,slow=18						
SPA0				Pg	**Pg**	**16 12 42.7**	**-0.6**
	baz=22,slow=16						
SPA0				Sg	**Sg**	**16 13 07.1**	**-0.4**
	baz=20,slow=28						
SPA0				IAML		16 13 18.8	
	comp=Z,40nm,0.5s						
SPITS	**Spitsbergen Ar**	**1.86**	**203**	P	**Pn**	**16 12 39.8**	**+0.9**
SPITS				S	**Sn**	**16 13 02.6**	**+0.5**
BRBB	**Barentsburg B**	**2.12**	**214**	Pn	**Pn**	**16 12 43.6**	**+1.1**
BRBB	**Barentsburg B**	**2.12**	**214**	P	**Pn**	**16 12 43.3**	**+0.8**
BRBB				S	**Sn**	**16 13 08.1**	**-0.3**
BRBB	**Barentsburg B**	**2.12**	**214**	Pn	**Pn**	**16 12 43.6**	**+1.1**
BRBA	**Barentsburg A**	**2.15**	**213**	Pn	**Pn**	**16 12 43.9**	**+1.0**
BRBA	**Barentsburg A**	**2.15**	**213**	Pn	**Pn**	**16 12 43.9**	**+1.0**
HSPB	**Hornsund (broa**	**3.05**	**199**	S	**Sb**	**16 13 37.2**	**-1.1**
HSPB	**Hornsund (broa**	**3.05**	**199**	*e*Pg	**Pb**	**16 13 03.8**	**+2.3**
HSPB				*e*Sg	**Sg**	**16 13 44.2**	**-1.2**
HSPB				IAML		16 13 50.5	
	comp=Z,20nm,0.7s						
HOPEN	**Hopen**	**3.57**	**160**	Pn	**Pn**	**16 13 02.4**	**+0.1**
HOPEN				Sn	**Sn**	**16 13 42.7**	**-1.4**
HOPEN	**Hopen**	**3.57**	**160**	Pn	**Pn**	**16 13 02.4**	**+0.1**
HOPEN				Sn	**Sn**	**16 13 42.7**	**-1.4**
HOPEN				IAML		16 14 07.0	
	comp=Z,24nm,0.6s						
ZFI2	**Zemlya Franca-**	**4.72**	**65**	*e*P	**Pn**	**16 13 19.8**	**+1.7**
ZFI2				*e*S	**Sn**	**16 14 10.5**	**-1.9**
	comp=Z,19nm,1.3s						
OMEGA	**Omega**	**4.73**	**66**	*e*P	**Pn**	**16 13 19.8**	**+1.5**
OMEGA				*e*S	**Sn**	**16 14 10.5**	**-2.2**
	comp=Z,19nm,2.0s						
ARA0	**ARCESS Array S**	**10.52**	**169**	Pn	**Pn**	**16 14 38.5**	**+0.9**
	baz=360,slow=10						
ARA0				Sn	Sn	16 16 26.1	-8.9
	baz=5.3,slow=22						
ARA0	**ARCESS Array S**	**10.52**	**169**	Pn	**Pn**	**16 14 38.5**	**+0.9**
	baz=360,slow=10						
ARA0				Sn	Sn	16 16 26.1	-8.9
	baz=5.3,slow=22						

*IDC **27** 16:23:42.5±0.7, 8°.19S×119°.80E, h0km, mb4.0/11, mbtmp3.9/15, ML3.4/4, MS3.0/1, Error ellipse: s-maj=29.8km s-min=10.9km az=57.0*
*NEIC **27** 16:23:44.7±1.6, 8°.18S±0°.07×119°.89E±0°.08, h11km±4km, mb4.3/11, Error ellipse: s-maj=14.2km s-min=6.1km az=53.0*
*DJA **27** 16:23:45.6±0.7, 8°.5±1°×12°.0E±°, h11km±5km, M4.4/19, mb4.4/7, MLv4.4/19*

ISC 27 16:23:46.6±1.7, 8°.15S±0°.04×119°.86E±0°.04, h28km±12km, n52, σ1.9±32/62, mb4.2/11, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.55**	**197**	P	**Pn**	**16 24 13.0**	**+0.6**
WBSI				S	**Sb**	**16 24 34.7**	**+0.7**
WSI	**Waingapu**	**1.57**	**164**	P	**Pn**	**16 24 13.8**	**+1.2**
WSI				S	**Sb**	**16 24 36.3**	**+1.8**
EDFI	**Ende, Flores**	**1.91**	**108**	P	**Pn**	**16 24 17.9**	**+0.5**
EDFI				S	**Sb**	**16 24 45.4**	**+1.1**
BSSI	**Bau Bau, Buton**	**2.09**	**17**	P	**Pn**	**16 24 18.8**	**-1.0**
BSSI				S	**Sn**	**16 24 44.6**	**-0.3**
PLAI	**Plampang**	**2.17**	**252**	P	**Pn**	**16 24 21.9**	**+1.0**
PLAI				S	**Sb**	**16 24 49.8**	**-1.9**
BASI	**Baing, Sumba**	**2.17**	**161**	P	**Pn**	**16 24 22.4**	**+1.4**
BASI				S	**Sb**	**16 24 51.6**	**-0.3**
MMRI	**Maumere**	**2.40**	**102**		**Pn**	**16 24 23.4**	**-0.7**
MMRI	**Maumere**	**2.40**	**102**	P	**Pn**	**16 24 24.5**	**+0.4**
BKSI	**Bulukumba**	**2.82**	**5**	P	**Pn**	**16 24 29.2**	**-0.7**
BKSI				S	**Sn**	**16 25 03.8**	**+0.8**
TWSI	**Taliwang, Sumb**	**3.00**	**259**	P	**Pn**	**16 24 32.7**	**+0.3**
TWSI				S	**Sn**	**16 25 08.4**	**+0.9**
KAPI	**Kappang**	**3.12**	**358**	Pn	**Pn**	**16 24 33.4**	**-0.5**
	1.4nm,0.3s,baz=176,slow=7.4,SNR=3.8						
	4.6nm,0.3s						
BNSI	**Bone**	**3.73**	**4**	P	**Pn**	**16 24 44.6**	**+2.2**
SPSI	**Sidrap Palu**	**4.16**	**359**	P	**Pn**	**16 24 49.5**	**+1.2**
SPSI				S	**Sn**	**16 25 37.0**	**+1.0**
BATI	**Baumata**	**4.28**	**119**	Pn	**Pn**	**16 24 50.4**	**+0.5**
	3.2nm,0.3s,baz=297,slow=4.3,SNR=5.3						
	6.1nm,0.4s						
BATI	**Baumata**	**4.28**	**119**	P	**Pn**	**16 24 52.1**	**+2.2**
SRBI	**Singaraja**	**4.60**	**270**	P	**Pn**	**16 24 55.3**	**+1.0**
SOEI	**Soe**	**4.64**	**110**	P	**Pn**	**16 24 57.8**	**+2.8**
JAGI	**Jajag, Banyuwa**	**5.66**	**266**		**Pn**	**16 25 09.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**5.66**	**266**	P	**Pn**	**16 25 11.7**	**+2.8**
	0.3nm44nm,1.1s						
KMMI	**Kalianget**	**5.94**	**280**	P	**Pn**	**16 25 14.0**	**+1.2**
	0.3nm46nm,1.0s						
PCJI	**Pacitan**	**8.60**	**269**	P	**Pn**	**16 25 49.9**	**+0.7**
	52nm,1.6s						
SANI	**Sanana**	**8.60**	**46**	P	**Pn**	**16 25 49.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.38**	**151**	Pn	**Pn**	**16 26 25.2**	**-2.1**
	0.3nm,0.3s,baz=347,slow=5.6,SNR=8.1						
FITZ				Sn	**Sn**	**16 28 31.3**	**-2.3**
	0.3nm,0.3s,baz=53,slow=20,SNR=2.1						
	1.8nm,0.9s						
KNRA	**Kununurra**	**11.48**	**131**	Pn	**Pn**	**16 26 26.6**	**-2.1**
MTN	**Manton Dam**	**12.02**	**114**	Pn	**Pn**	**16 26 33.9**	**-2.4**
WB0	**Warramunga Arr**	**18.21**	**131**		**Pn**	**16 27 55.7**	**-1.8**
WB0				IAmb	IAmb	16 28 39.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**18.28**	**131**		**Pn**	**16 27 55.7**	**-2.7**
WRA	**Warramunga Arr**	**18.28**	**131**	P	**Pn**	**16 27 56.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=307,slow=13,SNR=10						
WRA				S	**Sn**	**16 31 24.4**	**+2.7**
	comp=Z,1.0nm,1.0s,baz=304,slow=24,SNR=1.6						
	comp=Z,1.4nm,0.6s						
WR8	**Warramunga Arr**	**18.40**	**131**		**P**	**16 27 58.6**	**-1.2**
AS31	**Alice Springs**	**20.47**	**140**	P	**P**	**16 28 21.7**	**-0.7**
AS31				IAmb	IAmb	16 29 05.6	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**16 28 22.1**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=312,slow=10,SNR=25						
ASAR				S	**S**	**16 32 09.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=319,slow=21,SNR=4.4						
	comp=Z,2.2nm,0.6s						
BBOO	**Buckleboo**	**28.77**	**151**	P	**P**	**16 29 40.1**	**-2.0**
BBOO				IAmb	IAmb	16 30 15.1	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**31.08**	**142**	P	**P**	**16 30 02.0**	**-0.6**
STKA	**Stephens Creek**	**31.08**	**142**	P	**P**	**16 30 02.2**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=321,slow=13,SNR=3.0						
	comp=Z,1.8nm,0.7s						
GUMO	**Guam**	**32.91**	**49**	LR	LR	16 43 37.4	
	comp=Z,24nm,19.9s,baz=216,slow=36						
CMAR	**Chiang Mai Arr**	**33.54**	**322**	P	**P**	**16 30 24.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=123,slow=7.9,SNR=4.1						
	comp=Z,0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**53.25**	**11**	P	**P**	**16 33 03.0**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=189,slow=8.2,SNR=3.2						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**57.00**	**349**	P	**P**	**16 33 30.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=180,slow=7.2,SNR=5.8						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**64.10**	**332**	P	**P**	**16 34 17.9**	**-0.3**
MKAR	**Makanchi Array**	**64.10**	**332**	P	**P**	**16 34 18.6**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=132,slow=7.4,SNR=14						
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**68.56**	**339**	P	**P**	**16 34 46.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=159,slow=4.6,SNR=4.8						
	comp=Z,1.2nm,0.5s						
PETK	**Petropavlovsk-**	**68.96**	**23**	P	**P**	**16 34 50.0**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=230,slow=8.2,SNR=2.0						
	comp=Z,3.4nm,0.9s						
VNDA	**Vanda**	**72.69**	**171**	P	**P**	**16 35 11.6**	**+0.2**
VNDA				IAmb	IAmb	16 35 40.6	
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**72.69**	**171**	P	**P**	**16 35 12.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=314,slow=4.7,SNR=5.3						
	comp=Z,0.4nm,0.6s						

ABKAR	**Akbulak array**	**77.36**	**324**	P	**P**	**16 35 38.2**	**-0.7**
QSPA	**South Pole Qui**	**81.84**	**180**	P	**P**	**16 36 04.6**	**+1.5**
QSPA				IAmb	IAmb	16 36 35.5	
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**81.84**	**180**	P	**P**	**16 36 03.1**	**0.0**
	comp=Z,1.6nm,1.0s,baz=326,slow=2.7,SNR=4.4						
	comp=Z,1.6nm,1.0s						
SNAA	**Sanae**	**92.04**	**195**	IAmb	IAmb	16 37 15.9	
	comp=Z,3.3nm,1.4s						
SNAA	**Sanae**	**92.04**	**195**	P	**P**	**16 36 53.5**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=158,slow=9.4,SNR=1.8						
	comp=Z,0.8nm,1.0s						
N15K	**Kwethluk River**	**92.09**	**30**	P	**P**	**16 36 53.6**	**+0.6**
CPUP	**Villa Florida**	**145.62**	**184**	PKPbc	**PKPdf**	**16 43 23.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=248,slow=7.3,SNR=2.1						
LPAZ	**La Paz**	**154.46**	**162**	PKPab	**PKPab**	**16 43 59.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=189,slow=6.9,SNR=5.4						

*IDC **27** 16:24:10.2±0.6, 8°.08S×120°.00E, h0km, mb4.1/11, mbtmp4.1/15, ML3.7/4, MS3.6/1, Error ellipse: s-maj=33.6km s-min=13.4km az=68.0*
*NEIC **27** 16:24:12.3±1.4, 8°.07S±0°.05×119°.99E±0°.10, h10km±1km, mb4.6/18, Error ellipse: s-maj=17.7km s-min=4.5km az=66.0*

ISC 27 16:24:11.6±0.5, 8°.06S±0°.06×120°.01E±0°.10, h10km, n47, σ1.9±03/47, mb4.5/15, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.28**	**105**	Pn	**Pn**	**16 24 51.4**	**+2.1**
KAPI	**Kappang**	**3.03**	**355**		**Pn**	**16 25 00.9**	**+1.2**
KAPI	**Kappang**	**3.03**	**355**	Pn	**Pn**	**16 25 01.1**	**+1.5**
	10nm,0.3s,baz=85,slow=7.0,SNR=5.5						
KAPI				Sn	**Sn**	**16 25 33.4**	**-2.6**
	21nm,0.3s,baz=149,slow=21,SNR=6.0						
	24nm,0.3s						
BATI	**Baumata**	**4.20**	**121**	Pn	**Pn**	**16 25 16.0**	**+0.3**
	4.8nm,0.3s,baz=210,slow=4.7,SNR=4.5						
BATI				LR	LR	16 27 12.8	
	comp=Z,651nm,19.1s,baz=336,slow=44						
	23nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.39**	**152**		**Pn**	**16 26 55.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.39**	**152**	Pn	**Pn**	**16 26 53.9**	**-0.5**
	0.6nm,0.3s,baz=348,slow=9.7,SNR=7.3						
FITZ				Sn	**Sn**	**16 28 59.6**	**-2.2**
	0.6nm,0.3s,baz=146,slow=13,SNR=4.3						
	2.5nm,0.5s						
KNRA	**Kununurra**	**11.43**	**132**		**Pn**	**16 26 55.3**	**+0.3**
MTN	**Manton Dam**	**11.93**	**114**		**Pn**	**16 27 02.2**	**+0.3**
WRA	**Warramunga Arr**	**18.23**	**132**	P	**Pn**	**16 28 24.4**	**-0.6**
	0.2nm,0.3s,baz=306,slow=13,SNR=6.0						
	2.0nm,0.7s						
WR8	**Warramunga Arr**	**18.36**	**132**	P	**Pn**	**16 28 26.2**	**-0.3**
AS31	**Alice Springs**	**20.45**	**141**	P	**P**	**16 28 49.8**	**+0.3**
ASAR	**Alice Springs**	**20.45**	**141**	P	**P**	**16 28 50.1**	**+0.6**
ASAR	**Alice Springs**	**20.45**	**141**	P	**P**	**16 28 49.9**	**+0.4**
	6.1nm,0.7s,baz=314,slow=10,SNR=12						
ASAR				S	**S**	**16 32 38.4**	**-0.3**
	2.9nm,0.8s,baz=317,slow=22,SNR=8.0						
	6.1nm,0.7s						
COEN	**Coen**	**23.48**	**106**	P	**P**	**16 29 21.5**	**-0.2**
COEN				IAmb	IAmb	16 29 23.8	
	comp=Z,18nm,0.9s						
LHMI	**Lhok Sumawe**	**26.52**	**299**	P	**P**	**16 29 50.1**	**+0.6**
INKA	**Innaminka**	**27.71**	**138**	P	**P**	**16 29 59.5**	**-0.7**
BBOO	**Buckleboo**	**28.78**	**151**	P	**P**	**16 30 08.4**	**-1.3**
STKA	**Stephens Creek**	**31.07**	**143**	IAmb	IAmb	16 30 56.3	
	comp=Z,41nm,1.4s						
STKA	**Stephens Creek**	**31.07**	**143**	P	**P**	**16 30 29.8**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=312,slow=11,SNR=4.0						
	comp=Z,1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.56**	**322**	P	**P**	**16 30 52.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**33.56**	**322**	P	**P**	**16 30 53.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=153,slow=6.0,SNR=5.4						
	comp=Z,0.5nm,0.6s						
JMZ	**Minamidaito 2**	**35.40**	**18**	P	**P**	**16 31 07.8**	**0.0**
MJAR	**Matsushiro Arr**	**47.54**	**20**	IAmb	IAmb	16 33 23.3	
	comp=Z,2.2nm,1.1s						
MJAR	**Matsushiro Arr**	**47.54**	**20**	P	**P**	**16 32 46.9**	**-0.4**
	comp=Z,2.0nm,1.0s,baz=199,slow=8.7,SNR=4.5						
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**56.94**	**349**	P	**P**	**16 33 57.6**	**+0.5**
SONM				IAmb	IAmb	16 33 59.9	
	comp=Z,3.7nm,1.2s						
SONM	**Songino Array**	**56.94**	**349**	P	**P**	**16 33 58.4**	**+1.3**
	comp=Z,2.0nm,1.0s,baz=174,slow=8.6,SNR=7.6						
	comp=Z,2.0nm,1.0s						
MQZ	**McQueen's Vall**	**57.89**	**137**	P	**P**	**16 34 04.2**	**+0.4**
CMWZ	**Cape Campbell**	**58.28**	**134**	P	**P**	**16 34 06.5**	**-0.1**
BKZ	**Black Stump Fm**	**59.16**	**131**	P	**P**	**16 34 12.6**	**-0.3**
BKZ				IAmb	IAmb	16 34 42.7	
	comp=Z,24nm,1.4s						
MKAR	**Makanchi Array**	**64.08**	**332**	P	**P**	**16 34 45.4**	**-0.4**
MKAR	**Makanchi Array**	**64.08**	**332**	P	**P**	**16 34 45.7**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=139,slow=7.6,SNR=14						
	comp=Z,2.7nm,0.8s						
ZAA0	**Zalesovo Array**	**68.53**	**339**	P	**P**	**16 35 13.1**	**-1.1**
ZAA0				IAmb	IAmb	16 35 14.8	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	**16 35 12.9**	**-1.2**
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	**16 35 11.5**	**-2.6**
	comp=Z,2.9nm,0.8s,baz=132,slow=6.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**68.58**	**333**	P	**P**	**16 35 13.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=142,slow=5.5,SNR=4.1						
	comp=Z,0.7nm,0.3s						
KURK	**Kurchatov**	**68.60**	**333**	P	**P**	**16 35 13.8**	**-0.9**
KURK	**Kurchatov**	**68.60**	**333**	IAmb	IAmb	16 35 15.0	
	comp=Z,2.1nm,0.8s						
PETK	**Petropavlovsk-**	**68.82**	**23**	P	**P**	**16 35 16.5**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=224,slow=8.2,SNR=2.4						
	comp=Z,4.6nm,0.9s						
FOMA	**Nahampoana Res**	**71.29**	**246**	P	**P**	**16 35 31.9**	**+0.1**
VNDA	**Vanda**	**72.76**	**171**	P	**P**	**16 35 39.3**	**-0.3**
VNDA	**Vanda**	**72.76**	**171**	P	**P**	**16 35 39.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=321,slow=5.4,SNR=9.0						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**81.93**	**180**	P	**P**	**16 36 33.2**	**+1.7**
QSPA	**South Pole Qui**	**81.93**	**180**	P	**P**	**16 36 33.1**	**+1.7**
	comp=Z,3.9nm,1.0s,baz=316,slow=2.0,SNR=6.8						
	comp=Z,3.9nm,1.0s						
SNAA	**Sanae**	**92.17**	**195**	P	**P**	**16 37 20.4**	**-0.8**
SNAA				IAmb	IAmb	16 37 46.8	
	comp=Z,5.0nm,1.4s						
SNAA	**Sanae**	**92.17**	**195**	P	**P**	**16 37 20.4**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=147,slow=5.6,SNR=5.9						
	comp=Z,1.0nm,0.7s						
CPUP	**Villa Florida**	**145.72**	**184**	PKPbc	**PKPdf**	**16 43 50.5**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=69,slow=8.4,SNR=5.1						
LPAZ	**La Paz**	**154.51**	**162**	PKPab	**PKPab**	**16 44 28.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=180,slow=5.0,SNR=8.6						

*SKHL **27** 16:40:09.7±0.1, 43°.40N×145°.40E, h87km±1km, mb4.6/4, msha5.5/4*
*JMA **27** 16:40:09.4±0.1, 43°.4N±0°.4×145°.3E±0°.7, h84km±1km, MV2.8/38, NEMURO REGION*

ISC 27 16:40:09.7±1.7, 43°.41N±0°.06×145°.32E±0°.05, h84km±10km, n15, σ0.9±26/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMR	**Nemuro--Hokkai**	**0.30**	**97**	*i* P	**Pn**	**16 40 22.2**	**-0.2**
NMR				*e*S	**Sn**	**16 40 31.6**	**-0.2**
NEM2	**Nemuro 2**	**0.32**	**98**	*e*P	**Pn**	**16 40 22.3**	**-0.2**
NEM2				*e*S	**Sn**	**16 40 31.7**	**-0.2**
JKHN	**Kushirohamanak**	**0.34**	**199**	*e*P	**Pn**	**16 40 22.7**	**+0.1**
JKHN				*e*S	**Sn**	**16 40 32.6**	**+0.4**
GLVR	**Golovnino**	**0.36**	**24**	*e*P	**Pn**	**16 40 22.8**	**+0.1**
GLVR				AMB	AMB	16 40 23.2	
	290nm,0.2s						
GLVR				*e*S	**Sn**	**16 40 32.5**	**+0.1**
GLVR				A	A	16 40 33.4	
	2μm,0.3s						
GLVR				A	A	16 40 33.4	
	2μm,0.3s						
JNSB	**Nemuroshibetsu**	**0.43**	**328**	*e*P	**Pn**	**16 40 23.0**	**-0.2**
AKK	**Akkeshi**	**0.52**	**222**	*i* P	**Pn**	**16 40 23.8**	**-0.2**
JRA	**Rausu**	**0.55**	**345**	*i* P	**Pn**	**16 40 23.9**	**-0.2**
JRA				*e*S	**Sn**	**16 40 34.9**	**0.0**
JAK	**Akkeshi**	**0.61**	**228**	*i* P	**Pn**	**16 40 24.7**	**0.0**
JAK				*e*S	**Sn**	**16 40 36.1**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.74**	**32**	*e*P	**Pn**	**16 40 26.2**	**+0.2**
YUK				AMB	AMB	16 40 26.7	
	210nm,0.3s						
YUK				*e*S	**Sn**	**16 40 38.7**	**+0.5**
YUK				A	A	16 40 39.8	
	580nm,0.2s						
YUK				A	A	16 40 39.8	
	610nm,0.2s						
JAR	**Ashorobuto**	**1.13**	**265**	*i* P	**Pn**	**16 40 30.8**	**+0.2**
JAR				S	**Sn**	**16 40 46.5**	**+0.3**
JTKR	**Abashiri--Toko**	**1.17**	**299**	*i* P	**Pn**	**16 40 30.9**	**0.0**
JTKR				*e*S	**Sn**	**16 40 46.5**	**-0.3**
JOB	**Onbets**	**1.20**	**246**	*i* P	**Pn**	**16 40 31.5**	**+0.2**
JOB				*e*S	**Sn**	**16 40 47.7**	**+0.2**
JMP	**Maruseppu**	**1.54**	**294**	P	**Pn**	**16 40 35.7**	**0.0**
JMP				*e*S	**Sn**	**16 40 55.3**	**0.0**
JCH	**Churui**	**1.64**	**242**	P	**Pn**	**16 40 36.7**	**-0.2**
JCH				*e*S	**Sn**	**16 40 57.1**	**-0.5**
KUR	**Kuril'sk**	**2.58**	**44**	*e*P	**Pn**	**16 40 49.7**	**+0.3**
KUR				AMB	AMB	16 40 50.8	
	70nm,0.4s						
KUR				*e*S	**Sn**	**16 41 19.5**	**-0.5**
KUR				A	A	16 41 20.2	
	240nm,0.4s						
KUR				A	A	16 41 20.2	
	100nm,0.4s						

*IDC **27** 16:44:38.0±0.5, 37°.63S×175°.88E, h278km±5km, mb3.7/9, mbtmp4.4/9, Error ellipse: s-maj=23.3km s-min=12.0km az=42.0*
*NOU **27** 16:44:38.5, 38°.00S×175°.93E, h294km, MLv5.1/26, North Island, New Zealand*
*NEIC **27** 16:44:40.0±2.3, 37°.90S±0°.08×175°.9E±0°.1, h286km±5km, mb4.4/35, Error ellipse: s-maj=12.2km s-min=11.6km az=217.0*
*WEL **27** 16:44:41.0±0.6, 38°.5±5°×17°.6E±°, h276km±4km, M5.0/123, ML3.9/8, MLv5.0/123, Error ellipse: s-maj=6.7km s-min=5.7km az=61.3, confirmed*
*WEL **27** 16:44:41.2, 37°.88S×176°.09E, h290km, ML5.0, Mw4.9, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.09; $M_{\theta\theta}$0.77; $M_{\phi\phi}$0.32; $M_{r\theta}$1.11; $M_{\theta\phi}$-2.04; $M_{\phi r}$0.74; Fault plane solution: $M_0$2.62000×10^{16} NP1: ϕ_s274.00000°, δ67.00000°, λ-145.00000°. NP2: ϕ_s169.00000°, δ58.00000°, λ-27.00000°. Principal axes: T -2.6148, Plg6.0000°, Azm40.0000°; N 2.6336, Plg49.0000°, Azm303.0000°; P -0.0188, Plg40.0000°, Azm135.0000°; Stations used: URZ WIZ MKAZ HIZ BKZ HAZ VRZ WCZ OBLIQUE-NORMAL FAULTING*

ISC 27 16:44:40.2±0.5, 37°.99S±0°.04×175°.86E±0°.04, h292km±4km, n285, σ1.9±53/318, mb4.2/28, 5C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.16**	**26**	P	**Pn**	**16 45 17.1**	**-0.5**
KMRZ				S	**S**	**16 45 46.0**	**-1.1**
NGRZ	**Ngongotaha**	**0.29**	**114**	P	**Pn**	**16 45 17.1**	**-0.5**
KARZ	**Kaharoa**	**0.31**	**96**	P	**Pn**	**16 45 16.9**	**-0.7**
KARZ				S	**S**	**16 45 46.4**	**-0.8**
UTU	**Utuhina**	**0.33**	**126**	P	**Pn**	**16 45 17.2**	**-0.4**
TOZ	**Tahuroa Road**	**0.38**	**312**		**Pn**	**16 45 16.9**	**-0.8**
TOZ	**Tahuroa Road**	**0.38**	**312**	P	**Pn**	**16 45 17.0**	**-0.8**
TOZ				S	**S**	**16 45 46.7**	**-0.8**
TGRZ	**Tauranga**	**0.41**	**51**	P	**Pn**	**16 45 16.4**	**-1.4**
TGRZ				S	**S**	**16 45 45.9**	**-1.7**
GRRZ	**Galatos Road**	**0.41**	**151**	P	**Pn**	**16 45 17.4**	**-0.4**
GRRZ				S	**S**	**16 45 46.9**	**-0.6**
LIRZ	**Lichensteins R**	**0.42**	**92**	P	**Pn**	**16 45 17.0**	**-0.8**
LIRZ				S	**S**	**16 45 46.9**	**-0.6**
OMRZ	**Omania**	**0.42**	**107**	P	**Pn**	**16 45 16.9**	**-0.9**
OMRZ				S	**S**	**16 45 46.5**	**-1.1**
TLZ	**Tolley Road**	**0.42**	**216**	P	**Pn**	**16 45 17.5**	**-0.3**
HSRZ	**Hossack Road**	**0.45**	**137**	P	**Pn**	**16 45 17.5**	**-0.3**
HLRZ	**Highlands Stat**	**0.47**	**124**	P	**Pn**	**16 45 17.6**	**-0.3**
KUTZ	**Kaahu Road**	**0.50**	**183**	P	**Pn**	**16 45 17.9**	**-0.1**
MKRZ	**Makatiti**	**0.51**	**108**	P	**Pn**	**16 45 18.3**	**+0.2**
HRRZ	**Handcock Road**	**0.53**	**140**	P	**Pn**	**16 45 17.5**	**-0.5**
HRRZ				S	**S**	**16 45 46.4**	**-1.7**
TARZ	**Mount Tarawera**	**0.57**	**116**	P	**Pn**	**16 45 17.7**	**-0.6**
OPRZ	**

AWAZ	Awhitu Peninsu	1.33 313	P	Pn	16 45 20.7	-0.9
NMHZ	Naumai	1.34 146	P	Pn	16 45 22.3	+0.6
RAHZ	Arahi	1.34 134	P	Pn	16 45 21.7	+0.1
WNVZ	Wahianoa	1.35 189	P	Pn	16 45 21.9	+0.1
PKVZ	Pokaka	1.36 197	P	Pn	16 45 22.0	+0.3
MWZ	Matawai	1.36 105	P	Pn	16 45 20.4	-1.4
MWZ			S	S	16 45 51.5	-3.3
SNGZ	Shannon Statio	1.41 125	P	Pn	16 45 21.9	-0.1
EPAZ	Eden Park BICE	1.42 321	P	Pn	16 45 21.1	-1.1
MOVZ	Moawhango	1.42 183	P	Pn	16 45 21.8	-0.3
VRZ	Vera Road	1.43 217	P	Pn	16 45 22.5	+0.4
MTVZ	Mangateitei	1.43 192	P	Pn	16 45 22.6	+0.4
MBAZ	Motutapu North	1.44 328	P	Pn	16 45 20.9	-1.3
RUGZ	Raukumara Rang	1.44 90	P	Pn	16 45 19.7	-2.6
HBAZ	Herne Bay Bore	1.45 321	P	Pn	16 45 23.9	+1.6
WTAZ	Waiatarua	1.47 315	P	Pn	16 45 21.7	-0.7
KWHZ	Kaweka Forest	1.50 163	P	Pn	16 45 23.0	+0.3
WHHZ	Waihua	1.53 136	P	Pn	16 45 22.9	+0.1
HAZ	Te Kaha	1.54 82	P	Pn	16 45 20.3	-2.5
HAZ			S	S	16 45 51.4	-5.4
ARHZ	Aropaoanui	1.56 145	P	Pn	16 45 23.3	+0.4
RVAZ	Riverhead Bore	1.58 320	P	Pn	16 45 22.1	-1.1
MCHZ	McNeill Hill	1.60 156	P	Pn	16 45 23.9	+0.6
ABAZ	Army Bay	1.61 329	P	Pn	16 45 22.1	-1.3
MHEZ	Mangahewa	1.62 227	P	Pn	16 45 24.9	+1.5
TKGZ	Te Karaka	1.63 107	P	Pn	16 45 23.1	-0.4
RIGZ	Rimuhau	1.66 116	P	Pn	16 45 23.5	-0.2
TWGZ	Tauwhareparae	1.69 97	P	Pn	16 45 23.1	-0.8
KRHZ	Kereru	1.70 167	P	Pn	16 45 24.2	+0.2
KNZ	Kokohu	1.76 127	P	Pn	16 45 24.0	-0.3
GRZ	Great Barrier	1.76 349	P	Pn	16 45 22.6	-1.9
PKGZ	Pakihiroa	1.76 87	P	Pn	16 45 23.2	-1.2
DRHZ	Durham Road	1.77 227	P	Pn	16 45 25.8	+1.2
PRGZ	Paritu Road	1.85 121	P	Pn	16 45 25.1	+0.1
LREZ	Lake Rotokare	1.86 217	P	Pn	16 45 26.0	+0.9
NEZ	North Egmont	1.88 227	P	Pn	16 45 26.7	+1.3
WAZ	Wanganui	1.89 201	P	Pn	16 45 25.7	+0.3
PKE	Pukeiti	1.90 230	P	Pn	16 45 26.7	+1.2
PREZ	Palmer Road	1.90 224	P	Pn	16 45 26.5	+1.0
PUZ	Puketiti	1.90 93	P	Pn	16 45 24.0	-1.5
CNGZ	Carnagh Statio	1.92 106	P	Pn	16 45 25.4	-0.2
CKHZ	Cape Kidnapper	1.92 151	P	Pn	16 45 26.0	+0.4
PNHZ	Pukenui	1.94 172	P	Pn	16 45 25.9	+0.1
KHEZ	Kahui Hut	1.95 227	P	Pn	16 45 26.8	+0.9
KHEZ	Kahui Hut	1.95 227	S	S	16 46 03.2	+1.0
KHEZ	Kahui Hut	1.95 227	P	Pn	16 45 27.0	+1.1
KAHZ	Kahuranaki	1.97 157	P	Pn	16 45 26.5	+0.5
MHGZ	Mahia Peninsul	1.98 127	P	Pn	16 45 26.2	+0.1
MXZ	Matakaoa Point	1.99 78		Pn	16 45 24.1	-2.1
MXZ	Matakaoa Point	1.99 78	P	Pn	16 45 24.3	-1.9
MXZ	Matakaoa Point	1.99 78	S	S	16 46 00.2	-2.6
MXZ	Matakaoa Point	1.99 78	P	Pn	16 45 24.5	-1.7
NBEZ	Newall Road No	2.02 230	P	Pn	16 45 27.6	+1.2
WMGZ	Waiomatatini S	2.03 86	P	Pn	16 45 25.1	-1.4
TSZ	Takapari Road	2.07 178	P	Pn	16 45 26.8	-0.1
NMEZ	Namu Road	2.10 227	P	Pn	16 45 28.3	+1.3
WPHZ	Waipukurau	2.12 168	P	Pn	16 45 27.5	+0.2
PXZ	Pawanui	2.19 159	P	Pn	16 45 28.1	+0.4
OHWZ	Ohakea	2.26 191	P	Pn	16 45 29.1	+0.8
DVHZ	Dannevirke	2.32 174	P	Pn	16 45 28.7	-0.3
PRHZ	Porangahau	2.36 165	P	Pn	16 45 29.5	+0.3
WCZ	Waipu Caves	2.38 329	P	Pn	16 45 27.9	-1.6
POWZ	Post Office Ro	2.40 182	P	Pn	16 45 29.5	-0.2
ANWZ	Angora Road	2.52 169	P	Pn	16 45 30.9	+0.3
PRWZ	Pori Road	2.57 178	P	Pn	16 45 31.3	+0.1
MRZ	Mangatainoka R	2.68 185		Pn	16 45 31.6	-0.6
MRZ	Mangatainoka R	2.68 185	P	Pn	16 45 31.7	-0.5
BFZ	Birch Farm	2.71 174		Pn	16 45 32.3	+0.2
BFZ	Birch Farm	2.71 174	P	Pn	16 45 32.3	-0.2
BFZ	Birch Farm	2.71 174	S	S	16 46 13.0	-1.2
BFZ	Birch Farm	2.71 174	P	Pn	16 45 32.3	-0.2
TIWZ	Tintock	2.79 180	P	Pn	16 45 33.4	+0.1
OGWZ	Otaki Gorge	2.88 190	P	Pn	16 45 33.7	-0.4
HOWZ	Holdsworth Sta	2.92 185	P	Pn	16 45 33.9	-0.7
CPWZ	Castlepoint	2.93 175	P	Pn	16 45 35.0	+0.4
KIW	Kapiti Island	2.96 194	P	Pn	16 45 34.4	-0.6
TMWZ	Te Maipa	3.12 180	P	Pn	16 45 36.0	-0.5
CAW	Cannon Point	3.18 191	P	Pn	16 45 36.3	-0.8
MTW	Mount Morrison	3.18 185	P	Pn	16 45 36.6	-0.6
DUWZ	D'Urville Isla	3.19 207	P	Pn	16 45 36.4	-0.9
OUZ	Omahuta	3.31 326	P	Pn	16 45 36.5	-2.1
OUZ	Omahuta	3.31 326	P	Pn	16 45 36.6	-2.0
WEL	Wellington	3.40 194	P	Pn	16 45 39.1	-0.3
PAWZ	Paruwai Farm	3.41 185	P	Pn	16 45 38.9	-0.7
TRWZ	Traveller	3.41 182	P	Pn	16 45 39.2	-0.4
SNZO	South Karori	3.44 195		Pn	16 45 38.8	-0.9
SNZO	South Karori	3.44 195	P	Pn	16 45 39.1	-0.7
SNZO	South Karori	3.44 195	S	S	16 46 25.0	-2.4
TCW	Tory Channel	3.44 200		Pn	16 45 39.3	-0.6
TCW	Tory Channel	3.44 200	P	Pn	16 45 39.1	-0.8
MSWZ	Moikau Station	3.46 188		Pn	16 45 38.8	-1.2
MSWZ	Moikau Station	3.46 188	P	Pn	16 45 39.1	-1.0
BHW	Baring Head	3.50 192		Pn	16 45 39.1	-1.4
BHW	Baring Head	3.50 192	P	Pn	16 45 39.4	-1.1
PLWZ	Palliser	3.61 187		Pn	16 45 40.2	-1.5
PLWZ	Palliser	3.61 187	P	Pn	16 45 40.7	-1.0
TUWZ	Tuamarina	3.74 203		Pn	16 45 42.3	-0.7
TUWZ	Tuamarina	3.74 203	P	Pn	16 45 42.7	-0.3
NNZ	Nelson	3.75 210		Pn	16 45 41.8	-1.4
NNZ	Nelson	3.75 210	P	Pn	16 45 41.8	-1.4
TKNZ	Takaka Hill	3.78 215		Pn	16 45 41.6	-1.8
TKNZ	Takaka Hill	3.78 215	P	Pn	16 45 41.7	-1.8
QRZ	Quartz Range	3.83 221		Pn	16 45 42.2	-1.9
QRZ	Quartz Range	3.83 221	P	Pn	16 45 42.3	-1.8
QRZ	Quartz Range	3.83 221	S	S	16 46 33.0	-2.2
QRZ	Quartz Range	3.83 221	P	Pn	16 45 42.2	-1.9
CMWZ	Cape Campbell	3.96 198	P	Pn	16 45 45.7	+0.2
BSWZ	Blackbirch Sta	4.02 202		Pn	16 45 45.5	-0.6
BSWZ	Blackbirch Sta	4.02 202	P	Pn	16 45 45.6	-0.6
MRNZ	Matariki Terra	4.16 214	P	Pn	16 45 45.9	-1.9
THZ	Tophouse	4.40 210		Pn	16 45 49.1	-1.4
THZ	Tophouse	4.40 210	P	Pn	16 45 49.0	-1.4
KHZ	Kahutara	4.77 201		Pn	16 45 53.5	-1.1
KHZ	Kahutara	4.77 201	P	Pn	16 45 54.4	-0.2
KHZ	Kahutara	4.77 201	P	S	16 46 51.8	-2.4
KHZ	Kahutara	4.77 201	P	Pn	16 45 53.8	-0.8
DSZ	Denniston Nort	4.88 218	P	Pn	16 45 53.9	-2.0
GVZ	Greta Valley S	5.42 202	P	Pn	16 46 01.0	-1.2
LTZ	Lake Taylor	5.52 209	P	Pn	16 46 01.6	-1.8
AMCZ	Amberley	5.73 204	P	Pn	16 46 04.4	-1.6
INZ	Inchbonnie	5.81 214	P	Pn	16 46 04.8	-2.0
OXZ	Oxford	6.07 207	P	Pn	16 46 08.0	-2.0
OKCZ	Okains Bay	6.11 199	P	Pn	16 46 09.3	-1.3
MQZ	McQueen's Vall	6.21 202	P	Pn	16 46 09.3	-2.3
AKCZ	Akaroa Harbour	6.29 200	P	Pn	16 46 11.2	-1.5
RACZ	Rakaia	6.39 205	P	Pn	16 46 12.1	-1.8
WVZ	Waitaha Valley	6.41 216	P	Pn	16 46 11.2	-2.9
MHCZ	Mount Hutt	6.42 209	P	Pn	16 46 12.2	-2.1
WACZ	Wakanui South	6.68 206	P	Pn	16 46 15.8	-1.6
RPZ	Rata Peaks	6.78 211	P	Pn	16 46 16.9	-1.8
	198nm,0.4s,baz=359,slow=1.2,SNR=135					
RPZ			S	S	16 47 31.4	-6.7
	711nm,0.5s,baz=304,slow=22,SNR=18					
RPZ	Rata Peaks	6.78 211	P	Pn	16 46 16.7	-2.0
RPZ	Rata Peaks	6.78 211	P	Pn	16 46 16.4	-2.2
ARCZ	Arundel	6.93 209	P	Pn	16 46 18.2	-2.2
FOZ	Fox Glacier	7.19 218	P	Pn	16 46 20.6	-3.0
TMZ	Timaru	7.36 208	P	Pn	16 46 23.9	-1.8
LBZ	Lake Benmore	7.69 212	P	Pn	16 46 27.5	-2.3
ODZ	Otahua Downs	8.06 207	P	Pn	16 46 33.4	-0.9
ODZ	Otahua Downs	8.06 207	P	Pn	16 46 33.0	-1.3
JCZ	Jackson Bay	8.09 219	P	Pn	16 46 31.7	-3.1
JCZ	Jackson Bay	8.09 219	P	Pn	16 46 32.1	-2.7
WKZ	Wanaka	8.55 215		Pn	16 46 37.1	-3.2
WKZ	Wanaka	8.55 215	P	Pn	16 46 37.1	-3.2
EAZ	Earnscleugh	8.74 212	P	Pn	16 46 39.3	-3.4
HHSZ	Highcliff Hill	8.81 205	P	Pn	16 46 44.2	+0.6
MSZ	Milford Sound	8.95 219	P	Pn	16 46 42.7	-2.6
TUZ	Tuapeka	9.21 208	P	Pn	16 46 47.6	-0.8
MLZ	Mavora Lakes	9.37 216		Pn	16 46 47.9	-2.6
MLZ	Mavora Lakes	9.37 216	P	Pn	16 46 48.5	-2.0
WHZ	Wether Hill Ro	9.85 214	Pn	Pn	16 46 53.5	-2.9
WHZ	Wether Hill Ro	9.85 214	P	Pn	16 46 53.4	-2.9
SYZ	Scrubby Hill	9.88 208	P	Pn	16 46 55.7	-1.1
SYZ	Scrubby Hill	9.88 208	P	Pn	16 46 56.1	-0.7
DCZ	Deep Cove	9.90 218	Pn	Pn	16 46 54.5	-2.5
DCZ	Deep Cove	9.90 218	P	Pn	16 46 55.5	-1.5
APZ	The Paps	10.57 211	P	Pn	16 47 03.4	-1.9
PYZ	Puysegur Point	10.64 217	P	Pn	16 47 04.1	-2.0
PYZ	Puysegur Point	10.64 217	P	Pn	16 47 04.5	-1.5
MSVF	Nonsavu	20.27 6	P	P	16 48 51.8	-2.7
STKA	Stephens Creek	28.63 272	P	P	16 50 11.7	+1.4
STKA			IAmb	IAmb	16 50 40.6	
	comp=Z,24nm,1.3s					
STKA	Stephens Creek	28.63 272	P	P	16 50 09.7	-0.5
	comp=Z,1.7nm,0.6s,baz=90,slow=10,SNR=4.1					
	comp=Z,1.7nm,0.6s					
FUNA	Funafuti	29.48 7	P	P	16 50 18.6	+0.8
INKA	Innaminka	31.05 279	P	P	16 50 32.5	+1.0
BBOO	Buckleboo	32.67 267	P	P	16 50 45.0	-0.5
BBOO			IAmb	IAmb	16 50 46.0	
	comp=Z,33nm,1.4s					
AS31	Alice Springs	38.42 280	P	P	16 51 33.1	-1.2
AS31			IAmb	IAmb	16 51 36.0	
	comp=Z,2.8nm,0.3s					
ASAR	Alice Springs	38.42 279	P	P	16 51 33.0	-1.3
	comp=Z,2.6nm,0.5s,baz=118,slow=6.5,SNR=138					
ASAR			S	S	16 57 06.8	-0.4
	comp=Z,0.4nm,0.5s,baz=131,slow=15,SNR=6.1					
	comp=Z,2.6nm,0.5s					
FORT	Forrest	39.74 266	P	P	16 51 44.5	-0.5
FORT			IAmb	IAmb	16 52 22.1	
	comp=Z,9.2nm,1.1s					
WR0	Warramunga Arr	39.98 285	P	P	16 51 47.1	0.0
WR0			IAmb	IAmb	16 51 50.7	
	comp=Z,7.2nm,1.3s					
WR8	Warramunga Arr	40.02 285	P	P	16 51 47.1	-0.3
VNDA	Vanda	40.09 185	P	P	16 51 50.1	+2.8
VNDA	Vanda	40.09 185	P	P	16 51 48.7	+1.4
	comp=Z,1.6nm,0.8s,baz=7.1,slow=8.5,SNR=15					
	comp=Z,1.6nm,0.8s					
WB2	Warramunga Arr	40.14 285	P	P	16 51 46.8	-1.6
WRA	Warramunga Arr	40.15 285	P	P	16 51 46.4	-2.1
	comp=Z,1.0nm,0.5s,baz=125,slow=7.9,SNR=22					
	comp=Z,1.0nm,0.5s					
SBA	Scott Base	40.16 183	P	P	16 51 50.5	+2.7
SBA			IAmb	IAmb	16 51 52.8	
	comp=Z,4.6nm,0.8s					
WB0	Warramunga Arr	40.21 285	P	P	16 51 47.4	-1.5
CASY	Casey	46.05 211	P	P	16 52 34.7	-0.1
MTN	Manton Dam	46.93 290	P	P	16 52 41.8	-0.4
MTN			IAmb	IAmb	16 53 07.5	
	comp=Z,14nm,1.4s					
KNRA	Kununurra	46.94 285	P	P	16 52 42.0	-0.3
KNRA			IAmb	IAmb	16 53 14.1	
	comp=Z,24nm,1.4s					
FITZ	Fitzroy Crossi	47.92 280	P	P	16 52 49.4	-0.4
MORW	Morawa	49.91 262	P	P	16 53 05.1	+0.3
MORW			IAmb	IAmb	16 53 32.1	
	comp=Z,19nm,1.4s					
MBWA	Marble Bar	50.87 273	P	P	16 53 11.5	-0.5
MBWA			IAmb	IAmb	16 53 12.0	
	comp=Z,7.3nm,0.8s					
QSPA	South Pole Qui	52.14 180	P	P	16 53 23.6	+2.7
QSPA			IAmb	IAmb	16 53 26.7	
	comp=Z,16nm,1.1s					
QSPA	South Pole Qui	52.14 180	P	P	16 53 24.3	+3.4
	comp=Z,10nm,0.7s,baz=26,slow=4.3,SNR=60					
	comp=Z,10nm,0.7s					
GIRL	Giralia	54.44 268	P	P	16 53 39.3	+1.4
GIRL			IAmb	IAmb	16 54 16.2	
	comp=Z,73nm,1.2s					
BELA	Belgrano 2	62.93 173	P	P	16 54 35.2	0.0
BELA			IAmb	IAmb	16 54 36.6	
	comp=Z,6.5nm,0.7s					
SMAI	San Martin Ant	64.30 158	P	P	16 54 45.9	+1.7
PMSA	Palmer Station	67.42 156	P	P	16 55 05.5	+1.4
TROLL	Troll, Antarti	70.20 182 ⇑P		P	16 55 21.2	-0.1
	comp=Z,50nm,0.3s					
SNAA	Sanae	70.64 180 ⇑P		P	16 55 24.2	+0.4
	comp=Z,30nm,0.4s					
SNAA	Sanae	70.64 180	P	P	16 55 24.0	+0.2
SNAA			IAmb	IAmb	16 55 25.4	
	comp=Z,6.7nm,1.3s					
SNAA	Sanae	70.64 180	P	P	16 55 23.6	-0.2
	comp=Z,1.2nm,0.3s,baz=198,slow=9.5,SNR=25					
	comp=Z,1.2nm,0.3s					
VNA3	Neumayer Olymp	71.00 178 ⇑P		P	16 55 25.2	-0.7
	comp=Z,2.8nm,0.4s					
VNA2	Neumayer--Watz	71.37 179 ⇑P		P	16 55 26.3	-1.8
	comp=Z,2.8nm,0.4s,baz=184,slow=6.6					
VNA1	Neumayer--Stat	71.63 179 ⇑P		P	16 55 30.1	+0.5
	comp=Z,3.5nm,0.6s					
LL02	Futaleuf	78.54 136		P	16 56 09.9	+0.5
LL02			IAmb	IAmb	16 56 11.4	
	comp=Z,11nm,0.8s					
EFI	East Falkland	79.06 149		P	16 56 12.4	+0.5
PLCA	Paso Flores	80.91 135	P	P	16 56 23.2	+1.0
PLCA			IAmb	IAmb	16 56 24.2	
	comp=Z,5.1nm,0.7s					
PLCA	Paso Flores	80.91 135	P	P	16 56 23.2	+1.0
	comp=Z,5.7nm,0.7s,baz=240,slow=5.0,SNR=19					
	comp=Z,5.7nm,0.7s					
BI02	San Fabin de	83.25 132	P	P	16 56 35.5	+1.1
BI02			IAmb	IAmb	16 56 36.2	
	comp=Z,6.7nm,0.8s					
MT01	Popeta	85.17 130	P	P	16 56 45.1	+1.1
MT01			IAmb	IAmb	16 56 45.9	
	comp=Z,8.9nm,0.9s					
KSRS	Korea Array	87.12 324	P	P	16 56 52.4	-0.6
	comp=Z,2.5nm,0.8s,baz=149,slow=5.9,SNR=8.4					
	comp=Z,2.5nm,0.8s					
CO02	Combarbal	87.14 128	P	P	16 56 54.9	+1.2
TRQA	Tornquist	87.47 138	P	P	16 56 54.8	-0.2
TRQA			IAmb	IAmb	16 57 15.4	
	comp=Z,13nm,1.5s					
KIWB	Kanaga Island	89.67 4	P	P	16 57 06.4	+1.8
CMAR	Chiang Mai Arr	91.32 292	P	P	16 57 13.1	0.0
CMAR	Chiang Mai Arr	91.32 292	P	P	16 57 11.8	-1.3
	comp=Z,1.0nm,0.8s,baz=150,slow=4.0,SNR=8.5					
	comp=Z,1.0nm,0.8s					
PZH	PanZhiHua	94.49 300	P	P	16 57 29.0	+1.3
HHC	Hu-ho-hao-te	98.01 316	*e*P	Pdif	16 57 47.3	+4.1
HHC			pmax	pmax		
	comp=Z,12nm,0.5s					
HHC			pmax	pmax		
	comp=Z,82nm,5.5s					
KBZ	Khabaz	144.34 294	PKP	PKPab	17 03 38.6	-1.5
	comp=Z,3.5nm,0.9s,baz=126,slow=3.0,SNR=11					
ARCES	ARCESS Array B	144.61 343	PKP	PKPbc	17 03 38.7	-1.7
	comp=Z,2.2nm,0.8s,baz=46,slow=2.7,SNR=7.1					
MMAI	Mount Meron Ar	147.60 273	PKPbc	PKPbc	17 03 49.8	-0.4
	comp=Z,0.4nm,0.4s,baz=128,slow=2.4,SNR=1.6					
DBIC	Dimbokro	148.82 179	PKPbc	PKPbc	17 03 52.7	-1.0
	comp=Z,1.3nm,0.3s,baz=211,slow=3.5,SNR=5.0					
FINES	FINESS Array B	149.95 331	PKPbc	PKPbc	17 03 52.7	-2.4
	comp=Z,1.5nm,0.7s,baz=46,slow=3.9,SNR=5.2					
BRTR	Keskin Array B	150.67 285	PKPbc	PKPbc	17 03 56.2	-1.5
	comp=Z,1.4nm,0.9s,baz=116,slow=5.6,SNR=6.7					

IDC 27 17:09:52.5±1.5, 26°.32N×105°.20E, h0^{km}, mb3.3/4, mbtmp3.4/4, MS3.8/1, Error ellipse: s-maj=94.7km s-min=24.7km az=67.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	21.49	2	P	P	17 14 42.9	0.0
	0.8nm,0.8s,baz=193,slow=12,SNR=5.3						
	0.8nm,0.8s						
MKAR	Makanchi Array	27.32	324	P	P	17 15 39.0	0.0
	0.3nm,0.5s,baz=120,slow=10,SNR=2.1						
	0.3nm,0.5s						
WRA	Warramunga Arr	53.99	146	P	P	17 19 18.6	0.0
	0.9nm,1.2s,baz=330,slow=8.1,SNR=2.4						
	0.9nm,1.2s						
PMG	Port Moresby	54.06	125	LR	LR	17 45 15.2	
	comp=Z,85nm,19.2s,baz=197,slow=39						
ASAR	Alice Springs	56.93	148	P	P	17 19 39.5	-0.2
	0.3nm,0.8s,baz=320,slow=6.3,SNR=6.0						
	0.3nm,0.8s						

*NEIC **27** 17:16:27.0±0.5, 45°.673N×0°.008×67°.66W±0°.02, h5^{km}±1^{km}, mb_Lg2.3/5, ML2.2/10, Error ellipse: s-maj=3.0km s-min=2.3km az=49.0*

*OTT **27** 17:16:27.6±0.1, 45°.63N×67°.67W, h2^{km}, MN2.6/9, 29km west from McAdam, Nb Northern Appalachians Seismic Zone.*

ISC 27 17:16:26.8±1.0, 45°.65N±0°.03×67°.66W±0°.02, h11^{km}±8^{km}, n32, σ1^{s}±16^{s}/47, 1D, Maine

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCNB	McAdam	0.24	101	⇓PG	Pg	17 16 32.1	+0.3
MCNB				SG	Sg	17 16 35.6	+0.4
MCNB				Trac		17 16 36.1	
	comp=Z,188nm,0.1s						
G65A	Princeton	0.45	171	Pg	Pg	17 16 35.7	+0.1
G65A				Sg	Sg	17 16 42.0	+0.5
G65A				IAML		17 16 42.3	
	233nm,0.1s						
F64A	Sherman	0.53	295	Pg	Pg	17 16 36.8	-0.3
F64A				Sg	Sg	17 16 43.6	-0.6
F64A				IAML		17 16 47.8	
	153nm,0.7s						
GGN	Saint George	0.78	132	Pg	Pg	17 16 42.0	+0.1
GGN				Sg	Sg	17 16 52.5	+0.5
GGN				IAML		17 16 58.3	
	comp=E,75nm,0.1s						
GGN				IAML		17 16 59.2	
	comp=N,82nm,0.3s						
GGN	Saint George	0.78	132	PG	Pb	17 16 42.2	-0.2
GGN				SG	Sg	17 16 52.2	+0.1
GGN				Trac		17 16 59.6	
	comp=N,14nm,0.0s						
EMMW	East Machias	0.95	171		Pg	17 16 45.0	0.0
EMMW				Sg	Sg	17 16 57.5	+0.1
EMMW				IAML		17 17 00.9	
	comp=N,114nm,0.2s						
EMMW				IAML		17 17 01.0	
	comp=N,97nm,0.2s						
PKME	Peaks-Kenny Pk	1.21	252	Pg	Pg	17 16 49.1	-1.0
PKME				Sg	Sg	17 17 05.1	-0.7
SRNB	Snider Mountai	1.43	82	PG	Pb	17 16 53.6	+0.1
SRNB				SG	Sb	17 17 12.4	+0.7
SRNB				Trac		17 17 15.7	
	comp=N,35nm,0.1s						
WCNB	Wards Creek	1.51	89	PG	Pb	17 16 54.9	+0.1
WCNB				SG	Sg	17 17 15.0	-0.4
WCNB				Trac		17 17 21.7	
	comp=N,10nm,0.1s						
E62A	Clayton Lake	1.62	308		Pn	17 16 55.5	+0.2
HKNB	Havelock Quarr	1.63	77	PN	Pn	17 16 51.3	-4.1
HKNB				SN	Sn	17 17 12.7	-3.7
HKNB				Trac		17 17 15.2	
	comp=N,114nm,0.2s						
D62A	Allapoint, All	1.73	327	Pn	Pn	17 16 57.0	+0.2
ELNB	Elgin, New Bru	1.77	82	PN	Pb	17 16 58.8	-0.5
ELNB				SN	Sb	17 17 22.5	+1.0
ELNB				Trac		17 17 25.3	
	comp=N,8.1nm,0.2s						
WVL	Waterville	1.78	233	Pn	Pn	17 16 57.9	+0.4
SLBQ	St-Lucie-de-Be	1.97	305	SN	Sb	17 17 27.3	0.0
BATG	Bathurst New B	1.97	34	IAmb_Lg		17 17 27.9	
	comp=Z,8.0nm,0.9s						
HSNB	Heath Steele M	1.97	34	PN	Pb	17 17 02.3	-0.4
HSNB				SN	Sb	17 17 27.7	+0.4
HSNB				Trac		17 17 30.6	
	comp=Z,14nm,0.1s						
LMN	Caledonia Moun	2.01	83	Pn	Pn	17 17 01.3	+0.6
LMN	Caledonia Moun	2.01	83	PN	Pn	17 17 01.7	+1.0
LMN				SN	Sn	17 17 27.8	+1.9
LMN				Trac		17 17 30.2	
	comp=Z,16nm,0.1s						
G62A	West of Eustis	2.07	259	Pn	Pn	17 17 01.9	+0.4
A16	Riviere Ouelle	2.44	319	PN	Pn	17 17 07.4	+0.8
A16				SN	Sn	17 17 37.7	+1.3
A16				Trac		17 17 48.9	
	comp=Z,6.4nm,0.2s						
A21	Saint Andre	2.49	327	PN	Pn	17 17 08.2	+0.9
A21				SN	Sn	17 17 38.0	+0.4
A21				Trac		17 17 47.4	
	comp=Z,13nm,0.4s						
I63A	Otisfield	2.62	234	Pn	Pn	17 17 09.8	+0.8
I63A				IAmb_Lg		17 17 52.6	
	comp=Z,16nm,0.8s						
A54	Misere	2.62	315	PN	Pn	17 17 10.0	+0.8
A54				SN	Sn	17 17 42.8	+1.7
A54				Trac		17 17 55.6	
	comp=Z,2.1nm,0.1s						
LMQ	La Malbaie	2.65	317	Pn	Pn	17 17 09.6	+0.1
H62A	Milan	2.70	248	Pn	Pn	17 17 10.7	+0.6
H62A				IAmb_Lg		17 17 54.2	
	comp=Z,16nm,0.8s						
I62A	Tamworth	3.16	237	Pn	Pn	17 17 15.2	-1.4
LBNH	Lisbon	3.34	247	Pn	Pn	17 17 17.3	-1.6
LDAQ	Lac Daran	3.38	315	Pn	Pn	17 17 19.1	-0.5
GBN	Guysborough	4.33	91	Pn	Pn	17 17 33.5	+1.0
UCCT	U. Connecticut	5.08	222	Pn	Pn	17 17 43.1	+0.2
J59A	Piesco	5.35	248	Pn	Pn	17 17 45.0	-1.7

*TIR **27** 17:39:06.8, 40°.56N×20°.94E, h12^{km}, Md2.7/7, Ml3.1/5*
*ATH **27** 17:39:07.6, 40°.53N×20°.84E, h4^{km}±1^{km}, ML2.7/12, Manual Solution by A.Plessa First location: 2019/10/27 17:40:21, This location: 2019/10/27 18:15:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*BEO **27** 17:39

KEK	**Kerkira**	**1.16**	**226**	Pn	**Pg**	**17 39 30.4**	**-0.2**
KEK				AMd		17 40 52.6	
TETR	**Tetrakomo, Epi**	**1.21**	**166**	P	**Pg**	**17 39 30.6**	**-0.9**
TETR	**Tetrakomo, Epi**	**1.21**	**166**	P	**Pg**	**17 39 31.5**	**0.0**
THL	**Klokotos Trika**	**1.29**	**138**	P	**Pg**	**17 39 31.7**	**-1.2**
THL	**Klokotos Trika**	**1.29**	**138**	P	**Pg**	**17 39 32.0**	**-0.9**
LIT	**Litokhoron**	**1.29**	**108**	P	**Pg**	**17 39 32.3**	**-0.7**
LIT	**Litokhoron**	**1.29**	**108**	P	**Pg**	**17 39 32.5**	**-0.6**
VAY	**Valandovo**	**1.50**	**57**	*i* Pn	**Pg**	**17 39 36.8**	**-0.3**
VAY				*i* Sn	**Sg**	**17 39 58.3**	**+1.8**
VAY				*e*Lg	Lg	17 40 01.0	
	comp=N,52nm,0.9s						
VAY				*e*Lg	Lg	17 40 01.5	
	comp=E,42nm,0.7s						
SKO	**Skopje**	**1.51**	**16**	*i* Pn	**Pb**	**17 39 36.8**	**0.0**
SKO				*i* Sn	**Sg**	**17 39 58.9**	**+2.2**
THE	**Thessaloniki**	**1.58**	**85**	*i* Pn	**Pn**	**17 39 37.2**	**+0.1**
THE				*i* Sn	**Sg**	**17 40 02.5**	**+3.3**
KNT	**Kendrikon**	**1.65**	**67**	P	**Pn**	**17 39 37.9**	**-0.2**
KNT	**Kendrikon**	**1.65**	**67**	*i* Pn	**Pn**	**17 39 38.0**	**-0.1**
KNT	**Kendrikon**	**1.65**	**67**	P	**Pn**	**17 39 37.8**	**-0.2**
HORT	**Hortiatis**	**1.69**	**87**	P	**Pn**	**17 39 38.2**	**-0.4**
HORT	**Hortiatis**	**1.69**	**87**	P	**Pn**	**17 39 38.3**	**-0.4**
TSLK	**Tsoukalades, L**	**1.70**	**186**	P	**Pn**	**17 39 39.4**	**+0.6**
TSLK	**Tsoukalades, L**	**1.70**	**186**	P	**Pn**	**17 39 38.7**	**-0.1**
LKD2	**Lefkada island**	**1.74**	**186**	P	**Pb**	**17 39 40.4**	**-0.4**
LKD2	**Lefkada island**	**1.74**	**186**	Pn	**Pb**	**17 39 40.5**	**-0.3**
LKD2				AMd		17 40 59.5	
LKD2	**Lefkada island**	**1.74**	**186**	P	**Pb**	**17 39 40.1**	**-0.7**
EVR	**Evrytania**	**1.75**	**156**	P	**Pb**	**17 39 40.7**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.79**	**147**	P	**Pn**	**17 39 40.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.79**	**147**	P	**Pn**	**17 39 40.6**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.81**	**185**	P	**Pn**	**17 39 40.4**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.81**	**185**	P	**Pb**	**17 39 41.6**	**-0.4**
AGG	**Agios Georgios**	**1.86**	**143**	P	**Pn**	**17 39 41.1**	**+0.1**
AGG	**Agios Georgios**	**1.86**	**143**	P	**Pn**	**17 39 40.9**	**-0.1**
SOH	**Sokhos**	**1.90**	**80**	P	**Pn**	**17 39 41.9**	**+0.4**
SOH	**Sokhos**	**1.90**	**80**	*i* Pn	**Pn**	**17 39 42.0**	**+0.4**
SOH	**Sokhos**	**1.90**	**80**	P	**Pn**	**17 39 41.8**	**+0.4**
EVGI	**Lefkada island**	**1.91**	**186**	P	**Pn**	**17 39 42.5**	**+0.9**
EVGI	**Lefkada island**	**1.91**	**186**	P	**Pb**	**17 39 43.2**	**-0.4**
PLG	**Polygyros**	**1.96**	**93**	P	**Pn**	**17 39 42.0**	**-0.3**
PVO	**Paravola**	**1.96**	**165**	P	**Pb**	**17 39 43.5**	**-1.1**
SRS	**Serrai**	**2.13**	**73**	*i* Pn	**Pb**	**17 39 46.5**	**-1.0**
SRS	**Serrai**	**2.13**	**73**	*e*Sn	**Sn**	**17 40 09.3**	**-2.4**
KKB	**Krupnik**	**2.14**	**51**	*i* Pn	**Pb**	**17 39 46.7**	**-1.0**
BOSS	**Bosilegrad**	**2.31**	**31**	*e*Pn	**Pn**	**17 39 46.6**	**-0.5**
BARS	**Barje**	**2.40**	**17**	*i* Pn	**Pn**	**17 39 48.9**	**+0.6**
BARS	**Barje**	**2.40**	**17**	*e*Pn	**Pn**	**17 39 48.7**	**+0.4**
BARS				*e*Sn	**Sn**	**17 40 18.5**	**+0.3**
SELS	**Selova**	**2.70**	**4**	*e*Pn	**Pn**	**17 39 52.7**	**+0.2**
VTS	**Vitosha**	**2.73**	**39**	*e*Pn	**Pn**	**17 39 53.5**	**+0.4**
VTS				*e*Sn	**Sn**	**17 40 27.3**	**+0.6**
SJES	**Sjenica**	**2.82**	**346**	*e*Pn	**Pn**	**17 39 54.8**	**+0.5**
NOCI	**Noci**	**2.92**	**276**	Pn	**Pn**	**17 39 55.2**	**-0.4**
NOCI				Sn	**Sn**	**17 40 31.1**	**-0.1**
NOCI				AML	AML	17 40 50.5	
	comp=E,0.3nm,0.5s						
NOCI				AMd		17 41 31.4	
ZAPS	**Zavoj**	**3.04**	**25**	*e*Pn	**Pn**	**17 39 58.0**	**+0.8**
ZAPS				*e*Sn	**Sn**	**17 40 34.4**	**+0.2**
IVAS	**Ivanjica**	**3.10**	**350**	*e*Pn	**Pn**	**17 39 57.5**	**-0.6**
BOVS	**Bovan**	**3.17**	**11**	*e*Pn	**Pn**	**17 39 59.2**	**+0.3**
GRUS	**Gruza**	**3.37**	**358**	*e*Pn	**Pn**	**17 40 01.1**	**-0.6**
BLKB	**Belogradchik**	**3.37**	**23**	*e*Pn	**Pn**	**17 40 02.5**	**+0.7**
BLKB				*e*Sn	**Sn**	**17 40 40.9**	**-1.4**
ZAGS	**Zajecar**	**3.44**	**16**	*e*Pn	**Pn**	**17 40 03.2**	**+0.6**
ZAGS				*e*Sn	**Sn**	**17 40 43.4**	**-0.4**
BBLS	**Lazi&#263i**	**3.52**	**342**	*e*Pn	**Pn**	**17 40 05.8**	**+2.0**
TRUS	**Trudelj**	**3.72**	**355**	*e*Pn	**Pn**	**17 40 06.6**	**+0.1**
TEKS	**Tekeris**	**4.15**	**346**	*e*Pn	**Pn**	**17 40 12.7**	**+0.3**

*IDC **27** 17:39:05.2±9.3,2˚.57N×128˚.78E,h226km±83km,mb3.1/7, mbtmp3.7/7,Error ellipse: s-maj=108.9km s-min=15.2km az=59.0*

*DJA **27** 17:39:07.1±0.5,2˚N±5˚×12˚8E±˚,h227km±3km,M4.0/12, mB4.7/1,mb4.1/7,MLv3.9/12,Mw(mB)3.9/1*

ISC 27 17:39:08.3±1.0,2˚.3N±0˚.1×128˚.4E±0˚.1,h250km,n14, σ0°72/16,mb3.3/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**215**	P	**Pn**	**17 39 48.7**	**-0.6**
TNTI				S	**S**	**17 40 20.8**	**-0.9**
SWI	**Sorong**	**4.23**	**138**	P	**Pn**	**17 40 14.3**	**-0.5**
KMSI	**Cibinong**	**4.75**	**249**	P	**Pn**	**17 40 20.9**	**-0.2**
SANI	**Sanana**	**4.95**	**209**	P	**Pn**	**17 40 22.5**	**-1.0**
	0.2nm1μm30nm,0.6s						
LUWI	**Luwuk**	**6.54**	**240**	P	**Pn**	**17 40 43.7**	**+0.4**
	0.2nm33nm,0.6s						
MRSI	**Marisa**	**6.72**	**255**	P	**Pn**	**17 40 45.3**	**-0.2**
	0.1nm13nm,0.7s						
APSI	**Ampana**	**7.48**	**245**	P	**Pn**	**17 40 55.0**	**0.0**
	0.1nm19nm,0.5s						
WRA	**Warramunga Arr**	**22.85**	**166**	P	**P**	**17 43 50.8**	**+0.7**
	0.6nm,0.4s,baz=344,slow=9.9,SNR=13						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.35**	**169**	P	**P**	**17 44 22.3**	**+0.6**
	0.9nm,0.5s,baz=352,slow=7.4,SNR=63						
ASAR				PcP	**PcP**	**17 47 41.1**	**+0.3**
	0.3nm,0.4s,baz=342,slow=2.4,SNR=11						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.05**	**301**	P	**P**	**17 45 21.4**	**+0.7**
	0.2nm,0.3s,baz=112,slow=8.8,SNR=4.5						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**36.21**	**161**	P	**P**	**17 45 48.2**	**+0.7**
	1.3nm,0.4s,baz=342,slow=8.2,SNR=7.7						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**17 48 45.9**	**-0.8**
	0.7nm,1.0s,baz=121,slow=7.1,SNR=1.6						
	0.7nm,1.0s						
KURBB	**Kurchatov Arra**	**63.85**	**327**	P	**P**	**17 49 12.9**	**-1.3**
	0.3nm,0.4s,baz=127,slow=6.2,SNR=2.4						
	0.3nm,0.4s						
VNDA	**Vanda**	**81.80**	**173**	P	**P**	**17 50 59.1**	**+0.3**
	0.4nm,0.6s,baz=299,slow=5.4,SNR=3.8						
	0.4nm,0.6s						

*IDC **27** 17:56:47.2±0.3,35˚.07N×102˚.71E,h0km,mb5.1/41, mbtmp5.1/45,ML4.7/4,MS4.8/67,Error ellipse: s-maj=9.4km s-min=7.8km az=13.0*

*MOS **27** 17:56:47.5±0.9,35˚.11N×102˚.68E,h11km,mb5.7/61, MS5.0/28,Error ellipse: s-maj=5.3km s-min=3.4km az=124.9*

*NEIC **27** 17:56:48.9±2.1,35˚.07N±0˚.07×102˚.68E±0˚.09,h10km±1km, mb5.5/350,Mww5.3/24,Error ellipse: s-maj=12.2km s-min=11.1km az=69.0*

*NEIC **27** 17:56:49.4,35˚.28N×102˚.53E,h14km,Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17^Nm; Mrr0.79; Mθθ0.03; Mφφ-0.81; Mrθ-0.35; Mθφ0.51; Mφr-0.72; Fault plane solution: M0 1.24000×10^17^ NP1: φs307.70000°,δ37.90000°,λ40.18000°. NP2: φs184.03000°,δ66.65000°,λ120.74000°. Principal axes: T 1.2791, Plg57.0000°, Azm136.0000°; N -0.0801, Plg28.0000°, Azm351.0000°; P -1.1990, Plg16.0000°, Azm252.0000°;*

*BJI **27** 17:56:49.3,35˚.14N×102˚.71E,h10km,mB5.6/40,mb5.2/63, ML5.8/20,Ms5.6/79,Ms7 5.4/77*

*NEIC **27** 17:56:49.4,35˚.08N×102˚.65E,h14km*

*GCMT **27** 17:56:50.9±0.1,35˚.21N±0˚.01×102˚.74E±0˚.01,h16km, MW5.3/119,Moment Tensor Solution. s84,c140; s119,c204; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr0.80±.02; Mθθ0.27±.02; Mφφ-1.07±.02; Mrθ-0.32±.05; Mθφ0.64±.01; Mφr-0.43±.04; Best double couple: M0 1.26500×10^17^ NP1:φs307.00000°,δ48.00000°, λ40.00000°. NP2:φs188.00000°,δ62.00000°,λ131.00000°. Principal axes: T 1.1650, Plg54.0000°, Azm149.0000°; N 0.1990, Plg35.0000°, Azm346.0000°; P -1.3640, Plg8.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 17:56:49.2±0.4,35˚.10N±0˚.02×102˚.73E±0˚.02,h13km±2km, h13km:pP-P,n1325,σ1s32/1232,mb5.4/368,MS4.9/101, 97C-77D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**1.16**	**43**	Pg	**Pb**	**17 57 10.8**	**-0.6**
	baz=148,slow=40						
LZDM				Lg	Lg	17 57 25.1	
	baz=133,slow=12						
LZH	**Lanzhou**	**1.34**	**42**	Pg	**Pn**	**17 57 13.8**	**0.0**
LZH				Sg	**Sg**	**17 57 33.0**	**+0.6**
LZH				smax	smax		
	comp=N,65μm,0.7s						
LZH				smax	smax		
	comp=E,137μm,0.6s						
CD2	**Chengdu**	**4.27**	**168**	Pn	**Pn**	**17 57 56.5**	**+2.4**
CD2				Sn	**Sn**	**17 58 43.3**	**-0.5**
CD2				LR	LR		
	comp=N,146μm,6.5s						
CD2				LR	LR		
	comp=E,124μm,5.9s						
CD2				LR	LR		
	comp=Z,155μm,4.4s						
GTA	**Gaotai**	**4.89**	**332**	Pn	**Pn**	**17 58 05.3**	**+2.7**
GTA				Pg	**Pb**	**17 58 18.5**	**+3.7**
GTA				Sn	**Sn**	**17 59 04.0**	**+4.9**
GTA				Sg	**Sg**	**17 59 30.5**	**+4.3**
GTA				smax	smax		
	comp=N,2μm,1.0s						
GTA				smax	smax		
	comp=E,2μm,0.9s						
GTA				LR	LR		
	comp=N,30μm,8.4s						
GTA				LR	LR		
	comp=E,28μm,9.5s						
GTA				LR	LR		
	comp=Z,34μm,9.5s						
XAN	**Xi'an**	**5.22**	**100**	Pn	**Pn**	**17 58 08.0**	**+0.9**
XAN				Pg	**Pg**	**17 58 27.3**	**-1.9**
XAN				Sn	**Sn**	**17 59 07.0**	**-0.2**
XAN				Sg	**Sg**	**17 59 34.3**	**-2.5**
XAN				smax	smax		
	comp=N,7μm,0.9s						
XAN				smax	smax		
	comp=E,7μm,1.2s						
XAN				LR	LR		
	comp=N,108μm,5.2s						
XAN				LR	LR		
	comp=E,61μm,4.6s						
XAN				LR	LR		
	comp=Z,51μm,7.4s						
ENH	**Enshi**	**7.46**	**128**		**Pn**	**17 58 38.7**	**+0.9**
ENH	**Enshi**	**7.46**	**128**	P	**Pn**	**17 58 38.8**	**+0.9**
BTO	**Baotou**	**7.96**	**44**	*e*P	**Pn**	**17 58 45.8**	**+1.0**
BTO				sP	**sPn**	**17 58 52.0**	**+1.2**
BTO				S	**Sn**	**18 00 17.5**	**+2.7**
BTO				pmax	pmax		
	comp=Z,53nm,0.7s						
BTO				LR	LR		
	comp=N,70μm,9.1s						
BTO				LR	LR		
	comp=E,61μm,6.4s						
BTO				LR	LR		
	comp=Z,38μm,9.6s						
LYN	**LuoYang**	**8.03**	**91**	P	**Pn**	**17 58 45.3**	**-0.3**
LYN				pmax	pmax		
	comp=Z,550nm,1.0s						
LYN				smax	smax		
	comp=N,850nm,1.0s						
LYN				smax	smax		
	comp=E,590nm,1.1s						
LYN				LR	LR		
	comp=N,42μm,8.3s						
LYN				LR	LR		
	comp=E,32μm,8.6s						
LYN				LR	LR		
	comp=Z,34μm,10.3s						
TIY	**Taiyuan**	**8.25**	**69**	P	**Pn**	**17 58 49.5**	**+0.8**
TIY				S	**Sn**	**18 00 17.5**	**-4.3**
TIY				smax	smax		
	comp=N,2μm,0.9s						
TIY				smax	smax		
	comp=E,2μm,1.1s						
PZH	**PanZhiHua**	**8.62**	**186**	P	**Pn**	**17 58 56.0**	**+2.2**
PZH				S	**Sn**	**18 00 36.5**	**+5.5**
PZH				pmax	pmax		
	comp=Z,70nm,0.7s						
PZH				pmax	pmax		
	comp=Z,540nm,5.9s						
PZH				LR	LR		
	comp=N,14μm,9.0s						
PZH				LR	LR		
	comp=E,40μm,9.0s						
PZH				LR	LR		
	comp=Z,13μm,10.4s						
HHC	**Hu-ho-hao-te**	**9.03**	**48**	*e*P	**Pn**	**17 59 00.8**	**+1.4**
HHC				S	**Sn**	**18 00 38.8**	**-2.2**
HHC				pmax	pmax		
	comp=Z,240nm,1.4s						
HHC				pmax	pmax		
	comp=Z,850nm,3.6s						
HHC				smax	smax		
	comp=N,1μm,1.1s						
HHC				smax	smax		
	comp=E,1μm,0.8s						
HHC				LR	LR		
	comp=N,8μm,5.7s						
HHC				LR	LR		
	comp=E,9μm,6.9s						
HHC				LR	LR		
	comp=Z,14μm,6.0s						
GYA	**Guiyang**	**9.26**	**158**	⇓P	**Pn**	**17 59 04.3**	**+1.7**
GYA				pmax	pmax		
	comp=Z,170nm,0.7s						
HNS	**HongShan**	**9.94**	**73**	⇓P	**Pn**	**17 59 12.8**	**+1.0**
HNS				S	Sn	18 01 17.3	+14
HNS				pmax	pmax		
	comp=Z,230nm,1.0s						
HNS				LR	LR		
	comp=E,26μm,7.6s						
HNS				LR	LR		
	comp=Z,19μm,8.9s						
KMI	**Kunming**	**9.95**	**180**	⇑P	**Pn**	**17 59 12.3**	**+0.1**
KMI				PP	**PnPn**	**17 59 21.5**	**+1.6**
KMI				S	**Sn**	**18 01 03.0**	**-0.8**
KMI				pmax	pmax		
	comp=Z,61nm,0.7s						
KMI				pmax	pmax		
	comp=Z,320nm,5.2s						
KMI				LR	LR		
	comp=N,20μm,7.5s						
KMI				LR	LR		
	comp=E,6μm,7.1s						
KMI				LR	LR		
	comp=Z,15μm,8.3s						
TNCH	**TengChong**	**10.68**	**201**	⇓P	**Pn**	**17 59 22.8**	**+0.6**
TNCH				PP	**PnPn**	**17 59 31.0**	**+1.0**
TNCH				S	**Sn**	**18 01 20.5**	**-1.3**
TNCH				SS	**SnSn**	**18 01 36.5**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,17nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,130nm,2.9s						
TNCH				LR	LR		
	comp=N,18μm,7.7s						
TNCH				LR	LR		
	comp=E,35μm,9.1s						
TNCH				LR	LR		
	comp=Z,16μm,9.3s						
WHN	**Wuhan**	**10.78**	**112**	⇓P	**Pn**	**17 59 22.8**	**-0.5**
WHN				S	**Sn**	**18 01 23.3**	**-0.6**
WHN				LR	LR		
	comp=E,62μm,5.9s						
WHN				LR	LR		
	comp=Z,73μm,8.5s						
CNSH	**ChangSha**	**11.09**	**126**	P	**Pn**	**17 59 26.3**	**-1.4**
CNSH				S	**Sn**	**18 01 30.8**	**-0.8**
CNSH				pmax	pmax		
	comp=Z,220nm,1.1s						
CNSH				LR	LR		
	comp=N,63μm,10.3s						
CNSH				LR	LR		
	comp=E,58μm,9.7s						
CNSH				LR	LR		
	comp=Z,15μm,8.2s						
LSA	**Lhasa**	**11.17**	**244**	P	**Pn**	**17 59 26.0**	**-3.1**
LSA				S	**Sn**	**18 01 30.5**	**-3.6**
LSA				pmax	pmax		
	comp=Z,25nm,1.3s						
LSA				LR	LR		
	comp=N,12μm,7.1s						
LSA				LR	LR		
	comp=E,9μm,8.1s						
LSA				LR	LR		
	comp=Z,16μm,7.9s						
LSA	**Lhasa**	**11.17**	**244**		**Pn**	**17 59 29.4**	**+0.4**
LSA	**Lhasa**	**11.17**	**244**	P	**Pn**	**17 59 29.5**	**+0.4**
BJT	**Baijiatuau**	**11.74**	**61**		**Pn**	**17 59 37.8**	**+1.4**
BJT	**Baijiatuau**	**11.74**	**61**	P	**Pn**	**17 59 38.5**	**+2.1**
BJT	**Baijiatuau**	**11.74**	**61**	P	**Pn**	**17 59 37.8**	**+1.4**
BJI	**Beijing**	**11.75**	**61**	P	**Pn**	**17 59 38.0**	**+1.5**
BJI				pmax	pmax		
	comp=Z,95nm,1.2s						
BJI				pmax	pmax		
	comp=Z,280nm,3.7s						
TIA	**Tai'an**	**11.76**	**80**	P	**Pn**	**17 59 38.3**	**+1.5**
TIA				pmax	pmax		
	comp=Z,27nm,1.1s						
TIA				pmax	pmax		
	comp=Z,1μm,3.9s						
TIA				LR	LR		
	comp=Z,8μm,4.5s						
TIA				LR	LR		
	comp=Z,10μm,14.9s						
TIA				LR	LR		
	comp=Z,11μm,9.2s						
GULI	**GuiLin**	**11.79**	**144**	P	**Pn**	**17 59 38.0**	**+0.7**
GULI				S	**Sn**	**18 01 46.5**	**-2.3**
GULI				pmax	pmax		
	comp=Z,63nm,1.4s						
GULI				LR	LR		
	comp=Z,11μm,15.2s						
GULI				LR	LR		
	comp=Z,17μm,15.2s						
GULI				LR	LR		
	comp=Z,8μm,7.6s						
SONM	**Songino Array**	**13.01**	**11**		**Pn**	**17 59 54.2**	**+0.3**
SONM	**Songino Array**	**13.01**	**11**	Pn	**Pn**	**17 59 54.5**	**+0.6**
	comp=Z,10nm,0.3s,baz=196,slow=18,SNR=164						
SONM				Sn	**Sn**	**18 02 15.2**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=196,slow=27,SNR=2.7						
SONM				Lg	Lg	18 03 39.0	
	comp=Z,1.8nm,0.3s,baz=199,slow=30,SNR=3.7						
SONM				LR	LR	18 05 21.7	
	comp=Z,5μm,18.9s,baz=192,slow=39						
	comp=Z,72nm,0.6s						
ULN	**Ulaanbaatar**	**13.15**	**13**		**Pn**	**17 59 55.7**	**-0.2**
ULN	**Ulaanbaatar**	**13.15**	**13**	P	**Pn**	**17 59 56.5**	**+0.7**
ULN	**Ulaanbaatar**	**13.15**	**13**	*e*P	**Pn**	**17 59 56.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,135nm,1.0s						
SHL	**Shillong**	**13.34**	**227**		**Pn**	**17 59 55.6**	**-2.9**
SHL	**Shillong**	**13.34**	**227**	P	**Pn**	**17 59 57.0**	**-1.4**
	SNR=60						
SHL	**Shillong**	**13.34**	**227**	P	**Pn**	**17 59 55.6**	**-2.9**
XLT	**XiLinHaoTe**	**13.53**	**46**	*e*P	**Pn**	**18 00 01.3**	**+0.3**
XLT				SS	**S**	**18 02 48.5**	**-6.2**
XLT				pmax	pmax		
	comp=Z,66nm,1.1s						
XLT				pmax	pmax		
	comp=Z,920nm,4.5s						
XLT				LR	LR		
	comp=Z,2μm,9.6s						
XLT				LR	LR		
	comp=Z,15μm,12.5s						
XLT				LR	LR		
	comp=Z,10μm,9.9s						
SLVN	**Son La**	**13.76**	**175**		**Pn**	**18 00 02.4**	**-1.8**
SLVN	**Son La**	**13.76**	**175**	P	**Pn**	**18 00 04.0**	**-0.2**
NJ2	**Nanjing**	**13.78**	**98**	*e*P	**Pn**	**18 00 04.5**	**+0.1**
NJ2				PP	**P**	**18 00 15.8**	**+2.9**
NJ2				S	S	18 02 49.3	-11
NJ2				pmax	pmax		
	comp=Z,49nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,460nm,4.2s						
NJ2				LR	LR		
	comp=Z,16μm,8.4s						
NJ2				LR	LR		
	comp=Z,13μm,10.8s						
NJ2				LR	LR		
	comp=Z,11μm,11.7s						
WMQ	**Urumqi**	**14.50**	**311**	*e*P	**Pn**	**18 00 13.0**	**-1.2**
WMQ				pP	P	18 00 18.3	-2.6
WMQ				PP	**PnPn**	**18 00 26.5**	**+4.4**
WMQ				S	**Sn**	**18 02 51.3**	**-3.5**
WMQ				pmax	pmax		
	comp=Z,53nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,280nm,5.7s						
WMQ				LR	LR		
	comp=Z,19μm,11.7s						
WMQ				LR	LR		
	comp=Z,14μm,10.5s						
WMQ				LR	LR		
	comp=Z,4μm,14.3s						
GZH	**Guangzhou**	**15.13**	**139**	P	Pn	18 00 15.3	-7.5
GZH				S	**Sn**	**18 03 05.0**	**-5.3**
GZH				LR	LR		
	comp=N,13μm,6.4s						
GZH				LR	LR		
	comp=E,22μm,6.6s						
GZH				LR	LR		
	comp=Z,19μm,8.8s						
ZAK	**Zakamensk**	**15.28**	**1**	*e*P	**Pn**	**18 00 25.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,125nm,1.5s						
EVN	**Everest**	**15.32**	**247**		**Pn**	**18 00 23.8**	**-2.1**
EVN				IAmb	IAmb	18 00 28.1	
	comp=Z,502nm,1.8s						
DL2	**Dalian**	**15.57**	**70**	⇑*i*P	**Pn**	**18 00 29.8**	**+1.4**
DL2				S	**Sn**	**18 03 27.0**	**+6.3**
DL2				pmax	pmax		
	comp=Z,370nm,1.7s						
DL2				pmax	pmax		
	comp=Z,4μm,5.3s						
DL2				LR	LR		
	comp=Z,5μm,13.9s						
DL2				LR	LR		
	comp=Z,6μm,12.9s						
DL2				LR	LR		
	comp=Z,8μm,14.7s						
BRDH	**Bariadhala**	**15.72**	**221**	LR	LR	18 07 22.9	
	comp=Z,7μm,18.2s,baz=42,slow=40						
KNGR	**Kungurtug, Tuv**	**15.95**	**348**	*d i*P	**Pn**	**18 00 35.2**	**+1.8**
SSE	**Sheshan**	**15.97**	**99**	P	**Pn**	**18 00 34.3**	**+0.6**
SSE				S	**S**	**18 03 40.0**	**-4.6**
SSE				SS	**SnSn**	**18 03 52.5**	**+9.0**
SSE				pmax	pmax		
	comp=Z,76nm,1.1s						
SSE				pmax	pmax		
	comp=Z,500nm,4.5s						
SSE				LR	LR		
	comp=Z,3μm,6.2s						
MCO	**Taipa Grande**	**16.04**	**141**	P	**P**	**18 00 40.0**	**+2.0**
HKPS	**Hong Kong Po S**	**16.22**	**139**	P	**P**	**18 00 40.6**	**+0.6**
CHTO	**Chiang Mai**	**16.57**	**193**		**Pn**	**18 00 42.5**	**+1.0**
CHTO	**Chiang Mai**	**16.57**	**193**	P	**P**	**18 00 43.2**	**-0.8**
CHTO				S	**S**	**18 03 53.2**	**-3.7**
CHTO	**Chiang Mai**	**16.57**	**193**	P	**P**	**18 00 42.9**	**-1.0**
CHTO	**Chiang Mai**	**16.57**	**193**	P	**Pn**	**18 00 42.5**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,107nm,0.8s						
TLY	**Talaya**	**16.58**	**2**	P	**Pn**	**18 00 41.5**	**+0.1**
TLY	**Talaya**	**16.58**	**2**	P	**P**	**18 00 43.7**	**-0.2**
TLY	**Talaya**	**16.58**	**2**	*i* P	**Pn**	**18 00 42.1**	**+0.7**
TLY				pmax	pmax		
	comp=Z,120nm,1.4s						
MOY	**Mondy**	**16.60**	**356**	*e*P	**Pn**	**18 00 42.3**	**+0.5**
MOY				pmax	pmax		
	comp=Z,274nm,1.7s						
CM31	**Chiang Mai Arr**	**16.92**	**192**	P	**P**	**18 00 47.1**	**-0.7**
	SNR=71						
CMAR	**Chiang Mai Arr**	**16.92**	**192**		**Pn**	**18 00 44.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.92**	**192**	Pn	**P**	**18 00 46.8**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=3.7,slow=12,SNR=107						
CMAR				PcP	**PcP**	**18 05 33.0**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=315,slow=1.8,SNR=6.6						
CMAR				LR	LR	18 07 36.8	
	comp=Z,3μm,18.2s,baz=5.0,slow=38						
	comp=Z,64nm,1.1s						
QZH	**Quanzhou**	**17.04**	**122**	⇑*i*P	**P**	**18 00 50.8**	**+1.7**
QZH				S	**S**	**18 04 06.8**	**+0.2**
QZH		

QZH LR LR
comp=Z,46μm,9.6s
QZH LR LR
comp=Z,42μm,10.0s
QZH LR LR
comp=Z,19μm,8.2s
QIZ Qiongzhong 17.21 157 P **P 18 00 50.5 -0.5**
QIZ S **Sn 18 04 02.0 +1.2**
QIZ pmax pmax
comp=Z,76nm,1.5s
QIZ pmax pmax
comp=Z,1μm,4.0s
QIZ LR LR
comp=Z,10μm,9.6s
QIZ LR LR
comp=Z,6μm,8.2s
QIZ LR LR
comp=Z,13μm,11.6s
QIZ Qiongzhong 17.21 157 P **P 18 00 51.8 +0.8**
KNMB Chin-men Tao 17.22 124 **Pn 18 00 49.8 +0.3**
KNMB IAmb IAmb 18 00 57.9
comp=Z,620nm,1.5s
SNY Shenyang 17.63 61 ⇑P **Pn 18 00 54.3 -0.3**
SNY S **Sn 18 04 13.0 +2.2**
SNY pmax pmax
comp=Z,290nm,1.4s
SNY pmax pmax
comp=Z,2μm,5.3s
SNY LR LR
comp=Z,4μm,7.3s
SNY LR LR
comp=Z,6μm,14.3s
SNY LR LR
comp=Z,7μm,11.1s
ZSN Zaisan 18.18 318⇑*i*P **Pn 18 01 01.4 +0.1**
ZSN Zaisan 18.18 318*c i*P **Pn 18 01 01.4 +0.1**
DGZ Jazzator, Alta 18.40 327 *i* P **P 18 01 02.6 -1.5**
CIT Chita 18.60 21 *e*P **Pn 18 01 07.0 +0.5**
CIT pmax pmax
comp=Z,678nm,3.4s
HIA Hailar 18.89 36 P **Pn 18 01 11.5 +1.5**
HILR Hailar Array B 19.09 36 P **Pn 18 01 13.4 +1.0**
baz=208,slow=12
HILR Lg Lg 18 06 52.1
baz=254,slow=27
HILR LR LR 18 09 31.6
comp=Z,4μm,20.5s,baz=120,slow=40
comp=Z,157nm,0.9s
TATO Taipei 19.09 117 P **Pn 18 01 14.9 +2.4**
YHNB Yeheng 19.19 118 **Pn 18 01 13.4 -0.4**
YHNB Yeheng 19.19 118 P **Pn 18 01 16.1 +2.2**
MK31 Makanchi Array 19.30 313 *i* P **P 18 01 13.7 -0.2**
MK31 pmax pmax
comp=Z,57nm,0.8s
MKAR Makanchi Array 19.30 313 **P 18 01 13.0 -0.9**
MKAR Makanchi Array 19.30 313 P **P 18 01 13.8 0.0**
comp=Z,0.5nm,0.3s,baz=119,slow=10,SNR=66
MKAR S **Sn 18 04 41.4 -10**
comp=Z,25nm,0.9s,baz=106,slow=26,SNR=6.8
MKAR LR LR 18 08 19.2
comp=Z,3μm,21.0s,baz=107,slow=36
MKAR P3KPbc 18 35 32.4
comp=Z,0.4nm,0.8s,baz=352,slow=2.3,SNR=1.9
comp=Z,40nm,1.0s
INCN Inchon 19.40 76 **P 18 01 13.7 -1.4**
INCN Inchon 19.40 76 P **Pn 18 01 17.6 +1.4**
INCN Inchon 19.40 76 P **Pn 18 01 17.7 +1.4**
INCN Inchon 19.40 76 P **P 18 01 13.7 -1.4**
INCN pmax pmax
comp=Z,116nm,0.9s
SSLB Suanglung 19.43 121 P **P 18 01 13.1 -2.5**
SSLB IAmb IAmb 18 01 22.3
comp=Z,221nm,1.1s
SSLB Suanglung 19.43 121 P **Pn 18 01 18.2 +1.5**
MAKZ Makanchi 19.49 313 **P 18 01 15.5 -0.5**
MAKZ Makanchi 19.49 313 P **Pn 18 01 18.8 +1.6**
TPUB Ta-pu 19.52 122 P **Pn 18 01 19.1 +1.3**
CN2 Changchun 19.53 57 P **Pn 18 01 18.0 +0.3**
CN2 pP pP 18 01 21.5 +0.6
CN2 S **Sn 18 04 51.0 -5.7**
CN2 pmax pmax
comp=Z,120nm,0.7s
CN2 pmax pmax
comp=Z,3μm,3.0s
CN2 LR LR
comp=Z,8μm,8.0s
CN2 LR LR
comp=Z,6μm,8.0s
CN2 LR LR
comp=Z,7μm,8.0s
NACB Ninganchiao 19.65 119 **P 18 01 13.7 -4.2**
NACB Ninganchiao 19.65 119 P **Pn 18 01 20.6 +1.3**
SHLS Shalkode 19.72 301⇑*i*P **P 18 01 15.2 -3.5**
SHLS Shalkode 19.72 301*c i*P **P 18 01 15.1 -3.5**
PDGK Podgornoye 19.75 302 P **P 18 01 18.7 -0.2**
YULB Yu-li 19.93 121 P **P 18 01 18.7 -2.2**
YULB IAmb IAmb 18 01 35.6
comp=Z,600nm,2.0s
YULB Yu-li 19.93 121 P **Pn 18 01 23.9 +1.3**
UZB Uzynbulak 20.02 301⇑*i*P **P 18 01 22.0 -0.1**
UZB Uzynbulak 20.02 301*c i*P **P 18 01 21.9 -0.1**
TJN Taejon 20.03 79 P Pn 18 01 23.3 -0.3
TJN Taejon 20.03 79 *i* P Pn 18 01 23.2 -0.4
TWG Pinlang 20.14 123 P Pn 18 01 25.5 +0.4
TWGBT Beinan 20.15 123 P Pn 18 01 26.4 +1.2
KS19 Wonju Array Si 20.39 76 P Pn 18 01 27.6 -0.3
KS19 IAmb IAmb 18 01 32.4
comp=Z,485nm,1.6s
KSAR Wonju Array Be 20.40 76 P Pn 18 01 27.6 -0.4
KSAR Wonju Array Be 20.40 76 P Pn 18 01 27.6 -0.4
KSRS Korea Array 20.43 76 P **P 18 01 27.1 +0.8**
comp=Z,63nm,0.9s,baz=263,slow=8.6,SNR=56
KSRS Lg Lg 18 07 37.5
comp=Z,0.1nm,0.3s,baz=203,slow=39,SNR=1.4
KSRS LR LR 18 10 05.6
comp=Z,1956μm,19.1s,baz=265,slow=39
comp=Z,63nm,0.9s
SATY Saty 20.44 300⇑*i*P **P 18 01 26.5 0.0**
SATY Saty 20.44 300*c i*P **P 18 01 26.5 0.0**
TDK Taldyqorghan 21.01 305 *e*P **P 18 01 32.7 +0.1**
comp=Z,208nm,1.0s
TDK Taldyqorghan 21.01 305 *e*P **P 18 01 32.6 +0.1**
TDK pmax pmax
comp=Z,208nm,1.0s
KDJ Kajisay 21.11 297 IAmb IAmb 18 01 38.9
comp=Z,197nm,0.9s
ARXS Arharly 21.16 303 *i* P **P 18 01 34.2 0.0**
MDOK Medeo 21.43 300 *e*P **P 18 01 37.2 0.0**
MDOK Medeo 21.43 300 *e*P **P 18 01 37.2 0.0**
TNSS Tian-Shan 21.47 299 *e*P **P 18 01 37.7 -0.2**
TNSS Tian-Shan 21.47 299 *e*P **P 18 01 37.7 -0.2**
KNDC Almaty 21.50 300 P **P 18 01 38.6 +0.8**
BNX BinXian 21.50 53 ⇑P **P 18 01 38.8 +1.1**
BNX pP **pP 18 01 42.0 -0.2**
BNX S **S 18 05 36.5 +0.7**
BNX sS **sS 18 05 40.3 -2.7**
BNX pmax pmax
comp=Z,200nm,1.3s
BNX pmax pmax
comp=Z,850nm,4.6s
BNX LR LR
comp=Z,7μm,7.1s
BNX LR LR
comp=Z,3μm,5.2s
BNX LR LR
comp=Z,6μm,9.8s
AAA Alma-Ata 21.53 300 *e*P **P 18 01 38.4 +0.1**
comp=Z,211nm,0.8s
AAA Alma-Ata 21.53 300 *e*P **P 18 01 38.3 +0.1**
AAA pmax pmax
comp=Z,211nm,0.8s
KSH Kashi 21.70 290 P **P 18 01 44.0 +3.9**
KSH S Sn 18 05 47.3 -1.9
KSH pmax pmax
comp=Z,58nm,0.9s
KSH pmax pmax
comp=Z,730nm,6.4s
KSH LR LR
comp=Z,7μm,16.1s
KSH LR LR
comp=Z,4μm,12.2s
KSH LR LR
comp=Z,6μm,13.7s
ULHL Ulahol 21.82 297 P **P 18 01 42.4 +0.9**
SNR=34

JTU Tsushima 21.89 84 P **P 18 01 43.8 +1.8**
BOOM Boomskoye usch 22.08 298 P **P 18 01 44.5 +0.2**
BOOM IAmb IAmb 18 01 48.7
comp=Z,222nm,0.9s
BOOM Boomskoye usch 22.08 298 P **P 18 01 44.5 +0.2**
BOOM pmax pmax
comp=Z,222nm,0.9s
TKM2 Tokmak 2 22.41 299 P **P 18 01 48.6 +0.7**
SNR=124
MDJ Mudanjiang 22.62 57 P **P 18 01 51.0 +1.3**
MDJ S **S 18 05 58.0 +0.8**
MDJ pmax pmax
comp=Z,1μm,2.3s
MDJ pmax pmax
comp=Z,2μm,4.6s
MDJ LR LR
comp=Z,6μm,10.3s
MDJ LR LR
comp=Z,5μm,8.9s
MDJ LR LR
comp=Z,9μm,13.1s
MDJ Mudanjiang 22.62 57 IAmb IAmb 18 01 57.5
comp=Z,182nm,1.1s
MDJ Mudanjiang 22.62 57 P **P 18 01 51.2 +1.5**
ZAA0 Zalesovo Array 22.64 332 P **P 18 01 49.2 -0.7**
ZAA0 IAmb IAmb 18 01 53.0
comp=Z,214nm,1.5s
ZALV Zalesovo Beam 22.64 332 P **P 18 01 49.5 -0.4**
ZALV Zalesovo Beam 22.64 332 P **P 18 01 49.4 -0.5**
comp=Z,35nm,0.8s,baz=156,slow=6.3,SNR=55
ZALV PcP **PcP 18 05 42.0 -0.3**
comp=Z,4.4nm,0.7s,baz=160,slow=2.1,SNR=2.8
ZALV S **S 18 05 54.3 -3.1**
comp=Z,1.0nm,0.3s,baz=215,slow=25,SNR=1.8
ZALV LR LR 18 11 12.8
comp=Z,1μm,18.9s,baz=127,slow=38
ZALV P3KPbc 18 35 18.3
comp=Z,0.5nm,0.3s,baz=328,slow=5.1,SNR=1.4
comp=Z,35nm,0.8s
ZALV Zalesovo Beam 22.64 332 P **P 18 01 49.5 -0.4**
KBK Karagaybulak 22.84 298 P **P 18 01 53.2 +0.9**
SNR=150
CHMS Chumysh 23.04 298 P **P 18 01 54.8 +0.6**
SNR=33
PSTR Posyet 23.05 62 P **P 18 01 56.0 +1.8**
UCH Uchtor 23.08 296 P **P 18 01 56.2 +1.1**
SNR=256
AAK Ala-Archa 23.16 297 P **P 18 01 55.6 -0.1**
AAK Ala-Archa 23.16 297 P **P 18 01 56.1 +0.4**
comp=Z,80nm,1.0s,baz=114,slow=6.3,SNR=63
AAK S **S 18 06 10.8 +3.8**
comp=Z,1.1nm,0.5s,baz=292,slow=20,SNR=0.7
AAK LR LR 18 13 16.5
comp=Z,3μm,18.3s,baz=107,slow=43
comp=Z,80nm,1.0s
AAK Ala-Archa 23.16 297 P **P 18 01 56.5 +0.8**
AAK Ala-Archa 23.16 297 P **P 18 01 56.4 +0.8**
SNR=102
AAK Ala-Archa 23.16 297 *i* P **P 18 01 56.4 +0.8**
SNR=16
SGDS Sogindy 23.21 300⇑*i*P **P 18 01 56.1 0.0**
USP Ospenovka 23.27 299 P **P 18 01 57.1 +0.5**
SNR=300
MSHR Mys Shultsa 23.29 63*ce*P **P 18 01 59.5 +2.8**
MSHR pmax pmax
comp=Z,109nm,1.7s
JOW Kunigami 23.36 104 P **P 18 01 56.3 -1.2**
JOW IAmb IAmb 18 02 02.3
comp=Z,142nm,1.3s
JOW Kunigami 23.36 104 P **P 18 01 59.5 +2.0**
JNU Nakatsue 23.36 87 LR LR 18 11 55.0
comp=Z,3μm,18.9s,baz=288,slow=39
KURBB Kurchatov Arra 23.41 319 P **P 18 01 57.2 -0.6**
comp=Z,172nm,1.0s,baz=124,slow=10,SNR=244
KURBB PcP **PcP 18 05 43.9 0.0**
comp=Z,15nm,0.7s,baz=119,slow=2.0,SNR=13
KURBB S **S 18 06 10.4 -0.2**
comp=Z,4.0nm,1.1s,baz=125,slow=17,SNR=1.6
KURBB LR LR 18 12 00.9
comp=Z,2μm,20.8s,baz=128,slow=39
KURBB P3KPbc 18 35 14.5
comp=Z,0.1nm,0.2s,baz=304,slow=4.5,SNR=1.6
comp=Z,172nm,1.0s
KURK Kurchatov 23.41 319 P **P 18 01 57.2 -0.6**
KURK Kurchatov 23.41 319 P **P 18 01 57.5 -0.3**
KURK Kurchatov 23.41 319 P **P 18 01 57.2 -0.6**
KURK 18 05 43.9
HEH HeiHe 23.48 42 *e*P **P 18 01 59.8 +1.3**
HEH sP **pP 18 02 04.0 +0.8**
HEH S **S 18 06 14.5 +2.7**
HEH pmax pmax
comp=Z,260nm,1.2s
HEH pmax pmax
comp=Z,2μm,5.5s
HEH LR LR
comp=Z,6μm,10.2s
HEH LR LR
comp=Z,5μm,11.1s
HEH LR LR
comp=Z,11μm,10.4s
DLV Lat 23.64 166 P **P 18 02 01.5 +0.9**
EKS2 Erkin-Say 23.69 297 P **P 18 02 01.6 +0.8**
SNR=33
VLA Vladivostok 23.91 62 *i* P **P 18 02 04.5 +1.7**
VLA pmax pmax
comp=Z,397nm,1.5s
BOD Bodaibo 23.95 15 *e*P **P 18 02 03.6 +0.6**
BOD pmax pmax
comp=Z,105nm,1.5s
USRK Ussuriysk Ar. 24.19 59 P **P 18 02 06.1 +0.8**
comp=Z,50nm,1.2s,baz=260,slow=7.6,SNR=28
comp=Z,50nm,1.2s
NIL Nilore 24.34 275 P **P 18 02 05.9 -1.0**
NIL Nilore 24.34 275 P **P 18 02 07.1 +0.2**
NIL Nilore 24.34 275 P **P 18 02 05.9 -1.0**
NIL pmax pmax
comp=Z,392nm,1.4s
PBA Port Blair 25.04 204 P **P 18 02 13.2 -0.1**
ZEA Zeya 25.36 35 *e*P **P 18 02 17.6 +1.7**
ZEA *e*S **S 18 06 38.9 -2.9**
ZEA pmax pmax
comp=N,200nm,1.7s
ZEA pmax pmax
comp=Z,400nm,1.9s
ZEA pmax pmax
comp=E,140nm,0.9s
ZEA pmax pmax
comp=N,60nm,1.1s
ZEA pmax pmax
comp=Z,140nm,1.0s
ZEA smax smax
comp=N,1μm,9.5s
ZEA smax smax
comp=E,1μm,9.2s
ZEA MLR MLR
comp=E,2μm,11.0s
ZEA MLR MLR
comp=N,3μm,12.0s
ZEA MLR MLR
comp=Z,3μm,9.0s
DZA Taraz 25.50 297 *e*P **P 18 02 17.5 +0.1**
DZA Taraz 25.50 297 *e*P **P 18 02 17.4 +0.1**
JMN Monobe 25.68 84 P **P 18 02 18.2 -0.9**
JMN IAmb IAmb 18 02 24.8
comp=Z,65nm,0.8s
JMN Monobe 25.68 84 P **P 18 02 20.4 +1.3**
KK31 Karatay Array 26.13 298 IAmb IAmb 18 02 28.4
comp=Z,83nm,0.9s
KK31 Karatay Array 26.13 298 *i* P **P 18 02 23.2 +0.2**
KKAR Karatay Array 26.13 298 P **P 18 02 23.2 +0.2**
KKAR Karatay Array 26.13 298 P **P 18 02 23.2 +0.2**
JMZ Minamidaito 2 26.17 103 P **P 18 02 25.7 +2.2**
BRZS Berezniki 26.45 313 *e*P **P 18 02 26.3 +0.5**
BRZS Berezniki 26.45 313 *e*P **P 18 02 26.3 +0.5**
BRLS Borolday 26.61 297⇑*i*P **P 18 02 28.2 +0.7**
BRLS Borolday 26.61 297*c i*P **P 18 02 28.1 +0.7**
CHM Chimkent 26.71 296 *e*P **P 18 02 28.4 0.0**
CHM Chimkent 26.71 296 *e*P **P 18 02 28.3 0.0**
TEY Ternei 27.58 59⇑*e*P **P 18 02 37.2 +1.2**
TEY pmax pmax
comp=E,10.0nm,1.5s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,30nm,1.0s
TEY MLR MLR
comp=N,100nm,9.0s
TEY MLR MLR
comp=E,300nm,9.0s
TEY MLR MLR
comp=Z,300nm,9.0s
KBL Kabul 27.59 279 P **P 18 02 37.2 +0.7**
SNR=44
HYB Hyderabad 27.82 237 *e*P **P 18 02 38.4 -0.1**
HYB IVmB_BB 18 02 39.6
comp=Z,953nm,1.4s
HYB *e*pP **pP 18 02 39.9 -3.4**
HYB *e*PcP **PcP 18 05 53.4 -1.2**
HYB *e*S **S 18 07 21.8 +0.5**
HYB IVMs_BB IVMs_BB 18 13 57.0
comp=Z,1μm,14.1s
INU Inuyama 27.93 79 P **P 18 02 39.1 -0.2**
JGF Kuroka 28.16 79 P **P 18 02 42.8 +1.4**
MAJO Matsushiro 28.71 77 P **P 18 02 44.2 -2.0**
MAJO Matsushiro 28.71 77 *i* P **P 18 02 47.1 +0.9**
MAJO pmax pmax
comp=Z,60nm,1.8s
MJAR Matsushiro Arr 28.71 77 P **P 18 02 45.9 -0.3**
comp=Z,3.0nm,0.7s,baz=284,slow=9.8,SNR=9.3
MJAR PcP **PcP 18 05 56.5 0.0**
comp=Z,6.3nm,0.9s,baz=294,slow=1.3,SNR=6.5
MJAR LR LR 18 14 30.5
comp=Z,2μm,21.4s,baz=288,slow=37
comp=Z,3.0nm,0.7s
GRNR Gornyy 28.90 47⇑*i*P **P 18 02 48.6 +0.8**
GRNR MLR MLR
comp=N,1μm,12.0s
GRNR MLR MLR
comp=Z,3μm,12.0s
BVAR Borovoye Array 28.99 318 P **P 18 02 49.0 +0.4**
comp=Z,25nm,0.6s,baz=116,slow=10,SNR=82
BVAR PcP **PcP 18 05 56.9 0.0**
comp=Z,27nm,0.7s,baz=114,slow=1.8,SNR=12
BVAR LR LR 18 15 13.7
comp=Z,2μm,19.1s,baz=114,slow=38
BVAR P3KPbc 18 34 54.9
comp=Z,0.1nm,0.3s,baz=297,slow=1.3,SNR=1.2
comp=Z,25nm,0.6s
BORK Borovoye 29.04 318*ce*P **P 18 02 49.4 +0.4**
BORK pmax pmax
comp=Z,40nm,1.0s
KULM Kulim 29.73 184 **P 18 02 54.7 -0.7**
KULM Kulim 29.73 184 P **P 18 02 56.3 +0.9**
IPM Ipoh 30.51 183 **P 18 03 00.5 -1.8**
IPM PcP **PcP 18 06 00.1 -1.3**
IPM Ipoh 30.51 183 P **P 18 03 02.0 -0.3**
JHJ Hachijo jima 2 30.63 83 LR LR 18 16 12.2
comp=Z,2μm,18.8s,baz=298,slow=38
ASAJ Asahikawa 31.75 61 P **P 18 03 13.6 +0.7**
comp=Z,17nm,0.9s,baz=250,slow=19,SNR=4.5
ASAJ PcP **PcP 18 06 05.2 +1.0**
comp=Z,7.2nm,0.8s,baz=97,slow=26,SNR=1.9
ASAJ LR LR 18 16 45.2
comp=Z,2μm,18.1s,baz=292,slow=38
comp=Z,17nm,0.9s
JKA Kamikawa-asahi 31.75 61 P **P 18 03 13.6 +0.6**
JKA Kamikawa-asahi 31.75 61 IAmb IAmb 18 03 20.5
comp=Z,91nm,1.1s
YAK Yakutsk 31.85 24 **P 18 03 12.6 -1.1**
YAK IAmb IAmb 18 03 17.9
comp=Z,51nm,0.9s
YAK Yakutsk 31.85 24 LR LR 18 18 14.2
comp=Z,373nm,19.1s,baz=222,slow=40
YAK Yakutsk 31.85 24*c i*P **P 18 03 14.0 +0.4**
YAK *e**PP **pP 18 03 18.1 -0.3**
YAK *e* 18 04 13.6
YAK *e*PPP PPP 18 04 27.9
YAK *e* 18 06 03.8
YAK *e*S **S 18 08 25.8 +2.1**
YAK *e**SS **sS 18 08 35.4 +3.8**
YAK *e*SS **SnSn 18 10 10.5 -0.9**
YAK pmax pmax
comp=Z,57nm,1.5s
YAK pmax pmax
comp=N,38nm,1.9s
YAK pmax pmax
comp=E,41nm,1.5s
YAK pmax pmax
comp=Z,444nm,5.9s
YAK pmax pmax
comp=N,219nm,3.6s
YAK pmax pmax
comp=E,338nm,8.1s
YAK smax smax
comp=N,292nm,4.8s
YAK smax smax
comp=E,159nm,4.5s
YAK MLR MLR
comp=N,810nm,18.0s
YAK MLR MLR
comp=E,407nm,14.0s
YSS Yuzhno-Sakhali 32.10 56 P **P 18 03 16.9 +0.9**
YSS Yuzhno-Sakhali 32.10 56⇑*e*P **P 18 03 15.2 -0.8**
YSS *e* 18 06 04.6
YSS *e*S **S 18 08 23.9 -4.0**
YSS pmax pmax
comp=Z,700nm,5.5s
YSS pmax pmax
comp=Z,50nm,1.1s
YSS smax smax
comp=N,400nm,3.2s
YSS smax smax
comp=E,700nm,3.4s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,4μm,14.0s
NKL Nikolayevsk 32.18 44 *e*P **P 18 03 14.9 -1.7**
NKL *e*S **S 18 08 31.9 +2.9**
NKL pmax pmax
comp=E,104nm,1.3s
NKL pmax pmax
comp=N,64nm,1.6s
NKL pmax pmax
comp=Z,71nm,1.6s
NKL smax smax
comp=N,141nm,2.3s
NKL smax smax
comp=E,176nm,2.3s
NKL MLR MLR
comp=E,11μm,9.0s
NKL MLR MLR
comp=N,5μm,8.0s
NKL MLR MLR
comp=Z,6μm,15.0s
PSI Prapat 32.33 187 LR LR 18 16 43.6
comp=Z,2μm,18.7s,baz=344,slow=37
TYV Tymovskoe 32.72 49 *e*P **P 18 03 23.3 +1.9**
TYV *e*S **S 18 08 37.7 +0.2**
TYV pmax pmax
comp=Z,600nm,3.7s
TYV pmax pmax
comp=Z,40nm,1.4s
TYV smax smax
comp=N,28nm,1.5s
TYV smax smax
comp=E,19nm,1.5s
TYV smax smax
comp=N,1μm,4.4s
TYV smax smax
comp=E,500nm,4.4s
MYKOM Kota Tinggi 33.16 178 P **P 18 03 26.6 +1.0**
BTDF Bukit Timah Da 33.59 178 P **P 18 03 30.9 +1.6**
SBUM Sibu 33.67 163 P **P 18 03 31.5 +1.5**
SBUM IAmb IAmb 18 03 32.7
comp=Z,75nm,1.0s
SBUM Sibu 33.67 163 P **P 18 03 31.3 +1.3**
KSM Kuching 34.20 166 **P 18 03 34.2 -0.4**
KSM Kuching 34.20 166 P **P 18 03 35.9 +1.3**
AB31 Akbulak array 34.23 308 IAmb IAmb 18 03 39.2
comp=Z,42nm,0.8s
ABKAR Akbulak array 34.23 308 **P 18 03 35.2 +0.6**
PALK Pallekele 34.31 221 LR LR 18 18 13.9
comp=Z,1μm,21.8s,baz=36,slow=38
PALK Pallekele 34.31 221 *i* P **P 18 03 36.0 +0.4**
PALK pmax pmax
comp=Z,148nm,4.0s
BKNI Bangkinang 34.63 183 P **P 18 03 39.9 +1.5**
BKNI Bangkinang 34.63 183 P **P 18 03 38.6 +0.2**
DSRI Dabo 35.44 177 P **P 18 03 46.8 +1.5**

comp=Z,1μcomp=Z,82nm,1.2s
AKTO Aktyubinsk 35.64 309 LR LR 18 19 57.2
comp=Z,2μm,18.6s,baz=117,slow=39
SVE Sverdlovsk 35.64 321 *d iP* **P 18 03 47.7 +1.0**
SVE *eS* **S 18 09 29.4 +6.9**
SVE pmax pmax
comp=Z,141nm,1.2s
SVE MLR MLR
comp=Z,2μm,16.0s
SISI Saibi 36.40 186 P **P 18 03 54.1 +0.6**
comp=Z,52nm,1.2s
ARTI Arti 36.69 319 **P 18 03 55.5 -0.2**
ARTI Arti 36.69 319 LR LR 18 19 56.8
comp=Z,2μm,18.8s,baz=104,slow=38
ARTI Arti 36.69 319 *c iP* **P 18 03 56.0 +0.3**
ARTI 18 05 14.9
ARTI 18 06 18.7
ARTI S **S 18 09 39.7 +1.1**
ARTI SS **SnSn 18 12 06.1 -2.8**
ARTI pmax pmax
comp=Z,198nm,1.2s
ARTI MLR MLR
comp=Z,1μm,16.0s
NGCH Negor - Chabah 37.00 266 P **P 18 03 58.6 0.0**
TOLI2 Tolitoli 37.77 150 **P 18 04 04.2 -1.0**
TOLI2 Tolitoli 37.77 150 P **P 18 04 06.9 +1.7**
TPI Tanjungpandan 37.94 172 P **P 18 04 07.7 +1.0**
comp=Z,1μcomp=Z,64nm,1.3s
MASI Maura Aman, Be 38.05 181 P **P 18 04 07.5 -0.1**
LHSI Lahat 38.73 179 P **P 18 04 12.8 -0.5**
comp=Z,49nm,0.8s
MRSI Marisa 38.83 148 P **P 18 04 15.7 +1.5**
comp=Z,709nmcomp=Z,37nm,1.0s
TIXI Tiksi 39.09 13 **P 18 04 15.7 0.0**
TIXI Tiksi 39.09 13 P **P 18 04 15.7 0.0**
TIXI pmax pmax
comp=Z,84nm,1.4s
MDSI Maura Dua 39.40 178 P **P 18 04 18.6 -0.3**
comp=Z,1μcomp=Z,46nm,1.1s
MA2 Magadan 39.48 37 P **P 18 04 20.0 +0.8**
comp=Z,35nm,0.8s,baz=246,slow=7.3,SNR=12
MA2 PcP **PcP 18 06 27.3 +0.6**
comp=Z,15nm,1.1s,baz=156,slow=22,SNR=1.7
MA2 LR LR 18 22 22.2
comp=Z,2μm,18.2s,baz=253,slow=39
comp=Z,35nm,0.8s
KMSI Cibinong 39.66 145 P **P 18 04 22.6 +1.5**
KLI Kotabumi 39.80 177 P **P 18 04 23.2 +1.0**
JLN Jalan Bani Buh 39.86 263 P **P 18 04 23.3 +0.6**
APSI Ampana 39.96 150 P **P 18 04 24.7 +1.1**
comp=Z,739nmcomp=Z,56nm,1.1s
WSAR Wadi Sarin 39.98 265 LR LR 18 23 40.7
comp=Z,5.3nm,18.4s,baz=84,slow=40
WSAR Wadi Sarin 39.98 265 P **P 18 04 24.5 +0.7**
SNR=5.5
BBKI Banjar Baru 40.01 161 P **P 18 04 25.1 +1.1**
SMDO Samad 40.54 265 P **P 18 04 29.4 +0.9**
SNR=7.6
LUWI Luwuk 40.55 148 **P 18 04 26.3 -2.2**
LUWI IAmb IAmb 18 04 37.8
comp=Z,100nm,1.1s
LUWI Luwuk 40.55 148 P **P 18 04 28.8 +0.3**
LUWI Luwuk 40.55 148 P **P 18 04 27.5 -1.0**
comp=Z,1μcomp=Z,59nm,0.9s
BANOM Banah 40.73 270 P **P 18 04 30.2 +0.2**
SHME Shamm 40.80 270 P **P 18 04 31.8 +1.3**
SHME Shamm 40.80 270 *i* P **P 18 04 32.1 +1.5**
SNR=12
JMDO Jabal Madar 40.82 264 P **P 18 04 31.3 +0.5**
HOQ Hoqain 40.91 266 P **P 18 04 32.2 +0.7**
MDH Madha 40.99 269 P **P 18 04 32.9 +0.8**
MDH Madha 40.99 269 P **P 18 04 30.1 -2.0**
MASF Masafi 41.07 269 P **P 18 04 34.3 +1.5**
SNR=8.4
MSFE Esma-Masafi 41.08 269 *i* P **P 18 04 34.0 +1.1**
SNR=15
TNTI Ternate 41.16 141 P **P 18 04 34.4 +0.9**
TNTI Ternate 41.16 141 P **P 18 04 34.7 +1.2**
comp=Z,532nmcomp=Z,30nm,1.3s
UOSS Minazif 41.22 269 P **P 18 04 34.8 +0.8**
UOSS Minazif 41.22 269 P **P 18 04 34.5 +0.5**
SEY Seymchan 41.24 32 P **P 18 04 34.1 +0.4**
comp=Z,3.9nm,0.7s,baz=252,slow=7.7,SNR=12
SEY PcP **PcP 18 06 33.3 +1.0**
comp=Z,21nm,1.0s,baz=333,slow=4.7,SNR=6.0
SEY LR LR 18 22 44.4
comp=Z,1μm,20.9s,baz=258,slow=38
comp=Z,3.9nm,0.7s
SOHO SOHO 41.30 268 P **P 18 04 35.7 +1.0**
HATD Hatta, Dubai 41.33 269 P **P 18 04 36.8 +1.9**
HATD Hatta, Dubai 41.33 269 P **P 18 04 35.2 +0.3**
ASHO Ashiyiah 41.45 269 P **P 18 04 37.5 +1.6**
SNR=17
ASHO Ashiyiah 41.45 269 *i* P **P 18 04 37.2 +1.2**
SNR=11
MHTO MHTO 41.59 262 P **P 18 04 37.9 +0.9**
SNR=8.0
NAZ Nazwa, Dubai 41.64 269 P **P 18 04 38.9 +1.4**
SNR=9.5
NAZ Nazwa, Dubai 41.64 269 *i* P **P 18 04 38.9 +1.4**
SNR=11
ARQ Araqi 41.66 266 P **P 18 04 39.1 +1.4**
SNR=5.5
FAQ Al Faqa, Dubai 41.80 269 P **P 18 04 40.1 +1.3**
SNR=7.5
FAQ Al Faqa, Dubai 41.80 269 P **P 18 04 40.4 +1.6**
KIRV Kirov 41.91 321 LR LR 18 23 22.0
comp=Z,2μm,19.2s,baz=112,slow=38
KIRV Kirov 41.91 321 *ceP* **P 18 04 39.4 +0.2**
ALNE Al Ain 41.97 268 P **P 18 04 41.5 +1.2**
SNR=14
ALNE Al Ain 41.97 268 *i* P **P 18 04 41.3 +1.1**
SNR=21
SPSI Sidrap Palu 42.03 154 P **P 18 04 41.2 +0.6**
comp=Z,1μcomp=Z,122nm,1.2s
ASUD Al Ashush, Dub 42.07 269 P **P 18 04 42.3 +1.4**
SNR=12
ASUD Al Ashush, Dub 42.07 269 *i* P **P 18 04 42.4 +1.4**
SNR=20
PETK Petropavlovsk- 42.23 47 P **P 18 04 40.0 -1.9**
PETK Petropavlovsk- 42.23 47 P **P 18 04 42.2 +0.3**
comp=Z,11nm,1.0s,baz=204,slow=2.6,SNR=5.1
PETK PP **PP 18 06 19.1 -0.4**
comp=Z,17nm,1.1s,baz=284,slow=12,SNR=4.5
PETK PcP **PcP 18 06 36.0 +0.2**
comp=Z,8.2nm,0.9s,baz=251,slow=4.4,SNR=3.5
PETK LR LR 18 23 38.5
comp=Z,1μm,19.2s,baz=267,slow=38
comp=Z,11nm,1.0s
AJN Ajban 42.38 269 P **P 18 04 44.6 +1.1**
SNR=6.7
AJN Ajban 42.38 269 *i* P **P 18 04 44.3 +0.8**
SNR=5.9
DQM DQM 42.47 261 P **P 18 04 45.3 +1.0**
SNR=6.1
BNSI Bone 42.56 154 P **P 18 04 45.4 +0.5**
comp=Z,38nm,0.9s
KPJI Karang Pucung 42.61 171 P **P 18 04 47.0 +1.7**
PET Petropavlovsk 42.80 47 *eP* P 18 04 53.9 +7.4
PET *eS* **S 18 11 11.3 +1.1**
PET MLR MLR
comp=Z,2μm,19.0s
SANI Sanana 42.91 145 P **P 18 04 49.6 +1.8**
SANI Sanana 42.91 145 P **P 18 04 46.4 -1.4**
MAK Makhachkala 42.94 298 *eP* P 18 04 41.2 -6.6
MAK *eS* S 18 11 02.6 -10
MAK *eSS* **SS 18 14 18.1 -5.9**
MAK pmax pmax
comp=Z,83nm,1.3s
MAK MLR MLR
comp=Z,2μm,13.0s
KAPI Kappang 43.00 155 P **P 18 04 46.4 -2.1**
KAPI IAmb IAmb 18 04 49.8
comp=Z,97nm,1.1s
KAPI Kappang 43.00 155 LR LR 18 26 15.3
comp=Z,346nm,18.0s,baz=314,slow=41
KAPI Kappang 43.00 155 P **P 18 04 48.9 +0.4**
KAPI Kappang 43.00 155 P **P 18 04 48.6 +0.1**
KAPI Kappang 43.00 155 *i* P **P 18 04 48.1 -0.4**
KAPI pmax pmax
comp=Z,118nm,1.1s
AKT Akhty 43.02 296 *eP* **P 18 04 49.1 +0.5**
AKT *e* 18 06 28.2
AKT *e* 18 06 38.1
AKT *eS* **S 18 11 13.6 -0.4**
AKT pmax pmax

comp=Z,142nm,1.0s
AKT MLR MLR
comp=Z,2μm,14.0s
UMZA Um Al Zommool 43.06 266 P **P 18 04 49.8 +0.8**
BKSI Bulukumba 43.42 154 P **P 18 04 51.8 -0.1**
comp=Z,22nm,0.9s
GUMO Guam 43.54 109 P **P 18 04 52.4 -0.6**
comp=Z,145nm,1.2s,baz=238,slow=23,SNR=1.7
comp=Z,145nm,1.2s
MZWR Madinat Zayed 43.64 269 P **P 18 04 54.3 +0.6**
JRN Qarnain Island 43.97 271 P **P 18 04 56.7 +0.4**
JRN P **pP 18 04 58.5 -2.8**
SNR=6.8
MZR Muzera 44.31 268 P **P 18 04 59.7 +0.6**
SNR=16
MZR Muzera 44.31 268 *i* P **P 18 04 59.2 +0.1**
SNR=36
GHWR Ruwais 44.37 269 P **P 18 05 00.2 +0.6**
SWI Sorong 44.63 137 P **P 18 05 02.6 +1.0**
comp=Z,985nmcomp=Z,35nm,1.0s
JAGI Jajag, Banyuwa 44.66 164 P **P 18 04 59.9 -2.0**
JAGI IAmb IAmb 18 05 02.9
comp=Z,84nm,0.9s
JAGI Jajag, Banyuwa 44.66 164 P **P 18 05 01.9 0.0**
JAGI Jajag, Banyuwa 44.66 164 P **P 18 05 01.6 -0.3**
comp=Z,100nm,1.0s
SHAO Shalim 45.00 260 P **P 18 05 05.7 +1.1**
SHAO Shalim 45.00 260 *i* P **P 18 05 05.2 +0.6**
SNR=8.5
SLWR Sila 45.30 270 P **P 18 05 07.5 +0.6**
TRNA Turayna 45.40 271 P **P 18 05 07.9 +0.2**
SAKB Bahrain 45.43 273 P **P 18 05 08.3 +0.3**
GNI Garni 45.51 294 P **P 18 05 08.2 -0.5**
GNI IAmb IAmb 18 05 13.8
comp=Z,45nm,0.9s
GNI Garni 45.51 294 LR LR 18 26 35.4
comp=Z,959nm,22.0s,baz=76,slow=39
GNI Garni 45.51 294 P **P 18 05 10.7 +2.0**
GNI Garni 45.51 294 P **P 18 05 10.4 +1.8**
GNI Garni 45.51 294 *ceP* **P 18 05 11.0 +2.3**
GNI pmax pmax
comp=Z,69nm,1.3s
NCK Nalchik 45.67 299 *i* P **P 18 05 10.2 +0.5**
NCK pmax pmax
comp=Z,54nm,1.1s
DMTO DMTO 45.71 260 P **P 18 05 10.8 +0.5**
SNR=7.3
GOF Gofitskoye 45.80 301 *c iP* **P 18 05 11.6 +0.9**
DOK Doka 45.90 262 P **P 18 05 11.6 -0.2**
SNR=13
DOK P **P 18 05 11.7 -0.2**
PLAI Plampang 45.95 159 P **P 18 05 14.7 +2.6**
VRH Novokhopyorsk 45.97 310 *eP* **P 18 05 11.7 -0.2**
VRH pmax pmax
comp=Z,113nm,1.0s
VRH MLR MLR
comp=Z,1μm,19.0s
KBZ Khabaz 46.13 300 P **P 18 05 13.8 +0.6**
comp=Z,31nm,1.0s,baz=89,slow=7.4,SNR=34
KBZ LR LR 18 27 08.9
comp=Z,2μm,18.4s,baz=60,slow=40
comp=Z,31nm,1.0s
KBZ Khabaz 46.13 300 *ceP* **P 18 05 14.1 +0.8**
KBZ pmax pmax
comp=Z,41nm,1.0s
KVAR Kislovodsk Arr 46.23 300 LR LR 18 25 56.9
comp=Z,2μm,18.9s,baz=274,slow=38
KIV Kislovodsk 46.24 300 P **P 18 05 13.9 -0.4**
KIV IAmb IAmb 18 05 18.4
comp=Z,49nm,0.7s
KIV Kislovodsk 46.24 300 ⇑P **P 18 05 16.3 +2.0**
KIV Kislovodsk 46.24 300 *i* P **P 18 05 15.7 +1.4**
SNR=12
KIV Kislovodsk 46.24 300 *eP* **P 18 05 15.0 +0.8**
KIV *eS* **S 18 12 02.1 +1.5**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV pmax pmax
comp=Z,55nm,3.6s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 46.24 300 P **P 18 05 15.1 +0.8**
comp=Z,653nmcomp=Z,54nm,1.2s
SHA1 Shidzhatmaz 46.30 300 *i* P **P 18 05 15.9 +1.0**
RBK Rabkut 46.42 261 P **P 18 05 16.2 +0.2**
RBK P **P 18 05 16.3 +0.2**
SNR=9.1
WHFO Wadi Hawf 46.56 262 P **P 18 05 17.0 0.0**
SNR=30
KLMR Klimovskoe 47.15 323 *eP* **P 18 05 19.6 -1.4**
KLMR *e* 18 06 50.1
KLMR *e* 18 07 10.8
KLMR pmax pmax
comp=Z,173nm,1.0s
KLMR MLR MLR
comp=Z,908nm,12.0s
ABTO Aybut 47.24 261 P **P 18 05 22.1 -0.2**
SNR=19
MMRI Maumere 47.25 153 P **P 18 05 21.6 -0.7**
BATM Batumi 47.43 297 ⇑P **P 18 05 25.3 +1.7**
BATM Batumi 47.43 297 P **P 18 05 25.1 +1.6**
ERBR Yeremizino-Bor 47.47 303 *eP* **P 18 05 24.0 +0.2**
ERBR *e**PP **pP 18 05 26.7 -2.1**
ERBR *e* 18 07 16.1
ERBR *eS* **S 18 12 19.9 +1.9**
ERBR MLR MLR
comp=E,2μm,14.0s
ERBR MLR MLR
comp=Z,2μm,18.0s
ERBR MLR MLR
comp=N,2μm,15.0s
LABN Labinsk 47.50 301 *eP* **P 18 05 25.1 +1.1**
LABN *e**PP **pP 18 05 28.3 -0.7**
LABN *e* 18 07 11.3
LABN *eS* **S 18 12 22.6 +4.2**
LABN pmax pmax
comp=Z,42nm,0.9s
LABN pmax pmax
comp=N,18nm,1.0s
LABN pmax pmax
comp=E,11nm,0.7s
LABN MLR MLR
comp=Z,2μm,16.0s
LABN MLR MLR
comp=E,5μm,15.0s
LABN MLR MLR
comp=N,2μm,13.0s
VORD Divnogorie 47.52 310 *eP* **P 18 05 22.0 -2.0**
VORD pmax pmax
comp=Z,50nm,0.9s
VSR Storozhevoye 47.57 310 *eP* **P 18 05 22.7 -1.8**
VSR pmax pmax
comp=Z,80nm,1.0s
LPSR Galich'ya Gora 47.59 312 *eP* **P 18 05 24.8 +0.2**
LPSR pmax pmax
comp=Z,130nm,0.9s
LPSR MLR MLR
comp=Z,2μm,18.0s
BILL Bilibino 48.10 27 *ceP* **P 18 05 29.9 +1.6**
BILL pmax pmax
comp=Z,62nm,1.3s
MOS Moscow 48.14 316 *eP* **P 18 05 27.3 -1.5**
MOS *e* 18 06 57.4
MOS *eS* **S 18 12 23.0 -4.1**
MOS pmax pmax
comp=Z,400nm,1.6s
MOS pmax pmax
comp=Z,205nm,1.2s
MOS pmax pmax
comp=E,130nm,1.1s
MOS MLR MLR
comp=Z,2μm,17.0s
VSLR Vesyoloye 48.22 300 *i* P **P 18 05 30.2 +0.5**
VSLR pmax pmax
comp=Z,104nm,1.1s
SOC Sochi 48.42 300 *eP* **P 18 05 28.9 -2.3**
SOC *eS* **S 18 12 28.8 -2.7**
SOC pmax pmax
comp=Z,39nm,0.8s
SOC MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 48.78 316 P **P 18 05 31.8 -1.9**
OBN Obninsk 48.78 316 LR LR 18 26 43.5
comp=Z,1μm,18.1s,baz=32,slow=37
OBN Obninsk 48.78 316 ⇓P **P 18 05 34.0 +0.2**
OBN Obninsk 48.78 316 ⇑*eP* **P 18 05 33.9 +0.2**

OBN *e* 18 07 32.0
OBN *eS* **S 18 12 34.8 -1.4**
OBN pmax pmax
comp=Z,160nm,1.7s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 48.78 316 P **P 18 05 33.4 -0.3**
comp=Z,87nm,1.1s
SOEI Soe 49.05 151 P **P 18 05 33.6 -2.7**
SOEI IAmb IAmb 18 06 00.9
comp=Z,54nm,0.9s
SOEI Soe 49.05 151 P **P 18 05 37.7 +1.4**
BATI Baumata 49.23 152 P **P 18 05 36.0 -1.6**
comp=Z,44nm,0.8s,baz=102,slow=1.6,SNR=9.6
comp=Z,44nm,0.8s
ANN Anapa 49.76 302 *eP* **P 18 05 40.8 -0.6**
ANN *e**PP **pP 18 05 44.1 -2.3**
ANN *e* 18 07 34.3
ANN *eS* **S 18 12 51.1 +0.8**
ANN *eSS* **SS 18 16 24.4 +2.0**
ANN MLR MLR
comp=N,912nm,14.0s
ANN MLR MLR
comp=Z,2μm,18.0s
ANN MLR MLR
comp=E,675nm,13.0s
LVZ Lovozero 49.78 333 *ceP* **P 18 05 41.8 +0.5**
LVZ pmax pmax
comp=Z,46nm,0.8s
APA Apatity 50.23 332 ⇓*iP* **P 18 05 43.1 -1.5**
APA *i* 18 07 02.8
APA *i* 18 07 40.0
APA *i* S **S 18 12 51.6 -4.6**
APA *i* SS **SS 18 16 22.8 -6.3**
APA MLR MLR
comp=Z,6μm,17.8s
ARPR Arapgir-MALATY 50.56 295 IAmb IAmb 18 05 50.4
comp=Z,49nm,1.0s
RAYN Ar Rayn 50.61 273 P **P 18 05 47.4 -0.8**
RAYN Ar Rayn 50.61 273 P **P 18 05 47.8 -0.4**
RAYN Ar Rayn 50.61 273 *i* P **P 18 05 47.7 -0.4**
SNR=29
RAYN Ar Rayn 50.61 273 ⇑P **P 18 05 47.9 -0.3**
GENI Genyem 51.34 129 P **P 18 05 55.6 +1.9**
JAY Jayapura 51.63 128 LR LR 18 26 07.9
comp=Z,564nm,20.2s,baz=344,slow=34
PUL Pulkovo 51.74 322 *ceP* **P 18 05 57.2 +1.1**
PUL pmax pmax
comp=Z,171nm,1.0s
VADS Vadso 51.81 335 *eP* **P 18 05 56.1 -0.4**
SIM Simferopol' 52.02 303 *eP* **P 18 05 58.2 -0.2**
SIM *eS* **S 18 13 15.9 -5.7**
SIM pmax pmax
comp=Z,80nm,0.8s
SIM smax smax
comp=E,15nm,12.3s
SIM MLR MLR
comp=Z,719nm,10.8s
SHEM Shemya Is, Ala 52.14 47 LR LR 18 29 04.6
comp=Z,937nm,21.0s,baz=290,slow=37
BNN Bunyan 52.48 295 P **P 18 06 01.5 -0.7**
KEV Kevo 52.62 335 P **P 18 06 02.2 -0.3**
KEV IAmb IAmb 18 06 03.8
comp=Z,78nm,1.1s
KEV Kevo 52.62 335 P **P 18 06 02.2 -0.3**
KEV pmax pmax
comp=Z,78nm,1.1s
ARA0 ARCESS Array S 53.15 335 *eP* **P 18 06 06.4 0.0**
ARCES ARCESS Array B 53.15 335 P **P 18 06 06.7 +0.2**
comp=Z,41nm,0.8s,baz=82,slow=7.9,SNR=77
ARCES LR LR 18 28 42.8
comp=Z,368nm,18.9s,baz=98,slow=36
comp=Z,41nm,0.8s
ILGA Ilgaz 53.37 298 P **P 18 06 09.7 +0.9**
ILGA IAmb IAmb 18 06 14.2
comp=Z,41nm,0.9s
FINES FINESS Array B 53.63 325 P **P 18 06 09.7 -0.3**
FINES FINESS Array B 53.63 325 P **P 18 06 10.0 0.0**
comp=Z,43nm,0.9s,baz=94,slow=7.6,SNR=48
FINES LR LR 18 30 07.9
comp=Z,513nm,18.3s,baz=94,slow=37
comp=Z,43nm,0.9s
HAMF Hammerfest 53.73 336 *eP* **P 18 06 10.5 -0.1**
VSU Vasula 53.75 321 *ceP* **P 18 06 11.0 +0.1**
VSU pmax pmax
comp=Z,151nm,1.3s
KIRS Kirsehir-Merke 53.82 296 ⇑P **P 18 06 12.5 +0.5**
AK09 Malin Array Si 53.84 311 P **P 18 06 11.4 -0.3**
BR131 Keskin Array S 53.84 297 P **P 18 06 11.7 -0.4**
BR131 IAmb IAmb 18 06 15.4
comp=Z,35nm,0.7s
BR131 Keskin Array S 53.84 297 P **P 18 06 12.6 +0.5**
SNR=23
BR131 Keskin Array S 53.84 297 *i* P **P 18 06 12.3 +0.2**
BRTR Keskin Array B 53.84 297 P **P 18 06 12.2 +0.1**
BRTR Keskin Array B 53.84 297 P **P 18 06 12.3 +0.2**
comp=Z,26nm,0.7s,baz=98,slow=7.8,SNR=80
BRTR PP **PP 18 08 14.3 +1.3**
comp=Z,8.8nm,1.1s,baz=93,slow=6.2,SNR=3.7
BRTR LR LR 18 32 07.6
comp=Z,533nm,19.6s,baz=50,slow=39
comp=Z,26nm,0.7s
BRTR Keskin Array B 53.84 297 *i* P **P 18 06 12.3 +0.2**
BRTR pmax pmax
comp=Z,28nm,0.7s
BR104 Keskin Array S 53.84 297 P **P 18 06 12.2 +0.1**
comp=Z,304nmcomp=Z,40nm,0.8s
MNK Minsk 53.84 316 *i* P **P 18 06 11.2 -0.5**
MNK *i* 18 07 16.6
MNK *i* S **S 18 13 47.0 +0.9**
MNK *i* 18 16 05.3
MNK *i* SSS SSS 18 19 21.6
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,31nm,0.8s
MNK MLR MLR
comp=E,625nm,16.0s
MNK MLR MLR
comp=N,1μm,14.0s
MNK MLR MLR
comp=Z,1μm,17.0s
AK03 Malin Array Si 53.85 311 P **P 18 06 11.0 -0.8**
BR106 Keskin Array S 53.85 297 P **P 18 06 12.2 0.0**
comp=Z,257nmcomp=Z,33nm,1.3s
AK08 Malin Array Si 53.85 311 P **P 18 06 11.4 -0.4**
AKASG Malin Array Be 53.85 311 P **P 18 06 11.5 -0.3**
AKASG Malin Array Be 53.85 311 P **P 18 06 11.6 -0.3**
comp=Z,22nm,0.7s,baz=69,slow=6.6,SNR=36
AKASG LR LR 18 30 27.2
comp=Z,2μm,19.6s,baz=72,slow=38
comp=Z,22nm,0.7s
AKASG Malin Array Be 53.85 311 *i* P **P 18 06 11.6 -0.3**
AKASG pmax pmax
comp=Z,31nm,0.8s
AKBB Malin Array Si 53.85 311 *ceP* **P 18 06 11.8 0.0**
AKBB pmax pmax
comp=Z,50nm,0.9s
AKBB Malin Array Si 53.85 311 P **P 18 06 11.2 -0.6**
BR105 Keskin Array S 53.85 297 P **P 18 06 12.4 +0.2**
comp=Z,348nmcomp=Z,47nm,0.8s
AK10 Malin Array Si 53.86 311 P **P 18 06 11.6 -0.3**
AK01 Malin Array Si 53.86 311 P **P 18 06 11.4 -0.5**
KIEV Kiev 53.87 311 P **P 18 06 10.8 -1.1**
KIEV IAmb IAmb 18 06 14.2
comp=Z,32nm,0.8s
KIEV Kiev 53.87 311 ⇓P **P 18 06 11.3 -0.7**
KIEV Kiev 53.87 311 *i* P **P 18 06 11.2 -0.7**
SNR=25
KIEV Kiev 53.87 311 ⇓P **P 18 06 11.3 -0.7**
KIEV Kiev 53.87 311 P **P 18 06 11.4 -0.5**
comp=Z,190nm,1.3s
AK02 Malin Array Si 53.88 311 P **P 18 06 11.6 -0.4**
AK04 Malin Array Si 53.88 311 P **P 18 06 11.5 -0.6**
AK05 Malin Array Si 53.88 311 P **P 18 06 11.7 -0.4**
AK11 Malin Array Si 53.89 311 P **P 18 06 11.7 -0.4**
AK06 Malin Array Si 53.90 311 P **P 18 06 12.0 -0.2**
HWQ Hawqa 53.94 290 *eP* **P 18 06 13.7 +0.7**
ASF Jabal al Asfar 53.98 287 LR LR 18 32 31.3
comp=Z,574nm,18.1s,baz=93,slow=40
KEF Keuruu 54.10 325 *eP* **P 18 06 13.0 -0.4**
BAL3X Bal3x, Balta 54.29 308 P **P 18 06 14.9 -0.2**
DRS Darwin Rock St 54.29 145 P **P 18 06 17.4 +2.0**

BHL Bhannes 54.30 289 *eP* P P 18 06 15.8 +0.3
ANTO Ankara 54.41 297 P P 18 06 15.9 -0.3
ANTO IAmb IAmb 18 06 19.8
comp=Z,44nm,0.9s
ANTO Ankara 54.41 297 ⇓P P 18 06 17.0 +0.8
ANTO Ankara 54.41 297 ⇓P P 18 06 17.0 +0.8
ANTO Ankara 54.41 297 P P 18 06 16.5 +0.3
comp=Z,514nmcomp=Z,31nm,0.9s
PURM Purcari 54.48 306 ⇑P P 18 06 16.8 +0.3
LANU Lannavaara 54.54 333 *eP* P 18 06 16.2 -0.4
MEF Metsahovi 54.63 323 *eP* P 18 06 17.9 +0.6
MI28 MI28_Pidlybu 54.76 312 P P 18 06 18.2 -0.2
MTN Manton Dam 54.76 145 P P 18 06 17.1 -1.7
MMAI Mount Meron Ar 54.83 288 P P 18 06 19.4 +0.1
comp=Z,36nm,1.1s,baz=67,slow=6.7,SNR=22
MMAI PcP **PcP** 18 07 21.2 -0.4
comp=Z,12nm,0.8s,baz=57,slow=3.1,SNR=7.4
comp=Z,36nm,1.1s
JETT Jettan, Norway 54.94 335 *eP* P 18 06 19.8 +0.2
LUBAR Lubar, Ukraine 54.95 310 P P 18 06 19.4 -0.5
VAF Ylistaro 54.97 327 *eP* P 18 06 19.6 -0.1
SJUU Sjulsmark 55.03 330 *eP* P 18 06 20.4 +0.2
SORM Soroca 55.04 308 ⇑P P 18 06 20.2 -0.3
SORM Soroca 55.04 308 ⇑P P 18 06 20.2 -0.3
SPA0 Spitsbergen Ar 55.19 345 *eP* P 18 06 21.7 +0.5
SPITS Spitsbergen Ar 55.19 345 P P 18 06 21.3 +0.1
comp=Z,9.0nm,0.7s,baz=86,slow=11,SNR=12
SPITS PcP **PcP** 18 07 22.3 +0.2
comp=Z,32nm,1.1s,baz=28,slow=2.0,SNR=4.5
SPITS LR LR 18 33 30.2
comp=Z,1μm,18.1s,baz=58,slow=40
comp=Z,9.0nm,0.7s
KDU Kakadu 55.26 144 P P 18 06 21.6 -0.8
comp=Z,15nm,1.8s
TRO Tromso 55.44 335 *eP* P 18 06 22.4 -0.7
SAHE Sakarya_HENDEK 55.49 299 ⇓P P 18 06 24.3 +0.3
TLCR 55.57 305 ⇓P P 18 06 24.8 +0.4
TLCR 55.57 305 ⇓P P 18 06 24.8 +0.4
CSS Mathiatis 55.70 291 IAmb IAmb 18 06 38.9
comp=Z,55nm,1.0s
CSS Mathiatis 55.70 291 P P 18 06 25.4 -0.1
comp=Z,47nm,0.9s
RNPP9 Sopachiv 55.72 312 P P 18 06 25.3 -0.1
RAF Rauma 55.76 324 *eP* P 18 06 24.9 -0.5
RNPP8 Varash 55.76 312 P P 18 06 25.5 -0.2
RNPP5 Staryi Chortor 55.77 312 P P 18 06 25.3 -0.4
PABE Paberze 55.83 318 *eP* P 18 06 25.6 -0.4
VASR Vaslui 55.83 306 ⇓P P 18 06 26.8 +0.6
VLDR Vladesti 55.87 305 ⇓P P 18 06 27.5 +1.0
TPGR Topolog 55.94 304 ⇓P P 18 06 27.9 +0.8
TATR Tatarca 55.96 305 ⇓P P 18 06 28.1 +0.9
SCTR Scanteiesti 55.98 305 ⇑P P 18 06 28.7 +1.4
HORU Horodok 55.98 310 P P 18 06 27.5 +0.2
VARL Varlezi 56.01 306 ⇓P P 18 06 28.4 +0.9
EFOR EFORIE 56.03 303 ⇓P P 18 06 29.1 +1.4
CFR Carcaliu 56.03 305 ⇑P P 18 06 27.9 +0.2
CFR Carcaliu 56.03 305 ⇑P P 18 06 27.9 +0.2
BIR Birlad 56.05 306 ⇑P P 18 06 28.6 +0.8
BIR Birlad 56.05 306 ⇑P P 18 06 28.6 +0.8
TIRR Tirgusor 56.06 304 ⇓P P 18 06 28.5 +0.6
TIRR Tirgusor 56.06 304 ⇓P P 18 06 28.5 +0.6
TIRR Tirgusor 56.06 304 P P 18 06 27.9 0.0
comp=Z,464nmcomp=Z,34nm,0.9s
NEGRR Negrea 56.10 305 ⇑P P 18 06 29.4 +1.2
BORA Eskisehir 56.10 298 P P 18 06 28.1 -0.3
BORA IAmb IAmb 18 06 33.6
comp=Z,34nm,1.0s
KMPD K-Podol'skiy 56.14 309 P P 18 06 28.0 -0.4
KMPD P P 18 06 27.8 -0.6
MANR Mangalia 56.14 303 ⇓P P 18 06 29.8 +1.3
MFTR Murfatlar 56.14 303 ⇑P P 18 06 29.6 +1.1
IZVR Izvoarele 56.17 305 ⇓P P 18 06 29.6 +0.9
TUDR 56.22 305 ⇓P P 18 06 30.2 +1.2
KNRA Kununurra 56.22 149 P P 18 06 28.9 -0.3
KNRA IAmb IAmb 18 06 29.9
comp=Z,42nm,1.1s
GHRR 56.25 306 ⇓P P 18 06 30.0 +0.8
TLBR Topalu 56.28 304 ⇑P P 18 06 29.6 +0.1
HARR Harsova 56.32 304 ⇓P P 18 06 30.5 +0.8
HARR Harsova 56.32 304 ⇓P P 18 06 30.5 +0.8
KALB Balgarevo 56.39 303 ⇑P P 18 06 31.7 +1.4
PANC Panciu 56.48 306 ⇓P P 18 06 32.3 +1.4
EIL Elat 56.51 285 LR LR 18 36 00.3
comp=Z,622nm,19.2s,baz=76,slow=42
ODBI Odobesti 56.58 306 ⇑P P 18 06 33.6 +2.0
ICOR Ion Corvin 56.59 304 ⇑P P 18 06 32.8 +1.1
TESR Tescani 56.62 307 ⇑P P 18 06 32.0 +0.2
TESR Tescani 56.62 307 P P 18 06 31.7 -0.2
comp=Z,40nm,0.8s
SUW Suwalki 56.64 316 *eP* P 18 06 31.2 -0.7
AMRR Amara 56.75 304 ⇓P P 18 06 34.2 +1.4
AMRR Amara 56.75 304 ⇓P P 18 06 34.2 +1.4
GRER 56.75 305 ⇓P P 18 06 34.6 +1.8
VRI Vrincioaia 56.76 306 ⇓P P 18 06 34.2 +1.3
VRI Vrincioaia 56.76 306 ⇓P P 18 06 34.2 +1.3
VRI Vrincioaia 56.76 306 P P 18 06 33.6 +0.7
comp=Z,1μmcomp=Z,73nm,1.0s
ISP Isparta 56.77 296 *eP* P 18 06 32.9 -0.4
ISP Isparta 56.77 296 *ceP* P 18 06 32.9 -0.4
ISP pmax pmax
comp=Z,88nm,0.8s
AAL Aland 56.79 324 *eP* P 18 06 32.3 -0.6
PLOR5 Plostina Array 56.81 306 P P 18 06 34.2 +0.9
comp=Z,1μmcomp=Z,121nm,0.9s
PLOR Plostina 56.82 306 ⇑P P 18 06 34.4 +1.0
PLOR Plostina 56.82 306 ⇑P P 18 06 34.4 +1.0
ONER Baraj Valea Uz 56.84 306 ⇑P P 18 06 34.1 +0.7
BISRR Bisoca 56.87 305 ⇑P P 18 06 35.6 +1.8
BISRR Bisoca 56.87 305 P P 18 06 35.0 +1.2
STEI Steigen 57.07 333 *eP* P 18 06 33.6 -1.1
KSV Kosov 57.10 309 P P 18 06 35.0 -0.3
CTYL Yalikoy Yolu 57.11 300 ⇓P P 18 06 37.2 +1.8
ISR Istrita 57.12 305 ⇑P P 18 06 37.1 +1.6
ISR Istrita 57.12 305 P P 18 06 37.5 +2.0
LEHL Lehliu 57.14 304 ⇓P P 18 06 37.1 +1.5
PRD Provadia 57.16 303 P P 18 06 36.2 +0.4
FAUS Fauske 57.17 333 *eP* P 18 06 34.5 -0.9
TURR Turia 57.18 306 ⇑P P 18 06 36.9 +1.0
NEHR Nehoiu 57.19 305 ⇑P P 18 06 37.2 +1.2
FITZ Fitzroy Crossi 57.21 154 P P 18 06 35.8 -0.4
comp=Z,9.7nm,1.0s
FITZ Fitzroy Crossi 57.21 154 P P 18 06 36.1 -0.1
FITZ Fitzroy Crossi 57.21 154 P P 18 06 36.1 -0.1
BURAR Bucovina Array 57.21 308 P P 18 06 35.9 -0.3
BURAR Bucovina Array 57.21 308 ⇑P P 18 06 36.7 +0.5
BURAR Bucovina Array 57.21 308 ⇑P P 18 06 36.7 +0.5
NEF NEVSHA 57.22 303 P P 18 06 36.8 +0.6
GAMB Gambell 57.25 32 P P 18 06 35.1 -0.9
baz=284
OZUR 57.31 306 ⇑P P 18 06 37.3 +0.5
MLR Muntele Rosu 57.40 306 P P 18 06 37.2 -0.5
MLR Muntele Rosu 57.40 306 P P 18 06 36.9 -0.7
comp=Z,16nm,0.6s,baz=45,slow=7.1
MLR LR LR 18 34 45.0
comp=Z,1μm,18.3s,baz=56,slow=40
comp=Z,16nm,0.6s
MLR Muntele Rosu 57.40 306 ⇑P P 18 06 38.3 +0.7
MLR Muntele Rosu 57.40 306 P P 18 06 38.3 +0.7
SULR 57.45 305 ⇓P P 18 06 39.5 +1.7
PHSR Pinarhisar 57.60 301 ⇓P P 18 06 39.5 +0.6
DOPR Dopca 57.62 306 ⇑P P 18 06 40.2 +1.2
ELL Elmali 57.62 295 IAmb IAmb 18 06 43.2
comp=Z,56nm,1.0s
LOF Lofoten 57.65 334 *eP* P 18 06 37.5 -1.3
RAZG Razgrad 57.65 303 ⇓P P 18 06 40.2 +0.9
SGRR Singureni 57.80 304 ⇓P P 18 06 41.3 +1.1
RAUS Rausandaksla 57.88 332 *eP* P 18 06 39.2 -1.2
JMB Yambol 58.00 302 P P 18 06 42.2 +0.5
UPP Uppsala 58.03 324 *eP* P 18 06 40.8 -0.7
VAGH Vaagaholmen 58.10 332 *eP* P 18 06 41.4 -0.6
SZH Strazhitsa 58.12 303 P P 18 06 42.8 +0.3
PATS Pohnpei 58.14 105 P P 18 06 44.4 +1.4
comp=Z,163nm,1.4s
PATS Pohnpei 58.14 105 P P 18 06 42.4 -0.6
PATS Pohnpei 58.14 105 P P 18 06 45.1 +2.1
KWP Kalwaria Pacla 58.18 311 *eP* P 18 06 43.5 +0.7
MBWA Marble Bar 58.23 161 P P 18 06 42.8 -0.6
comp=Z,36nm,0.9s
MBWA Marble Bar 58.23 161 P P 18 06 43.0 -0.4
MBWA IAmb IAmb 18 06 44.2
comp=Z,42nm,1.1s
MBWA Marble Bar 58.23 161 P P 18 06 44.2 +0.8

BMR Baia Mare 58.30 309 ⇑P P 18 06 45.0 +1.3
BMR Baia Mare 58.30 309 ⇑P P 18 06 45.0 +1.3
ELND Elena 58.30 303 ⇑P P 18 06 44.3 +0.5
STOK Stokkvaagen 58.30 332 *eP* P 18 06 42.9 -0.5
ARR Arges 58.31 306 ⇑P P 18 06 44.6 +0.7
LEIR Leirfjorden 58.33 331 *eP* P 18 06 42.6 -0.9
COPA Copaceanca 58.34 304 ⇑P P 18 06 44.5 +0.5
HUMR Humele 58.36 305 ⇓P P 18 06 44.6 +0.4
TNA Tin City 58.37 29 P P 18 06 42.7 -1.2
baz=286
TNR Turnu Rosu 58.46 306 ⇓P P 18 06 46.4 +1.5
TNR Turnu Rosu 58.46 306 ⇓P P 18 06 46.4 +1.5
CJR Cluj-Napoca 58.55 308 ⇓P P 18 06 46.8 +1.3
CJR Cluj-Napoca 58.55 308 ⇓P P 18 06 46.8 +1.3
CBBR Cluj-Babes-Bol 58.56 308 ⇑P P 18 06 46.9 +1.3
C16K Lisburne Hills 58.60 26 P P 18 06 44.5 -0.9
baz=286
BEL Belsk 58.65 314 *eP* P 18 06 46.5 +0.5
PVL Pavlikeni 58.72 303 P P 18 06 46.9 +0.2
MESR Meseseni 58.82 308 ⇓P P 18 06 48.9 +1.6
LOT Lotru 58.86 306 ⇓P P 18 06 48.5 +0.7
MARR Marisel-Cluj 58.87 308 ⇑P P 18 06 48.6 +0.8
ATD Arta Tunnel 58.88 262 P P 18 06 48.8 +0.5
ATD Arta Tunnel 58.88 262 LR LR 18 33 02.2
comp=Z,21nm,18.8s,baz=46,slow=37
ALN Alexandroupoli 58.90 301 IAmb IAmb 18 06 49.3
comp=Z,40nm,1.3s
VLAD Vladila 58.94 304 ⇑P P 18 06 48.4 +0.2
PLVB Pleven 59.00 304 ⇓P P 18 06 49.3 +0.6
F14K Arctic Creek 59.03 29 P P 18 06 47.3 -1.2
baz=287
EZN Ezine 59.09 299 ⇑P P 18 06 49.4 0.0
EZN Ezine 59.09 299 ⇑P P 18 06 49.4 0.0
DRGR 59.10 308 ⇓P P 18 06 49.8 +0.4
DRGR 59.10 308 ⇓P P 18 06 49.8 +0.4
KDZ Kurdzhali 59.13 302 P P 18 06 49.9 +0.3
STHS Stebnicka Huta 59.15 311 *eP* P 18 06 49.4 -0.2
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 59.15 311 *eP* P 18 06 49.3 -0.3
DEV Deva 59.28 307 ⇓P P 18 06 51.4 +0.8
DEV Deva 59.28 307 ⇓P P 18 06 51.4 +0.8
C17K DeLong Mountai 59.30 25 P P 18 06 49.3 -1.1
baz=288
MSEY Mahe Island 59.44 238 *i* P P 18 06 50.9 -1.2
A19K Wainwright 59.47 23 P P 18 06 50.8 -0.6
baz=289
B18K Kokolik River 59.50 24 P P 18 06 51.3 -0.4
baz=289
SRE Strehaia 59.51 305 ⇓P P 18 06 52.6 +0.4
SRE Strehaia 59.51 305 ⇓P P 18 06 52.6 +0.4
RZN Rozhen 59.53 302 P P 18 06 53.1 +0.5
NOR Nord 59.53 351 *i* P P 18 06 51.6 -0.2
NOR IAmb IAmb 18 06 53.0
comp=Z,40nm,1.0s
RDOG Red Dog Mine 59.53 26 P P 18 06 51.2 -0.8
baz=288
GZR Gura Zlata 59.53 306 ⇓P P 18 06 53.2 +0.8
GZR Gura Zlata 59.53 306 ⇓P P 18 06 53.2 +0.8
D17K Noatak River 59.58 26 P P 18 06 52.0 -0.3
baz=289
MPEP Malo Peshtene 59.61 304 P P 18 06 53.7 +0.8
F15K North Star Dit 59.62 29 P P 18 06 51.7 -0.9
baz=288
ANM Nome 59.69 30 P P 18 06 52.0 -1.1
baz=288
VALD Valchedram 59.70 304 P P 18 06 54.1 +0.6
NIE Niedzica 59.73 311 *eP* P 18 06 54.8 +1.1
OJC Ojcow 59.77 312 *eP* P 18 06 54.1 +0.2
OJC Ojcow 59.77 312 P P 18 06 53.5 -0.4
OJC Ojcow 59.77 312 P P 18 06 53.5 -0.4
SPIA Saint Paul Isl 59.78 39 P P 18 06 52.8 -1.0
baz=289
HFS Hagfors 59.83 325 P P 18 06 53.7 -0.5
comp=Z,34nm,0.8s,baz=104,slow=6.3,SNR=44
HFS LR LR 18 32 33.9
comp=Z,539nm,18.3s,baz=76,slow=36
comp=Z,34nm,0.8s
SURR Surduc 59.84 307 ⇑P P 18 06 55.2 +0.8
KECS Kecovo 59.93 310 *eP* P 18 06 56.1 +1.0
KECS pmax pmax
comp=Z,19nm,1.2s
KECS Kecovo 59.93 310 *eP* P 18 06 56.0 +1.0
C18K Utukok River 59.94 25 P P 18 06 55.4 +0.6
C18K Utukok River 59.94 25 P P 18 06 54.1 -0.7
baz=290
HERR Herculane 59.96 306 ⇓P P 18 06 55.6 +0.3
SIRR Siria 59.96 308 ⇑P P 18 06 56.2 +0.9
G15K Niukluk 60.10 29 P P 18 06 55.9 0.0
baz=289
BLSH Balsha 60.11 304 P P 18 06 57.3 +0.9
BZS Buzias 60.22 307 ⇑P P 18 06 57.4 +0.4
BZS Buzias 60.22 307 ⇑P P 18 06 57.4 +0.4
VTS Vitosha 60.23 303 P P 18 06 58.0 +0.7
BLKB Belogradchik 60.24 305 ⇑P P 18 06 57.8 +0.5
E17K Hotham Inlet 60.25 27 P P 18 06 56.2 -0.6
baz=290
MMB Musomishta 60.27 302 P P 18 06 57.4 -0.1
C19K Lookout Ridge 60.33 24 P P 18 06 56.8 -0.7
baz=291
P08K Saint George I 60.33 39 P P 18 06 57.5 -0.1
baz=290
LANS Liptovska Anna 60.33 311 *eP* P 18 06 59.1 +1.3
LANS Liptovska Anna 60.33 311 *eP* P 18 06 59.1 +1.3
NC405 NORSAR Array S 60.44 326 IAmb IAmb 18 06 59.1
comp=Z,54nm,1.0s
A21K Barrow 60.45 21 P P 18 06 58.3 +0.1
baz=292
MDVR Moldovita 60.46 306 ⇑P P 18 06 59.5 +0.7
PSZ Piszkesteto 60.50 310 ⇓P P 18 07 00.0 +1.0
PSZ Piszkesteto 60.50 310 *eP* P 18 06 59.3 +0.3
PSZ Piszkesteto 60.50 310 ⇓P P 18 07 00.0 +1.0
E18K Tukpahlearik C 60.57 26 P P 18 06 58.9 -0.2
baz=291
KKB Krupnik 60.59 302 P P 18 06 59.9 +0.2
G16K Koyuk River 60.63 29 P P 18 06 59.5 0.0
baz=290
NC602 NORSAR Array S 60.64 326 *eP* P 18 06 57.5 -2.2
F17K Baldwin Pennin 60.68 27 IAmb IAmb 18 07 05.1
comp=Z,26nm,0.8s
F17K Baldwin Pennin 60.68 27 P P 18 06 59.8 -0.1
baz=291
NOA NORSAR Array B 60.69 326 P P 18 06 59.0 -1.1
comp=Z,21nm,0.8s,baz=77,slow=7.8,SNR=34
NOA PP **PP** 18 09 14.0 +0.6
comp=Z,6.2nm,0.9s,baz=67,slow=9.1,SNR=3.5
comp=Z,21nm,0.8s
NOA NORSAR Array B 60.69 326 P P 18 06 59.0 -1.1
M11K Mekoryuk 60.71 35 P P 18 06 59.8 -0.3
baz=290
B20K Meade River 60.79 23 P P 18 07 00.2 -0.3
baz=292
K13K Kusilvak Mount 60.88 33 P P 18 07 01.1 -0.1
baz=290
BOVS Bovan 60.89 305 ⇓P P 18 07 01.9 +0.3
OKC Ostrava-Krasne 60.90 312 AMS AMS 18 34 20.0
comp=Z,1μm,14.8s
H16K Elim 60.94 29 P P 18 07 01.4 -0.2
baz=291
PMG Port Moresby 61.00 128 P P 18 07 03.0 +0.4
PMG Port Moresby 61.00 128 P P 18 07 01.7 -1.0
comp=Z,68nm,1.0s,baz=335,slow=7.0,SNR=16
comp=Z,68nm,1.0s
PMG Port Moresby 61.00 128 P P 18 07 03.9 +1.2
PMG Port Moresby 61.00 128 *ceP* P 18 07 03.8 +1.1
PMG pmax pmax
comp=Z,122nm,1.3s
D19K Kuna River 61.05 25 P P 18 07 02.2 -0.2
baz=292,SNR=12
A22K Sinclair Lake 61.07 21 P P 18 07 02.2 -0.2
baz=294
STEB Steborice 61.09 313 *eP* P 18 07 03.0 +0.1
VAY Valandovo 61.18 302 *i* P P 18 07 03.5 -0.1
F18K Selawik 61.22 27 P P 18 07 03.2 -0.3
baz=292
G17K Kiwalik Mounta 61.26 28 P P 18 07 03.6 -0.1
baz=292
MAUC Maruska 61.26 312 *eP* P 18 07 05.0 +0.9
MORC Moravsky Berou 61.28 313 IAmb IAmb 18 07 06.0
comp=Z,34nm,1.1s
MORC Moravsky Berou 61.28 313 ⇑P P 18 07 04.8 +0.5
MORC Moravsky Berou 61.28 313 *eP* P 18 07 04.7 +0.4
MORC Moravsky Berou 61.28 313 ⇑P P 18 07 04.8 +0.5
DOMB Dombas 61.30 328 *eP* P 18 07 03.3 -0.8

OSL Oslo 61.30 325 *eP* P 18 07 03.4 -0.7
D20K Etivluk River 61.47 24 P P 18 07 05.3 +0.1
baz=294
JAVC Velka Javorina 61.54 312 *eP* P 18 07 07.5 +1.4
KRLC Kraliky 61.63 313 *eP* P 18 07 07.4 +0.8
KRLC AMS AMS 18 34 50.0
comp=Z,2μm,14.1s
KRLC Kraliky 61.63 313 *eP* P 18 07 07.4 +0.8
KRLC MLR MLR
comp=Z,2μm,14.1s
KSP Ksiaz 61.64 314 *eP* P 18 07 07.1 +0.5
SKO Skopje 61.70 303 *i* P P 18 07 07.4 +0.2
LIT Litokhoron 61.71 301 IAmb IAmb 18 07 10.9
comp=Z,38nm,1.3s
B21K Ikpikpuk River 61.75 23 P P 18 07 06.8 -0.2
baz=295
H17K Granite Mounta 61.76 29 IAmb IAmb 18 07 13.9
comp=Z,21nm,0.8s
H17K Granite Mounta 61.76 29 P P 18 07 07.5 +0.3
baz=293,SNR=8.4
E19K Redstone River 61.76 26 IAmb IAmb 18 07 15.6
comp=Z,19nm,0.8s
E19K Redstone River 61.76 26 P P 18 07 07.2 0.0
baz=294,SNR=8.3
MOL Molde 61.77 328 *eP* P 18 07 06.5 -0.7
OSTC Ostas 61.79 314 *eP* P 18 07 08.2 +0.5
OSTC AMS AMS 18 35 00.0
comp=Z,1μm,14.3s
OSTC Ostas 61.79 314 *eP* P 18 07 08.2 +0.5
OSTC MLR MLR
comp=Z,1μm,14.3s
E20K Nigu River 61.80 25 P P 18 07 07.0 -0.5
baz=294
DPC Dobruska-Polom 61.80 313 *eP* P 18 07 08.6 +0.8
DPC AMS AMS 18 35 00.0
comp=Z,1μm,15.3s
DPC Dobruska-Polom 61.80 313 *eP* P 18 07 08.6 +0.8
DPC MLR MLR
comp=Z,1μm,15.3s
B22K Teshekpuk Lake 61.82 22 P P 18 07 07.2 -0.3
baz=296
SMOL Smolenice 61.82 311 *eP* P 18 07 08.9 +1.0
SMOL pmax pmax
comp=Z,22nm,1.3s
F19K Shaleruckik Mo 61.82 26 P P 18 07 06.1 -1.4
F19K IAmb IAmb 18 07 11.6
comp=Z,22nm,0.8s
F19K Shaleruckik Mo 61.82 26 P P 18 07 07.1 -0.4
baz=294
I17K Unalakleet 61.85 30 P P 18 07 06.5 -1.2
baz=293
G18K Tagagawik 61.87 27 P P 18 07 07.4 -0.5
baz=293
CHVC Chvalec 61.87 314 *eP* P 18 07 08.4 +0.2
CHVC Chvalec 61.87 314 *eP* P 18 07 08.4 +0.2
C21K Knifeblade Rid 61.89 23 P P 18 07 08.0 0.0
baz=295
MORH Mrgy, Hungar 61.93 308 *eP* P 18 07 08.6 0.0
MORH Mrgy, Hungar 61.93 308 ⇑P P 18 07 09.1 +0.5
UPC Upice 61.93 314 *eP* P 18 07 09.0 +0.4
UPC AMS AMS 18 35 00.0
comp=Z,2μm,18.8s
UPC Upice 61.93 314 *eP* P 18 07 09.0 +0.4
UPC MLR MLR
comp=Z,2μm,18.8s
IDI Anoyia 61.93 295 P P 18 07 07.5 -1.4
comp=Z,53nm,1.0s,baz=20,slow=14,SNR=6.6
IDI LR LR 18 37 44.0
comp=Z,278nm,20.7s,baz=107,slow=40
comp=Z,53nm,1.0s
KONO Kongsberg 61.94 325 P P 18 07 08.1 -0.3
KONO pmax pmax
comp=Z,179nm,3.7s
KONO Kongsberg 61.94 325 *eP* P 18 07 07.1 -1.3
MODS Modra-Piesok 61.97 311 *eP* P 18 07 09.8 +0.9
MODS pmax pmax
comp=Z,90nm,1.3s
MODS Modra-Piesok 61.97 311 *eP* P 18 07 09.8 +0.9
L14K Kuka Creek 61.97 33 IAmb IAmb 18 07 10.0
comp=Z,38nm,1.1s
L14K Kuka Creek 61.97 33 P P 18 07 08.6 0.0
baz=292
NIKH Nikolski High 61.99 43 P P 18 07 09.2 +0.3
baz=292
M13K Dall Lake 62.02 34 P P 18 07 09.1 +0.1
baz=292
VRAC Vranov 62.03 312 P P 18 07 09.2 -0.1
comp=Z,13nm,1.0s,baz=92,slow=8.7,SNR=14
VRAC LR LR 18 35 41.9
comp=Z,2μm,18.3s,baz=70,slow=38
comp=Z,13nm,1.0s
VRAC Vranov 62.03 312 ⇓P P 18 07 10.5 +1.2
VRAC Vranov 62.03 312 *eP* P 18 07 09.7 +0.4
VRAC Vranov 62.03 312 ⇓P P 18 07 10.5 +1.2
COEN Coen 62.06 135 P P 18 07 10.3 +0.5
comp=Z,99nm,0.8s
COEN Coen 62.06 135 P P 18 07 10.4 +0.6
K15K Wolf Creek Mou 62.11 32 P P 18 07 09.2 -0.4
baz=293
J16K Anvik River 62.12 31 P P 18 07 09.9 +0.3
baz=293
SKAR Skarslia 62.15 326 *eP* P 18 07 09.4 -0.5
KRUC Moravsky 62.25 312 *eP* P 18 07 11.0 +0.3
H18K Honhosa River 62.28 28 IAmb IAmb 18 08 33.8
comp=Z,71nm,1.8s
H18K Honhosa River 62.28 28 P P 18 07 10.6 0.0
baz=294
L15K Ungalak Mounta 62.37 32 P P 18 07 11.5 +0.2
baz=293
WRAB Tennant Creek 62.43 146 P P 18 07 10.8 -1.3
WRAB Tennant Creek 62.43 146 P P 18 07 12.3 +0.1
WRAB Tennant Creek 62.43 146 *ceP* P 18 07 12.4 +0.2
WRAB pmax pmax
comp=Z,118nm,1.3s
WRA Warramunga Arr 62.43 146 P P 18 07 11.1 -1.1
WRA Warramunga Arr 62.43 146 P P 18 07 12.2 0.0
comp=Z,68nm,1.2s,baz=340,slow=7.1,SNR=101
WRA PKPPKP **P'P'df** 18 36 15.9 +4.2
comp=Z,3.4nm,1.2s,baz=163,slow=2.1,SNR=4.8
comp=Z,68nm,1.2s
RUDO Rudo 62.46 306 *eP* P 18 07 10.4 -1.8
F20K Avaraart Lake 62.47 26 P P 18 07 11.9 0.0
baz=295
E21K Kilik River 62.47 24 P P 18 07 12.1 +0.2
baz=296
OHR Ohrid 62.49 302 *i* P P 18 07 12.0 -0.6
M14K Bethel 62.52 33 IAmb IAmb 18 07 16.9
comp=Z,33nm,0.8s
M14K Bethel 62.52 33 P P 18 07 12.4 +0.1
baz=293
DAG Danmarks Havn 62.69 347 *i* P P 18 07 11.9 -1.3
DAG IAmb IAmb 18 07 13.1
comp=Z,14nm,1.0s
D22K Ayikyak River 62.70 23 IAmb IAmb 18 07 21.5
comp=Z,42nm,0.9s
D22K Ayikyak River 62.70 23 P P 18 07 13.7 +0.3
baz=297,SNR=8.5
J17K VABM Dome 62.70 30 IAmb IAmb 18 08 00.4
comp=Z,85nm,1.8s
J17K VABM Dome 62.70 30 P P 18 07 14.1 +0.5
baz=294
TREC Trest 62.71 313 AMS AMS 18 35 30.0
comp=Z,2μm,17.9s
PVCC Panska Ves 62.77 314 *eP* P 18 07 15.2 +1.0
PVCC AMS AMS 18 35 40.0
comp=Z,1μm,12.4s
PVCC Panska Ves 62.77 314 *eP* P 18 07 15.2 +1.0
PVCC MLR MLR
comp=Z,1μm,12.4s
RONA Rosalia, Austr 62.83 311 *ep*P P 18 07 15.2 +0.4
comp=Z,23nm,1.1s,SNR=10
H19K Roundabout Mou 62.85 27 IAmb IAmb 18 07 22.8
comp=Z,33nm,0.9s
H19K Roundabout Mou 62.85 27 P P 18 07 14.7 +0.2
baz=295,SNR=9.0
C23K Itkillik River 62.91 22 P P 18 07 15.1 +0.4
baz=298
UNV Unalaska Valle 62.96 42 P P 18 07 15.1 -0.3
baz=293
N14K Kuskokwak Cree 62.98 34 P P 18 07 15.1 -0.2
baz=294
PRU Pruhonice 63.00 314 *eP* P 18 07 16.0 +0.3
PRU AMS AMS 18 35 40.0
comp=Z,2μm,14.0s
PRU Pruhonice 63.00 314 *eP* P 18 07 16.0 +0.3
PRU MLR MLR

comp=Z,2µm,14.0s
BRG Berggiesshubel 63.01 315 ⇑*i*P **P 18 07 16.0 +0.2**
BRG Amp 18 07 18.8
comp=Z,15nm,1.0s
BRG ⇑PP **PcP 18 07 54.8 +1.2**
BRG Amp 18 07 55.7
comp=Z,17nm,1.1s
BRG Berggiesshubel 63.01 315 S **S 18 15 50.0 +4.3**
PDG Podgorica 63.01 304 ⇓P **P 18 07 16.4 +0.5**
CONA Conrad Observa 63.01 311 *ep*P **P 18 07 16.5 +0.5**
comp=Z,22nm,1.1s,SNR=13
BEHE Becsehely 63.02 309 *e*P **P 18 07 16.0 +0.1**
GCSA Galena City Sc 63.02 28 P **P 18 07 16.0 +0.5**
baz=295
PRA Prague 63.03 314 AMS AMS 18 35 50.0
comp=Z,2µm,15.4s
M15K Kasigluk River 63.12 33 P **P 18 07 16.5 +0.2**
baz=294
F21K Alatna River 63.18 25 IAmb IAmb 18 07 21.3
comp=Z,29nm,0.8s
F21K Alatna River 63.18 25 P **P 18 07 17.3 +0.6**
baz=297
MEEK Meekatharra 63.22 164 P **P 18 07 18.3 +0.9**
comp=Z,52nm,1.4s
MEEK Meekatharra 63.22 164 P **P 18 07 18.4 +1.1**
L16K Owhat River 63.23 32 P **P 18 07 17.3 +0.2**
baz=295
D23K Nanushuk River 63.30 23 P **P 18 07 17.1 -0.3**
baz=298
ITM Ithomi 63.31 298 IAmb IAmb 18 07 32.1
comp=Z,26nm,1.0s
K17K Iditarod 63.31 31 IAmb IAmb 18 08 08.4
comp=Z,27nm,1.0s
K17K Iditarod 63.31 31 P **P 18 07 18.0 +0.4**
baz=295
E22K Anaktuvuk Pass 63.33 24 IAmb IAmb 18 07 19.0
comp=Z,20nm,0.9s
E22K Anaktuvuk Pass 63.33 24 P **P 18 07 17.7 0.0**
baz=298,SNR=8.4
SLATY Slatina 63.34 307 *e*P **P 18 07 19.8 +1.7**
KOGS Kog 63.36 309 *i* P **P 18 07 17.9 -0.2**
CLL Collm 63.38 315 ⇑*i*P **P 18 07 18.0 -0.2**
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 63.38 315 LmH 18 31 00.0
comp=E,900nm,21.4s
CLL Collm 63.38 315 ⇑*i*P **P 18 07 18.0 -0.2**
comp=Z,19nm,1.0s
CLL Collm 63.38 315 *i* x x 18 07 33.9
CLL Collm 63.38 315 *e*PP PP 18 09 38.0 +0.8
CLL Collm 63.38 315 *e*PPP PPP 18 11 08.0
CLL Collm 63.38 315 *e*SSS SSS 18 22 54.0
CLL Collm 63.38 315 LmH 18 31 00.0
comp=N,2µm,21.1s
MUD Monsted U'grnd 63.39 322 *i* P **P 18 07 18.2 +0.1**
MUD IAmb IAmb 18 07 21.0
comp=Z,57nm,1.0s
HSKC Hora Svate Kat 63.41 315 *e*P **P 18 07 18.8 +0.3**
ZVC Zvikov 63.43 313 *e*P **P 18 07 18.9 +0.3**
ZVC AMS AMS 18 36 00.0
comp=Z,1µm,14.8s
O14K Tigyukauivet M 63.45 35 P **P 18 07 18.3 -0.1**
baz=294
BLY Banja Luka 63.45 307 *e*P **P 18 07 19.0 +0.2**
BLY Banja Luka 63.45 307 ⇓P **P 18 07 19.4 +0.6**
H20K Anotleneega Mo 63.45 27 P **P 18 07 18.4 -0.1**
baz=296,SNR=15
ARSA Arzberg 63.49 311 *e*P **P 18 07 19.1 0.0**
comp=Z,12nm,1.0s,SNR=8.9
G21K Allakaket 63.49 26 IAmb IAmb 18 07 23.1
comp=Z,23nm,0.8s
G21K Allakaket 63.49 26 P **P 18 07 18.8 +0.1**
baz=297,SNR=15
F22K John River 63.50 25 P **P 18 07 18.7 -0.1**
baz=298
TREB Trebinje 63.51 305 *e*P **P 18 07 18.4 -0.8**
C24K Franklin Bluff 63.54 22 P **P 18 07 19.6 +0.6**
baz=300
N15K Kwethluk River 63.60 34 P **P 18 07 20.0 +0.4**
baz=295
IMAR Indian Mountai 63.65 26 P **P 18 07 19.5 -0.3**
JMIC Jan Mayen 63.67 340 LR LR 18 38 33.3
comp=Z,474nm,18.1s,baz=39,slow=39
M16K Timber Creek 63.75 32 P **P 18 07 21.0 +0.5**
baz=295
D24K Happy Valley 63.79 22 IAmb IAmb 18 07 28.0
comp=Z,29nm,0.9s
D24K Happy Valley 63.79 22 P **P 18 07 21.2 +0.5**
baz=300
TOLK Toolik Lake Re 63.81 23 IAmb IAmb 18 07 27.0
comp=Z,29nm,0.9s
TOLK Toolik Lake Re 63.81 23 P **P 18 07 21.2 +0.4**
baz=300,SNR=9.4
J19K Poorman 63.84 29 IAmb IAmb 18 07 22.9
comp=Z,55nm,1.8s
J19K Poorman 63.84 29 P **P 18 07 21.7 +0.6**
baz=297
KHC Kasperske Hory 63.92 313 *e*P **P 18 07 22.1 +0.2**
KHC AMS AMS 18 36 00.0
comp=Z,1µm,13.7s
KHC Kasperske Hory 63.92 313 *ce*P **P 18 07 22.6 +0.7**
KHC pmax pmax
comp=Z,22nm,1.7s
I20K Naaghedeneel 63.92 28 P **P 18 07 21.8 +0.2**
baz=297
GERES GERESS Array B 63.96 313 P **P 18 07 22.4 +0.2**
comp=Z,6.0nm,0.9s,baz=54,slow=6.8,SNR=43
GERES LR LR 18 36 42.6
comp=Z,2µm,18.9s,baz=69,slow=37
comp=Z,6.0nm,0.9s
PERS Pernice 64.00 310 *i* P **P 18 07 22.4 -0.1**
G22K Bettles 64.00 25 P **P 18 07 22.3 +0.2**
baz=299
MOA Molln 64.03 312 *i* pP **P 18 07 23.0 +0.4**
comp=Z,19nm,1.1s,SNR=7.2
SOKA Soboth 64.03 310 *e*P **P 18 07 22.7 0.0**
comp=Z,29nm,1.0s,SNR=26
N16K Nishlik Lake 64.07 33 P **P 18 07 23.2 +0.6**
baz=296
E23K Chandalar 64.08 23 P **P 18 07 23.7 +1.0**
E23K IAmb IAmb 18 07 31.2
comp=Z,48nm,1.0s
E23K Chandalar 64.08 23 P **P 18 07 22.8 +0.1**
baz=300,SNR=16
H21K Melozitna Rive 64.15 26 P **P 18 07 24.0 +0.9**
baz=298
O15K Ungalikthiuk R 64.15 35 P **P 18 07 23.5 +0.4**
baz=295
FALS False Pass 64.20 40 P **P 18 07 23.9 +0.4**
baz=295
L18K Granite Mounta 64.20 31 P **P 18 07 24.0 +0.5**
baz=296
M17K Holitna River 64.25 32 P **P 18 07 24.0 +0.3**
baz=296,SNR=5.2
COLD Coldfoot 64.30 24 IAmb IAmb 18 07 29.4
comp=Z,36nm,0.9s
COLD Coldfoot 64.30 24 P **P 18 07 24.4 +0.4**
baz=300,SNR=22
J20K Nowinta River 64.33 28 IAmb IAmb 18 07 28.3
comp=Z,19nm,0.8s
J20K Nowinta River 64.33 28 P **P 18 07 25.3 +1.0**
baz=298,SNR=9.5
BOJS Bojanci 64.38 309 *i* P **P 18 07 25.3 +0.3**
OBKA Obir 64.41 310 *e*P **P 18 07 25.0 -0.2**
comp=Z,16nm,1.1s,SNR=9.3
E24K Your Creek 64.44 23 IAmb IAmb 18 07 30.0
comp=Z,28nm,0.8s
E24K Your Creek 64.44 23 P **P 18 07 26.1 +1.1**
baz=301,SNR=25
D25K Kavik River 64.45 22 IAmb IAmb 18 08 03.1
comp=Z,43nm,1.3s
D25K Kavik River 64.45 22 P **P 18 07 26.0 +0.9**
baz=302,SNR=6.5
BIOA Bad Ischl, Aus 64.48 312 *ep*P **P 18 07 25.9 +0.3**
comp=Z,28nm,1.1s,SNR=22
WRKA Warakurna 64.53 154 P **P 18 07 26.4 +0.4**
comp=Z,29nm,1.3s
S12K Black Hills 64.55 39 P **P 18 07 26.4 +0.6**
baz=295
H22K Ishtalitna Cre 64.55 26 P **P 18 07 26.6 +0.9**
baz=299
C26K Camden Bay 64.56 21 P **P 18 07 26.7 +1.0**
baz=303
DBG Daneborg 64.56 345 *i* P **P 18 07 24.6 -1.1**
DBG IAmb IAmb 18 07 27.7
comp=Z,18nm,1.0s
LJU Ljubljana 64.62 310 *i* P **P 18 07 26.4 -0.1**

G23K Bananza Creek 64.62 25 IAmb IAmb 18 07 30.8
comp=Z,19nm,0.8s
G23K Bananza Creek 64.62 25 P **P 18 07 27.0 +0.8**
baz=300
I21K Tanana 64.68 27 P **P 18 07 27.0 +0.5**
baz=299
N17K Nushagak Hills 64.75 33 P **P 18 07 27.6 +0.5**
baz=297
K20K Telida 64.75 29 IAmb IAmb 18 07 29.3
comp=Z,71nm,1.8s
K20K Telida 64.75 29 P **P 18 07 27.5 +0.5**
baz=298
O16K Kokwok River B 64.76 34 P **P 18 07 27.7 +0.5**
baz=297
M18K Stony River 64.90 31 P **P 18 07 28.7 +0.7**
baz=298
KBA Koelnbreinsper 64.92 311 *ep*P **P 18 07 28.8 +0.2**
comp=Z,12nm,1.0s,SNR=9.9
F24K Squaw Lake 64.93 24 IAmb IAmb 18 08 19.6
comp=Z,38nm,1.6s
F24K Squaw Lake 64.93 24 P **P 18 07 29.0 +0.8**
baz=301
L19K White Mountain 64.98 30 IAmb IAmb 18 07 37.0
comp=Z,28nm,1.1s
L19K White Mountain 64.98 30 P **P 18 07 29.4 +0.8**
baz=298
MORW Morawa 65.05 167 P **P 18 07 30.2 +0.9**
comp=Z,88nm,1.5s
MORW Morawa 65.05 167 P **P 18 07 27.7 -1.6**
MORW Morawa 65.05 167 P **P 18 07 30.8 +1.5**
P16K Nushagak River 65.06 34 P **P 18 07 28.8 -0.3**
baz=297
C27K Jago River 65.07 21 IAmb IAmb 18 07 36.9
comp=Z,36nm,0.9s
C27K Jago River 65.07 21 P **P 18 07 29.9 +0.8**
baz=304
GRA1 Grafenberg Arr 65.08 314 IAmb IAmb 18 07 31.3
comp=Z,41nm,1.1s
GRFO Grafenberg 65.08 314 P **P 18 07 28.0 -1.4**
GRFO IAmb IAmb 18 07 31.3
comp=Z,45nm,1.2s
GRFO Grafenberg 65.08 314 P **P 18 07 28.0 -1.4**
GRFO pmax pmax
comp=Z,45nm,1.2s
O17K Koliganek Bris 65.13 33 P **P 18 07 29.7 +0.2**
baz=297
LESA Schwarzleotal 65.18 312 *ep*P **P 18 07 30.4 +0.2**
comp=Z,44nm,1.0s,SNR=31
CHUM Lake Minchumin 65.19 28 P **P 18 07 30.2 +0.4**
baz=299
MLY Manley 65.21 27 IAmb IAmb 18 07 35.0
comp=Z,22nm,0.8s
MLY Manley 65.21 27 P **P 18 07 30.8 +0.8**
baz=300
SABO M.te Sabotino 65.23 310 IAmb IAmb 18 07 31.1
comp=Z,49nm,1.2s
H23K Yukon River 65.24 26 IAmb IAmb 18 07 35.4
comp=Z,29nm,1.0s
H23K Yukon River 65.24 26 P **P 18 07 30.7 +0.5**
baz=301
TRI Trieste 65.24 310 IAmb IAmb 18 07 30.1
comp=Z,30nm,1.0s
L20K Farewell, AK 65.24 30 P **P 18 07 30.6 +0.3**
baz=299
N18K Kilae Creek 65.25 32 P **P 18 07 30.8 +0.5**
baz=299
M19K Big River Lodg 65.31 31 P **P 18 07 31.1 +0.4**
baz=298
E25K Arctic Village 65.35 23 IAmb IAmb 18 07 32.4
comp=Z,56nm,1.8s
E25K Arctic Village 65.35 23 P **P 18 07 31.0 +0.1**
baz=303
QIS Mount Isa 65.49 142 P **P 18 07 32.2 -0.1**
comp=Z,100nm,1.1s
QIS Mount Isa 65.49 142 P **P 18 07 32.4 0.0**
G24K Hadweenzic Riv 65.50 24 IAmb IAmb 18 07 37.2
comp=Z,26nm,0.8s
G24K Hadweenzic Riv 65.50 24 P **P 18 07 32.5 +0.7**
baz=302,SNR=14
MATE Matera 65.50 303 ⇑P **P 18 07 32.0 -0.3**
MATE Matera 65.50 303 *e*P **P 18 07 28.9 -3.3**
ASAR Alice Springs 65.50 149 P **P 18 07 31.6 -0.8**
ASAR Alice Springs 65.50 149 P **P 18 07 32.5 +0.2**
comp=Z,17nm,0.8s,baz=331,slow=6.3,SNR=129
ASAR PKPPKP **P'P'df 18 36 11.7 +5.2**
comp=Z,2.0nm,0.9s,baz=147,slow=2.5,SNR=5.9
comp=Z,17nm,0.8s
AUALC St Philip's Co 65.51 149 P **P 18 07 33.2 +0.8**
SDPT Sand Point 65.51 39 P **P 18 07 32.1 +0.1**
baz=297
S14K Fog Glacier 65.56 37 P **P 18 07 33.0 +0.5**
baz=297
ABTA Abfaltersbach 65.58 311 *e*P **P 18 07 31.9 -0.9**
comp=Z,18nm,1.2s,SNR=10
BPAW Bear Paw Mtn. 65.58 28 IAmb IAmb 18 07 35.6
comp=Z,39nm,1.2s
BPAW Bear Paw Mtn. 65.58 28 P **P 18 07 33.1 +0.7**
baz=300,SNR=12
F25K Christian Rive 65.61 23 P **P 18 07 32.8 +0.2**
baz=303,SNR=13
I23K Minto, Yukon-K 65.65 26 IAmb IAmb 18 07 34.4
comp=Z,36nm,1.2s
I23K Minto, Yukon-K 65.65 26 P **P 18 07 33.1 +0.3**
baz=301,SNR=11
SGRT San Giovanni R 65.67 305 IAmb IAmb 18 07 35.0
comp=Z,29nm,1.1s
P17K Kvichak River 65.70 34 P **P 18 07 33.8 +0.6**
baz=298
PPLA Purkeypile 65.72 29 P **P 18 07 33.5 0.0**
baz=300,SNR=6.7
N19K Bonanza Creek 65.79 32 P **P 18 07 34.5 +0.6**
baz=299
H24K Noodor Dome 65.82 25 P **P 18 07 34.2 +0.2**
baz=302
M20K Styx River 65.84 30 IAmb IAmb 18 07 39.2
comp=Z,21nm,0.9s
M20K Styx River 65.84 30 P **P 18 07 34.4 +0.1**
baz=299
Q16K King Salmon 65.84 34 P **P 18 07 34.2 +0.1**
baz=298
KTH Kantishna Hill 65.89 28 IAmb IAmb 18 07 42.8
comp=Z,38nm,1.1s
WTTA Wattenberg 65.89 312 *i* P **P 18 07 34.8 -0.1**
comp=Z,38nm,1.0s,SNR=18
WATA Walderalm 65.89 312 *i* P **P 18 07 34.7 -0.2**
comp=Z,28nm,1.0s,SNR=15
G25K Bearman Lake 65.92 24 P **P 18 07 35.3 +0.8**
baz=303,SNR=7.4
R16K Pilot Point 65.93 36 P **P 18 07 34.8 +0.1**
baz=298
O18K Koktuh Hills 65.94 33 P **P 18 07 35.0 +0.2**
baz=299
ACER Acerenza 65.96 304 IAmb IAmb 18 07 38.1
comp=Z,40nm,0.9s
F26K Sheenjek River 66.03 23 P **P 18 07 35.8 +0.4**
baz=304
MTSU Mount Surprise 66.04 136 P **P 18 07 36.4 +0.4**
comp=Z,69nm,0.8s
MTSU Mount Surprise 66.04 136 P **P 18 07 36.8 +0.9**
BMAR Burnt Mountain 66.05 23 P **P 18 07 35.4 0.0**
NEA2 Nenana 66.05 27 IAmb IAmb 18 07 43.6
comp=Z,30nm,1.0s
NEA2 Nenana 66.05 27 P **P 18 07 35.5 +0.1**
baz=302,SNR=10
D27M Malcolm River 66.09 20 IAmb IAmb 18 07 37.3
comp=Z,55nm,1.6s
D27M Malcolm River 66.09 20 P **P 18 07 35.3 -0.4**
baz=306
TIP Timpagrande 66.11 302 IAmb IAmb 18 07 41.5
comp=Z,41nm,1.2s
TIP Tinpagrande 66.11 302 ⇓P **P 18 07 36.6 +0.2**
P18K Big Mountain, 66.15 33 P **P 18 07 36.5 +0.3**
baz=299
O19K Port Alsworth 66.16 32 P **P 18 07 36.8 +0.6**
baz=299
SQTA Sankt Quirin 66.17 312 *i* P **P 18 07 36.4 -0.2**
comp=Z,29nm,1.1s,SNR=12
MOTA Moosalm 66.18 312 *i* P **P 18 07 36.3 -0.4**
comp=Z,29nm,1.0s,SNR=12
TRF Thorofare Moun 66.18 28 P **P 18 07 36.7 +0.1**
baz=301
CHNA Chernabura Isl 66.20 39 P **P 18 07 36.8 +0.3**
baz=297
H25L Birch Creek 66.29 24 P **P 18 07 36.7 -0.2**
baz=304
RETA Reutte 66.32 312 *e*P **P 18 07 37.4 -0.2**
comp=Z,20nm,1.3s,SNR=8.3
COLA College 66.34 26 P **P 18 07 37.9 +0.6**

COLA College 66.34 26 *i* P **P 18 07 37.7 +0.5**
COLA pmax pmax
comp=Z,90nm,0.8s
COLA College 66.34 26 P **P 18 07 37.9 +0.6**
baz=302
POKR Poker Plat Res 66.36 26 P **P 18 07 38.5 +1.1**
baz=303,SNR=14
CUC Castrocucco 66.40 303 IAmb IAmb 18 07 41.8
comp=Z,19nm,0.6s
CTI Castel Tesino 66.42 311 IAmb IAmb 18 07 38.7
comp=Z,33nm,1.4s
SKT Skwentna 66.45 30 IAmb IAmb 18 07 48.7
comp=Z,43nm,1.4s
SKT Skwentna 66.45 30 P **P 18 07 37.8 -0.2**
baz=301
R17L Mt. Peulik Vol 66.48 35 P **P 18 07 37.6 -0.7**
baz=299
E27K Coleen River 66.53 22 IAmb IAmb 18 07 40.7
comp=Z,33nm,1.2s
E27K Coleen River 66.53 22 P **P 18 07 38.7 +0.2**
baz=306,SNR=9.0
FETA Feichten 66.55 312 *i* P **P 18 07 38.8 -0.3**
comp=Z,22nm,1.0s,SNR=14
MCK McKinley 66.55 27 IAmb IAmb 18 07 45.0
comp=Z,20nm,0.8s
MCK McKinley 66.55 27 P **P 18 07 38.4 -0.3**
baz=302,SNR=8.7
SPCR Spurr Chakacha 66.56 31 P **P 18 07 39.4 +0.5**
baz=300
NEEM North Greenlan 66.57 354 *i* P **P 18 07 38.3 -0.6**
NEEM IAmb IAmb 18 07 40.8
comp=Z,225nm,1.1s
G26K Porcupine Rive 66.58 23 IAmb IAmb 18 07 44.4
comp=Z,27nm,0.8s
G26K Porcupine Rive 66.58 23 P **P 18 07 39.5 +0.7**
baz=305,SNR=21
LRW Lerwick 66.61 328 *e*P **P 18 07 38.2 -0.8**
Q18K Katmai Hardscr 66.61 34 P **P 18 07 39.1 -0.1**
baz=299
D28M Stokes Point 66.67 20 P **P 18 07 40.0 +0.8**
baz=308
BLDU Ballidu 66.68 167 P **P 18 07 40.2 +0.4**
comp=Z,95nm,1.3s
BLDU Ballidu 66.68 167 P **P 18 07 41.0 +1.2**
CUT Chulitna 66.74 29 P **P 18 07 39.9 +0.1**
baz=302,SNR=9.8
IL31 66.74 26 IAmb IAmb 18 07 47.5
comp=Z,24nm,0.9s
ILAR Eielson Array 66.74 26 P **P 18 07 39.1 -0.8**
ILAR Eielson Array 66.74 26 P **P 18 07 39.4 -0.5**
comp=Z,17nm,0.8s,baz=288,slow=5.8,SNR=94
ILAR PKPPKP **P'P'df 18 36 10.6 -6.2**
comp=Z,0.7nm,0.8s,baz=177,slow=3.3,SNR=4.4
ILAR LR LR 18 38 46.7
comp=Z,1µm,18.4s,baz=289,slow=38
comp=Z,17nm,0.8s
RND Reindeer 66.76 28 IAmb IAmb 18 07 51.7
comp=Z,25nm,1.0s
CAMP Campotosto 66.87 307 IAmb IAmb 18 07 45.9
comp=Z,31nm,1.0s
E28M Babbage River 66.89 21 IAmb IAmb 18 07 43.1
comp=Z,27nm,1.1s
E28M Babbage River 66.89 21 P **P 18 07 41.1 +0.3**
baz=308,SNR=11
P19K Oil Pt 66.91 32 P **P 18 07 41.0 0.0**
baz=300
HDA Harding Lake 66.92 26 IAmb IAmb 18 07 41.5
comp=Z,35nm,1.4s
HDA Harding Lake 66.92 26 P **P 18 07 41.2 +0.2**
baz=303,SNR=6.0
NRCA Norcia 66.93 307 IAmb IAmb 18 07 45.1
comp=Z,33nm,0.7s
DAVA Damuels 66.95 312 *e*P **P 18 07 40.8 -0.9**
comp=Z,15nm,1.3s
O20K Slope Mountain 66.96 32 P **P 18 07 41.0 -0.4**
baz=300
AQU L'Aquila 66.96 306 *e*P **P 18 07 42.0 +0.3**
FUORN Ofenpass-Fuorn 67.02 312 IAmb IAmb 18 07 52.1
comp=Z,27nm,0.8s
SUA Susitna One 67.03 30 P **P 18 07 41.9 0.0**
baz=301
Q19K Cape Douglas, 67.09 33 P **P 18 07 42.4 +0.2**
baz=300
M22K Willow 67.14 30 P **P 18 07 42.4 +0.1**
baz=302
WAT1 Susitna Watana 67.18 28 P **P 18 07 42.7 -0.1**
baz=303
CAPN Captain Cook N 67.23 31 P **P 18 07 43.5 +0.5**
baz=301
G27K Doyon Strip 67.34 23 IAmb IAmb 18 07 52.4
comp=Z,26nm,0.9s
G27K Doyon Strip 67.34 23 P **P 18 07 44.6 +1.0**
baz=307,SNR=26
J25K Salcha River, 67.37 26 P **P 18 07 43.6 -0.3**
baz=305
CESX Cesi 67.38 307 IAmb IAmb 18 07 46.8
comp=Z,25nm,0.9s
BFO Black Forest 67.39 314 P **P 18 07 42.8 -1.5**
BFO IAmb IAmb 18 07 45.3
comp=Z,34nm,1.5s
BFO Black Forest 67.39 314 P **P 18 07 42.8 -1.5**
BFO pmax pmax
comp=Z,34nm,1.5s
F28M Old Crow 67.40 22 IAmb IAmb 18 07 52.0
comp=Z,24nm,0.9s
F28M Old Crow 67.40 22 P **P 18 07 44.3 +0.3**
baz=308,SNR=24
E29M Blow River 67.50 20 IAmb IAmb 18 07 47.0
comp=Z,43nm,1.1s
E29M Blow River 67.50 20 P **P 18 07 45.0 +0.5**
baz=309
DHY Denali Highway 67.50 28 P **P 18 07 44.8 -0.1**
baz=304,SNR=9.5
SCO Scoresbysund 67.52 343 *i* P **P 18 07 43.8 -0.8**
SCO IAmb IAmb 18 07 45.8
comp=Z,18nm,1.1s
HOM Homer 67.60 32 P **P 18 07 45.0 -0.3**
baz=301
PMR Palmer 67.62 29 IAmb IAmb 18 07 48.4
comp=Z,29nm,0.8s
PMR Palmer 67.62 29 P **P 18 07 45.3 -0.1**
PMR Palmer 67.62 29 P **P 18 07 45.1 -0.3**
baz=303,SNR=8.7
WAT6 Susitna Watana 67.63 28 P **P 18 07 45.4 -0.3**
baz=303
TUE Stuetta 67.65 312 IAmb IAmb 18 07 57.0
comp=Z,17nm,0.8s
RC01 Rabbit Creek A 67.65 30 P **P 18 07 45.2 -0.5**
baz=302
MEM Membach 67.66 317 *d*P **P 18 07 46.7 +0.8**
comp=Z,9.6nm,1.3s
K24K Donnelly Dome 67.69 27 P **P 18 07 45.6 -0.3**
baz=304
CHIR Chirikof Islan 67.72 37 P **P 18 07 46.4 +0.2**
baz=300
H27K Steamboat Moun 67.73 23 P **P 18 07 46.7 +0.5**
baz=307,SNR=49
I26K Coal Creek Min 67.74 24 IAmb IAmb 18 07 51.1
comp=Z,28nm,0.8s
I26K Coal Creek Min 67.74 24 P **P 18 07 46.5 +0.3**
baz=306
BHOU Houvegnez 67.78 317 *d*P **P 18 07 47.0 +0.2**
Q20K Shuyak Island 67.81 33 P **P 18 07 46.6 -0.1**
baz=301
SML Sawmill 67.83 29 P **P 18 07 46.8 -0.1**
baz=303,SNR=9.4
OSSC Osservatorio P 67.83 308 IAmb IAmb 18 07 48.2
comp=Z,35nm,1.2s
MUN Mundaring 67.92 168 P **P 18 07 47.9 +0.4**
comp=Z,106nm,1.1s
MUN Mundaring 67.92 168 P **P 18 07 48.4 +0.8**
AUMAZ Mazenod Senior 67.92 168 P **P 18 07 48.9 +1.3**
KNK Knik Glacier 67.99 29 IAmb IAmb 18 07 52.4
comp=Z,26nm,0.8s
KNK Knik Glacier 67.99 29 P **P 18 07 47.7 -0.2**
baz=303
WLF Walferdange 68.03 316 IAmb IAmb 18 07 50.4
comp=Z,42nm,1.0s
WLF Walferdange 68.03 316 *d*P **P 18 07 48.9 +0.6**
comp=Z,24nm,1.1s
RIDG Independent Ri 68.06 26 P **P 18 07 48.0 -0.3**
baz=305,SNR=22
M23K Glacier View 68.07 29 P **P 18 07 49.0 +0.6**
baz=304,SNR=13
J26L Joseph Creek 68.08 25 IAmb IAmb 18 07 49.4
comp=Z,28nm,1.0s
J26L Joseph Creek 68.08 25 P **P 18 07 48.1 -0.4**
baz=306

I27K	**Kandik River**	68.08	24	P	P	18 07 49.0	+0.6
	baz=307						
A36M	**Sachs Harbour**	68.08	14	P	P	18 07 48.6	+0.4
	baz=319,SNR=16						
OHAK	**Old Harbor**	68.12	35	P	P	18 07 48.7	0.0
	baz=301						
KDAK	**Kodiak Island**	68.16	34	LR	LR	18 39 56.4	
	comp=Z,1µm,19.2s,baz=300,slow=38						
KDAK	**Kodiak Island**	68.16	34	P	P	18 07 49.0	+0.1
	baz=301						
SCM	**Sheep Creek Mo**	68.21	29	P	P	18 07 49.0	-0.2
	baz=304,SNR=11						
SCRK	**Sand Creek**	68.24	26	P	P	18 07 49.5	0.0
	baz=306,SNR=43						
PAX	**Paxson**	68.28	27	P	P	18 07 50.1	+0.4
	baz=305,SNR=5.6						
BGES	**Gesves**	68.29	317	*d*P	P	18 07 49.9	0.0
BGES				*d*PcP	PcP	18 08 14.5	-1.0
SEW	**Seward**	68.30	31	P	P	18 07 49.4	-0.3
	baz=303						
RCHB	**Rochefort**	68.32	317	*d*P	P	18 07 50.0	0.0
	comp=Z,12nm,1.3s						
PWL	**Port Wells**	68.35	30	P	P	18 07 50.0	0.0
	baz=304						
TV1H	**Townsville Har**	68.36	135	P	P	18 07 51.5	+0.9
DOT	**Dot Lake**	68.40	26	IAmb	IAmb	18 07 54.5	
	comp=Z,24nm,0.8s						
G29M	**Pine Creek**	68.40	22	IAmb	IAmb	18 07 56.3	
	comp=Z,26nm,0.8s						
G29M	**Pine Creek**	68.40	22	P	P	18 07 50.6	+0.3
	baz=310,SNR=15						
UCC	**Uccle**	68.49	318	*d*P	P	18 07 51.1	0.0
	comp=Z,11nm,0.9s						
UCC				*d*PcP	PcP	18 08 15.2	-1.1
BMRD	**Maredsous**	68.50	317	*d*P	P	18 07 51.0	-0.2
	comp=Z,8.6nm,0.8s						
BMRD				*d*PcP	PcP	18 08 16.0	-0.3
M24K	**Tolsona, Glenn**	68.50	28	P	P	18 07 51.7	+0.6
	baz=305,SNR=9.3						
KMBL	**Kambalda**	68.53	162	P	P	18 07 51.5	+0.1
	comp=Z,36nm,1.1s						
MSSA	**Maissana**	68.56	310	IAmb	IAmb	18 07 52.7	
	comp=Z,37nm,1.3s						
F30M	**Barrier River**	68.61	21	IAmb	IAmb	18 07 53.9	
	comp=Z,24nm,0.8s						
F30M	**Barrier River**	68.61	21	P	P	18 07 52.4	+0.8
	baz=311						
DOU	**Dourbes**	68.70	317	*d*P	P	18 07 52.2	-0.2
	comp=Z,9.1nm,1.1s						
HARP	**HAARP**	68.73	28	P	P	18 07 53.3	+0.9
	baz=306						
I28M	**Miner Creek**	68.73	23	IAmb	IAmb	18 07 57.2	
	comp=Z,39nm,0.8s						
I28M	**Miner Creek**	68.73	23	P	P	18 07 53.0	+0.5
	baz=309,SNR=45						
H29M	**Whitestone**	68.74	22	IAmb	IAmb	18 08 43.6	
	comp=Z,26nm,1.2s						
H29M	**Whitestone**	68.74	22	P	P	18 07 53.0	+0.6
	baz=310,SNR=9.2						
INK	**Inuvik**	68.77	19	IAmb	IAmb	18 07 54.3	
	comp=Z,55nm,1.4s						
INK	**Inuvik**	68.77	19	LR	LR	18 43 30.4	
	comp=Z,595nm,18.2s,baz=326,slow=41						
INK	**Inuvik**	68.77	19	P	P	18 07 53.0	+0.5
	baz=313,SNR=16						
GLI	**Glacier Island**	68.84	29	P	P	18 07 53.3	+0.2
	baz=304						
K27K	**Chicken**	68.88	25	IAmb	IAmb	18 07 58.3	
	comp=Z,28nm,0.9s						
K27K	**Chicken**	68.88	25	P	P	18 07 53.6	+0.3
	baz=307						
G30M	**tAoh Zraii Nji**	68.90	21	P	P	18 07 53.9	+0.5
	baz=311						
AUHAR	**St Anne's Scho**	68.95	168	P	P	18 07 55.6	+1.6
KLU	**Klutina**	68.95	29	P	P	18 07 54.7	+0.7
	baz=305,SNR=14						
NWAO	**Narrogin (SRO)**	69.03	167	P	P	18 07 55.0	+0.5
	comp=Z,123nm,1.1s						
NWAO	**Narrogin (SRO)**	69.03	167	P	P	18 07 54.0	-0.4
NWAO	**Narrogin (SRO)**	69.03	167	LR	LR	18 40 51.3	
	comp=Z,388nm,18.8s,baz=340,slow=38						
NWAO	**Narrogin (SRO)**	69.03	167	P	P	18 07 56.1	+1.6
NWAO	**Narrogin (SRO)**	69.03	167	P	P	18 07 55.5	+1.0
NWAO	**Narrogin (SRO)**	69.03	167	P	P	18 07 54.1	-0.4
NWAO				pmax	pmax		
	comp=Z,99nm,1.0s						
L26K	**Log Cabin Wild**	69.03	27	P	P	18 07 54.3	-0.1
	baz=307						
EPYK	**Eagle Plains**	69.15	22	IAmb	IAmb	18 08 01.9	
	comp=Z,30nm,1.0s						
EPYK	**Eagle Plains**	69.15	22	P	P	18 07 55.5	+0.5
	baz=311,SNR=13						
P23K	**Montague Islan**	69.21	30	P	P	18 07 56.6	+1.1
	baz=304						
DIV	**Divide**	69.22	29	IAmb	IAmb	18 07 59.6	
	comp=Z,21nm,0.8s						
F31M	**Tsiigehtchic**	69.30	20	IAmb	IAmb	18 08 00.1	
	comp=Z,22nm,0.9s						
F31M	**Tsiigehtchic**	69.30	20	P	P	18 07 56.1	+0.2
	baz=313						
SUMG	**Summit**	69.30	348	*i* P	P	18 07 55.0	-1.3
SUMG				IAmb	IAmb	18 07 57.3	
	comp=Z,61nm,1.2s						
N25K	**Chitina, Valde**	69.41	28	IAmb	IAmb	18 07 58.2	
	comp=Z,24nm,0.8s						
N25K	**Chitina, Valde**	69.41	28	P	P	18 07 57.2	+0.4
	baz=306,SNR=9.8						
M26K	**Nabesna, AK**	69.54	27	IAmb	IAmb	18 08 05.6	
	comp=Z,22nm,0.9s						
M26K	**Nabesna, AK**	69.54	27	P	P	18 07 58.3	+0.8
	baz=307,SNR=8.8						
L27K	**Beaver Creek,**	69.56	26	P	P	18 07 57.7	+0.1
L27K				IAmb	IAmb	18 08 02.6	
	comp=Z,25nm,0.8s						
L27K	**Beaver Creek,**	69.56	26	P	P	18 07 58.4	+0.8
	baz=308,SNR=30						
EYAK	**Cordova Ski Ar**	69.57	29	P	P	18 07 58.5	+0.9
	baz=306						
BCAR	**Beaver Creek A**	69.57	26	P	P	18 07 57.2	-0.5
LODK	**Lodwar**	69.58	259	P	P	18 07 58.6	+0.1
	SNR=11						
EDMD	**Edmundbyers**	69.72	323	*e*P	P	18 07 57.9	-0.8
EDMD				IAmb	IAmb	18 07 59.4	
	comp=Z,16nm,1.0s						
FORT	**Forrest**	69.74	157	P	P	18 07 59.6	+0.7
	comp=Z,30nm,0.9s						
FORT	**Forrest**	69.74	157	IAmb	IAmb	18 08 04.0	
	comp=Z,23nm,0.8s						
BMRM	**Bremner River**	69.78	29	P	P	18 07 59.2	+0.2
	baz=306,SNR=18						
DAWY	**Dawson**	69.78	24	P	P	18 07 59.2	+0.3
	baz=310,SNR=20						
HNR	**Honiara**	69.83	118	P	P	18 07 59.3	-0.6
	comp=Z,11nm,0.3s,baz=311,slow=22,SNR=4.1						
HNR				LR	LR	18 36 59.0	
	comp=Z,155nm,20.3s,baz=323,slow=34						
	comp=Z,11nm,0.3s						
INVG	**Invergeldie, C**	69.85	325	*e*P	P	18 07 58.6	-0.9
INVG				IAmb	IAmb	18 08 02.3	
	comp=Z,10nm,0.8s						
RES	**Resolute Bay**	69.87	5	IAmb	IAmb	18 08 01.0	
	comp=Z,36nm,1.2s						
RES	**Resolute Bay**	69.87	5	LR	LR	18 40 13.5	
	comp=Z,447nm,18.6s,baz=356,slow=37						
BNI	**Bardonecchia**	69.97	311	IAmb	IAmb	18 08 07.0	
	comp=Z,26nm,1.1s						
M27K	**Edge Creek, AK**	69.98	27	P	P	18 08 01.2	+0.9
	baz=308,SNR=13						
Q23K	**Middleton Isla**	69.98	31	P	P	18 08 01.1	+0.9
	baz=306						
I30M	**Mount Dempster**	70.02	23	IAmb	IAmb	18 08 04.6	
	comp=Z,30nm,0.8s						
I30M	**Mount Dempster**	70.02	23	P	P	18 08 00.6	+0.1
	baz=312,SNR=32						
EKA	**Eskdalemuir Ar**	70.03	324	P	P	18 08 00.0	-0.5
	comp=Z,12nm,0.8s,baz=63,slow=6.4,SNR=14						
	comp=Z,12nm,0.8s						
ESK	**Eskdalemuir**	70.06	324	*e*P	P	18 08 00.3	-0.4
ESK				IAmb	IAmb	18 08 03.7	
	comp=Z,10nm,0.8s						
MCARA	**McCarthy VSAT**	70.14	28	IAmb	IAmb	18 08 05.5	
	comp=Z,26nm,0.8s						
MCARA	**McCarthy VSAT**	70.14	28	P	P	18 08 01.6	+0.4
	baz=307						
H31M	**Peel River**	70.25	22	P	P	18 08 02.0	+0.2
	baz=313,SNR=29						
C36M	**Paulatuk**	70.36	16	IAmb	IAmb	18 08 05.5	
	comp=Z,40nm,0.8s						
C36M	**Paulatuk**	70.36	16	P	P	18 08 02.9	+0.6
	baz=321						
LBWR	**Ladybower, Pea**	70.37	322	*e*P	P	18 08 02.2	-0.5
LBWR				IAmb	IAmb	18 08 05.7	
	comp=Z,22nm,0.7s						
J30M	**Hart River**	70.46	23	IAmb	IAmb	18 08 07.6	
	comp=Z,22nm,0.8s						
J30M	**Hart River**	70.46	23	P	P	18 08 03.8	+0.5
	baz=312,SNR=26						
KAIM	**Kayak Island**	70.48	29	P	P	18 08 03.7	+0.5
	baz=307						
CRQM	**Cirque**	70.48	28	IAmb	IAmb	18 08 15.3	
	comp=Z,22nm,0.9s						
CRQE	**Cirque**	70.50	28	P	P	18 08 04.0	+0.5
	baz=308						
CWF	**Charnwood Fore**	70.51	321	*e*P	P	18 08 03.6	+0.1
K29M	**Barlow Dome**	70.56	24	IAmb	IAmb	18 08 08.6	
	comp=Z,27nm,0.8s						
K29M	**Barlow Dome**	70.56	24	P	P	18 08 04.0	+0.1
	baz=311,SNR=32						
LAWE	**Loch Awe, Argy**	70.57	326	*e*P	P	18 08 03.5	-0.3
LAWE				IAmb	IAmb	18 08 04.5	
	comp=Z,9.0nm,0.9s						
TGL	**Tana Glacier**	70.60	28	IAmb	IAmb	18 08 07.8	
	comp=Z,23nm,0.9s						
RKGY	**Rocky Gully**	70.62	168	P	P	18 08 05.0	+0.7
	comp=Z,95nm,1.5s						
NEWG	**New Galloway**	70.66	324	*e*P	P	18 08 04.2	-0.2
NEWG				IAmb	IAmb	18 08 07.2	
	comp=Z,11nm,0.7s						
KMBO	**Kilima Mbogo**	70.79	254	*i* P	P	18 08 07.4	+1.3
KMBO				pmax	pmax		
	comp=Z,13nm,0.4s						
L29M	**L29M**	70.83	25	IAmb	IAmb	18 08 07.7	
	comp=Z,55nm,1.2s						
L29M	**L29M**	70.83	25	P	P	18 08 06.1	+0.7
	baz=311,SNR=18						
KIBK	**Kibwezi**	70.91	253	IAmb	IAmb	18 08 10.6	
	comp=Z,45nm,1.2s						
KIBK	**Kibwezi**	70.91	253	P	P	18 08 07.5	+0.9
	SNR=12						
CTG	**Chitna Glacier**	71.05	28	P	P	18 08 07.8	+0.9
	baz=309,SNR=12						
CTGM	**Chitina Glacie**	71.05	28	IAmb	IAmb	18 08 11.1	
	comp=Z,22nm,0.9s						
M29M	**Somme Creek**	71.15	26	IAmb	IAmb	18 08 12.6	
	comp=Z,21nm,0.8s						
M29M	**Somme Creek**	71.15	26	P	P	18 08 08.7	+1.2
	baz=311,SNR=24						
MAYO	**Mayo, Yukon**	71.27	24	P	P	18 08 08.4	+0.4
	baz=312						
YAH	**Yahtse**	71.27	28	IAmb	IAmb	18 08 09.9	
	comp=Z,34nm,1.1s						
MESA	**MESA**	71.30	28	P	P	18 08 09.4	+0.9
	baz=309						
BORG	**Borgarnes**	71.33	338	P	P	18 08 07.3	-1.0
BORG				IAmb	IAmb	18 08 12.6	
	comp=Z,41nm,1.1s						
BORG	**Borgarnes**	71.33	338	LR	LR	18 41 13.0	
	comp=Z,277nm,21.9s,baz=51,slow=37						
BORG	**Borgarnes**	71.33	338	P	P	18 08 07.3	-1.0
BORG				pmax	pmax		
	comp=Z,41nm,1.1s						
FOEL	**Foel Wylfa**	71.39	322	*e*P	P	18 08 08.7	-0.3
FOEL				IAmb	IAmb	18 08 11.7	
	comp=Z,18nm,0.7s						
UPNV	**Upernavik**	71.41	353	*i* P	P	18 08 08.1	-0.6
UPNV				IAmb	IAmb	18 08 10.7	
	comp=Z,80nm,1.0s						
YUK8	**Steele Glacier**	71.43	27	P	P	18 08 10.3	+0.9
	baz=310,SNR=26						
HLM1	**Long Mynd**	71.44	322	*e*P	P	18 08 08.3	-0.9
HLM1				IAmb	IAmb	18 08 10.4	
	comp=Z,18nm,1.0s						
TABL	**Table Mountain**	71.45	28	IAmb	IAmb	18 08 17.2	
	comp=Z,31nm,1.0s						
STRD	**Stroud**	71.48	321	*e*P	P	18 08 08.6	-0.8
O28M	**Mount Upton**	71.60	27	P	P	18 08 11.7	+1.3
	baz=310						
M30M	**Minto, Yukon**	71.65	25	P	P	18 08 10.9	+0.5
	baz=312,SNR=15						
LLW	**Llanuwychllyn**	71.65	322	*e*P	P	18 08 09.9	-0.6
LLW				IAmb	IAmb	18 08 11.6	
	comp=Z,8.1nm,1.1s						
MCH1	**Michaelchurch**	71.79	321	*e*P	P	18 08 10.8	-0.5
MCH1				IAmb	IAmb	18 08 12.7	
	comp=Z,18nm,0.9s						
YUK4	**Talbot Arm**	71.81	26	P	P	18 08 12.1	+0.5
	baz=311,SNR=6.5						
PCA	**Pinnacle**	72.01	28	IAmb	IAmb	18 08 17.3	
	comp=Z,31nm,0.9s						
PINM	**Pinnacle**	72.01	28	P	P	18 08 13.1	+0.5
	baz=310						
INKA	**Innaminka**	72.09	145	IAmb	IAmb	18 08 15.7	
	comp=Z,60nm,1.0s						
YUK6	**Outpost Mounta**	72.17	27	P	P	18 08 14.4	+0.6
	baz=311						
N30M	**Aishikik Lake**	72.29	26	IAmb	IAmb	18 08 16.7	
	comp=Z,34nm,1.2s						
N30M	**Aishikik Lake**	72.29	26	P	P	18 08 15.4	+1.1
	baz=312,SNR=19						
NUUG	**Nuugaatsiaq**	72.29	352	*i* P	P	18 08 13.1	-0.9
NUUG				IAmb	IAmb	18 08 15.8	
	comp=Z,22nm,0.8s						
POIN	**Pond Inlet**	72.48	0	IAmb	IAmb	18 08 17.1	
	comp=Z,74nm,1.2s						
O29M	**Mount Kennedy**	72.52	27	P	P	18 08 16.6	+0.9
	baz=311,SNR=14						
HYT	**Haines Junctio**	72.57	26	IAmb	IAmb	18 08 21.0	
	comp=Z,31nm,0.8s						
HYT	**Haines Junctio**	72.57	26	P	P	18 08 16.6	+0.6
	baz=312,SNR=31						
PNL	**Peninsula**	72.62	28	P	P	18 08 17.4	+1.2
PNL	**Peninsula**	72.62	28	P	P	18 08 17.1	+0.9
	baz=311						
N31M	**Braeburn, Yuko**	72.74	25	P	P	18 08 17.6	+0.7
	baz=313,SNR=39						
SAATT	**Saattut**	72.79	351	*i* P	P	18 08 16.5	-0.4
SAATT				IAmb	IAmb	18 08 18.4	
	comp=Z,24nm,0.8s						
QLP	**Quilpie**	72.84	142	P	P	18 08 18.8	+1.0
	comp=Z,171nm,1.4s						
QLP	**Quilpie**	72.84	142	P	P	18 08 18.7	+1.0
KEST	**Kesra**	72.93	302	P	P	18 08 18.8	+0.2
	comp=Z,15nm,0.9s,baz=20,slow=4.3,SNR=12						
KEST				LR	LR	18 45 15.7	
	comp=Z,194nm,19.3s,baz=51,slow=40						
	comp=Z,15nm,0.9s						
KEST	**Kesra**	72.93	302	P	P	18 08 19.1	+0.5
O30N	**Mendenhall**	73.12	26	IAmb	IAmb	18 08 24.1	
	comp=Z,27nm,0.8s						
O30N	**Mendenhall**	73.12	26	P	P	18 08 20.2	+1.0
	baz=313,SNR=24						
P30M	**Million Dollar**	73.24	27	P	P	18 08 20.4	+0.5
	baz=312						
P29M	**Windy Craggy**	73.28	27	P	P	18 08 20.9	+0.8
	baz=312,SNR=6.5						
MMPY	**Sheldon Lake,**	73.46	23	P	P	18 08 22.0	+0.8
	baz=316,SNR=18						
WHY	**Whitehorse**	73.62	26	P	P	18 08 22.5	+0.2
	baz=314,SNR=6.3						
AUNRC	**North Rockhamp**	73.71	135	P	P	18 08 24.0	+1.0
N32M	**Quiet Lake**	73.91	25	IAmb	IAmb	18 08 28.5	
	comp=Z,49nm,0.9s						
N32M	**Quiet Lake**	73.91	25	P	P	18 08 24.1	+0.3
	baz=315,SNR=29						
PLBC	**Pleasant Camp**	73.91	27	P	P	18 08 24.3	+0.5
	baz=313						
IGLA	**Glengowla, Co**	74.10	325	*e*P	P	18 08 23.9	-1.1
ILULI	**Ilulissat**	74.22	351	*i* P	P	18 08 25.0	-0.4
ILULI				IAmb	IAmb	18 08 28.1	
	comp=Z,44nm,0.9s						
SKAG	**Skagway**	74.30	27	IAmb	IAmb	18 08 30.5	
	comp=Z,27nm,0.8s						
SKAG	**Skagway**	74.30	27	P	P	18 08 27.4	+1.4
SKAG	**Skagway**	74.30	27	P	P	18 08 26.7	+0.7
	baz=314,SNR=13						
BBOO	**Buckleboo**	74.44	151	P	P	18 08 27.0	-0.1
	comp=Z,51nm,1.7s						
BBOO	**Buckleboo**	74.44	151	IAmb	IAmb	18 08 28.5	
	comp=Z,67nm,1.2s						
BBOO	**Buckleboo**	74.44	151	P	P	18 08 27.4	+0.3
CEST	**Esterri de Car**	74.60	311	IAmb	IAmb	18 08 29.5	
	comp=Z,34nm,1.1s						
P33M	**Teslin, Yukon**	74.67	25	P	P	18 08 28.7	+0.4
	baz=316,SNR=8.0						
P32M	**Atlin**	74.79	26	P	P	18 08 29.8	+0.8
	baz=315,SNR=8.4						
S31K	**Pelican**	74.99	28	P	P	18 08 30.9	+0.8
	baz=313						
OPO	**Ambohidratompo**	75.00	234	LR	LR	18 38 57.5	
	comp=Z,258nm,19.0s,baz=200,slow=34						
RMQ	**Roma**	75.15	138	P	P	18 08 31.1	-0.3
	comp=Z,38nm,0.9s						
RMQ	**Roma**	75.15	138	P	P	18 08 33.2	+1.8
TGTN	**Hyland Airport**	75.22	23	P	P	18 08 32.5	+1.1
	baz=319,SNR=19						
WHYH	**Whyalla**	75.25	150	P	P	18 08 32.7	+1.0
ABPO	**Ambohimpanom**	75.29	234	P	P	18 08 31.1	-1.4
ABPO				IAmb	IAmb	18 08 35.8	
	comp=Z,37nm,1.1s						
ABPO	**Ambohimpanom**	75.29	234	P	P	18 08 31.1	-1.4
ABPO				pmax	pmax		
	comp=Z,37nm,1.1s						
WRGLY	**Wrigley**	75.32	20	P	P	18 08 32.5	+0.6
	baz=322						
R32K	**Eaglecrest**	75.43	27	P	P	18 08 33.7	+1.1
	baz=315						
JIS	**Juneau Island**	75.48	27	P	P	18 08 34.4	+1.6
EIDS	**Eidsvold**	75.58	136	P	P	18 08 34.8	+0.9
	comp=Z,75nm,1.3s						
EIDS	**Eidsvold**	75.58	136	P	P	18 08 34.8	+0.9
AUCAS	**Cummins Area S**	75.59	152	P	P	18 08 34.9	+1.2
Q32M	**Nakina River**	75.76	26	P	P	18 08 35.2	+0.4
	baz=316						
AUJCS	**Jamestown Cent**	75.82	150	P	P	18 08 35.7	+0.7
R33M	**Jennings River**	75.91	25	P	P	18 08 36.4	+0.9
	baz=317,SNR=20						
SIT	**Sitka**	75.97	29	P	P	18 08 36.7	+1.1
	baz=314						
S32K	**Killisnoo**	75.97	28	P	P	18 08 36.4	+0.7
	baz=315						
STKA	**Stephens Creek**	75.98	147	P	P	18 08 36.2	+0.2
	comp=Z,190nm,0.8s						
STKA	**Stephens Creek**	75.98	147	P	P	18 08 36.2	+0.2
	comp=Z,26nm,0.8s,baz=335,slow=7.5,SNR=40						
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	75.98	147	P	P	18 08 36.2	+0.2
DY2G	**Dye2**	75.98	348	*i* P	P	18 08 35.3	-0.7
DY2G				IAmb	IAmb	18 08 37.6	
	comp=Z,136nm,1.5s						
WTLY	**Watson Lake, Y**	76.11	24	P	P	18 08 37.0	+0.5
	baz=319,SNR=16						
HTT	**Hallett**	76.15	149	P	P	18 08 37.4	+0.4
	comp=Z,17nm,0.9s						
HTT	**Hallett**	76.15	149	P	P	18 08 37.6	+0.7
SFJD	**Kangerlussuaq**	76.21	350	P	P	18 08 36.5	-0.4
SFJD				IAmb	IAmb	18 08 39.3	
	comp=Z,45nm,0.8s						
SFJD	**Kangerlussuaq**	76.21	350	LR	LR	18 43 52.3	
	comp=Z,407nm,20.8s,baz=15,slow=37						
SFJD	**Kangerlussuaq**	76.21	350	P	P	18 08 36.5	-0.4
SFJD				pmax	pmax		
	comp=Z,45nm,0.8s						
SFJD	**Kangerlussuaq**	76.21	350	*i* P	P	18 08 36.3	-0.5
SFJD				IAmb	IAmb	18 08 39.2	
	comp=Z,46nm,0.8s						
S34M	**Telegraph Cree**	76.94	26	P	P	18 08 42.2	+1.0
	baz=317,SNR=18						
DLBC	**Dease Lake**	76.95	25	LR	LR	18 43 39.7	
	comp=Z,6µm,21.1s,baz=276,slow=36						
DLBC	**Dease Lake**	76.95	25	P	P	18 08 42.4	+1.1
	baz=318,SNR=12						
AULRC	**Lightning Ridg**	77.07	141	P	P	18 08 43.3	+1.1
AUMAR	**Marden Senior**	77.30	150	P	P	18 08 44.3	+1.0
U33K	**Whale Pass**	77.50	28	P	P	18 08 44.9	+0.6
	baz=316						
LIRD	**Liard River Hi**	77.53	23	P	P	18 08 45.2	+0.7
	baz=321,SNR=9.0						
WRAK	**Wrangell Islan**	77.58	28	P	P	18 08 45.3	+0.6
	baz=317						
KOTAN	**Kotaneelee Air**	77.61	22	P	P	18 08 45.7	+0.7
	baz=322						
CMSA	**Cobar Meteorol**	77.62	143	P	P	18 08 46.3	+1.0
	comp=Z,85nm,0.8s						
CMSA	**Cobar Meteorol**	77.62	143	P	P	18 08 46.3	+1.0
VOI	**Vohitsoka**	77.64	232	P	P	18 08 45.2	-0.5
VOI				IAmb	IAmb	18 08 50.1	
	comp=Z,32nm,0.7s						
VOI	**Vohitsoka**	77.64	232	P	P	18 08 45.6	-0.1
TW1H	**Toowoomba 1 Ha**	77.76	137	P	P	18 08 47.9	+1.7
AUMBR	**Murray Bridge**	77.77	150	P	P	18 08 46.7	+0.8
T35M	**Bob Quinn**	77.95	27	P	P	18 08 48.1	+1.2
	baz=318,SNR=8.7						
CRAG	**Craig**	77.97	29	P	P	18 08 47.6	+0.7
	baz=316						
YKA	**Yellowknife Ar**	78.21	17	P	P	18 08 48.4	+0.2
	comp=Z,9.8nm,0.9s,baz=323,slow=6.4,SNR=8.9						
YKA				LR	LR	18 46 34.3	
	comp=Z,336nm,21.5s,baz=331,slow=38						
	comp=Z,9.8nm,0.9s						
TOAD	**Toad River Com**	78.25	23	P	P	18 08 48.9	+0.3
	baz=322,SNR=23						
AUWSH	**Wavell State H**	78.26	136	P	P	18 08 50.2	+1.3
V35K	**Ketchikan**	78.66	28	P	P	18 08 51.8	+1.0
	baz=317						
NUUK	**Nuuk**	79.01	349	*i* P	P	18 08 51.1	-1.4
NUUK				IAmb	IAmb	18 08 53.2	
	comp=Z,49nm,1.2s						
ESDC	**Sonseca Array**	79.50	311	P	P	18 08 56.0	+0.2
	comp=Z,8.5nm,0.8s,baz=43,slow=5.1,SNR=34						
ESDC				PP	PP	18 11 53.0	-2.6
	comp=Z,3.5nm,1.3s,baz=56,slow=8.3,SNR=4.9						
ESDC				LR	LR	18 46 53.1	
	comp=Z,552nm,18.4s,baz=56,slow=38						
	comp=Z,8.5nm,0.8s						
FOMA	**Nahampoana Res**	79.72	230	P	P	18 08 56.5	-0.4
FOMA				IAmb	IAmb	18 09 00.9	
	comp=Z,78nm,1.3s						
ARMA	**Armidale**	79.79	139	P	P	18 08 58.4	+1.0
	comp=Z,67nm,1.1s						
ARMA	**Armidale**	79.79	139	IAmb	IAmb	18 09 00.4	
	comp=Z,60nm,1.1s						
ARMA	**Armidale**	79.79	139	P	P	18 08 58.9	+1.5
PAB	**San Pablo**	79.81	311	P	P	18 08 56.9	-0.7
PAB	**San Pablo**	79.81	311	P	P	18 08 56.9	-0.7
PAB				pmax	pmax		
	comp=Z,13nm,1.2s						
PBRG	**Braganca**	79.87	314	*e*P	P	18 09 00.3	+2.5

PSARD Sardoal 82.09 313 *e*P **P 18 09 10.8 +1.1**
PSARD *i* IAmb IAmb 18 09 13.2
comp=Z,45nm,1.6s
PESTR Estremoz 82.21 312 *e*P **P 18 09 11.2 +0.9**
PESTR *i* IAmb IAmb 18 09 13.4
comp=Z,38nm,1.5s
AUMTS Mt Stromlo 82.30 143 P **P 18 09 12.0 +1.5**
CAN Canberra 82.30 143 P **P 18 09 11.4 +0.9**
comp=Z,64nm,1.3s
CAN Canberra 82.30 143 P **P 18 09 12.0 +1.5**
PBAR Barrancos 82.31 312 *e*P **P 18 09 11.5 +0.7**
PBAR *i* IAmb IAmb 18 09 13.5
comp=Z,43nm,1.3s
AUDAR Daramalan Coll 82.31 143 P **P 18 09 11.8 +1.2**
AUSIS Research Schoo 82.32 143 P **P 18 09 11.9 +1.3**
BBB Bella Bella 82.40 29 LR LR 18 48 35.7
comp=Z,437nm,18.2s,baz=328,slow=38
PMTG Montargil 82.47 313 *e*P **P 18 09 14.0 +2.5**
PMTG *i* IAmb IAmb 18 09 26.4
comp=Z,27nm,1.4s
CNB Canberra Magne 82.47 143 P **P 18 09 12.0 +0.5**
comp=Z,80nm,0.8s
CNB Canberra Magne 82.47 143 P **P 18 09 12.3 +0.8**
TOO Toolangi 82.49 147 P **P 18 09 12.4 +0.9**
comp=Z,18nm,1.0s
PSBE So Bento 82.53 313 *e*P **P 18 09 13.0 +1.0**
PSBE *i* IAmb IAmb 18 09 15.0
comp=Z,67nm,1.2s
EVO Evora 82.68 312 *e*P **P 18 09 13.5 +0.8**
EVO *i* IAmb IAmb 18 09 15.5
comp=Z,50nm,1.6s
PBEJ Beja 82.91 312 *e*P **P 18 09 16.8 +2.9**
PBEJ *i* IAmb IAmb 18 09 17.5
comp=Z,40nm,1.5s
AUUHS Ulladulla High 83.06 142 P **P 18 09 16.0 +1.6**
PMAFR Mafra 83.17 313 *e*P **P 18 09 16.0 +0.8**
PVAQ Vaqueiros 83.21 311 *e*P **P 18 09 17.8 +2.3**
PVAQ *i* IAmb IAmb 18 09 18.4
comp=Z,40nm,1.6s
PVAQ *e*LQ LQ 18 38 00.2
PVAQ *e*LR LR 18 44 53.2
PVAQ *i* IAMs_20 IAMs_20 18 48 54.2
comp=Z,538nm,18.0s
YATNC Mamie plateau, 83.24 123 P **P 18 09 18.9 +3.2**
MESJ Messejana 83.25 312 *e*P **P 18 09 15.8 +0.2**
MESJ IAmb IAmb 18 09 19.3
comp=Z,16nm,0.7s
MESJ Messejana 83.25 312 *e*P **P 18 09 16.6 +0.9**
MESJ *i* IAmb IAmb 18 09 18.5
comp=Z,43nm,1.5s
PCVE Castro Verde 83.27 312 *e*P **P 18 09 17.0 +1.2**
PCVE *i* IAmb IAmb 18 09 19.2
comp=Z,40nm,1.7s
PBDV Barranco-do-Ve 83.45 311 *e*P **P 18 09 19.2 +2.5**
PBDV *i* IAmb IAmb 18 09 19.9
comp=Z,58nm,1.4s
MORF Marmelete 83.85 312 *e*P **P 18 09 19.0 +0.2**
MORF IAmb IAmb 18 09 20.6
comp=Z,67nm,1.5s
MORF Marmelete 83.85 312 *e*P **P 18 09 20.3 +1.5**
MORF *i* IAmb IAmb 18 09 21.8
comp=Z,68nm,1.6s
MORF Marmelete 83.85 312 *e*P **P 18 09 19.0 +0.2**
PFVI Vila Bisbo 84.07 312 *e*P **P 18 09 22.8 +3.0**
MDT Midelt 84.09 306 P **P 18 09 20.0 -0.2**
comp=Z,4.2nm,0.9s,baz=70,slow=7.8,SNR=10.0
MDT LR LR 18 49 01.8
comp=Z,179nm,18.7s,baz=44,slow=37
comp=Z,4.2nm,0.9s
LSZ Lusaka 86.50 249 P **P 18 09 31.3 -1.1**
LSZ Lusaka 86.50 249 LR LR 18 47 19.4
comp=Z,264nm,19.5s,baz=54,slow=35
LSZ Lusaka 86.50 249 P **P 18 09 32.6 +0.2**
LSZ Lusaka 86.50 249 P **P 18 09 31.3 -1.1**
LSZ pmax pmax
comp=Z,62nm,0.9s
MSVF Nonsavu 88.58 113 *i* P **P 18 09 44.3 +2.0**
MSVF pmax pmax
comp=Z,45nm,1.2s
MATP Matopo 89.41 245 LR LR 18 46 34.7
comp=Z,270nm,21.9s,baz=56,slow=33
NEW Newport 89.69 25 LR LR 18 51 46.2
comp=Z,930nm,20.0s,baz=328,slow=37
MXC Moxie City 89.94 28 IAmb IAmb 18 09 51.0
comp=Z,42nm,1.3s
SCHQ Schefferville 89.98 354 P **P 18 09 47.1 -1.2**
SCHQ Schefferville 89.98 354 P **P 18 09 47.7 -0.5**
comp=Z,99nm,0.7s,baz=38,slow=4.9,SNR=7.4
G04A Mulino 90.20 30 IAmb IAmb 18 09 58.1
comp=Z,39nm,1.0s
KSANE Kasane 90.33 248 IAmb IAmb 18 09 54.0
comp=Z,31nm,1.1s
HAWA Hanford 90.39 28 IAmb IAmb 18 09 53.0
comp=Z,24nm,1.2s
G05A Wamic 90.64 29 IAmb IAmb 18 10 00.5
comp=Z,26nm,1.1s
H04D Lebanon 90.65 31 IAmb IAmb 18 09 57.9
comp=Z,41nm,1.2s
F07A Phinny Hill Vi 90.65 28 IAmb IAmb 18 09 54.4
comp=Z,42nm,1.5s
H04A Detroit Lake 90.75 30 IAmb IAmb 18 09 54.4
comp=Z,26nm,1.2s
E09A Wood Farm, Sta 90.81 27 IAmb IAmb 18 09 55.0
comp=Z,33nm,1.4s
YPT Yellepit 90.89 28 IAmb IAmb 18 09 55.7
comp=Z,26nm,1.3s
G06A Carlson Farm, 90.92 29 IAmb IAmb 18 09 55.8
comp=Z,45nm,1.4s
TOA0 Torodi Ar. Sit 91.35 287 P **P 18 09 55.5 +0.2**
TORD Torodi Ar. Bea 91.35 287 P **P 18 09 55.6 +0.3**
comp=Z,17nm,0.9s,baz=57,slow=4.7,SNR=10.0
TORD LR LR 18 56 00.1
comp=Z,594nm,19.9s,baz=70,slow=39
comp=Z,17nm,0.9s
F10A Beach Ranch, E 91.61 27 IAmb IAmb 18 09 58.9
comp=Z,28nm,1.3s
BBOR Butler Butte 92.00 32 IAmb IAmb 18 10 08.1
comp=Z,30nm,1.5s
MSO Missoula 92.03 24 IAmb IAmb 18 10 00.3
comp=Z,34nm,1.4s
J05D Fort Rock, OR 92.28 30 IAmb IAmb 18 10 02.5
comp=Z,30nm,1.3s
I07A Izee 92.33 29 IAmb IAmb 18 10 02.7
comp=Z,17nm,1.2s
L04D Klamath Falls 92.70 32 IAmb IAmb 18 10 05.4
comp=Z,34nm,1.3s
PLID Pearl Lake 92.81 26 IAmb IAmb 18 10 04.1
comp=Z,22nm,1.4s
YBH Yreka Blue Hor 92.92 32 LR LR 18 53 46.3
comp=Z,19nm,20.5s,baz=303,slow=37
ULM Lac du Bonnet 93.44 12 LR LR 18 56 23.5
comp=Z,349nm,18.7s,baz=338,slow=38
LBTB Lobatse 94.31 242 P **P 18 10 08.9 +0.2**
LBTB Lobatse 94.31 242 LR LR 18 50 25.3
comp=Z,213nm,20.8s,baz=54,slow=34
LBTB Lobatse 94.31 242 P **P 18 10 09.0 +0.2**
LBTB pmax pmax
comp=Z,86nm,1.7s
QNGWA Qangwa 94.40 249 IAmb IAmb 18 10 12.7
comp=Z,23nm,1.1s
GRTLG Ghanzi 95.42 248 IAmb IAmb 18 10 17.5
comp=Z,26nm,1.0s
KGCAE Kacgae 95.54 246 P **P 18 10 14.5 0.0**
KGCAE IAmb IAmb 18 10 16.9
comp=Z,22nm,1.0s
BOSA Boshof 96.68 240 P **P 18 10 18.0 -1.6**
comp=Z,3.0nm,0.8s,baz=65,slow=7.1,SNR=4.6
BOSA LR LR 18 53 59.1
comp=Z,298nm,18.4s,baz=43,slow=36
comp=Z,3.0nm,0.8s
BOSA Boshof 96.68 240 P **P 18 10 18.0 -1.6**
ELK Elko 96.83 28 LR LR 18 57 25.6
comp=Z,379nm,19.8s,baz=338,slow=38
TSUM Tsumeb 96.98 252 LR LR 18 55 22.2
comp=Z,223nm,20.0s,baz=346,slow=36
PDAR Pinedale Array 97.07 23 P **P 18 10 20.6 -0.8**
comp=Z,0.2nm,0.5s,baz=20,slow=4.7,SNR=4.9
PDAR PP **PP 18 14 16.6 +0.3**
comp=Z,1.5nm,1.0s,baz=338,slow=3.5,SNR=5.6
PDAR LR LR 18 56 40.8
comp=Z,287nm,18.3s,baz=332,slow=37
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 97.55 31 P **P 18 10 23.2 -0.5**
comp=Z,0.3nm,0.3s,baz=315,slow=4.9,SNR=1.7
NVAR LR LR 18 55 23.1
comp=Z,613nm,19.7s,baz=308,slow=36
comp=Z,0.3nm,0.3s

DBIC Dimbokro 100.37 286 P **Pdif 18 10 36.0 -0.4**
comp=Z,2.6nm,0.6s,baz=14,slow=9.4,SNR=3.6
TXAR Lajitas Array 111.24 25 PKiKP **PKiKP 18 15 23.3 0.0**
comp=Z,1.3nm,0.8s,baz=277,slow=0.7,SNR=9.6
PPT2 Papeete2 114.18 95 *e*S **SKKSac 18 23 20.1 -5.8**
comp=Z,178nm,28.2s
PPT2 *e*SS **SS 18 32 09.3 -6.3**
comp=Z,187nm,28.8s
PPT2 Papeete2 114.18 95 *e*LQ LQ 18 44 50.1
comp=Z,255nm,30.0s
PPT2 *e*LR LR 18 49 36.3
comp=Z,378nm,22.2s
PPT2 *e*LR LR 18 49 41.6
comp=Z,334nm,22.8s
TBI Tubuai 117.14 101 *e*SS SS 18 32 45.5 -8.6
comp=Z,5μm,35.2s
TBI Tubuai 117.14 101 *e*LQ LQ 18 46 09.6
comp=Z,2μm,33.5s
TBI *e*LR LR 18 50 59.7
comp=Z,893nm,30.8s
TBI *e*LR LR 18 51 03.6
comp=Z,3μm,37.2s
TAOE Nuku Hiva Isla 117.19 81 *e*S 18 23 09.6
comp=Z,161nm,28.5s
TAOE *e*SS SS 18 32 51.1 -3.7
comp=Z,159nm,33.2s
TAOE Nuku Hiva Isla 117.19 81 *e*LR LR 18 51 00.8
comp=Z,504nm,24.4s
VNDA Vanda 117.85 168 PKP **PKPdf 18 15 33.6 -0.6**
comp=Z,2.4nm,0.8s,baz=295,slow=5.3,SNR=14
QSPA South Pole Qui 124.87 180 **PKiKP 18 15 49.8 +1.4**
QSPA South Pole Qui 124.87 180 PKP **PKiKP 18 15 49.6 +1.2**
comp=Z,20nm,1.0s,baz=295,slow=1.5,SNR=39
TROLL Troll, Antarti 126.10 202 ⇑P **PKPdf 18 15 50.4 0.0**
comp=Z,764nm,0.8s
RKT Rikitea 128.82 93 *e*LR LR 18 56 33.5
comp=Z,11μm,35.2s
VNA2 Neumayer--Watz 129.30 204 ⇑P **PKiKP 18 15 56.8 -0.3**
comp=Z,14nm,0.7s,baz=63,slow=3.2
VNA1 Neumayer--Stat 129.62 204 ⇑P **PKiKP 18 15 57.5 -0.2**
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 130.00 203 ⇑P **PKPdf 18 15 57.8 +0.1**
comp=Z,13nm,0.7s
SDV Santo Domingo 135.80 351 P **PKPdf 18 16 10.7 +0.1**
comp=Z,31nm,0.8s
RUSC La Rusia 139.03 354 P **PKPdf 18 16 17.6 +0.6**
comp=Z,900nmcomp=Z,94nm,1.2s
ROSC El Rosal 140.17 355 PKhKP PKPpre 18 16 12.1
comp=Z,12nm,0.6s,baz=205,slow=14,SNR=6.1
POPC Popayan, Colom 142.55 359 P **PKPdf 18 16 18.3 -4.7**
comp=Z,15nm,1.6s
CUSE Cuicocha Este 144.76 2 P **PKPdf 18 16 27.1 0.0**
OTAV Otavalo 144.82 2 **PKPdf 18 16 27.2 -0.1**
OTAV Otavalo 144.82 2 PKIKP **PKPdf 18 16 27.2 -0.1**
OTAV Otavalo 144.82 2 P PKPbc 18 16 26.6 +0.4
comp=Z,1μmcomp=Z,64nm,1.4s
PIAT Ana Tenorio 146.06 2 P **PKPab 18 16 31.2 +0.6**
comp=Z,1μmcomp=Z,84nm,1.2s
BDFB Brasilia 147.41 299 PKPbc **PKPbc 18 16 33.4 -0.2**
comp=Z,48nm,0.8s,baz=126,slow=3.0,SNR=39
COHC Cochancay 147.47 4 P **PKPdf 18 16 31.9 +0.7**
comp=Z,1μmcomp=Z,42nm,1.4s
MCRA Macar, Loja 149.32 5 P **PKPdf 18 16 34.4 +0.1**
LPAZ La Paz 159.55 334 PKP **PKPdf 18 16 48.9 -0.2**
comp=Z,13nm,0.9s,baz=17,slow=5.9,SNR=27
CPUP Villa Florida 160.78 292 PKP **PKPdf 18 16 48.8 -0.6**
comp=Z,1.2nm,1.0s,baz=250,slow=4.9,SNR=5.3
CPUP PKPab **PKPab 18 17 30.3 -1.2**
comp=Z,2.4nm,0.8s,baz=271,slow=3.9,SNR=8.7
PLCA Paso Flores 172.27 221 PKP **PKPdf 18 16 57.2 -0.7**
comp=Z,3.3nm,1.0s,baz=282,slow=2.8,SNR=4.3
PLCA PKPab **PKPab 18 18 20.9 -1.0**
comp=Z,5.0nm,0.9s,baz=118,slow=3.5,SNR=6.7

DJA 27 17:59:24.8±0.4, 4°S±3°×14°1E±°, h10km, M4.1/6, mB5.7/1, mb4.2/5, MLv4.1/6, Mw(mB)5.2/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.96**	**359**	P	Pn	17 59 56.8	-1.4
GENI	**Genyem**	**1.97**	**343**	P	Pn	17 59 57.9	-0.4
GENI				S	Sb	18 00 24.8	-0.7
SMPI	**Sarmi**	**3.21**	**321**	P	Pn	18 00 16.2	+0.8
MMPI	**Merauke**	**3.97**	**185**	P	Pn	18 00 27.1	+1.3
BAKI	**Biak**	**5.68**	**305**	P	Pn	18 00 48.9	-0.4
	0.1nm21nm,1.0s						
RKPI	**Ransiki, Papua**	**7.20**	**294**	P	Pn	18 01 10.1	-0.1
	4μm12nm,0.6s						

*IDC **27** 18:03:03.1±6.8, 35°.26N×22°.29E, h0km, mb3.7/3, mbtmp3.6/5, ML1.7/2, Error ellipse: s-maj=137.8km s-min=42.9km az=19.0*
*THE **27** 18:03:12.9, 35°N±4°×2°3E±°, h11km±11km, M2.8/8, MLh2.8/8*
*ATH **27** 18:03:13.0, 35°.12N×22°.96E, h22km±9km, ML3.1/6, Manual Solution by A.Plessa First location: 2019/10/27 18:04:33, This location: 2019/10/27 18:31:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 27 18:03:11.8±1.9, 35°.09N±0°.07×22°.90E±0°.07, h17km±10km, n21, σ1°20/29, mb3.6/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.84**	**23**	P	**Pb**	**18 03 28.6**	**+0.6**
ANKY				S	**Sn**	**18 03 41.4**	**+0.5**
ANKY	**Antikythira Is**	**0.84**	**23**	P	**Pb**	**18 03 28.3**	**+0.3**
ANKY				S	**Sg**	**18 03 38.9**	**-0.5**
GVD	**Gavdhos**	**1.01**	**104**	P	**Pb**	**18 03 31.5**	**+0.7**
GVD				S	**Sb**	**18 03 45.1**	**+1.4**
GVD	**Gavdhos**	**1.01**	**104**	P	**Pg**	**18 03 31.2**	**-0.1**
GVD				S	**Sg**	**18 03 44.4**	**-0.2**
CHAN	**Chania**	**1.03**	**65**	P	**Pg**	**18 03 31.7**	**-0.1**
CHAN				S	**Sn**	**18 03 46.8**	**+1.3**
CHAN	**Chania**	**1.03**	**65**	P	**Pb**	**18 03 31.1**	**0.0**
CHAN				S	**Sg**	**18 03 43.8**	**-1.5**
KTHA	**Kythira Island**	**1.17**	**6**	P	**Pn**	**18 03 34.2**	**+0.8**
KTHA				S	**Sn**	**18 03 51.0**	**+1.9**
KTHA	**Kythira Island**	**1.17**	**6**	P	**Pb**	**18 03 33.9**	**+0.3**
VLI	**Veliai**	**1.63**	**1**	P	**Pb**	**18 03 41.7**	**+0.3**
VLI				S	**Sg**	**18 04 03.5**	**-0.8**
VLI	**Veliai**	**1.63**	**1**	P	**Pn**	**18 03 40.8**	**+1.1**
IDI	**Anoyia**	**1.64**	**82**	P	**Pn**	**18 03 40.2**	**+0.2**
IDI				S	**Sb**	**18 04 02.3**	**+0.2**
IDI	**Anoyia**	**1.64**	**82**	Pn	**Pn**	**18 03 40.3**	**+0.3**
	2.8nm,0.3s,baz=243,slow=6.4,SNR=33						
IDI				Sn	**Sg**	**18 04 06.9**	**+2.1**
	4.4nm,0.3s,baz=240,slow=23,SNR=6.2						
	10nm,0.4s						
IDI	**Anoyia**	**1.64**	**82**	P	**Pn**	**18 03 40.0**	**0.0**
MHLO	**Agia Marina, M**	**2.01**	**37**	P	**Pn**	**18 03 46.0**	**+1.0**
MHLO	**Agia Marina, M**	**2.01**	**37**	P	**Pn**	**18 03 44.9**	**0.0**
PYL	**PYLOS**	**2.03**	**333**	P	**Pn**	**18 03 46.8**	**+1.5**
ITM	**Ithomi**	**2.23**	**340**	P	**Pn**	**18 03 49.5**	**+1.4**
BRTR	**Keskin Array B**	**9.71**	**58**	Pn	**Pn**	**18 05 31.5**	**+0.6**
	baz=249,slow=12,SNR=5.6						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**42.60**	**51**	P	P	18 11 03.1	-3.8
	1.0nm,0.9s,baz=275,slow=8.3,SNR=1.6						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**45.36**	**56**	P	**P**	**18 11 25.6**	**-3.4**
	0.2nm,0.3s,baz=275,slow=7.7,SNR=7.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.39**	**46**	P	P	18 11 32.2	-4.8
	1.1nm,0.4s,baz=258,slow=7.2,SNR=2.7						
	1.1nm,0.4s						

ATH 27 18:04:21.9, 38°.41N×23°.89E, h19km±1km, ML1.9/13, Manual Solution by A.Plessa First location: 2019/10/27 18:05:17, This location: 2019/10/27 18:27:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**0.28**	**36**	P	Pg	18 04 28.2	0.0
KYMI				S	Sb	18 04 32.6	+0.1
DION	**Dionisos Attik**	**0.33**	**174**	P	Pb	18 04 29.2	0.0
DION				S	Sb	18 04 34.0	-0.1
ACHAR	**Athens-Acharne**	**0.35**	**199**	P	Pb	18 04 29.5	-0.1
ACHAR				S	Sb	18 04 34.7	-0.1
STFN	**Stefani**	**0.35**	**230**	P	Pg	18 04 29.4	0.0
STFN				S	Sb	18 04 34.8	-0.1
PTL	**Penteli**	**0.36**	**183**	P	Pb	18 04 29.6	-0.1
PTL				S	Sg	18 04 34.4	-0.2
ATHP	**Athens-Neo Psi**	**0.41**	**193**	P	Pb	18 04 30.6	-0.1
ATHP				S	Sg	18 04 36.4	+0.2
MAGU	**Magoula**	**0.44**	**222**	P	Pg	18 04 30.7	-0.2
MAGU				S	Sg	18 04 36.8	-0.2
ATH5	**Athens Parliam**	**0.45**	**195**	P	Pb	18 04 31.2	0.0
ATH5				S	Sg	18 04 37.2	0.0
ATHU	**Athens Univers**	**0.45**	**190**	P	Pg	18 04 31.0	0.0
ATHU				S	Sg	18 04 36.7	-0.5
NOAC	**Athens-Thissio**	**0.45**	**197**	P	Pg	18 04 31.2	0.0
NOAC				S	Sb	18 04 37.6	-0.1
ATH	**Athens Observa**	**0.45**	**197**	P	Pb	18 04 31.3	-0.1
ATH				S	Sg	18 04 37.1	-0.2
VIL2	**Platees**	**0.52**	**249**	P	Pb	18 04 31.9	-0.5
VIL2				S	Sg	18 04 39.1	-0.5
VLY	**Voula,Athens**	**0.56**	**188**	P	Pb	18 04 33.0	0.0
VLY				S	Sb	18 04 40.1	-0.4
KARY	**Karystos**	**0.57**	**131**	P	Pb	18 04 33.2	0.0
KARY				S	Sb	18 04 40.8	-0.1
SKY	**Skiros Island**	**0.70**	**48**	P	Pb	18 04 35.5	0.0
SKY				S	Sg	18 04 45.7	+0.6
LKR	**Lokris**	**0.74**	**290**	P	Pg	18 04 36.9	+0.4
LKR				S	Sg	18 04 47.1	+0.8
AOS2	**Alonissos-2**	**0.74**	**357**	P	Pb	18 04 36.3	+0.1
AOS2				S	Sg	18 04 47.0	+0.6
LTK	**Loutraki**	**0.82**	**242**	P	Pn	18 04 38.3	-0.2
LOUT	**Loutraki**	**0.83**	**240**	P	Pg	18 04 38.0	-0.2
LOUT				S	Sg	18 04 49.1	-0.1
MET4	**Agioi Theodoro**	**0.87**	**206**	P	Pb	18 04 38.4	0.0

*NEIC **27** 18:07:36.7±2.4, 13°.03N±0°.07×120°.2E±0°.1, h10km±1km, mb4.5/21, Error ellipse: s-maj=25.2km s-min=3.2km az=63.0*
*IDC **27** 18:07:36.1±0.6, 13°.21N×120°.19E, h0km, mb4.3/16, mbtmp4.3/16, MS4.4/4, Error ellipse: s-maj=15.2km s-min=10.6km az=101.0*

ISC 27 18:07:36.5±0.5, 13°.07N±0°.07×120°.2E±0°.1, h10km, n50, σ1°62/44, mb4.4/27, MS4.5/4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.24**	**34**	Pg	**Pn**	**18 07 58.4**	**-1.5**
	1μm,0.3s,baz=238,slow=3.7,SNR=172						
TGY				Lg	Lg	18 08 14.0	
	1μm,0.3s,baz=18,slow=23,SNR=15						
LUWI	**Luwuk**	**14.25**	**170**	Pn	**Pn**	**18 10 56.3**	**-2.2**
JOW	**Kunigami**	**15.63**	**28**	Pn	**Pn**	**18 11 17.3**	**+0.3**
JOW				IAmb	IAmb	18 11 40.3	
	comp=Z,23nm,1.0s						
CM31	**Chiang Mai Arr**	**21.16**	**287**	P	**P**	**18 12 18.2**	**-3.8**
CMAR	**Chiang Mai Arr**	**21.16**	**287**	P	**P**	**18 12 19.1**	**-2.9**
CMAR	**Chiang Mai Arr**	**21.16**	**287**	P	**P**	**18 12 25.0**	**+3.1**
	comp=Z,3.2nm,0.9s,baz=99,slow=9.0,SNR=21						
UGM	**Wanagama**	**22.96**	**205**	P	**P**	**18 12 38.6**	**-2.7**
SOEI	**Soe**	**23.03**	**170**	P	**P**	**18 12 42.7**	**+0.6**
SOEI				IAmb	IAmb	18 13 00.3	
	comp=Z,38nm,1.0s						
BATI	**Baumata**	**23.38**	**171**	P	**P**	**18 12 48.5**	**+2.9**
	comp=Z,69nm,0.9s,baz=92,slow=0.6,SNR=11						
	comp=Z,69nm,0.9s						
JMN	**Monobe**	**24.03**	**29**	P	**P**	**18 12 51.2**	**-0.6**
JMN				IAmb	IAmb	18 12 59.8	
	comp=Z,36nm,1.1s						
JAY	**Jayapura**	**25.56**	**126**	P	**P**	**18 13 08.1**	**+2.3**
	comp=Z,6.9nm,0.8s,baz=259,slow=6.2,SNR=4.4						
	comp=Z,6.9nm,0.8s						
KNRA	**Kununurra**	**29.79**	**163**	P	**P**	**18 13 42.8**	**-0.9**
KNRA				IAmb	IAmb	18 13 52.2	
	comp=Z,3.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.43**	**170**	P	**P**	**18 13 57.3**	**-0.8**
EVN	**Everest**	**34.47**	**301**	P	**P**	**18 14 26.5**	**+1.1**
EVN				IAmb	IAmb	18 14 43.8	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**35.63**	**157**		P	18 14 32.0	-2.8
WRA	**Warramunga Arr**	**35.63**	**157**	P	**P**	**18 14 36.7**	**+1.9**
	comp=Z,15nm,0.6s,baz=334,slow=9.7,SNR=79						
	comp=Z,15nm,0.6s						
WR8	**Warramunga Arr**	**35.70**	**157**		**P**	**18 14 33.6**	**-1.8**
ULN	**Ulaanbaatar**	**36.38**	**345**	P	**P**	**18 14 40.1**	**-1.0**
ULN				IAmb	IAmb	18 14 48.4	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**36.53**	**344**	P	**P**	**18 14 42.2**	**-0.1**
SONM				IAmb	IAmb	18 14 54.2	
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	**36.53**	**344**	P	**P**	**18 14 42.3**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=166,slow=9.7,SNR=10						
	comp=Z,2.6nm,0.8s						
AS31	**Alice Springs**	**38.89**	**160**		**P**	**18 15 01.8**	**-0.6**
AS31				IAmb	IAmb	18 15 06.2	
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**38.89**	**160**		**P**	**18 15 02.3**	**-0.1**
ASAR	**Alice Springs**	**38.89**	**160**	P	**P**	**18 15 05.2**	**+2.8**
	comp=Z,21nm,0.6s,baz=339,slow=6.9,SNR=344						
	comp=Z,21nm,0.6s						
INKA	**Innaminka**	**45.19**	**154**		**P**	**18 15 53.9**	**+0.2**
INKA				IAmb	IAmb	18 15 57.6	
	comp=Z,6.7nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.83**	**183**	P	**P**	**18 15 58.3**	**-0.5**
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**18 16 02.0**	**-0.1**
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**18 16 02.6**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=134,slow=10,SNR=3.6						
	comp=Z,0.7nm,0.8s						
MAKZ	**Makanchi**	**46.45**	**324**	P	**P**	**18 16 03.3**	**-0.3**
MAKZ				IAmb	IAmb	18 16 17.5	
	comp=Z,4.0nm,1.1s						
BBOO	**Buckleboo**	**48.07**	**162**	P	**P**	**18 16 16.3**	**0.0**
STKA	**Stephens Creek**	**49.17**	**156**	P	**P**	**18 16 23.0**	**-1.7**
STKA	**Stephens Creek**	**49.17**	**156**	P	**P**	**18 16 26.6**	**+1.8**
	comp=Z,3.9nm,0.8s,baz=325,slow=9.1,SNR=6.1						
	comp=Z,3.9nm,0.8s						
AAK	**Ala-Archa**	**49.18**	**316**	LR	LR	18 37 03.3	
	comp=Z,384nm,19.6s,baz=172,slow=36						
ZAA0	**Zalesovo Array**	**49.40**	**333**	P	**P**	**18 16 25.6**	**-0.7**
ZALV	**Zalesovo Beam**	**49.40**	**333**	P	**P**	**18 16 26.3**	**0.0**
	comp=Z,0.7nm,0.3s,baz=142,slow=5.3,SNR=1.8						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**50.45**	**327**	P	**P**	**18 16 35.5**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=128,slow=8.2,SNR=19						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**50.45**	**327**		**P**	**18 16 34.1**	**-0.2**
KK31	**Karatay Array**	**52.08**	**315**	P	**P**	**18 16 48.1**	**+1.3**
KK31				IAmb	IAmb	18 17 00.2	
	comp=Z,4.8nm,0.9s						
KKAR	**Karatay Array**	**52.08**	**315**	P	**P**	**18 16 48.6**	**+1.8**
BVAR	**Borovoye Array**	**56.03**	**326**	P	**P**	**18 17 15.0**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=115,slow=7.0,SNR=4.4						
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**60.90**	**319**	P	**P**	**18 17 47.4**	**-2.1**
KBZ	**Khabaz**	**71.95**	**312**	P	**P**	**18 19 00.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=221,slow=13,SNR=2.5						
	comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**79.17**	**308**	P	**P**	**18 19 43.5**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=83,slow=4.5,SNR=2.2						
	comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**79.50**	**339**	P	**P**	**18 19 42.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=76,slow=5.8,SNR=10						
	comp=Z,0.6nm,0.5s						
FINES	**FINESS Array B**	**80.60**	**331**	P	**P**	**18 19 50.9**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=38,slow=7.1,SNR=4.4						
	comp=Z,2.4nm,0.7s						
RAR	**Rarotonga**	**85.59**	**113**	LR	LR	18 52 47.7	
	comp=Z,204nm,21.9s,baz=288,slow=32						
NB2	**NORSAR Subarra**	**87.60**	**333**	P	P	18 20 30.5	+5.7
	comp=Z,9.4nm,1.4s,baz=41,slow=5.9						
MAW	**Mawson**	**90.35**	**199**	P	**P**	**18 20 39.0**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=324,slow=1.7,SNR=3.5						
	comp=Z,2.6nm,1.0s						
GERES	**GERESS Array B**	**90.82**	**321**	P	**P**	**18 20 40.8**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=74,slow=4.5,SNR=4.6						
	comp=Z,0.5n

s-min=22.6km az=71.0

ISC 27 18:11:16.6±0.9, 55°.3S±0°.2×27°.6W±0°.3, h10km, n11, σ0°.44/8, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.56	157	P	P	18 15 43.8	-0.3
	0.5nm,0.3s,baz=300,slow=11,SNR=53 1.6nm,0.5s						
QSPA	South Pole Qui	34.98	180	P	P	18 18 09.3	+0.6
	1.2nm,0.8s,baz=154,slow=1.4,SNR=1.3 1.2nm,0.8s						
MAW	Mawson	40.92	144	P	P	18 18 58.4	-0.1
	0.2nm,0.4s,baz=110,slow=21,SNR=0.7 0.2nm,0.4s						
VNDA	Vanda	47.34	183	P	P	18 19 49.7	-0.1
	1.0nm,0.7s,baz=178,slow=7.4,SNR=5.6 1.0nm,0.7s						
H04S2	CROZET ISLANDS	48.09	115	T	T	19 12 43.3	
	baz=231						
H04S3	CROZET ISLANDS	48.10	115	T	T	19 12 47.5	
	baz=231						
H04S1	CROZET ISLANDS	48.11	115	T	T	19 12 37.0	
	baz=231						
LPAZ	La Paz	49.73	305	P	P	18 20 09.5	-0.1
	1.4nm,0.6s,baz=147,slow=7.2,SNR=4.6 1.4nm,0.6s						
TORD	Torodi Ar. Bea	72.50	30	P	P	18 22 43.7	+0.4
	2.3nm,0.3s,baz=187,slow=6.2,SNR=2.7 2.3nm,0.3s						
ILAR	Eielson Array	149.41	313	PKPbc	PKPbc	18 31 04.1	-0.2
	2.0nm,0.8s,baz=122,slow=2.2,SNR=16						
SONM	Songino Array	150.91	85	PKPbc	PKiKP	18 31 08.6	-0.6
	0.7nm,0.7s,baz=210,slow=3.1,SNR=4.5						

*UCR **27** 18:12:59.8±0.8, 11°.33N×85°.77W, h160km±6km, MW3.8*
*CATAC **27** 18:13:00.0±0.2, 11°.N±5°.×8°.6W±°., h160km, M3.2/19, MLv3.2/19, Error ellipse: s-maj=14.0km s-min=3.6km az=47.9, confirmed*

ISC 27 18:13:00.8±1.8, 11°.29N±0°.09×85°.7W±0°.1, h162km±11km, n68, σ0°.57/81, 6C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	La Cruz	0.24	153	eP	Pn	18 13 22.0	-0.6
CARN	Rivas	0.24	116	⇑P	Pn	18 13 22.3	-0.3
CARN				S	Sn	18 13 39.0	-0.2
CARN	Rivas	0.24	116	eP	Pn	18 13 22.1	-0.5
OMEN	AI SSO del Vol	0.24	27	⇑P	Pn	18 13 20.1	-2.6
MORN	AI O del Volca	0.27	20	P	Pn	18 13 22.4	-0.4
CONN	Concepcion	0.29	23	⇑P	Pn	18 13 22.4	-0.4
CONN				S	Sn	18 13 40.8	+1.1
NADN	Granada	0.54	328	P	Pn	18 13 23.9	+0.2
NADN				S	Sn	18 13 42.0	+0.7
BUAI	Buenos Aires	0.57	136	eP	Pn	18 13 23.9	0.0
BUAI				eS	Sn	18 13 42.4	+0.7
PEJA	Penjamo Buenos	0.57	133	eP	Pn	18 13 23.7	-0.3
LAPC	Finca la Perla	0.60	150	eP	Pn	18 13 23.6	-0.5
GPS1	Guardaparques	0.64	143	eP	Pn	18 13 24.2	-0.2
GPS2	Hotel Rincn d	0.66	144	eP	Pn	18 13 24.1	-0.4
ELI1	Hacienda Flor	0.67	164	P	Pn	18 13 24.5	0.0
ELI1	Hacienda Flor	0.67	164	S	Sn	18 13 42.9	+0.3
ALIBA	Liberia Airpor	0.72	164	eP	Pn	18 13 25.3	+0.5
MESS	Mesas	0.77	135	eP	Pn	18 13 24.9	-0.2
VMAR	Armenia, Volca	0.78	128	eP	Pn	18 13 25.0	-0.1
MASN	Masaya	0.80	330	P	Pn	18 13 25.2	-0.1
MASN				S	Sn	18 13 45.0	+0.8
UPAL	Upala	0.81	119	P	Pn	18 13 25.0	-0.4
MAS3	AI N del Volca	0.84	330	P	Pn	18 13 25.4	-0.1
MAS3				S	Sn	18 13 45.1	+0.4
CUI	Cuipilapa	0.85	138	eP	Pn	18 13 25.6	-0.1
MOTZ	Rio Naranjo	0.89	132	eP	Pn	18 13 26.2	+0.2
TENO	El Achiote	0.95	128	eP	Pn	18 13 26.6	+0.2
UNAN	Cigeo UNAN	0.97	328	P	Pn	18 13 26.1	-0.4
UNAN				S	Sn	18 13 46.7	+0.5
WILN	Americas 2	0.97	333	P	Pn	18 13 25.7	-0.8
WILN				S	Sn	18 13 47.1	+0.8
MGAN	Managua	0.98	330	P	Pn	18 13 26.1	-0.5
MGAN	Managua	0.98	330	S	Sn	18 13 47.4	+0.9
TISN	Laguna Tiscapa	0.99	329	P	Pn	18 13 26.4	-0.2
TIMP	Tierras Morena	1.00	135	eP	Pn	18 13 26.6	-0.2
PLVR	Palo Verde	1.01	158	eP	Pn	18 13 27.4	+0.3
INVE	Universidad In	1.05	140	eP	Pn	18 13 27.0	-0.2
QUEB	Quebradon, Cot	1.06	129	eP	Pn	18 13 27.0	-0.3
CNAS	Canas	1.07	143	eP	Pn	18 13 28.2	+0.9
APQN	BB Volcan Apoy	1.07	329	S	Sn	18 13 47.8	0.0
TILA	Tilaran	1.11	137	eP	Pn	18 13 27.5	-0.2
JUD3	Juan Diaz 3	1.14	170	eP	Pn	18 13 27.8	-0.2
AMTN	Mateare	1.16	324	S	Sn	18 13 49.8	+0.8
AMTN	Mateare	1.16	324	P	Pn	18 13 27.6	-0.4
NICO	Nicoya	1.19	166	eP	Pn	18 13 28.3	0.0
COPN	Copaltepe	1.22	317	P	Pn	18 13 27.9	-0.6
COPN	Copaltepe	1.22	317	eP	Pn	18 13 27.9	-0.6
JTS	Las Juntas de	1.26	142	⇑P	Pn	18 13 28.5	-0.5
JTS				S	Sn	18 13 49.3	-1.4
JTS	Las Juntas de	1.26	142	eP	Pn	18 13 28.5	-0.5
JUNT	Juntas	1.26	142	eP	Pn	18 13 28.6	-0.5
ARE1	Arenal 1	1.30	129	eP	Pn	18 13 29.6	+0.2
VARE2	V. Arenal	1.30	129	eP	Pn	18 13 29.5	+0.1
MTEVE	Monteverde	1.32	137	eP	Pn	18 13 29.6	-0.2
FORC	Fortuna	1.33	128	eP	Pn	18 13 30.0	+0.3
MOM2	El Cardon	1.35	328	P	Pn	18 13 29.7	-0.1
MOM2				S	Sn	18 13 52.6	+0.4
SOCE	Pocosol	1.43	129	S	Sn	18 13 52.4	-1.1
SOCE	Pocosol	1.43	129	⇑P	Pn	18 13 30.5	0.0
SOCE	Pocosol	1.43	129	eP	Pn	18 13 30.6	0.0
CNGA	AI SSO del Vol	1.52	322	P	Pn	18 13 31.6	+0.1
CNGA				S	Sn	18 13 55.7	+0.4
CNGN	Cerro Negro	1.52	322	P	Pn	18 13 31.4	-0.3
CNGN	Cerro Negro	1.52	322	S	Sn	18 13 55.5	+0.2
CNGN	Cerro Negro	1.52	322	eP	Pn	18 13 31.3	-0.3
JCR1	Jicaral	1.56	157	eP	Pn	18 13 31.7	-0.3
VPL2	V. Platanar	1.66	126	eP	Pn	18 13 33.1	0.0
ARZA	Esparza	1.67	141	eP	Pn	18 13 33.8	+0.8
VPL3	V. Platanar	1.69	124	eP	Pn	18 13 33.3	0.0
CBL1	Cabuya	1.81	159	eP	Pn	18 13 34.1	-0.5
PKGN	Cerro Pekin	1.83	319	P	Pn	18 13 34.4	-0.3
PKGN				S	Sn	18 14 01.3	+0.4
ATEO	Atenas	1.87	134	eP	Pn	18 13 35.2	0.0
PAR1A	Puntarenas Pro	2.23	139	eP	Pn	18 13 40.1	+0.7
PIEC	Cerro El Cedra	2.41	133	eP	Pn	18 13 42.1	+0.4
CSGN	Cosiguina Volc	2.44	313	⇑P	Pn	18 13 41.5	-0.4
CSGN				S	Sn	18 14 13.0	-0.7
CSGN	Cosiguina Volc	2.44	313	eP	Pn	18 13 41.6	-0.4
BUS1	Rivas	2.61	131	eP	Pn	18 13 44.3	0.0

*IDC **27** 18:16:16.9±0.8, 2°.58S×138°.36E, h0km, mb3.7/8, mbtmp3.9/12, MLv4.1/4, Error ellipse: s-maj=21.1km s-min=19.4km az=80.0*
*DJA **27** 18:16:21.5±0.6, 3°.S±3°.×13°.9E±°., h17km±5km, M4.5/7, mb4.8/1, MLv4.3/7*

ISC 27 18:16:20.7±1.4, 2°.61S±0°.05×138°.41E±0°.05, h29km±11km, n19, σ2°.61/27, mb3.9/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.69	26	P	Pb	18 16 33.1	-1.1
SMPI				S	Sn	18 16 44.7	+0.5
GENI	Genyem	1.76	89	P	Pn	18 16 50.5	+1.3
GENI				S	Sn	18 17 11.4	+0.8
JAY	Jayapura	2.29	88	Pn	Pn	18 16 57.5	+0.9
	9.2nm,0.3s,baz=222,slow=12,SNR=31						
JAY				Sn	Sb	18 17 27.5	-1.9
	8.9nm,0.3s,baz=125,slow=17,SNR=4.6 45nm,0.5s						
JAY	Jayapura	2.29	88	P	Pn	18 16 57.6	+0.9
JAY				S	Sn	18 17 23.8	-0.2
BAKI	Biak	2.70	301	P	Pn	18 17 04.3	+2.1
BAKI				S	Sb	18 17 39.4	-1.7
MMPI	Merauke	6.14	161	P	Pn	18 17 52.4	+2.9
MMPI				S	Sn	18 19 02.7	+3.9
SWI	Sorong	7.36	284	P	Pn	18 18 07.6	+1.4
BATI	Baumata	16.47	242	Pn	Pn	18 20 10.9	+0.9
	3.3nm,0.3s,baz=186,slow=1.6,SNR=6.5 11nm,0.6s						
WRA	Warramunga Arr	17.68	193	P	Pn	18 20 23.1	-1.8
	0.9nm,0.3s,baz=18,slow=13,SNR=19						
WRA				S	Sn	18 23 29.6	-12
	1.7nm,0.7s,baz=6.8,slow=24,SNR=4.1 2.6nm,0.7s						
FITZ	Fitzroy Crossi	19.84	218	P	P	18 20 49.2	-0.2
	0.4nm,0.3s,baz=62,slow=16,SNR=9.5						
FITZ				S	S	18 24 23.8	-7.8
	3.4nm,0.7s,baz=195,slow=11,SNR=2.8 2.1nm,0.8s						
ASAR	Alice Springs	21.38	191	P	P	18 21 05.8	-0.3
	3.0nm,0.5s,baz=22,slow=10.0,SNR=38						
ASAR				S	S	18 24 55.8	-6.3
	3.1nm,1.1s,baz=3.5,slow=21,SNR=4.8 3.0nm,0.5s						
CMAR	Chiang Mai Arr	44.13	300	P	P	18 24 28.2	+1.2
	0.3nm,0.4s,baz=116,slow=8.0,SNR=4.2 0.3nm,0.4s						
SONM	Songino Array	57.51	335	P	P	18 26 07.6	+0.2
	0.5nm,0.8s,baz=132,slow=9.4,SNR=3.7 0.5nm,0.8s						
MKAR	Makanchi Array	69.53	322	P	P	18 27 26.4	-0.5
	0.7nm,0.8s,baz=114,slow=8.0,SNR=6.0 0.7nm,0.8s						
KURBB	Kurchatov Arra	73.48	325	P	P	18 27 51.0	+0.5
	0.3nm,0.7s,baz=114,slow=4.4,SNR=5.9 0.3nm,0.7s						
BVAR	Borovoye Array	79.06	325	P	P	18 28 23.2	+0.9
	0.8nm,0.6s,baz=123,slow=11,SNR=4.3 0.8nm,0.6s						
ILAR	Eielson Array	85.87	24	P	P	18 28 57.0	-0.5
	0.7nm,0.9s,baz=255,slow=4.3,SNR=4.2 0.7nm,0.9s						
QSPA	South Pole Qui	87.33	180	P	P	18 29 07.3	+2.4
	1.2nm,0.8s,baz=355,slow=2.3,SNR=3.0 1.2nm,0.8s						
LPAZ	La Paz	147.74	126	PKPbc	PKPbc	18 36 05.2	+0.6
	0.5nm,0.5s,baz=114,slow=5.7,SNR=3.8						

*IDC **27** 18:20:24.4±1.1, 26°.76N×53°.64E, h0km, mb3.8/13, mbtmp3.7/16, ML3.4/3, Error ellipse: s-maj=27.2km s-min=18.0km az=174.0*
*DSN **27** 18:20:26.6±2.2, 27°.02N×53°.85E, h10km, ML3.3/12, Error ellipse: s-maj=28.9km s-min=8.3km az=178.0*
*TEH **27** 18:20:27.8, 26°.84N×53°.76E, h19km±17km*
*OMAN **27** 18:20:28.7±0.6, 26°.81N×53°.79E, h10km, mb4.5/6, ml3.5/17, ms3.6/6, Error ellipse: s-maj=6.1km s-min=3.6km az=177.0*

ISC 27 18:20:29.1±1.6, 26°.90N±0°.05×53°.74E±0°.04, h28km±12km, n84, σ1°.32/105, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.67	311	Pg	Pb	18 20 42.3	-0.1
LAR1	LAR	0.95	36	Pg	Pb	18 20 46.8	-0.3
JHRM	Jahrom	1.61	355	Pg	Pb	18 20 58.5	+0.4
GENO	Geno	2.23	77	Pn	Pn	18 21 05.6	+1.3
SHME	Shamm	2.31	111	P	Pn	18 21 05.2	-0.2
	SNR=11						
SHME				S	Sn	18 21 32.8	-0.1
SHME	Shamm	2.31	111	eP	Pn	18 21 04.6	-0.8
	SNR=11						
SHME				S	Sn	18 21 32.8	-0.1
BANOM	Banah	2.49	112	P	Pn	18 21 08.0	+0.2
BANOM				S	Sn	18 21 38.5	+1.0
BANOM	Banah	2.49	112	eP	Pn	18 21 06.9	-1.0
	SNR=45						
BANOM				S	Sn	18 21 35.7	-1.7
IBND	Bandar-abas	2.56	77	Pn	Pn	18 21 10.0	+1.4
NAZ	Nazwa, Dubai	2.57	137	P	Pn	18 21 10.7	+1.8
	SNR=8.7						
NAZ	Nazwa, Dubai	2.57	137	eP	Pn	18 21 10.1	+1.1
	SNR=8.7						
DSBU	Dashti - Bushe	2.64	304	Pn	Pn	18 21 11.7	+1.8
MASF	Masafi	2.66	124	P	Pn	18 21 11.0	+0.9
	SNR=10						
MASF				S	Sn	18 21 43.4	+2.0
MSFE	Esma-Masafi	2.66	125	eP	Pn	18 21 09.2	-1.0
	SNR=10.0						
ASUD	AI Ashush, Dub	2.68	147	P	Pn	18 21 12.4	+1.9
	SNR=20						
ASUD				S	Sn	18 21 43.9	+2.0
ASUD	AI Ashush, Dub	2.68	147	eP	Pn	18 21 12.1	+1.7
	SNR=20						
SHMA	AI-Shehemyia	2.70	248	P	Pn	18 21 13.1	+2.5
	SNR=11						
FAQ	AI Faqa, Dubai	2.72	142	P	Pn	18 21 12.6	+1.6
FAQ				S	Sn	18 21 45.3	+2.4
FAQ	AI Faqa, Dubai	2.72	142	P	Pn	18 21 12.1	+1.1
MDH	Madha	2.80	124	P	Pn	18 21 13.1	+1.0
UOSS	Minazif	2.95	131	P	Pn	18 21 14.7	+0.6
UOSS				S	Sn	18 21 49.7	+1.0
UOSS	Minazif	2.95	131	eP	Pn	18 21 14.4	+0.2
	SNR=9.5						
HATD	Hatta, Dubai	2.99	133	P	Pn	18 21 15.7	+1.0
	SNR=8.8						
HATD	Hatta, Dubai	2.99	133	eP	Pn	18 21 15.2	+0.5
	SNR=8.8						
GHWR	Ruwais	3.03	195	P	Pn	18 21 16.4	+1.2
GHWR				S	Sn	18 21 51.9	+1.4
ASHO	Ashiyiah	3.04	136	P	Pn	18 21 16.6	+1.2
	SNR=39						
ASHO				S	Sn	18 21 52.0	+1.1
ASHO	Ashiyiah	3.04	136	i P	Pn	18 21 15.9	+0.5
	SNR=39						
MZWR	Madinat Zayed	3.13	178	P	Pn	18 21 18.3	+1.7
MZWR				S	Sn	18 21 53.8	+0.8
TRNA	Turayna	3.13	227	P	Pn	18 21 18.3	+1.6
	SNR=34						
ALNE	AI Ain	3.37	147	P	Pn	18 21 21.4	+1.5
	SNR=5.9						
ALNE				S	Sn	18 22 00.4	+1.4
SMRA	Abu-Samra	3.39	231	P	Pn	18 21 22.8	+2.6
KHNJ	Kahnooj	3.68	73	Pn	Pn	18 21 24.8	+0.6
SOHO	SOHO	3.74	137	P	Pn	18 21 25.6	+0.6
SOHO				S	Sn	18 22 09.2	+1.2
SOHO	SOHO	3.74	137	i P	Pn	18 21 25.1	+0.2
	SNR=21						
NGRK	Negar Kerman	3.80	43	Pn	Pn	18 21 27.6	+1.4
MZR	Muzera	3.89	184	i P	Pn	18 21 27.6	+0.5
	SNR=7.8						
KRBR	Kerman	4.06	40	Pn	Pn	18 21 31.0	+1.3
KHGB	Koh Gabri	4.22	34	Pn	Pn	18 21 34.0	+2.2
ARQ	Araqi	4.35	144	P	Pn	18 21 34.2	+0.7
	SNR=36						
ARQ				S	Sn	18 22 24.3	+1.0
UMZA	Um Al Zommool	4.36	162	P	Pn	18 21 34.6	+1.0
CHMN	Cheshme madani	4.46	48	Pn	Pn	18 21 37.2	+2.0
IMEH	Mehriz	4.54	9	Pn	Pn	18 21 38.6	+2.4
HOQ	Hoqain	4.62	135	P	Pn	18 21 38.0	+0.9
	SNR=18						
HOQ	Hoqain	4.62	135	Pn	Pn	18 21 37.7	+0.5
KBAM	BAM	4.72	61	Pn	Pn	18 21 40.4	+1.8
IBAF	Bafgh	4.94	18	Pn	Pn	18 21 43.7	+2.1
IRAM	Ramesheh	5.03	347	Pn	Pn	18 21 45.4	+2.4
ICHK	Chekchek	5.36	6	Pn	Pn	18 21 49.3	+1.9
SMDO	Samad	5.47	133	P	Pn	18 21 50.0	+1.1
	SNR=11						
SMDO				S	Sn	18 22 52.1	+1.1
IGAR	Gharneh	5.68	345	Pn	Pn	18 21 53.9	+2.0
WSAR	Wadi Sarin	5.74	128	P	Pn	18 21 53.5	+1.0
WSAR				S	Sn	18 22 58.9	+1.4
JMDO	Jabal Madar	6.01	138	P	Pn	18 21 56.4	+0.2
ANAR	Anarak	6.27	360	Pn	Pn	18 22 01.5	+1.6
IPIR	Pirpir	6.27	337	Pn	Pn	18 22 02.0	+1.9
IKLH	Kolahrood	6.67	344	Pn	Pn	18 22 07.1	+1.6
NGCH	Negor - Chabah	6.82	101	P	Pn	18 22 07.6	+0.2
JLN	Jalan Bani Buh	7.00	131	P	Pn	18 22 09.6	-0.2
MHTO	MHTO	7.04	146	P	Pn	18 22 10.7	+0.3
SRVN	Saravan	7.73	84	Pn	Pn	18 22 21.4	+1.4
DQM	DQM	7.77	153	P	Pn	18 22 20.1	-0.2
RAYN	Ar Rayn	8.18	248	i P	Pn	18 22 25.7	-0.4
	SNR=7.8						
DOK	Doka	8.25	177	P	Pn	18 22 26.1	-0.9
DOK				P	Pn	18 22 26.1	-0.9
WHFO	Wadi Hawf	8.94	180	P	Pn	18 22 35.5	-0.9
	SNR=63						
WHFO				P	Pn	18 22 35.5	-0.9
	SNR=63						
SHAO	Shalim	9.01	168	P	Pn	18 22 36.3	-1.0
	SNR=9.7						
SHAO	Shalim	9.01	168	i P	Pn	18 22 35.0	-2.4
	SNR=9.7						
DMTO	DMTO	9.21	173	P	Pn	18 22 38.6	-1.6
DMTO				P	Pn	18 22 38.6	-1.6
RBK	Rabkut	9.36	177	P	Pn	18 22 41.7	-0.6
RBK				P	Pn	18 22 41.7	-0.6
ABTO	Aybut	9.51	183	P	Pn	18 22 42.9	-1.4
	SNR=12						
ABTO				P	Pn	18 22 42.9	-1.4
	SNR=12						
ASF	Jabal al Asfar	15.57	294	Pn	Pn	18 24 04.2	-2.6
	0.2nm,0.3s,baz=207,slow=17,SNR=1.2 0.4nm,0.3s						
MMAI	Mount Meron Ar	17.01	295	Pn	Pn	18 24 22.9	-2.2
	0.2nm,0.3s,baz=118,slow=18,SNR=1.2 0.2nm,0.3s						
KBZ	Khabaz	18.95	335	P	P	18 24 48.4	+0.4
	0.1nm,0.3s,baz=68,slow=11,SNR=1.6 0.4nm,0.3s						
BRTR	Keskin Array B	21.05	312	P	P	18 25 10.1	-1.1
	0.5nm,0.7s,baz=131,slow=13,SNR=4.5 0.5nm,0.7s						
BVAR	Borovoye Array	28.90	21	P	P	18 26 26.4	+0.9
	0.6nm,0.5s,baz=223,slow=9.7,SNR=2.7 0.6nm,0.5s						
MKAR	Makanchi Array	30.01	41	P	P	18 26 35.9	+0.5
	0.3nm,0.6s,baz=242,slow=12,SNR=4.1 0.3nm,0.6s						
KURBB	Kurchatov Arra	30.31	32	P	P	18 26 38.3	+0.3
	0.2nm,0.5s,baz=216,slow=5.1,SNR=1.8 0.2nm,0.5s						
ZALV	Zalesovo Beam	35.41	32	P	P	18 27 23.9	+1.4
	1.1nm,0.5s,baz=225,slow=5.9,SNR=3.8 1.1nm,0.5s						
FINES	FINESS Array B	39.22	339	P	P	18 27 54.9	+0.3
	2.0nm,0.8s,baz=163,slow=7.4,SNR=5.8 2.0nm,0.8s						
CMAR	Chiang Mai Arr	42.37	92	P	P	18 28 21.4	+0.2
	0.3nm,0.3s,baz=290,slow=7.9,SNR=1.3 0.3nm,0.3s						
ARCES	ARCESS Array B	45.73	347	P	P	18 28 47.8	+0.3
	4.5nm,1.1s,baz=147,slow=8.6,SNR=3.4 4.5nm,1.1s						
SONM	Songino Array	45.77	48	P	P	18 28 48.9	+0.6
	0.3nm,0.6s,baz=280,slow=9.7,SNR=2.4 0.3nm,0.6s						
EKA	Eskdalemuir Ar	49.61	321	P	P	18 29 17.6	-0.2
	0.6nm,0.4s,baz=104,slow=7.2,SNR=6.6 0.6nm,0.4s						
TORD	Torodi Ar. Bea	50.45	265	P	P	18 29 23.7	-1.0
	2.0nm,0.3s,baz=63,slow=9.1,SNR=3.2 2.0nm,0.3s						
DBIC	Dimbokro	59.06	261	P	P	18 30 26.1	-1.0
	5.2nm,0.7s,baz=79,slow=6.6,SNR=6.3 5.2nm,0.7s						
ASAR	Alice Springs	92.28	115	P	P	18 33 36.1	-0.9
	0.2nm,0.6s,baz=311,slow=4.6,SNR=1.6 0.2nm,0.6s						

*DJA **27** 18:26:24.3±0.3, 1°.N±4°.×12°.4E±°., h10km, M3.9/8, mb4.0/1, MLv3.8/8*
*IDC **27** 18:27:01.9±7.3, 0°.26S×123°.18E, h126km±68km, mb3.0/3, mbtmp3.6/5, Error ellipse: s-maj=64.0km s-min=24.5km az=54.0*

ISC 27 18:26:22.3±3.0, 0°.9N±0°.2×123°.93E±0°.09, h10km, n10, σ1°.88/7, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.36	172	P	Pg	18 26 28.9	-0.5
MRSI	Marisa	2.04	257	P	Pn	18 26 57.3	+0.6
APSI	Ampana	2.93	231	P	Pn	18 27 10.3	+1.4
SANI	Sanana	3.60	145	P	Pn	18 27 18.4	+0.1
NLAI	Namlea	5.21	143	P	Pn	18 27 42.0	+1.6
KAPI	Kappang	7.23	215	P	Pb	18 28 25.9	-2.1
	9.2nm,0.3s,baz=32,slow=13,SNR=5.6						
KAPI				S	Sn	18 29 32.6	+2.1
	11nm,0.4s,baz=30,slow=20,SNR=1.3						
FITZ	Fitzroy Crossi	18.98	175	P	Pn	18 31 02.0	+17
	1.7nm,0.6s,baz=10,slow=11,SNR=5.9						
WRA	Warramunga Arr	23.12	154	P	P	18 31 49.1	+20
	1.7nm,0.8s,baz=332,slow=9.9,SNR=7.6 1.7nm,0.8s						
ASAR	Alice Springs	26.30	159	P	P	18 32 19.4	+21
	0.3nm,0.6s,baz=334,slow=8.4,SNR=5.6						
ASAR				PcP	PcP	18 35 48.1	+23
	0.6nm,0.9s,baz=354,slow=2.4,SNR=0.7 0.3nm,0.6s						
MKAR	Makanchi Array	58.32	328	P	P	18 36 47.6	+30
	0.2nm,0.5s,baz=128,slow=8.1,SNR=1.8 0.2nm,0.5s						

TAP 27 18:28:44.9, 23°.81N×121°.67E, h54km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.09	310	eP	Pn	18 28 53.6	+0.4
TEYL				eS	Sn	18 28 59.8	+0.6
SHUL	Shoufeng	0.10	258	i P	Pn	18 28 53.4	+0.2
SHUL				S	Sn	18 29 00.4	+1.2
TEGC	Jichi Village	0.16	231	eP	Pn	18 28 53.7	+0.2
TEGC				eS	Sn	18 29 00.6	+1.0
ESL	Shilin	0.22	271	eP	Pn	18 28 53.5	-0.3
ETM	Tongmen	0.23	313	eP	Pn	18 28 53.6	-0.3
EGFH	Guangfu	0.27	238	eP	Pn	18 28 54.0	-0.2
EGFH				eS	Sn	18 29 00.4	-0.4
TWD	Chiawan	0.28	345	eP	Pn	18 28 54.2	-0.1
TWD				eS	Sn	18 29 01.2	+0.2
WARBT	Fenglin Townsh	0.28	251	eP	Pn	18 28 53.7	-0.6
WARBT				eS	Sn	18 29 00.1	-0.9
LXIB	Xiulin Townshi	0.32	312	eP	Pn	18 28 54.3	-0.5
LXIB				eS	Sn	18 29 01.3	-0.6
ETL	Fush Village	0.35	352	eS	Sn	18 29 02.1	0.0
NACB	Ninganchiao	0.37	349	eP	Pn	18 28 54.8	-0.3
NACB				eS	Sn	18 29 01.9	-0.5
HGSD	Ruisui	0.39	216	eP	Pn	18 28 55.6	+0.4
HGSD				eS	Sn	18 29 04.0	+1.3
ETLH	Xiulin Townshi	0.43	336	eP	Pn	18 28 55.5	-0.4
ETLH				S	Sn	18 29 03.0	-0.7
EHYH	Wanrong	0.43	224	eP	Pn	18 28 55.4	-0.3
EHYH				eS	Sn	18 29 03.1	-0.5
EHY	Hungye	0.44	227	eP	Pn	18 28 55.4	-0.4
EHY				eS	Sn	18 29 02.2	-1.5
OWD	Renai	0.48	288	P	Pn	18 28 56.5	+0.1
OWD				eS	Sn	18 29 04.3	-0.3

LIOB				eS	Sn	18 29 19.1	+2.4
STYH	**Taoyuan**	**1.04**	**233**	eP	Pn	18 29 04.1	+0.9
STYH				i S	Sn	18 29 17.7	+0.8
WCKO	**Fanlu**	**1.05**	**250**	eP	Pn	18 29 04.9	+1.5
WCKO				eS	Sn	18 29 19.7	+2.6
WDLH	**Douliu**	**1.05**	**264**	eP	Pn	18 29 05.0	+1.6
WDLH				eS	Sn	18 29 20.3	+3.3
KSHI	**Guanxi Townshi**	**1.06**	**335**	eS	Sn	18 29 20.8	+3.3
TPUB	**Ta-pu**	**1.08**	**242**	eP	Pn	18 29 05.3	+1.5
TPUB				eS	Sn	18 29 19.6	+1.6
WTP	**Ta-pu**	**1.12**	**240**	eP	Pn	18 29 05.6	+1.1
WTP				eS	Sn	18 29 21.4	+2.5
TIPB	**Shuangxi**	**1.17**	**7**	eP	Pn	18 29 06.3	+1.3
TWK	**Hsinying**	**1.22**	**244**	eP	Pn	18 29 07.9	+2.3
TWK				eS	Sn	18 29 23.2	+2.1
CHN1	**Nanshi**	**1.22**	**240**	eP	Pn	18 29 06.8	+1.1
CHN1				eS	Sn	18 29 23.1	+1.8
MASBT	**Mashibuluo**	**1.53**	**219**	eP	Pn	18 29 11.0	+1.1

JMA 27 18:28:47.2±0.4, 23°N±2°×12°3E±°, h49km, MV2.0/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.16**	**30**	eP	Pn	18 29 07.5	+0.4
HATJ				eS	Sn	18 29 21.9	0.0
IRIF	**Iriomote-Funau**	**1.38**	**22**	eP	Pn	18 29 10.7	+0.7
IRIF				eS	Sn	18 29 27.4	+0.2
JKRS	**Kuro-shima**	**1.42**	**33**	P	Pn	18 29 11.3	+0.8
JKRS				eS	Sn	18 29 28.1	+0.1
JIJ	**Ishigaki jima**	**1.59**	**34**	eP	Pn	18 29 13.3	+0.5
JIJ				eS	Sn	18 29 31.9	-0.4
JISG	**Ishigakijimahi**	**1.86**	**34**	eP	Pn	18 29 17.5	+0.9
JTJ	**Tarama**	**2.12**	**41**	eP	Pn	18 29 20.6	+0.5

*IDC **27** 18:29:51.1±0.7, 2°.55S×138°.31E, h0km, mb3.9/9, mbtmp3.8/12, MLL3.4/3, Error ellipse: s-maj=15.7km s-min=13.8km az=86.0*
*DJA **27** 18:29:51.3±0.7, 2°S±8°×13°9E±°, h11km±8km, M4.0/7, mb4.2/3, MLv3.8/7*
ISC 27 18:29:51.7±0.6, 2°.56S±0°.08×138°.57E±0°.07, h10km, n20, σ1§46/21, mb3.9/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**14**	P	Pg	18 29 58.3	-4.7
GENI	**Genyem**	**1.59**	**91**	P	**Pn**	**18 30 17.6**	**-2.4**
JAY	**Jayapura**	**2.13**	**89**	Pn	**Pg**	**18 30 32.5**	**-0.1**
	4.0nm,0.3s,baz=268,slow=6.7,SNR=16						
JAY				Lg	Lg	18 31 06.5	
	2.1nm,0.3s,baz=30,slow=15,SNR=4.0 30nm,0.6s						
JAY	**Jayapura**	**2.13**	**89**	P	**Pn**	**18 30 27.2**	**-0.2**
BAKI	**Biak**	**2.81**	**299**	P	**Pn**	**18 30 34.5**	**-2.3**
RKPI	**Ransiki, Papua**	**4.51**	**283**	P	**Pn**	**18 30 59.5**	**-0.7**
FAKI	**Fak Fak**	**6.33**	**267**	P	**Pn**	**18 31 24.1**	**-1.0**
	47nm,1.3s						
SWI	**Sorong**	**7.50**	**283**	P	**Pn**	**18 31 41.0**	**-0.3**
	0.1nm15nm,0.8s						
BATI	**Baumata**	**16.64**	**242**	Pn	**P**	**18 33 49.1**	**+1.4**
	1.2nm,0.3s,baz=324,slow=4.0,SNR=3.6						
WRA	**Warramunga Arr**	**17.77**	**193**	P	**Pn**	**18 33 59.2**	**-0.2**
	0.3nm,0.3s,baz=14,slow=12,SNR=12						
WRA				S	**Sn**	**18 37 18.0**	**+0.4**
	0.5nm,0.8s,baz=12,slow=22,SNR=1.7 1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.98**	**219**	P	**P**	**18 34 23.9**	**-0.5**
	baz=29,slow=9.9,SNR=1.8 1.8nm,0.9s						
ASAR	**Alice Springs**	**21.47**	**192**	P	**P**	**18 34 40.9**	**+0.4**
	1.0nm,0.6s,baz=20,slow=10,SNR=12						
ASAR				S	**S**	**18 38 34.9**	**-4.0**
	0.5nm,0.9s,baz=13,slow=23,SNR=3.7 1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.24**	**300**	P	**P**	**18 38 00.6**	**-1.1**
	1.0nm,0.9s,baz=118,slow=6.3,SNR=7.7 1.0nm,0.9s						
SONM	**Songino Array**	**57.52**	**335**	P	**P**	**18 39 41.7**	**+0.2**
	0.3nm,0.7s,baz=132,slow=4.1,SNR=1.7 0.3nm,0.7s						
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**18 41 01.6**	**+0.5**
	2.6nm,0.6s,baz=113,slow=7.9,SNR=23 2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**73.53**	**325**	P	**P**	**18 41 24.5**	**-0.2**
	1.5nm,0.9s,baz=113,slow=6.0,SNR=11 1.5nm,0.9s						
VNDA	**Vanda**	**75.94**	**175**	P	**P**	**18 41 39.8**	**+1.4**
	0.4nm,0.6s,baz=345,slow=2.1,SNR=3.9 0.4nm,0.6s						
BVAR	**Borovoye Array**	**79.11**	**325**	P	**P**	**18 41 56.6**	**+0.1**
	2.2nm,0.7s,baz=103,slow=6.5,SNR=8.7 2.2nm,0.7s						
ILAR	**Eielson Array**	**85.75**	**24**	P	**P**	**18 42 31.1**	**+0.2**
	0.8nm,0.9s,baz=259,slow=4.9,SNR=5.0 0.8nm,0.9s						
QSPA	**South Pole Qui**	**87.39**	**180**	P	**P**	**18 42 41.0**	**+1.9**
	0.8nm,0.7s,baz=355,slow=1.1,SNR=8.0 0.8nm,0.7s						

*HVO **27** 18:32:23.1±0.6, 19°.478N±0°.007×155°.592W±0°.009, h-1km±4km, ML2.5/40, ML2.6/40(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=95.0*
NEIC 27 18:32:23.6±0.7, 19°.465N±0°.009×155°.580W±0°.009, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.5km az=344.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.03**	**321**		Pg	18 32 24.3	-0.9
ALEP	**Alea Permanent**	**0.10**	**321**		Pg	18 32 25.8	-0.1
ALEP					Sg	18 32 27.7	+0.3
AIN	**Ainahou**	**0.15**	**129**		Pg	18 32 27.2	+0.6
HMH	**Humu'ula Sheep**	**0.17**	**34**		Pg	18 32 27.0	0.0
HMH				IAML		18 32 31.3	
	comp=N,2μm,0.6s						
HMH				IAML		18 32 32.2	
	comp=E,2μm,0.5s						
MLH	**Mauna Loa**	**0.18**	**81**		Pg	18 32 27.6	+0.2
MLH				IAML		18 32 33.3	
	comp=N,2μm,0.2s						
KHU	**Kahuku**	**0.22**	**189**		Pg	18 32 28.1	+0.1
KHU					Sg	18 32 32.0	+1.1
WRMHI	**West Rim**	**0.27**	**102**		Pg	18 32 29.1	+0.2
UWE	**Uwekahuna**	**0.27**	**99**		Pg	18 32 29.3	+0.3
SDHHI	**Sand Hill**	**0.28**	**105**		Pg	18 32 29.2	+0.2
OBL	**Observatory Le**	**0.28**	**100**		Pg	18 32 29.3	+0.1
HTC	**Hot Caves**	**0.28**	**143**		Pg	18 32 29.3	+0.2
RSD	**Rainshed**	**0.28**	**90**		Pg	18 32 29.4	+0.2
RSD				IAML		18 32 38.0	
	comp=N,822nm,0.3s						
RSD				IAML		18 32 38.7	
	comp=E,770nm,0.5s						
RSD	**Rainshed**	**0.28**	**90**		Sg	18 32 33.9	+0.9
UWB	**Uwekahuna Bluf**	**0.29**	**98**		Pg	18 32 29.3	+0.1
POHA	**Pohakuloa**	**0.29**	**9**		Pg	18 32 29.4	0.0
POHA	**Pohakuloa**	**0.29**	**9**	IAML		18 32 37.3	
	comp=E,771nm,0.5s						
POHA				IAML		18 32 38.2	
	comp=E,757nm,1.0s						
RIM	**Rim**	**0.30**	**103**		Pg	18 32 29.5	+0.1
SBLHI	**Steaming Bluff**	**0.30**	**97**		Pg	18 32 29.4	0.0
HATHI	**Halema'uma'u T**	**0.30**	**98**		Pg	18 32 29.5	0.0
HATHI				IAML		18 32 39.4	
	comp=N,794nm,0.7s						
HATHI				IAML		18 32 39.7	
	comp=E,961nm,0.9s						
KKO	**Keanakako'i**	**0.30**	**103**		Pg	18 32 29.6	+0.1
BYL	**Byron's Ledge**	**0.31**	**100**		Pg	18 32 29.6	0.0
BYL				IAML		18 32 34.7	
	comp=N,816nm,0.9s						
BYL				IAML		18 32 39.3	
	comp=E,648nm,0.6s						
HLP	**Hilina Pali**	**0.31**	**123**		Pg	18 32 29.7	+0.2
HLP				IAML		18 32 39.5	
	comp=N,885nm,0.9s						
HLP				IAML		18 32 40.0	
	comp=E,723nm,1.0s						
HUH	**Hualalai**	**0.33**	**312**		Pg	18 32 30.7	+0.7
HUH	**Hualalai**	**0.33**	**312**	IAML		18 32 38.4	
	comp=N,1μm,0.4s						
HUH				IAML		18 32 39.8	
	comp=E,1μm,0.3s						
PUH	**Pauahi**	**0.35**	**105**		Pg	18 32 30.2	-0.3
PUH				IAML		18 32 41.0	
	comp=N,605nm,0.5s						
PUH				IAML		18 32 43.0	
	comp=E,629nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.40**	**102**		Pg	18 32 30.9	-0.4
STCH	**Steam Cracks**	**0.44**	**100**		Sg	18 32 38.2	+0.5
STCH	**Steam Cracks**	**0.44**	**100**		Pg	18 32 31.5	-0.6
STCH				IAML		18 32 45.2	
	comp=N,307nm,0.6s						
STCH				IAML		18 32 45.7	
	comp=E,4.6nm,0.6s						
NPOC	**North of Pu'u**	**0.45**	**99**		Pg	18 32 31.8	-0.5
JCUZ	**Jacuzzi**	**0.46**	**100**		Pg	18 32 32.1	-0.4
JCUZ					Sg	18 32 39.1	+0.7
JOKA	**Jonika Flow**	**0.54**	**93**		Pg	18 32 33.5	-0.6
JOKA				IAML		18 32 44.4	
	comp=N,364nm,1.0s						

*NEIC **27** 18:39:22.1±2.5, 14°.13N±0°.05×93°.05W±0°.01, h10km±1km, mb4.6/149, Md4.8/89(MEX), Error ellipse: s-maj=9.2km s-min=2.9km az=187.0*
*CATAC **27** 18:39:23.6±0.6, 14°N±3°×9°3W±°, h2km, M4.9/17, MLv4.9/17, Error ellipse: s-maj=6.7km s-min=5.8km az=84.0, confirmed*
*GCG **27** 18:39:23.0±1.2, 14°.05N×93°.03W, h20km±13km, MD5.2, ML4.6*
*MEX **27** 18:39:24.1±0.8, 14°.08N×93°.21W, h10km, MD4.8*
*GCMT **27** 18:39:27.1±0.6, 14°.18N±0°.04×93°.08W±0°.04, h14km±1km, MW4.8/69, Moment Tensor Solution. s17,c19; s69,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.42±.14; $M_{\theta\theta}$-1.18±.10; $M_{\phi\phi}$-0.23±.08; $M_{r\theta}$1.25±.24; $M_{\theta\phi}$0.32±.05; $M_{\phi r}$-0.79±.20; Best double couple: $M_0$1.99700×10^{16} NP1:φs118.00000°, δ22.00000°, λ73.00000°. NP2: φs118.00000°, δ69.00000°, λ97.00000°. Principal axes: T 2.0890, Plg65.0000°, Azm39.0000°; N -0.1770, Plg6.0000°, Azm295.0000°; P -1.9050, Plg24.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **27** 18:39:29.4±1.8, 14°N±7°×9°2W±2°, h10km, M5.0, mB5.6, mb4.9, ML4.6, Mw(mB)5.0*
*IDC **27** 18:39:30.4±3.0, 14°.35N×92°.60W, h73km±25km, mb3.9/15, mbtmp4.2/17, MS4.1/25, Error ellipse: s-maj=24.8km s-min=12.8km az=60.0*
ISC 27 18:39:23.8±1.3, 14°.16N±0°.04×93°.05W±0°.04, h28km±9km, n305, σ1§93/327, mb4.6/67, MS4.2/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.06**	**46**		**Pn**	**18 39 43.2**	**+0.4**
THIG					**Sb**	**18 39 58.0**	**+0.9**
THIG		**1.06**	**46**	i P	**Pn**	**18 39 43.2**	**+0.4**
THIG				eS	**Sb**	**18 39 58.0**	**+0.9**
SMCA	**Catarina**	**1.17**	**54**	i P	**Pn**	**18 39 44.6**	**+0.2**
SMCA				eS	**Sb**	**18 40 01.5**	**+1.3**
SMCA				IAML		18 40 11.4	
	comp=N,8μm,0.5s						
PATR	**El Naranjo**	**1.23**	**40**		**Pn**	**18 39 45.5**	**0.0**
PATR					**Sb**	**18 40 03.3**	**+1.0**
PATR	**El Naranjo**	**1.23**	**40**	eP	**Pn**	**18 39 45.5**	**0.0**
PATR				eS	**Sb**	**18 40 03.3**	**+1.0**
CHUJ	**Union Juarez**	**1.30**	**44**	eP	**Pn**	**18 39 46.6**	**+0.2**
CHUJ				eS	**Sb**	**18 40 04.6**	**+0.4**
PAVE	**Pavencul**	**1.33**	**39**		**Pn**	**18 39 47.0**	**+0.2**
PAVE					**Sb**	**18 40 05.4**	**+0.4**
PAVE	**Pavencul**	**1.33**	**39**	eP	**Pn**	**18 39 47.0**	**+0.2**
PAVE				eS	**Sb**	**18 40 05.4**	**+0.4**
RTAL	**Retalhuleu**	**1.36**	**75**	Pn	**Pn**	**18 39 47.2**	**+0.2**
RTAL				Sn	**Sb**	**18 40 06.8**	**+1.1**
RTAL	**Retalhuleu**	**1.36**	**75**	eP	**Pn**	**18 39 47.2**	**+0.2**
RTAL				eS	**Sb**	**18 40 06.0**	**+0.2**
RTAL	**Retalhuleu**	**1.36**	**75**	P	**Pn**	**18 39 47.4**	**+0.3**
RTAL	**Retalhuleu**	**1.36**	**75**	S	**Sb**	**18 40 06.2**	**+0.4**
PCIG		**1.54**	**354**		**Pn**	**18 39 49.0**	**-0.5**
PCIG					**Sn**	**18 40 07.9**	**-0.7**
PCIG		**1.54**	**354**	eP	**Pn**	**18 39 49.0**	**-0.5**
PCIG				eS	**Sn**	**18 40 07.9**	**-0.7**
QUEO	**Labor Ovalle**	**1.65**	**64**	eP	**Pn**	**18 39 51.7**	**+0.5**
STG2	**El Palmar, Qui**	**1.65**	**80**	eP	**Pn**	**18 39 48.7**	**-2.4**
SOKI	**Kika Raxquin**	**1.72**	**68**	eP	**Pn**	**18 39 52.9**	**+0.6**
HUEH	**Huehuetenango**	**1.89**	**52**		**Pn**	**18 39 53.3**	**-1.1**
HUEH	**Huehuetenango**	**1.89**	**52**	eP	**Pn**	**18 39 56.3**	**+1.9**
HUEH	**Huehuetenango**	**1.89**	**52**	eP	**Pn**	**18 39 56.1**	**+1.7**
HUEH	**Huehuetenango**	**1.89**	**52**	S	**Sb**	**18 40 23.5**	**+2.4**
HUEH	**Huehuetenango**	**1.89**	**52**	P	**Pb**	**18 39 56.6**	**-1.2**
ESSG	**Sabana Grande**	**2.16**	**84**	eP	**Pn**	**18 39 57.8**	**-0.3**
CCIG	**Comitan**	**2.28**	**23**		**Pb**	**18 40 02.5**	**-2.0**
CCIG					**Sb**	**18 40 32.6**	**+0.2**
CCIG	**Comitan**	**2.28**	**23**	eP	**Pb**	**18 40 02.5**	**-2.0**
CCIG				eS	**Sb**	**18 40 32.6**	**+0.2**
FG8	**Yepocapa, Chim**	**2.42**	**87**	eP	Pn	18 39 56.6	-5.0
FG16	**Alotenango, Sa**	**2.46**	**87**	eP	**Pn**	**18 39 57.9**	**-4.5**
GCG4	**OSOP**	**2.48**	**80**	eP	**Pn**	**18 40 03.4**	**+0.9**
PCG5	**San Vicente Pa**	**2.59**	**89**	eP	**Pn**	**18 40 00.5**	**-3.6**
TGBT	**Tuxtla Gutierr**	**2.60**	**359**		**Pn**	**18 40 05.6**	**+1.6**
TGBT					**Sn**	**18 40 37.0**	**+2.3**
TGBT	**Tuxtla Gutierr**	**2.60**	**359**	eP	**Pn**	**18 40 05.6**	**+1.6**
TGBT				eS	**Sn**	**18 40 37.0**	**+2.3**
TGIG		**2.60**	**358**		**Pn**	**18 40 05.5**	**+1.4**
TGIG					**Sn**	**18 40 36.4**	**+1.5**
TGIG		**2.60**	**358**	eP	**Pn**	**18 40 05.5**	**+1.4**
TGIG				eS	**Sn**	**18 40 36.4**	**+1.5**
FAME	**Alcaldia de Sa**	**2.96**	**96**	P	**Pn**	**18 40 10.4**	**+1.3**
FAME	**Alcaldia de Sa**	**2.96**	**96**	S	**Sn**	**18 40 44.8**	**+1.1**
LOAL	**Lomas de Alarc**	**3.18**	**93**	P	**Pn**	**18 40 13.1**	**+1.1**
LOAL	**Lomas de Alarc**	**3.18**	**93**	S	**Sn**	**18 40 49.1**	**0.0**
NUBE	**Las Nubes**	**3.18**	**94**	eP	**Pn**	**18 40 12.6**	**+0.4**
NUBE	**Las Nubes**	**3.18**	**94**	S	**Sn**	**18 40 49.4**	**0.0**
NUBE	**Las Nubes**	**3.18**	**94**	P	**Pn**	**18 40 13.2**	**+1.0**
UXUV	**UXUV**	**3.31**	**342**		**Pn**	**18 40 15.7**	**+1.9**
UXUV					**Sn**	**18 40 54.0**	**+1.7**
UXUV	**UXUV**	**3.31**	**342**	eP	**Pn**	**18 40 15.7**	**+1.9**
UXUV				eS	**Sn**	**18 40 54.0**	**+1.7**
CEVE	**Cerro Verde**	**3.34**	**95**	P	**Pn**	**18 40 15.6**	**+1.1**
CEVE	**Cerro Verde**	**3.34**	**95**	S	**Sn**	**18 40 55.1**	**+1.7**
HUIG	**Huatulco**	**3.36**	**299**		**Pn**	**18 40 13.2**	**-1.3**
HUIG					**Sn**	**18 40 50.8**	**-2.7**
HUIG	**Huatulco**	**3.36**	**299**	eP	**Pn**	**18 40 13.2**	**-1.3**
HUIG				eS	**Sn**	**18 40 50.8**	**-2.7**
UNIC	**Universidad Ca**	**3.40**	**93**	P	**Pn**	**18 40 15.3**	**+0.1**
UNIC	**Universidad Ca**	**3.40**	**93**	S	**Sn**	**18 40 55.2**	**+0.5**
CMIG	**Matias Romero**	**3.41**	**329**		**Pn**	**18 40 16.0**	**+0.8**
CMIG					**Sn**	**18 40 54.9**	**+0.3**
CMIG	**Matias Romero**	**3.41**	**329**	P	**Pn**	**18 40 16.4**	**+1.2**
	comp=N,38nm,0.4s,baz=141,slow=9.7,SNR=53						
CMIG				S	**Sn**	**18 40 56.4**	**+1.7**
	comp=N,232nm,0.5s,baz=170,slow=14,SNR=5.7						
CMIG				LR	LR	18 41 31.0	
	comp=N,643nm,19.0s,baz=232,slow=34						
CMIG	**Matias Romero**	**3.41**	**329**	eP	**Pn**	**18 40 16.0**	**+0.8**
CMIG				eS	**Sn**	**18 40 54.9**	**+0.3**
JAYA	**Jayaque - finc**	**3.53**	**98**	eP	**Pn**	**18 40 17.2**	**+0.2**
JAYA	**Jayaque - finc**	**3.53**	**98**	P	**Pn**	**18 40 17.8**	**+0.8**
JAYA	**Jayaque - finc**	**3.53**	**98**	S	**Sn**	**18 40 57.4**	**-0.6**
CEDA	**San Andres**	**3.57**	**95**	S	**Sn**	**18 40 59.1**	**+0.4**
MTO3	**Montecristo**	**3.58**	**86**	Pn	**Pn**	**18 40 17.6**	**-0.2**
MTO3	**Montecristo**	**3.58**	**86**	eP	**Pn**	**18 40 17.9**	**+0.1**
MTO3	**Montecristo**	**3.58**	**86**	P	**Pn**	**18 40 20.3**	**+2.5**
ESQI	**Esquipulas**	**3.62**	**83**		**Pn**	**18 40 19.1**	**+1.0**
ESQI	**Esquipulas**	**3.62**	**83**	P	**Pn**	**18 40 18.8**	**+0.7**
ESQI	**Esquipulas**	**3.62**	**83**	S	**Sn**	**18 41 01.6**	**+1.7**
PMON	**Piamonte**	**3.66**	**97**	P	**Pn**	**18 40 18.7**	**+0.1**
PMON	**Piamonte**	**3.66**	**97**	S	**Sn**	**18 41 01.4**	**+0.5**
LALI	**Alcalda de L**	**3.68**	**100**	S	**Sn**	**18 41 01.4**	**-0.1**
LALI	**Alcalda de L**	**3.68**	**100**	P	**Pn**	**18 40 19.0**	**+0.1**
UEES	**Universidad Ev**	**3.73**	**96**	P	**Pn**	**18 40 20.5**	**+0.9**
UEES	**Universidad Ev**	**3.73**	**96**	S	**Sn**	**18 41 03.0**	**+0.2**
PETF	**Flores**	**4.11**	**48**		**Sb**	**18 41 20.4**	**-4.4**
PETF	**Flores**	**4.11**	**48**		**Pn**	**18 40 25.4**	**+0.6**
PETF	**Flores**	**4.11**	**48**	eP	**Pn**	**18 40 27.1**	**+2.3**
PETF				eS	**Sb**	**18 41 20.4**	**-4.4**
PETF	**Flores**	**4.11**	**48**	eP	**Pn**	**18 40 26.4**	**+1.6**
PEIG	**Puerto Escondi**	**4.36**	**295**		**Pn**	**18 40 28.0**	**-0.3**
PEIG					**Sn**	**18 41 15.2**	**-3.0**
PEIG	**Puerto Escondi**	**4.36**	**295**	eP	**Pn**	**18 40 28.0**	**-0.3**
PEIG				eS	**Sn**	**18 41 15.2**	**-3.0**
NEUV	**Arroyo Zacate**	**4.41**	**323**		**Pn**	**18 40 28.9**	**-0.1**
NEUV					**Sn**	**18 41 18.7**	**-0.8**
NEUV	**Arroyo Zacate**	**4.41**	**323**	eP	**Pn**	**18 40 28.9**	**-0.1**
NEUV				eS	**Sn**	**18 41 18.7**	**-0.8**
OXIG	**Oaxaca**	**4.58**	**310**		**Pn**	**18 40 31.9**	**+0.4**
OXIG					**Sn**	**18 41 22.9**	**-0.9**
VHO	**Vista Hermosa**	**4.58**	**310**	eP	**Pn**	**18 40 31.9**	**+0.4**
VHO				eS	**Sn**	**18 41 22.9**	**-0.9**
PMUV	**Sontecomapan**	**4.79**	**336**		**Pn**	**18 40 35.5**	**+1.2**
PMUV					**Sn**	**18 41 26.7**	**-2.2**
PMUV	**Sontecomapan**	**4.79**	**336**	eP	**Pn**	**18 40 35.5**	**+1.2**
PMUV				eS	**Sn**	**18 41 26.7**	**-2.2**
YOIG	**Yosondua**	**5.09**	**302**		**Pn**	**18 40 41.4**	**+2.8**
YOIG					**Sn**	**18 41 36.6**	**-0.1**
YOIG	**Yosondua**	**5.09**	**302**	eP	**Pn**	**18 40 41.4**	**+2.8**
YOIG				eS	**Sn**	**18 41 36.6**	**-0.1**
SCIG	**Sabancuy**	**5.10**	**20**		**Pn**	**18 40 39.7**	**+1.3**
SCIG					**Sn**	**18 41 36.3**	**-0.2**
SCIG	**Sabancuy**	**5.10**	**20**	eP	**Pn**	**18 40 39.7**	**+1.3**
SCIG				eS	**Sn**	**18 41 36.3**	**-0.2**
PNIG	**Pinotepa**	**5.38**	**295**		**Pn**	**18 40 42.8**	**+0.5**
PNIG					**Sn**	**18 41 39.8**	**-3.5**
PNIG	**Pinotepa**	**5.38**	**295**	eP	**Pn**	**18 40 42.8**	**+0.5**
PNIG				eS	**Sn**	**18 41 39.8**	**-3.5**
TXIG	**Tlaxiaco**	**5.48**	**305**		**Pn**	**18 40 46.2**	**+2.2**
TXIG					**Sn**	**18 41 49.0**	**+2.6**
TXIG	**Tlaxiaco**	**5.48**	**305**	eP	**Pn**	**18 40 46.2**	**+2.2**
TXIG				eS	**Sn**	**18 41 49.0**	**+2.6**
TOIG	**Toxpalan**	**5.49**	**316**		**Pn**	**18 40 46.0**	**+2.1**
TOIG					**Sn**	**18 41 50.9**	**+4.6**
TOIG	**Toxpalan**	**5.49**	**316**	eP	**Pn**	**18 40 46.0**	**+2.1**
TOIG				eS	**Sn**	**18 41 50.9**	**+4.6**
TGUH	**Tegucigalpa,Un**	**5.61**	**90**		**Pn**	**18 40 47.6**	**+2.1**
HLIG	**Huajuapan de L**	**5.85**	**309**		**Pn**	**18 40 51.1**	**+2.2**
HLIG					**Sn**	**18 41 57.9**	**+2.7**
HLIG	**Huajuapan de L**	**5.85**	**309**	eP	**Pn**	**18 40 51.1**	**+2.2**
HLIG				eS	**Sn**	**18 41 57.9**	**+2.7**
CRIN	**San Cristobal**	**6.02**	**103**	P	**Pn**	**18 40 48.3**	**-2.8**
	comp=N,17μmcomp=N,859nm,0.9s						
FTIG	**Fresnillo de T**	**6.14**	**308**		**Pn**	**18 40 55.2**	**+2.3**
FTIG					**Sn**	**18 42 01.5**	**-0.9**
FTIG	**Fresnillo de T**	**6.14**	**308**	eP	**Pn**	**18 40 55.2**	**+2.3**
FTIG				eS	**Sn**	**18 42 01.5**	**-0.9**
TLIG	**Tlapa**	**6.29**	**303**		**Pn**	**18 40 56.3**	**+1.4**
TLIG					**Sn**	**18 42 06.3**	**+0.2**
TLIG	**Tlapa**	**6.29**	**303**	eP	**Pn**	**18 40 56.3**	**+1.4**
TLIG				eS	**Sn**	**18 42 06.3**	**+0.2**
JAUV	**Jalcomulco**	**6.30**	**326**		**Pn**	**18 40 55.5**	**+0.5**
JAUV					**Sn**	**18 42 06.3**	**+0.2**
JAUV	**Jalcomulco**	**6.30**	**326**	eP	**Pn**	**18 40 55.5**	**+0.5**
JAUV				eS	**Sn**	**18 42 06.3**	**+0.2**
POHV	**Veracruz**	**6.34**	**321**		Pn	18 40 49.8	-6.2
POHV					**Sn**	**18 42 04.6**	**-3.3**
POHV	**Veracruz**	**6.34**	**321**	eP	Pn	18 40 49.8	-6.2
POHV				eS	**Sn**	**18 42 04.6**	**-3.3**
CRIG	**Cruz Grande**	**6.40**	**294**		**Pn**	**18 40 55.9**	**-0.4**
CRIG					**Sn**	**18 42 06.0**	**-2.5**
CRIG	**Cruz Grande**	**6.40**	**294**	eP	**Pn**	**18 40 55.9**	**-0.4**
CRIG				eS	**Sn**	**18 42 06.0**	**-2.5**
LVIG	**Laguna Verde**	**6.40**	**330**		**Pn**	**18 40 58.9**	**+2.6**
LVIG					**Sn**	**18 42 10.5**	**+2.1**
LVIG	**Laguna Verde**	**6.40**	**330**	eP	**Pn**	**18 40 58.9**	**+2.6**
LVIG				eS	**Sn**	**18 42 10.5**	**+2.1**
CNGN	**Cerro Negro**	**6.40**	**104**		**Pn**	**18 40 57.0**	**+0.6**
MGAN	**Managua**	**6.92**	**106**	P	**Pn**	**18 41 07.8**	**+4.3**
	comp=N,5μmcomp=N,461nm,1.0s						
DAIG	**Los Arroyos**	**6.97**	**295**		**Pn**	**18 41 04.9**	**+0.8**
DAIG					**Sn**	**18 42 20.4**	**-2.1**
DAIG	**Los Arroyos**	**6.97**	**295**	eP	**Pn**	**18 41 04.9**	**+0.8**
DAIG				eS	**Sn**	**18 42 20.4**	**-2.1**
PPCL	**Tochimilco**	**7.13**	**312**	eP	**Pn**	**18 41 07.0**	**+0.4**
PPPT	**Popocatepetl**	**7.17**	**313**	eP	**Pn**	**18 41 09.2**	**+1.8**
PBXN	**Popocatepetl**	**7.22**	**313**	eP	**Pn**	**18 41 05.9**	**-2.1**
MEIG	**Mezcala**	**7.34**	**302**		**Pn**	**18 41 11.8**	**+2.5**
MEIG					**Sn**	**18 42 32.0**	**+0.2**
MEIG	**Mezcala**	**7.34**	**302**	eP	**Pn**	**18 41 11.8**	**+2.5**
MEIG				eS	**Sn**	**18 42 32.0**	**+0.2**
CXUV	**Coxquihui**	**7.38**	**325**		**Pn**	**18 41 10

152A			IAmb	IAmb	18 44 01.1	
	comp=Z,30nm,1.0s					
OTAV	**Otavalo**	**20.00 133**	*e*P	**Pn**	**18 43 58.4**	**+1.6**
MIAR	**Mount Ida**	**20.30 359**	P	**P**	**18 43 56.3**	**-1.3**
OXF	**Oxford**	**20.53 9**	P	**P**	**18 43 57.6**	**-2.4**
ROSC	**El Rosal**	**20.65 115**	P	**P**	**18 44 02.6**	**+0.7**
ROSC			IAmb	IAmb	18 44 15.1	
	comp=Z,34nm,0.9s					
ROSC	**El Rosal**	**20.65 115**	P	Pn	18 44 05.3	+1.0
	comp=Z,38nm,1.1s,baz=344,slow=1.9,SNR=17					
DKNS	**Dickens**	**20.69 341**	P	**P**	**18 44 02.2**	**+0.3**
DKNS			IAmb	IAmb	18 44 16.5	
	comp=Z,17nm,0.8s					
MNTX	**Cornudas Mount**	**20.79 329**	P	**P**	**18 44 01.5**	**-1.4**
X48A	**Hartselle**	**20.92 14**	P	**P**	**18 44 03.0**	**-1.3**
BARC	**Barichara**	**20.93 109**	P	Pn	18 44 08.6	+1.2
PIAT	**Ana Tenorio**	**21.01 135**	P	**P**	**18 44 09.1**	**+3.3**
	comp=Z,18nm,1.2s					
WHAR	**Wooly Hollow**	**21.05 2**	P	**P**	**18 44 06.3**	**+0.6**
WHAR			IAmb	IAmb	18 44 15.4	
	comp=Z,19nm,1.0s					
PAMC	**Pamplona, Colo**	**21.10 107**	P	**P**	**18 44 08.2**	**+1.3**
CPRX	**Cap Rock**	**21.21 334**	P	**P**	**18 44 07.8**	**+0.2**
Y52A	**Lilburn**	**21.24 21**	P	**P**	**18 44 04.1**	**-3.6**
Y52A			IAmb	IAmb	18 44 14.3	
	comp=Z,38nm,0.9s					
FLOC	**Florencia**	**21.26 124**	IAmb	IAmb	18 44 38.6	
	comp=Z,20nm,0.9s					
RUSC	**La Rusia**	**21.29 111**	P	**P**	**18 44 09.2**	**+0.2**
FNO	**Franklin**	**21.37 350**	P	**P**	**18 44 09.1**	**0.0**
FNO			IAmb	IAmb	18 44 16.5	
	comp=Z,30nm,0.7s					
FPAL	**Fort Paine**	**21.37 17**	P	**P**	**18 44 03.4**	**-5.8**
MSTX	**Muleshoe**	**21.60 338**	IAmb	IAmb	18 44 23.5	
	comp=Z,22nm,0.9s					
FCAR	**Ozark Folk Cen**	**21.65 2**	IAmb	IAmb	18 44 16.3	
	comp=Z,23nm,1.0s					
TUL3	**Leonard**	**21.80 354**	IAmb	IAmb	18 44 29.4	
	comp=Z,18nm,0.9s					
DEOK	**Depew**	**21.81 352**	P	**P**	**18 44 11.6**	**-2.3**
DEOK			IAmb	IAmb	18 44 17.7	
	comp=Z,18nm,0.8s					
SMWD	**Samnorwood**	**21.84 344**	P	**P**	**18 44 13.7**	**-0.4**
LCAR	**Lake Charles**	**21.88 4**	IAmb	IAmb	18 44 26.6	
	comp=Z,21nm,1.0s					
OK029	**Liberty Lake**	**21.90 350**	IAmb	IAmb	18 44 18.4	
	comp=Z,26nm,1.0s					
RLO	**Rose Lookout**	**21.98 356**	IAmb	IAmb	18 44 28.1	
	comp=Z,20nm,1.0s					
HHAR	**Hobbs**	**22.04 358**	IAmb	IAmb	18 44 19.9	
	comp=Z,25nm,1.0s					
HODGE	**Hodges**	**22.24 24**	IAmb	IAmb	18 44 42.8	
	comp=Z,25nm,0.9s					
MACC	**Macarena, Meta**	**22.42 120**	P	**P**	**18 44 24.5**	**+3.9**
	comp=Z,21nm,1.0s					
SDV	**Santo Domingo**	**22.57 101**	*e*P	**P**	**18 44 21.2**	**-1.2**
SDV	**Santo Domingo**	**22.57 101**	P	**P**	**18 44 22.9**	**+0.4**
BG3	**Lake Jocassee**	**22.66 22**	P	**P**	**18 44 23.2**	**+0.3**
BG3			IAmb	IAmb	18 44 35.7	
	comp=Z,14nm,0.9s					
121A	**Cookes Peak, D**	**22.70 326**	P	**P**	**18 44 25.1**	**+1.5**
121A			IAmb	IAmb	18 44 28.3	
	comp=Z,32nm,0.9s					
PAULI	**Pauline**	**22.93 24**	IAmb	IAmb	18 44 36.5	
	comp=Z,27nm,0.9s					
TKL	**Tuckaleechee C**	**22.97 20**	LR	LR	18 55 14.2	
	comp=Z,403nm,18.1s,baz=166,slow=42					
NOKA	**Waynoka**	**22.99 348**	P	**P**	**18 44 23.5**	**-2.9**
BNM	**Barren Site**	**23.39 331**	P	**P**	**18 44 31.2**	**+0.4**
S44A	**Carbondale**	**23.68 8**	P	**P**	**18 44 30.0**	**-3.2**
S44A			IAmb	IAmb	18 44 47.6	
	comp=Z,19nm,0.9s					
RTBA	**Rita Blanca**	**23.82 340**	P	**P**	**18 44 36.4**	**+1.7**
CCM	**Cathedral Cave**	**23.85 4**		**P**	**18 44 33.2**	**-1.6**
CCM			IAmb	IAmb	18 44 37.2	
	comp=Z,12nm,0.8s					
R40A	**Maddies Statio**	**24.04 2**	IAmb	IAmb	18 44 38.4	
	comp=Z,11nm,0.8s					
V55A	**Taylorsville**	**24.07 24**	IAmb	IAmb	18 44 39.0	
	comp=Z,13nm,1.0s					
TUC	**Tucson**	**24.26 321**	P	**P**	**18 44 36.7**	**-2.1**
U54A	**Nelsons Funny**	**24.43 22**	IAmb	IAmb	18 44 41.2	
	comp=Z,19nm,0.8s					
R32A	**Long Quarter,**	**24.68 349**	IAmb	IAmb	18 44 44.8	
	comp=Z,21nm,1.0s					
WCI	**Wyandotte Cave**	**24.71 13**	P	**P**	**18 44 40.4**	**-2.3**
WCI			IAmb	IAmb	18 44 59.4	
	comp=Z,21nm,0.9s					
BAUV	**El Baul**	**25.04 99**	P	**P**	**18 44 43.0**	**-2.9**
P40A	**Paris**	**25.28 2**	P	**P**	**18 44 46.9**	**-1.0**
X18A	**Snowflake**	**25.39 326**	P	**P**	**18 44 48.1**	**-1.0**
ATAH	**Atahualpa**	**25.68 145**	LR	LR	18 53 26.5	
	comp=Z,203nm,18.4s,baz=282,slow=33					
X16A	**Lo Mia Camp, P**	**26.14 324**	P	**P**	**18 44 55.1**	**-0.8**
N38A	**Joes South For**	**26.53 360**	P	**P**	**18 44 56.2**	**-3.0**
MVCO	**Mesa Verde**	**26.77 332**	P	**P**	**18 45 01.4**	**-0.2**
MVCO			IAmb	IAmb	18 45 13.6	
	comp=Z,18nm,1.0s					
PV01	**Paradox Valley**	**27.56 333**	P	**P**	**18 45 06.2**	**-2.5**
PV01			IAmb	IAmb	18 45 32.1	
	comp=Z,15nm,0.9s					
PV15	**Paradox Valley**	**27.69 333**	P	**P**	**18 45 08.3**	**-1.6**
PV15			IAmb	IAmb	18 45 25.3	
	comp=Z,12nm,0.8s					
CZSB	**Cruzeiro do Su**	**29.68 136**	*e*P	**P**	**18 45 30.3**	**+2.8**
PDAR	**Pinedale Array**	**31.86 337**	P	**P**	**18 45 44.7**	**-2.1**
PDAR	**Pinedale Array**	**31.86 337**	P	**P**	**18 45 49.0**	**+2.2**
	comp=Z,1.7nm,0.8s,baz=130,slow=14,SNR=4.5					
PDAR			PcP	**PcP**	**18 48 38.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=163,slow=5.0,SNR=2.4					
	comp=Z,1.7nm,0.8s					
NVAR	**Mina Array Bea**	**32.91 322**	P	**P**	**18 45 59.0**	**+2.9**
	comp=Z,6.4nm,0.8s,baz=141,slow=9.1,SNR=25					
NVAR			PcP	**PcP**	**18 48 39.2**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=96,slow=3.0,SNR=3.1					
	comp=Z,6.4nm,0.8s					
LOHW	**Long Hollow**	**32.98 336**	IAmb	IAmb	18 46 02.0	
	comp=Z,9.6nm,0.9s					
TPAW	**Teton Pass**	**33.02 336**	IAmb	IAmb	18 46 17.9	
	comp=Z,8.9nm,0.9s					
MOOW	**Moose Ponds**	**33.15 336**	IAmb	IAmb	18 46 07.9	
	comp=Z,9.2nm,1.0s					
FXWY	**Fox Creek**	**33.17 336**	IAmb	IAmb	18 46 12.9	
	comp=Z,6.1nm,0.9s					
YFT	**Old Faithful**	**33.78 337**	IAmb	IAmb	18 46 19.4	
	comp=Z,11nm,1.0s					
YNE	**Yellowstone No**	**33.95 338**	IAmb	IAmb	18 46 15.0	
	comp=Z,11nm,1.0s					
BOAV	**Boa Vista**	**34.19 107**		**P**	**18 46 06.8**	**-0.4**
BOAV			IAmb	IAmb	18 46 08.3	
	comp=Z,11nm,0.8s					
BOAV	**Boa Vista**	**34.19 107**	*e*P	**P**	**18 46 04.5**	**-2.7**
DLMT	**Dillon**	**35.23 336**	IAmb	IAmb	18 46 22.1	
	comp=Z,8.7nm,0.9s					
WVOR	**Wild Horse Val**	**35.79 327**	IAmb	IAmb	18 46 36.5	
	comp=Z,6.3nm,0.9s					
ULM	**Lac du Bonnet**	**36.06 357**	P	**P**	**18 46 22.5**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=209,slow=5.5,SNR=2.9					
	comp=Z,5.0nm,0.8s					
PLID	**Pearl Lake**	**36.45 332**	IAmb	IAmb	18 46 38.9	
	comp=Z,6.1nm,0.9s					
F10A	**Beach Ranch, E**	**37.68 332**	IAmb	IAmb	18 46 48.4	
	comp=Z,12nm,0.9s					
LPAZ	**La Paz**	**39.01 140**	P	**P**	**18 46 46.9**	**-2.0**
LPAZ	**La Paz**	**39.01 140**	P	**P**	**18 46 49.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=321,slow=10,SNR=5.0					
LPAZ			LR	LR	19 02 41.3	
	comp=Z,90nm,18.9s,baz=292,slow=36					
	comp=Z,0.6nm,0.6s					
PB11	**IPOC Station P**	**40.82 145**	P	**P**	**18 47 00.7**	**-2.7**
ITTB	**Itaituba**	**41.34 114**	*e*P	**P**	**18 47 06.0**	**-1.6**
NPGB	**Novo Progresso**	**42.93 117**	*e*P	**P**	**18 47 18.6**	**-2.0**
CLDB	**Colider**	**44.53 122**	*e*P	**P**	**18 47 31.9**	**-1.6**
PTLB	**Pontes e Lacer**	**44.61 130**	*e*P	**P**	**18 47 35.3**	**+1.3**
BBB	**Bella Bella**	**47.12 331**	LR	LR	19 11 36.5	
	comp=Z,171nm,20.7s,baz=18,slow=41					
PP1B	**Ponte de Pedra**	**49.14 129**	*e*P	**P**	**18 48 11.4**	**+1.9**
BDQN	**Bodoquena, MS**	**49.56 133**	*e*P	**P**	**18 48 13.6**	**+0.9**
SMTB	**Santa Maria do**	**50.57 114**	*e*P	**P**	**18 48 18.8**	**-1.7**
YKA	**Yellowknife Ar**	**50.64 347**	P	**P**	**18 48 19.8**	**-0.4**
YKA	**Yellowknife Ar**	**50.64 347**	P	**P**	**18 48 21.2**	**+1.0**
	comp=Z,14nm,1.0s,baz=154,slow=6.9,SNR=10					
	comp=Z,14nm,1.0s					
CPUP	**Villa Florida**	**53.17 139**	P	**P**	**18 48 39.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=225,slow=20,SNR=2.1					
	comp=Z,0.3nm,0.6s					
BDFB	**Brasilia**	**53.47 122**	P	**P**	**18 48 41.1**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=300,slow=9.9,SNR=4.0					
	comp=Z,3.0nm,0.8s					
IPMB	**Ipameri, GO**	**54.55 125**	*e*P	**P**	**18 48 51.2**	**+1.2**
L29M	**L29M**	**58.13 338**	IAmb	IAmb	18 49 36.8	
	comp=Z,6.0nm,1.0s					
PLCA	**Paso Flores**	**58.47 160**	P	**P**	**18 49 19.4**	**+1.9**
	comp=Z,3.3nm,1.1s,baz=328,slow=7.7,SNR=3.7					
	comp=Z,3.3nm,1.1s					
PLCA	**Paso Flores**	**58.47 160**	*e*P	**P**	**18 49 20.2**	**+2.8**
I30M	**Mount Dempster**	**58.81 340**		**P**	**18 49 20.1**	**+0.5**
BCAR	**Beaver Creek A**	**59.48 337**	P	**P**	**18 49 24.8**	**+0.5**
L27K	**Beaver Creek,**	**59.50 337**		**P**	**18 49 26.9**	**+2.6**
L27K			IAmb	IAmb	18 49 33.1	
	comp=Z,4.3nm,0.9s					
SFJD	**Kangerlussuaq**	**59.67 18**	LR	LR	19 16 46.5	
	comp=Z,430nm,18.1s,baz=236,slow=38					
INK	**Inuvik**	**60.00 344**	LR	LR	19 20 02.8	
	comp=Z,206nm,18.2s,baz=62,slow=41					
RCBR	**Riachuelo**	**60.07 105**	LR	LR	19 17 30.1	
	comp=Z,129nm,19.5s,baz=54,slow=38					
H29M	**Whitestone**	**60.08 341**		**P**	**18 49 30.3**	**+2.1**
H29M			IAmb	IAmb	18 49 31.0	
	comp=Z,3.4nm,0.8s					
K27K	**Chicken**	**60.11 337**	IAmb	IAmb	18 49 32.7	
	comp=Z,4.8nm,0.9s					
G29M	**Pine Creek**	**60.39 341**	IAmb	IAmb	18 49 55.3	
	comp=Z,7.4nm,1.0s					
RES	**Resolute Bay**	**60.52 359**	LR	LR	19 19 51.9	
	comp=Z,214nm,20.3s,baz=97,slow=40					
DOT	**Dot Lake**	**60.66 337**	IAmb	IAmb	18 49 38.1	
	comp=Z,4.1nm,1.0s					
J26L	**Joseph Creek**	**60.91 338**	IAmb	IAmb	18 49 42.2	
	comp=Z,4.4nm,1.0s					
RIB01	**Linhares ES**	**61.59 121**	*e*P	**P**	**18 49 39.3**	**+0.1**
CAM01	**Campos-RJ**	**61.80 125**	*e*P	**P**	**18 49 40.2**	**-0.3**
E28M	**Babbage River**	**61.88 342**	P	**P**	**18 49 42.3**	**+1.9**
E28M			IAmb	IAmb	18 49 45.1	
	comp=Z,5.8nm,0.8s					
IL31		**62.29 337**	IAmb	IAmb	18 50 03.2	
	comp=Z,3.1nm,0.8s					
ILAR	**Eielson Array**	**62.29 337**		**P**	**18 49 44.1**	**+0.9**
ILAR	**Eielson Array**	**62.29 337**	P	**P**	**18 49 44.5**	**+1.2**
	comp=Z,3.9nm,0.9s,baz=135,slow=4.6,SNR=28					
ILAR			LR	LR	19 21 45.4	
	comp=Z,90nm,18.9s,baz=115,slow=41					
	comp=Z,3.9nm,0.9s					
H24K	**Noodor Dome**	**63.15 338**	IAmb	IAmb	18 49 57.0	
	comp=Z,3.2nm,1.0s					
I23K	**Minto, Yukon-K**	**63.40 337**	IAmb	IAmb	18 49 57.4	
	comp=Z,5.8nm,1.0s					
E23K	**Chandalar**	**64.78 340**	IAmb	IAmb	18 50 07.6	
	comp=Z,4.8nm,0.9s					
E22K	**Anaktuvuk Pass**	**65.55 339**	IAmb	IAmb	18 50 09.8	
	comp=Z,3.7nm,0.8s					
BORG	**Borgarnes**	**69.50 26**	LR	LR	19 21 18.8	
	comp=Z,87nm,18.7s,baz=274,slow=36					
JMIC	**Jan Mayen**	**74.93 20**	LR	LR	19 25 05.8	
	comp=Z,212nm,18.4s,baz=234,slow=37					
EKA	**Eskdalemuir Ar**	**78.43 36**	P	**P**	**18 51 20.8**	**-1.2**
	comp=Z,3.8nm,0.7s,baz=276,slow=6.1,SNR=8.9					
	comp=Z,3.8nm,0.7s					
SPITS	**Spitsbergen Ar**	**80.13 11**	LR	LR	19 30 04.2	
	comp=Z,204nm,18.9s,baz=234,slow=38					
ESDC	**Sonseca Array**	**80.41 52**	P	**P**	**18 51 31.2**	**-2.1**
	comp=Z,1.8nm,0.9s,baz=291,slow=5.9,SNR=11					
ESDC			LR	LR	19 24 16.1	
	comp=Z,131nm,18.8s,baz=356,slow=34					
	comp=Z,1.8nm,0.9s					
MDT	**Midelt**	**81.18 58**	LR	LR	19 23 45.7	
	comp=Z,83nm,18.6s,baz=1.5,slow=33					
NB2	**NORSAR Subarra**	**84.49 28**	P	**P**	**18 51 54.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=288,slow=4.8					
NOA	**NORSAR Array B**	**84.49 28**	P	**P**	**18 51 53.3**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=289,slow=4.8,SNR=6.0					
NOA			LR	LR	19 27 39.9	
	comp=Z,125nm,21.9s,baz=290,slow=34					
	comp=Z,2.0nm,0.8s					
HFS	**Hagfors**	**85.95 29**	LR	LR	19 30 23.4	
	comp=Z,115nm,18.3s,baz=264,slow=36					
ARCES	**ARCESS Array B**	**86.30 18**	P	**P**	**18 52 02.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=345,slow=3.1,SNR=1.7					
ARCES			LR	LR	19 31 35.4	
	comp=Z,145nm,18.7s,baz=302,slow=36					
	comp=Z,1.4nm,0.7s					
DBIC	**Dimbokro**	**86.65 84**	P	**P**	**18 52 04.7**	**-0.9**
	comp=Z,5.1nm,0.9s,baz=312,slow=6.4,SNR=3.8					
DBIC			LR	LR	19 28 28.1	
	comp=Z,47nm,18.7s,baz=347,slow=34					
	comp=Z,5.1nm,0.9s					
SEY	**Seymchan**	**88.18 335**	LR	LR	19 37 06.6	
	comp=Z,109nm,18.4s,baz=81,slow=39					
TIXI	**Tiksi**	**89.89 348**	LR	LR	19 40 15.1	
	comp=Z,101nm,18.6s,baz=188,slow=41					
GERES	**GERESS Array B**	**90.12 39**	P	**P**	**18 52 21.5**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=316,slow=5.5,SNR=4.0					
GERES			LR	LR	19 31 35.8	
	comp=Z,93nm,19.5s,baz=306,slow=35					
	comp=Z,0.6nm,0.9s					
FINES	**FINESS Array B**	**90.78 25**	LR	LR	19 34 48.8	
	comp=Z,89nm,18.1s,baz=286,slow=37					
VRAC	**Vranov**	**91.69 38**	LR	LR	19 29 36.6	
	comp=Z,73nm,21.5s,baz=316,slow=33					
AKASG	**Malin Array Be**	**98.15 33**	LR	LR	19 40 32.5	
	comp=Z,77nm,18.2s,baz=270,slow=38					
KURBB	**Kurchatov Arra**	**115.07 6**	PKP	**PKiKP**	**18 58 02.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=348,slow=2.3,SNR=5.0					
MKAR	**Makanchi Array**	**119.18 4**	PKP	**PKPdf**	**18 58 10.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=31,slow=3.4,SNR=2.1					
HHC	**Hu-ho-hao-te**	**120.70 338**	*e*P	**PKPdf**	**18 58 09.5**	**-4.2**
BOSA	**Boshof**	**121.35 115**	PKP	**PKiKP**	**18 58 16.3**	**+0.9**
	comp=Z,6.3nm,1.2s,baz=144,slow=1.1,SNR=5.1					
NJ2	**Nanjing**	**124.81 327**	*e*P	**PKPdf**	**18 58 21.3**	**-0.4**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.6s					
GTA	**Gaotai**	**125.37 348**	*e*PKP	**PKiKP**	**18 58 27.5**	**+4.4**
ASAR	**Alice Springs**	**134.76 251**	PKP	**PKPdf**	**18 58 41.8**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=108,slow=3.5,SNR=5.1					
PZH	**PanZhiHua**	**137.09 340**	PKP	**PKPdf**	**18 58 45.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**145.50 340**	PKPdf	**PKPab**	**18 59 01.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**145.50 340**	PKPbc	**PKPab**	**18 59 01.4**	**+0.9**
	comp=Z,7.0nm,0.9s,baz=341,slow=4.0,SNR=41					

*IDC **27** 18:46:41.1±5.0, 5°.90S×149°.55E, h70km±44km, mb3.5/7, mbtmp3.9/8, ML2.6/1, Error ellipse: s-maj=52.5km s-min=22.1km az=100.0*

ISC 27 18:46:39.9±0.9, 5°.9S±0°.1×149°.5E±0°.3, h58km, n10, σ1§16/11, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**214**	P	**Pn**	**18 47 43.0**	**+1.4**
	24nm,0.3s,baz=9.0,slow=4.6,SNR=48						
PMG				S	**Sn**	**18 48 27.4**	**-2.1**
	67nm,0.6s,baz=354,slow=22,SNR=10						
	48nm,0.3s						
WRA	**Warramunga Arr**	**20.32**	**225**	P	**P**	**18 51 11.9**	**+0.5**
	3.4nm,0.7s,baz=50,slow=10,SNR=32						
	3.4nm,0.7s						
ASAR	**Alice Springs**	**23.20**	**219**	P	**P**	**18 51 41.7**	**-0.4**
	1.0nm,0.5s,baz=50,slow=9.6,SNR=28						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**26.90**	**195**	P	**P**	**18 52 16.5**	**+0.9**
	1.3nm,0.6s,baz=12,slow=15,SNR=3.2						
	1.3nm,0.6s						
PETK	**Petropavlovsk-**	**59.18**	**6**	P	**P**	**18 56 35.6**	**+0.9**
	5.6nm,1.1s,baz=134,slow=5.3,SNR=6.3						
	5.6nm,1.1s						
SONM	**Songino Array**	**65.55**	**330**	P	**P**	**18 57 17.6**	**0.0**
	0.3nm,0.5s,baz=144,slow=5.2,SNR=3.0						
	0.3nm,0.5s						
VNDA	**Vanda**	**71.89**	**177**	P	**P**	**18 57 56.5**	**+0.1**
	0.3nm,0.5s,baz=17,slow=5.1,SNR=2.6						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**84.40**	**23**	P	**P**	**18 59 04.3**	**-1.4**
	0.5nm,0.7s,baz=257,slow=4.7,SNR=6.2						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.48**	**285**	PKPbc	**PKPbc**	**19 06 18.1**	**-0.4**
	0.8nm,0.3s,baz=70,slow=5.1,SNR=1.3						
BDFB	**Brasilia**	**152.45**	**141**	PKPbc	**PKPbc**	**19 06 30.3**	**-0.5**
	1.4nm,0.5s,baz=142,slow=24,SNR=3.3						

*GCG **27** 18:48:23.6±1.3, 14°.10N×92°.91W, h0km±26km, MD4.3*
*MEX **27** 18:48:25.9±0.6, 14°.47N×93°.12W, h89km±22km, MD4.0*

ISC 27 18:48:17.0±1.7, 14°.14N±0°.07×93°.30W±0°.03, h10km±11km, n19, σ1§99/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.26**	**53**	*e*P	**Pb**	**18 48 43.0**	**+2.1**
THIG				*e*S	**Sg**	**18 48 56.6**	**-1.1**
PATR	**El Naranjo**	**1.42**	**47**	*e*P	**Pg**	**18 48 45.1**	**+0.8**
PATR				*e*S	**Sg**	**18 49 00.7**	**-2.0**
CHUJ	**Union Juarez**	**1.50**	**50**	*e*P	**Pb**	**18 48 46.2**	**+1.1**
CHUJ				*e*S	**Sn**	**18 49 02.2**	**-1.6**
PAVE	**Pavencul**	**1.51**	**46**	*e*P	**Pb**	**18 48 46.6**	**+1.3**
PAVE				*e*S	**Sn**	**18 49 02.2**	**-2.1**
PCIG		**1.56**	**3**	*e*P	**Pg**	**18 48 47.9**	**+0.9**
PCIG				*e*S	**Sn**	**18 49 03.0**	**-2.1**
RTAL	**Retalhuleu**	**1.60**	**76**	*e*P	**Pb**	**18 48 47.2**	**+0.5**
RTAL				*e*S	**Sn**	**18 49 06.1**	**-0.1**
QUEO	**Labor Ovalle**	**1.88**	**67**	*e*P	**Pg**	**18 48 53.8**	**+0.7**
STG2	**El Palmar, Qui**	**1.89**	**81**	*i* P	**Pn**	**18 48 48.9**	**-0.6**
STG2				*e*S	**Sn**	**18 49 08.9**	**-4.6**
SOKI	**Kika Raxquin**	**1.96**	**70**	*e*P	**Pb**	**18 48 53.8**	**+0.8**
CCIG	**Comitan**	**2.41**	**28**	*e*P	**Pb**	**18 49 02.0**	**+1.4**
CCIG				*e*S	**Sn**	**18 49 30.0**	**+3.7**
QUIS	**Sacapulas**	**2.43**	**62**	*e*P	**Pb**	**18 49 01.3**	**+0.4**
TGIG		**2.63**	**4**	*e*P	**Pb**	**18 49 05.7**	**+1.5**
TGIG				*e*S	**Sb**	**18 49 36.9**	**+0.2**
PCG5	**San Vicente Pa**	**2.84**	**88**	*e*P	**Pn**	**18 49 02.2**	**-0.3**
HUIG	**Huatulco**	**3.16**	**301**	*e*P	**Pb**	**18 49 13.5**	**+0.3**
HUIG				*e*S	**Sn**	**18 49 47.5**	**+2.9**
UXUV	**UXUV**	**3.26**	**346**	*e*P	**Pb**	**18 49 16.3**	**+1.2**
UXUV				*e*S	**Sb**	**18 49 54.9**	**0.0**
CMIG	**Matias Romero**	**3.31**	**333**	*e*P	**Pb**	**18 49 15.5**	**-0.3**
CMIG				*e*S	**Sb**	**18 49 54.8**	**-1.3**
NUBE	**Las Nubes**	**3.43**	**93**	*e*P	**Pn**	**18 49 13.2**	**+2.6**
PEIG	**Puerto Escondi**	**4.15**	**297**	*e*P	**Pb**	**18 49 29.0**	**-1.1**
PEIG				*e*S	**Sn**	**18 50 12.0**	**+3.0**
NEUV	**Arroyo Zacate**	**4.29**	**326**	*e*P	**Pb**	**18 49 29.0**	**-3.5**
NEUV				*e*S	**Sb**	**18 50 21.6**	**-2.9**

*NEIC **27** 18:52:17.9±2.2, 9°.53N±0°.06×122°.6E±0°.1, h56km±7km, mb4.6/20, Error ellipse: s-maj=17.8km s-min=8.6km az=87.0*
*IDC **27** 18:52:17.6±3.2, 9°.56N×122°.68E, h59km±29km, mb3.7/20, mbtmp4.1/22, ML4.6/2, MS3.5/7, Error ellipse: s-maj=28.8km s-min=10.8km az=70.0*
*DJA **27** 18:52:55.0±2.1, 7°.N±18°.×12°.4E±°., h189km±14km, M4.3/6, mb4.3/6, MLv4.3/4*

ISC 27 18:52:14.4±0.4, 9°.56N±0°.06×122°.7E±0°.1, h29km, n61, σ1§31/58, mb4.4/29, MS3.5/4, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.82**	**339**	P	**Pn**	**18 53 27.7**	**+2.6**
	14nm,0.3s,baz=142,slow=18,SNR=1.6						
TGY				LR	LR	18 55 40.3	
	comp=Z,507nm,19.0s,baz=132,slow=42						
	63nm,0.3s						
TOLI2	**Tolitoli**	**8.61**	**193**	Pn	**Pn**	**18 54 16.7**	**-0.4**
TNTI	**Ternate**	**9.90**	**152**		Pn	18 54 39.1	+4.3
LUWI	**Luwuk**	**10.54**	**180**		Pn	18 54 47.9	+4.4
SANI	**Sanana**	**12.00**	**164**	P	**Pn**	**18 55 07.4**	**+3.8**
	23nm,1.0s						
SBUM	**Sibu**	**12.57**	**236**		**Pn**	**18 55 11.2**	**-0.2**
BNSI	**Bone**	**14.11**	**191**	P	P	18 55 44.1	+4.4
	18nm,0.9s						
KAPI	**Kappang**	**14.77**	**192**	LR	LR	19 01 23.7	
	comp=Z,200nm,20.3s,baz=172,slow=37						
JOW	**Kunigami**	**17.97**	**16**	LR	LR	19 02 35.9	
	comp=Z,91nm,20.8s,baz=347,slow=34						
EDFI	**Ende, Flores**	**18.22**	**183**	P	**P**	**18 56 31.0**	**+5.6**
SOEI	**Soe**	**19.26**	**175**		**Pn**	**18 56 39.9**	**+1.9**
SOEI				IAmb	IAmb	18 56 50.0	
	comp=Z,23nm,0.9s						
BATI	**Baumata**	**19.66**	**177**	P	**Pn**	**18 56 42.8**	**0.0**
	comp=Z,3.0nm,0.3s,baz=20,slow=2.8,SNR=13						
	comp=Z,42nm,0.7s						
BATI	**Baumata**	**19.66**	**177**	P	**Pn**	**18 56 43.3**	**+0.6**
GUMO	**Guam**	**22.10**	**77**	LR	LR	19 04 20.5	
	comp=Z,79nm,20.7s,baz=235,slow=33						
MTN	**Manton Dam**	**23.79**

ILAR	Eielson Array	81.61	26	P	P	19 04 28.6 -0.7
	comp=Z,0.3nm,0.7s,baz=255,slow=4.6,SNR=2.6					
	comp=Z,0.3nm,0.7s					
BRTR	Keskin Array B	83.23	309	P	P	19 04 38.0 -0.6
	comp=Z,0.4nm,0.8s,baz=69,slow=6.8,SNR=3.8					
	comp=Z,0.4nm,0.8s					
ARCES	ARCESS Array B	83.62	339	P	P	19 04 38.6 -1.2
ARCES	ARCESS Array B	83.62	339	P	P	19 04 39.6 -0.2
	comp=Z,1.7nm,0.6s,baz=74,slow=6.3,SNR=9.3					
	comp=Z,1.7nm,0.6s					
SPITS	Spitsbergen Ar	84.01	349	P	P	19 04 41.3 -0.3
	comp=Z,3.9nm,0.6s,baz=82,slow=9.3,SNR=7.9					
	comp=Z,3.9nm,0.6s					
I28M	Miner Creek	84.43	25	P	P	19 04 43.9 -0.2
I28M				IAmb	IAmb	19 04 45.8
	comp=Z,3.4nm,0.8s					
FINES	FINESS Array B	84.82	331	P	P	19 04 45.0 -1.0
FINES	FINESS Array B	84.82	331	P	P	19 04 45.0 -1.0
	comp=Z,2.0nm,0.7s,baz=42,slow=6.9,SNR=13					
	comp=Z,2.0nm,0.7s					
AKASG	Malin Array Be	84.86	320	P	P	19 04 45.6 -0.8
	comp=Z,0.1nm,0.2s,baz=63,slow=5.0,SNR=1.9					
	comp=Z,0.1nm,0.2s					
MAW	Mawson	87.85	199	P	P	19 04 59.9 -0.6
	comp=Z,2.5nm,1.1s,baz=107,slow=4.3,SNR=2.8					
	comp=Z,2.5nm,1.1s					
VNDA	Vanda	89.70	172	P	P	19 05 07.5 -1.7
VNDA				IAmb	IAmb	19 05 09.4
	comp=Z,3.1nm,1.4s					
VNDA	Vanda	89.70	172	P	P	19 05 08.3 -0.9
	comp=Z,0.7nm,0.6s,baz=312,slow=5.9,SNR=7.6					
	comp=Z,0.7nm,0.6s					
PLCA	Paso Flores	146.81	161	PKPdf	PKPbc	19 11 53.7 -0.5
PLCA	Paso Flores	146.81	161	PKPbc	PKPbc	19 11 54.2 0.0
	comp=Z,1.9nm,0.6s,baz=234,slow=3.6,SNR=11					

*DSN **27** 19:26:17.9±1.5, 27°.31N×55°.10E, h10km, ML2.8/9, Error ellipse: s-maj=19.8km s-min=7.9km az=26.0*
*OMAN **27** 19:26:19.6±0.1, 27°.21N×55°.14E, h10km, ml3.0/13, Error ellipse: s-maj=2.0km s-min=1.8km az=239.0*
*TEH **27** 19:26:19.5, 27°.17N×55°.02E, h15km*
ISC 27 19:26:19.2±1.4, 27°.17N±0°.05×55°.07E±0°.04, h3km±12km, n37, σ0°78/49, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.79	309	Pg	Pg	19 26 34.1	-0.3
BNDS	Bandar-Abbas	1.01	76	Pg	Pn	19 26 39.7	-0.8
GENO	Geno	1.01	76	Pg	Pn	19 26 39.8	-0.6
GENO				Sg	Sn	19 26 55.4	+0.1
IBND	Bandar-abas	1.34	78	Pg	Pg	19 26 45.3	+0.4
SHME	Shamm	1.47	139	P	Pn	19 26 45.7	-0.9
SHME				S	Sg	19 27 06.7	+0.2
SHME	Shamm	1.47	139	P	Pn	19 26 45.4	-1.2
SHME				S	Sb	19 27 06.1	-0.2
BANOM	Banah	1.66	138	P	Pn	19 26 48.7	-0.6
BANOM				S	Sb	19 27 12.2	+0.5
BANOM	Banah	1.66	138	P	Pn	19 26 47.8	-1.4
BANOM				S	Sg	19 27 12.5	0.0
LMD1	Lamerd	1.70	276	Pg	Pb	19 26 51.2	0.0
MASF	Masafi	2.04	151	P	Pn	19 26 54.7	+0.2
MASF				S	Sn	19 27 20.8	+0.3
MSFE	Esma-Masafi	2.05	151	P	Pn	19 26 54.5	-0.1
MDH	Madha	2.16	149	P	Pn	19 26 56.8	+0.7
MDH				S	Sn	19 27 24.0	+0.5
MDH	Madha	2.16	149	P	Pn	19 26 56.6	+0.4
UOSS	Minazif	2.44	155	P	Pn	19 26 59.6	-0.3
UOSS	Minazif	2.44	155	Pn	Pn	19 27 00.4	+0.5
UOSS	Minazif	2.44	155	P	Pn	19 26 59.3	-0.6
FAQ	Al Faqa, Dubai	2.46	169	P	Pn	19 27 00.0	-0.2
FAQ				S	Sn	19 27 31.5	+0.7
HATD	Hatta, Dubai	2.52	157	P	Pn	19 27 01.3	+0.2
HATD				S	Sn	19 27 32.4	0.0
HATD	Hatta, Dubai	2.52	157	P	Pn	19 27 01.1	0.0
ASUD	Al Ashush, Dub	2.54	175	P	Pn	19 27 02.0	+0.6
ASUD				S	Sn	19 27 34.0	+1.2
ASUD	Al Ashush, Dub	2.54	175	P	Pn	19 27 01.9	+0.6
ASHO	Ashiyiah	2.63	160	P	Pn	19 27 02.8	+0.2
	SNR=28						
ASHO	Ashiyiah	2.63	160	P	Pn	19 27 02.2	-0.4
ALNE	Al Ain	3.16	169	P	Pn	19 27 10.1	+0.2
ALNE				S	Sn	19 27 49.0	+0.9
ALNE	Al Ain	3.16	169	P	Pn	19 27 09.2	-0.7
KRBR	Kerman	3.18	28	Pn	Pn	19 27 10.5	+0.1
SOHO	SOHO	3.30	156	P	Pn	19 27 11.0	-0.7
KHGB	Koh Gabri	3.43	21	Pn	Pn	19 27 14.8	+1.0
KBAM	BAM	3.58	56	Pn	Pn	19 27 16.4	+0.7
ARQ	Araqi	4.03	161	P	Pn	19 27 22.1	+0.2
	SNR=11						
UMZA	Um Al Zommool	4.43	179	P	Pn	19 27 27.3	-0.1
SMDO	Samad	4.90	146	P	Pn	19 27 34.3	+0.4
SMDO				S	Sn	19 28 29.9	-1.3
WSAR	Wadi Sarin	5.07	140	P	Pn	19 27 35.4	-0.8
IRAM	Ramesheh	5.18	334	Pn	Pn	19 27 38.3	+0.3
DQM	DQM	7.55	162	P	Pn	19 28 08.8	-1.5
DOK	Doka	8.55	186	P	Pn	19 28 22.6	-1.4
	SNR=5.2						
DMTO	DMTO	9.41	181	P	Pn	19 28 33.3	-2.4

*IDC **27** 19:26:32.4±1.6, 2°.11N×127°.55E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=100.1km s-min=20.6km az=69.0*
*DJA **27** 19:26:43.7±0.3, 2°N±2°×12°7E±°, h73km±5km, M3.9/17, mB5.1/1, mb3.9/13, MLv3.9/17, Mw(mB)4.5/1*
ISC 27 19:26:44.4±1.2, 1°.8N±0°.1×127°.1E±0°.1, h100km, n23, σ1°04/24, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.06	163	P	Pn	19 27 04.9	-0.7
TNTI				S	Sn	19 27 20.3	-1.2
SGSI	Sangihe	2.42	321	P	Pn	19 27 20.4	-2.2
KMSI	Cibinong	3.31	249	P	Pn	19 27 34.2	-0.1
SANI	Sanana	3.96	196	P	Pn	19 27 42.0	-1.2
NLAI	Namlea	5.00	180	P	Pn	19 27 58.0	+0.8
	0.1nm23nm,0.9s						
LUWI	Luwuk	5.13	237	P	Pn	19 27 59.4	+0.5
	22nm,0.8s						
MRSI	Marisa	5.28	256	P	Pn	19 28 02.3	+1.3
	0.1nm9.2nm,0.6s						
MSAI	Masohi	5.44	160	P	Pn	19 28 03.1	-0.1
APSI	Ampana	6.04	244	P	Pn	19 28 12.3	+1.0
	0.1nm16nm,1.3s						
FAKI	Fak Fak	6.99	132	P	Pn	19 28 25.0	+0.7
KDI	Kendari	7.23	218	P	Pn	19 28 27.5	-0.1
BBSI	Bau Bau	8.51	212	P	Pn	19 28 45.9	+1.0
	16nm,1.1s						
SPSI	Sidrap Palu	9.26	232	P	Pn	19 28 55.5	+0.3
	7.1nm,1.1s						
BNSI	Bone	9.28	228	P	Pn	19 28 55.2	-0.2
	4.6nm,1.0s						
BKSI	Bulukumba	9.90	224	P	Pn	19 29 05.0	+1.2
	5.8nm,0.9s						
BSSI	Bau Bau, Buton	10.26	220	P	Pn	19 29 09.3	+0.6
	12nm,1.3s						
EDFI	Ende, Flores	11.76	207	P	Pn	19 29 30.9	+1.8
	5.3nm,1.5s						
FITZ	Fitzroy Crossi	19.82	184	P	Pn	19 31 07.9	-1.8
	1.9nm,0.8s,baz=0.0,slow=10,SNR=2.0						
	1.9nm,0.8s						
WRA	Warramunga Arr	22.75	162	P	P	19 31 38.2	-0.3
	2.0nm,0.3s,baz=344,slow=10,SNR=26						
	2.0nm,0.3s						
ASAR	Alice Springs	26.17	166	P	P	19 32 10.2	+0.4
	0.4nm,0.6s,baz=342,slow=11,SNR=13						
	0.4nm,0.6s						
STKA	Stephens Creek	36.22	159	P	P	19 33 38.3	+0.5
	1.2nm,0.8s,baz=338,slow=10,SNR=2.1						
	1.2nm,0.8s						
MKAR	Makanchi Array	59.33	326	P	P	19 36 36.5	+0.5
	0.4nm,0.7s,baz=132,slow=8.4,SNR=3.0						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	63.54	328	P	P	19 37 04.9	+0.7
	0.2nm,0.6s,baz=127,slow=5.8,SNR=2.4						
	0.2nm,0.6s						

*SDD **27** 19:40:09.0±0.6, 17°.97N×68°.71W, h140km±13km, MD3.3, ML2.6, MW2.8*
*RSPR **27** 19:40:12.6, 18°.62N×68°.82W, h141km±1km, MD2.9/6*
ISC 27 19:40:09.7±1.9, 18°.3N±0°.2×68°.9W±0°.1, h150km, n13, σ0°96/15, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	Hato Mayor del	0.67	320	⇑eP	Pn	19 40 32.1	+0.1
HATOM				⇑eSg	Sn	19 40 49.1	0.0
HATOM				IAML		19 40 50.2	
	comp=N,21nm,0.1s						
MIDR	Miches	0.72	351	⇓eP	Pn	19 40 32.3	0.0
MIDR	Miches	0.72	351	eS	Sn	19 40 47.8	-1.9
MIDR	Miches	0.72	351	⇑eP	Pn	19 40 31.9	-0.3
MIDR				⇑eSg	Sn	19 40 49.0	-0.7
MIDR				IAML		19 40 49.4	
	comp=N,22nm,0.3s						
SMDR	Samana, DR	1.05	346	⇑eSg	Sn	19 40 55.0	+0.9
SMDR				IAML		19 41 31.8	
	comp=N,52nm,0.8s						
DR08	Loma La Naviza	1.25	304	eSg	Sn	19 40 58.5	+1.0
DR08				IAML		19 41 02.4	
	comp=N,634nm,0.2s						
CRPR	Cabo Rojo, PR	1.75	98	⇓eP	Pn	19 40 41.3	-0.6
CRPR	Cabo Rojo, PR	1.75	98	eS	Sn	19 41 07.1	+0.6
LSP	Las Mesas	1.75	93	⇑eP	Pn	19 40 42.3	+0.3
LSP	Las Mesas	1.75	93	eS	Sn	19 41 07.9	+1.2
MLPR	Magueyes Islan	1.81	99	⇑eP	Pn	19 40 42.0	-0.6
MLPR	Magueyes Islan	1.81	99	eS	Sn	19 41 06.5	-1.4
UUPR	Utuado, UPR, P	2.10	90	⇑eP	Pn	19 40 46.9	+1.0

*BUL **27** 19:52:51.0±1.3, 21°.15S×34°.07E, h10km, MD3.3*
PRE 27 19:53:03.0±0.8, 21°.74S×33°.02E, h5km, ML2.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.32	220	eP	Pn	19 53 42.6	+0.7
MOPA				eS	Sn	19 54 11.8	+1.0
MOPA				IAML		19 54 30.3	
	comp=Z,114nm,0.5s						
MOPA	Mopani	2.32	220	i P	Pb	19 53 44.6	-0.7
MOPA				i S	Sg	19 54 22.1	+4.5
MUSN	Musina, Limpop	2.98	259	eP	Pn	19 53 52.6	+1.6
MUSN				eS	Sn	19 54 27.3	0.0
MUSN				IAML		19 54 47.4	
	comp=Z,32nm,0.4s						
MUSN	Musina, Limpop	2.98	259	i P	Pn	19 53 53.6	+2.5
MUSN				i S	Sg	19 54 38.9	0.0
BLWY	Bulawayo	4.42	290	i P	Pn	19 54 11.2	+0.3
BLWY				i S	Sn	19 55 08.9	+6.0
MATP	Matopo	4.42	286	i P	Pn	19 54 09.8	-1.1
MATP				i S	Sn	19 55 06.8	+4.0
LEPH	Lephalale, Lim	5.26	245	eP	Pn	19 54 23.0	+0.6
LEPH				eS	Sn	19 55 22.2	-1.4
LEPH				IAML		19 56 06.5	
	comp=Z,28nm,0.7s						
LBTB	Lobatse	7.56	243	eP	Pn	19 54 54.4	+0.4
LBTB				eS	Sn	19 56 17.0	-3.2
LBTB				IAML		19 56 42.1	
	comp=Z,2.2nm,0.7s						
LBTB	Lobatse	7.56	243	i P	Pn	19 54 55.2	+1.2
LBTB				i S	Sn	19 56 25.1	+4.9
LSZ	Lusaka	7.89	324	i P	Pn	19 54 46.4	-12
LSZ				i S	Sn	19 56 10.2	-18
BOSA	Boshof	9.81	224	i P	Pn	19 55 24.5	-0.4
BOSA				i S	Sn	19 57 15.0	-0.5

*IDC **27** 19:55:21.5±4.1, 35°.76S×102°.28W, h0km, mb3.6/4, mbtmp3.6/4, MS3.6/10, Error ellipse: s-maj=118.5km s-min=44.6km az=24.0*
ISC 27 19:55:22.2±1.3, 36°.1S±0°.2×102°.4W±0°.3, h16km, n27, σ1°77/8, mb3.9/6, MS3.6/9, 4C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	10.68	325	LR	LR	20 00 56.9	
	comp=Z,245nm,18.9s,baz=108,slow=32						
H03S2	Juan Fernandez	19.38	90	T	T	20 19 21.1	
	baz=255,slow=75,SNR=36						
H03S1	Juan Fernandez	19.39	90	T	T	20 19 29.3	
	baz=255,slow=75,SNR=23						
H03S3	Juan Fernandez	19.39	90	T	T	20 19 20.1	
	baz=255,slow=75,SNR=33						
H03N2	Juan Fernandez	19.46	89	T	T	20 19 27.6	
	baz=247,slow=73,SNR=14						
H03N3	Juan Fernandez	19.47	89	T	T	20 19 25.2	
	baz=247,slow=73,SNR=12						
H03N1	Juan Fernandez	19.48	89	T	T	20 19 23.7	
	baz=247,slow=73,SNR=17						
ATAH	Atahualpa	36.22	43	LR	LR	20 14 09.3	
	comp=Z,97nm,21.1s,baz=228,slow=31						
LPAZ	La Paz	36.26	66	P	P	20 02 25.3	-0.3
	1.3nm,0.8s,baz=216,slow=7.3,SNR=4.2						
LPAZ				LR	LR	20 13 29.5	
	comp=Z,59nm,20.4s,baz=204,slow=30						
	1.3nm,0.8s						
PMSA	Palmer Station	36.70	154	LR	LR	20 13 26.8	
	comp=Z,93nm,18.8s,baz=294,slow=29						
CPUP	Villa Florida	39.47	89	LR	LR	20 16 47.6	
	comp=Z,15nm,18.2s,baz=28,slow=33						
ROSC	El Rosal	48.46	39	LR	LR	20 20 42.3	
	comp=Z,113nm,18.7s,baz=77,slow=32						
JTS	Las Juntas de	48.96	23	LR	LR	20 19 17.7	
	comp=Z,70nm,20.5s,baz=106,slow=30						
VNA3	Neumayer Olymp	57.18	157	⇑P	P	20 05 09.1	+1.2
	comp=Z,1.9nm,0.8s						
VNA2	Neumayer--Watz	57.98	157	⇑P	P	20 05 15.4	+1.8
	comp=Z,1.2nm,0.6s,baz=250,slow=7.0						
SNAA	Sanae	59.12	159	⇑P	P	20 05 18.6	-3.0
	comp=Z,16nm,0.8s						
SNAA	Sanae	59.12	159	LR	LR	20 26 11.4	
	comp=Z,62nm,20.8s,baz=170,slow=31						
TROLL	Troll, Antarti	60.52	160	⇑P	P	20 05 24.2	-7.0
	comp=Z,33nm,0.5s						
MDP	Montagnes des	62.00	59	LR	LR	20 28 06.9	
	comp=Z,50nm,19.2s,baz=306,slow=32						
RAO	Raoul Island	62.47	253	LR	LR	20 26 58.0	
	comp=Z,68nm,21.0s,baz=84,slow=30						
TXAR	Lajitas Array	65.06	359	P	P	20 06 01.6	-0.3
	comp=Z,0.1nm,0.6s,baz=190,slow=5.2,SNR=1.8						
	comp=Z,0.1nm,0.6s						
NVAR	Mina Array Bea	75.56	347	P	P	20 07 05.5	-0.6
	comp=Z,0.2nm,0.3s,baz=164,slow=5.7,SNR=4.3						
	comp=Z,0.2nm,0.3s						
PDAR	Pinedale Array	78.72	355	P	P	20 07 25.1	+1.3
	comp=Z,0.8nm,0.6s,baz=167,slow=7.9,SNR=8.9						
	comp=Z,0.8nm,0.6s						
H01W1	Cape Leeuwin H	101.61	210	T	T	22 03 49.7	
	baz=150,slow=76,SNR=40						
H01W2	Cape Leeuwin H	101.61	210	T	T	22 03 45.2	
	baz=150,slow=76,SNR=40						
H01W3	Cape Leeuwin H	101.62	210	T	T	22 03 46.1	
	baz=150,slow=76,SNR=31						
BRTR	Keskin Array B	145.38	70	PKPbc	PKPab	20 14 59.8	+0.3
	comp=Z,1.6nm,1.1s,baz=261,slow=3.8,SNR=5.2						

*THE **27** 19:57:28.7, 36°N±10°×2°9E±°, h11km±13km, M2.5/4, MLh2.5/4*
*ISK **27** 19:57:28.9, 36°.46N×28°.68E, h5km, ML2.8/16*
*ATH **27** 19:57:28.6, 36°.50N×28°.78E, h4km±1km, ML2.4/3, Manual Solution by A.Plessa First location: 2019/10/27 19:59:06, This location: 2019/10/27 20:37:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **27** 19:57:29.7, 36°.47N×28°.71E, h5km±2km, ML2.5*
ISC 27 19:57:29.3±1.0, 36°.46N±0°.02×28°.75E±0°.02, h9km±9km, n60, σ0°88/76, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.32	56	P	Pg	19 57 28.5	-7.2
DALY	Dalyan (Mula)	0.37	347	Pg	Pg	19 57 36.6	0.0
DALY				Sg	Sb	19 57 42.9	-0.9
IZZE	Mula-Seydike	0.38	93	P	Pb	19 57 37.8	-0.4
IZZE				S	Sb	19 57 44.2	0.0
IZZE				i IAML		19 57 48.0	
	comp=E,494nm,0.3s						
IZZE				i IAML		19 57 50.0	
	comp=N,887nm,0.4s						
SABU	Mula-Dalaman	0.40	25	P	Pb	19 57 37.9	-0.7
SABU				S	Sb	19 57 44.1	-0.8
RODB	Rodos	0.43	269	P	Pg	19 57 37.3	-0.4
RODB				S	Sg	19 57 43.3	-0.1
TURN	Turunc	0.52	308	Pg	Pg	19 57 38.9	-0.5
TURN				Sg	Sg	19 57 46.7	+0.5
TURN	Turunc	0.52	308	P	Pg	19 57 38.9	-0.5
ARG	Arkhangelos	0.56	245	Pg	Pg	19 57 39.7	-0.5
ARG				Sg	Sg	19 57 48.2	+0.7
ARG	Arkhangelos	0.56	245	P	Pg	19 57 39.7	-0.5
ARG				S	Sg	19 57 48.9	+1.3
ARG	Arkhangelos	0.56	245	P	Pg	19 57 39.7	-0.5
ARG				S	Sg	19 57 48.3	+0.8
CAME	Cameli-Denizli	0.66	42	Pg	Pb	19 57 42.5	-0.5
AKAS	Kas	0.72	108	Pg	Pn	19 57 44.8	-1.0
AKAS	Kas	0.72	108	P	Pn	19 57 44.8	-1.0
AKAS				S	Sn	19 57 57.0	-0.1
AKAS				i IAML		19 58 01.0	
	comp=E,120nm,0.4s						
AKAS				i IAML		19 58 04.0	
	comp=N,287nm,0.6s						
KSL	Kastellorizon	0.74	114	P	Pg	19 57 42.0	-1.5
KSL				S	Sg	19 57 53.0	-0.1
KSL	Kastellorizon	0.74	114	P	Pg	19 57 42.8	-0.7
KNIK	Mula-Seydike	0.77	59	P	Pb	19 57 45.1	+0.3
KNIK				S	Sn	19 57 56.4	-1.6
KNIK				i IAML		19 57 59.0	
	comp=N,117nm,1.1s						
YER	Yerkesik	0.78	331	Pg	Pg	19 57 44.4	+0.1
YER	Yerkesik	0.78	331	P	Pb	19 57 45.3	+0.4
YER				S	Sb	19 57 56.1	+0.5
CAEL	Denizli, Camel	0.81	34	P	Pn	19 57 47.3	+0.4
DNZT	Denizli-Tavas-	0.85	15	P	Pb	19 57 46.0	-0.2
MULA	Mugla, Merkez-	0.87	337	P	Pb	19 57 46.4	-0.2
ELL	Elmali	0.97	72	Pg	Pn	19 57 50.3	+1.1
DAT	Datca	0.98	286	Pg	Pg	19 57 47.9	-0.3
DAT	Datca	0.98	286	P	Pb	19 57 48.6	+0.1
DAT	Datca	0.98	286	P	Pg	19 57 48.2	0.0
DAT				S	Sb	19 58 02.3	+0.6
GOLH	Golhisar	1.01	40	P	Pn	19 57 49.2	-0.6
TAVA	DENIZLI_Tavas	1.01	7	P	Pn	19 57 49.7	0.0
YAZI	Mula-Datşa-	1.07	282	P	Pg	19 57 49.4	-0.5
APMY	Acipayam-Deniz	1.10	23	Pn	Pn	19 57 51.7	+0.7
MLSB	Milas	1.15	317	Pn	Pg	19 57 49.4	-1.9
DNIZ	Denizli-Tavas-	1.19	11	P	Pn	19 57 53.4	+1.2
BDRM	Kayabasi	1.21	300	P	Pg	19 57 52.3	-0.3
AKUM	Antalya-Kumluc	1.29	96	P	Pn	19 57 55.9	+2.5
BODT	Bodrum	1.31	298	Pn	Pb	19 57 54.2	+0.2
BODT	Bodrum	1.31	298	P	Pg	19 57 55.0	+0.6
BODT				S	Sg	19 58 11.3	0.0
ESEN	Aydn-Nazilli	1.38	347	P	Pg	19 57 55.7	-0.1
AYDN	Tasoluk	1.39	330	P	Pg	19 57 56.1	+0.2
KORT	Korkueli	1.39	67	Pn	Pg	19 57 57.6	+1.6
KORT	Korkueli	1.39	67	P	Pg	19 57 58.7	+2.6
INCE	Denizli-Bozkur	1.41	27	P	Pg	19 57 56.8	+0.4
NAZL	Nazilli-Aydin	1.55	346	Pn	Pg	19 57 58.7	-0.3
KARP	Karpathos	1.58	235	Pn	Pb	19 57 58.7	+0.1
KARP	Karpathos	1.58	235	P	Pn	19 57 57.0	-0.5
KARP				S	Sn	19 58 18.4	+0.5
KARP	Karpathos	1.58	235	P	Pn	19 57 58.2	+0.7
KARP				S	Sn	19 58 19.2	+1.2
BRDR	BURDUR-Merkez	1.62	40	P	Pg	19 58 00.9	+0.5
AYDB	Zeytinkoy-Aydi	1.64	335	Pn	Pb	19 57 59.9	+0.2
BUCA	Burdur, Bucak-	1.69	58	P	Pg	19 58 03.8	+2.1
GCAM	G?zelcaml?	1.74	316	Pn	Pb	19 58 00.8	-0.5
GCAM	G?zelcaml?	1.74	316	P	Pn	19 58 00.3	+0.7
KIRA	zmir-Kiraz	1.76	351	P	Pb	19 58 01.4	-0.4
BCK	Bucak	1.78	55	Pn	Pg	19 58 02.8	-0.6
BASM	Basmaki-Afyon	1.79	35	Pn	Pg	19 58 02.6	-1.0
IZMR	zmir-demi	1.79	339	P	Pb	19 58 02.2	-0.1
ODEM	Odemis-Izmir	1.90	344	Pn	Pb	19 58 03.6	-0.5
PASA	Karahalli, USA	1.98	17	P	Pb	19 58 04.7	-0.7
SMG	Samos	1.98	310	P	Pn	19 58 01.8	-1.1
SMG				S	Sn	19 58 26.6	-1.1
SMG	Samos	1.98	310	P	Pn	19 58 03.0	+0.1
KULA	Kula-Manisa	2.06	358	Pn	Pb	19 58 05.9	-0.9
USAK	Uak-Merkez	2.26	5	P	Pn	19 58 08.0	+1.1
SEDI	Konya, Seydise	2.60	67	P	Pb	19 58 14.7	-1.5

*AEIC **27** 19:57:59.2±1.2, 56°.1N±0°.2×149°.6W±0°.2, h10km±9km, Error ellipse: s-maj=24.3km s-min=13.2km az=184.0*
NEIC 27 19:57:57.1±0.6, 56°.3N±0°.2×149°.6W±0°.1, h20km±11km, ML3.5/10, ML3.2(AEIC), Error ellipse: s-maj=22.6km s-min=9.7km az=189.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.23	314		Pn	19 58 33.1	+0.3
KDAK				IAML		19 59 01.9	
	203nm,3.5s						
KDAK	Kodiak Island	2.23	314		Sn	19 58 59.7	-0.1
SYI	Shuyak Island	2.79	328	Pn	Pn	19 58 40.3	-0.3
SYI				IAML		19 59 11.5	
	comp=E,123nm,2.7s						
HIN	Hinchinbrook I	4.44	20	Pn	Pn	19 59 03.0	-0.3
PWL	Port Wells	4.65	8	Pn	Pn	19 59 05.9	-0.1
PWL				IAML		20 00 08.4	
	comp=N,45nm,2.4s						
PWL				IAML		20 00 13.0	
	comp=E,48nm,3.1s						
EYAK	Cordova Ski Ar	4.74	24	Pn	Pn	19 59 06.5	-0.8
EYAK				IAML		19 59 47.0	
	comp=E,39nm,2.7s						
EYAK				IAML		20 01 30.2	
	comp=N,41nm,3.7s						
KHIT	Khitrov Hills	5.35	36		Pn	19 59 15.4	-0.4
CRQM	Cirque	5.62	34		Pn	19 59 19.6	0.0
TGL	Tana Glacier	5.72	35		Pn	19 59 21.1	+0.2
KIAG	Kiagna River	6.00	36		Pn	19 59 24.7	-0.1
BALM	Baldy	6.09	35		Pn	19 59 26.1	+0.1
PNL	Peninsula	6.40	54		Pn	19 59 30.0	-0.1
LOGN	Logan Glacier	6.40	41		Pn	19 59 30.2	-0.1
BCPM	Bancas Point	6.43	51		Pn	19 59 30.7	+0.1
O29M	Mount Kennedy	7.07	51		Pn	19 59 39.5	+0.1
P29M	Windy Craggy	7.14	57		Pn	19 59 39.9	-0.5

*SDD **

comp=E,174nm,0.6s
CRPR Cabo Rojo, PR 1.06 173⇑iP Pb 19 59 33.0 +0.6
CRPR Cabo Rojo, PR 1.06 173⇑eP Pn 19 59 31.0 -1.1
CRPR ⇑eSg Sn **19 59 46.8 +0.6**
CRPR IAML 19 59 50.6
comp=N,233nm,0.3s
CRPR Cabo Rojo, PR 1.06 173 iP Pn 19 59 31.0 -1.1
CRPR eS Sn **19 59 46.9 +0.6**
CRPR IAML 19 59 50.6
comp=Z,210nm,0.3s
MLPR Magueyes Islan 1.11 170⇓iP Pn 19 59 31.8 -0.9
MLPR Magueyes Islan 1.11 170 eS Sn 19 59 47.9 +0.5
MLPR Magueyes Islan 1.11 170⇑ePg Pn 19 59 31.7 -1.0
MLPR ⇑eSg Sn **19 59 49.2 +1.9**
MLPR IAML 19 59 51.9
comp=N,49nm,0.5s
ECPR Experimental S 1.13 131⇑iP Pn 19 59 32.7 -0.3
ECPR Experimental S 1.13 131 eS Sn 19 59 48.4 +0.6
OBIP Obispado Ponce 1.19 149 Pn 19 59 32.8 -1.1
OBIP **Sb 19 59 48.9 -0.6**
OBIP Obispado Ponce 1.19 149 IAML 19 59 50.3
comp=N,162nm,0.5s
OBIP Obispado Ponce 1.19 149⇑eP Pn 19 59 32.8 -1.1
OBIP Obispado Ponce 1.19 149 eS Sb 19 59 48.9 -0.6
GCPR Guaynabo City 1.34 124 Sn 19 59 53.5 +0.5
GCPR Guaynabo City 1.34 124 Pn 19 59 34.3 -1.6
GCPR Guaynabo City 1.34 124⇓eP Pn 19 59 34.6 -1.4
GCPR Guaynabo City 1.34 124 eS Sn 19 59 53.5 +0.5
SJG San Juan 1.42 132 Pn 19 59 36.2 -0.7
SJG IAML 20 00 02.9
comp=N,119nm,0.3s
SJG San Juan 1.42 132⇓iP Pn 19 59 36.7 -0.2
SJG San Juan 1.42 132 eS Sn 19 59 54.9 0.0
SJG San Juan 1.42 132⇑ePg Pn 19 59 36.2 -0.7
SJG ⇑eSg **Sb 19 59 56.5 +0.6**
SJG San Juan 1.42 132 iP Pn 19 59 37.2 +0.3
SJG IAML 20 00 06.5
comp=Z,47nm,0.3s
HIDR Higuey Centro 1.46 251⇓eP Pn 19 59 37.6 0.0
HIDR Higuey Centro 1.46 251 eS Sb 19 59 57.4 0.0
HIDR Higuey Centro 1.46 251⇑ePg Pb 19 59 37.7 -1.5
HIDR ⇑eSg **Sb 20 00 00.2 +2.9**
HIDR IAML 20 00 05.3
comp=N,154nm,0.2s
IGPR InterUniversit 1.55 135 Pn 19 59 38.8 0.0
IGPR **Sn 19 59 58.6 +0.5**
IGPR InterUniversit 1.55 135⇓eP Pn 19 59 38.8 0.0
IGPR InterUniversit 1.55 135 eS Sn 19 59 58.6 +0.5
MIDR Miches 1.70 267⇑eP Pn 19 59 39.9 -0.9
MIDR Miches 1.70 267 eS Sn 20 00 01.6 -0.3
SMDR Samana, DR 1.84 277⇑eSg Sb 20 00 14.0 +5.8
SMDR IAML 20 00 46.8
comp=N,75nm,0.7s
DR12 Loma Pena Alta 2.03 262 Pn 19 59 45.1 -0.4
HATOM Hato Mayor del 2.03 262⇑ePg Pn 19 59 45.0 -0.5
HATOM ⇑ePg **Pb 19 59 45.7 -3.2**
HATOM IAML 20 00 16.6
comp=N,52nm,0.5s
DR08 Loma La Naviza 2.62 268⇑ePg Pn 19 59 53.5 -0.1
DR08 ⇑eSg **Sn 20 00 24.3 -0.5**
DR08 IAML 20 00 27.9
comp=N,2μm,0.2s

*TIR **27** 20:07:51.1, 41.°36N×19.°37E, h15km, Md2.8/6, Ml2.6/6*
*BEO **27** 20:07:55.6±0.4, 41.°46N×19.°70E, h13km±2km, ML1.8/16*
*PDG **27** 20:07:57.1±0.2, 41.°58N×19.°48E, h11km, ML2.2/11, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
ISC 27 20:07:52.3±1.1, 41.°34N±0.°03×19.°50E±0.°03, h11km±10km, n51, σ1§30/94, 5C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**89**	Pg	**Pb**	**20 07 58.8**	**-0.6**
TIR				Sg	**Sb**	**20 08 04.4**	**+0.4**
TIR				AML	AML	20 08 06.0	
	5.3nm,0.4s						
TIR				AMd		20 08 36.7	
ULC	**Ulcinj**	**0.65**	**343**	⇓iPg	**Pg**	**20 08 05.2**	**+0.2**
ULC				i Sg	**Sg**	**20 08 11.4**	**-2.1**
VLO	**Vlora**	**0.87**	**180**	AML	AML	20 08 38.5	
	0.7nm,0.5s						
DRME	**Dracevica, Mon**	**0.88**	**344**	ePg	**Pb**	**20 08 10.0**	**+0.4**
DRME				eSg	**Sb**	**20 08 21.3**	**-0.1**
DRME	**Dracevica, Mon**	**0.88**	**344**	⇑iPg	**Pb**	**20 08 09.5**	**-0.1**
DRME				i Sg	**Sb**	**20 08 20.0**	**-1.4**
OHR	**Ohrid**	**1.01**	**103**	i Pn	**Pn**	**20 08 14.6**	**+2.1**
OHR				i Sn	**Sn**	**20 08 31.5**	**+4.8**
BUM	**Brajici-Budva**	**1.06**	**335**	⇓iPg	**Pn**	**20 08 13.2**	**-0.1**
BUM				eSg	**Sb**	**20 08 26.2**	**-0.5**
PDG	**Podgorica**	**1.10**	**351**	Pg	**Pn**	**20 08 11.7**	**-2.1**
PDG				Sg	**Sb**	**20 08 27.1**	**-0.7**
PDG				AML	AML	20 08 31.3	
	1μm,0.2s						
PDG				AMd		20 09 02.8	
PDG	**Podgorica**	**1.10**	**351**	ePg	**Pn**	**20 08 13.8**	**0.0**
PDG				eSg	**Sb**	**20 08 28.3**	**+0.4**
PDG	**Podgorica**	**1.10**	**351**	ePg	**Pn**	**20 08 13.7**	**0.0**
PDG				eSg	**Sb**	**20 08 27.0**	**-0.9**
KBN	**Korca**	**1.21**	**126**	Sn	**Sg**	**20 08 33.4**	**+2.1**
CEME	**Cevo**	**1.28**	**340**	⇓iPg	**Pn**	**20 08 16.5**	**+0.2**
CEME				i Sg	**Sn**	**20 08 33.3**	**-0.2**
PVY	**Plav**	**1.30**	**15**	ePg	**Pn**	**20 08 17.1**	**+0.5**
PVY				eSg	**Sn**	**20 08 33.2**	**-0.8**
PVY	**Plav**	**1.30**	**15**	⇑iPg	**Pn**	**20 08 16.9**	**+0.3**
PVY				eSg	**Sn**	**20 08 33.2**	**-0.8**
HCY	**Herceg Novi**	**1.34**	**326**	⇑iPg	**Pb**	**20 08 17.9**	**+0.5**
HCY				eSg	**Sb**	**20 08 35.8**	**+1.2**
NEST	**Nestorio**	**1.50**	**128**	Pg	**Pg**	**20 08 20.8**	**-0.2**
NEST				Sg	**Sg**	**20 08 43.1**	**+2.7**
NEST				AML	AML	20 08 50.0	
	0.1nm,0.4s						
NEST				AMd		20 09 37.7	
KOME	**Kolasin**	**1.51**	**0**	ePg	**Pb**	**20 08 21.3**	**+0.9**
KOME				eSg	**Sn**	**20 08 40.2**	**+1.0**
KOME	**Kolasin**	**1.51**	**0**	ePg	**Pb**	**20 08 20.7**	**+0.3**
KOME				i Sg	**Sn**	**20 08 40.5**	**+1.3**
TREB	**Trebinje**	**1.62**	**328**	ePn	**Pb**	**20 08 23.0**	**+0.7**
TREB				eSn	**Sb**	**20 08 43.7**	**+0.9**
DBRK	**Dubrovnik**	**1.67**	**323**	ePn	**Pn**	**20 08 22.8**	**+1.2**
DBRK				Sg	**Sn**	**20 08 42.9**	**0.0**
BRY	**Bratogost**	**1.72**	**336**	⇑iPg	**Pb**	**20 08 24.5**	**+0.5**
BRY				eSg	**Sn**	**20 08 46.1**	**+1.7**
UPM	**Unac-Piva**	**1.91**	**347**	⇑iPn	**Pb**	**20 08 27.5**	**+0.1**
UPM				eSn	**Sn**	**20 08 51.5**	**+2.2**
IGT	**Igoumenitsa**	**1.92**	**160**	Pg	**Pg**	**20 08 27.0**	**-2.0**
IGT				Sg	**Sg**	**20 08 53.9**	**0.0**
IGT				AML	AML	20 09 01.5	
	0.1nm,0.7s						
IGT				AMd		20 09 52.0	
IGT	**Igoumenitsa**	**1.92**	**160**	ePn	**Pg**	**20 08 28.9**	**-0.1**
IGT				eSn	**Sg**	**20 08 53.8**	**0.0**
NOCI	**Noci**	**1.92**	**254**	Pn	**Pn**	**20 08 25.0**	**0.0**
NOCI				Sn	**Sb**	**20 08 50.4**	**-1.1**
NOCI				AML	AML	20 09 06.2	
	0.2nm,0.3s						
NOCI				AMd		20 09 50.5	
SJES	**Sjenica**	**1.95**	**10**	ePn	**Pb**	**20 08 27.7**	**-0.3**
SJES				eSn	**Sn**	**20 08 50.5**	**+0.4**
PLE	**Pljevlja**	**1.99**	**358**	ePn	**Pb**	**20 08 28.4**	**-0.2**
PLE				eSn	**Sn**	**20 08 53.0**	**+2.0**
PLE	**Pljevlja**	**1.99**	**358**	⇓iPn	**Pb**	**20 08 28.4**	**-0.2**
PLE				i Sn	**Sn**	**20 08 53.1**	**+2.0**
STON	**Ston**	**2.03**	**319**	ePn	**Pn**	**20 08 27.1**	**+0.5**
STON				Sn	**Sn**	**20 08 51.5**	**-0.5**
SELS	**Selova**	**2.23**	**32**	ePn	**Pn**	**20 08 28.1**	**-1.2**
SELS				eSn	**Sn**	**20 08 55.9**	**-0.9**
BARS	**Barje**	**2.27**	**49**	ePn	**Pn**	**20 08 30.2**	**+0.4**
BARS				eSn	**Sn**	**20 08 55.6**	**-2.2**
RUDO	**Rudo**	**2.28**	**358**	ePn	**Pb**	**20 08 32.8**	**-0.7**
RUDO				eSn	**Sn**	**20 08 57.1**	**-0.9**
IVAS	**Ivanjica**	**2.29**	**12**	ePn	**Pn**	**20 08 30.9**	**+0.8**
IVAS				eSn	**Sn**	**20 08 57.2**	**-1.1**
LSTV	**Lastovo**	**2.41**	**307**	ePn	**Pn**	**20 08 32.4**	**+0.7**
LSTV				Sn	**Sn**	**20 09 00.2**	**-1.1**
GOCS	**Kraljevo Serbi**	**2.44**	**24**	ePn	**Pn**	**20 08 32.7**	**+0.4**
GOCS				eSn	**Sn**	**20 09 00.2**	**-2.0**
BOSS	**Bosilegrad**	**2.50**	**62**	ePn	**Pn**	**20 08 34.0**	**+0.9**
BOSS				eSn	**Sn**	**20 09 01.2**	**-2.5**
BBLS	**Lazi&#263i**	**2.52**	**358**	ePn	**Pn**	**20 08 33.8**	**+0.4**
BBLS				eSn	**Sn**	**20 09 04.9**	**+0.7**
MAKA	**Makarska**	**2.68**	**317**	ePn	**Pn**	**20 08 36.2**	**+0.8**
MAKA				Sn	**Sn**	**20 09 07.0**	**-0.8**
GRUS	**Gruza**	**2.70**	**19**	ePn	**Pn**	**20 08 36.1**	**+0.4**
GRUS				eSn	**Sn**	**20 09 07.2**	**-1.2**
LKD2	**Lefkada island**	**2.70**	**160**	Pn	**Pb**	**20 08 38.6**	**-2.1**
LKD2				AMd		20 09 50.1	
DIVS	**Divibare**	**2.78**	**7**	ePn	**Pn**	**20 08 38.6**	**+1.7**
DIVS				eSn	**Sn**	**20 09 10.2**	**-0.3**
HVAR	**Hvar**	**2.92**	**310**	ePn	**Pn**	**20 08 39.9**	**+1.2**
HVAR				Sn	**Sn**	**20 09 12.9**	**-0.8**
TRUS	**Trudelj**	**2.96**	**13**	ePn	**Pn**	**20 08 41.1**	**+1.8**
TRUS				eSn	**Sn**	**20 09 13.3**	**-1.5**
ZAPS	**Zavoj**	**3.02**	**49**	ePn	**Pn**	**20 08 40.5**	**+0.3**
ZAPS				eSn	**Sn**	**20 09 13.5**	**-2.9**
ZAGS	**Zajecar**	**3.19**	**38**	ePn	**Pn**	**20 08 42.3**	**-0.1**
ZAGS				eSn	**Sn**	**20 09 18.8**	**-1.7**
TEKS	**Tekeris**	**3.21**	**0**	ePn	**Pn**	**20 08 44.9**	**+2.2**
TEKS				eSn	**Sn**	**20 09 20.5**	**-0.5**
KIJV	**Kijevo**	**3.51**	**320**	ePn	**Pn**	**20 08 47.9**	**+1.1**
KIJV				Sn	**Sn**	**20 09 27.6**	**-0.8**
ZIRJ	**Zirje**	**3.67**	**310**	ePn	**Pn**	**20 08 50.0**	**+0.9**
MORI	**Morici**	**3.77**	**313**	ePn	**Pn**	**20 08 51.8**	**+1.4**
DUGI	**Dugi Otok**	**4.21**	**310**	ePn	**Pn**	**20 08 58.0**	**+1.5**
VIRC	**Vir**	**4.40**	**314**	ePn	**Pn**	**20 09 00.4**	**+1.3**

*IDC **27** 20:09:07.7±0.9, 22.°09S×173.°84W, h0km, mb4.0/8, mbtmp4.1/10, ML3.8/2, MS3.2/1, Error ellipse: s-maj=33.8km s-min=23.9km az=156.0*
ISC 27 20:09:11.8±0.6, 22.°1S±0.°2×173.°55W±0.°08, h35km, n31, σ1§60/32, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.84**	**89**	Pn	**Pn**	**20 12 14.7**	**+2.7**
	7.3nm,0.3s,baz=253,slow=13,SNR=16						
RAR				Sn	**Sn**	**20 14 28.2**	**-5.5**
	1.5nm,0.3s,baz=358,slow=18,SNR=1.4						
RAR				LR	LR	20 17 21.3	
	comp=Z,101nm,18.2s,baz=272,slow=38						
	15nm,0.3s						
URZ	**Urewera**	**18.03**	**204**	Pn	**P**	**20 13 21.3**	**+1.6**
	0.6nm,0.3s,baz=92,slow=4.6,SNR=5.6						
DZM	**Mont Dzumac**	**18.54**	**266**	P	**P**	**20 13 22.5**	**-3.1**
	0.2nm,0.3s,baz=66,slow=18,SNR=4.2						
	4.4nm,0.7s						
TBI	**Tubuai**	**22.26**	**98**	eLR	LR	20 19 54.7	
	1μm,27.8s						
PPT2	**Papeete2**	**22.98**	**83**	eLR	LR	20 20 18.0	
	66nm,22.0s						
PPT2				eLR	LR	20 20 29.2	
	94nm,38.8s						
STKA	**Stephens Creek**	**40.91**	**246**	P	**P**	**20 16 50.4**	**-0.5**
	1.9nm,0.8s,baz=112,slow=12,SNR=3.5						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**48.22**	**257**	P	**P**	**20 17 48.0**	**-1.3**
	2.7nm,0.8s,baz=91,slow=8.1,SNR=26						
ASAR				PcP	**PcP**	**20 19 18.1**	**+1.8**
	0.3nm,0.6s,baz=112,slow=3.6,SNR=1.9						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**48.50**	**262**	P	**P**	**20 17 49.2**	**-2.4**
	2.2nm,0.8s,baz=93,slow=8.2,SNR=12						
WRA				PcP	**PcP**	**20 19 19.5**	**+2.2**
	0.6nm,0.7s,baz=98,slow=3.5,SNR=3.3						
	2.2nm,0.8s						
VNDA	**Vanda**	**56.77**	**186**	P	**P**	**20 18 52.0**	**+0.1**
	0.3nm,0.4s,baz=265,slow=12,SNR=7.2						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**56.93**	**262**	P	**P**	**20 18 52.9**	**-1.0**
	2.1nm,1.0s,baz=114,slow=20,SNR=1.8						
	2.1nm,1.0s						
KSRS	**Korea Array**	**80.83**	**317**	P	**P**	**20 21 22.0**	**-0.1**
	0.8nm,0.4s,baz=129,slow=7.1,SNR=3.3						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**88.97**	**11**	P	**P**	**20 22 03.3**	**+1.0**
	0.5nm,0.9s,baz=207,slow=4.8,SNR=4.1						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**94.54**	**288**	P	**P**	**20 22 30.2**	**+0.9**
	1.2nm,0.9s,baz=126,slow=2.8,SNR=10						
	1.2nm,0.9s						
BVAR	**Borovoye Array**	**122.94**	**320**	PKP	**PKiKP**	**20 28 05.5**	**+1.2**
	0.7nm,0.6s,baz=309,slow=7.1,SNR=4.0						
GNI	**Garni**	**142.93**	**308**	PKP	**PKPdf**	**20 28 41.5**	**-0.6**
AK03	**Malin Array Si**	**146.30**	**334**	PKP	**PKPab**	**20 28 49.2**	**-0.2**
AKASG	**Malin Array Be**	**146.31**	**334**	PKPbc	**PKPab**	**20 28 49.0**	**-0.4**
	1.1nm,0.6s,baz=42,slow=3.0,SNR=5.3						
AK04	**Malin Array Si**	**146.32**	**334**	PKP	**PKPab**	**20 28 49.1**	**-0.4**
AK01	**Malin Array Si**	**146.33**	**334**	PKP	**PKPab**	**20 28 49.0**	**-0.5**
AK21	**Malin Array Si**	**146.33**	**334**	PKP	**PKPab**	**20 28 49.0**	**-0.5**
AK22	**Malin Array Si**	**146.33**	**334**	PKP	**PKPbc**	**20 28 48.7**	**0.0**
AK02	**Malin Array Si**	**146.36**	**334**	PKP	**PKPab**	**20 28 49.1**	**-0.5**
AK09	**Malin Array Si**	**146.36**	**333**	PKP	**PKPab**	**20 28 49.5**	**-0.1**
AK11	**Malin Array Si**	**146.36**	**334**	PKP	**PKPab**	**20 28 49.6**	**0.0**
AK18	**Malin Array Si**	**146.36**	**334**	PKP	**PKPbc**	**20 28 48.4**	**-0.4**
AK05	**Malin Array Si**	**146.39**	**334**	PKP	**PKPbc**	**20 28 48.2**	**-0.6**
AK16	**Malin Array Si**	**146.39**	**334**	PKP	**PKPbc**	**20 28 48.7**	**-0.1**
AK06	**Malin Array Si**	**146.41**	**334**	PKP	**PKPbc**	**20 28 49.0**	**+0.1**
LUBAR	**Lubar, Ukraine**	**147.52**	**334**	PKP	**PKPbc**	**20 28 52.4**	**+0.3**
BRTR	**Keskin Array B**	**150.94**	**313**	PKPbc	**PKiKP**	**20 29 02.4**	**+0.6**
	0.8nm,0.8s,baz=14,slow=2.5,SNR=5.0						
GERES	**GERESS Array B**	**152.65**	**350**	PKPbc	**PKiKP**	**20 29 06.1**	**+1.1**
	0.2nm,0.5s,baz=24,slow=7.5,SNR=2.7						

*JMA **27** 20:18:37.9±0.2, 25.°N±2.°×123.°1E±0.°6, h120km±2km, MV1.9/13, NW OFF ISHIGAKIJIMA IS*
*TAP **27** 20:18:38.1, 24.°78N×122.°95E, h138km, ML2.8, C*
ISC 27 20:18:35.9±1.8, 24.°74N±0.°07×123.°10E±0.°03, h143km±11km, n49, σ1§12/82, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.29**	**196**	eP	**Pn**	**20 18 55.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.29**	**196**	P	**Pn**	**20 18 57.7**	**+2.1**
YOJ				i S	**Sn**	**20 19 11.8**	**+1.3**
JYNG	**Yonagunijimaku**	**0.32**	**205**	eP	**Pn**	**20 18 55.5**	**-0.2**
IRIF	**Iriomote-Funau**	**0.70**	**125**	eP	**Pn**	**20 18 57.8**	**+0.2**
IRIF				eS	**Sn**	**20 19 12.9**	**-1.3**
EOS3	**EOS3**	**0.84**	**238**	eP	**Pn**	**20 19 00.1**	**+1.6**
EOS3				eS	**Sn**	**20 19 16.2**	**+0.5**
EOS2	**EOS2**	**0.85**	**248**	P	**Pn**	**20 18 59.6**	**+1.1**
EOS2				S	**Sn**	**20 19 16.1**	**+0.2**
HATJ	**Hateruma jima**	**0.94**	**137**	eS	**Sn**	**20 19 17.0**	**-0.4**
EOS4	**EOS4**	**0.94**	**229**	P	**Pn**	**20 19 00.3**	**+1.2**
EOS4				S	**Sn**	**20 19 16.8**	**0.0**
JKRS	**Kuro-shima**	**0.97**	**121**	eP	**Pn**	**20 19 00.7**	**+1.0**
JKRS				S	**Sn**	**20 19 17.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.02**	**111**	P	**Pn**	**20 19 00.7**	**+0.5**
JIJ				S	**Sn**	**20 19 17.0**	**-1.7**
EGS		**1.06**	**276**	eP	**Pn**	**20 19 02.0**	**+1.4**
JISG	**Ishigakijimahi**	**1.11**	**98**	eP	**Pn**	**20 19 01.3**	**+0.3**
JISG				S	**Sn**	**20 19 18.7**	**-1.4**
TWC	**Suao**	**1.14**	**264**	eS	**Sn**	**20 19 19.1**	**-1.6**
TIPB	**Shuangxi**	**1.18**	**281**	P	**Pn**	**20 19 02.2**	**+0.5**
TIPB				i S	**Sn**	**20 19 20.0**	**-1.3**
NWF	**Wu-fen Shan**	**1.24**	**286**	eP	**Pn**	**20 19 02.9**	**+0.6**
NWF				eS	**Sn**	**20 19 22.4**	**0.0**
ENA	**Nanau**	**1.27**	**256**	eP	**Pn**	**20 19 03.4**	**+0.8**
TWE	**Neicheng**	**1.30**	**269**	eP	**Pn**	**20 19 03.4**	**+0.6**
TWE				eS	**Sn**	**20 19 22.0**	**-1.3**
FUSB	**Fushanzhiwuyua**	**1.37**	**271**	eP	**Pn**	**20 19 04.4**	**+0.7**
FUSB				eS	**Sn**	**20 19 23.7**	**-1.1**
ENTT	**Nioudou**	**1.40**	**266**	eP	**Pn**	**20 19 05.1**	**+1.3**
YM01	**YM01**	**1.44**	**286**	eP	**Pn**	**20 19 04.9**	**+0.6**
NWLT	**Wulai**	**1.45**	**272**	eP	**Pn**	**20 19 04.7**	**+0.3**
NWLT				eS	**Sn**	**20 19 25.2**	**-1.0**
JTJ	**Tarama**	**1.46**	**94**	eP	**Pn**	**20 19 05.4**	**+0.9**
JTJ				eS	**Sn**	**20 19 25.5**	**-0.9**
NACB	**Ninganchiao**	**1.48**	**248**	eP	**Pn**	**20 19 04.7**	**0.0**
NACB				eS	**Sn**	**20 19 25.1**	**-1.7**
ETLH	**Xiulin Townshi**	**1.57**	**250**	eS	**Sn**	**20 19 27.0**	**-1.5**
YHNB	**Yeheng**	**1.57**	**268**	i P	**Pn**	**20 19 06.7**	**+0.9**
YHNB				i S	**Sn**	**20 19 27.4**	**-1.1**
NSK	**Sanguang**	**1.58**	**268**	P	**Pn**	**20 19 06.7**	**+0.8**
NSK				S	**Sn**	**20 19 27.6**	**-1.2**
NNSB	**Datong**	**1.59**	**259**	eP	**Pn**	**20 19 06.8**	**+0.7**
NNSB				eS	**Sn**	**20 19 27.9**	**-1.2**
NNSH	**Datong**	**1.59**	**259**	eP	**Pn**	**20 19 06.7**	**+0.7**
ETM	**Tongmen**	**1.66**	**242**	eS	**Sn**	**20 19 28.5**	**-1.7**
SHUL	**Shoufeng**	**1.69**	**236**	eS	**Sn**	**20 19 30.2**	**-0.6**
LXIB	**Xiulin Townshi**	**1.70**	**245**	eP	**Pn**	**20 19 07.6**	**+0.3**
LXIB				eS	**Sn**	**20 19 30.2**	**-1.0**
KSHI	**Guanxi Townshi**	**1.75**	**271**	eP	**Pn**	**20 19 08.9**	**+1.3**
KSHI				eS	**Sn**	**20 19 31.6**	**-0.4**
FUSS	**Fushou**	**1.76**	**254**	eP	**Pn**	**20 19 09.1**	**+1.0**
WHF	**Hehuan Shan**	**1.77**	**251**	eP	**Pn**	**20 19 09.3**	**+0.9**
WHF				eS	**Sn**	**20 19 30.9**	**-2.3**
ESL	**Shilin**	**1.78**	**239**	eP	**Pn**	**20 19 08.3**	**+0.3**
ESL				eS	**Sn**	**20 19 31.0**	**-1.7**
NFF	**Wufeng Townshi**	**1.80**	**267**	eS	**Sn**	**20 19 31.3**	**-2.0**
TWT	**Tachien**	**1.82**	**255**	eP	**Pn**	**20 19 10.8**	**+2.1**
TWT				eS	**Sn**	**20 19 33.6**	**-0.1**
TDCB	**Techi**	**1.83**	**255**	eP	**Pn**	**20 19 09.4**	**+0.6**
TDCB				eS	**Sn**	**20 19 32.9**	**-1.0**
WARBT	**Fenglin Townsh**	**1.87**	**237**	eP	**Pn**	**20 19 09.6**	**+0.5**
WARBT				eS	**Sn**	**20 19 32.9**	**-1.5**
JIRB	**Irabujima**	**1.89**	**87**	eP	**Pn**	**20 19 10.2**	**+1.0**
JIRB				eS	**Sn**	**20 19 34.2**	**-0.6**
LIOB	**Emei**	**1.90**	**267**	P	**Pn**	**20 19 10.2**	**+0.9**
LIOB				eS	**Sn**	**20 19 34.1**	**-0.9**
WUSB	**Renai**	**1.95**	**248**	P	**Pn**	**20 19 11.5**	**+1.3**
WUSB				S	**Sn**	**20 19 35.2**	**-1.2**
HGSD	**Ruisui**	**1.97**	**231**	eP	**Pn**	**20 19 10.9**	**+0.7**
HGSD				eS	**Sn**	**20 19 36.2**	**-0.4**
WHP	**Taichung City**	**2.01**	**257**	eP	**Pn**	**20 19 12.3**	**+1.4**
WHP				eS	**Sn**	**20 19 37.1**	**-0.5**
EHY	**Hungye**	**2.04**	**233**	eP	**Pn**	**20 19 12.2**	**+1.1**
VWDT	**VWDT**	**2.04**	**242**	P	**Pn**	**20 19 12.2**	**+1.2**
VWDT				eS	**Sn**	**20 19 37.3**	**-0.7**
YULB	**Yu-li**	**2.12**	**231**	eP	**Pn**	**20 19 12.8**	**+0.7**
YULB				eS	**Sn**	**20 19 38.5**	**-1.4**
SSLB	**Suanglung**	**2.17**	**244**	eP	**Pn**	**20 19 14.2**	**+1.5**
SSLB				eS	**Sn**	**20 19 39.8**	**-1.2**
SMLT	**Sun Moon Lake**	**2.18**	**247**	eP	**Pn**	**20 19 14.7**	**+1.9**

*ZUR **27** 20:19:13.3, 45.°89N×6.°90E, h1km, MLh1.8/36, Error ellipse: s-maj=1266.2km s-min=695.4km az=194.0*
*ROM **27** 20:19:13.2±0.2, 45.°878N±0.°009×6.°95E±0.°01, h9km, ML1.6/12, Error ellipse: s-maj=1.0km s-min=0.9km az=233.0*
*GEN **27** 20:19:13.1, 45.°88N×7.°01E, h15km±2km, Ml1.6*
*LDG **27** 20:19:14.0±0.1, 45.°86N×6.°99E, h5km, Md2.2/2, Ml2.3/30, Error ellipse: s-maj=1.6km s-min=1.2km az=101.0*
STR 27 20:19:13.5±0.0, 45.°88N±0.°04×6.°94E±0.°05, h3km, MLv2.0/28, 10C-28D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**190**	⇑Pg	Pg	20 19 14.7	+0.1
BLANC				Sg	Sg	20 19 15.6	+0.1
BLANC	**P.ta Helbronne**	**0.04**	**190**	⇑Pg	Pg	20 19 14.7	+0.1
BLANC				Sg	Sg	20 19 15.6	+0.2
MRGE	**Morge**	**0.14**	**143**	P	Pg	20 19 16.9	+0.6
MRGE				S	Sg	20 19 19.6	+1.5
MRGE	**Morge**	**0.14**	**143**	⇑P	Pg	20 19 16.9	+0.6
MRGE				S	Sg	20 19 19.6	+1.4
MRGE				AML	AML		
	comp=E,686μm,0.3s						
MRGE				AML	AML		
	comp=N,446μm,0.5s						
MRGE				AML	AML		
	comp=N,446μm,0.5s						
MRGE				AML	AML		
	comp=E,686μm,0.3s						
MRGE				AML	AML		
	comp=N,331μm,0.4s						
MFERR	**Prayon, Val Fe**	**0.14**	**59**	⇓Pg	Pg	20 19 16.8	+0.5
MFERR	**Prayon, Val Fe**	**0.14**	**59**	⇓Pg	Pg	20 19 16.8	+0.5
MFERR				Sg	Sg	20 19 19.0	+0.9
REMY	**Saint-Rhmy-en**	**0.15**	**105**	⇑Pg	Pg	20 19 17.5	+0.8
REMY				Sg	Sg	20 19 20.4	+1.7
REMY	**Saint-Rhmy-en**	**0.15**	**105**	⇑Pg	Pg	20 19 17.5	+0.8
REMY				Sg	Sg	20 19 20.5	+1.8
REMY	**Saint-Rhmy-en**	**0.15**	**105**	P	Pg	20 19 17.5	+0.8
REMY				S	Sg	20 19 20.4	+1.7
REMY	**Saint-Rhmy-en**	**0.15**	**105**	⇑P	Pg	20 19 17.4	+0.8
REMY				S	Sg	20 19 20.3	+1.6
REMY	**Saint-Rhmy-en**	**0.15**	**105**	Pg	Pg	20 19 17.4	+0.8
REMY				Sg	Sg	20 19 20.4	+1.7
SEMOS	**Emosson Stauma**	**0.19**	**358**	⇓Pg	Pg	20 19 17.2	0.0
SEMOS				Sg	Sg	20 19 19.7	-0.1
SEMOS	**Emosson Stauma**	**0.19**	**358**	⇓Pg	Pg	20 19 17.2	0.0
SEMOS				Sg	Sg	20 19 19.7	-0.1
SMAO	**Martigny, Rue**	**0.24**	**23**	⇓Pg	Pg	20 19 18.4	+0.3
SALAN	**Lac Salanfe**	**0.27**	**5

RAW2	**Sanetsch, VS**	**0.51**	**31**	⇓Pg	Pg	20 19 23.5	+0.2
RAW2				Sg	Sg	20 19 30.6	+0.7
CIRO	**Champorcher**	**0.52**	**122**	Pg	Pg	20 19 23.7	+0.2
CIRO	**Champorcher**	**0.52**	**122**	⇑Pg	Pg	20 19 23.7	+0.2
CIRO				Sg	Sg	20 19 30.5	+0.3
CIRO	**Champorcher**	**0.52**	**122**	P	Pg	20 19 23.7	+0.2
CIRO				S	Sg	20 19 30.6	+0.4
CIRO	**Champorcher**	**0.52**	**122**	P	Pg	20 19 23.7	+0.2
CIRO				S	Sg	20 19 30.6	+0.4
CIRO	**Champorcher**	**0.52**	**122**	Pg	Pg	20 19 23.7	+0.2
CIRO				Sg	Sg	20 19 30.6	+0.4
SENIN	**Lac Senin/Sane**	**0.54**	**27**	Pg	Pg	20 19 24.0	0.0
SENIN	**Lac Senin/Sane**	**0.54**	**27**	⇓Pg	Pg	20 19 24.0	0.0
SENIN				Sg	Sg	20 19 31.2	+0.1
SENIN	**Lac Senin/Sane**	**0.54**	**27**	P	Pg	20 19 24.0	0.0
SENIN				S	Sg	20 19 31.7	+0.6
VANNI	**Vissoie, Val d**	**0.56**	**54**	Pg	Pg	20 19 24.4	0.0
VANNI	**Vissoie, Val d**	**0.56**	**54**	⇑Pg	Pg	20 19 24.6	+0.3
VANNI				Sg	Sg	20 19 32.0	+0.3
VANNI	**Vissoie, Val d**	**0.56**	**54**	P	Pg	20 19 24.7	+0.3
VANNI				S	Sg	20 19 32.0	+0.3
SATI	**Passo del Sala**	**0.65**	**90**	P	Pg	20 19 25.6	-0.3
SATI				S	Sg	20 19 34.7	+0.4
SATI	**Passo del Sala**	**0.65**	**90**	P	Pg	20 19 25.6	-0.4
SATI	**Passo del Sala**	**0.65**	**90**	Pg	Pg	20 19 25.5	-0.5
TRAV	**Traversella**	**0.67**	**123**	P	Pg	20 19 26.7	+0.2
TRAV	**Traversella**	**0.67**	**123**	P	Pg	20 19 26.6	+0.2
TRAV				AML	AML		
	comp=E,64µm,0.5s						
TRAV				AML	AML		
	comp=N,96µm,0.2s						
TRAV				AML	AML		
	comp=E,52µm,0.2s						
TRAV				AML	AML		
	comp=N,96µm,0.2s						
TRAV	**Traversella**	**0.67**	**123**	Pg	Pg	20 19 26.6	+0.1
OGMO	**Fort Saint-Gob**	**0.69**	**195**	Pg	Pg	20 19 26.9	+0.1
EMBD	**Embd, Matterta**	**0.70**	**61**	P	Pg	20 19 27.0	-0.1
EMBD				S	Sg	20 19 36.3	0.0
EMBD	**Embd, Matterta**	**0.70**	**61**	Pg	Pg	20 19 27.0	-0.1
EMBD				Sg	Sg	20 19 36.2	0.0
MMK	**Mattmark**	**0.73**	**76**	P	Pg	20 19 27.7	+0.1
MMK				S	Sg	20 19 36.8	-0.3
OGMY	**Moye**	**0.74**	**271**	Pg	Pg	20 19 28.1	+0.4
RSP	**Reno Superiore**	**0.77**	**163**	P	Pg	20 19 28.2	0.0
RSP	**Reno Superiore**	**0.77**	**163**	P	Pg	20 19 28.2	0.0
RSP				S	Sb	20 19 39.4	-1.1
RSP				AML	AML		
	comp=E,52µm,0.2s						
RSP				AML	AML		
	comp=N,45µm,0.2s						
RSP				AML	AML		
	comp=E,52µm,0.6s						
RSP				AML	AML		
	comp=N,45µm,0.2s						
RSP				AML	AML		
	comp=E,52µm,0.2s						
RSP				AML	AML		
	comp=E,40µm,0.2s						
RSP	**Reno Superiore**	**0.77**	**163**	Pg	Pg	20 19 28.2	0.0
LAUCH	**Lauchernalp**	**0.79**	**47**	P	Pg	20 19 28.6	-0.1
GIMEL	**St. Georges /**	**0.81**	**325**	P	Pg	20 19 29.1	+0.1
GIMEL				S	Sg	20 19 40.5	+1.0
GIMEL	**St. Georges /**	**0.81**	**325**	Pg	Pg	20 19 29.0	0.0
GIMEL				Sg	Sg	20 19 40.5	+1.0
BNI	**Bardonecchia**	**0.85**	**193**	P	Pg	20 19 29.4	-0.4
TORNY	**Torny/Romont**	**0.90**	**1**	Pg	Pn	20 19 33.4	+0.3
TORNY				Sn	Sn	20 19 41.8	+1.2
OGSM	**Saint Maurice**	**0.91**	**253**	Pg	Pg	20 19 31.0	0.0
CABF	**La Chapelle**	**0.94**	**321**	*e*Pg	Pg	20 19 31.9	+0.3
CABF	**La Chapelle**	**0.94**	**321**	*e*P	Pn	20 19 34.0	+0.2
CABF				*e*Sg	Sn	20 19 47.1	-0.8
	comp=E,24nm,0.2s						
RRL	**Rocca Remolon**	**0.96**	**186**	P	Pg	20 19 31.7	-0.3
RRL	**Rocca Remolon**	**0.96**	**186**	Pg	Pg	20 19 31.6	-0.5
OG35	**Corcelles**	**0.97**	**280**	Pg	Pg	20 19 31.9	-0.3
OG35				Sg	Sg	20 19 44.9	+0.2
OG35				Sn	Sn	20 19 48.5	-0.1
GRN	**Grenoble**	**1.05**	**233**	Pg	Pb	20 19 34.9	+0.4
BHB	**Bricherasio**	**1.06**	**168**	P	Pg	20 19 33.5	-0.4
BHB				AML	AML		
	comp=E,20µm,1.6s						
BHB				AML	AML		
	comp=N,26µm,1.6s						
BHB				AML	AML		
	comp=N,21µm,0.2s						
BHB				AML	AML		
	comp=E,18µm,0.6s						
BHB	**Bricherasio**	**1.06**	**168**	Pg	Pg	20 19 33.9	0.0
BHB				Sg	Sg	20 19 48.2	+0.5
BRANT	**Les Verrieres**	**1.11**	**343**	Pg	Pg	20 19 35.0	+0.2
BRANT				Sg	Sn	20 19 51.5	-0.5
RIVEL	**MONT RIVEL**	**1.13**	**322**	Pg	Pg	20 19 34.7	-0.5
RIVEL				Sg	Sn	20 19 52.2	-0.2
MBDF	**Montbardon**	**1.16**	**186**	*e*Pg	Pg	20 19 34.9	-0.8
MBDF				*e*Sg	Sg	20 19 50.0	-0.8
	comp=E,9.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.22**	**218**	*e*Pg	Pg	20 19 36.3	-0.6
ORIF				*e*Sg	Sg	20 19 52.7	0.0
	comp=E,13nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.22**	**218**	P	Pg	20 19 36.5	-0.4
ORIF	**Oris-en-Rattie**	**1.22**	**218**	Pg	Pg	20 19 36.4	-0.4
CREF	**Crivoux**	**1.35**	**190**	Pn	Pg	20 19 38.9	-0.5
PZZ	**Stroppo**	**1.38**	**175**	Pn	Pn	20 19 39.1	-0.7
CHMF	**Charmoille**	**1.38**	**352**	Pn	Pn	20 19 39.6	-0.3
CHMF				Sg	Sn	20 19 59.6	+0.9
SURF	**Saint Ours**	**1.40**	**184**	Pg	Pn	20 19 39.9	-0.3
BOUC	**Bouclans**	**1.45**	**341**	Pn	Pn	20 19 40.4	-0.3
BOUC				Sn	Sn	20 20 00.7	+0.5
BOURR	**Bourrignon**	**1.53**	**7**	Pn	Pn	20 19 42.0	+0.1
BOURR				Sn	Sg	20 20 04.4	+1.8
BALST	**Balsthal**	**1.55**	**19**	Pn	Pn	20 19 42.1	0.0
BALST				Sn	Sg	20 20 04.9	+1.7
SSB	**Saint Sauveur**	**1.79**	**251**	Pn	Pn	20 19 45.5	+0.1
SSB				Pg	Pg	20 19 47.7	-0.1
SSB				Sn	Sb	20 20 10.3	+0.5
SULZ	**Cheisacher**	**1.83**	**26**	Pn	Pn	20 19 45.9	-0.1
SULZ				Pg	Pg	20 19 48.6	-0.1
VIVF	**Saint-Julien-l**	**1.90**	**238**	*e*P	Pn	20 19 47.4	+0.5
VIVF	**Saint-Julien-l**	**1.90**	**238**	*e*Pg	Pg	20 19 49.6	-0.3
VIVF				*e*Sg	Sb	20 20 13.3	+0.3
	comp=E,6.4nm,0.2s						
ENDD	**Endenburg**	**1.92**	**16**	Pg	Pb	20 19 49.5	+0.3
ENDD				Sn	Sg	20 20 14.6	-0.4
HINF	**Hinteralfeld**	**1.94**	**358**	*e*Pn	Pn	20 19 46.2	-1.3
HINF	**Hinteralfeld**	**1.94**	**358**	*e*Pg	Pg	20 19 50.2	-0.5
HINF				*e*Sg	Sb	20 20 14.6	+0.4
	comp=E,8.8nm,0.4s						
SBF	**Sospel**	**2.05**	**170**	*e*Pg	Pg	20 19 52.2	-0.5
SBF				*e*Sg	Sb	20 20 18.2	+0.9
	comp=E,2.5nm,0.3s						
SMRF	**Simiane la Rot**	**2.14**	**208**	*e*Pn	Pn	20 19 49.2	-1.0
SMRF				*e*Sg	Sg	20 20 21.6	-0.6
	comp=E,1.4nm,0.3s						
SLE	**Schleitheim**	**2.17**	**29**	Pg	Pg	20 19 54.3	-0.7
HAU	**Haudompre**	**2.17**	**349**	*e*Pn	Pn	20 19 49.9	-0.7
HAU	**Haudompre**	**2.17**	**349**	*e*Pg	Pg	20 19 54.7	-0.3
HAU				*e*Sg	Sb	20 20 21.5	+0.8
	comp=E,7.4nm,0.3s						
TRIGF	**Trigance**	**2.17**	**190**	Pg	Pb	20 19 53.4	-0.1
KIZ	**Kirchzarten**	**2.18**	**17**	Pn	Pn	20 19 49.5	-1.3
KIZ				Pg	Pb	20 19 54.4	+0.7
SMF	**Signal de Mont**	**2.28**	**291**	*e*Pn	Pn	20 19 51.4	-0.8
SMF	**Signal de Mont**	**2.28**	**291**	*e*Pg	Pg	20 19 58.1	+0.8
SMF				*e*Sg	Sb	20 20 24.6	+0.5
	comp=E,5.7nm,0.2s						
COLF	**Collangettes**	**2.31**	**262**	Pn	Pn	20 19 52.6	+0.1
COLF				Pg	Pg	20 19 57.1	-0.6
PLDF	**La Plantade**	**2.32**	**273**	Pg	Pn	20 19 54.1	+1.3
LOR	**Lormes**	**2.54**	**304**	*e*Pn	Pn	20 19 55.0	-0.7
LOR	**Lormes**	**2.54**	**304**	*e*Pg	Pg	20 20 02.5	+0.3
	baz=123						
LOR				*e*Sn	Sn	20 20 25.2	-2.0
	comp=E,1.7nm,0.3s						
CDF	**Champ du Feu**	**2.54**	**5**	*e*Pn	Pn	20 19 54.7	-1.1
CDF	**Champ du Feu**	**2.54**	**5**	*e*Pg	Pg	20 20 02.0	-0.3
CDF				*e*Sg	Sg	20 20 33.6	-1.7
	comp=E,1.2nm,0.2s						
LMR	**La Mourre**	**2.56**	**187**	*e*Pn	Pg	20 20 02.0	-0.7
LMR				*e*Sg	Sg	20 20 34.5	-1.4
	comp=E,0.8nm,0.2s						
AVF	**Avril sur Loir**	**2.65**	**291**	*e*Pn	Pn	20 19 57.0	-0.2
AVF	**Avril sur Loir**	**2.65**	**291**	*e*Pg	Pg	20 20 03.9	-0.4
AVF				*e*Sg	Sb	20 20 35.5	+1.0
	comp=E,3.0nm,0.2s						
SSF	**Saint Saulge**	**2.65**	**298**	*e*Pn	Pn	20 19 56.6	-0.6
SSF	**Saint Saulge**	**2.65**	**298**	*e*Pg	Pg	20 20 04.2	-0.2
SSF				*e*Sg	Sg	20 20 37.2	-1.5
	comp=E,2.6nm,0.3s						
SFTF	**Sexfontaines**	**2.67**	**331**	*e*Sn	Sn	20 20 28.4	-1.9
SFTF				*e*Sg	Sg	20 20 37.9	-1.3
	comp=E,2.6nm,0.3s						
PAGF	**Fort de Pagny**	**2.80**	**343**	*e*Pg	Pg	20 20 07.8	+0.6
	baz=163						
PAGF				*e*Sn	Sn	20 20 31.7	-1.9
PAGF				*e*Sg	Sg	20 20 42.5	-1.0
	comp=E,1.7nm,0.3s						
LASF	**Ste Croix**	**2.84**	**232**	*e*P	Pn	20 20 00.8	+1.0
LASF	**Ste Croix**	**2.84**	**232**	*e*Pg	Pb	20 20 06.1	+1.3
LASF				*e*Sn	Sn	20 20 31.3	-3.2
LASF				*e*Sg	Sg	20 20 42.8	-1.8
	comp=E,0.7nm,0.2s						
MEZF	**Maizieres J'vi**	**2.92**	**335**	*e*Pn	Pn	20 20 00.7	-0.2
MEZF	**Maizieres J'vi**	**2.92**	**335**	*e*Pg	Pg	20 20 09.3	-0.2
MEZF				*e*Sn	Sn	20 20 35.3	-1.3
MEZF				*e*Sg	Sg	20 20 47.2	-0.2
	comp=E,3.8nm,0.3s						
BGF	**Bois d'Agland**	**2.92**	**285**	*e*Pn	Pn	20 20 00.6	-0.4
BGF	**Bois d'Agland**	**2.92**	**285**	*e*Pg	Pg	20 20 08.9	-0.7
BGF				*e*Sg	Sg	20 20 45.9	-1.5
	comp=E,4.1nm,0.3s						
SAVF	**Savonnieres en**	**3.00**	**336**	*e*Sn	Sn	20 20 36.1	-2.5
SAVF				*e*Sn	Sn	20 20 36.6	-2.0
SAVF				*e*Sg	Sg	20 20 49.2	-0.8
	comp=E,1.5nm,0.2s						
SAVF				*e*Sg	Sg	20 20 49.7	-0.3
	comp=E,2.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.32**	**279**	*e*Pn	Pn	20 20 05.7	-0.7
TCF	**Toulx Ste Croi**	**3.32**	**279**	*e*Pg	Pb	20 20 14.2	+1.1
TCF				*e*Sn	Sn	20 20 44.8	-1.6
TCF				*e*Sg	Sg	20 20 58.0	-2.1
	comp=E,2.7nm,0.3s						
CAF	**Calviac**	**3.57**	**256**	*e*P	Pn	20 20 10.7	+0.9
CAF				*e*Sg	Sg	20 21 06.8	-1.3
	comp=E,1.0nm,0.3s						
PGF	**Pioggiola**	**3.64**	**155**	*e*Pn	Pn	20 20 09.7	-1.2
RJF	**Les Rejaudoux**	**3.85**	**263**	*e*Pn	Pn	20 20 13.3	-0.4
RJF				*e*Sg	Sg	20 21 15.7	-1.6
	comp=E,0.7nm,0.2s						
MFF	**Saint Martin d**	**4.97**	**281**	*e*Pn	Pn	20 20 29.8	+0.7
MFF				*e*Sn	Sn	20 21 23.5	-3.5
	comp=E,0.3nm,0.1s						

*GEN **27** 20:25:19.6, 45°.84N×6°.99E, h14km±1km, MI1.0*
*ROM **27** 20:25:19.8±0.2, 45°.88N±0°.01×6°.94E±0°.02, h8km, ML1.2/5, Error ellipse: s-maj=1.5km s-min=1.2km az=199.0*
*ZUR **27** 20:25:19.9, 45°.89N×6°.91E, h0km, MLh1.3/20, Error ellipse: s-maj=1942.9km s-min=741.4km az=213.0*
*LDG **27** 20:25:20.5±0.1, 45°.87N×6°.96E, h5km, Md2.0/2, Ml2.0/19, Error ellipse: s-maj=1.7km s-min=1.4km az=94.0*

STR 27 20:25:20.3±0.0, 45°.87N±0°.05×6°.94E±0°.05, h6km, MLv1.6/22, 7C-19D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.03**	**185**	⇑Pg	Pg	20 25 21.3	-0.6
BLANC				Sg	Sg	20 25 22.1	-0.9
BLANC	**P.ta Helbronne**	**0.03**	**185**	⇑Pg	Pg	20 25 21.3	-0.6
BLANC				Sg	Sg	20 25 22.2	-0.9
MRGE	**Morge**	**0.14**	**140**	P	Pg	20 25 23.4	+0.3
MRGE				S	Sg	20 25 26.0	+0.9
MRGE	**Morge**	**0.14**	**140**	⇑P	Pg	20 25 23.4	+0.3
MRGE				AML	AML		
	comp=E,187µm,1.1s						
MRGE				AML	AML		
	comp=N,158µm,0.5s						
MRGE				AML	AML		
	comp=E,187µm,0.9s						
MFERR	**Prayon, Val Fe**	**0.14**	**58**	⇓Pg	Pg	20 25 23.3	0.0
MFERR				Sg	Sg	20 25 25.5	+0.1
MFERR	**Prayon, Val Fe**	**0.14**	**58**	⇓Pg	Pg	20 25 23.3	0.0
MFERR				Sg	Sg	20 25 25.5	+0.1
REMY	**Saint-Rhmy-en**	**0.16**	**103**	⇑Pg	Pg	20 25 24.0	+0.4
REMY				Sg	Sg	20 25 26.9	+1.2
REMY	**Saint-Rhmy-en**	**0.16**	**103**	⇑Pg	Pg	20 25 24.0	+0.4
REMY				Sg	Sg	20 25 26.9	+1.2
REMY	**Saint-Rhmy-en**	**0.16**	**103**	P	Pg	20 25 24.0	+0.4
REMY				S	Sg	20 25 26.9	+1.2
REMY	**Saint-Rhmy-en**	**0.16**	**103**	⇑P	Pg	20 25 24.0	+0.4
REMY				S	Sg	20 25 26.9	+1.1
REMY				AML	AML		
	comp=E,148µm,0.5s						
REMY				AML	AML		
	comp=N,332µm,0.5s						
REMY	**Saint-Rhmy-en**	**0.16**	**103**	Pg	Pg	20 25 23.9	+0.4
REMY				Sg	Sg	20 25 27.0	+1.2
SEMOS	**Emosson Stauma**	**0.19**	**360**	⇓Pg	Pg	20 25 23.8	-0.4
SEMOS	**Emosson Stauma**	**0.19**	**360**	⇓Pg	Pg	20 25 23.8	-0.4
SEMOS				Sg	Sg	20 25 26.2	-0.6
SMAO	**Martigny, Rue**	**0.24**	**23**	⇓Pg	Pg	20 25 25.0	-0.1
SALAN	**Lac Salanfe**	**0.27**	**5**	⇓Pg	Pg	20 25 25.2	-0.4
SALAN				Sg	Sg	20 25 28.7	-0.6
SALAN	**Lac Salanfe**	**0.27**	**5**	⇓Pg	Pg	20 25 25.2	-0.4
SALAN				Sg	Sg	20 25 28.7	-0.6
RSL	**Roselend**	**0.29**	**230**	⇓Pg	Pg	20 25 25.5	-0.4
RSL	**Roselend**	**0.29**	**230**	⇓Pg	Pg	20 25 25.5	-0.4
RSL				Sg	Sg	20 25 29.1	-0.6
RSL	**Roselend**	**0.29**	**230**	P	Pg	20 25 25.5	-0.4
RSL				S	Sg	20 25 29.1	-0.7
RSL	**Roselend**	**0.29**	**230**	Pg	Pg	20 25 25.4	-0.5
RSL				Sg	Sg	20 25 29.2	-0.6
FULLY	**Reservoir Maze**	**0.31**	**26**	⇓Pg	Pg	20 25 26.2	-0.3
FULLY	**Reservoir Maze**	**0.31**	**26**	⇓Pg	Pg	20 25 26.2	-0.3
LAVEY	**Lavey les Bain**	**0.33**	**10**	Pg	Pg	20 25 26.3	-0.4
LAVEY	**Lavey les Bain**	**0.33**	**10**	Pg	Pg	20 25 26.3	-0.4
LAVEY				Sg	Sg	20 25 30.5	-0.6
ILLEZ	**Chalet Vouargn**	**0.34**	**0**	Pg	Pg	20 25 26.5	-0.5
ILLEZ				Sg	Sg	20 25 31.0	-0.7
ILLEZ	**Chalet Vouargn**	**0.34**	**0**	⇓Pg	Pg	20 25 26.6	-0.5
ILLEZ				Sg	Sg	20 25 31.0	-0.7
RAW4	**Former Reservo**	**0.37**	**27**	⇓Pg	Pg	20 25 27.4	-0.2
RAW4				Sg	Sg	20 25 32.6	+0.1
LPL	**La Plagne**	**0.39**	**202**	*e*Pg	Pg	20 25 27.6	-0.2
LPL				*e*Sg	Sg	20 25 32.5	-0.4
	comp=N,6.4nm,0.2s						
DIX	**Grande Dixence**	**0.39**	**58**	Pg	Pg	20 25 27.8	-0.1
DIX				Sg	Sg	20 25 33.1	+0.1
DIX	**Grande Dixence**	**0.39**	**58**	⇓Pg	Pg	20 25 27.8	-0.1
DIX				Sg	Sg	20 25 33.2	+0.2
DIX	**Grande Dixence**	**0.39**	**58**	P	Pg	20 25 27.8	-0.1
DIX	**Grande Dixence**	**0.39**	**58**	Pg	Pg	20 25 27.7	-0.2
DIX				Sg	Sg	20 25 33.3	+0.2
GRYON	**Gryon**	**0.40**	**18**	Pg	Pg	20 25 27.6	-0.4
GRYON	**Gryon**	**0.40**	**18**	⇓Pg	Pg	20 25 27.6	-0.4
GRYON				Sg	Sg	20 25 32.8	-0.5
LPG	**La Plagne**	**0.40**	**199**	*e*Pg	Pg	20 25 27.9	-0.2
LPG				*e*Sg	Sg	20 25 33.1	-0.2
	comp=N,13nm,0.3s						
VET01	**Vtroz, Route**	**0.42**	**33**	⇓Pg	Pg	20 25 28.1	-0.3
LSD	**Lago del Serru**	**0.44**	**162**	⇑Pg	Pg	20 25 28.9	+0.1
LSD	**Lago del Serru**	**0.44**	**162**	P	Pg	20 25 28.9	+0.1
LSD	**Lago del Serru**	**0.44**	**162**	⇓P	Pg	20 25 29.0	+0.2
LSD				AML	AML		
	comp=E,207nm,0.4s						
LSD				AML	AML		
	comp=N,27µm,0.3s						
LSD				AML	AML		
	comp=N,27µm,1.7s						
LSD				AML	AML		
	comp=E,207nm,1.6s						
LSD	**Lago del Serru**	**0.44**	**162**	Pg	Pg	20 25 28.8	0.0
SHER	**Hrmence, R**	**0.45**	**46**	Pg	Pg	20 25 28.9	0.0
SHER				Sg	Sg	20 25 35.3	+0.5
AIGLE	**Aigle**	**0.47**	**1**	⇓Pg	Pg	20 25 28.9	-0.4
AIGLE	**Aigle**	**0.47**	**1**	⇓Pg	Pg	20 25 28.9	-0.4
AIGLE				Sg	Sg	20 25 34.8	-0.7
AIGLE	**Aigle**	**0.47**	**1**	Pg	Pg	20 25 28.9	-0.4
AIGLE				Sg	Sg	20 25 35.0	-0.5
CIRO	**Champorcher**	**0.52**	**121**	P	Pg	20 25 30.2	-0.1
CIRO				S	Sg	20 25 37.1	0.0
CIRO	**Champorcher**	**0.52**	**121**	P	Pg	20 25 30.4	+0.1
CIRO				S	Sg	20 25 37.0	-0.1
CIRO	**Champorcher**	**0.52**	**121**	Pg	Pg	20 25 30.2	-0.1
CIRO				Sg	Sg	20 25 37.4	+0.3
SATI	**Passo del Sala**	**0.65**	**90**	P	Pg	20 25 32.2	-0.7
SATI				S	Sg	20 25 41.9	+0.5
SATI	**Passo del Sala**	**0.65**	**90**	Pg	Pg	20 25 32.2	-0.7
SATI				Sg	Sg	20 25 41.9	+0.6
TRAV	**Traversella**	**0.67**	**122**	P	Pg	20 25 33.2	0.0
TRAV	**Traversella**	**0.67**	**122**	Pg	Pg	20 25 33.1	-0.1
TRAV				Sg	Sg	20 25 42.7	+0.8
EMBD	**Embd, Matterta**	**0.71**	**61**	Pg	Pg	20 25 33.5	-0.4
EMBD				Sg	Sg	20 25 42.8	-0.4
OGMY	**Moye**	**0.73**	**271**	Pg	Pg	20 25 33.9	-0.4
RSP	**Reno Superiore**	**0.76**	**162**	P	Pg	20 25 35.0	+0.1
RSP	**Reno Superiore**	**0.76**	**162**	P	Pg	20 25 34.9	0.0
RSP	**Reno Superiore**	**0.76**	**162**	Pg	Pg	20 25 34.9	0.0
GIMEL	**St. Georges /**	**0.81**	**325**	P	Pg	20 25 35.8	-0.1
GIMEL	**St. Georges /**	**0.81**	**325**	Pg	Pg	20 25 35.7	-0.1
GIMEL				Sg	Sg	20 25 46.8	+0.4
GIMEL				Sn	Sn	20 25 51.4	+0.6
TORNY	**Torny/Romont**	**0.90**	**1**	Pg	Pn	20 25 40.3	+0.7
TORNY				Sn	Sn	20 25 54.3	+1.4
OGSM	**Saint Maurice**	**0.91**	**253**	Pg	Pg	20 25 37.4	-0.3
OGSM				Sg	Sg	20 25 49.9	+0.4
CABF	**La Chapelle**	**0.94**	**322**	*e*Pg	Pg	20 25 38.3	-0.1
CABF	**La Chapelle**	**0.94**	**322**	*e*P	Pn	20 25 40.6	+0.4
CABF				*e*Sg	Sg	20 25 50.8	+0.1
CABF				*e*Sn	Sn	20 25 53.3	-0.8
	comp=E,19nm,0.3s						
RRL	**Rocca Remolon**	**0.96**	**186**	P	Pg	20 25 38.2	-0.4
RRL	**Rocca Remolon**	**0.96**	**186**	Pg	Pg	20 25 38.2	-0.4
OG35	**Corcelles**	**0.97**	**281**	Pg	Pg	20 25 38.5	-0.4
OG35				Pn	Pn	20 25 40.9	+0.3
OG35				Sg	Sg	20 25 51.3	-0.1
OG35				Sn	Sn	20 25 55.1	+0.5
GRN	**Grenoble**	**1.05**	**233**	Pg	Pn	20 25 42.2	+0.6
GRN				Sn	Sn	20 25 59.0	+2.3
BHB	**Bricherasio**	**1.06**	**167**	Pg	Pg	20 25 40.6	0.0
BHB				Sg	Sb	20 25 55.0	-0.2
BRANT	**Les Verrieres**	**1.11**	**343**	Pg	Pb	20 25 42.1	+0.1
BRANT				Sg	Sn	20 25 57.9	-0.4
RIVEL	**MONT RIVEL**	**1.13**	**322**	Pg	Pn	20 25 43.1	+0.3
RIVEL				Sg	Sn	20 25 58.7	0.0
MBDF	**Montbardon**	**1.15**	**186**	*e*Pg	Pg	20 25 42.3	-0.1
MBDF				*e*Sg	Sg	20 25 57.1	-0.2
	comp=E,3.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.21**	**218**	*e*Pg	Pg	20 25 42.7	-0.8
ORIF				*e*Sg	Sg	20 25 58.4	-0.8
	comp=E,1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.21**	**218**	P	Pg	20 25 43.3	-0.2
ORIF	**Oris-en-Rattie**	**1.21**	**218**	Pn	Pg	20 25 43.1	-0.5
CREF	**Crivoux**	**1.34**	**190**	Pn	Pg	20 25 46.0	0.0
PZZ	**Stroppo**	**1.37**	**175**	Pn	Pg	20 25 46.6	0.0
PZZ				Sg	Sn	20 26 05.3	+0.6
CHMF	**Charmoille**	**1.39**	**352**	Pn	Pn	20 25 46.0	-0.3
CHMF				Sg	Sn	20 26 06.2	+1.1
BOUC	**Bouclans**	**1.45**	**341**	Pn	Pn	20 25 46.8	-0.3
BOUC				Sn	Sb	20 26 06.3	-0.2
BOURR	**Bourrignon**	**1.53**	**7**	Pn	Pn	20 25 46.8	-1.5
BOURR				Pg	Pg	20 25 49.5	-0.2
BOURR				Sn	Sn	20 26 08.0	-0.6
BALST	**Balsthal**	**1.55**	**19**	Pg	Pg	20 25 49.9	-0.1
BALST				Sg	Sg	20 26 11.4	+1.2
SSB	**Saint Sauveur**	**1.79**	**251**	Pn	Pn	20 25 52.4	+0.7
SSB				Pg	Pg	20 25 54.3	-0.2
SSB				Sn	Sb	20 26 16.8	+0.7
SULZ	**Cheisacher**	**1.84**	**26**	Pg	Pg	20 25 55.3	-0.3
SULZ				Sg	Sg	20 26 20.8	+1.4
VIVF	**Saint-Julien-l**	**1.89**	**238**	*e*Pg	Pg	20 25 56.1	-0.5
VIVF				*e*Sg	Sb	20 26 19.9	+0.7
	comp=E,4.4nm,0.4s						
ENDD	**Endenburg**	**1.92**	**16**	Pg	Pb	20 25 56.2	+0.5
HINF	**Hinteralfeld**	**1.94**	**358

CBOC			S	Sn	20 49 48.1	-0.6
PRAC	**Prado**	**3.13 206**	P	Pn	20 49 23.1	-1.2
PRAC			S	Sn	20 50 01.0	-0.2
ORTC	**Ortega, Tolima**	**3.15 214**	P	Pn	20 49 24.2	-0.3
ORTC			S	Sn	20 50 01.9	+0.4
URMC	**La Uribe, Meta**	**3.39 195**	P	Pn	20 49 27.3	-0.4
URMC			S	Sn	20 50 07.3	-0.1
SJCC	**San Jacinto, C**	**3.73 333**	P	Pn	20 49 30.4	-1.9
SJCC			S	Sn	20 50 11.4	-4.1
CRJC	**Cerrejon, Guaj**	**4.49 8**	P	Pn	20 49 42.3	-0.2
CRJC			S	Sn	20 50 32.6	-1.3
URIC	**Uribia, Colomb**	**5.34 16**	P	Pn	20 49 52.3	-1.5
URIC			S	Sn	20 50 52.6	-1.6

*IDC **27** 20:48:49.9±6.0, 20°52′S×177°96′W, h567km±63km, mb3.1/4, mbtmp4.1/6, Error ellipse: s-maj=45.5km s-min=40.5km az=11.0*

ISC 27 20:48:47.0±1.3, 20°5.5′S±0°2′×177°7.7′W±0°2′, h550km, n9, σ1°32′/11, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**20 51 56.8**	**+1.3**
	3.1nm,0.5s,baz=87,slow=13,SNR=5.2						
URZ	**Urewera**	**18.23**	**193**	P	**P**	**20 52 28.6**	**+1.8**
	3.0nm,0.5s,baz=288,slow=12,SNR=1.6						
URZ				S	**S**	**20 55 24.4**	**-1.2**
	1.7nm,0.5s,baz=60,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**38.05**	**244**	P	**P**	**20 55 18.1**	**-0.8**
	2.5nm,0.9s,baz=67,slow=7.7,SNR=3.9						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**44.81**	**257**	P	**P**	**20 56 12.3**	**-0.3**
	4.7nm,0.8s,baz=95,slow=7.6,SNR=52						
ASAR				PcP	**PcP**	**20 57 43.4**	**+0.7**
	0.4nm,0.6s,baz=93,slow=3.6,SNR=4.9						
	4.7nm,0.8s						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**20 56 12.3**	**-1.0**
	2.4nm,0.6s,baz=97,slow=8.0,SNR=40						
	2.4nm,0.6s						
ILAR	**Eielson Array**	**88.28**	**13**	P	**P**	**21 00 40.7**	**+1.0**
	0.4nm,0.8s,baz=208,slow=6.0,SNR=2.0						
	0.4nm,0.8s						
AKASG	**Malin Array Be**	**143.20**	**331**	PKP	**PKPdf**	**21 07 17.0**	**-1.6**
	1.3nm,0.6s,baz=49,slow=3.5,SNR=7.0						
BRTR	**Keskin Array B**	**147.09**	**312**	PKPbc	**PKiKP**	**21 07 29.6**	**-1.1**
	0.4nm,0.6s,baz=111,slow=3.2,SNR=4.0						
MMAI	**Mount Meron Ar**	**148.10**	**300**	PKPbc	**PKiKP**	**21 07 32.1**	**-0.8**
	1.1nm,0.6s,baz=48,slow=2.1,SNR=2.5						

*SKHL **27** 21:07:10.4±0.3, 46°70N×153°20E, h101km±4km, mb5.3/4, msha5.8/5*
*IDC **27** 21:07:15.5±2.7, 46°97N×153°13E, h76km±23km, mb3.4/9, mbtmp3.8/13, MS3.1/1, Error ellipse: s-maj=31.3km s-min=13.9km az=137.0*

ISC 27 21:07:12.7±0.9, 46°8N±0°1×153°1E±0°1, h56km, n28, σ1°39′/24, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**248**	*e*P	**Pn**	**21 08 10.3**	**-0.5**
KUR				AMB	AMB	21 08 16.7	
	140nm,0.4s						
KUR				*e*S	**Sn**	**21 08 55.1**	**-0.7**
KUR				A	A	21 09 06.7	
	170nm,0.4s						
KUR				A	A	21 09 06.7	
	170nm,0.4s						
SKR	**Severo-Kuril's**	**4.36**	**27**	*e*P	**Pn**	**21 08 16.0**	**-0.3**
SKR				*e*S	**Sn**	**21 09 05.0**	**-0.8**
SKR				A	A	21 09 10.0	
	140nm,0.6s						
SKR				A	A	21 09 10.0	
	210nm,0.6s						
PAU	**Pauzhetka**	**5.26**	**27**	*e*P	**Pn**	**21 08 28.6**	**-0.1**
PAU				AMB	AMB	21 08 31.1	
	30nm,0.2s						
PAU				*e*S	**Sn**	**21 09 27.5**	**-0.4**
PAU				A	A	21 09 29.3	
	110nm,0.3s						
PAU				A	A	21 09 29.3	
	140nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**244**	*e*P	**Pn**	**21 08 35.2**	**-0.6**
YUK				AMB	AMB	21 08 35.8	
	170nm,0.2s						
YUK				*e*S	**Sn**	**21 09 38.7**	**-2.1**
YUK				A	A	21 09 40.6	
	200nm,0.5s						
YUK				A	A	21 09 40.6	
	340nm,0.5s						
NMR	**Nemuro--Hokkai**	**6.23**	**239**	*e*P	**Pn**	**21 08 40.3**	**-1.7**
NMR				*e*S	**Sn**	**21 09 48.5**	**-3.3**
AKK	**Akkeshi**	**6.96**	**240**	*e*P	**Pn**	**21 08 50.3**	**-1.7**
PETK	**Petropavlovsk-**	**6.96**	**24**	P	**Pn**	**21 08 52.1**	**+0.1**
	6.6nm,0.8s,baz=185,slow=13,SNR=11						
PETK				S	**Sn**	**21 10 09.6**	**-0.2**
	4.4nm,1.0s,baz=218,slow=18,SNR=1.4						
PETK				LR	LR	21 11 47.3	
	comp=Z,132nm,18.5s,baz=224,slow=40						
ASAJ	**Asahikawa**	**7.83**	**254**	P	**Pn**	**21 09 06.9**	**+2.9**
	36nm,1.1s,baz=83,slow=22,SNR=11						
USRK	**Ussuriysk Ar.**	**15.00**	**268**	P	**Pn**	**21 10 43.4**	**+2.3**
	2.1nm,0.7s,baz=77,slow=14,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.09**	**232**	P	**P**	**21 10 47.8**	**+1.2**
	2.5nm,0.8s,baz=33,slow=8.4,SNR=11						
KSRS	**Korea Array**	**20.78**	**252**	P	Pn	21 11 52.6	+0.7
	1.1nm,0.7s,baz=52,slow=11,SNR=4.5						
	1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.30**	**153**	T	T	21 45 02.5	
	baz=341,slow=76,SNR=173						
H11N1	**WAKE ISLAND Hy**	**29.32**	**153**	T	T	21 45 03.6	
	baz=341,slow=76,SNR=128						
H11N3	**WAKE ISLAND Hy**	**29.32**	**153**	T	T	21 45 01.8	
	baz=341,slow=76,SNR=97						
H11S1	**WAKE ISLAND Hy**	**30.39**	**154**	T	T	21 45 51.0	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.40**	**154**	T	T	21 45 59.1	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**30.41**	**154**	T	T	21 45 59.9	
	baz=342,slow=76						
ILAR	**Eielson Array**	**36.51**	**39**	P	**P**	**21 14 12.3**	**0.0**
	0.6nm,0.9s,baz=281,slow=6.8,SNR=4.2						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P	**P**	**21 16 20.1**	**+1.1**
	0.4nm,0.3s,baz=43,slow=8.3,SNR=4.3						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**63.95**	**335**	P	**P**	**21 17 39.4**	**-0.1**
	2.1nm,0.8s,baz=37,slow=6.4,SNR=5.4						
	2.1nm,0.8s						
PDAR	**Pinedale Array**	**64.73**	**54**	P	**P**	**21 17 44.9**	**-0.3**
	0.4nm,0.7s,baz=321,slow=7.0,SNR=4.7						
	0.4nm,0.7s						
HFS	**Hagfors**	**68.37**	**339**	P	**P**	**21 18 07.7**	**-0.2**
	1.7nm,0.7s,baz=46,slow=6.4,SNR=6.0						
	1.7nm,0.7s						
AKASG	**Malin Array Be**	**71.46**	**326**	P	**P**	**21 18 26.3**	**-0.7**
	0.4nm,0.5s,baz=34,slow=6.8,SNR=2.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**72.27**	**198**	P	**P**	**21 18 32.9**	**+0.9**
	0.3nm,0.7s,baz=16,slow=6.9,SNR=2.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**21 19 02.2**	**-0.2**
	0.4nm,0.6s,baz=303,slow=4.4,SNR=5.3						
	0.4nm,0.6s						
H03N2	**Juan Fernandez**	**138.79**	**90**	T	T	00 01 31.7	
	baz=309,slow=77,SNR=5.1						
H03N1	**Juan Fernandez**	**138.81**	**90**	T	T	00 01 33.4	
	baz=309,slow=77,SNR=4.5						
H03N3	**Juan Fernandez**	**138.81**	**90**	T	T	00 01 32.8	
	baz=309,slow=77,SNR=7.7						

*GEN **27** 21:13:36.2, 45°88N×6°97E, h6km±1km, Ml1.4*
*ROM **27** 21:13:36.6±0.1, 45°848N±0°006×6°992E±0°009, h9km, ML1.6/11, Error ellipse: s-maj=0.8km s-min=0.7km az=315.0*
*ZUR **27** 21:13:37.0, 45°87N×6°97E, h2km, MLh1.7/28, Error ellipse: s-maj=1575.4km s-min=632.4km az=212.0*
*LDG **27** 21:13:37.1±0.1, 45°84N×7°00E, h5km, Md2.1/2, Ml2.3/15, Error ellipse: s-maj=1.2km s-min=0.9km az=103.0*

STR 27 21:13:37.1±0.0, 45°84N±0°04×7°00E±0°05, h5km, MLv1.8/25, 34C-4D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.05**	**275**	⇓P*g*	P*g*	21 13 38.3	-0.4
BLANC				S*g*	S*g*	21 13 39.1	-0.7
BLANC	**P.ta Helbronne**	**0.05**	**275**	⇓P*g*	P*g*	21 13 38.3	-0.4
BLANC				S*g*	S*g*	21 13 39.1	-0.7
MRGE	**Morge**	**0.08**	**149**	P	P*g*	21 13 39.6	+0.6
MRGE				S	S*g*	21 13 41.5	+1.2
MRGE	**Morge**	**0.08**	**149**	⇑P	P*g*	21 13 39.6	+0.6
MRGE				S	S*g*	21 13 41.5	+1.2
MRGE				AML	AML		
	comp=N,1975μm,0.2s						
MRGE				AML	AML		
	comp=E,1126μm,0.1s						
MRGE				AML	AML		
	comp=E,1127μm,0.1s						
MRGE				AML	AML		
	comp=N,1976μm,0.2s						
REMY	**Saint-Rhmy-en**	**0.11**	**91**	⇑P*g*	P*g*	21 13 40.1	+0.6
REMY				S*g*	S*g*	21 13 42.4	+1.3
REMY	**Saint-Rhmy-en**	**0.11**	**91**	⇑P*g*	P*g*	21 13 40.1	+0.6
REMY				S*g*	S*g*	21 13 42.4	+1.3
REMY	**Saint-Rhmy-en**	**0.11**	**91**	P	P*g*	21 13 40.1	+0.6
REMY				S	S*g*	21 13 42.4	+1.3
REMY	**Saint-Rhmy-en**	**0.11**	**91**	⇑P	P*g*	21 13 40.1	+0.6
REMY				S	S*g*	21 13 42.4	+1.2
REMY				AML	AML		
	comp=N,883μm,0.2s						
REMY				AML	AML		
	comp=E,613μm,0.4s						
REMY				AML	AML		
	comp=N,882μm,0.1s						
REMY				AML	AML		
	comp=E,476μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.11**	**91**	P*g*	P*g*	21 13 40.1	+0.6
REMY				S*g*	S*g*	21 13 42.4	+1.2
MFERR	**Prayon, Val Fe**	**0.14**	**35**	⇑P*g*	P*g*	21 13 39.9	0.0
MFERR				S*g*	S*g*	21 13 41.8	0.0
MFERR	**Prayon, Val Fe**	**0.14**	**35**	⇑P*g*	P*g*	21 13 39.9	0.0
MFERR				S*g*	S*g*	21 13 41.9	+0.1
SEMOS	**Emosson Stauma**	**0.23**	**349**	⇑P*g*	P*g*	21 13 41.3	-0.4
SEMOS				S*g*	S*g*	21 13 44.0	-0.7
SEMOS	**Emosson Stauma**	**0.23**	**349**	⇑P*g*	P*g*	21 13 41.3	-0.4
SEMOS				S*g*	S*g*	21 13 44.1	-0.7
SMAO	**Martigny, Rue**	**0.26**	**11**	⇑P*g*	P*g*	21 13 42.1	-0.2
SMAO	**Martigny, Rue**	**0.26**	**11**	⇑P*g*	P*g*	21 13 42.1	-0.2
SMAO				S*g*	S*g*	21 13 45.3	-0.5
RSL	**Roselend**	**0.30**	**240**	⇑P*g*	P*g*	21 13 43.0	0.0
RSL				S*g*	S*g*	21 13 46.7	-0.3
RSL	**Roselend**	**0.30**	**240**	⇑P*g*	P*g*	21 13 43.0	0.0
RSL				S*g*	S*g*	21 13 46.7	-0.3
RSL	**Roselend**	**0.30**	**240**	P	P*g*	21 13 43.0	0.0
RSL				S	S*g*	21 13 46.7	-0.3
RSL	**Roselend**	**0.30**	**240**	P*g*	P*g*	21 13 42.9	-0.1
RSL				S*g*	S*g*	21 13 46.7	-0.3
SALAN	**Lac Salanfe**	**0.30**	**357**	⇑P*g*	P*g*	21 13 42.7	-0.4
SALAN				S*g*	S*g*	21 13 46.4	-0.8
SALAN	**Lac Salanfe**	**0.30**	**357**	⇑P*g*	P*g*	21 13 42.7	-0.4
SALAN				S*g*	S*g*	21 13 46.4	-0.8
FULLY	**Reservoir Maze**	**0.33**	**17**	⇑P*g*	P*g*	21 13 43.3	-0.3
FULLY				S*g*	S*g*	21 13 47.2	-0.7
FULLY	**Reservoir Maze**	**0.33**	**17**	⇑P*g*	P*g*	21 13 43.3	-0.3
FULLY				S*g*	S*g*	21 13 47.2	-0.7
LAVEY	**Lavey les Bain**	**0.36**	**3**	⇑P*g*	P*g*	21 13 43.7	-0.4
LAVEY				S*g*	S*g*	21 13 47.9	-0.9
LAVEY	**Lavey les Bain**	**0.36**	**3**	⇑P*g*	P*g*	21 13 43.7	-0.4
LAVEY				S*g*	S*g*	21 13 47.9	-0.9
DIX	**Grande Dixence**	**0.37**	**50**	P*g*	P*g*	21 13 44.3	-0.1
DIX	**Grande Dixence**	**0.37**	**50**	⇑P*g*	P*g*	21 13 44.3	-0.1
DIX				S*g*	S*g*	21 13 49.5	+0.1
DIX	**Grande Dixence**	**0.37**	**50**	P	P*g*	21 13 44.4	0.0
DIX				S	S*g*	21 13 49.4	+0.1
DIX	**Grande Dixence**	**0.37**	**50**	P	P*g*	21 13 44.3	-0.1
DIX				S	S*g*	21 13 49.6	+0.3
DIX				AML	AML		
	comp=E,152μm,0.2s						
DIX				AML	AML		
	comp=N,86μm,0.1s						
DIX	**Grande Dixence**	**0.37**	**50**	P*g*	P*g*	21 13 44.3	-0.1
DIX				S*g*	S*g*	21 13 49.4	+0.1
LPL	**La Plagne**	**0.37**	**210**	*e*P*g*	P*g*	21 13 44.5	+0.1
LPL				*e*S*g*	S*g*	21 13 49.8	+0.5
	comp=N,20nm,0.3s						
ILLEZ	**Chalet Vouargn**	**0.38**	**354**	⇑P*g*	P*g*	21 13 44.1	-0.5
ILLEZ				S*g*	S*g*	21 13 48.7	-0.8
ILLEZ	**Chalet Vouargn**	**0.38**	**354**	⇑P*g*	P*g*	21 13 44.1	-0.5
ILLEZ				S*g*	S*g*	21 13 48.7	-0.8
LPG	**La Plagne**	**0.38**	**207**	*e*P*g*	P*g*	21 13 44.8	+0.2
LPG				*e*S*g*	S*g*	21 13 49.8	+0.1
	comp=N,18nm,0.2s						
RAW4	**Former Reservo**	**0.39**	**19**	P*g*	P*g*	21 13 44.4	-0.2
RAW4	**Former Reservo**	**0.39**	**19**	P*g*	P*g*	21 13 44.4	-0.2
RAW4				S*g*	S*g*	21 13 49.3	-0.4
LSD	**Lago del Serru**	**0.39**	**166**	⇑P*g*	P*g*	21 13 45.1	+0.4
LSD	**Lago del Serru**	**0.39**	**166**	⇑P*g*	P*g*	21 13 45.1	+0.4
LSD	**Lago del Serru**	**0.39**	**166**	P	P*g*	21 13 45.2	+0.4
LSD				S	S*g*	21 13 50.3	+0.4
LSD	**Lago del Serru**	**0.39**	**166**	P	P*g*	21 13 45.1	+0.4
LSD				S	S*g*	21 13 50.7	+0.8
LSD				AML	AML		
	comp=E,452nm,0.3s						
LSD				AML	AML		
	comp=N,42μm,1.1s						
LSD				AML	AML		
	comp=N,42μm,0.9s						
LSD				AML	AML		
	comp=N,34μm,0.1s						
LSD	**Lago del Serru**	**0.39**	**166**	P*g*	P*g*	21 13 45.1	+0.4
SARC	**Ardon Commune,**	**0.41**	**26**	P*g*	P*g*	21 13 45.0	0.0
SARC				S*g*	S*g*	21 13 50.1	-0.3
VET03	**Vtroz, Le Bot**	**0.42**	**28**	S*g*	S*g*	21 13 51.4	+0.7
GRYON	**Gryon**	**0.42**	**11**	⇑P*g*	P*g*	21 13 44.9	-0.3
GRYON	**Gryon**	**0.42**	**11**	⇑P*g*	P*g*	21 13 44.9	-0.3
GRYON				S*g*	S*g*	21 13 50.0	-0.7
VET02	**Vtroz, Route**	**0.42**	**27**	⇓P*g*	P*g*	21 13 45.3	+0.1
VET02				S*g*	S*g*	21 13 51.0	+0.2
VET01	**Vtroz, Route**	**0.43**	**26**	⇑P*g*	P*g*	21 13 45.2	-0.2
VET01				S*g*	S*g*	21 13 50.5	-0.4
CON01	**Conthey, Agros**	**0.43**	**30**	S*g*	S*g*	21 13 51.0	+1.1
SHER	**Hrmence, R**	**0.44**	**39**	P*g*	P*g*	21 13 45.6	0.0
SHER				S*g*	S*g*	21 13 51.5	0.0
CIRO	**Champorcher**	**0.46**	**121**	⇑P*g*	P*g*	21 13 46.3	+0.2
CIRO	**Champorcher**	**0.46**	**121**	⇑P*g*	P*g*	21 13 46.3	+0.2
CIRO				S*g*	S*g*	21 13 52.8	+0.7
CIRO	**Champorcher**	**0.46**	**121**	P	P*g*	21 13 46.4	+0.3
CIRO				S	S*g*	21 13 52.9	+0.8
CIRO	**Champorcher**	**0.46**	**121**	P	P*g*	21 13 46.3	+0.3
CIRO				S	S*g*	21 13 52.8	+0.7
CIRO	**Champorcher**	**0.46**	**121**	P*g*	P*g*	21 13 46.3	+0.3
CIRO				S*g*	S*g*	21 13 52.9	+0.7
SAIG	**Aigle Rue de l**	**0.48**	**357**	S*g*	S*g*	21 13 51.9	-0.6
AIGLE	**Aigle**	**0.50**	**356**	⇑P*g*	P*g*	21 13 46.4	-0.4
AIGLE	**Aigle**	**0.50**	**356**	⇑P*g*	P*g*	21 13 46.4	-0.4
AIGLE				S*g*	S*g*	21 13 52.5	-0.8
AIGLE	**Aigle**	**0.50**	**356**	P*g*	P*g*	21 13 46.4	-0.4
AIGLE				S*g*	S*g*	21 13 52.7	-0.6
RAW2	**Sanetsch, VS**	**0.52**	**25**	⇑P*g*	P*g*	21 13 47.1	-0.1
RAW2				S*g*	S*g*	21 13 53.7	-0.3
RAW2	**Sanetsch, VS**	**0.52**	**25**	⇑P*g*	P*g*	21 13 47.1	-0.1
RAW2				S*g*	S*g*	21 13 53.9	-0.1
NVL1	**Lau de Morge,**	**0.54**	**343**	P*g*	P*g*	21 13 47.1	-0.5
NVL1	**Lau de Morge,**	**0.54**	**343**	⇓P*g*	P*g*	21 13 47.1	-0.5
VANNI	**Vissoie, Val d**	**0.56**	**48**	P	P*b*	21 13 48.8	-0.6
SENIN	**Lac Senin/Sane**	**0.56**	**22**	P*g*	P*g*	21 13 47.5	-0.5
SENIN	**Lac Senin/Sane**	**0.56**	**22**	⇑P*g*	P*g*	21 13 47.6	-0.4
SENIN				S*g*	S*g*	21 13 54.9	-0.4
SENIN	**Lac Senin/Sane**	**0.56**	**22**	P	P*g*	21 13 47.6	-0.3
SENIN				S	S*g*	21 13 54.9	-0.5
SATI	**Passo dei Sala**	**0.61**	**86**	P	P*g*	21 13 48.9	0.0
SATI				S	S*g*	21 13 56.8	+0.1
SATI	**Passo dei Sala**	**0.61**	**86**	P	P*g*	21 13 49.4	+0.5
SATI				S	S*g*	21 13 57.5	+0.7
SATI	**Passo dei Sala**	**0.61**	**86**	P*g*	P*g*	21 13 48.5	-0.3
SATI				S*g*	S*g*	21 13 57.2	+0.4
TRAV	**Traversella**	**0.62**	**122**	P*g*	P*g*	21 13 49.2	+0.3
TRAV	**Traversella**	**0.62**	**122**	⇑P*g*	P*g*	21 13 49.2	+0.3
TRAV	**Traversella**	**0.62**	**122**	P	P*g*	21 13 49.3	+0.3
TRAV	**Traversella**	**0.62**	**122**	P	P*g*	21 13 49.2	+0.3
TRAV				S	S*g*	21 13 58.0	+1.0
TRAV				AML	AML		
	comp=N,52μm,1.4s						
TRAV				AML	AML		
	comp=E,46μm,0.2s						
TRAV				AML	AML		
	comp=N,45μm,0.1s						
TRAV				AML	AML		
	comp=E,46μm,0.2s						
TRAV	**Traversella**	**0.62**	**122**	P*g*	P*g*	21 13 49.2	+0.3
OGMO	**Fort Saint-Gob**	**0.67**	**199**	P*g*	P*g*	21 13 50.2	+0.3
EMBD	**Embd, Matterta**	**0.69**	**57**	P	P*g*	21 13 50.0	-0.4
EMBD				S	S*g*	21 13 58.8	-0.6
EMBD	**Embd, Matterta**	**0.69**	**57**	P*g*	P*g*	21 13 50.2	-0.2
MMK	**Mattmark**	**0.70**	**72**	P	P*g*	21 13 50.9	+0.3
MMK				S	S*g*	21 14 00.7	+0.8
MMK	**Mattmark**	**0.70**	**72**	P	P*g*	21 13 50.8	+0.2
MMK				S	S*g*	21 14 00.5	+0.7
RSP	**Reno Superiore**	**0.72**	**165**	P	P*g*	21 13 50.9	+0.1
RSP	**Reno Superiore**	**0.72**	**165**	P	P*g*	21 13 51.0	+0.1
RSP				AML	AML		
	comp=N,41μm,0.3s						
RSP				AML	AML		
	comp=E,27μm,0.2s						
RSP	**Reno Superiore**	**0.72**	**165**	P*g*	P*g*	21 13 50.9	0.0
OGMY	**Moye**	**0.78**	**273**	P*g*	P*g*	21 13 52.3	+0.3
OGMY				S*n*	S*n*	21 14 05.8	-1.1
LAUCH	**Lauchernalp**	**0.79**	**43**	P	P*g*	21 13 51.9	-0.4
LAUCH				S	S*g*	21 14 02.5	+0.1
SIMPL	**Simplonpass**	**0.81**	**60**	P	P*g*	21 13 52.4	-0.4
SIMPL				S	S*g*	21 14 03.8	+0.5
BNI	**Bardonecchia**	**0.82**	**196**	P	P*g*	21 13 52.7	-0.1
BNI				S	S*g*	21 14 03.9	+0.5
GIMEL	**St. Georges /**	**0.86**	**324**	P	P*g*	21 13 53.4	-0.2
GIMEL				S	S*g*	21 14 05.1	+0.3
GIMEL	**St. Georges /**	**0.86**	**324**	P*g*	P*g*	21 13 53.5	-0.1
GIMEL				S*g*	S*g*	21 14 05.5	+0.6
RRL	**Rocca Remolon**	**0.93**	**189**	P	P*g*	21 13 54.8	-0.2
RRL				S	S*g*	21 14 07.4	+0.4
RRL	**Rocca Remolon**	**0.93**	**189**	P*g*	P*g*	21 13 54.7	-0.3
RRL				S*g*	S*b*	21 14 08.1	-0.6
TORNY	**Torny/Romont**	**0.93**	**358**	P*g*	P*g*	21 13 55.0	0.0
TORNY				S*n*	S*n*	21 14 11.6	+0.9
OGSM	**Saint Maurice**	**0.94**	**256**	P*g*	P*g*	21 13 55.1	0.0
OGSM				S*g*	S*g*	21 14 07.6	+0.3
CABF	**La Chapelle**	**1.00**	**321**	*e*P*g*	P*g*	21 13 55.8	-0.4
CABF				*e*S*g*	S*g*	21 14 09.4	+0.2
	comp=E,24nm,0.4s						
BHB	**Bricherasio**	**1.02**	**169**	P*g*	P*g*	21 13 56.5	0.0
OG35	**Corcelles**	**1.02**	**282**	P*g*	P*g*	21 13 56.5	-0.1
GRN	**Grenoble**	**1.06**	**236**	P*g*	P*b*	21 13 58.2	+0.1
MBDF	**Montbardon**	**1.12**	**188**	*e*P*g*	P*g*	21 13 58.3	-0.4
MBDF				*e*S*g*	S*g*	21 14 12.2	-1.0
	comp=E,8.9nm,0.5s						
BRANT	**Les Verrieres**	**1.16**	**342**	P*n*	P*g*	21 13 59.2	-0.1
RIVEL	**MONT RIVEL**	**1.18**	**321**	P*n*	P*g*	21 13 58.3	-1.5
RIVEL				S*g*	S*g*	21 14 15.1	0.0
RIVEL				S*n*	S*n*	21 14 17.0	0.0
ORIF	**Oris-en-Rattie**	**1.21**	**221**	*e*P*g*	P*g*	21 13 59.8	-0.5
ORIF				*e*S*g*	S*g*	21 14 15.0	-1.1
	comp=E,11nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.21**	**221**	P*g*	P*g*	21 13 59.7	-0.7
ORIF				S*g*	S*b*	21 14 16.8	+0.1
CREF	**Crivoux**	**1.32**	**192**	P*n*	P*n*	21 14 01.6	-0.8
PZZ	**Stroppo**	**1.34**	**176**	P*n*	P*n*	21 14 02.2	-0.4
CHMF	**Charmoille**	**1.43**	**350**	P*n*	P*n*	21 14 03.5	-0.3
CHMF				S*n*	S*n*	21 14 23.1	+0.1
BOUC	**Bouclans**	**1.50**	**340**	P*n*	P*n*	21 14 04.7	0.0
BOUC				S*n*	S*b*	21 14 24.9	+0.1
BOURR	**Bourrignon**	**1.56**	**6**	P*n*	P*n*	21 14 05.5	-0.1
BOURR				S*n*	S*g*	21 14 27.8	+0.5
BALST	**Balsthal**	**1.57**	**18**	P*n*	P*b*	21 14 06.5	-0.2
BALST				S*n*	S*g*	21 14 28.3	+0.8
SSB	**Saint Sauveur**	**1.82**	**253**	P*n*	P*n*	21 14 08.8	-0.3
SSB				S*g*	S*b*	21 14 34.4	+0.5
SULZ	**Cheisacher**	**1.85**	**24**	P*g*	P*g*	21 14 12.4	-0.2
SULZ				S*n*	S*g*	21 14 36.7	+0.1
RONF	**Ronchamp**	**1.89**	**353**	P*n*	P*n*	21 14 09.0	-1.1
RONF				P*g*	P*b*	21 14 12.5	+0.5
RONF				S*g*	S*g*	21 14 36.8	-0.8
VIVF	**Saint-Julien-l**	**1.91**	**240**	*e*P*g*	P*b*	21 14 12.2	-0.3
VIVF				*e*S*g*	S*b*	21 14 37.0	+0.3
	comp=E,9.2nm,0.2s						
PLYF	**Puligny Montra**	**1.92**	**306**	P*g*	P*b*	21 14 13.2	+0.6
ENDD	**Endenburg**	**1.94**	**15**	P*n*	P*n*	21 14 10.7	-0.1
ENDD				P*g*	P*b*	21 14 13.5	+0.5
ENDD				S*n*	S*n*	21 14 33.4

EKA Eskdalemuir Ar 15.24 94 Pn **Pn 21 18 17.7 +1.0**
baz=300,slow=10
1.8nm,0.8s
FRB Frobisher Bay 18.40 300 LR LR 21 25 01.3
comp=Z,208nm,20.8s,baz=106,slow=34
SCHQ Schefferville 20.08 273 P **P 21 19 14.7 -0.1**
SCHQ Schefferville 20.08 273 P **P 21 19 14.1 -0.7**
36nm,0.7s,baz=81,slow=5.4,SNR=3.7
SCHQ LR LR 21 25 45.8
comp=Z,2μm,18.1s,baz=79,slow=33
36nm,0.7s
NOA NORSAR Array B 20.50 68 LR LR 21 26 29.9
comp=Z,94nm,19.3s,baz=280,slow=34
NB201 NORSAR Array S 20.54 68 P **P 21 19 19.9 +0.1**
NB201 IAmb IAmb 21 19 35.6
comp=Z,34nm,1.4s
HFS Hagfors 21.93 69 LR LR 21 26 51.4
comp=Z,113nm,19.9s,baz=260,slow=33
BATG Bathurst New B 24.15 256 P **P 21 19 57.2 -0.2**
BATG IAmb IAmb 21 20 33.6
comp=Z,19nm,1.4s
ARCES ARCESS Array B 25.14 43 P **P 21 20 05.1 -1.1**
ARCES IAmb IAmb 21 20 11.2
comp=Z,17nm,1.4s
ARCES ARCESS Array B 25.14 43 P **P 21 20 06.5 +0.3**
comp=Z,2.5nm,0.8s,baz=285,slow=7.1,SNR=3.7
ARCES LR LR 21 28 04.9
comp=Z,41nm,18.4s,baz=320,slow=32
comp=Z,2.5nm,0.8s
PAB San Pablo 25.88 129 P **P 21 20 12.2 -1.1**
ESDC Sonseca Array 25.93 128 P **P 21 20 12.7 -1.0**
ESDC Sonseca Array 25.93 128 P **P 21 20 12.7 -1.0**
comp=Z,1.6nm,0.9s,baz=328,slow=9.5,SNR=9.1
ESDC LR LR 21 29 22.2
comp=Z,48nm,18.3s,baz=327,slow=34
comp=Z,1.6nm,0.9s
FINES FINESS Array B 27.22 61 LR LR 21 30 45.3
comp=Z,80nm,18.0s,baz=270,slow=35
RES Resolute Bay 27.44 329 LR LR 21 31 05.3
comp=Z,93nm,18.2s,baz=242,slow=36
GERES GERESS Array B 27.46 93 LR LR 21 31 37.3
comp=Z,128nm,18.4s,baz=300,slow=37
VRAC Vranov 28.64 90 LR LR 21 32 45.9
comp=Z,105nm,18.4s,baz=308,slow=38
NRCA Norcia 31.30 102 P **P 21 21 00.1 -1.4**
NRCA IAmb IAmb 21 21 11.4
comp=Z,7.0nm,1.5s
MDT Midelt 31.72 136 LR LR 21 32 46.6
comp=Z,54nm,19.1s,baz=72,slow=34
BURAR Bucovina Array 34.13 85 P **P 21 21 26.5 +0.3**
AKASG Malin Array Be 34.17 78 LR LR 21 35 31.2
comp=Z,57nm,18.7s,baz=100,slow=36
KEST Kesra 35.02 115 LR LR 21 34 35.0
comp=Z,110nm,21.5s,baz=247,slow=34
OBN Obninsk 35.10 67 LR LR 21 36 22.3
comp=Z,75nm,18.1s,baz=228,slow=37
MLR Muntele Rosu 35.93 87 LR LR 21 37 11.8
comp=Z,77nm,18.0s,baz=328,slow=38
ULM Lac du Bonnet 37.27 285 LR LR 21 35 42.2
comp=Z,96nm,20.4s,baz=14,slow=34
YKAW1 Yellowknife Wh 38.17 312 P **P 21 22 00.7 +0.3**
YKAW1 IAmb IAmb 21 22 14.3
comp=Z,30nm,1.2s
TKL Tuckaleechee C 41.62 259 LR LR 21 38 30.9
comp=Z,119nm,18.5s,baz=12,slow=34
BRTR Keskin Array B 44.01 87 LR LR 21 42 27.1
comp=Z,76nm,18.8s,baz=308,slow=38
KBZ Khabaz 45.73 76 LR LR 21 42 39.9
comp=Z,72nm,19.2s,baz=116,slow=37
DLBC Dease Lake 46.63 314 LR LR 21 41 00.9
comp=Z,1μm,21.5s,baz=110,slow=34
ILAR Eielson Array 47.19 328 P **P 21 23 12.9 -0.8**
ILAR Eielson Array 47.19 328 P **P 21 23 13.0 -0.6**
comp=Z,0.6nm,1.0s,baz=53,slow=6.6,SNR=4.1
ILAR LR LR 21 43 27.7
comp=Z,95nm,18.0s,baz=97,slow=37
comp=Z,0.6nm,1.0s
NEW Newport 48.72 297 LR LR 21 43 09.7
comp=Z,156nm,19.0s,baz=2.0,slow=35
PD31 Pinedale Array 49.23 287 P **P 21 23 29.8 -0.2**
PD31 IAmb IAmb 21 23 30.7
comp=Z,3.8nm,1.1s
PDAR Pinedale Array 49.23 287 P **P 21 23 29.7 -0.2**
PDAR Pinedale Array 49.23 287 P **P 21 23 28.9 -1.1**
comp=Z,1.8nm,0.9s,baz=52,slow=7.1,SNR=8.8
comp=Z,1.8nm,0.9s
GNI Garni 49.31 78 LR LR 21 45 08.3
comp=Z,31nm,18.0s,baz=94,slow=37
AB31 Akbulak array 49.68 59 **P 21 23 34.2 +1.2**
AB31 IAmb IAmb 21 23 38.1
comp=Z,3.0nm,1.1s
MMAI Mount Meron Ar 50.09 91 LR LR 21 47 59.5
comp=Z,62nm,18.7s,baz=68,slow=40
BVAR Borovoye Array 51.17 50 P **P 21 23 45.0 +0.8**
comp=Z,1.0nm,0.8s,baz=298,slow=3.2,SNR=4.5
comp=Z,1.0nm,0.8s
ASF Jabal al Asfar 51.53 91 LR LR 21 46 52.9
comp=Z,60nm,20.1s,baz=153,slow=38
ELK Elko 53.52 290 LR LR 21 45 39.3
comp=Z,74nm,18.9s,baz=353,slow=35
ANMO Albuquerque 53.70 279 LR LR 21 44 30.2
comp=Z,96nm,21.5s,baz=115,slow=33
ZALV Zalesovo Beam 55.63 40 P **P 21 24 17.8 +0.9**
comp=Z,0.6nm,0.4s,baz=317,slow=5.9,SNR=1.7
comp=Z,0.6nm,0.4s
KURK Kurchatov 56.12 46 P **P 21 24 20.9 +0.4**
KURK IAmb IAmb 21 24 25.2
comp=Z,1.9nm,0.8s
KURBB Kurchatov Arra 56.16 46 P **P 21 24 20.9 +0.1**
comp=Z,1.7nm,0.8s,baz=321,slow=7.5,SNR=7.4
comp=Z,1.7nm,0.8s
DBIC Dimbokro 56.18 149 LR LR 21 45 20.0
comp=Z,51nm,18.9s,baz=55,slow=33
YBH Yreka Blue Hor 56.27 296 LR LR 21 48 01.9
comp=Z,6.9nm,18.4s,baz=3.5,slow=36
TXAR Lajitas Array 56.77 272 LR LR 21 47 01.6
comp=Z,36nm,18.5s,baz=328,slow=34
NVAR Mina Array Bea 56.81 290 P **P 21 24 25.6 -0.3**
NVAR Mina Array Bea 56.81 290 P **P 21 24 26.1 +0.2**
comp=Z,0.3nm,0.4s,baz=26,slow=6.1,SNR=2.1
NVAR LR LR 21 47 20.7
comp=Z,57nm,18.2s,baz=76,slow=35
comp=Z,0.3nm,0.4s
GLA Glamis 59.40 284 P **P 21 24 45.1 +1.2**
PFO Pinyon Flats O 59.76 286 LR LR 21 49 16.7
comp=Z,92nm,19.7s,baz=190,slow=35
MKAR Makanchi Array 60.73 47 P **P 21 24 52.9 +0.2**
MKAR Makanchi Array 60.73 47 P **P 21 24 54.0 +1.3**
comp=Z,1.5nm,0.9s,baz=330,slow=7.0,SNR=4.4
comp=Z,1.5nm,0.9s
GAR Garm 62.33 60 P **P 21 25 05.3 +1.5**
GAR IAmb IAmb 21 25 10.5
comp=Z,4.1nm,0.8s
JTS Las Juntas de 63.60 243 LR LR 21 52 33.7
comp=Z,35nm,18.6s,baz=79,slow=36
ROSC El Rosal 63.95 230 LR LR 21 54 20.0
comp=Z,67nm,18.1s,baz=61,slow=37
LSZ Lusaka 88.22 124 LR LR 22 07 46.5
comp=Z,74nm,20.3s,baz=75,slow=36
ASAR Alice Springs 142.57 24 PKPpre 21 34 06.7
ASAR Alice Springs 142.57 24 PKP **PKPdf 21 34 15.1 +0.8**
comp=Z,0.3nm,0.8s,baz=19,slow=3.1,SNR=4.2
QSPA South Pole Qui 149.37 180 PKPbc **PKiKP 21 34 28.7 -1.2**
comp=Z,1.7nm,0.8s,baz=241,slow=1.7,SNR=4.5

*SOME **27** 21:15:08.5,42°.47N×78°.67E,h20km*
*NNC **27** 21:15:08.2±0.7,42°.52N×78°.72E,h0km,mb3.1,mpv2.8,*
Error ellipse: s-maj=5.5km s-min=2.0km az=163.0
*KRNET **27** 21:15:08.4±0.1,42°.42N×78°.68E,h22km,mb2.2*
ISC 27 21:15:07.7±1.3,42°.49N±0°.03×78°.70E±0°.03,h2km±10km,
n38,σ1$11/72,19C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.22**	**270⇑**	*eP*	**Pg**	**21 15 13.6**	**+1.6**
PRZ			⇑	*eS*	**Sg**	**21 15 17.4**	**+2.5**
SATY	**Saty**	**0.61**	**339**	P	**Pg**	**21 15 20.0**	**+0.5**
SATY	5.4nm,0.1s			S	**Sg**	**21 15 28.1**	**+0.7**
UZB	**Uzynbulak**	**0.70**	**20**	P	**Pb**	**21 15 21.5**	**-1.3**
UZB	1.9nm,0.1s			S	**Sb**	**21 15 30.9**	**-2.1**
UZB	**Uzynbulak**	**0.70**	**20**	*eP*	**Pb**	**21 15 21.6**	**-1.1**
UZB	1.1nm,0.1s			*eS*	**Sb**	**21 15 31.1**	**-1.9**
SHLS	**Shalkode**	**0.88**	**40**	P	**Pn**	**21 15 29.0**	**+1.8**
SHLS	3.1nm,0.2s			S	**Sn**	**21 15 43.9**	**+3.3**
SHLS	**Shalkode**	**0.88**	**40**	*eP*	**Pn**	**21 15 29.3**	**+2.1**
SHLS	1.5nm,0.1s			*eS*	**Sn**	**21 15 44.1**	**+3.5**
KPKS	**Kokpek**	**0.98**	**359**	P	**Pg**	**21 15 26.5**	**0.0**
KPKS	0.4nm,0.1s			S	**Sb**	**21 15 39.4**	**-1.5**
KPKS	**Kokpek**	**0.98**	**359**	*eP*	**Pg**	**21 15 26.5**	**0.0**
KPKS	3.5nm,0.1s			*eS*	**Sb**	**21 15 39.5**	**-1.5**
TARG	**Taragay, Kyrgy**	**1.01**	**222⇑**	*eP*	**Pg**	**21 15 26.2**	**-0.8**
TARG			⇑	*eS*	**Sg**	**21 15 39.2**	**-0.8**
PDGK	**Podgornoye**	**1.02**	**34⇑**	P	**Pb**	**21 15 27.4**	**-0.8**
PDGK	3.9nm,1.5s		⇑	S	**Sg**	**21 15 40.0**	**-0.6**
KDJ	**Kajisay**	**1.18**	**253⇑**	*eP*	**Pb**	**21 15 29.6**	**-1.3**
KDJ			⇑	*eS*	**Sb**	**21 15 45.0**	**-1.7**
KOTS	**Kotyrbulak**	**1.39**	**303**	P	**Pb**	**21 15 34.0**	**-0.4**
KOTS	2.0nm,0.2s			S	**Sn**	**21 15 52.3**	**-0.9**
KOTS	**Kotyrbulak**	**1.39**	**303**	*eP*	**Pb**	**21 15 34.0**	**-0.4**
KOTS	2.0nm,0.2s			*eS*	**Sn**	**21 15 52.3**	**-0.9**
MDOK	**Medeo**	**1.39**	**300**	Pg	**Pn**	**21 15 33.7**	**-0.6**
MDOK	0.9nm,0.2s			Lg	Lg	21 15 51.9	
TNSS	**Tian-Shan**	**1.40**	**294**	P	**Pn**	**21 15 34.1**	**-0.6**
TNSS	0.8nm,0.1s			S	**Sb**	**21 15 52.5**	**-0.9**
TNSS	**Tian-Shan**	**1.40**	**294**	*eP*	**Pn**	**21 15 34.1**	**-0.6**
TNSS	0.8nm,0.1s			*eS*	**Sb**	**21 15 52.5**	**-0.9**
KNDC	**Almaty**	**1.47**	**300**	⇓P	**Pn**	**21 15 35.1**	**-0.2**
KNDC	3.3nm,0.3s		⇑	S	**Sg**	**21 15 55.5**	**+0.6**
BLB	**Baldybastay**	**1.62**	**354**	P	**Pg**	**21 15 38.1**	**-0.6**
BLB	12nm,0.1s			S	**Sg**	**21 15 59.5**	**-0.2**
IZV	**Izvestkoviy**	**1.63**	**290**	P	**Pb**	**21 15 38.2**	**-0.4**
IZV	1.3nm,0.1s			S	**Sb**	**21 15 59.6**	**-0.1**
IZV	**Izvestkoviy**	**1.63**	**290**	*eP*	**Pb**	**21 15 38.2**	**-0.4**
IZV	1.3nm,0.1s			*eS*	**Sb**	**21 15 59.6**	**-0.1**
MTBS	**Maitube**	**1.79**	**292**	*eP*	**Pb**	**21 15 41.0**	**-0.3**
MTBS	0.4nm,0.1s			*eS*	**Sb**	**21 16 04.2**	**0.0**
ULHL	**Ulahol**	**1.84**	**263⇑**	*eP*	**Pn**	**21 15 41.1**	**+0.6**
ULHL			⇑	*eS*	**Sb**	**21 16 05.0**	**-0.6**
ARXS	**Arharly**	**1.84**	**340**	P	**Pb**	**21 15 41.9**	**-0.2**
ARXS	1.2nm,0.1s			S	**Sg**	**21 16 06.1**	**-0.7**
ARXS	**Arharly**	**1.84**	**340**	*eP*	**Pb**	**21 15 41.9**	**-0.2**
ARXS	1.2nm,0.1s			*eS*	**Sg**	**21 16 06.1**	**-0.7**
CHKK	**Chushkaly**	**1.85**	**318**	P	**Pb**	**21 15 42.3**	**0.0**
CHKK				S	**Sg**	**21 16 06.7**	**-0.6**
CHKK	**Chushkaly**	**1.85**	**318**	*eP*	**Pb**	**21 15 42.3**	**0.0**
CHKK	4.5nm,0.2s			*eS*	**Sg**	**21 16 06.7**	**-0.6**
KNOS	**Konyrlen**	**1.91**	**10**	P	**Pb**	**21 15 42.6**	**-0.7**
KNOS	1.2nm,0.1s			S	**Sg**	**21 16 07.1**	**-1.8**
KTBS	**Karatobe**	**1.92**	**310**	P	**Pb**	**21 15 43.4**	**-0.1**
KTBS	4.1nm,0.2s			S	**Sb**	**21 16 08.2**	**+0.3**
BOOM	**Boomskoye usch**	**2.04**	**271⇑**	*eP*	**Pn**	**21 15 44.0**	**+0.8**
BOOM			⇑	*eS*	**Sn**	**21 16 10.0**	**+0.6**
KST	**Kastek**	**2.09**	**286**	Pg	**Pb**	**21 15 46.4**	**0.0**
KST	2.5nm,0.3s			Lg	Lg	21 16 13.7	
KST	**Kastek**	**2.09**	**286**	*eP*	**Pb**	**21 15 46.4**	**0.0**
KST	2.4nm,0.2s			*eS*	**Sb**	**21 16 13.7**	**+0.8**
DGS	**Degeres**	**2.28**	**290**	Pg	**Pb**	**21 15 49.6**	**0.0**
DGS	1.6nm,0.3s			Lg	Lg	21 16 19.3	
TKM2	**Tokmak 2**	**2.33**	**282⇓**	*eP*	**Pn**	**21 15 48.2**	**+1.0**
TKM2			⇓	*eS*	**Sn**	**21 16 17.4**	**+0.9**
KRBS	**Karabastau**	**2.52**	**300**	Pg	**Pb**	**21 15 53.2**	**-0.6**
KRBS	0.5nm,0.2s			Lg	Lg	21 16 25.3	
JNKS	**Jany-Kuch**	**2.69**	**239⇑**	*eP*	**Pn**	**21 15 52.5**	**+0.3**
JNKS			⇑	*eS*	**Sn**	**21 16 24.8**	**-0.6**
FRU1	**Bishkek**	**3.02**	**278⇑**	*eP*	**Pn**	**21 15 57.7**	**+1.1**
FRU1			⇑	*eS*	**Sn**	**21 16 33.0**	**-0.4**
UCH	**Uchtor**	**3.11**	**267⇓**	*eP*	**Pn**	**21 15 59.0**	**+0.8**
UCH			⇓	*eS*	**Sn**	**21 16 36.0**	**-0.2**
USP	**Ospenovka**	**3.18**	**286⇑**	*eP*	**Pn**	**21 16 00.0**	**+1.2**
USP			⇑	*eS*	**Sn**	**21 16 37.8**	**+0.4**

*SJA **27** 21:17:14.4±0.7,29°.21S×72°.17W,h33km±7km,ML3.3,*
MW3.6
*GUC **27** 21:17:17.8±0.6,29°.23S×71°.67W,h40km±2km,ML3.3*
ISC 27 21:17:12.9±2.0,29°.18S±0°.03×71°.93W±0°.07,h1km±12km,
n26,σ2$16/49,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.95**	**141**	*i* P	**Pb**	**21 17 32.3**	**+0.2**
CO05				*i* S	**Sg**	**21 17 43.1**	**-0.2**
CO05				IAML		21 17 43.9	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**1.09**	**81**	*i* P	**Pb**	**21 17 34.5**	**-0.1**
LCO				*i* S	**Sg**	**21 17 46.3**	**-1.5**
AC04	**Llanos de Chal**	**1.23**	**38**	*i* P	**Pn**	**21 17 38.0**	**+0.9**
AC04				*i* S	**Sb**	**21 17 53.0**	**-0.3**
GO04	**Tololo Observa**	**1.39**	**135**	*i* P	**Pg**	**21 17 39.7**	**+0.1**
GO04				*i* S	**Sg**	**21 17 55.4**	**-2.3**
CO06	**Fray Jorge**	**1.51**	**170**	*i* P	**Pn**	**21 17 42.0**	**+1.0**
CO06				*i* S	**Sn**	**21 17 58.5**	**-2.8**
CO01	**Juntas del Tor**	**1.78**	**117⇓**	*i* P	**Pn**	**21 17 45.6**	**+0.6**
CO01				*i* S	**Sn**	**21 18 05.3**	**-3.1**
CO01				IAML		21 18 07.5	
	comp=N,656nm,0.3s						
CO03	**El Pedregal**	**1.97**	**147⇓**	*i* P	**Pn**	**21 17 48.0**	**+0.6**
CO03				*i* S	**Sn**	**21 18 11.2**	**-1.7**
CO03				IAML		21 18 13.7	
	comp=E,447nm,0.4s						
CO03	**El Pedregal**	**1.97**	**147**	*eP*	**Pn**	**21 17 48.3**	**+0.9**
CO03				*eS*	**Sn**	**21 18 13.6**	**+0.8**
CO03				IAML		21 18 15.8	
	comp=Z,232nm,0.4s						
CO02	**Combarbal**	**2.17**	**158⇑**	*i* P	**Pn**	**21 17 51.4**	**+1.2**
CO02	**Combarbal**	**2.17**	**158**	*eP*	**Pn**	**21 17 48.3**	**-1.9**
CO02				*eP*		21 17 51.5	
CO02				*eS*	**Sn**	**21 18 18.8**	**+1.0**
CO02				IAML		21 18 30.1	
	comp=Z,207nm,0.3s						
GO03	**Copiapo**	**2.17**	**44**	*i* P	**Pb**	**21 17 52.9**	**-0.1**
GO03				IAML		21 18 26.3	
	comp=E,228nm,0.6s						
AC06	**Mina Casimiro**	**2.29**	**38**	*eP*	**Pn**	**21 17 53.7**	**+1.9**
AC06				*eS*	**Sn**	**21 18 20.4**	**-0.2**
ACDV	**Cuesta del Vie**	**2.63**	**113**	*eP*	**Pb**	**21 18 00.6**	**-0.4**
ACDV				*eS*	**Sb**	**21 18 32.7**	**-1.2**
ACDV				IAML		21 18 38.0	
	comp=Z,102nm,0.4s						
ACCO	**Cerro Coronel**	**2.85**	**120**	*eP*	**Pb**	**21 18 03.6**	**-1.2**
ACCO				*eS*	**Sb**	**21 18 39.5**	**-0.8**
CO04	**Los Peladeros**	**2.97**	**164⇑**	*i* P	**Pn**	**21 18 03.4**	**+2.0**
CO04				*i* S	**Sn**	**21 18 36.7**	**-1.1**
CO04				IAML		21 18 50.2	
	comp=N,149nm,0.5s						
AGUA	**GUANDACOL**	**3.02**	**97**	*eP*	**Pb**	**21 18 06.0**	**-1.5**
AGUA				*eS*	**Sb**	**21 18 43.3**	**-1.5**
AGUA				IAML		21 18 52.9	
	comp=Z,68nm,0.7s						
VCA	**Vinchina**	**3.29**	**83**	*eP*	**Pb**	**21 18 09.8**	**-2.4**
VCA				*eS*	**Sb**	**21 18 51.9**	**-0.9**
VCA				IAML		21 19 04.0	
	comp=Z,66nm,1.2s						
AC02	**Maricunga**	**3.40**	**47**	*eP*	**Pn**	**21 18 09.6**	**+2.0**
AC02				*eS*	**Sb**	**21 18 53.4**	**-2.9**
AC02				IAML		21 19 05.5	
	comp=Z,73nm,0.9s						
RTLS	**Leoncito**	**3.46**	**140**	*eP*	**Pn**	**21 18 11.3**	**+3.2**
RTLS				*eS*	**Sb**	**21 18 55.3**	**-2.3**
RTLS				IAML		21 19 09.6	
	comp=Z,121nm,0.6s						
ZON	**Zonda**	**3.66**	**131**	*eP*	**Pn**	**21 18 14.2**	**+3.5**
ZON				*eS*	**Sg**	**21 19 15.9**	**+5.3**
ZON				IAML		21 19 16.2	
	comp=Z,23nm,0.9s						
RTLL	**Cerro Villicun**	**3.67**	**126**	*eP*	**Pn**	**21 18 14.3**	**+3.5**
RTLL				*eS*	**Sn**	**21 18 58.8**	**+4.0**
AUSP	**Uspallata**	**3.74**	**145**	*eP*	**Pn**	**21 18 15.7**	**+3.8**
AUSP				*eP*		21 18 15.9	
AUSP				*eS*	**Sb**	**21 19 01.6**	**-4.2**
VA03	**San Esteban**	**3.76**	**162**	*eP*	**Pn**	**21 18 13.4**	**+1.3**
VA03				*eS*	**Sn**	**21 18 57.9**	**+0.9**
VA03				IAML		21 19 16.2	
	comp=Z,53nm,0.6s						
ROC1	**El Roble**	**3.86**	**169**	*eP*	**Pn**	**21 18 15.2**	**+1.6**
ROC1				*eS*	**Sn**	**21 19 00.5**	**+0.8**
PEL	**Peldehue**	**4.09**	**165**	*eP*	**Pn**	**21 18 17.9**	**+1.4**
PEL				*eS*	**Sn**	**21 19 05.6**	**+0.5**
PEL				IAML		21 19 27.1	
	comp=Z,33nm,4.3s						
ASAL	**Salagasta**	**4.31**	**143**	*eP*	**Pn**	**21 18 23.3**	**+3.6**

*IDC **27** 21:33:16.4±2.3,38°.79N×142°.22E,h71km±19km,mb3.4/8,*
mbtmp3.7/12,Error ellipse: s-maj=23.6km s-min=11.5km
az=109.0
*JMA **27** 21:33:16.3±0.1,38°.8N±0°.2×142°.0E±0°.5,h55km,MD4.0/40,*
MV4.0/40,KINKAZAN REGION
JMA Felt II J1 at KINKAZAN REGION .
ISC 27 21:33:15.3±1.5,38°.76N±0°.07×142°.2E±0°.1,h54km±11km,
n29,σ1$26/28,mb3.9/8,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.49**	**311**	*i* P	**Pn**	**21 33 27.1**	**+0.4**
OFUJ				S	**Sn**	**21 33 34.7**	**-0.3**
JKMT	**Kesennumamotoy**	**0.53**	**276**	*i* P	**Pn**	**21 33 27.0**	**-0.1**
JKMT				S	**Sn**	**21 33 34.5**	**-1.2**
JIO	**Ouri**	**0.70**	**244**	*i* P	**Pn**	**21 33 28.9**	**-0.2**
JIO				*i* S	**Sn**	**21 33 37.7**	**-1.5**
JMK	**Ichinoseki**	**0.75**	**285⇓**	*i* P	**Pn**	**21 33 29.6**	**-0.2**
JMK	**Ichinoseki**	**0.75**	**285**	A	A	21 33 29.6	
	comp=N,7.0nm,0.2s,comp=E,9.0nm,0.3s						
JOM	**Ohasama**	**0.98**	**317**	*i* P	**Pn**	**21 33 33.1**	**+0.3**
JOM				S	**Sn**	**21 33 45.2**	**-0.5**
JOM	**Ohasama**	**0.98**	**317**	A	A	21 33 33.1	
	comp=N,8.0nm,0.3s,comp=E,23nm,0.3s						
JOU	**Okura**	**1.23**	**252⇓**	*i* P	**Pn**	**21 33 35.8**	**-0.4**
JOU				⇓S	**Sn**	**21 33 50.4**	**-1.4**
JRG	**Rokugo**	**1.34**	**299⇓**	*i* P	**Pn**	**21 33 37.4**	**-0.3**
JMM	**Marumori**	**1.39**	**231⇓**	*i* P	**Pn**	**21 33 37.8**	**-0.5**
JYK	**Kaneyama**	**1.41**	**277⇓**	*i* P	**Pn**	**21 33 38.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.83**	**236**	P	**Pn**	**21 34 13.7**	**+2.0**
	comp=E,8.2nm,0.5s,baz=39,slow=12,SNR=49						
MJAR				S	**Sn**	**21 34 58.3**	**+2.8**
	comp=E,2.3nm,0.6s,baz=293,slow=30,SNR=4.3						
ASAJ	**Asahikawa**	**5.36**	**3**	P	**Pn**	**21 34 33.5**	**+0.8**
	comp=E,4.6nm,0.5s,baz=202,slow=15,SNR=7.9						
ASAJ				S	**Sn**	**21 35 33.9**	**+0.8**
	comp=E,3.4nm,0.6s,baz=267,slow=31,SNR=1.2						
USRK	**Ussuriysk Ar.**	**9.36**	**309**	P	**Pn**	**21 35 27.8**	**+0.4**
	comp=E,5.5nm,0.6s,baz=119,slow=15,SNR=7.0						
KSRS	**Korea Array**	**11.29**	**268**	P	**Pn**	**21 35 57.3**	**+3.6**
	comp=E,1.4nm,0.5s,baz=71,slow=15,SNR=4.0						
SONM	**Songino Array**	**27.35**	**301**	P	**P**	**21 38 55.1**	**-0.1**
	comp=E,0.2nm,0.4s,baz=101,slow=7.5,SNR=2.1						
	comp=E,0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	22 09 27.5	
	baz=316,slow=75,SNR=134						
H11N1	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	22 09 32.5	
	baz=316,slow=75,SNR=120						
H11N3	**WAKE ISLAND Hy**	**28.60**	**124**	T	T	22 09 33.4	
	baz=316,slow=75,SNR=127						
H11S1	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	22 10 34.2	
	baz=318,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	22 10 28.5	
	baz=318,slow=76,SNR=90						
H11S2	**WAKE ISLAND Hy**	**29.38**	**126**	T	T	22 10 38.8	
	baz=318,slow=76,SNR=84						
ZALV	**Zalesovo Beam**	**41.20**	**311**	P	**P**	**21 40 54.5**	**+0.1**
	comp=E,1.1nm,0.4s,baz=92,slow=9.8,SNR=2.3						
	comp=E,1.1nm,0.4s						
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	**21 41 14.6**	**-0.4**
	comp=E,0.3nm,0.4s,baz=86,slow=8.5,SNR=7.0						
	comp=E,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.42**	**307**	P	**P**	**21 41 28.1**	**-0.3**
	comp=E,1.5nm,0.4s,baz=81,slow=8.1,SNR=8.3						
	comp=E,1.5nm,0.4s						
ILAR	**Eielson Array**	**47.73**	**33**	P	**P**	**21 41 45.1**	**-1.2**
	comp=E,0.3nm,0.8s,baz=259,slow=5.3,SNR=2.9						
	comp=E,0.3nm,0.8s						
BVAR	**Borovoye Array**	**49.86**	**311**	P	**P**	**21 42 01.0**	**-1.8**
	comp=E,0.4nm,0.3s,baz=74,slow=7.8,SNR=2.3						
	comp=E,0.4nm,0.3s						
WRA	**Warramunga Arr**	**58.85**	**189**	P	**P**	**21 43 08.0**	**-0.4**
	comp=E,0.8nm,0.5s,baz=6.7,slow=7.0,SNR=13						
	comp=E,0.8nm,0.5s						
ASAR	**Alice Springs**	**62.58**	**189**	P	**P**	**21 43 33.1**	**-0.6**
	comp=E,0.6nm,0.7s,baz=12,slow=6.4,SNR=6.8						
	comp=E,0.6nm,0.7s						

*IDC **27** 21:38:16.2±1.3,1°.12S×120°.50E,h0km,mb3.6/5,*
mbtmp3.6/5,Error ellipse: s-maj=249.1km s-min=21.9km
az=60.0
*DJA **27** 21:38:20.0±0.3,1°.S±2°.×12°.0E±°,h10km,M3.7/8,mb4.0/1,*
MLv3.5/8
ISC 27 21:38:19.9±1.1,1°.38S±0°.07×120°.30E±0°.09,h23km,n11,
σ1$20/14,mb3.8/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.43**	**71**	P	**Pb**	**21 38 45.9**	**+0.1**
MRSI	**Marisa**	**2.47**	**42**	P	**Pn**	**21 39 00.5**	**+1.8**
MRSI				S	**Sb**	**21 39 33.6**	**0.0**
LUWI	**Luwuk**	**2.49**	**82**	P	**Pb**	**21 39 02.5**	**-1.5**
LUWI				S	**Sb**	**21 39 33.8**	**-0.5**
SPSI	**Sidrap Palu**	**2.62**	**192**	P	**Pn**	**21 39 00.5**	**-0.4**
SPSI				S	**Sn**	**21 39 32.8**	**+0.8**
BNSI	**Bone**	**3.01**	**184**	P	**Pn**	**21 39 07.6**	**+1.4**
BKSI	**Bulukumba**	**3.92**	**183**	P	**Pn**	**21 39 20.1**	**+1.4**
WRA	**Warramunga Arr**	**23.00**	**144**	P	**P**	**21 43 22.9**	**-0.4**
	0.6nm,0.7s,baz=326,slow=9.4,SNR=4.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**25.78**	**150**	P	**P**	**21 43 50.4**	**+1.0**
	0.2nm,0.6s,baz=335,slow=9.0,SNR=1.7						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.41**	**330**	P	**P**	**21 48 13.7**	**0.0**
	0.5nm,0.6s,baz=134,slow=7.6,SNR=5.3						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.49**	**337**	P	**P**	**21 48 39.5**	**-1.9**
	0.8nm,0.4s,baz=155,slow=7.6,SNR=1.9						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**62.84**	**332**	P	**P**	**21 48 43.0**	**-0.8**
	0.2nm,0.2s,baz=139,slow=7.1,SNR=4.1						
	0.2

s-maj=28.3km s-min=26.0km az=172.0
*NEIC **27** 21:47:01.4±1.4, 59°.18N±0°.05×30°.5W±0°.2, h10km±1km, mb4.7/10, Error ellipse: s-maj=17.7km s-min=7.2km az=280.0*
ISC 27 21:47:02.1±0.7, 59°20N±0°.09×30°47W±0°.10, h17km, n46, σ0s92/27, mb4.4/13, MS3.5/21, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.03**	**34**		**Pn**	**21 48 44.6**	**+0.5**
BORG					**Sn**	**21 50 02.8**	**-0.8**
BORG	**Borgarnes**	**7.03**	**34**		**Pn**	**21 48 44.5**	**+0.5**
	1.7nm,0.3s,baz=225,slow=6.4,SNR=13						
BORG				Sn	**Sn**	**21 50 01.8**	**-1.8**
	0.6nm,0.3s,baz=92,slow=23,SNR=5.6						
BORG				LR	LR	21 50 32.6	
	comp=Z,79nm,19.8s,baz=245,slow=30						
	5.1nm,0.4s						
SFJD	**Kangerlussuaq**	**11.96**	**319**	LR	LR	21 53 34.8	
	comp=Z,252nm,18.2s,baz=132,slow=33						
EKA	**Eskdalemuir Ar**	**15.22**	**93**	Pn	**Pn**	**21 50 35.0**	**-0.9**
	baz=291,slow=12						
	1.5nm,0.9s						
FRB	**Frobisher Bay**	**18.53**	**300**	LR	LR	21 57 10.0	
	comp=Z,120nm,18.4s,baz=110,slow=33						
SCHQ	**Schefferville**	**20.10**	**273**	LR	LR	21 57 36.4	
	comp=Z,988nm,18.8s,baz=76,slow=32						
NOA	**NORSAR Array B**	**20.60**	**67**	LR	LR	21 59 14.7	
	comp=Z,54nm,18.0s,baz=285,slow=36						
HFS	**Hagfors**	**22.02**	**68**	LR	LR	21 59 19.4	
	comp=Z,86nm,18.2s,baz=256,slow=34						
ARCES	**ARCESS Array B**	**25.32**	**43**	P	**P**	**21 52 28.2**	**+0.8**
ARCES	**ARCESS Array B**	**25.32**	**43**	P	**P**	**21 52 26.9**	**-0.5**
	1.1nm,0.7s,baz=264,slow=8.9,SNR=3.7						
	1.1nm,0.7s						
ESDC	**Sonseca Array**	**25.76**	**128**	P	**P**	**21 52 32.1**	**+0.4**
ESDC	**Sonseca Array**	**25.76**	**128**	P	**P**	**21 52 31.9**	**+0.2**
	1.0nm,1.0s,baz=329,slow=8.8,SNR=2.8						
ESDC				LR	LR	22 01 37.8	
	comp=Z,34nm,18.3s,baz=320,slow=34						
	1.0nm,1.0s						
FINES	**FINESS Array B**	**27.34**	**61**	P	**P**	**21 52 45.5**	**-0.2**
FINES	**FINESS Array B**	**27.34**	**61**	P	**P**	**21 52 46.2**	**+0.5**
	2.5nm,0.8s,baz=278,slow=9.7,SNR=3.8						
	2.5nm,0.8s						
FIA1	**FINESS Array S**	**27.35**	**61**	P	**P**	**21 52 45.1**	**-0.6**
GERES	**GERESS Array B**	**27.44**	**92**	LR	LR	22 04 13.3	
	comp=Z,66nm,18.4s,baz=307,slow=38						
G62A	**West of Eustis**	**27.75**	**258**	P	**P**	**21 52 50.0**	**+0.5**
G62A				IAmb	IAmb	21 52 54.3	
	comp=Z,21nm,1.3s						
VRAC	**Vranov**	**28.64**	**89**	LR	LR	22 05 04.8	
	comp=Z,58nm,18.3s,baz=322,slow=38						
LVZ	**Lovozero**	**28.89**	**45**	P	**P**	**21 52 58.7**	**-0.7**
LVZ				IAmb	IAmb	21 53 00.1	
	comp=Z,28nm,1.2s						
VSL	**Villasalto**	**31.91**	**110**	P	**P**	**21 53 26.4**	**0.0**
VSL				IAmb	IAmb	21 53 33.6	
	comp=Z,8.3nm,1.1s						
SADO	**Sadowa**	**32.45**	**265**	LR	LR	22 04 19.9	
	comp=Z,785nm,20.8s,baz=206,slow=32						
AKASG	**Malin Array Be**	**34.22**	**77**	LR	LR	22 07 20.9	
	comp=Z,57nm,18.1s,baz=44,slow=36						
KEST	**Kesra**	**34.91**	**114**	LR	LR	22 08 27.8	
	comp=Z,56nm,18.1s,baz=267,slow=37						
TKL	**Tuckaleechee C**	**41.58**	**260**	LR	LR	22 10 51.2	
	comp=Z,145nm,18.3s,baz=222,slow=34						
BRTR	**Keskin Array B**	**44.02**	**87**	LR	LR	22 16 31.9	
	comp=Z,50nm,18.1s,baz=146,slow=40						
ARTI	**Arti**	**44.09**	**53**	LR	LR	22 12 30.8	
	comp=Z,80nm,18.0s,baz=140,slow=35						
AKTO	**Aktyubinsk**	**48.10**	**59**	LR	LR	22 14 30.8	
	comp=Z,63nm,19.0s,baz=87,slow=34						
TIXI	**Tiksi**	**48.64**	**9**	P	**P**	**21 55 45.1**	**+0.8**
TIXI				IAmb	IAmb	21 55 48.7	
	comp=Z,4.3nm,1.1s						
NEW	**Newport**	**48.85**	**298**	LR	LR	22 15 48.2	
	comp=Z,95nm,21.8s,baz=306,slow=35						
PDAR	**Pinedale Array**	**49.32**	**288**	P	**P**	**21 55 50.8**	**+0.6**
PDAR	**Pinedale Array**	**49.32**	**288**	P	**P**	**21 55 51.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=55,slow=5.6,SNR=7.5						
PDAR				LR	LR	22 16 02.7	
	comp=Z,40nm,18.4s,baz=318,slow=35						
	comp=Z,1.0nm,0.8s						
GNI	**Garni**	**49.36**	**78**	LR	LR	22 17 28.7	
	comp=Z,31nm,18.2s,baz=76,slow=37						
BVAR	**Borovoye Array**	**51.34**	**49**	P	**P**	**21 56 04.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=336,slow=6.8,SNR=1.9						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.82**	**139**	P	**P**	**21 56 09.2**	**+0.2**
TORD				IAmb	IAmb	21 56 11.8	
	comp=Z,10.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.82**	**139**	P	**P**	**21 56 09.7**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=347,slow=11,SNR=2.9						
ANMO	**Albuquerque**	**53.75**	**279**	LR	LR	22 18 10.0	
	comp=Z,72nm,18.6s,baz=97,slow=35						
KURK	**Kurchatov**	**56.30**	**46**	P	**P**	**21 56 41.8**	**+0.5**
KURBB	**Kurchatov Arra**	**56.34**	**46**	P	**P**	**21 56 42.1**	**+0.5**
	comp=Z,0.9nm,0.2s,baz=322,slow=7.3,SNR=5.7						
	comp=Z,0.9nm,0.2s						
YBH	**Yreka Blue Hor**	**56.39**	**296**	LR	LR	22 20 54.5	
	comp=Z,7.7nm,18.1s,baz=354,slow=36						
NVAR	**Mina Array Bea**	**56.90**	**290**	LR	LR	22 20 19.8	
	comp=Z,48nm,18.2s,baz=276,slow=35						
PFO	**Pinyon Flats O**	**59.83**	**286**	LR	LR	22 23 04.5	
	comp=Z,99nm,18.2s,baz=170,slow=36						
MKAR	**Makanchi Array**	**60.91**	**46**	P	**P**	**21 57 14.5**	**+1.0**
MKAR	**Makanchi Array**	**60.91**	**46**	P	**P**	**21 57 13.1**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=323,slow=7.6,SNR=4.4						
	comp=Z,1.0nm,0.9s						
GAR	**Garm**	**62.46**	**60**	P	**P**	**21 57 24.9**	**+0.7**
GAR				IAmb	IAmb	21 57 29.1	
	comp=Z,5.7nm,1.0s						
USIM	**UNAN**	**62.50**	**246**	P	**P**	**21 57 21.7**	**-2.8**
JTS	**Las Juntas de**	**63.49**	**244**	LR	LR	22 24 44.8	
	comp=Z,39nm,18.3s,baz=76,slow=36						

*DJA **27** 21:52:44.8±0.3, 2°.N±3°×12°.7E±°, h135km±3km, M4.3/16, mB5.0/4, mb4.2/8, MLv4.3/16, Mw(mB)4.3/4*
*IDC **27** 21:52:46.4±8.6, 1°.41N×127°.20E, h157km±82km, mb3.5/8, mbtmp4.0/9, Error ellipse: s-maj=91.1km s-min=16.5km az=67.0*
ISC 27 21:52:44.0±0.8, 1°.53N±0°.09×127°.32E±0°.09, h128km, n23, σ1s61/24, mb3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.75**	**177**	P	**Pn**	**21 53 07.5**	**+2.9**
TNTI				S	**Sn**	**21 53 24.2**	**+4.0**
SGSI	**Sangihe**	**2.79**	**320**	P	**Pn**	**21 53 28.3**	**+0.4**
KMSI	**Cibinong**	**3.47**	**254**	P	**Pn**	**21 53 38.0**	**+1.2**
SANI	**Sanana**	**3.80**	**201**	P	**Pn**	**21 53 41.0**	**-0.1**
SWI	**Sorong**	**4.60**	**121**	P	**Pn**	**21 53 54.4**	**+2.7**
NLAI	**Namlea**	**4.74**	**183**	P	**Pn**	**21 53 55.0**	**+1.3**
MSAI	**Masohi**	**5.10**	**162**	P	**Pn**	**21 54 00.2**	**+1.7**
MRSI	**Marisa**	**5.48**	**259**	P	**Pn**	**21 54 05.2**	**+1.6**
APSI	**Ampana**	**6.17**	**247**	P	**Pn**	**21 54 13.2**	**+0.4**
	0.3nm719nm31nm,0.6s						
FAKI	**Fak Fak**	**6.62**	**132**	P	**Pn**	**21 54 17.7**	**-1.2**
	0.1nm24nm,1.8s						
SPSI	**Sidrap Palu**	**9.31**	**234**	P	**Pn**	**21 54 57.2**	**+2.0**
	2μm16nm,0.6s						
PCJI	**Pacitan**	**18.77**	**239**	P	**Pn**	**21 56 55.8**	**+0.4**
	50nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.57**	**185**	P	**P**	**21 57 01.1**	**-1.0**
	2.1nm,0.5s,baz=14,slow=9.2,SNR=9.2						
WRA	**Warramunga Arr**	**22.42**	**162**	P	**P**	**21 57 31.1**	**-1.2**
	4.2nm,0.7s,baz=341,slow=11,SNR=50						
	4.2nm,0.7s						
CGJI	**Cibinong**	**23.06**	**249**	P	**P**	**21 57 37.6**	**-0.9**
MDSI	**Maura Dua**	**23.89**	**255**	P	**P**	**21 57 46.5**	**+0.4**
ASAR	**Alice Springs**	**25.85**	**166**	P	**P**	**21 58 02.8**	**-1.1**
	1.4nm,0.5s,baz=350,slow=7.5,SNR=27						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**35.88**	**159**	P	**P**	**21 59 31.1**	**-0.6**
	2.9nm,0.6s,baz=319,slow=10,SNR=6.7						
	2.9nm,0.6s						
SONM	**Songino Array**	**49.56**	**342**	P	**P**	**22 01 22.2**	**+0.1**
	0.5nm,0.8s,baz=169,slow=7.4,SNR=2.1						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**59.69**	**326**	P	**P**	**22 02 34.9**	**-0.2**
	1.7nm,0.5s,baz=115,slow=8.3,SNR=23						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.90**	**328**	P	**P**	**22 03 02.3**	**-0.9**
	1.2nm,0.6s,baz=129,slow=6.1,SNR=10						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**69.48**	**327**	P	**P**	**22 03 37.6**	**-0.9**
	0.8nm,0.6s,baz=151,slow=9.4,SNR=3.1						
	0.8nm,0.6s						
VNDA	**Vanda**	**81.18**	**173**	P	**P**	**22 04 43.5**	**-1.5**
	0.4nm,0.5s,baz=316,slow=5.1,SNR=6.1						
	0.4nm,0.5s						

*FUNV **27** 21:53:37.8, 10°.45N×72°.58W, h2km, MW3.2*
*RSNC **27** 21:53:39.4±0.0, 10°.N±1°×7°.3W±°, h0km±2km, M2.1, ML2.1*
ISC 27 21:53:36.0±1.8, 10°44N±0°.04×72°55W±0°.04, h1km±15km, n11, σ1s35/20, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.39**	**178**	⇑iP	**Pb**	**21 53 45.6**	**0.0**
MCQV				eS	**Sb**	**21 53 51.2**	**-0.8**
CRJC	**Cerrejon, Guaj**	**0.66**	**331**	P	**Pn**	**21 53 52.2**	**-0.4**
CRJC				S	**Sn**	**21 54 02.2**	**-1.5**
URIC	**Uribia, Colomb**	**1.37**	**24**	P	**Pb**	**21 54 03.4**	**+1.0**
URIC				S	**Sn**	**21 54 22.7**	**+1.6**
ARGC	**Ariguani, Magd**	**1.76**	**251**	P	**Pg**	**21 54 09.4**	**-0.4**
ARGC				S	**Sg**	**21 54 33.0**	**+0.3**
OCAC	**Ocana**	**2.31**	**199**	P	**Pb**	**21 54 17.8**	**-0.8**
OCAC				S	**Sb**	**21 54 48.3**	**+0.6**
SDV	**Santo Domingo**	**2.44**	**129**	P	**Pb**	**21 54 20.1**	**-0.7**
SDV				S	**Sb**	**21 54 51.7**	**+0.3**
CAPV	**Capacho**	**2.57**	**175**	eP	**Pn**	**21 54 20.0**	**+1.1**
CAPV				eS	**Sn**	**21 54 51.1**	**+0.2**
SJCC	**San Jacinto, C**	**2.64**	**259**	P	**Pb**	**21 54 23.2**	**-0.9**
SJCC				S	**Sb**	**21 54 57.0**	**-0.1**
PTBC	**PUERTO BERRIO,**	**4.31**	**206**	P	**Pn**	**21 54 45.6**	**+2.9**
BAUV	**El Baul**	**4.69**	**108**	eP	**Pn**	**21 54 47.5**	**-0.4**
BAUV				eS	**Sn**	**21 55 40.1**	**-2.9**
BENV	**Beln**	**4.90**	**95**	eP	**Pn**	**21 54 52.0**	**+1.2**

*KRNET **27** 22:17:11.6±0.1, 41°.23N×78°.90E, h14km, mb2.4*
*SOME **27** 22:17:12.9, 41°.13N×78°.65E, h10km*
*NNC **27** 22:17:14.2±1.9, 41°.21N×78°.74E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=13.0km s-min=10.0km az=170.0*
ISC 27 22:17:15.6±2.1, 41°27N±0°.08×78°66E±0°.05, h16km±11km, n26, σ1s52/43, 13C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.79**	**306**	⇑eP	**Pb**	**22 17 29.9**	**-1.4**
TARG				⇑eS	**Sg**	**22 17 43.4**	**+1.8**
PRZ	**Przheval'sk**	**1.23**	**351**	⇑eP	**Pn**	**22 17 36.5**	**-1.9**
PRZ				⇑eS	**Sn**	**22 17 54.7**	**-0.1**
KDJ	**Kajisay**	**1.40**	**308**	⇑eP	**Pb**	**22 17 40.8**	**-0.8**
KDJ				⇑eS	**Sg**	**22 18 02.0**	**+1.0**
SATY	**Saty**	**1.80**	**354**	Pg	**Pg**	**22 17 49.7**	**-0.5**
	1.8nm,0.2s						
SATY				Lg	Lg	22 18 16.5	
	5.7nm,0.2s						
UZB	**Uzynbulak**	**1.90**	**8**	Pg	**Pb**	**22 17 49.5**	**-0.5**
	3.8nm,0.3s						
UZB				Lg	Lg	22 18 15.6	
	3.6nm,0.3s						
UZB	**Uzynbulak**	**1.90**	**8**	eP	**Pb**	**22 17 49.5**	**-0.5**
	0.7nm,0.1s						
UZB				eS	**Sg**	**22 18 16.0**	**-0.8**
	3.6nm,0.3s						
SHLS	**Shalkode**	**1.98**	**17**	Pg	**Pg**	**22 17 53.6**	**0.0**
	4.4nm,0.5s						
SHLS				Lg	Lg	22 18 23.3	
	10nm,0.5s						
SHLS	**Shalkode**	**1.98**	**17**	eP	**Pg**	**22 17 53.6**	**0.0**
	4.3nm,0.3s						
SHLS				eS	**Sg**	**22 18 23.3**	**+3.9**
	10nm,0.5s						
ULHL	**Ulahol**	**2.06**	**299**	⇑eP	**Pb**	**22 17 51.6**	**-1.1**
ULHL				⇑eS	**Sb**	**22 18 20.9**	**+2.8**
PDGK	**Podgornoye**	**2.15**	**16**	⇓Pn	**Pb**	**22 17 52.2**	**-2.2**
	1.7nm,0.8s						
PDGK				⇑Sn	**Sb**	**22 18 20.0**	**-0.8**
	2.9nm,0.4s						
TNSS	**Tian-Shan**	**2.18**	**325**	Pg	**Pg**	**22 17 56.4**	**-1.1**
	0.8nm,0.1s						
TNSS				Lg	Lg	22 18 27.8	
	2.4nm,0.3s						
TNSS	**Tian-Shan**	**2.18**	**325**	eP	**Pg**	**22 17 56.4**	**-1.1**
	0.8nm,0.1s						
TNSS				eS	**Sg**	**22 18 27.8**	**+2.0**
	2.4nm,0.3s						
KPKS	**Kokpek**	**2.20**	**0**	Pg	**Pb**	**22 17 55.2**	**+0.1**
	0.2nm,0.1s						
KPKS				Lg	Lg	22 18 25.7	
	12nm,0.3s						
KOTS	**Kotyrbulak**	**2.28**	**330**	Pg	**Pb**	**22 17 56.6**	**+0.2**
	3.5nm,0.4s						
KOTS				Lg	Lg	22 18 28.3	
	8.0nm,0.7s						
KOTS	**Kotyrbulak**	**2.28**	**330**	eP	**Pb**	**22 17 56.6**	**+0.2**
	3.5nm,0.4s						
KOTS				eS	**Sg**	**22 18 28.3**	**-0.6**
	8.0nm,0.7s						
JNKS	**Jany-Kuch**	**2.28**	**266**	⇓eP	**Pb**	**22 17 54.9**	**-1.6**
JNKS				⇓eS	**Sb**	**22 18 26.5**	**+1.9**
IZV	**Izvestkoviy**	**2.33**	**320**	eP	**Pb**	**22 17 57.5**	**+0.1**
	0.5nm,0.1s						
IZV				eS	**Sg**	**22 18 29.5**	**-1.1**
	2.7nm,0.1s						
BOOM	**Boomskoye usch**	**2.37**	**302**	⇓eP	**Pb**	**22 17 56.0**	**-2.1**
BOOM				⇓eS	**Sb**	**22 18 28.4**	**+1.3**
KST	**Kastek**	**2.68**	**312**	eP	**Pb**	**22 18 03.7**	**+0.5**
	0.5nm,0.1s						
KST				eS	**Sg**	**22 18 40.2**	**-1.4**
	0.9nm,0.1s						
TKM2	**Tokmak 2**	**2.81**	**307**	⇑eP	**Pn**	**22 18 02.0**	**+1.8**
TKM2				⇑eS	**Sb**	**22 18 38.9**	**-1.1**
BLB	**Baldybastay**	**2.83**	**357**	Pg	**Pb**	**22 18 06.2**	**+0.3**
BLB				Lg	Lg	22 18 45.0	
KTBS	**Karatobe**	**2.85**	**330**	Pg	**Pb**	**22 18 06.2**	**+0.1**
	1.2nm,0.4s						
KTBS				Lg	Lg	22 18 44.6	
	3.6nm,0.5s						
CHKK	**Chushkaly**	**2.87**	**335**	Pg	**Pb**	**22 18 07.5**	**+1.1**
CHKK				Lg	Lg	22 18 46.9	
CHKK	**Chushkaly**	**2.87**	**335**	eP	**Pb**	**22 18 07.5**	**+1.1**
	2.7nm,0.0s						
CHKK				eS	**Sg**	**22 18 46.9**	**-0.8**
	5.3nm,0.2s						
ARXS	**Arharly**	**3.01**	**349**	eP	**Pb**	**22 18 10.0**	**+1.2**
ARXS				eS	**Sg**	**22 18 51.1**	**-1.1**
FRU1	**Bishkek**	**3.37**	**299**	⇑eP	**Pn**	**22 18 10.4**	**+2.7**
FRU1				⇑eS	**Sb**	**22 18 52.8**	**-3.1**

*IDC **27** 22:32:15.6±1.9, 8°.47S×123°.48E, h126km±19km, mb3.6/6, mbtmp4.0/8, Error ellipse: s-maj=61.8km s-min=17.7km az=66.0*
*DJA **27** 22:32:16.6±0.2, 9°.S±3°×12°.3E±°, h137km±3km, M4.1/15, mB4.9/1, mb4.3/8, MLv4.0/15, Mw(mB)4.2/1*
ISC 27 22:32:16.1±0.6, 9°13S±0°.05×122°59E±0°.05, h150km, n40, σ1s58/43, mb3.8/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.60**	**325**	P	**Pn**	**22 32 37.3**	**-0.7**
MMRI	**Maumere**	**0.60**	**325**	S	**Sn**	**22 32 53.3**	**-1.4**
MMRI	**Maumere**	**0.60**	**325**	P	**Pn**	**22 32 37.3**	**-0.7**
MMRI				S	**Sn**	**22 32 52.8**	**-1.9**
EDFI	**Ende, Flores**	**0.96**	**293**	P	**Pn**	**22 32 39.9**	**-0.8**
BATI	**Baumata**	**1.51**	**135**	P	**Pn**	**22 32 46.2**	**+0.4**
	1μm,0.4s,baz=108,slow=0.9,SNR=376						
BATI				S	**Sn**	**22 33 09.8**	**+1.1**
	506nm,0.3s,baz=155,slow=6.5,SNR=7.0						
BATI	**Baumata**	**1.51**	**135**	P	**Pn**	**22 32 46.7**	**+0.9**
BATI				S	**Sn**	**22 33 09.6**	**+1.0**
SOEI	**Soe**	**1.77**	**111**	P	**Pn**	**22 32 49.9**	**+1.1**
SOEI	**Soe**	**1.77**	**111**	P	**Pn**	**22 32 49.8**	**+1.0**
BASI	**Baing, Sumba**	**2.26**	**241**	P	**Pn**	**22 32 55.5**	**+1.2**
WSI	**Waingapu**	**2.32**	**256**	P	**Pn**	**22 32 55.6**	**+0.6**
WBSI	**Waikabubak, Su**	**3.19**	**261**	P	**Pn**	**22 33 05.5**	**-0.5**
BBSI	**Bau Bau**	**3.62**	**360**	P	**Pn**	**22 33 11.6**	**+0.2**
BSSI	**Bau Bau, Buton**	**3.62**	**325**	P	**Pn**	**22 33 12.0**	**+0.6**
BKSI	**Bulukumba**	**4.50**	**327**	P	**Pn**	**22 33 23.2**	**+0.2**
PLAI	**Plampang**	**4.76**	**273**	P	**Pn**	**22 33 27.5**	**+1.1**
PLAI	**Plampang**	**4.76**	**273**	S	**Sn**	**22 34 20.0**	**-1.1**
PLAI	**Plampang**	**4.76**	**273**	P	**Pn**	**22 33 27.2**	**+0.8**
TWSI	**Taliwang, Sumb**	**5.65**	**273**	P	**Pn**	**22 33 38.7**	**+0.5**
SRBI	**Singaraja**	**7.36**	**278**	P	**Pn**	**22 34 01.0**	**0.0**
	30nm,1.3s						
JAGI	**Jajag, Banyuwa**	**8.36**	**274**	P	**Pn**	**22 34 14.2**	**-0.2**
DRS	**Darwin Rock St**	**8.80**	**113**	P	**Pn**	**22 34 20.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**9.40**	**162**	P	**Pn**	**22 34 28.1**	**-0.1**
	1.7nm,0.3s,baz=343,slow=8.8,SNR=20						
FITZ				S	**Sn**	**22 36 07.8**	**-4.6**
	20nm,0.6s,baz=232,slow=17,SNR=15						
FITZ	**Fitzroy Crossi**	**9.40**	**162**	P	**Pn**	**22 34 28.6**	**+0.4**
PCJI	**Pacitan**	**11.32**	**274**	P	**Pn**	**22 34 53.1**	**-0.4**
	74nm,2.0s						
UGM	**Wanagama**	**11.99**	**275**	P	**Pn**	**22 35 02.8**	**+0.4**
WRA	**Warramunga Arr**	**15.64**	**135**	P	**Pn**	**22 35 48.0**	**-0.6**
	1.8nm,0.5s,baz=309,slow=12,SNR=7.3						
WRA				S	Sn	22 38 31.4	-11
	1.1nm,0.3s,baz=315,slow=25,SNR=9.7						
WRAB	**Tennant Creek**	**15.64**	**135**	P	**P**	**22 35 49.7**	**+0.1**
MEEK	**Meekatharra**	**17.82**	**192**	P	**Pn**	**22 36 16.8**	**+1.9**
ASAR	**Alice Springs**	**18.06**	**145**	P	**Pn**	**22 36 17.4**	**-0.4**
	2.7nm,0.5s,baz=328,slow=12,SNR=32						
ASAR				S	**S**	**22 39 28.9**	**-6.7**
	1.3nm,0.7s,baz=313,slow=20,SNR=7.8						
KASI	**Kota Agung**	**18.29**	**280**	P	**Pn**	**22 36 20.4**	**-0.1**
	24nm,0.8s						
QIS	**Mount Isa**	**19.97**	**127**	P	**Pn**	**22 36 39.7**	**-0.5**
MORW	**Morawa**	**20.77**	**196**	P	Pn	22 36 48.3	-1.3
BLDU	**Ballidu**	**22.07**	**194**	P	**P**	**22 37 01.3**	**+2.2**
STKA	**Stephens Creek**	**28.70**	**145**	P	**P**	**22 38 01.0**	**+1.8**
	1.0nm,0.5s,baz=338,slow=11,SNR=1.6						
	1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.75**	**8**	P	**P**	**22 41 23.4**	**+0.6**
	0.7nm,0.5s,baz=191,slow=5.9,SNR=1.6						
SONM	**Songino Array**	**58.50**	**347**	P	**P**	**22 41 56.6**	**-0.1**
	0.8nm,0.6s,baz=164,slow=7.9,SNR=7.6						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**66.23**	**331**	P	**P**	**22 42 49.1**	**+1.2**
	1.1nm,0.7s,baz=131,slow=9.5,SNR=10.0						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**70.47**	**337**	P	**P**	**22 43 13.9**	**-0.2**
	1.2nm,0.3s,baz=132,slow=2.2,SNR=4.8						
	1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**70.69**	**332**	P	**P**	**22 43 16.3**	**+0.8**
	0.4nm,0.4s,baz=151,slow=5.3,SNR=4.8						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**80.87**	**180**	P	P	22 44 19.5	+6.2
	0.8nm,0.5s,baz=312,slow=0.9,SNR=9.7						
	0.8nm,0.5s						

*IDC **27** 22:33:53.5±1.1, 9°.91N×125°.48E, h0km, mb4.0/8, mbtmp4.0/8, MS3.3/4, Error ellipse: s-maj=46.8km s-min=22.5km az=70.0*
*NEIC **27** 22:34:05.6±2.0, 9°.9N±0°.1×125°.56E±0°.07, h95km±8km, mb4.3/16, Error ellipse: s-maj=17.7km s-min=4.5km az=213.0*
ISC 27 22:34:05.4±0.5, 9°83N±0°.09×125°5E±0°.1, h100km, n42, σ1s45/32, mb4.1/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.74**	**178**	Pn	**Pn**	**22 34 47.8**	**0.0**
TGY	**Tagaytay City**	**6.16**	**314**	LR	LR	22 37 55.6	
	comp=Z,199nm,21.5s,baz=283,slow=40						
JCJ	**Chichijima**	**23.30**	**40**	P	**P**	**22 39 03.2**	**-1.4**
JNU	**Nakatsue**	**23.70**	**11**	LR	LR	22 46 39.9	
	comp=Z,53nm,21.7s,baz=242,slow=32						
CMAR	**Chiang Mai Arr**	**27.11**	**291**	P	**P**	**22 39 39.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.11**	**291**	P	**P**	**22 39 37.5**	**-1.7**
	0.9nm,0.3s,baz=105,slow=8.4,SNR=6.5						
	0.9nm,0.3s						
COEN	**Coen**	**29.43**	**143**	P	**P**	**22 40 00.1**	**+0.3**
COEN				IAmb	IAmb	22 40 00.4	
	comp=Z,6.8nm,1.4s						
ASAR	**Alice Springs**	**34.29**	**166**	P	**P**	**22 40 41.3**	**-1.0**
ASAR	**Alice Springs**	**34.29**	**166**	P	**P**	**22 40 41.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=348,slow=8.2,SNR=1.9						
	comp=Z,0.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**34.70**	**8**	P	**P**	**22 40 44.0**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=165,slow=5.8,SNR=6.6						
	comp=Z,2.1nm,0.7s						
SHL	**Shillong**	**35.51**	**301**	P	**P**	**22 40 53.2**	**+0.2**
ASAJ	**Asahikawa**	**37.24**	**20**	LR	LR	22 55 43.7	
	comp=Z,38nm,19.3s,baz=191,slow=35						
FORT	**Forrest**	**40.45**	**177**	P	**P**	**22 41 33.2**	**-1.0**
FORT				IAmb	IAmb	22 41 36.1	
	comp=Z,13nm,1.4s						
EVN	**Everest**	**40.57**	**302**	P	**P**	**22 41 34.3**	**-1.8**
EVN				IAmb	IAmb	22 41 39.5	
	comp=Z,2.4nm,0

MRGE			S	Sg	22 41 00.2	+0.2
MRGE	**Morge**	**0.09 152**	⇑P	Pg	22 40 58.3	0.0
MRGE			S	Sg	22 41 00.1	+0.1
REMY	**Saint-Rhmy-en**	**0.11 97**	⇑Pg	Pg	22 40 58.8	+0.2
REMY			Sg	Sg	22 41 01.1	+0.5
REMY	**Saint-Rhmy-en**	**0.11 97**	⇑Pg	Pg	22 40 58.8	+0.2
REMY			Sg	Sg	22 41 01.1	+0.5
REMY	**Saint-Rhmy-en**	**0.11 97**	P	Pg	22 40 58.8	+0.2
REMY			S	Sg	22 41 01.1	+0.5
REMY	**Saint-Rhmy-en**	**0.11 97**	⇑P	Pg	22 40 58.8	+0.2
REMY			S	Sg	22 41 01.1	+0.5
REMY			AML	AML		
	comp=E,736μm,0.5s					
REMY			AML	AML		
	comp=N,1110μm,0.4s					
REMY			AML	AML		
	comp=N,976μm,0.2s					
REMY			AML	AML		
	comp=E,537μm,0.1s					
REMY	**Saint-Rhmy-en**	**0.11 97**	Pg	Pg	22 40 58.8	+0.2
REMY			Sg	Sg	22 41 01.1	+0.4
MFERR	**Prayon, Val Fe**	**0.13 38**	⇑Pg	Pg	22 40 58.6	-0.2
MFERR	**Prayon, Val Fe**	**0.13 38**	⇑Pg	Pg	22 40 58.6	-0.2
MFERR			Sg	Sg	22 41 00.4	-0.5
SEMOS	**Emosson Stauma**	**0.22 348**	⇑Pg	Pg	22 40 60.0	-0.4
SEMOS			Sg	Sg	22 41 02.7	-0.8
SEMOS	**Emosson Stauma**	**0.22 348**	⇑Pg	Pg	22 40 60.0	-0.4
SEMOS			Sg	Sg	22 41 02.7	-0.8
SMAO	**Martigny, Rue**	**0.25 12**	⇑Pg	Pg	22 41 00.8	-0.2
SMAO	**Martigny, Rue**	**0.25 12**	⇑Pg	Pg	22 41 00.8	-0.2
SMAO			Sg	Sg	22 41 04.0	-0.4
SALAN	**Lac Salanfe**	**0.29 356**	⇑Pg	Pg	22 41 01.4	-0.4
SALAN			Sg	Sg	22 41 05.0	-0.7
SALAN	**Lac Salanfe**	**0.29 356**	⇑Pg	Pg	22 41 01.4	-0.4
SALAN			Sg	Sg	22 41 05.0	-0.7
RSL	**Roselend**	**0.31 238**	⇓Pg	Pg	22 41 01.6	-0.3
RSL			Sg	Sg	22 41 05.4	-0.7
RSL	**Roselend**	**0.31 238**	⇓Pg	Pg	22 41 01.6	-0.3
RSL			Sg	Sg	22 41 05.4	-0.7
RSL	**Roselend**	**0.31 238**	P	Pg	22 41 01.6	-0.3
RSL			S	Sg	22 41 05.4	-0.7
RSL	**Roselend**	**0.31 238**	Pg	Pg	22 41 01.6	-0.3
RSL			Sg	Sg	22 41 05.4	-0.7
FULLY	**Reservoir Maze**	**0.32 17**	⇑Pg	Pg	22 41 01.9	-0.2
FULLY			Sg	Sg	22 41 05.9	-0.5
FULLY	**Reservoir Maze**	**0.32 17**	⇑Pg	Pg	22 41 01.9	-0.2
FULLY			Sg	Sg	22 41 05.9	-0.5
LAVEY	**Lavey les Bain**	**0.35 3**	⇑Pg	Pg	22 41 02.4	-0.3
LAVEY			Sg	Sg	22 41 06.6	-0.8
LAVEY	**Lavey les Bain**	**0.35 3**	⇑Pg	Pg	22 41 02.4	-0.3
LAVEY			Sg	Sg	22 41 06.6	-0.8
DIX	**Grande Dixence**	**0.37 51**	⇑Pg	Pg	22 41 03.0	-0.1
DIX	**Grande Dixence**	**0.37 51**	⇑Pg	Pg	22 41 03.0	-0.1
DIX			Sg	Sg	22 41 08.1	+0.1
DIX	**Grande Dixence**	**0.37 51**	P	Pg	22 41 03.0	-0.1
DIX			S	Sg	22 41 08.1	+0.1
DIX	**Grande Dixence**	**0.37 51**	P	Pg	22 41 03.0	-0.1
DIX			S	Sg	22 41 08.3	+0.3
DIX			AML	AML		
	comp=E,181μm,0.2s					
DIX			AML	AML		
	comp=N,162μm,0.4s					
DIX			AML	AML		
	comp=E,181μm,0.2s					
DIX			AML	AML		
	comp=N,162μm,0.4s					
DIX	**Grande Dixence**	**0.37 51**	Pg	Pg	22 41 03.0	-0.1
DIX			Sg	Sg	22 41 08.2	+0.2
ILLEZ	**Chalet Vouargn**	**0.37 354**	⇑Pg	Pg	22 41 02.7	-0.4
ILLEZ			Sg	Sg	22 41 07.4	-0.7
ILLEZ	**Chalet Vouargn**	**0.37 354**	⇑Pg	Pg	22 41 02.7	-0.4
ILLEZ			Sg	Sg	22 41 07.4	-0.7
RAW4	**Former Reservo**	**0.38 19**	Pg	Pg	22 41 03.1	-0.2
RAW4	**Former Reservo**	**0.38 19**	⇑Pg	Pg	22 41 03.1	-0.2
RAW4			Sg	Sg	22 41 08.0	-0.3
LPL	**La Plagne**	**0.38 209**	*e*Pg	Pg	22 41 03.2	-0.2
LPL			*e*Sg	Sg	22 41 08.3	-0.1
	comp=N,17nm,0.3s					
LPG	**La Plagne**	**0.39 206**	*e*Pg	Pg	22 41 03.5	-0.1
LPG			*e*Sg	Sg	22 41 08.5	-0.3
	comp=N,15nm,0.2s					
SARC	**Ardon Commune,**	**0.40 26**	Sg	Sg	22 41 08.9	-0.1
LSD	**Lago del Serru**	**0.40 166**	⇑Pg	Pg	22 41 03.8	+0.1
LSD	**Lago del Serru**	**0.40 166**	⇑Pg	Pg	22 41 03.8	+0.1
LSD	**Lago del Serru**	**0.40 166**	P	Pg	22 41 03.9	+0.1
LSD			S	Sg	22 41 08.9	-0.1
LSD	**Lago del Serru**	**0.40 166**	P	Pg	22 41 03.8	+0.1
LSD			S	Sg	22 41 09.6	+0.5
LSD			AML	AML		
	comp=E,579nm,0.3s					
LSD			AML	AML		
	comp=N,50μm,0.9s					
LSD			AML	AML		
	comp=N,38μm,0.1s					
LSD			AML	AML		
	comp=E,511nm,0.3s					
LSD	**Lago del Serru**	**0.40 166**	Pg	Pg	22 41 03.8	0.0
LSD			Sg	Sg	22 41 09.1	0.0
GRYON	**Gryon**	**0.41 11**	⇑Pg	Pg	22 41 03.6	-0.3
GRYON	**Gryon**	**0.41 11**	⇑Pg	Pg	22 41 03.6	-0.3
GRYON			Sg	Sg	22 41 08.6	-0.6
VET03	**Vtroz, Le Bot**	**0.41 28**	Sg	Sg	22 41 09.9	+0.7
VET02	**Vtroz, Route**	**0.41 27**	Pg	Pg	22 41 04.0	+0.1
VET02			Sg	Sg	22 41 09.6	+0.2
VET01	**Vtroz, Route**	**0.42 27**	⇑Pg	Pg	22 41 03.9	-0.1
VET01			Sg	Sg	22 41 09.1	-0.4
VET01	**Vtroz, Route**	**0.42 27**	⇑Pg	Pg	22 41 03.9	-0.1
VET01			Sg	Sg	22 41 09.1	-0.3
CON01	**Conthey, Agros**	**0.42 30**	Sg	Sg	22 41 09.8	+0.3
SHER	**Hrmence, R**	**0.43 39**	Pg	Pg	22 41 04.3	0.0
SHER			Sg	Sg	22 41 10.1	0.0
SIOM	**Sion-Mayennets**	**0.46 34**	Sg	Sg	22 41 10.6	0.0
SIOV	**Sion-Valere**	**0.46 33**	Pg	Pg	22 41 04.9	+0.1
SIOV			Sg	Sg	22 41 10.6	-0.3
SAIG	**Aigle Rue de l**	**0.47 357**	⇑Pg	Pg	22 41 04.7	-0.2
SAIG			Sg	Sg	22 41 10.6	-0.4
CIRO	**Champorcher**	**0.47 122**	Pg	Pg	22 41 05.0	0.0
CIRO			Sg	Sg	22 41 11.4	+0.2
CIRO	**Champorcher**	**0.47 122**	P	Pg	22 41 05.0	0.0
CIRO			S	Sg	22 41 11.7	+0.5
CIRO	**Champorcher**	**0.47 122**	P	Pg	22 41 05.0	0.0
CIRO			S	Sg	22 41 11.6	+0.4
CIRO			AML	AML		
	comp=E,45μm,1.2s					
CIRO			AML	AML		
	comp=N,72μm,0.4s					
CIRO			AML	AML		
	comp=E,37μm,0.3s					
CIRO			AML	AML		
	comp=N,62μm,0.2s					
CIRO	**Champorcher**	**0.47 122**	Pg	Pg	22 41 04.9	-0.1
CIRO			Sg	Sg	22 41 11.6	+0.4
MH36	**Zermatt, Posit**	**0.48 74**	Pg	Pg	22 41 04.9	-0.4
MH44	**Zermatt, Posit**	**0.49 74**	Pg	Pg	22 41 04.9	-0.4
AIGLE	**Aigle**	**0.49 356**	⇑Pg	Pg	22 41 05.1	-0.3
AIGLE	**Aigle**	**0.49 356**	⇑Pg	Pg	22 41 05.1	-0.3
AIGLE			Sg	Sg	22 41 11.1	-0.7
AIGLE	**Aigle**	**0.49 356**	Pg	Pg	22 41 05.0	-0.4
AIGLE			Sg	Sg	22 41 11.3	-0.6
RAW2	**Sanetsch, VS**	**0.51 25**	⇑Pg	Pg	22 41 05.8	-0.1
RAW2			Sg	Sg	22 41 12.5	-0.1
RAW2	**Sanetsch, VS**	**0.51 25**	⇑Pg	Pg	22 41 05.8	-0.1
RAW2			Sg	Sg	22 41 12.4	-0.2
VANNI	**Vissoie, Val d**	**0.55 49**	P	Pg	22 41 07.1	+0.6
VANNI			S	Sg	22 41 13.5	-0.2
SENIN	**Lac Senin/Sane**	**0.55 22**	P	Pg	22 41 06.4	-0.2
SENIN			S	Sg	22 41 13.6	-0.3
SATI	**Passo dei Sala**	**0.61 87**	P	Pg	22 41 07.7	0.0
SATI			S	Sg	22 41 15.8	+0.2
SATI	**Passo dei Sala**	**0.61 87**	P	Pg	22 41 07.1	-0.5
SATI			S	Sg	22 41 16.1	+0.5
SATI	**Passo dei Sala**	**0.61 87**	Pg	Pg	22 41 07.1	-0.5
SATI			Sg	Sg	22 41 15.8	+0.2
TRAV	**Traversella**	**0.62 123**	⇑Pg	Pg	22 41 07.9	+0.1
TRAV	**Traversella**	**0.62 123**	⇑Pg	Pg	22 41 07.9	+0.1
TRAV	**Traversella**	**0.62 123**	P	Pg	22 41 08.0	+0.1
TRAV			S	Sg	22 41 15.9	-0.1
TRAV	**Traversella**	**0.62 123**	P	Pg	22 41 08.0	+0.1
TRAV			AML	AML		
	comp=E,57μm,0.3s					
TRAV			AML	AML		
	comp=N,69μm,0.8s					
TRAV			AML	AML		
	comp=E,53μm,0.1s					
TRAV			AML	AML		
	comp=N,61μm,0.1s					
TRAV	**Traversella**	**0.62 123**	Pg	Pg	22 41 07.9	+0.1
OGMO	**Fort Saint-Gob**	**0.68 199**	Pg	Pg	22 41 08.8	-0.1
EMBD	**Embd, Matterta**	**0.69 57**	P	Pg	22 41 08.9	-0.2
EMBD			S	Sg	22 41 17.6	-0.4
EMBD	**Embd, Matterta**	**0.69 57**	Pg	Pg	22 41 08.8	-0.2
EMBD			Sg	Sg	22 41 18.2	+0.2
MMK	**Mattmark**	**0.70 73**	P	Pg	22 41 09.3	-0.1
MMK			S	Sg	22 41 18.7	+0.2
MMK	**Mattmark**	**0.70 73**	P	Pg	22 41 09.6	+0.2
MMK			S	Sg	22 41 18.8	+0.2
RSP	**Reno Superiore**	**0.73 165**	P	Pg	22 41 09.6	-0.2
RSP			S	Sb	22 41 20.1	-0.7
RSP	**Reno Superiore**	**0.73 165**	Pg	Pg	22 41 09.7	-0.1
OGMY	**Moye**	**0.78 273**	Pg	Pg	22 41 10.5	-0.2
OGMY			Sg	Sg	22 41 21.0	+0.1
OGMY			Sn	Sn	22 41 24.3	-0.5
LAUCH	**Lauchernalp**	**0.78 43**	P	Pg	22 41 10.7	-0.2
LAUCH			S	Sg	22 41 21.4	+0.4
BNI	**Bardonecchia**	**0.83 196**	P	Pg	22 41 11.3	-0.4
BNI			S	Sb	22 41 23.4	-0.4
GIMEL	**St. Georges /**	**0.85 324**	P	Pg	22 41 11.4	-0.9
GIMEL			S	Sg	22 41 23.9	+0.5
GIMEL	**St. Georges /**	**0.85 324**	Pg	Pg	22 41 12.2	0.0
GIMEL			Sg	Sg	22 41 23.9	+0.5
RRL	**Rocca Remolon**	**0.94 189**	Pg	Pg	22 41 13.4	-0.5
RRL			Sg	Sb	22 41 26.8	-0.3
OGSM	**Saint Maurice**	**0.94 256**	Pg	Pg	22 41 13.7	-0.2
OGSM			Sg	Sg	22 41 26.3	+0.1
CABF	**La Chapelle**	**0.99 321**	*e*Pg	Pg	22 41 14.5	-0.3
CABF			*e*Sg	Sb	22 41 28.1	-0.3
	comp=N,25nm,0.3s					
OG35	**Corcelles**	**1.01 282**	Pg	Pg	22 41 15.0	-0.3
OG35			Sg	Sg	22 41 28.2	-0.3
BHB	**Bricherasio**	**1.03 169**	P	Pg	22 41 15.4	-0.1
BHB			S	Sg	22 41 28.7	-0.1
BHB			AML	AML		
	comp=N,16μm,0.3s					
BHB			AML	AML		
	comp=E,9μm,0.2s					
BHB	**Bricherasio**	**1.03 169**	Pg	Pg	22 41 15.3	-0.2
BHB			Sg	Sb	22 41 29.3	-0.1
GRN	**Grenoble**	**1.07 236**	Pg	Pn	22 41 17.2	+0.1
GRN			Sn	Sn	22 41 34.5	+2.3
MBDF	**Montbardon**	**1.14 188**	*e*Pg	Pg	22 41 17.3	-0.3
MBDF			*e*Sg	Sg	22 41 31.7	-0.6
	comp=E,5.6nm,0.5s					
BRANT	**Les Verrieres**	**1.15 342**	Pn	Pg	22 41 17.7	-0.1
BRANT			Sg	Sn	22 41 35.3	+1.2
RIVEL	**MONT RIVEL**	**1.18 321**	Pn	Pb	22 41 17.8	-0.6
RIVEL			Sg	Sb	22 41 33.7	0.0
ORIF	**Oris-en-Rattie**	**1.22 221**	*e*Pn	Pb	22 41 19.1	0.0
ORIF	**Oris-en-Rattie**	**1.22 221**	*e*Pg	Pg	22 41 19.8	+0.6
ORIF			*e*Sg	Sn	22 41 36.0	+0.1
	comp=E,11nm,0.4s					
ORIF	**Oris-en-Rattie**	**1.22 221**	Pg	Pg	22 41 19.3	0.0
ORIF			Sn	Sg	22 41 35.2	+0.1
CREF	**Crivoux**	**1.33 192**	Pn	Pn	22 41 20.6	-0.1
PZZ	**Stroppo**	**1.35 176**	Pn	Pn	22 41 21.0	+0.1
CHMF	**Charmoille**	**1.42 350**	Pn	Pn	22 41 22.2	+0.3
CHMF			Sn	Sg	22 41 41.7	+0.3
JAUF	**Jausiers**	**1.43 187**	Pn	Pb	22 41 22.6	-0.2
BOUC	**Bouclans**	**1.49 340**	Pn	Pn	22 41 23.0	+0.3
BOUC			Sn	Sg	22 41 43.7	+0.1
BOURR	**Bourrignon**	**1.55 6**	Pn	Pn	22 41 23.8	+0.1
BOURR			Sg	Sg	22 41 46.5	+0.8
BALST	**Balsthal**	**1.56 18**	Pg	Pg	22 41 25.6	-0.2
BALST			Sg	Sg	22 41 47.2	+1.2
SSB	**Saint Sauveur**	**1.82 253**	Pn	Pn	22 41 27.6	+0.3
SSB			Sn	Sn	22 41 50.0	-0.6
SSB			Sn	Sb	22 41 52.8	+0.6
SULZ	**Cheisacher**	**1.84 24**	Pn	Pn	22 41 28.1	+0.5
SULZ			Pg	Pg	22 41 31.2	0.0
SULZ			Sg	Sg	22 41 55.6	+0.6
RONF	**Ronchamp**	**1.88 353**	Pn	Pn	22 41 28.1	0.0
RONF			Pg	Pg	22 41 31.6	-0.2
VIVF	**Saint-Julien-l**	**1.92 240**	*e*Pn	Pn	22 41 28.8	+0.1
VIVF	**Saint-Julien-l**	**1.92 240**	*e*Pg	Pg	22 41 32.1	-0.5
VIVF			*e*Sg	Sg	22 41 56.6	-0.8
	comp=E,9.6nm,0.2s					
ENDD	**Endenburg**	**1.93 15**	Pg	Pg	22 41 32.2	-0.6
ENDD			Sg	Sg	22 41 57.6	-0.3
HINF	**Hinteralfeld**	**1.97 357**	*e*Pn	Pn	22 41 29.0	-0.4
HINF	**Hinteralfeld**	**1.97 357**	*e*Pg	Pg	22 41 32.9	-0.6
HINF			*e*Sn	Sn	22 41 52.6	-1.7
HINF			*e*Sg	Sb	22 41 57.4	+0.8
	comp=E,6.1nm,0.2s					
KIZ	**Kirchzarten**	**2.20 16**	Pn	Pn	22 41 32.8	+0.3
KIZ			Sg	Sg	22 42 05.1	-1.2
HAU	**Haudompre**	**2.20 349**	*e*Pn	Pn	22 41 32.2	-0.4
HAU	**Haudompre**	**2.20 349**	*e*Pg	Pg	22 41 37.0	-1.0
HAU			*e*Sg	Sb	22 42 04.7	+1.5
	comp=E,4.9nm,0.3s					
SMF	**Signal de Mont**	**2.33 291**	*e*Pn	Pn	22 41 34.4	0.0
SMF	**Signal de Mont**	**2.33 291**	*e*Pg	Pg	22 41 40.7	+0.2
SMF			*e*Sn	Sn	22 42 02.6	-0.6
SMF			*e*Sg	Sg	22 42 11.2	+0.5
	comp=E,3.4nm,0.3s					
COLF	**Collangettes**	**2.34 263**	Pn	Pn	22 41 34.4	-0.1
COLF			Pg	Pg	22 41 39.5	-1.1
PLDF	**La Plantade**	**2.36 274**	Pn	Pn	22 41 34.9	+0.1
CDF	**Champ du Feu**	**2.57 4**	*e*Pn	Pn	22 41 37.2	-0.5
CDF	**Champ du Feu**	**2.57 4**	*e*Pg	Pg	22 41 44.0	-1.0
CDF			*e*Sg	Sg	22 42 16.1	-2.2
	comp=E,1.4nm,0.2s					
LOR	**Lormes**	**2.59 304**	*e*Pn	Pn	22 41 38.4	+0.5
	baz=126					
LOR	**Lormes**	**2.59 304**	*e*Pn	Pg	22 41 45.1	-0.3
	baz=122					
LOR			*e*Sn	Sn	22 42 08.6	-0.9
LOR			*e*Sg	Sg	22 42 19.2	+0.2
	comp=E,2.0nm,0.2s					
AVF	**Avril sur Loir**	**2.70 292**	*e*Pn	Pn	22 41 39.9	+0.5
AVF	**Avril sur Loir**	**2.70 292**	*e*Pg	Pg	22 41 47.2	-0.3
AVF			*e*Sg	Sg	22 42 21.2	-1.2
	comp=E,0.9nm,0.2s					
SSF	**Saint Saulge**	**2.70 298**	*e*Pn	Pn	22 41 40.2	+0.8
SSF	**Saint Saulge**	**2.70 298**	*e*Pg	Pg	22 41 46.9	-0.7
SSF			*e*Sg	Sg	22 42 22.1	-0.5
	comp=E,2.7nm,0.3s					
LASF	**Ste Croix**	**2.85 233**	*e*Pn	Pn	22 41 41.4	-0.1
LASF	**Ste Croix**	**2.85 233**	*e*Pg	Pg	22 41 50.0	-0.4
LASF			*e*Sg	Sg	22 42 26.1	-1.2
	comp=E,2.4nm,0.5s					
MEZF	**Maizieres J'vi**	**2.97 334**	*e*Pg	Pg	22 41 51.9	-0.7
MEZF			*e*Sg	Sg	22 42 30.4	-0.6
	comp=E,5.0nm,0.4s					
BGF	**Bois d'Agland**	**2.97 285**	*e*Pn	Pn	22 41 43.6	+0.5
BGF	**Bois d'Agland**	**2.97 285**	*e*Pg	Pg	22 41 52.2	-0.5
BGF			*e*Sn	Sn	22 42 18.8	-0.1
BGF			*e*Sg	Sg	22 42 31.1	0.0
	comp=E,9.4nm,0.5s					
TCF	**Toulx Ste Croi**	**3.36 279**	*e*Pn	Pn	22 41 48.5	-0.1
TCF	**Toulx Ste Croi**	**3.36 279**	*e*Pg	Pg	22 41 59.1	-1.1
TCF			*e*Sn	Sn	22 42 27.8	-0.8
TCF			*e*Sg	Sg	22 42 42.4	-1.4
	comp=E,1.0nm,0.3s					

NEIC ***27*** *22:42:22.7±1.2, 34.°45N±0.°06×139.°86E±0.°07, h110km±7km, mb4.3/21, Error ellipse: s-maj=9.1km s-min=7.0km az=223.0*
JMA ***27*** *22:42:22.9±0.1, 34.°4N±0.°4×139.°8E±0.°7, h104km±1km, MV3.1/39, FAR S OFF BOSO PENINSULA*
IDC ***27*** *22:42:22.6±1.5, 34.°38N×139.°87E, h115km±7km, mb3.4/8, mbtmp3.8/11, Error ellipse: s-maj=41.6km s-min=7.2km az=71.0*
ISC 27 22:42:22.4±0.7,**34.°40N**±0.°04×**139.°77E**±0.°04,**h112**km±5km, **n65**,σ0s**99**/79,**mb4.1**/19,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMYK	**Miyake Tsubota**	**0.39 209**		P	**Pn**	**22 42 38.7**	**-0.1**
JMYK				*e*S	**Sn**	**22 42 50.6**	**-0.5**
JIM2	**Oshima 3**	**0.42 318**		*i* P	**Pn**	**22 42 38.5**	**-0.5**
JIM2				S	**Sn**	**22 42 50.5**	**-1.1**
JMKN	**Mikurajimanish**	**0.53 197**		P	**Pn**	**22 42 39.5**	**-0.2**
JMKN				*e*S	**Sn**	**22 42 51.8**	**-0.8**
BSO3	**Boso 3**	**0.73 57**		P	**Pn**	**22 42 41.5**	**+0.7**
BSO3				*e*S	**Sn**	**22 42 56.9**	**+2.1**
JIZS	**Izushimoda**	**0.80 293**		*i* P	**Pn**	**22 42 41.8**	**-0.1**
JIZS				S	**Sn**	**22 42 55.9**	**-0.6**
BSO1	**Boso 1**	**1.03 75**		P	**Pn**	**22 42 44.0**	**+0.6**
BSO1				*e*S	**Sn**	**22 43 01.3**	**+2.0**
JOD2	**Odawara 2**	**1.03 327**		P	**Pn**	**22 42 43.9**	**-0.1**
JOD2				S	**Sn**	**22 42 59.8**	**-0.6**
JHJ	**Hachijo jima 2**	**1.28 180**		P	**Pn**	**22 42 47.6**	**+0.8**
	372nm,0.3s,baz=120,slow=16,SNR=39						
JHJ				S	**Sn**	**22 43 05.5**	**+0.3**
	463nm,0.3s,baz=105,slow=22,SNR=27						
JHJ2	**Mitsune**	**1.29 178**			**Pn**	**22 42 47.5**	**+0.6**
JHJ2				Sn	**Sn**	**22 43 05.7**	**+0.3**
JHJ2	**Mitsune**	**1.29 178**		P	**Pn**	**22 42 47.4**	**+0.6**
JHJ2				S	**Sn**	**22 43 05.6**	**+0.2**
JSG	**Sagara**	**1.34 282**		Pn	**Pn**	**22 42 47.6**	**+0.2**
JSG				Sn	**Sn**	**22 43 07.4**	**+1.0**
SHZ3	**Shizuoka 3**	**1.45 298**		*e*P	**Pn**	**22 42 49.3**	**+0.5**
SHZ3				S	**Sn**	**22 43 09.3**	**+0.5**
JYN	**Shimob**	**1.49 318**		P	**Pn**	**22 42 49.7**	**+0.4**
JYN				S	**Sn**	**22 43 10.1**	**+0.5**
TK02	**Tokai 2**	**1.73 255**		P	**Pn**	**22 42 52.8**	**+0.9**
JRY	**Ryogami san**	**1.76 336**		P	**Pn**	**22 42 53.2**	**+0.7**
JRY				S	**Sn**	**22 43 15.7**	**+0.2**
JAG	**Ashikaga**	**2.04 353**		*i* P	**Pn**	**22 42 55.7**	**-0.3**
JAG				*e*S	**Sn**	**22 43 20.4**	**-1.2**
JGF	**Kuroka**	**2.32 302**			**Pn**	**22 43 00.3**	**+0.7**
JGF				Sn	**Sn**	**22 43 28.8**	**+0.8**
INU	**Inuyama**	**2.46 293**			**Pn**	**22 43 01.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.49 330**			**Pn**	**22 43 00.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.49 330**		P	**Pn**	**22 43 02.4**	**+0.7**
	11nm,0.4s,baz=145,slow=14,SNR=47						
MJAR				S	**Sn**	**22 43 33.1**	**+1.1**
	18nm,0.4s,baz=1.9,slow=29,SNR=7.1						
MAJO	**Matsushiro**	**2.49 330**			**Pn**	**22 43 02.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.49 330**			**Pn**	**22 43 03.9**	**+2.1**
JMM	**Marumori**	**3.55 13**			**Pn**	**22 43 14.9**	**-0.8**
JMN	**Monobe**	**4.94 264**		Pn	**Pn**	**22 43 35.1**	**+0.6**
JNU	**Nakatsue**	**7.52 263**			**Pn**	**22 44 09.8**	**+0.5**
JNU	**Nakatsue**	**7.52 263**		P	**Pn**	**22 44 10.5**	**+1.2**
	7.1nm,0.5s,baz=95,slow=7.9,SNR=7.8						
ERM	**Erimo**	**8.05 18**		Pn	**Pn**	**22 44 13.3**	**-3.2**
KSRS	**Korea Array**	**10.08 291**		P	**Pn**	**22 44 47.3**	**+3.3**
	3.1nm,0.8s,baz=108,slow=14,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**28.12 114**		T	T	23 18 06.8	
	baz=308,slow=75,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**28.12 114**		T	T	23 18 06.8	
	baz=308,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**28.13 114**		T	T	23 18 06.8	
	baz=308,slow=75,SNR=2.6						
SONM	**Songino Array**	**28.26 308**		P	**P**	**22 48 05.5**	**+0.5**
SONM	**Songino Array**	**28.26 308**		P	**P**	**22 48 06.5**	**+1.4**
	0.3nm,0.6s,baz=116,slow=9.9,SNR=2.3						
	0.3nm,0.6s						
ZAA0	**Zalesovo Array**	**42.75 315**		P	**P**	**22 50 08.8**	**+0.4**
MKAR	**Makanchi Array**	**44.44 304**		P	**P**	**22 50 22.4**	**+0.4**
MKAR	**Makanchi Array**	**44.44 304**		P	**P**	**22 50 22.1**	**0.0**
	1.0nm,0.7s,baz=89,slow=9.0,SNR=8.4						
	1.0nm,0.7s						
MAKZ	**Makanchi**	**44.65 304**		P	**P**	**22 50 24.2**	**+0.4**
EVN	**Everest**	**45.34 277**		P	**P**	**22 50 29.3**	**-0.9**
EVN				IAmb	IAmb	22 50 44.6	
	comp=Z,4.6nm,0.8s						
N15K	**Kwethluk River**	**46.14 37**		P	**P**	**22 50 35.1**	**-0.1**
KURK	**Kurchatov**	**46.55 310**		P	**P**	**22 50 38.7**	**+0.1**
KURK				IAmb	IAmb	22 50 39.3	
	comp=Z,2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.61 310**		P	**P**	**22 50 38.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=86,slow=7.5,SNR=15						
	comp=Z,0.9nm,0.5s						
D19K	**Kuna River**	**48.29 26**		P	**P**	**22 50 52.6**	**+0.8**
D19K				IAmb	IAmb	22 51 20.4	
	comp=Z,13nm,1.2s						
KDJ	**Kajisay**	**48.78 299**		P	**P**	**22 50 56.3**	**+0.2**
KDJ				IAmb	IAmb	22 51 10.6	
	comp=Z,3.3nm,1.1s						
L19K	**White Mountain**	**48.83 35**		P	**P**	**22 50 55.8**	**-0.3**
L19K				IAmb	IAmb	22 51 27.2	
	comp=Z,9.4nm,1.3s						
SII	**Sitkinak Islan**	**49.14 42**		P	**P**	**22 50 57.5**	**-1.0**
BOOM	**Boomskoye usch**	**49.59 299**		P	**P**	**22 51 04.0**	**+1.6**
G23K	**Bananza Creek**	**51.14 29**		P	**P**	**22 51 14.4**	**+0.9**
G23K				IAmb	IAmb	22 51 42.6	

8.4nm,0.6s
JNKS Jany-Kuch 2.23 271⇑eP Pb 23 07 13.4 -0.9
JNKS ⇑eS Sg 23 07 44.9 -0.4
PDGK Podgornoye 2.36 16 ⇑Pn Pb 23 07 14.5 -2.0
1.4nm,0.6s
PDGK ⇑Sn Sn 23 07 42.9 +0.8
2.9nm,0.5s
KPKS Kokpek 2.41 1 Pg Pb 23 07 17.8 +0.6
0.3nm,0.2s
KPKS Lg Lg 23 07 48.4
4.0nm,0.4s
KOTS Kotyrbulak 2.44 333 eP Pg 23 07 20.2 -0.1
1.6nm,0.2s
KOTS eS Sg 23 07 52.4 +0.4
4.7nm,0.4s
KURS Kuram 2.45 353 Pg Pg 23 07 20.0 -0.5
0.9nm,0.3s
KURS Lg Lg 23 07 52.2
2.6nm,0.5s
BOOM Boomskoye usch 2.46 307⇓eP Pn 23 07 15.8 +1.7
BOOM ⇓eS Sb 23 07 49.1 +0.6
IZV Izvestkoviy 2.47 324 eP Pg 23 07 20.8 -0.1
0.6nm,0.1s
IZV eS Sg 23 07 53.4 +0.4
1.3nm,0.1s
KNDC Almaty 2.48 331 ⇑Pg Pb 23 07 17.3 -1.1
7.3nm,0.4s
KNDC ⇓Lg Lg 23 07 46.4
3.5nm,0.5s
KST Kastek 2.79 316 eP Pg 23 07 26.1 -0.9
0.6nm,0.1s
KST eS Sg 23 08 02.6 -0.7
1.3nm,0.2s
KTBS Karatobe 3.01 332 Pg Pb 23 07 29.1 +1.6
1.3nm,0.5s
KTBS Lg Lg 23 08 08.5
3.4nm,0.5s
BLB Baldybastay 3.04 358 Pg Pb 23 07 28.8 +0.8
2.3nm,0.4s
BLB Lg Lg 23 08 07.2
4.7nm,0.5s
CHKK Chushkaly 3.04 337 eP Pg 23 07 30.9 -0.9
12nm,0.1s
CHKK eS Sg 23 08 10.8 -0.4
5.4nm,0.3s
ARXS Arharly 3.21 350 eP Pb 23 07 32.8 +2.0
ARXS eS Sg 23 08 14.2 -2.3
FRU1 Bishkek 3.44 302⇓eP Pn 23 07 29.9 +2.3
FRU1 ⇓eS Sb 23 08 13.6 -3.3

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*FUNV **27** 23:16:22.5, 10˚30N×71˚98W, h16km, MW3.0*
RSNC 27 23:16:27.3±0.0, 10˚N±1˚×7˚2W±˚, h16km±1km, M1.7, ML1.6, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.25**	**270⇑**	*iP*	Pb	23 16 34.8	+1.3
MCQV				*eS*	Sn	23 16 41.4	-0.6
CRJC	**Cerrejon, Guaj**	**1.13**	**328**	P	Pb	23 16 47.2	-1.4
CRJC				S	Sb	23 17 02.7	-0.4
URIC	**Uribia, Colomb**	**1.67**	**10**	P	Pn	23 16 54.5	-1.4
URIC				S	Sn	23 17 16.1	-0.8
OCAC	**Ocana**	**2.07**	**210**	P	Pn	23 16 59.4	-2.2
OCAC				S	Sn	23 17 25.5	-1.7
CAPV	**Capacho**	**2.17**	**181**	*eP*	Pn	23 17 01.1	-1.9
CAPV				*eS*	Sn	23 17 30.1	+0.4
PAMC	**Pamplona, Colo**	**2.73**	**189**	P	Pn	23 17 10.9	0.0
PAMC				S	Sn	23 17 43.6	-0.2
SJCC	**San Jacinto, C**	**2.86**	**267**	P	Pn	23 17 12.2	-0.2
SJCC				S	Sn	23 17 48.2	+1.7
RUSC	**La Rusia**	**4.21**	**191**	P	Pn	23 17 29.9	-1.4
BAUV	**El Baul**	**4.32**	**104**	*eP*	Pn	23 17 23.2	-9.2
BAUV				*eS*	Sn	23 18 08.4	-14

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*IDC **27** 23:23:20.8±1.8, 4˚49S×138˚78E, h173km±24km, mb3.1/2, mbtmp3.8/6, Error ellipse: s-maj=47.5km s-min=14.9km az=105.0*
ISC 27 23:23:19.3±0.9, 4˚4S±0˚1×138˚5E±0˚2, h150km, n6, σ1§42/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.93**	**50**	P	**Pn**	**23 24 07.0**	**+1.2**
	12nm,0.5s,baz=213,slow=10,SNR=20						
JAY				S	**Sn**	**23 24 41.1**	**-0.7**
	18nm,0.3s,baz=183,slow=17,SNR=6.7						
WRA	**Warramunga Arr**	**15.96**	**194**	P	**Pn**	**23 26 55.5**	**-0.2**
	4.7nm,0.6s,baz=17,slow=12,SNR=33						
WRA				S	Sn	23 29 42.6	-11
	0.7nm,0.7s,baz=16,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**18.50**	**222**	P	**P**	**23 27 25.0**	**+0.8**
	2.1nm,0.7s,baz=53,slow=15,SNR=2.7						
ASAR	**Alice Springs**	**19.65**	**192**	P	**P**	**23 27 38.0**	**+1.4**
	4.6nm,0.6s,baz=17,slow=9.6,SNR=34						
ASAR				S	**S**	**23 31 08.4**	**-1.9**
	0.2nm,0.3s,baz=17,slow=28,SNR=3.0						
MKAR	**Makanchi Array**	**70.97**	**323**	P	**P**	**23 34 20.6**	**0.0**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.4						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**23 35 48.1**	**-1.5**
	0.3nm,0.6s,baz=260,slow=5.7,SNR=2.2						
	0.3nm,0.6s						

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*IDC **27** 23:28:01.1±1.1, 24˚26N×121˚22E, h0km, mb3.8/8, mbtmp3.8/9, ML3.8/1, MS3.0/2, Error ellipse: s-maj=62.9km s-min=19.6km az=67.0*
*NIED **27** 23:28:02.7, 24˚41N×121˚87E, h46km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.17; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-0.09; $M_{r\theta}$2.88; $M_{\theta\phi}$0.34; $M_{\phi r}$0.80; Fault plane solution: M_o3.00000×10^{15} NP1: ϕ_s341.00000°, δ6.00000°, λ175.00000°. NP2: ϕ_s75.00000°, δ90.00000°, λ84.00000°.*
*JMA **27** 23:28:02.7±0.2, 24˚4N±0˚6×121˚9E±0˚8, h46km±3km, MD4.1/12, MV4.0/12, TAIWAN REGION*
*ASIES **27** 23:28:03.1, 24˚47N×121˚90E, h26km, Mw3.8, Fault plane solution: NP1: ϕ_s92.00000°, δ43.00000°, λ3.00000°. NP2: ϕ_s360.00000°, δ88.00000°, λ133.00000°.*
*TAP **27** 23:28:03.2, 24˚48N×121˚89E, h27km, ML4.5, B*
ISC 27 23:28:03.5±0.7, 24˚48N±0˚01×121˚93E±0˚02, h23km±4km, n172, σ1§05/272, mb3.8/8, 16C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.12**	**323**	*iP*	**Pb**	**23 28 08.4**	**+0.3**
ESAO				*iS*	**Sb**	**23 28 11.6**	**+0.4**
EWUT	**Wuta**	**0.14**	**258**	*iP*	**Pb**	**23 28 08.3**	**+0.1**
EWUT				*iS*	**Sb**	**23 28 11.8**	**+0.3**
TWC	**Suao**	**0.15**	**332⇑**	*iP*	**Pb**	**23 28 08.6**	**+0.2**
TWC				*iS*	**Sb**	**23 28 12.1**	**+0.4**
ENA	**Nanau**	**0.17**	**255⇓**	*iP*	**Pb**	**23 28 08.6**	**0.0**
ENA				*iS*	**Sb**	**23 28 12.4**	**+0.2**
EAHA	**Aohua**	**0.22**	**230**	*iP*	**Pb**	**23 28 09.0**	**-0.2**
EAHA				*iS*	**Sb**	**23 28 13.5**	**+0.4**
EHP	**Heping Village**	**0.23**	**226⇓**	*iP*	**Pb**	**23 28 09.2**	**-0.2**
EHP				*iS*	**Sb**	**23 28 13.6**	**+0.2**
NDS	**Dongshan**	**0.25**	**310⇑**	*iP*	**Pb**	**23 28 09.7**	**+0.1**
NDS				*iS*	**Sb**	**23 28 13.6**	**-0.2**
EOS2	**EOS2**	**0.28**	**101⇑**	*iP*	**Pb**	**23 28 11.1**	**+1.1**
ILA	**Ilan**	**0.33**	**331**	P	**Pb**	**23 28 11.0**	**+0.2**
ILA				S	**Sn**	**23 28 17.3**	**-1.6**
TWE	**Neicheng**	**0.34**	**316⇑**	*iP*	**Pb**	**23 28 11.0**	**0.0**
TWE				*iS*	**Sb**	**23 28 15.6**	**-0.5**
ENTT	**Nioudou**	**0.37**	**297**	*iP*	**Pb**	**23 28 11.4**	**0.0**
ENTT				*iS*	**Sb**	**23 28 16.9**	**+0.1**
EGS		**0.37**	**1**	*iP*	**Pb**	**23 28 11.8**	**+0.4**
EGS				*iS*	**Sb**	**23 28 17.6**	**+0.7**
LATG	**Datong**	**0.37**	**279⇑**	*iP*	**Pb**	**23 28 11.4**	**-0.2**
LATG				*iS*	**Sb**	**23 28 16.6**	**-0.4**
NTC	**Toucheng**	**0.39**	**347**	P	**Pb**	**23 28 11.8**	**+0.1**
NTC				S	**Sb**	**23 28 18.3**	**+0.9**
EOS3	**EOS3**	**0.40**	**118**	*iP*	**Pb**	**23 28 12.7**	**+0.8**
EOS3				*iS*	**Sn**	**23 28 19.7**	**-0.8**
ETL	**Fush Village**	**0.42**	**221**	⇑P	**Pb**	**23 28 11.9**	**-0.4**
ETL				S	**Sb**	**23 28 18.4**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.42**	**313⇑**	*iP*	**Pb**	**23 28 12.3**	**0.0**
FUSB				S	**Sb**	**23 28 18.5**	**+0.2**
NACB	**Ninganchiao**	**0.42**	**225**	P	**Pb**	**23 28 11.9**	**-0.5**
NACB	**Ninganchiao**	**0.42**	**225**	S	**Sb**	**23 28 18.0**	**-0.4**
NACB	**Ninganchiao**	**0.42**	**225⇓**	*iP*	**Pb**	**23 28 11.9**	**-0.5**
NACB				S	**Sb**	**23 28 18.4**	**0.0**
ETLH	**Xiulin Townshi**	**0.48**	**237⇑**	*iP*	**Pb**	**23 28 13.0**	**-0.4**
ETLH				*iS*	**Sn**	**23 28 20.8**	**-2.1**
NWLT	**Wulai**	**0.49**	**308**	P	**Pb**	**23 28 13.2**	**-0.3**
NWLT				S	**Sb**	**23 28 19.8**	**-0.4**
TWD	**Chiawan**	**0.49**	**217**	*iP*	**Pb**	**23 28 13.3**	**-0.2**
TWD				S	**Sn**	**23 28 22.5**	**-0.4**
NNSB	**Datong**	**0.50**	**265⇓**	*iP*	**Pb**	**23 28 13.3**	**-0.3**
NNSB				S	**Sb**	**23 28 20.1**	**-0.4**
EOS4	**EOS4**	**0.50**	**134**	*iP*	**Pb**	**23 28 13.6**	**+0.1**
TIPB	**Shuangxi**	**0.50**	**350⇑**	*iP*	**Pb**	**23 28 13.8**	**+0.1**
TIPB				S	**Sb**	**23 28 20.7**	**0.0**
NNS	**Nan Shan**	**0.51**	**266⇓**	*iP*	**Pb**	**23 28 13.4**	**-0.4**
NNS				*iS*	**Sb**	**23 28 20.2**	**-0.6**
TWB1	**Santiao Chiao**	**0.53**	**6**	*iP*	**Pb**	**23 28 14.3**	**0.6**
TWB1				*iS*	**Sb**	**23 28 22.1**	**+0.6**
YHNB	**Yeheng**	**0.54**	**291**	P	**Pb**	**23 28 14.1**	**-0.2**
YHNB	**Yeheng**	**0.54**	**291**	S	**Sb**	**23 28 21.4**	**-0.3**
YHNB	**Yeheng**	**0.54**	**291⇑**	*iP*	**Pb**	**23 28 14.1**	**-0.2**
YHNB				*iS*	**Sb**	**23 28 20.8**	**-0.9**
NSK	**Sanguang**	**0.55**	**291⇑**	*iP*	**Pb**	**23 28 14.3**	**-0.3**
NSK				*iS*	**Sb**	**23 28 21.3**	**-0.9**
HWA	**Hwalien**	**0.58**	**211**	*iP*	**Pn**	**23 28 15.3**	**-0.9**
HWA				*eS*	**Sn**	**23 28 24.9**	**0.0**
TWA	**Mucha**	**0.59**	**328**	*iP*	**Pn**	**23 28 15.6**	**-0.9**
TWA				*iS*	**Sn**	**23 28 24.2**	**-1.2**
NHDH	**Xindian Distri**	**0.61**	**323**	P	**Pn**	**23 28 15.9**	**-0.8**
NHDH				*eS*	**Sb**	**23 28 23.5**	**-0.1**
NWF	**Wu-fen Shan**	**0.61**	**348**	P	**Pn**	**23 28 15.9**	**-0.8**
NWF				S	**Sn**	**23 28 24.5**	**-1.4**
WFSB	**Wu-fen Shan**	**0.61**	**348⇑**	*iP*	**Pn**	**23 28 15.8**	**-0.8**
WFSB				S	**Sn**	**23 28 24.4**	**-1.3**
SXI1	**Grass Mountain**	**0.62**	**356⇑**	*iP*	**Pn**	**23 28 16.0**	**-0.9**
SXI1				*iS*	**Sn**	**23 28 24.8**	**-1.4**
TATO	**Taipei**	**0.64**	**321**	P	**Pn**	**23 28 16.2**	**-0.9**
TATO	**Taipei**	**0.64**	**321**	S	**Sn**	**23 28 25.3**	**-1.2**
ETM	**Tongmen**	**0.64**	**218⇑**	*iP*	**Pb**	**23 28 15.7**	**-0.3**
ETM				S	**Sn**	**23 28 25.6**	**-1.0**
NHY	**Taipei**	**0.65**	**330**	*eP*	**Pn**	**23 28 16.5**	**-0.7**
NHY				*eS*	**Sn**	**23 28 26.3**	**-0.5**
LXIB	**Xiulin Townshi**	**0.65**	**226**	*iP*	**Pb**	**23 28 15.8**	**-0.5**
LXIB				*iS*	**Sn**	**23 28 26.2**	**-0.8**
FUSS	**Fushou**	**0.66**	**250**	P	**Pn**	**23 28 16.4**	**-1.2**
FUSS				S	**Sn**	**23 28 26.2**	**-1.2**
TEYL	**Yanliau Villag**	**0.67**	**206**	P	**Pb**	**23 28 16.3**	**-0.3**
TEYL				S	**Sn**	**23 28 27.7**	**+0.3**
TAP	**Taipei**	**0.68**	**326⇑**	*iP*	**Pn**	**23 28 17.2**	**-0.4**
TAP				*iS*	**Sn**	**23 28 27.1**	**-0.5**
TNOU	**National Taiwa**	**0.69**	**348**	P	**Pn**	**23 28 17.1**	**-0.6**
TNOU				*iS*	**Sn**	**23 28 26.3**	**-1.4**
WHF	**Hehuan Shan**	**0.69**	**242⇑**	*iP*	**Pn**	**23 28 16.8**	**-1.3**
WHF				S	**Sn**	**23 28 26.6**	**-1.7**
TWT	**Tachien**	**0.72**	**252**	*iP*	**Pn**	**23 28 17.8**	**-0.6**
TWT				*iS*	**Sn**	**23 28 28.0**	**-0.7**
TDCB	**Techi**	**0.73**	**253**	P	**Pb**	**23 28 17.0**	**-0.6**
TDCB				S	**Sn**	**23 28 27.1**	**-2.0**
YM01	**YM01**	**0.74**	**334**	P	**Pn**	**23 28 18.1**	**-0.5**
YM01				S	**Sn**	**23 28 28.4**	**-0.7**
KSHI	**Guanxi Townshi**	**0.74**	**294**	P	**Pn**	**23 28 18.3**	**-0.2**
KSHI				S	**Sn**	**23 28 29.5**	**+0.3**
NFF	**Wufeng Townshi**	**0.75**	**282**	*iP*	**Pn**	**23 28 17.9**	**-0.8**
NFF				S	**Sn**	**23 28 28.0**	**-1.4**
SHUL	**Shoufeng**	**0.76**	**206**	*iP*	**Pn**	**23 28 18.1**	**-0.7**
ZUZH	**Zhuzihu**	**0.77**	**333**	P	**Pn**	**23 28 18.6**	**-0.3**
ZUZH				*eS*	**Sn**	**23 28 28.7**	**-1.1**
YM08	**YM08**	**0.77**	**337**	*eP*	**Pn**	**23 28 18.2**	**-0.8**
TWS1	**Kuangyinshan**	**0.78**	**324**	*iP*	**Pn**	**23 28 18.7**	**-0.3**
TWS1				*eS*	**Sn**	**23 28 30.4**	**+0.5**
ESL	**Shilin**	**0.80**	**214**	*eP*	**Pb**	**23 28 17.6**	**-1.0**
ANP	**Anpu**	**0.80**	**333**	*eP*	**Pn**	**23 28 18.9**	**-0.5**
NTST	**Danshui**	**0.81**	**328**	*eP*	**Pn**	**23 28 19.2**	**-0.3**
NTST				*eS*	**Sn**	**23 28 30.6**	**-0.2**
NCUH	**Zhongli**	**0.83**	**306**	*iP*	**Pn**	**23 28 19.8**	**0.0**
NCUH				S	**Sn**	**23 28 32.2**	**+0.9**
TEGC	**Jichi Village**	**0.84**	**205**	*eP*	**Pn**	**23 28 19.9**	**0.0**
LIOB	**Emei**	**0.85**	**282**	*iP*	**Pn**	**23 28 20.1**	**+0.1**
LIOB				*eS*	**Sn**	**23 28 31.9**	**+0.2**
TWY	**Chenhua**	**0.85**	**340**	*iP*	**Pn**	**23 28 20.2**	**+0.2**
TWY				*eS*	**Sn**	**23 28 31.5**	**-0.3**
OWD	**Renai**	**0.86**	**233**	*iP*	**Pn**	**23 28 19.3**	**-0.9**
OWD				*eS*	**Sn**	**23 28 31.5**	**-0.7**
WUSB	**Renai**	**0.88**	**237**	*eP*	**Pn**	**23 28 20.0**	**-0.6**
WUSB				S	**Sn**	**23 28 33.8**	**+1.2**
WARBT	**Fenglin Townsh**	**0.90**	**213**	*eP*	**Pn**	**23 28 19.0**	**-1.7**
SBCB	**Hsinchu**	**0.91**	**290**	*iP*	**Pb**	**23 28 21.2**	**+0.6**
SBCB				S	**Sn**	**23 28 33.8**	**+0.6**
WHP	**Taichung City**	**0.92**	**258**	P	**Pb**	**23 28 21.2**	**+0.5**
WHP				S	**Sn**	**23 28 33.5**	**+0.1**
EGFH	**Guangfu**	**0.92**	**210**	*eP*	**Pb**	**23 28 20.4**	**-0.3**
HSN	**Hsinchu**	**0.93**	**291**	*eP*	**Pb**	**23 28 20.8**	**-0.1**
HSN				S	**Sn**	**23 28 34.7**	**+1.1**
JYNG	**Yonagunijimaku**	**0.93**	**91**	P	**Pn**	**23 28 20.2**	**-0.9**
JYNG				S	**Sb**	**23 28 33.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.99**	**91**	P	**Pn**	**23 28 21.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.99**	**91**	S	**Sb**	**23 28 35.5**	**+1.0**
YOJ	**Yonaguni jima**	**0.99**	**91**	*eP*	**Pn**	**23 28 21.1**	**-0.8**
YOJ				S	**Sn**	**23 28 35.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.99**	**91**	A	A	23 28 21.1	
	comp=N,6.0nm,3.0s,comp=E,7.0nm,1.3s						
YOJ	**Yonaguni jima**	**0.99**	**91**	*eP*	**Pn**	**23 28 21.3**	**-0.6**
YOJ				S	**Sb**	**23 28 35.5**	**+1.0**
VWDT	**VWDT**	**1.01**	**225**	*iP*	**Pb**	**23 28 21.7**	**-0.6**
VWDT				*eS*	**Sn**	**23 28 36.8**	**+1.0**
WCS	**Beigang Elemen**	**1.01**	**246**	*eP*	**Pb**	**23 28 22.6**	**+0.3**
NMLH	**Miaoli**	**1.03**	**274**	P	**Pb**	**23 28 23.4**	**+0.7**
NMLH				S	**Sn**	**23 28 38.4**	**+2.1**
TWQ1	**Liyutan**	**1.06**	**263**	*iP*	**Pb**	**23 28 24.2**	**+1.1**
TWQ1				*iS*	**Sb**	**23 28 38.7**	**+2.2**
NSY	**Sanyi**	**1.06**	**267**	P	**Pb**	**23 28 24.1**	**+0.9**
NSY				*iS*	**Sb**	**23 28 39.9**	**+3.2**
HGSD	**Ruisui**	**1.08**	**205**	*eP*	**Pb**	**23 28 22.6**	**-0.9**
HGSD				S	**Sb**	**23 28 39.8**	**+2.6**
SMLT	**Sun Moon Lake**	**1.11**	**238**	*iP*	**Pb**	**23 28 23.6**	**-0.4**
SMLT				*iS*	**Sb**	**23 28 39.9**	**+1.8**
EHY	**Hungye**	**1.11**	**210**	*eP*	**Pn**	**23 28 22.8**	**-0.8**
EHYH	**Wanrong**	**1.11**	**209**	*eP*	**Pb**	**23 28 23.8**	**-0.2**
SSLB	**Suanglung**	**1.12**	**233**	P	**Pb**	**23 28 23.4**	**-0.8**
SSLB	**Suanglung**	**1.12**	**233**	S	**Sb**	**23 28 39.7**	**+1.3**
SSLB	**Suanglung**	**1.12**	**233**	*iP*	**Pb**	**23 28 23.6**	**-0.6**
SSLB				S	**Sb**	**23 28 39.5**	**+1.1**
TYC	**Yuchr**	**1.13**	**240**	*iP*	**Pb**	**23 28 24.0**	**-0.3**
TYC				*iS*	**Sb**	**23 28 38.4**	**-0.2**
PCYT	**Pengchaiyu**	**1.16**	**7**	*eP*	**Pn**	**23 28 23.5**	**-0.7**
PCYT				S	**Sb**	**23 28 39.4**	**0.0**
WDJ	**Dajia District**	**1.18**	**264**	*eP*	**Pb**	**23 28 26.2**	**+1.1**
WDJ				*eS*	**Sb**	**23 28 42.8**	**+2.8**
TCU	**Taichung**	**1.19**	**254**	P	**Pb**	**23 28 27.2**	**+1.9**
TCU				S	**Sb**	**23 28 43.8**	**+3.6**
YULB	**Yu-li**	**1.22**	**208**	P	**Pb**	**23 28 24.8**	**-1.1**
YULB	**Yu-li**	**1.22**	**208**	S	**Sb**	**23 28 43.0**	**+1.8**
YULB	**Yu-li**	**1.22**	**208**	*eP*	**Pn**	**23 28 23.3**	**-1.9**
ECBN	**Changbin**	**1.23**	**201**	*eP*	**Pn**	**23 28 24.6**	**-0.7**
WHYT	**Xinyi Township**	**1.25**	**232**	*eP*	**Pb**	**23 28 26.0**	**-0.4**
WHYT				*eS*	**Sb**	**23 28 44.2**	**+2.1**
TWF1	**Yuli**	**1.26**	**207**	*eP*	**Pn**	**23 28 24.9**	**-0.7**
WNT	**Mingjian**	**1.28**	**243**	*eP*	**Pb**	**23 28 27.6**	**+0.7**
WNT				S	**Sb**	**23 28 46.4**	**+3.5**
WCHH	**Zhanghua**	**1.31**	**253**	*eP*	**Pb**	**23 28 28.0**	**+0.7**
WCHH				*eS*	**Sb**	**23 28 45.6**	**+1.9**
WCH1	**Changhua City**	**1.32**	**253**	*eP*	**Pb**	**23 28 27.8**	**+0.2**
WCH1				*eS*	**Sb**	**23 28 47.0**	**+3.0**
YUS	**Yu-Shan**	**1.32**	**222**	*iP*	**Pb**	**23 28 26.8**	**-1.2**
YUS				*eS*	**Sb**	**23 28 44.4**	**-0.3**
CHKH	**Chenggong**	**1.37**	**201**	*eP*	**Pn**	**23 28 26.8**	**-0.3**
CHKH				S	**Sb**	**23 28 45.1**	**-0.3**
FULB	**Fuli**	**1.40**	**205**	*eP*	**Pb**	**23 28 27.5**	**-1.3**
ALS	**Alishan**	**1.40**	**227**	*eP*	**Pb**	**23 28 28.6**	**-0.6**
CHN5	**Tsauling**	**1.44**	**233**	P	**Pb**	**23 28 29.3**	**-0.3**
CHN5				S	**Sb**	**23 28 49.7**	**+2.2**
CHKT	**Chengkung**	**1.46**	**201**	*eP*	**Pn**	**23 28 28.4**	**0.0**
WGK	**Gukeng**	**1.47**	**238**	*eP*	**Pb**	**23 28 30.1**	**-0.1**
WGK				*eS*	**Sb**	**23 28 51.2**	**+2.8**
WDL	**Douliou City**	**1.48**	**239**	*eP*	**Pb**	**23 28 29.8**	**-0.4**
WDL				*eS*	**Sb**	**23 28 51.5**	**+2.9**
WDLH	**Douliu**	**1.49**	**239**	*iP*	**Pb**	**23 28 30.5**	**+0.1**
WDLH				*eS*	**Sb**	**23 28 50.4**	**+1.5**
ECS	**Chishang**	**1.52**	**205**	*eP*	**Pb**	**23 28 29.9**	**-1.0**
ELDTW	**Lidau**	**1.53**	**213**	*eP*	**Pn**	**23 28 29.3**	**-0.1**
WCKO	**Fanlu**	**1.59**	**230**	*eP*	**Pb**	**23 28 32.5**	**+0.3**
EDH	**Donghe**	**1.60**	**201**	*eP*	**Pn**	**23 28 30.3**	**0.0**
EDH				*iS*	**Sb**	**23 28 50.3**	**-1.9**
WTK	**Tuku**	**1.61**	**241**	*eP*	**Pb**	**23 28 31.8**	**-0.7**
WTK				*eS*	**Sb**	**23 28 53.6**	**+1.2**
WTCT	**Ta-ch'eng**	**1.62**	**248**	*eS*	**Sb**	**23 28 52.9**	**+0.2**
CHN2	**Minshiung**	**1.62**	**235**	*eP*	**Pb**	**23 28 33.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.65**	**94**	*eP*	**Pn**	**23 28 29.9**	**-1.0**
IRIF				S	**Sn**	**23 28 50.7**	**-0.7**
IRIF	**Iriomote-Funau**	**1.65**	**94**	A	A	23 28 29.9	
	comp=N,6.0nm,1.1s,comp=E,4.0nm,0.6s						
TPUB	**Ta-pu**	**1.67**	**226**	P	**Pb**	**23 28 32.9**	**-0.6**
TPUB	**Ta-pu**	**1.67**	**226**	P	**Pb**	**23 28 33.1**	**-0.4**
STYH	**Taoyuan**	**1.67**	**219**	*eP*	**Pb**	**23 28 32.3**	**-1.2**
CHY	**Chiayi**	**1.68**	**235**	*eP*	**Pb**	**23 28 33.2**	**-0.5**
CHY				*eS*	**Sb**	**23 28 56.6**	**+2.1**
WTP	**Ta-pu**	**1.71**	**225**	*eP*	**Pb**	**23 28 33.8**	**-0.6**
WTP				*iS*	**Sb**	**23 28 57.8**	**+2.4**
LONT	**Longtian**	**1.72**	**205**	*eP*	**Pb**	**23 28 32.5**	**-1.9**
LONT				*eS*	**Sn**	**23 28 52.7**	**-0.6**
WSF	**Szhu**	**1.77**	**242**	*eP*	**Pb**	**23 28 33.8**	**-1.4**
WSF				S	**Sb**	**23 28 56.7**	**-0.2**
TWK	**Hsinying**	**1.78**	**228**	P	**Pb**	**23 28 34.7**	**-0.8**
TWK				S	**Sb**	**23 28 59.3**	**+1.9**
SNST	**Tainan City**	**1.81**	**227**	P	**Pb**	**23 28 35.4**	**-0.5**
SNST				*eS*	**Sb**	**23 28 58.8**	**+0.7**
CHN1	**Nanshi**	**1.81**	**225**	*eP*	**Pb**	**23 28 35.2**	**-0.8**
CHN1				S	**Sb**	**23 28 59.5**	**+1.2**
WSL	**Shuilin Townsh**	**1.82**	**239**	*eP*	**Pb**	**23 28 34.7**	**-1.4**
WSL				S	**Sb**	**23 28 58.8**	**+0.4**
TWG	**Pinlang**	**1.82**	**206**	*eP*	**Pn**	**23 28 33.8**	**+0.4**
TWGBT	**Beinan**	**1.82**	**205**	P	**Pb**	**23 28 35.1**	**-1.0**
TWGBT	**Beinan**	**1.82**	**205**	*eP*	**Pn**	**23 28 33.9**	**+0.5**
LDUT	**Ludao**	**1.84**	**193**	*eP*	**Pn**	**23 28 32.5**	**-1.1**
JKRS	**Kuro-shima**	**1.92**	**97**	*eP*	**Pn**	**23 28 34.6**	**0.0**
JKRS				*eS*	**Sn**	**23 28 57.7**	**-0.3**
JKRS	**Kuro-shima**	**1.92**	**97**	A	A	23 28 34.6	
	comp=N,7.0nm,1.5s,comp=E,6.0nm,1.5s						
CHN8	**Yiju**	**1.93**	**235**	*eP*	**Pb**	**23 28 37.0**	**-1.0**
CHN8				*eS*	**Sb**	**23 29 02.2**	**+0.6**
JIJ	**Ishigaki jima**	**2.02**	**93**	*eP*	**Pn**	**23 28 35.6**	**-0.5**
JIJ				S	**Sn**	**23 28 59.4**	**-1.3**
SCST	**Cishan**	**2.06**	**220**	*eP*	**Pb**	**23 28 38.2**	**-1.9**
SSD	**Sandimen**	**2.09**	**215**	*eP*	**Pb**	**23 28 38.8**	**-1.9**
SSD				*eS*	**Sb**	**23 29 06.8**	**+0.6**
TSMG	**Majia**	**2.12**	**214**	*eP*	**Pb**	**23 28 39.5**	**-1.6**
TSCK	**Chigu Township**	**2.14**	**232**	*eP*	**Pb**	**23 28 39.5**	**-2.1**
TSCK				S	**Sb**	**23 29 07.1**	**-0.6**
JISG	**Ishigakijimahi**	**2.17**	**87**	*eP*	**Pn**	**23 28 37.7**	**-0.5**
JISG				S	**Sn**	**23 29 04.3**	**-0.1**
MASBT	**Mashibuluo**	**2.20**	**213**	*eP*	**Pb**	**23 28 40.7**	**-1.9**
MASBT				*eS*	**Sb**	**23 29 09.3**	**-0.1**
TAWH	**Dawu Township**	**2.33**	**204**	*eP*	**Pn**	**23 28 40.8**	**+0.5**
PNG	**Penghu**	**2.35**	**248**	*eP*	**Pn**	**23 28 41.0**	**+0.4**
PNG				S	**Sn**	**23 29 09.3**	**+0.6**
PHUB	**P'eng-hu**	**2.36**	**247**	*eP*	**Pn**	**23 28 40.7**	**0.0**
PHUB				*eS*	**Sn**	**23 29 08.8**	**-0.1**
WDGT	**Dungji**	**2.40**	**240**	*eP*	**Pn**	**23 28 42.0**	**+0.7**
WDGT				S	**Sn**	**23 29 10.6**	**+0.6**
SCZT	**Fangliau**	**2.41**	**210**	*eP*	**Pb**	**23 28 43.8**	**-2.4**
LAY	**Lan-yu**	**2.45**	**188**	*eP*	**Pb**	**23 28 40.3**	**-1.7**
SLIU	**Shizi**	**2.48**	**205**	*eP*	**Pn**	**23 28 42.9**	**+0.5**
SLIU				*eS*	**Sn**	**23 29 12.7**	**+0.8**
JTJ	**Tarama**	**2.53**	**86**	*eP*	**Pn**	**23 28 43.6**	**+0.4**
JTJ				S	**Sn**	**23 29 14.4**	**+1.1**

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WRAB Tennant Creek     18.93 220  P      P      23 49 38.3 +1.1
WRAB Tennant Creek     18.93 220  P      P      23 49 38.3 +1.1
WRAB Tennant Creek     18.93 220  S      S      23 53 05.3 +0.9
WRA  Warramunga Arr    18.94 220  P      P      23 49 38.5 +1.2
WRA  Warramunga Arr    18.94 220  P      P      23 49 38.3 +0.9
     84nm,0.4s,baz=46,slow=11,SNR=985
WRA                            S      S      23 52 59.6 -5.1
     4.6nm,1.0s,baz=39,slow=21,SNR=8.7
WRA                          ScP      ScP    23 57 17.1 -1.8
     1.6nm,0.8s,baz=43,slow=2.5,SNR=5.6
EIDS Eidsvold          19.92 170  P      P      23 49 48.8 +0.9
KNRA Kununurra         20.69 240  P      P      23 49 56.1  0.0
QLP  Quilpie           20.98 188  P      P      23 50 00.2 +0.9
QLP  Quilpie           20.98 188  S      S      23 53 46.5 +1.8
SANI Sanana            21.52 279  P      P      23 50 05.1  0.0
     27nm,0.7s
SANVU Saraoutou        21.86 118  P      P      23 50 08.8 +0.2
SANVU                         IAmb   IAmb   23 50 10.2
     comp=Z,47nm,0.8s
AS31 Alice Springs     22.02 214  P      P      23 50 11.2 +0.8
ASAR Alice Springs     22.02 214         P      23 50 11.0 +0.6
ASAR Alice Springs     22.02 214  P      P      23 50 11.1 +0.8
     comp=Z,29nm,0.4s,baz=52,slow=8.9,SNR=275
ASAR                           S      S      23 54 02.3 -0.7
     comp=Z,6.6nm,1.0s,baz=27,slow=23,SNR=9.7
ASAR                         ScP      ScP    23 57 25.6 -0.7
     comp=Z,1.0nm,0.8s,baz=59,slow=2.9,SNR=4.7
     comp=Z,29nm,0.4s
INKA Innaminka         22.80 195         P      23 50 18.6 +1.0
INKA                          IAmb   IAmb   23 50 19.4
     comp=Z,23nm,0.6s
SOEI Soe               23.13 258  P      P      23 50 21.5 +0.5
SOEI                          IAmb   IAmb   23 50 53.8
     comp=Z,46nm,1.1s
SOEI Soe               23.13 258  P      P      23 50 23.8 +2.8
SOEI Soe               23.13 258  P      P      23 50 21.5 +0.5
     comp=Z,24nm,0.9s
AULRC Lightning Ridg   23.63 178  P      P      23 50 27.1 +1.8
BATI Baumata           23.79 258  P      P      23 50 28.1 +1.2
     comp=Z,28nm,0.5s,baz=175,slow=5.1,SNR=6.0
     comp=Z,28nm,0.5s
FITZ Fitzroy Crossi    24.45 238  P      P      23 50 33.2 +0.5
FITZ                          IAmb   IAmb   23 50 35.5
     comp=Z,19nm,0.8s
FITZ Fitzroy Crossi    24.45 238  P      P      23 50 33.3 +0.5
     comp=Z,86nm,0.6s,baz=60,slow=8.2,SNR=154
ARMA Armidale          24.95 171  P      P      23 50 38.1 +0.7
ARMA                          IAmb   IAmb   23 50 48.0
     comp=Z,39nm,1.7s
EDFI Ende, Flores      25.54 262  P      P      23 50 41.5 -1.4
     comp=Z,32nm,0.9s
STKA Stephens Creek    26.60 191  P      P      23 50 53.3 +1.3
STKA                          IAmb   IAmb   23 51 37.7
     comp=Z,33nm,0.8s
STKA Stephens Creek    26.60 191  P      P      23 50 51.9 -0.2
     comp=Z,2.8nm,0.6s,baz=350,slow=9.0,SNR=6.7
     comp=Z,2.8nm,0.6s
KAPI Kappang           27.39 270  LR     LR     00 04 48.9
     comp=Z,222nm,20.5s,baz=228,slow=42
BBOO Buckleboo         28.94 200  P      P      23 51 13.4 +0.5
BBOO                          IAmb   IAmb   23 51 14.9
     comp=Z,64nm,1.8s
CAN  Canberra          29.54 177  P      P      23 51 18.4 +0.1
CAN                           IAmb   IAmb   23 52 18.0
     comp=Z,46nm,1.7s
H11S3 WAKE ISLAND Hy   30.73  38  T      T      00 24 26.0
     baz=220
H11S2 WAKE ISLAND Hy   30.74  38  T      T      00 24 26.0
     baz=220
H11S1 WAKE ISLAND Hy   30.75  38  T      T      00 24 26.0
     baz=220
MBWA Marble Bar        30.79 237  P      P      23 51 29.6 +0.1
MBWA                          IAmb   IAmb   23 51 30.3
     comp=Z,16nm,0.7s
MBWA Marble Bar        30.79 237  P      P      23 51 29.5 +0.1
FORT Forrest           30.80 214  P      P      23 51 29.7 +0.3
FORT                          IAmb   IAmb   23 51 30.6
     comp=Z,13nm,0.8s
TOO  Toolangi          31.79 183  P      P      23 51 39.5 +1.5
GIRL Giralia           36.05 239  P      P      23 52 16.4 +1.4
MORW Morawa            37.57 228  P      P      23 52 28.1 +0.3
NWAO Narrogin (SRO)    38.93 222  P      P      23 52 38.8 -0.3
NWAO                          IAmb   IAmb   23 52 45.2
     comp=Z,60nm,1.6s
JHJ2 Mitsune           39.22 350  P      P      23 52 45.0 +3.7
YHNB Yeheng            39.30 321  P      P      23 52 42.2 -0.1
TATO Taipei            39.46 322  P      P      23 52 43.9 +0.4
THZ  Tophouse          42.58 151  P      P      23 53 09.4 +0.5
MJAR Matsushiro Arr    42.85 349  IAmb   IAmb   23 53 10.8
     comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr    42.85 349  P      P      23 53 09.9 -1.1
     comp=Z,2.5nm,0.8s,baz=177,slow=7.3,SNR=4.9
     comp=Z,2.5nm,0.8s
NJ2  Nanjing           46.26 326  eP     P      23 53 40.8 +2.7
NJ2                           pmax   pmax
     comp=Z,10.0nm,0.6s
KSRS Korea Array       46.55 339  P      P      23 53 40.0 -0.3
     comp=Z,2.7nm,0.8s,baz=158,slow=9.3,SNR=8.5
     comp=Z,2.7nm,0.8s
WHN  Wuhan             47.85 321  P      P      23 53 51.0 +0.5
HNS  HongShan          52.51 327 ⇑P      P      23 54 25.0 -0.5
HNS                           pmax   pmax
     comp=Z,21nm,0.8s
CMAR Chiang Mai Arr    53.32 298  P      P      23 54 30.3 -1.5
     comp=Z,1.0nm,0.3s,baz=133,slow=6.9,SNR=4.2
     comp=Z,1.0nm,0.3s
XAN  Xi'an             53.60 320  P      P      23 54 33.0 -0.6
XAN                           pmax   pmax
     comp=Z,17nm,0.8s
XAN  Xi'an             53.60 320  P      P      23 54 32.6 -1.0
PZH  PanZhiHua         54.46 308  P      P      23 54 42.8 +2.7
HHC  Hu-ho-hao-te      56.70 328  eP     P      23 54 58.8 +3.0
HHC                           pmax   pmax
     comp=Z,10.0nm,0.7s
HHC                           pmax   pmax
     comp=Z,110nm,5.2s
LZH  Lanzhou           58.13 319  eP     P      23 55 12.3 +6.3
LZH                           sP     sP     23 56 10.3  +13
LZH                           pmax   pmax
     comp=Z,13nm,1.1s
PEA0B Petropavlovsk-   59.23   7  P      P      23 55 12.3 -0.7
PETK Petropavlovsk-    59.23   7  P      P      23 55 11.9 -1.1
PETK Petropavlovsk-    59.23   7  P      P      23 55 12.1 -0.9
     comp=Z,2.7nm,0.6s,baz=227,slow=6.9,SNR=5.4
     comp=Z,2.7nm,0.6s
HILR Hailar Array B    59.98 340  P      P      23 55 16.1 -2.2
     comp=Z,2.6nm,0.6s,baz=150,slow=6.8,SNR=5.3
     comp=Z,2.6nm,0.6s
DRV  Dumont d'Urvil    61.09 183  P      P      23 55 25.3 -0.2
DRV                           pP     pP     23 56 01.9 +0.4
POHA Pohakuloa         61.67  64  P      P      23 55 31.1 +0.5
GTA  Gaotai            62.66 320  eP     P      23 55 37.5 +0.9
GTA                           pmax   pmax
     comp=Z,6.0nm,0.9s
ULN  Ulaanbaatar       63.95 331  P      P      23 55 45.2 +0.2
ULN                           pP     pP     23 56 21.7 +1.3
SONM Songino Array     64.25 331  P      P      23 55 47.3 +0.4
SONM Songino Array     64.25 331  P      P      23 55 45.5 -1.4
     comp=Z,3.0nm,0.9s,baz=153,slow=6.2,SNR=11
     comp=Z,3.0nm,0.9s
VNDA Vanda             72.22 177  P      P      23 56 36.1 +0.2
VNDA Vanda             72.22 177  P      P      23 56 36.0 +0.2
     comp=Z,1.0nm,0.5s,baz=333,slow=7.4,SNR=14
     comp=Z,1.0nm,0.5s
VNDA Vanda             72.22 177  P      P      23 56 35.5 -0.3
VNDA                          pP     pP     23 57 13.1 -0.1
WMQ  Urumqi            72.71 319  eP     P      23 56 41.5 +2.0
L14K Kuka Creek        77.18  22  P      P      23 57 04.0 -0.6
L14K                          IAmb   IAmb   23 57 24.7
     comp=Z,70nm,1.9s
MKAR Makanchi Array    77.41 320  P      P      23 57 05.3 -1.0
MKAR Makanchi Array    77.41 320  P      P      23 57 05.1 -1.2
     comp=Z,1.0nm,0.6s,baz=103,slow=7.5,SNR=8.7
     comp=Z,1.0nm,0.6s
N15K Kwethluk River    77.49  24  P      P      23 57 07.3 +0.9
MAKZ Makanchi          77.62 320  P      P      23 57 07.0 -0.5
ZALV Zalesovo Beam     78.88 328  P      P      23 57 13.2 -1.0
     comp=Z,1.7nm,0.4s,baz=104,slow=6.3,SNR=4.8
     comp=Z,1.7nm,0.4s
KURK Kurchatov         81.11 323  P      P      23 57 25.4 -0.8
KURBB Kurchatov Arra   81.13 323  P      P      23 57 25.4 -0.9
     comp=Z,0.5nm,0.8s,baz=111,slow=5.1,SNR=4.0
     comp=Z,0.5nm,0.8s
SKT  Skwentna          81.97  25  P      P      23 57 29.1 -1.4
SKT                           IAmb   IAmb   23 58 03.9
     comp=Z,44nm,1.6s
PPLA Purkeypile        82.14  24  P      P      23 57 34.4 +2.8
MAW  Mawson            82.64 203  P      P      23 57 33.4 -0.5
     comp=Z,0.6nm,0.7s,baz=30,slow=12,SNR=1.6
     comp=Z,0.6nm,0.7s
GHO  Glory Hole Cre    82.98  25  P      P      23 57 35.1 -0.8
SML  Sawmill           83.25  26  P      P      23 57 36.4 -0.8
SCM  Sheep Creek Mo    83.69  26  P      P      23 57 39.2 -0.4
RND  Reindeer          83.72  24  P      P      23 57 38.7 -0.9
KKAR Karatay Array     84.25 314  P      P      23 57 42.2 -0.5
CHGR Chuyangaron       84.28 310  P      P      23 57 41.6 -1.5
QSPA South Pole Qui    84.29 180  P      P      23 57 44.2 +1.6
     comp=Z,1.5nm,0.7s,baz=11,slow=5.2,SNR=7.6
M24K Tolsona, Glenn    84.30  26  P      P      23 57 41.6 -1.0
I23K Minto, Yukon-K    84.30  22  P      P      23 57 41.5 -0.8
I23K                          IAmb   IAmb   23 57 44.9
     comp=Z,48nm,2.0s
SIMJ Simiganj          84.40 310  P      P      23 57 42.7 -1.0
SIMJ                          pP     pP     23 58 21.2 +0.4
CCB  Clear Creek Bu    84.68  23  P      P      23 57 42.5 -1.8
N25K Chitina, Valde    84.80  26  P      P      23 57 44.7 -0.4
N25K                          IAmb   IAmb   23 58 55.1
     comp=Z,63nm,2.0s
HDA  Harding Lake      84.92  23  P      P      23 57 43.4 -2.1
HDA                           IAmb   IAmb   00 00 53.8
     comp=Z,45nm,1.9s
PAX  Paxson            84.94  25  P      P      23 57 44.1 -1.8
GLB  Gilahina Butte    85.09  27  P      P      23 57 45.9 -0.7
GLB                           IAmb   IAmb   23 57 58.4
     comp=Z,30nm,1.6s
IL31                   85.09  23  P      P      23 57 43.9 -2.5
IL31                          IAmb   IAmb   23 59 28.7
     comp=Z,18nm,1.6s
ILAR Eielson Array     85.09  23  P      P      23 57 43.4 -3.0
ILAR Eielson Array     85.09  23  P      P      23 57 43.6 -2.7
     comp=Z,3.6nm,0.6s,baz=257,slow=5.0,SNR=37
     comp=Z,3.6nm,0.6s
F24K Squaw Lake        85.88  20  P      P      23 57 49.8 -0.5
F24K                          IAmb   IAmb   00 00 49.1
     comp=Z,49nm,2.0s
BARN Barnard Glacie    85.93  27  P      P      23 57 51.0 +0.1
BARN                          IAmb   IAmb   23 57 51.9
     comp=Z,9.0nm,0.8s
TABL Table Mountain    85.97  28  P      P      23 57 50.5 -0.6
TABL                          IAmb   IAmb   00 00 41.0
     comp=Z,19nm,1.2s
CTGM Chitina Glacie    86.05  28  P      P      23 57 51.0 -0.4
CTGM                          IAmb   IAmb   23 57 52.4
     comp=Z,8.1nm,0.6s
LOGN Logan Glacier     86.16  28  P      P      23 57 52.1 +0.1
LOGN                          IAmb   IAmb   23 59 47.2
     comp=Z,27nm,1.5s
O28M Mount Upton       86.52  28  P      P      23 57 54.0 +0.2
O28M                          IAmb   IAmb   23 57 55.2
     comp=Z,10nm,1.0s
BVAR Borovoye Array    86.66 324  P      P      23 57 51.6 -2.8
     comp=Z,7.0nm,0.5s,baz=106,slow=4.7,SNR=3.8
     comp=Z,0.7nm,0.5s
BMAR Burnt Mountain    87.01  21  P      P      23 57 55.7 -0.1
O29M Mount Kennedy     87.14  29  P      P      23 57 57.3 +0.6
P29M Windy Craggy      87.36  29  P      P      23 57 57.8 +0.2
P29M                          IAmb   IAmb   23 57 58.7
     comp=Z,8.5nm,0.8s
H27K Steamboat Moun    87.71  23  P      P      23 57 59.0 -0.2
H27K                          IAmb   IAmb   00 00 04.8
     comp=Z,28nm,1.9s
HYT  Haines Junctio    87.79  28  P      P      23 58 00.2 +0.4
HYT                           IAmb   IAmb   23 58 01.5
     comp=Z,8.4nm,1.1s
M29M Somme Creek       87.80  27  P      P      23 58 00.2 +0.4
DAWY Dawson            87.88  25  P      P      23 58 00.2 +0.2
I28M Miner Creek       88.08  24  P      P      23 58 00.8 -0.3
I28M                          IAmb   IAmb   23 58 01.6
     comp=Z,28nm,1.9s
L29M L29M              88.14  26  P      P      23 58 01.8 +0.5
K29M Barlow Dome       88.61  25  P      P      23 58 03.3 -0.3
K29M                          IAmb   IAmb   23 58 06.0
     comp=Z,31nm,2.0s
H29M Whitestone        88.92  23  P      P      23 58 04.2 -0.7
H29M                          IAmb   IAmb   00 01 11.7
     comp=Z,31nm,1.9s
WHY  Whitehorse        89.00  29  P      P      23 58 05.0 -0.5
WHY                           IAmb   IAmb   00 00 44.8
     comp=Z,12nm,1.3s
J30M Hart River        89.30  25  P      P      23 58 06.7 -0.2
I30M Mount Dempster    89.45  24  P      P      23 58 06.4 -1.1
I30M                          IAmb   IAmb   23 58 41.7
     comp=Z,21nm,1.9s
EPYK Eagle Plains      89.61  23  P      P      23 58 07.5 -0.6
H31M Peel River        90.41  24  P      P      23 58 10.9 -0.9
H31M                          IAmb   IAmb   23 58 14.2
     comp=Z,12nm,1.3s
SYO  Syowa Base        90.98 200⇓ePcP     PcP    23 58 17.0 +1.7
F31M Tsiigehtchic      91.00  22  P      P      23 58 13.5 -0.9
F31M                          IAmb   IAmb   00 00 56.4
     comp=Z,19nm,1.6s
GERES GERESS Array B  121.79 326  PKP    PKPdf  00 04 01.3 -2.9
     comp=Z,0.5nm,0.5s,baz=64,slow=4.8,SNR=5.5
EKA  Eskdalemuir Ar   125.11 340  PKP    PKPdf  00 04 08.5 -1.7
     comp=Z,0.4nm,0.4s,baz=31,slow=3.3,SNR=4.3
TORD Torodi Ar. Bea   145.25 285         PKPdf  00 04 46.8 -1.8
TORD Torodi Ar. Bea   145.25 285  PKPbc  PKPdf  00 04 47.0 -1.7
     comp=Z,3.0nm,0.7s,baz=64,slow=3.4,SNR=8.9
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*IDC **27** 23:47:36.7±1.9, 24°.03S×66°.73W, h162km±18km, mb3.7/5, mbtmp4.2/11, Error ellipse: s-maj=29.2km s-min=15.1km az=110.0*
*SJA **27** 23:47:36.5±1.1, 24°.10S×67°.06W, h194km±7km, ML3.7, MW3.9*
*GUC **27** 23:47:36.8±0.7, 24°.12S×67°.12W, h189km±4km, ML4.1*
*NEIC **27** 23:47:37.3±1.7, 24°.06S±0°.05×67°.21W±0°.07, h207km±10km, mb4.7/12, ML4.1(GUC), Error ellipse: s-maj=11.1km s-min=3.1km az=124.0*
*VAO **27** 23:47:40.0±1.2, 23°.85S×67°.00W, h225km±9km, mb4.3*
ISC 27 23:47:36.5±0.6, 24°.06S±0°.04×67°.10W±0°.03, h195km±6km, n132, σ1§20/156, mb4.1/6, 5C-2D, Chile-Argentina border region

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
SALTA                   0.72 104 ⇓iP       Pn  23 48 05.4 +0.8
SALTA                            eS       Sn  23 48 26.7 +0.4
SALTA                   0.72 104 eP        Pn  23 48 05.3 +0.8
SALTA                            eS       Sn  23 48 25.6 -0.6
AF01  San Pedro de A    1.48 318           Pn  23 48 11.9 +2.0
AF01  San Pedro de A    1.48 318 eP        Pn  23 48 11.6 +1.7
AF01                             eS       Sn  23 48 37.2 +1.5
AF01                             IAML        23 48 40.9
     comp=E,1μm,0.8s
AF01  San Pedro de A    1.48 318 eP        Pn  23 48 11.0 +1.1
AF01                             IAML        23 48 59.0
     comp=Z,348nm,0.8s
SLA   San Lorenzo       1.60 115 eP        Pn  23 48 11.6 +0.8
SLA   San Lorenzo       1.60 115 eP        Pn  23 48 10.7 -0.1
SLA                              eS       Sn  23 48 36.2 -1.3
HJA   Humahuaca         1.77  62 eP        Pn  23 48 13.4 +0.7
HJA                              eS       Sn  23 48 40.9 +0.2
AZAP  Zapla             1.87  96 eP        Pn  23 48 14.0 +0.4
AZAP                             eS       Sn  23 48 41.2 -1.1
AZAP                             IAML        23 48 49.0
     comp=Z,194nm,1.1s
FSA   Cafayete          2.29 154 eP        Pn  23 48 18.5 +0.7
FSA                              eS       Sn  23 48 48.4 -1.8
YJA   Yavi              2.37  38 eP        Pn  23 48 19.8 +0.6
YJA   Yavi              2.37  38 eP        Pn  23 48 19.7 +0.6
YJA                              eS       Sn  23 48 53.3 +1.0
GO02  Mina Guanaco      2.52 244           Pn  23 48 22.2 +1.6
GO02                             Sn       Sn  23 48 55.9 +0.9
GO02  Mina Guanaco      2.52 244⇑eP        Pn  23 48 22.2 +1.6
GO02                             eS       Sn  23 48 55.8 +0.9
PB06  IPOC Station P    2.64 300           Pn  23 48 23.3 +1.5
PB06                             Sn       Sn  23 48 57.0 -0.1
PB06  IPOC Station P    2.64 300 ⇑iP       Pn  23 48 23.3 +1.5
PB06                             IAML        23 48 57.4
     comp=N,1μm,0.4s
PB09  IPOC Station P    2.99 318           Pn  23 48 27.6 +1.6
PB09                             Sn       Sn  23 49 04.9 +0.3
PB09  IPOC Station P    2.99 318 eP        Pn  23 48 27.7 +1.7
PB09                             IAML        23 49 06.1
     comp=N,672nm,0.5s
PB14  IPOC Station P    3.06 259           Pn  23 48 27.9 +1.1
PB14  IPOC Station P    3.06 259⇑iP        Pn  23 48 28.0 +1.1
PB14                             IAML        23 49 06.1
     comp=E,176nm,0.5s
PB14  IPOC Station P    3.06 259 eP        Pn  23 48 28.0 +1.1
PB14                             eS       Sn  23 49 06.1 -0.2
PB14                             IAML        23 49 07.4
     comp=Z,258nm,1.1s
PB03  IPOC Station P    3.15 309           Pn  23 48 28.9 +1.0
PB03  IPOC Station P    3.15 309 eP        Pn  23 48 29.0 +1.0
PB10  IPOC Station P    3.21 279           Pn  23 48 29.7 +1.4
PB10  IPOC Station P    3.21 279⇑iP        Pn  23 48 29.7 +1.4
PB10                             IAML        23 49 13.3
     comp=E,168nm,0.5s
PB10  IPOC Station P    3.21 279 eP        Pn  23 48 29.8 +1.4
PB10                             eS       Sn  23 49 08.9  0.0
PB10                             IAML        23 49 12.4
     comp=Z,92nm,0.4s
AC02  Maricunga         3.32 213           Pn  23 48 31.9 +1.7
AC02  Maricunga         3.32 213⇓eP        Pn  23 48 31.8 +1.7
AC02  Maricunga         3.32 213 eP        Pn  23 48 31.2 +1.1
AC02                             eS       Sn  23 49 10.9 -1.3
PB01  IPOC Station P    3.72 323           Pn  23 48 35.0 +0.2
PB01                             Sn       Sn  23 49 19.1 -1.3
PB01  IPOC Station P    3.72 323 eP        Pn  23 48 35.4 +0.6
PB02  IPOC Station P    3.75 316           Pn  23 48 35.6 +0.5
PB02                             Sn       Sn  23 49 18.9 -2.1
PB02  IPOC Station P    3.75 316 eP        Pn  23 48 35.6 +0.5
AC01  Pan de Azucar     3.79 236           Pn  23 48 35.6 +0.1
AC01                             Sn       Sn  23 49 19.8 -2.0
AC01  Pan de Azucar     3.79 236⇑eP        Pn  23 48 35.6 +0.1
AC01  Pan de Azucar     3.79 236 eP        Pn  23 48 35.7 +0.1
AC01                             eS       Sn  23 49 20.3 -1.5
AC01                             IAML        23 49 22.9
     comp=Z,200nm,0.1s
PATCX Punta Patache     4.28 318           Pn  23 48 42.1 +0.4
PB08  IPOC Station P    4.33 334           Pn  23 48 43.6 +0.8
PB08  IPOC Station P    4.33 334 eP        Pn  23 48 43.9 +1.1
AC06  Mina Casimiro     4.41 221           Pn  23 48 43.0 -0.2
AC06  Mina Casimiro     4.41 221 eP        Pn  23 48 43.3 +0.1
TA01  Diego Aracena     4.49 320           Pn  23 48 44.5 +0.1
TA01  Diego Aracena     4.49 320 eP        Pn  23 48 45.1 +0.8
TA01  Diego Aracena     4.49 320 eP        Pn  23 48 45.1 +0.8
TA01                             IAML        23 49 37.2
     comp=Z,108nm,0.7s
TA01                             eS       Sn  23 49 37.8 +0.1
GO03  Copiapo           4.51 218           Pn  23 48 44.7 +0.1
GO03  Copiapo           4.51 218 eP        Pn  23 48 44.6 +0.1
HMBC  Humberstone       4.56 325           Pn  23 48 45.4 +0.1
HMBC  Humberstone       4.56 325 eP        Pn  23 48 45.0 -0.4
VCA   Vinchina          4.76 192 eP        Pn  23 48 50.1 +2.2
VCA   Vinchina          4.76 192 eP        Pn  23 48 49.8 +1.9
VCA                              eS       Sn  23 49 41.4 -2.7
VCA                              IAML        23 50 09.3
     comp=Z,29nm,0.9s
GO01  Chusmiza          4.78 336           Pn  23 48 48.4  0.0
GO01  Chusmiza          4.78 336 eP        Pn  23 48 49.3 +0.8
PB11  IPOC Station P    4.89 330           Pn  23 48 49.7 +0.2
PB11  IPOC Station P    4.89 330 eP        Pn  23 48 49.5 -0.1
ACLC  CERRO LA CRUZ     5.35 179 eP        Pn  23 48 55.8 +0.4
ACLC                             eS       Sn  23 49 54.6 -3.1
AC04  Llanos de Chal    5.46 220  Pn       Pn  23 48 54.7 -2.0
AC04  Llanos de Chal    5.46 220 eP        Pn  23 48 56.5 -0.2
AC04  Llanos de Chal    5.46 220 eP        Pn  23 48 56.5 -0.2
AC04                             eS       Sn  23 49 57.0 -3.0
LCO   Las Campanas      5.89 212           Pn  23 49 02.0 -0.5
LCO   Las Campanas      5.89 212 eP        Pn  23 49 01.8 -0.7
PB16  IPOC Station P    6.12 338  Pn       Pn  23 49 05.9 +0.1
PB12  IPOC Station P    6.19 330  Pn       Pn  23 49 05.0 -1.3
CO01  Juntas del Tor    6.47 204           Pn  23 49 10.6 +0.6
GO04  Tololo Observa    6.93 208           Pn  23 49 15.6 -0.3
CO03  El Pedregal       7.47 204           Pn  23 49 22.8 -0.1
CFA   Coronel Fontan    7.59 187  P        Pn  23 49 24.0 -0.4
     comp=Z,8.7nm,0.3s,baz=46,slow=18,SNR=83
CFA                            S       Sn  23 50 46.0 -4.0
     comp=Z,7.0nm,0.3s,baz=256,slow=22,SNR=11
ZON   Zonda             7.59 190           Pn  23 49 24.6 +0.3
CO06  Fray Jorge        7.72 210  Pn       Pn  23 49 25.7 -0.4
LPAZ  La Paz            7.79 353  P        Pn  23 49 28.4 +0.7
     comp=Z,15nm,0.4s,baz=148,slow=5.8,SNR=80
LPAZ                           S       Sn  23 50 52.6 -3.2
     comp=Z,3.4nm,0.6s,baz=31,slow=18,SNR=1.7
LPAZ  La Paz            7.79 353 eP        Pn  23 49 28.1 +0.4
CO02  Combarbal         7.91 205  Pn       Pn  23 49 28.1 -0.6
CPUP  Villa Florida     9.14 106           Pn  23 49 43.7 -0.9
CPUP  Villa Florida     9.14 106  P        Pn  23 49 41.2 -3.3
     comp=Z,0.6nm,0.6s,baz=315,slow=13,SNR=4.6
VA03  San Esteban       9.19 199           Pn  23 49 46.1 +0.8
VA06  Catapilco         9.24 203  Pn       Pn  23 49 43.6 -2.2
MT08  Bocatoma Ro       9.70 195           Pn  23 49 54.2 +2.2
MT16  CCHEN             9.81 197  Pn       Pn  23 49 53.8 +0.5
SIV   San Ignacio       9.82  36  P        Pn  23 49 51.9 -1.7
     comp=Z,13nm,0.6s,baz=211,slow=12,SNR=90
SIV                            S       Sn  23 51 27.8  -16
     comp=Z,0.9nm,0.5s,baz=210,slow=18,SNR=1.1
MT02  Curacav           9.83 200  Pn       Pn  23 49 53.4 -0.1
MT03  Universidad Ad    9.87 197           Pn  23 49 54.2 +0.1
LMEL  Las Melosas      10.13 195           Pn  23 49 58.8 +1.3
MT09  Talagante        10.27 198           Pn  23 49 58.7 -0.6
BO04  La Punta         10.36 196           Pn  23 50 08.8 +0.3
MT01  Popeta           10.43 199           Pn  23 50 00.7 -0.5
BO01  Tunca            10.87 198           Pn  23 50 06.4 -0.5
BO02  Sierra Bellavi   11.17 196           Pn  23 50 11.2 +0.4
PTLB  Pontes e Lacer   11.38  43           P   23 50 17.1 -2.5
PTLB  Pontes e Lacer   11.38  43 eP        Pn  23 50 13.6  0.0
ML02  Panimavida       12.25 197           Pn  23 50 25.0 +0.4
VILB  Vilhena          12.83  32           Pn  23 50 33.1 +0.9
VILB  Vilhena          12.83  32 eP        Pn  23 50 31.9 -0.3
BI02  San Fabin de     13.07 195           Pn  23 50 33.7 -1.3
PP1B  Ponte de Pedra   13.10  63 eP        Pn  23 50 35.7 +0.1
CPSB  Cacapava Do Su   13.70 120 eP        P   23 50 45.6 +0.4
PTGB  Pitanga          13.72  96 eP        P   23 50 46.3 +0.7
TRQA  Tornquist        14.63 164           Pn  23 50 52.3 -1.9
FRTB  Fartura          16.08  91 eP        Pn  23 51 12.2 +0.1
ITB2  Iturama          16.13  78 eP        Pn  23 51 13.4 +0.7
LR05  Currie           16.65 193  P        P   23 51 16.7 -1.0
LR05                             IAmb   IAmb   23 51 22.6
     comp=Z,14nm,0.8s
PLCA  Paso Flores      16.88 189  Pn       Pn  23 51 21.4 -0.2
PLCA  Paso Flores      16.88 189  P        Pn  23 51 22.6 +1.0
     comp=Z,2.6nm,0.6s,baz=18,slow=12,SNR=5.5
CLDB  Colider          16.96  41 eP        P   23 51 21.4  0.0
BB19B Bebedouro        17.41  84 eP        Pn  23 51 27.7 -0.3
RCLB  Rio Claro- Sao   18.06  89 eP        P   23 51 33.3 -0.2
PET01 Itanhaem-SP      18.09  95 eP        P   23 51 34.1 +0.4
VAO   Valinhos         18.50  91  P        P   23 51 38.1 -0.1
VAO   Valinhos         18.50  91 eP        P   23 51 38.2  0.0
IPMB  Ipameri, GO      18.63  75 eP        P   23 51 39.3 -0.4
LL01  San Ignacio de   18.80 192  P        P   23 51 42.3 +1.2
LL01                             IAmb   IAmb   23 51 47.1
     comp=Z,10nm,0.7s
LL02  Futaleuf         19.48 190  P        Pn  23 51 50.9 -1.2
LL02                             IAmb   IAmb   23 51 54.2
     comp=Z,19nm,0.8s
PARB  Paraibuna        19.68  92 eP        P   23 51 51.3 +0.3
GO07  Milladeo Hill,   19.77 194  P        P   23 51 52.5 +0.9
BDFB  Brasilia         19.79  68  P        P   23 51 52.6 +0.3
BDFB                             IAmb   IAmb   23 51 53.8
     comp=Z,43nm,0.8s
BDFB  Brasilia         19.79  68  P        P   23 51 52.8 +0.5
     comp=Z,39nm,0.6s,baz=240,slow=11,SNR=78
MACA  Manacapuru-AM    21.68  18  P        P   23 52 11.0 -1.0
MACA                             IAmb   IAmb   23 52 26.3
     comp=Z,7.2nm,0.6s
DIAM  Diamantina, MG   22.57  80 eP        P   23 52 20.5 -0.3
SMTB  Santa Maria do   24.00  54 eP        P   23 52 32.7 -0.9
SDBA  SAO DESIDERIO    24.02  65 eP        P   23 52 33.0 -0.7
MAL2  Monte Alegre,    25.22  32  P        P   23 52 43.5 -1.1
RIB01 Linhares ES      25.24  84 eP        P   23 52 44.3 -0.4
GUA01 Guaratinga, BA   26.62  79 eP        P   23 52 57.0 -0.1
CMC01 Camacan, BA      27.33  77 eP        P   23 53 02.9 -0.5
RCBR  Riachuelo        35.03  64  P        P   23 54 10.8 -0.1
BRU2  Volcan           36.03 333  P        P   23 54 19.5 +0.1
BRU2                             IAmb   IAmb   23 54 27.5
     comp=Z,14nm,0.4s
SNAA  Sanae            59.33 161  P        P   23 57 20.3 +2.7
     comp=Z,0.5nm,0.6s,baz=273,slow=8.8,SNR=9.2
     comp=Z,0.5nm,0.6s
QSPA  South Pole Qui   66.15 180  P        P   23 58 08.4 +5.6
     comp=Z,1.5nm,0.4s,baz=149,slow=1.8,SNR=10.0
     comp=Z,1.5nm,0.4s
DBIC  Dimbokro         67.91  72  P        P   23 58 15.4 +0.9
     comp=Z,1.9nm,0.5s,baz=230,slow=6.8,SNR=4.1
     comp=Z,1.9nm,0.5s
```

LCMT	Little Creek M	74.69	323	P		P	23 58 55.0	+0.2
TORD	Torodi Ar. Bea	76.68	69	P		P	23 59 07.7	+1.3
	comp=Z,1.2nm,0.6s,baz=263,slow=4.3,SNR=3.6						
	comp=Z,1.2nm,0.6s						
GCMT	Greycliff	79.54	331	P		P	23 59 19.3	-2.4
BOSA	Boshof	80.79	117	P		P	23 59 30.6	+1.7
	comp=Z,1.2nm,0.4s,baz=253,slow=4.9,SNR=5.4						
	comp=Z,1.2nm,0.4s						
MKAR	Makanchi Array	146.63	39	PKPbc		PKPab	00 06 57.3	+0.8
	comp=Z,1.3nm,0.7s,baz=310,slow=2.9,SNR=9.8						

*GCMT **28** 00:07:50.0±0.2,54°.50S±0°.02×136°.26W±0°.02,h20km±1km, MW4.9/89,Moment Tensor Solution. s20,c21; s89,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.55±.13; $M_{\theta\theta}$2.50±.12; $M_{\phi\phi}$-1.95±.09; $M_{r\theta}$0.11±.21; $M_{\theta\phi}$1.48±.08; $M_{\phi r}$0.88±.21; Best double couple: M_o2.84500×10^{16} NP1:ϕ_s117.00000°,δ71.00000°,λ-11.00000°. NP2: ϕ_s210.00000°,δ80.00000°,λ-161.00000°. Principal axes: T 2.9850, Plg6.0000°, Azm342.0000°; N -0.2830, Plg68.0000°, Azm237.0000°; P -2.7040, Plg21.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 28 00:07:44.6±1.2,54°.47S×136°.49W,h0km,mb3.9/4, mbtmp3.9/4,MS4.0/34 Error ellipse: s-maj=54.2km s-min=28.7km az=177.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	31.48	202	LR	LR	00 23 37.6	
	comp=Z,189nm,20.2s,baz=82,slow=30						
TBI	Tubuai	32.57	337	eLR	LR	00 22 19.3	
	4μm,26.0s						
TBI				eLR	LR	00 22 30.2	
	2μm,30.0s						
RPN	Rapa Nui	33.79	47	LR	LR	00 24 29.4	
	comp=Z,371nm,19.6s,baz=316,slow=30						
URZ	Urewera	35.16	278	LR	LR	00 25 44.7	
	comp=Z,223nm,18.5s,baz=134,slow=31						
QSPA	South Pole Qui	35.69	180	LR	LR	00 27 43.0	
	comp=Z,497nm,18.2s,baz=68,slow=34						
PMSA	Palmer Station	35.99	136	LR	LR	00 25 27.5	
	comp=Z,364nm,19.0s,baz=255,slow=30						
RAR	Rarotonga	37.60	323	LR	LR	00 28 33.1	
	comp=Z,73nm,18.8s,baz=142,slow=33						
PPT2	Papeete2	38.17	340	eLR	LR	00 25 03.8	
	667nm,28.2s						
PPT2				eLR	LR	00 25 05.8	
	882nm,26.0s						
PPT	Papeete	38.20	340	LR	LR	00 26 18.5	
	comp=Z,444nm,18.3s,baz=182,slow=29						
RAO	Raoul Island	39.00	293	LR	LR	00 27 01.8	
	comp=Z,77nm,21.1s,baz=264,slow=30						
H03S2	Juan Fernandez	44.71	87	T	T	01 03 48.8	
	baz=222,slow=74,SNR=195						
H03S1	Juan Fernandez	44.72	87	T	T	01 03 43.3	
	baz=222,slow=74,SNR=228						
H03S3	Juan Fernandez	44.73	87	T	T	01 03 49.2	
	baz=222,slow=74,SNR=216						
PLCA	Paso Flores	44.88	100	LR	LR	00 30 31.3	
	comp=Z,204nm,18.5s,baz=228,slow=30						
H03N3	Juan Fernandez	44.99	86	T	T	01 04 09.4	
	baz=226,slow=72,SNR=123						
H03N2	Juan Fernandez	44.99	86	T	T	01 04 09.9	
	baz=226,slow=72,SNR=157						
H03N1	Juan Fernandez	45.01	86	T	T	01 04 07.5	
	baz=226,slow=72,SNR=44						
TAOE	Nuku Hiva Isla	45.59	355	eLR	LR	00 28 29.7	
	483nm,24.7s						
SNAA	Sanae	50.00	163	P	P	00 16 39.8	-0.2
	2.0nm,1.2s,baz=232,slow=9.6,SNR=6.3						
SNAA				LR	LR	00 35 49.0	
	comp=Z,135nm,19.6s,baz=189,slow=34						
	2.0nm,1.2s						
DZM	Mont Dzumac	53.30	284	LR	LR	00 34 39.1	
	comp=Z,186nm,21.4s,slow=30						
MAW	Mawson	57.38	189	LR	LR	00 38 42.3	
	comp=Z,98nm,21.1s,baz=132,slow=32						
STKA	Stephens Creek	60.23	256	LR	LR	00 38 39.4	
	comp=Z,178nm,21.3s,baz=218,slow=31						
CPUP	Villa Florida	62.82	98	LR	LR	00 41 07.2	
	comp=Z,66nm,20.4s,baz=51,slow=32						
NNA	Nana	62.86	72	LR	LR	00 39 02.6	
	comp=Z,203nm,18.8s,baz=210,slow=30						
LPAZ	La Paz	64.34	82	P	P	00 18 22.4	-0.3
	1.6nm,1.0s,baz=219,slow=6.1,SNR=5.6						
LPAZ				LR	LR	00 39 55.4	
	comp=Z,76nm,21.4s,baz=214,slow=30						
	1.6nm,1.0s						
ATAH	Atahualpa	66.03	67	LR	LR	00 40 24.0	
	comp=Z,153nm,21.0s,baz=217,slow=30						
HNR	Honiara	67.13	286	LR	LR	00 41 52.4	
	comp=Z,59nm,20.1s,baz=110,slow=30						
ASAR	Alice Springs	70.87	256	P	P	00 19 03.1	-0.2
	0.9nm,0.9s,baz=135,slow=6.3,SNR=4.2						
ASAR				LR	LR	00 47 39.2	
	comp=Z,176nm,18.2s,baz=282,slow=34						
	0.9nm,0.9s						
H01W1	Cape Leeuwin H	72.34	234	T	T	01 39 18.7	
	baz=144,slow=76,SNR=31						
H01W2	Cape Leeuwin H	72.34	234	T	T	01 39 14.0	
	baz=144,slow=76,SNR=36						
H01W3	Cape Leeuwin H	72.36	234	T	T	01 39 14.8	
	baz=144,slow=76,SNR=31						
WRA	Warramunga Arr	73.55	259	P	P	00 19 19.4	+0.1
	1.3nm,0.8s,baz=141,slow=5.3,SNR=7.5						
WRA				LR	LR	00 48 36.1	
	comp=Z,134nm,18.4s,baz=222,slow=33						
	1.3nm,0.8s						
PMG	Port Moresby	74.47	276	LR	LR	00 50 03.5	
	comp=Z,82nm,18.1s,baz=214,slow=34						
BDFB	Brasilia	76.55	98	LR	LR	00 49 09.2	
	comp=Z,121nm,21.9s,baz=178,slow=32						
JTS	Las Juntas de	77.69	52	LR	LR	00 45 36.9	
	comp=Z,185nm,20.7s,baz=169,slow=29						
FITZ	Fitzroy Crossi	79.94	253	LR	LR	00 52 39.2	
	comp=Z,241nm,19.2s,baz=330,slow=34						
LPIG	La Paz	81.44	24	LR	LR	00 46 47.0	
	comp=Z,76nm,21.7s,baz=224,slow=29						
H11S2	WAKE ISLAND Hy	87.29	307	T	T	01 57 05.7	
	baz=153,slow=74,SNR=9.0						
H11S3	WAKE ISLAND Hy	87.30	307	T	T	01 57 03.7	
	baz=153,slow=74,SNR=8.0						
H11S1	WAKE ISLAND Hy	87.31	307	T	T	01 57 04.6	
	baz=153,slow=74,SNR=7.4						
PFO	Pinyon Flats O	89.42	17	LR	LR	00 52 10.7	
	comp=Z,89nm,19.2s,baz=201,slow=30						
MDP	Montagnes des	90.54	82	LR	LR	00 55 18.2	
	comp=Z,78nm,20.2s,baz=234,slow=32						
RCBR	Riachuelo	91.42	102	LR	LR	00 59 20.5	
	comp=Z,68nm,18.0s,baz=236,slow=34						
ANMO	Albuquerque	92.75	24	LR	LR	00 54 23.7	
	comp=Z,92nm,20.0s,baz=346,slow=30						
NVAR	Mina Array Bea	93.85	14	LR	LR	00 55 14.5	
	comp=Z,131nm,18.8s,baz=271,slow=30						
BOSA	Boshof	95.77	164	LR	LR	01 01 55.8	
	comp=Z,143nm,18.9s,baz=190,slow=34						
YBH	Yreka Blue Hor	96.56	10	LR	LR	00 54 32.2	
	comp=Z,7.8nm,21.1s,baz=226,slow=29						
LBTB	Lobatse	99.35	164	LR	LR	01 03 24.2	
	comp=Z,83nm,18.7s,baz=142,slow=34						
PDAR	Pinedale Array	99.56	20	LR	LR	00 59 01.4	
	comp=Z,58nm,18.4s,baz=254,slow=31						
ESDC	Sonseca Array	145.17	95	PKPbc	PKPbc	00 27 22.8	-0.1
	0.8nm,0.9s,baz=233,slow=2.4,SNR=4.8						

*IDC **28** 00:12:09.2±12.0,9°.75N×125°.73E,h92km±125km,mb3.6/7, mbtmp4.0/7,Error ellipse: s-maj=70.5km s-min=20.8km az=77.0*

ISC 28 00:12:01.7±1.1,9°.8N±0°.2×125°.6E±0°.5,h23km,n13, σ0^{s}62/7,mb3.7/7,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.73	164	P	P	00 18 15.1	-0.2
	0.4nm,0.5s,baz=341,slow=9.0,SNR=4.7						
	0.4nm,0.5s						
ASAR	Alice Springs	34.19	166	P	P	00 18 46.0	+0.4
	0.3nm,0.3s,baz=346,slow=6.9,SNR=7.6						
	0.3nm,0.3s						
USRK	Ussurivsk Ar.	34.77	8	P	P	00 18 50.6	+0.3
	3.6nm,0.6s,baz=185,slow=5.2,SNR=5.7						
	3.6nm,0.6s						
H11S3	WAKE ISLAND Hy	40.70	73	T	T	01 02 39.7	
	baz=262,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	40.71	73	T	T	01 02 35.9	
	baz=262,slow=74,SNR=9.5						
H11S2	WAKE ISLAND Hy	40.71	73	T	T	01 02 40.6	
	baz=262,slow=74,SNR=11						
H11N1	WAKE ISLAND Hy	41.04	71	T	T	01 03 04.5	
	baz=265,slow=74,SNR=16						
H11N2	WAKE ISLAND Hy	41.05	71	T	T	01 03 03.6	
	baz=265,slow=74,SNR=16						
H11N3	WAKE ISLAND Hy	41.06	71	T	T	01 03 08.0	
	baz=265,slow=74,SNR=15						
MKAR	Makanchi Array	52.05	323	P	P	00 21 10.1	+0.4
	0.3nm,0.3s,baz=118,slow=7.8,SNR=7.9						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	56.13	326	P	P	00 21 39.5	+0.2
	0.3nm,0.4s,baz=132,slow=6.7,SNR=5.2						
	0.3nm,0.4s						
ARCES	ARCESS Array B	84.45	340	P	P	00 24 31.3	-0.9
	2.4nm,0.9s,baz=90,slow=4.9,SNR=5.9						
	2.4nm,0.9s						
FINES	FINESS Array B	86.03	332	P	P	00 24 40.0	-0.3
	2.7nm,0.8s,baz=57,slow=5.1,SNR=16						
	2.7nm,0.8s						

*JMA **28** 00:16:15.8±0.1,38°.2N±0°.3×141°.8E±0°.5,h57km,MV3.9/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*IDC **28** 00:16:18.0±4.8,38°.14N×141°.80E,h80km±42km,mb3.5/7, mbtmp3.7/8,ML2.3/1,Error ellipse: s-maj=37.4km s-min=21.7km az=78.0*

ISC 28 00:16:15.6±1.0,38°.21N±0°.05×141°.80E±0°.08,h54km±8km, n37,σ1^{s}35/43,mb3.8/7,12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.28	291	*i* P	Pn	00 16 25.4	+0.5
JIKH				S	Sn	00 16 32.2	+0.6
JIO	Ouri	0.43	305	*i* P	Pn	00 16 26.8	+0.5
JIO				S	Sn	00 16 34.6	+0.5
JKMT	Kesennumamotoy	0.65	337	*i* P	Pn	00 16 29.3	+0.4
JKMT				S	Sn	00 16 38.9	+0.3
JMM	Marumori	0.87	247	P	Pn	00 16 31.6	-0.1
JMM	Marumori	0.87	247	S	Sn	00 16 43.3	-0.2
JMM	Marumori	0.87	247	||*i* P	Pn	00 16 31.5	-0.1
JMM				||S	Sn	00 16 43.2	-0.3
JMK	Ichinoseki	0.87	329	||*i* P	Pn	00 16 32.2	+0.5
JMK				||S	Sn	00 16 44.0	+0.5
OFUJ	Ofunato	0.88	353	*i* P	Pn	00 16 32.0	+0.2
OFUJ				S	Sn	00 16 43.8	+0.1
JOU	Okura	0.91	280	||*i* P	Pn	00 16 32.5	+0.3
JOU				||S	Sn	00 16 45.0	+0.5
JFK	Kawauchi	1.12	221	P	Pn	00 16 35.1	+0.1
JFK				S	Sn	00 16 49.1	-0.4
JOM	Ohasama	1.32	343	||*i* P	Pn	00 16 38.2	+0.4
JOM				||S	Sn	00 16 55.2	+0.9
JOTO	OTAMA OYAMA	1.33	241	P	Pn	00 16 38.2	+0.3
JOTO				S	Sn	00 16 55.1	+0.6
JYK	Kaneyama	1.34	302	*i* P	Pn	00 16 38.3	+0.3
JYS	Shiratake	1.37	271	||*i* P	Pn	00 16 38.8	+0.4
JYS				||S	Sn	00 16 56.6	+1.2
JRG	Rokugo	1.50	323	||*i* P	Pn	00 16 40.8	+0.6
JYA	Atsumi	1.69	284	||*i* P	Pn	00 16 43.1	+0.4
JTM	Tenmabayashi	2.64	348	P	Pn	00 16 57.2	+1.5
JSD	Sado	2.80	268	P	Pn	00 16 58.2	+0.3
MJAR	Matsushiro Arr	3.31	241	P	Pn	00 17 06.9	+1.9
	0.3nm,0.3s,baz=57,slow=11,SNR=16						
MJAR				S	Sn	00 17 48.3	+5.2
	2.0nm,0.3s,baz=248,slow=31,SNR=1.8						
	6.1nm,0.6s						
MAJO	Matsushiro	3.31	241	P	Pn	00 17 07.4	+2.4
ERM	Erimo	3.94	15	P	Pn	00 17 16.3	+2.8
JEM	Erimo	3.94	15	P	Pn	00 17 16.3	+2.8
JGF	Kuroka	4.41	235	P	Pn	00 17 22.7	+2.6
H11N2	WAKE ISLAND Hy	28.51	123	T	T	00 52 23.0	
	baz=316,slow=75,SNR=100						
H11N1	WAKE ISLAND Hy	28.52	123	T	T	00 52 23.2	
	baz=316,slow=75,SNR=122						
H11N3	WAKE ISLAND Hy	28.52	123	T	T	00 52 24.6	
	baz=316,slow=75,SNR=95						
H11S1	WAKE ISLAND Hy	29.26	125	T	T	00 53 20.0	
	baz=317,slow=76,SNR=88						
H11S3	WAKE ISLAND Hy	29.26	125	T	T	00 53 20.1	
	baz=317,slow=76,SNR=94						
H11S2	WAKE ISLAND Hy	29.27	125	T	T	00 53 21.2	
	baz=317,slow=76,SNR=95						
MKAR	Makanchi Array	43.77	301	P	P	00 24 15.8	0.0
	0.4nm,0.6s,baz=88,slow=6.2,SNR=3.1						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	45.53	307	P	P	00 24 29.8	+0.2
	0.7nm,0.3s,baz=81,slow=8.1,SNR=5.9						
	0.7nm,0.3s						
WRA	Warramunga Arr	58.27	188	P	P	00 26 03.5	-1.2
	0.9nm,0.6s,baz=6.0,slow=7.0,SNR=8.8						
	0.9nm,0.6s						
ASAR	Alice Springs	61.99	188	P	P	00 26 29.2	-0.9
	0.6nm,0.8s,baz=6.2,slow=6.5,SNR=7.8						
	0.6nm,0.8s						
HFS	Hagfors	73.15	336	P	P	00 27 39.1	-1.0
	2.4nm,0.8s,baz=54,slow=7.5,SNR=2.0						
	2.4nm,0.8s						
PDAR	Pinedale Array	76.62	46	P	P	00 28 00.4	-0.4
	0.1nm,0.3s,baz=295,slow=3.3,SNR=2.7						
	0.1nm,0.3s						
TXAR	Lajitas Array	89.16	53	P	P	00 29 05.0	-0.7
	0.2nm,0.6s,baz=295,slow=3.1,SNR=4.0						
	0.2nm,0.6s						
LPAZ	La Paz	145.82	59	PKPbc	PKPbc	00 35 49.5	-0.5
	0.4nm,0.4s,baz=318,slow=0.8,SNR=3.5						

*IDC **28** 00:26:28.8±1.0,67°.84N×20°.65E,h0km,mbtmp3.5/5, ML2.3/5,Error ellipse: s-maj=15.8km s-min=6.9km az=117.0*
*UPP **28** 00:26:29.5±0.0,67°.85N×20°.22E,h0km,ML2.5,Suspected explosion*

ISC 28 00:26:27.9±0.8,67°.81N±0°.03×20°.14E±0°.04,h0km,n14, σ1^{s}28/18,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.17	26	P	Pg	00 26 32.1	+1.0
KUA				S	Sg	00 26 33.5	+0.2
KOVU	Salmi	0.42	1	P	Pg	00 26 36.8	+0.9
KOVU				S	Sg	00 26 41.7	+0.3
NIKU	Nikkaluokta	0.42	279	P	Pb	00 26 38.1	-0.2
DUNU	Dundret	0.71	166	P	Pb	00 26 43.5	+0.4
LANU	Lannavaara	0.74	70	P	Pg	00 26 42.7	+0.6
SALU	Saltoluokta	0.76	236	P	Pb	00 26 44.6	+0.7
MASU	Masugnsbyn	0.79	115	P	Pb	00 26 44.3	-0.3
PAJU	Pajala	1.39	123	P	Pb	00 26 55.0	+0.2
HARU	Harads	1.68	168	P	Pg	00 27 01.0	+0.9
ARCES	ARCESS Array B	2.62	46	Pn	Pn	00 27 09.7	-1.8
	0.7nm,0.3s,baz=226,slow=15,SNR=14						
ARCES				Lg	Lg	00 27 45.9	
	1.8nm,0.3s,baz=228,slow=25,SNR=12						
	1.4nm,0.2s						
FINES	FINESS Array B	6.87	155	Pn	Pn	00 28 09.7	-0.2
	0.2nm,0.3s,baz=331,slow=19,SNR=1.7						
FINES				Sn	Sn	00 29 29.1	+0.5
	0.2nm,0.3s,baz=349,slow=20,SNR=1.6						
FINES				Lg	Lg	00 30 06.1	
	0.3nm,0.3s,baz=337,slow=26,SNR=5.3						
	4.3nm,1.0s						
NOA	NORSAR Array B	7.80	214	Pn	Pn	00 28 24.8	+2.2
	baz=14,slow=13,SNR=1.0						
NOA				Sn	Sn	00 29 48.1	-3.5
	baz=266,slow=14,SNR=1.0						
NOA				Lg	Lg	00 30 36.7	
	baz=288,slow=4.6,SNR=1.7						
	0.9nm,0.7s						
HFS	Hagfors	8.20	203	Pn	Pn	00 28 27.1	-0.9
	0.1nm,0.3s,baz=21,slow=12,SNR=1.7						
HFS				Lg	Lg	00 30 46.5	
	0.2nm,0.3s,baz=40,slow=30,SNR=2.2						
	2.2nm,0.9s						
SPITS	Spitsbergen Ar	10.48	356	Pn	Pn	00 28 59.7	+0.5
	baz=159,slow=12						
	10.0nm,1.1s						

*IDC **28** 00:35:43.0±1.6,15°.97S×69°.67W,h199km±13km,mb3.0/2, mbtmp3.4/4,Error ellipse: s-maj=34.1km s-min=25.9km az=57.0*

ISC 28 00:35:43.7±1.2,16°.0S±0°.2×69°.6W±0°.1,h213km,n6, σ1^{s}38/8,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.44	100	P	Pn	00 36 17.6	-1.2
	32nm,0.4s,baz=282,slow=4.9,SNR=228						
LPAZ				S	S	00 36 44.1	-1.7
	74nm,0.5s,baz=344,slow=25,SNR=25						
SIV	San Ignacio	8.21	91	P	Pn	00 37 39.0	-0.8
	1.3nm,0.6s,baz=287,slow=8.4,SNR=8.7						
SIV				S	S	00 39 14.2	+1.6
	1.2nm,0.6s,baz=180,slow=20,SNR=2.5						
CFA	Coronel Fontan	15.56	176	P	P	00 39 11.5	-0.4
	0.5nm,0.5s,baz=4.6,slow=9.9,SNR=2.0						
SNAA	Sanae	67.65	162	P	P	00 46 18.7	+1.3
	0.8nm,0.8s,baz=275,slow=11,SNR=8.2						
	0.8nm,0.8s						
PDAR	Pinedale Array	69.07	330	P	P	00 46 26.9	+0.1
	0.2nm,0.6s,baz=123,slow=9.8,SNR=4.2						
	0.2nm,0.6s						
WRA	Warramunga Arr	137.20	214	PKP	PKiKP	00 54 44.7	+0.3
	0.3nm,0.7s,baz=152,slow=1.5,SNR=1.8						

GII 28 00:46:44.7±0.0,33°.34N±0°.02×35°.601E±0°.005,h8km, Mws1.3,confirmed,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTLA	Metula	0.06	199	P	Pg	00 46 46.7	+0.2
MTLA	Metula	0.06	199	S	Sg	00 46 48.3	+0.4
MSAM	Misgav Am	0.10	207	P	Pg	00 46 47.4	+0.3
MSAM	Misgav Am	0.10	207	S	Sg	00 46 49.5	+0.8
GOSH	HaGoshrim	0.12	170	P	Pg	00 46 47.8	+0.5
GOSH	HaGoshrim	0.12	170	S	Sg	00 46 49.9	+0.8
KIRY	Kiryat Shemona	0.13	192	P	Pg	00 46 47.8	+0.3
KIRY	Kiryat Shemona	0.13	192	S	Sg	00 46 50.4	+0.9
GEM	Giv'at Ha'Em	0.13	157	P	Pg	00 46 48.1	+0.6
GEM	Giv'at Ha'Em	0.13	157	S	Sg	00 46 50.1	+0.6
NATI	Neve Ativ	0.14	123	P	Pg	00 46 47.8	+0.3
NATI	Neve Ativ	0.14	123	S	Sg	00 46 50.5	+0.9
LVBS	Lehavot Habash	0.20	168	P	Pg	00 46 49.2	+0.5
LVBS	Lehavot Habash	0.20	168	S	Sg	00 46 52.7	+1.3
KDZV	Kedmat Zvi	0.32	165	P	Pg	00 46 51.2	+0.3
KDZV	Kedmat Zvi	0.32	165	S	Sb	00 46 56.9	-1.0
MMC7	Mount Meron ar	0.36	209	P	Pg	00 46 52.0	+0.3
MMA0B	Mount Meron ar	0.36	208	P	Pg	00 46 52.2	+0.4
MMA0B	Mount Meron ar	0.36	208	S	Sb	00 46 57.9	-1.2
KSHT	Keshet	0.39	153	P	Pb	00 46 53.4	-0.5
KSHT	Keshet	0.39	153	S	Sb	00 46 59.3	-0.8

*GCMT **28** 00:51:55.0±0.4,54°.37S±0°.02×136°.12W±0°.03,h21km±2km, MW4.8/77,Moment Tensor Solution. s18,c19; s77,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.30±.15; $M_{\theta\theta}$1.71±.14; $M_{\phi\phi}$-1.41±.12; $M_{r\theta}$1.16±.26; $M_{\theta\phi}$1.31±.10; $M_{\phi r}$0.72±.23; Best double couple: M_o2.36200×10^{16} NP1:ϕ_s118.00000°,δ64.00000°,λ8.00000°. NP2: ϕ_s25.00000°,δ83.00000°,λ154.00000°. Principal axes: T 2.7720, Plg24.0000°, Azm338.0000°; N -0.8200, Plg63.0000°, Azm191.0000°; P -1.9520, Plg13.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 28 00:51:50.9±1.6,55°.99S×135°.74W,h0km,mb4.0/3, mbtmp4.0/3,MS3.9/30 Error ellipse: s-maj=629.7km s-min=29.4km az=169.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	30.23	203	LR	LR	01 07 20.3	
	comp=Z,153nm,21.4s,baz=80,slow=31						
TBI	Tubuai	34.14	337	eLR	LR	01 06 37.9	
	3μm,27.8s						
QSPA	South Pole Qui	34.18	180	LR	LR	01 11 57.0	
	comp=Z,276nm,18.0s,baz=64,slow=35						
RPN	Rapa Nui	34.54	44	LR	LR	01 09 02.6	
	comp=Z,145nm,18.7s,baz=116,slow=30						
PMSA	Palmer Station	34.61	134	LR	LR	01 09 53.1	
	comp=Z,235nm,19.3s,baz=262,slow=31						
URZ	Urewera	35.81	279	LR	LR	01 09 29.0	
	comp=Z,140nm,18.5s,baz=246,slow=30						
RAR	Rarotonga	39.06	323	LR	LR	01 11 28.1	
	comp=Z,177nm,20.1s,baz=134,slow=30						
PPT2	Papeete2	39.75	339	eLR	LR	01 09 16.7	
	519nm,25.8s						
PPT2				eLR	LR	01 09 24.0	
	397nm,29.5s						
PLCA	Paso Flores	44.20	98	LR	LR	01 14 07.6	
	comp=Z,90nm,18.9s,baz=226,slow=30						
H03S2	Juan Fernandez	44.40	85	T	T	01 47 49.4	
	baz=222,slow=74,SNR=94						
H03S1	Juan Fernandez	44.41	85	T	T	01 47 49.4	
	baz=222,slow=74,SNR=90						
H03S3	Juan Fernandez	44.42	85	T	T	01 47 49.4	
	baz=222,slow=74,SNR=86						
H03N3	Juan Fernandez	44.68	84	T	T	01 48 07.6	
	baz=226,slow=72,SNR=71						
H03N2	Juan Fernandez	44.69	84	T	T	01 48 07.6	
	baz=226,slow=72,SNR=105						
H03N1	Juan Fernandez	44.70	84	T	T	01 48 07.6	
	baz=226,slow=72,SNR=75						
TAOE	Nuku Hiva Isla	47.14	354	eLR	LR	01 12 45.1	
	311nm,24.7s						
SNAA	Sanae	48.42	162	LR	LR	01 19 44.4	
	comp=Z,129nm,19.5s,baz=192,slow=35						
DZM	Mont Dzumac	54.08	284	LR	LR	01 18 32.4	
	comp=Z,102nm,21.1s,baz=179,slow=30						
MAW	Mawson	55.95	188	LR	LR	01 22 25.1	
	comp=Z,78nm,21.9s,baz=99,slow=33						
STKA	Stephens Creek	60.28	256	LR	LR	01 24 11.4	
	comp=Z,132nm,21.1s,baz=329,slow=32						
CPUP	Villa Florida	62.21	96	LR	LR	01 24 50.8	
	comp=Z,32nm,21.1s,baz=43,slow=32						
NNA	Nana	62.95	70	LR	LR	01 22 29.3	
	comp=Z,172nm,21.3s,baz=193,slow=29						
LPAZ	La Paz	64.14	81	P	P	01 02 27.6	-0.2
	0.8nm,0.8s,baz=222,slow=7.0,SNR=5.0						
LPAZ				LR	LR	01 23 32.2	
	comp=Z,78nm,22.0s,baz=190,slow=30						

comp=Z,6.2nm,18.1s,baz=326,slow=31
ESDC Sonseca Array 144.58 97 PKP PKPdf 01 11 28.4 -0.2
1.2nm,0.9s,baz=242,slow=2.8,SNR=5.5

*ROM **28** 01:10:16.4±0.2, 44°.516N±0°.008×6°.88E±0°.01, h9km±1km, ML1.4/12, Error ellipse: s-maj=1.1km s-min=0.6km az=57.0*
*GEN **28** 01:10:16.4, 44°.54N×6°.91E, h13km±1km, Ml1.0*
*LDG **28** 01:10:17.1±0.1, 44°.54N×6°.90E, h2km, Md2.1/2, Ml2.1/7, Error ellipse: s-maj=1.1km s-min=0.8km az=45.0*
STR 28 01:10:16.8±0.0, 44°.53N±0°.04×6°.90E±0°.04, h10km, MLv1.8/30, 1C, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.08**	**230**	P	Pg	01 10 18.5	-0.8
SURF				S	Sg	01 10 19.6	-1.5
SURF	**Saint Ours**	**0.08**	**230**	Pg	Pg	01 10 18.5	-0.9
SURF				Sg	Sg	01 10 19.7	-1.5
JAUF	**Jausiers**	**0.15**	**226**	Pg	Pg	01 10 19.4	-0.9
JAUF				Sg	Sg	01 10 21.3	-1.4
PZZ	**Stroppo**	**0.16**	**100**	P	Pg	01 10 20.8	+0.4
PZZ				S	Sg	01 10 23.5	+0.7
PZZ	**Stroppo**	**0.16**	**100**	⇑P	Pg	01 10 20.8	+0.5
PZZ				S	Sg	01 10 23.5	+0.6
PZZ				AML	AML		
	comp=E,633μm,0.4s						
PZZ				AML	AML		
	comp=N,752μm,0.3s						
PZZ				AML	AML		
	comp=E,633μm,1.6s						
PZZ	**Stroppo**	**0.16**	**100**	Pg	Pg	01 10 20.8	+0.4
PZZ				Sg	Sg	01 10 23.5	+0.6
CREF	**Crivoux**	**0.20**	**275**	Pg	Pg	01 10 20.4	-0.7
CREF				Sg	Sg	01 10 23.7	-0.3
MBDF	**Montbardon**	**0.21**	**335**	*e*Pg	Pg	01 10 21.5	+0.1
MBDF				*e*Sg	Sg	01 10 24.1	-0.3
	comp=E,22nm,0.2s						
OGAG	**Argentiere**	**0.27**	**253**	P	Pb	01 10 23.9	+0.1
OGAG				S	Sb	01 10 29.3	+0.8
OGAG	**Argentiere**	**0.27**	**253**	Pg	Pb	01 10 23.9	+0.1
OGAG				Sg	Sb	01 10 29.3	+0.8
ISO	**Isola**	**0.37**	**163**	P	Pg	01 10 24.4	+0.3
ISO				S	Sg	01 10 28.9	0.0
ISO	**Isola**	**0.37**	**163**	Pg	Pg	01 10 23.8	-0.2
ISO				Sg	Sg	01 10 28.4	-0.5
RRL	**Rocca Remolon**	**0.40**	**349**	P	Pg	01 10 25.1	+0.4
RRL				S	Sb	01 10 31.4	-1.0
RRL	**Rocca Remolon**	**0.40**	**349**	P	Pg	01 10 25.1	+0.4
RRL				S	Sb	01 10 31.3	-1.0
RRL	**Rocca Remolon**	**0.40**	**349**	Pg	Pg	01 10 25.0	+0.3
RRL				Sg	Sb	01 10 31.3	-1.0
BHB	**Bricherasio**	**0.40**	**40**	P	Pg	01 10 25.3	+0.5
BHB				S	Sg	01 10 30.4	+0.3
BHB	**Bricherasio**	**0.40**	**40**	P	Pg	01 10 25.3	+0.5
BHB	**Bricherasio**	**0.40**	**40**	Pg	Pg	01 10 25.2	+0.5
STV	**Sant Anna di V**	**0.42**	**133**	P	Pg	01 10 25.0	-0.1
STV				S	Sg	01 10 30.8	+0.2
STV	**Sant Anna di V**	**0.42**	**133**	P	Pg	01 10 25.0	-0.1
STV				S	Sg	01 10 30.9	+0.3
STV				AML	AML		
	comp=N,41μm,0.5s						
STV				AML	AML		
	comp=E,44μm,0.5s						
STV	**Sant Anna di V**	**0.42**	**133**	Pg	Pg	01 10 24.9	-0.2
STV				Sg	Sg	01 10 31.0	+0.4
ENAUX	**Enaux**	**0.43**	**192**	Pg	Pg	01 10 24.9	-0.4
ENAUX				Sg	Sg	01 10 30.5	-0.5
ENR	**Entracque**	**0.48**	**129**	P	Pg	01 10 26.1	-0.2
ENR				S	Sg	01 10 32.7	+0.1
ENR	**Entracque**	**0.48**	**129**	P	Pg	01 10 26.0	-0.2
ENR				AML	AML		
	comp=N,58μm,1.4s						
ENR				AML	AML		
	comp=N,58μm,0.6s						
ENR				AML	AML		
	comp=E,58μm,0.1s						
ENR	**Entracque**	**0.48**	**129**	Pg	Pg	01 10 26.0	-0.2
SPIF	**crte de Spivo**	**0.54**	**153**	Pg	Pg	01 10 27.1	-0.1
SPIF				Sg	Sg	01 10 34.2	-0.1
BNI	**Bardonecchia**	**0.54**	**343**	P	Pn	01 10 29.8	-1.0
BNI				S	Sb	01 10 35.9	-0.5
OGDI	**Digne**	**0.60**	**226**	P	Pb	01 10 29.8	+0.3
OGDI	**Digne**	**0.60**	**226**	Pg	Pb	01 10 29.8	+0.2
OGDI				Sg	Sb	01 10 39.2	+1.1
TURF	**col de Turini**	**0.66**	**147**	P	Pg	01 10 30.1	+0.4
TURF				S	Sg	01 10 39.0	+0.7
TURF	**col de Turini**	**0.66**	**147**	Pg	Pg	01 10 29.5	-0.1
TURF				Sg	Sg	01 10 38.7	+0.4
MVIF	**Mont Vial**	**0.66**	**164**	Pg	Pg	01 10 29.8	+0.2
MVIF				Sg	Sg	01 10 38.8	+0.4
RSP	**Reno Superiore**	**0.67**	**23**	P	Pb	01 10 30.2	-0.4
RSP				S	Sg	01 10 38.9	+0.4
RSP	**Reno Superiore**	**0.67**	**23**	P	Pg	01 10 30.1	+0.4
RSP				S	Sb	01 10 39.4	-0.6
RSP	**Reno Superiore**	**0.67**	**23**	Pg	Pg	01 10 30.1	+0.3
RSP				Sg	Sb	01 10 39.3	-0.7
SALSA	**La sagne**	**0.67**	**193**	Pg	Pg	01 10 29.8	0.0
SALSA				Sg	Sg	01 10 39.1	+0.5
SAOF	**Saorge**	**0.72**	**139**	P	Pb	01 10 31.2	-0.3
SAOF				S	Sb	01 10 40.9	-0.6
SAOF	**Saorge**	**0.72**	**139**	P	Pg	01 10 30.7	-0.1
SAOF				S	Sg	01 10 40.5	+0.3
SAOF	**Saorge**	**0.72**	**139**	Pg	Pg	01 10 30.7	-0.1
SAOF				Sg	Sg	01 10 40.4	+0.2
GBOS	**Grotte di Boss**	**0.73**	**113**	P	Pg	01 10 31.0	0.0
GBOS				S	Sg	01 10 40.0	-0.6
GBOS	**Grotte di Boss**	**0.73**	**113**	P	Pg	01 10 31.0	0.0
GBOS	**Grotte di Boss**	**0.73**	**113**	Pg	Pg	01 10 30.9	-0.1
GBOS				Sg	Sg	01 10 41.2	+0.6
SBF	**Sospel**	**0.77**	**150**	*e*Pg	Pg	01 10 31.4	-0.3
SBF				*e*Sg	Sb	01 10 42.6	-0.4
	comp=E,2.4nm,0.1s						
CALF	**Calern**	**0.78**	**179**	Pg	Pg	01 10 32.0	+0.1
CALF				Sg	Sg	01 10 42.7	+0.6
ESCA	**l'Escarene**	**0.78**	**154**	P	Pb	01 10 32.5	-0.1
ESCA				S	Sb	01 10 42.6	-0.6
ESCA	**l'Escarene**	**0.78**	**154**	Pg	Pb	01 10 31.9	0.0
ESCA				Sg	Sb	01 10 42.7	-0.5
MGRO	**Montegrosso**	**0.82**	**127**	Pg	Pg	01 10 32.7	+0.1
MGRO				Sg	Sb	01 10 44.0	-0.4
ORIF	**Oris-en-Rattie**	**0.82**	**298**	*e*Pg	Pg	01 10 32.2	-0.5
ORIF				*e*Sg	Sg	01 10 42.7	-0.7
	comp=E,7.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.82**	**298**	P	Pg	01 10 32.2	-0.5
ORIF				S	Sg	01 10 42.9	-0.5
ORIF				AML	AML		
	comp=E,20μm,1.6s						
ORIF				AML	AML		
	comp=N,21μm,1.6s						
ORIF				AML	AML		
	comp=E,20μm,0.4s						
ORIF				AML	AML		
	comp=N,21μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.82**	**298**	Pg	Pg	01 10 32.1	-0.5
ORIF				Sg	Sg	01 10 42.6	-0.8
TRIGF	**Trigance**	**0.86**	**204**	Pg	Pg	01 10 33.0	-0.4
TRIGF				Sg	Sg	01 10 44.5	-0.1
RORO	**Rocca Rossa**	**0.94**	**116**	P	Pg	01 10 34.5	-0.4
RORO				AML	AML		
	comp=E,270μm,1.5s						
RORO				AML	AML		
	comp=N,19μm,1.4s						
RORO				AML	AML		
	comp=N,19μm,0.6s						
RORO				AML	AML		
	comp=E,270μm,0.5s						
RORO	**Rocca Rossa**	**0.94**	**116**	Pg	Pg	01 10 34.4	-0.4
RORO				Sg	Sb	01 10 47.7	0.0
IMI	**Imperia**	**0.95**	**131**	P	Pg	01 10 34.8	-0.3
LPG	**La Plagne**	**0.97**	**354**	*e*Pg	Pb	01 10 36.2	+0.3
LPG				*e*Sg	Sg	01 10 48.1	-0.1
	comp=E,1.3nm,0.2s						
MLYF	**Mely**	**0.98**	**237**	Pg	Pb	01 10 35.9	0.0
MLYF				Sn	Sn	01 10 52.1	+1.4
LPL	**La Plagne**	**0.99**	**353**	*e*Pg	Pb	01 10 36.3	+0.1
LPL				*e*Sg	Sg	01 10 47.7	-1.1
	comp=E,4.0nm,0.5s						
CANO	**Canova, Maglio**	**1.01**	**108**	P	Pg	01 10 35.9	-0.4
CANO				Sg	Sb	01 10 50.2	+0.3
GRN	**Grenoble**	**1.08**	**311**	Pg	Pg	01 10 37.7	0.0
GRN				Sg	Sb	01 10 52.5	+0.5
SMRF	**Simiane la Rot**	**1.10**	**240**	*e*Pg	Pb	01 10 38.2	+0.2
SMRF				*e*Sg	Sn	01 10 53.6	-0.1
	comp=E,5.7nm,0.3s						
BSTF	**la Bastide-des**	**1.11**	**235**	Pg	Pn	01 10 39.1	+0.6
BSTF				Sg	Sn	01 10 54.9	+1.0
TRAV	**Traversella**	**1.15**	**31**	Pg	Pb	01 10 38.1	-0.8
CIRO	**Champorcher**	**1.17**	**24**	Pn	Pb	01 10 39.0	-0.3
CIRO				Sg	Sn	01 10 55.5	-0.2
PCP	**Piancastagn**	**1.18**	**89**	P	Pb	01 10 39.0	-0.3
PCP				AML	AML		
	comp=E,15μm,1.6s						
PCP				AML	AML		
	comp=N,13μm,1.6s						
PCP				AML	AML		
	comp=E,15μm,0.4s						
PCP	**Piancastagn**	**1.18**	**89**	Pn	Pb	01 10 38.9	-0.4
PCP				Sg	Sn	01 10 55.4	-0.1
RUSF	**Rustrel**	**1.18**	**240**	Pg	Pg	01 10 39.7	+0.3
RUSF				Sg	Sn	01 10 56.1	+0.6
ARTF	**Artigues**	**1.23**	**220**	Pn	Pb	01 10 40.3	+0.1
ARTF				Sg	Sn	01 10 57.0	+0.2
LMR	**La Mourre**	**1.23**	**193**	*e*Pg	Pn	01 10 40.1	0.0
LMR				*e*Sg	Sg	01 10 56.3	-0.2
	comp=E,4.1nm,0.2s						
FLAF	**Flassans-sur-l**	**1.24**	**202**	Pg	Pn	01 10 40.2	0.0
OGSM	**Saint Maurice**	**1.37**	**322**	Pg	Pg	01 10 43.1	0.0
RNCA	**Ronca, Sant'Ol**	**1.47**	**92**	Pg	Pb	01 10 44.5	+0.2
VIVF	**Saint-Julien-l**	**1.62**	**282**	*e*Pg	Pn	01 10 46.1	+0.6
VIVF				*e*Sg	Sn	01 11 06.7	+0.2
	comp=E,2.9nm,0.3s						
SSB	**Saint Sauveur**	**1.83**	**295**	Pn	Pn	01 10 47.8	-0.6
SSB				Pg	Pb	01 10 49.3	-1.2
SSB				Sn	Sn	01 11 11.7	0.0

*IDC **28** 01:14:15.9±7.4, 24°.96S×179°.76E, h469km±81km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=66.6km s-min=29.6km az=11.0*
ISC 28 01:14:17.4±1.1, 25°.1S±0°.1×179°.7E±0°.2, h500km, n8, σ1°54/9, mb3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.33**	**189**	P	**P**	**01 17 10.0**	**+0.2**
	2.7nm,0.3s,baz=358,slow=15,SNR=5.8						
URZ				S	**S**	**01 19 31.5**	**-0.6**
	3.9nm,0.5s,baz=57,slow=20,SNR=8.7						
ASAR	**Alice Springs**	**41.55**	**262**	P	**P**	**01 21 22.4**	**+1.5**
	0.8nm,0.3s,baz=91,slow=6.6,SNR=15						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**42.03**	**268**	P	**P**	**01 21 25.9**	**+1.2**
	4.0nm,0.7s,baz=103,slow=7.9,SNR=22						
	4.0nm,0.7s						
TXAR	**Lajitas Array**	**91.31**	**58**	P	**P**	**01 26 31.0**	**+1.5**
	0.3nm,0.7s,baz=237,slow=4.0,SNR=4.7						
	0.3nm,0.7s						
HFS	**Hagfors**	**143.62**	**348**	PKP	**PKPdf**	**01 32 53.4**	**-0.9**
	4.9nm,0.9s,baz=33,slow=5.5,SNR=10						
AKASG	**Malin Array Be**	**145.76**	**326**	PKPbc	**PKPab**	**01 33 00.1**	**-1.3**
	0.9nm,0.6s,baz=53,slow=4.2,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.88**	**293**	PKPbc	**PKPab**	**01 33 08.5**	**-2.2**
	0.8nm,0.4s,baz=93,slow=4.9,SNR=7.0						
BRTR	**Keskin Array B**	**148.01**	**306**	PKPbc	**PKiKP**	**01 33 07.2**	**-0.6**
	0.4nm,0.7s,baz=84,slow=3.8,SNR=3.8						

*IDC **28** 01:14:38.5±2.6, 25°.12S×179°.67E, h498km±34km, mb3.3/4, mbtmp4.3/6, Error ellipse: s-maj=52.9km s-min=20.1km az=173.0*
*NEIC **28** 01:14:38.5±1.0, 25°.1S±0°.2×179°.7E±0°.1, h492km±6km, mb4.1/12, Error ellipse: s-maj=24.2km s-min=14.0km az=161.0*
ISC 28 01:14:38.7±0.7, 25°.12S±0°.09×179°.7E±0°.1, h507km, n31, σ1°05/32, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.63**	**153**	P	**P**	**01 16 01.6**	**-1.1**
RAO	**Raoul Island**	**4.63**	**153**	P	**P**	**01 16 01.8**	**-0.9**
	139nm,0.4s,baz=83,slow=6.8,SNR=4.1						
RAO				S	**S**	**01 17 11.1**	**-0.2**
	148nm,0.3s,baz=21,slow=21,SNR=4.1						
MSVF	**Nonsavu**	**7.51**	**348**	P	**P**	**01 16 29.4**	**-1.2**
TOZ	**Tahuroa Road**	**13.07**	**195**	P	**P**	**01 17 30.7**	**+2.4**
URZ	**Urewera**	**13.28**	**189**	P	**P**	**01 17 28.7**	**-1.9**
	2.4nm,0.3s,baz=211,slow=6.1,SNR=2.3						
URZ				S	**S**	**01 19 53.4**	**+1.0**
	7.4nm,0.6s,baz=55,slow=22,SNR=7.3						
QRZ	**Quartz Range**	**16.77**	**199**	P	**P**	**01 18 06.1**	**-0.8**
INZ	**Inchbonnie**	**18.83**	**199**	P	**P**	**01 18 26.1**	**0.0**
STKA	**Stephens Creek**	**34.03**	**250**	P	**P**	**01 20 40.4**	**+0.3**
STKA				IAmb	IAmb	01 21 06.3	
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek**	**34.03**	**250**	P	**P**	**01 20 40.6**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=86,slow=13,SNR=3.8						
	comp=Z,1.1nm,0.5s						
COEN	**Coen**	**36.06**	**281**	P	**P**	**01 20 57.6**	**+0.4**
COEN				IAmb	IAmb	01 21 15.0	
	comp=Z,6.3nm,1.0s						
BBOO	**Buckleboo**	**38.73**	**248**	P	**P**	**01 21 18.0**	**-1.0**
BBOO				IAmb	IAmb	01 21 49.8	
	comp=Z,9.0nm,1.1s						
AS31	**Alice Springs**	**41.58**	**262**	P	**P**	**01 21 40.8**	**-1.2**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**01 21 41.4**	**-0.6**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**01 21 42.1**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=96,slow=7.7,SNR=15						
	comp=Z,1.3nm,0.4s						
WR8	**Warramunga Arr**	**41.92**	**268**	P	**P**	**01 21 44.0**	**-0.6**
WR8				IAmb	IAmb	01 21 44.9	
	comp=Z,4.1nm,0.8s						
WB0	**Warramunga Arr**	**42.07**	**268**	P	**P**	**01 21 45.2**	**-0.6**
WB0				IAmb	IAmb	01 21 46.2	
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**42.07**	**268**	P	**P**	**01 21 45.1**	**-0.8**
WRA	**Warramunga Arr**	**42.07**	**268**	P	**P**	**01 21 45.5**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=103,slow=8.0,SNR=18						
	comp=Z,5.7nm,0.7s						
KNRA	**Kununurra**	**48.42**	**271**	P	**P**	**01 22 34.6**	**0.0**
FITZ	**Fitzroy Crossi**	**50.48**	**267**	P	**P**	**01 22 50.0**	**+0.2**
MORW	**Morawa**	**56.21**	**251**	P	**P**	**01 23 29.6**	**-0.9**
MORW				IAmb	IAmb	01 23 47.2	
	comp=Z,8.1nm,1.1s						
TXAR	**Lajitas Array**	**91.30**	**58**	P	**P**	**01 26 50.8**	**+0.6**
TXAR	**Lajitas Array**	**91.30**	**58**	P	**P**	**01 26 50.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=201,slow=6.7,SNR=5.3						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**143.68**	**348**	PKP	PKPab	01 33 13.1	-0.7
	comp=Z,2.4nm,0.6s,baz=35,slow=3.5,SNR=8.4						
PABE	**Paberze**	**144.82**	**336**	PKPdf	**PKPdf**	**01 33 17.2**	**0.0**
AKASG	**Malin Array Be**	**145.84**	**326**	PKPbc	**PKPbc**	**01 33 21.9**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=52,slow=4.5,SNR=1.6						
MMAI	**Mount Meron Ar**	**147.94**	**293**	PKPbc	**PKPbc**	**01 33 27.9**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=88,slow=4.4,SNR=8.4						
BRTR	**Keskin Array B**	**148.08**	**305**		**PKPdf**	**01 33 26.2**	**+2.9**
BRTR	**Keskin Array B**	**148.08**	**305**	PKPbc	**PKPbc**	**01 33 27.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=107,slow=4.3,SNR=2.7						
BURAR	**Bucovina Array**	**149.81**	**325**	PKPbc	**PKPbc**	**01 33 32.2**	**+1.0**
BORA	**Eskisehir**	**150.35**	**307**	PKPbc	**PKPbc**	**01 33 32.4**	**-0.3**

*UPP **28** 01:17:15.5±0.0, 64°.11N×20°.12E, h13km±2km, ML1.8, Confirmed Earthquake*
*HEL **28** 01:17:15.8, 64°.11N×20°.15E, h11km, ML1.8, ML1.8(UPP), Confirmed Earthquake*
*IDC **28** 01:17:17.0±1.2, 64°.00N×20°.20E, h0km, mbtmp2.9/4, ML1.5/4, Error ellipse: s-maj=13.2km s-min=8.7km az=178.0*
*BER **28** 01:17:16.4±2.8, 64°.08N×20°.19E, h0km±7km, ML1.6, ML1.8(UPP)*
ISC 28 01:17:14.7±1.0, 64°.10N±0°.02×20°.19E±0°.02, h7km±9km, n52, σ0°90/95, 10C-3D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**0.31**	**135**	P	**Pb**	**01 17 21.9**	**-0.6**
UMAU				S	**Sb**	**01 17 26.3**	**-1.4**
UMAU	**Umeaa**	**0.31**	**135**	P	**Pb**	**01 17 21.9**	**-0.6**
UMAU				S	**Sb**	**01 17 26.3**	**-1.4**
UMAU	**Umeaa**	**0.31**	**135**	*i* P	**Pb**	**01 17 21.9**	**-0.6**
UMAU				*i* S	**Sb**	**01 17 26.2**	**-1.4**
ODEU	**Stanfors**	**0.39**	**36**	⇑P	**Pb**	**01 17 23.0**	**-0.8**
ODEU				S	**Sg**	**01 17 28.3**	**+1.0**
ODEU	**Stanfors**	**0.39**	**36**	⇑P	**Pb**	**01 17 23.0**	**-0.8**
ODEU				S	**Sg**	**01 17 28.3**	**+1.0**
ODEU	**Stanfors**	**0.39**	**36**	⇑*i*P	**Pb**	**01 17 23.0**	**-0.8**
ODEU				*i* S	**Sg**	**01 17 28.3**	**+1.0**
SVAU	**Svanoeiden**	**0.47**	**326**	P	**Pg**	**01 17 23.9**	**+0.1**
SVAU				S	**Sg**	**01 17 30.1**	**0.0**
SVAU	**Svanoeiden**	**0.47**	**326**	P	**Pg**	**01 17 23.9**	**+0.1**
SVAU				S	**Sg**	**01 17 30.1**	**0.0**
SVAU	**Svanoeiden**	**0.47**	**326**	*i* P	**Pg**	**01 17 23.9**	**+0.1**
SVAU				*i* S	**Sg**	**01 17 30.1**	**0.0**
BURU	**Burvik**	**0.71**	**46**	⇑P	**Pb**	**01 17 28.9**	**-0.4**
BURU				S	**Sb**	**01 17 38.1**	**-1.2**
BURU	**Burvik**	**0.71**	**46**	⇑P	**Pb**	**01 17 28.9**	**-0.4**
BURU				S	**Sb**	**01 17 38.1**	**-1.2**
BURU	**Burvik**	**0.71**	**46**	*e*P	**Pb**	**01 17 28.9**	**-0.4**
BURU				*e*S	**Sb**	**01 17 38.0**	**-1.2**
BREU	**Bredtraesk**	**0.74**	**254**	⇓P	**Pg**	**01 17 28.7**	**-0.2**
BREU				S	**Sg**	**01 17 38.2**	**-0.3**
BREU	**Bredtraesk**	**0.74**	**254**	⇓P	**Pg**	**01 17 28.7**	**-0.2**
BREU				S	**Sg**	**01 17 38.2**	**-0.3**
BREU	**Bredtraesk**	**0.74**	**254**	⇓*e*P	**Pg**	**01 17 28.7**	**-0.2**
BREU				*e*S	**Sg**	**01 17 38.2**	**-0.3**
HUSU	**Husum**	**0.88**	**210**	⇑P	**Pg**	**01 17 31.4**	**0.0**
HUSU				S	**Sg**	**01 17 42.5**	**-0.3**
HUSU	**Husum**	**0.88**	**210**	⇑P	**Pg**	**01 17 31.4**	**0.0**
HUSU				S	**Sg**	**01 17 42.5**	**-0.3**
HUSU	**Husum**	**0.88**	**210**	*e*P	**Pg**	**01 17 31.5**	**0.0**
HUSU				*e*S	**Sg**	**01 17 42.5**	**-0.3**
OBF8	**Ulkokalla**	**1.44**	**79**	*e*PG	**Pg**	**01 17 41.9**	**-0.4**
OBF8				*e*SG	**Sg**	**01 18 00.7**	**-0.3**
OBF8				MSG		01 18 03.1	
	comp=Z,5.3nm,0.1s						
VAF	**Ylistaro**	**1.54**	**133**	*e*PG	**Pg**	**01 17 43.6**	**-0.4**
VAF				*e*SG	**Sg**	**01 18 03.7**	**-0.3**
VAF				MSG		01 18 04.9	
	comp=Z,9.4nm,0.1s						
SJUU	**Sjulsmark**	**1.54**	**23**	P	**Pb**	**01 17 43.1**	**-0.4**
SJUU				S	**Sg**	**01 18 03.5**	**-0.5**
SJUU	**Sjulsmark**	**1.54**	**23**	P	**Pb**	**01 17 43.1**	**-0.4**
SJUU				S	**Sg**	**01 18 03.5**	**-0.5**
SJUU	**Sjulsmark**	**1.54**	**23**	*e*P	**Pb**	**01 17 43.1**	**-0.4**
SJUU				*e*S	**Sg**	**01 18 03.5**	**-0.5**
SOLU	**Sollefteaa**	**1.56**	**238**	⇑P	**Pn**	**01 17 43.1**	**+0.3**
SOLU				S	**Sn**	**01 18 02.9**	**-0.4**
SOLU	**Sollefteaa**	**1.56**	**238**	⇑P	**Pn**	**01 17 43.1**	**+0.3**
SOLU				S	**Sn**	**01 18 02.9**	**-0.4**
SOLU	**Sollefteaa**	**1.56**	**238**	⇑*e*P	**Pn**	**01 17 43.1**	**+0.3**
SOLU				*e*S	**Sn**	**01 18 02.9**	**-0.4**
HEMU	**Hemsoen**	**1.73**	**215**	P	**Pn**	**01 17 45.6**	**+0.6**
HEMU				S	**Sb**	**01 18 08.5**	**0.0**
HEMU	**Hemsoen**	**1.73**	**215**	P	**Pn**	**01 17 45.6**	**+0.6**
HEMU				S	**Sb**	**01 18 08.5**	**0.0**
HEMU	**Hemsoen**	**1.73**	**215**	*e*P	**Pn**	**01 17 45.7**	**+0.6**
HEMU				*e*SN	**Sb**	**01 18 08.3**	**-0.1**
HEMU				MSG		01 18 09.1	
	comp=Z,6.9nm,0.1s						
OBF0	**Syolatti, Pyha**	**1.81**	**75**	*e*P	**Pb**	**01 17 47.5**	**-0.6**
OBF0				*e*SB	**Sb**	**01 18 10.9**	**0.0**
OBF0				MSG		01 18 12.9	
	comp=Z,12nm,0.1s						
OUF	**Merijarvi**	**2.00**	**80**	*e*P	**Pn**	**01 17 49.6**	**+0.8**
OUF				MSG		01 18 21.2	
	comp=Z,6.4nm,0.1s						
KALU	**Kalix**	**2.22**	**36**	*e*PB	**Pb**	**01 17 53.9**	**-1.1**
KALU				MSG		01 18 24.6	
	comp=Z,3.5nm,0.1s						
OBF4	**Vikkela, Lumij**	**2.25**	**69**	*e*P	**Pn**	**01 17 53.2**	**+1.0**
OBF4				MSG		01 18 28.5	
	comp=Z,3.1nm,0.1s						
KPF	**Kankaanpaa**	**2.43**	**158**	MSG		01 18 31.7	
	comp=Z,5.9nm,0.1s						
MOR8	**Moi Rana**	**3.20**	**313**	*e*S	**Sn**	**01 18 43.0**	**-0.5**
MOR8				IAML		01 18 57.8	
	comp=Z,3.5nm,0.4s						
MOR8	**Moi Rana**	**3.20**	**313**	*e*S	**Sn**	**01 18 43.0**	**-0.5**
MOR8				IAML		01 18 57.8	
	comp=Z,3.5nm,0.4s						
SALU	**Saltoluokta**	**3.37**	**349**	*e*P	**Pn**	**01 18 09.0**	**+1.4**
SALU				*e*S	**Sn**	**01 18 48.2**	**+0.4**
SALU	**Saltoluokta**	**3.37**	**349**	*e*P	**Pn**	**01 18 09.0**	**+1.4**
SALU				*e*S	**Sn**	**01 18 48.2**	**+0.4**
NSS	**Namsos**	**3.61**	**281**	*e*Pg	**Pb**	**01 18 18.6**	**0.0**
NSS				*e*S	**Sn**	**01 18 54.5**	**+0.9**
NSS				IAML		01 19 12.0	
	comp=Z,3.9nm,0.6s						
NSS	**Namsos**	**3.61**	**281**	*e*PG	**Pb**	**01 18 18.6**	**0.0**
NSS				*e*S	**Sn**	**01 18 54.5**	**+0.9**
NSS				IAML		01 19 12.0	
	comp=Z,3.9nm,0.6s						
LEIR	**Leirfjorden**	**3.61**	**307**	*e*P	**Pn**	**01 18 11.7**	**+0.9**
LEIR				*e*S	**Sn**	**01 18 53.9**	**+0.2**
LEIR				IAML		01 19 15.9	
	comp=Z,3.7nm,0.8s						
LEIR	**Leirfjorden**	**3.61**	**307**	*e*P	**Pn**	**01 18 11.7**	**+0.9**
LEIR				*e

REDR			⇑eSg	Sb	01 21 13.8	-10	
REDR			IAML		01 21 15.6		
comp=N,1μm,0.2s							
SDDR	**Presa de Saban**	**1.47 138**	⇑ePg	**Pn**	**01 21 10.6**	**+0.6**	
SDDR			⇑eSg	**Sn**	**01 21 28.8**	**0.0**	
SDDR			IAML		01 21 29.4		
comp=N,193nm,0.6s							
SDDR	**Presa de Saban**	**1.47 138**	*i* P	**Pn**	**01 21 10.6**	**+0.6**	
SDDR			*e*S	**Sn**	**01 21 28.0**	**-0.8**	
SDDR			IAML		01 21 32.3		
comp=Z,127nm,0.8s							
SC01	**Santiago de lo**	**1.64 113**	⇑ePg	**Pb**	**01 21 13.6**	**-0.6**	
SC01			*e*Sg	**Sb**	**01 21 36.2**	**+1.6**	
SC01			IAML		01 21 39.2		
comp=N,165nm,0.7s							
LONE3	**El Aguacate, B**	**1.68 151**	*i* P	**Pn**	**01 21 12.8**	**-0.2**	
LONE3			*e*S	**Sn**	**01 21 33.7**	**-0.5**	
LONE3			IAML		01 21 34.6		
comp=Z,43nm,0.3s							
MASC	**Masc**	**1.79 273**	⇑ePg	**Pn**	**01 21 14.5**	**+0.2**	
MASC			IAML		01 21 42.7		
comp=N,82nm,0.4s							
MASC	**Masc**	**1.79 273**	*e*P	**Pn**	**01 21 14.2**	**-0.2**	
MASC			*e*S	**Sn**	**01 21 37.3**	**+0.7**	
MASC			IAML		01 21 43.0		
comp=E,62nm,0.1s							
MASC			IAML		01 21 44.0		
comp=N,55nm,0.1s							
MASC	**Masc**	**1.79 273**	*i* P	**Pn**	**01 21 14.5**	**+0.2**	
MASC			IAML		01 21 43.0		
comp=Z,65nm,0.2s							
NEDR	**Neiba UASD**	**1.81 151**	⇑ePg	**Pn**	**01 21 14.7**	**+0.1**	
NEDR			⇑eSg	**Sb**	**01 21 39.0**	**-0.2**	
NEDR			IAML		01 21 39.2		
comp=N,82nm,0.5s							
GRTK	**Grand Turk**	**1.81 38**	*e*Sg	**Sb**	**01 21 39.7**	**+0.2**	
GRTK			IAML		01 21 46.6		
comp=N,229nm,0.1s							
LODU1	**El Espartillar**	**1.90 155**	*i* P	**Pn**	**01 21 16.7**	**+0.8**	
LODU1			*e*S	**Sn**	**01 21 40.8**	**+1.5**	
LODU1			IAML		01 21 47.2		
comp=Z,72nm,2.1s							
LOBH	**Bahia de las A**	**2.30 163**	*i* P	**Pn**	**01 21 22.1**	**+0.7**	
LOBH			*e*S	**Sn**	**01 21 49.6**	**+0.3**	
LOBH			IAML		01 21 54.9		
comp=Z,59nm,2.6s							
QMBU	**Quimbuelo**	**2.33 273**	⇑ePg	**Pn**	**01 21 21.8**	**-0.1**	
QMBU			⇑eSg	**Sn**	**01 21 50.2**	**0.0**	
QMBU			IAML		01 21 55.4		
comp=N,84nm,0.6s							
QMBU	**Quimbuelo**	**2.33 273**	*e*P	**Pn**	**01 21 21.8**	**-0.1**	
QMBU			*e*S	**Sn**	**01 21 49.8**	**-0.3**	
QMBU			*e*Sg	**Sb**	**01 21 54.5**	**0.0**	
QMBU			IAML		01 21 55.8		
comp=E,83nm,0.2s							
QMBU			IAML		01 21 55.8		
comp=N,67nm,0.2s							
DR08	**Loma La Naviza**	**2.44 117**	⇑ePg	**Pb**	**01 21 28.4**	**+0.5**	
DR08			IAML		01 22 05.3		
comp=N,789nm,0.1s							
LOVI	**El Cajuil, Ovi**	**2.44 158**	*i* P	**Pn**	**01 21 23.9**	**+0.5**	
BANI	**BANI**	**2.51 132**	⇑ePg	**Pb**	**01 21 27.6**	**-1.4**	
BANI			⇑eSg	**Sb**	**01 21 59.4**	**-0.2**	
BANI			IAML		01 22 05.5		
comp=N,64nm,0.3s							
MOAC	**Moa**	**2.53 284**	*e*P	**Pn**	**01 21 25.6**	**+1.0**	
MOAC			*e*S	**Sn**	**01 21 56.5**	**+1.5**	
MOAC			IAML		01 22 06.5		
comp=N,19nm,0.1s							
MOAC			IAML		01 22 06.7		
comp=E,25nm,0.2s							
NMDO	**Nuevo Mundo**	**2.53 281**	*e*P	**Pn**	**01 21 25.2**	**+0.5**	
GTBY	**Guantanamo Bay**	**2.62 267**	⇑ePg	**Pn**	**01 21 26.0**	**+0.2**	
GTBY			⇓eSg	**Sn**	**01 21 59.2**	**+2.1**	
GTBY			IAML		01 21 59.5		
comp=N,35nm,1.4s							
GTBY	**Guantanamo Bay**	**2.62 267**	*e*P	**Pn**	**01 21 26.0**	**+0.2**	
GTBY			*e*S	**Sn**	**01 21 57.5**	**+0.4**	
GTBY			IAML		01 22 00.6		
comp=N,15nm,0.1s							
GTBY			IAML		01 22 01.1		
comp=N,11nm,0.3s							
GTBY	**Guantanamo Bay**	**2.62 267**	*i* P	**Pn**	**01 21 26.0**	**+0.2**	
GTBY			*e*S	**Sn**	**01 21 57.4**	**+0.2**	
RCC	**Rio Carpintero**	**3.17 269**	*e*P	**Pn**	**01 21 32.9**	**-0.4**	
RCC			*e*S	**Sn**	**01 22 09.5**	**-1.1**	
RCC			IAML		01 22 14.2		
comp=N,0.8nm,0.3s							
RCC			IAML		01 22 14.3		
comp=E,5.1nm,0.2s							
PINC	**Pinares de May**	**3.27 278**	*e*P	**Pn**	**01 21 33.7**	**-1.0**	
PINC			*e*S	**Sn**	**01 22 10.8**	**-2.5**	
PINC			IAML		01 22 18.7		
comp=N,9.6nm,0.1s							
PINC			IAML		01 22 18.9		
comp=E,10nm,0.1s							
MARVS	**Santiago de Cu**	**3.36 269**	*e*P	**Pn**	**01 21 36.8**	**+0.9**	
MARVS			*e*S	**Sn**	**01 22 14.1**	**-1.3**	
MARVS			IAML		01 22 19.6		
comp=N,12nm,0.2s							
MARVS			IAML		01 22 19.8		
comp=E,10nm,0.1s							
HLGC	**Holguin**	**3.59 284**	*e*P	**Pn**	**01 21 41.0**	**+1.8**	
HLGC			*e*S	**Sn**	**01 22 22.2**	**+1.1**	
HLGC			IAML		01 22 27.2		
comp=E,5.0nm,0.2s							
HLGC			IAML		01 22 28.5		
comp=N,4.5nm,0.3s							
YAR	**Yar**	**3.79 275**	*e*P	**Pn**	**01 21 42.6**	**+0.7**	
YAR			*e*S	**Sn**	**01 22 23.1**	**-3.1**	
LMGC	**Las Mercedes**	**4.39 271**	*e*P	**Pn**	**01 21 50.8**	**+0.6**	
CCCC	**Cccc**	**5.21 283**	*e*S	Sn	01 22 48.6	-12	

IDC 28 01:30:06.3±1.3, 0.03S×125.56E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=144.3km s-min=21.4km az=67.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.58**	**157**	P	P	01 34 56.9	-0.8
0.8nm,0.6s,baz=336,slow=11,SNR=1.4							
0.8nm,0.6s							
ASAR	**Alice Springs**	**24.85**	**162**	P	P	01 35 31.2	+0.5
0.8nm,0.7s,baz=334,slow=8.3,SNR=7.5							
0.8nm,0.7s							
SONM	**Songino Array**	**50.51**	**343**	P	P	01 39 06.4	0.0
0.5nm,0.6s,baz=168,slow=7.9,SNR=2.0							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**60.01**	**327**	P	P	01 40 15.0	+0.1
0.4nm,0.3s,baz=109,slow=6.8,SNR=4.5							
0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**64.30**	**329**	P	P	01 40 43.4	-0.2
0.6nm,0.6s,baz=128,slow=6.2,SNR=9.6							
0.6nm,0.6s							

*MOS **28** 01:59:07.3±1.2, 42.41N×142.90E, h58km, mb4.6/7, Error ellipse: s-maj=10.8km s-min=10.2km az=99.5*
*NEIC **28** 01:59:08.7±1.4, 42.28N±0.06×143.1E±0.1, h67km±5km, mb4.6/18, Error ellipse: s-maj=14.6km s-min=8.2km az=100.0*
*SKHL **28** 01:59:08.2±0.3, 42.30N×142.90E, h73km±4km, mb4.9/4*
*JMA **28** 01:59:09.5±0.1, 42.4N±0.4×143.0E±0.4, h51km±1km, MD3.8/39, MV3.9/39, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .
*NIED **28** 01:59:09.5, 42.36N×142.99E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.15; $M_{\theta\theta}$-1.69; $M_{\phi\phi}$-4.46; $M_{r\theta}$2.90; $M_{\theta\phi}$-2.74; $M_{\phi r}$3.12; Fault plane solution: $M_0$7.48000×10^{14} NP1: ϕ_s205.00000°, δ28.00000°, λ79.00000°. NP2:ϕ_s38.00000°, δ62.00000°, λ96.00000°.*
*IDC **28** 01:59:10.4±2.1, 42.40N×142.96E, h76km±16km, mb3.6/13, mbtmp3.9/17, MS3.8/1 Error ellipse: s-maj=22.2km s-min=14.3km az=122.0*

ISC 28 01:59:08.6±0.6, 42.32N±0.04×142.98E±0.03, h61km±5km, n110, σ1°16/110, mb4.3/27, 4C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.17**	**256**	P	**Pn**	**01 59 17.7**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.17**	**256**	A	A	01 59 17.7	
comp=N,29nm,0.6s,comp=E,32nm,0.5s							
JTHR	**Tokachihiroo**	**0.24**	**97**	*i* P	**Pn**	**01 59 18.2**	**-0.1**
JTHR				*e*S	**Sn**	**01 59 24.6**	**-0.7**
JTHR	**Tokachihiroo**	**0.24**	**97**	A	A	01 59 18.2	
comp=N,7.0nm,0.3s,comp=E,5.0nm,0.2s							
ERM	**Erimo**	**0.33**	**156**		**Pn**	**01 59 19.3**	**+0.3**
ERM				Sn	**Sn**	**01 59 26.9**	**+0.3**
ERM	**Erimo**	**0.33**	**156**	PN	**Pn**	**01 59 19.3**	**+0.3**
ERM						01 59 26.9	
JEM	**Erimo**	**0.33**	**156**	P	**Pn**	**01 59 19.2**	**+0.3**
JEM				*e*S	**Sn**	**01 59 27.6**	**+1.1**
JEM	**Erimo**	**0.33**	**156**	A	A	01 59 19.2	
comp=N,10.0nm,0.7s,comp=E,6.0nm,1.3s							
JSHD	**Hidakashinhida**	**0.39**	**283**	⇓P	**Pn**	**01 59 19.8**	**+0.3**
JSHD	**Hidakashinhida**	**0.39**	**283**	A	A	01 59 19.8	
comp=N,21nm,0.8s,comp=E,16nm,0.8s							
JCH	**Churui**	**0.41**	**44**	P	**Pn**	**01 59 19.5**	**-0.2**
JCH	**Churui**	**0.41**	**44**	A	A	01 59 19.5	
comp=N,19nm,0.5s,comp=E,4.0nm,0.2s							
JBT2	**Biratori 2**	**0.64**	**315**	⇓P	**Pn**	**01 59 22.3**	**+0.1**
JBT2				⇓*e*S	**Sn**	**01 59 31.9**	**-0.3**
JBT2	**Biratori 2**	**0.64**	**315**	A	A	01 59 22.3	
comp=N,4.0nm,2.9s,comp=E,5.0nm,2.4s							
JIAM	**Iburiatsuma**	**0.84**	**291**	⇓*e*P	**Pn**	**01 59 25.6**	**+1.0**
JIAM	**Iburiatsuma**	**0.84**	**291**	A	A	01 59 25.6	
comp=N,11nm,0.9s,comp=E,13nm,2.0s							
JOB	**Onbets**	**0.86**	**47**	*e*P	**Pn**	**01 59 25.2**	**+0.4**
JOB	**Onbets**	**0.86**	**47**	A	A	01 59 25.2	
comp=N,8.0nm,0.4s,comp=E,5.0nm,0.3s							
JFR	**Furan**	**0.89**	**342**	*e*P	**Pn**	**01 59 24.5**	**-0.7**
JFR				*e*S	**Sn**	**01 59 36.6**	**-0.9**
JAR	**Ashorobuto**	**1.14**	**31**	*e*P	**Pn**	**01 59 28.4**	**0.0**
JAR				*e*S	**Sn**	**01 59 42.9**	**-0.2**
JAR	**Ashorobuto**	**1.14**	**31**	A	A	01 59 28.4	
comp=N,4.0nm,0.3s,comp=E,3.0nm,0.3s							
JEW	**Eniwo**	**1.24**	**295**	⇓P	**Pn**	**01 59 30.5**	**+0.7**
JEW				⇓*e*S	**Sn**	**01 59 46.6**	**+1.0**
JAB	**Ashibetsu**	**1.31**	**335**	*e*P	**Pn**	**01 59 31.5**	**+0.9**
AKK	**Akkeshi**	**1.54**	**63**	*e*P	**Pn**	**01 59 33.9**	**+0.1**
JAHD	**Aomorihigashid**	**1.62**	**230**	A	A	01 59 36.7	
comp=N,4.0nm,0.6s,comp=E,5.0nm,1.4s							
JKA	**Kamikawa-asahi**	**1.81**	**351**	Pn	**Pn**	**01 59 38.5**	**+1.0**
ASAJ	**Asahikawa**	**1.82**	**351**	P	**Pn**	**01 59 39.2**	**+1.6**
comp=E,130nm,0.3s,baz=198,slow=9.5,SNR=68							
ASAJ				S	**Sn**	**01 59 55.2**	**-4.3**
comp=E,180nm,0.6s,baz=192,slow=17,SNR=15							
JTM	**Tenmabayashi**	**2.10**	**224**	Pn	**Pn**	**01 59 41.4**	**0.0**
NMR	**Nemuro--Hokkai**	**2.28**	**62**	*e*PN	**Pn**	**01 59 43.0**	**-0.8**
NMR				*e*S	**Sn**	**02 00 09.2**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.28**	**62**	*e*S	**Sn**	**02 00 09.3**	**-1.4**
NMR				*e*P	**Pn**	**01 59 43.0**	**-0.8**
RUSJ	**Misakicho**	**2.44**	**42**	*e*PN	**Pn**	**01 59 47.4**	**+1.5**
RUSJ				*e*S	**Sn**	**02 00 17.1**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**2.72**	**50**	*e*PN	**Pn**	**01 59 51.2**	**+1.4**
YUK				*e*S	**Sn**	**02 00 22.5**	**+1.1**
YUK				pmax	pmax		
comp=E,76nm,0.2s							
YUK				pmax	pmax		
comp=Z,371nm,0.2s							
YUK				pmax	pmax		
comp=N,91nm,0.1s							
YUK				smax	smax		
comp=E,346nm,0.3s							
YUK				smax	smax		
comp=N,525nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.72**	**50**	*e*S	**Sn**	**02 00 22.8**	**+1.4**
YUK				*e*P	**Pn**	**01 59 50.8**	**+1.0**
YUK				AMB	AMB	01 59 52.2	
comp=N,270nm,0.3s							
YUK				A	A	02 00 24.2	
comp=N,610nm,0.3s							
YUK				A	A	02 00 24.2	
comp=N,410nm,0.3s							
KUR	**Kuril'sk**	**4.58**	**49**	PN	Pn	02 00 23.6	+8.3
KUR				S	**Sn**	**02 01 11.7**	**+4.5**
KUR				smax	smax		
comp=E,84nm,0.5s							
KUR	**Kuril'sk**	**4.58**	**49**	*e*P	**Pn**	**02 00 16.8**	**+1.5**
KUR				AMB	AMB	02 00 18.7	
comp=E,50nm,0.3s							
KUR				*e*S	**Sn**	**02 01 08.1**	**+0.9**
KUR				A	A	02 01 15.8	
comp=E,90nm,0.4s							
KUR				A	A	02 01 15.8	
comp=E,150nm,0.4s							
YSS	**Yuzhno-Sakhali**	**4.63**	**358**	*e*PN	**Pn**	**02 00 18.6**	**+2.6**
YSS				*e*S	**Sn**	**02 01 09.4**	**+1.0**
YSS				pmax	pmax		
comp=Z,30nm,0.4s							
YSS				smax	smax		
comp=N,30nm,0.7s							
YSS	**Yuzhno-Sakhali**	**4.63**	**358**	*e*P	**Pn**	**02 00 17.7**	**+1.7**
YSS				AMB	AMB	02 00 20.9	
comp=N,30nm,0.4s							
YSS				*e*S	**Sn**	**02 01 09.4**	**+1.0**
YSS				A	A	02 01 10.6	
comp=N,30nm,0.6s							
YSS				A	A	02 01 10.6	
comp=N,50nm,0.6s							
JMM	**Marumori**	**4.75**	**201**	Pn	**Pn**	**02 00 16.6**	**-1.1**
JSD	**Sado**	**5.60**	**222**	Pn	**Pn**	**02 00 29.8**	**+0.6**
MJAR	**Matsushiro Arr**	**6.85**	**214**	P	**Pn**	**02 00 47.8**	**+1.4**
comp=N,1.5nm,0.4s,baz=31,slow=13,SNR=1.9							
JGF	**Kuroka**	**8.01**	**215**	Pn	**Pn**	**02 01 02.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.24**	**287**	P	**Pn**	**02 01 07.7**	**+2.4**
comp=N,2.5nm,0.6s,baz=96,slow=14,SNR=3.1							
KSRS	**Korea Array**	**12.54**	**252**	P	**Pn**	**02 02 05.9**	**+1.9**
comp=N,1.1nm,0.6s,baz=64,slow=12,SNR=2.3							
HILR	**Hailar Array B**	**17.66**	**302**	P	**Pn**	**02 03 09.7**	**-0.5**
comp=N,1.3nm,0.4s,baz=104,slow=12,SNR=4.4							
SEY	**Seymchan**	**21.38**	**12**	P	**P**	**02 03 48.5**	**-2.1**
comp=N,1.0nm,0.4s,baz=169,slow=5.2,SNR=6.4							
SEY				S	**S**	**02 07 43.2**	**-1.1**
comp=N,2.1nm,0.7s,baz=244,slow=16,SNR=3.9							
comp=N,1.0nm,0.4s							
ULN	**Ulaanbaatar**	**25.80**	**295**	*ce*P	**P**	**02 04 34.3**	**+0.4**
ULN				pmax	pmax		
comp=Z,12nm,2.5s							
ULN	**Ulaanbaatar**	**25.80**	**295**	*e*P	**P**	**02 04 34.3**	**+0.4**
SONM	**Songino Array**	**26.24**	**295**		**P**	**02 04 38.7**	**+0.8**
SONM	**Songino Array**	**26.24**	**295**	P	**P**	**02 04 37.6**	**-0.3**
comp=Z,1.7nm,0.7s,baz=86,slow=9.2,SNR=7.6							
comp=Z,1.7nm,0.7s							
SONM	**Songino Array**	**26.24**	**295**	P	**P**	**02 04 38.7**	**+0.8**
SONM				pmax	pmax		
comp=Z,2.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**30.26**	**131**	T	T	02 36 44.7	
baz=324,slow=75,SNR=92							
H11N1	**WAKE ISLAND Hy**	**30.27**	**131**	T	T	02 36 49.8	
baz=324,slow=75,SNR=69							
H11N3	**WAKE ISLAND Hy**	**30.28**	**131**	T	T	02 36 48.2	
baz=324,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy**	**31.14**	**132**	T	T	02 37 53.9	
baz=326,slow=76,SNR=122							
H11S3	**WAKE ISLAND Hy**	**31.14**	**132**	T	T	02 37 54.1	
baz=326,slow=76,SNR=64							
H11S2	**WAKE ISLAND Hy**	**31.15**	**132**	T	T	02 37 54.6	
baz=326,slow=76,SNR=71							
ZALV	**Zalesovo Beam**	**39.44**	**308**	P	**P**	**02 06 31.6**	**-0.7**
ZALV	**Zalesovo Beam**	**39.44**	**308**	P	**P**	**02 06 32.0**	**-0.4**
comp=Z,1.9nm,0.4s,baz=72,slow=9.7,SNR=6.3							
comp=Z,1.9nm,0.4s							
ZALV	**Zalesovo Beam**	**39.44**	**308**	P	**P**	**02 06 32.0**	**-0.4**
D20K	**Etivluk River**	**40.69**	**29**	P	**P**	**02 06 41.7**	**-0.9**
D20K				IAmb	IAmb	02 06 49.2	
comp=Z,16nm,1.4s							
IMAR	**Indian Mountai**	**41.53**	**33**	P	**P**	**02 06 49.6**	**0.0**
E22K	**Anaktuvuk Pass**	**42.40**	**30**	P	**P**	**02 06 55.7**	**-1.0**
E22K				IAmb	IAmb	02 06 58.2	
comp=Z,12nm,1.4s							
MK31	**Makanchi Array**	**42.53**	**298**	*i* P	**P**	**02 06 56.5**	**-1.5**
MKAR	**Makanchi Array**	**42.53**	**298**	P	**P**	**02 06 57.9**	**-0.1**
comp=Z,2.1nm,0.8s,baz=80,slow=9.5,SNR=13							
MKAR				PcP	**PcP**	**02 08 49.3**	**-0.3**
comp=Z,0.3nm,0.6s,baz=73,slow=4.4,SNR=1.8							
comp=Z,2.1nm,0.8s							
DLV	**Lat**	**42.60**	**235**	P	**P**	**02 06 58.9**	**-0.1**
E24K	**Your Creek**	**43.65**	**30**	P	**P**	**02 07 05.7**	**-1.1**
E24K				IAmb	IAmb	02 07 43.6	
comp=Z,8.4nm,1.4s							
KURK	**Kurchatov**	**43.79**	**304**	P	**P**	**02 07 07.8**	**-0.3**
KURK				IAmb	IAmb	02 07 08.8	
comp=Z,5.0nm,0.8s							
KURK	**Kurchatov**	**43.79**	**304**	P	**P**	**02 07 08.5**	**+0.5**
KURK	**Kurchatov**	**43.79**	**304**	*e*P	**P**	**02 07 08.5**	**+0.5**
KURBB	**Kurchatov Arra**	**43.87**	**304**	P	**P**	**02 07 08.5**	**-0.2**
comp=Z,4.3nm,0.7s,baz=76,slow=8.8,SNR=26							
comp=Z,4.3nm,0.7s							
ILAR	**Eielson Array**	**44.43**	**35**	P	**P**	**02 07 13.3**	**+0.3**
comp=Z,0.3nm,0.6s,baz=280,slow=8.6,SNR=4.5							
comp=Z,0.3nm,0.6s							
C27K	**Jago River**	**45.34**	**28**	P	**P**	**02 07 19.8**	**-0.3**
C27K				IAmb	IAmb	02 07 40.4	
comp=Z,9.7nm,1.3s							
EVN	**Everest**	**47.30**	**271**	P	**P**	**02 07 36.9**	**0.0**
TARG	**Taragay, Kyrgy**	**47.32**	**292**	P	**P**	**02 07 36.3**	**-0.2**
TARG	**Taragay, Kyrgy**	**47.32**	**292**	P	**P**	**02 07 36.3**	**-0.2**
TARG				pmax	pmax		
comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**48.04**	**309**	P	**P**	**02 07 41.5**	**+0.1**
comp=Z,1.9nm,0.4s,baz=76,slow=9.1,SNR=15							
BVAR				PcP	**PcP**	**02 09 08.3**	**-0.2**
comp=Z,0.7nm,0.5s,baz=60,slow=3.5,SNR=3.2							
comp=Z,1.9nm,0.4s							
BOOM	**Boomskoye usch**	**48.28**	**294**	P	**P**	**02 07 43.4**	**-0.3**
BOOM				IAmb	IAmb	02 07 44.6	
comp=Z,2.9nm,0.7s							
BOOM	**Boomskoye usch**	**48.28**	**294**	P	**P**	**02 07 43.4**	**-0.3**
BOOM				pmax	pmax		
comp=Z,3.0nm,0.7s							
AAK	**Ala-Archa**	**49.20**	**295**	LR	LR	02 32 44.4	
comp=Z,96nm,19.0s,baz=179,slow=41							
H31M	**Peel River**	**49.45**	**33**	P	**P**	**02 07 51.9**	**-0.2**
H31M				IAmb	IAmb	02 08 29.9	
comp=Z,14nm,1.5s							
KKAR	**Karatay Array**	**51.66**	**297**	P	**P**	**02 08 08.8**	**-0.3**
KKAR	**Karatay Array**	**51.66**	**297**	P	**P**	**02 08 08.8**	**-0.3**
ARTI	**Arti**	**53.39**	**316**	P	**P**	**02 08 21.3**	**-0.3**
ARTI	**Arti**	**53.39**	**316**	*ce*P	**P**	**02 08 21.7**	**+0.1**
ARTI				pmax	pmax		
comp=Z,7.0nm,1.7s							
GAR	**Garm**	**53.66**	**293**	P	**P**	**02 08 23.1**	**-0.9**
CHGR	**Chuyangaron**	**54.61**	**293**	P	**P**	**02 08 30.3**	**-0.6**
CHGR				IAmb	IAmb	02 08 30.9	
comp=Z,7.7nm,0.7s							
CHGR	**Chuyangaron**	**54.61**	**293**	P	**P**	**02 08 30.3**	**-0.6**
CHGR				pmax	pmax		
comp=Z,8.0nm,0.7s							
AB31	**Akbulak array**	**55.55**	**308**	P	**P**	**02 08 36.8**	**-0.6**
ABKAR	**Akbulak array**	**55.55**	**308**	P	**P**	**02 08 37.2**	**-0.2**
KNRA	**Kununurra**	**59.18**	**196**	P	**P**	**02 09 03.6**	**+0.4**
FIA1	**FINESS Array S**	**64.72**	**332**	P	**P**	**02 09 38.9**	**-1.0**
FINES	**FINESS Array B**	**64.72**	**332**	P	**P**	**02 09 39.0**	**-0.9**
FINES	**FINESS Array B**	**64.72**	**332**	P	**P**	**02 09 39.0**	**-0.9**
comp=Z,0.9nm,0.4s,baz=58,slow=6.5,SNR=23							
comp=Z,0.9nm,0.4s							
FINES	**FINESS Array B**	**64.72**	**332**	*ce*P	**P**	**02 09 39.0**	**-0.9**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**68.41**	**310**	P	**P**	**02 10 04.7**	**+1.0**
comp=Z,1.0nm,0.9s,baz=53,slow=5.1,SNR=2.7							
comp=Z,1.0nm,0.9s							
HFS	**Hagfors**	**69.77**	**336**	P	**P**	**02 10 11.2**	**-0.7**
comp=Z,1.3nm,0.5s,baz=47,slow=6.7,SNR=13							
comp=Z,1.3nm,0.5s							
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**02 10 18.6**	**-0.1**
comp=Z,0.3nm,0.3s,baz=45,slow=6.5,SNR=2.5							
comp=Z,0.3nm,0.3s							
KONO	**Kongsberg**	**71.39**	**337**	*ce*P	**P**	**02 10 24.9**	**+3.2**
KONO				pmax	pmax		
comp=Z,15nm,1.3s							
ILGA	**Ilgaz**	**75.30**	**312**	P	**P**	**02 10 46.4**	**+1.0**
ILGA				IAmb	IAmb	02 11 07.7	
comp=Z,6.9nm,1.2s							
BRTR	**Keskin Array B**	**76.25**	**311**	P	**P**	**02 10 50.4**	**-0.4**
comp=Z,0.4nm,0.7s,baz=53,slow=5.6,SNR=3.9							
comp=Z,0.4nm,0.7s							
CLL	**Collm**	**77.11**	**330**	*e*P	**P**	**02 10 55.0**	**-0.1**
CLL				*i* PcP	**PcP**	**02 11 07.2**	**+1.4**
ITM	**Ithomi**	**84.37**	**317**	P	**P**	**02 11 32.6**	**-1.6**
ITM				IAmb	IAmb	02 11 33.3	
comp=Z,14nm,1.2s							
TXAR	**Lajitas Array**	**85.97**	**53**	P	**P**	**02 11 42.9**	**+0.4**
TXAR	**Lajitas Array**	**85.97**	**53**	P	**P**	**02 11 43.2**	**+0.7**
comp=Z,0.2nm,0.6s,baz=304,slow=4.7,SNR=4.8							
comp=Z,0.2nm,0.6s							
QSPA	**South Pole Qui**	**132.06**	**180**	PKP	**PKPdf**	**02 18 11.9**	**-2.2**
comp=Z,1.5nm,0.8s,baz=221,slow=1.4,SNR=4.8							
H03N2	**Juan Fernandez**	**146.04**	**89**	T	T	05 01 48.0	
baz=300,slow=77,SNR=10							
H03N3	**Juan Fernandez**	**146.05**	**89**	T	T	05 01 50.4	
baz=300,slow=77,SNR=11							
H03N1	**Juan Fernandez**	**146.05**	**89**	T	T	05 01 45.5	
baz=300,slow=77,SNR=11							
SNAA	**Sanae**	**146.15**	**199**		**PKPbc**	**02 18 40.3**	**-0.4**
SNAA	**Sanae**	**146.15**	**199**	PKPbc	**PKPbc**	**02 18 40.8**	**+0.1**
comp=Z,0.3nm,0.7s,baz=248,slow=8.8,SNR=6.0							

*RSNC **28** 02:05:26.2±0.6, 3°S±5°×7°7W±°, h0km, M3.2, ML2.9*
*IGQ **28** 02:05:34.3±0.4, 3°S±2°×7°7W±°, h98km±5km, MLv3.5/37*

ISC 28 02:05:31.2±1.7, 2.75S±0.06×76.87W±0.07, h124km±13km, n62, σ1°55/69, 6C-6D, Peru-Ecuador border region

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PTLC			S	Sn	02 06 55.7	-11
LNGL	**El Angel-Carch**	**3.64 342**	P	**Pn**	**02 06 29.6**	**+3.0**
CHL2	**Volc¡n Chiles**	**3.68 343**	P	**Pn**	**02 06 30.4**	**+3.4**
CMBC	**Cumbal**	**3.78 345**	P	**Pn**	**02 06 31.9**	**+3.5**
FLOC	**Florencia**	**4.47 16**	⇑P	**Pn**	**02 06 38.4**	**+1.2**
FLOC	**Florencia**	**4.47 16**	P	**Pn**	**02 06 38.2**	**+1.0**

IDC 28 02:18:25.4±10.0, 4°.79S×145°.60E, h0km, mb3.9/2, mbtmp4.1/4, ML4.5/1, Error ellipse: s-maj=154.7km s-min=61.2km az=14.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.84**	**161**	Pn	Pn	02 19 38.1	-1.5
	11nm,0.3s,baz=350,slow=12,SNR=13						
PMG				Sn	Sn	02 20 23.7	-13
	7.3nm,0.3s,baz=288,slow=18,SNR=7.2						
WRA	**Warramunga Arr**	**18.63**	**215**	P	Pn	02 22 45.4	+0.5
	1.8nm,0.3s,baz=36,slow=11,SNR=34						
	3.0nm,0.3s						
ASAR	**Alice Springs**	**21.89**	**210**	P	P	02 23 18.5	-1.8
	2.0nm,0.6s,baz=38,slow=9.7,SNR=18						
	2.0nm,0.6s						
STKA	**Stephens Creek**	**27.21**	**187**	P	P	02 24 12.6	+1.6
	2.0nm,0.7s,baz=352,slow=8.5,SNR=5.2						
	2.0nm,0.7s						

*RSPR **28** 02:21:18.1, 19°.06N×67°.11W, h79km±11km, MD2.8/8*
*SDD **28** 02:21:19.7±2.0, 19°.13N×67°.12W, h43km±50km, MD2.7, ML2.0, MW2.2*

ISC 28 02:21:14.3±1.8, 19°.21N±0°.08×67°.12W±0°.05, h13km±11km, n19, σ0s94/26, 17C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.74**	**179**	⇑*i*P	**Pn**	**02 21 33.0**	**+2.6**
AGPR				⇑*i*S	**Sn**	**02 21 40.3**	**-1.1**
AGPR				IAML		02 21 43.0	
	comp=N,61nm,0.7s						
PRSN	**Puerto Rico Se**	**0.98**	**181**	⇑*i*P	**Pn**	**02 21 35.7**	**+1.9**
PRSN				⇑*i*S	**Sb**	**02 21 45.5**	**-0.5**
	comp=N,86nm,0.2s						
PRSN				IAML		02 21 50.9	
	comp=N,86nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.02**	**158**	*e*S	**Sn**	**02 21 47.7**	**-0.8**
LSP	**Las Mesas**	**1.03**	**178**	⇓*e*P	**Pg**	**02 21 33.8**	**-0.3**
LSP	**Las Mesas**	**1.03**	**178**	*e*S	**Sn**	**02 21 48.1**	**-0.6**
ECPR	**Experimental S**	**1.14**	**141**	⇓*e*P	**Pg**	**02 21 36.5**	**+0.3**
ECPR	**Experimental S**	**1.14**	**141**	*e*S	**Sn**	**02 21 52.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.19**	**180**	⇑*e*P	**Pn**	**02 21 36.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.19**	**180**	⇑*i*P	**Pg**	**02 21 37.7**	**+0.4**
CRPR				⇑*i*S	**Sg**	**02 21 52.9**	**+0.1**
	comp=N,34nm,2.4s						
CRPR				IAML		02 22 09.6	
	comp=N,34nm,2.4s						
MLPR	**Magueyes Islan**	**1.23**	**177**	⇑*e*P	**Pg**	**02 21 38.0**	**-0.1**
MLPR	**Magueyes Islan**	**1.23**	**177**	⇑*i*P	**Pb**	**02 21 37.1**	**-0.3**
MLPR				⇑*i*S	**Sb**	**02 21 52.6**	**-0.6**
	comp=N,10.0nm,2.2s						
MLPR				IAML		02 22 00.5	
	comp=N,10.0nm,2.2s						
OBIP	**Obispado Ponce**	**1.26**	**157**	⇑*e*P	**Pb**	**02 21 37.5**	**-0.3**
OBIP	**Obispado Ponce**	**1.26**	**157**	*e*S	**Sn**	**02 21 53.5**	**-0.7**
GCPR	**Guaynabo City**	**1.33**	**132**	⇑*e*P	**Pg**	**02 21 39.0**	**-0.8**
IGPR	**InterUniversit**	**1.56**	**142**	⇓*e*P	**Pb**	**02 21 42.6**	**-0.5**
HIDR	**Higuey Centro**	**1.63**	**248**	⇑*i*P	**Pb**	**02 21 44.7**	**+0.5**
HIDR				⇑*i*S	**Sn**	**02 22 02.8**	**-0.7**
HIDR				IAML		02 22 11.4	
	comp=N,21nm,1.6s						
MIDR	**Miches**	**1.84**	**263**	⇓*e*P	**Pn**	**02 21 46.3**	**+0.7**
MIDR	**Miches**	**1.84**	**263**	⇑*i*P	**Pb**	**02 21 47.5**	**-0.2**
MIDR				*i*S	**Sn**	**02 22 08.1**	**-0.5**
MIDR				IAML		02 22 16.8	
	comp=N,19nm,3.0s						
HATOM	**Hato Mayor del**	**2.18**	**259**	⇑*i*P	**Pb**	**02 21 52.5**	**-1.1**
HATOM				⇑*i*S	**Sn**	**02 22 17.2**	**+0.1**
	comp=N,14nm,1.9s						
HATOM				IAML		02 22 18.6	
	comp=N,14nm,1.9s						

*SKHL **28** 02:30:18.4±0.2, 46°.80N×153°.20E, h65km±4km, mb4.9/5*
*NEIC **28** 02:30:22.3±1.2, 47°.2N±0°.1×152°.67E±0°.09, h56km±8km, mb4.5/32, Error ellipse: s-maj=16.5km s-min=8.5km az=171.0*
*MOS **28** 02:30:23.2±1.2, 47°.23N×152°.85E, h81km, mb4.5/6, Error ellipse: s-maj=16.4km s-min=9.8km az=63.0*
*IDC **28** 02:30:24.3±2.7, 47°.11N×152°.88E, h80km±24km, mb3.5/16, mbtmp3.9/20, MS4.0/2, Error ellipse: s-maj=22.6km s-min=14.7km az=153.0*

ISC 28 02:30:21.4±0.6, 47°.00N±0°.08×152°.89E±0°.08, h56km, n97, σ1s25/92, mb4.3/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**245**	PN	**Pn**	**02 31 20.5**	**+1.6**
KUR				S	**Sn**	**02 32 07.1**	**+3.6**
KUR				smax	smax		
	comp=N,191nm,0.5s						
KUR				smax	smax		
	comp=E,81nm,0.3s						
KUR	**Kuril'sk**	**3.91**	**245**	*e*P	**Pn**	**02 31 18.3**	**-0.6**
KUR				AMB	AMB	02 31 21.4	
	comp=E,110nm,0.5s						
KUR				*e*S	**Sn**	**02 32 03.1**	**-0.4**
KUR				A	A	02 32 08.6	
	comp=E,160nm,0.4s						
KUR				A	A	02 32 08.6	
	comp=E,140nm,0.4s						
SKR	**Severo-Kuril's**	**4.26**	**29**	*e*P	**Pn**	**02 31 22.0**	**-1.6**
SKR				AMB	AMB	02 31 22.9	
	comp=E,30nm,0.2s						
SKR				*e*S	**Sn**	**02 32 09.8**	**-2.2**
SKR				A	A	02 32 10.8	
	comp=E,110nm,0.3s						
SKR				A	A	02 32 10.8	
	comp=E,90nm,0.3s						
PAU	**Pauzhetka**	**5.16**	**28**	*e*P	**Pn**	**02 31 35.5**	**-0.4**
PAU				AMB	AMB	02 31 39.8	
	comp=E,20nm,0.3s						
PAU				*e*S	**Sn**	**02 32 33.5**	**-0.5**
PAU				A	A	02 32 33.8	
	comp=E,130nm,0.3s						
PAU				A	A	02 32 33.8	
	comp=E,90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.76**	**242**	*e*PN	**Pn**	**02 31 40.3**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**5.76**	**242**	*e*P	**Pn**	**02 31 43.8**	**-0.4**
YUK				AMB	AMB	02 31 48.8	
	comp=E,150nm,0.5s						
YUK				*e*S	**Sn**	**02 32 47.7**	**-1.2**
YUK				A	A	02 32 55.0	
	comp=E,150nm,0.6s						
YUK				A	A	02 32 55.0	
	comp=E,350nm,0.6s						
NMR	**Nemuro--Hokkai**	**6.23**	**237**	*e*PN	**Pn**	**02 31 47.9**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.23**	**237**	*e*P	**Pn**	**02 31 48.9**	**-1.7**
NMR				*e*S	**Sn**	**02 32 56.7**	**-3.6**
PEA0B	**Petropavlovsk-**	**6.85**	**25**	Pn	**Pn**	**02 31 59.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.85**	**25**	PN	**Pn**	**02 31 59.0**	**-0.2**
PETK	**Petropavlovsk-**	**6.85**	**25**	Pn	**Pn**	**02 31 59.0**	**-0.2**
PETK	**Petropavlovsk-**	**6.85**	**25**	P	**Pn**	**02 31 59.8**	**+0.6**
	comp=E,3.1nm,0.8s,baz=180,slow=13,SNR=4.6						
AKK	**Akkeshi**	**6.95**	**238**	*e*P	**Pn**	**02 31 59.9**	**-0.7**
PET	**Petropavlovsk**	**7.08**	**29**	*e*P	**Pn**	**02 32 01.6**	**-0.6**
TYV	**Tymovskoe**	**7.77**	**304**	*e*P	**Pn**	**02 32 13.8**	**+2.1**
TYV				AMB	AMB	02 32 14.4	
	comp=E,40nm,0.4s						
ASAJ	**Asahikawa**	**7.78**	**252**	P	**Pn**	**02 32 15.5**	**+3.7**
	comp=E,7.8nm,0.5s,baz=77,slow=8.6,SNR=4.2						
ERM	**Erimo**	**8.55**	**238**	Pn	**Pn**	**02 32 22.4**	**-0.1**
ERM	**Erimo**	**8.55**	**238**	PN	**Pn**	**02 32 22.4**	**-0.1**
SHEM	**Shemya Is, Ala**	**14.81**	**59**	Pn	**Pn**	**02 33 49.0**	**+1.8**
SMY	**Shemya**	**14.81**	**59**	Pn	**Pn**	**02 33 48.8**	**+1.6**
SMY	**Shemya**	**14.81**	**59**	P	**Pn**	**02 33 48.8**	**+1.6**
USRK	**Ussurisyk Ar.**	**14.89**	**267**	P	**P**	**02 33 51.4**	**-1.5**
	comp=E,1.0nm,0.4s,baz=63,slow=11,SNR=4.5						
MJA0	**Matsu Arr-Jizo**	**15.09**	**231**	*e*P	**P**	**02 33 56.1**	**+0.9**
MJAR	**Matsushiro Arr**	**15.11**	**232**	P	**P**	**02 33 55.6**	**+0.2**
	comp=E,1.0nm,0.3s,baz=41,slow=9.2,SNR=5.1						
JSG	**Sagara**	**16.56**	**227**		**P**	**02 34 11.2**	**-0.3**
KSRS	**Korea Array**	**20.73**	**252**	P	**P**	**02 34 58.1**	**+1.0**
	comp=E,1.6nm,0.8s,baz=51,slow=8.6,SNR=2.8						
	comp=E,1.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**29.51**	**152**	T	T	03 07 39.0	
	baz=340,slow=76,SNR=248						
H11N1	**WAKE ISLAND Hy**	**29.53**	**152**	T	T	03 07 40.1	
	baz=340,slow=76,SNR=198						
H11N3	**WAKE ISLAND Hy**	**29.53**	**152**	T	T	03 07 40.5	
	baz=340,slow=76,SNR=146						
H11S1	**WAKE ISLAND Hy**	**30.60**	**154**	T	T	03 09 01.5	
	baz=341,slow=76,SNR=322						
H11S3	**WAKE ISLAND Hy**	**30.61**	**154**	T	T	03 09 08.9	
	baz=341,slow=76,SNR=381						
H11S2	**WAKE ISLAND Hy**	**30.62**	**154**	T	T	03 09 02.1	
	baz=341,slow=76,SNR=294						
H19K	**Roundabout Mou**	**32.49**	**37**	P	**P**	**02 36 46.0**	**-0.1**
H19K				IAmb	IAmb	02 36 55.1	
	comp=Z,11nm,1.4s						
D19K	**Kuna River**	**32.51**	**31**	P	**P**	**02 36 46.2**	**-0.1**
D19K				IAmb	IAmb	02 36 49.6	
	comp=Z,15nm,1.3s						
E19K	**Redstone River**	**32.57**	**33**	P	**P**	**02 36 46.8**	**-0.1**
E19K				IAmb	IAmb	02 36 53.7	
	comp=Z,17nm,1.5s						
D20K	**Etivluk River**	**33.10**	**31**	P	**P**	**02 36 52.1**	**+0.6**
B20K	**Meade River**	**33.27**	**29**	P	**P**	**02 36 53.7**	**+0.7**
B21K	**Ikpikpuk River**	**34.02**	**30**	P	**P**	**02 36 59.8**	**+0.4**
B21K				IAmb	IAmb	02 37 35.0	
	comp=Z,9.5nm,1.1s						
E22K	**Anaktuvuk Pass**	**34.72**	**33**	P	**P**	**02 37 06.5**	**+0.9**
E22K				IAmb	IAmb	02 37 06.9	
	comp=Z,6.6nm,0.8s						
E24K	**Your Creek**	**35.95**	**33**	P	**P**	**02 37 16.9**	**+0.8**
E24K				IAmb	IAmb	02 37 18.4	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**36.45**	**39**	P	**P**	**02 37 20.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=265,slow=6.6,SNR=5.1						
	comp=Z,0.3nm,0.5s						
J25K	**Salcha River,**	**37.10**	**39**	P	**P**	**02 37 26.0**	**0.0**
C27K	**Jago River**	**37.79**	**31**	P	**P**	**02 37 32.7**	**+1.0**
C27K				IAmb	IAmb	02 37 51.0	
	comp=Z,15nm,1.4s						
BCAR	**Beaver Creek A**	**38.81**	**41**	P	**P**	**02 37 42.0**	**+1.6**
I28M	**Miner Creek**	**39.35**	**37**	P	**P**	**02 37 45.6**	**+0.7**
I28M				IAmb	IAmb	02 37 56.0	
	comp=Z,6.2nm,1.4s						
G29M	**Pine Creek**	**39.98**	**35**	P	**P**	**02 37 51.4**	**+1.4**
G29M				IAmb	IAmb	02 37 53.3	
	comp=Z,8.2nm,1.4s						
M29M	**Somme Creek**	**40.42**	**42**	P	**P**	**02 37 54.7**	**+0.9**
INK	**Inuvik**	**41.52**	**33**	P	**P**	**02 38 03.8**	**+1.2**
INK				IAmb	IAmb	02 38 39.0	
	comp=Z,8.1nm,1.4s						
INK	**Inuvik**	**41.52**	**33**	P	**P**	**02 38 03.8**	**+1.2**
INK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**02 38 44.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=40,slow=7.5,SNR=2.3						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**47.10**	**303**	P	**P**	**02 38 47.5**	**+0.1**
KURK	**Kurchatov**	**47.10**	**303**	*e*P	**P**	**02 38 47.5**	**+0.1**
KURBB	**Kurchatov Arra**	**47.19**	**303**	P	**P**	**02 38 47.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=70,slow=8.6,SNR=5.9						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.28**	**256**	P	**P**	**02 39 27.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=39,slow=7.0,SNR=4.0						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**52.28**	**256**	P	**P**	**02 39 28.0**	**+0.8**
BRDH	**Bariadhala**	**54.30**	**266**	LR	LR	03 04 54.6	
	comp=Z,365nm,18.8s,baz=174,slow=38						
AB31	**Akbulak array**	**58.15**	**310**	P	**P**	**02 40 08.2**	**-0.8**
ABKAR	**Akbulak array**	**58.15**	**310**	P	**P**	**02 40 08.1**	**-0.9**
PLID	**Pearl Lake**	**59.66**	**55**	P	**P**	**02 40 19.7**	**-0.2**
FFC	**Flin Flon**	**60.65**	**40**	P	**P**	**02 40 25.9**	**-0.3**
FFC	**Flin Flon**	**60.65**	**40**	P	**P**	**02 40 25.9**	**-0.3**
FFC				pmax	pmax		
	comp=Z,22nm,1.5s						
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**02 40 39.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=316,slow=7.0,SNR=3.1						
	comp=Z,0.5nm,0.7s						
FIA1	**FINESS Array S**	**63.75**	**335**	P	**P**	**02 40 45.7**	**-1.1**
FINES	**FINESS Array B**	**63.75**	**335**	P	**P**	**02 40 45.8**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=35,slow=6.8,SNR=16						
	comp=Z,1.9nm,0.6s						
FINES	**FINESS Array B**	**63.75**	**335**	*e*P	**P**	**02 40 46.4**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**64.72**	**54**	P	**P**	**02 40 53.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=318,slow=2.0,SNR=5.7						
	comp=Z,0.6nm,0.8s						
CCX	**Cicese**	**67.76**	**67**	P	**P**	**02 41 14.1**	**+1.0**
NC405	**NORSAR Array S**	**67.76**	**341**	P	**P**	**02 41 12.3**	**-0.3**
NB201	**NORSAR Array S**	**67.92**	**341**	P	**P**	**02 41 12.9**	**-0.7**
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**02 41 13.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=30,slow=6.6,SNR=7.9						
	comp=Z,1.9nm,0.7s						
HFS	**Hagfors**	**68.17**	**339**	P	**P**	**02 41 14.7**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=58,slow=5.6,SNR=26						
	comp=Z,4.1nm,0.6s						
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**02 41 33.7**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=36,slow=6.2,SNR=12						
	comp=Z,2.3nm,0.4s						
AKBB	**Malin Array Si**	**71.25**	**326**	P	**P**	**02 41 33.5**	**-0.7**
AKBB				IAmb	IAmb	02 41 34.1	
	comp=Z,4.3nm,0.8s						
AKBB	**Malin Array Si**	**71.25**	**326**	P	**P**	**02 41 33.6**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**71.26**	**326**	P	**P**	**02 41 33.4**	**-1.0**
KIEV				IAmb	IAmb	02 41 34.1	
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**71.26**	**326**	P	**P**	**02 41 33.4**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
T25A	**Trinidad**	**71.46**	**55**	P	**P**	**02 41 35.5**	**-0.6**
T25A				IAmb	IAmb	02 41 47.8	
	comp=Z,8.5nm,1.4s						
ASAR	**Alice Springs**	**72.40**	**198**	P	**P**	**02 41 41.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=12,slow=5.7,SNR=5.2						
	comp=Z,0.3nm,0.5s						
BUR08	**Bucovina Ar. S**	**75.28**	**326**	P	**P**	**02 41 58.1**	**-0.2**
BUR08				IAmb	IAmb	02 41 59.1	
	comp=Z,3.0nm,0.9s						
BURAR	**Bucovina Array**	**75.29**	**326**	P	**P**	**02 41 57.8**	**-0.5**
MLR	**Muntele Rosu**	**76.77**	**325**	P	**P**	**02 42 08.0**	**+1.2**
MLR	**Muntele Rosu**	**76.77**	**325**	P	**P**	**02 42 08.0**	**+1.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VRAC	**Vranov**	**76.86**	**332**	LR	LR	03 19 24.7	
	comp=Z,33nm,19.3s,baz=37,slow=38						
TX31	**Lajitas Ar. Si**	**77.50**	**60**	P	**P**	**02 42 11.0**	**-0.1**
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**02 42 10.7**	**-0.5**
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**02 42 11.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=296,slow=4.6,SNR=11						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**02 42 10.7**	**-0.5**
BRTR	**Keskin Array B**	**78.10**	**317**	P	**P**	**02 42 15.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=73,slow=6.3,SNR=3.8						
	comp=Z,0.4nm,0.6s						
GERES	**GERESS Array B**	**78.16**	**334**	P	**P**	**02 42 13.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=48,slow=5.9,SNR=2.9						
	comp=Z,0.3nm,0.5s						
RDO	**Rodhopi**	**80.55**	**323**	P	**P**	**02 42 27.2**	**-0.2**
RDO				IAmb	IAmb	02 42 28.4	
	comp=Z,3.1nm,0.9s						
PDG	**Podgorica**	**81.93**	**327**	P	**P**	**02 42 34.1**	**-0.6**
PDG				IAmb	IAmb	02 42 49.7	
	comp=Z,7.1nm,1.1s						
MMAI	**Mount Meron Ar**	**82.53**	**311**	P	**P**	**02 42 38.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=42,slow=8.8,SNR=1.7						
	comp=Z,0.8nm,0.5s						
NRCA	**Norcia**	**83.72**	**331**	P	**P**	**02 42 44.4**	**+0.3**
H03N2	**Juan Fernandez**	**138.91**	**90**	T	T	05 24 39.7	
	baz=308,slow=77,SNR=37						
H03N1	**Juan Fernandez**	**138.92**	**90**	T	T	05 24 38.8	
	baz=308,slow=77,SNR=11						
H03N3	**Juan Fernandez**	**138.92**	**90**	T	T	05 24 44.4	
	baz=308,slow=77,SNR=11						
PMSA	**Palmer Station**	**153.27**	**145**	PKPdf	**PKPdf**	**02 50 08.0**	**+3.8**

IDC 28 02:38:18.4±1.9, 18°.32S×174°.46W, h0km, mb4.0/4, mbtmp4.1/4, MS3.2/2, Error ellipse: s-maj=62.5km s-min=32.0km az=126.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.13**	**104**	LR	LR	02 45 40.0	
	comp=Z,61nm,18.1s,baz=268,slow=31						
URZ	**Urewera**	**21.19**	**199**	P	P	02 43 05.7	+0.2
	3.4nm,0.5s,baz=167,slow=5.4,SNR=3.6						
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**48.25**	**259**	P	P	02 47 01.3	-0.2
	0.9nm,0.4s,baz=97,slow=8.2,SNR=15						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**48.29**	**254**	P	P	02 47 01.6	-0.3
	2.6nm,0.5s,baz=90,slow=8.0,SNR=41						
	2.6nm,0.5s						
RPN	**Rapa Nui**	**60.15**	**111**	LR	LR	03 08 29.7	
	comp=Z,25nm,21.7s,baz=97,slow=30						
H03S2	**Juan Fernandez**	**84.44**	**124**	T	T	04 23 41.9	
	baz=250,slow=75,SNR=56						
H03S1	**Juan Fernandez**	**84.46**	**124**	T	T	04 23 39.9	
	baz=250,slow=75,SNR=53						
H03S3	**Juan Fernandez**	**84.46**	**124**	T	T	04 23 38.2	
	baz=250,slow=75,SNR=48						
H03N2	**Juan Fernandez**	**84.56**	**123**	T	T	04 23 36.2	
	baz=257,slow=72,SNR=7.9						
H03N3	**Juan Fernandez**	**84.56**	**123**	T	T	04 23 39.6	
	baz=257,slow=72,SNR=7.0						
H03N1	**Juan Fernandez**	**84.58**	**123**	T	T	04 23 44.5	
	baz=257,slow=72,SNR=5.9						
ILAR	**Eielson Array**	**85.49**	**11**	P	P	02 50 57.4	-0.4
	0.3nm,0.6s,baz=207,slow=5.6,SNR=6.0						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**147.68**	**317**	PKPbc	PKPbc	02 58 05.3	-0.1
	0.7nm,0.8s,baz=94,slow=1.9,SNR=5.3						

*NEIC **28** 02:51:47.2±1.9, 0°.07N±0°.06×122°.98E±0°.08, h168km±7km, mb4.0/10, Error ellipse: s-maj=11.3km s-min=9.1km az=66.0*
*IDC **28** 02:51:47.1±2.1, 0°.03N×122°.97E, h179km±19km, mb3.4/9, mbtmp4.0/11, Error ellipse: s-maj=38.0km s-min=11.2km az=67.0*
*DJA **28** 02:51:48.6±0.3, 0°.S±3°×12°.3E±°, h157km±4km, M4.4/15, mB5.1/2, mb4.2/6, MLv4.4/15, Mw(mB)4.5/2*

ISC 28 02:51:46.9±0.7, 0°.00S±0°.05×122°.90E±0°.05, h173km±6km, n42, σ1s20/50, mb3.8/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.04**	**187**	P	**Pn**	**02 52 14.6**	**+0.3**
LUWI				Sn	**Sn**	**02 52 33.9**	**-1.5**
LUWI	**Luwuk**	**1.04**	**187**	P	**Pn**	**02 52 14.5**	**+0.3**
LUWI				S	**Sn**	**02 52 33.4**	**-2.0**
MRSI	**Marisa**	**1.07**	**296**	P	**Pn**	**02 52 14.5**	**+0.1**
MRSI				S	**Sn**	**02 52 35.0**	**-0.6**
KMSI	**Cibinong**	**1.23**	**62**	P	**Pn**	**02 52 17.0**	**+1.3**
KMSI				S	**Sn**	**02 52 39.3**	**+1.3**
APSI	**Ampana**	**1.54**	**234**	P	**Pn**	**02 52 19.5**	**+0.8**
TOLI2	**Tolitoli**	**2.39**	**298**	Pn	**Pn**	**02 52 27.8**	**0.0**
TOLI2				Sn	**Sn**	**02 52 57.4**	**-2.2**
MPSI	**Mapaga**	**3.02**	**276**	P	**Pn**	**02 52 37.9**	**+2.5**
SANI	**Sanana**	**3.70**	**123**	P	**Pn**	**02 52 42.3**	**-1.7**
SGSI	**Sangihe**	**4.51**	**36**	P	**Pn**	**02 52 56.3**	**+1.9**
TNTI	**Ternate**	**4.54**	**80**	Pn	**Pn**	**02 52 53.5**	**-1.2**
TNTI	**Ternate**	**4.54**	**80**	P	**Pn**	**02 52 54.2**	**-0.5**
SPSI	**Sidrap Palu**	**5.03**	**218**	P	**Pn**	**02 53 02.3**	**+1.2**
BNSI	**Bone**	**5.18**	**212**	P	**Pn**	**02 53 04.8**	**+1.7**
	0.2nm65nm,1.1s						
NLAI	**Namlea**	**5.29**	**127**	P	**Pn**	**02 53 05.9**	**+1.4**
KAPI	**Kappang**	**5.89**	**212**	Pn	**Pn**	**02 53 14.1**	**+1.7**
KAPI	**Kappang**	**5.89**	**212**	P	**Pn**	**02 53 14.4**	**+2.0**
	72nm,0.8s,baz=20,slow=6.5,SNR=29						
MYLDM	**Lahad Datu**	**6.76**	**320**	Pn	**Pn**	**02 53 24.8**	**+0.8**
BATI	**Baumata**	**10.17**	**176**	P	**Pn**	**02 54 11.8**	**+2.9**
	27nm,0.4s,baz=18,slow=3.2,SNR=3.7						
MTN	**Manton Dam**	**15.15**	**148**		**P**	**02 55 12.6**	**-0.7**
MTN				IAmb	IAmb	02 55 56.0	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**16.62**	**160**		**Pn**	**02 55 30.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.19**	**172**	P	**P**	**02 55 46.9**	**+0.3**
FITZ				IAmb	IAmb	02 55 47.4	
	comp=Z,2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.19**	**172**	P	**P**	**02 55 46.6**	**0.0**
	comp=Z,11nm,0.5s,baz=3.6,slow=8.2,SNR=54						
WB0	**Warramunga Arr**	**22.65**	**151**	P	**P**	**02 56 32.4**	**-1.1**
WB0				IAmb	IAmb	02 56 33.9	
	comp=Z,7.6nm,1.1s						
WRA	**Warramunga Arr**	**22.77**	**151**	P	**P**	**02 56 33.9**	**-0.7**
WRA	**Warramunga Arr**	**22.77**	**151**	P	**P**	**02 56 33.9**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=261,slow=5.9,SNR=19						
WRA				ScP	**ScP**	**03 03 40.3**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=323,slow=3.1,SNR=5.3						

ARCES	**ARCESS Array B**	53.14 335	P	P	03 03 09.5	+1.8
	comp=E,2.1nm,0.8s,baz=76,slow=5.8,SNR=1.6					
	comp=E,2.1nm,0.8s					
BRTR	**Keskin Array B**	53.82 297	P	P	03 03 11.5	-1.9
	comp=E,0.5nm,0.8s,baz=79,slow=7.5,SNR=3.0					
	comp=E,0.5nm,0.8s					
HFS	**Hagfors**	59.81 325	P	P	03 03 54.4	-1.1
	comp=E,3.7nm,0.9s,baz=95,slow=7.2,SNR=2.2					
	comp=E,3.7nm,0.9s					
WRA	**Warramunga Arr**	62.45 146	P	P	03 04 12.9	-0.8
	comp=E,0.4nm,0.5s,baz=341,slow=6.8,SNR=3.2					
	comp=E,0.4nm,0.5s					
ASAR	**Alice Springs**	65.52 149	P	P	03 04 33.5	-0.4
	comp=E,0.3nm,0.4s,baz=336,slow=8.1,SNR=4.6					
	comp=E,0.3nm,0.4s					

*IDC **28** 02:54:22.0±1.8, 34°.02S×179°.60W, h0km, mb3.7/4, mbtmp3.7/5, ML3.9/1, MS3.8/2, Error ellipse: s-maj=47.9km s-min=32.0km az=56.0*
*WEL **28** 02:54:32.4±1.1, 35°.S±6°×18°.0W±1°.0, h33km, M3.9/9, ML4.0/14, MLv3.9/9, Error ellipse: s-maj=13.8km s-min=7.2km az=99.7, confirmed*
ISC 28 02:54:31.2±1.1, 34°.55S±0°.07×179°.6W±0°.1, h61km, n28, σ1§85/37, mb3.6/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	3.46	209	P	Pn	02 55 22.1	-0.4
MXZ				S	Sn	02 56 00.2	-2.0
WMGZ	**Waiomatatini S**	3.64	206	P	Pn	02 55 25.4	+0.3
WMGZ				S	Sn	02 56 06.3	-0.5
PKGZ	**Pakihiroa**	3.81	209	P	Pn	02 55 27.6	+0.2
PKGZ				S	Sn	02 56 09.8	-1.1
HAZ	**Te Kaha**	3.84	213	P	Pn	02 55 27.8	+0.1
HAZ				S	Sn	02 56 11.1	-0.5
PUZ	**Puketiti**	3.92	206	P	Pn	02 55 28.5	-0.4
PUZ				S	Sn	02 56 12.1	-1.6
RUGZ	**Raukumara Rang**	4.06	212	P	Pn	02 55 31.4	+0.5
RUGZ				S	Sn	02 56 17.4	+0.2
TWGZ	**Tauwhareparae**	4.12	208	P	Pn	02 55 31.9	+0.2
TWGZ				S	Sn	02 56 17.2	-1.3
CNGZ	**Carnagh Statio**	4.31	204	P	Pn	02 55 34.1	-0.1
GRZ	**Great Barrier**	4.38	246	P	Pn	02 55 34.0	-1.2
KUZ	**Kuaotunu**	4.40	239	P	Pn	02 55 36.6	+1.2
MWZ	**Matawai**	4.43	211	P	Pn	02 55 36.0	0.0
MWZ				S	Sn	02 56 24.9	-1.4
URZ	**Urewera**	4.56	215	Pn	Pn	02 55 37.1	-0.5
	4.2nm,0.3s,baz=256,slow=2.2,SNR=16						
	8.8nm,0.3s						
URZ	**Urewera**	4.56	215	P	Pn	02 55 37.6	0.0
URZ				S	Sn	02 56 26.7	-2.6
RTZ	**Ruatahuna**	4.91	213	P	Pn	02 55 40.3	-2.2
MKAZ	**Moumakai**	4.96	238	P	Pn	02 55 43.9	+0.7
KNZ	**Kokohu**	4.98	205	P	Pn	02 55 41.7	-1.6
KNZ				S	Sn	02 56 32.9	-6.6
TOZ	**Tahuroa Road**	5.08	230	P	Pn	02 55 45.4	+0.6
TOZ				S	Sn	02 56 44.7	+2.6
WCZ	**Waipu Caves**	5.15	253	P	Pn	02 55 45.7	0.0
GLKZ	**Green Lake**	5.46	16	P	Pn	02 55 46.4	-3.5
GLKZ				S	Sn	02 56 48.1	-3.3
BKZ	**Black Stump Fm**	5.58	213	P	Pn	02 55 50.8	-0.8
OUZ	**Omahuta**	5.63	261	P	Pn	02 55 52.0	-0.3
PMG	**Port Moresby**	39.39	302	LR	LR	03 16 55.9	
	comp=Z,100nm,18.7s,baz=190,slow=35						
ASAR	**Alice Springs**	41.73	272	P	P	03 02 12.7	-1.7
	0.4nm,0.4s,baz=111,slow=8.0,SNR=8.9						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	43.09	277	P	P	03 02 23.8	-1.7
	0.5nm,0.3s,baz=117,slow=7.9,SNR=4.7						
	0.5nm,0.3s						
NWAO	**Narrogin (SRO)**	51.78	253	LR	LR	03 24 27.0	
	comp=Z,110nm,19.0s,baz=298,slow=35						
QSPA	**South Pole Qui**	55.58	180	P	P	03 04 04.1	+3.9
	0.8nm,0.6s,baz=55,slow=8.2,SNR=2.8						
	0.8nm,0.6s						
SNAA	**Sanae**	74.05	179	P	P	03 06 01.5	+1.4
	0.3nm,0.6s,baz=143,slow=5.1,SNR=2.1						
	0.3nm,0.6s						
FINES	**FINESS Array B**	148.49	337	PKPbc	PKPdf	03 14 07.7	+1.2
	7.3nm,1.1s,baz=35,slow=5.1,SNR=5.3						

*JMA **28** 03:24:31.9±0.1, 24°.1N±0°.3×121°.7E±0°.5, h9km, MV2.8/11, TAIWAN REGION*
*TAP **28** 03:24:31.8, 24°.17N×121°.72E, h10km, ML3.5, C*
ISC 28 03:24:31.9±0.8, 24°.16N±0°.01×121°.73E±0°.02, h9km±5km, n116, σ0§68/184, 1C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	0.10	271	⇓P	Pg	03 24 34.5	+0.1
ETL				*i* S	Sg	03 24 36.4	+0.1
NACB	**Ninganchiao**	0.12	278	P	Pg	03 24 34.6	-0.2
NACB	**Ninganchiao**	0.12	278	S	Sg	03 24 37.0	+0.1
NACB	**Ninganchiao**	0.12	278	⇓*i*P	Pg	03 24 34.8	-0.1
NACB				S	Sg	03 24 36.7	-0.1
TWD	**Chiawan**	0.14	238	⇓P	Pg	03 24 35.1	0.0
TWD				S	Sg	03 24 37.6	+0.2
EHP	**Heping Village**	0.15	4	*i* P	Pg	03 24 35.3	0.0
EHP				S	Sg	03 24 38.0	+0.4
EAHA	**Aohua**	0.17	3	P	Pg	03 24 35.5	-0.1
EAHA				S	Sg	03 24 38.1	0.0
HWA	**Hwalien**	0.21	213	P	Pg	03 24 37.3	+1.0
ETLH	**Xiulin Townshi**	0.23	283	⇓*i*P	Pg	03 24 36.7	0.0
ETLH				S	Sg	03 24 40.0	0.0
ENA	**Nanau**	0.27	2	⇓*i*P	Pg	03 24 37.2	-0.2
ENA				S	Sg	03 24 41.2	+0.1
ETM	**Tongmen**	0.29	229	⇓*i*P	Pg	03 24 37.7	0.0
ETM				S	Sg	03 24 41.7	+0.1
EWUT	**Wuta**	0.29	9	P	Pg	03 24 37.7	-0.1
EWUT				S	Sg	03 24 41.9	+0.2
TEYL	**Yanliau Villag**	0.31	203	P	Pb	03 24 38.6	-1.0
TEYL				S	Sb	03 24 45.6	+0.8
SHUL	**Shoufeng**	0.40	203	*e*P	Pb	03 24 40.9	-0.2
SHUL				S	Sb	03 24 48.8	+1.5
NNSB	**Datong**	0.42	311	⇓*i*P	Pg	03 24 40.2	0.0
NNSB				*e*S	Sg	03 24 45.8	+0.1
WHF	**Hehuan Shan**	0.42	269	⇓*i*P	Pg	03 24 40.3	-0.1
WHF				S	Sg	03 24 46.1	+0.1
ESAO	**Su ao**	0.43	14	*e*P	Pg	03 24 40.2	-0.2
ESAO				*e*S	Sg	03 24 45.5	-0.5
NNS	**Nan Shan**	0.43	311	⇓*i*P	Pg	03 24 40.4	-0.1
NNS				S	Sg	03 24 46.3	+0.2
ESL	**Shilin**	0.44	219	⇓*i*P	Pg	03 24 40.3	-0.2
ESL				*e*S	Sb	03 24 48.7	+0.3
FUSS	**Fushou**	0.45	282	*e*P	Pg	03 24 41.1	+0.3
TWC	**Suao**	0.46	14	P	Pg	03 24 40.9	-0.1
TWC				S	Sg	03 24 47.0	-0.2
NDS	**Dongshan**	0.47	358	P	Pg	03 24 41.3	+0.1
NDS				S	Sg	03 24 48.0	+0.5
TEGC	**Jichi Village**	0.48	201	*e*P	Pb	03 24 42.7	+0.2
TEGC				*e*S	Sb	03 24 51.1	+1.6
ENTT	**Nioudou**	0.50	343	⇓*i*P	Pg	03 24 41.8	+0.1
ENTT				*e*S	Sg	03 24 48.8	+0.4
TWT	**Tachien**	0.52	281	*e*P	Pb	03 24 42.5	-0.7
TWT				*e*S	Sb	03 24 49.4	-1.4
EOS2	**EOS2**	0.53	60	*e*P	Pb	03 24 43.9	+0.6
TDCB	**Techi**	0.53	281	⇓P	Pb	03 24 42.6	-0.9
TDCB				*e*S	Sg	03 24 49.4	+0.1
EOS4	**EOS4**	0.54	94	*e*P	Pn	03 24 45.0	-0.4
EOS4				*e*S	Sn	03 24 53.5	-0.8
WARBT	**Fenglin Townsh**	0.54	216	⇓P	Pg	03 24 42.2	-0.2
WARBT				*e*S	Sb	03 24 51.0	-0.4
OWD	**Renai**	0.55	248	*e*P	Pg	03 24 42.5	-0.1
OWD				*e*S	Sb	03 24 50.1	-1.5
EOS3	**EOS3**	0.55	76	*e*P	Pn	03 24 45.2	-0.6
EGFH	**Guangfu**	0.56	210	*e*P	Pb	03 24 43.5	-0.4
TWE	**Neicheng**	0.56	354	⇓P	Pg	03 24 43.0	+0.1
TWE				*e*S	Sg	03 24 50.9	+0.6
WUSB	**Renai**	0.58	254	⇓*i*P	Pb	03 24 43.5	-0.9
WUSB				S	Sg	03 24 51.0	0.0
YHNB	**Yeheng**	0.60	328	P	Pg	03 24 43.9	+0.2
YHNB	**Yeheng**	0.60	328	S	Sb	03 24 52.7	-0.6
YHNB	**Yeheng**	0.60	328	⇓*i*P	Pg	03 24 43.9	+0.2
YHNB				*e*S	Sg	03 24 52.0	+0.4
FUSB	**Fushanzhiwuyua**	0.61	348	⇓*i*P	Pg	03 24 44.0	+0.2
FUSB				S	Sg	03 24 51.9	-0.1
NSK	**Sanguang**	0.62	327	⇓*i*P	Pg	03 24 44.0	+0.1
NSK				*e*S	Sg	03 24 52.2	+0.1
NWLT	**Wulai**	0.65	342	⇓*i*P	Pg	03 24 44.7	+0.2
NWLT				*e*S	Sg	03 24 52.9	-0.3
VWDT	**VWDT**	0.67	233	⇓P	Pg	03 24 44.9	0.0
VWDT				S	Sb	03 24 55.7	+0.6
EGS		0.71	15	*e*P	Pb	03 24 46.2	-0.2
HGSD	**Ruisui**	0.72	203	*e*P	Pb	03 24 47.0	+0.4
HGSD				*e*S	Sn	03 24 59.5	+0.2
WPL	**Puli Township**	0.72	259	*e*P	Pb	03 24 46.3	-0.3
WHP	**Taichung City**	0.73	280	*e*P	Pb	03 24 46.5	-0.3
WHP				*e*S	Sb	03 24 56.4	-0.4
NFF	**Wufeng Townshi**	0.73	310	*e*P	Pb	03 24 46.6	-0.3
NFF				*e*S	Sb	03 24 57.4	+0.4
DPDB	**Guoxing**	0.74	261	*e*P	Pb	03 24 46.8	-0.3
DPDB				*e*S	Sg	03 24 55.9	-0.2
EHY	**Hungye**	0.75	210	*e*P	Pb	03 24 46.4	-0.7
EHYH	**Wanrong**	0.75	208	*e*P	Pb	03 24 46.9	-0.2
KSHI	**Guanxi Townshi**	0.80	321	*e*P	Pb	03 24 48.2	+0.3
SSLB	**Suanglung**	0.80	243	P	Pg	03 24 47.2	-0.1
SSLB	**Suanglung**	0.80	243	S	Sg	03 24 57.5	-0.3
SSLB	**Suanglung**	0.80	243	⇓*i*P	Pg	03 24 47.2	-0.1
SSLB				*e*S	Sg	03 24 57.0	-0.7
SMLT	**Sun Moon Lake**	0.81	250	*e*P	Pb	03 24 47.7	-0.5
SMLT				*e*S	Sb	03 24 58.3	-0.8
LIOB	**Emei**	0.81	307	*e*P	Pb	03 24 48.2	-0.1
NSTT	**Nanjuang**	0.81	306	*e*P	Pb	03 24 48.2	-0.1
TIPB	**Shuangxi**	0.82	6	P	Pg	03 24 47.7	0.0
TIPB				*e*S	Sg	03 24 58.0	-0.3
TWA	**Mucha**	0.83	351	*e*P	Pb	03 24 48.4	-0.2
TWA				*e*S	Sg	03 24 59.2	+0.4
TYC	**Yuchr**	0.84	253	*e*P	Pg	03 24 47.9	-0.1
TYC				*e*S	Sg	03 24 58.7	-0.2
TATO	**Taipei**	0.84	345	P	Pb	03 24 48.9	+0.2
TATO	**Taipei**	0.84	345	S	Sg	03 24 59.7	+0.5
TATO	**Taipei**	0.84	345	P	Pb	03 24 48.7	0.0
TATO				S	Sg	03 24 59.2	0.0
YULB	**Yu-li**	0.86	208	P	Pg	03 24 47.7	-0.7
YULB	**Yu-li**	0.86	208	S	Sb	03 24 59.9	-0.7
YULB	**Yu-li**	0.86	208	*e*P	Pg	03 24 47.5	-1.0
YULB				*e*S	Sn	03 25 01.6	-1.2
ECBN	**Changbin**	0.88	197	*e*P	Pb	03 24 49.3	+0.1
ECBN				*e*S	Sn	03 25 02.6	-0.6
TWB1	**Santiao Chiao**	0.88	15	*e*S	Sg	03 24 59.8	-0.6
TWF1	**Yuli**	0.89	206	*e*P	Pg	03 24 48.1	-1.1
TWF1				*e*S	Sn	03 25 03.1	-0.6
TWQ1	**Liyutan**	0.89	283	*e*P	Pn	03 24 51.2	+0.6
WFSB	**Wu-fen Shan**	0.91	3	⇑P	Pb	03 24 49.9	0.0
WFSB				*e*S	Sg	03 25 01.2	-0.2
WHYT	**Xinyi Township**	0.92	240	*e*P	Pn	03 24 50.5	-0.6
WHYT				*e*S	Sn	03 25 03.4	-1.1
NMLH	**Miaoli**	0.94	294	*e*P	Pn	03 24 51.6	+0.4
SXI1	**Grass Mountain**	0.94	8	⇓P	Pg	03 24 50.2	+0.1
TCU	**Taichung**	0.96	270	*e*S	Sn	03 25 05.8	+0.4
TWS1	**Kuangyinshan**	0.98	343	*e*P	Pn	03 24 51.8	-0.1
TNOU	**National Taiwa**	0.99	2	*e*P	Pg	03 24 51.1	+0.1
WNT	**Mingjian**	1.00	254	*e*P	Pn	03 24 52.4	+0.4
YM01	**YM01**	1.00	352	*e*P	Pb	03 24 51.7	+0.3
YM01				*e*S	Sb	03 25 05.4	+0.8
CHKH	**Chenggong**	1.01	198	*e*P	Pb	03 24 51.1	-0.4
CHKH				*e*S	Sn	03 25 06.8	+0.3
ZUZH	**Zhuzihu**	1.01	350	*e*P	Pn	03 24 52.1	-0.3
FULB	**Fuli**	1.03	203	*e*P	Pb	03 24 51.9	0.0
NTST	**Danshui**	1.03	346	*e*P	Pn	03 24 52.6	+0.1
NTST				*e*S	Sn	03 25 07.6	+0.5
YM08	**YM08**	1.03	353	*e*P	Pb	03 24 52.1	+0.1
ANP	**Anpu**	1.04	350	*e*P	Pb	03 24 52.2	+0.1
ALS	**Alishan**	1.06	233	*e*P	Pn	03 24 52.8	-0.4
ALS				*e*S	Sn	03 25 09.4	+1.1
CHN5	**Tsauling**	1.11	240	*e*P	Pn	03 24 54.3	+0.6
CHN5				*e*S	Sn	03 25 10.8	+1.6
JYNG	**Yonagunijimaku**	1.15	75	*e*P	Pg	03 24 54.2	+0.2
ELDTW	**Lidau**	1.16	214	*e*P	Pg	03 24 52.4	-1.9
WDLH	**Douliu**	1.19	247	*e*P	Pn	03 24 55.5	+0.9
YOJ	**Yonaguni jima**	1.21	75	P	Pn	03 24 54.7	-0.2
YOJ	**Yonaguni jima**	1.21	75	*e*P	Pn	03 24 54.8	-0.1
YOJ				*e*S	Sb	03 25 10.4	-0.2
EDH	**Donghe**	1.24	198	*e*P	Pn	03 24 54.1	-1.3
WCKO	**Fanlu**	1.25	235	*e*P	Pg	03 24 56.8	+0.8
WCKO				*e*S	Sn	03 25 15.2	+2.7
STYH	**Taoyuan**	1.31	222	*e*P	Pb	03 24 56.5	-0.3
STYH				*e*S	Sg	03 25 14.5	+0.3
TPUB	**Ta-pu**	1.32	230	P	Pg	03 24 57.1	-0.1
TPUB	**Ta-pu**	1.32	230	*e*P	Pg	03 24 57.2	-0.1
TPUB				*e*S	Sg	03 25 15.9	+1.5
CHY	**Chiayi**	1.36	242	*e*P	Pg	03 24 59.2	+1.1
CHY				*e*S	Sg	03 25 17.7	+1.8
WTP	**Ta-pu**	1.37	229	*e*P	Pg	03 24 57.7	-0.5
WTP				*e*S	Sg	03 25 17.5	+1.6
TWK	**Hsinying**	1.44	232	⇓P	Pg	03 24 59.5	-0.1
TWK				*e*S	Sg	03 25 20.9	+2.6
TWGBT	**Beinan**	1.46	204	P	Pn	03 24 58.4	0.0
SNST	**Tainan City**	1.47	231	*e*P	Pg	03 24 59.7	-0.3
SNST				*e*S	Sg	03 25 19.9	+0.8
CHN1	**Nanshi**	1.47	229	*e*P	Pg	03 24 59.7	-0.4
CHN1				*e*S	Sg	03 25 20.9	+1.8
WSL	**Shuilin Townsh**	1.51	246	*e*P	Pg	03 25 00.4	-0.5
WSL				*e*S	Sg	03 25 21.5	+0.9
SCST	**Cishan**	1.70	222	*e*P	Pb	03 25 03.5	+0.2
SSD	**Sandimen**	1.73	216	*e*P	Pb	03 25 03.9	+0.1
SSD				*e*S	Sg	03 25 26.6	-0.9
IRIF	**Iriomote-Funau**	1.83	84	*e*S	Sb	03 25 29.0	+0.3
MASBT	**Mashibuluo**	1.84	213	*e*P	Pb	03 25 05.2	-0.4
MASBT				*e*S	Sg	03 25 29.9	-1.1
EAST	**Anshuo**	1.94	205	*e*P	Pb	03 25 07.9	+0.4
PNG	**Penghu**	2.08	254	*e*P	Pb	03 25 09.0	-0.7
PNG				*e*S	Sb	03 25 35.1	-0.5
PHUB	**P'eng-hu**	2.08	252	*e*S	Sn	03 25 33.3	+0.5
JKRS	**Kuro-shima**	2.08	87	*e*P	Pn	03 25 07.8	+0.8
WDGT	**Dungji**	2.10	245	*e*P	Pn	03 25 08.1	+0.9
WDGT				*e*S	Sb	03 25 35.3	-0.9
JIJ	**Ishigaki jima**	2.21	84	*e*P	Pn	03 25 08.9	+0.1
VCHM	**Qimei**	2.31	246	*e*P	Pn	03 25 11.2	+1.1
VCHM				*e*S	Sb	03 25 40.8	-1.6
PTMZ	**Houxiangcun**	2.53	291	*e*P	Pn	03 25 12.9	-0.3
MATB	**Ma-tsu**	2.56	321	*e*P	Pn	03 25 12.8	-0.8
MATB				*e*S	Sn	03 25 43.8	-1.1

*GCG **28** 03:31:22.9±0.6, 13°.03N×91°.84W, h96km±36km, MD3.8, ML3.9*
*CATAC **28** 03:31:22.5±0.7, 13°N±4°×9°2W±°, h1km, M3.6/11, MLv3.6/11, Error ellipse: s-maj=9.2km s-min=6.6km az=49.0, confirmed*
*SNET **28** 03:31:30.0±1.0, 13°.12N×91°.34W, h34km±11km, ML3.5*
ISC 28 03:31:25.0±3.0, 12°.9N±0°.1×91°.8W±0°.1, h35km, n45, σ1§13/46, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	1.42	64	*i* P	Pn	03 31 48.1	-0.2
STG2	**El Palmar, Qui**	1.55	16	*e*P	Pn	03 31 52.2	+2.0
RTAL	**Retalhuleu**	1.58	4	*e*P	Pn	03 31 50.1	-0.4
RTAL				*e*S	Sn	03 32 10.2	+0.5
RTAL	**Retalhuleu**	1.58	4	P	Pn	03 31 50.1	-0.4
ESSG	**Sabana Grande**	1.73	34	*i* P	Pn	03 31 51.3	-1.3
ESSG				IAML		03 32 13.5	
	comp=E,664nm,0.3s						
FG8	**Yepocapa, Chim**	1.79	43	*e*P	Pn	03 31 51.6	-1.9
SOKI	**Kika Raxquin**	1.91	12	*e*P	Pn	03 31 54.6	-0.8
SOKI				IAML		03 32 24.2	
	comp=N,453nm,0.7s						
SMCA	**Catarina**	1.92	352	*e*P	Pn	03 31 54.3	-1.0
FAME	**Alcaldia de Sa**	1.97	63	P	Pn	03 31 54.0	-1.9
NUBE	**Las Nubes**	2.20	64	*e*P	Pn	03 31 57.5	-1.7
CEVE	**Cerro Verde**	2.31	67	*e*P	Pn	03 31 59.5	-1.3
CEVE	**Cerro Verde**	2.31	67	S	Sn	03 32 29.3	+1.3
CEVE	**Cerro Verde**	2.31	67	P	Pn	03 31 59.6	-1.2
SBLS	**San Blas**	2.31	67	*e*P	Pn	03 31 59.5	-1.4
RTR	**El Retiro**	2.31	66	*e*P	Pn	03 31 59.8	-1.1
SNJE	**San Jose**	2.34	67	*e*P	Pn	03 31 59.9	-1.3
RBDL	**Robledal**	2.38	60	*e*P	Pn	03 32 00.7	-0.9
JAYA	**Jayaque - finc**	2.41	73	⇑*e*P	Pn	03 32 00.7	-1.4
JAYA	**Jayaque - finc**	2.41	73	*e*P	Pn	03 32 00.7	-1.4
JAYA	**Jayaque - finc**	2.41	73	P	Pn	03 32 00.7	-1.4
UNIC	**Universidad Ca**	2.44	65	P	Pn	03 32 01.4	-0.9
UNIC	**Universidad Ca**	2.44	65	S	Sn	03 32 31.1	+0.1
PMON	**Piamonte**	2.55	72	*e*P	Pn	03 32 02.2	-1.8
PMON	**Piamonte**	2.55	72	P	Pn	03 32 02.2	-1.8
BOQS	**Boqueron**	2.59	72	*e*P	Pn	03 32 03.9	-0.8
LOMA	**Loma Larga**	2.67	74	*e*P	Pn	03 32 05.3	-0.4
LOMA	**Loma Larga**	2.67	74	P	Pn	03 32 05.0	-0.6
LFRS	**El Faro**	2.77	75	*e*P	Pn	03 32 06.5	-0.4
MTO3	**Montecristo**	2.79	58	*e*P	Pn	03 32 06.9	-0.5
MTO3	**Montecristo**	2.79	58	*e*P	Pn	03 32 06.6	-0.8
MTO3	**Montecristo**	2.79	58	P	Pn	03 32 06.7	-0.8
MTO3	**Montecristo**	2.79	58	S	Sn	03 32 40.0	0.0
ESQI	**Esquipulas**	2.89	56	P	Pn	03 32 10.2	+1.5
PAVA	**Las Pavas**	2.90	74	*e*P	Pn	03 32 08.7	-0.2
PAVA	**Las Pavas**	2.90	74	P	Pn	03 32 08.8	0.0
LLGN	**La Laguna**	3.04	66	P	Pn	03 32 12.0	+1.2
SCLA	**Alcaldia de Sa**	3.10	76	P	Pn	03 32 11.4	-0.1
SCLA	**Alcaldia de Sa**	3.10	76	S	Sn	03 32 48.2	+0.9
SARH	**Santa Rosa de**	3.48	58	P	Pn	03 32 16.6	-0.2
LCND	**La Caada**	3.84	84	P	Pn	03 32 20.8	-0.9
LCND	**La Caada**	3.84	84	S	Sn	03 33 06.0	+0.4
CNCH	**Conchagua**	3.89	85	*e*P	Pn	03 32 21.9	-0.6
CNCH	**Conchagua**	3.89	85	P	Pn	03 32 21.5	-1.0
CNCH	**Conchagua**	3.89	85	S	Sn	03 33 08.0	+0.9
CSGN	**Cosiguina Volc**	4.15	89	P	Pn	03 32 27.6	+1.6

*MOS **28** 03:55:04.6±1.0, 30°.16S×68°.91W, h10km, mb5.3/23, Error ellipse: s-maj=14.0km s-min=6.8km az=92.9*
*NEIC **28** 03:55:06.8, 30°.27S×69°.23W, h30km*
*NEIC **28** 03:55:06.8, 30°.27S×69°.23W, h30km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}2.29; $M_{\theta\theta}$1.46; $M_{\phi\phi}$-3.75; $M_{r\theta}$1.73; $M_{\theta\phi}$-1.38; $M_{\phi r}$-2.46; Fault plane solution: $M_0$4.66000×10^{16} NP1:ϕ_s47.77000°, δ41.25000°, λ150.30000°. NP2:ϕ_s160.98000°, δ70.93000°, λ52.70000°. Principal axes: T 4.5932, Plg50.0000°, Azm29.0000°; N 0.1269, Plg35.0000°, Azm175.0000°; P -4.7201, Plg17.0000°, Azm278.0000°;*
*NEIC **28** 03:55:07.1±1.8, 30°.24S±0°.05×68°.91W±0°.02, h12km±2km, mb5.2/321, Mww5.0/23, Mwr4.9(GUC) Error ellipse: s-maj=7.1km s-min=2.1km az=197.0*
*VAO **28** 03:55:07.8±0.4, 30°.09S×68°.86W, h10km, mb5.1*
*SJA **28** 03:55:09.1±0.7, 30°.37S×69°.05W, h11km±2km, ML5.2, MW4.8*
*IDC **28** 03:55:10.9±0.5, 30°.17S×68°.86W, h45km±4km, mb4.7/15, mbtmp4.8/20, MS4.2/40, Error ellipse: s-maj=17.7km s-min=5.7km az=75.0*
*GUC **28** 03:55:11.3±0.7, 30°.23S×69°.16W, h28km±4km, ML5.3*
*GCMT **28** 03:55:14.2±0.2, 30°.25S±0°.01×68°.97W±0°.02, h39km±1km, MW5.1/92, Moment Tensor Solution. s46,c55; s92,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82±.18; $M_{\theta\theta}$-0.18±.11; $M_{\phi\phi}$-2.64±.14; $M_{r\theta}$1.46±.13; $M_{\theta\phi}$-2.28±.08; $M_{\phi r}$-3.07±.20; Best double couple: $M_0$4.89500×10^{16} NP1:ϕ_s59.00000°, δ39.00000°, λ145.00000°. NP2: ϕ_s178.00000°, δ69.00000°, λ57.00000°. Principal axes: T 5.1970, Plg54.0000°, Azm47.0000°; N -0.6070, Plg31.0000°, Azm191.0000°; P -4.5920, Plg17.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 03:55:08.5±0.4, 30°.24S±0°.02×69°.00W±0°.02, h29km±2km, n542, σ1§80/459, mb5.1/191, MS4.2/39, 24C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACDV	**Cuesta del Vie**	0.13	305	*e*P	Pn	03 55 17.6	+2.9
ACCO	**Cerro Coronel**	0.35	189	*e*P	Pn	03 55 18.3	+0.4
AROD	**Rodeo**	0.42	280	*e*P	Pn	03 55 19.7	+0.9
AGUA	**GUANDACOL**	0.87	31	*e*P	Pn	03 55 28.7	+3.8
AGUA				*e*S	Sn	03 55 43.3	+6.5
AGUA				IAML		03 55 51.3	
	comp=Z,55μm,0.7s						
CO01	**Juntas del Tor**	0.98	285		Pb	03 55 28.2	+1.1
CO01				Sg	Sb	03 55 41.4	+1.6
CO01	**

comp=Z,37µm,0.5s
ARCO CERRO ARCO 2.59 179 eP Pn 03 55 52.3 +3.6
ARCO eS Sb 03 56 30.9 +5.1
ARCO IAML 03 56 34.9
comp=Z,5µm,0.6s
AC04 Llanos de Chal 2.72 318 Pn **Pb 03 55 54.5 -2.0**
AC04 Llanos de Chal 2.72 318 eP **Pb 03 55 54.3 -2.2**
AC04 eS **Sb 03 56 27.8 -1.7**
AC04 IAML 03 56 32.8
comp=N,18µm,0.2s
AC04 Llanos de Chal 2.72 318 eP **Pb 03 55 54.3 -2.2**
AC04 eS **Sb 03 56 33.3 +3.8**
AC04 IAML 03 56 42.9
comp=Z,11µm,1.3s
AAGR Agrelo 2.84 177 eP **Pb 03 55 56.1 -2.4**
VA03 San Esteban 2.84 207⇑ eP **Pn 03 55 55.8 +3.7**
VA03 IAML 03 56 39.5
comp=E,25µm,0.5s
VA03 San Esteban 2.84 207 eP **Pn 03 55 55.6 +3.7**
VA03 eS **Sb 03 56 35.9 +2.9**
VA03 IAML 03 56 39.1
comp=Z,10µm,0.5s
GO03 Copiapo 2.85 337 Pn **Pb 03 55 56.7 -2.0**
GO03 Copiapo 2.85 337 eP **Pb 03 55 57.1 -1.7**
GO03 eS **Sb 03 56 32.5 -0.8**
GO03 IAML 03 56 50.5
comp=E,10µm,0.9s
VA06 Catapilco 3.03 220 Pn **Pn 03 55 56.8 +2.2**
VA06 Catapilco 3.03 220⇓ eP **Pn 03 55 56.9 +2.4**
VA06 IAML 03 56 45.2
comp=N,24µm,0.4s
AC06 Mina Casimiro 3.11 337⇑ eP **Pb 03 56 00.1 -3.0**
AC06 eS **Sb 03 56 38.0 -2.6**
AC06 IAML 03 56 43.8
comp=N,5µm,0.2s
ROCH El Roble 3.22 212⇑ eP **Pn 03 55 59.8 +2.5**
ROCH IAML 03 56 55.5
comp=N,7µm,0.3s
ROC1 El Roble 3.22 212 eP **Pn 03 55 59.6 +2.2**
ROC1 eS **Sb 03 56 46.6 +2.6**
PEL Peldehue 3.23 206 Pn **Pn 03 55 59.8 +2.5**
PEL Peldehue 3.23 206 P **Pn 03 55 59.8 +2.5**
PEL Peldehue 3.23 206⇑ eP **Pn 03 56 00.0 +2.7**
PEL IAML 03 56 50.5
comp=E,8µm,0.7s
PEL Peldehue 3.23 206 eP **Pn 03 56 00.2 +2.9**
PEL eS **Sb 03 56 47.3 +3.3**
PEL IAML 03 57 03.5
comp=Z,6µm,0.7s
AVIZ Vizcacheras 3.25 173 eP **Pn 03 56 01.2 +3.7**
MT10 Hacienda Santa 3.29 203⇑ eP **Pn 03 56 01.7 +3.4**
MT10 eS **Sb 03 56 49.9 +4.0**
MT04 Ro Olivares 3.30 197⇑ eP **Pn 03 56 02.5 +4.1**
MT04 IAML 03 56 53.4
comp=N,3µm,0.6s
MT04 Ro Olivares 3.30 197 eP **Pn 03 56 02.7 +4.3**
MT04 eS **Sb 03 56 53.3 +7.1**
MT04 IAML 03 56 59.5
comp=Z,3µm,0.9s
MT08 Bocatoma Ro 3.31 195 Pn **Pn 03 56 01.4 +2.9**
MT08 Bocatoma Ro 3.31 195 eP **Pn 03 56 02.9 +4.4**
MT08 eS **Sb 03 56 48.7 +2.2**
MT08 IAML 03 56 51.5
comp=E,5µm,0.9s
MT08 Bocatoma Ro 3.31 195 eP **Pn 03 56 02.9 +4.4**
MT08 eS **Sb 03 56 51.9 +5.4**
MT08 IAML 03 56 57.7
comp=Z,3µm,0.7s
AC02 Maricunga 3.40 358 Pn **Pb 03 56 06.1 -2.2**
AC02 Maricunga 3.40 358⇑ eP **Pb 03 56 06.4 -1.9**
AC02 eS **Sb 03 56 49.2 -0.1**
AC02 IAML 03 56 53.3
comp=N,3µm,0.4s
AC02 Maricunga 3.40 358 eP **Pb 03 56 06.4 -1.9**
AC02 eS **Sb 03 56 50.4 +1.0**
MT14 Cerro Calı̣n 3.40 202 eP **Pn 03 56 03.2 +3.4**
MT16 CCHEN 3.43 202 eP **Pn 03 56 03.5 +3.4**
MT16 IAML 03 56 58.3
comp=E,10µm,0.9s
MT05 Renca 3.47 205⇑ eP **Pn 03 56 03.4 +2.7**
MT05 Renca 3.47 205 eP **Pn 03 56 03.6 +3.0**
MT05 IAML 03 57 07.7
comp=Z,4µm,0.7s
MT03 Universidad Ad 3.48 201⇑ eP **Pn 03 56 04.1 +3.2**
MT03 Universidad Ad 3.48 201 eP **Pn 03 56 04.3 +3.5**
MT03 eS **Sb 03 56 56.0 +4.5**
MT03 IAML 03 56 58.3
comp=Z,5µm,0.8s
MT02 Curacav 3.51 211⇓ eP **Pn 03 56 03.3 +2.1**
MT02 IAML 03 57 05.0
comp=E,4µm,0.2s
MT02 Curacav 3.51 211 eP **Pn 03 56 03.1 +1.9**
MT02 eS **Sb 03 56 54.3 +2.1**
MT02 IAML 03 57 02.1
comp=Z,7µm,1.6s
MRA San Martin 3.55 129 eP **Pn 03 56 05.1 +3.4**
MRA eS Sb 03 57 06.4 +13
MRA IAML 03 57 09.8
comp=Z,6µm,0.9s
VA01 Torpederas 3.57 218 eP **Pn 03 56 04.7 +2.7**
VA01 Torpederas 3.57 218 eP **Pn 03 56 04.5 +2.5**
VA01 eS **Sb 03 56 56.9 +3.0**
VA01 IAML 03 57 01.8
comp=Z,3µm,1.0s
MT15 Las Vizcachas 3.58 201 eP **Pn 03 56 05.3 +3.1**
MT12 Pirque 3.72 200⇑ eP **Pn 03 56 06.8 +2.7**
LMEL Las Melosas 3.74 196⇑ eP **Pn 03 56 07.9 +3.5**
LMEL Las Melosas 3.74 196 eP **Pn 03 56 08.0 +3.6**
LMEL eS **Sb 03 57 04.8 +6.1**
LMEL IAML 03 57 24.6
comp=Z,3µm,0.7s
MT09 Talagante 3.91 205⇑ eP **Pn 03 56 08.8 +2.1**
TCA Tanti 3.94 107⇓ eP **Pn 03 56 10.1 +2.9**
TCA Tanti 3.94 107 eP **Pn 03 56 10.4 +3.2**
TCA eS **Sb 03 56 58.8 -5.9**
TCA IAML 03 57 27.6
comp=Z,5µm,1.0s
BO04 La Punta 3.98 200⇑ eP **Pn 03 56 10.2 +2.6**
MT01 Popeta 4.08 207⇓ eP **Pn 03 56 10.4 +1.3**
MT01 Popeta 4.08 207 eP **Pn 03 56 10.2 +1.2**
MT01 eS **Sb 03 57 13.0 +4.4**
MT01 IAML 03 57 19.5
comp=Z,3µm,0.8s
AC01 Pan de Azucar 4.32 341⇑ eP Pn 03 56 16.9 +4.6
BO01 Tunca 4.50 203⇑ eP **Pn 03 56 16.4 +1.7**
BO01 Tunca 4.50 203 eP **Pn 03 56 16.3 +1.7**
BO01 IAML 03 57 31.0
comp=Z,2µm,1.6s
RFA San Rafael 4.54 174 eP **Pn 03 56 16.5 +1.2**
RFA eS **Sb 03 57 28.1 +6.4**
RFA IAML 03 57 38.1
comp=Z,4µm,0.4s
PIL Pilar 4.62 109 eS Sb 03 57 35.0 +11
BO02 Sierra Bellavi 4.78 198⇑ eP **Pn 03 56 21.1 +2.4**
BO02 Sierra Bellavi 4.78 198 eP **Pn 03 56 20.8 +2.2**
BO02 IAML 03 57 48.4
comp=Z,1µm,0.5s
FSA Cafayete 4.91 34 eP Pn 03 56 26.1 +5.6
BO03 Pichilemu 4.92 210 eP **Pn 03 56 20.8 +0.2**
GO05 Hualane 5.36 207 eP **Pn 03 56 26.2 -0.3**
VA04 Juan Fernndez 9.01 245 eP **Pn 03 57 16.1 -0.5**
PSAL Palomas, Salto 9.85 98 eP **Pn 03 57 29.6 +1.5**
PB08 IPOC Station P 10.06 359 Pn **Pn 03 57 32.0 +0.6**
LR05 Currie 10.26 193 Pn **Pn 03 57 34.5 +0.8**
LR04 Corral 10.27 199 Pn **Pn 03 57 34.8 +0.9**
PB11 IPOC Station P 10.46 357 Pn **Pn 03 57 37.1 +0.5**
GO01 Chusmiza 10.53 359 Pn **Pn 03 57 39.2 +1.2**
PLCA Paso Flores 10.54 186 Pn **Pn 03 57 39.4 +1.7**
PLCA Paso Flores 10.54 186 P **Pn 03 57 40.1 +2.5**
comp=Z,4.5nm,0.6s,baz=0.8,slow=13,SNR=6.7
PLCA LR LR 04 01 58.3
comp=Z,3µm,20.6s,baz=12,slow=38
PLCA Paso Flores 10.54 186 eP Pn 03 57 43.2 +5.5
CPUP Villa Florida 11.00 72 P **Pn 03 57 43.8 -0.1**
comp=Z,2.5nm,0.5s,baz=104,slow=10,SNR=24
CPUP LR LR 04 02 40.0
comp=Z,434nm,18.2s,baz=107,slow=41
PB12 IPOC Station P 11.64 354 Pn **Pn 03 57 52.2 -0.6**
LL05 Los Muermos 11.71 197 Pn **Pn 03 57 53.4 -0.2**
PB16 IPOC Station P 11.87 358 Pn **Pn 03 57 56.6 +0.3**
PB18 Visviri 12.61 358 Pn **Pn 03 58 07.7 +1.3**
PLTB Pedras Altas 13.29 100 Pn **Pn 03 58 14.4 -0.9**
PLTB Pedras Altas 13.29 100 eP **Pn 03 58 14.2 -1.1**

MURT Porto Murtinho 13.34 53 eP **Pn 03 58 16.4 +0.5**
CPSB Cacapava Do Su 13.45 95 eP **Pn 03 58 17.6 +0.2**
LPAZ La Paz 13.91 3 P **Pn 03 58 25.3 +0.9**
comp=Z,57nm,0.9s,baz=173,slow=8.2,SNR=46
LPAZ La Paz 13.91 3 eP **Pn 03 58 23.8 -0.6**
LPAZ La Paz 13.91 3 P **Pn 03 58 24.4 0.0**
comp=Z,81nm,1.0s
BDQN Bodoquena, MS 14.74 51 eP **Pn 03 58 34.0 -1.1**
ITAB Concordia 15.10 83 Pn **Pn 03 58 40.5 +0.7**
ITAB IAmb IAmb 03 58 47.0
comp=Z,95nm,1.0s
ITAB Concordia 15.10 83 eP **Pn 03 58 40.2 +0.4**
AQDB Aquidauana 15.45 54 Pn **Pn 03 58 43.9 -0.6**
AQDB Aquidauana 15.45 54 eP **Pn 03 58 43.9 -0.6**
COYC Coyhaique 15.49 188 P **P 03 58 49.8 +0.7**
CNLB Canela 15.79 91 eP **Pn 03 58 48.5 -0.3**
SIV San Ignacio 15.94 29 P **Pn 03 58 49.4 -1.4**
comp=Z,9.9nm,0.7s,baz=206,slow=11,SNR=33
SIV LR LR 04 06 22.6
comp=Z,1µm,21.1s,baz=227,slow=42
AY03 Cochrane 17.21 188 Pn **Pn 03 59 06.7 +0.1**
PTLB Pontes e Lacer 17.29 34 Pn **Pn 03 59 06.7 -1.1**
PTLB Pontes e Lacer 17.29 34 eP **Pn 03 59 07.0 -0.9**
PP1B Ponte de Pedra 18.00 49 eP **P 03 59 16.2 -0.8**
C2SB Chapadao do Su 18.60 56 eP **Pn 03 59 24.4 +0.5**
FRTB Fartura 18.65 73 eP **Pn 03 59 24.4 -0.2**
SALV Santo Antonio 18.78 43 eP **Pn 03 59 25.5 -0.6**
VILB Vilhena 19.04 27 P **Pn 03 59 28.3 -1.0**
VILB IAmb IAmb 03 59 31.1
comp=Z,132nm,0.7s
VILB Vilhena 19.04 27 eP **P 03 59 28.2 -0.2**
NNA Nana 19.57 337 P **Pn 03 59 35.6 -0.1**
NNA Nana 19.57 337 P **Pn 03 59 36.0 +0.3**
comp=Z,6.8nm,0.4s,baz=209,slow=11,SNR=3.2
NNA LR LR 04 06 04.9
comp=Z,647nm,20.1s,baz=164,slow=34
NNA Nana 19.57 337 P **Pn 03 59 36.0 +0.3**
NNA Nana 19.57 337 P **Pn 03 59 37.3 +1.6**
comp=Z,30nm,1.1s
ITRB Iturama 19.86 62 eP **Pn 03 59 37.8 -1.4**
SPB Sao Paulo 20.33 76 P **P 03 59 41.8 -0.6**
BB19B Bebedouro 20.57 68 eP **P 03 59 45.0 -0.1**
RCLB Rio Claro- Sao 20.74 73 eP **P 03 59 47.2 +0.2**
VAO Valinhos 20.96 75 P **P 03 59 49.4 0.0**
VAO IAmb IAmb 03 59 52.0
comp=Z,124nm,1.0s
VAO Valinhos 20.96 75 eP **P 03 59 50.0 +0.6**
GO09 Cerro Castillo 21.15 186 P **P 03 59 52.4 +1.3**
ARAG Araguaiana, MT 21.40 51 eP **P 03 59 54.0 -0.1**
PDRB Porto dos Gac 21.76 34 eP **P 03 59 57.6 -0.4**
PARB Paraiuna 21.95 77 eP **P 04 00 00.2 +0.2**
IPMB Ipameri, GO 22.52 62 eP **P 04 00 06.1 0.0**
CLDB Colider 22.86 35 eP **P 04 00 08.4 -1.3**
EFI East Falkland 22.90 162 P **P 04 00 09.6 -0.1**
EFI IAmb IAmb 04 00 23.4
comp=Z,64nm,0.8s
EFI East Falkland 22.90 162 P **P 04 00 09.6 -0.1**
EFI pmax pmax
comp=Z,65nm,0.8s
PMNB Patos De Minas 23.57 66 eP **P 04 00 16.5 -0.4**
BSCB Bom Sucesso 23.67 73 eP **P 04 00 18.2 +0.4**
BDFB Brasilia 24.12 58 P **P 04 00 21.4 -0.7**
BDFB IAmb IAmb 04 00 23.1
comp=Z,112nm,1.1s
BDFB Brasilia 24.12 58 P **P 04 00 21.5 -0.6**
comp=Z,58nm,0.9s,baz=231,slow=7.5,SNR=62
BDFB LR LR 04 11 00.3
comp=Z,2µm,19.1s,baz=229,slow=40
comp=Z,58nm,0.9s
VAS01 Vassouras-RJ 24.22 77 eP **P 04 00 23.2 +0.3**
SNDB Serra Nova Dou 24.50 46 eP **P 04 00 25.0 -0.4**
USHA Ushuaia 24.58 179 LR LR 04 11 02.9
comp=Z,1µm,18.7s,baz=4.5,slow=39
ATAH Atahualpa 24.62 337 LR LR 04 08 54.2
comp=Z,396nm,20.8s,baz=174,slow=34
DUB01 Friburgo-RJ 25.20 78 eP **P 04 00 32.3 +0.5**
DIAM Diamantina, MG 25.91 68 eP **P 04 00 38.8 +0.4**
CAM01 Campos-RJ 25.91 78 eP **P 04 00 38.6 +0.5**
NPGB Novo Progresso 26.40 32 eP **P 04 00 42.5 -0.1**
SJMB Sao Joao De Ma 27.73 72 eP **P 04 00 54.3 -0.3**
MCRA Macar, Loja 27.74 336 P **P 04 00 55.3 +0.6**
comp=Z,17nm,1.5s
MACA Manacapuru-AM 28.06 18 P **P 04 00 57.7 +0.1**
MACA IAmb IAmb 04 01 04.1
comp=Z,42nm,0.7s
MACA Manacapuru-AM 28.06 18 eP **P 04 00 57.8 +0.3**
RIB01 Linhares ES 28.08 74 eP **P 04 00 57.8 0.0**
SDBA SAO DESIDERIO 28.51 57 eP **P 04 01 01.1 -0.6**
ITTB Itaituba 28.63 29 eP **P 04 01 01.6 -1.1**
COHC Cochancay 29.29 339 P **P 04 01 10.9 +2.4**
comp=Z,16nm,1.2s
GUA01 Guaratinga, BA 29.94 70 eP **P 04 01 14.2 -0.1**
PRPB Paraiapebas 29.99 41 eP **P 04 01 14.3 -0.4**
SGC2 Sao Gabriel da 29.99 4 P **P 04 01 14.0 -0.7**
comp=Z,22nm,1.0s
PIAT Ana Tenorio 30.39 341 P **P 04 01 20.9 +2.2**
comp=Z,19nm,1.3s
PTLC Puerto Leguiza 30.75 349 P **P 04 01 19.7 -1.7**
comp=Z,628nmcomp=Z,76nm,1.0s
CMC01 Camacan, BA 30.83 68 eP **P 04 01 22.4 +0.2**
MAL2 Monte Alegre, 31.40 29 P **P 04 01 27.0 -0.1**
OTAV Otavalo 31.62 342 P **P 04 01 31.3 +1.7**
OTAV Otavalo 31.62 342 P **P 04 01 31.3 +1.7**
OTAV pmax pmax
comp=Z,19nm,1.3s
OTAV Otavalo 31.62 342 eP **P 04 01 30.1 +0.5**
OTAV Otavalo 31.62 342 P **P 04 01 31.3 +1.7**
comp=Z,13nm,1.3s
CUSE Cuicocha Este 31.67 342 P **P 04 01 32.5 +2.5**
TULM Tulcn-Chalpat 31.91 343 P **P 04 01 34.7 +2.6**
comp=Z,20nm,1.0s
FLOC Florencia 32.28 347 P **P 04 01 37.1 +2.2**
FLOC IAmb IAmb 04 01 38.2
comp=Z,46nm,1.1s
FLOC Florencia 32.28 347 P **P 04 01 36.4 +1.5**
comp=Z,434nmcomp=Z,40nm,1.2s
GCUF Volcan Galeras 32.29 344 P **P 04 01 38.8 +3.3**
comp=Z,22nm,1.1s
MACC Macarena, Meta 32.54 351 P **P 04 01 37.8 +0.6**
comp=Z,8.6nm,0.9s
POPC Popayan, Colom 33.41 346 P **P 04 01 47.1 +2.0**
comp=Z,34nm,1.2s
BOAV Boa Vista 33.45 15 P **P 04 01 45.0 -0.1**
BOAV IAmb IAmb 04 01 46.6
comp=Z,37nm,0.9s
BOAV Boa Vista 33.45 15 eP **P 04 01 45.2 +0.1**
BOAV Boa Vista 33.45 15 P **P 04 01 44.7 -0.4**
comp=Z,559nmcomp=Z,49nm,0.9s
URMC La Uribe, Meta 33.70 350 P **P 04 01 48.9 +1.6**
comp=Z,39nm,1.3s
TMAB Tom-Au,PA,Br 34.08 40 eP **P 04 01 51.1 +0.6**
GR1C Gorgona, Isla 34.20 344 P **P 04 01 54.2 +2.6**
PRAC Prado 34.23 350 P **P 04 01 53.7 +1.8**
comp=Z,21nm,0.9s
ORTC Ortega, Tolima 34.48 349 P **P 04 01 56.1 +2.0**
comp=Z,800nmcomp=Z,66nm,1.1s
PMSA Palmer Station 34.69 176 LR LR 04 15 52.0
comp=Z,204nm,19.9s,baz=342,slow=36
YOTC Yotoco, Valle 34.75 347 P **P 04 01 57.3 +0.8**
comp=Z,19nm,0.9s
CHIC Chingaza 34.97 352 P **P 04 01 59.1 +0.4**
comp=Z,11nm,0.8s
ROSC El Rosal 35.26 351 P **P 04 02 01.4 +0.3**
ROSC El Rosal 35.26 351 P **P 04 02 01.3 +0.1**
comp=Z,7.5nm,0.6s,baz=298,slow=16,SNR=5.4
ROSC LR LR 04 17 15.7
comp=Z,491nm,18.4s,baz=221,slow=38
comp=Z,7.5nm,0.6s
ROSC El Rosal 35.26 351 P **P 04 02 01.5 +0.3**
ROSC pmax pmax
comp=Z,19nm,1.0s
RPN Rapa Nui 35.39 265 LR LR 04 12 49.9
comp=Z,418nm,19.1s,baz=114,slow=30
GUY2C Guyana, Caldas 35.79 349 P **P 04 02 07.5 +1.6**
comp=Z,23nm,0.8s
SPBC San Pablo de B 36.02 351 P **P 04 02 08.5 +1.1**
comp=Z,2µmcomp=Z,16nm,1.2s
RUSC La Rusia 36.14 353 P **P 04 02 09.6 +0.7**
comp=Z,945nmcomp=Z,68nm,1.3s
CBOC Ciudad Bolivar 36.53 348 P **P 04 02 13.0 +1.2**
comp=Z,500nmcomp=Z,25nm,1.0s
NBAN Anadia - AL 36.73 63 eP **P 04 02 12.6 -0.9**
HELC Santa Helena 36.76 349 P **P 04 02 14.4 +0.3**
comp=Z,1µmcomp=Z,126nm,0.9s
BARC Barichara 36.84 353 P **P 04 02 15.1 +0.5**

PTBC PUERTO BERRIO, 36.95 351 P **P 04 02 14.1 -1.1**
comp=Z,151nmcomp=Z,18nm,0.8s
PAMC Pamplona, Colo 37.54 354 P **P 04 02 20.3 -0.4**
DBBC Dabeiba 37.69 348 P **P 04 02 24.1 +2.5**
ZARC Zaragoza, Cauc 37.94 351 P **P 04 02 23.2 -0.4**
comp=Z,40nm,0.8s
MDP Montagnes des 38.48 27 LR LR 04 20 24.5
comp=Z,384nm,18.4s,baz=206,slow=40
APAC Apartado, Choc 38.62 348 P **P 04 02 31.3 +2.0**
comp=Z,19nm,1.8s
SDV Santo Domingo 38.94 357 P **P 04 02 31.3 -0.9**
SDV Santo Domingo 38.94 357 LR LR 04 19 59.5
comp=Z,264nm,18.3s,baz=174,slow=38
SDV Santo Domingo 38.94 357 eP **P 04 02 31.7 -0.5**
SDV Santo Domingo 38.94 357 P **P 04 02 31.4 -0.8**
comp=Z,30nm,1.0s
BAUV El Baul 38.97 2 **P 04 02 31.8 -0.5**
RCBR Riachuelo 39.49 59 P **P 04 02 35.8 -0.9**
RCBR IAmb IAmb 04 02 38.6
comp=Z,75nm,1.4s
RCBR Riachuelo 39.49 59 LR LR 04 20 11.2
comp=Z,307nm,18.9s,baz=229,slow=38
RCBR Riachuelo 39.49 59 P **P 04 02 35.8 -0.9**
RCBR pmax pmax
comp=Z,75nm,1.5s
RCBR Riachuelo 39.49 59 eP **P 04 02 37.0 +0.3**
ARGC Ariguani, Magd 40.19 352 P **P 04 02 42.1 -0.3**
comp=Z,33nm,1.3s
SJCC San Jacinto, C 40.35 351 P **P 04 02 45.0 +1.2**
comp=Z,1µmcomp=Z,140nm,1.1s
BCIP Isla Barro Col 40.55 343 P **P 04 02 46.9 +1.5**
comp=Z,33nm,1.3s
BRU2 Volcan 40.98 339 P **P 04 02 51.0 +1.8**
BRU2 IAmb IAmb 04 03 26.7
comp=Z,54nm,1.2s
SOCE Pocosol 43.10 337 P **P 04 03 08.4 +2.1**
SOCE IAmb IAmb 04 03 10.2
comp=Z,47nm,1.1s
JTS Las Juntas de 43.12 337 P **P 04 03 08.0 +1.5**
JTS Las Juntas de 43.12 337 P **P 04 03 08.0 +1.5**
JTS pmax pmax
comp=Z,9.0nm,0.9s
JTS Las Juntas de 43.12 337 P **P 04 03 08.2 +1.7**
MPOM Morne Pois Mar 45.12 11 P **P 04 03 21.6 -0.8**
BIM Bigot 45.15 11 P **P 04 03 21.5 -1.2**
SIUN Universidad Ur 46.27 339 P **P 04 03 31.9 +0.4**
SIUN IAmb IAmb 04 03 33.3
comp=Z,9.7nm,1.0s
TGUH Tegucigalpa,Un 47.43 336 P **P 04 03 41.5 +0.8**
SJG San Juan 48.15 4 P **P 04 03 45.0 -1.1**
SJG San Juan 48.15 4 LR LR 04 27 13.0
comp=Z,167nm,18.2s,baz=183,slow=40
SJG San Juan 48.15 4 P **P 04 03 45.0 -1.1**
SJG pmax pmax
comp=Z,49nm,1.0s
MTO3 Montecristo 48.52 333 P **P 04 03 49.6 +0.3**
MTO3 IAmb IAmb 04 03 51.7
comp=Z,22nm,1.2s
SDDR Presa de Saban 48.99 357 IAmb IAmb 04 04 34.5
comp=Z,34nm,1.2s
VNA3 Neumayer Olymp 51.90 159 ⇑P **P 04 04 13.9 -0.2**
comp=Z,28nm,0.8s
VNA1 Neumayer--Stat 52.16 158 ⇑P **P 04 04 16.2 +0.3**
comp=Z,22nm,1.0s
VNA2 Neumayer--Watz 52.51 159 ⇑P **P 04 04 18.4 -0.2**
comp=Z,20nm,0.6s,baz=285,slow=8.1
CMIG Matias Romero 53.26 329 LR LR 04 22 29.5
comp=Z,131nm,21.0s,baz=163,slow=31
TEIG Tepich 53.50 337 P **P 04 04 26.4 0.0**
SNAA Sanae 54.12 159 ⇑P **P 04 04 29.7 -0.8**
comp=Z,340nm,0.6s
SNAA Sanae 54.12 159 P **P 04 04 30.2 -0.3**
SNAA Sanae 54.12 159 P **P 04 04 30.2 -0.3**
comp=Z,11nm,1.0s,baz=285,slow=8.2,SNR=53
SNAA pP **sP 04 04 43.2 -0.3**
comp=Z,15nm,0.7s,baz=283,slow=7.5,SNR=20
SNAA LR LR 04 26 29.4
comp=Z,145nm,20.5s,baz=314,slow=35
comp=Z,11nm,1.0s
SOR Soroa 54.42 344 P **P 04 04 33.3 +0.2**
SOR IAmb IAmb 04 04 34.2
comp=Z,26nm,0.9s
SOR Soroa 54.42 344 P **P 04 04 33.3 +0.2**
SOR pmax pmax
comp=Z,26nm,0.9s
TROLL Troll, Antarti 55.84 159 ⇑P **P 04 04 42.8 -0.2**
comp=Z,684nm,0.6s
NVL N'lazarevskaya 58.77 158 eP **P 04 05 00.8 -2.7**
NVL eS **S 04 13 03.6 -2.8**
NVL eSS **SS 04 16 58.3 -0.9**
NVL pmax pmax
comp=Z,8.0nm,0.8s
NVL smax smax
comp=N,130nm,12.4s
NVL MLR MLR
comp=Z,187nm,21.0s
QSPA South Pole Qui 59.98 180 P **P 04 05 13.5 +1.3**
QSPA South Pole Qui 59.98 180 P **P 04 05 14.7 +2.6**
comp=Z,13nm,1.0s,baz=156,slow=2.3,SNR=35
QSPA pP **sP 04 05 25.9 +0.7**
comp=Z,35nm,1.0s,baz=133,slow=4.3,SNR=19
QSPA LR LR 04 33 02.7
comp=Z,123nm,18.5s,baz=156,slow=38
comp=Z,13nm,1.0s
553A Crawfordville 61.87 345 P **P 04 05 25.7 +0.7**
HBVL Hebbronville 63.66 330 P **P 04 05 38.0 +0.9**
GOGA Godfrey 64.77 347 P **P 04 05 43.8 -0.5**
GOGA IAmb IAmb 04 06 05.8
comp=Z,49nm,1.9s
GOGA Godfrey 64.77 347 P **P 04 05 43.8 -0.5**
GOGA pmax pmax
comp=Z,49nm,2.0s
HKT Hockley 65.09 334 P **P 04 05 47.3 +1.0**
HKT IAmb IAmb 04 06 20.3
comp=Z,14nm,1.1s
HKT Hockley 65.09 334 P **P 04 05 47.3 +1.0**
HKT pmax pmax
comp=Z,14nm,1.2s
JSC Jenkinsville 65.22 349 IAmb IAmb 04 05 48.1
comp=Z,16nm,1.0s
Y52A Lilburn 65.33 346 IAmb IAmb 04 05 48.1
comp=Z,9.3nm,0.7s
HODGE Hodges 65.34 348 IAmb IAmb 04 05 48.8
comp=Z,19nm,1.2s
146A Union 65.36 341 IAmb IAmb 04 05 49.5
comp=Z,25nm,1.0s
VBMS Vicksburg 65.39 340 P **P 04 05 49.3 +1.1**
PAULI Pauline 65.84 348 IAmb IAmb 04 05 51.7
comp=Z,11nm,0.9s
HNDO Hondo 66.08 331 P **P 04 05 54.0 +1.2**
X51A Calhoun 66.18 346 P **P 04 05 53.2 -0.1**
BG3 Lake Jocassee 66.20 348 IAmb IAmb 04 05 54.1
comp=Z,19nm,1.1s
DRIO Del Rio 66.55 330 IAmb IAmb 04 06 26.2
comp=Z,11nm,0.9s
X48A Hartselle 66.56 344 IAmb IAmb 04 05 56.8
comp=Z,23nm,1.0s
V53A Saluda 66.84 348 IAmb IAmb 04 05 58.5
comp=Z,22nm,1.2s
W50A Signal Mountai 66.89 346 IAmb IAmb 04 06 34.0
comp=Z,20nm,0.9s
CPCT Cooper Cave 66.96 346 IAmb IAmb 04 05 59.1
comp=Z,26nm,1.2s
TKL Tuckaleechee C 67.01 347 IAmb IAmb 04 06 34.7
comp=Z,14nm,0.8s
LPIG La Paz 67.01 319 LR LR 04 29 32.5
comp=Z,97nm,19.6s,baz=143,slow=31
JCT Junction City 67.12 331 P **P 04 05 59.5 0.0**
JCT IAmb IAmb 04 06 15.8
comp=Z,14nm,0.7s
JCT Junction City 67.12 331 P **P 04 05 59.5 0.0**
JCT pmax pmax
comp=Z,14nm,0.7s
SBA Scott Base 67.25 191 P **P 04 06 00.7 +1.0**
SBA Scott Base 67.25 191 P **P 04 06 00.7 +1.0**
SBA pmax pmax
comp=Z,13nm,1.4s
PLAL Pickwick Lake 67.32 343 IAmb IAmb 04 06 01.1
comp=Z,11nm,0.8s
BBTS Babate 67.41 56 LR LR 04 35 43.3
comp=Z,122nm,18.4s,baz=81,slow=36
U54A Nelsons Funny 67.50 349 IAmb IAmb 04 06 02.6
comp=Z,23nm,0.9s
BRDY Brady 67.50 332 IAmb IAmb 04 06 03.0
comp=Z,12nm,0.7s
WHTX Lake Whitney, 67.53 334 IAmb IAmb 04 06 22.5

comp=Z,13nm,0.9s
V48A Smith Brothers 67.74 344 IAmb IAmb 04 06 04.2
comp=Z,29nm,1.1s
TXAR Lajitas Array 67.84 328 P **P** **04 06 04.7 +0.6**
TXAR Lajitas Array 67.84 328 P **P** **04 06 05.2 +1.0**
comp=Z,3.5nm,0.7s,baz=152,slow=8.4,SNR=52
TXAR LR LR 04 32 00.2
comp=Z,53nm,20.1s,baz=136,slow=33
comp=Z,3.5nm,0.7s
CLTN Cedars of Leba 67.97 345 IAmb IAmb 04 06 05.5
comp=Z,14nm,1.1s
U49A Red Boiling Sp 68.25 345 IAmb IAmb 04 06 33.1
comp=Z,16nm,1.2s
VNDA Vanda 68.27 190 P **P** **04 06 06.7 +0.6**
VNDA Vanda 68.27 190 P **P** **04 06 06.8 +0.6**
comp=Z,3.5nm,0.8s,baz=130,slow=5.5,SNR=27
VNDA LR LR 04 35 00.1
comp=Z,97nm,19.2s,baz=128,slow=35
comp=Z,3.5nm,0.8s
S57A Dark Hollow, R 68.29 352 IAmb IAmb 04 06 08.3
comp=Z,30nm,1.2s
WVT Waverly 68.35 344 P **P** **04 06 06.3 -0.8**
WVT Waverly 68.35 344 P **P** **04 06 06.3 -0.8**
WVT pmax pmax
comp=Z,30nm,0.8s
SYO Syowa Base 68.40 158⇓ *e*P **P** **04 06 06.0 -1.1**
MIAR Mount Ida 68.49 338 IAmb IAmb 04 06 09.5
comp=Z,16nm,1.1s
T50A Nancy 68.54 346 IAmb IAmb 04 06 52.5
comp=Z,42nm,2.0s
PLPT Palo Pinto 68.59 334 IAmb IAmb 04 06 44.5
comp=Z,18nm,1.0s
ALPN Alpine 68.71 328 IAmb IAmb 04 06 30.7
comp=Z,21nm,1.5s
WHAR Wooly Hollow 68.78 340 IAmb IAmb 04 06 10.6
comp=Z,12nm,1.0s
S51A Beattyville 68.90 348 IAmb IAmb 04 06 11.1
comp=Z,12nm,1.0s
SGCY Sterling City 68.92 331 IAmb IAmb 04 06 12.3
comp=Z,11nm,0.9s
ABTX Abilene, Hawle 68.94 333 IAmb IAmb 04 06 12.5
comp=Z,20nm,1.0s
T47A Sharon Grove 69.00 345 IAmb IAmb 04 06 11.8
comp=Z,30nm,1.3s
MNHN Monahans 69.13 329 IAmb IAmb 04 06 14.1
comp=Z,25nm,1.0s
FCAR Ozark Folk Cen 69.28 340 IAmb IAmb 04 06 13.9
comp=Z,33nm,1.5s
TAOE Nuku Hiva Isla 69.33 272 *e*S **S** **04 15 24.0 +4.8**
comp=Z,73nm,26.7s
TAOE Nuku Hiva Isla 69.33 272 *e*LR LR 04 27 15.8
comp=Z,289nm,30.1s
PECS Pecos 69.65 329 P **P** **04 06 16.5 +1.1**
PECS IAmb IAmb 04 06 31.9
comp=Z,7.8nm,0.6s
VHRN Van Horn 69.67 327 IAmb IAmb 04 06 17.2
comp=Z,26nm,1.8s
APMT Aspermont 69.75 333 IAmb IAmb 04 06 49.7
comp=Z,20nm,0.9s
SN07 Snyder 07 69.85 332 IAmb IAmb 04 06 17.9
comp=Z,15nm,0.9s
S44A Carbondale 70.19 343 IAmb IAmb 04 06 51.1
comp=Z,15nm,0.6s
HHAR Hobbs 70.20 339 IAmb IAmb 04 06 19.8
comp=Z,15nm,1.0s
Q51A Peebles 70.20 348 IAmb IAmb 04 06 19.2
comp=Z,18nm,1.1s
SIUC Southern Illin 70.20 343 IAmb IAmb 04 06 49.3
comp=Z,18nm,0.6s
DKNS Dickens 70.37 332 IAmb IAmb 04 06 20.9
comp=Z,12nm,0.7s
TUL3 Leonard 70.46 337 IAmb IAmb 04 06 21.2
comp=Z,24nm,0.9s
WMOK Wichita Mounta 70.47 334 P **P** **04 06 20.6 +0.3**
WMOK Wichita Mounta 70.47 334 P **P** **04 06 20.6 +0.3**
WMOK pmax pmax
comp=Z,12nm,1.3s
MGMO Mountain Grove 70.50 340 IAmb IAmb 04 06 21.8
comp=Z,17nm,1.1s
DEOK Depew 70.64 337 IAmb IAmb 04 06 22.3
comp=Z,32nm,1.1s
TBI Tubuai 70.77 254 *e*S **S** **04 15 42.7 +7.1**
TBI comp=Z,386nm,33.0s *e*LQ LQ 04 24 51.8
TBI comp=Z,826nm,43.2s *e*LR LR 04 27 51.1
TBI comp=Z,1μm,26.2s *e*LR LR 04 27 55.6
comp=Z,1μm,28.2s
OK052 Battle Ridge R 70.88 336 IAmb IAmb 04 06 23.8
comp=Z,31nm,1.2s
OLIL Olney 70.90 344 IAmb IAmb 04 06 23.0
comp=Z,20nm,1.0s
OK029 Liberty Lake 70.93 336 IAmb IAmb 04 06 24.2
comp=Z,29nm,1.0s
P48A Milroy 71.01 347 IAmb IAmb 04 06 45.0
comp=Z,19nm,1.3s
CCM Cathedral Cave 71.06 342 P **P** **04 06 23.4 -0.3**
CCM IAmb IAmb 04 06 24.9
comp=Z,28nm,1.1s
CCM Cathedral Cave 71.06 342 P **P** **04 06 23.4 -0.3**
CCM pmax pmax
comp=Z,28nm,1.1s
Q44A Meyer Farm, Va 71.28 344 IAmb IAmb 04 06 25.2
comp=Z,18nm,1.1s
ACSO Alum Creek Sta 71.31 349 IAmb IAmb 04 06 25.8
comp=Z,18nm,0.9s
SMWD Samnorwood 71.35 333 IAmb IAmb 04 06 27.1
comp=Z,22nm,1.0s
O49A Covington 71.51 348 IAmb IAmb 04 06 46.2
comp=Z,16nm,0.9s
DBIC Dimbokro 71.52 70 P **P** **04 06 27.5 +0.5**
DBIC Dimbokro 71.52 70 P **P** **04 06 27.2 +0.2**
comp=Z,39nm,0.6s,baz=253,slow=6.8,SNR=62
DBIC LR LR 04 35 12.9
comp=Z,344nm,20.4s,baz=246,slow=34
comp=Z,39nm,0.6s
DBIC Dimbokro 71.52 70 P **P** **04 06 27.5 +0.5**
DBIC pmax pmax
comp=Z,44nm,0.8s
O48B Farmland 71.73 347 IAmb IAmb 04 06 27.5
comp=Z,19nm,1.1s
AMTX Amarillo 71.73 332 IAmb IAmb 04 07 03.3
comp=Z,14nm,0.8s
P43A Skaggs, Pawnee 72.10 343 IAmb IAmb 04 07 01.7
comp=Z,19nm,0.9s
319A Douglas 72.24 325 IAmb IAmb 04 06 48.1
comp=Z,19nm,0.7s
N47A Urbana 72.44 347 P **P** **04 06 31.2 -0.7**
N47A IAmb IAmb 04 06 32.2
comp=Z,51nm,1.5s
121A Cookes Peak, D 72.45 326 IAmb IAmb 04 06 50.0
comp=Z,19nm,0.9s
P38A Dawn 73.16 340 IAmb IAmb 04 06 36.6
comp=Z,13nm,0.5s
PPT2 Papeete2 73.40 259 *e*P **P** **04 06 36.5 -1.9**
comp=Z,43nm,21.8s
PPT2 *e*S **SKiKP** **04 16 08.0 +0.4**
comp=Z,83nm,26.0s
PPT2 *e*LQ LQ 04 26 02.4
comp=Z,145nm,25.2s
PPT2 *e*LR LR 04 29 02.2
comp=Z,189nm,24.5s
PPT2 *e*LR LR 04 29 07.4
comp=Z,272nm,24.2s
PPT Papeete 73.41 259 LR LR 04 32 41.2
comp=Z,69nm,19.3s,baz=136,slow=31
N41A Harden Midland 73.44 343 IAmb IAmb 04 06 38.5
comp=Z,28nm,1.0s
R32A Long Quarter, 73.73 336 IAmb IAmb 04 06 41.4
comp=Z,20nm,1.0s
ANMO Albuquerque 73.83 329 P **P** **04 06 40.9 +0.4**
ANMO Albuquerque 73.83 329 *i* P **P** **04 06 41.4 +0.8**
ANMO pmax pmax
comp=Z,14nm,1.4s
N38A Joes South For 74.16 341 IAmb IAmb 04 06 42.5
comp=Z,14nm,0.7s
T25A Trinidad 74.79 331 IAmb IAmb 04 06 48.8
comp=Z,41nm,1.5s
SADO Sadowa 75.22 353 LR LR 04 42 02.3
comp=Z,759nm,20.7s,baz=149,slow=37
X16A Lo Mia Camp, P 75.76 325 IAmb IAmb 04 06 54.5
comp=Z,19nm,1.2s
MAW Mawson 76.02 163 P **P** **04 06 48.5 -4.1**
MAW Mawson 76.02 163 P **P** **04 06 52.9 +0.3**
comp=Z,9.9nm,1.0s,baz=223,slow=7.5,SNR=12
MAW LR LR 04 40 06.7
comp=Z,156nm,21.1s,baz=230,slow=35

comp=Z,9.9nm,1.0s
WUAZ Wupatki 76.60 326 IAmb IAmb 04 06 59.4
comp=Z,21nm,1.1s
MVCO Mesa Verde 76.62 329 IAmb IAmb 04 06 59.1
comp=Z,18nm,1.1s
PV01 Paradox Valley 77.42 329 IAmb IAmb 04 07 03.8
comp=Z,18nm,1.3s
ISCO Idaho Springs 77.55 332 P **P** **04 07 03.0 +1.1**
ISCO Idaho Springs 77.55 332 P **P** **04 07 03.0 +1.1**
ISCO pmax pmax
comp=Z,9.0nm,1.0s
PV13 Radium Mtn., P 77.55 329 IAmb IAmb 04 07 19.1
comp=Z,15nm,0.8s
PV15 Paradox Valley 77.55 329 IAmb IAmb 04 07 04.6
comp=Z,25nm,1.4s
PV02 Paradox Valley 77.55 329 IAmb IAmb 04 07 04.3
comp=Z,32nm,1.2s
PV05 Paradox Valley 77.61 329 IAmb IAmb 04 07 04.4
comp=Z,24nm,1.2s
PV18 Skein Mesa, Pa 77.66 329 IAmb IAmb 04 07 36.4
comp=Z,16nm,0.7s
TSUM Tsumeb 77.73 105 P **P** **04 07 03.2 -0.1**
TSUM IAmb IAmb 04 07 04.8
comp=Z,18nm,0.9s
TSUM Tsumeb 77.73 105 LR LR 04 38 26.6
comp=Z,199nm,18.2s,baz=195,slow=33
PV19 Morning Glory 77.75 329 IAmb IAmb 04 07 45.0
comp=Z,12nm,0.8s
PFO Pinyon Flats O 77.75 321 LR LR 04 34 34.2
comp=Z,86nm,21.1s,baz=235,slow=30
PFO Pinyon Flats O 77.75 321 *i* P **P** **04 07 03.6 +0.6**
PFO pmax pmax
comp=Z,24nm,1.5s
PV20 West Nyswonger 77.77 329 IAmb IAmb 04 07 22.9
comp=Z,13nm,0.8s
PV10 Paradox Valley 77.83 329 IAmb IAmb 04 07 05.2
comp=Z,27nm,1.0s
ECSD EROS Data Cent 77.84 340 P **P** **04 07 03.0 0.0**
ECSD IAmb IAmb 04 07 04.2
comp=Z,27nm,0.9s
PV23 Carpenter Ridg 77.88 329 IAmb IAmb 04 07 35.8
comp=Z,13nm,0.7s
KOOLE Kule 78.12 110 *i* P **P** **04 07 05.8 +0.3**
SPMN Marine on St. 78.17 343 IAmb IAmb 04 07 04.8
comp=Z,13nm,0.5s
KNB Kanab 78.50 326 IAmb IAmb 04 07 10.0
comp=Z,32nm,1.2s
O20A White River Ci 78.93 330 IAmb IAmb 04 07 11.8
comp=Z,29nm,1.2s
P18A Preston Nutter 79.39 329 IAmb IAmb 04 07 14.5
comp=Z,24nm,1.2s
BOSA Boshof 79.50 117 P **P** **04 07 12.0 -0.9**
BOSA Boshof 79.50 117 P **P** **04 07 12.4 -0.5**
comp=Z,9.6nm,0.5s,baz=250,slow=3.9,SNR=35
BOSA pP **sP** **04 07 25.8 -0.6**
comp=Z,8.1nm,0.8s,baz=294,slow=2.7,SNR=4.3
BOSA LR LR 04 36 48.1
comp=Z,195nm,21.9s,baz=208,slow=31
comp=Z,9.6nm,0.5s
CCCA Chr Cany lake 79.68 322 IAmb IAmb 04 07 16.1
comp=Z,60nm,1.7s
GRTLG Ghanzi 79.72 109 P **P** **04 07 13.8 -0.5**
GRTLG IAmb IAmb 04 07 15.3
comp=Z,25nm,1.1s
GRTLG Ghanzi 79.72 109 *i* P **P** **04 07 14.6 +0.4**
RDMU Red Mountain 79.86 330 IAmb IAmb 04 07 16.4
comp=Z,19nm,1.0s
PRN Pahroc Range 79.92 324 IAmb IAmb 04 07 17.6
comp=Z,20nm,1.1s
K22A Casper 80.33 333 IAmb IAmb 04 07 19.1
comp=Z,36nm,1.1s
TORD Torodi Ar. Bea 80.48 69 P **P** **04 07 17.4 -0.8**
comp=Z,23nm,0.5s,baz=249,slow=3.8,SNR=6.1
comp=Z,23nm,0.5s
QNGWA Qangwa 80.56 107 IAmb IAmb 04 07 19.9
comp=Z,26nm,1.1s
RSSD Black Hills 80.64 335 P **P** **04 07 19.6 +1.0**
RSSD IAmb IAmb 04 07 20.3
comp=Z,16nm,1.0s
RSSD Black Hills 80.64 335 P **P** **04 07 19.6 +1.0**
RSSD pmax pmax
comp=Z,17nm,1.0s
VES Vestal, Richgr 80.85 321 IAmb IAmb 04 07 36.9
comp=Z,61nm,1.6s
TCUT Toone Canyon 81.12 329 IAmb IAmb 04 07 23.4
comp=Z,55nm,1.8s
LBTB Lobatse 81.50 114 IAmb IAmb 04 07 24.2
comp=Z,46nm,1.6s
LBTB Lobatse 81.50 114 LR LR 04 38 28.9
comp=Z,188nm,21.0s,baz=198,slow=32
KDWAN Kaudwane 81.55 112 *i* P **P** **04 07 24.0 0.0**
PDAR Pinedale Array 81.66 331 P **P** **04 07 23.3 -0.8**
PDAR Pinedale Array 81.66 331 P **P** **04 07 24.3 +0.2**
comp=Z,5.9nm,0.8s,baz=132,slow=6.5,SNR=34
PDAR LR LR 04 40 53.0
comp=Z,45nm,20.1s,baz=174,slow=34
comp=Z,5.9nm,0.8s
AGMN Agassiz Nation 81.81 342 IAmb IAmb 04 07 25.2
comp=Z,16nm,1.1s
AHID Auburn Hatcher 82.31 330 IAmb IAmb 04 07 29.1
comp=Z,33nm,1.5s
NVAR Mina Array Bea 82.36 323 P **P** **04 07 28.5 +0.6**
NVAR Mina Array Bea 82.36 323 P **P** **04 07 28.7 +0.8**
comp=Z,3.8nm,0.8s,baz=156,slow=6.2,SNR=21
comp=Z,3.8nm,0.8s
LPHEP Lephephe 82.52 113 *i* P **P** **04 07 29.0 -0.1**
WAKR Walker 83.01 322 P **P** **04 07 32.6 +1.4**
WAKR IAmb IAmb 04 07 33.8
comp=Z,21nm,1.4s
FLWY Flagg Ranch 83.21 331 IAmb IAmb 04 07 33.7
comp=Z,11nm,0.8s
RLMT Red Lodge 83.48 333 IAmb IAmb 04 07 35.1
comp=Z,12nm,0.7s
YMP Mirror Lake Pl 83.53 332 IAmb IAmb 04 07 50.1
comp=Z,18nm,1.0s
PNTR Pine Nut 83.53 323 IAmb IAmb 04 07 36.2
comp=Z,20nm,0.8s
YFT Old Faithful 83.57 331 IAmb IAmb 04 08 07.6
comp=Z,10nm,1.0s
ULM Lac du Bonnet 83.61 343 P **P** **04 07 33.4 -0.4**
comp=Z,7.0nm,0.5s,baz=149,slow=5.3,SNR=6.0
comp=Z,7.0nm,0.5s
YNE Yellowstone No 83.68 332 IAmb IAmb 04 07 36.1
comp=Z,17nm,1.1s
CASY Casey 83.79 180 P **P** **04 07 34.6 0.0**
CASY IAmb IAmb 04 07 35.7
comp=Z,22nm,1.1s
YMR Madison River 83.80 331 IAmb IAmb 04 07 37.5
comp=Z,20nm,0.9s
PAHR Pah Rah Range 83.87 323 IAmb IAmb 04 07 37.9
comp=Z,18nm,1.2s
YHL Hebgen Lake 84.04 331 IAmb IAmb 04 07 38.9
comp=Z,36nm,1.6s
MREMI Moremi 84.18 113 IAmb IAmb 04 07 38.5
comp=Z,17nm,0.8s
HLID Hailey 84.41 329 IAmb IAmb 04 07 40.4
comp=Z,17nm,1.1s
KSANE Kasane 84.70 107 IAmb IAmb 04 07 41.7
comp=Z,20nm,1.1s
KSANE Kasane 84.70 107 *i* P **P** **04 07 40.9 +0.6**
MCMT McKenzie Canyo 84.72 330 P **P** **04 07 40.4 +0.5**
SCHQ Schefferville 84.75 1 P **P** **04 07 39.1 -0.3**
comp=Z,62nm,0.8s,baz=150,slow=8.1,SNR=3.7
SCHQ LR LR 04 47 48.4
comp=Z,423nm,20.5s,baz=166,slow=37
comp=Z,62nm,0.8s
BROLN Tlhalogang 84.82 111 *i* P **P** **04 07 40.9 -0.1**
BOZ Bozeman (W) 84.83 331 IAmb IAmb 04 07 41.9
comp=Z,23nm,1.9s
MFID Camas Ranch 84.94 328 IAmb IAmb 04 07 42.6
comp=Z,25nm,1.8s
DLMT Dillon 85.04 331 IAmb IAmb 04 07 57.9
comp=Z,26nm,1.4s
MATP Matopo 86.10 111 LR LR 04 44 36.8
comp=Z,204nm,18.1s,baz=231,slow=34
K05A Summer Lake 86.86 325 P **P** **04 07 51.0 +0.6**
M02C Callahan 86.91 323 IAmb IAmb 04 08 30.5
comp=Z,13nm,1.2s
I07A Izee 87.18 326 IAmb IAmb 04 07 54.0
comp=Z,17nm,1.2s
MD31 MD31 87.37 49 IAmb IAmb 04 07 55.5
comp=Z,19nm,1.3s
MD01 Midelt array s 87.38 49 P **P** **04 07 53.2 +0.1**
MDT Midelt 87.44 49 LR LR 04 45 23.4
comp=Z,64nm,20.9s,baz=228,slow=34
J05D Fort Rock, OR 87.44 325 IAmb IAmb 04 07 55.9
comp=Z,27nm,1.3s
G08A Pilot Rock 87.82 327 IAmb IAmb 04 07 56.4

comp=Z,27nm,1.9s
BBOR Butler Butte 87.89 324 IAmb IAmb 04 07 56.2
comp=Z,11nm,1.0s
URZ Urewera 88.10 226 LR LR 04 38 54.2
comp=Z,120nm,20.2s,baz=272,slow=30
WIFE Three Sisters- 88.30 325 P **P** **04 07 58.0 +0.7**
I04A Tendick Farm, 88.40 324 IAmb IAmb 04 07 58.9
comp=Z,17nm,1.2s
LSZ Lusaka 88.47 107 P **P** **04 07 59.2 +0.5**
LSZ IAmb IAmb 04 08 01.0
comp=Z,11nm,1.1s
LSZ Lusaka 88.47 107 LR LR 04 42 15.6
comp=Z,148nm,21.4s,baz=230,slow=32
LSZ Lusaka 88.47 107 P **P** **04 07 59.3 +0.5**
LSZ pmax pmax
comp=Z,11nm,1.1s
G06A Carlson Farm, 88.58 326 IAmb IAmb 04 08 00.7
comp=Z,18nm,1.2s
TAM Tamanrasset 88.85 63 P **P** **04 08 00.5 +0.1**
TAM IAmb IAmb 04 08 01.5
comp=Z,11nm,0.8s
TAM Tamanrasset 88.85 63 P **P** **04 08 00.5 +0.1**
TAM pmax pmax
comp=Z,11nm,0.8s
HAWA Hanford 88.91 328 IAmb IAmb 04 08 01.7
comp=Z,12nm,0.9s
D08A Wollman Farm, 89.13 328 IAmb IAmb 04 08 02.4
comp=Z,12nm,1.2s
HOOD Mount Hood Mea 89.13 326 IAmb IAmb 04 08 03.1
comp=Z,22nm,1.1s
WAH2 Wahluke Slope 89.20 328 IAmb IAmb 04 08 03.2
comp=Z,14nm,1.3s
C09A Chrisman Ranch 89.40 329 IAmb IAmb 04 08 03.6
comp=Z,16nm,0.9s
RAO Raoul Island 90.09 236 LR LR 04 39 26.4
comp=Z,93nm,21.1s,baz=200,slow=29
D05A Enumclaw 90.64 327 IAmb IAmb 04 08 09.2
comp=Z,18nm,1.0s
E03A Lebam 90.94 326 IAmb IAmb 04 08 11.5
comp=Z,18nm,1.0s
GNW Green Mountain 91.31 327 P **P** **04 08 11.1 0.0**
ESDC Sonseca Array 92.11 44 P **P** **04 08 15.3 +0.2**
ESDC Sonseca Array 92.11 44 P **P** **04 08 14.9 -0.1**
comp=Z,1.4nm,0.9s,baz=243,slow=4.1,SNR=12
ESDC LR LR 04 47 19.3
comp=Z,125nm,20.2s,baz=224,slow=34
comp=Z,1.4nm,0.9s
FRB Frobisher Bay 93.67 0 LR LR 04 52 49.8
comp=Z,80nm,20.5s,baz=116,slow=37
SFJD Kangerlussuaq 97.94 7 LR LR 04 52 53.7
comp=Z,61nm,20.7s,baz=178,slow=35
KEST Kesra 98.58 54 LR LR 04 55 35.3
comp=Z,262nm,19.4s,baz=271,slow=37
YKA Yellowknife Ar 99.37 340 *i* P **Pdif** **04 08 47.7 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.9s
BORG Borgarnes 101.70 19 *i* P **Pdif** **04 08 58.4 +0.7**
ILAR Eielson Array 112.02 333 PKiKP **PKiKP** **04 13 39.4 -0.8**
comp=Z,0.6nm,0.8s,baz=104,slow=0.6,SNR=5.3
EIDS Eidsvold 112.67 219 P **Pdif** **04 09 45.0 -2.7**
BRTR Keskin Array B 117.71 58 PKP **PKPdf** **04 13 51.4 -0.7**
comp=Z,1.3nm,0.8s,baz=200,slow=3.5,SNR=9.2
BRTR pPKP **sPKPdf** **04 14 04.8 -0.9**
comp=Z,0.9nm,0.7s,baz=186,slow=4.2,SNR=5.4
KIEV Kiev 117.73 45 PKPdf **PKPdf** **04 13 50.7 -0.8**
KIEV Kiev 117.73 45 PKiKP **PKPdf** **04 13 50.7 -0.8**
AKASG Malin Array Be 117.74 45 PKP **PKPdf** **04 13 50.2 -1.4**
comp=Z,3.6nm,0.6s,baz=269,slow=2.4,SNR=8.7
AKASG pPKP **sPKPdf** **04 14 03.7 -1.4**
comp=Z,2.8nm,0.6s,baz=265,slow=2.7,SNR=5.0
AKBB Malin Array Si 117.74 45 *i* PKiKP **PKPdf** **04 13 50.0 -1.5**
MNK Minsk 117.88 41 *i* PKiKP **PKPdf** **04 13 51.4 -0.3**
MNK *i* 04 15 04.5
MNK *i* PPP PPP 04 17 34.2
MNK *i* 04 20 44.8
MNK *i* SSS SSS 04 35 43.0
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.6s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=N,397nm,25.0s
MNK MLR MLR
comp=E,240nm,24.0s
MNK MLR MLR
comp=Z,93nm,19.0s
FINES FINESS Array B 118.44 33 PKP **PKPdf** **04 13 51.1 -1.4**
comp=Z,0.9nm,0.8s,baz=172,slow=34,SNR=0.6
OBN Obninsk 122.93 41⇑ *i* PKiKP **PKPdf** **04 14 01.4 +0.1**
OBN *e* 04 14 06.0
OBN *e* 04 14 08.0
OBN 04 15 38.0
OBN PPP PPP 04 18 18.0
OBN 04 20 54.0
OBN PS **PS** **04 25 35.0 -1.7**
OBN *e*SS SS 04 32 31.3 +8.7
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,61nm,17.0s
KLMR Klimovskoe 124.86 34 *e*PKiKP **PKPdf** **04 14 03.0 -1.9**
KLMR pmax pmax
comp=Z,28nm,1.4s
WRA Warramunga Arr 125.28 207 PKP **PKPdf** **04 14 06.2 -1.0**
comp=Z,3.8nm,0.5s,baz=164,slow=1.6,SNR=5.4
WRA pPKP **sPKPdf** **04 14 20.3 -0.5**
comp=Z,2.0nm,0.4s,baz=167,slow=1.7,SNR=3.6
KIV Kislovodsk 125.28 55 *i* PKiKP **PKPdf** **04 14 05.5 -0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 125.39 56 PKP **PKPdf** **04 14 04.8 -1.7**
comp=Z,2.8nm,0.9s,baz=140,slow=2.3,SNR=6.5
KBZ pPKP **sPKPdf** **04 14 19.4 -0.6**
comp=Z,1.6nm,0.8s,baz=230,slow=1.5,SNR=3.3
AKT Akhty 128.55 59 *i* PKiKP **PKPdf** **04 14 13.0 +0.2**
AKT *e* 04 16 17.3
AKT pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 130.53 336 *e*PKiKP **PKPdf** **04 14 15.0 -0.5**
ARTI Arti 135.13 39 *i* PKiKP **PKPdf** **04 14 23.1 -1.4**
ARTI 04 16 56.5
AB31 Akbulak array 137.31 49 PKPpre 04 14 19.4
AB31 **PKPdf** **04 14 28.9 +0.1**
ABKAR Akbulak array 137.31 49 PKPpre PKPpre 04 14 15.7
ABKAR PKPdf **PKPdf** **04 14 29.1 +0.3**
TIXI Tiksi 137.41 352 *i* PKiKP **PKPdf** **04 14 26.9 -1.4**
SEY Seymchan 137.96 333 *i* PKiKP **PKPdf** **04 14 29.2 -0.4**
BORK Borovoye 142.72 41 *i* PKiKP **PKPdf** **04 14 35.0 -3.5**
BVAR Borovoye Array 142.77 41 PKhKP PKPpre 04 14 35.4
comp=Z,1.3nm,0.3s,baz=303,slow=3.0,SNR=8.8
KAPI Kappang 143.95 195 *i* PKiKP **PKPab** **04 14 39.4 +0.3**
CHGR Chuyangaron 144.74 65 PKPdf **PKPab** **04 14 40.9 -0.6**
CHGR Chuyangaron 144.74 65 PKiKP **PKPab** **04 14 40.9 -0.6**
KKAR Karatay Array 145.41 57 **PKPbc** **04 14 43.0 -0.6**
KKAR Karatay Array 145.41 57 PKiKP **PKPbc** **04 14 43.0 -0.6**
YAK Yakutsk 145.94 344 **PKPbc** **04 14 44.6 +0.1**
YAK Yakutsk 145.94 344 *e*PKP2 **PKPbc** **04 14 44.6 +0.1**
YAK *e* 04 18 07.3
YAK *e* 04 21 54.6
YAK *e*SS SS 04 36 56.2 -2.0
YAK pmax pmax
comp=Z,35nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,196nm,4.0s
YAK pmax pmax
comp=E,57nm,3.2s
YAK pmax pmax
comp=N,91nm,3.2s
EKS2 Erkin-Say 147.85 57 P **PKPbc** **04 14 51.5 +0.7**
SNR=9.2
NIL Nilore 147.91 74 PKPbc **PKPbc** **04 14 51.0 -0.1**
NIL Nilore 147.91 74 PKP2 **PKPbc** **04 14 51.1 -0.1**
USP Ospenovka 148.25 56 P **PKPbc** **04 14 52.2 +0.5**
SNR=13
KURBB Kurchatov Arra 148.36 41 PKP **PKPdf** **04 14 49.2 +1.0**
comp=N,10nm,0.5s,baz=297,slow=3.4,SNR=49
KURBB PKPbc **PKPbc** **04 14 52.1 +0.4**
comp=N,10nm,0.5s,baz=303,slow=3.2,SNR=17
KURBB pPKPbc **sPKPbc** **04 15 05.7 +0.4**
comp=N,10nm,0.6s,baz=300,slow=3.0,SNR=7.4
KURK Kurchatov 148.37 40 PKPbc **PKPbc** **04 14 51.2 -0.6**

KURK	**Kurchatov**	**148.37**	**40**	PKIKP	**PKPdf**	**04 14 49.2**	**+1.0**
KURK						04 14 52.1	
AAK	**Ala-Archa**	**148.38**	**57**		**PKPdf**	**04 14 49.0**	**+0.2**
AAK	**Ala-Archa**	**148.38**	**57**	P	**PKiKP**	**04 14 53.1**	**-0.8**
	SNR=19						
AAK	**Ala-Archa**	**148.38**	**57**	PKIKP	**PKPdf**	**04 14 49.0**	**+0.2**
UCH	**Uchtor**	**148.47**	**58**	P	**PKiKP**	**04 14 53.8**	**-0.7**
	SNR=41						
KBK	**Karagaybulak**	**148.70**	**57**	P	**PKiKP**	**04 14 53.9**	**-0.7**
	SNR=11						
TKM2	**Tokmak 2**	**149.11**	**56**	P	**PKPbc**	**04 14 54.6**	**+0.4**
	SNR=29						
ZAA0	**Zalesovo Array**	**149.69**	**31**	PKPbc	**PKPbc**	**04 14 54.9**	**-0.1**
ZALV	**Zalesovo Beam**	**149.69**	**31**	PKPbc	**PKPbc**	**04 14 54.8**	**-0.2**
ZALV	**Zalesovo Beam**	**149.69**	**31**	PKP	**PKPdf**	**04 14 51.2**	**+1.0**
	comp=N,26nm,0.4s,baz=297,slow=6.5,SNR=4.0						
ZALV				PKPbc	**PKPbc**	**04 14 55.0**	**0.0**
	comp=N,27nm,0.4s,baz=315,slow=3.0,SNR=37						
ZALV				pPKPbc	**sPKPbc**	**04 15 08.8**	**+0.3**
	comp=N,26nm,0.5s,baz=297,slow=3.2,SNR=9.9						
ULHL	**Ulahol**	**149.72**	**57**	P	**PKiKP**	**04 14 56.8**	**0.0**
	SNR=6.2						
KSH	**Kashi**	**149.97**	**63**	PKPbc	**PKPbc**	**04 14 56.0**	**-0.3**
YSS	**Yuzhno-Sakhali**	**150.36**	**313**	*e*PKIKP	**PKPbc**	**04 14 57.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
PSI	**Prapat**	**150.41**	**155**	PKPbc	**PKPbc**	**04 14 56.5**	**-1.6**
	comp=Z,2.5nm,0.4s,baz=230,slow=5.6,SNR=5.7						
PSI				PKPab	**pPKPdf**	**04 15 03.3**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=135,slow=5.7,SNR=6.4						
MYKOM	**Kota Tinggi**	**150.90**	**165**	PKPbc	**PKPbc**	**04 14 57.5**	**-1.6**
TARG	**Taragay, Kyrgy**	**150.97**	**58**	PKPbc	**PKPbc**	**04 14 58.9**	**-0.1**
TARG	**Taragay, Kyrgy**	**150.97**	**58**	PKIKP	**PKPbc**	**04 14 58.9**	**-0.1**
KSM	**Kuching**	**151.38**	**179**	PKPbc	**PKPbc**	**04 14 58.7**	**-1.5**
MAKZ	**Makanchi**	**152.13**	**45**	PKPbc	**PKPbc**	**04 15 00.5**	**-0.5**
MAKZ	**Makanchi**	**152.13**	**45**	PKIKP	**PKPbc**	**04 15 00.5**	**-0.5**
MKAR	**Makanchi Array**	**152.33**	**45**		**PKPdf**	**04 14 52.9**	**-1.7**
MKAR					**PKPbc**	**04 15 00.8**	**-0.6**
MKAR					**PKPab**	**04 15 11.9**	**+0.4**
MKAR	**Makanchi Array**	**152.33**	**45**	PKP	**PKPdf**	**04 14 54.5**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=126,slow=1.6,SNR=4.8						
MKAR				PKPbc	**PKPbc**	**04 15 01.3**	**-0.2**
	comp=Z,20nm,0.8s,baz=294,slow=2.0,SNR=81						
MKAR				PKPab	**pPKPbc**	**04 15 10.8**	**-0.8**
	comp=Z,13nm,0.6s,baz=317,slow=2.9,SNR=25						
SBUM	**Sibu**	**152.33**	**183**		**PKPbc**	**04 15 01.4**	**-1.0**
IPM	**Ipoh**	**152.70**	**158**	PKPbc	**PKPbc**	**04 15 01.3**	**-1.9**
WMQ	**Urumqi**	**157.08**	**47**	*e*PKP	**PKPdf**	**04 15 00.5**	**-0.8**
HILR	**Hailar Array B**	**159.60**	**343**	PKPab	**PKPab**	**04 15 42.4**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=54,slow=2.6,SNR=6.2						
SONM	**Songino Array**	**162.08**	**10**		**PKPdf**	**04 15 07.1**	**+0.1**
SONM					**PKPab**	**04 15 53.5**	**0.0**
SONM	**Songino Array**	**162.08**	**10**	PKP	**PKPdf**	**04 15 05.5**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=258,slow=1.3,SNR=3.7						
SONM				PKPab	**PKPab**	**04 15 53.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=341,slow=4.7,SNR=7.2						
SONM	**Songino Array**	**162.08**	**10**	PKIKP	**PKPdf**	**04 15 07.1**	**+0.1**
SONM						04 15 53.5	
CMAR	**Chiang Mai Arr**	**163.94**	**134**	PKPab	**PKPab**	**04 16 01.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**163.94**	**134**	PKPab	**PKPab**	**04 16 00.8**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=209,slow=3.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**163.94**	**134**	PKP2	**PKPab**	**04 16 01.3**	**-1.0**
GTA	**Gaotai**	**167.05**	**42**	*e*PKP	**PKPdf**	**04 15 11.8**	**+0.1**
GTA				PKPab	**PKPab**	**04 16 10.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**169.41**	**358**	*e*P	**PKPdf**	**04 15 09.5**	**-3.7**
BTO	**Baotou**	**169.63**	**4**	*e*PKPbc	**PKPdf**	**04 15 12.5**	**-0.8**
BTO				PKPab	sPKPab	04 16 54.5	+14
BTO				pmax	pmax		
	comp=Z,12nm,0.7s						
BTO				pmax	pmax		
	comp=Z,230nm,5.0s						
PZH	**PanZhiHua**	**171.04**	**112**	PKP	**PKPdf**	**04 15 14.5**	**-0.1**
NJ2	**Nanjing**	**173.03**	**287**	*e*P	**PKPdf**	**04 15 16.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						

BJI ***28*** *04:07:45.4,2˚.46N×128˚.43E,h30km,mB5.0/6,mb4.6/24, Ms4.5/7,Ms7 4.2/7*
DJA ***28*** *04:07:49.7±0.7,2˚N±4˚×12˚8E±˚,h27km±4km,M4.8/17, mB5.3/8,mb5.0/17,MLv4.9/16,Mw(mB)4.7/8*
NEIC ***28*** *04:07:50.5±1.5,2˚.46N±0˚.08×128˚.43E±0˚.08,h60km±6km, mb5.0/47,Error ellipse: s-maj=12.1km s-min=10.6km az=45.0*
IDC ***28*** *04:07:50.5±2.0,2˚.52N×128˚.54E,h71km±18km,mb4.0/18, mbtmp4.3/20,MS3.7/13,Error ellipse: s-maj=23.3km s-min=11.0km az=81.0*
ISC 28 04:07:47.4±0.4,2˚.51N±0˚.05×128˚.55E±0˚.06,h35km,n131, σ1§79/120,mb4.8/45,MS3.6/14,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.09**	**214**	Pn	**Pn**	**04 08 21.2**	**+1.2**
TNTI	**Ternate**	**2.09**	**214**	P	**Pn**	**04 08 21.6**	**+1.6**
SGSI	**Sangihe**	**3.23**	**291**	P	**Pn**	**04 08 36.8**	**+1.1**
SWI	**Sorong**	**4.31**	**141**	P	**Pn**	**04 08 53.7**	**+3.2**
KMSI	**Cibinong**	**4.95**	**247**	P	**Pn**	**04 09 01.2**	**+1.9**
SANI	**Sanana**	**5.20**	**209**	P	**Pn**	**04 09 04.5**	**+1.7**
	0.3nm1μm121nm,0.9s						
NLAI	**Namlea**	**5.89**	**194**	P	**Pn**	**04 09 16.1**	**+3.9**
	0.2nm44nm,0.8s						
FAKI	**Fak Fak**	**6.54**	**146**	Pn	**Pn**	**04 09 24.2**	**+3.1**
FAKI	**Fak Fak**	**6.54**	**146**	P	**Pn**	**04 09 24.3**	**+3.1**
	0.3nm40nm,0.8s						
LUWI	**Luwuk**	**6.77**	**239**	Pn	**Pn**	**04 09 22.8**	**-1.5**
LUWI	**Luwuk**	**6.77**	**239**	P	**Pn**	**04 09 27.1**	**+2.8**
	0.7nm176nm,0.7s						
MRSI	**Marisa**	**6.91**	**253**	P	**Pn**	**04 09 29.5**	**+3.3**
	1.2nm3μm293nm,1.1s						
APSI	**Ampana**	**7.69**	**244**	P	**Pn**	**04 09 39.0**	**+2.1**
	0.5nm1μm115nm,0.8s						
TOLI2	**Tolitoli**	**7.89**	**260**	Pn	**Pn**	**04 09 40.3**	**+0.7**
MYLDM	**Lahad Datu**	**10.37**	**285**	Pn	**Pn**	**04 10 17.9**	**+4.2**
BNSI	**Bone**	**10.88**	**231**	P	**Pn**	**04 10 22.0**	**+1.3**
	62nm,0.7s						
SPSI	**Sidrap Palu**	**10.88**	**234**	P	**Pn**	**04 10 22.1**	**+1.4**
BKSI	**Bulukumba**	**11.46**	**227**	P	**Pn**	**04 10 32.0**	**+3.3**
	28nm,0.5s						
KAPI	**Kappang**	**11.54**	**230**	Pn	**Pn**	**04 10 29.6**	**-0.1**
KAPI	**Kappang**	**11.54**	**230**	P	**Pn**	**04 10 31.5**	**+1.8**
	13nm,0.4s,baz=267,slow=12,SNR=7.1						
KAPI				S	Sn	04 12 26.9	-11
	7.9nm,0.3s,baz=155,slow=19,SNR=2.6						
BSSI	**Bau Bau, Buton**	**11.78**	**223**	P	**Pn**	**04 10 34.3**	**+1.3**
	43nm,1.0s						
JAY	**Jayapura**	**13.14**	**112**	P	**Pn**	**04 10 53.9**	**+2.2**
	10nm,1.0s,baz=301,slow=16,SNR=2.0						
MTN	**Manton Dam**	**15.47**	**171**	Pn	**Pn**	**04 11 24.2**	**+1.1**
PLAI	**Plampang**	**15.56**	**224**	P	**Pn**	**04 11 25.3**	**+1.0**
	71nm,1.2s						
SBUM	**Sibu**	**16.31**	**270**	Pn	**Pn**	**04 11 33.4**	**-0.5**
KMMI	**Kalianget**	**17.38**	**237**	P	**P**	**04 11 50.0**	**+1.7**
JAGI	**Jajag, Banyuwa**	**18.03**	**233**		**Pn**	**04 11 54.9**	**-0.5**
JAGI				IAmb	IAmb	04 12 05.1	
	comp=Z,81nm,1.4s						
KNRA	**Kununurra**	**18.07**	**179**	P	**P**	**04 11 56.2**	**+0.2**
KSM	**Kuching**	**18.26**	**267**	P	**P**	**04 11 56.7**	**-1.4**
KSM				IAmb	IAmb	04 12 01.2	
	comp=Z,68nm,1.8s						
MANU	**Manus Island**	**19.35**	**103**		**P**	**04 12 10.0**	**-0.1**
SMRI	**Semarang**	**20.42**	**242**		**P**	**04 12 21.0**	**-0.7**
SMRI				IAmb	IAmb	04 12 24.9	
	comp=Z,80nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**04 12 23.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**04 12 24.0**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=15,slow=6.9,SNR=2.2						
FITZ				LR	LR	04 21 14.6	
	comp=Z,220nm,19.4s,baz=340,slow=39						
	comp=Z,2.8nm,0.6s						
UGM	**Wanagama**	**20.75**	**240**	P	**P**	**04 12 26.1**	**+0.8**
UGM				IAmb	IAmb	04 12 29.4	
	comp=Z,235nm,1.5s						
WB0	**Warramunga Arr**	**22.87**	**166**	P	**P**	**04 12 48.5**	**+0.5**
WRA	**Warramunga Arr**	**23.03**	**166**	P	**P**	**04 12 49.4**	**-0.2**
WRA	**Warramunga Arr**	**23.03**	**166**	P	**P**	**04 12 50.1**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=343,slow=10.0,SNR=7.0						
WRA				ScP	**ScP**	**04 20 08.0**	**-6.1**
	comp=Z,0.6nm,0.5s,baz=340,slow=2.9,SNR=6.0						
	comp=Z,7.3nm,0.5s						
WR8	**Warramunga Arr**	**23.08**	**166**	P	**P**	**04 12 50.4**	**+0.2**
JOW	**Kunigami**	**24.18**	**359**	LR	LR	04 20 23.8	
	comp=Z,124nm,21.0s,baz=134,slow=31						
MBWA	**Marble Bar**	**25.06**	**200**	P	**P**	**04 13 06.4**	**-2.2**
MBWA				IAmb	IAmb	04 13 15.1	
	comp=Z,37nm,1.5s						
AS31	**Alice Springs**	**26.54**	**169**	P	**P**	**04 13 21.9**	**-0.2**
ASAR	**Alice Springs**	**26.54**	**169**	P	**P**	**04 13 20.1**	**-1.9**
ASAR	**Alice Springs**	**26.54**	**169**	P	**P**	**04 13 22.2**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=355,slow=8.1,SNR=22						
ASAR				ScP	**ScP**	**04 20 18.8**	**-5.0**
	comp=Z,0.6nm,0.7s,baz=355,slow=2.1,SNR=4.2						
	comp=Z,3.1nm,0.6s						
JNU	**Nakatsue**	**30.53**	**4**	LR	LR	04 27 39.6	
	comp=Z,68nm,18.1s,baz=188,slow=39						
NJ2	**Nanjing**	**30.77**	**344**	*e*P	**P**	**04 14 02.3**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ENH	**Enshi**	**32.99**	**329**	P	**P**	**04 14 19.0**	**-0.2**
ENH				IAmb	IAmb	04 15 33.9	
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.05**	**301**	P	**P**	**04 14 18.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**33.05**	**301**	P	**P**	**04 14 19.9**	**0.0**
	comp=Z,1.2nm,0.3s,baz=120,slow=7.8,SNR=13						
	comp=Z,1.2nm,0.3s						
CHTO	**Chiang Mai**	**33.20**	**301**	P	**P**	**04 14 20.4**	**-0.8**
CHTO				IAmb	IAmb	04 15 11.5	
	comp=Z,15nm,1.5s						
HNR	**Honiara**	**33.46**	**111**	LR	LR	04 29 30.1	
	comp=Z,66nm,18.8s,baz=269,slow=39						
KSRS	**Korea Array**	**34.78**	**359**	P	**P**	**04 14 34.2**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=176,slow=10,SNR=10						
	comp=Z,2.8nm,0.5s						
MJAR	**Matsushiro Arr**	**35.02**	**14**	P	**P**	**04 14 36.0**	**-0.7**
MJAR	**Matsushiro Arr**	**35.02**	**14**	P	**P**	**04 14 35.2**	**-1.5**
	comp=Z,4.4nm,0.7s,baz=185,slow=9.8,SNR=10						
MJAR				LR	LR	04 26 45.2	
	comp=Z,121nm,20.9s,baz=188,slow=32						
	comp=Z,4.4nm,0.7s						
PZH	**PanZhiHua**	**35.08**	**315**	P	**P**	**04 14 37.5**	**0.0**
EIDS	**Eidsvold**	**35.29**	**143**	P	**P**	**04 14 39.5**	**+0.3**
EIDS				IAmb	IAmb	04 14 53.5	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**35.84**	**169**	P	**P**	**04 14 43.4**	**-0.4**
BBOO				IAmb	IAmb	04 15 36.4	
	comp=Z,54nm,1.9s						
XAN	**Xi'an**	**36.33**	**332**	P	**P**	**04 14 49.3**	**+1.3**
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN				LR	LR		
	comp=Z,260nm,20.8s						
XAN				LR	LR		
	comp=Z,300nm,20.6s						
XAN				LR	LR		
	comp=Z,180nm,17.9s						
STKA	**Stephens Creek**	**36.38**	**161**	P	**P**	**04 14 48.5**	**+0.1**
STKA	**Stephens Creek**	**36.38**	**161**	P	**P**	**04 14 48.9**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=326,slow=9.4,SNR=9.0						
	comp=Z,5.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.84**	**196**	P	**P**	**04 14 50.5**	**-1.8**
ARMA	**Armidale**	**39.47**	**148**	P	**P**	**04 15 16.7**	**+2.0**
ARMA				IAmb	IAmb	04 15 30.3	
	comp=Z,43nm,1.6s						
JTM	**Tennabayashi**	**39.75**	**15**	P	**P**	**04 15 16.9**	**+0.2**
LZH	**Lanzhou**	**40.47**	**329**	*e*P	**P**	**04 15 23.8**	**+0.8**
LZH				pP	pP	04 15 33.8	+0.5
LZH				ScP	**ScP**	**04 21 08.0**	**-4.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.59**	**64**	T	T	04 58 38.5	
	baz=252,slow=75,SNR=74						
H11S2	**WAKE ISLAND Hy**	**40.60**	**64**	T	T	04 58 43.1	
	baz=252,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**40.60**	**64**	T	T	04 58 39.5	
	baz=252,slow=75,SNR=38						
HHC	**Hu-ho-hao-te**	**41.13**	**340**	*e*P	**P**	**04 15 30.0**	**+1.7**
HHC				S	**S**	**04 21 42.5**	**+3.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,84nm,5.0s						
H11N1	**WAKE ISLAND Hy**	**41.17**	**63**	T	T	04 59 21.3	
	baz=250,slow=75,SNR=64						
H11N2	**WAKE ISLAND Hy**	**41.18**	**63**	T	T	04 59 22.2	
	baz=250,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**41.19**	**63**	T	T	04 59 22.8	
	baz=250,slow=75,SNR=52						
BTO	**Baotou**	**41.46**	**339**	*e*P	**P**	**04 15 31.8**	**+0.8**
BTO				PP	**PnPn**	**04 17 12.5**	**+0.5**
BTO				S	**S**	**04 21 44.3**	**+0.2**
BTO				pmax	pmax		
	comp=Z,19nm,0.5s						
BTO				pmax	pmax		
	comp=Z,320nm,6.7s						
BTO				LR	LR		
	comp=Z,490nm,8.0s						
BTO				LR	LR		
	comp=Z,350nm,4.4s						
BTO				LR	LR		
	comp=Z,240nm,9.6s						
USRK	**Ussuriysk Ar.**	**41.62**	**4**	P	**P**	**04 15 31.2**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=186,slow=7.4,SNR=5.5						
	comp=Z,2.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**41.62**	**4**	PKP2	**P**	**04 15 31.2**	**-0.9**
MDJ	**Mudanjiang**	**41.94**	**1**	P	**P**	**04 15 35.5**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SHL	**Shillong**	**42.06**	**306**	P	**P**	**04 15 35.2**	**-1.0**
SHL				IAmb	IAmb	04 15 36.3	
	comp=Z,14nm,0.6s						
ASAJ	**Asahikawa**	**43.26**	**15**	LR	LR	04 32 43.9	
	comp=Z,71nm,19.0s,baz=76,slow=34						
GOMU	**GeErMu**	**45.76**	**321**	P	**P**	**04 16 07.8**	**+1.7**
GOMU				pP	pP	04 16 11.5	-4.9
GOMU				sP	sP	04 16 15.5	-5.1
GOMU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
EVN	**Everest**	**47.17**	**307**	P	**P**	**04 16 16.2**	**-1.3**
EVN				IAmb	IAmb	04 16 28.0	
	comp=Z,10nm,0.9s						
SONM	**Songino Array**	**49.04**	**340**	P	**P**	**04 16 29.9**	**-1.1**
SONM	**Songino Array**	**49.04**	**340**	P	**P**	**04 16 30.8**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=157,slow=13,SNR=4.9						
	comp=Z,1.7nm,0.7s						
HYB	**Hyderabad**	**51.24**	**290**	*e*P	**P**	**04 16 47.5**	**-0.6**
HYB				*es*P	**sP**	**04 17 08.7**	**+6.0**
HYB				*e*SKSdf		04 21 55.9	
HYB				*e*S	**S**	**04 24 05.0**	**+0.2**
WMQ	**Urumqi**	**54.76**	**325**	*e*P	**P**	**04 17 15.8**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,31nm,0.7s						
PEA0B	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**04 17 23.5**	**+1.9**
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**04 17 21.5**	**-0.1**
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**04 17 21.4**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=185,slow=3.4,SNR=6.2						
	comp=Z,3.0nm,0.7s						
YAK	**Yakutsk**	**59.38**	**1**	LR	LR	04 42 27.4	
	comp=Z,80nm,20.5s,baz=192,slow=35						
MA2	**Magadan**	**59.46**	**13**	LR	LR	04 47 03.0	
	comp=Z,36nm,18.0s,baz=222,slow=40						
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**04 17 46.0**	**-1.7**
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**04 17 47.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=113,slow=7.6,SNR=6.6						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**63.74**	**327**	P	**P**	**04 18 15.8**	**+0.3**
KURK				IAmb	IAmb	04 18 26.6	
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**63.74**	**327**	P	**P**	**04 18 13.8**	**-1.8**
	comp=Z,2.1nm,0.5s,baz=130,slow=6.2,SNR=4.7						
	comp=Z,2.1nm,0.5s						
TIXI	**Tiksi**	**69.04**	**0**	P	**P**	**04 18 48.5**	**-0.6**
TIXI				IAmb	IAmb	04 18 49.3	
	comp=Z,5.9nm,0.6s						
BVAR	**Borovoye Array**	**69.33**	**327**	P	**P**	**04 18 51.0**	**-0.3**
	comp=Z,4.3nm,1.1s,baz=72,slow=6.2,SNR=3.0						
	comp=Z,4.3nm,1.1s						
ABKAR	**Akbulak array**	**74.24**	**321**	P	**P**	**04 19 18.9**	**-1.9**
M16K	**Timber Creek**	**79.38**	**28**	P	**P**	**04 19 50.2**	**+0.7**
J17K	**VABM Dome**	**79.92**	**26**	P	**P**	**04 19 53.8**	**+1.3**
J17K				IAmb	IAmb	04 20 00.9	
	comp=Z,46nm,1.6s						
L18K	**Granite Mounta**	**80.71**	**27**	P	**P**	**04 19 57.4**	**+0.7**
L18K				IAmb	IAmb	04 19 58.8	
	comp=Z,53nm,1.8s						
H19K	**Roundabout Mou**	**81.53**	**24**	P	**P**	**04 20 01.7**	**+0.6**
H19K				IAmb	IAmb	04 20 02.4	
	comp=Z,78nm,1.9s						
E19K	**Redstone River**	**81.67**	**22**	IAmb	IAmb	04 20 04.3	
	comp=Z,22nm,1.2s						
KDAK	**Kodiak Island**	**81.95**	**32**	P	**P**	**04 20 03.9**	**+0.5**
KDAK	**Kodiak Island**	**81.95**	**32**	LR	LR	04 52 55.9	
	comp=Z,84nm,20.3s,baz=180,slow=33						
VNDA	**Vanda**	**82.00**	**173**	P	**P**	**04 20 02.2**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=316,slow=5.9,SNR=7.2						
	comp=Z,0.7nm,0.4s						
J20K	**Nowinta River**	**82.22**	**26**	P	**P**	**04 20 06.0**	**+1.3**
J20K				IAmb	IAmb	04 20 11.0	
	comp=Z,32nm,1.8s						
M20K	**Styx River**	**82.29**	**28**	P	**P**	**04 20 05.9**	**+0.6**
M20K				IAmb	IAmb	04 22 14.2	
	comp=Z,77nm,1.9s						
IMAR	**Indian Mountai**	**82.72**	**24**	P	**P**	**04 20 08.0**	**+0.8**
PPT	**Papeete**	**83.01**	**108**	LR	LR	04 53 05.8	
	comp=Z,28nm,20.8s,baz=258,slow=33						
SKT	**Skwentna**	**83.05**	**28**	P	**P**	**04 20 08.5**	**-0.7**
SKT				IAmb	IAmb	04 22 06.5	
	comp=Z,61nm,1.9s						
B21K	**Ikpikpuk River**	**83.08**	**20**	P	**P**	**04 20 10.0**	**+0.9**
MAW	**Mawson**	**83.25**	**201**	P	**P**	**04 20 07.4**	**-2.5**
	comp=Z,1.0nm,0.7s,baz=82,slow=8.7,SNR=2.8						
	comp=Z,1.0nm,0.7s						
E22K	**Anaktuvuk Pass**	**83.82**	**22**	P	**P**	**04 20 13.9**	**+0.9**
E22K				IAmb	IAmb	04 20 15.5	
	comp=Z,13nm,1.1s						
D23K	**Nanushuk River**	**84.35**	**21**	P	**P**	**04 20 17.2**	**+1.6**
E23K	**Chandalar**	**84.63**	**22**	P	**P**	**04 20 18.2**	**+1.0**
E23K				IAmb	IAmb	04 22 38.9	
	comp=Z,29nm,1.6s						
SCM	**Sheep Creek Mo**	**85.02**	**28**	P	**P**	**04 20 19.5**	**+0.3**
ILAR	**Eielson Array**	**85.42**	**25**	P	**P**	**04 20 19.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=254,slow=5.4,SNR=5.4						
	comp=Z,0.5nm,0.8s						
KLU	**Klutina**	**85.67**	**29**	P	**P**	**04 20 22.3**	**-0.2**
BMAR	**Burnt Mountain**	**86.49**	**23**	P	**P**	**04 20 26.5**	**+0.1**
I28M	**Miner Creek**	**88.37**	**25**	P	**P**	**04 20 35.1**	**-0.4**
I28M				IAmb	IAmb	04 21 38.1	
	comp=Z,26nm,1.9s						
ASF	**Jabal al Asfar**	**90.08**	**302**	LR	LR	05 09 32.9	
	comp=Z,77nm,18.3s,baz=274,slow=41						
INK	**Inuvik**	**90.62**	**22**	LR	LR	05 02 51.5	
	comp=Z,68nm,20.5s,baz=166,slow=36						
MMAI	**Mount Meron Ar**	**91.29**	**303**	LR	LR	05 06 52.3	
	comp=Z,57nm,19.7s,baz=212,slow=39						
SYO	**Syowa Base**	**91.95**	**201⇑**	*e*PcP	**PcP**	**04 20 56.0**	**+3.2**
ARCES	**ARCESS Array B**	**92.21**	**340**	P	**P**	**04 20 50.9**	**-2.4**
ARCES	**ARCESS Array B**	**92.21**	**340**	P	**P**	**04 20 52.3**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=81,slow=7.5,SNR=4.3						
	comp=Z,3.6nm,0.9s						
QSPA	**South Pole Qui**	**92.42**	**180**	P	**P**	**04 20 53.5**	**-0.9**
QSPA				IAmb	IAmb	04 23 25.6	
	comp=Z,21nm,2.0s						
QSPA	**South Pole Qui**	**92.42**	**180**	P	**P**	**04 20 53.9**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=148,slow=0.3,SNR=9.0						
	comp=Z,1.4nm,0.7s						
MT09	**Talagante**	**143.93**	**152**		PKPab	04 27 16.9	-0.2
MT02	**Curacav**	**144.28**	**151**		**PKPab**	**04 27 18.1**	**-0.1**
VA03	**San Esteban**	**144.97**	**151**	PKPdf	**PKPab**	**04 27 20.6**	**-0.4**
CO03	**El Pedregal**	**146.46**	**149**	PKPbc	**PKPdf**	**04 27 24.9**	**+0.6**
LCO	**Las Campanas**	**147.90**	**147**	PKPbc	**PKPbc**	**04 27 29.3**	**-0.7**
PB14	**IPOC Station P**	**151.40**	**142**	PKPbc	**PKPbc**	**04 27 36.6**	**-2.2**

IDC ***28*** *04:08:28.9±3.1,4˚.95S×151˚.86E,h122km±24km,mb4.0/14, mbtmp4.4/16,MS3.5/2,Error ellipse: s-maj=27.6km s-min=15.6km az=95.0*
NEIC ***28*** *04:08:31.1±1.5,5˚.00S±0˚.10×151˚.8E±0˚.1,h132km±6km, mb4.4/23,Error ellipse: s-maj=19.8km s-min=11.7km az=117.0*
ISC 28 04:08:32.0±0.6,4˚.96S±0˚.08×151˚.75E±0˚.10,h150km,n51, σ1§38/56,mb4.3/26,New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.87**	**28**		**Pn**	**04 08 53.2**	**-2.6**
RABL				Sn	**Sn**	**04 09 09.9**	**-4.0**
**P

L29M					IAmb	IAmb	04 21 35.3	
	comp=Z,2.3nm,1.1s							
K29M	**Barlow Dome**	**86.06**	**25**		P	**P**	**04 20 57.4**	**+1.7**
K29M					IAmb	IAmb	04 21 00.1	
	comp=Z,3.4nm,1.1s							
E27K	**Coleen River**	**86.11**	**20**		P	**P**	**04 20 57.1**	**+1.4**
E27K					IAmb	IAmb	04 20 57.5	
	comp=Z,2.0nm,0.7s							
H31M	**Peel River**	**87.96**	**23**		P	**P**	**04 21 04.7**	**0.0**
H31M					IAmb	IAmb	04 21 06.7	
	comp=Z,5.5nm,1.1s							
BVAR	**Borovoye Array**	**88.75**	**323**		P	**P**	**04 21 07.9**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=102,slow=5.0,SNR=4.8							
	comp=Z,1.9nm,0.6s							
NVAR	**Mina Array Bea**	**93.00**	**52**		P	**P**	**04 21 29.9**	**+0.9**
NVAR	**Mina Array Bea**	**93.00**	**52**		P	**P**	**04 21 31.2**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=244,slow=6.8,SNR=6.2							
RPN	**Rapa Nui**	**95.66**	**118**		LR	LR	04 56 46.7	
	comp=Z,24nm,21.2s,baz=187,slow=30							
PDAR	**Pinedale Array**	**99.73**	**48**			**Pdif**	**04 21 59.4**	**0.0**
PDAR	**Pinedale Array**	**99.73**	**48**		P	**Pdif**	**04 21 59.5**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=225,slow=1.0,SNR=4.6							
	comp=Z,0.5nm,0.8s							
GERES	**GERESS Array B**	**123.64**	**328**		PKP	**PKiKP**	**04 27 12.2**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=78,slow=2.2,SNR=13							
EKA	**Eskdalemuir Ar**	**125.88**	**343**		PKP	**PKiKP**	**04 27 15.4**	**-1.0**
	comp=Z,2.4nm,1.0s,baz=19,slow=2.3,SNR=4.9							
LPAZ	**La Paz**	**135.25**	**119**		PKP	**PKiKP**	**04 27 37.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=345,slow=5.0,SNR=3.8							
RUSC	**La Rusia**	**135.36**	**87**		PKPdf	**PKiKP**	**04 27 36.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**149.36**	**287**		PKPbc	**PKiKP**	**04 28 04.4**	**-1.0**
	comp=Z,6.5nm,0.8s,baz=58,slow=5.8,SNR=25							

IDC ***28*** *04:15:00.3±7.2,2°.33S×99°.68E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=350.3km s-min=30.9km az=53.0*

DJA ***28*** *04:15:16.9±0.3,2°.5±3°.×10°.1E±°.,h82km±5km,M4.0/13, mb4.2/3,MLv3.9/13*

ISC 28 04:15:15.9±1.0,1°.51S±0°.06×100°.57E±0°.07,h100km,n20, σ1S25/19,mb3.5/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.60**	**349**	P	**Pn**	**04 15 32.0**	**-0.6**
PDSI				S	**Sn**	**04 15 43.3**	**-1.7**
PPI	**Padang Panjang**	**1.06**	**350**	P	**Pn**	**04 15 37.4**	**+0.4**
PPI				S	**Sn**	**04 15 53.1**	**+0.2**
KRJI	**Kerinci**	**1.06**	**123**	P	**Pn**	**04 15 37.6**	**+0.5**
KRJI				S	**Sn**	**04 15 54.6**	**+1.5**
PPSI	**Pulau Pagai**	**1.37**	**204**	P	**Pn**	**04 15 40.6**	**0.0**
SISI	**Saibi**	**1.49**	**277**	P	**Pn**	**04 15 43.2**	**+1.1**
BKNI	**Bangkinang**	**1.88**	**14**	P	**Pn**	**04 15 47.7**	**+0.7**
MASI	**Maura Aman, Be**	**2.33**	**134**	P	**Pn**	**04 15 54.1**	**+1.3**
MNSI	**Mandailing Nat**	**2.50**	**337**	P	**Pn**	**04 15 56.4**	**+1.4**
PBSI	**Pulau Batu**	**2.71**	**302**	P	**Pn**	**04 15 58.9**	**+1.1**
LHSI	**Lahat**	**3.74**	**128**	P	**Pn**	**04 16 13.2**	**+1.6**
KASI	**Kota Agung**	**5.59**	**136**	P	**Pn**	**04 16 36.6**	**-0.1**
	0.3nm51nm,2.4s						
KCSI	**Kotacane, Aceh**	**5.73**	**331**	P	**Pn**	**04 16 39.3**	**+0.7**
	0.1nm6.4nm,0.5s						
SNSI	**Sinabang, Aceh**	**5.76**	**312**	P	**Pn**	**04 16 39.8**	**+0.8**
H08S2	**Diego Garcia H**	**28.63**	**257**	T	T	04 49 45.2	
	baz=80,slow=75,SNR=5.1						
H08S3	**Diego Garcia H**	**28.64**	**257**	T	T	04 49 42.3	
	baz=80,slow=75,SNR=5.7						
H08S1	**Diego Carcia H**	**28.65**	**257**	T	T	04 49 45.5	
	baz=80,slow=75,SNR=4.5						
WRA	**Warramunga Arr**	**37.75**	**121**		P	**P**	**04 22 22.2**	**-0.3**
	0.2nm,0.3s,baz=297,slow=9.3,SNR=1.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**39.08**	**127**		P	**P**	**04 22 30.7**	**-2.9**
	0.4nm,0.5s,baz=298,slow=8.5,SNR=5.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**50.72**	**344**		P	**P**	**04 24 06.2**	**+0.8**
	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.0						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**143.97**	**38**		PKPbc	PKPab	04 34 38.7	+0.7
	0.3nm,0.5s,baz=216,slow=0.6,SNR=5.2							

FCIAR ***28*** *04:32:48.0,79°.17N×4°.13E,h10km,station OMEGA has station magnitude of 3.90 station ZFI2 has station magnitude of 4.00*

BER ***28*** *04:32:50.5±3.4,79°.66N×4°.44E,h10km,Mw4.5, ML3.5(NAO),Confirmed Earthquake*

NEIC ***28*** *04:32:51.0±2.0,79°.6N±0°.1×4°.6E±0°.4,h10km±1km, mb4.6/12,Error ellipse: s-maj=22.1km s-min=12.4km az=17.0*

IDC ***28*** *04:32:51.0±0.9,79°.49N×3°.93E,h0km,mb3.9/8, mbtmp4.0/14,ML3.3/4,MS3.6/17,Error ellipse: s-maj=22.7km s-min=15.3km az=25.0*

DNK ***28*** *04:32:52.5±3.9,79°.43N×4°.51E,h33km±32km,ML2.6*

KOLA ***28*** *04:32:53.1,79°.50N×6°.34E,h0km,ML2.9,Error ellipse: s-maj=44.1km s-min=20.3km az=30.0,Greenland sea,Knipovich ridge, north*

NAO ***28*** *04:32:55.0±1.2,79°.50N×5°.49E,h15km,ML3.5*

ISC 28 04:32:50.1±1.5,79°.54N±0°.05×4°.35E±0°.04,h9km±10km, n97,σ2S85/105,mb4.0/12,MS3.9/13,3C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.56**	**110**	Pn	**Pn**	**04 33 16.6**	**-1.3**
KBS				Sn	**Sn**	**04 33 33.9**	**-4.3**
KBS	**Kingsbay**	**1.56**	**110**	P	**Pn**	**04 33 16.5**	**-1.3**
KBS				S	**Sn**	**04 33 31.4**	**-6.8**
KBS	**Kingsbay**	**1.56**	**110**	⇑*i*P	**Pn**	**04 33 16.9**	**-0.9**
KBS				*e*S	**Sn**	**04 33 34.4**	**-3.8**
KBS				IAML		04 33 44.6	
	comp=Z,403nm,0.4s						
KBS	**Kingsbay**	**1.56**	**110**	⇑*i*P	**Pn**	**04 33 17.1**	**-0.8**
KBS				*i* S	**Sn**	**04 33 34.7**	**-3.5**
BRBB	**Barentsburg B**	**2.41**	**122**	P	**Pn**	**04 33 28.9**	**-0.7**
BRBB				S	**Sn**	**04 33 56.6**	**-2.6**
BRBB	**Barentsburg B**	**2.41**	**122**	*e*P	**Pn**	**04 33 29.0**	**-0.7**
BRBB				*e*S	**Sn**	**04 33 55.5**	**-3.7**
BRBA	**Barentsburg A**	**2.44**	**123**	*e*P	**Pn**	**04 33 29.3**	**-0.6**
BRBA				*e*S	**Sn**	**04 33 58.2**	**-1.6**
BRBA				IAML		04 34 03.1	
	comp=Z,105nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.70**	**114**	Pn	**Pn**	**04 33 33.7**	**0.0**
	baz=307,slow=10						
SPA0				Sn	**Sn**	**04 34 03.8**	**-2.7**
	baz=302,slow=16						
SPA0	**Spitsbergen Ar**	**2.70**	**114**	*e*P	**Pn**	**04 33 32.4**	**-1.2**
SPA0				*e*S	**Sn**	**04 34 03.3**	**-3.1**
SPA0	**Spitsbergen Ar**	**2.70**	**114**	Pn	**Pn**	**04 33 33.7**	**0.0**
	baz=307,slow=10						
SPA0				Sn	**Sn**	**04 34 03.8**	**-2.7**
	baz=302,slow=16						
SPITS	**Spitsbergen Ar**	**2.70**	**114**	Pn	**Pn**	**04 33 33.7**	**0.0**
	comp=Z,47nm,0.3s,baz=309,slow=8.4,SNR=1609						
SPITS				Sn	**Sn**	**04 34 03.5**	**-3.0**
	baz=289,slow=10						
SPITS	**Spitsbergen Ar**	**2.70**	**114**	P	**Pn**	**04 33 33.3**	**-0.4**
SPITS				S	**Sn**	**04 34 04.8**	**-1.7**
SPB2	**Spitsbergen Ar**	**2.71**	**114**	Pn	**Pn**	**04 33 33.5**	**-0.2**
HSPB	**Hornsund (broa**	**3.42**	**133**	P	**Pn**	**04 33 42.9**	**-0.6**
HSPB				S	**Sn**	**04 34 17.3**	**-6.8**
HSPB	**Hornsund (broa**	**3.42**	**133**	*e*P	**Pn**	**04 33 41.9**	**-1.5**
HSPB				*e*S	**Sn**	**04 34 18.5**	**-5.5**
HSPB	**Hornsund (broa**	**3.42**	**133**	*e*P	**Pn**	**04 33 42.8**	**-0.6**
HSPB				*e*S	**Sn**	**04 34 19.2**	**-4.8**
HSPB				IAML		04 34 22.1	
	comp=Z,98nm,0.6s						
NOR	**Nord**	**4.00**	**311**	*e*P	**Pn**	**04 33 50.4**	**-1.0**
NOR	**Nord**	**4.00**	**311**	*i* P	**Pn**	**04 33 50.8**	**-0.7**
HOPEN	**Hopen**	**5.24**	**115**	*e*P	**Pn**	**04 34 06.7**	**-1.8**
HOPEN				*e*S	**Sn**	**04 35 02.2**	**-6.6**
HOPEN	**Hopen**	**5.24**	**115**	*e*P	**Pn**	**04 34 07.7**	**-0.7**
HOPEN				*e*S	**Sn**	**04 35 03.2**	**-5.7**
HOPEN				IAML		04 35 09.0	
	comp=Z,36nm,0.4s						
DAG	**Danmarks Havn**	**5.46**	**251**	*e*P	**Pn**	**04 34 09.6**	**-1.8**
DAG				*e*S	**Sn**	**04 35 05.8**	**-8.3**
DAG	**Danmarks Havn**	**5.46**	**251**	⇑*i*P	**Pn**	**04 34 09.8**	**-1.6**
DAG				*i* S	**Sn**	**04 35 06.0**	**-8.1**
DAG				IAML		04 35 09.7	
	comp=Z,26nm,0.4s						
BJO1	**Bjornoya**	**6.02**	**140**	*e*P	**Pn**	**04 34 18.1**	**-1.0**
BJO1				*e*S	**Sn**	**04 35 21.4**	**-6.7**
BJO1				IAML		04 35 24.1	
	comp=Z,15nm,0.8s						
BEA6	**Bear Island, N**	**6.03**	**140**	Pn	**Pn**	**04 34 19.4**	**+0.2**
	baz=330,slow=18						
BEA6				Sn	**Sn**	**04 35 21.1**	**-7.0**
	baz=330,slow=37						
ZFI2	**Zemlya Franca-**	**7.36**	**59**	*e*P	**Pn**	**04 34 36.1**	**-1.4**
ZFI2				*e*S	**Sn**	**04 35 54.9**	**-6.1**
	comp=Z,40nm,0.8s						
OMEGA	**Omega**	**7.38**	**60**	*e*P	**Pn**	**04 34 35.8**	**-2.0**
OMEGA				*e*S	**Sn**	**04 35 54.9**	**-6.5**
	comp=Z,30nm,0.8s						
DBG	**Daneborg**	**7.57**	**239**	*e*P	**Pn**	**04 34 38.6**	**-1.9**
DBG				*e*S	Sn	04 35 56.1	-10
DBG	**Daneborg**	**7.57**	**239**	*e*P	**Pn**	**04 34 38.7**	**-1.8**
DBG				*i* S	Sn	04 35 54.3	-12
DBG				IAML		04 36 04.0	
	comp=Z,17nm,0.7s						
JNW	**Jan Mayen West**	**9.12**	**207**	*e*P	**Pn**	**04 35 00.9**	**-0.7**
JNW				*e*S	Sn	04 36 33.7	-10
JNW				IAML		04 36 46.6	
	comp=Z,15nm,0.5s						
JNE	**Jan Mayen East**	**9.14**	**207**	*e*P	**Pn**	**04 35 01.2**	**-0.7**
JNE				*e*S	Sn	04 36 35.3	-9.4
JNE				IAML		04 36 48.5	
	comp=Z,17nm,0.5s						
JMIC	**Jan Mayen**	**9.16**	**207**	Pn	**Pn**	**04 35 01.7**	**-0.5**
	comp=Z,18nm,0.3s,baz=102,slow=19,SNR=1.8						
JMIC	**Jan Mayen**	**9.16**	**207**	*e*P	**Pn**	**04 35 01.4**	**-0.8**
JMIC				*e*S	Sn	04 36 37.1	-8.1
JMIC				IAML		04 36 46.5	
	comp=Z,20nm,0.6s						
JMI	**Jan Mayen**	**9.24**	**208**	*e*P	**Pn**	**04 35 02.1**	**-1.1**
JMI				*e*S	Sn	04 36 38.1	-9.0
JMI				IAML		04 36 39.2	
	comp=Z,20nm,0.4s						
HAMF	**Hammerfest**	**10.14**	**141**	Pn	**Pn**	**04 35 16.1**	**+0.5**
HAMF	**Hammerfest**	**10.14**	**141**	*e*P	**Pn**	**04 35 15.4**	**-0.1**
HAMF				*e*S	Sn	04 36 57.9	-11
HAMF				IAML		04 37 11.2	
	comp=Z,6.1nm,0.6s						
NEEM	**North Greenlan**	**10.88**	**287**	*e*P	**Pn**	**04 35 21.5**	**-4.3**
NEEM				*i* S	Sn	04 37 14.7	-13
NEEM	**North Greenlan**	**10.88**	**287**	*e*P	**Pn**	**04 35 21.5**	**-4.3**
NEEM				*i* S	Sn	04 37 14.7	-13
NEEM				IAML		04 37 19.9	
	comp=Z,19nm,0.7s						
SCO	**Scoresbysund**	**11.18**	**230**	Pn	**Pn**	**04 35 29.6**	**-0.1**
VADS	**Vadso**	**11.34**	**133**	*e*S	Sn	04 37 27.0	-11
KEV	**Kevo**	**11.37**	**137**	Pn	**Pn**	**04 35 33.2**	**+0.8**
KEV	**Kevo**	**11.37**	**137**	*e*P	**Pn**	**04 35 31.8**	**-0.6**
KEV				*e*S	Sn	04 37 27.4	-12
ARA0	**ARCESS Array S**	**11.40**	**140**	Pn	**Pn**	**04 35 32.9**	**+0.1**
	baz=352,slow=12						
ARA0				Sn	Sn	04 37 29.0	-11
	baz=351,slow=16						
ARA0	**ARCESS Array S**	**11.40**	**140**	*e*P	**Pn**	**04 35 32.6**	**-0.2**
ARA0				*e*S	Sn	04 37 29.0	-11
ARA0				IAML		04 37 36.0	
	comp=Z,2.2nm,0.6s						
ARCES	**ARCESS Array B**	**11.40**	**140**	Pn	**Pn**	**04 35 32.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=350,slow=11,SNR=16						
ARCES				Sn	Sn	04 37 30.0	-10
	comp=Z,0.1nm,0.3s,baz=358,slow=19,SNR=1.8						
ARCES				LR	LR	04 39 50.3	
	comp=Z,123nm,20.3s,baz=332,slow=37						
	comp=Z,3.5nm,0.5s						
KIF	**Kilpisjarvi**	**11.41**	**149**	*e*P	**Pn**	**04 35 32.4**	**-0.5**
KTK1	**Kautokeino**	**11.64**	**145**	*e*P	**Pn**	**04 35 37.0**	**+0.8**
SUMG	**Summit**	**12.08**	**258**	Pn	**Pn**	**04 35 40.2**	**-2.2**
SUMG	**Summit**	**12.08**	**258**	*e*P	**Pn**	**04 35 40.1**	**-2.3**
SUMG				*i* S	Sn	04 37 42.6	-14
SUMG	**Summit**	**12.08**	**258**	*e*P	**Pn**	**04 35 40.1**	**-2.3**
SUMG				*i* S	Sn	04 37 42.6	-14
SUMG				IAML		04 37 51.6	
	comp=Z,7.1nm,0.6s						
APA0	**Apatity Array**	**14.17**	**131**	P	**Pn**	**04 36 09.4**	**-1.2**
	baz=337,slow=14						
APA0	**Apatity Array**	**14.17**	**131**	P	**Pn**	**04 36 09.4**	**-1.2**
	baz=337,slow=14						
LSH	**Leshukonskoye**	**18.63**	**118**	*e*P	**Pn**	**04 37 09.1**	**+1.4**
NOA	**NORSAR Array B**	**18.71**	**170**	LR	LR	04 43 52.8	
	comp=Z,28nm,18.3s,baz=245,slow=35						
POIN	**Pond Inlet**	**19.01**	**294**		**P**	**04 37 10.0**	**-1.6**
POIN				IAmb	IAmb	04 37 10.4	
	comp=Z,13nm,0.9s						
SFJD	**Kangerlussuaq**	**19.05**	**261**	P	**P**	**04 37 09.4**	**-2.6**
SFJD	**Kangerlussuaq**	**19.05**	**261**	P	**P**	**04 37 09.2**	**-2.8**
	comp=Z,3.4nm,0.6s,baz=26,slow=9.9,SNR=5.5						
FIA0	**FINESS Array S**	**19.30**	**147**	P	**Pn**	**04 37 17.6**	**+1.7**
	baz=347,slow=11						
FIA0	**FINESS Array S**	**19.30**	**147**	P	**Pn**	**04 37 17.6**	**+1.7**
	baz=347,slow=11						
FINES	**FINESS Array B**	**19.30**	**147**	P	**Pn**	**04 37 15.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=7.9						
FINES				LR	LR	04 44 38.4	
	comp=Z,84nm,21.4s,baz=354,slow=37						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**19.71**	**166**	P	**Pn**	**04 37 20.5**	**-0.3**
	baz=1.9,slow=11						
HFS	**Hagfors**	**19.71**	**166**	P	**Pn**	**04 37 20.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=355,slow=8.9,SNR=6.1						
	comp=Z,4.2nm,0.9s						
HFS	**Hagfors**	**19.71**	**166**	P	**Pn**	**04 37 20.5**	**-0.3**
	baz=1.9,slow=11						
RES	**Resolute Bay**	**19.95**	**310**	P	**Pn**	**04 37 22.3**	**-1.1**
RES	**Resolute Bay**	**19.95**	**310**	P	**Pn**	**04 37 22.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=42,slow=12,SNR=5.3						
RES				LR	LR	04 44 09.7	
	comp=Z,58nm,18.3s,baz=253,slow=34						
	comp=Z,1.9nm,0.7s						
KLMR	**Klimovskoe**	**21.50**	**130**	*e*P	**P**	**04 37 39.1**	**+0.4**
KIRV	**Kirov**	**25.16**	**119**	LR	LR	04 49 25.1	
	comp=Z,83nm,18.3s,baz=66,slow=40						
ARTI	**Arti**	**28.75**	**111**	P	P	04 38 50.8	+3.4
ARTI	**Arti**	**28.75**	**111**	LR	LR	04 51 32.5	
	comp=Z,65nm,20.6s,baz=234,slow=39						
GERES	**GERESS Array B**	**31.00**	**168**	P	**P**	**04 39 08.8**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=0.0,slow=9.3,SNR=6.9						
	comp=Z,1.3nm,0.9s						
BVAR	**Borovoye Array**	**34.07**	**100**	P	**P**	**04 39 36.6**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=325,slow=12,SNR=7.0						
BVAR				LR	LR	04 58 50.8	
	comp=Z,62nm,18.8s,baz=326,slow=46						
	comp=Z,1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**37.85**	**93**	P	P	04 40 09.4	+2.9
	comp=Z,1.4nm,0.8s,baz=340,slow=7.7,SNR=7.3						
	comp=Z,1.4nm,0.8s						
N25K	**Chitina, Valde**	**37.93**	**336**	P	**P**	**04 40 07.9**	**+0.7**
N25K				IAmb	IAmb	04 40 11.2	
	comp=Z,20nm,1.4s						
KBZ	**Khabaz**	**38.67**	**134**	P	**P**	**04 40 16.3**	**+2.8**
	comp=Z,0.9nm,0.7s,baz=6.4,slow=10,SNR=2.6						
	comp=Z,0.9nm,0.7s						
Q32M	**Nakina River**	**39.46**	**326**	P	**P**	**04 40 19.7**	**-0.5**
ESDC	**Sonseca Array**	**40.12**	**190**	P	**P**	**04 40 28.1**	**+2.4**
	comp=Z,1.1nm,1.0s,baz=2.4,slow=9.0,SNR=4.1						
	comp=Z,1.1nm,1.0s						
MKAR	**Makanchi Array**	**42.22**	**91**	P	**P**	**04 40 43.8**	**+0.9**
MKAR	**Makanchi Array**	**42.22**	**91**	P	P	04 40 46.3	+3.4
	comp=Z,0.6nm,0.5s,baz=333,slow=6.4,SNR=5.1						
	comp=Z,0.6nm,0.5s						
SADO	**Sadowa**	**45.19**	**274**	LR	LR	04 58 45.9	
	comp=Z,493nm,19.2s,baz=328,slow=34						
NEW	**Newport**	**48.11**	**310**	LR	LR	05 00 41.5	
	comp=Z,113nm,19.5s,baz=253,slow=35						
K43A	**Burlington**	**48.85**	**282**	P	**P**	**04 41 37.4**	**+2.1**
P53A	**Whipple**	**50.71**	**274**	P	**P**	**04 41 51.9**	**+2.4**
Q54A	**Coxs Mills**	**51.10**	**274**	P	**P**	**04 41 55.3**	**+2.8**
Q54A				IAmb	IAmb	04 42 16.9	
	comp=Z,19nm,1.5s						
P48A	**Milroy**	**51.47**	**278**	P	**P**	**04 41 56.3**	**+1.0**
P48A				IAmb	IAmb	04 41 58.0	
	comp=Z,8.7nm,1.0s						
TKL	**Tuckaleechee C**	**54.87**	**276**	P	**P**	**04 42 21.0**	**+0.7**
TKL				IAmb	IAmb	04 42 23.8	
	comp=Z,11nm,1.1s						
TKL	**Tuckaleechee C**	**54.87**	**276**	LR	LR	05 07 09.1	
	comp=Z,81nm,18.9s,baz=342,slow=38						
DEOK	**Depew**	**56.96**	**288**	P	**P**	**04 42 37.0**	**+1.7**
DEOK				IAmb	IAmb	04 42 38.7	
	comp=Z,7.1nm,1.0s						
ANMO	**Albuquerque**	**59.51**	**297**	LR	LR	05 08 52.0	
	comp=Z,97nm,19.7s,baz=99,slow=36						
TXAR	**Lajitas Array**	**64.54**	**293**	P	**P**	**04 43 28.4**	**+1.2**
TXAR	**Lajitas Array**	**64.54**	**293**	P	**P**	**04 43 29.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=43,slow=5.1,SNR=9.8						
TXAR				LR	LR	05 10 59.0	
	comp=Z,43nm,19.5s,baz=332,slow=36						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.42**	**183**	P	**P**	**04 43 41.1**	**+1.8**
	comp=Z,2.7nm,0.3s,baz=355,slow=9.0,SNR=2.3						
	comp=Z,2.7nm,0.3s						
BRDH	**Bariadhala**	**67.36**	**88**	LR	LR	05 16 31.5	
	comp=Z,248nm,19.1s,baz=157,slow=39						
JOW	**Kunigami**	**69.49**	**52**	LR	LR	05 15 24.4	
	comp=Z,100nm,21.2s,baz=176,slow=37						
LPIG	**La Paz**	**70.75**	**298**	LR	LR	05 14 48.4	
	comp=Z,58nm,18.2s,baz=348,slow=36						
SDV	**Santo Domingo**	**78.60**	**257**	LR	LR	05 20 58.5	
	comp=Z,46nm,18.1s,baz=66,slow=37						
JTS	**Las Juntas de**	**79.82**	**271**	LR	LR	05 20 45.2	
	comp=Z,41nm,18.3s,baz=322,slow=36						
SNAA	**Sanae**	**151.08**	**185**		**PKiKP**	**04 52 43.5**	**+1.6**
SNAA	**Sanae**	**151.08**	**185**	PKPbc	**PKiKP**	**04 52 43.6**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=254,slow=1.8,SNR=14						
SNAA				PKPab	**pPKPab**	**04 52 51.7**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=238,slow=3.5,SNR=8.8						

PRU ***28*** *04:48:21.0,46°.69N×12°.21E,h0km*

ROM 28 04:48:16.2±0.1,46°.206N±0°.003×12.775E±0°.003, h11km,ML2.3/89,8C-5D,Error ellipse: s-maj=0.4km s-min=0.1km az=154.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STAL	**STALIGIAL**	**0.07**	**321**	P	Pg	04 48 18.9	+0.3
STAL				S	Sg	04 48 20.8	+0.5
STAL				AML	AML		
	comp=E,19150μm,0.2s						
STAL				AML	AML		
	comp=N,21050μm,0.3s						
STAL				AML	AML		
	comp=E,11650μm,0.5s						
STAL				AML	AML		
	comp=N,13650μm,0.3s						
STAL				AML	AML		
	comp=E,11640μm,0.5s						
STAL				AML	AML		
	comp=N,13664μm,0.3s						
STAL				AML	AML		
	comp=N,21050μm,0.3s						
STAL				AML	AML		
	comp=N,21050μm,1.7s						
STAL				AML	AML		
	comp=N,13664μm,1.7s						
STAL				AML	AML		
	comp=E,19165μm,0.2s						
DST2	**Trieste**	**0.11**	**69**	⇓P	Pg	04 48 19.6	+0.6
DST2				S	Sg	04 48 21.8	+0.8
DST2				AML	AML		
	comp=E,4485μm,0.5s						
DST2				AML	AML		
	comp=E,4485μm,0.5s						
DST2				AML	AML		
	comp=N,5835μm,0.7s						
DST2				AML	AML		
	comp=N,4921μm,0.2s						
DST2				AML	AML		
	comp=E,4487μm,0.5s						
MLNI	**Malnisio**	**0.13**	**244**	⇓*e*Pg	Pg	04 48 19.9	+0.5
MLNI				*e*Sg	Sg	04 48 22.3	+0.8
MPRI	**Monte Prat**	**0.15**	**76**	⇓*e*Pg	Pg	04 48 20.4	+0.7
MPRI				*e*Sg	Sg	04 48 23.6	+1.5
MPRI	**Monte Prat**	**0.15**	**76**	P	Pg	04 48 20.3	+0.6
MPRI				S	Sg	04 48 23.2	+1.0
MPRI				AML	AML		
	comp=N,2855μm,0.5s						
MPRI				AML	AML		
	comp=N,3695μm,0.5s						
MPRI				AML	AML		
	comp=E,3360μm,0.5s						
MPRI				AML	AML		
	comp=E,2580μm,0.5s						
MPRI				AML	AML		
	comp=E,2578μm,0.5s						
MPRI				AML	AML		
	comp=E,3361μm,0.5s						
MPRI				AML	AML		
	comp=N,2207μm,0.2s						
MPRI				AML	AML		
	comp=N,2827μm,0.2s						
BUA	**Buia**	**0.24**	**87**	⇓*e*Pg	Pg	04 48 21.9	+0.7
BUA				*e*Sg	Sg	04 48 26.4	+1.8
BOO	**Bordano**	**0.25**	**63**	⇑*e*Pg	Pg	04 48 21.7	+0.3
BOO				*e*Sg	Sb	04 48 26.2	-1.1
BOO	**Bordano**	**0.25**	**63**	P	Pg	04 48 21.7	+0.3
BOO				S	Sg	04 48 26.1	+1.2
CIMO	**Cimolais**	**0.25**	**294**	⇑*e*Pg	Pg	04 48 21.6	+0.1
CIMO				*e*Sg	Sg	04 48 25.8	+0.8
CIMO	**Cimolais**	**0.25**	**294**	⇑P	Pg	04 48 21.6	+0.1
CIMO				S	Sg	04 48 25.7	+0.7
CIMO				AML	AML		
	comp=N,520μm,1.3s						
CIMO				AML	AML		
	comp=E,544μm,0.2s						
CIMO				AML	AML		
	comp=N,540μm,1.3s						
CIMO				AML	AML		
	comp=E,520μm,0.8s			

FRE8	Fregona	0.35	237	P	Pb	04 48 24.1	-0.3
FRE8				S	Sb	04 48 29.3	-0.7
VINO	Villanova	0.36	82	P	Pg	04 48 23.4	+0.1
VINO				S	Sb	04 48 29.4	-0.9
VINO				AML	AML		
	comp=E,372μm,0.2s						
VINO				AML	AML		
	comp=N,490μm,0.9s						
VINO				AML	AML		
	comp=E,373μm,0.2s						
VINO				AML	AML		
	comp=N,474μm,0.2s						
ZOU	Zoufplan	0.38	21	P	Pg	04 48 24.1	+0.4
ZOU				S	Sb	04 48 30.7	-0.4
ZOU				AML	AML		
	comp=E,587μm,0.9s						
ZOU				AML	AML		
	comp=N,320μm,1.2s						
ZOU				AML	AML		
	comp=N,290μm,0.3s						
ZOU				AML	AML		
	comp=E,570μm,0.9s						
ZOU				AML	AML		
	comp=E,501μm,0.3s						
ZOU				AML	AML		
	comp=N,291μm,0.3s						
ZOU				AML	AML		
	comp=E,513μm,0.3s						
ZOU				AML	AML		
	comp=N,290μm,0.2s						
FVI	Forni Avoltri	0.39	1	P	Pg	04 48 24.3	+0.3
FVI				S	Sb	04 48 31.2	-0.2
FVI				AML	AML		
	comp=E,428μm,0.1s						
FVI				AML	AML		
	comp=E,428μm,0.1s						
FVI				AML	AML		
	comp=N,550μm,0.5s						
FVI				AML	AML		
	comp=E,428μm,0.1s						
FVI				AML	AML		
	comp=N,509μm,0.2s						
PLRO	Paularo	0.43	37	*e*Pg	Pg	04 48 24.9	+0.2
PLRO				*e*Sg	Sb	04 48 31.6	-0.9
PLRO	Paularo	0.43	37	P	Pg	04 48 25.0	+0.3
PLRO				S	Sb	04 48 32.0	-0.5
PTCC	Patocco-Chiusa	0.45	63	P	Pg	04 48 24.9	-0.1
PTCC				S	Sb	04 48 32.1	-0.9
PTCC				AML	AML		
	comp=E,266μm,0.3s						
PTCC				AML	AML		
	comp=N,212μm,1.4s						
PTCC				AML	AML		
	comp=E,266μm,0.3s						
PTCC				AML	AML		
	comp=N,190μm,0.3s						
AGOR	Agordo	0.51	279	*e*Pg	Pg	04 48 26.3	+0.1
AGOR				*e*Sg	Sg	04 48 33.7	+0.8
AGOR	Agordo	0.51	279	P	Pg	04 48 25.8	-0.4
ROBS	Robic	0.51	85	*i* Pg	Pg	04 48 25.9	-0.3
ROBS				*e*Sg	Sb	04 48 34.9	+0.2
ROBS				IAML		04 48 38.4	
	comp=Z,13nm,0.1s						
VARN	Col Varnada, M	0.51	246	P	Pg	04 48 26.0	-0.2
VARN				S	Sb	04 48 34.0	-0.8
VARN				AML	AML		
	comp=E,380μm,0.7s						
VARN				AML	AML		
	comp=N,402μm,0.3s						
VARN				AML	AML		
	comp=E,394μm,0.7s						
VARN				AML	AML		
	comp=N,410μm,0.3s						
VARN				AML	AML		
	comp=E,376μm,0.3s						
VARN				AML	AML		
	comp=N,401μm,0.3s						
VARN				AML	AML		
	comp=N,410μm,0.3s						
VARN				AML	AML		
	comp=E,365μm,0.3s						
ED06	Collalto TV	0.53	229	*e*Pg	Pg	04 48 26.8	+0.3
FAU	Forcella Aurin	0.55	273	*e*Pg	Pg	04 48 26.6	-0.4
ABTA	Abfaltersbach	0.57	342	*e*Pg	Pb	04 48 27.9	-0.5
	comp=E,2.9nm,0.1s,SNR=42						
ABTA				*e*Sg	Sb	04 48 36.4	-0.1
	comp=E,3.8nm,0.1s						
PRED	Cave del Predi	0.60	66	*e*Pg	Pg	04 48 27.7	-0.1
PRED	Cave del Predi	0.60	66	P	Pg	04 48 27.6	-0.2
PRED				S	Sb	04 48 37.5	+0.3
DRE	Drenchia	0.60	93	*e*Pg	Pg	04 48 28.1	+0.1
DRE	Drenchia	0.60	93	P	Pg	04 48 27.8	-0.1
DRE				S	Sb	04 48 37.8	+0.3
MTLO	Montello	0.61	231	*e*Pg	Pb	04 48 28.6	-0.3
ACOM	Acomizza, Ital	0.61	56	*e*Pg	Pg	04 48 28.5	+0.3
ACOM	Acomizza, Ital	0.61	56	P	Pg	04 48 28.5	+0.3
ACOM				S	Sb	04 48 38.5	+0.6
ACOM				AML	AML		
	comp=N,310μm,1.3s						
ACOM				AML	AML		
	comp=E,432μm,0.3s						
ACOM				AML	AML		
	comp=N,300μm,1.3s						
ACOM				AML	AML		
	comp=E,454μm,0.3s						
ACOM				AML	AML		
	comp=N,290μm,0.5s						
ACOM				AML	AML		
	comp=E,432μm,0.3s						
ACOM				AML	AML		
	comp=N,286μm,0.5s						
ACOM				AML	AML		
	comp=E,454μm,0.3s						
SABO	M.te Sabotino	0.62	111	*e*Pg	Pb	04 48 28.9	-0.1
SABO	M.te Sabotino	0.62	111	P	Pg	04 48 28.2	0.0
SABO				S	Sb	04 48 38.7	+0.9
SABO				AML	AML		
	comp=E,1020μm,0.5s						
SABO				AML	AML		
	comp=N,1175μm,0.7s						
SABO				AML	AML		
	comp=E,260μm,0.7s						
SABO				AML	AML		
	comp=N,306μm,0.8s						
SABO				AML	AML		
	comp=E,1024μm,0.5s						
SABO				AML	AML		
	comp=N,978μm,0.4s						
SABO				AML	AML		
	comp=N,306μm,0.8s						
SABO				AML	AML		
	comp=E,1024μm,1.5s						
SABO				AML	AML		
	comp=E,260μm,0.7s						
SABO				AML	AML		
	comp=N,306μm,1.2s						
CADS	Cadrg	0.67	88	*i* Pg	Pg	04 48 29.1	-0.1
CADS				IAML		04 48 43.9	
	comp=Z,10nm,0.1s						
IESO	Jesolo	0.70	193	*e*Pg	Pb	04 48 30.2	-0.3
MYKA	Terra Mystica	0.73	54	Pg	Pg	04 48 30.3	-0.1
	comp=Z,0.1nm,0.0s						
MYKA				Sb	Sb	04 48 41.2	0.0
	comp=Z,4.6nm,0.2s,SNR=6.9						
CGRP	Cima Grappa	0.75	245	*e*Pg	Pg	04 48 31.0	+0.3
JAVS	Javornik	0.95	109	*i* Pg	Pn	04 48 36.3	+0.7
JAVS				*e*Sg	Sn	04 48 51.3	+2.0
JAVS				IAML		04 48 53.0	
	comp=Z,39nm,0.2s						
KBA	Koelnbreinsper	0.96	24	Pg	Pb	04 48 35.4	+0.4
	comp=Z,1.0nm,0.2s,SNR=5.7						
KBA				Sg	Sn	04 48 48.7	-0.9
	comp=Z,7.0nm,0.2s,SNR=7.2						
LESA	Schwarzleotal	1.22	357	*e*Pg	Pg	04 48 39.9	+0.2
	comp=Z,3.4nm,0.2s,SNR=41						
LESA				*e*Sg	Sn	04 48 56.4	+0.5
	comp=Z,11nm,0.2s						
LJU	Ljubljana	1.23	97	AML	AML		
	comp=N,2412μm,0.2s						
LJU				AML	AML		
	comp=E,1315μm,1.3s						
LJU				AML	AML		
	comp=N,2410μm,0.2s						
LJU				AML	AML		
	comp=E,1288μm,0.2s						
OBKA	Obir	1.27	75	Pg	Pg	04 48 41.1	+0.6
	comp=E,1.1nm,0.2s						
OBKA				*e*Sg	Sn	04 48 59.7	+2.6
	comp=E,0.1nm,0.1s,SNR=6.5						
WTTA	Wattenberg	1.32	324	*e*Pg	Pg	04 48 41.8	+0.3
	comp=E,7.1nm,0.2s,SNR=14						
WTTA				*e*Sg	Sg	04 49 00.7	+2.1
	comp=E,4.9nm,0.2s						
WTTA	Wattenberg	1.32	324	AML	AML		
	comp=N,45μm,0.8s						
WTTA				AML	AML		
	comp=E,38μm,0.5s						
WTTA				AML	AML		
	comp=N,45μm,0.8s						
WATA	Walderalm	1.40	324	*e*Pn	Pn	04 48 40.8	-1.1
	comp=N,1.8nm,0.1s						
WATA				*e*Sg	Sg	04 49 01.1	-0.1
	comp=N,8.0nm,0.2s						
BRJN	Brijuni	1.47	152	*e*Pn	Pb	04 48 43.6	0.0
BRJN				Sg	Sg	04 49 04.1	+0.7
SQTA	Sankt Quirin	1.48	314	*e*Pg	Pg	04 48 45.0	+0.4
	comp=N,0.1nm,0.1s,SNR=14						
SQTA				Sg	Sg	04 49 04.3	+0.4
	comp=N,0.7nm,0.1s						
RIY	Rijeka	1.48	126	*e*Pn	Pg	04 48 44.5	-0.2
RIY				Sg	Sg	04 49 05.3	+1.4
BIOA	Bad Ischl, Aus	1.60	21	*e*Pg	Pg	04 48 47.0	+0.1
	comp=N,4.8nm,0.3s,SNR=13						
BIOA				*e*Sg	Sg	04 49 10.5	+2.9
	comp=N,21nm,0.4s						
MOTA	Moosalm	1.62	315	*e*Pg	Pg	04 48 48.2	+1.0
	comp=N,0.4nm,0.1s						
MOTA				*e*Sg	Sg	04 49 10.0	+1.8
	comp=N,0.6nm,0.1s						
FETA	Feichten	1.63	301	Pg	Pg	04 48 47.3	-0.2
	comp=N,0.3nm,0.1s,SNR=14						
FETA				*e*Sg	Sg	04 49 09.5	+0.9
	comp=N,0.3nm,0.1s						
SOKA	Soboth	1.63	72	*e*Pg	Pg	04 48 47.0	-0.5
	comp=N,0.3nm,0.2s						
SOKA				*e*Sg	Sg	04 49 09.1	+0.5
	comp=N,1.4nm,0.3s						
BOJS	Bojanci	1.87	111	AML	AML		
	comp=E,484μm,0.6s						
BOJS				AML	AML		
	comp=E,483μm,0.6s						
BOJS				AML	AML		
	comp=N,654μm,0.8s						
BOJS				AML	AML		
	comp=N,655μm,0.8s						
BOJS				AML	AML		
	comp=N,655μm,1.2s						
RETA	Reutte	1.88	314	*e*Pg	Pg	04 48 52.4	+0.1
	comp=N,2.2nm,0.2s						
RETA				*e*Sg	Sg	04 49 20.1	+3.3
	comp=N,3.4nm,0.3s						
MOA	Molln	1.94	31	*e*Pg	Pb	04 48 52.3	+0.7
	comp=N,0.6nm,0.1s,SNR=8.0						
MOA				*e*Sg	Sg	04 49 19.1	+0.7
	comp=N,1.7nm,0.4s						
OZLJ	Ozalj	1.97	106	*e*Pn	Pb	04 48 52.8	+0.7
OZLJ				Sn	Sg	04 49 18.7	-0.8
RABC	Rab	2.03	135	*e*Pn	Pn	04 48 51.7	+1.3
ARSA	Arzberg	2.16	60	*e*Pg	Pb	04 48 54.6	-0.8
	comp=N,0.8nm,0.3s						
ARSA				*e*Sg	Sn	04 49 20.5	+1.5
	comp=N,1.0nm,0.5s						
NVLJ	Novalja	2.21	137	*e*Pn	Pn	04 48 54.0	+1.2
DAVA	Damuels	2.27	300	*e*Pg	Pg	04 48 58.6	-1.0
	comp=N,0.6nm,0.2s						
DAVA				*e*Sg	Sg	04 49 30.1	+1.2
	comp=N,10.0nm,0.6s						
PLIT	Plitvice	2.40	123	*e*Pn	Pn	04 48 57.1	+1.5
VIRC	Vir	2.50	139	*e*Pn	Pn	04 48 57.9	+1.1
UDBI	Udbina	2.69	127	*e*Pn	Pn	04 49 01.8	+2.2
UDBI				Sn	Sb	04 49 36.0	-1.5
CONA	Conrad Observa	2.72	50	*e*Pn	Pn	04 48 58.0	-2.0
	comp=N,0.7nm,0.3s						
CONA				Sn	Sn	04 49 30.9	-2.1
	comp=N,0.3nm,0.2s						
DUGI	Dugi Otok	2.74	143	*e*Pn	Pn	04 49 01.3	+1.1
RONA	Rosalia, Austr	2.84	57	*e*Pn	Pn	04 49 01.6	+0.1
	comp=N,0.1nm,0.1s						
RONA				*e*Sn	Sn	04 49 36.6	+0.8
	comp=N,4.0nm,0.5s						
EL6	Elcito	2.89	175	AML	AML		
	comp=N,26μm,1.2s						
EL6				AML	AML		
	comp=E,27μm,1.6s						
KHC	Kasperske Hory	2.98	10	*e*PN	Pn	04 49 05.5	+2.1
KHC				*e*SN	Sb	04 49 43.0	-2.7
	comp=E,3.6nm,0.4s						
FDMO	Fiordimonte	3.18	176	AML	AML		
	comp=E,20μm,0.1s						
FDMO				AML	AML		
	comp=N,30μm,0.4s						
ZIRJ	Zirje	3.27	140	*e*Pn	Pn	04 49 09.2	+1.9
ZIRJ				Sn	Sn	04 49 48.7	+2.5
ZVC	Zvikov	3.37	16	*e*PN	Pn	04 49 10.2	+1.3
PRU	Pruhonice	3.97	17	*e*SN	Sn	04 50 03.3	-0.2
HVAR	Hvar	4.00	138	*e*Pn	Pn	04 49 18.9	+1.4

*DJA **28** 05:13:27.0±0.6,5°S±5°×10°1E±°,h10km,M4.1/11,mb4.2/2, MLv4.0/11*
*IDC **28** 05:13:27.6±4.4,4°.43S×100°.81E,h0km,mb3.6/5, mbtmp3.6/5,MS4.2/1,Error ellipse: s-maj=171.7km s-min=24.6km az=58.0*
ISC 28 05:13:31.7±1.4,4°.4S±0°.1×100°.6E±0°.1,h35km,n21, σ0§95/15,mb3.6/5,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	1.78	340	P	Pn	05 13 59.0	-1.0
PPSI				S	Sn	05 14 21.1	-0.3
MASI	Maura Aman, Be	2.07	51	P	Pn	05 14 02.7	-1.4
KSI	Kapahiang	2.12	68	P	Pn	05 14 04.1	-0.7
KRJI	Kerinci	2.48	20	P	Pn	05 14 10.0	+0.2
LHSI	Lahat	2.96	78	P	Pn	05 14 16.3	0.0
PDSI	Padang	3.51	357	P	Pn	05 14 22.5	-1.4
MDSI	Maura Dua	3.55	91	P	Pn	05 14 23.3	-1.0
PPI	Padang Panjang	3.97	357	P	Pn	05 14 29.1	-1.0
CMAR	Chiang Mai Arr	22.82	356	P	P	05 18 32.0	+0.2
	0.6nm,0.4s,baz=174,slow=8.8,SNR=4.0						
	0.6nm,0.4s						
H08S2	Diego Garcia H	28.14	262	T	T	05 49 26.7	
	baz=84,slow=75,SNR=26						
H08S3	Diego Garcia H	28.15	262	T	T	05 49 36.3	
	baz=84,slow=75,SNR=55						
H08S1	Diego Carcia H	28.16	262	T	T	05 49 36.8	
	baz=84,slow=75,SNR=17						
H01W3	Cape Leeuwin H	32.77	159	T	T	05 54 49.9	
	baz=337,slow=76,SNR=22						
H01W2	Cape Leeuwin H	32.79	159	T	T	05 54 46.1	
	baz=337,slow=76,SNR=36						
H01W1	Cape Leeuwin H	32.79	159	T	T	05 54 54.6	
	baz=337,slow=76,SNR=33						
WRA	Warramunga Arr	36.27	118	P	P	05 20 31.0	-1.0
	0.9nm,1.0s,baz=297,slow=7.7,SNR=3.0						
	0.9nm,1.0s						
ASAR	Alice Springs	37.35	124	P	P	05 20 41.0	-0.3
	0.3nm,0.3s,baz=302,slow=8.5,SNR=3.1						
	0.3nm,0.3s						
JAY	Jayapura	40.05	89	LR	LR	05 38 57.5	
	comp=Z,321nm,18.7s,baz=4.0,slow=38						
SONM	Songino Array	52.31	5	P	P	05 22 41.2	+1.2
	0.4nm,0.3s,baz=190,slow=5.9,SNR=3.0						
	0.4nm,0.3s						
MKAR	Makanchi Array	53.53	344	P	P	05 22 49.7	+0.7
	0.3nm,0.5s,baz=146,slow=8.0,SNR=2.5						
	0.3nm,0.5s						
TXAR	Lajitas Array	146.21	40	PKPbc	PKPab	05 33 10.5	+0.5
	0.2nm,0.6s,baz=331,slow=1.0,SNR=5.8						

*IDC **28** 05:19:53.5±1.2,7°.99S×120°.07E,h0km,mb3.7/5, mbtmp3.6/7,ML3.4/2,MS3.5/1,Error ellipse: s-maj=60.0km s-min=19.3km az=67.0*
*DJA **28** 05:19:56.1±0.3,8°S±3°×12°0E±°,h10km,M4.1/12,mb4.3/1, MLv4.0/12*
ISC 28 05:19:55.0±0.8,8°.06S±0°.04×119°.87E±0°.06,h10km,n20, σ1§31/20,mb3.9/4,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.65	197	P	Pn	05 20 23.8	-0.3
WSI	Waingapu	1.66	165	P	Pn	05 20 24.8	+0.6
EDFI	Ende, Flores	1.93	111	P	Pn	05 20 29.2	+1.1
BSSI	Bau Bau, Buton	2.00	18	P	Pn	05 20 29.9	+1.0
PLAI	Plampang	2.21	249	P	Pn	05 20 32.6	+0.8
BASI	Baing, Sumba	2.26	162	P	Pn	05 20 33.4	+0.9
MMRI	Maumere	2.42	104	P	Pn	05 20 36.2	+1.6
BKSI	Bulukumba	2.73	5	P	Pn	05 20 40.6	+1.7
KAPI	Kappang	3.02	358	Pn	Pn	05 20 40.7	-2.3
	2.5nm,0.3s,baz=273,slow=17,SNR=1.9						
KAPI				Sn	Sn	05 21 17.6	-1.6
	7.8nm,0.3s,baz=123,slow=18,SNR=3.6						
	7.0nm,0.4s						
TWSI	Taliwang, Sumb	3.03	257	P	Pn	05 20 43.6	+0.5
BNSI	Bone	3.64	4	P	Pn	05 20 53.3	+1.8
SPSI	Sidrap Palu	4.07	359	P	Pn	05 20 57.7	+0.4
JAGI	Jajag, Banyuwa	5.67	265	P	Pn	05 21 21.5	+2.0
FITZ	Fitzroy Crossi	11.46	151	LR	LR	05 28 05.2	
	comp=Z,257nm,21.7s,baz=328,slow=43						
WRA	Warramunga Arr	18.33	132	P	Pn	05 24 08.3	-1.4
	0.2nm,0.3s,baz=303,slow=13,SNR=5.1						
	0.7nm,0.6s						
ASAR	Alice Springs	20.54	141	P	P	05 24 33.4	-0.5
	1.1nm,0.4s,baz=317,slow=10,SNR=13						
	1.1nm,0.4s						
STKA	Stephens Creek	31.15	142	P	P	05 26 13.7	-0.5
	0.7nm,0.3s,baz=324,slow=18,SNR=3.5						
	0.7nm,0.3s						
MKAR	Makanchi Array	64.02	332	P	P	05 30 30.1	+1.2
	0.6nm,0.7s,baz=146,slow=6.7,SNR=5.0						
	0.6nm,0.7s						
VNDA	Vanda	72.78	171	P	P	05 31 23.1	-0.1
	0.2nm,0.5s,baz=311,slow=7.7,SNR=2.1						
	0.2nm,0.5s						
SNAA	Sanae	92.13	195	P	P	05 33 04.6	+0.1
	0.2nm,0.5s,baz=180,slow=5.1,SNR=1.1						
	0.2nm,0.5s						

*IDC **28** 05:36:33.0±1.1,2°.65S×138°.36E,h0km,mb3.8/4, mbtmp3.8/6,ML3.8/2,MS3.7/3,Error ellipse: s-maj=26.6km s-min=25.8km az=158.0*
*DJA **28** 05:36:37.4±0.8,2°S±7°×13°8E±°,h14km±8km,M4.0/7, mb4.2/1,MLv3.9/7*
ISC 28 05:36:37.4±0.8,2°.61S±0°.10×138°.48E±0°.05,h32km,n16, σ1§59/15,mb3.8/4,MS3.7/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.66	20	P	Pb	05 36 48.8	-1.8
GENI	Genyem	1.68	89	P	Pn	05 37 06.5	+1.8
JAY	Jayapura	2.22	87	Pn	Pn	05 37 14.2	+2.1
	10nm,0.3s,baz=252,slow=8.8,SNR=22						
JAY				Sn	Sb	05 37 42.2	-1.9
	5.7nm,0.3s,baz=153,slow=14,SNR=5.5						
	31nm,0.4s						
JAY	Jayapura	2.22	87	P	Pn	05 37 14.0	+1.9
SRPI	Serui, Papua	2.36	288	P	Pn	05 37 14.0	0.0
SRPI				S	Sn	05 37 43.6	+1.7
BAKI	Biak	2.76	301	P	Pn	05 37 21.1	+1.6
FAKI	Fak Fak	6.23	267	P	Pn	05 38 08.2	+0.9
WRA	Warramunga Arr	17.69	193	P	Pn	05 40 40.5	-1.1
	0.6nm,0.3s,baz=15,slow=12,SNR=13						
	1.1nm,0.4s						
ASAR	Alice Springs	21.39	192	P	P	05 41 21.2	-1.4
	2.9nm,0.7s,baz=23,slow=11,SNR=15						
	2.9nm,0.7s						
ASAJ	Asahikawa	46.67	4	LR	LR	06 01 27.8	
	comp=Z,53nm,20.3s,baz=144,slow=32						
LZDM	Lanzhou Array	50.27	323	LR	LR	06 06 57.7	
	comp=Z,72nm,19.4s,baz=185,slow=36						
MKAR	Makanchi Array	69.58	322	P	P	05 47 44.0	+0.5
	0.5nm,0.7s,baz=122,slow=8.1,SNR=3.6						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	73.52	325	LR	LR	06 22 16.6	
	comp=Z,76nm,19.6s,baz=170,slow=37						
BVAR	Borovoye Array	79.10	325	P	P	05 48 39.8	+1.0
	0.7nm,0.6s,baz=96,slow=5.8,SNR=2.4						
	0.7nm,0.6s						
ILAR	Eielson Array	85.84	24	P	P	05 49 12.8	-0.8
	0.6nm,1.0s,baz=256,slow=4.5,SNR=3.1						
	0.6nm,1.0s						
LPAZ	La Paz	147.68	126	PKPbc	PKPbc	05 56 21.6	+1.0
	0.9nm,0.7s,baz=198,slow=3.2,SNR=4.2						

IDC 28 05:41:50.8±1.6,3°.07S×138°.63E,h0km,mb3.6/2, mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=34.6km s-min=25.0km az=143.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.14	75	Pn	Pn	05 42 27.5	-0.4
	4.3nm,0.3s,baz=223,slow=8.7,SNR=11						
JAY				Sn	Sb	05 42 57.3	-0.4
	2.7nm,0.3s,baz=93,slow=19,SNR=2.1						
	25nm,0.6s						
WRA	Warramunga Arr	17.29	194	P	Pn	05 45 54.0	+0.2
	0.3nm,0.3s,baz=16,slow=12,SNR=3.9						
	1.4nm,0.6s						
ASAR	Alice Springs	20.98	192	P	P	05 46 35.8	-0.1
	1.7nm,0.9s,baz=20,slow=11,SNR=11						
	1.7nm,0.9s						
MKAR	Makanchi Array	70.02	323	P	P	05 53 04.7	+0.1
	0.9nm,0.9s,baz=113,slow=9.6,SNR=3.6						
	0.9nm,0.9s						

*IDC **28** 05:42:20.9±0.5,20°.18S×66°.49E,h0km,mb4.3/21, mbtmp4.3/21,MS3.8/24,Error ellipse: s-maj=18.6km s-min=13.2km az=87.0*
*NEIC **28** 05:42:23.4±1.3,20°.3S±0°.1×66°.5E±0°.1,h10km±1km, mb4.6/34,Error ellipse: s-maj=18.8km s-min=17.6km az=93.0*
ISC 28 05:42:24.0±0.4,20°.24S±0°.08×66°.44E±0°.08,h16km,n106, σ1§02/82,mb4.6/39,MS4.0/23,1C-6D,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.81	26	T	T	05 59 37.8	
	baz=203,slow=75,SNR=257						
H08S2	Diego Garcia H	13.82	26	T	T	05 59 39.5	
	baz=203,slow=75,SNR=149						
H08S3	Diego Garcia H	13.83	26	T	T	05 59 38.6	
	baz=203,slow=75,SNR=297						
ABPO	Ambohimpanom	18.14	271		Pn	05 46 35.9	+0.4
OPO	Ambohidratompo	18.24	272	LR	LR	05 51 21.1	
	comp=Z,73nm,20.2s,baz=225,slow=30						
VOI	Vohitsoka	18.41	261	P	P	05 46 40.1	+1.4
FOMA	Nahampoana Res	18.57	252	P	P	05 46 40.2	-0.1
H04N2	CROZET ISLANDS	28.52	202	T	T	06 18 25.9	
	baz=29,slow=76,SNR=3041						
H04N1	CROZET ISLANDS	28.52	202	T	T	06 18 29.6	
	baz=29,slow=76,SNR=4276						
H04N3	CROZET ISLANDS	28.54	202	T	T	06 18 25.7	
	baz=29,slow=76,SNR=3188						
PAF	Port-aux-Franc	29.21	175		P	05 48 24.2	-0.5
PALK	Pallekele	30.73	29	LR	LR	05 57 39.8	
	comp=Z,310nm,19.5s,baz=175,slow=30						
KIBK	Kibwezi	32.93	299	P	P	05 48 58.4	+0.3
KIBK				IAmb	IAmb	05 49 00.5	
	comp=Z,12nm,1.5s						
MATP	Matopo	35.53	263	LR	LR	06 01 41.8	
	comp=Z,149nm,20.9s,baz=72,slow=33						
LSZ	Lusaka	36.71	271	P	P	05 49 30.8	0.0
LSZ				IAmb	IAmb	05 49 36.0	
	comp=Z,10nm,1.2s						
LSZ	Lusaka	36.71	271	LR	LR	06 02 53.7	
	comp=Z,101nm,20.7s,baz=142,slow=34						
LBTB	Lobatse	37.90	255		P	05 49 40.3	-0.5
LBTB				IAmb	IAmb	05 49 55.9	
	comp=Z,9.0nm,1.1s						
LBTB	Lobatse	37.90	255	LR	LR	06 02 46.3	
	comp=Z,130nm,19.5s,baz=92,slow=32						
KHWEE	KHWEE	38.21	260	P	P	05 49 43.2	-0.2
BOSA	Boshof	38.26	249	P	P	05 49 43.9	+0.1
	comp=Z,2.3nm,0.8s,baz=110,slow=12,SNR=1.8						
BOSA				LR	LR	06 02 33.3	
	comp=Z,139nm,18.3s,baz=32,slow=32						
	comp=Z,2.3nm,0.8s						
PSI	Prapat	39.24	58	LR	LR	06 02 41.0	
	comp=Z,332nm,20.0s,baz=153,slow=31						
FURI	Furi	39.80	314	LR	LR	06 04 39.0	
	comp=Z,134nm,18.6s,baz=94,slow=34						
H01W2	Cape Leeuwin H	44.33	120	T	T	06 37 55.3	
	baz=280,slow=75,SNR=8.2						
H01W3	Cape Leeu

baz=280,slow=75,SNR=7.2
H01W1 Cape Leeuwin H 44.34 120 T T 06 37 49.5
baz=280,slow=75,SNR=7.7
TSUM Tsumeb 45.87 263 LR LR 06 08 23.8
comp=Z,175nm,18.7s,baz=130,slow=34
MAW Mawson 47.41 182 P **P 05 50 57.5 +0.3**
comp=Z,5.4nm,0.7s,baz=6.7,slow=7.7,SNR=26
MAW LR LR 06 05 38.5
comp=Z,160nm,21.5s,baz=8.0,slow=29
comp=Z,5.4nm,0.7s
BRDH Bariadhala 49.24 31 LR LR 06 09 33.1
comp=Z,173nm,21.4s,baz=156,slow=33
CM31 Chiang Mai Arr 49.95 42 **P 05 51 17.4 0.0**
CM31 IAmb IAmb 05 51 20.1
comp=Z,16nm,1.4s
CMAR Chiang Mai Arr 49.95 42 **P 05 51 17.6 +0.2**
CMAR Chiang Mai Arr 49.95 42 P **P 05 51 16.1 -1.3**
comp=Z,0.9nm,0.3s,baz=237,slow=8.2,SNR=15
CMAR LR LR 06 11 54.9
comp=Z,208nm,18.3s,baz=235,slow=36
comp=Z,0.9nm,0.3s
SYO Syowa Base 51.49 192⇑*e*P **P 05 51 29.2 +0.8**
SYO Syowa Base 51.49 192⇓*e*pP **P 05 51 31.5 +3.1**
EVN Everest 51.80 23 **P 05 51 31.5 -0.5**
EVN IAmb IAmb 05 51 34.2
comp=Z,6.2nm,0.8s
SHL Shillong 51.81 30 **P 05 51 31.2 -0.3**
TOLI2 Tolitoli 57.27 75 P **P 05 52 10.4 -0.9**
TOLI2 IAmb IAmb 05 52 10.9
comp=Z,6.0nm,0.8s
PZH PanZhiHua 57.72 38 P **P 05 52 16.5 +2.2**
ASF Jabal al Asfar 59.30 331 LR LR 06 15 59.3
comp=Z,53nm,18.5s,baz=162,slow=34
KSH Kashi 60.10 8 P P 05 52 27.3 -3.3
KSH pP pP 05 52 33.3 -1.5
KSH pmax pmax
comp=Z,19nm,0.8s
ARSB Arslanbob 61.55 6 P **P 05 52 40.1 -0.3**
ARSB IAmb IAmb 05 52 46.6
comp=Z,5.2nm,0.9s
ASAR Alice Springs 62.15 107 P **P 05 52 43.4 -1.5**
comp=Z,2.0nm,0.7s,baz=265,slow=6.5,SNR=15
comp=Z,2.0nm,0.7s
AS31 Alice Springs 62.15 107 P **P 05 52 42.9 -2.0**
TROLL Troll, Antarti 62.92 198 ⇓P **P 05 52 49.7 +0.4**
comp=Z,64nm,0.9s
AAK Ala-Archa 63.00 7 LR LR 06 19 07.9
comp=Z,87nm,18.1s,baz=180,slow=35
KK31 Karatay Array 63.13 3 P **P 05 52 52.2 +1.3**
KK31 IAmb IAmb 05 52 57.4
comp=Z,6.1nm,1.4s
KKAR Karatay Array 63.13 3 P **P 05 52 52.5 +1.6**
WRA Warramunga Arr 63.32 103 P **P 05 52 51.8 -0.9**
WRA Warramunga Arr 63.32 103 P **P 05 52 51.6 -1.1**
comp=Z,2.6nm,0.9s,baz=257,slow=6.6,SNR=8.9
comp=Z,2.6nm,0.9s
WRAB Tennant Creek 63.34 103 P **P 05 52 51.6 -1.3**
SNAA Sanae 64.45 199 ⇓P **P 05 52 59.5 +0.2**
comp=Z,56nm,0.6s
SNAA Sanae 64.45 199 **P 05 52 59.6 +0.3**
SNAA IAmb IAmb 05 53 00.1
comp=Z,3.2nm,0.8s
SNAA Sanae 64.45 199 P **P 05 52 59.2 -0.2**
comp=Z,2.7nm,0.8s,baz=106,slow=4.3,SNR=29
comp=Z,2.7nm,0.8s
VNA2 Neumayer--Watz 65.75 200 ⇓P **P 05 53 08.2 +0.4**
comp=Z,5.3nm,0.6s,baz=90,slow=6.9
VNA1 Neumayer--Stat 66.00 201 ⇓P **P 05 53 09.8 +0.6**
comp=Z,6.3nm,1.4s
VNA3 Neumayer Olymp 66.53 200 ⇓P **P 05 53 12.9 +0.2**
comp=Z,8.0nm,0.7s
WMQ Urumqi 66.66 17 *e*P **P 05 53 14.5 +0.6**
WMQ pP pP 05 53 18.3 +0.2
WMQ pmax pmax
comp=Z,120nm,0.7s
WMQ pmax pmax
comp=Z,380nm,3.6s
GTA Gaotai 67.04 28 *e*P **P 05 53 18.0 +1.5**
GTA pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 67.06 333 P **P 05 53 16.7 +0.1**
BR131 IAmb IAmb 05 53 19.6
comp=Z,3.5nm,1.0s
BRTR Keskin Array B 67.06 333 **P 05 53 16.8 +0.2**
BRTR Keskin Array B 67.06 333 P **P 05 53 16.1 -0.6**
comp=Z,2.4nm,0.8s,baz=158,slow=8.4,SNR=12
BRTR LR LR 06 20 09.7
comp=Z,31nm,19.8s,baz=124,slow=34
comp=Z,2.4nm,0.8s
KBZ Khabaz 67.22 342 P **P 05 53 17.2 -0.1**
comp=Z,2.5nm,0.7s,baz=184,slow=7.9,SNR=8.2
comp=Z,2.5nm,0.7s
MKAR Makanchi Array 68.23 12 P **P 05 53 24.2 +0.4**
MKAR Makanchi Array 68.23 12 P **P 05 53 23.6 -0.2**
comp=Z,1.4nm,0.8s,baz=193,slow=5.0,SNR=6.8
MKAR LR LR 06 21 49.3
comp=Z,85nm,21.4s,baz=148,slow=35
comp=Z,1.4nm,0.8s
AB31 Akbulak array 69.42 355 **P 05 53 30.7 -0.3**
AB31 IAmb IAmb 05 53 32.4
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 69.42 355 **P 05 53 30.6 -0.4**
QSPA South Pole Qui 69.88 180 P **P 05 53 33.5 -0.4**
QSPA IAmb IAmb 05 53 36.8
comp=Z,8.7nm,1.1s
QSPA South Pole Qui 69.88 180 P **P 05 53 35.6 +1.6**
comp=Z,4.0nm,0.9s,baz=280,slow=1.9,SNR=14
QSPA LR LR 06 19 30.0
comp=Z,96nm,20.1s,baz=322,slow=32
comp=Z,4.0nm,0.9s
KURBB Kurchatov Arra 71.35 8 P **P 05 53 42.0 -0.7**
comp=Z,1.7nm,0.9s,baz=206,slow=6.3,SNR=8.2
comp=Z,1.7nm,0.9s
VNDA Vanda 71.56 167 **P 05 53 43.3 -0.6**
VNDA IAmb IAmb 05 53 44.5
comp=Z,3.9nm,0.9s
VNDA Vanda 71.56 167 P **P 05 53 43.0 -0.9**
comp=Z,2.3nm,0.8s,baz=270,slow=7.1,SNR=17
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 71.79 292 P **P 05 53 45.5 -0.7**
comp=Z,1.1nm,0.4s,baz=80,slow=7.8,SNR=2.1
comp=Z,1.1nm,0.4s
NJ2 Nanjing 72.25 45 *e*P **P 05 53 50.5 +1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SBA Scott Base 72.52 167 P **P 05 53 50.2 +0.7**
BELA Belgrano 2 72.67 193 P **P 05 53 50.5 0.0**
BVAR Borovoye Array 73.03 2 P **P 05 53 52.5 -0.3**
comp=Z,1.3nm,0.7s,baz=152,slow=6.7,SNR=5.6
comp=Z,1.3nm,0.7s
TIRR Tirgusor 73.16 333 **P 05 53 54.9 +1.2**
TIRR IAmb IAmb 05 53 56.0
comp=Z,6.5nm,0.9s
HHC Hu-ho-hao-te 73.82 34 *e*P **P 05 54 00.0 +2.1**
HHC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 74.96 283 P **P 05 54 04.7 -0.3**
DBIC IAmb IAmb 05 54 06.9
comp=Z,8.3nm,1.0s
DBIC Dimbokro 74.96 283 P **P 05 54 04.0 -1.0**
comp=Z,5.8nm,1.0s,baz=154,slow=5.3,SNR=3.4
comp=Z,5.8nm,1.0s
ZAA0 Zalesovo Array 75.56 11 P **P 05 54 06.9 -0.6**
ZAA0 IAmb IAmb 05 54 08.6
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 75.56 11 **P 05 54 06.9 -0.6**
ZALV Zalesovo Beam 75.56 11 P **P 05 54 06.6 -0.9**
comp=Z,3.4nm,0.6s,baz=196,slow=5.7,SNR=8.4
comp=Z,3.4nm,0.6s
SONM Songino Array 76.65 26 **P 05 54 13.5 -0.6**
SONM Songino Array 76.65 26 P **P 05 54 14.0 -0.1**
comp=Z,1.4nm,0.8s,baz=212,slow=6.6,SNR=5.4
SONM LR LR 06 28 13.5
comp=Z,76nm,18.5s,baz=206,slow=36
comp=Z,1.4nm,0.8s
AKASG Malin Array Be 77.87 337 P **P 05 54 19.8 -0.8**
comp=Z,3.0nm,0.8s,baz=141,slow=4.7,SNR=9.9
comp=Z,3.0nm,0.8s
JNU Nakatsue 81.20 50 LR LR 06 27 48.4
comp=Z,73nm,21.9s,baz=227,slow=34
SMAI San Martin Ant 85.62 196 P **P 05 55 01.5 +0.1**
PMSA Palmer Station 87.17 199 LR LR 06 31 10.5
comp=Z,35nm,19.0s,baz=122,slow=34
FIA1 FINESS Array S 87.58 342 P **P 05 55 11.2 +0.3**
FINES FINESS Array B 87.58 342 P **P 05 55 11.2 +0.3**
FINES FINESS Array B 87.58 342 P **P 05 55 08.5 -2.4**
comp=Z,2.2nm,0.9s,baz=78,slow=4.5,SNR=4.5
comp=Z,2.2nm,0.9s
MJAR Matsushiro Arr 88.12 50 P **P 05 55 15.1 +1.0**
MJAR IAmb IAmb 05 55 20.4
comp=Z,4.7nm,1.0s
MJAR Matsushiro Arr 88.12 50 P **P 05 55 14.5 +0.3**
comp=Z,1.9nm,0.7s,baz=215,slow=3.7,SNR=6.5
MJAR LR LR 06 32 28.3
comp=Z,66nm,21.1s,baz=235,slow=34
comp=Z,1.9nm,0.7s
ESDC Sonseca Array 88.60 313 P **P 05 55 15.3 -1.0**
comp=Z,1.1nm,0.9s,baz=98,slow=4.3,SNR=4.7
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 94.15 347 LR LR 06 38 02.5
comp=Z,35nm,21.5s,baz=24,slow=36
ASAJ Asahikawa 94.40 45 LR LR 06 36 43.8
comp=Z,53nm,20.0s,baz=130,slow=35
RCBR Riachuelo 99.50 260 LR LR 06 36 27.9
comp=Z,20nm,18.9s,baz=86,slow=33
E46A Sault Ste Mari 144.62 324 PKPdf **PKPab 06 01 57.5 -0.9**
MCWV Mont Chateau 145.24 311 PKPbc **PKPbc 06 01 59.5 -1.3**
O54A Avella 145.40 312 PKPdf **PKPbc 06 02 00.9 -0.5**
BLA Blacksburg 146.59 308 PKPbc **PKPdf 06 02 05.0 +1.4**
P52A Corning 146.85 313 PKPbc **PKPdf 06 02 05.4 +1.5**
ULM Lac du Bonnet 146.93 339 PKPbc **PKPdf 06 02 03.4 -0.3**
comp=Z,5.5nm,0.7s,baz=34,slow=6.0,SNR=4.0
NVAR Mina Array Bea 161.41 12 PKPab **PKPab 06 03 08.3 -0.2**
comp=Z,0.6nm,0.9s,baz=355,slow=5.1,SNR=2.5
TXAR Lajitas Array 167.25 317 **PKPdf 06 02 27.5 -2.4**
TXAR **PKPab 06 03 34.0 -0.4**
TXAR Lajitas Array 167.25 317 PKP **PKPdf 06 02 27.9 -1.9**
comp=Z,0.3nm,0.8s,baz=70,slow=1.5,SNR=5.4
TXAR PKPab **PKPab 06 03 34.4 -0.1**
comp=Z,1.4nm,1.0s,baz=58,slow=4.9,SNR=8.0

*IDC **28** 05:53:07.8±1.2, 14°.28S×166°.65E, h0km, mb4.0/5, mbtmp4.0/6, ML4.2/1, MS3.4/3, Error ellipse: s-maj=39.8km s-min=25.6km az=125.0*
*NEIC **28** 05:53:13.3±1.0, 14°.44S±0°.05×166°.8E±0°.1, h35km±2km, mb4.2/11, Error ellipse: s-maj=24.4km s-min=7.3km az=97.0*
ISC 28 05:53:12.1±0.9, 14°.48S±0°.10×166°.7E±0°.1, h28km, n26, σ1§22/25, mb4.3/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.06**	**155**		**Pn**		**05 53 31.0**	**-0.2**
DZM	**Mont Dzumac**	**7.56**	**182**	Pn	**Pn**		**05 55 02.3**	**+1.7**
	3.2nm,0.3s,baz=188,slow=23,SNR=22							
DZM				Sn	**Sn**		**05 56 22.5**	**-2.9**
	baz=287,slow=19							
DZM				LR	LR		05 57 44.9	
	comp=Z,145nm,19.3s,baz=329,slow=36							
	6.6nm,0.3s							
ONTNC	**Ouen Toro**	**7.79**	**182**	Pn	**Pn**		**05 55 06.2**	**+2.4**
PINNC	**Pines Island,**	**8.12**	**175**	Pn	**Pn**		**05 55 10.6**	**+2.4**
HNR	**Honiara**	**8.33**	**306**	LR	LR		05 58 21.4	
	comp=Z,181nm,19.0s,baz=172,slow=38							
TUWZ	**Tuamarina**	**27.57**	**168**	P	**P**		**05 58 56.7**	**-0.1**
STKA	**Stephens Creek**	**28.77**	**229**	P	**P**		**05 59 07.3**	**-0.3**
STKA	**Stephens Creek**	**28.77**	**229**	P	**P**		**05 59 08.7**	**+1.0**
	1.8nm,0.5s,baz=63,slow=8.8,SNR=9.3							
	1.8nm,0.5s							
WB0	**Warramunga Arr**	**31.33**	**256**	P	**P**		**05 59 29.3**	**-1.1**
WB0				IAmb	IAmb		05 59 29.8	
	comp=Z,4.6nm,1.0s							
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**		**05 59 29.2**	**-1.8**
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**		**05 59 30.2**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=84,slow=8.7,SNR=8.9							
	comp=Z,1.7nm,0.9s							
AS31	**Alice Springs**	**32.29**	**249**	P	**P**		**05 59 38.1**	**-0.7**
ASAR	**Alice Springs**	**32.29**	**249**	P	**P**		**05 59 38.7**	**-0.2**
ASAR	**Alice Springs**	**32.29**	**249**	P	**P**		**05 59 38.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=77,slow=9.4,SNR=13							
	comp=Z,1.1nm,0.6s							
FORT	**Forrest**	**38.99**	**239**	P	**P**		**06 00 36.1**	**-0.1**
FORT				IAmb	IAmb		06 01 01.6	
	comp=Z,7.7nm,0.9s							
MORW	**Morawa**	**48.92**	**244**	P	**P**		**06 01 55.5**	**-0.5**
VNDA	**Vanda**	**63.10**	**181**	P	**P**		**06 03 37.5**	**+0.8**
VNDA				IAmb	IAmb		06 03 43.7	
	comp=Z,0.5nm,0.9s							
VNDA	**Vanda**	**63.10**	**181**	P	**P**		**06 03 37.5**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=21,slow=3.9,SNR=2.0							
	comp=Z,0.4nm,0.7s							
SBA	**Scott Base**	**63.39**	**180**	P	**P**		**06 03 37.9**	**-0.7**
SBA				IAmb	IAmb		06 03 45.5	
	comp=Z,3.2nm,1.1s							
QSPA	**South Pole Qui**	**75.55**	**180**	P	**P**		**06 04 54.6**	**+0.6**
QSPA				IAmb	IAmb		06 05 12.6	
	comp=Z,0.8nm,0.8s							
IL31		**86.44**	**18**	P	**P**		**06 05 51.5**	**-0.2**
IL31				IAmb	IAmb		06 05 51.9	
	comp=Z,1.7nm,0.8s							
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**		**06 05 51.7**	**0.0**
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**		**06 05 51.1**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=236,slow=6.3,SNR=15							
	comp=Z,1.3nm,0.7s							
E22K	**Anaktuvuk Pass**	**87.61**	**14**	P	**P**		**06 05 57.5**	**+0.1**
E22K				IAmb	IAmb		06 06 17.2	
	comp=Z,1.8nm,1.1s							
TIXI	**Tiksi**	**89.62**	**349**	LR	LR		06 46 47.6	
	comp=Z,54nm,18.1s,baz=201,slow=36							
ARCES	**ARCESS Array B**	**119.88**	**345**	PKP	**PKiKP**		**06 11 59.3**	**0.0**
	comp=Z,2.5nm,0.8s,baz=56,slow=2.5,SNR=6.4							

*IDC **28** 06:05:13.1±4.7, 20°.18S×177°.77W, h483km±52km, mb3.3/11, mbtmp4.2/12, Error ellipse: s-maj=20.6km s-min=18.6km az=105.0*
*NEIC **28** 06:05:16.7±1.1, 20°.15S±0°.08×177°.9W±0°.1, h515km±8km, mb4.3/43, Error ellipse: s-maj=19.1km s-min=8.2km az=61.0*
ISC 28 06:05:15.2±0.5, 20°.23S±0°.10×177°.8W±0°.1, h500km, n72, σ1§22/62, mb4.2/33, 2C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.66**	**301**		**P**		**06 06 40.6**	**+1.3**
PINNC	**Pines Island,**	**13.96**	**258**		**P**		**06 08 14.7**	**+0.2**
DZM	**Mont Dzumac**	**14.83**	**260**	P	**P**		**06 08 24.8**	**+1.0**
	6.2nm,0.8s,baz=85,slow=17,SNR=2.5							
TOZ	**Tahuroa Road**	**18.40**	**197**	P	**P**		**06 08 59.8**	**+0.8**
URZ	**Urewera**	**18.51**	**193**	P	**P**		**06 08 57.3**	**-2.8**
	8.8nm,0.4s,baz=14,slow=2.7,SNR=7.8							
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**		**06 11 50.8**	**+0.1**
	1.7nm,0.7s,baz=22,slow=4.6,SNR=4.6							
	1.7nm,0.7s							
INKA	**Innaminka**	**38.48**	**251**		**P**		**06 11 52.3**	**-1.6**
INKA				IAmb	IAmb		06 11 57.7	
	comp=Z,4.7nm,0.4s							
BBOO	**Buckleboo**	**42.85**	**243**	P	**P**		**06 12 28.1**	**-0.7**
AS31	**Alice Springs**	**44.78**	**256**	P	**P**		**06 12 43.3**	**-0.7**
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**		**06 12 43.2**	**-0.7**
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**		**06 12 43.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=87,slow=8.6,SNR=34							
ASAR				PcP	**pP**		**06 14 14.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=97,slow=4.1,SNR=4.1							
	comp=Z,3.2nm,0.8s							
WB0	**Warramunga Arr**	**44.82**	**262**	P	**P**		**06 12 43.5**	**-0.8**
WB0				IAmb	IAmb		06 13 20.1	
	comp=Z,8.9nm,1.4s							
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**		**06 12 43.3**	**-1.2**
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**		**06 12 43.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=97,slow=8.6,SNR=13							
	comp=Z,0.5nm,0.3s							
SBA	**Scott Base**	**58.16**	**184**		**P**		**06 14 22.1**	**+2.1**
VNDA	**Vanda**	**58.20**	**185**		**P**		**06 14 21.4**	**+1.1**
VNDA	**Vanda**	**58.20**	**185**	P	**P**		**06 14 21.1**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=354,slow=6.7,SNR=12							
	comp=Z,2.4nm,0.9s							
CASY	**Casey**	**64.30**	**205**	P	**P**		**06 15 00.5**	**0.0**
CASY				IAmb	IAmb		06 15 20.7	
	comp=Z,7.8nm,1.1s							
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**		**06 15 37.6**	**+2.7**
QSPA				IAmb	IAmb		06 15 38.4	
	comp=Z,8.0nm,0.8s							
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**		**06 15 37.6**	**+2.7**
	comp=Z,8.9nm,0.9s,baz=39,slow=1.4,SNR=45							
PEA0B	**Petropavlovsk-**	**76.06**	**345**	P	**P**		**06 16 09.9**	**-0.6**
PETK	**Petropavlovsk-**	**76.06**	**345**	P	**P**		**06 16 10.2**	**-0.4**
PETK	**Petropavlovsk-**	**76.06**	**345**	P	**P**		**06 16 09.8**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=142,slow=9.9,SNR=2.2							
	comp=Z,3.9nm,0.9s							
M02C	**Callahan**	**79.65**	**39**	P	**P**		**06 16 30.8**	**+0.5**
M02C				IAmb	IAmb		06 16 31.5	
	comp=Z,9.5nm,1.0s							
BELA	**Belgrano 2**	**79.80**	**173**	P	**P**		**06 16 30.0**	**-0.5**
YBH	**Yreka Blue Hor**	**79.95**	**39**	P	**P**		**06 16 32.1**	**+0.2**
ACHA	**Angle Creek He**	**80.34**	**12**	P	**P**		**06 16 33.0**	**-0.5**
ACHA				IAmb	IAmb		06 17 13.7	
	comp=Z,20nm,1.3s							
NVAR	**Mina Array Bea**	**80.69**	**43**	P	**P**		**06 16 35.3**	**-0.7**
NVAR	**Mina Array Bea**	**80.69**	**43**	P	**P**		**06 16 35.8**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=222,slow=8.5,SNR=12							
	comp=Z,2.6nm,0.9s							
PAHR	**Pah Rah Range**	**80.74**	**42**	P	**P**		**06 16 36.0**	**-0.2**
NV11	**Mina Array Sit**	**80.78**	**43**	P	**P**		**06 16 36.3**	**-0.1**
TPH	**Tonopah**	**81.19**	**44**	P	**P**		**06 16 38.3**	**-0.2**
TPH				IAmb	IAmb		06 16 39.1	
	comp=Z,6.8nm,1.1s							
J04A	**Umpqua Nationa**	**81.23**	**38**	P	**P**		**06 16 38.2**	**-0.5**
J05D	**Fort Rock, OR**	**81.77**	**38**	P	**P**		**06 16 41.7**	**+0.4**
J05D				IAmb	IAmb		06 16 42.2	
	comp=Z,10nm,0.8s							
MAW	**Mawson**	**81.89**	**200**	P	**P**		**06 16 40.5**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=130,slow=7.0,SNR=6.0							
	comp=Z,1.2nm,0.8s							
M16K	**Timber Creek**	**82.38**	**9**	P	**P**		**06 16 44.3**	**+0.4**
L18K	**Granite Mounta**	**83.86**	**10**	P	**P**		**06 16 51.2**	**-0.1**
L18K				IAmb	IAmb		06 17 23.9	
	comp=Z,14nm,1.4s							
SCM	**Sheep Creek Mo**	**85.32**	**14**	P	**P**		**06 16 58.0**	**-0.5**
VHRN	**Van Horn**	**86.33**	**55**	P	**P**		**06 17 04.2**	**0.0**
TX31	**Lajitas Ar. Si**	**86.74**	**57**		**P**		**06 17 05.9**	**-0.2**
TXAR	**Lajitas Array**	**86.74**	**57**	P	**P**		**06 17 05.8**	**-0.3**
TXAR	**Lajitas Array**	**86.74**	**57**	P	**P**		**06 17 06.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=216,slow=6.9,SNR=22							
	comp=Z,1.2nm,0.7s							
ALPN	**Alpine**	**87.20**	**56**	IAmb	IAmb		06 17 08.8	
	comp=Z,3.0nm,0.6s							
IL31		**88.00**	**13**	P	**P**		**06 17 09.5**	**-1.5**
IL31				IAmb	IAmb		06 17 26.4	
	comp=Z,7.8nm,1.5s							
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**		**06 17 09.5**	**-1.6**
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**		**06 17 09.2**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=216,slow=6.0,SNR=19							
	comp=Z,1.6nm,0.8s							
TROLL	**Troll, Antarti**	**88.00**	**180**	⇓P	**P**		**06 17 09.9**	**-1.4**
	comp=Z,71nm,0.7s							
DLMT	**Dillon**	**88.05**	**40**	IAmb	IAmb		06 17 12.5	
	comp=Z,5.8nm,0.9s							
TPAW	**Teton Pass**	**88.10**	**42**	IAmb	IAmb		06 17 16.8	
	comp=Z,5.5nm,1.1s							
FXWY	**Fox Creek**	**88.12**	**42**	IAmb	IAmb		06 17 15.6	
	comp=Z,4.2nm,0.9s							
SNOW	**Snow King Moun**	**88.21**	**42**	IAmb	IAmb		06 17 20.8	
	comp=Z,8.0nm,1.4s							
SNAA	**Sanae**	**88.28**	**178**	⇓P	**P**		**06 17 09.9**	**-2.6**
	comp=Z,11nm,0.6s							
SNAA	**Sanae**	**88.28**	**178**	P	**P**		**06 17 11.1**	**-1.5**
SNAA				IAmb	IAmb		06 17 13.2	
	comp=Z,4.1nm,1.5s							
SNAA	**Sanae**	**88.28**	**178**	P	**P**		**06 17 11.0**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=212,slow=11,SNR=9.7							
	comp=Z,0.5nm,0.5s							
LOHW	**Long Hollow**	**88.38**	**42**	IAmb	IAmb		06 17 19.6	
	comp=Z,1.6nm,0.7s							
VNA3	**Neumayer Olymp**	**88.40**	**176**	⇑P	**P**		**06 17 11.7**	**-1.4**
	comp=Z,6.6nm,0.6s							
PD31	**Pinedale Array**	**88.62**	**43**	IAmb	IAmb		06 17 18.4	
	comp=Z,4.4nm,1.4s							
PDAR	**Pinedale Array**	**88.62**	**43**	P	**P**		**06 17 13.8**	**-1.0**
PDAR	**Pinedale Array**	**88.62**	**43**	P	**P**		**06 17 13.7**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=208,slow=3.4,SNR=15							
	comp=Z,1.2nm,0.6s							
YHL	**Hebgen Lake**	**88.64**	**41**	IAmb	IAmb		06 17 16.1	
	comp=Z,6.5nm,1.0s							
M30M	**Minto, Yukon**	**88.65**	**18**	IAmb	IAmb		06 17 14.1	
	comp=Z,4.8nm,0.8s							
BOZ	**Bozeman (W)**	**88.75**	**40**	IAmb	IAmb		06 17 15.7	
	comp=Z,5.0nm,1.0s							
VNA2	**Neumayer--Watz**	**88.84**	**177**	⇑P	**P**		**06 17 13.8**	**-1.3**
	comp=Z,4.9nm,0.6s,baz=178,slow=4.2							
VNA1	**Neumayer--Stat**	**89.07**	**177**	⇓P	**P**		**06 17 15.3**	**-0.8**
	comp=Z,4.3nm,0.8s							
AKASG	**Malin Array Be**	**142.87**	**331**	PKhKP	PKPpre		06 23 46.5	
	comp=Z,1.3nm,0.5s,baz=44,slow=4.7,SNR=10.0							
EKA	**Eskdalemuir Ar**	**144.71**	**5**	PKP	**PKPdf**		**06 23 55.0**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=4.8,slow=5.9,SNR=2.4							
BR131	**Keskin Array S**	**146.80**	**313**	PKPbc	**PKPdf**		**06 23 59.3**	**+0.8**
BRTR	**Keskin Array B**	**146.80**	**313**		**PKPdf**		**06 23 59.5**	**+0.9**
BRTR	**Keskin Array B**	**146.80**	**313**	PKPbc	**PKPdf**		**06 23 59.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=141,slow=6.1,SNR=5.0							
BUR08	**Bucovina Ar. S**	**146.91**	**331**	PKPbc	**PKPdf**		**06 24 00.6**	**+2.2**
BURAR	**Bucovina Array**	**146.92**	**331**	PKPbc	**PKPdf**		**06 24 00.7**	**+2.3**
GERES	**GERESS Array B**	**149.99**	**345**	PKPbc	**PKPbc**		**06 24 08.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=359,slow=6.0,SNR=7.0							

TRN 28 06:21:08.5, 15°.76N×59°.72W, h140km, MD3.5, Far East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**1.53**	**254**	*e*P		Pn	06 21 38.5	+0.8
DWS	**Wesley**	**1.54**	**263**	*e*P		Pn	06 21 39.1	+1.4
DWS				*e*S		Sn	06 22 01.2	+1.1
DSLB	**Salisbury**	**1.67**	**259**	*e*P		Pn	06 21 41.6	+2.4
DSLB				*e*S		Sn	06 22 03.5	+0.9
SVN	**Savane Anatole**	**1.67**	**237**	*e*P		Pn	06 21 40.6	+1.3
SVN				*e*S		Sn	06 22 03.8	+1.1
BIM	**Bigot**	**1.80**	**227**	*e*P		Pn	06 21 41.3	+0.6
BIM				*e*S		Sn	06 22 05.8	+0.5
TBG	**Guadaloupe-3**	**1.85**	**273**	*e*P		Pn	06 21 41.4	+0.1
MMLZ	**Guadeloupe Bro**	**1.89**	**279**	*e*P		Pn	06 21 42.8	+1.1
MMLZ				*e*S		Sn	06 22 09.0	+1.9
ATGZ	**Broadband at L**	**1.96**	**280**	*e*P		Pn	06 21 44.0	+1.5
ATGZ				*e*S		Sn	06 22 09.0	+0.5
SLBI	**Saint Lucia, B**	**2.11**	**215**	*e*P		Pn	06 21 45.9	+1.6
SLBI				*e*S		Sn	06 22 12.8	+0.9
SVB	**Belmont**	**2.88**	**211**	*e*P		Pn	06 21 55.1	+1.0
SVB				*e*S		Sn	06 22 29.6	+0.4

*CATAC **28** 06:32:33.7±0.7, 10°.N±3°.8°6W±°, h5km±4km, M3.2/14, MLv3.2/14, Error ellipse: s-maj=7.9km s-min=4.9km az=58.3, confirmed*
*UCR **28** 06:32:35.2±1.4, 10°.55N×86°.10W, h10km±12km, MW3.8*
**ISC 28 06:32:34.4±1.7, 10°.

MORN	Al O del Volca	1.17	24	P	Pg	06 32 56.3	-0.6
MORN				S	Sb	06 33 13.8	+1.3
JUNT	Juntas	1.18	99⇑	eP	Pg	06 32 55.6	-1.4
JTS	Las Juntas de	1.19	99	P	Pg	06 32 55.9	-1.2
JTS	Las Juntas de	1.19	99⇑	eP	Pg	06 32 55.9	-1.2
UPAL	Upala	1.19	69	P	Pg	06 32 56.5	-0.7
UPAL	Upala	1.19	69⇑	iP	Pg	06 32 56.2	-1.0
JCR1	Jicaral	1.19	121	eP	Pg	06 32 55.6	-1.6
CONN	Concepcion	1.20	25	P	Pg	06 32 56.5	-0.8
CHIK	Chiripa	1.22	91⇓	eP	Pg	06 32 56.8	-1.0
QUEB	Quebradon, Cot	1.23	83⇓	eP	Pn	06 32 57.0	-1.2
NADN	Granada	1.27	5	P	Pn	06 32 58.0	-0.7
NADN				S	Sg	06 33 15.6	+0.2
NADN	Granada	1.27	5⇓	eP	Pn	06 32 57.8	-0.9
MTEVE	Monteverde	1.30	97⇑	iP	Pn	06 32 58.0	-1.2
TABAC	Tabacon	1.35	89⇑	eP	Pn	06 32 59.2	-0.7
PAQE	Paquera	1.36	119	eP	Pn	06 32 54.5	-5.3
CBL1	Cabuya	1.36	130	eP	Pg	06 33 00.9	+0.5
CASO	Castillo	1.39	92	eP	Pn	06 32 59.9	-0.4
ARE1	Arenal 1	1.40	90⇑	eP	Pn	06 32 59.9	-0.6
VARE2	V. Arenal	1.40	90	eP	Pn	06 32 59.8	-0.7
CEDE	Laguna Cedeo	1.42	89⇑	eP	Pn	06 33 00.1	-0.6
VACR	Volcan Arenal	1.44	90	eP	Pn	06 33 00.8	-0.2
FORC	Fortuna	1.45	90	eP	Pn	06 33 00.7	-0.4
SOCE	Pocosol	1.50	93	P	Pn	06 33 01.8	-0.1
SOCE	Pocosol	1.50	93⇑	iP	Pn	06 33 01.6	-0.2
LCHIL	Los Chiles	1.51	68⇑	iP	Pn	06 33 00.6	-1.3
MAS3	Al N del Volca	1.54	359	P	Pn	06 33 01.6	-0.8
UNAN	Cigeo UNAN	1.63	356	P	Pn	06 33 03.4	-0.2
MGAN	Managua	1.67	356	eP	Pn	06 33 03.1	-1.0
OROT	Orotina	1.69	109	eP	Pn	06 33 04.3	0.0
RAMO	San Ramon	1.69	103	eP	Pn	06 33 04.9	+0.4
COVE	Coope Vega, Sa	1.73	82	P	Pn	06 33 05.4	+0.4
PALD	Palmares	1.73	104	eP	Pn	06 33 04.3	-0.8
VPL2	V. Platanar	1.74	95	eP	Pn	06 33 04.7	-0.5
COPN	Copaltepe	1.75	345	P	Pn	06 33 05.4	+0.1
COPN	Copaltepe	1.75	345	eP	Pn	06 33 04.5	-0.8
VPL1	V. Platanar	1.76	97	eP	Pn	06 33 04.8	-0.8
ITAL	Pital	1.84	91	eP	Pn	06 33 06.7	+0.2
MOM2	El Cardon	1.98	350	P	Pn	06 33 07.6	-0.8
PKGN	Cerro Pekin	2.33	340	P	Pn	06 33 14.4	+1.2
TRT2	Tortugero	2.37	88	P	Pn	06 33 15.4	+1.7
MATN	Matagalpa	2.45	5	P	Pn	06 33 13.3	-1.6

*IDC **28** 06:34:24.8±1.6, 1°.42S×14°.48W, h0km, mb4.0/6, mbtmp4.1/7, ML3.7/1, MS3.7/45, Error ellipse: s-maj=60.3km s-min=22.0km az=106.0*
*NEIC **28** 06:34:28.3±0.6, 1°.90S±0°.10×13°.52W±0°.05, h10km±1km, mb4.5/17, Error ellipse: s-maj=16.8km s-min=8.8km az=355.0*

ISC 28 06:34:28.0±0.9, 1°.9S±0°.1×13°.6W±0°.2, h10km, n76, σ1°.03/33, mb4.5/14, MS3.8/44, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	5.99	188	Pn	Pn	06 35 57.5	+1.0
	baz=354,slow=12						
H10N2				T	T	06 42 33.7	
	baz=355,slow=74,SNR=52						
H10N3	ASCENSION HYDR	6.00	189	Pn	Pn	06 35 57.6	+0.9
	baz=354,slow=12						
H10N3				T	T	06 42 35.4	
	baz=355,slow=74,SNR=80						
H10N1	ASCENSION HYDR	6.01	188	Pn	Pn	06 35 57.6	+0.8
	baz=354,slow=12						
H10N1				T	T	06 42 30.8	
	baz=355,slow=74,SNR=59						
ASCN	Ascension	6.08	187	Pn	Pn	06 35 57.5	-0.5
H10S3	ASCENSION HYDR	7.12	188	T	T	06 44 01.3	
	baz=357,slow=74,SNR=49						
H10S2	ASCENSION HYDR	7.12	188	T	T	06 43 55.0	
	baz=223,slow=74,SNR=42						
DBIC	Dimbokro	12.17	46		Pn	06 37 21.1	-0.4
DBIC	Dimbokro	12.17	46	Pn	Pn	06 37 23.6	+2.1
	0.4nm,0.3s,baz=279,slow=13,SNR=25						
DBIC				Sn	Sn	06 39 38.8	+1.4
	1.1nm,0.3s,baz=214,slow=9.0,SNR=3.9						
DBIC				LR	LR	06 41 30.7	
	comp=Z,539nm,19.6s,baz=236,slow=34						
	5.2nm,0.8s						
BBTS	Babate	16.67	350	LR	LR	06 44 03.8	
	comp=Z,292nm,18.7s,baz=82,slow=36						
TORD	Torodi Ar. Bea	21.28	45	P	P	06 39 13.7	-1.1
TORD	Torodi Ar. Bea	21.28	45	P	P	06 39 16.9	+2.0
	14nm,1.1s,baz=232,slow=7.1,SNR=16						
TORD				LR	LR	06 47 04.2	
	comp=Z,454nm,19.2s,baz=222,slow=35						
	14nm,1.1s						
EDA	Edea	24.40	77	P	P	06 39 45.4	-1.5
EDA				IAmb	IAmb	06 40 08.0	
	comp=Z,12nm,0.7s						
TSUM	Tsumeb	35.05	122	LR	LR	06 53 45.7	
	comp=Z,112nm,19.2s,baz=333,slow=32						
MDT	Midelt	35.52	13	LR	LR	06 54 55.3	
	comp=Z,119nm,21.8s,baz=220,slow=35						
BDFB	Brasilia	36.58	246	LR	LR	06 54 23.7	
	comp=Z,46nm,18.5s,baz=99,slow=33						
MDP	Montagnes des	39.61	280	LR	LR	06 53 31.9	
	comp=Z,60nm,18.9s,baz=92,slow=30						
ESDC	Sonseca Array	42.27	11	LR	LR	07 00 18.4	
	comp=Z,96nm,20.1s,baz=196,slow=37						
KEST	Kesra	43.11	28	LR	LR	07 00 56.2	
	comp=Z,110nm,19.6s,baz=67,slow=37						
LSZ	Lusaka	43.31	110	LR	LR	06 58 09.8	
	comp=Z,87nm,21.8s,baz=314,slow=32						
LBTB	Lobatse	44.25	125	LR	LR	06 59 10.4	
	comp=Z,81nm,18.5s,baz=300,slow=33						
MATP	Matopo	45.03	117	LR	LR	07 00 48.0	
	comp=Z,118nm,18.7s,baz=251,slow=34						
BOSA	Boshof	45.60	129	P	P	06 42 47.3	-1.5
BOSA	Boshof	45.60	129	P	P	06 42 54.9	+6.1
	comp=Z,4.2nm,0.8s,baz=306,slow=8.1,SNR=5.0						
BOSA				LR	LR	06 59 05.1	
	comp=Z,87nm,18.5s,baz=24,slow=32						
	comp=Z,4.2nm,0.8s						
CPUP	Villa Florida	48.51	236	LR	LR	07 00 16.6	
	comp=Z,22nm,21.5s,baz=286,slow=32						
SIV	San Ignacio	48.80	250	LR	LR	07 02 12.4	
	comp=Z,108nm,18.8s,baz=114,slow=35						
CESX	Cesi	50.18	25	P	P	06 43 23.8	-0.1
CESX				IAmb	IAmb	06 43 26.4	
	comp=Z,7.6nm,1.0s						
FDMO	Fiordimonte	50.74	25	P	P	06 43 27.9	-0.3
FDMO				IAmb	IAmb	06 43 30.1	
	comp=Z,5.0nm,0.9s						
FURI	Furi	53.18	78	LR	LR	07 05 35.4	
	comp=Z,52nm,18.4s,baz=71,slow=35						
LIT	Litokhoron	53.22	34	P	P	06 43 45.3	-1.4
PRED	Cave del Predi	53.73	23	P	P	06 43 49.7	-0.7
PRED				IAmb	IAmb	06 43 51.3	
	comp=Z,4.3nm,1.1s						
SJG	San Juan	55.38	293	LR	LR	07 01 52.0	
	comp=Z,72nm,19.5s,baz=96,slow=30						
LPAZ	La Paz	55.53	252	LR	LR	07 05 13.4	
	comp=Z,88nm,21.1s,baz=78,slow=34						
GERES	GERESS Array B	55.77	21	P	P	06 44 03.3	-2.0
	comp=Z,0.4nm,0.4s,baz=218,slow=5.7,SNR=7.2						
GERES				LR	LR	07 08 02.7	
	comp=Z,81nm,19.9s,baz=236,slow=36						
	comp=Z,0.4nm,0.4s						
EIL	Elat	55.95	52	LR	LR	07 08 14.8	
	comp=Z,132nm,20.2s,baz=176,slow=36						
VRAC	Vranov	57.25	23	LR	LR	07 11 08.6	
	comp=Z,52nm,18.5s,baz=226,slow=38						
MMAI	Mount Meron Ar	57.77	49	LR	LR	07 12 36.7	
	comp=Z,65nm,18.1s,baz=174,slow=39						
SDV	Santo Domingo	57.83	282	LR	LR	07 06 28.1	
	comp=Z,60nm,18.8s,baz=49,slow=34						
ASF	Jabal al Asfar	58.53	50	LR	LR	07 10 32.8	
	comp=Z,35nm,20.1s,baz=359,slow=37						
MLR	Muntele Rosu	58.72	32	P	P	06 44 25.8	-0.4
MLR				IAmb	IAmb	06 44 28.4	
	comp=Z,5.9nm,1.1s						
MLR	Muntele Rosu	58.72	32	LR	LR	07 10 58.6	
	comp=Z,65nm,20.4s,baz=248,slow=37						
BURAR	Bucovina Array	59.80	29	P	P	06 44 32.6	-0.9
BUR08	Bucovina Ar. S	59.81	29	P	P	06 44 32.5	-1.1
BUR08				IAmb	IAmb	06 44 50.4	
	comp=Z,6.0nm,1.4s						
BRTR	Keskin Array B	59.82	41	P	P	06 44 33.5	-0.4
BRTR	Keskin Array B	59.82	41	P	P	06 44 34.1	+0.2
	comp=Z,1.0nm,0.8s,baz=224,slow=4.0,SNR=6.9						
	comp=Z,1.0nm,0.8s						
KIEV	Kiev	63.81	29	P	P	06 44 60.0	-0.3
KIEV				IAmb	IAmb	06 45 00.8	
	comp=Z,2.8nm,0.9s						
AKASG	Malin Array Be	63.82	29	P	P	06 45 00.1	-0.3
AKASG	Malin Array Be	63.82	29	LR	LR	07 14 59.3	
	comp=Z,103nm,18.5s,baz=249,slow=38						
AKBB	Malin Array Si	63.82	29	P	P	06 45 00.1	-0.3
AKBB				IAmb	IAmb	06 45 00.7	
	comp=Z,3.0nm,0.9s						
KONO	Kongsberg	63.98	13	P	P	06 45 00.9	-0.4
PLCA	Paso Flores	64.20	225	LR	LR	07 10 09.8	
	comp=Z,42nm,19.3s,baz=93,slow=34						
HFS	Hagfors	65.38	15	LR	LR	07 15 26.2	
	comp=Z,70nm,18.5s,baz=246,slow=38						
NOA	NORSAR Array B	65.59	13	LR	LR	07 15 09.9	
	comp=Z,34nm,18.5s,baz=210,slow=37						
BORG	Borgarnes	66.69	356	LR	LR	07 09 11.8	
	comp=Z,38nm,18.4s,baz=295,slow=32						
GNI	Garni	67.58	45	LR	LR	07 18 19.9	
	comp=Z,38nm,18.4s,baz=177,slow=39						
KBZ	Khabaz	67.81	41	P	P	06 45 25.7	-0.6
	comp=Z,1.4nm,0.7s,baz=232,slow=6.4,SNR=4.6						
KBZ				LR	LR	07 18 03.9	
	comp=Z,28nm,18.4s,baz=216,slow=38						
	comp=Z,1.4nm,0.7s						
SNAA	Sanae	70.04	176	P	P	06 45 40.1	+0.3
SNAA	Sanae	70.04	176	P	P	06 45 41.1	+1.3
	comp=Z,1.1nm,0.9s,baz=294,slow=5.5,SNR=16						
	comp=Z,1.1nm,0.9s						
FINES	FINESS Array B	70.05	19	P	P	06 45 39.9	+0.1
FINES	FINESS Array B	70.05	19	LR	LR	07 15 59.5	
	comp=Z,43nm,19.9s,baz=218,slow=36						
FIA1	FINESS Array S	70.05	19	P	P	06 45 40.2	+0.3
PMSA	Palmer Station	72.43	200	LR	LR	07 09 43.4	
	comp=Z,105nm,19.1s,baz=90,slow=29						
SADO	Sadowa	74.21	318	LR	LR	07 12 17.8	
	comp=Z,702nm,19.9s,baz=74,slow=31						
TKL	Tuckaleechee C	75.09	308	LR	LR	07 12 09.3	
	comp=Z,62nm,20.4s,baz=221,slow=31						
ARCES	ARCESS Array B	75.96	13	LR	LR	07 20 46.8	
	comp=Z,75nm,20.7s,baz=182,slow=37						
KIRV	Kirov	77.88	29	LR	LR	07 23 30.7	
	comp=Z,66nm,18.4s,baz=85,slow=38						
AKTO	Aktyubinsk	79.82	38	LR	LR	07 28 52.6	
	comp=Z,31nm,18.5s,baz=42,slow=41						
SPITS	Spitsbergen Ar	81.55	6	LR	LR	07 23 30.6	
	comp=Z,39nm,18.4s,baz=120,slow=36						
ULM	Lac du Bonnet	86.47	320	LR	LR	07 19 25.8	
	comp=Z,46nm,22.0s,baz=218,slow=32						
BVAR	Borovoye Array	87.85	37	LR	LR	07 32 09.9	
	comp=Z,43nm,18.6s,baz=176,slow=39						
QSPA	South Pole Qui	88.22	180	P	P	06 47 19.6	+0.3
QSPA				IAmb	IAmb	06 47 41.4	
	comp=Z,5.1nm,1.4s						
RPN	Rapa Nui	94.26	243	LR	LR	07 24 35.5	
	comp=Z,37nm,19.9s,baz=90,slow=32						
PDAR	Pinedale Array	95.64	313	LR	LR	07 26 00.3	
	comp=Z,40nm,20.8s,baz=298,slow=33						
ELK	Elko	100.03	311	LR	LR	07 27 17.9	
	comp=Z,70nm,20.7s,baz=317,slow=32						
NEW	Newport	100.38	319	LR	LR	07 29 27.0	
	comp=Z,96nm,21.6s,baz=274,slow=33						
ASAR	Alice Springs	139.47	131	PKP	PKPdf	06 53 56.8	0.0
	comp=Z,0.4nm,0.7s,baz=227,slow=2.0,SNR=3.0						
WRA	Warramunga Arr	141.81	126	PKP	PKPdf	06 54 02.3	+1.3
	comp=Z,0.2nm,0.5s,baz=239,slow=2.8,SNR=1.3						

*GCG **28** 06:48:46.6±1.0, 14°.28N×90°.30W, h11km±4km, MD4.0, ML3.4*
*SNET **28** 06:48:47.0±1.1, 14°.34N×90°.29W, h13km±14km, ML3.1*
*CATAC **28** 06:48:47.7±0.2, 14°.N±2°×.9°.0W±°, h2km±1km, M3.1/16, MLv3.1/16, Error ellipse: s-maj=4.6km s-min=2.0km az=28.5, confirmed*

ISC 28 06:48:48.2±0.9, 14°.32N±0°.03×90°.24W±0°.02, h14km±7km, n58, σ1°.47/64, 5C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG5	San Vicente Pa	0.17	231	iP	Pb	06 48 54.0	+0.8
PCG5				iS	Sg	06 48 59.3	+4.0
FG16	Alotenango, Sa	0.27	259	eP	Pb	06 48 58.3	+3.4
FG16				iS	Sg	06 49 06.5	+8.5
FG16				IAML		06 49 07.5	
	comp=N,9μm,0.3s						
FG8	Yepocapa, Chim	0.32	258	iP	Pn	06 48 59.3	+0.8
FG8				iS	Sb	06 49 08.9	+8.1
GCG4	OSOP	0.39	313	eP	Pg	06 48 54.8	-1.2
GCG4				IAML		06 49 00.8	
	comp=N,8μm,0.3s						
JUAM	Asuncion Mita	0.52	89	iP	Pg	06 48 57.9	-0.6
JUAM				iS	Sg	06 49 05.8	+0.4
JUAM				IAML		06 49 06.8	
	comp=N,1μm,0.3s						
FAME	Alcaldia de Sa	0.53	155	P	Pg	06 48 57.4	-1.2
LOAL	Lomas de Alarc	0.55	126	eP	Pg	06 48 58.5	-0.6
LOAL	Lomas de Alarc	0.55	126	P	Pg	06 48 58.5	-0.6
ESSG	Sabana Grande	0.57	276	eP	Pg	06 48 57.3	-2.3
ESSG				iS	Sg	06 49 05.0	-2.2
ESSG				IAML		06 49 05.6	
	comp=N,2μm,0.1s						
RBDL	Robledal	0.58	111	eP	Pg	06 48 59.2	-0.4
RBDL				eS	Sg	06 49 07.4	+0.1
NUBE	Las Nubes	0.61	133⇑	iP	Pg	06 48 59.3	-0.9
NUBE	Las Nubes	0.61	133	iP	Pg	06 48 59.3	-0.9
NUBE				iS	Sb	06 49 08.4	-0.9
NUBE	Las Nubes	0.61	133	P	Pg	06 48 59.3	-0.9
RTR	El Retiro	0.72	126	eP	Pg	06 49 01.5	-0.7
UNIC	Universidad Ca	0.75	117⇑	eP	Pg	06 49 01.7	-1.2
UNIC	Universidad Ca	0.75	117	S	Sg	06 49 12.4	-0.4
UNIC	Universidad Ca	0.75	117	P	Pg	06 49 01.7	-1.2
SNJE	San Jose	0.76	126⇑	eP	Pg	06 49 02.3	-0.9
SBLS	San Blas	0.77	129	eP	Pg	06 49 02.2	-1.0
CEVE	Cerro Verde	0.78	129	eP	Pb	06 49 02.6	-1.0
CEVE	Cerro Verde	0.78	129	P	Pb	06 49 02.8	-0.8
CEVE	Cerro Verde	0.78	129	S	Sb	06 49 14.0	-0.1
MTO3	Montecristo	0.86	85⇑	eP	Pg	06 49 04.1	-0.8
MTO3	Montecristo	0.86	85	iP	Pg	06 49 04.0	-0.8
MTO3	Montecristo	0.86	85	S	Sg	06 49 16.6	+0.5
MTO3	Montecristo	0.86	85	P	Pg	06 49 04.2	-0.8
ESQI	Esquipulas	0.90	75	eP	Pg	06 49 05.2	-0.5
ESQI	Esquipulas	0.90	75	P	Pg	06 49 05.2	-0.5
ESQI	Esquipulas	0.90	75	S	Sb	06 49 19.0	+1.4
CEDA	San Andres	0.97	122	eP	Pg	06 49 05.4	-1.5
JAYA	Jayaque - finc	1.02	131	eP	Pg	06 49 06.4	-1.5
JAYA	Jayaque - finc	1.02	131	iP	Pb	06 49 06.9	-0.7
JAYA	Jayaque - finc	1.02	131	S	Sn	06 49 21.4	-0.9
JAYA	Jayaque - finc	1.02	131	P	Pb	06 49 07.0	-0.7
PMON	Piamonte	1.08	124⇑	eP	Pb	06 49 07.3	-1.4
PMON	Piamonte	1.08	124	P	Pb	06 49 07.4	-1.4
PMON	Piamonte	1.08	124	S	Sn	06 49 23.7	-0.2
STG2	El Palmar, Qui	1.11	276	eP	Pn	06 49 12.0	+2.7
STG2				eS	Sn	06 49 30.4	+5.9
SOKI	Kika Raxquin	1.23	294	iP	Pb	06 49 09.9	-1.6
SOKI				IAML		06 49 40.8	
	comp=E,270nm,0.8s						
LOMA	Loma Larga	1.24	123	P	Pb	06 49 10.9	-0.5
LOMA	Loma Larga	1.24	123	S	Sn	06 49 30.8	+3.0
QUIS	Sacapulas	1.27	320	eP	Pn	06 49 10.7	-0.9
QUIS				eS	Sb	06 49 27.2	-1.0
QUIS				IAML		06 49 31.9	
	comp=E,1μm,0.3s						
LLGN	La Laguna	1.27	97	eP	Pn	06 49 11.0	-0.5
LLGN	La Laguna	1.27	97	S	Sn	06 49 28.9	+0.5
LLGN	La Laguna	1.27	97	P	Pn	06 49 11.1	-0.5
LBRS	Las Brisas	1.30	116	eP	Pn	06 49 11.5	-0.5
PAVA	Las Pavas	1.40	115	eP	Pn	06 49 13.2	-0.2
PAVA	Las Pavas	1.40	115	P	Pn	06 49 13.3	-0.2
PAVA	Las Pavas	1.40	115	S	Sb	06 49 32.1	+0.1
RTAL	Retalhuleu	1.42	278	S	Sg	06 49 32.2	-1.9
RTAL	Retalhuleu	1.42	278	P	Pb	06 49 13.1	-1.4
SARH	Santa Rosa de	1.50	72	eP	Pb	06 49 15.7	-0.1
SARH	Santa Rosa de	1.50	72	P	Pb	06 49 16.4	+0.5
SARH	Santa Rosa de	1.50	72	S	Sg	06 49 39.5	+2.8
SCLA	Alcaldia de Sa	1.59	113	eP	Pb	06 49 16.5	-0.9
SCLA	Alcaldia de Sa	1.59	113	S	Sg	06 49 40.4	+0.8
SCLA	Alcaldia de Sa	1.59	113	P	Pb	06 49 16.6	-0.8
TECO	Alcaldia de Te	1.62	119	P	Pb	06 49 17.2	-0.6

GII 28 06:51:51.4±0.0, 32°.92N±0°.02×35°.46E±0°.02, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIR	Sapir Facility	0.09	131	P	Pg	06 51 52.6	-0.4
SPIR	Sapir Facility	0.09	131	S	Sg	06 51 54.1	0.0
MGDL	Migdal	0.09	155	P	Pg	06 51 52.8	-0.2
MGDL	Migdal	0.09	155	S	Sg	06 51 55.3	+1.1
MMA0B	Mount Meron ar	0.10	332	P	Pg	06 51 53.3	-0.1
MMA0B	Mount Meron ar	0.10	332	S	Sg	06 51 55.7	+1.0
MMC7	Mount Meron ar	0.12	330	P	Pg	06 51 53.4	-0.1
HDNS	Had-Ness	0.15	88	P	Pg	06 51 53.9	-0.4
HDNS	Had-Ness	0.15	88	S	Sg	06 51 56.8	+0.6
NATI	Neve Ativ	0.41	34	P	Pg	06 51 59.1	-0.2
NATI				S	Sg	06 52 06.4	+1.8

IDC 28 06:57:20.2±56.0, 16°.60S×177°.28W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1030.0km s-min=183.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.21	240	P	P	07 04 59.0	+0.3
	1.1nm,0.6s,baz=52,slow=12,SNR=3.2						
	1.1nm,0.6s						
WRA	Warramunga Arr	45.95	258	P	P	07 05 45.0	-0.3
	0.5nm,0.5s,baz=96,slow=7.2,SNR=6.9						
	0.5nm,0.5s						
ASAR	Alice Springs	46.20	253	P	P	07 05 47.0	-0.2
	3.3nm,0.7s,baz=88,slow=8.6,SNR=39						
	3.3nm,0.7s						

*DJA **28** 07:09:30.4±0.8, 5°.S±7°.×10°.1E±°, h10km, M4.0/13, mB4.2/1, mb3.8/6, MLv4.1/13, Mw(mB)3.4/1*
*IDC **28** 07:09:34.2±3.4, 4°.46S×100°.61E, h27km±6km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=146.6km s-min=19.0km az=54.0*

ISC 28 07:09:34.0±1.2, 4°.5S±0°.1×100°.6E±0°.1, h35km, n27, σ0°.99/19, mb3.8/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	1.81	342	P	Pn	07 10 02.3	-0.5
PPSI				S	Sn	07 10 24.3	-0.3
MASI	Maura Aman, Be	2.14	51	P	Pn	07 10 06.6	-0.7
KRJI	Kerinci	2.55	20	P	Pn	07 10 11.9	-1.1
LHSI	Lahat	3.02	77	P	Pn	07 10 19.2	-0.1
LWLI	Liwa	3.51	99	P	Pn	07 10 25.3	-0.9
PDSI	Padang	3.57	358	P	Pn	07 10 25.8	-1.1
MDSI	Maura Dua	3.59	90	P	Pn	07 10 26.7	-0.5
PPI	Padang Panjang	4.02	357	P	Pn	07 10 33.0	-0.1
KASI	Kota Agung	4.04	105	P	Pn	07 10 32.2	-1.1
PPBI	Pangkal Pinang	6.02	67	P	Pn	07 11 00.3	-0.3
CMAR	Chiang Mai Arr	22.87	356	P	P	07 14 36.7	+2.1
	1.0nm,0.3s,baz=168,slow=8.9,SNR=4.0						
	1.0nm,0.3s						
H08S2	Diego Garcia H	28.09	262	T	T	07 45 30.1	
	baz=84,slow=75,SNR=25						
H08S3	Diego Garcia H	28.10	262	T	T	07 45 35.3	
	baz=84,slow=75,SNR=46						
H08S1	Diego Carcia H	28.11	262	T	T	07 45 35.1	
	baz=84,slow=75,SNR=34						
H01W3	Cape Leeuwin H	32.74	159	T	T	07 50 48.4	
	baz=337,slow=76,SNR=30						
H01W2	Cape Leeuwin H	32.75	159	T	T	07 50 50.7	
	baz=337,slow=76,SNR=33						
H01W1	Cape Leeuwin H	32.76	159	T	T	07 50 52.1	
	baz=337,slow=76,SNR=34						
WRA	Warramunga Arr	36.28	118	P	P	07 16 35.1	+0.7
	0.5nm,0.8s,baz=292,slow=9.4,SNR=3.2						
WRA				pP	pP	07 16 44.2	+0.7
	1.3nm,0.8s,baz=306,slow=9.1,SNR=6.0						
	0.5nm,0.8s						
ASAR	Alice Springs	37.36	124	P	P	07 16 43.6	+0.1
	0.1nm,0.4s,baz=295,slow=8.6,SNR=2.0						
ASAR				pP	pP	07 16 52.3	-0.4
	0.7nm,0.5s,baz=300,slow=7.9,SNR=7.5						
	0.1nm,0.4s						
MKAR	Makanchi Array	53.58	344	P	P	07 18 51.5	0.0
	0.6nm,0.6s,baz=142,slow=7.3,SNR=3.0						
MKAR				pP	pP	07 18 58.9	-2.0
	0.6nm,0.5s,baz=143,slow=8.2,SNR=4.0						
	0.6nm,0.6s						
H04N2	CROZET ISLANDS	59.16	218	T	T	08 24 17.1	
	baz=60,slow=75,SNR=30						
H04N1	CROZET ISLANDS	59.17	218	T	T	08 24 17.5	
	baz=60,slow=75,SNR=26						
H04N3	CROZET ISLANDS	59.17	217	T	T	08 24 16.1	
	baz=60,slow=75,SNR=27						
H04S1	CROZET ISLANDS	59.42	217	T	T	08 24 42.1	
	baz=59,slow=75,SNR=6.2						
H04S3	CROZET ISLANDS	59.43	217	T	T	08 24 38.4	
	baz=59,slow=75,SNR=20						
H04S2	CROZET ISLANDS	59.44	217	T	T	08 24 38.5	
	baz=59,slow=75,SNR=9.3						
TXAR	Lajitas Array	146.28	40	PKPbc	PKPab	07 29 13.2	+0.7
	0.4nm,0.8s,baz=268,slow=2.3,SNR=5.6						
TXAR				pPKP

comp=Z,3.7nm,1.4s
ABKAR **Akbulak array** 74.33 321 P **P** 07 41 07.0 -0.3
M19K **Big River Lodg** 81.37 28 P **P** 07 41 44.9 -1.2
M19K IAmb IAmb 07 42 21.5
comp=Z,20nm,1.4s
VNDA **Vanda** 82.14 173 P **P** 07 41 49.8 0.0
QSPA **South Pole Qui** 92.61 180 P **P** 07 42 41.7 +0.7
QSPA IAmb IAmb 07 43 07.8
comp=Z,2.7nm,1.3s

*IDC **28** 07:37:31.0±4.2, 4.˚11S×101.˚45E, h24km±7km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=173.9km s-min=23.7km az=55.0*

ISC 28 07:37:31.2±4.2, 4.˚3S±0.˚7×101.˚4E±1.˚0, h34km, n18, σ1§40/9, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	27.44	122	P	**P**	07 43 15.6	+1.5
	3.1nm,1.0s,baz=288,slow=3.2,SNR=2.1						
FITZ				pP	**pP**	07 43 22.9	-0.8
	3.4nm,0.8s,baz=301,slow=5.9,SNR=3.3						
	3.1nm,1.0s						
H08S2	**Diego Garcia H**	28.92	262	T	T	08 13 13.6	
	baz=84,slow=74,SNR=46						
H08S3	**Diego Garcia H**	28.93	262	T	T	08 13 15.8	
	baz=84,slow=74,SNR=67						
H08S1	**Diego Carcia H**	28.94	262	T	T	08 13 18.7	
	baz=84,SNR=45						
H01W3	**Cape Leeuwin H**	32.70	160	T	T	08 18 45.1	
	baz=337,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	32.71	160	T	T	08 18 46.1	
	baz=337,slow=76,SNR=31						
H01W1	**Cape Leeuwin H**	32.71	160	T	T	08 18 49.1	
	baz=337,slow=76,SNR=36						
WRA	**Warramunga Arr**	35.69	119	P	**P**	07 44 28.7	+2.0
	0.3nm,0.6s,baz=298,slow=7.8,SNR=2.0						
WRA				pP	**pP**	07 44 35.5	-0.9
	1.8nm,0.8s,baz=291,slow=9.8,SNR=11						
	0.3nm,0.6s						
ASAR	**Alice Springs**	36.84	125	P	**P**	07 44 36.4	-0.1
	0.2nm,0.5s,baz=299,slow=9.0,SNR=2.7						
ASAR				pP	**pP**	07 44 44.2	-1.9
	0.5nm,0.5s,baz=297,slow=8.4,SNR=4.6						
	0.2nm,0.5s						
SONM	**Songino Array**	52.05	4	P	**P**	07 46 37.2	-0.5
	0.5nm,0.5s,baz=203,slow=6.3,SNR=2.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	53.55	344	P	**P**	07 46 49.2	+0.5
	0.5nm,0.5s,baz=151,slow=8.4,SNR=5.7						
	0.5nm,0.5s						
H04N2	**CROZET ISLANDS**	59.84	218	T	T	08 52 07.7	
	baz=60,SNR=14						
H04N1	**CROZET ISLANDS**	59.86	218	T	T	08 52 13.8	
	baz=60,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	59.86	218	T	T	08 52 18.2	
	baz=60,slow=75,SNR=13						
H04S1	**CROZET ISLANDS**	60.10	217	T	T	08 52 23.5	
	baz=58,SNR=3.8						
H04S3	**CROZET ISLANDS**	60.12	217	T	T	08 52 32.2	
	baz=58,SNR=2.9						
H04S2	**CROZET ISLANDS**	60.12	217	T	T	08 52 30.3	
	baz=58						
TXAR	**Lajitas Array**	145.57	41	PKPbc	**PKPbc**	07 57 06.6	-0.3
	0.3nm,0.7s,baz=280,slow=2.5,SNR=4.8						

*NEIC **28** 07:55:49.3±1.1, 36.˚89N±0.˚01×120.˚91W±0.˚01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=332.0*

NCEDC 28 07:55:49.8±1.9, 36.˚876N±0.˚009×120.˚97W±0.˚02, h3km±4km, Mwr3.3/2, ML3.5/118(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=103.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMSM	**Mercy Hot Spri**	0.26	147		Pg	07 55 55.0	+0.2
BBGB	**Big Mountain B**	0.30	191		Pg	07 55 56.2	+0.6
BBGB				Sg	Sg	07 55 59.7	+0.2
SCKWR	**San Luis Creek**	0.32	345		Pg	07 55 56.6	+0.7
SCKWR					Sb	07 56 02.5	-1.2
HFEM	**San Felipe**	0.36	287		Pg	07 55 57.3	+0.5
BJOM	**Mount Johnson**	0.37	228		Pg	07 55 57.9	+1.0
FRP	**Fremont Peak**	0.43	254		Pg	07 55 58.8	+0.6
CDC	**Canada Road**	0.44	290		Pg	07 55 58.8	+0.5
HCAM	**Canada Road**	0.44	290		Pg	07 55 58.8	+0.6
GHS	**Gilroy Hot Spr**	0.44	300		Pg	07 55 58.7	+0.4
SCZ	**Santa Cruz**	0.45	232		Pg	07 55 58.7	+0.4
LRV	**Little Rabbit**	0.45	185		Pg	07 55 59.2	+0.7
BJCM	**Johnson Can.**	0.47	226		Pg	07 55 59.2	+0.3
BSRM	**Salinas Radio**	0.49	245		Pg	07 55 59.5	+0.3
BSGM	**Shirttail Gulc**	0.52	206		Pg	07 55 59.8	+0.2
HTUM	**Tustin Road**	0.54	265		Pg	07 56 00.8	+0.7
CMPM	**Mikes Peak**	0.56	330		Pg	07 56 00.8	+0.4
HLPM	**Lions Peak**	0.56	287		Pg	07 56 00.7	+0.2
HCBM	**Chamberlain**	0.56	276		Pg	07 56 01.2	+0.7
CADM	**Anderson Res.**	0.60	299		Pg	07 56 01.8	+0.5
HERM	**Elkhorn Road**	0.60	263		Pg	07 56 02.1	+0.8
BSMM	**Soledad Missio**	0.61	217		Pg	07 56 02.0	+0.4
JLAB	**Laurel Hill**	0.67	295		Pg	07 56 03.1	+0.4
PMPB	**Monarch Peak**	0.67	168		Pb	07 56 03.5	-0.7
PMPB	**Monarch Peak**	0.67	168	IAML		07 56 17.0	
	comp=N,3μm,0.8s						
FORD	**Fort Ord Natur**	0.68	254		Pg	07 56 03.5	+0.7
FORD				IAML		07 56 16.7	
	comp=N,3μm,0.7s						
CCOB	**Coe Ranch Numb**	0.68	304		Pg	07 56 03.3	+0.5
JELB	**Ellicott, Sant**	0.69	275		Pg	07 56 03.6	+0.6
JELB					Sb	07 56 14.4	+0.1
MHC	**Mount Hamilton**	0.71	311	Pg	Pg	07 56 03.5	+0.1
MHC				IAML		07 56 17.2	
	comp=E,3μm,0.5s						
LEGD	**La Grand CA**	0.74	63		Pg	07 56 03.0	-1.0
LEGD	**La Grand CA**	0.74	63	IAML		07 56 13.2	
	comp=E,2μm,0.4s						
LEGD				IAML		07 56 20.0	
	comp=N,1μm,0.5s						
BCWM	**Chews Ridge**	0.74	220		Pg	07 56 04.3	+0.2
C072	**Blauer Lane Sa**	0.75	303		Pg	07 56 04.3	+0.1
C054	**Valleyhaven Wa**	0.79	300		Pg	07 56 05.5	+0.5
PPTM	**Peach Tree Val**	0.79	165		Pb	07 56 05.6	-0.6
PCCM	**Crazy Canyon**	0.80	191		Pg	07 56 05.4	+0.3
HMOM	**Monterey**	0.81	250		Pg	07 56 05.6	+0.3
SCCB	**Santa Clara Co**	0.82	300		Pb	07 56 06.2	-0.6
PSAM	**San Ardo**	0.85	176		Pg	07 56 06.3	+0.2
PSMM	**Smith Mountain**	0.86	159		Pg	07 56 06.6	+0.3
WSRE	**Westside REC,**	0.87	128		Pg	07 56 06.8	+0.4
CSTL	**Corral Hollow**	0.87	331		Pb	07 56 07.1	-0.4
CSTL	**Corral Hollow**	0.87	331		Pb	07 56 07.3	-0.3
JJOM	**Saint Joseph's**	0.87	293		Pg	07 56 06.6	+0.1
C046	**N 16th Street**	0.87	303		Pg	07 56 06.9	+0.4
CALM	**Calaveras Res.**	0.88	311		Pg	07 56 06.5	-0.1
HULI	**Fort Hunter Li**	0.88	194		Pg	07 56 06.9	+0.3
MHDM	**Hidden Dam**	0.89	74		Pg	07 56 05.6	-1.3
PHPM	**Hope Ranch**	0.94	162		Pg	07 56 08.3	+0.5
JBNB	**Ben Lomond Mou**	0.98	285		Pg	07 56 08.1	-0.5
MBUM	**Mount Bullion**	0.99	46		Pg	07 56 07.4	-1.3
CSAM	**Sandia**	0.99	324		Pn	07 56 10.8	+0.3
PKD	**Bear Valley Ra**	0.99	159		Pg	07 56 08.3	-0.5
PKD				Sg	Sg	07 56 20.4	-1.2
PKD				IAML		07 56 25.0	
	comp=N,831nm,0.8s						
C001	**Firth Court Fr**	1.00	310		Pg	07 56 09.1	+0.1
JSJM	**St Joseph**	1.01	297		Pg	07 56 08.6	-0.5
CBZL	**Buffer Zone**	1.01	324		Pb	07 56 09.8	-0.1
CBZL	**Buffer Zone**	1.01	324		Pb	07 56 10.1	+0.2
PVCM	**Vineyard Canyo**	1.01	160		Pg	07 56 08.6	-0.6
PSTM	**Stockdale Moun**	1.02	158		Pg	07 56 08.9	-0.3
AVNL	**Avenal, CA USA**	1.02	147		Pg	07 56 08.8	-0.5
FRI	**Friant**	1.02	83		Pg	07 56 07.5	-1.8
CVLM	**Vallecito**	1.02	318		Pg	07 56 09.4	0.0
BUCR	**Buckhorn Ranch**	1.03	39		Pg	07 56 08.2	-1.4
JBMM	**Black Mountain**	1.04	295		Pg	07 56 09.9	+0.1
PPO	**Portuguese Can**	1.05	164		Pg	07 56 09.8	-0.1
C015	**Bright Common**	1.06	310		Pg	07 56 09.8	-0.4
CTM	**Castle Mountai**	1.07	151		Pg	07 56 10.1	-0.2
CNIC	**Niles Canyon**	1.08	313		Pg	07 56 09.8	-0.7
CBSNC	**Byron Hot Spri**	1.08	331		Pg	07 56 10.0	-0.5
JFP	**Foothills Park**	1.09	297		Pg	07 56 09.3	-1.3
PHFM	**Heflinger Ranc**	1.09	155		Pg	07 56 10.5	-0.3
JSFB	**Stanford Teles**	1.10	299		Pg	07 56 09.6	-1.3
MMIM	**Miami Mountain**	1.12	61		Pg	07 56 09.7	-1.6
JRSC	**Jasper Ridge**	1.14	298		Pg	07 56 11.4	-0.3
JRSC				IAML		07 56 30.7	
	comp=N,976nm,0.6s						
JRSC				IAML		07 56 31.3	
	comp=E,1μm,0.9s						
CMOB	**Morgan Territo**	1.15	325		Pg	07 56 11.4	-0.4
KARE	**Kearney REC, C**	1.21	103		Pg	07 56 11.2	-1.8
PKLM	**Kerr Lake**	1.21	155		Pg	07 56 12.3	-0.7
CLCB	**Lake Chabot**	1.23	315		Pg	07 56 12.0	-1.2
LCUV	**Le Cuvier**	1.24	171		Pg	07 56 12.3	-1.1
RAMR	**Ramage Ranch**	1.24	176		Pg	07 56 12.6	-0.9
CSLM	**San Leandro Hi**	1.25	313		Pg	07 56 12.0	-1.7
TCHL	**Shandon**	1.27	159		Pg	07 56 13.5	-0.7
CRHM	**Round Hill Res**	1.27	321		Pg	07 56 12.9	-1.3
PAGB	**Antelope Grade**	1.28	153		Pg	07 56 12.9	-1.4
JCHM	**Cahill Ridge**	1.29	300		Pg	07 56 12.4	-2.2
JCPM	**Coyote Point**	1.29	304		Pg	07 56 12.3	-2.3
PCBM	**Cambria**	1.36	183		Pn	07 56 14.2	-1.4
JSBM	**San Bruno Moun**	1.39	306		Pn	07 56 13.8	-2.3
VOG	**Valley Oaks Go**	1.39	113		Pn	07 56 13.8	-2.2
KCC	**Kaiser Creek**	1.39	71		Pn	07 56 14.3	-1.9
BKS	**Berkeley--Byer**	1.42	315		Pn	07 56 14.2	-2.3
JMGM	**Milagra Ridge**	1.42	303		Pn	07 56 14.4	-2.1
TSCN	**Private Proper**	1.42	159		Pn	07 56 15.6	-0.9
BRK	**Berkeley--Havi**	1.43	314		Pn	07 56 14.6	-2.1
CPIM	**Pinole Ridge**	1.49	319		Pn	07 56 15.8	-1.7
PTAM	**Tassajara Cree**	1.50	172		Pn	07 56 16.4	-1.2
CSPM	**San Pablo Ridg**	1.52	316		Pn	07 56 16.2	-1.7
NLHM	**Lake Herman**	1.56	323		Pn	07 56 17.1	-1.3
CPMM	**Point Molate**	1.57	314		Pn	07 56 16.3	-2.2
WELL	**Weller Preserv**	1.57	7		Pn	07 56 16.7	-1.9
WELL	**Weller Preserv**	1.57	7	IAML		07 56 40.4	
	comp=N,475nm,0.6s						
WELL				IAML		07 56 41.2	
	comp=E,776nm,0.3s						
PINL	**Point Pinole R**	1.59	316		Pn	07 56 17.1	-1.6
DCD	**Diablo Creek**	1.66	176		Pn	07 56 18.1	-1.7
MDPB	**Devils Postpil**	1.69	63		Pn	07 56 19.5	-0.9
MDPB					Sn	07 56 41.8	-0.8
MDPB				IAML		07 56 42.7	
	comp=E,640nm,0.2s						
MDPB				IAML		07 56 42.7	
	comp=N,460nm,0.6s						
MINS	**Minaret Summit**	1.71	62		Pn	07 56 20.0	-0.8
MMPM	**Mammoth Pass**	1.71	64		Pn	07 56 20.0	-0.9
VES	**Vestal, Richgr**	1.84	124		Pn	07 56 20.6	-1.6
VES				IAML		07 56 45.6	
	comp=N,539nm,0.5s						
CVS	**Carmenet Viney**	1.88	322		Pn	07 56 21.0	-1.9
MCCM	**Marconi Confer**	1.98	310		Pn	07 56 21.7	-2.5
MCCM				IAML		07 57 01.5	
	comp=E,323nm,0.8s						
WAKR	**Walker**	2.03	36		Pn	07 56 25.3	+0.3
TIN	**Tinemaha, Big**	2.20	85		Pn	07 56 27.1	-0.2
ISA	**Isabella, Lake**	2.35	120		Pn	07 56 27.9	-1.5
ISA				IAML		07 56 59.9	
	comp=E,197nm,0.2s						
ISA				IAML		07 57 08.3	
	comp=N,170nm,0.7s						
CWC	**Cottonwood Cre**	2.36	100		Pn	07 56 29.4	-0.2
CWC				IAML		07 57 02.7	
	comp=N,362nm,0.2s						
LHV	**Little Huntoon**	2.39	54		Pn	07 56 30.5	+0.7
LHV				IAML		07 57 12.1	
	comp=N,282nm,0.8s						
LHV				IAML		07 57 14.8	
	comp=E,307nm,0.7s						
GDXM	**Geysers**	2.41	324		Pn	07 56 28.4	-1.8
DSP	**Deep Springs**	2.45	77	IAML		07 57 05.9	
	comp=N,137nm,0.8s						
DSP				IAML		07 57 13.3	
	comp=E,129nm,0.7s						
PNTR	**Pine Nut**	2.46	26		Pn	07 56 30.9	-0.1
RYN	**Ryan**	2.61	47		Pn	07 56 33.0	-0.1
RYN				IAML		07 57 10.9	
	comp=N,249nm,0.6s						
RYN				IAML		07 57 11.9	
	comp=E,287nm,0.5s						
NVAR	**Mina Array Bea**	2.62	53		Pn	07 56 33.0	-0.3
HOPS	**Hopland Field**	2.69	322	Pn	Pn	07 56 32.2	-1.7
NV11	**Mina Array Sit**	2.72	54		Pn	07 56 34.4	-0.1
OSI	**Osito Audit: C**	2.90	140	IAML		07 57 30.2	
	comp=E,172nm,0.9s						
OSI				IAML		07 57 31.3	
	comp=N,143nm,0.9s						
CLC	**China Lake**	2.92	110	IAML		07 57 23.6	
	comp=N,78nm,0.7s						
GMN	**Gold Mountain**	3.00	81		Pn	07 56 37.8	-0.6
GMN				IAML		07 57 29.5	
	comp=N,132nm,0.7s						
LRMC	**Laurel Mtn Rad**	3.00	117	IAML		07 57 27.2	
	comp=E,152nm,0.5s						
LRMC				IAML		07 57 30.7	
	comp=N,134nm,0.6s						
BEKR	**Beckworth**	3.02	9		Pn	07 56 39.2	+0.5
BEKR				IAML		07 57 26.8	
	comp=N,92nm,0.6s						
PAHR	**Pah Rah Range**	3.09	23		Pn	07 56 39.2	-0.4
PAHR				IAML		07 57 36.6	
	comp=N,96nm,1.1s						
PAHR				IAML		07 57 41.2	
	comp=E,90nm,1.1s						
TPH	**Tonopah**	3.21	67	IAML		07 57 37.7	
	comp=N,72nm,0.9s						
TPH				IAML		07 57 39.9	
	comp=E,73nm,0.7s						
FURC	**Furnace Creek,**	3.33	96	IAML		07 57 39.0	
	comp=E,143nm,0.9s						
FURC				IAML		07 57 41.8	
	comp=N,155nm,1.0s						
QSM	**Queen of Sheba**	3.43	104	IAML		07 58 10.1	
	comp=N,61nm,3.8s						
O03E	**Paynes Creek**	3.48	349		Pn	07 56 43.6	-1.2
O03E				IAML		07 57 50.5	
	comp=N,97nm,0.8s						
O03E				IAML		07 58 00.9	
	comp=E,126nm,0.7s						
WCT	**Wildcat Mounta**	3.49	90		Pn	07 56 46.0	+1.0
WCT				IAML		07 57 40.4	
	comp=N,52nm,0.7s						
PASC	**Pasadena Art C**	3.53	139	Pn	Pn	07 56 46.1	+0.6
GWY	**Greenwater Val**	3.53	100		Pn	07 56 44.9	-0.8
GWY				IAML		07 57 53.7	
	comp=E,69nm,0.8s						
GWY				IAML		07 57 56.2	
	comp=N,48nm,0.7s						
GSC	**Goldstone, Bar**	3.72	114	IAML		07 57 45.5	
	comp=E,61nm,0.5s						
TPNV	**Topopah Spring**	3.78	87		Pn	07 56 49.0	-0.1
TPNV				IAML		07 57 55.0	
	comp=E,64nm,1.0s						
TPNV				IAML		07 57 55.4	
	comp=E,58nm,0.8s						
HATC	**Hat Creek Radi**	3.95	355	Pn	Pn	07 56 50.9	-0.5
HATC				IAML		07 58 12.6	
	comp=N,72nm,3.0s						
HATC				IAML		07 58 18.3	
	comp=E,95nm,3.9s						
R11B	**Troy Canyon, C**	4.52	69	Pn	Pn	07 56 57.3	-2.0
PFO	**Pinyon Flats O**	4.92	130	Pn	Pn	07 57 04.8	0.0
DPP	**Dos Picos Cty**	5.09	138	Pn	Pn	07 57 07.5	+0.6
DPP				IAML		07 57 54.8	
	comp=N,32nm,0.1s						
DPP				IAML		07 58 33.1	
	comp=E,18nm,4.4s						
KSXB	**Camp Six Broad**	5.44	336	Pn	Pn	07 57 09.7	-2.1

*IDC **28** 08:00:29.2±2.7, 33.˚07N×73.˚75E, h0km, mb4.0/4, mbtmp3.9/6, ML3.2/2, Error ellipse: s-maj=65.4km s-min=26.5km az=60.0*

ISC 28 08:00:30.6±2.4, 33.˚1N±0.˚2×73.˚7E±0.˚3, h10km, n6, σ1§32/5, mb4.0/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	15.15	23	Pn	**Pn**	08 04 04.3	-0.3
	0.2nm,0.3s,baz=203,slow=14,SNR=6.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Array**	17.85	10	P	**Pn**	08 04 37.6	-1.3
	baz=196,slow=12,SNR=8.8						
	1.4nm,0.7s						
BVAR	**Borovoye Array**	20.05	354	P	Pn	08 05 05.4	-0.1
	1.3nm,0.5s,baz=159,slow=11,SNR=5.8						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	22.27	17	P	**P**	08 05 29.0	+1.3
	1.7nm,0.3s,baz=218,slow=11,SNR=3.8						
	1.7nm,0.3s						
CMAR	**Chiang Mai Arr**	26.90	117	P	**P**	08 06 11.8	-0.2
	1.1nm,0.3s,baz=302,slow=9.2,SNR=7.7						
	1.1nm,0.3s						
ARCES	**ARCESS Array B**	45.12	338	P	**P**	08 08 46.9	+0.1
	4.6nm,1.0s,baz=119,slow=7.8,SNR=4.4						
	4.6nm,1.0s						

*IDC **28** 08:01:34.6±0.6, 9.˚77S×159.˚74E, h0km, mb4.8/24, mbtmp4.8/24, MS3.8/26, Error ellipse: s-maj=18.9km s-min=10.7km az=121.0*

*MOS **28** 08:01:35.2±0.8, 9.˚69S×159.˚57E, h11km, mb5.3/24, Error ellipse: s-maj=9.7km s-min=7.9km az=102.0*

*BJI **28** 08:01:37.2, 9.˚32S×159.˚72E, h15km, mB5.2/14, mb5.2/67, Ms4.8/7, Ms7 4.5/7*

*NEIC **28** 08:01:37.7±1.6, 9.˚78S±0.˚05×159.˚67E±0.˚07, h13km±4km, mb5.1/111, Error ellipse: s-maj=11.4km s-min=4.8km az=123.0*

ISC 28 08:01:38.9±0.3, 9.˚73S±0.˚04×159.˚72E±0.˚05, h26km, n571, σ0§98/524, mb5.1/129, MS4.0/30, 10C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	0.37	37		**Sb**	08 01 51.6	-1.1
HNR	**Honiara**	0.37	37	Pn	**Pn**	08 01 47.3	-1.4
	3μm,0.3s,baz=289,slow=22,SNR=414						
HNR	**Honiara**	0.37	37	P	**Pn**	08 01 47.3	-1.4
HNR	**Honiara**	0.37	37	S	**Sn**	08 01 54.2	-0.8
SAVO	**Savo Central**	0.59	9	P	**Pn**	08 01 51.5	-0.1
SAVO	**Savo Central**	0.59	9	S	**Sn**	08 02 01.1	+0.7
SANVU	**Saraoutou**	9.25	129		**Pn**	08 03 50.3	-0.5
SANVU	**Saraoutou**	9.25	129	P	**Pn**	08 03 49.8	-0.9
	162nm,0.6s						
SANVU	**Saraoutou**	9.25	129	S	**Sn**	08 05 33.4	-0.7
	162nm,0.6s						
PMG	**Port Moresby**	12.39	270	LR	LR	08 09 13.7	
	comp=Z,658nm,19.1s,baz=148,slow=37						
DZM	**Mont Dzumac**	13.86	153	Pn	**Pn**	08 04 55.4	+1.5
	1.6nm,0.3s,baz=327,slow=20,SNR=12						
DZM				Sn	Sn	08 07 15.9	-11
	0.3nm,0.3s,baz=337,slow=21,SNR=1.4						
MANU	**Manus Island**	14.46	301	Pn	**Pn**	08 04 59.8	-2.3
PINNC	**Pines Island,**	14.80	151	Pn	**Pn**	08 05 04.9	-1.6
TV1H	**Townsville Har**	15.69	231	P	**P**	08 05 20.4	-1.7
PATS	**Pohnpei**	16.52	355	P	**Pn**	08 05 28.1	-0.9
PATS	**Pohnpei**	16.52	355		**Pn**	08 05 28.7	-0.3
PATS				IAmb	IAmb	08 05 31.3	
	comp=Z,109nm,0.9s						
PATS	**Pohnpei**	16.52	355	P	**Pn**	08 05 28.6	-0.3
	comp=Z,179nm,2.2s						
COEN	**Coen**	16.73	254		**P**	08 05 32.5	-1.3
MTSU	**Mount Surprise**	17.11	239	P	**P**	08 05 40.7	+2.6
EIDS	**Eidsvold**	17.59	207	P	**P**	08 05 43.3	+0.2
	comp=Z,43nm,1.0s						
EIDS	**Eidsvold**	17.59	207		**Pn**	08 05 42.5	+0.1
EIDS	**Eidsvold**	17.59	207	P	**Pn**	08 05 42.6	+0.3
AUBSH	**Beerwah State**	18.20	200	P	**P**	08 05 50.3	+0.4
	comp=Z,49nm,1.6s						
AUWSH	**Wavell State H**	18.67	199	P	**Pn**	08 05 56.9	+1.3
	comp=Z,117nm,1.1s						
TW1H	**Toowoomba 1 Ha**	19.17	201	P	**Pn**	08 06 02.1	+0.5
AUTOO	**Toowoomba Stat**	19.17	201	P	**Pn**	08 06 02.0	+0.3
	comp=Z,154nm,1.5s						
RMQ	**Roma**	19.63	210	P	**Pn**	08 06 07.6	+0.5
	comp=Z,46nm,1.2s						
RMQ	**Roma**	19.63	210	P	**Pn**	08 06 08.0	+0.8
	comp=Z,46nm,1.2s						
JAY	**Jayapura**	20.21	290	P	**P**	08 06 09.8	-2.3
	comp=Z,36nm,0.8s,baz=81,slow=3.2,SNR=13						
	comp=Z,36nm,0.8s						
JAY	**Jayapura**	20.21	290	P	**P**	08 06 11.6	-0.5
	comp=Z,916nmcomp=Z,106nm,1.0s						
ARMA	**Armidale**	21.92	199	P	**P**	08 06 30.3	-0.3
	comp=Z,45nm,1.0s						
ARMA	**Armidale**	21.92	199		**P**	08 06 30.7	+0.1
ARMA	**Armidale**	21.92	199	P	**P**	08 06 30.5	0.0
	comp=Z,45nm,1.0s						
QIS	**Mount Isa**	22.17	239	P	**P**	08 06 33.3	+0.1
	comp=Z,18nm,0.9s						
QIS	**Mount Isa**	22.17	239	P	**P**	08 06 33.3	+0.1
	comp=Z,18nm,0.9s						
SMPI	**Sarmi**	22.25	289	P	**P**	08 06 34.8	+0.7
	comp=Z,209nm,1.1s						
QLP	**Quilpie**	22.26	219	P	**P**	08 06 33.6	-0.5
	comp=Z,79nm,0.8s						
QLP	**Quilpie**	22.26	219	P	**P**	08 06 33.4	-0.7
	comp=Z,79nm,0.8s						
AULRC	**Lightning Ridg**	22.47	208	P	**P**	08 06 35.0	-1.3
	comp=Z,135nm,0.8s						
AUPHS	**Peel High Scho**	22.79	200	P	**P**	08 06 40.8	+1.1
	comp=Z,41nm,1.2s						
BAKI	**Biak**	24.97	288	P	**P**	08 07 02.8	+2.2
	comp=Z,1μmcomp=Z,143nm,1.1s						
CMSA	**Cobar Meteorol**	25.31	209	P	**P**	08 07 02.7	-0.8
	comp=Z,26nm,1.1s						
CMSA	**Cobar Meteorol**	25.31	209	P	**P**	08 07 02.5	-1.0
	comp=Z,26nm,1.1s						
INKA	**Innaminka**	25.31	222		**P**	08 07 03.9	+0.3
INKA				IAmb	IAmb	08 07 04.4	
	comp=Z,24nm,0.7s						
WR8	**Warramunga Arr**	26.38	244	P	**P**	08 07 12.7	-0.7
WB0	**Warramunga Arr**	26.41	245		**P**	08 07 13.2	-0.5
WB0				IAmb	IAmb	08 07 37.3	
	comp=Z,48nm,1.6s						
WRAB	**Tennant

comp=Z,2,4nm,0.6s
AUALC **St Philip's Co** 28.30 237 P **P** 08 07 30.0 -0.7
comp=Z,17nm,1.1s
OUZ **Omahuta** 28.36 156 P **P** 08 07 31.3 +0.4
RAO **Raoul Island** 28.56 136 LR LR 08 18 03.7
comp=Z,172nm,19.1s,baz=317,slow=35
MILA **Mila** 28.83 198 P **P** 08 07 35.4 +0.1
HTT **Hallett** 30.38 216 P **P** 08 07 48.0 -1.0
comp=Z,5.8nm,1.0s
HTT **Hallett** 30.38 216 P **P** 08 07 48.4 -0.6
comp=Z,14nm,1.0s
AUJCS **Jamestown Cent** 30.39 217 P **P** 08 07 48.6 -0.5
comp=Z,22nm,1.0s
KNRA **Kununurra** 30.75 256 P **P** 08 07 51.8 -0.6
comp=Z,27nm,0.7s
KNRA **Kununurra** 30.75 256 P **P** 08 07 52.1 -0.3
KNRA IAmb IAmb 08 07 53.7
comp=Z,18nm,0.6s
TOZ **Tahuroa Road** 31.30 155 P **P** 08 07 57.2 +0.3
ARPS **Mount Arapiles** 31.41 208 P **P** 08 07 57.6 -0.4
comp=Z,14nm,0.9s
BBOO **Buckleboo** 31.69 220 P **P** 08 07 59.5 -1.0
comp=Z,39nm,0.9s
BBOO **Buckleboo** 31.69 220 **P** 08 07 59.5 -1.0
BBOO IAmb IAmb 08 08 00.9
comp=Z,26nm,0.9s
BBOO **Buckleboo** 31.69 220 P **P** 08 07 59.4 -1.1
comp=Z,39nm,0.9s
HAZ **Te Kaha** 32.30 153 P **P** 08 08 07.1 +1.3
URZ **Urewera** 32.42 154 LR LR 08 18 37.1
comp=Z,328nm,21.8s,baz=304,slow=32
URZ **Urewera** 32.42 154 P **P** 08 08 07.5 +0.7
PKGZ **Pakihiroa** 32.53 152 P **P** 08 08 08.1 +0.3
WMGZ **Waiomatatini S** 32.64 152 P **P** 08 08 08.9 +0.1
RTZ **Ruatahuna** 32.66 154 P **P** 08 08 10.6 +1.5
MWZ **Matawai** 32.66 154 P **P** 08 08 08.7 -0.3
RAGZ **Rawiri** 32.75 154 P **P** 08 08 11.1 +1.3
PUZ **Puketiti** 32.78 152 P **P** 08 08 10.1 +0.1
BKZ **Black Stump Fm** 32.92 156 P **P** 08 08 11.2 -0.1
BKZ IAmb IAmb 08 08 12.2
comp=Z,37nm,1.5s
BKZ **Black Stump Fm** 32.92 156 P **P** 08 08 10.8 -0.5
KRHZ **Kereru** 33.28 156 P **P** 08 08 14.4 0.0
PNHZ **Pukenui** 33.45 157 P **P** 08 08 15.5 -0.4
TSZ **Takapari Road** 33.48 157 P **P** 08 08 15.8 -0.3
KAHZ **Kahuranaki** 33.62 156 P **P** 08 08 17.2 -0.1
PXZ **Pawanui** 33.81 156 P **P** 08 08 18.3 -0.7
THZ **Tophouse** 33.95 162 P **P** 08 08 19.8 -0.4
ANWZ **Angora Road** 34.03 157 P **P** 08 08 20.3 -0.5
FITZ **Fitzroy Crossi** 34.06 252 P **P** 08 08 20.6 -0.8
LTZ **Lake Taylor** 34.71 164 P **P** 08 08 25.9 -0.8
KHZ **Kahutara** 34.74 162 P **P** 08 08 26.1 -0.8
MQZ **McQueen's Vall** 35.67 164 P **P** 08 08 34.5 -0.4
MBWA **Marble Bar** 40.07 249 P **P** 08 09 11.7 -0.8
TOLI2 **Tolitoli** 40.23 283 P **P** 08 09 12.8 -1.1
TOLI2 **Tolitoli** 40.23 283 P **P** 08 09 13.0 -0.9
comp=Z,25nm,0.9s
RAR **Rarotonga** 40.56 111 LR LR 08 24 52.6
comp=Z,33nm,18.4s,baz=288,slow=34
JHJ **Hachijo jima 2** 46.66 337 LR LR 08 27 43.3
comp=Z,111nm,21.1s,baz=122,slow=34
JOW **Kunigami** 47.46 321 P **P** 08 10 12.4 +0.7
JOW **Kunigami** 47.46 321 P **P** 08 10 12.8 +1.0
comp=Z,25nm,0.6s,baz=147,slow=5.1,SNR=7.2
comp=Z,25nm,0.6s
JMN **Monobe** 49.71 332 **P** 08 10 29.8 +0.8
JMN IAmb IAmb 08 10 30.7
comp=Z,33nm,1.2s
JMN **Monobe** 49.71 332 P **P** 08 10 30.0 +1.0
comp=Z,25nm,1.1s
PPT2 **Papeete2** 49.76 105 *e*LR LR 08 24 38.1
PPT2 *e*LR LR 08 24 44.9
comp=Z,140nm,27.8s
JGF **Kuroka** 49.79 336 IAmb IAmb 08 10 30.4
comp=Z,12nm,0.7s
JGF **Kuroka** 49.79 336 P **P** 08 10 30.0 +0.4
comp=Z,20nm,1.1s
YULB **Yu-li** 49.96 312 P **P** 08 10 31.6 +0.5
YULB IAmb IAmb 08 10 34.4
comp=Z,20nm,0.9s
YULB **Yu-li** 49.96 312 P **P** 08 10 31.6 +0.5
comp=Z,27nm,0.8s
MJAR **Matsushiro Arr** 50.28 337 P **P** 08 10 32.6 -0.6
MJAR **Matsushiro Arr** 50.28 337 P **P** 08 10 32.0 -1.3
comp=Z,8.3nm,0.7s,baz=170,slow=8.8,SNR=28
MJAR LR LR 08 30 21.8
comp=Z,95nm,21.8s,baz=176,slow=34
comp=Z,8.3nm,0.7s
MJAR **Matsushiro Arr** 50.28 337 P **P** 08 10 32.6 -0.6
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MAJO **Matsushiro** 50.28 337 P **P** 08 10 32.9 -0.4
MAJO IAmb IAmb 08 10 33.6
comp=Z,15nm,0.7s
MAJO **Matsushiro** 50.28 337 P **P** 08 10 32.6 -0.7
comp=Z,24nm,0.7s
MAJO **Matsushiro** 50.28 337 P **P** 08 10 32.9 -0.4
MAJO pmax pmax
comp=Z,15nm,0.7s
MJB9 **Matsu-Tunnel** 50.28 337 IAmb IAmb 08 10 34.4
comp=Z,17nm,0.7s
TBI **Tubuai** 50.31 112 *e*LR LR 08 24 55.4
comp=Z,336nm,30.0s
SSLB **Suanglung** 50.45 312 **P** 08 10 34.6 -0.2
SSLB IAmb IAmb 08 10 35.9
comp=Z,19nm,0.7s
SSLB **Suanglung** 50.45 312 P **P** 08 10 34.9 +0.1
YHNB **Yeheng** 50.68 313 **P** 08 10 36.8 +0.2
YHNB **Yeheng** 50.68 313 P **P** 08 10 37.1 +0.6
JNU **Nakatsue** 50.70 328 IAmb IAmb 08 10 37.8
comp=Z,18nm,0.7s
JNU **Nakatsue** 50.70 328 P **P** 08 10 36.4 -0.1
comp=Z,18nm,0.7s,baz=96,slow=3.5,SNR=14
JNU LR LR 08 30 29.3
comp=Z,63nm,19.6s,baz=194,slow=34
comp=Z,18nm,0.7s
JNU **Nakatsue** 50.70 328 P **P** 08 10 36.9 +0.3
JSD **Sado** 51.58 338 IAmb IAmb 08 10 43.9
comp=Z,17nm,0.7s
JSD **Sado** 51.58 338 P **P** 08 10 43.0 0.0
KIP **Kipapa** 51.77 53⇑*i*P **P** 08 10 44.5 -0.2
KIP pmax pmax
comp=Z,25nm,0.8s
TJN **Taejon** 55.05 328 P **P** 08 11 09.7 +1.2
KSRS **Korea Array** 55.59 329 P **P** 08 11 12.9 +0.5
comp=Z,11nm,0.9s,baz=150,slow=7.4,SNR=18
KSRS LR LR 08 32 17.0
comp=Z,34μm,21.4s,baz=130,slow=33
comp=Z,11nm,0.9s
KSAR **Wonju Array Be** 55.60 329 **P** 08 11 12.8 +0.3
KSAR **Wonju Array Be** 55.60 329 P **P** 08 11 12.8 +0.3
ASAJ **Asahikawa** 55.80 345 P **P** 08 11 15.4 +1.6
comp=Z,15nm,0.6s,baz=205,slow=9.9,SNR=11
ASAJ LR LR 08 34 15.5
comp=Z,86nm,20.4s,baz=168,slow=35
comp=Z,15nm,0.6s
NJ2 **Nanjing** 57.02 319 *e*P **P** 08 11 23.3 +0.6
NJ2 pmax pmax
comp=Z,33nm,0.8s
YSS **Yuzhno-Sakhali** 58.43 346 *e*P **P** 08 11 32.2 -0.1
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,300nm,19.0s
CNSH **ChangSha** 58.87 311 P **P** 08 11 36.5 +0.7
CNSH pmax pmax
comp=Z,45nm,0.9s
WHN **Wuhan** 59.16 314 P **P** 08 11 38.0 +0.2
WHN pmax pmax
comp=Z,64nm,0.8s
USRK **Ussuriysk Ar.** 59.27 337 P **P** 08 11 38.9 +0.6
comp=Z,12nm,0.8s,baz=155,slow=7.3,SNR=13
comp=Z,12nm,0.8s
TAOE **Nuku Hiva Isla** 59.28 95 *e*LR LR 08 29 02.1
comp=Z,51nm,22.5s
MDJ **Mudanjiang** 60.57 336 P **P** 08 11 48.0 +0.8
MDJ pP sP 08 11 58.8 +0.2
MDJ sP pP 08 12 02.5 +7.1
MDJ ScP **ScP** 08 16 27.5 -3.7
MDJ PcS **PcS** 08 16 33.0 -0.9
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ LR LR
comp=Z,180nm,10.2s
MDJ LR LR
comp=Z,230nm,10.8s
MDJ LR LR
comp=Z,320nm,16.6s
CN2 **Changchun** 61.70 332 *e*P **P** 08 11 55.0 +0.1
CN2 pmax pmax
comp=Z,30nm,1.0s
BNX **BinXian** 62.38 335 ⇓P **P** 08 11 59.5 +0.1
BNX pmax pmax
comp=Z,25nm,0.6s
PET **Petropavlovsk** 62.51 359 *e*P **P** 08 12 01.0 +0.9
PET pmax pmax
comp=Z,27nm,0.6s
ENH **Enshi** 62.53 311 P **P** 08 12 00.6 -0.2
PEA0B **Petropavlovsk-** 62.61 359 P **P** 08 12 01.4 +0.7
PEA0B **Petropavlovsk-** 62.61 359 P **P** 08 12 01.5 +0.7
PEA0B pmax pmax
comp=Z,45nm,1.1s
PETK **Petropavlovsk-** 62.61 359 **P** 08 12 01.6 +0.8
PETK **Petropavlovsk-** 62.61 359 P **P** 08 12 00.8 0.0
comp=Z,24nm,0.8s,baz=140,slow=5.9,SNR=32
PETK LR LR 08 37 10.9
comp=Z,100nm,19.7s,baz=168,slow=34
comp=Z,24nm,0.8s
PETK **Petropavlovsk-** 62.61 359 P **P** 08 12 01.6 +0.8
LYN **LuoYang** 62.77 317 P **P** 08 12 02.3 +0.1
LYN pmax pmax
comp=Z,28nm,0.8s
GYA **Guiyang** 62.82 306 ⇑P **P** 08 12 04.3 +1.4
GYA pmax pmax
comp=Z,21nm,1.0s
SLVN **Son La** 62.89 300 **P** 08 12 02.4 -1.0
SLVN IAmb IAmb 08 12 05.1
comp=Z,24nm,1.3s
SLVN **Son La** 62.89 300 P **P** 08 12 03.9 +0.5
HNS **HongShan** 63.03 321 ⇓P **P** 08 12 04.5 +0.6
HNS pmax pmax
comp=Z,20nm,1.4s
SHEM **Shemya Is, Ala** 63.42 10 LR LR 08 35 27.4
comp=Z,67nm,21.9s,baz=268,slow=32
XAN **Xi'an** 64.92 315 ⇑P **P** 08 12 16.0 -0.5
XAN pmax pmax
comp=Z,46nm,0.8s
XAN pmax pmax
comp=Z,130nm,4.0s
XAN LR LR
comp=Z,300nm,18.4s
XAN LR LR
comp=Z,220nm,19.4s
XAN LR LR
comp=Z,340nm,18.0s
KMI **Kunming** 65.41 303 ⇑P **P** 08 12 21.3 +1.2
KMI pmax pmax
comp=Z,41nm,1.1s
HEH **HeiHe** 66.04 338 *e*P **P** 08 12 23.0 -0.3
HEH pmax pmax
comp=Z,17nm,0.9s
CM31 **Chiang Mai Arr** 66.17 295 P **P** 08 12 24.6 -0.2
CM31 IAmb IAmb 08 12 26.5
comp=Z,14nm,0.7s
CMAR **Chiang Mai Arr** 66.17 295 **P** 08 12 24.9 +0.1
CMAR **Chiang Mai Arr** 66.17 295 P **P** 08 12 25.8 +0.9
comp=Z,11nm,0.7s,baz=127,slow=5.2,SNR=44
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 66.29 295 **P** 08 12 24.9 -0.7
CHTO IAmb IAmb 08 12 28.5
comp=Z,7.5nm,0.8s
CHTO **Chiang Mai** 66.29 295 P **P** 08 12 26.2 +0.6
CHTO **Chiang Mai** 66.29 295 P **P** 08 12 24.9 -0.7
CHTO pmax pmax
comp=Z,8.0nm,0.8s
XLT **XiLinHaoTe** 66.44 327 *e*P **P** 08 12 26.8 +0.7
XLT pmax pmax
comp=Z,48nm,0.8s
PZH **PanZhiHua** 66.80 304 P **P** 08 12 28.0 -0.9
HHC **Hu-ho-hao-te** 67.08 322 *e*P **P** 08 12 33.0 +2.7
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.7s
CD2 **Chengdu** 67.14 309 P **P** 08 12 32.5 +1.7
CD2 pmax pmax
comp=Z,80nm,0.8s
VNDA **Vanda** 67.78 179 **P** 08 12 34.2 +0.2
VNDA **Vanda** 67.78 179 P **P** 08 12 34.8 +0.8
comp=Z,3.8nm,0.8s,baz=335,slow=6.2,SNR=28
VNDA LR LR 08 36 17.2
comp=Z,150nm,21.3s,baz=354,slow=31
comp=Z,3.8nm,0.8s
BTO **Baotou** 67.88 321 *e*P **P** 08 12 37.0 +1.7
BTO PP **PP** 08 15 03.5 -1.9
BTO S **S** 08 21 35.0 +2.5
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,180nm,3.9s
BTO LR LR
comp=Z,320nm,6.1s
BTO LR LR
comp=Z,340nm,5.3s
BTO LR LR
comp=Z,170nm,9.2s
NIKH **Nikolski High** 67.97 20 P **P** 08 12 35.7 +0.1
baz=214
HIA **Hailar** 68.41 333 IAmb IAmb 08 12 39.8
comp=Z,11nm,0.8s
HIA **Hailar** 68.41 333 P **P** 08 12 38.6 +0.2
HIA **Hailar** 68.41 333⇑*e*P **P** 08 12 37.7 -0.7
HIA pmax pmax
comp=Z,23nm,1.4s
HILR **Hailar Array B** 68.62 333 P **P** 08 12 40.0 +0.3
comp=Z,4.5nm,0.6s,baz=135,slow=7.8,SNR=14
comp=Z,4.5nm,0.6s
ZEA **Zeya** 68.96 340 *e*P **P** 08 12 42.3 +0.6
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,0.8s
MA2 **Magadan** 69.45 355 P **P** 08 12 44.7 +0.1
MA2 **Magadan** 69.45 355 LR LR 08 39 30.9
comp=Z,67nm,22.0s,baz=170,slow=33
MA2 **Magadan** 69.45 355 P **P** 08 12 44.7 +0.1
MA2 pmax pmax
comp=Z,185nm,2.0s
MA2 **Magadan** 69.45 355 P **P** 08 12 44.5 -0.1
comp=Z,35nm,0.9s
UNV **Unalaska Valle** 69.50 21 P **P** 08 12 45.0 0.0
baz=216
LZH **Lanzhou** 69.55 314 *e*P **P** 08 12 47.3 +1.4
LZH sP sP 08 12 57.8 +0.6
LZH pmax pmax
comp=Z,35nm,0.9s
LZDM **Lanzhou Array** 69.59 314 P **P** 08 12 47.2 +0.8
comp=Z,18nm,0.9s,baz=150,slow=6.8,SNR=8.6
comp=Z,18nm,0.9s
P08K **Saint George I** 70.81 17 P **P** 08 12 53.6 +0.7
baz=212
SPIA **Saint Paul Isl** 71.10 17 P **P** 08 12 55.7 +1.0
baz=211
FALS **False Pass** 71.39 21 P **P** 08 12 56.9 +0.3
baz=218
S12K **Black Hills** 72.54 22 P **P** 08 13 03.9 +0.5
baz=220
SEY **Seymchan** 72.67 356 LR LR 08 46 10.3
comp=Z,55nm,18.5s,baz=185,slow=37
SEY **Seymchan** 72.67 356⇑*i*P **P** 08 13 04.0 0.0
SEY pmax pmax
comp=Z,11nm,0.9s
CHNA **Chernabura Isl** 72.81 23 P **P** 08 13 05.8 +0.8
baz=222
SDPT **Sand Point** 72.86 22 P **P** 08 13 05.6 +0.3
baz=221
ULN **Ulaanbaatar** 73.83 326 **P** 08 13 11.7 +0.2
ULN IAmb IAmb 08 13 13.5
comp=Z,17nm,1.1s
ULN **Ulaanbaatar** 73.83 326 P **P** 08 13 11.7 +0.2
ULN pmax pmax
comp=Z,17nm,1.1s
S14K **Fog Glacier** 73.91 22 P **P** 08 13 12.0 +0.4
baz=222
GTA **Gaotai** 73.93 316 P **P** 08 13 13.8 +1.6
GTA pmax pmax
comp=Z,42nm,0.7s
SONM **Songino Array** 74.18 326 **P** 08 13 14.0 +0.5
SONM IAmb IAmb 08 13 15.1
comp=Z,10nm,0.8s
SONM **Songino Array** 74.18 326 P **P** 08 13 14.2 +0.7
comp=Z,11nm,0.6s,baz=143,slow=6.1,SNR=46
SONM LR LR 08 45 02.4
comp=Z,37nm,21.5s,baz=169,slow=35
comp=Z,11nm,0.6s
M11K **Mekoryuk** 74.94 17 P **P** 08 13 18.2 +0.8
baz=215
CHIR **Chirikof Islan** 75.10 24 P **P** 08 13 19.1 +0.7
baz=226
YAK **Yakutsk** 75.27 346 **P** 08 13 19.7 +0.5
YAK **Yakutsk** 75.27 346 LR LR 08 43 26.2
comp=Z,48nm,21.6s,baz=166,slow=33
YAK **Yakutsk** 75.27 346*c i*P **P** 08 13 19.3 0.0
YAK pmax pmax
comp=Z,22nm,0.5s
O14K **Tigyukauivet M** 75.56 20 P **P** 08 13 21.6 +0.6
baz=220
R16K **Pilot Point** 75.59 22 P **P** 08 13 21.4 +0.2
baz=224
M13K **Dall Lake** 75.80 18 P **P** 08 13 23.0 +0.7
baz=218
N14K **Kuskokwak Cree** 75.94 19 P **P** 08 13 23.9 +0.8
baz=219
O15K **Ungalikthiuk R** 75.98 20 P **P** 08 13 23.5 +0.1
baz=221
R17L **Mt. Peulik Vol** 76.09 23 P **P** 08 13 24.6 +0.5
baz=225
SII **Sitkinak Islan** 76.19 24 P **P** 08 13 25.2 +0.5
baz=227
GAMB **Gambell** 76.46 13 P **P** 08 13 27.0 +1.0
baz=209
M14K **Bethel** 76.49 18 P **P** 08 13 27.0 +0.8
baz=219
P16K **Nushagak River** 76.50 21 P **P** 08 13 26.9 +0.6
baz=223
N15K **Kwethluk River** 76.64 19 P **P** 08 13 28.0 +0.9
baz=221
K13K **Kusilvak Mount** 76.64 16 P **P** 08 13 27.7 +0.7
baz=216
Q17K **Contact Creek** 76.72 22 P **P** 08 13 28.1 +0.4
baz=225
Q16K **King Salmon** 76.73 22 P **P** 08 13 28.3 +0.7
baz=224
L14K **Kuka Creek** 76.74 18 P **P** 08 13 28.6 +1.0
baz=218
R18K **Karluk** 76.78 23 P **P** 08 13 28.2 +0.3
baz=226
M15K **Kasigluk River** 76.85 19 P **P** 08 13 29.0 +0.7
baz=220
ACHA **Angle Creek He** 76.89 23 IAmb IAmb 08 15 00.1
comp=Z,40nm,1.6s
OHAK **Old Harbor** 77.01 24 P **P** 08 13 29.9 +0.7
baz=228
P17K **Kvichak River** 77.18 21 P **P** 08 13 30.3 +0.2
baz=224
N16K **Nishlik Lake** 77.31 20 P **P** 08 13 30.3 -0.6
baz=222
Q18K **Katmai Hardscr** 77.32 22 P **P** 08 13 30.7 -0.5
baz=226
L15K **Ungalak Mounta** 77.36 18 P **P** 08 13 31.3 +0.1
baz=219
O17K **Koliganek Bris** 77.36 21 P **P** 08 13 31.3 +0.1
baz=224
M16K **Timber Creek** 77.65 19 P **P** 08 13 32.8 0.0
baz=222
KDAK **Kodiak Island** 77.66 24⇓*i*P **P** 08 13 32.6 -0.3
KDAK pmax pmax
comp=Z,18nm,0.7s
KDAK **Kodiak Island** 77.66 24 P **P** 08 13 33.1 +0.2
baz=228
BILL **Bilibino** 77.71 3 P **P** 08 13 33.6 +0.6
BILL IAmb IAmb 08 13 34.0
comp=Z,15nm,0.9s
BILL **Bilibino** 77.71 3⇑*i*P **P** 08 13 33.1 +0.1
BILL pmax pmax
comp=Z,31nm,1.4s
P18K **Big Mountain,** 77.75 22 P **P** 08 13 33.2 -0.3
baz=226
K15K **Wolf Creek Mou** 77.83 17 P **P** 08 13 33.8 0.0
baz=219
N17K **Nushagak Hills** 77.88 20 P **P** 08 13 34.2 +0.2
baz=224
L16K **Owhat River** 78.00 19 P **P** 08 13 35.4 +0.7
baz=221
Q19K **Cape Douglas,** 78.02 23 P **P** 08 13 35.4 +0.4
baz=227
O18K **Koktuh Hills** 78.09 21 P **P** 08 13 35.8 +0.6
baz=225
Q20K **Shuyak Island** 78.29 23 P **P** 08 13 36.6 +0.2
baz=228
M17K **Holitna River** 78.43 20 P **P** 08 13 37.2 +0.1
baz=223
N18K **Kilae Creek** 78.43 21 P **P** 08 13 37.7 +0.6
baz=225
ANM **Nome** 78.60 15 P **P** 08 13 38.7 +0.7
baz=215
O19K **Port Alsworth** 78.65 21 P **P** 08 13 39.0 +0.7
baz=226
P19K **Oil Pt** 78.67 22 P **P** 08 13 38.9 +0.4
baz=227
TNA **Tin City** 78.83 13 P **P** 08 13 39.7 +0.6
baz=212
J16K **Anvik River** 78.86 17 P **P** 08 13 40.3 +0.8
baz=220
N19K **Bonanza Creek** 79.02 21 P **P** 08 13 40.6 +0.1
baz=226
M18K **Stony River** 79.03 20 P **P** 08 13 41.4 +0.9
baz=225
F14K **Arctic Creek** 79.12 14 P **P** 08 13 42.0 +1.2
baz=214
K17K **Iditarod** 79.12 18 IAmb IAmb 08 13 42.8
comp=Z,21nm,0.9s
K17K **Iditarod** 79.12 18 P **P** 08 13 41.7 +0.8
baz=222
O20K **Slope Mountain** 79.19 22 P **P** 08 13 42.3 +0.9
baz=228
L18K **Granite Mounta** 79.27 19 IAmb IAmb 08 13 44.5
comp=Z,39nm,1.2s
L18K **Granite Mounta** 79.27 19 P **P** 08 13 42.6 +0.8
baz=224
HOM **Homer** 79.28 23 P **P** 08 13 42.5 +0.8
baz=229
G15K **Niukluk** 79.28 15 P **P** 08 13 42.7 +0.9
baz=216
I17K **Unalakleet** 79.30 17 P **P** 08 13 42.6 +0.8
baz=220
J17K **VABM Dome** 79.40 18 P **P** 08 13 43.6 +1.2
baz=221
H16K **Elim** 79.47 16 P **P** 08 13 44.1 +1.4
baz=218
BRSE **Bradley Lake S** 79.68 23 P **P** 08 13 45.3 +1.3
baz=230
F15K **North Star Dit** 79.71 14 P **P** 08 13 44.6 +0.6
baz=216
M19K **Big River Lodg** 79.81 20 P **P** 08 13 44.5 -0.2
M19K **Big River Lodg** 79.81 20 P **P** 08 13 45.6 +0.9
baz=226
L19K **White Mountain** 79.85 20 **P** 08 13 44.6 -0.3
L19K IAmb IAmb 08 13 47.1
comp=Z,28nm,0.9s
L19K **White Mountain** 79.85 20 P **P** 08 13 46.3 +1.4
baz=225
G16K **Koyuk River** 80.03 15 P **P** 08 13 47.4 +1.6
baz=218
M20K **Styx River** 80.23 21 P **P** 08 13 48.1 +1.1
baz=227
QSPA **South Pole Qui** 80.26 180 P **P** 08 13 47.6 +0.2
QSPA **South Pole Qui** 80.26 180 P **P** 08 13 50.1 +2.8
comp=Z,1.6nm,0.7s,baz=184,slow=0.7,SNR=13
QSPA LR LR 08 46 08.2
comp=Z,97nm,18.8s,baz=4.5,slow=33
H17K **Granite Mounta** 80.33 16 P **P** 08 13 48.2 +0.7
baz=220
L20K **Farewell, AK** 80.38 20 P **P** 08 13 49.0 +1.2
baz=226
SEW **Seward** 80.41 23 P **P** 08 13 49.0 +1.1
baz=231
PALK **Pallekele** 80.49 279 *i*P **P** 08 13 50.9 +1.4
O22K **Cooper Landing** 80.55 23 P **P** 08 13 49.5 +0.9
baz=230
G17K **Kiwalik Mounta** 80.56 16 P **P** 08 13 49.2 +0.5
baz=220
SUA **Susitna One** 80.80 22 P **P** 08 13 50.4 +0.2
baz=229
SKT **Skwentna** 80.86 21 P **P** 08 13 50.2 -0.1
baz=229
J19K **Poorman** 80.89 18 P **P** 08 13 50.7 +0.2
baz=224
H18K **Honhosa River** 80.92 17 P **P** 08 13 51.2 +0.6

baz=222
K20K Telida 80.93 19 P P 08 13 51.3 +0.6
baz=226
RC01 Rabbit Creek A 80.93 22 P P 08 13 51.5 +0.8
baz=230
GCSA Galena City Sc 81.05 17 P P 08 13 52.0 +0.8
baz=223
F17K Baldwin Pennin 81.14 15 P P 08 13 52.1 +0.5
baz=219
P23K Montague Islan 81.15 24 P P 08 13 51.9 0.0
baz=233
M22K Willow 81.21 22 P P 08 13 52.2 +0.1
baz=230
PPLA Purkeypile 81.24 20 P P 08 13 51.8 -0.7
baz=228
Q23K Middleton Isla 81.24 25 P P 08 13 51.9 -0.4
baz=234
PWL Port Wells 81.32 23 P P 08 13 53.3 +0.5
baz=232
G18K Tagagawik 81.40 16 P P 08 13 53.7 +0.6
baz=221
J20K Nowinta River 81.47 19 P P 08 13 54.3 +0.8
baz=226
PMR Palmer 81.47 22 P P 08 13 53.7 +0.1
PMR Palmer 81.47 22 P P 08 13 54.1 +0.5
baz=231
E17K Hotham Inlet 81.50 14 P P 08 13 54.4 +0.8
baz=218
CUT Chulitna 81.58 21 P P 08 13 54.5 +0.4
baz=230
KNK Knik Glacier 81.61 22 P P 08 13 54.8 +0.4
baz=232
C16K Lisburne Hills 81.66 12 P P 08 13 55.0 +0.6
baz=215
F18K Selawik 81.67 15 P P 08 13 54.9 +0.4
baz=220
D17K Noatak River 81.69 13 P P 08 13 55.0 +0.4
baz=217
H19K Roundabout Mou 81.75 17 P P 08 13 55.6 +0.7
baz=224
I20K Naaghedeneel 81.81 18 P P 08 13 55.7 +0.5
baz=226
GLI Glacier Island 81.81 23 P P 08 13 56.1 +0.8
baz=233
CHUM Lake Minchumin 81.86 19 P P 08 13 56.3 +0.7
baz=228,SNR=5.8
SML Sawmill 81.91 22 P P 08 13 56.9 +0.9
baz=232
RDOG Red Dog Mine 82.02 13 P P 08 13 57.4 +1.1
baz=217
E18K Tukpahlearik C 82.06 14 P P 08 13 57.7 +1.1
baz=219
KTH Kantishna Hill 82.11 20 IAmb IAmb 08 13 57.1
comp=Z,19nm,0.8s
M23K Glacier View 82.12 22 P P 08 13 58.1 +1.1
baz=232
EYAK Cordova Ski Ar 82.14 24 P P 08 13 58.2 +1.1
baz=234
H20K Anotleneega Mo 82.18 17 P P 08 13 57.8 +0.5
baz=225
TRF Thorofare Moun 82.25 20 P P 08 13 57.5 -0.4
baz=230,SNR=8.0
C17K DeLong Mountai 82.30 13 P P 08 13 58.5 +0.7
baz=217
SCM Sheep Creek Mo 82.30 22 P P 08 13 58.8 +0.8
baz=232
KAIM Kayak Island 82.33 25 P P 08 13 58.1 0.0
baz=235
F19K Shaleruckik Mo 82.34 16 P P 08 13 58.3 +0.3
baz=222
BPAW Bear Paw Mtn. 82.44 20 P P 08 13 58.3 -0.3
baz=229
WAT1 Susitna Watana 82.47 21 P P 08 13 58.2 -0.6
baz=231
WAT6 Susitna Watana 82.61 22 P P 08 14 00.2 +0.4
baz=232
KLU Klutina 82.63 23 P P 08 13 59.7 -0.1
baz=234
I21K Tanana 82.84 19 IAmb IAmb 08 14 02.3
comp=Z,17nm,0.7s
I21K Tanana 82.84 19 P P 08 14 01.3 +0.6
baz=228,SNR=6.2
IMAR Indian Mountai 82.86 17 P P 08 14 01.1 +0.4
C18K Utukok River 82.88 13 P P 08 14 01.2 +0.3
baz=219
M24K Tolsona, Glenn 82.90 23 P P 08 14 01.5 +0.3
baz=234
MCK McKinley 82.90 20 P P 08 14 00.9 -0.2
baz=231,SNR=19
H21K Melozitna Rive 82.91 18 P P 08 14 02.2 +1.2
baz=227
E19K Redstone River 82.94 15 P P 08 14 02.3 +1.1
baz=223
DHY Denali Highway 83.04 21 IAmb IAmb 08 14 04.2
comp=Z,10nm,0.7s
DHY Denali Highway 83.04 21 P P 08 14 02.6 +0.7
baz=232
F20K Avaraart Lake 83.05 16 P P 08 14 02.7 +1.0
baz=224
MLY Manley 83.14 19 IAmb IAmb 08 14 03.3
comp=Z,16nm,0.7s
MLY Manley 83.14 19 P P 08 14 02.9 +0.6
baz=229,SNR=12
N25K Chitina, Valde 83.21 23 P P 08 14 03.9 +1.0
baz=235
G21K Allakaket 83.30 17 IAmb IAmb 08 14 04.0
comp=Z,8.8nm,0.6s
G21K Allakaket 83.30 17 P P 08 14 04.1 +1.1
baz=226
B18K Kokolik River 83.31 13 P P 08 14 04.3 +1.3
baz=218
CRQE Cirque 83.33 25 P P 08 14 04.5 +1.0
baz=236
NEA2 Nenana 83.40 20 P P 08 14 03.6 0.0
baz=231,SNR=15
D19K Kuna River 83.49 14 P P 08 14 04.6 +0.5
baz=222
H22K Ishtalitna Cre 83.51 18 P P 08 14 05.3 +1.1
baz=228,SNR=5.4
C19K Lookout Ridge 83.60 14 P P 08 14 05.6 +1.0
baz=220
I23K Minto, Yukon-K 83.66 19 P P 08 14 05.1 +0.3
baz=230
PAX Paxson 83.67 22 P P 08 14 05.5 +0.4
baz=234
MAW Mawson 83.68 203 P P 08 14 04.3 -0.8
comp=Z,1.4nm,0.9s,baz=104,slow=6.3,SNR=5.3
comp=Z,1.4nm,0.9s
MCARA McCarthy VSAT 83.71 24 P P 08 14 06.2 +0.9
baz=236
TIXI Tiksi 83.75 351 P 08 14 04.5 -0.8
TIXI Tiksi 83.75 351 ⇑ iP P 08 14 04.6 -0.6
TIXI pmax pmax
comp=Z,4.0nm,1.0s
F21K Alatna River 83.79 17 IAmb IAmb 08 14 06.8
comp=Z,10nm,0.9s
F21K Alatna River 83.79 17 P P 08 14 06.4 +0.8
baz=226
E20K Nigu River 83.80 15 P P 08 14 06.3 +0.7
baz=224
COLA College 83.98 20 P P 08 14 06.0 -0.5
COLA College 83.98 20 P P 08 14 06.0 -0.5
COLA College 83.98 20 P P 08 14 06.0 -0.5
COLA pmax pmax
comp=Z,37nm,0.7s
COLA College 83.98 20 P P 08 14 06.5 0.0
baz=232
HDA Harding Lake 84.01 21 P P 08 14 07.2 +0.5
baz=233,SNR=13
WMQ Urumqi 84.01 316 eP P 08 14 10.0 +2.7
WMQ pmax pmax
comp=Z,24nm,0.7s
D20K Etivluk River 84.03 15 P P 08 14 07.7 +1.0
baz=223
H23K Yukon River 84.04 19 P P 08 14 07.4 +0.5
baz=230,SNR=8.8
K24K Donnelly Dome 84.05 21 P P 08 14 07.8 +0.8
baz=234
G22K Bettles 84.16 17 P P 08 14 08.4 +1.0
baz=228
CTG Chitna Glacier 84.17 25 P P 08 14 09.1 +1.2
baz=238
CTGM Chitina Glacie 84.17 25 IAmb IAmb 08 14 09.4
comp=Z,13nm,0.8s
PINM Pinnacle 84.18 26 P P 08 14 09.0 +1.2
baz=239
ILAR Eielson Array 84.25 20 P 08 14 07.2 -0.8
ILAR Eielson Array 84.25 20 P P 08 14 07.0 -0.9
comp=Z,12nm,0.5s,baz=246,slow=5.0,SNR=325
comp=Z,12nm,0.5s
ILAR Eielson Array 84.25 20 P P 08 14 07.2 -0.8
POKR Poker Plat Res 84.28 20 P P 08 14 07.6 -0.5
baz=232
M26K Nabesna, AK 84.29 23 P P 08 14 08.7 +0.5
baz=236
MENT Mentasta 84.31 23 P P 08 14 09.2 +0.9
PNL Peninsula 84.33 26 P P 08 14 08.7 +0.2
baz=240
RIDG Independent Ri 84.35 22 IAmb IAmb 08 14 09.9
comp=Z,13nm,0.6s
RIDG Independent Ri 84.35 22 P P 08 14 08.4 -0.2
baz=235
F22K John River 84.36 17 P P 08 14 09.5 +1.0
baz=228
G23K Bananza Creek 84.46 18 P P 08 14 10.4 +1.4
baz=230
L26K Log Cabin Wild 84.50 23 IAmb IAmb 08 14 10.7
comp=Z,11nm,0.8s
L26K Log Cabin Wild 84.50 23 P P 08 14 10.3 +1.0
baz=236,SNR=6.0
O28M Mount Upton 84.55 25 IAmb IAmb 08 14 12.5
comp=Z,9.5nm,0.8s
O28M Mount Upton 84.55 25 P P 08 14 10.4 +0.5
baz=239
HYB Hyderabad 84.57 289 eP P 08 14 10.6 -0.1
HYB ePcP PcP 08 14 13.9 -0.3
HYB IVmB_BB 08 14 18.2
comp=Z,413nm,5.2s
H24K Noodor Dome 84.58 19 P P 08 14 10.0 +0.3
baz=232
J25K Salcha River, 84.68 21 P P 08 14 11.5 +1.3
baz=234
M27K Edge Creek, AK 84.70 24 IAmb IAmb 08 16 14.5
comp=Z,13nm,0.7s
M27K Edge Creek, AK 84.70 24 P P 08 14 11.4 +0.9
baz=237
COLD Coldfoot 84.75 17 P P 08 14 11.6 +1.2
baz=229
SCRK Sand Creek 84.80 22 IAmb IAmb 08 14 12.2
comp=Z,11nm,0.8s
SCRK Sand Creek 84.80 22 P P 08 14 11.7 +0.8
baz=235,SNR=7.0
C21K Knifeblade Rid 84.81 15 P P 08 14 12.0 +1.3
baz=225
B20K Meade River 84.85 14 P P 08 14 11.4 +0.6
baz=222
E22K Anaktuvuk Pass 84.89 16 P P 08 14 11.8 +0.6
baz=228
S31K Pelican 84.96 29 P P 08 14 12.5 +0.9
baz=243
SIT Sitka 84.99 30 P P 08 14 13.1 +1.3
baz=244
YUK8 Steele Glacier 84.99 25 P P 08 14 13.3 +1.2
baz=239,SNR=6.5
O29M Mount Kennedy 85.01 26 P P 08 14 13.4 +1.4
baz=241
P29M Windy Craggy 85.05 27 P P 08 14 13.2 +1.1
baz=241
L27K Beaver Creek, 85.10 23 P P 08 14 13.5 +1.2
baz=237,SNR=5.5
D22K Ayikyak River 85.16 16 P P 08 14 13.8 +1.4
baz=227
B21K Ikpikpuk River 85.18 15 P P 08 14 13.5 +1.0
baz=225
G24K Hadweenzic Riv 85.24 19 IAmb IAmb 08 14 14.4
comp=Z,8.2nm,0.8s
G24K Hadweenzic Riv 85.24 19 P P 08 14 14.4 +1.5
baz=232
J26L Joseph Creek 85.25 21 IAmb IAmb 08 14 15.1
comp=Z,8.2nm,0.6s
J26L Joseph Creek 85.25 21 P P 08 14 14.2 +1.1
baz=236,SNR=9.7
R31K City Hall, Gus 85.40 28 P P 08 14 15.7 +1.9
baz=243
YUK6 Outpost Mounta 85.41 26 P P 08 14 14.9 +0.7
baz=241
CRAG Craig 85.42 32 P P 08 14 15.1 +1.1
baz=246
E23K Chandalar 85.46 17 P P 08 14 15.4 +1.3
baz=230
YUK4 Talbot Arm 85.49 25 P P 08 14 15.9 +1.4
baz=240,SNR=10
H25L Birch Creek 85.50 19 P P 08 14 15.5 +1.3
baz=234
K27K Chicken 85.53 22 IAmb IAmb 08 14 18.8
comp=Z,20nm,1.6s
K27K Chicken 85.53 22 P P 08 14 15.5 +1.1
baz=237
S32K Killisnoo 85.53 30 P P 08 14 15.3 +0.9
baz=244
PLBC Pleasant Camp 85.58 27 P P 08 14 15.8 +1.1
baz=243
F24K Squaw Lake 85.62 18 IAmb IAmb 08 14 17.2
comp=Z,6.4nm,0.7s
F24K Squaw Lake 85.62 18 P P 08 14 16.0 +1.1
baz=232
P30M Million Dollar 85.63 27 P P 08 14 15.9 +0.9
baz=242
U33K Whale Pass 85.69 31 P P 08 14 16.3 +1.0
baz=246
G25K Bearman Lake 85.71 19 P P 08 14 16.3 +1.1
baz=233
HYT Haines Junctio 85.72 26 P P 08 14 16.6 +1.1
baz=242,SNR=5.6
D23K Nanushuk River 85.75 16 IAmb IAmb 08 14 17.7
comp=Z,20nm,0.8s
D23K Nanushuk River 85.75 16 P P 08 14 17.0 +1.6
baz=229
E24K Your Creek 85.79 17 P P 08 14 17.2 +1.5
baz=231
TOLK Toolik Lake Re 85.84 17 P P 08 14 17.2 +1.3
baz=230
I26K Coal Creek Min 85.85 21 P P 08 14 17.1 +1.1
baz=236
R32K Eaglecrest 85.91 29 P P 08 14 17.6 +1.1
baz=244
A22K Sinclair Lake 86.08 13 P P 08 14 19.5 +2.6
baz=225
M29M Somme Creek 86.11 24 P P 08 14 19.0 +1.6
baz=240
N30M Aishikik Lake 86.20 25 P P 08 14 19.5 +1.6
baz=242
WRAK Wrangell Islan 86.20 31 P P 08 14 19.2 +1.4
baz=246
O30N Mendenhall 86.31 26 P P 08 14 19.6 +1.2
baz=243
C23K Itkillik River 86.35 15 P P 08 14 20.0 +1.7
baz=229
F25K Christian Rive 86.35 18 P P 08 14 20.0 +1.5
baz=234
D24K Happy Valley 86.38 16 P P 08 14 19.9 +1.4
baz=230
I27K Kandik River 86.55 21 P P 08 14 20.7 +1.3
baz=238
DAWY Dawson 86.56 23 P P 08 14 21.0 +1.4
baz=240
G26K Porcupine Rive 86.56 19 IAmb IAmb 08 14 21.2
comp=Z,12nm,0.9s
G26K Porcupine Rive 86.56 19 P P 08 14 21.2 +1.7
baz=235
L29M L29M 86.57 24 IAmb IAmb 08 14 21.7
comp=Z,15nm,1.1s
L29M L29M 86.57 24 P P 08 14 21.1 +1.5
baz=241,SNR=6.8
E25K Arctic Village 86.69 18 P P 08 14 21.5 +1.5
baz=234
N31M Braeburn, Yuko 86.77 26 IAmb IAmb 08 14 23.3
comp=Z,13nm,1.1s
N31M Braeburn, Yuko 86.77 26 P P 08 14 22.2 +1.6
baz=243
C24K Franklin Bluff 86.78 16 P P 08 14 21.9 +1.5
baz=231
WHY Whitehorse 86.79 27 P P 08 14 21.9 +1.0
baz=244
M30M Minto, Yukon 86.85 25 IAmb IAmb 08 14 22.7
comp=Z,11nm,1.2s
M30M Minto, Yukon 86.85 25 P P 08 14 21.9 +0.9
baz=242,SNR=7.0
P32M Atlin 86.85 28 P P 08 14 22.2 +1.1
baz=245
F26K Sheenjek River 86.88 19 P P 08 14 22.4 +1.4
baz=235
H27K Steamboat Moun 86.92 20 IAmb IAmb 08 14 23.3
comp=Z,8.9nm,0.9s
H27K Steamboat Moun 86.92 20 P P 08 14 22.6 +1.4
baz=238
ZSN Zaisan 87.05 319 eP P 08 14 22.0 -0.3
ZSN Zaisan 87.05 319 eP P 08 14 22.0 -0.3
I28M Miner Creek 87.06 21 IAmb IAmb 08 14 29.7
comp=Z,33nm,2.0s
I28M Miner Creek 87.06 21 P P 08 14 23.6 +1.5
baz=239
K29M Barlow Dome 87.17 23 IAmb IAmb 08 14 24.6
comp=Z,11nm,1.1s
K29M Barlow Dome 87.17 23 P P 08 14 23.7 +1.1
baz=241,SNR=6.9
D25K Kavik River 87.17 17 P P 08 14 23.3 +0.9
baz=233
G27K Doyon Strip 87.19 20 P P 08 14 23.6 +1.1
baz=237
Q32M Nakina River 87.27 29 P P 08 14 24.3 +1.0
baz=246
S34M Telegraph Cree 87.40 30 P P 08 14 25.0 +1.3
baz=247
T35M Bob Quinn 87.49 31 P P 08 14 25.5 +1.3
baz=248
P33M Teslin, Yukon 87.53 27 P P 08 14 24.9 +0.6
baz=246
MAYO Mayo, Yukon 87.69 24 P P 08 14 26.5 +1.5
baz=243
N32M Quiet Lake 87.80 27 P P 08 14 26.9 +1.3
baz=245
C26K Camden Bay 87.94 17 P P 08 14 27.9 +1.8
baz=234
E27K Coleen River 87.95 19 P P 08 14 27.1 +0.9
baz=237
J30M Hart River 87.97 23 IAmb IAmb 08 14 28.5
comp=Z,12nm,1.4s
J30M Hart River 87.97 23 P P 08 14 28.0 +1.5
baz=242
H29M Whitestone 88.01 21 P P 08 14 28.3 +1.8
baz=240
R33M Jennings River 88.06 29 P P 08 14 27.9 +0.9
baz=247
C27K Jago River 88.11 17 P P 08 14 27.8 +0.9
baz=235
DLBC Dease Lake 88.14 30 LR LR 08 47 06.1
comp=Z,612nm,18.9s,baz=158,slow=31
DLBC Dease Lake 88.14 30 P P 08 14 28.3 +0.9
baz=248
F28M Old Crow 88.20 19 P P 08 14 29.0 +1.6
baz=239
I30M Mount Dempster 88.25 22 P P 08 14 28.7 +0.9
baz=242
G29M Pine Creek 88.47 20 P P 08 14 29.6 +1.0
baz=241
MK31 Makanchi Array 88.55 318 P P 08 14 29.4 -0.1
MK31 IAmb IAmb 08 14 29.9
comp=Z,6.1nm,0.7s
MK31 Makanchi Array 88.55 318 P P 08 14 29.4 -0.1
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 88.55 318 P P 08 14 29.1 -0.4
comp=Z,8.1nm,0.6s,baz=95,slow=6.5,SNR=73
MKAR LR LR 08 57 48.2
comp=Z,46nm,18.1s,baz=148,slow=38
comp=Z,8.1nm,0.6s
MKAR Makanchi Array 88.55 318 P P 08 14 29.2 -0.3
EPYK Eagle Plains 88.67 21 P P 08 14 30.7 +1.1
baz=242
D27M Malcolm River 88.71 18 P P 08 14 31.1 +1.3
baz=238
MAKZ Makanchi 88.76 318 P 08 14 29.9 -0.6
MAKZ IAmb IAmb 08 14 30.9
comp=Z,8.3nm,0.8s
MAKZ Makanchi 88.76 318 P P 08 14 29.9 -0.6
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
E28M Babbage River 88.82 19 P P 08 14 31.9 +1.6
baz=239
ZALV Zalesovo Beam 89.06 325 P 08 14 30.6 -1.1
ZALV Zalesovo Beam 89.06 325 P P 08 14 29.7 -1.9
comp=Z,2.5nm,0.6s,baz=122,slow=7.3,SNR=5.3
ZALV LR LR 08 55 43.0
comp=Z,58nm,19.4s,baz=57,slow=36
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 89.06 325 i P P 08 14 30.6 -1.1
ZALV pmax pmax
comp=Z,3.0nm,0.6s
G30M tAoh Zraii Nji 89.13 21 P P 08 14 33.6 +1.9
baz=242
MMPY Sheldon Lake, 89.18 26 P P 08 14 33.6 +1.5
baz=247
E29M Blow River 89.24 19 P P 08 14 33.8 +1.6
baz=241
H31M Peel River 89.28 22 P P 08 14 33.7 +1.3
baz=244
SHLS Shalkode 89.56 314 eP P 08 14 32.5 -1.9
SHLS Shalkode 89.56 314 eP P 08 14 32.5 -1.9
F30M Barrier River 89.57 20 P P 08 14 35.4 +1.7
baz=243
NVAR Mina Array Bea 89.76 51 P P 08 14 35.2 -0.4
comp=Z,1.0nm,0.8s,baz=256,slow=7.1,SNR=2.8
NVAR LR LR 08 49 53.9
comp=Z,78nm,18.6s,baz=277,slow=32
comp=Z,1.0nm,0.8s
G31M Satah River 89.79 21 P P 08 14 35.7 +0.9
baz=244
UZB Uzynbulak 89.87 314 eP P 08 14 35.5 -0.5
comp=Z,10nm,1.3s
UZB Uzynbulak 89.87 314 eP P 08 14 35.4 -0.5
UZB pmax pmax
comp=Z,10.0nm,1.3s
TGTN Hyland Airport 90.08 27 P P 08 14 37.7 +1.3
baz=250
F31M Tsiigehtchic 90.20 21 P P 08 14 37.9 +1.3
baz=245
PFO Pinyon Flats O 90.23 56 i P P 08 14 37.7 -0.1
SATY Saty 90.29 314 eP P 08 14 37.3 -0.6
comp=Z,7.8nm,1.1s
SATY Saty 90.29 314 eP P 08 14 37.3 -0.6
SATY pmax pmax
comp=Z,8.0nm,1.1s
TOAD Toad River Com 90.64 30 P P 08 14 39.9 +0.9
baz=252
TDK Taldyqorghan 90.73 315 eP P 08 14 39.3 -0.5
TDK Taldyqorghan 90.73 315 eP P 08 14 39.2 -0.5
SYO Syowa Base 91.24 198 eP P 08 14 40.6 -1.0
MDOK Medeo 91.29 313 eP P 08 14 41.9 -0.6
MDOK Medeo 91.29 313 eP P 08 14 41.9 -0.6
KSH Kashi 91.34 310 P P 08 14 44.5 +1.7
KSH pmax pmax
comp=Z,8.0nm,1.0s
AAA Alma-Ata 91.39 313 eP P 08 14 42.4 -0.5
AAA Alma-Ata 91.39 313 eP P 08 14 42.4 -0.5
BMO Blue Mountains 91.85 45 P P 08 14 45.8 +0.8
BMO IAmb IAmb 08 14 55.3
comp=Z,12nm,1.9s
BMO Blue Mountains 91.85 45 P P 08 14 45.8 +0.8
BMO pmax pmax
comp=Z,12nm,1.9s
KURK Kurchatov 91.87 321 P 08 14 43.7 -1.1
KURK Kurchatov 91.87 321 P P 08 14 43.9 -0.9
KURBB Kurchatov Arra 91.91 321 P P 08 14 43.9 -1.1
comp=Z,3.1nm,0.8s,baz=103,slow=3.3,SNR=23
comp=Z,3.1nm,0.8s
BOOM Boomskoye usch 91.95 313 IAmb IAmb 08 14 46.6
comp=Z,6.9nm,0.8s
F10A Beach Ranch, E 92.13 44 IAmb IAmb 08 14 47.5
comp=Z,7.3nm,0.8s
NEW Newport 92.66 42 LR LR 08 56 02.3
comp=Z,56nm,18.4s,baz=250,slow=35
PLID Pearl Lake 92.80 45 P 08 14 49.8 +0.2
SGDS Sogindy 93.08 313 eP P 08 14 50.2 -0.5
HLID Hailey 93.65 47 P P 08 14 53.5 0.0
LPIG La Paz 93.89 66 LR LR 08 50 40.9
comp=Z,66nm,19.1s,baz=288,slow=31
C36M Paulatuk 94.22 20 P P 08 14 55.8 +0.5
baz=254
A36M Sachs Harbour 94.61 18 P P 08 14 57.2 +0.2
baz=253
BRZS Berezniki 95.47 320 eP P 08 15 01.2 -0.3
BRZS Berezniki 95.47 320 eP P 08 15 01.1 -0.3
BRLS Boroldayy 96.47 312 eP P 08 15 06.0 -0.2
BRLS Boroldayy 96.47 312 eP P 08 15 06.0 -0.2
CHM Chimkent 96.55 312 eP P 08 15 06.1 -0.5
CHM Chimkent 96.55 312 eP P 08 15 06.0 -0.5
YKA Yellowknife Ar 96.56 28 LR LR 08 51 17.0
comp=Z,47nm,20.3s,baz=278,slow=31
PDAR Pinedale Array 97.05 48 P Pdif 08 15 09.6 +0.3
comp=Z,0.4nm,0.6s,baz=204,slow=1.7,SNR=5.2
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 97.29 322 P P 08 15 08.0 -1.6

comp=Z,4.4nm,0.6s,baz=99,slow=5.4,SNR=14
comp=Z,4.4nm,0.6s
BVAR Borovoye Array 97.29 322 P **P 08 15 08.0 -1.6**
BORK Borovoye 97.33 323 ‖ *i* P **P 08 15 08.4 -1.4**
BORK pmax pmax
comp=Z,9.0nm,1.5s
SNAA Sanae 97.95 185 LR LR 08 54 34.5
comp=Z,78nm,20.8s,baz=141,slow=32
ANMO Albuquerque 98.61 56 LR LR 08 56 16.7
comp=Z,73nm,18.2s,baz=41,slow=33
APA Apatity 112.28 340 ‖ *i* PKIKP **PKiKP 08 20 12.5 +0.6**
ARCES ARCESS Array B 113.51 344 PKiKP **PKiKP 08 20 13.0 -1.3**
comp=Z,6.3nm,1.1s,baz=69,slow=2.2,SNR=3.6
ARCES ARCESS Array B 113.51 344 *i* PKIKP **PKiKP 08 20 13.0 -1.3**
KIV Kislovodsk 116.09 314 *i* PKIKP **PKPdf 08 20 17.9 -2.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SHA1 Shidzhatmaz 116.15 314 ‖ *i* PKIKP **PKPdf 08 20 19.7 -0.7**
SIM Simferopol' 121.72 317 *i* PKIKP **PKiKP 08 20 37.6 +6.7**
SIM pmax pmax
comp=Z,142nm,1.0s
NOA NORSAR Array B 123.77 342 PKP **PKPdf 08 20 33.4 -0.9**
comp=Z,0.6nm,0.7s,baz=65,slow=5.2,SNR=1.8
MAL2 Monte Alegre, 144.28 107 PKPdf **PKPdf 08 21 13.0 -0.8**
PBRG Braganca 145.90 342 *e*PKPab **PKPab 08 21 16.6 -0.3**
PGAV Gavieira, Arco 146.20 344 *e*PKPbc **PKPbc 08 21 16.7 -0.7**
MVO Moncorvo 146.57 342 *e*PKPbc **PKPab 08 21 18.4 -1.0**
ESDC Sonseca Array 146.82 337 PKPbc **PKPbc 08 21 18.6 -0.6**
comp=Z,1.3nm,0.8s,baz=15,slow=3.2,SNR=6.0
PVIS Viseu 147.25 342 *e*PKPbc **PKPab 08 21 20.8 -1.3**
MTE Manteigas 147.43 342 *e*PKPbc **PKPbc 08 21 21.2 +0.3**
PCBR Castelo Branco 147.92 341 *e*PKPbc **PKPbc 08 21 22.4 +0.2**
PMRV Marv??o 148.27 341 *e*PKPbc **PKPbc 08 21 23.1 0.0**
PSARD Sardoal 148.35 342 *e*PKPbc **PKPbc 08 21 23.5 +0.2**
PESTR Estremoz 148.84 341 *e*PKPdf **PKPdf 08 21 20.4 -0.4**
PESTR *e*PKPbc **PKPbc 08 21 24.2 -0.4**
PMTG Montargil 148.86 342 *e*PKPbc **PKPbc 08 21 24.6 -0.1**
EVO Evora 149.28 341 *e*PKPbc **PKiKP 08 21 25.9 -1.1**
PVAQ Vaqueiros 150.21 340 *e*PKPbc **PKiKP 08 21 28.1 -0.8**
PBDV Barranco-do-Ve 150.42 340 *e*PKPbc **PKPbc 08 21 28.4 -0.2**
TORD Torodi Ar. Bea 158.20 281 PKPab **PKPab 08 22 08.1 -0.6**
comp=Z,1.4nm,1.0s,baz=68,slow=4.7,SNR=3.8

*NOU **28** 08:03:27.2, 36°.85S×177°.49E, h214km, MLv3.5/14, Off E. Coast of N. Island, N.Z.*
*WEL **28** 08:03:29.1±1.0, 37°.S±8°×17°.8E±°, h185km±9km, M3.2/19, ML3.6/10, MLv3.2/19, Error ellipse: s-maj=13.2km s-min=6.9km az=43.4, confirmed*
ISC 28 08:03:23.1±2.5, 36°.68S±0°.08×177°.66E±0°.09, h236km±13km, n87, σ2°.01/95, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.02**	**150**	P	**Pn**	**08 03 58.1**	**+1.3**
MXZ	**Matakaoa Point**	**1.02**	**150**	S	**S**	**08 04 21.6**	**-1.6**
MXZ	**Matakaoa Point**	**1.02**	**150**	P	**Pn**	**08 03 58.0**	**+1.3**
MXZ				S	**S**	**08 04 20.9**	**-2.3**
HAZ	**Te Kaha**	**1.07**	**175**	P	**Pn**	**08 03 57.9**	**+0.9**
HAZ				S	**S**	**08 04 20.2**	**-3.6**
PKGZ	**Pakihiroa**	**1.23**	**164**	P	**Pn**	**08 04 00.1**	**+2.0**
PKGZ				S	**S**	**08 04 24.3**	**-1.3**
RUGZ	**Raukumara Rang**	**1.28**	**179**	P	**Pn**	**08 03 59.3**	**+0.7**
WMGZ	**Waiomatatini S**	**1.28**	**152**	P	**Pn**	**08 04 00.3**	**+1.8**
WMGZ				S	**S**	**08 04 25.1**	**-1.2**
PUZ	**Puketiti**	**1.47**	**161**	P	**Pn**	**08 04 01.9**	**+2.1**
PUZ				S	**S**	**08 04 27.0**	**-1.8**
TWGZ	**Tauwhareparae**	**1.51**	**170**	P	**Pn**	**08 04 02.9**	**+2.6**
TWGZ				S	**S**	**08 04 28.7**	**-0.7**
MARZ	**Manawahe**	**1.52**	**211**	P	**Pn**	**08 04 04.5**	**+4.2**
KUZ	**Kuaotunu**	**1.56**	**267**	P	**Pn**	**08 04 01.0**	**+0.4**
KUZ	**Kuaotunu**	**1.56**	**267**	P	**Pn**	**08 04 01.1**	**+0.6**
URZ	**Urewera**	**1.63**	**195**	P	**Pn**	**08 04 02.7**	**+1.5**
URZ	**Urewera**	**1.63**	**195**	S	**S**	**08 04 29.4**	**-1.7**
URZ	**Urewera**	**1.63**	**195**	P	**Pn**	**08 04 02.6**	**+1.5**
URZ				S	**S**	**08 04 29.0**	**-2.0**
MWZ	**Matawai**	**1.65**	**184**	P	**Pn**	**08 04 03.4**	**+2.1**
MWZ				S	**S**	**08 04 29.7**	**-1.7**
TKGZ	**Te Karaka**	**1.76**	**175**	P	**Pn**	**08 04 04.5**	**+2.3**
RAGZ	**Rawiri**	**1.82**	**186**	P	**Pn**	**08 04 05.1**	**+2.3**
GRZ	**Great Barrier**	**1.83**	**283**	P	**Pn**	**08 04 03.4**	**+0.6**
CNGZ	**Carnagh Statio**	**1.85**	**167**	P	**Pn**	**08 04 05.7**	**+2.7**
MUGZ	**Murupara**	**1.93**	**201**	P	**Pn**	**08 04 05.6**	**+1.9**
RTZ	**Ruatahuna**	**2.00**	**195**	P	**Pn**	**08 04 06.3**	**+1.6**
TOZ	**Tahuroa Road**	**2.02**	**238**	P	**Pn**	**08 04 06.9**	**+2.4**
RIGZ	**Rimuhau**	**2.02**	**178**	P	**Pn**	**08 04 07.0**	**+2.4**
RIGZ				S	**S**	**08 04 36.7**	**-0.6**
WIAZ	**Waiheke Island**	**2.03**	**266**	P	**Pn**	**08 04 06.1**	**+1.4**
MKAZ	**Moumakai**	**2.05**	**257**	P	**Pn**	**08 04 06.6**	**+1.8**
SNGZ	**Shannon Statio**	**2.11**	**187**	P	**Pn**	**08 04 07.7**	**+2.2**
ETAZ	**East Tamaki Re**	**2.21**	**262**	P	**Pn**	**08 04 08.5**	**+2.1**
MBAZ	**Motutapu North**	**2.22**	**267**	P	**Pn**	**08 04 08.3**	**+1.8**
PRGZ	**Paritu Road**	**2.24**	**176**	P	**Pn**	**08 04 09.4**	**+2.6**
MTHZ	**Maungataniwha**	**2.26**	**196**	P	**Pn**	**08 04 08.9**	**+1.9**
RAHZ	**Arahi**	**2.27**	**191**	P	**Pn**	**08 04 09.5**	**+2.4**
KUTZ	**Kaahu Road**	**2.32**	**218**	P	Pn	08 04 12.9	+5.4
KNZ	**Kokohu**	**2.33**	**180**	P	**Pn**	**08 04 09.7**	**+2.1**
MRHZ	**Matea Rd**	**2.36**	**204**	P	**Pn**	**08 04 09.9**	**+1.9**
WHHZ	**Waihua**	**2.41**	**188**	P	**Pn**	**08 04 10.9**	**+2.5**
AWAZ	**Awhitu Peninsu**	**2.45**	**260**	P	**Pn**	**08 04 10.5**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.47**	**176**	P	**Pn**	**08 04 11.6**	**+2.6**
RVAZ	**Riverhead Bore**	**2.48**	**267**	P	**Pn**	**08 04 11.0**	**+1.9**
WTAZ	**Waiatarua**	**2.49**	**263**	P	**Pn**	**08 04 11.4**	**+2.1**
NMHZ	**Naumai**	**2.50**	**195**	P	**Pn**	**08 04 12.5**	**+3.0**
ARHZ	**Aropaoanui**	**2.63**	**191**	P	**Pn**	**08 04 13.1**	**+2.5**
BKZ	**Black Stump Fm**	**2.65**	**200**	P	**Pn**	**08 04 12.5**	**+1.6**
BKZ	**Black Stump Fm**	**2.65**	**200**	P	**S**	**08 04 47.1**	**-1.5**
BKZ	**Black Stump Fm**	**2.65**	**200**	P	**Pn**	**08 04 12.7**	**+1.8**
WCZ	**Waipu Caves**	**2.78**	**285**	P	**Pn**	**08 04 13.6**	**+1.2**
MCHZ	**McNeill Hill**	**2.86**	**195**	P	**Pn**	**08 04 15.8**	**+2.7**
TMVZ	**Te Maari**	**2.88**	**212**	P	**Pn**	**08 04 16.2**	**+2.7**
HIZ	**Hauiti**	**2.88**	**230**	P	**Pn**	**08 04 16.2**	**+2.8**
HIZ	**Hauiti**	**2.88**	**230**	P	**Pn**	**08 04 16.3**	**+2.8**
ETVZ	**East Tongariro**	**2.89**	**212**	P	**Pn**	**08 04 15.9**	**+2.3**
KWHZ	**Kaweka Forest**	**2.91**	**199**	P	**Pn**	**08 04 15.0**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.01**	**189**	P	**Pn**	**08 04 16.9**	**+2.1**
TUVZ	**Tukino**	**3.03**	**211**	P	**Pn**	**08 04 17.4**	**+2.2**
FWVZ	**Far West T-bar**	**3.06**	**212**	P	**Pn**	**08 04 17.9**	**+2.2**
WWVZ	**Wahianoa**	**3.10**	**211**	P	**Pn**	**08 04 18.0**	**+1.9**
MOVZ	**Moawhango**	**3.11**	**208**	P	**Pn**	**08 04 17.4**	**+1.5**
KRHZ	**Kereru**	**3.13**	**199**	P	**Pn**	**08 04 17.8**	**+1.7**
KAHZ	**Kahuranaki**	**3.17**	**191**	P	**Pn**	**08 04 19.0**	**+2.4**
VRZ	**Vera Road**	**3.35**	**222**	P	**Pn**	**08 04 21.7**	**+3.1**
PXZ	**Pawanui**	**3.40**	**190**	P	**Pn**	**08 04 20.9**	**+1.7**
PNHZ	**Pukenui**	**3.42**	**199**	P	**Pn**	**08 04 21.0**	**+1.5**
WPHZ	**Waipukurau**	**3.51**	**195**	P	**Pn**	**08 04 22.3**	**+1.9**
OUZ	**Omahuta**	**3.61**	**293**	P	**Pn**	**08 04 23.2**	**+1.5**
OUZ	**Omahuta**	**3.61**	**293**	P	**Pn**	**08 04 23.2**	**+1.5**
PRHZ	**Porangahau**	**3.67**	**192**	P	**Pn**	**08 04 24.3**	**+2.0**
WAZ	**Wanganui**	**3.72**	**214**	P	**Pn**	**08 04 24.9**	**+2.0**
DVHZ	**Dannevirke**	**3.80**	**198**	P	**Pn**	**08 04 25.1**	**+1.3**
NEZ	**North Egmont**	**3.82**	**226**	P	**Pn**	**08 04 28.0**	**+3.8**
PKE	**Pukeiti**	**3.84**	**228**	P	**Pn**	**08 04 28.0**	**+3.7**
ANWZ	**Angora Road**	**3.88**	**193**	P	**Pn**	**08 04 26.8**	**+2.0**
PRWZ	**Pori Road**	**4.09**	**198**	P	**Pn**	**08 04 29.0**	**+1.7**
MRZ	**Mangatainoka R**	**4.29**	**202**	P	**Pn**	**08 04 30.6**	**+0.8**
HOWZ	**Holdsworth Sta**	**4.53**	**201**	P	**Pn**	**08 04 32.8**	**+0.1**
OGWZ	**Otaki Gorge**	**4.56**	**204**	P	**Pn**	**08 04 33.8**	**+0.8**
TMWZ	**Te Maipa**	**4.63**	**197**	P	**Pn**	**08 04 35.0**	**+1.2**
KIW	**Kapiti Island**	**4.69**	**206**	P	**Pn**	**08 04 35.1**	**+0.5**
MTW	**Mount Morrison**	**4.78**	**200**	P	**Pn**	**08 04 36.0**	**+0.4**
CAW	**Cannon Point**	**4.86**	**204**	P	**Pn**	**08 04 37.0**	**+0.4**
TRWZ	**Traveller**	**4.95**	**197**	P	**Pn**	**08 04 38.4**	**+0.6**
DUWZ	**D'Urville Isla**	**5.04**	**214**	P	**Pn**	**08 04 39.1**	**+0.2**
MSWZ	**Moikau Station**	**5.08**	**201**	P	**Pn**	**08 04 39.6**	**+0.1**
SNZO	**South Karori**	**5.16**	**206**	P	**Pn**	**08 04 40.7**	**+0.3**
SNZO	**South Karori**	**5.16**	**206**	S	**S**	**08 05 39.3**	**-2.5**
QRZ	**Quartz Range**	**5.76**	**223**	P	**Pn**	**08 04 49.9**	**+2.0**
KHZ	**Kahutara**	**6.55**	**208**	P	**Pn**	**08 04 58.0**	**+0.2**
KHZ	**Kahutara**	**6.55**	**208**	S	**S**	**08 06 10.8**	**-2.7**

RSNC 28 08:10:04.0±0.3, 9°.N±2°.×7°.8W±°, h76km±11km, M2.6, mb4.2, ML2.2, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBC	**Los crdobas,**	**1.49**	**99**	P	Pn	08 10 30.5	+1.4
LCBC				S	Sn	08 10 47.9	-0.1
APAC	**Apartado, Choc**	**1.74**	**133**	P	Pn	08 10 33.3	+1.0
APAC				S	Sn	08 10 55.8	+2.0
PTAC	**Punta Ardita,**	**1.94**	**178**	P	Pn	08 10 34.3	-0.7
PTAC				S	Sn	08 10 58.4	-0.2
BCIP	**Isla Barro Col**	**1.95**	**272**	P	Pn	08 10 35.4	+0.2
BCIP				S	Sn	08 10 58.3	-0.6
UREC	**San Jos de Ur**	**2.66**	**120**	P	Pn	08 10 44.2	-0.6
UREC				S	Sn	08 11 14.3	-1.8
SJCC	**San Jacinto, C**	**2.76**	**73**	P	Pn	08 10 47.9	+1.8
SJCC				S	Sn	08 11 19.1	+0.6
ARGC	**Ariguani, Magd**	**3.64**	**78**	P	Pn	08 10 59.9	+1.8
ARGC				S	Sn	08 11 40.7	+0.7
HELC	**Santa Helena**	**3.70**	**141**	P	Pn	08 10 58.6	-0.6
HELC				S	Sn	08 11 41.7	-0.1
CBOC	**Ciudad Bolivar**	**3.70**	**150**	P	Pn	08 11 00.3	+1.3
PTBC	**PUERTO BERRIO,**	**4.22**	**127**	P	Pn	08 11 05.4	-0.6
PTBC				S	Sn	08 11 52.2	-2.0
OCAC	**Ocana**	**4.57**	**100**	P	Pn	08 11 10.6	-0.2
OCAC				S	Sn	08 12 01.5	-1.3
CRJC	**Cerrejon, Guaj**	**5.26**	**68**	P	Pn	08 11 21.3	+1.1
	12nm,0.9s						
CRJC				S	Sn	08 12 18.0	-1.6
	12nm,0.9s						
PRVC	**Isla de Provid**	**5.46**	**321**	P	Pn	08 11 22.5	-0.4
PRVC				S	Sn	08 12 23.3	-1.2

*NEIC **28** 08:10:43.1±1.9, 38°.834N±0°.007×122°.69W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=282.0*
NCEDC 28 08:10:43.5±1.1, 38°.81N±0°.01×122°.78W±0°.02, h1km±1km, ML3.1/89, ML2.8/65(NEIC), Error ellipse: s-maj=2.1km s-min=1.6km az=48.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**274**	Pg	Pg	08 10 43.9	0.0
GBGM	**Boggs Mountain**	**0.08**	**85**		Pg	08 10 45.4	+0.3
GBGM					Sg	08 10 47.1	+1.0
GAXM	**Alexander Vall**	**0.10**	**169**		Pg	08 10 45.6	+0.2
GAXM					Sg	08 10 47.1	+0.5
GPMM	**Pine Mountain**	**0.14**	**287**		Pg	08 10 46.7	+0.5
GPMM					Sg	08 10 49.0	+1.1
GRTM	**Round Top Moun**	**0.16**	**33**		Pg	08 10 46.8	+0.2
GCVM	**Cloverdale**	**0.19**	**259**		Pg	08 10 47.9	+0.8
NMTM	**Middletown**	**0.26**	**90**		Pg	08 10 48.9	+0.4
HOPS	**Hopland Field**	**0.29**	**309**		Pg	08 10 49.8	+0.7
HOPS				IAML		08 10 59.2	
	comp=N,863nm,0.6s						
HOPS				IAML		08 10 59.6	
	comp=E,1μm,0.5s						
GHGM	**Hogback Ridge**	**0.32**	**354**		Pg	08 10 50.1	+0.4
GSNM	**Snow Mountain**	**0.35**	**293**		Pg	08 10 51.0	+0.8
GALB	**Galbreath Wild**	**0.38**	**279**		Pg	08 10 51.4	+0.7
FTR	**Fort Ross**	**0.41**	**227**		Pg	08 10 52.2	+0.9
NTYM	**Taylor**	**0.43**	**168**		Pg	08 10 52.2	+0.5
OAKV	**Oakville Exper**	**0.47**	**142**		Pg	08 10 52.9	+0.4
BONV	**Boonville, CA**	**0.48**	**292**		Pb	08 10 54.7	0.0
CVS	**Carmenet Viney**	**0.53**	**151**		Pg	08 10 53.9	+0.3
CVS				Sg	Sg	08 11 00.5	+0.2
CVS				IAML		08 11 05.8	
	comp=N,962nm,0.6s						
NAPC	**Atlas Peak**	**0.55**	**132**		Pg	08 10 54.5	+0.4
GWRM	**Wonder Ranch**	**0.57**	**315**		Pg	08 10 55.3	+0.9
GHOM	**Hamilton Openi**	**0.64**	**292**		Pb	08 10 56.7	-0.8
GFC	**Funks Creek**	**0.64**	**36**		Pb	08 10 58.6	+1.1
MCCM	**Marconi Confer**	**0.67**	**187**		Pb	08 10 57.2	-0.7
MCCM				IAML		08 11 07.7	
	comp=N,510nm,0.6s						
MCCM				IAML		08 11 08.3	
	comp=E,716nm,0.8s						
SNT	**Sears Point**	**0.67**	**158**		Pg	08 10 56.4	0.0
NGVM		**0.69**	**140**		Pg	08 10 57.1	+0.4
NADM	**Allendale**	**0.72**	**118**		Pb	08 10 59.1	+0.3
RUSS	**Russell Ranch**	**0.76**	**110**		Pb	08 10 59.9	+0.4
NOLM	**Olema**	**0.77**	**181**		Pg	08 10 58.8	+0.6
DCMP	**DeCamp, Califo**	**0.79**	**327**		Pg	08 10 59.2	+0.5
KRKM	**Rackout Spring**	**0.82**	**338**		Pb	08 11 00.5	-0.1
NPRM	**Point Reyes**	**0.83**	**193**		Pg	08 10 59.8	+0.4
GTC	**Three Chop Rid**	**0.85**	**315**		Pb	08 11 00.9	-0.1
NLHM	**Lake Herman**	**0.85**	**144**		Pg	08 11 00.0	+0.3
OSUM	**Sutter Buttes**	**0.86**	**57**		Pg	08 10 59.9	0.0
PINL	**Point Pinole R**	**0.86**	**158**		Pg	08 11 00.4	+0.5
CPMM	**Point Molate**	**0.91**	**161**		Pg	08 11 00.8	0.0
CSPM	**San Pablo Ridg**	**0.92**	**156**		Pb	08 11 01.8	-0.5
CPIM	**Pinole Ridge**	**0.93**	**151**		Pg	08 11 01.6	+0.3
GVV	**Valley View**	**0.97**	**5**		Pb	08 11 03.7	+0.5
CTAM	**Taylor**	**0.98**	**142**		Pb	08 11 03.6	+0.3
INGLE	**Inglenook, Smi**	**1.01**	**316**		Pb	08 11 03.5	-0.4
BRK	**Berkeley--Havi**	**1.02**	**156**		Pg	08 11 03.0	0.0
BL67	**Building 67, L**	**1.02**	**156**		Pg	08 11 03.4	+0.4
BKS	**Berkeley--Byer**	**1.02**	**155**		Pg	08 11 02.8	-0.3
JPRM	**Presidio of Sa**	**1.04**	**167**		Pg	08 11 03.4	0.0
KCPM	**Cahto Peak**	**1.08**	**325**		Pg	08 11 03.5	-0.7
KCPM				IAML		08 11 16.0	
	comp=N,174nm,0.6s						
KCPM				IAML		08 11 30.2	
	comp=E,308nm,0.6s						
OSTM	**Stimpson Lane**	**1.08**	**58**		Pg	08 11 03.2	-0.9
FARB	**Farallon Islan**	**1.12**	**189**		Pg	08 11 04.8	-0.2
FARB				Sg	Sg	08 11 20.0	+0.5
FARB				IAML		08 11 23.9	
	comp=E,228nm,0.7s						
FARB				IAML		08 11 24.2	
	comp=N,118nm,0.6s						
CRHM	**Round Hill Res**	**1.13**	**147**		Pg	08 11 04.8	-0.3
KBNM	**Bluenose Ridge**	**1.13**	**344**		Pn	08 11 07.1	+0.5
JSBM	**San Bruno Moun**	**1.17**	**165**		Pg	08 11 04.8	-1.0
JMGM	**Milagra Ridge**	**1.19**	**168**		Pg	08 11 05.5	-0.8
CSLM	**San Leandro Hi**	**1.20**	**154**		Pg	08 11 05.6	-0.8
CLCB	**Lake Chabot**	**1.21**	**152**		Pg	08 11 05.6	-1.0
JCPM	**Coyote Point**	**1.27**	**163**		Pg	08 11 07.9	+0.1
JCHM	**Cahill Ridge**	**1.33**	**166**		Pg	08 11 08.4	-0.5
CNIC	**Niles Canyon**	**1.36**	**152**		Pg	08 11 08.0	-1.5
O02D	**Mt. Diablo Mer**	**1.37**	**360**		Pb	08 11 11.3	+1.4
O02D	**Mt. Diablo Mer**	**1.37**	**360**	IAML		08 11 14.7	
	comp=N,55nm,0.8s						
O02D				IAML		08 11 42.0	
	comp=E,32nm,0.8s						
CVLM	**Vallecito**	**1.39**	**147**		Pn	08 11 08.6	-1.5
JRSC	**Jasper Ridge**	**1.46**	**163**		Pn	08 11 08.4	-2.6
JRSC				IAML		08 11 31.6	
	comp=N,188nm,0.4s						
JFP	**Foothills Park**	**1.52**	**162**		Pn	08 11 09.4	-2.4
CSTL	**Corral Hollow**	**1.54**	**139**		Pn	08 11 10.2	-1.9
KMRM	**Mail Ridge**	**1.59**	**333**		Pn	08 11 12.6	-0.2
KMRM				IAML		08 11 19.2	
	comp=E,105nm,0.7s						
KMRM				IAML		08 11 21.9	
	comp=N,93nm,0.8s						
WELL	**Weller Preserv**	**1.65**	**102**		Pn	08 11 12.1	-1.5
O03E	**Paynes Creek**	**1.67**	**27**		Pn	08 11 12.4	-1.5
MHC	**Mount Hamilton**	**1.72**	**148**		Pn	08 11 12.7	-1.9
MHC				IAML		08 11 49.8	
	comp=E,77nm,0.7s						
MHC				IAML		08 11 50.0	
	comp=N,62nm,0.6s						
CCOB	**Coe Ranch Numb**	**1.77**	**150**		Pn	08 11 14.0	-1.3
KCSM	**Cold Springs**	**1.82**	**342**		Pn	08 11 15.8	-0.3
BEKR	**Beckworth**	**2.15**	**60**		Pn	08 11 19.2	-1.5
HATC	**Hat Creek Radi**	**2.25**	**26**		Pn	08 11 19.9	-2.0
HATC				IAML		08 12 12.3	
	comp=N,42nm,4.3s						
HATC				IAML		08 12 15.4	
	comp=E,49nm,4.0s						
PNTR	**Pine Nut**	**2.50**	**83**		Pn	08 11 23.5	-1.9
PNTR				IAML		08 11 43.3	
	comp=E,66nm,0.7s						
PNTR				IAML		08 12 11.2	
	comp=N,40nm,0.8s						
M02C	**Callahan**	**2.58**	**359**		Pn	08 11 25.0	-1.5
BBGB	**Big Mountain B**	**2.62**	**148**		Pn	08 11 27.4	+0.5
WAKR	**Walker**	**2.63**	**96**		Pn	08 11 26.7	-0.6
WAKR				IAML		08 12 06.3	
	comp=E,44nm,0.7s						
WAKR				IAML		08 12 08.1	
	comp=N,38nm,0.7s						
PAHR	**Pah Rah Range**	**2.78**	**70**		Pn	08 11 28.9	-0.4
PAHR				IAML		08 12 36.5	
	comp=E,20nm,3.9s						
YBH	**Yreka Blue Hor**	**2.92**	**1**		Pn	08 11 27.9	-3.3
YBH				IAML		08 12 46.0	
	comp=N,24nm,0.4s						
PCCM	**Crazy Canyon**	**3.00**	**154**		Sg	08 12 17.7	-2.2
PMPB	**Monarch Peak**	**3.03**	**148**	Pn	Pn	08 11 31.2	-1.4
HULI	**Fort Hunter Li**	**3.04**	**156**	Pn	Pn	08 11 31.9	-0.8
MDPB	**Devils Postpil**	**3.14**	**111**		Pn	08 11 34.2	-0.1
MDPB				IAML		08 12 23.8	
	comp=E,32nm,0.6s						
RYN	**Ryan**	**3.33**	**92**	Pn	Pn	08 11 35.6	-1.3
RYN				IAML		08 12 23.8	
	comp=E,14nm,3.6s						
RYN				IAML		08 12 41.9	
	comp=N,12nm,0.7s						
PKD	**Bear Valley Ra**	**3.37**	**147**	Pn	Pn	08 11 34.7	-2.5
PKD				IAML		08 12 42.1	
	comp=N,22nm,4.2s						
PKD				IAML		08 13 11.1	
	comp=E,22nm,5.0s						
LHV	**Little Huntoon**	**3.40**	**98**	IAML		08 12 52.5	
	comp=E,25nm,0.8s						
LHV				IAML		08 13 30.5	
	comp=N,24nm,4.7s						
NVAR	**Mina Array Bea**	**3.53**	**95**	Pn	Pn	08 11 39.5	-0.1
NV11	**Mina Array Sit**	**3.64**	**94**	IAML		08 13 11.5	
	comp=E,9.7nm,4.2s						
NV11				IAML		08 13 14.0	
	comp=N,11nm,3.5s						
K05A	**Summer Lake**	**4.17**	**19**	Pn	Pn	08 11 47.6	-0.8
K05A				IAML		08 14 22.2	
	comp=N,18nm,4.7s						
VES	**Vestal, Richgr**	**4.17**	**134**		Pn	08 11 45.8	-2.5

*IDC **28** 08:24:24.8±1.2, 52°.00N×170°.25W, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=49.8km s-min=23.6km az=180.0*
*AEIC **28** 08:24:30.8±1.5, 52°.3N±0°.1×170°.06W±0°.05, h44km±7km, Error ellipse: s-maj=15.8km s-min=1.2km az=162.0*
*NEIC **28** 08:24:31.7±1.2, 52°.26N±0°.08×170°.06W±0°.09, h35km±2km, mb3.9/18, ML3.7/12, ML3.1(AEIC), Error ellipse: s-maj=14.1km s-min=7.9km az=150.0*
ISC 28 08:24:31.6±1.8, 52°.2N±0°.1×170°.05W±0°.06, h45km±16km, n51, σ0°.81/49, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.58**	**20**		**Pn**	**08 24 42.5**	**-1.0**
CLCO					**Sn**	**08 24 52.0**	**0.0**
NIKH	**Nikolski High**	**1.03**	**44**		**Pn**	**08 24 48.1**	**-1.5**
NIKH					**Sn**	**08 25 01.8**	**-1.0**
OKSP	**Okmok Steeple**	**1.47**	**46**		**Pn**	**08 24 54.6**	**-1.0**
OKSP					**Sn**	**08 25 13.6**	**-0.1**
OKCE	**Okmok Cone E**	**1.65**	**43**		**Pn**	**08 24 58.3**	**+0.3**
OKWE	**Okmok W'ng Wal**	**1.65**	**41**		**Pn**	**08 24 58.2**	**+0.1**
OKWE					**Sn**	**08 25 18.8**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.67**	**46**		**Pn**	**08 24 58.2**	**-0.2**
OKNC	**Okmok New Cone**	**1.68**	**43**		**Pn**	**08 24 59.5**	**+0.9**
OKFG	**Magazine Ridge**	**1.75**	**47**		**Pn**	**08 24 59.1**	**-0.3**
KOFP	**Korovin Flat P**	**2.49**	**272**		**Pn**	**08 25 08.6**	**-1.0**
MREP	**Makushin Rep't**	**2.54**	**50**		**Pn**	**08 25 11.4**	**+1.2**
MNAT	**Makushin Natee**	**2.61**	**50**		**Pn**	**08 25 11.4**	**+0.1**
UNV	**Unalaska Valle**	**2.67**	**52**		**Pn**	**08 25 12.3**	**+0.3**
UNV					**Sn**	**08 25 42.9**	**-0.3**
UNV	**Unalaska Valle**	**2.67**	**52**	IAML		08 25 51.4	
	comp=N,162nm,1.5s						
AKUT	**Akutan**	**3.19**	**52**	Pn	**Pn**	**08 25 19.4**	**+0.2**
AKUT				IAML		08 25 46.0	
	comp=N,175nm,4.1s						
AKUT				IAML		08 25 50.2	
	comp=E,155nm,3.0s						
ADK	**Adak**	**4.11**	**268**	Pn	**Pn**	**08 25 33.1**	**+1.3**
ADK				IAML		08 26 36.0	
	comp=E,149nm,1.9s						
ADK				IAML		08 26 53.8	
	comp=E,128nm,2.9s						
KIWB	**Kanaga Island**	**4.40**	**268**	Pn

0.4nm,0.8s
MKAR Makanchi Array 69.44 323 P P 09 15 52.5 -0.1
0.2nm,0.6s,baz=133,slow=7.5,SNR=4.2
0.2nm,0.6s

IDC 28 09:13:52.8±6.0, 3°79S×103°68E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=303.0km s-min=85.3km az=47.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.92**	**121**	P	P	09 20 39.1	+1.1
	0.5nm,0.6s,baz=297,slow=9.9,SNR=1.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**35.24**	**127**	P	P	09 20 48.4	-1.0
	1.1nm,0.5s,baz=312,slow=11,SNR=4.7						
	1.1nm,0.5s						
TXAR	**Lajitas Array**	**143.70**	**43**	PKP	PKPdf	09 33 30.2	-0.6
	0.3nm,0.7s,baz=317,slow=4.6,SNR=1.8						

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*NEIC **28** 09:14:10.3±2.5, 5°58S±0°09×110°13E±0°10, h536km±5km, mb4.6/69, Error ellipse: s-maj=14.9km s-min=12.6km az=48.0*
*DJA **28** 09:14:10.0±0.1, 6°S±2°×11°0E±°, h541km±2km, M4.8/47, mb4.8/47, mB5.3/22, MLv4.9/32, Mw(mB)4.7/22*
*IDC **28** 09:14:10.4±0.8, 5°57S×110°18E, h542km±9km, mb3.8/29, mbtmp4.7/33, Error ellipse: s-maj=11.9km s-min=7.0km az=65.0*
ISC 28 09:14:10.0±0.5, 5°68S±0°05×110°09E±0°05, h545km±5km, n278, σ1°27/281, mb4.5/69, 2C-1D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	**Semarang**	**1.41**	**166**	P	P	09 15 18.0	+1.1
SMRI	**Semarang**	**1.41**	**166**	P	P	09 15 18.4	+1.4
SMRI	**Semarang**	**1.41**	**166**	P	P	09 15 18.1	+1.1
SMRI				S	S	09 16 13.1	+1.7
KPJI	**Karang Pucung**	**2.01**	**215**	P	P	09 15 19.8	+0.5
KPJI				S	S	09 16 15.9	+0.3
TBJI	**Tambak Boyo**	**2.08**	**123**	P	P	09 15 21.0	+1.4
YOGI	**Yogyakarta**	**2.14**	**175**	P	P	09 15 19.6	-0.3
YOGI				S	S	09 16 14.9	-1.9
NGJI	**Ngawi**	**2.16**	**141**	P	P	09 15 21.5	+1.5
UGM	**Wanagama**	**2.26**	**169**		P	09 15 20.6	0.0
UGM	**Wanagama**	**2.26**	**169**	P	P	09 15 20.7	+0.1
UGM	**Wanagama**	**2.26**	**169**	S	S	09 16 17.1	-0.8
UGM	**Wanagama**	**2.26**	**169**	P	P	09 15 20.4	-0.2
UGM				S	S	09 16 16.4	-1.5
WOJI	**Wonogiri, Jawa**	**2.30**	**159**	P	P	09 15 20.4	-0.3
WOJI				S	S	09 16 16.9	-1.3
CMJI	**Cimerak**	**2.66**	**218**	P	P	09 15 22.3	-0.3
CMJI				S	S	09 16 17.5	-4.1
GRJI	**Gresik**	**2.67**	**118**	P	P	09 15 23.8	+1.1
GRJI				S	S	09 16 22.0	+0.2
LEM	**Lembang**	**2.71**	**245**	P	P	09 15 24.4	+1.2
	233nm,0.8s,baz=50,slow=5.9,SNR=36						
LEM				S	S	09 16 19.3	-3.3
	102nm,0.6s,baz=12,slow=10,SNR=3.6						
LEM	**Lembang**	**2.71**	**245**	P	P	09 15 24.4	+1.2
LEM				S	S	09 16 22.0	-0.6
PCJI	**Pacitan**	**2.72**	**157**	P	P	09 15 22.5	-0.5
PCJI				S	S	09 16 20.0	-2.4
BBJI	**Bungbulang**	**3.01**	**234**	P	P	09 15 25.0	+0.2
BBJI	**Bungbulang**	**3.01**	**234**	S	S	09 16 26.1	+0.5
CNJI	**Cibinong**	**3.36**	**241**	P	P	09 15 26.4	-0.6
CNJI				S	S	09 16 25.8	-3.9
DBJI	**Dramaga**	**3.44**	**255**	S	S	09 16 29.6	-1.0
SKJI	**Sukabumi**	**3.75**	**249**	P	P	09 15 30.1	+0.3
SKJI				S	S	09 16 30.9	-3.8
TPI	**Tanjungpandan**	**3.79**	**320**	P	P	09 15 30.9	+0.9
TPI				S	S	09 16 34.8	-0.3
BLJI	**Banyuglugur**	**4.04**	**121**	P	P	09 15 32.6	+0.7
KMMI	**Kalianget**	**4.08**	**110**	P	P	09 15 33.1	+0.9
KMMI				S	S	09 16 39.1	-0.1
CGJI	**Cibinong**	**4.47**	**258**	P	P	09 15 35.2	0.0
ABJI	**Asem Bagus**	**4.62**	**117**	P	P	09 15 37.7	+1.3
JAGI	**Jajag, Banyuwa**	**4.89**	**125**		P	09 15 38.0	-0.7
JAGI	**Jajag, Banyuwa**	**4.89**	**125**	P	P	09 15 38.5	-0.2
JAGI	**Jajag, Banyuwa**	**4.89**	**125**	S	S	09 16 49.3	-1.7
JAGI	**Jajag, Banyuwa**	**4.89**	**125**	P	P	09 15 38.0	-0.7
BBKI	**Banjar Baru**	**5.22**	**65**	P	P	09 15 41.8	+0.3
	1.4nm10μm181nm,0.6s						
SRBI	**Singaraja**	**5.62**	**115**	P	P	09 15 46.1	+1.1
STKI	**Sintang**	**5.87**	**14**	P	P	09 15 48.0	+0.7
	1.7nm191nm,1.0s						
DNP	**Denpasar**	**5.89**	**121**	P	P	09 15 47.6	+0.2
MDSI	**Maura Dua**	**6.01**	**281**	P	P	09 15 49.3	+0.8
LWLI	**Liwa**	**6.04**	**276**	P	P	09 15 49.6	+0.6
	2.8nm454nm,0.6s						
XMI	**Christmas Isla**	**6.44**	**222**	P	P	09 15 53.7	+1.1
MTKI	**Muara Teweh, K**	**6.72**	**46**	P	P	09 15 55.8	+0.6
	228nm,0.9s						
LHSI	**Lahat**	**6.80**	**285**	P	P	09 15 57.6	+1.7
	0.5nm176nm,1.0s						
KSM	**Kuching**	**7.11**	**2**		P	09 15 59.0	+0.1
KSM	**Kuching**	**7.11**	**2**	P	P	09 15 59.6	+0.7
TWSI	**Taliwang, Sumb**	**7.39**	**115**	P	P	09 16 00.8	-0.8
	12μm242nm,0.6s						
BKB	**Balikpapan**	**8.08**	**57**		P	09 16 10.1	+1.5
BKB	**Balikpapan**	**8.08**	**57**	P	P	09 16 11.2	+2.7
	6μm565nm,0.8s						
MASI	**Maura Aman, Be**	**8.22**	**288**	P	P	09 16 10.4	+0.4
	4μm329nm,0.7s						
PLAI	**Plampang**	**8.24**	**113**	P	P	09 16 08.5	-1.6
PLAI	**Plampang**	**8.24**	**113**	P	P	09 16 08.4	-1.6
	6μm135nm,0.5s						
SBUM	**Sibu**	**8.35**	**15**		P	09 16 12.0	+0.8
SBUM	**Sibu**	**8.35**	**15**	P	P	09 16 12.0	+0.8
KAPI	**Kappang**	**9.64**	**87**		P	09 16 24.0	-0.3
KAPI	**Kappang**	**9.64**	**87**	P	P	09 16 24.1	-0.2
	42nm,0.6s,baz=244,slow=20,SNR=16						
KAPI	**Kappang**	**9.64**	**87**	P	P	09 16 24.3	0.0
MYKOM	**Kota Tinggi**	**9.69**	**320**		P	09 16 25.4	+0.6
MYKOM	**Kota Tinggi**	**9.69**	**320**	P	P	09 16 26.0	+1.2
SPSI	**Sidrap Palu**	**9.79**	**80**	P	P	09 16 25.3	-0.5
BKSI	**Bulukumba**	**9.99**	**88**	P	P	09 16 28.0	+0.1
	57nm,0.6s						
WBSI	**Waikabubak, Su**	**10.02**	**114**	P	P	09 16 25.8	-2.4
BSSI	**Bau Bau, Buton**	**10.35**	**93**	P	P	09 16 30.9	-0.7
	1μm171nm,0.8s						
PPSI	**Pulau Pagai**	**10.46**	**286**	P	P	09 16 32.7	0.0
WSI	**Waingapu**	**10.86**	**112**	P	P	09 16 34.2	-2.6
BASI	**Baing, Sumba**	**11.32**	**114**	P	P	09 16 40.1	-1.5
SISI	**Saibi**	**11.80**	**291**	P	P	09 16 46.2	-0.4
	77nm,0.7s						
EDFI	**Ende, Flores**	**11.90**	**106**	P	P	09 16 44.1	-3.6
TOLI2	**Tolitoli**	**12.62**	**58**		P	09 16 55.3	+0.2
TOLI2	**Tolitoli**	**12.62**	**58**	P	P	09 16 55.4	+0.3
TOLI2	**Tolitoli**	**12.62**	**58**	S	S	09 19 12.2	+1.2
PBSI	**Pulau Batu**	**13.05**	**295**	P	P	09 16 58.5	-1.0
	134nm,1.5s						
IPM	**Ipoh**	**13.56**	**318**		P	09 17 05.1	+0.3
IPM	**Ipoh**	**13.56**	**318**	P	P	09 17 05.8	+1.0
MYLDM	**Lahad Datu**	**13.67**	**38**		P	09 17 07.7	+1.8
MYLDM	**Lahad Datu**	**13.67**	**38**	P	P	09 17 08.0	+2.1
RPSI	**Rantau Prapat**	**13.91**	**306**	P	P	09 17 08.3	-0.2
PSI	**Prapat**	**13.98**	**307**	P	P	09 17 08.3	-1.0
	13nm,0.3s,baz=153,slow=9.5,SNR=8.8						
BATI	**Baumata**	**14.17**	**109**	P	P	09 17 08.3	-2.9
	57nm,0.3s,baz=120,slow=2.5,SNR=16						
BATI				S	S	09 19 30.2	-10
	46nm,0.5s,baz=353,slow=5.1,SNR=4.3						
BATI	**Baumata**	**14.17**	**109**	P	P	09 17 08.4	-2.8
	3μm52nm,0.7s						
KULM	**Kulim**	**14.41**	**319**		P	09 17 13.2	-0.4
SOEI	**Soe**	**14.62**	**107**		P	09 17 12.3	-3.6
SOEI	**Soe**	**14.62**	**107**	P	P	09 17 14.2	-1.7
SOEI	**Soe**	**14.62**	**107**	P	P	09 17 12.3	-3.6
KCSI	**Kotacane, Aceh**	**15.33**	**306**	P	P	09 17 22.3	-0.8
	38nm,0.7s						
LHMI	**Lhok Sumawe**	**17.02**	**309**		P	09 17 40.1	+0.9
LHMI	**Lhok Sumawe**	**17.02**	**309**	P	P	09 17 42.4	+3.1
LHMI	**Lhok Sumawe**	**17.02**	**309**	P	P	09 17 40.1	+0.9
MBWA	**Marble Bar**	**18.01**	**150**	P	P	09 17 49.1	+0.8
TNTI	**Ternate**	**18.40**	**70**	P	P	09 17 53.1	+1.2
FITZ	**Fitzroy Crossi**	**19.57**	**130**	P	P	09 18 03.0	+0.5
FITZ				IAmb	IAmb	09 18 05.2	
	comp=Z,5.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.57**	**130**	P	P	09 18 02.9	+0.4
	comp=Z,29nm,0.4s,baz=332,slow=8.4,SNR=65						
KNRA	**Kununurra**	**20.84**	**120**		P	09 18 13.8	-0.3
AUDHS	**Darwin High Sc**	**21.54**	**110**	P	P	09 18 19.9	-0.5
MTN	**Manton Dam**	**21.94**	**110**		P	09 18 23.6	-0.4
MTN				IAmb	IAmb	09 18 26.7	
	comp=Z,14nm,0.6s						
FAKI	**Fak Fak**	**22.26**	**84**	P	P	09 18 27.1	+0.2
FAKI				IAmb	IAmb	09 19 04.4	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.38**	**336**	P	P	09 19 04.0	+0.7
CMAR	**Chiang Mai Arr**	**26.38**	**336**	P	P	09 19 04.7	+1.4
	comp=Z,4.2nm,0.7s,baz=171,slow=8.1,SNR=34						
CMAR				PcP	PcP	09 22 11.2	+0.3
	comp=Z,1.6nm,0.5s,baz=152,slow=2.3,SNR=10						
	comp=Z,4.2nm,0.7s						
WB0	**Warramunga Arr**	**27.47**	**123**		P	09 19 12.7	-0.2
WRA	**Warramunga Arr**	**27.51**	**123**		P	09 19 12.6	-0.7
WRA	**Warramunga Arr**	**27.51**	**123**	P	P	09 19 13.4	+0.2
	comp=Z,13nm,0.5s,baz=302,slow=9.1,SNR=221						
WRA				PcP	PcP	09 22 14.1	+0.4
	comp=Z,3.5nm,0.6s,baz=300,slow=2.1,SNR=8.7						
WRA				S	S	09 23 13.0	-3.3
	comp=Z,1.2nm,0.9s,baz=300,slow=19,SNR=4.7						
	comp=Z,13nm,0.5s						
WRAB	**Tennant Creek**	**27.51**	**123**	P	P	09 19 13.1	-0.2
WRAB				IAmb	IAmb	09 19 14.2	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**27.51**	**123**	P	P	09 19 13.3	0.0
WR8	**Warramunga Arr**	**27.65**	**123**		P	09 19 14.5	0.0
AUALC	**St Philip's Co**	**29.07**	**130**	P	P	09 19 27.6	+0.7
AS31	**Alice Springs**	**29.07**	**130**		P	09 19 26.8	-0.1
ASAR	**Alice Springs**	**29.07**	**130**	P	P	09 19 27.0	+0.1
ASAR	**Alice Springs**	**29.07**	**130**	P	P	09 19 27.2	+0.4
	comp=Z,7.8nm,0.3s,baz=305,slow=7.8,SNR=299						
ASAR				PcP	PcP	09 22 18.0	+0.4
	comp=Z,3.7nm,0.7s,baz=331,slow=1.9,SNR=18						
ASAR				S	S	09 23 37.5	-3.1
	comp=Z,2.8nm,0.7s,baz=297,slow=15,SNR=8.6						
ASAR				ScP	ScP	09 25 07.9	+0.1
	comp=Z,1.4nm,0.9s,baz=307,slow=3.9,SNR=4.8						
	comp=Z,7.8nm,0.3s						
JAY	**Jayapura**	**30.69**	**85**	P	P	09 19 39.8	-1.2
	comp=Z,6.8nm,0.8s,baz=324,slow=14,SNR=2.1						
	comp=Z,6.8nm,0.8s						
YULB	**Yu-li**	**30.89**	**20**	P	P	09 19 42.1	-0.5
YULB				IAmb	IAmb	09 19 45.5	
	comp=Z,21nm,0.8s						
YULB	**Yu-li**	**30.89**	**20**	P	P	09 19 44.0	+1.5
SSLB	**Suanglung**	**31.14**	**19**		P	09 19 44.7	0.0
SSLB	**Suanglung**	**31.14**	**19**	P	P	09 19 45.8	+1.1
PZH	**PanZhiHua**	**33.00**	**346**	P	P	09 20 02.0	+1.5
COEN	**Coen**	**33.58**	**107**		P	09 20 05.4	-0.1
COEN				IAmb	IAmb	09 20 05.9	
	comp=Z,16nm,0.8s						
COEN	**Coen**	**33.58**	**107**	P	P	09 20 05.5	0.0
MTSU	**Mount Surprise**	**35.62**	**113**	P	P	09 20 23.3	+0.8
SHL	**Shillong**	**35.74**	**331**		P	09 20 24.1	+0.5
WHN	**Wuhan**	**36.24**	**6**	P	P	09 20 26.8	-0.6
BBOO	**Buckleboo**	**36.25**	**141**	IAmb	IAmb	09 20 28.6	
	comp=Z,17nm,0.6s						
BBOO	**Buckleboo**	**36.25**	**141**	P	P	09 20 28.0	+0.5
INKA	**Innaminka**	**36.46**	**130**	IAmb	IAmb	09 20 31.1	
	comp=Z,11nm,0.8s						
JOW	**Kunigami**	**36.80**	**28**	IAmb	IAmb	09 21 10.4	
	comp=Z,38nm,1.3s						
JOW	**Kunigami**	**36.80**	**28**	P	P	09 20 32.3	+0.2
	comp=Z,10nm,0.6s,baz=217,slow=5.1,SNR=2.4						
	comp=Z,10nm,0.6s						
PMG	**Port Moresby**	**36.92**	**98**	P	P	09 20 33.8	+0.6
NJ2	**Nanjing**	**38.44**	**12**	*eP*	P	09 20 46.5	+1.2
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HTT	**Hallett**	**38.47**	**140**	P	P	09 20 46.8	+1.1
QLP	**Quilpie**	**38.62**	**126**	P	P	09 20 48.7	+1.7
STKA	**Stephens Creek**	**39.33**	**135**	P	P	09 20 53.5	+0.9
	comp=Z,36nm,0.3s,baz=313,slow=8.7,SNR=161						
STKA				PcP	PcP	09 22 46.9	-0.6
	comp=Z,3.5nm,0.5s,baz=349,slow=5.2,SNR=3.7						
	comp=Z,36nm,0.3s						
STKA	**Stephens Creek**	**39.33**	**135**	P	P	09 20 53.5	+0.9
XAN	**Xi'an**	**39.52**	**358**	P	P	09 20 54.0	-0.1
XAN				pmax	pmax		
	comp=Z,22nm,0.6s						
LSA	**Lhasa**	**39.60**	**334**	IAmb	IAmb	09 20 57.5	
	comp=Z,17nm,0.8s						
AUMBR	**Murray Bridge**	**39.80**	**141**	P	P	09 20 57.8	+1.5
LZDM	**Lanzhou Array**	**41.85**	**352**	P	P	09 21 14.2	+1.3
	comp=Z,1.5nm,0.3s,baz=173,slow=13,SNR=3.8						
LZDM				PcP	PcP	09 22 56.3	+0.3
	comp=Z,1.0nm,0.3s,baz=204,slow=6.0,SNR=1.4						
	comp=Z,1.5nm,0.3s						
LZH	**Lanzhou**	**41.95**	**352**	*eP*	P	09 21 13.0	-0.6
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
CMSA	**Cobar Meteorol**	**42.09**	**132**	P	P	09 21 15.8	+1.2
EIDS	**Eidsvold**	**43.83**	**121**	P	P	09 21 29.1	+0.9
EIDS				IAmb	IAmb	09 21 29.4	
	comp=Z,7.6nm,0.5s						
BJI	**Beijing**	**45.83**	**7**	P	P	09 21 43.3	0.0
BJI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GTA	**Gaotai**	**45.86**	**349**	*eP*	P	09 21 45.8	+2.1
GTA				pP	PcP	09 23 10.5	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSRS	**Korea Array**	**46.02**	**20**	P	P	09 21 44.5	-0.3
	comp=Z,1.4nm,0.7s,baz=193,slow=9.6,SNR=4.5						
	comp=Z,1.4nm,0.7s						
BTO	**Baotou**	**46.05**	**360**	*eP*	P	09 21 48.5	+3.4
BTO				pmax	pmax		
	comp=Z,15nm,0.7s						
BTO				pmax	pmax		
	comp=Z,460nm,4.9s						
HHC	**Hu-ho-hao-te**	**46.32**	**2**	*eP*	P	09 21 49.5	+2.4
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	**Matsushiro Arr**	**49.56**	**30**	IAmb	IAmb	09 22 09.7	
	comp=Z,2.4nm,1.1s						
MJAR	**Matsushiro Arr**	**49.56**	**30**	P	P	09 22 09.4	-1.9
	comp=Z,3.9nm,0.8s,baz=199,slow=8.0,SNR=8.4						
MJAR				PcP	PcP	09 23 21.3	-1.8
	comp=Z,1.3nm,0.7s,baz=224,slow=3.4,SNR=3.2						
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**53.38**	**357**	IAmb	IAmb	09 22 40.7	
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**53.38**	**357**	P	P	09 22 39.2	+0.4
	comp=Z,1.9nm,0.6s,baz=184,slow=8.7,SNR=8.0						
SONM				PcP	PcP	09 23 37.3	-0.1
	comp=Z,1.8nm,0.6s,baz=176,slow=3.8,SNR=6.7						
	comp=Z,1.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.42**	**20**	P	P	09 22 38.5	-0.6
	comp=Z,1.6nm,0.4s,baz=184,slow=8.0,SNR=2.9						
	comp=Z,1.6nm,0.4s						
KSH	**Kashi**	**54.90**	**328**	P	P	09 22 48.8	-0.9
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HILR	**Hailar Array B**	**55.65**	**8**	P	P	09 22 54.4	-0.2
	comp=Z,1.6nm,0.5s,baz=210,slow=11,SNR=3.6						
	comp=Z,1.6nm,0.5s						
KBL	**Kabul**	**55.66**	**319**	P	P	09 22 54.4	-0.8
KDJ	**Kajisay**	**56.23**	**331**	IAmb	IAmb	09 23 01.0	
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**57.60**	**330**	P	P	09 23 08.4	+0.1
	SNR=22						
UCH	**Uchtor**	**57.63**	**329**	P	P	09 23 09.0	+0.1
	SNR=8.1						
GAR	**Garm**	**57.70**	**324**	P	P	09 23 07.8	-1.2
KBK	**Karagaybulak**	**57.73**	**330**	P	P	09 23 09.8	+0.6
	SNR=9.5						
MKAR	**Makanchi Array**	**57.76**	**338**	P	P	09 23 09.3	+0.2
MKAR	**Makanchi Array**	**57.76**	**338**	P	P	09 23 09.5	+0.3
	comp=Z,7.7nm,0.4s,baz=146,slow=7.3,SNR=121						
MKAR				PcP	PcP	09 23 53.8	-0.6
	comp=Z,1.5nm,0.6s,baz=138,slow=5.7,SNR=4.0						
	comp=Z,7.7nm,0.4s						
ARSB	**Arslanbob**	**57.78**	**328**	IAmb	IAmb	09 23 10.3	
	comp=Z,19nm,1.0s						
MAKZ	**Makanchi**	**57.89**	**338**	P	P	09 23 09.6	-0.4
AAK	**Ala-Archa**	**57.94**	**330**	P	P	09 23 10.1	-0.5
AAK	**Ala-Archa**	**57.94**	**330**	P	P	09 23 11.3	+0.7
	SNR=5.6						
CHGR	**Chuyangaron**	**58.16**	**323**	IAmb	IAmb	09 23 10.9	
	comp=Z,27nm,1.3s						
EKS2	**Erkin-Say**	**58.32**	**329**	P	P	09 23 13.5	+0.4
	SNR=12						
KKAR	**Karatay Array**	**60.34**	**328**	P	P	09 23 25.7	-0.8
KURBB	**Kurchatov Arra**	**62.33**	**338**	P	P	09 23 39.3	0.0
	comp=Z,2.4nm,0.4s,baz=156,slow=5.4,SNR=19						
KURBB				PcP	PcP	09 24 12.8	0.0
	comp=Z,2.3nm,0.5s,baz=153,slow=3.3,SNR=11						
	comp=Z,2.4nm,0.4s						
KURK	**Kurchatov**	**62.37**	**338**		PcP	09 24 12.8	-0.1
KURK	**Kurchatov**	**62.37**	**338**	P	P	09 23 38.6	-1.0
ZALV	**Zalesovo Beam**	**63.08**	**344**	P	P	09 23 43.3	-0.7
ZALV	**Zalesovo Beam**	**63.08**	**344**	P	P	09 23 43.6	-0.5
	comp=Z,4.8nm,0.5s,baz=150,slow=4.9,SNR=20						
ZALV				PcP	PcP	09 24 14.6	-1.2
	comp=Z,2.1nm,0.5s,baz=134,slow=4.4,SNR=5.0						
	comp=Z,4.8nm,0.5s						
BVAR	**Borovoye Array**	**67.41**	**335**	P	P	09 24 10.8	-0.5
	comp=Z,6.6nm,0.7s,baz=131,slow=9.5,SNR=8.6						
BVAR				PcP	PcP	09 24 33.8	-0.1
	comp=Z,2.8nm,0.8s,baz=145,slow=5.3,SNR=4.2						
	comp=Z,6.6nm,0.7s						
BKZ	**Black Stump Fm**	**68.19**	**130**	P	P	09 24 16.6	+0.1
RTZ	**Ruatahuna**	**68.46**	**129**	P	P	09 24 17.9	-0.3
RTZ				IAmb	IAmb	09 24 18.5	
	comp=Z,17nm,0.6s						
RAYN	**Ar Rayn**	**69.33**	**298**	P	P	09 24 22.9	-0.7
RAYN				IAmb	IAmb	09 24 23.7	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**69.53**	**197**	P	P	09 24 25.1	+1.3
	comp=Z,8.7nm,0.6s,baz=55,slow=6.0,SNR=53						
	comp=Z,8.7nm,0.6s						
ABKAR	**Akbulak array**	**69.91**	**328**	P	P	09 24 26.3	-0.1
PETK	**Petropavlovsk-**	**70.97**	**28**	P	P	09 24 31.4	-1.2
	comp=Z,4.6nm,1.0s,baz=232,slow=5.1,SNR=5.6						
	comp=Z,4.6nm,1.0s						
KIBK	**Kibwezi**	**71.91**	**269**	P	P	09 24 39.5	+0.4
KIBK				IAmb	IAmb	09 24 40.7	
	comp=Z,7.7nm,0.7s						
VNDA	**Vanda**	**76.71**	**170**	P	P	09 25 06.0	+1.2
VNDA				IAmb	IAmb	09 25 06.2	
	comp=Z,5.3nm,0.5s						
VNDA	**Vanda**	**76.71**	**170**	P	P	09 25 05.8	+1.1
	comp=Z,3.8nm,0.4s,baz=317,slow=6.2,SNR=57						
	comp=Z,3.8nm,0.4s						
KBZ	**Khabaz**	**77.76**	**317**	P	P	09 25 11.6	+0.5
	comp=Z,7.5nm,0.9s,baz=134,slow=4.9,SNR=20						
	comp=Z,7.5nm,0.9s						
SBA	**Scott Base**	**77.77**	**170**	P	P	09 25 12.2	+1.7
SYO	**Syowa Base**	**77.80**	**200**	‖*eP*	P	09 25 12.0	+1.2
TIXI	**Tiksi**	**78.16**	**6**	P	P	09 25 11.7	-0.9
KOPT	**Kop Dagi**	**78.26**	**313**	P	P	09 25 14.9	+0.7
KOPT				IAmb	IAmb	09 25 21.8	
	comp=Z,10nm,0.8s						
ARPR	**Arapgir-MALATY**	**79.59**	**311**	IAmb	IAmb	09 25 23.0	
	comp=Z,19nm,1.0s						
MMAI	**Mount Meron Ar**	**80.36**	**305**	P	P	09 25 26.6	+1.4
	comp=Z,5.2nm,0.6s,baz=91,slow=8.3,SNR=5.8						
	comp=Z,5.2nm,0.6s						
LSZ	**Lusaka**	**80.74**	**255**	P	P	09 25 27.9	+0.4
LSZ				IAmb	IAmb	09 25 29.0	
	comp=Z,9.8nm,0.6s						
BNN	**Bunyan**	**81.40**	**311**	IAmb	IAmb	09 25 31.8	
	comp=Z,20nm,1.2s						
CSS	**Mathiatis**	**82.47**	**306**	IAmb	IAmb	09 25 37.8	
	comp=Z,25nm,0.9s						
LPHEP	**Lephephe**	**82.49**	**247**	P	P	09 25 37.1	+0.7
LPHEP				IAmb	IAmb	09 25 38.7	
	comp=Z,15nm,0.8s						
BOSA	**Boshof**	**82.79**	**242**	IAmb	IAmb	09 26 14.7	
	comp=Z,21nm,1.4s						
BOSA	**Boshof**	**82.79**	**242**	P	P	09 25 38.5	+0.7
	comp=Z,3.9nm,0.7s,baz=112,slow=3.7,SNR=8.7						
	comp=Z,3.9nm,0.7s						
KHWEE	**KHWEE**	**82.95**	**249**	IAmb	IAmb	09 25 40.5	
	comp=Z,17nm,0.7s						
BR104	**Keskin Array S**	**83.26**	**311**	P	P	09 25 39.6	-0.3
	comp=Z,101nmcomp=Z,13nm,1.0s						
BR131	**Keskin Array S**	**83.27**	**311**	IAmb	IAmb	09 25 40.8	
	comp=Z,13nm,0.8s						
BRTR	**Keskin Array B**	**83.27**	**311**	P	P	09 25 39.4	-0.6
BRTR	**Keskin Array B**	**83.27**	**311**	P	P	09 25 39.9	-0.1
	comp=Z,10nm,0.9s,baz=126,slow=6.4,SNR=43						
	comp=Z,10nm,0.9s						
BR105	**Keskin Array S**	**83.28**	**311**	P	P	09 25 39.7	-0.3
	comp=Z,103nmcomp=Z,14nm,1.0s						
BR106	**Keskin Array S**	**83.29**	**311**	P	P	09 25 39.7	-0.3
	comp=Z,92nmcomp=Z,13nm,0.9s						
ANTO	**Ankara**	**83.94**	**311**	P	P	09 25 43.4	+0.2
	comp=Z,3.0nm,0.7s						
**Q

comp=Z,11nm,0.5s,baz=9.5,slow=12,SNR=1.1
SCHQ SKPbc **SKPab** **09 34 54.0 -0.1**
comp=Z,31nm,0.8s,baz=247,slow=17,SNR=3.8
O20A **White River Ci** **131.42 39** **PKiKP** **09 32 22.6 +0.3**
TXAR **Lajitas Array** **140.38 50** PKhKP PKPpre 09 32 33.4
comp=Z,0.5nm,0.6s,baz=254,slow=1.9,SNR=8.7
TXAR PKP **PKiKP** **09 32 40.4 -0.4**
comp=Z,1.0nm,0.7s,baz=253,slow=1.8,SNR=9.4
TXAR SKPbc **SKPbc** **09 35 23.1 -0.2**
comp=Z,1.2nm,0.7s,baz=240,slow=1.3,SNR=12
CCM **Cathedral Cave** **142.38 28** **PKPdf** **09 32 38.3 -3.0**
HHAR **Hobbs** **142.40 33** **PKPdf** **09 32 37.9 -3.4**
DRIO **Del Rio** **142.60 47** **PKPdf** **09 32 39.7 -2.2**
BRDY **Brady** **142.68 43** **PKPdf** **09 32 39.9 -2.1**
RTLS **Leoncito** **142.73 181** *i* P **PKPdf** **09 32 41.6 -0.9**
RTLS IAML 09 34 04.2
comp=Z,13nm,2.6s
CFA **Coronel Fontan** **142.89 182** *i* P **PKPdf** **09 32 40.3 -2.1**
ZON **Zonda** **142.97 182** **PKPdf** **09 32 41.5 -1.1**
WHTX **Lake Whitney,** **143.28 41** PKPbc 09 32 41.9 +0.5
CO02 **Combarbal** **143.31 178** PKPbc 09 32 42.2 +0.6
CO03 **El Pedregal** **143.68 179** *i* P PKPbc 09 32 43.1 +0.3
CO03 IAML 09 34 08.8
comp=Z,6.5nm,3.1s
AVFE **Valle Fertil** **143.79 184** *i* P **PKPdf** **09 32 44.9 +0.8**
AVFE IAML 09 34 03.0
comp=Z,3.2nm,2.9s
WCI **Wyandotte Cave** **144.34 22** PKPbc 09 32 44.2 -0.3
GO04 **Tololo Observa** **144.34 179** **PKPab** **09 32 45.4 0.0**
SSPA **Standing Stone** **144.46 10** PKPbc 09 32 44.7 -0.1
CO01 **Juntas del Tor** **144.55 180** *i* P **PKPab** **09 32 46.9 +0.7**
CO01 IAML 09 34 06.2
comp=Z,6.9nm,3.4s
ACLC **CERRO LA CRUZ** **144.99 184** *i* P **PKPab** **09 32 48.2 +0.4**
ACLC IAML 09 34 02.9
comp=Z,3.3nm,3.2s
AGUA **GUANDACOL** **145.01 182** *i* P **PKPab** **09 32 48.5 +0.7**
AGUA IAML 09 34 15.0
comp=Z,7.4nm,4.7s
LCO **Las Campanas** **145.50 179** *i* P **PKPbc** **09 32 49.0 +0.3**
LCO IAML 09 34 26.5
comp=Z,13nm,2.1s
WVT **Waverly** **145.51 26** PKPdf **PKPdf** **09 32 47.0 +0.3**
VCA **Vinchina** **145.75 183** *i* P **PKPab** **09 32 50.1 -0.6**
VCA IAML 09 34 05.4
comp=Z,8.9nm,3.0s
CPUP **Villa Florida** **145.93 200** **PKPbc** **09 32 50.3 +0.7**
CPUP **Villa Florida** **145.93 200** PKPbc **PKPab** **09 32 50.5 -0.8**
comp=Z,2.6nm,0.5s,baz=4.0,slow=1.6,SNR=25
AC04 **Llanos de Chal** **146.30 178** *i* P **PKPab** **09 32 51.7 -1.0**
AC04 IAML 09 34 43.3
comp=Z,19nm,2.7s
TKL **Tuckaleechee C** **147.55 21** PKPbc **PKPbc** **09 32 54.0 +0.4**
comp=Z,10.0nm,0.7s,baz=151,slow=5.2,SNR=22
AC02 **Maricunga** **147.67 181** *i* P **PKiKP** **09 32 55.7 -0.7**
AC02 IAML 09 34 34.4
comp=Z,7.1nm,2.6s
BDFB **Brasilia** **149.69 225** **PKiKP** **09 33 00.4 +0.1**
BDFB **Brasilia** **149.69 225** PKPbc **PKiKP** **09 33 00.6 +0.3**
comp=Z,11nm,0.6s,baz=145,slow=1.6,SNR=16
AQDB **Aquidauana** **150.50 208** **PKPbc** **09 33 01.3 +0.1**
CMIG **Matias Romero** **153.06 63** PKPbc **PKiKP** **09 33 07.4 +0.4**
comp=Z,3.6nm,0.7s,baz=342,slow=5.5,SNR=6.4
LPAZ **La Paz** **158.11 185** PKPab **PKPab** **09 33 43.7 +0.3**
comp=Z,1.5nm,0.5s,baz=137,slow=2.6,SNR=7.6

*IDC **28** 09:27:40.6±1.2,2°.58S×138°.31E,h0km,mb3.6/4,*
mbtmp3.7/6,ML3.5/2,MS3.6/1,Error ellipse: s-maj=28.8km
s-min=25.4km az=130.0
ISC 28 09:27:45.3±1.1,2°.6S±0°.2×138°.3E±0°.1,h32km,n6,σ1§20/7,
mb3.7/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**87**	Pn	**Pn**	**09 28 21.8**	**-0.8**
	5.0nm,0.3s,baz=225,slow=4.7,SNR=12						
JAY				Sn	**Sn**	**09 28 52.2**	**+1.1**
	5.3nm,0.3s,baz=117,slow=17,SNR=3.5						
	40nm,0.6s						
WRA	**Warramunga Arr**	**17.64**	**192**	P	**Pn**	**09 31 48.3**	**-0.4**
	0.3nm,0.3s,baz=14,slow=12,SNR=13						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**21.34**	**191**	P	**P**	**09 32 29.4**	**-0.6**
	0.6nm,0.4s,baz=16,slow=11,SNR=17						
ASAR				LR	LR	09 42 03.9	
	comp=Z,165nm,22.0s,baz=323,slow=40						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**69.47**	**323**	P	**P**	**09 38 51.3**	**+0.6**
	0.4nm,0.5s,baz=111,slow=7.6,SNR=4.1						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**09 40 20.9**	**-1.0**
	0.3nm,0.7s,baz=272,slow=5.4,SNR=2.9						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**87.32**	**180**	P	**P**	**09 40 30.2**	**+1.4**
	1.0nm,1.0s,baz=286,slow=4.7,SNR=5.7						
	1.0nm,1.0s						

*DSN **28** 09:51:28.2±0.8,27°.29N×54°.87E,h10km,ML3.1/6,Error*
ellipse: s-maj=15.1km s-min=5.7km az=39.0
*TEH **28** 09:51:30.9,27°.05N×55°.03E,h20km±15km*
*OMAN **28** 09:51:32.9±0.8,27°.08N×55°.00E,h10km,mb4.6/4,*
ml3.3/16,Error ellipse: s-maj=7.4km s-min=3.9km az=12.0
ISC 28 09:51:30.8±1.3,27°.06N±0°.03×55°.05E±0°.04,h5km±11km,
n50,σ1§88/68,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.86**	**316**	Pg	**Pb**	**09 51 47.2**	**-1.1**
BNDS	**Bandar-Abbas**	**1.05**	**71**	Pg	**Pn**	**09 51 51.1**	**-1.4**
GENO	**Geno**	**1.05**	**71**	Pg	**Pn**	**09 51 51.1**	**-1.4**
IBND	**Bandar-abas**	**1.38**	**73**	Pg	**Pg**	**09 51 57.4**	**+0.1**
IBND				Sg	**Sg**	**09 52 17.3**	**+2.1**
SHME	**Shamm**	**1.40**	**136**	P	**Pg**	**09 51 57.9**	**+0.2**
SHME				S	**Sg**	**09 52 19.2**	**+3.4**
SHME	**Shamm**	**1.40**	**136**	P	**Pg**	**09 51 57.5**	**-0.1**
SHME				S	**Sg**	**09 52 19.5**	**+3.7**
BANOM	**Banah**	**1.59**	**135**	P	**Pg**	**09 52 01.0**	**-0.2**
BANOM				S	**Sg**	**09 52 24.8**	**+2.9**
BANOM	**Banah**	**1.59**	**135**	P	**Pg**	**09 52 00.8**	**-0.4**
BANOM				S	**Sg**	**09 52 25.0**	**+3.1**
UMQ	**Umm Al-Quwin**	**1.62**	**160**	P	**Pg**	**09 52 02.4**	**+0.5**
UMQ				S	**Sg**	**09 52 22.6**	**-0.3**
LMD1	**Lamerd**	**1.70**	**280**	Pg	**Pb**	**09 52 01.4**	**-1.3**
JHRM	**Jahrom**	**1.95**	**318**	Pn	**Pb**	**09 52 04.7**	**-2.2**
MASF	**Masafi**	**1.95**	**149**	P	**Pb**	**09 52 07.0**	**+0.1**
MASF				S	**Sg**	**09 52 33.2**	**-0.3**
MSFE	**Esma-Masafi**	**1.96**	**149**	P	**Pb**	**09 52 05.2**	**-1.9**
MSFE				S	**Sg**	**09 52 34.1**	**+0.3**
MDH	**Madha**	**2.08**	**147**	P	**Pb**	**09 52 09.2**	**+0.1**
MDH				S	**Sg**	**09 52 36.8**	**-0.9**
MDH	**Madha**	**2.08**	**147**	P	**Pb**	**09 52 06.9**	**-2.2**
UOSS	**Minazif**	**2.34**	**154**	P	**Pb**	**09 52 12.6**	**-1.0**
UOSS	**Minazif**	**2.34**	**154**	P	**Pn**	**09 52 10.2**	**+0.2**
HATD	**Hatta, Dubai**	**2.43**	**156**	P	**Pb**	**09 52 14.1**	**-0.9**
HATD	**Hatta, Dubai**	**2.43**	**156**	P	**Pb**	**09 52 12.4**	**-2.5**
ASUD	**Al Ashush, Dub**	**2.43**	**174**	P	**Pb**	**09 52 14.4**	**-0.7**
ASUD				S	**Sb**	**09 52 43.8**	**-1.6**
AJN	**Ajban**	**2.48**	**181**	P	**Pb**	**09 52 14.9**	**-1.1**
ASHO	**Ashiyiah**	**2.53**	**159**	P	**Pb**	**09 52 15.1**	**-1.7**
	SNR=16						
ASHO				S	**Sb**	**09 52 47.4**	**-0.9**
ASHO	**Ashiyiah**	**2.53**	**159**	P	**Pn**	**09 52 12.9**	**+0.2**
NGRK	**Negar Kerman**	**2.97**	**29**	Pn	**Pn**	**09 52 19.2**	**+0.2**
ALNE	**Al Ain**	**3.05**	**168**	P	**Pb**	**09 52 22.0**	**-3.7**
ALNE				S	**Sb**	**09 53 02.5**	**-0.9**
SOHO	**SOHO**	**3.20**	**155**	P	**Pb**	**09 52 24.0**	**-4.2**
KRBR	**Kerman**	**3.28**	**27**	Pn	**Pn**	**09 52 22.7**	**-0.5**
KHGB	**Koh Gabri**	**3.54**	**20**	Pn	**Pn**	**09 52 26.9**	**+0.2**
KBAM	**BAM**	**3.65**	**55**	Pn	**Pn**	**09 52 28.2**	**+0.1**
ARQ	**Araqi**	**3.94**	**160**	S	**Sn**	**09 53 20.1**	**+1.5**
HOQ	**Hoqain**	**4.02**	**149**	P	**Pn**	**09 52 36.1**	**+3.0**
HOQ				S	**Sb**	**09 53 24.0**	**-7.1**
HOQ	**Hoqain**	**4.02**	**149**	Pn	**Pn**	**09 52 33.2**	**+0.1**
ZRDN	**Zarand Kerman**	**4.11**	**18**	Pn	**Pn**	**09 52 34.3**	**-0.3**
TRNA	**Turayna**	**4.16**	**237**	P	**Pn**	**09 52 36.3**	**+1.3**
	SNR=12						
TRNA				S	**Sn**	**09 53 25.6**	**+1.6**
MZR	**Muzera**	**4.28**	**200**	P	**Pn**	**09 52 38.0**	**+1.3**
MZR				S	**Sn**	**09 53 29.4**	**+2.3**
UMZA	**Um Al Zommool**	**4.33**	**179**	P	**Pn**	**09 52 39.3**	**+2.0**
UMZA				S	**Sn**	**09 53 31.2**	**+3.0**
IMEH	**Mehriz**	**4.33**	**355**	Pn	**Pn**	**09 52 37.6**	**-0.1**
SMRA	**Abu-Samra**	**4.45**	**240**	P	**Pn**	**09 52 40.5**	**+1.5**
SMRA				S	**Sn**	**09 53 32.6**	**+1.4**
IBAF	**Bafgh**	**4.54**	**6**	Pn	**Pn**	**09 52 39.8**	**-0.6**
SMDO	**Samad**	**4.82**	**145**	P	**Pn**	**09 52 46.0**	**+1.8**
SMDO				S	**Sn**	**09 53 43.4**	**+2.9**
KLNJ	**Kolanjah**	**4.97**	**323**	Pn	**Pn**	**09 52 46.8**	**+0.4**
ICHK	**Chekchek**	**5.20**	**354**	Pn	**Pn**	**09 52 50.1**	**+0.6**
IRAM	**Ramesheh**	**5.28**	**334**	Pn	**Pn**	**09 52 50.7**	**+0.1**
TPRV	**Parvadeh(Tabas**	**6.12**	**13**	Pn	**Pn**	**09 53 01.5**	**-0.5**
SRVN	**Saravan**	**6.55**	**85**	Pn	**Pn**	**09 53 08.8**	**+0.8**
MHTO	**MHTO**	**6.61**	**156**	P	**Pn**	**09 53 09.7**	**+1.1**
DOK	**Doka**	**8.44**	**186**	P	**Pn**	**09 53 35.0**	**+1.1**
	SNR=7.4						
WHFO	**Wadi Hawf**	**9.17**	**188**	P	**Pn**	**09 53 45.0**	**+1.1**
	SNR=8.5						
DMTO	**DMTO**	**9.30**	**181**	P	**Pn**	**09 53 45.6**	**-0.1**
ABTO	**Aybut**	**9.79**	**190**	P	**Pn**	**09 53 53.0**	**+0.5**
	SNR=8.4						

*NEIC **28** 09:55:11.4±1.0,6°.9S±0°.1×126°.5E±0°.1,h430km±9km,*
mb4.1/13,Error ellipse: s-maj=18.5km s-min=14.9km
az=81.0
*IDC **28** 09:55:11.6±1.7,6°.95S×126°.51E,h440km±21km,mb3.2/9,*
mbtmp4.1/12,Error ellipse: s-maj=34.6km s-min=10.1km
az=69.0
ISC 28 09:55:11.6±0.6,7°.01S±0°.07×126°.48E±0°.09,h450km,n32,
σ1§70/33,mb3.8/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.50**	**219**	P	**P**	**09 56 21.9**	**-0.7**
BATI	**Baumata**	**4.23**	**221**	P	**P**	**09 56 28.7**	**-0.1**
	439nm,0.5s,baz=111,slow=0.9,SNR=47						
BATI				S	**S**	**09 57 25.8**	**-5.8**
	109nm,0.4s,baz=99,slow=5.1,SNR=5.9						
MMRI	**Maumere**	**4.50**	**249**	P	**P**	**09 56 30.9**	**-0.4**
LUWI	**Luwuk**	**6.99**	**328**	P	**P**	**09 56 54.9**	**-1.3**
FAKI	**Fak Fak**	**7.04**	**55**	P	**P**	**09 56 53.2**	**-3.6**
MTN	**Manton Dam**	**7.39**	**142**	P	**P**	**09 57 00.2**	**-0.3**
KNRA	**Kununurra**	**8.90**	**166**	P	**P**	**09 57 17.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.05**	**184**	P	**P**	**09 57 40.9**	**+0.7**
	4.6nm,0.6s,baz=352,slow=7.2,SNR=24						
WB0	**Warramunga Arr**	**14.83**	**150**		**P**	**09 58 21.1**	**+0.1**
WRA	**Warramunga Arr**	**14.95**	**150**	P	**P**	**09 58 20.9**	**-1.4**
WRA	**Warramunga Arr**	**14.95**	**150**	P	**P**	**09 58 22.2**	**0.0**
	4.0nm,0.5s,baz=324,slow=11,SNR=91						
WRA				S	**S**	**10 00 56.7**	**-3.1**
	1.0nm,0.7s,baz=327,slow=16,SNR=6.6						
WR8	**Warramunga Arr**	**15.04**	**150**		**P**	**09 58 23.4**	**+0.2**
WR8				IAmb	IAmb	09 58 24.1	
	comp=Z,11nm,0.9s						
MBWA	**Marble Bar**	**15.51**	**204**	P	**P**	**09 58 29.3**	**+1.1**
COEN	**Coen**	**17.80**	**114**	P	**P**	**09 58 52.3**	**-0.1**
COEN				IAmb	IAmb	09 59 31.9	
	comp=Z,7.8nm,1.0s						
AS31	**Alice Springs**	**18.03**	**157**		**P**	**09 58 55.4**	**+0.6**
AS31				IAmb	IAmb	09 58 57.8	
	comp=Z,5.9nm,0.4s						
ASAR	**Alice Springs**	**18.03**	**158**	P	**P**	**09 58 55.3**	**+0.6**
	comp=Z,5.2nm,0.5s,baz=346,slow=14,SNR=102						
ASAR				S	**S**	**10 01 59.5**	**+1.7**
	comp=Z,2.1nm,0.9s,baz=345,slow=23,SNR=10						
FORT	**Forrest**	**23.70**	**177**	P	**P**	**09 59 47.7**	**+1.3**
FORT				IAmb	IAmb	10 00 00.1	
	comp=Z,5.9nm,0.9s						
RABL	**Rabaul**	**25.71**	**85**	P	**P**	**10 00 06.5**	**+2.0**
BBOO	**Buckleboo**	**27.17**	**162**	P	**P**	**10 00 18.7**	**+1.5**
BBOO				IAmb	IAmb	10 00 35.1	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**28.48**	**152**	IAmb	IAmb	10 00 30.5	
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**28.48**	**152**	P	**P**	**10 00 30.1**	**+1.3**
	comp=Z,2.1nm,0.5s,baz=324,slow=9.4,SNR=8.2						
	comp=Z,2.1nm,0.5s						
MJAR	**Matsushiro Arr**	**44.70**	**13**	P	**P**	**10 02 41.7**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=193,slow=9.6,SNR=4.6						
	comp=Z,1.1nm,0.6s						
EVN	**Everest**	**51.73**	**314**	P	**P**	**10 03 37.5**	**+0.8**
EVN				IAmb	IAmb	10 03 38.6	
	comp=Z,8.3nm,1.3s						
SONM	**Songino Array**	**57.41**	**344**	IAmb	IAmb	10 04 17.5	
	comp=Z,4.2nm,1.4s						
SONM	**Songino Array**	**57.41**	**344**	P	**P**	**10 04 17.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=166,slow=8.4,SNR=4.8						
	comp=Z,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**65.47**	**20**	P	**P**	**10 05 10.4**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=167,slow=7.3,SNR=4.3						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**66.36**	**328**	P	**P**	**10 05 15.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=128,slow=7.9,SNR=6.8						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**70.09**	**335**	P	**P**	**10 05 37.1**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=144,slow=5.3,SNR=5.9						
	comp=Z,1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**70.73**	**330**	P	**P**	**10 05 41.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=134,slow=4.8,SNR=11						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**70.74**	**330**	P	**P**	**10 05 41.2**	**+0.2**
KURK				IAmb	IAmb	10 05 42.7	
	comp=Z,3.9nm,0.9s						
VNDA	**Vanda**	**72.88**	**172**	P	**P**	**10 05 54.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=284,slow=8.3,SNR=2.9						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**76.24**	**329**	P	**P**	**10 06 12.7**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=107,slow=7.7,SNR=4.1						
	comp=Z,0.8nm,0.4s						

IDC 28 09:59:34.6±4.0,4°.86S×148°.82E,h0km,mb3.4/2,
mbtmp3.5/3,ML0.9/1,Error ellipse: s-maj=124.2km
s-min=38.5km az=103.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**200**	Pn	Pn	10 00 49.6	+1.2
	0.4nm,0.3s,baz=354,slow=19,SNR=3.1						
PMG				Sn	Sn	10 01 48.1	+3.3
	1.9nm,0.3s,baz=229,slow=20,SNR=4.0						
	3.6nm,0.3s						
WRA	**Warramunga Arr**	**20.58**	**222**	P	P	10 04 16.1	+0.7
	0.6nm,0.5s,baz=49,slow=11,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**23.59**	**216**	P	P	10 04 46.0	-1.4
	1.4nm,0.7s,baz=46,slow=9.0,SNR=14						
	1.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.54**	**286**	PKPbc	PKPbc	10 19 18.7	-0.5
	0.2nm,0.6s,baz=55,slow=3.9,SNR=1.6						

IDC 28 10:00:15.4±2.1,5°.60S×150°.70E,h0km,mb3.8/3,
mbtmp3.8/3,Error ellipse: s-maj=124.2km
s-min=30.9km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**223**	Sn	Sn	10 02 31.5	-2.9
	0.4nm,0.3s,baz=216,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**21.37**	**227**	P	P	10 05 05.0	+0.4
	1.8nm,0.5s,baz=54,slow=11,SNR=7.5						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	10 05 33.9	+0.2
	3.2nm,0.7s,baz=52,slow=9.8,SNR=15						
	3.2nm,0.7s						
ILAR	**Eielson Array**	**83.68**	**22**	P	P	10 12 45.2	-0.6
	0.3nm,0.6s,baz=247,slow=4.8,SNR=2.9						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	10 20 04.8	-0.5
	0.3nm,0.6s,baz=94,slow=4.5,SNR=1.9						

*KRNET **28** 10:02:05.7±0.1,40°.85N×69°.81E,mb2.6*
ISC 28 10:02:07.5±2.1,40°.84N±0°.05×69°.87E±0°.10,h10km,n10,
σ2§11/20,11C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.18**	**54**	⇑*iP*	**Pb**	**10 02 28.6**	**-1.5**
TRKS				⇑*iS*	**Sn**	**10 02 45.4**	**-1.1**
ARK	**Arkit**	**1.84**	**58**	⇓*iP*	**Pb**	**10 02 40.9**	**-0.5**
ARK				⇓*iS*	**Sg**	**10 03 06.5**	**-0.3**
DRK	**Karamyk**	**2.00**	**132**	⇑*eP*	**Pb**	**10 02 43.7**	**-0.5**
DRK				⇑*eS*	**Sg**	**10 03 11.3**	**-0.6**
OHH	**Osh**	**2.24**	**97**	⇓*eP*	**Pb**	**10 02 46.9**	**-1.1**
OHH				⇓*eS*	**Sb**	**10 03 16.8**	**+1.0**
KK31	**Karatay Array**	**2.32**	**12**	⇑Pn	**Pb**	**10 02 47.5**	**-1.9**
	0.5nm,0.2s,baz=189,slow=15,SNR=26						
KK31				⇓Sn	**Sg**	**10 03 20.1**	**-1.7**
	2.3nm,0.2s,baz=190,slow=22,SNR=15						
ARSB	**Arslanbob**	**2.40**	**77**	⇑*iP*	**Pb**	**10 02 49.1**	**-1.7**
ARSB				⇑*iS*	**Sb**	**10 03 20.9**	**+0.3**
SFK	**Sufi-Kurgan**	**2.89**	**105**	⇓*iP*	**Pb**	**10 02 56.1**	**-3.1**
SFK				⇓*iS*	**Sb**	**10 03 33.1**	**-1.6**
SALK	**Salom-Alik**	**2.99**	**88**	⇑*iP*	**Pb**	**10 02 57.6**	**-3.4**
SALK				⇑*iS*	**Sb**	**10 03 35.3**	**-2.4**
EKS2	**Erkin-Say**	**3.44**	**57**	⇓*iP*	**Pb**	**10 03 03.4**	**+2.1**
EKS2				⇓*iS*	**Sn**	**10 03 45.5**	**+3.3**
UCH	**Uchtor**	**3.75**	**67**	⇑*iP*	**Pn**	**10 03 08.0**	**+2.2**
UCH				⇑*iS*	**Sn**	**10 03 53.4**	**+3.2**

*TXNET **28** 10:13:39.1,31°.1N±0°.8×103°.1W±0°.7,h4km±1km,ML2.8/11,*
Error ellipse: s-maj=1.3km s-min=1.0km az=155.0,final
NEIC 28 10:13:39.7±1.1,31°.12N±0°.01×103°.12W±0°.01,h2km±4km,
mb_Lg2.6/31,ML2.5/13,1D,Error ellipse: s-maj=1.5km
s-min=1.4km az=201.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB15	**Southwest of C**	**0.10**	**18**	P	Pg	10 13 41.9	+0.2
TPB15				S	Sg	10 13 44.1	+1.2
TPB16	**Coyonosa**	**0.11**	**273**	P	Pg	10 13 42.3	+0.4
TPB16				S	Sg	10 13 44.7	+1.2
TPB04	**Verhalen**	**0.15**	**298**	P	Pg	10 13 43.3	+0.7
TPB04				S	Sg	10 13 46.3	+1.7
TPB19	**West of Imperi**	**0.18**	**5**	P	Pg	10 13 44.2	+0.9
TPB19				S	Sg	10 13 47.8	+2.1
TPB05	**Hovey Rd**	**0.27**	**222**	P	Pb	10 13 46.2	-1.1
TPB05				S	Sb	10 13 51.0	-1.4
TPB08	**Permian Basin**	**0.29**	**141**	P	Pb	10 13 46.5	-1.2
TPB08				S	Sb	10 13 51.6	-1.4
TPB03	**Saragosa**	**0.34**	**264**	P	Pg	10 13 47.3	+1.1
TPB03				S	Sb	10 13 53.0	-1.4
MNHN	**Monahans**	**0.38**	**54**		Pg	10 13 46.9	-0.1
MNHN					Sg	10 13 52.4	+0.5
MNHN				IAML		10 13 55.7	
	470nm,0.3s						
MNHN				IAML		10 14 00.3	
	456nm,0.4s						
MNHN	**Monahans**	**0.38**	**54**	P	Pg	10 13 46.9	-0.1
MNHN				S	Sg	10 13 52.4	+0.5
PCOS	**Crockett Middl**	**0.44**	**311**		Pb	10 13 49.4	-0.9
PCOS					Sb	10 13 57.1	-0.3
PCOS	**Crockett Middl**	**0.44**	**311**	P	Pb	10 13 49.4	-0.9
PCOS				S	Sb	10 13 57.1	-0.3
TPB27	**North of Pyote**	**0.46**	**359**	P	Pg	10 13 49.2	+0.7
TPB27				S	Sb	10 13 56.2	-1.6
TPB06	**Permian Basin**	**0.53**	**351**	P	Pg	10 13 50.8	+0.8
TPB06				S	Sg	10 13 58.3	+1.4
TPB10	**Southeast of T**	**0.57**	**287**	S	Sb	10 13 59.9	-1.2
TPB01	**Permian Basin**	**0.59**	**253**	P	Pg	10 13 51.4	+0.3
TPB07	**Mentone**	**0.66**	**314**	P	Pb	10 13 53.3	-0.6
PECS	**Pecos**	**0.69**	**292**		Pg	10 13 53.1	+0.2
PECS				IAML		10 14 10.2	
	250nm,0.4s						
PECS	**Pecos**	**0.69**	**292**	P	Pg	10 13 53.1	+0.2
TPB12	**Southwest of T**	**0.72**	**278**	P	Pg	10 13 53.8	+0.2
ALPN	**Alpine**	**0.87**	**211**		Pg	10 13 56.4	0.0
ALPN	**Alpine**	**0.87**	**211**	⇓P	Pg	10 13 56.4	0.0
TMB02	**Rankin**	**0.93**	**85**	P	Pg	10 13 57.3	-0.2
TMB02				S	Sg	10 14 10.0	+0.4
TMB01	**Midkiff**	**1.04**	**58**	P	Pg	10 13 59.2	-0.5
TMB01				S	Sg	10 14 13.7	+0.5
ODSA	**Odessa**	**1.11**	**26**		Pg	10 14 00.1	-0.9
ODSA					Sg	10 14 16.0	+0.6
ODSA	**Odessa**	**1.11**	**26**	P	Pg	10 14 00.1	-0.9
ODSA				S	Sg	10 14 16.0	+0.6
CLNB	**Carlsbad**	**1.31**	**331**		Pn	10 14 05.8	+0.6
CLNB	**Carlsbad**	**1.31**	**331**	P	Pn	10 14 05.3	+0.1
HTMS	**Hat Mesa**	**1.42**	**342**		Pg	10 14 06.8	-0.1
SAND	**Sanderson**	**1.44**	**143**		Pn	10 14 06.4	-0.6
SAND	**Sanderson**	**1.44**	**143**	P	Pn	10 14 06.4	-0.6
TMB04	**Seminole**	**1.59**	**19**	P	Pn	10 14 08.6	-0.5
VHRN	**Van Horn**	**1.64**	**259**		Pn	10 14 10.1	+0.4
VHRN	**Van Horn**	**1.64**	**259**	P	Pn	10 14 10.1	+0.4
OZNA	**Ozona**	**1.72**	**96**		Pn	10 14 11.2	+0.5
OZNA				IAmb_Lg		10 14 38.1	
	comp=Z,25nm,0.8s						
OZNA	**Ozona**	**1.72**	**96**	P	Pn	10 14 11.3	+0.5
TX31	**Lajitas Ar. Si**	**1.84**	**195**		Pb	10 14 13.3	-0.8
TX31	**Lajitas Ar. Si**	**1.84**	**195**	P	Pb	10 14 13.3	-0.8
TXAR	**Lajitas Array**	**1.84**	**195**		Pb	10 14 13.4	-0.8
SGCY	**Sterling City**	**1.88**	**64**		Pb	10 14 13.9	-0.8
SGCY				IAmb_Lg		10 14 41.0	
	comp=Z,28nm,0.8s						

SVKR	**Severomuysk**	**1.57**	**36**	*e*Pg	**Pg**	**10 18 24.5**	**+0.6**
SVKR				*e*Sg	**Sg**	**10 18 46.1**	**+1.9**
SVKR				Pmax			
	330nm,0.3s						
SVKR				Smax			
	1μm,0.4s						
NIZB	**Nizh Angarsk**	**1.63**	**305**	*e*Pg	**Pn**	**10 18 21.9**	**-0.6**
NIZB				*e*		10 18 23.4	
NIZB				*e*Sg	**Sn**	**10 18 42.1**	**-1.5**
NIZB				max			
	68nm,0.2s						
NIZB				Smax			
	416nm,0.2s						
SYVR	**Suvo**	**1.65**	**224**	*e*Pg	**Pn**	**10 18 22.7**	**0.0**
SYVR				*e*Sg	**Sb**	**10 18 44.1**	**-0.8**
SYVR				Pmax			
	73nm,0.4s						
SYVR				Smax			
	321nm,0.4s						
MXMB	**Maximikha**	**2.46**	**231**	*e*Pg	**Pb**	**10 18 36.8**	**-1.2**
MXMB				*e*Sg	**Sb**	**10 19 08.4**	**+0.1**
NLYR	**Nelyaty**	**2.70**	**51**	*e*Pn	**Pb**	**10 18 39.6**	**-2.5**
NLYR				*e*Pg	**Pg**	**10 18 45.1**	**-0.3**
NLYR				*e*Sg	**Sg**	**10 19 21.3**	**+0.9**
NLYR				Pmax			
	42nm,0.4s						
NLYR				Smax			
	416nm,0.8s						
OGRR	**Ongureny**	**2.81**	**246**	*e*Pn	**Pn**	**10 18 38.9**	**+0.2**
OGRR				*e*Pg	**Pb**	**10 18 42.1**	**-1.9**
OGRR				*e*		10 19 13.6	
OGRR				*e*Sg	**Sb**	**10 19 18.1**	**-0.3**
OGRR				Pmax			
	30nm,0.3s						
OGRR				Smax			
	129nm,0.4s						
GORB	**Goryachinsk**	**2.85**	**230**	*e*Pn	**Pn**	**10 18 39.8**	**+0.6**
GORB				*e*Pg	**Pb**	**10 18 43.7**	**-1.0**
GORB				*e*Sg	**Sb**	**10 19 20.1**	**+0.5**
CIT	**Chita**	**3.01**	**160**	*e*Pg	**Pg**	**10 18 49.0**	**-2.3**
CIT				*e*Sg	**Sg**	**10 19 29.0**	**-1.2**
CIT				Pmax			
	102nm,0.2s						
CIT				Smax			
	488nm,0.3s						
KELR	**Kotokel**	**3.10**	**229**	*e*Pn	**Pn**	**10 18 42.2**	**-0.4**
KELR				*e*Pg	**Pb**	**10 18 48.2**	**-0.6**
KELR				*e*Sg	**Sb**	**10 19 27.4**	**+0.8**
BOD	**Bodaibo**	**3.19**	**21**	*e*Pn	**Pn**	**10 18 45.4**	**+1.5**
BOD				*e*Pg	**Pb**	**10 18 51.9**	**+1.5**
BOD				*e*Sn	**Sn**	**10 19 24.4**	**+2.5**
BOD				*e*Sg	**Sg**	**10 19 33.1**	**-2.9**
BOD				Pmax			
	61nm,0.9s						
BOD				Smax			
	128nm,0.8s						
TRG	**Tyrgan**	**3.91**	**240**	*e*Pn	**Pn**	**10 18 54.1**	**+0.2**
TRG				*e*Pg	**Pb**	**10 19 02.1**	**-0.7**
TRG				*e*Sg	**Sb**	**10 19 51.8**	**+1.7**
TRG				Pmax			
	18nm,0.5s						
TRG				Smax			
	53nm,0.3s						
UUDB	**Ulan-Yde**	**3.93**	**222**	*e*Pn	**Pn**	**10 18 54.9**	**+0.8**
UUDB				*e*Pg	**Pb**	**10 19 04.1**	**+1.0**
UUDB				*e*Sg	**Sg**	**10 19 55.1**	**-4.8**
UUDB				Pmax			
	24nm,1.2s						
UUDB				Smax			
	182nm,1.2s						
CRS	**Chara**	**4.12**	**58**	*e*Pn	**Pn**	**10 18 59.5**	**+2.7**
CRS				*e*Pg	**Pg**	**10 19 09.9**	**-2.7**
CRS				*e*Sg	**Sg**	**10 20 04.6**	**-1.4**
CRS				Pmax			
	37nm,0.8s						
CRS				Smax			
	160nm,0.7s						
FFNB	**Fofonovo**	**4.17**	**230**	*e*Pg	**Pb**	**10 19 07.8**	**+0.6**
FFNB				*e*Sg	**Sb**	**10 20 01.5**	**+3.9**
KAB	**Kabansk**	**4.22**	**230**	*e*Sg	**Sb**	**10 20 02.8**	**+3.9**
KAB				Smax			
	309nm,1.2s						
HRMR	**Khuramsha**	**4.40**	**225**	*e*Pn	**Pn**	**10 19 02.1**	**+1.6**
HRMR				*e*Pg	**Pb**	**10 19 11.5**	**+0.5**
HRMR				*e*Sg	**Sb**	**10 20 08.4**	**+4.3**
HRMR				Pmax			
	53nm,0.7s						
HRMR				Smax			
	161nm,0.8s						
VTMR	**Vitim**	**4.61**	**4**	*e*Pg	**Pb**	**10 19 16.3**	**+1.7**
VTMR				*e*Sg	**Sg**	**10 20 15.5**	**-6.0**
TUP	**Tupik**	**4.69**	**92**	*e*Pn	**Pn**	**10 19 07.5**	**+2.9**
TUP				*e*Pg	**Pg**	**10 19 21.0**	**-2.5**
TUP				*e*Sn	**Sn**	**10 20 01.2**	**+2.2**
TUP				*e*Sg	**Sg**	**10 20 23.1**	**-1.1**
TUP				Pmax			
	13nm,0.3s						
TUP				Smax			
	176nm,0.6s						
BGT	**Bolshoye Golou**	**4.80**	**237**	*e*Pg	**Pb**	**10 19 18.5**	**+0.6**
BGT				*e*Sg	**Sb**	**10 20 20.1**	**+4.4**
BGT				Pmax			
	6.0nm,0.2s						
BGT				Smax			
	44nm,0.1s						
KHNR	**Khani**	**4.99**	**62**	*e*Sg	**Sg**	**10 20 31.2**	**-2.5**
KPC	**Khapcheranga**	**5.17**	**177**	*e*Pn	**Pn**	**10 19 13.5**	**+2.3**
KPC				*e*Pg	**Pg**	**10 19 28.5**	**-4.2**
KPC				*e*Sg	**Sg**	**10 20 36.2**	**-3.4**
KPC				Pmax			
	8.0nm,0.4s						
KPC				Smax			
	89nm,1.4s						
LSTR	**Listvyanka**	**5.19**	**238**	*e*Pg	**Pb**	**10 19 26.2**	**+1.7**
LSTR				*e*Sg	**Sb**	**10 20 32.5**	**+5.6**
LSTR				Pmax			
	10.0nm,0.9s						
LSTR				Smax			
	37nm,1.3s						
IVK	**Ivanovka**	**5.44**	**239**	*e*Pg	**Pb**	**10 19 30.2**	**+1.5**
IVK				*e*Sg	**Sb**	**10 20 39.0**	**+5.0**
IVK				Pmax			
	7.0nm,0.3s						
IVK				Smax			
	76nm,1.5s						
YKLR	**Yuktali**	**5.77**	**69**	*e*Pg	Pg	10 19 39.2	-5.0
YKLR				*e*Sg	**Sg**	**10 20 56.8**	**-2.1**
TLY	**Talaya**	**5.89**	**241**	*e*Pg	**Pb**	**10 19 38.2**	**+1.7**
TLY				*e*Sg	**Sb**	**10 20 52.6**	**+5.5**
TLY				Pmax			
	3.0nm,0.1s						
TLY				Smax			
	25nm,0.5s						
ARS	**Arshan**	**6.39**	**246**	*e*Pg	**Pb**	**10 19 47.2**	**+2.2**
ARS				*e*Sg	**Sb**	**10 21 08.7**	**+7.2**
ARS				Pmax			
	20nm,0.4s						
ARS				Smax			
	129nm,0.6s						
ZAK	**Zakamensk**	**6.91**	**233**	*e*Sg	Sg	10 21 25.6	-10
ZAK				Smax			
	26nm,1.6s						
HILR	**Hailar Array B**	**7.17**	**135**	Pn	**Pn**	**10 19 39.2**	**+0.7**
	baz=330,slow=13						
HILR				Sn	**Sn**	**10 20 55.9**	**-4.1**
	baz=332,slow=21						
HILR				Lg	Lg	10 21 39.3	
	baz=332,slow=31						
	0.7nm,0.3s						
MOY	**Mondy**	**7.29**	**248**	*e*Pg	**Pb**	**10 20 03.6**	**+3.3**
MOY				*e*Sg	Sb	10 21 36.2	+9.0
MOY				Pmax			
	20nm,1.7s						
MOY				Smax			
	52nm,1.4s						
ORL	**Orlik**	**7.55**	**257**	*e*Pn	**Pn**	**10 19 44.7**	**+0.8**
ORL				*e*Pg	**Pb**	**10 20 07.1**	**+2.3**
ORL				*e*		10 21 10.1	
ORL				*e*Sg	Sb	10 21 44.7	+10
ORL				Pmax			
	9.0nm,1.0s						
ORL				Smax			
	41nm,1.1s						
CLNS	**Chul'man**	**7.57**	**70**	*e*Sg	**Sg**	**10 21 51.4**	**-5.1**
SONM	**Songino Array**	**7.83**	**208**	Pn	**Pn**	**10 19 50.5**	**+2.7**
	0.7nm,0.3s,baz=19,slow=13,SNR=9.6						
SONM				Lg	Lg	10 22 02.0	
	0.9nm,0.3s,baz=29,slow=23,SNR=14						
	0.8nm,0.3s						
TDJR	**Todzha**	**9.71**	**262**	*e*Sg	Sn	10 22 50.2	+48
ZALV	**Zalesovo Beam**	**15.77**	**278**	Pn	**Pn**	**10 21 36.4**	**+0.7**
	0.3nm,0.3s,baz=77,slow=9.2,SNR=4.2						
ZALV				Lg	Lg	10 26 12.1	
	0.2nm,0.3s,baz=76,slow=30,SNR=1.5						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**20.25**	**259**	P	Pn	10 22 31.6	+0.6
	0.2nm,0.4s,baz=47,slow=10,SNR=4.0						
	0.2nm,0.4s						
JNU	**Nakatsue**	**25.50**	**141**	LR	LR	10 33 00.6	
	comp=Z,71nm,18.2s,baz=278,slow=36						

SOF ***28*** *10:20:28.9, 41.°69N±0.°01×24.°21E, h16km±3km, MD2.8/6*
ISK ***28*** *10:20:29.6, 41.°66N×24.°26E, h13km, ML2.6/6*
BEO ***28*** *10:20:30.3±0.8, 41.°66N×24.°15E, h0km, ML2.5/7*
SKO ***28*** *10:20:31.0, 41.°72N×24.°15E, h3km, ML2.4*
AFAD ***28*** *10:20:30.7, 41.°66N×24.°36E, h10km±2km, ML2.5*

ISC 28 10:20:29.2±1.0, 41.°69N±0.°02×24.°24E±0.°02, h8km±9km, n49, σ0.°87/82, 8C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.37**	**89**	*i* Pg	**Pb**	**10 20 37.5**	**-0.7**
RZN				*i* Sg	**Sb**	**10 20 42.6**	**-1.6**
MMB	**Musomishta**	**0.40**	**249**	*i* Pg	**Pg**	**10 20 37.1**	**+0.1**
MMB				*i* Sg	**Sg**	**10 20 42.5**	**+0.3**
MMB	**Musomishta**	**0.40**	**249**	*i* Pg	**Pg**	**10 20 37.1**	**+0.1**
MMB				*i* Sg	**Sg**	**10 20 42.8**	**+0.6**
PLD	**Plovdiv**	**0.59**	**39**	*i* Pg	**Pb**	**10 20 41.1**	**-0.8**
PLD				*i* Sg	**Sg**	**10 20 49.0**	**+0.6**
PLD	**Plovdiv**	**0.59**	**39**	Pg	**Pb**	**10 20 41.0**	**-0.8**
PLD				Sg	**Sg**	**10 20 49.1**	**+0.6**
PLD	**Plovdiv**	**0.59**	**39**	*i* Pg	**Pb**	**10 20 41.1**	**-0.8**
PLD				*i* Sg	**Sg**	**10 20 49.1**	**+0.7**
PLD	**Plovdiv**	**0.59**	**39**	*e*Pg	**Pb**	**10 20 41.1**	**-0.8**
PLD				*e*Sg	**Sg**	**10 20 48.9**	**+0.6**
SRS	**Serrai**	**0.75**	**221**	*i* Pg	**Pb**	**10 20 44.1**	**-0.5**
SRS				*i* Sg	**Sb**	**10 20 54.7**	**-0.3**
KDZ	**Kurdzhali**	**0.82**	**94**	*i* Pg	**Pb**	**10 20 45.8**	**0.0**
KDZ				*i* Sg	**Sb**	**10 20 56.7**	**-0.3**
KDZ	**Kurdzhali**	**0.82**	**94**	Pg	**Pb**	**10 20 45.8**	**0.0**
KKB	**Krupnik**	**0.85**	**281**	*i* Pg	**Pg**	**10 20 45.3**	**-0.2**
KKB				*i* Sg	**Sg**	**10 20 56.1**	**-0.5**
KKB	**Krupnik**	**0.85**	**281**	*i* Pg	**Pg**	**10 20 45.3**	**-0.2**
KKB				*i* Sg	**Sg**	**10 20 56.3**	**-0.3**
SOH	**Sokhos**	**1.10**	**218**	*i* Pg	**Pb**	**10 20 50.2**	**-0.3**
SOH				*i* Sg	**Sb**	**10 21 05.1**	**+0.2**
RDO	**Rodhopi**	**1.11**	**119**	Pn	**Pn**	**10 20 51.0**	**-0.1**
RDO				Sn	**Sn**	**10 21 06.5**	**-0.1**
KNT	**Kendrikon**	**1.14**	**243**	*i* Pg	**Pn**	**10 20 51.1**	**-0.4**
KNT				*i* Sg	**Sn**	**10 21 07.2**	**-0.1**
VTS	**Vitosha**	**1.19**	**321**	*i* P	**Pg**	**10 20 51.5**	**-0.7**
VTS				*i* Sg	**Sg**	**10 21 06.6**	**-1.0**
VTS	**Vitosha**	**1.19**	**321**	*e*Pg	**Pg**	**10 20 51.4**	**-0.7**
VTS				*e*Sg	**Sg**	**10 21 07.5**	**-0.1**
VAY	**Valandovo**	**1.31**	**254**	*i* Pg	**Pg**	**10 20 55.2**	**+0.9**
VAY				*i* Sg	**Sn**	**10 21 13.3**	**+1.9**
VAY				*e*Lg	Lg	10 21 13.4	
	comp=N,64nm,0.5s						
VAY				*e*Lg	Lg	10 21 14.3	
	comp=E,56nm,0.6s						
OUR	**Ouranopolis**	**1.37**	**188**	Pn	**Pg**	**10 20 54.8**	**-0.7**
OUR				Sn	**Sn**	**10 21 12.7**	**-0.2**
THE	**Thessaloniki**	**1.43**	**223**	*i* Pg	**Pg**	**10 20 56.0**	**-0.6**
THE				*i* Sg	**Sg**	**10 21 15.2**	**-0.1**
BOSS	**Bosilegrad**	**1.54**	**302**	*e*Pg	**Pb**	**10 20 58.2**	**+0.2**
BOSS				*e*Sg	**Sg**	**10 21 19.0**	**+0.3**
PLVB	**Pleven**	**1.72**	**9**	⇑P	**Pg**	**10 21 02.0**	**-0.1**
PLVB				⇑S	**Sg**	**10 21 25.3**	**+0.8**
ENEZ	**Enez**	**1.73**	**123**	Pn	**Pn**	**10 20 59.9**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.76**	**124**	P	**Pg**	**10 21 03.0**	**0.0**
CAVK				S	**Sg**	**10 21 25.8**	**0.0**
CAVK				*i* IAML		10 21 29.0	
	comp=E,59nm,1.1s						
CAVK				*i* IAML		10 21 38.0	
	comp=E,48nm,0.9s						
CAVK	**Edirne/Enez-Ca**	**1.76**	**124**	⇓P	**Pg**	**10 21 03.4**	**+0.4**
CAVK				⇓S	**Sg**	**10 21 28.2**	**+2.3**
EDRB	**Edirne**	**1.88**	**84**	Pn	**Pb**	**10 21 02.6**	**-1.1**
UKOP	**Uzunkopru-Edir**	**1.88**	**107**	Pn	**Pn**	**10 21 01.9**	**+0.2**
GADA	**Gvkgeada**	**1.95**	**140**	Pn	**Pn**	**10 21 03.1**	**+0.5**
ZAPS	**Zavoj**	**1.98**	**324**	*e*Pg	**Pb**	**10 21 04.8**	**-0.7**
ZAPS				*e*Sg	**Sg**	**10 21 32.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.99**	**120**	Pn	**Pn**	**10 21 03.8**	**+0.6**
KESN	**Edirne-Kesan**	**2.03**	**114**	P	**Pb**	**10 21 06.2**	**-0.3**
KESN				S	**Sg**	**10 21 34.1**	**-0.3**
KESN				*i* IAML		10 21 36.0	
	comp=E,52nm,0.4s						
BARS	**Barje**	**2.12**	**303**	*i* Pn	**Pn**	**10 21 06.0**	**+1.0**
BARS	**Barje**	**2.12**	**303**	*e*Pg	**Pn**	**10 21 06.1**	**+1.0**
BARS				*e*Sg	**Sb**	**10 21 35.0**	**+0.5**
KIRK	**Kırklareli**	**2.14**	**87**	P	**Pg**	**10 21 09.7**	**-0.5**
KIRK				S	**Sb**	**10 21 35.4**	**+0.5**
BLKB	**Belogradchik**	**2.25**	**330**	⇓P	**Pn**	**10 21 07.7**	**+0.9**
BLKB				⇑S	**Sn**	**10 21 35.2**	**+0.4**
BLKB	**Belogradchik**	**2.25**	**330**	*e*Pn	**Pb**	**10 21 09.9**	**-0.3**
BLKB				*e*Sn	**Sb**	**10 21 37.3**	**-0.9**
BOZC	**Bozcaada**	**2.30**	**143**	Pn	**Pn**	**10 21 07.6**	**+0.2**
LPK	**Lapseki**	**2.31**	**124**	Pn	**Pn**	**10 21 08.1**	**+0.5**
COMU	**Canakkale**	**2.32**	**132**	Pn	**Pn**	**10 21 07.9**	**+0.2**
ARMN	**Kirklareli, Me**	**2.39**	**85**	P	**Pb**	**10 21 11.3**	**-1.2**
ZAGS	**Zajecar**	**2.59**	**326**	*e*Pn	**Pb**	**10 21 13.9**	**-1.9**
ZAGS				*e*Sn	**Sb**	**10 21 46.2**	**-1.6**
BAYC	**CANAKKALE_Bayr**	**2.62**	**137**	P	**Pn**	**10 21 13.4**	**+1.6**
BAYC				S	**Sn**	**10 21 42.4**	**-1.4**
BOVS	**Bovan**	**2.70**	**317**	⇓P	**Pn**	**10 21 13.6**	**+0.6**
BOVS				⇓S	**Sn**	**10 21 45.6**	**-0.2**
SELS	**Selova**	**2.77**	**305**	*e*Pn	**Pn**	**10 21 15.4**	**+1.5**
MDVR	**Moldovita**	**3.60**	**330**	⇑P	**Pn**	**10 21 25.8**	**+0.4**
MDVR				⇓S	**Sn**	**10 22 08.9**	**+0.9**
GZR	**Gura Zlata**	**3.85**	**344**	⇑P	**Pn**	**10 21 29.6**	**+0.8**
MLR	**Muntele Rosu**	**4.00**	**17**	⇑P	**Pn**	**10 21 34.4**	**+3.5**
SURR	**Surduc**	**4.34**	**340**	⇑P	**Pn**	**10 21 35.9**	**+0.4**
BZS	**Buzias**	**4.36**	**335**	⇑P	**Pn**	**10 21 36.4**	**+0.7**

SOF ***28*** *10:30:28.4, 41.°69N±0.°01×24.°22E, h17km±1km, MD2.6/6*
SKO ***28*** *10:30:30.6, 41.°72N×24.°19E, h1km, ML2.4*
BEO ***28*** *10:30:31.0±0.4, 41.°75N×24.°20E, h12km±5km, ML2.3/7*

ISC 28 10:30:28.8±1.1, 41.°73N±0.°03×24.°23E±0.°03, h9km±10km, n23, σ0.°81/43, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.38**	**95**	*i* Pg	**Pb**	**10 30 37.0**	**-0.8**
RZN				*i* Sg	**Sg**	**10 30 42.3**	**+0.9**
MMB	**Musomishta**	**0.40**	**243**	*i* Pg	**Pg**	**10 30 36.7**	**0.0**
MMB				*i* Sg	**Sg**	**10 30 41.9**	**-0.1**
MMB	**Musomishta**	**0.40**	**243**	*i* Pg	**Pg**	**10 30 36.7**	**0.0**
MMB				*i* Sg	**Sg**	**10 30 42.6**	**+0.6**
PLD	**Plovdiv**	**0.57**	**43**	*i* Pg	**Pb**	**10 30 40.6**	**-0.3**
PLD				*i* Sg	**Sb**	**10 30 48.5**	**-0.6**
PLD	**Plovdiv**	**0.57**	**43**	*i* Pg	**Pb**	**10 30 40.6**	**-0.3**
PLD				*i* Sg	**Sb**	**10 30 48.6**	**-0.6**
PLD	**Plovdiv**	**0.57**	**43**	*e*Pg	**Pb**	**10 30 40.6**	**-0.3**
PLD				*e*Sg	**Sb**	**10 30 48.3**	**-0.8**
SRS	**Serrai**	**0.78**	**218**	*i* Pg	**Pg**	**10 30 43.6**	**-0.1**
SRS	**Serrai**	**0.78**	**218**	*e*Pg	**Pg**	**10 30 43.6**	**-0.1**
SRS				*e*Sg	**Sn**	**10 30 58.1**	**+0.3**
KKB	**Krupnik**	**0.83**	**278**	*i* Pg	**Pb**	**10 30 45.1**	**-0.3**
KKB				*i* Sg	**Sg**	**10 30 55.6**	**0.0**
KKB	**Krupnik**	**0.83**	**278**	*i* Pg	**Pb**	**10 30 45.0**	**-0.3**
KKB				*i* Sg	**Sb**	**10 30 55.7**	**-1.0**
KDZ	**Kurdzhali**	**0.84**	**96**	*i* Pg	**Pb**	**10 30 45.2**	**-0.3**
SOH	**Sokhos**	**1.12**	**216**	*i* Pg	**Pb**	**10 30 49.8**	**-0.6**
SOH				*i* Sg	**Sg**	**10 31 03.5**	**-1.4**
KNT	**Kendrikon**	**1.15**	**241**	*i* Pg	**Pb**	**10 30 50.2**	**-0.7**
KNT				*i* Sg	**Sn**	**10 31 08.4**	**+1.5**
VTS	**Vitosha**	**1.16**	**320**	*i* P	**Pn**	**10 30 51.0**	**-0.2**
VTS				*i* Sg	**Sb**	**10 31 06.1**	**-0.1**
VTS	**Vitosha**	**1.16**	**320**	*e*Pg	**Pn**	**10 30 51.1**	**-0.2**
VTS				*e*Sg	**Sn**	**10 31 07.4**	**+0.1**
VAY	**Valandovo**	**1.31**	**252**	*i* Pg	**Pg**	**10 30 54.8**	**+0.9**
VAY				*i* Sg	**Sg**	**10 31 12.9**	**+2.0**
VAY				*e*Lg	Lg	10 31 13.1	
	comp=N,50nm,0.6s						
VAY				*e*Lg	Lg	10 31 13.9	
	comp=E,41nm,0.4s						
THE	**Thessaloniki**	**1.46**	**221**	*i* Pg	**Pb**	**10 30 55.6**	**-0.4**
THE				*i* Sg	**Sg**	**10 31 15.4**	**-0.1**
BOSS	**Bosilegrad**	**1.51**	**301**	*e*Pg	**Pg**	**10 30 57.8**	**+0.1**
BOSS				*e*Sg	**Sg**	**10 31 18.1**	**+0.8**
ZAPS	**Zavoj**	**1.94**	**323**	*e*Pg	**Pg**	**10 31 06.2**	**+0.2**
ZAPS				*e*Sg	**Sg**	**10 31 32.1**	**+0.9**
BARS	**Barje**	**2.10**	**302**	*i* Pn	**Pb**	**10 31 05.6**	**-1.3**
BARS	**Barje**	**2.10**	**302**	*e*Pn	**Pb**	**10 31 05.6**	**-1.3**
BARS				*e*Sg	**Sg**	**10 31 36.8**	**+0.7**
ZAGS	**Zajecar**	**2.55**	**325**	*e*Pg	**Pg**	**10 31 17.1**	**-0.5**
ZAGS				*e*Sg	**Sg**	**10 31 51.6**	**+1.0**
SELS	**Selova**	**2.74**	**304**	*e*Pn	**Pn**	**10 31 14.4**	**+1.4**
SELS				*e*Sg	**Sg**	**10 31 55.3**	**-1.5**

BGSI 28 10:43:29.0±2.3, 23.°50S×27.°42E, h31km±27km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREMI	**Moremi**	**0.92**	**1**	*i* P	Pn	10 43 42.5	-3.5
MREMI				Lg	Lg	10 43 58.0	
MREMI				IAML		10 44 03.9	
	comp=N,84nm,0.3s						
LPHEP	**Lephephe**	**1.44**	**275**	*i* P	Pn	10 43 51.3	-1.8
LPHEP				*i* S	Sn	10 44 07.1	-3.9
LPHEP				IAML		10 44 15.3	
	comp=E,67nm,0.7s						
LPHEP	**Lephephe**	**1.44**	**275**	*i* P	Pn	10 43 51.3	-1.8
LPHEP				*i* S	Sn	10 44 10.9	-0.1
LPHEP				Lg	Lg	10 44 14.3	
LPHEP				IAML		10 44 15.3	
	comp=E,69nm,0.6s						
LBTB	**Lobatse**	**2.25**	**227**	*i* P	Pn	10 43 58.8	-5.4
LBTB				*i* S	Sn	10 44 25.4	-5.5
LBTB				Lg	Lg	10 44 30.7	
LBTB				IAML		10 44 43.1	
	comp=N,19nm,2.5s						
BROLN	**Tlhalogang**	**2.39**	**358**	*i* P	Pn	10 44 05.6	-0.5
BROLN				*i* S	Sn	10 44 29.4	-5.0
BROLN				IAML		10 44 55.2	
	comp=E,28nm,1.2s						
BROLN	**Tlhalogang**	**2.39**	**358**	*i* P	Pn	10 44 07.7	+1.6
BROLN				*i* S	Sb	10 44 38.2	-2.3
BROLN				Lg	Lg	10 44 47.6	
BROLN				IAML		10 45 00.8	
	comp=N,16nm,1.4s						

CATAC ***28*** *10:54:42.9±0.6, 14.°N±3.°×9.°1W±.°, h19km±4km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=7.3km s-min=3.0km az=35.9, confirmed*
GCG ***28*** *10:54:43.8±1.1, 13.°91N×91.°08W, h73km±6km, MD4.0, ML3.5*
SNET ***28*** *10:54:45.0±1.0, 13.°79N×91.°03W, h34km±6km, ML3.5*

ISC 28 10:54:43.9±2.0, 13.°8N±0.°1×91.°08W±0.°09, h73km, n46, σ1.°25/49, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.60**	**110**	*i* P	Pn	10 54 54.4	-3.6
ESSJ				*i* S	**Sn**	**10 55 04.1**	**-4.3**
ESSG	**Sabana Grande**	**0.66**	**22**	*e*P	**Pn**	**10 54 57.4**	**-1.4**
ESSG				*i* S	**Sn**	**10 55 07.6**	**-2.1**
ESSG				IAML		10 55 08.5	
	comp=E,868nm,0.2s						
FG8	**Yepocapa, Chim**	**0.71**	**46**	*e*P	**Pn**	**10 54 57.9**	**-1.4**
STG2	**El Palmar, Qui**	**0.73**	**337**	*e*P	**Pn**	**10 55 02.7**	**+3.2**
FG16	**Alotenango, Sa**	**0.75**	**48**	*e*P	**Pn**	**10 54 58.5**	**-1.4**
FG16				IAML		10 55 18.0	
	comp=E,5μm,0.2s						
PCG5	**San Vicente Pa**	**0.82**	**57**	*e*P	**Pn**	**10 54 58.2**	**-2.4**
FAME	**Alcaldia de Sa**	**1.04**	**86**	P	**Pn**	**10 55 02.1**	**-1.0**
FAME	**Alcaldia de Sa**	**1.04**	**86**	S	**Sn**	**10 55 15.4**	**-2.0**
SOKI	**Kika Raxquin**	**1.09**	**344**	*e*P	**Pn**	**10 55 03.9**	**-0.3**
SOKI				*e*S	**Sn**	**10 55 18.5**	**-0.7**
SOKI				IAML		10 55 20.1	
	comp=N,692nm,0.4s						
NUBE	**Las Nubes**	**1.27**	**84**	*e*P	**Pn**	**10 55 05.5**	**-0.7**
NUBE	**Las Nubes**	**1.27**	**84**	*e*P	**Pn**	**10 55 05.5**	**-0.7**
NUBE	**Las Nubes**	**1.27**	**84**	P	**Pn**	**10 55 06.1**	**-0.1**
NUBE	**Las Nubes**	**1.27**	**84**	S	**Sn**	**10 55 21.6**	**-1.3**
LOAL	**Lomas de Alarc**	**1.29**	**79**	⇓*e*P	**Pn**	**10 55 06.8**	**+0.5**
LOAL	**Lomas de Alarc**	**1.29**	**79**	S	**Sn**	**10 55 23.1**	**+0.1**
LOAL	**Lomas de Alarc**	**1.29**	**79**	P	**Pn**	**10 55 06.7**	**+0.5**
RBDL	**Robledal**	**1.40**	**76**	*e*P	**Pn**	**10 55 08.3**	**+0.5**
RBDL				*e*S	**Sn**	**10 55 26.5**	**+0.6**
RTR	**El Retiro**	**1.40**	**84**	*e*P	**Pn**	**10 55 08.5**	**+0.6**
CEVE	**Cerro Verde**	**1.42**	**87**	*e*P	**Pn**	**10 55 09.0**	**+0.8**
CEVE	**Cerro Verde**	**1.42**	**87**	S	**Sn**	**10 55 26.5**	**+0.1**
CEVE	**Cerro Verde**	**1.42**	**87**	P	**Pn**	**10 55 08.2**	**0.0**
SBLS	**San Blas**	**1.42**	**87**	*e*P	**Pn**	**10 55 08.1**	**-0.1**
SNJE	**San Jose**	**1.44**	**86**	*e*P	**Pn**	**10 55 09.2**	**+0.8**
UNIC	**Universidad Ca**	**1.51**	**82**	S	**Sn**	**10 55 28.7**	**+0.5**
UNIC	**Universidad Ca**	**1.51**	**82**	P	**Pn**	**10 55 09.1**	**0.0**
JAYA	**Jayaque - finc**	**1.59**	**94**	*e*P	**Pn**	**10 55 10.6**	**+0.2**
JAYA	**Jayaque

λ-170.00000°. NP2:φ:51.00000°,δ80.00000°, λ-19.00000°. Principal axes: T 1.2890, Plg6.0000°, Azm99.0000°; N 0.0350, Plg69.0000°, Azm206.0000°; P -1.3280, Plg20.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 11:01:04.3±0.3,41.88N±0.04×125.83W±0.05,h11km, n560,σ2±01/443,mb4.8/96,MS4.7/92,1D,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.24**	**74**		**Pn**	**11 01 25.5**	**-2.1**
KBO				IAML		11 01 52.4	
	comp=E,4μm,1.2s						
KBO	**Bosley Butte**	**1.24**	**74**		**Sb**	**11 01 42.4**	**-1.3**
SIGP	**Signal Peak, C**	**1.31**	**90**		**Pn**	**11 01 26.8**	**-1.8**
KSXB	**Camp Six Broad**	**1.46**	**91**		**Pn**	**11 01 28.9**	**-1.7**
KSXB	**Camp Six Broad**	**1.46**	**91**		**Sn**	**11 01 47.3**	**-2.5**
KEBM	**Edson Butte**	**1.48**	**48**		**Pn**	**11 01 28.8**	**-2.2**
KEBM				IAML		11 01 49.5	
	comp=N,5μm,0.9s						
KEBM				IAML		11 01 51.3	
	comp=E,4μm,0.6s						
KRPM	**Rodgers**	**1.54**	**117**		**Pn**	**11 01 30.2**	**-1.5**
KRPM				IAML		11 01 50.6	
	comp=N,5μm,0.7s						
KRPM				IAML		11 01 50.7	
	comp=E,6μm,0.6s						
KRPM	**Rodgers**	**1.54**	**117**		**Sn**	**11 01 49.5**	**-2.1**
L02F	**Cave Junction**	**1.70**	**81**		**Pn**	**11 01 32.1**	**-1.8**
JCC	**Jacoby Creek,**	**1.72**	**128**		**Pn**	**11 01 32.4**	**-1.7**
JCC				IAML		11 01 54.9	
	comp=E,3μm,1.4s						
K02D	**Willamette Mer**	**1.80**	**62**		**Pn**	**11 01 33.4**	**-1.9**
KCTM	**Capetown**	**1.80**	**141**		**Pn**	**11 01 34.2**	**-1.1**
KHMM	**Horse Mountain**	**1.87**	**122**		**Pn**	**11 01 35.0**	**-1.3**
KHMM				IAML		11 01 58.9	
	comp=E,3μm,0.3s						
KOMM	**Orleans Mounta**	**1.88**	**108**		**Pn**	**11 01 35.2**	**-1.2**
J01E	**Myrtle Point**	**1.90**	**47**		**Pn**	**11 01 35.1**	**-1.4**
J01E				IAML		11 01 58.2	
	comp=E,3μm,0.2s						
J01E				IAML		11 02 00.1	
	comp=N,2μm,0.3s						
PETL	**Petrolia**	**1.95**	**144**		**Pn**	**11 01 35.7**	**-1.5**
KMPM	**Mount Pierce**	**1.95**	**138**		**Pn**	**11 01 36.1**	**-1.3**
DMOR	**Dinsmores, CA**	**1.98**	**126**		**Pn**	**11 01 36.7**	**-1.2**
M02C	**Callahan**	**2.28**	**101**		**Pn**	**11 01 41.1**	**-0.8**
KMRM	**Mail Ridge**	**2.31**	**135**		**Pn**	**11 01 41.6**	**-0.7**
KMRM	**Mail Ridge**	**2.31**	**135**	IAML		11 02 25.8	
	comp=N,2μm,1.7s						
KHBM	**Hayfork Bally**	**2.31**	**121**		**Pn**	**11 01 41.4**	**-1.1**
KHBM	**Hayfork Bally**	**2.31**	**121**	IAML		11 02 10.0	
	comp=E,1μm,0.3s						
KHBM				IAML		11 02 11.8	
	comp=N,1μm,0.4s						
YBH	**Yreka Blue Hor**	**2.33**	**93**		**Pn**	**11 01 42.1**	**-0.6**
YBH	**Yreka Blue Hor**	**2.33**	**93**	Pn	**Pn**	**11 01 42.4**	**-0.3**
	comp=N,10.0nm,0.3s,baz=314,slow=9.9,SNR=752						
YBH				Sn	**Sn**	**11 02 09.8**	**-1.6**
	comp=N,6.2nm,0.3s,baz=3.4,slow=19,SNR=7.8						
YBH				LR	LR	11 02 11.2	
	comp=N,501nm,19.5s,baz=355,slow=30						
SOUA	**Southern Orego**	**2.35**	**82**		**Pn**	**11 01 41.7**	**-1.1**
WEAV	**Weaverville**	**2.42**	**117**		**Pn**	**11 01 42.7**	**-1.2**
LBKM	**Bonanza King**	**2.51**	**108**		**Pn**	**11 01 44.2**	**-0.9**
N02D	**Trinity Center**	**2.52**	**110**		**Pn**	**11 01 44.1**	**-1.0**
N02D				IAML		11 02 18.9	
	comp=E,1μm,0.9s						
BBOR	**Butler Butte**	**2.54**	**66**		**Pn**	**11 01 44.6**	**-1.0**
BBOR				IAML		11 02 18.5	
	comp=E,1μm,0.9s						
BBOR				IAML		11 02 20.6	
	comp=N,2μm,1.6s						
RNO	**Roman Nose**	**2.54**	**36**		**Pn**	**11 01 45.0**	**-0.5**
B040	**Montague**	**2.54**	**90**		**Pn**	**11 01 45.1**	**-0.4**
L04D	**Klamath Falls**	**2.65**	**82**		**Pn**	**11 01 46.7**	**-0.3**
L04D				IAML		11 02 26.5	
	comp=E,1μm,1.3s						
L04D				IAML		11 02 46.8	
	comp=N,1μm,2.1s						
I02E	**Swisshome, OR**	**2.66**	**32**	IAML		11 02 20.2	
	comp=E,1μm,1.0s						
I02E				IAML		11 02 21.4	
	comp=N,1μm,0.5s						
LHEM	**Herd Peak**	**2.71**	**94**		**Pn**	**11 01 48.0**	**+0.1**
KCPM	**Cahto Peak**	**2.78**	**141**		**Pn**	**11 01 48.0**	**-0.8**
M03C	**McCloud**	**2.84**	**101**		**Pn**	**11 01 49.7**	**0.0**
M03C				IAML		11 03 06.9	
	comp=N,1μm,2.1s						
O02D	**Mt. Diablo Mer**	**2.86**	**126**		**Pn**	**11 01 49.1**	**-0.8**
DCMP	**DeCamp, Califo**	**3.06**	**141**		**Pn**	**11 01 51.6**	**-1.1**
BUCK	**Buck Mountain**	**3.11**	**41**	IAML		11 02 35.1	
	comp=E,956nm,0.7s						
BUCK				IAML		11 02 36.4	
	comp=N,980nm,1.3s						
K04D	**Chiloquin, OR**	**3.11**	**75**		**Pn**	**11 01 52.8**	**-0.6**
K04D				IAML		11 02 55.6	
	comp=E,1μm,1.2s						
I04A	**Tendick Farm,**	**3.16**	**52**	IAML		11 02 33.2	
	comp=N,648nm,0.5s						
I04A				IAML		11 02 40.0	
	comp=E,727nm,1.5s						
COR	**Corvallis**	**3.27**	**33**		**Pn**	**11 01 54.4**	**-1.1**
COR				IAML		11 02 36.1	
	comp=E,948nm,0.7s						
COR				IAML		11 02 41.5	
	comp=E,838nm,0.9s						
O03E	**Paynes Creek**	**3.43**	**116**		**Pn**	**11 01 56.7**	**-1.0**
O03E				IAML		11 02 45.5	
	comp=E,641nm,1.9s						
O03E				IAML		11 03 23.8	
	comp=N,538nm,2.4s						
HATC	**Hat Creek Radi**	**3.46**	**107**		**Pn**	**11 01 57.2**	**-0.9**
H04D	**Lebanon**	**3.47**	**40**	IAML		11 02 42.4	
	comp=E,958nm,0.6s						
H04D				IAML		11 02 45.1	
	comp=N,816nm,0.9s						
HOPS	**Hopland Field**	**3.57**	**143**	IAML		11 02 59.4	
	comp=N,654nm,1.9s						
HOPS				IAML		11 02 59.4	
	comp=E,614nm,1.9s						
WIFE	**Three Sisters-**	**3.66**	**52**		**Pn**	**11 02 00.4**	**-0.6**
WIFE				IAML		11 03 02.4	
	comp=N,452nm,3.1s						
WIFE				IAML		11 03 17.0	
	comp=E,598nm,2.3s						
PRLK	**Prince Lake**	**3.67**	**49**	IAML		11 02 53.4	
	comp=N,760nm,0.8s						
J05D	**Fort Rock, OR**	**3.67**	**66**	IAML		11 03 44.4	
	comp=N,486nm,5.0s						
K05A	**Summer Lake**	**3.75**	**75**	IAML		11 04 04.1	
	comp=E,514nm,3.6s						
K05A				IAML		11 04 05.8	
	comp=N,721nm,4.1s						
G03D	**McMinnville, O**	**3.81**	**28**	IAML		11 02 50.8	
	comp=N,599nm,0.7s						
G03D				IAML		11 02 56.3	
	comp=E,506nm,0.9s						
GDXM	**Geysers**	**3.85**	**142**		**Pn**	**11 02 03.8**	**+0.4**
I05D	**Terrebonne, OR**	**4.10**	**52**	IAML		11 03 17.5	
	comp=E,406nm,3.9s						
I05D				IAML		11 04 23.4	
	comp=N,282nm,4.0s						
CVS	**Carmenet Viney**	**4.38**	**143**		**Pn**	**11 02 10.4**	**-0.2**
CVS				IAML		11 03 22.4	
	comp=N,296nm,1.8s						
CVS				IAML		11 03 55.3	
	comp=E,312nm,2.2s						
HOOD	**Mount Hood Mea**	**4.58**	**40**	IAML		11 03 13.8	
	comp=N,272nm,1.1s						
HOOD				IAML		11 03 25.2	
	comp=E,304nm,1.3s						
G05A	**Wamic**	**4.69**	**43**	IAML		11 03 33.2	
	comp=E,337nm,2.5s						
G05A				IAML		11 03 39.6	
	comp=N,424nm,4.0s						
FARB	**Farallon Islan**	**4.71**	**152**	IAML		11 03 12.3	
	comp=N,389nm,0.7s						
RADR	**Rader Ridge**	**4.77**	**17**		**Pn**	**11 02 16.1**	**+0.1**
RADR				IAML		11 03 13.0	
	comp=E,192nm,1.2s						
E03A	**Lebam**	**4.94**	**18**	IAML		11 03 13.5	
	comp=E,300nm,0.6s						
JRO	**Jston Ridge Ob**	**5.10**	**29**	IAML		11 03 23.2	
	comp=N,301nm,0.5s						
JRO				IAML		11 03 24.2	
	comp=E,270nm,0.7s						
WELL	**Weller Preserv**	**5.21**	**130**	IAML		11 03 27.0	
	comp=N,285nm,0.8s						
JRSC	**Jasper Ridge**	**5.26**	**147**	IAML		11 03 36.9	
	comp=N,253nm,1.4s						
WVOR	**Wild Horse Val**	**5.37**	**82**	IAML		11 05 40.6	
	comp=N,125nm,2.5s						
BBGB	**Big Mountain B**	**6.47**	**143**		**Pn**	**11 02 40.6**	**+1.1**
NVAR	**Mina Array Bea**	**6.71**	**118**	Pn	**Pn**	**11 02 44.1**	**+1.1**
	comp=N,8.9nm,0.3s,baz=306,slow=15,SNR=168						
NVAR				Sn	**Sn**	**11 04 01.0**	**+1.4**
	comp=N,1.9nm,0.3s,baz=291,slow=19,SNR=1.7						
NVAR				LR	LR	11 05 40.5	
	comp=N,8μm,19.0s,baz=300,slow=41						
	comp=E,21nm,0.6s						
A04D	**Lummi Island**	**7.18**	**17**		**Pn**	**11 02 49.8**	**+0.7**
E09A	**Wood Farm, Sta**	**7.20**	**47**		**Pn**	**11 02 48.7**	**-0.7**
DSP	**Deep Springs**	**7.55**	**124**		**Pn**	**11 02 54.2**	**-0.1**
ELK	**Elko**	**8.05**	**95**	Pn	**Pn**	**11 03 02.2**	**+0.9**
	comp=N,1.7nm,0.3s,baz=286,slow=12,SNR=154						
	comp=N,44nm,0.8s						
WCT	**Wildcat Mounta**	**8.75**	**122**		**Pn**	**11 03 12.6**	**+1.8**
S11A	**Rachel**	**8.84**	**115**		**Pn**	**11 03 11.2**	**-0.9**
NEW	**Newport**	**8.86**	**41**		**Pn**	**11 03 13.1**	**+0.8**
NEW	**Newport**	**8.86**	**41**	Pn	**Pn**	**11 03 13.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=201,slow=13,SNR=7.5						
NEW				LR	LR	11 06 45.3	
	comp=N,4μm,20.0s,baz=229,slow=39						
	comp=N,5.7nm,0.9s						
GWY	**Greenwater Val**	**9.11**	**126**		**Pn**	**11 03 17.0**	**+1.1**
MWC	**Mount Wilson**	**9.79**	**139**		**Pn**	**11 03 22.7**	**-2.4**
BFSC	**Mount Baldy Ra**	**9.98**	**137**		**Pn**	**11 03 29.3**	**+1.6**
JTMT	**Jette**	**10.08**	**51**		**Pn**	**11 03 30.0**	**+1.0**
BBB	**Bella Bella**	**10.42**	**352**	Pn	**Pn**	**11 03 33.6**	**+0.1**
	comp=N,0.9nm,0.3s,baz=184,slow=10,SNR=15						
BBB				LR	LR	11 06 45.6	
	comp=N,3μm,20.0s,baz=168,slow=33						
	comp=N,44nm,0.9s						
OVMT	**Ovando**	**10.53**	**56**		**Pn**	**11 03 33.9**	**-1.2**
JLU	**Jordanelle**	**10.90**	**92**		**Pn**	**11 03 41.6**	**+1.2**
BOZ	**Bozeman (W)**	**10.92**	**65**		**Pn**	**11 03 41.0**	**+0.5**
PFO	**Pinyon Flats O**	**11.09**	**135**	Pn	**Pn**	**11 03 44.8**	**+1.9**
	comp=N,0.4nm,0.3s,baz=306,slow=14,SNR=5.6						
PFO				LR	LR	11 08 14.2	
	comp=N,2μm,20.4s,baz=307,slow=39						
	comp=N,3.3nm,0.7s						
SRU	**San Rafael Swe**	**11.98**	**98**		**Pn**	**11 03 54.9**	**-0.2**
PDAR	**Pinedale Array**	**12.08**	**80**	Pn	**Pn**	**11 03 58.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=264,slow=11,SNR=20						
PDAR				LR	LR	11 08 50.5	
	comp=N,3μm,19.6s,baz=259,slow=39						
	comp=N,2.4nm,0.8s						
V35K	**Ketchikan**	**13.98**	**346**		**Pn**	**11 04 23.9**	**+1.8**
V35K	**Ketchikan**	**13.98**	**346**	P	**Pn**	**11 04 19.7**	**-2.5**
	baz=162,SNR=6.1						
HAYD	**Hayden**	**14.05**	**89**		**Pn**	**11 04 20.8**	**-2.6**
U35K	**Hyder**	**14.31**	**350**	P	**Pn**	**11 04 24.2**	**-2.4**
	baz=167						
CRAG	**Craig**	**14.41**	**343**	P	**Pn**	**11 04 25.7**	**-2.3**
	baz=158,SNR=6.9						
U33K	**Whale Pass**	**15.01**	**344**	P	**Pn**	**11 04 33.6**	**-2.5**
	baz=158						
WRAK	**Wrangell Islan**	**15.15**	**346**	IAmb	IAmb	11 05 06.7	
	comp=Z,68nm,1.3s						
WRAK	**Wrangell Islan**	**15.15**	**346**	P	**Pn**	**11 04 35.4**	**-2.6**
	baz=161,SNR=5.5						
TUC	**Tucson**	**15.32**	**124**	P	**P**	**11 04 43.5**	**-1.8**
TUC				IAmb	IAmb	11 04 58.9	
	comp=Z,71nm,1.2s						
T35M	**Bob Quinn**	**15.38**	**351**	P	**P**	**11 04 44.7**	**-1.0**
T35M	**Bob Quinn**	**15.38**	**351**	P	**Pn**	**11 04 38.4**	**-2.7**
	baz=167,SNR=5.3						
T33K	**Petersburg**	**15.64**	**345**	P	**Pn**	**11 04 42.0**	**-2.3**
	baz=160						
RSSD	**Black Hills**	**16.09**	**75**		**Pn**	**11 04 49.4**	**-1.2**
SDCO	**Great Sand Dun**	**16.15**	**98**	IAmb	IAmb	11 04 56.8	
	comp=Z,177nm,1.4s						
SIT	**Sitka**	**16.37**	**341**	P	**Pn**	**11 04 51.2**	**-2.5**
	baz=154						
S34M	**Telegraph Cree**	**16.40**	**350**	IAmb	IAmb	11 05 02.1	
	comp=Z,117nm,1.5s						
S34M	**Telegraph Cree**	**16.40**	**350**	P	**Pn**	**11 04 51.8**	**-2.4**
	baz=166,SNR=11						
S32K	**Killisnoo**	**16.57**	**343**	P	**Pn**	**11 04 54.3**	**-2.1**
	baz=156						
ANMO	**Albuquerque**	**16.67**	**108**		**Pn**	**11 04 59.1**	**+1.2**
ANMO	**Albuquerque**	**16.67**	**108**	Pn	**P**	**11 05 00.0**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=42,slow=11,SNR=31						
	comp=Z,6.4nm,0.6s						
DLBC	**Dease Lake**	**16.79**	**352**	Pn	**Pn**	**11 05 00.1**	**+1.0**
	comp=Z,3.6nm,0.3s,baz=148,slow=13,SNR=24						
DLBC				LR	LR	11 10 25.6	
	comp=Z,12μm,20.7s,baz=152,slow=34						
	comp=Z,39nm,0.6s						
DLBC	**Dease Lake**	**16.79**	**352**	P	**Pn**	**11 04 55.9**	**-3.3**
	baz=169,SNR=14						
Y22A	**Socorro**	**16.84**	**112**	IAmb	IAmb	11 05 08.5	
	comp=Z,160nm,1.4s						
TOAD	**Toad River Com**	**16.99**	**1**	P	**Pn**	**11 04 58.6**	**-3.1**
	baz=181,SNR=19						
121A	**Cookes Peak, D**	**17.11**	**117**	IAmb	IAmb	11 05 13.8	
	comp=Z,136nm,1.2s						
R32K	**Eaglecrest**	**17.31**	**344**	P	**Pn**	**11 05 02.5**	**-3.1**
	baz=156						
S31K	**Pelican**	**17.40**	**341**	P	**Pn**	**11 05 04.4**	**-2.3**
	baz=153						
LIRD	**Liard River Hi**	**17.55**	**360**	P	**Pn**	**11 05 05.6**	**-3.1**
	baz=179						
Q32M	**Nakina River**	**17.57**	**349**	P	**Pn**	**11 05 07.2**	**-1.9**
	baz=164,SNR=22						
BESE	**Bessie Mountai**	**17.66**	**344**		**Pn**	**11 05 10.5**	**+0.4**
R31K	**City Hall, Gus**	**17.69**	**343**	P	**Pn**	**11 05 07.3**	**-3.0**
	baz=155						
R33M	**Jennings River**	**17.82**	**351**	P	**Pn**	**11 05 09.8**	**-2.4**
	baz=167,SNR=23						
OGNE	**Ogallala**	**17.86**	**85**	IAmb	IAmb	11 05 19.2	
	comp=Z,122nm,1.4s						
KSCO	**Kaye Shedlock'**	**17.88**	**92**	IAmb	IAmb	11 05 20.7	
	comp=Z,211nm,1.5s						
KOTAN	**Kotaneelee Air**	**18.30**	**3**	P	**Pn**	**11 05 15.8**	**-2.2**
	baz=184,SNR=15						
P32M	**Atlin**	**18.39**	**347**	P	**P**	**11 05 17.8**	**-1.3**
	baz=161,SNR=20						
SKAG	**Skagway**	**18.57**	**345**	P	**P**	**11 05 19.1**	**-1.8**
	baz=157,SNR=12						
E28A	**Huff**	**18.58**	**67**	P	**P**	**11 05 20.1**	**-1.1**
RTBA	**Rita Blanca**	**18.69**	**99**	IAmb	IAmb	11 05 29.1	
	comp=Z,113nm,1.4s						
PLBC	**Pleasant Camp**	**18.78**	**343**	P	**P**	**11 05 21.2**	**-2.0**
	baz=155,SNR=9.4						
P33M	**Teslin, Yukon**	**18.85**	**349**	P	**P**	**11 05 22.6**	**-1.5**
	baz=164,SNR=16						
P29M	**Windy Craggy**	**19.25**	**341**	P	**P**	**11 05 26.0**	**-2.4**
	baz=152						
K30B	**Basset**	**19.39**	**79**	IAmb	IAmb	11 05 59.8	
	comp=Z,56nm,1.1s						
P30M	**Million Dollar**	**19.51**	**343**	P	**P**	**11 05 28.6**	**-2.7**
	baz=154						
WHY	**Whitehorse**	**19.60**	**347**	P	**P**	**11 05 30.1**	**-2.3**
	baz=159,SNR=7.0						
PNL	**Peninsula**	**19.70**	**339**	P	**P**	**11 05 31.2**	**-2.1**
	baz=149						
TGTN	**Hyland Airport**	**19.73**	**357**	P	**P**	**11 05 31.6**	**-2.1**
	baz=174,SNR=15						
N32M	**Quiet Lake**	**19.79**	**350**	P	**P**	**11 05 32.4**	**-2.0**
	baz=164						
CLNB	**Carlsbad**	**19.93**	**112**	P	**P**	**11 05 36.7**	**+0.6**
O30N	**Mendenhall**	**19.93**	**345**	P	**P**	**11 05 36.7**	**+0.8**
O30N				IAmb	IAmb	11 05 42.3	
	comp=Z,68nm,1.4s						
O30N	**Mendenhall**	**19.93**	**345**	P	**P**	**11 05 33.9**	**-2.0**
	baz=157,SNR=7.9						
HTMS	**Hat Mesa**	**19.98**	**111**	P	**P**	**11 05 37.4**	**+0.7**
O29M	**Mount Kennedy**	**20.04**	**341**	P	**P**	**11 05 36.4**	**-0.8**
O29M	**Mount Kennedy**	**20.04**	**341**	P	**P**	**11 05 34.7**	**-2.5**
	baz=151						
AMTX	**Amarillo**	**20.14**	**102**	IAmb	IAmb	11 05 54.4	
	comp=Z,58nm,1.4s						
HYT	**Haines Junctio**	**20.26**	**343**	P	**P**	**11 05 36.6**	**-3.0**
	baz=154,SNR=18						
PINM	**Pinnacle**	**20.29**	**339**	P	**P**	**11 05 36.4**	**-3.4**
	baz=148						
FFC	**Flin Flon**	**20.29**	**43**		**P**	**11 05 40.4**	**+0.6**
PECS	**Pecos**	**20.46**	**114**	P	**P**	**11 05 41.1**	**-0.8**
PECS				IAmb	IAmb	11 05 55.3	
	comp=Z,75nm,1.5s						
N31M	**Braeburn, Yuko**	**20.53**	**346**	P	**P**	**11 05 40.4**	**-2.1**
N31M	**Braeburn, Yuko**	**20.53**	**346**	P	**P**	**11 05 39.9**	**-2.5**
	baz=158						
YUK6	**Outpost Mounta**	**20.56**	**342**	P	**P**	**11 05 41.0**	**-1.9**
	baz=152,SNR=6.2						
BGNE	**Belgrade**	**20.66**	**82**	P	**P**	**11 05 43.8**	**-0.1**
BGNE				IAmb	IAmb	11 05 54.7	
	comp=Z,61nm,1.1s						
N30M	**Aishikik Lake**	**20.75**	**345**	P	**P**	**11 05 42.4**	**-2.5**
	baz=156						
MESA	**MESA**	**20.83**	**337**	P	**P**	**11 05 43.5**	**-2.3**
	baz=144						
O28M	**Mount Upton**	**20.85**	**340**	P	**P**	**11 05 42.7**	**-3.4**
	baz=149						
YUK4	**Talbot Arm**	**20.98**	**343**	P	**P**	**11 05 45.4**	**-2.0**
	baz=153						
SMWD	**Samnorwood**	**21.09**	**100**		**P**	**11 05 50.4**	**+1.6**
SMWD				IAmb	IAmb	11 05 55.8	
	comp=Z,94nm,1.4s						
YUK8	**Steele Glacier**	**21.18**	**341**	P	**P**	**11 05 47.1**	**-2.6**
	baz=150,SNR=5.7						
GRNC	**Granite Creek**	**21.23**	**338**	P	**P**	**11 05 51.4**	**+1.2**
GRNC				IAmb	IAmb	11 06 20.8	
	comp=Z,68nm,1.3s						
DKNS	**Dickens**	**21.27**	**105**		**P**	**11 05 51.3**	**+0.6**
CTG	**Chitna Glacier**	**21.31**	**339**	P	**P**	**11 05 47.7**	**-3.2**
	baz=147						
KAIM	**Kayak Island**	**21.40**	**334**	P	**P**	**11 05 48.3**	**-3.4**
	baz=139						
WRGLY	**Wrigley**	**21.43**	**3**	P	**P**	**11 05 49.2**	**-2.7**
	baz=185,SNR=19						
ECSD	**EROS Data Cent**	**21.47**	**75**		**P**	**11 05 52.5**	**-0.2**
SN07	**Snyder 07**	**21.59**	**106**	P	**P**	**11 05 54.2**	**+0.2**
CRQE	**Cirque**	**21.63**	**337**	P	**P**	**11 05 51.2**	**-3.1**
	baz=143						
YKA	**Yellowknife Ar**	**21.70**	**14**	P	**P**	**11 05 53.6**	**-1.2**
YKA	**Yellowknife Ar**	**21.70**	**14**	P	**P**	**11 05 55.1**	**+0.3**
	comp=Z,10nm,0.8s,baz=210,slow=12,SNR=25						
YKA				LR	LR	11 14 12.8	
	comp=Z,1μm,19.3s,baz=220,slow=37						
	comp=Z,10nm,0.8s						
Q23K	**Middleton Isla**	**21.70**	**331**	P	**P**	**11 05 51.4**	**-3.5**
	baz=135						
YKAW1	**Yellowknife Wh**	**21.71**	**14**		**P**	**11 05 54.6**	**-0.4**
YKAW1				IAmb	IAmb	11 06 01.6	
	comp=Z,168nm,1.2s						
M30M	**Minto, Yukon**	**21.73**	**346**	P	**P**	**11 05 51.6**	**-3.6**
	baz=157,SNR=13						
YKAW3	**Yellowknife Wh**	**21.76**	**14**	P	**P**	**11 05 54.6**	**-0.9**
YKAW3				IAmb	IAmb	11 06 01.5	
	comp=Z,143nm,1.2s						
TXAR	**Lajitas Array**	**21.87**	**118**	P	**P**	**11 05 59.4**	**+2.3**
	comp=Z,31nm,1.1s,baz=291,slow=8.3,SNR=72						
TXAR				PcP	**PcP**	**11 09 59.6**	**+3.1**
	comp=Z,0.7nm,1.0s,baz=322,slow=2.0,SNR=2.7						
TXAR				LR	LR	11 15 58.7	
	comp=Z,202nm,20.5s,baz=298,slow=41						
	comp=Z,31nm,1.1s						
L34A	**Svendsen Farm,**	**21.87**	**80**	IAmb	IAmb	11 06 03.7	
	comp=Z,31nm,0.8s						
M29M	**Somme Creek**	**21.92**	**344**	P	**P**	**11 05 53.4**	**-4.1**
	baz=154						
LPIG	**La Paz**	**21.93**	**139**	LR	LR	11 15 41.3	
	comp=Z,2μm,18.3s,baz=328,slow=40						
AGMN	**Agassiz Nation**	**22.02**	**63**		**P**	**11 05 58.2**	**-0.3**
AGMN				IAmb	IAmb	11 06 14.8	
	comp=Z,43nm,1.2s						
SGCY	**Sterling City**	**22.05**	**109**	IAmb	IAmb	11 06 04.0	
	comp=Z,64nm,1.0s						
MCARA	**McCarthy VSAT**	**22.12**	**338**	P	**P**	**11 06 01.3**	**+1.8**
MCARA				IAmb	IAmb	11 06 07.2	
	comp=Z,72nm,1.1s						
MCARA	**McCarthy VSAT**	**22.12**	**338**	P	**P**	**11 05 55.9**	**-3.6**
	baz=144,SNR=10						
BMRM	**Bremner River**	**22.26**	**336**	P	**P**	**11 05 59.0**	**-2.0**
	baz=141						
ULM	**Lac du Bonnet**	**22.28**	**58**	P	**P**	**11 06 01.6**	**+0.4**
	comp=Z,14nm,0.8s,baz=267,slow=8.1,SNR=9.6						
ULM				LR	LR	11 14 35.9	
	comp=Z,1μm,20.9s,baz=259,slow=37						
	comp=Z,14nm,0.8s						
EYAK	**Cordova Ski Ar**	**22.31**	**334**	P	**P**	**11 05 58.9**	**-2.5**
	baz=138						
WMOK	**Wichita Mounta**	**22.33**	**100**	IAmb	IAmb	11 06 08.6	
	comp=Z,40nm,0.9s						
L29M	**L29M**	**22.46**	**345**	P	**P**	**11 05 59.9**	**-3.2**
	baz=155,SNR=21						
P23K	**Montague Islan**	**22.48**	**331**	P	**P**	**11 06 00.9**	**-2.4**
	baz=134						
OZNA	**Ozona**	**22.61**	**111**	IAmb	IAmb	11 06 10.3	
	comp=Z,69nm,1.2s						
M27K	**Edge Creek, AK**	**22.62**	**340**	P	**P**	**11 06 01.8**	**-3.2**
	baz=148						
ABTX	**Abilene, Hawle**	**22.73**	**105**	IAmb	IAmb	11 06 09.0	
	comp=Z,39nm,0.9s						
N25K	**Chitina, Valde**	**22.75**	**337**	P	**P**	**11 06 03.5**	**-2.8**
	baz=142,SNR=8.9						
M26K	**Nabesna, AK**	**22.95**	**339**	P	**P**	**11 06 05.1**	**-3.3**
	baz=146						
OK048	**Pawnee Station**	**23.00**	**94**		**P**	**11 06 10.3**	**+1.3**
GLI	**Glacier Island**	**23.00**	**333**	P	**P**	**11 06 05.3**	**-3.5**
	baz=136						
K29M	**Barlow Dome**	**23.03**	**347**	P	**P**	**11 06 06.2**	**-3.0**
	baz=157,SNR=11						
KLU	**Klutina**	**23.07**	**335**	P	**P**	**11 06 06.8**	**-2.8**
	baz=139						
BCAR	**Beaver Creek A**	**23.20**	**341**	P	**P**	**11 06 12.8**	**+1.

baz=132
PAX Paxson 24.08 338 P P 11 06 15.5 -4.1
baz=142
SML Sawmill 24.08 334 P P 11 06 16.7 -2.8
baz=136
K27K Chicken 24.10 342 P P 11 06 16.5 -3.1
baz=149
I30M Mount Dempster 24.14 349 P P 11 06 17.1 -3.0
baz=160
PMR Palmer 24.20 333 P P 11 06 17.5 -3.0
baz=134
DOT Dot Lake 24.26 340 P P 11 06 20.9 -0.1
Q19K Cape Douglas, 24.33 324 P P 11 06 18.9 -2.8
baz=122
CAPN Captain Cook N 24.39 329 P P 11 06 19.2 -3.0
baz=129
H31M Peel River 24.44 352 P P 11 06 19.9 -2.9
baz=164,SNR=16
WAT6 Susitna Watana 24.46 335 P P 11 06 20.1 -3.0
baz=138
P38A Dawn 24.49 84 IAmb IAmb 11 06 43.0
comp=Z,27nm,1.0s
SCRK Sand Creek 24.51 341 P P 11 06 20.5 -2.9
baz=146,SNR=10
RLO Rose Lookout 24.52 93 IAmb IAmb 11 06 34.1
comp=Z,37nm,1.1s
RIDG Independent Ri 24.53 340 P P 11 06 21.1 -2.5
baz=144
O20K Slope Mountain 24.54 327 P P 11 06 20.9 -2.8
baz=126
P19K Oil Pt 24.55 326 P P 11 06 21.4 -2.4
baz=124
M22K Willow 24.66 332 P P 11 06 21.9 -2.7
baz=132
SUA Susitna One 24.69 331 P P 11 06 22.2 -2.9
baz=131
DHY Denali Highway 24.72 336 P P 11 06 22.8 -2.6
baz=139,SNR=12
HNDO Hondo 24.72 111 IAmb IAmb 11 06 30.1
comp=Z,33nm,1.2s
Q18K Katmai Hardscr 24.79 323 P P 11 06 23.2 -2.8
baz=120
K24K Donnelly Dome 24.83 339 P P 11 06 23.5 -2.8
baz=143
J26L Joseph Creek 24.85 342 P P 11 06 23.6 -2.9
baz=147
WAT1 Susitna Watana 24.89 335 P P 11 06 24.1 -2.8
baz=137
I28M Miner Creek 24.92 346 P P 11 06 24.6 -2.6
baz=154,SNR=6.7
R17L Mt. Peulik Vol 24.95 320 P P 11 06 25.8 -1.5
baz=116
SPU Mount Spurr 24.99 330 P P 11 06 27.3 -0.4
SPU IAmb IAmb 11 06 39.5
comp=Z,40nm,1.2s
Q17K Contact Creek 25.01 321 P P 11 06 26.0 -2.0
baz=118
N20K Mount Spurr 25.06 329 P P 11 06 25.7 -2.7
baz=128
CUT Chulitna 25.15 333 P P 11 06 26.8 -2.3
baz=133
P18K Big Mountain, 25.27 324 P P 11 06 27.8 -2.5
baz=121
EPYK Eagle Plains 25.27 350 IAmb IAmb 11 06 34.0
comp=Z,41nm,1.1s
EPYK Eagle Plains 25.27 350 P P 11 06 28.6 -1.7
baz=161,SNR=12
O19K Port Alsworth 25.31 326 P P 11 06 28.6 -1.9
baz=124
SKT Skwentna 25.31 331 P P 11 06 28.9 -1.6
baz=131
H29M Whitestone 25.37 348 P P 11 06 30.5 -0.6
baz=158,SNR=13
J25K Salcha River, 25.38 340 P P 11 06 29.7 -1.6
baz=144
I27K Kandik River 25.38 345 P P 11 06 29.5 -1.7
baz=152,SNR=9.0
I26K Coal Creek Min 25.44 343 P P 11 06 32.7 +1.0
I26K Coal Creek Min 25.44 343 P P 11 06 30.1 -1.6
baz=149
O18K Koktuh Hills 25.50 325 P P 11 06 30.2 -2.1
baz=122
G31M Satah River 25.52 352 IAmb IAmb 11 06 35.2
comp=Z,28nm,1.2s
G31M Satah River 25.52 352 P P 11 06 30.0 -2.4
baz=165
Q16K King Salmon 25.56 322 P P 11 06 30.6 -2.3
baz=118
CHNA Chernabura Isl 25.62 312 P P 11 06 30.6 -2.9
baz=106
HDA Harding Lake 25.63 339 P P 11 06 31.3 -2.1
baz=142
MCK McKinley 25.68 336 P P 11 06 31.0 -2.9
baz=137
P17K Kvichak River 25.71 323 P P 11 06 32.1 -2.0
baz=119
N19K Bonanza Creek 25.72 327 P P 11 06 32.0 -2.4
baz=124
G30M tAoh Zraii Nji 25.79 351 P P 11 06 32.8 -2.2
baz=162
M20K Styx River 25.83 330 P P 11 06 33.3 -2.1
baz=128
TRF Thorofare Moun 25.89 335 P P 11 06 33.5 -2.6
baz=135
ILAR Eielson Array 25.89 339 P P 11 06 35.3 -0.5
ILAR Eielson Array 25.89 339 P P 11 06 37.5 +1.6
comp=Z,5.9nm,1.0s,baz=154,slow=7.4,SNR=24
ILAR PcP **PcP 11 10 05.5 +1.1**
comp=Z,1.6nm,0.6s,baz=182,slow=2.5,SNR=7.9
ILAR LR LR 11 15 14.5
comp=Z,914nm,20.8s,baz=135,slow=33
comp=Z,5.9nm,1.0s
G40A Rib Lake 25.90 70 IAmb IAmb 11 06 39.9
comp=Z,24nm,1.1s
H27K Steamboat Moun 25.92 345 P P 11 06 34.4 -1.7
baz=152,SNR=8.1
G29M Pine Creek 25.96 349 IAmb IAmb 11 06 39.6
comp=Z,44nm,1.1s
G29M Pine Creek 25.96 349 P P 11 06 34.0 -2.5
baz=159
F31M Tsiigehtchic 25.98 353 P P 11 06 34.5 -2.0
baz=166
S14K Fog Glacier 26.05 315 P P 11 06 34.6 -2.8
baz=109
PPLA Purkeypile 26.14 333 P P 11 06 39.5 +1.2
PPLA Purkeypile 26.14 333 P P 11 06 35.0 -3.3
baz=131
N41A Harden Midland 26.20 81 P P 11 06 38.8 0.0
N41A IAmb IAmb 11 06 44.7
comp=Z,27nm,1.1s
MGMO Mountain Grove 26.21 89 IAmb IAmb 11 06 47.6
comp=Z,56nm,1.4s
N18K Kilae Creek 26.22 326 P P 11 06 36.5 -2.4
baz=122
O17K Koliganek Bris 26.28 324 P P 11 06 37.0 -2.3
baz=119
POKR Poker Plat Res 26.31 339 P P 11 06 37.7 -1.9
baz=142
TBO Thunder Bay 26.32 63 P 11 06 37.6 -2.3
TBO IAmb IAmb 11 06 50.6
comp=Z,31nm,0.9s
P16K Nushagak River 26.34 322 P P 11 06 38.2 -1.7
baz=116
F30M Barrier River 26.35 351 P P 11 06 37.8 -2.1
baz=163
NEA2 Nenana 26.36 337 P P 11 06 39.2 -0.9
baz=138,SNR=11
G27K Doyon Strip 26.46 346 IAmb IAmb 11 06 44.6
comp=Z,28nm,1.4s
G27K Doyon Strip 26.46 346 P P 11 06 39.6 -1.4
baz=153,SNR=9.6
L20K Farewell, AK 26.48 331 P P 11 06 39.7 -1.5
baz=128
BPAW Bear Paw Mtn. 26.57 335 IAmb IAmb 11 06 45.0
comp=Z,33nm,1.3s
BPAW Bear Paw Mtn. 26.57 335 P P 11 06 41.1 -0.9
baz=135,SNR=6.7
M18K Stony River 26.64 328 P P 11 06 40.3 -2.4
baz=124
O16K Kokwok River B 26.64 323 P P 11 06 40.1 -2.6
baz=117
L19K White Mountain 26.66 330 P P 11 06 41.8 -1.0
baz=126
N17K Nushagak Hills 26.69 325 P P 11 06 41.5 -1.6
baz=120
FCAR Ozark Folk Cen 26.79 92 IAmb IAmb 11 06 50.6
comp=Z,32nm,1.4s
INK Inuvik 26.80 354 IAmb IAmb 11 06 46.5
comp=Z,28nm,1.4s
INK Inuvik 26.80 354 P P 11 06 43.3 -0.6
baz=167,SNR=5.1
CHUM Lake Minchumin 26.84 334 P P 11 06 43.2 -1.2
baz=132
H25L Birch Creek 26.85 342 P P 11 06 43.0 -1.4
baz=146
I23K Minto, Yukon-K 26.86 338 P P 11 06 42.5 -2.0
baz=139,SNR=6.1
F28M Old Crow 26.89 348 P P 11 06 42.5 -2.4
baz=156
G26K Porcupine Rive 26.99 344 P P 11 06 43.7 -2.0
baz=150
H24K Noodor Dome 27.00 340 P P 11 06 43.9 -2.0
baz=142
K20K Telida 27.09 332 P P 11 06 45.0 -1.7
baz=129
MLY Manley 27.16 337 P P 11 06 44.9 -2.5
baz=136,SNR=12
S12K Black Hills 27.22 313 P P 11 06 45.5 -2.4
baz=105
M17K Holitna River 27.25 327 P P 11 06 46.1 -2.0
baz=121
O15K Ungalikthiuk R 27.26 321 P P 11 06 46.2 -2.0
baz=114
FVM French Village 27.30 86 P 11 06 50.1 +1.3
FVM IAmb IAmb 11 06 52.0
comp=Z,24nm,1.4s
G25K Bearman Lake 27.32 343 P P 11 06 47.1 -1.6
baz=146
E29M Blow River 27.34 350 P P 11 06 47.2 -1.6
baz=160
N16K Nishlik Lake 27.35 324 P P 11 06 47.8 -1.3
baz=118
HDIL Hopedale 27.39 80 P P 11 06 50.4 +0.8
L18K Granite Mounta 27.39 328 P P 11 06 49.4 +0.1
L18K IAmb IAmb 11 06 55.5
comp=Z,32nm,1.2s
L18K Granite Mounta 27.39 328 P P 11 06 47.9 -1.5
baz=124
H23K Yukon River 27.42 339 P P 11 06 48.4 -1.3
baz=139
LCAR Lake Charles 27.45 91 IAmb IAmb 11 06 56.5
comp=Z,18nm,1.1s
C36M Paulatuk 27.55 1 P P 11 06 49.5 -1.2
baz=183
BMAR Burnt Mountain 27.56 344 P P 11 06 48.9 -2.0
G24K Hadweenzic Riv 27.59 342 P P 11 06 49.6 -1.5
baz=144
I21K Tanana 27.64 336 P P 11 06 50.0 -1.6
baz=135,SNR=5.8
J20K Nowinta River 27.64 333 P P 11 06 50.4 -1.2
baz=130
E27K Coleen River 27.69 347 P P 11 06 53.4 +1.4
E27K IAmb IAmb 11 06 58.1
comp=Z,49nm,1.4s
E27K Coleen River 27.69 347 P P 11 06 50.5 -1.5
baz=154
M16K Timber Creek 27.70 325 P P 11 06 50.7 -1.4
baz=118
F26K Sheenjek River 27.70 345 P P 11 06 50.4 -1.7
baz=150
PBMO Poplar Bluff 27.72 89 IAmb IAmb 11 07 00.9
comp=Z,38nm,1.2s
E28M Babbage River 27.76 349 P P 11 06 51.0 -1.6
baz=158
N15K Kwethluk River 27.80 323 P P 11 06 52.0 -1.0
baz=116
F25K Christian Rive 27.92 344 P P 11 06 52.9 -1.2
baz=147
O14K Tigyukauivet M 27.97 321 P P 11 06 52.6 -1.9
baz=113
H22K Ishtalitna Cre 27.98 338 P P 11 06 52.5 -2.1
baz=137
J19K Poorman 28.03 332 P P 11 06 53.1 -2.0
baz=128
M44A Midewin, Midew 28.10 78 P P 11 06 56.8 +0.9
I20K Naaghedeneel 28.16 334 P P 11 06 53.4 -2.8
baz=131
H21K Melozitna Rive 28.22 337 P P 11 06 54.5 -2.3
baz=134
G23K Bananza Creek 28.22 340 P P 11 06 55.2 -1.6
baz=140
L16K Owhat River 28.25 326 P P 11 06 55.2 -1.8
baz=119
K17K Iditarod 28.29 329 P P 11 06 55.5 -1.8
baz=122
M15K Kasigluk River 28.30 324 P P 11 06 54.5 -2.9
baz=116
F24K Squaw Lake 28.34 342 P P 11 06 54.9 -3.0
baz=144
E25K Arctic Village 28.35 345 P P 11 06 54.8 -3.1
baz=148
N14K Kuskokwak Cree 28.43 322 P P 11 06 56.5 -2.1
baz=113
D27M Malcolm River 28.55 349 P P 11 06 57.5 -2.2
baz=156
COLD Coldfoot 28.67 340 P P 11 06 58.5 -2.1
baz=140
IMAR Indian Mountai 28.73 337 P P 11 07 01.6 +0.4
H20K Anotleneega Mo 28.74 335 P P 11 06 58.9 -2.5
baz=131
G22K Bettles 28.77 339 P P 11 06 59.7 -1.9
baz=138
M14K Bethel 28.89 323 P P 11 06 60.0 -2.7
baz=114
GCSA Galena City Sc 28.93 333 P P 11 07 00.7 -2.2
baz=127
E24K Your Creek 28.93 343 P P 11 07 00.8 -2.3
baz=144
J17K VABM Dome 28.95 329 P P 11 07 01.6 -1.6
baz=122
G21K Allakaket 29.03 337 P P 11 07 02.0 -2.0
baz=134
SFIN Lafayette 29.05 80 P P 11 07 05.2 +0.9
L15K Ungalak Mounta 29.08 325 P P 11 07 02.1 -2.3
baz=116
E23K Chandalar 29.17 342 P P 11 07 02.7 -2.6
baz=142
H19K Roundabout Mou 29.27 334 P P 11 07 04.1 -1.9
baz=129
C27K Jago River 29.32 347 P P 11 07 04.6 -1.9
baz=152
K15K Wolf Creek Mou 29.38 326 P P 11 07 05.2 -1.9
baz=117
M13K Dall Lake 29.39 322 P P 11 07 05.2 -1.9
baz=112
UNV Unalaska Valle 29.39 308 P P 11 07 05.2 -2.0
baz=97
L14K Kuka Creek 29.45 324 P P 11 07 05.6 -2.0
baz=114
J16K Anvik River 29.48 328 P P 11 07 06.0 -2.0
baz=120
F21K Alatna River 29.52 338 P P 11 07 06.2 -2.1
baz=135
D25K Kavik River 29.53 345 P P 11 07 06.9 -1.5
baz=148
TOLK Toolik Lake Re 29.62 343 P P 11 07 06.2 -3.1
baz=142,SNR=5.4
H18K Honhosa River 29.68 333 P P 11 07 07.8 -1.9
baz=126
E22K Anaktuvuk Pass 29.76 341 P P 11 07 08.3 -2.2
baz=139,SNR=7.0
C26K Camden Bay 29.78 347 P P 11 07 08.8 -1.7
baz=150
BLO Bloomington 29.82 82 P P 11 07 12.7 +1.4
I17K Unalakleet 29.82 329 P P 11 07 08.3 -2.6
baz=121
D24K Happy Valley 29.88 344 P P 11 07 10.6 -0.8
baz=144
F20K Avaraart Lake 30.04 337 P P 11 07 11.5 -1.3
baz=132
H17K Granite Mounta 30.10 332 P P 11 07 11.6 -1.8
baz=123
D23K Nanushuk River 30.13 342 P P 11 07 12.6 -1.1
baz=141
G18K Tagagawik 30.21 334 P P 11 07 13.3 -1.1
baz=126
C24K Franklin Bluff 30.32 344 P P 11 07 14.2 -1.1
baz=145
146A Union 30.49 96 P P 11 07 17.0 -0.2
146A IAmb IAmb 11 07 21.8
comp=Z,25nm,0.9s
O48B Farmland 30.51 79 P P 11 07 15.2 -2.1
F19K Shaleruckik Mo 30.51 336 P P 11 07 14.7 -2.3
baz=129
D22K Ayikyak River 30.53 341 P P 11 07 15.5 -1.7
baz=138
P48A Milroy 30.54 81 P P 11 07 17.3 -0.4
K13K Kusilvak Mount 30.55 324 P P 11 07 14.9 -2.6
baz=113
G17K Kiwalik Mounta 30.67 332 P P 11 07 16.5 -1.9
baz=123
M11K Mekoryuk 30.70 321 P P 11 07 16.8 -2.0
baz=109
NIKH Nikolski High 30.70 306 P P 11 07 17.5 -1.3
baz=94
E19K Redstone River 30.75 337 P P 11 07 18.2 -0.9
baz=130
H16K Elim 30.79 330 P P 11 07 17.7 -1.8
baz=120
C23K Itkillik River 30.80 344 P P 11 07 17.5 -2.1
baz=142
F18K Selawik 30.96 334 P P 11 07 19.3 -1.6
baz=126
E20K Ivgu River 30.99 339 P P 11 07 19.6 -1.6
baz=133
O49A Covington 31.13 79 IAmb IAmb 11 07 28.2
comp=Z,28nm,1.2s
X48A Hartselle 31.18 91 IAmb IAmb 11 07 26.6
comp=Z,14nm,0.9s
G16K Koyuk River 31.21 331 P P 11 07 21.9 -1.3
baz=121
C21K Knifeblade Rid 31.25 340 P P 11 07 22.3 -1.2
baz=136
U49A Red Boiling Sp 31.29 86 P P 11 07 25.0 +0.7
W50A Signal Mountai 32.16 88 P P 11 07 32.9 +1.0
W50A IAmb IAmb 11 07 35.6
comp=Z,24nm,1.2s
FPAL Fort Paine 32.21 90 P P 11 07 31.2 -1.2
FPAL IAmb IAmb 11 07 35.9
comp=Z,12nm,1.0s
CPCT Cooper Cave 32.64 88 IAmb IAmb 11 07 40.0
comp=Z,21nm,1.0s
TKL Tuckaleechee C 33.12 87 LR LR 11 21 58.0
comp=Z,2μm,19.4s,baz=298,slow=38
SADO Sadowa 33.73 69 LR LR 11 21 17.5
comp=Z,14μm,19.2s,baz=308,slow=36
Q54A Coxs Mills 34.08 80 P P 11 07 49.8 +1.2
GOGA Godfrey 34.30 90 IAmb IAmb 11 07 56.1
comp=Z,21nm,1.1s
R55A Marlinton 34.84 80 P P 11 07 55.1 -0.2
RES Resolute Bay 35.76 14 LR LR 11 22 25.7
comp=Z,1μm,18.5s,baz=218,slow=36
CMIG Matias Romero 36.22 124 LR LR 11 24 09.0
comp=Z,1μm,19.6s,baz=294,slow=38
FRB Frobisher Bay 39.17 36 LR LR 11 24 18.3
comp=Z,1μm,18.9s,baz=268,slow=36
SCHQ Schefferville 40.09 50 IAmb IAmb 11 08 47.1
comp=Z,268nm,1.2s
SCHQ Schefferville 40.09 50 P P 11 08 39.7 +0.2
comp=Z,84nm,0.9s,baz=312,slow=7.5,SNR=4.2
SCHQ LR LR 11 25 16.9
comp=Z,4μm,20.7s,baz=280,slow=36
SHEM Shemya Is, Ala 41.02 307 LR LR 11 24 44.5
comp=Z,230nm,18.0s,baz=96,slow=35
SFJD Kangerlussuaq 46.64 32 LR LR 11 28 18.5
comp=Z,482nm,18.1s,baz=277,slow=35
JTS Las Juntas de 47.65 119 LR LR 11 33 27.3
comp=Z,534nm,18.8s,baz=306,slow=41
DY2G Dye2 48.44 32 *i* P **P 11 09 47.8 +1.4**
DY2G IAmb IAmb 11 09 49.6
comp=Z,55nm,1.1s
SUMG Summit 49.87 23 P P 11 09 58.2 +0.7
SUMG Summit 49.87 23 *i* P **P 11 09 58.8 +1.3**
SUMG IAmb IAmb 11 10 00.2
comp=Z,35nm,1.1s
SEY Seymchan 50.19 324 LR LR 11 29 28.5
comp=Z,396nm,18.1s,baz=82,slow=34
PETK Petropavlovsk- 50.51 311 P P 11 10 03.5 +1.4
comp=Z,7.2nm,0.8s,baz=79,slow=10,SNR=12
PETK LR LR 11 29 01.2
comp=Z,332nm,20.9s,baz=78,slow=33
comp=Z,7.2nm,0.8s
MA2 Magadan 51.96 320 LR LR 11 30 51.1
comp=Z,432nm,19.1s,baz=83,slow=34
TAOE Nuku Hiva Isla 52.17 198 *e*P **P 11 10 13.8 -1.2**
comp=Z,48nm,26.8s
TAOE *e*S **S 11 17 34.9 -4.6**
comp=Z,328nm,26.1s
TAOE *e*SS **SS 11 21 12.7 -4.5**
comp=Z,71nm,26.4s
TAOE *e*LR LR 11 25 08.5
comp=Z,1μm,24.3s
DAG Danmarks Havn 53.38 16 *i* P **P 11 10 23.7 +0.5**
DAG IAmb IAmb 11 10 25.2
comp=Z,21nm,1.2s
DBG Daneborg 54.17 19 *i* P **P 11 10 30.6 +1.5**
DBG IAmb IAmb 11 10 32.2
comp=Z,34nm,1.2s
TIXI Tiksi 55.36 338 P P 11 10 36.9 -0.8
SJG San Juan 55.66 96 LR LR 11 36 02.6
comp=Z,304nm,21.6s,baz=282,slow=38
SPITS Spitsbergen Ar 58.05 9 P P 11 10 57.6 +0.9
comp=Z,11nm,0.9s,baz=18,slow=5.6,SNR=5.0
SPITS LR LR 11 37 31.7
comp=Z,318nm,18.7s,baz=320,slow=38
comp=Z,11nm,0.9s
SDV Santo Domingo 58.45 108 LR LR 11 38 16.4
comp=Z,516nm,21.2s,baz=284,slow=38
BORG Borgarnes 58.63 29 LR LR 11 36 30.5
comp=Z,918nm,18.4s,baz=296,slow=36
ROSC El Rosal 58.74 114 P P 11 11 04.8 +2.0
comp=Z,5.2nm,0.3s,baz=280,slow=9.5,SNR=5.1
ROSC LR LR 11 41 35.2
comp=Z,260nm,18.3s,baz=29,slow=41
comp=Z,5.2nm,0.3s
JMIC Jan Mayen 58.93 20 LR LR 11 36 14.8
comp=Z,501nm,19.4s,baz=325,slow=36
YAK Yakutsk 60.10 328 LR LR 11 36 42.6
comp=Z,406nm,18.0s,baz=59,slow=36
H11N3 WAKE ISLAND Hy 60.33 271 T T 12 16 39.2
baz=52,slow=75,SNR=299
H11N2 WAKE ISLAND Hy 60.33 271 T T 12 16 35.7
baz=52,slow=75,SNR=244
H11N1 WAKE ISLAND Hy 60.35 271 T T 12 16 37.7
baz=52,slow=75,SNR=244
H11S1 WAKE ISLAND Hy 61.23 270 T T 12 17 47.4
baz=52,slow=75,SNR=671
H11S2 WAKE ISLAND Hy 61.23 270 T T 12 17 46.0
baz=52,slow=75,SNR=613
H11S3 WAKE ISLAND Hy 61.24 270 T T 12 17 41.3
baz=52,slow=75,SNR=295
PPT Papeete 63.10 206 LR LR 11 31 58.4
comp=Z,386nm,21.6s,baz=4.0,slow=29
PPT2 Papeete2 63.12 206 *e*P **P 11 11 31.5 -0.5**
comp=Z,36nm,23.0s
PPT2 *e*S **S 11 19 58.0 -4.9**
comp=Z,228nm,28.2s
PPT2 *e*SS **SS 11 24 09.4 0.0**
comp=Z,113nm,28.2s
PPT2 *e*LQ LQ 11 27 24.8
comp=Z,1μm,31.5s
PPT2 *e*LR LR 11 30 07.5
comp=Z,2μm,26.0s
PPT2 *e*LR LR 11 30 15.8
comp=Z,849nm,24.0s
ATAH Atahualpa 65.22 126 LR LR 11 40 06.6
comp=Z,206nm,18.9s,baz=323,slow=36
ARCES ARCESS Array B 66.91 11 P P 11 11 57.1 +1.1
comp=Z,5.8nm,1.1s,baz=345,slow=6.5,SNR=4.2
ARCES LR LR 11 42 26.2
comp=Z,428nm,18.2s,baz=344,slow=37
comp=Z,5.8nm,1.1s
HEH HeiHe 68.18 319 *e*P **P 11 12 04.3 0.0**
HEH pmax pmax
comp=Z,6.0nm,1.3s
TBI Tubuai 68.49 203 *e*P **P 11 12 09.0 +2.6**
comp=Z,451nm,38.8s
TBI *e*S **S 11 21 10.4 +2.2**
comp=Z,1μm,30.2s
TBI *e*SS **SS 11 25 28.5 -4.3**
comp=Z,560nm,35.5s
TBI *e*LQ LQ 11 29 27.3
comp=Z,2μm,29.5s
TBI *e*LR LR 11 32 41.2
comp=Z,1μm,26.2s
TBI *e*LR LR 11 32 45.0
comp=Z,6μm,29.2s
USRK Ussuriysk Ar. 69.59 311 P P 11 12 14.4 +1.2
comp=Z,5.3nm,0.8s,baz=42,slow=9.0,SNR=5.9
comp=Z,5.3nm,0.8s
NNA Nana 69.99 128 LR LR 11 41 33.6
comp=Z,197nm,18.6s,baz=316,slow=35
RAR Rarotonga 70.20 214 LR LR 11 34 55.7
comp=Z,544nm,19.4s,baz=25,slow=29

RPN Rapa Nui 70.34 164 LR LR 11 35 58.6
comp=Z,198nm,18.9s,baz=345,slow=30
MJAR Matsushiro Arr 70.62 302 P **P** **11 12 20.7 +1.0**
comp=Z,3.0nm,0.9s,baz=39,slow=5.8,SNR=7.3
MJAR LR LR 11 37 58.9
comp=Z,256nm,19.8s,baz=70,slow=31
comp=Z,3.0nm,0.9s
BNX BinXian 71.10 315 ⇓P **P** **11 12 23.8 +1.4**
BNX pmax pmax
comp=Z,8.0nm,0.9s
EKA Eskdalemuir Ar 71.61 30 P **P** **11 12 24.8 -0.5**
comp=Z,0.5nm,0.4s,baz=285,slow=3.6,SNR=2.0
comp=Z,0.5nm,0.4s
NB2 NORSAR Subarra 71.64 20 P **P** **11 12 26.3 +0.8**
comp=Z,80nm,2.0s,baz=326,slow=5.9
NB2 NORSAR Subarra 71.64 20 P **P** **11 12 26.3 +0.8**
baz=326,slow=5.9
NOA NORSAR Array B 71.64 20 P **P** **11 12 26.0 +0.5**
comp=Z,7.7nm,1.1s,baz=309,slow=7.7,SNR=4.8
NOA LR LR 11 43 10.9
comp=Z,321nm,21.9s,baz=320,slow=35
comp=Z,7.7nm,1.1s
HFS Hagfors 73.05 20 P **P** **11 12 34.0 +0.1**
comp=Z,7.7nm,1.0s,baz=260,slow=7.2,SNR=4.4
HFS LR LR 11 43 33.4
comp=Z,592nm,21.2s,baz=324,slow=35
comp=Z,7.7nm,1.0s
MDP Montagnes des 74.10 98 LR LR 11 50 40.1
comp=Z,128nm,18.4s,baz=284,slow=40
FINES FINESS Array B 74.53 14 P **P** **11 12 42.9 +0.4**
comp=Z,8.0nm,1.0s,baz=20,slow=6.1,SNR=8.7
FINES LR LR 11 46 55.8
comp=Z,375nm,18.5s,baz=338,slow=37
comp=Z,8.0nm,1.0s
KSRS Korea Array 76.32 308 P **P** **11 12 55.2 +2.0**
comp=Z,2.5nm,0.8s,baz=67,slow=4.8,SNR=5.7
comp=Z,2.5nm,0.8s
JNU Nakatsue 77.43 303 LR LR 11 42 59.9
comp=Z,137nm,19.8s,baz=69,slow=32
LPAZ La Paz 78.59 124 P **P** **11 13 07.8 +1.0**
comp=Z,1.6nm,0.7s,baz=256,slow=4.1,SNR=6.3
LPAZ LR LR 11 47 24.9
comp=Z,262nm,19.7s,baz=332,slow=35
comp=Z,1.6nm,0.7s
SONM Songino Array 79.44 327 P **P** **11 13 11.6 +1.0**
comp=Z,3.1nm,1.0s,baz=54,slow=4.1,SNR=9.1
SONM LR LR 11 47 50.4
comp=Z,424nm,20.3s,baz=38,slow=35
comp=Z,3.1nm,1.0s
KIRV Kirov 79.82 3 LR LR 11 49 32.9
comp=Z,137nm,21.8s,baz=355,slow=36
CLL Collm 80.51 25 *i* P **P** **11 13 17.5 +1.4**
comp=Z,88nm,2.3s
CLL *e*S **S** **11 23 22.0 -0.3**
CLL *e*SS **SS** **11 28 30.0 -3.0**
CLL *ex* x 11 32 54.0
CLL Lm MLR 11 48 00.0
comp=N,400nm,21.2s
CLL Lm MLR 11 48 00.0
comp=E,400nm,21.4s
GUMO Guam 80.56 280 LR LR 11 40 54.3
comp=E,460nm,22.0s,baz=68,slow=30
ZALV Zalesovo Beam 80.98 342 P **P** **11 13 18.7 +0.1**
ZALV Zalesovo Beam 80.98 342 P **P** **11 13 19.5 +0.9**
comp=E,1.0nm,0.5s,baz=5.7,slow=7.4,SNR=6.9
ZALV LR LR 11 52 29.0
comp=E,204nm,18.0s,baz=347,slow=38
comp=E,1.0nm,0.5s
BRG Berggiesshubel 81.18 24 *e*P **P** **11 13 20.9 +1.2**
BRG Amp 11 13 23.5
comp=Z,7.4nm,1.1s
HSKC Hora Svate Kat 81.25 25 AMS AMS 11 48 50.0
comp=Z,700nm,17.7s
RICC Richard 81.51 25 AMS AMS 11 46 50.0
comp=Z,5μm,30.0s
PVCC Panska Ves 81.67 24 AMS AMS 11 53 00.0
comp=Z,600nm,14.5s
PRA Prague 82.03 25 AMS AMS 11 49 30.0
comp=Z,800nm,21.1s
ARTI Arti 82.03 358 P **P** **11 13 22.5 -1.6**
ARTI Arti 82.03 358 LR LR 11 53 56.8
comp=Z,152nm,19.2s,baz=46,slow=39
CHVC Chvalec 82.07 23 AMS AMS 11 48 30.0
comp=Z,500nm,18.5s
UPC Upice 82.13 23 AMS AMS 11 48 10.0
comp=Z,500nm,18.6s
PRU Pruhonice 82.14 25 *e*P **P** **11 13 29.2 +4.4**
PRU AMS AMS 11 49 30.0
comp=Z,700nm,18.8s
OSTC Ostas 82.14 23 AMS AMS 11 49 00.0
comp=Z,600nm,23.8s
OBN Obninsk 82.22 10 LR LR 11 52 13.6
comp=Z,173nm,19.7s,baz=293,slow=37
DPC Dobruska-Polom 82.36 23 *e*P **P** **11 13 27.8 +1.8**
DPC AMS AMS 11 47 00.0
comp=Z,600nm,28.9s
ZVC Zvikov 82.51 25 AMS AMS 11 49 10.0
comp=Z,900nm,24.5s
KHC Kasperske Hory 82.58 26 *e*P P 11 13 36.0 +8.8
KHC AMS AMS 11 48 50.0
comp=Z,700nm,21.2s
HHC Hu-ho-hao-te 82.64 320 *e*P **P** **11 13 26.0 -1.7**
HHC SS SS 11 29 10.8 +5.2
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.7s
HHC LR LR
comp=Z,220nm,15.1s
HHC LR LR
comp=Z,310nm,15.1s
HHC LR LR
comp=Z,180nm,14.3s
KRLC Kraliky 82.74 23 *e*P **P** **11 13 30.5 +2.5**
KRLC AMS AMS 11 46 50.0
comp=Z,600nm,29.0s
SIV San Ignacio 82.86 119 LR LR 11 52 44.3
comp=Z,198nm,20.2s,baz=9.5,slow=37
GERES GERESS Array B 82.87 26 P **P** **11 13 30.3 +1.5**
comp=Z,0.2nm,0.4s,baz=325,slow=2.1,SNR=3.9
GERES LR LR 11 52 00.7
comp=Z,627nm,18.4s,baz=332,slow=37
comp=Z,0.2nm,0.4s
DAVA Damuels 82.92 29 *e*P **P** **11 13 32.1 +2.9**
comp=Z,1.9nm,0.7s
TREC Trest 83.04 24 AMS AMS 11 49 50.0
comp=Z,700nm,20.1s
RETA Reutte 83.06 28 *e*P **P** **11 13 34.2 +4.5**
comp=Z,2.3nm,0.6s
ESDC Sonseca Array 83.18 41 P **P** **11 13 31.0 +0.5**
ESDC IAmb IAmb 11 13 40.2
comp=Z,12nm,1.5s
ESDC Sonseca Array 83.18 41 P **P** **11 13 30.5 0.0**
comp=Z,2.5nm,1.1s,baz=308,slow=5.0,SNR=6.8
ESDC LR LR 11 47 12.8
comp=Z,325nm,19.2s,baz=305,slow=33
comp=Z,2.5nm,1.1s
MORC Moravsky Berou 83.23 23 *e*P **P** **11 13 31.8 +1.3**
MOTA Moosalm 83.30 28 *e*P **P** **11 13 34.2 +3.1**
comp=Z,1.1nm,1.0s
JOW Kunigami 83.35 300 LR LR 11 44 42.9
comp=Z,110nm,21.5s,baz=112,slow=31
OKC Ostrava-Krasne 83.35 23 AMS AMS 11 53 20.0
comp=Z,400nm,17.0s
VRAC Vranov 83.37 24 LR LR 11 51 56.7
comp=Z,429nm,18.5s,baz=326,slow=37
VRAC Vranov 83.37 24 *e*P **P** **11 13 33.1 +1.9**
FETA Feichten 83.45 28 *e*P **P** **11 13 33.6 +1.7**
comp=Z,1.4nm,1.0s
KRUC Moravsky 83.53 24 *e*P **P** **11 13 33.6 +1.6**
WTTA Wattenberg 83.56 28 *e*P **P** **11 13 35.3 +2.8**
comp=Z,2.2nm,0.7s
LESA Schwarzleotal 83.77 27 *e*P **P** **11 13 35.6 +2.2**
comp=Z,1.4nm,0.9s
BIOA Bad Ischl, Aus 83.86 26 *e*P **P** **11 13 36.2 +2.4**
comp=Z,0.4nm,0.5s
RNPP9 Sopachiv 83.88 17 P **P** **11 13 35.1 +1.4**
JAVC Velka Javorina 84.09 23 *e*P **P** **11 13 37.7 +2.7**
KBA Koelnbreinsper 84.30 27 *i* P **P** **11 13 38.1 +1.9**
comp=Z,2.6nm,0.9s
ABTA Abfaltersbach 84.30 27 *e*P **P** **11 13 38.3 +2.2**
comp=Z,2.4nm,1.1s
CONA Conrad Observa 84.37 25 *e*P **P** **11 13 38.4 +1.9**
comp=Z,1.7nm,0.9s
MODS Modra-Piesok 84.41 24 *e*P **P** **11 13 38.9 +2.4**
BVAR Borovoye Array 84.44 350 P **P** **11 13 37.2 +0.6**
comp=Z,5.7nm,0.8s,baz=24,slow=4.0,SNR=10
BVAR LR LR 11 52 40.1
comp=Z,195nm,21.8s,baz=12,slow=37
comp=Z,5.7nm,0.8s
STHS Stebnicka Huta 84.59 21 *e*P **P** **11 13 39.7 +2.3**
HNR Honiara 84.72 252 LR LR 11 46 03.3
comp=Z,367nm,19.3s,baz=18,slow=32
ARSA Arzberg 84.86 25 *e*P **P** **11 13 40.4 +1.5**
comp=Z,5.6nm,0.8s
OBKA Obir 85.20 26 *e*P **P** **11 13 41.5 +0.8**
comp=Z,7.8nm,0.8s
SOKA Soboth 85.21 26 *e*P **P** **11 13 42.2 +1.5**
comp=Z,5.1nm,0.9s
AKASG Malin Array Be 85.25 16 IAmb IAmb 11 14 01.6
comp=Z,12nm,1.4s
AKASG Malin Array Be 85.25 16 P **P** **11 13 39.8 -0.9**
comp=Z,3.0nm,0.8s,baz=337,slow=4.3,SNR=28
AKASG LR LR 11 51 17.2
comp=Z,474nm,21.7s,baz=320,slow=35
comp=Z,3.0nm,0.8s
KIEV Kiev 85.26 16 P **P** **11 13 40.9 +0.2**
KURK Kurchatov 85.34 345 P **P** **11 13 40.1 -1.1**
KURK IAmb IAmb 11 13 58.3
comp=Z,9.1nm,0.9s
NJ2 Nanjing 85.41 310 *e*P **P** **11 13 41.8 0.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
KURBB Kurchatov Arra 85.44 345 P **P** **11 13 41.6 0.0**
comp=Z,5.0nm,0.7s,baz=17,slow=4.6,SNR=19
KURBB LR LR 11 56 40.6
comp=Z,229nm,18.6s,baz=166,slow=39
comp=Z,5.0nm,0.7s
RAO Raoul Island 85.55 224 LR LR 11 43 27.3
comp=Z,218nm,21.9s,baz=26,slow=30
BURAR Bucovina Array 87.27 19 P **P** **11 13 51.3 +0.5**
MDT Midelt 88.12 46 LR LR 11 52 00.4
comp=Z,307nm,18.4s,baz=334,slow=35
MKAR Makanchi Array 88.24 341 P **P** **11 13 55.0 -0.5**
MKAR Makanchi Array 88.24 341 P **P** **11 13 57.0 +1.6**
comp=Z,0.7nm,0.7s,baz=19,slow=5.6,SNR=5.8
MKAR LR LR 11 55 53.5
comp=Z,312nm,18.5s,baz=16,slow=37
comp=Z,0.7nm,0.7s
MAKZ Makanchi 88.30 341 P **P** **11 13 56.3 +0.5**
MAKZ IAmb IAmb 11 14 10.1
comp=Z,5.3nm,0.8s
GTA Gaotai 89.08 326 *e*P P 11 14 05.8 +6.1
GTA sP pwP 11 14 13.0 +6.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,270nm,19.3s
GTA LR LR
comp=Z,240nm,17.4s
GTA LR LR
comp=Z,470nm,18.2s
ABKAR Akbulak array 89.10 356 P **P** **11 14 00.5 +1.1**
XAN Xi'an 89.27 317 P **P** **11 14 01.3 +0.7**
XAN pmax pmax
comp=Z,9.0nm,1.1s
MLR Muntele Rosu 89.43 19 LR LR 11 54 08.4
comp=Z,702nm,20.9s,baz=331,slow=36
WMQ Urumqi 89.52 336 *e*P **P** **11 14 02.8 +1.2**
WMQ LR LR
comp=Z,260nm,17.3s
WMQ LR LR
comp=Z,250nm,21.5s
LZH Lanzhou 90.08 322 *e*P P 11 14 10.8 +6.3
LZH sP pwP 11 14 18.8 +7.8
LZH pmax pmax
comp=Z,9.0nm,1.2s
LZH LR LR
comp=Z,420nm,15.1s
LZH LR LR
comp=Z,360nm,15.5s
LZH LR LR
comp=Z,390nm,16.3s
BDFB Brasilia 91.51 110 LR LR 11 58 13.0
comp=Z,189nm,20.8s,baz=315,slow=38
KEST Kesra 92.53 35 LR LR 11 56 34.1
comp=Z,396nm,18.6s,baz=1.7,slow=36
CPUP Villa Florida 92.74 123 LR LR 11 58 10.5
comp=Z,23nm,19.2s,baz=186,slow=37
VAE Valguarnera 93.08 31 LR LR 11 57 41.9
comp=Z,367nm,19.2s,baz=0.5,slow=37
AAK Ala-Archa 93.89 345 LR LR 11 59 45.8
comp=Z,147nm,20.2s,baz=26,slow=38
KVAR Kislovodsk Arr 93.93 8 LR LR 11 58 00.3
comp=Z,298nm,20.8s,baz=273,slow=36
PMG Port Moresby 93.99 261 LR LR 11 52 50.8
comp=Z,224nm,18.7s,baz=100,slow=33
BBTS Babate 94.10 66 LR LR 11 52 20.1
comp=Z,536nm,21.9s,baz=262,slow=33
KBZ Khabaz 94.17 8 LR LR 11 57 53.2
comp=Z,263nm,20.3s,baz=352,slow=36
JAY Jayapura 94.25 270 LR LR 11 49 10.9
comp=Z,402nm,20.7s,baz=14,slow=31
URZ Urewera 95.19 222 LR LR 11 48 37.5
comp=Z,342nm,21.5s,baz=44,slow=30
PLCA Paso Flores 96.26 141 LR LR 11 51 52.2
comp=Z,159nm,18.9s,baz=325,slow=32
BRTR Keskin Array B 96.66 16 P **P** **11 14 34.0 -0.6**
comp=Z,0.6nm,0.6s,baz=310,slow=6.8,SNR=2.1
BRTR LR LR 12 00 56.2
comp=Z,239nm,19.6s,baz=331,slow=37
comp=Z,0.6nm,0.6s
TGY Tagaytay City 97.17 296 LR LR 11 52 52.5
comp=Z,232nm,20.2s,baz=46,slow=32
GNI Garni 97.90 7 LR LR 12 02 29.8
comp=Z,113nm,19.4s,baz=358,slow=38
IDI Anoyia 98.65 24 LR LR 12 03 22.5
comp=Z,151nm,18.1s,baz=309,slow=38
PZH PanZhiHua 98.99 318 P **P** **11 14 44.8 -0.5**
VNDA Vanda 126.86 195 PKP **PKiKP** **11 20 09.4 +2.3**
comp=Z,1.6nm,0.9s,baz=0.4,slow=4.5,SNR=6.8
QSPA South Pole Qui 131.69 180 PKP **PKiKP** **11 20 19.3 +2.2**
comp=Z,6.4nm,1.0s,baz=200,slow=1.5,SNR=11
SNAA Sanae 139.43 156 PKP **PKiKP** **11 20 33.7 +1.0**
comp=Z,2.9nm,1.0s,baz=193,slow=1.5,SNR=6.2
LSZ Lusaka 145.28 48 PKPbc **PKPdf** **11 20 43.9 +1.4**
comp=Z,3.0nm,0.4s,baz=338,slow=5.3,SNR=7.8
MATP Matopo 149.54 53 PKPbc **PKiKP** **11 20 56.4 +1.3**
comp=Z,1.6nm,0.7s,baz=270,slow=4.0,SNR=3.7
LBTB Lobatse 151.01 64 PKPbc **PKiKP** **11 20 58.6 +0.6**
comp=Z,9.5nm,1.2s,baz=270,slow=1.0,SNR=3.4
BOSA Boshof 153.07 70 PKPbc **PKiKP** **11 21 03.4 +1.2**
comp=Z,6.0nm,1.1s,baz=27,slow=2.3,SNR=2.2

NEIC ***28*** *11:17:13.3±0.7, 19°.40N±0°.03×154°.91W±0°.02, h12km±3km, Error ellipse: s-maj=4.9km s-min=1.4km az=145.0*
HVO 28 11:17:13.7±0.9, 19°.43N±0°.03×154°.93W±0°.02, h9km±2km, ML2.5/35, ML2.6/44(NEIC), Error ellipse: s-maj=4.5km s-min=1.7km az=147.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.07**	**272**	Pg	Pg	11 17 16.1	+0.3
JOKA				IAML		11 17 18.5	
	comp=E,3μm,0.7s						
JOKA				IAML		11 17 20.0	
	comp=N,3μm,0.4s						
JOKA	**Jonika Flow**	**0.07**	**272**		Sg	11 17 17.8	+0.4
JCUZ	**Jacuzzi**	**0.17**	**254**		Pg	11 17 17.6	+0.3
JCUZ					Sg	11 17 20.5	+0.7
NPOC	**North of Pu'u**	**0.17**	**257**		Pg	11 17 17.7	+0.3
NPOC					Sg	11 17 20.4	+0.5
STCH	**Steam Cracks**	**0.19**	**256**		Pg	11 17 17.9	+0.2
STCH					Sg	11 17 21.1	+0.7
STCH	**Steam Cracks**	**0.19**	**256**	IAML		11 17 21.6	
	comp=N,601nm,0.7s						
STCH				IAML		11 17 22.5	
	comp=E,14nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.23**	**257**		Pg	11 17 18.5	+0.1
PUH	**Pauahi**	**0.27**	**258**		Pg	11 17 19.2	0.0
PUH					Sg	11 17 23.6	+0.7
PUH	**Pauahi**	**0.27**	**258**	IAML		11 17 24.1	
	comp=E,1μm,1.0s						
PUH				IAML		11 17 24.2	
	comp=N,1μm,0.2s						
BYL	**Byron's Ledge**	**0.31**	**266**	Pg	Pg	11 17 19.8	-0.1
BYL	**Byron's Ledge**	**0.31**	**266**		Sg	11 17 24.2	+0.2
HATHI	**Halema'uma'u T**	**0.31**	**268**		Pg	11 17 19.8	-0.1
HATHI					Sg	11 17 24.6	+0.5
HATHI	**Halema'uma'u T**	**0.31**	**268**	IAML		11 17 27.4	
	comp=E,830nm,0.3s						
HATHI				IAML		11 17 28.9	
	comp=N,920nm,0.6s						
KKO	**Keanakako'i**	**0.32**	**264**		Pg	11 17 20.0	0.0
KKO					Sg	11 17 24.5	+0.2
SBLHI	**Steaming Bluff**	**0.32**	**269**		Pg	11 17 20.1	0.0
SBLHI					Sg	11 17 24.5	+0.2
RIM	**Rim**	**0.33**	**264**		Pg	11 17 20.0	-0.2
RIM					Sg	11 17 25.1	+0.5
UWB	**Uwekahuna Bluf**	**0.33**	**269**		Pg	11 17 20.1	-0.1
UWB					Sg	11 17 24.9	+0.4
RSD	**Rainshed**	**0.33**	**276**		Pg	11 17 20.6	+0.3
RSD					Sg	11 17 25.9	+1.2
RSD	**Rainshed**	**0.33**	**276**	IAML		11 17 26.1	
	comp=E,2μm,0.4s						
RSD				IAML		11 17 26.5	
	comp=N,1μm,0.5s						
OBL	**Observatory Le**	**0.33**	**268**		Pg	11 17 20.3	0.0
OBL					Sg	11 17 25.3	+0.6
UWE	**Uwekahuna**	**0.34**	**268**		Pg	11 17 20.5	0.0
UWE					Sg	11 17 25.3	+0.3
UWE	**Uwekahuna**	**0.34**	**268**	IAML		11 17 27.2	
	comp=N,703nm,0.5s						
UWE				IAML		11 17 29.9	
	comp=E,827nm,0.4s						
SDHHI	**Sand Hill**	**0.34**	**263**		Pg	11 17 20.4	-0.1
SDHHI					Sg	11 17 25.3	+0.2
WRMHI	**West Rim**	**0.35**	**266**		Pg	11 17 20.5	-0.1
WRMHI					Sg	11 17 25.7	+0.5
HLP	**Hilina Pali**	**0.38**	**249**		Pg	11 17 21.3	+0.1
HLP					Sg	11 17 26.5	+0.3
HLP	**Hilina Pali**	**0.38**	**249**	IAML		11 17 30.6	
	comp=E,1μm,0.6s						
HLP				IAML		11 17 33.7	
	comp=N,1μm,0.4s						
MLH	**Mauna Loa**	**0.43**	**278**		Pg	11 17 22.1	-0.1
MLH	**Mauna Loa**	**0.43**	**278**	IAML		11 17 33.3	
	comp=N,560nm,0.4s						
MLH				IAML		11 17 35.9	
	comp=E,400nm,0.4s						
AIN	**Ainahou**	**0.50**	**263**		Pg	11 17 23.2	-0.3
AIN				IAML		11 17 33.1	
	comp=E,684nm,0.3s						
HMH	**Humu'ula Sheep**	**0.55**	**288**		Pg	11 17 23.9	-0.5
MWH	**Mokuaweoweo**	**0.63**	**275**		Pg	11 17 25.2	-0.8
MWH				IAML		11 17 35.9	
	comp=N,346nm,0.4s						
MWH				IAML		11 17 36.7	
	comp=E,485nm,1.2s						
POHA	**Pohakuloa**	**0.65**	**300**		Pg	11 17 25.3	-1.1
HUH	**Hualalai**	**0.89**	**287**		Pg	11 17 30.1	-0.7
HPAH	**Hawaii Prepara**	**0.94**	**310**		Pb	11 17 31.9	-0.1

MOS ***28*** *11:26:23.4±0.9, 40°.53N×145°.47E, h10km, mb4.8/20, Error ellipse: s-maj=9.4km s-min=5.3km az=109.3*
IDC ***28*** *11:26:23.2±0.6, 40°.44N×145°.54E, h0km, mb4.3/27, mbtmp4.3/33, ML3.8/6, Error ellipse: s-maj=14.9km s-min=12.9km az=100.0*
JMA ***28*** *11:26:24.6±0.4, 40°.N±1°×14°.6E±°, h63km, MV4.4/39, FAR E OFF NORTH HONSHU*
NEIC ***28*** *11:26:25.2±1.8, 40°.39N±0°.07×145°.5E±0°.1, h10km±1km, mb4.8/41, Error ellipse: s-maj=14.6km s-min=10.9km az=108.0*
BJI ***28*** *11:26:27.2, 40°.65N×145°.32E, h31km, mB4.7/10, mb4.5/41, Ms4.3/17, Ms7 4.1/13*
ISC 28 11:26:27.6±0.5, 40°.48N±0°.04×145°.48E±0°.05, h29km, n187, σ1°75/194, mb4.7/68, MS4.3/5, 12C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**2.33**	**312**		**Pn**	**11 27 03.2**	**-0.8**
ERM	**Erimo**	**2.33**	**312**	P	**Pn**	**11 27 03.1**	**-0.9**
ERM	**Erimo**	**2.33**	**312**	P	**Pn**	**11 27 03.2**	**-0.8**
JEM	**Erimo**	**2.33**	**312**	P	**Pn**	**11 27 03.1**	**-0.9**
JEM	**Erimo**	**2.33**	**312**	P	**Pn**	**11 27 02.9**	**-1.0**
JTHR	**Tokachihiroo**	**2.44**	**318**	P	**Pn**	**11 27 04.5**	**-1.0**
JTHR				S	**Sn**	**11 27 32.7**	**-1.8**
JAK	**Akkeshi**	**2.58**	**347**	P	**Pn**	**11 27 05.0**	**-2.4**
JKHN	**Kushirohamanak**	**2.61**	**355**	P	**Pn**	**11 27 05.5**	**-2.3**
JKHN				S	**Sn**	**11 27 35.4**	**-3.1**
JCH	**Churui**	**2.66**	**324**	*i* P	**Pn**	**11 27 07.2**	**-1.3**
JCH				S	**Sn**	**11 27 37.4**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.73**	**312**	*i* P	**Pn**	**11 27 09.1**	**-0.4**
NEM2	**Nemuro 2**	**2.89**	**4**	*i* P	**Pn**	**11 27 09.0**	**-2.7**
NMR	**Nemuro--Hokkai**	**2.89**	**4**	⇓*i*P	**Pn**	**11 27 08.9**	**-2.8**
NMR				*i* S	**Sn**	**11 27 41.0**	**-4.5**
JANG	**Nango**	**3.03**	**269**	*i* P	**Pn**	**11 27 11.5**	**-2.2**
JANG				*e*S	**Sn**	**11 27 44.4**	**-4.5**
JAR	**Ashorobuto**	**3.09**	**336**	*i* P	**Pn**	**11 27 12.3**	**-2.1**
JAR				S	**Sn**	**11 27 47.2**	**-3.2**
GLVR	**Golovnino**	**3.26**	**0**	*e*P	**Pn**	**11 27 14.2**	**-2.5**
GLVR				*e*S	**Sn**	**11 27 50.0**	**-4.4**
GLVR				pmax	pmax		
	comp=Z,168nm,0.1s						
GLVR				smax	smax		
	comp=E,808nm,0.3s						
GLVR				smax	smax		
	comp=N,953nm,0.5s						
JOM	**Ohasama**	**3.37**	**254**	*i* P	**Pn**	**11 27 16.8**	**-1.5**
JTM	**Tenmabayashi**	**3.37**	**277**		**Pn**	**11 27 17.3**	**-1.0**
JTM	**Tenmabayashi**	**3.37**	**277**	P	**Pn**	**11 27 17.3**	**-1.0**
JRA	**Rausu**	**3.46**	**356**	P	**Pn**	**11 27 17.2**	**-2.3**
JOT	**Ohata**	**3.48**	**286**	*i* P	**Pn**	**11 27 18.6**	**-1.1**
JOT				*e*S	**Sn**	**11 27 56.5**	**-3.5**
YUK	**Yuzh-Kuril'sk**	**3.56**	**4**	*c i* P	**Pn**	**11 27 18.4**	**-2.5**
YUK				*i* S	**Sn**	**11 27 55.9**	**-6.1**
YUK				pmax	pmax		
	comp=Z,536nm,0.4s						
YUK				pmax	pmax		
	comp=N,115nm,0.3s						
YUK				pmax	pmax		
	comp=E,180nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,339nm,0.4s						
RUSJ	**Misakicho**	**3.62**	**357**	⇓*i*P	**Pn**	**11 27 19.6**	**-2.2**
RUSJ				*i* S	**Sn**	**11 27 59.6**	**-3.9**
JMK	**Ichinoseki**	**3.63**	**246**	*i* P	**Pn**	**11 27 19.8**	**-2.0**
JMK				*e*S	**Sn**	**11 27 58.4**	**-5.2**
JTKR	**Abashiri--Toko**	**3.68**	**342**	P	**Pn**	**11 27 21.3**	**-1.2**
JEW	**Eniwo**	**3.83**	**309**	*i* P	**Pn**	**11 27 24.9**	**+0.3**
JKK2	**Kamakawa 2**	**3.95**	**330**	P	**Pn**	**11 27 25.5**	**-0.8**
JKA	**Kamikawa-asahi**	**4.21**	**330**		**Pn**	**11 27 29.8**	**-0.1**
ASAJ	**Asahikawa**	**4.22**	**330**	Pn	**Pn**	**11 27 29.8**	**-0.2**
	comp=N,9.2nm,0.3s,baz=183,slow=14,SNR=79						
ASAJ				Sn	**Sn**	**11 28 17.4**	**-0.8**
	comp=N,8.7nm,0.3s,baz=0.0,slow=20,SNR=3.9						
	comp=N,27nm,0.4s						
JYK	**Kaneyama**	**4.25**	**250**	*i* P	**Pn**	**11 27 28.9**	**-1.5**
JYK				S	**Sn**	**11 28 15.5**	**-3.5**
JOMM	**Oshimamatsumae**	**4.27**	**286**	P	**Pn**	**11 27 29.6**	**-1.1**
JHR	**Hokuryu**	**4.29**	**321**	P	**Pn**	**11 27 31.2**	**+0.3**
JMM	**Marumori**	**4.48**	**236**		**Pn**	**11 27 30.7**	**-2.9**
JOSM	**Okushiri--Mats**	**4.80**	**291**	P	**Pn**	**11 27 36.7**	**-1.3**
KUR	**Kuril'sk**	**5.06**	**19**	*e*P	**Pn**	**11 27 39.9**	**-1.6**
KUR				*e*S	**Sn**	**11 28 34.1**	**-4.8**
KUR				pmax	pmax		
	comp=Z,107nm,0.6s						
KUR				pmax	pmax		
	comp=N,63nm,0.7s						
KUR				pmax	pmax		
	comp=E,52nm,0.5s						
KUR				smax	smax		
	comp=N,334nm,0.3s						
KUR				smax	smax		
	comp=E,247nm,0.6s						
JSD	**Sado**	**6.11**	**249**		**Pn**	**11 27 54.8**	**-1.2**
JSD	**Sado**	**6.11**	**249**	P	**Pn**	**11 27 54.8**	**-1.2**
YSS	**Yuzhno-Sakhali**	**6.76**	**344**	Pn	**Pn**	**11 28 06.3**	**+1.4**
YSS	**Yuzhno-Sakhali**	**6.76**	**344**	*e*P	**Pn**	**11 28 05.6**	**+0.7**
YSS				*e*S	**Sn**	**11 29 20.1**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,700nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,13.0s						
YSS				MLR	MLR		
	comp=E,700nm,15.0s						

MJAR Matsushiro Arr 6.93 238 Pn **Pn 11 28 06.2 -1.0**
comp=E,0.3nm,0.3s,baz=68,slow=13,SNR=22
MJAR Sn **Sn 11 29 20.7 -4.3**
baz=45,slow=17
comp=E,10nm,0.9s
MAJO Matsushiro 6.93 238 Pn 11 28 06.2 -1.0
MAJO Matsushiro 6.93 238 P **Pn 11 28 06.3 -1.0**
MAJO Matsushiro 6.93 238 P **Pn 11 28 06.2 -1.0**
MJB9 Matsu-Tunnel 6.93 238 Pn 11 28 07.1 -0.1
TEY Ternei 7.96 308 *eP* **Pn 11 28 20.7 -0.6**
TEY *e* 11 29 57.2
JGF Kuroka 8.05 235 Pn 11 28 21.9 -0.8
JGF Kuroka 8.05 235 P **Pn 11 28 21.3 -1.3**
INU Inuyama 8.43 235 Pn **Pn 11 28 26.9 -0.8**
JHJ2 Mitsune 8.64 213 Pn **Pn 11 28 28.8 -1.9**
JHJ Hachijo jima 2 8.65 214 Pn **Pn 11 28 28.1 -2.7**
comp=E,7.8nm,0.3s,baz=62,slow=17,SNR=1.9
JHJ Sn Sn 11 29 55.0 -12
comp=E,8.8nm,0.3s,baz=245,slow=24,SNR=1.7
comp=E,125nm,0.8s
USRK Ussuriysk Ar. 10.66 295 Pn **Pn 11 28 58.8 +0.5**
comp=E,1.1nm,0.3s,baz=92,slow=16,SNR=16
comp=E,12nm,0.7s
MSHR Mys Shultsa 10.95 286 *i* P **Pn 11 28 59.5 -2.7**
MDJ Mudanjiang 12.43 295 P **Pn 11 29 22.3 -0.1**
MDJ pmax pmax
comp=E,19nm,2.1s
MDJ Mudanjiang 12.43 295 Pn 11 29 21.7 -0.7
JNU Nakatsue 13.81 242 Pn **Pn 11 29 41.8 +0.4**
comp=E,0.3nm,0.3s,baz=51,slow=6.8,SNR=3.5
comp=E,5.7nm,0.8s
KSRS Korea Array 13.99 263 Pn **Pn 11 29 44.6 +0.8**
comp=E,0.2nm,0.3s,baz=74,slow=14,SNR=4.4
comp=E,2.0nm,0.8s
BNX BinXian 14.21 298 ⇓P **Pn 11 29 45.0 -1.7**
BNX pmax pmax
comp=E,10.0nm,0.8s
PETK Petropavlovsk- 15.12 29 Pn **Pn 11 29 54.8 -4.3**
comp=E,0.2nm,0.3s,baz=200,slow=11,SNR=4.5
ZEA Zeya 18.09 323 *eP* **Pn 11 30 34.7 -1.9**
ZEA pmax pmax
comp=Z,20nm,0.7s
HIA Hailar 20.17 304 P **P 11 31 00.3 +0.7**
HIA Hailar 20.17 304 P **P 11 31 00.3 +0.7**
HIA pmax pmax
comp=Z,13nm,0.7s
HILR Hailar Array B 20.25 305 P **P 11 31 00.8 +0.4**
comp=Z,6.3nm,0.6s,baz=110,slow=13,SNR=10
comp=Z,6.3nm,0.6s
BJI Beijing 22.33 278 P **P 11 31 21.3 -1.6**
BJI S **S 11 35 28.0 +1.3**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI LR LR
comp=Z,150nm,15.1s
BJI LR LR
comp=Z,91nm,16.8s
TIA Tai'an 22.60 268 P **P 11 31 24.5 -1.4**
TIA pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 22.86 8 P **P 11 31 27.9 -0.4**
comp=Z,8.9nm,0.8s,baz=185,slow=8.7,SNR=18
comp=Z,8.9nm,0.8s
SEY Seymchan 22.86 8 *ceP* **P 11 31 28.2 -0.1**
SEY pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 23.00 257 *eP* **P 11 31 29.5 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
YAK Yakutsk 23.61 341 P 11 31 35.7 0.0
YAK IAmb IAmb 11 31 39.1
comp=Z,22nm,0.7s
YAK Yakutsk 23.61 341 P **P 11 31 34.6 -1.1**
comp=Z,15nm,0.4s,baz=60,slow=1.4,SNR=5.8
comp=Z,15nm,0.4s
YAK Yakutsk 23.61 341 *ceP* **P 11 31 35.1 -0.6**
YAK pmax pmax
comp=Z,25nm,0.8s
HNS HongShan 24.08 273 ⇑P **P 11 31 41.0 +0.6**
HNS pmax pmax
comp=Z,16nm,0.9s
HHC Hu-ho-hao-te 25.64 282 *eP* **P 11 31 55.0 +0.2**
HHC pmax pmax
comp=Z,16nm,0.8s
BTO Baotou 26.84 282 *eP* **P 11 32 08.0 +2.4**
BTO pP **pwP 11 32 17.5 -2.3**
BTO PP **PnPn 11 32 50.5 +2.8**
BTO S **S 11 36 44.3 +4.1**
BTO pmax pmax
comp=Z,48nm,0.6s
BTO pmax pmax
comp=Z,170nm,4.6s
BTO LR LR
comp=Z,710nm,18.6s
BTO LR LR
comp=Z,280nm,8.2s
BTO LR LR
comp=Z,440nm,12.8s
WHN Wuhan 27.09 258 P **P 11 32 03.3 -4.5**
H11N2 WAKE ISLAND Hy 27.63 132 T T 12 00 47.8
baz=325,slow=75,SNR=8.4
H11N1 WAKE ISLAND Hy 27.64 132 T T 12 00 56.4
baz=325,slow=75,SNR=5.1
H11N3 WAKE ISLAND Hy 27.65 132 T T 12 00 58.5
baz=325,slow=75,SNR=3.9
ULN Ulaanbaatar 28.30 298 P 11 32 18.5 -0.2
ULN Ulaanbaatar 28.30 298 *i* P **P 11 32 19.0 +0.3**
ULN pmax pmax
comp=Z,10.0nm,0.9s
H11S1 WAKE ISLAND Hy 28.50 134 T T 12 02 05.3
baz=325,slow=76,SNR=6.3
H11S3 WAKE ISLAND Hy 28.51 134 T T 12 02 01.4
baz=325,slow=76,SNR=6.8
H11S2 WAKE ISLAND Hy 28.52 134 T T 12 02 06.3
baz=325,slow=76,SNR=6.1
SONM Songino Array 28.75 298 P 11 32 22.2 -0.4
SONM Songino Array 28.75 298 P **P 11 32 22.9 +0.3**
comp=Z,5.8nm,0.8s,baz=82,slow=8.7,SNR=25
comp=Z,5.8nm,0.8s
TLY Talaya 30.70 306 *i* P **P 11 32 38.8 -0.9**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 32.34 350 *ceP* **P 11 32 53.6 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 32.76 276 *eP* **P 11 32 57.0 -1.1**
LZH sP sP 11 33 09.5 +1.7
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,420nm,15.8s
LZH LR LR
comp=Z,360nm,16.1s
LZH LR LR
comp=Z,390nm,16.8s
KNGR Kungurtug, Tuv 34.53 303 *i* P **P 11 33 14.5 +1.1**
GTA Gaotai 34.73 283 *eP* **P 11 33 16.3 +1.1**
GTA pmax pmax
comp=Z,13nm,0.9s
PZH PanZhiHua 38.66 263 P P 11 33 49.5 +0.7
GOMU GeErMu 39.53 281 P P 11 33 55.5 -0.8
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,830nm,17.8s
GOMU LR LR
comp=Z,290nm,16.9s
G18K Tagagawik 40.06 32 P **P 11 34 00.5 +0.6**
G18K IAmb IAmb 11 35 15.5
comp=Z,45nm,1.8s
F19K Shaleruckik Mo 40.59 31 P P 11 34 05.3 +1.1
F19K IAmb IAmb 11 34 20.3
comp=Z,60nm,1.9s
H19K Roundabout Mou 40.89 33 P P 11 34 08.4 +1.7
E19K Redstone River 40.92 30 P P 11 34 08.6 +1.6
E19K IAmb IAmb 11 34 17.1
comp=Z,26nm,1.4s
B20K Meade River 41.52 26 P P 11 34 13.4 +1.6
J20K Nowinta River 41.71 35 P P 11 34 14.7 +1.3
J20K IAmb IAmb 11 35 16.3
comp=Z,33nm,1.8s
IMAR Indian Mountai 42.06 32 P P 11 34 19.1 +2.8
ZAA0 Zalesovo Array 42.06 310 P P 11 34 15.5 -0.9
ZALV Zalesovo Beam 42.06 310 P 11 34 16.6 +0.2
ZALV Zalesovo Beam 42.06 310 P P 11 34 17.2 +0.8
comp=Z,3.2nm,0.5s,baz=90,slow=7.2,SNR=9.5
comp=Z,3.2nm,0.5s
G21K Allakaket 42.22 31 P **P 11 34 18.1 +0.6**
WMQ Urumqi 42.23 294 *eP* **P 11 34 19.3 +1.2**
WMQ LR LR
comp=Z,270nm,21.5s
WMQ LR LR
comp=Z,290nm,24.2s
B21K Ikpikpuk River 42.30 27 P **P 11 34 19.6 +1.5**
B22K Teshekpuk Lake 42.84 26 P **P 11 34 24.0 +1.4**
H23K Yukon River 43.77 33 P **P 11 34 32.1 +2.0**
H23K IAmb IAmb 11 35 42.2
comp=Z,30nm,1.8s
TOLK Toolik Lake Re 43.94 29 P **P 11 34 32.8 +1.2**
ILAR Eielson Array 44.87 34 P **P 11 34 39.2 +0.2**
comp=Z,1.4nm,0.8s,baz=255,slow=6.8,SNR=17
comp=Z,1.4nm,0.8s
MK31 Makanchi Array 45.07 300 *ceP* **P 11 34 40.6 -0.3**
MKAR Makanchi Array 45.07 300 P 11 34 40.9 +0.1
MKAR Makanchi Array 45.07 300 P **P 11 34 41.0 +0.1**
comp=Z,2.1nm,0.8s,baz=76,slow=10,SNR=13
comp=Z,2.1nm,0.8s
MAKZ Makanchi 45.27 300 P **P 11 34 42.5 0.0**
MAKZ Makanchi 45.27 300 P **P 11 34 42.5 0.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 45.45 255 P **P 11 34 45.0 +0.8**
comp=Z,0.7nm,0.4s,baz=54,slow=6.1,SNR=6.8
comp=Z,0.7nm,0.4s
CMAR Chiang Mai Arr 45.45 255 *i* P **P 11 34 45.4 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 46.39 306 P 11 34 51.2 +0.1
KURK IAmb IAmb 11 35 08.0
comp=Z,8.1nm,0.7s
KURK Kurchatov 46.39 306 P **P 11 34 52.3 +1.1**
KURBB Kurchatov Arra 46.47 306 P **P 11 34 52.2 +0.5**
comp=Z,7.6nm,0.7s,baz=80,slow=8.6,SNR=23
comp=Z,7.6nm,0.7s
I30M Mount Dempster 49.27 33 P **P 11 35 12.7 -0.7**
I30M IAmb IAmb 11 35 25.6
comp=Z,8.9nm,1.1s
HYT Haines Junctio 49.63 39 P **P 11 35 17.9 +1.6**
HYT IAmb IAmb 11 35 28.6
comp=Z,12nm,1.0s
BVAR Borovoye Array 50.66 311 P **P 11 35 25.0 +1.0**
comp=Z,3.6nm,0.4s,baz=77,slow=8.2,SNR=14
comp=Z,3.6nm,0.4s
BORK Borovoye 50.70 311 *ceP* **P 11 35 24.1 -0.2**
BORK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 51.70 297 *ceP* **P 11 35 32.0 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.4s
KSH Kashi 51.95 293 P **P 11 35 37.0 +3.0**
KSH pmax pmax
comp=Z,5.0nm,0.9s
P33M Teslin, Yukon 52.03 39 P **P 11 35 35.7 +1.5**
P33M IAmb IAmb 11 35 37.1
comp=Z,16nm,1.6s
ARSB Arslanbob 53.26 296 IAmb IAmb 11 37 32.4
comp=Z,7nm,0.9s
KKAR Karatay Array 54.19 299 P **P 11 35 50.5 +0.2**
KKAR Karatay Array 54.19 299 P **P 11 35 50.5 +0.2**
ARTI Arti 56.02 318 P **P 11 36 03.4 +0.1**
ARTI Arti 56.02 318 *d i* P **P 11 36 03.4 +0.1**
ARTI S **S 11 43 53.4 +3.8**
ARTI pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 56.58 288 P **P 11 36 06.7 -1.0**
NIL Nilore 56.58 288 P **P 11 36 06.7 -1.0**
NIL pmax pmax
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 57.75 349 P **P 11 36 16.2 +0.9**
comp=Z,12nm,1.0s,baz=29,slow=4.1,SNR=2.6
comp=Z,12nm,1.0s
AB31 Akbulak array 58.17 310 IAmb IAmb 11 36 20.1
comp=Z,6.7nm,0.8s
ABKAR Akbulak array 58.17 310 P **P 11 36 19.3 +0.7**
KIRV Kirov 59.43 323 *ceP* **P 11 36 28.1 +1.0**
WB0 Warramunga Arr 60.82 192 P **P 11 36 36.2 -0.9**
WB0 IAmb IAmb 11 36 45.8
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 61.00 192 IAmb IAmb 11 36 41.5
comp=Z,1.6nm,1.9s
WRA Warramunga Arr 61.00 192 P **P 11 36 37.0 -1.3**
comp=Z,1.6nm,0.5s,baz=8.8,slow=6.8,SNR=14
comp=Z,1.6nm,0.5s
WRA Warramunga Arr 61.00 192 *i* P **P 11 36 39.2 +0.9**
WRA pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 61.88 340 P **P 11 36 42.7 -1.1**
comp=Z,4.7nm,1.0s,baz=44,slow=7.5,SNR=3.7
comp=Z,4.7nm,1.0s
KLMR Klimovskoe 62.54 328 *eP* **P 11 36 46.9 -1.3**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
ASAR Alice Springs 64.72 192 P **P 11 37 02.6 -0.4**
comp=Z,0.9nm,0.6s,baz=8.7,slow=6.0,SNR=18
comp=Z,0.9nm,0.6s
PINE Pine Mountain 65.70 52 P **P 11 37 11.2 +1.6**
PINE IAmb IAmb 11 37 13.8
comp=Z,6.7nm,0.8s
PALK Pallekele 66.19 259 *i* P **P 11 37 16.1 +3.2**
K05A Summer Lake 66.32 53 P **P 11 37 15.5 +1.9**
FINES FINESS Array B 67.22 333 P **P 11 37 19.0 +0.3**
comp=Z,9.8nm,0.5s,baz=49,slow=6.9,SNR=58
comp=Z,9.8nm,0.5s
FINES FINESS Array B 67.22 333 *i* P **P 11 37 19.0 +0.3**
FINES pmax pmax
comp=Z,10.0nm,0.5s
BOZ Bozeman (W) 70.06 47 IAmb IAmb 11 37 47.8
comp=Z,16nm,1.8s
NVAR Mina Array Bea 70.40 56 P **P 11 37 40.2 +1.0**
comp=Z,0.8nm,0.7s,baz=304,slow=6.7,SNR=7.5
comp=Z,0.8nm,0.7s
KIV Kislovodsk 71.02 312 *eP* **P 11 37 42.5 -0.2**
KIV pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 71.04 312 P **P 11 37 43.9 +1.3**
comp=Z,6.2nm,0.9s,baz=96,slow=4.8,SNR=14
comp=Z,6.2nm,0.9s
SHA1 Shidzhatmaz 71.17 312 *i* P **P 11 37 44.7 +0.9**
STKA Stephens Creek 72.09 183 P **P 11 37 50.1 +1.2**
comp=Z,1.6nm,0.8s,baz=320,slow=5.2,SNR=3.0
comp=Z,1.6nm,0.8s
GNI Garni 72.16 308 *i* P **P 11 37 50.9 +1.1**
GNI pmax pmax
comp=Z,7.0nm,0.4s
NB2 NORSAR Subarra 72.19 339 P **P 11 37 49.7 +0.3**
comp=Z,2.7nm,0.6s,baz=34,slow=6.2
NOA NORSAR Array B 72.19 339 P **P 11 37 49.8 +0.3**
comp=Z,5.2nm,0.7s,baz=36,slow=6.0,SNR=19
comp=Z,5.2nm,0.7s
HFS Hagfors 72.22 337 P **P 11 37 49.7 +0.2**
comp=Z,6.8nm,0.5s,baz=61,slow=7.0,SNR=29
comp=Z,6.8nm,0.5s
PDAR Pinedale Array 72.99 48 P **P 11 37 55.1 +0.3**
comp=Z,0.7nm,0.6s,baz=297,slow=0.9,SNR=7.8
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 73.47 323 IAmb IAmb 11 37 58.4
comp=Z,4.4nm,1.1s
AKASG Malin Array Be 73.47 323 P **P 11 37 57.0 -0.1**
comp=Z,4.1nm,0.7s,baz=45,slow=5.9,SNR=16
comp=Z,4.1nm,0.7s
AKBB Malin Array Si 73.47 323 P **P 11 37 57.4 +0.3**
AKBB IAmb IAmb 11 37 58.1
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 73.47 323 *ceP* **P 11 37 57.4 +0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 73.48 324 P **P 11 37 57.4 +0.2**
KIEV IAmb IAmb 11 37 58.1
comp=Z,6.3nm,0.8s
KIEV Kiev 73.48 324 P **P 11 37 57.4 +0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
RDMU Red Mountain 74.39 50 IAmb IAmb 11 38 14.3
comp=Z,7.0nm,0.8s
PV10 Paradox Valley 76.12 51 IAmb IAmb 11 38 24.6
comp=Z,9.7nm,0.9s
BUR08 Bucovina Ar. S 77.51 323 IAmb IAmb 11 38 54.6
comp=Z,20nm,1.8s
STHS Stebnicka Huta 77.91 326 *eP* **P 11 38 25.6 +3.0**
STHS Stebnicka Huta 77.91 326 *eP* **P 11 38 25.6 +3.0**
BR131 Keskin Array S 78.89 313 *i* P **P 11 38 29.4 +1.1**
BRTR Keskin Array B 78.89 313 P **P 11 38 28.9 +0.7**
comp=Z,0.8nm,0.6s,baz=105,slow=4.3,SNR=4.9
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 78.89 313 *i* P **P 11 38 29.0 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 79.14 329 *eP* **P 11 38 28.6 -0.8**
CLL Collm 79.63 332 *i* P **P 11 38 32.5 +0.6**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 79.63 332 *i* P **P 11 38 32.5 +0.6**
comp=Z,8.0nm,1.2s
CLL *ex* x 11 38 49.0
JAVC Velka Javorina 79.82 328 *eP* **P 11 38 34.7 +1.6**
VRAC Vranov 79.89 329 *eP* **P 11 38 34.0 +0.6**
ANMO Albuquerque 79.95 52 *ceP* **P 11 38 34.8 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
KRUC Moravsky 80.17 329 *eP* **P 11 38 35.4 +0.5**
EKA Eskdalemuir Ar 80.88 342 P **P 11 38 39.1 +0.5**
comp=Z,1.6nm,0.6s,baz=24,slow=4.6,SNR=5.7
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 81.20 330 *eP* **P 11 38 41.0 +0.5**
KHC Kasperske Hory 81.20 330 *ceP* **P 11 38 41.6 +1.1**
KHC pmax pmax
comp=Z,6.0nm,1.3s
GERES GERESS Array B 81.39 330 P **P 11 38 41.4 -0.2**
comp=Z,1.1nm,0.7s,baz=44,slow=10,SNR=6.6
comp=Z,1.1nm,0.7s
MMAI Mount Meron Ar 82.49 307 P **P 11 38 46.8 -0.8**
comp=Z,0.8nm,0.4s,baz=40,slow=7.6,SNR=2.2
comp=Z,0.8nm,0.4s
FUORN Ofenpass-Fuorn 84.53 331 P **P 11 38 58.8 +0.7**
FUORN IAmb IAmb 11 38 59.8
comp=Z,8.6nm,1.0s
TXAR Lajitas Array 85.52 55 P **P 11 39 03.4 +0.2**
comp=Z,0.5nm,0.7s,baz=280,slow=3.0,SNR=7.8
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 130.22 180 PKP **PKiKP 11 45 34.3 -0.3**
comp=Z,1.0nm,1.0s,baz=326,slow=3.6,SNR=2.2

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*ISU **28** 11:31:20, 40.°54N×72.°68E, h5km*
*SOME **28** 11:31:21.3, 40.°60N×72.°67E, h10km*
*KRNET **28** 11:31:21.7±0.1, 40.°53N×72.°69E, h28km, mb2.7*
*NNC **28** 11:31:23.4±2.3, 40.°58N×72.°68E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=18.4km s-min=8.5km az=170.0
ISC 28 11:31:20.5±1.1, 40.°55N±0.°04×72.°70E±0.°03, h9km±9km,
n22, σ1°30/36, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.17**	**278**	P	**Pg**	**11 31 23.7**	**-0.5**
TSTA				S	**Sg**	**11 31 26.9**	**+0.2**
ARSB	**Arslanbob**	**0.80**	**15**	⇓*i* P	**Pn**	**11 31 37.7**	**-0.4**
ARSB				⇓*i* S	**Sn**	**11 31 48.9**	**-1.3**
SFK	**Sufi-Kurgan**	**0.82**	**131**	⇑*i* P	**Pb**	**11 31 37.3**	**+0.3**
SFK				⇑*i* S	**Sb**	**11 31 48.5**	**+0.3**
SALK	**Salom-Alik**	**0.91**	**68**	⇓*i* P	**Pn**	**11 31 39.4**	**-0.3**
SALK				⇓*i* S	**Sb**	**11 31 51.7**	**+0.8**
DRK	**Karamyk**	**1.28**	**213**	⇑*eP*	**Pn**	**11 31 44.3**	**-0.5**
DRK				⇑*eS*	**Sb**	**11 32 01.1**	**-0.4**
ARK	**Arkit**	**1.36**	**336**	⇑*i* P	**Pg**	**11 31 46.8**	**+0.1**
ARK				⇑*i* S	**Sg**	**11 32 04.9**	**+0.5**
TRKS	**Terek-Say**	**1.53**	**310**	⇑*i* P	**Pb**	**11 31 48.2**	**-1.0**
TRKS				⇑*i* S	**Sn**	**11 32 07.5**	**-0.8**
CHDK	**Chadak**	**1.54**	**286**	P	**Pg**	**11 31 50.1**	**+0.1**
CHDK				S	**Sg**	**11 32 11.7**	**+1.7**
UCH	**Uchtor**	**2.16**	**39**	⇓*eP*	**Pb**	**11 31 58.4**	**-1.6**
UCH				⇓*eS*	**Sn**	**11 32 25.1**	**+0.9**
MRKS	**Merke**	**2.23**	**10**	Pg	**Pg**	**11 32 03.8**	**+0.7**
	28nm,0.5s						
MRKS				Lg	Lg	11 32 34.6	
	80nm,0.5s						
MRKS	**Merke**	**2.23**	**10**	*eP*	**Pg**	**11 32 03.8**	**+0.7**
	28nm,0.5s						
MRKS				*eS*	**Sg**	**11 32 34.6**	**+2.6**
	80nm,0.5s						
CHMG	**Chimgan**	**2.27**	**297**	S	**Sg**	**11 32 33.6**	**+0.3**
JNKS	**Jany-Kuch**	**2.30**	**76**	⇑*eP*	**Pn**	**11 32 00.3**	**+1.5**
JNKS				⇑*eS*	**Sn**	**11 32 27.4**	**+0.1**
AAK	**Ala-Archa**	**2.48**	**32**	⇑Pg	**Pg**	**11 32 08.3**	**+0.3**
	3.7nm,0.5s						
AAK				⇑Lg	Lg	11 32 43.1	
	15nm,0.7s						
KK31	**Karatay Array**	**3.03**	**328**	Pn	**Pb**	**11 32 11.6**	**-3.0**
	0.4nm,0.2s,baz=136,slow=12,SNR=7.0						
KK31				⇑Pg	**Pg**	**11 32 20.7**	**+2.2**
	0.6nm,0.2s,baz=151,slow=8.8,SNR=7.0						
KK31				⇑Lg	Lg	11 32 54.5	
	0.9nm,0.2s,baz=155,slow=25,SNR=6.2						
SGDS	**Sogindy**	**3.23**	**26**	Pg	**Pg**	**11 32 22.1**	**-0.4**
	1.4nm,0.4s						
SGDS				Lg	Lg	11 33 05.4	
	4.6nm,0.4s						
BRLS	**Borolday**	**3.27**	**320**	Pg	**Pb**	**11 32 20.5**	**+1.8**
	2.9nm,0.6s						
BRLS				Lg	Lg	11 33 03.0	
	5.2nm,0.6s						
BRLS	**Borolday**	**3.27**	**320**	*eP*	**Pb**	**11 32 20.6**	**+1.8**
	2.9nm,0.6s						
BRLS				*eS*	**Sg**	**11 33 03.0**	**-2.6**
	5.2nm,0.6s						
KST	**Kastek**	**3.48**	**43**	Pg	**Pg**	**11 32 26.1**	**-1.1**
	2.2nm,0.4s						
KST				Lg	Lg	11 33 12.8	
	7.0nm,0.6s						
KST	**Kastek**	**3.48**	**43**	*eP*	**Pg**	**11 32 26.1**	**-1.1**
	2.2nm,0.4s						
KST				*eS*	**Sg**	**11 33 12.8**	**+0.5**
	7.0nm,0.6s						
KRBS	**Karabastau**	**3.84**	**34**	Pg	**Pg**	**11 32 33.0**	**-1.0**
	2.1nm,0.4s						
KRBS				Lg	Lg	11 33 24.4	
	3.1nm,0.3s						
KTBS	**Karatobe**	**4.33**	**42**	Pg	**Pg**	**11 32 42.1**	**-1.2**
	2.0nm,0.6s						
KTBS				Lg	Lg	11 33 40.0	
	4.5nm,0.6s						

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*SNET **28** 11:32:08.0±0.9, 13.°05N×89.°56W, h34km±16km, ML3.4*
*CATAC **28** 11:32:08.2±0.5, 13.°N±3.°×9.°0W±.°, h22km±2km, M3.6/19,*
MLv3.6/19, Error ellipse: s-maj=5.8km s-min=3.4km
az=27.2, confirmed
*GCG **28** 11:32:09.9±0.8, 13.°12N×89.°57W, h42km±12km, MD4.1,*
ML3.4, MW3.0
ISC 28 11:32:09.4±1.7, 13.°09N±0.°06×89.°51W±0.°04, h23km±15km,
n82, σ0°70/91, 10C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.43**	**25**	⇑*i* P	**Pn**	**11 32 19.9**	**-0.4**
LALI				*eS*	**Sn**	**11 32 27.1**	**-0.3**
LALI	**Alcalda de L**	**0.43**	**25**	*i* P	**Pn**	**11 32 19.9**	**-0.4**
LALI				*eS*	**Sn**	**11 32 27.2**	**-0.3**
LALI				IAML		11 32 28.4	
	comp=E,518nm,0.4s						
LALI	**Alcalda de L**	**0.43**	**25**	P	**Pn**	**11 32 19.9**	**-0.4**
JAYA	**Jayaque - finc**	**0.56**	**6**	⇑*i* P	**Pn**	**11 32 21.5**	**-0.7**
JAYA				*eS*	**Sn**	**11 32 30.2**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**6**	*i* P	**Pn**	**11 32 21.5**	**-0.7**
JAYA				*eS*	**Sn**	**11 32 30.3**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**6**	P	**Pn**	**11 32 21.4**	**-0.7**
PANCS	**Alcalda de**	**0.60**	**32**	P	**Pb**	**11 32 21.9**	**+0.5**
PANCS	**Alcalda de**	**0.60**	**32**	S	**Sn**	**11 32 31.5**	**-0.3**
MAGS	**Ministerio de**	**0.62**	**20**	*eP*	**Pn**	**11 32 22.3**	**-0.7**
LOMA	**Loma Larga**	**0.64**	**31**	*eP*	**Pb**	**11 32 22.6**	**+0.6**
LOMA				*eS*	**Sn**	**11 32 33.2**	**+0.4**
LOMA	**Loma Larga**	**0.64**	**31**	P	**Pb**	**11 32 22.6**	**+0.6**
PMON	**Piamonte**	**0.64**	**17**	⇑*eP*	**Pb**	**11 32 21.8**	**-0.3**
PMON	**Piamonte**	**0.64**	**17**	P	**Pb**	**11 32 21.8**	**-0.3**
PMON	**Piamonte**	**0.64**	**17**	S	**Sn**	**11 32 33.1**	**+0.3**
UEES	**Universidad Ev**	**0.67**	**23**	⇑*eP*	**Pn**	**11 32 23.0**	**-0.6**
UEES	**Universidad Ev**	**0.67**	**23**	P	**Pb**	**11 32 22.9**	**+0.4**
UEES	**Universidad Ev**	**0.67**	**23**	S	**Sn**	**11 32 33.6**	**+0.1**
BOQS	**Boqueron**	**0.68**	**19**	⇑*eP*	**Pn**	**11 32 23.3**	**-0.5**
LFRS	**El Faro**	**0.68**	**39**	⇓*i* P	**Pb**	**11 32 23.3**	**+0.5**
PIC2	**El Picacho**	**0.69**	**21**	*eP*	**Pn**	**11 32 23.6**	**-0.5**
UDBS	**Universidad Do**	**0.71**	**29**	S	**Sn**	**11 32 34.5**	**+0.2**
UDBS	**Universidad Do**	**0.71**	**29**	P	**Pb**	**11 32 23.5**	**+0.4**
CEVE	**Cerro Verde**	**0.74**	**351**	*eP*	**Pn**	**11 32 24.1**	**-0.7**
CEVE	**Cerro Verde**	**0.74**	**351**	P	**Pn**	**11 32 24.0**	**-0.7**
CEVE	**Cerro Verde**	**0.74**	**351**	S	**Sn**	**11 32 35.4**	**0.0**
SBLS	**San Blas**	**0.75**	**351**	*eP*	**Pn**	**11 32 24.1**	**-0.8**

LFU	La Fuente	0.76	30	*e*P		Pn	11 32 24.5	-0.3
SNJE	San Jose	0.78	353	*e*P		Pb	11 32 24.3	-0.1
LBRS	Las Brisas	0.78	35	*e*P		Pb	11 32 25.0	-0.2
RTR	El Retiro	0.81	350⇑	*e*P		Pn	11 32 25.0	-0.6
PAVA	Las Pavas	0.83	42⇑	*e*P		Pb	11 32 25.6	+0.3
PAVA	Las Pavas	0.83	42	P		Pb	11 32 25.5	+0.3
PAVA	Las Pavas	0.83	42	S		Sn	11 32 38.1	+0.7
SNVI	San Vicente	0.83	51	*e*P		Pb	11 32 25.2	-0.1
TECO	Alcaldia de Te	0.83	58⇑	*e*P		Pb	11 32 24.8	-0.5
TECO	Alcaldia de Te	0.83	58	S		Sn	11 32 37.4	0.0
TECO	Alcaldia de Te	0.83	58	P		Pb	11 32 24.7	-0.5
NUBE	Las Nubes	0.85	342⇓	*e*P		Pb	11 32 25.1	-0.6
NUBE	Las Nubes	0.85	342	*i* P		Pb	11 32 25.0	-0.6
NUBE				*e*S		Sn	11 32 37.0	-1.0
NUBE	Las Nubes	0.85	342	S		Sn	11 32 37.1	-0.8
NUBE	Las Nubes	0.85	342	P		Pb	11 32 25.0	-0.6
UESV	Universidad de	0.88	52	P		Pb	11 32 25.8	-0.4
UESV	Universidad de	0.88	52	S		Sn	11 32 38.8	+0.2
UNIC	Universidad Ca	0.88	357	S		Sn	11 32 39.1	+0.4
UNIC	Universidad Ca	0.88	357	P		Pn	11 32 26.1	-0.5
FAME	Alcaldia de Sa	0.90	326	P		Pb	11 32 25.4	-1.0
LOAL	Lomas de Alarc	0.94	343	*e*P		Pn	11 32 26.9	-0.4
LOAL	Lomas de Alarc	0.94	343	S		Sn	11 32 40.3	+0.2
LOAL	Lomas de Alarc	0.94	343	P		Pn	11 32 26.9	-0.4
SCLA	Alcaldia de Sa	0.97	51⇑	*e*P		Pb	11 32 27.3	-0.3
SCLA	Alcaldia de Sa	0.97	51	P		Pb	11 32 27.3	-0.3
SCLA	Alcaldia de Sa	0.97	51	S		Sn	11 32 41.7	+0.9
RBDL	Robledal	1.03	350	*e*P		Pn	11 32 28.4	-0.3
TECA	Tecapa	1.05	68	*e*P		Pn	11 32 28.1	-1.0
ESSJ	San Jos, E	1.07	296	*e*P		Pb	11 32 34.5	+5.1
LLGN	La Laguna	1.20	27	*e*P		Pn	11 32 30.5	-0.3
LLGN	La Laguna	1.20	27	S		Sn	11 32 47.7	+1.2
LLGN	La Laguna	1.20	27	P		Pn	11 32 30.3	-0.5
PACA	Pacayal	1.21	72	*e*P		Pn	11 32 31.2	+0.1
PACA	Pacayal	1.21	72	P		Pn	11 32 31.1	+0.1
PACA	Pacayal	1.21	72	S		Sn	11 32 47.4	+0.5
LCY	Lacayo	1.22	74	*e*P		Pn	11 32 31.1	-0.2
RANC	El Ranchito	1.23	74	*e*P		Pn	11 32 31.2	-0.2
MTO3	Montecristo	1.31	6⇑	*e*P		Pn	11 32 32.1	-0.4
MTO3	Montecristo	1.31	6	*i* P		Pn	11 32 32.1	-0.4
MTO3	Montecristo	1.31	6	S		Sb	11 32 49.7	-0.2
MTO3	Montecristo	1.31	6	P		Pn	11 32 32.0	-0.5
PCG5	San Vicente Pa	1.40	323	*e*P		Pb	11 32 36.3	+1.3
FG16	Alotenango, Sa	1.53	320	*e*P		Pb	11 32 39.3	+2.1
FG8	Yepocapa, Chim	1.55	319	*e*P		Pb	11 32 39.8	+2.3
LCND	La Caada	1.59	82	*e*P		Pn	11 32 35.6	-0.6
LCND	La Caada	1.59	82	P		Pn	11 32 35.7	-0.4
CNCH	Conchagua	1.64	83	*e*P		Pn	11 32 36.2	-0.8
MARCA	Marcala la Paz	1.78	53	*e*P		Pn	11 32 38.7	-0.2
ESSG	Sabana Grande	1.82	315	*e*P		Pn	11 32 38.0	-1.4
ESSG					IAML		11 33 06.0	
	comp=E,248nm,0.5s							
SARH	Santa Rosa de	1.82	23	*i* P		Pn	11 32 39.8	+0.3
SARH	Santa Rosa de	1.82	23	P		Pn	11 32 39.7	+0.2
CSGN	Cosiguina Volc	1.90	93	P		Pn	11 32 40.0	-0.5
CSGN				S		Sn	11 33 03.7	-0.2
POTN	Potosi Cosigui	1.95	93	P		Pn	11 32 40.7	-0.5
POTN				S		Sn	11 33 06.1	+1.1
TGUH	Tegucigalpa,Un	2.37	66	P		Pn	11 32 47.7	+0.6
TGUH				S		Sn	11 33 17.8	+2.2
PKGN	Cerro Pekin	2.50	99	P		Pn	11 32 47.8	-0.9
PKGN				S		Sn	11 33 17.6	-0.9
SOKI	Kika Raxquin	2.52	313	*e*P		Pn	11 32 49.4	+0.1

*NEIC **28** 11:46:33.8±1.5, 41°.85N±0°.04×125°.71W±0°.07, h10km±2km, Error ellipse: s-maj=8.7km s-min=7.3km az=272.0*
*NCEDC **28** 11:46:34.2±1.5, 41°.87N±0°.04×125°.84W±0°.07, h10km±2km, ML3.6/75, ML3.3/95(NEIC), Error ellipse: s-maj=9.2km s-min=6.9km az=257.0*
*IDC **28** 11:46:34.1±1.6, 42°.02N×125°.64W, h0km, mb3.5/3, mbtmp3.5/7, ML3.2/5, MS3.2/3, Error ellipse: s-maj=33.5km s-min=13.3km az=32.0*

ISC 28 11:46:34.4±1.2, 41°.86N±0°.05×125°.72W±0°.07, h10km, n78, σ1§31/64, mb3.3/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.17	72		Pb	11 46 55.6	-1.1
KBO					Sn	11 47 11.9	-0.9
SIGP	Signal Peak, C	1.23	89		Pb	11 46 56.7	-1.1
SIGP					Sb	11 47 12.9	-0.8
KSXB	Camp Six Broad	1.38	91		Pn	11 46 58.8	-1.0
KSXB					Sb	11 47 16.7	-1.2
KEBM	Edson Butte	1.44	45		Pn	11 46 58.5	-2.0
KEBM	Edson Butte	1.44	45	IAML		11 47 20.2	
	comp=N,568nm,0.8s						
KEBM				IAML		11 47 20.6	
	comp=E,383nm,0.7s						
KRPM	Rodgers	1.46	118		Pn	11 46 59.8	-1.0
KRPM					Sb	11 47 19.5	-0.7
KRPM	Rodgers	1.46	118	IAML		11 47 19.7	
	comp=N,647nm,0.6s						
L02F	Cave Junction	1.62	80		Pn	11 47 02.1	-0.9
JCC	Jacoby Creek,	1.65	129	Pn	Pn	11 47 02.1	-1.2
JCC				IAML		11 47 23.5	
	comp=E,317nm,0.7s						
JCC				IAML		11 47 23.8	
	comp=N,239nm,0.6s						
K02D	Willamette Mer	1.73	61		Pn	11 47 03.3	-1.3
KCTM	Capetown	1.74	143		Pn	11 47 03.5	-1.2
KHMM	Horse Mountain	1.79	123		Pn	11 47 04.7	-0.8
KHMM	Horse Mountain	1.79	123	IAML		11 47 27.9	
	comp=E,455nm,0.3s						
KOMM	Orleans Mounta	1.80	108		Pn	11 47 05.0	-0.5
J01E	Myrtle Point	1.85	45		Pn	11 47 05.3	-0.9
KMPM	Mount Pierce	1.88	140		Pn	11 47 05.8	-0.9
PETL	Petrolia	1.89	146		Pn	11 47 05.1	-1.5
DMOR	Dinsmores, CA	1.91	127		Pn	11 47 06.3	-0.7
M02C	Callahan	2.20	101	Pn	Pn	11 47 11.0	0.0
KHBM	Hayfork Bally	2.23	122		Pn	11 47 10.9	-0.8
KHBM	Hayfork Bally	2.23	122	IAML		11 47 39.4	
	comp=N,254nm,0.4s						
KMRM	Mail Ridge	2.24	137		Pn	11 47 11.2	-0.4
KMRM	Mail Ridge	2.24	137	IAML		11 47 39.8	
	comp=N,272nm,0.5s						
YBH	Yreka Blue Hor	2.25	92		Pb	11 47 12.4	-2.9
YBH				IAML		11 47 46.3	
	comp=N,54nm,0.8s						
YBH				IAML		11 48 21.5	
	comp=E,3.1nm,1.0s						
YBH	Yreka Blue Hor	2.25	92	Pn	Pb	11 47 12.3	-2.9
	comp=E,1.6nm,0.3s,baz=309,slow=9.6,SNR=28.4						
YBH				Sn	Sb	11 47 41.5	-1.7
	comp=E,0.7nm,0.3s,baz=177,slow=18,SNR=4.4						
WEAV	Weaverville	2.34	118		Pn	11 47 12.6	-0.4
LBKM	Bonanza King	2.42	108		Pn	11 47 13.9	-0.3
N02D	Trinity Center	2.43	110		Pn	11 47 13.9	-0.4
N02D	Trinity Center	2.43	110		Pn	11 47 14.1	-0.2
N02D				IAML		11 47 48.3	
	comp=N,203nm,0.3s						
N02D				IAML		11 47 51.2	
	comp=E,183nm,0.3s						
B040	Montague	2.46	90		Pn	11 47 14.9	+0.3
B040	Montague	2.46	90		Pn	11 47 15.1	+0.5
BBOR	Butler Butte	2.47	65		Pn	11 47 14.7	-0.2
BBOR				IAML		11 47 31.5	
	comp=E,98nm,0.6s						
BBOR				IAML		11 47 49.8	
	comp=N,132nm,1.3s						
I03D	Drain, OR	2.53	43		Pn	11 47 13.8	-1.7
I03D				IAML		11 47 45.5	
	comp=N,112nm,0.3s						
L04D	Klamath Falls	2.57	81		Pn	11 47 16.7	+0.5
L04D				IAML		11 48 05.1	
	comp=E,97nm,1.4s						
I02E	Swisshome, OR	2.63	31		Pn	11 47 15.4	-1.4
I02E				IAML		11 47 48.7	
	comp=E,181nm,0.5s						
I02E				IAML		11 47 50.2	
	comp=N,132nm,0.8s						
KCPM	Cahto Peak	2.71	143		Pn	11 47 17.3	-0.9
M03C	McCloud	2.76	101		Pn	11 47 19.8	+1.0
M03C				IAML		11 48 13.1	
	comp=N,86nm,1.5s						
M03C				IAML		11 48 21.6	
	comp=E,122nm,1.1s						
O02D	Mt. Diablo Mer	2.79	126		Pn	11 47 18.7	-0.4
O02D				IAML		11 47 53.5	
	comp=N,75nm,0.8s						
O02D				IAML		11 47 57.4	
	comp=E,73nm,0.5s						
J04A	Umpqua Nationa	3.00	62		Pn	11 47 22.6	+0.4
BUCK	Buck Mountain	3.07	40		Pn	11 47 22.3	-0.8
BUCK				IAML		11 48 04.3	
	comp=E,82nm,0.6s						
BUCK				IAML		11 48 06.1	
	comp=N,63nm,1.2s						
I04A	Tendick Farm,	3.10	50	IAML		11 48 03.2	
	comp=N,66nm,0.2s						
I04A				IAML		11 48 05.0	
	comp=E,90nm,0.3s						
COR	Corvallis	3.24	32		Pn	11 47 24.6	-0.6
COR				IAML		11 48 04.3	
	comp=E,88nm,0.8s						
GHOM	Hamilton Openi	3.27	149		Pn	11 47 24.5	-1.3
O03E	Paynes Creek	3.35	117	IAML		11 48 12.1	
	comp=N,59nm,0.3s						
O03E				IAML		11 48 16.9	
	comp=E,84nm,0.8s						
HATC	Hat Creek Radi	3.37	107	IAML		11 48 44.6	
	comp=N,73nm,1.9s						
HATC				IAML		11 48 46.9	
	comp=E,104nm,3.5s						
H04D	Lebanon	3.44	38	IAML		11 48 11.6	
	comp=N,83nm,0.4s						
WIFE	Three Sisters-	3.61	51	IAML		11 48 17.5	
	comp=N,38nm,2.0s						
WIFE				IAML		11 48 48.3	
	comp=E,50nm,1.9s						
K05A	Summer Lake	3.68	75	IAML		11 48 37.9	
	comp=N,33nm,2.0s						
K05A				IAML		11 48 51.0	
	comp=E,49nm,1.0s						
G03D	McMinnville, O	3.79	27		Pn	11 47 31.3	-1.5
G03D				IAML		11 48 23.1	
	comp=E,51nm,0.6s						
PINE	Pine Mountain	4.01	60		Pn	11 47 36.0	0.0
I05D	Terrebonne, OR	4.05	51	IAML		11 48 44.2	
	comp=E,30nm,4.1s						
I05D				IAML		11 48 54.7	
	comp=N,24nm,2.5s						
G04A	Mulino	4.09	34		Pn	11 47 37.5	+0.6
BEKR	Beckworth	4.53	114		Pn	11 47 44.6	+1.5
BEKR				IAML		11 48 44.5	
	comp=N,20nm,0.7s						
BEKR				IAML		11 48 46.5	
	comp=E,21nm,0.8s						
HOOD	Mount Hood Mea	4.55	39		Pn	11 47 44.9	+1.5
HOOD				IAML		11 48 43.2	
	comp=N,25nm,0.7s						
HOOD				IAML		11 48 54.4	
	comp=E,25nm,1.3s						
G05A	Wamic	4.65	42		Pn	11 47 45.0	+0.3
G05A				IAML		11 49 00.9	
	comp=N,40nm,4.1s						
G05A				IAML		11 50 01.1	
	comp=E,39nm,4.9s						
HAWA	Hanford	6.35	42		Pn	11 48 09.1	+1.2
LHV	Little Huntoon	6.61	121		Pn	11 48 13.7	+2.2
NVAR	Mina Array Bea	6.63	119		Pn	11 48 13.0	+0.8
NVAR	Mina Array Bea	6.63	119	Pn	Pn	11 48 13.5	+1.3
	comp=E,1.2nm,0.3s,baz=296,slow=14,SNR=22						
NVAR				Sn	Sn	11 49 30.9	+3.0
	comp=E,0.2nm,0.3s,baz=304,slow=26,SNR=2.8						
	comp=E,1.9nm,0.5s						
F10A	Beach Ranch, E	7.38	53		Pn	11 48 23.1	+0.9
PLID	Pearl Lake	7.77	62		Pn	11 48 29.0	+1.3
ELK	Elko	7.97	95	Pn	Pn	11 48 33.0	+2.5
	comp=E,0.3nm,0.3s,baz=310,slow=9.6,SNR=18						
ELK				LR	LR	11 51 04.8	
	comp=E,124nm,19.7s,baz=308,slow=34						
	comp=E,3.2nm,0.7s						
BBB	Bella Bella	10.45	352	LR	LR	11 52 14.0	
	comp=E,101nm,18.3s,baz=129,slow=33						
ELS	Elsinore Mount	10.50	139		Pn	11 49 05.9	+0.9
PFO	Pinyon Flats O	11.02	135	LR	LR	11 53 21.1	
	comp=E,198nm,19.6s,baz=280,slow=37						
PDAR	Pinedale Array	12.00	80	Pn	Pn	11 49 27.5	+1.8
	baz=266,slow=12,SNR=5.1						
	comp=E,0.6nm,0.8s						
PV18	Skein Mesa, Pa	13.37	100		Pn	11 49 45.7	+1.3
ANMO	Albuquerque	16.59	108	Pn	P	11 50 28.9	-0.8
	comp=E,0.1nm,0.3s,baz=34,slow=8.2,SNR=4.3						
	comp=E,0.9nm,0.6s						
TXAR	Lajitas Array	21.79	118		P	11 51 26.4	-0.1
TXAR	Lajitas Array	21.79	118	P	P	11 51 29.4	+2.9
	comp=E,1.0nm,0.8s,baz=296,slow=8.1,SNR=12						
	comp=E,1.0nm,0.8s						
ILAR	Eielson Array	25.94	339	P	P	11 52 07.9	+1.4
	comp=E,0.6nm,0.9s,baz=142,slow=8.9,SNR=5.0						
	comp=E,0.6nm,0.9s						
H11N3	WAKE ISLAND Hy	60.41	271	T	T	13 02 07.7	
	baz=52,slow=75,SNR=14						
H11N2	WAKE ISLAND Hy	60.41	271	T	T	13 02 06.9	
	baz=52,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	60.43	271	T	T	13 02 05.3	
	baz=52,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	61.31	270	T	T	13 03 19.0	
	baz=52,slow=75,SNR=48						
H11S2	WAKE ISLAND Hy	61.31	270	T	T	13 03 13.2	
	baz=52,slow=75,SNR=17						
H11S3	WAKE ISLAND Hy	61.33	270	T	T	13 03 17.1	
	baz=52,slow=75,SNR=16						
KURBB	Kurchatov Arra	85.48	345	P	P	11 59 12.4	+0.2
	comp=E,0.9nm,0.8s,baz=16,slow=4.8,SNR=5.5						
	comp=E,0.9nm,0.8s						

*SOF **28** 11:53:47.9, 41°.70N±0°.01×24°.21E±0°.01, h10km±1km, MD2.6/6*
*BEO **28** 11:53:50.3±0.5, 41°.76N×24°.22E, h14km±6km, ML2.3/7*
*SKO **28** 11:53:50.1, 41°.75N×24°.17E, h0km, ML2.4*

ISC 28 11:53:47.1±1.1, 41°.73N±0°.02×24°.31E±0°.03, h15km±9km, n25, σ1§16/47, 1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	Rozhen	0.33	97	Pg	Pn	11 53 56.3	-1.1
RZN				Sg	Sb	11 54 01.3	+1.5
MMB	Musomishta	0.46	246	Pg	Pg	11 53 55.9	-0.3
MMB				Sg	Sg	11 54 01.3	-1.1
MMB	Musomishta	0.46	246	*i* Pg	Pg	11 53 55.9	-0.3
MMB				*i* Sg	Sg	11 54 01.6	-0.8
PLD	Plovdiv	0.53	39	Pg	Pn	11 53 59.9	-0.2
PLD				Sg	Sn	11 54 07.8	-0.9
PLD	Plovdiv	0.53	39	*i* Pg	Pn	11 53 59.9	-0.2
PLD				*i* Sg	Sn	11 54 07.8	-0.9
PLD	Plovdiv	0.53	39	*e*Pg	Pn	11 53 59.8	-0.2
PLD				*e*Sg	Sn	11 54 07.6	-1.1
KDZ	Kurdzhali	0.78	97	P	Pn	11 54 04.6	+1.1
KDZ				S	Sn	11 54 15.4	+0.4
SRS	Serrai	0.82	221	*i* Pg	Pn	11 54 02.9	-1.1
SRS				*i* Sg	Sn	11 54 14.1	-1.7
SRS	Serrai	0.82	221	*e*Pg	Pn	11 54 02.9	-1.1
SRS				*e*Sg	Sn	11 54 18.6	+2.8
KKB	Krupnik	0.89	277	Pg	Pg	11 54 04.2	0.0
KKB				Sg	Sb	11 54 14.8	-0.9
KKB	Krupnik	0.89	277	*i* Pg	Pg	11 54 04.2	0.0
KKB				*i* Sg	Sb	11 54 15.2	-0.6
SOH	Sokhos	1.16	218	*i* Pg	Pg	11 54 09.1	-0.3
SOH				*i* Sg	Sg	11 54 27.4	+2.9
VTS	Vitosha	1.19	318	P	Pg	11 54 10.2	+0.2
VTS				S	Sb	11 54 25.2	+0.6
VTS	Vitosha	1.19	318	*e*Pg	Pg	11 54 10.1	+0.1
VTS				*e*Sg	Sg	11 54 26.5	+1.0
KNT	Kendrikon	1.20	242	*i* Pg	Pg	11 54 10.5	+0.3
KNT				*i* Sg	Sg	11 54 27.8	+1.9
VAY	Valandovo	1.37	253	*i* Pg	Pg	11 54 14.0	+0.6
VAY				*i* Sg	Sg	11 54 32.3	+1.2
VAY				*e*Lg	Lg	11 54 32.4	
	comp=N,56nm,0.6s						
VAY				*e*Lg	Lg	11 54 33.1	
	comp=E,47nm,0.5s						
THE	Thessaloniki	1.50	223	*i* Pg	Pg	11 54 14.9	-0.9
THE				*i* Sg	Sg	11 54 34.0	-1.2
BOSS	Bosilegrad	1.56	300	*e*Pg	Pg	11 54 17.2	+0.2
BOSS				*e*Sg	Sg	11 54 36.8	-0.4
ZAPS	Zavoj	1.97	322	*e*Pg	Pg	11 54 25.3	+0.4
ZAPS				*e*Sg	Sg	11 54 52.6	+2.1
BARS	Barje	2.14	301	*i* Pn	Pb	11 54 25.2	-0.3
BARS	Barje	2.14	301	*e*Pg	Pg	11 54 26.9	-1.2
BARS				*e*Sg	Sg	11 54 55.0	-0.9
BLKB	Belogradchik	2.24	328	*e*Pg	Pg	11 54 30.3	+0.3
BLKB				*e*Sg	Sg	11 54 59.0	0.0
ZAGS	Zajecar	2.58	324	*e*Pg	Pg	11 54 36.0	-0.5
SELS	Selova	2.79	303	*e*Pn	Pn	11 54 33.6	+2.5
SELS				*e*Sg	Sg	11 55 16.4	-0.1
SURR	Surduc	4.32	339	⇓S	Sg	11 56 03.8	-1.8

*MEX **28** 12:04:59.9±0.4, 14°.21N×92°.66W, h15km±31km, MD3.9*
*GCG **28** 12:05:00.9±0.6, 14°.15N×92°.36W, h14km±9km, MD3.7, ML2.9*

ISC 28 12:04:57.0±3.2, 14°.2N±0°.1×92°.50W±0°.08, h33km±6km, n11, σ1§14/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	El Naranjo	0.96	15	*e*P	Pb	12 05 15.3	0.0
PATR				*e*S	Sb	12 05 27.8	0.0
CHUJ	Union Juarez	0.98	23	*e*P	Pb	12 05 16.1	+0.5
CHUJ				*e*S	Sb	12 05 29.0	+0.7
PAVE	Pavencul	1.05	17	*e*P	Pb	12 05 17.2	+0.4
PAVE				*e*S	Sb	12 05 30.5	+0.1
STG2	El Palmar, Qui	1.12	77	*e*P	Pn	12 05 17.8	+1.4
STG2				*e*S	Sn	12 05 31.1	+0.3
PCIG		1.66	335	*e*P	Pn	12 05 24.0	+0.1
PCIG				*e*S	Sn	12 05 42.4	-1.6
FG8	Yepocapa, Chim	1.88	88	*e*P	Pn	12 05 25.8	-1.1
FG16	Alotenango, Sa	1.93	87	*e*P	Pn	12 05 28.0	+0.2
CCIG	Comitan	2.11	9	*e*P	Pb	12 05 33.7	-1.1
CCIG				*e*S	Sb	12 05 58.7	-2.0
TGIG		2.64	347	*e*P	Pn	12 05 38.6	+1.2
TGIG				*e*S	Sn	12 06 08.5	+0.1
UXUV	UXUV	3.49	333	*e*P	Pn	12 05 51.0	+1.9
UXUV				*e*S	Sn	12 06 29.2	0.0
CMIG	Matias Romero	3.69	322	*e*P	Pn	12 05 53.0	+1.2
CMIG				*e*S	Sn	12 06 32.5	-1.7

*NNC **28** 12:19:01.0±0.6, 42°.78N×79°.17E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=3.8km s-min=1.7km az=156.0*
*SOME **28** 12:19:01.3, 42°.77N×79°.13E, h10km*
*KRNET **28** 12:19:01.6±0.1, 42°.61N×79°.44E, h35km, mb2.7*

ISC 28 12:19:00.9±1.7, 42°.74N±0°.05×79°.14E±0°.04, h1km±13km, n26, σ1§08/47, 11C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	0.42	349	P	Pg	12 19 09.0	+0.1
	17nm,0.1s						
UZB				S	Sg	12 19 14.8	+0.4
	22nm,0.1s						
UZB	Uzynbulak	0.42	349	*e*P	Pg	12 19 09.0	+0.1
	17nm,0.1s						
UZB				*e*S	Sg	12 19 14.8	+0.4
	22nm,0.1s						
SHLS	Shalkode	0.48	30	P	Pn	12 19 13.8	-1.2
	17nm,0.1s						
SHLS				S	Sb	12 19 23.1	+3.2
	116nm,0.2s						
SHLS	Shalkode	0.48	30	*e*P	Pn	12 19 13.8	-1.2
	17nm,0.1s						
SHLS				*e*S	Sb	12 19 23.1	+3.2
	116nm,0.2s						
PRZ	Przheval'sk	0.60	245⇑	*e*P	Pn	12 19 16.7	0.0
PRZ			⇑	*e*S	Sn	12 19 28.0	+0.9
SATY	Saty	0.62	301	P	Pg	12 19 13.3	+0.5
	0.8nm,0.1s						
SATY				S	Sg	12 19 22.2	+1.2
	32nm,0.1s						
PDGK	Podgornoye	0.65	24	⇓P	Pg	12 19 12.6	-0.7
	5.3nm,0.3s						
PDGK				⇑S	Sg	12 19 20.8	-0.8
	7.4nm,0.3s						
KPKS	Kokpek	0.80	336	P	Pg	12 19 16.0	-0.3
	0.2nm,0.1s						
KPKS				S	Sg	12 19 26.7	0.0
	12nm,0.3s						
KPKS	Kokpek	0.80	336	*e*P	Pg	12 19 16.0	-0.3
	0.2nm,0.1s						
KPKS				*e*S	Sg	12 19 26.6	0.0
	12nm,0.3s						
KURS	Kuram	1.03	317	P	Pg	12 19 20.5	-0.2
	1.3nm,0.2s						
KURS				S	Sg	12 19 34.3	+0.3
	8.9nm,0.2s						
TARG	Taragay, Kyrgy	1.41	225⇓	*i* P	Pn	12 19 28.0	0.0
TARG			⇓	*i* S	Sn	12 19 47.0	-0.5
KOTS	Kotyrbulak	1.56	289	*e*P	Pb	12 19 30.7	0.0
	2.2nm,0.1s						
KOTS				*e*S	Sg	12 19 51.8	+0.6
	14nm,0.2s						
KDJ	Kajisay	1.57	248⇑	*i* P	Pb	12 19 31.0	+0.2
KDJ			⇑	*i* S	Sg	12 19 52.6	+1.3
ARXS	Arharly	1.76	328	P	Pb	12 19 33.4	-0.5
	2.6nm,0.1s						
ARXS				S	Sg	12 19 56.6	-0.7
	21nm,0.2s						
ARXS	Arharly	1.76	328	*e*P	Pb	12 19 33.4	-0.5
	2.6nm,0.1s						
ARXS				*e*S	Sg	12 19 56.6	-0.7
	21nm,0.2s						
CHKK	Chushkaly	1.93	306	*e*P	Pb	12 19 36.5	-0.2
	7.6nm,0.2s						
CHKK				*e*S	Sb	12 20 01.8	+0.5
	13nm,0.3s						
MTBS	Maitube	2.03	282	Pg	Pb	12 19 39.4	+0.9
	2.5nm,0.1s						
MTBS				Lg	Lg	12 20 06.9	
	3.7nm,0.2s						
MTBS	Maitube	2.03	282	*e*P	Pb	12 19 39.4	+0.9
	2.5nm,0.1s						
MTBS				*e*S	Sg	12 20 06.9	+1.0
	3.7nm,0.2s						
KTBS	Karatobe	2.04	299	Pg	Pb	12 19 38.2	-0.5
	6.9nm,0.2s						
KTBS				Lg	Lg	12 20 04.7	
	12nm,0.2s						
ULHL	Ulahol	2.19	258	*i* P	Pb	12 19 40.4	-1.1
ULHL				*i* S	Sb	12 20 08.4	-0.8
KST	Kastek	2.35	279	Pg	Pb	12 19 44.5

FITZ	Fitzroy Crossi	37.14	212	P		P	12 48 33.0	-0.8
AS31	Alice Springs	38.92	196	P		P	12 48 47.8	-0.9
ASAR	Alice Springs	38.92	196	P		P	12 48 47.9	-0.8
ASAR	Alice Springs	38.92	196	P		P	12 48 47.7	-1.1
	comp=Z,0.3nm,0.7s,baz=20,slow=12,SNR=11							
	comp=Z,0.3nm,0.7s							
STKA	Stephens Creek	45.66	184	P		P	12 49 42.0	-1.2
BBOO	Buckleboo	47.26	190	P		P	12 49 54.9	-0.8
BBOO				IAmb		IAmb	12 50 14.4	
	comp=Z,7.7nm,1.1s							
KURBB	Kurchatov Arra	64.48	320	P		P	12 51 57.5	-0.7
	comp=Z,0.3nm,0.4s,baz=102,slow=7.1,SNR=3.3							
	comp=Z,0.3nm,0.4s							
ILAR	Eielson Array	68.19	25	P		P	12 52 19.7	-1.9
	comp=Z,0.2nm,0.5s,baz=259,slow=5.5,SNR=5.6							
	comp=Z,0.2nm,0.5s							
BMAR	Burnt Mountain	69.72	23	P		P	12 52 31.7	+0.6
L29M	L29M	71.72	28	P		P	12 52 44.3	+1.0
L29M				IAmb		IAmb	12 53 08.9	
	comp=Z,1.6nm,1.0s							
M30M	Minto, Yukon	72.29	28	P		P	12 52 47.0	+0.4

*KRSC **28** 12:49:27.1±0.9, 55°.70N×160°.56E, h189km±8km, Ml4.0*
*IDC **28** 12:49:27.8±1.5, 55°.89N×160°.25E, h181km±14km, mb3.2/9, mbtmp3.6/11, MS3.5/1, Error ellipse: s-maj=19.5km s-min=13.7km az=89.0*

ISC 28 12:49:27.7±0.7, 55°.76N±0°.05×160°.48E±0°.06, h189km±5km, n45, σ0§88/57, mb3.2/8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.14	270	eP	Pn	12 49 52.7	0.0
BZMR	Bezymyannaya	0.18	1	eP	Pn	12 49 52.8	0.0
BZWR	Bezymyannyi-We	0.21	2	eP	Pn	12 49 53.1	+0.2
KIRR	Kirishev	0.21	338	eP	Pn	12 49 52.6	-0.3
KIRR				eS	Sn	12 50 12.6	+0.1
BZGR	Bezymyannyi-Gr	0.22	33	eP	Pn	12 49 52.9	+0.1
KPT	Kopyto	0.26	325	eP	Pn	12 49 52.7	-0.2
ZLN	Zelenaya	0.32	35	eP	Pn	12 49 53.5	+0.5
LGNR	Loginova	0.35	20	eP	Pn	12 49 54.0	+0.7
CIRR	Tsirk	0.39	22	eP	Pn	12 49 53.6	+0.3
KOZ	Kozyrevsk	0.46	312	eP	Pn	12 49 53.3	0.0
KOZ				eS	Sn	12 50 13.4	+0.1
TUMD	Tumrok D	0.56	185	eP	Pn	12 49 53.9	+0.1
TUMD				eS	Sn	12 50 13.7	-0.2
KLY	Klyuchi	0.56	10	eP	Pn	12 49 53.8	+0.1
KLY				eS	Sn	12 50 15.0	+0.9
KZV	Kizimen	0.66	190	eP	Pn	12 49 54.6	+0.1
SRDR	Sredinnyy	0.71	323	eP	Pn	12 49 54.1	-0.4
SRKR	Sorokina	0.98	23	eP	Pn	12 49 56.0	-0.2
SRKR				eS	Sn	12 50 19.3	+0.8
SMKR	Semkarok	0.99	33	eP	Pn	12 49 56.2	-0.1
SMKR				eS	Sn	12 50 19.4	+0.8
ESO	Esso	1.02	280	eP	Pn	12 49 56.2	-0.2
ESO				eS	Sn	12 50 17.7	-1.1
KBTR	Krutoberegovo	1.39	70	eP	Pn	12 49 59.1	-0.3
KBTR				eS	Sn	12 50 22.1	-1.9
KRX	Arik	2.63	205	eP	Pn	12 50 13.5	+0.9
SDLR	Sedlovina	2.65	201	eP	Pn	12 50 13.2	+0.4
KRER	Koryakskii	2.66	203	eP	Pn	12 50 14.0	+1.0
NLC	Nalytchevo	2.67	195	eS	Sn	12 50 45.9	-2.2
SMAR	Somma	2.69	202	eP	Pn	12 50 13.6	+0.4
KOK	Koryaka	2.69	204	eP	Pn	12 50 14.0	+0.7
AVH	Avacha	2.70	203	eP	Pn	12 50 14.2	+1.0
DALK	Dalny	2.91	201	eP	Pn	12 50 15.0	-0.6
PET	Petropavlovsk	2.94	202	eP	Pn	12 50 15.9	-0.1
PET				eS	Sn	12 50 52.3	-1.4
PETK	Petropavlovsk-	3.11	213	P	Pn	12 50 17.8	-0.3
	9.1nm,0.6s,baz=60,slow=14,SNR=92						
PETK				S	Sn	12 50 58.8	+1.4
	1.1nm,0.3s,baz=89,slow=18,SNR=0.8						
BKI	Bering	3.17	98	eP	Pn	12 50 19.2	+0.4
BKI				eS	Sn	12 50 56.9	-1.7
KRMR	Karymshinskiy	3.24	206	eP	Pn	12 50 19.5	-0.1
KRMR				eS	Sn	12 51 00.5	+0.3
APC	Apacha	3.44	216	eP	Pn	12 50 23.1	+1.1
GRL	Gorelyy	3.51	205	eP	Pn	12 50 23.4	+0.4
MTVR	Mutnovka	3.55	203	eP	Pn	12 50 23.7	+0.2
ASAK	Asacha	3.71	205	eP	Pn	12 50 25.5	+0.1
SEY	Seymchan	8.29	333	P	Pn	12 51 21.4	-3.1
	0.9nm,0.2s,baz=152,slow=18,SNR=5.8						
TIXI	Tiksi	20.79	332	P		P	12 53 54.1	+0.5
	1.0nm,0.3s,baz=131,slow=10,SNR=4.3						
	1.0nm,0.3s						
ILAR	Eielson Array	26.83	49	P		P	12 54 51.0	+1.0
	0.4nm,0.7s,baz=256,slow=7.7,SNR=5.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	46.66	300	P		P	12 57 36.1	-0.6
	1.4nm,0.4s,baz=55,slow=7.8,SNR=19						
	1.4nm,0.4s						
MKAR	Makanchi Array	47.25	294	P		P	12 57 40.6	-0.7
	0.2nm,0.3s,baz=48,slow=6.7,SNR=6.1						
MKAR				LR		LR	13 21 12.9	
	comp=Z,53nm,18.1s,baz=155,slow=40							
	0.2nm,0.3s							
BVAR	Borovoye Array	48.94	307	P		P	12 57 53.6	-0.5
	1.6nm,0.6s,baz=60,slow=8.8,SNR=5.4							
	1.6nm,0.6s							
FINES	FINESS Array B	57.77	336	P		P	12 58 57.7	-0.5
	0.8nm,0.6s,baz=20,slow=6.3,SNR=4.1							
	0.8nm,0.6s							
TXAR	Lajitas Array	69.41	68	P		P	13 00 16.0	+1.0
	0.1nm,0.3s,baz=316,slow=4.7,SNR=1.5							
	0.1nm,0.3s							
WRA	Warramunga Arr	78.60	205	P		P	13 01 08.6	+0.6
	0.3nm,0.6s,baz=14,slow=5.6,SNR=3.5							
	0.3nm,0.6s							
ASAR	Alice Springs	82.28	204	P		P	13 01 28.6	+0.9
	0.2nm,0.4s,baz=16,slow=4.7,SNR=13							
	0.2nm,0.4s							
QSPA	South Pole Qui	145.51	180	PKPbc		PKiKP	13 08 44.6	-0.9
	1.6nm,0.6s,baz=70,slow=2.3,SNR=24							

*NEIC **28** 13:12:00.4±1.4, 18°.87S±0°.08×169°.2E±0°.1, h221km±9km, mb4.2/13, Error ellipse: s-maj=17.6km s-min=11.4km az=107.0*
*IDC **28** 13:12:00.3±4.7, 18°.86S×169°.10E, h219km±32km, mb3.3/7, mbtmp3.8/8, Error ellipse: s-maj=48.2km s-min=21.9km az=31.0*

ISC 28 13:11:58.6±0.8, 18°.82S±0°.07×169°.2E±0°.1, h200km, n22, σ1§46/22, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.86	202		Pn	13 12 48.1	+1.5
SANVU	Saraoutou	3.84	330	Pn	Pn	13 13 01.2	+2.7
PINNC	Pines Island,	4.11	203	Pn	Pn	13 13 03.9	+2.2
DZM	Mont Dzumac	4.13	218	P	Pn	13 13 05.3	+3.2
	3.4nm,0.8s,baz=87,slow=17,SNR=12						
DZM				S	Sn	13 13 52.1	+0.1
	6.2nm,0.8s,baz=296,slow=22,SNR=2.0						
AFI	Afiamalu	18.91	78	P		P	13 16 05.6	+1.1
URZ	Urewera	20.57	162	P		P	13 16 23.0	+1.1
	0.9nm,0.3s,baz=6.3,slow=9.2,SNR=3.0							
	0.9nm,0.3s							
STKA	Stephens Creek	28.02	237	P		P	13 17 29.9	-1.2
STKA				IAmb		IAmb	13 18 00.4	
	comp=Z,14nm,1.2s							
STKA	Stephens Creek	28.02	237	P		P	13 17 31.1	0.0
	comp=Z,0.8nm,0.7s,baz=77,slow=10,SNR=3.2							
	comp=Z,0.8nm,0.7s							
WR8	Warramunga Arr	32.70	262	P		P	13 18 11.6	-0.8
WR8				IAmb		IAmb	13 18 46.6	
	comp=Z,5.7nm,1.3s							
WB0	Warramunga Arr	32.81	263	P		P	13 18 12.5	-0.9
WB0				IAmb		IAmb	13 18 28.2	
	comp=Z,6.9nm,1.4s							
WRA	Warramunga Arr	32.85	262	P		P	13 18 12.6	-1.2
	0.2nm,0.4nm,0.7s,baz=90,slow=8.3,SNR=12							
	comp=Z,0.4nm,0.7s							
AS31	Alice Springs	33.17	255	P		P	13 18 15.6	-0.9
AS31				IAmb		IAmb	13 18 16.7	
	comp=Z,1.9nm,1.1s							
ASAR	Alice Springs	33.17	255	P		P	13 18 14.9	-1.6
ASAR	Alice Springs	33.17	255	P		P	13 18 15.9	-0.6
	comp=Z,2.1nm,0.4s,baz=82,slow=8.9,SNR=57							
	comp=Z,2.1nm,0.4s							
KNRA	Kununurra	38.66	268	P		P	13 19 02.6	-0.5
KNRA				IAmb		IAmb	13 19 17.5	
	comp=Z,16nm,1.4s							
FITZ	Fitzroy Crossi	41.23	264	P		P	13 19 24.4	+0.2
	comp=Z,1.7nm,0.6s,baz=89,slow=8.3,SNR=6.4							
	comp=Z,1.7nm,0.6s							
QSPA	South Pole Qui	71.24	180	IAmb		IAmb	13 22 54.8	
	comp=Z,6.2nm,1.4s							
QSPA	South Pole Qui	71.24	180	P		P	13 22 54.0	-1.8
	comp=Z,1.9nm,1.1s,baz=27,slow=4.5,SNR=3.1							
	comp=Z,1.9nm,1.1s							
M16K	Timber Creek	83.58	15	P		P	13 24 03.3	-0.6
K15K	Wolf Creek Mou	84.11	13	P		P	13 24 06.4	-0.1
J16K	Anvik River	85.18	13	P		P	13 24 11.6	-0.3
J16K				IAmb		IAmb	13 24 21.7	
	comp=Z,16nm,1.4s							
SONM	Songino Array	86.85	323	P		P	13 24 19.6	-1.0
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=1.7							
	comp=Z,0.3nm,0.3s							

*BEO **28** 13:17:00.4±0.4, 41°.42N×19°.47E, h16km±3km, ML2.2/9*
*TIR **28** 13:17:01.1, 41°.39N×19°.53E, h16km±3km, Ml2.6/4*
*PDG **28** 13:17:03.5±0.2, 41°.61N×19°.50E, h14km, ML2.5/11, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
*RHSSO **28** 13:17:05.3±1.3, 41°.66N×19°.42E, h6km, ML2.5/2*

ISC 28 13:17:00.5±1.1, 41°.50N±0°.02×19°.48E±0°.03, h9km±9km, n42, σ0§95/79, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.33	117	Pg	Pg	13 17 06.7	-0.3
TIR				Sg	Sg	13 17 10.8	-0.5
TIR				AML	AML	13 17 10.9	
	2.4nm,0.5s						
TIR				AML	AML	13 17 11.5	
	7.0nm,0.4s						
ULC	Ulcinj	0.50	339	ePg	Pb	13 17 11.3	-0.2
ULC				i Sg	Sb	13 17 19.3	+0.5
DRME	Dracevica, Mon	0.72	342	ePg	Pb	13 17 14.8	-0.5
DRME				eSg	Sn	13 17 27.1	-1.0
DRME	Dracevica, Mon	0.72	342	ePg	Pb	13 17 15.4	+0.1
DRME				i Sg	Sn	13 17 26.3	-1.8
BUM	Brajici-Budva	0.91	332	ePg	Pb	13 17 19.1	+0.5
BUM				i Sg	Sn	13 17 32.6	-0.3
PDG	Podgorica	0.95	350	Pn	Pn	13 17 21.2	+1.2
PDG				Sn	Sn	13 17 34.2	+0.6
PDG	Podgorica	0.95	350	ePg	Pn	13 17 19.8	-0.2
PDG				eSg	Sn	13 17 33.6	0.0
PDG	Podgorica	0.95	350	ePg	Pb	13 17 19.4	+0.3
PDG				i Sg	Sn	13 17 33.2	-0.4
OHR	Ohrid	1.06	111	i Pg	Pg	13 17 22.0	+1.0
OHR				i Sg	Sg	13 17 36.1	+1.3
CEME	Cevo	1.13	338	ePg	Pn	13 17 22.7	+0.2
CEME				i Sg	Sn	13 17 39.1	+0.9
PVY	Plav	1.15	18	ePg	Pg	13 17 22.0	-0.7
PVY	Plav	1.15	18	ePg	Pb	13 17 22.7	0.0
PVY				i Sg	Sn	13 17 39.2	+0.4
HCY	Herceg Novi	1.20	322	ePg	Pn	13 17 24.2	+0.7
HCY				i Sg	Sn	13 17 41.7	+1.8
NKME	Niksic	1.33	343	ePg	Pg	13 17 26.2	+0.2
NKME				i Sg	Sn	13 17 45.2	+2.1
KOME	Kolasin	1.35	1	ePg	Pg	13 17 26.4	-0.1
KOME				eSg	Sn	13 17 46.4	+2.7
KOME	Kolasin	1.35	1	ePg	Pg	13 17 26.4	-0.1
KOME				i Sg	Sn	13 17 45.6	+1.9
TREB	Trebinje	1.48	326	↑iPg	Pb	13 17 28.4	+0.2
TREB				eSg	Sg	13 17 47.2	-1.0
TREB	Trebinje	1.48	326	ePg	Pn	13 17 27.3	0.0
TREB				eSg	Sg	13 17 48.9	+0.7
DBRK	Dubrovnik	1.54	320	ePn	Pn	13 17 28.4	+0.4
DBRK				Sg	Sb	13 17 48.4	-0.3
BRY	Bratogost	1.57	334	ePg	Pg	13 17 30.0	-0.6
BRY				i Sg	Sg	13 17 52.4	+1.4
NEST	Nestorio	1.61	132	Pn	Pn	13 17 29.5	+0.4
NEST				Sn	Sn	13 17 51.0	+1.0
NEST				AML	AML	13 17 54.7	
	0.1nm,0.5s						
UPM	Unac-Piva	1.76	346	ePn	Pb	13 17 32.5	-0.5
UPM				i Sn	Sg	13 17 56.7	-0.3
KLINJ	Klinje	1.80	339	ePn	Pb	13 17 34.1	+0.4
KLINJ				eSn	Sb	13 17 55.3	-1.0
SJES	Sjenica	1.80	12	ePn	Pn	13 17 30.9	-0.9
SJES				eSn	Sb	13 17 55.9	-0.5
STON	Ston	1.91	317	ePn	Pn	13 17 32.7	-0.4
STON				Sn	Sn	13 17 56.9	-0.3
STON	Ston	1.91	317	ePn	Pn	13 17 33.6	+0.5
STON				eSn	Sn	13 17 56.4	-0.8
NOCI	Noci	1.96	250	Pn	Pb	13 17 37.3	+1.0
NOCI				Sn	Sb	13 18 03.2	+2.4
NOCI				AML	AML	13 18 11.7	
	0.3nm,0.3s						
NOCI				AML	AML	13 18 13.1	
	0.3nm,0.4s						
IGT	Igoumenitsa	2.07	161	Pn	Pn	13 17 36.0	+0.7
IGT				Sn	Sn	13 18 00.3	-0.9
IGT				AML	AML	13 18 07.0	
	0.1nm,0.8s						
IGT	Igoumenitsa	2.07	161	ePn	Pn	13 17 33.2	-2.2
IGT				eSn	Sn	13 17 59.5	-1.7
SELS	Selova	2.10	35	ePn	Pn	13 17 35.3	-0.6
SELS				eSn	Sn	13 18 02.2	0.0
RUDO	Rudo	2.12	358	ePn	Pb	13 17 39.0	-0.1
RUDO				eSn	Sb	13 18 03.7	-1.8
IVAS	Ivanjica	2.14	13	ePn	Pn	13 17 36.3	-0.1
IVAS				eSn	Sn	13 18 03.7	+0.7
BARS	Barje	2.18	52	ePn	Pn	13 17 36.4	-0.5
GOCS	Kraljevo Serbi	2.31	26	ePn	Pn	13 17 39.5	+0.8
GOCS				eSn	Sn	13 18 07.7	+0.5
LSTV	Lastovo	2.31	304	ePn	Pn	13 17 38.0	-0.7
LSTV				Sn	Sn	13 18 06.1	-1.0
BBLS	Lazi&#263i	2.37	359	ePn	Pn	13 17 40.6	+1.0
BBLS				eSn	Sn	13 18 09.8	+1.1
BOSS	Bosilegrad	2.45	65	ePn	Pn	13 17 39.5	-1.1
RICI	Ricice	2.65	320	ePn	Pn	13 17 43.1	-0.3
RICI				Sn	Sn	13 18 15.4	-0.1
SGRT	San Giovanni R	2.81	276	Pn	Pb	13 17 50.1	-0.9
KIJV	Kijevo	3.38	319	ePn	Pn	13 17 53.6	+0.2
KIJV				Sn	Sn	13 18 33.1	-0.5
ZIRJ	Zirje	3.56	309	ePn	Pn	13 17 55.5	-0.4
MORI	Morici	3.65	312	ePn	Pn	13 17 57.0	-0.2
MORI				Sn	Sn	13 18 39.2	-1.1

*IDC **28** 13:17:34.4±0.8, 0°.12N×126°.92E, h0km, mb4.0/8, mbtmp4.0/10, ML3.8/2, MS3.1/1, Error ellipse: s-maj=45.3km s-min=15.8km az=74.0*
*DJA **28** 13:17:39.4±0.3, 0°.N±3°×12°.7E±°, h10km, M3.9/13, mB4.8/1, mb4.1/4, MLv3.8/13, Mw(mB)4.0/1*
*NEIC **28** 13:17:41.7±0.8, 0°.02N±0°.08×126°.73E±0°.08, h48km±8km, mb4.4/20, Error ellipse: s-maj=13.3km s-min=8.7km az=137.0*

ISC 28 13:17:40.0±0.5, 0°.01S±0°.05×126°.68E±0°.06, h35km, n42, σ1§20/44, mb4.2/16, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.04	41		Pn	13 17 58.8	+0.7
TNTI	Ternate	1.04	41	P	Pn	13 17 58.9	+0.8
TNTI				S	Sn	13 18 12.9	+1.5
SANI	Sanana	2.14	199	P	Pn	13 18 14.1	+0.8
KMSI	Cibinong	2.76	282	P	Pn	13 18 23.9	+2.1
NLAI	Namlea	3.23	173	P	Pn	13 18 30.4	+2.1
LUWI	Luwuk	4.04	255	Pn	Pn	13 18 40.7	+1.3
LUWI	Luwuk	4.04	255	P	Pn	13 18 40.5	+1.1
APSI	Ampana	5.11	260	P	Pn	13 18 55.7	+1.6
	821nm36nm,0.5s						
TOLI2	Tolitoli	6.00	281	Pn	Pn	13 19 08.3	+1.9
FAKI	Fak Fak	6.27	117	P	Pn	13 19 11.9	+1.8
	0.1nm15nm,1.0s						
KAPI	Kappang	8.52	234	Pn	Pn	13 19 44.3	+3.3
	2.0nm,0.3s,baz=84,slow=8.2,SNR=2.0						
KAPI				Sn	Sn	13 21 13.1	-2.9
	1.9nm,0.3s,baz=63,slow=19,SNR=1.8						
	7.5nm,0.3s						
TGY	Tagaytay City	15.13	338	LR	LR	13 28 06.1	
	comp=Z,65nm,18.2s,baz=14,slow=42						
KNRA	Kununurra	15.70	173	P	P	13 21 23.0	+0.6
KNRA				IAmb	IAmb	13 22 02.7	
	comp=Z,12nm,1.4s						
FITZ	Fitzroy Crossi	18.00	183	P	Pn	13 21 47.5	-0.2
FITZ	Fitzroy Crossi	18.00	183	P	Pn	13 21 47.1	-0.5
	comp=Z,0.2nm,0.3s,baz=11,slow=10,SNR=5.7						
	comp=Z,1.9nm,0.8s						
WB0	Warramunga Arr	21.04	159	P		P	13 22 20.9	-0.2
WRA	Warramunga Arr	21.18	160	P		P	13 22 20.8	-1.8
WRA	Warramunga Arr	21.18	160	P		P	13 22 21.5	-1.1
	comp=Z,1.9nm,0.4s,baz=341,slow=11,SNR=66							
	comp=Z,1.9nm,0.4s							
WR8	Warramunga Arr	21.25	159	P		P	13 22 22.6	-0.7
WR8				IAmb		IAmb	13 22 40.8	
	comp=Z,7.3nm,1.4s							
MBWA	Marble Bar	22.09	197	P		P	13 22 33.1	+0.8
AS31	Alice Springs	24.54	164			P	13 22 56.3	-0.3
ASAR	Alice Springs	24.54	164	P		P	13 22 56.6	0.0
ASAR	Alice Springs	24.54	164	P		P	13 22 57.0	+0.3
	comp=Z,4.3nm,0.6s,baz=342,slow=10,SNR=84							
ASAR				PcP	PcP	PcP	13 26 33.1	-1.3
	comp=Z,0.3nm,0.6s,baz=0.6,slow=1.8,SNR=5.8							
	comp=Z,4.3nm,0.6s							
FORT	Forrest	30.63	178	P		P	13 23 50.9	-0.1
FORT				IAmb		IAmb	13 24 33.9	
	comp=Z,18nm,1.4s							
BBOO	Buckleboo	33.80	166	P		P	13 24 18.6	-0.3
BBOO				IAmb		IAmb	13 24 27.7	
	comp=Z,7.3nm,1.3s							
EIDS	Eidsvold	34.52	139	P		P	13 24 24.9	-0.3
EIDS				IAmb		IAmb	13 24 29.4	
	comp=Z,16nm,1.4s							
STKA	Stephens Creek	34.69	157	P		P	13 24 25.9	-0.7
STKA	Stephens Creek	34.69	157	P		P	13 24 26.1	-0.5
	comp=Z,1.3nm,0.5s,baz=335,slow=9.6,SNR=5.8							
	comp=Z,1.3nm,0.5s							
JMM	Marumori	39.88	18	P		P	13 25 10.6	+0.2
CAN	Canberra	40.83	152	P		P	13 25 18.2	-0.3
CAN				IAmb		IAmb	13 25 29.6	
	comp=Z,25nm,1.5s							
USRK	Ussuriysk Ar.	44.27	5	P		P	13 25 45.5	-0.7
	comp=Z,2.1nm,0.6s,baz=168,slow=5.0,SNR=3.2							
	comp=Z,2.1nm,0.6s							
SONM	Songino Array	50.82	342	P		P	13 26 36.8	-0.4
	comp=Z,0.6nm,0.6s,baz=154,slow=8.0,SNR=2.2							
	comp=Z,0.6nm,0.6s							
MKAR	Makanchi Array	60.60	327	P		P	13 27 46.6	-0.8
MKAR	Makanchi Array	60.60	327	P		P	13 27 46.4	-0.9
	comp=Z,0.7nm,0.4s,baz=126,slow=8.7,SNR=4.6							
	comp=Z,0.7nm,0.4s							
MAKZ	Makanchi	60.79	326	P		P	13 27 48.0	-0.6
MAKZ				IAmb		IAmb	13 28 19.8	
	comp=Z,3.8nm,1.4s							
MA2	Magadan	62.33	14	P		P	13 27 58.7	+0.1
KURBB	Kurchatov Arra	64.86	328	P		P	13 28 15.0	-0.6
	comp=Z,0.9nm,0.6s,baz=128,slow=6.0,SNR=16							
	comp=Z,0.9nm,0.6s							
KURK	Kurchatov	64.87	329	P		P	13 28 14.8	-0.8
KURK				IAmb		IAmb	13 28 16.4	
	comp=Z,2.0nm,0.8s							
L18K	Granite Mounta	83.79	27	P		P	13 30 05.7	+0.1
L18K				IAmb		IAmb	13 30 38.0	
	comp=Z,12nm,1.4s							
F19K	Shaleruckih Mo	84.34	23	P		P	13 30 07.9	-0.3
QSPA	South Pole Qui	89.92	180	P		P	13 30 36.1	+0.7
QSPA				IAmb		IAmb	13 31 19.9	
	comp=Z,1.5nm,1.1s							
QSPA	South Pole Qui	89.92	180	P		P	13 30 36.8	+1.4
	comp=Z,0.7nm,0.6s,baz=287,slow=2.1,SNR=8.8							
	comp=Z,0.7nm,0.6s							

*NEIC **28** 13:23:44.8±1.4, 35°.13N±0°.02×95°.38W±0°.02, h5km±1km, mb_Lg2.3/20, ML2.8/15, ML2.7/7, Error ellipse: s-maj=4.1km s-min=2.9km az=136.0*

NEIC 28 13:23:45.0±0.7, 35°.13N±0°.02×95°.36W±0°.01, h8km±5km, Error ellipse: s-maj=3.3km s-min=0.7km az=159.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	Leonard	0.85	336		Pg	13 24 01.1	-0.3
TUL3					Sg	13 24 12.6	+0.1
RLO	Rose Lookout	1.07	15		Pg	13 24 04.9	-0.5
RLO					Sg	13 24 19.3	0.0
RLO				IAML		13 24 22.0	
	comp=N,258nm,0.2s						
DEOK	Depew	1.17	308		Pg	13 24 06.7	-0.8
DEOK					Sg	13 24 22.4	-0.2
DEOK				IAML		13 24 22.8	
	comp=N,270nm,0.2s						
DEOK				IAML		13 24 25.2	
	comp=E,234nm,0.1s						
OK052	Battle Ridge R	1.46	307		Pn	13 24 11.1	-0.6
OK052					Sb	13 24 31.4	+0.3
QUOK	Quay	1.51	314		Pn	13 24 12.6	+0.1
QUOK					Sg	13 24 33.2	-0.3
U38A	Gravette	1.53	31		Pn	13 24 13.0	+0.4
U38A					Sb	13 24 33.0	-0.1
MIAR	Mount Ida	1.58	111		Pn	13 24 13.8	+0.5
MIAR					Sb	13 24 35.1	+0.5
HHAR	Hobbs	1.63	45		Pn	13 24 13.5	-0.5
HHAR					Sb	13 24 36.5	+0.4
FNO	Franklin	1.68	275		Pn	13 24 13.7	-1.0
FNO					Sg	13 24 38.4	-0.5
LOOK	Love County	1.88	233	Pn	Pn	13 24 17.6	+0.1
T35A	Sooner Cattle	2.01	333		Pn	13 24 18.7	-0.6
X34A	Smith Ranch, M	2.10	256	Pn	Pn	13 24 20.2	-0.3
WLAR	White Oak Lake	2.35	127	IAmb_Lg		13 24 58.3	
	comp=Z,13nm,0.8s						
UALR	University of	2.50	97	IAmb_Lg		13 25 06.0	
	comp=Z,14nm,0.9s						
WHAR	Wooly Hollow	2.52	86	IAmb_Lg		13 25 10.3	
	comp=Z,11nm,1.0s						
FCAR	Ozark Folk Cen	2.75	73	IAmb_Lg		13 25 19.9	

CEDA IAML 13 40 09.9
comp=Z,3μm,0.2s
CEDA San Andres 0.05 70 P Pg 13 40 01.4 -0.2
JAYA Jayaque - finc 0.13 182 ⇓ *i*P **Pg 13 40 02.4 -0.2**
JAYA *e*S **Sg 13 40 04.6 -0.5**
JAYA Jayaque - finc 0.13 182 *i* P **Pg 13 40 02.4 -0.2**
JAYA *i* S **Sg 13 40 04.9 -0.2**
JAYA Jayaque - finc 0.13 182 P **Pg 13 40 02.4 -0.2**
PMON Piamonte 0.14 120 ⇓ *i*P **Pg 13 40 02.2 -0.6**
PMON *e*S **Sg 13 40 05.9 +0.6**
PMON Piamonte 0.14 120 P **Pg 13 40 02.2 -0.6**
BOQS Boqueron 0.17 107 *i* P **Pb 13 40 03.5 -0.2**
BOQS *e*S **Sg 13 40 07.8 +1.8**
CEVE Cerro Verde 0.18 284 *i* P **Pb 13 40 03.5 -0.5**
CEVE *e*S **Sg 13 40 07.4 +1.0**
CEVE Cerro Verde 0.18 284 P **Pb 13 40 03.8 -0.2**
SBLS San Blas 0.18 287 ⇓ *i*P **Pb 13 40 03.6 -0.5**
SBLS *e*S **Sg 13 40 07.2 +0.7**
UEES Universidad Ev 0.21 109 S **Sg 13 40 07.2 +0.2**
UNIC Universidad Ca 0.22 332 P **Pg 13 40 03.8 -0.1**
UNIC Universidad Ca 0.22 332 S **Sg 13 40 07.3 +0.1**
LOMA Loma Larga 0.30 118 S **Sb 13 40 10.4 -0.4**
LOMA Loma Larga 0.30 118 P **Pg 13 40 05.4 +0.3**
PANCS Alcalda de 0.31 124 S **Sg 13 40 10.0 +0.3**
PANCS Alcalda de 0.31 124 P **Pg 13 40 04.9 -0.4**
LALI Alcalda de L 0.32 158 *i* P **Pg 13 40 05.8 +0.3**
LALI *i* S **Sg 13 40 10.5 +0.5**
LALI IAML 13 40 11.3
comp=E,292nm,0.3s
LALI Alcalda de L 0.32 158 P **Pg 13 40 05.7 +0.3**
NUBE Las Nubes 0.35 290 ⇓ *i*P **Pg 13 40 06.1 +0.1**
NUBE *e*S **Sb 13 40 11.5 -0.7**
NUBE IAML 13 40 12.1
comp=Z,732nm,0.2s
NUBE Las Nubes 0.35 290 *i* P **Pg 13 40 06.1 +0.1**
NUBE *e*S **Sb 13 40 11.5 -0.7**
NUBE Las Nubes 0.35 290 P **Pg 13 40 06.1 +0.1**
LOAL Lomas de Alarc 0.39 303 P **Pb 13 40 07.3 -0.2**
LOAL Lomas de Alarc 0.39 303 S **Sb 13 40 13.7 +0.4**
PAVA Las Pavas 0.50 98 P **Pg 13 40 09.0 +0.3**
PAVA Las Pavas 0.50 98 S **Sb 13 40 16.6 +0.1**
FAME Alcaldia de Sa 0.56 276 P **Pg 13 40 09.5 -0.3**
LLGN La Laguna 0.61 52 P **Pg 13 40 10.5 -0.3**
LLGN La Laguna 0.61 52 S **Sg 13 40 19.4 +0.4**
MTO3 Montecristo 0.61 7 *i* P **Pg 13 40 10.6 -0.3**
MTO3 Montecristo 0.61 7 P **Pg 13 40 10.6 -0.3**
MTO3 Montecristo 0.61 7 S **Sg 13 40 19.3 +0.1**
TECO Alcaldia de Te 0.69 111 P **Pg 13 40 10.8 -1.5**
TECO Alcaldia de Te 0.69 111 S **Sg 13 40 21.0 -0.5**
SCLA Alcaldia de Sa 0.70 97 P **Pg 13 40 12.3 -0.2**
ESQI Esquipulas 0.78 7 P **Pg 13 40 13.6 -0.3**
ESQI Esquipulas 0.78 7 S **Sb 13 40 24.5 0.0**
PACA Pacayal 1.13 106 P **Pg 13 40 20.8 +0.1**
PACA Pacayal 1.13 106 S **Sn 13 40 35.9 +0.2**
SARH Santa Rosa de 1.19 34 *i* P **Pb 13 40 21.3 +0.2**
SARH *i* S **Sg 13 40 37.2 0.0**
SARH Santa Rosa de 1.19 34 P **Pn 13 40 21.2 +0.2**
INTHN La Esperanza I 1.40 68 P **Pn 13 40 24.4 +0.3**

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*IDC **28** 13:41:54.4±1.6, 1°.06N×126°.65E, h0km, mb3.8/4, mbtmp3.8/5, MLL3.4/1, MS3.2/1, Error ellipse: s-maj=114.9km s-min=16.4km az=69.0*
*NEIC **28** 13:42:00.5±0.9, 0°.9N±0°.1×126°.45E±0°.07, h35km±2km, mb4.3/14, Error ellipse: s-maj=18.9km s-min=12.4km az=356.0*
*DJA **28** 13:42:02.7±0.5, 1°.N±4°×12°7E±°, h35km±11km, M4.0/13, mB4.7/1, mb4.3/6, MLv3.9/13, Mw(mB)3.9/1*
ISC 28 13:42:00.3±0.8, 0°.92N±0°.09×126°.48E±0°.09, h39km, n33, σ1**9**78/28**, mb4.0/11, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.90**	**99**		**Pn**	**13 42 16.3**	**-0.2**
TNTI	**Ternate**	**0.90**	**99**	P	**Pn**	**13 42 16.3**	**-0.2**
TNTI				S	**Sn**	**13 42 26.8**	**-1.6**
KMSI	**Cibinong**	**2.52**	**262**	P	Pn	13 42 45.9	+7.2
SANI	**Sanana**	**2.98**	**189**	P	Pn	13 42 49.5	+4.3
NLAI	**Namlea**	**4.17**	**171**	P	Pn	13 43 06.4	+4.9
LUWI	**Luwuk**	**4.18**	**242**	P	Pn	13 43 09.7	+8.1
APSI	**Ampana**	**5.16**	**249**	P	Pn	13 43 23.3	+8.3
	0.2nm681nm26nm,0.5s						
FAKI	**Fak Fak**	**6.92**	**123**	Pn	**Pn**	**13 43 39.5**	**+0.3**
FAKI	**Fak Fak**	**6.92**	**123**	P	**Pn**	**13 43 39.9**	**+0.7**
	0.1nm17nm,0.8s						
BKSI	**Bulukumba**	**8.87**	**226**	P	Pn	13 44 14.0	+8.0
KAPI	**Kappang**	**8.93**	**229**	Pn	**Pn**	**13 44 05.6**	**-1.3**
KNRA	**Kununurra**	**16.64**	**172**	Pn	**Pn**	**13 45 51.3**	**+0.5**
KNRA				IAmb	IAmb	13 45 57.2	
	comp=Z,20nm,1.5s						
PCJI	**Pacitan**	**17.73**	**239**	P	P	13 46 11.6	+6.7
FITZ	**Fitzroy Crossi**	**18.91**	**182**	P	**P**	**13 46 16.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=12,SNR=1.8						
	comp=Z,2.0nm,0.9s						
WB0	**Warramunga Arr**	**21.97**	**160**	P	**P**	**13 46 51.4**	**+0.3**
WB0				IAmb	IAmb	13 47 19.8	
	comp=Z,6.7nm,1.2s						
WRAB	**Tennant Creek**	**22.11**	**160**	P	**P**	**13 46 53.0**	**+0.5**
WRAB				IAmb	IAmb	13 46 55.1	
	comp=Z,4.5nm,1.0s						
WRA	**Warramunga Arr**	**22.12**	**160**	P	**P**	**13 46 51.5**	**-1.1**
WRA	**Warramunga Arr**	**22.12**	**160**	P	**P**	**13 46 52.6**	**0.0**
	comp=Z,3.7nm,0.6s,baz=340,slow=11,SNR=41						
WRA				S	**S**	**13 50 49.1**	**-5.2**
	comp=Z,0.2nm,0.6s,baz=344,slow=18,SNR=5.2						
	comp=Z,3.7nm,0.6s						
WR8	**Warramunga Arr**	**22.18**	**160**	P	**P**	**13 46 53.4**	**+0.1**
WR8				IAmb	IAmb	13 47 21.5	
	comp=Z,9.0nm,1.4s						
AS31	**Alice Springs**	**25.48**	**164**	P	**P**	**13 47 24.8**	**-0.2**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**13 47 24.8**	**-0.3**
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**13 47 24.9**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=345,slow=11,SNR=32						
ASAR				S	**S**	**13 51 56.2**	**+6.4**
	comp=Z,1.0nm,0.8s,baz=344,slow=20,SNR=8.7						
	comp=Z,1.6nm,0.6s						
FORT	**Forrest**	**31.55**	**177**	P	**P**	**13 48 19.9**	**+0.8**
FORT				IAmb	IAmb	13 48 54.6	
	comp=Z,25nm,1.5s						
JNU	**Nakatsue**	**32.30**	**7**	LR	LR	14 05 02.3	
	comp=Z,42nm,18.6s,baz=236,slow=43						
ARMA	**Armidale**	**39.30**	**145**	P	**P**	**13 49 27.0**	**+1.2**
ARMA				IAmb	IAmb	13 49 37.0	
	comp=Z,16nm,1.3s						
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**13 52 00.5**	**-0.7**
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**13 52 00.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.2,SNR=2.8						
	comp=Z,0.2nm,0.4s						
MRZ	**Mangatainoka R**	**60.81**	**139**	P	**P**	**13 52 08.9**	**+0.2**
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	**P**	**13 52 29.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=125,slow=5.7,SNR=5.5						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**63.98**	**328**	P	**P**	**13 52 29.4**	**-0.2**
KURK				IAmb	IAmb	13 52 38.8	
	comp=Z,1.8nm,1.0s						
PWL	**Port Wells**	**86.86**	**29**	P	**P**	**13 54 41.2**	**+0.4**
DIV	**Divide**	**88.11**	**29**	P	**P**	**13 54 47.3**	**+0.4**
K29M	**Barlow Dome**	**91.84**	**26**	P	**P**	**13 55 04.6**	**+0.3**
K29M				IAmb	IAmb	13 55 14.2	
	comp=Z,8.1nm,1.4s						

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*IDC **28** 13:42:43.3±1.2, 29°.46N×81°.76E, h0km, mb3.5/8, mbtmp3.5/11, MLL3.6/2, Error ellipse: s-maj=41.3km s-min=18.5km az=56.0*
*DMN **28** 13:42:46.1±0.0, 29°.56N×81°.59E, h10km, Ml4.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 28 13:42:48.7±1.1, 29°.6N±0°.2×81°.8E±0°.2, h35km, n20, σ0**9**72/26**, mb3.4/8, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**2.12**	**125**	Pn	**Pn**	**13 43 22.1**	**+0.3**
	baz=122,slow=0.0						
DANN				Sn	**Sn**	**13 43 48.3**	**+1.2**
	416nm,0.5s,baz=122,slow=0.0						
GKN	**Gorkha**	**2.95**	**121**	Pn	**Pn**	**13 43 33.6**	**+0.4**
	baz=119,slow=0.0						
GKN				Sn	**Sn**	**13 44 08.1**	**+0.6**
	290nm,0.4s,baz=119,slow=0.0						
DMN	**Daman**	**3.51**	**123**	Pn	**Pn**	**13 43 41.1**	**0.0**
	baz=121,slow=0.0						
KKN	**Kakani**	**3.55**	**119**	Pn	**Pn**	**13 43 42.3**	**+0.8**
	baz=117,slow=0.0						
KKN				Sn	**Sn**	**13 44 23.2**	**+0.9**
	baz=117,slow=0.0						
PKIN	**Phulchoki**	**3.75**	**121**	Pn	**Pn**	**13 43 44.1**	**-0.2**
	baz=120,slow=0.0						
PKIN				Sn	**Sn**	**13 44 27.3**	**0.0**
	87nm,0.3s,baz=120,slow=0.0						
PKI	**Pulchoki**	**3.76**	**121**	Pn	**Pn**	**13 43 44.2**	**-0.3**
	baz=120,slow=0.0						
PKI				Sn	**Sn**	**13 44 27.3**	**-0.4**
	88nm,0.3s,baz=120,slow=0.0						
GUN	**Gumba**	**3.96**	**114**	Pn	**Pn**	**13 43 47.3**	**+0.1**
	baz=112,slow=0.0						
RAMN	**Ramite**	**4.99**	**120**	Pn	**Pn**	**13 44 01.3**	**0.0**
	baz=119,slow=0.0						
RAMN				Sn	**Sn**	**13 44 56.2**	**-1.6**
	baz=119,slow=0.0						
ODAN	**Odare**	**5.63**	**117**	Pn	**Pn**	**13 44 10.2**	**0.0**
	baz=116,slow=0.0						
AAK	**Ala-Archa**	**14.30**	**338**	Pn	**Pn**	**13 46 07.6**	**-1.1**
	0.2nm,0.3s,baz=180,slow=8.1,SNR=2.0						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**17.20**	**1**	P	**Pn**	**13 46 45.2**	**-0.9**
	0.3nm,0.3s,baz=182,slow=12,SNR=10						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**19.16**	**121**	P	**Pn**	**13 47 09.6**	**-0.7**
	0.3nm,0.3s,baz=313,slow=8.6,SNR=1.3						
KURBB	**Kurchatov Arra**	**21.17**	**354**	P	**P**	**13 47 31.0**	**+0.3**
	0.9nm,0.7s,baz=178,slow=10,SNR=13						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**24.46**	**4**	P	**P**	**13 48 04.5**	**+0.4**
	0.6nm,0.4s,baz=196,slow=9.4,SNR=2.5						
	0.6nm,0.4s						
SONM	**Songino Array**	**26.30**	**39**	P	**P**	**13 48 21.7**	**+0.6**
	0.7nm,0.7s,baz=227,slow=10,SNR=4.8						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**48.21**	**328**	P	**P**	**13 51 26.2**	**+0.7**
	1.4nm,0.9s,baz=103,slow=8.6,SNR=3.6						
	1.4nm,0.9s						
HFS	**Hagfors**	**54.00**	**325**	P	**P**	**13 52 09.9**	**+0.9**
	1.0nm,0.6s,baz=60,slow=8.8,SNR=1.4						
	1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**63.46**	**320**	P	**P**	**13 53 15.0**	**+0.2**
	0.5nm,0.5s,baz=81,slow=6.7,SNR=5.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**70.62**	**128**	P	**P**	**13 54 00.7**	**-0.1**
	0.3nm,1.0s,baz=319,slow=6.2,SNR=1.3						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**72.87**	**131**	P	**P**	**13 54 13.3**	**-1.0**
	0.2nm,0.8s,baz=316,slow=6.3,SNR=6.3						
	0.2nm,0.8s						

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*NAO **28** 14:12:51.6, 33°.01N×48°.43E, h33km, mb3.6*
*ISN **28** 14:12:59.5±1.0, 34°.57N×47°.67E, h8km±15km, ML4.0*
*TEH **28** 14:13:01.7, 34°.55N×47°.64E, h8km±23km*
*MOS **28** 14:13:02.3±1.4, 34°.43N×47°.43E, h12km, mb4.2/16, Error ellipse: s-maj=7.3km s-min=4.3km az=111.9*
*NEIC **28** 14:13:03.8±2.4, 34°.38N±0°.08×47°.55E±0°.08, h10km±1km, mb4.4/37, Error ellipse: s-maj=13.6km s-min=10.9km az=188.0*
*THR **28** 14:13:05.7±0.0, 34°.48N×47°.65E, h31km±10km, ML4.2*
*IDC **28** 14:13:07.2±4.2, 34°.60N×47°.47E, h33km±33km, mb3.9/20, mbtmp4.1/28, ML3.6/7, MS3.4/18, Error ellipse: s-maj=17.9km s-min=12.4km az=158.0*
ISC 28 14:13:03.0±0.3, 34°.52N±0°.03×47°.62E±0°.03, h10km, n289, σ2**9**03/295**, mb4.5**/53**, MS3.3**/15**, 24C-10D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNQR	**Sonqor, Kerman**	**0.34**	**1**	Pg	**Pg**	**14 13 08.5**	**-1.4**
SNQR				Sg	**Sg**	**14 13 12.9**	**-1.5**
KCHF	**Cheshme Sefid,**	**0.54**	**243**	Pg	**Pg**	**14 13 13.2**	**-0.4**
IDOB	**Doab**	**0.86**	**148**	Pg	**Pg**	**14 13 18.9**	**-0.9**
IGHG	**Ghaleghazi**	**0.89**	**258**	Pg	**Pg**	**14 13 19.6**	**-0.6**
IDHR	**Dehrash**	**1.03**	**280**	Pg	**Pg**	**14 13 21.4**	**-1.5**
BDRS	**Dareh Seyedi**	**1.19**	**118**	Pg	**Pg**	**14 13 24.5**	**-1.4**
GLG1	**Gilan-e-Gharb**	**1.47**	**254**	Pg	**Pg**	**14 13 30.6**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**1.68**	**270**	Pg	**Pg**	**14 13 34.5**	**-0.7**
IBDR	**Badra**	**1.99**	**225**	*e*Pn	**Pn**	**14 13 37.0**	**+0.3**
IBDR				*e*Sn	**Sb**	**14 14 04.0**	**-0.2**
IBDR				AML	AML	14 14 15.1	
	comp=E,2μm,0.7s						
IBDR				AML	AML	14 14 16.0	
	comp=N,2μm,0.6s						
QABG	**Abgarm-Qazvin**	**2.00**	**53**	Pn	**Pb**	**14 13 37.2**	**-2.4**
KHMZ	**Khomeyn**	**2.09**	**111**	*e*Pn	**Pb**	**14 13 40.7**	**-0.5**
KHMZ				IAML		14 14 17.8	
	comp=Z,2μm,1.0s						
ZNJK	**Zanjan**	**2.31**	**22**	*e*Pn	**Pb**	**14 13 44.1**	**-0.9**
ZNJK				IAML		14 14 25.3	
	comp=Z,670nm,1.0s						
SRSL	**SARDASHT**	**2.46**	**314**	*e*Pn	**Pb**	**14 13 46.1**	**-1.3**
SRSL				IAML		14 14 33.6	
	comp=Z,3μm,1.0s						
MAHB	**Mahabad**	**2.73**	**326**	Pn	**Pb**	**14 13 48.1**	**-3.9**
IKRK	**Kirkuk**	**2.83**	**289**	*e*Pn	**Pn**	**14 13 48.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**14 14 24.0**	**+1.4**
IKRK				AML	AML	14 14 43.3	
	comp=N,1μm,0.5s						
IKRK				AML	AML	14 14 44.4	
	comp=E,923nm,0.3s						
BHD	**Baghdad**	**2.97**	**246**	*e*Pn	**Pn**	**14 13 51.0**	**+0.8**
BHD				*e*Sn	**Sn**	**14 14 28.0**	**+2.1**
THKV	**Tehran--Karaj**	**3.01**	**62**	*e*Pn	**Pb**	**14 13 54.2**	**-2.6**
THKV				IAML		14 14 59.2	
	comp=Z,610nm,1.0s						
GHVR	**GHOM**	**3.03**	**90**	*e*Pn	**Pb**	**14 13 54.9**	**-2.3**
GHVR				IAML		14 14 58.5	
	comp=Z,2μm,1.0s						
RAFI	**Al-Rafai**	**3.06**	**205**	*e*Pn	**Pn**	**14 13 52.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**14 14 31.0**	**+2.8**
CHTH	**Charan**	**3.19**	**63**	*e*Pn	**Pb**	**14 13 56.2**	**-3.7**
CHTH				IAML		14 14 49.9	
	comp=Z,510nm,1.0s						
IPIR	**Pirpir**	**3.29**	**123**	Pn	**Pn**	**14 13 56.7**	**+1.8**
JHBN	**Jahan bin**	**3.42**	**131**	Pn	**Pn**	**14 13 58.4**	**+1.7**
ZNGN	**Zangian**	**3.62**	**131**	Pn	**Pn**	**14 14 00.8**	**+1.4**
DAMV	**Damavand**	**3.73**	**72**	*e*Pn	Pb	14 14 04.2	-5.0
DAMV				IAML		14 14 17.0	
	comp=Z,340nm,1.0s						
MZPU	**Pul - Mazandar**	**3.75**	**58**	Pn	**Pn**	**14 14 02.2**	**+1.1**
IDMV	**Damavand**	**3.77**	**73**	Pn	**Pn**	**14 14 02.3**	**+0.8**
ISFB	**Sefidab**	**3.82**	**91**	Pn	**Pn**	**14 14 03.1**	**+1.1**
ITBZ	**Tabriz**	**3.89**	**343**	Pn	**Pn**	**14 14 04.5**	**+1.4**
ISHB	**Shabestar**	**4.09**	**337**	Pn	**Pn**	**14 14 06.6**	**+0.8**
GRMI	**Germi**	**4.28**	**3**	Pn	**Pn**	**14 14 09.3**	**+0.9**
GRMI	**Germi**	**4.28**	**3**	*e*Pn	**Pn**	**14 14 11.4**	**+3.0**
GRMI				IAML		14 15 31.1	
	comp=Z,210nm,1.0s						
NASN	**Na'in**	**4.65**	**110**	*e*Pn	**Pn**	**14 14 16.7**	**+3.0**
NASN				IAML		14 15 56.6	
	comp=Z,150nm,1.0s						
IRAM	**Ramesheh**	**4.82**	**123**	Pn	**Pn**	**14 14 17.1**	**+1.2**
KLNJ	**Kolanjah**	**4.84**	**135**	Pn	**Pn**	**14 14 17.7**	**+1.5**
KLNJ	**Kolanjah**	**4.84**	**135**	*e*Pn	**Pn**	**14 14 17.8**	**+1.5**
KLNJ				IAML		14 16 27.6	
	comp=Z,230nm,1.0s						
ANAR	**Anarak**	**5.25**	**103**	Pn	**Pn**	**14 14 22.6**	**+0.9**
KBD	**Kabd**	**5.33**	**179**	P	**Pn**	**14 14 25.8**	**+3.2**
KBD				S	**Sn**	**14 15 26.0**	**+1.9**
GURO	**Guroymak-BITLI**	**6.03**	**313**		**Pn**	**14 14 34.6**	**+2.1**
GNI	**Garni**	**6.07**	**339**		Pn	14 14 36.6	+3.7
GNI	**Garni**	**6.07**	**339**	Pn	Pb	14 14 39.7	-9.2
	comp=Z,5.1nm,0.3s,baz=144,slow=19,SNR=5.3						
GNI				Pg	**Pg**	**14 14 57.2**	**-2.0**
	comp=Z,3.0nm,0.3s,baz=352,slow=8.8,SNR=16						
GNI	**Garni**	**6.07**	**339**	Pb	**Pg**	**14 14 57.2**	**-2.0**
GNI	**Garni**	**6.07**	**339**	P	Pn	14 14 36.6	+3.7
YZKH	**Yazd**	**6.20**	**108**	*e*Pn	**Pn**	**14 14 37.1**	**+2.4**
YZKH				IAML		14 17 05.2	
	comp=Z,110nm,1.0s						
MARD	**Mardin**	**6.21**	**299**		**Pn**	**14 14 35.5**	**+0.6**
IMEH	**Mehriz**	**6.65**	**116**	Pn	**Pn**	**14 14 42.5**	**+1.4**
AKT	**Akhty**	**6.95**	**1**	⇓ *i*P	Pn	14 14 49.1	+4.1
AKT				pmax	pmax		
	comp=Z,137nm,0.6s						
SHRO	**Shahrood**	**7.02**	**76**	*e*Pn	Pn	14 14 49.1	+3.1
SHRO				IAML		14 17 11.7	
	comp=Z,51nm,1.0s						
MRVT	**Maraveh tapeh**	**7.54**	**63**	*e*Pn	Pn	14 14 56.3	+3.3
MRVT				IAML		14 15 38.1	
	comp=Z,28nm,1.0s						
TABS	**Tabas**	**7.93**	**94**	*e*Pn	Pn	14 15 01.9	+3.5
TABS				IAML		14 15 15.9	
	comp=Z,66nm,1.0s						
SBZV	**Sabzevar**	**8.36**	**74**	*e*Pn	**Pn**	**14 15 06.3**	**+1.8**
MAK	**Makhachkala**	**8.43**	**359**	*e*P	**Pn**	**14 15 04.7**	**-0.4**
MAK				*e*S	**Sn**	**14 16 40.3**	**0.0**
MAK				pmax	pmax		
	comp=Z,110nm,1.1s						
MAK				MLR	MLR		
	comp=Z,136nm,7.0s						
BJRD	**Bojnurd**	**8.53**	**65**	*e*Pn	Pn	14 15 10.5	+3.8
SHMA	**Al-Shehemyia**	**9.11**	**161**	P	**Pn**	**14 15 16.0**	**+1.6**
	SNR=14						
SHMA				S	**Sn**	**14 16 56.4**	**-0.7**
ASF	**Jabal al Asfar**	**9.27**	**258**	Pn	**Pn**	**14 15 16.4**	**-0.4**
	comp=Z,3.2nm,0.3s,baz=91,slow=8.0,SNR=13						
ASF				LR	LR	14 19 46.0	
	comp=Z,208nm,19.2s,baz=102,slow=44						
	comp=Z,7.5nm,0.3s						
KBZ	**Khabaz**	**9.90**	**340**	Pn	Pn	14 15 30.0	+4.7
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=3.5						
	comp=Z,0.5nm,0.3s						
KBZ	**Khabaz**	**9.90**	**340**	P	Pn	14 15 30.0	+4.7
BSRN	**Basiran**	**9.97**	**102**	*e*Pn	**Pn**	**14 15 29.4**	**+3.0**
SHA1	**Shidzhatmaz**	**9.98**	**339**	⇑ *i*P	Pn	14 15 29.8	+3.2
KVAR	**Kislovodsk Arr**	**10.16**	**339**	LR	LR	14 19 58.0	
	comp=Z,87nm,21.6s,baz=58,slow=41						
KIV	**Kislovodsk**	**10.17**	**339**	*e*P	**Pn**	**14 15 29.7**	**+0.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,72nm,13.0s						
TRNA	**Turayna**	**10.24**	**161**	P	**Pn**	**14 15 31.2**	**+1.2**
	SNR=15						
TRNA				S	**Sn**	**14 17 22.1**	**-2.8**
MMAI	**Mount Meron Ar**	**10.28**	**265**	Pn	**Pn**	**14 15 31.5**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=79,slow=17,SNR=6.7						
MMAI				LR	LR	14 20 18.6	
	comp=Z,144nm,21.2s,baz=60,slow=42						
	comp=Z,2.0nm,0.4s						
SOC	**Sochi**	**10.93**	**328**	*e*P	**Pn**	**14 15 40.3**	**+0.8**
SOC				*e*		14 17 44.5	
RAYN	**Ar Rayn**	**11.11**	**190**		**Pn**	**14 15 40.1**	**-2.0**
RAYN	**Ar Rayn**	**11.11**	**190**	*i* Pn	**Pn**	**14 15 40.9**	**-1.2**
	SNR=23						
RAYN	**Ar Rayn**	**11.11**	**190**	P	**Pn**	**14 15 42.0**	**-0.1**
SHME	**Shamm**	**11.20**	**137**	P	**Pn**	**14 15 42.8**	**-0.4**
SHME				S	**Sn**	**14 17 44.2**	**-4.2**
SHME	**Shamm**	**11.20**	**137**	Pn	**Pn**	**14 15 42.1**	**-1.0**
BANOM	**Banah**	**11.38**	**136**	P	**Pn**	**14 15 45.6**	**-0.2**
BANOM				S	**Sn**	**14 17 48.6**	**-4.5**
BANOM	**Banah**	**11.38**	**136**	*i* Pn	**Pn**	**14 15 45.1**	**-0.7**
	SNR=27						
GHWR	**Ruwais**	**11.47**	**155**	P	**Pn**	**14 15 47.7**	**+0.7**
GHWR				S	**Sn**	**14 17 49.6**	**-5.6**
MASF	**Masafi**	**11.74**	**139**	P	**Pn**	**14 15 50.1**	**-0.6**
	SNR=9.7						
MASF				S	**Sn**	**14 17 55.2**	**-6.6**
MSFE	**Esma-Masafi**	**11.75**	**139**	*i* Pn	**Pn**	**14 15 49.4**	**-1.4**
	SNR=9.7						
EIL	**Elat**	**11.78**	**249**	Pn	**Pn**	**14 15 51.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=141,slow=9.1,SNR=4.3						
EIL				LR	LR	14 21 35.3	
	comp=Z,271nm,18.0s,baz=84,slow=44						
	comp=Z,3.5nm,0.5s						
NAZ	**Nazwa, Dubai**	**11.79**	**142**	P	**Pn**	**14 15 51.7**	**+0.5**
	SNR=10						
NAZ	**Nazwa, Dubai**	**11.79**	**142**	*i* Pn	**Pn**	**14 15 51.2**	**0.0**
	SNR=10						
AJN	**Ajban**	**11.81**	**145**	P	**Pn**	**14 15 52.5**	**+1.0**
	SNR=9.8						
AJN				S	**Sn**	**14 18 01.0**	**-2.4**
AJN	**Ajban**	**11.81**	**145**	*i* Pn	**Pn**	**14 15 52.2**	**+0.7**
	SNR=7.0						
MDH	**Madha**	**11.87**	**138**	P	**Pn**	**14 15 51.4**	**-1.0**
	SNR=10						
MDH				S	**Sn**	**14 18 01.3**	**-3.7**
MDH	**Madha**	**11.87**	**138**	*i* Pn	**Pn**	**14 15 51.1**	**-1.3**
	SNR=10						
ASUD	**Al Ashush, Dub**	**11.92**	**144**	P	**Pn**	**14 15 53.6**	**+0.6**
ASUD				S	**Sn**	**14 18 01.3**	**-4.8**
ASUD	**Al Ashush, Dub**	**11.92**	**144**	Pn	**Pn**	**14 15 53.2**	**+0.2**
MZWR	**Madinat Zayed**	**12.03**	**151**	P	**Pn**	**14 15 55.7**	**+1.1**
MZWR				S	**Sn**	**14 18 06.9**	**-2.0**
UOSS	**Minazif**	**12.10**	**140**		**Pn**	**14 15 54.0**	**-1.5**
UOSS	**Minazif**	**12.10**	**140**	P	**Pn**	**14 15 54.8**	**-0.7**
UOSS				S	**Sn**	**14 18 03.4**	**-7.3**
UOSS	**Minazif**	**12.10**	**140**	*i* Pn	**Pn**	**14 15 54.2**	**-1.4**
	SNR=11						
HATD	**Hatta, Dubai**	**12.16**	**140**	P	**Pn**	**14 15 55.9**	**-0.5**
HATD				S	**Sn**	**14 18 07.1**	**-5.1**
HATD	**Hatta, Dubai**	**12.16**	**140**	*i* Pn	**Pn**	**14 15 55.3**	**-1.1**
	SNR=10						
ASHO	**Ashiyiah**	**12.24**	**141**	P	**Pn**	**14 15

CHGR pmax pmax
comp=Z,11nm,1.0s
VSR Storozhevoye 17.78 342 *eP* **P 14 17 09.7 -1.5**
VSR pmax pmax
comp=Z,4.0nm,0.9s
TIRR Tirgusor 17.80 310 P 14 17 11.7 +0.2
TIRR Tirgusor 17.80 310 ⇓P **P 14 17 12.1 +0.6**
TIRR Tirgusor 17.80 310 P **P 14 17 12.1 +0.6**
TIRR Tirgusor 17.80 310 P **P 14 17 12.0 +0.5**
comp=Z,17nm,0.7s
TIRR pP **sP 14 17 15.2 -1.1**
comp=Z,17nm,0.7s
ABTO Aybut 17.84 162 P **Pn 14 17 08.2 -3.3**
SNR=13
TLCR 17.90 312 ⇓P **P 14 17 12.9 +0.2**
TLCR 17.90 312 P **P 14 17 12.8 +0.2**
RBK Rabkut 17.94 159 P **Pn 14 17 10.7 -2.0**
SNR=12
DMTO DMTO 17.97 157 P **Pn 14 17 10.6 -2.4**
SNR=9.6
TPGR Topolog 17.98 311 ⇓P **P 14 17 13.5 -0.1**
ALN Alexandroupoli 18.20 297 P **P 14 17 16.7 +0.7**
ALN lAmb lAmb 14 17 19.0
comp=Z,18nm,0.8s
ALN Alexandroupoli 18.20 297 P **P 14 17 16.7 +0.7**
ALN pmax pmax
comp=Z,18nm,0.8s
HARR Harsova 18.21 310 ⇑P **P 14 17 16.7 +0.6**
HARR Harsova 18.21 310 P **P 14 17 16.7 +0.6**
CFR Carcaliu 18.31 311 ⇑P **P 14 17 17.5 +0.3**
CFR Carcaliu 18.31 311 P **P 14 17 17.5 +0.3**
RDO Rodhopi 18.63 297 P **Pn 14 17 21.9 +1.0**
RDO lAmb lAmb 14 17 25.6
comp=Z,12nm,0.7s
IDI Anoyia 18.66 279 P **Pn 14 17 20.9 -0.6**
IDI lAmb lAmb 14 17 26.0
comp=Z,26nm,1.0s
IDI Anoyia 18.66 279 P **Pn 14 17 20.9 -0.6**
comp=Z,1.6nm,0.3s,baz=69,slow=10,SNR=11
comp=Z,11nm,0.7s
GAR Garm 18.71 70 P **Pn 14 17 23.2 +1.1**
GAR lAmb lAmb 14 17 31.4
comp=Z,17nm,0.9s
ELND Elena 18.89 303 ⇑P **Pn 14 17 24.3 +0.1**
LPSR Galich'ya Gora 19.11 344 *eP* **Pn 14 17 26.3 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 19.51 312 ⇓P **Pn 14 17 31.2 -0.4**
VRI Vrincioaia 19.51 312 P **Pn 14 17 31.2 -0.4**
VRI Vrincioaia 19.51 312 P **Pn 14 17 31.0 -0.6**
comp=Z,13nm,0.7s
PLOR5 Plostina Array 19.54 312 P **Pn 14 17 31.6 -0.4**
comp=Z,16nm,0.8s
PLOR Plostina 19.55 312 ⇑P **Pn 14 17 31.8 -0.3**
PLOR Plostina 19.55 312 P **Pn 14 17 31.8 -0.3**
KK31 Karatay Array 19.74 57 Pn **Pn 14 17 37.5 +3.1**
KK31 Karatay Array 19.74 57 P **Pn 14 17 37.5 +3.1**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 19.74 57 Pn **Pn 14 17 36.9 +2.5**
KKAR Karatay Array 19.74 57 P **Pn 14 17 36.9 +2.5**
SORM Soroca 19.79 319 ⇓P **Pn 14 17 32.7 -2.1**
SORM Soroca 19.79 319 P **Pn 14 17 32.7 -2.1**
MLR Muntele Rosu 19.83 310 P **Pn 14 17 33.9 -1.6**
MLR lAmb lAmb 14 17 38.2
comp=Z,13nm,0.7s
MLR Muntele Rosu 19.83 310 P **Pn 14 17 33.8 -1.8**
comp=Z,11nm,0.5s,baz=30,slow=3.8,SNR=14
MLR Muntele Rosu 19.83 310 ⇑P **Pn 14 17 33.8 -1.8**
MLR Muntele Rosu 19.83 310 P **Pn 14 17 33.9 -1.6**
MLR pmax pmax
comp=Z,13nm,0.7s
TESR Tescani 19.87 313 ⇑P **Pn 14 17 34.2 -1.7**
TESR Tescani 19.87 313 P **Pn 14 17 34.7 -1.2**
comp=Z,39nm,0.6s
ONER Baraj Valea Uz 19.94 313 ⇑P **Pn 14 17 35.2 -1.5**
OZUR 20.20 311 ⇑P Pn 14 17 39.0 -0.8
BOSR Bodos 20.27 311 ⇑P Pn 14 17 39.3 -1.3
DOPR Dopca 20.39 311 ⇑P Pn 14 17 41.1 -0.9
ARR Arges 20.62 309 ⇑P Pn 14 17 43.9 -0.8
LIT Litokhoron 20.72 293 P **P 14 17 43.4 -0.2**
LIT lAmb lAmb 14 17 46.9
comp=Z,16nm,0.9s
LIT Litokhoron 20.72 293 P **P 14 17 43.4 -0.2**
LIT pmax pmax
comp=Z,16nm,0.9s
AK06 Malin Array Si 20.93 326 P **P 14 17 45.4 -0.3**
ITM Ithomi 20.98 285 P **P 14 17 45.4 -1.0**
AKASG Malin Array Be 21.00 326 P **P 14 17 46.0 -0.4**
comp=Z,3.3nm,0.6s,baz=134,slow=11,SNR=12
AKASG LR LR 14 26 50.1
comp=Z,80nm,21.1s,baz=126,slow=39
comp=Z,3.3nm,0.6s
AKASG Malin Array Be 21.00 326 *ce*P Pn 14 17 47.7 -1.3
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 21.00 326 P **P 14 17 45.6 -0.8**
AKBB lAmb lAmb 14 17 51.9
comp=Z,23nm,1.1s
AKBB Malin Array Si 21.00 326 *eP* Pn 14 17 48.8 -0.2
AKBB pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 21.00 326 P **P 14 17 45.5 -1.0**
KIEV lAmb lAmb 14 17 51.9
comp=Z,22nm,1.2s
KIEV Kiev 21.00 326 ⇑P **P 14 17 45.4 -1.0**
KIEV Kiev 21.00 326 P **P 14 17 45.5 -1.0**
KIEV pmax pmax
comp=Z,23nm,1.2s
ARSB Arslanbob 21.09 64 P **P 14 17 51.8 +4.2**
ARSB Arslanbob 21.09 64 P **P 14 17 51.8 +4.2**
ARSB pmax pmax
comp=Z,13nm,0.4s
LOT Lotru 21.21 308 ⇓P **P 14 17 50.2 +1.3**
NIL Nilore 21.23 85 P **P 14 17 50.6 +1.4**
NIL Nilore 21.23 85 P **P 14 17 50.6 +1.4**
NIL pmax pmax
comp=Z,11nm,1.0s
BURAR Bucovina Array 21.27 315 P **P 14 17 50.1 +0.5**
BURAR Bucovina Array 21.27 315 ⇑P **P 14 17 50.6 +1.0**
BURAR Bucovina Array 21.27 315 P **P 14 17 50.5 +1.0**
BUR08 Bucovina Ar. S 21.30 315 lAmb lAmb 14 17 51.4
comp=Z,14nm,0.5s
BLKB Belogradchik 21.33 303 ⇑P **P 14 17 51.2 +1.1**
HORU Horodok 21.45 320 P **P 14 17 52.3 +1.0**
MI30 MI30,Zelenitsa 21.51 325 P **P 14 17 51.4 -0.6**
comp=Z,35nm,0.7s
KSV Kosov 21.71 316 P **P 14 17 53.8 -0.4**
GZR Gura Zlata 21.84 307 ⇑P **P 14 17 55.6 -0.1**
GZR Gura Zlata 21.84 307 P **P 14 17 55.5 -0.1**
OBN Obninsk 21.98 343 ⇑*iP* **P 14 17 59.6 +2.7**
OBN *e**PP **sP 14 18 00.6 -1.1**
OBN *SP **pP 14 18 04.0 +3.8**
OBN PPP PPP 14 18 25.0
OBN *e*S Sn 14 22 05.1 -4.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,51nm,16.0s
BOVS Bovan 22.01 302 ⇑P **P 14 17 57.8 +0.5**
RAKU Rahkiv 22.09 315 P **P 14 17 59.4 +1.2**
MARR Marisel-Cluj 22.11 311 ⇑P **P 14 17 58.8 +0.2**
STNU Starunia 22.24 317 P **P 14 18 00.6 +0.8**
MOS Moscow 22.31 345 *eP* **P 14 18 02.2 +1.7**
MDVR Moldovita 22.34 305 ⇑P **P 14 18 01.8 +0.8**
DRGR 22.42 311 ⇑P **P 14 18 02.0 +0.2**
DRGR 22.42 311 P **P 14 18 02.0 +0.2**
BZS Buzias 22.68 307 ⇑P **P 14 18 04.2 -0.3**
BZS Buzias 22.68 307 P **P 14 18 04.2 -0.3**
SIRR Siria 22.88 309 ⇓P **P 14 18 07.3 +0.6**
RNPP5 Staryi Chortor 22.94 323 P **P 14 18 07.1 -0.1**
ARTI Arti 23.08 15*d*/P **P 14 18 13.3 +4.7**
ARTI 14 18 39.3
ARTI SS Sn 14 23 03.3 +27
ARTI pmax pmax
comp=Z,15nm,1.6s
KSH Kashi 23.13 69 P **P 14 18 07.0 -2.5**
KSH sP sP 14 18 15.5 +1.0
KSH pmax pmax
comp=Z,4.0nm,1.3s
KIRV Kirov 24.10 2 *eP* **P 14 18 21.3 +2.8**
MNK Minsk 24.28 331 *i* P **P 14 18 15.6 -4.7**
comp=E,12nm,0.5s
MNK *i* P **P 14 18 15.6 -4.7**
comp=N,27nm,0.7s
MNK *i* P **P 14 18 15.6 -4.7**
comp=Z,16nm,0.7s,baz=137
MNK *i* PP **PnPn 14 18 49.0 -1.0**
MNK *i* PPP PPP 14 18 58.1
MNK *i* S **S 14 22 39.8 +0.8**
MNK *i* SS **SnSn 14 23 19.7 -1.7**
MNK *i* SSS SSS 14 23 37.2
MNK *i* LR LR 14 26 55.0
MNK *i* LRM MLR 14 28 42.9
comp=Z,63nm,15.6s
MNK *i* LRM MLR 14 28 48.6
comp=N,108nm,23.2s
MNK *i* LRM MLR 14 29 09.8
comp=E,81nm,17.5s
MNK Minsk 24.28 331 *i* P **P 14 18 15.5 -4.7**
MNK *i* PPP PPP 14 18 58.0
MNK *i* S **S 14 22 39.7 +0.8**
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=E,12nm,0.5s
MNK pmax pmax
comp=N,27nm,0.7s
MNK MLR MLR
comp=Z,63nm,16.0s
MNK MLR MLR
comp=N,108nm,23.0s
MNK MLR MLR
comp=E,81nm,18.0s
BORK Borovoye 24.55 34⇑*iP* **P 14 18 27.0 +4.3**
BORK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 24.57 34 P **P 14 18 24.9 +2.0**
comp=Z,1.4nm,0.5s,baz=232,slow=7.3,SNR=7.7
comp=Z,1.4nm,0.5s
PSZ Piszkesteto 24.62 311 P **P 14 18 24.1 +0.5**
PSZ lAmb lAmb 14 18 25.3
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 24.62 311 P **P 14 18 24.1 +0.5**
PSZ pmax pmax
comp=Z,7.0nm,0.8s
MORH Mrgy, Hungar 24.84 307 P **P 14 18 25.9 +0.5**
comp=Z,4.7nm,0.8s
NACGM Naroch 25.01 331 *i* P **P 14 18 28.9 +2.0**
comp=Z,26nm,0.8s,baz=136
OJC Ojcow 25.65 316 P **P 14 18 33.0 +0.2**
comp=Z,12nm,0.7s
CEL Celeste 25.74 288 P **P 14 18 34.6 +0.8**
comp=Z,385nmcomp=Z,34nm,0.9s
CUC Castrocucco 25.81 292 lAmb lAmb 14 18 51.7
comp=Z,11nm,0.9s
JAVC Velka Javorina 26.35 312 *eP* **P 14 18 39.6 +0.4**
MODS Modra-Piesok 26.42 311 *eP* **P 14 18 41.4 +1.6**
MODS Modra-Piesok 26.42 311 *eP* **P 14 18 41.4 +1.6**
MORC Moravsky Berou 26.78 314 lAmb lAmb 14 18 43.8
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 26.78 314 *eP* **P 14 18 42.7 -0.4**
FURI Furi 26.79 200 LR LR 14 28 45.8
comp=Z,59nm,20.3s,baz=108,slow=35
RONA Rosalia, Austr 26.82 309 *i* P **P 14 18 43.4 -0.1**
comp=Z,10nm,0.9s
CONA Conrad Observa 27.17 309 *i* P **P 14 18 46.5 -0.1**
comp=Z,6.3nm,1.2s
VRAC Vranov 27.18 312 LR LR 14 31 13.3
comp=Z,58nm,18.1s,baz=128,slow=40
VRAC Vranov 27.18 312 *eP* **P 14 18 46.3 -0.3**
KRUC Moravsky 27.21 312 *eP* **P 14 18 46.4 -0.5**
KURBB Kurchatov Arra 27.61 45 P **P 14 18 52.3 +1.9**
comp=Z,0.5nm,0.5s,baz=251,slow=9.2,SNR=3.4
comp=Z,0.5nm,0.5s
KURK Kurchatov 27.70 45 P **P 14 18 52.3 +1.1**
KURK Kurchatov 27.70 45 *eP* **P 14 18 56.1 +4.9**
KURK pmax pmax
comp=Z,1.0nm,0.9s
DPC Dobruska-Polom 27.73 314 *eP* **P 14 18 51.3 -0.3**
DPC Dobruska-Polom 27.73 314 *eP* **P 14 18 51.3 -0.3**
CAMP Campotosto 27.79 297 lAmb lAmb 14 18 57.8
comp=Z,6.1nm,0.7s
MOA Molln 28.18 308 *eP* **P 14 18 55.5 0.0**
comp=Z,6.0nm,0.5s
KBA Koelnbreinsper 28.58 306 *i* P **P 14 18 59.5 +0.2**
comp=Z,5.5nm,0.7s
MK31 Makanchi Array 28.78 54 *eP* **P 14 19 03.2 +2.2**
MKAR Makanchi Array 28.78 54 P **P 14 19 02.8 +1.8**
comp=Z,0.8nm,0.6s,baz=248,slow=7.8,SNR=9.0
MKAR LR LR 14 32 25.4
comp=Z,42nm,20.0s,baz=243,slow=40
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 28.78 54 *i* P **P 14 19 04.0 +3.0**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 28.82 310 P **P 14 19 00.8 -0.6**
comp=Z,2.1nm,0.5s,baz=116,slow=8.3,SNR=12
GERES LR LR 14 32 01.3
comp=Z,39nm,18.8s,baz=84,slow=40
comp=Z,2.1nm,0.5s
ABTA Abfaltersbach 29.07 306 *i* P **P 14 19 03.4 -0.1**
comp=Z,7.1nm,1.0s
LESA Schwarzleotal 29.11 307 *i* P **P 14 19 03.4 -0.5**
comp=Z,3.1nm,0.5s
WTTA Wattenberg 29.76 306 *i* P **P 14 19 09.2 -0.6**
comp=Z,13nm,1.4s
WATA Walderalm 29.82 306 *eP* **P 14 19 09.4 -0.9**
comp=Z,5.3nm,0.6s
SQTA Sankt Quirin 30.04 306 *i* P **P 14 19 11.7 -0.5**
comp=Z,9.9nm,0.6s
CLL Collm 30.04 315 *i* P **P 14 19 11.9 -0.1**
CLL Collm 30.04 315 *i* P **P 14 19 11.9 -0.1**
MOTA Moosalm 30.13 306 *i* P **P 14 19 12.2 -0.9**
comp=Z,13nm,0.9s
FINES FINESS Array B 30.26 340 P **P 14 19 13.8 0.0**
comp=Z,1.0nm,0.6s,baz=148,slow=11,SNR=5.7
comp=Z,1.0nm,0.6s
FINES FINESS Array B 30.26 340 *i* P **P 14 19 16.6 +2.8**
FINES pmax pmax
comp=Z,2.0nm,1.0s
FETA Feichten 30.32 306 *i* P **P 14 19 14.4 -0.3**
comp=Z,9.4nm,0.7s
VSL Villasalto 30.78 291 lAmb lAmb 14 19 44.0
comp=Z,6.3nm,1.0s
DAVA Damuels 30.94 306 *i* P **P 14 19 19.7 -0.5**
comp=Z,16nm,0.7s
KEST Kesra 31.20 283 lAmb lAmb 14 19 39.2
comp=Z,6.7nm,0.8s
KEST Kesra 31.20 283 P **P 14 19 21.1 -1.4**
comp=Z,4.3nm,0.8s,baz=271,slow=7.0,SNR=5.2
comp=Z,4.3nm,0.8s
WMQ Urumqi 32.16 61 *eP* P 14 19 35.3 +4.4
ZALV Zalesovo Beam 32.46 42 P **P 14 19 34.0 +0.8**
ZALV Zalesovo Beam 32.46 42 P **P 14 19 32.4 -0.8**
comp=Z,0.8nm,0.5s,baz=242,slow=7.9,SNR=3.7
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 32.46 42 *i* P **P 14 19 34.9 +1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 33.77 330 P **P 14 19 44.7 +0.1**
comp=Z,4.0nm,0.5s,baz=116,slow=10,SNR=32
HFS LR LR 14 34 18.2
comp=Z,85nm,19.5s,baz=104,slow=38
comp=Z,4.0nm,0.5s
EVN Everest 33.99 90 P **P 14 19 49.2 +1.5**
NB2 NORSAR Subarra 35.29 330 P **P 14 19 57.0 -0.9**
comp=Z,0.5nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 35.29 330 P **P 14 19 56.6 -1.3**
comp=Z,0.6nm,0.6s,baz=123,slow=8.4,SNR=5.2
NOA LR LR 14 35 27.4
comp=Z,62nm,21.6s,baz=130,slow=38
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 37.15 347 P **P 14 20 14.1 +0.5**
comp=Z,4.5nm,1.0s,baz=145,slow=8.5,SNR=5.4
ARCES LR LR 14 36 50.5
comp=Z,53nm,20.3s,baz=260,slow=38
comp=Z,4.5nm,1.0s
EKA Eskdalemuir Ar 40.42 317 P **P 14 20 40.4 -0.8**
comp=Z,2.5nm,0.6s,baz=108,slow=8.2,SNR=9.2
comp=Z,2.5nm,0.6s
ESDC Sonseca Array 41.00 293 P **P 14 20 45.5 -0.8**
comp=Z,1.5nm,0.6s,baz=69,slow=7.9,SNR=12
comp=Z,1.5nm,0.6s
ULN Ulaanbaatar 45.59 54*de*P P 14 21 27.4 +4.0
ULN pmax pmax
comp=Z,1.0nm,0.9s
SPITS Spitsbergen Ar 45.77 351 P **P 14 21 24.5 +0.3**
comp=Z,2.5nm,0.9s,baz=128,slow=9.3,SNR=6.7
comp=Z,9.3nm,0.9s
TORD Torodi Ar. Bea 46.61 254 lAmb lAmb 14 21 37.4
comp=Z,1.7nm,0.7s
TORD Torodi Ar. Bea 46.61 254 P **P 14 21 31.6 0.0**
comp=Z,1.4nm,0.7s,baz=48,slow=12,SNR=6.0
comp=Z,1.4nm,0.7s
PZH PanZhiHua 46.84 84 P **P 14 21 34.5 +1.0**
CHTO Chiang Mai 47.96 95 P **P 14 21 41.9 -0.2**
CHTO lAmb lAmb 14 21 44.7
comp=Z,3.3nm,0.8s
CHTO Chiang Mai 47.96 95 P **P 14 21 41.9 -0.2**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 48.14 96 P **P 14 21 43.8 +0.3**
comp=Z,1.6nm,0.5s,baz=295,slow=8.5,SNR=10
CMAR LR LR 14 47 27.0
comp=Z,43nm,20.3s,baz=205,slow=43
comp=Z,1.6nm,0.5s
CMAR Chiang Mai Arr 48.14 96 *i* P **P 14 21 44.0 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
BTO Baotou 48.93 64 *eP* **P 14 21 51.8 +2.4**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,180nm,4.2s
HHC Hu-ho-hao-te 50.01 63 *eP* **P 14 21 58.8 +1.1**
HHC pmax pmax
comp=Z,19nm,0.8s
BORG Borgarnes 50.45 329 LR LR 14 44 44.8
comp=Z,32nm,18.6s,baz=65,slow=38
TIXI Tiksi 54.91 22 LR LR 14 49 24.0
comp=Z,76nm,19.4s,baz=222,slow=40
DBIC Dimbokro 55.62 253 P **P 14 22 38.9 -0.4**
DBIC Dimbokro 55.62 253 P **P 14 22 40.0 +0.7**
comp=Z,2.0nm,0.5s,baz=81,slow=12,SNR=4.0
comp=Z,2.0nm,0.5s
YAK Yakutsk 56.55 34 LR LR 14 52 06.2
comp=Z,74nm,18.8s,baz=244,slow=41
SFJD Kangerlussuaq 61.82 334 LR LR 14 49 50.6
comp=Z,34nm,18.1s,baz=7.5,slow=36
KSRS Korea Array 63.11 62 P **P 14 23 31.9 +1.0**
comp=Z,2.1nm,0.6s,baz=284,slow=6.4,SNR=9.0
comp=Z,2.1nm,0.6s
BOSA Boshof 66.26 201 P **P 14 23 54.1 +2.7**
comp=Z,2.5nm,0.7s,baz=60,slow=8.1,SNR=3.4
comp=Z,2.5nm,0.7s
ILAR Eielson Array 80.38 6 P **P 14 25 14.2 0.0**
comp=Z,0.5nm,0.7s,baz=300,slow=3.2,SNR=7.7
comp=Z,0.5nm,0.7s

GCG ***28*** *14:15:03.0±0.5, 14°.46N×93°.29W, h85km±37km, ML3.5*
MEX ***28*** *14:15:03.3±1.0, 14°.20N×93°.33W, h11km±38km, MD4.1*
ISC 28 14:14:57.9±2.0, 14°.28N±0°.08×93°.35W±0°.05, h2km±13km,
n16,σ1.80/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.22**	**59**	*eP*	**Pn**	**14 15 22.6**	**+0.6**
THIG				*eS*	**Sn**	**14 15 40.6**	**+1.5**
SMCA	**Catarina**	**1.36**	**65**	*eP*	**Pn**	**14 15 25.2**	**+1.3**
SMCA				IAML		14 15 46.8	
comp=E,414nm,0.5s							
PATR	**El Naranjo**	**1.36**	**52**	*eP*	**Pn**	**14 15 24.8**	**+0.7**
PATR				*eS*	**Sn**	**14 15 41.5**	**-1.4**
PCIG		**1.42**	**5**	*eP*	**Pn**	**14 15 24.9**	**+0.2**
PCIG				*eS*	**Sg**	**14 15 40.3**	**-3.3**
CHUJ	**Union Juarez**	**1.45**	**56**	*eP*	**Pb**	**14 15 26.3**	**+0.6**
CHUJ				*i* S	**Sn**	**14 15 45.4**	**+0.3**
PAVE	**Pavencul**	**1.46**	**51**	*eP*	**Pb**	**14 15 26.2**	**+0.4**
PAVE				*i* S	**Sn**	**14 15 44.8**	**-0.4**
RTAL	**Retalhuleu**	**1.62**	**81**	*eP*	**Pg**	**14 15 29.1**	**0.0**
RTAL				*eS*	**Sg**	**14 15 52.8**	**+2.7**
STG2	**El Palmar, Qui**	**1.92**	**85**	*eP*	**Pn**	**14 15 30.4**	**-1.4**
STG2				*eS*	**Sn**	**14 15 52.4**	**-4.2**
SOKI	**Kika Raxquin**	**1.96**	**74**	*eP*	**Pb**	**14 15 34.9**	**+0.3**
SOKI				IAML		14 16 12.8	
comp=N,366nm,0.7s							
CCIG	**Comitan**	**2.31**	**30**	*eP*	**Pb**	**14 15 40.2**	**-0.2**
CCIG				*eS*	**Sb**	**14 16 08.4**	**-1.0**
TGIG		**2.49**	**5**	*eP*	**Pb**	**14 15 42.4**	**-1.0**
TGIG				*eS*	**Sn**	**14 16 12.3**	**+1.8**
UXUV	**UXUV**	**3.11**	**346**	*eP*	**Pn**	**14 15 51.1**	**+3.0**
UXUV				*eS*	**Sn**	**14 16 28.1**	**+2.2**
CMIG	**Matias Romero**	**3.16**	**332**	*eP*	**Pn**	**14 15 50.1**	**+1.4**
CMIG				*eS*	**Sn**	**14 16 25.1**	**-1.9**
NEUV	**Arroyo Zacate**	**4.14**	**326**	*eP*	**Pn**	**14 16 00.9**	**-1.3**
PNIG	**Pinotepa**	**5.06**	**295**	*eP*	**Pn**	**14 16 16.0**	**+1.1**
PNIG				*eS*	Sn	14 17 03.5	-10
SCIG	**Sabancuy**	**5.10**	**24**	*eP*	**Pn**	**14 16 16.8**	**+1.4**

ROM 28 14:16:54.4±0.1, 42°.849N±0°.003×13°.190E±0°.005,
h10km, ML1.4/20, Error ellipse: s-maj=0.4km
s-min=0.2km az=246.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**254**	P	Pg	14 16 57.1	+0.5
NRCA				S	Sg	14 16 58.7	+0.5
NRCA				AML	AML		
comp=E,4830μm,0.1s							
NRCA				AML	AML		
comp=E,5055μm,0.1s							
NRCA				AML	AML		
comp=N,3070μm,0.7s							
NRCA				AML	AML		
comp=N,2630μm,0.1s							
NRCA				AML	AML		
comp=E,4825μm,0.1s							
NRCA				AML	AML		
comp=N,3070μm,1.3s							
MC2	**Monte Cornacci**	**0.06**	**0**	P	Pg	14 16 57.2	+0.4
MC2				S	Sg	14 16 59.0	+0.4
FEMA	**Monte Fema**	**0.15**	**318**	P	Pg	14 16 58.3	+0.4
FEMA				S	Sg	14 17 01.3	+0.9
MTRA	**Matera**	**0.18**	**121**	P	Pg	14 16 58.7	+0.5
MTRA				S	Sg	14 17 01.7	+0.8
MTRA				AML	AML		
comp=E,228μm,0.3s							
MTRA				AML	AML		
comp=N,220μm,0.4s							
MTCL	**Monte Cavallo**	**0.20**	**316**	P	Pg	14 16 59.2	+0.6
MTCL				S	Sg	14 17 02.6	+1.0
FDMO	**Fiordimonte**	**0.20**	**338**	P	Pg	14 16 59.1	+0.5
FDMO				S	Sg	14 17 02.5	+0.9
FDMO				AML	AML		
comp=N,46μm,1.0s							
FDMO				AML	AML		
comp=N,46μm,1.0s							
FDMO				AML	AML		
comp=N,46μm,1.0s							
FDMO				AML	AML		
comp=E,49μm,1.4s							
CSP1	**Cessapalombo**	**0.24**	**3**	P	Pg	14 16 59.9	+0.5
CSP1				S	Sg	14 17 04.0	+1.1
CSP1				AML	AML		
comp=E,66μm,0.3s							
CSP1				AML	AML		
comp=N,74μm,0.3s							
CSP1				AML	AML		
comp=E,65μm,0.3s							
CSP1				AML	AML		
comp=N,74μm,0.3s							
MF5	**Montefalcone A**	**0.24**	**55**	P	Pb	14 17 00.2	-0.6
MF5				S	Sg	14 17 04.7	+1.9
CESI	**CESI - Serrava**	**0.26**	**307**	P	Pg	14 17 00.4	+0.6
CESI				S	Sb	14 17 04.7	-1.0
CESI				AML	AML		
comp=E,180μm,0.2s							
CESI				AML	AML		
comp=N,233μm,0.3s							
LNSS	**Leonessa**	**0.27**	**204**	P	Pg	14 17 00.5	+0.6
LNSS				S	Sb	14 17 05.1	-0.9
LNSS				AML	AML		
comp=E,126μm,0.3s							
LNSS				AML	AML		
comp=N,144μm,1.0s							
RM33	**Pellescritta (**	**0.34**	**177**	P	Pg	14 17 01.7	+0.5
RM33				S	Sb	14 17 07.2	-0.8
RM33				AML	AML		
comp=E,54μm,0.3s							
RM33				AML	AML		
comp=N,50μm,0.4s							
RM33				AML	AML		
comp=E,54μm,0.3s							

CAMP	**Campotosto**	**0.35**	**153**	P	Pg	14 17 01.4	0.0
CAMP				S	Sb	14 17 07.3	-1.1
TERO	**Teramo**	**0.38**	**126**	P	Pg	14 17 02.2	+0.4
TERO				AML	AML		
	comp=N,73μm,0.1s						
TERO				AML	AML		
	comp=E,47μm,0.1s						
GIGS	**Gran Sasso**	**0.49**	**145**	P	Pg	14 17 04.2	+0.3

*IDC **28** 14:20:13.7±4.9, 34°.79N×142°.24E, h0km, mb3.6/4, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=88.3km s-min=31.4km az=112.0*
*JMA **28** 14:20:16.6±0.6, 35°.N±1°×14°.2E±°, h41km, MV3.4/36, FAR E OFF CENTRAL HONSHU*
ISC 28 14:20:18.3±1.5, 34°.78N±0°.06×142°.1E±0°.1, h35km, n22, σ1§41/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.94**	**263**	P	**Pn**	**14 20 34.0**	**-0.5**
BSO3	**Boso 3**	**1.31**	**272**	P	**Pn**	**14 20 39.8**	**0.0**
BSO4	**Boso 4**	**1.47**	**279**	P	**Pn**	**14 20 42.6**	**+0.5**
KTR	**Katsuura**	**1.52**	**285**	*e*P	**Pn**	**14 20 42.8**	**-0.1**
JKUC	**kamogawauchiur**	**1.61**	**284**	P	**Pn**	**14 20 44.0**	**-0.2**
JIM2	**Oshima 3**	**2.20**	**269**	P	**Pn**	**14 20 51.5**	**-0.9**
JMKN	**Mikurajimanish**	**2.26**	**248**	*e*P	**Pn**	**14 20 52.3**	**-0.9**
JMKN				S	**Sn**	**14 21 17.7**	**-2.1**
JOD2	**Odawara 2**	**2.52**	**282**	P	**Pn**	**14 20 56.1**	**-0.6**
JOD2				*e*S	**Sn**	**14 21 24.8**	**-1.6**
JHJ2	**Mitsune**	**2.53**	**230**	*e*S	**Sn**	**14 21 25.8**	**-0.6**
JHJ	**Hachijo jima 2**	**2.54**	**230**	Pn	**Pn**	**14 20 57.4**	**+0.4**
	24nm,0.3s,baz=270,slow=20,SNR=2.3						
JHJ				Sn	**Sn**	**14 21 23.7**	**-3.1**
	63nm,0.3s,baz=88,slow=23,SNR=7.5						
	61nm,0.4s						
JIZS	**Izushimoda**	**2.66**	**270**	*e*P	**Pn**	**14 20 57.9**	**-0.8**
JAG	**Ashikaga**	**2.72**	**308**	P	**Pn**	**14 20 59.5**	**0.0**
JFK	**Kawauchi**	**2.77**	**339**	S	**Sn**	**14 21 29.8**	**-2.7**
JRY	**Ryogami san**	**2.90**	**296**	P	**Pn**	**14 21 02.2**	**+0.3**
JRY				*e*S	**Sn**	**14 21 36.7**	**+1.2**
JYN	**Shimob**	**3.01**	**285**	*e*P	**Pn**	**14 21 03.4**	**-0.1**
JOTO	**OTAMA OYAMA**	**3.13**	**333**	*e*P	**Pn**	**14 21 05.3**	**+0.3**
JOTO				*e*S	**Sn**	**14 21 40.4**	**-0.8**
MJAR	**Matsushiro Arr**	**3.63**	**300**	Pn	**Pn**	**14 21 11.3**	**-0.7**
	0.4nm,0.3s,baz=113,slow=10,SNR=18						
	1.8nm,0.3s						
ASAJ	**Asahikawa**	**9.34**	**2**	Pn	**Pn**	**14 22 28.6**	**-1.7**
	0.7nm,0.3s,baz=218,slow=9.3,SNR=9.8						
ASAJ				Sn	**Sn**	**14 24 10.8**	**-3.2**
	0.2nm,0.3s,baz=60,slow=18,SNR=2.2						
	1.5nm,0.3s						
SONM	**Songino Array**	**29.55**	**307**	P	**P**	**14 26 21.2**	**+1.5**
	0.8nm,0.9s,baz=100,slow=8.1,SNR=4.3						
	0.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.53**	**258**	P	**P**	**14 28 03.4**	**+0.9**
	0.5nm,0.3s,baz=61,slow=8.6,SNR=2.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**45.82**	**304**	P	**P**	**14 28 38.2**	**+1.5**
	0.3nm,0.6s,baz=96,slow=7.4,SNR=4.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**47.85**	**310**	P	**P**	**14 28 53.7**	**+1.2**
	0.6nm,0.7s,baz=84,slow=8.1,SNR=4.6						
	0.6nm,0.7s						

IDC 28 14:23:15.9±5.1, 9°.19N×127°.80E, h0km, mb3.2/3, mbtmp3.2/3, MS3.8/1, Error ellipse: s-maj=383.6km s-min=29.9km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.65**	**167**	P	P	14 29 23.5	+0.1
	0.2nm,0.6s,baz=349,slow=8.7,SNR=5.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**33.19**	**170**	P	P	14 29 54.5	-0.1
	0.1nm,0.5s,baz=345,slow=8.7,SNR=8.3						
	0.1nm,0.5s						
DZM	**Mont Dzumac**	**49.00**	**130**	LR	LR	14 51 01.2	
	comp=Z,103nm,19.1s,baz=269,slow=34						
MKAR	**Makanchi Array**	**53.80**	**323**	P	P	14 32 40.4	-0.1
	0.2nm,0.6s,baz=124,slow=7.7,SNR=2.5						
	0.2nm,0.6s						

*TEH **28** 14:25:07.5, 33°.74N×45°.61E, h10km±990km*
*ISN **28** 14:25:08.7±0.6, 33°.66N×45°.63E, h24km±60km, ML2.9*
ISC 28 14:25:07.5±1.1, 33°.72N±0°.05×45°.63E±0°.05, h13km, n7, σ0§28/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.46**	**30**	Pg	**Pg**	**14 25 16.4**	**-0.2**
IBDR	**Badra**	**0.65**	**158**	*e*Pg	**Pg**	**14 25 20.0**	**-0.2**
	baz=335						
IBDR				*e*Sg	**Sg**	**14 25 29.0**	**+0.2**
IBDR				AML	AML	14 25 35.7	
	comp=E,84nm,0.5s						
IBDR				AML	AML	14 25 41.0	
	comp=N,171nm,0.3s						
IGHG	**Ghaleghazi**	**0.99**	**52**	Pg	**Pb**	**14 25 26.5**	**-0.1**
BHD	**Baghdad**	**1.14**	**247**	*e*Pg	**Pb**	**14 25 29.0**	**0.0**
BHD				*e*Sg	**Sg**	**14 25 44.0**	**-0.2**
IDHR	**Dehrash**	**1.16**	**32**	Pg	**Pb**	**14 25 29.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.30**	**64**	Pg	**Pn**	**14 25 31.9**	**+0.4**
SNQR	**Sonqor, Kerman**	**2.01**	**55**	Pn	**Pb**	**14 25 43.7**	**-0.3**

*NOU **28** 14:46:59.0, 45°.58S×167°.01E, h84km, MLv4.5/15, South Island, New Zealand*
*WEL **28** 14:47:01.2±0.8, 46°.S±4°×167°.7E±°, h57km±6km, M4.5/34, ML4.3/10, MLv4.5/34, Error ellipse: s-maj=7.4km s-min=4.5km az=106.5, confirmed*
ISC 28 14:46:59.9±1.7, 45°.58S±0°.05×167°.07E±0°.08, h79km±11km, n110, σ1§13/122, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.13**	**28**	P	**Pn**	**14 47 11.1**	**-0.2**
DCZ				S	**Sn**	**14 47 18.8**	**-0.8**
RLNS	**Resolution Isl**	**0.29**	**248**	P	**Pn**	**14 47 12.4**	**+0.3**
RLNS				S	**Sn**	**14 47 21.2**	**+0.1**
TAFS	**Te Anau Fire S**	**0.48**	**71**	P	**Pn**	**14 47 14.2**	**+0.9**
RRKS	**Rarakau**	**0.64**	**154**	P	**Pn**	**14 47 15.8**	**+1.0**
RRKS				S	**Sn**	**14 47 27.0**	**+1.2**
PYZ	**Puysegur Point**	**0.65**	**205**	P	**Pn**	**14 47 15.0**	**+0.1**
PYZ	**Puysegur Point**	**0.65**	**205**	P	**Pn**	**14 47 15.1**	**+0.1**
PYZ				S	**Sn**	**14 47 25.9**	**-0.1**
WHZ	**Wether Hill Ro**	**0.69**	**117**	P	**Pn**	**14 47 16.0**	**+0.6**
WHZ				S	**Sn**	**14 47 27.2**	**+0.4**
MLZ	**Mavora Lakes**	**0.77**	**74**	P	**Pn**	**14 47 17.2**	**+1.0**
MLZ				S	**Sn**	**14 47 29.0**	**+0.7**
MOSS	**Mossburn Schoo**	**0.82**	**97**	P	**Pn**	**14 47 17.8**	**+1.0**
ORPS	**Orepuki**	**0.86**	**146**	P	**Pn**	**14 47 17.9**	**+0.7**
ORPS				S	**Sn**	**14 47 30.6**	**+0.6**
MSZ	**Milford Sound**	**1.09**	**34**	P	**Pn**	**14 47 20.5**	**+0.6**
MSZ				S	**Sn**	**14 47 35.5**	**+0.6**
GLNY	**Glenorchy**	**1.19**	**53**	P	**Pn**	**14 47 22.0**	**+0.9**
ICCS	**Invercargill C**	**1.22**	**134**	P	**Pn**	**14 47 22.6**	**+1.1**
ICCS				S	**Sn**	**14 47 38.8**	**+1.0**
QTPS	**Queenstown Pol**	**1.25**	**65**	P	**Pn**	**14 47 23.0**	**+1.0**
QTPS				S	**Sn**	**14 47 38.9**	**+0.4**
APZ	**The Paps**	**1.41**	**153**	P	**Pn**	**14 47 24.5**	**+0.5**
APZ				S	**Sn**	**14 47 41.6**	**-0.5**
GODC	**Gore District**	**1.41**	**112**	P	**Pn**	**14 47 25.5**	**+1.5**
WKZ	**Wanaka**	**1.57**	**62**	P	**Pn**	**14 47 27.5**	**+1.4**
WKZ				S	**Sn**	**14 47 46.1**	**+0.3**
EAZ	**Earnscleugh**	**1.62**	**78**	P	**Pn**	**14 47 27.8**	**+1.2**
WNPS	**Wanaka Nationa**	**1.71**	**60**	P	**Pn**	**14 47 29.9**	**+1.9**
SYZ	**Scrubby Hill**	**1.73**	**124**	P	**Pn**	**14 47 28.9**	**+0.8**
SYZ	**Scrubby Hill**	**1.73**	**124**	S	**Sn**	**14 47 49.9**	**+0.3**
SYZ	**Scrubby Hill**	**1.73**	**124**	P	**Pn**	**14 47 28.9**	**+0.8**
TUZ	**Tuapeka**	**1.83**	**103**	P	**Pn**	**14 47 30.2**	**+0.8**
JCZ	**Jackson Bay**	**1.94**	**40**	P	**Pn**	**14 47 31.6**	**+0.6**
JCZ	**Jackson Bay**	**1.94**	**40**	P	**Pn**	**14 47 31.8**	**+0.8**
NSBS	**Neils Beach**	**1.95**	**36**	P	**Pn**	**14 47 31.7**	**+0.7**
BDCS	**Balclutha Dist**	**1.97**	**111**	P	**Pn**	**14 47 32.3**	**+1.1**
HDWS	**Haast DOC Work**	**2.20**	**40**	P	**Pn**	**14 47 35.8**	**+1.4**
TMBS	**Taieri Mouth B**	**2.24**	**104**	P	**Pn**	**14 47 35.9**	**+1.0**
DUNS	**Dunedin Corsto**	**2.41**	**99**	P	**Pn**	**14 47 38.0**	**+0.9**
HHSZ	**Highcliff Hill**	**2.49**	**98**	P	**Pn**	**14 47 39.1**	**+0.8**
LBZ	**Lake Benmore**	**2.51**	**63**	P	**Pn**	**14 47 38.4**	**-0.2**
ODZ	**Otahua Downs**	**2.58**	**79**	P	**Pn**	**14 47 39.3**	**-0.2**
ODZ	**Otahua Downs**	**2.58**	**79**	P	**Pn**	**14 47 39.4**	**-0.2**
FOZ	**Fox Glacier**	**2.84**	**45**	P	**Pn**	**14 47 42.9**	**-0.1**
TMZ	**Timaru**	**3.04**	**68**	P	**Pn**	**14 47 45.0**	**-0.7**
ARCZ	**Arundel**	**3.35**	**62**	P	**Pn**	**14 47 48.8**	**-1.1**
RPZ	**Rata Peaks**	**3.40**	**58**	P	**Pn**	**14 47 49.9**	**-0.7**
RPZ	**Rata Peaks**	**3.40**	**58**	P	**Pn**	**14 47 49.7**	**-0.9**
WVZ	**Waitaha Valley**	**3.63**	**48**	P	**Pn**	**14 47 53.1**	**-0.7**
WACZ	**Wakanui South**	**3.77**	**66**	P	**Pn**	**14 47 54.7**	**-0.9**
MHCZ	**Mount Hutt**	**3.81**	**59**	P	**Pn**	**14 47 54.9**	**-1.4**
RACZ	**Rakaia**	**4.06**	**65**	P	**Pn**	**14 47 58.8**	**-0.8**
OXZ	**Oxford**	**4.21**	**59**	P	**Pn**	**14 47 59.9**	**-1.8**
INZ	**Inchbonnie**	**4.25**	**49**	P	**Pn**	**14 48 01.3**	**-0.8**
MQZ	**McQueen's Vall**	**4.40**	**67**	P	**Pn**	**14 48 02.9**	**-1.3**
AKCZ	**Akaroa Harbour**	**4.50**	**70**	P	**Pn**	**14 48 04.7**	**-0.8**
OKCZ	**Okains Bay**	**4.66**	**69**	P	**Pn**	**14 48 07.3**	**-0.5**
AMCZ	**Amberley**	**4.67**	**61**	P	**Pn**	**14 48 06.8**	**-1.0**
LTZ	**Lake Taylor**	**4.67**	**55**	P	**Pn**	**14 48 06.5**	**-1.5**
GVZ	**Greta Valley S**	**5.02**	**61**	P	**Pn**	**14 48 11.4**	**-1.3**
DSZ	**Denniston Nort**	**5.15**	**44**	P	**Pn**	**14 48 13.0**	**-1.4**
KHZ	**Kahutara**	**5.64**	**58**	P	**Pn**	**14 48 19.7**	**-1.4**
KHZ	**Kahutara**	**5.64**	**58**	P	**Pn**	**14 48 19.6**	**-1.4**
THZ	**Tophouse**	**5.70**	**50**	P	**Pn**	**14 48 20.3**	**-1.6**
MRNZ	**Matariki Terra**	**5.88**	**47**	P	**Pn**	**14 48 23.5**	**-0.9**
QRZ	**Quartz Range**	**6.20**	**42**	P	**Pn**	**14 48 27.4**	**-1.4**
QRZ	**Quartz Range**	**6.20**	**42**	P	**Pn**	**14 48 27.6**	**-1.2**
TKNZ	**Takaka Hill**	**6.25**	**45**	P	**Pn**	**14 48 28.4**	**-1.1**
BSWZ	**Blackbirch Sta**	**6.27**	**54**	P	**Pn**	**14 48 29.8**	**+0.1**
NNZ	**Nelson**	**6.33**	**49**	P	**Pn**	**14 48 30.2**	**-0.4**
TUWZ	**Tuamarina**	**6.49**	**53**	P	**Pn**	**14 48 33.2**	**+0.5**
TCW	**Tory Channel**	**6.83**	**53**	P	**Pn**	**14 48 36.6**	**-0.7**
DUWZ	**D'Urville Isla**	**6.92**	**49**	P	**Pn**	**14 48 38.7**	**+0.1**
SNZO	**South Karori**	**7.00**	**55**	P	**Pn**	**14 48 39.3**	**-0.4**
BHW	**Baring Head**	**7.04**	**56**	P	**Pn**	**14 48 39.5**	**-0.7**
PLWZ	**Palliser**	**7.17**	**59**	P	**Pn**	**14 48 40.5**	**-1.5**
MSWZ	**Moikau Station**	**7.26**	**58**	P	**Pn**	**14 48 41.0**	**-2.2**
CAW	**Cannon Point**	**7.34**	**55**	P	**Pn**	**14 48 42.6**	**-1.8**
PAWZ	**Paruwai Farm**	**7.38**	**58**	P	**Pn**	**14 48 42.6**	**-2.4**
KIW	**Kapiti Island**	**7.42**	**53**	P	**Pn**	**14 48 45.1**	**-0.3**
TRWZ	**Traveller**	**7.53**	**59**	P	**Pn**	**14 48 45.5**	**-1.5**
MTW	**Mount Morrison**	**7.57**	**57**	P	**Pn**	**14 48 45.6**	**-1.8**
OGWZ	**Otaki Gorge**	**7.59**	**54**	P	**Pn**	**14 48 46.2**	**-1.6**
HOWZ	**Holdsworth Sta**	**7.74**	**56**	P	**Pn**	**14 48 48.8**	**-1.0**
TMWZ	**Te Maipa**	**7.83**	**58**	P	**Pn**	**14 48 49.8**	**-1.2**
MRZ	**Mangatainoka R**	**7.93**	**55**	P	**Pn**	**14 48 49.9**	**-2.5**
NBEZ	**Newall Road No**	**8.06**	**41**	P	**Pn**	**14 48 54.0**	**-0.2**
KHEZ	**Kahui Hut**	**8.11**	**42**	P	**Pn**	**14 48 54.9**	**0.0**
KHEZ	**Kahui Hut**	**8.11**	**42**	P	**Pn**	**14 48 54.9**	**0.0**
LREZ	**Lake Rotokare**	**8.16**	**44**	P	**Pn**	**14 48 56.4**	**+0.8**
NEZ	**North Egmont**	**8.17**	**42**	P	**Pn**	**14 48 55.9**	**+0.2**
PKE	**Pukeiti**	**8.18**	**41**	P	**Pn**	**14 48 56.3**	**+0.5**
WAZ	**Wanganui**	**8.24**	**48**	P	**Pn**	**14 48 57.6**	**+1.0**
BFZ	**Birch Farm**	**8.30**	**57**	P	**Pn**	**14 48 57.0**	**-0.5**
TSZ	**Takapari Road**	**8.55**	**53**	P	**Pn**	**14 48 59.3**	**-1.6**
VRZ	**Vera Road**	**8.60**	**44**	P	**Pn**	**14 49 01.4**	**-0.2**
PKVZ	**Pokaka**	**8.77**	**47**	P	**Pn**	**14 49 05.2**	**+1.3**
PNHZ	**Pukenui**	**8.78**	**53**	P	**Pn**	**14 49 01.6**	**-2.4**
WNVZ	**Wahianoa**	**8.87**	**48**	P	**Pn**	**14 49 06.5**	**+1.1**
TUVZ	**Tukino**	**8.95**	**48**	P	**Pn**	**14 49 07.4**	**+1.0**
NGZ	**Ngauruhoe**	**8.99**	**48**	P	**Pn**	**14 49 08.4**	**+1.5**
WTVZ	**West Tongariro**	**9.03**	**47**	P	**Pn**	**14 49 08.5**	**+1.1**
ETVZ	**East Tongariro**	**9.07**	**48**	P	**Pn**	**14 49 10.0**	**+1.9**
PXZ	**Pawanui**	**9.08**	**56**	P	**Pn**	**14 49 06.7**	**-1.4**
HIZ	**Hauiti**	**9.13**	**42**	P	**Pn**	**14 49 08.6**	**-0.1**
HIZ	**Hauiti**	**9.13**	**42**	P	**Pn**	**14 49 07.9**	**-0.8**
KAHZ	**Kahuranaki**	**9.25**	**55**	P	**Pn**	**14 49 08.9**	**-1.5**
MTHZ	**Maungataniwha**	**9.88**	**51**	P	**Pn**	**14 49 19.1**	**+0.1**
TOZ	**Tahuroa Road**	**10.06**	**42**	P	**Pn**	**14 49 20.5**	**-0.9**
MUGZ	**Murupara**	**10.12**	**49**	P	**Pn**	**14 49 24.3**	**+2.1**
WTAZ	**Waiatarua**	**10.32**	**36**	P	**Pn**	**14 49 26.0**	**+1.0**
URZ	**Urewera**	**10.46**	**49**	P	**Pn**	**14 49 25.7**	**-1.1**
URZ	**Urewera**	**10.46**	**49**	P	**Pn**	**14 49 24.2**	**-2.6**
MWZ	**Matawai**	**10.63**	**51**	P	**Pn**	**14 49 26.8**	**-2.4**
WCZ	**Waipu Caves**	**11.09**	**32**	P	**Pn**	**14 49 36.2**	**+0.7**
HAZ	**Te Kaha**	**11.19**	**49**	P	**Pn**	**14 49 34.7**	**-2.1**
OUZ	**Omahuta**	**11.48**	**28**	P	**Pn**	**14 49 40.3**	**-0.4**
OUZ	**Omahuta**	**11.48**	**28**	P	**Pn**	**14 49 41.2**	**+0.5**
MXZ	**Matakaoa Point**	**11.61**	**50**	P	**Pn**	**14 49 42.1**	**-0.4**

IDC 28 15:08:59.6±1.6, 2°.82S×138°.34E, h0km, mb3.2/2, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=35.5km s-min=30.1km az=106.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.39**	**83**	Pn	Pn	15 09 40.1	+0.1
	1.1nm,0.3s,baz=235,slow=11,SNR=8.5						
	5.1nm,0.4s						
WRA	**Warramunga Arr**	**17.46**	**193**	P	Pn	15 13 04.8	+0.1
	0.1nm,0.3s,baz=15,slow=13,SNR=7.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.16**	**191**	P	P	15 13 46.6	0.0
	0.4nm,0.6s,baz=22,slow=11,SNR=9.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.65**	**323**	P	P	15 20 11.0	-0.1
	0.4nm,0.7s,baz=114,slow=7.0,SNR=4.7						
	0.4nm,0.7s						

IDC 28 15:22:07.6±5.8, 18°.62S×171°.96W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=431.7km s-min=34.8km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.50**	**254**	P	P	15 31 08.4	+0.6
	1.0nm,0.7s,baz=94,slow=8.2,SNR=20						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**50.52**	**259**	P	P	15 31 07.0	-1.0
	0.1nm,0.5s,baz=96,slow=7.3,SNR=5.3						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**83.75**	**41**	P	P	15 34 38.9	0.0
	0.5nm,0.7s,baz=228,slow=3.1,SNR=4.6						
	0.5nm,0.7s						

*ISK **28** 15:38:19.4, 39°.82N×39°.00E, h13km, ML2.5/9*
*AFAD **28** 15:38:19.7, 39°.88N×39°.03E, h9km±1km, ML2.5*
ISC 28 15:38:19.7±1.1, 39°.87N±0°.03×39°.02E±0°.03, h12km±9km, n20, σ0§99/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.34**	**33**	P	**Pg**	**15 38 26.4**	**-0.2**
KELT				S	**Sg**	**15 38 30.9**	**-0.3**
KELT				*i* IAML		15 38 31.0	
	comp=N,586nm,0.2s						
KELT				*i* IAML		15 38 31.0	
	comp=E,929nm,0.3s						
ALUC	**Giresun/Alucra**	**0.51**	**338**	P	**Pg**	**15 38 29.9**	**0.0**
ALUC				S	**Sg**	**15 38 37.0**	**+0.3**
ILIC	**ilic-Erzincan**	**0.54**	**220**	Pg	**Pg**	**15 38 29.8**	**-0.5**
ERZN	**Erzincan**	**0.61**	**117**	Pg	**Pg**	**15 38 31.5**	**-0.1**
ERZN				Sg	**Sb**	**15 38 40.7**	**-0.3**
GUMT	**Gumushane**	**0.69**	**31**	Pg	**Pb**	**15 38 34.7**	**+0.9**
GUMT				Sg	**Sn**	**15 38 45.2**	**-1.0**
SUSE	**Susehri**	**0.71**	**299**	P	**Pg**	**15 38 33.6**	**0.0**
SUSE				S	**Sb**	**15 38 44.1**	**+0.1**
SUSE				*i* IAML		15 38 45.0	
	comp=N,283nm,0.2s						
SUSE				*i* IAML		15 38 45.0	
	comp=E,197nm,0.5s						
ARPR	**Arapgir-MALATY**	**0.94**	**215**	Pg	**Pg**	**15 38 36.8**	**-1.0**
BAYB	**BAYBURT**	**1.03**	**67**	P	**Pg**	**15 38 38.2**	**-1.4**
BAYB				S	**Sg**	**15 38 52.6**	**-0.4**
BAYB				*i* IAML		15 38 53.0	
	comp=E,154nm,0.5s						
KOPT	**Kop Dagi**	**1.15**	**82**	P	**Pb**	**15 38 41.5**	**-0.2**
KOPT				S	**Sn**	**15 38 59.6**	**+1.9**
MACK	**Trabzon**	**1.22**	**28**	P	**Pn**	**15 38 42.3**	**-0.3**
MACK				S	**Sb**	**15 38 58.6**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.25**	**109**	Pn	**Pn**	**15 38 42.8**	**-0.4**
KTUT	**Trabzon**	**1.26**	**27**	Pn	**Pn**	**15 38 42.8**	**-0.3**
IZDR	**Rize**	**1.50**	**52**	P	**Pn**	**15 38 45.9**	**-0.6**
IZDR				S	**Sn**	**15 39 04.3**	**-1.7**
SVRC	**Sivrice-ELAZID**	**1.50**	**171**	Pn	**Pn**	**15 38 46.3**	**-0.3**
KRIK	**Erzurum-spir**	**1.54**	**72**	P	**Pb**	**15 38 47.8**	**-0.5**
KRIK				S	**Sn**	**15 39 07.7**	**+0.5**
BNGB	**Bingl**	**1.56**	**124**	Pn	**Pb**	**15 38 48.3**	**-0.2**
SVSK	**Karacayir**	**1.56**	**273**	Pn	**Pn**	**15 38 47.5**	**+0.3**
EJDE	**Erzurum, Palan**	**1.76**	**90**	P	**Pb**	**15 38 52.7**	**+0.5**
EJDE				S	**Sg**	**15 39 20.1**	**+3.7**
EJDE				*i* IAML		15 39 21.0	
	comp=E,49nm,0.7s						
DDEM	**Demirkent**	**2.33**	**63**	P	**Pb**	**15 39 01.2**	**-0.5**
DDEM				S	**Sb**	**15 39 30.9**	**+0.6**
DDEM				*i* IAML		15 39 41.0	
	comp=E,46nm,0.4s						
DBAD	**Bademkaya**	**2.34**	**60**	P	**Pb**	**15 39 01.7**	**-0.2**
DBAD				S	**Sb**	**15 39 31.4**	**+0.5**
DBAD				*i* IAML		15 39 38.0	
	comp=N,38nm,0.5s						

*NEIC **28** 15:43:55.2±0.8, 62°.63N±0°.03×148°.77W±0°.03, h55km±5km, Error ellipse: s-maj=4.1km s-min=0.7km az=204.0*
AEIC 28 15:43:55.0±0.9, 62°.65N±0°.03×148°.77W±0°.07, h56km±2km, ML3.4, ML3.6/212(NEIC), Error ellipse: s-maj=4.9km s-min=3.8km az=80.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAT7	**Susitna Watana**	**0.18**	**349**		Pn	15 44 04.3	+0.3
WAT7					Sn	15 44 11.3	+0.8
WAT1	**Susitna Watana**	**0.20**	**30**		Pn	15 44 04.1	+0.1
WAT1					Sn	15 44 11.2	+0.7
WAT6	**Susitna Watana**	**0.48**	**98**		Pn	15 44 06.0	-0.6
WAT6					Sn	15 44 14.4	-0.6
CUT	**Chulitna**	**0.74**	**251**		Pn	15 44 09.4	0.0
CUT				IAML		15 44 21.5	
	comp=E,3μm,0.5s						
CUT				IAML		15 44 24.2	
	comp=N,2μm,0.4s						
RND	**Reindeer**	**0.76**	**357**		Pn	15 44 09.9	+0.1
RND	**Reindeer**	**0.76**	**357**		Sn	15 44 21.2	+0.7
DHY	**Denali Highway**	**0.77**	**56**		Pn	15 44 09.6	-0.4
DHY				IAML		15 44 22.9	
	comp=E,1μm,0.5s						
DHY				IAML		15 44 23.1	
	comp=N,973nm,0.5s						
DHY	**Denali Highway**	**0.77**	**56**		Sn	15 44 21.5	+0.6
SML	**Sawmill**	**0.88**	**166**		Pn	15 44 10.8	-0.5
SML				IAML		15 44 25.0	
	comp=N,996nm,0.6s						
SML	**Sawmill**	**0.88**	**166**		Sn	15 44 23.1	-0.1
GHO	**Glory Hole Cre**	**0.89**	**185**		Pn	15 44 11.1	-0.3
GHO				IAML		15 44 28.5	
	comp=N,1μm,0.5s						
GHO				IAML		15 44 28.7	
	comp=E,1μm,0.4s						
GHO	**Glory Hole Cre**	**0.89**	**185**		Sn	15 44 23.4	-0.1
M23K	**Glacier View**	**0.99**	**150**		Pn	15 44 12.2	-0.6
TRF	**Thorofare Moun**	**1.06**	**320**		Pn	15 44 13.9	+0.1
TRF				IAML		15 44 29.6	
	comp=E,958nm,0.5s						
TRF				IAML		15 44 33.0	
	comp=N,893nm,0.4s						
SCM	**Sheep Creek Mo**	**1.07**	**140**		Pn	15 44 13.3	-0.5
SCM				IAML		15 44 30.7	
	comp=N,828nm,0.5s						
SCM				IAML		15 44 31.8	
	comp=E,1μm,0.6s						
SCM	**Sheep Creek Mo**	**1.07**	**140**		Sn	15 44 28.2	+0.5
PMR	**Palmer**	**1.08**	**189**		Pn	15 44 13.6	-0.3
PMR				IAML		15 44 29.6	
	comp=E,791nm,0.4s						
PMR				IAML		15 44 29.7	
	comp=N,651nm,0.4s						
MCK	**McKinley**	**1.08**	**356**		Pn	15 44 14.5	+0.5
MCK				IAML		15 44 30.1	
	comp=N,745nm,0.5s						
MCK				IAML		15 44 30.0	
	comp=E,666nm,0.4s						
M22K	**Willow**	**1.10**	**216**		Pn	15 44 14.4	+0.2
M22K	**Willow**	**1.10**	**216**		Sn	15 44 29.6	+1.3
KNK	**Knik Glacier**	**1.25**	**173**		Pn	15 44 16.4	+0.1
KTH	**Kantishna Hill**	**1.33**	**314**		Pn	15 44 17.8	+0.5
KTH				IAML		15 44 36.5	
	comp=E,602nm,0.8s						
KTH				IAML	

HIN Hinchinbrook I 2.51 153 Pn 15 44 33.3 0.0
HIN IAML 15 45 13.9
comp=N,320nm,0.6s
I23K Minto, Yukon-K 2.52 354 IAML 15 45 03.5
comp=N,136nm,0.6s
L26K Log Cabin Wild 2.52 79 Pn 15 44 34.2 +0.8
L26K IAML 15 45 15.8
comp=E,369nm,0.4s
SCRK Sand Creek 2.54 56 Pn 15 44 34.3 +0.6
SCRK Sand Creek 2.54 56 IAML 15 45 05.7
comp=N,236nm,0.3s
SCRK IAML 15 45 05.7
comp=E,193nm,0.5s
MLY Manley 2.54 341 IAML 15 45 04.1
comp=N,362nm,0.5s
MLY IAML 15 45 04.1
comp=E,213nm,0.5s
POKR Poker Plat Res 2.54 13 Pn 15 44 33.8 +0.1
POKR Poker Plat Res 2.54 13 IAML 15 45 07.2
comp=N,240nm,0.5s
POKR IAML 15 45 10.0
comp=E,133nm,0.5s
EYAK Cordova Ski Ar 2.56 144 Pn 15 44 34.2 +0.3
EYAK Cordova Ski Ar 2.56 144 IAML 15 45 14.8
comp=N,238nm,0.5s
EYAK IAML 15 45 15.0
comp=E,238nm,0.6s
SEW Seward 2.58 188 Pn 15 44 35.2 +1.0
SEW Seward 2.58 188 IAML 15 45 13.6
comp=N,284nm,0.4s
SEW IAML 15 45 14.9
comp=E,330nm,0.5s
BMRM Bremner River 2.60 129 Pn 15 44 34.1 -0.5
GLB Gilahina Butte 2.64 115 IAML 15 45 16.2
comp=E,216nm,0.6s
GLB IAML 15 45 18.4
comp=N,291nm,0.7s
M26K Nabesna, AK 2.69 93 IAML 15 45 19.1
comp=N,239nm,0.5s
M26K IAML 15 45 20.4
comp=E,176nm,0.4s
DFR Drift River 2.79 224 Pn 15 44 38.1 +1.0
J20K Nowinta River 2.86 305 IAML 15 45 30.4
comp=N,101nm,0.6s
L19K White Mountain 2.87 263 Pn 15 44 38.5 +0.3
L19K White Mountain 2.87 263 IAML 15 45 14.4
comp=N,187nm,0.4s
L19K IAML 15 45 15.3
comp=E,238nm,0.3s
VRDI Verde Repeater 2.89 117 IAML 15 45 20.0
comp=E,134nm,1.0s
VRDI IAML 15 45 22.8
comp=N,223nm,0.8s
J26L Joseph Creek 2.98 49 Pn 15 44 40.8 +1.1
MCARA McCarthy VSAT 3.00 113 Pn 15 44 40.7 +0.8
H23K Yukon River 3.20 354 Pn 15 44 43.1 +0.3
H23K Yukon River 3.20 354 IAML 15 45 21.1
comp=N,77nm,1.1s
M27K Edge Creek, AK 3.21 92 Pn 15 44 44.1 +1.1
M27K Edge Creek, AK 3.21 92 IAML 15 45 37.3
comp=N,90nm,0.8s
CRQM Cirque 3.29 123 Pn 15 44 44.1 0.0
K27K Chicken 3.32 62 Pn 15 44 44.8 +0.5
K27K Chicken 3.32 62 IAML 15 45 43.8
comp=N,71nm,0.7s
I20K Naaghedeneel 3.33 313 Pn 15 44 45.0 +0.7
I20K Naaghedeneel 3.33 313 IAML 15 45 25.8
comp=N,166nm,0.7s
I20K IAML 15 45 55.1
comp=E,200nm,0.9s
CNPM China Poot 3.36 202 Pn 15 44 45.5 +0.6
J19K Poorman 3.37 297 Pn 15 44 45.5 +0.5
ILSW Iliamna Southw 3.41 220 IAML 15 45 35.0
comp=E,91nm,0.7s
ILSW IAML 15 45 35.7
comp=N,79nm,0.8s
TGL Tana Glacier 3.41 121 Pn 15 44 45.4 -0.3
KHIT Khitrov Hills 3.45 128 Pn 15 44 47.0 +0.7
KIAG Kiagna River 3.51 117 Pn 15 44 46.6 -0.5
M18K Stony River 3.52 254 Pn 15 44 47.5 +0.5
WAX Waxell Ridge 3.59 125 Pn 15 44 48.5 +0.3
O19K Port Alsworth 3.63 230 IAML 15 45 55.4
comp=E,161nm,0.5s
O19K IAML 15 45 55.6
comp=N,148nm,0.5s
BARN Barnard Glacie 3.73 112 Pn 15 44 50.1 -0.1
BARN Barnard Glacie 3.73 112 IAML 15 45 50.1
comp=E,151nm,0.7s
BARN IAML 15 45 55.4
comp=N,107nm,0.9s
GRNC Granite Creek 3.86 117 Pn 15 44 51.3 -0.6
GRNC Granite Creek 3.86 117 IAML 15 45 49.9
comp=N,137nm,0.7s
GRNC IAML 15 45 51.6
comp=E,97nm,0.6s
H20K Anotleneega Mo 3.91 319 Pn 15 44 52.7 +0.2
CTGM Chitina Glacie 3.92 112 Pn 15 44 52.7 0.0
G24K Hadweenzic Riv 4.10 7 Pn 15 44 55.5 +0.5
G24K Hadweenzic Riv 4.10 7 IAML 15 45 58.3
comp=E,40nm,0.8s
MESA MESA 4.11 124 Pn 15 44 55.6 +0.2
LOGN Logan Glacier 4.13 113 Pn 15 44 55.6 0.0
LOGN Logan Glacier 4.13 113 IAML 15 45 56.3
comp=N,65nm,0.6s
LOGN IAML 15 46 00.7
comp=E,78nm,0.8s
GCSA Galena City Sc 4.17 304 Pn 15 44 56.7 +0.7
O18K Koktuh Hills 4.19 231 Pn 15 44 56.8 +0.5
M17K Holitna River 4.27 257 Pn 15 44 57.4 +0.1
M17K Holitna River 4.27 257 IAML 15 46 11.5
comp=N,66nm,0.5s
M17K IAML 15 46 23.0
comp=E,72nm,1.1s
RKAV Rock Avalanche 4.27 120 Pn 15 44 57.1 -0.5
TABL Table Mountain 4.27 118 Pn 15 44 56.5 -1.1
TABL Table Mountain 4.27 118 IAML 15 46 02.7
comp=E,93nm,0.8s
TABL IAML 15 46 05.9
comp=N,70nm,0.9s
G25K Bearman Lake 4.28 14 Pn 15 44 58.0 +0.5
G21K Allakaket 4.38 334 Pn 15 44 59.5 +0.6
K17K Iditarod 4.39 275 Pn 15 44 59.4 +0.4
K17K Iditarod 4.39 275 IAML 15 45 51.2
comp=N,50nm,0.8s
K17K IAML 15 45 51.2
comp=E,45nm,0.8s
SYI Shuyak Island 4.43 205 Pn 15 44 59.9 +0.3
SYI Shuyak Island 4.43 205 IAML 15 46 07.0
comp=E,67nm,0.9s
SYI IAML 15 46 09.1
comp=N,59nm,0.9s
O28M Mount Upton 4.50 111 Pn 15 45 00.9 +0.2
O28M Mount Upton 4.50 111 IAML 15 46 11.4
comp=N,56nm,0.8s
O28M IAML 15 46 14.3
comp=E,35nm,0.6s
N17K Nushagak Hills 4.55 246 Pn 15 45 01.5 +0.3
N17K Nushagak Hills 4.55 246 IAML 15 46 25.0
comp=N,39nm,0.9s
COLD Coldfoot 4.63 353 Pn 15 45 02.8 +0.5
J17K VABM Dome 4.75 284 IAML 15 46 00.6
comp=N,24nm,0.9s
J17K IAML 15 46 01.3
comp=E,24nm,1.0s
H27K Steamboat Moun 4.77 38 Pn 15 45 05.0 +0.8
H27K Steamboat Moun 4.77 38 IAML 15 46 01.6
comp=N,43nm,0.6s
H27K IAML 15 46 16.4
comp=E,54nm,0.9s
I28M Miner Creek 4.79 50 IAML 15 46 03.1
comp=N,69nm,0.5s
I28M IAML 15 46 16.5
comp=E,50nm,0.8s
G26K Porcupine Rive 4.81 24 Pn 15 45 05.5 +0.8
G26K Porcupine Rive 4.81 24 IAML 15 46 01.1
comp=N,38nm,1.1s
G26K IAML 15 46 31.6
comp=E,40nm,1.1s
PCA Pinnacle 4.83 118 Pn 15 45 05.5 +0.3
L29M L29M 4.89 80 IAML 15 46 37.2
comp=E,53nm,0.8s
L29M IAML 15 46 38.1
comp=N,53nm,0.9s
F24K Squaw Lake 4.90 4 IAML 15 46 02.3
comp=N,22nm,0.5s
F24K IAML 15 46 02.3
comp=E,35nm,0.6s
H18K Honhosa River 4.92 305 Pn 15 45 07.2 +0.9
F21K Alatna River 5.00 338 Pn 15 45 08.2 +0.8
KAHC Katmai Hardscr 5.05 220 Pn 15 45 08.7 +0.5
M16K Timber Creek 5.10 256 Pn 15 45 09.1 +0.4
M16K Timber Creek 5.10 256 IAML 15 46 09.8
comp=N,23nm,1.1s
L16K Owhat River 5.10 264 Pn 15 45 08.9 +0.2
L16K Owhat River 5.10 264 IAML 15 46 07.8
comp=E,30nm,0.9s
L16K IAML 15 46 09.9
comp=N,23nm,0.7s
BM01 Burnt Mountain 5.14 19 Pn 15 45 09.8 +0.6
G27K Doyon Strip 5.17 33 Pn 15 45 10.2 +0.5
K29M Barlow Dome 5.22 72 IAML 15 46 41.9
comp=N,27nm,1.2s
N16K Nishlik Lake 5.25 250 Pn 15 45 11.4 +0.6
F20K Avaraart Lake 5.31 329 Pn 15 45 12.7 +1.1
G18K Tagagawik 5.39 311 IAML 15 46 15.8
comp=E,15nm,1.0s
F26K Sheenjek River 5.42 19 Pn 15 45 13.6 +0.4
H17K Granite Mounta 5.44 300 Pn 15 45 14.4 +1.0
E24K Your Creek 5.45 1 Pn 15 45 14.5 +1.0
O16K Kokwok River B 5.46 240 Pn 15 45 13.9 +0.3
I17K Unalakleet 5.52 288 Pn 15 45 15.4 +0.9
HYT Haines Junctio 5.66 104 Pn 15 45 17.0 +0.5
F19K Shaleruckik Mo 5.69 321 Pn 15 45 17.7 +0.9
H29M Whitestone 5.75 47 Pn 15 45 18.2 +0.6
E19K Redstone River 6.00 327 Pn 15 45 22.2 +1.2
M15K Kasigluk River 6.00 256 Pn 15 45 21.6 +0.6
TOLK Toolik Lake Re 6.02 357 Pn 15 45 22.9 +1.6
L15K Ungalak Mounta 6.04 266 Pn 15 45 21.5 -0.1
I30M Mount Dempster 6.04 59 Pn 15 45 22.5 +0.8
F18K Selawik 6.12 315 Pn 15 45 23.9 +1.2
P29M Windy Craggy 6.14 115 Pn 15 45 23.6 +0.6
P30M Million Dollar 6.22 109 Pn 15 45 24.6 +0.6
F28M Old Crow 6.23 33 Pn 15 45 24.9 +0.7
L14K Kuka Creek 6.68 265 Pn 15 45 31.5 +1.2
E17K Hotham Inlet 7.11 314 Pn 15 45 37.3 +1.1
C27K Jago River 7.29 14 Pn 15 45 38.2 -0.5
G31M Satah River 7.52 49 Pn 15 45 41.8 +0.1
BESE Bessie Mountai 7.97 115 Pn 15 45 46.8 -1.2

*NEIC **28** 16:16:55.2±0.3, 19°.48N±0°.01×155°.15W±0°.01, h15km±3km, Error ellipse: s-maj=2.5km s-min=0.6km az=136.0*
HVO 28 16:16:55.4±0.3, **19°.49N**±0°.01×**155°.13W**±0°.01, **h12**km±2km, **ML2.6**/38, **ML2.8**/42(NEIC), **Error ellipse: s-maj=1.8km s-min=1.5km az=138.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	**North of Pu'u**	**0.10**	**168**		Pg	16 16 58.5	+0.2
NPOC					Sg	16 17 00.8	+0.4
STCH	**Steam Cracks**	**0.10**	**177**		Pg	16 16 58.4	+0.1
STCH				IAML		16 17 01.2	
comp=N,2μm,0.2s							
JCUZ	**Jacuzzi**	**0.11**	**165**		Pg	16 16 58.6	+0.2
JCUZ					Sg	16 17 00.9	+0.4
KNHH	**Kane Nui o Ham**	**0.12**	**198**		Pg	16 16 58.6	+0.1
JOKA	**Jonika Flow**	**0.13**	**115**		Pg	16 16 58.8	+0.1
JOKA				IAML		16 17 01.6	
comp=E,2μm,0.4s							
HATHI	**Halema'uma'u T**	**0.14**	**242**		Pg	16 16 59.0	+0.2
HATHI				IAML		16 17 01.9	
comp=N,3μm,0.2s							
HATHI				IAML		16 17 03.5	
comp=E,2μm,0.3s							
PUH	**Pauahi**	**0.14**	**215**		Pg	16 16 59.0	+0.1
PUH				IAML		16 17 01.9	
comp=E,4μm,0.2s							
PUH				IAML		16 17 02.0	
comp=N,3μm,0.3s							
RSD	**Rainshed**	**0.14**	**259**		Pg	16 16 59.3	+0.4
RSD				IAML		16 17 03.9	
comp=N,3μm,0.2s							
RSD				IAML		16 17 04.8	
comp=E,4μm,0.2s							
SBLHI	**Steaming Bluff**	**0.14**	**244**		Pg	16 16 59.1	+0.2
SBLHI					Sg	16 17 01.4	0.0
BYL	**Byron's Ledge**	**0.14**	**238**		Pg	16 16 59.1	+0.2
BYL					Sg	16 17 01.8	+0.4
BYL	**Byron's Ledge**	**0.14**	**238**	IAML		16 17 03.0	
comp=E,1μm,0.3s							
BYL				IAML		16 17 04.9	
comp=N,1μm,0.4s							
UWB	**Uwekahuna Bluf**	**0.15**	**245**		Pg	16 16 59.2	+0.1
UWB					Sg	16 17 02.0	+0.4
KKO	**Keanakako'i**	**0.16**	**234**		Pg	16 16 59.3	+0.2
KKO					Sg	16 17 01.9	+0.1
OBL	**Observatory Le**	**0.16**	**244**		Pg	16 16 59.3	+0.1
OBL					Sg	16 17 02.3	+0.5
RIM	**Rim**	**0.16**	**235**		Pg	16 16 59.4	+0.1
RIM					Sg	16 17 02.5	+0.5
UWE	**Uwekahuna**	**0.17**	**246**		Pg	16 16 59.5	+0.2
UWE					Sg	16 17 02.7	+0.7
UWE	**Uwekahuna**	**0.17**	**246**	IAML		16 17 03.9	
comp=N,4μm,0.2s							
UWE				IAML		16 17 03.9	
comp=E,4μm,0.2s							
WRMHI	**West Rim**	**0.18**	**243**		Pg	16 16 59.6	+0.1
SDHHI	**Sand Hill**	**0.18**	**237**		Pg	16 16 59.6	+0.1
SDHHI					Sg	16 17 02.7	+0.2
MLH	**Mauna Loa**	**0.24**	**271**		Pg	16 17 00.8	+0.2
MLH					Sg	16 17 04.8	+0.7
MLH	**Mauna Loa**	**0.24**	**271**	IAML		16 17 05.7	
comp=E,8μm,0.2s							
MLH				IAML		16 17 05.8	
comp=N,4μm,0.2s							
HLP	**Hilina Pali**	**0.26**	**221**		Pg	16 17 00.9	+0.1
HLP					Sg	16 17 05.1	+0.8
HLP	**Hilina Pali**	**0.26**	**221**	IAML		16 17 07.5	
comp=N,2μm,0.2s							
HLP				IAML		16 17 08.0	
comp=E,1μm,0.2s							
HMH	**Humu'ula Sheep**	**0.35**	**289**		Pg	16 17 02.9	+0.3
MWH	**Mokuaweoweo**	**0.44**	**270**		Pg	16 17 03.7	-0.6
MWH				IAML		16 17 18.3	
comp=E,1μm,0.6s							
MWH				IAML		16 17 18.3	
comp=N,1μm,0.5s							
POHA	**Pohakuloa**	**0.46**	**305**		Pg	16 17 03.9	-0.8
HUH	**Hualalai**	**0.69**	**286**		Pg	16 17 07.5	-1.4

*DJA **28** 16:27:33.8±0.3, 9°.S±4°.×12°.0E±°, h62km±7km, M3.8/18, mb3.9/2, MLv3.7/18*
*IDC **28** 16:27:38.3±5.3, 8°.67S×120°.15E, h151km±60km, mb3.4/1, mbtmp3.5/5, Error ellipse: s-maj=110.9km s-min=11.8km az=54.0*
ISC 28 16:27:32.2±1.0, **9°.17S**±0°.05×**119°.53E**±0°.05, **h100**km, **n19**, σ**1**°**39**/22, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.49**	**197**	P	**Pn**	**16 27 46.8**	**-1.2**
WBSI				S	**Sn**	**16 27 57.2**	**-2.6**
WSI	**Waingapu**	**0.90**	**123**	P	**Pn**	**16 27 51.2**	**-0.4**
WSI				S	**Sn**	**16 28 05.1**	**-1.1**
BASI	**Baing, Sumba**	**1.47**	**135**	P	**Pn**	**16 27 58.3**	**+0.3**
PLAI	**Plampang**	**1.77**	**281**	P	**Pn**	**16 28 02.5**	**+0.7**
EDFI	**Ende, Flores**	**2.17**	**79**	P	**Pn**	**16 28 07.9**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.66**	**279**	P	**Pn**	**16 28 15.1**	**+1.7**
BSSI	**Bau Bau, Buton**	**3.15**	**18**	P	**Pn**	**16 28 19.5**	**-0.5**
BKSI	**Bulukumba**	**3.87**	**9**	P	**Pn**	**16 28 30.1**	**+0.5**
KAPI	**Kappang**	**4.13**	**3**	P	**Pn**	**16 28 33.4**	**+0.2**
6.0nm,0.3s,baz=150,slow=18,SNR=2.1							
KAPI				S	**Sn**	**16 29 18.1**	**-2.5**
25nm,0.5s,baz=132,slow=16,SNR=11							
BATI	**Baumata**	**4.20**	**105**	P	**Pn**	**16 28 36.1**	**+2.0**
8.5nm,0.2s,baz=303,slow=17,SNR=9.9							
BATI				S	**Sn**	**16 29 20.8**	**-1.4**
7.3nm,0.3s,baz=194,slow=19,SNR=1.9							
BATI	**Baumata**	**4.20**	**105**	P	**Pn**	**16 28 35.9**	**+1.8**
SRBI	**Singaraja**	**4.41**	**284**	P	**Pn**	**16 28 38.4**	**+1.5**
SOEI	**Soe**	**4.71**	**97**	P	**Pn**	**16 28 43.1**	**+2.0**
BBSI	**Bau Bau**	**4.74**	**40**	P	**Pn**	**16 28 42.2**	**+0.8**
BNSI	**Bone**	**4.77**	**7**	P	Pn	16 28 45.8	+3.9
JAGI	**Jajag, Banyuwa**	**5.36**	**277**	P	**Pn**	**16 28 50.0**	**+0.1**
22nm,1.8s							
WRA	**Warramunga Arr**	**17.87**	**128**	P	**Pn**	**16 31 34.9**	**+0.4**
0.3nm,0.6s,baz=301,slow=13,SNR=2.0							
WRA				S	Sn	16 34 41.4	-13
0.3nm,0.9s,baz=303,slow=25,SNR=2.1							
ASAR	**Alice Springs**	**19.92**	**138**	P	**Pn**	**16 31 59.0**	**+0.3**
0.4nm,0.3s,baz=315,slow=10,SNR=39							
STKA	**Stephens Creek**	**30.49**	**141**	P	**P**	**16 33 36.3**	**+0.5**
0.7nm,0.5s,baz=317,slow=13,SNR=2.9							
0.7nm,0.5s							

*NEIC **28** 16:29:44.1±1.4, 19°.12N±0°.03×67°.07W±0°.03, h10km±2km, ML3.3/10, Md3.4/9(RSPR), Error ellipse: s-maj=5.9km s-min=4.6km az=5.0*
*SDD **28** 16:29:45.2±2.3, 19°.12N×66°.89W, h15km±12km, MD3.3, ML3.8, MW3.8*
*OSPL **28** 16:29:46.4±0.3, 19°.09N×67°.25W, h20km±1km, ML3.3*
*RSPR **28** 16:29:46.4, 19°.09N×67°.22W, h7km±4km, MD3.4/9*
ISC 28 16:29:43.2±1.8, **19°.15N**±0°.06×**67°.06W**±0°.03, **h2**km±11km, **n50**, σ**0**°**84**/68, **25C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**184**		**Pb**	**16 29 57.8**	**0.0**
AGPR					**Sb**	**16 30 07.3**	**-0.4**
AGPR	**Aguadilla, PR**	**0.68**	**184**	⇓*e*P	**Pb**	**16 29 57.8**	**0.0**
AGPR	**Aguadilla, PR**	**0.68**	**184**	*e*S	**Sb**	**16 30 07.3**	**-0.4**
AGPR	**Aguadilla, PR**	**0.68**	**184**	⇑*i*P	**Pb**	**16 29 58.0**	**+0.1**
AGPR				⇑*i*S	**Sg**	**16 30 06.3**	**+1.1**
AGPR				IAML		16 30 12.1	
comp=N,2μm,0.3s							
AGPR	**Aguadilla, PR**	**0.68**	**184**	*i* P	**Pb**	**16 29 57.9**	**0.0**
AGPR				*e*S	**Sg**	**16 30 06.3**	**+1.1**
AGPR				IAML		16 30 08.4	
comp=Z,1μm,0.2s							
EMPR	**Esperanza - Ma**	**0.84**	**143**		**Pn**	**16 30 02.1**	**+0.1**
EMPR					**Sn**	**16 30 14.1**	**-0.9**
EMPR	**Esperanza - Ma**	**0.84**	**143**		**Pg**	**16 29 58.0**	**-1.3**
EMPR	**Esperanza - Ma**	**0.84**	**143**	⇑*e*P	**Pn**	**16 30 02.1**	**+0.1**
EMPR	**Esperanza - Ma**	**0.84**	**143**	*e*S	**Sn**	**16 30 14.1**	**-0.9**
IDE	**Isla Desecheo**	**0.86**	**207**		**Pg**	**16 30 00.1**	**+0.4**
IDE					**Sg**	**16 30 10.5**	**-0.2**
IDE	**Isla Desecheo**	**0.86**	**207**	⇑*e*P	**Pg**	**16 30 00.1**	**+0.4**
IDE	**Isla Desecheo**	**0.86**	**207**	*e*S	**Sg**	**16 30 10.5**	**-0.2**
PRSN	**Puerto Rico Se**	**0.93**	**185**		**Pg**	**16 30 00.6**	**-0.5**
PRSN					**Sg**	**16 30 13.1**	**-0.1**
PRSN	**Puerto Rico Se**	**0.93**	**185**	⇑*e*P	**Pg**	**16 30 00.6**	**-0.5**
PRSN	**Puerto Rico Se**	**0.93**	**185**	*e*S	**Sg**	**16 30 13.1**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.95**	**160**		**Pg**	**16 30 02.3**	**+0.9**
UUPR				Pn	**Pb**	**16 30 02.6**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.95**	**160**	⇑*e*P	**Pb**	**16 30 02.6**	**+0.2**
LSP	**Las Mesas**	**0.97**	**182**		**Pg**	**16 30 02.6**	**+0.8**
LSP					**Sg**	**16 30 13.5**	**-0.9**
LSP	**Las Mesas**	**0.97**	**182**	⇑*e*P	**Pg**	**16 30 02.6**	**+0.8**
LSP	**Las Mesas**	**0.97**	**182**	*e*S	**Sg**	**16 30 13.5**	**-0.9**
ECPR	**Experimental S**	**1.06**	**141**	⇑*e*P	**Pn**	**16 30 05.1**	**0.0**
ECPR	**Experimental S**	**1.06**	**141**	*e*S	**Sn**	**16 30 20.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.14**	**182**		**Pg**	**16 30 04.6**	**-0.4**
CRPR				IAML		16 30 20.4	
comp=N,738nm,0.3s							
CRPR				IAML		16 30 20.6	
comp=E,879nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.14**	**182**		**Sg**	**16 30 19.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.14**	**182**	⇑*e*P	**Pg**	**16 30 05.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.14**	**182**	⇑*i*P	**Pg**	**16 30 04.9**	**-0.1**
CRPR				⇑*i*S	**Sg**	**16 30 19.3**	**-0.6**
CRPR				IAML		16 30 20.3	
comp=N,889nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.14**	**182**	*i* P	**Pg**	**16 30 04.8**	**-0.2**
CRPR				*e*S	**Sg**	**16 30 18.5**	**-1.3**
CRPR				IAML		16 30 20.1	
comp=Z,804nm,0.4s							
MLPR	**Magueyes Islan**	**1.18**	**179**	⇓*e*P	**Pg**	**16 30 05.5**	**-0.3**
MLPR	**Magueyes Islan**	**1.18**	**179**	⇓*i*P	**Pg**	**16 30 05.4**	**-0.3**
MLPR				⇑*i*S	**Sg**	**16 30 19.8**	**-1.2**
MLPR				IAML		16 30 20.5	
comp=N,246nm,0.3s							
OBIP	**Obispado Ponce**	**1.18**	**159**		**Pg**	**16 30 06.2**	**+0.4**
OBIP					**Sg**	**16 30 21.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.18**	**159**	IAML		16 30 22.8	
comp=N,642nm,0.6s							
OBIP				IAML		16 30 24.3	
comp=E,705nm,0.3s							
OBIP	**Obispado Ponce**	**1.18**	**159**	⇑*e*P	**Pg**	**16 30 06.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.18**	**159**	*e*S	**Sg**	**16 30 21.5**	**+0.3**
GCPR	**Guaynabo City**	**1.25**	**132**		**Pg**	**16 30 07.8**	**+0.7**
GCPR					**Sb**	**16 30 24.3**	**+0.3**
GCPR	**Guaynabo City**	**1.25**	**132**	⇑*e*P	**Pg**	**16 30 07.8**	**+0.7**
GCPR	**Guaynabo City**	**1.25**	**132**	*e*S	**Sb**	**16 30 24.3**	**+0.3**
SJG	**San Juan**	**1.35**	**140**		**Pn**	**16 30 09.0**	**-0.1**
SJG				IAML		16 30 33.9	
comp=E,604nm,0.3s							
SJG				IAML		16 30 35.1	
comp=E,500nm,0.4s							
SJG	**San Juan**	**1.35**	**140**	⇑*e*P	**Pg**	**16 30 09.7**	**+0.6**
SJG	**San Juan**	**1.35**	**140**	*e*S	**Sn**	**16 30 27.8**	**+0.3**
SJG	**San Juan**	**1.35**	**140**	*i* P	**Pg**	**16 30 09.6**	**+0.6**
SJG				IAML		16 30 32.3	
comp=Z,282nm,0.3s							
HIDR	**Higuey Centro**	**1.67**	**251**	⇑*i*P	**Pn**	**16 30 12.3**	**-1.1**
HIDR				⇑*i*S	**Sn**	**16 30 35.0**	**-0.4**
HIDR				IAML		16 30 37.9	
comp=N,1μm,0.3s							
MIDR	**Miches**	**1.89**	**265**	⇑*i*P	**Pn**	**16 30 16.4**	**-0.1**
MIDR				⇑*i*S	**Sn**	**16 30 41.0**	**+0.1**
MIDR				IAML		16 30 44.9	
comp=N,209nm,0.5s							
MIDR				IAML		16 30 45.3	
comp=N,256nm,0.7s							
DR12	**Loma Pena Alta**	**2.23**	**261**		**Pn**	**16 30 20.9**	**-0.3**
HATOM	**Hato Mayor del**	**2.23**	**261**	⇓*i*P	**Pn**	**16 30 21.4**	**+0.2**
HATOM				⇑*i*S	**Sn**	**16 30 50.3**	**+0.9**
HATOM				IAML		16 30 55.7	
comp=N,315nm,0.6s							
NADR	**Nagua**	**2.65**	**275**	*i* P	**Pn**	**16 30 28.8**	**+1.9**
NADR				⇑*i*S	**Sn**	**16 30 59.8**	**+0.1**
NADR				IAML		16 31 17.2	
comp=N,2μm,0.4s							
DR08	**Loma La Naviza**	**2.81**	**267**	⇑*i*P	**Pn**	**16 30 30.5**	**+1.3**
DR08				⇑*i*S	**Sn**	**16 31 05.0**	**+1.3**
DR08				IAML		16 31 11.2	
comp=N,6μm,0.2s							
BANI	**BANI**	**3.22**	**257**		**Pn**	**16 30 33.5**	**-1.4**
BANI	**BANI**	**3.22**	**257**	⇑*i*P	**Pn**	**16 30 37.9**	**+3.1**
BANI				⇑*i*S	**Sn**	**16 31 13.5**	**-0.4**
BANI				IAML		16 31 27.4	
comp=N,392nm,0.3s							
SC01	**Santiago de lo**	**3.48**	**275**	Pn	**Pn**	**16 30 38.4**	**0.0**
GRTK	**Grand Turk**	**4.49**	**302**	*i*	**Pn**	**16 30 49.6**	**-2.6**

*SOME **28** 16:44:10.5, 41°.17N×78°.70E, h10km*
*KRNET **28** 16:44:10.7±0.1, 41°.21N×78°.78E, h20km, mb3.5*
*NNC **28** 16:44:13.0±2.1, 41°.21N×78°.69E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=14.5km s-min=9.1km az=167.0*
ISC 28 16:44:15.6±1.9, **41°.36N**±0°.06×**78°.53E**±0°.04, **h0**km±11km, **n59**, σ**1**°**27**/93, **29C-20D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.66**	**304**	⇓*i*P	**Pg**	**16 44 27.8**	**-0.4**
TARG				⇓*i*S	**Sb**	**16 44 40.2**	**+0.2**
PRZ	**Przheval'sk**	**1.12**	**355**	⇑*i*P	**Pg**	**16 44 35.2**	**-2.0**
PRZ				⇑*i*S	**Sb**	**16 44 53.2**	**-0.1**
KDJ	**Kajisay**	**1.27**	**308**	⇓*i*P	**Pn**	**16 44 38.3**	**-2.4**
KDJ				⇓*i*S	**Sn**	**16 44 58.3**	**-0.2**
SATY	**Saty**	**1.70**	**357**	P	**Pn**	**16 44 46.1**	**-0.5**
14nm,0.2s							
SATY				S	**Sg**	**16 45 11.8**	**+1.7**
128nm,0.1s							
UZB	**Uzynbulak**	**1.82**	**11**	Pg	**Pn**	**16 44 47.4**	**-0.9**
12nm,0.3s							
UZB				Lg	Lg	16 45 13.9	
63nm,0.3s							
UZB	**Uzynbulak**	**1.82**	**11**	*e*P	**Pn**	**16 44 47.4**	**-0.9**
12nm,0.3s							
UZB				*e*S	**Sg**	**16 45 13.9**	**-0.2**
63nm,0.3s							
SHLS	**Shalkode**	**1.92**	**21**	Pg	**Pb**	**16 44 50.9**	**-0.7**
12nm,0.2s							
SHLS				Lg	Lg	16 45 20.1	
126nm,0.5s							
SHLS	**Shalkode**	**1.92**	**21**	*e*P	**Pb**	**16 44 50.9**	**-0.7**
12nm,0.2s							

SHLS *e*S **Sg** **16 45 20.1 +2.7**
126nnm,0.5s
ULHL Ulahol 1.92 298 ⇑*i*P **Pn** **16 44 48.8 -1.0**
ULHL ⇑*i*S **Sb** **16 45 16.6 +0.3**
TNSS Tian-Shan 2.04 325 Pg **Pb** **16 44 53.1 -0.7**
25nm,0.2s
TNSS Lg Lg 16 45 23.8
76nm,0.5s
TNSS Tian-Shan 2.04 325 *e*P **Pb** **16 44 53.1 -0.7**
25nm,0.2s
TNSS *e*S **Sg** **16 45 23.8 +2.5**
76nm,0.5s
PDGK Podgornoye 2.09 20 ⇑Pn **Pn** **16 44 51.6 -0.4**
16nm,0.5s
PDGK ⇓Sn **Sg** **16 45 22.5 -0.3**
111nm,0.6s
KPKS Kokpek 2.10 3 Pg **Pn** **16 44 53.0 +0.9**
0.2nm,0.1s
KPKS Lg Lg 16 45 23.8
89nm,0.4s
MDOK Medeo 2.11 329 Pg **Pb** **16 44 54.0 -0.8**
37nm,0.1s
MDOK Lg Lg 16 45 25.2
109nm,0.5s
KURS Kuram 2.14 353 Pg **Pb** **16 44 54.2 -1.1**
25nm,0.4s
KURS Lg Lg 16 45 25.5
67nm,0.4s
KOTS Kotyrbulak 2.15 331 *e*P **Pb** **16 44 54.8 -0.7**
79nm,0.3s
KOTS *e*S **Sg** **16 45 26.2 +1.6**
383nm,0.5s
KNDC Almaty 2.19 328 ⇓Pn **Pb** **16 44 56.1 0.0**
153nm,0.7s
KNDC ⇑Sn **Sg** **16 45 29.2 +3.3**
89nm,0.5s
JNKS Jany-Kuch 2.19 263 ⇑*i*P **Pn** **16 44 51.7 -1.8**
JNKS ⇑*i*S **Sn** **16 45 21.5 +0.1**
AAA Alma-Ata 2.20 328 Pg **Pb** **16 44 56.5 +0.2**
236nm,0.2s
AAA Lg Lg 16 45 29.5
27nm,0.3s
AAA Alma-Ata 2.20 328 *e*P **Pb** **16 44 56.5 +0.2**
236nm,0.2s
AAA *e*S **Sg** **16 45 29.5 +3.2**
27nm,0.3s
BOOM Boomskoye usch 2.24 301 ⇑*i*P **Pn** **16 44 53.2 -0.8**
BOOM ⇑*i*S **Sb** **16 45 24.1 -1.2**
MTBS Maitube 2.35 319 Pg **Pb** **16 44 58.6 -0.4**
21nm,0.3s
MTBS Lg Lg 16 45 33.1
45nm,0.4s
MTBS Maitube 2.35 319 *e*P **Pb** **16 44 58.6 -0.4**
21nm,0.3s
MTBS *e*S **Sg** **16 45 33.1 +1.8**
45nm,0.4s
KST Kastek 2.54 312 Pg **Pb** **16 45 01.7 -0.5**
13nm,0.3s
KST Lg Lg 16 45 38.3
145nm,0.6s
KST Kastek 2.54 312 *e*P **Pb** **16 45 01.6 -0.5**
13nm,0.3s
KST *e*S **Sg** **16 45 38.3 +1.1**
145nm,0.6s
TKM2 Tokmak 2 2.68 306 P **Pb** **16 45 04.1 -0.5**
SNR=16
TKM2 Tokmak 2 2.68 306 ⇑*i*P **Pn** **16 44 59.4 -0.8**
TKM2 ⇑*i*S **Sn** **16 45 34.9 +1.5**
KTBS Karatobe 2.71 330 Pg **Pb** **16 45 04.6 -0.5**
21nm,0.3s
KTBS Lg Lg 16 45 43.3
43nm,0.4s
CHKK Chushkaly 2.74 336 *e*P **Pb** **16 45 04.9 -0.5**
17nm,0.3s
CHKK *e*S **Sg** **16 45 43.6 +0.1**
162nm,0.5s
DGS Degeres 2.78 313 Pg **Pb** **16 45 05.3 -0.9**
13nm,0.7s
DGS Lg Lg 16 45 44.3
81nm,0.6s
ARXS Arharly 2.90 350 Pg **Pb** **16 45 07.9 -0.3**
34nm,0.4s
ARXS Lg Lg 16 45 49.0
62nm,0.5s
ARXS Arharly 2.90 350 *e*P **Pb** **16 45 07.9 -0.3**
ARXS *e*S **Sg** **16 45 49.0 +0.3**
KBK Karagaybulak 2.96 297 P **Pb** **16 45 10.2 +0.8**
SNR=7.2
KBK Karagaybulak 2.96 297 ⇓*i*P **Pn** **16 45 03.2 -0.9**
KBK ⇓*i*S **Sn** **16 45 41.6 +1.2**
KUU Kurty 3.00 328 Pg **Pb** **16 45 08.9 -1.0**
5.1nm,0.1s
KUU Lg Lg 16 45 50.7
43nm,0.4s
KUU Kurty 3.00 328 *e*P **Pb** **16 45 08.9 -1.0**
5.1nm,0.1s
KUU *e*S **Sg** **16 45 50.8 -1.3**
43nm,0.4s
UCH Uchtor 3.12 287 ⇓*i*P **Pn** **16 45 05.4 -1.1**
UCH ⇓*i*S **Sn** **16 45 45.4 +0.7**
KRBS Karabastau 3.14 319 Pg **Pb** **16 45 11.7 -0.7**
6.0nm,0.3s
KRBS Lg Lg 16 45 55.3
8.4nm,0.3s
FRU1 Bishkek 3.24 298 ⇓*e*P **Pn** **16 45 07.0 -0.8**
FRU1 ⇓*e*S **Sn** **16 45 48.1 +1.0**
CHMS Chumysh 3.25 301 ⇓*i*P **Pn** **16 45 07.1 -0.7**
CHMS ⇓*i*S **Sn** **16 45 48.2 +1.0**
AAK Ala-Archa 3.27 294 P **Pb** **16 45 14.5 0.0**
SNR=6.0
AAK Ala-Archa 3.27 294 ⇑Pg **Pb** **16 45 14.5 0.0**
1.5nm,0.5s
AAK ⇑Lg Lg 16 46 04.7
11nm,0.7s
AAK Ala-Archa 3.27 294 ⇑*i*P **Pn** **16 45 07.4 -0.8**
AAK ⇑*i*S **Sn** **16 45 48.7 +0.9**
USP Ospenovka 3.54 304 P **Pb** **16 45 19.5 +0.3**
SNR=8.4
USP Ospenovka 3.54 304 ⇑*e*P **Pn** **16 45 11.2 -0.7**
USP ⇑*i*S **Sn** **16 45 55.3 +0.8**
SGDS Sogindy 3.56 307 Pg **Pb** **16 45 19.6 0.0**
4.0nm,0.3s
SGDS Lg Lg 16 46 08.8
17nm,0.3s
SALK Salom-Alik 3.59 264 ⇓*e*P **Pn** **16 45 11.0 -1.6**
SALK ⇓*i*S **Sn** **16 45 55.0 -0.8**
TDK Taldygorghan 3.64 359 Pg **Pb** **16 45 19.9 -0.9**
9.0nm,0.1s
TDK Lg Lg 16 46 09.4
35nm,0.5s
TDK Taldygorghan 3.64 359 *e*P **Pb** **16 45 19.9 -0.9**
9.0nm,0.1s
TDK *e*S **Sg** **16 46 09.4 -3.1**
35nm,0.5s
EKS2 Erkin-Say 3.77 292 P **Pb** **16 45 24.6 +1.5**
SNR=7.8
EKS2 Erkin-Say 3.77 292 ⇑*i*P **Pn** **16 45 14.4 -0.7**
EKS2 ⇑*i*S **Sn** **16 46 00.6 +0.4**
KAPS Kapalarasan 3.97 8 Pg **Pb** **16 45 26.2 -0.2**
1.3nm,0.1s
KAPS Lg Lg 16 46 20.4
21nm,0.2s
ARSB Arslanbob 4.18 271 ⇓*e*P **Pn** **16 45 19.0 -1.7**
ARSB ⇓*e*S **Sn** **16 46 09.8 -0.4**
MRKS Merke 4.18 291 Pg **Pb** **16 45 32.6 +2.4**
4.7nm,0.5s
MRKS Merke 4.18 291 *e*P **Pb** **16 45 32.5 +2.4**
4.7nm,0.5s
MRKS *e*S **Sg** **16 46 31.3 +1.3**
16nm,0.6s
MAKZ Makanchi 5.98 23 ⇑Pn **Pn** **16 45 44.1 -1.2**
2.3nm,1.1s
MAKZ ⇑Pg **Pb** **16 46 03.6 +2.9**
3.6nm,1.4s
MAKZ ⇑Sn **Sn** **16 46 53.9 -0.7**
1.5nm,0.8s
MAKZ ⇓Lg Lg 16 47 27.0
2.1nm,1.0s
MK31 Makanchi Array 6.07 25 ⇑Pn **Pn** **16 45 47.8 +1.2**
0.1nm,0.3s,baz=207,slow=14,SNR=7.4
MK31 ⇑Pg **Pb** **16 46 04.5 +2.4**
0.7nm,0.6s,baz=217,slow=17,SNR=4.1
MK31 ⇓Sn **Sn** **16 46 58.4 +1.7**
1.1nm,0.6s,baz=90,slow=31,SNR=4.1
MK31 ⇑Lg Lg 16 47 29.3
1.5nm,0.5s
KK31 Karatay Array 6.20 289 ⇑Pg **Pg** **16 46 14.1 -0.3**
1.9nm,0.7s,baz=99,slow=16,SNR=5.8
KK31 ⇑Lg Lg 16 47 39.0
4.2nm,0.8s,baz=104,slow=28,SNR=7.6
KURBB Kurchatov Arra 9.26 0 ⇑Lg Lg 16 49 16.4
5.7nm,0.6s

NEIC ***28*** *16:48:02.3±0.7, 35°.11N±0°.02×95°.35W±0°.02, h5km±1km, mb_Lg2.3/14, ML2.8/14, ML2.5/9, Error ellipse: s-maj=3.8km s-min=2.9km az=137.0*
NEIC 28 16:48:02.6±0.6, 35°.13N±0°.02×95°.35W±0°.02, h6km±5km, Error ellipse: s-maj=3.3km s-min=2.1km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	16 48 18.9	-0.2
TUL3					Sg	16 48 30.1	-0.1
RLO	**Rose Lookout**	**1.07**	**14**		Pg	16 48 22.6	-0.5
RLO					Sb	16 48 37.3	-0.3
RLO				IAML		16 48 42.3	
	comp=N,340nm,0.2s						
DEOK	**Depew**	**1.18**	**307**		Pg	16 48 24.8	-0.4
DEOK					Sg	16 48 40.5	0.0
DEOK				IAML		16 48 42.3	
	comp=E,178nm,0.2s						
DEOK				IAML		16 48 45.0	
	comp=N,195nm,0.3s						
OK052	**Battle Ridge R**	**1.47**	**306**		Pn	16 48 29.3	-0.2
OK052					Sb	16 48 49.4	+0.3
QUOK	**Quay**	**1.52**	**314**		Pn	16 48 30.5	+0.3
QUOK					Sg	16 48 51.3	-0.2
U38A	**Gravette**	**1.52**	**31**		Pn	16 48 30.5	+0.2
U38A					Sb	16 48 50.8	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pn	16 48 31.4	+0.5
MIAR					Sg	16 48 52.5	-0.5
MIAR				IAmb_Lg		16 48 52.7	
	comp=Z,12nm,1.2s						
HHAR	**Hobbs**	**1.62**	**45**		Pn	16 48 32.2	+0.5
HHAR					Sb	16 48 53.9	+0.2
FNO	**Franklin**	**1.69**	**275**		Pn	16 48 32.3	-0.3
FNO					Sg	16 48 56.4	-0.4
OKCFA	**Oklahoma City**	**1.75**	**280**		Pb	16 48 34.3	-0.7
OKCFA					Sg	16 48 58.4	-0.3
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	16 48 36.1	+0.8
LOOK	**Love County**	**1.89**	**234**	Pn	Pn	16 48 34.9	-0.4
T35A	**Sooner Cattle**	**2.02**	**332**		Pn	16 48 37.1	0.0
X34A	**Smith Ranch, M**	**2.11**	**256**		Pn	16 48 38.6	+0.2
X40A	**Basin Creek Fa**	**2.17**	**107**	IAmb_Lg		16 49 14.7	
	comp=Z,11nm,0.9s						
WLAR	**White Oak Lake**	**2.34**	**127**	IAmb_Lg		16 49 14.4	
	comp=Z,13nm,0.9s						
CROK	**Carrier**	**2.54**	**303**	IAmb_Lg		16 49 30.1	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		16 49 48.1	
	comp=Z,8.7nm,0.8s						
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		16 50 43.5	
	comp=Z,4.5nm,0.7s						

MOS ***28*** *17:19:44.1±1.2, 46°.51N×149°.66E, h144km, mb4.6/1, Error ellipse: s-maj=17.9km s-min=9.7km az=68.8*
SKHL ***28*** *17:19:44.8±0.3, 45°.80N×150°.10E, h166km±6km, mb4.9/5, msha5.7/4*
IDC ***28*** *17:19:47.9±2.4, 46°.27N×149°.82E, h180km±21km, mb3.3/12, mbtmp3.8/15, Error ellipse: s-maj=23.9km s-min=17.8km az=155.0*
NEIC ***28*** *17:19:47.1±2.0, 46°.2N±0°.1×149°.8E±0°.2, h168km±9km, mb4.4/22, Error ellipse: s-maj=21.7km s-min=13.9km az=143.0*
JMA ***28*** *17:19:48.1±0.6, 45°.N±4°.×15°.0E±°., h168km, MV3.6/12, KURILE ISLANDS REGION*
ISC 28 17:19:42.9±0.8, 45°.77N±0°.10×150°.23E±0°.09, h152km, n82, σ2°.78/87, mb4.0/24, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.75**	**253**	*e*PN	Pn	17 20 20.1	+4.9
KUR				*i* S	**Sn**	**17 20 48.1**	**+8.1**
KUR				pmax	pmax		
	comp=Z,67nm,0.1s						
KUR				smax	smax		
	comp=E,321nm,0.5s						
KUR				smax	smax		
	comp=N,288nm,0.3s						
KUR	**Kuril'sk**	**1.75**	**253**	*e*P	**Pn**	**17 20 19.3**	**+4.1**
KUR				AMB	AMB	17 20 20.8	
	comp=N,120nm,0.3s						
KUR				*e*S	**Sn**	**17 20 46.3**	**+6.3**
KUR				A	A	17 20 49.4	
	comp=N,430nm,0.4s						
KUR				A	A	17 20 49.4	
	comp=N,690nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.56**	**242**	*c i*PN	**Pn**	**17 20 41.4**	**+4.0**
YUK				*i* S	**Sn**	**17 21 22.4**	**+2.8**
YUK				pmax	pmax		
	comp=E,22nm,0.2s						
YUK				pmax	pmax		
	comp=Z,63nm,0.2s						
YUK				pmax	pmax		
	comp=N,22nm,0.1s						
YUK				smax	smax		
	comp=N,188nm,0.3s						
YUK				smax	smax		
	comp=E,78nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**3.56**	**242**	*e*P	**Pn**	**17 20 40.6**	**+3.2**
YUK				AMB	AMB	17 20 41.8	
	comp=E,60nm,0.2s						
YUK				*e*S	**Sn**	**17 21 23.9**	**+4.3**
YUK				A	A	17 21 24.7	
	comp=E,180nm,0.2s						
YUK				A	A	17 21 24.7	
	comp=E,210nm,0.2s						
RUSJ	**Misakicho**	**3.91**	**246**	*e*PN	**Pn**	**17 20 45.6**	**+3.6**
GLVR	**Golovnino**	**3.92**	**240**	*e*PN	**Pn**	**17 20 45.5**	**+3.4**
GLVR				*e*S	**Sn**	**17 21 31.3**	**+3.2**
GLVR				pmax	pmax		
	comp=Z,54nm,0.1s						
GLVR				smax	smax		
	comp=N,259nm,0.2s						
GLVR				smax	smax		
	comp=E,53nm,0.2s						
GLVR	**Golovnino**	**3.92**	**240**	*e*P	**Pn**	**17 20 45.5**	**+3.4**
GLVR				AMB	AMB	17 20 46.1	
	comp=E,50nm,0.2s						
GLVR				*e*S	**Sn**	**17 21 31.8**	**+3.7**
GLVR				A	A	17 21 32.8	
	comp=E,260nm,0.2s						
GLVR				A	A	17 21 32.8	
	comp=E,50nm,0.2s						
NEM2	**Nemuro 2**	**4.01**	**235**	P	**Pn**	**17 20 45.7**	**+2.4**
NEM2				S	**Sn**	**17 21 29.9**	**-0.3**
NMR	**Nemuro--Hokkai**	**4.01**	**235**	*e*PN	**Pn**	**17 20 45.7**	**+2.4**
NMR				*i* S	**Sn**	**17 21 30.0**	**-0.3**
NMR	**Nemuro--Hokkai**	**4.01**	**235**	*e*P	**Pn**	**17 20 45.7**	**+2.4**
JRA	**Rausu**	**4.07**	**245**	*e*P	**Pn**	**17 20 47.6**	**+3.6**
AKK	**Akkeshi**	**4.74**	**236**	*e*P	**Pn**	**17 20 55.5**	**+2.6**
JAK	**Akkeshi**	**4.84**	**237**	*e*P	**Pn**	**17 20 56.4**	**+2.3**
JAK				*e*S	**Sn**	**17 21 49.2**	**-0.5**
JTKR	**Abashiri--Toko**	**4.84**	**250**	*e*P	**Pn**	**17 20 57.4**	**+3.2**
JAR	**Ashorobuto**	**5.24**	**244**	*e*P	**Pn**	**17 21 02.7**	**+3.2**
JAR				*e*S	**Sn**	**17 22 01.9**	**+2.7**
JOB	**Onbets**	**5.41**	**240**	*e*P	**Pn**	**17 21 04.3**	**+2.6**
JOB				*e*S	**Sn**	**17 22 03.4**	**+0.1**
JKK2	**Kamakawa 2**	**5.65**	**253**	*e*P	**Pn**	**17 21 08.5**	**+3.6**
JKA	**Kamikawa-asahi**	**5.66**	**256**		**Pn**	**17 21 09.3**	**+4.2**
ASAJ	**Asahikawa**	**5.66**	**256**	P	**Pn**	**17 21 09.3**	**+4.2**
	comp=E,10.0nm,0.5s,baz=60,slow=12,SNR=26						
JCH	**Churui**	**5.86**	**240**	*e*P	**Pn**	**17 21 09.4**	**+1.8**
JCH				*e*S	**Sn**	**17 22 12.6**	**-1.3**
SKR	**Severo-Kuril's**	**6.29**	**37**	*e*P	**Pn**	**17 21 16.0**	**+2.7**
SKR				AMB	AMB	17 21 23.1	
	comp=E,60nm,0.5s						
ERM	**Erimo**	**6.34**	**236**	Pn	**Pn**	**17 21 17.0**	**+2.9**
ERM				Sn	**Sn**	**17 22 19.2**	**-6.3**
ERM	**Erimo**	**6.34**	**236**	PN	**Pn**	**17 21 17.0**	**+2.9**
JNBK	**Urakawa-nobuka**	**6.42**	**240**	*e*P	**Pn**	**17 21 16.5**	**+1.3**
PAU	**Pauzhetka**	**7.17**	**35**	*e*P	**Pn**	**17 21 28.7**	**+3.6**
JTM	**Tenmabayashi**	**8.33**	**237**	Pn	**Pn**	**17 21 40.8**	**+0.2**
JANG	**Nango**	**8.35**	**233**	*e*P	**Pn**	**17 21 40.7**	**-0.2**
JANG				*e*S	**Sn**	**17 23 07.5**	**-6.4**
JTH	**Tanohata**	**8.47**	**229**	*e*S	**Sn**	**17 23 11.8**	**-4.8**
PEA0B	**Petropavlovsk-**	**8.80**	**31**	Pn	**Pn**	**17 21 45.5**	**-1.3**
PEA0B	**Petropavlovsk-**	**8.80**	**31**	PN	**Pn**	**17 21 45.5**	**-1.3**
PETK	**Petropavlovsk-**	**8.80**	**31**	P	**Pn**	**17 21 47.7**	**+0.8**
	comp=E,1.3nm,0.8s,baz=194,slow=13,SNR=1.6						
PET	**Petropavlovsk**	**9.10**	**34**	Pn	**Pn**	**17 21 51.0**	**+0.4**
JMM	**Marumori**	**10.58**	**225**	Pn	**Pn**	**17 22 12.7**	**+2.3**
YAK	**Yakutsk**	**20.14**	**331**	P	**P**	**17 24 01.5**	**-3.2**
	comp=E,6.3nm,0.5s,baz=110,slow=4.1,SNR=8.3						
TIXI	**Tiksi**	**27.88**	**346**	P	**P**	**17 25 14.4**	**-3.5**
TIXI	**Tiksi**	**27.88**	**346**	P	**P**	**17 25 14.4**	**-3.5**
H11N2	**WAKE ISLAND Hy**	**29.39**	**147**	T	T	17 56 50.3	
	baz=336,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**29.40**	**147**	T	T	17 56 59.3	
	baz=336,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**29.41**	**147**	T	T	17 56 52.9	
	baz=336,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**30.43**	**148**	T	T	17 58 11.5	
	baz=337,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**30.44**	**148**	T	T	17 58 08.3	
	baz=337,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.45**	**148**	T	T	17 58 11.7	
	baz=337,slow=76,SNR=18						
RDOG	**Red Dog Mine**	**32.67**	**31**	P	P	17 26 05.6	+5.4
G18K	**Tagagawik**	**33.73**	**35**	P	**P**	**17 26 10.5**	**+1.2**
F19K	**Shaleruckik Mo**	**34.26**	**34**	P	**P**	**17 26 14.7**	**+0.8**
F19K				IAmb	IAmb	17 26 27.5	
	comp=Z,12nm,1.4s						
H19K	**Roundabout Mou**	**34.57**	**36**	P	**P**	**17 26 18.5**	**+2.0**
H19K				IAmb	IAmb	17 26 19.0	
	comp=Z,3.4nm,0.7s						
E19K	**Redstone River**	**34.60**	**33**	P	**P**	**17 26 16.6**	**-0.2**
E19K				IAmb	IAmb	17 26 22.5	
	comp=Z,17nm,1.2s						
B20K	**Meade River**	**35.23**	**28**	P	**P**	**17 26 22.8**	**+0.7**
J20K	**Nowinta River**	**35.40**	**39**	P	**P**	**17 26 25.1**	**+1.4**
J20K				IAmb	IAmb	17 26 49.3	
	comp=Z,10nm,1.3s						
G21K	**Allakaket**	**35.89**	**35**	P	**P**	**17 26 28.6**	**+0.8**
B21K	**Ikpikpuk River**	**36.00**	**29**	P	**P**	**17 26 30.1**	**+1.5**
STLK	**Strandline Lak**	**36.40**	**43**	P	**P**	**17 26 32.0**	**-0.3**
STLK				IAmb	IAmb	17 26 41.1	
	comp=Z,16nm,1.5s						
E22K	**Anaktuvuk Pass**	**36.74**	**32**	P	**P**	**17 26 36.3**	**+1.2**
E22K				IAmb	IAmb	17 26 42.0	
	comp=Z,14nm,1.5s						
TOLK	**Toolik Lake Re**	**37.63**	**31**	P	**P**	**17 26 43.7**	**+1.2**
ILAR	**Eielson Array**	**38.55**	**38**	P	**P**	**17 26 50.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=272,slow=7.6,SNR=5.4						
	comp=Z,0.6nm,0.8s						
BMAR	**Burnt Mountain**	**39.44**	**33**	P	**P**	**17 26 59.1**	**+1.3**
F26K	**Sheenjek River**	**39.61**	**33**	P	**P**	**17 27 00.8**	**+1.8**
F26K				IAmb	IAmb	17 27 21.2	
	comp=Z,9.7nm,1.4s						
C27K	**Jago River**	**39.78**	**30**	P	**P**	**17 27 01.8**	**+1.4**
C27K				IAmb	IAmb	17 27 27.4	
	comp=Z,17nm,1.4s						
K27K	**Chicken**	**40.69**	**39**	P	**P**	**17 27 09.6**	**+1.7**
K27K				IAmb	IAmb	17 27 12.1	
	comp=Z,6.6nm,1.4s						
BCAR	**Beaver Creek A**	**40.94**	**40**	P	**P**	**17 27 12.8**	**+2.6**
I28M	**Miner Creek**	**41.44**	**36**	P	**P**	**17 27 15.9**	**+1.8**
L29M	**L29M**	**42.58**	**40**	P	**P**	**17 27 26.1**	**+2.7**
G30M	**tAoh Zraii Nji**	**42.72**	**34**	P	**P**	**17 27 26.1**	**+1.6**
G30M				IAmb	IAmb	17 27 34.9	
	comp=Z,12nm,1.4s						
MKAR	**Makanchi Array**	**45.60**	**297**	P	**P**	**17 27 46.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=63,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.6s						
KURK	**Kurchatov**	**46.23**	**303**	P	**P**	**17 27 51.0**	**-1.4**
KURK	**Kurchatov**	**46.23**	**303**	IAmb	IAmb	17 27 54.7	
	comp=Z,2.7nm,0.4s						
KURK	**Kurchatov**	**46.23**	**303**	P	**P**	**17 27 51.0**	**-1.4**
KURK	**Kurchatov**	**46.23**	**303**	*e*P	**P**	**17 27 51.0**	**-1.4**
KURBB	**Kurchatov Arra**	**46.32**	**303**	P	**P**	**17 27 51.0**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=73,slow=8.6,SNR=6.4						
	comp=Z,0.8nm,0.5s						
CHGR	**Chuyangaron**	**58.03**	**294**	P	**P**	**17 29 18.9**	**-1.0**
CHGR				IAmb	IAmb	17 29 20.1	
	comp=Z,8.5nm,1.0s						
CHGR	**Chuyangaron**	**58.03**	**294**	P	**P**	**17 29 18.9**	**-1.0**
CHGR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FINES	**FINESS Array B**	**64.05**	**334**	P	**P**	**17 29 57.4**	**-2.5**
	comp=Z,1.5nm,0.8s,baz=57,slow=7.0,SNR=4.7						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**68.48**	**340**	P	**P**	**17 30 26.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=27,slow=6.5,SNR=2.2						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**68.65**	**338**	P	**P**	**17 30 27.2**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=17,slow=1.5,SNR=4.5						
	comp=Z,1.6nm,0.8s						
KBZ	**Khabaz**	**70.07**	**313**	P	**P**	**17 30 38.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=151,slow=2.1,SNR=4.8						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**70.69**	**196**	P	**P**	**17 30 45.6**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=12,slow=6.2,SNR=2.4						
	comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**71.22**	**325**	P	**P**	**17 30 43.3**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=40,slow=6.2,SNR=3.4						
	comp=Z,0.4nm,0.3s						
BURAR	**Bucovina Array**	**75.27**	**325**	P	**P**	**17 31 08.3**	**-0.7**
EKA	**Eskdalemuir Ar**	**76.78**	**345**	P	**P**	**17 31 16.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=16,slow=5.3,SNR=5.7						
	comp=Z,0.4nm,0.3s						
BRTR	**Keskin Array B**	**77.70**	**315**	P	**P**	**17 31 21.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=101,slow=6.0,SNR=4.1						
	comp=Z,0.4nm,0.7s						
BRTR	**Keskin Array B**	**77.70**	**315**	P	**P**	**17 31 22.0**	**-0.8**
TXAR	**Lajitas Array**	**79.71**	**58**	P	**P**	**17 31 36.2**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=295,slow=4.2,SNR=7.0						
	comp=Z,0.3nm,0.5s						

NEIC ***28*** *17:23:21.3±1.7, 5°.4S±0°.1×127°.94E±0°.08, h379km±13km, mb4.3/8, Error ellipse: s-maj=18.1km s-min=5.9km az=143.0*
IDC ***28*** *17:23:23.0±3.0, 5°.54S×127°.75E, h405km±30km, mb2.8/1, mbtmp4.4/5, Error ellipse: s-maj=45.4km s-min=15.7km az=69.0*
ISC 28 17:23:19.9±0.8, 5°.29S±0°.07×127°.98E±0°.08, h400km, n27, σ2°.12/32, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**3.78**	**328**	P	**Pn**	**17 24 29.6**	**-0.3**
FAKI	**Fak Fak**	**4.87**	**61**		**Pn**	**17 24 41.4**	**+0.8**
FAKI					**S**	**17 25 39.9**	**-6.2**
FAKI	**Fak Fak**	**4.87**	**61**	P	**Pn**	**17 24 41.4**	**+0.8**
SOEI	**Soe**	**5.76**	**219**		**Pn**	**17 24 49.9**	**-0.2**
SOEI				Sn	**S**	**17 25 59.2**	**-4.3**
SOEI	**Soe**	**5.76**	**219**	P	**Pn**	**17 24 50.4**	**+0.3**
BATI	**Baumata**	**6.49**	**221**	P	**Pn**	**17 24 57.9**	**-0.1**
	31nm,0.5s,baz=175,slow=2.2,SNR=12						
BATI				S	**S**	**17 26 14.7**	**-3.2**
	111nm,0.7s,baz=316,slow=16,SNR=13						
LUWI	**Luwuk**	**6.69**	**309**	Pn	**Pn**	**17 24 56.7**	**-3.5**
DRS	**Darwin Rock St**	**7.66**	**158**	P	**P**	**17 25 13.2**	**+1.7**
MTN	**Manton Dam**	**8.13**	**158**	P	**P**	**17 25 16.2**	**-0.5**
TOLI2	**Tolitoli**	**9.60**	**311**		**Pn**	**17 25 33.7**	**+0.4**
KNRA	**Kununurra**	**10.35**	**176**		**Pn**	**17 25 41.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.93**	**190**	P	**Pn**	**17 26 10.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.93**	**190**	P	**Pn**	**17 26 11.0**	**-0.9**
	1.8nm,0.3s,baz=18,slow=11,SNR=16						
WB0	**Warramunga Arr**	**15.69**	**157**		**P**	**17 26 41.1**	**+1.2**
WRAB	**Tennant Creek**	**15.82**	**157**	P	**P**	**17 26 42.6**	**+1.3**
WRAB				IAmb	IAmb	17 26 43.3	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**15.82**	**157**	P	**P**	**17 26 43.0**	**+1.7**
WRA	**Warramunga Arr**	**15.83**	**158**		**P**	**17 26 41.4**	**0.0**
WRA	**Warramunga Arr**	**15.83**	**158**	P	**P**	**17 26 42.2**	**+0.8**
	comp=Z,17nm,0.3s,baz=335,slow=11,SNR=388						
WRA				S	**S**	**17 29 26.0**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=329,slow=20,SNR=4.9						
WB1	**Warramunga Ar.**	**15.85**	**158**	P	**P**	**17 26 43.2**	**+1.7**
WR8	**Warramunga Arr**	**15.90**	**157**		**P**	**17 26 43.4**	**+1.2**
MBWA

FORT IAmb IAmb 17 28 40.5
comp=Z,11nm,1.0s
BBOO Buckleboo 28.40 166 P **P 17 28 42.0 +2.4**
BBOO IAmb IAmb 17 28 53.8
comp=Z,13nm,1.4s
MKAR Makanchi Array 65.71 327 P **P 17 33 26.2 +3.1**
comp=Z,0.2nm,0.4s,baz=113,slow=7.9,SNR=4.9
comp=Z,0.2nm,0.4s

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*NEIC **28** 17:45:19.2±1.1, 6°.48S±0°.05×152°.2E±0°.1, h10km±2km, mb4.4/11, Error ellipse: s-maj=23.0km s-min=5.2km az=106.0*
*IDC **28** 17:45:27.8±9.1, 6°.51S×151°.86E, h59km±66km, mb4.0/2, mbtmp4.3/3, ML2.5/1, MS3.6/2, Error ellipse: s-maj=90.9km s-min=56.2km az=131.0*
ISC 28 17:45:22.2±1.0, 6°.46S±0°.08×152°.2E±0°.1, h37km, n21, σ0°77/21, mb4.3/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.25**	**0**		**Pn**	**17 45 57.4**	**+0.4**
RABL				Sn	**Sn**	**17 46 23.9**	**+0.4**
PMG	**Port Moresby**	**5.75**	**239**		**Pn**	**17 46 44.8**	**-0.3**
PMG	**Port Moresby**	**5.75**	**239**	P	**Pn**	**17 46 46.6**	**+1.5**
	11nm,0.3s,baz=46,slow=5.2,SNR=43						
PMG				S	**Sn**	**17 47 50.0**	**+0.2**
	88nm,0.5s,baz=127,slow=20,SNR=17						
	30nm,0.4s						
MANU	**Manus Island**	**6.48**	**312**		**Pn**	**17 46 54.7**	**-0.5**
DZM	**Mont Dzumac**	**20.77**	**140**	LR	LR	17 57 09.4	
	comp=Z,98nm,18.5s,baz=234,slow=34						
MTN	**Manton Dam**	**21.66**	**251**	P	**P**	**17 50 08.8**	**-1.0**
MTN				IAmb	IAmb	17 50 39.4	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**21.74**	**231**	P	**P**	**17 50 10.0**	**-0.7**
WB0				IAmb	IAmb	17 50 12.9	
	comp=Z,17nm,1.4s						
WR8	**Warramunga Arr**	**21.77**	**230**	P	**P**	**17 50 10.7**	**-0.2**
WR8				IAmb	IAmb	17 50 26.1	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**21.89**	**231**	P	**P**	**17 50 11.1**	**-1.1**
WRA	**Warramunga Arr**	**21.89**	**231**	P	**P**	**17 50 12.4**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=55,slow=10,SNR=26						
	comp=Z,4.3nm,0.7s						
AS31	**Alice Springs**	**24.51**	**224**	P	**P**	**17 50 38.4**	**+0.1**
AS31				IAmb	IAmb	17 50 41.7	
	comp=Z,3.8nm,0.9s						
ASAR	**Alice Springs**	**24.51**	**224**	P	**P**	**17 50 38.6**	**+0.3**
ASAR	**Alice Springs**	**24.51**	**224**	P	**P**	**17 50 39.5**	**+1.1**
	comp=Z,7.1nm,0.6s,baz=57,slow=9.2,SNR=169						
	comp=Z,7.1nm,0.6s						
KNRA	**Kununurra**	**24.69**	**246**	P	**P**	**17 50 40.0**	**0.0**
KNRA				IAmb	IAmb	17 50 47.0	
	comp=Z,9.5nm,1.0s						
STKA	**Stephens Creek**	**27.15**	**200**	P	**P**	**17 51 02.2**	**+0.1**
STKA				IAmb	IAmb	17 51 17.4	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.32**	**243**	P	**P**	**17 51 12.4**	**-0.3**
KAPI	**Kappang**	**32.27**	**271**	LR	LR	18 05 45.1	
	comp=Z,168nm,19.0s,baz=110,slow=38						
FORT	**Forrest**	**33.11**	**220**	P	**P**	**17 51 54.6**	**-0.3**
FORT				IAmb	IAmb	17 52 23.6	
	comp=Z,13nm,1.2s						
MBWA	**Marble Bar**	**34.61**	**242**	P	**P**	**17 52 07.4**	**-0.6**
INZ	**Inchbonnie**	**39.94**	**158**	P	**P**	**17 52 52.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**150.16**	**285**	PKPbc	**PKiKP**	**18 05 12.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=65,slow=4.7,SNR=4.6						

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*IDC **28** 18:01:16.9±0.9, 67°.06N×21°.17E, h0km, mbtmp2.8/4, ML2.0/4, Error ellipse: s-maj=18.8km s-min=8.8km az=111.0*
*UPP **28** 18:01:16.1±0.1, 67°.05N×20°.95E, h0km, ML2.1, Suspected explosion*
ISC 28 18:01:15.9±0.9, 67°.06N±0°.03×20°.97E±0°.03, h0km, n24, σ0°76/27, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**293**	P	**Pg**	**18 01 19.5**	**+0.3**
DUNU				S	**Sg**	**18 01 21.8**	**+0.5**
MASU	**Masugnsbyn**	**0.57**	**45**	P	**Pg**	**18 01 27.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.70**	**136**	P	**Pg**	**18 01 29.3**	**0.0**
PAJU	**Pajala**	**0.84**	**91**	P	**Pg**	**18 01 31.9**	**-0.2**
HARU	**Harads**	**0.90**	**180**	P	**Pg**	**18 01 32.8**	**-0.3**
KUA	**Kurravaara**	**0.93**	**345**	P	**Pg**	**18 01 33.3**	**-0.5**
	baz=180						
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 01 35.1**	**-0.1**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**18 01 35.8**	**-0.6**
LANU	**Lannavaara**	**1.07**	**21**	*eP*	**Pg**	**18 01 36.0**	**-0.5**
NIKU	**Nikkaluokta**	**1.10**	**318**	P	**Pg**	**18 01 36.4**	**-0.6**
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**18 01 38.6**	**-0.5**
KALU	**Kalix**	**1.54**	**140**	P	**Pb**	**18 01 44.3**	**-0.9**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pb**	**18 01 45.0**	**-0.8**
SJUU	**Sjulsmark**	**1.58**	**170**	*eP*	**Pb**	**18 01 45.1**	**-0.8**
HEF	**Hetta**	**1.70**	**36**	*eP*	**Pn**	**18 01 46.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.96**	**358**	*eP*	**Pb**	**18 01 51.7**	**-0.7**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 02 05.5**	**+0.7**
	0.2nm,0.3s,baz=216,slow=13,SNR=30						
ARCES				Sn	**Sn**	**18 02 41.7**	**+0.2**
	0.4nm,0.3s,baz=212,slow=22,SNR=7.3						
	0.5nm,0.3s						
VAF	**Ylistaro**	**4.10**	**169**	*eP*	**Pn**	**18 02 21.0**	**+1.3**
KEF	**Keuruu**	**5.19**	**159**	*eP*	**Pn**	**18 02 36.5**	**+1.8**
JOF	**Joensuu**	**6.04**	**129**	*eP*	**Pn**	**18 02 47.4**	**+1.1**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 02 47.8**	**+1.1**
	0.1nm,0.3s,baz=346,slow=13,SNR=7.2						
FINES				Sn	**Sn**	**18 03 56.0**	**-0.6**
	0.1nm,0.3s,baz=343,slow=23,SNR=3.9						
	1.8nm,0.9s						
RAF	**Rauma**	**6.07**	**176**	*eP*	**Pn**	**18 02 47.6**	**+0.9**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 03 04.8**	**-0.2**
	baz=21,slow=18,SNR=2.6						
	0.2nm,0.4s						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 03 08.5**	**-0.2**
	0.1nm,0.3s,baz=30,slow=13,SNR=2.8						
	2.1nm,1.0s						

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*SOME **28** 18:04:54.1, 41°.43N×84°.88E, h5km*
*NNC **28** 18:05:08.0±6.3, 40°.92N×83°.87E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=45.8km s-min=31.2km az=160.0*
ISC 28 18:05:09.9±3.1, 40°.9N±0°.2×83°.74E±0°.09, h10km, n12, σ2°52/16, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.91**	**307**	Pg	**Pn**	**18 06 10.2**	**+0.1**
	4.2nm,0.2s						
SHLS				Lg	Lg	18 07 04.8	
	28nm,0.3s						
SHLS	**Shalkode**	**3.91**	**307**	*eP*	**Pn**	**18 06 10.2**	**+0.1**
	4.2nm,0.2s						
SHLS				*eS*	**Sb**	**18 07 04.8**	**-1.5**
	28nm,0.3s						
PDGK	**Podgornoye**	**3.99**	**309**	⇑Pn	**Pn**	**18 06 13.9**	**+2.7**
	6.2nm,0.6s						
PDGK				⇑Sn	**Sn**	**18 07 02.8**	**+4.7**
	7.8nm,0.7s						
PDGK				⇓Lg	Lg	18 07 18.6	
	10nm,0.7s						
UZB	**Uzynbulak**	**4.17**	**304**	Pg	**Pb**	**18 06 20.6**	**-2.9**
	1.4nm,0.2s						
UZB				Lg	Lg	18 07 23.2	
	6.7nm,0.4s						
UZB	**Uzynbulak**	**4.17**	**304**	*eP*	**Pb**	**18 06 20.6**	**-2.9**
	1.4nm,0.2s						
UZB				*eS*	**Sg**	**18 07 23.2**	**-0.7**
	6.7nm,0.4s						
SATY	**Saty**	**4.53**	**300**	Pg	**Pb**	**18 06 28.2**	**-1.3**
	0.9nm,0.1s						
SATY				Lg	Lg	18 07 35.7	
	11nm,0.3s						
KPKS	**Kokpek**	**4.55**	**306**	Pg	**Pb**	**18 06 28.3**	**-1.6**
	0.2nm,0.2s						
KPKS				Lg	Lg	18 07 36.3	
	9.0nm,0.3s						
KTBS	**Karatobe**	**5.94**	**301**	Pg	**Pb**	**18 06 53.7**	**+0.2**
	0.7nm,0.2s						
KTBS				Lg	Lg	18 08 19.7	
	6.4nm,0.5s						
MK31	**Makanchi Array**	**5.99**	**350**	⇑Pn	Pn	18 06 41.4	+2.8
	0.1nm,0.2s,baz=168,slow=14,SNR=11						
MK31				⇓Sn	**Sn**	**18 07 48.1**	**+0.9**
	0.2nm,0.3s						
MK31				⇓Lg	Lg	18 08 17.3	
	1.0nm,0.6s,baz=161,slow=27						
MAKZ	**Makanchi**	**6.05**	**348**	⇑Pn	Pn	18 06 42.2	+2.8
	0.8nm,0.7s						
MAKZ				⇑Sn	**Sn**	**18 07 47.5**	**-1.2**
	1.3nm,0.8s						
MAKZ				⇓Lg	Lg	18 08 19.0	
	3.5nm,1.2s						
ZSN	**Zaisan**	**6.60**	**7**	Pg	**Pn**	**18 06 46.5**	**-0.5**
	1.2nm,0.2s						
ZSN				Lg	Lg	18 08 07.5	
	1.8nm,0.3s						
ZSN	**Zaisan**	**6.60**	**7**	*eP*	**Pn**	**18 06 46.5**	**-0.5**
	1.2nm,0.2s						
ZSN				*eS*	**Sn**	**18 08 07.5**	**+5.2**
	1.8nm,0.3s						

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*JMA **28** 18:12:56.5±0.1, 35°.N±2°.×13°.7E±°., h360km, MV2.6/40, ISE BAY REGION*
*IDC **28** 18:12:57.5±3.3, 34°.17N×137°.29E, h326km±180km, mb2.8/2, mbtmp3.3/3, Error ellipse: s-maj=282.9km s-min=171.8km az=17.0*
ISC 28 18:12:56.7±1.2, 34°.7N±0°.2×136°.9E±0°.2, h350km, n16, σ1°19/17, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.31**	**204**	P	**Pn**	**18 13 41.9**	**+1.1**
TSUJ	**Tsu 2**	**0.36**	**275**	P	**Pn**	**18 13 41.5**	**+0.9**
JKN2	**Miekihoku**	**0.65**	**228**	P	**Pn**	**18 13 42.1**	**+0.7**
JAO	**Obara**	**0.67**	**29**	P	**Pn**	**18 13 42.6**	**+1.2**
HMMJ	**Hamamatsu 2**	**0.73**	**76**	*eP*	**Pn**	**18 13 42.7**	**+1.2**
JYTA	**Yamagatataniai**	**0.92**	**354**	P	**Pn**	**18 13 43.1**	**+1.0**
JNY	**Yanaouk**	**1.07**	**50**	P	**Pn**	**18 13 44.0**	**+1.2**
JWY	**Kouya**	**1.14**	**247**	P	**Pn**	**18 13 43.9**	**+0.7**
JWT	**Wachi**	**1.34**	**297**	P	**Pn**	**18 13 44.4**	**+0.4**
JYN	**Shimob**	**1.61**	**59**	*eP*	**Pn**	**18 13 46.7**	**+1.2**
JRY	**Ryogami san**	**2.14**	**51**	P	**Pn**	**18 13 50.8**	**+1.8**
MAT	**Matsushiro**	**2.16**	**30**	P	**Pn**	**18 13 50.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.16**	**30**	P	**Pn**	**18 13 50.4**	**+1.3**
	8.0nm,0.6s,baz=203,slow=8.5,SNR=40						
JAG	**Ashikaga**	**2.74**	**50**	P	**Pn**	**18 13 53.8**	**0.0**
JAG				S	**S**	**18 14 37.7**	**-1.9**
WRA	**Warramunga Arr**	**54.37**	**183**	P	**P**	**18 21 48.0**	**-0.6**
	0.2nm,0.3s,baz=2.9,slow=7.5,SNR=9.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**58.09**	**183**	P	**P**	**18 22 14.2**	**-0.4**
	0.2nm,0.5s,baz=22,slow=11,SNR=6.1						
	0.2nm,0.5s						

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*IDC **28** 18:41:26.0±0.9, 2°.55S×138°.29E, h0km, mb3.8/8, mbtmp3.8/11, ML3.3/3, Error ellipse: s-maj=21.3km s-min=20.7km az=90.0*
*DJA **28** 18:41:29.2±0.4, 2°.S±5°.×13°.8E±°., h10km, M3.9/6, mb4.2/1, MLv3.8/6*
ISC 28 18:41:30.2±0.7, 2°.53S±0°.09×138°.41E±0°.05, h32km, n19, σ1°43/20, mb4.0/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.61**	**30**	P	**Pb**	**18 41 39.7**	**-2.9**
GENI	**Genyem**	**1.76**	**92**	P	**Pn**	**18 41 59.9**	**+1.4**
JAY	**Jayapura**	**2.29**	**90**	Pn	**Pn**	**18 42 08.0**	**+2.1**
	2.3nm,0.3s,baz=273,slow=9.6,SNR=18						
JAY				Sn	**Sb**	**18 42 39.5**	**+0.5**
	1.6nm,0.3s,baz=131,slow=19,SNR=1.3						
	15nm,0.4s						
JAY	**Jayapura**	**2.29**	**90**	P	**Pn**	**18 42 07.4**	**+1.5**
BAKI	**Biak**	**2.66**	**300**	P	**Pn**	**18 42 12.3**	**+1.5**
RKPI	**Ransiki, Papua**	**4.35**	**283**	P	**Pn**	**18 42 35.7**	**+1.6**
FAKI	**Fak Fak**	**6.17**	**266**	P	**Pn**	**18 42 59.8**	**+0.7**
WRA	**Warramunga Arr**	**17.76**	**193**	P	**Pn**	**18 45 33.9**	**-1.3**
	0.2nm,0.3s,baz=5.4,slow=13,SNR=6.4						
	0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.91**	**218**	P	**P**	**18 45 59.8**	**+0.5**
	0.1nm,0.3s,baz=56,slow=7.3,SNR=2.4						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**21.46**	**191**	P	**P**	**18 46 14.5**	**-1.7**
	0.8nm,0.6s,baz=19,slow=11,SNR=16						
	0.8nm,0.6s						
LEM	**Lembang**	**30.98**	**261**	P	**P**	**18 47 44.8**	**-0.3**
	7.6nm,0.5s,baz=328,slow=9.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**44.09**	**300**	P	**P**	**18 49 35.6**	**-0.2**
	0.3nm,0.4s,baz=118,slow=8.7,SNR=6.1						
	0.3nm,0.4s						
GTA	**Gaotai**	**54.74**	**324**	*eP*	**P**	**18 50 59.0**	**+2.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**57.43**	**335**	P	**P**	**18 51 15.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=126,slow=7.3,SNR=3.8						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.46**	**322**	P	**P**	**18 52 36.6**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=117,slow=8.0,SNR=32						
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**71.63**	**330**	P	**P**	**18 52 48.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=111,slow=5.7,SNR=4.4						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**73.41**	**325**	P	**P**	**18 52 59.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=114,slow=5.4,SNR=8.5						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**78.99**	**325**	P	**P**	**18 53 32.2**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=120,slow=8.8,SNR=6.7						
	comp=Z,1.3nm,0.5s						
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**18 54 05.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=256,slow=4.6,SNR=4.0						
	comp=Z,0.4nm,0.7s						

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*DJA **28** 18:43:22.1±0.6, 4°.N±5°.×12°.5E±°., h296km±5km, M4.0/11, mB4.7/3, mb4.0/5, MLv4.0/11, Mw(mB)3.9/3*
*NEIC **28** 18:43:31.3±1.6, 3°.22N±0°.08×124°.92E±0°.08, h226km±11km, mb4.4/13, Error ellipse: s-maj=15.0km s-min=6.8km az=45.0*
*IDC **28** 18:43:36.5±12.0, 2°.95N×124°.87E, h270km±72km, mb3.3/5, mbtmp4.2/7, Error ellipse: s-maj=133.4km s-min=35.7km az=155.0*
ISC 28 18:43:32.0±1.1, 3°.2N±0°.1×124°.94E±0°.08, h250km, n28, σ1°59/27, mb4.3/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.74**	**53**	P	**Pn**	**18 44 02.3**	**-3.5**
SGSI				S	**S**	**18 44 33.9**	**+1.6**
TNTI	**Ternate**	**3.45**	**135**		**Pn**	**18 44 27.6**	**-1.9**
TNTI				Sn	**S**	**18 45 11.6**	**-3.5**
TNTI	**Ternate**	**3.45**	**135**	P	**Pn**	**18 44 27.7**	**-1.8**
MRSI	**Marisa**	**4.06**	**228**	P	Pn	18 44 28.4	-8.2
TOLI2	**Tolitoli**	**4.66**	**243**		**Pn**	**18 44 41.1**	**-2.7**
LUWI	**Luwuk**	**4.77**	**207**	Pn	**Pn**	**18 44 44.3**	**-0.8**
SANI	**Sanana**	**5.36**	**169**	P	Pn	18 44 48.5	-3.8
	0.3nm2μm32nm,0.8s						
NLAI	**Namlea**	**6.79**	**161**	P	**Pn**	**18 45 08.1**	**-2.0**
	1μm22nm,0.6s						
SOEI	**Soe**	**12.93**	**183**	P	**Pn**	**18 46 27.6**	**+0.3**
BATI	**Baumata**	**13.42**	**185**	P	**Pn**	**18 46 35.2**	**+2.0**
	21nm,0.4s,baz=169,slow=0.3,SNR=7.3						
JAGI	**Jajag, Banyuwa**	**15.84**	**223**	P	**P**	**18 47 01.1**	**-0.1**
JAY	**Jayapura**	**16.76**	**110**	P	**Pn**	**18 47 13.3**	**0.0**
	4.6nm,0.4s,baz=215,slow=9.8,SNR=11						
MTN	**Manton Dam**	**17.12**	**159**	Pn	**P**	**18 47 17.0**	**+1.7**
MTN				IAmb	IAmb	18 47 35.6	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**19.17**	**169**	P	**P**	**18 47 38.1**	**+0.8**
KNRA				IAmb	IAmb	18 47 49.0	
	comp=Z,9.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.21**	**178**	P	**P**	**18 47 58.3**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=7.2,slow=11,SNR=52						
	comp=Z,3.4nm,0.3s						
WB0	**Warramunga Arr**	**24.68**	**158**	P	**P**	**18 48 30.8**	**+0.3**
WB0				IAmb	IAmb	18 48 50.0	
	comp=Z,13nm,1.4s						
MBWA	**Marble Bar**	**24.78**	**192**	P	**P**	**18 48 31.1**	**-0.2**
MBWA				IAmb	IAmb	18 48 38.4	
	comp=Z,26nm,1.2s						
WRAB	**Tennant Creek**	**24.82**	**158**	P	**P**	**18 48 32.1**	**+0.4**
WRAB				IAmb	IAmb	18 48 43.3	
	comp=Z,5.3nm,1.1s						
WRA	**Warramunga Arr**	**24.82**	**159**	P	**P**	**18 48 33.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=333,slow=11,SNR=5.8						
	comp=Z,0.4nm,0.5s						
WR8	**Warramunga Arr**	**24.89**	**158**	P	**P**	**18 48 33.8**	**+1.4**
AS31	**Alice Springs**	**28.13**	**162**	P	**P**	**18 49 00.6**	**-0.8**
ASAR	**Alice Springs**	**28.13**	**162**	P	**P**	**18 49 02.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=340,slow=7.4,SNR=4.6						
	comp=Z,0.2nm,0.3s						
RABL	**Rabaul**	**28.19**	**105**	P	**P**	**18 49 03.2**	**+1.2**
FORT	**Forrest**	**33.96**	**175**	P	**P**	**18 49 52.5**	**+0.4**
FORT				IAmb	IAmb	18 50 13.7	
	comp=Z,28nm,1.4s						
NWAO	**Narrogin (SRO)**	**36.70**	**191**	P	**P**	**18 50 15.5**	**+0.1**
NWAO				IAmb	IAmb	18 50 58.3	
	comp=Z,56nm,1.5s						
NWAO	**Narrogin (SRO)**	**36.70**	**191**	P	**P**	**18 50 15.8**	**+0.3**
	comp=Z,15nm,1.2s,baz=11,slow=5.2,SNR=3.4						
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**38.34**	**157**	IAmb	IAmb	18 50 33.8	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**38.34**	**157**	P	**P**	**18 50 29.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=339,slow=8.6,SNR=3.7						
	comp=Z,0.5nm,0.3s						

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*NNC **28** 18:55:31.2±3.0, 43°.99N×84°.17E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=118.7km s-min=19.8km az=169.0*
SOME 28 18:55:30.4, 43°.68N×84°.37E, h20km, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.57**	**266**	⇑Pg	Pb	18 56 34.2	+1.3
	3.2nm,1.1s						
PDGK				⇑Lg	Lg	18 57 23.4	
	5.5nm,1.1s						
SHLS	**Shalkode**	**3.61**	**263**	Pg	Pb	18 56 30.1	-3.5
	2.1nm,0.2s						
SHLS				Lg	Lg	18 57 13.8	
	6.1nm,0.3s						
SHLS	**Shalkode**	**3.61**	**263**	*eP*	Pb	18 56 30.1	-3.5
	2.1nm,0.2s						
SHLS				*eS*	Sb	18 57 13.1	-3.9
	6.1nm,0.3s						
UZB	**Uzynbulak**	**3.93**	**264**	Pg	Pb	18 56 40.4	+1.3
	1.4nm,0.3s						
UZB				Lg	Lg	18 57 31.1	
	2.0nm,0.3s						
UZB	**Uzynbulak**	**3.93**	**264**	*eP*	Pb	18 56 40.4	+1.3
	1.4nm,0.3s						
UZB				*eS*	Sb	18 57 31.1	+4.8
	2.0nm,0.3s						
KPKS	**Kokpek**	**4.13**	**269**	Pg	Pb	18 56 44.7	+2.2
	0.3nm,0.1s						
KPKS				Lg	Lg	18 57 38.1	
	1.1nm,0.3s						
SATY	**Saty**	**4.39**	**264**	Pg	Pb	18 56 50.8	+3.9
	2.0nm,0.2s						
SATY				Lg	Lg	18 57 48.6	
	1.7nm,0.1s						

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*IDC **28** 18:58:07.5±3.2, 5°.17S×150°.01E, h406km±32km, mb2.9/6, mbtmp3.6/7, Error ellipse: s-maj=52.0km s-min=24.0km az=108.0*
ISC 28 18:58:07.0±1.7, 5°.1S±0°.2×150°.0E±0°.4, h400km, n8, σ0°54/8, mb3.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.11**	**214**	P	**Pn**	**18 59 30.6**	**+0.4**
	4.7nm,0.3s,baz=355,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**21.21**	**225**	P	**P**	**19 02 22.2**	**-0.4**
	1.5nm,0.4s,baz=46,slow=9.5,SNR=29						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**24.11**	**219**	P	**P**	**19 02 48.6**	**-0.1**
	0.4nm,0.4s,baz=54,slow=7.9,SNR=12						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**55.53**	**296**	P	**P**	**19 07 02.8**	**-0.2**
	0.3nm,0.5s,baz=121,slow=5.9,SNR=4.3						
	0.3nm,0.5s						
SONM	**Songino Array**	**65.16**	**329**	P	**P**	**19 08 07.7**	**+0.8**
	0.3nm,0.5s,baz=150,slow=6.7,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**78.77**	**320**	P	**P**	**19 09 26.2**	**-0.4**
	0.5nm,0.9s,baz=124,slow=6.0,SNR=3.5						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**83.51**	**23**	P	**P**	**19 09 50.9**	**-0.1**
	0.4nm,0.6s,baz=252,slow=4.9,SNR=4.4						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.77**	**286**	PKPbc	**PKPbc**	**19 17 06.0**	**-0.5**
	0.9nm,1.1s,baz=60,slow=4.2,SNR=5.3						

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*IDC **28** 19:04:39.1±0.9, 2°.50S×138°.30E, h0km, mb3.8/7, mbtmp3.8/9, ML3.2/2, MS3.3/2, Error ellipse: s-maj=29.7km s-min=14.7km az=85.0*
*DJA **28** 19:04:43.0±0.4, 2°.S±5°.×13°.8E±°., h10km, M3.6/7, MLv3.6/7*
ISC 28 19:04:43.8±0.7, 2°.39S±0°.09×138°.42E±0°.06, h32km, n16, σ1°81/16, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.49**	**36**	P	**Pb**	**19 04 52.2**	**-2.0**
GENI	**Genyem**	**1.76**	**97**	P	**Pn**	**19 05 13.7**	**+1.7**
JAY	**Jayapura**	**2.29**	**93**	Pn	**Pn**	**19 05 20.5**	**+1.1**
	2.1nm,0.3s,baz=270,slow=7.2,SNR=10						
JAY				LR	LR	19 06 35.5	
	comp=Z,302nm,18.7s,baz=196,slow=48						
	33nm,0.8s						
JAY	**Jayapura**	**2.29**	**93**	P	**Pn**	**19 05 20.7**	**+1.3**
BAKI	**Biak**	**2.60**	**297**	P	**Pn**	**19 05 24.5**	**+0.9**
RKPI	**Ransiki, Papua**	**4.33**	**282**	P	**Pn**	**19 05 48.6**	**+1.2**
WRA	**Warramunga Arr**	**17.90**	**193**	P	**Pn**	**19 08 47.6**	**-2.8**
	0.1nm,0.3s,baz=16,slow=12,SNR=7.2						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**21.60**	**191**	P	**P**	**19 09 27.9**	**-3.3**
	1.0nm,0.6s,baz=18,slow=11,SNR=20						
ASAR				S	**S**	**19 13 30.5**	**+1.6**
	0.5nm,0.8s,baz=11,slow=25,SNR=2.9						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**

FULLY				Sg	Sg	19 10 02.1	+0.4
LAUCH	**Lauchernalp**	**0.26**	**71**	⇑Pg	Pg	19 09 58.7	+0.3
LAUCH				Sg	Sg	19 10 02.3	+0.5

ZUR 28 19:10:43.8, 46°33N×7°41E, h3km±1km, MLh0.5/4, 2C-1D, Error ellipse: s-maj=2648.4km s-min=938.4km az=308.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STSW2	**Zeuzier, Staus**	**0.02**	**48**	Pg	Pg	19 10 44.9	+0.2
STSW2				Sg	Sg	19 10 45.6	+0.2
SAYF2	**Ayent-Fortunoz**	**0.04**	**174**	⇑Pg	Pg	19 10 45.0	+0.2
SAYF2				Sg	Sg	19 10 45.9	+0.3
RAW2	**Sanetsch, VS**	**0.07**	**256**	Pg	Pg	19 10 45.6	+0.2
RAW2				Sg	Sg	19 10 46.8	+0.4
SENIN	**Lac Senin/Sane**	**0.08**	**293**	⇓Pg	Pg	19 10 45.8	+0.2
SENIN				Sg	Sg	19 10 47.3	+0.4
RAW1	**Lenk, BE**	**0.09**	**12**	⇑Pg	Pg	19 10 45.9	+0.2
RAW1				Sg	Sg	19 10 47.5	+0.4

*SJA **28** 19:15:19.6±0.6, 34°.89S×70°.95W, h118km±4km, ML3.5, MW3.5*
*GUC **28** 19:15:21.1±0.7, 34°.83S×71°.01W, h119km±4km, ML3.6*
ISC 28 19:15:19.5±1.4, 34°92S±0°03×70°87W±0°05, h123km±9km, n50, σ1§21/76, 12C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.14**	**29**	*e*P	**Pn**	**19 15 36.4**	**-0.1**
BO01	**Tunca**	**0.56**	**341**	*e*P	**Pn**	**19 15 37.7**	**-0.5**
BO01				*e*S	**Sn**	**19 15 50.8**	**-1.5**
BO01				IAML		19 15 51.1	
	comp=Z,796nm,0.3s						
GO05	**Hualane**	**0.88**	**264**	⇓*i*P	**Pn**	**19 15 41.1**	**+0.4**
GO05				*i*S	**Sn**	**19 15 55.7**	**-1.0**
GO05				IAML		19 15 56.7	
	comp=N,2μm,0.3s						
GO05	**Hualane**	**0.88**	**264**	*e*P	**Pn**	**19 15 41.1**	**+0.4**
GO05				*e*S	**Sn**	**19 15 56.6**	**-0.1**
GO05				IAML		19 15 56.9	
	comp=Z,1μm,0.1s						
BO04	**La Punta**	**0.95**	**13**	⇑*i*P	**Pn**	**19 15 41.6**	**+0.1**
BO04				*i*S	**Sn**	**19 15 57.2**	**-0.8**
BO04				IAML		19 15 57.9	
	comp=N,2μm,0.4s						
ML02	**Panimavida**	**0.95**	**208**	⇓*i*P	**Pn**	**19 15 42.7**	**+1.3**
ML02				*i*S	**Sn**	**19 15 58.9**	**+0.9**
ML02				IAML		19 15 59.9	
	comp=E,5μm,0.4s						
ML02	**Panimavida**	**0.95**	**208**	*e*P	**Pn**	**19 15 42.7**	**+1.3**
ML02				IAML		19 16 00.8	
	comp=Z,993nm,0.7s						
MT01	**Popeta**	**1.10**	**343**	⇑*i*P	**Pn**	**19 15 42.7**	**-0.2**
MT01				*i*S	**Sn**	**19 15 58.6**	**-1.8**
MT01				IAML		19 16 01.3	
	comp=N,2μm,0.1s						
MT01	**Popeta**	**1.10**	**343**	*e*P	**Pn**	**19 15 42.6**	**-0.2**
MT01				IAML		19 16 01.6	
	comp=Z,1μm,0.1s						
MT09	**Talagante**	**1.14**	**355**	⇑*i*P	**Pn**	**19 15 43.6**	**+0.1**
MT09				*i*S	**Sn**	**19 16 00.3**	**-1.2**
MT09				IAML		19 16 02.3	
	comp=N,3μm,0.2s						
LMEL	**Las Melosas**	**1.20**	**27**	⇑*i*P	**Pn**	**19 15 44.6**	**+0.6**
LMEL				*e*S	**Sn**	**19 16 04.0**	**+1.4**
LMEL				IAML		19 16 08.3	
	comp=N,1μm,0.1s						
LMEL	**Las Melosas**	**1.20**	**27**	*e*P	**Pn**	**19 15 44.7**	**+0.6**
LMEL				*e*S	**Sn**	**19 16 06.3**	**+3.7**
LMEL				IAML		19 16 08.2	
	comp=Z,607nm,0.1s						
MT12	**Pirque**	**1.21**	**13**	⇑*i*P	**Pn**	**19 15 44.3**	**+0.2**
MT12				*i*S	**Sn**	**19 16 02.5**	**-0.1**
MT12				IAML		19 16 10.1	
	comp=N,798nm,0.5s						
MT03	**Universidad Ad**	**1.45**	**12**	⇑*i*P	**Pn**	**19 15 47.0**	**+0.3**
MT03				*i*S	**Sn**	**19 16 06.9**	**-0.5**
MT03				IAML		19 16 10.1	
	comp=N,1μm,0.1s						
MT03	**Universidad Ad**	**1.45**	**12**	*e*P	**Pn**	**19 15 47.1**	**+0.3**
MT03				*e*S	**Sn**	**19 16 07.5**	**+0.1**
MT03				IAML		19 16 08.7	
	comp=Z,637nm,0.1s						
EDS3	**Malargue**	**1.47**	**126**	*e*P	**Pn**	**19 15 45.0**	**-2.0**
MT05	**Renca**	**1.53**	**4**	⇑*i*P	**Pn**	**19 15 48.0**	**+0.4**
MT05				*e*S	**Sn**	**19 16 09.1**	**+0.3**
MT05				IAML		19 16 10.8	
	comp=E,1μm,0.3s						
MT05	**Renca**	**1.53**	**4**	*e*P	**Pn**	**19 15 48.0**	**+0.4**
MT05				*e*S	**Sn**	**19 16 09.4**	**+0.6**
MT05				IAML		19 16 09.9	
	comp=Z,352nm,0.2s						
MT14	**Cerro Calı¡n**	**1.54**	**10**	⇑*i*P	**Pn**	**19 15 48.2**	**+0.5**
MT14				*i*S	**Sn**	**19 16 08.8**	**-0.4**
MT14				IAML		19 16 09.8	
	comp=E,993nm,0.5s						
MT04	**Ro Olivares**	**1.63**	**22**	⇑*i*P	**Pn**	**19 15 49.6**	**+0.7**
MT04				*i*S	**Sn**	**19 16 11.7**	**+0.5**
MT04				IAML		19 16 12.7	
	comp=E,495nm,0.4s						
MT04	**Ro Olivares**	**1.63**	**22**	*e*P	**Pn**	**19 15 49.5**	**+0.6**
MT04				IAML		19 16 14.0	
	comp=Z,224nm,0.3s						
MT08	**Bocatoma Ro**	**1.63**	**26**	⇑*i*P	**Pn**	**19 15 49.8**	**+0.8**
MT08				*i*S	**Sn**	**19 16 10.9**	**-0.4**
MT08				IAML		19 16 19.9	
	comp=N,176nm,0.3s						
MT08	**Bocatoma Ro**	**1.63**	**26**	*e*P	**Pn**	**19 15 49.9**	**+1.0**
MT08				*e*S	**Sn**	**19 16 12.6**	**+1.3**
MT10	**Hacienda Santa**	**1.66**	**10**	⇑*i*P	**Pn**	**19 15 49.7**	**+0.4**
MT10				*i*S	**Sn**	**19 16 11.3**	**-0.5**
MT02	**Curacav**	**1.67**	**352**	⇑*i*P	**Pn**	**19 15 49.3**	**+0.2**
MT02				IAML		19 16 13.7	
	comp=N,324nm,0.2s						
MT02	**Curacav**	**1.67**	**352**	*e*P	**Pn**	**19 15 48.3**	**-0.9**
MT02				IAML		19 16 14.2	
	comp=Z,207nm,0.1s						
BI02	**San Fabin de**	**1.77**	**191**	*e*P	**Pn**	**19 15 51.7**	**+1.3**
BI02				IAML		19 16 18.8	
	comp=Z,194nm,0.6s						
PEL	**Peldehue**	**1.78**	**5**	*e*P	**Pn**	**19 15 51.0**	**+0.5**
PEL				*e*S	**Sn**	**19 16 15.2**	**+1.0**
PEL				IAML		19 16 19.1	
	comp=Z,237nm,0.4s						
ROC1	**El Roble**	**1.94**	**356**	*e*S	**Sn**	**19 16 20.2**	**+2.2**
ROCH	**El Roble**	**1.95**	**356**	*e*P	**Pn**	**19 15 52.9**	**+0.2**
ROCH				IAML		19 16 21.4	
	comp=N,701nm,0.7s						
RFA	**San Rafael**	**1.98**	**86**	*e*P	**Pn**	**19 15 53.7**	**+0.8**
RFA				*e*S	**Sn**	**19 16 18.2**	**-0.3**
VA01	**Torpederas**	**2.00**	**341**	*e*P	**Pn**	**19 15 53.3**	**+0.2**
VA01				IAML		19 16 21.5	
	comp=Z,212nm,0.3s						
VA03	**San Esteban**	**2.17**	**7**	*e*P	**Pn**	**19 15 56.1**	**+0.8**
VA03				IAML		19 16 26.0	
	comp=Z,175nm,0.1s						
AVIZ	**Vizcacheras**	**2.42**	**54**	*e*P	Pn	19 16 07.3	+8.8
AVIZ				*e*S	**Sn**	**19 16 24.8**	**-3.7**
AAGR	**Agrelo**	**2.49**	**43**	*e*P	**Pn**	**19 16 00.7**	**+1.3**
ARCO	**CERRO ARCO**	**2.62**	**38**	*e*P	**Pn**	**19 16 02.8**	**+1.6**
ASAL	**Salagasta**	**2.87**	**37**	*e*P	**Pn**	**19 16 06.0**	**+1.7**
ASAL				*e*S	**Sn**	**19 16 37.7**	**-1.2**
CANA	**Caviahue**	**2.97**	**183**	*e*P	**Pn**	**19 16 06.9**	**+1.3**
CANA				*e*S	**Sn**	**19 16 38.9**	**-2.2**
RTLS	**Leoncito**	**3.38**	**23**	*e*P	**Pn**	**19 16 13.8**	**+2.6**
RTLS				IAML		19 16 55.9	
	comp=Z,178nm,0.6s						
CO02	**Combarbal**	**3.71**	**358**	*e*P	**Pn**	**19 16 14.9**	**-0.4**
CO02				*e*S	**Sn**	**19 16 57.7**	**-0.8**
CO02				IAML		19 17 00.2	
	comp=Z,122nm,0.1s						
ZON	**Zonda**	**3.83**	**29**	*e*P	**Pn**	**19 16 18.0**	**+1.1**
ZON				*e*S	**Sn**	**19 17 01.8**	**+0.4**
ZON				IAML		19 17 05.1	
	comp=Z,28nm,0.5s						
CFA	**Coronel Fontan**	**3.97**	**34**	*e*P	**Pn**	**19 16 19.4**	**+0.6**
CFA				*e*S	**Sn**	**19 17 01.3**	**-3.5**
ACAN	**Cantantal**	**4.05**	**50**	*e*P	**Pn**	**19 16 20.6**	**+0.9**
ACAN				IAML		19 17 09.6	
	comp=Z,73nm,0.6s						
CO03	**El Pedregal**	**4.07**	**2**	*e*P	**Pn**	**19 16 20.0**	**-0.2**
CO03				*e*S	**Sn**	**19 17 06.3**	**-0.9**
CO03				IAML		19 17 06.7	
	comp=Z,70nm,0.2s						
RTLL	**Cerro Villicun**	**4.10**	**30**	*e*P	**Pn**	**19 16 21.6**	**+1.1**
RTLL				IAML		19 17 09.0	
	comp=Z,58nm,0.4s						
ACCO	**Cerro Coronel**	**4.58**	**20**	*e*P	**Pn**	**19 16 27.9**	**+0.7**
GO04	**Tololo Observa**	**4.73**	**1**	*e*S	**Sn**	**19 17 21.7**	**-1.6**
AROD	**Rodeo**	**4.88**	**14**	*e*P	**Pn**	**19 16 31.6**	**+0.4**
AVFE	**Valle Fertil**	**5.13**	**35**	IAML		19 17 33.2	
	comp=Z,20nm,0.3s						
ACHE	**Chepes**	**5.15**	**44**	*e*P	**Pn**	**19 16 34.8**	**+0.2**

*IDC **28** 19:26:07.8±5.9, 22°.17N×121°.47E, h0km, mb3.5/3, mbtmp3.5/3, MS3.8/1, Error ellipse: s-maj=452.8km s-min=28.1km az=60.0*
*JMA **28** 19:26:11.8±0.1, 22°.6N±0°.4×121°.6E±0°.3, h7km±2km, MV3.5/13, TAIWAN REGION*
*TAP **28** 19:26:11.6, 22°.43N×121°.40E, h23km, ML3.6, C*
ISC 28 19:26:11.3±0.9, 22°42N±0°02×121°44E±0°02, h25km±7km, n169, σ1§29/306, mb3.6/3, 2C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.26**	**51**	⇑*i*P	**Pb**	**19 26 18.0**	**+0.3**
LDUT				*i*S	**Sb**	**19 26 22.7**	**+0.6**
LAY	**Lan-yu**	**0.39**	**165**	⇓*i*P	**Pb**	**19 26 20.3**	**+0.6**
LAY				*i*S	**Sb**	**19 26 26.2**	**+0.9**
LYUB	**Lan-yu**	**0.43**	**162**	⇓*i*P	**Pb**	**19 26 19.8**	**-0.5**
LYUB				S	**Sb**	**19 26 25.6**	**-0.9**
TTN	**Taitung**	**0.43**	**321**	⇓*i*P	**Pb**	**19 26 21.1**	**+0.7**
TTN				S	**Sn**	**19 26 28.1**	**-1.0**
ECL	**Taimali**	**0.49**	**292**	⇓*i*P	**Pb**	**19 26 20.6**	**-0.7**
ECL				S	**Sb**	**19 26 27.3**	**-0.8**
TAW	**Tawu**	**0.51**	**264**	*i*P	**Pb**	**19 26 21.1**	**-0.6**
TAW				S	**Sb**	**19 26 27.5**	**-1.2**
TAWH	**Dawu Township**	**0.52**	**262**	⇓*i*P	**Pb**	**19 26 21.3**	**-0.5**
TAWH				S	**Sb**	**19 26 27.4**	**-1.6**
TWGBT	**Beinan**	**0.52**	**320**	P	**Pb**	**19 26 21.3**	**-0.6**
TWGBT	**Beinan**	**0.52**	**320**	S	**Sb**	**19 26 29.6**	**+0.5**
TWGBT	**Beinan**	**0.52**	**320**	⇓*i*P	**Pb**	**19 26 21.6**	**-0.3**
TWGBT				*e*S	**Sb**	**19 26 28.7**	**-0.4**
TWG	**Pinlang**	**0.53**	**320**	⇓*i*P	**Pb**	**19 26 21.6**	**-0.4**
TWG				S	**Sb**	**19 26 28.8**	**-0.5**
EAST	**Anshuo**	**0.55**	**267**	⇓*i*P	**Pb**	**19 26 21.7**	**-0.6**
EAST				*e*S	**Sb**	**19 26 28.4**	**-1.5**
LONT	**Longtian**	**0.57**	**329**	*i*P	**Pb**	**19 26 22.5**	**-0.1**
LONT				*e*S	**Sb**	**19 26 30.9**	**+0.5**
EDH	**Donghe**	**0.57**	**347**	*i*P	**Pb**	**19 26 22.9**	**+0.2**
EDH				*i*S	**Sb**	**19 26 30.8**	**+0.4**
SLIU	**Shizi**	**0.63**	**252**	*i*P	**Pb**	**19 26 23.0**	**-0.7**
SLIU				*i*S	**Sb**	**19 26 30.3**	**-1.7**
CHKT	**Chengkung**	**0.69**	**354**	*i*P	**Pb**	**19 26 23.9**	**-0.7**
CHKT				*i*S	**Sb**	**19 26 33.6**	**-0.1**
SMST	**Manzhou Townsh**	**0.69**	**235**	*i*P	**Pb**	**19 26 24.2**	**-0.4**
SMST				*i*S	**Sb**	**19 26 32.6**	**-1.0**
ECS	**Chishang**	**0.71**	**343**	*i*P	**Pb**	**19 26 25.3**	**+0.3**
ECS				*e*S	**Sn**	**19 26 36.1**	**+0.3**
TSEB	**Hengchuen, Pin**	**0.72**	**225**	*i*P	**Pb**	**19 26 25.5**	**+0.3**
TSEB				*i*S	**Sb**	**19 26 35.3**	**+0.7**
TWKBT	**Hengchun**	**0.75**	**231**	⇑*i*P	**Pb**	**19 26 25.2**	**-0.5**
TWKBT				S	**Sb**	**19 26 34.9**	**-0.7**
TWK1	**Hengchun**	**0.76**	**232**	*i*P	**Pb**	**19 26 25.2**	**-0.6**
TWK1				*i*S	**Sb**	**19 26 34.9**	**-0.7**
SCZT	**Fangliau**	**0.76**	**267**	⇓*i*P	**Pb**	**19 26 25.1**	**-0.8**
SCZT				S	**Sb**	**19 26 34.7**	**-1.2**
HEN	**Hengchun**	**0.77**	**238**	*i*P	**Pb**	**19 26 25.9**	**-0.1**
HEN				S	**Sb**	**19 26 35.4**	**-0.7**
CHKH	**Chenggong**	**0.77**	**357**	*i*P	**Pb**	**19 26 25.3**	**-0.8**
CHKH				*i*S	**Sb**	**19 26 36.1**	**-0.1**
MASBT	**Mashibuluo**	**0.77**	**285**	⇓*i*P	**Pb**	**19 26 25.1**	**-1.0**
MASBT				*e*S	**Sb**	**19 26 33.8**	**-2.4**
FULB	**Fuli**	**0.79**	**350**	*i*P	**Pb**	**19 26 25.8**	**-0.6**
FULB				*e*S	**Sn**	**19 26 37.8**	**-0.1**
TSMG	**Majia**	**0.79**	**292**	*i*P	**Pb**	**19 26 25.6**	**-0.8**
TSMG				S	**Sb**	**19 26 34.5**	**-2.2**
SSD	**Sandimen**	**0.82**	**294**	⇓*i*P	**Pb**	**19 26 25.7**	**-1.1**
SSD				*e*S	**Sb**	**19 26 36.0**	**-1.4**
ELDTW	**Lidau**	**0.86**	**333**	*i*P	**Pb**	**19 26 26.4**	**-1.4**
ELDTW				*e*S	**Sb**	**19 26 38.2**	**-0.7**
ECBN	**Changbin**	**0.90**	**0**	*i*P	**Pb**	**19 26 27.6**	**-0.6**
ECBN				S	**Sb**	**19 26 39.7**	**-0.1**
TSPT	**Pingtung City**	**0.91**	**287**	P	**Pn**	**19 26 29.7**	**+1.2**
TSPT				*e*S	**Sn**	**19 26 43.5**	**+2.6**
SGLT	**Jiouru**	**0.93**	**290**	*i*P	**Pb**	**19 26 28.8**	**0.0**
SGLT				*e*S	**Sn**	**19 26 41.7**	**+0.4**
EYUL	**Yuli**	**0.94**	**353**	*i*P	**Pn**	**19 26 29.1**	**+0.3**
EYUL				*e*S	**Sn**	**19 26 41.5**	**+0.1**
TWF1	**Yuli**	**0.94**	**352**	*i*P	**Pb**	**19 26 28.0**	**-0.9**
TWF1				*e*S	**Sb**	**19 26 41.5**	**+0.5**
STYH	**Taoyuan**	**0.97**	**321**	*i*P	**Pb**	**19 26 28.6**	**-0.8**
STYH				*e*S	**Sb**	**19 26 41.3**	**-0.6**
STYT	**Tauyuan**	**0.98**	**320**	*i*P	**Pb**	**19 26 28.6**	**-1.0**
STYT				*e*S	**Sb**	**19 26 41.8**	**-0.3**
YULB	**Yu-li**	**0.98**	**352**	P	**Pb**	**19 26 28.9**	**-0.7**
YULB	**Yu-li**	**0.98**	**352**	*i*P	**Pb**	**19 26 28.1**	**-1.5**
YULB				*e*S	**Sb**	**19 26 40.3**	**-1.9**
WLCH	**Liuqiu**	**0.99**	**266**	*i*P	**Pn**	**19 26 32.1**	**+2.6**
WLCH				S	**Sn**	**19 26 45.7**	**+3.0**
SCST	**Cishan**	**0.99**	**298**	*i*P	**Pb**	**19 26 29.9**	**+0.1**
SCST				*e*S	**Sn**	**19 26 43.9**	**+1.0**
TWP	**Hsiaoliuchiu**	**1.00**	**266**	*i*P	**Pn**	**19 26 32.3**	**+2.6**
TWP				*e*S	**Sn**	**19 26 45.9**	**+2.8**
TWM1	**Shoushan**	**1.03**	**294**	*i*P	**Pn**	**19 26 31.4**	**+1.3**
TWM1				*e*S	**Sn**	**19 26 45.5**	**+1.8**
SGST	**Jiashian**	**1.03**	**310**	*i*P	**Pb**	**19 26 29.8**	**-0.8**
SGST				*i*S	**Sn**	**19 26 45.0**	**+1.1**
HGSD	**Ruisui**	**1.07**	**359**	*i*P	**Pn**	**19 26 30.3**	**-0.4**
HGSD				*e*S	**Sn**	**19 26 45.9**	**+1.1**
EHYH	**Wanrong**	**1.08**	**355**	*i*P	**Pn**	**19 26 29.6**	**-1.1**
EHYH				*e*S	**Sb**	**19 26 44.7**	**-0.3**
EHY	**Hungye**	**1.09**	**354**	*i*P	**Pn**	**19 26 30.0**	**-1.0**
EHY				*e*S	**Sb**	**19 26 44.5**	**-0.9**
WSSB	**Gushan**	**1.11**	**282**	*i*P	**Pb**	**19 26 33.5**	**+1.6**
WSSB				S	**Sn**	**19 26 50.5**	**+4.7**
WTP	**Ta-pu**	**1.13**	**317**	*i*P	**Pb**	**19 26 32.2**	**0.0**
WTP				*i*S	**Sn**	**19 26 48.6**	**+2.4**
CHN1	**Nanshi**	**1.14**	**312**	*i*P	**Pb**	**19 26 32.6**	**+0.3**
CHN1				*i*S	**Sn**	**19 26 48.4**	**+1.9**
TPUB	**Ta-pu**	**1.16**	**320**	P	**Pn**	**19 26 32.4**	**+0.5**
TPUB	**Ta-pu**	**1.16**	**320**	S	**Sb**	**19 26 46.2**	**-1.0**
TPUB	**Ta-pu**	**1.16**	**320**	*i*P	**Pn**	**19 26 32.5**	**+0.5**
TPUB				*i*S	**Sn**	**19 26 49.3**	**+2.4**
YUS	**Yu-Shan**	**1.16**	**337**	P	**Pn**	**19 26 32.4**	**0.0**
YUS				*e*S	**Sb**	**19 26 47.1**	**-0.7**
SHHT	**Tainan City**	**1.18**	**301**	*i*P	**Pb**	**19 26 34.9**	**+1.9**
SHHT				S	**Sn**	**19 26 52.3**	**+4.9**
CHN3	**Shinhua**	**1.19**	**304**	*i*P	**Pb**	**19 26 34.9**	**+1.7**
CHN3				*i*S	**Sn**	**19 26 51.8**	**+4.0**
CHN4	**Tsaushan**	**1.22**	**320**	*i*P	**Pb**	**19 26 33.8**	**+0.1**
CHN4				*i*S	**Sn**	**19 26 51.6**	**+3.2**
TWK	**Hsinying**	**1.22**	**314**	*i*P	**Pb**	**19 26 33.8**	**0.0**
TWK				*i*S	**Sn**	**19 26 50.5**	**+2.0**
ALS	**Alishan**	**1.24**	**332**	*i*P	**Pn**	**19 26 33.3**	**0.0**
ALS				*e*S	**Sn**	**19 26 50.1**	**+0.8**
EGFH	**Guangfu**	**1.25**	**359**	*i*P	**Pb**	**19 26 34.6**	**+0.4**
EGFH				*i*S	**Sb**	**19 26 50.3**	**+0.5**
WCKO	**Fanlu**	**1.28**	**323**	*i*P	**Pb**	**19 26 35.0**	**+0.3**
WCKO				*i*S	**Sb**	**19 26 53.5**	**+2.8**
TEGC	**Jichi Village**	**1.29**	**4**	*i*P	**Pn**	**19 26 33.8**	**+0.1**
TEGC				*i*S	**Sn**	**19 26 50.5**	**+0.4**
WARBT	**Fenglin Townsh**	**1.30**	**358**	*i*P	**Pn**	**19 26 32.6**	**-1.2**
WARBT				*e*S	**Sn**	**19 26 50.1**	**-0.3**
VWDT	**VWDT**	**1.36**	**348**	*i*P	**Pn**	**19 26 34.5**	**-0.2**
VWDT				*e*S	**Sb**	**19 26 52.8**	**-0.2**
CHN5	**Tsauling**	**1.37**	**329**	*i*P	**Pn**	**19 26 35.8**	**+0.9**
CHN5				*i*S	**Sb**	**19 26 54.5**	**+1.1**
SHUL	**Shoufeng**	**1.37**	**5**	*i*P	**Pn**	**19 26 35.2**	**+0.4**
SHUL				*i*S	**Sn**	**19 26 52.8**	**+0.7**
SCLT	**Jiali**	**1.38**	**304**	*i*P	**Pb**	**19 26 36.1**	**-0.2**
SCLT				*i*S	**Sb**	**19 26 54.3**	**+0.8**
ESL	**Shilin**	**1.39**	**360**	*i*P	**Pn**	**19 26 35.6**	**+0.5**
ESL				S	**Sn**	**19 26 52.4**	**-0.3**
CHN2	**Minshiung**	**1.43**	**321**	*i*P	**Pb**	**19 26 37.6**	**+0.5**
CHN2				*i*S	**Sb**	**19 26 56.6**	**+1.7**
ICHU	**Yijhu**	**1.43**	**311**	*i*P	**Pb**	**19 26 37.4**	**+0.2**
ICHU				*i*S	**Sb**	**19 26 55.9**	**+1.0**
CHY	**Chiayi**	**1.43**	**319**	*i*P	**Pb**	**19 26 37.3**	**0.0**
CHY				*i*S	**Sb**	**19 26 56.1**	**+1.1**
SSLB	**Suanglung**	**1.44**	**342**	P	**Pn**	**19 26 36.8**	**+1.0**
SSLB	**Suanglung**	**1.44**	**342**	*i*P	**Pn**	**19 26 36.8**	**+1.0**
SSLB				*e*S	**Sb**	**19 26 55.5**	**+0.2**
TSCK	**Chigu Township**	**1.45**	**300**	*i*P	**Pn**	**19 26 36.9**	**+1.1**
TSCK				*i*S	**Sn**	**19 26 54.7**	**+0.6**
TEYL	**Yanliau Villag**	**1.45**	**6**	*i*P	**Pn**	**19 26 36.8**	**+0.9**
TEYL				*i*S	**Sb**	**19 26 56.5**	**+0.8**
CHN8	**Yiju**	**1.47**	**309**	*i*P	**Pb**	**19 26 37.3**	**-0.5**
CHN8				*i*S	**Sb**	**19 26 56.1**	**+0.1**
WGK	**Gukeng**	**1.50**	**327**	*i*P	**Pb**	**19 26 38.6**	**+0.1**
WGK				*i*S	**Sb**	**19 26 58.8**	**+1.7**
WDLH	**Douliu**	**1.52**	**327**	*i*P	**Pb**	**19 26 38.6**	**-0.1**
WDLH				*i*S	**Sb**	**19 26 58.8**	**+1.2**
ETM	**Tongmen**	**1.54**	**2**	*i*P	**Pn**	**19 26 37.0**	**-0.2**
ETM				*e*S	**Sn**	**19 26 57.5**	**+1.1**
SMLT	**Sun Moon Lake**	**1.54**	**341**	*i*P	**Pb**	**19 26 39.2**	**0.0**
SMLT				S	**Sb**	**19 27 00.1**	**+1.6**
WJS	**Zhushan**	**1.55**	**335**	*i*P	**Pb**	**19 26 39.3**	**0.0**
WJS				*i*S	**Sb**	**19 27 00.1**	**+1.7**
OWD	**Renai**	**1.55**	**351**	*i*P	**Pn**	**19 26 38.1**	**+0.7**
OWD				*e*S	**Sb**	**19 26 59.1**	**+0.4**
HWA	**Hwalien**	**1.56**	**5**	P	**Pn**	**19 26 37.2**	**-0.2**
HWA				*e*S	**Sn**	**19 26 58.1**	**+1.2**
WSL	**Shuilin Townsh**	**1.57**	**315**	*i*P	**Pn**	**19 26 38.6**	**+1.0**
WSL				*i*S	**Sb**	**19 26 59.1**	**0.0**
TYC	**Yuchr**	**1.58**	**340**	*i*P	**Pb**	**19 26 39.6**	**-0.1**
TYC				*e*S	**Sb**	**19 27 01.2**	**+1.9**
WTK	**Tuku**	**1.60**	**323**	*i*P	**Pb**	**19 26 39.4**	**-0.7**
WTK				*i*S	**Sb**	**19 26 59.7**	**-0.2**
WUSB	**Renai**	**1.60**	**349**	*i*P	**Pn**	**19 26 38.9**	**+0.9**
WUSB				*e*S	**Sn**	**19 26 58.0**	**0.0**
LXIB	**Xiulin Townshi**	**1.60**	**359**	*i*P	**Pn**	**19 26 37.5**	**-0.6**
LXIB				*e*S	**Sn**	**19 26 59.3**	**+1.3**
WNT	**Mingjian**	**1.61**	**335**	*i*P	**Pb**	**19 26 40.5**	**+0.1**
WNT				*i*S	**Sb**	**19 27 01.6**	**+1.3**
WNT1	**Nantou City**	**1.64**	**335**	*i*P	**Pb**	**19 26 41.0**	**+0.1**
WNT1				*i*S	**Sb**	**19 27 01.8**	**+0.6**
WSF	**Szhu**	**1.66**	**318**	*i*P	**Pn**	**19 26 39.8**	**+1.1**
WSF				*i*S	**Sb**	**19 27 01.1**	**-0.5**
TWD	**Chiawan**	**1.66**	**5**	*i*P	**Pn**	**19 26 38.4**	**-0.4**
TWD				S	**Sb**	**19 27 00.8**	**-0.9**
DPDB	**Guoxing**	**1.68**	**344**	*e*P	**Pn**	**19 26 39.9**	**+0.8**
DPDB				*i*S	**Sb**	**19 27 02.7**	**+0.4**
WCS	**Beigang Elemen**	**1.71**	**343**	*i*P	**Pb**	**19 26 41.3**	**-0.6**
WCS				*e*S	**Sb**	**19 27 03.3**	**+0.3**
WHF	**Hehuan Shan**	**1.73**	**355**	*i*P	**Pn**	**19 26 40.7**	**+0.6**
WHF				*e*S	**Sn**	**19 27 02.5**	**+0.8**
ETL	**Fush Village**	**1.74**	**5**	P	**Pn**	**19 26 40.3**	**+0.3**
ETL				*e*S	**Sn**	**19 27 02.8**	**+1.4**
NACB	**Ninganchiao**	**1.76**	**5**	P	**Pn**	**19 26 39.9**	**-0.2**
NACB	**Ninganchiao**	**1.76**	**5**	S	**Sn**	**19 27 03.0**	**+1.3**
NACB	**Ninganchiao**	**1.76**	**5**	*i*P	**Pn**	**19 26 39.7**	**-0.4**
NACB				S	**Sn**	**19 27 02.5**	**+0.8**
WWF	**Wufeng**	**1.76**	**337**	*i*P	**Pb**	**19 26 42.3**	**-0.5**
WWF				*i*S	**Sb**	**19 27 05.3**	**+0.8**
FUSS	**Fushou**	**1.83**	**354**	*i*P	**Pn**	**19 26 42.3**	**+0.9**
FUSS				*e*S	**Sn**	**19 27 05.2**	**+1.2**
WCH1	**Changhua City**	**1.84**	**334**	*e*P	**Pb**	**19 26 43.9**	**-0.4**
WCH1				*i*S	**Sb**	**19 27 07.4**	**+0.5**
TWT	**Tachien**	**1.85**	**352**	*i*P	**Pb**	**19 26 43.4**	**-1.1**
TWT				S	**Sn**	**19 27 05.5**	**+1.3**

JTJ				*e*S	**Sn**	**19 27 50.4**	**+0.2**
DSXP	**Dongshan**	**3.92**	**290**	P	**Pn**	**19 27 09.4**	**-0.4**
DSXP				S	**Sn**	**19 27 52.4**	**-2.6**
MATB	**Ma-tsu**	**3.96**	**340**	P	**Pn**	**19 27 10.6**	**+0.1**
MATB				*i* S	**Sn**	**19 27 54.0**	**-2.1**
AXDP	**Jialang**	**4.03**	**309**	*i* P	**Pn**	**19 27 11.6**	**+0.2**
AXDP				S	**Sn**	**19 27 56.4**	**-1.5**
MHZQ	**Yeshan**	**4.28**	**330**	P	**Pn**	**19 27 16.0**	**+1.2**
MHZQ				S	**Sn**	**19 28 03.2**	**-0.7**
SXFK	**Yanhouchang**	**5.26**	**320**	P	**Pn**	**19 27 28.5**	**+0.1**
SXFK				S	**Sn**	**19 28 27.1**	**-1.2**
MKAR	**Makanchi Array**	**39.78**	**317**	P	**P**	**19 33 44.0**	**+1.8**
	0.5nm,0.7s,baz=113,slow=8.4,SNR=4.3						
	0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.47**	**174**	LR	LR	19 51 19.3	
	comp=Z,117nm,19.1s,baz=359,slow=38						
H11N1	**WAKE ISLAND Hy**	**42.38**	**85**	T	T	20 19 36.9	
	baz=282,slow=75,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**42.38**	**85**	T	T	20 19 36.2	
	baz=282,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**42.39**	**85**	T	T	20 19 34.9	
	baz=282,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**42.45**	**87**	T	T	20 19 41.3	
	baz=284,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**42.46**	**87**	T	T	20 19 39.6	
	baz=284,slow=75,SNR=48						
H11S2	**WAKE ISLAND Hy**	**42.47**	**87**	T	T	20 19 41.3	
	baz=284,slow=75,SNR=45						
WRA	**Warramunga Arr**	**43.94**	**162**	P	**P**	**19 34 14.0**	**-2.3**
	0.7nm,0.7s,baz=344,slow=8.8,SNR=3.9						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**47.38**	**164**	P	**P**	**19 34 42.6**	**-0.9**
	0.3nm,0.3s,baz=343,slow=7.0,SNR=7.3						
	0.3nm,0.3s						

*IDC **28** 19:57:56.9±1.2,6°.47N×94°.46E,h0km,mb3.7/9, mbtmp3.6/10,MS3.5/3,Error ellipse: s-maj=49.2km s-min=22.9km az=54.0*

ISC 28 19:58:05.9±1.1,6°.6N±0°.2×94°.7E±0°.2,h64km,n17, σ1§76/11,mb3.5/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.47**	**19**	Pn	**Pn**	**20 00 59.5**	**-1.1**
	0.2nm,0.3s,baz=212,slow=9.8,SNR=1.4						
PALK	**Pallekele**	**13.90**	**273**	LR	LR	20 05 09.0	
	comp=Z,99nm,20.3s,baz=80,slow=32						
H08S3	**Diego Garcia H**	**26.29**	**238**	T	T	20 30 12.8	
	baz=57,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**26.29**	**238**	T	T	20 30 11.7	
	baz=57,slow=76,SNR=3.9						
H08S1	**Diego Carcia H**	**26.31**	**238**	T	T	20 30 15.7	
	baz=57,slow=76,SNR=17						
MKAR	**Makanchi Array**	**41.42**	**347**	P	**P**	**20 05 45.3**	**-0.8**
	0.8nm,0.8s,baz=148,slow=7.1,SNR=4.4						
	0.8nm,0.8s						
SONM	**Songino Array**	**42.26**	**12**	P	**P**	**20 05 53.9**	**+0.8**
	0.2nm,0.4s,baz=201,slow=7.7,SNR=2.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**45.88**	**346**	P	**P**	**20 06 21.8**	**-0.1**
	0.6nm,0.2s,baz=173,slow=6.8,SNR=1.4						
	0.6nm,0.2s						
JAY	**Jayapura**	**46.82**	**100**	LR	LR	20 28 43.3	
	comp=Z,109nm,19.3s,baz=315,slow=39						
WRA	**Warramunga Arr**	**47.10**	**125**	P	**P**	**20 06 30.7**	**-1.2**
	0.6nm,0.8s,baz=298,slow=8.3,SNR=2.8						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**47.86**	**352**	P	**P**	**20 06 41.4**	**+4.1**
	0.6nm,0.3s,baz=161,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**48.70**	**130**	P	**P**	**20 06 44.9**	**+0.6**
	0.4nm,0.9s,baz=298,slow=7.6,SNR=2.8						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**50.34**	**341**	LR	LR	20 30 01.4	
	comp=Z,45nm,19.1s,baz=189,slow=38						
BRTR	**Keskin Array B**	**63.66**	**311**	P	**P**	**20 08 29.4**	**-1.5**
	0.2nm,0.5s,baz=57,slow=5.3,SNR=1.5						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**74.06**	**332**	P	**P**	**20 09 34.9**	**0.0**
	4.4nm,1.1s,baz=72,slow=6.2,SNR=3.7						
	4.4nm,1.1s						
ARCES	**ARCESS Array B**	**76.62**	**340**	P	**P**	**20 09 48.7**	**-0.7**
	3.0nm,1.0s,baz=74,slow=5.9,SNR=3.7						
	3.0nm,1.0s						
GERES	**GERESS Array B**	**79.12**	**318**	P	**P**	**20 10 04.7**	**+0.9**
	0.2nm,0.4s,baz=83,slow=8.4,SNR=2.1						
	0.2nm,0.4s						

*TRN **28** 20:03:00.7,10°.62N×62°.82W,h105km,MD3.6,Paria peninsula.*
*FUNV **28** 20:03:01.5,10°.63N×62°.76W,h112km,MW3.6*

ISC 28 20:02:59.2±1.9,10°.61N±0°.08×62°.82W±0°.06, h122km±20km,n18,σ1§46/31,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.25**	**86**	*e*S	**Sn**	**20 03 41.6**	**-1.1**
PSMG	**Mucurapo Girls**	**1.26**	**87**	*e*P	**Pn**	**20 03 25.3**	**+1.2**
PSMG				*e*S	**Sn**	**20 03 42.3**	**-0.7**
TRN	**Trinidad (W)**	**1.39**	**88**	*e*P	**Pn**	**20 03 24.6**	**+0.9**
TRN				*e*S	**Sn**	**20 03 44.1**	**-1.4**
GRFF	**Grenada Fort F**	**1.78**	**36**	*e*P	**Pn**	**20 03 29.8**	**-0.2**
GRFF				*e*S	**Sn**	**20 03 52.0**	**-1.6**
PCRV	**Puerto La Cruz**	**1.84**	**257**	⇑*i*P	**Pn**	**20 03 32.3**	**+1.5**
PCRV				*e*S	**Sn**	**20 03 54.6**	**-0.4**
PCRV	**Puerto La Cruz**	**1.84**	**257**	*e*P	**Pn**	**20 03 32.4**	**+1.5**
PCRV				*e*S	**Sn**	**20 03 54.6**	**-0.4**
GRGR	**Grenville**	**1.90**	**37**	*e*P	**Pn**	**20 03 31.5**	**0.0**
GRGR				*e*S	**Sn**	**20 03 55.1**	**-1.0**
GRW	**Mount Saint Ca**	**1.91**	**36**	*e*P	**Pn**	**20 03 32.8**	**+1.0**
GRW				*e*S	**Sn**	**20 03 56.2**	**-0.4**
GRHS	**Sauteurs**	**1.98**	**36**	*e*P	**Pn**	**20 03 32.8**	**+0.4**
GRHS				*e*S	**Sn**	**20 03 57.1**	**-0.8**
GRSS	**Sisters**	**2.05**	**35**	*e*P	**Pn**	**20 03 33.8**	**+0.5**
GRSS				*e*S	**Sn**	**20 03 58.9**	**-0.7**
SVB	**Belmont**	**3.06**	**30**	*e*P	**Pn**	**20 03 48.5**	**+2.2**
SLBI	**Saint Lucia, B**	**3.84**	**28**	*e*P	**Pn**	**20 03 58.0**	**+1.3**
SLBI				*e*S	**Sn**	**20 04 41.2**	**0.0**
TACV	**Tcata**	**4.17**	**264**	*e*P	**Pn**	**20 04 03.1**	**+2.0**
TACV				*e*S	**Sn**	**20 04 47.6**	**-1.5**
BIM	**Bigot**	**4.24**	**23**	*e*S	**Sn**	**20 04 48.6**	**-2.3**
BENV	**Beln**	**4.75**	**263**	*e*P	**Pn**	**20 04 10.8**	**+1.9**
BENV				*e*S	**Sn**	**20 05 01.1**	**-2.0**
CACV	**CAICARA DEL OR**	**4.76**	**231**	⇑*e*P	Pn	20 04 05.0	-3.9
CACV				*e*S	Sn	20 04 53.1	-10
BAUV	**El Baul**	**5.41**	**253**	*e*P	**Pn**	**20 04 18.4**	**+0.7**
BAUV				*e*S	**Sn**	**20 05 15.9**	**-3.0**
BAUV	**El Baul**	**5.41**	**253**	*e*P	**Pn**	**20 04 18.4**	**+0.7**
BAUV				*e*S	**Sn**	**20 05 16.7**	**-2.2**

*IDC **28** 20:19:30.9±2.4,6°.69N×127°.99E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=164.6km s-min=19.7km az=71.0*

ISC 28 20:19:35.6±2.8,6°.7N±0°.4×12°.8E±°,h35km,n6,σ1§16/6, mb3.9/6,East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.78**	**186**	P	**P**	**20 24 54.8**	**+0.4**
	3.2nm,0.9s,baz=14,slow=8.3,SNR=2.5						
	3.2nm,0.9s						
WRA	**Warramunga Arr**	**27.18**	**167**	P	**P**	**20 25 17.6**	**+1.5**
	0.2nm,0.6s,baz=347,slow=9.9,SNR=1.5						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**30.71**	**170**	P	**P**	**20 25 46.2**	**-1.2**
	0.1nm,0.4s,baz=344,slow=8.2,SNR=2.1						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**55.98**	**323**	P	**P**	**20 29 10.6**	**-0.1**
	0.9nm,0.6s,baz=124,slow=8.3,SNR=11						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**60.05**	**326**	P	**P**	**20 29 39.2**	**+0.2**
	1.6nm,0.6s,baz=124,slow=7.1,SNR=19						
	1.6nm,0.6s						
BVAR	**Borovoye Array**	**65.64**	**326**	P	**P**	**20 30 16.3**	**+0.1**
	1.1nm,0.6s,baz=116,slow=9.8,SNR=4.8						
	1.1nm,0.6s						

*NNC **28** 20:22:06.6±10.0,41°.81N×82°.84E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=83.8km s-min=44.4km az=159.0*
*SOME **28** 20:22:07.9,41°.97N×82°.52E,h5km*

ISC 28 20:22:08.9±3.7,41°.8N±0°.2×82°.5E±0°.1,h13km,n5, σ2§53/11,7C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.61**	**302**	*e*P	**Pn**	**20 22 50.8**	**-0.1**
	4.1nm,0.2s						
SHLS				*e*S	**Sn**	**20 23 21.6**	**-0.9**
	20nm,0.6s						
PDGK	**Podgornoye**	**2.68**	**306**	⇑Pn	**Pn**	**20 22 54.4**	**+2.5**
	7.9nm,1.4s						
PDGK				⇑Sn	**Sb**	**20 23 29.2**	**-0.5**
	12nm,0.7s						
UZB	**Uzynbulak**	**2.88**	**299**	*e*P	**Pb**	**20 23 00.4**	**+0.1**
	2.1nm,0.2s						
UZB				*e*S	**Sb**	**20 23 38.6**	**+3.0**
	8.5nm,0.4s						
MK31	**Makanchi Array**	**5.00**	**359**	⇑Pn	**Pn**	**20 23 24.5**	**+0.9**
	0.1nm,0.3s,baz=187,slow=12,SNR=9.4						
MK31				⇑Pg	**Pb**	**20 23 37.9**	**+1.7**
	0.9nm,0.8s,baz=167,slow=15						
MK31				⇑Lg	Lg	20 24 42.5	
	0.8nm,0.6s,baz=164,slow=29						
MAKZ	**Makanchi**	**5.02**	**356**	⇓Pn	**Pn**	**20 23 25.5**	**+1.6**
	1.8nm,1.2s						
MAKZ				⇑Pg	**Pg**	**20 23 40.3**	**-4.7**
	1.8nm,1.4s						
MAKZ				⇓Sn	**Sn**	**20 24 24.4**	**+2.6**
	1.1nm,1.1s						
MAKZ				⇑Lg	Lg	20 24 45.6	
	1.1nm,0.9s						

*DJA **28** 20:24:51.9±0.2,6°.S±3°.×13°.0E±°,h169km±5km,M4.3/13, mB4.5/3,mb3.9/11,MLv4.6/13,Mw(mB)3.7/3*
*NEIC **28** 20:24:51.0±1.9,6°.34S±0°.08×130°.3E±0°.1,h155km±6km, mb4.0/5,Error ellipse: s-maj=15.6km s-min=12.0km az=85.0*
*IDC **28** 20:24:51.2±9.4,6°.33S×130°.17E,h155km±95km,mb3.5/5, mbtmp4.0/9,Error ellipse: s-maj=92.4km s-min=27.3km az=49.0*

ISC 28 20:24:49.8±0.6,6°.42S±0°.05×130°.22E±0°.06,h146km,n36, σ2§15/40,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.89**	**145**		**Pn**	**20 25 26.7**	**+3.3**
SAUI				Sn	**Sn**	**20 25 50.4**	**+1.2**
SAUI	**Saumlaki**	**1.89**	**145**	P	Pn	20 25 28.7	+5.3
BNDI	**Bandanaira**	**1.91**	**351**	P	**Pn**	**20 25 26.6**	**+2.9**
BNDI				S	**Sn**	**20 25 53.0**	**+3.2**
MSAI	**Masohi**	**3.31**	**337**	P	**Pn**	**20 25 42.8**	**+1.7**
FAKI	**Fak Fak**	**4.03**	**30**		**Pn**	**20 25 50.5**	**0.0**
FAKI				Sn	**Sn**	**20 26 31.9**	**-5.5**
FAKI	**Fak Fak**	**4.03**	**30**	P	**Pn**	**20 25 50.4**	**0.0**
KMPI	**Kaimana, Papua**	**4.43**	**52**	P	**Pn**	**20 25 57.4**	**+1.8**
SWI	**Sorong**	**5.62**	**11**	P	**Pn**	**20 26 10.9**	**-0.6**
SANI	**Sanana**	**6.05**	**316**	P	**Pn**	**20 26 19.4**	**+2.1**
	0.1nm26nm,0.7s						
RKPI	**Ransiki, Papua**	**6.28**	**39**	P	**Pn**	**20 26 22.2**	**+1.9**
MTN	**Manton Dam**	**6.44**	**172**		**Pn**	**20 26 25.4**	**+3.0**
MTN				Sn	**Sn**	**20 27 34.3**	**-0.7**
SOEI	**Soe**	**6.76**	**240**		**Pn**	**20 26 28.9**	**+2.2**
SOEI	**Soe**	**6.76**	**240**	P	**Pn**	**20 26 29.2**	**+2.4**
	0.3nm17nm,1.3s						
BATI	**Baumata**	**7.49**	**239**	P	**Pn**	**20 26 38.6**	**+2.1**
	25nm,0.5s,baz=200,slow=1.8,SNR=11						
BATI				S	**Sn**	**20 27 59.0**	**-1.3**
	43nm,0.6s,baz=275,slow=18,SNR=6.0						
BATI	**Baumata**	**7.49**	**239**	P	**Pn**	**20 26 38.5**	**+1.9**
	0.3nm26nm,0.6s						
BAKI	**Biak**	**7.84**	**49**	P	**Pn**	**20 26 43.4**	**+2.2**
KNRA	**Kununurra**	**9.31**	**189**	Pn	**Pn**	**20 27 02.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.43**	**201**	P	**Pn**	**20 27 42.8**	**+0.8**
	1.1nm,0.3s,baz=29,slow=11,SNR=15						
FITZ				S	Sn	20 29 49.1	-10
	5.9nm,0.4s,baz=81,slow=19,SNR=8.7						
WB0	**Warramunga Arr**	**13.87**	**163**	Pn	**Pn**	**20 28 01.5**	**+1.1**
WRAB	**Tennant Creek**	**14.02**	**164**	Pn	**Pn**	**20 28 02.6**	**+0.4**
WRA	**Warramunga Arr**	**14.02**	**164**	P	**Pn**	**20 28 03.0**	**+0.7**
	1.9nm,0.5s,baz=348,slow=13,SNR=32						
WRA				S	**Sn**	**20 30 32.6**	**-5.1**
	3.0nm,0.4s,baz=342,slow=22,SNR=8.8						
WR8	**Warramunga Arr**	**14.08**	**163**	Pn	**Pn**	**20 28 03.6**	**+0.5**
COEN	**Coen**	**14.78**	**121**	Pn	**Pn**	**20 28 11.7**	**-0.1**
PMG	**Port Moresby**	**17.04**	**101**	P	**P**	**20 28 39.5**	**+0.5**
AS31	**Alice Springs**	**17.51**	**169**	P	**Pn**	**20 28 46.4**	**+1.3**
ASAR	**Alice Springs**	**17.51**	**169**	P	**P**	**20 28 45.8**	**+1.7**
ASAR	**Alice Springs**	**17.51**	**169**	P	**Pn**	**20 28 47.7**	**+2.6**
	4.8nm,0.8s,baz=343,slow=9.1,SNR=48						
ASAR				S	**S**	**20 31 55.1**	**-3.8**
	1.5nm,0.5s,baz=357,slow=27,SNR=4.6						
CMAR	**Chiang Mai Arr**	**39.53**	**309**	P	**P**	**20 32 06.3**	**-0.4**
	0.9nm,0.7s,baz=141,slow=7.9,SNR=10.0						
	0.9nm,0.7s						
SONM	**Songino Array**	**57.97**	**341**	IAmb	IAmb	20 34 28.2	
	comp=Z,3.4nm,1.5s						
SONM	**Songino Array**	**57.97**	**341**	P	**P**	**20 34 27.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=165,slow=6.5,SNR=5.3						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**20 35 32.3**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=115,slow=8.5,SNR=26						
	comp=Z,2.3nm,0.6s						
MAKZ	**Makanchi**	**68.04**	**326**	P	**P**	**20 35 32.1**	**-1.5**
MAKZ				IAmb	IAmb	20 35 34.1	
	comp=Z,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**71.16**	**334**	P	**P**	**20 35 51.6**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=161,slow=6.1,SNR=1.9						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**72.13**	**328**	P	**P**	**20 35 57.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=128,slow=5.0,SNR=7.7						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	**72.14**	**328**	P	**P**	**20 35 57.8**	**-0.6**
KURK	**Kurchatov**	**72.14**	**328**	IAmb	IAmb	20 35 58.6	
	comp=Z,1.7nm,0.8s						

IDC 28 20:25:57.3±6.4,13°.12N×142°.73E,h0km,mb4.3/3, mbtmp4.3/4,ML3.9/1,Error ellipse: s-maj=189.3km s-min=29.2km az=2.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.13**	**77**	Pn	Pn	20 26 34.5	+0.3
	34nm,0.3s,baz=258,slow=4.9,SNR=17						
GUMO				Sn	Sn	20 27 01.9	+0.4
	26nm,0.3s,baz=166,slow=21,SNR=8.9						
	71nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**24.07**	**71**	T	T	20 56 24.9	
	baz=255,slow=75,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**24.08**	**71**	T	T	20 56 18.9	
	baz=255,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**24.09**	**71**	T	T	20 56 19.6	
	baz=255,slow=75,SNR=6.1						
ILAR	**Eielson Array**	**69.88**	**25**	P	P	20 37 09.8	-0.1
	0.9nm,0.5s,baz=249,slow=6.1,SNR=11						
	0.9nm,0.5s						
ARCES	**ARCESS Array B**	**86.88**	**342**	P	P	20 38 44.6	+1.0
	3.2nm,0.8s,baz=64,slow=6.1,SNR=4.4						
	3.2nm,0.8s						
FINES	**FINESS Array B**	**90.70**	**335**	P	P	20 39 00.9	-0.9
	2.0nm,0.9s,baz=56,slow=3.4,SNR=5.1						
	2.0nm,0.9s						

*NEIC **28** 20:32:00.8±0.6,19°.37N±0°.02×155°.09W±0°.01,h5km,Error ellipse: s-maj=2.8km s-min=1.2km az=148.0*

HVO 28 20:32:00.3±0.6,19°.35N±0°.02×155°.08W±0°.01,h7km±1km, ML2.9/42,ML3.0/44(NEIC),Error ellipse: s-maj=2.8km s-min=1.1km az=146.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**332**		Pg	20 32 02.1	+0.4
NPOC	**North of Pu'u**	**0.05**	**329**		Pg	20 32 02.3	+0.4
NPOC					Sg	20 32 03.7	+0.7
STCH	**Steam Cracks**	**0.05**	**310**		Pg	20 32 02.3	+0.4
STCH					Sg	20 32 03.9	+0.8
STCH	**Steam Cracks**	**0.05**	**310**	IAML		20 32 04.0	
	comp=E,545nm,0.1s						
STCH				IAML		20 32 04.0	
	comp=N,14μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.08**	**288**		Pg	20 32 02.7	+0.4
JOKA	**Jonika Flow**	**0.11**	**43**		Pg	20 32 02.9	+0.2
JOKA				IAML		20 32 07.8	
	comp=E,5μm,0.2s						
PUH	**Pauahi**	**0.13**	**279**		Pg	20 32 03.4	+0.4
BYL	**Byron's Ledge**	**0.18**	**289**		Pg	20 32 04.0	+0.1
BYL				IAML		20 32 07.5	
	comp=E,3μm,0.2s						
KKO	**Keanakako'i**	**0.18**	**285**		Pg	20 32 04.2	+0.3
KKO					Sg	20 32 07.3	+0.9
HATHI	**Halema'uma'u T**	**0.18**	**293**		Pg	20 32 04.2	+0.2
HATHI					Sg	20 32 07.1	+0.6
HATHI	**Halema'uma'u T**	**0.18**	**293**	IAML		20 32 09.6	
	comp=E,2μm,0.3s						
HATHI				IAML		20 32 09.7	
	comp=N,3μm,0.3s						
RIM	**Rim**	**0.18**	**283**		Pg	20 32 04.3	+0.3
RIM					Sg	20 32 07.2	+0.6
SBLHI	**Steaming Bluff**	**0.19**	**293**		Pg	20 32 04.3	+0.2
SBLHI					Sg	20 32 07.3	+0.6
UWB	**Uwekahuna Bluf**	**0.20**	**291**		Pg	20 32 04.4	+0.1
UWB					Sg	20 32 07.5	+0.6
OBL	**Observatory Le**	**0.20**	**289**		Pg	20 32 04.5	+0.2
OBL					Sg	20 32 07.8	+0.8
SDHHI	**Sand Hill**	**0.20**	**280**		Pg	20 32 04.6	+0.2
UWE	**Uwekahuna**	**0.21**	**289**		Pg	20 32 04.7	+0.2
UWE	**Uwekahuna**	**0.21**	**289**	IAML		20 32 10.4	
	comp=N,2μm,0.8s						
UWE				IAML		20 32 11.1	
	comp=E,2μm,0.2s						
WRMHI	**West Rim**	**0.21**	**285**		Pg	20 32 05.4	+0.8
WRMHI					Sg	20 32 08.6	+1.2
RSD	**Rainshed**	**0.21**	**301**		Pg	20 32 04.8	+0.3
RSD					Sg	20 32 08.4	+0.9
RSD	**Rainshed**	**0.21**	**301**	IAML		20 32 11.1	
	comp=E,2μm,0.3s						
RSD				IAML		20 32 11.5	
	comp=N,3μm,0.2s						
HLP	**Hilina Pali**	**0.22**	**255**		Pg	20 32 04.7	0.0
HLP				IAML		20 32 10.6	
	comp=E,3μm,0.2s						
HLP				IAML		20 32 10.6	
	comp=N,4μm,0.2s						
MLH	**Mauna Loa**	**0.32**	**296**		Pg	20 32 06.6	+0.1
MLH					Sg	20 32 12.1	+1.3
MLH	**Mauna Loa**	**0.32**	**296**	IAML		20 32 12.7	
	comp=E,2μm,0.3s						
MLH				IAML		20 32 15.4	
	comp=N,3μm,0.1s						
HTC	**Hot Caves**	**0.32**	**249**		Pg	20 32 07.4	+0.9
AIN	**Ainahou**	**0.35**	**273**		Sb	20 32 13.8	-1.0
AIN	**Ainahou**	**0.35**	**273**		Pg	20 32 07.4	+0.2
AIN				IAML		20 32 14.3	
	comp=E,13μm,0.3s						
AIN				IAML		20 32 14.9	
	comp=N,16μm,0.3s						
HMH	**Humu'ula Sheep**	**0.45**	**303**		Pg	20 32 09.3	+0.2
HMH					Sg	20 32 16.2	+1.2
HMH	**Humu'ula Sheep**	**0.45**	**303**	IAML		20 32 16.7	
	comp=N,12μm,0.2s						
HMH				IAML		20 32 16.7	
	comp=E,8μm,0.3s						
MWH	**Mokuaweoweo**	**0.50**	**285**		Pg	20 32 09.9	-0.1
MWH	**Mokuaweoweo**	**0.50**	**285**	IAML		20 32 18.4	
	comp=E,2μm,0.3s						
MWH				IAML		20 32 25.9	
	comp=N,1μm,0.3s						
KHU	**Kahuku**	**0.51**	**258**		Pg	20 32 09.8	-0.4
KHU					Sg	20 32 17.9	+1.0
ALEP	**Alea Permanent**	**0.56**	**290**		Pg	20 32 10.6	-0.6
ALEP					Sg	20 32 18.8	+0.3
POHA	**Pohakuloa**	**0.58**	**314**		Sg	20 32 18.9	-0.4
POHA	**Pohakuloa**	**0.58**	**314**		Pg	20 32 10.9	-0.7
POHA				IAML		20 32 20.3	
	comp=N,914nm,0.3s						
POHA				IAML		20 32 21.2	
	comp=N,723nm,0.3s						
HUH	**Hualalai**	**0.78**	**295**		Pg	20 32 14.1	-1.3
HPAH	**Hawaii Prepara**	**0.89**	**319**		Pg	20 32 14.9	-2.4
HPAH	**Hawaii Prepara**	**0.89**	**319**	IAML		20 32 35.5	
	comp=E,414nm,0.4s						

*IDC **28** 20:45:49.7±0.4,29°.15S×61°.30E,h0km,mb5.0/26, mbtmp5.0/27,ML4.7/1,MS4.4/6,Error ellipse: s-maj=14.6km s-min=11.6km az=66.0*
*MOS **28** 20:45:49.2±0.7,29°.18S×61°.24E,h10km,mb5.6/52,Error ellipse: s-maj=10.6km s-min=5.1km az=102.1*
*BJI **28** 20:45:50.5,28°.74S×61°.13E,h6km,mB5.2/12,mb5.0/56, Ms4.9/24,Ms7.4.6/24*
*NEIC **28** 20:45:51.6,29°.21S×61°.16E,h18km*
*NEIC **28** 20:45:51.6,29°.11S×61°.16E,h18km,Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.51; $M_{\theta\theta}$2.85; $M_{\phi\phi}$ 1.66; $M_{r\theta}$-5.69; $M_{\theta\phi}$4.21; $M_{\phi r}$-2.95; Fault plane solution: $M_0$8.63000×10^{16} NP1: ϕ_s209.69000°,δ22.81000°,λ-119.91000°. NP2: ϕ_s61.66000°,δ70.37000°,λ-78.16000°. Principal axes: T 9.3519, Plg24.0000°, Azm142.0000°; N -1.7007, Plg11.0000°, Azm238.0000°; P -7.6512, Plg63.0000°, Azm350.0000°;*
*NEIC **28** 20:45:51.6±1.9,29°.17S±0°.06×61°.18E±0°.10,h10km±1km, mb5.4/167,Mww5.2/10 Error ellipse: s-maj=14.4km s-min=9.4km az=84.0*
*GCMT **28** 20:45:52.6±0.1,29°.21S±0°.01×61°.08E±0°.01,h12km, MW5.1/118,Moment Tensor Solution. s63,c88; s118,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.66±.10; $M_{\theta\theta}$4.70±.09; $M_{\phi\phi}$0.95±.10; $M_{r\theta}$1.58±.27; $M_{\theta\phi}$3.09±.08; $M_{\phi r}$-0.56±.31; Best double couple: $M_0$6.30100×10^{16} NP1:ϕ_s47.00000°,δ41.00000°, λ-110.00000°. NP2:ϕ_s253.00000°,δ52.00000°, λ-73.00000°.

BOSA LR LR 21 02 50.2
comp=Z,599nm,19.9s,baz=102,slow=32
comp=Z,31nm,1.0s
BROLN Tlhalogang 31.56 277 *i* P **P 20 52 14.4 +0.4**
LBTB Lobatse 31.84 269 **P 20 52 16.0 -0.5**
LBTB IAmb IAmb 20 52 17.7
comp=Z,42nm,1.3s
LBTB Lobatse 31.84 269 LR LR 21 04 04.0
comp=Z,396nm,18.3s,baz=110,slow=34
LBTB Lobatse 31.84 269 P **P 20 52 16.0 -0.5**
LBTB pmax pmax
comp=Z,43nm,1.3s
LPHEP Lephephe 32.08 272 **P 20 52 18.9 +0.2**
LPHEP Lephephe 32.08 272 *i* P **P 20 52 19.3 +0.6**
MAKGR Makgori 32.33 267 P **P 20 52 19.9 -0.9**
MAKGR Makgori 32.33 267 *i* P **P 20 52 20.7 -0.1**
KHWEE KHWEE 32.90 274 P **P 20 52 25.4 -0.5**
KHWEE KHWEE 32.90 274 *i* P **P 20 52 26.3 +0.4**
KDWAN Kaudwane 33.13 271 P **P 20 52 28.2 +0.4**
KDWAN Kaudwane 33.13 271 *i* P **P 20 52 28.4 +0.6**
LSZ Lusaka 33.36 287 **P 20 52 30.6 +0.6**
LSZ Lusaka 33.36 287 LR LR 21 05 51.4
comp=Z,805nm,18.3s,baz=122,slow=36
LSZ Lusaka 33.36 287 P **P 20 52 30.6 +0.6**
LSZ pmax pmax
comp=Z,88nm,0.9s
SKOMA Sekoma 33.43 269 *i* P **P 20 52 30.8 +0.3**
PHPEN Phepeng 34.11 267 P **P 20 52 36.0 -0.4**
PHPEN IAmb IAmb 20 52 37.5
comp=Z,74nm,1.1s
PHDHD Phuduhudu 34.33 277 P **P 20 52 38.6 +0.4**
PHDHD Phuduhudu 34.33 277 *i* P **P 20 52 39.4 +1.1**
KIBK Kibwezi 34.57 316 **P 20 52 41.1 +0.8**
KIBK Kibwezi 34.57 316 P **P 20 52 40.6 +0.3**
SNR=13
KSANE Kasane 34.76 281 **P 20 52 42.3 +0.3**
KSANE Kasane 34.76 281 *i* P **P 20 52 43.1 +1.1**
KGCAE Kacgae 35.44 271 **P 20 52 48.2 +0.3**
KGCAE IAmb IAmb 20 52 52.0
comp=Z,64nm,0.8s
KGCAE Kacgae 35.44 271 *i* P **P 20 52 48.7 +0.9**
LKGWB Lokgwabe 35.92 268 **P 20 52 48.2 -3.8**
KMBO Kilima Mbogo 36.01 316 P **P 20 52 54.4 +1.4**
comp=Z,9.2nm,0.9s,baz=149,slow=7.2,SNR=9.8
KMBO LR LR 21 04 58.7
comp=Z,1μm,19.5s,baz=108,slow=32
comp=Z,9.2nm,0.9s
KMBO Kilima Mbogo 36.01 316 *i* P **P 20 52 54.9 +2.0**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
GMARE Gumare 36.70 276 P **P 20 52 58.3 -0.3**
GMARE IAmb IAmb 20 53 00.6
comp=Z,50nm,1.0s
GRTLG Ghanzi 36.80 273 IAmb IAmb 20 53 02.2
comp=Z,136nm,1.3s
GRTLG Ghanzi 36.80 273 *i* P **P 20 53 00.2 +0.7**
KOOLE Kule 37.15 270 P **P 20 53 02.5 -0.1**
KOOLE IAmb IAmb 20 53 04.3
comp=Z,67nm,0.9s
KOOLE Kule 37.15 270 *i* P **P 20 53 03.3 +0.8**
COCO West Island 37.23 71 P **P 20 53 04.1 +1.0**
QNGWA Qangwa 37.51 276 *i* P **P 20 53 06.8 +1.3**
XAUDM Khaudum 37.75 277 IAmb IAmb 20 53 10.2
comp=Z,76nm,1.1s
XAUDM Khaudum 37.75 277 *i* P **P 20 53 09.3 +1.7**
MAW Mawson 38.47 179 P **P 20 53 13.2 +0.3**
comp=Z,16nm,0.7s,baz=355,slow=9.2,SNR=37
MAW PcP **PcP 20 55 25.6 0.0**
comp=Z,6.5nm,0.9s,baz=326,slow=3.7,SNR=5.0
MAW LR LR 21 05 44.0
comp=Z,846nm,19.1s,baz=349,slow=31
comp=Z,16nm,0.7s
WIN Windhoek 39.99 269 P **P 20 53 26.4 -0.1**
WIN Windhoek 39.99 269 P **P 20 53 26.4 -0.1**
WIN pmax pmax
comp=Z,28nm,1.1s
TSUM Tsumeb 40.76 274 P **P 20 53 33.7 +0.9**
TSUM IAmb IAmb 20 53 35.2
comp=Z,125nm,1.1s
TSUM Tsumeb 40.76 274 LR LR 21 08 57.8
comp=Z,818nm,19.7s,baz=140,slow=34
LODK Lodwar 40.77 318 P **P 20 53 34.4 +1.6**
LODK Lodwar 40.77 318 P **P 20 53 33.5 +0.7**
SNR=9.2
PALK Pallekele 40.84 31 LR LR 21 06 19.9
comp=Z,515nm,21.6s,baz=206,slow=30
SYO Syowa Base 41.80 191 ⇓*i*P **P 20 53 40.0 -0.5**
SYO Syowa Base 41.80 191 ⇑*i*pP **P 20 53 43.4 +2.9**
FURI Furi 43.61 327 LR LR 21 09 16.8
comp=Z,845nm,21.4s,baz=155,slow=32
ATD Arta Tunnel 44.16 334 P **P 20 54 01.4 +1.1**
ATD Arta Tunnel 44.16 334 LR LR 21 09 42.4
comp=Z,60nm,20.0s,baz=168,slow=32
ATD Arta Tunnel 44.16 334 P **P 20 54 01.1 +0.8**
H01W2 Cape Leeuwin H 44.85 111 T T 21 41 39.1
baz=262,slow=74,SNR=2329
H01W3 Cape Leeuwin H 44.86 111 T T 21 41 37.3
baz=262,slow=74,SNR=1909
H01W1 Cape Leeuwin H 44.87 111 T T 21 41 38.3
baz=262,slow=74,SNR=2618
KSI Kapahiang 46.78 65 P **P 20 54 23.2 +2.1**
comp=Z,59nm,1.3s
MASI Maura Aman, Be 46.81 64 P **P 20 54 23.8 +2.4**
comp=Z,60nm,0.8s
PDSI Padang 46.83 60 P **P 20 54 23.4 +1.9**
comp=Z,974nmcomp=Z,33nm,1.1s
KRJI Kerinci 46.85 62 P **P 20 54 23.6 +1.8**
ABTO Aybut 46.88 350 P **P 20 54 22.1 +0.4**
ABTO P **P 20 54 22.1 +0.4**
ABTO S **S 21 01 14.3 +2.6**
ABTO S **S 21 01 14.3 +2.6**
DMTO DMTO 47.00 352 P **P 20 54 24.8 +2.2**
PPI Padang Panjang 47.08 60 P **P 20 54 25.7 +2.3**
comp=Z,912nmcomp=Z,36nm,1.9s
WHFO Wadi Hawf 47.36 350 P **P 20 54 26.4 +0.9**
WHFO P **P 20 54 26.4 +0.9**
LHSI Lahat 47.41 66 P **P 20 54 27.9 +1.9**
comp=Z,2μmcomp=Z,58nm,1.2s
MDSI Maura Dua 47.55 67 P **P 20 54 28.8 +1.7**
comp=Z,22nm,1.3s
MORW Morawa 47.57 104 P **P 20 54 27.4 +0.3**
comp=Z,40nm,1.6s
MORW Morawa 47.57 104 P **P 20 54 27.1 -0.1**
CASY Casey 47.64 155 P **P 20 54 27.0 0.0**
NWAO Narrogin (SRO) 47.73 109 LR LR 21 10 59.2
comp=Z,356nm,18.4s,baz=275,slow=32
BLDU Ballidu 47.77 106 P **P 20 54 27.9 -0.8**
comp=Z,37nm,1.5s
KCSI Kotacane, Aceh 47.86 53 P **P 20 54 31.8 +2.3**
BLSI Bandar Lampung 47.91 69 P **P 20 54 31.9 +2.0**
comp=Z,57nm,1.1s
DOK Doka 48.00 351 P **P 20 54 30.9 +0.5**
DOK P **P 20 54 30.9 +0.5**
BKNI Bangkinang 48.08 60 P **P 20 54 31.5 +0.4**
PSI Prapat 48.18 55 LR LR 21 11 32.3
comp=Z,255nm,18.1s,baz=216,slow=32
SBJI Serang 48.21 71 P **P 20 54 35.3 +3.1**
CNJI Cibinong 48.39 73 P **P 20 54 35.2 +1.6**
comp=Z,64nm,1.1s
DBJI Dramaga 48.48 71 P **P 20 54 36.3 +1.9**
LEM Lembang 49.06 72 LR LR 21 12 04.1
comp=Z,251nm,18.1s,baz=198,slow=32
HYB Hyderabad 49.28 22 *e*P **P 20 54 41.1 +0.8**
HYB IVmB_BB 20 54 41.3
comp=Z,467nm,0.8s
HYB *e*pP **pP 20 54 43.2 -1.8**
HYB *e*PcP **PcP 20 56 01.9 -1.1**
HYB *e*S **S 21 01 42.2 -3.5**
HYB IVMs_BB IVMs_BB 21 10 44.4
comp=Z,381nm,4.1s
NVL N'lazarevskaya 49.72 199 *e*P **P 20 54 41.3 -1.7**
NVL *e* 20 56 34.9
NVL *e*PPP PPP 20 57 30.0
NVL *e*S **S 21 01 50.7 0.0**
NVL *e*SS **SS 21 05 24.5 +1.7**
NVL *e*SSS SSS 21 06 44.2
NVL pmax pmax
comp=Z,8.0nm,0.7s
NVL smax smax
comp=E,304nm,14.0s
NVL MLR MLR
comp=Z,160nm,18.0s
MHTO MHTO 49.97 356 P **P 20 54 45.7 +0.3**
DSRI Dabo 50.28 63 P **P 20 54 49.4 +1.3**
comp=Z,33nm,1.5s

MEEK Meekatharra 50.42 102 P **P 20 54 48.0 -1.0**
comp=Z,42nm,1.2s
IPM Ipoh 50.85 56 IAmb IAmb 20 54 57.4
comp=Z,128nm,1.9s
SMRI Semarang 51.31 75 P **P 20 54 56.7 +0.9**
SMRI Semarang 51.31 75 P **P 20 54 58.7 +2.9**
comp=Z,95nm,1.6s
PCJI Pacitan 51.34 76 P **P 20 54 57.5 +1.5**
comp=Z,107nm,1.4s
TPI Tanjungpandan 51.37 68 P **P 20 54 57.0 +0.8**
comp=Z,45nm,1.1s
UMZA Um Al Zommool 51.91 353 P **P 20 55 00.1 0.0**
UMZA P **P 20 55 00.1 0.0**
KMBL Kambalda 51.91 109 P **P 20 54 59.9 -0.3**
comp=Z,18nm,1.1s
NGJI Ngawi 52.00 76 P **P 20 55 04.7 +3.7**
comp=Z,29nm,1.5s
SMDO Samad 52.02 356 P **P 20 55 01.1 +0.1**
SMDO P **P 20 55 01.1 +0.1**
WSAR Wadi Sarin 52.17 357 P **P 20 55 03.0 +1.0**
ARQ Araqi 52.40 355 P **P 20 55 04.5 +0.8**
ARQ P **P 20 55 04.5 +0.8**
MZR Muzera 52.40 351 P **P 20 55 04.4 +0.7**
MZR P **P 20 55 04.4 +0.7**
MZR Muzera 52.40 351 *i* P **P 20 55 03.9 +0.2**
SNR=8.4
HOQ Hoqain 52.59 356 P **P 20 55 05.3 +0.2**
TROLL Troll, Antarti 52.95 199 ⇓P **P 20 55 06.7 -0.8**
comp=Z,170nm,0.7s
MZWR Madinat Zayed 53.09 352 P **P 20 55 09.5 +0.7**
MZWR P **P 20 55 09.5 +0.7**
ALNE Al Ain 53.18 354 P **P 20 55 10.0 +0.5**
SOHO SOHO 53.19 355 P **P 20 55 10.1 +0.6**
SOHO P **P 20 55 10.1 +0.6**
SOHO SOHO 53.19 355 P **P 20 55 09.2 -0.3**
JAGI Jajag, Banyuwa 53.74 79 P **P 20 55 14.9 +1.0**
JAGI Jajag, Banyuwa 53.74 79 P **P 20 55 15.1 +1.2**
comp=Z,108nm,1.4s
AJN Ajban 53.76 353 P **P 20 55 14.4 +0.7**
ASHO Ashiyiah 53.77 354 P **P 20 55 14.4 +0.6**
ASHO P **P 20 55 14.4 +0.6**
ASHO Ashiyiah 53.77 354 *i* P **P 20 55 13.6 -0.3**
SNR=9.3
ASUD Al Ashush, Dub 53.79 353 P **P 20 55 15.4 +1.6**
ASUD P **P 20 55 15.4 +1.6**
HATD Hatta, Dubai 53.91 354 P **P 20 55 15.1 +0.3**
HATD P **P 20 55 15.1 +0.3**
HATD Hatta, Dubai 53.91 354 P **P 20 55 14.7 -0.1**
UOSS Minazif 54.02 354 P **P 20 55 14.8 -0.8**
UOSS Minazif 54.02 354 P **P 20 55 15.5 -0.1**
UOSS P **P 20 55 15.5 -0.1**
UOSS Minazif 54.02 354 P **P 20 55 15.2 -0.4**
NAZ Nazwa, Dubai 54.11 354 P **P 20 55 16.6 +0.4**
NAZ P **P 20 55 16.6 +0.4**
NAZ Nazwa, Dubai 54.11 354 *i* P **P 20 55 16.4 +0.1**
SNR=6.6
MDH Madha 54.36 355 P **P 20 55 17.9 -0.1**
MDH P **P 20 55 17.9 -0.1**
MSFE Esma-Masafi 54.44 354 *i* P **P 20 55 18.6 0.0**
SNR=12
SNAA Sanae 54.45 200 ⇓P **P 20 55 17.6 -0.7**
comp=Z,198nm,0.8s
SNAA Sanae 54.45 200 P **P 20 55 17.2 -1.1**
SNAA Sanae 54.45 200 P **P 20 55 18.0 -0.2**
comp=Z,8.9nm,0.9s,baz=93,slow=7.0,SNR=32
SNAA LR LR 21 14 19.9
comp=Z,358nm,19.6s,baz=46,slow=31
comp=Z,8.9nm,0.9s
MASF Masafi 54.45 354 P **P 20 55 19.0 +0.2**
MASF P **P 20 55 19.0 +0.2**
RAYN Ar Rayn 54.52 342 P **P 20 55 19.5 +0.2**
RAYN Ar Rayn 54.52 342 P **P 20 55 20.3 +1.0**
RAYN Ar Rayn 54.52 342 *i* P **P 20 55 19.9 +0.6**
SNR=12
RAYN Ar Rayn 54.52 342 P **P 20 55 19.9 +0.6**
VNA2 Neumayer--Watz 55.72 202 ⇓P **P 20 55 27.4 0.0**
comp=Z,7.5nm,0.6s,baz=83,slow=7.3
VNA2 ⇑PcP **PcP 20 56 26.1 -0.4**
baz=63,slow=4.1
VNA1 Neumayer--Stat 55.96 202 ⇓P **P 20 55 28.7 -0.4**
comp=Z,14nm,1.2s
KSM Kuching 56.00 66 IAmb IAmb 20 55 39.2
comp=Z,34nm,1.2s
VNA3 Neumayer Olymp 56.50 201 ⇓P **P 20 55 32.4 -0.7**
comp=Z,7.2nm,0.8s
VNA3 ⇓PcP **PcP 20 56 29.0 -0.5**
PLAI Plampang 56.68 81 P **P 20 55 36.4 +1.3**
comp=Z,65nm,1.1s
FORT Forrest 57.18 110 P **P 20 55 35.8 -2.6**
FORT Forrest 57.18 110 P **P 20 55 38.7 +0.3**
FORT IAmb IAmb 20 55 46.6
comp=Z,31nm,1.1s
SBUM Sibu 58.11 66 IAmb IAmb 20 55 49.1
comp=Z,41nm,1.2s
EDA Edea 58.83 295 P **P 20 55 49.8 -0.4**
WRKA Warakurna 59.19 103 P **P 20 55 51.8 -0.9**
comp=Z,28nm,1.1s
BRDH Bariadhala 59.34 33 LR LR 21 20 30.4
comp=Z,408nm,18.2s,baz=156,slow=35
FITZ Fitzroy Crossi 59.48 95 P **P 20 55 53.7 -0.9**
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 59.48 95 P **P 20 55 53.8 -0.9**
FITZ Fitzroy Crossi 59.48 95 LR LR 21 17 56.0
comp=Z,325nm,19.3s,baz=285,slow=32
CM31 Chiang Mai Arr 59.78 42 IAmb IAmb 20 56 07.3
comp=Z,24nm,0.9s
CM31 Chiang Mai Arr 59.78 42 P **P 20 55 56.7 0.0**
SNR=13
CMAR Chiang Mai Arr 59.78 42 P **P 20 55 55.0 -1.7**
CMAR Chiang Mai Arr 59.78 42 P **P 20 55 56.6 0.0**
comp=Z,3.9nm,0.7s,baz=231,slow=7.0,SNR=43
CMAR LR LR 21 19 59.5
comp=Z,174nm,18.1s,baz=225,slow=34
comp=Z,3.9nm,0.7s
CHTO Chiang Mai 60.06 42 P **P 20 55 58.4 -0.1**
CHTO Chiang Mai 60.06 42 P **P 20 55 58.5 0.0**
CHTO Chiang Mai 60.06 42 P **P 20 55 58.4 -0.1**
CHTO pmax pmax
comp=Z,16nm,1.3s
EDFI Ende, Flores 60.11 83 P **P 20 55 59.6 +0.4**
comp=Z,1μmcomp=Z,54nm,1.1s
KAPI Kappang 60.27 78 P **P 20 56 00.2 +0.1**
KAPI IAmb IAmb 20 56 01.8
comp=Z,48nm,1.1s
KAPI Kappang 60.27 78 LR LR 21 17 42.8
comp=Z,207nm,20.5s,baz=197,slow=32
KAPI Kappang 60.27 78 P **P 20 56 00.2 +0.1**
KAPI Kappang 60.27 78 P **P 20 56 00.3 +0.1**
KAPI pmax pmax
comp=Z,48nm,1.2s
BSSI Bau Bau, Buton 60.34 80 P **P 20 56 00.8 +0.2**
comp=Z,36nm,1.4s
BKSI Bulukumba 60.43 79 P **P 20 56 01.7 +0.4**
comp=Z,28nm,2.1s
SPSI Sidrap Palu 60.82 77 P **P 20 56 03.1 -0.8**
comp=Z,27nm,1.5s
BNSI Bone 60.89 78 P **P 20 56 05.4 +1.0**
comp=Z,1μmcomp=Z,72nm,1.4s
QSPA South Pole Qui 60.98 180 P **P 20 56 06.0 +1.6**
QSPA South Pole Qui 60.98 180 P **P 20 56 06.6 +2.2**
comp=Z,67nm,0.9s,baz=267,slow=2.9,SNR=105
QSPA LR LR 21 19 44.0
comp=Z,550nm,18.6s,baz=278,slow=33
comp=Z,67nm,0.9s
BATI Baumata 61.15 86 LR LR 21 19 01.4
comp=Z,483nm,18.7s,baz=318,slow=33
BATI Baumata 61.15 86 P **P 20 56 07.7 +1.6**
comp=Z,42nm,1.3s
SOEI Soe 61.88 86 P **P 20 56 13.3 +2.1**
comp=Z,67nm,1.0s
SHL Shillong 61.92 32 IAmb IAmb 20 56 14.7
comp=Z,49nm,1.2s
SHL Shillong 61.92 32 P **P 20 56 11.3 +0.1**
SNR=21
BBSI Bau Bau 62.46 80 P **P 20 56 16.2 +1.2**
comp=Z,37nm,1.0s
BBOO Buckleboo 63.05 114 P **P 20 56 18.0 -0.7**
BBOO IAmb IAmb 20 56 26.3
comp=Z,45nm,1.2s
HRA Herat 63.23 1 P **P 20 56 19.2 -0.7**
NIL Nilore 63.53 11 P **P 20 56 20.7 -0.9**
NIL Nilore 63.53 11 P **P 20 56 21.6 -0.1**
NIL Nilore 63.53 11 P **P 20 56 20.7 -0.9**
NIL pmax pmax
comp=Z,44nm,1.0s

EIL Elat 63.64 335 LR LR 21 20 37.8
comp=Z,646nm,19.3s,baz=156,slow=33
KBL Kabul 63.81 7 P **P 20 56 23.8 +0.1**
KBL IAmb IAmb 20 56 25.4
comp=Z,31nm,0.9s
KBL Kabul 63.81 7 P **P 20 56 24.1 +0.4**
SNR=12
KBL Kabul 63.81 7 P **P 20 56 23.8 +0.1**
KBL pmax pmax
comp=Z,31nm,1.0s
APSI Ampana 64.01 76 P **P 20 56 26.2 +0.9**
VNDA Vanda 64.02 166 P **P 20 56 23.5 -0.9**
VNDA IAmb IAmb 20 56 25.8
comp=Z,18nm,1.0s
VNDA Vanda 64.02 166 P **P 20 56 24.4 0.0**
comp=Z,16nm,1.0s,baz=267,slow=7.0,SNR=59
VNDA LR LR 21 22 28.7
comp=Z,967nm,18.3s,baz=254,slow=34
comp=Z,16nm,1.0s
TOLI2 Tolitoli 64.37 73 P **P 20 56 26.3 -1.3**
ASAR Alice Springs 64.45 104 P **P 20 56 26.6 -1.6**
ASAR Alice Springs 64.45 104 P **P 20 56 27.1 -1.1**
comp=Z,19nm,0.8s,baz=243,slow=6.3,SNR=90
ASAR LR LR 21 21 35.2
comp=Z,310nm,19.1s,baz=272,slow=33
ASAR PKPPKP **P'P'df 21 25 17.4 -2.6**
comp=Z,2.1nm,0.9s,baz=51,slow=3.1,SNR=12
comp=Z,19nm,0.8s
AS31 Alice Springs 64.46 104 P **P 20 56 27.1 -1.0**
TNCH TengChong 64.76 38 P **P 20 56 30.0 -0.1**
TNCH pmax pmax
comp=Z,15nm,1.1s
TNCH pmax pmax
comp=Z,190nm,4.5s
GHAJ Ghor Haditha 64.89 336 P **P 20 56 31.6 +1.1**
GHAJ IAmb IAmb 20 56 39.7
comp=Z,22nm,1.0s
LUWI Luwuk 64.90 76 P **P 20 56 31.8 +0.7**
SBA Scott Base 64.90 167 P **P 20 56 30.9 +0.8**
SBA IAmb IAmb 20 56 39.6
comp=Z,53nm,1.6s
SBA Scott Base 64.90 167 P **P 20 56 30.9 +0.8**
SBA pmax pmax
comp=Z,53nm,1.6s
SLVN Son La 64.97 44 IAmb IAmb 20 56 45.9
comp=Z,22nm,1.1s
MRSI Marisa 65.00 74 P **P 20 56 29.2 -2.5**
comp=Z,53nm,0.8s
LSA Lhasa 65.18 29 P **P 20 56 30.0 -3.1**
LSA pmax pmax
comp=Z,9.0nm,1.3s
LSA Lhasa 65.18 29 IAmb IAmb 20 56 36.5
comp=Z,22nm,1.2s
LSA Lhasa 65.18 29 P **P 20 56 33.9 +0.8**
LSA Lhasa 65.18 29 P **P 20 56 33.5 +0.5**
ASF Jabal al Asfar 65.22 337 LR LR 21 23 30.7
comp=Z,143nm,18.8s,baz=180,slow=35
WRA Warramunga Arr 66.28 100 P **P 20 56 38.9 -1.1**
WRA Warramunga Arr 66.28 100 P **P 20 56 39.1 -0.9**
comp=Z,45nm,1.2s,baz=247,slow=5.9,SNR=57
WRA LR LR 21 21 13.7
comp=Z,538nm,21.4s,baz=287,slow=32
WRA PKPPKP **P'P'df 21 25 13.8 -2.8**
comp=Z,2.7nm,0.8s,baz=66,slow=2.8,SNR=12
comp=Z,45nm,1.2s
WRAB Tennant Creek 66.29 100 P **P 20 56 39.1 -1.0**
WRAB Tennant Creek 66.29 100 P **P 20 56 39.1 -1.0**
WRAB pmax pmax
comp=Z,68nm,1.1s
MMAI Mount Meron Ar 66.50 337 P **P 20 56 42.4 +1.4**
comp=Z,12nm,0.7s,baz=155,slow=8.0,SNR=11
MMAI LR LR 21 22 24.3
comp=Z,463nm,19.7s,baz=154,slow=33
comp=Z,12nm,0.7s
SANI Sanana 67.13 79 P **P 20 56 45.3 -0.1**
comp=Z,15nm,1.1s
KMI Kunming 67.17 41 P **P 20 56 46.5 +0.9**
KMI pmax pmax
comp=Z,13nm,1.4s
KMI LR LR
comp=Z,260nm,19.3s
PZH PanZhiHua 67.68 39 P P 20 56 53.8 +5.0
STKA Stephens Creek 67.77 115 P **P 20 56 48.8 -0.5**
comp=Z,11nm,1.0s,baz=253,slow=8.1,SNR=11
STKA LR LR 21 21 09.6
comp=Z,268nm,21.2s,baz=231,slow=31
comp=Z,11nm,1.0s
GAR Garm 68.36 8 IAmb IAmb 20 56 53.3
comp=Z,39nm,1.0s
INKA Innaminka 68.63 111 IAmb IAmb 20 57 02.9
comp=Z,22nm,1.0s
TOO Toolangi 68.72 122 P **P 20 56 55.7 +0.5**
TOO Toolangi 68.72 122 P **P 20 56 55.7 +0.5**
TOO pmax pmax
comp=Z,8.0nm,1.1s
MARD Mardin 68.84 343 IAmb IAmb 20 56 57.9
comp=Z,35nm,1.2s
CSS Mathiatis 68.99 336 IAmb IAmb 20 56 58.2
comp=Z,35nm,0.9s
GURO Guroymak-BITLI 69.70 344 IAmb IAmb 20 57 05.6
comp=Z,34nm,1.0s
GAZ Gaziantep 69.72 340 IAmb IAmb 20 57 03.2
comp=Z,41nm,1.0s
KSH Kashi 69.72 12 P **P 20 56 58.5 -2.7**
KSH sP pP 20 57 06.0 +0.1
KSH pmax pmax
comp=Z,72nm,0.9s
KSH LR LR
comp=Z,530nm,17.5s
KSH LR LR
comp=Z,200nm,13.1s
KSH LR LR
comp=Z,620nm,17.5s
TNTI Ternate 69.75 77 P **P 20 57 03.0 +1.2**
comp=Z,26nm,1.3s
GYA Guiyang 70.47 43 ⇑P **P 20 57 08.5 +2.4**
GYA S **S 21 06 22.3 +3.9**
GYA pmax pmax
comp=Z,18nm,0.8s
GYA pmax pmax
comp=Z,110nm,3.6s
GYA LR LR
comp=Z,66nm,4.8s
GYA LR LR
comp=Z,140nm,3.9s
GYA LR LR
comp=Z,140nm,6.7s
GNI Garni 70.64 347 P **P 20 57 08.5 +1.6**
GNI Garni 70.64 347 LR LR 21 26 14.6
comp=Z,554nm,19.8s,baz=178,slow=34
GNI Garni 70.64 347 P **P 20 57 08.5 +1.6**
GNI P **P 20 57 08.5 +1.6**
GNI Garni 70.64 347 P **P 20 57 08.4 +1.6**
GNI Garni 70.64 347 P **P 20 57 08.5 +1.6**
GNI pmax pmax
comp=Z,59nm,1.1s
TOA0 Torodi Ar. Sit 71.13 298 P **P 20 57 10.7 +0.5**
SNR=6.3
TORD Torodi Ar. Bea 71.13 298 P **P 20 57 07.1 -3.1**
TORD IAmb IAmb 20 57 12.0
comp=Z,29nm,0.9s
TORD Torodi Ar. Bea 71.13 298 P **P 20 57 10.5 +0.4**
comp=Z,32nm,0.9s,baz=97,slow=5.8,SNR=130
TORD LR LR 21 28 14.1
comp=Z,1μm,19.2s,baz=134,slow=36
comp=Z,32nm,0.9s
ARPR Arapgir-MALATY 71.17 341 IAmb IAmb 20 57 12.4
comp=Z,53nm,1.2s
AKT Akhty 71.39 349 *e*P **P 20 57 10.4 -0.9**
AKT *e* 20 57 28.1
AKT *e* 20 59 51.7
AKT pmax pmax
comp=Z,62nm,1.0s
KOPT Kop Dagi 71.47 343 IAmb IAmb 20 57 14.7
comp=Z,28nm,1.0s
BNN Bunyan 71.68 339 IAmb IAmb 20 57 14.9
comp=Z,27nm,1.0s
TGY Tagaytay City 71.97 62 LR LR 21 25 57.9
comp=Z,220nm,19.5s,baz=156,slow=34
UCH Uchtor 72.11 10 P **P 20 57 16.9 +0.9**
SNR=12
CAN Canberra 72.19 121 P **P 20 57 17.1 +0.7**
CAN IAmb IAmb 20 57 19.8
comp=Z,34nm,1.3s
CAN Canberra 72.19 121 P **P 20 57 17.2 +0.7**
CAN pmax pmax
comp=Z,34nm,1.3s

CD2	**Chengdu**	**72.23**	**38**	P	**P**	**20 57 16.8 +0.3**
CD2				pP	pP	20 57 20.8 -0.5
CD2				sP	sP	20 57 22.0 -1.0
CD2				pmax	pmax	
	comp=Z,20nm,0.8s					
SWI	**Sorong**	**72.26**	**81**	P	**P**	**20 57 17.5 +0.4**
BRLS	**Borolday**	**72.30**	**7**	*e*P	**P**	**20 57 14.8 -1.9**
	comp=Z,10nm,0.8s					
BRLS	**Borolday**	**72.30**	**7**	*e*P	**P**	**20 57 14.7 -1.9**
BRLS				pmax	pmax	
	comp=Z,10.0nm,0.8s					
DZA	**Taraz**	**72.33**	**8**	*e*P	**P**	**20 57 17.0 +0.2**
	comp=Z,30nm,1.0s					
DZA	**Taraz**	**72.33**	**8**	*e*P	**P**	**20 57 16.9 +0.2**
DZA				pmax	pmax	
	comp=Z,30nm,1.0s					
GOMU	**GeErMu**	**72.33**	**28**	P	**P**	**20 57 17.8 +0.4**
GOMU				pP	pP	20 57 21.3 -0.9
GOMU				sP	sP	20 57 24.8 +0.9
GOMU				pmax	pmax	
	comp=Z,3.0nm,0.8s					
EKS2	**Erkin-Say**	**72.42**	**10**	P	**P**	**20 57 18.6 +1.0**
	SNR=42					
KK31	**Karatay Array**	**72.44**	**7**	IAmb	IAmb	20 57 19.1
	comp=Z,53nm,1.1s					
KK31	**Karatay Array**	**72.44**	**7**	*i* P	**P**	**20 57 17.1 -0.3**
KKAR	**Karatay Array**	**72.44**	**7**	P	**P**	**20 57 17.4 0.0**
KKAR	**Karatay Array**	**72.44**	**7**	P	**P**	**20 57 17.4 0.0**
KDJ	**Kajisay**	**72.48**	**12**	IAmb	IAmb	20 57 19.4
	comp=Z,35nm,0.9s					
AAK	**Ala-Archa**	**72.51**	**10**	P	**P**	**20 57 18.7 +0.6**
AAK				IAmb	IAmb	20 57 20.1
	comp=Z,44nm,1.1s					
AAK	**Ala-Archa**	**72.51**	**10**	LR	LR	21 26 36.6
	comp=Z,223nm,21.1s,baz=202,slow=34					
AAK	**Ala-Archa**	**72.51**	**10**	P	**P**	**20 57 19.1 +1.0**
AAK	**Ala-Archa**	**72.51**	**10**	P	**P**	**20 57 19.0 +0.9**
	SNR=33					
AAK	**Ala-Archa**	**72.51**	**10**	*i* P	**P**	**20 57 18.9 +0.9**
	SNR=8.5					
AAK	**Ala-Archa**	**72.51**	**10**	P	**P**	**20 57 18.7 +0.6**
AAK				pmax	pmax	
	comp=Z,44nm,1.1s					
KIRS	**Kirsehir-Merke**	**72.55**	**338**	⇓P	**P**	**20 57 18.8 +0.6**
ISP	**Isparta**	**72.56**	**335**	*ce*P	**P**	**20 57 18.5 +0.1**
ISP				pmax	pmax	
	comp=Z,9.0nm,1.0s					
KBK	**Karagaybulak**	**72.60**	**11**	P	**P**	**20 57 19.4 +0.8**
	SNR=15					
IDI	**Anoyia**	**72.66**	**330**	LR	LR	21 29 23.0
	comp=Z,81nm,18.1s,baz=126,slow=36					
BATM	**Batumi**	**72.69**	**345**	⇑P	**P**	**20 57 19.4 +0.5**
BATM	**Batumi**	**72.69**	**345**	P	**P**	**20 57 19.4 +0.5**
DBIC	**Dimbokro**	**72.70**	**288**	P	**P**	**20 57 20.8 +1.1**
DBIC	**Dimbokro**	**72.70**	**288**	P	**P**	**20 57 21.1 +1.4**
	comp=Z,52nm,1.0s,baz=142,slow=6.2,SNR=25					
DBIC				LR	LR	21 28 39.4
	comp=Z,441nm,18.9s,baz=152,slow=35					
	comp=Z,52nm,1.0s					
FRU1	**Bishkek**	**72.70**	**10**	IAmb	IAmb	20 57 35.9
	comp=Z,34nm,1.0s					
TOKA	**Tokat**	**72.84**	**340**	IAmb	IAmb	20 57 22.0
	comp=Z,54nm,1.5s					
MAK	**Makhachkala**	**72.87**	**350**	*c i*P	**P**	**20 57 16.6 -3.3**
MAK				*e*		21 00 02.4
MAK				*e*PPP	PPP	21 01 48.0
MAK				*e*S	**S**	**21 06 42.2 -2.9**
MAK				*e*SS	**SS**	**21 11 21.8 -4.4**
MAK				pmax	pmax	
	comp=Z,110nm,1.1s					
MAK				MLR	MLR	
	comp=Z,335nm,17.0s					
TKM2	**Tokmak 2**	**72.97**	**11**	P	**P**	**20 57 20.9 0.0**
	SNR=21					
USP	**Ospenovka**	**73.13**	**10**	P	**P**	**20 57 21.9 +0.4**
	SNR=60					
BR131	**Keskin Array S**	**73.17**	**338**	IAmb	IAmb	20 57 23.1
	comp=Z,24nm,0.9s					
BR131	**Keskin Array S**	**73.17**	**338**	P	**P**	**20 57 22.2 +0.2**
	SNR=19					
BR131	**Keskin Array S**	**73.17**	**338**	*d i*P	**P**	**20 57 21.9 -0.1**
BRTR	**Keskin Array B**	**73.17**	**338**	P	**P**	**20 57 21.4 -0.6**
BRTR	**Keskin Array B**	**73.17**	**338**	P	**P**	**20 57 22.2 +0.2**
	comp=Z,16nm,0.9s,baz=165,slow=7.5,SNR=87					
BRTR				LR	LR	21 26 48.5
	comp=Z,208nm,20.2s,baz=140,slow=34					
	comp=Z,16nm,0.9s					
TNSS	**Tian-Shan**	**73.31**	**12**	*e*P	**P**	**20 57 22.7 -0.5**
TNSS	**Tian-Shan**	**73.31**	**12**	*e*P	**P**	**20 57 22.6 -0.5**
SGDS	**Sogindy**	**73.33**	**10**	*e*P	**P**	**20 57 22.9 +0.2**
MDOK	**Medeo**	**73.45**	**12**	*e*P	**P**	**20 57 23.7 +0.1**
MDOK	**Medeo**	**73.45**	**12**	*e*P	**P**	**20 57 23.7 +0.1**
AAA	**Alma-Ata**	**73.47**	**12**	*e*P	**P**	**20 57 23.9 +0.3**
	comp=Z,38nm,1.1s					
AAA	**Alma-Ata**	**73.47**	**12**	*e*P	**P**	**20 57 23.9 +0.3**
AAA				pmax	pmax	
	comp=Z,38nm,1.1s					
ANTO	**Ankara**	**73.58**	**338**	P	**P**	**20 57 24.7 +0.4**
ANTO				IAmb	IAmb	20 57 25.8
	comp=Z,25nm,1.0s					
ANTO	**Ankara**	**73.58**	**338**	P	**P**	**20 57 25.0 +0.6**
ANTO	**Ankara**	**73.58**	**338**	⇓P	**P**	**20 57 24.9 +0.4**
ANTO	**Ankara**	**73.58**	**338**	P	**P**	**20 57 24.8 +0.4**
SATY	**Saty**	**73.61**	**13**	*e*P	**P**	**20 57 24.7 +0.1**
	comp=Z,15nm,1.0s					
SATY	**Saty**	**73.61**	**13**	*e*P	**P**	**20 57 24.6 +0.1**
SATY				pmax	pmax	
	comp=Z,15nm,1.0s					
UZB	**Uzynbulak**	**73.82**	**14**	*e*P	**P**	**20 57 25.9 0.0**
	comp=Z,14nm,0.8s					
UZB	**Uzynbulak**	**73.82**	**14**	*e*P	**P**	**20 57 25.8 0.0**
UZB				pmax	pmax	
	comp=Z,14nm,0.8s					
MANT	**Manisa**	**73.88**	**334**	IAmb	IAmb	20 57 27.7
	comp=Z,27nm,0.9s					
APE	**Apeiranthos**	**73.89**	**331**	⇓P	**P**	**20 57 25.4 -0.7**
APE	**Apeiranthos**	**73.89**	**331**	⇓*i*P	**P**	**20 57 26.1 -0.1**
APE				pmax	pmax	
	comp=Z,43nm,0.7s					
SHLS	**Shalkode**	**73.92**	**14**	*e*P	**P**	**20 57 27.1 +0.7**
	comp=Z,30nm,1.2s					
SHLS	**Shalkode**	**73.92**	**14**	*e*P	**P**	**20 57 27.0 +0.7**
SHLS				pmax	pmax	
	comp=Z,30nm,1.2s					
NCK	**Nalchik**	**74.09**	**347**	⇑*i*P	**P**	**20 57 28.3 +1.1**
NCK				pmax	pmax	
	comp=Z,34nm,1.3s					
PDGK	**Podgornoye**	**74.09**	**14**	P	**P**	**20 57 26.7 -0.7**
ILGA	**Ilgaz**	**74.35**	**339**	IAmb	IAmb	20 57 31.1
	comp=Z,32nm,1.3s					
BORA	**Eskisehir**	**74.40**	**336**	IAmb	IAmb	20 57 30.6
	comp=Z,22nm,1.0s					
TAM	**Tamanrasset**	**74.40**	**308**	P	**P**	**20 57 30.9 +1.2**
TAM	**Tamanrasset**	**74.40**	**308**	P	**P**	**20 57 30.9 +1.2**
TAM				pmax	pmax	
	comp=Z,15nm,0.9s					
KBZ	**Khabaz**	**74.45**	**346**	P	**P**	**20 57 29.6 +0.4**
	comp=Z,22nm,1.1s,baz=167,slow=5.4,SNR=21					
KBZ				LR	LR	21 28 13.8
	comp=Z,696nm,21.8s,baz=158,slow=34					
	comp=Z,22nm,1.1s					
KBZ	**Khabaz**	**74.45**	**346**	*d i*P	**P**	**20 57 29.6 +0.4**
KBZ				pmax	pmax	
	comp=Z,21nm,1.3s					
SHA1	**Shidzhatmaz**	**74.51**	**346**	*d i*P	**P**	**20 57 30.5 +0.6**
MDUB	**Mudurnu**	**74.66**	**337**	IAmb	IAmb	20 57 32.8
	comp=Z,55nm,0.9s					
KVAR	**Kislovodsk Arr**	**74.71**	**346**	LR	LR	21 28 39.9
	comp=Z,331nm,21.3s,baz=56,slow=34					
KIV	**Kislovodsk**	**74.72**	**346**	P	**P**	**20 57 31.6 +0.7**
KIV	**Kislovodsk**	**74.72**	**346**	⇓P	**P**	**20 57 31.4 +0.5**
KIV	**Kislovodsk**	**74.72**	**346**	*i* P	**P**	**20 57 31.4 +0.5**
	SNR=19					
KIV	**Kislovodsk**	**74.72**	**346**	*e*P	**P**	**20 57 29.9 -1.0**
KIV				*e*S	**S**	**21 07 08.1 +1.9**
KIV				pmax	pmax	
	comp=Z,38nm,1.1s					
KIV				pmax	pmax	
	comp=Z,24nm,3.3s					
ENH	**Enshi**	**74.96**	**42**	IAmb	IAmb	20 57 36.6
	comp=Z,65nm,1.5s					
SOC	**Sochi**	**75.03**	**344**	*e*P	**P**	**20 57 28.8 -3.8**
SOC				*e*		21 00 19.9
SOC				*e*PPP	PPP	21 02 05.9
SOC				*e*S	**S**	**21 07 05.8 -3.6**
SOC				pmax	pmax	
	comp=Z,30nm,0.9s					
SOC				MLR	MLR	
	comp=Z,192nm,20.0s					
TDK	**Taldyqorghan**	**75.48**	**13**	*e*P	**P**	**20 57 35.2 -0.1**
	comp=Z,45nm,1.2s					
TDK	**Taldyqorghan**	**75.48**	**13**	*e*P	**P**	**20 57 35.1 -0.1**
TDK				pmax	pmax	
	comp=Z,45nm,1.2s					
ITM	**Ithomi**	**75.56**	**329**	IAmb	IAmb	20 57 37.6
	comp=Z,23nm,0.7s					
BAND	**Balkesir-Ban**	**75.68**	**335**	⇑P	**P**	**20 57 36.9 +0.5**
GOF	**Gofitskoye**	**75.70**	**347**	*ce*P	**P**	**20 57 36.7 +0.3**
SMAI	**San Martin Ant**	**75.71**	**198**	P	**P**	**20 57 36.4 +0.1**
LABN	**Labinsk**	**75.79**	**345**	*e*P	**P**	**20 57 36.1 -0.9**
LABN				pmax	pmax	
	comp=Z,26nm,0.8s					
EZN	**Ezine**	**75.91**	**333**	⇓P	**P**	**20 57 38.2 +0.5**
EZN	**Ezine**	**75.91**	**333**	P	**P**	**20 57 38.2 +0.5**
LZDM	**Lanzhou Array**	**76.17**	**34**	P	**P**	**20 57 39.5 -0.2**
	comp=Z,2.6nm,0.4s,baz=212,slow=4.6,SNR=0.8					
	comp=Z,2.6nm,0.4s					
ARMA	**Armidale**	**76.24**	**117**	IAmb	IAmb	20 57 49.1
	comp=Z,40nm,1.1s					
LZH	**Lanzhou**	**76.34**	**34**	*e*P	**P**	**20 57 40.8 +0.3**
LZH				sP	sP	20 57 47.8 +0.7
LZH				pmax	pmax	
	comp=Z,21nm,1.0s					
LZH				LR	LR	
	comp=Z,220nm,19.9s					
LZH				LR	LR	
	comp=Z,230nm,20.5s					
WMQ	**Urumqi**	**76.61**	**19**	*e*P	P	20 57 46.8 +5.1
WMQ				S	**S**	**21 07 22.0 -5.1**
WMQ				pmax	pmax	
	comp=Z,22nm,0.9s					
WMQ				LR	LR	
	comp=Z,270nm,20.3s					
WMQ				LR	LR	
	comp=Z,310nm,23.9s					
ANN	**Anapa**	**76.74**	**343**	*e*P	**P**	**20 57 43.1 +0.8**
ANN				*e*S	**S**	**21 07 28.4 +0.2**
ANN				pmax	pmax	
	comp=Z,20nm,0.9s					
ERBR	**Yeremizino-Bor**	**76.87**	**345**	*e*P	**P**	**20 57 41.3 -1.7**
ERBR				*e*S	**S**	**21 07 30.8 +1.2**
ERBR				pmax	pmax	
	comp=Z,83nm,1.1s					
ALN	**Alexandroupoli**	**76.94**	**333**	IAmb	IAmb	20 57 44.4
	comp=Z,26nm,0.8s					
PHSR	**Pinarhisar**	**77.00**	**335**	⇓P	**P**	**20 57 43.7 -0.2**
PMSA	**Palmer Station**	**77.16**	**201**	LR	LR	21 28 37.3
	comp=Z,148nm,18.1s,baz=139,slow=33					
PMSA	**Palmer Station**	**77.16**	**201**	*e*P	**P**	**20 57 45.5 +0.9**
GTA	**Gaotai**	**77.16**	**30**	*e*P	**P**	**20 57 45.0 0.0**
GTA				sP	sP	20 57 52.3 +0.8
GTA				pmax	pmax	
	comp=Z,14nm,0.9s					
GTA				LR	LR	
	comp=Z,160nm,12.7s					
GTA				LR	LR	
	comp=Z,150nm,13.4s					
GTA				LR	LR	
	comp=Z,120nm,14.5s					
XAN	**Xi'an**	**77.42**	**39**	P	**P**	**20 57 45.5 -1.0**
XAN				pmax	pmax	
	comp=Z,14nm,1.0s					
XAN				pmax	pmax	
	comp=Z,180nm,3.8s					
LIT	**Litokhoron**	**77.72**	**331**	IAmb	IAmb	20 57 48.7
	comp=Z,24nm,0.9s					
SIM	**Simferopol'**	**77.78**	**341**	*e*P	**P**	**20 57 48.7 +0.5**
SIM				*e*S	**S**	**21 07 38.9 -0.7**
SIM				pmax	pmax	
	comp=Z,75nm,1.1s					
KDZ	**Kurdzhali**	**77.84**	**333**	*i* P	**P**	**20 57 48.7 +0.1**
MAKZ	**Makanchi**	**77.94**	**14**	P	**P**	**20 57 48.1 -0.9**
MAKZ				IAmb	IAmb	20 57 52.1
	comp=Z,27nm,1.2s					
MAKZ	**Makanchi**	**77.94**	**14**	P	**P**	**20 57 48.7 -0.4**
SSLB	**Suanglung**	**77.98**	**54**	IAmb	IAmb	20 58 01.8
	comp=Z,59nm,1.4s					
MK31	**Makanchi Array**	**78.00**	**15**	*i* P	**P**	**20 57 48.2 -1.2**
MK31				pmax	pmax	
	comp=Z,13nm,0.8s					
MKAR	**Makanchi Array**	**78.00**	**15**	P	**P**	**20 57 48.3 -1.0**
MKAR	**Makanchi Array**	**78.00**	**15**	P	**P**	**20 57 49.3 -0.1**
	comp=Z,12nm,0.9s,baz=193,slow=5.0,SNR=60					
MKAR				PKKPbc	**PKKPbc**	**21 16 49.1 -3.0**
	comp=Z,0.3nm,0.5s,baz=30,slow=3.5,SNR=3.8					
MKAR				LR	LR	21 29 53.5
	comp=Z,234nm,20.0s,baz=196,slow=34					
	comp=Z,12nm,0.9s					
EIDS	**Eidsvold**	**78.02**	**112**	IAmb	IAmb	20 57 58.2
	comp=Z,27nm,1.0s					
WHN	**Wuhan**	**78.08**	**45**	P	**P**	**20 57 50.5 +0.4**
WHN				S	**S**	**21 07 39.5 -3.9**
WHN				sS	**sS**	**21 07 51.8 +0.7**
WHN				pmax	pmax	
	comp=Z,54nm,1.2s					
AB31	**Akbulak array**	**78.09**	**359**	IAmb	IAmb	20 57 51.0
	comp=Z,47nm,1.1s					
AB31	**Akbulak array**	**78.09**	**359**	P	**P**	**20 57 49.1 -0.7**
ABKAR	**Akbulak array**	**78.09**	**359**	P	**P**	**20 57 49.0 -0.8**
JMB	**Yambol**	**78.12**	**335**	*i* P	**P**	**20 57 49.5 -0.6**
PRD	**Provadia**	**78.37**	**335**	*i* P	**P**	**20 57 51.3 -0.2**
MMB	**Musomishta**	**78.40**	**332**	*i* P	**P**	**20 57 51.3 -0.5**
PLD	**Plovdiv**	**78.51**	**333**	*i* P	**P**	**20 57 52.6 +0.3**
NEF	**NEVSHA**	**78.51**	**335**	*i* P	**P**	**20 57 52.8 +0.5**
MANR	**Mangalia**	**78.53**	**337**	⇑P	**P**	**20 57 52.0 -0.3**
PSN	**Preselentsi**	**78.53**	**336**	*i* P	**P**	**20 57 53.1 +0.8**
VAY	**Valandovo**	**78.70**	**331**	*i* P	**P**	**20 57 52.9 -0.4**
EFOR	**EFORIE**	**78.74**	**337**	⇓P	**P**	**20 57 54.1 +0.7**
ELND	**Elena**	**78.74**	**334**	⇑P	**P**	**20 57 54.1 +0.6**
MFTR	**Murfatlar**	**78.90**	**337**	⇓P	**P**	**20 57 54.7 +0.4**
KKB	**Krupnik**	**78.90**	**332**	*i* P	**P**	**20 57 54.9 +0.4**
RAZG	**Razgrad**	**79.05**	**335**	⇓P	**P**	**20 57 55.2 -0.1**
TIRR	**Tirgusor**	**79.15**	**337**	IAmb	IAmb	20 57 56.8
	comp=Z,49nm,0.9s					
TIRR	**Tirgusor**	**79.15**	**337**	⇓P	**P**	**20 57 55.9 +0.1**
TIRR	**Tirgusor**	**79.15**	**337**	P	**P**	**20 57 55.8 +0.1**
PVL	**Pavlikeni**	**79.17**	**334**	*i* P	**P**	**20 57 55.9 0.0**
ZSN	**Zaisan**	**79.21**	**16**	*e*P	**P**	**20 57 56.4 +0.3**
ZSN	**Zaisan**	**79.21**	**16**	*e*P	**P**	**20 57 56.3 +0.3**
JURR	**Jurilovca**	**79.26**	**337**	⇑P	**P**	**20 57 56.1 -0.2**
OHR	**Ohrid**	**79.28**	**330**	*i* P	**P**	**20 57 57.1 +0.4**
RAFF	**Raffo Rosso**	**79.29**	**324**	IAmb	IAmb	20 57 58.7
	comp=Z,61nm,0.9s					
AKTO	**Aktyubinsk**	**79.31**	**358**	LR	LR	21 29 56.0
	comp=Z,291nm,21.5s,baz=190,slow=33					
AKTO	**Aktyubinsk**	**79.31**	**358**	P	**P**	**20 57 55.7 -0.8**
PLNA	**Plana**	**79.31**	**333**	*i* P	**P**	**20 57 56.9 0.0**
TLBR	**Topalu**	**79.35**	**337**	⇑P	**P**	**20 57 56.8 0.0**
VAE	**Valguarnera**	**79.46**	**324**	LR	LR	21 33 36.3
	comp=Z,396nm,19.0s,baz=124,slow=36					
BRZS	**Berezniki**	**79.47**	**8**	*e*P	**P**	**20 57 57.7 +0.3**
BRZS	**Berezniki**	**79.47**	**8**	*e*P	**P**	**20 57 57.7 +0.3**
TPGR	**Topolog**	**79.50**	**337**	⇓P	**P**	**20 57 56.8 -0.8**
VTS	**Vitosha**	**79.51**	**333**	*i* P	**P**	**20 57 58.7 +0.7**
HARR	**Harsova**	**79.52**	**337**	⇓P	**P**	**20 57 58.0 +0.3**
HARR	**Harsova**	**79.52**	**337**	P	**P**	**20 57 58.0 +0.3**
TIP	**Timpagrande**	**79.60**	**326**	⇓P	**P**	**20 57 58.4 0.0**
PLVB	**Pleven**	**79.61**	**334**	⇑P	**P**	**20 57 57.8 -0.5**
BLSH	**Balsha**	**79.69**	**333**	*i* P	**P**	**20 57 59.2 +0.4**
SGRR	**Singureni**	**79.81**	**335**	⇓P	**P**	**20 57 59.8 +0.4**
CFR	**Carcaliu**	**79.87**	**337**	⇓P	**P**	**20 57 59.7 +0.1**
CFR	**Carcaliu**	**79.87**	**337**	P	**P**	**20 57 59.7 +0.1**
MPEP	**Malo Peshtene**	**79.93**	**333**	*i* P	**P**	**20 58 00.0 0.0**
COPA	**Copaceanca**	**80.02**	**335**	⇓P	**P**	**20 58 00.9 +0.5**
VLAD	**Vladila**	**80.21**	**334**	⇓P	**P**	**20 58 01.7 +0.2**
NEGRR	**Negrea**	**80.28**	**337**	⇑P	**P**	**20 58 01.7 -0.1**
VALD	**Valchedram**	**80.33**	**333**	*i* P	**P**	**20 58 02.0 -0.1**
ISR	**Istrita**	**80.38**	**336**	⇓P	**P**	**20 58 03.4 +0.9**
ISR	**Istrita**	**80.38**	**336**	P	**P**	**20 58 03.4 +0.9**
HUMR	**Humele**	**80.44**	**335**	⇑P	**P**	**20 58 02.9 +0.1**
BLKB	**Belogradchik**	**80.57**	**333**	⇓P	**P**	**20 58 03.4 -0.1**
VARL	**Varlezi**	**80.60**	**337**	⇓P	**P**	**20 58 04.0 +0.5**
BAIL	**Bailesti**	**80.64**	**333**	⇑P	**P**	**20 58 04.4 +0.6**
MATE	**Matera**	**80.77**	**327**	⇑P	**P**	**20 58 04.6 0.0**
GHRR		**80.89**	**337**	⇓P	**P**	**20 58 05.8 +0.6**
KEST	**Kesra**	**80.91**	**320**	IAmb	IAmb	20 58 16.2
	comp=Z,84nm,1.9s					
KEST	**Kesra**	**80.91**	**320**	P	**P**	**20 58 06.7 +1.1**
	comp=Z,11nm,1.1s,baz=350,slow=4.2,SNR=5.8					
KEST				LR	LR	21 35 46.6
	comp=Z,688nm,18.1s,baz=85,slow=37					
	comp=Z,11nm,1.1s					
KEST	**Kesra**	**80.91**	**320**	P	**P**	**20 58 07.6 +2.0**
MLR	**Muntele Rosu**	**80.91**	**336**	IAmb	IAmb	20 58 06.6
	comp=Z,26nm,1.0s					
MLR	**Muntele Rosu**	**80.91**	**336**	⇑P	**P**	**20 58 05.4 0.0**
MLR	**Muntele Rosu**	**80.91**	**336**	P	**P**	**20 58 05.4 0.0**
KURBB	**Kurchatov Arra**	**80.93**	**11**	P	**P**	**20 58 05.6 +0.4**
	comp=Z,10nm,0.9s,baz=203,slow=6.4,SNR=52					
KURBB				LR	LR	21 30 32.2
	comp=Z,204nm,19.8s,baz=175,slow=33					
	comp=Z,10nm,0.9s					
KURBB	**Kurchatov Arra**	**80.93**	**11**	P	**P**	**20 58 04.3 -0.9**
VRI	**Vrincioaia**	**80.96**	**336**	⇑P	**P**	**20 58 06.2 +0.6**
VRI	**Vrincioaia**	**80.96**	**336**	P	**P**	**20 58 06.1 +0.6**
PLOR	**Plostina**	**80.97**	**336**	⇓P	**P**	**20 58 06.0 +0.3**
PLOR	**Plostina**	**80.97**	**336**	P	**P**	**20 58 05.9 +0.3**
BOVS	**Bovan**	**80.97**	**332**	⇓P	**P**	**20 58 05.4 -0.2**
PDG	**Podgorica**	**81.03**	**330**	⇑P	**P**	**20 58 06.2 +0.2**
KURK	**Kurchatov**	**81.03**	**11**	P	**P**	**20 58 05.4 -0.3**
KURK				IAmb	IAmb	20 58 07.7
	comp=Z,29nm,1.1s					
KURK	**Kurchatov**	**81.03**	**11**	P	**P**	**20 58 06.2 +0.4**
KURK	**Kurchatov**	**81.03**	**11**	*d i*P	**P**	**20 58 05.8 +0.1**
KURK				pmax	pmax	
	comp=Z,51nm,1.4s					
SRE	**Strehaia**	**81.23**	**334**	⇑P	**P**	**20 58 07.5 +0.5**
SRE	**Strehaia**	**81.23**	**334**	P	**P**	**20 58 07.5 +0.5**
ARR	**Arges**	**81.29**	**335**	⇑P	**P**	**20 58 07.1 -0.2**
TURR	**Turia**	**81.37**	**336**	⇑P	**P**	**20 58 07.3 -0.4**
ONER	**Baraj Valea Uz**	**81.48**	**336**	⇑P	**P**	**20 58 08.3 0.0**
OZUR		**81.49**	**336**	⇑P	**P**	**20 58 08.2 -0.2**
DOPR	**Dopca**	**81.52**	**336**	⇑P	**P**	**20 58 08.3 -0.2**
TESR	**Tescani**	**81.55**	**337**	⇑P	**P**	**20 58 08.3 -0.3**
LOT	**Lotru**	**81.68**	**334**	⇓P	**P**	**20 58 08.7 -0.8**
HERR	**Herculane**	**81.72**	**333**	⇑P	**P**	**20 58 09.8 +0.3**
VRH	**Novokhopyorsk**	**81.84**	**348**	*e*P	**P**	**20 58 09.5 -0.5**
VRH				pmax	pmax	
	comp=Z,32nm,0.7s					
MDVR	**Moldovita**	**81.92**	**333**	⇑P	**P**	**20 58 10.4 -0.3**
NJ2	**Nanjing**	**81.92**	**46**	*e*P	**P**	**20 58 10.5 -0.4**
NJ2				pmax	pmax	
	comp=Z,12nm,0.6s					
GZR	**Gura Zlata**	**82.01**	**334**	⇓P	**P**	**20 58 11.0 -0.2**
GZR	**Gura Zlata**	**82.01**	**334**	P	**P**	**20 58 11.0 -0.2**
VORD	**Divnogorie**	**82.10**	**346**	*e*P	**P**	**20 58 09.7 -1.6**
VORD				pmax	pmax	
	comp=Z,30nm,1.0s					
BVA0	**Borovoye Array**	**82.25**	**6**	P	**P**	**20 58 11.2 -1.0**
BVAR	**Borovoye Array**	**82.25**	**6**	P	**P**	**20 58 12.3 +0.1**
	comp=Z,7.6nm,0.6s,baz=174,slow=6.0,SNR=28					
BVAR				LR	LR	21 32 21.1
	comp=Z,386nm,21.0s,baz=203,slow=34					
	comp=Z,7.6nm,0.6s					
BORK	**Borovoye**	**82.27**	**6**	*d i*P	**P**	**20 58 12.1 -0.1**
BORK				pmax	pmax	
	comp=Z,16nm,0.9s					
VSR	**Storozhevoye**	**82.36**	**346**	*e*P	**P**	**20 58 10.0 -2.7**
VSR				pmax	pmax	
	comp=Z,30nm,1.0s					
DEV	**Deva**	**82.37**	**334**	⇑P	**P**	**20 58 13.1 +0.2**
DEV	**Deva**	**82.37**	**334**	P	**P**	**20 58 13.1 +0.2**
SORM	**Soroca**	**82.40**	**339**	⇓P	**P**	**20 58 12.5 -0.6**
SORM	**Soroca**	**82.40**	**339**	P	**P**	**20 58 12.4 -0.6**
SURR	**Surduc**	**82.56**	**334**	⇑P	**P**	**20 58 13.7 -0.2**
CMAH	**Djebel Manchou**	**82.64**	**319**	P	**P**	**20 58 15.8 +1.1**
BZS	**Buzias**	**82.65**	**333**	⇓P	**P**	**20 58 14.7 +0.2**
BZS	**Buzias**	**82.65**	**333**	P	**P**	**20 58 14.6 +0.2**
CKFL	**Kef-Lekhel**	**82.88**	**319**	P	**P**	**20 58 17.6 +1.6**
BTO	**Baotou**	**82.91**	**35**	*e*P	**P**	**20 58 16.0 0.0**
BTO				S	**S**	**21 08 32.5 -1.4**
BTO				pmax	pmax	
	comp=Z,25nm,0.5s					
BTO				pmax	pmax	
	comp=Z,210nm,5.1s					
BTO				LR	LR	
	comp=Z,310nm,7.0s					
BTO				LR	LR	
	comp=Z,200nm,5.5s					
BTO				LR	LR	
	comp=Z,210nm,9.2s					
MARR	**Marisel-Cluj**	**82.96**	**335**	⇑P	**P**	**20 58 15.7 -0.5**
BURAR	**Bucovina Array**	**83.00**	**336**	P	**P**	**20 58 16.3 0.0**
BURAR	**Bucovina Array**	**83.00**	**336**	⇓P	**P**	**20 58 16.8 +0.5**
BURAR	**Bucovina Array**	**83.00**	**336**	P	**P**	**20 58 16.8 +0.5**
HNS	**HongShan**	**83.09**	**40**	⇓P	**P**	**20 58 17.0 +0.1**
HNS				pmax	pmax	
	comp=Z,25nm,1.0s					
INTR	**Introdacqua**	**83.16**	**327**	IAmb	IAmb	20 58 17.7
	comp=Z,28nm,1.0s					
SIRR	**Siria**	**83.17**	**334**	⇓P	**P**	**20 58 17.4 +0.3**
DRGR		**83.21**	**335**	⇑P	**P**	**20 58 16.6 -0.8**
DRGR		**83.21**	**335**	P	**P**	**20 58 16.6 -0.8**
RPZ	**Rata Peaks**	**83.22**	**137**	LR	LR	21 26 42.0
	comp=Z,668nm,21.5s,baz=174,slow=30					
VSL	**Villasalto**	**83.60**	**322**	IAmb	IAmb	20 58 21.3
	comp=Z,19nm,1.2s					
TIA	**T

comp=Z,83nm,15.7s
GROS Grobnik 85.86 330 *i* P **P 20 58 30.5 -0.3**
STHS Stebnicka Huta 85.94 335 *eP* **P 20 58 30.0 -1.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 85.94 335 *eP* **P 20 58 30.0 -1.1**
JAVS Javornik 86.06 329 *i* P **P 20 58 31.1 -0.7**
SOKA Soboth 86.23 330 *i* P **P 20 58 32.7 0.0**
comp=Z,4.9nm,0.9s
OBKA Obir 86.31 330 *i* P **P 20 58 33.4 +0.4**
comp=Z,7.5nm,1.0s
SABO M.te Sabotino 86.33 329 IAmb IAmb 20 58 35.4
comp=Z,42nm,1.8s
LANS Liptovska Anna 86.39 334 *eP* **P 20 58 28.9 -4.4**
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 86.39 334 *eP* **P 20 58 28.9 -4.4**
ARSA Arzberg 86.47 331 *i* P **P 20 58 34.3 +0.6**
comp=Z,3.2nm,1.1s
RONA Rosalia, Austr 86.49 331 *i* P **P 20 58 34.1 +0.2**
comp=Z,10nm,1.5s
OBN Obninsk 86.56 346 P **P 20 58 34.0 +0.1**
OBN Obninsk 86.56 346 LR LR 21 37 32.8
comp=Z,270nm,18.7s,baz=66,slow=36
OBN Obninsk 86.56 346 ⇓P **P 20 58 34.5 +0.5**
OBN Obninsk 86.56 346 *d* P **P 20 58 34.4 +0.5**
OBN *i* 20 58 36.0
OBN *e**PP **pP 20 58 38.3 -0.4**
OBN 21 01 59.0
OBN S **S 21 09 09.0 -0.2**
OBN PPS PPS 21 10 31.0
OBN pmax pmax
comp=Z,72nm,1.2s
OBN MLR MLR
comp=Z,290nm,18.0s
MODS Modra-Piesok 86.62 332 *eP* **P 20 58 34.3 -0.2**
MODS pmax pmax
comp=Z,27nm,1.3s
MODS Modra-Piesok 86.62 332 *eP* **P 20 58 34.3 -0.2**
BBTS Babate 86.64 289 LR LR 21 34 27.6
comp=Z,392nm,21.7s,baz=81,slow=34
MAHO Mahon 86.69 320 P **P 20 58 35.7 +0.8**
MAHO IAmb IAmb 20 58 37.3
comp=Z,45nm,1.1s
SONM Songino Array 86.77 29 P **P 20 58 34.6 -0.7**
SONM Songino Array 86.77 29 P **P 20 58 35.1 -0.2**
comp=Z,5.7nm,1.0s,baz=221,slow=3.0,SNR=23
SONM PKKPbc **PKKPbc 21 16 30.7 -0.9**
comp=Z,0.2nm,0.4s,baz=59,slow=1.2,SNR=5.5
SONM LR LR 21 34 59.4
comp=Z,242nm,20.7s,baz=213,slow=34
comp=Z,5.7nm,1.0s
JAVC Velka Javorina 86.85 333 *eP* **P 20 58 36.3 +0.7**
CONA Conrad Observa 86.85 331 *i* P **P 20 58 35.7 0.0**
comp=Z,19nm,1.4s,SNR=11
MOS Moscow 86.93 347 *eP* **P 20 58 34.2 -1.5**
MOS *e* 20 58 41.4
MOS pmax pmax
comp=Z,78nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.8s
ULN Ulaanbaatar 87.07 29 P **P 20 58 35.2 -1.6**
ULN Ulaanbaatar 87.07 29 P **P 20 58 36.3 -0.6**
ULN Ulaanbaatar 87.07 29 ⇑*i* P **P 20 58 36.2 -0.6**
ULN pmax pmax
comp=Z,11nm,1.2s
OJC Ojcow 87.13 335 *eP* **P 20 58 35.8 -1.0**
CTI Castel Tesino 87.27 328 IAmb IAmb 20 58 52.4
comp=Z,25nm,1.6s
KBA Koelnbreinsper 87.28 330 *i* P **P 20 58 38.4 +0.5**
comp=Z,9.7nm,1.4s
ABTA Abfaltersbach 87.40 329 *i* P **P 20 58 38.7 +0.4**
comp=Z,15nm,1.5s,SNR=6.2
MOA Molln 87.47 331 *i* P **P 20 58 38.8 +0.2**
comp=Z,18nm,1.2s
KRUC Moravsky 87.53 332 *eP* **P 20 58 38.3 -0.5**
BIOA Bad Ischl, Aus 87.62 330 *i* P **P 20 58 39.2 -0.1**
comp=Z,12nm,1.4s
MORC Moravsky Berou 87.64 333 IAmb IAmb 20 58 40.5
comp=Z,22nm,1.5s
MORC Moravsky Berou 87.64 333 ⇓P **P 20 58 39.1 -0.3**
MORC Moravsky Berou 87.64 333 *eP* **P 20 58 39.1 -0.3**
MORC Moravsky Berou 87.64 333 P **P 20 58 39.1 -0.3**
VRAC Vranov 87.64 333 LR LR 21 38 22.6
comp=Z,75nm,18.9s,baz=166,slow=36
VRAC Vranov 87.64 333 ⇑P **P 20 58 38.7 -0.6**
VRAC Vranov 87.64 333 *eP* **P 20 58 39.2 -0.2**
VRAC Vranov 87.64 333 P **P 20 58 38.7 -0.6**
MDT Midelt 87.66 310 LR LR 21 37 47.5
comp=Z,440nm,19.0s,baz=128,slow=36
MD01 Midelt array s 87.79 310 P **P 20 58 42.2 +1.5**
MD31 MD31 87.79 310 IAmb IAmb 20 58 43.9
comp=Z,24nm,1.4s
LESA Schwarzleotal 87.84 329 *i* P **P 20 58 40.2 -0.3**
comp=Z,16nm,1.6s,SNR=6.6
KIRV Kirov 87.98 354 LR LR 21 39 22.5
comp=Z,144nm,18.4s,baz=164,slow=36
KIRV Kirov 87.98 354 ⇓*i* P **P 20 58 40.4 -0.2**
TREC Trest 88.08 332 *eP* **P 20 58 41.2 -0.3**
TREC Trest 88.08 332 *eP* **P 20 58 41.2 -0.3**
BEL Belsk 88.10 336 *eP* **P 20 58 42.0 +0.6**
MNK Minsk 88.14 341 *i* P **P 20 58 41.7 +0.2**
MNK *i* 21 02 09.5
MNK *i* PPP PPP 21 04 03.7
MNK *i* S **SKSac 21 09 09.7 +1.0**
MNK *i* SS **SS 21 15 19.1 +5.1**
MNK *i* SSS SSS 21 18 52.8
MNK pmax pmax
comp=Z,67nm,0.9s
MNK pmax pmax
comp=N,21nm,1.3s
MNK pmax pmax
comp=E,24nm,1.1s
MNK pmax pmax
comp=E,91nm,19.0s
MNK pmax pmax
comp=N,167nm,19.0s
MNK pmax pmax
comp=Z,92nm,17.0s
KRLC Kraliky 88.17 333 *eP* **P 20 58 41.9 0.0**
KRLC Kraliky 88.17 333 *eP* **P 20 58 41.9 0.0**
WTTA Wattenberg 88.19 329 *i* P **P 20 58 42.3 +0.1**
comp=Z,17nm,0.9s,SNR=7.9
WATA Walderalm 88.27 329 *i* P **P 20 58 42.3 -0.2**
comp=Z,21nm,1.1s,SNR=7.1
FUORN Ofenpass-Fuorn 88.34 328 IAmb IAmb 20 58 44.4
comp=Z,17nm,1.1s
SQTA Sankt Quirin 88.35 329 *i* P **P 20 58 43.1 +0.1**
comp=Z,16nm,0.9s,SNR=8.7
FETA Feichten 88.42 328 *i* P **P 20 58 43.6 +0.3**
comp=Z,22nm,1.0s,SNR=14
GERES GERESS Array B 88.48 331 P **P 20 58 42.8 -0.7**
comp=Z,2.2nm,1.0s,baz=123,slow=4.9,SNR=14
GERES LR LR 21 36 55.2
comp=Z,88nm,21.5s,baz=120,slow=35
comp=Z,2.2nm,1.0s
MOTA Moosalm 88.49 329 *i* P **P 20 58 43.4 -0.2**
comp=Z,14nm,0.8s,SNR=9.8
DPC Dobruska-Polom 88.57 333 *eP* **P 20 58 44.3 +0.5**
DPC Dobruska-Polom 88.57 333 *eP* **P 20 58 44.3 +0.5**
TUE Stuetta 88.67 327 IAmb IAmb 20 58 56.9
comp=Z,20nm,1.1s
ZVC Zvikov 88.72 332 *eP* **P 20 58 44.1 -0.4**
KHC Kasperske Hory 88.75 331 *eP* **P 20 58 44.1 -0.5**
KHC Kasperske Hory 88.75 331 *eP* **P 20 58 44.1 -0.5**
RETA Reutte 88.75 328 *i* P **P 20 58 45.0 +0.2**
comp=Z,12nm,0.6s,SNR=8.1
OSTC Ostas 88.77 333 *eP* **P 20 58 45.3 +0.6**
OSTC Ostas 88.77 333 *eP* **P 20 58 45.3 +0.6**
UPC Upice 88.82 333 *eP* **P 20 58 45.4 +0.5**
UPC Upice 88.82 333 *eP* **P 20 58 45.4 +0.5**
CHVC Chvalec 88.86 333 *eP* **P 20 58 45.7 +0.6**
CHVC Chvalec 88.86 333 *eP* **P 20 58 45.7 +0.6**
KSP Ksiaz 88.97 333 *eP* **P 20 58 46.2 +0.6**
PRU Pruhonice 89.00 332 *eP* **P 20 58 45.8 0.0**
PRU Pruhonice 89.00 332 *eP* **P 20 58 45.8 0.0**
DAVA Damuels 89.01 328 *eP* **P 20 58 46.1 0.0**
comp=Z,15nm,0.7s
PRA Prague 89.11 332 *eP* **P 20 58 46.6 +0.3**
PRA Prague 89.11 332 *eP* **P 20 58 46.6 +0.3**
SUW Suwalki 89.12 339 *eP* **P 20 58 46.8 +0.6**
PVCC Panska Ves 89.41 332 *eP* **P 20 58 48.4 +0.7**
PVCC Panska Ves 89.41 332 *eP* **P 20 58 48.4 +0.7**
BRG Berggiesshubel 89.93 332 *i* P **P 20 58 50.7 +0.6**
BRG Amp 20 58 51.9
comp=Z,27nm,1.4s
BRG Berggiesshubel 89.93 332 P P 20 58 57.6 +7.5
BRG Amp 20 59 03.0
comp=Z,17nm,1.2s
CAM01 Campos-RJ 90.04 245 *eP* **P 20 58 51.6 +0.2**
URZ Urewera 90.14 135 LR LR 21 32 33.5
comp=Z,516nm,19.3s,baz=237,slow=31
PABE Paberze 90.14 340 IAmb IAmb 20 58 53.0
comp=Z,50nm,1.3s
GRA1 Grafenberg Arr 90.18 330 IAmb IAmb 20 59 03.8
comp=Z,31nm,1.3s
GRFO Grafenberg 90.18 330 P P **20 58 51.7 +0.4**
GRFO IAmb IAmb 20 59 03.7
comp=Z,28nm,1.3s
GRFO Grafenberg 90.18 330 P P **20 58 51.7 +0.4**
GRFO pmax pmax
comp=Z,28nm,1.3s
RIB01 Linhares ES 90.33 248 *eP* **P 20 58 53.1 +0.3**
DUB01 Friburgo-RJ 90.48 244 *eP* **P 20 58 53.6 +0.1**
GKP Gorka Klasztor 90.54 335 *eP* **P 20 58 54.4 +1.6**
JNU Nakatsue 90.55 52 LR LR 21 38 56.6
comp=Z,68nm,18.4s,baz=249,slow=35
CLL Collm 90.65 332 *i* P **P 20 58 53.8 +0.4**
CLL *e* 21 09 24.0
CLL *eS* **S 21 09 50.0 +2.0**
CLL pmax pmax
comp=Z,67nm,2.2s
BSFB Barra de Sao F 90.94 248 *eP* **P 20 58 55.6 -0.2**
KSRS Korea Array 91.11 47 P **P 20 58 54.9 -1.0**
comp=Z,2.6nm,0.8s,baz=233,slow=4.9,SNR=5.7
comp=Z,2.6nm,0.8s
GUMO Guam 91.16 75 LR LR 21 36 49.6
comp=Z,43nm,21.8s,baz=86,slow=34
GUA01 Guaratinga, BA 91.24 250 *eP* **P 20 58 57.2 +0.1**
SJMB Sao Joao De Ma 91.28 248 *eP* **P 20 58 57.6 +0.3**
ESBB Sonseca Array 91.39 316 IAmb IAmb 20 58 59.8
comp=Z,23nm,1.2s
ESDC Sonseca Array 91.39 316 P **P 20 58 58.1 +0.9**
ESDC IAmb IAmb 20 58 59.8
comp=Z,22nm,1.2s
ESDC Sonseca Array 91.39 316 P **P 20 58 58.7 +1.4**
comp=Z,13nm,1.1s,baz=113,slow=3.3,SNR=39
ESDC LR LR 21 38 43.9
comp=Z,242nm,21.6s,baz=115,slow=35
comp=Z,13nm,1.1s
KLMR Klimovskoe 91.43 350 *eP* **P 20 58 55.6 -1.2**
KLMR *e* 21 02 33.3
KLMR pmax pmax
comp=Z,39nm,1.3s
PAB San Pablo 91.55 315 P **P 20 58 58.3 +0.3**
PAB IAmb IAmb 20 59 00.6
comp=Z,29nm,1.3s
PAB San Pablo 91.55 315 P **P 20 58 58.3 +0.3**
PAB pmax pmax
comp=Z,29nm,1.3s
CMC01 Camacan, BA 91.63 252 *eP* **P 20 58 59.4 +0.5**
NBIT Itapeh - BA 91.78 252 *eP* **P 20 58 59.8 +0.2**
NBLA Lagarto - SE 92.37 256 *eP* **P 20 59 02.7 +0.3**
PVAQ Vaqueiros 92.42 312 *eLR* LR 21 36 27.9
PVAQ *i* IAMs_20 IAMs_20 21 43 06.3
comp=Z,180nm,20.0s
PBAR Barrancos 92.43 313 *eP* **P 20 59 02.9 +0.9**
PCVE Castro Verde 92.76 312 *eP* **P 20 59 04.6 +1.0**
PCVE *i* IAmb IAmb 20 59 06.4
comp=Z,44nm,1.4s
MESJ Messejana 93.00 312 *eP* **P 20 59 07.0 +2.3**
HNR Honiara 93.04 102 LR LR 21 36 15.6
comp=Z,248nm,21.7s,baz=254,slow=33
PESTR Estremoz 93.18 313 *eP* **P 20 59 07.3 +1.8**
PESTR *i* IAmb IAmb 20 59 24.8
comp=Z,25nm,1.6s
RCBR Riachuelo 93.31 262 LR LR 21 37 11.3
comp=Z,45nm,18.1s,baz=78,slow=33
PMRV Marv??o 93.38 314 *eLR* LR 21 35 01.6
PMRV *i* IAMs_20 IAMs_20 21 39 51.1
comp=Z,304nm,22.0s
PCBR Castelo Branco 93.67 314 *eP* **P 20 59 08.1 +0.4**
MTE Manteigas 94.04 315 *eLR* LR 21 35 51.0
MTE *i* IAMs_20 IAMs_20 21 41 42.2
comp=Z,436nm,20.0s
MVO Moncorvo 94.16 315 *eLR* LR 21 37 07.1
MVO *i* IAMs_20 IAMs_20 21 45 28.6
comp=Z,249nm,20.0s
TRQA Tornquist 94.56 222 P **P 20 59 11.5 -0.6**
TRQA IAmb IAmb 20 59 12.5
comp=Z,12nm,0.8s
TRQA Tornquist 94.56 222 P **P 20 59 11.5 -0.6**
TRQA pmax pmax
comp=Z,12nm,0.9s
FINES FINESS Array B 94.67 344 LR LR 21 42 06.3
comp=Z,170nm,20.2s,baz=150,slow=36
HFS Hagfors 97.12 338 LR LR 21 42 51.2
comp=Z,119nm,20.1s,baz=101,slow=35
PLCA Paso Flores 97.28 215 LR LR 21 38 33.4
comp=Z,109nm,18.7s,baz=124,slow=32
MJAR Matsushiro Arr 97.46 52 PKKPbc PKKPbc 21 16 03.2 +0.2
comp=Z,2.7nm,0.8s,baz=78,slow=1.5,SNR=8.3
MJAR LR LR 21 42 38.4
comp=Z,45nm,18.2s,baz=236,slow=35
BDFB Brasilia 98.42 247 LR LR 21 37 47.0
comp=Z,99nm,18.0s,baz=177,slow=32
NOA NORSAR Array B 98.61 338 LR LR 21 44 07.6
comp=Z,129nm,19.4s,baz=135,slow=36
APA Apatity 98.68 350 ⇓*eP* **P 20 59 28.4 -1.4**
APA MLR MLR
comp=Z,870nm,3.8s
RAO Raoul Island 99.04 131 LR LR 21 36 52.7
comp=Z,122nm,18.6s,baz=336,slow=31
CPUP Villa Florida 99.22 233 LR LR 21 38 05.8
comp=Z,13nm,18.1s,baz=358,slow=32
MURT Porto Murtinho 102.32 237 *eP* **Pdif 20 59 47.3 0.0**
PRPB Parauapebas 105.02 254 *eP* **Pdif 20 59 59.1 -0.3**
LPAZ La Paz 113.36 234 PKiKP **PKiKP 21 04 30.6 0.0**
comp=Z,1.4nm,0.5s,baz=71,slow=3.6,SNR=6.6
LPAZ La Paz 113.36 234 *eP* **Pdif 21 00 35.9 -1.2**
TBI Tubuai 120.04 147 *eSS* SS 21 22 31.2 +0.3
comp=Z,958nm,32.5s
PPT2 Papeete2 124.85 144 *eSS* SS 21 23 28.5 -4.0
comp=Z,234nm,31.2s
PPT2 Papeete2 124.85 144 *eLR* LR 21 43 37.0
comp=Z,269nm,25.5s
PPT2 *eLR* LR 21 43 39.6
comp=Z,263nm,22.8s
BAUV El Baul 128.37 258 **PKPdf 21 04 57.3 -1.4**
SDV Santo Domingo 130.55 256 *eP* **PKPdf 21 05 02.5 -0.5**
FLOC Florencia 130.58 244 **PKPdf 21 05 03.2 +0.2**
COHC Cochancay 130.73 237 **PKiKP 21 05 03.9 -0.2**
RUSC La Rusia 131.01 251 **PKPdf 21 05 03.0 -1.3**
ROSC El Rosal 131.44 249 PKP **PKiKP 21 05 06.2 +0.2**
comp=Z,8.6nm,0.3s,baz=169,slow=5.8,SNR=6.5
OTAV Otavalo 131.90 241 *eP* **PKPdf 21 05 05.1 -1.0**
TAOE Nuku Hiva Isla 136.97 148 *eLR* LR 21 49 11.9
comp=Z,263nm,27.1s
ILAR Eielson Array 140.27 18 PKP **PKPdf 21 05 17.9 -1.5**
comp=Z,1.9nm,1.0s,baz=325,slow=2.5,SNR=8.4
ILAR PP **PP 21 08 17.6 +0.2**
comp=Z,1.0nm,0.9s,baz=301,slow=6.2,SNR=5.1
JUD3 Juan Diaz 3 143.56 246 PKPbc 21 05 24.3 +0.1
J55A Hilton 144.40 305 PKPbc 21 05 25.8 -0.1
SSPA Standing Stone 144.80 300 **PKPab 21 05 27.1 -0.1**
YKAW3 Yellowknife Wh 146.50 356 **PKPdf 21 05 30.8 +0.4**
YKA Yellowknife Ar 146.56 356 **PKPdf 21 05 29.6 -0.9**
YKA Yellowknife Ar 146.56 356 PKPbc **PKPbc 21 05 31.6 -0.4**
comp=Z,6.7nm,0.7s,baz=341,slow=3.7,SNR=15
YKA PP **PP 21 08 53.7 -1.3**
comp=Z,5.0nm,1.0s,baz=358,slow=6.9,SNR=6.1
YKAW1 Yellowknife Wh 146.57 356 **PKPdf 21 05 31.0 +0.5**
DWPF Disney Wildern 147.23 277 **PKPdf 21 05 32.7 0.0**
Q32M Nakina River 148.83 13 **PKPbc 21 05 37.5 -1.0**
TKL Tuckaleechee C 149.80 291 PKPbc **PKPbc 21 05 41.6 +0.2**
comp=Z,27nm,0.9s,baz=136,slow=6.5,SNR=28
S34M Telegraph Cree 150.03 13 **PKPbc 21 05 40.5 -0.7**
TEIG Tepich 150.89 259 **PKPdf 21 05 38.4 -0.4**
T35M Bob Quinn 151.07 13 **PKPbc 21 05 43.6 -0.2**
W50A Signal Mountai 151.07 291 **PKPbc 21 05 44.6 +0.1**
WCI Wyandotte Cave 151.56 297 **PKPbc 21 05 44.2 -1.3**
WCI Wyandotte Cave 151.56 297 PKIKP **PKPbc 21 05 44.2 -1.3**
ULM Lac du Bonnet 152.71 327 PKPbc **PKPbc 21 05 46.6 -1.1**
comp=Z,9.8nm,0.7s,baz=89,slow=3.7,SNR=6.3
CMIG Matias Romero 154.94 247 PKP **PKPdf 21 05 45.3 +0.5**
comp=Z,1.8nm,0.5s,baz=68,slow=2.2,SNR=11
CMIG PKPbc **PKiKP 21 05 53.9 +0.4**
comp=Z,10nm,0.7s,baz=78,slow=3.3,SNR=18
FXWY Fox Creek 164.26 339 **PKPab 21 06 49.8 +0.9**
TPAW Teton Pass 164.37 338 **PKPab 21 06 49.7 +0.3**
PDAR Pinedale Array 164.51 334 PKP **PKPdf 21 05 54.7 -0.5**
comp=Z,1.8nm,0.8s,baz=132,slow=2.2,SNR=7.1
PDAR PKPab **PKPab 21 06 49.8 -0.2**
comp=Z,1.4nm,1.0s,baz=8.2,slow=2.7,SNR=2.3
TXAR Lajitas Array 166.73 274 **PKPdf 21 05 58.4 +1.1**
TXAR **PKPab 21 07 00.2 0.0**
TXAR Lajitas Array 166.73 274 PKP **PKPdf 21 05 57.9 +0.6**
comp=Z,1.4nm,0.8s,baz=132,slow=1.9,SNR=14
TXAR PKPab **PKPab 21 07 01.4 +1.2**
comp=Z,1.6nm,0.7s,baz=110,slow=6.3,SNR=9.4
ANMO Albuquerque 168.02 302 **PKPdf 21 06 00.5 +2.3**
ANMO **PKPab 21 07 07.7 +1.9**
ANMO Albuquerque 168.02 302 PKP **PKPdf 21 05 59.5 +1.3**
comp=Z,1.7nm,0.8s,baz=226,slow=5.8,SNR=4.4
ANMO PKPab **PKPab 21 07 06.7 +0.9**
comp=Z,5.8nm,1.1s,baz=198,slow=3.2,SNR=5.6
ANMO PP **PP 21 10 55.2 +0.4**
comp=Z,7.5nm,1.2s,baz=104,slow=8.3,SNR=6.5
ANMO Albuquerque 168.02 302 PKIKP **PKPdf 21 06 00.5 +2.3**
ELK Elko 168.09 347 PKPab **PKPab 21 07 05.9 +0.1**
comp=Z,5.9nm,1.0s,baz=42,slow=4.4,SNR=7.1
NVAR Mina Array Bea 170.76 357 **PKPdf 21 06 01.3 +1.5**
NVAR Mina Array Bea 170.76 357 PKP **PKPdf 21 05 59.1 -0.7**
comp=Z,1.4nm,0.8s,baz=222,slow=2.0,SNR=8.7
NVAR PKPab **PKPab 21 07 16.5 -1.2**
comp=Z,0.3nm,0.3s,baz=9.2,slow=5.4,SNR=2.0
PFO Pinyon Flats O 175.13 336 PKPab **PKPab 21 07 38.3 +1.2**
comp=Z,3.1nm,0.8s,baz=94,slow=3.1,SNR=3.9

IDC 28 20:48:46.9±4.0, 4°.60S×153°.43E, h0km, mb3.1/2, mbtmp3.1/2, MS2.9/2, Error ellipse: s-maj=196.0km s-min=51.4km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.84**	**232**	LR	LR	20 53 58.9	
comp=Z,75nm,19.1s,baz=358,slow=40							
HNR	**Honiara**	**8.05**	**127**	LR	LR	20 54 00.4	
comp=Z,97nm,20.0s,baz=230,slow=39							
WRA	**Warramunga Arr**	**24.04**	**229**	P	P	20 54 05.5	+1.6
0.3nm,0.6s,baz=54,slow=9.5,SNR=3.8							
0.3nm,0.6s							
ASAR	**Alice Springs**	**26.72**	**223**	P	P	20 54 26.4	-1.8
0.1nm,0.5s,baz=50,slow=8.9,SNR=4.2							
0.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**150.84**	**289**	PKPbc	PKPbc	21 08 42.3	-0.2
0.6nm,0.8s,baz=58,slow=4.3,SNR=4.1							

IDC 28 21:03:09.8±3.1, 34°.11S×178°.40W, h0km, mb3.4/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=81.0km s-min=45.5km az=130.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.51**	**220**	Pn	Pn	21 04 32.8	-0.2
3.2nm,0.3s,baz=260,slow=2.5,SNR=28							
URZ				Sn	Sn	21 05 30.6	-6.4
2.0nm,0.3s,baz=178,slow=16,SNR=6.8							
5.9nm,0.3s							
ASAR	**Alice Springs**	**42.71**	**271**	P	P	21 11 08.8	+0.1
0.3nm,0.5s,baz=115,slow=7.8,SNR=5.7							
0.3nm,0.5s							
WRA	**Warramunga Arr**	**44.03**	**276**	P	P	21 11 19.1	-0.3
0.2nm,0.3s,baz=117,slow=7.7,SNR=5.0							
0.2nm,0.3s							
FINES	**FINESS Array B**	**148.47**	**338**	PKPbc	PKPbc	21 22 56.9	-0.6
3.0nm,0.9s,baz=4.3,slow=5.6,SNR=6.3							

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*JMA **28** 21:21:07.9±0.1, 36°.0N±0°.3×140°.1E±0°.4, h62km, MV2.7/36, SOUTHERN IBARAKI PREF*
*IDC **28** 21:21:10.2±2.8, 36°.01N×139°.91E, h99km±23km, mb3.4/4, mbtmp3.7/4, Error ellipse: s-maj=36.4km s-min=25.3km az=84.0*
ISC 28 21:21:06.9±1.0, **35°.98N**±0°.05×**140°.13E**±0°.07, **h67**km±8km, **n14**, σ0°.92/20, **mb3.7**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**13**	P	**Pn**	**21 21 17.8**	**+0.3**
JYT				S	**Sn**	**21 21 25.1**	**-0.1**
JAG	**Ashikaga**	**0.70**	**309**	*i* P	**Pn**	**21 21 21.9**	**+0.3**
JAG				S	**Sn**	**21 21 32.0**	**-0.4**
JRY	**Ryogami san**	**0.99**	**272**	*i* P	**Pn**	**21 21 25.7**	**+0.5**
JKT	**Katashina**	**1.05**	**318**	P	**Pn**	**21 21 26.1**	**+0.1**
JKT				S	**Sn**	**21 21 40.0**	**-0.2**
JOD2	**Odawara 2**	**1.11**	**230**	P	**Pn**	**21 21 27.2**	**+0.5**
JOD2				S	**Sn**	**21 21 40.9**	**-0.5**
BSO3	**Boso 3**	**1.22**	**165**	*eP*	**Pn**	**21 21 28.5**	**+0.7**
JYN	**Shimob**	**1.38**	**250**	P	**Pn**	**21 21 31.1**	**+0.9**
JYN				S	**Sn**	**21 21 47.9**	**+0.2**
JIM2	**Oshima 3**	**1.39**	**204**	*eS*	**Sn**	**21 21 47.3**	**-0.5**
JFY	**Yanaizu**	**1.46**	**347**	P	**Pn**	**21 21 32.0**	**+0.7**
MJAR	**Matsushiro Arr**	**1.65**	**290**	P	**Pn**	**21 21 34.4**	**+0.6**
52nm,0.4s,baz=92,slow=11,SNR=213							
MJAR				S	**Sn**	**21 21 55.4**	**+1.4**
19nm,0.5s,baz=83,slow=21,SNR=5.2							
SONM	**Songino Array**	**27.54**	**306**	P	**P**	**21 26 44.7**	**-2.5**
0.4nm,0.5s,baz=112,slow=8.0,SNR=3.1							
0.4nm,0.5s							
ILAR	**Eielson Array**	**50.93**	**32**	P	**P**	**21 30 02.1**	**+1.1**
0.4nm,0.8s,baz=277,slow=7.7,SNR=4.2							
0.4nm,0.8s							
WRA	**Warramunga Arr**	**55.89**	**187**	P	**P**	**21 30 37.5**	**-0.3**
1.2nm,0.8s,baz=1.8,slow=7.5,SNR=7.4							
1.2nm,0.8s							
ARTI	**Arti**	**56.57**	**319**	P	**P**	**21 30 42.3**	**+0.1**
1.5nm,0.5s,baz=123,slow=2.0,SNR=3.4							
1.5nm,0.5s							

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*ASRS **28** 21:27:45.4±0.2, 50°.6N±0°.9×8°.8E±°, h10km, MLh3.3/15, Error ellipse: s-maj=3.1km s-min=1.9km az=78.9, confirmed*
*NNC **28** 21:27:50.5±1.5, 50°.60N×87°.19E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=15.3km s-min=7.1km az=101.0*
ISC 28 21:27:47.8±0.8, **50°.57N**±0°.02×**87°.51E**±0°.03, **h10**km, **n26**, σ2°.02/48, **13C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.26**	**181**	⇓Pg	**Pg**	**21 27 50.6**	**-2.4**
CHBI				Sg	**Sg**	**21 27 53.5**	**-3.1**
AKAR	**Aktash**	**0.26**	**165**	⇑Pg	**Pg**	**21 27 51.0**	**-2.2**
AKAR				Sg	**Sg**	**21 27 54.1**	**-2.7**
ULGR	**Ulagan, Altay**	**0.29**	**80**	⇑Pg	**Pg**	**21 27 53.3**	**-0.4**
ULGR				Sg	**Sg**	**21 27 57.9**	**+0.3**
CUR	**Chagan-Uzun**	**0.72**	**131**	⇑Pg	**Pg**	**21 27 59.8**	**-1.8**
CUR				Sg	**Sg**	**21 28 10.1**	**-0.9**
DGZ	**Jazzator, Alta**	**0.88**	**183**	Pg	**Pg**	**21 28 01.9**	**-2.7**
DGZ				Sg	**Sg**	**21 28 12.5**	**-3.5**
ELDR	**Elanda**	**1.11**	**306**	Pg	**Pb**	**21 28 07.2**	**-1.8**
ELDR				Sg	**Sg**	**21 28 22.3**	**-1.2**
YALR	**Yailyu, Altay**	**1.20**	**3**	Pg	**Pb**	**21 28 09.7**	**-0.9**
YALR				Sg	**Sb**	**21 28 25.5**	**-0.7**
ARTR	**Artybash**	**1.23**	**353**	Pg	**Pn**	**21 28 10.6**	**-0.5**
ARTR				Sg	**Sn**	**21 28 28.3**	**+0.5**
GALT	**Gorno-Altaysk,**	**1.70**	**325**	Pg	**Pg**	**21 28 20.4**	**0.0**
GALT				Sg	**Sg**	**21 28 43.7**	**+1.2**
TEL	**Teeli**	**1.76**	**74**	Pg	**Pg**	**21 28 22.0**	**+0.4**
TEL				Sg	**Sg**	**21 28 45.0**	**+0.5**
TASR	**Tashtagol**	**2.20**	**6**	Pg	**Pg**	**21 28 29.0**	**-0.9**
TASR				Sg	**Sg**	**21 29 00.0**	**+1.5**
ELT	**Eltsovka**	**2.81**	**344**	Pg	**Pb**	**21 28 35.6**	**-2.3**
ELT				Sg	**Sg**	**21 29 15.1**	**-2.7**
KALT2	**Kaltan 2**	**2.83**	**358**	Pg	**Pg**	**21 28 39.7**	**-2.3**
KALT2				Sg	**Sg**	**21 29 16.5**	**-2.2**
KIYZ	**Kiyzas, Kuzbas**	**2.99**	**3**	Pg	**Pg**	**21 28 42.7**	**-2.4**
KIYZ				Sg	**Sg**	**21 29 23.7**	**-0.1**
DJO	**Djoy, Khakassi**	**3.20**	**45**	Pg	**Pg**	**21 28 46.8**	**-2.2**
DJO				Sg	**Sg**	**21 29 28.2**	**-2.1**
VEH	**Verkhnyaya Baz**	**3.20**	**32**	Pg	**Pb**	**21 28 45.5**	**+0.9**
VEH				Sg	**Sg**	**21 29 28.5**	**-1.9**
LUZB	**Luzhba, Kemero**	**3.21**	**15**	Pg	**Pg**	**21 28 46.7**	**-2.5**
LUZB				Sg	**Sg**	**21 29 30.5**	**-0.3**
CERR	**Cheremushki**	**3.33**	**45**	Sg	**Sg**	**21 29 32.7**	**-2.0**
ERU	**Erunakovo, Kuz**	**3.57**	**359**	Sg	**Sg**	**21 29 41.9**	**-0.6**
KOTO	**Kotino, Kuzbas**	**3.64**	**355**	Sg	**Sg**	**21 29 43.1**	**-1.4**
ZAA0	**Zalesovo Array**	**3.76**	**335**	⇑Pn	**Pn**	**21 28 48.7**	**+2.9**
0.3nm,0.5s							
ZAA0				⇑Lg	Lg	21 29 47.0	

1.8nm,0.4s
MK31 **Makanchi Array** 5.12 224 ⇑Pn Pn 21 29 06.7 +2.1
1.3nm,0.5s,baz=81,slow=9.6,SNR=38
MK31 ⇓Pg Pb 21 29 19.9 +2.4
1.6nm,0.6s,baz=46,slow=14,SNR=8.4
MK31 Sn Sn 21 30 08.3 +4.6
3.9nm,0.5s,baz=229,slow=21,SNR=7.4
MK31 Lg Lg 21 30 26.6
4.5nm,0.5s,baz=44,slow=32,SNR=7.2
MAKZ Makanchi 5.26 226 ⇑Pn Pn 21 29 09.1 +2.8
2.3nm,0.6s
MAKZ ⇓Sn Sn 21 30 10.5 +3.5
4.9nm,0.6s
MAKZ ⇑Lg Lg 21 30 30.1
12nm,1.1s
KURK Kurchatov 5.66 275 ⇑Pn Pn 21 29 12.0 +0.2
0.6nm,0.7s
KURK ⇓Lg Lg 21 30 41.2
6.9nm,1.1s
KURBB Kurchatov Arra 5.72 274 ⇑Pn Pn 21 29 13.6 +0.9
1.9nm,0.3s
KURBB ⇓Sn Sn 21 30 19.2 +0.9
4.1nm,0.4s
KURBB ⇑Lg Lg 21 30 46.0
23nm,0.6s
PDGK Podgornoye 9.08 220 ⇓Pn Pn 21 29 60.0 +1.0
6.4nm,1.2s
PDGK ⇑Sn Sn 21 31 43.3 +2.0
5.6nm,1.1s
PDGK ⇑Lg Lg 21 32 35.4
1.7nm,0.5s

IDC 28 21:34:44.5±0.9, 30.05S×179.32W, h293km±14km, mb2.8/2, mbtmp3.5/3, Error ellipse: s-maj=34.9km s-min=30.8km az=132.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.46**	**57**	P	Pn	21 35 28.1	+1.4
	103nm,0.2s,baz=43,slow=23,SNR=6.4						
RAO				S	S	21 35 60.0	-0.3
	116nm,0.2s,baz=108,slow=20,SNR=1.4						
URZ	**Urewera**	**8.70**	**199**	P	Pn	21 36 46.0	-0.5
	1.2nm,0.3s,baz=273,slow=5.9,SNR=6.7						
URZ				S	S	21 38 20.9	-4.8
	5.7nm,0.4s,baz=242,slow=21,SNR=15						
ASAR	**Alice Springs**	**41.99**	**267**	P	P	21 42 08.4	+0.7
	0.2nm,0.3s,baz=108,slow=7.9,SNR=2.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**42.94**	**272**	P	P	21 42 14.7	-0.7
	0.7nm,0.7s,baz=111,slow=8.0,SNR=4.8						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**144.42**	**339**	PKP	PKPab	21 53 44.1	-0.2
	1.5nm,0.3s,baz=51,slow=4.4,SNR=28						
TORD	**Torodi Ar. Bea**	**163.15**	**183**	PKPab	PKPab	21 55 03.8	-0.3
	0.4nm,0.7s,baz=163,slow=2.2,SNR=3.6						

NNC 28 21:35:39.8±2.7, 42.20N×88.45E, h0km, mb3.7, mpv3.4, 6C-7D, Error ellipse: s-maj=20.7km s-min=19.8km az=87.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**6.36**	**318**	Pn	Pn	21 37 16.6	+1.8
	0.3nm,0.3s,baz=103,slow=12,SNR=24						
MK31				⇑Sn	Sn	21 38 30.9	+2.7
	0.8nm,0.5s,baz=136,slow=26,SNR=4.1						
MK31				⇑Lg	Lg	21 39 03.2	
	5.7nm,0.7s,baz=134,slow=25,SNR=4.0						
MAKZ Makanchi		**6.53**	**317**	⇓Pn	Pn	21 37 17.1	0.0
	0.7nm,0.5s						
MAKZ				⇓Sn	Sn	21 38 31.2	-1.1
	1.8nm,1.2s						
MAKZ				⇑Lg	Lg	21 39 08.8	
	2.2nm,0.8s						
PDGK Podgornoye		**6.69**	**283**	⇑Pn	Pn	21 37 19.9	+0.4
	2.8nm,0.6s						
PDGK				⇓Pg	Pb	21 37 40.8	+3.6
	7.9nm,1.0s						
PDGK				⇓Sn	Sn	21 38 37.8	+1.3
	5.5nm,1.1s						
PDGK				⇓Lg	Lg	21 39 13.6	
	8.0nm,0.7s						
KURBB Kurchatov Arra		**10.85**	**324**	⇓Pn	Pn	21 38 14.9	-1.3
	2.2nm,0.7s						
KURBB				⇑Lg	Lg	21 41 28.1	
	5.2nm,0.7s						
KURK Kurchatov		**10.88**	**325**	⇓Pn	Pn	21 38 15.6	-1.0
	0.9nm,0.9s						
KURK				⇑Lg	Lg	21 41 26.1	
	1.4nm,1.0s						

IDC 28 21:39:22.5±2.7, 8.92N×83.74E, h0km, mb4.0/2, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=74.0km s-min=31.7km az=160.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK Pallekele		**3.42**	**242**	Pn	Pn	21 40 17.2	0.0
	32nm,0.3s,baz=60,slow=15,SNR=268						
PALK				Sn	Sn	21 40 53.0	-5.6
	122nm,0.3s,baz=320,slow=21,SNR=27						
	55nm,0.3s						
CMAR Chiang Mai Arr		**17.54**	**56**	P	Pn	21 43 28.6	0.0
	0.2nm,0.3s,baz=244,slow=10,SNR=4.8						
	0.2nm,0.2s						
WRA Warramunga Arr		**57.47**	**120**	P	P	21 49 14.1	+0.2
	2.6nm,0.5s,baz=302,slow=7.2,SNR=33						
	2.6nm,0.5s						
ASAR Alice Springs		**58.75**	**125**	P	P	21 49 22.4	-0.4
	0.6nm,0.8s,baz=291,slow=8.4,SNR=5.3						
	0.6nm,0.8s						
H04N2 CROZET ISLANDS		**61.84**	**205**	T	T	22 53 30.2	
	baz=34,slow=75,SNR=12						
H04N1 CROZET ISLANDS		**61.84**	**205**	T	T	22 53 31.5	
	baz=34,slow=75,SNR=10						
H04N3 CROZET ISLANDS		**61.85**	**205**	T	T	22 53 30.1	
	baz=34,slow=75,SNR=9.7						

IDC 28 22:06:02.5±2.4, 10.06S×123.23E, h0km, mb3.4/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=250.4km s-min=33.1km az=53.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA Warramunga Arr		**14.54**	**134**	Pn	Pn	22 09 27.8	-2.0
	0.2nm,0.3s,baz=307,slow=14,SNR=5.8						
WRA				Sn	Sn	22 11 57.6	-14
	0.7nm,0.3s,baz=315,slow=25,SNR=9.6						
	0.6nm,0.8s						
ASAR Alice Springs		**16.94**	**144**	Pn	P	22 10 02.6	-0.6
	0.3nm,0.3s,baz=323,slow=13,SNR=21						
ASAR				Sn	Sn	22 12 58.6	-12
	0.4nm,0.3s,baz=315,slow=21,SNR=10						
	1.0nm,0.4s						
MKAR Makanchi Array		**67.36**	**331**	P	P	22 16 59.5	0.0
	0.2nm,0.5s,baz=131,slow=8.3,SNR=4.9						
	0.2nm,0.5s						

*UUSS **28** 22:22:28.8±1.0, 38.84N±0.02×111.41W±0.02, h-0km±1km, ML2.6/10, ML2.7/62(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=153.0*

NEIC 28 22:22:28.5±1.0, 38.86N±0.01×111.42W±0.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=164.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT Old Woman Plat		**0.08**	**180**		Pg	22 22 30.5	+0.1
Q16A Castle Valley		**0.21**	**73**		Pg	22 22 33.0	+0.4
Q16A				Sg	Sg	22 22 36.0	+0.7
Q16A				IAML		22 22 39.2	
	comp=E,901nm,0.7s						
TMUT Trail Mountain		**0.47**	**21**	Pg	Pg	22 22 38.1	+0.5
TMUT				Sg	Sg	22 22 45.0	+1.2
TMUT				IAML		22 22 46.3	
	comp=E,593nm,0.4s						
TMUT				IAML		22 22 48.2	
	comp=N,768nm,0.5s						
DBD Des Bee Dove		**0.52**	**29**		Pg	22 22 38.8	+0.2
WCU Willow Creek		**0.53**	**282**		Pb	22 22 39.7	-0.7
LEVU Levan		**0.72**	**335**		Pb	22 22 43.3	-0.3
SRU San Rafael Swe		**0.75**	**70**	Pg	Pg	22 22 42.8	0.0
SRU				Sg	Sg	22 22 52.8	+0.3
SRU				IAML		22 22 53.4	
	comp=N,381nm,0.5s						
SRU				IAML		22 22 55.5	
	comp=E,294nm,0.4s						
FLU Fool Peak		**0.78**	**312**		Pb	22 22 44.1	-0.6
ELU Electric Lake		**0.80**	**12**		Pb	22 22 44.5	-0.6
P17A Butcher Ranch,		**0.81**	**41**	Pg	Pg	22 22 43.8	-0.3
P17A				Sg	Sg	22 22 54.6	0.0
P17A				IAML		22 22 03.2	
	comp=N,144nm,0.3s						
TCRU Three Creeks R		**0.84**	**253**		Pb	22 22 45.2	-0.4
MTPU Mount Pierson		**1.01**	**216**		Pg	22 22 47.6	-0.2
EMUT Emma Park		**1.07**	**26**		Pg	22 22 49.0	+0.1
BCE Book Cliffs Ea		**1.09**	**46**		Pg	22 22 49.4	0.0
ROA Roan Cliffs		**1.15**	**45**		Pg	22 22 50.6	0.0
BTU Barney Top		**1.16**	**198**		Pg	22 22 50.2	-0.5
MPU Maple Canyon		**1.17**	**352**	Pg	Pb	22 22 51.2	-0.1
MPU				Sg	Sg	22 23 06.3	+0.2
MPU				IAML		22 23 11.3	
	comp=N,102nm,0.4s						
MPU				IAML		22 23 11.5	
	comp=E,203nm,0.7s						
ARGU Argyle Ridge		**1.18**	**35**		Pg	22 22 51.3	+0.1
P18A Preston Nutter		**1.20**	**50**	Pg	Pg	22 22 51.3	-0.1
P18A				IAML		22 23 13.4	
	comp=E,115nm,0.5s						
DUG Dugway, Tooele		**1.71**	**322**		Pn	22 22 59.3	+0.1
DUG				IAML		22 23 27.6	
	comp=E,37nm,0.4s						
JLU Jordanelle		**1.74**	**359**		Pn	22 23 00.1	+0.5
JLU				IAML		22 23 30.0	
	comp=E,43nm,0.7s						
JLU				IAML		22 23 30.2	
	comp=N,38nm,0.9s						
BSUT Blindstream Ca		**1.75**	**17**		Pn	22 23 00.3	+0.4
SZCU Shurtz Canyon		**1.82**	**227**	Pn	Pn	22 23 01.4	+0.8
SZCU				IAML		22 23 26.5	
	comp=E,110nm,0.3s						
SZCU				IAML		22 23 29.1	
	comp=N,91nm,0.3s						
CTU Camp Tracy		**1.85**	**352**	Pn	Pn	22 23 01.9	+0.9
CCUT Cedar City		**2.01**	**230**	Pn	Pn	22 23 03.9	+0.7
TCUT Toone Canyon		**2.26**	**0**	Pn	Pn	22 23 07.3	+0.6
TCUT				IAML		22 23 45.1	
	comp=E,41nm,0.6s						
TCUT				IAML		22 23 48.6	
	comp=N,57nm,0.6s						
PV15 Paradox Valley		**2.36**	**102**	Pn	Pn	22 23 09.5	+1.4
HWUT Hardware Ranch		**2.75**	**358**	Pn	Pn	22 23 14.6	+1.2
HWUT				IAML		22 24 02.9	
	comp=N,16nm,1.1s						
MVCO Mesa Verde		**2.83**	**125**	Pn	Pn	22 23 16.0	+1.4
PRN Pahroc Range		**3.21**	**244**	Pn	Pn	22 23 20.2	+0.6
PRN				IAML		22 24 13.2	
	comp=E,21nm,0.9s						
PRN				IAML		22 24 16.1	
	comp=N,19nm,0.4s						
WUAZ Wupatki		**3.33**	**179**	Pn	Pn	22 23 23.1	+1.7
W18A Petrified Fore		**3.97**	**160**	Pn	Pn	22 23 31.4	+1.3
V12A Nelson		**4.15**	**222**	Pn	Pn	22 23 34.1	+1.5
V12A				IAML		22 25 07.1	
	comp=E,7.2nm,4.5s						
V12A				IAML		22 25 19.3	
	comp=N,5.7nm,3.4s						
PD31 Pinedale Array		**4.15**	**19**	Pn	Pn	22 23 34.0	+1.2
TPNV Topopah Spring		**4.26**	**245**	Pn	Pn	22 23 35.2	+1.0
TPNV				IAML		22 24 16.2	
	comp=N,9.6nm,5.0s						
TPNV				IAML		22 24 51.1	
	comp=N,8.8nm,3.4s						
X16A Lo Mia Camp, P		**4.43**	**180**	Pn	Pn	22 23 37.5	+1.0
X18A Snowflake		**4.48**	**164**	Pn	Pn	22 23 38.7	+1.6
K22A Casper		**5.31**	**43**	Pn	Pn	22 23 49.4	+0.8

IDC 28 22:32:13.0±1.6, 2.71S×138.40E, h0km, mb3.4/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=31.4km s-min=18.6km az=169.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY Jayapura		**2.31**	**85**	Pn	Pb	22 32 54.4	-1.2
	3.1nm,0.3s,baz=270,slow=18,SNR=11						
JAY				Lg	Lg	22 33 25.0	
	1.8nm,0.3s,baz=270,slow=18,SNR=1.7						
	17nm,0.5s						
WRA Warramunga Arr		**17.58**	**193**	P	P	22 36 20.2	-0.6
	0.1nm,0.3s,baz=14,slow=12,SNR=6.1						
	0.4nm,0.5s						
ASAR Alice Springs		**21.28**	**191**	P	P	22 37 00.7	-0.6
	0.5nm,0.6s,baz=20,slow=11,SNR=6.9						
	0.5nm,0.6s						
MKAR Makanchi Array		**69.60**	**323**	P	P	22 43 23.9	-0.2
	0.6nm,0.9s,baz=120,slow=5.7,SNR=4.1						
	0.6nm,0.9s						

*NEIC **28** 22:44:47.2±1.2, 6.39S±0.03×128.70E±0.09, h304km±6km, mb4.2/15, Error ellipse: s-maj=13.5km s-min=3.8km az=96.0*
*DJA **28** 22:44:47.4±0.2, 6.3S±3.3×12.9E±.*, h313km±4km, M4.6/22, mB5.0/8, mb4.5/22, MLv4.8/17, Mw(mB)4.4/8*
*IDC **28** 22:44:47.1±1.8, 6.39S×128.77E, h307km±19km, mb3.5/14, mbtmp4.3/17, Error ellipse: s-maj=23.8km s-min=9.7km az=77.0*

ISC 28 22:44:46.5±0.4, 6.45S±0.05×128.71E±0.06, h300km, n79, σ1§47/86, mb4.0/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI Bandanaira		**2.25**	**32**	P	Pn	22 45 37.7	+2.3
BNDI Bandanaira		**2.25**	**32**	P	Pn	22 45 37.6	+2.2
BNDI				S	S	22 46 17.5	+3.1
AAI Ambon		**2.79**	**349**	P	Pn	22 45 43.1	+2.8
SAUI Saumlaki		**2.99**	**121**	Pn	Pn	22 45 44.1	+1.9
SAUI Saumlaki		**2.99**	**121**	P	Pn	22 45 44.3	+2.1
SAUI Saumlaki		**2.99**	**121**	P	Pn	22 45 44.0	+1.9
MSAI Masohi		**3.09**	**4**	P	Pn	22 45 45.1	+1.8
NLAI Namlea		**3.57**	**333**	P	Pn	22 45 52.1	+3.9
FAKI Fak Fak		**4.97**	**45**	Pn	Pn	22 46 03.8	0.0
FAKI Fak Fak		**4.97**	**45**	P	Pn	22 46 04.0	+0.1
FAKI Fak Fak		**4.97**	**45**	P	Pn	22 46 03.9	+0.1
	1.7nm5μm108nm,0.8s						
SANI Sanana		**5.14**	**328**	P	Pn	22 46 07.8	+2.0
SANI Sanana		**5.14**	**328**	P	Pn	22 46 07.6	+1.8
	0.3nm53nm,0.5s						
SOEI Soe		**5.49**	**233**	Pn	Pn	22 46 11.3	+1.4
SOEI Soe		**5.49**	**233**	P	Pn	22 46 11.8	+1.8
SOEI Soe		**5.49**	**233**	P	Pn	22 46 11.4	+1.4
	1.7nm3μm110nm,0.7s						
KMPI Kaimana, Papua		**5.69**	**61**	P	Pn	22 46 13.3	+1.1
	1.2nm191nm,0.7s						
SWI Sorong		**6.10**	**25**	P	Pn	22 46 16.7	-0.5
	1.9nm2μm49nm,0.6s						
BBSI Bau Bau		**6.18**	**279**	P	Pn	22 46 19.9	+1.8
	0.3nm58nm,1.1s						
BATI Baumata		**6.24**	**233**	P	Pn	22 46 20.1	+1.3
	518nm,0.4s,baz=85,slow=6.4,SNR=105						
BATI				S	S	22 47 31.4	-1.8
	291nm,0.4s,baz=60,slow=20,SNR=19						
BATI Baumata		**6.24**	**233**	P	Pn	22 46 20.0	+1.3
DRS Darwin Rock St		**6.33**	**160**	P	Pn	22 46 21.4	+1.6
MTN Manton Dam		**6.79**	**160**	Pn	Pn	22 46 25.9	+0.5
EDFI Ende, Flores		**7.33**	**251**	P	Pn	22 46 33.0	+0.9
	0.1nm19nm,0.6s						
RKPI Ransiki, Papua		**7.33**	**48**	P	Pn	22 46 33.0	+0.9
	62nm,0.5s						
WSI Waingapu		**8.93**	**248**	P	Pn	22 46 50.8	-0.7
	69nm,0.5s						
BAKI Biak		**9.04**	**55**	P	P	22 46 55.8	-1.8
	88nm,0.9s						
KNRA Kununurra		**9.17**	**180**	Pn	Pn	22 46 55.6	+1.0
WBSI Waikabubak, Su		**9.76**	**250**	P	Pn	22 47 01.1	-0.7
	27nm,0.5s						
TOLI2 Tolitoli		**10.91**	**313**	P	P	22 47 18.5	0.0
PLAI Plampang		**11.09**	**257**	P	Pn	22 47 18.6	+0.4
PLAI Plampang		**11.09**	**257**	P	Pn	22 47 18.3	+0.1
FITZ Fitzroy Crossi		**11.96**	**194**	Pn	Pn	22 47 28.6	-0.1
FITZ Fitzroy Crossi		**11.96**	**194**	P	Pn	22 47 28.4	-0.3
	5.4nm,0.3s,baz=16,slow=13,SNR=29						
FITZ				S	S	22 49 45.8	+4.0
	4.0nm,0.3s,baz=108,slow=20,SNR=2.2						
FITZ Fitzroy Crossi		**11.96**	**194**	P	Pn	22 47 28.7	0.0
WB0 Warramunga Arr		**14.35**	**158**	P	P	22 47 56.7	+0.2
WRAB Tennant Creek		**14.48**	**158**	P	P	22 47 58.5	+0.6
WRAB Tennant Creek		**14.48**	**158**	P	P	22 47 58.6	+0.6
WRA Warramunga Arr		**14.48**	**158**	P	P	22 47 56.6	-1.4
WRA Warramunga Arr		**14.48**	**158**	P	P	22 47 58.6	+0.5
	9.8nm,0.4s,baz=337,slow=11,SNR=98						
WRA				S	S	22 50 32.6	-4.4
	6.8nm,0.6s,baz=338,slow=21,SNR=14						
WR8 Warramunga Arr		**14.56**	**158**	P	P	22 47 59.4	+0.6
COEN Coen		**16.06**	**119**	P	P	22 48 16.0	+0.6
COEN Coen		**16.06**	**119**	P	P	22 48 16.3	+0.9
MBWA Marble Bar		**17.02**	**210**	P	P	22 48 26.2	+0.6
MBWA				IAmb	IAmb	22 49 10.1	
	comp=Z,9.3nm,0.9s						
QIS Mount Isa		**17.56**	**144**	P	P	22 48 32.4	+0.8
AS31 Alice Springs		**17.83**	**164**	P	P	22 48 35.3	+0.8
ASAR Alice Springs		**17.83**	**164**	P	P	22 48 35.5	+0.9
	comp=Z,39nm,0.5s,baz=346,slow=12,SNR=273						
ASAR				S	S	22 51 40.0	-3.8
	comp=Z,14nm,0.8s,baz=341,slow=18,SNR=35						
ASAR				ScP	ScP	22 56 00.1	-2.4
	comp=Z,0.9nm,0.5s,baz=348,slow=2.2,SNR=5.3						
FORT Forrest		**24.21**	**181**	P	P	22 49 36.8	+0.2
FORT				IAmb	IAmb	22 49 57.8	
	comp=Z,17nm,1.1s						
BBOO Buckleboo		**27.11**	**166**	P	P	22 50 02.6	+0.1
BBOO				IAmb	IAmb	22 50 02.7	
	comp=Z,8.8nm,1.0s						
STKA Stephens Creek		**28.02**	**156**	P	P	22 50 10.4	-0.2
STKA Stephens Creek		**28.02**	**156**	P	P	22 50 10.8	+0.3
	comp=Z,6.3nm,0.6s,baz=332,slow=10,SNR=13						
STKA				pP	pwP	22 51 10.4	+0.3
	comp=Z,2.5nm,0.6s,baz=328,slow=3.9,SNR=3.3						
	comp=Z,6.3nm,0.6s						
ARMA Armidale		**32.13**	**141**	P	P	22 50 47.5	+0.8
ARMA				IAmb	IAmb	22 50 49.7	
	comp=Z,4.2nm,0.8s						
CAN Canberra		**34.26**	**150**	P	P	22 51 06.4	+1.4
CAN				IAmb	IAmb	22 51 07.2	
	comp=Z,9.2nm,0.6s						
TOO Toolangi		**34.54**	**156**	P	P	22 51 09.1	+1.7
CMAR Chiang Mai Arr		**38.40**	**311**	P	P	22 51 40.2	+0.2
	comp=Z,0.7nm,0.3s,baz=129,slow=9.0,SNR=7.1						
	comp=Z,0.7nm,0.3s						
KSRS Korea Array		**43.68**	**359**	P	P	22 52 21.6	-0.8
	comp=Z,1.5nm,0.6s,baz=177,slow=9.8,SNR=5.0						
	comp=Z,1.5nm,0.6s						
MJAR Matsushiro Arr		**43.68**	**11**	P	P	22 52 20.7	-1.8
	comp=Z,2.4nm,0.7s,baz=188,slow=9.6,SNR=7.6						
	comp=Z,2.4nm,0.7s						
LZDM Lanzhou Array		**48.29**	**333**	P	P	22 52 58.7	+0.2
	comp=Z,1.1nm,0.3s,baz=134,slow=8.3,SNR=2.0						
	comp=Z,1.1nm,0.3s						
USRK Ussuriysk Ar.		**50.50**	**3**	P	P	22 53 14.3	-0.4
	comp=Z,2.1nm,0.5s,baz=181,slow=7.4,SNR=6.1						
	comp=Z,2.1nm,0.5s						
LBZ Lake Benmore		**52.29**	**143**	P	P	22 53 28.4	+0.5
LBZ				IAmb	IAmb	22 53 51.4	
	comp=Z,24nm,1.2s						
RPZ Rata Peaks		**52.45**	**142**	P	P	22 53 29.6	+0.5
GTA Gaotai		**52.88**	**332**	eP	P	22 53 32.8	+0.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TUWZ Tuamarina		**53.14**	**138**	P	P	22 53 34.5	+0.3
RTZ Ruatahuna		**54.02**	**134**	P	P	22 53 40.6	0.0
RTZ				IAmb	IAmb	22 54 01.1	
	comp=Z,16nm,1.2s						
HILR Hailar Array B		**56.32**	**353**	P	P	22 53 56.5	-0.1
	comp=Z,0.7nm,0.3s,baz=151,slow=11,SNR=2.3						
	comp=Z,0.7nm,0.3s						
SONM Songino Array		**57.52**	**342**	P	P	22 54 05.5	+0.3
	comp=Z,0.6nm,0.6s,baz=157,slow=4.2,SNR=3.8						
	comp=Z,0.6nm,0.6s						
PETK Petropavlovsk-		**64.21**	**19**	P	P	22 54 49.8	+0.1
	comp=Z,2.7nm,0.5s,baz=212,slow=6.8,SNR=7.2						
	comp=Z,2.7nm,0.5s						
MKAR Makanchi Array		**67.07**	**327**	P	P	22 55 07.9	-0.1
	comp=Z,1.5nm,0.5s,baz=128,slow=7.4,SNR=22						
	comp=Z,1.5nm,0.5s						
MAKZ Makanchi		**67.25**	**327**	P	P	22 55 08.7	-0.4
ZALV Zalesovo Beam		**70.53**	**334**	P	P	22 55 27.7	-1.3
	comp=Z,0.7nm,0.3s,baz=155,slow=10,SNR=1.5						
	comp=Z,0.7nm,0.3s						
KURBB Kurchatov Arra		**71.38**	**329**	P	P	22 55 33.6	-0.6
	comp=Z,0.7nm,0.5s,baz=127,slow=5.0,SNR=8.0						
	comp=Z,0.7nm,0.5s						
VNDA Vanda		**73.15**	**173**	P	P	22 55 43.5	-0.7
VNDA Vanda		**73.15**	**173**	P	P	22 55 43.6	-0.7
	comp=Z,1.0nm,0.7s,baz=324,slow=6.9,SNR=8.0						
	comp=Z,1.0nm,0.7s						
TIXI Tiksi		**77.94**	**0**	P	P	22 56 10.7	-0.6
TIXI				IAmb	IAmb	22 56 11.0	
	comp=Z,3.1nm,0.8s						
ABKAR Akbulak array		**81.29**	**322**	P	P	22 56 29.0	-0.6
QSPA South Pole Qui		**83.53**	**180**	P	P	22 56 42.5	+1.5
QSPA				IAmb	IAmb	22 56 43.3	
	comp=Z,2.3nm,0.9s						
QSPA South Pole Qui		**83.53**	**180**	P	P	22 56 42.6	+1.6
	comp=Z,1.9nm,0.8s,baz=325,slow=5.1,SNR=14						
	comp=Z,1.9nm,0.8s						
ITAB Concordia		**146.51**	**179**	PKPbc	PKPdf	23 03 53.1	+1.6
CPUP Villa Florida		**146.89**	**170**	PKPbc	PKPdf	23 03 53.6	+1.4
	comp=Z,0.2nm,0.5s,baz=236,slow=3.6,SNR=3.4						

*SOF **28** 22:46:49.9, 41.79N±0.01×22.24E±0.01, h8km±3km, MD2.9/6*
*SKO **28** 22:46:50.6, 41.77N×22.27E, h15km, ML2.8*
*BEO **28** 22:46:50.8±0.4, 41.79N×22.24E, h9km±2km, ML2.4/15*
*ATH **28** 22:46:52.4, 41.72N×22.34E, h12km±3km, ML2.7/6,*
Manual Solution by S.Liakopoulos First location: 2019/10/28 22:48:23, This location: 2019/10/29 06:42:08
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
*THE **28** 22:46:53.3, 42.3N×3.2E±.*, h0km±4km, M2.5/8, MLh2.5/8*
*PDG **28** 22:46:54.3±0.5, 42.01N×22.28E, h17km±1km, ML2.7/9,*
Error ellipse: s-maj=2.0km s-min=1.4km az=90.0

ISC 28 22:46:51.9±1.1, 41.82N±0.02×22.43E±0.02, h19km±3km, n82, σ1§24/131, 12C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY Valandovo		**0.51**	**168**	*i* Pg	Pb	22 47 00.9	-1.4
VAY				*i* Sg	Sb	22 47 08.2	-1.1
VAY				*e*Lg	Lg	22 47 08.2	
	comp=E,1μm,0.3s						
VAY				*e*Lg	Lg	22 47 08.5	
	comp=N,2μm,0.6s						
KKB Krupnik		**0.52**	**88**	Pg	Pn	22 47 04.0	-0.4
KKB				S	Sn	22 47 11.9	-0.8
KKB Krupnik		**0.52**	**88**	P	Pn	22 47 03.0	-1.3
KKB				S	Sn	22 47 11.1	-1.6
KKB Krupnik		**0.52**	**88**	*i* Pg	Pn	22 47 03.1	-1.2
KKB				*i* Sg	Sn	22 47 11.9	-0.8
BOSS Bosilegrad		**0.67**	**3**	*e*Pg	Pb	22 47 04.5	-0.5
BOSS				*e*Sg	Sg	22 47 13.3	-1.0
**KNT

SRS	**Serrai**	**1.12 129**	*e*Pg	**Pg**	**22 47 13.1**	**-0.6**
SRS			*e*Sg	**Sg**	**22 47 28.5**	**0.0**
SRS	**Serrai**	**1.12 129**	P	**Pg**	**22 47 13.4**	**-0.3**
SRS			S	**Sg**	**22 47 28.7**	**+0.2**
BLSH	**Balsha**	**1.21 31**	P	**Pg**	**22 47 15.9**	**+0.5**
BLSH			S	**Sg**	**22 47 33.3**	**+2.0**
SOH	**Sokhos**	**1.22 145**	P	**Pb**	**22 47 14.6**	**+0.3**
SOH			S	**Sg**	**22 47 30.8**	**-0.7**
SOH	**Sokhos**	**1.22 145**	*i* Pg	**Pb**	**22 47 14.8**	**+0.4**
SOH			*i* Sg	**Sg**	**22 47 31.8**	**+0.3**
SOH	**Sokhos**	**1.22 145**	P	**Pb**	**22 47 14.8**	**+0.4**
SOH			S	**Sg**	**22 47 30.8**	**-0.7**
THE	**Thessaloniki**	**1.26 161**	*i* Pg	**Pn**	**22 47 14.6**	**+0.2**
THE			*i* Sg	**Sb**	**22 47 31.3**	**+0.6**
THE	**Thessaloniki**	**1.26 161**	P	**Pn**	**22 47 14.5**	**+0.2**
THE			S	**Sn**	**22 47 29.5**	**-1.2**
HORT	**Hortiatis**	**1.32 157**	P	**Pn**	**22 47 15.9**	**+0.5**
HORT	**Hortiatis**	**1.32 157**	P	**Pb**	**22 47 16.1**	**-0.1**
HORT			S	**Sn**	**22 47 32.8**	**+0.2**
OHR	**Ohrid**	**1.42 240**	*i* Pn	**Pn**	**22 47 15.5**	**-1.2**
OHR			*i* Sn	**Sn**	**22 47 33.7**	**-1.1**
OHR			*e*Lg	Lg	22 47 34.5	
	comp=N,26nm,0.4s					
OHR			*e*Lg	Lg	22 47 36.5	
	comp=E,24nm,0.5s					
ZAPS	**Zavoj**	**1.46 6**	*e*Pg	**Pb**	**22 47 18.6**	**+0.2**
ZAPS			*e*Sg	**Sg**	**22 47 37.7**	**-1.4**
SELS	**Selova**	**1.70 326**	*e*Pn	**Pn**	**22 47 20.0**	**-0.6**
SELS			*e*Sn	**Sn**	**22 47 41.7**	**-0.1**
LIT	**Litokhoron**	**1.72 178**	*i* Pn	**Pn**	**22 47 21.3**	**+0.4**
RZN	**Rozhen**	**1.73 94**	P	**Pg**	**22 47 23.9**	**-1.4**
NEST	**Nestorio**	**1.75 217**	P	**Pn**	**22 47 21.3**	**-0.1**
PLD	**Plovdiv**	**1.76 79**	*i* Pn	**Pg**	**22 47 24.3**	**-1.5**
PLD	**Plovdiv**	**1.76 79**	*e*Pn	**Pg**	**22 47 23.9**	**-1.9**
PLD			*e*Sg	**Sg**	**22 47 49.2**	**+0.6**
BLKB	**Belogradchik**	**1.81 6**	⇑P	**Pb**	**22 47 23.4**	**-1.0**
BLKB			⇑S	**Sg**	**22 47 48.8**	**-1.4**
BLKB	**Belogradchik**	**1.81 6**	*e*Pn	**Pb**	**22 47 23.2**	**-1.2**
BLKB			*e*Sg	**Sg**	**22 47 49.3**	**-1.0**
MPEP	**Malo Peshtene**	**1.81 32**	P	**Pg**	**22 47 27.4**	**+0.6**
MPEP			S	**Sg**	**22 47 51.7**	**+1.3**
BOVS	**Bovan**	**1.89 344**	⇑P	**Pb**	**22 47 24.4**	**-1.4**
BOVS			⇑S	**Sb**	**22 47 49.2**	**+0.3**
BOVS	**Bovan**	**1.89 344**	*e*Pn	**Pn**	**22 47 22.6**	**-0.5**
BOVS			*e*Sn	**Sn**	**22 47 46.6**	**+0.2**
PENT	**Pentalofos**	**1.90 211**	P	**Pn**	**22 47 23.5**	**+0.2**
PVY	**Plav**	**1.99 294**	*e*Pn	**Pn**	**22 47 25.8**	**+1.1**
PVY			*i* Sn	**Sn**	**22 47 50.7**	**+1.6**
ZAGS	**Zajecar**	**1.99 356**	*e*Pn	**Pn**	**22 47 24.8**	**+0.2**
ZAGS			*e*Sn	**Sb**	**22 47 51.1**	**-0.9**
GOCS	**Kraljevo Serbi**	**2.08 327**	*e*Pn	**Pn**	**22 47 24.9**	**-1.0**
GOCS			*e*Sn	**Sn**	**22 47 49.4**	**-1.9**
PLVB	**Pleven**	**2.25 45**	⇑P	**Pb**	**22 47 31.5**	**-0.4**
BORS2	**Bor- Borsko je**	**2.29 353**	*e*Pn	**Pb**	**22 47 30.4**	**-2.2**
BORS2			*e*Sn	**Sn**	**22 47 57.6**	**+1.4**
SJES	**Sjenica**	**2.32 309**	*e*Pn	**Pn**	**22 47 27.9**	**-1.2**
ULC	**Ulcinj**	**2.38 274**	*e*Pn	**Pn**	**22 47 32.3**	**+2.4**
ULC			*i* Sn	**Sn**	**22 48 01.5**	**+2.9**
KOME	**Kolasin**	**2.39 296**	*e*Pn	**Pn**	**22 47 31.3**	**+1.2**
KOME			*i* Sn	**Sn**	**22 48 00.2**	**+1.2**
GRUS	**Gruza**	**2.42 329**	*e*Pn	**Pn**	**22 47 29.8**	**-0.6**
GRUS			*e*Sn	**Sn**	**22 47 58.7**	**-0.8**
IVAS	**Ivanjica**	**2.43 317**	*e*Pn	**Pn**	**22 47 29.3**	**-1.3**
RDO	**Rodhopi**	**2.43 105**	P	**Pb**	**22 47 32.9**	**-2.1**
RDO	**Rodhopi**	**2.43 105**	P	**Pb**	**22 47 33.0**	**-1.9**
PDG	**Podgorica**	**2.44 285**	⇓P	**Pn**	**22 47 30.5**	**-0.2**
PDG	**Podgorica**	**2.44 285**	*e*Pn	**Pn**	**22 47 32.3**	**+1.6**
PDG			*i* Sn	**Sn**	**22 48 01.8**	**+1.9**
DRME	**Dracevica, Mon**	**2.45 280**	*e*Pn	**Pn**	**22 47 32.8**	**+2.0**
DRME			*e*Sn	**Sn**	**22 48 02.5**	**+2.3**
NEO	**Neokhori**	**2.59 166**	P	**Pn**	**22 47 32.1**	**-0.6**
TETR	**Tetrakomo, Epi**	**2.63 200**	P	**Pn**	**22 47 33.8**	**+0.5**
KUBS	**Kucevo**	**2.65 348**	*e*Pn	**Pn**	**22 47 32.1**	**-1.5**
KUBS			*e*Sn	**Sn**	**22 48 05.8**	**+0.7**
BUM	**Brajici-Budva**	**2.68 281**	⇑*i*Pn	**Pn**	**22 47 35.8**	**+1.8**
BUM			*i* Sn	**Sn**	**22 48 07.8**	**+1.9**
SMTH	**Samothraki Isl**	**2.70 119**	P	**Pn**	**22 47 35.6**	**+1.2**
CEME	**Cevo**	**2.71 287**	*e*Pn	**Pn**	**22 47 36.1**	**+1.6**
CEME			*e*Sn	**Sn**	**22 48 08.4**	**+1.7**
ELND	**Elena**	**2.78 65**	⇑P	**Pb**	**22 47 38.5**	**-2.4**
MAKR	**Makrakomi, Fth**	**2.82 185**	P	**Pn**	**22 47 35.6**	**-0.3**
TRUS	**Trudelj**	**2.82 329**	*e*Pn	**Pn**	**22 47 35.5**	**-0.4**
LIA	**Limnos Island**	**2.84 132**	P	**Pn**	**22 47 37.7**	**+1.5**
EVR	**Evrytania**	**2.94 189**	P	**Pn**	**22 47 37.9**	**+0.2**
UPM	**Unac-Piva**	**2.95 299**	*e*Pn	**Pn**	**22 47 38.9**	**+1.0**
UPM			*i* Sn	**Sn**	**22 48 13.2**	**+0.4**
MDVR	**Moldovita**	**3.00 350**	⇓P	**Pn**	**22 47 38.8**	**+0.3**
BBLS	**Lazi&#263i**	**3.02 314**	*e*Pn	**Pn**	**22 47 39.4**	**+0.7**
HERR	**Herculane**	**3.06 360**	⇑P	**Pn**	**22 47 40.3**	**+1.1**
BRY	**Bratogost**	**3.08 292**	*e*Pn	**Pn**	**22 47 41.0**	**+1.4**
BRY			*i* Sn	**Sn**	**22 48 16.8**	**+0.8**
VRSS	**Vrsac**	**3.40 347**	*e*Pn	**Pn**	**22 47 43.9**	**+0.1**
GZR	**Gura Zlata**	**3.58 4**	⇑P	**Pn**	**22 47 47.2**	**+0.8**
BZS	**Buzias**	**3.84 351**	⇑P	**Pn**	**22 47 50.2**	**+0.3**
SURR	**Surduc**	**3.94 357**	⇑P	**Pn**	**22 47 52.4**	**+1.1**
MLR	**Muntele Rosu**	**4.46 34**	⇑P	**Pn**	**22 48 02.2**	**+3.6**
SIRR	**Siria**	**4.48 353**	⇓P	**Pn**	**22 47 59.3**	**+0.6**
MORH	**Mrgy, Hungar**	**5.17 329**	⇓P	**Pn**	**22 48 07.9**	**-0.3**

*CATAC **28** 22:57:44.2±0.9, 7°.N±5°.×8°.1W±°, h19km±9km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=10.0km s-min=4.3km az=174.4, confirmed*
*UPA **28** 22:57:47.0±2.6, 7°.38N×81°.34W, h0km±6km, MW4.3*
*UCR **28** 22:57:57.7±1.1, 7°.83N×81°.81W, h9km±17km, MW3.7*
ISC 28 22:57:45.5±1.4, 7°.30N±0°.05×81°.41W±0°.02, h6km±10km, n70, σ1§43/95, 6C-15D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.49**	**21**	⇓*e*P	**Pg**	**22 57 55.4**	**+0.4**
GMAL				*i* S	**Sb**	**22 58 03.1**	**-0.8**
MARI3	**Mariato, Verag**	**0.54**	**50**	⇓*i*P	**Pg**	**22 57 56.6**	**+0.7**
MARI3				*i* S	**Sg**	**22 58 02.6**	**-0.3**
CACAO	**El Cacao, Vera**	**0.54**	**85**	⇑*e*P	**Pg**	**22 57 56.7**	**+0.7**
CACAO				*i* S	**Sb**	**22 58 05.6**	**+0.1**
MESA3	**La Mesa, Verag**	**0.87**	**15**	⇓*i*P	**Pg**	**22 58 00.8**	**-1.4**
MESA3				*e*S	**Sg**	**22 58 13.6**	**+0.1**
STIA3	**Santiago, Vera**	**0.90**	**29**	⇓*e*P	**Pg**	**22 58 02.1**	**-0.7**
STIA3				*i* S	**Sb**	**22 58 15.4**	**-0.4**
PESE3	**Pese, Herrera**	**0.99**	**53**	*e*P	**Pg**	**22 58 04.0**	**-0.5**
PESE3				*i* S	**Sb**	**22 58 19.1**	**+0.7**
CALO3	**Calobre, Verag**	**1.16**	**29**	⇓*e*P	**Pn**	**22 58 08.8**	**+0.6**
CALO3				*i* S	**Sn**	**22 58 23.6**	**-0.7**
CHIT3	**Chitre**	**1.18**	**56**	⇓*e*P	**Pg**	**22 58 07.1**	**-1.0**
CHIT3				*i* S	**Sb**	**22 58 23.8**	**+0.1**
AZU	**Azuero**	**1.22**	**67**	⇓*e*P	**Pb**	**22 58 07.9**	**-1.2**
AZU				*i* S	**Sn**	**22 58 25.1**	**-0.8**
AZU	**Azuero**	**1.22**	**67**	*e*P	**Sn**	**22 58 25.1**	**-0.8**
CRIS3	**El Cristo, Coc**	**1.23**	**40**	⇑*e*P	**Pg**	**22 58 08.0**	**-1.1**
CRIS3				*i* S	**Sb**	**22 58 25.4**	**+0.3**
ACHO3	**Achotines, Los**	**1.23**	**85**	⇓*i*P	**Pb**	**22 58 08.1**	**-1.0**
ACHO3				*i* S	**Sg**	**22 58 25.2**	**+0.1**
PCRI3	**Pocri, Los San**	**1.33**	**74**	⇓*e*P	**Pn**	**22 58 10.0**	**-0.5**
PCRI3				*e*S	**Sn**	**22 58 29.1**	**+0.6**
PEDA3	**Pedasi**	**1.39**	**81**	⇓*i*P	**Pn**	**22 58 10.5**	**-0.9**
PEDE3	**Pedregal, Chir**	**1.47**	**317**	⇓*e*P	**Pg**	**22 58 14.0**	**+0.2**
LOMA3	**Las Lomas, Chi**	**1.49**	**319**	*e*P	**Pg**	**22 58 13.9**	**-0.1**
LOCO3	**Loma Colorada,**	**1.49**	**318**	*e*P	**Pb**	**22 58 13.4**	**-0.2**
LOCO3				*e*S	**Sg**	**22 58 36.8**	**+3.4**
DVD	**David**	**1.53**	**318**	⇓*e*P	**Pg**	**22 58 15.2**	**+0.4**
DVD				*i* S	**Sg**	**22 58 34.2**	**-0.5**
KKNTU	**Kakint?**	**1.58**	**346**	*e*P	**Pn**	**22 58 12.5**	**-1.5**
PNME	**Penonome**	**1.59**	**42**	*e*P	**Pb**	**22 58 15.6**	**+0.3**
BAGA3	**Bagala, Chiriq**	**1.60**	**316**	*e*P	**Pb**	**22 58 15.4**	**-0.1**
PSOM3	**Paja de Sombre**	**1.65**	**327**	*e*P	**Pb**	**22 58 15.9**	**-0.4**
RBALA	**Bur**	**1.73**	**335**	*e*P	**Pn**	**22 58 16.8**	**+0.7**
PTAR3	**Potrerillos Ar**	**1.75**	**322**	*i* P	**Pb**	**22 58 18.1**	**0.0**
PTAR3				*i* S	**Sg**	**22 58 42.3**	**+0.4**
BQSF3	**Alto Boquete,**	**1.75**	**325**	⇓*e*P	**Pb**	**22 58 17.8**	**-0.4**
JEFFS	**S de V. Baru**	**1.76**	**321**	*e*P	**Pb**	**22 58 18.5**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**1.76**	**334**	*e*P	**Pb**	**22 58 17.9**	**-0.2**
WILLF	**Boquete**	**1.76**	**325**	*e*P	**Pn**	**22 58 17.4**	**+0.8**
CHGR2	**Aguacate**	**1.78**	**336**	*e*P	**Pb**	**22 58 18.1**	**-0.5**
BQTLY	**Boquete Panama**	**1.78**	**324**	*e*P	**Pn**	**22 58 17.5**	**+0.5**
BC3P	**Paso Ancho**	**1.92**	**322**	⇑*e*P	**Pb**	**22 58 20.4**	**-0.6**
CDITO	**Canoas**	**1.92**	**311**	S	**Sg**	**22 58 47.2**	**-0.2**
CDITO	**Canoas**	**1.92**	**311**	P	**Pn**	**22 58 19.6**	**+0.8**
DMCAL	**E. de Neily**	**1.93**	**315**	*e*P	**Pb**	**22 58 21.1**	**0.0**
BRU2	**Volcan**	**1.95**	**319**	*e*P	**Pn**	**22 58 20.1**	**+0.9**
ALCO	**Alturas Coton,**	**2.16**	**319**	*e*P	**Pn**	**22 58 23.5**	**+1.3**
PIRO	**Carate, Puerto**	**2.20**	**300**	⇑*e*P	**Pn**	**22 58 22.7**	**+0.1**
PIRO	**Carate, Puerto**	**2.20**	**300**	P	**Pn**	**22 58 22.4**	**-0.2**
PIRO	**Carate, Puerto**	**2.20**	**300**	S	**Sb**	**22 58 52.4**	**-0.8**
PIRO	**Carate, Puerto**	**2.20**	**300**	*e*P	**Pn**	**22 58 22.4**	**-0.2**
ZANG	**Zanguenga, Cho**	**2.24**	**43**	⇑*e*P	**Pb**	**22 58 25.1**	**-1.3**
ZANG				*i* S	**Sn**	**22 58 52.8**	**+1.7**
CHOR3	**La Chorrera**	**2.27**	**46**	*e*P	**Pb**	**22 58 25.9**	**-1.0**
CHOR3				*e*S	**Sb**	**22 58 54.1**	**-1.2**
TABO3	**Taboga, Panama**	**2.36**	**51**	*e*P	**Pb**	**22 58 27.3**	**-1.1**
ARRA3	**Arraijan, Pana**	**2.40**	**46**	*e*P	**Pb**	**22 58 29.1**	**+0.1**
ARRA3				*e*S	**Sb**	**22 58 58.2**	**-0.6**
BCIP	**Isla Barro Col**	**2.42**	**40**	⇓*e*P	**Pn**	**22 58 27.0**	**+1.4**
BCIP				*i* S	**Sn**	**22 58 56.4**	**+0.9**
BCIP	**Isla Barro Col**	**2.42**	**40**	P	**Pn**	**22 58 27.4**	**+1.9**
BCIP				S	**Sg**	**22 59 01.6**	**-1.6**
EDP2	**Potrero Grande**	**2.44**	**314**	*e*P	**Pb**	**22 58 28.4**	**-1.4**
FLAM	**Flamenco Islan**	**2.45**	**49**	*e*P	**Pn**	**22 58 23.9**	**-2.0**
FLAM				*i* S	**Sb**	**22 59 00.9**	**+0.6**
MLIR	**Monte Lirio**	**2.46**	**38**	*e*P	**Pb**	**22 58 31.4**	**+1.2**
GAMB1	**Gamboa**	**2.47**	**43**	⇑*e*P	**Pn**	**22 58 27.8**	**+1.5**
GAMB1				*i* S	**Sb**	**22 58 59.5**	**-1.3**
UPA	**Univ. de Panam**	**2.49**	**48**	*e*P	**Pn**	**22 58 28.1**	**+1.5**
UPA				*i* S	**Sb**	**22 59 01.9**	**+0.3**
FRIJ	**El Hiral**	**2.53**	**41**	*e*P	**Pn**	**22 58 28.8**	**+1.7**
FRIJ				*i* S	**Sb**	**22 59 00.6**	**-2.1**
FIMO	**Fila Mora**	**2.56**	**311**	*e*P	**Pn**	**22 58 29.2**	**+1.7**
RGM0	**Gandoca**	**2.56**	**333**	S	**Sb**	**22 59 05.2**	**+1.5**
DRK0	**Durika**	**2.67**	**317**	*e*P	**Pn**	**22 58 31.3**	**+2.2**
DRK0	**Durika**	**2.67**	**317**	P	**Pn**	**22 58 30.9**	**+1.8**
DRK0	**Durika**	**2.67**	**317**	*e*P	**Pn**	**22 58 30.8**	**+1.6**
CEUA	**Cerro Uatsi, L**	**2.76**	**327**	*e*P	**Pb**	**22 58 34.2**	**-1.1**
EDPE	**Pejibaye, P**	**2.83**	**311**	*e*P	**Pn**	**22 58 33.2**	**+2.0**
OCHAL	**Ojochal**	**2.84**	**309**	S	**Sb**	**22 59 10.0**	**-1.8**
OCHAL	**Ojochal**	**2.84**	**309**	P	**Pn**	**22 58 33.2**	**+1.8**
VERH	**Veragua Rainfo**	**3.15**	**326**	*e*P	**Pn**	**22 58 38.6**	**+3.0**
BUS1	**Rivas**	**3.22**	**314**	*e*P	**Pn**	**22 58 39.1**	**+2.2**
PIEC	**Cerro El Cedra**	**3.42**	**313**	*e*P	**Pn**	**22 58 42.6**	**+3.1**
TOTI	**Torti**	**3.47**	**62**	*e*P	**Pn**	**22 58 43.3**	**+3.3**
CVTQ	**Turrialba Volc**	**3.56**	**319**	*e*P	**Pn**	**22 58 44.5**	**+3.0**
CVTR	**Volcan Turrial**	**3.56**	**319**	*e*P	**Pb**	**22 58 48.8**	**-0.4**
UPD2	**Meteti**	**3.58**	**70**	⇓*i*P	**Pn**	**22 58 44.6**	**+3.1**
CVTG	**V. Turrialba,**	**3.67**	**321**	*e*P	**Pb**	**22 58 50.6**	**-0.2**
JTS	**Las Juntas de**	**4.59**	**311**	P	**Pn**	**22 58 54.6**	**-1.0**
JTS				S	**Sb**	**22 59 56.6**	**-5.6**

*SJA **28** 22:59:23.8±0.8, 23°.95S×69°.30W, h105km±6km, ML3.8, MW3.8*
*GUC **28** 22:59:26.0±0.7, 23°.98S×69°.31W, h89km±3km, ML3.9*
ISC 28 22:59:23.9±1.4, 23°.96S±0°.03×69°.34W±0°.04, h116km±12km, n35, σ1§73/52, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.18**	**235**	⇑*i*P	**Pn**	**22 59 48.5**	**+0.6**
PB14				*i* S	**Sn**	**23 00 04.8**	**-1.2**
PB14	**IPOC Station P**	**1.18**	**235**	*e*P	**Pn**	**22 59 48.4**	**+0.6**
PB14				*e*S	**Sn**	**23 00 06.0**	**0.0**
PB14				IAML		23 00 08.3	
	comp=Z,680nm,0.2s						
PB10	**IPOC Station P**	**1.20**	**291**	⇓*i*P	**Pn**	**22 59 48.3**	**+0.6**
PB10				*i* S	**Sn**	**23 00 05.4**	**-0.4**
PB10	**IPOC Station P**	**1.20**	**291**	*e*P	**Pn**	**22 59 48.5**	**+0.8**
PB10				*e*S	**Sn**	**23 00 06.0**	**+0.3**
PB10				IAML		23 00 07.5	
	comp=Z,1μm,0.3s						
GO02	**Mina Guanaco**	**1.23**	**191**	⇑*i*P	**Pn**	**22 59 48.9**	**+0.5**
GO02				*i* S	**Sn**	**23 00 05.8**	**-1.0**
GO02				IAML		23 00 06.9	
	comp=E,4μm,0.5s						
GO02	**Mina Guanaco**	**1.23**	**191**	*e*P	**Pn**	**22 59 48.8**	**+0.4**
GO02				*e*S	**Sn**	**23 00 06.4**	**-0.4**
GO02				IAML		23 00 08.3	
	comp=Z,3μm,0.1s						
PB06	**IPOC Station P**	**1.26**	**350**	⇓*i*P	**Pn**	**22 59 49.0**	**+0.4**
PB06				*i* S	**Sn**	**23 00 06.7**	**-0.6**
PB06				IAML		23 00 07.6	
	comp=N,3μm,0.1s						
PB06	**IPOC Station P**	**1.26**	**350**	*e*P	**Pn**	**22 59 49.0**	**+0.4**
PB06				*e*S	**Sn**	**23 00 07.0**	**-0.3**
PB06				IAML		23 00 07.7	
	comp=Z,2μm,0.2s						
AF01	**San Pedro de A**	**1.46**	**47**	⇑*i*P	**Pn**	**22 59 51.6**	**+0.7**
AF01				*i* S	**Sn**	**23 00 11.0**	**-0.4**
AF01	**San Pedro de A**	**1.46**	**47**	*e*P	**Pn**	**22 59 51.6**	**+0.7**
AF01				*e*S	**Sn**	**23 00 10.1**	**-1.3**
AF01				IAML		23 00 12.0	
	comp=Z,3μm,0.1s						
PB03	**IPOC Station P**	**1.94**	**348**	⇑*i*P	**Pn**	**22 59 57.4**	**+0.8**
PB03				*i* S	**Sn**	**23 00 21.6**	**+0.1**
PB03				IAML		23 00 26.5	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.94**	**348**	*e*P	**Pn**	**22 59 57.4**	**+0.8**
PB03				*e*S	**Sn**	**23 00 21.2**	**-0.3**
PB03				IAML		23 00 28.4	
	comp=Z,884nm,0.1s						
PB09	**IPOC Station P**	**2.15**	**2**	*i* P	**Pn**	**23 00 00.8**	**+1.5**
PB09				IAML		23 00 30.9	
	comp=N,576nm,0.3s						
PB09	**IPOC Station P**	**2.15**	**2**	*e*P	**Pn**	**23 00 00.8**	**+1.5**
PB09				*e*S	**Sn**	**23 00 28.6**	**+2.2**
PB09				IAML		23 00 31.6	
	comp=Z,424nm,0.5s						
AC01	**Pan de Azucar**	**2.47**	**207**	*i* P	**Pn**	**23 00 03.5**	**+0.4**
AC01	**Pan de Azucar**	**2.47**	**207**	*e*P	**Pn**	**23 00 03.6**	**+0.4**
AC01				*e*S	Sn	23 00 23.3	-10
AC01				IAML		23 00 43.4	
	comp=Z,280nm,0.7s						
PB02	**IPOC Station P**	**2.67**	**349**	*i* P	**Pn**	**23 00 06.6**	**+0.6**
PB02	**IPOC Station P**	**2.67**	**349**	*e*P	**Pn**	**23 00 06.5**	**+0.5**
PB02				*e*S	Sn	23 00 18.8	-19
PB02				IAML		23 00 44.4	
	comp=Z,761nm,0.3s						
SALTA		**2.75**	**96**	⇑*e*P	**Pn**	**23 00 09.5**	**+2.2**
SALTA		**2.75**	**96**	*e*P	**Pn**	**23 00 04.1**	**-3.2**
SALTA				*e*P		23 00 09.6	
SALTA				*e*P		23 00 09.8	
SALTA				*e*S	**Sn**	**23 00 33.6**	**-7.0**
AC02	**Maricunga**	**2.88**	**176**	*e*P	Pn	22 59 53.0	-16
AC02				*e*S	**Sn**	**23 00 44.2**	**+0.7**
AC02				IAML		23 01 10.5	
	comp=Z,149nm,0.6s						
PB01	**IPOC Station P**	**2.90**	**357**	*e*P	**Pn**	**23 00 09.7**	**+0.7**
PB01				*e*S	**Sn**	**23 00 41.5**	**-2.1**
PB01				IAML		23 01 08.2	
	comp=Z,245nm,0.5s						
PATCX	**Punta Patache**	**3.21**	**346**	*e*P	**Pn**	**23 00 13.1**	**+0.1**
PATCX				*e*S	Sn	23 01 05.7	+15
PATCX				IAML		23 01 12.9	
	comp=Z,249nm,0.6s						
TA01	**Diego Aracena**	**3.46**	**347**	*e*P	**Pn**	**23 00 15.7**	**-0.5**
TA01	**Diego Aracena**	**3.46**	**347**	*e*P	**Pn**	**23 00 15.7**	**-0.5**
TA01				*e*S	Sn	23 00 46.3	-10
TA01				IAML		23 01 16.2	
	comp=Z,127nm,0.8s						
PX03	**IPOC Station P**	**3.54**	**356**	*e*P	**Pn**	**23 00 16.2**	**-1.2**
SLA	**San Lorenzo**	**3.58**	**103**	*e*P	**Pn**	**23 00 19.8**	**+1.9**
HJA	**Humahuaca**	**3.68**	**79**	*e*P	**Pn**	**23 00 23.8**	**+4.3**
GO03	**Copiapo**	**3.71**	**192**	*e*P	**Pn**	**23 00 20.4**	**+0.8**
GO03				*e*S	**Sn**	**23 01 03.0**	**+0.3**
GO03				IAML		23 01 26.2	
	comp=Z,215nm,0.9s						
PB08	**IPOC Station P**	**3.80**	**3**	*e*P	**Pn**	**23 00 21.5**	**+0.4**
PB08				*e*S	Sn	23 00 50.9	-14
PB08				IAML		23 01 32.7	
	comp=Z,93nm,0.5s						
YJA	**Yavi**	**3.94**	**64**	*e*P	**Pn**	**23 00 26.6**	**+3.5**
PB11	**IPOC Station P**	**4.18**	**356**	*e*P	**Pn**	**23 00 25.5**	**-0.5**
PB11				IAML		23 01 41.5	
	comp=Z,113nm,0.3s						
AC04	**Llanos de Chal**	**4.51**	**200**	*e*P	**Pn**	**23 00 28.0**	**-2.2**
AC04				IAML		23 01 39.5	
	comp=Z,104nm,0.8s						
VCA	**Vinchina**	**4.87**	**168**	*e*P	**Pn**	**23 00 37.7**	**+2.5**
PB12	**IPOC Station P**	**5.39**	**350**	*e*P	**Pn**	**23 00 40.9**	**-1.4**
PB12				*e*S	**Sn**	**23 01 41.5**	**-1.8**
PB12				IAML		23 02 29.9	
	comp=Z,37nm,0.8s						

IDC 29 00:01:28.5±2.2, 6°.53S×129°.65E, h0km, mb3.5/1, mbtmp4.1/5, ML4.2/4, Error ellipse: s-maj=57.3km s-min=28.2km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.96**	**238**	Pn	Pn	00 03 12.9	+1.0
	6.2nm,0.3s,baz=14,slow=3.0,SNR=2.2						
BATI				Sn	Sn	00 04 23.6	-8.2
	12nm,0.3s,baz=56,slow=20,SNR=7.4						
	13nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.15**	**198**	Pn	Pn	00 04 21.9	-1.0
	1.0nm,0.3s,baz=11,slow=11,SNR=48						
FITZ				Sn	Sn	00 06 22.1	-17
	1.8nm,0.3s,baz=128,slow=22,SNR=5.9						
	3.2nm,0.4s						
WRA	**Warramunga Arr**	**14.09**	**162**	Pn	Pn	00 04 49.3	-0.2
	1.2nm,0.3s,baz=334,slow=13,SNR=17						
WRA				Sn	Sn	00 07 11.8	-15
	2.1nm,0.3s,baz=333,slow=22,SNR=10.0						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**17.53**	**167**	P	Pn	00 05 34.8	+0.4
	1.0nm,0.3s,baz=346,slow=10,SNR=51						
ASAR				S	Sn	00 08 36.1	-14
	1.3nm,0.6s,baz=347,slow=25,SNR=6.2						
	4.6nm,0.5s						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	00 12 27.3	0.0
	0.2nm,0.4s,baz=118,slow=7.5,SNR=4.9						
	0.2nm,0.4s						

*LDO **29** 00:09:18.5±0.4, 40°.96N±0°.01×73°.750W±0°.007, h4km±5km, Error ellipse: s-maj=2.0km s-min=0.7km az=169.0*
NEIC 29 00:09:18.6±0.4, 40°.96N±0°.01×73°.76W±0°.01, h6km±3km, ML1.5/7, ML1.3(LDO), Error ellipse: s-maj=1.8km s-min=1.3km az=186.0, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAL	**Palisades**	**0.12**	**293**	Pg	Pg	00 09 21.0	-0.1
PAL				Sg	Sg	00 09 22.9	+0.1
N62A	**Caumsett State**	**0.22**	**97**	Pg	Pg	00 09 23.0	0.0
N62A				Sg	Sg	00 09 25.9	0.0
N62A				IAML		00 09 26.8	
	145nm,0.3s						
N62A				IAML		00 09 27.1	
	102nm,0.3s						
CPNY	**Central Park**	**0.23**	**222**	Pg	Pg	00 09 22.9	-0.1
CPNY				Sg	Sg	00 09 25.9	-0.2
WSPT	**Westport, CT**	**0.39**	**57**	Pg	Pg	00 09 25.8	-0.3
WSPT				Sg	Sg	00 09 30.8	-0.4
WSPT				IAML		00 09 31.1	
	40nm,0.3s						
WSPT				IAML		00 09 34.0	
	29nm,0.4s						
BRNJ	**Basking Ridge**	**0.67**

comp=N,30nm,2.7s
DR12 Loma Pena Alta 2.12 262 Pn **Pn 00 15 42.8 +0.4**
HATOM Hato Mayor del 2.12 262⇑ *e*Pg **Pb 00 15 44.3 -1.5**
HATOM ⇑ *e*Sg **Sb 00 16 12.3 +0.5**
HATOM IAML 00 16 20.2
comp=N,7.8nm,0.3s

VAO ***29*** *00:50:03.6±1.3,23.°29S×68.°64W,h109km±7km,mb5.1*
IDC ***29*** *00:50:10.0±2.2,23.°15S×67.°84W,h105km±19km,mb4.4/16, mbtmp4.7/20,MS3.1/3,Error ellipse: s-maj=17.1km s-min=11.2km az=89.0*
SJA ***29*** *00:50:10.9±0.7,23.°24S×67.°78W,h130km±7km,ML4.7, MW4.5*
NEIC ***29*** *00:50:12.5,23.°32S×68.°03W,h160km,Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 10^16^Nm; M_{rr}-0.27; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$0.76; $M_{r\theta}$0.52; $M_{\phi\theta}$0.16; $M_{\phi r}$-0.70; Fault plane solution: $M_0$1.11000×10^16^ NP1: ϕ_s226.46000°,δ35.71000°,λ-14.89000°. NP2: ϕ_s328.65000°,δ81.37000°,λ-124.78000°. Principal axes: T 1.1186, Plg28.0000°, Azm86.0000°; N -0.0197, Plg34.0000°, Azm335.0000°; P -1.0989, Plg43.0000°, Azm205.0000°;*
NEIC ***29*** *00:50:12.5,23.°22S×67.°81W,h160km*
NEIC ***29*** *00:50:12.6±2.0,23.°23S±0.°05×67.°82W±0.°07,h133km±1km, mb4.5/100,Mww4.6/12,Mwr4.7(GUC),Error ellipse: s-maj=9.8km s-min=6.6km az=80.0*
GUC ***29*** *00:50:13.7±0.8,23.°18S×68.°05W,h160km±4km,ML4.8*
ISC 29 00:50:12.5±0.4,23.°27S±0.°03×67.°91W±0.°03,h141km±4km, n280,σ1°64/297,mb4.5/57,5C-9D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.40**	**322**		**Pn**	**00 50 34.9**	**+2.2**
AF01	**San Pedro de A**	**0.40**	**322**	*e*P	**Pn**	**00 50 34.8**	**+2.2**
AF01				*e*S	**Sn**	**00 50 50.9**	**+2.9**
AF01				IAML		00 50 52.6	
comp=E,47μm,0.9s							
AF01	**San Pedro de A**	**0.40**	**322**	*e*P	Pn	00 50 30.4	-2.3
AF01				IAML		00 51 12.8	
comp=Z,12μm,0.5s							
PB06	**IPOC Station P**	**1.63**	**290**		**Pn**	**00 50 44.6**	**+1.7**
PB06				Sn	**Sn**	**00 51 07.1**	**+0.9**
PB06	**IPOC Station P**	**1.63**	**290⇑**	*e*P	**Pn**	**00 50 44.4**	**+1.5**
PB06				*i* S	**Sn**	**00 51 06.8**	**+0.6**
PB06				IAML		00 51 09.9	
comp=N,15μm,0.6s							
PB06	**IPOC Station P**	**1.63**	**290**	*e*P	**Pn**	**00 50 44.2**	**+1.3**
PB06				*e*S	**Sn**	**00 51 08.0**	**+1.8**
PB06				IAML		00 51 14.8	
comp=Z,7μm,0.5s							
SALTA		**1.73**	**124⇓**	*e*P	**Pn**	**00 50 47.9**	**+3.5**
SALTA		**1.73**	**124**	*e*P	Pn	00 50 42.4	-2.0
SALTA				*e*P		00 50 42.8	
PB09	**IPOC Station P**	**1.91**	**320**		**Pn**	**00 50 47.7**	**+1.5**
PB09				Sn	**Sn**	**00 51 13.5**	**+1.4**
PB09	**IPOC Station P**	**1.91**	**320⇓**	*e*P	**Pn**	**00 50 47.7**	**+1.5**
PB09				*e*S	**Sn**	**00 51 12.0**	**0.0**
PB09				IAML		00 51 15.0	
comp=E,6μm,0.5s							
PB09	**IPOC Station P**	**1.91**	**320**	*e*P	Pn	00 50 42.3	-3.9
PB09				IAML		00 51 14.3	
comp=Z,6μm,0.7s							
PB03	**IPOC Station P**	**2.09**	**305**		**Pn**	**00 50 49.3**	**+1.1**
PB03				Sn	**Sn**	**00 51 15.3**	**-0.5**
PB03	**IPOC Station P**	**2.09**	**305**	*e*P	**Pn**	**00 50 49.1**	**+0.8**
PB03				*i* S	**Sn**	**00 51 15.7**	**-0.1**
PB03				IAML		00 51 18.8	
comp=E,5μm,0.1s							
PB03	**IPOC Station P**	**2.09**	**305**	*e*P	**Pn**	**00 50 48.5**	**+0.2**
PB03				*e*S	**Sn**	**00 51 16.0**	**+0.3**
PB03				IAML		00 51 16.8	
comp=Z,6μm,0.9s							
HJA	**Humahuaca**	**2.30**	**89**	*e*P	Pn	00 50 48.9	-2.2
GO02	**Mina Guanaco**	**2.43**	**219**		**Pn**	**00 50 54.8**	**+2.2**
GO02				Sn	**Sn**	**00 51 25.6**	**+2.2**
GO02	**Mina Guanaco**	**2.43**	**219⇑**	*e*P	**Pn**	**00 50 54.7**	**+2.1**
GO02	**Mina Guanaco**	**2.43**	**219**	*e*P	**Pn**	**00 50 54.7**	**+2.1**
GO02				*e*S	**Sn**	**00 51 20.5**	**-3.0**
GO02				IAML		00 51 26.7	
comp=Z,9μm,0.3s							
PB10	**IPOC Station P**	**2.44**	**264**		**Pn**	**00 50 53.7**	**+1.3**
PB10				Sn	**Sn**	**00 51 23.9**	**+0.9**
PB10	**IPOC Station P**	**2.44**	**264**	*e*P	**Pn**	**00 50 53.4**	**+1.0**
PB10				*i* S	**Sn**	**00 51 22.8**	**-0.3**
PB10				IAML		00 51 34.4	
comp=N,2μm,0.5s							
PB10	**IPOC Station P**	**2.44**	**264**	*e*P	**Pn**	**00 50 52.8**	**+0.4**
PB10				*e*S	**Sn**	**00 51 24.0**	**+0.9**
PB10				IAML		00 51 29.4	
comp=Z,2μm,0.7s							
YJA	**Yavi**	**2.47**	**64**	*e*P	**Pn**	**00 50 56.2**	**+3.1**
YJA	**Yavi**	**2.47**	**64**	*e*P	Pn	00 50 51.1	-2.1
YJA				*e*S	**Sn**	**00 51 22.9**	**-1.5**
SLA	**San Lorenzo**	**2.64**	**124⇑**	*e*P	**Pn**	**00 50 59.2**	**+4.2**
SLA	**San Lorenzo**	**2.64**	**124**	*e*P	Pn	00 51 00.1	+5.0
PB14	**IPOC Station P**	**2.65**	**239**		**Pn**	**00 50 56.7**	**+1.4**
PB14				Sn	**Sn**	**00 51 28.9**	**+0.6**
PB14	**IPOC Station P**	**2.65**	**239⇑**	*e*P	**Pn**	**00 50 56.5**	**+1.2**
PB14				IAML		00 51 34.5	
comp=E,2μm,0.3s							
PB14	**IPOC Station P**	**2.65**	**239**	*e*P	**Pn**	**00 50 55.9**	**+0.5**
PB14				*e*S	**Sn**	**00 51 23.7**	**-4.6**
PB14				IAML		00 51 29.4	
comp=Z,3μm,0.6s							
PB01	**IPOC Station P**	**2.65**	**326**		**Pn**	**00 50 55.3**	**+0.1**
PB01				Sn	**Sn**	**00 51 28.8**	**+0.8**
PB01	**IPOC Station P**	**2.65**	**326⇓**	*e*P	**Pn**	**00 50 55.4**	**+0.3**
PB01				*i* S	**Sn**	**00 51 27.1**	**-0.9**
PB01				IAML		00 51 30.3	
comp=E,3μm,0.4s							
PB01	**IPOC Station P**	**2.65**	**326**	*e*P	**Pn**	**00 50 54.9**	**-0.3**
PB01				IAML		00 51 29.8	
comp=Z,2μm,0.4s							
PB02	**IPOC Station P**	**2.67**	**316**		**Pn**	**00 50 55.1**	**-0.3**
PB02				Sn	**Sn**	**00 51 27.7**	**-0.8**
PB02	**IPOC Station P**	**2.67**	**316⇑**	*e*P	**Pn**	**00 50 55.7**	**+0.3**
PB02				IAML		00 51 33.5	
comp=E,7μm,0.6s							
PB02	**IPOC Station P**	**2.67**	**316**	*e*P	**Pn**	**00 50 55.2**	**-0.2**
PB02				IAML		00 51 32.3	
comp=Z,4μm,0.4s							
AZAP	**Zapla**	**2.78**	**111**	*e*P	**Pn**	**00 50 59.4**	**+2.5**
PATCX	**Punta Patache**	**3.20**	**319**		**Pn**	**00 51 02.0**	**-0.1**
PATCX				Sn	**Sn**	**00 51 37.4**	**-3.2**
PX03	**IPOC Station P**	**3.27**	**330**	*e*P	**Pn**	**00 51 03.4**	**+0.4**
PX03				*i* S	**Sn**	**00 51 41.0**	**-1.1**
PB08	**IPOC Station P**	**3.32**	**339**		**Pn**	**00 51 05.2**	**+1.2**
PB08				Sn	**Sn**	**00 51 43.8**	**+0.1**
PB08	**IPOC Station P**	**3.32**	**339**	*e*P	**Pn**	**00 51 04.8**	**+0.8**
PB08				*i* S	**Sn**	**00 51 43.5**	**-0.3**
PB08				IAML		00 51 46.2	
comp=E,2μm,0.6s							
PB08	**IPOC Station P**	**3.32**	**339**	*e*P	**Pn**	**00 51 01.9**	**-2.1**
PB08				*e*S	**Sn**	**00 51 39.6**	**-4.1**
PB08				IAML		00 51 45.8	
comp=Z,1μm,0.5s							
FSA	**Cafayete**	**3.33**	**149**	*e*P	Pn	00 51 02.0	-1.9
FSA				*e*S	Sn	00 51 26.3	-17
TA01	**Diego Aracena**	**3.41**	**322**		**Pn**	**00 51 04.9**	**+0.1**
TA01	**Diego Aracena**	**3.41**	**322**	*e*P	**Pn**	**00 51 04.0**	**-0.8**
TA01				*i* S	**Sn**	**00 51 43.6**	**-1.8**
TA01	**Diego Aracena**	**3.41**	**322**	*e*P	**Pn**	**00 51 04.4**	**-0.5**
TA01				*e*S	Sn	00 51 35.2	-10
TA01				IAML		00 51 45.2	
comp=Z,1μm,0.7s							
TA02	**Huaiquique**	**3.62**	**325**	*e*P	**Pn**	**00 51 06.5**	**-1.0**
TA02				*i* S	**Sn**	**00 51 48.4**	**-1.9**
TA02	**Huaiquique**	**3.62**	**325**	*e*P	Pn	00 51 02.2	-5.3
TA02				*e*S	**Sn**	**00 51 49.3**	**-1.0**
TA02				IAML		00 51 52.0	
comp=Z,932nm,0.9s							
AC02	**Maricunga**	**3.72**	**197**		**Pn**	**00 51 11.0**	**+1.7**
AC02	**Maricunga**	**3.72**	**197**	*e*P	**Pn**	**00 51 11.4**	**+2.2**
AC02				*e*S	**Sn**	**00 51 51.0**	**-2.2**
AC02				IAML		00 52 00.9	
comp=Z,628nm,0.3s							
AC01	**Pan de Azucar**	**3.77**	**220**		**Pn**	**00 51 09.9**	**+0.5**
AC01	**Pan de Azucar**	**3.77**	**220**	*e*P	**Pn**	**00 51 09.9**	**+0.5**
AC01				*e*S	**Sn**	**00 51 49.4**	**-4.2**
AC01				IAML		00 51 56.4	
comp=Z,1μm,0.3s							
GO01	**Chusmiza**	**3.77**	**341**		**Pn**	**00 51 10.3**	**+0.3**
GO01	**Chusmiza**	**3.77**	**341**	*e*P	**Pn**	**00 51 10.2**	**+0.2**
GO01				*i* S	**Sn**	**00 51 53.9**	**-0.7**
PB11	**IPOC Station P**	**3.85**	**335**		**Pn**	**00 51 09.9**	**-0.8**
PB11				Sn	**Sn**	**00 51 54.1**	**-1.7**
PB11	**IPOC Station P**	**3.85**	**335**	*e*P	**Pn**	**00 51 09.7**	**-1.0**
PB11				*i* S	**Sn**	**00 51 49.4**	**-6.4**
PB11	**IPOC Station P**	**3.85**	**335**	*e*P	Pn	00 51 07.6	-3.1
PB11				*e*S	Sn	00 51 43.5	-12
PB11				IAML		00 51 58.2	
comp=Z,1μm,1.1s							
AC06	**Mina Casimiro**	**4.63**	**208**		**Pn**	**00 51 20.4**	**-0.4**
GO03	**Copiapo**	**4.79**	**205**		**Pn**	**00 51 22.9**	**-0.1**
GO03				Sn	**Sn**	**00 52 17.2**	**-0.8**
GO03	**Copiapo**	**4.79**	**205**	*e*P	**Pn**	**00 51 22.8**	**-0.2**
GO03				*e*S	**Sn**	**00 52 17.4**	**-0.6**
GO03				IAML		00 52 19.1	
comp=Z,959nm,0.5s							
PB16	**IPOC Station P**	**5.13**	**343**		**Pn**	**00 51 25.9**	**-2.1**
PB16	**IPOC Station P**	**5.13**	**343**	*e*P	**Pn**	**00 51 27.9**	**-0.1**
PB16				*e*S	Sn	00 52 09.3	-17
PB16				IAML		00 52 54.9	
comp=Z,188nm,1.4s							
PB12	**IPOC Station P**	**5.15**	**334**		**Pn**	**00 51 25.9**	**-2.0**
PB12	**IPOC Station P**	**5.15**	**334**	*e*P	**Pn**	**00 51 25.4**	**-2.4**
PB12				IAML		00 52 41.8	
comp=Z,290nm,0.5s							
AP01	**Chacalluta**	**5.38**	**335**	Pn	**Pn**	**00 51 29.2**	**-1.5**
AC04	**Llanos de Chal**	**5.68**	**209**		**Pn**	**00 51 33.0**	**-1.9**
PB18	**Visviri**	**5.84**	**345**		**Pn**	**00 51 35.2**	**-2.3**
LCO	**Las Campanas**	**6.24**	**203**		**Pn**	**00 51 41.2**	**-1.4**
LPAZ	**La Paz**	**6.95**	**358**		**Pn**	**00 51 50.7**	**-1.7**
LPAZ	**La Paz**	**6.95**	**358**	P	**Pn**	**00 51 53.3**	**+0.9**
comp=Z,27nm,0.4s,baz=147,slow=7.1,SNR=92							
LPAZ				S	Sn	00 53 01.9	-8.6
comp=Z,19nm,0.8s,baz=223,slow=9.5,SNR=3.7							
LPAZ				LR	LR	00 55 09.5	
comp=Z,116nm,20.0s,baz=168,slow=44							
LPAZ	**La Paz**	**6.95**	**358**	*e*P	Pn	00 51 42.0	-10
LPAZ				*e*S	Sn	00 53 01.9	-8.6
CO01	**Juntas del Tor**	**6.96**	**196**		**Pn**	**00 51 52.1**	**0.0**
CO05	**La Serena**	**7.26**	**203**	Pn	**Pn**	**00 51 54.4**	**-1.6**
GO04	**Tololo Observa**	**7.34**	**200**		**Pn**	**00 51 55.7**	**-1.6**
CO03	**El Pedregal**	**7.94**	**198**		**Pn**	**00 52 03.3**	**-1.8**
CO06	**Fray Jorge**	**8.09**	**203**		Pn	00 52 03.8	-3.2
ZON	**Zonda**	**8.28**	**185**		**Pn**	**00 52 08.7**	**-0.9**
CFA	**Coronel Fontan**	**8.31**	**182**	P	**Pn**	**00 52 09.7**	**-0.3**
comp=Z,11nm,0.4s,baz=18,slow=17,SNR=63							
CFA				S	**Sn**	**00 53 37.4**	**-5.1**
comp=Z,19nm,0.4s,baz=244,slow=21,SNR=12							
CO02	**Combarbal**	**8.37**	**198**		Pn	00 52 08.3	-2.5
MURT	**Porto Murtinho**	**9.66**	**82**	*e*P	**Pn**	**00 52 27.0**	**-1.2**
SIV	**San Ignacio**	**9.69**	**43**	P	**Pn**	**00 52 25.9**	**-2.7**
comp=Z,67nm,0.5s,baz=221,slow=9.0,SNR=317							
SIV				S	Sn	00 54 01.8	-14
comp=Z,36nm,0.5s,baz=297,slow=21,SNR=11							
SIV				LR	LR	00 56 40.6	
comp=Z,138nm,19.4s,baz=284,slow=41							
VA06	**Catapilco**	**9.73**	**197**		Pn	00 52 25.5	-3.4
VA03	**San Esteban**	**9.74**	**193**		**Pn**	**00 52 26.9**	**-2.3**
CPUP	**Villa Florida**	**10.09**	**110**		**Pn**	**00 52 33.3**	**-0.5**
CPUP	**Villa Florida**	**10.09**	**110**	P	**Pn**	**00 52 33.1**	**-0.6**
comp=Z,9.0nm,0.8s,baz=149,slow=12,SNR=67							
PEL	**Peldehue**	**10.14**	**193**	Pn	**Pn**	**00 52 32.3**	**-2.1**
VA01	**Torpederas**	**10.26**	**198**	Pn	**Pn**	**00 52 34.4**	**-1.7**
MT08	**Bocatoma Ro**	**10.31**	**190**		Pn	00 52 34.1	-2.8
MT02	**Curacav**	**10.35**	**195**		**Pn**	**00 52 34.6**	**-2.6**
MT16	**CCHEN**	**10.38**	**192**	Pn	**Pn**	**00 52 37.0**	**-0.6**
MT05	**Renca**	**10.39**	**193**	Pn	**Pn**	**00 52 35.6**	**-2.2**
MT03	**Universidad Ad**	**10.44**	**192**		**Pn**	**00 52 37.0**	**-1.5**
LMEL	**Las Melosas**	**10.73**	**190**		**Pn**	**00 52 40.6**	**-1.8**
BDQN	**Bodoquena, MS**	**10.74**	**77**	*e*P	**Pn**	**00 52 41.0**	**-1.5**
MT09	**Talagante**	**10.81**	**194**		**Pn**	**00 52 40.9**	**-2.6**
BO04	**La Punta**	**10.94**	**192**		**Pn**	**00 52 42.6**	**-2.5**
MT01	**Popeta**	**10.96**	**195**		Pn	00 52 41.7	-3.5
PTLB	**Pontes e Lacer**	**11.36**	**48**		**Pn**	**00 52 48.1**	**-2.5**
PTLB	**Pontes e Lacer**	**11.36**	**48**	*e*P	**Pn**	**00 52 48.0**	**-2.7**
BO01	**Tunca**	**11.43**	**193**		Pn	00 52 47.7	-3.7
AQDB	**Aquidauana**	**11.68**	**79**		**Pn**	**00 52 53.7**	**-1.2**
BO02	**Sierra Bellavi**	**11.75**	**192**		**Pn**	**00 52 53.6**	**-2.2**
AMBA	**Amambai (Brazi**	**11.90**	**91**	*e*P	**Pn**	**00 52 56.4**	**-1.4**
VILB	**Vilhena**	**12.60**	**37**		**Pn**	**00 53 05.3**	**-1.7**
VILB	**Vilhena**	**12.60**	**37**	*e*P	**Pn**	**00 53 03.7**	**-3.3**
ML02	**Panimavida**	**12.82**	**193**		**Pn**	**00 53 08.7**	**-0.9**
PP1B	**Ponte de Pedra**	**13.45**	**68**	*e*P	**Pn**	**00 53 16.5**	**-1.4**
SALV	**Santo Antonio**	**13.64**	**60**	*e*P	**Pn**	**00 53 19.3**	**-1.0**
BI02	**San Fabin de**	**13.66**	**192**	P	**Pn**	**00 53 20.7**	**+0.3**
H03N1	**Juan Fernandez**	**14.01**	**221**	P	**Pn**	**00 53 25.7**	**+1.2**
baz=112,slow=14,SNR=14							
H03N2	**Juan Fernandez**	**14.02**	**221**	P	**Pn**	**00 53 25.3**	**+0.7**
baz=112,slow=14,SNR=11							
H03N3	**Juan Fernandez**	**14.02**	**221**	P	**Pn**	**00 53 26.2**	**+1.5**
baz=112,slow=14,SNR=18							
VA04	**Juan Fernndez**	**14.10**	**220**	P	**Pn**	**00 53 25.3**	**-0.6**
BI05	**Punta Hualpn**	**14.19**	**198**	P	**Pn**	**00 53 27.9**	**+0.9**
H03S3	**Juan Fernandez**	**14.27**	**220**	P	**Pn**	**00 53 28.8**	**+0.9**
baz=222,slow=26,SNR=19							
H03S1	**Juan Fernandez**	**14.28**	**220**	P	**Pn**	**00 53 28.9**	**+0.9**
baz=222,slow=26,SNR=13							
H03S2	**Juan Fernandez**	**14.29**	**220**	P	**Pn**	**00 53 28.8**	**+0.8**
baz=222,slow=26,SNR=16							
PTGB	**Pitanga**	**14.56**	**99**	*e*P	**Pn**	**00 53 32.4**	**+0.5**
CPSB	**Cacapava Do Su**	**14.74**	**122**	*e*P	**Pn**	**00 53 32.6**	**-1.4**
C2SB	**Chapadao do Su**	**14.77**	**75**	*e*P	**Pn**	**00 53 34.2**	**-0.3**
ITAB	**Concordia**	**14.81**	**109**		**Pn**	**00 53 35.9**	**+0.9**
ITAB	**Concordia**	**14.81**	**109**	*e*P	**Pn**	**00 53 34.3**	**-0.7**
PLTB	**Pedras Altas**	**15.25**	**127**	Pn	**Pn**	**00 53 38.9**	**-1.5**
TRQA	**Tornquist**	**15.59**	**162**		**Pn**	**00 53 43.9**	**-0.7**
PDRB	**Porto dos Gac**	**15.74**	**44**	*e*P	**Pn**	**00 53 44.7**	**-1.9**
CNLB	**Canela**	**16.44**	**115**	*e*P	**P**	**00 53 53.0**	**-2.3**
ITRB	**Iturama**	**16.72**	**81**	*e*P	**P**	**00 53 58.7**	**+0.3**
FRTB	**Fartura**	**16.86**	**94**	*e*P	**P**	**00 54 00.1**	**+0.1**
CLDB	**Colider**	**16.90**	**45**	*e*P	**P**	**00 53 59.1**	**-1.3**
LR04	**Corral**	**17.21**	**194**		**P**	**00 54 02.7**	**-0.9**
LR05	**Currie**	**17.26**	**191**	P	**Pn**	**00 54 05.6**	**+0.7**
PLCA	**Paso Flores**	**17.56**	**187**	P	**P**	**00 54 08.8**	**+1.3**
PLCA				IAmb	IAmb	00 54 11.1	
comp=Z,20nm,0.8s							
PLCA	**Paso Flores**	**17.56**	**187**	P	**Pn**	**00 54 09.3**	**+0.9**
comp=Z,19nm,0.7s,baz=2.1,slow=12,SNR=45							
PLCA				PcP	**PcP**	**00 58 41.6**	**+1.5**
comp=Z,2.8nm,0.6s,baz=305,slow=1.0,SNR=6.8							
BB19B	**Bebedouro**	**18.09**	**87**	*e*P	**P**	**00 54 14.2**	**+0.7**
LL03	**Petrohue**	**18.21**	**191**	P	**P**	**00 54 14.3**	**-0.3**
LL05	**Los Muermos**	**18.68**	**193**		**P**	**00 54 21.1**	**+1.5**
SPB	**Sao Paulo**	**18.80**	**95**	P	**P**	**00 54 20.8**	**-0.3**
SPB	**Sao Paulo**	**18.80**	**95**	*e*P	**P**	**00 54 21.6**	**+0.5**
RCLB	**Rio Claro- Sao**	**18.81**	**91**	*e*P	**P**	**00 54 21.6**	**+0.3**
PET01	**Itanhaem-SP**	**18.92**	**97**	*e*P	**P**	**00 54 22.8**	**+0.4**
IPMB	**Ipameri, GO**	**19.17**	**78**	*e*P	**P**	**00 54 24.5**	**-0.7**
VAO	**Valinhos**	**19.27**	**93**	P	**P**	**00 54 26.0**	**-0.3**
VAO	**Valinhos**	**19.27**	**93**	*e*P	**P**	**00 54 26.0**	**-0.3**
SNDB	**Serra Nova Dou**	**19.39**	**57**	*e*P	**P**	**00 54 26.4**	**-1.2**
LL01	**San Ignacio de**	**19.42**	**190**	P	**Pn**	**00 54 30.3**	**-0.1**
LL02	**Futaleuf**	**20.14**	**188**	P	**P**	**00 54 37.0**	**+1.6**
LL02				IAmb	IAmb	00 54 39.9	
comp=Z,33nm,0.8s							
NPGB	**Novo Progresso**	**20.15**	**39**	*e*P	**P**	**00 54 33.5**	**-2.3**
BDFB	**Brasilia**	**20.23**	**72**	P	**P**	**00 54 36.6**	**-0.1**
BDFB	**Brasilia**	**20.23**	**72**	P	**P**	**00 54 36.1**	**-0.6**
comp=Z,69nm,0.6s,baz=237,slow=10.0,SNR=88							
comp=Z,69nm,0.6s							
GO07	**Milladeo Hill,**	**20.36**	**192**	P	**P**	**00 54 39.2**	**+1.5**
PARB	**Paraibuna**	**20.48**	**95**	*e*P	**P**	**00 54 38.9**	**-0.4**
MACA	**Manacapuru-AM**	**21.18**	**20**	P	**P**	**00 54 45.7**	**-1.1**
MACA	**Manacapuru-AM**	**21.18**	**20**	*e*P	**P**	**00 54 41.7**	**-5.0**
BSCB	**Bom Sucesso**	**21.55**	**88**	*e*P	**P**	**00 54 50.2**	**-0.6**
ITTB	**Itaituba**	**22.17**	**34**	*e*P	**P**	**00 54 55.1**	**-2.1**
COYC	**Coyhaique**	**22.51**	**188**	P	**P**	**00 55 01.8**	**+1.6**
COYC				IAmb	IAmb	00 55 03.0	
comp=Z,35nm,1.0s							
DIAM	**Diamantina, MG**	**23.19**	**82**	*e*P	**P**	**00 55 06.1**	**-1.0**
SMTB	**Santa Maria do**	**24.17**	**57**	*e*P	**P**	**00 55 16.0**	**+0.1**
PRPB	**Parauapebas**	**24.34**	**49**	*e*P	**P**	**00 55 16.8**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.38**	**68**	*e*P	**P**	**00 55 16.0**	**-1.9**
MAL2	**Monte Alegre,**	**24.97**	**34**	P	**P**	**00 55 22.6**	**-0.4**
SJMB	**Sao Joao De Ma**	**25.35**	**85**	*e*P	**P**	**00 55 24.0**	**-2.5**
RIB01	**Linhares ES**	**25.92**	**87**	*e*P	**P**	**00 55 30.6**	**-1.1**
BOAV	**Boa Vista**	**26.50**	**17**	P	**P**	**00 55 37.6**	**+0.7**
BOAV				IAmb	IAmb	00 55 38.6	
comp=Z,13nm,0.7s							
BOAV	**Boa Vista**	**26.50**	**17**	*e*P	**P**	**00 55 32.9**	**-4.0**
GUA01	**Guaratinga, BA**	**27.22**	**81**	*e*P	**P**	**00 55 42.4**	**-0.9**
CMC01	**Camacan, BA**	**27.89**	**79**	*e*P	**P**	**00 55 48.1**	**-1.1**
GO09	**Cerro Castillo**	**28.16**	**186**	P	**P**	**00 55 52.2**	**+0.9**
GO09				IAmb	IAmb	00 56 02.1	
comp=Z,13nm,1.1s							
MG05	**Puerto Natales**	**28.58**	**186**	P	**P**	**00 55 56.2**	**+1.2**
MG05				IAmb	IAmb	00 55 57.5	
comp=Z,9.1nm,0.8s							
ROSC	**El Rosal**	**28.63**	**347**	LR	LR	01 08 43.5	
comp=Z,48nm,19.0s,baz=307,slow=39							
EFI	**East Falkland**	**29.36**	**167**	P	**P**	**00 56 03.0**	**+1.1**
EFI				IAmb	IAmb	00 56 18.3	
comp=Z,19nm,1.0s							
MG02	**Cerro Sombrero**	**29.48**	**182**	P	**P**	**00 56 03.7**	**+0.7**
NBAN	**Anadia - AL**	**33.12**	**71**	*e*P	**P**	**00 56 32.9**	**-2.5**
VNA3	**Neumayer Olymp**	**58.11**	**161**	⇓P	**P**	**00 59 52.6**	**+1.9**
comp=Z,19nm,0.8s							
VNA1	**Neumayer--Stat**	**58.32**	**160**	⇓P	**P**	**00 59 54.6**	**+2.5**
comp=Z,16nm,0.9s							
VNA2	**Neumayer--Watz**	**58.69**	**160**	⇓P	**P**	**00 59 56.7**	**+2.0**
comp=Z,18nm,0.7s,baz=280,slow=7.9							
X48A	**Hartselle**	**60.21**	**342**		**P**	**01 00 06.1**	**+0.6**
V53A	**Saluda**	**60.29**	**346**	P	**P**	**01 00 06.8**	**+0.7**
V53A				IAmb	IAmb	01 00 07.5	
comp=Z,5.7nm,1.0s							
SNAA	**Sanae**	**60.32**	**161**	⇓P	**P**	**01 00 07.7**	**+1.7**
comp=Z,386nm,0.7s							
SNAA	**Sanae**	**60.32**	**161**		**P**	**01 00 07.7**	**+1.7**
SNAA	**Sanae**	**60.32**	**161**	P	**P**	**01 00 07.8**	**+1.9**
comp=Z,16nm,0.7s,baz=282,slow=7.3,SNR=165							
comp=Z,16nm,0.7s							
W50A	**Signal Mountai**	**60.44**	**344**		**P**	**01 00 07.5**	**+0.3**
W50A				IAmb	IAmb	01 00 08.4	
comp=Z,8.5nm,0.7s							
CPCT	**Cooper Cave**	**60.48**	**344**	P	**P**	**01 00 07.6**	**+0.2**
CPCT				IAmb	IAmb	01 00 08.7	
comp=Z,5.2nm,0.9s							
TKL	**Tuckaleechee C**	**60.50**	**345**	P	**P**	**01 00 06.9**	**-0.6**
TKL				IAmb	IAmb	01 00 08.9	
comp=Z,4.7nm,0.8s							
TKL	**Tuckaleechee C**	**60.50**	**345**	P	**P**	**01 00 07.7**	**+0.2**
comp=Z,4.7nm,0.8s,baz=169,slow=6.8,SNR=9.7							
comp=Z,4.7nm,0.8s							
SWET	**Sewanee**	**60.62**	**343**	P	**P**	**01 00 08.6**	**+0.3**
V48A	**Smith Brothers**	**61.36**	**343**	P	**P**	**01 00 13.8**	**+0.5**
V48A				IAmb	IAmb	01 00 14.3	
comp=Z,6.6nm,0.6s							
WLAR	**White Oak Lake**	**61.51**	**336**		**P**	**01 00 15.6**	**+1.2**
CLTN	**Cedars of Leba**	**61.55**	**343**	P	**P**	**01 00 14.9**	**+0.3**
CLTN				IAmb	IAmb	01 00 15.7	
comp=Z,3.4nm,0.7s							
U49A	**Red Boiling Sp**	**61.81**	**344**	P	**P**	**01 00 16.4**	**+0.1**
U49A				IAmb	IAmb	01 00 19.0	
comp=Z,3.4nm,1.0s							
BRDY	**Brady**	**61.88**	**330**	P	**P**	**01 00 17.6**	**+0.7**
BRDY				IAmb	IAmb	01 00 18.3	
comp=Z,3.2nm,0.6s		

PASC				IAmb	IAmb	01 01 46.9	
	comp=Z,5.6nm,0.8s						
SYO	**Syowa Base**	**74.53 159**	⇓i*P*		**P**	**01 01 37.0 +1.8**	
GWY	**Greenwater Val**	**74.95 321**			**P**	**01 01 39.0 +0.7**	
BSUT	**Blindstream Ca**	**74.95 328**			**P**	**01 01 39.1 +0.6**	
WSHM	**Spangler Hills**	**75.03 320**	P		**P**	**01 01 40.1 +1.5**	
VNDA	**Vanda**	**75.28 190**			**P**	**01 01 42.8 +3.4**	
VNDA	**Vanda**	**75.28 190**	P		**P**	**01 01 42.5 +3.1**	
	comp=Z,3.5nm,0.8s,baz=317,slow=3.1,SNR=20						
	comp=Z,3.5nm,0.8s						
SPR3	**Spring Creek 3**	**75.65 324**	P		**P**	**01 01 41.8 -0.6**	
DUG	**Dugway, Tooele**	**75.73 326**	P		**P**	**01 01 45.1 +2.4**	
R11B	**Troy Canyon, C**	**75.86 323**			**P**	**01 01 45.5 +2.0**	
GMN	**Gold Mountain**	**76.07 321**	P		**P**	**01 01 46.9 +2.1**	
BW06	**Boulder Array**	**76.09 330**	P		**P**	**01 01 45.7 +1.0**	
PDAR	**Pinedale Array**	**76.09 330**	P		**P**	**01 01 46.0 +1.3**	
PDAR	**Pinedale Array**	**76.09 330**	P		**P**	**01 01 46.3 +1.5**	
	comp=Z,0.5nm,0.6s,baz=136,slow=7.3,SNR=6.9						
	comp=Z,0.5nm,0.6s						
HWUT	**Hardware Ranch**	**76.16 328**			**P**	**01 01 46.2 +1.1**	
SUR	**Sutherland**	**76.90 120**	P		**P**	**01 01 51.8 +2.1**	
SUR				IAmb	IAmb	01 01 57.0	
	comp=Z,5.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.09 70**	P		**P**	**01 01 51.1 +0.4**	
TORD				IAmb	IAmb	01 01 52.6	
	comp=Z,12nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.09 70**	P		**P**	**01 01 51.3 +0.7**	
	comp=Z,16nm,0.7s,baz=258,slow=3.8,SNR=37						
	comp=Z,16nm,0.7s						
LOHW	**Long Hollow**	**77.23 330**	P		**P**	**01 01 52.7 +1.6**	
ULM	**Lac du Bonnet**	**77.27 342**	P		**P**	**01 01 51.6 +0.7**	
	comp=Z,4.2nm,0.5s,baz=138,slow=9.0,SNR=3.0						
	comp=Z,4.2nm,0.5s						
NVAR	**Mina Array Bea**	**77.44 322**	P		**P**	**01 01 53.7 +1.3**	
	comp=Z,0.5nm,0.6s,baz=134,slow=6.4,SNR=5.2						
	comp=Z,0.5nm,0.6s						
PLID	**Pearl Lake**	**80.91 328**			**P**	**01 02 12.1 +0.9**	
PLID				IAmb	IAmb	01 02 14.3	
	comp=Z,4.9nm,0.8s						
BOSA	**Boshof**	**81.81 118**	IAmb		IAmb	01 02 27.2	
	comp=Z,4.3nm,0.8s						
BOSA	**Boshof**	**81.81 118**	P		**P**	**01 02 17.4 +1.1**	
	comp=Z,6.4nm,0.8s,baz=273,slow=3.0,SNR=10.0						
	comp=Z,6.4nm,0.8s						
MAW	**Mawson**	**82.38 163**	P		**P**	**01 02 20.1 +1.8**	
	comp=Z,8.9nm,0.6s,baz=206,slow=5.9,SNR=26						
	comp=Z,8.9nm,0.6s						
TAM	**Tamanrasset**	**84.80 63**			**P**	**01 02 30.4 -1.2**	
ESDC	**Sonseca Array**	**86.45 44**	P		**P**	**01 02 40.4 +1.1**	
	comp=Z,0.8nm,0.9s,baz=231,slow=4.6,SNR=5.0						
	comp=Z,0.8nm,0.9s						
CASY	**Casey**	**90.73 179**			**P**	**01 03 01.8 +2.8**	
YKA	**Yellowknife Ar**	**93.15 340**	P		**P**	**01 03 11.5 +1.5**	
	comp=Z,1.7nm,0.8s,baz=140,slow=4.1,SNR=5.7						
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**128.76 206**	PKP		**PKiKP**	**01 09 05.1 +0.6**	
	comp=Z,4.6nm,0.8s,baz=149,slow=2.2,SNR=33						
WRA	**Warramunga Arr**	**131.88 209**	PKP		**PKiKP**	**01 09 11.2 +0.3**	
	comp=Z,3.8nm,0.8s,baz=164,slow=1.5,SNR=31						
PETK	**Petropavlovsk-**	**134.52 323**	PKP		**PKiKP**	**01 09 14.6 -0.5**	
	comp=Z,0.9nm,0.6s,baz=37,slow=5.8,SNR=1.6						
BVAR	**Borovoye Array**	**136.70 36**	PKP		**PKiKP**	**01 09 19.6 +0.1**	
	comp=Z,0.9nm,0.7s,baz=267,slow=2.6,SNR=3.8						
KURK	**Kurchatov**	**142.27 35**			**PKiKP**	**01 09 29.4 -1.6**	
KURBB	**Kurchatov Arra**	**142.27 35**	PKP		**PKiKP**	**01 09 29.4 -1.6**	
	comp=Z,0.7nm,0.6s,baz=304,slow=2.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**143.13 27**	PKP		**PKiKP**	**01 09 30.6 -2.0**	
	comp=Z,1.7nm,0.4s,baz=299,slow=1.5,SNR=5.2						
KSH	**Kashi**	**145.45 53**	PKPbc		**PKPab**	**01 09 35.3 +0.6**	
MKAR	**Makanchi Array**	**146.48 38**	PKPbc		**PKPab**	**01 09 37.2 -1.1**	
	comp=Z,2.5nm,0.7s,baz=339,slow=1.3,SNR=14						
HEH	**HeiHe**	**150.52 340**	*eP*		**PKiKP**	**01 09 48.0 +0.1**	
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HILR	**Hailar Array B**	**153.08 349**	PKPbc		**PKiKP**	**01 09 55.4 +2.0**	
	comp=Z,0.9nm,0.4s,baz=132,slow=2.1,SNR=2.1						
SONM	**Songino Array**	**155.07 9**	PKP		**PKPdf**	**01 09 50.3 +1.6**	
	comp=Z,0.4nm,0.6s,baz=2,slow=2.9,SNR=4.0						
HHC	**Hu-ho-hao-te**	**162.46 1**	*eP*		**PKPdf**	**01 09 54.0 -3.6**	
CMAR	**Chiang Mai Arr**	**166.82 109**	PKP		**PKPdf**	**01 10 05.3 +3.4**	
	comp=Z,1.1nm,0.3s,baz=201,slow=0.5,SNR=4.5						
NJ2	**Nanjing**	**169.39 327**	*eP*		**PKPdf**	**01 09 59.0 -4.3**	
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**170.07 69**	PKP		**PKPdf**	**01 09 59.3 -4.7**	

*NEIC **29** 01:00:37.5±0.8, 40°.85N±0°.05×123°.83W±0°.06, h33km±6km, Error ellipse: s-maj=8.4km s-min=4.2km az=141.0*

NCEDC 29 01:00:38.4±2.1, 40°.85N±0°.03×123°.84W±0°.03, h27km±8km, ML3.2/56, ML3.0/58(NEIC), Error ellipse: s-maj=4.7km s-min=2.8km az=155.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.09**	**72**		**Pb**	01 00 43.3	-0.2
KHMM					**Sb**	01 00 47.5	+0.6
KHMM	**Horse Mountain**	**0.09**	**72**	IAML		01 00 47.7	
	comp=E,16μm,0.5s						
KHMM				IAML		01 00 47.9	
	comp=N,15μm,0.6s						
JCC	**Jacoby Creek,**	**0.15**	**258**		**Pb**	01 00 43.5	-0.3
JCC					**Sb**	01 00 47.6	+0.2
JCC	**Jacoby Creek,**	**0.15**	**258**	IAML		01 00 48.1	
	comp=E,5μm,0.7s						
JCC				IAML		01 00 48.6	
	comp=N,2μm,0.8s						
DMOR	**Dinsmores, CA**	**0.17**	**143**		**Pb**	01 00 44.1	-0.1
DMOR					**Sb**	01 00 48.8	+0.7
KRPM	**Rodgers**	**0.34**	**336**		**Pb**	01 00 46.1	-0.2
KRPM	**Rodgers**	**0.34**	**336**	IAML		01 00 52.9	
	comp=N,2μm,0.8s						
KRPM				IAML		01 00 55.4	
	comp=E,3μm,1.1s						
KMPM	**Mount Pierce**	**0.48**	**207**		**Pb**	01 00 48.1	-0.4
KMPM					**Sb**	01 00 55.6	+0.4
KMPM	**Mount Pierce**	**0.48**	**207**	IAML		01 00 56.0	
	comp=N,5μm,0.6s						
KMPM				IAML		01 00 56.3	
	comp=E,6μm,0.7s						
KHBM	**Hayfork Bally**	**0.51**	**112**		**Pb**	01 00 48.4	-0.6
KHBM					**Sb**	01 00 56.2	+0.1
KHBM	**Hayfork Bally**	**0.51**	**112**	IAML		01 00 56.9	
	comp=N,3μm,0.8s						
KHBM				IAML		01 00 57.3	
	comp=E,3μm,0.5s						
KOMM	**Orleans Mounta**	**0.52**	**34**		**Pb**	01 00 48.6	-0.5
KOMM					**Sb**	01 00 56.4	-0.1
KCTM	**Capetown**	**0.53**	**226**		**Pb**	01 00 48.8	-0.4
KMRM	**Mail Ridge**	**0.63**	**171**		**Pb**	01 00 50.6	-0.4
KMRM	**Mail Ridge**	**0.63**	**171**	IAML		01 01 01.1	
	comp=E,866nm,0.8s						
KMRM				IAML		01 01 02.4	
	comp=N,534nm,0.7s						
WEAV	**Weaverville**	**0.66**	**99**		**Pb**	01 00 50.4	-1.0
PETL	**Petrolia**	**0.68**	**215**		**Pb**	01 00 50.7	-1.0
BRIC	**Briceland Vine**	**0.74**	**183**		**Pb**	01 00 52.0	-0.6
BRIC	**Briceland Vine**	**0.74**	**183**	IAML		01 01 05.3	
	comp=E,1μm,0.7s						
BRIC				IAML		01 01 06.0	
	comp=N,572nm,0.6s						
N02D	**Trinity Center**	**0.87**	**81**		**Pn**	01 00 53.6	-1.3
LBKM	**Bonanza King**	**0.92**	**75**		**Pn**	01 00 54.4	-1.3
M02C	**Callahan**	**0.92**	**54**		**Pn**	01 00 54.3	-1.3
M02C	**Callahan**	**0.92**	**54**	IAML		01 01 09.2	
	comp=N,328nm,1.1s						
M02C				IAML		01 01 11.6	
	comp=E,366nm,0.7s						
KSXB	**Camp Six Broad**	**0.98**	**358**		**Pn**	01 00 55.0	-1.5
KSXB	**Camp Six Broad**	**0.98**	**358**	IAML		01 01 17.6	
	comp=E,222nm,0.7s						
KSXB				IAML		01 01 22.6	
	comp=N,212nm,0.8s						
SIGP	**Signal Peak, C**	**1.04**	**351**		**Pn**	01 00 55.8	-1.4
O02D	**Mt. Diablo Mer**	**1.04**	**130**		**Pn**	01 00 56.2	-1.1
KBNM	**Bluenose Ridge**	**1.07**	**152**		**Pn**	01 00 57.0	-0.8
KCPM	**Cahto Peak**	**1.18**	**170**		**Pn**	01 00 57.9	-1.4
KCPM				IAML		01 01 13.5	
	comp=N,374nm,0.5s						
KCPM				IAML		01 01 15.4	
	comp=E,472nm,0.7s						
YBH	**Yreka Blue Hor**	**1.23**	**44**	IAML		01 01 29.6	
	comp=N,156nm,1.2s						
YBH	**Yreka Blue Hor**	**1.23**	**44**		**Pn**	01 00 58.9	-1.0
LCSM	**College of the**	**1.23**	**62**		**Pn**	01 00 59.5	-0.5
KFPM	**Farley Peak**	**1.25**	**165**		**Pn**	01 00 59.1	-1.0
L02F	**Cave Junction**	**1.29**	**9**		**Pn**	01 00 59.4	-1.3
L02F				IAML		01 01 28.8	
	comp=E,134nm,1.1s						
L02F				IAML		01 01 35.5	
	comp=N,146nm,0.7s						
INGLE	**Inglenook, Smi**	**1.32**	**175**		**Pn**	01 00 59.6	-1.5
LGBM	**Gray Butte**	**1.34**	**68**		**Pn**	01 01 01.6	0.0
M03C	**McCloud**	**1.37**	**71**		**Pn**	01 01 01.6	-0.2
LSHM	**Sage Hen Hill**	**1.37**	**92**		**Pn**	01 01 01.1	-0.6
KBO	**Bosley Butte**	**1.39**	**348**		**Pn**	01 01 01.0	-1.2
KBO	**Bosley Butte**	**1.39**	**348**	IAML		01 01 18.6	
	comp=E,151nm,0.3s						
LMPM	**Military Pass**	**1.42**	**63**		**Pn**	01 01 03.0	+0.5
DCMP	**DeCamp, Califo**	**1.43**	**164**		**Pn**	01 01 01.3	-1.3
LHEM	**Herd Peak**	**1.45**	**57**		**Pn**	01 01 03.1	+0.1
B040	**Montague**	**1.45**	**47**		**Pn**	01 01 02.5	-0.4
GTC	**Three Chop Rid**	**1.46**	**171**		**Pn**	01 01 01.5	-1.6
LBFM	**Black Fox Moun**	**1.56**	**71**		**Pn**	01 01 04.7	+0.2
LDBM	**Digger Butte**	**1.62**	**104**		**Pn**	01 01 04.1	-1.1
O03E	**Paynes Creek**	**1.65**	**109**		**Pn**	01 01 04.7	-1.0
O03E				IAML		01 01 35.5	
	comp=N,158nm,0.7s						
O03E				IAML		01 01 39.6	
	comp=E,196nm,0.9s						
LGMM	**Garner Mountai**	**1.69**	**63**		**Pn**	01 01 06.4	+0.1
M04C	**Macdoel**	**1.77**	**58**		**Pn**	01 01 06.9	-0.5
L04D	**Klamath Falls**	**1.79**	**40**		**Pn**	01 01 07.4	-0.2
L04D				IAML		01 01 45.6	
	comp=N,108nm,1.3s						
L04D				IAML		01 01 46.9	
	comp=E,124nm,0.8s						
HATC	**Hat Creek Radi**	**1.80**	**90**		**Pn**	01 01 07.8	0.0
HATC	**Hat Creek Radi**	**1.80**	**90**	IAML		01 01 41.0	
	comp=E,244nm,0.9s						
HATC				IAML		01 01 45.7	
	comp=N,165nm,1.3s						
LTIM	**Timbered Crate**	**1.81**	**79**		**Pn**	01 01 07.4	-0.4
GHOM	**Hamilton Openi**	**1.82**	**173**		**Pn**	01 01 06.1	-1.9
LRDM	**Redding Peak**	**1.85**	**101**		**Pn**	01 01 07.3	-1.1
K02D	**Willamette Mer**	**1.85**	**4**		**Pn**	01 01 07.6	-0.8
LASM	**Arnica Sink**	**1.86**	**66**		**Pn**	01 01 08.5	-0.3
LBCM	**Butte Creek Ri**	**1.89**	**90**		**Pn**	01 01 08.5	-0.5
BONV	**Boonville, CA**	**1.90**	**168**		**Pn**	01 01 07.5	-1.5
LCMM	**Colby Mountain**	**1.90**	**111**		**Pn**	01 01 08.5	-0.7
HOPS	**Hopland Field**	**1.94**	**162**		**Pn**	01 01 08.9	-0.7
GALB	**Galbreath Wild**	**2.03**	**167**		**Pn**	01 01 09.3	-1.6
BBOR	**Butler Butte**	**2.21**	**23**		**Pn**	01 01 13.5	0.0
J04A	**Umpqua Nationa**	**2.71**	**28**		**Pn**	01 01 20.8	+0.4
BEKR	**Beckworth**	**2.83**	**109**		**Pn**	01 01 21.7	-0.4
BEKR				IAML		01 02 11.1	
	comp=N,26nm,0.9s						
K05A	**Summer Lake**	**2.89**	**49**		**Pn**	01 01 22.5	-0.3
K05A				IAML		01 02 19.7	
	comp=N,39nm,1.1s						
K05A				IAML		01 02 55.9	
	comp=E,81nm,0.9s						
J05D	**Fort Rock, OR**	**3.11**	**38**		**Pn**	01 01 25.9	0.0
J05D				IAML		01 02 20.7	
	comp=N,34nm,3.7s						
WIFE	**Three Sisters-**	**3.54**	**24**	Pn	Pn	01 01 31.2	-0.5
WIFE				IAML		01 03 50.8	
	comp=E,43nm,0.7s						
WIFE				IAML		01 03 52.9	
	comp=N,26nm,0.9s						
PAHR	**Pah Rah Range**	**3.59**	**107**	Pn	Pn	01 01 32.2	-0.2
PINE	**Pine Mountain**	**3.64**	**35**		Pn	01 01 32.7	-0.4
PNTR	**Pine Nut**	**3.70**	**117**	Pn	Pn	01 01 33.7	-0.3
CMB	**Columbia Colle**	**3.88**	**135**	Pn	Pn	01 01 36.3	+0.1
I07A	**Izee**	**4.55**	**43**	Pn	Pn	01 01 45.2	-0.4
LHV	**Little Huntoon**	**4.87**	**120**		Pn	01 01 50.0	+0.1

*NEIC **29** 01:02:43.6±1.7, 44°.66N±0°.03×124°.35W±0°.09, h27km±7km, Error ellipse: s-maj=9.1km s-min=3.7km az=93.0*

SEA 29 01:02:43.7±1.6, 44°.68N±0°.03×124°.33W±0°.08, h28km±7km, ML2.3/7, ML2.5/24(NEIC), Error ellipse: s-maj=8.4km s-min=4.0km az=101.0, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEWO	**Newport DOGAMI**	**0.21**	**105**		**Pb**	01 02 49.6	0.0
NEWO					**Sb**	01 02 54.6	+0.8
MPOR	**Mary's Peak**	**0.58**	**107**		**Pb**	01 02 55.2	-0.2
MPOR					**Sn**	01 03 04.3	-0.6
I02E	**Swisshome, OR**	**0.67**	**149**		**Pb**	01 02 56.5	-0.2
I02E					**Sn**	01 03 06.7	-0.1
I02E	**Swisshome, OR**	**0.67**	**149**	IAML		01 03 08.2	
	comp=N,160nm,0.4s						
COR	**Corvallis**	**0.74**	**97**		**Pn**	01 02 58.2	0.0
COR					**Sn**	01 03 09.7	+1.2
G03D	**McMinnville, O**	**0.92**	**54**		**Pn**	01 03 00.9	0.0
G03D					**Sn**	01 03 14.4	+1.2
G04A	**Mulino**	**1.41**	**67**		**Pn**	01 03 06.6	-1.0
G04A				IAML		01 03 41.6	
	comp=E,91nm,0.7s						
H04A	**Detroit Lake**	**1.53**	**89**		**Pn**	01 03 08.3	-0.8
I04A	**Tendick Farm,**	**1.64**	**122**		**Pn**	01 03 11.0	+0.3
I04A				IAML		01 03 35.6	
	comp=N,34nm,0.6s						
I04A				IAML		01 03 36.6	
	comp=E,39nm,0.5s						
WIFE	**Three Sisters-**	**1.90**	**108**	Pn	Pn	01 03 15.6	+1.1
HOOD	**Mount Hood Mea**	**2.00**	**70**		Pn	01 03 16.4	+0.6
HOOD				IAML		01 03 51.8	
	comp=N,41nm,1.1s						
HOOD				IAML		01 03 54.8	
	comp=E,42nm,1.1s						
G05A	**Wamic**	**2.21**	**74**	Pn	Pn	01 03 19.1	+0.5
G05A				IAML		01 04 01.5	
	comp=N,34nm,0.9s						
G05A				IAML		01 04 03.3	
	comp=E,31nm,1.1s						
LON	**Longmire**	**2.72**	**39**	Pn	Pn	01 03 25.9	+0.3
G08A	**Pilot Rock**	**3.86**	**79**	Pn	Pn	01 03 41.9	+0.6

*MOS **29** 01:04:40.9±1.0, 6°.71N×124°.98E, h11km, mb6.4/71, MS6.4/57, Error ellipse: s-maj=7.1km s-min=3.8km az=115.4*

*IDC **29** 01:04:40.3±0.3, 6°.63N×125°.00E, h0km, mb5.6/36, mbtmp5.6/37, ML5.1/1, MS6.3/69, Error ellipse: s-maj=7.8km s-min=6.5km az=105.0*

*BJI **29** 01:04:41.6, 6°.75N×125°.05E, h10km, mB6.6/76, mb6.0/92, Ms6.8/98, Ms7 6.5/96*

*ISC-PP **29** 01:04:43, 6°.76N×125°.01E, h19km, Mwppsm6.7, Moment Tensor Solution. s44 Moment tensor: Scale 10^{19}Nm; M_{rr}0.26±.07; $M_{\theta\theta}$0.50±.13; $M_{\phi\phi}$-0.72±.13; $M_{r\theta}$-0.24±.22; $M_{\theta\phi}$-0.14±.18; $M_{\phi r}$-0.08±.11; Fault plane solution: $M_0$1.60000×10^{19} NP1:ϕ_s223.90000°, δ75.40000°, λ150.20000°. NP2:ϕ_s322.20000°, δ61.30000°, λ16.80000°.*

*NEIC **29** 01:04:43.9±1.6, 6°.76N±0°.06×125°.01E±0°.05, h15km±1km, mb6.3/340, Ms_20 6.5/566, Mwb6.5/193, Mww6.6/52 Error ellipse: s-maj=9.9km s-min=7.6km az=331.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.02; $M_{\theta\theta}$6.77; $M_{\phi\phi}$-6.80; $M_{r\theta}$-0.55; $M_{\theta\phi}$-0.97; $M_{\phi r}$0.74; Fault plane solution: $M_0$6.91000×10^{18} NP1: ϕ_s139.04000°, δ89.51000°, λ-7.61000°. NP2:ϕ_s229.10000°, δ82.39000°, λ-179.50000°. Principal axes: T 6.8947, Plg5.0000°, Azm184.0000°; N 0.0401, Plg82.0000°, Azm315.0000°; P -6.9347, Plg6.0000°, Azm94.0000°;*

*MAN **29** 01:04:43.6, 6°.81N×125°.05E, h11km, mb6.7, ML5.8, MS6.6*

*NEIC **29** 01:04:44.9, 6°.80N×125°.04E, h16km*

*NEIC **29** 01:04:44.4, 6°.81N×124°.99E, h20km*

*IPGP **29** 01:04:44.0, 6°.80N×125°.04E, h18km, Mw6.6, Fault plane solution: NP1:ϕ_s325.00000°, δ86.00000°, λ11.00000°. NP2:ϕ_s234.00000°, δ79.00000°, λ176.00000°.*

*NEIC **29** 01:04:44.4, 6°.81N×125°.19E, h20km, Moment Tensor Solution. Duration: 10s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.04; $M_{\theta\theta}$8.78; $M_{\phi\phi}$-8.82; $M_{r\theta}$0.28; $M_{\theta\phi}$-2.67; $M_{\phi r}$0.72; Fault plane solution: $M_0$9.23000×10^{18} NP1: ϕ_s143.36000°, δ85.97000°, λ-2.48000°. NP2:ϕ_s233.53000°, δ87.52000°, λ-175.97000°. Principal axes: T 9.1839, Plg1.0000°, Azm8.0000°; N 0.0924, Plg85.0000°, Azm265.0000°; P -9.2763, Plg5.0000°, Azm98.0000°;*

*DJA **29** 01:04:45.0±0.1, 7°N±1°×12°5E±°, h15km, M6.6/119, mB6.9/117, mb6.3/119, MLv7.1/10, Mw6.6/97, Mw(mB)6.8/117, MwMwp6.5/111, Mwp6.4/111*

*GCMT **29** 01:04:48.9±0.0, 6°.87N×125°.05E, h18km, MW6.6/166, Moment Tensor Solution. s166,c414; s163,c729; Duration: 4s9 Moment tensor: Scale 10^{19}Nm; M_{rr}0.03±.00; $M_{\theta\theta}$0.97±.00; $M_{\phi\phi}$-0.99±.00; $M_{r\theta}$-0.18±.01; $M_{\theta\phi}$-0.25±.00; $M_{\phi r}$-0.03±.01; Best double couple: $M_0$1.02800×10^{19} NP1:ϕ_s323.00000°, δ81.00000°, λ5.00000°. NP2:ϕ_s232.00000°, δ85.00000°, λ171.00000°. Principal axes: T 1.0290, Plg10.0000°, Azm187.0000°; N -0.0030, Plg79.0000°, Azm24.0000°; P -1.0260, Plg3.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 01:04:44.8±0.3, 6°.73N±0°.02×125°.08E±0°.02, h22km±2km, n22km:pP-P, n2283, σ2s08/2151, mb6.2/381, MS6.5/452, 105C-73D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.60**	**56**		**Pb**	**01 04 55.6**	**-1.1**
DAV				Sg	**Sn**	**01 05 06.4**	**-0.6**
DAV	**Davao City (W)**	**0.60**	**56**	Pg	**Pb**	**01 04 56.0**	**-0.7**
	228nm,0.3s,baz=331,slow=9.4,SNR=2142						
DAV				Lg		01 05 06.7	
	409nm,0.3s,baz=168,slow=16,SNR=12						
DAV	**Davao City (W)**	**0.60**	**56**	P	**Pb**	**01 04 57.1**	**+0.5**
DAV	**Davao City (W)**	**0.60**	**56**	P	**Pb**	**01 04 55.2**	**-1.4**
DAV	**Davao City (W)**	**0.60**	**56**	P	**Pn**	**01 04 58.3**	**+0.3**
DAV	**Davao City (W)**	**0.60**	**56**	⇑P	**Pb**	**01 04 55.9**	**-0.7**
DAV	**Davao City (W)**	**0.60**	**56**	P	**Pb**	**01 04 56.1**	**-0.6**
DAV	**Davao City (W)**	**0.60**	**56**	P	**Pb**	**01 04 55.0**	**-1.6**
SGSI	**Sangihe**	**3.06**	**172**	P	**Pn**	**01 05 33.7**	**+1.9**
KMSI	**Cibinong**	**6.21**	**190**	P	**Pn**	**01 06 17.7**	**+2.5**
TNTI	**Ternate**	**6.34**	**159**		**Pn**	**01 06 18.0**	**+1.0**
TNTI				Sn	**Sn**	**01 07 31.9**	**+3.1**
TNTI	**Ternate**	**6.34**	**159**	P	**Pn**	**01 06 19.0**	**+2.0**
	8μm,1.1s						
TNTI	**Ternate**	**6.34**	**159**	P	**Pn**	**01 06 18.5**	**+1.5**
TNTI	**Ternate**	**6.34**	**159**	⇑P	**Pn**	**01 06 18.5**	**+1.5**
MYLDM	**Lahad Datu**	**6.72**	**257**	Pn	**Pn**	**01 06 22.4**	**+0.1**
MYLDM	**Lahad Datu**	**6.72**	**257**	P	**Pn**	**01 06 25.8**	**+3.5**
	5μm,1.1s						
MYLDM	**Lahad Datu**	**6.72**	**257**	⇓P	**Pn**	**01 06 24.9**	**+2.7**
MRSI	**Marisa**	**6.96**	**207**	P	**Pn**	**01 06 26.5**	**+1.0**
TOLI2	**Tolitoli**	**7.04**	**218**	Pn	**Pn**	**01 06 25.3**	**-1.3**
TOLI2	**Tolitoli**	**7.04**	**218**	S	**Sn**	**01 07 48.8**	**+2.8**
LUWI	**Luwuk**	**8.06**	**197**	P	**Pn**	**01 06 43.4**	**+2.8**
LUWI	**Luwuk**	**8.06**	**197**	Pn	**Pn**	**01 06 40.8**	**+0.2**
LUWI	**Luwuk**	**8.06**	**197**	P	**Pn**	**01 06 43.2**	**+2.6**
LUWI	**Luwuk**	**8.06**	**197**	P	**Pn**	**01 06 44.2**	**+3.6**
LUWI	**Luwuk**	**8.06**	**197**	⇑P	**Pn**	**01 06 43.0**	**+2.4**
APSI	**Ampana**	**8.33**	**204**	P	**Pn**	**01 06 47.5**	**+3.2**
TGY	**Tagaytay City**	**8.38**	**331**	Pn	**Pn**	**01 06 47.2**	**+2.1**
	70nm,0.3s,baz=141,slow=4.2,SNR=15						
TGY				LR	LR	01 10 50.9	
	comp=Z,332μm,19.1s,baz=154,slow=44						
SANI	**Sanana**	**8.77**	**174**	P	**Pn**	**01 06 49.8**	**-0.5**
SANI	**Sanana**	**8.77**	**174**	P	**Pn**	**01 06 52.2**	**+1.9**
	3μm,1.1s						
SANI	**Sanana**	**8.77**	**174**	P	**Pn**	**01 06 50.1**	**-0.2**
	57μm3μm,1.1s						
SANI	**Sanana**	**8.77**	**174**	⇑P	**Pn**	**01 06 49.6**	**-0.7**
I39PW	**PALAU INFRASON**	**9.43**	**85**	I	I	01 50 40.0	
	0.2nm,0.7s,baz=268,slow=300,SNR=2.5						
SWI	**Sorong**	**9.74**	**141**	P	**Pn**	**01 07 04.4**	**+0.7**
	169μm37μm1μm,1.3s						
NLAI	**Namlea**	**10.11**	**168**	P	**Pn**	**01 07 08.8**	**+0.1**
MSAI	**Masohi**	**10.72**	**159**	P	Pn	01 07 22.7	+5.6
	233μm55μm4μm,1.7s						
AAI	**Ambon**	**10.80**	**163**	P	**Pn**	**01 07 18.7**	**+0.4**
	263μm41μm4μm,1.2s						
BKB	**Balikpapan**	**11.39**	**226**		**Pn**	**01 07 24.6**	**-1.7**
BKB	**Balikpapan**	**11.39**	**226**	P	**Pn**	**01 07 27.0**	**+0.7**
SZP	**Santa**	**11.66**	**338**	P	**Pn**	**01 07 31.5**	**+1.5**
SPSI	**Sidrap Palu**	**11.87**	**207**	P	**Pn**	**01 07 37.6**	**+4.7**
	342μm32μm1μm,1.2s						
FAKI	**Fak Fak**	**11.96**	**143**		**Pn**	**01 07 35.1**	**+1.0**
FAKI	**Fak Fak**	**11.96**	**143**	P	**Pn**	**01 07 36.3**	**+2.1**
	5μm,1.2s						
FAKI	**Fak Fak**	**11.96**	**143**	P	**Pn**	**01 07 36.2**	**+2.1**
FAKI	**Fak Fak**	**11.96

TWSI	Taliwang, Sumb	17.40	208	P	P	01 08 49.7 +2.2
	comp=Z,230μmcomp=Z,59μmcomp=Z,2μm,1.8s					
SSLB	Suanglung	17.42	347	Pn	Pn	01 08 44.5 -2.0
SSLB	Suanglung	17.42	347	P	P	01 08 47.7 0.0
BASI	Baing, Sumba	17.42	195	P	Pn	01 08 46.7 +0.1
	comp=Z,219μmcomp=Z,5μm,1.4s					
KMMI	Kalianget	17.62	219	P	P	01 08 53.6 +3.7
	comp=Z,212μmcomp=Z,98μmcomp=Z,3μm,1.6s					
NACB	Ninganchiao	17.66	349	Pn	Pn	01 08 48.0 -1.6
NACB	Ninganchiao	17.66	349	P	P	01 08 51.2 +0.8
GENI	Genyem	17.68	121	P	P	01 08 51.3 +0.7
GENI	Genyem	17.68	121	P	P	01 08 53.4 +2.8
	comp=Z,63μmcomp=Z,2μm,1.0s					
GENI	Genyem	17.68	121	⇓P	Pn	01 08 49.3 -0.6
SRBI	Singaraja	17.70	214	P	P	01 08 53.7 +2.9
	comp=Z,180μmcomp=Z,49μmcomp=Z,2μm,1.6s					
YOJ	Yonaguni jima	17.74	354		Pn	01 08 49.0 -1.5
YOJ	Yonaguni jima	17.74	354	P	P	01 08 51.5 +0.3
YOJ	Yonaguni jima	17.74	354	P	Pn	01 08 49.0 -1.5
YOJ				pmax	pmax	
	comp=Z,745nm,1.2s					
YOJ	Yonaguni jima	17.74	354	⇑P	Pn	01 08 49.8 -0.7
JMJ	Miyako jima 2	17.98	1	P	P	01 08 54.3 +0.4
ABJI	Asem Bagus	18.03	217	P	P	01 08 58.2 +3.7
	comp=Z,170μmcomp=Z,53μmcomp=Z,1μm,1.3s					
JAY	Jayapura	18.10	120	P	Pn	01 08 55.1 +0.1
	comp=Z,6.4nm,0.3s,baz=272,slow=5.0,SNR=33					
JAY				S	Sn	01 12 15.7 -0.9
	comp=Z,27nm,0.9s,baz=105,slow=21,SNR=1.2					
JAY				LR	LR	01 15 35.3
	comp=Z,104μm,20.3s,baz=304,slow=36					
	comp=Z,196nm,0.9s					
JAY	Jayapura	18.10	120	P	P	01 08 55.7 +0.4
YHNB	Yeheng	18.19	349		Pn	01 08 54.5 -1.6
YHNB	Yeheng	18.19	349	P	P	01 08 57.5 +1.3
DNP	Denpasar	18.20	213	P	P	01 09 03.0 +6.7
	comp=Z,108μmcomp=Z,4μm,1.6s					
BLJI	Banyuglugur	18.38	219	P	Pn	01 09 01.9 +3.4
	comp=Z,177μmcomp=Z,50μmcomp=Z,1μm,1.3s					
TATO	Taipei	18.47	350	P	P	01 08 57.7 -1.5
TATO	Taipei	18.47	350	P	Pn	01 08 59.6 +0.3
TATO				P	Pn	01 08 59.6 +0.3
TATO				S	S	01 12 34.4 +5.5
TATO				S	S	01 12 34.4 +5.5
TATO	Taipei	18.47	350	P	Pn	01 09 00.8 +1.4
GRJI	Gresik	18.49	223	P	Pn	01 09 03.8 +4.1
	comp=Z,144μmcomp=Z,115μmcomp=Z,4μm,2.7s					
JAGI	Jajag, Banyuwa	18.62	216	P	P	01 09 00.5 -0.5
JAGI	Jajag, Banyuwa	18.62	216	P	Pn	01 09 04.4 +3.0
JAGI	Jajag, Banyuwa	18.62	216	P	Pn	01 09 05.2 +3.8
	comp=Z,154μmcomp=Z,59μmcomp=Z,2μm,1.4s					
JAGI	Jajag, Banyuwa	18.62	216	⇑P	Pn	01 09 02.6 +1.2
HKPS	Hong Kong Po S	18.72	327	P	P	01 09 01.6 -0.4
HKPS	Hong Kong Po S	18.72	327	P	Pn	01 09 03.9 +1.4
HKC	Hong Kong Obse	18.72	327	⇑P	Pn	01 09 03.0 +0.5
KNMB	Chin-men Tao	18.77	341	P	P	01 09 01.6 -0.9
KNMB				IAmb	IAmb	01 09 09.0
	comp=Z,3μm,1.7s					
TBJI	Tambak Boyo	18.85	225	P	Pn	01 09 08.1 +3.9
	comp=Z,120μmcomp=Z,5μm,2.6s					
QZH	Quanzhou	19.15	342	⇑*i*P	P	01 09 07.0 +0.3
QZH				S	Sn	01 12 40.0 -1.7
QZH				pmax	pmax	
	comp=Z,1μm,1.5s					
QZH				LR	LR	
	comp=Z,179μm,23.4s					
QZH				LR	LR	
	comp=Z,530μm,24.4s					
QZH				LR	LR	
	comp=Z,227μm,21.6s					
QIZ	Qiongzhong	19.22	311	P	Pn	01 09 09.0 +0.5
QIZ				S	S	01 12 45.3 +1.3
QIZ				pmax	pmax	
	comp=Z,1μm,1.6s					
QIZ				pmax	pmax	
	comp=Z,23μm,6.4s					
QIZ				LR	LR	
	comp=Z,177μm,16.1s					
QIZ				LR	LR	
	comp=Z,125μm,24.7s					
QIZ				LR	LR	
	comp=Z,236μm,21.6s					
QIZ	Qiongzhong	19.22	311	P	Pn	01 09 09.8 +1.3
NGJI	Ngawi	19.51	224	P	Pn	01 09 17.3 +5.2
	comp=Z,1μm,1.1s					
TPI	Tanjungpandan	19.79	242	P	Pn	01 09 15.9 +0.5
	comp=Z,83μmcomp=Z,23μmcomp=Z,916nm,1.4s					
GZH	Guangzhou	19.80	326	P	Pn	01 09 18.3 +2.8
GZH				sP	sP	01 09 26.0 +3.1
GZH				S	Sn	01 13 02.5 +5.0
GZH				pmax	pmax	
	comp=Z,1μm,0.9s					
GZH				LR	LR	
	comp=Z,296μm,21.9s					
GZH				LR	LR	
	comp=Z,260μm,19.7s					
GZH				LR	LR	
	comp=Z,191μm,21.6s					
JMZ	Minamidaito 2	19.87	16	P	P	01 09 13.6 -1.0
JMZ				IAmb	IAmb	01 09 25.2
	comp=Z,1μm,1.2s					
JMZ	Minamidaito 2	19.87	16	P	Pn	01 09 15.7 -0.5
JMZ	Minamidaito 2	19.87	16	⇓P	P	01 09 14.4 -0.1
DRS	Darwin Rock St	19.89	163	P	Pn	01 09 15.8 -0.8
SMRI	Semarang	20.02	227	P	P	01 09 16.2 -0.1
SMRI				IAmb	IAmb	01 09 28.8
	comp=Z,5μm,1.9s					
SMRI	Semarang	20.02	227	P	Pn	01 09 18.9 +0.8
SMRI	Semarang	20.02	227	P	Pn	01 09 20.5 +2.4
	comp=Z,96μmcomp=Z,97μmcomp=Z,2μm,1.7s					
SMRI	Semarang	20.02	227	⇑P	Pn	01 09 19.7 +1.6
JOW	Kunigami	20.22	8	P	P	01 09 17.5 -0.9
JOW				IAmb	IAmb	01 09 29.0
	comp=Z,2μm,1.0s					
JOW	Kunigami	20.22	8	P	Pn	01 09 19.6 -0.8
	comp=Z,949nm,1.0s,baz=205,slow=8.4,SNR=38					
JOW				S	S	01 13 03.0 -1.5
	comp=Z,34nm,1.0s,baz=157,slow=9.4,SNR=1.5					
JOW				LR	LR	01 17 14.5
	comp=Z,93μm,21.6s,baz=186,slow=37					
	comp=Z,949nm,1.0s					
JOW	Kunigami	20.22	8	P	Pn	01 09 19.7 -0.7
JOW	Kunigami	20.22	8	⇑P	P	01 09 18.4 -0.1
JOW	Kunigami	20.22	8	P	Pn	01 09 19.6 -0.8
PCJI	Pacitan	20.30	223	P	Pn	01 09 24.1 +2.7
	comp=Z,66μmcomp=Z,43μmcomp=Z,2μm,1.6s					
MTN	Manton Dam	20.35	163	P	P	01 09 19.6 -0.3
	comp=Z,0.0nmcomp=Z,1μm,1.5s					
MTN	Manton Dam	20.35	163	P	P	01 09 19.4 -0.6
MTN				IAmb	IAmb	01 09 32.4
	comp=Z,3μm,1.4s					
UGM	Wanagama	20.55	225	P	Pn	01 09 23.3 -1.1
UGM				IAmb	IAmb	01 09 36.7
	comp=Z,3μm,2.0s					
UGM	Wanagama	20.55	225	P	Pn	01 09 24.2 -0.2
UGM	Wanagama	20.55	225	P	Pn	01 09 24.1 -0.3
	comp=Z,49μmcomp=Z,65μmcomp=Z,2μm,1.5s					
GUMO	Guam	20.62	69	P	P	01 09 22.1 -0.8
GUMO				IAmb	IAmb	01 09 34.4
	comp=Z,1μm,1.1s					
GUMO	Guam	20.62	69	P	P	01 09 23.0 +0.1
	comp=Z,492nm,0.9s,baz=208,slow=6.7,SNR=14					
GUMO				S	S	01 13 11.9 -0.7
	comp=Z,39nm,0.2s,baz=156,slow=22,SNR=0.9					
GUMO				LR	LR	01 16 04.1
	comp=Z,49μm,21.6s,baz=244,slow=33					
	comp=Z,492nm,0.9s					
GUMO	Guam	20.62	69	P	P	01 09 23.5 +0.6
GUMO	Guam	20.62	69	⇑P	P	01 09 21.9 -1.0
KDU	Kakadu	20.64	159	P	P	01 09 22.9 -0.2
	comp=Z,0.0nmcomp=Z,831nm,0.8s					
YOGI	Yogyakarta	20.65	226	P	Pn	01 09 27.9 +2.4
	comp=Z,57μmcomp=Z,54μmcomp=Z,3μm,1.7s					
PPBI	Pangkal Pinang	20.87	246	P	Pn	01 09 31.3 +3.2
UBPT	Khong Chiam	21.02	295	P	P	01 09 26.5 -0.7
UBPT				IAmb	IAmb	01 09 42.0
	comp=Z,2μm,1.3s					
UBPT	Khong Chiam	21.02	295	P	P	01 09 29.0 +1.8
TPRI	Tanjung Pinang	21.30	255	P	P	01 09 32.7 +2.5
	comp=Z,116μmcomp=Z,27μmcomp=Z,1μm,1.3s					
KPJI	Karang Pucung	21.32	229	P	P	01 09 34.7 +4.3
	comp=Z,103μmcomp=Z,54μmcomp=Z,2μm,1.5s					
DSRI	Dabo	21.68	251	P	P	01 09 37.5 +3.3
MYKOM	Kota Tinggi	21.73	258	P	P	01 09 33.8 -1.0
MYKOM	Kota Tinggi	21.73	258	P	P	01 09 37.6 +2.8
MYKOM	Kota Tinggi	21.73	258	⇓P	P	01 09 36.2 +1.4
BTDF	Bukit Timah Da	21.91	257	P	P	01 09 39.6 +2.9
LEM	Lembang	22.02	233	P	P	01 09 39.8 +1.7
	comp=Z,811nm,1.0s,baz=304,slow=22,SNR=32					
BBJI	Bungbulang	22.38	231	P	P	01 09 44.8 +2.9
PMBI	Palembang	22.43	245	P	P	01 09 43.9 +1.6
PMBI				IAmb	IAmb	01 10 03.8
	comp=Z,2μm,1.2s					
PMBI	Palembang	22.43	245	P	P	01 09 45.7 +3.4
DBJI	Dramaga	22.55	235	P	P	01 09 49.4 +5.7
	comp=Z,71μmcomp=Z,47μmcomp=Z,2μm,1.2s					
KNRA	Kununurra	22.56	171	P	P	01 09 42.9 -0.7
	comp=Z,0.0nmcomp=Z,2μm,1.0s					
KNRA	Kununurra	22.56	171	P	P	01 09 43.3 -0.4
CNJI	Cibinong	22.70	232	P	P	01 09 47.2 +2.0
	comp=Z,1μm,1.0s					
SBJI	Serang	22.82	236	P	P	01 09 50.7 +4.3
	comp=Z,81μmcomp=Z,64μmcomp=Z,3μm,1.2s					
SKJI	Sukabumi	22.97	234	P	P	01 09 51.5 +3.5
	comp=Z,2μm,1.2s					
GULI	GuiLin	23.21	324	P	P	01 09 52.5 +2.1
GULI				S	S	01 14 06.0 +4.8
GULI				pmax	pmax	
	comp=Z,370nm,1.0s					
GULI				LR	LR	
	comp=Z,149μm,26.0s					
GULI				LR	LR	
	comp=Z,177μm,19.5s					
GULI				LR	LR	
	comp=Z,215μm,21.7s					
KLI	Kotabumi	23.24	241	P	P	01 09 53.8 +3.0
	comp=Z,62μmcomp=Z,28μmcomp=Z,2μm,0.9s					
CGJI	Cibinong	23.45	236	P	P	01 09 55.0 +2.1
	comp=Z,31μmcomp=Z,1μm,1.1s					
MDSI	Maura Dua	23.65	242	P	P	01 09 56.4 +1.5
MANU	Manus Island	23.89	111	P	P	01 09 56.4 -0.8
MANU	Manus Island	23.89	111	⇓P	P	01 09 56.2 -1.0
LHSI	Lahat	23.94	245	P	P	01 10 00.9 +3.3
	comp=Z,62μmcomp=Z,31μmcomp=Z,1μm,1.0s					
LWLI	Liwa	24.01	241	P	P	01 10 01.3 +2.9
IPM	Ipoh	24.04	266	P	P	01 09 58.3 -0.3
IPM				IAmb	IAmb	01 10 22.1
	comp=Z,2μm,1.6s					
IPM	Ipoh	24.04	266	P	P	01 09 59.3 +0.7
IPM	Ipoh	24.04	266	⇓P	P	01 09 58.8 +0.2
CNSH	ChangSha	24.24	333	P	P	01 09 58.5 -1.7
CNSH				S	S	01 14 18.5 +0.7
CNSH				pmax	pmax	
	comp=Z,310nm,2.1s					
CNSH				LR	LR	
	comp=Z,199μm,21.6s					
CNSH				LR	LR	
	comp=Z,272μm,19.0s					
CNSH				LR	LR	
	comp=Z,185μm,19.1s					
KULM	Kulim	24.34	268	P	P	01 10 00.9 -0.4
KULM				IAmb	IAmb	01 10 26.8
	comp=Z,2μm,1.3s					
KULM	Kulim	24.34	268	P	P	01 10 02.6 +1.3
KULM	Kulim	24.34	268	⇓P	P	01 10 01.7 +0.4
SSE	Sheshan	24.51	352	P	P	01 10 02.0 -0.7
SSE				S	S	01 14 23.0 +1.0
SSE				pmax	pmax	
	comp=Z,130nm,1.8s					
SSE				pmax	pmax	
	comp=Z,6μm,6.3s					
FITZ	Fitzroy Crossi	24.68	179	P	P	01 10 03.7 -0.5
	comp=Z,283nm,1.2s					
FITZ	Fitzroy Crossi	24.68	179	P	P	01 10 03.4 -0.8
FITZ	Fitzroy Crossi	24.68	179	P	P	01 10 03.7 -0.5
FITZ	Fitzroy Crossi	24.68	179	⇑P	P	01 10 03.9 -0.4
KSI	Kapahiang	24.70	246	P	P	01 10 09.8 +5.1
	comp=Z,62μmcomp=Z,50μmcomp=Z,1μm,0.9s					
BKNI	Bangkinang	24.81	256	P	P	01 10 06.2 +0.6
BKNI	Bangkinang	24.81	256	P	P	01 10 05.8 +0.2
BKNI	Bangkinang	24.81	256	P	P	01 10 12.1 +6.5
	comp=Z,85μmcomp=Z,22μmcomp=Z,1μm,1.1s					
MASI	Maura Aman, Be	24.82	247	P	P	01 10 09.8 +4.1
	comp=Z,61μmcomp=Z,40μmcomp=Z,2μm,0.9s					
SLVN	Son La	25.10	307	P	P	01 10 07.8 -0.5
SLVN				IAmb	IAmb	01 10 19.2
	comp=Z,1μm,1.7s					
SLVN				IAMs_20	IAMs_20	01 21 38.0
	comp=Z,172μm,18.0s					
SLVN	Son La	25.10	307	P	P	01 10 09.4 +1.2
KRJI	Kerinci	25.15	250	P	P	01 10 11.9 +3.1
PPI	Padang Panjang	25.64	255	P	P	01 10 15.0 +1.9
	comp=Z,94μmcomp=Z,18μmcomp=Z,962nm,1.7s					
PDSI	Padang	25.71	254	P	P	01 10 16.6 +2.8
WHN	Wuhan	25.74	338	⇑P	P	01 10 14.0 +0.2
WHN				sP	sP	01 10 22.0 -1.3
WHN				S	S	01 14 40.0 -1.7
WHN				LR	LR	
	comp=Z,355μm,24.0s					
XMI	Christmas Isla	25.77	229	P	P	01 10 17.1 +2.8
XMI	Christmas Isla	25.77	229	⇑P	P	01 10 14.2 -0.1
NJ2	Nanjing	25.86	348	⇑*i*P	P	01 10 14.8 0.0
NJ2				pP	pP	01 10 18.5 -3.0
NJ2				sP	sP	01 10 22.0 -2.3
NJ2				S	S	01 14 39.5 -4.0
NJ2				sS	sS	01 14 55.0 +0.5
NJ2				pmax	pmax	
	comp=Z,620nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,33μm,6.7s					
NJ2				LR	LR	
	comp=Z,50μm,24.3s					
NJ2				LR	LR	
	comp=Z,213μm,24.8s					
NJ2				LR	LR	
	comp=Z,81μm,23.4s					
CBIJ	Chichi jima	25.97	37	P	P	01 10 14.2 -1.8
JCJ	Chichijima	25.97	37	P	P	01 10 14.5 -1.5
JCJ	Chichijima	25.97	37	P	P	01 10 07.0 -9.0
	comp=Z,798nm,0.8s,baz=252,slow=8.4,SNR=16					
JCJ				S	S	01 14 33.8 -12
	comp=Z,119nm,0.9s,baz=148,slow=11,SNR=2.8					
JCJ	Chichijima	25.97	37	P	P	01 10 15.7 -0.3
JCJ	Chichijima	25.97	37	⇓P	P	01 10 14.2 -1.8
MNSI	Mandailing Nat	26.11	258	P	P	01 10 20.1 +2.7
	comp=Z,104μmcomp=Z,15μmcomp=Z,455nm,1.1s					
GYA	Guiyang	26.32	320	⇓P	P	01 10 20.0 +0.7
GYA				S	S	01 14 53.5 +2.3
GYA				pmax	pmax	
	comp=Z,16μm,6.0s					
GYA				LR	LR	
	comp=Z,251μm,18.1s					
GYA				LR	LR	
	comp=Z,129μm,15.9s					
GYA				LR	LR	
	comp=Z,249μm,20.9s					
PSI	Prapat	26.35	263	LR	LR	01 24 05.8
	comp=Z,74μm,18.2s,baz=105,slow=44					
PPSI	Pulau Pagai	26.75	250	P	P	01 10 29.4 +6.3
	comp=Z,28μmcomp=Z,2μm,1.1s					
JNU	Nakatsue	26.81	11	P	P	01 10 22.2 -1.3
JNU				IAmb	IAmb	01 10 33.4
	comp=Z,829nm,1.1s					
JNU	Nakatsue	26.81	11	P	P	01 10 22.6 -0.9
	comp=Z,326nm,1.0s,baz=177,slow=5.7,SNR=32					
JNU				LR	LR	01 20 49.6
	comp=Z,41μm,21.2s,baz=182,slow=36					
	comp=Z,326nm,1.0s					
JNU	Nakatsue	26.81	11	P	P	01 10 25.0 +1.5
SISI	Saibi	27.15	254	P	P	01 10 28.3 +1.6
	comp=Z,90μmcomp=Z,21μmcomp=Z,979nm,1.8s					
PMG	Port Moresby	27.22	126	P	P	01 10 26.7 -0.7
PMG	Port Moresby	27.22	126	LR	LR	01 22 40.2
	comp=Z,42μm,19.9s,baz=287,slow=40					
PMG	Port Moresby	27.22	126	P	P	01 10 27.6 +0.2
PMG	Port Moresby	27.22	126	P	P	01 10 27.5 +0.2
PMG	Port Moresby	27.22	126	P	P	01 10 26.7 -0.7
PMG				pmax	pmax	
	comp=Z,2μm,1.0s					
PMG				MLR	MLR	
	comp=Z,42μm,20.0s					
PMG	Port Moresby	27.22	126	⇓P	P	01 10 26.2 -1.2
COEN	Coen	27.29	139	P	P	01 10 28.4 +0.4
	comp=Z,0.0nmcomp=Z,2μm,1.7s					
COEN	Coen	27.29	139	P	P	01 10 28.0 0.0
COEN	Coen	27.29	139	P	P	01 10 29.4 +1.4
COEN	Coen	27.29	139	⇑P	P	01 10 27.0 -1.0
KCSI	Kotacane, Aceh	27.38	265	P	P	01 10 28.3 -0.6
	comp=Z,62μmcomp=Z,411nm,1.3s					
ENH	Enshi	27.63	330		P	01 10 29.9 -1.0
ENH				IAmb	IAmb	01 10 49.5
	comp=Z,509nm,1.0s					
ENH				IAMs_20	IAMs_20	01 21 57.6
	comp=Z,100μm,19.0s					
ENH	Enshi	27.63	330	P	P	01 10 32.7 +1.8
WB0	Warramunga Arr	27.88	161	P	P	01 10 30.9 -2.3
JTU	Tsushima	27.95	8	P	P	01 10 35.5 +1.9
CM31	Chiang Mai Arr	28.00	297	IAmb	IAmb	01 10 53.6
	comp=Z,618nm,1.5s					
CM31	Chiang Mai Arr	28.00	297	P	P	01 10 35.4 +1.1
	SNR=71					
CM31				P	P	01 10 35.4 +1.1
	SNR=71					
CM31				S	S	01 15 22.3 +4.6
CM31				S	S	01 15 22.3 +4.6
CMAR	Chiang Mai Arr	28.00	297	P	P	01 10 33.5 -0.8
CMAR	Chiang Mai Arr	28.00	297	P	P	01 10 35.1 +0.8
	comp=Z,71nm,1.0s,baz=120,slow=7.4,SNR=124					
CMAR				LR	LR	01 22 29.4
	comp=Z,59μm,18.5s,baz=125,slow=38					
LHMI	Lhok Sumawe	28.02	268	P	P	01 10 36.5 +1.9
LHMI	Lhok Sumawe	28.02	268	P	P	01 10 37.0 +2.5
	comp=Z,102μmcomp=Z,31μmcomp=Z,705nm,2.1s					
WRAB	Tennant Creek	28.02	161	P	P	01 10 33.0 -1.5
WRAB	Tennant Creek	28.02	161	P	P	01 10 33.4 -1.1
WRAB	Tennant Creek	28.02	161	*c i*P	P	01 10 33.4 -1.1
WRAB				pmax	pmax	
	comp=Z,2μm,1.4s					
WRAB				MLR	MLR	
	comp=Z,78μm,21.0s					
WRA	Warramunga Arr	28.03	161	P	P	01 10 32.5 -2.0
WRA	Warramunga Arr	28.03	161	P	P	01 10 33.0 -1.5
	comp=Z,120nm,0.8s,baz=337,slow=9.9,SNR=100					
WRA				S	S	01 15 20.3 +2.3
	comp=Z,104nm,1.2s,baz=338,slow=16,SNR=5.6					
	comp=Z,120nm,0.8s					
WRA	Warramunga Arr	28.03	161	*i* P	P	01 10 33.0 -1.5
WRA				pmax	pmax	
	comp=Z,129nm,0.8s					
JMN	Monobe	28.07	16	P	P	01 10 35.0 +0.1
JMN	Monobe	28.07	16	⇑P	P	01 10 34.0 -0.9
CHTO	Chiang Mai	28.13	298	P	P	01 10 34.7 -0.8
CHTO				IAMs_20	IAMs_20	01 23 15.3
	comp=Z,106μm,18.0s					
CHTO	Chiang Mai	28.13	298	P	P	01 10 35.9 +0.4
CHTO				P	P	01 10 35.9 +0.4
CHTO				S	S	01 15 25.9 +6.2
CHTO				S	S	01 15 25.9 +6.2
CHTO	Chiang Mai	28.13	298	P	P	01 10 36.9 +1.4
CHTO	Chiang Mai	28.13	298	P	P	01 10 34.7 -0.8
CHTO				pmax	pmax	
	comp=Z,384nm,1.3s					
CHTO				MLR	MLR	
	comp=Z,106μm,18.0s					
CHTO	Chiang Mai	28.13	298	⇓P	P	01 10 35.6 +0.1
CHTO	Chiang Mai	28.13	298	P	P	01 10 35.8 +0.4
CHTO				S	S	01 15 22.5 +2.8
KMI	Kunming	28.13	313	⇓P	P	01 10 37.3 +1.6
KMI				pP	pP	01 10 41.0 -1.5
KMI				sP	sP	01 10 43.3 -1.8
KMI				S	S	01 15 23.8 +3.8
KMI				pmax	pmax	
	comp=Z,190nm,1.3s					
KMI				pmax	pmax	
	comp=Z,1μm,3.0s					
KMI				LR	LR	
	comp=Z,135μm,21.0s					
KMI				LR	LR	
	comp=Z,100μm,21.3s					
KMI				LR	LR	
	comp=Z,120μm,17.6s					
MBWA	Marble Bar	28.21	191	P	P	01 10 35.2 -1.0
	comp=Z,0.0nmcomp=Z,469nm,1.3s					
MBWA	Marble Bar	28.21	191	P	P	01 10 34.6 -1.5
MBWA	Marble Bar	28.21	191	P	P	01 10 35.7 -0.4
MBWA				P	P	01 10 35.7 -0.4
MBWA				S	S	01 15 18.7 -2.0
MBWA				S	S	01 15 18.7 -2.0
MBWA	Marble Bar	28.21	191	P	P	01 10 36.6 +0.5
MBWA	Marble Bar	28.21	191	⇑P	P	01 10 35.1 -1.0
MBWA	Marble Bar	28.21	191	P	P	01 10 35.3 -0.8
MBWA				S	S	01 15 26.3 +5.5
MLSI	Meulaboh, Aceh	28.65	267	P	P	01 10 40.7 +0.5
	comp=Z,85μmcomp=Z,11μmcomp=Z,559nm,1.1s					
SNSI	Sinabang, Aceh	28.98	263	P	P	01 10 44.5 +1.4
	comp=Z,82μmcomp=Z,13μmcomp=Z,671nm,1.1s					
JIE	Ise	29.55	20	P	P	01 10 47.4 -0.5
TJN	Taejon	29.58	4	IAmb	IAmb	01 11 27.3
	comp=Z,664nm,1.1s					
TJN	Taejon	29.58	4	*c i*P	P	01 10 46.9 -1.3
JHJ	Hachijo jima 2	29.60	26	P	P	01 10 46.1 -2.2
	comp=Z,101nm,0.6s,baz=206,slow=7.9,SNR=3.9					
PZH	PanZhiHua	29.67	314	P	P	01 10 49.8 +0.5
PZH				PP	PnPn	01 11 48.3 +3.6
PZH				S	S	01 15 45.0 +0.9
PZH				pmax	pmax	
	comp=Z,340nm,1.3s					
PZH				pmax	pmax	
	comp=Z,4μm,6.1s					
PZH				LR	LR	
	comp=Z,87μm,22.4s					
PZH				LR	LR	
	comp=Z,74μm,20.4s					
PZH				LR	LR	
	comp=Z,106μm,17.3s					
LYN	LuoYang	30.04	339	⇑P	P	01 10 52.3 +0.1
LYN				pP	pP	01 10 56.8 -2.2
LYN				sP	sP	01 11 00.5 -1.2
LYN				S	S	01 15 50.5 +1.2
LYN				sS	pS	01 15 57.8 +0.9
LYN				pmax	pmax	
	comp=Z,200nm,1.8s					
LYN				pmax	pmax	
	comp=Z,15μm,5.8s					
LYN				LR	LR	
	comp=Z,203μm,25.1s					
LYN				LR	LR	
	comp=Z,333μm,25.1s					
LYN				LR	LR	
	comp=Z,198μm,21.3s					
TIA	Tai'an	30.23	347	P	P	01 10 53.3 -0.7
TIA				S	S	01 15 43.0 -9.4
TIA				pmax	pmax	
	comp=Z,200nm,1.1s					
TIA				pmax	pmax	
	comp=Z,14μm,6.5s					
TIA				LR	LR	
	comp=Z,65μm,22.7s					
TIA				LR	LR	
	comp=Z,222μm,23.7s					
TIA				LR	LR	
	comp=Z,78μm,18.2s					
JSG	Sagara	30.32	22	P	P	01 10 55.3 +0.5
INU	Inuyama	30.52	19	P	P	01 10 55.6 -0.9
INU	Inuyama	30.52	19	⇑P	P	01 10 54.7 -1.8
INCN	Inchon	30.64	2	P	P	01 10 58.8 +1.2
INCN	Inchon	30.64	2	P	P	01 10 57.8 +0.2
INCN				P	P	01 10 57.8 +0.2
INCN				S	S	01 15 59.1 +0.2
INCN				S	S	01 15 59.1 +0.2
INCN	Inchon	30.64	2	P	P	01 10 58.6 +1.0
INCN	Inchon	30.64	2	P	P	01 10 58.8 +1.2
INCN				pmax	pmax	

XAN pmax pmax
comp=Z,9μm,6.0s
XAN LR LR
comp=Z,96μm,16.1s
XAN LR LR
comp=Z,87μm,16.8s
XAN LR LR
comp=Z,147μm,16.5s
GIRL Giralia 31.06 200 P **P 01 11 01.9 +0.5**
comp=Z,0.0nmcomp=Z,219nm,1.3s
MTSU Mount Surprise 31.16 143 P **P 01 11 03.1 +0.7**
comp=Z,211nm,1.0s
MTSU Mount Surprise 31.16 143 P **P 01 11 03.8 +1.5**
HJU Haeju 31.18 1 P **P 01 11 01.6 -0.6**
HJU S **S 01 16 06.8 -0.2**
HJU AmB
comp=Z,19μm,5.8s
HJU AMS AMS
comp=Z,58μm,19.0s
TNCH TengChong 31.25 309 P **P 01 11 04.3 +1.0**
TNCH S **S 01 16 12.0 +3.0**
TNCH pmax pmax
comp=Z,450nm,1.5s
TNCH pmax pmax
comp=Z,3μm,3.5s
TNCH LR LR
comp=Z,34μm,15.4s
TNCH LR LR
comp=Z,40μm,18.1s
TNCH LR LR
comp=Z,108μm,18.0s
ASAR Alice Springs 31.42 164 P **P 01 11 03.3 -1.3**
ASAR Alice Springs 31.42 164 P **P 01 11 02.9 -1.7**
comp=Z,37nm,0.5s,baz=340,slow=6.0,SNR=110
ASAR S **S 01 16 07.0 -4.1**
comp=Z,14nm,1.0s,baz=349,slow=14,SNR=1.4
ASAR LR LR 01 25 58.5
comp=Z,40μm,19.9s,baz=352,slow=41
comp=Z,37nm,0.5s
AUALC St Philip's Co 31.43 164 P **P 01 11 05.1 +0.4**
WRKA Warakurna 31.73 174 P **P 01 11 06.6 -0.7**
comp=Z,0.0nmcomp=Z,171nm,1.3s
HNS HongShan 31.96 344 ⇑P **P 01 11 09.0 -0.1**
HNS PP **PnPn 01 12 14.3 -0.2**
HNS S **S 01 16 17.5 -1.8**
HNS pmax pmax
comp=Z,1μm,1.1s
HNS pmax pmax
comp=Z,13μm,7.4s
HNS LR LR
comp=Z,69μm,23.3s
HNS LR LR
comp=Z,202μm,23.9s
HNS LR LR
comp=Z,102μm,19.2s
MAJO Matsushiro 32.01 20 IAMs_20 IAMs_20 01 23 27.5
comp=Z,97μm,20.0s
MAJO Matsushiro 32.01 20 P **P 01 11 08.0 -1.6**
MAJO Matsushiro 32.01 20*c i*P **P 01 11 07.6 -2.0**
MAJO pmax pmax
comp=Z,505nm,1.3s
MAJO MLR MLR
comp=Z,95μm,20.0s
MAJO Matsushiro 32.01 20 ⇑P **P 01 11 06.9 -2.7**
MAJO Matsushiro 32.01 20 P **P 01 11 06.6 -3.0**
MAT Matsushiro 32.01 20 P **P 01 11 08.0 -1.6**
MJAR Matsushiro Arr 32.01 20 P **P 01 11 07.6 -2.1**
comp=Z,109nm,1.1s,baz=195,slow=8.3,SNR=52
MJAR LR LR 01 23 38.6
comp=Z,104μm,20.1s,baz=212,slow=35
PYAG Pyongyang 32.18 1 P **P 01 11 10.8 -0.3**
PYAG S **S 01 16 22.7 -0.1**
PYAG AmB
comp=Z,20μm,6.0s
PYAG AMS AMS
comp=Z,59μm,19.4s
DL2 Dalian 32.19 355 P **P 01 11 11.3 +0.2**
DL2 S **S 01 16 25.5 +2.7**
DL2 pmax pmax
comp=Z,540nm,1.0s
DL2 pmax pmax
comp=Z,17μm,6.5s
DL2 LR LR
comp=Z,32μm,22.4s
DL2 LR LR
comp=Z,192μm,22.2s
DL2 LR LR
comp=Z,70μm,21.8s
PBA Port Blair 32.28 281 P **P 01 11 13.5 +1.3**
PBA S **S 01 16 30.7 +5.8**
PBA Port Blair 32.28 281 *eP* **P 01 11 08.2 -4.0**
PBA IAmb IAmb 01 11 34.0
comp=Z,194nm,1.0s
PBA *eS* **S 01 16 17.8 -7.1**
DGPR DIGLIPUR 32.28 284 *eP* **P 01 11 08.6 -3.7**
DGPR IAmb IAmb 01 11 23.7
comp=Z,149nm,1.0s
DGPR *eS* **S 01 16 24.6 -0.3**
TIY Taiyuan 32.91 341 *eP* **P 01 11 18.0 +0.4**
TIY sP **sP 01 11 30.0 +2.8**
TIY S **S 01 16 33.3 -1.1**
TIY pmax pmax
comp=Z,210nm,0.9s
TIY pmax pmax
comp=Z,10μm,6.3s
TIY LR LR
comp=Z,96μm,26.1s
TIY LR LR
comp=Z,159μm,28.2s
TIY LR LR
comp=Z,102μm,21.4s
PATS Pohnpei 32.99 88 P **P 01 11 17.5 -1.0**
comp=Z,0.0nmcomp=Z,267nm,1.2s
PATS Pohnpei 32.99 88 P **P 01 11 17.7 -0.8**
PATS IAmb IAmb 01 12 21.2
comp=Z,1μm,1.8s
PATS Pohnpei 32.99 88 P **P 01 11 18.8 +0.3**
HHU Hamhung 33.13 3 P **P 01 11 18.4 -0.9**
HHU S **S 01 16 37.8 +0.4**
HHU AmB
comp=Z,6μm,3.1s
HHU AMS AMS
comp=Z,37μm,14.8s
JSD Sado 33.38 19 P **P 01 11 20.3 -1.3**
JSD Sado 33.38 19 ⇑P **P 01 11 19.1 -2.5**
TV1H Townsville Har 33.54 141 P **P 01 11 24.6 +1.5**
MEEK Meekatharra 33.76 190 P **P 01 11 23.9 -1.1**
comp=Z,0.0nmcomp=Z,364nm,0.9s
MEEK Meekatharra 33.76 190 P **P 01 11 24.4 -0.6**
COCO West Island 33.80 236 P **P 01 11 25.5 +0.1**
COCO IAmb IAmb 01 11 39.5
comp=Z,310nm,1.1s
COCO West Island 33.80 236 P **P 01 11 25.9 +0.4**
COCO S **S 01 16 51.5 +3.2**
COCO West Island 33.80 236 P **P 01 11 27.9 +2.5**
COCO West Island 33.80 236 P **P 01 11 25.5 +0.1**
COCO pmax pmax
comp=Z,310nm,1.1s
BJT Baijiatuau 34.10 348 **P 01 11 27.4 -0.4**
BJT Baijiatuau 34.10 348 P **P 01 11 28.4 +0.6**
BJT Baijiatuau 34.10 348 P **P 01 11 27.4 -0.4**
BJT pmax pmax
comp=Z,1μm,1.3s
BJI Beijing 34.12 348 P **P 01 11 27.5 -0.4**
BJI sP **pP 01 11 36.0 +1.2**
BJI S **S 01 16 52.8 0.0**
BJI pmax pmax
comp=Z,350nm,1.2s
BJI pmax pmax
comp=Z,7μm,4.9s
BJI LR LR
comp=Z,23μm,23.8s
BJI LR LR
comp=Z,90μm,22.9s
BJI LR LR
comp=Z,22μm,21.0s
JMM Marumori 34.12 22 P **P 01 11 27.8 -0.2**
JMM Marumori 34.12 22 ⇑P **P 01 11 26.6 -1.5**
AUAYR Ayr State High 34.16 140 P **P 01 11 30.0 +1.4**
IMP Imphal 34.81 305 *eP* **P 01 11 29.8 -4.5**
IMP IAmb IAmb 01 11 42.6
comp=Z,272nm,1.2s
IMP *eS* **S 01 17 00.7 -3.3**
SNY Shenyang 34.98 358 ⇑P **P 01 11 35.3 -0.1**
SNY S **S 01 17 07.5 +1.5**
SNY pmax pmax
comp=Z,250nm,1.0s
SNY pmax pmax
comp=Z,15μm,5.9s
SNY LR LR
comp=Z,60μm,18.0s
SNY LR LR
comp=Z,23μm,13.5s
SNY LR LR
comp=Z,80μm,18.0s
KOHI KOHIMA 35.07 306 *eP* **P 01 11 32.6 -4.0**
KOHI IAmb IAmb 01 12 00.8
comp=Z,234nm,0.4s
KOHI *eS* **S 01 17 05.2 -3.1**
LZDM Lanzhou Array 35.08 329 P **P 01 11 37.0 +0.3**
comp=Z,54nm,0.8s,baz=111,slow=10,SNR=42
LZDM LR LR 01 27 26.2
comp=Z,76μm,19.0s,baz=105,slow=39
comp=Z,54nm,0.8s
LZH Lanzhou 35.10 329 ⇑P **P 01 11 38.0 +1.2**
LZH sP sP 01 11 46.0 -0.4
LZH S **S 01 17 10.0 +1.5**
LZH pmax pmax
comp=Z,730nm,1.2s
LZH pmax pmax
comp=Z,12μm,4.6s
LZH LR LR
comp=Z,145μm,18.9s
LZH LR LR
comp=Z,113μm,18.7s
LZH LR LR
comp=Z,131μm,21.1s
SILR SILCHAR 35.73 304 *eP* **P 01 11 37.4 -4.7**
SILR IAmb IAmb 01 12 01.3
comp=Z,260nm,1.4s
SILR *eS* **S 01 17 14.7 -3.3**
BRDH Bariadhala 35.89 300 LR LR 01 27 17.3
comp=Z,81μm,21.8s,baz=116,slow=38
ITAN ITANAGAR 36.04 308 *eP* **P 01 11 40.9 -3.9**
ITAN IAmb IAmb 01 11 57.6
comp=Z,233nm,0.6s
ITAN *eS* **S 01 17 19.5 -3.3**
HHC Hu-ho-hao-te 36.06 342 ⇑*iP* **P 01 11 45.0 +0.2**
HHC pP pP 01 11 49.8 -1.9
HHC PP **PP 01 13 11.0 +4.0**
HHC S **S 01 17 23.0 +0.1**
HHC pmax pmax
comp=Z,160nm,1.9s
HHC pmax pmax
comp=Z,14μm,6.3s
HHC LR LR
comp=Z,72μm,21.0s
HHC LR LR
comp=Z,72μm,22.4s
HHC LR LR
comp=Z,132μm,21.0s
MSHR Mys Shultsa 36.11 8*ceP* **P 01 11 45.6 +0.5**
MSHR pmax pmax
comp=Z,747nm,1.0s
MSHR MLR MLR
comp=Z,35μm,20.0s
ZIRO ZIRO 36.13 309 *eP* **P 01 11 41.9 -3.8**
ZIRO IAmb IAmb 01 12 04.1
comp=Z,356nm,1.6s
ZIRO *eS* **S 01 17 21.3 -3.2**
BTO Baotou 36.32 340 *eP* **P 01 11 49.5 +2.4**
BTO PP **PP 01 13 11.5 +1.5**
BTO S **S 01 17 32.0 +5.0**
BTO pmax pmax
comp=Z,68nm,0.9s
BTO pmax pmax
comp=Z,7μm,3.8s
BTO LR LR
comp=Z,230μm,19.8s
BTO LR LR
comp=Z,247μm,21.3s
TEZP TEZPUR 36.53 307 *eP* **P 01 11 45.2 -3.7**
TEZP IAmb IAmb 01 12 01.5
comp=Z,445nm,1.2s
TEZP *eS* **S 01 17 27.1 -3.2**
MORW Morawa 36.64 193 P **P 01 11 49.1 -0.7**
comp=Z,0.0nmcomp=Z,333nm,1.1s
MORW Morawa 36.64 193 P **P 01 11 49.6 -0.2**
MORW Morawa 36.64 193 P **P 01 11 49.9 +0.1**
MORW Morawa 36.64 193 ⇑P **P 01 11 49.0 -0.8**
AGT Agartala 36.67 301 *eP* **P 01 11 47.2 -3.0**
AGT IAmb IAmb 01 11 59.7
comp=Z,836nm,1.4s
AGT *eS* **S 01 17 29.4 -3.0**
VLA Vladivostok 36.74 8*d iP* **P 01 11 50.2 -0.2**
VLA pmax pmax
comp=Z,1μm,1.0s
VLA MLR MLR
comp=Z,50μm,20.0s
JTM Tenmabayashi 36.80 20 IAmb IAmb 01 12 05.0
comp=Z,574nm,1.1s
JTM Tenmabayashi 36.80 20 P **P 01 11 52.1 +1.1**
JTM Tenmabayashi 36.80 20 ⇑P **P 01 11 50.7 -0.3**
SHL Shillong 36.81 304 P **P 01 11 50.6 -1.0**
SHL IAmb IAmb 01 12 15.9
comp=Z,852nm,1.2s
SHL Shillong 36.81 304 P **P 01 11 51.9 +0.3**
SNR=273
SHL S **S 01 17 40.1 +5.1**
SHL Shillong 36.81 304 *eP* P 01 11 46.7 -4.9
SHL IAmb IAmb 01 12 04.4
comp=Z,950nm,1.4s
SHL *eS* **S 01 17 30.4 -4.6**
SHL Shillong 36.81 304 P **P 01 11 50.6 -1.0**
SHL pmax pmax
comp=Z,852nm,1.2s
CN2 Changchun 36.92 0 P **P 01 11 50.8 -1.3**
CN2 pP pP 01 11 56.5 -2.4
CN2 S **S 01 17 34.8 -1.0**
CN2 sS pS 01 17 43.8 0.0
CN2 ScP **ScP 01 17 56.5 -2.6**
CN2 SS **SnSn 01 20 04.0 -5.3**
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,8μm,7.0s
CN2 LR LR
comp=Z,35μm,20.0s
CN2 LR LR
comp=Z,42μm,20.0s
CN2 LR LR
comp=Z,44μm,22.0s
FORT Forrest 37.40 176 P **P 01 11 55.8 -0.5**
comp=Z,0.0nmcomp=Z,589nm,1.0s
FORT Forrest 37.40 176 P **P 01 11 55.6 -0.7**
FORT IAmb IAmb 01 12 10.4
comp=Z,864nm,1.2s
INKA Innaminka 37.47 157 P **P 01 11 55.8 -1.0**
INKA IAmb IAmb 01 12 08.6
comp=Z,646nm,1.4s
TAWA Tawang 37.71 307 *eP* **P 01 11 54.9 -4.5**
TAWA IAmb IAmb 01 12 11.4
comp=Z,869nm,1.3s
TAWA *eS* **S 01 17 45.5 -3.5**
USRK Ussuriysk Ar. 37.81 8 P **P 01 11 59.4 -0.1**
comp=Z,350nm,0.9s,baz=198,slow=5.4,SNR=80
comp=Z,350nm,0.9s
XLT XiLinHaoTe 37.85 349 *eP* **P 01 11 59.5 -0.6**
XLT pP pP 01 12 05.8 -1.2
XLT sP sP 01 12 08.3 -1.3
XLT PP **PP 01 13 32.0 +5.2**
XLT S **S 01 17 43.8 -6.4**
XLT sS pS 01 17 57.5 -0.6
XLT PcS **PcS 01 18 08.5 +3.5**
XLT pmax pmax
comp=Z,160nm,0.7s
XLT LR LR
comp=Z,134μm,24.1s
XLT LR LR
comp=Z,53μm,24.1s
MDJ Mudanjiang 37.94 5 P **P 01 12 00.5 -0.2**
MDJ sP pP 01 12 06.5 -1.0
MDJ S **S 01 17 49.8 -1.5**
MDJ pmax pmax
comp=Z,160nm,1.6s
MDJ pmax pmax
comp=Z,23μm,7.3s
MDJ LR LR
comp=Z,34μm,19.4s
MDJ LR LR
comp=Z,81μm,19.5s
MDJ LR LR
comp=Z,59μm,17.7s
MDJ Mudanjiang 37.94 5 P **P 01 12 01.9 +1.2**
QLP Quilpie 37.97 151 P **P 01 11 60.0 -1.1**
comp=Z,0.0nmcomp=Z,702nm,1.4s
QLP Quilpie 37.97 151 P **P 01 12 00.6 -0.5**
QLP Quilpie 37.97 151 ⇑P **P 01 11 60.0 -1.1**
BLDU Ballidu 37.99 192 P **P 01 12 00.3 -1.0**
comp=Z,0.0nmcomp=Z,237nm,0.9s
BLDU Ballidu 37.99 192 P **P 01 12 02.9 +1.7**
KMBL Kambalda 38.01 184 P **P 01 12 00.5 -0.8**
comp=Z,0.0nmcomp=Z,355nm,1.0s
SAVO Savo Central 38.04 114 P **P 01 12 03.0 +1.1**
HNR Honiara 38.27 114 LR LR 01 26 53.4
comp=Z,27μm,21.0s,baz=286,slow=35
ERM Erimo 38.63 22 P **P 01 12 06.9 +0.5**
ERM IAmb IAmb 01 12 13.5
comp=Z,2μm,1.9s
ERM Erimo 38.63 22 IAMs_20 IAMs_20 01 28 08.6
comp=Z,91μm,21.0s
ERM Erimo 38.63 22 P **P 01 12 07.5 +1.1**
ERM Erimo 38.63 22 P **P 01 12 06.9 +0.5**
ERM pmax pmax
comp=Z,2μm,2.0s
ERM MLR MLR
comp=Z,91μm,21.0s
ERM Erimo 38.63 22 ⇓P **P 01 12 07.6 +1.1**
ERM Erimo 38.63 22 P **P 01 12 06.8 +0.4**
ERM S **S 01 17 59.1 -2.6**
JEM Erimo 38.63 22 P **P 01 12 07.7 +1.3**
CAL Calcutta 38.73 298 *eP* **P 01 12 03.3 -4.3**
CAL *eS* **S 01 17 60.0 -3.8**
AUNRC North Rockhamp 38.89 141 P **P 01 12 10.1 +1.2**
BNX BinXian 38.91 3 ⇑P **P 01 12 08.0 -0.8**
BNX pP **pP 01 12 14.3 -1.3**
BNX sP **sP 01 12 17.0 -1.6**
BNX S **S 01 18 04.5 -1.4**
BNX sS **sS 01 18 17.3 -0.1**
BNX pmax pmax
comp=Z,310nm,1.4s
BNX pmax pmax
comp=Z,17μm,6.5s
BNX LR LR
comp=Z,39μm,17.3s
BNX LR LR
comp=Z,67μm,19.5s
BNX LR LR
comp=Z,41μm,19.5s
COBR COOCHBEHAR 39.10 304 *eP* **P 01 12 08.2 -2.5**
LSA Lhasa 39.25 310 P **P 01 12 10.5 -2.0**
LSA pmax pmax
comp=Z,140nm,1.5s
LSA LR LR
comp=Z,18μm,19.4s
LSA LR LR
comp=Z,35μm,17.2s
LSA LR LR
comp=Z,45μm,18.7s
LSA Lhasa 39.25 310 IAmb IAmb 01 12 25.0
comp=Z,2μm,1.8s
LSA Lhasa 39.25 310 P **P 01 12 14.0 +1.5**
MUN Mundaring 39.41 192 P **P 01 12 12.9 -0.2**
comp=Z,0.0nmcomp=Z,331nm,1.0s
MUN Mundaring 39.41 192 P **P 01 12 13.7 +0.6**
TEY Ternei 39.46 13⇑*eP* **P 01 12 15.1 +1.8**
TEY pmax pmax
comp=N,260nm,1.3s
TEY pmax pmax
comp=Z,180nm,1.3s
TEY pmax pmax
comp=E,30nm,1.3s
TEY MLR MLR
comp=E,300nm,28.0s
TEY MLR MLR
comp=N,1μm,21.0s
TEY MLR MLR
comp=E,1μm,20.0s
MTKN Mount Kenneth 39.46 192 P **P 01 12 15.3 +1.8**
GD1S Gladstone Soft 39.65 141 P **P 01 12 16.6 +1.4**
GTA Gaotai 39.70 329 P **P 01 12 17.0 +1.4**
GTA S **S 01 18 21.3 +3.1**
GTA pmax pmax
comp=E,230nm,1.5s
GTA pmax pmax
comp=E,8μm,5.5s
GTA LR LR
comp=E,69μm,21.5s
GTA LR LR
comp=E,99μm,19.3s
GTA LR LR
comp=E,126μm,19.3s
JPG JALPAIGURI 39.81 304 *eP* **P 01 12 12.4 -4.2**
JPG IAmb IAmb 01 12 37.5
comp=Z,922nm,3.2s
JPG *eS* **S 01 18 15.9 -4.0**
NWAO Narrogin (SRO) 40.14 190 P **P 01 12 18.5 -0.7**
NWAO Narrogin (SRO) 40.14 190 P **P 01 12 18.4 -0.8**
NWAO IAmb IAmb 01 12 33.9
comp=Z,715nm,1.1s
NWAO Narrogin (SRO) 40.14 190 LR LR 01 30 45.5
comp=Z,35μm,20.9s,baz=16,slow=39
NWAO Narrogin (SRO) 40.14 190 P **P 01 12 19.4 +0.2**
NWAO P **P 01 12 19.4 +0.2**
NWAO S **S 01 18 20.7 -3.9**
NWAO S **S 01 18 20.7 -3.9**
NWAO Narrogin (SRO) 40.14 190 P **P 01 12 19.4 +0.2**
NWAO Narrogin (SRO) 40.14 190 P **P 01 12 18.4 -0.8**
NWAO pmax pmax
comp=Z,715nm,1.1s
NWAO MLR MLR
comp=Z,40μm,21.0s
RMQ Roma 40.22 146 P **P 01 12 21.6 +1.6**
ASAJ Asahikawa 40.27 20 P **P 01 12 21.2 +1.0**
comp=Z,227nm,0.9s,baz=234,slow=14,SNR=41
ASAJ S **S 01 18 21.5 -4.9**
comp=Z,3.5nm,0.5s,baz=214,slow=30,SNR=1.2
ASAJ LR LR 01 28 30.1
comp=Z,54μm,20.5s,baz=220,slow=35
comp=Z,227nm,0.9s
ASAJ Asahikawa 40.27 20 P **P 01 12 21.8 +1.6**
JKA Kamikawa-asahi 40.28 20 P **P 01 12 20.0 -0.2**
JKA IAmb IAmb 01 12 46.7
comp=Z,2μm,1.7s
GOMU GeErMu 40.33 321 P **P 01 12 22.5 +1.2**
GOMU pP pP 01 12 27.0 -1.2
GOMU sP sP 01 12 29.0 -2.0
GOMU PP **PP 01 13 56.0 +1.7**
GOMU S **S 01 18 30.5 +2.2**
GOMU ScS **ScS 01 22 28.5 +1.5**
GOMU pmax pmax
comp=Z,81nm,1.8s
GOMU LR LR
comp=Z,68μm,18.2s
GOMU LR LR
comp=Z,88μm,20.6s
BWNR Bhubaneshwar 40.37 293 *eP* **P 01 12 16.8 -4.5**
BWNR IAmb IAmb 01 12 33.5
comp=Z,239nm,0.8s
BWNR *eS* **S 01 18 25.3 -3.2**
JMP Maruseppu 40.44 20 P **P 01 12 23.1 +1.5**
AAHAR St Anne's Scho 40.55 192 P **P 01 12 24.9 +2.3**
BBOO Buckleboo 40.69 166 P **P 01 12 23.4 -0.3**
comp=Z,0.0nmcomp=Z,1μm,1.1s
BBOO Buckleboo 40.69 166 P **P 01 12 23.6 -0.2**
BBOO IAmb IAmb 01 12 39.4
comp=Z,871nm,0.9s
BBOO Buckleboo 40.69 166 P **P 01 12 23.7 0.0**
EIDS Eidsvold 40.71 143 P **P 01 12 23.0 -1.0**
comp=Z,524nm,1.3s
EIDS Eidsvold 40.71 143 IAmb IAmb 01 12 31.9
comp=Z,1μm,1.6s
EIDS Eidsvold 40.71 143 P **P 01 12 25.2 +1.1**
EIDS Eidsvold 40.71 143 ⇑P **P 01 12 22.8 -1.3**
AUBUS Georgiana Moll 41.21 192 P **P 01 12 30.1 +2.1**
BOK Bokaro 41.26 299 *eP* **P 01 12 25.0 -3.6**
BOK IAmb IAmb 01 12 48.0
comp=Z,808nm,1.6s
BOK *eS* **S 01 18 38.8 -2.9**
WHYH Whyalla 41.29 164 P **P 01 12 29.1 +0.5**
YUK Yuzh-Kuril'sk 41.38 23*c iP* **P 01 12 29.8 +0.5**
YUK *i* 01 14 02.2
YUK *i* PPP PPP 01 14 29.3
YUK *i* S **S 01 18 40.5 -2.3**
YUK *i* SS **SS 01 21 49.0 +1.9**

YUK *i* SSS SSS 01 22 17.5
YUK pmax pmax
comp=N,647nm,1.1s
YUK pmax pmax
comp=Z,754nm,1.1s
YUK pmax pmax
comp=Z,3μm,2.0s
STKA Stephens Creek 41.50 159 P **P** **01 12 30.2 -0.2**
comp=Z,5μm,1.3s,comp=Z,0.0nm
STKA Stephens Creek 41.50 159 P **P** **01 12 30.8 +0.3**
STKA Stephens Creek 41.50 159 P **P** **01 12 30.2 -0.2**
comp=Z,146nm,0.6s,baz=333,slow=8.4,SNR=138
STKA S **S** **01 18 38.0 -6.9**
comp=Z,11nm,0.7s,baz=348,slow=11,SNR=1.3
STKA LR LR 01 32 04.7
comp=Z,19μm,20.9s,baz=333,slow=40
comp=Z,146nm,0.6s
STKA Stephens Creek 41.50 159 P **P** **01 12 29.8 -0.6**
STKA Stephens Creek 41.50 159 P **P** **01 12 30.8 +0.3**
STKA pmax pmax
comp=Z,7μm,1.3s
PTPS Port Pirie 41.54 164 P **P** **01 12 32.5 +1.8**
RKGY Rocky Gully 41.82 190 P **P** **01 12 33.5 +0.5**
comp=Z,0.0nmcomp=Z,1μm,1.1s
AUCAS Cummins Area S 41.99 167 P **P** **01 12 36.4 +2.0**
HTT Hallett 42.05 163 P **P** **01 12 35.1 +0.2**
comp=Z,0.0nmcomp=Z,423nm,1.4s
HTT Hallett 42.05 163 P **P** **01 12 35.4 +0.5**
HTT Hallett 42.05 163 ⇑P **P** **01 12 35.1 +0.2**
GAYA Gaya 42.14 300 *e*P **P** **01 12 32.8 -3.0**
GAYA IAML 01 12 52.4
comp=Z,144nm,1.4s
GAYA *e*S **S** **01 18 52.0 -2.6**
VIS Vishakhapatnam 42.15 289 *e*P **P** **01 12 34.2 -1.8**
VIS IAmb IAmb 01 12 52.2
comp=Z,884nm,2.1s
VIS *e*S **S** **01 18 52.4 -2.5**
AULRC Lightning Ridg 42.16 150 P **P** **01 12 35.1 -0.8**
RAGD RAYAGADA 42.30 291 *e*P **P** **01 12 32.9 -4.4**
RAGD IAmb IAmb 01 12 51.5
comp=Z,947nm,1.6s
RAGD *e*S **S** **01 18 55.0 -2.3**
JHSG JHARSUGUGA 42.57 295 *e*P **P** **01 12 35.2 -4.2**
JHSG IAmb IAmb 01 12 60.0
comp=Z,645nm,1.8s
JHSG *e*S **S** **01 18 58.0 -3.1**
HIA Hailar 42.63 355 IAMs_20 IAMs_20 01 29 11.0
comp=Z,81μm,22.0s
HIA Hailar 42.63 355 IAmb IAmb 01 12 46.0
comp=Z,574nm,1.1s
HIA Hailar 42.63 355 P **P** **01 12 40.8 +1.3**
CMSA Cobar Meteorol 42.85 154 P **P** **01 12 40.9 -0.5**
comp=Z,0.0nmcomp=Z,391nm,1.0s
CMSA Cobar Meteorol 42.85 154 P **P** **01 12 41.9 +0.5**
YSS Yuzhno-Sakhali 42.86 18 P **P** **01 12 42.5 +1.2**
YSS Yuzhno-Sakhali 42.86 18 *ce*P **P** **01 12 41.3 0.0**
YSS *e* 01 14 28.8
YSS *e*S **S** **01 19 05.5 +0.9**
YSS *e*SS **SS** **01 22 16.7 +0.4**
YSS pmax pmax
comp=Z,290nm,1.1s
YSS pmax pmax
comp=Z,13μm,6.0s
YSS pmax pmax
comp=N,6μm,5.6s
YSS pmax pmax
comp=E,4μm,5.2s
YSS smax smax
comp=N,22μm,13.6s
YSS smax smax
comp=E,12μm,14.2s
YSS MLR MLR
comp=Z,28μm,20.0s
YSS MLR MLR
comp=N,19μm,18.0s
YSS MLR MLR
comp=E,24μm,17.0s
YSS Yuzhno-Sakhali 42.86 18 ⇑P **P** **01 12 41.0 -0.3**
TW1H Toowoomba 1 Ha 42.86 144 P **P** **01 12 43.0 +1.3**
HILR Hailar Array B 42.92 355 P **P** **01 12 42.2 +0.3**
comp=E,108nm,0.7s,baz=168,slow=10,SNR=75
HILR S **S** **01 19 05.6 +0.1**
comp=E,0.5nm,0.3s,baz=161,slow=18,SNR=1.3
HILR LR LR 01 33 08.5
comp=E,45μm,18.6s,baz=110,slow=40
comp=E,108nm,0.7s
AUBSH Beerwah State 42.94 142 P **P** **01 12 44.1 +1.8**
KUR Kuril'sk 43.16 24 *d i*P **P** **01 12 43.6 -0.2**
KUR *e* 01 14 23.1
KUR *e*PPP PPP 01 14 54.3
KUR *e*S **S** **01 19 07.7 -1.4**
KUR *e*SS **SS** **01 22 20.4 -1.9**
KUR pmax pmax
comp=Z,13μm,6.1s
KUR pmax pmax
comp=Z,1μm,1.3s
KUR pmax pmax
comp=N,465nm,1.1s
KUR pmax pmax
comp=E,244nm,1.0s
KUR MLR MLR
comp=E,29μm,18.0s
KUR MLR MLR
comp=Z,30μm,18.0s
KUR MLR MLR
comp=N,10μm,20.0s
GHSS Government Hou 43.35 164 P **P** **01 12 47.3 +1.9**
AUWSH Wavell State H 43.39 143 P **P** **01 12 47.3 +1.4**
HEH HeiHe 43.42 2 *e*P **P** **01 12 45.5 -0.3**
HEH pP **pP** **01 12 51.5 -1.2**
HEH S **S** **01 19 11.5 -1.3**
HEH pmax pmax
comp=N,180nm,0.8s
HEH pmax pmax
comp=N,25μm,6.2s
HEH LR LR
comp=N,40μm,19.7s
HEH LR LR
comp=N,57μm,19.5s
HEH LR LR
comp=N,64μm,18.4s
AUMBR Murray Bridge 43.74 163 P **P** **01 12 50.5 +1.9**
ULN Ulaanbaatar 43.78 342 P **P** **01 12 47.9 -1.1**
ULN IAmb IAmb 01 13 01.9
comp=Z,408nm,1.1s
ULN Ulaanbaatar 43.78 342 P **P** **01 12 50.4 +1.4**
ULN S **S** **01 19 21.0 +2.5**
ULN Ulaanbaatar 43.78 342 *ce*P **P** **01 12 48.9 -0.1**
ULN pmax pmax
comp=Z,505nm,1.3s
ULN MLR MLR
comp=Z,111μm,21.0s
ULN Ulaanbaatar 43.78 342 ⇑P **P** **01 12 48.3 -0.7**
SONM Songino Array 43.95 342 P **P** **01 12 49.3 -1.0**
SONM Songino Array 43.95 342 P **P** **01 12 50.0 -0.3**
comp=Z,19nm,0.6s,baz=157,slow=9.4,SNR=39
SONM LR LR 01 32 22.0
comp=Z,119μm,21.7s,baz=156,slow=38
SONM PKPPKP **P'P'df** **01 44 36.9 -2.2**
comp=Z,1.9nm,1.0s,baz=236,slow=2.7,SNR=3.7
comp=Z,19nm,0.6s
PALK Pallekele 44.04 273 P **P** **01 12 50.5 -0.9**
PALK IAmb IAmb 01 13 52.0
comp=Z,774nm,1.8s
PALK Pallekele 44.04 273 LR LR 01 31 51.7
comp=Z,24μm,21.6s,baz=72,slow=37
PALK Pallekele 44.04 273 P **P** **01 12 52.5 +1.1**
PALK S **S** **01 19 27.1 +4.2**
PALK Pallekele 44.04 273 P **P** **01 12 50.5 -0.9**
PALK pmax pmax
comp=Z,775nm,1.8s
PALK Pallekele 44.04 273 P **P** **01 12 52.3 +0.9**
PALK S **S** **01 19 25.2 +2.3**
HALK Hakmana 44.12 272 ⇑P **P** **01 12 56.5 +4.5**
BLSP Bilaspur 44.14 295 *e*P P 01 12 46.9 -5.2
BLSP IAmb IAmb 01 13 05.2
comp=Z,288nm,1.8s
BLSP *e*S **S** **01 19 20.7 -3.5**
VAR Varanasi 44.20 300 *e*P **P** **01 12 47.9 -4.6**
VAR IAmb IAmb 01 13 02.2
comp=Z,474nm,0.9s
VAR *e*S **S** **01 19 20.4 -4.4**
GC1S Gold Coast 1 S 44.23 143 P **P** **01 12 54.2 +1.6**
GKPR Gorakhpur 44.29 302 *e*P P 01 12 47.2 -6.0
GKPR IAmb IAmb 01 13 09.8
comp=Z,352nm,1.4s
GKPR *e*S **S** **01 19 20.6 -5.5**
VJD Vijayawada 44.50 287 *e*P **P** **01 12 50.6 -4.4**
VJD IAmb IAmb 01 13 13.9
comp=Z,299nm,0.7s
VJD *e*S **S** **01 19 26.8 -2.6**
UGL Uglegorsk 44.58 16 *e*P **P** **01 12 55.4 +0.3**
UGL *e* 01 14 43.0
UGL *e*S **S** **01 19 28.4 -1.2**
UGL *e*SS **ScS** **01 22 53.0 +1.3**
UGL pmax pmax
comp=Z,700nm,1.0s
UGL pmax pmax
comp=Z,19μm,5.8s
UGL smax smax
comp=E,17μm,14.0s
UGL smax smax
comp=N,33μm,13.0s
UGL MLR MLR
comp=E,38μm,18.0s
UGL MLR MLR
comp=N,21μm,21.0s
UGL MLR MLR
comp=Z,33μm,21.0s
ARMA Armidale 44.86 147 P **P** **01 12 57.9 +0.1**
comp=Z,0.0nmcomp=Z,586nm,1.1s
ARMA Armidale 44.86 147 IAmb IAmb 01 13 08.9
comp=Z,764nm,1.2s
ARMA Armidale 44.86 147 P **P** **01 12 58.3 +0.5**
ARMA Armidale 44.86 147 ⇑P **P** **01 12 57.7 -0.1**
GRNR Gornyy 44.90 10 ⇑*i*P **P** **01 12 57.8 +0.1**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,15μm,20.0s
GRNR MLR MLR
comp=N,24μm,18.0s
GRNR MLR MLR
comp=Z,31μm,18.0s
AUPHS Peel High Scho 45.00 148 P **P** **01 13 00.3 +1.5**
ALBI Allahabad 45.25 299 *e*P **P** **01 12 56.4 -4.5**
ALBI IAmb IAmb 01 13 16.9
ARPS Mount Arapiles 46.03 161 P **P** **01 13 07.1 +0.2**
comp=Z,0.0nmcomp=Z,524nm,1.2s
BRCI Bahraich 46.12 302 *e*P **P** **01 13 04.5 -3.2**
BRCI IAmb IAmb 01 13 24.6
comp=Z,95nm,1.4s
BRCI *e*S **S** **01 19 47.3 -5.3**
CIT Chita 46.14 350 *e*P **P** **01 13 09.6 +2.0**
CIT *e* 01 14 38.0
CIT *e* 01 14 53.0
CIT *e*S **S** **01 19 55.6 +3.3**
CIT *e* 01 22 57.8
TYV Tymovskoe 46.36 15 *e*P **P** **01 13 11.2 +2.0**
TYV *e*S **S** **01 19 58.6 +3.2**
TYV pmax pmax
comp=Z,240nm,1.6s
TYV pmax pmax
comp=Z,5μm,3.9s
TYV smax smax
comp=N,29nm,2.3s
TYV smax smax
comp=E,35nm,2.3s
TYV smax smax
comp=N,7μm,6.9s
TYV smax smax
comp=E,6μm,6.9s
YNG Young 46.39 153 P **P** **01 13 09.8 +0.2**
comp=Z,0.0nmcomp=Z,398nm,2.0s
AUMAG Moama Anglican 46.44 158 P **P** **01 13 11.7 +1.7**
LKN LUCKNOW 46.47 301 *e*P **P** **01 13 07.2 -3.3**
LKN IAmb IAmb 01 13 30.3
comp=Z,200nm,1.7s
LKN *e*S **S** **01 19 52.1 -5.5**
SALM Salem 46.49 280 *e*P **P** **01 13 06.8 -4.1**
SALM IAmb IAmb 01 13 25.5
comp=Z,636nm,1.7s
SALM *e*S **S** **01 19 56.3 -2.0**
MGBR Mount Gambier 46.53 163 P **P** **01 13 11.2 +0.5**
HYB Hyderabad 46.61 288 *e*P **P** **01 13 12.2 +0.5**
HYB *e*pP **pP** **01 13 14.6 -4.1**
HYB IVmB_BB 01 13 21.1
comp=Z,5μm,3.3s
HYB *e*PcP **PcP** **01 14 44.0 -1.7**
HYB *e*S **S** **01 19 59.2 -0.7**
HYB IAMs_20 IAMs_20 01 30 47.8
comp=Z,33μm,22.6s
HYB Hyderabad 46.61 288 *e*PP **S** **01 19 52.8 -7.2**
NGP Nagpur 46.73 293 *e*P **P** **01 13 09.3 -3.4**
NGP IAmb IAmb 01 13 27.4
comp=Z,962nm,3.9s
NGP *e*S **S** **01 19 58.4 -3.3**
MGCD Mangrove Creek 46.78 150 P **P** **01 13 14.6 +1.8**
ZEA Zeya 46.90 2 *e*P **P** **01 13 13.0 -0.4**
ZEA *e* 01 15 05.0
ZEA *e*S **S** **01 20 04.6 +1.6**
ZEA *e* 01 23 21.1
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,80nm,1.2s
ZEA pmax pmax
comp=Z,180nm,1.0s
ZEA pmax pmax
comp=N,3μm,5.8s
ZEA pmax pmax
comp=Z,7μm,7.5s
ZEA pmax pmax
comp=N,5μm,7.8s
ZEA pmax pmax
comp=Z,9μm,7.3s
ZEA MLR MLR
comp=E,9μm,19.0s
ZEA MLR MLR
comp=N,15μm,17.0s
ZEA MLR MLR
comp=Z,22μm,17.0s
SYDH Sydney Hard Ro 47.05 150 P **P** **01 13 16.1 +1.3**
KOUNC Koumac, New Ca 47.11 126 P **P** **01 13 16.9 +1.4**
AUKHS Kincumber High 47.12 150 P **P** **01 13 17.2 +1.8**
ZAK Zakamensk 47.17 341 *e*P **P** **01 13 15.2 -0.5**
ZAK pmax pmax
comp=Z,227nm,1.9s
SANVU Saraoutou 47.19 118 P **P** **01 13 15.9 -0.3**
SANVU Saraoutou 47.19 118 P **P** **01 13 17.3 +1.1**
SANVU Saraoutou 47.19 118 ⇓P **P** **01 13 17.1 +0.9**
KOD Kodaikanal 47.19 278 *e*P **P** **01 13 13.4 -3.3**
KOD IAmb IAmb 01 13 29.5
comp=Z,518nm,6.5s
KOD *e*S **S** **01 20 04.4 -4.4**
RIV Riverview 47.30 150 P **P** **01 13 18.9 +2.1**
comp=Z,841nm,1.2s
RIV Riverview 47.30 150 P **P** **01 13 18.5 +1.7**
RIV Riverview 47.30 150 ⇑P **P** **01 13 18.1 +1.3**
AUHPC Hawkesdale P12 47.41 161 P **P** **01 13 19.1 +1.5**
BRAT Ballarat 47.44 160 P **P** **01 13 19.1 +1.3**
AUMTS Mt Stromlo 47.51 153 P **P** **01 13 20.1 +1.6**
CAN Canberra 47.51 153 P **P** **01 13 19.2 +0.7**
comp=Z,0.0nmcomp=Z,701nm,1.1s
CAN Canberra 47.51 153 P **P** **01 13 18.9 +0.4**
CAN Canberra 47.51 153 P **P** **01 13 20.3 +1.8**
CAN Canberra 47.51 153 P **P** **01 13 18.9 +0.4**
CAN pmax pmax
comp=Z,951nm,1.2s
CAN Canberra 47.51 153 ⇑P **P** **01 13 19.2 +0.7**
AUMHS Melrose High S 47.59 153 P **P** **01 13 21.1 +2.0**
CNB Canberra Magne 47.67 153 P **P** **01 13 20.4 +0.7**
comp=Z,0.0nmcomp=Z,625nm,1.2s
CNB Canberra Magne 47.67 153 P **P** **01 13 21.2 +1.4**
LGTI Lohaghat 47.84 304 *e*P **P** **01 13 17.9 -3.2**
LGTI IAmb IAmb 01 13 37.7
comp=Z,96nm,0.2s
LGTI *e*S **S** **01 20 13.8 -3.3**
TARA Tarawa 48.00 94 IAMs_20 IAMs_20 01 32 13.2
comp=Z,43μm,18.0s
TARA Tarawa 48.00 94 P **P** **01 13 23.9 +1.3**
NKL Nikolayevsk 48.00 13 *e*P **P** **01 13 21.7 -0.2**
NKL *e*S **S** **01 20 19.0 +0.4**
NKL pmax pmax
comp=N,759nm,1.2s
NKL pmax pmax
comp=E,706nm,1.2s
NKL pmax pmax
comp=Z,3μm,1.2s
NKL smax smax
comp=E,3μm,3.7s
NKL smax smax
comp=N,3μm,3.2s
NKL MLR MLR
comp=E,89μm,22.0s
NKL MLR MLR
comp=N,57μm,20.0s
NKL MLR MLR
comp=Z,127μm,21.0s
TOO Toolangi 48.02 158 P **P** **01 13 23.2 +0.8**
comp=Z,0.0nmcomp=Z,307nm,1.3s
TOO Toolangi 48.02 158 P **P** **01 13 22.3 -0.1**
TOO IAmb IAmb 01 13 35.5
comp=Z,450nm,1.2s
TOO Toolangi 48.02 158 P **P** **01 13 22.3 -0.1**
TOO pmax pmax
comp=Z,450nm,1.3s
TOO Toolangi 48.02 158 ⇑P **P** **01 13 23.4 +1.0**
JHNI Jhansi 48.14 298 *e*P **P** **01 13 20.0 -3.5**
JHNI IAmb IAmb 01 13 42.1
comp=Z,797nm,1.9s
JHNI *e*S **S** **01 20 14.9 -6.7**
IRK Irkutsk 48.50 343 *e*P **P** **01 13 25.8 -0.1**
IRK *e* 01 20 37.8
IRK pmax pmax
comp=Z,847nm,2.5s
AKL Akola 48.52 292 *e*P **P** **01 13 24.1 -2.5**
AKL IAmb IAmb 01 13 40.2
comp=Z,374nm,1.6s
AKL *e*S **S** **01 20 23.2 -3.9**
BHPL Bhopal 48.62 295 *e*P P 01 13 20.6 -6.8
BHPL IAmb IAmb 01 13 56.0
comp=Z,237nm,3.0s
BHPL *e*S **S** **01 20 24.0 -4.5**
NRDN NARMADA NAGAR 48.75 294 *e*P **P** **01 13 24.6 -3.7**
NRDN IAmb IAmb 01 13 51.8
comp=Z,55nm,0.4s
NRDN *e*S **S** **01 20 26.1 -4.2**
JOSI Joshimath 48.77 305 *e*P **P** **01 13 25.1 -3.5**
JOSI IAML 01 13 39.4
comp=Z,999nm,1.4s
JOSI *e*S **S** **01 20 26.8 -3.9**
GUNA GUNA 49.01 297 *e*P **P** **01 13 26.1 -4.2**
GUNA IAmb IAmb 01 13 50.2
comp=Z,763nm,1.4s
GUNA *e*S **S** **01 20 30.0 -3.9**
MOY Mondy 49.02 340 *e*P **P** **01 13 30.4 +0.4**
MOY pmax pmax
comp=Z,943nm,2.1s
MILA Mila 49.03 154 P **P** **01 13 30.7 +0.5**
comp=Z,0.0nmcomp=Z,116nm,1.8s
MILA Mila 49.03 154 ⇑P **P** **01 13 30.8 +0.5**
WMQ Urumqi 49.34 325 *e*P **P** **01 13 33.5 +0.9**
WMQ S **S** **01 20 40.0 +1.9**
WMQ pmax pmax
comp=Z,88nm,2.1s
WMQ pmax pmax
comp=Z,6μm,5.3s
WMQ LR LR
comp=Z,61μm,18.1s
WMQ LR LR
comp=Z,64μm,18.1s
WMQ LR LR
comp=Z,76μm,21.7s
KNGR Kungurtug, Tuv 49.40 337 *i* P **P** **01 13 33.0 0.0**
KNGR pmax pmax
comp=Z,132nm,1.1s
UGON Onchagaon 49.44 302 *e*P **P** **01 13 30.9 -2.6**
UGON IAmb IAmb 01 13 40.8
comp=Z,768nm,1.7s
UGON *e*S **S** **01 20 36.2 -3.5**
ASOR Ausora 49.68 302 *e*P **P** **01 13 32.3 -3.0**
ASOR IAmb IAmb 01 13 50.7
comp=Z,366nm,2.9s
ASOR *e*S **S** **01 20 37.7 -5.4**
ONTNC Ouen Toro 49.74 127 P **P** **01 13 36.7 +0.9**
ONTNC Ouen Toro 49.74 127 ⇑P **P** **01 13 36.6 +0.8**
MERT Meerut 49.78 302 *e*P **P** **01 13 31.8 -4.2**
MERT IAmb IAmb 01 13 44.7
comp=Z,91nm,0.3s
MERT *e*S **S** **01 20 40.9 -3.5**
BISR Bishrakh 49.91 302 *e*P **P** **01 13 33.2 -3.9**
BISR IAmb IAmb 01 13 48.1
comp=Z,66nm,0.7s
BISR *e*S **S** **01 20 43.0 -3.3**
DDI Dehra Dun 49.92 304 *e*P **P** **01 13 34.2 -2.9**
DDI IAmb IAmb 01 13 53.2
comp=Z,93nm,1.7s
DDI *e*S **S** **01 20 41.4 -5.1**
YATNC Mamie plateau, 49.96 126 P **P** **01 13 38.6 +1.1**
LHI Lord Howe Isla 50.00 141 P **P** **01 13 39.1 +1.5**
comp=Z,0.0nmcomp=Z,312nm,1.0s
LHI Lord Howe Isla 50.00 141 IAmb IAmb 01 13 55.0
comp=Z,344nm,1.2s
JMIU JAMIA UNIVERSI 50.03 302 *e*P **P** **01 13 34.2 -3.8**
JMIU IAmb IAmb 01 13 49.5
comp=Z,98nm,1.3s
JMIU *e*S **S** **01 20 44.4 -3.6**
LDR Lodi Road 50.10 302 *e*P **P** **01 13 34.8 -3.7**
LDR IAML 01 13 46.6
comp=Z,167nm,0.7s
LDR *e*S **S** **01 20 44.4 -4.6**
OUENC Ouen Island, N 50.10 127 P **P** **01 13 40.4 +1.8**
AYAN Aya Nagar 50.15 302 *e*P **P** **01 13 35.2 -3.6**
AYAN IAmb IAmb 01 13 54.2
comp=Z,646nm,3.2s
AYAN *e*S **S** **01 20 46.4 -3.3**
GNR GANAUR 50.42 302 *e*P **P** **01 13 36.3 -4.7**
GNR IAmb IAmb 01 13 47.0
comp=Z,804nm,0.1s
GNR *e*S **S** **01 20 47.6 -5.9**
JHJR Jhajjar 50.59 302 *e*P **P** **01 13 38.4 -3.9**
JHJR IAmb IAmb 01 14 05.9
comp=Z,616nm,1.3s
JHJR *e*S **S** **01 20 51.8 -4.1**
KUDL Kundal 50.60 301 *e*P **P** **01 13 40.0 -2.3**
KUDL IAmb IAmb 01 14 00.5
comp=Z,216nm,0.7s
KUDL *e*S **S** **01 20 50.5 -5.4**
MARNC Mare, Loyalty 50.60 125 P **P** **01 13 43.7 +1.4**
MARNC Mare, Loyalty 50.60 125 ⇓P **P** **01 13 43.6 +1.3**
PINNC Pines Island, 50.69 126 P **P** **01 13 44.9 +1.9**
KAD Karad 50.74 287 *e*P **P** **01 13 39.8 -3.7**
KAD IAML 01 13 55.8
comp=Z,708nm,3.3s
KAD *e*S **S** **01 20 52.5 -5.8**
SKR Severo-Kuril's 50.86 25 *c i*P **P** **01 13 42.5 -1.3**
SKR *e*S **S** **01 20 59.1 +0.3**
SKR pmax pmax
comp=Z,11μm,4.1s
SKR pmax pmax
comp=Z,478nm,1.2s
SKR smax smax
comp=E,37μm,9.3s
SKR smax smax
comp=N,27μm,14.0s
SKR MLR MLR
comp=Z,41μm,18.0s
SMLA Simla 50.90 305 *e*P P 01 13 35.9 -8.6
SMLA IAmb IAmb 01 14 01.5
comp=Z,98nm,1.3s
SMLA *e*S **S** **01 20 53.8 -6.2**
RTK Rohtak 50.90 302 *e*P **P** **01 13 40.8 -3.8**
RTK IAmb IAmb 01 13 56.3
comp=Z,86nm,0.4s
CGRH CHANDIGARH 51.09 304 *e*P P 01 13 40.4 -5.6
CGRH IAmb IAmb 01 14 03.9
comp=Z,493nm,1.1s
CGRH *e*S **S** **01 20 59.2 -3.5**
POO Poona 51.18 288 *e*P **P** **01 13 43.0 -3.9**
POO IAmb IAmb 01 13 58.5
comp=Z,176nm,0.9s
POO *e*S **S** **01 20 57.8 -6.6**
BHK Bhakra 51.59 305 *e*P P 01 13 42.5 -7.3
BHK IAmb IAmb 01 14 01.6
comp=Z,730nm,3.9s
BHK *e*S S 01 20 59.0 -11
BOD Bodaibo 51.69 352 *e*P **P** **01 13 50.2 +0.3**
BOD pmax pmax
comp=Z,409nm,1.2s
ALCI Alchi Leh 51.90 309 *e*P **P** **01 13 48.6 -3.8**
ALCI IAmb IAmb 01 14 11.6
comp=Z,424nm,2.0s

ALCI *eS* **S** **01 21 10.5 -4.0**
GLAD Gladstone 51.94 158 P **P** **01 13 52.7 +0.6**
DHRM DHARAMSHALA 51.95 306 *eP* **P** **01 13 49.8 -2.8**
DHRM IAmb IAmb 01 14 30.4
comp=Z,653nm,1.9s
DHRM *eS* **S** **01 21 08.7 -6.3**
CORO Coronation Par 52.04 159 P **P** **01 13 54.8 +2.1**
UDPR Udaipur 52.22 296 *eP* **P** **01 13 51.2 -3.3**
UDPR IAmb IAmb 01 14 12.6
comp=Z,304nm,0.8s
UDPR *eS* **S** **01 21 14.7 -3.8**
TSSA Tissa 52.26 307 *eP* P 01 13 49.2 -5.7
TSSA IAmb IAmb 01 14 09.7
comp=Z,484nm,1.1s
TSSA *eS* **S** **01 21 15.0 -4.0**
KAAM Kaadhehdhoo 52.32 265 P **P** **01 13 57.6 +2.2**
KAAM Kaadhehdhoo 52.32 265 ⇓P **P** **01 13 59.4 +4.0**
MOO Moorlands 52.93 160 P **P** **01 14 01.0 +1.7**
comp=Z,0.0nmcomp=Z,308nm,1.3s
MOO Moorlands 52.93 160 P **P** **01 14 01.2 +1.8**
ZSN Zaisan 53.11 327 *eP* **P** **01 14 00.3 -0.4**
ZSN *eS* **S** **01 21 31.1 +1.1**
ZSN Zaisan 53.11 327 *eP* **P** **01 14 00.3 -0.4**
ZSN *eS* **S** **01 21 31.0 +1.1**
DGZ Jazzator, Alta 53.19 330*c i P* **P** **01 14 01.1 -0.4**
JMU Jammu 53.22 306 *eP* **P** **01 13 57.8 -3.9**
JMU IAmb IAmb 01 14 18.3
comp=Z,807nm,2.4s
JMU *eS* **S** **01 21 29.5 -2.2**
SRGN SRI GANGA NAGA 53.27 302 *eP* P 01 13 57.3 -4.9
SRGN IAmb IAmb 01 14 17.1
comp=Z,331nm,1.1s
SRGN *eS* **S** **01 21 29.1 -3.4**
BKNR BIKANER 53.32 300 *eP* **P** **01 13 59.0 -3.6**
BKNR IAmb IAmb 01 14 16.2
comp=Z,360nm,1.2s
BKNR *eS* **S** **01 21 27.7 -5.6**
PEA0B Petropavlovsk- 53.33 24 *i P* **P** **01 14 01.8 -0.4**
PETK Petropavlovsk- 53.33 24 P **P** **01 14 02.3 +0.1**
PETK Petropavlovsk- 53.33 24 P **P** **01 14 02.8 +0.5**
comp=Z,82nm,0.8s,baz=199,slow=4.1,SNR=84
PETK S **S** **01 21 40.2 +7.5**
comp=Z,0.5nm,0.4s,baz=313,slow=14,SNR=5.8
PETK LR LR 01 36 32.8
comp=Z,40µm,19.8s,baz=221,slow=36
comp=Z,82nm,0.8s
TAU Tasmania Unive 53.38 160 P **P** **01 14 03.1 +0.5**
TAU IAmb IAmb 01 14 15.4
comp=Z,333nm,1.2s
TAU Tasmania Unive 53.38 160 P **P** **01 14 04.3 +1.6**
TAU Tasmania Unive 53.38 160 P **P** **01 14 03.2 +0.5**
TAU pmax pmax
comp=Z,333nm,1.3s
TAU Tasmania Unive 53.38 160 ⇓P **P** **01 14 05.9 +3.2**
PET Petropavlovsk 53.66 25 P **P** **01 14 05.4 +0.8**
PET Petropavlovsk 53.66 25 *eP* **P** **01 14 07.2 +2.6**
PET *e* 01 15 05.3
PET *eS* **S** **01 21 34.1 -2.9**
PET pmax pmax
comp=Z,590nm,1.3s
PET pmax pmax
comp=Z,5µm,10.6s
PET pmax pmax
comp=Z,7µm,11.1s
PET MLR MLR
comp=Z,29µm,20.0s
PET MLR MLR
comp=Z,26µm,19.0s
PET Petropavlovsk 53.66 25 ⇓P **P** **01 14 05.8 +1.2**
SRNI Srinagar 53.69 308 *eP* **P** **01 14 01.5 -3.7**
SRNI IAmb IAmb 01 14 16.4
comp=Z,364nm,0.1s
SRNI *eS* **S** **01 21 35.3 -2.9**
SHLS Shalkode 54.01 320 *eP* **P** **01 14 05.1 -2.5**
comp=Z,284nm,1.1s
SHLS *eS* **S** **01 21 40.0 -2.6**
SHLS Shalkode 54.01 320 *eP* **P** **01 14 05.0 -2.5**
SHLS *eS* **S** **01 21 39.9 -2.6**
SHLS pmax pmax
comp=Z,284nm,1.1s
PDGK Podgornoye 54.07 320 P **P** **01 14 06.9 -1.1**
MK31 Makanchi Array 54.17 325*c i P* **P** **01 14 08.7 +0.2**
MKAR Makanchi Array 54.17 325 P **P** **01 14 07.8 -0.8**
MKAR Makanchi Array 54.17 325 P **P** **01 14 09.4 +0.9**
comp=Z,102nm,0.8s,baz=125,slow=5.3,SNR=121
MKAR LR LR 01 38 56.0
comp=Z,43µm,18.1s,baz=124,slow=38
MKAR PKPPKP **P'P'df** **01 44 19.6 -6.3**
comp=Z,5.1nm,1.1s,baz=306,slow=4.2,SNR=8.1
MKAR PKP2bc **P'P'bc** **01 44 38.2 -2.1**
comp=Z,2.4nm,0.9s,baz=338,slow=2.9,SNR=3.7
comp=Z,102nm,0.8s
UZB Uzynbulak 54.29 320 *eP* **P** **01 14 09.1 -0.6**
UZB *eS* **S** **01 21 47.4 +1.0**
UZB Uzynbulak 54.29 320 *eP* **P** **01 14 09.0 -0.6**
UZB *eS* **S** **01 21 47.3 +1.0**
DGAR Diego Garcia 54.34 256 P **P** **01 14 10.6 +0.3**
DGAR IAmb IAmb 01 14 22.4
comp=Z,572nm,1.1s
DGAR Diego Garcia 54.34 256 P **P** **01 14 10.6 +0.3**
DGAR S **S** **01 21 47.0 -0.5**
DGAR Diego Garcia 54.34 256 P **P** **01 14 10.6 +0.3**
DGAR pmax pmax
comp=Z,572nm,1.2s
DGAR MLR MLR
comp=Z,34µm,21.0s
MAKZ Makanchi 54.36 325 P **P** **01 14 09.4 -0.5**
MAKZ IAmb IAmb 01 15 03.7
comp=Z,234nm,1.1s
MAKZ Makanchi 54.36 325 P **P** **01 14 09.6 -0.3**
MAKZ Makanchi 54.36 325 ⇑P **P** **01 14 09.6 -0.3**
SATY Saty 54.64 319 *eP* **P** **01 14 11.6 -0.6**
comp=Z,179nm,0.9s
SATY *eS* **S** **01 21 51.8 +0.7**
SATY Saty 54.64 319 *eP* **P** **01 14 11.6 -0.6**
SATY *eS* **S** **01 21 51.8 +0.7**
SATY pmax pmax
comp=Z,179nm,0.9s
KSH Kashi 54.78 314 P **P** **01 14 15.0 +1.8**
KSH PcP **PcP** **01 15 18.0 +2.4**
KSH S **S** **01 21 53.3 +0.3**
KSH pmax pmax
comp=Z,260nm,1.6s
KSH pmax pmax
comp=Z,6µm,5.2s
KSH LR LR
comp=Z,94µm,20.3s
KSH LR LR
comp=Z,37µm,23.4s
KSH LR LR
comp=Z,46µm,22.7s
NIL Nilore 54.82 307 P **P** **01 14 13.0 -0.5**
NIL Nilore 54.82 307 P **P** **01 14 13.0 -0.5**
NIL pmax pmax
comp=Z,546nm,0.9s
KDJ Kajisay 55.03 318 IAmb IAmb 01 14 25.7
comp=Z,317nm,1.0s
YAK Yakutsk 55.29 3 P **P** **01 14 15.7 -0.6**
YAK Yakutsk 55.29 3 IAMs_20 IAMs_20 01 38 28.8
comp=Z,37µm,21.0s
YAK Yakutsk 55.29 3 P **P** **01 14 17.0 +0.7**
comp=Z,224nm,0.9s,baz=150,slow=1.0,SNR=30
YAK LR LR 01 38 48.1
comp=Z,34µm,21.8s,baz=198,slow=37
comp=Z,224nm,0.9s
YAK Yakutsk 55.29 3 *eP* **P** **01 14 16.1 -0.2**
YAK *e* 01 16 19.5
YAK *eS* **S** **01 21 57.4 -1.4**
YAK *e*SS **sS** **01 22 14.9 +4.3**
YAK pmax pmax
comp=Z,244nm,0.9s
YAK pmax pmax
comp=N,86nm,1.1s
YAK pmax pmax
comp=E,21nm,1.0s
YAK pmax pmax
comp=Z,1µm,3.3s
YAK pmax pmax
comp=E,147nm,2.0s
YAK pmax pmax
comp=N,403nm,2.5s
YAK smax smax
comp=N,3µm,5.3s
YAK smax smax
comp=E,8µm,6.2s

YAK MLR MLR
comp=Z,34µm,22.0s
YAK MLR MLR
comp=E,15µm,18.0s
YAK MLR MLR
comp=N,14µm,20.0s
YAK Yakutsk 55.29 3 ⇑P **P** **01 14 15.5 -0.8**
ARXS Arharly 55.55 320 *eP* **P** **01 14 18.3 -0.4**
TDK Taldyqorghan 55.56 321 *eP* **P** **01 14 18.2 -0.4**
comp=N,330nm,1.0s
TDK *eS* **S** **01 22 04.4 +1.2**
TDK LR LR 01 40 01.6
comp=N,20µm,16.8s
TDK Taldyqorghan 55.56 321 *eP* **P** **01 14 18.2 -0.4**
TDK *eS* **S** **01 22 04.3 +1.2**
TDK pmax pmax
comp=Z,330nm,1.0s
TDK MLR MLR
comp=Z,20µm,17.0s
MDOK Medeo 55.58 319 *eP* **P** **01 14 18.2 -0.7**
MDOK *eS* **S** **01 22 04.6 +0.9**
MDOK LR LR 01 39 57.8
MDOK Medeo 55.58 319 *eP* **P** **01 14 18.2 -0.7**
MDOK *eS* **S** **01 22 04.5 +0.9**
TNSS Tian-Shan 55.59 319 *eP* **P** **01 14 18.4 -0.9**
TNSS Tian-Shan 55.59 319 *eP* **P** **01 14 18.4 -0.9**
KNDC Almaty 55.65 319 P **P** **01 14 19.6 +0.2**
BHUJ Bhuj 55.66 293 *eP* **P** **01 14 16.4 -3.2**
BHUJ IAmb IAmb 01 14 30.3
comp=Z,317nm,1.4s
BHUJ *eS* **S** **01 22 00.2 -4.8**
AAA Alma-Ata 55.68 319 *eP* **P** **01 14 19.0 -0.6**
comp=Z,264nm,1.1s
AAA LR LR 01 40 25.3
comp=Z,25µm,17.2s
AAA Alma-Ata 55.68 319 *eP* **P** **01 14 20.3 +0.7**
ULHL Ulahol 55.71 317 P **P** **01 14 21.0 +1.0**
SNR=17
BOOM Boomskoye usch 56.02 318 IAmb IAmb 01 14 52.2
comp=Z,370nm,1.4s
FUNA Funafuti 56.04 105 P **P** **01 14 22.9 +0.4**
FUNA Funafuti 56.04 105 IAMs_20 IAMs_20 01 35 39.5
comp=Z,48µm,20.0s
FUNA Funafuti 56.04 105 P **P** **01 14 23.6 +1.1**
FUNA Funafuti 56.04 105 ⇓P **P** **01 14 23.6 +1.1**
MA2 Magadan 56.24 15 P **P** **01 14 23.1 -0.1**
MA2 IAmb IAmb 01 14 32.4
comp=Z,461nm,1.0s
MA2 IAMs_20 IAMs_20 01 38 19.3
comp=Z,43µm,21.0s
MA2 Magadan 56.24 15 P **P** **01 14 23.9 +0.7**
comp=Z,121nm,0.9s,baz=205,slow=5.4,SNR=26
comp=Z,121nm,0.9s
MA2 Magadan 56.24 15 P **P** **01 14 24.4 +1.2**
MA2 Magadan 56.24 15*d i P* **P** **01 14 24.2 +1.0**
MA2 pmax pmax
comp=Z,631nm,1.2s
MA2 MLR MLR
comp=Z,46µm,21.0s
MA2 Magadan 56.24 15 ⇓P **P** **01 14 23.5 +0.3**
KUU Kurty 56.36 319 *eP* **P** **01 14 23.8 -0.6**
comp=Z,628nm,1.8s
KUU Kurty 56.36 319 *eP* **P** **01 14 23.8 -0.6**
KUU pmax pmax
comp=Z,628nm,1.8s
TKM2 Tokmak 2 56.43 318 P **P** **01 14 25.2 0.0**
SNR=52
KBK Karagaybulak 56.75 317 P **P** **01 14 28.1 +0.7**
SNR=84
UCH Uchtor 56.87 317 P **P** **01 14 29.6 +1.0**
SNR=216
CHMS Chumysh 57.03 318 P **P** **01 14 29.6 +0.4**
SNR=19
FRU1 Bishkek 57.03 317 IAmb IAmb 01 15 07.1
comp=Z,398nm,1.3s
AAK Ala-Archa 57.05 317 P **P** **01 14 29.1 -0.4**
AAK Ala-Archa 57.05 317 LR LR 01 40 23.4
comp=Z,56µm,21.8s,baz=104,slow=38
AAK PKPPKP 01 44 16.2
comp=Z,5.0nm,0.9s,baz=242,slow=3.2,SNR=3.6
AAK Ala-Archa 57.05 317 P **P** **01 14 30.5 +1.0**
AAK S **S** **01 22 26.0 +2.8**
AAK Ala-Archa 57.05 317 P **P** **01 14 30.1 +0.6**
SNR=46
AAK Ala-Archa 57.05 317 *i* P **P** **01 14 29.9 +0.4**
SNR=56
AAK Ala-Archa 57.05 317*ceP* **P** **01 14 30.3 +0.8**
AAK pmax pmax
comp=Z,640nm,2.3s
AAK MLR MLR
comp=Z,86µm,22.0s
AAK Ala-Archa 57.05 317 P **P** **01 14 30.3 +0.8**
AAK S **S** **01 22 25.7 +2.4**
ZAA0 Zalesovo Array 57.19 333 IAmb IAmb 01 15 03.2
comp=Z,377nm,1.5s
ZALV Zalesovo Beam 57.19 333 P **P** **01 14 28.9 -1.1**
ZALV Zalesovo Beam 57.19 333 P **P** **01 14 29.3 -0.7**
comp=Z,30nm,0.8s,baz=119,slow=6.4,SNR=24
ZALV LR LR 01 40 52.0
comp=Z,45µm,19.7s,baz=133,slow=38
ZALV PKP2bc P'P'df 01 44 31.1 +10
comp=Z,8.0nm,0.9s,baz=306,slow=3.3,SNR=8.3
comp=Z,30nm,0.8s
SGDS Sogindy 57.29 318 *eP* **P** **01 14 30.4 -0.6**
SGDS *eS* **S** **01 22 27.4 +1.2**
USP Ospenovka 57.30 318 P **P** **01 14 31.2 +0.1**
SNR=167
EKS2 Erkin-Say 57.55 317 P **P** **01 14 33.5 +0.6**
SNR=116
MSVF Nonsavu 57.67 116 P **P** **01 14 34.4 +0.3**
MSVF Nonsavu 57.67 116 IAMs_20 IAMs_20 01 37 02.1
comp=Z,39µm,21.0s
MSVF Nonsavu 57.67 116 P **P** **01 14 35.3 +1.2**
MSVF Nonsavu 57.67 116 P **P** **01 14 34.4 +0.3**
MSVF pmax pmax
comp=Z,1µm,1.3s
KBU Kabul Universi 58.34 307 P **P** **01 14 38.3 -0.4**
KURBB Kurchatov Arra 58.34 327 P **P** **01 14 37.5 -0.7**
comp=Z,92nm,1.0s,baz=127,slow=5.5,SNR=113
KURBB LR LR 01 41 37.7
comp=Z,26µm,20.2s,baz=128,slow=38
KURBB PKPPKP P'P'df 01 44 11.4 -8.0
comp=Z,5.1nm,1.1s,baz=273,slow=3.8,SNR=5.8
KURBB PKP2bc **P'P'bc** **01 44 28.8 -1.9**
comp=Z,6.0nm,1.0s,baz=278,slow=3.0,SNR=4.6
comp=Z,92nm,1.0s
KURK Kurchatov 58.34 327 P **P** **01 14 37.3 -0.9**
KURK Kurchatov 58.34 327 IAMs_20 IAMs_20 01 38 12.7
comp=Z,36µm,20.0s
KURK Kurchatov 58.34 327 P **P** **01 14 38.0 -0.2**
KURK S **S** **01 22 40.4 +0.8**
KURK Kurchatov 58.34 327 P **P** **01 14 37.5 -0.7**
KBL Kabul 58.42 307 P **P** **01 14 38.6 -0.7**
KBL IAmb IAmb 01 14 50.3
comp=Z,784nm,1.7s
KBL Kabul 58.42 307 P **P** **01 14 39.6 +0.3**
SNR=137
KBL P **P** **01 14 39.6 +0.3**
SNR=137
KBL S **S** **01 22 43.0 +1.5**
KBL S **S** **01 22 43.0 +1.5**
KBL Kabul 58.42 307 P **P** **01 14 38.6 -0.7**
KBL pmax pmax
comp=Z,785nm,1.7s
DZA Taraz 59.30 316 *eP* **P** **01 14 44.5 -0.6**
DZA Taraz 59.30 316 *eP* **P** **01 14 44.5 -0.6**
SEY Seymchan 59.52 14 P **P** **01 14 45.0 -1.1**
comp=Z,54nm,1.1s,baz=229,slow=7.2,SNR=31
SEY LR LR 01 41 26.0
comp=Z,16µm,20.8s,baz=212,slow=37
comp=Z,54nm,1.1s
SEY Seymchan 59.52 14*ceP* **P** **01 14 47.5 +1.4**
SEY pmax pmax
comp=Z,606nm,1.5s
SEY MLR MLR
comp=Z,25µm,20.0s
KK31 Karatay Array 59.94 316 *i* P **P** **01 14 48.6 -0.8**
KKAR Karatay Array 59.94 316 P **P** **01 14 48.6 -0.8**
KKAR Karatay Array 59.94 316 P **P** **01 14 48.6 -0.8**
CHM Chimkent 60.29 315 *eP* **P** **01 14 51.4 -0.5**
comp=Z,293nm,1.3s
CHM LR LR 01 43 13.9
comp=Z,19µm,18.0s
CHM Chimkent 60.29 315 *eP* **P** **01 14 51.4 -0.5**
CHM pmax pmax
comp=Z,293nm,1.3s

CHM MLR MLR
comp=Z,19µm,18.0s
BRLS Borolday 60.37 316 *eP* **P** **01 14 52.1 -0.3**
comp=Z,269nm,1.5s
BRLS *eS* **S** **01 23 07.7 +1.4**
BRLS Borolday 60.37 316 *eP* **P** **01 14 52.1 -0.3**
BRLS *eS* **S** **01 23 07.6 +1.4**
BRLS pmax pmax
comp=Z,269nm,1.5s
SHEM Shemya Is, Ala 60.76 32 LR LR 01 36 27.1
comp=Z,15µm,21.5s,baz=231,slow=31
SMY Shemya 60.76 32 P **P** **01 14 55.8 +1.0**
SMY Shemya 60.76 32 ⇑P **P** **01 14 57.5 +2.8**
BRZS Berezniki 61.31 324 *eP* **P** **01 14 58.2 -0.5**
BRZS Berezniki 61.31 324 *eP* **P** **01 14 58.2 -0.5**
AIS Amsterdam Isla 62.59 221 IAMs_20 IAMs_20 01 39 10.2
comp=Z,32µm,22.0s
NGCH Negor - Chabah 63.62 295 P **P** **01 15 16.9 +2.4**
GRZ Great Barrier 63.67 136 P **P** **01 15 14.1 -0.5**
HRA Herat 63.87 305 P **P** **01 15 15.2 -1.1**
HRA IAmb IAmb 01 15 26.3
comp=Z,397nm,1.6s
BVA0 Borovoye Array 63.93 327 P **P** **01 15 14.6 -1.5**
BVAR Borovoye Array 63.93 327 P **P** **01 15 15.2 -0.9**
comp=Z,105nm,1.0s,baz=126,slow=7.7,SNR=63
BVAR PKP2bc **P'P'bc** **01 44 17.8 +0.9**
comp=Z,7.3nm,1.1s,baz=300,slow=4.5,SNR=8.9
BVAR LR LR 01 44 20.4
comp=Z,39µm,21.3s,baz=115,slow=37
comp=Z,105nm,1.0s
BORK Borovoye 63.97 327*c i P* **P** **01 15 15.1 -1.3**
BORK pmax pmax
comp=Z,262nm,0.9s
BORK MLR MLR
comp=Z,39µm,21.0s
JCZ Jackson Bay 64.10 146 P **P** **01 15 19.7 +2.3**
KUZ Kuaotunu 64.11 136 P **P** **01 15 18.3 +0.8**
DCZ Deep Cove 64.14 148 P **P** **01 15 17.8 +0.3**
QRZ Quartz Range 64.28 142 IAmb IAmb 01 15 58.4
comp=Z,492nm,1.3s
QRZ Quartz Range 64.28 142 P **P** **01 15 19.8 +1.3**
FOZ Fox Glacier 64.33 145 IAmb IAmb 01 15 31.6
comp=Z,311nm,1.4s
FOZ IAMs_20 IAMs_20 01 44 00.0
comp=Z,27µm,20.0s
DSZ Denniston Nort 64.39 143 P **P** **01 15 19.1 -0.2**
DSZ IAmb IAmb 01 15 32.2
comp=Z,215nm,0.9s
DSZ IAMs_20 IAMs_20 01 44 42.7
comp=Z,27µm,18.0s
DSZ Denniston Nort 64.39 143 P **P** **01 15 20.8 +1.5**
HIZ Hauiti 64.47 138 P **P** **01 15 19.6 -0.2**
HIZ IAmb IAmb 01 15 42.4
comp=Z,391nm,1.0s
TOZ Tahuroa Road 64.48 137 P **P** **01 15 20.3 +0.4**
TOZ IAmb IAmb 01 15 34.5
comp=Z,200nm,1.1s
WKZ Wanaka 64.71 147 IAmb IAmb 01 15 53.3
comp=Z,408nm,1.3s
VRZ Vera Road 64.74 139 P **P** **01 15 23.9 +2.3**
INZ Inchbonnie 64.76 144 IAMs_20 IAMs_20 01 45 01.6
comp=Z,34µm,20.0s
TIXI Tiksi 64.89 1 P **P** **01 15 20.5 -1.5**
TIXI IAmb IAmb 01 15 38.6
comp=Z,329nm,1.2s
TIXI Tiksi 64.89 1 P **P** **01 15 20.8 -1.2**
comp=Z,15nm,0.6s,baz=174,slow=3.7,SNR=30
TIXI LR LR 01 45 26.0
comp=Z,54µm,20.9s,baz=210,slow=38
comp=Z,15nm,0.6s
TIXI Tiksi 64.89 1 P **P** **01 15 21.9 -0.1**
JLN Jalan Bani Buh 64.98 291 P **P** **01 15 23.1 -0.4**
JLN P **P** **01 15 23.1 -0.4**
JLN S **S** **01 24 05.0 +0.4**
JLN S **S** **01 24 05.0 +0.4**
NNZ Nelson 65.04 142 IAmb IAmb 01 15 34.4
comp=Z,434nm,1.2s
NNZ Nelson 65.04 142 P **P** **01 15 22.3 -1.1**
THZ Tophouse 65.06 142 IAmb IAmb 01 15 34.1
comp=Z,275nm,0.7s
THZ IAMs_20 IAMs_20 01 45 17.6
comp=Z,35µm,19.0s
THZ Tophouse 65.06 142 P **P** **01 15 22.9 -0.8**
LBZ Lake Benmore 65.07 146 IAMs_20 IAMs_20 01 44 26.7
comp=Z,28µm,21.0s
LBZ Lake Benmore 65.07 146 P **P** **01 15 22.9 -0.7**
RPZ Rata Peaks 65.14 145 IAMs_20 IAMs_20 01 44 55.6
comp=Z,27µm,18.0s
RPZ Rata Peaks 65.14 145 LR LR 01 45 17.1
comp=Z,27µm,18.6s,baz=306,slow=37
RPZ Rata Peaks 65.14 145 P **P** **01 15 24.7 +0.6**
TWVZ Taurewa 65.15 139 P **P** **01 15 26.0 +1.6**
PKVZ Pokaka 65.21 139 P **P** **01 15 26.2 +1.5**
LTZ Lake Taylor 65.28 144 IAMs_20 IAMs_20 01 43 04.4
comp=Z,31µm,21.0s
NGZ Ngauruhoe 65.32 139 P **P** **01 15 26.4 +0.9**
FWVZ Far West T-bar 65.33 139 P **P** **01 15 27.4 +1.7**
TRVZ Turoa 65.35 139 P **P** **01 15 28.2 +2.4**
ETVZ East Tongariro 65.37 139 P **P** **01 15 28.1 +2.3**
RAO Raoul Island 65.41 126 P **P** **01 15 28.2 +2.1**
ADK Adak 65.45 35 IAMs_20 IAMs_20 01 38 00.0
comp=Z,30µm,22.0s
ADK Adak 65.45 35 P **P** **01 15 27.7 +1.7**
OXZ Oxford 65.47 144 IAMs_20 IAMs_20 01 45 33.4
comp=Z,36µm,19.0s
TUWZ Tuamarina 65.51 142 P **P** **01 15 26.8 +0.3**
TCW Tory Channel 65.59 141 P **P** **01 15 27.6 +0.6**
ODZ Otahua Downs 65.74 146 IAMs_20 IAMs_20 01 44 38.4
comp=Z,26µm,21.0s
AMCZ Amberley 65.74 144 P **P** **01 15 30.5 +2.6**
WSAR Wadi Sarin 65.75 292 P **P** **01 15 30.1 +1.5**
WSAR S **S** **01 24 14.7 +0.6**
KIW Kapiti Island 65.79 141 P **P** **01 15 28.9 +0.6**
KHZ Kahutara 65.83 143 IAmb IAmb 01 15 38.4
comp=Z,176nm,0.8s
KHZ IAMs_20 IAMs_20 01 45 51.8
comp=Z,33µm,19.0s
KHZ Kahutara 65.83 143 P **P** **01 15 27.4 -1.1**
URZ Urewera 65.84 137 LR LR 01 45 40.5
comp=Z,21µm,19.4s,baz=301,slow=37
GVZ Greta Valley S 65.85 143 IAMs_20 IAMs_20 01 43 09.3
comp=Z,28µm,22.0s
GVZ Greta Valley S 65.85 143 P **P** **01 15 29.2 +0.5**
BKZ Black Stump Fm 65.90 138 P **P** **01 15 30.9 +1.7**
BKZ Black Stump Fm 65.90 138 P **P** **01 15 28.3 -0.8**
SNZO South Karori 65.91 141 P **P** **01 15 28.2 -0.9**
SNZO IAmb IAmb 01 15 44.6
comp=Z,308nm,0.9s
SNZO South Karori 65.91 141 P **P** **01 15 30.9 +1.8**
SNZO South Karori 65.91 141 P **P** **01 15 27.1 -2.0**
AFI Afiamalu 65.93 108 P **P** **01 15 29.4 -0.4**
AFI Afiamalu 65.93 108 IAMs_20 IAMs_20 01 40 47.7
comp=Z,26µm,19.0s
AFI Afiamalu 65.93 108 P **P** **01 15 31.0 +1.2**
AFI Afiamalu 65.93 108 P **P** **01 15 29.4 -0.4**
AFI pmax pmax
comp=Z,1µm,1.4s
RTZ Ruatahuna 65.94 138 IAMs_20 IAMs_20 01 46 26.8
comp=Z,28µm,19.0s
CAW Cannon Point 66.03 141 P **P** **01 15 29.3 -0.6**
MQZ McQueen's Vall 66.06 144 IAMs_20 IAMs_20 01 45 50.9
comp=Z,25µm,20.0s
BHW Baring Head 66.07 141 IAmb IAmb 01 15 31.5
comp=Z,130nm,0.7s
BHW Baring Head 66.07 141 P **P** **01 15 28.4 -1.7**
MRZ Mangatainoka R 66.11 140 IAmb IAmb 01 15 39.8
comp=Z,549nm,1.5s
MRZ Mangatainoka R 66.11 140 P **P** **01 15 29.6 -0.7**
HOWZ Holdsworth Sta 66.19 140 P **P** **01 15 29.7 -1.3**
JMDO Jabal Madar 66.20 291 P **P** **01 15 33.0 +1.6**
JMDO S **S** **01 24 23.5 +3.9**
SMDO Samad 66.28 292 P **P** **01 15 33.2 +1.2**
SNR=7.0
SMDO P **P** **01 15 33.2 +1.2**
SNR=7.0
SMDO S **S** **01 24 23.0 +2.3**
SMDO S **S** **01 24 23.0 +2.3**
PRWZ Pori Road 66.30 140 P **P** **01 15 31.5 -0.1**
MXZ Matakaoa Point 66.31 136 IAmb IAmb 01 15 53.3
comp=Z,193nm,0.8s
MXZ Matakaoa Point 66.31 136 P **P** **01 15 32.2 +0.5**
MSWZ Moikau Station 66.31 141 P **P** **01 15 31.4 -0.3**
PLWZ Palliser 66.40 141 P **P** **01 15 31.2 -1.1**
PAWZ Paruwai Farm 66.40 141 P **P** **01 15 33.3 +1.0**
BFZ Birch Farm 66.54 140 IAmb IAmb 01 15 50.0

comp=Z,242nm,0.9s
BFZ IAMs_20 IAMs_20 01 47 02.8
comp=Z,24µm,18.0s
BFZ Birch Farm 66.54 140 P **P** **01 15 32.3 -0.9**
BFZ Birch Farm 66.54 140 P **P** **01 15 32.8 -0.4**
PXZ Pawanui 66.60 139 P **P** **01 15 33.3 -0.2**
DQM DQM 66.65 289 P **P** **01 15 36.0 +1.7**
DQM P **P** **01 15 36.0 +1.7**
DQM S **S** **01 24 24.4 -0.6**
DQM S **S** **01 24 24.4 -0.6**
HOQ Hoqain 66.98 293 P **P** **01 15 37.5 +1.1**
SNR=26
HOQ P **P** **01 15 37.5 +1.1**
SNR=26
HOQ S **S** **01 24 28.1 -0.9**
HOQ S **S** **01 24 28.1 -0.9**
BILL Bilibino 67.11 16 P **P** **01 15 36.5 +0.2**
BILL IAmb IAmb 01 15 47.5
comp=Z,328nm,1.3s
BILL IAMs_20 IAMs_20 01 45 27.4
comp=Z,30µm,22.0s
BILL Bilibino 67.11 16 P **P** **01 15 38.0 +1.7**
ARQ Araqi 67.69 292 P **P** **01 15 42.8 +1.9**
SNR=7.6
ARQ P **P** **01 15 42.8 +1.9**
SNR=7.6
ARQ S **S** **01 24 38.8 +1.2**
ARQ S **S** **01 24 38.8 +1.2**
SOHO SOHO 67.72 293 P **P** **01 15 42.3 +1.3**
SOHO P **P** **01 15 42.3 +1.3**
SOHO S **S** **01 24 36.8 -1.0**
SOHO S **S** **01 24 36.8 -1.0**
SOHO SOHO 67.72 293 *i* P **P** **01 15 39.7 -1.3**
SNR=10
MDH Madha 67.98 294 P **P** **01 15 43.1 +0.4**
MDH P **P** **01 15 43.1 +0.4**
MDH S **S** **01 24 40.0 -1.0**
MDH S **S** **01 24 40.0 -1.0**
BANOM Banah 68.02 295 P **P** **01 15 44.3 +1.4**
BANOM P **P** **01 15 44.3 +1.4**
BANOM S **S** **01 24 42.1 +0.6**
BANOM S **S** **01 24 42.1 +0.6**
BANOM Banah 68.02 295 *i* P **P** **01 15 42.4 -0.5**
SNR=7.5
UOSS Minazif 68.05 294 P **P** **01 15 42.1 -1.1**
UOSS Minazif 68.05 294 P **P** **01 15 43.7 +0.5**
UOSS P **P** **01 15 43.7 +0.5**
UOSS S **S** **01 24 39.8 -2.1**
UOSS S **S** **01 24 39.8 -2.1**
UOSS Minazif 68.05 294 P **P** **01 15 42.5 -0.7**
HATD Hatta, Dubai 68.11 294 P **P** **01 15 44.1 +0.6**
SNR=27
HATD P **P** **01 15 44.1 +0.6**
SNR=27
HATD S **S** **01 24 41.7 -0.9**
HATD S **S** **01 24 41.7 -0.9**
HATD Hatta, Dubai 68.11 294 *i* P **P** **01 15 43.0 -0.6**
SNR=16
MSFE Esma-Masafi 68.11 295 P **P** **01 15 43.2 -0.4**
MASF Masafi 68.11 295 P **P** **01 15 44.6 +1.0**
MASF P **P** **01 15 44.6 +1.0**
MASF S **S** **01 24 42.0 -0.6**
MASF S **S** **01 24 42.0 -0.6**
SHME Shamm 68.17 295 P **P** **01 15 44.9 +1.0**
SNR=12
SHME P **P** **01 15 44.9 +1.0**
SNR=12
SHME S **S** **01 24 43.0 -0.2**
SHME S **S** **01 24 43.0 -0.2**
ASHO Ashiyiah 68.17 294 P **P** **01 15 45.0 +1.1**
SNR=19
ASHO S **S** **01 24 44.3 +0.9**
ASHO Ashiyiah 68.17 294 *i* P **P** **01 15 42.7 -1.2**
SNR=13
ALNE Al Ain 68.43 293 P **P** **01 15 46.7 +1.2**
SNR=40
ALNE S **S** **01 24 44.9 -1.5**
ALNE Al Ain 68.43 293 *i* P **P** **01 15 45.2 -0.4**
SNR=25
SHAO Shalim 68.44 287 P **P** **01 15 46.9 +1.2**
SNR=8.7
SHAO S **S** **01 24 46.0 -0.7**
SHAO Shalim 68.44 287 *i* P **P** **01 15 45.7 +0.1**
SNR=9.9
NAZ Nazwa, Dubai 68.55 294 P **P** **01 15 47.1 +0.9**
SNR=10
NAZ S **S** **01 24 47.8 +0.1**
NAZ Nazwa, Dubai 68.55 294 P **P** **01 15 46.0 -0.2**
UMQ Umm Al-Quwin 68.57 295 P **P** **01 15 47.9 +1.6**
SNR=6.5
UMQ S **S** **01 24 50.2 +2.2**
UMQ Umm Al-Quwin 68.57 295 P **P** **01 15 46.7 +0.4**
FAQ Al Faqa, Dubai 68.60 294 P **P** **01 15 48.2 +1.6**
SNR=9.9
FAQ P **P** **01 15 48.2 +1.6**
SNR=9.9
FAQ S **S** **01 24 50.4 +2.0**
FAQ S **S** **01 24 50.4 +2.0**
AB31 Akbulak array 68.81 320 IAmb IAmb 01 15 58.5
comp=Z,243nm,1.0s
AB31 Akbulak array 68.81 320 P **P** **01 15 45.5 -1.9**
ABKAR Akbulak array 68.81 320 P **P** **01 15 46.1 -1.3**
ASUD Al Ashush, Dub 68.83 294 P **P** **01 15 50.0 +2.0**
SNR=19
ASUD P **P** **01 15 50.0 +2.0**
SNR=19
ASUD S **S** **01 24 53.7 +2.5**
ASUD S **S** **01 24 53.7 +2.5**
ASUD Al Ashush, Dub 68.83 294 *i* P **P** **01 15 47.4 -0.6**
SNR=13
UMZA Um Al Zommool 68.93 292 P **P** **01 15 49.8 +1.1**
UMZA P **P** **01 15 49.8 +1.1**
UMZA S **S** **01 24 51.5 -0.8**
UMZA S **S** **01 24 51.5 -0.8**
NIUE Niue 68.94 113 P **P** **01 15 48.9 +0.2**
comp=Z,1µm,1.2s
NIUE Niue 68.94 113 P **P** **01 15 48.2 -0.5**
NIUE Niue 68.94 113 P **P** **01 15 50.1 +1.4**
DMTO DMTO 69.09 286 P **P** **01 15 52.0 +2.3**
SNR=8.0
DMTO S **S** **01 24 56.2 +1.9**
AJN Ajban 69.14 294 P **P** **01 15 51.3 +1.3**
SNR=16
AJN P **P** **01 15 51.3 +1.3**
SNR=16
AJN S **S** **01 24 55.8 +1.1**
AJN S **S** **01 24 55.8 +1.1**
AJN Ajban 69.14 294 *i* P **P** **01 15 51.3 +1.3**
SNR=6.4
RBK Rabkut 69.80 286 P **P** **01 15 56.1 +1.9**
SNR=20
RBK S **S** **01 25 02.8 -0.1**
DOK Doka 69.86 287 P **P** **01 15 56.1 +1.6**
SNR=16
DOK S **S** **01 25 04.7 +1.3**
MZWR Madinat Zayed 70.13 293 P **P** **01 15 57.0 +1.0**
MZWR S **S** **01 25 07.7 +1.3**
WHFO Wadi Hawf 70.21 287 P **P** **01 15 57.6 +0.9**
SNR=24
WHFO S **S** **01 25 07.4 -0.2**
AKTO Aktyubinsk 70.31 321 PKPPKP 01 43 56.2
comp=Z,2.0nm,0.9s,baz=282,slow=3.4,SNR=5.2
AKTO LR LR 01 49 05.7
comp=Z,60µm,21.2s,baz=106,slow=38
AKTO Aktyubinsk 70.31 321 P **P** **01 15 55.0 -1.6**
NIKH Nikolski High 70.34 36 P **P** **01 15 58.0 +1.2**
NIKH Nikolski High 70.34 36 P **P** **01 15 56.6 -0.1**
baz=255
MSEY Mahe Island 70.39 263 P **P** **01 15 56.4 -1.5**
MSEY IAmb IAmb 01 16 14.2
comp=Z,222nm,1.3s
MSEY Mahe Island 70.39 263 IAMs_20 IAMs_20 01 46 14.7
comp=Z,22µm,19.0s
MSEY Mahe Island 70.39 263 P **P** **01 15 58.4 +0.5**
MSEY S **S** **01 25 08.4 -1.5**
MSEY Mahe Island 70.39 263 *i* P **P** **01 15 57.9 0.0**
SNR=10
MSEY Mahe Island 70.39 263 P **P** **01 15 56.4 -1.5**
MSEY pmax pmax
comp=Z,222nm,1.3s
MZR Muzera 70.48 292 P **P** **01 15 58.4 +0.2**
SNR=61
MZR S **S** **01 25 09.4 -1.3**
MZR Muzera 70.48 292 *i* P **P** **01 15 58.0 -0.3**
SNR=51
SVE Sverdlovsk 70.56 328 *ce*P **P** **01 15 57.0 -1.0**
SVE *e*S **S** **01 25 07.5 -2.8**
SVE pmax pmax
comp=Z,363nm,1.4s
SVE MLR MLR
comp=Z,32µm,22.0s
ABTO Aybut 70.67 286 P **P** **01 16 00.9 +1.4**
SNR=42
ABTO S **S** **01 25 14.3 +1.2**
SPIA Saint Paul Isl 70.79 31 P **P** **01 15 59.8 +0.4**
baz=252
P08K Saint George I 70.98 32 P **P** **01 16 00.9 +0.3**
baz=253
GHWR Ruwais 71.05 293 P **P** **01 16 02.4 +0.8**
GHWR S **S** **01 25 15.9 -1.3**
JRN Qarnain Island 71.10 294 P **P** **01 16 02.0 +0.1**
SNR=13
JRN S **S** **01 25 18.4 +0.7**
ARTI Arti 71.62 327 P **P** **01 16 02.7 -1.8**
ARTI IAMs_20 IAMs_20 01 48 51.8
comp=Z,32µm,22.0s
ARTI Arti 71.62 327 LR LR 01 50 48.0
comp=Z,17µm,18.1s,baz=102,slow=39
ARTI Arti 71.62 327 *d i*P **P** **01 16 03.1 -1.4**
ARTI 01 16 22.8
ARTI 01 18 38.0
ARTI PPP PPP 01 20 22.4
ARTI S **S** **01 25 24.4 +1.8**
ARTI 01 26 03.6
ARTI SS **SS** **01 29 58.2 +0.1**
ARTI pmax pmax
comp=Z,51nm,0.8s
ARTI pmax pmax
comp=Z,656nm,5.8s
ARTI smax smax
comp=N,6µm,16.1s
ARTI MLR MLR
comp=Z,31µm,21.0s
UNV Unalaska Valle 71.92 35 IAmb IAmb 01 16 19.3
comp=Z,471nm,1.0s
UNV Unalaska Valle 71.92 35 P **P** **01 16 08.1 +1.8**
UNV Unalaska Valle 71.92 35 P **P** **01 16 06.8 +0.5**
baz=256
SLWR Sila 72.14 293 P **P** **01 16 08.8 +0.6**
SLWR S **S** **01 25 29.6 -0.1**
GAMB Gambell 72.35 25 IAmb IAmb 01 16 40.7
comp=Z,492nm,1.5s
GAMB Gambell 72.35 25 P **P** **01 16 09.9 +1.2**
baz=248
AKUT Akutan 72.41 35 P **P** **01 16 10.5 +1.3**
TRNA Turayna 72.58 294 P **P** **01 16 11.9 +1.1**
SNR=7.5
TRNA S **S** **01 25 34.7 -0.1**
CTZ Chatham Island 72.66 140 IAmb IAmb 01 16 40.4
comp=Z,473nm,1.9s
CTZ Chatham Island 72.66 140 P **P** **01 16 12.5 +1.7**
SHMA Al-Shehemyia 72.82 295 P **P** **01 16 13.6 +1.4**
SNR=5.5
SHMA S **S** **01 25 37.0 -0.4**
SMRA Abu-Samra 72.93 294 P **P** **01 16 12.8 -0.1**
SNR=9.4
SMRA S **S** **01 25 39.2 +0.5**
SAKB Bahrain 73.20 295 P **P** **01 16 16.1 +1.5**
SAKB S **S** **01 25 41.7 -0.1**
CASY Casey 73.59 186 P **P** **01 16 15.3 -0.6**
M11K Mekoryuk 73.73 29 P **P** **01 16 17.6 +0.7**
baz=255
FALS False Pass 73.91 35 P **P** **01 16 19.9 +1.9**
FALS False Pass 73.91 35 P **P** **01 16 18.5 +0.4**
baz=259,SNR=10
TNA Tin City 74.49 23 P **P** **01 16 22.6 +1.4**
baz=252
S12K Black Hills 74.83 34 IAmb IAmb 01 16 35.2
comp=Z,384nm,1.5s
S12K IAMs_20 IAMs_20 01 45 56.9
comp=Z,27µm,22.0s
S12K Black Hills 74.83 34 P **P** **01 16 24.0 +0.6**
baz=260
K13K Kusilvak Mount 74.86 27 P **P** **01 16 24.7 +1.3**
baz=256
F14K Arctic Creek 75.10 24 P **P** **01 16 25.8 +1.0**
baz=253
M13K Dall Lake 75.11 29 P **P** **01 16 25.4 +0.4**
baz=257
ANM Nome 75.23 25 P **P** **01 16 26.9 +1.3**
baz=254
KIP Kipapa 75.41 70 P **P** **01 16 29.1 +1.7**
KIP Kipapa 75.41 70 P **P** **01 16 29.3 +1.9**
L14K Kuka Creek 75.64 28 IAmb IAmb 01 16 46.9
comp=Z,426nm,1.1s
L14K Kuka Creek 75.64 28 P **P** **01 16 28.9 +1.0**
baz=258,SNR=26
SDPT Sand Point 75.66 35 P **P** **01 16 30.1 +1.9**
SDPT Sand Point 75.66 35 P **P** **01 16 28.4 +0.3**
baz=261
KBD Kabd 75.75 298 P **P** **01 16 30.5 +1.2**
KBD S **S** **01 26 07.3 -3.0**
N14K Kuskokwak Cree 75.83 30 IAmb IAmb 01 16 42.3
comp=Z,457nm,1.1s
N14K Kuskokwak Cree 75.83 30 P **P** **01 16 29.8 +0.8**
baz=259,SNR=14
F15K North Star Dit 75.84 24 IAmb IAmb 01 16 42.4
comp=Z,923nm,1.9s
F15K North Star Dit 75.84 24 P **P** **01 16 30.3 +1.3**
baz=255,SNR=9.9
M14K Bethel 75.86 29 IAmb IAmb 01 16 42.7
comp=Z,354nm,1.0s
M14K Bethel 75.86 29 P **P** **01 16 30.0 +0.8**
baz=258,SNR=17
G15K Niukluk 75.90 24 P **P** **01 16 30.2 +0.8**
baz=255
O14K Tigyukauivet M 75.91 31 IAmb IAmb 01 16 47.8
comp=Z,271nm,1.0s
O14K Tigyukauivet M 75.91 31 P **P** **01 16 30.3 +0.8**
baz=259
CNBA Chernabura Isl 76.08 35 IAmb IAmb 01 16 43.0
comp=Z,581nm,1.3s
CHNA Chernabura Isl 76.08 35 P **P** **01 16 32.3 +1.7**
CHNA Chernabura Isl 76.08 35 P **P** **01 16 30.8 +0.1**
baz=262
AKT Akhty 76.10 311 *e*P **P** **01 16 30.5 -0.7**
AKT *e* 01 16 40.0
AKT *e*PPP PPP 01 21 10.2
AKT *e*S **S** **01 26 12.0 -1.9**
AKT *e* 01 26 49.8
AKT pmax pmax
comp=Z,267nm,1.2s
AKT MLR MLR
comp=Z,24µm,22.0s
L15K Ungalak Mounta 76.27 28 P **P** **01 16 31.9 +0.4**
baz=259
C16K Lisburne Hills 76.28 21 P **P** **01 16 32.1 +0.6**
baz=253
S14K Fog Glacier 76.32 34 P **P** **01 16 31.8 -0.3**
baz=262
MAK Makhachkala 76.36 312 *ce*P **P** **01 16 28.7 -3.7**
MAK *e* 01 19 21.0
MAK *e*PPP PPP 01 21 05.9
MAK *e*S **S** **01 26 13.6 -2.8**
MAK pmax pmax
comp=Z,700nm,1.6s
MAK pmax pmax
comp=Z,5µm,2.9s
MAK MLR MLR
comp=E,29µm,19.0s
MAK MLR MLR
comp=Z,23µm,18.0s
MAK MLR MLR
comp=N,30µm,21.0s
K15K Wolf Creek Mou 76.37 27 IAmb IAmb 01 16 47.0
comp=Z,308nm,1.3s
K15K Wolf Creek Mou 76.37 27 P **P** **01 16 32.8 +0.7**
baz=258,SNR=14
M15K Kasigluk River 76.46 29 P **P** **01 16 33.2 +0.5**
baz=260,SNR=16
H16K Elim 76.56 25 P **P** **01 16 33.6 +0.4**
baz=257,SNR=8.0
O15K Ungalikthiuk R 76.62 31 P **P** **01 16 34.5 +0.8**
baz=261
N15K Kwethluk River 76.66 30 IAmb IAmb 01 16 47.4
comp=Z,284nm,0.9s
N15K Kwethluk River 76.66 30 P **P** **01 16 34.6 +0.8**
baz=260
G16K Koyuk River 76.68 24 P **P** **01 16 35.1 +1.3**
baz=257
KIRV Kirov 76.82 329 LR LR 01 53 27.7
comp=Z,17µm,21.6s,baz=99,slow=38
KIRV Kirov 76.82 329 *ce*P **P** **01 16 33.0 -1.7**
D17K Noatak River 76.95 22 P **P** **01 16 36.7 +1.4**
baz=256,SNR=55
J16K Anvik River 76.99 27 IAmb IAmb 01 16 49.2
comp=Z,575nm,1.7s
J16K IAMs_20 IAMs_20 01 53 23.3
comp=Z,23µm,20.0s
J16K Anvik River 76.99 27 P **P** **01 16 37.0 +1.4**
baz=259,SNR=31
I17K Unalakleet 77.06 26 IAMs_20 IAMs_20 01 53 43.3
comp=Z,21µm,21.0s
I17K Unalakleet 77.06 26 P **P** **01 16 37.3 +1.3**
baz=259,SNR=13
RDOG Red Dog Mine 77.10 22 IAmb IAmb 01 16 49.4
comp=Z,424nm,1.3s
RDOG Red Dog Mine 77.10 22 P **P** **01 16 37.8 +1.6**
baz=256
C17K DeLong Mountai 77.11 21 P **P** **01 16 37.8 +1.5**
baz=255
L16K Owhat River 77.22 28 IAmb IAmb 01 16 55.5
comp=Z,298nm,1.2s
L16K Owhat River 77.22 28 P **P** **01 16 37.6 +0.7**
baz=260,SNR=25
SBV Sambava 77.26 255 P **P** **01 16 37.6 -0.4**
SNR=29
E17K Hotham Inlet 77.28 23 P **P** **01 16 38.1 +1.0**
baz=257,SNR=24
XMAS Kiritimati 77.33 89 P **P** **01 16 40.1 +1.6**
M16K Timber Creek 77.35 29 IAmb IAmb 01 16 56.3
comp=Z,328nm,1.1s
M16K Timber Creek 77.35 29 P **P** **01 16 38.6 +1.0**
baz=261,SNR=29
N16K Nishlik Lake 77.36 30 P **P** **01 16 39.0 +1.2**
baz=261,SNR=19
F17K Baldwin Pennin 77.36 23 P **P** **01 16 38.6 +1.1**
baz=258
G17K Kiwalik Mounta 77.40 24 P **P** **01 16 39.3 +1.4**
baz=258,SNR=27
P16K Nushagak River 77.54 31 P **P** **01 16 39.1 +0.3**
baz=262
O16K Kokwok River B 77.56 30 P **P** **01 16 39.7 +0.8**
baz=262,SNR=23
R16K Pilot Point 77.56 33 P **P** **01 16 39.0 +0.1**
baz=263
H17K Granite Mounta 77.60 25 P **P** **01 16 40.3 +1.3**
baz=259,SNR=33
J17K VABM Dome 77.68 27 IAMs_20 IAMs_20 01 53 54.7
comp=Z,24µm,21.0s
J17K VABM Dome 77.68 27 P **P** **01 16 40.6 +1.1**
baz=260,SNR=34
POHA Pohakuloa 77.80 71 P **P** **01 16 42.1 +0.8**
RAYN Ar Rayn 77.81 293 P **P** **01 16 39.7 -1.4**
RAYN IAmb IAmb 01 16 51.0
comp=Z,220nm,1.1s
RAYN Ar Rayn 77.81 293 P **P** **01 16 42.8 +1.7**
RAYN S **S** **01 26 32.3 -0.9**
RAYN Ar Rayn 77.81 293 *i* P **P** **01 16 40.6 -0.5**
SNR=106
RAYN Ar Rayn 77.81 293 P **P** **01 16 40.4 -0.7**
B18K Kokolik River 77.81 20 P **P** **01 16 41.4 +1.3**
baz=256
E18K Tukpahlearik C 77.81 22 P **P** **01 16 41.8 +1.6**
baz=258,SNR=31
C18K Utukok River 77.86 21 P **P** **01 16 41.5 +1.0**
baz=257,SNR=12
K17K Iditarod 77.92 27 IAmb IAmb 01 16 52.9
comp=Z,251nm,0.9s
K17K Iditarod 77.92 27 P **P** **01 16 41.5 +0.6**
baz=261,SNR=42
F18K Selawik 78.02 23 P **P** **01 16 42.5 +1.3**
baz=259,SNR=17
RSD Rainshed 78.05 72 P **P** **01 16 41.8 -0.8**
O17K Koliganek Bris 78.09 30 P **P** **01 16 42.8 +1.0**
baz=263
PUH Pauahi 78.11 72 P **P** **01 16 41.9 -1.0**
PUH IAmb IAmb 01 16 54.4
comp=Z,454nm,1.2s
M17K Holitna River 78.13 29 IAmb IAmb 01 16 56.0
comp=Z,719nm,1.9s
M17K Holitna River 78.13 29 P **P** **01 16 42.9 +0.8**
baz=262,SNR=11
N17K Nushagak Hills 78.14 30 IAmb IAmb 01 16 57.2
comp=Z,375nm,1.5s
N17K Nushagak Hills 78.14 30 P **P** **01 16 43.2 +1.2**
baz=263,SNR=12
Q16K King Salmon 78.18 32 P **P** **01 16 43.5 +1.2**
baz=264
R17L Mt. Peulik Vol 78.22 33 P **P** **01 16 43.4 +0.8**
baz=264
A19K Wainwright 78.25 20 P **P** **01 16 43.6 +1.1**
baz=257
H18K Honhosa River 78.28 25 IAMs_20 IAMs_20 01 51 30.5
comp=Z,20µm,20.0s
H18K Honhosa River 78.28 25 P **P** **01 16 43.5 +0.7**
baz=261,SNR=14
G18K Tagagawik 78.29 24 P **P** **01 16 43.2 +0.3**
baz=260
GNI Garni 78.32 310 *e*P **P** **01 16 43.2 -0.5**
GNI Garni 78.32 310 P **P** **01 16 42.7 -1.1**
GNI Garni 78.32 310 LR LR 01 56 35.0
comp=Z,10µm,18.9s,baz=82,slow=40
GNI Garni 78.32 310 P **P** **01 16 44.4 +0.7**
GNI S **S** **01 26 38.4 +0.2**
GNI Garni 78.32 310 P **P** **01 16 45.2 +1.4**
GNI Garni 78.32 310 *d i*P **P** **01 16 44.4 +0.7**
GNI pmax pmax
comp=Z,750nm,1.7s
GNI MLR MLR
comp=Z,14µm,22.0s
P17K Kvichak River 78.35 31 P **P** **01 16 44.1 +0.9**
baz=264
CHIR Chirikof Islan 78.45 34 IAMs_20 IAMs_20 01 48 19.7
comp=Z,20µm,21.0s
CHIR Chirikof Islan 78.45 34 P **P** **01 16 45.4 +1.5**
CHIR Chirikof Islan 78.45 34 P **P** **01 16 44.7 +0.8**
baz=265
C19K Lookout Ridge 78.53 21 P **P** **01 16 45.1 +1.0**
baz=259,SNR=13
Q17K Contact Creek 78.54 32 P **P** **01 16 44.2 -0.3**
baz=264,SNR=17
L18K Granite Mounta 78.59 28 P **P** **01 16 45.2 +0.6**
baz=263
TASB TASBURUN-IGDIR 78.70 309 *e*P **P** **01 16 46.6 +0.9**
RAR Rarotonga 78.72 113 LR LR 01 47 55.0
comp=Z,7µm,20.3s,baz=276,slow=33
RAR Rarotonga 78.72 113 P **P** **01 16 47.9 +1.9**
N18K Kilae Creek 78.79 30 P **P** **01 16 46.5 +0.8**
baz=264
F19K Shaleruckik Mo 78.79 23 P **P** **01 16 46.0 +0.4**
baz=261
ACHA Angle Creek He 78.83 32 IAmb IAmb 01 16 58.0
comp=Z,307nm,1.3s
GCSA Galena City Sc 78.85 25 P **P** **01 16 46.7 +0.9**
baz=262,SNR=35
M18K Stony River 78.91 29 P **P** **01 16 47.8 +1.4**
baz=264,SNR=35
D19K Kuna River 78.94 21 P **P** **01 16 47.4 +1.0**
baz=260,SNR=17
P18K Big Mountain, 78.99 31 P **P** **01 16 47.4 +0.5**
baz=265
Q18K Katmai Hardscr 79.03 32 P **P** **01 16 47.8 +0.6**
baz=265
O18K Koktuh Hills 79.05 30 P **P** **01 16 47.8 +0.6**
baz=265,SNR=32
E19K Redstone River 79.10 23 IAmb IAmb 01 16 54.3
comp=Z,268nm,1.0s
E19K Redstone River 79.10 23 P **P** **01 16 48.9 +1.6**
baz=261,SNR=72
H19K Roundabout Mou 79.13 25 P **P** **01 16 48.5 +1.1**
baz=262,SNR=58
BGD Bogdanovka 79.20 311 *e*P **P** **01 16 49.7 +1.1**
NCK Nalchik 79.23 313 *d i*P **P** **01 16 47.9 -0.6**
NCK pmax pmax
comp=Z,457nm,1.9s
NCK MLR MLR
comp=Z,16µm,19.0s
R18K Karluk 79.24 33 P **P** **01 16 48.4 +0.2**
baz=266
AKH Akhalkalaki 79.28 311 *e*P **P** **01 16 49.9 +0.9**
J19K Poorman 79.29 26 IAmb IAmb 01 17 01.8
comp=Z,319nm,1.5s
J19K Poorman 79.29 26 P **P** **01 16 49.2 +0.8**
baz=263
SII Sitkinak Islan 79.31 34 P **P** **01 16 50.5 +1.9**
SII Sitkinak Islan 79.31 34 P **P** **01 16 49.2 +0.6**

baz=266
L19K **White Mountain** 79.44 28 P P 01 16 50.1 +0.8
baz=264
N19K **Bonanza Creek** 79.49 29 P P 01 16 50.4 +0.8
baz=265
D20K **Etivluk River** 79.52 21 P P 01 16 51.2 +1.7
baz=262
O19K **Port Alsworth** 79.52 30 P P 01 16 51.0 +1.4
baz=265
B20K **Meade River** 79.53 20 P P 01 16 50.8 +1.3
baz=261
E20K **Nigu River** 79.61 22 P P 01 16 51.4 +1.3
baz=262,SNR=34
F20K **Avaraart Lake** 79.62 23 P P 01 16 51.2 +1.1
baz=263
M19K **Big River Lodg** 79.63 28 P P 01 16 50.5 +0.2
baz=265
GOF **Gofitskoye** 79.65 314 *ce*P P 01 16 49.5 -1.2
GOF *e*S S 01 26 52.4 +0.5
AGRB **Hanur-Agry** 79.66 309 *e*P P 01 16 52.0 +0.9
AKDM **Akdamar-Van** 79.67 308 *e*P P 01 16 51.9 +0.7
KBZ **Khabaz** 79.74 313 P P 01 16 50.7 -0.5
comp=Z,58nm,1.2s,baz=97,slow=4.4,SNR=42
KBZ LR LR 01 56 23.1
comp=Z,27μm,19.6s,baz=78,slow=39
comp=Z,58nm,1.2s
KBZ **Khabaz** 79.74 313 *ce*P P 01 16 51.1 -0.1
KBZ pmax pmax
comp=Z,496nm,1.8s
KBZ MLR MLR
comp=Z,26μm,19.0s
Q19K **Cape Douglas,** 79.77 31 P P 01 16 51.3 +0.2
baz=266,SNR=7.0
H20K **Anotleneega Mo** 79.78 25 P P 01 16 51.6 +0.6
baz=264,SNR=28
OHAK **Old Harbor** 79.84 33 IAmb IAmb 01 17 04.5
comp=Z,321nm,1.3s
OHAK **Old Harbor** 79.84 33 P P 01 16 52.7 +1.2
OHAK **Old Harbor** 79.84 33 P P 01 16 52.2 +0.7
baz=267
I20K **Naaghedeneel** 79.87 25 IAmb IAmb 01 17 56.5
comp=Z,458nm,1.2s
I20K **Naaghedeneel** 79.87 25 P P 01 16 52.1 +0.6
baz=264,SNR=16
KIV **Kislovodsk** 79.89 313 *e*P P 01 16 51.2 -1.0
KIV **Kislovodsk** 79.89 313 P P 01 16 50.8 -1.4
KIV IAmb IAmb 01 17 06.1
comp=Z,748nm,1.5s
KIV **Kislovodsk** 79.89 313 P P 01 16 51.6 -0.6
KIV S S 01 26 53.7 -1.0
KIV **Kislovodsk** 79.89 313 ||P P 01 16 51.7 -0.6
KIV **Kislovodsk** 79.89 313 *i* P P 01 16 52.4 +0.2
SNR=31
KIV **Kislovodsk** 79.89 313 *e*P P 01 16 51.0 -1.2
KIV *e* 01 19 53.3
KIV *e*S S 01 26 54.5 -0.2
KIV *e*SS SS 01 32 06.5 +2.3
KIV *e*SSS SSS 01 35 26.6
KIV pmax pmax
comp=Z,75nm,1.1s
KIV pmax pmax
comp=Z,69nm,3.5s
KIV **Kislovodsk** 79.89 313 P P 01 16 52.1 -0.1
KIV S S 01 26 54.3 -0.4
K20K **Telida** 79.91 27 P P 01 16 52.7 +0.9
baz=265,SNR=47
SHA1 **Shidzhatmaz** 79.92 313 *i* P P 01 16 51.8 -0.7
A21K **Barrow** 79.92 19 P P 01 16 53.5 +1.9
baz=261
L20K **Farewell, AK** 79.92 28 P P 01 16 53.1 +1.2
baz=265
J20K **Nowinta River** 79.96 26 P P 01 16 53.4 +1.5
baz=265
MLAZ **Malazgirt-MUS** 80.00 308 *e*P P 01 16 54.2 +1.2
P19K **Oil Pt** 80.03 31 P P 01 16 52.6 +0.1
baz=266
SENK **Senkaya-Erzuru** 80.14 310 *e*P P 01 16 53.7 -0.1
M20K **Styx River** 80.23 28 P P 01 16 54.9 +1.3
baz=266
C21K **Knifeblade Rid** 80.23 21 P P 01 16 54.6 +1.2
baz=263
KDAK **Kodiak Island** 80.25 33 P P 01 16 53.6 -0.1
KDAK IAmb IAmb 01 17 07.8
comp=Z,253nm,1.0s
KDAK **Kodiak Island** 80.25 33 IAMs_20 IAMs_20 01 50 03.3
comp=Z,19μm,21.0s
KDAK **Kodiak Island** 80.25 33 LR LR 01 49 55.4
comp=Z,14μm,20.6s,baz=251,slow=34
KDAK **Kodiak Island** 80.25 33 *i* P P 01 16 54.8 +1.2
KDAK pmax pmax
comp=Z,661nm,1.8s
KDAK MLR MLR
comp=Z,20μm,19.0s
KDAK **Kodiak Island** 80.25 33 P P 01 16 54.9 +1.2
baz=267
IMAR **Indian Mountai** 80.29 24 P P 01 16 53.8 0.0
B21K **Ikpikpuk River** 80.35 21 IAmb IAmb 01 17 04.7
comp=Z,232nm,0.8s
B21K **Ikpikpuk River** 80.35 21 P P 01 16 54.9 +1.0
baz=263
O20K **Slope Mountain** 80.36 30 P P 01 16 55.4 +1.1
baz=267
Q20K **Shuyak Island** 80.40 32 P P 01 16 55.5 +1.1
baz=267
A22K **Sinclair Lake** 80.40 19 P P 01 16 55.5 +1.3
baz=263
GURO **Guroymak-BITLI** 80.42 308 *e*P P 01 16 56.0 +0.8
G21K **Allakaket** 80.44 24 P P 01 16 55.9 +1.4
baz=265,SNR=44
E21K **Killik River** 80.45 22 P P 01 16 55.8 +1.2
baz=264
F21K **Alatna River** 80.51 23 P P 01 16 56.2 +1.2
baz=265,SNR=13
KOPR **Koprukoy-ERZUR** 80.53 309 *e*P P 01 16 55.4 -0.4
SPCR **Spurr Chakacha** 80.63 29 P P 01 16 56.7 +0.9
baz=267,SNR=33
BATM **Batumi** 80.63 311 *e*P P 01 16 55.2 -0.9
BATM **Batumi** 80.63 311 ||P P 01 16 55.3 -0.9
BATM **Batumi** 80.63 311 P P 01 16 55.2 -0.9
VRH **Novokhopyorsk** 80.63 321 *e*P P 01 16 53.5 -2.4
VRH *e*S S 01 26 55.2 -6.7
VRH pmax pmax
comp=Z,460nm,1.9s
VRH smax smax
comp=E,6μm,12.6s
VRH MLR MLR
comp=Z,15μm,19.0s
H21K **Melozitna Rive** 80.65 25 P P 01 16 56.6 +0.9
baz=266
PPLA **Purkeypile** 80.73 27 IAmb IAmb 01 17 11.4
comp=Z,780nm,1.6s
PPLA **Purkeypile** 80.73 27 P P 01 16 57.3 +0.9
baz=267
CHUM **Lake Minchumin** 80.74 26 P P 01 16 57.0 +0.8
baz=266,SNR=35
ABPO **Ambohimpanom** 80.79 250 P P 01 16 56.1 -1.5
ABPO **Ambohimpanom** 80.79 250 P P 01 16 56.1 -1.5
ABPO pmax pmax
comp=Z,197nm,1.2s
HOM **Homer** 80.83 31 P P 01 16 58.2 +1.4
baz=268
B22K **Teshekpuk Lake** 80.84 20 IAMs_20 IAMs_20 01 56 40.7
comp=Z,20μm,20.0s
B22K **Teshekpuk Lake** 80.84 20 P P 01 16 57.2 +0.7
baz=264,SNR=9.0
VRTB **Varto-Mus** 80.85 309 *e*P P 01 16 58.9 +1.4
D22K **Ayikyak River** 80.96 21 P P 01 16 58.2 +0.9
baz=265
I21K **Tanana** 80.96 25 P P 01 16 57.9 +0.6
baz=266,SNR=58
SKT **Skwentna** 80.99 28 IAmb IAmb 01 17 08.0
comp=Z,269nm,1.1s
SKT **Skwentna** 80.99 28 P P 01 16 58.5 +0.9
baz=267,SNR=60
CNPM **China Poot** 81.03 31 IAmb IAmb 01 17 12.7
comp=Z,266nm,1.0s
F22K **John River** 81.04 23 P P 01 16 58.8 +1.0
baz=266
ATD **Arta Tunnel** 81.10 281 IAmb IAmb 01 17 23.9
comp=Z,610nm,2.0s
ATD **Arta Tunnel** 81.10 281 LR LR 01 52 17.4
comp=Z,362nm,21.4s,baz=70,slow=35
ATD **Arta Tunnel** 81.10 281 P P 01 16 59.5 +0.3
SNR=26
CAPN **Captain Cook N** 81.12 30 P P 01 16 58.8 +0.6
baz=268
KARO **Karliova-Bingo** 81.17 309 *e*P P 01 17 00.2 +0.9

BRLK **Bradley Lake** 81.22 31 IAmb IAmb 01 17 12.1
comp=Z,455nm,1.0s
E22K **Anaktuvuk Pass** 81.22 22 P P 01 16 59.1 +0.3
baz=266
H22K **Ishtalitna Cre** 81.26 24 P P 01 16 59.7 +0.7
baz=267,SNR=57
G22K **Bettles** 81.26 23 P P 01 16 60.0 +1.1
baz=267
BRSE **Bradley Lake S** 81.29 31 P P 01 16 60.0 +0.7
baz=268,SNR=12
LABN **Labinsk** 81.30 314 *e*P P 01 16 58.4 -1.2
LABN *e**PP PcP 01 17 03.9 -1.8
LABN *e* 01 20 03.7
LABN *e*S S 01 27 10.6 +1.4
LABN *e*SS SS 01 32 23.8 -1.2
LABN pmax pmax
comp=Z,38nm,1.0s
LABN MLR MLR
comp=E,55μm,17.0s
LABN MLR MLR
comp=Z,33μm,19.0s
LABN MLR MLR
comp=N,29μm,19.0s
BPAW **Bear Paw Mtn.** 81.33 26 IAmb IAmb 01 17 15.1
comp=Z,636nm,1.2s
BPAW **Bear Paw Mtn.** 81.33 26 P P 01 16 59.5 +0.1
baz=268,SNR=103
KTH **Kantishna Hill** 81.34 27 IAmb IAmb 01 17 14.8
comp=Z,572nm,1.4s
SUA **Susitna One** 81.34 29 P P 01 16 59.8 +0.2
baz=268
CHOM **Cayeli-Rize** 81.34 310 *e*P P 01 16 58.2 -1.7
MARD **Mardin** 81.44 307 IAmb IAmb 01 17 54.8
comp=Z,318nm,1.6s
ERBR **Yeremizino-Bor** 81.45 315 *e*P P 01 16 58.6 -1.8
ERBR *e**PP PcP 01 17 04.4 -2.0
ERBR *e* 01 20 04.2
ERBR *e*S S 01 27 11.7 +0.9
ERBR pmax pmax
comp=Z,104nm,1.1s
BNGB **Bingl** 81.46 308 *e*P P 01 17 01.4 +0.7
MLY **Manley** 81.48 25 IAmb IAmb 01 17 16.0
comp=Z,502nm,1.5s
MLY **Manley** 81.48 25 P P 01 17 01.1 +0.9
baz=268,SNR=80
KOPT **Kop Dagi** 81.57 309 IAmb IAmb 01 17 20.8
comp=Z,571nm,1.4s
CUT **Chulitna** 81.60 28 P P 01 17 01.8 +1.1
baz=268,SNR=20
TRF **Thorofare Moun** 81.62 27 IAmb IAmb 01 17 15.4
comp=Z,586nm,1.2s
TRF **Thorofare Moun** 81.62 27 P P 01 17 01.5 +0.4
baz=268,SNR=60
M22K **Willow** 81.65 29 P P 01 17 01.4 +0.3
baz=269,SNR=35
D23K **Nanushuk River** 81.69 21 IAMs_20 IAMs_20 01 58 52.2
comp=Z,22μm,21.0s
D23K **Nanushuk River** 81.69 21 P P 01 17 01.7 +0.6
baz=267
VOI **Vohitsoka** 81.72 247 P P 01 17 00.6 -1.8
VOI IAmb IAmb 01 17 13.0
comp=Z,441nm,1.6s
VOI IAMs_20 IAMs_20 01 50 26.9
comp=Z,24μm,21.0s
VOI **Vohitsoka** 81.72 247 P P 01 17 01.0 -1.4
SNR=16
C23K **Itkillik River** 81.76 20 P P 01 17 02.9 +1.5
baz=267
COLD **Coldfoot** 81.79 23 P P 01 17 03.1 +1.4
baz=268,SNR=13
O22K **Cooper Landing** 81.82 30 P P 01 17 02.7 +0.8
baz=269,SNR=17
RC01 **Rabbit Creek A** 81.82 29 IAmb IAmb 01 17 12.4
comp=Z,260nm,1.0s
RC01 **Rabbit Creek A** 81.82 29 P P 01 17 02.3 +0.3
baz=269
VSLR **Vesyoloye** 81.82 313 *i* P P 01 17 01.5 -0.9
VSLR pmax pmax
comp=Z,268nm,1.2s
VSLR MLR MLR
comp=Z,9μm,18.0s
G23K **Bananza Creek** 81.84 24 P P 01 17 03.5 +1.4
baz=268,SNR=25
DYBB **Diyarbakir** 81.92 307 *e*P P 01 17 02.4 -0.7
SEW **Seward** 81.95 30 P P 01 17 03.8 +1.1
baz=270,SNR=16
KLMR **Klimovskoe** 82.00 330 *d i*P P 01 17 00.6 -2.3
KLMR S S 01 27 16.2 +0.4
KLMR SS SS 01 32 33.3 -1.3
KLMR pmax pmax
comp=Z,360nm,1.2s
KLMR MLR MLR
comp=Z,29μm,18.0s
H23K **Yukon River** 82.01 24 P P 01 17 04.3 +1.4
baz=269
E23K **Chandalar** 82.04 22 P P 01 17 04.1 +0.9
baz=268,SNR=14
SOC **Sochi** 82.05 313 *e*P P 01 17 01.0 -2.6
SOC *e* 01 20 05.8
SOC *e*S S 01 27 16.1 -0.9
SOC *e*SS SS 01 32 33.8 -2.4
SOC *e*SSS SSS 01 36 06.5
SOC pmax pmax
comp=Z,77nm,0.9s
SOC MLR MLR
comp=Z,11μm,18.0s
I23K **Minto, Yukon-K** 82.07 25 IAmb IAmb 01 17 25.2
comp=Z,273nm,1.1s
I23K **Minto, Yukon-K** 82.07 25 P P 01 17 04.2 +1.0
baz=269,SNR=70
TOLK **Toolik Lake Re** 82.08 22 IAMs_20 IAMs_20 01 56 10.5
comp=Z,20μm,22.0s
TOLK **Toolik Lake Re** 82.08 22 P P 01 17 04.3 +1.0
baz=268,SNR=6.5
KTUT **Trabzon** 82.10 310 *e*P P 01 17 03.6 -0.3
PMR **Palmer** 82.12 29 IAmb IAmb 01 17 14.0
comp=Z,329nm,1.0s
PMR **Palmer** 82.12 29 P P 01 17 04.3 +0.8
PMR **Palmer** 82.12 29 P P 01 17 04.3 +0.8
baz=270,SNR=32
FOMA **Nahampoana Res** 82.13 244 IAmb IAmb 01 17 19.6
comp=Z,316nm,1.4s
VORD **Divnogorie** 82.17 320 *e*P P 01 17 01.8 -2.2
VORD *e*S S 01 27 13.3 -4.5
VORD pmax pmax
comp=Z,60nm,0.8s
VORD smax smax
comp=N,590nm,6.2s
VORD MLR MLR
comp=Z,2μm,14.0s
NEA2 **Nenana** 82.18 26 IAmb IAmb 01 17 16.6
comp=Z,214nm,1.2s
NEA2 **Nenana** 82.18 26 P P 01 17 04.4 +0.5
baz=269,SNR=114
ERZN **Erzincan** 82.18 309 *e*P P 01 17 08.1 +3.5
GHO **Glory Hole Cre** 82.22 29 IAmb IAmb 01 17 18.4
comp=Z,260nm,1.1s
MCK **McKinley** 82.23 27 IAmb IAmb 01 17 14.8
comp=Z,436nm,1.0s
MCK **McKinley** 82.23 27 P P 01 17 04.5 +0.3
baz=270,SNR=95
VSR **Storozhevoye** 82.24 321 *e*P P 01 17 02.0 -2.4
VSR *e*S S 01 27 11.4 -7.2
VSR pmax pmax
comp=Z,170nm,1.3s
VSR smax smax
comp=N,2μm,8.6s
VSR MLR MLR
comp=Z,14μm,19.0s
RND **Reindeer** 82.26 27 IAmb IAmb 01 17 19.1
comp=Z,431nm,1.2s
RND IAMs_20 IAMs_20 01 56 48.8
comp=Z,23μm,20.0s
D24K **Happy Valley** 82.36 21 IAMs_20 IAMs_20 01 57 41.0
comp=Z,26μm,20.0s
D24K **Happy Valley** 82.36 21 P P 01 17 05.3 +0.6
baz=269
LPSR **Galich'ya Gora** 82.36 322 *e*P P 01 17 04.4 -0.6
LPSR *e*S S 01 27 12.4 -7.4
LPSR pmax pmax
comp=Z,180nm,1.0s
LPSR smax smax
comp=N,2μm,9.8s
LPSR MLR MLR
comp=Z,25μm,23.0s
WAT1 **Susitna Watana** 82.40 28 P P 01 17 04.9 -0.1
baz=270

C24K **Franklin Bluff** 82.42 21 IAMs_20 IAMs_20 01 55 48.5
comp=Z,24μm,22.0s
C24K **Franklin Bluff** 82.42 21 P P 01 17 05.5 +0.6
baz=269
KNK **Knik Glacier** 82.44 29 IAmb IAmb 01 17 19.4
comp=Z,242nm,0.8s
KNK **Knik Glacier** 82.44 29 P P 01 17 05.6 +0.4
baz=270,SNR=36
E24K **Your Creek** 82.47 22 P P 01 17 06.3 +1.0
baz=269
SML **Sawmill** 82.50 29 IAmb IAmb 01 17 32.5
comp=Z,430nm,1.1s
SML **Sawmill** 82.50 29 P P 01 17 06.3 +0.7
baz=270,SNR=30
PWL **Port Wells** 82.50 30 P P 01 17 06.0 +0.4
baz=270,SNR=26
SVRC **Sivrice-ELAZID** 82.56 308 *e*P P 01 17 07.4 +0.8
WRH **Wood River Hil** 82.60 26 IAmb IAmb 01 17 16.7
comp=Z,235nm,1.1s
F24K **Squaw Lake** 82.69 23 P P 01 17 08.1 +1.6
baz=270
H24K **Noodor Dome** 82.69 24 P P 01 17 07.6 +1.0
baz=270,SNR=56
COLA **College** 82.71 25 P P 01 17 06.6 +0.1
COLA IAmb IAmb 01 17 19.1
comp=Z,210nm,1.0s
COLA **College** 82.71 25 P P 01 17 08.2 +1.7
COLA **College** 82.71 25 P P 01 17 07.0 +0.5
COLA **College** 82.71 25 P P 01 17 07.6 +1.1
baz=270
COLA **College** 82.71 25 P P 01 17 08.6 +2.1
COLA S S 01 27 22.9 +0.1
WAT6 **Susitna Watana** 82.77 28 P P 01 17 08.3 +1.1
baz=271,SNR=71
M23K **Glacier View** 82.79 29 P P 01 17 06.8 -0.2
baz=271,SNR=22
G24K **Hadweenzic Riv** 82.85 24 P P 01 17 07.9 +0.6
baz=270,SNR=19
POKR **Poker Plat Res** 82.88 25 P P 01 17 07.6 +0.1
baz=271,SNR=12
DHY **Denali Highway** 82.93 27 IAmb IAmb 01 17 36.1
comp=Z,163nm,1.0s
DHY **Denali Highway** 82.93 27 P P 01 17 07.8 -0.2
baz=271,SNR=17
P23K **Montague Islan** 82.98 30 P P 01 17 08.5 +0.5
baz=271
SCM **Sheep Creek Mo** 82.98 29 P P 01 17 08.2 0.0
baz=271,SNR=12
MOS **Moscow** 83.05 325 *e*P P 01 17 05.4 -3.1
MOS *e* 01 20 14.1
MOS *e*PPP PPP 01 22 11.1
MOS *e*S S 01 27 19.8 -6.9
MOS *e*PS 01 28 14.8
MOS pmax pmax
comp=Z,280nm,1.3s
MOS pmax pmax
comp=Z,2μm,3.2s
MOS pmax pmax
comp=E,1μm,4.0s
MOS MLR MLR
comp=E,29μm,21.0s
MOS MLR MLR
comp=Z,33μm,21.0s
ILIC **ilic-Erzincan** 83.08 309 *e*P P 01 17 10.4 +1.2
HDA **Harding Lake** 83.10 26 IAmb IAmb 01 17 22.4
comp=Z,208nm,0.8s
HDA **Harding Lake** 83.10 26 P P 01 17 08.4 -0.2
baz=271,SNR=52
GLI **Glacier Island** 83.11 29 P P 01 17 08.8 0.0
baz=272
ILAR **Eielson Array** 83.12 26 P P 01 17 07.6 -1.1
comp=Z,37nm,0.9s,baz=243,slow=2.9,SNR=72
ILAR PKKPbc PKKPbc 01 35 29.8 -2.9
comp=Z,5.7nm,1.2s,baz=105,slow=2.3,SNR=7.6
ILAR LR LR 01 56 16.9
comp=Z,7μm,18.9s,baz=256,slow=37
comp=Z,37nm,0.9s
D25K **Kavik River** 83.23 21 IAMs_20 IAMs_20 01 58 27.1
comp=Z,20μm,20.0s
D25K **Kavik River** 83.23 21 P P 01 17 09.8 +0.5
baz=271
ARPR **Arapgir-MALATY** 83.28 309 IAMs_20 IAMs_20 01 58 07.5
comp=Z,19μm,22.0s
G25K **Bearman Lake** 83.40 24 P P 01 17 11.1 +1.0
baz=272,SNR=14
FID **Port Fidalgo** 83.41 30 IAmb IAmb 01 17 21.6
comp=Z,283nm,1.1s
M24K **Tolsona, Glenn** 83.51 28 P P 01 17 11.8 +1.0
baz=272,SNR=18
H25L **Birch Creek** 83.53 24 P P 01 17 11.5 +0.8
baz=272,SNR=54
Q23K **Middleton Isla** 83.53 31 P P 01 17 11.7 +0.8
baz=272
F25K **Christian Rive** 83.55 23 IAMs_20 IAMs_20 01 57 02.5
comp=Z,23μm,20.0s
F25K **Christian Rive** 83.55 23 P P 01 17 11.1 +0.1
baz=272,SNR=6.3
E25K **Arctic Village** 83.56 22 IAMs_20 IAMs_20 01 55 53.8
comp=Z,20μm,21.0s
E25K **Arctic Village** 83.56 22 P P 01 17 11.6 +0.6
baz=272,SNR=7.7
K24K **Donnelly Dome** 83.63 27 P P 01 17 12.1 +0.7
baz=272,SNR=18
ANN **Anapa** 83.64 314 *e*P P 01 17 10.1 -1.7
ANN *e**PP PcP 01 17 13.3 -2.7
ANN *e* 01 17 16.4
ANN *e* 01 20 22.2
ANN *e*PPP PPP 01 22 12.4
ANN *e*S S 01 27 31.9 -1.2
ANN *e*SS SS 01 33 02.7 +3.1
ANN *e*SSS SSS 01 36 31.3
ANN pmax pmax
comp=Z,123nm,0.9s
KLU **Klutina** 83.66 29 IAmb IAmb 01 17 23.2
comp=Z,163nm,1.0s
KLU **Klutina** 83.66 29 P P 01 17 11.5 -0.2
baz=272,SNR=9.6
OBN **Obninsk** 83.68 325 P P 01 17 10.6 -1.1
OBN IAmb IAmb 01 17 24.7
comp=Z,254nm,1.1s
OBN **Obninsk** 83.68 325 LR LR 01 56 28.2
comp=Z,26μm,20.1s,baz=26,slow=37
OBN **Obninsk** 83.68 325 ||P P 01 17 10.8 -0.9
OBN **Obninsk** 83.68 325 *d i*P P 01 17 10.1 -1.6
OBN *e* 01 20 26.4
OBN *e*PPP PPP 01 22 15.0
OBN *e*S SKSac 01 27 33.6 +0.4
OBN *e*SS SS 01 33 02.5 +2.9
OBN *e*SSS SSS 01 36 31.8
OBN pmax pmax
comp=Z,508nm,1.6s
OBN MLR MLR
comp=Z,26μm,20.0s
C26K **Camden Bay** 83.73 20 P P 01 17 12.4 +0.7
baz=272,SNR=15
J25K **Salcha River,** 83.78 26 P P 01 17 12.6 +0.4
baz=273
EYAK **Cordova Ski Ar** 83.78 30 P P 01 17 14.0 +1.8
EYAK **Cordova Ski Ar** 83.78 30 P P 01 17 13.2 +1.1
baz=273,SNR=6.1
PAX **Paxson** 83.81 27 IAmb IAmb 01 17 26.9
comp=Z,447nm,1.4s
PAX IAMs_20 IAMs_20 01 57 48.6
comp=Z,24μm,20.0s
PAX **Paxson** 83.81 27 P P 01 17 13.0 +0.6
baz=273,SNR=58
BMAR **Burnt Mountain** 83.97 23 P P 01 17 12.8 -0.2
HARP **HAARP** 83.98 28 P P 01 17 14.4 +1.3
baz=273
LVZ **Lovozero** 83.98 338 P P 01 17 13.0 -0.1
LVZ IAmb IAmb 01 17 51.7
comp=Z,192nm,1.2s
LVZ **Lovozero** 83.98 338 *ce*P P 01 17 15.0 +1.9
LVZ pmax pmax
comp=Z,193nm,1.7s
DARE **Darende-Malaty** 83.98 308 *e*P P 01 17 03.2 -11
RIDG **Independent Ri** 84.05 27 P P 01 17 13.9 +0.3
baz=273,SNR=60
F26K **Sheenjek River** 84.12 23 IAMs_20 IAMs_20 01 57 21.5
comp=Z,23μm,20.0s
F26K **Sheenjek River** 84.12 23 P P 01 17 14.9 +1.0
baz=273,SNR=8.8
C27K **Jago River** 84.16 21 IAMs_20 IAMs_20 01 56 51.6
comp=Z,19μm,21.0s
C27K **Jago River** 84.16 21 P P 01 17 14.8 +0.8
baz=274
SVSK **Karacayir** 84.26 309 *e*P P 01 17 15.8 +0.7

N25K	Chitina, Valde	84.28	29	IAmb	IAmb	01 17 29.7	
	comp=Z,427nm,1.2s						
N25K	Chitina, Valde	84.28	29	P	P	01 17 15.7	+0.8
	baz=274,SNR=26						
GAZ	Gaziantep	84.29	307	eP	P	01 17 06.9	-8.5
G26K	Porcupine Rive	84.30	23	P	P	01 17 15.3	+0.6
	baz=274,SNR=28						
BMRM	Bremner River	84.32	29	P	P	01 17 14.8	-0.2
	baz=274,SNR=17						
DOT	Dot Lake	84.40	27	IAmb	IAmb	01 17 30.1	
	comp=Z,330nm,1.2s						
SCRK	Sand Creek	84.41	26	IAmb	IAmb	01 17 35.6	
	comp=Z,289nm,1.2s						
SCRK	Sand Creek	84.41	26	P	P	01 17 15.3	-0.2
	baz=274,SNR=51						
APA	Apatity	84.47	337	||i P	P	01 17 14.4	-1.1
APA				e		01 20 37.2	
APA				i S	SKSac	01 27 36.1	-1.8
KAIM	Kayak Island	84.48	30	P	P	01 17 15.9	+0.1
	baz=274						
J26L	Joseph Creek	84.56	26	P	P	01 17 16.2	0.0
	baz=274,SNR=60						
TOKT	Tokat	84.58	310	eP	P	01 17 16.7	-0.1
TOKA	Tokat	84.63	310	IAmb	IAmb	01 17 31.2	
	comp=Z,261nm,1.2s						
I26K	Coal Creek Min	84.68	25	P	P	01 17 17.2	+0.6
	baz=274						
L26K	Log Cabin Wild	84.77	27	IAmb	IAmb	01 17 32.6	
	comp=Z,283nm,1.0s						
L26K				IAMs_20	IAMs_20	01 58 28.1	
	comp=Z,24μm,20.0s						
L26K	Log Cabin Wild	84.77	27	P	P	01 17 17.7	+0.5
	baz=274,SNR=34						
VRDI	Verde Repeater	84.86	29	IAmb	IAmb	01 17 33.0	
	comp=Z,220nm,1.0s						
VRDI				IAMs_20	IAMs_20	01 50 41.7	
	comp=Z,25μm,22.0s						
ASF	Jabal al Asfar	84.93	302	LR	LR	02 01 00.9	
	comp=Z,14μm,20.6s,baz=111,slow=40						
M26K	Nabesna, AK	84.98	28	IAMs_20	IAMs_20	01 52 09.8	
	comp=Z,21μm,22.0s						
M26K	Nabesna, AK	84.98	28	P	P	01 17 18.6	+0.3
	baz=275						
BGLC	Bering Glacier	85.03	30	P	P	01 17 19.0	+0.5
	baz=275						
E27K	Coleen River	85.04	22	IAMs_20	IAMs_20	01 56 58.9	
	comp=Z,19μm,20.0s						
E27K	Coleen River	85.04	22	P	P	01 17 19.5	+1.0
	baz=276,SNR=42						
MCARA	McCarthy VSAT	85.05	29	IAMs_20	IAMs_20	01 50 49.8	
	comp=Z,20μm,22.0s						
MCARA	McCarthy VSAT	85.05	29	P	P	01 17 19.5	+0.9
	baz=275,SNR=8.9						
CRQE	Cirque	85.07	30	P	P	01 17 19.4	+0.5
	baz=275,SNR=18						
G27K	Doyon Strip	85.15	23	P	P	01 17 20.2	+1.1
	baz=276,SNR=47						
D27M	Malcolm River	85.16	21	P	P	01 17 20.4	+1.2
	baz=276						
BNN	Bunyan	85.23	308	eP	P	01 17 20.1	-0.1
K27K	Chicken	85.25	26	P	P	01 17 21.1	+1.5
	baz=276,SNR=93						
H27K	Steamboat Moun	85.26	24	IAMs_20	IAMs_20	01 55 32.9	
	comp=Z,21μm,22.0s						
H27K	Steamboat Moun	85.26	24	P	P	01 17 21.0	+1.4
	baz=276,SNR=49						
I27K	Kandik River	85.29	25	P	P	01 17 21.2	+1.4
	baz=276,SNR=132						
FURI	Furi	85.44	278	IAMs_20	IAMs_20	01 55 37.4	
	comp=Z,22μm,21.0s						
FURI	Furi	85.44	278	LR	LR	01 55 49.8	
	comp=Z,16μm,20.0s,baz=74,slow=36						
L27K	Beaver Creek,	85.45	27	IAmb	IAmb	01 17 36.5	
	comp=Z,308nm,1.1s						
L27K				IAMs_20	IAMs_20	01 58 59.2	
	comp=Z,19μm,22.0s						
L27K	Beaver Creek,	85.45	27	P	P	01 17 21.6	+0.9
	baz=276,SNR=38						
CEYT	Ceyhan	85.47	307	eP	P	01 17 21.3	+0.1
BCAR	Beaver Creek A	85.47	27	P	P	01 17 20.7	-0.1
M27K	Edge Creek, AK	85.50	28	IAMs_20	IAMs_20	01 54 50.6	
	comp=Z,19μm,22.0s						
M27K	Edge Creek, AK	85.50	28	P	P	01 17 22.5	+1.4
	baz=276						
HWQ	Hawqa	85.54	304	eP	P	01 17 21.6	-0.2
YOZ	Yozgat	85.57	309	eP	P	01 17 21.4	-0.5
VADS	Vadso	85.67	340	eP	P	01 17 23.3	+1.8
VADS				IVmB_BB		01 17 29.6	
	comp=Z,2μm,3.5s						
VADS				ePP	PP	01 20 42.0	+1.7
VADS				e		01 27 46.6	
VADS				eSS	SS	01 33 31.2	+2.9
VADS				IVMs_BB	IVMs_BB	02 00 52.3	
	comp=Z,9μm,18.6s						
MESA	MESA	85.69	30	P	P	01 17 23.6	+1.5
	baz=276,SNR=12						
E28M	Babbage River	85.75	21	IAMs_20	IAMs_20	02 00 56.6	
	comp=Z,18μm,20.0s						
E28M	Babbage River	85.75	21	P	P	01 17 23.6	+1.6
	baz=278						
F28M	Old Crow	85.75	22	IAmb	IAmb	01 17 40.2	
	comp=Z,275nm,1.1s						
F28M				IAMs_20	IAMs_20	02 00 19.7	
	comp=Z,20μm,20.0s						
F28M	Old Crow	85.75	22	P	P	01 17 23.4	+1.4
	baz=277,SNR=28						
BHL	Bhannes	85.82	304	eP	P	01 17 23.0	-0.1
HOPEN	Hopen	85.85	347	eP	P	01 17 23.2	+0.9
HOPEN				ePP	PP	01 20 42.8	+1.2
HOPEN				e		01 27 57.9	
HOPEN				eSS	SS	01 33 34.0	+3.3
HOPEN				IVMsBB		02 00 52.4	
	comp=Z,13μm,20.2s						
CTG	Chitna Glacier	85.91	29	P	P	01 17 24.1	+1.0
	baz=276,SNR=37						
CTGM	Chitina Glacie	85.91	29	IAMs_20	IAMs_20	01 51 16.4	
	comp=Z,18μm,22.0s						
D28M	Stokes Point	85.94	21	P	P	01 17 24.2	+1.4
	baz=278						
KOZK	Kozakli-Nevseh	85.96	309	eP	P	01 17 24.1	+0.3
SIM	Simferopol'	85.98	315	eP	P	01 17 22.9	-0.7
SIM				eS	S	01 27 57.0	+0.6
SIM				pmax	pmax		
	comp=Z,1μm,2.6s						
SIM				pmax	pmax		
	comp=Z,2μm,5.7s						
SIM				smax	smax		
	comp=N,3μm,8.2s						
SIM				pmax	pmax		
	comp=N,4μm,11.2s						
SIM				MLR	MLR		
	comp=Z,16μm,21.0s						
MAW	Mawson	85.99	200	P	P	01 17 21.9	-1.2
	comp=Z,36nm,1.0s,baz=56,slow=7.0,SNR=24						
MAW				PKKPbc	PKKPbc	01 35 23.1	-3.3
	comp=Z,3.1nm,1.0s,baz=226,slow=3.9,SNR=3.5						
MAW				LR	LR	01 49 22.7	
	comp=Z,8μm,21.6s,baz=62,slow=31						
	comp=Z,36nm,1.0s						
KARA	Karaisali	86.00	307	eP	P	01 17 23.5	-0.4
I28M	Miner Creek	86.00	25	IAMs_20	IAMs_20	01 59 14.5	
	comp=Z,16μm,20.0s						
I28M	Miner Creek	86.00	25	P	P	01 17 24.3	+0.9
	baz=277,SNR=88						
CMRD	Camardi-Nigde	86.01	307	eP	P	01 17 24.7	+0.6
CORM	Corum	86.05	310	eP	P	01 17 25.3	+1.1
LOGN	Logan Glacier	86.09	29	IAmb	IAmb	01 17 39.9	
	comp=Z,259nm,1.0s						
MMAI	Mount Meron Ar	86.11	303	P	P	01 17 24.3	-0.3
	comp=Z,50nm,1.1s,baz=104,slow=3.5,SNR=18						
MMAI				LR	LR	02 00 03.1	
	comp=Z,12μm,21.6s,baz=81,slow=39						
	comp=Z,50nm,1.1s						
GHAJ	Ghor Haditha	86.14	301	IAMs_20	IAMs_20	02 00 27.7	
	comp=Z,18μm,22.0s						
MMLI	Mount Malkishu	86.15	302	eP	P	01 17 25.3	+0.5
UJAP	Al Uja	86.16	302	eP	P	01 17 24.3	-0.4
E29M	Blow River	86.38	22	IAMs_20	IAMs_20	01 58 30.2	
	comp=Z,16μm,20.0s						
E29M	Blow River	86.38	22	P	P	01 17 26.8	+1.7
	baz=279,SNR=14						
DAWY	Dawson	86.42	26	IAmb	IAmb	01 17 40.1	
	comp=Z,329nm,1.5s						
DAWY	Dawson	86.42	26	P	P	01 17 26.0	+0.5
	baz=278,SNR=32						
MERS	Mersin	86.46	307	eP	P	01 17 25.3	-0.9
O28M	Mount Upton	86.49	29	IAmb	IAmb	01 17 41.1	
	comp=Z,184nm,1.0s						
O28M	Mount Upton	86.49	29	P	P	01 17 26.5	+0.4
	baz=278,SNR=12						
H29M	Whitestone	86.53	24	IAmb	IAmb	01 18 02.9	
	comp=Z,198nm,1.0s						
H29M	Whitestone	86.53	24	P	P	01 17 26.6	+0.8
	baz=279,SNR=34						
GULA	Gulagac	86.54	308	eP	P	01 17 28.6	+2.0
PINM	Pinnacle	86.55	30	P	P	01 17 26.7	+0.5
	baz=278,SNR=5.7						
G29M	Pine Creek	86.56	23	P	P	01 17 27.0	+1.0
	baz=279,SNR=43						
VNDA	Vanda	86.59	173	P	P	01 17 24.5	-1.4
VNDA				IAmb	IAmb	01 17 37.8	
	comp=Z,192nm,1.4s						
VNDA	Vanda	86.59	173	P	P	01 17 24.6	-1.2
	comp=Z,32nm,0.9s,baz=316,slow=5.9,SNR=45						
VNDA				S	S	01 27 59.4	-1.6
	comp=Z,0.2nm,0.5s,baz=108,slow=22,SNR=1.1						
VNDA				PKKPbc	PKKPbc	01 35 26.8	+1.6
	comp=Z,1.3nm,0.9s,baz=47,slow=6.8,SNR=7.0						
VNDA				LR	LR	01 57 01.2	
	comp=Z,7μm,18.8s,baz=336,slow=36						
	comp=Z,32nm,0.9s						
YUK8	Steele Glacier	86.63	29	P	P	01 17 27.4	+0.7
	baz=278,SNR=14						
PUL	Pulkovo	86.63	330	i P	P	01 17 27.2	+0.8
PUL				pmax	pmax		
	comp=Z,87nm,0.9s						
PUL				MLR	MLR		
	comp=Z,41μm,21.0s						
ILGA	Ilgaz	86.66	311	IAmb	IAmb	01 18 23.7	
	comp=Z,192nm,1.4s						
KIRS	Kirsehir-Merke	86.70	309	||P	P	01 17 26.9	-0.5
CANT	Cankiri	86.78	310	eP	P	01 17 28.5	+0.8
KIZK	Mersin	86.80	306	eP	P	01 17 26.8	-1.0
EIL	Elat	86.83	299	LR	LR	02 01 15.2	
	comp=Z,27μm,20.7s,baz=69,slow=39						
KAMT	Kaman	86.84	309	eP	P	01 17 25.6	-2.5
BR131	Keskin Array S	86.86	309	P	P	01 17 26.8	-1.5
	SNR=77						
BR131	Keskin Array S	86.86	309	i P	P	01 17 27.6	-0.6
BRTR	Keskin Array B	86.86	309	P	P	01 17 26.1	-2.1
BRTR	Keskin Array B	86.86	309	P	P	01 17 26.5	-1.7
	comp=Z,3.0nm,0.6s,baz=117,slow=4.4,SNR=25						
BRTR				PKKPbc	PKKPbc	01 35 24.9	+1.9
	comp=Z,0.8nm,0.8s,baz=170,slow=7.5,SNR=4.3						
BRTR				LR	LR	02 02 40.4	
	comp=Z,10μm,20.9s,baz=74,slow=40						
YESY	Yesilyurt	86.98	308	eP	P	01 17 27.3	-1.5
SILI	Silifke-Mersin	86.99	306	eP	P	01 17 28.9	+0.2
SERE	Sereflikochisa	87.00	309	eP	P	01 17 28.0	-0.9
PNL	Peninsula	87.03	30	P	P	01 17 29.8	+1.3
PNL	Peninsula	87.03	30	P	P	01 17 29.2	+0.7
	baz=278						
M29M	Somme Creek	87.07	28	IAMs_20	IAMs_20	01 59 59.0	
	comp=Z,17μm,20.0s						
M29M	Somme Creek	87.07	28	P	P	01 17 28.9	+0.2
	baz=279,SNR=34						
ARA0	ARCESS Array S	87.08	340	eP	P	01 17 29.0	+0.5
ARA0				eP	PcP	01 17 29.6	-1.1
ARA0				ePP	PP	01 20 52.2	+0.5
ARA0				e		01 28 00.2	
ARA0				IVMs_BB	IVMs_BB	02 01 04.9	
	comp=Z,11μm,20.1s						
ARCES	ARCESS Array B	87.08	340	P	P	01 17 27.7	-0.8
ARCES	ARCESS Array B	87.08	340	P	P	01 17 27.1	-1.4
	comp=Z,26nm,0.9s,baz=34,slow=4.5,SNR=13						
ARCES				PKKPbc	PKKPbc	01 35 23.2	-0.2
	comp=Z,4.3nm,0.9s,baz=255,slow=2.7,SNR=5.0						
ARCES				LR	LR	02 01 27.2	
	comp=Z,33μm,19.3s,baz=82,slow=39						
	comp=Z,26nm,0.9s						
ARCES	ARCESS Array B	87.08	340	P	P	01 17 27.7	-0.8
ARCES				pmax	pmax		
	comp=Z,52nm,0.9s						
SULT	Sultanhani-AKS	87.12	308	eP	P	01 17 31.3	+1.9
L29M	L29M	87.12	27	IAmb	IAmb	01 17 42.7	
	comp=Z,205nm,0.9s						
L29M				IAMs_20	IAMs_20	01 53 30.2	
	comp=Z,19μm,22.0s						
L29M	L29M	87.12	27	P	P	01 17 28.9	0.0
	baz=279,SNR=38						
KEBE	Keben-Mersin	87.15	306	eP	P	01 17 30.1	+0.5
YUK4	Talbot Arm	87.15	29	P	P	01 17 29.2	0.0
	baz=279						
EPYK	Eagle Plains	87.17	24	IAmb	IAmb	01 17 42.1	
	comp=Z,210nm,1.0s						
EPYK	Eagle Plains	87.17	24	P	P	01 17 29.2	+0.2
	baz=280,SNR=18						
SPB2	Spitsbergen Ar	87.23	349	IAmb	IAmb	01 18 13.2	
	comp=Z,198nm,1.4s						
SPA0	Spitsbergen Ar	87.24	349	eP	P	01 17 29.8	+0.7
SPA0				ePP	PP	01 20 54.1	+1.3
SPA0				IVmB_BB		01 21 07.9	
	comp=Z,3μm,6.0s						
SPA0				e		01 27 58.5	
SPA0				IVMs_BB	IVMs_BB	02 04 33.0	
	comp=Z,8μm,19.4s						
SPITS	Spitsbergen Ar	87.24	349	P	P	01 17 28.1	-1.1
	comp=Z,15nm,0.9s,baz=90,slow=10,SNR=8.0						
SPITS				LR	LR	02 00 02.1	
	comp=Z,26μm,20.5s,baz=61,slow=38						
	comp=Z,15nm,0.9s						
SPITS	Spitsbergen Ar	87.24	349	P	P	01 17 28.6	-0.5
SPITS				pmax	pmax		
	comp=Z,266nm,1.6s						
G30M	tAoh Zraii Nji	87.25	23	P	P	01 17 29.3	-0.1
	baz=281,SNR=20						
K29M	Barlow Dome	87.27	26	IAMs_20	IAMs_20	01 53 25.1	
	comp=Z,18μm,22.0s						
K29M	Barlow Dome	87.27	26	P	P	01 17 29.6	0.0
	baz=280,SNR=13						
F30M	Barrier River	87.30	22	IAMs_20	IAMs_20	02 02 02.6	
	comp=Z,18μm,19.0s						
F30M	Barrier River	87.30	22	P	P	01 17 30.6	+1.0
	baz=281,SNR=22						
KURC	Kurucasile-Bar	87.30	312	eP	P	01 17 29.3	-0.8
AFSR	Afar-Bala (An	87.32	309	eP	P	01 17 28.1	-2.3
KIBK	Kibwezi	87.33	267	P	P	01 17 32.1	+1.1
KIBK	Kibwezi	87.33	267	IAmb	IAmb	01 17 47.0	
	comp=Z,365nm,1.3s						
KIBK	Kibwezi	87.33	267	P	P	01 17 31.3	+0.3
	SNR=128						
O29M	Mount Kennedy	87.34	30	P	P	01 17 30.0	-0.1
	baz=279						
YUK6	Outpost Mounta	87.35	29	P	P	01 17 29.2	-1.1
	baz=279,SNR=5.2						
KULU	Kulu	87.42	309	eP	P	01 17 28.6	-2.3
LFK	Lefkose	87.42	305	eP	P	01 17 31.1	+0.2
HAMF	Hammerfest	87.46	341	eP	P	01 17 31.7	+1.4
HAMF				eSKSac	SKSac	01 28 01.4	+4.9
HAMF				IVMs_BB	IVMs_BB	02 00 50.0	
	comp=Z,11μm,17.6s						
ANTO	Ankara	87.49	310	eP	P	01 17 34.3	+3.1
ANTO	Ankara	87.49	310	P	P	01 17 30.0	-1.2
ANTO				IAmb	IAmb	01 18 49.3	
	comp=Z,402nm,2.0s						
ANTO	Ankara	87.49	310	P	P	01 17 30.8	-0.4
ANTO	Ankara	87.49	310	P	P	01 17 30.0	-1.2
ANTO				pmax	pmax		
	comp=Z,402nm,2.0s						
ANTO				MLR	MLR		
	comp=Z,13μm,22.0s						
ANTO	Ankara	87.49	310	P	P	01 17 32.2	+1.0
ANTO				S	S	01 28 12.8	+1.4
LOD	Lodumlu	87.51	310	eP	P	01 17 32.6	+1.3
I30M	Mount Dempster	87.51	25	P	P	01 17 31.1	+0.3
	baz=281,SNR=11						
SBA	Scott Base	87.52	172	P	P	01 17 29.9	-0.4
SBA				IAmb	IAmb	01 17 41.5	
	comp=Z,458nm,1.6s						
SBA	Scott Base	87.52	172	P	P	01 17 29.9	-0.4
SBA				pmax	pmax		
	comp=Z,458nm,1.7s						
SBA				MLR	MLR		
	comp=Z,9μm,20.0s						
BERE	Bereket-Mersin	87.55	306	eP	P	01 17 32.1	+0.4
PPT	Papeete	87.59	108	LR	LR	01 50 13.4	
	comp=Z,9μm,21.0s,baz=265,slow=31						
PPT2	Papeete2	87.59	108	ePKIKP	P	01 17 46.5	+14
	comp=Z,197nm,1.4s						
PPT2	Papeete2	87.59	108	eS	S	01 28 09.2	-3.9
	comp=Z,8μm,27.5s						
PPT2				eSS	SS	01 33 56.1	-3.3
	comp=Z,11μm,28.2s						
PPT2				eLQ	LQ	01 41 41.8	
	comp=Z,126μm,39.5s						
PPT2				eLR	LR	01 45 18.3	
	comp=Z,35μm,28.5s						
PPT2				eLR	LR	01 45 21.1	
	comp=Z,50μm,27.0s						
PAE	Paea	87.60	108	ePKIKP	P	01 17 42.3	+10
	comp=Z,78nm,1.4s						
PAE	Paea	87.60	108	eS	SKSac	01 28 05.5	+6.2
	comp=Z,929nm,24.9s						
PAE				eSS	SS	01 34 00.3	+0.9
	comp=Z,1μm,25.4s						
PAE	Paea	87.60	108	eLR	LR	01 45 17.9	
	comp=Z,7μm,25.3s						
PPTF	Pamatai, Papee	87.61	108	IAMs_20	IAMs_20	01 50 04.2	
	comp=Z,16μm,21.0s						
CSS	Mathiatis	87.62	305	eP	P	01 17 31.8	-0.1
CSS	Mathiatis	87.62	305	IAmb	IAmb	01 18 13.5	
	comp=Z,151nm,1.1s						
J30M	Hart River	87.65	25	IAmb	IAmb	01 17 54.0	
	comp=Z,226nm,1.6s						
J30M	Hart River	87.65	25	P	P	01 17 32.3	+0.8
	baz=281,SNR=7.4						
TEKE	Tekeli-Mersin	87.66	306	eP	P	01 17 31.9	-0.1
KBS	Kingsbay	87.78	350	eP	P	01 17 32.9	+1.2
KBS				eP	PcP	01 17 33.6	0.0
KBS				e		01 28 10.5	
KBS				IVMs_BB	IVMs_BB	02 04 28.9	
	comp=Z,11μm,18.4s						
KBS	Kingsbay	87.78	350	i P	P	01 17 31.7	0.0
HYT	Haines Junctio	87.78	29	IAmb	IAmb	01 17 45.9	
	comp=Z,122nm,0.9s						
HYT	Haines Junctio	87.78	29	P	P	01 17 33.0	+0.8
	baz=280,SNR=16						
TIAR	Tiarei	87.81	108	ePKIKP	P	01 17 43.8	+11
	comp=Z,342nm,1.2s						
TIAR	Tiarei	87.81	108	eS	SKSac	01 28 06.8	+6.2
	comp=Z,4μm,22.5s						
TIAR				eSS	SS	01 34 00.0	-2.5
	comp=Z,6μm,26.3s						
TIAR	Tiarei	87.81	108	eLR	LR	01 45 23.0	
	comp=Z,33μm,25.1s						
M30M	Minto, Yukon	87.81	27	IAMs_20	IAMs_20	02 00 19.6	
	comp=Z,20μm,21.0s						
M30M	Minto, Yukon	87.81	27	P	P	01 17 32.8	+0.6
	baz=280,SNR=15						
HSPB	Hornsund (broa	87.81	348	eP	P	01 17 34.1	+2.2
HSPB				ePP	PP	01 21 06.3	+8.9
HSPB				eS	S	01 28 09.1	-3.8
HSPB				eL	L	01 54 15.5	
	comp=Z,39μm,27.5s						
BJO1	Bjornoya	87.81	345	eP	P	01 17 32.6	+0.7
BJO1				eSKSac	S	01 28 06.4	-6.6
P29M	Windy Craggy	87.87	30	IAmb	IAmb	01 17 54.5	
	comp=Z,158nm,1.2s						
P29M	Windy Craggy	87.87	30	P	P	01 17 31.9	-0.6
	baz=280,SNR=12						
N30M	Aishikik Lake	87.87	28	IAmb	IAmb	01 17 46.5	
	comp=Z,122nm,0.9s						
N30M				IAMs_20	IAMs_20	02 00 30.3	
	comp=Z,17μm,20.0s						
N30M	Aishikik Lake	87.87	28	P	P	01 17 32.4	-0.1
	baz=280,SNR=16						
TVO	Taravao	87.93	108	ePKIKP	P	01 17 38.8	+5.2
	comp=Z,64nm,1.1s						
TVO	Taravao	87.93	108	eS	SKSac	01 28 07.1	+5.7
	comp=Z,2μm,27.7s						
TVO				eSS	SS	01 34 00.5	-3.8
	comp=Z,2μm,26.7s						
TVO	Taravao	87.93	108	eLR	LR	01 45 25.8	
	comp=Z,8μm,25.3s						
KMBO	Kilima Mbogo	87.97	269	P	P	01 17 34.7	+0.5
	comp=Z,38nm,1.0s,baz=78,slow=5.8,SNR=38						
KMBO				S	S	01 28 19.1	+1.8
	comp=Z,3.1nm,0.3s,baz=312,slow=21,SNR=5.6						
KMBO				LR	LR	01 59 24.3	
	comp=Z,10μm,18.2s,baz=92,slow=37						
	comp=Z,38nm,1.0s						
KMBO	Kilima Mbogo	87.97	269	i P	P	01 17 35.9	+1.7
KMBO				pmax	pmax		
	comp=Z,38nm,1.0s						
KTK1	Kautokeino	87.98	339	eP	P	01 17 36.0	+3.2
KTK1				ePP	PP	01 21 01.3	+2.3
KTK1				eSKSac	SKSac	01 28 03.1	+3.3
KTK1				IVMs_BB	IVMs_BB	02 01 38.2	
	comp=Z,8μm,16.2s						
INK	Inuvik	87.99	21	IAmb	IAmb	01 18 06.5	
	comp=Z,196nm,1.6s						
INK	Inuvik	87.99	21	LR	LR	02 00 00.9	
	comp=Z,7μm,19.7s,baz=284,slow=38						
INK	Inuvik	87.99	21	P	P	01 17 32.6	-0.2
	baz=283,SNR=14						
POLA	Polatl-ANKAR	87.99	310	eP	P	01 17 35.1	+1.5
G31M	Satah River	88.02	23	IAmb	IAmb	01 17 58.1	
	comp=Z,114nm,1.1s						
G31M	Satah River	88.02	23	P	P	01 17 33.1	+0.1
	baz=282,SNR=15						
LADK	Ladik-KONYA	88.02	308	eP	P	01 17 33.8	0.0
MAYO	Mayo, Yukon	88.03	26	P	P	01 17 33.8	+0.6
	baz=281						
KONT	Konya--Tatoy	88.05	308	eP	P	01 17 32.6	-1.3
HDMB	Hadim	88.07	307	eP	P	01 17 42.3	+8.1
F31M	Tsiigehtchic	88.10	22	P	P	01 17 33.1	-0.3
	baz=283						
P30M	Million Dollar	88.17	30	P	P	01 17 35.0	+1.1
	baz=280						
H31M	Peel River	88.23	24	P	P	01 17 34.3	+0.2
	baz=282,SNR=16						
YUVA	Yuva-Kibriscik	88.27	310	eP	P	01 17 32.6	-2.3
GAZI	Gazipasa	88.29	306	eP	P	01 17 33.5	-1.5
KIZT	Kizilcal	88.31	309	eP	P	01 17 35.1	-0.1
FINES	FINESS Array B	88.43	332	P	P	01 17 34.1	-1.0
FINES	FINESS Array B	88.43	332	P	P	01 17 33.4	-1.7
	comp=Z,15nm,0.7s,baz=85,slow=4.5,SNR=40						
FINES				LR	LR	02 01 02.9	
	comp=Z,24μm,19.1s,baz=74,slow=38						
	comp=Z,15nm,0.7s						
FINES	FINESS Array B	88.43	332	P	P	01 17 34.1	-1.0
O30N	Mendenhall	88.47	29	P	P	01 17 36.2	+0.8
	baz=281						
N31M	Braeburn, Yuko	88.48	28	IAMs_20	IAMs_20	02 00 49.5	
	comp=Z,21μm,20.0s						
N31M	Braeburn, Yuko	88.48	28	P	P	01 17 36.3	+0.9
	baz=281,SNR=19						
TBI	Tubuai	88.49	114	eP	P	01 17 29.4	-6.7
	comp=Z,9μm,30.0s						
TBI	Tubuai	88.49	114	eS	S	01 28 17.3	-3.9
	comp=Z,45μm,28.8s						
TBI				eSS	SS	01 34 15.6	+3.5
	comp=Z,79μm,29.2s						
TBI				eLQ	LQ	01 42 02.9	
	comp=Z,222μm,39.5s						
TBI				eLR	LR	01 45 38.5	
	comp=Z,175μm,31.0s						

MNK *i* SS **SS** **01 34 14.7 +0.8**
MNK *i* SSS SSS 01 37 51.7
MNK pmax pmax
comp=N,39nm,1.0s
MNK pmax pmax
comp=E,18nm,1.0s
MNK pmax pmax
comp=Z,75nm,1.0s
MNK MLR MLR
comp=E,21μm,21.0s
MNK MLR MLR
comp=Z,29μm,21.0s
MNK MLR MLR
comp=N,25μm,20.0s
PURM Purcari 88.74 317 ⇑P **P** **01 17 36.8 0.0**
JETT Jettan, Norway 88.82 340 *e*P **P** **01 17 37.2 +0.4**
JETT *e*PP **PP** **01 21 05.7 0.0**
JETT *e* 01 28 09.3
JETT IVMs_BB IVMs_BB 02 06 36.0
comp=Z,9μm,17.9s
SAHE Sakarya_HENDEK 88.84 311 ⇑P **P** **01 17 37.0 -0.5**
PMOR Pomariorio Ree 88.86 105 *e*P **P** **01 17 42.6 +4.6**
comp=Z,353nm,1.2s
PMOR Pomariorio Ree 88.86 105 *e*S **S** **01 28 23.7 -1.3**
comp=Z,10μm,24.7s
PMOR *e*SS **SS** **01 34 18.9 +1.1**
comp=Z,45μm,26.5s
PMOR Pomariorio Ree 88.86 105 *e*LR LR 01 45 57.4
comp=Z,24μm,20.7s
CIFT Cifteler, Eski 88.88 309 *e*P **P** **01 17 39.8 +2.0**
BLVD Bolvadin-AFYON 88.93 309 *e*P **P** **01 17 36.1 -2.0**
S31K Pelican 88.94 32 IAMs_20 IAMs_20 01 53 35.8
comp=Z,17μm,22.0s
S31K Pelican 88.94 32 P **P** **01 17 38.7 +1.1**
baz=281
WHY Whitehorse 89.08 29 IAmb IAmb 01 17 51.1
comp=Z,138nm,0.9s
WHY Whitehorse 89.08 29 P **P** **01 17 38.2 -0.1**
baz=282,SNR=30
SKAG Skagway 89.11 30 P **P** **01 17 39.4 +1.1**
SKAG Skagway 89.11 30 P **P** **01 17 37.7 -0.6**
baz=282
VAH Vaihoa 89.15 105 *e*P **P** **01 17 42.9 +3.6**
comp=Z,62nm,1.2s
VAH Vaihoa 89.15 105 *e*S **S** **01 28 28.7 +1.0**
comp=Z,11μm,26.6s
VAH Vaihoa 89.15 105 *e*LR LR 01 46 02.1
comp=Z,9μm,23.0s
GULT Gulveren 89.15 310 *e*P **P** **01 17 37.0 -2.1**
SAUV Serdivan-Sakar 89.25 311 *e*P **P** **01 17 39.5 +0.1**
TRO Tromso 89.30 340 *e*P **P** **01 17 39.6 +0.7**
TRO IVmBBB 01 17 46.5
comp=Z,2μm,3.0s
TRO *e* 01 28 16.3
TRO IVMs_BB IVMs_BB 02 02 35.9
comp=Z,16μm,19.4s
LODK Lodwar 89.33 273 IAmb IAmb 01 17 55.0
comp=Z,397nm,2.0s
LODK Lodwar 89.33 273 P **P** **01 17 41.2 +0.8**
SNR=42
SHUT Suhut-Afyon 89.38 309 *e*P **P** **01 17 37.5 -2.8**
ISP Isparta 89.51 308 *e*P **P** **01 17 38.8 -2.0**
ISP Isparta 89.51 308 *c*e**P** **P** **01 17 39.6 -1.2**
ISP pmax pmax
comp=Z,47nm,1.3s
SORM Soroca 89.52 318 ⇑P **P** **01 17 39.7 -0.7**
SORM Soroca 89.52 318 P **P** **01 17 39.7 -0.7**
ANTB Antalya 89.53 307 *e*P P 01 17 49.5 +8.7
SIT Sitka 89.60 33 P **P** **01 17 41.6 +1.0**
SIT Sitka 89.60 33 P **P** **01 17 41.7 +1.1**
baz=282
A36M Sachs Harbour 89.62 17 IAMs_20 IAMs_20 02 01 39.6
comp=Z,17μm,22.0s
A36M Sachs Harbour 89.62 17 P **P** **01 17 41.4 +1.0**
baz=291
TLCR 89.68 315 ⇑P **P** **01 17 40.1 -1.2**
TLCR 89.68 315 P **P** **01 17 40.1 -1.2**
HRT Hereke 89.73 311 *e*P **P** **01 17 40.0 -1.7**
ADVT Abdulvahap 89.73 311 *e*P **P** **01 17 40.2 -1.5**
KORT Korkueli 89.76 307 *e*P **P** **01 17 39.0 -3.1**
R32K Eaglecrest 89.77 31 P **P** **01 17 42.5 +1.1**
baz=282,SNR=12
N32M Quiet Lake 89.83 28 P **P** **01 17 43.3 +1.6**
baz=284
JIS Juneau Island 89.83 31 P **P** **01 17 43.1 +1.4**
P32M Atlin 89.88 30 P **P** **01 17 42.8 +0.7**
baz=283
S32K Killisnoo 89.91 32 P **P** **01 17 43.7 +1.6**
baz=282
NOR Nord 89.97 355 *i* P **P** **01 17 41.0 -1.0**
NOR IAmb IAmb 01 17 42.9
comp=Z,9.8nm,0.7s
NOR IAMs_20 IAMs_20 01 53 17.7
comp=Z,18μm,28.2s
YLV Yalova 89.99 311 *e*P **P** **01 17 42.8 -0.2**
TPGR Topolog 90.01 315 ⇓P **P** **01 17 41.9 -1.0**
TIRR Tirgusor 90.08 315 *e*P **P** **01 17 42.8 -0.4**
TIRR Tirgusor 90.08 315 ⇑P **P** **01 17 41.7 -1.4**
TIRR Tirgusor 90.08 315 P **P** **01 17 41.7 -1.4**
VLDR Vladesti 90.08 316 ⇓P **P** **01 17 43.1 -0.1**
TVSB Tavsanli 90.09 310 *e*P **P** **01 17 42.9 -0.6**
KLYT Kilyos 90.13 311 *e*P **P** **01 17 43.8 +0.3**
ELL Elmali 90.15 307 *e*P **P** **01 17 47.0 +3.1**
ELL Elmali 90.15 307 IAmb IAmb 01 17 55.4
comp=Z,154nm,1.1s
CFR Carcaliu 90.15 315 ⇑P **P** **01 17 41.7 -1.8**
CFR Carcaliu 90.15 315 P **P** **01 17 41.7 -1.8**
SCTR Scanteiesti 90.17 316 ⇑P **P** **01 17 42.7 -0.8**
P33M Teslin, Yukon 90.18 29 IAMs_20 IAMs_20 01 54 10.3
comp=Z,19μm,21.0s
P33M Teslin, Yukon 90.18 29 P **P** **01 17 43.5 +0.1**
baz=284,SNR=5.6
MMPY Sheldon Lake, 90.30 27 P **P** **01 17 44.4 +0.5**
baz=285
TLBR Topalu 90.32 315 ⇓P **P** **01 17 43.9 -0.4**
BGKT Bogazkoy 90.34 311 *e*P P 01 17 52.3 +7.8
IZVR Izvoarele 90.35 316 ⇓P **P** **01 17 43.5 -0.9**
HARR Harsova 90.38 315 ⇓P **P** **01 17 44.1 -0.5**
HARR Harsova 90.38 315 P **P** **01 17 44.0 -0.5**
MDNY Mudanya-Bursa 90.39 311 *e*P P 01 17 50.8 +6.1
APMY Acipayam-Deniz 90.52 308 *e*P P 01 17 51.3 +5.8
ICOR Ion Corvin 90.57 314 ⇑P **P** **01 17 45.3 -0.2**
CAME Cameli-Denizli 90.60 307 *e*P **P** **01 17 44.8 -1.2**
CTYL Yalikoy Yolu 90.66 312 ⇓P **P** **01 17 45.1 -0.8**
Q32M Nakina River 90.75 30 P **P** **01 17 47.9 +1.6**
baz=284,SNR=6.5
SLVT Silivri 90.76 312 *e*P **P** **01 17 44.0 -2.4**
FETY Fethiye 90.82 307 *e*P P 01 17 35.1 -12
KULA Kula-Manisa 90.86 309 *e*P **P** **01 17 44.3 -2.8**
TESR Tescani 90.94 317 ⇓P **P** **01 17 45.8 -1.4**
C36M Paulatuk 90.95 19 P **P** **01 17 44.7 -2.0**
baz=292
BAND Balkesir-Ban 90.98 311 ⇑P **P** **01 17 47.2 -0.3**
U33K Whale Pass 90.99 33 P **P** **01 17 47.4 +0.2**
baz=284
VRI Vrincioaia 91.00 316 *e*P **P** **01 17 46.9 -0.6**
VRI Vrincioaia 91.00 316 ⇓P **P** **01 17 46.6 -0.9**
VRI Vrincioaia 91.00 316 P **P** **01 17 46.6 -0.9**
PLOR Plostina 91.06 316 ⇑P **P** **01 17 47.5 -0.3**
PLOR Plostina 91.06 316 P **P** **01 17 47.5 -0.3**
STEI Steigen 91.12 339 *e*P **P** **01 17 48.1 +0.6**
STEI IVmBBB 01 18 02.1
comp=Z,2μm,1.8s
STEI *e*PP **PP** **01 21 24.4 +0.5**
STEI *e* 01 28 27.5
DALY Dalyan (Mula) 91.13 307 *e*P P 01 17 56.5 +8.3
CRAG Craig 91.14 34 IAmb IAmb 01 18 01.8
comp=Z,204nm,1.7s
CRAG Craig 91.14 34 P **P** **01 17 49.8 +1.9**
CRAG Craig 91.14 34 P **P** **01 17 47.5 -0.4**
baz=284
GORD Gordes-Manisa 91.17 309 *e*P **P** **01 17 47.3 -1.2**
PHSR Pinarhisar 91.20 312 ⇑P **P** **01 17 48.3 -0.1**
NAZL Nazilli-Aydin 91.23 308 *e*P **P** **01 17 46.8 -2.0**
R33M Jennings River 91.29 30 P **P** **01 17 47.6 -1.1**
baz=286,SNR=6.4
FAUS Fauske 91.30 339 *e*P **P** **01 17 49.1 +0.7**
FAUS IVmBBB 01 17 59.1
comp=Z,2μm,2.5s
FAUS *e*SKSac **SKSac** **01 28 22.0 +2.8**
WRAK Wrangell Islan 91.34 33 IAmb IAmb 01 18 01.6
comp=Z,237nm,1.6s
WRAK Wrangell Islan 91.34 33 P **P** **01 17 48.7 0.0**
baz=284
ODEM Odemis-Izmir 91.35 309 *e*P **P** **01 17 47.3 -2.0**
YER Yerkesik 91.37 307 *e*P **P** **01 17 51.5 +2.0**
NEHR Nehoiu 91.39 316 ⇓P **P** **01 17 49.0 -0.3**
TURR Turia 91.46 317 ⇓P **P** **01 17 49.7 +0.1**
TURN Turunc 91.46 307 *e*P **P** **01 17 53.0 +3.2**
SUW Suwalki 91.54 325 *e*P **P** **01 17 49.3 -0.4**
SUW *e*PP **PP** **01 21 29.9 +2.2**
SUW *e*S S 01 28 31.4 -17
SUW *e*L L 02 00 55.1
comp=Z,41μm,22.6s
AYDB Zeytinkoy-Aydi 91.55 308 *e*P **P** **01 17 50.2 -0.1**
SULR 91.56 315 ⇓P **P** **01 17 49.3 -0.7**
LOZB Loznitsa 91.56 314 ⇑P **P** **01 17 49.5 -0.6**
KRBG Karabiga-Canak 91.58 311 *e*P P 01 17 57.7 +7.4
RAZG Razgrad 91.59 314 ⇓P **P** **01 17 48.7 -1.6**
S34M Telegraph Cree 91.60 31 P **P** **01 17 49.6 -0.4**
baz=285,SNR=6.8
MLR Muntele Rosu 91.61 316 *e*P **P** **01 17 54.7 +4.2**
MLR Muntele Rosu 91.61 316 IAmb IAmb 01 18 08.7
comp=Z,236nm,1.4s
MLR Muntele Rosu 91.61 316 LR LR 02 02 07.2
comp=Z,20μm,21.4s,baz=69,slow=38
MLR Muntele Rosu 91.61 316 ⇑P **P** **01 17 49.7 -0.9**
MLR Muntele Rosu 91.61 316 P **P** **01 17 49.6 -0.9**
RKY Sarkoy-Tekirda 91.62 311 *e*P **P** **01 17 49.6 -0.9**
LOF Lofoten 91.64 340 *e*P **P** **01 17 50.8 +0.9**
LOF IVmB_BB 01 19 09.9
comp=Z,2μm,4.5s
LOF *e* 01 28 25.8
ARG Arkhangelos 91.65 307 P P 01 18 00.6 +10
ARG Arkhangelos 91.65 307 IAmb IAmb 01 18 02.3
comp=Z,207nm,1.2s
BURAR Bucovina Array 91.68 318 P **P** **01 17 49.2 -1.5**
BURAR Bucovina Array 91.68 318 ⇓P **P** **01 17 50.0 -0.7**
BURAR Bucovina Array 91.68 318 P **P** **01 17 50.0 -0.7**
EDRB Edirne 91.73 312 *e*P **P** **01 17 46.5 -4.4**
MLSB Milas 91.75 308 *e*P **P** **01 17 47.8 -3.4**
CANM Can-anakkale 91.83 310 *e*P **P** **01 17 48.3 -3.1**
YAYO Edremit-Balk 91.89 310 *e*P **P** **01 17 51.0 -0.7**
DOPR Dopca 91.90 317 ⇑P **P** **01 17 50.5 -1.2**
UKOP Uzunkopru-Edir 91.95 312 *e*P **P** **01 17 48.0 -3.9**
TGTN Hyland Airport 91.96 27 P **P** **01 17 52.6 +1.0**
baz=288
LPK Lapseki 91.99 311 *e*P **P** **01 17 55.5 +3.3**
V35K Ketchikan 92.01 34 P **P** **01 17 52.0 +0.2**
baz=285
DLBC Dease Lake 92.02 31 LR LR 01 56 11.2
comp=Z,90μm,21.5s,baz=272,slow=34
DLBC Dease Lake 92.02 31 P **P** **01 17 52.6 +0.6**
baz=286,SNR=6.3
MOR8 Moi Rana 92.06 338 *e*P **P** **01 17 56.3 +4.4**
MOR8 *e*SKSac **SKSac** **01 28 21.3 -2.3**
MOR8 IVMs_BB IVMs_BB 02 04 40.2
comp=Z,11μm,18.3s
GCAM G?zelcaml? 92.10 308 *e*P **P** **01 17 51.3 -1.4**
RAUS Rausandaksla 92.11 338 *e*P **P** **01 17 52.8 +0.7**
RAUS IVmBBB 01 17 58.7
comp=Z,1μm,2.5s
RAUS *e*SKSac **SKSac** **01 28 25.5 +1.7**
RAUS IVMs_BB IVMs_BB 02 03 00.2
comp=Z,10μm,18.0s
ERIK Erikli-Kesan 92.12 311 *e*P P 01 17 59.7 +7.0
BLCB Balcova 92.13 309 *e*P **P** **01 17 52.4 -0.5**
BODT Bodrum 92.15 308 *e*P P 01 18 01.9 +8.9
ELND Elena 92.16 313 ⇑P **P** **01 17 51.6 -1.3**
COMU Canakkale 92.25 311 *e*P **P** **01 17 55.2 +1.8**
VAGH Vaagaholmen 92.28 338 *e*P **P** **01 17 53.5 +0.7**
VAGH *e*PP **PP** **01 21 32.8 -0.3**
VAGH *e* 01 28 27.2
VAGH IVMs_BB IVMs_BB 01 56 10.1
comp=Z,10μm,24.5s
T35M Bob Quinn 92.31 32 IAmb IAmb 01 18 08.0
comp=Z,131nm,1.5s
T35M Bob Quinn 92.31 32 P **P** **01 17 53.4 +0.1**
baz=286,SNR=7.4
ARCR ARCALIA 92.37 318 ⇑P **P** **01 17 53.9 +0.1**
ENEZ Enez 92.38 311 *e*P P 01 18 00.7 +6.8
ENEZ Enez 92.38 311 P P 01 18 02.6 +8.7
EZN Ezine 92.42 310 *e*P **P** **01 17 52.5 -1.6**
EZN Ezine 92.42 310 P P 01 18 04.0 +10
EZN Ezine 92.42 310 ⇑P **P** **01 17 52.2 -1.9**
EZN Ezine 92.42 310 P **P** **01 17 52.2 -1.9**
HUMR Humele 92.48 315 ⇑P **P** **01 17 52.9 -1.4**
URLA Izmir 92.48 309 *e*P **P** **01 17 50.5 -4.0**
STOK Stokkvaagen 92.53 338 *e*P **P** **01 17 54.6 +0.6**
STOK IVmBBB 01 18 05.2
comp=Z,1μm,4.3s
STOK *e*PP **PP** **01 21 36.8 +1.8**
STOK *e* 01 28 28.1
STOK IVMs_BB IVMs_BB 02 03 13.2
comp=Z,10μm,19.5s
ARR Arges 92.54 316 ⇑P **P** **01 17 53.4 -1.3**
PRK Paraskevi 92.56 310 P P 01 18 04.7 +10
LEIR Leirfjorden 92.58 338 *e*P **P** **01 17 50.9 -3.4**
LEIR IVmBBB 01 17 54.0
comp=Z,2μm,3.6s
LEIR *e*PP **PP** **01 21 36.0 +0.5**
LEIR *e* 01 28 33.8
LEIR IVMs_BB IVMs_BB 02 00 36.8
comp=Z,11μm,22.1s
BOZC Bozcaada 92.62 310 *e*P **P** **01 17 53.4 -1.7**
GADA Gvkgeada 92.67 311 *e*P **P** **01 17 53.5 -1.8**
GADA Gvkgeada 92.67 311 P P 01 18 04.5 +9.2
U35K Hyder 92.72 33 P **P** **01 17 55.0 -0.1**
baz=286
TNR Turnu Rosu 92.73 316 ⇓P **P** **01 17 55.0 -0.5**
TNR Turnu Rosu 92.73 316 P **P** **01 17 55.0 -0.5**
RDO Rodhopi 92.75 312 *e*P **P** **01 17 59.7 +4.0**
RDO Rodhopi 92.75 312 P P 01 18 04.1 +8.4
KDZ Kurdzhali 92.81 312 *e*P **P** **01 18 00.5 +4.6**
KDZ Kurdzhali 92.81 312 P P 01 18 05.4 +9.5
BMR Baia Mare 92.81 318 ⇓P **P** **01 17 55.9 +0.1**
BMR Baia Mare 92.81 318 P **P** **01 17 55.9 +0.1**
KWP Kalwaria Pacla 92.86 321 *e*P **P** **01 17 55.1 -1.0**
KWP *e*PP PP 01 21 55.4 +17
KWP *e*L L 02 02 27.9
comp=Z,35μm,23.2s
SIGR SIGRI 92.89 310 P P 01 18 05.9 +10
SMTH Samothraki Isl 92.89 311 P P 01 18 05.5 +9.2
CJR Cluj-Napoca 92.96 318 ⇓P **P** **01 17 56.2 -0.4**
CJR Cluj-Napoca 92.96 318 P **P** **01 17 56.2 -0.4**
PLVB Pleven 92.97 314 ⇑P **P** **01 17 55.3 -1.3**
CBBR Cluj-Babes-Bol 92.98 318 ⇓P **P** **01 17 56.4 -0.2**
VLAD Vladila 92.99 315 ⇓P **P** **01 17 56.6 -0.1**
LOT Lotru 93.12 316 *e*P **P** **01 17 57.7 +0.3**
LOT Lotru 93.12 316 ⇓P **P** **01 17 57.3 -0.2**
PLD Plovdiv 93.13 313 *e*P **P** **01 18 00.9 +3.5**
PLD Plovdiv 93.13 313 P P 01 18 06.2 +8.8
R9F13 Warsaw-Wawer 93.18 323 *e*P **P** **01 17 55.5 -1.9**
R9F13 *e*PP **PP** **01 21 43.7 +3.1**
R9F13 *e*S **S** **01 29 04.1 +1.0**
RZN Rozhen 93.23 312 P P 01 18 06.9 +8.8
LIA Limnos Island 93.27 311 P P 01 18 06.3 +8.2
MARR Marisel-Cluj 93.29 318 ⇑P **P** **01 17 57.6 -0.5**
ZKR Zakros 93.37 306 *e*P **P** **01 18 03.3 +4.6**
WRGLY Wrigley 93.48 25 IAmb IAmb 01 18 18.4
comp=Z,139nm,1.3s
WRGLY Wrigley 93.48 25 P **P** **01 17 59.0 +0.5**
baz=292
BEL Belsk 93.49 323 *e*P **P** **01 17 58.5 -0.3**
BEL *e*PP PP 01 21 53.0 +10
BEL *e*L L 01 58 16.5
comp=Z,501μm,30.5s
DRGR 93.53 318 *e*P **P** **01 17 58.2 -1.1**
KAVA Kavala 93.54 312 P P 01 18 08.5 +9.2
APE Apeiranthos 93.55 308 P P 01 18 07.7 +8.2
DEV Deva 93.61 317 ⇓P **P** **01 17 59.3 -0.2**
DEV Deva 93.61 317 P **P** **01 17 59.3 -0.2**
NSS Namsos 93.65 337 *e*P **P** **01 17 59.8 +0.5**
LIRD Liard River Hi 93.66 29 P **P** **01 18 00.5 +1.0**
baz=290,SNR=17
THERA Ancient Thera, 93.73 307 P P 01 18 09.8 +9.5
GZR Gura Zlata 93.81 316 ⇑P **P** **01 17 59.5 -1.1**
GZR Gura Zlata 93.81 316 P **P** **01 17 59.4 -1.1**
SAP3 Santorini-Thir 93.82 307 P P 01 18 10.1 +9.4
NPS Neapolis 93.83 306 P P 01 18 10.7 +10
SKY Skiros Island 93.95 310 P P 01 18 11.1 +10
PUNG Punghina 93.97 315 ⇓P **P** **01 18 00.3 -0.8**
MMB Musomishta 93.99 312 P P 01 18 10.2 +8.8
OUR Ouranopolis 94.08 311 *e*P **P** **01 18 00.4 -1.4**
OUR Ouranopolis 94.08 311 P P 01 18 10.8 +9.1
DAG Danmarks Havn 94.08 352 *i* P **P** **01 17 59.7 -1.4**
VTS Vitosha 94.13 314 P P 01 18 11.3 +9.2
SURR Surduc 94.17 317 ⇓P **P** **01 18 01.4 -0.8**
HERR Herculane 94.18 316 ⇓P **P** **01 18 01.7 -0.5**
SRS Serrai 94.20 312 P P 01 18 11.2 +8.8
TOAD Toad River Com 94.27 29 P **P** **01 18 03.0 +0.7**
baz=290,SNR=19
BLKB Belogradchik 94.30 315 ⇓P **P** **01 18 02.0 -0.8**
SIRR Siria 94.36 317 ⇓P **P** **01 18 02.5 -0.5**
KOTAN Kotaneelee Air 94.38 28 P **P** **01 18 03.9 +1.2**
baz=292
KKB Krupnik 94.38 313 P P 01 18 12.6 +9.4
AOS Alonnisos 94.40 310 P P 01 18 12.5 +9.1
IDI Anoyia 94.41 306 P **P** **01 18 02.4 -1.1**
IDI Anoyia 94.41 306 *e*P **P** **01 18 00.2 -3.3**
IDI Anoyia 94.41 306 P P 01 18 13.2 +10
IDI Anoyia 94.41 306 LR LR 02 07 08.0
comp=Z,4μm,19.8s,baz=68,slow=40
NIE Niedzica 94.43 321 *e*P P 01 18 11.2 +7.9
NIE *e*PP PP 01 21 58.7 +8.2
NIE *e*S S 01 28 49.0 -25
NIE *e*L L 02 06 06.4
comp=Z,15μm,20.2s
SOH Sokhos 94.44 312 P P 01 18 12.4 +8.8
OJC Ojcow 94.53 322 *e*P **P** **01 18 02.6 -1.0**
OJC *e*PP **PP** **01 21 56.4 +5.2**
OJC *e*S S 01 29 27.1 +12
OJC *e*L L 02 05 35.0
comp=Z,24μm,21.9s
BZS Buzias 94.55 317 *e*P **P** **01 18 06.1 +2.2**
BZS Buzias 94.55 317 ⇓P **P** **01 18 03.1 -0.8**
BZS Buzias 94.55 317 P **P** **01 18 03.0 -0.8**
DION Dionisos Attik 94.59 309 P P 01 18 12.0 +7.8
SYO Syowa Base 94.61 201 ⇓*i* P **P** **01 18 03.4 -0.1**
SYO Syowa Base 94.61 201 ⇓*e*pP pP 01 18 09.0 -2.0
HFS Hagfors 94.62 332 P **P** **01 18 01.4 -2.4**
comp=Z,11nm,0.9s,baz=104,slow=4.7,SNR=16
HFS PKKPbc **PKKPdf** **01 35 03.3 +0.3**
comp=Z,2.4nm,0.8s,baz=204,slow=3.3,SNR=4.7
HFS LR LR 02 02 34.4
comp=Z,40μm,21.8s,baz=61,slow=37
comp=Z,11nm,0.9s
PTL Penteli 94.65 309 P P 01 18 12.6 +8.1
HORT Hortiatis 94.68 312 P P 01 18 13.2 +8.6
MDVR Moldovita 94.69 316 ⇓P **P** **01 18 03.9 -0.7**
KNT Kendrikon 94.70 312 P P 01 18 13.5 +8.9
ATHU Athens Univers 94.73 309 P P 01 18 13.2 +8.3
VLY Voula,Athens 94.75 309 P P 01 18 13.5 +8.5
NEO Neokhori 94.87 310 P P 01 18 14.0 +8.5
BBB Bella Bella 94.88 36 LR LR 01 56 51.3
comp=Z,3μm,20.7s,baz=297,slow=33
VAY Valandovo 94.90 312 *i* P **P** **01 18 03.5 -2.1**
BOVS Bovan 94.98 315 ⇓P **P** **01 18 05.2 -0.6**
CHAN Chania 95.04 307 P P 01 18 15.9 +10
VILL Villia 95.05 309 P P 01 18 14.5 +8.1
GVD Gavdhos 95.14 306 *e*P **P** **01 18 02.5 -4.3**
GKP Gorka Klasztor 95.15 325 *e*P P 01 18 12.4 +6.0
GKP *e*L L 02 04 29.3
comp=Z,35μm,23.5s
ATAL Atalanti 95.16 310 P P 01 18 14.7 +7.9
RES Resolute Bay 95.17 10 LR LR 02 03 30.6
comp=Z,11μm,21.1s,baz=326,slow=37
LKR Lokris 95.18 310 P P 01 18 14.2 +7.3
LIT Litokhoron 95.24 311 P P 01 18 15.8 +8.6
LTK Loutraki 95.35 309 P P 01 18 14.6 +6.9
NC602 NORSAR Array S 95.36 333 *e*P **P** **01 18 07.7 +0.4**
NB2 NORSAR Subarra 95.39 333 P **P** **01 18 04.8 -2.6**
comp=Z,247nm,2.5s,baz=66,slow=4.6
NB2 NORSAR Subarra 95.39 333 P **P** **01 18 04.8 -2.6**
baz=66,slow=4.6
NOA NORSAR Array B 95.39 333 P **P** **01 18 05.4 -2.0**
comp=Z,7.3nm,1.1s,baz=66,slow=4.6,SNR=11
NOA PP **PP** **01 21 54.3 -3.3**
comp=Z,4.2nm,1.1s,baz=68,slow=7.8,SNR=2.3
NOA PKKPbc **PKKPdf** **01 35 01.1 -0.6**
comp=Z,2.7nm,1.0s,baz=255,slow=2.2,SNR=4.9
NOA LR LR 02 05 03.6
comp=Z,39μm,19.6s,baz=65,slow=38
comp=Z,7.3nm,1.1s
AXAR Agios Charalam 95.42 310 P P 01 18 16.1 +8.1
ANKY Antikythira Is 95.55 307 P P 01 18 18.2 +10
SKO Skopje 95.57 313 *i* P P 01 18 16.8 +8.2
AGG Agios Georgios 95.61 310 P P 01 18 16.2 +7.3
OKC Ostrava-Krasne 95.66 322 AMS AMS 02 06 10.0
comp=Z,23μm,21.2s
VLI Veliai 95.66 308 P P 01 18 16.6 +7.5
KTHA Kythira Island 95.66 307 *e*P **P** **01 18 13.5 +4.3**
TAOE Nuku Hiva Isla 95.71 98 *e*S **S** **01 29 25.7 -1.2**
comp=Z,13μm,31.7s
TAOE *e*SS **SS** **01 35 55.7 -0.9**
comp=Z,11μm,27.0s
TAOE *e*LQ LQ 01 45 07.1
comp=Z,25μm,35.8s
TAOE *e*LR LR 01 49 10.5
comp=Z,52μm,26.2s
KZN Kozani 95.73 312 P P 01 18 16.6 +7.1
MAKR Makrakomi, Fth 95.76 310 P P 01 18 17.5 +7.9
GUR Goura 95.85 309 P P 01 18 18.6 +8.5
STEB Steborice 95.86 322 *e*P **P** **01 18 10.0 +0.2**
DEL Delary 95.89 329 *i* P P 01 18 02.2 -7.5
DOMB Dombas 95.89 335 *e*P **P** **01 18 10.1 +0.4**
DOMB *e*SKSac **SKSac** **01 28 47.2 +2.5**
DOMB IVMs_BB IVMs_BB 02 05 42.6
comp=Z,19μm,16.3s
KALE Kalithea 95.90 310 P P 01 18 19.2 +8.9
NEEM North Greenlan 95.92 359 *i* P **P** **01 18 09.8 -0.1**
VLX Vlachokerasia 95.95 309 P P 01 18 19.2 +8.7
SERG Sergoula 95.96 310 P P 01 18 19.6 +9.1
KLV Kalavryta, Ach 95.97 309 P P 01 18 19.2 +8.6
MAUC Maruska 96.00 321 *e*P **P** **01 18 13.1 +2.7**
ANX Ano Chora 96.02 310 P P 01 18 20.5 +10
EVR Evrytania 96.03 310 P P 01 18 20.4 +10
POGA Pongola 96.04 243 IAmb IAmb 01 18 13.9
comp=Z,190nm,1.8s
MORC Moravsky Berou 96.05 322 ⇑P **P** **01 18 09.8 -0.9**
MORC Moravsky Berou 96.05 322 *e*P **P** **01 18 10.0 -0.7**
MORC *e*PP **PP** **01 22 06.2 +3.1**
OSL Oslo 96.06 333 *e*P **P** **01 18 10.9 +0.5**
OSL *e*SKSac **SKSac** **01 28 42.0 -3.5**
OSL IVMs_BB IVMs_BB 02 03 32.9
comp=Z,11μm,18.7s
NEST Nestorio 96.24 312 P P 01 18 20.6 +8.8
JAVC Velka Javorina 96.25 321 *e*P **P** **01 18 11.9 +0.3**
JAVC *e*PP **PP** **01 22 06.8 +2.1**
OHR Ohrid 96.25 313 *i* P **P** **01 18 10.8 -1.0**
MOL Molde 96.28 336 *e*P **P** **01 18 11.9 +0.5**
MOL *e*SKSac **SKSac** **01 28 50.4 +3.8**
MOL IVMs_BB IVMs_BB 02 04 58.3
comp=Z,15μm,20.3s
DBG Daneborg 96.33 351 *i* P **P** **01 18 10.8 -0.6**
TETR Tetrakomo, Epi 96.33 311 P P 01 18 21.8 +10
ITM Ithomi 96.34 309 *e*P **P** **01 18 11.2 -1.1**
ITM Ithomi 96.34 309 P P 01 18 22.1 +10
ITM Ithomi 96.34 309 IAmb IAmb 01 18 23.9
comp=Z,166nm,1.4s
KBN Korca 96.38 312 P P 01 18 21.4 +8.9
MORH Mrgy, Hungar 96.39 318 ⇑P **P** **01 18 11.0 -1.3**
KRLC Kraliky 96.42 322 *e*S S 01 29 45.3 +14
KRLC AMS AMS 02 05 20.0
comp=Z,23μm,20.7s
TULEG Thule 96.47 3 IAMs_20 IAMs_20 02 09 47.9
comp=Z,16μm,19.0s
KSP Ksiaz 96.47 323 *e*P **P** **01 18 13.5 +1.0**
KSP *e*L L 01 59 37.9
comp=Z,24μm,32.7s
AMPL Ampelaki 96.48 310 P P 01 18 21.9 +9.1
JNE Jan Mayen East 96.52 346 *e*P P 01 18 18.4 +6.1
JNE *e* 01 29 06.6
JNW Jan Mayen West 96.52 346 *e*P **P** **01 18 15.2 +2.9**
JNW IVmB_BB 01 18 23.1
comp=Z,17μm,3.6s
PYL PYLOS 96.55 308 P P 01 18 22.4 +9.2
JMIC Jan Mayen 96.57 346 LR LR 02 07 48.3
comp=Z,11μm,19.7s,baz=49,slow=39
JAN Janina 96.57 311 P P 01 18 23.0 +10
OSTC Ostas 96.61 323 *e*P **P** **01 18 13.8 +0.6**
OSTC Ostas 96.61 323 *e*P **P** **01 18 13.8 +0.6**
DPC Dobruska-Polom 96.62 322 *e*P **P** **01 18 13.6 +0.4**
DPC *e*S S 01 29 45.6 +12
DPC AMS AMS 02 05 40.0
comp=Z,28μm,20.1s
DPC Dobruska-Polom 96.62 322 *e*P **P** **01 18 13.6 +0.4**
DPC MLR MLR
comp=Z,28μm,20.1s

QSPA South Pole Qui 96.62 180 P **P** **01 18 11.9 -1.0**
QSPA IAmb IAmb 01 18 27.5
comp=Z,344nm,2.0s
QSPA South Pole Qui 96.62 180 IAMs_20 IAMs_20 02 05 06.9
comp=Z,16μm,20.0s
QSPA South Pole Qui 96.62 180 P **P** **01 18 12.6 -0.3**
comp=Z,13nm,1.2s,baz=337,slow=1.1,SNR=14
QSPA PP **PP** **01 22 07.4 +0.1**
comp=Z,34nm,1.1s,baz=328,slow=6.2,SNR=4.2
QSPA PKKPbc **PKKPbc** **01 34 57.7 -2.1**
comp=Z,4.3nm,1.0s,baz=234,slow=2.0,SNR=4.6
QSPA LR LR 02 05 00.4
comp=Z,8μm,18.3s,baz=350,slow=38
comp=Z,13nm,1.2s
MODS Modra-Piesok 96.64 320 *e*PP **PP** **01 22 07.6 -0.1**
AKN Aaknes 96.69 335 *e*P **P** **01 18 13.6 +0.3**
CHVC Chvalec 96.70 323 *e*P **P** **01 18 14.3 +0.7**
CHVC AMS AMS 02 05 50.0
comp=Z,24μm,18.1s
CHVC Chvalec 96.70 323 *e*P **P** **01 18 14.3 +0.7**
CHVC MLR MLR
comp=Z,24μm,18.1s
KONO Kongsberg 96.70 333 *e*SKSac **SKSac** **01 28 54.3 +5.4**
KONO *i* 01 36 34.1
UPC Upice 96.75 323 *e*P **P** **01 18 15.1 +1.3**
UPC *e*PP PP 01 22 18.1 +10
UPC AMS AMS 02 05 50.0
comp=Z,28μm,18.3s
UPC Upice 96.75 323 *e*P **P** **01 18 15.1 +1.3**
UPC MLR MLR
comp=Z,28μm,18.3s
VRAC Vranov 96.78 321 LR LR 02 07 56.9
comp=Z,9μm,18.7s,baz=68,slow=39
VRAC Vranov 96.78 321 ⇓P **P** **01 18 12.7 -1.3**
VRAC Vranov 96.78 321 *e*P **P** **01 18 13.4 -0.6**
VRAC *e*PP **PP** **01 22 08.6 -0.1**
VRAC Vranov 96.78 321 P **P** **01 18 12.6 -1.3**
SKAR Skarslia 96.83 334 *e*P **P** **01 18 14.3 +0.3**
SKAR *e*SKSac **SKSac** **01 28 54.3 +4.6**
SKAR IVMs_BB IVMs_BB 02 03 06.7
comp=Z,15μm,20.8s
EVGI Lefkada island 96.98 310 P P 01 18 24.3 +9.2
KRUC Moravsky 96.98 321 *e*P **P** **01 18 14.3 -0.6**
KRUC *e*PP **PP** **01 22 10.5 +0.2**
PDG Podgorica 97.02 314 *e*P **P** **01 18 12.2 -3.0**
PDG Podgorica 97.02 314 IAMs_20 IAMs_20 02 06 55.6
comp=Z,19μm,22.0s
PDG Podgorica 97.02 314 ⇓P **P** **01 18 14.4 -0.8**
FSK Fiskardo 97.09 310 P Pdif 01 18 25.1 +9.4
VLS Valsamata 97.14 310 P Pdif 01 18 25.2 +9.3
PSDA Pessada-Kefalo 97.16 310 P Pdif 01 18 25.6 +10
YKAW3 Yellowknife Wh 97.41 24 IAmb IAmb 01 18 29.7
comp=Z,55nm,1.0s
YKA Yellowknife Ar 97.45 24 P **P** **01 18 16.3 -0.3**
YKA Yellowknife Ar 97.45 24 P **P** **01 18 15.8 -0.9**
comp=Z,17nm,0.9s,baz=301,slow=5.3,SNR=18
YKA PP **PP** **01 22 13.1 -0.2**
comp=Z,3.7nm,0.9s,baz=299,slow=7.9,SNR=4.1
YKA PKKPbc **PKKPbc** **01 34 53.5 -3.0**
comp=Z,5.1nm,0.9s,baz=124,slow=2.0,SNR=6.8
comp=Z,17nm,0.9s
YKA Yellowknife Ar 97.45 24 *i* P Pdif 01 18 16.7 0.0
YKA pmax pmax
comp=Z,19nm,0.9s
TREC Trest 97.47 322 *e*P Pdif 01 18 19.1 +1.9
TREC AMS AMS 02 07 20.0
comp=Z,23μm,19.0s
TREC Trest 97.47 322 *e*P Pdif 01 18 19.1 +1.9
TREC MLR MLR
comp=Z,23μm,19.0s
RONA Rosalia, Austr 97.48 320 *e*PcP Pdif 01 18 22.9 +5.6
comp=Z,20nm,2.0s
RONA *e*PP **PP** **01 22 16.5 +2.3**
comp=Z,22nm,1.1s
RONA *i* PKKP **PKKPbc** **01 34 52.7 -3.2**
comp=Z,6.3nm,1.3s
RONA *e*SKKP 01 38 27.0
comp=Z,5.0nm,1.8s
YKAW1 Yellowknife Wh 97.50 24 IAmb IAmb 01 18 30.1
comp=Z,55nm,1.1s
HYA Hoyanger 97.52 335 *e*P **P** **01 18 15.9 -1.1**
HYA *e*SKSac **SKSac** **01 28 59.8 +6.8**
HYA IVMsBB 02 06 25.8
comp=Z,17μm,18.2s
PVCC Panska Ves 97.61 323 *e*P Pdif 01 18 21.3 +3.6
PVCC *e*PP PP 01 22 26.4 +11
PVCC AMS AMS 02 04 50.0
comp=Z,22μm,21.1s
PVCC Panska Ves 97.61 323 *e*P Pdif 01 18 21.3 +3.6
PVCC MLR MLR
comp=Z,22μm,21.1s
CONA Conrad Observa 97.69 320 *e*PcP Pdif 01 18 20.4 +2.1
comp=Z,16nm,1.3s
CONA *i* PP **PP** **01 22 15.4 -0.4**
comp=Z,24nm,1.3s
CONA *i* PKKP **PKKPbc** **01 34 54.2 -1.2**
comp=Z,7.4nm,1.6s
CONA *e*SKKP 01 38 26.4
comp=Z,2.5nm,1.4s
FOO Floro 97.78 335 *e*P Pdif 01 18 18.8 +0.6
FOO IVmBBB 01 18 25.7
comp=Z,1μm,3.8s
FOO *e*SKSac SKSac 01 29 05.8 +11
BLY Banja Luka 97.81 317 ⇑P **P** **01 18 17.4 -1.3**
HOMB Homborsund 97.82 332 *e*P Pdif 01 18 18.9 +0.5
HOMB *e* 01 28 36.3
HOMB IVMs_BB IVMs_BB 02 06 15.6
comp=Z,10μm,18.9s
PRU Pruhonice 97.82 322 *e*P Pdif 01 18 22.2 +3.6
PRU *e*S **S** **01 29 51.7 +8.2**
PRU AMS AMS 02 09 00.0
comp=Z,26μm,18.0s
PRU Pruhonice 97.82 322 *e*P Pdif 01 18 22.2 +3.6
PRU MLR MLR
comp=Z,26μm,18.0s
PRA Prague 97.85 323 AMS AMS 02 06 40.0
comp=Z,24μm,18.0s
BRG Berggiesshubel 97.87 323 *e*P **P** **01 18 17.4 -1.4**
BRG Amp 01 18 21.6
comp=Z,10nm,0.9s
BRG Berggiesshubel 97.87 323 P Pdif 01 18 26.9 +8.0
BRG Amp 01 18 28.2
comp=Z,35nm,1.0s
BRG Berggiesshubel 97.87 323 S **S** **01 29 52.0 +8.1**
BRG Berggiesshubel 97.87 323 PS PS 01 31 14.0 +4.4
RICC Richard 97.89 323 AMS AMS 02 05 00.0
comp=Z,26μm,20.9s
ODD1 Odda 97.92 333 *e* Pdif 01 18 27.4 +8.4
ODD1 *i* 01 22 27.5
ODD1 *i* 01 29 10.4
ODD1 IVMs_BB IVMs_BB 02 06 09.6
comp=Z,18μm,20.2s
ARSA Arzberg 98.12 320 *e*PcP Pdif 01 18 21.6 +1.5
comp=Z,15nm,1.1s
ARSA *i* PP **PP** **01 22 20.6 +1.5**
comp=Z,32nm,1.8s
ARSA *e*PKKP **PKKPbc** **01 34 52.8 -1.3**
comp=Z,2.4nm,0.8s
ARSA *e*SKKP 01 38 29.0
comp=Z,3.5nm,0.9s
SUE Sulen 98.17 335 *e*P Pdif 01 18 20.4 +0.4
SUE *e*SKSac **SKSac** **01 29 03.5 +7.2**
SUE IVMs_BB IVMs_BB 02 07 11.5
comp=Z,15μm,16.0s
ZVC Zvikov 98.22 322 AMS AMS 02 11 10.0
comp=Z,24μm,21.0s
BLS5 Blasjo 98.23 333 *e*P Pdif 01 18 20.6 +0.3
BLS5 *e*PP PP 01 22 28.3 +8.8
BLS5 *e*SKSac **SKSac** **01 29 04.6 +7.8**
BLS5 IVMs_BB IVMs_BB 02 06 28.6
comp=Z,12μm,18.1s
CLL Collm 98.26 324 *i* P Pdif 01 18 20.9 +0.3
CLL *i* 01 18 27.9
CLL *i* 01 22 20.0
CLL *e* 01 28 54.0
CLL *e*S **S** **01 29 46.0 -1.2**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL pmax pmax
comp=Z,239nm,2.3s
CLL MLR MLR
comp=Z,47μm,22.0s
BER Bergen 98.26 334 *e*P Pdif 01 18 20.7 +0.4
HSKC Hora Svate Kat 98.27 323 *e*PP PP 01 22 29.8 +10
HSKC AMS AMS 02 05 20.0
comp=Z,31μm,20.2s
ASK Askoy 98.28 334 *e*P Pdif 01 18 21.1 +0.7
ASK *e*PP **PP** **01 22 21.0 +1.3**
ASK *e*SKSac **SKSac** **01 29 01.2 +4.3**
ASK IVMs_BB IVMs_BB 02 06 57.7
comp=Z,20μm,19.5s
LSZ Lusaka 98.37 256 P **P** **01 18 19.5 -2.4**
LSZ IAmb IAmb 01 18 35.7
comp=Z,89nm,1.4s
LSZ Lusaka 98.37 256 LR LR 02 01 24.0
comp=Z,15μm,19.4s,baz=88,slow=35
LSZ Lusaka 98.37 256 P **P** **01 18 19.5 -2.4**
LSZ pmax pmax
comp=Z,89nm,1.4s
LSZ MLR MLR
comp=Z,21μm,20.0s
MATP Matopo 98.46 250 LR LR 02 02 08.2
comp=Z,6μm,18.2s,baz=75,slow=35
SOKA Soboth 98.63 319 *e*Pdiff **P** **01 18 20.9 -1.5**
comp=Z,5.2nm,0.8s
SOKA *i* PP **PP** **01 22 24.5 +1.5**
comp=Z,71nm,1.7s
SOKA *i* PKKP **PKKPbc** **01 34 52.1 -0.7**
comp=Z,3.8nm,1.5s
SOKA *e*SKKP 01 38 26.7
comp=Z,3.3nm,1.5s
KHC Kasperske Hory 98.70 322 *e*P **P** **01 18 22.5 -0.2**
KHC *e*PP PP 01 22 36.1 +13
KHC *e*S **S** **01 29 55.6 +4.4**
KHC AMS AMS 02 09 30.0
comp=Z,28μm,19.9s
KHC Kasperske Hory 98.70 322 *e*P **P** **01 18 22.5 -0.2**
KHC *e*S **S** **01 29 55.6 +4.4**
KHC MLR MLR
comp=Z,28μm,19.9s
MOA Molln 98.72 320 *e*Pdiff **P** **01 18 21.3 -1.5**
comp=Z,28nm,1.2s
MOA *i* PP **PP** **01 22 25.2 +1.5**
comp=Z,31nm,1.4s
MOA *i* PKKP **PKKPbc** **01 34 51.1 -1.4**
comp=Z,5.2nm,1.2s
MOA *e*SKKP 01 38 28.2
comp=Z,6.7nm,1.4s
GERES GERESS Array B 98.73 322 P **P** **01 18 21.9 -1.0**
comp=Z,2.2nm,0.8s,baz=57,slow=3.7,SNR=10
GERES PP **PP** **01 22 23.2 -0.5**
comp=Z,4.6nm,0.9s,baz=52,slow=6.9,SNR=3.4
GERES PKKPbc **PKKPbc** **01 34 52.2 -0.4**
comp=Z,0.9nm,0.8s,baz=202,slow=1.4,SNR=3.9
GERES LR LR 02 07 41.8
comp=Z,14μm,19.5s,baz=66,slow=38
comp=Z,2.2nm,0.8s
BOJS Bojanci 98.87 318 *e*PP **PP** **01 22 29.6 +4.8**
KMY Karmoy 98.88 333 *e*P Pdif 01 18 23.8 +0.7
KMY IVmB_BB 01 18 34.6
comp=Z,1μm,2.1s
KMY *e*SKSac **SKSac** **01 29 07.5 +7.6**
KMY *e*SS **SS** **01 36 42.0 +3.9**
KMY IVMs_BB IVMs_BB 02 06 48.4
comp=Z,13μm,17.9s
OBKA Obir 99.00 319 *e*Pdiff Pdif 01 18 26.3 +2.2
comp=Z,4.9nm,0.7s
OBKA *i* PP **PP** **01 22 30.4 +4.6**
comp=Z,55nm,1.9s
OBKA *i* PKKP **PKKPbc** **01 34 53.1 +1.4**
comp=Z,3.2nm,1.0s
OBKA *e*SKKP 01 38 26.2
comp=Z,6.8nm,1.8s
NLWA Neilton Lookou 99.03 40 IAMs_20 IAMs_20 01 55 18.6
comp=Z,19μm,22.0s
LLLB Lillooet 99.09 36 IAmb IAmb 01 18 38.9
comp=Z,57nm,1.0s
LJU Ljubljana 99.17 319 *e*Pdiff **Pdif** **01 18 25.0 +0.2**
LJU *e*PP **PP** **01 22 30.9 +3.8**
LJU *e* 01 26 34.2
LJU *e* 01 29 10.5
LJU *e*S **S** **01 29 58.2 +3.1**
LJU *e* 01 31 39.6
LJU *e*SS **SS** **01 36 44.9 +1.8**
BIOA Bad Ischl, Aus 99.18 320 *e*Pdiff **Pdif** **01 18 27.3 +2.5**
comp=Z,16nm,1.4s
BIOA *i* PP **PP** **01 22 30.8 +3.7**
comp=Z,28nm,1.3s
BIOA *e*PKKP **PKKPdf** **01 34 53.0 -1.7**
comp=Z,1.9nm,0.7s
MYKA Terra Mystica 99.55 319 *e*Pdiff **Pdif** **01 18 28.8 +2.2**
comp=Z,10nm,1.8s
MYKA *i* PP **PP** **01 22 29.4 -0.6**
comp=Z,21nm,1.7s
MYKA *i* PKKP **PKKPbc** **01 34 51.3 +1.1**
comp=Z,3.6nm,0.6s
KBA Koelnbreinsper 99.58 320 *e*Pdiff **Pdif** **01 18 26.2 -0.6**
comp=Z,8.8nm,0.9s
KBA *i* PP **PP** **01 22 31.9 +1.5**
comp=Z,26nm,1.4s
KBA *i* PKKP **PKKPdf** **01 34 55.4 +1.3**
comp=Z,4.9nm,1.0s
KBA *i* SKKP 01 38 24.8
comp=Z,5.1nm,0.9s
LESA Schwarzleotal 99.88 320 *e*Pdiff **Pdif** **01 18 27.0 -1.0**
comp=Z,24nm,1.6s
LESA *i* PP **PP** **01 22 36.0 +3.4**
comp=Z,65nm,1.8s
LESA *e*PKKP **PKKPdf** **01 34 52.9 -0.6**
comp=Z,3.6nm,0.8s
LESA *e*SKKP 01 38 24.6
comp=Z,3.8nm,1.0s
SUMG Summit 100.13 355 P **Pdif** **01 18 29.2 +0.2**
SUMG PP **PP** **01 22 35.6 +1.6**
SUMG Summit 100.13 355 IAMs_20 IAMs_20 02 09 10.6
comp=Z,13μm,20.0s
SUMG Summit 100.13 355 *i* P **Pdif** **01 18 25.2 -3.8**
SUMG IAMs_20 IAMs_20 01 58 49.9
comp=Z,17μm,28.8s
SUMG IVMs_BB IVMs_BB 02 08 56.0
comp=Z,4μm,21.2s
CUC Castrocucco 100.21 313 IAMs_20 IAMs_20 02 10 22.1
comp=Z,16μm,22.0s
ABTA Abfaltersbach 100.23 320 *e*Pdiff **Pdif** **01 18 27.4 -2.2**
comp=Z,8.3nm,1.2s
ABTA *i* PP **PP** **01 22 38.8 +3.6**
comp=Z,34nm,2.3s
ABTA *i* PKKP **PKKPdf** **01 34 53.9 +1.0**
comp=Z,11nm,1.5s
WTTA Wattenberg 100.60 321 *e*Pdiff **Pdif** **01 18 31.2 -0.2**
comp=Z,35nm,1.3s
WTTA *e*PP **PP** **01 22 36.1 -2.0**
comp=Z,86nm,2.0s
WTTA *e*PKKP **PKKPdf** **01 34 51.6 -0.7**
comp=Z,13nm,1.3s
WTTA *e*SKKP 01 38 24.2
comp=Z,5.2nm,1.6s
WATA Walderalm 100.61 321 *e*Pdiff **Pdif** **01 18 32.7 +1.4**
comp=Z,34nm,1.6s
WATA *i* PP **PP** **01 22 37.5 -0.6**
comp=Z,47nm,1.4s
WATA *e*PKKP **PKKPdf** **01 34 53.0 +0.8**
comp=Z,5.5nm,1.0s
WATA *e*SKKP 01 38 23.1
comp=Z,11nm,1.9s
SQTA Sankt Quirin 100.88 321 *e*Pdiff **Pdif** **01 18 31.5 -1.0**
comp=Z,27nm,1.3s
SQTA *e*PP **PP** **01 22 42.5 +2.3**
comp=Z,29nm,1.2s
SQTA *i* PKKP **PKKPdf** **01 34 52.1 +0.4**
comp=Z,21nm,1.7s
MOTA Moosalm 100.90 321 *e*Pdiff **Pdif** **01 18 32.9 +0.2**
comp=Z,19nm,1.0s
MOTA *i* PP **PP** **01 22 42.6 +2.2**
comp=Z,38nm,1.4s
MOTA *e*PKKP **PKKPdf** **01 34 52.0 +0.3**
comp=Z,5.8nm,1.1s
MOTA *e*SKKP 01 38 23.8
comp=Z,6.8nm,1.2s
RETA Reutte 101.06 321 *e*Pdiff **Pdif** **01 18 34.4 +1.1**
comp=Z,7.7nm,1.1s
RETA *i* PP **PP** **01 22 43.8 +2.4**
comp=Z,34nm,1.4s
RETA *i* PKKP **PKKPdf** **01 34 51.8 +0.5**
comp=Z,4.3nm,1.1s
RETA *e*SKKP 01 38 21.2
comp=Z,7.3nm,1.7s
AQU L'Aquila 101.18 315 P **Pdif** **01 18 38.1 +4.3**
AQU PP **PP** **01 22 38.8 -3.7**
KMPM Mount Pierce 101.19 47 IAMs_20 IAMs_20 02 00 13.6
comp=Z,17μm,20.0s
FETA Feichten 101.26 321 *e*Pdiff **Pdif** **01 18 30.5 -3.7**
comp=Z,13nm,1.2s
FETA *e*PP **PP** **01 22 45.4 +2.3**
comp=Z,15nm,1.0s
FETA *e*PKKP **PKKPdf** **01 34 52.2 +1.2**
comp=Z,11nm,1.4s
DAVA Damuels 101.69 321 *e*Pdiff **Pdif** **01 18 37.0 +0.8**
comp=Z,9.2nm,1.1s
DAVA *e*PP **PP** **01 22 47.6 +1.3**
comp=Z,28nm,1.0s
DAVA *e*SKKP 01 38 20.6
comp=Z,5.8nm,0.8s
RKT Rikitea 101.73 112 *e*S **Sdif** **01 30 21.3 +4.0**
comp=Z,64μm,31.0s
RKT *e*SS **SS** **01 37 20.2 -0.4**
comp=Z,59μm,31.2s
RKT Rikitea 101.73 112 *e*LQ LQ 01 47 37.2
comp=Z,91μm,33.0s
RKT *e*LR LR 01 51 50.1
comp=Z,112μm,29.8s
KHBM Hayfork Bally 101.76 46 IAMs_20 IAMs_20 02 00 54.6
comp=Z,19μm,21.0s
M02C Callahan 101.77 45 IAMs_20 IAMs_20 01 56 20.9
comp=Z,13μm,21.0s
BOSA Boshof 101.80 242 P **Pdif** **01 18 35.6 -1.4**
comp=Z,2.8nm,0.8s,baz=51,slow=6.5,SNR=1.8
KCPM Cahto Peak 101.82 47 IAMs_20 IAMs_20 01 57 18.3
comp=Z,15μm,22.0s
N02D Trinity Center 102.02 46 IAMs_20 IAMs_20 01 58 15.5
comp=Z,18μm,22.0s
HOPS Hopland Field 102.42 48 IAMs_20 IAMs_20 01 55 05.3
comp=Z,16μm,22.0s
MEM Membach 102.58 325 *d*PP **PP** **01 22 54.9 +2.2**
VLC Villacollemand 102.58 318 PP PP 01 22 44.8 -8.1
FARB Farallon Islan 102.90 49 IAMs_20 IAMs_20 01 55 12.1
comp=Z,13μm,22.0s
WLF Walferdange 102.93 324 P **Pdif** **01 18 40.3 -1.1**
WLF PP **PP** **01 22 55.4 +0.1**
WLF Walferdange 102.93 324 *d*PP **PP** **01 22 56.2 +0.9**
HATC Hat Creek Radi 102.96 46 IAMs_20 IAMs_20 01 59 06.3
comp=Z,12μm,21.0s
CVS Carmenet Viney 103.09 48 IAMs_20 IAMs_20 02 01 45.0
comp=Z,14μm,20.0s
BIGH Upper Bighouse 103.25 335 *e*P Pdif 01 18 59.6 +17
BIGH IAMs_20 IAMs_20 02 01 07.8
comp=Z,33μm,24.6s
BMRD Maredsous 103.42 325 *d*PP **PP** **01 22 58.8 -0.2**
JRSC Jasper Ridge 103.56 49 IAMs_20 IAMs_20 02 01 07.8
comp=Z,16μm,21.0s
DRUM Mains of Drumt 103.58 333 IAMs_20 IAMs_20 02 10 05.8
comp=Z,41μm,19.4s
DOU Dourbes 103.62 325 *d*PP **PP** **01 22 57.1 -3.3**
MHC Mount Hamilton 104.03 49 IAMs_20 IAMs_20 01 55 46.2
comp=Z,16μm,22.0s
FORD Fort Ord Natur 104.15 50 IAMs_20 IAMs_20 01 55 47.3
comp=Z,13μm,22.0s
GDLE Glaisdale, N Y 104.23 331 IAMs_20 IAMs_20 02 08 01.5
comp=Z,26μm,22.2s
WVOR Wild Horse Val 104.32 43 IAMs_20 IAMs_20 01 56 54.9
comp=Z,13μm,22.0s
BORG Borgarnes 104.46 346 IAMs_20 IAMs_20 02 11 28.0
comp=Z,13μm,21.0s
EDI Edinburgh 104.48 333 *e*P Pdif 01 19 14.6 +27
EDI IAMs_20 IAMs_20 02 09 08.0
comp=Z,39μm,22.5s
LMK Market Rasen 104.53 330 IAMs_20 IAMs_20 02 11 26.9
comp=Z,28μm,19.3s
INVG Invergeldie, C 104.56 334 *e*P Pdif 01 19 15.1 +27
INVG IAMs_20 IAMs_20 02 09 18.2
comp=Z,41μm,21.2s
LEWI Lewis, Hebride 104.68 336 *e*P **Pdif** **01 19 05.7 +17**
LEWI IAMs_20 IAMs_20 02 11 40.2
comp=Z,23μm,17.7s
KPL Plockton 104.69 335 IAMs_20 IAMs_20 02 01 48.8
comp=Z,30μm,26.8s
CMB Columbia Colle 104.73 48 IAMs_20 IAMs_20 01 56 24.4
comp=Z,13μm,22.0s
HULI Fort Hunter Li 104.79 50 IAMs_20 IAMs_20 02 01 43.3
comp=Z,12μm,20.0s
EKA Eskdalemuir Ar 104.82 332 PP **PP** **01 23 09.5 +0.4**
comp=Z,3.8nm,0.9s,baz=52,slow=8.5,SNR=2.2
EKA PKKPbc **PKKPbc** **01 34 34.7 -0.3**
comp=Z,1.2nm,0.7s,baz=242,slow=1.8,SNR=3.4
PLID Pearl Lake 104.95 40 IAMs_20 IAMs_20 01 58 25.3
comp=Z,14μm,21.0s
GGERF Dalmarnock 105.00 333 *e*P Pdif 01 19 13.5 +23
ELSH Elham, Standar 105.01 327 *e*P **Pdif** **01 19 05.5 +15**
ELSH IAMs_20 IAMs_20 02 11 45.0
comp=Z,28μm,19.7s
PGBU Glenifferbraes 105.13 333 *e*P Pdif 01 19 18.4 +27
PGBU IAMs_20 IAMs_20 02 11 02.9
comp=Z,72μm,19.3s
KESW Keswick, Cumbr 105.23 332 *e*P Pdif 01 19 17.3 +26
KESW IAMs_20 IAMs_20 02 04 27.3
comp=Z,38μm,24.5s
LAWE Loch Awe, Argy 105.26 334 *e*P Pdif 01 19 20.8 +29
LAWE IAMs_20 IAMs_20 02 08 47.4
comp=Z,32μm,21.9s
CWF Charnwood Fore 105.42 329 *e*P **Pdif** **01 19 07.6 +15**
CWF IAMs_20 IAMs_20 02 11 46.4
comp=Z,26μm,18.5s
TROLL Troll, Antarti 106.06 196 PKiKP **PKiKP** **01 23 02.8 -4.1**
TROLL ⇑Pdiff **Pdif** **01 18 56.0 +1.0**
comp=Z,184nm,0.8s
NVAR Mina Array Bea 106.11 47 Pdiff **Pdif** **01 18 56.6 +0.5**
comp=Z,3.7nm,0.8s,baz=276,slow=4.4,SNR=12
NVAR PP **PP** **01 23 20.5 +0.9**
comp=Z,3.5nm,0.8s,baz=274,slow=6.4,SNR=4.4
NVAR PKKPbc **PKKPbc** **01 34 29.4 -1.4**
comp=Z,1.2nm,0.7s,baz=131,slow=4.1,SNR=5.3
IOMK Kirk Michael 106.11 332 *e*P Pdif 01 19 13.1 +18
IOMK IAMs_20 IAMs_20 02 04 50.3
comp=Z,16μm,24.5s
FOEL Foel Wylfa 106.27 330 *e*P Pdif 01 19 25.7 +29
FOEL IAMs_20 IAMs_20 02 10 56.4
comp=Z,21μm,19.0s
HLM1 Long Mynd 106.33 330 IAMs_20 IAMs_20 02 12 58.8
comp=Z,25μm,19.0s
SFJD Kangerlussuaq 106.39 358 IAMs_20 IAMs_20 02 14 07.9
comp=Z,12μm,20.0s
KEST Kesra 106.45 310 Pdiff **Pdif** **01 18 59.6 +2.1**
comp=Z,3.0nm,1.1s,baz=53,slow=19,SNR=1.5
KEST PP **PP** **01 23 22.6 +0.5**
comp=Z,14nm,1.1s,baz=38,slow=9.7,SNR=4.7
VES Vestal, Richgr 106.49 50 IAMs_20 IAMs_20 02 02 57.2
comp=Z,12μm,22.0s
TIN Tinemaha, Big 106.68 48 IAMs_20 IAMs_20 01 57 33.1
comp=Z,16μm,22.0s
MCH1 Michaelchurch 106.69 329 IAMs_20 IAMs_20 02 12 44.1
comp=Z,25μm,16.7s
ISA Isabella, Lake 107.01 50 IAMs_20 IAMs_20 02 03 13.2
comp=Z,15μm,21.0s
CWC Cottonwood Cre 107.02 49 IAMs_20 IAMs_20 01 57 40.3
comp=Z,15μm,22.0s
LPW Lampeter 107.16 330 *e*P Pdif 01 19 24.0 +24
OSI Osito Audit: C 107.20 51 IAMs_20 IAMs_20 02 05 02.3
comp=Z,12μm,20.0s
SNAA Sanae 107.67 195 PKiKP **PKiKP** **01 23 09.4 -0.3**
SNAA ⇑Pdiff **Pdif** **01 19 01.1 -1.0**
comp=Z,62nm,0.9s
SNAA Sanae 107.67 195 Pdiff **Pdif** **01 19 03.2 +1.2**
comp=Z,2.7nm,1.1s,baz=188,slow=12,SNR=6.3
SNAA PKiKP **PKiKP** **01 23 09.2 -0.5**
comp=Z,5.2nm,1.1s,baz=124,slow=4.8,SNR=3.6
SNAA PP **PP** **01 23 30.3 +0.2**
comp=Z,33nm,1.3s,baz=141,slow=6.9,SNR=5.7
SNAA PKKPbc **PKKPbc** **01 34 24.8 -1.9**
comp=Z,3.6nm,0.9s,baz=313,slow=2.6,SNR=7.9
LRMC Laurel Mtn Rad 107.68 50 IAMs_20 IAMs_20 02 03 33.8
comp=Z,12μm,22.0s
PASC Pasadena Art C 107.78 51 IAMs_20 IAMs_20 01 59 51.6
comp=Z,16μm,22.0s
MWC Mount Wilson 107.86 51 IAMs_20 IAMs_20 01 59 54.7
comp=Z,16μm,22.0s
BFSC Mount Baldy Ra 108.16 51 IAMs_20 IAMs_20 02 00 15.7
comp=Z,16μm,22.0s
MAHO Mahon 108.48 316 IAMs_20 IAMs_20 02 13 06.8
comp=Z,17μm,21.0s
FLWY Flagg Ranch 108.77 39 IAMs_20 IAMs_20 01 59 31.2
comp=Z,12μm,21.0s
FXWY Fox Creek 108.79 40 IAMs_20 IAMs_20 02 01 22.7
comp=Z,16μm,22.0s
VNA2 Neumayer--Watz 109.30 195 PKiKP **PKiKP** **01 23 12.9 +0.2**
VNA2 ⇑Pdiff **Pdif** **01 19 11.2 +2.0**
comp=Z,2.1nm,0.7s,baz=108,slow=1.8
PFO Pinyon Flats O 109.32 51 IAMs_20 IAMs_20 02 00 49.5
comp=Z,14μm,22.0s
BELC Belle Mtn. Jos 109.53 50 IAMs_20 IAMs_20 02 06 25.8

comp=Z,14µm,20.0s
VNA3 Neumayer Olymp 109.66 194 PKiKP **PKiKP 01 23 16.9 +3.5**
VNA3 ⇑Pdiff **Pdif 01 19 22.9 +12**
comp=Z,2.2nm,0.8s
BC3 Big Chuckawall 110.08 51 IAMs_20 IAMs_20 02 06 33.4
comp=Z,13µm,20.0s
DGMT Dagmar 110.14 32 IAMs_20 IAMs_20 02 15 14.6
comp=Z,12µm,20.0s
PDAR Pinedale Array 110.15 40 Pdiff **Pdif 01 19 14.4 +0.4**
comp=Z,0.4nm,0.8s,baz=243,slow=1.3,SNR=4.0
PDAR PKiKP **PKiKP 01 23 16.6 +1.1**
comp=Z,4.8nm,1.1s,baz=302,slow=3.5,SNR=6.0
PDAR PP **PP 01 23 51.0 +2.1**
comp=Z,5.0nm,1.0s,baz=298,slow=6.2,SNR=6.8
PDAR PKKPbc **PKKPbc 01 34 16.6 -1.7**
comp=Z,1.3nm,0.9s,baz=48,slow=2.2,SNR=4.9
GLA Glamis 110.80 51 IAMs_20 IAMs_20 02 01 21.5
comp=Z,13µm,22.0s
IVI Ivigtut 112.07 356 IAMs_20 IAMs_20 02 11 03.9
comp=Z,15µm,22.0s
MDND Maddock 112.93 31 IAMs_20 IAMs_20 02 16 30.2
comp=Z,13µm,21.0s
CART Cartagena 113.20 316 IAMs_20 IAMs_20 02 15 12.7
comp=Z,11µm,21.0s
UCM Universidad Co 113.33 319 PP **PP 01 24 08.6 -2.8**
MVCO Mesa Verde 113.62 45 IAMs_20 IAMs_20 02 02 08.6
comp=Z,15µm,22.0s
ESDC Sonseca Array 114.13 319 PKiP **PKiKP 01 23 23.3 +0.4**
comp=Z,0.4nm,0.7s,baz=37,slow=3.4,SNR=2.2
ESDC PP **PP 01 24 19.0 +1.8**
comp=Z,9.1nm,1.1s,baz=52,slow=6.9,SNR=10
ESDC PKKPbc **PKKPbc 01 34 05.2 +0.4**
comp=Z,1.6nm,0.9s,baz=263,slow=3.5,SNR=6.1
TUC Tucson 114.20 50 IAMs_20 IAMs_20 02 00 52.6
comp=Z,11µm,22.0s
EDA Edea 114.21 277 IAMs_20 IAMs_20 02 10 02.8
comp=Z,14µm,22.0s
PAB San Pablo 114.45 319 IAMs_20 IAMs_20 02 16 50.4
comp=Z,12µm,21.0s
AGMN Agassiz Nation 114.47 29 IAMs_20 IAMs_20 02 15 08.8
comp=Z,16µm,21.0s
PBRG Braganca 114.70 322 *e*PP PP 01 24 32.8 +12
MVO Moncorvo 115.25 322 *e*PP PP 01 24 34.5 +10
MVO *ex* x 01 34 23.7
MVO *e*SS SS 01 40 44.3 +23
MVO *e*LQ LQ 01 56 00.9
MVO *e*LR LR 02 00 11.0
MVO *i* IAMs_20 IAMs_20 02 21 14.1
comp=Z,15µm,20.0s
PGAV Gavieira, Arco 115.53 323 *e*PP **PP 01 24 29.9 +3.0**
PGAV *ex* x 01 34 23.7
PGAV *e*SS SS 01 40 49.6 +25
PGAV *e*LQ LQ 01 55 52.8
PGAV *e*LR LR 01 57 28.4
PGAV *i* IAMs_20 IAMs_20 02 19 00.5
comp=Z,19µm,20.0s
PCAB Cabril 115.53 323 *e*PP PP 01 24 35.6 +8.7
POLO Lamas de Olo 115.59 322 *e*PKP **PKPdf 01 23 26.1 +0.4**
POLO *e*PP **PP 01 24 34.5 +7.2**
PVRL Vila Real 115.60 322 *e*PKP **PKPdf 01 23 27.0 +1.3**
PVRL *e*PP PP 01 24 36.5 +9.1
WMELI Melilla 115.69 314 PP **PP 01 24 25.9 -2.3**
F33A 5 Mile Ranch, 115.96 31 IAMs_20 IAMs_20 02 16 44.4
comp=Z,12µm,21.0s
EMAL Malaga-Limoner 115.98 316 PKP **PKPdf 01 23 31.9 +5.4**
MTE Manteigas 116.01 321 *e*PKP **PKPdf 01 23 27.8 +1.3**
MTE *e*PP **PP 01 24 32.8 +2.5**
MTE *ex* x 01 34 22.9
MTE *e*SS SS 01 40 53.9 +23
MTE *e*LQ LQ 01 57 30.4
MTE *e*LR LR 01 59 14.9
MTE *i* IAMs_20 IAMs_20 02 14 30.8
comp=Z,16µm,20.0s
PVIS Viseu 116.04 322 *e*PKP **PKiKP 01 23 26.1 -0.4**
PVIS *e*PP **PP 01 24 28.1 -2.4**
ANMO Albuquerque 116.17 46 IAMs_20 IAMs_20 02 23 52.1
comp=Z,13µm,20.0s
PCBR Castelo Branco 116.29 321 *e*PKP **PKPdf 01 23 26.4 -0.6**
PCBR *e*PP **PP 01 24 35.7 +3.5**
PMRV Marv??o 116.47 320 *e*PKP **PKPdf 01 23 26.8 -0.6**
PMRV *e*PP **PP 01 24 40.9 +7.3**
PMRV *ex* x 01 34 24.0
PMRV *e*SS SS 01 40 58.9 +22
PMRV *e*LQ LQ 01 56 50.9
PMRV *e*LR LR 02 01 13.9
PMRV *i* IAMs_20 IAMs_20 02 18 42.7
comp=Z,15µm,20.0s
EYMN Ely 116.75 27 IAMs_20 IAMs_20 02 17 36.6
comp=Z,10µm,20.0s
PCAS Casmilo, Conde 116.80 321 *e*PKP **PKiKP 01 23 32.5 +4.6**
PCAS *e*PP PP 01 24 45.6 +10
PSARD Sardoal 116.86 321 *e*PKP **PKiKP 01 23 29.0 +0.9**
PSARD *e*PP **PP 01 24 40.4 +4.2**
PESTR Estremoz 116.92 320 *e*PP **PP 01 24 38.4 +1.7**
PBAR Barrancos 116.96 319 *e*PKP **PKPdf 01 23 27.4 -0.9**
PBAR *e*PP **PP 01 24 37.7 +0.7**
PMTG Montargil 117.21 320 *e*PP **PP 01 24 45.9 +7.3**
CNIL Conil 117.30 317 PP PP 01 24 37.4 -2.0
PSBE So Bento 117.31 321 *e*PKP **PKiKP 01 23 29.5 +0.5**
PSBE *e*PP **PP 01 24 45.9 +6.5**
PBEJ Beja 117.58 319 *e*PKP **PKiKP 01 23 30.7 +1.2**
PBEJ *e*PP **PP 01 24 43.3 +2.0**
E38A The Farm, Brul 117.72 28 IAMs_20 IAMs_20 02 20 21.5
comp=Z,13µm,21.0s
PVAQ Vaqueiros 117.84 319 *e*PKP **PKiKP 01 23 30.9 +0.8**
PVAQ *e*PP PP 01 24 54.4 +11
PVAQ *ex* x 01 34 34.2
PVAQ *e*SS SS 01 41 01.8 +6.8
PVAQ *e*LQ LQ 01 57 36.9
PVAQ *e*LR LR 02 02 57.3
PVAQ *i* IAMs_20 IAMs_20 02 16 18.1
comp=Z,13µm,20.0s
SCHQ Schefferville 117.86 8 PKPdf **PKPdf 01 23 28.1 -1.5**
SCHQ Schefferville 117.86 8 PKP **PKPdf 01 23 29.1 -0.5**
comp=Z,81nm,0.8s,baz=262,slow=2.8,SNR=7.0
MESJ Messejana 117.92 319 *e*PKPdf **PKiKP 01 23 30.4 +0.2**
MESJ *e*PP **PP 01 24 43.9 +0.3**
MESJ *e*SS SS 01 40 58.3 +2.3
MESJ IAMs_20 IAMs_20 02 04 19.7
comp=N,28µm,37.9s
MESJ Messejana 117.92 319 *e*PKP **PKiKP 01 23 30.3 +0.2**
MESJ *e*PP **PP 01 24 47.7 +4.1**
MESJ Messejana 117.92 319 *e*PKIKP **PKiKP 01 23 30.4 +0.2**
MESJ *e* 01 24 43.9
MESJ *e*SS SS 01 40 58.3 +2.3
PCVE Castro Verde 117.92 319 *e*PKP **PKiKP 01 23 31.0 +0.7**
PCVE *e*PP PP 01 25 02.0 +18
PMAFR Mafra 117.94 321 *e*PP PP 01 24 56.1 +12
LIS Lisbon 118.00 321 *e*PP **PP 01 24 44.4 +0.3**
LIS IAMs_20 IAMs_20 02 08 46.8
comp=E,61µm,28.7s
LIS Lisbon 118.00 321 *e*PP PP 01 24 58.7 +15
PBDV Barranco-do-Ve 118.07 319 *e*PKP **PKiKP 01 23 33.3 +2.8**
PBDV *e*PP PP 01 25 01.4 +17
SPMN Marine on St. 118.14 29 IAMs_20 IAMs_20 02 14 59.8
comp=Z,13µm,22.0s
IFR Ifrane 118.14 314 PKP **PKPdf 01 23 29.6 -1.4**
SLBS Sierra La Lagu 118.39 59 IAMs_20 IAMs_20 02 02 40.6
comp=Z,15µm,22.0s
PTEO Sao Teotonio 118.41 319 *e*PP PP 01 24 56.3 +9.3
MORF Marmelete 118.50 319 *e*PP **PP 01 24 48.2 +0.5**
MORF IAMs_20 IAMs_20 02 10 39.6
comp=E,31µm,22.6s
MORF Marmelete 118.50 319 *e*PKP **PKiKP 01 23 33.0 +1.6**
MORF *e*PP PP 01 25 05.6 +18
L34A Svendsen Farm, 118.53 34 IAMs_20 IAMs_20 02 24 28.7
comp=Z,10µm,22.0s
CBKS Cedar Bluff 118.54 39 IAMs_20 IAMs_20 02 14 45.6
comp=Z,11µm,21.0s
MNTX Cornudas Mount 118.56 48 IAMs_20 IAMs_20 02 23 39.6
comp=Z,10µm,20.0s
PFVI Vila Bisbo 118.72 319 *e*PP PP 01 25 00.8 +12
MSTX Muleshoe 119.28 45 IAMs_20 IAMs_20 02 15 33.3
comp=Z,11µm,20.0s
G40A Rib Lake 119.35 28 IAMs_20 IAMs_20 02 22 34.6
comp=Z,10µm,20.0s
R32A Long Quarter, 119.41 39 IAMs_20 IAMs_20 02 21 57.8
comp=Z,9µm,20.0s
N35A Tabor 119.67 35 IAMs_20 IAMs_20 02 08 35.1
comp=Z,13µm,22.0s
F42A Maple Grove Fa 119.91 26 IAMs_20 IAMs_20 02 19 34.2
comp=Z,15µm,22.0s
KSU1 Kansas State U 120.26 37 IAMs_20 IAMs_20 02 11 59.0
comp=Z,14µm,22.0s
SCIA State Center 120.29 32 IAMs_20 IAMs_20 02 18 30.1
comp=Z,12µm,22.0s
TORD Torodi Ar. Bea 120.40 289 **PKPdf 01 23 33.4 -2.1**
TORD Torodi Ar. Bea 120.40 289 PKP **PKPdf 01 23 33.7 -1.8**
comp=Z,8.2nm,0.8s,baz=45,slow=3.7,SNR=15
TORD PKKPbc **PKKPab 01 33 43.8 +0.2**
comp=Z,2.5nm,0.8s,baz=290,slow=1.4,SNR=5.3
OK038 West end E0370 120.57 40 IAMs_20 IAMs_20 02 17 35.8
comp=Z,12µm,21.0s
I42A Dreger Farm, 120.99 28 IAMs_20 IAMs_20 02 20 28.1
comp=Z,13µm,22.0s
TXAR Lajitas Array 121.00 50 **PKPdf 01 23 35.4 -1.1**
TXAR Lajitas Array 121.00 50 PKP **PKPdf 01 23 35.6 -0.9**
comp=Z,2.8nm,0.6s,baz=334,slow=0.3,SNR=16
TXAR PKKPbc **PKKPbc 01 33 39.3 -0.6**
comp=Z,6.0nm,1.1s,baz=62,slow=2.6,SNR=12
E46A Sault Ste Mari 121.02 23 IAMs_20 IAMs_20 02 12 37.2
comp=Z,11µm,21.0s
TIO Tiouine 121.02 312 PKP **PKPdf 01 23 34.2 -2.4**
L40A Anamosa 121.22 31 IAMs_20 IAMs_20 02 20 48.5
comp=Z,11µm,20.0s
WMOK Wichita Mounta 121.58 42 IAMs_20 IAMs_20 02 07 46.7
comp=Z,14µm,22.0s
PMSA Palmer Station 121.70 175 IAMs_20 IAMs_20 02 17 30.6
comp=Z,11µm,20.0s
PMSA Palmer Station 121.70 175 PKP **PKiKP 01 23 36.6 -0.1**
comp=Z,19nm,1.0s,baz=138,slow=1.7,SNR=1.6
P38A Dawn 121.70 35 IAMs_20 IAMs_20 02 20 33.7
comp=Z,13µm,22.0s
T35A Sooner Cattle 121.71 39 IAMs_20 IAMs_20 02 10 40.7
comp=Z,10µm,21.0s
OK048 Pawnee Station 121.76 39 IAMs_20 IAMs_20 02 07 59.0
comp=Z,15µm,22.0s
OK051 E0350 and S346 121.77 39 IAMs_20 IAMs_20 02 06 52.3
comp=Z,14µm,22.0s
OK029 Liberty Lake 121.81 40 IAMs_20 IAMs_20 02 23 43.6
comp=Z,11µm,21.0s
L42A Oliver, Polo 122.05 30 IAMs_20 IAMs_20 02 23 20.3
comp=Z,13µm,22.0s
OK052 Battle Ridge R 122.11 40 IAMs_20 IAMs_20 02 09 06.3
comp=Z,13µm,22.0s
ABTX Abilene, Hawle 122.21 45 IAMs_20 IAMs_20 02 22 36.7
comp=Z,14µm,21.0s
N41A Harden Midland 122.39 32 IAMs_20 IAMs_20 02 19 03.7
comp=Z,12µm,21.0s
P40A Paris 122.59 34 IAMs_20 IAMs_20 02 17 19.1
comp=Z,10µm,21.0s
TUL3 Leonard 122.80 39 IAMs_20 IAMs_20 02 09 59.5
comp=Z,14µm,21.0s
JCT Junction City 123.28 47 IAMs_20 IAMs_20 02 23 39.5
comp=Z,13µm,22.0s
M44A Midewin, Midew 123.31 29 IAMs_20 IAMs_20 02 22 03.7
comp=Z,11µm,21.0s
U38A Gravette 123.33 38 IAMs_20 IAMs_20 02 28 36.3
comp=Z,12µm,21.0s
I49A Point Hope 123.61 24 IAMs_20 IAMs_20 02 14 13.9
comp=Z,15µm,22.0s
L46A Eue Claire 123.66 28 IAMs_20 IAMs_20 02 22 35.7
comp=Z,13µm,21.0s
P43A Skaggs, Pawnee 123.87 32 IAMs_20 IAMs_20 02 19 37.7
comp=Z,13µm,20.0s
CCM Cathedral Cave 124.07 34 IAMs_20 IAMs_20 02 28 42.5
comp=Z,9µm,19.0s
WHTX Lake Whitney, 124.09 44 IAMs_20 IAMs_20 02 27 48.4
comp=Z,11µm,20.0s
VA02 Isla de Pascua 124.51 118 IAMs_20 IAMs_20 02 10 27.4
comp=Z,10µm,21.0s
RPN Rapa Nui 124.60 118 IAMs_20 IAMs_20 02 10 27.9
comp=Z,10µm,22.0s
AAM Ann Arbor 124.61 26 IAMs_20 IAMs_20 02 20 40.6
comp=Z,14µm,22.0s
K50A Casco 124.66 25 IAMs_20 IAMs_20 02 27 52.7
comp=Z,11µm,21.0s
Q44A Meyer Farm, Va 124.67 32 IAMs_20 IAMs_20 02 20 13.1
comp=Z,13µm,21.0s
N47A Urbana 124.83 28 IAMs_20 IAMs_20 02 21 06.7
comp=Z,12µm,21.0s
Z38A Mt. Pleasant 124.98 41 IAMs_20 IAMs_20 02 19 37.6
comp=Z,12µm,22.0s
P46A Rosedale 125.07 30 IAMs_20 IAMs_20 02 20 35.4
comp=Z,12µm,21.0s
S44A Carbondale 125.43 33 IAMs_20 IAMs_20 02 28 52.3
comp=Z,10µm,20.0s
O48B Fanland 125.57 28 IAMs_20 IAMs_20 02 21 30.4
comp=Z,13µm,21.0s
M50A Fremont 125.61 26 IAMs_20 IAMs_20 02 25 31.0
comp=Z,10µm,20.0s
LONY Lake Ozonia 125.90 17 IAMs_20 IAMs_20 02 28 46.9
comp=Z,12µm,21.0s
P48A Milroy 126.07 29 IAMs_20 IAMs_20 02 23 55.6
comp=Z,9µm,21.0s
J55A Hilton 126.07 21 IAMs_20 IAMs_20 02 22 09.7
comp=Z,14µm,22.0s
NATX Nacogdoches 126.13 42 IAMs_20 IAMs_20 02 15 59.1
comp=Z,14µm,21.0s
M52A Chesterland 126.21 24 IAMs_20 IAMs_20 02 30 21.7
comp=Z,12µm,19.0s
ERPA Erie 126.27 23 IAMs_20 IAMs_20 02 25 40.1
comp=Z,12µm,20.0s
J57A Williamstown 126.56 19 IAMs_20 IAMs_20 02 24 07.4
comp=Z,13µm,22.0s
ACSO Alum Creek Sta 126.59 27 IAMs_20 IAMs_20 02 29 22.1
comp=Z,11µm,22.0s
WCI Wyandotte Cave 126.59 31 IAMs_20 IAMs_20 02 28 28.6
comp=Z,9µm,19.0s
VT1 Waterbury 126.69 16 IAMs_20 IAMs_20 02 20 35.8
comp=Z,13µm,22.0s
PMOZ Porto Moniz, M 126.78 320 *ex* x 01 36 00.9
PMOZ *e*LR LR 02 05 29.9
PMOZ *i* IAMs_20 IAMs_20 02 23 29.1
comp=Z,10µm,22.0s
H62A Milan 126.88 14 IAMs_20 IAMs_20 02 27 46.4
comp=Z,13µm,21.0s
K57A Scipio Center 126.99 20 IAMs_20 IAMs_20 02 22 38.0
comp=Z,14µm,22.0s
N53A Lisbon 127.03 25 IAMs_20 IAMs_20 02 22 43.6
comp=Z,13µm,21.0s
R49A Shelbyville 127.10 30 IAMs_20 IAMs_20 02 24 31.1
comp=Z,11µm,21.0s
T47A Sharon Grove 127.11 32 IAMs_20 IAMs_20 02 21 37.5
comp=Z,13µm,20.0s
O52A Adamsville 127.19 26 IAMs_20 IAMs_20 02 24 24.9
comp=Z,12µm,22.0s
I62A Tamworth 127.49 15 IAMs_20 IAMs_20 02 28 09.6
comp=Z,11µm,21.0s
OXF Oxford 127.61 36 IAMs_20 IAMs_20 02 30 47.5
comp=Z,10µm,20.0s
143A Socs Landing, 127.64 39 IAMs_20 IAMs_20 02 23 07.7
comp=Z,12µm,22.0s
O54A Avella 127.75 25 IAMs_20 IAMs_20 02 26 00.5
comp=Z,12µm,20.0s
TRY Troy 127.90 17 IAMs_20 IAMs_20 02 22 41.7
comp=Z,12µm,21.0s
Y45A Yeager Farm, C 127.99 37 IAMs_20 IAMs_20 02 14 28.5
comp=Z,13µm,21.0s
PLAL Pickwick Lake 128.05 35 IAMs_20 IAMs_20 02 23 51.8
comp=Z,10µm,21.0s
V48A Smith Brothers 128.19 33 IAMs_20 IAMs_20 02 26 39.3
comp=Z,10µm,21.0s
DBIC Dimbokro 128.31 284 PKP **PKPdf 01 23 50.5 -0.2**
comp=Z,7.7nm,0.9s,baz=124,slow=4.3,SNR=5.0
DBIC Dimbokro 128.31 284 PKP **PKiKP 01 23 51.1 -0.3**
L61B Northampton 128.44 17 IAMs_20 IAMs_20 02 23 48.1
comp=Z,10µm,22.0s
Q54A Coxs Mills 128.56 26 IAMs_20 IAMs_20 02 26 40.1
comp=Z,13µm,21.0s
TZTN Tazewell 129.27 30 IAMs_20 IAMs_20 02 30 05.5
comp=Z,10µm,20.0s
Z47A Carrollton 129.33 36 IAMs_20 IAMs_20 02 24 12.9
comp=Z,13µm,20.0s
PAL Palisades 129.40 19 IAMs_20 IAMs_20 02 18 32.4
comp=Z,13µm,22.0s
WSPT Westport, CT 129.43 18 IAMs_20 IAMs_20 02 28 15.2
comp=Z,13µm,21.0s
R55A Marlinton 129.45 26 IAMs_20 IAMs_20 02 27 58.7
comp=Z,11µm,20.0s
M63A Gales Ferry 129.59 17 IAMs_20 IAMs_20 02 25 36.4
comp=Z,11µm,22.0s
346A Big Creek Wild 129.74 39 IAMs_20 IAMs_20 02 14 10.2
comp=Z,13µm,22.0s
Y49A Blount Mountai 129.81 34 IAMs_20 IAMs_20 02 31 30.3
comp=Z,10µm,20.0s
LRAL Lakeview Retre 130.07 36 IAMs_20 IAMs_20 02 15 59.4
comp=Z,12µm,21.0s
X51A Calhoun 130.13 33 IAMs_20 IAMs_20 02 28 39.6
comp=Z,9µm,22.0s
BLA Blacksburg 130.21 27 IAMs_20 IAMs_20 02 33 22.9
comp=Z,11µm,22.0s
W52A Murphy 130.21 31 IAMs_20 IAMs_20 02 22 28.7
comp=Z,12µm,22.0s
HOPE Hope Point 130.30 194 IAMs_20 IAMs_20 02 21 05.1
comp=Z,12µm,20.0s
P61A Hammonton 130.31 20 IAMs_20 IAMs_20 02 27 18.7
comp=Z,12µm,21.0s
V53A Saluda 130.33 30 IAMs_20 IAMs_20 02 29 23.5
comp=Z,13µm,21.0s
S57A Dark Hollow, R 130.39 25 IAMs_20 IAMs_20 02 27 49.4
comp=Z,11µm,20.0s
USHA Ushuaia 130.82 170 PKP **PKPdf 01 23 53.1 -1.2**
comp=Z,20nm,0.7s,baz=107,slow=1.5,SNR=9.3
MG01 Puerto William 130.86 170 IAMs_20 IAMs_20 02 23 25.2
comp=Z,11µm,20.0s
T57A Hurt 130.90 26 IAMs_20 IAMs_20 02 33 56.1
comp=Z,11µm,20.0s
U56A King 130.94 27 IAMs_20 IAMs_20 02 17 50.3
comp=Z,12µm,22.0s
SHEL Horse Pasture 131.03 255 IAMs_20 IAMs_20 02 14 58.6
comp=Z,11µm,22.0s
250A Grady 131.26 36 IAMs_20 IAMs_20 02 32 53.1
comp=Z,10µm,20.0s
BRAL Brewton 131.38 37 IAMs_20 IAMs_20 02 13 15.3
comp=Z,13µm,22.0s
152A Waverly Hall 131.64 34 IAMs_20 IAMs_20 02 26 36.7
comp=Z,12µm,21.0s
V58A Windy Hill, Pi 131.97 27 IAMs_20 IAMs_20 02 29 17.5
comp=Z,11µm,20.0s
W57A Gilead 132.10 28 IAMs_20 IAMs_20 02 27 01.1
comp=Z,13µm,22.0s
451A Vernon 132.55 37 IAMs_20 IAMs_20 02 30 46.4
comp=Z,12µm,21.0s
MG02 Cerro Sombrero 132.62 168 IAMs_20 IAMs_20 02 24 47.7
comp=Z,9µm,20.0s
W59A Clinton 132.79 26 IAMs_20 IAMs_20 02 28 09.2
comp=Z,12µm,20.0s
MG05 Puerto Natales 132.89 165 IAMs_20 IAMs_20 02 19 09.2
comp=Z,9µm,22.0s
TIGA Tifton 133.19 34 IAMs_20 IAMs_20 02 30 02.9
comp=Z,10µm,20.0s
GO09 Cerro Castillo 133.31 165 IAMs_20 IAMs_20 02 19 20.2
comp=Z,9µm,21.0s
NHSC New Hope 133.68 30 IAMs_20 IAMs_20 02 30 17.2
comp=Z,12µm,21.0s
EFI East Falkland 135.12 177 IAMs_20 IAMs_20 02 19 43.6
comp=Z,8µm,22.0s
TEIG Tepich 137.65 50 IAMs_20 IAMs_20 02 28 07.5
comp=Z,8µm,21.0s
060A Indiantown 138.36 35 IAMs_20 IAMs_20 02 39 17.9
comp=Z,8µm,21.0s
COYC Coyhaique 138.54 162 IAMs_20 IAMs_20 02 26 09.9
comp=Z,9µm,19.0s
ASCN Ascension 139.77 266 IAMs_20 IAMs_20 02 19 30.4
comp=Z,9µm,22.0s
BBSR BB Station 140.02 13 IAMs_20 IAMs_20 02 29 20.0
comp=Z,12µm,22.0s
GO07 Milladeo Hill, 140.18 158 IAMs_20 IAMs_20 02 25 48.5
comp=Z,8µm,21.0s
LL02 Futaleuf 140.74 160 IAMs_20 IAMs_20 02 24 32.3
comp=Z,11µm,21.0s
LL01 San Ignacio de 141.27 159 IAMs_20 IAMs_20 02 25 01.3
comp=Z,9µm,22.0s
TGUH Tegucigalpa,Un 141.82 57 IAMs_20 IAMs_20 02 37 12.3
comp=Z,8µm,21.0s
SACV Santiago Islan 142.21 305 IAMs_20 IAMs_20 02 32 58.4
comp=Z,10µm,22.0s
CNGN Cerro Negro 143.08 59 *e*P PKPbc 01 24 14.6 -0.4
PLCA Paso Flores 143.37 160 PKPbc 01 24 16.1 +1.1
PLCA Paso Flores 143.37 160 PKP PKPbc 01 24 14.9 -0.2
comp=Z,17nm,1.0s,baz=212,slow=2.2,SNR=11
PLCA Paso Flores 143.37 160 PKIKP PKPbc 01 24 16.1 +1.0
PLCA Paso Flores 143.37 160 *e*P PKPbc 01 24 15.0 -0.1
PLCA Paso Flores 143.37 160 *e*P **PKPdf 01 24 17.4 -0.6**
PLCA Paso Flores 143.37 160 PKP PKPbc 01 24 15.1 0.0
LR03 Panguipulli 143.68 157 IAMs_20 IAMs_20 02 32 18.5
comp=Z,9µm,20.0s
GO06 Curarrehue 144.06 158 *e*P PKPbc 01 24 18.2 +1.0
CBCY The Bluff, Cay 144.09 42 *e*P **PKPab 01 24 12.6 -4.6**
CCCC Cccc 144.31 38 *e*P **PKPdf 01 24 19.9 -0.2**
ALIBA Liberia Airpor 144.99 61 *e*P **PKPdf 01 24 21.5 0.0**
LAPC Finca la Perla 145.00 60 *e*P **PKPbc 01 24 20.8 0.0**
BUAI Buenos Aires 145.04 60 *e*P **PKPbc 01 24 20.6 -0.3**
DELF Filadelfia 145.05 61 *e*P **PKPdf 01 24 21.2 -0.3**
VRLE La Escondida, 145.05 60 *e*P **PKPbc 01 24 19.7 -1.4**
VORI VORI 145.05 60 *e*P **PKPdf 01 24 21.6 -0.2**
GPS3 Bodega del ICE 145.07 60 *e*P **PKPdf 01 24 23.0 +1.3**
GPS1 Guardaparques 145.07 60 *e*P **PKPdf 01 24 21.9 +0.2**
GPS2 Hotel Rincn d 145.08 60 *e*P **PKPbc 01 24 21.0 -0.1**
JUD3 Juan Diaz 3 145.19 61 *e*P **PKPbc 01 24 21.3 -0.1**
MESS Mesas 145.22 60 *e*P **PKPbc 01 24 20.3 -1.3**
VMAR Armenia, Volca 145.26 60 *e*P **PKPbc 01 24 20.1 -1.6**
PLVR Palo Verde 145.27 61 *e*P **PKPdf 01 24 22.3 +0.1**
NICO Nicoya 145.28 61 *e*P **PKPdf 01 24 23.0 +1.0**
CUI Cuipilapa 145.29 60 *e*P **PKPbc 01 24 21.0 -0.8**
MOTZ Rio Naranjo 145.35 60 *e*P **PKPdf 01 24 23.5 +1.3**
TENO El Achiote 145.43 60 *e*P **PKPbc 01 24 21.9 -0.3**
TIMP Tierras Morena 145.45 60 *e*P **PKPbc 01 24 21.2 -1.1**
INVE Universidad In 145.46 61 *e*P **PKPbc 01 24 22.1 -0.2**
QUEB Quebradon, Cot 145.53 60 *e*P **PKPdf 01 24 21.1 -1.3**
HLGC Holguin 145.58 37 *e*P **PKPdf 01 24 21.5 -0.8**
JTS Las Juntas de 145.64 61 **PKPdf 01 24 21.6 -1.0**
JTS Las Juntas de 145.64 61 PKPbc **PKPdf 01 24 19.9 -2.7**
comp=Z,44nm,0.9s,baz=261,slow=4.6,SNR=22
JTS Las Juntas de 145.64 61 PKP2 **PKPdf 01 24 21.6 -1.0**
JTS Las Juntas de 145.64 61 *e*P **PKPbc 01 24 22.8 -0.1**
TABAC Tabacon 145.70 60 *e*P **PKPdf 01 24 22.2 -0.6**
JCR1 Jicaral 145.71 62 *e*P **PKPbc 01 24 23.2 +0.1**
MTEVE Monteverde 145.74 61 *e*P **PKPab 01 24 24.5 +0.8**
ARE1 Arenal 1 145.76 60 *e*P **PKPdf 01 24 22.3 -0.5**
CASO Castillo 145.76 60 *e*P **PKPdf 01 24 22.8 -0.1**
VARE2 V. Arenal 145.76 60 *e*P **PKPdf 01 24 21.6 -1.3**
CEDE Laguna Cedeo 145.76 60 *e*P **PKPdf 01 24 22.3 -0.6**
BI05 Punta Hualpn 145.78 153 *e*P **PKPab 01 24 23.4 +0.4**
VACR Volcan Arenal 145.79 60 *e*P **PKPdf 01 24 22.2 -0.7**
YAR Yar 145.80 38 *e*P PKPdf 01 24 14.8 -7.9
FORC Fortuna 145.80 60 *e*P **PKPbc 01 24 23.3 0.0**
CBL1 Cabuya 145.85 62 *e*P **PKPbc 01 24 23.3 -0.1**
SOCE Pocosol 145.89 60 *e*P **PKPdf 01 24 23.1 0.0**
PINC Pinares de May 146.05 37 *e*P **PKPbc 01 24 23.5 -0.4**
VPL2 V. Platanar 146.13 60 *e*P **PKPab 01 24 25.2 +0.1**
VPL1 V. Platanar 146.17 60 *e*P **PKPab 01 24 25.2 -0.2**
VPS8 V Poas 146.31 60 *e*P **PKPab 01 24 25.8 -0.3**
MARVS Santiago de Cu 146.36 37 *e*P **PKPdf 01 24 24.0 +0.4**
RCC Rio Carpintero 146.49 37 *e*P **PKPdf 01 24 23.8 -0.1**
HDC Heredia 146.50 61 *e*P **PKPab 01 24 27.3 +0.8**
ACOS Acosta 146.56 61 *e*P **PKiKP 01 24 27.8 -0.9**
TRT2 Tortugero 146.56 59 *e*P **PKPab 01 24 26.2 -0.4**
PAR1A Puntarenas Pro 146.58 61 *e*P **PKPab 01 24 26.9 +0.2**
ECI Escuela Centro 146.59 61 *e*P **PKPab 01 24 27.4 +0.5**
PICV PH. Pirrs 146.61 61 *e*P **PKPbc 01 24 26.3 +0.4**
MTDJ Mount Denham 146.64 42 IAMs_20 IAMs_20 02 37 35.3
comp=Z,10µm,22.0s
MTDJ Mount Denham 146.64 42 *e*P **PKPab 01 24 26.6 -0.3**
CVIMO Finca Echandi 146.64 60 *e*P **PKPdf 01 24 23.1 -1.5**
BI02 San Fabin de 146.67 156 *e*P **PKPab 01 24 26.2 -0.3**
VICA Volcano Irazu 146.75 60 *e*P **PKPbc 01 24 27.1 +0.4**
LLNJ Naranjito 146.76 61 *e*P **PKiKP 01 24 28.9 -0.1**
CVTQ Turrialba Volc 146.80 60 *e*P **PKPbc 01 24 27.2 +0.4**
CVTR Volcan Turrial 146.80 60 *e*P **PKPbc 01 24 27.3 +0.5**
CVTV Tajo 146.82 60 *e*P **PKPbc 01 24 26.7 0.0**
PIEC Cerro El Cedra 146.82 61 *e*P **PKPbc 01 24 26.4 -0.3**
QMBU Quimbuelo 146.85 36 *e*P **PKPdf 01 24 24.4 -0.1**
EGUB Earth Gu¡pi 146.85 60 *e*P **PKPab 01 24 27.3 -0.4**
GTBY Guantanamo Bay 146.89 36 IAMs_20 IAMs_20 02 38 04.0
comp=Z,7µm,20.0s
GTBY Guantanamo Bay 146.89 36 *e*P **PKPbc 01 24 25.9 -0.5**
RVLA Villa Bonita 146.91 60 *e*P **PKPab 01 24 28.1 +0.2**
LCOCO El Coco 146.95 60 *e*P **PKPab 01 24 27.4 -0.7**
BUS1 Rivas 147.03 61 *e*P **PKPdf 01 24 25.2 -0.3**
VERH Veragua Rainfo 147.34 60 *e*P **PKPdf 01 24 26.6 +1.1**
LAES El Progreso Va 147.54 60 *e*P **PKPbc 01 24 27.7 -0.7**
DRK0 Durika 147.61 61 *e*P **PKPdf 01 24 22.8 -3.4**
FIMO Fila Mora 147.64 62 *e*P **PKPdf 01 24 27.0 +0.8**
CEUA Cerro Uatsi, L 147.70 60 *e*P **PKPbc 01 24 28.1 -0.8**
JIME Puerto Jimenez 147.88 62 *e*P **PKPdf 01 24 25.6 -0.8**
PIRO Carate, Puerto 147.93 62 *e*P **PKPbc 01 24 30.0 +0.6**
ALCO Alturas Coton, 148.11 61 *e*P **PKPdf 01 24 27.9 +0.9**
TRQA Tornquist 148.16 169 IAMs_20 IAMs_20 02 33 43.0
comp=Z,10µm,20.0s
TRQA Tornquist 148.16 169 *e*P **PKPdf 01 24 27.4 +1.2**
TRQA Tornquist 148.16 169 PKP **PKPdf 01 24 25.6 -0.6**
EDS3 Malargue 148.19 157 *e*P **PKPbc 01 24 29.0 -0.7**
DMCAL E. de Neily 148.28 62 *e*P **PKPbc 01 24 29.3 -1.1**

BRU2	Volcan	148.31	61	eP	PKPdf	01 24 26.9	-0.4
BO02	Sierra Bellavi	148.48	155	IAms_20	IAms_20	02 24 42.6	
	comp=Z,8μm,22.0s						
BO02	Sierra Bellavi	148.48	155	eP	PKPdf	01 24 27.0	+0.1
DAP26	falda E V. Bar	148.55	61	eP	PKPbc	01 24 31.3	+0.1
BO01	Tunca	148.68	154	IAms_20	IAms_20	02 24 47.0	
	comp=Z,10μm,22.0s						
BO01	Tunca	148.68	154	eP	PKPdf	01 24 27.0	-0.1
KKNTU	Kakint*	149.06	60	eP	PKPdf	01 24 25.0	-3.3
MT09	Talagante	149.25	153	IAms_20	IAms_20	02 37 28.9	
	comp=Z,7μm,21.0s						
RFA	San Rafael	149.43	158	eP	PKPbc	01 24 30.6	-2.2
RFA				eP	PKPbc	01 24 30.6	-2.2
LMEL	Las Melosas	149.53	154	IAms_20	IAms_20	02 29 51.5	
	comp=Z,10μm,22.0s						
VA01	Torpederas	149.57	151	IAms_20	IAms_20	02 30 38.9	
	comp=Z,9μm,21.0s						
MT02	Curacav	149.61	152	IAms_20	IAms_20	02 27 51.7	
	comp=Z,10μm,21.0s						
MT05	Renca	149.68	153	IAms_20	IAms_20	02 26 35.5	
	comp=Z,7μm,20.0s						
MT05	Renca	149.68	153	eP	PKiKP	01 24 34.2	-0.3
MT03	Universidad Ad	149.70	154	IAms_20	IAms_20	02 39 19.8	
	comp=Z,6μm,19.0s						
MT03	Universidad Ad	149.70	154	eP	PKPbc	01 24 33.0	-0.6
PEL	Peldehue	149.91	153	IAms_20	IAms_20	02 28 02.8	
	comp=Z,7μm,20.0s						
PEL	Peldehue	149.91	153	eP	PKPbc	01 24 34.2	+0.2
MT08	Bocatoma Ro	149.95	154	IAms_20	IAms_20	02 39 33.4	
	comp=Z,6μm,19.0s						
GMAL	Guarumal, Vera	150.07	62	eP	PKPdf	01 24 32.1	+2.2
VA03	San Esteban	150.29	153	IAms_20	IAms_20	02 31 14.8	
	comp=Z,9μm,22.0s						
VA03	San Esteban	150.29	153	eP	PKPdf	01 24 30.2	+0.3
BCIP	Isla Barro Col	150.57	58	IAms_20	IAms_20	02 27 30.2	
	comp=Z,8μm,22.0s						
BCIP	Isla Barro Col	150.57	58	P	PKPdf	01 24 30.1	-0.6
ZANG	Zanguenga, Cho	150.66	58	eP	PKPdf	01 24 29.3	-1.5
AAGR	Agrelo	150.76	156	eP	PKPbc	01 24 34.6	-1.6
CAZU	Cerro Azul, Pa	150.89	57	eP	PKPdf	01 24 31.0	-0.3
ARCO	CERRO ARCO	150.93	155	eP	PKPdf	01 24 31.0	0.0
ASAL	Salagasta	151.19	155	eP	PKPdf	01 24 32.6	+1.3
AUSP	Uspallata	151.27	154	eP	PKPdf	01 24 34.2	+2.5
MAPC	Malpelo	151.30	69	P	PKPdf	01 24 32.5	+0.7
CO02	Combarbal	151.37	150	IAms_20	IAms_20	02 32 29.7	
	comp=Z,8μm,21.0s						
CO02	Combarbal	151.37	150	eP	PKPdf	01 24 33.8	+2.2
RTLS	Leoncito	151.67	154	eP	PKPdf	01 24 32.6	+0.3
CO03	El Pedregal	151.82	150	eP	PKPdf	01 24 35.0	+2.7
ACAN	Cantantal	152.13	157	eP	PKPdf	01 24 33.8	+1.2
ZON	Zonda	152.16	154	eP	PKPdf	01 24 33.0	+0.3
GO04	Tololo Observa	152.31	149	eP	PKPdf	01 24 32.6	-0.6
RTLL	Cerro Villicun	152.43	154	eP	PKPdf	01 24 33.0	-0.1
MRA	San Martin	152.53	160	eP	PKPdf	01 24 34.2	+0.9
ACCO	Cerro Coronel	152.80	153	eP	PKPdf	01 24 36.6	+2.6
SJG	San Juan	152.94	24	PKP	PKPdf	01 24 33.7	-0.4
	comp=Z,24nm,0.9s,baz=2.3,slow=9.6,SNR=6.3						
AROD	Rodeo	152.97	151	eP	PKPbc	01 24 40.2	-1.3
ACDV	Cuesta del Vie	153.13	152	eP	PKPdf	01 24 36.6	+2.3
LCO	Las Campanas	153.29	148	IAms_20	IAms_20	02 25 57.4	
	comp=Z,7μm,21.0s						
ACHE	Chepes	153.32	157	eP	PKPdf	01 24 34.6	0.0
PTAC	Punta Ardita,	153.33	59	P	PKPdf	01 24 34.2	-0.6
AVFE	Valle Fertil	153.45	155	eP	PKPdf	01 24 34.2	-0.5
LCBC	Los crdobas,	153.60	54	P	PKPdf	01 24 35.5	+0.3
TCA	Tanti	153.90	161	eP	PKPdf	01 24 34.6	-0.7
SJCC	San Jacinto, C	153.92	51	P	PKPdf	01 24 38.1	+2.4
APAC	Apartado, Choc	153.97	56	P	PKPdf	01 24 37.4	+1.7
AGUA	GUANDACOL	154.00	152	eP	PKPdf	01 24 37.0	+1.5
SOLC	Bahia Solano	154.13	61	P	PKPdf	01 24 33.0	-3.0
ARGC	Ariguani, Magd	154.66	50	P	PKPdf	01 24 37.7	+1.0
GO03	Copiapo	154.66	147	IAms_20	IAms_20	02 32 04.9	
	comp=Z,6μm,19.0s						
GO03	Copiapo	154.66	147	eP	PKPbc	01 24 41.0	-3.9
ACLC	CERRO LA CRUZ	154.73	155	eP	PKPdf	01 24 36.6	0.0
DBBC	Dabeiba	154.75	58	P	PKPdf	01 24 38.1	+1.2
VCA	Vinchina	154.76	152	eP	PKPdf	01 24 29.0	-7.7
VCA				eP	pPKPdf	01 24 37.4	-6.8
UREC	San Jos de Ur	154.91	55	P	PKPdf	01 24 35.2	-1.9
PLTB	Pedras Altas	155.06	183	PKP	PKPdf	01 24 32.9	-3.9
AANI	Anillaco	155.27	154	eP	PKPdf	01 24 47.0	+10
CBOC	Ciudad Bolivar	155.51	60	P	PKPdf	01 24 38.3	+0.2
OTAV	Otavalo	155.52	74	IAms_20	IAms_20	02 43 27.7	
	comp=Z,8μm,22.0s						
OTAV	Otavalo	155.52	74	PKP	PKPdf	01 24 37.8	-0.7
AC01	Pan de Azucar	155.58	144	IAms_20	IAms_20	02 25 02.4	
	comp=Z,8μm,22.0s						
ZARC	Zaragoza, Cauc	155.60	55	P	PKPdf	01 24 38.3	+0.3
HELC	Santa Helena	155.76	58	P	PKPdf	01 24 35.7	-3.0
AC02	Maricunga	155.86	148	IAms_20	IAms_20	02 39 50.5	
	comp=Z,6μm,20.0s						
AC02	Maricunga	155.86	148	eP	PKPdf	01 24 41.0	+2.4
CYA	Choya	156.07	156	eP	PKPdf	01 24 37.8	-0.5
CYA				eP	pPKPdf	01 24 38.6	-7.3
YOTC	Yotoco, Valle	156.11	64	P	PKPdf	01 24 38.4	-0.4
GDSD	La Dsirade Is	156.31	15	IAms_20	IAms_20	02 38 52.8	
	comp=Z,9μm,22.0s						
GUY2C	Guyana, Caldas	156.39	60	P	PKPdf	01 24 38.7	-0.9
CPSB	Cacapava Do Su	156.41	183	PKP	PKPdf	01 24 39.7	+1.1
POPC	Popayan, Colom	156.41	68	P	PKPdf	01 24 38.9	-0.5
PTBC	PUERTO BERRIO	156.47	56	P	PKPdf	01 24 37.7	-1.5
ATAH	Atahualpa	156.69	92	PKP	PKPdf	01 24 40.1	+0.2
	comp=Z,14nm,1.0s,baz=302,slow=6.1,SNR=9.5						
ANIL	Santa Ana	156.71	62	P	PKPdf	01 24 39.3	-0.5
GO02	Mina Guanaco	156.91	144	IAms_20	IAms_20	02 40 58.8	
	comp=Z,9μm,21.0s						
ORTC	Ortega, Tolima	157.12	63	P	PKPdf	01 24 40.7	+0.6
CNLB	Canela	157.21	189	PKP	PKPdf	01 24 39.1	-0.6
SPBC	San Pablo de B	157.27	58	P	PKPdf	01 24 40.2	-0.1
BARC	Barichara	157.48	54	P	PKPdf	01 24 42.9	+2.2
ROSC	El Rosal	157.48	60	PKP	PKPdf	01 24 41.0	+0.1
	comp=Z,19nm,0.8s,baz=339,slow=3.4,SNR=13						
ROSC	El Rosal	157.48	60	P	PKPdf	01 24 39.3	-1.6
PB10	IPOC Station P	157.54	140	IAms_20	IAms_20	02 30 42.9	
	comp=Z,8μm,20.0s						
NNA	Nana	157.75	105		PKPdf	01 24 39.5	-1.3
NNA	Nana	157.75	105	PKP	PKPdf	01 24 41.4	+0.6
	comp=Z,17nm,0.7s,baz=303,slow=3.8,SNR=5.7						
SDV	Santo Domingo	157.96	45	PKP	PKPdf	01 24 40.3	-0.9
	comp=Z,12nm,0.7s,baz=276,slow=3.0,SNR=8.5						
SDV	Santo Domingo	157.96	45	PKP	PKPdf	01 24 41.3	0.0
FSA	Cafayete	158.03	153	eP	PKPdf	01 24 41.0	0.0
PB06	IPOC Station P	158.75	140	IAms_20	IAms_20	02 27 21.9	
	comp=Z,8μm,21.0s						
PB03	IPOC Station P	159.09	138	IAms_20	IAms_20	02 27 38.3	
	comp=Z,8μm,22.0s						
AF01	San Pedro de A	159.43	143	IAms_20	IAms_20	02 31 33.5	
	comp=Z,7μm,21.0s						
ITAB	Concordia	159.44	187	PKP	PKPdf	01 24 43.2	+0.8
PB02	IPOC Station P	159.50	137	IAms_20	IAms_20	02 29 23.2	
	comp=Z,8μm,21.0s						
PB09	IPOC Station P	159.61	139	IAms_20	IAms_20	02 34 39.8	
	comp=Z,8μm,20.0s						
CPUP	Villa Florida	160.37	174		PKPdf	01 24 42.0	-1.5
CPUP	Villa Florida	160.37	174	PKP	PKPdf	01 24 43.2	-0.3
	comp=Z,5.6nm,1.0s,baz=338,slow=1.0,SNR=15						
CPUP	Villa Florida	160.37	174	PKP	PKPdf	01 24 42.8	-0.7
NBPV	Pedro Velho	160.50	270	PKP	PKPdf	01 24 44.2	+0.2
PET01	Itanhaem-SP	161.06	202	PKP	PKPdf	01 24 46.8	+2.5
RCBR	Riachuelo	161.07	272	PKP	PKPdf	01 24 46.2	+1.5
NBAN	Anadia - AL	161.32	260	PKP	PKPdf	01 24 44.9	0.0
PTGB	Pitanga	161.91	188	PKP	PKPdf	01 24 44.0	-1.3
SJMB	Sao Joao De Ma	162.10	227	PKP	PKPdf	01 24 44.1	-1.4
VABB	Valinhos	162.10	204	PKP	PKPdf	01 24 46.9	+1.3
GUA01	Guaratinga, BA	162.27	235	PKP	PKPdf	01 24 44.9	-0.8
NBLA	Lagarto - SE	162.56	255	PKP	PKPdf	01 24 45.5	-0.6
CMC01	Camacan, BA	162.63	239	PKP	PKPdf	01 24 46.7	+0.6
FRTB	Fartura	162.70	197	PKP	PKPdf	01 24 47.1	+1.0
BSCB	Bom Sucesso	162.75	214	PKP	PKPdf	01 24 47.0	+0.8
RCLB	Rio Claro- Sao	162.85	204	PKP	PKPdf	01 24 46.4	+0.1
LPAZ	La Paz	163.95	127	PKP	PKPdf	01 24 47.9	-0.2
	comp=Z,28nm,1.0s,baz=41,slow=2.7,SNR=34						
LPAZ	La Paz	163.95	127	PKP	PKPdf	01 24 48.0	-0.1
DIAM	Diamantina, MG	164.12	223	PKP	PKPdf	01 24 48.2	+0.5
BB19B	Bebedouro	164.46	203	PKP	PKPdf	01 24 48.9	+1.1
NBPB	Pedra_Branca-C	164.71	274	PKP	PKPdf	01 24 47.2	-1.0
SBBR	Sobral	165.12	181	PKP	PKPdf	01 24 48.3	-0.2
JQT1	Jequitai-MG	165.32	224	PKP	PKPdf	01 24 48.3	-0.3
MC01	Montes Claros	165.38	226	PKP	PKPdf	01 24 49.5	+0.8
SGC2	Sao Gabriel da	166.31	62	PKP	PKPdf	01 24 48.2	-1.2
AQDB	Aquidauana	166.31	177	PKP	PKPdf	01 24 48.2	-1.1
ITRB	Iturama	166.36	199	PKP	PKPdf	01 24 50.6	+1.2
NBPS	Pedro II - PI	166.39	279	PKP	PKPdf	01 24 48.9	-0.7
SFA1	Serra Facao	166.79	212	PKP	PKPdf	01 24 50.2	+0.5
IPMB	Ipameri, GO	167.04	210	PKP	PKPdf	01 24 50.0	0.0
ITU3	Corumbazu	167.15	207	PKP	PKPdf	01 24 49.1	-0.9
BAT2	UHE Batalha	167.18	214	PKP	PKPdf	01 24 49.9	-0.1
C2SB	Chapadao do Su	167.86	189	PKP	PKPdf	01 24 51.3	+0.8
MDP	Montagnes des	168.03	349	PKP	PKPdf	01 24 50.0	-0.7
	comp=Z,8.0nm,0.9s,baz=296,slow=1.4,SNR=5.6						
SDBA	SAO DESIDERIO	168.63	240	PKP	PKPdf	01 24 51.1	-0.1
BDFB	Brasilia	168.85	217		PKPdf	01 24 48.9	-2.4
BDFB	Brasilia	168.85	217	PKP	PKPdf	01 24 50.0	-1.2
	comp=Z,36nm,1.2s,baz=15,slow=3.3,SNR=15						
BDFB	Brasilia	168.85	217	PKP	PKPdf	01 24 50.1	-1.2
SIV	San Ignacio	169.00	147	PKP	PKPdf	01 24 50.4	-0.9
	comp=Z,15nm,1.0s,baz=199,slow=2.2,SNR=32						
LABB	L¡brea	169.04	104	PKP	PKPdf	01 24 51.3	-0.1
BOAV	Boa Vista	169.35	32	PKP	PKPdf	01 24 48.7	-2.9
TEFE	Tefe	169.81	72	PKP	PKPdf	01 24 50.7	-1.2
PTLB	Pontes e Lacer	170.40	155	PKP	PKPdf	01 24 50.6	-1.5
SALV	Santo Antonio	170.85	175	PKP	PKPdf	01 24 50.8	-1.5
VILB	Vilhena	171.92	140	PKP	PKPdf	01 24 52.1	-0.8
TMAB	Tom-Au,PA,Br	171.94	302	PKP	PKPdf	01 24 52.7	-0.2
SMTB	Santa Maria do	172.44	253	PKP	PKPdf	01 24 52.5	-0.7
PAL2	UHE Estreito -	172.46	269	PKP	PKPdf	01 24 52.5	-0.7
PAL01	Palmeiras do T	172.69	270	PKP	PKPdf	01 24 53.0	-0.4
LAJE	UHE Lajeado	172.71	243	PKP	PKPdf	01 24 51.4	-1.9
MACA	Manacapuru-AM	173.25	59	PKP	PKPdf	01 24 52.9	-0.6
SNDB	Serra Nova Dou	173.68	214	PKP	PKPdf	01 24 52.8	-0.8
PDRB	Porto dos Gac	174.83	160	PKP	PKPdf	01 24 53.3	-0.7
PRPB	Paraiuapebas	174.90	276	PKP	PKPdf	01 24 53.4	-0.7
BMO2	UHE Belo Monte	175.55	319	PKP	PKPdf	01 24 53.3	-1.0
CLDB	Colider	175.79	168	PKP	PKPdf	01 24 53.8	-0.6
ITTB	Itaituba	177.52	19	PKP	PKPdf	01 24 54.1	-0.6
NPGB	Novo Progresso	179.46	126	PKP	PKPdf	01 24 54.2	-0.6

*IDC **29** 01:08:57.8±0.9, 6.72N×125.09E, h0km, mb4.8/15, mbtmp4.8/15, Error ellipse: s-maj=37.8km s-min=19.3km az=78.0*

*NEIC **29** 01:09:01.3±1.5, 6.79N±0.05×125.02E±0.03, h14km±3km, mb5.6/95, Error ellipse: s-maj=7.3km s-min=3.2km az=203.0*

ISC 29 01:09:00.3±0.3, 6.77N±0.05×125.01E±0.07, h13km, n143, σ0.674/143, mb5.6/62, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.64	62			01 09 13.8	+0.5
TNTI	Ternate	6.40	158	Pn	Pn	01 10 35.1	+0.7
MYLDM	Lahad Datu	6.67	257	Pn	Pn	01 10 39.1	+1.0
TOLI2	Tolitoli	7.03	217	Pn	Pn	01 10 42.8	-0.2
TWG	Pinlang	16.41	347	Pn	Pn	01 12 51.2	+0.8
YULB	Yu-li	16.91	348	Pn	Pn	01 12 56.9	+0.1
TPUB	Ta-pu	16.97	346	Pn	Pn	01 12 57.9	+0.3
SSLB	Suanglung	17.37	347	Pn	Pn	01 13 02.4	-0.2
YHNB	Yeheng	18.14	349		Pn	01 13 11.5	-0.7
JAGI	Jajag, Banyuwa	18.61	216	P	P	01 13 17.6	-0.1
JAGI				IAmb	IAmb	01 13 25.3	
	comp=Z,1μm,1.9s						
JOW	Kunigami	20.19	8	P	P	01 13 35.2	+0.3
MTN	Manton Dam	20.41	163	P	P	01 13 35.6	-1.7
KNRA	Kununurra	22.61	171	P	P	01 14 02.0	+1.1
FITZ	Fitzroy Crossi	24.72	179	P	P	01 14 21.9	+0.4
PMG	Port Moresby	27.30	126	P	P	01 14 45.7	+0.7
PMG				IAmb	IAmb	01 14 48.0	
	comp=Z,96nm,1.0s						
COEN	Coen	27.37	139	P	P	01 14 46.6	+1.0
GSI	Gunungsitoli	27.89	260	P	P	01 14 51.1	+0.7
GSI				IAmb	IAmb	01 14 53.8	
	comp=Z,88nm,0.9s						
WB0	Warramunga Arr	27.94	161	P	P	01 14 51.4	+0.7
JMN	Monobe	28.06	16	P	P	01 14 51.2	-0.4
JMN				IAmb	IAmb	01 14 57.9	
	comp=Z,120nm,1.5s						
WRAB	Tennant Creek	28.08	161	P	P	01 14 51.2	-0.7
WRA	Warramunga Arr	28.09	161	P	P	01 14 49.8	-2.2
WRA	Warramunga Arr	28.09	161	P	P	01 14 51.3	-0.7
	comp=Z,7.4nm,0.4s,baz=331,slow=10,SNR=1.0						
	comp=Z,7.4nm,0.4s						
INU	Inuyama	30.51	20	P	P	01 15 13.2	-0.1
INU				IAmb	IAmb	01 15 14.5	
	comp=Z,131nm,1.9s						
INCN	Inchon	30.61	3	P	P	01 15 14.4	+0.2
KSAR	Wonju Array Be	30.64	4	P	P	01 15 12.4	-2.0
KSRS	Korea Array	30.66	5	P	P	01 15 13.3	-1.3
	comp=Z,7.0nm,0.9s,baz=185,slow=11,SNR=2.0						
	comp=Z,7.0nm,0.9s						
ASAR	Alice Springs	31.47	164	P	P	01 15 20.6	-1.3
	comp=Z,7.8nm,0.4s,baz=344,slow=9.1,SNR=4.6						
	comp=Z,7.8nm,0.4s						
MJAR	Matsushiro Arr	32.00	20	P	P	01 15 26.2	-0.3
	comp=Z,9.1nm,0.8s,baz=197,slow=7.7,SNR=2.2						
	comp=Z,9.1nm,0.8s						
BJT	Baijiatuan	34.05	348	P	P	01 15 44.1	-0.2
BJT				IAmb	IAmb	01 15 51.2	
	comp=Z,60nm,1.0s						
JMM	Marumori	34.11	23	P	P	01 15 43.6	-1.2
JMM				IAmb	IAmb	01 16 03.8	
	comp=Z,220nm,1.7s						
MORW	Morawa	36.66	193	P	P	01 16 07.4	+0.5
MORW				IAmb	IAmb	01 17 05.7	
	comp=Z,228nm,1.7s						
SHL	Shillong	36.73	304	P	P	01 16 08.0	+0.2
INKA	Innaminka	37.53	157	P	P	01 16 14.7	+0.5
USRK	Ussuriysk Ar.	37.78	8	P	P	01 16 16.9	+0.7
	comp=Z,28nm,0.9s,baz=188,slow=8.0,SNR=4.2						
	comp=Z,28nm,0.9s						
MDJ	Mudanjiang	37.91	5	P	P	01 16 19.6	+2.3
ERM	Erimo	38.62	22	P	P	01 16 22.8	-0.5
ERM				IAmb	IAmb	01 17 10.6	
	comp=Z,191nm,1.6s						
NWAO	Narrogin (SRO)	40.16	190	P	P	01 16 35.3	-1.0
NWAO				IAmb	IAmb	01 17 05.6	
	comp=Z,102nm,1.1s						
BBOO	Buckleboo	40.74	166	P	P	01 16 41.1	0.0
BBOO				IAmb	IAmb	01 16 53.6	
	comp=Z,354nm,1.6s						
STKA	Stephens Creek	41.56	159	P	P	01 16 48.4	+0.5
HILR	Hailar Array B	42.87	355	P	P	01 16 57.4	-1.0
	comp=Z,11nm,0.6s,baz=163,slow=10,SNR=2.3						
	comp=Z,11nm,0.6s						
SONM	Songino Array	43.90	342	P	P	01 17 06.5	-0.3
SONM	Songino Array	43.90	342	P	P	01 17 05.5	-1.3
	comp=Z,6.0nm,0.9s,baz=161,slow=7.3,SNR=1.4						
	comp=Z,6.0nm,0.9s						
HYB	Hyderabad	46.53	288	eP	P	01 17 28.0	-0.1
HYB				IVmB_BB		01 17 30.9	
	comp=Z,1μm,5.7s						
HYB				ePcP	PcP	01 19 02.1	-0.4
HYB				eS	S	01 24 16.6	-0.1
HYB				IVMs_BB	IVMs_BB	01 30 53.4	
	comp=Z,9μm,25.6s						
TOO	Toolangi	48.08	158	P	P	01 17 40.6	+0.9
PEA0B	Petropavlovsk-	53.32	24	P	P	01 18 20.0	+0.9
PEA0B				IAmb	IAmb	01 18 20.2	
	comp=Z,118nm,1.6s						
PETK	Petropavlovsk-	53.32	24	P	P	01 18 19.5	+0.3
PETK	Petropavlovsk-	53.32	24	P	P	01 18 19.8	+0.6
	comp=Z,10nm,0.7s,baz=225,slow=7.8,SNR=5.1						
	comp=Z,10nm,0.7s						
MKAR	Makanchi Array	54.10	325	P	P	01 18 24.8	-0.2
MKAR	Makanchi Array	54.10	325	P	P	01 18 24.9	-0.1
	comp=Z,4.4nm,0.5s,baz=120,slow=7.8,SNR=1.6						
	comp=Z,4.4nm,0.5s						
KDJ	Kajisay	54.96	318	P	P	01 18 30.5	-1.1
KDJ				IAmb	IAmb	01 18 42.9	
	comp=Z,177nm,1.9s						
MA2	Magadan	56.22	15	P	P	01 18 40.5	+0.5
ZALV	Zalesovo Beam	57.12	333	P	P	01 18 48.2	+1.7
	comp=Z,2.4nm,0.4s,baz=130,slow=5.8,SNR=1.6						
	comp=Z,2.4nm,0.4s						
MSVF	Nonsavu	57.74	116	P	P	01 18 51.9	+0.3
MSVF				IAmb	IAmb	01 19 06.9	
	comp=Z,77nm,1.4s						
KURBB	Kurchatov Arra	58.28	327	P	P	01 18 55.5	+0.8
	comp=Z,7.2nm,0.9s,baz=126,slow=4.8,SNR=1.7						
	comp=Z,7.2nm,0.9s						
KURK	Kurchatov	58.28	327	P	P	01 18 54.9	+0.2
KURK				IAmb	IAmb	01 19 02.8	
	comp=Z,64nm,1.2s						
GAR	Garm	58.63	312	P	P	01 18 57.6	+0.1
KKAR	Karatay Array	59.86	316	P	P	01 19 06.4	+0.5
AMKA	Amchitka	62.97	35	P	P	01 19 26.7	0.0
BVAR	Borovoye Array	63.86	327	P	P	01 19 32.8	+0.2
	comp=Z,3.7nm,0.6s,baz=123,slow=5.3,SNR=1.4						
	comp=Z,3.7nm,0.6s						
DCZ	Deep Cove	64.21	148	P	P	01 19 35.1	+0.2
MRNZ	Matariki Terra	64.83	142	P	P	01 19 38.1	-1.0
THZ	Tophouse	65.13	142	P	P	01 19 40.7	-0.4
THZ				IAmb	IAmb	01 19 43.6	
	comp=Z,50nm,1.0s						
LBZ	Lake Benmore	65.14	146	P	P	01 19 41.3	+0.2
RPZ	Rata Peaks	65.21	145	P	P	01 19 41.1	-0.4
LTZ	Lake Taylor	65.35	143	P	P	01 19 42.5	-0.1
RAO	Raoul Island	65.49	126	P	P	01 19 43.9	+0.3
TCW	Tory Channel	65.66	141	P	P	01 19 44.6	+0.2
KHZ	Kahutara	65.90	143	P	P	01 19 44.7	-1.3
BKZ	Black Stump Fm	65.97	138	P	P	01 19 46.5	-0.1
BKZ				IAmb	IAmb	01 20 12.4	
	comp=Z,81nm,1.4s						
RTZ	Ruatahuna	66.01	138	P	P	01 19 46.9	-0.1
BHW	Baring Head	66.14	141	P	P	01 19 46.3	-1.3
PLWZ	Palliser	66.47	141	P	P	01 19 48.9	-0.9
AB31	Akbulak array	68.73	320	P	P	01 20 04.0	0.0
ABKAR	Akbulak array	68.73	320	P	P	01 20 03.6	-0.3
SPIA	Saint Paul Isl	70.79	31	P	P	01 20 16.4	0.0
ARTI	Arti	71.56	327	P	P	01 20 21.3	+0.3
ARTI				IAmb	IAmb	01 20 55.2	
	comp=Z,46nm,1.2s						
UNV	Unalaska Valle	71.93	35	P	P	01 20 24.1	+0.8
UNV				IAmb	IAmb	01 20 41.6	
	comp=Z,104nm,1.2s						
AKUT	Akutan	72.42	35	P	P	01 20 26.1	-0.2
CASY	Casey	73.62	186	P	P	01 20 33.3	+0.2
K13K	Kusilvak Mount	74.86	27	P	P	01 20 41.5	+1.0
K13K				IAmb	IAmb	01 21 49.5	
	comp=Z,97nm,1.8s						
L14K	Kuka Creek	75.64	28	P	P	01 20 44.9	0.0
M14K	Bethel	75.86	29	P	P	01 20 47.0	+0.8
M14K				IAmb	IAmb	01 20 52.0	
	comp=Z,157nm,1.6s						
C16K	Lisburne Hills	76.27	21	P	P	01 20 48.7	+0.2
O15K	Ungalikthiuk R	76.62	31	P	P	01 20 50.3	-0.4
O15K				IAmb	IAmb	01 21 18.6	
	comp=Z,149nm,1.9s						
N15K	Kwethluk River	76.66	30	P	P	01 20 51.2	+0.4
N15K				IAmb	IAmb	01 22 01.7	
	comp=Z,54nm,1.3s						
L16K	Owhat River	77.22	28	P	P	01 20 54.5	+0.6
L16K				IAmb	IAmb	01 20 58.6	
	comp=Z,50nm,1.4s						
M16K	Timber Creek	77.35	29	P	P	01 20 55.1	+0.4
M16K				IAmb	IAmb	01 22 45.2	
	comp=Z,148nm,2.0s						
MHA	Mahukona	77.48	71	P	P	01 20 55.5	-0.7
O16K	Kokwok River B	77.56	30	P	P	01 20 56.6	+0.7
O16K				IAmb	IAmb	01 21 25.8	
	comp=Z,72nm,1.5s						
H17K	Granite Mounta	77.59	25	P	P	01 20 56.4	+0.4
H17K				IAmb	IAmb	01 20 58.8	
	comp=Z,114nm,1.7s						
J17K	VABM Dome	77.68	27	P	P	01 20 56.5	0.0
J17K				IAmb	IAmb	01 21 24.8	
	comp=Z,142nm,1.8s						
E18K	Tukpahlearik C	77.81	22	P	P	01 20 56.8	-0.4
E18K				IAmb	IAmb	01 21 15.7

mbtmp4.1/5, Error ellipse: s-maj=26.3km s-min=10.7km az=134.0
*NEIC **29** 01:13:35.5±1.9, 6°.59N±0°.09×125°.2E±0°.1, h10km±1km, mb5.3/10, Error ellipse: s-maj=25.2km s-min=3.6km az=128.0*
ISC 29 01:13:34.9±0.5, **6°.61N**±0°.07×**125°.14E**±0°.08, **h10**km, **n25**, σ0s**89**/29, **mb4.5**/9, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.63**	**43**			**Pg**	**01 13 47.1**	**-0.1**
DAV						**Sg**	**01 13 56.1**	**+0.6**
DAV	**Davao City (W)**	**0.63**	**43**	Pg		**Pg**	**01 13 47.1**	**-0.1**
	3.1nm,0.3s,baz=204,slow=11,SNR=6.1							
DAV				Lg		Lg	01 13 57.2	
	28nm,0.3s,baz=326,slow=11,SNR=34							
TOLI2	**Tolitoli**	**6.98**	**219**	Pn		**Pn**	**01 15 17.0**	**-0.3**
MTN	**Manton Dam**	**20.22**	**163**	P		**P**	**01 18 08.4**	**-1.8**
MTN				IAmb		IAmb	01 18 14.4	
	comp=Z,372nm,2.0s							
KNRA	**Kununurra**	**22.43**	**171**	P		**P**	**01 18 35.0**	**+1.0**
KNRA				IAmb		IAmb	01 18 36.9	
	comp=Z,175nm,1.4s							
FITZ	**Fitzroy Crossi**	**24.55**	**179**	P		**P**	**01 18 54.6**	**-0.5**
WB0	**Warramunga Arr**	**27.75**	**161**	P		**P**	**01 19 22.8**	**-1.2**
WB0				IAmb		IAmb	01 19 30.6	
	comp=Z,64nm,1.1s							
WRA	**Warramunga Arr**	**27.89**	**161**	P		**P**	**01 19 24.7**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=340,slow=8.6,SNR=1.1							
	comp=Z,5.3nm,0.9s							
WR8	**Warramunga Arr**	**27.96**	**161**	P		**P**	**01 19 25.6**	**-0.2**
AS31	**Alice Springs**	**31.28**	**164**	P		**P**	**01 19 53.5**	**-1.9**
AS31				IAmb		IAmb	01 19 57.1	
	comp=Z,57nm,1.9s							
ASAR	**Alice Springs**	**31.28**	**164**	P		**P**	**01 19 55.2**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=344,slow=8.4,SNR=4.3							
	comp=Z,3.3nm,0.6s							
MORW	**Morawa**	**36.54**	**193**	P		**P**	**01 20 41.0**	**+0.1**
MORW				IAmb		IAmb	01 20 46.2	
	comp=Z,94nm,1.6s							
FORT	**Forrest**	**37.28**	**176**	P		**P**	**01 20 48.1**	**+1.0**
BBOO	**Buckleboo**	**40.55**	**166**	P		**P**	**01 21 14.7**	**+0.1**
STKA	**Stephens Creek**	**41.37**	**159**	P		**P**	**01 21 20.8**	**-0.6**
HYB	**Hyderabad**	**46.70**	**288**	*e*P		**P**	**01 22 04.7**	**+0.2**
HYB				IVmB_BB			01 22 06.3	
	comp=Z,1μm,4.3s							
HYB				*e*PcP		**PcP**	**01 23 37.8**	**-0.3**
HYB				*e*PP		**PP**	**01 23 54.3**	**-0.1**
HYB				*e*S		**S**	**01 28 54.0**	**-0.5**
PETK	**Petropavlovsk-**	**53.41**	**24**	P		**P**	**01 22 53.8**	**-1.1**
MKAR	**Makanchi Array**	**54.31**	**325**	P		**P**	**01 23 01.8**	**+0.2**
MKAR	**Makanchi Array**	**54.31**	**325**	P		**P**	**01 23 00.9**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=138,slow=7.3,SNR=1.5							
	comp=Z,1.7nm,0.9s							
KURBB	**Kurchatov Arra**	**58.48**	**327**	P		**P**	**01 23 31.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=106,slow=6.8,SNR=1.4							
	comp=Z,0.8nm,0.8s							
KKAR	**Karatay Array**	**60.07**	**316**	P		**P**	**01 23 41.2**	**-1.2**
AB31	**Akbulak array**	**68.94**	**320**	P		**P**	**01 24 41.7**	**+1.4**
ABKAR	**Akbulak array**	**68.94**	**320**	P		**P**	**01 24 41.4**	**+1.1**
ILAR	**Eielson Array**	**83.20**	**26**	P		**P**	**01 26 01.6**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=287,slow=3.7,SNR=1.6							
	comp=Z,0.7nm,0.8s							
SYO	**Syowa Base**	**94.52**	**201**	⇓*e*P		**P**	**01 26 56.8**	**+1.6**

WEL 29 01:13:46.7±1.3, **46°S**±7°×**16°6E**±°, **h5**km, **M3.5/7, ML3.4/7, MLv3.5/7, Error ellipse: s-maj=10.8km s-min=8.9km az=126.0, confirmed, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**78**	P		Pb	01 13 58.1	-0.1
PYZ				S		Sb	01 14 04.6	-1.3
RLNS	**Resolution Isl**	**0.78**	**41**	P		Pg	01 14 01.7	+0.1
RLNS				S		Sg	01 14 12.5	+0.9
DCZ	**Deep Cove**	**1.16**	**46**	P		Pg	01 14 06.9	-2.1
WHZ	**Wether Hill Ro**	**1.44**	**75**	P		Pn	01 14 12.1	-1.3
WHZ				S		Sb	01 14 30.7	-1.8
APZ	**The Paps**	**1.51**	**112**	P		Pn	01 14 13.4	-1.0
MLZ	**Mavora Lakes**	**1.76**	**60**	P		Pn	01 14 18.1	+0.2
MLZ				S		Sb	01 14 42.0	+0.1
MSZ	**Milford Sound**	**2.12**	**42**	P		Pn	01 14 22.4	-0.3
EAZ	**Earnscleugh**	**2.57**	**67**	P		Pn	01 14 29.5	+0.5
TUZ	**Tuapeka**	**2.57**	**84**	P		Pn	01 14 29.0	0.0
WKZ	**Wanaka**	**2.59**	**57**	P		Pn	01 14 30.2	+0.9
WKZ				S		Sn	01 15 02.4	+1.2
LTZ	**Lake Taylor**	**5.71**	**54**	P		Pb	01 15 27.9	+1.2

IDC 29 01:21:45.9±6.8, **5°.51S**×**147°.05E, h0**km, **mb4.2**/3, **mbtmp4.0**/4, **ML3.7**/1, **Error ellipse: s-maj=139.4km s-min=37.6km az=90.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.94**	**220**	P		P	01 26 07.7	-1.0
	0.2nm,0.3s,baz=43,slow=11,SNR=2.1							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**22.05**	**214**	P		P	01 26 41.7	-0.7
	1.6nm,0.6s,baz=43,slow=9.9,SNR=15							
	1.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.37**	**237**	P		P	01 27 06.9	+1.0
	4.1nm,0.4s,baz=60,slow=11,SNR=32							
	4.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**53.06**	**298**	P		P	01 31 05.2	-0.2
	1.7nm,0.3s,baz=106,slow=8.6,SNR=5.5							
	1.7nm,0.3s							

*IDC **29** 01:25:10.5±1.0, 6°.49N×125°.72E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=96.2km s-min=7.9km az=77.0*
ISC 29 01:25:12.0±1.2, **6°.5N**±0°.3×**125°.8E**±0°.7, **h10**km, **n8**, σ1s**18**/8, **mb3.6**/6, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**340**	Pg		**Pg**	**01 25 22.2**	**-0.9**
	0.3nm,0.3s,baz=250,slow=7.4,SNR=25							
DAV				Lg		Lg	01 25 29.4	
	1.6nm,0.3s,baz=359,slow=22,SNR=39							
FITZ	**Fitzroy Crossi**	**24.47**	**180**	P		**P**	**01 30 30.1**	**-1.3**
	2.4nm,0.5s,baz=21,slow=2.3,SNR=9.8							
	2.4nm,0.5s							
WRA	**Warramunga Arr**	**27.62**	**162**	P		**P**	**01 30 59.3**	**-0.6**
	0.9nm,0.8s,baz=343,slow=8.6,SNR=4.5							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**31.05**	**165**	P		**P**	**01 31 29.6**	**-0.7**
	0.3nm,0.4s,baz=340,slow=9.0,SNR=10							
	0.3nm,0.4s							
STKA	**Stephens Creek**	**41.07**	**159**	P		**P**	**01 32 56.9**	**+1.0**
	0.7nm,0.6s,baz=331,slow=13,SNR=3.9							
	0.7nm,0.6s							
SONM	**Songino Array**	**44.36**	**341**	P		**P**	**01 33 23.0**	**+0.4**
	0.3nm,0.3s,baz=162,slow=6.1,SNR=1.9							
	0.3nm,0.3s							
BRTR	**Keskin Array B**	**87.52**	**310**	P		**P**	**01 38 01.9**	**+1.4**
	0.8nm,0.9s,baz=70,slow=5.7,SNR=4.1							
	0.8nm,0.9s							
GERES	**GERESS Array B**	**99.31**	**322**	P		**Pdif**	**01 38 53.9**	**-0.8**
	1.0nm,0.7s,baz=71,slow=7.2,SNR=6.3							
	1.0nm,0.7s							

*IDC **29** 01:28:01.4±0.4, 6°.71N×124°.87E, h0km, mb4.7/32, mbtmp4.6/33, ML4.1/1, Error ellipse: s-maj=10.4km s-min=8.3km az=153.0*
*MOS **29** 01:28:01.3±1.2, 6°.71N×124°.96E, h10km, mb5.2/22, Error ellipse: s-maj=10.6km s-min=6.6km az=106.1*
*BJI **29** 01:28:03.0, 6°.53N×125°.23E, h30km, mb5.0/35*
*NEIC **29** 01:28:03.5±1.6, 6°.72N±0°.07×124°.97E±0°.06, h10km±1km, mb5.1/39, Error ellipse: s-maj=13.0km s-min=8.1km az=151.0*
*DJA **29** 01:28:10.3±0.6, 7°N±5°×12°5E±°, h49km±9km, M5.4/29, mb5.2/29, mB6.3/1, MLv5.5/8, Mw(mB)6.1/1*
ISC 29 01:28:05.0±0.3, **6°.82N**±0°.04×**124°.94E**±0°.04, **h13**km, **n236**, σ2s**35**/233, **mb5.0**/72, **10C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.69**	**68**	Pg		**Pg**	**01 28 16.5**	**-1.8**
DAV	**Davao City (W)**	**0.69**	**68**	Pg		**Pg**	**01 28 16.7**	**-1.7**
	2.2nm,0.3s,baz=272,slow=6.9,SNR=132							
DAV				Lg		Lg	01 28 27.0	
	29nm,0.3s,baz=0.1,slow=24,SNR=44							
DAV	**Davao City (W)**	**0.69**	**68**	P		**Pg**	**01 28 17.2**	**-1.2**
DAV	**Davao City (W)**	**0.69**	**68**	S		**Sg**	**01 28 26.9**	**-0.5**
DAV	**Davao City (W)**	**0.69**	**68**	P		**Pb**	**01 28 19.0**	**+0.2**
SGSI	**Sangihe**	**3.17**	**169**	P		**Pn**	**01 28 55.2**	**+0.6**
SGSI				S		**Sn**	**01 29 32.0**	**-0.2**
KMSI	**Cibinong**	**6.27**	**189**	P		**Pn**	**01 29 39.2**	**+1.9**
TNTI	**Ternate**	**6.47**	**158**			**Pn**	**01 29 36.7**	**-3.4**
TNTI	**Ternate**	**6.47**	**158**	P		**Pn**	**01 29 42.7**	**+2.6**
TNTI	**Ternate**	**6.47**	**158**	P		**Pn**	**01 29 41.0**	**+0.9**
	224nm,1.3s							
MYLDM	**Lahad Datu**	**6.61**	**256**			**Pn**	**01 29 39.4**	**-2.5**
MYLDM	**Lahad Datu**	**6.61**	**256**	P		**Pn**	**01 29 46.1**	**+4.2**
MRSI	**Marisa**	**6.97**	**206**	P		**Pn**	**01 29 48.0**	**+1.1**
	2.6nm273nm,0.6s							
TOLI2	**Tolitoli**	**7.02**	**216**	Pn		**Pn**	**01 29 46.2**	**-1.4**
LUWI	**Luwuk**	**8.10**	**196**			**Pn**	**01 29 58.2**	**-4.3**
LUWI	**Luwuk**	**8.10**	**196**	P		**Pn**	**01 30 06.9**	**+4.5**
LUWI	**Luwuk**	**8.10**	**196**	P		**Pn**	**01 30 07.2**	**+4.8**
	529nm,1.3s							
SANI	**Sanana**	**8.87**	**173**	P		**Pn**	**01 30 13.1**	**+0.1**
SANI	**Sanana**	**8.87**	**173**	P		**Pn**	**01 30 12.3**	**-0.7**
	146nm,0.8s							
I39PW	**PALAU INFRASON**	**9.56**	**85**	I		I	02 25 25.2	
	0.3nm,0.7s,baz=267,slow=304,SNR=10							
SWI	**Sorong**	**9.90**	**140**	P		**Pn**	**01 30 27.3**	**+0.2**
	89nm,1.1s							
NLAI	**Namlea**	**10.22**	**168**	P		**Pn**	**01 30 30.9**	**-0.6**
	15μm152nm,0.8s							
MSAI	**Masohi**	**10.85**	**158**	P		**Pn**	**01 30 42.6**	**+2.4**
	102nm,1.0s							
AAI	**Ambon**	**10.93**	**163**	P		**Pn**	**01 30 40.7**	**-0.5**
	110nm,0.6s							
SPSI	**Sidrap Palu**	**11.89**	**206**	P		**Pn**	**01 30 58.4**	**+4.0**
FAKI	**Fak Fak**	**12.12**	**143**			**Pn**	**01 30 54.6**	**-2.9**
FAKI	**Fak Fak**	**12.12**	**143**	P		**Pn**	**01 30 59.9**	**+2.4**
FAKI	**Fak Fak**	**12.12**	**143**	P		**Pn**	**01 30 59.4**	**+1.9**
	148nm,1.1s							
BNSI	**Bone**	**12.14**	**204**	P		Pn	01 31 02.7	+4.9
	93nm,1.1s							
BNDI	**Bandanaira**	**12.31**	**156**	P		**Pn**	**01 31 01.8**	**+1.7**
BNDI	**Bandanaira**	**12.31**	**156**	P		**Pn**	**01 30 59.6**	**-0.5**
	231nm,1.7s							
RKPI	**Ransiki, Papua**	**12.39**	**132**	P		**Pn**	**01 31 04.2**	**+3.0**
	172nm,1.5s							
KAPI	**Kappang**	**12.84**	**204**			**Pn**	**01 31 04.9**	**-2.5**
KAPI	**Kappang**	**12.84**	**204**	Pn		**Pn**	**01 31 07.8**	**+0.4**
	1.3nm,0.3s,baz=13,slow=11,SNR=9.1							
KAPI	**Kappang**	**12.84**	**204**	P		Pn	01 31 12.5	+5.1
KAPI	**Kappang**	**12.84**	**204**	P		**Pn**	**01 31 04.9**	**-2.5**
SBUM	**Sibu**	**13.39**	**252**			**Pn**	**01 31 13.2**	**-1.8**
SBUM	**Sibu**	**13.39**	**252**	P		**P**	**01 31 19.8**	**-4.7**
KMPI	**Kaimana, Papua**	**13.60**	**140**	P		**Pn**	**01 31 18.9**	**+1.1**
	210nm,0.8s							
BSSI	**Bau Bau, Buton**	**13.62**	**199**	P		**Pn**	**01 31 19.1**	**+1.1**
BAKI	**Biak**	**13.69**	**125**	P		**Pn**	**01 31 21.5**	**+2.4**
	134nm,0.8s							
SRPI	**Serui, Papua**	**14.20**	**127**	P		**Pn**	**01 31 26.8**	**+0.8**
STKI	**Sintang**	**15.01**	**244**	P		**Pn**	**01 31 39.6**	**+2.6**
	42nm,0.8s							
KSM	**Kuching**	**15.52**	**251**	Pn		**Pn**	**01 31 43.4**	**-0.4**
KSM	**Kuching**	**15.52**	**251**	P		**P**	**01 31 48.3**	**+0.2**
EDFI	**Ende, Flores**	**15.80**	**192**	P		**Pn**	**01 31 47.9**	**+0.4**
	44nm,1.0s							
SMPI	**Sarmi**	**16.29**	**122**	P		**Pn**	**01 31 52.3**	**-1.5**
SOEI	**Soe**	**16.48**	**182**	Pn		**Pn**	**01 31 52.8**	**-3.4**
SOEI	**Soe**	**16.48**	**182**	P		**P**	**01 32 01.7**	**+2.8**
SOEI	**Soe**	**16.48**	**182**	P		**P**	**01 31 58.0**	**-0.9**
	105nm,1.6s							
TPUB	**Ta-pu**	**16.91**	**346**	P		**P**	**01 32 05.9**	**+2.4**
BATI	**Baumata**	**16.96**	**184**	Pn		**Pn**	**01 32 02.4**	**+0.1**
	11nm,0.3s,baz=34,slow=1.3,SNR=9.6							
BATI	**Baumata**	**16.96**	**184**	P		**Pn**	**01 32 02.7**	**+0.5**
	176nm,0.8s							
PLAI	**Plampang**	**17.10**	**205**	P		**P**	**01 32 09.9**	**+4.2**
PLAI	**Plampang**	**17.10**	**205**	P		**P**	**01 32 08.3**	**+2.6**
	108nm,1.1s							
WBSI	**Waikabubak, Su**	**17.26**	**199**	P		**Pn**	**01 32 03.9**	**-2.1**
SSLB	**Suanglung**	**17.30**	**348**	P		**P**	**01 32 09.7**	**+1.8**
TWSI	**Taliwang, Sumb**	**17.41**	**208**	P		**Pn**	**01 32 08.3**	**+0.4**
	73nm,1.1s							
GENI	**Genyem**	**17.85**	**121**	P		**P**	**01 32 16.0**	**+2.1**
JAY	**Jayapura**	**18.27**	**120**	P		**Pn**	**01 32 17.6**	**-0.8**
	0.7nm,0.3s,baz=2.1,slow=2.9,SNR=7.9							
	8.5nm,0.7s							
JAGI	**Jajag, Banyuwa**	**18.61**	**215**			**P**	**01 32 19.2**	**-3.1**
JAGI	**Jajag, Banyuwa**	**18.61**	**215**	P		**Pn**	**01 32 26.8**	**+4.2**
QIZ	**Qiongzhong**	**19.05**	**311**	P		**Pn**	**01 32 29.3**	**+1.4**
AUDHS	**Darwin High Sc**	**20.01**	**163**	P		**P**	**01 32 38.2**	**+0.6**
DRS	**Darwin Rock St**	**20.02**	**163**	P		Pn	01 32 38.8	-0.7
JOW	**Kunigami**	**20.16**	**9**	P		**P**	**01 32 37.3**	**-1.9**
JOW				IAmb		IAmb	01 32 45.0	
	comp=Z,43nm,0.8s							
JOW	**Kunigami**	**20.16**	**9**	P		**P**	**01 32 39.2**	**0.0**
	comp=Z,30nm,0.7s,baz=215,slow=13,SNR=4.0							
	comp=Z,30nm,0.7s							
MTN	**Manton Dam**	**20.48**	**162**			**P**	**01 32 39.3**	**-3.5**
MTN				IAmb		IAmb	01 32 48.6	
	comp=Z,76nm,1.1s							
UBPT	**Khong Chiam**	**20.86**	**295**	P		Pn	01 32 49.0	-0.4
MYKOM	**Kota Tinggi**	**21.61**	**258**	P		**P**	**01 32 52.3**	**-2.7**
MYKOM	**Kota Tinggi**	**21.61**	**258**	P		**P**	**01 32 59.3**	**+4.3**
LEM	**Lembang**	**21.96**	**232**	P		**P**	**01 32 57.2**	**-1.7**
	comp=Z,15nm,0.4s,baz=315,slow=20,SNR=1.9							
	comp=Z,15nm,0.4s							
BBJI	**Bungbulang**	**22.33**	**231**	P		**P**	**01 33 08.4**	**+5.6**
KNRA	**Kununurra**	**22.67**	**170**	P		**P**	**01 33 02.0**	**-4.3**
IPM	**Ipoh**	**23.91**	**266**	P		**P**	**01 33 17.7**	**-1.2**
IPM				IAmb		IAmb	01 33 26.4	
	comp=Z,66nm,1.4s							
IPM	**Ipoh**	**23.91**	**266**	P		**P**	**01 33 20.2**	**+1.3**
KULM	**Kulim**	**24.20**	**268**	P		**P**	**01 33 18.6**	**-3.0**
KULM				IAmb		IAmb	01 33 33.4	
	comp=Z,90nm,1.5s							
KULM	**Kulim**	**24.20**	**268**	P		**P**	**01 33 23.2**	**+1.6**
BKNI	**Bangkinang**	**24.70**	**256**	P		**P**	**01 33 20.2**	**-5.9**
FITZ	**Fitzroy Crossi**	**24.77**	**178**	P		**P**	**01 33 24.5**	**-2.1**
FITZ	**Fitzroy Crossi**	**24.77**	**178**	P		**P**	**01 33 24.7**	**-1.9**
	comp=Z,23nm,0.7s,baz=358,slow=4.8,SNR=26							
	comp=Z,23nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.77**	**178**	P		**P**	**01 33 26.2**	**-0.4**
SLVN	**Son La**	**24.94**	**307**	P		**P**	**01 33 31.2**	**+2.9**
PMG	**Port Moresby**	**27.39**	**126**	P		**P**	**01 33 46.5**	**-3.9**
PMG				IAmb		IAmb	01 33 57.0	
	comp=Z,40nm,0.9s							
PMG	**Port Moresby**	**27.39**	**126**	P		**P**	**01 33 47.9**	**-2.5**
	comp=Z,6.5nm,0.3s,baz=198,slow=3.8,SNR=4.9							
	comp=Z,6.5nm,0.3s							
PMG	**Port Moresby**	**27.39**	**126**	P		**P**	**01 33 53.2**	**+2.8**
PMG	**Port Moresby**	**27.39**	**126**	P		**P**	**01 33 53.3**	**+2.8**
PMG	**Port Moresby**	**27.39**	**126**	⇓*i*P		**P**	**01 33 48.6**	**-1.8**
PMG				pmax		pmax		
	comp=Z,22nm,0.9s							
COEN	**Coen**	**27.45**	**139**	P		**P**	**01 33 54.1**	**+3.1**
ENH	**Enshi**	**27.48**	**330**	P		**P**	**01 33 55.3**	**+4.1**
GSI	**Gunungsitoli**	**27.83**	**260**	P		**P**	**01 33 56.6**	**+2.2**
CMAR	**Chiang Mai Arr**	**27.83**	**297**	P		**P**	**01 33 52.1**	**-2.4**
CMAR	**Chiang Mai Arr**	**27.83**	**297**	P		**P**	**01 33 52.4**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=119,slow=7.0,SNR=19							
	comp=Z,1.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**27.83**	**297**	*i* P		**P**	**01 33 55.7**	**+1.3**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CHTO	**Chiang Mai**	**27.96**	**298**	P		**P**	**01 33 53.7**	**-1.9**
CHTO	**Chiang Mai**	**27.96**	**298**	P		**P**	**01 33 57.8**	**+2.2**
CHTO	**Chiang Mai**	**27.96**	**298**	P		**P**	**01 33 53.7**	**-1.9**
CHTO				pmax		pmax		
	comp=Z,25nm,1.5s							
WB0	**Warramunga Arr**	**28.01**	**161**	P		**P**	**01 33 51.8**	**-4.1**
WB0				IAmb		IAmb	01 34 28.0	
	comp=Z,40nm,0.9s							
JMN	**Monobe**	**28.03**	**16**	P		**P**	**01 33 58.3**	**+2.3**
WRAB	**Tennant Creek**	**28.15**	**161**	P		**P**	**01 34 00.5**	**+3.3**
WRA	**Warramunga Arr**	**28.16**	**161**	P		**P**	**01 33 53.8**	**-3.4**
WRA	**Warramunga Arr**	**28.16**	**161**	P		**P**	**01 33 54.5**	**-2.7**
	comp=Z,4.4nm,0.7s,baz=336,slow=10,SNR=16							
	comp=Z,4.4nm,0.7s							
WRA	**Warramunga Arr**	**28.16**	**161**	P		**P**	**01 33 53.8**	**-3.4**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WB1	**Warramunga Ar.**	**28.17**	**161**	P		**P**	**01 34 00.4**	**+3.0**
MBWA	**Marble Bar**	**28.27**	**190**	P		**P**	**01 34 02.4**	**+4.2**
LYN	**LuoYang**	**29.90**	**339**	P		**P**	**01 34 14.0**	**+1.4**
LYN				pmax		pmax		
	comp=Z,20nm,0.6s							
INU	**Inuyama**	**30.49**	**20**	P		**P**	**01 34 20.5**	**+2.7**
KSRS	**Korea Array**	**30.62**	**5**	P		**P**	**01 34 18.1**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=182,slow=10,SNR=9.6							
	comp=Z,3.2nm,0.8s							
QIS	**Mount Isa**	**30.79**	**152**	P		**P**	**01 34 24.3**	**+3.7**
XAN	**Xi'an**	**30.88**	**333**	P		**P**	**01 34 21.3**	**0.0**
XAN				pmax		pmax		
	comp=Z,25nm,0.8s							
MTSU	**Mount Surprise**	**31.31**	**143**	P		**P**	**01 34 28.5**	**+3.2**
ASAR	**Alice Springs**	**31.54**	**164**	P		**P**	**01 34 24.3**	**-2.9**
ASAR	**Alice Springs**	**31.54**	**164**	P		**P**	**01 34 24.8**	**-2.5**
	comp=Z,3.0nm,0.5s,baz=341,slow=6.9,SNR=33							
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**31.54**	**164**	P		**P**	**01 34 24.3**	**-2.9**
AUALC	**St Philip's Co**	**31.55**	**164**	P		**P**	**01 34 30.7**	**+3.4**
MAJO	**Matsushiro**	**31.98**	**20**	P		**P**	**01 34 33.3**	**+2.4**
MAJO	**Matsushiro**	**31.98**	**20**	⇓*i*P		**P**	**01 34 31.5**	**+0.6**
MAJO				pmax		pmax		
	comp=Z,14nm,0.8s							
MJAR	**Matsushiro Arr**	**31.98**	**20**	P		**P**	**01 34 30.3**	**-0.6**
MJAR	**Matsushiro Arr**	**31.98**	**20**	P		**P**	**01 34 30.3**	**-0.6**
	comp=Z,14nm,0.8s,baz=192,slow=9.2,SNR=26							
	comp=Z,14nm,0.8s							
TV1H	**Townsville Har**	**33.69**	**141**	P		**P**	**01 34 49.2**	**+3.1**
MEEK	**Meekatharra**	**33.82**	**190**	P		**P**	01 34 52.0	+4.9
BJT	**Baijiatuau**	**33.98**	**348**	P		**P**	**01 34 48.6**	**+0.2**
JMM	**Marumori**	**34.10**	**23**	P		**P**	**01 34 52.1**	**+2.7**
LZDM	**Lanzhou Array**	**34.93**	**329**	P		**P**	**01 34 56.6**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=150,slow=9.6,SNR=7.2							
	comp=Z,8.1nm,0.7s							
LZH	**Lanzhou**	**34.95**	**329**	*e*P		**P**	**01 34 59.0**	**+1.9**
LZH				sP		sP	01 35 14.0	+11
LZH				pmax		pmax		
	comp=Z,52nm,1.3s							
MSHR	**Mys Shultsa**	**36.04**	**8**	⇑*i*P		**P**	**01 35 06.3**	**+0.2**
MSHR				pmax		pmax		
	comp=Z,20nm,0.9s							
BTO	**Baotou**	**36.19**	**341**	*e*P		**P**	**01 35 11.5**	**+3.9**
BTO				PP		**PP**	**01 36 34.3**	**+4.3**
BTO				S		**S**	**01 40 54.8**	**+7.3**
BTO				pmax		pmax		
	comp=Z,14nm,0.5s							
MORW	**Morawa**	**36.69**	**193**	P		**P**	**01 35 16.0**	**+4.2**
CN2	**Changchun**	**36.84**	**1**	P		**P**	**01 35 14.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**37.74**	**8**	P		**P**	**01 35 20.3**	**-0.3**
	comp=Z,10nm,0.7s,baz=190,slow=7.9,SNR=14							
	comp=Z,10nm,0.7s							
XLT	**XiLinHaoTe**	**37.74**	**350**	*e*P		**P**	**01 35 20.8**	**+0.1**
XLT				pmax		pmax		
	comp=Z,23nm,1.3s							
MDJ	**Mudanjiang**	**37.87**	**5**	P		**P**	**01 35 23.9**	**+2.2**
QLP	**Quilpie**	**38.11**	**151**	P		**P**	**01 35 27.2**	**+3.3**
BNX	**BinXian**	**38.83**	**3**	⇓P		**P**	**01 35 29.8**	**+0.1**
BNX				pmax		pmax		
	comp=Z,14nm,1.1s							
GTA	**Gaotai**	**39.55**	**329**	P		**P**	**01 35 38.0**	**+2.0**
GTA				pmax		pmax		
	comp=Z,64nm,1.0s							
NWAO	**Narrogin (SRO)**	**40.20**	**190**	P		**P**	**01 35 45.2**	**+3.9**
BBOO	**Buckleboo**	**40.80**	**166**	P		**P**	**01 35 50.0**	**+3.7**
WHYH	**Whyalla**	**41.41**	**164**	P		**P**	**01 35 54.7**	**+3.5**
STKA	**Stephens Creek**	**41.63**	**158**	P		**P**	**01 35 50.7**	**-2.4**
STKA	**Stephens Creek**	**41.63**	**158**	P		**P**	**01 35 51.7**	**-1.4**
	comp=Z,8.4nm,0.8s,baz=334,slow=9.1,SNR=14							
	comp=Z,8.4nm,0.8s							
STKA	**Stephens Creek**	**41.63**	**158**	P		**P**	**01 35 52.1**	**-1.0**
**STKA

GNI	**Garni**	**78.15 309**	P	**P**	**01 40 03.8**	**-0.7**
	comp=Z,8.0nm,1.0s,baz=162,slow=5.1,SNR=7.7					
	comp=Z,8.0nm,1.0s					
GNI	**Garni**	**78.15 309**	⇑*i*P	**P**	**01 40 05.1**	**+0.6**
GNI			pmax	pmax		
	comp=Z,36nm,1.5s					
NCK	**Nalchik**	**79.07 313**	⇑*i*P	**P**	**01 40 08.8**	**-0.5**
NCK			pmax	pmax		
	comp=Z,12nm,1.0s					
E19K	**Redstone River**	**79.08 23**		**P**	**01 40 08.0**	**-0.9**
KBZ	**Khabaz**	**79.58 313**	P	**P**	**01 40 11.1**	**-0.9**
	comp=Z,8.4nm,1.0s,baz=60,slow=3.4,SNR=7.9					
	comp=Z,8.4nm,1.0s					
KBZ	**Khabaz**	**79.58 313**	⇑*i*P	**P**	**01 40 11.5**	**-0.5**
KBZ			pmax	pmax		
	comp=Z,17nm,1.3s					
KIV	**Kislovodsk**	**79.73 313**	*e*P	**P**	**01 40 12.4**	**-0.6**
KIV			pmax	pmax		
	comp=Z,21nm,1.1s					
J20K	**Nowinta River**	**79.94 26**		**P**	**01 40 12.7**	**-0.9**
J20K			IAmb	IAmb	01 40 22.4	
	comp=Z,14nm,1.1s					
GURO	**Guroymak-BITLI**	**80.25 308**		**P**	**01 40 15.1**	**-0.9**
GURO			IAmb	IAmb	01 40 17.4	
	comp=Z,25nm,1.0s					
SKT	**Skwentna**	**80.98 28**	P	**P**	**01 40 18.4**	**-0.9**
SKT			IAmb	IAmb	01 40 23.2	
	comp=Z,24nm,1.1s					
TRF	**Thorofare Moun**	**81.61 27**		**P**	**01 40 22.2**	**-0.5**
TRF			IAmb	IAmb	01 40 27.0	
	comp=Z,26nm,1.1s					
KLMR	**Klimovskoe**	**81.86 330**	*e*P	**P**	**01 40 21.0**	**-2.9**
KLMR			*e*		01 43 30.0	
KLMR			pmax	pmax		
	comp=Z,18nm,1.2s					
MCK	**McKinley**	**82.22 27**		**P**	**01 40 25.1**	**-0.7**
MCK	**McKinley**	**82.22 27**	P	**P**	**01 40 25.1**	**-0.7**
MCK			pmax	pmax		
	comp=Z,25nm,0.9s					
H24K	**Noodor Dome**	**82.67 24**		**P**	**01 40 28.2**	**+0.1**
H24K			IAmb	IAmb	01 40 35.7	
	comp=Z,11nm,0.8s					
ILAR	**Eielson Array**	**83.10 26**	P	**P**	**01 40 28.7**	**-1.6**
ILAR	**Eielson Array**	**83.10 26**	P	**P**	**01 40 29.2**	**-1.1**
	comp=Z,4.3nm,0.9s,baz=247,slow=4.8,SNR=14					
	comp=Z,4.3nm,0.9s					
ILAR	**Eielson Array**	**83.10 26**	P	**P**	**01 40 28.7**	**-1.6**
OBN	**Obninsk**	**83.53 325**	*e*P	**P**	**01 40 30.8**	**-1.8**
OBN			*e*		01 43 45.1	
OBN			*e*PPP	PPP	01 45 35.8	
OBN			pmax	pmax		
	comp=Z,6.0nm,0.8s					
E25K	**Arctic Village**	**83.53 22**		**P**	**01 40 31.8**	**-0.7**
G26K	**Porcupine Rive**	**84.28 23**		**P**	**01 40 35.7**	**-0.6**
G26K			IAmb	IAmb	01 40 44.9	
	comp=Z,17nm,1.1s					
APA	**Apatity**	**84.34 337**	⇓*e*P	**P**	**01 40 32.5**	**-4.1**
APA			*e*		01 40 36.8	
APA			MLR	MLR		
	comp=Z,5μm,19.0s					
ASF	**Jabal al Asfar**	**84.76 302**	P	**P**	**01 40 37.7**	**-1.9**
	comp=Z,5.7nm,1.0s,baz=278,slow=5.5,SNR=5.2					
	comp=Z,5.7nm,1.0s					
E27K	**Coleen River**	**85.01 22**		**P**	**01 40 39.6**	**-0.4**
E27K			IAmb	IAmb	01 40 46.5	
	comp=Z,12nm,0.9s					
H27K	**Steamboat Moun**	**85.24 24**		**P**	**01 40 40.5**	**-0.7**
H27K			IAmb	IAmb	01 40 47.8	
	comp=Z,10nm,0.9s					
E28M	**Babbage River**	**85.72 21**		**P**	**01 40 43.2**	**-0.3**
E28M			IAmb	IAmb	01 41 12.1	
	comp=Z,16nm,1.2s					
F28M	**Old Crow**	**85.73 22**		**P**	**01 40 43.6**	**0.0**
F28M			IAmb	IAmb	01 40 58.5	
	comp=Z,9.8nm,0.9s					
MMAI	**Mount Meron Ar**	**85.94 303**	P	**P**	**01 40 44.1**	**-1.3**
	comp=Z,15nm,1.2s,baz=100,slow=7.5,SNR=3.4					
	comp=Z,15nm,1.2s					
I28M	**Miner Creek**	**85.98 25**		**P**	**01 40 44.6**	**-0.4**
MAW	**Mawson**	**86.02 200**	P	**P**	**01 40 42.1**	**-2.8**
	comp=Z,1.9nm,0.9s,baz=346,slow=4.2,SNR=2.2					
	comp=Z,1.9nm,0.9s					
DAWY	**Dawson**	**86.40 26**	P	**P**	**01 40 46.1**	**-1.0**
DAWY			IAmb	IAmb	01 41 49.4	
	comp=Z,33nm,1.9s					
H29M	**Whitestone**	**86.51 24**	P	**P**	**01 40 45.8**	**-1.7**
BRTR	**Keskin Array B**	**86.69 309**	P	**P**	**01 40 47.0**	**-2.1**
BRTR	**Keskin Array B**	**86.69 309**	P	**P**	**01 40 46.8**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=101,slow=5.7,SNR=7.9					
	comp=Z,1.2nm,0.8s					
BRTR	**Keskin Array B**	**86.69 309**	P	**P**	**01 40 47.0**	**-2.1**
VNDA	**Vanda**	**86.70 172**	P	**P**	**01 40 46.4**	**-1.7**
VNDA			IAmb	IAmb	01 44 05.8	
	comp=Z,20nm,1.9s					
VNDA	**Vanda**	**86.70 172**	P	**P**	**01 40 45.2**	**-2.9**
	comp=Z,1.5nm,0.9s,baz=297,slow=5.4,SNR=7.6					
	comp=Z,1.5nm,0.9s					
VNDA	**Vanda**	**86.70 172**	P	**P**	**01 40 46.4**	**-1.7**
VNDA			pmax	pmax		
	comp=Z,20nm,2.0s					
KMBO	**Kilima Mbogo**	**87.83 269**	*i* P	**P**	**01 40 56.5**	**+1.2**
KMBO			pmax	pmax		
	comp=Z,2.0nm,0.4s					
FINES	**FINESS Array B**	**88.29 332**	P	**P**	**01 40 54.2**	**-1.9**
FINES	**FINESS Array B**	**88.29 332**	P	**P**	**01 40 53.7**	**-2.4**
	comp=Z,4.7nm,1.0s,baz=143,slow=3.8,SNR=6.0					
	comp=Z,4.7nm,1.0s					
FINES	**FINESS Array B**	**88.29 332**	*i* P	**P**	**01 40 56.2**	**+0.1**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
AKASG	**Malin Array Be**	**88.39 321**	P	**P**	**01 40 53.9**	**-2.9**
AKASG	**Malin Array Be**	**88.39 321**	P	**P**	**01 40 54.0**	**-2.9**
	comp=Z,3.9nm,0.9s,baz=72,slow=4.1,SNR=6.0					
	comp=Z,3.9nm,0.9s					
MLR	**Muntele Rosu**	**91.45 316**	P	**P**	**01 41 07.8**	**-3.6**
MLR	**Muntele Rosu**	**91.45 316**	P	**P**	**01 41 09.1**	**-2.3**
	comp=Z,3.5nm,1.0s,baz=297,slow=4.4,SNR=5.5					
	comp=Z,3.5nm,1.0s					
YKA	**Yellowknife Ar**	**97.43 24**	P	Pdif	01 41 38.6	+0.3
	comp=Z,1.4nm,0.9s,baz=294,slow=5.5,SNR=4.3					
	comp=Z,1.4nm,0.9s					
CLL	**Collm**	**98.11 324**	*e*P	**P**	**01 41 39.0**	**-2.6**
CLL	**Collm**	**98.11 324**	*e*Pdif	**P**	**01 41 39.0**	**-2.6**
CLL			*e*PP	**PP**	**01 45 40.0**	**-0.4**
PDAR	**Pinedale Array**	**110.18 40**	PKKPbc	PKKPbc	01 57 39.9	0.0
	comp=Z,0.5nm,0.8s,baz=40,slow=4.8,SNR=4.2					
TXAR	**Lajitas Array**	**121.06 50**		**PKPdf**	**01 46 56.2**	**-2.2**
TXAR	**Lajitas Array**	**121.06 50**	PKP	**PKPdf**	**01 46 57.2**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=153,slow=1.5,SNR=4.5					
LPAZ	**La Paz**	**164.12 127**		**PKPdf**	**01 48 06.6**	**-3.5**
LPAZ	**La Paz**	**164.12 127**	PKP	**PKPdf**	**01 48 08.9**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=334,slow=2.5,SNR=6.2					
LPAZ	**La Paz**	**164.12 127**	PKIKP	**PKPdf**	**01 48 09.0**	**-1.1**

*IDC **29** 01:30:59.8±0.7, 54°.75N×83°.83E, h0km, mb4.2/10, mbtmp4.3/17, ML4.0/7, Error ellipse: s-maj=10.3km s-min=7.4km az=45.0*
*NEIC **29** 01:31:00.4±1.1, 54°.75N±0°.06×83°.94E±0°.09, h10km±1km, mb4.8/27, Error ellipse: s-maj=12.7km s-min=4.7km az=37.0*
*MOS **29** 01:31:00.0±1.2, 54°.69N×83°.54E, h10km, mb4.6/9, Error ellipse: s-maj=7.5km s-min=5.5km az=102.4*
*ASRS **29** 01:31:00.8, 54°.7N±0°.6×83°.6E±0°.4, h2km, MLv4.3/34, Error ellipse: s-maj=1.0km s-min=0.5km az=30.7, confirmed*
*NNC **29** 01:31:00.3±1.8, 54°.65N×83°.66E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=16.6km s-min=5.1km az=15.0, Suspected Mining explosion.*

ISC 29 01:30:59.6±0.4, 54°.65N±0°.02×83°.67E±0°.02, h0km, n149, σ29=05/206, mb4.5/27, 17C-11D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHAR	**Kharino, NSO,**	**0.06**	**231**	⇓Pg		**Pg**	**Pg**	**01 31 02.3**	**+1.6**
KHAR				Sg		**Sg**	**Sg**	**01 31 03.5**	**+2.1**
KHAR	**Kharino, NSO,**	**0.06**	**231**	PG		**Pg**	**Pg**	**01 31 02.3**	**+1.6**
NVSII	**Novosibirsk**	**0.32**	**308**	⇑Pg		**Pg**	**Pg**	**01 31 06.1**	**+0.6**
NVSII				Sg		**Sg**	**Sg**	**01 31 10.0**	**+0.4**
NVSII	**Novosibirsk**	**0.32**	**308**	PG		**Pg**	**Pg**	**01 31 06.2**	**+0.6**
NVSII								01 31 10.1	
NVS	**Novosibirsk**	**0.32**	**307**	⇓Pg		**Pg**	**Pg**	**01 31 06.1**	**+0.6**
NVS				Sg		**Sg**	**Sg**	**01 31 10.1**	**+0.4**
NVS	**Novosibirsk**	**0.32**	**307**	PG		**Pg**	**Pg**	**01 31 06.2**	**+0.6**
NVS								01 31 10.0	
NHES	**Novosibirsk, N**	**0.45**	**298**	Pg		**Pg**	**Pg**	**01 31 08.8**	**+0.7**
NHES				Sg		**Sg**	**Sg**	**01 31 14.5**	**+0.6**
BSTK	**Bystrovka, Nov**	**0.60**	**262**	Pg		**Pg**	**Pg**	**01 31 11.7**	**+0.8**
BSTK				Sg		**Sg**	**Sg**	**01 31 19.8**	**+1.1**
BSTK	**Bystrovka, Nov**	**0.60**	**262**	PG		**Pg**	**Pg**	**01 31 11.7**	**+0.8**
BSTK								01 31 19.8	
ZAA0	**Zalesovo Array**	**0.97**	**136**	Pg		**Pb**	**Pb**	**01 31 19.1**	**-0.2**
ZAA0						**Sb**	**Sb**	**01 31 33.3**	**+0.6**
ZAA0	**Zalesovo Array**	**0.97**	**136**	⇑P		**Pb**	**Pb**	**01 31 18.9**	**-0.4**
	26nm,0.6s								
ZAA0				⇑S		**Sb**	**Sb**	**01 31 32.7**	**0.0**
	355nm,0.8s								
ZALV	**Zalesovo Beam**	**0.97**	**136**			**Pb**	**Pb**	**01 31 19.3**	**0.0**
ZALV				Sn		**Sb**	**Sb**	**01 31 33.4**	**+0.8**
ZALV	**Zalesovo Beam**	**0.97**	**136**	Pg		**Pb**	**Pb**	**01 31 19.1**	**-0.2**
	60nm,0.3s,baz=321,slow=20,SNR=46								
ZALV				Lg		Lg	Lg	01 31 33.0	
	229nm,0.3s,baz=320,slow=29,SNR=57								
ZALV	**Zalesovo Beam**	**0.97**	**136**	PG		**Pb**	**Pb**	**01 31 19.3**	**0.0**
ZALV								01 31 33.4	
BJR1	**Bachatsky 1, K**	**1.45**	**106**	Pg		**Pb**	**Pb**	**01 31 28.3**	**+0.9**
BJR1				Sg		**Sn**	**Sn**	**01 31 47.7**	**+1.1**
BJR1	**Bachatsky 1, K**	**1.45**	**106**	PG		**Pb**	**Pb**	**01 31 28.5**	**+1.2**
BJR1								01 31 47.6	
BJR2	**Bachatsky-2, K**	**1.48**	**103**	Pg		**Pb**	**Pb**	**01 31 28.8**	**+0.9**
BJR2				Sg		**Sn**	**Sn**	**01 31 50.2**	**+2.7**
BJR2	**Bachatsky-2, K**	**1.48**	**103**	PN		**Pb**	**Pb**	**01 31 29.0**	**+1.1**
BJR2								01 31 50.3	
BJR3	**Bachatsky-3 (S**	**1.51**	**105**	Pg		**Pg**	**Pg**	**01 31 29.3**	**+0.8**
BJR3				Sg		**Sn**	**Sn**	**01 31 50.7**	**+2.4**
BJR3	**Bachatsky-3 (S**	**1.51**	**105**	PN		**Pg**	**Pg**	**01 31 29.4**	**+0.8**
BJR3								01 31 50.6	
KEM	**Kemerovo**	**1.56**	**63**	Pg		**Pb**	**Pb**	**01 31 29.2**	**0.0**
KEM				Sg		**Sg**	**Sg**	**01 31 50.5**	**+0.9**
BALAH	**Balakhonka, Ku**	**1.66**	**53**	Pg		**Pb**	**Pb**	**01 31 31.1**	**+0.1**
BALAH				Sg		**Sg**	**Sg**	**01 31 52.8**	**+0.1**
POMOR	**Pomortsevo, Ku**	**1.68**	**97**	Pg		**Pg**	**Pg**	**01 31 33.8**	**+2.0**
POMOR				Sg		**Sg**	**Sg**	**01 31 56.7**	**+3.1**
POMOR	**Pomortsevo, Ku**	**1.68**	**97**	PN		**Pg**	**Pg**	**01 31 32.9**	**+1.1**
POMOR								01 31 56.5	
KOTO	**Kotino, Kuzbas**	**1.96**	**102**	Pg		**Pg**	**Pg**	**01 31 37.6**	**+0.6**
KOTO				Sg		**Sg**	**Sg**	**01 32 05.1**	**+2.7**
KOTO	**Kotino, Kuzbas**	**1.96**	**102**	PN		**Pg**	**Pg**	**01 31 37.5**	**+0.5**
KOTO								01 32 05.4	
ELT	**Eltsovka**	**2.06**	**131**	Pg		**Pb**	**Pb**	**01 31 37.2**	**-0.6**
ELT				Sg		**Sg**	**Sg**	**01 32 06.5**	**+0.8**
ELT	**Eltsovka**	**2.06**	**131**	PN		**Pb**	**Pb**	**01 31 37.1**	**-0.6**
ELT								01 32 04.7	
ERU	**Erunakovo, Kuz**	**2.23**	**102**	Pg		**Pb**	**Pb**	**01 31 41.4**	**+0.7**
ERU				Sg		**Sg**	**Sg**	**01 32 12.3**	**+1.1**
ERU	**Erunakovo, Kuz**	**2.23**	**102**	PN		**Pb**	**Pb**	**01 31 41.5**	**+0.7**
ERU								01 32 12.3	
KIYZ	**Kiyzas, Kuzbas**	**2.65**	**113**	Pg		**Pb**	**Pb**	**01 31 46.8**	**-1.0**
KIYZ				Sg		**Sg**	**Sg**	**01 32 23.4**	**-1.0**
TASR	**Tashtagol**	**3.14**	**125**	Pn		**Pb**	**Pb**	**01 31 54.0**	**-2.2**
TASR				Pg		**Pg**	**Pg**	**01 31 59.1**	**-0.6**
TASR				Sg		**Sg**	**Sg**	**01 32 38.9**	**-1.4**
LUZB	**Luzhba, Kemero**	**3.23**	**106**	Pg		**Pb**	**Pb**	**01 31 57.7**	**-0.1**
LUZB				Sg		**Sb**	**Sb**	**01 32 40.3**	**+2.6**
ARTR	**Artybash**	**3.59**	**141**	Pn		**Pn**	**Pn**	**01 31 57.9**	**+1.4**
ARTR				Pg		**Pg**	**Pg**	**01 32 09.4**	**+1.2**
ARTR				Sg		**Sg**	**Sg**	**01 32 54.1**	**-0.6**
YALR	**Yailyu, Altay**	**3.73**	**139**	Pn		**Pn**	**Pn**	**01 32 00.4**	**+2.0**
YALR				Pg		**Pg**	**Pg**	**01 32 10.5**	**-0.6**
YALR				Sg		**Sg**	**Sg**	**01 32 59.0**	**-0.4**
ELDR	**Elanda**	**3.74**	**156**	Pn		**Pn**	**Pn**	**01 32 00.3**	**+1.9**
ELDR				Sg		**Sg**	**Sg**	**01 33 00.4**	**+0.9**
VEH	**Verkhnyaya Baz**	**4.17**	**107**	Pn		**Pn**	**Pn**	**01 32 08.3**	**+3.8**
VEH				Pg		**Pb**	**Pb**	**01 32 15.7**	**+1.9**
VEH				Sg		**Sg**	**Sg**	**01 33 09.6**	**-3.8**
ULGR	**Ulagan, Altay**	**4.80**	**145**	Pn		**Pn**	**Pn**	**01 32 15.2**	**+2.0**
ULGR				Sg		**Sg**	**Sg**	**01 33 31.2**	**-2.6**
CHBI	**Chibit, Altay**	**4.94**	**150**	Pn		**Pn**	**Pn**	**01 32 17.1**	**+2.1**
CHBI				Sg		**Sg**	**Sg**	**01 33 38.8**	**+0.9**
CERR	**Cheremushki**	**4.94**	**108**	Pg		**Pg**	**Pg**	**01 32 32.1**	**-2.0**
CERR				Sg		**Sg**	**Sg**	**01 33 36.9**	**-1.1**
AKAR	**Aktash**	**4.96**	**149**	Pn		**Pn**	**Pn**	**01 32 17.6**	**+2.2**
AKAR				Sg		**Sg**	**Sg**	**01 33 39.1**	**+0.2**
KURK	**Kurchatov**	**5.00**	**220**			**Pn**	**Pn**	**01 32 17.6**	**+1.9**
KURK						**Sn**	**Sn**	**01 33 17.2**	**+3.1**
KURK	**Kurchatov**	**5.00**	**220**	⇑Pn		**Pn**	**Pn**	**01 32 18.3**	**+2.5**
	8.8nm,0.6s								
KURK				⇑Pg		**Pg**	**Pg**	**01 32 35.7**	**+0.5**
	54nm,0.8s								
KURK				⇑Sn		**Sn**	**Sn**	**01 33 15.0**	**+0.9**
	40nm,0.6s								
KURK				⇑Lg		Lg	Lg	01 33 41.4	
	238nm,1.1s								
KURK	**Kurchatov**	**5.00**	**220**	Pn		**Pn**	**Pn**	**01 32 19.5**	**+3.8**
KURK				Pg		**Pg**	**Pg**	**01 32 36.3**	**+1.1**
KURK				Sg		**Sg**	**Sg**	**01 33 40.1**	**+0.2**
KURK	**Kurchatov**	**5.00**	**220**	PN		**Pn**	**Pn**	**01 32 19.9**	**+4.2**
KURK								01 33 17.6	
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn		**Pn**	**Pn**	**01 32 19.9**	**+2.6**
	1.6nm,0.3s,baz=39,slow=14,SNR=121								
KURBB				Sn		**Sn**	**Sn**	**01 33 17.6**	**+0.8**
	1.3nm,0.3s,baz=38,slow=16,SNR=4.8								
KURBB				Lg		Lg	Lg	01 33 41.1	
	4.1nm,0.3s,baz=51,slow=32,SNR=7.1								
	31nm,0.7s								
KURBB	**Kurchatov Arra**	**5.10**	**220**	⇑Pn		**Pn**	**Pn**	**01 32 19.5**	**+2.2**
	33nm,0.7s								
KURBB				⇓Pg		**Pg**	**Pg**	**01 32 36.5**	**-0.8**
	122nm,0.7s								
KURBB				⇓Sn		**Sn**	**Sn**	**01 33 16.9**	**+0.1**
	349nm,0.7s								
KURBB				⇑Lg		Lg	Lg	01 33 44.4	
	697nm,0.8s								
KURBB	**Kurchatov Arra**	**5.10**	**220**	PN		**Pn**	**Pn**	**01 32 19.4**	**+2.2**
KURBB								01 32 36.4	
KURBB								01 33 16.7	
TEL	**Teeli**	**5.37**	**130**	Pn		**Pn**	**Pn**	**01 32 24.3**	**+3.3**
TEL				Pg		**Pg**	**Pg**	**01 32 44.3**	**+1.8**
TEL				Sg		**Sg**	**Sg**	**01 33 54.1**	**+2.0**
CUR	**Chagan-Uzun**	**5.38**	**146**	Pn		**Pn**	**Pn**	**01 32 23.0**	**+1.8**
CUR				Sg		**Sg**	**Sg**	**01 33 55.5**	**+3.1**
DGZ	**Jazzator, Alta**	**5.47**	**153**	Pn		**Pn**	**Pn**	**01 32 24.9**	**+2.5**
DGZ				Sg		**Sg**	**Sg**	**01 33 52.6**	**-2.5**
GZLN	**Zheleznogorsk**	**6.00**	**69**	Sg		**Sg**	**Sg**	**01 34 10.3**	**-1.7**
ARDR	**Aradan**	**6.17**	**106**	Pn		**Pn**	**Pn**	**01 32 35.6**	**+3.8**
ARDR				Pg		**Pg**	**Pg**	**01 32 56.7**	**-0.9**
ARDR				Sg		**Sg**	**Sg**	**01 34 10.3**	**-7.3**
MK31	**Makanchi Array**	**7.92**	**187**	⇑Pn		**Pn**	**Pn**	**01 32 58.1**	**+2.3**
	11nm,0.5s,baz=13,slow=11,SNR=194								
MK31				⇑Sn		**Sn**	**Sn**	**01 34 28.3**	**+2.3**
	9.2nm,0.5s								
MK31				⇑Lg		Lg	Lg	01 35 11.3	
	75nm,0.8s,baz=26,slow=26,SNR=6.7								
MK31	**Makanchi Array**	**7.92**	**187**	*e*P		**Pn**	**Pn**	**01 32 57.9**	**+2.1**
MK31								01 34 27.9	
MKAR	**Makanchi Array**	**7.92**	**187**			**Pn**	**Pn**	**01 32 57.3**	**+1.5**
MKAR						**Sn**	**Sn**	**01 34 27.4**	**+1.4**
MKAR	**Makanchi Array**	**7.92**	**187**	Pn		**Pn**	**Pn**	**01 32 58.1**	**+2.3**
	4.7nm,0.3s,baz=15,slow=13,SNR=155								
MKAR				Sn		**Sn**	**Sn**	**01 34 26.2**	**+0.2**
	2.6nm,0.3s,baz=21,slow=21,SNR=9.2								
MKAR				Lg		Lg	Lg	01 35 08.5	
	2.8nm,0.3s,baz=9.8,slow=22,SNR=7.2								
	16nm,0.5s								
MAKZ	**Makanchi**	**7.92**	**188**			**Pn**	**Pn**	**01 32 57.5**	**+1.5**
MAKZ	**Makanchi**	**7.92**	**188**	P		**Pn**	**Pn**	**01 32 57.5**	**+1.5**
BVA0	**Borovoye Array**	**8.02**	**264**	⇑Pn		**Pn**	**Pn**	**01 32 58.7**	**+1.4**
	49nm,0.6s								
BVA0				⇓Sn		**Sn**	**Sn**	**01 34 26.6**	**-2.1**
	48nm,0.6s								
BVA0				⇓Lg		Lg	Lg	01 35 20.1	
	23nm,0.6s								
BVA0	**Borovoye Array**	**8.02**	**264**	P		**Pn**	**Pn**	**01 32 58.5**	**+1.2**
BVA0								01 34 27.0	
BVAR	**Borovoye Array**	**8.02**	**264**	Pn		**Pn**	**Pn**	**01 32 58.8**	**+1.5**
	2.7nm,0.3s,baz=67,slow=14,SNR=238								
BVAR				Sn		**Sn**	**Sn**	**01 34 27.9**	**-0.8**
	1.3nm,0.3s,baz=67,slow=23,SNR=9.3								
	75nm,0.5s								
BORK	**Borovoye**	**8.06**	**264**	*i* P		**Pn**	**Pn**	**01 32 59.1**	**+1.4**
MOY	**Mondy**	**10.82**	**99**	*e*P		Pn	Pn	01 33 47.6	+12
MOY				*e*S		**Sn**	**Sn**	**01 35 43.1**	**+5.7**
PDGK	**Podgornoye**	**11.65**	**195**	⇑Pn		**Pn**	**Pn**	**01 33 48.1**	**+0.9**
	13nm,0.6s								
PDGK				⇓Sn		**Sn**	**Sn**	**01 35 56.7**	**-1.2**
	23nm,1.1s								
PDGK				⇑Lg		Lg	Lg	01 37 11.9	
	82nm,1.1s								
PDGK	**Podgornoye**	**11.65**	**195**	P		**Pn**	**Pn**	**01 33 47.1**	**0.0**
PDGK								01 35 56.7	
AAK	**Ala-Archa**	**13.45**	**210**			**Pn**	**Pn**	**01 34 13.0**	**+1.4**
AAK	**Ala-Archa**	**13.45**	**210**	Pn		**Pn**	**Pn**	**01 34 12.9**	**+1.2**
	1.1nm,0.3s,baz=61,slow=4.5,SNR=28								
AAK				Sn		**Sn**	**Sn**	**01 36 35.6**	**-6.2**
	0.5nm,0.3s,baz=247,slow=22,SNR=7.4								
AAK				Lg		Lg	Lg	01 38 01.6	
	0.3nm,0.3s,baz=229,slow=13,SNR=4.2								
	12nm,0.7s								
AAK	**Ala-Archa**	**13.45**	**210**	⇑P		**Pn**	**Pn**	**01 34 12.9**	**+1.2**
	5.1nm,0.6s								
AAK				⇓S		**Sn**	**Sn**	**01 36 35.6**	**-6.2**
	5.5nm,0.7s								
AAK	**Ala-Archa**	**13.45**	**210**	P		**Pn**	**Pn**	**01 34 12.6**	**+0.9**
AAK								01 36 35.5	
ARTI	**Arti**	**14.40**	**287**			**Pn**	**Pn**	**01 34 22.6**	**-1.9**
ARTI	**Arti**	**14.40**	**287**	Pn		**Pn**	**Pn**	**01 34 24.1**	**-0.3**
	0.3nm,0.3s,baz=93,slow=4.3,SNR=3.8								
ARTI				Sn		**Sn**	**Sn**	**01 36 57.3**	**-7.4**
	4.0nm,0.3s,baz=63,slow=23,SNR=18								
	1.8nm,0.5s								
ARTI	**Arti**	**14.40**	**287**	P		**Pn**	**Pn**	**01 34 26.5**	**+2.0**
ARTI				S		**Sn**	**Sn**	**01 37 05.5**	**+0.8**
KK31	**Karatay Array**	**14.41**	**222**			**Pn**	**Pn**	**01 34 25.0**	**+0.4**
KK31	**Karatay Array**	**14.41**	**222**	⇓Pn		**Pn**	**Pn**	**01 34 24.8**	**+0.2**
	4.5nm,0.5s,baz=32,slow=13,SNR=48								
KK31				⇓Sn		**Sn**	**Sn**	**01 36 58.2**	**-6.7**
	3.0nm,0.5s,baz=35,slow=24,SNR=4.3								
KK31	**Karatay Array**	**14.41**	**222**	*i* P		**Pn**	**Pn**	**01 34 24.8**	**+0.2**
KK31				*e*				01 36 57.8	
KKAR	**Karatay Array**	**14.41**	**222**	Pn		**Pn**	**Pn**	**01 34 24.8**	**+0.2**
KKAR	**Karatay Array**	**14.41**	**222**	P		**Pn**	**Pn**	**01 34 24.8**	**+0.2**
AB31	**Akbulak array**	**15.55**	**259**	Pn		**Pn**	**Pn**	**01 34 37.7**	**-2.2**
AB31	**Akbulak array**	**15.55**	**259**	⇓P		**Pn**	**Pn**	**01 34 36.7**	**-3.2**
	2.5nm,0.6s								
AB31				⇑S		**Sn**	**Sn**	**01 37 35.2**	**+2.4**
	1.2nm,0.6s								
AB31	**Akbulak array**	**15.55**	**259**	P		**Pn**	**Pn**	**01 34 35.8**	**-4.2**
AB31								01 37 22.7	
ABKAR	**Akbulak array**	**15.55**	**259**	Pn		**Pn**	**Pn**	**01 34 40.7**	**+0.7**
KSH	**Kashi**	**16.00**	**202**	P		**P**	**P**	**01 34 52.8**	**+3.2**
KSH				pmax		pmax	pmax		
	comp=Z,7.0nm,1.0s								
ULN	**Ulaanbaatar**	**16.09**	**105**	*i* P		**Pn**	**Pn**	**01 34 48.3**	**+1.2**
ULN				pmax		pmax	pmax		
	comp=Z,3.0nm,1.0s								
AKTO	**Aktyubinsk**	**16.13**	**265**	Pn		**Pn**	**Pn**	**01 34 46.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=79,slow=9.1,SNR=12								
AKTO				Sn		Sn	Sn	01 37 35.5	-11
	comp=Z,0.1nm,0.3s,baz=250,slow=18,SNR=1.7								
	comp=Z,5.6nm,0.7s								

HDA	**Harding Lake**	**55.05**	**24**	P	**P**	**01 40 28.1**	**-4.3**
HDA				IAmb	IAmb	01 40 35.5	
comp=Z,11nm,0.8s							
J25K	**Salcha River,**	**55.25**	**23**		**P**	**01 40 30.6**	**-3.3**
J26L	**Joseph Creek**	**55.75**	**23**		**P**	**01 40 35.0**	**-2.5**
J26L				IAmb	IAmb	01 40 42.9	
comp=Z,13nm,1.0s							
SCRK	**Sand Creek**	**56.11**	**23**		**P**	**01 40 36.4**	**-3.8**
K27K	**Chicken**	**56.49**	**22**	P	**P**	**01 40 41.6**	**-1.1**
ESDC	**Sonseca Array**	**57.59**	**294**	P	**P**	**01 40 50.4**	**-0.6**
ESDC	**Sonseca Array**	**57.59**	**294**	P	**P**	**01 40 50.8**	**-0.1**
comp=Z,0.9nm,0.8s,baz=46,slow=6.0,SNR=5.2							
comp=Z,0.9nm,0.8s							
MMPY	**Sheldon Lake,**	**59.91**	**18**	P	**P**	**01 41 05.4**	**-1.3**
J05D	**Fort Rock, OR**	**80.15**	**18**		**P**	**01 43 10.0**	**-1.4**
J05D				IAmb	IAmb	01 43 13.8	
comp=Z,6.6nm,1.0s							
NVAR	**Mina Array Bea**	**85.39**	**17**	P	**P**	**01 43 36.7**	**-2.1**
NVAR	**Mina Array Bea**	**85.39**	**17**	P	**P**	**01 43 39.3**	**+0.5**
comp=Z,1.1nm,0.8s,baz=11,slow=3.0,SNR=6.7							
comp=Z,1.1nm,0.8s							
SPR3	**Spring Creek 3**	**85.45**	**14**	P	**P**	**01 43 37.4**	**-1.8**
SPR3				IAmb	IAmb	01 43 41.3	
comp=Z,5.6nm,1.2s							
WRA	**Warramunga Arr**	**85.95**	**133**	P	**P**	**01 43 39.7**	**-1.6**
WRA	**Warramunga Arr**	**85.95**	**133**	P	**P**	**01 43 40.8**	**-0.5**
comp=Z,2.7nm,0.7s,baz=342,slow=5.1,SNR=12							
comp=Z,2.7nm,0.7s							
ASAR	**Alice Springs**	**89.08**	**135**	P	**P**	**01 43 55.4**	**-1.0**
ASAR	**Alice Springs**	**89.08**	**135**	P	**P**	**01 43 55.7**	**-0.7**
comp=Z,2.6nm,0.8s,baz=334,slow=4.6,SNR=17							
comp=Z,2.6nm,0.8s							
QSPA	**South Pole Qui**	**144.43**	**180**		**PKPdf**	**01 50 35.6**	**-0.6**
QSPA	**South Pole Qui**	**144.43**	**180**	PKP	PKPbc	01 50 35.0	+0.2
comp=Z,3.2nm,0.8s,baz=322,slow=1.6,SNR=8.2							

*IDC **29** 01:46:38.4±1.1, 6°.78N×125°.24E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=23.5km s-min=8.6km az=134.0*

ISC 29 01:46:40.5±1.0, 6°.9N±0°.1×125°.5E±0°.2, h10km, n7, σ0°93/7, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.24**	**29**	Pg	**Pg**	**01 46 45.1**	**-0.3**
0.3nm,0.3s,baz=206,slow=11,SNR=16							
DAV				Lg	Lg	01 46 54.2	
0.4nm,0.3s,baz=191,slow=9.1,SNR=17							
WRA	**Warramunga Arr**	**28.03**	**162**	P	**P**	**01 52 32.1**	**0.0**
0.3nm,0.4s,baz=342,slow=9.2,SNR=2.9							
0.3nm,0.4s							
ASAR	**Alice Springs**	**31.44**	**165**	P	**P**	**01 53 01.1**	**-1.1**
0.4nm,0.4s,baz=341,slow=7.2,SNR=5.8							
0.4nm,0.4s							
STKA	**Stephens Creek**	**41.48**	**159**	P	**P**	**01 54 28.6**	**+0.7**
1.9nm,0.7s,baz=326,slow=11,SNR=3.6							
1.9nm,0.7s							
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**01 54 48.7**	**+0.9**
0.2nm,0.3s,baz=146,slow=8.0,SNR=1.9							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**54.28**	**325**	P	**P**	**01 56 06.1**	**-0.8**
0.5nm,0.8s,baz=117,slow=7.4,SNR=2.3							
0.5nm,0.8s							
ILAR	**Eielson Array**	**82.84**	**26**	P	**P**	**01 59 05.2**	**+0.3**
0.5nm,0.9s,baz=234,slow=6.6,SNR=4.9							
0.5nm,0.9s							

*NEIC **29** 01:50:06.5±0.9, 35°.691N±0°.009×117°.57W±0°.01, h14km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=123.0*

PAS 29 01:50:07.1±0.9, 35°.684N±0°.009×117°.57W±0°.01, h10km±3km, ML2.9/136, ML2.6/98(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=126.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPO	**China Lake**	**0.08**	**245**		Pg	01 50 09.6	0.0
GPO					Sg	01 50 11.8	+0.5
SRTC	**Snort**	**0.14**	**273**		Pg	01 50 10.7	+0.3
WNMM	**Nine Mile Cany**	**0.31**	**300**		Pg	01 50 13.3	-0.1
WNMM					Sg	01 50 18.0	+0.4
WVPM	**Volcano Peak E**	**0.33**	**323**		Pg	01 50 13.6	-0.3
WVPM					Sg	01 50 18.4	+0.1
WCSM	**Coso Springs S**	**0.38**	**335**		Pg	01 50 14.4	-0.2
WCSM					Sg	01 50 19.7	0.0
MPMC	**Manual Prospec**	**0.38**	**10**		Pg	01 50 14.4	-0.3
MPMC				IAML		01 50 20.1	
comp=N,599nm,0.6s							
MPMC				IAML		01 50 20.2	
comp=E,614nm,0.3s							
MPMC	**Manual Prospec**	**0.38**	**10**		Sg	01 50 19.8	0.0
WRVM	**Rose V. Centra**	**0.41**	**321**		Pg	01 50 14.9	-0.4
WRVM					Sg	01 50 20.7	-0.1
DTP	**Desert Tortois**	**0.47**	**208**		Pg	01 50 15.8	-0.5
DTP					Sg	01 50 22.4	-0.2
WBSM	**Bird Springs**	**0.48**	**253**		Pg	01 50 16.2	-0.4
WBSM					Sg	01 50 22.9	-0.2
MFS	**McCloud Flat S**	**0.49**	**332**		Pg	01 50 16.4	-0.4
MFS					Sg	01 50 23.1	-0.1
WORM	**Onyx Ranch**	**0.55**	**271**		Pg	01 50 17.2	-0.6
WORM					Sg	01 50 24.4	-0.6
WHFM	**Hanning Flat**	**0.63**	**271**		Pg	01 50 18.8	-0.6
WHFM					Sg	01 50 27.3	-0.5
QSM	**Queen of Sheba**	**0.64**	**64**		Pg	01 50 18.9	-0.5
QSM					Sg	01 50 27.7	-0.2
QSM	**Queen of Sheba**	**0.64**	**64**	IAML		01 50 31.5	
comp=N,450nm,0.2s							
CCAC	**Calif City Air**	**0.64**	**215**		Pg	01 50 19.2	-0.4
CCAC					Sg	01 50 28.1	0.0
GSC	**Goldstone, Bar**	**0.73**	**121**		Pg	01 50 20.6	-0.7
GSC				IAML		01 50 33.2	
comp=N,386nm,0.3s							
ISA	**Isabella, Lake**	**0.73**	**269**		Pg	01 50 20.6	-0.8
ISA				IAML		01 50 31.3	
comp=E,187nm,0.2s							
ISA				IAML		01 50 31.4	
comp=N,160nm,0.2s							
ISA	**Isabella, Lake**	**0.73**	**269**		Sg	01 50 30.4	-0.5
WASM	**Alta Sierra Ca**	**0.80**	**274**		Pg	01 50 21.8	-0.9
WASM					Sg	01 50 32.7	-0.5
HYS	**Haystack Butte**	**0.82**	**180**		Pg	01 50 22.1	-0.8
HYS					Sg	01 50 32.9	-0.7
CWC	**Cottonwood Cre**	**0.86**	**332**		Pg	01 50 23.4	-0.3
CWC					Sg	01 50 35.0	0.0
EDW2	**Edwards Air Fo**	**0.87**	**203**		Pg	01 50 23.1	-0.8
EDW2					Sg	01 50 34.6	-0.7
CGO	**Cerro Gordo**	**0.89**	**348**		Pg	01 50 23.5	-0.7
GWY	**Greenwater Val**	**0.89**	**55**		Pg	01 50 23.5	-0.8
GWY					Sg	01 50 36.2	+0.3
GWY	**Greenwater Val**	**0.89**	**55**	IAML		01 50 39.1	
comp=N,277nm,0.3s							
TPO	**Tropico Hills**	**0.97**	**214**		Pg	01 50 25.0	-0.7
TPO	**Tropico Hills**	**0.97**	**214**	IAML		01 50 40.2	
comp=E,232nm,0.4s							
TPO				IAML		01 50 45.8	
comp=N,310nm,0.5s							
FURC	**Furnace Creek,**	**0.97**	**36**		Pg	01 50 25.3	-0.5
FURC				IAML		01 50 50.3	
comp=N,304nm,0.5s							
FURC	**Furnace Creek,**	**0.97**	**36**		Sb	01 50 39.3	+0.5
SBB	**Saddle Back Bu**	**1.01**	**192**		Pg	01 50 26.0	-0.6
TEJ	**El Tejon**	**1.02**	**244**		Pg	01 50 25.4	-1.3
SHOC	**Shoshone, Teco**	**1.08**	**78**		Pb	01 50 27.1	-0.7
SPG2	**Springville 2**	**1.10**	**298**		Pb	01 50 27.1	-1.1
SPG2					Sg	01 50 41.7	-0.8
ALPC	**Antelope**	**1.16**	**211**		Sg	01 50 44.8	+0.3
TJR	**Tejon Ranch**	**1.16**	**236**		Pb	01 50 28.2	-1.0
THC	**Tehachapi Micr**	**1.18**	**229**		Pb	01 50 29.1	-0.6
LEOC	**Leona Valley**	**1.21**	**210**		Pb	01 50 29.6	-0.5
LRRC	**Littlerock Res**	**1.21**	**198**		Pn	01 50 29.7	-0.4
VES	**Vestal, Richgr**	**1.24**	**278**		Pn	01 50 29.9	-0.5
VES				IAML		01 50 48.7	
comp=E,176nm,0.6s							
CJV	**Casa Juvan**	**1.24**	**202**		Pn	01 50 30.5	-0.1
CJV					Sn	01 50 47.3	-0.1
HOLC	**Holcomb Ridge**	**1.24**	**190**		Pn	01 50 29.4	-1.2
HOLC					Sn	01 50 47.4	0.0
JNH	**Juniper Hills**	**1.27**	**194**		Pg	01 50 31.5	0.0
AMDNV	**Amargosa**	**1.30**	**53**		Pn	01 50 29.7	-1.5
DSCC	**Desert Studies**	**1.31**	**114**		Pn	01 50 30.8	-0.7
DSCC					Sb	01 50 48.8	+0.1
GRAC	**Grapevine Rang**	**1.32**	**7**		Pn	01 50 30.9	-0.7
GRAC				IAML		01 50 55.4	
comp=N,116nm,0.5s							
GRAC				IAML		01 50 56.5	
comp=E,142nm,0.4s							
HEC	**Hector,Ludlow**	**1.32**	**130**		Pn	01 50 31.4	-0.3
WCT	**Wildcat Mounta**	**1.34**	**34**		Pn	01 50 30.8	-1.2
WCT				IAML		01 50 51.8	
comp=N,67nm,0.8s							
WCT				IAML		01 50 54.4	
comp=E,81nm,0.6s							
SGV	**South Grapevin**	**1.37**	**18**		Pn	01 50 31.4	-1.0
TUQ	**Turquoise Moun**	**1.37**	**100**		Pn	01 50 31.8	-0.5
OSI	**Osito Audit: C**	**1.42**	**222**		Pn	01 50 32.1	-0.9
OSI				IAML		01 50 57.0	
comp=E,115nm,0.7s							
OSI				IAML		01 50 57.0	
comp=N,91nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.44**	**183**		Pn	01 50 33.1	-0.2
BFSC				IAML		01 50 54.7	
comp=E,68nm,0.1s							
BFSC				IAML		01 50 54.7	
comp=N,55nm,0.2s							
SSK	**Sunset Peak**	**1.47**	**184**		Pb	01 50 35.0	+0.3
SS2	**San Sevaine**	**1.47**	**178**		Pb	01 50 34.7	+0.1
MWC	**Mount Wilson**	**1.51**	**195**		Pn	01 50 33.5	-0.8
MWC				IAML		01 50 57.5	
comp=N,118nm,0.6s							
MWC				IAML		01 50 58.9	
comp=E,110nm,0.5s							
LCH	**Last Change Ra**	**1.55**	**358**		Pn	01 50 34.2	-0.7
PASC	**Pasadena Art C**	**1.59**	**199**		Pn	01 50 34.8	-0.4
PASC				IAML		01 50 58.9	
comp=N,78nm,0.5s							
PASC				IAML		01 51 01.3	
comp=E,84nm,0.6s							
PSRC	**Puddingstone R**	**1.60**	**187**		Pg	01 50 37.5	-0.3
GMN	**Gold Mountain**	**1.63**	**9**		Pn	01 50 35.4	-0.7
TPNV	**Topopah Spring**	**1.65**	**40**		Pn	01 50 35.4	-0.9
TPNV				IAML		01 51 02.9	
comp=E,64nm,0.8s							
TPNV				IAML		01 51 03.4	
comp=E,83nm,0.5s							
MTPC	**Mountain Pass**	**1.66**	**96**	Pn	Pn	01 50 36.1	-0.2
MTPC				IAML		01 51 00.2	
comp=E,75nm,0.2s							
MTPC				IAML		01 51 00.4	
comp=N,55nm,0.3s							
DSP	**Deep Springs**	**1.71**	**349**	Pn	Pn	01 50 36.4	-0.6
ELS	**Elsinore Mount**	**2.04**	**177**		Pn	01 50 41.1	-0.4
ELS				IAML		01 51 12.8	
comp=E,30nm,0.3s							
SHPR	**Sheep Range**	**2.12**	**67**		Pn	01 50 42.5	-0.2
BELC	**Belle Mtn. Jos**	**2.12**	**142**		Pn	01 50 41.9	-0.8
BELC				IAML		01 51 17.7	
comp=N,40nm,0.5s							
BELC				IAML		01 51 20.7	
comp=E,33nm,0.6s							
V12A	**Nelson**	**2.21**	**88**		Pn	01 50 43.7	-0.2
DNR	**Dunn Ranch,Anz**	**2.25**	**160**	Pn	Pn	01 50 44.3	-0.1
PMD	**Palm Desert**	**2.26**	**154**	Pn	Pn	01 50 44.7	+0.2
PFO	**Pinyon Flats O**	**2.26**	**156**	Pn	Pn	01 50 44.6	0.0
MDPB	**Devils Postpil**	**2.29**	**329**	Pn	Pn	01 50 45.0	-0.1
MDPB				IAML		01 51 25.1	
comp=E,24nm,0.7s							
SBI	**Santa Barbara**	**2.50**	**209**		Pn	01 50 47.5	-0.3
IRM	**Iron Mountain**	**2.51**	**127**	Pn	Pn	01 50 46.0	-2.0
IRM				IAML		01 51 26.5	
comp=E,32nm,2.3s							
IRM				IAML		01 51 26.5	
comp=N,21nm,0.4s							
PRN	**Pahroc Range**	**2.66**	**49**		Pn	01 50 49.7	-0.4
PRN				IAML		01 51 37.3	
comp=N,30nm,0.8s							
PRN				IAML		01 51 43.7	
comp=E,28nm,0.9s							
LHV	**Little Huntoon**	**2.67**	**344**		Pn	01 50 49.3	-0.8
LHV				IAML		01 51 07.6	
comp=E,19nm,4.7s							
BC3	**Big Chuckawall**	**2.67**	**139**	Pn	Pn	01 50 50.4	+0.1
BC3				IAML		01 51 32.0	
comp=E,18nm,3.3s							
BC3				IAML		01 51 37.2	
comp=N,21nm,0.6s							
DPP	**Dos Picos Cty**	**2.73**	**169**	Pn	Pn	01 50 50.8	-0.1
DPP				IAML		01 51 32.5	
comp=E,17nm,0.5s							
NV11	**Mina Array Sit**	**2.78**	**351**	Pn	Pn	01 50 51.6	-0.2
NVAR	**Mina Array Bea**	**2.80**	**348**	Pn	Pn	01 50 52.2	0.0
W13A	**Hualapai Mount**	**3.07**	**100**	Pn	Pn	01 50 54.5	-1.3
BAR	**Barrett**	**3.09**	**166**	Pn	Pn	01 50 57.0	+1.1
BAR				IAML		01 51 41.9	
comp=E,19nm,0.3s							
BAR				IAML		01 51 44.6	
comp=N,18nm,0.3s							
R11B	**Troy Canyon, C**	**3.10**	**30**	Pn	Pn	01 50 56.0	-0.2
CMB	**Columbia Colle**	**3.26**	**317**	Pn	Pn	01 50 59.3	+1.1
CMB				IAML		01 51 51.7	
comp=N,12nm,0.5s							
CMB				IAML		01 51 53.0	
comp=E,11nm,0.6s							
LCMT	**Little Creek M**	**3.74**	**68**	Pn	Pn	01 51 05.0	+0.1
CCUT	**Cedar City**	**3.87**	**60**	Pn	Pn	01 51 07.1	+0.3
KNB	**Kanab**	**4.06**	**69**	Pn	Pn	01 51 09.3	0.0
U15A	**North Rim**	**4.34**	**79**	Pn	Pn	01 51 13.3	-0.1

*GEN **29** 01:51:56.1, 45°.87N×6°.98E, h5km±1km, Ml1.6*
*ROM **29** 01:51:56.5±0.1, 45°.854N±0°.009×6°.97E±0°.01, h8km, ML1.8/14, Error ellipse: s-maj=1.1km s-min=0.9km az=227.0*
*ZUR **29** 01:51:57.0, 45°.87N×6°.98E, h1km, MLh1.9/38, Error ellipse: s-maj=1791.6km s-min=615.7km az=221.0*
*LDG **29** 01:51:57.5±0.1, 45°.84N×7°.02E, h5km, Md2.2/2, Ml2.4/20, Error ellipse: s-maj=1.6km s-min=1.1km az=108.0*

STR 29 01:51:57.2±0.0, 45°.84N±0°.03×6°.99E±0°.04, h5km, MLv2.0/33, 25C-7D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.04**	**271**	⇓Pg	Pg	01 51 58.2	-0.5
BLANC				Sg	Sg	01 51 59.0	-0.8
BLANC	**P.ta Helbronne**	**0.04**	**271**	⇓Pg	Pg	01 51 58.2	-0.5
BLANC				Sg	Sg	01 51 59.1	-0.8
MRGE	**Morge**	**0.09**	**145**	P	Pg	01 51 59.6	+0.4
MRGE				S	Sg	01 52 01.5	+0.8
MRGE	**Morge**	**0.09**	**145**	⇑*iP*	Pg	01 51 59.6	+0.4
MRGE				S	Sg	01 52 01.4	+0.8
MRGE				AML	AML		
comp=E,1640μm,0.4s							
MRGE				AML	AML		
comp=N,3190μm,0.2s							
REMY	**Saint-Rhmy-en**	**0.12**	**93**	⇑Pg	Pg	01 52 00.1	+0.3
REMY				Sg	Sg	01 52 02.4	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**93**	⇑Pg	Pg	01 52 00.1	+0.3
REMY				Sg	Sg	01 52 02.4	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**93**	P	Pg	01 52 00.1	+0.3
REMY				S	Sg	01 52 02.4	+1.0
REMY	**Saint-Rhmy-en**	**0.12**	**93**	Pg	Pg	01 52 00.1	+0.3
REMY				Sg	Sg	01 52 02.3	+0.8
MFERR	**Prayon, Val Fe**	**0.14**	**39**	⇑Pg	Pg	01 51 59.9	-0.2
MFERR				Sg	Sg	01 52 01.6	-0.4
MFERR	**Prayon, Val Fe**	**0.14**	**39**	⇑Pg	Pg	01 51 59.9	-0.2
MFERR				Sg	Sg	01 52 01.7	-0.3
SEMOS	**Emosson Stauma**	**0.23**	**351**	⇑Pg	Pg	01 52 01.2	-0.4
SEMOS				Sg	Sg	01 52 04.0	-0.7
SMAO	**Martigny, Rue**	**0.26**	**13**	⇑Pg	Pg	01 52 02.0	-0.3
SMAO				Sg	Sg	01 52 05.3	-0.5
RSL	**Roselend**	**0.30**	**239**	⇑Pg	Pg	01 52 02.9	-0.1
RSL				Sg	Sg	01 52 06.7	-0.2
RSL	**Roselend**	**0.30**	**239**	⇑Pg	Pg	01 52 02.9	-0.1
RSL				Sg	Sg	01 52 06.7	-0.2
RSL	**Roselend**	**0.30**	**239**	P	Pg	01 52 02.9	-0.1
RSL				S	Sg	01 52 06.8	-0.2
RSL	**Roselend**	**0.30**	**239**	Pg	Pg	01 52 02.8	-0.2
RSL				Sg	Sg	01 52 06.9	-0.1
SALAN	**Lac Salanfe**	**0.30**	**358**	⇑Pg	Pg	01 52 02.6	-0.5
SALAN				Sg	Sg	01 52 06.3	-0.8
FULLY	**Reservoir Maze**	**0.33**	**18**	⇑Pg	Pg	01 52 03.2	-0.4
FULLY				Sg	Sg	01 52 07.1	-0.8
FULLY	**Reservoir Maze**	**0.33**	**18**	⇑Pg	Pg	01 52 03.2	-0.4
FULLY				Sg	Sg	01 52 07.1	-0.8
LAVEY	**Lavey les Bain**	**0.36**	**4**	⇑Pg	Pg	01 52 03.6	-0.5
LAVEY				Sg	Sg	01 52 07.8	-1.0
LAVEY	**Lavey les Bain**	**0.36**	**4**	⇑Pg	Pg	01 52 03.6	-0.5
LAVEY				Sg	Sg	01 52 07.9	-0.9
LPL	**La Plagne**	**0.37**	**209**	*e*Pg	Pg	01 52 04.4	-0.1
LPL				*e*Sg	Sg	01 52 09.3	-0.1
comp=N,21nm,0.3s							
DIX	**Grande Dixence**	**0.38**	**51**	⇓Pg	Pg	01 52 04.5	-0.1
DIX				Sg	Sg	01 52 09.2	-0.4
DIX	**Grande Dixence**	**0.38**	**51**	P	Pg	01 52 04.5	-0.1
DIX				S	Sg	01 52 09.3	-0.2
DIX	**Grande Dixence**	**0.38**	**51**	Pg	Pg	01 52 04.4	-0.1
DIX				Sg	Sg	01 52 09.4	-0.2
ILLEZ	**Chalet Vouargn**	**0.38**	**355**	⇑Pg	Pg	01 52 04.0	-0.5
ILLEZ				Sg	Sg	01 52 08.7	-0.8
ILLEZ	**Chalet Vouargn**	**0.38**	**355**	⇑Pg	Pg	01 52 04.0	-0.5
ILLEZ				Sg	Sg	01 52 08.7	-0.8
LPG	**La Plagne**	**0.38**	**206**	*e*Pg	Pg	01 52 04.7	0.0
LPG				*e*Sg	Sg	01 52 10.4	+0.6
comp=N,32nm,0.2s							
RAW4	**Former Reservo**	**0.39**	**20**	⇑Pg	Pg	01 52 04.3	-0.4
RAW4				Sg	Sg	01 52 09.2	-0.7
RAW4	**Former Reservo**	**0.39**	**20**	⇑Pg	Pg	01 52 04.3	-0.4
RAW4				Sg	Sg	01 52 09.3	-0.5
LSD	**Lago del Serru**	**0.40**	**165**	⇑Pg	Pg	01 52 05.2	+0.2
LSD				Sg	Sg	01 52 10.7	+0.5
LSD	**Lago del Serru**	**0.40**	**165**	P	Pg	01 52 05.1	+0.2
LSD				S	Sg	01 52 10.8	+0.6
LSD	**Lago del Serru**	**0.40**	**165**	Pg	Pg	01 52 05.1	+0.2
LSD				Sg	Sg	01 52 10.7	+0.5
SARC	**Ardon Commune,**	**0.41**	**27**	Sg	Sg	01 52 10.1	-0.4
GRYON	**Gryon**	**0.42**	**12**	Pg	Pg	01 52 04.8	-0.5
GRYON	**Gryon**	**0.42**	**12**	⇑Pg	Pg	01 52 04.8	-0.4
GRYON				Sg	Sg	01 52 09.9	-0.8
VET03	**Vtroz, Le Bot**	**0.42**	**29**	Sg	Sg	01 52 11.4	+0.6
VET02	**Vtroz, Route**	**0.42**	**28**	Sg	Sg	01 52 10.9	0.0
VET01	**Vtroz, Route**	**0.43**	**27**	Pg	Pg	01 52 05.1	-0.3
VET01				Sg	Sg	01 52 10.4	-0.6
CON01	**Conthey, Agros**	**0.43**	**31**	Sg	Sg	01 52 11.0	0.0
SHER	**Hrmence, R**	**0.44**	**40**	Pg	Pg	01 52 05.6	-0.2
SHER				Sg	Sg	01 52 11.1	-0.5
SIOM	**Sion-Mayennets**	**0.47**	**34**	Sg	Sg	01 52 11.8	-0.4
SIOV	**Sion-Valere**	**0.47**	**34**	Pg	Pg	01 52 06.2	-0.1
SIOV				Sg	Sg	01 52 11.8	-0.6
CIRO	**Champorcher**	**0.47**	**121**	⇑Pg	Pg	01 52 06.3	0.0
CIRO				Sg	Sg	01 52 12.7	+0.2
CIRO	**Champorcher**	**0.47**	**121**	P	Pg	01 52 06.3	0.0
CIRO				S	Sg	01 52 12.8	+0.3
CIRO	**Champorcher**	**0.47**	**121**	Pg	Pg	01 52 06.4	0.0
CIRO				Sg	Sg	01 52 13.0	+0.5
SAIG	**Aigle Rue de l**	**0.47**	**358**	Pg	Pg	01 52 05.9	-0.4
SAIG				Sg	Sg	01 52 11.8	-0.7
SAIG	**Aigle Rue de l**	**0.47**	**358**	⇓Pg	Pg	01 52 06.0	-0.3
SAIG				Sg	Sg	01 52 11.9	-0.6
AIGLE	**Aigle**	**0.50**	**357**	⇑Pg	Pg	01 52 06.3	-0.4
AIGLE				Sg	Sg	01 52 12.5	-0.7
AIGLE	**Aigle**	**0.50**	**357**	Pg	Pg	01 52 06.3	-0.5
AIGLE				Sg	Sg	01 52 12.5	-0.7
RAW2	**Sanetsch, VS**	**0.52**	**26**	Pg	Pg	01 52 07.0	-0.2
RAW2	**Sanetsch, VS**	**0.52**	**26**	⇓Pg	Pg	01 52 07.1	-0.2
RAW2				Sg	Sg	01 52 13.6	-0.6
NVL3	**Port Valais, L**	**0.53**	**351**	⇑Pg	Pg	01 52 06.8	-0.6
NVL3				Sg	Sg	01 52 13.4	-1.0
NVL3	**Port Valais, L**	**0.53**	**351**	⇑Pg	Pg	01 52 06.8	-0.6
NVL3				Sg	Sg	01 52 13.5	-0.9
NVL1	**Lau de Morge,**	**0.54**	**344**	Pg	Pg	01 52 07.1	-0.5
NVL1	**Lau de Morge,**	**0.54**	**344**	Pg	Pg	01 52 07.1	-0.4
NVL1				Sg	Sg	01 52 13.9	-0.7
VANNI	**Vissoie, Val d**	**0.56**	**49**	P	Pg	01 52 08.0	0.0
VANNI				S	Sg	01 52 14.5	-0.8
SENIN	**Lac Senin/Sane**	**0.56**	**23**	Pg	Pg	01 52 07.5	-0.5
SENIN				Sg	Sg	01 52 14.7	-0.7
SENIN	**Lac Senin/Sane**	**0.56**	**23**	⇓Pg	Pg	01 52 07.7	-0.4
SENIN				Sg	Sg	01 52 14.9	-0.5
SENIN	**Lac Senin/Sane**	**0.56**	**23**	P	Pg	01 52 07.7	-0.4
SENIN				S	Sg	01 52 14.7	-0.7
SATI	**Passo dei Sala**	**0.62**	**87**	S	Sg	01 52 17.1	0.0
SATI	**Passo dei Sala**	**0.62**	**87**	Pg	Pg	01 52 08.3	-0.8
SATI				Sg	Sg	01 52 17.2	+0.1
TRAV	**Traversella**	**0.63**	**122**	⇑Pg	Pg	01 52 09.2	0.0
TRAV	**Traversella**	**0.63**	**122**	P	Pg	01 52 09.2	0.0
TRAV				S	Sg	01 52 17.3	-0.1
TRAV	**Traversella**	**0.63**	**122**	P	Pg	01 52 09.2	0.0
TRAV				AML	AML		
comp=E,74μm,1.3s							
TRAV				AML	AML		
comp=N,94μm,1.6s							
TRAV				AML	AML		
comp=N,94μm,1.6s							
TRAV				AML	AML		
comp=N,94μm,0.4s							
TRAV	**Traversella**	**0.63**	**122**	Pg	Pg	01 52 09.2	0.0
TRA

ORIF	**Oris-en-Rattie**	**1.21 221**	Pg	Pg	01 52 20.0	-0.4
STFL	**Fournets-Luisa**	**1.30 347**	Pg	Pb	01 52 22.6	+0.5
CREF	**Crivoux**	**1.32 191**	Pn	Pn	01 52 21.8	-0.6
CREF			Sn	Sn	01 52 41.0	+0.6
PZZ	**Stroppo**	**1.34 176**	Pn	Pn	01 52 22.3	-0.4
SURF	**Saint Ours**	**1.37 185**	Pn	Pn	01 52 23.0	-0.1
CHMF	**Charmoille**	**1.42 351**	Pn	Pn	01 52 23.4	-0.3
CHMF			Sn	Sn	01 52 42.9	0.0
JAUF	**Jausiers**	**1.43 187**	Pn	Pn	01 52 23.7	-0.1
BNALP	**Bannalp**	**1.43 44**	P	Pn	01 52 24.0	+0.1
BOUC	**Bouclans**	**1.49 340**	Pn	Pn	01 52 24.4	-0.2
BOUC			Sn	Sg	01 52 45.1	0.0
BOURR	**Bourrignon**	**1.56 6**	Pn	Pn	01 52 25.2	-0.4
BOURR			Pg	Pg	01 52 27.0	-0.1
BOURR			Sn	Sg	01 52 47.4	+0.1
BALST	**Balsthal**	**1.57 18**	Pn	Pn	01 52 25.2	-0.5
BALST			Pg	Pg	01 52 27.5	+0.2
BALST			Sn	Sg	01 52 48.1	+0.5
PCP	**Piancastagn**	**1.71 139**	Pn	Pb	01 52 28.5	-0.5
SPIF	**crte de Spivo**	**1.80 174**	Pn	Pb	01 52 30.7	+0.1
SSB	**Saint Sauveur**	**1.81 253**	Pn	Pn	01 52 28.9	-0.1
SSB			Pg	Pg	01 52 31.4	-0.4
SSB			Sn	Sn	01 52 51.1	-1.2
SSB			Sg	Sg	01 52 54.7	-0.6
ILLF	**Illfurth**	**1.85 6**	Pn	Pn	01 52 29.2	-0.3
SULZ	**Cheisacher**	**1.85 24**	Pn	Pn	01 52 29.5	-0.1
SULZ			Pg	Pg	01 52 32.6	-0.1
SULZ			Sg	Sg	01 52 57.0	+0.3
CANO	**Canova, Maglio**	**1.86 151**	Pn	Pn	01 52 30.6	+0.9
RONF	**Ronchamp**	**1.88 353**	Pn	Pn	01 52 29.4	-0.6
SAOF	**Saorge**	**1.90 168**	Pn	Pb	01 52 31.3	-1.0
VIVF	**Saint-Julien-l**	**1.91 240**	*e*Pg	Pg	01 52 33.1	-0.6
VIVF			*e*Sg	Sg	01 52 57.6	-0.8
ENDD	**Endenburg**	**1.94 15**	Pg	Pb	01 52 33.5	+0.5
ENDD			Sn	Sn	01 52 53.4	-2.2
ENDD			Sg	Sg	01 52 58.9	-0.6
HINF	**Hinteralfeld**	**1.98 357**	*e*Pg	Pg	01 52 36.0	+1.0
HINF			*e*Sg	Sb	01 52 58.2	-0.3
	comp=E,8.7nm,0.2s					
SBF	**Sospel**	**2.01 171**	*e*Pg	Pg	01 52 35.2	-0.4
SBF			*e*Sg	Sb	01 52 59.9	+0.5
SMRF	**Simiane la Rot**	**2.12 209**	*e*Pg	Pg	01 52 37.5	-0.3
SMRF			*e*Sg	Sg	01 53 04.5	-0.8
	comp=E,1.8nm,0.4s					
TRIGF	**Trigance**	**2.14 191**	Pn	Pb	01 52 35.6	-0.8
SLE	**Schleitheim**	**2.18 28**	Pg	Pg	01 52 38.2	-0.8
SLE			Sn	Sb	01 53 05.5	+1.1
KIZ	**Kirchzarten**	**2.21 16**	Pn	Pn	01 52 33.3	-1.1
KIZ			Pg	Pg	01 52 38.7	-0.7
KIZ			Sn	Sb	01 53 05.9	+0.7
HAU	**Haudompre**	**2.21 349**	*e*Pg	Pg	01 52 40.2	+0.8
HAU			*e*Sg	Sb	01 53 05.4	+0.2
	comp=E,6.4nm,0.3s					
SMF	**Signal de Mont**	**2.33 291**	*e*Pn	Pn	01 52 35.7	-0.4
SMF	**Signal de Mont**	**2.33 291**	*e*Pg	Pb	01 52 40.6	+1.0
SMF			*e*Sg	Sb	01 53 09.3	+0.7
	comp=E,7.1nm,0.2s					
COLF	**Collangettes**	**2.33 263**	Pn	Pn	01 52 36.3	+0.1
COLF			Sn	Sn	01 53 04.1	-1.1
PLDF	**La Plantade**	**2.35 274**	Pn	Pn	01 52 37.5	+1.0
PLDF			Sg	Sg	01 53 11.5	-1.3
LMR	**La Mourre**	**2.53 188**	*e*Pn	Pn	01 52 38.4	-0.5
LMR	**La Mourre**	**2.53 188**	*e*Pg	Pg	01 52 44.7	-1.0
LMR			*e*Sg	Sg	01 53 17.7	-0.8
	comp=E,0.6nm,0.2s					
CDF	**Champ du Feu**	**2.58 4**	*e*Pn	Pn	01 52 38.6	-1.0
CDF			*e*Sg	Sb	01 53 17.6	+1.7
	comp=E,2.4nm,0.2s					
LOR	**Lormes**	**2.59 305**	*e*Pn	Pn	01 52 39.7	0.0
LOR			*e*Sg	Sg	01 53 18.3	-1.9
	comp=E,4.1nm,0.3s					
LOR	**Lormes**	**2.59 305**	Pn	Pn	01 52 39.7	+0.1
AVF	**Avril sur Loir**	**2.69 292**	*e*Pn	Pn	01 52 40.5	-0.6
AVF	**Avril sur Loir**	**2.69 292**	*e*Pg	Pb	01 52 47.2	+1.4
AVF			*e*Sg	Sb	01 53 20.5	+1.4
	comp=E,2.4nm,0.2s					
SSF	**Saint Saulge**	**2.70 298**	*e*Pn	Pn	01 52 41.8	+0.6
SSF			*e*Sg	Sb	01 53 20.3	+1.0
	comp=E,2.4nm,0.3s					
SFTF	**Sexfontaines**	**2.71 331**	*e*Pn	Pn	01 52 43.5	+2.1
SFTF			*e*Sg	Sg	01 53 22.8	-1.5
	comp=E,1.9nm,0.2s					
LASF	**Ste Croix**	**2.84 233**	*e*Pn	Pn	01 52 42.9	-0.3
LASF			*e*Sn	Sn	01 53 14.6	-3.1
LASF			*e*Sg	Sb	01 53 25.1	+1.7
	comp=E,1.4nm,0.3s					
PAGF	**Fort de Pagny**	**2.85 343**	*e*Pn	Pn	01 52 43.5	+0.3
PAGF			*e*Sg	Sg	01 53 27.5	-1.0
	comp=E,1.1nm,0.2s					
BGF	**Bois d'Agland**	**2.96 285**	*e*Pn	Pn	01 52 46.4	+1.6
BGF			*e*Sg	Sg	01 53 30.4	-1.9
	comp=E,8.7nm,0.4s					
MEZF	**Maizieres J'vi**	**2.97 334**	*e*Pg	Pg	01 52 53.0	-1.0
MEZF			*e*Sn	Sn	01 53 18.6	-2.3
MEZF			*e*Sg	Sg	01 53 31.7	-0.8
	comp=E,1.1nm,0.2s					
TCF	**Toulx Ste Croi**	**3.36 279**	*e*Pn	Pn	01 52 50.9	+0.7
TCF			*e*Sn	Sn	01 53 27.8	-2.7
TCF			*e*Sg	Sg	01 53 41.7	-3.2
	comp=E,1.0nm,0.2s					
CAF	**Calviac**	**3.59 257**	*e*Pn	Pn	01 52 52.8	-0.7
CAF	**Calviac**	**3.59 257**	*e*Pg	Pg	01 53 05.6	-0.3
RJF	**Les Rejaudoux**	**3.88 264**	*e*Pg	Pg	01 53 10.0	-1.5
BAIF	**Baives**	**4.61 337**	*e*Pn	Pn	01 53 07.6	+0.1

SJA 29 01:53:21.2±0.5, 31°.72S×67°.76W, h13km, ML3.5, MW3.4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**0.42**	**286**	*e*P	Pb	01 53 30.2	-0.3
SJA	**San Juan**	**0.71**	**286**	*e*P	Pg	01 53 30.2	-4.8
SJA				*e*P	Pb	01 53 35.5	0.0
SJA				*e*P	Pn	01 53 35.8	-1.2
SJA				IAML		01 53 48.1	
	comp=Z,2μm,0.6s						
RTLL	**Cerro Vilicun**	**0.73**	**302**	*e*P	Pg	01 53 30.2	-5.1
RTLL				*e*P	Pb	01 53 35.5	-0.2
RTLL				IAML		01 53 48.0	
	comp=Z,1μm,0.4s						
ACAN	**Cantantal**	**0.73**	**139**	*e*P	Pg	01 53 35.4	-0.1
ACAN				IAML		01 53 48.3	
	comp=Z,4μm,0.3s						
ZON	**Zonda**	**0.80**	**282**	*e*P	Pg	01 53 26.9	-10
ZON				*e*S	Sg	01 53 36.5	-11
ZON				*e*P	Sg	01 53 36.5	-11
ACHE	**Chepes**	**1.09**	**59**	*e*P	Pg	01 53 42.2	0.0
AVFE	**Valle Fertil**	**1.09**	**14**	*e*P	Pg	01 53 42.2	0.0
AVFE				*e*S	Sn	01 53 57.5	+0.2
ASAL	**Salagasta**	**1.26**	**226**	*e*P	Pg	01 53 45.3	-0.1
ASAL				*e*S	Sg	01 54 01.8	-0.1
RTLS	**Leoncito**	**1.31**	**266**	*e*P	Pn	01 53 34.8	-11
RTLS				IAML		01 54 08.1	
	comp=Z,827nm,0.3s						
ARCO	**CERRO ARCO**	**1.49**	**221**	*e*P	Pg	01 53 49.8	-0.2
ARCO				*e*S	Sg	01 54 10.1	+0.7
ARCO				IAML		01 54 13.1	
	comp=Z,539nm,0.4s						
ACCO	**Cerro Coronel**	**1.59**	**315**	*e*P	Pn	01 53 45.2	-4.1
ACCO				*e*P	Pb	01 53 51.0	+0.3
ACCO				*e*S	Sg	01 54 13.3	+0.8
AAGR	**Agrelo**	**1.63**	**213**	*e*P	Pg	01 53 52.2	-0.3
AAGR				*e*S	Sg	01 54 14.1	+0.2
AAGR				IAML		01 54 17.2	
	comp=Z,406nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.69**	**39**	*e*P	Pn	01 53 41.7	-8.8
AVIZ	**Vizcacheras**	**1.86**	**200**	*e*P	Pn	01 53 51.8	-1.1
AVIZ				*e*P	Pg	01 53 58.0	+1.1
AVIZ				*e*S	Sg	01 54 22.5	+1.4
MRA	**San Martin**	**1.87**	**112**	*e*P	Pb	01 53 55.0	-0.2
MRA				*e*S	Sg	01 54 21.3	0.0
MRA				IAML		01 54 22.4	
	comp=Z,1μm,0.5s						
ACDV	**Cuesta del Vie**	**1.94**	**323**	*e*P	Pb	01 53 57.0	+0.5
ACDV				*e*S	Sg	01 54 23.2	-0.3
ACDV				IAML		01 54 24.5	
	comp=Z,309nm,1.2s						
AROD	**Rodeo**	**2.14**	**316**	*e*P	Pb	01 54 00.7	+0.7
AROD				*e*S	Sn	01 54 23.2	-0.2
AROD				*e*S	Sb	01 54 23.8	-2.8
AGUA	**GUANDACOL**	**2.31**	**344**	*e*P	Pb	01 54 02.5	-0.4
AGUA				*e*S	Sb	01 54 32.9	+1.4
AGUA				IAML		01 54 36.2	
	comp=Z,335nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.39**	**17**	*e*P	Pb	01 54 03.2	-1.0
ACLC				*e*S	Sg	01 54 38.1	0.0
ACLC				IAML		01 54 40.1	
	comp=Z,174nm,0.4s						
MT08	**Bocatoma Ro**	**2.57**	**227**	*e*P	Pb	01 54 07.0	-0.2
MT08				*e*S	Sb	01 54 40.6	+1.8
MT08				*e*S	Sg	01 54 41.8	-2.0
MT08				IAML		01 54 42.9	
	comp=Z,215nm,0.2s						
VA03	**San Esteban**	**2.58**	**246**	*e*P	Pb	01 54 06.5	-1.0
VA03				*e*S	Sb	01 54 37.2	-1.9
VA03				IAML		01 54 42.8	
	comp=Z,274nm,0.8s						
MT04	**Ro Olivares**	**2.62**	**229**	*e*P	Pb	01 54 06.8	-1.4
MT04				*e*P	Pn	01 54 06.8	+3.4
MT04				*e*S	Sg	01 54 43.6	-1.7
MT04				*e*S	Sb	01 54 44.0	+3.7
MT04				IAML		01 54 48.4	
	comp=Z,125nm,0.7s						
CO01	**Juntas del Tor**	**2.66**	**310**	*e*P	Pb	01 54 07.7	-1.0
CO01				*e*S	Sb	01 54 42.8	+1.3
CO01				*e*S	Sg	01 54 43.6	-3.0
CO01				IAML		01 54 52.3	
	comp=Z,111nm,0.5s						
CO03	**El Pedregal**	**2.66**	**289**	*e*P	Pb	01 54 07.5	-1.3
CO03				*e*S	Sb	01 54 42.9	+1.5
CO03				*e*S	Sg	01 54 43.6	-3.0
CO03				*e*S	Sn	01 54 44.0	+7.9
CO03				IAML		01 54 44.8	
	comp=Z,233nm,0.3s						
TCA	**Tanti**	**2.73**	**83**	*e*P	Pn	01 54 01.8	-3.1
TCA				*e*P	Pb	01 54 06.8	-3.2
TCA				*e*S	Sb	01 54 41.8	-1.6
TCA				*e*S	Sg	01 54 47.8	-1.2
TCA				IAML		01 54 51.0	
	comp=Z,309nm,0.4s						
CO02	**Combarbal**	**2.82**	**280**	*e*P	Pb	01 54 09.8	-1.7
CO02				*e*S	Sb	01 54 47.0	+1.0
CO02				IAML		01 54 50.4	
	comp=Z,433nm,0.4s						
PEL	**Peldehue**	**2.85**	**239**	*e*P	Pb	01 54 10.8	-1.2
PEL				*e*S	Sb	01 54 45.2	-1.6
PEL				*e*S	Sg	01 54 50.5	-2.4
PEL				IAML		01 54 53.6	
	comp=Z,108nm,0.9s						
MT03	**Universidad Ad**	**2.92**	**232**	*e*P	Pb	01 54 11.7	-1.4
MT03				*e*P	Pn	01 54 12.1	+4.6
MT03				*e*P	Pg	01 54 12.2	-4.9
MT03				*e*S	Sb	01 54 47.8	-1.0
MT03				IAML		01 54 54.2	
	comp=Z,157nm,0.2s						
LMEL	**Las Melosas**	**2.96**	**224**	*e*P	Pn	01 54 10.8	+2.8
LMEL				*e*S	Sb	01 54 49.8	-0.2
VCA	**Vinchina**	**3.00**	**352**	*e*P	Pn	01 54 08.8	+0.1
VCA				*e*P	Pb	01 54 12.2	-2.4
VCA				*e*S	Sb	01 54 49.8	-1.5
VCA				IAML		01 54 57.7	
	comp=Z,204nm,0.3s						
MT05	**Renca**	**3.02**	**236**	*e*P	Pb	01 54 12.9	-1.9
MT05				*e*S	Sb	01 54 51.8	+0.1
MT05				IAML		01 54 57.5	
	comp=Z,111nm,0.5s						
ROC1	**El Roble**	**3.03**	**245**	*e*P	Pn	01 54 12.1	+3.0
ROC1				*e*S	Sb	01 54 52.6	+0.6
GO04	**Tololo Observa**	**3.03**	**300**	*e*P	Pb	01 54 13.3	-1.9
GO04				*e*S	Sb	01 54 55.2	+3.0
GO04				IAML		01 55 03.5	
	comp=Z,293nm,0.8s						
RFA	**San Rafael**	**3.10**	**191**	*e*P	Pn	01 54 06.8	-3.1
RFA				*e*P	Pb	01 54 10.8	-5.5
RFA				*e*S	Sb	01 54 51.8	-2.2
RFA				*e*S	Sn	01 54 52.8	+5.9
RFA				IAML		01 55 01.3	
	comp=Z,272nm,0.3s						
MT02	**Curacav**	**3.24**	**241**	*e*P	Pn	01 54 14.2	+2.5
MT02				*e*S	Sb	01 54 58.2	+0.3
MT02				IAML		01 55 10.9	
	comp=Z,71nm,1.1s						
PIL	**Pilar**	**3.30**	**90**	*e*S	Sg	01 55 09.0	+1.6
MT01	**Popeta**	**3.63**	**233**	*e*P	Pn	01 54 19.4	+2.3
MT01				*e*S	Sb	01 55 08.8	-0.6
MT01				IAML		01 55 17.7	
	comp=Z,54nm,0.6s						
CYA	**Choya**	**3.68**	**28**	*e*P	Pn	01 54 14.2	-3.6
CYA				*e*P	Pb	01 54 19.9	-6.3
CYA				*e*S	Sn	01 54 58.2	-3.0
CYA				*e*S	Sb	01 55 10.8	0.0
CYA				*e*S	Sg	01 55 12.2	-7.3
CYA				*e*S		01 55 16.8	
CYA				IAML		01 55 28.6	
	comp=Z,82nm,0.5s						
LCO	**Las Campanas**	**3.71**	**316**	*e*P	Pn	01 54 22.1	+3.6
LCO				*e*S	Sb	01 55 10.8	-1.0
LCO				IAML		01 55 23.7	
	comp=Z,165nm,0.5s						
BO01	**Tunca**	**3.86**	**225**	*e*P	Pn	01 54 23.4	+3.1
BO01				*e*S	Sg	01 55 23.9	-1.3
AC04	**Llanos de Chal**	**4.53**	**320**	*e*P	Pn	01 54 32.2	+2.7
AC04				*e*S	Sg	01 55 44.0	-2.9
AC04				IAML		01 55 49.1	
	comp=Z,47nm,0.5s						
GO05	**Hualane**	**4.79**	**226**	*e*P	Pn	01 54 35.5	+2.5
GO05				IAML		01 56 10.1	
	comp=Z,32nm,2.7s						
AC02	**Maricunga**	**5.01**	**346**	*e*S	Sn	01 55 37.2	+2.6

*IDC **29** 02:06:56.9±0.9, 6°.76N×125°.22E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=20.2km s-min=8.1km az=131.0*

ISC 29 02:06:58.8±0.9, 6°.81N±0°.10×125°.4E±0°.2, h10km, n9, σ1§10/9, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.30**	**30**	Pg	**Pg**	**02 07 04.1**	**-0.8**
	0.2nm,0.3s,baz=210,slow=13,SNR=16						
DAV				Lg	Lg	02 07 13.8	
	0.6nm,0.3s,baz=338,slow=17,SNR=18						
FITZ	**Fitzroy Crossi**	**24.75**	**180**	P	**P**	**02 12 21.1**	**+0.4**
	2.8nm,0.6s,baz=353,slow=5.8,SNR=5.8						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**27.99**	**162**	P	**P**	**02 12 50.5**	**+0.6**
	0.6nm,0.4s,baz=341,slow=10,SNR=4.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**31.40**	**165**	P	**P**	**02 13 19.6**	**-0.6**
	0.4nm,0.4s,baz=340,slow=7.1,SNR=5.9						
	0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**37.69**	**8**	P	**P**	**02 14 14.9**	**+0.6**
	2.8nm,0.7s,baz=137,slow=8.8,SNR=4.2						
	2.8nm,0.7s						
STKA	**Stephens Creek**	**41.45**	**159**	P	**P**	**02 14 45.0**	**-0.9**
	1.9nm,0.5s,baz=330,slow=9.1,SNR=5.0						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**54.31**	**325**	P	**P**	**02 16 24.9**	**-0.6**
	0.3nm,0.6s,baz=133,slow=10,SNR=4.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**58.47**	**327**	P	**P**	**02 16 54.0**	**-1.0**
	0.5nm,0.6s,baz=124,slow=6.5,SNR=4.7						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**82.90**	**26**	P	**P**	**02 19 25.4**	**+1.8**
	0.5nm,0.8s,baz=241,slow=5.4,SNR=4.7						
	0.5nm,0.8s						

*IDC **29** 02:18:52.9±0.8, 7°.18N×126°.38E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=15.6km s-min=10.0km az=177.0*

ISC 29 02:18:54.4±0.8, 7°.2N±0°.1×126°.3E±0°.1, h10km, n11, σ1§21/11, mb3.6/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.73**	**264**	Pg	**Pb**	**02 19 09.5**	**+0.3**
	0.7nm,0.3s,baz=271,slow=6.0,SNR=34						
DAV				Lg	Lg	02 19 18.9	
	1.8nm,0.3s,baz=336,slow=14,SNR=24						
FITZ	**Fitzroy Crossi**	**25.09**	**181**	P	**P**	**02 24 18.5**	**-0.9**
	1.5nm,0.3s,baz=359,slow=9.6,SNR=6.5						
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**28.06**	**164**	P	**P**	**02 24 48.0**	**+1.8**
	0.4nm,0.4s,baz=344,slow=10,SNR=7.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**31.51**	**167**	P	**P**	**02 25 17.4**	**+0.5**
	0.3nm,0.3s,baz=345,slow=7.2,SNR=8.3						
	0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**37.24**	**7**	P	**P**	**02 26 05.4**	**-0.8**
	0.7nm,0.5s,baz=147,slow=4.5,SNR=5.8						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**41.46**	**160**	P	**P**	**02 26 40.1**	**-1.4**
	0.5nm,0.4s,baz=316,slow=6.9,SNR=4.9						
	0.5nm,0.4s						
SONM	**Songino Array**	**43.95**	**341**	P	**P**	**02 27 02.6**	**+0.8**
	0.4nm,0.3s,baz=150,slow=8.2,SNR=3.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**54.54**	**324**	P	**P**	**02 28 21.2**	**-1.5**
	0.4nm,0.6s,baz=126,slow=8.0,SNR=3.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**58.66**	**326**	P	**P**	**02 28 51.6**	**-0.3**
	0.5nm,0.6s,baz=123,slow=6.3,SNR=5.9						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**82.22**	**26**	P	**P**	**02 31 16.9**	**+1.2**
	0.1nm,0.6s,baz=287,slow=3.4,SNR=4.5						
	0.1nm,0.6s						
VNDA	**Vanda**	**86.85**	**173**	P	**P**	**02 31 38.6**	**-0.1**
	0.2nm,0.6s,baz=298,slow=3.8,SNR=2.0						
	0.2nm,0.6s						

*IDC **29** 02:20:27.8±0.5, 6°.66N×124°.96E, h0km, mb4.4/27, mbtmp4.4/30, ML4.6/3, Error ellipse: s-maj=10.9km s-min=7.9km az=132.0*

*NEIC **29** 02:20:29.1±1.3, 6°.65N±0°.03×125°.02E±0°.05, h10km±1km, mb4.8/24, Error ellipse: s-maj=8.7km s-min=4.9km az=63.0*

*DJA **29** 02:20:37.9±0.8, 6°.N±6°×12°.5E±°, h48km±7km, M5.2/30, mb5.0/30, mB5.7/7, MLv5.3/6, Mw(mB)5.2/7*

ISC 29 02:20:29.3±0.4, 6°.66N±0°.05×125°.03E±0°.06, h10km, n107, σ2§08/94, mb4.5/44, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.68**	**53**		**Pg**	**02 20 42.0**	**-0.4**
DAV	**Davao City (W)**	**0.68**	**53**	Pg	**Pg**	**02 20 42.5**	**+0.1**
	3.7nm,0.3s,baz=198,slow=13,SNR=30						
DAV				Lg	Lg	02 20 52.4	
	20nm,0.3s,baz=355,slow=19,SNR=43						
SGSI	**Sangihe**	**2.99**	**170**	P	**Pb**	**02 21 20.2**	**-2.5**
KMSI	**Cibinong**	**6.13**	**190**	P	**Pn**	**02 21 55.5**	**-4.5**
TNTI	**Ternate**	**6.29**	**158**		**Pn**	**02 22 01.7**	**-0.5**
TNTI	**Ternate**	**6.29**	**158**	P	**Pn**	**02 22 06.2**	**+4.0**
	143nm,0.8s						
MYLDM	**Lahad Datu**	**6.66**	**258**	Pn	**Pn**	**02 22 06.8**	**-0.4**
MRSI	**Marisa**	**6.87**	**207**	P	Pn	02 21 56.9	-13
LUWI	**Luwuk**	**7.97**	**197**	Pn	**Pn**	**02 22 24.4**	**-1.0**
LUWI	**Luwuk**	**7.97**	**197**	P	**Pn**	**02 22 26.1**	**+0.8**
APSI	**Ampana**	**8.24**	**204**	P	Pn	02 22 34.9	+5.9
	3μm238nm,1.3s						
SANI	**Sanana**	**8.70**	**174**	P	**Pn**	**02 22 36.9**	**+1.6**
	129nm,1.0s						
I39PW	**PALAU INFRASON**	**9.48**	**84**	I	I	03 10 00.0	
	baz=268,slow=299,SNR=1.4						
SWI	**Sorong**	**9.72**	**140**	P	**Pn**	**02 22 51.4**	**+2.2**
	60nm,0.7s						
NLAI	**Namlea**	**10.05**	**168**	P	**Pn**	**02 22 55.8**	**+2.1**
	1μm110nm,0.6s						
MSAI	**Masohi**	**10.67**	**159**	P	**Pn**	**02 23 03.6**	**+1.3**
	50nm,1.0s						
AAI	**Ambon**	**10.75**	**163**	P	**Pn**	**02 23 03.8**	**+0.4**
	85nm,0.7s						
SPSI	**Sidrap Palu**	**11.79**	**207**	P	Pn	02 23 28.0	+10
FAKI	**Fak Fak**	**11.93**	**143**		**Pn**	**02 23 20.1**	**+0.5**
FAKI	**Fak Fak**	**11.93**	**143**	P	**Pn**	**02 23 23.7**	**+4.1**
	72nm,1.0s						
BNSI	**Bone**	**12.04**	**204**	P	Pn	02 23 26.7	+5.7
	47nm,1.0s						
RKPI	**Ransiki, Papua**	**12.21**	**131**	P	**Pn**	**02 23 25.8**	**+2.4**
KAPI	**Kappang**	**12.74**	**205**	Pn	**Pn**	**02 23 26.7**	**-3.9**
KAPI	**Kappang**	**12.74**	**205**	Pn	**Pn**	**02 23 31.4**	**+0.8**
	1.4nm,0.3s,baz=347,slow=5.9,SNR=9.0						
	4.3nm,0.3s						
SBUM	**Sibu**	**13.44**	**252**	Pn	**Pn**	**02 23 37.1**	**-3.0**
BSSI	**Bau Bau, Buton**	**13.50**	**200**	P	**Pn**	**02 23 45.1**	**+4.1**
	26nm,0.8s						
BAKI	**Biak**	**13.53**	**125**	P	**Pn**	**02 23 45.8**	**+4.4**
	54nm,1.4s						
SRPI	**Serui, Papua**	**14.03**	**127**	P	**P**	**02 23 54.6**	**-1.6**
BBKI	**Banjar Baru**	**14.30**	**226**	P	**P**	**02 24 01.6**	**+2.3**
SOEI	**Soe**	**16.32**	**183**	Pn	**Pn**	**02 24 17.1**	**-1.8**
SOEI				IAmb	IAmb	02 24 24.1	
	comp=Z,72nm,1.6s						
SOEI	**Soe**	**16.32**	**183**	P	**P**	**02 24 20.4**	**-1.4**
	comp=Z,73nm,1.2s						
BATI	**Baumata**	**16.81**	**185**	Pn	**P**	**02 24 26.1**	**-1.0**
	comp=Z,11nm,0.3s,baz=324,slow=2.2,SNR=7.4						
	comp=Z,17nm,0.4s						
BATI	**Baumata**	**16.81**	**185**	P	**P**	**02 24 27.7**	**+0.6**
	comp=Z,80nm,0.7s						
PLAI	**Plampang**	**17.00**	**205**	P	P	02 24 37.6	+8.4
TWSI	**Taliwang, Sumb**	**17.32**	**208**	P	P	02 24 42.1	+9.4
GENI	**Genyem**	**17.68**	**121**	P	**P**	**02 24 37.2**	**+0.4**
	comp=Z,49nm,0.7s						
JAY	**Jayapura**	**18.11**	**120**	P	**P**	**02 24 43.3**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=240,slow=18,SNR=4.6						
	comp=Z,14nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.53**	**216**	P	**Pn**	**02 24 51.3**	**+5.0**
	comp=Z,70nm,1.1s		

comp=Z,6.0nm,0.7s,baz=176,slow=6.3,SNR=6.7
comp=Z,6.0nm,0.7s
XLT XiLinHaoTe 37.92 349 *e*P P 02 27 51.8 +4.9
XLT pmax pmax
comp=Z,15nm,1.1s
BNX BinXian 38.99 3 ⇑P **P 02 27 56.5 +0.8**
BNX pmax pmax
comp=Z,6.0nm,1.2s
GTA Gaotai 39.73 329 *e*P **P 02 28 06.5 +4.2**
GTA pmax pmax
comp=Z,5.0nm,1.1s
NWAO Narrogin (SRO) 40.06 190 P **P 02 28 05.0 +0.2**
comp=Z,10nm,0.9s,baz=18,slow=10,SNR=5.5
comp=Z,10nm,0.9s
BBOO Buckleboo 40.63 166 **P 02 28 08.8 -0.8**
BBOO IAmb IAmb 02 28 14.9
comp=Z,24nm,0.7s
STKA Stephens Creek 41.45 159 P **P 02 28 15.4 -0.9**
STKA Stephens Creek 41.45 159 P **P 02 28 17.1 +0.7**
comp=Z,9.1nm,0.6s,baz=331,slow=8.3,SNR=15
comp=Z,9.1nm,0.6s
HILR Hailar Array B 42.98 355 P **P 02 28 28.9 +0.3**
comp=Z,2.6nm,0.6s,baz=171,slow=10,SNR=6.8
comp=Z,2.6nm,0.6s
HEH HeiHe 43.50 2 *e*P **P 02 28 34.3 +1.6**
SONM Songino Array 44.01 342 P **P 02 28 36.7 -0.4**
SONM Songino Array 44.01 342 P **P 02 28 37.6 +0.5**
comp=Z,0.9nm,0.5s,baz=167,slow=7.3,SNR=5.8
comp=Z,0.9nm,0.5s
PETK Petropavlovsk- 53.41 24 P **P 02 29 50.1 +0.9**
comp=Z,14nm,0.9s,baz=184,slow=4.5,SNR=11
comp=Z,14nm,0.9s
MKAR Makanchi Array 54.20 325 **P 02 29 54.8 -0.3**
MKAR Makanchi Array 54.20 325 P **P 02 29 55.6 +0.5**
comp=Z,1.0nm,0.5s,baz=127,slow=8.0,SNR=10
comp=Z,1.0nm,0.5s
KSH Kashi 54.80 314 P P 02 30 06.5 +6.8
KSH pmax pmax
comp=Z,13nm,1.4s
ZALV Zalesovo Beam 57.23 333 P **P 02 30 15.7 -0.9**
ZALV Zalesovo Beam 57.23 333 P **P 02 30 17.5 +0.8**
comp=Z,1.0nm,0.3s,baz=132,slow=4.3,SNR=1.5
comp=Z,1.0nm,0.3s
KURBB Kurchatov Arra 58.38 327 P **P 02 30 25.4 +0.5**
comp=Z,1.5nm,0.7s,baz=127,slow=6.0,SNR=12
comp=Z,1.5nm,0.7s
KURK Kurchatov 58.38 327 **P 02 30 23.8 -1.1**
KURK IAmb IAmb 02 30 58.6
comp=Z,5.5nm,0.9s
GAR Garm 58.72 312 P **P 02 30 26.1 -1.4**
KK31 Karatay Array 59.95 316 P **P 02 30 35.4 -0.5**
KKAR Karatay Array 59.95 316 **P 02 30 34.2 -1.7**
BVAR Borovoye Array 63.96 327 P **P 02 31 03.2 +0.6**
comp=Z,1.5nm,0.6s,baz=141,slow=7.6,SNR=7.5
comp=Z,1.5nm,0.6s
AB31 Akbulak array 68.83 320 **P 02 31 33.5 -0.4**
AB31 IAmb IAmb 02 31 40.1
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 68.83 320 **P 02 31 32.4 -1.5**
RAYN Ar Rayn 77.80 293 **P 02 32 25.1 -2.3**
RAYN IAmb IAmb 02 32 33.7
comp=Z,7.1nm,0.8s
KBZ Khabaz 79.75 313 P **P 02 32 37.5 -0.2**
comp=Z,0.8nm,0.7s,baz=103,slow=7.0,SNR=6.2
comp=Z,0.8nm,0.7s
KDAK Kodiak Island 80.34 33 P **P 02 32 40.9 +0.3**
comp=Z,10nm,0.7s,baz=295,slow=7.7,SNR=6.4
comp=Z,10nm,0.7s
I23K Minto, Yukon-K 82.15 25 P **P 02 32 51.5 +1.5**
I23K IAmb IAmb 02 32 57.6
comp=Z,9.3nm,0.9s
ILAR Eielson Array 83.20 26 P **P 02 32 56.1 +0.5**
comp=Z,2.9nm,0.9s,baz=239,slow=5.3,SNR=14
comp=Z,2.9nm,0.9s
MAW Mawson 85.91 200 P **P 02 33 08.8 -0.3**
comp=Z,1.9nm,0.7s,baz=56,slow=7.3,SNR=2.6
comp=Z,1.9nm,0.7s
VNDA Vanda 86.53 172 **P 02 33 11.6 -0.4**
VNDA Vanda 86.53 172 P **P 02 33 10.7 -1.3**
comp=Z,2.0nm,0.8s,baz=312,slow=6.4,SNR=13
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 86.86 309 P **P 02 33 13.5 -1.2**
comp=Z,0.3nm,0.8s,baz=103,slow=3.9,SNR=4.6
comp=Z,0.3nm,0.8s
FINES FINESS Array B 88.47 332 P **P 02 33 20.0 -1.7**
comp=Z,3.4nm,0.9s,baz=101,slow=3.9,SNR=5.2
comp=Z,3.4nm,0.9s
AKASG Malin Array Be 88.57 321 P **P 02 33 21.1 -1.3**
AKASG Malin Array Be 88.57 321 P **P 02 33 21.8 -0.7**
comp=Z,0.8nm,0.5s,baz=70,slow=5.3,SNR=2.6
comp=Z,0.8nm,0.5s
YKA Yellowknife Ar 97.53 24 P **P 02 34 01.9 -1.6**
YKA Yellowknife Ar 97.53 24 P **P 02 34 02.8 -0.7**
comp=Z,0.7nm,0.7s,baz=302,slow=6.8,SNR=4.6
comp=Z,0.7nm,0.7s
CLL Collm 98.29 324 *e*Pdif Pdif 02 34 09.0 +1.8

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*IDC **29** 02:22:31.7±0.5, 6°71N×124°92E, h0km, mb4.4/28, mbtmp4.4/31, ML4.4/3, Error ellipse: s-maj=10.9km s-min=8.1km az=144.0*
*MOS **29** 02:22:32.4±1.2, 6°79N×125°04E, h10km, mb4.9/33, Error ellipse: s-maj=10.5km s-min=6.0km az=114.2*
*NEIC **29** 02:22:34.4±1.4, 6°78N±0°05×125°05E±0°05, h10km±1km, mb5.0/38, Error ellipse: s-maj=10.6km s-min=6.1km az=129.0*
*DJA **29** 02:22:42.4±0.9, 7°N±7°×12°5E±°, h60km±8km, M4.8/21, mb4.8/21, mB4.6/1, Mw(mB)3.8/1*
ISC 29 02:22:35.3±0.3, 6.78N±0.04×125.01E±0.05, h13km, n216, σ1.93/210, mb4.8/81, MS5.1/4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.64**	**63**	Pg	**Pg**	**02 22 46.0**	**-1.7**
	3.3nm,0.3s,baz=301,slow=7.8,SNR=15						
DAV				Lg	Lg	02 22 56.7	
	16nm,0.3s,baz=344,slow=18,SNR=16						
DAV	**Davao City (W)**	**0.64**	**63**	P	**Pg**	**02 22 46.3**	**-1.5**
DAV	**Davao City (W)**	**0.64**	**63**	P	Pg	02 22 42.0	-5.8
TNTI	**Ternate**	**6.41**	**158**	Pn	**Pn**	**02 24 08.8**	**-0.7**
MYLDM	**Lahad Datu**	**6.67**	**257**	Pn	**Pn**	**02 24 13.0**	**0.0**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**02 24 44.3**	**+1.7**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**02 24 41.6**	**-1.0**
SWI	**Sorong**	**9.82**	**140**	P	Pn	02 25 05.5	+9.1
NLAI	**Namlea**	**10.16**	**168**	P	Pn	02 24 46.1	-15
FAKI	**Fak Fak**	**12.04**	**143**		**Pn**	**02 25 25.4**	**-1.4**
FAKI	**Fak Fak**	**12.04**	**143**	P	**Pn**	**02 25 28.5**	**+1.7**
FAKI	**Fak Fak**	**12.04**	**143**	P	**Pn**	**02 25 28.4**	**+1.7**
	71nm,1.0s						
BNSI	**Bone**	**12.13**	**204**	P	Pn	02 25 34.1	+6.1
KAPI	**Kappang**	**12.83**	**204**	Pn	**Pn**	**02 25 37.4**	**-0.2**
KAPI	**Kappang**	**12.83**	**204**	Pn	**Pn**	**02 25 35.9**	**-1.7**
	1.1nm,0.3s,baz=53,slow=18,SNR=5.7						
	3.4nm,0.3s						
KAPI	**Kappang**	**12.83**	**204**	P	Pn	02 25 42.8	+5.2
KAPI	**Kappang**	**12.83**	**204**	*i* P	**Pn**	**02 25 39.7**	**+2.1**
SBUM	**Sibu**	**13.45**	**252**		**Pn**	**02 25 46.0**	**-0.1**
SBUM	**Sibu**	**13.45**	**252**	P	**P**	**02 25 52.9**	**-2.5**
BAKI	**Biak**	**13.61**	**125**	P	**P**	**02 25 58.6**	**+1.4**
BBKI	**Banjar Baru**	**14.37**	**225**	P	P	02 26 11.3	+5.7
KSM	**Kuching**	**15.57**	**251**	Pn	**Pn**	**02 26 14.6**	**-0.2**
KSM	**Kuching**	**15.57**	**251**	P	**P**	**02 26 22.0**	**+3.0**
EDFI	**Ende, Flores**	**15.77**	**192**	P	**Pn**	**02 26 16.8**	**-0.6**
BATI	**Baumata**	**16.92**	**185**	Pn	**Pn**	**02 26 31.0**	**-1.1**
	6.5nm,0.3s,baz=19,slow=3.1,SNR=7.5						
	37nm,0.6s						
BATI	**Baumata**	**16.92**	**185**	P	**P**	**02 26 35.1**	**+1.1**
	139nm,0.8s						
PLAI	**Plampang**	**17.09**	**205**	P	**P**	**02 26 38.8**	**+2.9**
PLAI	**Plampang**	**17.09**	**205**	P	**P**	**02 26 37.3**	**+1.4**
	140nm,1.0s						
WBSI	**Waikabubak, Su**	**17.24**	**199**	P	**P**	**02 26 38.4**	**+0.9**
	65nm,0.9s						
TWSI	**Taliwang, Sumb**	**17.41**	**208**	P	**P**	**02 26 40.0**	**+0.6**
	52nm,0.9s						
JAY	**Jayapura**	**18.18**	**120**	P	**Pn**	**02 26 47.5**	**-0.2**
	0.6nm,0.3s,baz=64,slow=5.7,SNR=5.0						
	8.7nm,0.8s						
JAY	**Jayapura**	**18.18**	**120**	P	**P**	**02 26 51.9**	**+3.9**
	26nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.61**	**216**		**Pn**	**02 26 54.3**	**+1.3**
JAGI	**Jajag, Banyuwa**	**18.61**	**216**	P	**Pn**	**02 26 57.4**	**+4.4**
JAGI	**Jajag, Banyuwa**	**18.61**	**216**	P	**Pn**	**02 26 54.3**	**+1.3**
	50nm,1.0s						
NGJI	**Ngawi**	**19.49**	**224**	P	**Pn**	**02 27 10.2**	**+6.6**
TPI	**Tanjungpandan**	**19.74**	**242**	P	**Pn**	**02 27 05.9**	**-0.7**
AUDHS	**Darwin High Sc**	**19.95**	**163**	P	**Pn**	**02 27 08.4**	**-0.5**
DRS	**Darwin Rock St**	**19.96**	**163**	P	**Pn**	**02 27 10.2**	**+1.1**
JOW	**Kunigami**	**20.19**	**8**	IAmb	IAmb	02 27 17.8	
	comp=Z,185nm,1.7s						
JOW	**Kunigami**	**20.19**	**8**	P	**P**	**02 27 10.3**	**+0.5**
	comp=Z,18nm,0.8s,baz=277,slow=13,SNR=2.0						
	comp=Z,18nm,0.8s						
MTN	**Manton Dam**	**20.42**	**163**	P	**P**	**02 27 11.5**	**-0.9**
MTN				IAmb	IAmb	02 27 20.4	
	comp=Z,60nm,1.2s						
PPBI	**Pangkal Pinang**	**20.82**	**245**	P	**P**	**02 27 17.9**	**+1.1**
DSRI	**Dabo**	**21.62**	**251**	P	**P**	**02 27 27.5**	**+2.1**
	comp=Z,45nm,1.1s						
LEM	**Lembang**	**21.99**	**232**	P	**P**	**02 27 27.9**	**-1.7**
	comp=Z,15nm,0.4s,baz=47,slow=9.3,SNR=6.4						
	comp=Z,15nm,0.4s						
KNRA	**Kununurra**	**22.61**	**171**	P	**P**	**02 27 35.4**	**-0.6**
KNRA				IAmb	IAmb	02 27 37.7	
	comp=Z,61nm,0.8s						
MDSI	**Maura Dua**	**23.61**	**242**	P	**P**	**02 27 48.1**	**+1.8**
	comp=Z,25nm,1.0s						
LHSI	**Lahat**	**23.89**	**244**	P	**P**	**02 27 49.8**	**+0.8**
	comp=Z,56nm,0.9s						
KULM	**Kulim**	**24.27**	**268**	P	**P**	**02 27 58.7**	**+6.2**
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**02 27 54.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**02 27 54.3**	**-2.2**
	comp=Z,23nm,0.9s,baz=15,slow=8.7,SNR=6.0						
	comp=Z,23nm,0.9s						
SLVN	**Son La**	**25.02**	**307**	P	P	02 28 06.4	+7.1
PPI	**Padang Panjang**	**25.59**	**255**	P	P	02 28 25.4	+21
WHN	**Wuhan**	**25.68**	**338**	P	**P**	**02 28 08.5**	**+3.4**
WHN				sP	**sP**	**02 28 16.3**	**+5.6**
NJ2	**Nanjing**	**25.80**	**348**	*e*P	**P**	**02 28 06.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PSI	**Prapat**	**26.29**	**263**	P	**P**	**02 28 10.1**	**-0.9**
PSI				pmax	pmax		
	comp=Z,23nm,1.1s						
RPSI	**Rantau Prapat**	**26.30**	**262**	P	**P**	**02 28 10.1**	**-0.9**
RPSI				IAmb	IAmb	02 28 17.6	
	comp=Z,23nm,1.1s						
PMG	**Port Moresby**	**27.30**	**126**	P	**P**	**02 28 17.5**	**-2.5**
PMG				IAmb	IAmb	02 28 22.5	
	comp=Z,28nm,0.8s						
PMG	**Port Moresby**	**27.30**	**126**	P	**P**	**02 28 18.0**	**-2.0**
	comp=Z,16nm,0.5s,baz=316,slow=11,SNR=4.7						
	comp=Z,16nm,0.5s						
PMG	**Port Moresby**	**27.30**	**126**	*i* P	**P**	**02 28 19.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,30nm,0.8s						
KCSI	**Kotacane, Aceh**	**27.32**	**265**	P	**P**	**02 28 19.1**	**-1.0**
COEN	**Coen**	**27.38**	**139**		**P**	**02 28 19.3**	**-1.3**
COEN				IAmb	IAmb	02 28 23.9	
	comp=Z,37nm,0.9s						
COEN	**Coen**	**27.38**	**139**	P	**P**	**02 28 23.2**	**+2.6**
CMAR	**Chiang Mai Arr**	**27.91**	**297**	P	**P**	**02 28 23.1**	**-2.4**
CMAR	**Chiang Mai Arr**	**27.91**	**297**	P	**P**	**02 28 22.4**	**-3.0**
	comp=Z,1.2nm,0.3s,baz=116,slow=9.1,SNR=7.3						
	comp=Z,1.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**27.91**	**297**	P	**P**	**02 28 23.1**	**-2.4**
CHTO	**Chiang Mai**	**28.04**	**298**	P	P	02 28 32.2	+5.6
KMI	**Kunming**	**28.05**	**313**	P	**P**	**02 28 30.3**	**+3.5**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**28.09**	**161**	P	**P**	**02 28 30.7**	**+3.8**
WRAB	**Tennant Creek**	**28.09**	**161**	*i* P	**P**	**02 28 26.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**28.09**	**161**	P	**P**	**02 28 23.9**	**-3.1**
WRA	**Warramunga Arr**	**28.09**	**161**	P	**P**	**02 28 24.4**	**-2.6**
	comp=Z,7.2nm,0.8s,baz=336,slow=10.0,SNR=5.8						
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**28.09**	**161**	*i* P	**P**	**02 28 27.5**	**+0.5**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH	**PanZhiHua**	**29.59**	**314**	P	**P**	**02 28 42.3**	**+1.9**
LYN	**LuoYang**	**29.97**	**339**	P	P	02 28 48.3	+4.8
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
TIA	**Tai'an**	**30.18**	**347**	P	**P**	**02 28 49.0**	**+3.7**
TIA				pmax	pmax		
	comp=Z,16nm,1.1s						
KSRS	**Korea Array**	**30.65**	**5**	P	**P**	**02 28 47.7**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=189,slow=10,SNR=5.4						
	comp=Z,1.4nm,0.7s						
QIS	**Mount Isa**	**30.72**	**152**	P	**P**	**02 28 53.9**	**+3.6**
XAN	**Xi'an**	**30.94**	**333**	P	**P**	**02 28 53.0**	**+0.8**
XAN				pmax	pmax		
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**31.48**	**164**	P	**P**	**02 28 54.6**	**-2.4**
ASAR	**Alice Springs**	**31.48**	**164**	P	**P**	**02 28 54.8**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=321,slow=5.5,SNR=5.5						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**31.48**	**164**	P	**P**	**02 28 54.6**	**-2.4**
HNS	**HongShan**	**31.89**	**344**	⇑P	**P**	**02 29 03.5**	**+3.1**
HNS				pmax	pmax		
	comp=Z,30nm,1.2s						
MAJO	**Matsushiro**	**31.99**	**20**	*i* P	**P**	**02 28 59.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**31.99**	**20**	P	**P**	**02 28 59.5**	**-1.9**
MJAR	**Matsushiro Arr**	**31.99**	**20**	P	**P**	**02 29 00.3**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=196,slow=9.3,SNR=8.7						
	comp=Z,5.3nm,0.8s						
MJAR	**Matsushiro Arr**	**31.99**	**20**	P	**P**	**02 28 59.5**	**-1.9**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MJA0	**Matsu Arr-Jizo**	**32.01**	**20**	*e*P	**P**	**02 29 01.2**	**-0.3**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TV1H	**Townsville Har**	**33.62**	**141**	P	**P**	**02 29 17.6**	**+1.9**
BJT	**Baijiatuan**	**34.04**	**348**		**P**	**02 29 17.6**	**-1.6**
BJT				IAmb	IAmb	02 29 24.8	
	comp=Z,27nm,1.2s						
BJT	**Baijiatuau**	**34.04**	**348**	P	**P**	**02 29 17.6**	**-1.6**
BJT				pmax	pmax		
	comp=Z,27nm,1.2s						
BJI	**Beijing**	**34.06**	**348**	P	**P**	**02 29 22.0**	**+2.7**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LZDM	**Lanzhou Array**	**35.00**	**329**	P	**P**	**02 29 26.3**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=80,slow=11,SNR=4.2						
	comp=Z,1.4nm,0.3s						
LZH	**Lanzhou**	**35.03**	**329**	*e*P	**P**	**02 29 32.3**	**+4.3**
LZH				pP	sP	02 29 36.5	+2.8
LZH				pmax	pmax		
	comp=Z,45nm,1.0s						
HHC	**Hu-ho-hao-te**	**35.99**	**343**	*e*P	**P**	**02 29 37.5**	**+1.3**
HHC				pP	sP	02 29 42.0	0.0
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				LR	LR		
	comp=Z,4μm,16.6s						
HHC				LR	LR		
	comp=Z,2μm,17.5s						
HHC				LR	LR		
	comp=Z,5μm,16.0s						
INKA	**Innaminka**	**37.53**	**157**		**P**	**02 29 48.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**37.78**	**8**	P	**P**	**02 29 50.6**	**-0.5**
	comp=Z,8.0nm,0.8s,baz=218,slow=9.2,SNR=7.0						
	comp=Z,8.0nm,0.8s						
XLT	**XiLinHaoTe**	**37.80**	**349**	*e*P	P	02 29 56.3	+4.8
XLT				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA	**Gaotai**	**39.62**	**329**	*e*P	**P**	**02 30 11.5**	**+4.6**
GTA				pmax	pmax		
	comp=Z,25nm,1.1s						
NWAO	**Narrogin (SRO)**	**40.17**	**190**	P	**P**	**02 30 08.3**	**-3.0**
	comp=Z,12nm,0.9s,baz=17,slow=10,SNR=3.7						
	comp=Z,12nm,0.9s						
GOMU	**GeErMu**	**40.25**	**321**	P	**P**	**02 30 12.8**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GOMU				LR	LR		
	comp=Z,720nm,14.7s						
GOMU				LR	LR		
	comp=Z,890nm,15.7s						
BBOO	**Buckleboo**	**40.74**	**166**	P	**P**	**02 30 14.3**	**-1.8**
BBOO				IAmb	IAmb	02 30 21.2	
	comp=Z,31nm,0.8s						
WHYH	**Whyalla**	**41.35**	**164**	P	**P**	**02 30 24.1**	**+3.0**
STKA	**Stephens Creek**	**41.57**	**159**	P	**P**	**02 30 21.6**	**-1.3**
STKA	**Stephens Creek**	**41.57**	**159**	P	**P**	**02 30 20.9**	**-2.0**
	comp=Z,14nm,1.0s,baz=356,slow=8.5,SNR=5.3						
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**41.57**	**159**	*i* P	**P**	**02 30 22.5**	**-0.4**
YSS	**Yuzhno-Sakhali**	**42.84**	**18**	*e*P	**P**	**02 30 35.9**	**+2.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HILR	**Hailar Array B**	**42.87**	**355**	P	**P**	**02 30 31.7**	**-1.6**
	comp=Z,2.3nm,0.5s,baz=171,slow=10,SNR=6.3						
	comp=Z,2.3nm,0.5s						
HEH	**HeiHe**	**43.38**	**2**	*e*P	**P**	**02 30 38.5**	**+1.1**
HEH				pmax	pmax		
	comp=Z,16nm,1.2s						
ULN	**Ulaanbaatar**	**43.72**	**343**	*i* P	**P**	**02 30 43.0**	**+2.6**
ULN				pmax	pmax		
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**43.89**	**342**	P	**P**	**02 30 40.4**	**-1.3**
SONM	**Songino Array**	**43.89**	**342**	P	**P**	**02 30 40.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=159,slow=7.5,SNR=5.1						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**43.89**	**342**	P	**P**	**02 30 40.4**	**-1.3**
SONM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARMA	**Armidale**	**44.94**	**147**	P	**P**	**02 30 53.7**	**+3.4**
CIT	**Chita**	**46.09**	**350**	*e*P	P	02 31 08.8	+10
CIT				*e*		02 31 14.6	
CIT				*e*		02 40 50.8	
HYB	**Hyderabad**	**46.52**	**288**	*e*P	**P**	**02 31 01.9**	**-1.1**
HYB				IVmB_BB		02 31 02.7	
	comp=Z,287nm,10.2s						
HYB				*e*PcP	**PcP**	**02 32 42.4**	**+5.0**
HYB				*e*S	**S**	**02 37 49.3**	**-2.3**
HYB				IVMs_BB	IVMs_BB	02 51 16.1	
	comp=Z,848nm,7.4s						
ZEA	**Zeya**	**46.86**	**2**	*e*P	**P**	**02 31 07.2**	**+2.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AUMTS	**Mt Stromlo**	**47.58**	**153**	P	**P**	**02 31 14.7**	**+3.7**
CAN	**Canberra**	**47.58**	**153**	P	**P**	**02 31 14.9**	**+3.9**
CNB	**Canberra Magne**	**47.74**	**153**	P	**P**	**02 31 15.8**	**+3.6**
WMQ	**Urumqi**	**49.26**	**325**	*e*P	**P**	**02 31 25.5**	**+1.6**
WMQ				LR	LR		
	comp=Z,2μm,19.7s						
WMQ				LR	LR		
	comp=Z,1μm,15.3s						
WMQ				LR	LR		
	comp=Z,920nm,21.9s						
ZSN	**Zaisan**	**53.04**	**327**	*e*P	**P**	**02 31 52.5**	**+0.4**
ZSN	**Zaisan**	**53.04**	**327**	*e*P	**P**	**02 31 52.5**	**+0.4**
PETK	**Petropavlovsk-**	**53.32**	**24**	P	**P**	**02 31 53.1**	**-0.9**
PETK	**Petropavlovsk-**	**53.32**	**24**	P	**P**	**02 31 52.6**	**-1.4**
	comp=Z,5.0nm,0.8s,baz=202,slow=7.4,SNR=6.0						
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**53.32**	**24**	P	**P**	**02 31 53.1**	**-0.9**
SHLS	**Shalkode**	**53.93**	**320**	*e*P	**P**	**02 31 57.2**	**-1.8**
	comp=Z,9.1nm,1.1s						
SHLS	**Shalkode**	**53.93**	**320**	*e*P	**P**	**02 31 57.1**	**-1.8**
SHLS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MK31	**Makanchi Array**	**54.09**	**325**	*i* P	**P**	**02 31 59.4**	**-0.5**
MKAR	**Makanchi Array**	**54.09**	**325**		**P**	**02 31 58.8**	**-1.1**
MKAR	**Makanchi Array**	**54.09**	**325**	P	**P**	**02 31 58.1**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=129,slow=7.7,SNR=8.1						
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**54.09**	**325**	*i* P	**P**	**02 32 03.0**	**+3.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
UZB	**Uzynbulak**	**54.20**	**320**	*e*P	**P**	**02 32 01.3**	**+0.4**
	comp=Z,9.1nm,1.3s						
UZB	**Uzynbulak**	**54.20**	**320**	*e*P	**P**	**02 32 01.3**	**+0.4**
UZB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MAKZ	**Makanchi**	**54.28**	**325**	P	**P**	**02 32 00.6**	**-0.7**
MAKZ				IAmb	IAmb	02 32 09.2	
	comp=Z,7.8nm,0.9s						
MAKZ	**Makanchi**	**54.28**	**325**	P	**P**	**02 32 00.6**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SATY	**Saty**	**54.56**	**319**	*e*P	**P**	**02 32 03.8**	**+0.2**
SATY	**Saty**	**54.56**	**319**	*e*P	**P**	**02 32 03.7**	**+0.2**
KPKS	**Kokpek**	**54.57**	**320**	*e*P	**P**	**02 32 04.2**	**+0.6**
KPKS	**Kokpek**	**54.57**	**320**	*e*P	**P**	**02 32 04.1**	**+0.6**
YAK	**Yakutsk**	**55.25**	**3**	*e*P	**P**	**02 32 09.2**	**+1.3**
YAK				*e**PP	**sP**	**02 32 14.5**	**+0.6**
YAK				*e*S	**S**	**02 39 52.6**	**+1.5**
YAK				*e**SS	**sS**	**02 39 57.2**	**-1.0**
YAK				*e*SS	**SS**	**02 43 34.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
YAK				smax	smax		
	comp=N,81nm,2.8s						
YAK				smax	smax		
	comp=E,122nm,3.3s						
TDK	**Taldyqorghan**	**55.48**	**321**	*e*P	**P**	**02 32 10.3**	**+0.2**
	comp=E,6.1nm,0.5s						
TDK	**Taldyqorghan**	**55.48**	**321**	*e*P	**P**	**02 32 10.2**	**+0.2**
TDK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDOK	**Medeo**	**55.49**	**319**	*e*P	**P**	**02 32 10.6**	**+0.3**
MDOK	**Medeo**	**55.49**	**319**	*e*P	**P**	**02 32 10.6**	**+0.3**
TNSS	**Tian-Shan**	**55.51**	**319**	*e*P	**P**	**02 32 11.0**	**+0.3**
TNSS	**Tian-Shan**	**55.51**	**319**	*e*P	**P**	**02 32 10.9**	**+0.3**
AAK	**Ala-Archa**	**56.97**	**317**	*i* P	**P**	**02 32 22.3**	**+1.4**
AAK				pmax	pmax		
	comp=Z,19nm,1.5s						
ZALV	**Zalesovo Beam**	**57.12**	**333**	P	**P**	**02 32 19.5**	**-1.9**
ZALV	**Zalesovo Beam**	**57.12**	**333**	P	**P**	**02 32 20.1**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=124,slow=7.7,SNR=1.6						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**57.12**	**333**	P	**P**	**02 32 19.5**	**-1.9**
SGDS	**Sogindy**	**57.21**	**318**	*e*P	**P**	**02 32 23.0**	**+0.5**
KURBB	**Kurchatov Arra**	**58.27**	**327**	P	**P**	**02 32 27.9**	**-1.7**
	comp=Z,5.7nm,1.0s,baz=128,slow=5.9,SNR=8.5						
	comp=Z,5.7nm,1.0s						
**KUR

RAYN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GNI	**Garni**	**78.23**	**309**	*i* P		**P**	**02 34 38.5**	**+3.2**
GNI				pmax	pmax			
	comp=Z,19nm,1.2s							
KBZ	**Khabaz**	**79.66**	**313**	P		**P**	**02 34 43.1**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=100,slow=4.0,SNR=4.4							
	comp=Z,3.7nm,1.1s							
KIV	**Kislovodsk**	**79.81**	**313**	*e*P		**P**	**02 34 44.3**	**+0.6**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KDAK	**Kodiak Island**	**80.26**	**33**	P		**P**	**02 34 45.3**	**-0.4**
KDAK	**Kodiak Island**	**80.26**	**33**	P		**P**	**02 34 44.1**	**-1.6**
	comp=Z,5.1nm,0.9s,baz=270,slow=5.6,SNR=4.3							
	comp=Z,5.1nm,0.9s							
KDAK	**Kodiak Island**	**80.26**	**33**	P		**P**	**02 34 45.3**	**-0.4**
KDAK				pmax	pmax			
	comp=Z,75nm,1.5s							
BPAW	**Bear Paw Mtn.**	**81.32**	**26**	P		**P**	**02 34 51.1**	**-0.3**
BPAW				IAmb	IAmb		02 34 56.2	
	comp=Z,23nm,1.1s							
KLMR	**Klimovskoe**	**81.93**	**330**	*e*P		**P**	**02 34 53.2**	**-1.3**
KLMR				pmax	pmax			
	comp=Z,14nm,1.1s							
VSR	**Storozhevoye**	**82.16**	**321**	*e*P		**P**	**02 34 53.8**	**-2.2**
VSR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MCK	**McKinley**	**82.22**	**27**			**P**	**02 34 55.5**	**-0.6**
MCK				IAmb	IAmb		02 35 27.3	
	comp=Z,67nm,1.8s							
MCK	**McKinley**	**82.22**	**27**	P		**P**	**02 34 55.5**	**-0.6**
MCK				pmax	pmax			
	comp=Z,67nm,1.8s							
LPSR	**Galich'ya Gora**	**82.28**	**322**	*e*P		**P**	**02 34 56.2**	**-0.4**
LPSR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CCB	**Clear Creek Bu**	**82.72**	**26**	P		**P**	**02 34 58.4**	**-0.2**
ILAR	**Eielson Array**	**83.11**	**26**	P		**P**	**02 34 59.1**	**-1.6**
ILAR	**Eielson Array**	**83.11**	**26**	P		**P**	**02 34 59.2**	**-1.4**
	comp=Z,1.5nm,1.0s,baz=251,slow=5.1,SNR=5.3							
	comp=Z,1.5nm,1.0s							
ILAR	**Eielson Array**	**83.11**	**26**	*e*P		**P**	**02 35 03.4**	**+2.7**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
OBN	**Obninsk**	**83.60**	**325**	*e*P		**P**	**02 35 04.5**	**+1.2**
OBN				*e*			02 38 18.3	
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RIDG	**Independent Ri**	**84.04**	**27**	P		**P**	**02 35 04.7**	**-0.9**
G26K	**Porcupine Rive**	**84.29**	**23**			**P**	**02 35 06.2**	**-0.4**
APA	**Apatity**	**84.40**	**337**⇓	*e*P		P	02 35 00.5	-6.7
APA				*e*			02 38 20.7	
APA				MLR	MLR			
	comp=Z,1μm,23.6s							
J26L	**Joseph Creek**	**84.55**	**26**			**P**	**02 35 07.2**	**-1.0**
J26L				IAmb	IAmb		02 35 22.9	
	comp=Z,15nm,1.3s							
I26K	**Coal Creek Min**	**84.67**	**25**			**P**	**02 35 07.9**	**-0.7**
E27K	**Coleen River**	**85.03**	**22**			**P**	**02 35 10.4**	**0.0**
G27K	**Doyon Strip**	**85.14**	**23**	P		**P**	**02 35 11.5**	**+0.5**
G27K				IAmb	IAmb		02 38 10.9	
	comp=Z,12nm,0.7s							
K27K	**Chicken**	**85.24**	**26**	P		**P**	**02 35 11.2**	**-0.3**
K27K				IAmb	IAmb		02 35 28.1	
	comp=Z,20nm,1.1s							
BCAR	**Beaver Creek A**	**85.47**	**27**	P		**P**	**02 35 12.7**	**-0.1**
F28M	**Old Crow**	**85.74**	**22**	P		**P**	**02 35 13.2**	**-0.8**
I28M	**Miner Creek**	**85.99**	**25**			**P**	**02 35 14.2**	**-1.1**
I28M				IAmb	IAmb		02 38 28.6	
	comp=Z,9.0nm,0.8s							
VNDA	**Vanda**	**86.65**	**172**	P		**P**	**02 35 17.0**	**-1.1**
VNDA	**Vanda**	**86.65**	**172**	P		**P**	**02 35 16.7**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=306,slow=7.6,SNR=4.0							
	comp=Z,0.8nm,0.7s							
VNDA	**Vanda**	**86.65**	**172**	P		**P**	**02 35 17.0**	**-1.1**
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRTR	**Keskin Array B**	**86.77**	**309**	P		**P**	**02 35 16.9**	**-2.8**
BRTR	**Keskin Array B**	**86.77**	**309**	P		**P**	**02 35 17.0**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=93,slow=5.2,SNR=4.0							
	comp=Z,0.7nm,0.8s							
KMBO	**Kilima Mbogo**	**87.90**	**269**	P		**P**	**02 35 25.0**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=83,slow=8.1,SNR=3.4							
	comp=Z,1.2nm,0.4s							
KMBO	**Kilima Mbogo**	**87.90**	**269**	P		**P**	**02 35 25.0**	**-0.9**
FINES	**FINESS Array B**	**88.36**	**332**	P		**P**	**02 35 24.8**	**-1.9**
FINES	**FINESS Array B**	**88.36**	**332**	P		**P**	**02 35 25.1**	**-1.7**
	comp=Z,5.6nm,1.0s,baz=68,slow=6.5,SNR=2.2							
	comp=Z,5.6nm,1.0s							
FINES	**FINESS Array B**	**88.36**	**332**	P		**P**	**02 35 24.8**	**-1.9**
AKASG	**Malin Array Be**	**88.47**	**321**	P		**P**	**02 35 25.4**	**-2.1**
AKASG	**Malin Array Be**	**88.47**	**321**	P		**P**	**02 35 26.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=71,slow=5.1,SNR=2.1							
	comp=Z,1.4nm,0.7s							
AKASG	**Malin Array Be**	**88.47**	**321**	P		**P**	**02 35 25.4**	**-2.1**
AKASG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SYO	**Syowa Base**	**94.63**	**201**⇑	*e*PcP		**PcP**	**02 35 57.2**	**+1.3**

IDC 29 02:29:52.6±4.7, 6°.51N×125°.09E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=120.0km s-min=9.3km az=119.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.74**	**41**	Pg	Pg	02 30 06.8	+0.1
	4.5nm,0.3s,baz=295,slow=7.0,SNR=266						
DAV				Lg	Lg	02 30 17.0	
	1.7nm,0.3s,baz=350,slow=18,SNR=25						
FITZ	**Fitzroy Crossi**	**24.46**	**179**	P	P	02 35 14.1	+0.7
	1.7nm,0.4s,baz=7.9,slow=8.3,SNR=12						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**27.82**	**161**	P	P	02 35 44.2	+0.4
	0.5nm,0.3s,baz=334,slow=9.8,SNR=3.1						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**31.20**	**164**	P	P	02 36 11.8	-2.0
	0.2nm,0.3s,baz=344,slow=8.3,SNR=5.8						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**41.29**	**159**	P	P	02 37 40.7	+0.8
	1.3nm,0.7s,baz=330,slow=8.1,SNR=1.8						
	1.3nm,0.7s						

BUC 29 02:32:06.5±0.2, 45°.66N×26°.50E, h135km±1km, ml3.5/63, Error ellipse: s-maj=1.3km s-min=1.0km az=1.0
MCSM 29 02:32:06.7±2.1, 46°.N±8°.×2°.7E±°.,h130km±20km, MLv2.4
BEO 29 02:32:16.7±0.7, 45°.11N×25°.35E, h8km±5km, ML2.2/7

ISC 29 02:32:05.1±1.4, 45°.67N±0°.03×26°.47E±0°.03, h146km±7km, n101, σ0º93/148, 77C-42D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.21**	**127**	⇑P		**Pn**	**02 32 25.5**	**+0.5**
BISRR				⇑S		**Sn**	**02 32 40.1**	**+0.1**
BISRR	**Bisoca**	**0.21**	**127**	P		**Pn**	**02 32 25.8**	**+0.8**
PLOR	**Plostina**	**0.22**	**36**	⇑P		**Pn**	**02 32 25.1**	**+0.2**
PLOR				⇑S		**Sn**	**02 32 39.2**	**-0.8**
PLOR5	**Plostina Array**	**0.22**	**38**	P		**Pn**	**02 32 25.1**	**+0.2**
VRI	**Vrincioaia**	**0.26**	**43**	⇑P		**Pn**	**02 32 25.4**	**+0.4**
VRI				⇑S		**Sn**	**02 32 39.4**	**-0.9**
VRI	**Vrincioaia**	**0.26**	**43**	P		**Pn**	**02 32 25.3**	**+0.3**
NEHR	**Nehoiu**	**0.28**	**206**	⇑P		**Pn**	**02 32 25.9**	**+0.8**
NEHR				⇑S		**Sn**	**02 32 40.0**	**-0.2**
MLR	**Muntele Rosu**	**0.41**	**244**	⇓P		**Pn**	**02 32 26.3**	**+0.6**
MLR				⇑S		**Sn**	**02 32 41.0**	**-0.3**
MLR	**Muntele Rosu**	**0.41**	**244**	*e*Pg		**Pn**	**02 32 26.2**	**+0.5**
MLR				*e*Sg		**Sn**	**02 32 37.1**	**-4.2**
MLR	**Muntele Rosu**	**0.41**	**244**	P		**Pn**	**02 32 26.2**	**+0.5**
ODBI	**Odobesti**	**0.42**	**78**	⇑S		**Sn**	**02 32 40.7**	**-0.4**
ODBI	**Odobesti**	**0.42**	**78**	P		**Pn**	**02 32 26.6**	**+1.1**
GRER		**0.46**	**129**	⇑P		**Pn**	**02 32 26.6**	**+0.9**
GRER				⇑S		**Sn**	**02 32 40.1**	**-1.3**
TURR	**Turia**	**0.49**	**320**	⇑P		**Pn**	**02 32 26.4**	**+0.5**
TURR				⇓S		**Sn**	**02 32 41.4**	**-0.5**
PANC	**Panciu**	**0.52**	**67**	⇑P		**Pn**	**02 32 26.7**	**+0.7**
PANC				⇑S		**Sn**	**02 32 42.1**	**+0.2**
ISR	**Istrita**	**0.56**	**175**	⇑P		**Pn**	**02 32 27.1**	**+0.7**
COSR	**Cosmesti PH**	**0.62**	**73**	⇑P		**Pn**	**02 32 27.0**	**+0.4**
COSR				⇑S		**Sn**	**02 32 43.1**	**+0.2**
OZUR		**0.64**	**312**	⇓S		**Sn**	**02 32 42.4**	**-0.9**
ONER	**Baraj Valea Uz**	**0.66**	**356**	⇓P		**Pn**	**02 32 27.3**	**+0.4**
ONER				⇓S		**Sn**	**02 32 42.9**	**-0.7**
BOSR	**Bodos**	**0.69**	**306**	⇓P		**Pn**	**02 32 27.6**	**+0.4**
BOSR				⇓S		**Sn**	**02 32 43.2**	**-0.7**
GHRR		**0.76**	**59**	⇑P		**Pn**	**02 32 28.2**	**+0.7**
GHRR				⇑S		**Sn**	**02 32 45.1**	**+0.5**
GHRR		**0.76**	**59**	P		**Pn**	**02 32 28.0**	**+0.5**
DOPR	**Dopca**	**0.81**	**292**	⇓P		**Pn**	**02 32 28.5**	**+0.6**
DOPR				⇑S		**Sn**	**02 32 45.3**	**0.0**
PLAR	**PLOIESTI**	**0.82**	**202**	⇓P		**Pn**	**02 32 28.5**	**+0.5**
TUDR		**0.85**	**95**	⇑P		**Pn**	**02 32 28.3**	**+0.2**
TUDR				⇓S		**Sn**	**02 32 45.0**	**-0.7**
TESR	**Tescani**	**0.85**	**8**	⇑P		**Pn**	**02 32 28.3**	**+0.1**
TESR	**Tescani**	**0.85**	**8**	P		**Pn**	**02 32 28.2**	**+0.1**
IZVR	**Izvoarele**	**0.92**	**98**	⇓P		**Pn**	**02 32 28.9**	**+0.1**
IZVR				⇓S		**Sn**	**02 32 45.3**	**-1.4**
SCHL	**Schela**	**0.97**	**100**	⇑P		**Pn**	**02 32 29.3**	**+0.2**
SCHL				⇓S		**Sn**	**02 32 46.9**	**-0.6**
SCHLR	**Schela**	**0.98**	**102**	⇑P		**Pn**	**02 32 29.4**	**+0.2**
SCHLR				⇑S		**Sn**	**02 32 47.3**	**-0.2**
VARL	**Varlezi**	**0.99**	**76**	⇑P		**Pn**	**02 32 29.7**	**+0.4**
VARL				⇓S		**Sn**	**02 32 46.9**	**-1.0**
NEGRR	**Negrea**	**1.00**	**97**	⇑P		**Pn**	**02 32 29.9**	**+0.5**
NEGRR				⇑S		**Sn**	**02 32 47.7**	**-0.2**
BIR	**Birlad**	**1.00**	**53**	⇑P		**Pn**	**02 32 29.9**	**+0.5**
BIR				⇓S		**Sn**	**02 32 47.5**	**-0.5**
SULR		**1.01**	**189**	⇓P		**Pn**	**02 32 30.5**	**+1.0**
SULR				⇑S		**Sn**	**02 32 48.4**	**+0.4**
SCTR	**Scanteiesti**	**1.07**	**89**	⇑P		**Pn**	**02 32 30.7**	**+0.7**
SCTR				⇑S		**Sn**	**02 32 48.4**	**-0.7**
MTUR	**Matau**	**1.09**	**246**	⇓P		**Pn**	**02 32 31.3**	**+1.0**
TATR	**Tatarca**	**1.11**	**93**	⇑P		**Pn**	**02 32 31.0**	**+0.6**
TATR				⇑S		**Sn**	**02 32 49.2**	**-0.5**
GISR	**Galati**	**1.14**	**101**	⇑P		**Pn**	**02 32 31.1**	**+0.5**
GISR				⇓S		**Sn**	**02 32 49.7**	**-0.4**
VLDR	**Vladesti**	**1.14**	**81**	⇑P		**Pn**	**02 32 31.2**	**+0.6**
VLDR				⇓S		**Sn**	**02 32 49.5**	**-0.7**
LEHL	**Lehliu**	**1.23**	**168**	⇑P		**Pn**	**02 32 32.5**	**+1.0**
LEHL				⇑S		**Sn**	**02 32 52.0**	**+0.4**
AMRR	**Amara**	**1.23**	**150**	⇑P		**Pn**	**02 32 32.3**	**+0.8**
AMRR				⇓S		**Sn**	**02 32 51.7**	**0.0**
GIUM	**Giurgiulesti**	**1.24**	**98**	⇑P		**Pn**	**02 32 32.3**	**+0.7**
GIUM				⇑S		**Sn**	**02 32 51.3**	**-0.5**
CFR	**Carcaliu**	**1.27**	**112**	⇓P		**Pn**	**02 32 32.0**	**+0.1**
CFR				⇑S		**Sn**	**02 32 51.6**	**-0.9**
GIRR	**Girov**	**1.28**	**1**	⇓P		**Pn**	**02 32 32.9**	**+0.9**
BUC	**Bucharest**	**1.29**	**192**	⇑P		**Pn**	**02 32 33.0**	**+0.9**
BUC				⇓S		**Sn**	**02 32 53.1**	**+0.4**
BIZ	**Bicaz**	**1.29**	**349**	⇓S		**Sn**	**02 32 53.1**	**+0.2**
CIOR	**Ciorogarla**	**1.29**	**199**	⇓P		**Pn**	**02 32 32.9**	**+0.7**
CIOR				⇓S		**Sn**	**02 32 53.1**	**+0.2**
ARR	**Arges**	**1.33**	**257**	⇓P		**Pn**	**02 32 33.4**	**+0.8**
ARR				⇑S		**Sn**	**02 32 53.4**	**-0.2**
VASR	**Vaslui**	**1.33**	**43**	⇑P		**Pn**	**02 32 33.0**	**+0.5**
VASR				⇑S		**Sn**	**02 32 52.8**	**-0.8**
BUC1	**Bucharest**	**1.36**	**193**	⇓P		**Pn**	**02 32 33.7**	**+0.8**
BUC1				⇑S		**Sn**	**02 32 54.2**	**+0.1**
BUC1	**Bucharest**	**1.36**	**193**	⇓P		**Pn**	**02 32 33.7**	**+0.8**
BUC1				⇑S		**Sn**	**02 32 54.2**	**+0.1**
HARR	**Harsova**	**1.43**	**133**	⇑P		**Pn**	**02 32 34.0**	**+0.5**
SGRR	**Singureni**	**1.49**	**194**	⇓P		**Pn**	**02 32 34.9**	**+0.6**
SGRR				⇑S		**Sn**	**02 32 56.2**	**-0.3**
TNR	**Turnu Rosu**	**1.54**	**270**	⇑P		**Pn**	**02 32 35.7**	**+1.0**
HUMR	**Humele**	**1.56**	**223**	⇓P		**Pn**	**02 32 35.5**	**+0.6**
HUMR				⇑S		**Sn**	**02 32 57.4**	**-0.3**
TLBR	**Topalu**	**1.59**	**135**	⇑P		**Pn**	**02 32 35.8**	**+0.5**
TLBR				⇑S		**Sn**	**02 32 57.3**	**-1.0**
TPGR	**Topolog**	**1.60**	**120**	⇑P		**Pn**	**02 32 35.5**	**0.0**
TLCR		**1.72**	**106**	⇑P		**Pn**	**02 32 37.0**	**+0.3**
TLCR				⇑S		**Sn**	**02 33 00.1**	**-0.8**
CVDA	**Cernavoda**	**1.74**	**140**	⇑P		**Pn**	**02 32 37.6**	**+0.7**
COPA	**Copaceanca**	**1.78**	**210**	⇓P		**Pn**	**02 32 37.9**	**+0.6**
COPA				⇓S		**Sn**	**02 33 01.6**	**-0.5**
ICOR	**Ion Corvin**	**1.82**	**148**	⇑P		**Pn**	**02 32 38.8**	**+0.9**
ICOR				⇑S		**Sn**	**02 33 02.1**	**-0.9**
TIRR	**Tirgusor**	**1.84**	**131**	⇑P		**Pn**	**02 32 38.4**	**+0.4**
TIRR	**Tirgusor**	**1.84**	**131**	P		**Pn**	**02 32 38.4**	**+0.4**
TIRR				S		**Sn**	**02 33 01.8**	**-1.5**
LOT	**Lotru**	**1.91**	**264**	⇑P		**Pn**	**02 32 40.0**	**+1.0**
MFTR	**Murfatlar**	**2.04**	**136**	⇑P		**Pn**	**02 32 40.9**	**+0.5**
KIS	**Kishinev**	**2.10**	**50**	⇑P		**Pn**	**02 32 41.5**	**+0.4**
RAZG	**Razgrad**	**2.11**	**179**	⇓P		**Pn**	**02 32 41.8**	**+0.5**
BURAR	**Bucovina Array**	**2.12**	**337**	⇑P		**Pn**	**02 32 43.4**	**+1.9**
ZIMR		**2.17**	**202**	⇓P		**Pn**	**02 32 42.5**	**+0.6**
EFOR	**EFORIE**	**2.21**	**135**	⇑P		**Pn**	**02 32 43.2**	**+0.7**
EFOR				⇓S		**Sn**	**02 33 10.5**	**-0.7**
VLAD	**Vladila**	**2.23**	**222**	⇓P		**Pn**	**02 32 43.1**	**+0.4**
LOZB	**Loznitsa**	**2.31**	**178**	⇑P		**Pn**	**02 32 44.0**	**+0.4**
MANR	**Mangalia**	**2.39**	**140**	⇑P		**Pn**	**02 32 45.3**	**+0.6**
MANR				⇓S		**Sn**	**02 33 14.5**	**-0.6**
DEV	**Deva**	**2.50**	**276**	⇑P		**Pn**	**02 32 46.9**	**+0.9**
PURM	**Purcari**	**2.52**	**69**	⇑P		**Pn**	**02 32 46.6**	**+0.5**
MARR	**Marisel-Cluj**	**2.53**	**294**	⇑P		**Pn**	**02 32 47.6**	**+1.1**
GZR	**Gura Zlata**	**2.61**	**265**	⇑P		**Pn**	**02 32 48.6**	**+1.2**
GZR				⇑S		**Sn**	**02 33 21.7**	**+1.7**
GZR	**Gura Zlata**	**2.61**	**265**	*e*Pn		**Pn**	**02 32 47.9**	**+0.5**
GZR				*e*Sn		**Sn**	**02 33 13.8**	**-6.2**
PLVB	**Pleven**	**2.64**	**211**	⇓P		**Pn**	**02 32 48.3**	**+0.6**
ELND	**Elena**	**2.78**	**189**	⇓P		**Pn**	**02 32 50.2**	**+0.7**
RMGR	**Halanga-Turnu**	**2.86**	**251**	⇑P		**Pn**	**02 32 50.9**	**+0.5**
HERR	**Herculane**	**2.97**	**256**	⇓P		**Pn**	**02 32 52.5**	**+0.6**
SURR	**Surduc**	**3.04**	**273**	⇓P		**Pn**	**02 32 54.0**	**+1.2**
BLKB	**Belogradchik**	**3.40**	**234**	*e*Pn		**Pn**	**02 32 57.1**	**-0.3**
BLKB				*e*Sn		Sn	02 33 28.1	-10
MDVR	**Moldovita**	**3.48**	**257**	⇑P		**Pn**	**02 32 59.1**	**+0.7**
MDVR	**Moldovita**	**3.48**	**257**	*e*Pn		**Pn**	**02 32 58.7**	**+0.3**
MDVR				*e*Sn		Sn	02 33 30.9	-8.8
BORS2	**Bor- Borsko je**	**3.54**	**245**	*e*Pn		**Pn**	**02 32 57.5**	**-1.7**
BORS2				*e*Sn		Sn	02 33 30.3	-11
ZAGS	**Zajecar**	**3.54**	**240**	*e*Pn		**Pn**	**02 32 58.9**	**-0.4**
ZAGS				*e*Sn		Sn	02 33 30.8	-10
KUBS	**Kucevo**	**3.62**	**251**	*e*Pn		**Pn**	**02 32 59.0**	**-1.3**
KUBS				*e*Sn		Sn	02 33 34.4	-8.7
ZAPS	**Zavoj**	**3.65**	**230**	*e*Pn		**Pn**	**02 33 00.4**	**-0.2**
ZAPS				*e*Sn		Sn	02 33 32.0	-12
VRSS	**Vrsac**	**3.67**	**263**	*e*Pn		**Pn**	**02 33 01.2**	**+0.4**
VTS	**Vitosha**	**3.84**	**218**	*e*Pn		**Pn**	**02 33 04.2**	**+0.9**
VTS				*e*Sn		Sn	02 33 39.2	-9.2
BOVS	**Bovan**	**3.96**	**241**	⇑P		**Pn**	**02 33 05.2**	**+0.5**
BOVS	**Bovan**	**3.96**	**241**	*e*Pn		**Pn**	**02 33 05.0**	**+0.3**
BOSS	**Bosilegrad**	**4.28**	**224**	*e*Pn		**Pn**	**02 33 09.8**	**+0.9**
BARS	**Barje**	**4.40**	**231**	*e*Pn		**Pn**	**02 33 11.0**	**+0.6**
GRUS	**Gruza**	**4.47**	**248**	*e*Pn		**Pn**	**02 33 11.7**	**+0.4**
TRUS	**Trudelj**	**4.54**	**254**	*e*Pn		**Pn**	**02 33 12.6**	**+0.3**
SELS	**Selova**	**4.55**	**239**	*e*Pn		**Pn**	**02 33 13.1**	**+0.7**
IVAS	**Ivanjica**	**4.97**	**247**	*e*Pn		**Pn**	**02 33 18.2**	**+0.1**
SJES	**Sjenica**	**5.24**	**245**	*e*Pn		**Pn**	**02 33 22.7**	**+1.1**

IDC 29 02:34:25.2±0.6, 6°.80N×124°.91E, h0km, mb4.2/18, mbtmp4.2/18, Error ellipse: s-maj=12.2km s-min=8.8km az=156.0
NEIC 29 02:34:28.2±1.7, 6°.89N±0°.08×125°.16E±0°.04, h10km±1km, mb4.8/23, Error ellipse: s-maj=13.7km s-min=5.6km az=157.0
DJA 29 02:34:28.0±0.6, 7°.N±6°.×12°.5E±°., h10km, M5.1/13, mb5.1/13, mB5.8/4, MLv5.0/11, Mw(mB)5.4/4

ISC 29 02:34:27.7±0.4, 6°.89N±0°.06×125°.18E±0°.05, h13km, n68, σ1º02/70, mb4.6/30, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.44**	**66**	Pg	**Pb**	**02 34 39.2**	**+1.9**
DAV				Sg	**Sg**	**02 34 43.3**	**+1.0**
DAV	**Davao City (W)**	**0.44**	**66**	Pg	**Pb**	**02 34 39.4**	**+2.1**
	1.7nm,0.3s,baz=282,slow=7.7,SNR=101						
DAV				Lg	Lg	02 34 49.7	
	5.1nm,0.3s,baz=346,slow=17,SNR=30						
DAV	**Davao City (W)**	**0.44**	**66**	P	**Pg**	**02 34 34.0**	**-2.4**
SGSI	**Sangihe**	**3.21**	**174**	P	**Pn**	**02 35 18.6**	**+0.7**
KMSI	**Cibinong**	**6.39**	**191**	P	**Pn**	**02 36 01.5**	**-0.1**
TNTI	**Ternate**	**6.46**	**160**		**Pn**	**02 36 03.7**	**+1.1**
TNTI	**Ternate**	**6.46**	**160**	P	**Pn**	**02 36 03.4**	**+0.8**
	0.4nm54nm,0.7s						
MYLDM	**Lahad Datu**	**6.85**	**256**		**Pn**	**02 36 09.1**	**+1.1**
MRSI	**Marisa**	**7.14**	**207**	P	**Pn**	**02 36 09.6**	**-2.4**
	0.7nm144nm,0.7s						
LUWI	**Luwuk**	**8.24**	**197**		**Pn**	**02 36 27.6**	**+0.5**
LUWI	**Luwuk**	**8.24**	**197**	P	**Pn**	**02 36 26.3**	**-0.8**
	3μm247nm,0.8s						
APSI	**Ampana**	**8.51**	**205**	P	**Pn**	**02 36 30.1**	**-0.7**
	104nm,0.8s						
SANI	**Sanana**	**8.92**	**175**	P	**Pn**	**02 36 36.2**	**-0.2**
	62nm,0.8s						
NLAI	**Namlea**	**10.25**	**169**	P	**Pn**	**02 36 53.7**	**-0.9**
	70nm,0.6s						
AAI	**Ambon**	**10.93**	**164**	P	**Pn**	**02 37 06.4**	**+2.4**
SBUM	**Sibu**	**13.64**	**252**		**Pn**	**02 37 42.1**	**+1.0**
MTN	**Manton Dam**	**20.48**	**163**		**P**	**02 39 06.0**	**+0.6**
KNRA	**Kununurra**	**22.70**	**171**		**P**	**02 39 30.2**	**+0.8**
KNRA				IAmb	IAmb	02 39 32.5	
	comp=Z,33nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.84**	**179**	P	**P**	**02 39 48.9**	**-1.1**
	comp=Z,7.3nm,0.5s,baz=6.2,slow=7.5,SNR=38						
	comp=Z,7.3nm,0.5s						
RPSI	**Rantau Prapat**	**26.48**	**262**	P	**P**	**02 40 06.6**	**+1.6**
RPSI				IAmb	IAmb	02 40 11.3	
	comp=Z,25nm,1.4s						
PMG	**Port Moresby**	**27.24**	**126**	P	**P**	**02 40 10.9**	**-0.9**
PMG				IAmb	IAmb	02 40 18.2	
	comp=Z,17nm,0.9s						
PMG	**Port Moresby**	**27.24**	**126**	P	**P**	**02 40 12.3**	**+0.5**
	comp=Z,11nm,0.4s,baz=293,slow=13,SNR=2.6						
	comp=Z,11nm,0.4s						
WB0	**Warramunga Arr**	**28.00**	**161**	P	**P**	**02 40 17.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.01**	**297**	P	**P**	**02 40 19.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**28.01**	**297**	P	**P**	**02 40 17.2**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=110,slow=8.8,SNR=5.5						
	comp=Z,0.9nm,0.3s						
WRA	**Warramunga Arr**	**28.15**	**161**	P	**P**	**02 40 18.8**	**-1.2**
WRA	**Warramunga Arr**	**28.15**	**161**	P	**P**	**02 40 19.6**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=331,slow=11,SNR=16						
	comp=Z,2.8nm,0.7s						
WR8	**Warramunga Arr**	**28.21**	**161**	P	**P**	**02 40 20.0**	**-0.4**
WR8				IAmb	IAmb	02 40 52.3	
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**31.55**	**165**	P	**P**	**02 40 49.9**	**-0.1**
ASAR	**Alice Springs**	**31.55**	**165**	P	**P**	**02 40 49.1**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=355,slow=7.8,SNR=16						
	comp=Z,0.9nm,0.4s						
MJAR	**Matsushiro Arr**	**31.82**	**20**	P	**P**	**02 40 52.5**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=196,slow=9.6,SNR=5.5						
	comp=Z,3.6nm,0.9s						
SHL	**Shillong**	**36.80**	**304**	P	**P**	**02 41 36.6**	**+0.8**
SHL				IAmb	IAmb	02 41 43.1	
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.63**	**8**	P	**P**	**02 41 42.1**	**-0.2**
	comp=Z,8.4nm,0.9s,baz=181,slow=7.2,SNR=5.6						
	comp=Z,8.4nm,0.9s						
ASAJ	**Asahikawa**	**40.09**	**20**	P	**P**	**02 42 02.5**	**-0.5**
	comp=Z,5.0nm,0.2s,baz=231,slow=13,SNR=1.3						

E22K IAML 02 37 39.6
comp=N,546nm,0.7s
E22K Anaktuvuk Pass 1.30 250 Sg 02 37 36.2 +2.2
C23K Itkillik River 1.43 330 Sg 02 37 39.2 +1.1
C23K Itkillik River 1.43 330 Pn **Pn 02 37 17.6 -1.6**
C23K IAML 02 37 43.3
comp=E,675nm,0.5s
C23K IAML 02 37 46.4
comp=N,615nm,0.6s
F25K Christian Rive 1.50 132 Pn 02 37 18.4 -1.9
F25K IAML 02 37 45.8
comp=N,387nm,1.0s
F25K Christian Rive 1.50 132 Sg 02 37 42.0 +1.7
COLD Coldfoot 1.53 205 Pn 02 37 18.4 -2.2
D22K Ayikyak River 1.53 282 Pb 02 37 21.1 -0.3
D22K Ayikyak River 1.53 282 IAML 02 37 44.4
comp=N,596nm,0.8s
D22K IAML 02 37 46.5
comp=E,495nm,0.6s
F22K John River 1.76 232 Sb 02 37 47.7 -0.1
F22K **Sg 02 37 49.2 +0.6**
C26K Camden Bay 1.84 43 Pb 02 37 25.7 -1.0
C26K Camden Bay 1.84 43 IAML 02 37 57.3
comp=E,301nm,0.9s
F26K Sheenjek River 1.89 117 Sg 02 37 52.6 -0.4
F26K Sheenjek River 1.89 117 Pn **Pn 02 37 25.0 -0.7**
F26K IAML 02 37 59.9
comp=E,261nm,0.6s
BMAR Burnt Mountain 1.91 127 Pn **Pn 02 37 25.5 -0.4**
G24K Hadweenzic Riv 1.97 167 Pn 02 37 25.1 -1.6
G24K IAML 02 37 58.9
comp=E,288nm,0.9s
G24K IAML 02 38 05.0
comp=N,262nm,1.1s
G23K Bananza Creek 1.99 197 Pn 02 37 25.6 -1.5
E21K Killik River 2.00 268 Pn 02 37 26.2 -0.9
C27K Jago River 2.01 57 Pn 02 37 26.1 -1.1
C27K IAML 02 37 57.8
comp=E,221nm,0.9s
C27K IAML 02 38 03.2
comp=N,216nm,0.8s
G22K Bettles 2.04 215 Pn 02 37 27.9 +0.3
G25K Bearman Lake 2.08 152 Pb 02 37 29.0 -1.7
G25K **Pn 02 37 29.7 +1.5**
C21K Knifeblade Rid 2.32 286 Pn 02 37 32.1 +0.6
F21K Alatna River 2.33 235 Pn 02 37 29.9 -1.7
B21K Ikpikpuk River 2.40 298 Pn 02 37 31.1 -1.4
B21K IAML 02 38 15.8
comp=N,177nm,2.5s
B21K IAML 02 38 54.2
comp=E,155nm,1.8s
B22K Teshekpuk Lake 2.44 318 Pn 02 37 31.3 -1.7
B22K IAML 02 38 24.4
comp=E,196nm,1.9s
G26K Porcupine Rive 2.47 130 Pn 02 37 32.1 -1.4
G26K IAML 02 38 16.9
comp=E,215nm,1.2s
G26K IAML 02 38 28.6
comp=N,147nm,1.2s
H25L Birch Creek 2.58 155 Pn 02 37 35.6 +0.5
H25L **Pn 02 37 36.1 +1.0**
E27K Coleen River 2.61 96 Pn 02 37 34.5 -1.1
H24K Noodor Dome 2.80 174 Pn 02 37 36.8 -1.4
D27M Malcolm River 2.81 74 Pn 02 37 37.8 -0.5
D27M IAML 02 38 31.4
comp=N,160nm,0.8s
H23K Yukon River 2.83 188 Pn 02 37 37.3 -1.2
H23K IAML 02 38 26.6
comp=E,125nm,0.9s
H23K IAML 02 38 29.2
comp=N,112nm,1.1s
G21K Allakaket 2.84 224 Pn 02 37 37.0 -1.6
G21K IAML 02 38 30.2
comp=N,134nm,0.8s
G21K IAML 02 38 31.4
comp=E,152nm,0.6s
E20K Nigu River 2.84 266 Pn 02 37 39.2 +0.4
D20K Etivluk River 2.95 276 Pn **Pn 02 37 39.0 -1.1**
D20K IAML 02 38 42.2
comp=E,102nm,2.1s
D20K IAML 02 38 43.2
comp=N,123nm,1.0s
F20K Avaraart Lake 3.14 243 Pn 02 37 41.6 -1.1
F20K IAML 02 38 36.9
comp=N,88nm,0.7s
F20K IAML 02 38 39.9
comp=E,87nm,0.6s
G27K Doyon Strip 3.19 121 Pn 02 37 42.1 -1.4
G27K IAML 02 38 47.4
comp=E,70nm,1.6s
A22K Sinclair Lake 3.27 320 Pn 02 37 44.3 -0.2
E28M Babbage River 3.31 86 Pn 02 37 43.5 -1.5
E28M IAML 02 38 48.6
comp=N,64nm,1.0s
IMAR Indian Mountai 3.32 220 Pn **Pn 02 37 44.0 -1.3**
B20K Meade River 3.36 299 Pn 02 37 44.3 -1.4
F28M Old Crow 3.40 103 Pn 02 37 46.2 -0.2
F28M IAML 02 38 50.7
comp=N,63nm,1.2s
E19K Redstone River 3.46 254 Pn 02 37 47.1 -0.1
E19K IAML 02 38 51.0
comp=N,88nm,1.3s
I23K Minto, Yukon-K 3.50 186 Pn 02 37 46.0 -1.7
I23K IAML 02 38 49.6
comp=E,70nm,1.8s
D19K Kuna River 3.52 272 Pn **Pn 02 37 45.9 -2.1**
D19K IAML 02 39 08.7
comp=E,85nm,3.6s
POKR Poker Plat Res 3.54 172 Pn 02 37 47.0 -1.2
H27K Steamboat Moun 3.62 128 Pn 02 37 47.9 -1.4
H27K IAML 02 39 00.7
comp=N,60nm,1.3s
H27K IAML 02 39 06.9
comp=E,57nm,1.3s
I21K Tanana 3.71 203 Pn 02 37 49.0 -1.5
I21K IAML 02 38 58.4
comp=N,81nm,1.1s
COLA College 3.77 175 Pn 02 37 49.6 -1.7
COLA College 3.77 175 IAML 02 39 00.2
comp=N,80nm,0.5s
A21K Barrow 3.88 318 Pn 02 37 53.4 +0.5
IL01 3.92 169 Pn 02 37 54.0 +0.6
IL31 3.92 169 Pn 02 37 52.0 -1.3
ILAR Eielson Array 3.92 169 Pn 02 37 52.4 -1.0
ILAR Eielson Array 3.92 169 Pn **Pn 02 37 54.4 +0.9**
comp=N,1.7nm,0.3s,baz=344,slow=9.8,SNR=43
ILAR Sn **Sn 02 38 42.9 +2.9**
comp=N,1.7nm,0.3s,baz=345,slow=21,SNR=5.9
comp=N,4.2nm,0.5s
E29M Blow River 3.93 88 Pn 02 37 52.3 -1.3
E29M IAML 02 38 44.7
comp=N,58nm,0.6s
E29M IAML 02 39 05.4
comp=E,46nm,0.9s
F19K Shaleruckik Mo 3.94 247 Pn 02 37 52.6 -1.1
F19K IAML 02 39 01.1
comp=E,48nm,1.1s
F19K IAML 02 39 18.3
comp=N,54nm,2.0s
I26K Coal Creek Min 3.94 145 Pn **Pn 02 37 51.9 -1.9**
CCB Clear Creek Bu 4.00 175 Pn 02 37 53.0 -1.5
NEA2 Nenana 4.05 183 Pn 02 37 53.8 -1.4
NEA2 IAML 02 39 14.3
comp=E,36nm,1.3s
I27K Kandik River 4.06 135 Pn 02 37 56.5 +1.1
I27K **Pn 02 37 56.8 +1.3**
J25K Salcha River, 4.22 161 Pn 02 37 56.0 -1.6
J25K IAML 02 39 18.3
comp=E,38nm,1.1s
HDA Harding Lake 4.27 171 Pn 02 37 56.7 -1.6
HDA IAML 02 39 13.8
comp=N,36nm,3.1s
HDA IAML 02 39 19.4
comp=E,38nm,0.9s
G29M Pine Creek 4.35 108 Pn 02 37 58.8 -0.6
H19K Roundabout Mou 4.38 229 Pn **Pn 02 37 57.9 -1.8**
J26L Joseph Creek 4.59 152 Pn 02 38 00.9 -1.8
H29M Whitestone 4.60 117 Pn 02 38 02.2 -0.6
H29M IAML 02 39 09.2
comp=N,36nm,3.9s
H29M IAML 02 39 36.8
comp=E,36nm,1.5s
I28M Miner Creek 4.64 129 Pn 02 38 03.0 -0.4
I28M IAML 02 39 29.8
comp=E,30nm,1.1s
I28M IAML 02 39 35.2
comp=N,24nm,1.5s
BPAW Bear Paw Mtn. 4.64 193 Pn 02 38 02.4 -1.0
BPAW IAML 02 39 28.5
comp=N,32nm,1.9s
E18K Tukpahlearik C 4.68 261 Pn 02 38 03.0 -0.9
A19K Wainwright 4.70 296 Pn 02 38 04.6 +0.5
A19K **Pn 02 38 04.9 +0.8**
F18K Selawik 4.70 250 Pn 02 38 04.5 +0.4
G18K Tagagawik 4.78 240 Pn **Pn 02 38 04.2 -1.0**
G18K IAML 02 39 43.4
comp=E,28nm,2.4s
B18K Kokolik River 4.83 285 Pn 02 38 06.0 +0.1
F30M Barrier River 4.88 96 Pn 02 38 05.8 -0.9
MCK McKinley 4.91 182 Pn 02 38 06.5 -0.5
MCK IAML 02 39 11.0
comp=N,34nm,3.6s
MCK IAML 02 39 34.7
comp=E,28nm,3.5s
G30M tAoh Zraii Nji 4.96 104 Pn 02 38 07.2 -0.6
G30M IAML 02 39 39.6
comp=E,22nm,3.6s
G30M IAML 02 39 57.5
comp=N,26nm,3.6s
K24K Donnelly Dome 4.96 166 Pn 02 38 07.0 -0.8
CHUM Lake Minchumin 4.99 199 Pn 02 38 09.1 +0.9
J20K Nowinta River 4.99 209 Pn 02 38 07.3 -0.9
J20K IAML 02 39 08.9
comp=E,31nm,0.6s
J20K IAML 02 39 10.8
comp=N,27nm,3.2s
SCRK Sand Creek 5.01 156 Pn 02 38 07.6 -0.9
SCRK IAML 02 39 10.3
comp=E,20nm,3.3s
SCRK IAML 02 39 42.8
comp=N,25nm,3.7s
EPYK Eagle Plains 5.07 111 Pn 02 38 08.7 -0.7
RIDG Independent Ri 5.12 161 Pn 02 38 08.6 -1.4
RND Reindeer 5.23 181 Pn 02 38 10.4 -1.2
RND IAML 02 39 09.9
comp=E,20nm,4.2s
RND IAML 02 39 22.2
comp=N,22nm,3.8s
TRF Thorofare Moun 5.24 189 Pn 02 38 09.9 -1.8
E17K Hotham Inlet 5.25 259 Pn 02 38 12.3 +0.6
K27K Chicken 5.29 147 Pn 02 38 13.2 +0.9
K27K IAML 02 39 32.6
comp=N,25nm,3.8s
K27K IAML 02 39 49.4
comp=E,24nm,3.3s
DOT Dot Lake 5.31 158 Pn 02 38 11.8 -0.8
DOT IAML 02 40 21.4
comp=N,19nm,4.3s
C17K DeLong Mountai 5.37 275 Pn 02 38 13.1 -0.3
D17K Noatak River 5.50 267 Pn 02 38 14.8 -0.3
INK Inuvik 5.54 86 Pn 02 38 15.5 -0.3
INK Inuvik 5.54 86 Pn **Pn 02 38 16.9 +1.2**
comp=N,1.3nm,0.3s,baz=295,slow=10,SNR=21
INK Sn **Sn 02 39 22.8 +2.8**
comp=N,1.4nm,0.3s,baz=34,slow=20,SNR=6.0
comp=N,3.5nm,0.3s
DHY Denali Highway 5.59 174 Pn 02 38 15.8 -0.7
G31M Satah River 5.68 101 Pn 02 38 17.4 -0.2
WAT1 Susitna Watana 5.81 180 Pn 02 38 20.9 +1.4
DAWY Dawson 5.87 137 Pn 02 38 19.9 -0.3
L26K Log Cabin Wild 6.00 157 Pn 02 38 21.6 -0.5
H31M Peel River 6.20 110 Pn 02 38 23.9 -0.8
J30M Hart River 6.33 124 Pn 02 38 26.5 -0.2
K29M Barlow Dome 6.54 132 Pn 02 38 29.2 -0.3
M26K Nabesna, AK 6.65 157 Pn 02 38 30.2 -0.8
YKA Yellowknife Ar 15.16 97 Pn Pn **02 40 25.4 -1.7**
comp=N,0.1nm,0.3s,baz=306,slow=13,SNR=3.6
comp=N,0.9nm,0.6s
TXAR Lajitas Array 47.13 123 P **P 02 45 27.4 +1.7**
comp=N,0.3nm,0.7s,baz=344,slow=5.3,SNR=3.6
comp=N,0.3nm,0.7s

*SJA **29** 02:38:15.1±0.7, 19°.54S×69°.31W, h108km±3km, ML4.5, MW4.4*
*NEIC **29** 02:38:16.8±1.6, 19°.58S±0°.04×69°.31W±0°.06, h100km±3km, mb4.6/62, ML4.4(GUC), Error ellipse: s-maj=8.5km s-min=5.1km az=85.0*
*GUC **29** 02:38:16.4±0.8, 19°.55S×69°.38W, h98km±3km, ML4.4*
*IDC **29** 02:38:17.4±0.6, 19°.42S×69°.09W, h104km±5km, mb4.0/11, mbtmp4.4/15, Error ellipse: s-maj=17.2km s-min=12.2km az=76.0*
*VAO **29** 02:38:19.7±0.6, 19°.32S×68°.91W, h119km±5km, mb4.8*
ISC 29 02:38:16.3±0.4, 19°.53S±0°.02×69°.28W±0°.04, h101km±3km, h101km:pP-P, n186, σ1°.44/227, mb4.5/32, 9C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.16**	**148**		**Pn**	**02 38 31.4**	**+0.3**
GO01				Sn	**Sn**	**02 38 42.6**	**+0.4**
GO01	**Chusmiza**	**0.16**	**148**	⇓*iP*	**Pn**	**02 38 31.5**	**+0.3**
GO01				*eS*	**Sn**	**02 38 42.8**	**+0.6**
GO01	**Chusmiza**	**0.16**	**148**	*eP*	**Pn**	**02 38 31.6**	**+0.4**
GO01				*eS*	**Sn**	**02 38 43.3**	**+1.1**
GO01				IAML		02 38 45.4	
comp=E,25μm,0.5s							
PB11	**IPOC Station P**	**0.42**	**237**	Pn	**Pn**	**02 38 31.9**	**+0.1**
PB11				Sn	**Sn**	**02 38 43.4**	**-0.1**
PB11	**IPOC Station P**	**0.42**	**237**	⇑*iP*	**Pn**	**02 38 31.9**	**+0.1**
PB11				*eS*	**Sn**	**02 38 43.6**	**+0.1**
PB11	**IPOC Station P**	**0.42**	**237**	*eP*	**Pn**	**02 38 32.0**	**+0.1**
PB11				*eS*	**Sn**	**02 38 44.5**	**+1.0**
PB11				IAML		02 38 45.3	
comp=Z,24μm,0.7s							
PB08	**IPOC Station P**	**0.62**	**169**	Pn	**Pn**	**02 38 33.8**	**+0.3**
PB08				Sn	**Sn**	**02 38 46.2**	**-0.3**
PB08	**IPOC Station P**	**0.62**	**169**	⇑*iP*	**Pn**	**02 38 34.2**	**+0.6**
PB08				*eS*	**Sn**	**02 38 47.2**	**+0.8**
PB08				IAML		02 38 48.6	
comp=N,21μm,0.4s							
PB08	**IPOC Station P**	**0.62**	**169**	*eP*	**Pn**	**02 38 33.6**	**0.0**
PB08				IAML		02 38 49.3	
comp=Z,7μm,0.5s							
PX03	**IPOC Station P**	**0.93**	**201**	*eP*	**Pn**	**02 38 35.6**	**-0.6**
PX03				*eS*	**Sn**	**02 38 50.6**	**-0.5**
PX03				IAML		02 38 53.0	
comp=N,16μm,0.8s							
PX02	**IPOC Station P**	**1.03**	**303**	*eP*	**Pn**	**02 38 36.4**	**-0.9**
PX02				*eS*	**Sn**	**02 38 52.0**	**-1.1**
TA02	**Huaiquique**	**1.08**	**227**	*eP*	**Pn**	**02 38 37.7**	**0.0**
TA02				IAML		02 38 54.5	
comp=N,9μm,0.1s							
TA02	**Huaiquique**	**1.08**	**227**	*eP*	**Pn**	**02 38 37.7**	**0.0**
TA02				*eS*	**Sn**	**02 38 54.3**	**+0.5**
TA02				IAML		02 38 57.7	
comp=Z,3μm,0.1s							
PB16	**IPOC Station P**	**1.21**	**350**	Pn	**Pn**	**02 38 40.9**	**+1.2**
PB16				Sn	**Sn**	**02 38 58.1**	**+0.7**
PB16	**IPOC Station P**	**1.21**	**350**	⇓*iP*	**Pn**	**02 38 41.0**	**+1.2**
PB16				*eS*	**Sn**	**02 38 58.8**	**+1.4**
PB16				IAML		02 39 00.8	
comp=N,17μm,0.7s							
PB16	**IPOC Station P**	**1.21**	**350**	*eP*	**Pn**	**02 38 40.3**	**+0.5**
PB16				IAML		02 39 00.5	
comp=Z,7μm,0.7s							
TA01	**Diego Aracena**	**1.33**	**219**	Pn	**Pn**	**02 38 40.1**	**-0.4**
TA01				Sn	**Sn**	**02 38 57.5**	**-1.4**
TA01	**Diego Aracena**	**1.33**	**219**	⇑*iP*	**Pn**	**02 38 40.1**	**-0.4**
TA01				*eS*	**Sn**	**02 38 57.9**	**-1.0**
TA01	**Diego Aracena**	**1.33**	**219**	*eP*	**Pn**	**02 38 40.3**	**-0.2**
TA01				*eS*	**Sn**	**02 39 03.4**	**+4.5**
PB12	**IPOC Station P**	**1.35**	**313**	Pn	**Pn**	**02 38 40.6**	**-0.2**
PB12				Sn	**Sn**	**02 38 58.3**	**-1.1**
PB12	**IPOC Station P**	**1.35**	**313**	⇑*iP*	**Pn**	**02 38 40.6**	**-0.2**
PB12				*eS*	**Sn**	**02 38 58.9**	**-0.6**
PB12				IAML		02 39 01.6	
comp=N,9μm,0.2s							
PB12	**IPOC Station P**	**1.35**	**313**	*eP*	**Pn**	**02 38 40.7**	**-0.2**
PB12				*eS*	**Sn**	**02 38 59.2**	**-0.3**
PB12				IAML		02 39 01.5	
comp=Z,4μm,0.3s							
PB01	**IPOC Station P**	**1.51**	**187**	Pn	**Pn**	**02 38 43.1**	**+0.2**
PB01				Sn	**Sn**	**02 39 03.2**	**+0.2**
PB01	**IPOC Station P**	**1.51**	**187**	⇑*iP*	**Pn**	**02 38 43.3**	**+0.5**
PB01				*eS*	**Sn**	**02 39 03.6**	**+0.6**
PB01				IAML		02 39 05.2	
comp=E,7μm,0.7s							
PB01	**IPOC Station P**	**1.51**	**187**	*eP*	**Pn**	**02 38 43.4**	**+0.5**
PB01				*eS*	**Sn**	**02 39 04.3**	**+1.2**
PB01				IAML		02 39 05.5	
comp=Z,3μm,0.6s							
PATCX	**Punta Patache**	**1.52**	**212**	Pn	**Pn**	**02 38 42.5**	**-0.4**
PATCX				Sn	**Sn**	**02 39 01.9**	**-1.3**
PATCX	**Punta Patache**	**1.52**	**212**	⇑*iP*	**Pn**	**02 38 42.5**	**-0.4**
PATCX				*eS*	**Sn**	**02 39 02.5**	**-0.7**
PATCX				IAML		02 39 09.6	
comp=N,6μm,0.5s							
PATCX	**Punta Patache**	**1.52**	**212**	*eP*	**Pn**	**02 38 42.6**	**-0.4**
PATCX				*eS*	**Sn**	**02 39 03.7**	**+0.5**
PATCX				IAML		02 39 07.9	
comp=Z,4μm,0.5s							
AP01	**Chacalluta**	**1.53**	**319**	Pn	**Pn**	**02 38 43.5**	**+0.5**
AP01				Sn	**Sn**	**02 39 03.2**	**0.0**
AP01	**Chacalluta**	**1.53**	**319**	*eP*	**Pn**	**02 38 43.2**	**+0.3**
AP01				*eS*	**Sn**	**02 39 03.1**	**-0.1**
AP01				IAML		02 39 09.5	
comp=E,13μm,0.3s							
AP01	**Chacalluta**	**1.53**	**319**	*eP*	**Pn**	**02 38 43.1**	**+0.1**
AP01				*eS*	**Sn**	**02 39 05.0**	**+1.8**
AP01				IAML		02 39 06.4	
comp=Z,5μm,0.4s							
PB02	**IPOC Station P**	**1.87**	**198**	Pn	**Pn**	**02 38 47.3**	**0.0**
PB02				Sn	**Sn**	**02 39 10.1**	**-0.9**
PB02	**IPOC Station P**	**1.87**	**198**	⇑*iP*	**Pn**	**02 38 47.4**	**+0.1**
PB02				IAML		02 39 19.5	
comp=E,7μm,0.4s							
PB02	**IPOC Station P**	**1.87**	**198**	*eP*	**Pn**	**02 38 47.5**	**+0.1**
PB02				*eS*	**Sn**	**02 39 16.9**	**+5.9**
PB02				IAML		02 39 20.2	
comp=Z,4μm,0.4s							
PB18	**Visviri**	**1.94**	**354**	Pn	**Pn**	**02 38 51.5**	**+2.8**
PB18				Sn	**Sn**	**02 39 17.8**	**+4.4**
PB18	**Visviri**	**1.94**	**354**	⇑*eP*	**Pn**	**02 38 51.7**	**+2.9**
PB09	**IPOC Station P**	**2.25**	**179**	Pn	**Pn**	**02 38 53.4**	**+1.0**
PB09				Sn	**Sn**	**02 39 20.3**	**+0.4**
PB09	**IPOC Station P**	**2.25**	**179**	⇑*iP*	**Pn**	**02 38 53.1**	**+0.8**
PB09				IAML		02 39 25.8	
comp=N,2μm,0.6s							
PB09	**IPOC Station P**	**2.25**	**179**	*eP*	**Pn**	**02 38 53.3**	**+1.0**
PB09				*eS*	**Sn**	**02 39 17.9**	**-2.0**
PB09				IAML		02 39 26.6	
comp=Z,2μm,0.9s							
PB03	**IPOC Station P**	**2.54**	**190**	Pn	**Pn**	**02 38 56.7**	**+0.6**
PB03	**IPOC Station P**	**2.54**	**190**	*eP*	**Pn**	**02 38 56.9**	**+0.7**
PB03				IAML		02 39 34.5	
comp=E,1μm,0.6s							
PB03	**IPOC Station P**	**2.54**	**190**	*eP*	**Pn**	**02 38 56.7**	**+0.6**
PB03				*eS*	**Sn**	**02 39 26.1**	**-0.5**
PB03				IAML		02 39 36.4	
comp=Z,1μm,0.2s							
PB06	**IPOC Station P**	**3.17**	**185**	Pn	**Pn**	**02 39 04.3**	**-0.2**
PB06	**IPOC Station P**	**3.17**	**185**	*eP*	**Pn**	**02 39 03.9**	**-0.6**
PB06	**IPOC Station P**	**3.17**	**185**	*eP*	**Pn**	**02 39 04.4**	**-0.2**
PB06				*eS*	**Sn**	**02 39 40.4**	**-1.2**
PB06				IAML		02 40 08.4	
comp=Z,1μm,0.6s							
LPAZ	**La Paz**	**3.41**	**19**	Pn	**Pn**	**02 39 10.8**	**+2.7**
LPAZ	**La Paz**	**3.41**	**19**	P	**Pn**	**02 39 10.5**	**+2.4**
comp=Z,324nm,0.8s,baz=209,slow=8.9,SNR=789							
LPAZ	**La Paz**	**3.41**	**19**	*eP*	**Pn**	**02 39 11.0**	**+2.9**
LPAZ	**La Paz**	**3.41**	**19**	*eP*	**Pn**	**02 39 10.9**	**+2.7**
AF01	**San Pedro de A**	**3.55**	**163**	Pn	**Pn**	**02 39 10.5**	**+0.8**
AF01	**San Pedro de A**	**3.55**	**163**	*eP*	**Pn**	**02 39 13.0**	**+3.3**
AF01	**San Pedro de A**	**3.55**	**163**	*eP*	Pn	02 38 55.9	-14
AF01				*eS*	Sn	02 40 05.8	+15
AF01				IAML		02 40 44.5	
comp=Z,2μm,0.7s							
PB10	**IPOC Station P**	**4.13**	**196**	Pn	**Pn**	**02 39 16.4**	**-0.9**
PB10	**IPOC Station P**	**4.13**	**196**	*eP*	**Pn**	**02 39 16.2**	**-1.1**
PB10	**IPOC Station P**	**4.13**	**196**	*eP*	**Pn**	**02 39 16.4**	**-0.9**
PB10				*eS*	**Sn**	**02 40 02.8**	**-1.8**
PB10				IAML		02 40 22.1	
comp=Z,254nm,0.7s							
YJA	**Yavi**	**4.40**	**127**	*eP*	**Pn**	**02 39 24.4**	**+3.2**
HJA	**Humahuaca**	**5.14**	**136**	*eP*	**Pn**	**02 39 34.5**	**+3.3**
PB14	**IPOC Station P**	**5.17**	**191**	Pn	**Pn**	**02 39 30.1**	**-1.6**
PB14	**IPOC Station P**	**5.17**	**191**	*eP*	Pn	02 39 39.5	+7.8
PB14				*eS*	Sn	02 40 40.9	+11
PB14				IAML		02 41 02.8	
comp=Z,230nm,0.6s							
GO02	**Mina Guanaco**	**5.61**	**183**	Pn	**Pn**	**02 39 36.6**	**-0.9**
AC02	**Maricunga**	**7.27**	**179**	Pn	**Pn**	**02 39 59.1**	**-1.2**
SIV	**San Ignacio**	**8.58**	**67**	P	**Pn**	**02 40 15.8**	**-2.0**
comp=Z,106nm,0.5s,baz=255,slow=11,SNR=654							
NNA	**Nana**	**10.45**	**315**		**Pn**	**02 40 43.2**	**0.0**
NNA	**Nana**	**10.45**	**315**	P	**Pn**	**02 40 43.8**	**+0.6**
comp=Z,3.8nm,0.3s,baz=221,slow=20,SNR=1.4							
NNA				S	**Sn**	**02 42 32.1**	**-6.3**
comp=Z,7.3nm,0.3s,baz=246,slow=18,SNR=1.7							
PTLB	**Pontes e Lacer**	**10.50**	**69**	Pn	**Pn**	**02 40 41.8**	**-2.0**
PTLB	**Pontes e Lacer**	**10.50**	**69**	*eP*	**Pn**	**02 40 41.1**	**-2.6**
VILB	**Vilhena**	**10.90**	**54**	*eP*	**Pn**	**02 40 47.1**	**-2.2**
BDQN	**Bodoquena, MS**	**11.82**	**97**	*eP*	**Pn**	**02 40 58.2**	**-3.4**
CFA	**Coronel Fontan**	**12.06**	**176**	P	**Pn**	**02 41 05.2**	**+0.5**
comp=Z,1.1nm,0.4s,baz=322,slow=8.8,SNR=3.6							
AQDB	**Aquidauana**	**12.80**	**96**		**Pn**	**02 41 12.8**	**-1.8**
CPUP	**Villa Florida**	**12.92**	**124**	P	**Pn**	**02 41 14.7**	**-1.4**
comp=Z,1.9nm,0.7s,baz=170,slow=12,SNR=2.8							
VA03	**San Esteban**	**13.22**	**185**	Pn	**Pn**	**02 41 21.1**	**+1.0**
SALV	**Santo Antonio**	**13.44**	**77**	*eP*	**Pn**	**02 41 19.5**	**-3.5**
AMBA	**Amambai (Brazi**	**13.75**	**107**	*eP*	**Pn**	**02 41 26.4**	**-0.5**
MT02	**Curacav**	**13.77**	**187**	Pn	**Pn**	**02 41 26.8**	**-0.4**
PP1B	**Ponte de Pedra**	**13.79**	**84**	*eP*	**Pn**	**02 41 24.9**	**-2.7**
MT08	**Bocatoma Ro**	**13.87**	**183**	Pn	**Pn**	**02 41 28.4**	**-0.3**
MT16	**CCHEN**	**13.88**	**184**	Pn	**Pn**	**02 41 27.9**	**-0.8**
MT03	**Universidad Ad**	**13.95**	**184**	Pn	**Pn**	**02 41 29.4**	**-0.2**
MT09	**Talagante**	**14.27**	**186**	Pn	**Pn**	**02 41 33.3**	**-0.4**
LMEL	**Las Melosas**	**14.28**	**183**	Pn	**Pn**	**02 41 33.5**	**-0.4**
PDRB	**Porto dos Gac**	**14.43**	**59**	*eP*	Pn	02 41 31.0	-4.7
BO04	**La Punta**	**14.45**	**184**	Pn	**Pn**	**02 41 33.5**	**-2.4**
BO02	**Sierra Bellavi**	**15.26**	**185**	Pn	**Pn**	**02 41 46.5**	**+0.2**
BO02				IAmb	IAmb	02 41 52.3	
comp=Z,53nm,0.9s							
CLDB	**Colider**	**15.60**	**58**	*eP*	**Pn**	**02 41 48.1**	**-2.4**
TEFE	**Tefe**	**16.56**	**16**	*eP*	**Pn**	**02 42 00.6**	**-2.0**
PTGB	**Pitanga**	**16.76**	**111**	*eP*	**Pn**	**02 42 05.7**	**+0.6**
ARAG	**Araguaiana, MT**	**17.08**	**80**	*eP*	**Pn**	**02 42 06.9**	**-2.0**
ITAB	**Concordia**	**17.50**	**119**	P	**P**	**02 42 12.7**	**-0.9**
ITAB				IAmb	IAmb	02 42 16.4	
comp=Z,20nm,0.8s							
ITAB	**Concordia**	**17.50**	**119**	*eP*	**P**	**02 42 13.7**	**+0.1**
CPSB	**Cacapava Do Su**	**17.96**	**130**	*eP*	**Pn**	**02 42 20.0**	**+0.5**
MACA	**Manacapuru-AM**	**18.31**	**28**	P	**P**	**02 42 21.3**	**-1.3**
MACA	**Manacapuru-AM**	**18.31**	**28**	*eP*	**P**	**02 42 20.6**	**-2.1**
NPGB	**Novo Progresso**	**18.36**	**49**	*eP*	**P**	**02 42 21.2**	**-2.0**
FRTB	**Fartura**	**18.74**	**105**	*eP*	**P**	**02 42 27.0**	**-0.3**
SNDB	**Serra Nova Dou**	**18.86**	**69**	*eP*	**P**	**02 42 26.2**	**-2.4**
TRQA	**Tornquist**	**19.52**	**163**	P	**P**	**02 42 36.0**	**+0.3**
TRQA				IAmb	IAmb	02 42 37.5	
comp=Z,22nm,0.9s							
BB19B	**Bebedouro**	**19.53**	**98**	*eP*	**P**	**02 42 34.9**	**-1.0**
IPMB	**Ipameri, GO**	**20.01**	**89**	*eP*	**P**	**02 42 40.0**	**-1.2**
ITTB	**Itaituba**	**20.05**	**43**	*eP*	**P**	**02 42 39.7**	**-1.8**
RCLB	**Rio Claro- Sao**	**20.51**	**102**	*eP*	**P**	**02 42 45.4**	**-1.2**
BDFB	**Brasilia**	**20.64**	**83**		**P**	**02 42 47.2**	**-0.8**
BDFB				IAmb	IAmb	02 42 50.8	
comp=Z,18nm,0.6s							
BDFB	**Brasilia**	**20.64**	**83**	P	**P**	**02 42 46.6**	**-1.4**
comp=Z,16nm,0.5s,baz=253,slow=10,SNR=38							
comp=Z,16nm,0.5s							
VAO	**Valinhos**	**21.08**	**103**	*eP*	**P**	**02 42 51.2**	**-1.5**
PLCA	**Paso Flores**	**21.16**	**183**	P	**P**	**02 42 53.6**	**+0.3**
PLCA				IAmb	IAmb	02 42 57.6	
comp=Z,25nm,0.8s							
PLCA	**Paso Flores**	**21.16**	**183**	P	**P**	**02 42 53.9**	**+0.6**
comp=Z,24nm,0.9s,baz=358,slow=11,SNR=23							
PLCA				pP	**pP**	**02 43 16.0**	**+2.9**
comp=Z,6.0nm,0.9s,baz=334,slow=11,SNR=2.4							
comp=Z,24nm,0.9s							
PLCA	**Paso Flores**	**21.16**	**183**	*eP*	**P**	**02 42 55.9**	**+2.6**
OTAV	**Otavalo**	**21.61**	**334**	*eP*	**P**	**02 43 00.3**	**+1.6**
FLOC	**Florencia**	**21.90**	**343**	P	**P**	**02 43 00.9**	**-0.4**
MAL2	**Monte Alegre,**	**22.83**	**42**	P	**P**	**02 43 08.9**	**-2.1**
LL01	**San Ignacio de**	**22.93**	**186**	P	**P**	**02 43 12.1**	**+0.5**
LL01				IAmb	IAm

BOAV	Boa Vista	23.43	23	eP		P	02 43 15.7	-0.9
SMTB	Santa Maria do	23.52	66	eP		P	02 43 16.3	-1.2
DIAM	Diamantina, MG	24.25	91	eP		P	02 43 23.4	-0.8
SDBA	SAO DESIDERIO	24.47	77	eP		P	02 43 24.8	-1.3
RUSC	La Rusia	25.54	351	P		P	02 43 35.7	-0.6
GUA01	Guaratinga, BA	28.16	89	eP		P	02 43 58.5	-0.8
BAUV	El Baul	28.32	3	P		P	02 43 59.7	-1.0
NBAN	Anadia - AL	33.35	78	eP		P	02 44 43.0	-2.1
MTO3	Montecristo	39.08	328	P		P	02 45 35.2	+1.2
MTO3				IAmb		IAmb	02 45 36.3	
	comp=Z,5.0nm,0.7s							
CAMR	Camarioca	43.95	344	P		P	02 46 14.3	+0.9
CAMR				IAmb		IAmb	02 46 18.3	
	comp=Z,301nm,1.4s							
ZAIG	Zacatecas	53.14	321	P		P	02 47 25.3	+1.0
ZAIG				IAmb		IAmb	02 47 26.9	
	comp=Z,6.9nm,1.0s							
HNDO	Hondo	56.71	329	P		P	02 47 50.0	+0.5
DRIO	Del Rio	57.29	327	P		P	02 47 53.6	0.0
DRIO				IAmb		IAmb	02 47 55.1	
	comp=Z,3.6nm,0.9s							
WLAR	White Oak Lake	57.60	336	P		P	02 47 56.5	+0.9
TXAR	Lajitas Array	58.83	325	P		P	02 48 04.5	0.0
	comp=Z,0.8nm,0.8s,baz=146,slow=7.7,SNR=9.5							
	comp=Z,0.8nm,0.8s							
TX31	Lajitas Ar. Si	58.83	325	P		P	02 48 04.1	-0.4
MNHN	Monahans	59.93	327	P		P	02 48 11.3	-0.6
MNHN				IAmb		IAmb	02 48 13.2	
	comp=Z,5.2nm,0.8s							
APMT	Aspermont	60.25	330	P		P	02 48 14.5	+0.5
APMT				IAmb		IAmb	02 48 15.0	
	comp=Z,5.4nm,0.8s							
FVM	French Village	60.57	341	P		P	02 48 15.7	-0.4
FVM				IAmb		IAmb	02 48 20.9	
	comp=Z,7.7nm,0.8s							
DEOK	Depew	60.81	335	P		P	02 48 18.3	+0.5
CCM	Cathedral Cave	60.89	340	P		P	02 48 18.0	-0.3
CCM				IAmb		IAmb	02 48 23.9	
	comp=Z,5.0nm,0.8s							
MNTX	Cornudas Mount	61.59	325	P		P	02 48 23.0	-0.1
MNTX				IAmb		IAmb	02 48 23.7	
	comp=Z,2.4nm,0.8s							
SMWD	Samnorwood	61.78	331			P	02 48 24.3	-0.1
SMWD				IAmb		IAmb	02 48 26.1	
	comp=Z,7.8nm,0.9s							
MSTX	Muleshoe	62.04	329	P		P	02 48 26.5	+0.2
MSTX				IAmb		IAmb	02 48 28.5	
	comp=Z,15nm,1.4s							
VNA3	Neumayer Olymp	62.04	162	⇓P		P	02 48 26.8	+1.1
	comp=Z,3.2nm,0.8s							
VNA1	Neumayer--Stat	62.25	161	⇓P		P	02 48 28.0	+1.0
	comp=Z,5.5nm,1.2s							
VNA2	Neumayer--Watz	62.61	161	⇓P		P	02 48 30.4	+1.0
	comp=Z,3.4nm,0.7s,baz=292,slow=6.3							
P38A	Dawn	63.06	339	P		P	02 48 32.8	0.0
P38A				IAmb		IAmb	02 48 33.4	
	comp=Z,6.2nm,0.5s							
SNAA	Sanae	64.24	161	⇓P		P	02 48 41.1	+0.9
	comp=Z,79nm,0.7s							
SNAA	Sanae	64.24	161	P		P	02 48 40.9	+0.6
SNAA				IAmb		IAmb	02 48 42.3	
	comp=Z,16nm,1.5s							
SNAA	Sanae	64.24	161	P		P	02 48 41.4	+1.1
	comp=Z,2.5nm,0.6s,baz=275,slow=7.3,SNR=40							
	comp=Z,2.5nm,0.6s							
CBKS	Cedar Bluff	64.68	334			P	02 48 43.9	+0.4
TROLL	Troll, Antarti	65.96	161	⇓P		P	02 48 52.6	+1.2
	comp=Z,215nm,0.8s							
L34A	Svendsen Farm,	66.12	338	P		P	02 48 52.6	0.0
K30B	Basset	67.92	336	P		P	02 49 04.4	+0.3
DBIC	Dimbokro	68.53	74	P		P	02 49 07.8	-0.7
DBIC				IAmb		IAmb	02 49 08.4	
	comp=Z,13nm,0.8s							
DBIC	Dimbokro	68.53	74	P		P	02 49 07.5	-1.0
	comp=Z,15nm,0.8s,baz=270,slow=6.1,SNR=14							
	comp=Z,15nm,0.8s							
BC3	Big Chuckawall	68.81	320	P		P	02 49 10.5	+0.5
U15A	North Rim	68.92	324			P	02 49 12.1	+1.4
IRM	Iron Mountain	68.97	320	P		P	02 49 11.7	+0.9
IRM				IAmb		IAmb	02 49 13.5	
	comp=Z,7.3nm,1.2s							
KNB	Kanab	69.64	324	P		P	02 49 15.7	+0.6
KNB				IAmb		IAmb	02 49 18.2	
	comp=Z,5.7nm,0.9s							
V12A	Nelson	69.88	322	P		P	02 49 16.9	+0.4
SHPR	Sheep Range	70.60	322	P		P	02 49 22.0	+1.1
QSPA	South Pole Qui	70.65	180	P		P	02 49 22.9	+2.1
QSPA				IAmb		IAmb	02 49 25.5	
	comp=Z,4.9nm,0.7s							
QSPA	South Pole Qui	70.65	180	P		P	02 49 23.6	+2.8
	comp=Z,5.2nm,0.8s,baz=322,slow=0.6,SNR=19							
	comp=Z,5.2nm,0.8s							
GWY	Greenwater Val	71.26	321			P	02 49 26.0	+1.1
GWY				IAmb		IAmb	02 49 27.3	
	comp=Z,3.7nm,0.8s							
PDAR	Pinedale Array	72.24	330	P		P	02 49 31.1	+0.4
	comp=Z,0.4nm,0.4s,baz=120,slow=7.9,SNR=7.5							
	comp=Z,0.4nm,0.4s							
HWUT	Hardware Ranch	72.34	328			P	02 49 31.8	+0.5
MDPB	Devils Postpil	73.66	321	P		P	02 49 38.7	-0.6
NVAR	Mina Array Bea	73.74	322	P		P	02 49 40.9	+1.2
	comp=Z,1.2nm,0.6s,baz=167,slow=7.2,SNR=4.0							
	comp=Z,1.2nm,0.6s							
YNE	Yellowstone No	74.17	331	P		P	02 49 42.8	+0.8
YNE				IAmb		IAmb	02 49 44.1	
	comp=Z,9.9nm,0.7s							
BBGB	Big Mountain B	74.17	319	P		P	02 49 41.8	-0.3
HLID	Hailey	75.20	328			P	02 49 48.6	+0.6
PAHR	Pah Rah Range	75.21	322			P	02 49 49.1	+1.0
PAHR				IAmb		IAmb	02 49 50.9	
	comp=Z,6.5nm,0.8s							
MFID	Camas Ranch	75.81	327			P	02 49 51.6	+0.2
MFID				IAmb		IAmb	02 49 54.2	
	comp=Z,5.2nm,1.1s							
ORV	Oroville	76.35	321	P		P	02 49 55.2	+0.8
ORV				IAmb		IAmb	02 49 57.1	
	comp=Z,4.9nm,1.1s							
PLID	Pearl Lake	77.09	328			P	02 49 59.2	+0.5
BMO	Blue Mountains	77.58	327	P		P	02 50 01.4	+0.1
VNDA	Vanda	78.72	190	P		P	02 50 07.7	+0.7
VNDA	Vanda	78.72	190	P		P	02 50 08.4	+1.5
	comp=Z,1.1nm,0.8s,baz=110,slow=5.9,SNR=6.9							
VNDA				pP		pP	02 50 35.5	+1.8
	comp=Z,0.5nm,0.6s,baz=265,slow=16,SNR=2.2							
	comp=Z,1.1nm,0.8s							
ESDC	Sonseca Array	84.69	45	P		P	02 50 38.9	-0.1
ESDC	Sonseca Array	84.69	45	P		P	02 50 39.0	-0.1
	comp=Z,1.9nm,1.1s,baz=253,slow=5.1,SNR=8.1							
ESDC				pP		pP	02 51 06.5	-0.3
	comp=Z,1.6nm,0.9s,baz=255,slow=5.5,SNR=4.8							
	comp=Z,1.9nm,1.1s							
YKA	Yellowknife Ar	89.22	341	P		P	02 51 00.8	+0.5
YKA						pP	02 51 27.8	-0.3
YKA	Yellowknife Ar	89.22	341	P		P	02 51 00.7	+0.4
	comp=Z,5.4nm,0.8s,baz=140,slow=4.1,SNR=21							
YKA				pP		pP	02 51 28.4	+0.2
	comp=Z,5.1nm,0.9s,baz=144,slow=4.3,SNR=7.5							
	comp=Z,5.4nm,0.8s							
YKAW3	Yellowknife Wh	89.28	341	P		P	02 51 01.0	+0.4
YKAW3				IAmb		IAmb	02 51 02.4	
	comp=Z,12nm,0.9s							
ASAR	Alice Springs	131.47	209	PKP		PKPdf	02 57 18.0	+0.2
	comp=Z,1.2nm,0.5s,baz=123,slow=1.7,SNR=4.9							
WRA	Warramunga Arr	134.45	212	PKP		PKPdf	02 57 24.0	+0.6
	comp=Z,2.1nm,0.7s,baz=141,slow=1.5,SNR=6.2							
HILR	Hailar Array B	149.18	348	PKPbc		PKPbc	02 57 53.2	+0.3
	comp=Z,3.3nm,0.4s,baz=39,slow=0.9,SNR=5.4							
USRK	Ussuriysk Ar.	149.86	329	PKPbc		PKPbc	02 57 54.5	+0.4
	comp=Z,4.3nm,0.7s,baz=290,slow=0.8,SNR=5.7							
MJAR	Matsushiro Arr	150.55	311			PKPbc	02 57 56.6	0.0
MJAR	Matsushiro Arr	150.55	311	PKPbc		PKiKP	02 57 57.4	0.0
	comp=Z,3.3nm,0.6s,baz=81,slow=2.3,SNR=7.9							
MJAR				pPKPbc		pPKPbc	02 58 25.3	+0.1
	comp=Z,0.8nm,0.4s,baz=34,slow=11,SNR=1.9							
SONM	Songino Array	151.55	6			PKPbc	02 57 59.1	+0.4
SONM	Songino Array	151.55	6	PKPbc		PKiKP	02 57 59.5	+0.3
	comp=Z,3.9nm,0.6s,baz=274,slow=0.4,SNR=10							

IGQ 29 02:42:27.7±0.5, 3°S±2°×8°1W±°, h5km±1km, MLv3.8/33, 7D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APLA	Playas - Guaya	0.74	45	S	Sg	02 42 51.2	-0.4
ISPG	Isla Puna-Puer	0.77	76	⇓P	Pb	02 42 43.9	+0.1
ISPG				S	Sb	02 42 55.8	+1.3
PU01	PU01	0.78	63	⇓P	Pn	02 42 45.2	-0.2
MORR	Playas El Morr	0.78	48	S	Sg	02 42 52.4	-0.3
MORR				P	Pg	02 42 42.5	-0.1
PU02	PU02	0.93	69	⇓P	Pg	02 42 44.8	-0.7
SALI	Salinas	0.97	356	P	Pg	02 42 46.5	+0.1
SALI				S	Sg	02 42 59.2	+0.2
ACH2	Ecuador-Machal	1.11	95	P	Pg	02 42 47.5	-1.6
PU03	PU03	1.14	77	⇓P	Pg	02 42 47.7	-1.9
PU04	PU04	1.41	71	P	Pn	02 42 51.9	-2.2
PCRA	Pucara 2	1.42	92	⇓P	Pn	02 42 51.3	-3.3
GYE3	Ecuador-Guayaq	1.43	46	P	Pn	02 42 52.0	-2.4
MCRA	Macar, Loja	1.54	141	P	Pn	02 42 54.7	-1.3
MILO	Milagro-Astudi	1.62	57	P	Pn	02 42 55.3	-1.7
COHC	Cochancay	1.80	68	P	Pn	02 42 57.1	-2.4
GONZ	Gonzanam	1.86	125	P	Pn	02 43 00.2	-0.4
ALJ1	Ecuador-Loja-U	1.91	116	P	Pn	02 43 00.3	-0.8
ACUE	Ecuador-Cuenca	1.98	83	P	Pn	02 43 01.9	-0.3
MONB	Balzapamba Mon	2.21	51	P	Pn	02 43 01.7	-3.5
JSCH	Cashca Tororas	2.41	54	P	Pn	02 43 05.2	-3.0
BOSC	San Juan Bosco	2.42	90	P	Pn	02 43 07.8	-0.3
ZUMB	Zumba	2.45	134	P	Pn	02 43 09.2	+0.6
PECV	Mancha de Ca P	2.52	20	⇓P	Pn	02 43 06.6	-2.9
CHSH	Refugio Sur-Vo	2.63	51	P	Pn	02 43 09.7	-1.8
BPAT	Tungurahua Vol	2.98	57	P	Pn	02 43 14.8	-1.4
ILLI	Illinizas Sur	3.27	42	P	Pn	02 43 19.4	-0.8
PIS1	Pisayambo	3.28	51	P	Pn	02 43 21.8	+1.5
SLOR	San Lorenzo -	3.42	45	P	Pn	02 43 22.7	+0.5
VCES	Cotopaxi	3.44	47	P	Pn	02 43 22.9	+0.3
BMOR	Cotopaxi Volca	3.45	46	P	Pn	02 43 22.9	+0.3
SUCR	Mariscal Sucre	3.48	44	P	Pn	02 43 23.6	+0.5
BREF	Cotopaxi Volca	3.50	45	P	Pn	02 43 24.1	+0.7
BTAM	Cotopaxi Volca	3.53	46	P	Pn	02 43 25.0	+1.2
BVC2	Cotopaxi Volca	3.53	45	P	Pn	02 43 22.3	-1.5
TAMB	Tambo	3.54	46	P	Pn	02 43 24.0	+0.1
BV15	Puerto Quito-O	3.71	27	P	Pn	02 43 23.3	-2.5
GGPT	Toaza - Volcan	3.71	38	P	Pn	02 43 25.1	-1.1
JUA2	San Juan 2	3.73	38	P	Pn	02 43 26.0	-0.5
TERV	Terraza Guagua	3.76	38	P	Pn	02 43 26.1	-0.9
GGPC	Guagua Pichinc	3.76	38	P	Pn	02 43 26.2	-0.8
PINO	Pino	3.77	38	⇓P	Pn	02 43 26.3	-0.9
YANA	Yana	3.83	38	P	Pn	02 43 26.9	-0.9
PULU	Pululahua	3.98	37	P	Pn	02 43 29.0	-0.8
PAC1	Pacto, Paraso	4.01	32	P	Pn	02 43 27.9	-2.2
OTAV	Otavalo	4.18	36	P	Pn	02 43 31.7	-1.0
CUSE	Cuicocha Este	4.27	36	P	Pn	02 43 33.6	-0.2
CUIC	Cuicocha-Domo	4.29	37	P	Pn	02 43 33.7	-0.3
CAYR	Refugio Cayamb	4.29	43	P	Pn	02 43 36.7	+2.4
ANGU	Angureal	4.32	42	P	Pn	02 43 37.1	+2.5
URCU	Urcuqui	4.46	37	P	Pn	02 43 36.5	0.0
RVRD	Rio Verde	4.47	20	P	Pn	02 43 36.0	-0.2
LITE1	Lita	4.69	33	P	Pn	02 43 38.6	-0.8
LNGL	El Angel-Carch	4.85	37	P	Pn	02 43 44.2	+2.3
CHMA	Chilma	4.91	36	P	Pn	02 43 42.8	+0.2
CHL1	Volc¡n Chiles	4.92	37	P	Pn	02 43 44.3	+1.3
ECEN	Cerro Negro	4.93	37	P	Pn	02 43 43.1	0.0
CHL2	Volc¡n Chiles	4.95	37	P	Pn	02 43 45.1	+1.8

IDC ***29*** *02:42:35.4±0.4, 6°71N×124°89E, h0km, mb5.3/36, mbtmp5.3/38, ML5.2/2, MS5.4/46, Error ellipse: s-maj=9.3km s-min=8.4km az=144.0*
MOS ***29*** *02:42:35.7±0.9, 6°81N×124°96E, h10km, mb5.9/69, MS5.5/31, Error ellipse: s-maj=7.7km s-min=4.0km az=114.0*
BJI ***29*** *02:42:36.8, 6°85N×125°20E, h14km, mB6.0/50, mb5.6/89, Ms5.7/92, Ms7 5.4/89*
NEIC ***29*** *02:42:38.3±1.8, 6°87N±0°06×124°99E±0°05, h10km±1km, mb5.8/401, Ms_20 5.6/136, Mww5.9/32, Error ellipse: s-maj=10.3km s-min=7.6km az=160.0*
MAN ***29*** *02:42:38.8, 6°86N×125°02E, h16km, mb6.2, ML5.3, MS5.9*
MAN INTENSITY VI - KIDAPAWAN CITY COTABATO; INTENSITY V - DAVAO CITY; INTENSITY III - GENERAL SANTOS CITY; TAMPAKAN SOUTH COTABATO; CAGAYAN DE ORO CITY; INTENSITY II - DIPOLOG CITY AND POLANCO ZAMBOANGA DEL NORTE; INTENSITY I - ZAMBOANGA CITY.
NEIC ***29*** *02:42:39, 6°86N×125°00E, h24km*
NEIC ***29*** *02:42:39, 6°86N×125°20E, h24km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.95; $M_{\theta\theta}$6.07; $M_{\phi\phi}$-5.13; $M_{r\theta}$-0.04; $M_{\theta\phi}$6.09; $M_{\phi r}$0.88; Fault plane solution: $M_0$8.36000×10^{17} NP1: ϕ_s111.13000°, δ83.89000°, λ-3.49000°. NP2:ϕ_s201.50000°, δ86.53000°, λ-173.87000°. Principal axes: T 8.7589, Plg2.0000°, Azm336.0000°; N -0.8589, Plg83.0000°, Azm231.0000°; P -7.9000, Plg7.0000°, Azm66.0000°;*
DJA ***29*** *02:42:40.4±0.4, 7°N±4°×12°5E±°, h10km, M6.2/30, mB6.5/28, mb6.1/30, MLv6.4/10, Mw5.9/7, Mw(mB)6.3/28, MwMwp5.8/12, Mwp5.9/12*
GCMT ***29*** *02:42:41.3±0.1, 6°86N±0°01×124°95E±0°01, h22km, MW5.9/158, Moment Tensor Solution. s97,c143; s158,c402; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$0.63±.01; $M_{\phi\phi}$-0.47±.01; $M_{r\theta}$-0.20±.02; $M_{\theta\phi}$0.68±.01; $M_{\phi r}$-0.06±.02; Best double couple: $M_0$0.89700×10^{18} NP1:ϕ_s199.00000°, δ81.00000°, λ175.00000°. NP2:ϕ_s290.00000°, δ85.00000°, λ9.00000°. Principal axes: T 0.9950, Plg10.0000°, Azm155.0000°; N -0.1960, Plg79.0000°, Azm320.0000°; P -0.7990, Plg3.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 02:42:38.3±0.4, 6°86N±0°03×125°10E±0°03, h15km±2km, h15km:pP-P, n1353, σ1957/1252, mb5.8/338, MS5.6/170, 95C-55D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.52	66		Pn	02 42 51.0	-0.1
DAV				Sg	Sn	02 42 58.9	-0.7
DAV	Davao City (W)	0.52	66	Pg	Pn	02 42 51.7	+0.6
DAV				LR	LR	02 42 54.1	
	comp=Z,6.8nm,21.0s,baz=261,slow=24						
DAV				Lg	Lg	02 43 01.4	
DAV	Davao City (W)	0.52	66	P	Pn	02 42 51.6	+0.5
DAV				S	Sn	02 42 58.2	-1.4
DAV	Davao City (W)	0.52	66	P	Pn	02 42 51.3	+0.2
DAV	Davao City (W)	0.52	66	S	Sn	02 43 01.5	+1.9
DAV	Davao City (W)	0.52	66	⇓P	Pn	02 42 51.2	+0.2
DAV	Davao City (W)	0.52	66	P	Pg	02 42 47.0	-1.5
SGSI	Sangihe	3.18	172	P	Pn	02 43 29.3	+1.6
KMSI	Cibinong	6.34	190	P	Pn	02 44 13.2	+2.0
TNTI	Ternate	6.46	159		Pn	02 44 14.1	+1.4
TNTI	Ternate	6.46	159	P	Pn	02 44 14.9	+2.1
TNTI	Ternate	6.46	159	P	Pn	02 44 15.8	+3.0
	15nm41μm46μm5μm,1.2s						
TNTI	Ternate	6.46	159	⇑P	Pn	02 44 14.2	+1.4
MYLDM	Lahad Datu	6.77	256		Pn	02 44 18.3	+1.2
MYLDM	Lahad Datu	6.77	256	P	Pn	02 44 19.7	+2.5
MYLDM	Lahad Datu	6.77	256	⇓P	Pn	02 44 19.4	+2.2
MRSI	Marisa	7.08	207	P	Pn	02 44 20.7	-0.7
	12nm21μm3μm,0.7s						
TOLI2	Tolitoli	7.15	217		Pn	02 44 19.7	-2.6
LUWI	Luwuk	8.19	197	P	Pn	02 44 39.2	+2.7
LUWI	Luwuk	8.19	197		Pn	02 44 38.7	+2.2
LUWI	Luwuk	8.19	197	P	Pn	02 44 39.0	+2.5
LUWI	Luwuk	8.19	197	P	Pn	02 44 38.4	+1.9
	44μm5μm,1.1s						
LUWI	Luwuk	8.19	197	⇑P	Pn	02 44 40.1	+3.6
TGY	Tagaytay City	8.28	331	Pn	Pn	02 44 39.1	+1.2
	70nm,0.3s,baz=289,slow=5.2,SNR=11						
TGY				LR	LR	02 48 15.9	
	comp=Z,59μm,19.7s,baz=107,slow=41						
	143nm,0.3s						
APSI	Ampana	8.45	204	P	Pn	02 44 45.2	+5.0
	20μm2μm,1.2s						
SANI	Sanana	8.89	174	P	Pn	02 44 45.6	-0.7
SANI	Sanana	8.89	174	P	Pn	02 44 46.7	+0.4
SANI	Sanana	8.89	174	P	Pn	02 44 45.3	-1.0
	19μm2μm,0.9s						
SANI	Sanana	8.89	174	⇑P	Pn	02 44 45.2	-1.0
I39PW	PALAU INFRASON	9.39	85	I	I	03 35 24.1	
	0.1nm,0.8s,baz=269,slow=308,SNR=2.1						
SWI	Sorong	9.83	141	P	Pn	02 45 00.5	+1.4
	582nm,1.9s						
NLAI	Namlea	10.23	169	P	Pn	02 45 05.5	+0.9
	44μm15μm2μm,1.2s						
MSAI	Masohi	10.83	159	P	Pn	02 45 17.0	+4.1
	13μm690nm,1.3s						
AAI	Ambon	10.92	163	P	Pn	02 45 14.7	+0.6
	13μm955nm,0.8s						
KDI	Kendari	11.03	193	P	Pn	02 45 18.2	+2.7
BKB	Balikpapan	11.49	226	Pn	Pn	02 45 22.2	+0.2
SPSI	Sidrap Palu	12.00	206	P	Pn	02 45 36.0	+7.2
FAKI	Fak Fak	12.05	143	P	Pn	02 45 32.4	+2.8
FAKI	Fak Fak	12.05	143	P	Pn	02 45 30.7	+1.1
	18μm1μm,1.3s						
FAKI	Fak Fak	12.05	143	⇑P	Pn	02 45 31.2	+1.6
BNSI	Bone	12.25	204	P	Pn	02 45 35.4	+3.2
	13μm455nm,1.3s						
BNDI	Bandanaira	12.28	157	P	Pn	02 45 36.8	+4.1
	31μm3μm,1.7s						
BNDI	Bandanaira	12.28	157	⇑P	Pn	02 45 32.8	+0.1
RKPI	Ransiki, Papua	12.29	132	P	Pn	02 45 36.8	+3.9
	30μm2μm,1.8s						
MTKI	Muara Teweh, K	12.80	233	P	P	02 45 46.0	-4.7
KAPI	Kappang	12.95	204		Pn	02 45 42.3	+0.5
KAPI	Kappang	12.95	204	Pn	Pn	02 45 43.2	+1.4
	4.3nm,0.3s,baz=26,slow=7.6,SNR=14						
KAPI	Kappang	12.95	204	P	Pn	02 45 45.9	+4.1
KAPI				S	Sn	02 48 10.9	+5.2
KAPI	Kappang	12.95	204	⇓P	Pn	02 45 42.8	+1.0
KAPI	Kappang	12.95	204	⇑P	Pn	02 45 46.1	+4.3
KMPI	Kaimana, Papua	13.53	140	P	Pn	02 45 53.4	+3.7
	19μm774nm,1.1s						
SBUM	Sibu	13.56	252		Pn	02 45 49.5	-0.8
SBUM	Sibu	13.56	252	P	Pn	02 45 52.5	+2.3
SBUM	Sibu	13.56	252	⇓P	Pn	02 45 53.2	+3.0
BAKI	Biak	13.59	126	P	Pn	02 45 53.0	+2.5
	37μm941nm,1.1s						
BSSI	Bau Bau, Buton	13.71	200	P	Pn	02 45 54.1	+1.9
SRPI	Serui, Papua	14.10	128	P	P	02 46 03.0	-2.2
	18μm934nm,1.0s						
BBKI	Banjar Baru	14.49	225	P	P	02 46 06.8	-2.8
	15μm698nm,1.2s						
STKI	Sintang	15.18	244	P	P	02 46 22.4	+5.2
SAUI	Saumlaki	15.99	157		Pn	02 46 23.4	+0.7
SAUI				IAmb	IAmb	02 46 31.5	
	comp=Z,1μm,0.9s						
TWG	Pinlang	16.34	347	P	Pn	02 46 27.2	0.0
SOEI	Soe	16.52	183	P	P	02 46 31.5	-0.8
SOEI	Soe	16.52	183		Pn	02 46 30.2	+0.5
SOEI				IAmb	IAmb	02 46 34.0	
	comp=Z,832nm,1.5s						
SOEI	Soe	16.52	183	P	P	02 46 31.2	-1.1
SOEI	Soe	16.52	183	⇑P	P	02 46 31.6	-0.7
YULB	Yu-li	16.84	348	P	Pn	02 46 33.8	+0.2
YULB	Yu-li	16.84	348	P	P	02 46 35.4	-0.3
TPUB	Ta-pu	16.90	346	P	Pn	02 46 34.0	-0.4
BATI	Baumata	17.01	185	Pn	Pn	02 46 36.0	+0.2
	comp=Z,37nm,0.3s,baz=53,slow=1.4,SNR=36						
BATI				LR	LR	02 54 58.5	
	comp=Z,9μm,19.6s,baz=354,slow=44						
DLV	Lat	17.15	288	P	Pn	02 46 37.9	+0.2
DLV				IAmb	IAmb	02 46 45.0	
	comp=Z,888nm,1.6s						
PLAI	Plampang	17.21	205	P	P	02 46 40.3	+0.5
SSLB	Suanglung	17.30	347		Pn	02 46 38.4	-0.9
SSLB	Suanglung	17.30	347	P	P	02 46 40.7	0.0
NACB	Ninganchiao	17.54	349		Pn	02 46 42.2	-0.1
YOJ	Yonaguni jima	17.62	354		Pn	02 46 43.1	-0.2
YOJ	Yonaguni jima	17.62	354	P	Pn	02 46 43.1	-0.2
YOJ				pmax	pmax		
	comp=Z,272nm,1.0s						
YOJ	Yonaguni jima	17.62	354	⇓P	P	02 46 48.5	+4.3
GENI	Genyem	17.73	121	⇑P	Pn	02 46 44.7	0.0
YHNB	Yeheng	18.07	349	Pn	Pn	02 46 47.6	-1.3
YHNB	Yeheng	18.07	349	P	P	02 46 51.0	+1.7
JAY	Jayapura	18.14	120	P	P	02 46 50.3	+0.2
	comp=Z,4.0nm,0.3s,baz=297,slow=5.8,SNR=23						
JAY				LR	LR	02 52 28.1	
	comp=Z,10μm,21.3s,baz=306,slow=32						
	comp=Z,97nm,0.8s						
TATO	Taipei	18.34	350	P	P	02 46 53.1	+0.8
HKPS	Hong Kong Po S	18.62	327	P	P	02 46 54.4	-0.9
KNMB	Chin-men Tao	18.65	341	P	P	02 46 55.2	-0.4
JAGI	Jajag, Banyuwa	18.74	216	P	P	02 46 55.4	-1.2
JAGI	Jajag, Banyuwa	18.74	216	P	Pn	02 46 58.9	+1.8
JAGI	Jajag, Banyuwa	18.74	216	⇓P	Pn	02 47

CNSH			S	**S**	**02 52 12.0 +0.9**
CNSH			pmax	pmax	
	comp=Z,130nm,2.0s				
CNSH			LR	LR	
	comp=Z,16μm,15.9s				
CNSH			LR	LR	
	comp=Z,8μm,18.0s				
CNSH			LR	LR	
	comp=Z,20μm,17.8s				
KULM	**Kulim**	**24.36 268**	P	**P**	**02 47 55.5 -0.5**
KULM			IAmb	IAmb	02 47 59.0
	comp=Z,630nm,1.4s				
KULM	**Kulim**	**24.36 268**	⇑P	**P**	**02 47 56.1 +0.1**
SSE	**Sheshan**	**24.39 352**	P	**P**	**02 47 56.0 0.0**
SSE			S	**S**	**02 52 17.5 +2.4**
SSE			pmax	pmax	
	comp=Z,94nm,1.1s				
SSE			pmax	pmax	
	comp=Z,820nm,4.3s				
SSE			LR	LR	
	comp=Z,2μm,23.9s				
SSE			LR	LR	
	comp=Z,4μm,23.5s				
FITZ	**Fitzroy Crossi**	**24.80 179**	P	**P**	**02 47 59.1 -0.7**
	comp=Z,123nm,0.6s,baz=9.7,slow=7.4,SNR=134				
	comp=Z,123nm,0.6s				
BKNI	**Bangkinang**	**24.86 256**	P	**P**	**02 48 00.7 +0.2**
SLVN	**Son La**	**25.04 307**	P	**P**	**02 48 02.4 +0.3**
SLVN			IAmb	IAmb	02 48 16.6
	comp=Z,676nm,1.8s				
WHN	**Wuhan**	**25.63 338**	⇑P	**P**	**02 48 09.3 +2.0**
WHN			S	**S**	**02 52 35.5 +0.5**
WHN			pmax	pmax	
	comp=Z,430nm,1.4s				
NJ2	**Nanjing**	**25.73 348**	*e*P	**P**	**02 48 09.5 +1.3**
NJ2			S	**S**	**02 52 37.0 +0.4**
NJ2			pmax	pmax	
	comp=Z,170nm,1.0s				
NJ2			LR	LR	
	comp=Z,7μm,17.3s				
NJ2			LR	LR	
	comp=Z,7μm,20.1s				
NJ2			LR	LR	
	comp=Z,10μm,17.7s				
JCJ	**Chichijima**	**25.86 37**	P	P	02 48 01.0 -8.4
	comp=Z,991nm,0.9s,baz=262,slow=3.4,SNR=24				
JCJ			LR	LR	02 56 22.8
	comp=Z,7μm,21.2s,baz=214,slow=32				
JCJ	**Chichijima**	**25.86 37**	P	**P**	**02 48 09.0 -0.4**
JCJ	**Chichijima**	**25.86 37**	⇑P	**P**	**02 48 08.4 -0.9**
GYA	**Guiyang**	**26.23 320**	⇑P	**P**	**02 48 14.5 +1.5**
GYA			S	**S**	**02 52 43.8 -1.2**
GYA			pmax	pmax	
	comp=Z,86nm,1.0s				
GYA			LR	LR	
	comp=Z,22μm,21.4s				
GYA			LR	LR	
	comp=Z,10μm,17.2s				
PSI	**Prapat**	**26.39 262**	LR	LR	03 01 04.9
	comp=Z,5μm,18.8s,baz=86,slow=42				
RPSI	**Rantau Prapat**	**26.41 262**	IAmb	IAmb	02 48 17.5
	comp=Z,305nm,1.2s				
JNU	**Nakatsue**	**26.68 11**	P	**P**	**02 48 16.0 -0.8**
	comp=Z,88nm,0.9s,baz=186,slow=7.0,SNR=33				
JNU			LR	LR	02 59 03.1
	comp=Z,5μm,19.9s,baz=200,slow=37				
	comp=Z,88nm,0.9s				
JNU	**Nakatsue**	**26.68 11**	P	**P**	**02 48 18.0 +1.2**
JNU	**Nakatsue**	**26.68 11**	⇓P	**P**	**02 48 16.1 -0.8**
PMG	**Port Moresby**	**27.28 126**	P	**P**	**02 48 22.3 0.0**
PMG			IAmb	IAmb	02 48 27.4
	comp=Z,270nm,1.0s				
PMG	**Port Moresby**	**27.28 126**	P	**P**	**02 48 21.9 -0.4**
	comp=Z,166nm,0.9s,baz=326,slow=7.7,SNR=37				
	comp=Z,166nm,0.9s				
PMG	**Port Moresby**	**27.28 126**	P	**P**	**02 48 24.3 +2.0**
PMG	**Port Moresby**	**27.28 126**	P	**P**	**02 48 24.4 +2.1**
PMG	**Port Moresby**	**27.28 126**	P	**P**	**02 48 22.3 0.0**
PMG			pmax	pmax	
	comp=Z,270nm,1.0s				
PMG	**Port Moresby**	**27.28 126**	⇑P	**P**	**02 48 21.9 -0.4**
COEN	**Coen**	**27.38 139**	P	**P**	**02 48 22.6 -0.5**
COEN			IAmb	IAmb	02 48 41.6
	comp=Z,205nm,1.0s				
COEN	**Coen**	**27.38 139**	P	**P**	**02 48 22.7 -0.5**
COEN	**Coen**	**27.38 139**	⇑P	**P**	**02 48 22.8 -0.4**
ENH	**Enshi**	**27.53 330**	IAmb	IAmb	02 48 57.3
	comp=Z,214nm,1.2s				
JTU	**Tsushima**	**27.82 8**	P	**P**	**02 48 29.5 +2.6**
JMN	**Monobe**	**27.95 16**	IAmb	IAmb	02 48 34.5
	comp=Z,186nm,0.9s				
JMN	**Monobe**	**27.95 16**	P	**P**	**02 48 28.8 +0.6**
JMN	**Monobe**	**27.95 16**	⇓P	**P**	**02 48 28.5 +0.3**
CM31	**Chiang Mai Arr**	**27.96 297**	IAmb	IAmb	02 48 31.6
	comp=Z,163nm,1.2s				
CM31	**Chiang Mai Arr**	**27.96 297**	P	**P**	**02 48 30.0 +1.6**
	SNR=34				
CM31			S	**S**	**02 53 14.3 +2.2**
CMAR	**Chiang Mai Arr**	**27.96 297**	P	**P**	**02 48 28.2 -0.2**
CMAR				**ScP**	**02 55 22.7 -1.6**
CMAR	**Chiang Mai Arr**	**27.96 297**	P	**P**	**02 48 28.2 -0.2**
	comp=Z,43nm,1.1s,baz=123,slow=7.2,SNR=143				
CMAR			ScP	**ScP**	**02 55 23.9 -0.4**
	comp=Z,1.9nm,0.3s,baz=119,slow=1.8,SNR=4.4				
CMAR			LR	LR	03 00 29.5
	comp=Z,6μm,18.6s,baz=115,slow=39				
	comp=Z,43nm,1.1s				
KMI	**Kunming**	**28.06 313**	⇑P	**P**	**02 48 31.8 +2.3**
KMI			S	**S**	**02 53 15.3 +1.4**
KMI			pmax	pmax	
	comp=Z,160nm,1.3s				
KMI			pmax	pmax	
	comp=Z,2μm,8.0s				
KMI			LR	LR	
	comp=Z,11μm,20.8s				
KMI			LR	LR	
	comp=Z,11μm,20.4s				
KMI			LR	LR	
	comp=Z,8μm,22.1s				
CHTO	**Chiang Mai**	**28.09 298**	P	**P**	**02 48 28.1 -1.5**
CHTO			IAmb	IAmb	02 48 32.4
	comp=Z,134nm,1.1s				
CHTO	**Chiang Mai**	**28.09 298**	P	**P**	**02 48 30.6 +1.1**
CHTO			S	**S**	**02 53 17.5 +3.3**
CHTO	**Chiang Mai**	**28.09 298**	P	**P**	**02 48 28.1 -1.5**
CHTO			pmax	pmax	
	comp=Z,135nm,1.2s				
CHTO			MLR	MLR	
	comp=Z,6μm,19.0s				
CHTO	**Chiang Mai**	**28.09 298**	⇓P	**P**	**02 48 29.9 +0.3**
WRAB	**Tennant Creek**	**28.14 161**	P	**P**	**02 48 28.0 -2.0**
WRAB			IAmb	IAmb	02 49 13.8
	comp=Z,194nm,0.9s				
WRAB	**Tennant Creek**	**28.14 161**	P	**P**	**02 48 28.6 -1.3**
WRAB	**Tennant Creek**	**28.14 161**	P	**P**	**02 48 28.0 -2.0**
WRAB			pmax	pmax	
	comp=Z,194nm,1.0s				
WRA	**Warramunga Arr**	**28.14 161**	P	**P**	**02 48 29.2 -0.8**
WRA	**Warramunga Arr**	**28.14 161**	P	**P**	**02 48 28.2 -1.8**
	comp=Z,45nm,0.9s,baz=328,slow=11,SNR=28				
	comp=Z,45nm,0.9s				
WRA	**Warramunga Arr**	**28.14 161**	P	**P**	**02 48 29.2 -0.8**
WRA			pmax	pmax	
	comp=Z,25nm,1.0s				
MBWA	**Marble Bar**	**28.34 191**	P	**P**	**02 48 30.9 -0.8**
MBWA			IAmb	IAmb	02 49 19.4
	comp=Z,156nm,1.1s				
MBWA	**Marble Bar**	**28.34 191**	P	**P**	**02 48 32.2 +0.5**
MBWA	**Marble Bar**	**28.34 191**	P	**P**	**02 48 32.0 +0.3**
MBWA	**Marble Bar**	**28.34 191**	⇑P	**P**	**02 48 30.5 -1.2**
JHJ	**Hachijo jima 2**	**29.47 26**	LR	LR	03 01 23.0
	comp=Z,9μm,18.7s,baz=230,slow=38				
PZH	**PanZhiHua**	**29.60 314**	⇑P	**P**	**02 48 44.5 +1.4**
PZH			pP	**sP**	**02 48 50.8 +1.0**
PZH			pmax	pmax	
	comp=Z,90nm,1.5s				
PZH			pmax	pmax	
	comp=Z,2μm,5.3s				
PZH			LR	LR	
	comp=Z,13μm,21.4s				
PZH			LR	LR	
	comp=Z,11μm,23.3s				
PZH			LR	LR	
	comp=Z,6μm,19.8s				
LYN	**LuoYang**	**29.92 339**	⇑P	**P**	**02 48 47.3 +1.6**
LYN			pP	sP	02 48 51.5 -0.9
LYN			S	**S**	**02 53 44.0 +1.4**
LYN			sS	sS	02 53 53.5 +3.0
LYN			pmax	pmax	
	comp=Z,110nm,2.0s				
LYN			pmax	pmax	
	comp=Z,1μm,6.5s				
LYN			LR	LR	
	comp=Z,10μm,22.0s				
LYN			LR	LR	
	comp=Z,12μm,24.0s				
LYN			LR	LR	
	comp=Z,14μm,19.9s				
TIA	**Tai'an**	**30.11 347**	P	**P**	**02 48 48.3 +0.9**
TIA			S	**S**	**02 53 44.3 -1.3**
TIA			pmax	pmax	
	comp=Z,40nm,1.2s				
TIA			pmax	pmax	
	comp=Z,2μm,11.7s				
TIA			LR	LR	
	comp=Z,4μm,17.9s				
TIA			LR	LR	
	comp=Z,10μm,17.2s				
TIA			LR	LR	
	comp=Z,10μm,19.2s				
INU	**Inuyama**	**30.40 19**	P	**P**	**02 48 49.2 -0.6**
INU			IAmb	IAmb	02 48 51.5
	comp=Z,194nm,0.9s				
INU	**Inuyama**	**30.40 19**	P	**P**	**02 48 50.2 +0.3**
INU	**Inuyama**	**30.40 19**	⇓P	**P**	**02 48 49.6 -0.3**
KSAR	**Wonju Array Be**	**30.55 4**	P	**P**	**02 48 51.9 +0.8**
KSAR	**Wonju Array Be**	**30.55 4**	P	**P**	**02 48 51.9 +0.8**
KSRS	**Korea Array**	**30.56 4**	P	**P**	**02 48 51.6 +0.3**
	comp=Z,24nm,0.8s,baz=184,slow=10,SNR=40				
KSRS			LR	LR	03 01 26.8
	comp=Z,3659μm,22.0s,baz=195,slow=37				
	comp=Z,24nm,0.8s				
JGF	**Kuroka**	**30.74 20**	P	**P**	**02 48 52.9 0.0**
JGF	**Kuroka**	**30.74 20**	⇑P	**P**	**02 48 52.5 -0.4**
QIS	**Mount Isa**	**30.75 153**	P	**P**	**02 48 53.3 +0.1**
XAN	**Xi'an**	**30.91 333**	P	**P**	**02 48 55.0 +0.5**
XAN			pP	pP	02 48 59.3 +0.1
XAN			PP	**PnPn**	**02 49 58.8 +3.5**
XAN			S	**S**	**02 54 01.3 +3.0**
XAN			sS	sS	02 54 08.5 +2.3
XAN			pmax	pmax	
	comp=Z,96nm,0.8s				
XAN			pmax	pmax	
	comp=Z,2μm,7.2s				
XAN			LR	LR	
	comp=Z,7μm,14.8s				
XAN			LR	LR	
	comp=Z,15μm,16.5s				
XAN			LR	LR	
	comp=Z,18μm,15.6s				
HJU	**Haeju**	**31.05 1**	P	P	02 49 01.5 +6.0
HJU			P	P	02 49 01.5 +6.0
HJU			AmB		
	comp=Z,618nm,2.3s				
HJU			AmB		
	comp=Z,618nm,2.3s				
TNCH	**TengChong**	**31.19 308**	P	**P**	**02 48 58.8 +1.6**
TNCH			S	**S**	**02 54 04.5 +1.4**
TNCH			pmax	pmax	
	comp=Z,210nm,1.4s				
TNCH			pmax	pmax	
	comp=Z,1μm,5.2s				
TNCH			LR	LR	
	comp=Z,4μm,20.3s				
TNCH			LR	LR	
	comp=Z,4μm,19.3s				
TNCH			LR	LR	
	comp=Z,6μm,18.2s				
GIRL	**Girilia**	**31.19 200**	IAmb	IAmb	02 49 56.4
	comp=Z,237nm,1.6s				
ASAR	**Alice Springs**	**31.53 164**	P	**P**	**02 48 58.9 -1.1**
ASAR	**Alice Springs**	**31.53 164**	P	**P**	**02 48 59.0 -1.0**
	comp=Z,24nm,0.7s,baz=342,slow=7.2,SNR=104				
	comp=Z,24nm,0.7s				
HNS	**HongShan**	**31.84 344**	⇑P	**P**	**02 49 03.8 +1.3**
HNS			pmax	pmax	
	comp=Z,190nm,1.2s				
HNS			pmax	pmax	
	comp=Z,2μm,10.7s				
HNS			LR	LR	
	comp=Z,5μm,21.1s				
HNS			LR	LR	
	comp=Z,8μm,22.1s				
HNS			LR	LR	
	comp=Z,8μm,19.0s				
MAJO	**Matsushiro**	**31.88 20**	P	**P**	**02 49 00.9 -2.1**
MAJO	**Matsushiro**	**31.88 20**	IAMs_20	IAMs_20	03 01 08.2
	comp=Z,9μm,20.0s				
MAJO	**Matsushiro**	**31.88 20**	P	**P**	**02 49 00.9 -2.1**
MAJO			pmax	pmax	
	comp=Z,70nm,0.9s				
MAJO			MLR	MLR	
	comp=Z,9μm,20.0s				
MAJO	**Matsushiro**	**31.88 20**	⇓P	**P**	**02 49 01.6 -1.4**
MJAR	**Matsushiro Arr**	**31.88 20**	P	**P**	**02 49 01.4 -1.6**
MJAR				**ScP**	**02 55 36.0 -0.6**
MJAR	**Matsushiro Arr**	**31.88 20**	P	**P**	**02 49 01.2 -1.8**
	comp=Z,76nm,0.9s,baz=194,slow=9.3,SNR=94				
MJAR			ScP	**ScP**	**02 55 35.8 -0.8**
	comp=Z,3.1nm,0.8s,baz=215,slow=4.0,SNR=6.6				
MJAR			LR	LR	03 01 19.8
	comp=Z,9μm,19.9s,baz=208,slow=35				
MJAR	**Matsushiro Arr**	**31.88 20**	P	**P**	**02 49 01.4 -1.6**
MJAR			pmax	pmax	
	comp=Z,64nm,0.9s				
PYAG	**Pyongyang**	**32.05 1**	P	P	02 49 09.3 +4.9
PYAG			P	P	02 49 09.3 +4.9
PYAG			AmB		
	comp=Z,353nm,2.4s				
PYAG			AmB		
	comp=Z,353nm,2.4s				
DL2	**Dalian**	**32.06 355**	P	**P**	**02 49 06.3 +1.9**
DL2			S	**S**	**02 54 21.8 +5.9**
DL2			pmax	pmax	
	comp=Z,230nm,0.8s				
DL2			pmax	pmax	
	comp=Z,2μm,11.1s				
DL2			LR	LR	
	comp=Z,7μm,17.9s				
DL2			LR	LR	
	comp=Z,9μm,17.9s				
DL2			LR	LR	
	comp=Z,7μm,17.2s				
TIY	**Taiyuan**	**32.80 341**	*i*P	**P**	**02 49 13.0 +1.9**
TIY			S	**S**	**02 54 32.8 +5.1**
TIY			pmax	pmax	
	comp=Z,87nm,1.4s				
TIY			pmax	pmax	
	comp=Z,1μm,6.0s				
TIY			LR	LR	
	comp=Z,5μm,22.2s				
TIY			LR	LR	
	comp=Z,7μm,24.1s				
TIY			LR	LR	
	comp=Z,6μm,23.1s				
PATS	**Pohnpei**	**32.97 88**	P	**P**	**02 49 13.2 +0.5**
PATS			IAmb	IAmb	02 49 53.9
	comp=Z,335nm,1.8s				
HHU	**Hamhung**	**33.00 3**	P	**P**	**02 49 16.6 +3.9**
HHU			P	**P**	**02 49 16.6 +3.9**
HHU			S	**S**	**02 54 33.9 +3.4**
HHU			S	**S**	**02 54 33.9 +3.4**
HHU			AmB		
	comp=Z,426nm,1.7s				
HHU			AmB		
	comp=Z,426nm,1.7s				
HHU			AMS	AMS	
	comp=Z,3μm,12.2s				
JSD	**Sado**	**33.25 19**	⇑P	**P**	**02 49 14.1 -0.9**
TV1H	**Townsville Har**	**33.62 141**	P	**P**	**02 49 19.9 +1.6**
MEEK	**Meekatharra**	**33.89 190**	P	**P**	**02 49 19.7 -0.9**
BJT	**Baijiatuau**	**33.98 348**	P	**P**	**02 49 21.8 +0.6**
BJT			IAmb	IAmb	02 49 27.7
	comp=Z,196nm,1.1s				
BJT	**Baijiatuau**	**33.98 348**	P	**P**	**02 49 22.4 +1.2**
BJT	**Baijiatuau**	**33.98 348**	P	**P**	**02 49 21.8 +0.6**
BJT			pmax	pmax	
	comp=Z,196nm,1.1s				
BJI	**Beijing**	**34.00 348**	P	**P**	**02 49 22.0 +0.6**
BJI			S	**S**	**02 54 45.5 -0.5**
BJI			pmax	pmax	
	comp=Z,80nm,1.1s				
BJI			pmax	pmax	
	comp=Z,710nm,3.6s				
BJI			LR	LR	
	comp=Z,1μm,21.0s				
BJI			LR	LR	
	comp=Z,4μm,23.6s				
BJI			LR	LR	
	comp=Z,4μm,21.0s				
JMM	**Marumori**	**34.00 23**	P	**P**	**02 49 21.7 +0.3**
JMM	**Marumori**	**34.00 23**	⇓P	**P**	**02 49 21.1 -0.2**
IMP	**Imphal**	**34.75 304**	*e*P	**P**	**02 49 30.4 +2.1**
IMP			IAmb	IAmb	02 49 32.2
	comp=Z,257nm,0.1s				
IMP			*e*S	**S**	**02 54 58.9 +0.6**
SNY	**Shenyang**	**34.85 358**	⇑P	**P**	**02 49 30.3 +1.6**
SNY			S	**S**	**02 54 53.3 -5.8**
SNY			pmax	pmax	
	comp=Z,110nm,1.3s				
SNY			pmax	pmax	
	comp=Z,1μm,3.5s				
SNY			LR	LR	
	comp=Z,4μm,19.8s				
SNY			LR	LR	
	comp=Z,4μm,19.4s				
SNY			LR	LR	
	comp=Z,6μm,18.2s				
LZDM	**Lanzhou Array**	**34.98 329**	P	**P**	**02 49 31.6 +1.3**
	comp=Z,55nm,0.9s,baz=113,slow=7.1,SNR=19				
LZDM			LR	LR	03 04 23.3
	comp=Z,6μm,20.5s,baz=80,slow=37				
	comp=Z,55nm,0.9s				
LZH	**Lanzhou**	**35.00 329**	⇑P	**P**	**02 49 32.8 +2.4**
LZH			sP	sP	02 49 40.5 +3.4
LZH			PP	**PP**	**02 50 49.3 -0.6**
LZH			S	**S**	**02 54 57.0 -5.1**
LZH			pmax	pmax	
	comp=Z,340nm,1.3s				
LZH			pmax	pmax	
	comp=Z,2μm,4.5s				
LZH			LR	LR	
	comp=Z,12μm,18.4s				
LZH			LR	LR	
	comp=Z,11μm,18.3s				
LZH			LR	LR	
	comp=Z,14μm,19.0s				
KOHI	**KOHIMA**	**35.02 306**	IAmb	IAmb	02 49 32.6
	comp=Z,342nm,1.4s				
KOHI			*e*P	**P**	**02 49 33.0 +2.4**
KOHI			*e*S	**S**	**02 55 01.2 -1.2**
JORH	**JORHAT**	**35.37 308**	*e*P	**P**	**02 49 33.4 -0.1**
JORH			IAmb	IAmb	02 49 35.9
	comp=Z,94nm,1.1s				
JORH			*e*S	**S**	**02 55 08.2 +0.5**
SILR	**SILCHAR**	**35.67 304**	*e*P	**P**	**02 49 35.8 -0.2**
SILR			IAmb	IAmb	02 49 53.7
	comp=Z,187nm,1.1s				
SILR			*e*S	**S**	**02 55 12.1 -0.2**
BRDH	**Bariadhala**	**35.85 300**	P	**P**	**02 49 38.9 +1.3**
	comp=Z,144nm,0.4s,baz=82,slow=9.4,SNR=4.9				
HHC	**Hu-ho-hao-te**	**35.94 342**	⇑*i*P	**P**	**02 49 40.3 +2.0**
HHC			pP	sP	02 49 45.8 +0.8
HHC			PP	**PP**	**02 51 04.3 +4.2**
HHC			S	**S**	**02 55 13.5 -2.8**
HHC			pmax	pmax	
	comp=Z,90nm,2.2s				
HHC			LR	LR	
	comp=Z,3μm,16.7s				
HHC			LR	LR	
	comp=Z,5μm,18.1s				
HHC			LR	LR	
	comp=Z,5μm,16.7s				
MSHR	**Mys Shultsa**	**35.98 8**	*ce*P	**P**	**02 49 40.9 +2.5**
MSHR			pmax	pmax	
	comp=Z,183nm,1.0s				
ITAN	**ITANAGAR**	**35.98 308**	*e*P	**P**	**02 49 38.5 -0.2**
ITAN			IAmb	IAmb	02 49 47.0
	comp=Z,73nm,1.6s				
ITAN			*e*S	**S**	**02 55 17.3 +0.3**
ZIRO	**ZIRO**	**36.06 308**	*e*P	**P**	**02 49 39.2 -0.5**
ZIRO			IAmb	IAmb	02 49 42.9
	comp=Z,526nm,2.1s				
ZIRO			*e*S	**S**	**02 55 16.8 -1.8**
BTO	**Baotou**	**36.21 340**	*e*P	**P**	**02 49 43.0 +2.4**
BTO			pmax	pmax	
	comp=Z,42nm,1.1s				
BTO			LR	LR	
	comp=Z,14μm,19.1s				
BTO			LR	LR	
	comp=Z,12μm,19.5s				
BTO			LR	LR	
	comp=Z,17μm,19.2s				
TEZP	**TEZPUR**	**36.47 306**	*e*P	**P**	**02 49 43.5 +0.6**
TEZP			*e*S	**S**	**02 55 24.7 +0.2**
AGT	**Agartala**	**36.62 301**	*e*P	**P**	**02 49 43.7 -0.5**
AGT			IAmb	IAmb	02 49 48.4
	comp=Z,74nm,1.5s				
AGT			*e*S	**S**	**02 55 24.4 -2.4**
JTM	**Tenmabayashi**	**36.67 20**	IAmb	IAmb	02 49 48.4
	comp=Z,202nm,1.0s				
JTM	**Tenmabayashi**	**36.67 20**	P	**P**	**02 49 45.3 +0.9**
JTM	**Tenmabayashi**	**36.67 20**	⇓P	**P**	**02 49 44.1 -0.3**
SHL	**Shillong**	**36.76 304**	P	**P**	**02 49 46.7 +1.2**
	SNR=147				
SHL	**Shillong**	**36.76 304**	*e*P	**P**	**02 49 44.2 -1.4**
SHL			IAmb	IAmb	02 49 48.2
	comp=Z,282nm,1.1s				
SHL			*e*S	**S**	**02 55 27.5 -1.7**
MORW	**Morawa**	**36.77 193**	P	**P**	**02 49 44.5 -0.9**
MORW	**Morawa**	**36.77 193**	⇑P	**P**	**02 49 44.5 -0.9**
CN2	**Changchun**	**36.80 0**	P	**P**	**02 49 45.8 +0.4**
CN2			pP	sP	02 49 58.0 +5.6
CN2			S	**S**	**02 55 27.5 -1.5**
CN2			SS	**SnSn**	**02 57 58.5 -2.3**
CN2			pmax	pmax	
	comp=Z,40nm,0.7s				
CN2			LR	LR	
	comp=Z,3μm,22.0s				
CN2			LR	LR	
	comp=Z,7μm,22.0s				
CN2			LR	LR	
	comp=Z,4μm,18.0s				
FORT	**Forrest**	**37.53 176**	IAmb	IAmb	02 49 55.5
	comp=Z,82nm,0.7s				
INKA	**Innaminka**	**37.58 157**	P	**P**	**02 49 51.9 -0.3**
TAWA	**Tawang**	**37.65 307**	*e*P	**P**	**02 49 52.8 -0.6**
TAWA			*e*S	**S**	**02 55 42.7 -0.5**
USRK	**Ussuriysk Ar.**	**37.68 8**	P	**P**	**02 49 54.2 +1.3**
	comp=Z,187nm,0.8s,baz=192,slow=7.2,SNR=111				
	comp=Z,187nm,0.8s				
XLT	**XiLinHaoTe**	**37.73 349**	*e*P	**P**	**02 49 54.5 +1.0**
XLT			sP	sP	02 50 00.8 +0.3
XLT			S	**S**	**02 55 43.0 -0.5**
XLT			PcS	**PcS**	**02 56 02.8 +3.7**
XLT			SS	**SnSn**	**02 58 23.3 -0.3**
XLT			pmax	pmax	
	comp=Z,87nm,0.9s				
XLT			pmax	pmax	
	comp=Z,2μm,5.8s				
XLT			LR	LR	
	comp=Z,8μm,19.0s				
XLT			LR	LR	
	comp=Z,3μm,24.0s				
MDJ	**Mudanjiang**	**37.81 5**	P	**P**	**02 49 55.0 +0.9**
MDJ			S	**S**	**02 55 38.8 -5.7**
MDJ			SS	**SnSn**	**02 58 22.3 -3.1**
MDJ			pmax	pmax	
	comp=Z,38nm,1.3s				
MDJ			pmax	pmax	
	comp=Z,2μm,7.7s				
MDJ			LR	LR	
	comp=Z,2μm,22.1s				
MDJ			LR	LR	
	comp=Z,5μm,21.8s				
MDJ			LR	LR	
	comp=Z,3μm,20.5s				
MDJ	**Mudanjiang**	**37.81 5**	IAmb	IAmb	02 50 01.3
	comp=Z,246nm,0.9s				
QLP	**Quilpie**	**38.07 152**	⇑P	**P**	**02 49 55.3 -1.1**
BLDU	**Ballidu**	**38.12 192**	P	**P**	**02 49 56.1 -0.7**
ERM	**Erimo**	**38.50 22**	P	**P**	**02 50 01.4 +1.6**
ERM			IAmb	IAmb	02 50 02.7
	comp=Z,181nm,1.0s				
ERM	**Erimo**	**38.50 22**	IAMs_20	IAMs_20	03 05 58.6
	comp=Z,8μm,19.0s				
ERM	**Erimo**	**38.50 22**	P	**P**	**02 50 01.7 +1.9**

ERM	**Erimo**	**38.50**	**22**	P	**P**	**02 50 01.4**	**+1.6**
ERM				pmax	pmax		
	comp=Z,181nm,1.0s						
ERM				MLR	MLR		
	comp=Z,8μm,19.0s						
ERM	**Erimo**	**38.50**	**22**	⇓P	**P**	**02 50 01.1**	**+1.3**
JEM	**Erimo**	**38.50**	**22**	P	**P**	**02 50 01.6**	**+1.7**
BNX	**BinXian**	**38.78**	**3**	⇑P	**P**	**02 50 03.0**	**+0.8**
BNX				pP	**pP**	**02 50 06.0**	**-1.2**
BNX				S	**S**	**02 55 58.5**	**-0.6**
BNX				pmax	pmax		
	comp=Z,74nm,0.8s						
BNX				pmax	pmax		
	comp=Z,2μm,7.3s						
BNX				LR	LR		
	comp=Z,4μm,19.0s						
BNX				LR	LR		
	comp=Z,6μm,22.6s						
BNX				LR	LR		
	comp=Z,4μm,18.4s						
COBR	**COOCHBEHAR**	**39.04**	**304**	*e*P	**P**	**02 50 03.7**	**-0.9**
COBR				IAmb	IAmb	02 50 06.6	
	comp=Z,95nm,0.4s						
COBR				*e*S	**S**	**02 56 03.5**	**0.0**
LSA	**Lhasa**	**39.19**	**310**	P	**P**	**02 50 05.3**	**-1.1**
LSA				S	**S**	**02 56 05.0**	**-1.5**
LSA				pmax	pmax		
	comp=Z,140nm,1.5s						
LSA				LR	LR		
	comp=Z,2μm,19.1s						
LSA				LR	LR		
	comp=Z,3μm,17.2s						
LSA				LR	LR		
	comp=Z,3μm,18.0s						
LSA	**Lhasa**	**39.19**	**310**	IAmb	IAmb	02 50 10.3	
	comp=Z,527nm,1.8s						
LSA	**Lhasa**	**39.19**	**310**	P	**P**	**02 50 08.3**	**+1.9**
TEY	**Ternei**	**39.33**	**13**	⇑*e*P	**P**	**02 50 08.6**	**+1.9**
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=N,170nm,0.9s						
TEY				pmax	pmax		
	comp=Z,250nm,1.0s						
MUN	**Mundaring**	**39.54**	**192**	P	**P**	**02 50 10.2**	**+1.5**
GTA	**Gaotai**	**39.60**	**329**	P	**P**	**02 50 11.5**	**+2.2**
GTA				S	**S**	**02 56 16.0**	**+4.2**
GTA				pmax	pmax		
	comp=Z,180nm,1.2s						
GTA				LR	LR		
	comp=Z,6μm,16.4s						
GTA				LR	LR		
	comp=Z,8μm,17.1s						
GTA				LR	LR		
	comp=Z,12μm,16.4s						
ASAJ	**Asahikawa**	**40.15**	**20**	P	**P**	**02 50 15.1**	**+1.4**
	comp=Z,111nm,0.8s,baz=236,slow=14,SNR=44						
ASAJ				LR	LR	03 06 11.9	
	comp=Z,9μm,21.0s,baz=212,slow=35						
	comp=Z,111nm,0.8s						
JKA	**Kamikawa-asahi**	**40.15**	**20**	P	**P**	**02 50 14.6**	**+1.0**
JKA				IAmb	IAmb	02 50 16.8	
	comp=Z,347nm,1.2s						
GOMU	**GeErMu**	**40.25**	**321**	P	**P**	**02 50 17.3**	**+2.3**
GOMU				pP	sP	02 50 21.0	-0.8
GOMU				sP	pP	02 50 25.3	+5.4
GOMU				PP	**PnPn**	**02 51 50.0**	**-1.3**
GOMU				S	**S**	**02 56 26.5**	**+4.4**
GOMU				pmax	pmax		
	comp=Z,48nm,1.3s						
GOMU				LR	LR		
	comp=Z,6μm,22.2s						
NWAO	**Narrogin (SRO)**	**40.27**	**190**	P	**P**	**02 50 14.6**	**-0.1**
NWAO				IAmb	IAmb	02 50 16.9	
	comp=Z,195nm,1.3s						
NWAO	**Narrogin (SRO)**	**40.27**	**190**	LR	LR	03 08 26.2	
	comp=Z,3μm,21.6s,baz=8.5,slow=39						
NWAO	**Narrogin (SRO)**	**40.27**	**190**	P	**P**	**02 50 14.8**	**+0.1**
NWAO				S	**S**	**02 56 19.4**	**-2.2**
NWAO	**Narrogin (SRO)**	**40.27**	**190**	P	**P**	**02 50 14.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**40.27**	**190**	P	**P**	**02 50 14.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**40.27**	**190**	P	**P**	**02 50 14.6**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,195nm,1.3s						
BWNR	**Bhubaneshwar**	**40.34**	**293**	*e*P	**P**	**02 50 16.5**	**+0.9**
BWNR				IAmb	IAmb	02 50 17.7	
	comp=Z,149nm,1.0s						
BWNR				*e*S	**S**	**02 56 22.8**	**-0.4**
EIDS	**Eidsvold**	**40.80**	**143**	P	**P**	**02 50 21.5**	**+2.2**
EIDS	**Eidsvold**	**40.80**	**143**	⇑P	**P**	**02 50 18.1**	**-1.1**
BBOO	**Buckleboo**	**40.80**	**166**	P	**P**	**02 50 18.9**	**-0.2**
BBOO				IAmb	IAmb	02 50 23.6	
	comp=Z,191nm,0.7s						
BBOO	**Buckleboo**	**40.80**	**166**	P	**P**	**02 50 18.7**	**-0.5**
WHYH	**Whyalla**	**41.41**	**164**	P	**P**	**02 50 25.1**	**+1.0**
STKA	**Stephens Creek**	**41.61**	**159**	P	**P**	**02 50 25.6**	**-0.2**
STKA	**Stephens Creek**	**41.61**	**159**	P	**P**	**02 50 25.6**	**-0.2**
	comp=Z,43nm,0.7s,baz=332,slow=8.3,SNR=81						
STKA				LR	LR	03 10 33.0	
	comp=Z,2μm,19.6s,baz=336,slow=40						
	comp=Z,43nm,0.7s						
STKA	**Stephens Creek**	**41.61**	**159**	P	**P**	**02 50 25.4**	**-0.4**
EVN	**Everest**	**41.86**	**305**	P	**P**	**02 50 28.6**	**-0.1**
EVN	**Everest**	**41.86**	**305**	⇓P	**P**	**02 50 29.4**	**+0.7**
VIS	**Vishakhapatnam**	**42.12**	**289**	*e*P	**P**	**02 50 29.5**	**-0.7**
VIS				IAmb	IAmb	02 50 32.9	
	comp=Z,223nm,1.2s						
VIS				*e*S	**S**	**02 56 49.0**	**-0.7**
HTT	**Hallett**	**42.16**	**163**	P	**P**	**02 50 30.4**	**+0.1**
HTT	**Hallett**	**42.16**	**163**	⇑P	**P**	**02 50 30.5**	**+0.1**
RAGD	**RAYAGADA**	**42.28**	**291**	*e*P	**P**	**02 50 30.9**	**-0.7**
RAGD				IAmb	IAmb	02 50 33.9	
	comp=Z,98nm,1.2s						
RAGD				*e*S	**S**	**02 56 51.1**	**-0.9**
HIA	**Hailar**	**42.51**	**355**	IAMs_20	IAMs_20	03 11 25.4	
	comp=Z,7μm,19.0s						
HIA	**Hailar**	**42.51**	**355**	IAmb	IAmb	02 50 38.8	
	comp=Z,163nm,1.2s						
JHSG	**JHARSUGUGA**	**42.54**	**295**	*e*P	**P**	**02 50 33.2**	**-0.4**
JHSG				IAmb	IAmb	02 50 36.8	
	comp=Z,92nm,1.5s						
JHSG				*e*S	**S**	**02 56 55.2**	**-0.5**
YSS	**Yuzhno-Sakhali**	**42.73**	**18**	P	**P**	**02 50 34.9**	**+0.2**
YSS				IAmb	IAmb	02 50 37.1	
	comp=Z,170nm,1.2s						
YSS	**Yuzhno-Sakhali**	**42.73**	**18**	*de*P	**P**	**02 50 35.5**	**+0.8**
YSS				*e*		02 52 12.6	
YSS				*e*S	**S**	**02 56 54.5**	**-3.3**
YSS				*e*SS	**SS**	**03 00 00.7**	**-8.0**
YSS				pmax	pmax		
	comp=Z,90nm,1.2s						
YSS				pmax	pmax		
	comp=Z,600nm,5.9s						
YSS				pmax	pmax		
	comp=N,300nm,5.8s						
YSS				smax	smax		
	comp=N,500nm,6.0s						
YSS				smax	smax		
	comp=E,800nm,6.0s						
YSS				MLR	MLR		
	comp=Z,3μm,17.0s						
YSS				MLR	MLR		
	comp=N,3μm,16.0s						
HILR	**Hailar Array B**	**42.79**	**355**	P	**P**	**02 50 36.3**	**+1.0**
	comp=N,54nm,0.7s,baz=163,slow=11,SNR=62						
HILR				LR	LR	03 11 18.6	
	comp=N,4μm,18.1s,baz=120,slow=40						
	comp=N,54nm,0.7s						
CMSA	**Cobar Meteorol**	**42.95**	**154**	P	**P**	**02 50 37.0**	**+0.2**
KUR	**Kuril'sk**	**43.04**	**24**	*e*P	**P**	**02 50 36.2**	**-1.1**
KUR				*e*S	**S**	**02 57 03.8**	**+1.4**
KUR				pmax	pmax		
	comp=Z,483nm,1.1s						
KUR				MLR	MLR		
	comp=Z,4μm,18.0s						
KUR				MLR	MLR		
	comp=N,5μm,21.0s						
KUR				MLR	MLR		
	comp=E,2μm,13.0s						
HEH	**HeiHe**	**43.29**	**2**	*e*P	**P**	**02 50 40.0**	**+0.7**
HEH				ScP	**ScP**	**02 56 19.0**	**-0.1**
HEH				S	**S**	**02 57 05.8**	**-0.2**
HEH				pmax	pmax		
	comp=E,140nm,0.9s						
HEH				pmax	pmax		
	comp=E,2μm,6.2s						
HEH				LR	LR		
	comp=E,3μm,17.7s						
HEH				LR	LR		
	comp=E,5μm,19.6s						
HEH				LR	LR		
	comp=E,4μm,16.8s						
ULN	**Ulaanbaatar**	**43.66**	**342**	P	**P**	**02 50 42.3**	**-0.2**
ULN				IAmb	IAmb	02 50 54.8	
	comp=Z,428nm,1.8s						
ULN	**Ulaanbaatar**	**43.66**	**342**	IAMs_20	IAMs_20	03 08 25.4	
	comp=Z,6μm,22.0s						
ULN	**Ulaanbaatar**	**43.66**	**342**	P	**P**	**02 50 43.5**	**+1.0**
ULN				S	**S**	**02 57 11.7**	**-0.2**
ULN	**Ulaanbaatar**	**43.66**	**342**	*ce*P	**P**	**02 50 43.5**	**+1.0**
ULN				pmax	pmax		
	comp=Z,125nm,2.5s						
ULN	**Ulaanbaatar**	**43.66**	**342**	⇑P	**P**	**02 50 43.6**	**+1.0**
SONM	**Songino Array**	**43.84**	**342**	P	**P**	**02 50 44.0**	**+0.2**
SONM				IAmb	IAmb	02 50 56.1	
	comp=Z,236nm,1.5s						
SONM	**Songino Array**	**43.84**	**342**	P	**P**	**02 50 44.6**	**+0.7**
	comp=Z,12nm,0.9s,baz=159,slow=8.2,SNR=29						
SONM				LR	LR	03 09 38.2	
	comp=Z,7μm,21.7s,baz=157,slow=37						
	comp=Z,12nm,0.9s						
PALK	**Pallekele**	**44.05**	**273**	LR	LR	03 10 58.8	
	comp=Z,2μm,19.8s,baz=85,slow=39						
PALK	**Pallekele**	**44.05**	**273**	P	**P**	**02 50 47.1**	**+1.1**
PALK				S	**S**	**02 57 20.2**	**+1.9**
MALK	**Mahakanadarawa**	**44.17**	**275**	P	**P**	**02 50 48.0**	**+1.1**
UGL	**Uglegorsk**	**44.45**	**16**	*e*P	**P**	**02 50 51.2**	**+2.6**
UGL				*e*S	**S**	**02 57 24.0**	**+1.1**
UGL				pmax	pmax		
	comp=Z,3μm,9.7s						
UGL				smax	smax		
	comp=E,4μm,9.0s						
UGL				smax	smax		
	comp=N,3μm,10.0s						
UGL				MLR	MLR		
	comp=Z,4μm,17.0s						
UGL				MLR	MLR		
	comp=E,3μm,15.0s						
UGL				MLR	MLR		
	comp=N,3μm,17.0s						
VJD	**Vijayawada**	**44.48**	**287**	*e*P	**P**	**02 50 48.6**	**-0.7**
VJD				IAmb	IAmb	02 50 59.2	
	comp=Z,93nm,1.6s						
VJD				*e*S	**S**	**02 57 23.9**	**-0.4**
GRNR	**Gornyy**	**44.77**	**10**	⇓*i*P	**P**	**02 50 52.7**	**+1.5**
GRNR				pmax	pmax		
	comp=N,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.2s						
GRNR				MLR	MLR		
	comp=E,1μm,19.0s						
GRNR				MLR	MLR		
	comp=N,3μm,20.0s						
GRNR				MLR	MLR		
	comp=Z,3μm,20.0s						
ARMA	**Armidale**	**44.95**	**147**	P	**P**	**02 50 52.9**	**-0.1**
ARMA				IAmb	IAmb	02 51 00.1	
	comp=Z,128nm,1.2s						
ARMA	**Armidale**	**44.95**	**147**	P	**P**	**02 50 54.8**	**+1.8**
ARMA	**Armidale**	**44.95**	**147**	⇑P	**P**	**02 50 53.1**	**+0.1**
CIT	**Chita**	**46.02**	**350**	*e*P	**P**	**02 51 02.2**	**+1.1**
CIT				*e*		02 53 29.6	
CIT				pmax	pmax		
	comp=Z,459nm,2.6s						
TYV	**Tymovskoe**	**46.23**	**15**	*e*P	**P**	**02 51 05.1**	**+2.4**
TYV				*e*S	**S**	**02 57 49.3**	**+0.6**
TYV				pmax	pmax		
	comp=Z,73nm,1.4s						
TYV				pmax	pmax		
	comp=Z,500nm,2.6s						
TYV				smax	smax		
	comp=N,2μm,6.3s						
TYV				smax	smax		
	comp=E,1μm,6.3s						
HYB	**Hyderabad**	**46.59**	**287**	*e*P	**P**	**02 51 05.3**	**-0.8**
HYB				*ep*P	**pP**	**02 51 07.7**	**-3.3**
HYB				IVmB_BB		02 51 07.9	
	comp=Z,2μm,1.4s						
HYB				*e*S	**S**	**02 57 54.2**	**-0.6**
HYB				*e*ScS	**ScS**	**03 00 57.8**	**-3.6**
HYB				IVMs_BB	IVMs_BB	03 10 01.7	
	comp=Z,1μm,21.3s						
MGBR	**Mount Gambier**	**46.65**	**163**	P	**P**	**02 51 07.6**	**+1.6**
ZEA	**Zeya**	**46.77**	**2**	*e*P	**P**	**02 51 07.0**	**+0.1**
ZEA				*e*		02 53 02.9	
ZEA				*e*S	**S**	**02 57 59.2**	**+2.9**
ZEA				pmax	pmax		
	comp=N,30nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,70nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,500nm,4.7s						
ZEA				pmax	pmax		
	comp=N,300nm,4.1s						
ZEA				pmax	pmax		
	comp=Z,900nm,9.7s						
ZEA				smax	smax		
	comp=N,300nm,12.5s						
ZEA				smax	smax		
	comp=E,500nm,12.4s						
ZEA				MLR	MLR		
	comp=E,1μm,24.0s						
ZEA				MLR	MLR		
	comp=N,2μm,25.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,19.0s						
ZAK	**Zakamensk**	**47.06**	**341**	*e*P	**P**	**02 51 09.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,87nm,2.2s						
KOD	**Kodaikanal**	**47.19**	**278**	*e*P	**P**	**02 51 09.3**	**-1.8**
KOD				IAmb	IAmb	02 51 13.5	
	comp=Z,86nm,1.8s						
KOD				*e*S	**S**	**02 58 01.9**	**-2.2**
SANVU	**Saraoutou**	**47.23**	**118**	P	**P**	**02 51 11.5**	**+0.5**
SANVU	**Saraoutou**	**47.23**	**118**	⇑P	**P**	**02 51 12.1**	**+1.0**
CAN	**Canberra**	**47.62**	**153**	P	**P**	**02 51 15.4**	**+1.6**
CAN	**Canberra**	**47.62**	**153**	⇑P	**P**	**02 51 14.6**	**+0.7**
CNB	**Canberra Magne**	**47.77**	**153**	P	**P**	**02 51 16.6**	**+1.5**
NKL	**Nikolayevsk**	**47.87**	**13**	*e*P	**P**	**02 51 15.2**	**-0.2**
NKL				*e*S	**S**	**02 58 12.5**	**+0.6**
NKL				pmax	pmax		
	comp=E,202nm,0.8s						
NKL				pmax	pmax		
	comp=N,282nm,1.4s						
NKL				pmax	pmax		
	comp=Z,797nm,1.3s						
NKL				smax	smax		
	comp=E,1μm,4.4s						
NKL				smax	smax		
	comp=N,435nm,2.2s						
NKL				MLR	MLR		
	comp=E,14μm,23.0s						
NKL				MLR	MLR		
	comp=N,13μm,19.0s						
NKL				MLR	MLR		
	comp=Z,15μm,18.0s						
TOO	**Toolangi**	**48.13**	**158**	P	**P**	**02 51 17.9**	**+0.2**
TOO				IAmb	IAmb	02 51 20.6	
	comp=Z,102nm,1.4s						
TOO	**Toolangi**	**48.13**	**158**	P	**P**	**02 51 17.9**	**+0.2**
TOO				pmax	pmax		
	comp=Z,102nm,1.4s						
TOO	**Toolangi**	**48.13**	**158**	⇑P	**P**	**02 51 18.6**	**+0.9**
IRK	**Irkutsk**	**48.38**	**343**	*e*P	**P**	**02 51 19.5**	**+0.1**
IRK				pmax	pmax		
	comp=Z,258nm,2.6s						
BHPL	**Bhopal**	**48.59**	**295**	*e*P	**P**	**02 51 20.8**	**-0.7**
BHPL				IAmb	IAmb	02 51 24.1	
	comp=Z,193nm,1.5s						
BHPL				*e*S	**S**	**02 58 22.5**	**-0.7**
MOY	**Mondy**	**48.91**	**340**	*e*P	**P**	**02 51 24.3**	**+0.7**
MOY				pmax	pmax		
	comp=Z,283nm,2.5s						
MILA	**Mila**	**49.14**	**154**	⇑P	**P**	**02 51 26.0**	**+0.4**
WMQ	**Urumqi**	**49.25**	**325**	*e*P	**P**	**02 51 28.3**	**+1.9**
WMQ				S	**S**	**02 58 34.0**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,72nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,1μm,3.7s						
WMQ				LR	LR		
	comp=Z,10μm,17.3s						
WMQ				LR	LR		
	comp=Z,5μm,23.5s						
WMQ				LR	LR		
	comp=Z,5μm,23.5s						
ONTNC	**Ouen Toro**	**49.80**	**127**	IAmb	IAmb	02 51 36.6	
	comp=Z,182nm,1.4s						
OUENC	**Ouen Island, N**	**50.16**	**127**	P	**P**	**02 51 35.3**	**+1.8**
MARNC	**Mare, Loyalty**	**50.66**	**125**	⇓P	**P**	**02 51 39.0**	**+1.8**
PINNC	**Pines Island,**	**50.74**	**127**	IAmb	IAmb	02 51 44.1	
	comp=Z,224nm,1.2s						
SMLA	**Simla**	**50.84**	**305**	*e*P	**P**	**02 51 38.1**	**-0.4**
SMLA				IAmb	IAmb	02 51 41.5	
	comp=Z,95nm,1.1s						
SMLA				*e*S	**S**	**02 58 54.6**	**+0.3**
BOD	**Bodaibo**	**51.56**	**352**	*e*P	**P**	**02 51 44.1**	**+0.6**
BOD				pmax	pmax		
	comp=Z,159nm,1.3s						
DHRM	**DHARAMSHALA**	**51.89**	**306**	*e*P	**P**	**02 51 46.2**	**-0.5**
DHRM				IAmb	IAmb	02 51 49.0	
	comp=Z,50nm,0.4s						
DHRM				*e*S	**S**	**02 59 08.4**	**-0.9**
TSSA	**Tissa**	**52.20**	**307**	*e*P	**P**	**02 51 48.1**	**-0.8**
TSSA				IAmb	IAmb	02 51 51.1	
	comp=Z,167nm,0.9s						
TSSA				*e*S	**S**	**02 59 12.1**	**-1.4**
KAAM	**Kaadhehdhoo**	**52.35**	**265**	P	**P**	**02 51 49.2**	**-0.9**
KAAM				IAmb	IAmb	02 51 59.9	
	comp=Z,165nm,1.2s						
KAAM	**Kaadhehdhoo**	**52.35**	**265**	P	**P**	**02 51 51.7**	**+1.6**
ZSN	**Zaisan**	**53.02**	**327**	*e*P	**P**	**02 51 54.6**	**0.0**
ZSN	**Zaisan**	**53.02**	**327**	*e*P	**P**	**02 51 54.5**	**0.0**
PEA0B	**Petropavlovsk-**	**53.20**	**24**	IAmb	IAmb	02 52 01.6	
	comp=Z,216nm,1.1s						
PEA0B	**Petropavlovsk-**	**53.20**	**24**	*ce*P	**P**	**02 51 57.9**	**+2.1**
PETK	**Petropavlovsk-**	**53.20**	**24**	P	**P**	**02 51 56.6**	**+0.9**
	comp=Z,136nm,0.9s,baz=210,slow=3.9,SNR=61						
PETK				LR	LR	03 14 33.8	
	comp=Z,5μm,19.8s,baz=222,slow=36						
	comp=Z,136nm,0.9s						
PET	**Petropavlovsk**	**53.53**	**25**	P	**P**	**02 51 59.5**	**+1.4**
PET				IAmb	IAmb	02 52 01.2	
	comp=Z,218nm,1.1s						
PET				PcP	**PcP**	**02 53 01.9**	**-2.9**
PET				IAMs_20	IAMs_20	03 16 53.4	
	comp=Z,4μm,20.0s						
PET	**Petropavlovsk**	**53.53**	**25**	*e*P	**P**	**02 51 59.5**	**+1.4**
PET				*e*S	**S**	**02 59 32.5**	**+2.0**
PET				pmax	pmax		
	comp=Z,2μm,7.1s						
PET				pmax	pmax		
	comp=Z,214nm,1.1s						
PET				pmax	pmax		
	comp=Z,1μm,13.0s						
PET				MLR	MLR		
	comp=Z,4μm,16.0s						
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
PET	**Petropavlovsk**	**53.53**	**25**	P	**P**	**02 51 59.9**	**+1.8**
	comp=Z,3μmcomp=Z,199nm,1.6s						
SHLS	**Shalkode**	**53.92**	**320**	*e*P	**P**	**02 51 59.4**	**-2.0**
	comp=Z,80nm,1.0s						
SHLS	**Shalkode**	**53.92**	**320**	*e*P	**P**	**02 51 59.4**	**-2.0**
SHLS				pmax	pmax		
	comp=Z,80nm,1.0s						
PDGK	**Podgornoye**	**53.99**	**320**	P	**P**	**02 52 02.3**	**+0.4**
MK31	**Makanchi Array**	**54.08**	**325**	*e*P	**P**	**02 52 03.2**	**+0.8**
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**02 52 02.4**	**0.0**
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**02 52 03.0**	**+0.6**
	comp=Z,24nm,0.7s,baz=124,slow=8.1,SNR=166						
MKAR				LR	LR	03 15 13.4	
	comp=Z,5μm,21.8s,baz=99,slow=36						
MKAR				PKPPKP	**P'P'df**	**03 22 18.3**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=307,slow=5.2,SNR=4.5						
	comp=Z,24nm,0.7s						
UZB	**Uzynbulak**	**54.20**	**319**	*e*P	**P**	**02 52 03.5**	**-0.1**
	comp=Z,99nm,1.2s						
UZB				*e*S	**S**	**02 59 41.4**	**+1.0**
UZB	**Uzynbulak**	**54.20**	**319**	*e*P	**P**	**02 52 03.4**	**-0.1**
UZB				*e*S	**S**	**02 59 41.3**	**+1.0**
UZB				pmax	pmax		
	comp=Z,99nm,1.2s						
MAKZ	**Makanchi**	**54.27**	**325**	P	**P**	**02 52 03.6**	**-0.1**
MAKZ				IAMs_20	IAMs_20	03 16 49.4	
	comp=Z,6μm,18.0s						
MAKZ	**Makanchi**	**54.27**	**325**	P	**P**	**02 52 03.6**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,272nm,1.5s						
MAKZ				MLR	MLR		
	comp=Z,6μm,18.0s						
MAKZ	**Makanchi**	**54.27**	**325**	⇓P	**P**	**02 52 04.4**	**+0.6**
TARG	**Taragay, Kyrgy**	**54.36**	**317**	IAmb	IAmb	02 52 18.1	
	comp=Z,268nm,1.5s						
DGAR	**Diego Garcia**	**54.39**	**256**	⇑*e*P	**P**	**02 52 06.2**	**+1.1**
DGAR				pmax	pmax		
	comp=Z,106nm,1.2s						
SATY	**Saty**	**54.56**	**319**	*e*P	**P**	**02 52 06.0**	**-0.1**
	comp=Z,76nm,1.0s						
SATY	**Saty**	**54.56**	**319**	*e*P	**P**	**02 52 06.0**	**-0.1**
SATY				pmax	pmax		
	comp=Z,76nm,1.0s						
KSH	**Kashi**	**54.71**	**314**	P	**P**	**02 52 09.8**	**+2.6**
KSH				S	**S**	**02 59 48.5**	**+1.3**
KSH				pmax	pmax		
	comp=Z,100nm,1.4s						
KSH				LR	LR		
	comp=Z,8μm,21.3s						
KSH				LR	LR		
	comp=Z,4μm,21.3s						
KSH				LR	LR		
	comp=Z,5μm,18.6s						
NIL	**Nilore**	**54.76**	**307**	P	**P**	**02 52 07.2**	**-0.4**
NIL	**Nilore**	**54.76**	**307**	P	**P**	**02 52 07.2**	**-0.4**
NIL				pmax	pmax		
	comp=Z,311nm,1.0s						
KDJ	**Kajisay**	**54.95**	**318**	IAmb	IAmb	02 52 15.6	
	comp=Z,130nm,1.0s						
YAK	**Yakutsk**	**55.16**	**3**	P	**P**	**02 52 10.3**	**+0.4**
YAK	**Yakutsk**	**55.16**	**3**	IAMs_20	IAMs_20	03 16 12.2	
	comp=Z,4μm,20.0s						
YAK	**Yakutsk**	**55.16**	**3**	LR	LR	03 16 30.7	
	comp=Z,4μm,21.0s,baz=188,slow=37						
YAK	**Yakutsk**	**55.16**	**3**	*e*P	**P**	**02 52 10.6**	**+0.7**
YAK				*e*		02 54 09.3	
YAK				*e*S	**S**	**02 59 52.8**	**+0.6**
YAK				*e'*SS	**sS**	**03 00 04.9**	**+4.3**
YAK				*e*		03 01 57.2	
YAK				pmax	pmax		
	comp=Z,137nm,0.9s						
YAK				pmax	pmax		
	comp=N,105nm,1.3s						
YAK				pmax	pmax		
	comp=E,47nm,1.5s						
YAK				pmax	pmax		
	comp=Z,215nm,2.6s						
YAK				smax	smax		
	comp=E,746nm,4.8s						
YAK				smax	smax		
	comp=N,243nm,2.8s						
YAK				MLR	MLR		
	comp=Z,3μm,19.0s						
YAK				MLR	MLR		
	comp=N,2μm,18.0s						
YAK				MLR	MLR		
	comp=E,1μm,15.0s						
YAK	**Yakutsk**	**55.16**	**3**	⇑P	**P**	**02 52 11.0**	**+1.1**
ARXS	**Arharly**	**55.47**	**320**	*e*P	**P**	**02 52 12.9**	**+0.4**
TDK	**Taldyqorghan**	**55.48**	**321**	*e*P	**P**	**02 52 12.5**	**0.0**
	comp=E,64nm,0.9s						
TDK	**Taldyqorghan**	**55.48**	**321**	*e*P	**P**	**02 52 12.5**	**0.0**
TDK				pmax	pmax		
	comp=Z,64nm,0.9s						
MDOK	**Medeo**	**55.49**	**319**	*e*P	**P**	**02 52 12.8**	**-0.1**
MDOK	**Medeo**	**55.49**	**319**	*e*P	**P**	**02 52 12.7**	**-0.1**
TNSS	**Tian-Shan**	**55.50**	**318**	*e*P	**P**	**02 52 12.9**	**-0.4**
TNSS	**Tian-Shan**	**55.50**	**318**	*e*P	**P**	**02 52 12.8**	**-0.4**
AAA	**Alma-Ata**	**55.60**	**319**	*e*P	**P**	**02 52 13.5**	**0.0**
AAA	**Alma-Ata**	**55.60**	**319**	*e*P	**P**	**02 52 13.5**	**0.0**
ULHL	**Ulahol**	**55.63**	**317**	P	**P**	**02 52 15.8**	**+1.9**
	SNR=13						
CHKK	**Chushkaly**	**55.84**	**319**	*e*P	**P**	**02 52 15.0**	**-0.2**
CHKK	**Chushkaly**	**55.84**	**319**	*e*P	**P**	**02 52 15.0**

MA2 IAmb IAmb 02 52 20.7
comp=Z,94nm,1.0s
MA2 Magadan 56.11 15 *ce*P **P 02 52 19.1 +2.3**
MA2 pmax pmax
comp=Z,261nm,2.5s
MA2 Magadan 56.11 15 ⇑P **P 02 52 18.7 +1.9**
MA2 Magadan 56.11 15 P **P 02 52 17.9 +1.2**
comp=Z,121nm,0.9s
KUU Kurty 56.28 319 *e*P **P 02 52 18.4 0.0**
KUU Kurty 56.28 319 *e*P **P 02 52 18.3 0.0**
TKM2 Tokmak 2 56.35 318 P **P 02 52 20.8 +1.7**
SNR=25
KBK Karagaybulak 56.67 317 P **P 02 52 23.1 +1.8**
SNR=30
UCH Uchtor 56.79 317 P **P 02 52 24.0 +1.4**
SNR=152
CHMS Chumysh 56.95 318 P **P 02 52 24.4 +1.3**
SNR=17
AAK Ala-Archa 56.97 317 P **P 02 52 23.4 -0.1**
AAK IAmb IAmb 02 52 33.8
comp=Z,293nm,1.8s
AAK Ala-Archa 56.97 317 LR LR 03 19 58.3
comp=Z,6μm,19.8s,baz=110,slow=39
AAK Ala-Archa 56.97 317 P **P 02 52 25.0 +1.6**
AAK S **S 03 00 18.8 +1.4**
AAK Ala-Archa 56.97 317 P **P 02 52 23.0 -0.4**
SNR=20
AAK Ala-Archa 56.97 317 *i* P **P 02 52 24.0 +0.5**
SNR=59
AAK Ala-Archa 56.97 317 *ce*P **P 02 52 25.0 +1.6**
AAK pmax pmax
comp=Z,173nm,1.7s
AAK Ala-Archa 56.97 317 ⇑P **P 02 52 24.6 +1.2**
ZALV Zalesovo Beam 57.08 333 P **P 02 52 23.0 -0.8**
ZALV Zalesovo Beam 57.08 333 P **P 02 52 23.4 -0.3**
comp=Z,24nm,1.0s,baz=116,slow=6.9,SNR=21
ZALV LR LR 03 17 58.6
comp=Z,3μm,21.4s,baz=130,slow=37
ZALV PKPPKP **P'P'df 03 22 15.0 -0.9**
comp=Z,0.9nm,0.4s,baz=318,slow=4.1,SNR=1.1
comp=Z,24nm,1.0s
ZALV Zalesovo Beam 57.08 333 *i* P **P 02 52 23.5 -0.3**
ZALV pmax pmax
comp=Z,23nm,1.0s
SGDS Sogindy 57.21 318 *e*P **P 02 52 24.9 -0.1**
comp=Z,62nm,1.6s
USP Ospenovka 57.22 318 P **P 02 52 25.6 +0.6**
SNR=81
EKS2 Erkin-Say 57.47 317 P **P 02 52 28.8 +1.9**
SNR=49
MSVF Nonsavu 57.70 116 P **P 02 52 30.5 +1.6**
MSVF Nonsavu 57.70 116 ⇑P **P 02 52 30.4 +1.6**
KURBB Kurchatov Arra 58.25 327 P **P 02 52 31.9 -0.2**
comp=Z,48nm,0.9s,baz=127,slow=5.6,SNR=174
KURBB LR LR 03 19 21.0
comp=Z,2μm,18.8s,baz=147,slow=38
KURBB PKPPKP **P'P'df 03 22 09.8 -4.5**
comp=Z,0.7nm,0.2s,baz=280,slow=2.7,SNR=7.2
comp=Z,48nm,0.9s
KURK Kurchatov 58.25 327 P **P 02 52 31.9 -0.1**
KURK Kurchatov 58.25 327 P **P 02 52 32.5 +0.5**
KURK S **S 03 00 33.1 -0.4**
KURK Kurchatov 58.25 327 P **P 02 52 32.5 +0.5**
KBU Kabul Universi 58.28 306 P **P 02 52 33.8 +0.9**
KBL Kabul 58.36 306 P **P 02 52 33.0 -0.4**
KBL IAmb IAmb 02 52 35.0
comp=Z,63nm,0.9s
KBL Kabul 58.36 306 P **P 02 52 33.9 +0.5**
SNR=38
KBL S **S 03 00 34.6 -1.3**
KBL Kabul 58.36 306 P **P 02 52 33.0 -0.4**
KBL pmax pmax
comp=Z,63nm,0.9s
DZA Taraz 59.22 316 *e*P **P 02 52 39.2 +0.1**
comp=Z,41nm,1.5s
DZA Taraz 59.22 316 *e*P **P 02 52 39.1 +0.1**
DZA pmax pmax
comp=Z,41nm,1.5s
SEY Seymchan 59.39 14 LR LR 03 20 52.5
comp=Z,2μm,18.5s,baz=216,slow=39
SEY Seymchan 59.39 14 *ce*P **P 02 52 42.2 +2.5**
SEY pmax pmax
comp=Z,110nm,2.5s
KK31 Karatay Array 59.86 316 *i* P **P 02 52 44.0 +0.6**
KKAR Karatay Array 59.86 316 P **P 02 52 43.7 +0.3**
KKAR Karatay Array 59.86 316 P **P 02 52 43.7 +0.3**
CHM Chimkent 60.22 315 *e*P **P 02 52 46.1 +0.1**
comp=Z,54nm,1.1s
CHM Chimkent 60.22 315 *e*P **P 02 52 46.0 +0.1**
CHM pmax pmax
comp=Z,54nm,1.1s
BRLS Borolday 60.30 316 *e*P **P 02 52 46.5 +0.1**
comp=Z,57nm,1.1s
BRLS Borolday 60.30 316 *e*P **P 02 52 46.5 +0.1**
BRLS pmax pmax
comp=Z,57nm,1.1s
BRZS Berezniki 61.22 324 *e*P **P 02 52 52.8 +0.2**
BRZS Berezniki 61.22 324 *e*P **P 02 52 52.7 +0.2**
OUZ Omahuta 61.92 136 P **P 02 52 58.9 +1.4**
OUZ Omahuta 61.92 136 ⇓P **P 02 52 59.5 +2.0**
WCZ Waipu Caves 62.82 136 P **P 02 53 05.3 +1.8**
AMKA Amchitka 62.84 35 P **P 02 53 04.2 +0.9**
GRZ Great Barrier 63.75 136 P **P 02 53 11.1 +1.5**
HRA Herat 63.81 305 IAmb IAmb 02 53 47.1
comp=Z,76nm,1.4s
BVAR Borovoye Array 63.83 327 P **P 02 53 09.9 0.0**
comp=Z,41nm,0.9s,baz=117,slow=8.5,SNR=95
BVAR LR LR 03 22 26.8
comp=Z,3μm,21.6s,baz=102,slow=38
comp=Z,41nm,0.9s
BVAR Borovoye Array 63.83 327 P **P 02 53 10.0 0.0**
BORK Borovoye 63.88 327 *ce*P **P 02 53 10.3 +0.1**
BORK pmax pmax
comp=Z,82nm,1.0s
BORK Borovoye 63.88 327 ⇓P **P 02 53 10.0 -0.3**
BRVK Borovoye 63.90 327 P **P 02 53 10.0 -0.4**
JCZ Jackson Bay 64.19 146 P **P 02 53 14.2 +1.7**
JCZ Jackson Bay 64.19 146 P **P 02 53 13.1 +0.6**
DCZ Deep Cove 64.24 148 P **P 02 53 13.2 +0.5**
DCZ IAmb IAmb 02 53 35.7
comp=Z,107nm,1.1s
QRZ Quartz Range 64.37 142 IAMs_20 IAMs_20 03 22 38.2
comp=Z,3μm,20.0s
QRZ Quartz Range 64.37 142 P **P 02 53 15.5 +1.8**
QRZ Quartz Range 64.37 142 P **P 02 53 14.7 +1.1**
DSZ Denniston Nort 64.48 143 IAMs_20 IAMs_20 03 26 46.9
comp=Z,3μm,18.0s
DSZ Denniston Nort 64.48 143 P **P 02 53 16.5 +2.1**
TOZ Tahuroa Road 64.56 137 IAmb IAmb 02 53 24.6
comp=Z,48nm,0.9s
TOZ IAMs_20 IAMs_20 03 20 04.4
comp=Z,3μm,21.0s
TIXI Tiksi 64.76 1 P **P 02 53 14.8 -0.9**
TIXI Tiksi 64.76 1 IAMs_20 IAMs_20 03 23 14.4
comp=Z,4μm,19.0s
TIXI Tiksi 64.76 1 LR LR 03 23 09.4
comp=Z,5μm,20.3s,baz=205,slow=38
TIXI Tiksi 64.76 1 *ce*P **P 02 53 14.9 -0.8**
TIXI pmax pmax
comp=Z,77nm,1.7s
TIXI Tiksi 64.76 1 ⇑P **P 02 53 15.1 -0.6**
JLN Jalan Bani Buh 64.95 291 P **P 02 53 18.1 +0.2**
KIWB Kanaga Island 65.06 35 P **P 02 53 19.3 +1.4**
NNZ Nelson 65.12 142 P **P 02 53 18.4 -0.1**
THZ Tophouse 65.15 142 IAMs_20 IAMs_20 03 21 22.7
comp=Z,3μm,20.0s
THZ Tophouse 65.15 142 P **P 02 53 18.1 -0.7**
LBZ Lake Benmore 65.17 146 P **P 02 53 18.2 -0.6**
LBZ IAmb IAmb 02 53 29.1
comp=Z,90nm,0.8s
LBZ Lake Benmore 65.17 146 P **P 02 53 18.2 -0.6**
RPZ Rata Peaks 65.24 145 P **P 02 53 19.7 +0.5**
RPZ Rata Peaks 65.24 145 LR LR 03 22 35.5
comp=Z,3μm,20.1s,baz=26,slow=37
RPZ Rata Peaks 65.24 145 P **P 02 53 20.9 +1.7**
RPZ Rata Peaks 65.24 145 P **P 02 53 21.1 +1.8**
ADK Adak 65.34 35 IAMs_20 IAMs_20 03 18 02.2
comp=Z,4μm,20.0s
WTVZ West Tongariro 65.36 139 P **P 02 53 22.4 +2.1**
NNVZ North Ngauruho 65.39 139 P **P 02 53 21.9 +1.4**
NGZ Ngauruhoe 65.40 139 P **P 02 53 22.3 +1.7**
SNVZ South Ngauruho 65.43 139 P **P 02 53 22.7 +1.9**
OTVZ Oturere 65.43 139 P **P 02 53 23.0 +2.2**
TMVZ Te Maari 65.43 139 P **P 02 53 23.1 +2.3**
RAO Raoul Island 65.47 126 LR LR 03 21 12.5
comp=Z,852nm,20.6s,baz=280,slow=35
WNVZ Wahianoa 65.48 139 P **P 02 53 24.7 +3.6**
OXZ Oxford 65.56 144 IAmb IAmb 02 53 26.2
comp=Z,45nm,0.6s
WSAR Wadi Sarin 65.72 292 P **P 02 53 23.9 +1.0**
ODZ Otahua Downs 65.84 146 P **P 02 53 25.9 +2.8**
KHZ Kahutara 65.92 143 IAmb IAmb 02 53 32.9
comp=Z,86nm,1.3s
KHZ IAMs_20 IAMs_20 03 22 00.9
comp=Z,4μm,19.0s
KHZ Kahutara 65.92 143 P **P 02 53 25.2 +1.6**
KHZ Kahutara 65.92 143 ⇓P **P 02 53 23.4 -0.2**
URZ Urewera 65.92 137 LR LR 03 22 53.2
comp=Z,2μm,20.0s,baz=308,slow=37
URZ Urewera 65.92 137 P **P 02 53 24.4 +0.7**
URZ Urewera 65.92 137 P **P 02 53 23.7 0.0**
URZ Urewera 65.92 137 ⇓P **P 02 53 23.8 0.0**
AFI Afiamalu 65.95 108 P **P 02 53 25.8 +1.3**
AFI Afiamalu 65.95 108 P **P 02 53 25.8 +1.3**
AFI pmax pmax
comp=Z,251nm,1.4s
BKZ Black Stump Fm 65.98 138 P **P 02 53 24.0 -0.2**
BKZ Black Stump Fm 65.98 138 P **P 02 53 24.0 -0.2**
SNZO South Karori 66.00 141 IAMs_20 IAMs_20 03 24 35.2
comp=Z,3μm,19.0s
SNZO South Karori 66.00 141 P **P 02 53 25.2 +1.0**
SNZO South Karori 66.00 141 ⇑P **P 02 53 24.9 +0.7**
RTZ Ruatahuna 66.02 138 IAMs_20 IAMs_20 03 21 01.0
comp=Z,3μm,20.0s
HAZ Te Kaha 66.12 136 P **P 02 53 24.5 -0.5**
KRHZ Kereru 66.15 139 P **P 02 53 24.9 -0.4**
RUGZ Raukumara Rang 66.16 137 P **P 02 53 25.7 +0.3**
BHW Baring Head 66.16 141 IAmb IAmb 02 53 27.4
comp=Z,70nm,0.6s
JMDO Jabal Madar 66.17 291 P **P 02 53 26.3 +0.6**
PNHZ Pukenui 66.19 139 P **P 02 53 26.0 +0.5**
MRZ Mangatainoka R 66.19 140 IAmb IAmb 02 53 30.7
comp=Z,77nm,1.0s
MRZ Mangatainoka R 66.19 140 P **P 02 53 24.9 -0.6**
MWZ Matawai 66.24 137 P **P 02 53 26.0 +0.1**
MHTO MHTO 66.25 290 P **P 02 53 26.4 +0.1**
RAGZ Rawiri 66.25 137 P **P 02 53 26.5 +0.5**
SMDO Samad 66.25 292 P **P 02 53 26.7 +0.4**
MXZ Matakaoa Point 66.39 136 IAmb IAmb 02 53 29.1
comp=Z,75nm,1.0s
MXZ Matakaoa Point 66.39 136 P **P 02 53 28.1 +1.4**
MXZ Matakaoa Point 66.39 136 P **P 02 53 26.1 -0.6**
KAHZ Kahuranaki 66.56 139 P **P 02 53 28.4 +0.4**
DQM DQM 66.62 289 P **P 02 53 29.6 +0.9**
BFZ Birch Farm 66.63 140 P **P 02 53 30.4 +2.1**
HOQ Hoqain 66.95 293 P **P 02 53 31.4 +0.7**
SNR=5.1
BILL Bilibino 66.98 16 P **P 02 53 31.4 +1.4**
BILL IAMs_20 IAMs_20 03 25 15.9
comp=Z,3μm,19.0s
BILL Bilibino 66.98 16 *ce*P **P 02 53 31.4 +1.4**
BILL pmax pmax
comp=Z,98nm,2.5s
ARQ Araqi 67.66 292 P **P 02 53 36.0 +0.7**
SOHO SOHO 67.69 293 P **P 02 53 35.8 +0.5**
SOHO SOHO 67.69 293 *i* P **P 02 53 35.3 0.0**
SNR=11
MDH Madha 67.95 294 P **P 02 53 37.4 +0.4**
MDH Madha 67.95 294 P **P 02 53 36.4 -0.6**
BANOM Banah 67.98 295 P **P 02 53 37.7 +0.4**
BANOM Banah 67.98 295 *i* P **P 02 53 36.8 -0.5**
SNR=6.2
UOSS Minazif 68.02 294 P **P 02 53 37.0 -0.5**
UOSS Minazif 68.02 294 P **P 02 53 38.0 +0.5**
UOSS Minazif 68.02 294 P **P 02 53 37.4 0.0**
HATD Hatta, Dubai 68.08 294 P **P 02 53 38.5 +0.7**
SNR=6.1
HATD Hatta, Dubai 68.08 294 *i* P **P 02 53 37.6 -0.2**
SNR=9.4
MSFE Esma-Masafi 68.08 294 P **P 02 53 37.4 -0.5**
MASF Masafi 68.08 294 P **P 02 53 38.7 +0.8**
SHME Shamm 68.13 295 *i* P **P 02 53 38.4 +0.3**
SNR=6.3
ASHO Ashiyiah 68.14 294 P **P 02 53 38.9 +0.6**
SNR=6.2
ASHO P **pP 02 53 39.1 -4.3**
ASHO Ashiyiah 68.14 294 *i* P **P 02 53 37.8 -0.5**
SNR=11
ALNE Al Ain 68.40 293 P **P 02 53 40.1 +0.3**
SNR=9.2
ALNE Al Ain 68.40 293 *i* P **P 02 53 40.2 +0.3**
SNR=6.5
SHAO Shalim 68.42 287 P **P 02 53 41.2 +1.1**
SNR=5.5
SHAO Shalim 68.42 287 *i* P **P 02 53 39.7 -0.4**
SNR=10.0
NAZ Nazwa, Dubai 68.51 294 P **P 02 53 41.0 +0.4**
SNR=5.6
NAZ Nazwa, Dubai 68.51 294 *i* P **P 02 53 41.0 +0.4**
SNR=8.6
UMQ Umm Al-Quwin 68.54 295 P **P 02 53 41.7 +1.0**
FAQ Al Faqa, Dubai 68.57 294 P **P 02 53 41.4 +0.6**
FAQ Al Faqa, Dubai 68.57 294 P **P 02 53 40.7 -0.2**
AB31 Akbulak array 68.72 320 P **P 02 53 41.2 -0.2**
AB31 IAmb IAmb 02 53 43.2
comp=Z,160nm,1.4s
AB31 Akbulak array 68.72 320 P **P 02 53 40.7 -0.6**
ABKAR Akbulak array 68.72 320 P **P 02 53 40.9 -0.5**
ASUD Al Ashush, Dub 68.80 294 P **P 02 53 43.2 +0.8**
SNR=5.7
ASUD Al Ashush, Dub 68.80 294 *i* P **P 02 53 42.8 +0.5**
SNR=8.3
DMTO DMTO 69.07 286 P **P 02 53 44.9 +0.8**
AJN Ajban 69.11 294 P **P 02 53 44.6 +0.3**
SNR=5.1
RBK Rabkut 69.78 286 P **P 02 53 49.2 +0.6**
SNR=11
DOK Doka 69.84 287 P **P 02 53 49.3 +0.4**
SNR=6.4
MZWR Madinat Zayed 70.10 293 P **P 02 53 50.9 +0.5**
WHFO Wadi Hawf 70.19 287 P **P 02 53 51.1 +0.1**
SNR=7.6
AKTO Aktyubinsk 70.22 321 LR LR 03 26 49.1
comp=Z,3μm,18.5s,baz=102,slow=38
NIKH Nikolski High 70.23 36 P **P 02 53 52.8 +2.2**
NIKH Nikolski High 70.23 36 P **P 02 53 51.8 +1.2**
baz=255
MSEY Mahe Island 70.43 263 P **P 02 53 51.6 -1.0**
MSEY IAmb IAmb 02 53 54.1
comp=Z,137nm,1.4s
MSEY Mahe Island 70.43 263 IAMs_20 IAMs_20 03 27 09.9
comp=Z,3μm,18.0s
MSEY Mahe Island 70.43 263 P **P 02 53 53.3 +0.7**
MSEY Mahe Island 70.43 263 P **P 02 53 52.4 -0.2**
MSEY Mahe Island 70.43 263 P **P 02 53 51.6 -1.0**
MSEY pmax pmax
comp=Z,137nm,1.4s
MSEY MLR MLR
comp=Z,3μm,18.0s
MZR Muzera 70.45 292 P **P 02 53 53.1 +0.5**
SNR=23
MZR Muzera 70.45 292 *i* P **P 02 53 53.0 +0.5**
SNR=19
SVE Sverdlovsk 70.46 328 *de*P **P 02 53 52.2 +0.2**
SVE *e*S **S 03 03 08.8 +4.4**
SVE pmax pmax
comp=Z,88nm,1.2s
SVE MLR MLR
comp=Z,4μm,21.0s
ABTO Aybut 70.65 286 P **P 02 53 54.4 +0.4**
SNR=18
SPIA Saint Paul Isl 70.67 31 P **P 02 53 53.8 +0.6**
baz=252
P08K Saint George I 70.86 32 P **P 02 53 54.9 +0.5**
baz=253
JRN Qarnain Island 71.06 294 P **P 02 53 56.5 +0.3**
SNR=7.0
ARTI Arti 71.53 327 P **P 02 53 57.6 -0.8**
ARTI IAmb IAmb 02 54 06.7
comp=Z,70nm,1.2s
ARTI IAMs_20 IAMs_20 03 27 03.8
comp=Z,4μm,22.0s
ARTI Arti 71.53 327 LR LR 03 27 26.9
comp=Z,3μm,22.0s,baz=113,slow=38
ARTI Arti 71.53 327 *c i*P **P 02 53 57.7 -0.8**
ARTI 02 54 16.8
ARTI 02 56 34.9
ARTI PPP PPP 02 58 19.3
ARTI S **S 03 03 17.7 +1.0**
ARTI SS **SS 03 07 48.8 -2.9**
ARTI SSS SSS 03 11 02.5
ARTI pmax pmax
comp=Z,56nm,1.3s
ARTI MLR MLR
comp=Z,3μm,22.0s
UNV Unalaska Valle 71.81 35 P **P 02 54 01.1 +1.0**
baz=256,SNR=14
GAMB Gambell 72.23 25 P **P 02 54 03.9 +1.5**
baz=249
AKUT Akutan 72.30 35 ⇓P **P 02 54 04.7 +1.6**
SMRA Abu-Samra 72.90 294 P **P 02 54 08.2 +0.9**
SAKB Bahrain 73.17 295 P **P 02 54 09.8 +1.0**
M11K Mekoryuk 73.61 29 IAmb IAmb 02 54 19.4
comp=Z,224nm,1.4s
M11K Mekoryuk 73.61 29 P **P 02 54 11.7 +1.0**
baz=255
CASY Casey 73.72 186 P **P 02 54 10.9 -0.3**
CASY IAmb IAmb 02 54 14.5
comp=Z,51nm,0.7s
CASY Casey 73.72 186 ⇑P **P 02 54 10.4 -0.8**
FALS False Pass 73.79 35 P **P 02 54 13.0 +1.1**
baz=259,SNR=10
TNA Tin City 74.37 23 IAMs_20 IAMs_20 03 28 06.0
comp=Z,3μm,20.0s
TNA Tin City 74.37 23 P **P 02 54 16.1 +1.1**
baz=252
S12K Black Hills 74.71 34 P **P 02 54 18.3 +1.0**
baz=260
K13K Kusilvak Mount 74.73 27 P **P 02 54 19.1 +1.8**
baz=256,SNR=11
F14K Arctic Creek 74.97 24 P **P 02 54 20.3 +1.7**
baz=253
M13K Dall Lake 74.99 29 P **P 02 54 20.4 +1.6**
baz=257
ANM Nome 75.11 25 P **P 02 54 21.1 +1.7**
baz=254
L14K Kuka Creek 75.51 28 IAmb IAmb 02 54 36.3
comp=Z,163nm,1.2s
L14K Kuka Creek 75.51 28 P **P 02 54 23.2 +1.5**
baz=258,SNR=18
SDPT Sand Point 75.54 35 P **P 02 54 23.4 +1.4**
SDPT Sand Point 75.54 35 P **P 02 54 23.2 +1.1**
baz=261
N14K Kuskokwak Cree 75.70 30 IAmb IAmb 02 54 35.4
comp=Z,95nm,0.8s
N14K Kuskokwak Cree 75.70 30 P **P 02 54 23.9 +1.0**
baz=259
KBD Kabd 75.71 298 P **P 02 54 23.8 +0.2**
F15K North Star Dit 75.71 24 IAmb IAmb 02 54 40.7
comp=Z,117nm,1.2s
F15K North Star Dit 75.71 24 P **P 02 54 24.3 +1.5**
baz=255
M14K Bethel 75.73 29 IAmb IAmb 02 54 37.5
comp=Z,158nm,1.2s
M14K Bethel 75.73 29 P **P 02 54 24.6 +1.6**
baz=258,SNR=11
G15K Niukluk 75.77 24 P **P 02 54 24.7 +1.5**
baz=256
O14K Tigyukauivet M 75.79 31 IAmb IAmb 02 54 28.4
comp=Z,87nm,0.9s
O14K Tigyukauivet M 75.79 31 P **P 02 54 25.0 +1.6**
baz=259
CNBA Chernabura Isl 75.97 35 P **P 02 54 25.1 +0.6**
CNBA IAmb IAmb 02 54 28.0
comp=Z,135nm,1.0s
CHNA Chernabura Isl 75.97 35 P **P 02 54 25.4 +0.9**
baz=262
AKT Akhty 76.03 311 *e*P **P 02 54 25.1 -0.2**
AKT *e* 02 54 36.6
AKT *e* 02 57 14.2
AKT *e*PPP PPP 02 58 58.9
AKT *e*S **S 03 04 07.5 -0.9**
AKT pmax pmax
comp=Z,157nm,1.1s
L15K Ungalak Mounta 76.14 28 P **P 02 54 26.6 +1.2**
baz=259
C16K Lisburne Hills 76.16 21 P **P 02 54 26.6 +1.3**
baz=254
S14K Fog Glacier 76.20 34 P **P 02 54 27.5 +1.6**
baz=262
K15K Wolf Creek Mou 76.25 27 IAmb IAmb 02 54 32.6
comp=Z,69nm,1.0s
K15K IAMs_20 IAMs_20 03 33 24.1
comp=Z,3μm,20.0s
K15K Wolf Creek Mou 76.25 27 P **P 02 54 27.7 +1.8**
baz=258,SNR=14
MAK Makhachkala 76.28 312 *d i*P P 02 54 21.4 -5.1
MAK *e*S S 03 04 01.2 -10
MAK *e*SS **SS 03 08 58.8 -5.9**
MAK *e*SSS SSS 03 12 24.6
MAK pmax pmax
comp=Z,316nm,1.4s
M15K Kasigluk River 76.34 29 P **P 02 54 28.0 +1.5**
baz=260,SNR=17
H16K Elim 76.44 25 P **P 02 54 28.7 +1.7**
baz=257
O15K Ungalikthiuk R 76.50 31 IAmb IAmb 02 54 41.5
comp=Z,85nm,1.2s
O15K Ungalikthiuk R 76.50 31 P **P 02 54 29.0 +1.5**
baz=261
N15K Kwethluk River 76.53 30 IAmb IAmb 02 54 40.4
comp=Z,80nm,0.9s
N15K IAMs_20 IAMs_20 03 30 09.8
comp=Z,3μm,22.0s
N15K Kwethluk River 76.53 30 P **P 02 54 29.6 +1.9**
baz=260,SNR=12
G16K Koyuk River 76.56 24 P **P 02 54 29.0 +1.4**
baz=257
KIRV Kirov 76.72 329 LR LR 03 30 53.3
comp=Z,4μm,20.2s,baz=103,slow=38
KIRV Kirov 76.72 329 *ce*P **P 02 54 28.2 -0.5**
D17K Noatak River 76.83 22 P **P 02 54 31.0 +1.8**
baz=256,SNR=9.8
J16K Anvik River 76.86 27 IAMs_20 IAMs_20 03 30 49.2
comp=Z,3μm,21.0s
J16K Anvik River 76.86 27 P **P 02 54 31.3 +1.9**
baz=259,SNR=13
I17K Unalakleet 76.94 26 IAmb IAmb 02 54 37.6
comp=Z,81nm,1.1s
I17K Unalakleet 76.94 26 P **P 02 54 31.7 +1.9**
baz=259,SNR=9.0
RDOG Red Dog Mine 76.98 22 IAmb IAmb 02 54 47.7
comp=Z,120nm,1.1s
RDOG IAMs_20 IAMs_20 03 32 29.8
comp=Z,2μm,19.0s
RDOG Red Dog Mine 76.98 22 P **P 02 54 31.2 +1.2**
baz=256
C17K DeLong Mountai 76.99 21 P **P 02 54 31.5 +1.4**
baz=256
L16K Owhat River 77.09 28 IAmb IAmb 02 54 37.5
comp=Z,63nm,0.9s
L16K Owhat River 77.09 28 P **P 02 54 32.6 +1.9**
baz=260,SNR=20
E17K Hotham Inlet 77.15 23 P **P 02 54 33.0 +2.0**
baz=257,SNR=6.9
M16K Timber Creek 77.23 29 IAmb IAmb 02 54 37.8
comp=Z,68nm,0.9s
M16K Timber Creek 77.23 29 P **P 02 54 33.4 +1.8**
baz=261,SNR=15
F17K Baldwin Pennin 77.23 23 P **P 02 54 33.1 +1.7**
baz=258
N16K Nishlik Lake 77.23 30 P **P 02 54 32.7 +1.1**
baz=261,SNR=15
G17K Kiwalik Mounta 77.28 24 P **P 02 54 33.5 +1.8**
baz=258
SBV Sambava 77.31 255 P **P 02 54 33.2 +0.3**
SNR=5.5
P16K Nushagak River 77.42 31 P **P 02 54 34.7 +2.1**
baz=262
O16K Kokwok River B 77.44 30 IAmb IAmb 02 54 41.0
comp=Z,118nm,1.4s
O16K Kokwok River B 77.44 30 P **P 02 54 34.8 +2.1**
baz=262,SNR=13
R16K Pilot Point 77.45 33 P **P 02 54 34.7 +1.9**
baz=263
H17K Granite Mounta 77.47 25 IAmb IAmb 02 54 50.8
comp=Z,136nm,1.3s
H17K Granite Mounta 77.47 25 P **P 02 54 34.2 +1.4**
baz=259,SNR=14
J17K VABM Dome 77.56 27 P **P 02 54 35.1 +1.7**
baz=260
B18K Kokolik River 77.69 20 P **P 02 54 36.1 +2.1**
baz=257
E18K Tukpahlearik C 77.69 22 IAmb IAmb 02 54 51.9
comp=Z,113nm,1.1s
E18K Tukpahlearik C 77.69 22 P **P 02 54 36.1 +2.1**
baz=258,SNR=10

C18K	**Utukok River**	77.73	21	IAmb	IAmb	02 54 38.7
	comp=Z,55nm,0.8s					
C18K	**Utukok River**	77.73	21	P	P	02 54 36.5 +2.2
	baz=257					
RAYN	**Ar Rayn**	77.78	293	P	P	02 54 35.0 -0.5
RAYN				IAmb	IAmb	02 54 38.0
	comp=Z,80nm,0.9s					
RAYN	**Ar Rayn**	77.78	293	P	P	02 54 35.6 +0.1
RAYN	**Ar Rayn**	77.78	293	*i* P	P	02 54 35.5 0.0
	SNR=87					
K17K	**Iditarod**	77.80	27	IAmb	IAmb	02 54 42.0
	comp=Z,88nm,0.9s					
K17K	**Iditarod**	77.80	27	P	P	02 54 36.3 +1.6
	baz=261					
F18K	**Selawik**	77.89	23	P	P	02 54 36.7 +1.6
	baz=259,SNR=10					
O17K	**Koliganek Bris**	77.97	30	P	P	02 54 37.2 +1.6
	baz=263,SNR=11					
M17K	**Holitna River**	78.01	29	IAmb	IAmb	02 54 42.8
	comp=Z,62nm,0.9s					
M17K	**Holitna River**	78.01	29	P	P	02 54 37.3 +1.3
	baz=262,SNR=10					
N17K	**Nushagak Hills**	78.02	30	IAmb	IAmb	02 54 50.8
	comp=Z,105nm,1.1s					
N17K	**Nushagak Hills**	78.02	30	P	P	02 54 37.9 +1.9
	baz=263,SNR=15					
Q16K	**King Salmon**	78.06	32	P	P	02 54 38.0 +1.8
	baz=264					
KNHH	**Kane Nui o Ham**	78.10	72	P	P	02 54 37.8 +0.5
R17L	**Mt. Peulik Vol**	78.10	33	P	P	02 54 37.6 +1.0
	baz=264					
PLK4	**Peulik 4**	78.11	33	IAMs_20	IAMs_20	03 32 59.8
	comp=Z,3μm,20.0s					
A19K	**Wainwright**	78.13	20	P	P	02 54 37.3 +0.9
	baz=257					
H18K	**Honhosa River**	78.16	25	P	P	02 54 37.9 +1.3
	baz=261,SNR=8.1					
G18K	**Tagagawik**	78.16	24	IAmb	IAmb	02 54 54.8
	comp=Z,97nm,1.4s					
G18K				IAMs_20	IAMs_20	03 31 26.4
	comp=Z,2μm,20.0s					
G18K	**Tagagawik**	78.16	24	P	P	02 54 38.1 +1.5
	baz=260,SNR=6.3					
P17K	**Kvichak River**	78.23	31	P	P	02 54 38.4 +1.2
	baz=264					
GNI	**Garni**	78.25	309	P	P	02 54 37.5 -0.4
GNI	**Garni**	78.25	309	LR	LR	03 34 42.3
	comp=Z,2μm,20.9s,baz=89,slow=40					
GNI	**Garni**	78.25	309	P	P	02 54 38.4 +0.5
GNI	**Garni**	78.25	309	P	P	02 54 39.7 +1.7
GNI	**Garni**	78.25	309	*ce*P	P	02 54 39.4 +1.5
GNI				pmax	pmax	
	comp=Z,258nm,1.7s					
CHIR	**Chirikof Islan**	78.33	34	P	P	02 54 39.2 +1.4
	baz=265					
C19K	**Lookout Ridge**	78.40	21	P	P	02 54 39.5 +1.5
	baz=259,SNR=10.0					
Q17K	**Contact Creek**	78.42	32	P	P	02 54 39.7 +1.4
	baz=264					
L18K	**Granite Mounta**	78.47	28	IAmb	IAmb	02 54 54.6
	comp=Z,93nm,1.2s					
L18K				IAMs_20	IAMs_20	03 33 00.0
	comp=Z,3μm,22.0s					
L18K	**Granite Mounta**	78.47	28	P	P	02 54 40.2 +1.8
	baz=263,SNR=17					
F19K	**Shaleruckik Mo**	78.67	23	P	P	02 54 41.3 +1.9
	baz=261					
N18K	**Kilae Creek**	78.67	30	IAMs_20	IAMs_20	03 31 47.5
	comp=Z,2μm,21.0s					
N18K	**Kilae Creek**	78.67	30	P	P	02 54 41.2 +1.6
	baz=264,SNR=9.7					
GCSA	**Galena City Sc**	78.72	25	P	P	02 54 41.2 +1.5
	baz=262,SNR=13					
M18K	**Stony River**	78.79	29	P	P	02 54 41.9 +1.7
	baz=264,SNR=19					
D19K	**Kuna River**	78.81	21	P	P	02 54 41.5 +1.2
	baz=260,SNR=14					
P18K	**Big Mountain,**	78.87	31	P	P	02 54 41.6 +0.9
	baz=265					
Q18K	**Katmai Hardscr**	78.92	32	P	P	02 54 42.1 +1.0
	baz=265					
O18K	**Koktuh Hills**	78.92	30	P	P	02 54 42.2 +1.2
	baz=265,SNR=19					
E19K	**Redstone River**	78.97	23	IAmb	IAmb	02 54 46.5
	comp=Z,100nm,0.9s					
E19K	**Redstone River**	78.97	23	P	P	02 54 42.6 +1.5
	baz=261,SNR=34					
H19K	**Roundabout Mou**	79.01	25	IAmb	IAmb	02 55 00.1
	comp=Z,163nm,1.2s					
H19K	**Roundabout Mou**	79.01	25	P	P	02 54 42.8 +1.5
	baz=262,SNR=36					
R18K	**Karluk**	79.12	33	IAMs_20	IAMs_20	03 26 22.6
	comp=Z,3μm,21.0s					
R18K	**Karluk**	79.12	33	P	P	02 54 43.5 +1.4
	baz=266					
NCK	**Nalchik**	79.16	313⇑	*i*P	P	02 54 43.0 +0.3
NCK				pmax	pmax	
	comp=Z,92nm,1.2s					
J19K	**Poorman**	79.17	26	P	P	02 54 43.3 +1.1
	baz=264					
SII	**Sitkinak Islan**	79.19	34	P	P	02 54 43.9 +1.3
	baz=266					
L19K	**White Mountain**	79.32	28	P	P	02 54 44.6 +1.5
	baz=264,SNR=18					
N19K	**Bonanza Creek**	79.37	29	P	P	02 54 45.3 +1.7
	baz=265,SNR=18					
D20K	**Etivluk River**	79.39	21	IAmb	IAmb	02 55 01.7
	comp=Z,229nm,1.4s					
D20K	**Etivluk River**	79.39	21	P	P	02 54 44.6 +1.2
	baz=262,SNR=15					
O19K	**Port Alsworth**	79.40	30	P	P	02 54 45.0 +1.4
	baz=265,SNR=8.0					
B20K	**Meade River**	79.40	20	P	P	02 54 45.0 +1.7
	baz=261					
E20K	**Nigu River**	79.48	22	P	P	02 54 45.5 +1.5
	baz=262,SNR=12					
F20K	**Avaraart Lake**	79.50	23	P	P	02 54 45.5 +1.5
	baz=263					
M19K	**Big River Lodg**	79.51	28	P	P	02 54 45.2 +1.0
	baz=265					
GOF	**Gofitskoye**	79.58	314	*e*P	P	02 54 45.2 +0.3
Q19K	**Cape Douglas,**	79.64	31	P	P	02 54 44.9 0.0
	baz=266					
H20K	**Anotleneega Mo**	79.65	25	P	P	02 54 46.2 +1.3
	baz=264,SNR=27					
KBZ	**Khabaz**	79.67	313	P	P	02 54 45.1 -0.2
	comp=Z,33nm,1.0s,baz=93,slow=3.3,SNR=51					
KBZ				LR	LR	03 34 05.0
	comp=Z,3μm,19.4s,baz=80,slow=39					
	comp=Z,33nm,1.0s					
KBZ	**Khabaz**	79.67	313	*ce*P	P	02 54 45.6 +0.3
OHAK	**Old Harbor**	79.73	33	P	P	02 54 46.6 +1.3
	baz=267,SNR=5.7					
I20K	**Naaghedeneel**	79.75	25	IAmb	IAmb	02 55 03.5
	comp=Z,188nm,1.1s					
I20K	**Naaghedeneel**	79.75	25	P	P	02 54 47.3 +1.9
	baz=264,SNR=10					
A21K	**Barrow**	79.79	19	P	P	02 54 47.7 +2.2
	baz=261					
K20K	**Telida**	79.79	27	P	P	02 54 47.5 +1.8
	baz=265,SNR=15					
L20K	**Farewell, AK**	79.80	28	P	P	02 54 47.8 +2.0
	baz=265,SNR=14					
KIV	**Kislovodsk**	79.82	313	P	P	02 54 46.3 0.0
KIV				IAmb	IAmb	02 54 48.2
	comp=Z,145nm,1.2s					
KIV				IAMs_20	IAMs_20	03 33 36.7
	comp=Z,2μm,20.0s					
KIV	**Kislovodsk**	79.82	313	P	P	02 54 46.6 +0.2
KIV	**Kislovodsk**	79.82	313	⇑P	P	02 54 46.7 +0.3
KIV	**Kislovodsk**	79.82	313	*i* P	P	02 54 46.7 +0.3
	SNR=27					
KIV	**Kislovodsk**	79.82	313	P	P	02 54 46.6 +0.3
KIV	**Kislovodsk**	79.82	313	P	P	02 54 46.1 -0.2
	comp=Z,1μmcomp=Z,87nm,1.3s					
J20K	**Nowinta River**	79.83	26	P	P	02 54 47.5 +1.7
	baz=265,SNR=27					
P19K	**Oil Pt**	79.91	31	P	P	02 54 47.2 +0.9
	baz=266					
M20K	**Styx River**	80.11	28	IAmb	IAmb	02 55 02.0
	comp=Z,105nm,0.9s					
M20K	**Styx River**	80.11	28	P	P	02 54 48.6 +1.2
	baz=266					
KDAK	**Kodiak Island**	80.14	33	P	P	02 54 48.8 +1.2
KDAK	**Kodiak Island**	80.14	33	LR	LR	03 26 06.4
	comp=Z,2μm,21.6s,baz=205,slow=32					
KDAK	**Kodiak Island**	80.14	33	P	P	02 54 48.8 +1.2
KDAK				pmax	pmax	
	comp=Z,418nm,1.8s					
KDAK				MLR	MLR	
	comp=Z,4μm,22.0s					
KDAK	**Kodiak Island**	80.14	33	P	P	02 54 48.7 +1.2
	baz=267					
IMAR	**Indian Mountai**	80.17	24	P	P	02 54 48.8 +1.2
B21K	**Ikpikpuk River**	80.22	21	IAmb	IAmb	02 54 53.1
	comp=Z,122nm,0.8s					
B21K	**Ikpikpuk River**	80.22	21	P	P	02 54 49.6 +1.7
	baz=263,SNR=9.4					
O20K	**Slope Mountain**	80.24	30	P	P	02 54 48.8 +0.6
	baz=267					
A22K	**Sinclair Lake**	80.27	19	P	P	02 54 49.5 +1.4
	baz=263					
Q20K	**Shuyak Island**	80.28	32	P	P	02 54 48.8 +0.5
	baz=267					
SYI	**Shuyak Island**	80.28	32	IAmb	IAmb	02 54 55.4
	comp=Z,113nm,0.8s					
G21K	**Allakaket**	80.31	24	IAmb	IAmb	02 54 53.8
	comp=Z,87nm,0.9s					
G21K	**Allakaket**	80.31	24	P	P	02 54 50.0 +1.5
	baz=265,SNR=28					
E21K	**Killik River**	80.32	22	IAmb	IAmb	02 54 54.1
	comp=Z,240nm,1.6s					
E21K	**Killik River**	80.32	22	P	P	02 54 50.0 +1.5
	baz=264					
GURO	**Guroymak-BITLI**	80.35	308	IAmb	IAmb	02 54 52.2
	comp=Z,210nm,1.1s					
F21K	**Alatna River**	80.39	23	P	P	02 54 50.2 +1.4
	baz=265,SNR=9.5					
SPCR	**Spurr Chakacha**	80.50	29	P	P	02 54 50.6 +0.9
	baz=267,SNR=17					
H21K	**Melozitna Rive**	80.53	25	P	P	02 54 51.0 +1.4
	baz=266,SNR=18					
VRH	**Novokhopyorsk**	80.55	321	*e*P	P	02 54 48.4 -1.5
VRH				pmax	pmax	
	comp=Z,85nm,1.4s					
BATM	**Batumi**	80.56	311	⇑P	P	02 54 50.8 +0.5
BATM	**Batumi**	80.56	311	P	P	02 54 50.8 +0.5
PPLA	**Purkeypile**	80.61	27	IAmb	IAmb	02 54 56.2
	comp=Z,62nm,0.9s					
PPLA	**Purkeypile**	80.61	27	P	P	02 54 51.7 +1.4
	baz=267					
CHUM	**Lake Minchumin**	80.61	26	P	P	02 54 51.8 +1.8
	baz=266,SNR=23					
B22K	**Teshekpuk Lake**	80.71	20	IAmb	IAmb	02 54 55.5
	comp=Z,144nm,1.1s					
B22K	**Teshekpuk Lake**	80.71	20	P	P	02 54 51.7 +1.3
	baz=264					
HOM	**Homer**	80.71	31	P	P	02 54 52.1 +1.5
	baz=268					
D22K	**Ayikyak River**	80.83	21	IAmb	IAmb	02 54 59.9
	comp=Z,92nm,1.1s					
D22K	**Ayikyak River**	80.83	21	P	P	02 54 52.3 +1.1
	baz=265					
I21K	**Tanana**	80.84	25	IAmb	IAmb	02 55 07.3
	comp=Z,96nm,1.1s					
I21K	**Tanana**	80.84	25	P	P	02 54 52.6 +1.4
	baz=267,SNR=29					
ABPO	**Ambohimpanom**	80.86	250	P	P	02 54 51.5 -0.9
ABPO	**Ambohimpanom**	80.86	250	P	P	02 54 51.6 -0.9
ABPO				pmax	pmax	
	comp=Z,56nm,1.1s					
SKT	**Skwentna**	80.87	28	IAmb	IAmb	02 54 57.5
	comp=Z,114nm,0.9s					
SKT	**Skwentna**	80.87	28	P	P	02 54 52.1 +0.6
	baz=268,SNR=48					
CNPM	**China Poot**	80.91	31	IAmb	IAmb	02 54 58.7
	comp=Z,173nm,1.3s					
F22K	**John River**	80.91	23	P	P	02 54 52.5 +0.8
	baz=266					
CAPN	**Captain Cook N**	81.00	30	P	P	02 54 53.0 +0.8
	baz=268					
E22K	**Anaktuvuk Pass**	81.10	22	IAmb	IAmb	02 54 58.0
	comp=Z,151nm,1.1s					
E22K	**Anaktuvuk Pass**	81.10	22	P	P	02 54 53.4 +0.8
	baz=266					
BRLK	**Bradley Lake**	81.10	31	IAmb	IAmb	02 55 01.2
	comp=Z,107nm,0.9s					
ATD	**Arta Tunnel**	81.10	281	LR	LR	03 31 08.2
	comp=Z,46nm,20.1s,baz=284,slow=36					
ATD	**Arta Tunnel**	81.10	281	P	P	02 54 54.0 +0.3
	SNR=9.3					
H22K	**Ishtalitna Cre**	81.13	24	P	P	02 54 53.7 +0.9
	baz=267,SNR=31					
G22K	**Bettles**	81.14	23	P	P	02 54 53.8 +1.0
	baz=267,SNR=29					
BRSE	**Bradley Lake S**	81.17	31	P	P	02 54 52.9 -0.3
	baz=268,SNR=9.1					
BPAW	**Bear Paw Mtn.**	81.21	26	IAmb	IAmb	02 54 59.7
	comp=Z,140nm,1.0s					
BPAW	**Bear Paw Mtn.**	81.21	26	P	P	02 54 53.6 +0.3
	baz=268,SNR=74					
KTH	**Kantishna Hill**	81.21	27	IAmb	IAmb	02 54 58.7
	comp=Z,120nm,1.2s					
SUA	**Susitna One**	81.22	29	P	P	02 54 53.9 +0.4
	baz=268					
LABN	**Labinsk**	81.23	314	*e*P	P	02 54 51.6 -2.2
LABN				*e**PP	pP	02 54 54.8 -4.1
LABN				*e*S	S	03 05 02.9 -0.8
LABN				pmax	pmax	
	comp=Z,47nm,1.2s					
LABN				MLR	MLR	
	comp=N,5μm,19.0s					
LABN				MLR	MLR	
	comp=E,5μm,16.0s					
LABN				MLR	MLR	
	comp=Z,5μm,19.0s					
MLY	**Manley**	81.36	25	IAmb	IAmb	02 55 01.2
	comp=Z,135nm,1.1s					
MLY	**Manley**	81.36	25	P	P	02 54 54.6 +0.5
	baz=268,SNR=26					
ERBR	**Yeremizino-Bor**	81.38	315	*e*P	P	02 54 53.1 -1.4
ERBR				*e**PP	pP	02 54 56.9 -2.8
ERBR				*e*S	S	03 05 05.0 -0.2
ERBR				pmax	pmax	
	comp=Z,99nm,1.1s					
ERBR				MLR	MLR	
	comp=E,3μm,17.0s					
ERBR				MLR	MLR	
	comp=Z,3μm,17.0s					
ERBR				MLR	MLR	
	comp=N,2μm,16.0s					
SLKM	**Skilak Lake**	81.45	30	IAmb	IAmb	02 55 00.1
	comp=Z,87nm,0.8s					
CUT	**Chulitna**	81.47	28	P	P	02 54 54.8 +0.1
	baz=268,SNR=16					
TRF	**Thorofare Moun**	81.49	27	IAmb	IAmb	02 55 01.4
	comp=Z,126nm,1.0s					
TRF	**Thorofare Moun**	81.49	27	P	P	02 54 55.0 0.0
	baz=268,SNR=40					
KOPT	**Kop Dagi**	81.51	309	IAmb	IAmb	02 54 58.7
	comp=Z,168nm,1.3s					
M22K	**Willow**	81.53	29	P	P	02 54 55.3 +0.4
	baz=269,SNR=37					
D23K	**Nanushuk River**	81.56	21	P	P	02 54 55.6 +0.6
	baz=267					
C23K	**Itkillik River**	81.63	20	IAmb	IAmb	02 55 01.4
	comp=Z,166nm,1.1s					
C23K	**Itkillik River**	81.63	20	P	P	02 54 56.7 +1.3
	baz=267,SNR=17					
COLD	**Coldfoot**	81.66	23	IAmb	IAmb	02 55 01.0
	comp=Z,78nm,1.0s					
COLD	**Coldfoot**	81.66	23	P	P	02 54 56.5 +0.9
	baz=268,SNR=39					
O22K	**Cooper Landing**	81.69	30	P	P	02 54 56.6 +0.8
	baz=269					
RC01	**Rabbit Creek A**	81.70	29	IAmb	IAmb	02 55 07.4
	comp=Z,83nm,1.0s					
RC01	**Rabbit Creek A**	81.70	29	P	P	02 54 56.0 +0.1
	baz=269,SNR=7.2					
G23K	**Bananza Creek**	81.71	24	IAmb	IAmb	02 55 01.4
	comp=Z,66nm,0.9s					
G23K	**Bananza Creek**	81.71	24	P	P	02 54 56.5 +0.5
	baz=268,SNR=33					
VOI	**Vohitsoka**	81.79	247	IAmb	IAmb	02 55 09.2
	comp=Z,99nm,1.1s					
VOI	**Vohitsoka**	81.79	247	P	P	02 54 56.4 -0.9
	SNR=10					
SEW	**Seward**	81.83	30	IAmb	IAmb	02 55 11.2
	comp=Z,93nm,0.9s					
SEW	**Seward**	81.83	30	P	P	02 54 57.1 +0.6
	baz=270,SNR=5.5					
BWN	**Browne**	81.88	26	IAmb	IAmb	02 55 28.1
	comp=Z,132nm,1.0s					
H23K	**Yukon River**	81.88	24	IAmb	IAmb	02 55 02.2
	comp=Z,73nm,0.9s					
H23K	**Yukon River**	81.88	24	P	P	02 54 57.3 +0.5
	baz=269					
KLMR	**Klimovskoe**	81.90	330	*e*P	P	02 54 54.4 -2.5
KLMR				*e*		02 58 01.7
KLMR				pmax	pmax	
	comp=Z,143nm,1.5s					
KLMR				MLR	MLR	
	comp=Z,3μm,17.0s					
E23K	**Chandalar**	81.92	22	IAmb	IAmb	02 55 02.8
	comp=Z,117nm,1.0s					
E23K	**Chandalar**	81.92	22	P	P	02 54 57.6 +0.6
	baz=268,SNR=37					
I23K	**Minto, Yukon-K**	81.94	25	IAmb	IAmb	02 55 02.9
	comp=Z,86nm,0.7s					
I23K	**Minto, Yukon-K**	81.94	25	P	P	02 54 57.9 +0.8
	baz=269,SNR=62					
TOLK	**Toolik Lake Re**	81.95	22	IAmb	IAmb	02 55 02.5
	comp=Z,101nm,0.9s					
TOLK	**Toolik Lake Re**	81.95	22	P	P	02 54 57.8 +0.6
	baz=268,SNR=22					
SOC	**Sochi**	81.98	313	*e*P	P	02 54 56.0 -1.7
SOC				*e*		02 58 03.4
SOC				*e*S	S	03 05 10.4 -1.1
SOC				pmax	pmax	
	comp=Z,32nm,0.9s					
SOC				MLR	MLR	
	comp=Z,2μm,19.0s					
PMR	**Palmer**	82.00	29	IAmb	IAmb	02 55 03.5
	comp=Z,94nm,1.0s					
PMR	**Palmer**	82.00	29	P	P	02 54 58.3 +0.9
PMR	**Palmer**	82.00	29	P	P	02 54 57.3 -0.1
	baz=270,SNR=21					
NEA2	**Nenana**	82.06	26	IAmb	IAmb	02 55 12.5
	comp=Z,70nm,1.0s					
NEA2	**Nenana**	82.06	26	P	P	02 54 58.0 +0.3
	baz=269,SNR=46					
VORD	**Divnogorie**	82.08	320	*e*P	P	02 54 55.8 -2.3
VORD				pmax	pmax	
	comp=Z,20nm,1.0s					
MCK	**McKinley**	82.11	27	P	P	02 54 58.1 0.0
	baz=270,SNR=48					
RND	**Reindeer**	82.14	27	IAmb	IAmb	02 55 11.6
	comp=Z,130nm,1.1s					
VSR	**Storozhevoye**	82.16	321	*e*P	P	02 54 56.0 -2.5
VSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
FOMA	**Nahampoana Res**	82.20	244	IAmb	IAmb	02 55 07.9
	comp=Z,82nm,1.1s					
D24K	**Happy Valley**	82.23	21	IAmb	IAmb	02 55 04.0
	comp=Z,154nm,1.1s					
D24K	**Happy Valley**	82.23	21	P	P	02 54 59.2 +0.6
	baz=269					
WAT1	**Susitna Watana**	82.27	28	P	P	02 54 59.4 +0.5
	baz=270					
LPSR	**Galich'ya Gora**	82.28	322	*e*P	P	02 54 57.9 -1.2
LPSR				pmax	pmax	
	comp=Z,52nm,0.9s					
C24K	**Franklin Bluff**	82.29	21	IAmb	IAmb	02 55 20.6
	comp=Z,168nm,1.3s					
C24K	**Franklin Bluff**	82.29	21	P	P	02 54 59.3 +0.5
	baz=269					
KNK	**Knik Glacier**	82.32	29	IAmb	IAmb	02 55 06.9
	comp=Z,99nm,1.0s					
KNK	**Knik Glacier**	82.32	29	P	P	02 54 59.8 +0.6
	baz=270,SNR=13					
E24K	**Your Creek**	82.34	22	IAmb	IAmb	02 55 04.6
	comp=Z,68nm,0.9s					
E24K	**Your Creek**	82.34	22	P	P	02 54 59.9 +0.7
	baz=269					
SML	**Sawmill**	82.38	29	IAmb	IAmb	02 55 13.2
	comp=Z,98nm,0.9s					
SML	**Sawmill**	82.38	29	P	P	02 55 00.1 +0.5
	baz=270,SNR=14					
PWL	**Port Wells**	82.38	30	P	P	02 55 00.2 +0.7
	baz=270,SNR=14					
WRH	**Wood River Hil**	82.48	26	IAmb	IAmb	02 55 05.9
	comp=Z,60nm,1.0s					
F24K	**Squaw Lake**	82.56	23	IAmb	IAmb	02 55 06.0
	comp=Z,55nm,0.8s					
F24K	**Squaw Lake**	82.56	23	P	P	02 55 01.6 +1.2
	baz=270,SNR=32					
H24K	**Noodor Dome**	82.57	24	P	P	02 55 01.6 +1.2
	baz=270,SNR=33					
COLA	**College**	82.58	25	P	P	02 55 00.5 +0.1
COLA				IAmb	IAmb	02 55 24.0
	comp=Z,53nm,0.9s					
COLA	**College**	82.58	25	P	P	02 55 02.1 +1.7
COLA	**College**	82.58	25	P	P	02 55 00.5 +0.1
COLA				pmax	pmax	
	comp=Z,53nm,0.9s					
COLA	**College**	82.58	25	P	P	02 55 00.7 +0.3
	baz=270					
CCB	**Clear Creek Bu**	82.60	26	IAmb	IAmb	02 55 17.2
	comp=Z,107nm,1.3s					
WAT6	**Susitna Watana**	82.65	28	P	P	02 55 01.7 +0.6
	baz=271,SNR=31					
M23K	**Glacier View**	82.67	29	P	P	02 55 01.8 +0.8
	baz=271,SNR=10					
G24K	**Hadweenzic Riv**	82.73	24	IAmb	IAmb	02 55 16.1
	comp=Z,73nm,1.0s					
G24K	**Hadweenzic Riv**	82.73	24	P	P	02 55 02.4 +1.2
	baz=270,SNR=19					
POKR	**Poker Plat Res**	82.76	25	IAmb	IAmb	02 55 22.0
	comp=Z,78nm,1.4s					
POKR	**Poker Plat Res**	82.76	25	P	P	02 55 02.6 +1.2
	baz=271,SNR=8.8					
DHY	**Denali Highway**	82.81	27	IAmb	IAmb	02 55 20.2
	comp=Z,54nm,1.0s					
DHY	**Denali Highway**	82.81	27	P	P	02 55 03.1 +1.2
	baz=271,SNR=10					
SCM	**Sheep Creek Mo**	82.85	29	IAmb	IAmb	02 55 25.4
	comp=Z,127nm,1.0s					
SCM	**Sheep Creek Mo**	82.85	29	P	P	02 55 03.1 +1.1
	baz=271,SNR=10					
P23K	**Montague Islan**	82.86	30	P	P	02 55 03.2 +1.3
	baz=271					
MOS	**Moscow**	82.96	325	*e*P	P	02 54 59.1 -3.5
MOS				*e*		02 58 08.2
MOS				*e*PPP	PPP	03 00 00.6
MOS				*e*S	S	03 05 17.1 -3.9
MOS				*e*PS	PnS	03 06 10.8 -1.4
MOS				pmax	pmax	
	comp=Z,90nm,1.1s					
MOS				MLR	MLR	
	comp=N,1μm,18.0s					
MOS				MLR	MLR	
	comp=Z,2μm,18.0s					
MOS				MLR	MLR	
	comp=E,2μm,20.0s					
HDA	**Harding Lake**	82.98	26	IAmb	IAmb	02 55 05.5
	comp=Z,57nm,0.8s					
HDA	**Harding Lake**	82.98	26	P	P	02 55 02.9 +0.4
	baz=271,SNR=28					
GLI	**Glacier Island**	82.99	30	P	P	02 55 03.6 +0.9
	baz=272					
IL31		83.00	26	IAmb	IAmb	02 55 08.3
	comp=Z,104nm,1.5s					
ILAR	**Eielson Array**	83.00	26	P	P	02 55 02.4 -0.2
	comp=Z,11nm,0.7s,baz=252,slow=4.2,SNR=76					
ILAR				PKKPbc	PKKPbc	03 13 26.4 -1.0
	comp=Z,0.8nm,1.1s,baz=91,slow=2.4,SNR=4.8					
	comp=Z,11nm,0.7s					
D25K	**Kavik River**	83.11	21	IAmb	IAmb	02 55 08.4
	comp=Z,94nm,1.1s					
D25K	**Kavik River**	83.11	21	P	P	02 55 03.8 +0.6
	baz=271					
ARPR	**Arapgir-MALATY**	83.22	309	IAmb	IAmb	02 55 27.8
	comp=Z,133nm,1.4s					
G25K	**Bearman Lake**	83.27	24	P	P	02 55 05.3 +1.4
	baz=272,SNR=15					
M24K	**Tolsona, Glenn**	83.39	28	P	P	02 55 06.1 +1.3
	baz=272,SNR=9.4					
H25L	**Birch Creek**	83.40	24	P	P	02 55 06.6 +1.9
	baz=272,SNR=26					
Q23K	**Middleton Isla**	83.41	31	P	P	02 55 06.0 +1.2
	baz=272					
F25K	**Christian Rive**	83.42	23	IAmb	IAmb	02 55 21.3
	comp=Z,81nm,1.2s					
F25K	**Christian Rive**	83.42	23	P	P	02 55 06.0 +1.1
	baz=272					
E25K	**Arctic Village**	83.44	22	IAmb	IAmb	02 55 22.0
	comp=Z,123nm,1.2s					

baz=272,SNR=5.6
ANN Anapa 83.57 314 *e*P **P 02 55 04.4 -1.5**
ANN *e**PP **PcP 02 55 06.3 -3.9**
ANN *e* 02 55 08.0
ANN *e*S **S 03 05 26.1 -1.5**
ANN pmax pmax
comp=Z,137nm,1.0s
OBN Obninsk 83.59 325 P **P 02 55 04.9 -0.8**
OBN IAmb IAmb 02 55 06.7
comp=Z,113nm,1.2s
OBN Obninsk 83.59 325 ⇓P **P 02 55 05.0 -0.8**
OBN Obninsk 83.59 325*ce*P **P 02 55 05.3 -0.5**
OBN *e* 02 58 15.3
OBN *e*S **S 03 05 21.0 -6.3**
OBN pmax pmax
comp=Z,219nm,2.5s
OBN MLR MLR
comp=Z,3μm,21.0s
OBN Obninsk 83.59 325 P **P 02 55 04.4 -1.4**
comp=Z,77nm,2.0s
C26K Camden Bay 83.60 20 P **P 02 55 06.9 +1.3**
baz=272,SNR=21
J25K Salcha River, 83.65 26 P **P 02 55 06.9 +0.9**
baz=273
EYAK Cordova Ski Ar 83.66 30 P **P 02 55 07.5 +1.4**
baz=273
PAX Paxson 83.68 27 IAmb IAmb 02 55 12.8
comp=Z,115nm,1.1s
PAX Paxson 83.68 27 P **P 02 55 07.2 +0.9**
baz=273,SNR=27
BMAR Burnt Mountain 83.84 23 P **P 02 55 08.6 +1.6**
HARP HAARP 83.85 28 P **P 02 55 08.2 +1.1**
baz=273,SNR=9.9
LVZ Lovozero 83.87 338 P **P 02 55 07.6 +0.5**
LVZ IAmb IAmb 02 55 15.5
comp=Z,81nm,1.2s
LVZ Lovozero 83.87 338*ce*P **P 02 55 08.0 +0.9**
LVZ pmax pmax
comp=Z,84nm,1.3s
RIDG Independent Ri 83.92 27 P **P 02 55 08.4 +1.0**
baz=273,SNR=43
F26K Sheenjek River 83.99 23 IAmb IAmb 02 55 24.3
comp=Z,155nm,1.6s
F26K Sheenjek River 83.99 23 P **P 02 55 08.5 +0.8**
baz=273
C27K Jago River 84.03 21 IAmb IAmb 02 55 13.7
comp=Z,97nm,0.9s
C27K Jago River 84.03 21 P **P 02 55 09.1 +1.2**
baz=274,SNR=36
N25K Chitina, Valde 84.16 29 IAmb IAmb 02 55 30.0
comp=Z,137nm,1.3s
N25K Chitina, Valde 84.16 29 P **P 02 55 09.8 +1.0**
baz=274,SNR=15
G26K Porcupine Rive 84.18 23 P **P 02 55 09.8 +1.2**
baz=274
BMRM Bremner River 84.20 29 P **P 02 55 09.5 +0.6**
baz=274,SNR=13
SCRK Sand Creek 84.29 26 P **P 02 55 09.9 +0.5**
baz=274,SNR=51
KAIM Kayak Island 84.36 30 P **P 02 55 09.8 +0.1**
baz=274
APA Apatity 84.36 337 ⇓*i*P **P 02 55 07.5 -2.0**
APA *i* 02 55 11.5
APA *i* 02 58 22.6
APA *i* S **SKSac 03 05 29.0 -3.5**
APA MLR MLR
comp=Z,5μm,20.3s
J26L Joseph Creek 84.44 26 IAmb IAmb 02 55 15.6
comp=Z,71nm,0.9s
J26L Joseph Creek 84.44 26 P **P 02 55 10.8 +0.7**
baz=274,SNR=61
GLB Gilahina Butte 84.55 29 IAmb IAmb 02 55 24.6
comp=Z,112nm,1.0s
I26K Coal Creek Min 84.55 25 P **P 02 55 11.1 +0.6**
baz=275,SNR=84
TOKA Tokat 84.57 310 IAmb IAmb 02 55 12.5
comp=Z,78nm,1.0s
L26K Log Cabin Wild 84.64 27 IAmb IAmb 02 55 17.0
comp=Z,80nm,1.3s
L26K Log Cabin Wild 84.64 27 P **P 02 55 12.3 +1.2**
baz=275,SNR=22
VRDI Verde Repeater 84.74 29 IAmb IAmb 02 55 26.0
comp=Z,86nm,1.1s
M26K Nabesna, AK 84.86 28 P **P 02 55 13.2 +0.9**
baz=275
E27K Coleen River 84.91 22 IAmb IAmb 02 55 27.5
comp=Z,134nm,1.2s
E27K Coleen River 84.91 22 P **P 02 55 13.7 +1.3**
baz=276,SNR=44
MCARA McCarthy VSAT 84.93 29 P **P 02 55 13.8 +1.2**
baz=275,SNR=10.0
CRQE Cirque 84.95 30 P **P 02 55 13.6 +0.8**
baz=275
G27K Doyon Strip 85.03 23 IAmb IAmb 02 55 18.7
comp=Z,127nm,1.5s
G27K Doyon Strip 85.03 23 P **P 02 55 14.4 +1.4**
baz=276
D27M Malcolm River 85.03 21 IAmb IAmb 02 55 18.1
comp=Z,88nm,0.9s
D27M Malcolm River 85.03 21 P **P 02 55 14.7 +1.6**
baz=276,SNR=48
TGL Tana Glacier 85.08 30 IAmb IAmb 02 55 24.0
comp=Z,70nm,1.0s
K27K Chicken 85.12 26 P **P 02 55 15.0 +1.6**
baz=276
H27K Steamboat Moun 85.14 24 P **P 02 55 15.5 +2.0**
baz=276,SNR=36
I27K Kandik River 85.16 25 P **P 02 55 15.7 +2.0**
baz=276
L27K Beaver Creek, 85.33 27 IAmb IAmb 02 55 20.9
comp=Z,104nm,1.1s
L27K Beaver Creek, 85.33 27 P **P 02 55 16.2 +1.6**
baz=276,SNR=46
BCAR Beaver Creek A 85.35 27 P **P 02 55 15.4 +0.7**
M27K Edge Creek, AK 85.38 28 IAmb IAmb 02 55 21.0
comp=Z,103nm,1.3s
M27K Edge Creek, AK 85.38 28 P **P 02 55 16.3 +1.4**
baz=276
HWQ Hawqa 85.49 304 *e*P **P 02 55 16.5 +0.4**
MESA MESA 85.57 30 P **P 02 55 17.1 +1.0**
baz=276
GRNC Granite Creek 85.61 29 IAmb IAmb 02 55 30.1
comp=Z,116nm,1.0s
E28M Babbage River 85.62 21 IAmb IAmb 02 55 27.0
comp=Z,106nm,1.1s
E28M Babbage River 85.62 21 P **P 02 55 17.3 +1.3**
baz=278,SNR=37
F28M Old Crow 85.63 22 IAmb IAmb 02 55 21.4
comp=Z,128nm,1.2s
F28M Old Crow 85.63 22 P **P 02 55 17.6 +1.7**
baz=277,SNR=46
BHL Bhannes 85.77 303 *e*P **P 02 55 17.9 +0.4**
CTG Chitna Glacier 85.78 29 P **P 02 55 18.3 +1.3**
baz=276,SNR=28
D28M Stokes Point 85.81 21 P **P 02 55 17.9 +1.2**
baz=278
I28M Miner Creek 85.88 25 P **P 02 55 19.0 +1.7**
baz=278,SNR=75
SIM Simferopol' 85.91 315 *e*P **P 02 55 17.6 -0.2**
SIM *e*S **S 03 05 49.6 -1.3**
SIM pmax pmax
comp=Z,77nm,1.0s
SIM pmax pmax
comp=Z,280nm,5.5s
SIM smax smax
comp=E,230nm,5.3s
SIM MLR MLR
comp=Z,2μm,19.0s
TABL Table Mountain 85.94 30 IAmb IAmb 02 55 23.9
comp=Z,114nm,0.9s
LOGN Logan Glacier 85.97 29 IAmb IAmb 02 55 26.1
comp=Z,52nm,0.8s
MMAI Mount Meron Ar 86.06 303 P **P 02 55 18.4 -0.5**
comp=Z,42nm,1.0s,baz=91,slow=4.2,SNR=20
MMAI LR LR 03 38 31.9
comp=Z,2μm,21.3s,baz=94,slow=39
comp=Z,42nm,1.0s
MAW Mawson 86.12 200 P **P 02 55 17.1 -1.1**
comp=Z,9.9nm,0.6s,baz=40,slow=3.1,SNR=18
comp=Z,9.9nm,0.6s
E29M Blow River 86.25 22 IAmb IAmb 02 55 33.5
comp=Z,97nm,1.6s
E29M Blow River 86.25 22 P **P 02 55 20.1 +1.1**
baz=279
DAWY Dawson 86.29 26 IAmb IAmb 02 55 25.3
comp=Z,101nm,1.4s
DAWY Dawson 86.29 26 P **P 02 55 20.8 +1.5**
baz=278,SNR=28
O28M Mount Upton 86.37 29 IAmb IAmb 02 55 35.1
comp=Z,85nm,1.1s
O28M Mount Upton 86.37 29 P **P 02 55 21.0 +0.9**
baz=278
H29M Whitestone 86.41 24 IAmb IAmb 02 55 41.7
comp=Z,107nm,1.1s
H29M Whitestone 86.41 24 P **P 02 55 21.2 +1.4**
baz=279,SNR=20
PINM Pinnacle 86.42 30 P **P 02 55 21.1 +1.0**
baz=278
G29M Pine Creek 86.44 23 P **P 02 55 21.4 +1.4**
baz=279,SNR=32
YUK8 Steele Glacier 86.50 29 P **P 02 55 21.6 +0.9**
baz=278,SNR=6.6
VNDA Vanda 86.72 173 P **P 02 55 19.5 -1.5**
comp=Z,7.5nm,0.9s,baz=317,slow=5.9,SNR=38
VNDA LR LR 03 33 51.0
comp=Z,1μm,20.1s,baz=162,slow=36
comp=Z,7.5nm,0.9s
BR104 Keskin Array S 86.79 309 P **P 02 55 21.4 -1.0**
comp=Z,120nmcomp=Z,13nm,0.9s
BR131 Keskin Array S 86.79 309 P **P 02 55 21.5 -1.0**
SNR=17
BR131 Keskin Array S 86.79 309 ⇑*i*P **P 02 55 20.8 -1.7**
BRTR Keskin Array B 86.79 309 P **P 02 55 21.0 -1.4**
BRTR Keskin Array B 86.79 309 P **P 02 55 21.4 -1.1**
comp=Z,7.4nm,0.8s,baz=110,slow=4.7,SNR=44
BRTR PP **PP 02 58 47.1 +2.2**
comp=Z,3.1nm,0.9s,baz=85,slow=8.8,SNR=4.1
BRTR LR LR 03 41 13.8
comp=Z,771nm,18.2s,baz=114,slow=41
comp=Z,7.4nm,0.8s
BR106 Keskin Array S 86.81 309 P **P 02 55 21.5 -1.0**
comp=Z,122nmcomp=Z,13nm,0.9s
BR105 Keskin Array S 86.81 309 P **P 02 55 21.5 -1.0**
comp=Z,147nmcomp=Z,16nm,0.9s
PNL Peninsula 86.91 30 P **P 02 55 23.5 +1.1**
baz=278
M29M Somme Creek 86.95 28 P **P 02 55 24.1 +1.4**
baz=279,SNR=15
ARA0 ARCESS Array S 86.97 340 *e*P **P 02 55 21.6 -0.9**
ARCES ARCESS Array B 86.97 340 P **P 02 55 21.6 -0.9**
ARCES ARCESS Array B 86.97 340 P **P 02 55 21.2 -1.3**
comp=Z,15nm,0.9s,baz=70,slow=4.3,SNR=13
ARCES LR LR 03 39 19.6
comp=Z,4μm,18.5s,baz=82,slow=39
comp=Z,15nm,0.9s
ARCES ARCESS Array B 86.97 340 P **P 02 55 21.6 -0.9**
ARCES pmax pmax
comp=Z,49nm,1.4s
L29M L29M 86.99 27 IAmb IAmb 02 55 28.7
comp=Z,64nm,1.1s
L29M L29M 86.99 27 P **P 02 55 23.9 +1.1**
baz=279,SNR=34
YUK4 Talbot Arm 87.03 29 P **P 02 55 23.8 +0.6**
baz=279
EPYK Eagle Plains 87.04 24 IAmb IAmb 02 55 43.7
comp=Z,77nm,1.2s
EPYK Eagle Plains 87.04 24 P **P 02 55 22.8 -0.1**
baz=280,SNR=11
SPA0 Spitsbergen Ar 87.11 349 *e*P **P 02 55 23.4 +0.3**
SPITS Spitsbergen Ar 87.11 349 P **P 02 55 21.3 -1.8**
comp=Z,4.5nm,0.6s,baz=82,slow=8.8,SNR=3.0
comp=Z,4.5nm,0.6s
G30M tAoh Zraii Nji 87.12 23 IAmb IAmb 02 55 44.6
comp=Z,146nm,1.7s
G30M tAoh Zraii Nji 87.12 23 P **P 02 55 24.0 +0.7**
baz=281
K29M Barlow Dome 87.14 26 IAMs_20 IAMs_20 03 36 33.1
comp=Z,2μm,22.0s
K29M Barlow Dome 87.14 26 P **P 02 55 24.6 +1.0**
baz=280,SNR=19
F30M Barrier River 87.17 22 IAmb IAmb 02 56 05.6
comp=Z,63nm,1.1s
F30M Barrier River 87.17 22 P **P 02 55 24.7 +1.2**
baz=281
O29M Mount Kennedy 87.22 30 P **P 02 55 24.9 +0.8**
baz=279
YUK6 Outpost Mounta 87.23 29 P **P 02 55 24.9 +0.7**
baz=279
HAMF Hammerfest 87.35 341 *e*P **P 02 55 24.2 0.0**
KIBK Kibwezi 87.36 267 P **P 02 55 26.1 +0.5**
KIBK Kibwezi 87.36 267 P **P 02 55 25.6 0.0**
SNR=30
I30M Mount Dempster 87.39 25 IAMs_20 IAMs_20 03 38 20.4
comp=Z,2μm,20.0s
I30M Mount Dempster 87.39 25 P **P 02 55 25.4 +0.6**
baz=281
ANTO Ankara 87.42 310 P **P 02 55 25.1 -0.3**
ANTO Ankara 87.42 310 P **P 02 55 24.9 -0.5**
ANTO Ankara 87.42 310 P **P 02 55 25.1 -0.3**
ANTO pmax pmax
comp=Z,17nm,0.9s
ANTO Ankara 87.42 310 P **P 02 55 24.5 -0.9**
comp=Z,11nm,1.4s
J30M Hart River 87.53 25 IAMs_20 IAMs_20 03 26 36.2
comp=Z,3μm,22.0s
J30M Hart River 87.53 25 P **P 02 55 26.5 +1.1**
baz=281,SNR=5.9
CSS Mathiatis 87.57 305 IAmb IAmb 02 55 27.2
comp=Z,49nm,1.0s
SBA Scott Base 87.64 172 P **P 02 55 25.5 0.0**
SBA Scott Base 87.64 172 P **P 02 55 25.5 0.0**
SBA pmax pmax
comp=Z,45nm,1.3s
KBS Kingsbay 87.66 350 *e*P **P 02 55 26.5 +0.8**
HYT Haines Junctio 87.66 29 P **P 02 55 27.1 +0.9**
baz=280,SNR=9.8
M30M Minto, Yukon 87.69 27 P **P 02 55 27.3 +1.2**
baz=280,SNR=9.8
P29M Windy Craggy 87.75 30 IAmb IAmb 02 55 48.0
comp=Z,62nm,1.3s
P29M Windy Craggy 87.75 30 P **P 02 55 27.8 +1.3**
baz=280
N30M Aishikik Lake 87.75 28 IAMs_20 IAMs_20 03 34 51.4
comp=Z,2μm,20.0s
N30M Aishikik Lake 87.75 28 P **P 02 55 27.5 +1.0**
baz=280,SNR=9.9
INK Inuvik 87.86 21 P **P 02 55 27.5 +0.8**
baz=283
G31M Satah River 87.89 23 IAmb IAmb 02 55 32.1
comp=Z,33nm,0.8s
G31M Satah River 87.89 23 P **P 02 55 28.1 +1.2**
baz=283
MAYO Mayo, Yukon 87.90 26 IAmb IAmb 02 55 59.9
comp=Z,68nm,1.0s
MAYO Mayo, Yukon 87.90 26 P **P 02 55 28.0 +0.9**
baz=281
F31M Tsiigehtchic 87.98 22 IAmb IAmb 02 55 34.6
comp=Z,43nm,1.0s
F31M Tsiigehtchic 87.98 22 P **P 02 55 27.8 +0.5**
baz=283,SNR=6.0
KMBO Kilima Mbogo 88.00 269 P **P 02 55 27.8 -1.1**
comp=Z,20nm,1.0s,baz=64,slow=6.1,SNR=36
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 88.00 269 *i* P **P 02 55 29.6 +0.7**
KMBO pmax pmax
comp=Z,20nm,1.0s
P30M Million Dollar 88.05 30 P **P 02 55 28.6 +0.6**
baz=280
H31M Peel River 88.10 24 IAmb IAmb 02 55 43.6
comp=Z,35nm,0.9s
H31M Peel River 88.10 24 P **P 02 55 28.7 +0.6**
baz=282,SNR=8.6
FINES FINESS Array B 88.33 332 P **P 02 55 28.4 -0.6**
FINES FINESS Array B 88.33 332 P **P 02 55 27.9 -1.2**
comp=Z,6.0nm,0.6s,baz=59,slow=5.0,SNR=40
comp=Z,6.0nm,0.6s
FINES FINESS Array B 88.33 332 P **P 02 55 28.5 -0.6**
O30N Mendenhall 88.35 29 P **P 02 55 29.8 +0.4**
baz=281
N31M Braeburn, Yuko 88.36 28 P **P 02 55 30.4 +1.0**
baz=281,SNR=8.9
AK09 Malin Array Si 88.43 321 P **P 02 55 28.3 -1.6**
AK08 Malin Array Si 88.45 321 P **P 02 55 28.3 -1.6**
AK03 Malin Array Si 88.46 321 P **P 02 55 28.4 -1.6**
AK10 Malin Array Si 88.46 321 P **P 02 55 28.4 -1.6**
AKASG Malin Array Be 88.46 321 P **P 02 55 29.2 -0.8**
AKASG Malin Array Be 88.46 321 P **P 02 55 28.7 -1.3**
comp=Z,14nm,0.9s,baz=72,slow=4.2,SNR=30
comp=Z,14nm,0.9s
AKASG Malin Array Be 88.46 321 P **P 02 55 29.2 -0.8**
AKASG pmax pmax
comp=Z,27nm,1.3s
AKBB Malin Array Si 88.46 321*ce*P **P 02 55 28.9 -1.1**
AKBB Malin Array Si 88.46 321 P **P 02 55 28.4 -1.6**
PLBC Pleasant Camp 88.47 30 P **P 02 55 30.3 +0.5**
baz=281
KIEV Kiev 88.47 321 P **P 02 55 28.7 -1.3**
KIEV Kiev 88.47 321 ⇑P **P 02 55 28.6 -1.4**
KIEV Kiev 88.47 321 *i* P **P 02 55 28.8 -1.3**
SNR=13
KIEV Kiev 88.47 321 P **P 02 55 28.7 -1.3**
KIEV pmax pmax
comp=Z,32nm,1.1s
KIEV MLR MLR
comp=Z,3μm,20.0s
KIEV Kiev 88.47 321 P **P 02 55 28.4 -1.6**
comp=Z,114nm,1.1s
VSU Vasula 88.57 329*ce*P **P 02 55 29.2 -1.1**
VSU pmax pmax
comp=Z,42nm,1.3s
AK20 Malin Array Si 88.59 321 P **P 02 55 29.0 -1.6**
AK19 Malin Array Si 88.59 321 P **P 02 55 29.0 -1.6**
MNK Minsk 88.65 325 *i* P **P 02 55 28.7 -2.1**
MNK *i* 02 58 57.4
MNK *i* PPP PPP 03 00 52.3
MNK *i* S **SKSac 03 05 57.4 -2.2**
MNK *i* SS **SS 03 12 09.4 +1.7**
MNK *i* SSS SSS 03 15 45.3
MNK pmax pmax
comp=Z,49nm,0.9s
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=E,19nm,1.1s
MNK pmax pmax
comp=Z,2μm,23.0s
MNK pmax pmax
comp=E,2μm,21.0s
MNK pmax pmax
comp=N,2μm,20.0s
PURM Purcari 88.66 317 ⇑P **P 02 55 30.3 -0.7**
JETT Jettan, Norway 88.71 340 *e*P **P 02 55 30.3 -0.6**
S31K Pelican 88.82 32 P **P 02 55 32.0 +0.5**
baz=281
WHY Whitehorse 88.96 29 P **P 02 55 33.0 +0.7**
baz=282,SNR=32
SKAG Skagway 88.98 30 P **P 02 55 33.5 +1.2**
baz=282,SNR=6.4
TRO Tromso 89.18 340 *e*P **P 02 55 30.1 -2.9**
LODK Lodwar 89.34 273 P **P 02 55 35.5 +0.5**
SNR=7.2
MI28 Mi28,Pidlybu 89.39 321 P **P 02 55 33.2 -1.2**
SORM Soroca 89.43 318 ⇑P **P 02 55 33.3 -1.4**
SORM Soroca 89.43 318 P **P 02 55 33.2 -1.4**
ISP Isparta 89.45 308 IAmb IAmb 02 55 34.7
comp=Z,85nm,1.4s
ISP Isparta 89.45 308*ce*P **P 02 55 33.8 -1.3**
ISP pmax pmax
comp=Z,41nm,1.0s
LUBAR Lubar, Ukraine 89.52 320 P **P 02 55 33.8 -1.2**
TLCR 89.60 315 ⇑P **P 02 55 34.5 -1.0**
TLCR 89.60 315 P **P 02 55 34.5 -1.0**
R32K Eaglecrest 89.64 31 P **P 02 55 36.9 +1.5**
baz=282,SNR=6.5
N32M Quiet Lake 89.71 28 P **P 02 55 36.5 +0.7**
baz=284
P32M Atlin 89.76 30 P **P 02 55 36.7 +0.7**
baz=283
S32K Killisnoo 89.79 32 P **P 02 55 36.8 +0.7**
baz=282
NOR Nord 89.85 355 *i* P **P 02 55 35.1 -0.8**
NOR IAmb IAmb 02 55 36.1
comp=Z,15nm,1.1s
TPGR Topolog 89.93 315 ⇓P **P 02 55 36.3 -0.8**
TIRR Tirgusor 90.00 315 IAMs_20 IAMs_20 03 40 43.0
comp=Z,3μm,20.0s
TIRR Tirgusor 90.00 315 ⇓P **P 02 55 36.8 -0.6**
TIRR Tirgusor 90.00 315 P **P 02 55 36.8 -0.6**
P33M Teslin, Yukon 90.06 29 P **P 02 55 38.7 +1.2**
baz=284,SNR=6.8
CFR Carcaliu 90.08 315 ⇓P **P 02 55 36.6 -1.2**
CFR Carcaliu 90.08 315 P **P 02 55 36.5 -1.2**
MMPY Sheldon Lake, 90.17 27 P **P 02 55 38.8 +0.9**
baz=285,SNR=15
RNPP9 Sopachiv 90.41 322 P **P 02 55 38.0 -1.1**
KMPD K-Podol'skiy 90.60 319 P **P 02 55 38.0 -2.1**
KMPD P **P 02 55 38.0 -2.1**
Q32M Nakina River 90.63 30 IAmb IAmb 02 56 06.3
comp=Z,74nm,1.9s
Q32M Nakina River 90.63 30 P **P 02 55 40.7 +0.4**
baz=284
TESR Tescani 90.86 317 ⇑P **P 02 55 40.1 -1.3**
TESR Tescani 90.86 317 P **P 02 55 40.1 -1.3**
U33K Whale Pass 90.87 33 IAmb IAmb 02 56 00.0
comp=Z,85nm,1.7s
U33K Whale Pass 90.87 33 P **P 02 55 41.8 +0.7**
baz=284
MANT Manisa 90.88 309 IAmb IAmb 02 55 42.2
comp=Z,54nm,1.2s
BAND Balkesir-Ban 90.92 311 ⇓P **P 02 55 40.3 -1.5**
VRI Vrincioaia 90.93 316 ⇓P **P 02 55 41.8 0.0**
VRI Vrincioaia 90.93 316 P **P 02 55 41.7 0.0**
VRI Vrincioaia 90.93 316 P **P 02 55 40.0 -1.7**
PLOR5 Plostina Array 90.97 316 P **P 02 55 40.8 -1.2**
PLOR Plostina 90.98 316 ⇑P **P 02 55 41.2 -0.8**
PLOR Plostina 90.98 316 P **P 02 55 41.2 -0.8**
STEI Steigen 91.01 339 *e*P **P 02 55 39.8 -1.8**
NEF NEVSHA 91.02 314 P **P 02 55 41.6 -0.6**
CRAG Craig 91.02 34 P **P 02 55 42.6 +0.8**
baz=284
R33M Jennings River 91.17 30 P **P 02 55 43.2 +0.6**
baz=286
FAUS Fauske 91.19 339 *e*P **P 02 55 39.9 -2.5**
WRAK Wrangell Islan 91.22 33 P **P 02 55 43.5 +0.8**
baz=284
NEHR Nehoiu 91.31 316 ⇓P **P 02 55 43.2 -0.3**
TURR Turia 91.38 317 ⇓P **P 02 55 43.3 -0.5**
SUW Suwalki 91.45 325 *e*P **P 02 55 42.9 -1.0**
SUW Suwalki 91.45 325 IAMs_20 IAMs_20 03 39 27.8
comp=Z,3μm,20.0s
S34M Telegraph Cree 91.48 31 P **P 02 55 44.7 +0.7**
baz=285
LOF Lofoten 91.53 340 *e*P **P 02 55 43.0 -0.9**
MLR Muntele Rosu 91.54 316 IAmb IAmb 02 55 46.6
comp=Z,52nm,1.3s
MLR IAMs_20 IAMs_20 03 40 47.6
comp=Z,3μm,22.0s
MLR Muntele Rosu 91.54 316 LR LR 03 41 45.7
comp=Z,2μm,21.9s,baz=66,slow=39
MLR Muntele Rosu 91.54 316 ⇓P **P 02 55 44.1 -0.7**
MLR Muntele Rosu 91.54 316 P **P 02 55 44.0 -0.7**
MLR Muntele Rosu 91.54 316 P **P 02 55 43.4 -1.3**
KSV Kosov 91.56 319 P **P 02 55 42.8 -1.8**
ARG Arkhangelos 91.59 307 IAmb IAmb 02 55 45.3
comp=Z,49nm,1.1s
BURAR Bucovina Array 91.60 318 P **P 02 55 44.9 -0.1**
BURAR Bucovina Array 91.60 318 ⇑P **P 02 55 44.0 -1.0**
BURAR Bucovina Array 91.60 318 P **P 02 55 43.9 -1.0**
DOPR Dopca 91.82 317 ⇑P **P 02 55 45.0 -0.9**
TGTN Hyland Airport 91.83 27 P **P 02 55 46.3 +0.7**
baz=288
STNU Starunia 91.84 319 P **P 02 55 44.4 -1.5**
V35K Ketchikan 91.89 34 P **P 02 55 46.5 +0.6**
baz=285
DLBC Dease Lake 91.90 31 LR LR 03 33 56.5
comp=Z,18μm,21.2s,baz=80,slow=33
DLBC Dease Lake 91.90 31 P **P 02 55 46.5 +0.5**
baz=286
MOR8 Moi Rana 91.94 338 *e* P 02 56 17.9 +32
SZH Strazhitsa 91.95 314 P **P 02 55 46.7 +0.2**
RAUS Rausamdaksla 92.00 338 *e*P **P 02 55 43.5 -2.7**
WTLY Watson Lake, Y 92.02 29 P **P 02 55 46.9 +0.4**
baz=288
ELND Elena 92.09 313 ⇑P **P 02 55 45.5 -1.7**
VAGH Vaagaholmen 92.17 338 *e*P **P 02 55 42.8 -4.1**
T35M Bob Quinn 92.19 32 P **P 02 55 47.8 +0.5**
baz=286
EZN Ezine 92.35 310 ⇓P **P 02 55 47.0 -1.4**
EZN Ezine 92.35 310 P **P 02 55 47.0 -1.4**
ARR Arges 92.47 316 ⇓P **P 02 55 47.9 -1.0**
LEIR Leirfjorden 92.47 338 *e*P **P 02 55 46.2 -2.1**
PVL Pavlikeni 92.55 314 P **P 02 55 50.1 +0.8**
U35K Hyder 92.60 33 IAMs_20 IAMs_20 03 24 03.2
comp=Z,3μm,22.0s
KWP Kalwaria Pacla 92.78 321 *e*P **P 02 55 49.2 -0.9**
CJR Cluj-Napoca 92.88 318 ⇓P **P 02 55 50.5 -0.3**
CJR Cluj-Napoca 92.88 318 P **P 02 55 50.4 -0.3**
BRIU Brid 92.88 319 P **P 02 55 49.9 -0.8**

PLVB	Pleven	92.89	314	⇓P	P	02 55 50.4	-0.4
VLAD	Vladila	92.92	315	⇑P	P	02 55 49.9	-1.0
PLD	Plovdiv	93.06	313	P	P	02 55 51.1	-0.5
MUKU	Mukachevo	93.07	319	P	P	02 55 50.4	-1.1
MARR	Marisel-Cluj	93.21	318	⇑P	P	02 55 51.8	-0.6
UZHM	Uzhgorod	93.28	320	P	P	02 55 51.9	-0.6
BEL	Belsk	93.40	323	*e*P	P	02 55 53.0	+0.1
PGB	Panagyurishte	93.40	313	P	P	02 55 52.6	-0.6
DEV	Deva	93.54	317	⇓P	P	02 55 52.6	-1.1
DEV	Deva	93.54	317	P	P	02 55 52.6	-1.1
LIRD	Liard River Hi	93.54	29	P	P	02 55 54.7	+1.2
	baz=290						
VALD	Valchedram	93.67	315	P	P	02 55 53.6	-0.8
GZR	Gura Zlata	93.74	316	⇑P	P	02 55 53.6	-1.2
GZR	Gura Zlata	93.74	316	P	P	02 55 53.6	-1.2
STHS	Stebnicka Huta	93.75	321	*e*P	P	02 55 51.4	-3.3
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	93.75	321	*e*P	P	02 55 51.4	-3.3
STHS				*e*PP	PP	02 59 45.6	+5.9
MMB	Musomishta	93.92	312	P	P	02 55 54.7	-1.0
PLNA	Plana	93.95	313	P	P	02 55 55.7	-0.2
DAG	Danmarks Havn	93.96	352	*i* P	P	02 55 53.0	-2.0
DAG				IAmb	IAmb	02 55 54.6	
	comp=Z,16nm,1.0s						
VTS	Vitosha	94.05	314	P	P	02 55 54.7	-1.7
SURR	Surduc	94.09	317	⇓P	P	02 55 55.1	-1.2
HERR	Herculane	94.11	316	⇑P	P	02 55 55.5	-0.9
TOAD	Toad River Com	94.15	29	P	P	02 55 57.6	+1.2
	baz=290						
BLKB	Belogradchik	94.22	315	⇑P	P	02 55 56.1	-0.9
KOTAN	Kotaneelee Air	94.25	28	P	P	02 55 58.1	+1.4
	baz=292						
SIRR	Siria	94.28	317	⇑P	P	02 55 56.3	-0.9
IDI	Anoyia	94.35	306	P	P	02 55 56.7	-1.1
IDI	Anoyia	94.35	306	IAmb	IAmb	02 56 00.1	
	comp=Z,31nm,0.9s						
NIE	Niedzica	94.35	321	*e*P	P	02 55 57.6	+0.2
OJC	Ojcow	94.44	322	*e*P	P	02 55 57.6	-0.2
BZS	Buzias	94.47	317	⇑P	P	02 55 57.1	-1.0
BZS	Buzias	94.47	317	P	P	02 55 57.0	-1.0
HFS	Hagfors	94.51	332	P	P	02 55 56.0	-1.9
	comp=Z,3.0nm,0.8s,baz=104,slow=4.7,SNR=6.9						
HFS				LR	LR	03 40 36.5	
	comp=Z,4μm,20.6s,baz=64,slow=37						
	comp=Z,3.0nm,0.8s						
MDVR	Moldovita	94.61	316	⇓P	P	02 55 57.7	-1.1
SYO	Syowa Base	94.74	201	⇑*e*P	P	02 55 57.6	-1.0
SYO	Syowa Base	94.74	201	⇑*i*PcP	PcP	02 56 01.0	+2.0
VAY	Valandovo	94.83	312	*i* P	P	02 55 57.8	-2.0
BOVS	Bovan	94.90	315	⇓P	P	02 55 58.8	-1.2
PSZ	Piszkesteto	95.02	319	IAms_20	IAms_20	03 45 33.5	
	comp=Z,2μm,19.0s						
PSZ	Piszkesteto	95.02	319	⇓P	P	02 56 00.1	-0.5
PSZ	Piszkesteto	95.02	319	P	P	02 56 00.0	-0.5
RES	Resolute Bay	95.03	10	LR	LR	03 43 39.8	
	comp=Z,850nm,18.5s,baz=178,slow=38						
GKP	Gorka Klasztor	95.06	325	*e*P	P	02 55 59.9	-0.6
NB2	NORSAR Subarra	95.28	333	P	P	02 55 59.0	-2.5
	comp=Z,33nm,2.0s,baz=68,slow=4.6						
NB2	NORSAR Subarra	95.28	333	P	P	02 55 59.0	-2.5
	baz=68,slow=4.6						
NOA	NORSAR Array B	95.28	333	P	P	02 55 59.3	-2.1
	comp=Z,3.1nm,0.9s,baz=67,slow=4.5,SNR=7.7						
NOA				PP	PP	02 59 54.5	+3.3
	comp=Z,2.4nm,1.0s,baz=70,slow=8.1,SNR=3.5						
NOA				LR	LR	03 41 13.5	
	comp=Z,3μm,21.2s,baz=75,slow=37						
	comp=Z,3.1nm,0.9s						
OKC	Ostrava-Krasne	95.57	322	AMS	AMS	03 44 30.0	
	comp=Z,2μm,17.8s						
STEB	Steborice	95.77	322	*e*P	P	02 56 03.3	-0.6
NEEM	North Greenlan	95.80	359	*i* P	P	02 56 03.0	-0.9
NEEM				IAmb	IAmb	02 56 05.1	
	comp=Z,33nm,1.2s						
MAUC	Maruska	95.91	321	*e*P	P	02 56 04.8	+0.2
MORC	Moravsky Berou	95.96	322	*e*P	P	02 56 04.3	-0.5
JAVC	Velka Javorina	96.16	321	*e*P	P	02 56 06.1	+0.3
OHR	Ohrid	96.18	313	*i* P	P	02 55 56.4	-10
DBG	Daneborg	96.20	351	*i* P	P	02 56 04.1	-1.2
DBG				IAmb	IAmb	02 56 05.5	
	comp=Z,12nm,1.1s						
ITM	Ithomi	96.28	309	IAmb	IAmb	02 56 06.0	
	comp=Z,70nm,1.5s						
MORH	Mrgy, Hungar	96.31	318	P	P	02 56 04.7	-1.7
TULEG	Thule	96.34	3	IAms_20	IAms_20	03 41 50.4	
	comp=Z,2μm,20.0s						
KSP	Ksiaz	96.39	323	*e*P	P	02 56 06.2	-0.4
OSTC	Ostas	96.53	323	*e*P	P	02 56 07.2	-0.1
OSTC				AMS	AMS	03 43 40.0	
	comp=Z,2μm,19.7s						
OSTC	Ostas	96.53	323	*i* P	P	02 56 07.2	-0.1
OSTC				MLR	MLR		
	comp=Z,2μm,19.7s						
DPC	Dobruska-Polom	96.53	322	*e*P	P	02 56 06.9	-0.5
DPC				AMS	AMS	03 43 50.0	
	comp=Z,2μm,19.1s						
DPC	Dobruska-Polom	96.53	322	*i* P	P	02 56 06.9	-0.5
DPC				MLR	MLR		
	comp=Z,2μm,19.1s						
MODS	Modra-Piesok	96.56	320	*e*PP	PP	03 00 06.9	+5.4
CHVC	Chvalec	96.61	323	AMS	AMS	03 43 50.0	
	comp=Z,3μm,21.1s						
UPC	Upice	96.66	323	AMS	AMS	03 43 50.0	
	comp=Z,3μm,19.7s						
VRAC	Vranov	96.70	321	LR	LR	03 45 30.2	
	comp=Z,1μm,18.0s,baz=62,slow=39						
VRAC	Vranov	96.70	321	⇑P	P	02 56 07.7	-0.4
VRAC	Vranov	96.70	321	*e*P	P	02 56 07.6	-0.5
VRAC	Vranov	96.70	321	P	P	02 56 07.7	-0.4
ZST	Bratislava	96.73	320	*e*PP	PP	03 00 03.4	+0.6
QSPA	South Pole Qui	96.75	180	P	P	02 56 08.9	+0.9
QSPA	South Pole Qui	96.75	180	P	P	02 56 07.4	-0.6
	comp=Z,3.5nm,1.0s,baz=316,slow=2.6,SNR=11						
	comp=Z,3.5nm,1.0s						
KRUC	Moravsky	96.90	321	*e*P	P	02 56 08.4	-0.6
PDG	Podgorica	96.95	314	⇑P	P	02 56 08.0	-1.3
YKA	Yellowknife Ar	97.32	24	P	P	02 56 10.3	-0.4
YKA	Yelloweknife Ar	97.32	24	P	P	02 56 10.4	-0.3
	comp=Z,5.9nm,0.9s,baz=302,slow=5.1,SNR=14						
	comp=Z,5.9nm,0.9s						
YKA	Yellowknife Ar	97.32	24	*i* P	Pdif	02 56 11.3	+0.6
YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKAW1	Yellowknife Wh	97.38	24	IAmb	IAmb	02 56 24.8	
	comp=Z,33nm,1.3s						
TREC	Trest	97.39	322	AMS	AMS	03 41 50.0	
	comp=Z,2μm,17.3s						
RONA	Rosalia, Austr	97.40	320	*e*P	P	02 56 10.6	-0.7
	comp=Z,4.8nm,1.5s						
RONA				*i* PP	PP	03 00 07.8	-0.2
	comp=Z,10nm,1.6s						
PVCC	Panska Ves	97.53	323	AMS	AMS	03 38 40.0	
	comp=Z,2μm,23.9s						
CONA	Conrad Observa	97.60	320	*e*P	P	02 56 11.6	-0.8
	comp=Z,4.6nm,1.3s						
CONA				*i* PP	PP	03 00 10.2	+0.6
	comp=Z,12nm,1.8s						
PRU	Pruhonice	97.73	322	AMS	AMS	03 44 30.0	
	comp=Z,2μm,20.3s						
PRA	Prague	97.77	323	AMS	AMS	03 44 30.0	
	comp=Z,2μm,19.5s						
BRG	Berggiesshubel	97.78	323	*i* P	P	02 56 12.5	-0.4
BRG				Amp		02 56 13.9	
	comp=Z,16nm,1.0s						
RICC	Richard	97.80	323	AMS	AMS	03 41 20.0	
	comp=Z,2μm,17.8s						
ARSA	Arzberg	98.04	320	*e*P	Pdif	02 56 14.3	0.0
	comp=Z,4.4nm,1.4s						
ARSA				*i* PP	PP	03 00 13.8	+0.9
	comp=Z,0.4nm,0.4s						
BLS5	Blasjo	98.13	333	*e*P	Pdif	02 56 15.0	+0.6
ZVC	Zvikov	98.13	322	*e*P	P	02 56 14.0	-0.6
ZVC				AMS	AMS	03 41 10.0	
	comp=Z,2μm,21.1s						
CLL	Collm	98.17	324	*i* P	P	02 56 13.8	-0.9
CLL				pmax	pmax		
	comp=Z,16nm,1.3s						
CLL				MLR	MLR		
	comp=Z,2μm,21.0s						
HSKC	Hora Svate Kat	98.17	323	*e*P	Pdif	02 56 15.2	+0.4
HSKC				AMS	AMS	03 39 50.0	
	comp=Z,3μm,23.1s						
LSZ	Lusaka	98.42	256	P	P	02 56 14.9	-1.8
LSZ				IAmb	IAmb	02 56 29.0	
	comp=Z,37nm,1.4s						
LSZ	Lusaka	98.42	256	LR	LR	03 38 38.6	
	comp=Z,1μm,20.2s,baz=84,slow=34						
LSZ	Lusaka	98.42	256	P	P	02 56 14.9	-1.8
LSZ				pmax	pmax		
	comp=Z,37nm,1.4s						
SOKA	Soboth	98.54	319	*e*Pdiff	P	02 56 15.4	-1.2
	comp=Z,4.2nm,1.2s						
SOKA				*i* PP	PP	03 00 17.9	+1.0
	comp=Z,20nm,1.3s						
KHC	Kasperske Hory	98.62	322	*e*P	P	02 56 16.4	-0.4
KHC				*ex*	x	03 00 03.5	
KHC				AMS	AMS	03 41 30.0	
	comp=Z,2μm,20.5s						
KHC	Kasperske Hory	98.62	322	*i* P	P	02 56 16.4	-0.4
KHC				MLR	MLR		
	comp=Z,2μm,20.5s						
MOA	Molln	98.64	320	*i* Pdiff	P	02 56 16.0	-0.9
	comp=Z,17nm,2.5s						
MOA				*i* PP	PP	03 00 19.9	+2.4
	comp=Z,9.2nm,1.4s						
GEC2	GERESS Array S	98.64	322	IAmb	IAmb	02 56 46.0	
	comp=Z,36nm,1.8s						
GERES	GERESS Array B	98.64	322	P	P	02 56 16.1	-1.0
	comp=Z,2.1nm,0.9s,baz=58,slow=5.2,SNR=12						
GERES				PP	PP	03 00 20.6	+3.0
	comp=Z,2.6nm,0.9s,baz=45,slow=1.9,SNR=5.3						
GERES				PKKPbc	PKKPbc	03 12 45.9	-1.5
	comp=Z,0.5nm,0.8s,baz=237,slow=4.6,SNR=3.6						
	comp=Z,2.1nm,0.9s						
OBKA	Obir	98.92	319	*e*Pdiff	P	02 56 17.3	-1.0
OBKA				*i* PP	PP	03 00 22.1	+2.4
	comp=Z,6.8nm,1.0s						
NLWA	Neilton Lookou	98.92	40	IAmb	IAmb	02 56 23.4	
	comp=Z,28nm,1.1s						
LLLB	Lilloet	98.97	36	IAmb	IAmb	02 56 23.8	
	comp=Z,17nm,0.9s						
BIOA	Bad Ischl, Aus	99.09	320	*e*Pdiff	Pdif	02 56 18.6	-0.3
	comp=Z,2.7nm,0.8s						
BIOA				*i* PP	PP	03 00 22.7	+1.7
	comp=Z,14nm,2.0s						
E03A	Lebam	99.41	41	IAmb	IAmb	02 56 26.2	
	comp=Z,39nm,1.0s						
MYKA	Terra Mystica	99.46	319	*i* PP	PP	03 00 20.3	-3.5
	comp=Z,2.8nm,0.9s						
KBA	Koelnbreinsper	99.49	320	*e*Pdiff	Pdif	02 56 21.0	0.0
	comp=Z,4.1nm,0.9s						
KBA				*e*PP	PP	03 00 21.0	-3.3
	comp=Z,8.2nm,1.4s						
LESA	Schwarzleotal	99.79	320	*e*Pdiff	Pdif	02 56 20.9	-1.3
	comp=Z,6.7nm,1.2s						
LESA				*i* PP	PP	03 00 28.2	+1.8
	comp=Z,17nm,1.4s						
ABTA	Abfaltersbach	100.15	320	*e*Pdiff	Pdif	02 56 24.8	+1.0
	comp=Z,5.7nm,1.2s						
ABTA				*i* PP	PP	03 00 29.2	+0.1
	comp=Z,3.7nm,1.1s						
WTTA	Wattenberg	100.51	321	*i* Pdiff	Pdif	02 56 24.4	-1.1
	comp=Z,6.0nm,1.1s						
WTTA				*i* PP	PP	03 00 31.7	-0.2
	comp=Z,9.2nm,1.4s						
WATA	Walderalm	100.52	321	*e*Pdiff	Pdif	02 56 23.3	-2.2
	comp=Z,7.7nm,1.3s						
WATA				*i* PP	PP	03 00 32.9	+0.9
	comp=Z,21nm,1.3s						
SQTA	Sankt Quirin	100.80	321	*e*Pdiff	Pdif	02 56 25.6	-1.1
	comp=Z,10nm,1.4s						
SQTA				*i* PP	PP	03 00 32.8	-1.2
	comp=Z,11nm,1.3s						
MOTA	Moosalm	100.82	321	*e*Pdiff	Pdif	02 56 25.4	-1.4
	comp=Z,6.9nm,1.1s						
MOTA				*i* PP	PP	03 00 31.8	-2.4
	comp=Z,13nm,2.1s						
RETA	Reutte	100.97	321	*e*Pdiff	Pdif	02 56 27.4	-0.1
	comp=Z,3.5nm,1.2s						
RETA				*i* PP	PP	03 00 38.6	+3.3
	comp=Z,22nm,1.7s						
AQU	L'Aquila	101.10	315	P	Pdif	02 56 27.2	-0.8
AQU	L'Aquila	101.10	315	P	Pdif	02 56 27.1	-1.0
FETA	Feichten	101.18	321	*i* Pdiff	Pdif	02 56 27.5	-1.0
	comp=Z,6.2nm,1.0s						
FETA				*i* PP	PP	03 00 29.1	-7.8
	comp=Z,8.5nm,1.4s						
DAVA	Damuels	101.60	321	*e*Pdiff	Pdif	02 56 30.9	+0.6
	comp=Z,7.9nm,1.7s						
DAVA				*e*PP	PP	03 00 35.1	-5.1
	comp=Z,8.4nm,1.2s						
VLC	Villacollemand	102.50	318	PP	PP	03 00 49.4	+2.6
GDH	Godhavn	104.06	359	*i* P	Pdif	02 56 38.5	-2.0
NVAR	Mina Array Bea	106.00	47	Pdif	Pdif	02 56 50.7	+0.5
NVAR	Mina Array Bea	106.00	47	Pdiff	Pdif	02 56 51.0	+0.8
	comp=Z,3.9nm,0.9s,baz=269,slow=5.7,SNR=12						
NVAR				PKKPab	PKKPab	03 12 40.1	-2.0
	comp=Z,1.2nm,0.9s,baz=78,slow=2.7,SNR=6.1						
TROLL	Troll, Antarti	106.19	196	⇑P	Pdif	02 56 55.3	+5.2
	comp=Z,56nm,0.8s						
TROLL				⇓PKiKP	PKiKP	03 01 03.6	+1.9
	comp=Z,234nm,0.8s						
TROLL				⇑PKKPbc	PKKPbc	03 12 25.2	-0.8
	comp=Z,65nm,0.8s						
SNAA	Sanae	107.80	195	⇑P	Pdif	02 57 07.6	+10
	comp=Z,26nm,0.9s						
SNAA				⇓PKKPbc	PKKPbc	03 12 19.7	-1.2
	comp=Z,36nm,0.8s						
SNAA	Sanae	107.80	195	Pdiff	Pdif	02 56 58.4	+1.2
	comp=Z,1.0nm,0.9s,baz=187,slow=3.6,SNR=4.1						
SNAA				PKKPbc	PKKPbc	03 12 17.3	-3.6
	comp=Z,1.6nm,0.8s,baz=290,slow=2.4,SNR=6.8						
VNA2	Neumayer--Watz	109.42	195	⇑P	Pdif	02 57 08.9	+4.6
	comp=Z,0.9nm,0.4s,baz=122,slow=1.4						
VNA2				⇓PKiKP	PKiKP	03 01 07.4	-0.2
	comp=Z,7.5nm,0.8s,baz=72,slow=32						
VNA2				⇓PKKPbc	PKKPbc	03 12 14.7	-0.9
	comp=Z,0.8nm,0.5s,baz=251,slow=32						
VNA3	Neumayer Olymp	109.78	194	⇑P	Pdif	02 57 10.2	+4.3
	comp=Z,1.1nm,1.0s						
VNA3				⇓PKiKP	PKiKP	03 01 08.3	+0.1
	comp=Z,4.2nm,0.6s						
VNA3				⇓PKKPbc	PKKPbc	03 12 13.9	-0.6
	comp=Z,1.2nm,0.7s						
VNA1	Neumayer--Stat	109.82	195	⇓PKKPbc	PKKPbc	03 12 11.6	-2.6
	comp=Z,4.3nm,0.8s						
VNA1				⇓PKiKP	PKiKP	03 01 06.2	-2.0
	comp=Z,6.7nm,0.9s						
PDAR	Pinedale Array	110.04	40	Pdiff	Pdif	02 57 10.3	+2.3
	comp=Z,0.5nm,0.9s,baz=276,slow=2.8,SNR=3.7						
PDAR				PKiKP	PKiKP	03 01 11.2	+1.3
	comp=Z,0.8nm,0.8s,baz=311,slow=3.7,SNR=4.4						
PDAR				PP	PP	03 01 39.3	-3.3
	comp=Z,2.4nm,0.9s,baz=283,slow=7.6,SNR=5.7						
PDAR				PKKPbc	PKKPbc	03 12 10.8	-2.4
	comp=Z,0.5nm,0.6s,baz=116,slow=5.2,SNR=5.0						
PDAR				PKKPab	PKKPab	03 12 21.6	-2.7
	comp=Z,2.3nm,0.8s,baz=111,slow=3.4,SNR=12						
E28A	Huff	113.06	33	IAms_20	IAms_20	03 50 12.0	
	comp=Z,2μm,21.0s						
CART	Cartagena	113.12	316	IAms_20	IAms_20	03 52 48.7	
	comp=Z,2μm,21.0s						
ESDC	Sonseca Array	114.05	319	PP	PP	03 02 09.6	-1.5
	comp=Z,2.4nm,1.0s,baz=53,slow=6.8,SNR=6.8						
ESDC				PKKPbc	PKKPbc	03 11 59.5	0.0
	comp=Z,0.5nm,0.7s,baz=236,slow=3.4,SNR=4.8						
PVIS	Viseu	115.95	322	*e*PP	PP	03 02 30.3	+5.9
ANMO	Albuquerque	116.07	46		PKiKP	03 01 21.4	-0.2
ANMO	Albuquerque	116.07	46	IAms_20	IAms_20	03 46 36.6	
	comp=Z,1μm,20.0s						
ANMO	Albuquerque	116.07	46	PKIKP	PKiKP	03 01 21.4	-0.2
SCHQ	Schefferville	117.73	8		PKPdf	03 01 23.9	-0.1
SCHQ	Schefferville	117.73	8	PKP	PKPdf	03 01 23.4	-0.5
	comp=Z,37nm,0.8s,baz=298,slow=0.9,SNR=2.1						
PVAQ	Vaqueiros	117.75	319	*e*PP	PP	03 02 35.2	-1.8
PBDV	Barranco-do-Ve	117.99	319	PP	PP	03 02 37.8	-0.9
PBDV	Barranco-do-Ve	117.99	319	*e*PP	PP	03 02 41.6	+3.0
IFR	Ifrane	118.07	314	PKP	PKPpre	03 01 18.1	
CBKS	Cedar Bluff	118.42	39	IAms_20	IAms_20	03 56 55.1	
	comp=Z,2μm,20.0s						
I40A	Norwalk	120.06	29	IAms_20	IAms_20	03 59 58.7	
	comp=Z,1μm,19.0s						
TORD	Torodi Ar. Bea	120.38	290	PKhKP	PKPpre	03 01 25.5	
	comp=Z,3.3nm,0.9s,baz=63,slow=3.6,SNR=10						
OK038	West end E0370	120.46	40	IAms_20	IAms_20	03 45 55.1	
	comp=Z,1μm,20.0s						
TXAR	Lajitas Array	120.91	50		PKiKP	03 01 31.5	+0.5
TXAR	Lajitas Array	120.91	50	PKP	PKiKP	03 01 31.4	+0.3
	comp=Z,1.9nm,0.7s,baz=173,slow=1.8,SNR=14						
TXAR				PP	PP	03 03 00.6	+1.4
	comp=Z,2.8nm,0.9s,baz=307,slow=8.5,SNR=3.4						
TXAR				PKKPbc	PKKPbc	03 11 33.2	-1.7
	comp=Z,3.9nm,1.1s,baz=105,slow=5.3,SNR=11						
TXAR	Lajitas Array	120.91	50	PKIKP	PKiKP	03 01 31.5	+0.5
TIO	Tiouine	120.95	312	PKP	PKPpre	03 01 22.6	
P40A	Paris	122.47	34	IAms_20	IAms_20	03 49 29.2	
	comp=Z,2μm,21.0s						
CCM	Cathedral Cave	123.95	34		PKPdf	03 01 36.2	-0.1
CCM	Cathedral Cave	123.95	34	PKIKP	PKPdf	03 01 36.2	-0.1
M50A	Fremont	125.48	26	IAms_20	IAms_20	04 06 25.2	
	comp=Z,1μm,20.0s						
T45A	Paducah	126.14	33	IAms_20	IAms_20	04 06 14.6	
	comp=Z,1μm,21.0s						
HKT	Hockley	126.31	45		PKiKP	03 01 41.7	+0.3
HKT	Hockley	126.31	45	PKIKP	PKiKP	03 01 41.7	+0.3
ACSO	Alum Creek Sta	126.47	27	IAms_20	IAms_20	03 55 28.3	
	comp=Z,1μm,22.0s						
WCI	Wyandotte Cave	126.47	31		PKPdf	03 01 41.3	+0.1
WCI	Wyandotte Cave	126.47	31	PKIKP	PKPdf	03 01 41.3	+0.1
Q51A	Peebles	127.28	28	IAms_20	IAms_20	04 07 56.9	
	comp=Z,1μm,21.0s						
U49A	Red Boiling Sp	128.04	32	IAms_20	IAms_20	04 05 58.8	
	comp=Z,1μm,18.0s						
SSPA	Standing Stone	128.22	22		PKPdf	03 01 44.1	-0.3
DBIC	Dimbokro	128.30	284	PKP	PKiKP	03 01 46.8	+0.9
	comp=Z,13nm,1.1s,baz=45,slow=5.7,SNR=3.8						
VBMS	Vicksburg	128.41	39	IAms_20	IAms_20	03 56 53.5	
	comp=Z,2μm,21.0s						
S54A	Dingess, Beckl	129.20	27	IAms_20	IAms_20	04 03 17.7	
	comp=Z,1μm,21.0s						
Z47A	Carrollton	129.21	36	IAms_20	IAms_20	03 55 13.4	
	comp=Z,1μm,20.0s						
M63A	Gales Ferry	129.46	17	IAms_20	IAms_20	04 02 06.4	
	comp=Z,1μm,21.0s						
U54A	Nelsons Funny	130.01	28	IAms_20	IAms_20	04 04 57.3	
	comp=Z,1μm,21.0s						
X51A	Calhoun	130.01	33	IAms_20	IAms_20	04 08 53.0	
	comp=Z,942nm,20.0s						
BLA	Blacksburg	130.09	27	IAms_20	IAms_20	04 02 08.1	
	comp=Z,2μm,22.0s						
W52A	Murphy	130.09	31	IAms_20	IAms_20	03 57 40.0	
	comp=Z,1μm,22.0s						
V55A	Taylorsville	130.84	28	IAms_20	IAms_20	03 54 35.2	
	comp=Z,1μm,22.0s						
Y60A	Bolivia	133.75	27	IAms_20	IAms_20	03 53 44.0	
	comp=Z,1μm,21.0s						
DWPF	Disney Wildern	136.81	35	IAms_20	IAms_20	04 01 17.5	
	comp=Z,1μm,21.0s						
TEIG	Tepich	137.55	50	IAms_20	IAms_20	03 56 08.5	
	comp=Z,1μm,21.0s						
COYC	Coyhaique	138.66	162		PKPdf	03 02 04.5	+0.7
PLCA	Paso Flores	143.48	160	PKP	PKPdf	03 02 11.4	-1.4
	comp=Z,7.5nm,0.7s,baz=204,slow=1.5,SNR=16						
PLCA	Paso Flores	143.48	160	*e*P	PKPdf	03 02 12.4	-0.4
CCCC	Cccc	144.20	38	*e*P	PKPbc	03 02 12.7	+0.2
HLGC	Holguin	145.47	37	*e*P	PKPbc	03 02 16.0	-0.7
LMGC	Las Mercedes	145.52	39	*e*P	PKPdf	03 02 15.4	-1.4
JTS	Las Juntas de	145.56	61		PKPdf	03 02 16.2	-0.9
JTS	Las Juntas de	145.56	61	PKP2	PKPdf	03 02 16.2	-0.9
YAR	Yar	145.69	38	*e*P	PKPdf	03 02 16.6	-0.5
PINC	Pinares de May	145.94	37	*e*P	PKPdf	03 02 16.7	-0.8
CHIV	Chivirico	145.95	38	*e*P	PKPdf	03 02 16.5	-1.0
MARVS	Santiago de Cu	146.25	37	*e*P	PKPdf	03 02 16.7	-1.3
SABCS	La Quijada	146.31	36	*e*P	PKPdf	03 02 17.2	-1.0
RCC	Rio Carpintero	146.37	37	*e*P	PKPbc	03 02 19.2	-0.2
HDC	Heredia	146.42	60	*e*P	PKPdf	03 02 17.7	-1.0
MTDJ	Mount Denham	146.53	42	*e*P	PKPbc	03 02 19.4	-0.7
QMBU	Quimbuelo	146.73	36	*e*P	PKPdf	03 02 18.2	-0.7
GTBY	Guantanamo Bay	146.77	36	*e*P	PKPbc	03 02 19.9	-0.7
MASC	Masc	147.09	35	*e*P	PKPbc	03 02 21.6	+0.1
TRQA	Tornquist	148.28	169		PKPdf	03 02 20.4	-0.6
TRQA	Tornquist	148.28	169	PKIKP	PKPdf	03 02 20.4	-0.6
VA01	Torpederas	149.67	151	IAms_20	IAms_20	03 55 26.5	
	comp=Z,931nm,20.0s						
ROC1	El Roble	150.01	152	*e*P	PKPbc	03 02 29.1	0.0
PEL	Peldehue	150.02	153	*e*P	PKPbc	03 02 28.2	-0.7
VA03	San Esteban	150.40	153	*e*P	PKPbc	03 02 30.1	+0.2
AAGR	Agrelo	150.87	155	⇓*e*P	PKiKP	03 02 31.5	-0.1
ARCO	CERRO ARCO	151.04	155	*e*P	PKPab	03 02 37.2	-1.6
ASAL	Salagasta	151.30	155	*e*P	PKPbc	03 02 31

R40A	Maddies Statio	4.04	97	Pn	Pn	02 49 31.4 +0.6
KSCO	Kaye Shedlock'	4.10	273	IAmb_Lg		02 50 43.9
	comp=Z,11nm,0.9s					
P40A	Paris	4.18	80	Pn	Pn	02 49 32.3 -0.4
P40A				IAmb_Lg		02 50 44.3
	comp=Z,12nm,0.8s					
WMOK	Wichita Mounta	4.30	196	Pn	Pn	02 49 33.4 -1.0
WMOK	Wichita Mounta	4.30	196		Pn	02 49 33.5 -0.9
X34A	Smith Ranch, M	4.30	185	Pn	Pn	02 49 34.0 -0.4
X34A				IAmb_Lg		02 50 51.4
	comp=Z,12nm,0.7s					
ECSD	EROS Data Cent	4.87	6	Pn	Pn	02 49 41.8 -0.4
RTBA	Rita Blanca	4.92	242	Pn	Pn	02 49 40.6 -2.3
FCAR	Ozark Folk Cen	5.14	124	Pn	Pn	02 49 44.6 -1.3
MIAR	Mount Ida	5.30	144	Pn	Pn	02 49 47.1 -1.1
N41A	Harden Midland	5.33	68	IAmb_Lg		02 51 23.0
	comp=Z,14nm,0.8s					
WHAR	Wooly Hollow	5.42	130	Pn	Pn	02 49 48.5 -1.3
LCAR	Lake Charles	5.69	118	Pn	Pn	02 49 52.1 -1.4
X40A	Basin Creek Fa	5.71	139	Pn	Pn	02 49 52.5 -1.3
T25A	Trinidad	5.83	255	IAmb_Lg		02 51 39.0
	comp=Z,13nm,1.1s					
PBMO	Poplar Bluff	5.88	109	IAmb_Lg		02 51 37.2
	comp=Z,9.6nm,0.8s					
PLPT	Palo Pinto	6.12	188	Pn	Pn	02 49 56.2 -3.1
OXF	Oxford	7.75	122	IAmb_Lg		02 52 48.8
	comp=Z,10nm,1.0s					

NEIC 29 02:55:18.9±1.1, 38°.91N±0°.04×97°.36W±0°.05, h5km±2km, mb_Lg2.5/25, ML2.6/6, Error ellipse: s-maj=7.7km s-min=5.5km az=309.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	Kansas State U	0.62	72		Pg	02 55 30.5	-0.2
KSU1				Sg	Sg	02 55 39.0	+0.2
KSU1	Kansas State U	0.62	72	IAML		02 55 41.6	
	162nm,0.5s						
R32A	Long Quarter,	1.16	246		Pg	02 55 39.9	-1.3
R32A				IAML		02 55 59.3	
	193nm,0.3s						
KAN08	Anthony NE Sta	1.75	196	Pn	Pn	02 55 50.0	+0.1
KAN01	Argonia South	1.78	190		Pn	02 55 50.3	-0.1
KAN01				IAmb_Lg		02 56 20.0	
	comp=Z,22nm,0.7s						
CBKS	Cedar Bluff	1.86	268		Pn	02 55 50.8	-0.7
CBKS				IAmb_Lg		02 56 21.5	
	comp=Z,23nm,0.8s						
KAN14	Manchester OK	2.01	194		Pn	02 55 53.0	-0.5
KAN14				IAmb_Lg		02 56 26.0	
	comp=Z,20nm,0.8s						
GC02	Grant County #	2.09	191		Pn	02 55 54.5	-0.2
T35A	Sooner Cattle	2.10	161		Pn	02 55 54.6	-0.1
N35A	Tabor	2.36	34		Pn	02 55 58.0	-0.3
OK051	E0350 and S346	2.44	170		Pn	02 55 58.4	-1.0
OK051				IAmb_Lg		02 56 41.6	
	comp=Z,20nm,0.8s						
CROK	Carrier	2.45	192		Pn	02 55 59.9	+0.3
CROK				IAmb_Lg		02 56 39.9	
	comp=Z,21nm,0.8s						
OK048	Pawnee Station	2.51	172		Pn	02 55 59.9	-0.5
OK038	West end E0370	2.66	205	IAmb_Lg		02 56 48.3	
	comp=Z,18nm,0.8s						
OK052	Battle Ridge R	2.94	171		Pn	02 56 06.8	+0.5
P38A	Dawn	3.06	75	Pn	Pn	02 56 06.7	-1.2
OK029	Liberty Lake	3.11	181	Pn	Pn	02 56 07.2	-1.4
DEOK	Depew	3.14	167	Pn	Pn	02 56 06.7	-2.3
L34A	Svendsen Farm,	3.15	14	Pn	Pn	02 56 08.0	-1.1
L34A				IAmb_Lg		02 57 01.7	
	comp=Z,18nm,0.9s						
TUL3	Leonard	3.24	157		Pn	02 56 09.0	-1.4
TUL3				IAmb_Lg		02 57 06.2	
	comp=Z,18nm,0.8s						
ELIS	Ellis County	3.28	211	Pn	Pn	02 56 10.1	-0.9
U38A	Gravette	3.41	135		Pn	02 56 11.8	-1.1
OKCSW	OKLAHOMA CITY	3.50	181	Pn	Pn	02 56 12.3	-1.7
FNO	Franklin	3.65	181	Pn	Pn	02 56 14.4	-1.6
N38A	Joes South For	3.69	58		Pn	02 56 16.3	-0.3
N38A				IAmb_Lg		02 57 17.8	
	comp=Z,20nm,0.8s						
HHAR	Hobbs	3.78	133		Pn	02 56 17.1	-0.7
R40A	Maddies Statio	4.04	97	Pn	Pn	02 56 19.7	-1.7
KSCO	Kaye Shedlock'	4.11	273	Pn	Pn	02 56 20.1	-2.3
KSCO				IAmb_Lg		02 57 36.1	
	comp=Z,11nm,1.0s						
OGNE	Ogallala	4.13	301	Pn	Pn	02 56 22.5	-0.2
WMOK	Wichita Mounta	4.32	196		Pn	02 56 24.0	-1.3
WMOK	Wichita Mounta	4.32	196	Pn	Pn	02 56 23.6	-1.6
X34A	Smith Ranch, M	4.32	185	Pn	Pn	02 56 24.5	-0.7
ECSD	EROS Data Cent	4.85	6		Pn	02 56 32.0	-0.6
CCM	Cathedral Cave	4.88	98	IAmb_Lg		02 57 57.2	
	comp=Z,12nm,1.1s						
FCAR	Ozark Folk Cen	5.14	124	IAmb_Lg		02 58 09.2	
	comp=Z,6.2nm,1.0s						

IDC 29 03:03:26.5±13.0, 27°.88N×89°.68E, h0km, mb4.1/4, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=364.1km s-min=103.1km az=104.0
DMN 29 03:03:46.5±0.0, 29°.11N×89°.09E, h60km, Ml4.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
ISC 29 03:03:44.0±1.4, 29°.22N±0°.09×89°.1E±0°.1, h35km, n14, σ1§77/23, mb4.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	Odare	2.80	213	Pn	Pn	03 04 27.9	+1.4
	baz=214,slow=0.0						
ODAN				Sn	Sn	03 04 57.6	-1.6
	200nm,0.2s,baz=214,slow=0.0						
GUN	Gumba	3.12	246	Pg	Pn	03 04 33.9	+2.8
	baz=248,slow=0.0						
GUN				Sg	Sn	03 05 07.8	+0.5
	160nm,0.2s,baz=248,slow=0.0						
RAMN	Ramite	3.17	225	Pg	Pn	03 04 32.5	+0.9
	baz=226,slow=0.0						
RAMN				Sg	Sn	03 05 07.6	-0.6
	194nm,0.2s,baz=226,slow=0.0						
PKI	Pulchoki	3.65	244	Pn	Pn	03 04 40.1	+1.8
	baz=246,slow=0.0						
PKI				Sn	Sn	03 05 19.7	-0.5
	81nm,0.2s,baz=246,slow=0.0						
PKIN	Phulchoki	3.65	244	Pn	Pn	03 04 40.1	+1.8
	baz=246,slow=0.0						
PKIN				Sn	Sn	03 05 19.7	-0.6
	162nm,0.3s,baz=246,slow=0.0						
KKN	Kakani	3.65	248	Pn	Pn	03 04 40.7	+2.4
	baz=250,slow=0.0						
KKN				Sn	Sn	03 05 19.4	-0.9
	334nm,0.2s,baz=250,slow=0.0						
DMN	Daman	3.87	246	Pn	Pn	03 04 43.1	+1.8
	baz=248,slow=0.0						
DMN				Sn	Sn	03 05 24.6	-1.0
	150nm,0.3s,baz=248,slow=0.0						
GKN	Gorkha	4.11	254	Pn	Pn	03 04 45.3	+0.8
	baz=255,slow=0.0						
GKN				Sn	Sn	03 05 30.6	-0.8
	226nm,0.3s,baz=255,slow=0.0						
DANN	Dangsing	4.77	261	Pn	Pn	03 04 53.9	+0.2
	baz=262,slow=0.0						
DANN				Sn	Sn	03 05 45.7	-2.2
	202nm,0.3s,baz=262,slow=0.0						
MKAR	Makanchi Array	18.33	345	P	Pn	03 07 57.5	+2.1
	0.4nm,0.3s,baz=157,slow=12,SNR=12						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	22.81	342	P	P	03 08 45.8	+2.2
	0.4nm,0.3s,baz=168,slow=8.4,SNR=8.3						
	0.4nm,0.3s						
FINES	FINESS Array B	51.94	327	P	P	03 12 46.5	-2.6
	5.9nm,1.2s,baz=101,slow=7.9,SNR=1.7						
	5.9nm,1.2s						
ARCES	ARCESS Array B	53.74	337	P	P	03 12 60.0	-2.4
	3.5nm,0.9s,baz=107,slow=7.9,SNR=12						
	3.5nm,0.9s						
HFS	Hagfors	57.95	325	P	P	03 13 30.9	-1.6
	2.4nm,0.9s,baz=101,slow=7.5,SNR=1.9						
	2.4nm,0.9s						

JMA 29 03:15:26.9±0.1, 24°.1N±1°×122°.4E±0°.4, h46km±3km, MV2.4/12, TAIWAN REGION
TAP 29 03:15:27.6, 24°.13N×122°.34E, h50km, ML3.0, C
ISC 29 03:15:27.6±1.2, 24°.09N±0°.03×122°.38E±0°.02, h48km±7km, n85, σ0§97/160, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.06	296	*i* P	Pn	03 15 34.8	+0.3
EOS4				*i* S	Sn	03 15 40.2	+0.7
EOS3	EOS3	0.20	344	*i* P	Pn	03 15 35.7	+0.2
EOS3				S	Sn	03 15 42.1	+0.9
EOS2	EOS2	0.35	338	*eP*	Pn	03 15 37.0	+0.1
EOS2				S	Sn	03 15 44.6	+1.1
JYNG	Yonagunijimaku	0.63	55	*eP*	Pn	03 15 40.3	0.0
JYNG				*eS*	Sn	03 15 49.9	+0.4
EAHA	Aohua	0.63	292	P	Pn	03 15 39.9	-0.4
EAHA				S	Sn	03 15 49.7	+0.2
EWUT	Wuta	0.65	303	P	Pn	03 15 40.0	-0.6
EWUT				*eS*	Sn	03 15 48.8	-1.2
ENA	Nanau	0.67	300	*i* P	Pn	03 15 40.4	-0.4
ENA				S	Sn	03 15 50.4	-0.1
YOJ	Yonaguni jima	0.68	57	P	Pn	03 15 40.7	-0.3
YOJ				S	Sn	03 15 50.5	-0.2
ESAO	Su ao	0.69	315	*eP*	Pn	03 15 40.4	-0.7
ESAO				*eS*	Sn	03 15 48.4	-2.4
ETL	Fush Village	0.69	276	P	Pn	03 15 40.5	-0.7
ETL				S	Sn	03 15 50.6	-0.5
TWC	Suao	0.71	317	*eP*	Pn	03 15 40.5	-0.8
TWC				*eS*	Sn	03 15 48.9	-2.3
TWD	Chiawan	0.72	269	P	Pn	03 15 40.6	-0.8
TWD				*eS*	Sn	03 15 49.8	-1.7
NACB	Ninganchiao	0.72	277	P	Pn	03 15 40.7	-0.8
TEYL	Yanliau Villag	0.75	253	P	Pn	03 15 41.7	-0.2
TEYL				S	Sn	03 15 52.5	+0.2
SHUL	Shoufeng	0.81	248	*eP*	Pn	03 15 42.4	-0.2
SHUL				S	Sn	03 15 53.6	0.0
NDS	Dongshan	0.81	312	P	Pn	03 15 42.5	-0.2
NDS				S	Sn	03 15 53.8	+0.1
ETM	Tongmen	0.82	261	*eP*	Pn	03 15 42.1	-0.7
ETM				S	Sn	03 15 52.8	-1.2
ETLH	Xiulin Townshi	0.83	278	*eP*	Pn	03 15 42.5	-0.5
ETLH				*eS*	Sn	03 15 53.2	-1.1
EGS		0.85	332	P	Pn	03 15 42.1	-1.1
EGS				S	Sn	03 15 53.9	-0.9
TEGC	Jichi Village	0.86	244	*eP*	Pn	03 15 42.9	-0.4
LATG	Datong	0.89	300	P	Pn	03 15 43.5	-0.4
LATG				S	Sn	03 15 55.5	-0.4
TWE	Neicheng	0.90	314	*eP*	Pn	03 15 43.8	-0.1
TWE				S	Sn	03 15 55.3	-0.6
ESL	Shilin	0.91	252	P	Pn	03 15 43.2	-0.8
ESL				*eS*	Sn	03 15 55.4	-0.7
ENTT	Nioudou	0.92	306	*i* P	Pn	03 15 43.9	-0.3
ENTT				*i* S	Sn	03 15 56.0	-0.4
EGFH	Guangfu	0.97	244	*eP*	Pn	03 15 44.3	-0.5
EGFH				*eS*	Sn	03 15 57.0	-0.5
NNSB	Datong	0.97	290	P	Pn	03 15 44.5	-0.5
NNSB				S	Sn	03 15 57.0	-0.7
FUSB	Fushanzhiwuyua	0.98	313	P	Pn	03 15 44.9	-0.2
FUSB				S	Sn	03 15 57.9	0.0
NNS	Nan Shan	0.98	291	P	Pn	03 15 44.8	-0.3
NNS				S	Sn	03 15 57.5	-0.5
WARBT	Fenglin Townsh	0.98	248	P	Pn	03 15 44.3	-0.8
WARBT				*eS*	Sn	03 15 56.8	-1.0
TIPB	Shuangxi	1.01	330	*eP*	Pn	03 15 44.8	-0.6
TIPB				*i* S	Sn	03 15 57.0	-1.6
WHF	Hehuan Shan	1.02	273	P	Pn	03 15 45.2	-0.7
WHF				*eS*	Sn	03 15 58.7	-0.6
FUSS	Fushou	1.05	279	P	Pn	03 15 46.0	-0.2
FUSS				S	Sn	03 15 59.3	-0.5
NWLT	Wulai	1.05	311	P	Pn	03 15 45.9	-0.1
NWLT				*eS*	Sn	03 15 59.1	-0.5
HGSD	Ruisui	1.06	236	P	Pn	03 15 46.0	-0.1
HGSD				*eS*	Sn	03 15 59.4	-0.3
YHNB	Yeheng	1.08	302	P	Pn	03 15 46.3	-0.2
YHNB				S	Sn	03 15 59.5	-0.8
NSK	Sanguang	1.10	302	*i* P	Pn	03 15 46.4	-0.2
NSK				S	Sn	03 15 59.7	-1.0
SXI1	Grass Mountain	1.10	335	P	Pn	03 15 45.9	-0.8
SXI1				S	Sn	03 15 59.0	-1.8
OWD	Renai	1.11	263	*i* P	Pn	03 15 46.5	-0.4
OWD				S	Sn	03 16 00.2	-0.9
TWT	Tachien	1.11	279	*eP*	Pn	03 15 47.3	+0.4
TWT				*eS*	Sn	03 16 01.3	+0.1
WFSB	Wu-fen Shan	1.12	331	*eP*	Pn	03 15 46.6	-0.2
WFSB				*eS*	Sn	03 16 00.1	-1.0
EHYH	Wanrong	1.12	238	*eP*	Pn	03 15 46.5	-0.4
EHYH				*eS*	Sn	03 16 01.0	-0.2
TDCB	Techi	1.13	278	P	Pn	03 15 47.2	+0.1
TDCB				*eS*	Sn	03 16 01.1	-0.5
EHY	Hungye	1.13	239	*eP*	Pn	03 15 46.5	-0.6
EHY				*eS*	Sn	03 16 00.6	-0.9
TWA	Mucha	1.14	321	*eP*	Pn	03 15 47.7	+0.5
TWA				*eS*	Sn	03 16 02.8	+1.0
ECBN	Changbin	1.15	228	*eP*	Pn	03 15 46.8	-0.5
ECBN				*eS*	Sn	03 16 01.4	-0.5
WUSB	Renai	1.16	265	P	Pn	03 15 47.4	-0.1
WUSB				*eS*	Sn	03 16 01.6	-0.7
VWDT	VWDT	1.18	254	P	Pn	03 15 47.9	+0.2
VWDT				*eS*	Sn	03 16 02.2	-0.4
YULB	Yu-li	1.21	235	P	Pn	03 15 47.7	-0.5
YULB				S	Sn	03 16 02.5	-0.9
TWF1	Yuli	1.24	234	P	Pn	03 15 48.0	-0.4
TWF1				*eS*	Sn	03 16 03.5	-0.5
IRIF	Iriomote-Funau	1.26	79	P	Pn	03 15 48.6	-0.1
IRIF				*eS*	Sn	03 16 04.8	+0.3
NFF	Wufeng Townshi	1.27	295	P	Pn	03 15 49.8	+0.8
NFF				*eS*	Sn	03 16 05.5	+0.6
CHKH	Chenggong	1.27	225	*eP*	Pn	03 15 48.2	-0.7
CHKH				*eS*	Sn	03 16 02.6	-2.3
YM01	YM01	1.28	325	*eP*	Pn	03 15 49.4	+0.3
YM01				*eS*	Sn	03 16 03.6	-1.6
KSHI	Guanxi Townshi	1.29	302	P	Pn	03 15 50.0	+0.8
KSHI				*eS*	Sn	03 16 06.5	+1.1
HATJ	Hateruma jima	1.30	91	*eP*	Pn	03 15 50.0	+0.6
WHP	Taichung City	1.32	278	P	Pn	03 15 50.7	+1.0
WHP				*eS*	Sn	03 16 07.0	+0.7
TWS1	Kuangyinshan	1.33	319	*eP*	Pn	03 15 49.6	-0.1
TWS1				*eS*	Sn	03 16 06.4	+0.1
FULB	Fuli	1.33	228	*eP*	Pn	03 15 49.5	-0.3
FULB				S	Sn	03 16 05.7	-0.7
SSLB	Suanglung	1.34	257	*i* P	Pn	03 15 50.1	+0.2
SSLB				*eS*	Sn	03 16 05.7	-0.8
CHKT	Chengkung	1.36	223	*eS*	Sn	03 16 04.8	-2.2
LIOB	Emei	1.36	294	*i* P	Pn	03 15 51.0	+0.8
LIOB				*eS*	Sn	03 16 08.3	+1.3
NSTT	Nanjuang	1.37	293	P	Pn	03 15 50.7	+0.5
NSTT				S	Sn	03 16 07.5	+0.3
SMLT	Sun Moon Lake	1.37	262	P	Pn	03 15 50.8	+0.4
SMLT				*i* S	Sn	03 16 08.4	+1.0
TYC	Yuchr	1.41	263	*eP*	Pn	03 15 51.2	+0.5
TWQ1	Liyutan	1.49	280	*eP*	Pn	03 15 53.4	+1.5
EDH	Donghe	1.49	222	P	Pn	03 15 51.4	-0.6
EDH				S	Sn	03 16 08.6	-1.6
JKRS	Kuro-shima	1.50	84	*eP*	Pn	03 15 52.6	+0.6
ELDTW	Lidau	1.54	235	*eP*	Pn	03 15 52.4	-0.4
ELDTW				S	Sn	03 16 10.1	-1.5
ALS	Alishan	1.55	248	P	Pn	03 15 54.0	+0.9
ALS				*eS*	Sn	03 16 12.6	+0.4
WNT	Mingjian	1.56	262	*eP*	Pn	03 15 54.6	+1.7
WNT				*eS*	Sn	03 16 13.4	+1.3
JIJ	Ishigaki jima	1.63	80	*eP*	Pn	03 15 53.6	-0.2
JIJ				*eS*	Sn	03 16 13.0	-0.7
CHN5	Tsauling	1.63	253	P	Pn	03 15 55.3	+1.4
CHN5				*eS*	Sn	03 16 15.4	+1.6
LDUT	Ludao	1.64	211	*eP*	Pn	03 15 54.2	+0.2
LDUT				*eS*	Sn	03 16 12.3	-1.6
WDLH	Douliu	1.73	257	*eP*	Pn	03 15 57.1	+1.8
STYH	Taoyuan	1.73	238	*eP*	Pn	03 15 56.3	+1.1
STYH				*eS*	Sn	03 16 17.5	+1.4
TWGBT	Beinan	1.74	223	*eP*	Pn	03 15 54.5	-0.9
TWGBT				*eS*	Sn	03 16 14.7	-1.7
TWG	Pinlang	1.75	224	*eP*	Pn	03 15 54.4	-1.0
TWG				*eS*	Sn	03 16 15.2	-1.2
TPUB	Ta-pu	1.79	244	*eP*	Pn	03 15 57.4	+1.4
TPUB				*eS*	Sn	03 16 19.8	+2.2
WTP	Ta-pu	1.82	243	P	Pn	03 15 58.0	+1.5
WTP				*eS*	Sn	03 16 21.2	+2.7
JISG	Ishigakijimahi	1.83	74	*eP*	Pn	03 15 56.4	-0.1
JISG				*eS*	Sn	03 16 18.4	-0.1
TWK	Hsinying	1.92	245	*eP*	Pn	03 15 59.7	+1.9
TWK				*eS*	Sn	03 16 23.1	+2.2
CHN1	Nanshi	1.92	242	*eP*	Pn	03 15 60.0	+2.1
CHN1				*eS*	Sn	03 16 23.4	+2.5
ECL	Taimali	1.98	222	*eP*	Pn	03 15 58.1	-0.6
ECL				*eS*	Sn	03 16 20.8	-1.5
MASBT	Mashibuluo	2.18	228	*eP*	Pn	03 16 02.0	+0.6
LYUB	Lan-yu	2.21	200	*eP*	Pn	03 16 02.5	+0.7

SOME 29 03:32:37.8, 44°.62N×80°.80E, h10km
NNC 29 03:32:37.6±0.8, 44°.65N×80°.78E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.1km s-min=4.4km az=110.0
ISC 29 03:32:36.5±1.6, 44°.60N±0°.04×80°.86E±0°.06, h1km±12km, n33, σ1§41/45, 9C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.61	218	⇑P	Pb	03 33 07.5	+0.4
	9.7nm,0.2s						
PDGK				⇓S	Sg	03 33 29.4	+1.2
	52nm,0.5s						
SHLS	Shalkode	1.76	216	P	Pn	03 33 07.7	-0.5
	21nm,0.2s						
SHLS				S	Sn	03 33 29.6	-1.8
	112nm,0.6s						
SHLS	Shalkode	1.76	216	*eP*	Pn	03 33 07.7	-0.5
	21nm,0.2s						
SHLS				*eS*	Sn	03 33 29.6	-1.8
	112nm,0.6s						
TDK	Taldyqorghan	1.79	284	P	Pb	03 33 10.8	+0.6
	126nm,0.3s						
TDK				S	Sb	03 33 34.4	+1.2
	418nm,0.4s						
TDK	Taldyqorghan	1.79	284	*eP*	Pb	03 33 10.8	+0.6
	126nm,0.3s						
TDK				*eS*	Sb	03 33 34.4	+1.2
	418nm,0.4s						
KPKS	Kokpek	1.94	235	Pg	Pb	03 33 13.0	+0.3
	9.5nm,0.3s						
KPKS				Lg	Lg	03 33 38.0	
	265nm,0.6s						
UZB	Uzynbulak	1.97	223	Pg	Pb	03 33 13.7	+0.5
	19nm,0.3s						
UZB				Lg	Lg	03 33 40.0	
	107nm,0.3s						
UZB	Uzynbulak	1.97	223	*eP*	Pb	03 33 13.7	+0.5
	19nm,0.3s						
UZB				*eS*	Sg	03 33 40.0	+0.1
	107nm,0.3s						
ARXS	Arharly	2.21	261	Pg	Pb	03 33 17.9	+0.6
	33nm,0.4s						
ARXS				Lg	Lg	03 33 47.2	
	70nm,0.4s						
ARXS	Arharly	2.21	261	*eP*	Pb	03 33 17.9	+0.6
ARXS				*eS*	Sb	03 33 47.2	+2.1
KURS	Kuram	2.24	241	Pg	Pb	03 33 17.6	-0.1
	6.7nm,0.5s						
KURS				Lg	Lg	03 33 46.3	
	12nm,0.4s						
SATY	Saty	2.35	230	Pg	Pb	03 33 20.1	+0.4
	32nm,0.4s						
SATY				Lg	Lg	03 33 51.3	
	133nm,0.4s						
MK31	Makanchi Array	2.41	24	⇑Pg	Pg	03 33 22.7	0.0
	1.4nm,0.2s,baz=205,slow=13,SNR=114						
MK31				⇑Lg	Lg	03 33 50.0	
	6.1nm,0.2s,baz=202,slow=26,SNR=44						
CHKK	Chushkaly	2.88	256	Pg	Pb	03 33 29.6	+0.8
	15nm,0.6s						
CHKK				Lg	Lg	03 34 06.9	
	54nm,0.4s						
CHKK	Chushkaly	2.88	256	*eP*	Pb	03 33 29.6	+0.8
	15nm,0.6s						
CHKK				*eS*	Sb	03 34 06.9	+2.4
	54nm,0.4s						
MDOK	Medeo	3.11	244	Pg	Pb	03 33 33.8	+1.1
	3.0nm,0.4s						
MDOK				Lg	Lg	03 34 14.3	
	7.9nm,1.0s						
KTBS	Karatobe	3.14	255	Pg	Pb	03 33 33.7	+0.6
	4.8nm,0.3s						
KTBS				Lg	Lg	03 34 14.2	
	21nm,0.7s						
TNSS	Tian-Shan	3.24	242	Pg	Pg	03 33 38.0	-0.6
	1.3nm,0.7s						
TNSS				Lg	Lg	03 34 21.3	
	2.0nm,0.5s						
TNSS	Tian-Shan	3.24	242	*eP*	Pg	03 33 38.0	-0.6
	1.3nm,0.7s						
TNSS				*eS*	Sg	03 34 21.3	+0.8
	2.0nm,0.5s						
KUU	Kurty	3.33	259	Pg	Pb	03 33 36.1	-0.2
	4.3nm,0.1s						
KUU				Lg	Lg	03 34 18.0	
	21nm,0.7s						
KUU	Kurty	3.33	259	*eP*	Pb	03 33 36.1	-0.2
	4.3nm,0.1s						
KUU				*eS*	Sb	03 34 18.0	+0.7
	21nm,0.7s						
IZV	Izvestkoviy	3.45	245	Pg	Pb	03 33 39.2	+0.7
	5.4nm,0.7s						
IZV				Lg	Lg	03 34 23.6	
	10.0nm,0.8s						
IZV	Izvestkoviy	3.45	245	*eP*	Pb	03 33 39.2	+0.7
	5.4nm,0.7s						
IZV				*eS*	Sb	03 34 23.6	+2.6
	10.0nm,0.8s						
MTBS	Maitube	3.53	247	Pg	Pb	03 33 40.9	+1.1
	5.3nm,0.4s						
MTBS				Lg	Lg	03 34 26.4	
	36nm,0.5s						
MTBS	Maitube	3.53	247	*eP*	Pb	03 33 40.9	+1.1
	5.3nm,0.4s						
MTBS				*eS*	Sb	03 34 26.4	+3.4
	36nm,0.5s						
KRBS	Karabastau	3.84	258	Pg	Pb	03 33 45.2	+0.1
	6.3nm,0.6s						
KRBS				Lg	Lg	03 34 34.5	
	3.5nm,0.5s						
KST	Kastek	3.87	248	Pg	Pb	03 33 48.2	+2.5
	4.7nm,0.8s						
KST				Lg	Lg	03 34 39.1	
	12nm,0.6s						
KST	Kastek	3.87	248	*eP*	Pb	03 33 48.2	+2.5
	4.7nm,0.8s						
KST				*eS*	Sg	03 34 39.1	-1.8
	12nm,0.6s						
DGS	Degeres	3.92	252	Pg	Pb	03 33 48.3	+1.8

LUWI	**Luwuk**	4.88	225	P		Pn	03 37 40.8 +2.5
TOLI2	**Tolitoli**	5.58	256			Pn	03 37 47.2 -0.8
APSI	**Ampana**	5.65	234	P		Pn	03 37 52.2 +3.4
NLAI	**Namlea**	5.72	171	P		Pn	03 37 49.2 -0.6
	1.5nm4μm68nm,0.7s						
AAI	**Ambon**	6.41	162	P		Pn	03 38 00.1 +0.9
	0.4nm77nm,0.5s						
MPSI	**Mapaga**	6.65	252	P		Pn	03 38 03.9 +1.4
KDI	**Kendari**	7.30	209	P		Pn	03 38 11.9 +0.4
FAKI	**Fak Fak**	8.05	131	Pn		Pn	03 38 19.1 -2.6
FAKI	**Fak Fak**	8.05	131	P		Pn	03 38 22.8 +1.1
	30nm,1.0s						
MYLDM	**Lahad Datu**	8.16	290			Pn	03 38 21.6 -1.6
SPSI	**Sidrap Palu**	9.05	225	P		Pn	03 38 35.9 +0.5
	55nm,0.9s						
BSSI	**Bau Bau, Buton**	10.27	214	P		Pn	03 38 53.5 +1.5
	29nm,0.5s						
BAKI	**Biak**	10.54	110	P		Pn	03 38 57.0 +1.4
EDFI	**Ende, Flores**	12.00	202	P		Pn	03 39 17.6 +1.9
SBUM	**Sibu**	13.98	270	Pn		Pn	03 39 41.0 -1.1
JAY	**Jayapura**	15.31	109	P		P	03 40 02.0 -0.6
	0.5nm,0.3s,baz=57,slow=12,SNR=5.0						
	18nm,1.0s						
MTN	**Manton Dam**	15.96	162	Pn		Pn	03 40 05.8 -1.8
KNRA	**Kununurra**	18.18	172			P	03 40 32.9 -1.4
FITZ	**Fitzroy Crossi**	20.42	182			P	03 40 58.1 -0.6
FITZ	**Fitzroy Crossi**	20.42	182	P		P	03 40 58.2 -0.6
	5.4nm,0.5s,baz=14,slow=10,SNR=30						
	5.4nm,0.5s						
TPUB	**Ta-pu**	21.42	346	P		P	03 41 07.8 -1.7
TPUB				IAmb	IAmb		03 41 09.8
	comp=Z,54nm,1.3s						
WB0	**Warramunga Arr**	23.49	160			P	03 41 30.3 -0.5
WB0				IAmb	IAmb		03 41 32.2
	comp=Z,18nm,0.4s						
WRAB	**Tennant Creek**	23.63	161	P		P	03 41 31.9 -0.2
WRAB				IAmb	IAmb		03 41 33.4
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	23.64	161			P	03 41 30.6 -1.6
WRA	**Warramunga Arr**	23.64	161	P		P	03 41 31.7 -0.5
	comp=Z,4.1nm,0.4s,baz=337,slow=10,SNR=123						
	comp=Z,4.1nm,0.4s						
WR8	**Warramunga Arr**	23.70	160			P	03 41 32.4 -0.4
WR8				IAmb	IAmb		03 41 34.0
	comp=Z,8.2nm,0.6s						
MBWA	**Marble Bar**	24.30	195	P		P	03 41 37.9 -0.2
MBWA				IAmb	IAmb		03 41 39.1
	comp=Z,57nm,1.6s						
AS31	**Alice Springs**	27.02	164			P	03 42 02.9 +0.1
ASAR	**Alice Springs**	27.02	164			P	03 42 02.7 0.0
ASAR						PcP	03 45 23.3 +0.6
ASAR	**Alice Springs**	27.02	164	P		P	03 42 02.8 0.0
	comp=Z,5.1nm,0.5s,baz=342,slow=7.7,SNR=98						
ASAR				PcP		PcP	03 45 24.1 +1.4
	comp=Z,1.4nm,0.4s,baz=343,slow=2.3,SNR=8.1						
	comp=Z,5.1nm,0.5s						
CMAR	**Chiang Mai Arr**	31.09	303	P		P	03 42 39.4 +0.3
	comp=Z,0.9nm,0.4s,baz=114,slow=7.6,SNR=6.1						
	comp=Z,0.9nm,0.4s						
MORW	**Morawa**	32.82	197			P	03 42 54.2 +0.2
MORW				IAmb	IAmb		03 43 30.1
	comp=Z,39nm,1.6s						
FORT	**Forrest**	33.09	177	P		P	03 42 56.1 -0.1
FORT				IAmb	IAmb		03 43 12.4
	comp=Z,35nm,1.5s						
KSRS	**Korea Array**	34.87	2	P		P	03 43 13.1 +1.5
	comp=Z,5.6nm,0.9s,baz=186,slow=9.6,SNR=12						
	comp=Z,5.6nm,0.9s						
MJAR	**Matsushiro Arr**	35.69	17	P		P	03 43 19.1 +0.3
	comp=Z,2.9nm,0.8s,baz=188,slow=8.7,SNR=6.7						
	comp=Z,2.9nm,0.8s						
BBOO	**Buckleboo**	36.28	166			P	03 43 23.9 +0.1
STKA	**Stephens Creek**	37.13	158	P		P	03 43 31.1 +0.1
STKA	**Stephens Creek**	37.13	158	P		P	03 43 31.7 +0.6
	comp=Z,7.8nm,0.8s,baz=331,slow=9.6,SNR=17						
	comp=Z,7.8nm,0.8s						
USRK	**Ussuriysk Ar.**	41.89	6	P		P	03 44 11.8 +1.3
	comp=Z,3.8nm,0.5s,baz=207,slow=5.7,SNR=6.7						
	comp=Z,3.8nm,0.5s						
H11S3	**WAKE ISLAND Hy**	42.73	65	T		T	04 31 15.6
	baz=253,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	42.74	65	T		T	04 31 27.2
	baz=253,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	42.74	65	T		T	04 31 26.1
	baz=253,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	43.28	64	T		T	04 31 55.2
	baz=251,slow=75						
H11N2	**WAKE ISLAND Hy**	43.29	64	T		T	04 31 55.2
	baz=251						
H11N3	**WAKE ISLAND Hy**	43.30	64	T		T	04 31 49.8
	baz=251,slow=75						
EVN	**Everest**	45.35	308	P		P	03 44 39.2 -0.1
EVN				IAmb	IAmb		03 44 40.5
	comp=Z,22nm,0.9s						
HILR	**Hailar Array B**	47.26	354	P		P	03 44 53.8 +0.6
	comp=Z,1.9nm,0.5s,baz=163,slow=11,SNR=6.0						
	comp=Z,1.9nm,0.5s						
SONM	**Songino Array**	48.35	342	P		P	03 45 01.7 0.0
SONM						PcP	03 46 27.1 -0.3
SONM	**Songino Array**	48.35	342	P		P	03 45 01.7 0.0
	comp=Z,2.2nm,0.5s,baz=158,slow=8.4,SNR=7.9						
SONM				PcP		PcP	03 46 28.5 +1.1
	comp=Z,1.5nm,0.8s,baz=178,slow=4.4,SNR=5.4						
	comp=Z,2.2nm,0.5s						
PETK	**Petropavlovsk-**	56.81	22	P		P	03 46 04.5 +0.5
PETK	**Petropavlovsk-**	56.81	22	P		P	03 46 05.3 +1.3
	comp=Z,2.8nm,0.8s,baz=189,slow=7.3,SNR=3.4						
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	58.31	326	P		P	03 46 14.4 -0.3
	comp=Z,6.0nm,0.5s,baz=122,slow=7.9,SNR=53						
MKAR				PcP		PcP	03 47 05.6 +0.5
	comp=Z,4.1nm,0.8s,baz=120,slow=4.9,SNR=9.8						
	comp=Z,6.0nm,0.5s						
MAKZ	**Makanchi**	58.50	326	P		P	03 46 15.6 -0.4
ZALV	**Zalesovo Beam**	61.49	334	P		P	03 46 35.3 -1.0
	comp=Z,1.8nm,0.3s,baz=106,slow=11,SNR=2.7						
	comp=Z,1.8nm,0.3s						
GAR	**Garm**	62.41	313	P		P	03 46 42.2 -0.7
GAR				IAmb	IAmb		03 46 43.8
	comp=Z,7.4nm,0.6s						
KURBB	**Kurchatov Arra**	62.54	328	P		P	03 46 42.8 -0.6
	comp=Z,4.8nm,0.5s,baz=127,slow=6.3,SNR=38						
	comp=Z,4.8nm,0.5s						
KURK	**Kurchatov**	62.54	328			P	03 46 43.2 -0.2
KURK				IAmb	IAmb		03 46 43.5
	comp=Z,9.9nm,0.6s						
KURK	**Kurchatov**	62.54	328	P		P	03 46 42.8 -0.6
BVAR	**Borovoye Array**	68.11	327	P		P	03 47 18.7 -0.7
	comp=Z,2.9nm,0.8s,baz=132,slow=10,SNR=11						
	comp=Z,2.9nm,0.8s						
TIXI	**Tiksi**	69.12	1	P		P	03 47 25.1 -0.2
AB31	**Akbulak array**	72.81	321			P	03 47 47.7 -0.4
AB31				IAmb	IAmb		03 47 49.0
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	72.81	321			P	03 47 47.6 -0.5
ABPO	**Ambohimpanom**	80.39	250	P		P	03 48 32.5 +0.8
VNDA	**Vanda**	82.23	173	P		P	03 48 40.9 +0.8
VNDA				IAmb	IAmb		03 51 35.7
	comp=Z,9.5nm,1.9s						
VNDA	**Vanda**	82.23	173	P		P	03 48 40.7 +0.7
	comp=Z,0.7nm,0.6s,baz=308,slow=6.3,SNR=6.3						
	comp=Z,0.7nm,0.6s						
MAW	**Mawson**	82.38	200	P		P	03 48 41.4 +0.5
	comp=Z,3.5nm,0.8s,baz=143,slow=1.9,SNR=5.1						
	comp=Z,3.5nm,0.8s						
KBZ	**Khabaz**	83.48	314	P		P	03 48 47.5 +0.3
	comp=Z,0.7nm,0.4s,baz=126,slow=8.7,SNR=2.3						
	comp=Z,0.7nm,0.4s						
GURO	**Guroymak-BITLI**	83.93	308			P	03 48 50.0 +0.2
ILAR	**Eielson Array**	86.48	25	P		P	03 49 01.4 -0.4
	comp=Z,0.2nm,0.5s,baz=244,slow=5.0,SNR=5.8						
	comp=Z,0.2nm,0.5s						
OBN	**Obninsk**	87.80	325	P		P	03 49 08.3 0.0
	comp=Z,25nm,0.5s						
BRTR	**Keskin Array B**	90.43	310	P		P	03 49 20.2 -1.1
BRTR	**Keskin Array B**	90.43	310	P		P	03 49 20.4 -1.0
	comp=Z,0.8nm,0.6s,baz=142,slow=4.6,SNR=8.6						
	comp=Z,0.8nm,0.6s						
ARCES	**ARCESS Array B**	91.46	340	P		P	03 49 25.2 0.0
ARCES	**ARCESS Array B**	91.46	340	P		P	03 49 24.2 -1.1
	comp=Z,2.6nm,0.7s,baz=73,slow=6.1,SNR=8.0						
	comp=Z,2.6nm,0.7s						
AK09	**Malin Array Si**	92.52	321	P		P	03 49 29.9 -0.6
AK09				pP		pP	03 49 42.8 -7.4
AK08	**Malin Array Si**	92.54	321	P		P	03 49 29.9 -0.7
AK10	**Malin Array Si**	92.55	321	P		P	03 49 29.9 -0.7
AK03	**Malin Array Si**	92.55	321	P		P	03 49 29.8 -0.8
AKASG	**Malin Array Be**	92.55	321	P		P	03 49 29.5 -1.2
	comp=Z,3.2nm,0.7s,baz=70,slow=4.7,SNR=8.1						
	comp=Z,3.2nm,0.7s						
AKBB	**Malin Array Si**	92.55	321	P		P	03 49 29.8 -0.8
AK01	**Malin Array Si**	92.56	321	P		P	03 49 29.8 -0.9
KIEV	**Kiev**	92.56	321	P		P	03 49 29.8 -0.9
AK02	**Malin Array Si**	92.57	321	P		P	03 49 29.9 -0.8
AK05	**Malin Array Si**	92.58	321	P		P	03 49 29.9 -0.9
AK06	**Malin Array Si**	92.58	321	P		P	03 49 30.2 -0.6
AK07	**Malin Array Si**	92.58	321	P		P	03 49 30.2 -0.6
AK04	**Malin Array Si**	92.59	321	P		P	03 49 29.9 -0.9
AK11	**Malin Array Si**	92.59	321	P		P	03 49 30.0 -0.8
AK12	**Malin Array Si**	92.60	321	P		P	03 49 30.0 -0.9
AK16	**Malin Array Si**	92.63	321	P		P	03 49 30.0 -1.0
AK14	**Malin Array Si**	92.63	321	P		P	03 49 30.3 -0.7
AK22	**Malin Array Si**	92.64	321	P		P	03 49 30.1 -1.0
AK18	**Malin Array Si**	92.65	321	P		P	03 49 30.1 -1.0
AK21	**Malin Array Si**	92.66	321	P		P	03 49 30.2 -0.9
AK17	**Malin Array Si**	92.66	321	P		P	03 49 30.2 -0.9
AK13	**Malin Array Si**	92.67	321	P		P	03 49 30.2 -1.0
AK20	**Malin Array Si**	92.68	321	P		P	03 49 30.3 -0.9
AK19	**Malin Array Si**	92.68	321	P		P	03 49 30.3 -1.0
FINES	**FINESS Array B**	92.71	332	P		P	03 49 31.4 +0.3
FINES	**FINESS Array B**	92.71	332	P		P	03 49 30.6 -0.5
	comp=Z,3.1nm,0.7s,baz=59,slow=4.0,SNR=8.8						
	comp=Z,3.1nm,0.7s						
LUBAR	**Lubar, Ukraine**	93.59	320	P		P	03 49 34.5 -0.9
MLR	**Muntele Rosu**	95.46	316			P	03 49 44.1 -0.2
MLR				IAmb	IAmb		03 49 44.8
	comp=Z,3.6nm,0.8s						
BURAR	**Bucovina Array**	95.60	318			P	03 49 45.0 +0.1
BUR08	**Bucovina Ar. S**	95.61	318			P	03 49 45.3 +0.4
BUR08				IAmb	IAmb		03 49 46.0
	comp=Z,7.1nm,0.7s						
HFS	**Hagfors**	98.90	332	P		P	03 49 58.8 -0.5
	comp=Z,3.7nm,1.0s,baz=93,slow=5.9,SNR=8.5						
	comp=Z,3.7nm,1.0s						
NOA	**NORSAR Array B**	99.69	333	P		Pdif	03 50 01.2 -1.7
	comp=Z,0.9nm,0.9s,baz=67,slow=4.6,SNR=2.9						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	122.81	287	PKP		PKiKP	03 55 16.3 +0.1
	comp=Z,0.9nm,0.7s,baz=56,slow=5.4,SNR=6.9						

SOME ***29*** *03:47:20.6, 41.°12N×78.°90E, h15km*
NNC ***29*** *03:47:21.5±1.2, 41.°12N×78.°81E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=8.3km s-min=5.2km az=160.0
KRNET ***29*** *03:47:22.3±0.1, 41.°10N×78.°75E, h16km, mb2.9*
ISC 29 03:47:22.8±2.6, 41.17N±0.°09×78.74E±0.°06, h1km±14km, n30, σ0°94/45, 9C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	0.90	309	⇑*iP*		**Pg**	03 47 40.2 +0.1
TARG				⇑*iS*		**Sb**	03 47 53.6 -0.6
PRZ	**Przheval'sk**	1.34	349	⇑*eP*		**Pb**	03 47 48.9 0.0
PRZ				⇑*eS*		**Sg**	03 48 08.0 +2.0
KDJ	**Kajisay**	1.52	310	⇓*iP*		**Pn**	03 47 51.1 -0.2
KDJ				⇓*iS*		**Sg**	03 48 12.0 +0.4
SATY	**Saty**	1.91	353	Pg		**Pb**	03 47 58.2 -0.3
	17nm,1.2s						
SATY				Lg	Lg		03 48 25.2
	14nm,0.4s						
UZB	**Uzynbulak**	1.99	6	Pg		**Pb**	03 47 59.0 -1.0
	5.7nm,0.4s						
UZB				Lg	Lg		03 48 26.1
	23nm,0.4s						
UZB	**Uzynbulak**	1.99	6	*eP*		**Pb**	03 47 59.0 -1.0
	5.7nm,0.4s						
UZB				*eS*		**Sg**	03 48 26.1 -0.7
	23nm,0.4s						
SHLS	**Shalkode**	2.06	15	Pg		**Pb**	03 48 01.3 +0.2
	26nm,0.7s						
SHLS				Lg	Lg		03 48 30.7
	52nm,0.6s						
SHLS	**Shalkode**	2.06	15	*eP*		**Pb**	03 48 01.3 +0.2
	26nm,0.7s						
SHLS				*eS*		**Sg**	03 48 30.7 +1.6
	52nm,0.6s						
ULHL	**Ulahol**	2.16	301	⇓*iP*		**Pn**	03 48 01.1 +0.9
ULHL				⇓*iS*		**Sb**	03 48 29.6 -0.6
PDGK	**Podgornoye**	2.23	14	⇓Pg		**Pb**	03 48 02.5 -1.5
	12nm,0.6s						
PDGK				⇑Lg	Lg		03 48 36.3
	39nm,0.6s						
TNSS	**Tian-Shan**	2.30	325	Pg		**Pb**	03 48 05.5 +0.1
TNSS				Lg	Lg		03 48 37.8
TNSS	**Tian-Shan**	2.30	325	*eP*		**Pb**	03 48 05.5 +0.1
TNSS				*eS*		**Sg**	03 48 37.8 +1.1
JNKS	**Jany-Kuch**	2.34	268	⇓*iP*		**Pn**	03 48 03.4 +0.8
JNKS				⇓*iS*		**Sb**	03 48 33.1 -2.2
KURS	**Kuram**	2.36	350	Pg		**Pb**	03 48 06.0 -0.2
	16nm,1.0s						
KURS				Lg	Lg		03 48 38.4
	16nm,0.6s						
MDOK	**Medeo**	2.36	328	Pg		**Pb**	03 48 06.4 +0.2
	16nm,0.5s						
MDOK				Lg	Lg		03 48 39.0
	11nm,1.0s						
BOOM	**Boomskoye usch**	2.48	303	⇓*eP*		**Pn**	03 48 05.6 +1.1
BOOM				⇓*iS*		**Sb**	03 48 37.4 -1.9
MTBS	**Maitube**	2.61	320	Pg		**Pb**	03 48 10.8 +0.4
	12nm,0.7s						
MTBS				Lg	Lg		03 48 47.0
	8.8nm,0.4s						
MTBS	**Maitube**	2.61	320	*eP*		**Pb**	03 48 10.8 +0.4
	12nm,0.7s						
MTBS				*eS*		**Sg**	03 48 47.0 +0.3
	8.8nm,0.4s						
KST	**Kastek**	2.79	313	Pg		**Pb**	03 48 14.0 +0.4
	12nm,0.6s						
KST				Lg	Lg		03 48 51.9
	13nm,0.9s						
KST	**Kastek**	2.79	313	*eP*		**Pb**	03 48 14.0 +0.4
	12nm,0.6s						
KST				*eS*		**Sg**	03 48 51.9 -0.6
	13nm,0.9s						
KTBS	**Karatobe**	2.97	330	Pg		**Pb**	03 48 16.4 -0.1
	13nm,0.5s						
KTBS				Lg	Lg		03 48 56.0
	16nm,0.6s						
CHKK	**Chushkaly**	2.98	335	Pg		**Pb**	03 48 16.7 -0.1
	13nm,0.7s						
CHKK				Lg	Lg		03 48 57.2
	17nm,0.5s						
CHKK	**Chushkaly**	2.98	335	*eP*		**Pb**	03 48 16.7 -0.1
	13nm,0.7s						
CHKK				*eS*		**Sg**	03 48 57.2 -1.5
	17nm,0.5s						
DGS	**Degeres**	3.03	314	Pg		**Pb**	03 48 17.7 +0.1
	16nm,0.6s						
DGS				Lg	Lg		03 48 58.4
	18nm,0.6s						
ARXS	**Arharly**	3.12	348	Pg		**Pb**	03 48 19.2 +0.1
	3.5nm,3.0s						
ARXS				Lg	Lg		03 49 01.0
	14nm,0.2s						
ARXS	**Arharly**	3.12	348	*eP*		**Pb**	03 48 19.2 +0.1
ARXS				*eS*		**Sg**	03 49 01.0 -2.0
UCH	**Uchtor**	3.34	290	⇓*iP*		**Pn**	03 48 17.3 +0.7
UCH				⇓*iS*		**Sn**	03 48 57.6 +0.5
KRBS	**Karabastau**	3.40	319	Pg		**Pb**	03 48 23.9 0.0
	1.7nm,0.6s						
KRBS				Lg	Lg		03 49 09.2
	1.6nm,0.5s						
AAK	**Ala-Archa**	3.50	296	⇑Pg		**Pb**	03 48 24.5 -1.1
	0.8nm,0.5s						
AAK				⇑Lg	Lg		03 49 16.1
	1.7nm,0.6s						
AAK	**Ala-Archa**	3.50	296	⇑*iP*		**Pn**	03 48 19.5 +1.0
AAK				⇑*iS*		**Sn**	03 49 01.4 +0.9

NNC ***29*** *03:55:11.3±8.7, 37.°00N×70.°84E, h0km, mb4.4, mpv4.2,*
Error ellipse: s-maj=80.5km s-min=55.8km az=164.0
NEIC ***29*** *03:55:14.5±1.4, 36.°72N±0.°06×71.°35E±0.°07, h179km±5km,*
mb4.1/6, Error ellipse: s-maj=9.8km s-min=7.1km
az=139.0
IDC ***29*** *03:55:15.6±4.7, 36.°97N×71.°22E, h161km±38km, mb3.5/11,*
mbtmp4.1/17, Error ellipse: s-maj=45.7km s-min=28.8km
az=152.0
ISC 29 03:55:13.5±0.6, 36.71N±0.°06×71.°52E±0.°07, h179km, n64,

σ1$60/70, mb3.7/17, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	2.48	338			**Pn**	03 55 56.1 +0.1
CHGR	**Chuyangaron**	2.70	317			**Pn**	03 55 58.1 -0.4
DRK	**Karamyk**	2.77	4			**Pn**	03 56 00.9 +1.2
KBL	**Kabul**	2.96	224			**Pn**	03 56 01.5 -0.3
NIL	**Nilore**	3.37	155			**Pn**	03 56 08.7 +2.0
TSSA	**Tissa**	5.42	134	*eP*		**Pn**	03 56 34.4 +1.2
TSSA				*eS*		**Sn**	03 57 34.0 -1.8
TSSA				IAML			03 57 36.0
	comp=E,180nm,0.5s						
TSSA				IAML			03 57 38.9
	comp=N,159nm,0.2s						
DHRM	**DHARAMSHALA**	5.95	137	*eP*		**Pn**	03 56 39.5 -0.5
DHRM				*eS*		**Sn**	03 57 44.0 -4.1
DHRM				IAML			03 57 49.9
	comp=E,192nm,0.5s						
DHRM				IAML			03 57 50.5
	comp=N,119nm,0.4s						
UCH	**Uchtor**	5.98	22	P		**Pn**	03 56 41.3 +0.7
	SNR=68						
EKS2	**Erkin-Say**	6.19	16	P		**Pn**	03 56 43.8 +0.7
	SNR=14						
AAK	**Ala-Archa**	6.35	20	P		**Pn**	03 56 46.0 +0.9
	comp=N,31nm,0.3s,baz=201,slow=5.0,SNR=48						
AAK				S		**Sn**	03 57 53.5 -3.9
	comp=N,6.6nm,0.3s,baz=220,slow=11,SNR=4.2						
AAK	**Ala-Archa**	6.35	20	P		**Pn**	03 56 45.9 +0.8
	SNR=53						
AAK	**Ala-Archa**	6.35	20	⇑P		**Pn**	03 56 46.0 +0.8
	comp=N,3.5nm,0.3s						
AAK				⇑S		**Sn**	03 57 55.5 -1.9
	comp=N,16nm,0.6s						
KK31	**Karatay Array**	6.43	353			**Pn**	03 56 46.5 +0.4
KK31	**Karatay Array**	6.43	353	⇑P		**Pn**	03 56 46.1 0.0
	comp=N,17nm,0.3s,baz=180,slow=15,SNR=103						
KK31				⇓S		**Sn**	03 57 55.1 -4.0
	comp=N,33nm,0.3s,baz=184,slow=21,SNR=9.5						
KKAR	**Karatay Array**	6.43	353			**Pn**	03 56 46.4 +0.3
BOOM	**Boomskoye usch**	6.70	29	Pn		**Pn**	03 56 50.5 +0.6
CHMS	**Chumysh**	6.75	21	P		**Pn**	03 56 54.4 +4.0
	SNR=7.8						
USP	**Ospenovka**	6.94	18	P		**Pn**	03 56 53.0 +0.3
	SNR=18						
TKM2	**Tokmak 2**	6.95	26	P		**Pn**	03 56 53.8 +0.6
	SNR=9.9						
KDJ	**Kajisay**	6.96	37	Pn		**Pn**	03 56 54.6 +1.4
TARG	**Taragay, Kyrgy**	6.99	42			**Pn**	03 56 55.3 +1.4
SMLA	**Simla**	7.28	138	*eP*		**Pn**	03 56 57.9 +0.5
SMLA				*eS*		**Sn**	03 58 15.8 -3.6
SMLA				IAML			03 58 18.4
	comp=E,191nm,0.6s						
SMLA				IAML			03 58 20.7
	comp=N,104nm,0.4s						
PRZ	**Przheval'sk**	7.84	41			**Pn**	03 57 06.1 +1.3
DDI	**Dehra Dun**	8.38	138	*eP*		**Pn**	03 57 12.7 +0.7
DDI				*eS*		Sn	03 58 40.0 -5.9
DDI				IAML			03 58 46.5
	comp=N,127nm,0.3s						
DDI				IAML			03 58 46.6
	comp=E,164nm,0.3s						
PDGK	**Podgornoye**	9.00	40	⇑P		**Pn**	03 57 20.8 +0.8
	comp=E,6.8nm,0.7s						
PDGK				⇑S		Sn	03 59 16.4 +16
	comp=E,3.4nm,0.5s						
PTH	**Pithoragarh**	10.20	132	*eS*		Sn	03 59 19.6 -10
PTH				IAML			03 59 27.5
	comp=N,77nm,0.3s						
LGTI	**Lohaghat**	10.29	132	*eP*		**Pn**	03 57 35.6 -1.3
LGTI				*eS*		Sn	03 59 21.9 -9.4
LGTI				IAML			03 59 25.9
	comp=N,40nm,0.3s						
LGTI				IAML			03 59 31.1
	comp=E,28nm,0.8s						
UDPR	**Udaipur**	12.24	171	*eP*		**Pn**	03 58 01.9 -0.2
UDPR				*eS*		Sn	04 00 07.4 -11
UDPR				IAML			04 00 13.7
	comp=E,31nm,0.5s						
UDPR				IAML			04 00 17.8
	comp=N,25nm,0.2s						
MAKZ	**Makanchi**	12.74	34	Pn		**Pn**	03 58 11.5 +3.2
MK31	**Makanchi Array**	12.88	35	⇓P		**P**	03 58 15.6 +1.5
	comp=N,1.0nm,0.4s,baz=218,slow=13,SNR=26						
MKAR	**Makanchi Array**	12.88	35	Pn		**Pn**	03 58 11.5 +1.5
MKAR	**Makanchi Array**	12.88	35	P		**Pn**	03 58 11.8 +1.8
	comp=N,1.1nm,0.4s,baz=213,slow=12,SNR=6.5						
KURBB	**Kurchatov Arra**	14.79	18	P		**Pn**	03 58 35.4 +1.6
	comp=N,2.3nm,0.6s,baz=208,slow=11,SNR=14						
AB31	**Akbulak array**	15.11	330	Pn		**Pn**	03 58 36.9 -0.9
AB31	**Akbulak array**	15.11	330	⇓P		**P**	03 58 39.4 +0.6
	comp=N,2.7nm,0.5s						
ABKAR	**Akbulak array**	15.11	330	Pn		**Pn**	03 58 37.2 -0.6
EVN	**Everest**	15.58	120			**Pn**	03 58 45.1 +0.7
EVN				IAmb	IAmb		03 58 51.1
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	16.33	358	P		**P**	03 58 53.0 +0.8
	comp=Z,2.7nm,0.4s,baz=155,slow=8.5,SNR=20						
AKTO	**A

*IDC **29** 03:56:28.1±0.7, 6.′87N×124.′83E, h0km, mb4.3/12, mbtmp4.3/13, ML3.1/1, MS3.7/3, Error ellipse: s-maj=14.5km s-min=9.4km az=168.0*
*DJA **29** 03:56:30.1±0.8, 7.′N±12.′×12.′5E±.′, h16km±14km, M5.0/11, mb5.1/11, mB5.5/6, MLv5.1/8, Mw(mB)4.9/6*
*NEIC **29** 03:56:31.4±1.4, 6.′95N±0.′05×124.′88E±0.′04, h10km±1km, mb4.8/31, Error ellipse: s-maj=9.9km s-min=5.8km az=32.0*
ISC 29 03:56:31.0±0.4, 6.′98N±0.′05×124.′92E±0.′07, h13km, n74, σ1$33/72, mb4.6/26, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.66**	**82**	Pg	**Pg**	**03 56 42.3**	**-1.6**
DAV	**Davao City (W)**	**0.66**	**82**	Pg	**Pg**	**03 56 42.9**	**-1.1**
DAV	baz=228,slow=8.5			Lg	Lg	03 56 54.3	
DAV	**Davao City (W)**	**0.66**	**82**	P	**Pg**	**03 56 42.0**	**-1.9**
SGSI	**Sangihe**	**3.33**	**169**	P	**Pn**	**03 57 23.5**	**+0.7**
SGSI				S	**Sn**	**03 58 05.3**	**+3.0**
KMSI	**Cibinong**	**6.43**	**188**	P	**Pn**	**03 58 07.8**	**+2.3**
MYLDM	**Lahad Datu**	**6.63**	**255**	Pn	**Pn**	**03 58 06.1**	**-2.1**
TNTI	**Ternate**	**6.63**	**158**	Pn	**Pn**	**03 58 10.0**	**+1.8**
TNTI	**Ternate**	**6.63**	**158**	P	**Pn**	**03 58 10.5**	**+2.2**
MRSI	**Marisa**	**7.11**	**205**	P	**Pn**	**03 58 14.0**	**-0.8**
	0.6nm1μm115nm,0.9s						
TOLI2	**Tolitoli**	**7.14**	**215**		**Pn**	**03 58 13.4**	**-1.9**
TGY	**Tagaytay City**	**8.09**	**331**	LR	LR	04 02 10.9	
	comp=Z,1μm,21.6s,baz=262,slow=42						
LUWI	**Luwuk**	**8.25**	**195**	Pn	**Pn**	**03 58 29.6**	**-0.9**
LUWI	**Luwuk**	**8.25**	**195**	P	**Pn**	**03 58 30.4**	**-0.1**
	2μm211nm,1.0s						
APSI	**Ampana**	**8.49**	**203**	P	**Pn**	**03 58 34.4**	**+0.6**
	108nm,0.9s						
SANI	**Sanana**	**9.03**	**173**	P	**Pn**	**03 58 40.2**	**-1.0**
	69nm,0.9s						
I39PW	**PALAU INFRASON**	**9.57**	**86**	I	I	04 52 30.0	
	baz=266,slow=288,SNR=0.5						
SWI	**Sorong**	**10.04**	**141**	P	**Pn**	**03 58 57.0**	**+2.0**
NLAI	**Namlea**	**10.38**	**168**	P	**Pn**	**03 58 59.4**	**-0.3**
	60nm,0.7s						
FAKI	**Fak Fak**	**12.26**	**143**	Pn	**Pn**	**03 59 26.6**	**+1.2**
KAPI	**Kappang**	**12.98**	**204**		**Pn**	**03 59 34.0**	**-1.4**
KAPI	**Kappang**	**12.98**	**204**	Pn	**Pn**	**03 59 32.5**	**-2.8**
	0.1nm,0.3s,baz=8.1,slow=14,SNR=1.0						
	2.3nm,0.3s						
SBUM	**Sibu**	**13.43**	**251**	Pn	**Pn**	**03 59 41.6**	**+0.1**
TWG	**Pinlang**	**16.18**	**347**	Pn	**Pn**	**04 00 18.6**	**+0.3**
SOEI	**Soe**	**16.64**	**182**	Pn	**Pn**	**04 00 23.5**	**-0.7**
SOEI				IAmb	IAmb	04 00 36.1	
	comp=Z,93nm,1.3s						
YOJ	**Yonaguni jima**	**17.48**	**354**	Pn	**Pn**	**04 00 34.5**	**-0.1**
YOJ				IAmb	IAmb	04 00 41.0	
	comp=Z,123nm,1.1s						
MTN	**Manton Dam**	**20.64**	**163**	P	**P**	**04 01 11.4**	**+0.9**
MTN				IAmb	IAmb	04 01 12.5	
	comp=Z,20nm,0.8s						
KNRA	**Kununurra**	**22.83**	**170**	P	**P**	**04 01 34.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.93**	**178**	P	**P**	**04 01 53.1**	**-1.0**
COEN	**Coen**	**27.59**	**139**	P	**P**	**04 02 17.1**	**-1.1**
COEN				IAmb	IAmb	04 02 24.3	
	comp=Z,32nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.74**	**297**	P	**P**	**04 02 18.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**27.74**	**297**	P	**P**	**04 02 18.8**	**-0.9**
	comp=Z,2.7nm,0.3s,baz=116,slow=8.9,SNR=4.2						
	comp=Z,2.7nm,0.3s						
WB0	**Warramunga Arr**	**28.17**	**161**		**P**	**04 02 23.4**	**0.0**
WB0				IAmb	IAmb	04 02 38.7	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**28.31**	**161**	P	**P**	**04 02 25.6**	**+1.0**
WRAB				IAmb	IAmb	04 02 26.6	
	comp=Z,27nm,1.3s						
WRA	**Warramunga Arr**	**28.31**	**161**	P	**P**	**04 02 22.1**	**-2.6**
WRA	**Warramunga Arr**	**28.31**	**161**	P	**P**	**04 02 22.3**	**-2.3**
	comp=Z,7.3nm,0.9s,baz=339,slow=9.7,SNR=21						
	comp=Z,7.3nm,0.9s						
WR8	**Warramunga Arr**	**28.38**	**161**		**P**	**04 02 24.9**	**-0.3**
WR8				IAmb	IAmb	04 02 40.8	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**31.70**	**164**		**P**	**04 02 55.3**	**+0.7**
ASAR	**Alice Springs**	**31.70**	**164**		**P**	**04 02 54.2**	**-0.5**
ASAR	**Alice Springs**	**31.70**	**164**	P	**P**	**04 02 53.5**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=340,slow=7.9,SNR=36						
	comp=Z,5.2nm,0.8s						
MJAR	**Matsushiro Arr**	**31.83**	**21**	P	**P**	**04 02 54.7**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=204,slow=11,SNR=2.3						
	comp=Z,3.1nm,0.9s						
MORW	**Morawa**	**36.84**	**193**	P	**P**	**04 03 39.2**	**+0.1**
MORW				IAmb	IAmb	04 03 47.2	
	comp=Z,57nm,1.9s						
FORT	**Forrest**	**37.66**	**176**	P	**P**	**04 03 46.5**	**+0.4**
FORT				IAmb	IAmb	04 03 58.8	
	comp=Z,22nm,1.2s						
INKA	**Innaminka**	**37.76**	**157**	P	**P**	**04 03 46.7**	**-0.2**
GTA	**Gaotai**	**39.40**	**329**	*eP*	**P**	**04 04 04.8**	**+4.0**
GTA				pmax	pmax		
	comp=Z,34nm,0.5s						
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.35**	**190**	P	**P**	**04 04 08.3**	**-0.3**
BBOO	**Buckleboo**	**40.97**	**166**		**P**	**04 04 12.5**	**-1.1**
BBOO				IAmb	IAmb	04 04 16.2	
	comp=Z,27nm,0.7s						
STKA	**Stephens Creek**	**41.79**	**159**		**P**	**04 04 20.6**	**+0.2**
STKA	**Stephens Creek**	**41.79**	**159**	P	**P**	**04 04 19.5**	**-0.9**
	comp=Z,8.4nm,0.8s,baz=334,slow=7.9,SNR=9.4						
STKA				PP	**PP**	**04 05 57.5**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=305,slow=14,SNR=2.9						
	comp=Z,8.4nm,0.8s						
SONM	**Songino Array**	**43.67**	**342**	P	**P**	**04 04 35.6**	**0.0**
SONM	**Songino Array**	**43.67**	**342**	P	**P**	**04 04 35.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=156,slow=9.0,SNR=2.8						
	comp=Z,0.9nm,0.7s						
TOO	**Toolangi**	**48.30**	**158**	P	**P**	**04 05 12.7**	**+0.4**
TOO				IAmb	IAmb	04 05 18.0	
	comp=Z,5.6nm,1.2s						
PETK	**Petropavlovsk-**	**53.17**	**24**	P	**P**	**04 05 49.7**	**+1.0**
PETK	**Petropavlovsk-**	**53.17**	**24**	P	**P**	**04 05 47.9**	**-0.8**
	comp=Z,5.9nm,0.9s,baz=230,slow=6.9,SNR=4.9						
	comp=Z,5.9nm,0.9s						
TAU	**Tasmania Unive**	**53.67**	**160**	P	**P**	**04 05 52.9**	**+0.5**
MKAR	**Makanchi Array**	**53.88**	**325**	P	**P**	**04 05 54.2**	**+0.2**
MKAR	**Makanchi Array**	**53.88**	**325**	P	**P**	**04 05 52.5**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=116,slow=8.2,SNR=5.0						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**58.05**	**327**	P	**P**	**04 06 23.4**	**-0.4**
	comp=Z,3.1nm,0.2s,baz=131,slow=5.5,SNR=6.2						
	comp=Z,3.1nm,0.2s						
KURK	**Kurchatov**	**58.05**	**327**	P	**P**	**04 06 25.1**	**+1.3**
KURK				IAmb	IAmb	04 06 36.2	
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**59.65**	**316**	P	**P**	**04 06 35.6**	**+0.5**
BVAR	**Borovoye Array**	**63.63**	**327**	P	**P**	**04 07 03.3**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=94,slow=4.5,SNR=3.9						
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**68.51**	**320**	P	**P**	**04 07 33.6**	**+0.4**
RAYN	**Ar Rayn**	**77.57**	**292**	P	**P**	**04 08 26.7**	**-0.7**
RAYN				IAmb	IAmb	04 08 33.2	
	comp=Z,4.5nm,1.1s						
ATD	**Arta Tunnel**	**80.90**	**281**	LR	LR	04 43 18.4	
	comp=Z,6.4nm,20.3s,baz=138,slow=35						
MCK	**McKinley**	**82.08**	**27**		**P**	**04 08 51.9**	**+0.9**
ILAR	**Eielson Array**	**82.97**	**26**	P	**P**	**04 08 56.5**	**+0.9**
ILAR	**Eielson Array**	**82.97**	**26**	P	**P**	**04 08 55.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=243,slow=5.2,SNR=6.4						
	comp=Z,1.1nm,0.8s						
RIDG	**Independent Ri**	**83.90**	**27**	P	**P**	**04 09 01.3**	**+0.8**
RIDG				IAmb	IAmb	04 09 04.8	
	comp=Z,13nm,1.0s						
I26K	**Coal Creek Min**	**84.52**	**25**	P	**P**	**04 09 05.1**	**+1.5**
I26K				IAmb	IAmb	04 09 05.3	
	comp=Z,14nm,1.3s						
K27K	**Chicken**	**85.10**	**26**	P	**P**	**04 09 07.6**	**+1.1**
K27K				IAmb	IAmb	04 09 17.3	
	comp=Z,9.1nm,1.2s						
I28M	**Miner Creek**	**85.84**	**25**	P	**P**	**04 09 11.7**	**+1.3**
VNDA	**Vanda**	**86.86**	**172**	P	**P**	**04 09 14.6**	**-0.3**
VNDA	**Vanda**	**86.86**	**172**	P	**P**	**04 09 12.6**	**-2.3**
	comp=Z,1.0nm,0.9s,baz=317,slow=7.2,SNR=6.3						
	comp=Z,1.0nm,0.9s						
IDI	**Anoyia**	**94.13**	**306**	LR	LR	04 56 39.3	
	comp=Z,91nm,20.5s,baz=258,slow=38						
CPUP	**Villa Florida**	**160.64**	**174**	PKP	**PKPdf**	**04 16 30.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=228,slow=2.5,SNR=2.9						

*MOS **29** 03:57:19.4±0.8, 29.′92N×138.′96E, h406km, mb4.2/26, Error ellipse: s-maj=11.5km s-min=6.1km az=107.0*
*JMA **29** 03:57:19.1±0.2, 30.′N±1.′×13.′9E±.′, h429km, MV3.9/39, NEAR TORISHIMA IS*
*NEIC **29** 03:57:21.5±1.1, 29.′95N±0.′09×139.′0E±0.′1, h409km±7km, mb4.2/49, Error ellipse: s-maj=14.3km s-min=12.4km az=75.0*
*IDC **29** 03:57:21.5±1.0, 30.′00N×139.′01E, h412km±10km, mb3.6/29, mbtmp4.4/36, Error ellipse: s-maj=11.2km s-min=9.8km az=104.0*
ISC 29 03:57:20.1±0.4, 29.′90N±0.′05×139.′15E±0.′06, h400km, n178, σ1$35/195, mb4.2/73, 5C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.21**	**10**	*eP*	**Pn**	**03 58 26.2**	**+1.3**
JHCJ				S	**S**	**03 59 18.6**	**+1.1**
JHJ2	**Mitsune**	**3.25**	**10**	*eP*	**Pn**	**03 58 26.7**	**+1.4**
JHJ	**Hachijo jima 2**	**3.25**	**9**	P	**Pn**	**03 58 27.2**	**+1.9**
	172nm,0.2s,baz=45,slow=20,SNR=19						
JHJ				S	**S**	**03 59 12.5**	**-5.7**
	148nm,0.3s,baz=87,slow=22,SNR=2.2						
CBIJ	**Chichi jima**	**3.87**	**136**	P	**Pn**	**03 58 30.9**	**-0.1**
CBIJ				S	**S**	**03 59 27.0**	**-1.4**
JCJ	**Chichijima**	**3.87**	**136**		**Pn**	**03 58 30.9**	**-0.1**
JCJ	**Chichijima**	**3.87**	**136**	P	Pn	03 58 23.4	-7.6
	130nm,0.3s,baz=279,slow=23,SNR=48						
JCJ				S	S	03 59 17.9	-11
	979nm,0.4s,baz=319,slow=5.4,SNR=6.2						
JTNC	**Tanabenakahech**	**4.93**	**323**	P	**Pn**	**03 58 43.3**	**+1.9**
JIE	**Ise**	**4.93**	**336**	P	**Pn**	**03 58 43.9**	**+2.6**
JIE				S	**S**	**03 59 49.2**	**+1.9**
JKN2	**Miekihoku**	**4.96**	**331**	P	**Pn**	**03 58 43.8**	**+2.2**
BSO1	**Boso 1**	**4.98**	**18**	P	**Pn**	**03 58 42.0**	**+0.8**
BSO1				*eS*	**S**	**03 59 46.9**	**-0.4**
BSO3	**Boso 3**	**5.02**	**13**	P	**Pn**	**03 58 42.2**	**+0.4**
BSO3				S	**S**	**03 59 46.9**	**-1.5**
HMMJ	**Hamamatsu 2**	**5.08**	**347**	*eP*	**Pn**	**03 58 44.5**	**+1.7**
INU	**Inuyama**	**5.72**	**342**		**Pn**	**03 58 51.0**	**+1.4**
INU	**Inuyama**	**5.72**	**342**	P	**Pn**	**03 58 51.4**	**+1.8**
JGF	**Kuroka**	**5.88**	**346**		**Pn**	**03 58 52.5**	**+1.1**
JGF	**Kuroka**	**5.88**	**346**	P	**Pn**	**03 58 52.7**	**+1.4**
JMN	**Monobe**	**5.89**	**312**		**Pn**	**03 58 53.5**	**+2.0**
JMN	**Monobe**	**5.89**	**312**	P	**Pn**	**03 58 53.8**	**+2.3**
JTO	**Tosashimizu**	**6.18**	**300**	P	**Pn**	**03 58 56.6**	**+2.0**
MJA0	**Matsu Arr-Jizo**	**6.66**	**354**	*eP*	**Pn**	**03 58 59.3**	**-0.7**
MJA0				pmax	pmax		
	comp=Z,12nm,0.4s						
MJAR	**Matsushiro Arr**	**6.67**	**353**		**Pn**	**03 58 59.8**	**-0.1**
MJAR	**Matsushiro Arr**	**6.67**	**353**	P	**Pn**	**03 58 59.4**	**-0.6**
	comp=Z,12nm,0.3s,baz=177,slow=9.6,SNR=49						
MJAR				S	**S**	**04 00 18.9**	**-2.6**
	comp=Z,8.2nm,0.5s,baz=351,slow=30,SNR=5.4						
MAJO	**Matsushiro**	**6.67**	**353**		**Pn**	**03 59 00.2**	**+0.2**
MAJO	**Matsushiro**	**6.67**	**353**	P	**Pn**	**03 58 59.9**	**-0.1**
MAJO	**Matsushiro**	**6.67**	**353**	P	**Pn**	**03 59 00.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**6.67**	**353**		**Pn**	**03 59 00.2**	**+0.2**
JHS	**Saijyo**	**7.20**	**316**	*eP*	**P**	**03 59 07.7**	**+1.2**
JNU	**Nakatsue**	**7.76**	**297**	P	**P**	**03 59 13.2**	**+0.4**
JNU	**Nakatsue**	**7.76**	**297**	P	**P**	**03 59 13.4**	**+0.6**
	comp=Z,6.2nm,0.4s,baz=184,slow=4.0,SNR=8.7						
JMM	**Marumori**	**8.06**	**9**	P	**Pn**	**03 59 15.5**	**-0.1**
JMM	**Marumori**	**8.06**	**9**	P	**Pn**	**03 59 15.5**	**-0.1**
JSD	**Sado**	**8.15**	**355**		**Pn**	**03 59 15.8**	**-0.8**
JSD	**Sado**	**8.15**	**355**	P	**Pn**	**03 59 15.6**	**-1.0**
JTU	**Tsushima**	**9.46**	**302**	P	**Pn**	**03 59 33.1**	**+1.4**
JOW	**Kunigami**	**10.06**	**255**		**P**	**03 59 38.7**	**+0.3**
JOW	**Kunigami**	**10.06**	**255**	P	**Pn**	**03 59 39.9**	**+1.0**
	comp=Z,52nm,0.6s,baz=111,slow=12,SNR=15						
JOW	**Kunigami**	**10.06**	**255**	*eP*	**Pn**	**03 59 41.2**	**+2.4**
JTM	**Tenmabayashi**	**10.97**	**8**		**P**	**03 59 49.1**	**+0.8**
JTM	**Tenmabayashi**	**10.97**	**8**	P	**Pn**	**03 59 50.9**	**+1.7**
KSRS	**Korea Array**	**12.00**	**312**	P	**Pn**	**04 00 01.0**	**-0.2**
	comp=Z,9.0nm,0.5s,baz=123,slow=11,SNR=28						
ASAJ	**Asahikawa**	**14.45**	**10**	P	**P**	**04 00 27.9**	**+1.5**
	comp=Z,10nm,0.2s,baz=232,slow=13,SNR=9.6						
USRK	**Ussuriysk Ar.**	**15.36**	**340**	P	**P**	**04 00 36.8**	**+0.5**
	comp=Z,9.5nm,0.5s,baz=148,slow=11,SNR=28						
YHNB	**Yeheng**	**16.64**	**256**		**P**	**04 00 48.9**	**-1.4**
NACB	**Ninganchiao**	**16.65**	**254**	P	**P**	**04 00 48.2**	**-2.1**
YULB	**Yu-li**	**17.22**	**252**		**P**	**04 00 55.1**	**-1.4**
YULB	**Yu-li**	**17.22**	**252**	P	**P**	**04 00 55.5**	**-1.0**
YSS	**Yuzhno-Sakhali**	**17.25**	**8**	*eP*	**P**	**04 00 59.1**	**+2.6**
SSLB	**Suanglung**	**17.34**	**254**		**P**	**04 00 57.2**	**-0.5**
SSLB	**Suanglung**	**17.34**	**254**	P	**P**	**04 00 57.8**	**+0.1**
BNX	**BinXian**	**18.30**	**333**	||P	**P**	**04 01 06.8**	**-0.8**
BNX				pmax	pmax		
	comp=Z,25nm,0.7s						
BJT	**Baijiatuau**	**21.32**	**304**	P	**P**	**04 01 35.9**	**-0.5**
BJT				IAmb	IAmb	04 01 36.0	
	comp=Z,7.9nm,0.7s						
BJT	**Baijiatuau**	**21.32**	**304**	P	**P**	**04 01 35.9**	**-0.5**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJI	**Beijing**	**21.32**	**304**	P	**P**	**04 01 35.5**	**-0.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HEH	**HeiHe**	**22.17**	**340**	*eP*	**P**	**04 01 44.8**	**+0.8**
HEH				pmax	pmax		
	comp=Z,14nm,0.8s						
LYN	**LuoYang**	**23.02**	**289**	P	**P**	**04 01 51.0**	**-0.9**
LYN				pmax	pmax		
	comp=Z,14nm,0.8s						
HILR	**Hailar Array B**	**24.52**	**329**	P	**P**	**04 02 04.7**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=128,slow=9.5,SNR=2.4						
	comp=Z,1.1nm,0.4s						
ZEA	**Zeya**	**25.34**	**343**	*eP*	**P**	**04 02 11.7**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**25.93**	**287**	P	**P**	**04 02 17.0**	**-1.0**
XAN				pmax	pmax		
	comp=Z,36nm,0.9s						
BTO	**Baotou**	**25.97**	**302**	*eP*	**P**	**04 02 18.8**	**+0.4**
BTO				sP	**sP**	**04 04 22.3**	**+7.2**
BTO				S	**S**	**04 06 24.8**	**+5.7**
BTO				pmax	pmax		
	comp=Z,20nm,0.6s						
BTO				pmax	pmax		
	comp=Z,210nm,4.8s						
BTO				LR	LR		
	comp=N,750nm,18.2s						
BTO				LR	LR		
	comp=E,760nm,18.4s						
BTO				LR	LR		
	comp=Z,1μm,18.6s						
PETK	**Petropavlovsk-**	**26.87**	**25**	P	**P**	**04 02 26.8**	**+0.8**
PETK	**Petropavlovsk-**	**26.87**	**25**	P	**P**	**04 02 26.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=218,slow=6.7,SNR=5.4						
	comp=Z,1.9nm,0.8s						
PETK	**Petropavlovsk-**	**26.87**	**25**	P	**P**	**04 02 26.8**	**+0.8**
LZH	**Lanzhou**	**30.14**	**291**	*eP*	**P**	**04 02 54.3**	**-0.9**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZDM	**Lanzhou Array**	**30.25**	**291**	P	**P**	**04 02 55.5**	**-0.9**
	comp=Z,8.9nm,0.6s,baz=81,slow=9.2,SNR=12						
	comp=Z,8.9nm,0.6s						
ULN	**Ulaanbaatar**	**30.46**	**315**		**P**	**04 02 58.0**	**+0.2**
ULN				IAmb	IAmb	04 02 58.7	
	comp=Z,6.9nm,0.8s						
ULN	**Ulaanbaatar**	**30.46**	**315**	P	**P**	**04 02 58.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MA2	**Magadan**	**30.70**	**12**	⇑*iP*	**P**	**04 03 00.2**	**+0.6**
MA2				pmax	pmax		
	comp=Z,14nm,0.5s						
SONM	**Songino Array**	**30.85**	**315**	P	**P**	**04 03 00.6**	**-0.5**
SONM	**Songino Array**	**30.85**	**315**	P	**P**	**04 03 00.7**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=117,slow=7.8,SNR=10						
	comp=Z,1.8nm,0.4s						
SONM	**Songino Array**	**30.85**	**315**	*eP*	**P**	**04 03 01.3**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	**Yakutsk**	**32.73**	**352**	*ceP*	**P**	**04 03 18.9**	**+1.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SEY	**Seymchan**	**34.13**	**11**	P	**P**	**04 03 29.9**	**+1.0**
	comp=Z,7.3nm,0.8s,baz=195,slow=9.2,SNR=6.7						
	comp=Z,7.3nm,0.8s						
CHTO	**Chiang Mai**	**38.08**	**263**		**P**	**04 04 01.9**	**-0.8**
CHTO	**Chiang Mai**	**38.08**	**263**	P	**P**	**04 04 01.9**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,18nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**38.23**	**262**	P	**P**	**04 04 03.6**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=48,slow=8.3,SNR=14						
	comp=Z,1.7nm,0.3s						
BILL	**Biiibino**	**41.38**	**15**	||*iP*	**P**	**04 04 29.2**	**+0.5**
BILL				pmax	pmax		
	comp=Z,13nm,0.9s						
TIXI	**Tiksi**	**42.17**	**355**		**P**	**04 04 34.7**	**-0.3**
TIXI	**Tiksi**	**42.17**	**355**	P	**P**	**04 04 33.6**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=151,slow=3.9,SNR=8.5						
	comp=Z,2.2nm,0.3s						
TIXI	**Tiksi**	**42.17**	**355**	P	**P**	**04 04 34.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EVN	**Everest**	**45.52**	**281**		**P**	**04 05 01.9**	**-0.8**
ZALV	**Zalesovo Beam**	**45.62**	**318**	P	**P**	**04 05 01.1**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=94,slow=12,SNR=6.1						
	comp=Z,1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**45.62**	**318**	*eP*	**P**	**04 05 02.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**46.64**	**308**	||*iP*	**P**	**04 05 09.5**	**-0.8**
MKAR	**Makanchi Array**	**46.64**	**308**		**P**	**04 05 09.7**	**-0.7**
MKAR					**ScP**	**04 09 49.6**	**-1.6**
MKAR	**Makanchi Array**	**46.64**	**308**	P	**P**	**04 05 09.6**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=92,slow=9.7,SNR=23						
MKAR				ScP	**ScP**	**04 09 49.3**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=79,slow=6.2,SNR=9.3						
	comp=Z,3.6nm,0.7s						
MAKZ	**Makanchi**	**46.86**	**308**		**P**	**04 05 10.8**	**-1.2**
MAKZ	**Makanchi**	**46.86**	**308**	P	**P**	**04 05 10.8**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**49.12**	**313**		**P**	**04 05 28.0**	**-0.9**
KURK				IAmb	IAmb	04 05 29.5	
	comp=Z,19nm,1.3s						
KURK	**Kurchatov**	**49.12**	**313**	*ceP*	**P**	**04 05 28.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**49.18**	**313**	P	**P**	**04 05 28.2**	**-1.1**
	comp=Z,4.8nm,0.3s,baz=91,slow=8.0,SNR=15						
	comp=Z,4.8nm,0.3s						
WRA	**Warramunga Arr**	**49.77**	**186**	P	**P**	**04 05 33.8**	**-0.4**
WRA	**Warramunga Arr**	**49.77**	**186**	P	**P**	**04 05 34.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=1.0,slow=7.8,SNR=8.9						
	comp=Z,1.5nm,0.5s						
TARG	**Taragay, Kyrgy**	**50.17**	**301**		**P**	**04 05 36.5**	**-0.9**
TARG	**Taragay, Kyrgy**	**50.17**	**301**	P	**P**	**04 05 36.5**	**-0.9**
TARG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH	**Kashi**	**51.87**	**299**	P	**P**	**04 05 52.5**	**+2.9**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**52.48**	**303**		**P**	**04 05 53.3**	**-0.7**
AAK	**Ala-Archa**	**52.48**	**303**	P	**P**	**04 05 53.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
K20K	**Telida**	**53.34**	**31**	P	**P**	**04 06 00.8**	**+1.2**
K20K				IAmb	IAmb	04 06 02.8	
	comp=Z,11nm,0.9s						
ASAR	**Alice Springs**	**53.50**	**186**	P	**P**	**04 06 01.9**	**+0.6**
ASAR	**Alice Springs**	**53.50**	**186**	P	**P**	**04 06 02.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=22,slow=11,SNR=5.7						
ASAR				ScP	**ScP**	**04 10 20.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=350,slow=6.2,SNR=2.5						
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**54.18**	**316**	P	**P**	**04 06 05.3**	**-0.5**
	comp=Z,8.3nm,0.5s,baz=94,slow=7.2,SNR=42						
BVAR				ScP	**ScP**	**04 10 21.6**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=96,slow=4.5,SNR=4.3						
	comp=Z,8.3nm,0.5s						
BORK	**Borovoye**	**54.22**	**316**	⇑*iP*	**P**	**04 06 05.3**	**-0.8**
BORK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KK31	**Karatay Array**	**55.30**	**304**	P	**P**	**04 06 13.4**	**-0.5**
KK31				IAmb	IAmb	04 06 14.3	
	comp=Z,12nm,1.0s						
KK31	**Karatay

FINES FINESS Array B 74.25 333 P **P** **04 08 13.6 -0.7**
comp=Z,1.7nm,0.4s,baz=75,slow=4.4,SNR=18
comp=Z,1.7nm,0.4s
FINES FINESS Array B 74.25 333 P **P** **04 08 13.9 -0.4**
MNK Minsk 77.34 326 *i* P **P** **04 08 29.1 -2.6**
MNK *i* *PP **pP** **04 09 59.9 +0.3**
MNK *i* S **S** **04 17 44.9 -3.0**
MNK *i* SS **SS** **04 22 54.0 -1.5**
MNK *i* SSS SSS 04 26 21.7
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,20nm,0.9s
MNK MLR MLR
comp=E,133nm,19.0s
MNK MLR MLR
comp=N,141nm,20.0s
MNK MLR MLR
comp=Z,88nm,16.0s
AKASG Malin Array Be 78.78 322 P **P** **04 08 38.6 -0.9**
comp=Z,1.1nm,0.4s,baz=53,slow=5.3,SNR=5.9
comp=Z,1.1nm,0.4s
CMB Columbia Colle 79.64 52 **P** **04 08 44.9 +0.4**
CMB Columbia Colle 79.64 52 P **P** **04 08 44.9 +0.4**
CMB pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 79.79 336 P **P** **04 08 44.0 -0.8**
comp=Z,2.5nm,0.4s,baz=87,slow=6.2,SNR=16
comp=Z,2.5nm,0.4s
NB2 NORSAR Subarra 80.01 337 P **P** **04 08 45.3 -0.7**
comp=Z,0.8nm,0.6s,baz=45,slow=5.1
NOA NORSAR Array B 80.01 337 P **P** **04 08 45.5 -0.5**
comp=Z,1.0nm,0.6s,baz=64,slow=9.1,SNR=5.0
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 80.86 51 P **P** **04 08 51.9 +0.7**
NVAR Mina Array Bea 80.86 51 P **P** **04 08 52.1 +1.0**
comp=Z,1.6nm,0.8s,baz=283,slow=5.7,SNR=13
comp=Z,1.8nm,0.8s
BR131 Keskin Array S 82.15 311 P **P** **04 08 57.2 -0.5**
BR131 IAmb IAmb 04 08 58.2
comp=Z,5.9nm,0.8s
BR131 Keskin Array S 82.15 311 P **P** **04 08 57.2 -0.5**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 82.15 311 **P** **04 08 57.0 -0.7**
BRTR Keskin Array B 82.15 311 P **P** **04 08 57.1 -0.6**
comp=Z,4.1nm,0.8s,baz=99,slow=3.7,SNR=22
comp=Z,4.1nm,0.8s
BUR08 Bucovina Ar. S 82.70 321 **P** **04 09 00.0 -0.4**
BUR08 IAmb IAmb 04 09 00.9
comp=Z,3.4nm,0.8s
TPNV Topopah Spring 83.02 51 P **P** **04 09 02.9 +0.7**
TPNV IAmb IAmb 04 09 04.3
comp=Z,5.7nm,0.8s
TPNV Topopah Spring 83.02 51 P **P** **04 09 02.9 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
QSM Queen of Sheba 83.11 52 P **P** **04 09 02.0 -0.6**
QSM IAmb IAmb 04 09 05.1
comp=Z,5.1nm,0.8s
GWY Greenwater Val 83.14 52 **P** **04 09 03.6 +0.7**
GWY IAmb IAmb 04 09 04.8
comp=Z,5.6nm,0.8s
HWUT Hardware Ranch 83.50 45 P **P** **04 09 05.5 +0.8**
HWUT IAmb IAmb 04 09 07.1
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 83.51 47 P **P** **04 09 05.8 +1.1**
DUG Dugway, Tooele 83.51 47 P **P** **04 09 05.8 +1.1**
DUG pmax pmax
comp=Z,3.0nm,0.9s
SHPR Sheep Range 83.99 51 P **P** **04 09 07.9 +0.8**
PDAR Pinedale Array 84.06 44 P **P** **04 09 07.7 +0.2**
PDAR Pinedale Array 84.06 44 P **P** **04 09 08.0 +0.5**
comp=Z,0.5nm,0.8s,baz=300,slow=6.8,SNR=3.8
comp=Z,0.5nm,0.8s
PFO Pinyon Flats O 84.65 54 **P** **04 09 11.2 +0.8**
PFO IAmb IAmb 04 09 12.4
comp=Z,3.2nm,0.8s
PFO Pinyon Flats O 84.65 54 P **P** **04 09 11.2 +0.8**
PFO pmax pmax
comp=Z,3.0nm,0.9s
PMD Palm Desert 84.69 54 P **P** **04 09 11.1 +0.6**
PMD IAmb IAmb 04 09 12.2
comp=Z,3.2nm,0.6s
BELC Belle Mtn. Jos 84.77 54 P **P** **04 09 11.7 +0.7**
BELC IAmb IAmb 04 09 12.5
comp=Z,2.9nm,0.7s
GERES GERESS Array B 87.72 327 P **P** **04 09 23.4 -1.5**
comp=Z,0.4nm,0.4s,baz=57,slow=9.7,SNR=4.0
comp=Z,0.4nm,0.4s
ANMO Albuquerque 90.67 48 *ceP* **P** **04 09 41.9 +2.9**
ANMO pmax pmax
comp=Z,2.0nm,1.7s
TXAR Lajitas Array 96.00 51 P **P** **04 10 03.4 0.0**
TXAR Lajitas Array 96.00 51 P **P** **04 10 04.4 +1.1**
comp=Z,0.3nm,0.6s,baz=323,slow=6.1,SNR=3.4
comp=Z,0.3nm,0.6s
QSPA South Pole Qui 119.67 180 PKP **PKPdf** **04 15 23.7 +1.3**
comp=Z,1.3nm,1.0s,baz=275,slow=2.4,SNR=2.5
LPAZ La Paz 151.57 68 PKPbc **PKPbc** **04 16 30.2 +1.1**
comp=Z,1.3nm,0.9s,baz=45,slow=2.9,SNR=4.5

*SJA **29** 04:04:19.4±1.2,29.°22S×71.°89W,h12km±4km,ML3.5,*
MW3.5
*GUC **29** 04:04:23.5±0.8,29.°21S×71.°69W,h39km±2km,ML3.4*
ISC 29 04:04:20.2±1.6,29.°22S±0.°03×71.°80W±0.°07,h2km±12km,
n32,σ1°28/48,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.85**	**145**	*eP*	**Pn**	**04 04 38.6**	**-0.5**
CO05				*i* S	**Sb**	**04 04 49.5**	**+0.1**
CO05				IAML		04 04 50.1	
comp=E,2μm,0.4s							
LCO	**Las Campanas**	**0.98**	**78**	*eP*	**Pb**	**04 04 39.9**	**-0.2**
LCO				*i* S	**Sg**	**04 04 52.3**	**+0.5**
LCO	**Las Campanas**	**0.98**	**78**	*i* P	**Pb**	**04 04 40.4**	**+0.3**
LCO				IAML		04 04 57.4	
comp=Z,3μm,0.5s							
AC04	**Llanos de Chal**	**1.20**	**32**	*eP*	**Pn**	**04 04 43.8**	**-0.2**
AC04				*i* S	**Sg**	**04 04 58.7**	**0.0**
AC04				IAML		04 05 02.4	
comp=E,2μm,0.2s							
AC04	**Llanos de Chal**	**1.20**	**32**	*i* P	**Pg**	**04 04 43.2**	**+0.1**
AC04				*eS*	**Sb**	**04 04 59.7**	**+0.1**
AC04				IAML		04 05 01.7	
comp=Z,868nm,0.3s							
GO04	**Tololo Observa**	**1.28**	**138**	*eP*	**Pn**	**04 04 45.6**	**+0.2**
GO04				*i* S	**Sb**	**04 05 01.9**	**-0.4**
GO04	**Tololo Observa**	**1.28**	**138**	*i* P	**Pn**	**04 04 45.1**	**-0.2**
GO04				*eS*	**Sn**	**04 05 03.1**	**-0.3**
CO06	**Fray Jorge**	**1.45**	**174**	*eP*	**Pg**	**04 04 48.0**	**0.0**
CO06				IAML		04 05 11.9	
comp=E,342nm,0.7s							
CO01	**Juntas del Tor**	**1.66**	**117**	*eP*	**Pb**	**04 04 51.4**	**-0.3**
CO01				*i* S	**Sn**	**04 05 11.7**	**-1.0**
CO01				IAML		04 05 12.6	
comp=N,652nm,0.5s							
CO01	**Juntas del Tor**	**1.66**	**117**	*i* P	**Pb**	**04 04 51.7**	**0.0**
CO01				IAML		04 05 17.7	
comp=Z,355nm,0.5s							
CO03	**El Pedregal**	**1.88**	**149**	*eP*	**Pb**	**04 04 54.0**	**-1.2**
CO03				*i* S	**Sn**	**04 05 17.7**	**0.0**
CO03				IAML		04 05 19.8	
comp=E,488nm,0.4s							
CO03	**El Pedregal**	**1.88**	**149**	*i* P	**Pb**	**04 04 54.0**	**-1.2**
CO03				IAML		04 05 28.4	
comp=Z,287nm,0.7s							
CO02	**Combarbal**	**2.09**	**161**	*eP*	**Pb**	**04 04 57.5**	**-1.4**
CO02				*i* S	**Sn**	**04 05 23.1**	**+0.1**
CO02				IAML		04 05 40.9	
comp=N,800nm,0.3s							
CO02	**Combarbal**	**2.09**	**161**	*i* P	**Pn**	**04 04 57.2**	**+0.8**
CO02				IAML		04 05 32.5	
comp=Z,329nm,0.5s							
GO03	**Copiapo**	**2.13**	**41**	*eP*	**Pn**	**04 04 57.1**	**+0.3**
GO03				*i* S	**Sn**	**04 05 23.0**	**-0.9**
GO03				IAML		04 05 32.5	
comp=N,696nm,0.7s							
GO03	**Copiapo**	**2.13**	**41**	*i* P	**Pn**	**04 04 57.3**	**+0.4**
GO03				*eS*	**Sb**	**04 05 26.3**	**-0.1**
GO03				IAML		04 05 32.6	
comp=Z,439nm,0.4s							
AC06	**Mina Casimiro**	**2.25**	**35**	*eP*	**Pn**	**04 04 59.2**	**+0.7**
AC06				*i* S	**Sn**	**04 05 26.5**	**-0.4**
AC06				IAML		04 05 33.6	
comp=E,391nm,0.4s							
ACDV	**Cuesta del Vie**	**2.51**	**113**	*i* P	**Pb**	**04 05 04.9**	**-1.3**
ACDV				*eS*	**Sb**	**04 05 37.0**	**-0.6**
ACDV				IAML		04 05 43.1	
comp=Z,188nm,0.4s							
ACCO	**Cerro Coronel**	**2.73**	**120**	*i* P	**Pb**	**04 05 08.4**	**-1.6**
ACCO				*eS*	**Sb**	**04 05 42.8**	**-1.4**
CO04	**Los Peladeros**	**2.90**	**166**	*eP*	**Pn**	**04 05 09.6**	**+1.9**
CO04				*i* S	**Sn**	**04 05 43.9**	**+0.7**
CO04				IAML		04 05 54.5	
comp=E,243nm,0.6s							
AGUA	**GUANDACOL**	**2.90**	**96**	*i* P	**Pb**	**04 05 11.2**	**-1.5**
AGUA				*eS*	**Sb**	**04 05 46.3**	**-2.3**
AGUA				IAML		04 05 58.9	
comp=Z,148nm,0.7s							
VCA	**Vinchina**	**3.19**	**82**	*i* P	**Pn**	**04 05 14.4**	**+2.9**
VCA				IAML		04 06 11.1	
comp=Z,159nm,0.4s							
AC02	**Maricunga**	**3.35**	**45**	*i* P	**Pn**	**04 05 15.3**	**+1.3**
AC02				IAML		04 06 11.4	
comp=Z,201nm,0.3s							
VA03	**San Esteban**	**3.69**	**163**	*i* P	**Pn**	**04 05 20.1**	**+1.8**
VA03				IAML		04 06 27.9	
comp=Z,94nm,0.7s							
AVFE	**Valle Fertil**	**4.03**	**112**	*i* P	**Pn**	**04 05 25.1**	**+2.1**
AVFE				IAML		04 06 30.5	
comp=Z,108nm,0.5s							
MT02	**Curacav**	**4.06**	**172**	*i* P	**Pn**	**04 05 24.2**	**+0.8**
ACLC	**CERRO LA CRUZ**	**4.24**	**94**	*i* P	**Pn**	**04 05 28.5**	**+2.6**
ACLC				IAML		04 06 39.4	
comp=Z,30nm,0.5s							
MT03	**Universidad Ad**	**4.40**	**166**	*i* P	**Pn**	**04 05 30.0**	**+1.9**
MT03				IAML		04 06 44.4	
comp=Z,46nm,0.4s							
MT04	**Ro Olivares**	**4.40**	**162**	*i* P	**Pn**	**04 05 30.4**	**+2.1**
MT04				IAML		04 06 49.4	
comp=Z,26nm,1.2s							
MT01	**Popeta**	**4.65**	**174**	*i* P	**Pn**	**04 05 32.4**	**+1.0**
MT01				IAML		04 06 44.2	
comp=Z,34nm,0.8s							
LMEL	**Las Melosas**	**4.81**	**164**	*i* P	**Pn**	**04 05 36.0**	**+2.3**
LMEL				IAML		04 07 04.3	
comp=Z,26nm,1.0s							
ACAN	**Cantantal**	**5.00**	**129**	*i* P	**Pn**	**04 05 38.5**	**+2.3**

*DJA **29** 04:15:48.7±0.5,6.°N±3.°×12.°7E±.°,h113km±9km,M4.7/13,*
mB5.1/5,mb4.6/6,MLv4.8/13,Mw(mB)4.5/5
*NEIC **29** 04:15:49.5±1.3,5.°73N±0.°08×126.°7E±0.°1,h99km±4km,*
mb4.6/22,Error ellipse: s-maj=17.3km s-min=9.3km
az=62.0
*IDC **29** 04:15:50.2±1.3,5.°61N×126.°62E,h107km±10km,mb3.9/19,*
mbtmp4.3/20,Error ellipse: s-maj=33.3km s-min=9.1km
az=69.0
ISC 29 04:15:49.7±1.0,5.°57N±0.°05×126.°59E±0.°09,h104km±8km,
n74,σ1°35/80,mb4.4/27,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.80**	**326**		**Pn**	**04 16 18.8**	**-1.2**
DAV					**Sn**	**04 16 43.4**	**+0.4**
DAV	**Davao City (W)**	**1.80**	**326**	P	**Pn**	**04 16 21.6**	**+1.7**
0.1nm,0.3s,baz=214,slow=12,SNR=3.0							
DAV				S	**Sn**	**04 16 43.7**	**+0.7**
0.2nm,0.3s,baz=209,slow=11,SNR=5.1							
SGSI	**Sangihe**	**2.15**	**210**	P	**Pn**	**04 16 22.5**	**-1.9**
SGSI				S	**Sn**	**04 16 50.4**	**-0.6**
TNTI	**Ternate**	**4.83**	**171**	P	**Pn**	**04 16 59.7**	**-0.5**
TNTI	**Ternate**	**4.83**	**171**	P	**Pn**	**04 16 59.1**	**-1.1**
MRSI	**Marisa**	**6.87**	**223**	P	**Pn**	**04 17 26.9**	**-0.9**
TOLI2	**Tolitoli**	**7.30**	**233**		**Pn**	**04 17 31.4**	**-2.3**
TOLI2	**Tolitoli**	**7.30**	**233**	P	**Pn**	**04 17 31.3**	**-2.3**
SANI	**Sanana**	**7.59**	**185**	P	**Pn**	**04 17 34.7**	**-3.0**
SANI	**Sanana**	**7.59**	**185**	P	Pn	04 17 33.1	-4.6
0.4nm3μm34nm,0.4s							
LUWI	**Luwuk**	**7.59**	**210**		**Pn**	**04 17 41.4**	**+3.7**
SWI	**Sorong**	**7.91**	**144**	P	**Pn**	**04 17 41.1**	**-0.9**
0.1nm22nm,0.4s							
MYLDM	**Lahad Datu**	**8.07**	**268**		**Pn**	**04 17 44.8**	**+0.6**
NLAI	**Namlea**	**8.76**	**177**	P	**Pn**	**04 17 49.5**	**-4.1**
KAPI	**Kappang**	**12.54**	**213**		**Pn**	**04 18 46.6**	**+2.1**
KAPI	**Kappang**	**12.54**	**213**	P	**Pn**	**04 18 44.3**	**-0.1**
7.5nm,0.4s,baz=12,slow=15,SNR=4.4							
SBUM	**Sibu**	**14.67**	**258**		**Pn**	**04 19 13.8**	**+1.7**
SBUM	**Sibu**	**14.67**	**258**	P	**P**	**04 19 14.8**	**-0.7**
KSM	**Kuching**	**16.75**	**257**		**P**	**04 19 39.8**	**+1.1**
KSM				IAmb	IAmb	04 19 42.5	
comp=Z,34nm,1.3s							
KSM	**Kuching**	**16.75**	**257**	P	**P**	**04 19 40.5**	**+1.8**
AUDHS	**Darwin High Sc**	**18.38**	**167**	P	**P**	**04 19 55.2**	**-1.3**
DRS	**Darwin Rock St**	**18.39**	**167**	P	**P**	**04 19 56.9**	**+0.3**
MTN	**Manton Dam**	**18.84**	**166**		**P**	**04 20 02.2**	**+0.6**
MTN				IAmb	IAmb	04 20 02.4	
comp=Z,12nm,0.8s							
KNRA	**Kununurra**	**21.22**	**174**		**P**	**04 20 28.0**	**+0.7**
MYKOM	**Kota Tinggi**	**23.00**	**261**		**P**	**04 20 46.0**	**+0.1**
MYKOM				IAmb	IAmb	04 20 47.9	
comp=Z,12nm,1.0s							
FITZ	**Fitzroy Crossi**	**23.54**	**182**	P	**P**	**04 20 52.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**23.54**	**182**	P	**P**	**04 20 50.6**	**0.0**
comp=Z,1.6nm,0.3s,baz=12,slow=4.7,SNR=11							
comp=Z,1.6nm,0.3s							
WB0	**Warramunga Arr**	**26.32**	**163**		**P**	**04 21 15.7**	**-0.2**
WB0				IAmb	IAmb	04 21 22.1	
comp=Z,18nm,0.5s							
WRAB	**Tennant Creek**	**26.47**	**163**	P	**P**	**04 21 18.1**	**+0.9**
WRA	**Warramunga Arr**	**26.47**	**163**		**P**	**04 21 17.6**	**+0.3**
WRA					**PcP**	**04 24 38.7**	**-1.3**
WRA	**Warramunga Arr**	**26.47**	**163**	P	**P**	**04 21 17.0**	**-0.3**
comp=Z,5.4nm,0.7s,baz=343,slow=9.9,SNR=16							
WRA				PcP	**PcP**	**04 24 39.8**	**-0.1**
comp=Z,0.6nm,0.5s,baz=323,slow=2.9,SNR=2.7							
WRA				ScP	**ScP**	**04 28 11.7**	**+1.1**
comp=Z,0.8nm,0.7s,baz=342,slow=3.4,SNR=4.7							
comp=Z,5.4nm,0.7s							
WR8	**Warramunga Arr**	**26.53**	**163**		**P**	**04 21 17.4**	**-0.4**
WR8				IAmb	IAmb	04 21 23.8	
comp=Z,8.4nm,0.6s							
QIS	**Mount Isa**	**28.94**	**154**	P	**P**	**04 21 40.5**	**+1.2**
ASAR	**Alice Springs**	**29.92**	**166**	P	**P**	**04 21 48.8**	**+0.8**
ASAR					**PcP**	**04 24 49.2**	**+0.8**
ASAR					**ScP**	**04 28 20.9**	**-0.4**
ASAR	**Alice Springs**	**29.92**	**166**	P	**P**	**04 21 48.3**	**+0.3**
comp=Z,1.6nm,0.4s,baz=352,slow=7.5,SNR=24							
ASAR				PcP	**PcP**	**04 24 49.8**	**+1.3**
comp=Z,2.4nm,0.5s,baz=351,slow=2.4,SNR=14							
ASAR				ScP	**ScP**	**04 28 23.2**	**+1.9**
comp=Z,0.8nm,0.8s,baz=346,slow=3.5,SNR=5.8							
comp=Z,1.6nm,0.4s							
SHL	**Shillong**	**38.70**	**305**		**P**	**04 23 03.6**	**-0.4**
SHL				IAmb	IAmb	04 23 15.0	
comp=Z,7.0nm,0.6s							
STKA	**Stephens Creek**	**39.89**	**160**		**P**	**04 23 14.5**	**+1.1**
STKA	**Stephens Creek**	**39.89**	**160**	P	**P**	**04 23 14.2**	**+0.8**
comp=Z,4.0nm,0.5s,baz=323,slow=8.1,SNR=12							
comp=Z,4.0nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**41.15**	**68**	T	T	05 07 38.0	
baz=242,slow=75							
H11S1	**WAKE ISLAND Hy**	**41.17**	**68**	T	T	05 07 38.9	
baz=242,slow=75							
H11S2	**WAKE ISLAND Hy**	**41.17**	**68**	T	T	05 07 38.4	
baz=242,slow=75							
H11N1	**WAKE ISLAND Hy**	**41.63**	**67**	T	T	05 08 10.5	
baz=255,slow=75							
H11N2	**WAKE ISLAND Hy**	**41.64**	**67**	T	T	05 08 14.7	
baz=255							
H11N3	**WAKE ISLAND Hy**	**41.64**	**67**	T	T	05 08 12.3	
baz=255,slow=75							
EVN	**Everest**	**43.81**	**305**		**P**	**04 23 44.5**	**-1.8**
EVN				IAmb	IAmb	04 23 47.5	
comp=Z,7.1nm,1.0s							
HILR	**Hailar Array B**	**44.22**	**354**	P	**P**	**04 23 48.9**	**+0.5**
comp=Z,0.7nm,0.4s,baz=163,slow=7.1,SNR=2.2							
comp=Z,0.7nm,0.4s							
SONM	**Songino Array**	**45.52**	**341**	P	**P**	**04 23 57.8**	**-1.1**
SONM	**Songino Array**	**45.52**	**341**	P	**P**	**04 23 58.5**	**-0.4**
comp=Z,0.5nm,0.4s,baz=162,slow=9.0,SNR=5.0							
SONM				PcP	**PcP**	**04 25 36.5**	**+0.5**
comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=2.2							
comp=Z,0.5nm,0.4s							
DZM	**Mont Dzumac**	**47.72**	**127**	P	**P**	**04 24 15.8**	**-0.6**
comp=Z,4.1nm,0.7s,baz=252,slow=16,SNR=1.6							
comp=Z,4.1nm,0.7s							
MKAR	**Makanchi Array**	**55.98**	**325**		**P**	**04 25 16.5**	**-0.8**
MKAR					**ScP**	**04 30 01.9**	**-2.4**
MKAR	**Makanchi Array**	**55.98**	**325**	P	**P**	**04 25 17.1**	**-0.2**
comp=Z,1.5nm,0.4s,baz=119,slow=7.3,SNR=17							
MKAR				ScP	**ScP**	**04 30 03.1**	**-1.2**
comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=4.3							
comp=Z,1.5nm,0.4s							
NIL	**Nilore**	**56.71**	**307**	P	**P**	**04 25 21.5**	**-1.2**
NIL				IAmb	IAmb	04 25 24.6	
comp=Z,7.9nm,0.7s							
ZALV	**Zalesovo Beam**	**58.90**	**333**	P	**P**	**04 25 36.2**	**-1.5**
comp=Z,1.6nm,0.5s,baz=108,slow=4.7,SNR=1.7							
comp=Z,1.6nm,0.5s							
KURBB	**Kurchatov Arra**	**60.13**	**327**	P	**P**	**04 25 45.9**	**-0.3**
comp=Z,2.2nm,0.5s,baz=126,slow=6.4,SNR=18							
comp=Z,2.2nm,0.5s							
KURK	**Kurchatov**	**60.13**	**327**		**P**	**04 25 45.4**	**-0.7**
KURK				IAmb	IAmb	04 25 54.9	
comp=Z,4.9nm,0.6s							
GAR	**Garm**	**60.59**	**312**		**P**	**04 25 49.7**	**-0.1**
BVAR	**Borovoye Array**	**65.72**	**327**	P	**P**	**04 26 24.1**	**+1.0**
comp=Z,1.6nm,0.6s,baz=127,slow=9.4,SNR=8.4							
comp=Z,1.6nm,0.6s							
AB31	**Akbulak array**	**70.65**	**320**		**P**	**04 26 53.6**	**-0.4**
CASY	**Casey**	**72.61**	**187**	P	**P**	**04 27 07.0**	**+1.6**
CASY				IAmb	IAmb	04 27 07.5	
comp=Z,4.6nm,0.8s							
JOKA	**Jonika Flow**	**77.25**	**71**	P	**P**	**04 27 31.6**	**-1.6**
KBZ	**Khabaz**	**81.62**	**313**	P	**P**	**04 27 57.5**	**+1.2**
comp=Z,1.1nm,0.8s,baz=179,slow=12,SNR=3.8							
comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**83.51**	**26**	P	**P**	**04 28 05.0**	**-0.7**
ILAR	**Eielson Array**	**83.51**	**26**	P	**P**	**04 28 06.0**	**+0.2**
comp=Z,0.4nm,0.5s,baz=251,slow=4.9,SNR=5.9							
comp=Z,0.4nm,0.5s							
VNDA	**Vanda**	**85.25**	**173**	P	**P**	**04 28 15.1**	**+0.8**
VNDA	**Vanda**	**85.25**	**173**	P	**P**	**04 28 15.2**	**+1.0**
comp=Z,1.0nm,0.7s,baz=318,slow=5.9,SNR=6.5							
comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**88.69**	**340**	P	**P**	**04 28 30.1**	**-0.9**
ARCES	**ARCESS Array B**	**88.69**	**340**	P	**P**	**04 28 29.7**	**-1.4**
comp=Z,2.7nm,0.8s,baz=78,slow=5.2,SNR=11							
comp=Z,2.7nm,0.8s							
BRTR	**Keskin Array B**	**88.75**	**310**	P	**P**	**04 28 30.9**	**-1.2**
BRTR	**Keskin Array B**	**88.75**	**310**	P	**P**	**04 28 30.6**	**-1.6**
comp=Z,0.4nm,0.6s,baz=100,slow=5.0,SNR=3.7							
comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**90.16**	**332**	P	**P**	**04 28 38.1**	**+0.1**
FINES	**FINESS Array B**	**90.16**	**332**	P	**P**	**04 28 37.0**	**-1.0**
comp=Z,1.4nm,0.5s,baz=78,slow=5.0,SNR=12							
comp=Z,1.4nm,0.5s							
QSPA	**South Pole Qui**	**95.46**	**180**	P	**P**	**04 29 04.3**	**+1.8**
QSPA				IAmb	IAmb	04 29 10.8	
comp=Z,3.0nm,1.1s							
QSPA	**South Pole Qui**	**95.46**	**180**	P	**P**	**04 29 04.7**	**+2.2**
comp=Z,2.1nm,1.0s,baz=2.2,slow=2.0,SNR=7.1							
comp=Z,2.1nm,1.0s							
HFS	**Hagfors**	**96.34**	**332**	P	**P**	**04 29 06.1**	**-0.5**
comp=Z,2.7nm,0.9s,baz=101,slow=4.8,SNR=5.7							
comp=Z,2.7nm,0.9s							

*UUSS **29** 04:49:39.1±1.4,38.°85N±0.°02×111.°40W±0.°01,h-2km,*
ML2.1/6,ML2.5/100(NEIC),Error ellipse: s-maj=2.8km
s-min=1.6km az=172.0
NEIC 29 04:49:39.0±1.1,38.°84N±0.°03×111.°41W±0.°02,h6km±5km,
Error ellipse: s-maj=4.5km s-min=1.8km az=168.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT	**Old Woman Plat**	**0.06**	**193**		Pg	04 49 40.9	0.0
Q16A	**Castle Valley**	**0.20**	**67**		Pg	04 49 43.5	+0.4
Q16A	**Castle Valley**	**0.20**	**67**	Sg	Sg	04 49 46.6	+0.9
Q16A				IAML		04 49 47.0	
comp=N,228nm,0.7s							
Q16A				IAML		04 49 49.1	
comp=E,366nm,0.7s							
TMUT	**Trail Mountain**	**0.48**	**19**		Pg	04 49 48.8	+0.5
TMUT	**Trail Mountain**	**0.48**	**19**	Sg	Sg	04 49 55.6	+0.9
TMUT				IAML		04 49 56.7	
comp=E,201nm,0.4s							
TMUT				IAML		04 49 58.6	
comp=N,245nm,0.5s							
WCU	**Willow Creek**	**0.55**	**283**		Pg	04 49 50.3	+0.7
LEVU	**Levan**	**0.74**	**335**		Pg	04 49 53.7	+0.5
SRU	**San Rafael Swe**	**0.74**	**68**		Pg	04 49 53.3	+0.1
SRU	**San Rafael Swe**	**0.74**	**68**	Sg	Sg	04 50 03.2	+0.3
SRU				IAML		04 50 03.7	
comp=N,127nm,0.5s							
SRU				IAML		04 50 05.8	
comp=E,116nm,0.4s							
FLU	**Fool Peak**	**0.80**	**312**		Pg	04 49 54.8	+0.4
ELU	**Electric Lake**	**0.81**	**11**		Pg	04 49 55.1	+0.4
P17A	**Butcher Ranch,**	**0.82**	**39**		Pg	04 49 54.5	-0.2
P17A	**Butcher Ranch,**	**0.82**	**39**	Sg	Sg	04 50 04.8	-0.6
P17A				IAML		04 50 12.7	
comp=N,49nm,0.3s							
TCRU	**Three Creeks R**	**0.85**	**255**		Pg	04 49 55.7	+0.4
MTPU	**Mount Pierson**	**1.00**	**218**		Pg	04 49 58.1	-0.2
EMUT	**Emma Park**	**1.07**	**25**		Pg	04 49 59.6	-0.1
ROA	**Roan Cliffs**	**1.15**	**44**		Pg	04 50 01.0	-0.1
MPU	**Maple Canyon**	**1.19**	**352**		Pg	04 50 01.4	-0.4
MPU				IAML		04 50 21.7	
comp=N,33nm,0.4s							
MPU				IAML		04 50 21.9	
comp=E,61nm,0.6s							
ARGU	**Argyle Ridge**	**1.19**	**34**		Pg	04 50 01.7	-0.1
P18A	**Preston Nutter**	**1.20**	**49**		Pg	04 50 01.9	-0.1
P18A	**Preston Nutter**	**1.20**	**49**	IAML		04 50 23.7	
comp=E,46nm,0.4s							
P18A				IAML		04 50 24.7	
comp=N,29nm,0.2s							
NLU	**North Lily Min**	**1.23**	**335**		Pb	04 50 02.7	-0.1
NLU	**North Lily Min**	**1.23**	**335**	IAML		04 50 22.8	
comp=E,54nm,0.4s							
NLU				IAML		04 50 22.9	
comp=N,48nm,0.3s							
DUG	**Dugway, Tooele**	**1.74**	**322**		Pn	04 50 10.0	+0.2
JLU	**Jordanelle**	**1.76**	**359**		Pn	04 50 10.7	+0.4
BSUT	**Blindstream Ca**	**1.77**	**16**		Pn	04 50 10.8	+0.3
R19A	**Curley Farm, L**	**1.77**	**107**		Pb

PV03	Paradox Valley	2.09 105		Pn	04 50 15.9	+1.1
PV03			IAML		04 50 46.4	
comp=E,60nm,0.4s						
PV12	Saucer Basin,	2.11 104		Pn	04 50 16.2	+1.2
KNB	Kanab	2.14 212	Pn	Pn	04 50 16.0	+0.6
PV13	Radium Mtn., P	2.14 108		Pn	04 50 16.2	+0.7
PV13			IAML		04 50 48.9	
comp=N,56nm,0.6s						
PV13			IAML		04 50 55.0	
comp=E,57nm,0.7s						
PV02	Paradox Valley	2.19 106	Pn	Pn	04 50 16.6	+0.5
PV07	Paradox Valley	2.20 100	Pn	Pn	04 50 17.1	+0.8
PV07			IAML		04 50 49.0	
comp=E,40nm,1.0s						
PV07			IAML		04 50 51.8	
comp=N,29nm,0.7s						
RDMU	Red Mountain	2.23 39	Pn	Pn	04 50 17.4	+0.6
RDMU			IAML		04 50 51.1	
comp=E,12nm,0.4s						
RDMU			IAML		04 50 51.3	
comp=N,9.5nm,0.8s						
SPR3	Spring Creek 3	2.29 275	Pn	Pn	04 50 18.9	+1.4
LCMT	Little Creek M	2.33 219		Pn	04 50 18.2	+0.1
LCMT			IAML		04 50 54.2	
comp=E,7.9nm,0.2s						
PV01	Paradox Valley	2.33 107		Pn	04 50 18.5	+0.4
PV01			IAML		04 50 52.5	
comp=N,41nm,0.7s						
PV01			IAML		04 50 53.2	
comp=E,45nm,0.5s						
PV15	Paradox Valley	2.35 101	Pn	Pn	04 50 20.0	+1.6
PV15			IAML		04 50 57.4	
comp=E,52nm,0.6s						
PV15			IAML		04 50 59.7	
comp=N,49nm,0.7s						
U15A	North Rim	2.51 197		Pn	04 50 20.8	+0.2
U15A			IAML		04 50 59.2	
comp=E,19nm,0.6s						
U15A			IAML		04 51 01.8	
comp=N,17nm,0.7s						
O20A	White River Ci	2.77 61	Pn	Pn	04 50 24.3	+0.2
MVCO	Mesa Verde	2.81 124	Pn	Pn	04 50 25.3	+0.5
MVCO			IAML		04 51 12.8	
comp=N,25nm,0.6s						
MVCO			IAML		04 51 12.9	
comp=N,22nm,0.6s						
WUAZ	Wupatki	3.32 180	Pn	Pn	04 50 32.4	+0.7
V12A	Nelson	4.15 223	Pn	Pn	04 50 43.6	+0.7

*NEIC **29** 04:53:32.7±1.7,20°.3S±0°.1×177°.86W±0°.09,h548km±10km, mb4.2/16,Error ellipse: s-maj=20.7km s-min=12.8km az=182.0*
*IDC **29** 04:53:38.5±8.0,20°.24S×178°.16W,h612km±88km,mb3.3/8, mbtmp4.3/8,Error ellipse: s-maj=47.2km s-min=25.8km az=91.0*
ISC 29 04:53:31.7±0.7,**20°.3S**±0°.1×**177°.9W**±0°.1,**h534**km,**n34**, σ1$**09**/35,**mb4.1**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.58	303	P	P	04 54 59.2	+1.9
NIUE	Niue	7.65	82	P	P	04 55 25.8	+0.3
FUNA	Funafuti	12.05	346	P	P	04 56 12.2	+1.3
EIDS	Eidsvold	28.95	254	P	P	04 58 48.3	+0.2
ARMA	Armidale	29.20	244	P	P	04 58 50.4	0.0
ARMA				IAmb	IAmb	04 58 54.7	
comp=Z,13nm,1.3s							
COEN	Coen	37.63	273	P	P	05 00 01.9	+0.4
COEN				IAmb	IAmb	05 00 44.3	
comp=Z,11nm,1.1s							
BBOO	Buckleboo	42.68	243	P	P	05 00 41.0	-0.6
JAY	Jayapura	44.04	288	P	P	05 00 53.0	+0.4
comp=Z,11nm,0.5s,baz=114,slow=7.3,SNR=6.7							
comp=Z,11nm,0.5s							
WR8	Warramunga Arr	44.53	262	P	P	05 00 55.4	-0.8
WR8				IAmb	IAmb	05 00 59.4	
comp=Z,6.1nm,1.1s							
AS31	Alice Springs	44.62	257	P	P	05 00 57.0	+0.2
ASAR	Alice Springs	44.62	257	P	P	05 00 56.5	-0.4
ASAR					PcP	05 02 27.5	-0.8
ASAR	Alice Springs	44.62	257	P	P	05 00 56.5	-0.4
comp=Z,8.2nm,0.8s,baz=97,slow=7.6,SNR=60							
ASAR				PcP	PcP	05 02 28.1	-0.1
comp=Z,0.5nm,0.7s,baz=96,slow=3.4,SNR=2.8							
comp=Z,8.2nm,0.8s							
WB0	Warramunga Arr	44.66	262	P	P	05 00 56.6	-0.6
WB0				IAmb	IAmb	05 00 56.9	
comp=Z,5.6nm,0.7s							
WRA	Warramunga Arr	44.68	262	P	P	05 00 56.8	-0.7
WRA	Warramunga Arr	44.68	262	P	P	05 00 56.5	-1.0
comp=Z,3.5nm,0.6s,baz=98,slow=8.0,SNR=42							
comp=Z,3.5nm,0.6s							
FORT	Forrest	49.42	246	P	P	05 01 31.9	-1.0
KNRA	Kununurra	50.73	266	P	P	05 01 42.9	+0.2
KNRA				IAmb	IAmb	05 02 10.0	
comp=Z,15nm,1.2s							
FITZ	Fitzroy Crossi	53.11	262	P	P	05 02 00.0	+0.2
FITZ	Fitzroy Crossi	53.11	262	P	P	05 01 59.8	0.0
comp=Z,2.1nm,0.4s,baz=76,slow=4.7,SNR=19							
comp=Z,2.1nm,0.4s							
GIRL	Giralia	62.65	254	P	P	05 03 04.8	+0.2
TOLI2	Tolitoli	63.62	282	P	P	05 03 10.3	-0.6
TOLI2				IAmb	IAmb	05 03 11.1	
comp=Z,3.7nm,0.8s							
QSPA	South Pole Qui	69.75	180	P	P	05 03 49.5	+1.5
QSPA	South Pole Qui	69.75	180	P	P	05 03 49.9	+1.9
comp=Z,0.4nm,0.6s,baz=62,slow=2.4,SNR=1.0							
comp=Z,0.4nm,0.6s							
MJAR	Matsushiro Arr	70.10	324	P	P	05 03 49.6	-0.8
MJAR				IAmb	IAmb	05 03 51.0	
comp=Z,2.4nm,0.7s							
MJAR	Matsushiro Arr	70.10	324	P	P	05 03 50.2	-0.1
comp=Z,2.1nm,0.4s,baz=149,slow=6.2,SNR=7.0							
comp=Z,2.1nm,0.4s							
PETK	Petropavlovsk-	76.11	345	P	P	05 04 24.0	-0.4
PETK	Petropavlovsk-	76.11	345	P	P	05 04 24.4	0.0
comp=Z,2.1nm,0.9s,baz=162,slow=5.8,SNR=2.0							
comp=Z,2.1nm,0.9s							
KS19	Wonju Array Si	76.86	319	P	P	05 04 27.4	-1.5
KS19				IAmb	IAmb	05 04 55.7	
comp=Z,22nm,1.2s							
ILAR	Eielson Array	88.13	13	P	P	05 05 24.1	-0.9
comp=Z,0.2nm,0.5s,baz=219,slow=4.9,SNR=4.2							
comp=Z,0.2nm,0.5s							
HFS	Hagfors	139.37	351	PKhKP	PKPpre	05 11 50.3	
comp=Z,1.7nm,0.8s,baz=70,slow=1.7,SNR=1.4							
AKASG	Malin Array Be	142.88	331	PKP	PKPdf	05 12 00.7	-3.6
comp=Z,1.3nm,0.4s,baz=44,slow=4.3,SNR=11							
BRTR	Keskin Array B	146.76	313		PKPbc	05 12 13.5	-0.8
BRTR	Keskin Array B	146.76	313	PKPbc	PKPbc	05 12 13.7	-0.6
comp=Z,0.7nm,0.6s,baz=145,slow=4.5,SNR=4.1							
GERES	GERESS Array B	150.04	345	PKPbc	PKPdf	05 12 18.3	+1.8
comp=Z,0.2nm,0.4s,baz=2.3,slow=2.5,SNR=1.6							

*IDC **29** 04:59:53.5±11.0,35°.32N×70°.60E,h0km,mb4.0/4, mbtmp3.8/6,ML3.1/2,MS3.9/2,Error ellipse: s-maj=198.7km s-min=46.6km az=154.0*
*NNC **29** 05:00:23.1±10.0,37°.07N×70°.77E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=92.5km s-min=73.4km az=144.0*
ISC 29 04:59:50.9±8.0,**34°.9N**±0°.9×**70°.9E**±0°.4,**h10**km,**n12**, σ1$**25**/8,**mb3.9**/4,**3C-2D**,**Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	8.25	358	⇑P	Pn	05 01 56.7	+6.1
0.7nm,0.2s,baz=179,slow=13,SNR=8.7							
KK31				⇑S	Sn	05 03 04.9	-19
2.7nm,0.4s,baz=170,slow=17,SNR=13							
AAK	Ala-Archa	8.28	19	⇓P	Pn	05 01 56.8	+5.6
0.9nm,0.5s							
AAK				⇑S	Sn	05 03 09.3	-16
3.2nm,0.6s							
MKAR	Makanchi Array	14.72	32	Pn	Pn	05 03 20.0	+0.8
0.1nm,0.3s,baz=212,slow=14,SNR=2.2							
0.4nm,0.7s							
AB31	Akbulak array	16.49	334	⇓P	P	05 03 46.1	+1.2
0.3nm,0.4s							
BVAR	Borovoye Array	18.18	359	P	P	05 04 01.9	-1.6
0.1nm,0.3s,baz=187,slow=7.9,SNR=2.3							
0.9nm,0.5s							
FINES	FINESS Array B	38.80	327	P	P	05 07 15.7	+0.2
1.7nm,0.8s,baz=111,slow=9.0,SNR=3.6							
1.7nm,0.8s							
ARCES	ARCESS Array B	42.63	338	P	P	05 07 45.4	-1.6
4.6nm,0.9s,baz=117,slow=8.6,SNR=5.1							
4.6nm,0.9s							
HFS	Hagfors	44.30	323	P	P	05 08 01.1	+0.5
1.3nm,0.5s,baz=98,slow=9.3,SNR=8.2							
1.3nm,0.5s							
NB2	NORSAR Subarra	45.63	324	P	P	05 08 11.6	+0.3
comp=Z,0.5nm,0.5s,baz=94,slow=7.9							
NOA	NORSAR Array B	45.63	324	P	P	05 08 11.3	0.0
comp=Z,0.4nm,0.4s,baz=96,slow=7.7,SNR=3.4							
comp=Z,0.4nm,0.4s							
MJAR	Matsushiro Arr	53.68	67	LR	LR	05 36 09.5	
comp=Z,104nm,19.5s,baz=46,slow=40							
KAPI	Kappang	60.71	121	LR	LR	05 42 38.8	
comp=Z,95nm,21.3s,baz=216,slow=42							

DJA 29 05:41:14.6±0.4,**5°N**±5°.×**97°E**±°,**h165**km±4km,**M3.9**/9, **mb4.8**/3,**MLv3.5**/9,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.52	212	P	Pn	05 41 38.8	+1.0
MLSI				S	Sn	05 41 56.9	+1.4
LHMI	Lhok Sumawe	0.58	27	P	Pn	05 41 39.5	+1.4
KCSI	Kotacane, Aceh	1.61	137	P	Pn	05 41 47.1	+0.7
KCSI				S	Sn	05 42 11.8	+0.8
SNSI	Sinabang, Aceh	2.31	189	P	Pn	05 41 54.7	+0.4
MNSI	Mandailing Nat	4.85	143	P	Pn	05 42 26.3	0.0
PBSI	Pulau Batu	5.00	161	P	Pn	05 42 29.1	+0.8
TPRI	Tanjung Pinang	8.69	115	P	Pn	05 43 16.6	-0.6
JCJI	Jatiwangi	16.05	134	P	P	05 44 53.1	+1.6
188nm,0.4s							

*IDC **29** 06:11:42.1±1.1,2°.62S×138°.36E,h0km,mb3.6/4, mbtmp3.7/7,ML3.6/3,Error ellipse: s-maj=25.4km s-min=22.4km az=127.0*
*DJA **29** 06:11:44.9±1.2,3°.S±7°.×13°.8E±°,h15km±13km,M4.0/6, MLv4.0/6*
ISC 29 06:11:45.5±0.7,**2°.69S**±0°.06×**138°.30E**±0°.05,**h32**km,**n12**, σ2$**69**/17,**mb3.6**/4,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.81	31	P	Pn	06 11 58.2	-2.4
SMPI				S	Sb	06 12 08.5	-3.1
GENI	Genyem	1.87	87	P	Pn	06 12 15.6	+0.4
SRPI	Serui, Papua	2.21	292	P	Pn	06 12 21.2	+1.2
JAY	Jayapura	2.41	86	Pn	Pn	06 12 23.1	+0.4
9.7nm,0.3s,baz=238,slow=12,SNR=14							
JAY				Sn	Sn	06 12 53.8	+2.6
5.6nm,0.3s,baz=116,slow=23,SNR=6.2							
33nm,0.4s							
JAY	Jayapura	2.41	86	P	Pn	06 12 22.9	+0.2
BAKI	Biak	2.65	304	P	Pb	06 12 31.3	-0.9
WRA	Warramunga Arr	17.58	192	P	Pn	06 15 48.8	+0.6
0.5nm,0.3s,baz=17,slow=13,SNR=12							
WRA				S	Sn	06 18 56.8	-6.3
1.1nm,0.9s,baz=14,slow=24,SNR=3.7							
1.6nm,0.6s							
FITZ	Fitzroy Crossi	19.71	218	P	P	06 16 14.7	+2.2
0.1nm,0.3s,baz=32,slow=13,SNR=3.5							
FITZ				S	S	06 19 49.0	-4.2
2.9nm,1.1s,baz=137,slow=11,SNR=2.0							
4.3nm,1.1s							
ASAR	Alice Springs	21.28	191	P	P	06 16 31.1	+1.6
1.9nm,0.7s,baz=25,slow=10,SNR=18							
ASAR				S	S	06 20 22.8	-1.7
0.8nm,0.8s,baz=12,slow=22,SNR=4.2							
1.9nm,0.7s							
MKAR	Makanchi Array	69.52	323	P	P	06 22 53.8	+2.7
0.1nm,0.3s,baz=124,slow=7.9,SNR=8.4							
0.1nm,0.3s							
BVAR	Borovoye Array	79.06	325	P	P	06 23 46.9	+0.3
0.4nm,0.4s,baz=122,slow=5.4,SNR=1.7							
0.4nm,0.4s							
ILAR	Eielson Array	85.98	24	P	P	06 24 22.6	+0.2
0.3nm,0.7s,baz=260,slow=5.3,SNR=5.3							
0.3nm,0.7s							

*AFAD **29** 06:36:14.0,40°.71N×32°.97E,h12km±2km,MW3.6*
*ISK **29** 06:36:14.6,40°.73N×32°.95E,h7km,ML3.7/26*
ISC 29 06:36:14.4±1.1,**40°.71N**±0°.02×**32°.98E**±0°.02,**h3**km±10km, **n79**,σ0$**99**/100,**7C-5D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DERS	Karabk-Eskip	0.35	293	P	Pg	06 36 21.2	-0.1
DERS				S	Sg	06 36 26.5	+0.5
ELDT	Eldivan	0.41	123	P	Pg	06 36 22.5	+0.2
ELDT				S	Sg	06 36 27.3	-0.3
CMDR	Camlidere-ANKA	0.44	241	P	Pg	06 36 22.9	-0.1
CANT	Cankiri	0.50	102	Pg	Pb	06 36 25.5	-0.3
CANT				Sg	Sb	06 36 33.4	-0.1
SAFT	Safranbolu	0.57	337	Pg	Pg	06 36 26.0	+0.6
SAFT				Sg	Sg	06 36 33.4	+0.6
KBUK	KARABUK-Merkez	0.59	333	P	Pg	06 36 25.5	-0.2
PELI	Kastamonı-Ara	0.64	23	P	Pg	06 36 26.6	0.0
PELI				S	Sg	06 36 33.9	-1.0
ILGA	Ilgaz	0.65	59	P	Pg	06 36 26.0	-0.9
ILGA				S	Sg	06 36 36.1	+0.7
YENC	ankr-Yen	0.66	93	P	Pg	06 36 26.8	-0.3
YENC				S	Sg	06 36 35.6	+0.1
BCAM	Yenicaga	0.70	279	P	Pg	06 36 27.6	-0.3
BCAM				S	Sg	06 36 36.9	-0.1
GOKD	Ankara-Kalecik	0.74	149	P	Pg	06 36 29.0	+0.4
GOKD				S	Sg	06 36 39.1	+0.8
LOD	Lodumlu	0.84	191	Pg	Pb	06 36 31.7	0.0
TOS	Tosya	0.85	67	Pg	Pg	06 36 30.6	-0.2
ANTO	Ankara	0.86	190	Pg	Pg	06 36 31.7	+0.9
ANTO	Ankara	0.86	190	⇓P	Pb	06 36 32.0	0.0
DEVR	Zonguldak/Devr	0.88	300	P	Pg	06 36 30.7	-0.6
DEVR				S	Sg	06 36 41.8	-0.8
KMON	Kastamonu	0.90	42	Pg	Pg	06 36 32.1	+0.5
BOLU	Bolu-Merkez-Mu	0.99	274	P	Pg	06 36 33.0	-0.5
DELI	KIRIKKALE	1.01	135	P	Pg	06 36 33.4	-0.4
DELI				S	Sg	06 36 45.2	-1.8
YUVA	Yuva-Kibriscik	1.04	252	Pg	Pg	06 36 34.3	0.0
BTIN	Bartın	1.07	329	P	Pg	06 36 34.6	-0.4
SEYI	Kastamonu-Seyd	1.08	32	P	Pg	06 36 35.1	-0.1
SUNG	orum-Sungurl	1.10	118	P	Pg	06 36 35.3	-0.2
SUNG				S	Sg	06 36 49.6	-0.1
KURC	Kurucasile-Bar	1.15	351	Pn	Pb	06 36 36.6	-0.2
CIDE	Kastamonu/Cide	1.17	359	P	Pg	06 36 36.4	-0.5
CIDE				S	Sb	06 36 52.2	-0.5
CIDE	Kastamonu/Cide	1.17	359	⇑P	Pn	06 36 38.1	+0.5
KESK	Krkkale-Ke	1.17	157	P	Pg	06 36 36.6	-0.3
KESK				S	Sg	06 36 51.8	-0.3
BBAL	Bala	1.18	175	P	Pg	06 36 36.7	-0.2
BBAL				S	Sb	06 36 53.5	+0.4
POLA	Polatl-ANKAR	1.19	212	Pn	Pg	06 36 37.5	+0.3
KAGI	orum-Kargı	1.21	69	P	Pb	06 36 37.0	-1.0
AFSR	Afar-Bala (An	1.27	177	Pn	Pg	06 36 39.6	+0.9
CORM	Corum	1.37	113	Pn	Pg	06 36 41.2	+0.6
MDUB	Mudurnu	1.38	260	Pn	Pn	06 36 40.5	-0.2
AYAZ	Ayas K¶ly, M	1.43	91	P	Pn	06 36 40.6	-0.7
AYAZ				S	Sn	06 36 59.1	-1.5
AKPI	Kirsehir/Akpin	1.44	147	P	Pn	06 36 41.0	-0.5
KAMT	Kaman	1.46	157	Pn	Pb	06 36 42.2	0.0
BZK	Bozkurt	1.46	31	Pn	Pb	06 36 41.9	-0.4
BZK	Bozkurt	1.46	31	⇑P	Pb	06 36 42.3	+0.1
BTAS	Taskesti	1.52	265	P	Pn	06 36 42.5	0.0
CDAG	Cicekdag	1.52	135	P	Pn	06 36 42.7	+0.1
CDAG				S	Sn	06 37 02.0	-1.0
KKUL	Konya-Kulu	1.54	182	P	Pn	06 36 43.2	+0.4
COAL	Corum-Alaca	1.60	106	P	Pn	06 36 43.5	-0.2
COAL				S	Sn	06 37 02.2	-2.6
SAHE	Sakarya_HENDEK	1.62	276	P	Pb	06 36 44.2	-0.7
KULU	Kulu	1.67	179	Pn	Pn	06 36 45.0	+0.4
SUSU	Bolu-G¶lynk-	1.67	258	P	Pb	06 36 45.7	-0.1
SUSU				S	Sb	06 37 07.1	-0.3
SVRH	Sivrihisar-ESK	1.69	222	Pn	Pn	06 36 45.2	+0.3
KIRS	Kirsehir-Merke	1.73	155	P	Pn	06 36 45.4	-0.1
KIRS	Kirsehir-Merke	1.73	155	⇑P	Pn	06 36 45.5	0.0
SERE	Serefilikochisa	1.82	166	Pn	Pn	06 36 47.5	+0.8
GULT	Gulveren	1.90	262	Pn	Pn	06 36 48.3	+0.5
MCUR	KIREHR	1.95	142	P	Pn	06 36 48.8	+0.2
MCUR				S	Sn	06 37 14.1	+0.5
CTIK	Konya-Celtik	1.97	212	P	Pn	06 36 48.9	+0.1
CIFT	Cifteler, Eski	2.00	228	Pn	Pn	06 36 50.2	+1.1
SAUV	Serdivan-Sakar	2.02	272	Pn	Pn	06 36 49.8	+0.5
KIZT	Kizilcal	2.02	205	Pn	Pb	06 36 50.9	-0.9
CBEY	Konya-Cihanbey	2.03	184	P	Pn	06 36 49.0	-0.5
CKRK	Yozgat, Cekere	2.03	108	P	Pn	06 36 49.9	+0.3
CKRK				S	Sn	06 37 15.6	+0.2
KOZK	Kozakli-Nevseh	2.09	135	Pn	Pn	06 36 51.4	+1.0
YOZ	Yozgat	2.09	120	Pn	Pn	06 36 51.3	+0.9
SNOP	Sinop	2.12	51	Pn	Pn	06 36 51.5	+0.7
CHBY	Cihanbeyli	2.13	182	Pn	Pn	06 36 51.8	+0.8
AKSY	AKSARAY - Alti	2.15	163	P	Pn	06 36 51.2	0.0
SIRC	Yozgat	2.16	129	P	Pn	06 36 52.3	+1.0
HACI	Hacifakili, Ak	2.33	115	P	Pn	06 36 53.8	+0.1
AVNS	Nevsehir-Avano	2.39	142	P	Pn	06 36 55.0	+0.5
BLVD	Bolvadin-AFYON	2.41	218	Pn	Pn	06 36 55.4	+0.6
SULT	Sultanhani-AKS	2.55	170	Pn	Pn	06 36 57.7	+1.0
LADK	Ladik-KONYA	2.56	191	Pn	Pn	06 36 57.8	+1.0
GULA	Gulagac	2.56	157	Pn	Pn	06 36 58.1	+1.3
SILT	Sile	2.57	281	⇑P	Pb	06 37 00.2	-0.8
BNN	Bunyan	2.89	129	Pn	Pn	06 37 02.9	+1.5
KLYT	Kilyos	3.03	282	⇑P	Pb	06 37 06.9	-2.0
SVSK	Karacayir	3.17	103	Pn	Pn	06 37 06.8	+1.6
BAND	Balkesir-Ban	3.74	266	⇓P	Pb	06 37 19.2	-1.8
TIRR	Tirgusor	5.04	319	⇓P	Pn	06 37 33.9	+3.1
TPGR	Topolog	5.33	322	⇑P	Pn	06 37 38.0	+3.1
HARR	Harsova	5.44	319	⇓P	Pn	06 37 38.5	+2.1
CFR	Carcaliu	5.70	323	⇑P	Pn	06 37 43.3	+3.4
BURAR	Bucovina Array	8.87	324	⇓P	Pn	06 38 26.4	+2.9

*NEIC **29** 06:45:31.5±2.2,0°.03S±0°.05×123°.10E±0°.07,h145km±4km, mb4.9/55,Error ellipse: s-maj=10.2km s-min=7.4km az=77.0*
*DJA **29** 06:45:32.4±0.1,0°.S±2°.×12°.3E±°,h146km±2km,M4.8/36, mB5.3/16,mb5.0/36,MLv5.0/21,Mw(mB)4.7/16*
*IDC **29** 06:45:32.6±1.5,0°.02S×123°.02E,h166km±14km,mb4.2/26, mbtmp4.6/29,MS3.2/2,Error ellipse: s-maj=15.7km s-min=7.6km az=79.0*
ISC 29 06:45:31.8±0.6,**0°.05S**±0°.04×**123°.08E**±0°.05,**h155**km±5km, **n170**,σ1$**28**/180,**mb4.7**/64,**2C**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.03	197		Pn	06 45 56.7	-0.7
LUWI	Luwuk	1.03	197	P	Pn	06 45 56.6	-0.7
LUWI				S	Sn	06 46 14.2	-2.7
KMSI	Cibinong	1.10	55	P	Pn	06 45 58.6	+0.7
KMSI				S	Sn	06 46 18.9	+1.0
MRSI	Marisa	1.25	295	P	Pn	06 45 58.8	-0.5
MRSI				S	Sn	06 46 18.7	-1.7
APSI	Ampana	1.67	239	P	Pn	06 46 03.5	0.0
TOLI2	Tolítoli	2.57	297		Pn	06 46 13.8	-0.2
MPSI	Mapaga	3.21	277	P	Pn	06 46 23.0	+1.0
SANI	Sanana	3.52	124	P	Pn	06 46 23.7	-2.3
KDI	Kendari	3.91	187	P	Pn	06 46 30.2	-0.8
TNTI	Ternate	4.37	79		Pn	06 46 36.0	-1.0
TNTI	Ternate	4.37	79	P	Pn	06 46 35.6	-1.4
SPSI	Sidrap Palu	5.10	220	P	Pn	06 46 47.6	+0.9
0.7nm4μm151nm,0.5s							
NLAI	Namlea	5.11	128	P	Pn	06 46 46.7	-0.1
BNSI	Bone	5.24	214	P	Pn	06 46 49.8	+1.3
0.7nm2μm117nm,0.7s							
SGKI	Sangatta, Kali	5.50	265	P	Pn	06 46 52.5	+0.6
2.4nm526nm,1.2s							
KAPI	Kappang	5.94	214		Pn	06 46 59.2	+1.3
KAPI	Kappang	5.94	214	P	Pn	06 46 58.5	+0.6
36nm,0.4s,baz=51,slow=6.4,SNR=11							
KAPI				S	Sn	06 48 06.9	+1.7
33nm,0.5s,baz=22,slow=22,SNR=5.6							
AAI	Ambon	6.26	125	P	Pn	06 47 03.1	+1.1
1.0nm3μm264nm,0.5s							
BSSI	Bau Bau, Buton	6.58	203	P	Pn	06 47 07.6	+1.3
0.7nm2μm148nm,0.5s							
MSAI	Masohi	6.70	119	P	Pn	06 47 09.1	+1.2
3μm259nm,0.7s							
MYLDM	Lahad Datu	6.92	319		Pn	06 47 13.1	+2.2
BNDI	Bandanaira	8.13	123	P	Pn	06 47 27.7	+0.7
SWI	Sorong	8.22	96	P	Pn	06 47 28.8	+0.7
75nm,0.7s							
EDFI	Ende, Flores	8.75	189	P	Pn	06 47 35.3	0.0
54nm,0.7s							
FAKI	Fak Fak	9.60	107		Pn	06 47 45.2	-1.3
FAKI	Fak Fak	9.60	107	P	Pn	06 47 45.0	-1.5
873nm45nm,1.0s							
SOEI	Soe	9.71	173		Pn	06 47 50.1	+2.1
SOEI	Soe	9.71	173	P	Pn	06 47 50.4	+2.3
110nm,1.2s							
KSM	Kuching	12.86	277	Pn	Pn	06 48 29.9	+0.8
PCJI	Pacitan	14.36	235	P	P	06 48 51.2	+0.6
98nm,0.9s							
MTN	Manton Dam	15.01	148	P	Pn	06 48 55.5	-0.6
TPI	Tanjungpandan	15.65	260	P	P	06 49 06.7	+1.7
SMPI	Sarmi	15.74	97	P	P	06 49 07.3	+1.3
KPJI	Karang Pucung	15.86	243	P	P	06 49 08.2	+1.0
108nm,1.0s							
KNRA	Kununurra	16.51	160	P	P	06 49 14.5	+0.1
LEM	Lembang	16.83	246	P	P	06 49 16.1	-2.0
37nm,0.4s,baz=94,slow=14,SNR=6.0							
FITZ	Fitzroy Crossi	18.11	172	P	P	06 49 32.5	+0.5
17nm,0.4s,baz=6.7,slow=9.2,SNR=124							
FITZ				S	S	06 52 47.5	-3.9
6.4nm,0.9s,baz=173,slow=18,SNR=5.8						

GYA pmax pmax
comp=Z,27nm,0.8s
KMI Kunming 31.84 323 P **P 06 51 45.3 +3.0**
KMI pmax pmax
comp=Z,16nm,0.9s
NJ2 Nanjing 32.18 353 *eP* **P 06 51 48.0 +3.0**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PZH PanZhiHua 33.46 324 P **P 06 51 59.0 +2.6**
STKA Stephens Creek 36.17 153 P **P 06 52 20.1 +0.7**
STKA IAmb IAmb 06 52 36.9
comp=Z,67nm,1.6s
STKA Stephens Creek 36.17 153 P **P 06 52 19.9 +0.5**
comp=Z,2.7nm,0.5s,baz=333,slow=8.7,SNR=7.5
STKA PcP **PcP 06 54 41.5 -0.2**
comp=Z,3.6nm,0.5s,baz=328,slow=2.6,SNR=4.5
comp=Z,2.7nm,0.5s
XAN Xi'an 36.42 340 P **P 06 52 22.8 +1.2**
XAN pmax pmax
comp=Z,35nm,0.8s
XAN Xi'an 36.42 340 P **P 06 52 21.7 +0.1**
KSRS Korea Array 37.59 6 P **P 06 52 31.6 +0.3**
comp=Z,1.9nm,0.6s,baz=186,slow=8.8,SNR=4.6
comp=Z,1.9nm,0.6s
JGF Kuroka 37.89 19 P **P 06 52 33.4 -0.5**
JGF IAmb IAmb 06 52 34.0
comp=Z,11nm,0.8s
HNS HongShan 38.06 349 ⇑P **P 06 52 36.5 +1.3**
HNS pmax pmax
comp=Z,15nm,0.5s
MJAR Matsushiro Arr 39.03 20 P **P 06 52 42.0 -1.4**
comp=Z,7.0nm,0.7s,baz=191,slow=9.3,SNR=18
comp=Z,7.0nm,0.7s
SHL Shillong 39.45 313 IAmb IAmb 06 52 49.6
comp=Z,18nm,1.0s
LZDM Lanzhou Array 40.11 335 P **P 06 52 52.6 -0.1**
comp=Z,1.4nm,0.3s,baz=138,slow=14,SNR=4.0
comp=Z,1.4nm,0.3s
LZH Lanzhou 40.16 336 *eP* **P 06 52 54.8 +1.9**
LZH sP sP 06 53 37.3 -7.5
LZH pmax pmax
comp=Z,25nm,1.0s
BJI Beijing 40.40 352 P **P 06 52 56.3 +1.7**
BJI pmax pmax
comp=Z,3.0nm,1.1s
HHC Hu-ho-hao-te 42.04 347 *eP* **P 06 53 11.5 +3.4**
HHC pmax pmax
comp=Z,16nm,0.8s
BTO Baotou 42.18 345 *eP* **P 06 53 13.5 +4.2**
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,230nm,4.0s
LSA Lhasa 42.44 317 P **P 06 53 12.1 +0.1**
CAN Canberra 42.61 148 P **P 06 53 14.3 +1.6**
CAN IAmb IAmb 06 53 43.4
comp=Z,40nm,1.6s
JTM Tenmabayashi 43.81 20 P **P 06 53 22.4 +0.2**
EVN Everest 44.53 312 **P 06 53 29.4 +0.4**
GTA Gaotai 44.67 334 *eP* **P 06 53 31.0 +1.7**
GTA PcP **PcP 06 55 09.5 +0.3**
GTA pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 44.77 9 P **P 06 53 29.4 -0.4**
comp=Z,7.9nm,0.6s,baz=191,slow=5.8,SNR=13
comp=Z,7.9nm,0.6s
JKA Kamikawa-asahi 47.30 19 **P 06 53 49.5 -0.1**
JKA IAmb IAmb 06 54 35.7
comp=Z,34nm,1.2s
HILR Hailar Array B 49.50 357 P **P 06 54 06.0 -0.4**
comp=Z,12nm,0.4s,baz=178,slow=9.5,SNR=20
comp=Z,12nm,0.4s
ULN Ulaanbaatar 49.72 346 P **P 06 54 08.9 +0.6**
ULN IAmb IAmb 06 54 09.8
comp=Z,12nm,0.9s
ULN Ulaanbaatar 49.72 346 P **P 06 54 08.0 -0.3**
ULN pP **pP 06 54 41.2 -2.4**
SONM Songino Array 49.86 345 P **P 06 54 09.0 -0.2**
SONM Songino Array 49.86 345 P **P 06 54 08.9 -0.4**
comp=Z,11nm,0.7s,baz=162,slow=9.0,SNR=40
SONM PcP **PcP 06 55 26.6 -0.9**
comp=Z,3.6nm,0.7s,baz=154,slow=3.4,SNR=6.2
comp=Z,11nm,0.7s
WMQ Urumqi 53.88 329 *eP* **P 06 54 40.5 +1.5**
WMQ pmax pmax
comp=Z,34nm,0.7s
NIL Nilore 57.48 311 **P 06 55 04.9 0.0**
KSH Kashi 58.27 318 P **P 06 55 11.0 +0.6**
KSH pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 58.70 328 P **P 06 55 12.8 -0.3**
comp=Z,6.2nm,0.4s,baz=121,slow=8.5,SNR=86
MKAR PcP **PcP 06 56 00.1 -1.3**
comp=Z,4.6nm,0.7s,baz=124,slow=4.2,SNR=12
comp=Z,6.2nm,0.4s
MAKZ Makanchi 58.88 328 **P 06 55 14.0 -0.3**
MAKZ IAmb IAmb 06 55 14.5
comp=Z,13nm,1.3s
MAKZ Makanchi 58.88 328 P **P 06 55 13.7 -0.6**
MAKZ x x 06 55 49.0
PEA0B Petropavlovsk- 60.30 23 P **P 06 55 24.8 +0.8**
PETK Petropavlovsk- 60.30 23 P **P 06 55 23.4 -0.5**
PETK Petropavlovsk- 60.30 23 P **P 06 55 24.4 +0.5**
comp=Z,6.0nm,0.6s,baz=228,slow=3.9,SNR=10
comp=Z,6.0nm,0.6s
AAK Ala-Archa 60.82 321 **P 06 55 27.4 -0.5**
KBL Kabul 61.04 310 **P 06 55 29.1 -0.5**
GAR Garm 61.91 315 IAmb IAmb 06 55 36.9
comp=Z,24nm,0.7s
BKZ Black Stump Fm 62.36 135 P **P 06 55 38.7 +0.6**
BKZ IAmb IAmb 06 56 42.2
comp=Z,43nm,1.6s
ZALV Zalesovo Beam 62.39 336 P **P 06 55 36.3 -1.6**
comp=Z,3.2nm,0.3s,baz=111,slow=6.5,SNR=6.4
comp=Z,3.2nm,0.3s
CHGR Chuyangaron 62.58 315 IAmb IAmb 06 55 40.3
comp=Z,22nm,0.8s
SIMJ Simiganj 62.69 314 P **P 06 55 39.5 -0.8**
KURBB Kurchatov Arra 63.05 330 P **P 06 55 41.3 -1.0**
comp=Z,6.9nm,0.7s,baz=137,slow=6.3,SNR=50
KURBB PcP **PcP 06 56 17.1 -1.6**
comp=Z,2.8nm,0.6s,baz=126,slow=3.9,SNR=8.1
comp=Z,6.9nm,0.7s
KURK Kurchatov 63.06 330 **P 06 55 41.7 -0.7**
KURK Kurchatov 63.06 330 P **P 06 55 41.6 -0.7**
MA2 Magadan 63.27 15 **P 06 55 44.1 +0.6**
MA2 IAmb IAmb 06 55 45.1
comp=Z,14nm,0.7s
MA2 Magadan 63.27 15 P **P 06 55 44.2 +0.6**
KKAR Karatay Array 63.61 320 **P 06 55 45.6 -0.6**
CASY Casey 66.69 185 P **P 06 56 05.7 +0.1**
SHEM Shemya Is, Ala 67.55 31 LR LR 07 33 50.5
comp=Z,11nm,18.2s,baz=226,slow=43
BVAR Borovoye Array 68.57 329 P **P 06 56 16.3 -1.3**
comp=Z,4.7nm,0.7s,baz=140,slow=8.3,SNR=17
comp=Z,4.7nm,0.7s
TIXI Tiksi 71.68 2 **P 06 56 35.1 -1.1**
TIXI IAmb IAmb 06 56 35.3
comp=Z,9.7nm,0.5s
ABKAR Akbulak array 72.82 322 P **P 06 56 42.6 -0.8**
CCD Concordia, Ant 74.96 180 P **P 06 56 56.7 +0.8**
ARTI Arti 76.29 329 **P 06 57 01.7 -1.6**
ARTI IAmb IAmb 06 57 02.1
comp=Z,16nm,0.5s
ARTI Arti 76.29 329 P **P 06 57 01.3 -2.0**
MAW Mawson 78.97 200 P **P 06 57 18.3 +0.4**
comp=Z,7.1nm,1.0s,baz=65,slow=6.1,SNR=6.6
comp=Z,7.1nm,1.0s
AKUT Akutan 79.08 35 P **P 06 57 18.9 +0.1**
VNDA Vanda 80.18 172 **P 06 57 24.6 +0.3**
VNDA Vanda 80.18 172 P **P 06 57 24.3 0.0**
comp=Z,2.9nm,0.6s,baz=316,slow=6.4,SNR=26
comp=Z,2.9nm,0.6s
VNDA Vanda 80.18 172 P **P 06 57 24.3 0.0**
M14K Bethel 82.73 29 IAmb IAmb 06 57 39.6
comp=Z,20nm,0.7s
KBZ Khabaz 82.94 314 P **P 06 57 39.1 -0.2**
comp=Z,3.9nm,0.8s,baz=121,slow=3.3,SNR=9.0
comp=Z,3.9nm,0.8s
O16K Kokwok River B 84.39 30 P **P 06 57 47.4 +0.9**
O16K IAmb IAmb 07 00 03.7
comp=Z,41nm,1.6s
H19K Roundabout Mou 86.09 24 IAmb IAmb 06 57 55.9
comp=Z,12nm,0.7s
IMAR Indian Mountai 87.26 24 P **P 06 58 00.8 +0.3**
MMAI Mount Meron Ar 88.08 303 P **P 06 58 03.4 -1.8**
comp=Z,1.2nm,0.4s,baz=73,slow=9.7,SNR=2.2
comp=Z,1.2nm,0.4s
COLD Coldfoot 88.77 23 P **P 06 58 08.1 +0.5**
COLD IAmb IAmb 06 58 13.6
comp=Z,36nm,1.9s
G23K Bananza Creek 88.81 23 IAmb IAmb 06 58 09.4
comp=Z,8.1nm,0.9s
BRTR Keskin Array B 89.60 310 P **P 06 58 11.2 -1.1**
BRTR Keskin Array B 89.60 310 P **P 06 58 10.3 -2.0**
comp=Z,1.4nm,0.7s,baz=132,slow=5.2,SNR=8.6
BRTR PP **PP 07 01 43.6 -2.6**
comp=Z,0.5nm,0.4s,baz=108,slow=8.2,SNR=3.8
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 89.88 180 P **P 06 58 13.9 +0.9**
QSPA IAmb IAmb 06 59 14.9
comp=Z,23nm,2.0s
QSPA South Pole Qui 89.88 180 P **P 06 58 12.0 -1.0**
comp=Z,1.3nm,0.6s,baz=154,slow=1.6,SNR=23
comp=Z,1.3nm,0.6s
IL31 90.06 25 P **P 06 58 12.1 -1.6**
IL31 IAmb IAmb 07 00 06.4
comp=Z,20nm,1.8s
ILAR Eielson Array 90.06 25 P **P 06 58 12.1 -1.6**
comp=Z,0.7nm,0.6s,baz=240,slow=5.2,SNR=25
comp=Z,0.7nm,0.6s
BMAR Burnt Mountain 90.95 23 P **P 06 58 18.4 +0.6**
BCAR Beaver Creek A 92.38 27 P **P 06 58 25.0 +0.5**
AKASG Malin Array Be 92.49 321 IAmb IAmb 06 58 25.3
comp=Z,3.7nm,1.2s
AKASG Malin Array Be 92.49 321 P **P 06 58 23.9 -1.3**
comp=Z,0.6nm,0.4s,baz=80,slow=4.0,SNR=5.1
comp=Z,0.6nm,0.4s
BARN Barnard Glacie 92.60 29 P **P 06 58 26.5 +0.7**
ARCES ARCESS Array B 92.71 340 P **P 06 58 23.4 -2.5**
comp=Z,4.4nm,0.7s,baz=92,slow=6.0,SNR=14
comp=Z,4.4nm,0.7s
I28M Miner Creek 92.96 25 IAmb IAmb 06 58 28.2
comp=Z,8.6nm,0.8s
DAWY Dawson 93.35 26 P **P 06 58 29.2 +0.2**
DAWY IAmb IAmb 07 00 01.5
comp=Z,18nm,1.6s
FINES FINESS Array B 93.41 331 P **P 06 58 27.1 -2.1**
comp=Z,2.7nm,0.8s,baz=58,slow=7.2,SNR=7.4
comp=Z,2.7nm,0.8s
H29M Whitestone 93.51 24 P **P 06 58 29.5 -0.1**
HYT Haines Junctio 94.64 29 P **P 06 58 35.7 +0.6**
WHY Whitehorse 95.94 29 P **P 06 58 41.7 +0.7**
HFS Hagfors 99.61 331 P **Pdif 06 58 54.7 -2.6**
comp=Z,1.8nm,0.6s,baz=72,slow=4.8,SNR=6.1
comp=Z,1.8nm,0.6s
NOA NORSAR Array B 100.49 333 P **Pdif 06 58 58.5 -2.8**
comp=Z,0.6nm,0.6s,baz=98,slow=3.6,SNR=2.4
SNAA Sanae 100.64 195 P **Pdif 06 59 01.7 -0.1**
comp=Z,0.8nm,0.9s,baz=187,slow=14,SNR=9.6
CLL Collm 102.49 323 **Pdif 06 59 10.6 +0.3**
NVAR Mina Array Bea 112.13 48 PKiKP **PKiKP 07 03 48.9 -0.7**
comp=Z,0.4nm,0.6s,baz=256,slow=3.2,SNR=4.9
PDAR Pinedale Array 116.58 41 PKP **PKPdf 07 03 57.5 -0.5**
comp=Z,0.2nm,0.3s,baz=47,slow=1.7,SNR=6.3
U15A North Rim 117.31 48 **PKiKP 07 04 00.9 +1.2**
Y22A Socorro 122.31 49 **PKiKP 07 04 09.8 +0.4**
MNTX Cornudas Mount 124.45 51 **PKPdf 07 04 13.7 +0.5**
TXAR Lajitas Array 126.78 53 PKP **PKPdf 07 04 17.9 +0.1**
comp=Z,0.4nm,0.5s,baz=200,slow=1.3,SNR=6.6
PEL Peldehue 144.53 160 **PKPab 07 04 49.6 +0.4**
CO03 El Pedregal 146.61 158 **PKPbc 07 04 56.0 +0.1**
ZON Zonda 146.66 162 **PKPbc 07 04 56.2 +0.2**
LCO Las Campanas 148.24 157 PKPbc **PKPbc 07 05 01.1 +0.5**
CPUP Villa Florida 153.77 179 PKPbc **PKPbc 07 05 13.1 -0.1**
comp=Z,0.7nm,0.6s,baz=5.9,slow=2.4,SNR=6.3
LPAZ La Paz 160.35 146 PKP **PKPdf 07 05 14.3 -0.3**
comp=Z,1.1nm,0.9s,baz=211,slow=3.4,SNR=3.9
LPAZ PKPab **PKPab 07 05 56.9 +1.0**
comp=Z,0.7nm,0.6s,baz=202,slow=9.0,SNR=5.8

*IDC **29** 07:02:13.5±0.8, 6°.69N×124°.92E, h0km, mb4.0/7, mbtmp4.0/7, MS3.3/4, Error ellipse: s-maj=16.4km s-min=10.1km az=150.0*
*NEIC **29** 07:02:15.5±1.2, 6°.79N±0°.08×124°.96E±0°.06, h10km±1km, mb4.4/17, Error ellipse: s-maj=14.7km s-min=9.0km az=342.0*
*DJA **29** 07:02:16.5±1.5, 7°.N±38°.×12°.5E±1°.0, h26km±37km, M4.9/7, mb5.2/4, mB5.3/3, MLv4.8/7, Mw(mB)4.7/3*
ISC 29 07:02:15.5±0.6, 6°.83N±0°.08×125°.02E±0°.08, h13km, n37, σ1°18/31, mb4.2/15, MS3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.61**	**66**	Pg	**Pg**	**07 02 28.2**	**+0.9**
	baz=285,slow=7.9						
DAV				Lg	Lg	07 02 38.6	
	baz=337,slow=15						
DAV	**Davao City (W)**	**0.61**	**66**	P	**Pg**	**07 02 25.0**	**-2.3**
SGSI	**Sangihe**	**3.16**	**171**	P	**Pn**	**07 03 07.7**	**+2.7**
TNTI	**Ternate**	**6.45**	**159**	Pn	**Pn**	**07 03 51.0**	**+0.7**
MYLDM	**Lahad Datu**	**6.69**	**256**	Pn	**Pn**	**07 03 52.9**	**-0.6**
MRSI	**Marisa**	**7.01**	**206**	P	**Pn**	**07 03 59.9**	**+1.9**
	0.4nm2μm92nm,0.6s						
TOLI2	**Tolitoli**	**7.08**	**217**	Pn	**Pn**	**07 03 58.0**	**-0.9**
LUWI	**Luwuk**	**8.13**	**196**	Pn	**Pn**	**07 04 13.6**	**+0.3**
SANI	**Sanana**	**8.87**	**174**	P	**Pn**	**07 04 24.3**	**+0.8**
JOW	**Kunigami**	**20.14**	**8**	LR	LR	07 13 45.7	
	comp=Z,42nm,21.1s,baz=43,slow=34						
MTN	**Manton Dam**	**20.46**	**163**	P	**P**	**07 06 53.1**	**+0.1**
MTN				IAmb	IAmb	07 07 00.7	
	comp=Z,10nm,0.5s						
KNRA	**Kununurra**	**22.66**	**171**	P	**P**	**07 07 16.8**	**+0.1**
KNRA				IAmb	IAmb	07 07 37.9	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.77**	**179**	P	**P**	**07 07 36.9**	**-0.3**
COEN	**Coen**	**27.41**	**139**	P	**P**	**07 08 00.1**	**-0.9**
COEN				IAmb	IAmb	07 08 24.8	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.90**	**297**	P	**P**	**07 08 06.5**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=116,slow=8.9,SNR=1.5						
	comp=Z,1.2nm,0.3s						
WB0	**Warramunga Arr**	**27.99**	**161**	P	**P**	**07 08 05.3**	**-0.9**
WB0				IAmb	IAmb	07 08 24.6	
	comp=Z,5.0nm,0.7s						
WRAB	**Tennant Creek**	**28.13**	**161**	P	**P**	**07 08 07.0**	**-0.5**
WRAB				IAmb	IAmb	07 08 34.0	
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**28.14**	**161**	P	**P**	**07 08 06.2**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=330,slow=11,SNR=16						
	comp=Z,1.0nm,0.4s						
WR8	**Warramunga Arr**	**28.20**	**161**	P	**P**	**07 08 07.1**	**-1.0**
WR8				IAmb	IAmb	07 08 34.9	
	comp=Z,15nm,1.5s						
AS31	**Alice Springs**	**31.52**	**164**	P	**P**	**07 08 36.4**	**-1.1**
ASAR	**Alice Springs**	**31.52**	**164**	P	**P**	**07 08 36.7**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=340,slow=6.9,SNR=39						
	comp=Z,1.2nm,0.4s						
FORT	**Forrest**	**37.51**	**176**	P	**P**	**07 09 28.8**	**-0.4**
INKA	**Innaminka**	**37.58**	**157**	P	**P**	**07 09 27.9**	**-1.9**
GTA	**Gaotai**	**39.58**	**329**	*eP*	**P**	**07 09 49.0**	**+2.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ASAJ	**Asahikawa**	**40.20**	**20**	LR	LR	07 29 01.4	
	comp=Z,37nm,18.4s,baz=249,slow=40						
BBOO	**Buckleboo**	**40.79**	**166**	P	**P**	**07 09 56.3**	**-0.4**
STKA	**Stephens Creek**	**41.61**	**159**	P	**P**	**07 10 02.9**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=336,slow=9.7,SNR=6.1						
	comp=Z,1.4nm,0.5s						
EVN	**Everest**	**41.81**	**305**	P	**P**	**07 10 04.6**	**-1.3**
EVN				IAmb	IAmb	07 10 35.0	
	comp=Z,5.6nm,1.2s						
SONM	**Songino Array**	**43.84**	**342**	IAmb	IAmb	07 10 39.0	
	comp=Z,2.3nm,1.0s						
SONM	**Songino Array**	**43.84**	**342**	P	**P**	**07 10 21.7**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=158,slow=12,SNR=1.7						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**54.06**	**325**	P	**P**	**07 11 40.1**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=128,slow=7.5,SNR=12						
	comp=Z,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**58.23**	**327**	P	**P**	**07 12 09.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=123,slow=6.8,SNR=15						
	comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**58.23**	**327**	P	**P**	**07 12 09.5**	**0.0**
KURK	**Kurchatov**	**58.23**	**327**	IAmb	IAmb	07 12 16.5	
	comp=Z,3.6nm,1.1s						
SEY	**Seymchan**	**59.44**	**14**	LR	LR	07 38 42.2	
	comp=Z,30nm,18.9s,baz=212,slow=37						
CASY	**Casey**	**73.68**	**186**	P	**P**	**07 13 48.6**	**+0.1**
VRAC	**Vranov**	**96.67**	**321**	LR	LR	08 02 22.9	
	comp=Z,25nm,18.2s,baz=48,slow=37						

*GCG **29** 07:12:58.9±0.6, 15°.70N×95°.13W, h36km±999km, MD4.0, ML4.2*
*NEIC **29** 07:13:00.8±2.0, 15°.81N±0°.06×95°.07W±0°.04, h27km±10km, mb4.2/34, Md4.3/124(MEX), Error ellipse: s-maj=8.8km s-min=5.1km az=162.0*
*CATAC **29** 07:13:00.1±0.7, 16°N±4°×9°5W±°, h1km, M4.4/9, mb4.5/2, mB5.2/1, MLv4.4/9, Mw(mB)4.6/1, Error ellipse: s-maj=11.6km s-min=5.4km az=59.0, confirmed*
*MEX **29** 07:13:00.2±1.2, 15°.63N×95°.09W, h39km±44km, MD4.3*
ISC 29 07:12:56.8±1.6, 15°.62N±0°.04×95°.11W±0°.02, h16km±12km, n151, σ2°20/217, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.97**	**279**		**Pn**	**07 13 16.2**	**+0.3**
HUIG					**Sg**	**07 13 28.2**	**-0.3**
HUIG	**Huatulco**	**0.97**	**279**	*eP*	**Pn**	**07 13 16.2**	**+0.3**
HUIG				*eS*	**Sg**	**07 13 28.2**	**-0.3**
HUIG	**Huatulco**	**0.97**	**279**	*i P*	**Pn**	**07 13 16.1**	**+0.3**
HUIG				*i S*	**Sg**	**07 13 28.4**	**0.0**
HUIG				IAML		07 13 29.1	
	comp=N,2μm,0.2s						
CMIG	**Matias Romero**	**1.48**	**8**		**Pn**	**07 13 22.3**	**-0.4**
CMIG					**Sn**	**07 13 38.9**	**-2.9**
CMIG	**Matias Romero**	**1.48**	**8**	*eP*	**Pn**	**07 13 22.3**	**-0.4**
CMIG				*eS*	**Sn**	**07 13 38.9**	**-2.9**
PCIG		**1.82**	**87**		**Pn**	**07 13 27.1**	**-0.4**
PCIG		**1.82**	**87**	*eP*	**Pn**	**07 13 27.1**	**-0.4**
PCIG				*eS*	**Sn**	**07 13 47.4**	**-2.8**
UXUV	**UXUV**	**1.92**	**29**		**Pn**	**07 13 29.0**	**+0.1**
UXUV					**Sn**	**07 13 51.1**	**-1.7**
UXUV	**UXUV**	**1.92**	**29**	*eP*	**Pn**	**07 13 29.0**	**+0.1**
UXUV				*eS*	**Sn**	**07 13 51.1**	**-1.7**
PEIG	**Puerto Escondi**	**2.00**	**281**		**Pn**	**07 13 30.4**	**+0.5**
PEIG	**Puerto Escondi**	**2.00**	**281**	*eP*	**Pn**	**07 13 30.4**	**+0.5**
PEIG				*eS*	**Sn**	**07 13 51.5**	**-3.2**
OXLC	**Oaxaca**	**2.10**	**313**		**Pb**	**07 13 33.7**	**-1.0**
OXLC					**Sn**	**07 13 58.5**	**+1.1**
OXLC	**Oaxaca**	**2.10**	**313**	*eP*	**Pb**	**07 13 33.7**	**-1.0**
OXLC				*eS*	**Sn**	**07 13 58.5**	**+1.1**
OXBJ	**Oaxaca**	**2.12**	**313**		**Pn**	**07 13 32.6**	**+0.9**
OXBJ					**Sn**	**07 13 58.8**	**+1.0**
OXBJ	**Oaxaca**	**2.12**	**313**	*eP*	**Pn**	**07 13 32.6**	**+0.9**
OXBJ				*eS*	**Sn**	**07 13 58.8**	**+1.0**
OXIG	**Oaxaca**	**2.13**	**313**		**Pn**	**07 13 33.4**	**+1.5**
OXIG					**Sn**	**07 13 58.5**	**+0.4**
VHO	**Vista Hermosa**	**2.13**	**313**	*eP*	**Pn**	**07 13 33.4**	**+1.5**
VHO				*eS*	**Sn**	**07 13 58.5**	**+0.5**
NEUV	**Arroyo Zacate**	**2.19**	**342**		**Pn**	**07 13 32.9**	**+0.4**
NEUV					**Sn**	**07 14 01.2**	**+1.9**
NEUV	**Arroyo Zacate**	**2.19**	**342**	*eP*	**Pn**	**07 13 32.9**	**+0.4**
NEUV				*eS*	**Sn**	**07 14 01.2**	**+1.9**
TGIG		**2.23**	**59**		**Pn**	**07 13 33.3**	**+0.1**
TGIG					**Sn**	**07 14 00.1**	**-0.3**
TGIG		**2.23**	**59**	*eP*	**Pn**	**07 13 33.3**	**+0.1**
TGIG				*eS*	**Sn**	**07 14 00.1**	**-0.3**
TGIG		**2.23**	**59**	*i P*	**Pn**	**07 13 33.5**	**+0.3**
TGIG				*i S*	**Sn**	**07 14 00.4**	**0.0**
TGIG				IAML		07 14 01.4	
	comp=N,2μm,0.5s						
TGBT	**Tuxtla Gutierr**	**2.25**	**59**		**Pn**	**07 13 34.7**	**+1.2**
TGBT					**Sn**	**07 14 01.4**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.25**	**59**	*eP*	**Pn**	**07 13 34.7**	**+1.2**
TGBT				*eS*	**Sn**	**07 14 01.4**	**+0.4**
TUIG	**Tuzandepetl**	**2.49**	**15**		**Pn**	**07 13 36.9**	**+0.2**
TUIG					**Sn**	**07 14 06.8**	**+0.1**
TUIG	**Tuzandepetl**	**2.49**	**15**	*eP*	**Pn**	**07 13 36.9**	**+0.2**
TUIG				*eS*	**Sn**	**07 14 06.8**	**+0.1**
YOIG	**Yosondua**	**2.65**	**298**		**Pn**	**07 13 41.3**	**+2.2**
YOIG					**Sn**	**07 14 11.6**	**+0.6**
YOIG	**Yosondua**	**2.65**	**298**	*eP*	**Pn**	**07 13 41.3**	**+2.2**
YOIG				*eS*	**Sn**	**07 14 11.6**	**+0.6**
PATR	**El Naranjo**	**2.82**	**100**		**Pn**	**07 13 41.4**	**0.0**
PATR	**El Naranjo**	**2.82**	**100**	*eP*	**Pn**	**07 13 41.4**	**0.0**
PATR				*eS*	**Sn**	**07 14 12.6**	**-2.6**
THIG		**2.83**	**104**		**Pn**	**07 13 41.4**	**0.0**
THIG		**2.83**	**104**	*eP*	**Pn**	**07 13 41.4**	**0.0**
THIG				*eS*	**Sn**	**07 14 12.6**	**-2.6**
THIG		**2.83**	**104**	*i P*	**Pn**	**07 13 42.0**	**+0.6**
THIG				IAML		07 14 15.4	
	comp=N,862nm,0.7s						
PAVE	**Pavencul**	**2.86**	**98**		**Pn**	**07 13 42.4**	**+0.5**
PAVE	**Pavencul**	**2.86**	**98**	*eP*	**Pn**	**07 13 42.4**	**+0.5**
PAVE				*eS*	**Sn**	**07 14 13.4**	**-2.8**
PMUV	**Sontecomapan**	**2.91**	**360**		**Pn**	**07 13 41.5**	**-1.0**
PMUV					**Sn**	**07 14 15.0**	**-2.2**
PMUV	**Sontecomapan**	**2.91**	**360**	*eP*	**Pn**	**07 13 41.5**	**-1.0**
PMUV				*i S*	**Sn**	**07 14 15.0**	**-2.2**
CCIG	**Comitan**	**2.93**	**77**		**Pn**	**07 13 44.1**	**+1.2**
CCIG	**Comitan**	**2.93**	**77**		**Sn**	**07 14 19.4**	**+1.4**
CCIG	**Comitan**	**2.93**	**77**	*eP*	**Pn**	**07 13 43.8**	**+0.9**
CCIG				*eS*	**Sn**	**07 14 19.4**	**+1.4**
CCIG	**Comitan**	**2.93**	**77**	*i P*	**Pn**	**07 13 44.0**	**+1.0**
CCIG				IAML		07 14 27.2	
	comp=N,1μm,0.5s						
CHUJ	**Union Juarez**	**2.94**	**100**	*eP*	**Pn**	**07 13 43.2**	**+0.1**
CHUJ				*eS*	**Sn**	**07 14 15.6**	**-2.6**
PNIG	**Pinotepa**	**3.00**	**285**		**Pn**	**07 13 44.8**	**+1.0**
PNIG	**Pinotepa**	**3.00**	**285**	*eP*	**Pn**	**07 13 44.8**	**+1.0**
PNIG				*eS*	**Sn**	**07 14 16.6**	**-2.9**
TXIG	**Tlaxiaco**	**3.02**	**303**		**Pn**	**07 13 46.8**	**+2.5**
TXIG					**Sn**	**07 14 19.8**	**-0.6**
TXIG	**Tlaxiaco**	**3.02**	**303**	*eP*	**Pn**	**07 13 46.8**	**+2.5**
TXIG				*eS*	**Sn**	**07 14 19.8**	**-0.6**
TOIG	**Toxpalan**	**3.09**	**323**		**Pn**	**07 13 48.1**	**+3.0**
TOIG	**Toxpalan**	**3.09**	**323**	*eP*	**Pn**	**07 13 48.1**	**+3.0**
TOIG				*eS*	**Sn**	**07 14 24.2**	**+2.3**
VHSA	**Villahermosa**	**3.14**	**41**		**Sn**	**07 14 19.7**	**-3.0**
VHSA	**Villahermosa**	**3.14**	**41**	*eP*	**Pn**	**07 13 42.2**	**-3.4**
VHSA				*eS*	**Sn**	**07 14 19.7**	**-3.0**
HLIG	**Huajuapan de L**	**3.39**	**311**		**Pn**	**07 13 51.1**	**+1.8**
HLIG					**Sn**	**07 14 29.2**	**-0.1**
HLIG	**Huajuapan de L**	**3.39**	**311**	*eP*	**Pn**	**07 13 51.1**	**+1.8**
HLIG				*eS*	**Sn**	**07 14 29.2**	**-0.1**
RTAL	**Retalhuleu**	**3.47**	**108**		**Pn**	**07 13 53.2**	**+3.0**
RTAL	**Retalhuleu**	**3.47**	**108**	*eP*	**Pn**	**07 13 50.8**	**+0.6**
RTAL				*eS*	**Sn**	**07 14 31.4**	**+0.4**
RTAL	**Retalhuleu**	**3.47**	**108**	S	**Sn**	**07 14 30.2**	**-0.9**
RTAL	**Retalhuleu**	**3.47**	**108**	P	**Pn**	**07 13 52.7**	**+2.5**
HUEH	**Huehuetenango**	**3.49**	**94**		**Pn**	**07 13 54.7**	**+4.1**
HUEH	**Huehuetenango**	**3.49**	**94**		**Sn**	**07 14 35.8**	**+4.0**
HUEH	**Huehuetenango**	**3.49**	**94**	*eP*	**Pn**	**07 13 52.9**	**+2.3**
HUEH				*eS*	**Sn**	**07 14 35.8**	**+4.0**
HUEH	**Huehuetenango**	**3.49**	**94**	P	**Pn**	**07 13 54.0**	**+3.3**
TPIG	**Tehuac#an**	**3.52**	**323**		**Pn**	**07 13 53.2**	**+2.2**
TPIG					**Sn**	**07 14 33.3**	**+0.8**
TPIG	**Tehuac#an**	**3.52**	**323**	*eP*	**Pn**	**07 13 53.2**	**+2.2**
TPIG				*eS*	**Sn**	**07 14 33.3**	**+0.8**
FTIG	**Fresnillo de T**	**3.68**	**309**		**Pn**	**07 13 56.1**	**+2.9**
FTIG					**Sn**	**07 14 35.9**	**-0.6**
**F

YAIG	Yautepec	4.97	311		Pn	07 14 14.6	+3.6
YAIG					Sn	07 15 05.8	-2.5
YAIG	Yautepec	4.97	311	eP	Pn	07 14 14.6	+3.6
YAIG				eS	Sn	07 15 05.8	-2.5
SCIG	Sabancuy	5.01	48		Pn	07 14 11.4	0.0
SCIG	Sabancuy	5.01	48	eP	Pn	07 14 11.4	0.0
SCIG				eS	Sn	07 15 03.2	-5.8
SCIG	Sabancuy	5.01	48	i P	Pn	07 14 11.4	0.0
SCIG	Sabancuy	5.01	48	P	Pn	07 14 11.8	+0.4
PLIG	Platanillo	5.03	304		Pn	07 14 15.2	+3.5
PLIG					Sn	07 15 06.8	-2.8
PLIG	Platanillo	5.03	304	eP	Pn	07 14 15.2	+3.5
PLIG				eS	Sn	07 15 06.8	-2.8
CXUV	Coxquihui	5.11	333		Pn	07 14 11.6	-1.1
CXUV	Coxquihui	5.11	333	eP	Pn	07 14 11.6	-1.1
CXUV				eS	Sn	07 15 16.7	+5.2
CAIG	El Cayaco	5.15	287		Pn	07 14 14.9	+1.6
CAIG	El Cayaco	5.15	287	eP	Pn	07 14 14.9	+1.6
CAIG				eS	Sn	07 15 08.0	-4.5
MPVM	San Francisco	5.15	314		Sn	07 15 13.2	+0.3
MPVM	San Francisco	5.15	314	eP	Pn	07 14 17.9	+4.4
MPVM				eS	Sn	07 15 13.2	+0.3
PETF	Flores	5.20	75		Pn	07 14 15.4	+1.5
PETF	Flores	5.20	75		Sn	07 15 11.2	-2.4
PETF	Flores	5.20	75	eP	Pn	07 14 14.5	+0.6
PETF				eS	Sn	07 15 11.2	-2.4
PETF	Flores	5.20	75	P	Pn	07 14 15.1	+1.2
THVM	De Xico	5.20	315		Sn	07 15 10.3	-3.9
THVM	De Xico	5.20	315	eS	Sn	07 15 10.3	-3.9
FAME	Alcaldia de Sa	5.23	109	P	Pn	07 14 16.7	+2.3
TLVM	San Miguel Top	5.26	313		Pn	07 14 12.8	-2.3
TLVM					Sn	07 15 13.9	-1.7
TLVM	San Miguel Top	5.26	313	eP	Pn	07 14 12.8	-2.3
TLVM				eS	Sn	07 15 13.9	-1.7
XCVM	Xochimilco	5.26	314		Sn	07 15 12.6	-3.0
XCVM	Xochimilco	5.26	314	eS	Sn	07 15 12.6	-3.0
MAVM	Malinalco, Edo	5.34	309	e	Pb	07 14 27.9	-2.1
MAVM				e		07 15 22.0	
COVM	Coyoacan	5.36	314		Sn	07 15 15.0	-2.9
COVM	Coyoacan	5.36	314	eS	Sn	07 15 15.0	-2.9
UNM	Universidad Na	5.36	314	eP	Pb	07 14 23.9	-6.3
UNM				eS	Sn	07 15 16.8	-1.1
PBVM	Pinon	5.37	316		Pn	07 14 14.9	-1.3
PBVM					Sn	07 15 18.2	+0.4
PBVM	Pinon	5.37	316	eP	Pn	07 14 14.9	-1.3
PBVM				eS	Sn	07 15 18.2	+0.4
MCRU	Las Cruces	5.40	314	eP	Pn	07 14 21.2	+4.2
MCRU				eS	Sn	07 15 18.2	-1.0
VTVM	Tizayuca	5.41	320		Sn	07 15 21.0	+1.8
VTVM	Tizayuca	5.41	320	eS	Sn	07 15 21.0	+1.8
NUBE	Las Nubes	5.43	108	P	Pn	07 14 20.3	+3.1
MHVM	Bosque de Chap	5.43	314		Sn	07 15 17.7	-2.0
MHVM	Bosque de Chap	5.43	314	eP	Pn	07 14 23.8	+6.4
MHVM				eS	Sn	07 15 17.7	-2.0
CJVM	Cuajimalpa	5.45	314		Sn	07 15 17.9	-2.4
CJVM	Cuajimalpa	5.45	314	eS	Sn	07 15 17.9	-2.4
APVM	Azcapotzalco	5.49	315	eS	Sn	07 15 28.9	+7.8
ZUVM	ZUMPANGO	5.64	318		Pn	07 14 21.9	+1.7
ZUVM					Sn	07 15 22.9	-2.1
ZUVM	ZUMPANGO	5.64	318	eP	Pn	07 14 21.9	+1.7
ZUVM				eS	Sn	07 15 22.9	-2.1
ESQI	Esquipulas	5.67	100		Pn	07 14 22.8	+2.3
ARIG	Puente Sto Nin	5.67	299		Pn	07 14 23.4	+3.0
ARIG					Sn	07 15 22.1	-3.2
ARIG	Puente Sto Nin	5.67	299	eP	Pn	07 14 23.4	+3.0
ARIG				eS	Sn	07 15 22.1	-3.2
MTO3	Montecristo	5.68	102		Pn	07 14 23.7	+2.8
CTUV	Llano Grande	6.58	333	eS	Sn	07 15 50.8	+3.0
TEIG	Tepich	7.95	54		Pn	07 14 51.4	-0.4
JUD3	Juan Diaz 3	10.79	119		Pn	07 15 36.0	+5.2
435B	Jarrell	15.26	352		Pn	07 16 33.8	+2.1
JCT	Junction City	15.40	345	Pn	Pn	07 16 35.3	+1.7
JCT				IAmb	IAmb	07 16 43.5	
	comp=Z,8.0nm,0.8s						
BRDY	Brady	15.99	348		P	07 16 44.8	+0.1
BRDY				IAmb	IAmb	07 16 54.3	
	comp=Z,10nm,0.8s						
OZNA	Ozona	16.20	341		P	07 16 46.0	-1.0
WHTX	Lake Whitney,	16.44	353	P	P	07 16 50.3	+0.8
ALPN	Alpine	16.64	333		P	07 16 51.8	-0.1
FW13	Cleburne	16.79	353	P	P	07 16 54.8	+1.4
FW13				IAmb	IAmb	07 16 56.6	
	comp=Z,12nm,0.6s						
SGCY	Sterling City	17.12	342		Pn	07 16 56.4	+0.8
MNHN	Monahans	17.14	337	P	P	07 16 57.1	-0.3
PLPT	Palo Pinto	17.36	351		P	07 17 00.2	+0.4
PLPT				IAmb	IAmb	07 17 16.3	
	comp=Z,9.4nm,0.7s						
ABTX	Abilene, Hawle	17.42	347	P	P	07 17 00.8	+0.3
ABTX				IAmb	IAmb	07 17 05.9	
	comp=Z,11nm,0.9s						
APMT	Aspermont	18.20	346	P	P	07 17 10.8	+1.7
WTFS	Witchita Falls	18.32	351		P	07 17 11.8	+1.5
WTFS				IAmb	IAmb	07 17 18.7	
	comp=Z,14nm,0.8s						
DKNS	Dickens	18.72	345		Pn	07 17 16.6	+1.3
SMWD	Samnorwood	19.94	348	IAmb	IAmb	07 17 34.5	
	comp=Z,6.0nm,0.7s						
OK052	Battle Ridge R	20.35	356	IAmb	IAmb	07 17 34.4	
	comp=Z,13nm,0.9s						
QUOK	Quay	20.52	356	IAmb	IAmb	07 17 35.6	
	comp=Z,11nm,0.9s						
Y22A	Socorro	21.14	332	IAmb	IAmb	07 17 51.2	
	comp=Z,15nm,1.4s						
T35A	Sooner Cattle	21.25	357		P	07 17 42.4	+0.1
RTBA	Rita Blanca	21.82	343	IAmb	IAmb	07 17 53.7	
	comp=Z,4.9nm,0.8s						
N38A	Joes South For	25.14	3		P	07 18 20.5	-0.6

*SOME **29** 07:22:03.0, 40°.93N×78°.75E, h10km*
*NNC **29** 07:22:06.5±1.7, 41°.05N×78°.74E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.9km s-min=7.3km az=166.0*
*KRNET **29** 07:22:08.1±0.1, 41°.17N×78°.82E, h12km, mb3.4*
ISC 29 07:22:05.1±1.8, **41°.01N**±0°.06×**78°.70E**±0°.04, **h9**km±11km, **n44**, σ1°.51/69, **24C-12D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.98	317	⇑iP	Pn	07 22 26.3	+0.8
TARG				⇑iS	Sn	07 22 39.4	-0.3
PRZ	Przheval'sk	1.49	352	⇑eP	Pg	07 22 33.8	+0.1
PRZ				⇑eS	Sb	07 22 52.9	+0.8
KDJ	Kajisay	1.59	315	⇓iP	Pg	07 22 37.2	+1.5
KDJ				⇓iS	Sg	07 22 58.4	+2.0
SATY	Saty	2.06	354	Pg	Pg	07 22 44.3	-0.3
	25nm,0.8s						
SATY				Lg	Lg	07 23 13.7	
	63nm,0.6s						
UZB	Uzynbulak	2.15	6	Pg	Pb	07 22 43.6	-0.7
	12nm,0.7s						
UZB				Lg	Lg	07 23 12.2	
	32nm,0.3s						
UZB	Uzynbulak	2.15	6	eP	Pb	07 22 43.6	-0.7
	12nm,0.7s						
UZB				eS	Sb	07 23 12.2	+1.1
	32nm,0.3s						
ULHL	Ulahol	2.21	305	⇑iP	Pg	07 22 48.0	+0.4
ULHL				⇑iS	Sg	07 23 17.0	+0.7
SHLS	Shalkode	2.22	15	Pg	Pg	07 22 48.4	+0.8
	46nm,0.6s						
SHLS				Lg	Lg	07 23 21.0	
	177nm,0.7s						
SHLS	Shalkode	2.22	15	eP	Pg	07 22 48.4	+0.8
	46nm,0.6s						
SHLS				eS	Sg	07 23 21.0	+4.6
	177nm,0.7s						
JNKS	Jany-Kuch	2.30	272	⇑eP	Pg	07 22 50.1	+0.9
JNKS				⇑iS	Sg	07 23 21.4	+2.3
PDGK	Podgornoye	2.39	14	⇑Pn	Pg	07 22 49.3	-1.6
	14nm,0.5s						
PDGK				⇑Sn	Sg	07 23 19.9	-2.0
	72nm,0.6s						
TNSS	Tian-Shan	2.41	328	Pg	Pg	07 22 50.5	-0.7
	13nm,0.6s						
TNSS				Lg	Lg	07 23 24.3	
	17nm,0.8s						
TNSS	Tian-Shan	2.41	328	eP	Pg	07 22 50.5	-0.7
	13nm,0.6s						
TNSS				eS	Sg	07 23 24.3	+1.8
	17nm,0.8s						
KPKS	Kokpek	2.45	360	Pg	Pb	07 22 49.3	-0.1
	21nm,0.5s						
KPKS				Lg	Lg	07 23 22.3	
	72nm,0.6s						
MDOK	Medeo	2.48	331	Pg	Pg	07 22 51.1	-1.5
	40nm,0.7s						
MDOK				Lg	Lg	07 23 25.6	
	38nm,0.9s						
KURS	Kuram	2.50	351	Pg	Pg	07 22 52.3	-0.9
	23nm,0.5s						
KURS				Lg	Lg	07 23 27.1	
	57nm,0.7s						
BOOM	Boomskoye usch	2.54	307	⇓iP	Pg	07 22 52.4	-1.3
BOOM				⇓iS	Sb	07 23 24.5	+2.2
IZV	Izvestkoviy	2.55	323	Pg	Pg	07 22 52.5	-1.5
	49nm,0.6s						
IZV				Lg	Lg	07 23 27.7	
	63nm,0.8s						
IZV	Izvestkoviy	2.55	323	eP	Pg	07 22 52.5	-1.5
	49nm,0.6s						
IZV				eS	Sg	07 23 27.7	+0.7
	63nm,0.8s						
MTBS	Maitube	2.71	322	Pg	Pg	07 22 55.3	-1.7
	20nm,0.9s						
MTBS				Lg	Lg	07 23 32.3	
	24nm,0.4s						
MTBS	Maitube	2.71	322	eP	Pg	07 22 55.3	-1.7
	20nm,0.9s						
MTBS				eS	Sg	07 23 32.4	+0.3
	24nm,0.4s						
KTMS	Ketmen	2.73	26	Pg	Pb	07 22 53.9	-0.2
	10nm,0.9s						
KTMS				Lg	Lg	07 23 29.9	
	74nm,0.7s						
KTMS	Ketmen	2.73	26	eP	Pb	07 22 53.9	-0.2
	10nm,0.9s						
KTMS				eS	Sg	07 23 29.9	-2.8
	74nm,0.7s						
KST	Kastek	2.88	316	Pg	Pg	07 22 58.4	-1.8
	18nm,0.6s						
KST				Lg	Lg	07 23 37.8	
	31nm,0.9s						
KST	Kastek	2.88	316	eP	Pg	07 22 58.4	-1.8
	18nm,0.6s						
KST				eS	Sg	07 23 37.8	+0.3
	31nm,0.9s						
TKM2	Tokmak 2	3.00	311	⇑iP	Pb	07 22 58.6	-0.2
TKM2				⇑iS	Sb	07 23 35.4	-0.2
KTBS	Karatobe	3.08	332	Pg	Pb	07 23 01.3	+1.2
	28nm,0.6s						
KTBS				Lg	Lg	07 23 42.7	
	35nm,0.4s						
CHKK	Chushkaly	3.11	337	Pg	Pb	07 23 01.4	+0.8
	9.3nm,0.7s						
CHKK				Lg	Lg	07 23 43.1	
	73nm,0.6s						
CHKK	Chushkaly	3.11	337	eP	Pb	07 23 01.4	+0.8
	9.3nm,0.7s						
CHKK				eS	Sg	07 23 43.1	-1.9
	73nm,0.6s						
DGS	Degeres	3.11	317	Pg	Pg	07 23 02.6	-2.1
	27nm,0.8s						
DGS				Lg	Lg	07 23 45.5	
	36nm,0.6s						
KBK	Karagaybulak	3.25	302	⇓eP	Pb	07 23 02.4	-0.6
KBK				⇓iS	Sb	07 23 41.7	-1.0
ARXS	Arharly	3.26	349	Pg	Pb	07 23 03.5	+0.3
	9.2nm,0.6s						
ARXS				Lg	Lg	07 23 47.0	
	53nm,0.5s						
ARXS	Arharly	3.26	349	eP	Pb	07 23 03.5	+0.3
ARXS				eS	Sg	07 23 47.0	-2.9
UCH	Uchtor	3.36	293	⇓iP	Pb	07 23 04.3	-0.8
UCH				⇓iS	Sb	07 23 45.4	-0.9
KUU	Kurty	3.37	330	Pg	Pb	07 23 05.6	+0.7
	7.5nm,0.1s						
KUU				Lg	Lg	07 23 50.0	
	19nm,0.5s						
KUU	Kurty	3.37	330	eP	Pb	07 23 05.6	+0.7
	7.5nm,0.1s						
KUU				eS	Sb	07 23 50.0	+4.0
	19nm,0.5s						
ARLS	Aral	3.40	286	⇑eP	Pb	07 23 04.7	-0.8
ARLS				⇑iS	Sb	07 23 46.6	-0.4
KRBS	Karabastau	3.49	321	Pg	Pg	07 23 09.3	-2.7
	3.8nm,0.5s						
KRBS				Lg	Lg	07 23 56.4	
	9.4nm,0.4s						
FRU1	Bishkek	3.53	302	⇑eP	Pb	07 23 06.3	-1.4
FRU1				⇑eS	Sb	07 23 48.5	-2.2
AAK	Ala-Archa	3.54	299	⇑Pg	Pg	07 23 13.4	+0.5
	3.1nm,0.7s						
AAK				⇓Lg	Lg	07 24 01.9	
	12nm,0.8s						
AAK	Ala-Archa	3.54	299	⇑iP	Pb	07 23 06.4	-1.5
AAK				⇑iS	Sb	07 23 48.7	-2.3
SALK	Salom-Alik	3.69	270	⇓eP	Pb	07 23 09.9	-0.7
SALK				⇓eS	Sb	07 23 54.6	-1.0
MK31	Makanchi Array	6.34	23	⇓Pn	Pn	07 23 42.8	+4.1
	0.3nm,0.4s,baz=209,slow=13,SNR=9.8						
MK31				⇑Pg	Pg	07 24 05.6	-0.8
	0.8nm,0.6s,baz=202,slow=16,SNR=4.7						
MK31				⇑Sn	Sn	07 24 51.5	+0.3
	0.7nm,0.5s						
MK31				⇑Lg	Lg	07 25 20.8	
	2.0nm,0.6s,baz=207,slow=29,SNR=3.6						
KK31	Karatay Array	6.44	292	⇑Pg	Pg	07 24 08.7	+0.2
	0.2nm,0.2s,baz=101,slow=14,SNR=5.4						
KK31				⇑Lg	Lg	07 25 35.5	
	1.2nm,0.5s,baz=106,slow=25,SNR=3.8						

*NEIC **29** 07:29:05.5±1.0, 1°.80N±0°.10×122°.9E±0°.1, h438km±9km, mb4.3/26, Error ellipse: s-maj=17.1km s-min=13.6km az=61.0*
*DJA **29** 07:29:05.3±0.2, 2°N±3°×12°3E±°, h422km±2km, M4.5/30, mb4.7/30, mB5.0/13, MLv4.8/19, Mw(mB)4.3/13*
*IDC **29** 07:29:07.0±1.3, 1°.70N×122°.90E, h467km±15km, mb3.2/8, mbtmp4.3/12, Error ellipse: s-maj=22.8km s-min=8.1km az=67.0*
ISC 29 07:29:05.5±0.5, **1°.73N**±0°.07×**122°.89E**±0°.07, **h450**km, **n89**, σ1°.70/94, **mb4.2**/20, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.56	217	P	P	07 30 01.8	-2.1
MRSI				S	S	07 30 46.0	-5.1
KMSI	Cibinong	1.59	136	P	P	07 30 02.1	-1.9
KMSI				S	S	07 30 48.1	-3.2
TOLI2	Tolitoli	2.19	254	P	P	07 30 04.3	-2.9
LUWI	Luwuk	2.76	182	P	P	07 30 09.9	-1.0
LUWI	Luwuk	2.76	182	P	P	07 30 09.0	-1.9
LUWI	Luwuk	2.76	182	S	S	07 30 58.6	-5.3
LUWI	Luwuk	2.76	182	P	P	07 30 09.1	-1.9
LUWI				S	S	07 30 57.2	-6.7
APSI	Ampana	2.90	205	P	P	07 30 10.6	-1.3
SGSI	Sangihe	3.28	54	P	P	07 30 12.7	-2.0
MPSI	Mapaga	3.29	245	P	P	07 30 12.4	-2.4
TNTI	Ternate	4.58	102	P	P	07 30 23.6	-2.3
TNTI	Ternate	4.58	102	P	P	07 30 23.8	-2.2
TNTI	Ternate	4.58	102	P	P	07 30 23.7	-2.3
SANI	Sanana	4.87	140	P	P	07 30 25.9	-2.9
SANI	Sanana	4.87	140	P	P	07 30 25.9	-2.9
MYLDM	Lahad Datu	5.56	308	P	P	07 30 35.0	-0.4
SPSI	Sidrap Palu	6.46	209	P	P	07 30 44.3	-0.4
	0.9nm5μm205nm,0.8s						
NLAI	Namlea	6.49	140	P	P	07 30 46.3	+1.3
	0.4nm127nm,0.7s						
BNSI	Bone	6.70	204	P	P	07 30 46.9	-0.2
	0.4nm1μm149nm,1.0s						
KAPI	Kappang	7.40	205	P	P	07 30 54.8	+0.3
KAPI	Kappang	7.40	205	P	P	07 30 55.1	+0.5
	45nm,0.4s,baz=50,slow=4.0,SNR=31						
KAPI	Kappang	7.40	205	P	P	07 30 55.1	+0.5
AAI	Ambon	7.56	135	P	P	07 30 57.6	+1.3
MSAI	Masohi	7.87	130	P	P	07 31 01.3	+1.6
SWI	Sorong	8.76	107	P	P	07 31 09.6	+0.3
	66nm,1.0s						
BNDI	Bandanaira	9.37	132	P	P	07 31 17.1	+1.2
BNDI	Bandanaira	9.37	132	P	P	07 31 16.8	+0.9
BBKI	Banjar Baru	9.55	237	P	P	07 31 19.5	+1.6
FAKI	Fak Fak	10.44	116		P	07 31 28.2	+0.6
FAKI	Fak Fak	10.44	116	P	P	07 31 28.4	+0.8
FAKI	Fak Fak	10.44	116	P	P	07 31 28.0	+0.4
	2μm96nm,0.6s						
EDFI	Ende, Flores	10.48	187	P	P	07 31 29.0	+0.9
SBUM	Sibu	10.68	274	P	P	07 31 30.5	+0.3
PLAI	Plampang	11.66	206	P	P	07 31 42.0	+1.2
PLAI	Plampang	11.66	206	P	P	07 31 42.1	+1.2
	2μm121nm,0.7s						
WBSI	Waikabubak, Su	11.82	197	P	P	07 31 42.3	-0.3
	54nm,0.7s						
BATI	Baumata	11.89	176	P	P	07 31 43.9	+0.6
	144nm,0.8s,baz=336,slow=5.3,SNR=5.5						
BATI				S	S	07 33 55.4	+1.9
	65nm,0.6s,baz=165,slow=20,SNR=1.5						
BATI	Baumata	11.89	176	P	P	07 31 45.1	+1.8
	173nm,1.1s						
TWSI	Taliwang, Sumb	12.00	210	P	P	07 31 45.7	+1.2
	41nm,0.6s						
KMMI	Kalianget	12.46	225	P	P	07 31 52.0	+2.5
	73nm,0.9s						
KSM	Kuching	12.57	269	P	P	07 31 50.6	-0.1
JAGI	Jajag, Banyuwa	13.36	221	P	P	07 32 00.7	+1.4
JAGI	Jajag, Banyuwa	13.36	221	P	P	07 32 01.0	+1.7
JAGI	Jajag, Banyuwa	13.36	221	P	P	07 32 00.8	+1.5
	72nm,0.9s						
PCJI	Pacitan	15.28	230	P	P	07 32 20.6	+0.8
	59nm,0.6s						
UGM	Wanagama	15.62	232	P	P	07 32 24.4	+1.0
UGM	Wanagama	15.62	232	P	P	07 32 25.3	+1.9
UGM	Wanagama	15.62	232	P	P	07 32 24.5	+1.0
	113nm,1.1s						
YOGI	Yogyakarta	15.74	233	P	P	07 32 26.3	+1.6
DRS	Darwin Rock St	16.17	151	P	P	07 32 30.6	+1.4
KPJI	Karang Pucung	16.58	237	P	P	07 32 35.1	+1.5
	70nm,0.7s						
MTN	Manton Dam	16.64	151		P	07 32 34.5	+0.4
LEM	Lembang	17.45	241	P	P	07 32 44.0	+1.1
	21nm,0.5s,baz=68,slow=7.2,SNR=3.9						
BBJI	Bungbulang	17.73	239	P	P	07 32 45.8	0.0
KNRA	Kununurra	18.25	162	P	P	07 32 48.6	-2.2
KNRA				IAmb	IAmb	07 32 54.8	
	comp=Z,8.4nm,1.1s						
JAY	Jayapura	18.31	103	P	P	07 32 51.3	-0.3
	comp=Z,8.2nm,0.4s,baz=238,slow=4.8,SNR=7.6						
JAY	Jayapura	18.31	103	P	P	07 32 51.5	0.0
MYKOM	Kota Tinggi	19.03	270	P	P	07 32 57.9	-0.3
FITZ	Fitzroy Crossi	19.89	172	IAmb	IAmb	07 33 08.2	
	comp=Z,1.5nm,0.8s						
FITZ	Fitzroy Crossi	19.89	172	P	P	07 33 06.3	+0.2
	comp=Z,4.9nm,0.4s,baz=11,slow=8.5,SNR=20						
MBWA	Marble Bar	22.96	188	P	P	07 33 34.6	+0.7
MBWA				IAmb	IAmb	07 33 37.3	
	comp=Z,12nm,0.9s						
WB0	Warramunga Arr	24.17	153	P	P	07 33 44.8	0.0
WB0				IAmb	IAmb	07 33 51.1	
	comp=Z,7.2nm,1.1s						
WRAB	Tennant Creek	24.29	153	P	P	07 33 46.2	+0.3
WRAB				IAmb	IAmb	07 33 46.2	
	comp=Z,4.4nm,0.7s						
WRA	Warramunga Arr	24.30	153	P	P	07 33 45.8	-0.1
	comp=Z,1.5nm,0.5s,baz=336,slow=9.7,SNR=21						
WRA				S	S	07 37 30.4	-1.8
	comp=Z,2.3nm,0.8s,baz=340,slow=15,SNR=6.2						
WRA				ScP	ScP	07 40 05.0	-1.8
	comp=Z,0.4nm,0.5s,baz=336,slow=3.0,SNR=4.6						
	comp=Z,1.5nm,0.5s						
WR8	Warramunga Arr	24.38	153	P	P	07 33 46.4	-0.2
WR8				IAmb	IAmb	07 34 14.7	
	comp=Z,14nm,1.5s						
COEN	Coen	25.45	128	P	P	07 33 56.1	-0.1
COEN				IAmb	IAmb	07 33 58.7	
	comp=Z,18nm,1.2s						
GIRL	Giralia	25.66	199	P	P	07 33 59.2	+1.3
AS31	Alice Springs	27.43	158	P	P	07 34 14.1	+0.4
ASAR	Alice Springs	27.43	158	P	P	07 34 14.6	+0.9
	comp=Z,0.5nm,0.5s,baz=338,slow=7.2,SNR=15						
ASAR				S	S	07 38 20.4	-1.0
	comp=Z,2.1nm,1.0s,baz=344,slow=19,SNR=8.6						
ASAR				ScP	ScP	07 40 14.3	-1.7
	comp=Z,0.6nm,0.7s,baz=352,slow=2.7,SNR=6.2						
	comp=Z,0.5nm,0.5s						
MORW	Morawa	31.32	192	P	P	07 34 48.3	+0.9
MORW				IAmb	IAmb	07 34 48.9	
	comp=Z,17nm,1.1s						
FORT	Forrest	32.71	172	P	P	07 35 00.2	+0.9
FORT				IAmb	IAmb	07 35 08.9	
	comp=Z,20nm,1.2s						
INKA	Innaminka	33.97	151	P	P	07 35 10.9	+0.8
NWAO	Narrogin (SRO)	34.88	188	P	P	07 35 17.2	-0.6
BBOO	Buckleboo	36.55	161	P	P	07 35 32.6	+1.0
STKA	Stephens Creek	37.85	154	IAmb	IAmb	07 35 44.7	
	comp=Z,18nm,0.8s						
STKA	Stephens Creek	37.85	154	P	P	07 35 43.0	+0.6
	comp=Z,1.8nm,0.3s,baz=322,slow=8.7,SNR=8.5						
	comp=Z,1.8nm,0.3s						
ARMA	Armidale	42.11	142	P	P	07 36 17.7	+0.7
ARMA				IAmb	IAmb	07 36 20.8	
	comp=Z,7.2nm,1.0s						
CAN	Canberra	44.22	149	P	P	07 36 35.9	+2.4
CAN				IAmb	IAmb	07 36 49.7	
	comp=Z,25nm,1.4s						
SONM	Songino Array	48.09	345	IAmb	IAmb	07 37 04.0	
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	48.09	345	P	P	07 37 03.3	+0.3
	comp=Z,1.4nm,0.6s,baz=165,slow=9.2,SNR=5.9						
	comp=Z,1.4nm,0.6s						
MKAR	Makanchi Array	57.09	328	P	P	07 38 08.2	+0.5
	comp=Z,1.8nm,0.6s,baz=123,slow=8.7,SNR=18						
	comp=Z,1.8nm,0.6s						
PETK	Petropavlovsk-	58.75	24	P	P	07 38 19.2	+0.3
	comp=Z,1.2nm,0.7s,baz=225,slow=8.2,SNR=1.7						
	comp=Z,1.2nm,0.7s						
KURBB	Kurchatov Arra	61.42	330	P	P	07 38 36.4	-0.3
	comp=Z,1.5nm,0.3s,baz=133,slow=6.0,SNR=12						
	comp=Z,1.5nm,0.3s						
KURK	Kurchatov	61.43	330	P	P	07 38 37.0	+0.2
KURK				IAmb	IAmb	07 38 37.4	
	comp=Z,4.9nm,0.6s						
BVAR	Borovoye Array	66.95	329	P	P	07 39 12.0	0.0
	comp=Z,1.1nm,0.6s,baz=147,slow=6.7,SNR=4.7						
	comp=Z,1.1nm,0.6s						
CASY	Casey	68.44	185	P	P

σ1§69/45, mb4.1/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.45	71		Pg	08 05 16.7	-0.7
DAV	Davao City (W)	0.45	71	Pg	Pn	08 05 21.9	+1.3
	baz=250,slow=7.7						
DAV				Lg	Lg	08 05 32.9	
	baz=318,slow=14						
DAV	Davao City (W)	0.45	71	P	Pg	08 05 12.0	-5.4
SGSI	Sangihe	3.24	173	P	Pn	08 06 00.3	+1.4
MYLDM	Lahad Datu	6.83	256	Pn	Pn	08 06 51.2	+2.8
TOLI2	Tolitoli	7.23	217	Pn	Pn	08 06 51.6	-2.2
LUWI	Luwuk	8.26	197	Pn	Pn	08 07 07.3	-0.6
APSI	Ampana	8.53	204	P	Pn	08 07 13.4	+1.7
SANI	Sanana	8.95	175	P	Pn	08 07 17.9	+0.4
I39PW	PALAU INFRASON	9.35	86	I	I	09 00 00.0	
	baz=267,slow=295,SNR=0.9						
JAY	Jayapura	18.14	121	LR	LR	08 17 39.5	
	comp=Z,118nm,18.3s,baz=128,slow=41						
MTN	Manton Dam	20.52	163	P	P	08 09 46.9	+0.3
MTN				IAmb	IAmb	08 09 54.5	
	comp=Z,12nm,0.8s						
KNRA	Kununurra	22.74	171		P	08 10 10.8	+0.4
KNRA				IAmb	IAmb	08 10 15.1	
	comp=Z,23nm,0.6s						
FITZ	Fitzroy Crossi	24.87	179		P	08 10 30.5	-0.4
COEN	Coen	27.40	139	P	P	08 10 54.5	+0.6
COEN				IAmb	IAmb	08 10 59.5	
	comp=Z,19nm,1.1s						
CMAR	Chiang Mai Arr	27.97	297	P	P	08 10 55.0	-4.0
	comp=Z,0.7nm,0.2s,baz=104,slow=9.5,SNR=1.3						
	comp=Z,0.7nm,0.2s						
WB0	Warramunga Arr	28.04	161	P	P	08 10 58.8	-0.8
WB0				IAmb	IAmb	08 11 12.8	
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	28.19	161	P	P	08 10 59.9	-1.0
WRA	Warramunga Arr	28.19	161	P	P	08 10 59.2	-1.7
	comp=Z,0.9nm,0.5s,baz=330,slow=10.0,SNR=13						
	comp=Z,0.9nm,0.5s						
WR8	Warramunga Arr	28.25	161	P	P	08 11 00.7	-0.7
WR8				IAmb	IAmb	08 11 30.1	
	comp=Z,13nm,1.2s						
MBWA	Marble Bar	28.41	191	P	P	08 11 02.8	0.0
MBWA				IAmb	IAmb	08 11 30.8	
	comp=Z,25nm,1.4s						
AS31	Alice Springs	31.58	165		P	08 11 31.3	+0.3
ASAR	Alice Springs	31.58	165	P	P	08 11 30.1	-0.8
ASAR	Alice Springs	31.58	165	P	P	08 11 29.2	-1.7
	comp=Z,1.6nm,0.6s,baz=345,slow=9.2,SNR=21						
	comp=Z,1.6nm,0.6s						
MJAR	Matsushiro Arr	31.81	20	P	P	08 11 32.3	-0.5
	comp=Z,1.3nm,0.7s,baz=197,slow=10,SNR=2.9						
	comp=Z,1.3nm,0.7s						
FORT	Forrest	37.59	176	P	P	08 12 22.8	0.0
FORT				IAmb	IAmb	08 12 50.2	
	comp=Z,12nm,0.9s						
USRK	Ussuriysk Ar.	37.61	8	P	P	08 12 23.3	+0.5
	comp=Z,3.5nm,0.9s,baz=188,slow=8.4,SNR=2.8						
	comp=Z,3.5nm,0.9s						
BBOO	Buckleboo	40.85	166		P	08 12 50.3	+0.2
BBOO				IAmb	IAmb	08 12 59.0	
	comp=Z,14nm,0.8s						
STKA	Stephens Creek	41.66	159	P	P	08 12 56.9	+0.2
STKA	Stephens Creek	41.66	159	P	P	08 12 55.2	-1.5
	comp=Z,1.6nm,0.6s,baz=335,slow=9.3,SNR=6.7						
	comp=Z,1.6nm,0.6s						
HILR	Hailar Array B	42.73	355	P	P	08 13 05.8	+0.5
	comp=Z,1.5nm,0.5s,baz=164,slow=12,SNR=3.6						
	comp=Z,1.5nm,0.5s						
SONM	Songino Array	43.79	342	P	P	08 13 11.5	-2.5
	comp=Z,0.3nm,0.4s,baz=134,slow=10,SNR=1.8						
	comp=Z,0.3nm,0.4s						
ARMA	Armidale	44.98	147	P	P	08 13 23.5	-0.3
ARMA				IAmb	IAmb	08 13 33.0	
	comp=Z,6.9nm,0.9s						
PETK	Petropavlovsk-	53.13	24	P	P	08 14 27.2	+1.5
	comp=Z,5.1nm,0.9s,baz=202,slow=10,SNR=6.5						
	comp=Z,5.1nm,0.9s						
MKAR	Makanchi Array	54.05	325		P	08 14 35.3	+2.6
MKAR	Makanchi Array	54.05	325	P	P	08 14 33.1	+0.5
	comp=Z,0.8nm,0.6s,baz=122,slow=7.8,SNR=7.8						
	comp=Z,0.8nm,0.6s						
FRU1	Bishkek	56.93	317	P	P	08 14 56.6	+3.1
KURBB	Kurchatov Arra	58.22	327	P	P	08 15 02.8	+0.5
	comp=Z,1.4nm,0.7s,baz=123,slow=5.9,SNR=11						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	58.22	327	P	P	08 15 05.1	+2.8
KURK				IAmb	IAmb	08 15 16.4	
	comp=Z,2.7nm,0.8s						
GAR	Garm	58.62	312		P	08 15 07.5	+1.9
KK31	Karatay Array	59.84	316	P	P	08 15 15.6	+1.8
KK31				IAmb	IAmb	08 15 16.7	
	comp=Z,5.6nm,1.1s						
KKAR	Karatay Array	59.84	316		P	08 15 15.8	+2.0
BKZ	Black Stump Fm	66.00	138	P	P	08 15 56.1	+1.3
BPAW	Bear Paw Mtn.	81.13	26		P	08 17 26.1	+2.7
BPAW				IAmb	IAmb	08 17 27.0	
	comp=Z,5.7nm,0.9s						
ILAR	Eielson Array	82.92	26	P	P	08 17 31.5	-1.2
	comp=Z,0.5nm,0.8s,baz=261,slow=6.1,SNR=8.6						
	comp=Z,0.5nm,0.8s						
RIDG	Independent Ri	83.85	27	P	P	08 17 39.8	+2.2
VNDA	Vanda	86.78	173	IAmb	IAmb	08 18 25.7	
	comp=Z,4.7nm,1.4s						
VNDA	Vanda	86.78	173	P	P	08 17 49.9	-1.9
	comp=Z,0.2nm,0.6s,baz=342,slow=3.2,SNR=1.8						
	comp=Z,0.2nm,0.6s						
BRTR	Keskin Array B	86.78	309	P	P	08 17 50.2	-2.7
	comp=Z,0.2nm,0.4s,baz=69,slow=5.2,SNR=1.8						
	comp=Z,0.2nm,0.4s						

KRNET ***29*** *08:06:00.2±0.1, 41°.19N×78°.87E, h13km, mb3.5*
SOME ***29*** *08:06:00.0, 41°.18N×78°.68E, h0km*
NNC ***29*** *08:06:01.5±0.8, 41°.17N×78°.70E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=5.7km s-min=3.9km az=170.0
ISC 29 08:06:06.8±2.1, 41°.37N±0°.07×78°.53E±0°.04, h9km±11km, n37, σ1§56/56, 21C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.65	304	⇑iP	Pg	08 06 18.7	-0.9
TARG				⇑iS	Sn	08 06 32.2	-1.0
PRZ	Przheval'sk	1.12	355	⇑eP	Pb	08 06 25.9	-2.5
PRZ				⇑eS	Sn	08 06 44.7	+0.3
KDJ	Kajisay	1.27	307	⇑iP	Pn	08 06 29.6	-1.2
KDJ				⇑iS	Sg	08 06 51.1	+3.5
SATY	Saty	1.69	357	Pg	Pb	08 06 36.6	-1.6
	16nm,0.4s						
SATY				Lg	Lg	08 07 02.9	
	37nm,0.3s						
UZB	Uzynbulak	1.81	11	Pg	Pn	08 06 37.1	-1.3
	10.0nm,0.3s						
UZB				Lg	Lg	08 07 03.6	
	41nm,0.4s						
UZB	Uzynbulak	1.81	11	eP	Pn	08 06 37.1	-1.3
	10.0nm,0.3s						
UZB				eS	Sb	08 07 03.6	+0.5
	41nm,0.4s						
SHLS	Shalkode	1.92	21	Pg	Pb	08 06 41.3	-0.7
	37nm,0.4s						
SHLS				Lg	Lg	08 07 11.2	
	94nm,0.4s						
SHLS	Shalkode	1.92	21	eP	Pb	08 06 41.3	-0.7
	37nm,0.4s						
SHLS				eS	Sg	08 07 11.2	+2.7
	94nm,0.4s						
ULHL	Ulahol	1.92	298	⇑iP	Pb	08 06 40.4	-1.7
ULHL				⇑iS	Sg	08 07 09.8	+1.2
TNSS	Tian-Shan	2.04	325	Pg	Pb	08 06 43.9	-0.4
	13nm,0.4s						
TNSS				Lg	Lg	08 07 15.4	
	13nm,0.3s						
TNSS	Tian-Shan	2.04	325	eP	Pb	08 06 43.9	-0.4
	13nm,0.4s						
TNSS				eS	Sg	08 07 15.4	+3.0
	13nm,0.3s						
KPKS	Kokpek	2.10	3	Pg	Pb	08 06 43.1	-2.0
	0.3nm,0.1s						
KPKS				Lg	Lg	08 07 14.0	
	49nm,0.3s						
MDOK	Medeo	2.10	329	Pg	Pb	08 06 44.5	-0.7
	44nm,0.5s						
MDOK				Lg	Lg	08 07 16.5	
	58nm,0.5s						
KURS	Kuram	2.13	353	Pg	Pb	08 06 44.7	-1.0
	19nm,0.3s						
KURS				Lg	Lg	08 07 16.9	
	11nm,0.4s						
IZV	Izvestkoviy	2.19	320	Pg	Pb	08 06 46.2	-0.6
	17nm,0.3s						
IZV				Lg	Lg	08 07 19.6	
	64nm,0.4s						
IZV	Izvestkoviy	2.19	320	eP	Pb	08 06 46.2	-0.6
	17nm,0.3s						
IZV				eS	Sg	08 07 19.6	+2.3
	64nm,0.4s						
JNKS	Jany-Kuch	2.19	263	⇑iP	Pn	08 06 42.9	-0.7
JNKS				⇑iS	Sb	08 07 13.9	-0.2
BOOM	Boomskoye usch	2.23	301	⇑iP	Pn	08 06 44.7	+0.6
BOOM				⇑iS	Sb	08 07 17.2	+2.0
MTBS	Maitube	2.35	319	Pg	Pb	08 06 48.4	-1.0
	8.1nm,0.3s						
MTBS				Lg	Lg	08 07 23.5	
	11nm,0.1s						
MTBS	Maitube	2.35	319	eP	Pb	08 06 48.4	-1.0
	8.1nm,0.3s						
MTBS				eS	Sg	08 07 23.5	+1.1
	11nm,0.1s						
KST	Kastek	2.54	312	Pg	Pb	08 06 51.8	-0.8
	16nm,0.3s						
KST				Lg	Lg	08 07 28.8	
	21nm,0.4s						
KST	Kastek	2.54	312	eP	Pb	08 06 51.8	-0.8
	16nm,0.3s						
KST				eS	Sg	08 07 28.8	+0.5
	21nm,0.4s						
KTBS	Karatobe	2.71	330	Pg	Pb	08 06 55.2	-0.3
	19nm,0.3s						
KTBS				Lg	Lg	08 07 35.0	
	28nm,0.3s						
DGS	Degeres	2.77	313	Pg	Pb	08 06 56.3	-0.3
	12nm,0.3s						
DGS				Lg	Lg	08 07 37.0	
	35nm,0.4s						
ARXS	Arharly	2.89	350	Pg	Pb	08 06 57.7	-0.8
	10nm,0.5s						
ARXS				Lg	Lg	08 07 39.3	
	122nm,0.5s						
ARXS	Arharly	2.89	350	eP	Pb	08 06 57.7	-0.8
ARXS				eS	Sg	08 07 39.3	-0.3
KUU	Kurty	3.00	328	Pg	Pb	08 07 00.0	-0.3
KUU				Lg	Lg	08 07 42.8	
KUU	Kurty	3.00	328	eP	Pb	08 07 00.0	-0.3
KUU				eS	Sg	08 07 42.8	-0.2
UCH	Uchtor	3.12	287	⇓iP	Pn	08 06 56.9	+0.3
UCH				⇓iS	Sb	08 07 38.3	-2.8
KRBS	Karabastau	3.14	319	Pg	Pb	08 07 02.5	-0.3
	5.3nm,0.3s						
KRBS				Lg	Lg	08 07 47.6	
	8.0nm,0.4s						
ARLS	Aral	3.19	280	⇑eP	Pn	08 06 57.3	0.0
ARLS				⇑iS	Sn	08 07 39.0	+3.5
FRU1	Bishkek	3.24	298	⇑eP	Pn	08 06 58.4	+0.5
FRU1				⇑eS	Sb	08 07 41.1	-3.0
AAK	Ala-Archa	3.26	294	⇓iP	Pn	08 06 58.8	+0.5
AAK				⇓iS	Sb	08 07 41.7	-3.2
SALK	Salom-Alik	3.59	264	⇑eP	Pn	08 07 02.3	-0.5
SALK				⇑eS	Sn	08 07 47.5	+2.2
MK31	Makanchi Array	6.06	25	Pn	Pn	08 07 36.4	-0.2
	0.2nm,0.4s,baz=205,slow=14,SNR=7.1						
MK31				⇑Pg	Pb	08 07 52.5	0.0
	0.3nm,0.4s						
MK31				⇓Sn	Sn	08 08 49.1	+3.1
	1.1nm,0.6s,baz=207,slow=23,SNR=4.4						
MK31				⇑Lg	Lg	08 09 16.9	
	1.8nm,0.6s						
KURBB	Kurchatov Arra	9.26	0	⇑Lg	Lg	08 10 59.5	
	10.0nm,0.8s						
KURK	Kurchatov	9.35	0	⇓Lg	Lg	08 11 03.5	
	1.3nm,0.7s						

SJA ***29*** *08:15:39.2±0.7, 23°.11S×70°.85W, h11km, ML4.7, MW4.3*
NEIC ***29*** *08:15:42.1, 23°.14S×70°.73W, h10km*
GUC ***29*** *08:15:43.3±0.9, 23°.13S×70°.67W, h37km±3km, ML4.8*
NEIC ***29*** *08:15:45.4±2.9, 23°.16S±0°.04×70°.66W±0°.07, h35km±1km, mb4.8/55, Mwr4.4/47, Mwr4.6(GUC), Error ellipse: s-maj=11.3km s-min=7.1km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; M_rr=4.85; M_θθ=-0.15; M_φφ=-4.70; M_rθ=0.00; M_rφ=-0.26; M_θφ=-2.43; Fault plane solution: M_0=5.36000×10^15 NP1:φ=4.62000°, δ=31.57000°, λ=92.43000°. NP2:φ=181.77000°, δ=58.46000°, λ=88.51000°. Principal axes: T 5.4317, Plg76.0000°, Azm87.0000°; N -0.1411, Plg1.0000°, Azm183.0000°; P -5.2905, Plg13.0000°, Azm273.0000°;*
IDC ***29*** *08:15:46.0±2.7, 23°.14S×70°.45W, h39km±22km, mb4.1/12, mbtmp4.2/18, ML3.8/6, MS3.7/7 Error ellipse: s-maj=19.9km s-min=16.2km az=79.0*
VAO ***29*** *08:15:46.7±2.1, 22°.93S×70°.35W, h34km±11km, mb4.7*
ISC 29 08:15:41.2±1.0, 23°.15S±0°.02×70°.58W±0°.04, h8km±6km, n199, σ1§40/196, mb4.8/41, 15C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.36	177		Pn	08 15 52.1	-0.7
PB10	IPOC Station P	0.36	177	⇑iP	Pn	08 15 52.1	-0.7
PB10				eS	Sb	08 15 57.6	+1.9
PB10	IPOC Station P	0.36	177	eP	Pn	08 15 52.1	-0.7
PB10				eS	Sb	08 15 56.6	+0.9
PB10				IAML		08 15 58.4	
	comp=Z,33μm,0.5s						
PB06	IPOC Station P	1.03	65		Pn	08 16 02.8	+0.7
PB06	IPOC Station P	1.03	65	⇓iP	Pn	08 16 02.8	+0.7
PB06				eS	Sn	08 16 16.7	-0.1
PB06				IAML		08 16 17.8	
	comp=E,21μm,0.5s						
PB06	IPOC Station P	1.03	65	eP	Pn	08 16 02.1	0.0
PB06				IAML		08 16 26.8	
	comp=Z,10μm,0.5s						
PB03	IPOC Station P	1.34	35		Pg	08 16 07.6	+0.8
PB03	IPOC Station P	1.34	35	⇑iP	Pg	08 16 07.5	+0.6
PB03				eS	Sn	08 16 25.3	+0.9
PB03				IAML		08 16 26.7	
	comp=N,23μm,0.4s						
PB03	IPOC Station P	1.34	35	eP	Pg	08 16 06.8	0.0
PB03				eS	Sn	08 16 27.0	+2.6
PB03				IAML		08 16 27.7	
	comp=Z,16μm,0.5s						
PB14	IPOC Station P	1.48	174		Pb	08 16 09.1	-0.1
PB14	IPOC Station P	1.48	174	⇑iP	Pb	08 16 09.0	-0.1
PB14				eS	Sn	08 16 27.7	-0.4
PB14	IPOC Station P	1.48	174	eP	Pn	08 16 08.3	-0.1
PB14				eS	Sg	08 16 29.9	+1.1
PB14				IAML		08 16 32.2	
	comp=Z,7μm,0.7s						
PB09	IPOC Station P	1.83	43		Pb	08 16 15.4	+0.4
PB09	IPOC Station P	1.83	43	⇑iP	Pb	08 16 15.3	+0.4
PB09				eS	Sg	08 16 39.6	-0.4
PB09				IAML		08 16 43.4	
	comp=N,14μm,0.5s						
PB09	IPOC Station P	1.83	43	eP	Pg	08 16 15.6	-0.7
PB09				eS	Sg	08 16 41.7	+1.7
PB09				IAML		08 16 44.3	
	comp=Z,18μm,0.6s						
PB02	IPOC Station P	1.93	19		Pn	08 16 15.2	+0.8
PB02	IPOC Station P	1.93	19	⇑iP	Pn	08 16 15.2	+0.8
PB02				eS	Sb	08 16 40.0	-1.0
PB02				IAML		08 16 45.2	
	comp=E,13μm,0.6s						
PB02	IPOC Station P	1.93	19	eP	Pn	08 16 14.8	+0.4
PB02				eS	Sg	08 16 42.1	-1.1
PB02				IAML		08 16 44.6	
	comp=Z,11μm,0.4s						
GO02	Mina Guanaco	2.20	156		Pb	08 16 20.1	-1.2
GO02	Mina Guanaco	2.20	156	⇑iP	Pb	08 16 20.6	-0.8
GO02				eS	Sb	08 16 48.9	0.0
GO02				IAML		08 16 56.8	
	comp=E,12μm,0.9s						
GO02	Mina Guanaco	2.20	156	eP	Pb	08 16 20.7	-0.7
GO02				eS	Sg	08 16 51.3	-0.5
GO02				IAML		08 16 57.9	
	comp=Z,4μm,0.9s						
AF01	San Pedro de A	2.22	85		Pg	08 16 23.2	-0.5
AF01	San Pedro de A	2.22	85	⇑iP	Pg	08 16 23.4	-0.4
AF01	San Pedro de A	2.22	85	eP	Pb	08 16 21.5	-0.2
AF01				eS	Sg	08 16 53.6	+1.1
PB01	IPOC Station P	2.33	26		Pn	08 16 21.2	+1.3
PB01	IPOC Station P	2.33	26	⇑iP	Pn	08 16 21.3	+1.4
PB01				eS	Sn	08 16 50.1	+1.3
PB01				IAML		08 16 57.7	
	comp=E,6μm,0.7s						
PB01	IPOC Station P	2.33	26	eP	Pn	08 16 21.4	+1.4
PB01				eS	Sb	08 16 52.5	0.0
PB01				IAML		08 16 59.0	
	comp=Z,3μm,0.5s						
PATCX	Punta Patache	2.35	10		Pn	08 16 20.2	0.0
PATCX	Punta Patache	2.35	10	⇑iP	Pn	08 16 20.3	0.0
PATCX	Punta Patache	2.35	10	eP	Pn	08 16 19.8	-0.4
PATCX				eS	Sb	08 16 51.7	-1.4
PATCX				IAML		08 17 09.7	
	comp=Z,3μm,1.1s						
TA01	Diego Aracena	2.60	8		Pn	08 16 23.5	0.0
TA01	Diego Aracena	2.60	8	⇑iP	Pn	08 16 23.4	-0.2
TA01	Diego Aracena	2.60	8	eP	Pn	08 16 23.4	-0.2
TA01				eS	Sb	08 16 58.1	-2.0
TA01				IAML		08 17 11.3	
	comp=Z,3μm,0.6s						
PX03	IPOC Station P	2.87	18	eP	Pb	08 16 32.4	-0.4
TA02	Huaiquique	2.90	8	eP	Pn	08 16 30.2	+2.6
TA02	Huaiquique	2.90	8	eP	Pn	08 16 27.9	+0.2
TA02				eS	Sb	08 17 08.3	-0.4
TA02				IAML		08 17 20.1	
	comp=Z,2μm,0.8s						
AC01	Pan de Azucar	2.98	180		Pn	08 16 28.6	-0.3
AC01	Pan de Azucar	2.98	180	eP	Pn	08 16 28.6	-0.3
AC01	Pan de Azucar	2.98	180	eP	Pn	08 16 29.6	+0.7
AC01				eS	Sn	08 17 07.5	+2.6
AC01				IAML		08 17 17.6	
	comp=Z,887nm,0.8s						
PB08	IPOC Station P	3.27	24		Pn	08 16 34.9	+1.7
PB08	IPOC Station P	3.27	24	eP	Pn	08 16 35.8	+2.6
PB08				IAML		08 17 30.9	
	comp=N,3μm,0.8s						
PB08	IPOC Station P	3.27	24	eP	Pn	08 16 35.1	+1.9
PB08				eS	Sb	08 17 16.9	-3.0
PB08				IAML		08 17 30.7	
	comp=Z,2μm,0.7s						
PB11	IPOC Station P	3.48	14		Pn	08 16 36.5	+0.7
PB11	IPOC Station P	3.48	14	eP	Pn	08 16 36.8	+0.9
PB11	IPOC Station P	3.48	14	eP	Pn	08 16 36.6	+0.7
PB11				eS	Sn	08 17 20.2	+2.9
PB11				IAML		08 17 41.5	
	comp=Z,2μm,0.9s						
GO01	Chusmiza	3.70	21		Pn	08 16 40.4	+1.3
GO01	Chusmiza	3.70	21	eP	Pn	08 16 41.2	+2.1
AC02	Maricunga	3.90	161		Pn	08 16 44.6	+2.7
AC02	Maricunga	3.90	161	⇑iP	Pn	08 16 44.5	+2.7
AC02	Maricunga	3.90	161	eP	Pn	08 16 43.8	+2.0
AC02				eS	Sb	08 17 34.5	-3.5
AC02				IAML		08 17 50.4	
	comp=Z,1μm,0.8s						
SALTA		4.03	106	⇓eP	Pb	08 16 53.0	+0.2
SALTA		4.03	106	eP	Pn	08 16 44.5	+0.8
SALTA				eP	Pn	08 16 44.9	+1.2
SALTA				eP	Pn	08 16 46.7	+3.0
SALTA				IAML		08 18 03.4	
	comp=Z,358nm,1.6s						
AC06	Mina Casimiro	4.19	177		Pn	08 16 45.6	+0.1
AC06	Mina Casimiro	4.19	177	eP	Pn	08 16 45.4	-0.1
GO03	Copiapo	4.43	176		Pn	08 16 48.8	0.0
GO03	Copiapo	4.43	176	eP	Pn	08 16 48.5	-0.3
GO03	Copiapo	4.43	176	eP	Pn	08 16 48.9	0.0
GO03				eS	Sn	08 17 45.6	+4.9
GO03				IAML		08 18 10.9	
	comp=Z,802nm,0.7s						
PB12	IPOC Station P	4.52	3		Pn	08 16 50.1	0.0
PB12	IPOC Station P	4.52	3	eP	Pn	08 16 49.8	-0.3
PB12	IPOC Station P	4.52	3	eP	Pn	08 16 50.3	+0.2
PB12				eS	Sn	08 17 43.0	+0.2
PB12				IAML		08 18 17.9	
	comp=Z,627nm,1.0s						
YJA	Yavi	4.78	79	eP	Pb	08 17 02.1	-3.3
PB16	IPOC Station P	4.89	12	eP	Pn	08 16 57.4	+1.7
PB16				eS	Sn	08 17 56.6	+3.8
PB16				IAML		08 18 24.3	
	comp=Z,505nm,0.7s						
SLA	San Lorenzo	4.90	110	eP	Pb	08 17 02.8	-4.6
AC04	Llanos de Chal	5.05	185		Pn	08 16 57.4	+0.1
AC04	Llanos de Chal	5.05	185	eP	Pn	08 16 55.0	-2.3
AC04				eS	Sb	08 18 09.0	-1.8
AC04				IAML		08 18 31.9	
	comp=Z,429nm,0.8s						
LCO	Las Campanas	5.84	181		Pn	08 17 07.8	-0.5
GO04	Tololo Observa	7.00	182		Pn	08 17 23.7	-0.6
LPAZ	La Paz	7.21	19	Pn	Pn	08 17 30.2	+2.8
	comp=Z,1.2nm,0.3s,baz=201,slow=5.3,SNR=21						
LPAZ				Sn	Sn	08 18 48.9	-0.9
	baz=175,slow=12						
LPAZ				LR	LR	08 20 32.3	
	comp=Z,612nm,20.4s,baz=206,slow=40						
	comp=Z,4.9nm,0.4s						
LPAZ	La Paz	7.21	19	eP	Pn	08 17 27.6	+0.1
CO03	El Pedregal	7.66	181		Pn	08 17 32.1	-1.1
ZON	Zonda	8.53	169	Pn	Pn	08 17 47.4	+2.3
CFA	Coronel Fontan	8.67	167	Pn	Pn	08 17 47.2	+0.2
	comp=Z,0.5nm,0.3s,baz=341,slow=13,SNR=9.8						
CFA				LR	LR	08 21 39.1	
	comp=Z,221nm,20.7s,baz=266,slow=41						
	comp=Z,1.2nm,0.3s						
SIV	San Ignacio	11.44	53	Pn	Pn	08 18 24.7	-0.3
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=25						
SIV				Sn	Sn	08 20 30.6	-2.6
	baz=285,slow=20						
SIV				LR	LR	08 23 49.4	
	comp=Z,765nm,19.9s,baz=276,slow=43						
	comp=Z,11nm,0.6s						
CPUP	Villa Florida	12.45	107		Pn	08 18 42.3	+3.6
CPUP	Villa Florida	12.45	107	Pn	Pn	08 18 40.1	+1.4
	baz=51,slow=6.5,SNR=4.8						
CPUP				LR	LR	08 23 54.2	
	comp=Z,172nm,21.2s,baz=147,slow=40						
	comp=Z,1.3nm,1.0s						
H03N1	Juan Fernandez	12.60	214	T	T	08 31 44.5	
	baz=39,slow=72,SNR=1105						
H03N2	Juan Fernandez	12.61	214	T	T	08 31 39.5	
	baz=39,slow=72,SNR=682						
H03N3	Juan Fernandez	12.62	214	T	T	08 31 39.7	
	baz=39,slow=72,SNR=904						
H03S3	Juan Fernandez	12.91	213	T	T	08 32 06.0	
	baz=44,slow=8.9,SNR=10						
H03S1	Juan Fernandez	12.92	213	T	T	08 32 06.0	
	baz=44

BDFB	Brasilia	22.54	75		P	P	08 20 41.6	-0.3
BDFB	Brasilia	22.54	75	P	P	P	08 20 40.8	-1.2
	comp=Z,11nm,1.0s,baz=247,slow=9.5,SNR=9.4							
BDFB				LR	LR	LR	08 30 44.6	
	comp=Z,279nm,18.4s,baz=234,slow=40							
	comp=Z,11nm,1.0s							
ITTB	Itaituba	23.55	40	eP	P	P	08 20 50.9	-1.3
FLOC	Florencia	25.08	348			P	08 21 06.3	-0.1
FLOC				IAmb	IAmb	IAmb	08 21 11.3	
	comp=Z,18nm,1.0s							
DIAM	Diamantina, MG	25.61	84	eP	P	P	08 21 10.8	-0.6
PRPB	Parauapebas	26.17	53	eP	P	P	08 21 15.3	-1.1
SMTB	Santa Maria do	26.21	61	eP	P	P	08 21 16.6	-0.1
MAL2	Monte Alegre,	26.35	39			P	08 21 17.4	-0.5
MAL2				IAmb	IAmb	IAmb	08 21 21.1	
	comp=Z,24nm,0.9s							
SDBA	SAO DESIDERIO	26.64	71	eP	P	P	08 21 19.8	-0.8
BOAV	Boa Vista	27.22	22		P	P	08 21 25.3	-0.4
BOAV	Boa Vista	27.22	22	eP	P	P	08 21 25.9	+0.1
ROSC	El Rosal	28.06	352	LR	LR	LR	08 32 54.1	
	comp=Z,143nm,18.9s,baz=68,slow=37							
RUSC	La Rusia	28.97	355			P	08 21 42.5	+0.6
RUSC				IAmb	IAmb	IAmb	08 21 44.1	
	comp=Z,21nm,1.3s							
CMC01	Camacan, BA	30.28	81	eP	P	P	08 21 52.0	-1.0
BAUV	El Baul	31.99	5		P	P	08 22 07.6	-0.5
OBIP	Obispado Ponce	41.12	6	P	P	P	08 23 25.8	-0.1
OBIP				IAmb	IAmb	IAmb	08 23 26.7	
	comp=Z,24nm,0.9s							
H06S1	SOCORRO T	57.34	313	T	T	T	09 27 35.1	
	SNR=19							
H06E1	SOCORRO T-PHAS	57.35	313	T	T	T	09 27 29.0	
	SNR=76							
VNA3	Neumayer Olymp	59.02	161	⇓P	P	P	08 25 41.1	-0.1
	comp=Z,5.2nm,0.8s							
VNA1	Neumayer--Stat	59.26	160	⇑P	P	P	08 25 42.9	0.0
	comp=Z,3.9nm,0.8s							
X48A	Hartselle	59.38	344	P	P	P	08 25 43.9	-0.1
X48A				IAmb	IAmb	IAmb	08 25 52.1	
	comp=Z,5.9nm,0.9s							
VNA2	Neumayer--Watz	59.62	160	⇑P	P	P	08 25 45.8	+0.5
	comp=Z,2.4nm,0.6s,baz=292,slow=7.1							
W50A	Signal Mountai	59.69	346	P	P	P	08 25 46.1	-0.1
TKL	Tuckaleechee C	59.81	348	P	P	P	08 25 46.8	-0.2
TKL				IAmb	IAmb	IAmb	08 25 47.2	
	comp=Z,5.6nm,0.8s							
SWET	Sewanee	59.85	345	IAmb	IAmb	IAmb	08 25 47.8	
	comp=Z,10nm,0.8s							
V48A	Smith Brothers	60.56	345	P	P	P	08 25 52.0	-0.1
SAND	Sanderson	60.88	329	IAmb	IAmb	IAmb	08 26 07.2	
	comp=Z,4.8nm,1.0s							
U49A	Red Boiling Sp	61.05	346	P	P	P	08 25 55.2	-0.3
U49A				IAmb	IAmb	IAmb	08 25 55.3	
	comp=Z,3.2nm,0.7s							
TXAR	Lajitas Array	61.13	327	P	P	P	08 25 55.9	-0.4
	comp=Z,0.4nm,0.8s,baz=147,slow=7.5,SNR=3.6							
	comp=Z,0.4nm,0.8s							
R58B	Mineral	61.17	353	IAmb	IAmb	IAmb	08 25 58.2	
	comp=Z,11nm,1.0s							
SNAA	Sanae	61.24	160	⇑P	P	P	08 25 56.8	+0.3
	comp=Z,64nm,0.6s							
SNAA	Sanae	61.24	160	P	P	P	08 25 56.8	+0.3
SNAA				IAmb	IAmb	IAmb	08 25 57.4	
	comp=Z,4.2nm,0.8s							
SNAA	Sanae	61.24	160	P	P	P	08 25 56.6	+0.2
	comp=Z,4.5nm,0.9s,baz=288,slow=4.3,SNR=3.2							
	comp=Z,4.5nm,0.9s							
MIAR	Mount Ida	61.40	338	P	P	P	08 25 57.7	-0.1
MIAR				IAmb	IAmb	IAmb	08 26 23.4	
	comp=Z,8.2nm,1.2s							
WHAR	Wooly Hollow	61.66	340	IAmb	IAmb	IAmb	08 26 20.2	
	comp=Z,8.0nm,1.2s							
ABTX	Abilene, Hawle	62.02	332	IAmb	IAmb	IAmb	08 26 11.0	
	comp=Z,15nm,1.3s							
FCAR	Ozark Folk Cen	62.16	340	IAmb	IAmb	IAmb	08 26 10.6	
	comp=Z,11nm,1.5s							
MNHN	Monahans	62.34	329	IAmb	IAmb	IAmb	08 26 13.7	
	comp=Z,13nm,1.3s							
PBMO	Poplar Bluff	62.48	342	IAmb	IAmb	IAmb	08 26 06.0	
	comp=Z,6.6nm,0.8s							
WCI	Wyandotte Cave	62.81	346			P	08 26 06.8	-0.5
WCI				IAmb	IAmb	IAmb	08 26 15.0	
	comp=Z,7.1nm,0.8s							
APMT	Aspermont	62.83	332	IAmb	IAmb	IAmb	08 26 08.7	
	comp=Z,5.5nm,0.8s							
TROLL	Troll, Antarti	62.96	160	⇑P	P	P	08 26 08.8	+0.7
	comp=Z,111nm,0.5s							
FVM	French Village	63.61	343	IAmb	IAmb	IAmb	08 26 13.3	
	comp=Z,8.6nm,0.7s							
R40A	Maddies Statio	64.42	341	IAmb	IAmb	IAmb	08 26 26.2	
	comp=Z,12nm,1.1s							
MSTX	Muleshoe	64.54	331	IAmb	IAmb	IAmb	08 26 28.4	
	comp=Z,14nm,1.5s							
QSPA	South Pole Qui	67.05	180	P	P	P	08 26 38.4	+3.6
QSPA				IAmb	IAmb	IAmb	08 26 39.4	
	comp=Z,6.3nm,0.8s							
QSPA	South Pole Qui	67.05	180	P	P	P	08 26 37.8	+3.0
	comp=Z,6.0nm,0.7s,baz=145,slow=2.7,SNR=48							
ANMO	Albuquerque	67.06	328			P	08 26 34.2	-1.1
F64A	Sherman	68.71	2	P	P	P	08 26 46.4	+1.2
SDCO	Great Sand Dun	68.90	331	IAmb	IAmb	IAmb	08 26 57.0	
	comp=Z,6.8nm,1.2s							
DBIC	Dimbokro	70.68	74	IAmb	IAmb	IAmb	08 26 59.1	
	comp=Z,13nm,0.9s							
DBIC	Dimbokro	70.68	74	P	P	P	08 26 57.9	-0.2
	comp=Z,12nm,0.9s,baz=247,slow=7.2,SNR=8.2							
	comp=Z,12nm,0.9s							
O20A	White River Ci	72.08	331	IAmb	IAmb	IAmb	08 27 08.8	
	comp=Z,6.2nm,0.9s							
PDAR	Pinedale Array	74.79	331	P	P	P	08 27 23.1	+1.0
	comp=Z,0.2nm,0.5s,baz=122,slow=5.1,SNR=3.7							
	comp=Z,0.2nm,0.5s							
NVAR	Mina Array Bea	75.86	323	P	P	P	08 27 29.9	+1.5
	comp=Z,0.3nm,0.5s,baz=138,slow=4.9,SNR=2.2							
	comp=Z,0.3nm,0.5s							
YNE	Yellowstone No	76.77	332	IAmb	IAmb	IAmb	08 27 42.8	
	comp=Z,8.3nm,1.3s							
TORD	Torodi Ar. Bea	79.36	71	P	P	P	08 27 47.6	-0.6
	comp=Z,3.2nm,0.3s,baz=252,slow=2.5,SNR=12							
	comp=Z,3.2nm,0.3s							
RAR	Rarotonga	81.22	251	IAmb	IAmb	IAmb	08 28 04.4	
	comp=Z,64nm,1.2s							
RAR	Rarotonga	81.22	251	P	P	P	08 27 58.5	+0.4
	comp=Z,12nm,0.7s,baz=84,slow=10,SNR=1.4							
	comp=Z,12nm,0.7s							
C09A	Chrisman Ranch	82.59	330	IAmb	IAmb	IAmb	08 28 06.8	
	comp=Z,4.4nm,0.8s							
MAW	Mawson	83.19	164	P	P	P	08 28 08.3	+0.7
	comp=Z,8.0nm,0.8s,baz=218,slow=5.3,SNR=11							
	comp=Z,8.0nm,0.8s							
BOSA	Boshof	84.03	118	IAmb	IAmb	IAmb	08 28 21.7	
	comp=Z,21nm,1.2s							
BOSA	Boshof	84.03	118	P	P	P	08 28 12.8	-0.1
	comp=Z,4.7nm,0.8s,baz=244,slow=4.9,SNR=6.2							
	comp=Z,4.7nm,0.8s							
PMTG	Montargil	85.00	44	eP	P	P	08 28 18.6	+1.4
PMTG				i IAmb	IAmb	IAmb	08 28 34.9	
	comp=Z,28nm,1.6s							
PBAR	Barrancos	85.26	45	eP	P	P	08 28 19.8	+1.2
ESDC	Sonseca Array	88.09	45	P	P	P	08 28 30.9	-1.5
	comp=Z,0.3nm,0.5s,baz=246,slow=5.0,SNR=1.5							
	comp=Z,0.3nm,0.5s							
YKA	Yellowknife Ar	92.23	341	P	P	P	08 28 51.2	0.0
	comp=Z,1.3nm,0.7s,baz=133,slow=2.7,SNR=2.6							
	comp=Z,1.3nm,0.7s							
KBZ	Khabaz	122.35	52	PKP	PKiKP	PKiKP	08 34 37.1	0.0
	comp=Z,1.0nm,0.5s,baz=270,slow=5.1,SNR=4.2							
H11S2	WAKE ISLAND Hyl	26.54	276	T	T	T	10 54 03.1	
	baz=106,slow=75,SNR=207							
H11S1	WAKE ISLAND Hyl	26.55	276	T	T	T	10 53 58.1	
	baz=106,slow=75,SNR=152							
H11S3	WAKE ISLAND Hyl	26.56	276	T	T	T	10 53 58.7	
	baz=106,slow=75,SNR=168							
H11N3	WAKE ISLAND Hyl	26.67	278	T	T	T	10 54 10.1	
	baz=105,slow=75,SNR=182							
H11N2	WAKE ISLAND Hyl	26.68	278	T	T	T	10 54 09.0	
	baz=105,slow=75,SNR=151							
H11N1	WAKE ISLAND Hyl	26.68	278	T	T	T	10 54 11.3	
	baz=105,slow=75,SNR=90							
ASAR	Alice Springs	127.73	209	PKP	PKPdf	PKPdf	08 34 46.9	-1.2
	comp=Z,0.8nm,0.8s,baz=159,slow=1.7,SNR=6.6							
WRA	Warramunga Arr	130.75	212	PKP	PKPdf	PKPdf	08 34 52.1	-1.8
	comp=Z,0.6nm,0.9s,baz=148,slow=1.0,SNR=6.0							
ZALV	Zalesovo Beam	144.09	25	PKP	PKPdf	PKPdf	08 35 16.4	-0.8
	comp=Z,2.9nm,0.6s,baz=318,slow=1.9,SNR=6.9							
AAK	Ala-Archa	145.15	48			PKPdf	08 35 20.9	+1.2
AAK	Ala-Archa	145.15	48	PKPbc	PKPab	PKPab	08 35 19.3	0.0
	comp=Z,9.8nm,0.8s,baz=256,slow=8.3,SNR=15							
MAKZ	Makanchi	147.69	36		PKPdf	PKPdf	08 35 24.2	+0.6
MKAR	Makanchi Array	147.87	36	PKPdf	PKPdf	PKPdf	08 35 23.0	-1.0
MKAR					pPKPdf	pPKPdf	08 35 27.0	+0.4
MKAR	Makanchi Array	147.87	36	PKPbc	PKPdf	PKPdf	08 35 25.0	+1.1
	comp=Z,4.3nm,0.7s,baz=312,slow=3.0,SNR=18							
HEH	HeiHe	149.51	337	eP	PKPbc	PKPbc	08 35 31.3	+0.4
MJAR	Matsushiro Arr	151.81	305	PKPbc	PKPbc	PKPbc	08 35 36.7	-0.2
	comp=Z,1.6nm,0.6s,baz=108,slow=1.9,SNR=5.7							
HILR	Hailar Array B	152.42	345	PKPbc	PKiKP	PKiKP	08 35 38.5	+0.3
	comp=Z,1.4nm,0.4s,baz=22,slow=4.7,SNR=3.6							
HHC	Hu-ho-hao-te	162.26	355	eP	PKPdf	PKPdf	08 35 38.5	-5.2
LZH	Lanzhou	166.23	19	ePKP	PKPdf	PKPdf	08 35 36.3	-11
LZH				pPKP	pPKPdf		08 35 44.3	-6.0
NJ2	Nanjing	167.82	319	eP	PKPdf	PKPdf	08 35 46.8	-1.8
PZH	PanZhiHua	172.27	63	PKP	PKPdf	PKPdf	08 35 50.0	-1.5

*NEIC **29** 08:16:28.7,23°.15S×176°.85W,h180km,Moment Tensor Solution. Duration:3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$0.50; $M_{\phi\phi}$-0.72; $M_{r\theta}$-0.64; $M_{\theta\phi}$0.74; $M_{\phi r}$-1.93; Fault plane solution: $M_0$2.26000×10^{17} NP1: ϕ_s293.13000°,δ25.30000°,λ6.92000°. NP2:ϕ_s196.86000°, δ87.05000°,λ115.13000°. Principal axes: T 2.2635, Plg43.0000°, Azm131.0000°; N -0.0144, Plg25.0000°, Azm15.0000°; P -2.2491, Plg37.0000°, Azm265.0000°;*
*NEIC **29** 08:16:28.7,23°.35S×177°.07W,h180km*
*BJI **29** 08:16:29.3,22°.82S×176°.35W,h159km,mB5.4/15, mb5.0/41*
*MOS **29** 08:16:29.1±0.8,23°.19S×177°.25W,h144km,mb5.3/19, Error ellipse: s-maj=10.4km s-min=9.3km az=120.6*
*IDC **29** 08:16:30.4±1.1,23°.19S×177°.27W,h146km±9km,mb4.6/23, mbtmp5.0/25,MS4.2/2,Error ellipse: s-maj=12.1km s-min=9.5km az=96.0*
*NEIC **29** 08:16:31.0±2.5,23°.34S±0°.07×177°.04W±0°.08, h153km±3km,mb5.1/385,Mwb5.6/28,Mww5.5/25,Error ellipse: s-maj=11.2km s-min=9.5km az=104.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.39; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$0.35; $M_{r\theta}$-1.20; $M_{\theta\phi}$0.44; $M_{\phi r}$-2.37; Fault plane solution: $M_0$2.77000×10^{17} NP1: ϕ_s123.62000°,δ5.06000°,λ-175.59000°. NP2:ϕ_s29.22000°, δ89.61000°,λ-84.95000°. Principal axes: T 3.0984, Plg44.0000°, Azm114.0000°; N -0.8684, Plg5.0000°, Azm209.0000°; P -2.2300, Plg45.0000°, Azm304.0000°;*
*NEIC **29** 08:16:32.1,23°.39S×177°.10W,h162km*
*GCMT **29** 08:16:35.0±0.1,23°.31S±0°.01×176°.90W±0°.01, h170km,MW5.6/146,Moment Tensor Solution. s123,c210; s146,c261; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.04; $M_{\theta\theta}$0.40±.05; $M_{\phi\phi}$-0.23±.05; $M_{r\theta}$-1.13±.03; $M_{\theta\phi}$0.78±.04; $M_{\phi r}$-2.38±.03; Best double couple: $M_0$2.75500×10^{17} NP1:ϕ_s283.00000°,δ16.00000°, λ-11.00000°. NP2:ϕ_s24.00000°,δ87.00000°, λ-106.00000°. Principal axes: T 2.9100, Plg40.0000°, Azm128.0000°; N -0.3090, Plg16.0000°, Azm25.0000°; P -2.6010, Plg46.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **29** 08:16:36.0,23°.29S×176°.98W,h203km,mb5.1/81,South of Fiji Islands*

ISC 29 08:16:31.7±0.3,23°.28S±0°.04×176°.99W±0°.04, h164km±2km,h164km:pP-P,n1061,σ1°.49/968,mb5.1/252, 63C-66D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RIZ	Raoul Island	6.00	188	P	Pn	08 17 58.6	+0.2
RIZ				S	Sn	08 19 06.8	+0.2
RAO	Raoul Island	6.00	188	Pn	Pn	08 17 55.5	-3.0
RAO					Sn	08 19 03.4	-3.4
RAO	Raoul Island	6.00	188	P	Pn	08 17 57.2	-1.4
	199nm,0.4s,baz=54,slow=19,SNR=6.5						
RAO				S	Sn	08 19 03.2	-3.5
	1μm,0.4s,baz=0.0,slow=20,SNR=13						
GLKZ	Green Lake	6.02	188	P	Pn	08 17 57.2	-1.5
GLKZ				S	Sn	08 19 05.6	-1.4
MSVF	Nonsavu	7.21	319		Pn	08 18 16.9	+2.1
MSVF	Nonsavu	7.21	319	P	Pn	08 18 17.0	+2.2
MSVF	Nonsavu	7.21	319	P	Pn	08 18 16.9	+2.1
NIUE	Niue	7.80	59		Pn	08 18 20.1	-2.4
NIUE	Niue	7.80	59	P	Pn	08 18 19.8	-2.7
NIUE				S	Sn	08 19 38.7	-11
AFI	Afiamalu	10.55	29		Pn	08 18 54.2	-4.6
AFI	Afiamalu	10.55	29	P	Pn	08 18 52.9	-5.9
AFI	Afiamalu	10.55	29	P	Pn	08 18 54.2	-4.6
MARNC	Mare, Loyalty	13.97	274		Pn	08 19 43.1	+0.4
MARNC	Mare, Loyalty	13.97	274	P	P	08 19 46.4	+0.8
PINNC	Pines Island,	14.36	270		Pn	08 19 48.3	+0.8
PINNC	Pines Island,	14.36	270	P	P	08 19 50.8	+1.0
OUZ	Omahuta	14.45	212	P	P	08 19 52.0	+1.3
OUZ	Omahuta	14.45	212	P	P	08 19 51.1	+0.4
GRZ	Great Barrier	14.48	205	P	P	08 19 51.2	+0.1
WCZ	Waipu Caves	14.68	209	P	P	08 19 53.5	+0.1
MXZ	Matakaoa Point	14.80	195	P	Pn	08 19 49.9	-3.0
KUZ	Kuaotunu	14.82	203	P	P	08 19 55.5	+0.6
YATNC	Mamie plateau,	14.93	272	P	P	08 19 59.4	+3.2
OUENC	Ouen Island, N	14.93	270	P	P	08 19 58.5	+2.3
WMGZ	Waiomatatini S	15.02	194	P	Pn	08 19 47.4	-8.2
WMGZ				S	Sn	08 22 24.0	-19
HAZ	Te Kaha	15.11	196	P	Pn	08 19 49.7	-7.1
HAZ				S	Sn	08 22 29.3	-16
FUNA	Funafuti	15.12	345		Pn	08 19 55.9	-1.1
FUNA	Funafuti	15.12	345	P	P	08 19 59.5	+1.1
PKGZ	Pakihiroa	15.14	195	P	Pn	08 19 49.4	-7.7
PUZ	Puketiti	15.30	194	P	Pn	08 19 57.2	-1.9
PUZ				S	Sn	08 22 31.5	-18
ONTNC	Ouen Toro	15.30	270		Pn	08 19 59.6	+0.3
ONTNC	Ouen Toro	15.30	270	P	P	08 20 02.5	+2.2
RUGZ	Raukumara Rang	15.34	196	P	Pn	08 19 54.0	-5.6
RUGZ				S	Sn	08 22 31.9	-19
DZM	Mont Dzumac	15.34	271	P	P	08 20 02.0	+1.2
	110nm,0.8s,baz=98,slow=12,SNR=40						
MKAZ	Moumakai	15.35	204	P	P	08 20 00.7	0.0
TWGZ	Tauwhareparae	15.46	195	P	Pn	08 19 58.4	-2.7
TWGZ				S	Sn	08 22 37.3	-16
CNGZ	Carnagh Statio	15.70	194	P	Pn	08 20 02.5	-1.5
MWZ	Matawai	15.72	196	P	Pn	08 20 02.1	-2.2
KMRZ	Kaimai	15.73	201	P	P	08 20 05.4	+0.4
TKGZ	Te Karaka	15.74	195	P	Pn	08 20 01.3	-3.1
URZ	Urewera	15.76	197	P	Pn	08 19 59.2	-5.5
	37nm,0.3s,baz=54,slow=19,SNR=52						
URZ				S	Sn	08 22 44.5	-16
	84nm,0.5s,baz=73,slow=19,SNR=11						
URZ				LR	LR	08 25 25.5	
	comp=Z,844nm,20.8s,baz=22,slow=34						
URZ	Urewera	15.76	197	P	Pn	08 19 58.9	-5.8
TOZ	Tahuroa Road	15.78	202	Pn	Pn	08 20 02.7	-2.2
TOZ	Tahuroa Road	15.78	202	P	P	08 20 06.0	+0.5
KARZ	Kaharoa	15.79	200	P	Pn	08 20 05.2	+0.1
OMRZ	Omania	15.83	200	P	P	08 20 06.4	+0.3
RAGZ	Rawiri	15.90	196	P	Pn	08 20 05.5	-1.0
TARZ	Mount Tarawera	15.91	199	P	Pn	08 20 06.3	-0.4
RRRZ	Republican Roa	16.01	199	P	P	08 20 08.3	+0.3
RIGZ	Rimuhau	16.02	195	P	Pn	08 20 03.6	-4.3
MUGZ	Murupara	16.06	198	P	Pn	08 20 03.4	-5.0
RAR	Rarotonga	16.07	86	Pn	Pn	08 20 05.6	-3.1
RAR	Rarotonga	16.07	86	P	P	08 20 11.3	+2.5
	191nm,1.0s,baz=258,slow=12,SNR=16						
RAR				S	S	08 22 57.4	-10
	131nm,0.6s,baz=270,slow=20,SNR=6.0						
RAR	Rarotonga	16.07	86	P	P	08 20 11.6	+2.7
RAR	Rarotonga	16.07	86	P	Pn	08 20 05.6	-3.1
RAR				S	S	08 22 57.4	-10
HRRZ	Handcock Road	16.12	199	P	Pn	08 20 07.7	-1.5
RTZ	Ruatahuna	16.13	197		Pn	08 20 06.8	-2.5
RTZ	Ruatahuna	16.13	197	P	Pn	08 20 03.9	-5.4
GRRZ	Galatos Road	16.14	200	P	P	08 20 09.8	+0.3
PRRZ	Plateau Road	16.19	199	P	Pn	08 20 09.0	-1.0
SNGZ	Shannon Statio	16.19	196	P	Pn	08 20 03.9	-6.2
PRGZ	Paritu Road	16.19	194	P	Pn	08 20 07.5	-2.6
ALRZ	Allen Road	16.26	199	P	P	08 20 09.0	-1.9
KNZ	Kokohu	16.34	195	P	P	08 20 07.1	-4.5
KUTZ	Kaahu Road	16.36	200	P	Pn	08 20 12.2	+0.2
RAHZ	Arahi	16.38	197	P	P	08 20 08.5	-3.7
MTHZ	Maungataniwha	16.39	197	P	P	08 20 08.4	-3.9
MHGZ	Mahia Peninsul	16.41	194	P	P	08 20 08.5	-4.0
MRHZ	Matea Rd	16.49	198	P	P	08 20 09.7	-3.7
WHHZ	Waihua	16.50	196	P	P	08 20 11.0	-2.4
NMHZ	Naumai	16.63	197	P	P	08 20 11.6	-3.3
RATZ	Rangitukua	16.72	200	P	P	08 20 14.4	-1.4
ARHZ	Aropaoanui	16.73	196	P	P	08 20 12.4	-3.6
BKZ	Black Stump Fm	16.78	198		P	08 20 13.8	-2.8
BKZ	Black Stump Fm	16.78	198	P	P	08 20 11.8	-4.8
RITZ	Rihia Road	16.79	200	P	P	08 20 15.8	-0.9
SANVU	Saraoutou	16.82	295	P	Pn	08 20 17.9	+0.2
MCHZ	McNeill Hill	16.98	197	P	P	08 20 14.8	-3.9
WTVZ	West Tongariro	17.00	200	P	P	08 20 17.9	-1.2
NNVZ	North Ngauruho	17.01	200	P	P	08 20 17.7	-1.5
KWHZ	Kaweka Forest	17.04	198	P	P	08 20 16.2	-3.2
CKHZ	Cape Kidnapper	17.09	196	P	P	08 20 17.6	-2.3
KAHZ	Kahuranaki	17.27	196	P	P	08 20 19.0	-2.9
PXZ	Pawanui	17.49	196	P	P	08 20 21.5	-2.8
WPHZ	Waipukurau	17.63	197	P	P	08 20 23.4	-2.5
DVHZ	Dannevirke	17.93	197	P	P	08 20 26.5	-2.6
ANWZ	Angora Road	18.00	196	P	P	08 20 27.7	-2.1
BFZ	Birch Farm	18.26	197	P	P	08 20 31.1	-1.6
MRZ	Mangatainoka R	18.43	198	P	P	08 20 31.2	-3.3
PLWZ	Palliser	19.36	198	P	P	08 20 43.4	-1.3
QRZ	Quartz Range	19.59	204	P	P	08 20 46.5	-0.6
QRZ	Quartz Range	19.59	204	P	P	08 20 47.2	+0.1
TKNZ	Takaka Hill	19.61	203	P	P	08 20 45.9	-1.5
THZ	Tophouse	20.28	202	P	P	08 20 52.1	-2.4
CTZ	Chatham Island	20.41	179	P	P	08 20 56.0	+0.3
CTZ	Chatham Island	20.41	179	P	Pn	08 20 58.9	-1.1
KHZ	Kahutara	20.65	200	P	P	08 20 55.9	-2.5
GVZ	Greta Valley S	21.31	200	P	P	08 21 02.7	-2.8
INZ	Inchbonnie	21.64	204	P	P	08 21 07.2	-1.8
INZ				IAmb	IAmb	IAmb	08 21 11.1	
	comp=Z,60nm,0.5s							
RPZ	Rata Peaks	22.64	203	P	P	08 21 17.5	-1.4
RPZ	Rata Peaks	22.64	203	LR	LR	LR	08 29 33.8	
	comp=Z,524nm,18.2s,baz=32,slow=35							
RPZ	Rata Peaks	22.64	203	P	P	08 21 17.4	-1.4
LHI	Lord Howe Isla	22.76	244	P	P	08 21 17.6	-2.3
LHI	Lord Howe Isla	22.76	244	P	P	08 21 22.1	+2.1
FOZ	Fox Glacier	22.95	205	IAmb	IAmb	IAmb	08 21 23.7	
	comp=Z,91nm,0.6s							
LBZ	Lake Benmore	23.54	203	P	P	08 21 24.6	-2.4
ODZ	Otahua Downs	23.94	202	P	P	08 21 29.3	-1.4
WKZ	Wanaka	24.35	205	P	P	08 21 32.3	-2.1
TBI	Tubuai	25.27	96	eS	S	S	08 25 56.7	+0.1
	comp=Z,943nm,21.5s							
TBI				eSS	sS	sS	08 26 59.5	+4.3
	comp=Z,4μm,27.0s							
TBI				eLR	LR	LR	08 28 18.4	
	comp=Z,8μm,26.8s							
DCZ	Deep Cove	25.62	206	IAmb	IAmb	IAmb	08 21 58.4	
	comp=Z,42nm,1.1s							
WHZ	Wether Hill Ro	25.66	205	IAmb	IAmb	IAmb	08 21 49.8	
	comp=Z,36nm,0.8s							
HNR	Honiara	26.01	298	P	P	08 21 49.6	0.0
HNR	Honiara	26.01	298	P	P	08 21 49.6	0.0
HNR				pmax	pmax			
	comp=Z,535nm,1.3s							
PAE	Paea	26.26	83	eP	P	P	08 21 53.1	+1.3
	comp=Z,46nm,1.5s							
PAE				epP	pwP	pwP	08 22 27.2	0.0
	comp=Z,18nm,1.1s							
PPT2	Papeete2	26.28	83	eS	S	S	08 26 01.2	-12
	comp=Z,388nm,24.8s							
PPT2				eSS	sS	sS	08 27 13.6	+1.9
	comp=Z,2μm,29.0s							
PPT2				eLR	LR	LR	08 28 40.8	
	comp=Z,1μm,26.0s							
PPT	Papeete	26.29	83	P	P	P	08 21 54.5	+2.4
	comp=Z,80nm,1.0s,baz=252,slow=20,SNR=6.0							
	comp=Z,80nm,1.0s							
PPTF	Pamatai, Papee	26.29	83	P	P	08 21 51.7	-0.6
TARA	Tarawa	26.38	337	P	P	08 21 51.9	-1.0
TARA	Tarawa	26.38	337	P	P	08

comp=Z,6.3nm,0.7s,baz=97,slow=4.1,SNR=5.4
ASAR ScP **ScP** **08 29 47.9 +2.0**
comp=Z,1.1nm,0.7s,baz=99,slow=3.6,SNR=2.8
ASAR S **S** **08 30 49.8 -5.7**
comp=Z,1.0nm,0.7s,baz=99,slow=14,SNR=5.5
comp=Z,25nm,0.4s
AUALC St Philip's Co 44.88 259 P **P** **08 24 29.2 -0.9**
WR8 Warramunga Arr 45.06 265 P **P** **08 24 29.8 -1.8**
WRAB Tennant Creek 45.20 265 P **P** **08 24 31.0 -1.7**
WRAB Tennant Creek 45.20 265 *d iP* **P** **08 24 31.0 -1.7**
WRAB pmax pmax
comp=Z,139nm,1.0s
WRAB Tennant Creek 45.20 265 P **P** **08 24 31.0 -1.7**
WRAB pP **pP** **08 25 07.7 -0.4**
WRA Warramunga Arr 45.21 265 P **P** **08 24 30.2 -2.5**
WRA Warramunga Arr 45.21 265 P **P** **08 24 30.8 -1.9**
comp=Z,60nm,0.8s,baz=102,slow=7.9,SNR=235
WRA PcP **PcP** **08 26 09.8 -0.3**
comp=Z,9.7nm,0.9s,baz=98,slow=3.4,SNR=5.9
WRA ScP **ScP** **08 29 48.0 +0.7**
comp=Z,4.3nm,1.1s,baz=101,slow=3.8,SNR=7.2
WRA S **S** **08 30 53.0 -7.4**
comp=Z,2.0nm,1.0s,baz=101,slow=14,SNR=4.8
comp=Z,60nm,0.8s
JAY Jayapura 45.85 290 P **P** **08 24 37.1 -0.7**
comp=Z,2μmcomp=Z,94nm,1.4s
GENI Genyem 46.27 290 P **P** **08 24 40.7 -0.4**
GENI Genyem 46.27 290 P **P** **08 24 40.5 -0.6**
comp=Z,4μmcomp=Z,157nm,1.3s
KNHH Kane Nui o Ham 47.45 28 P **P** **08 24 51.7 +1.6**
HMH Humu'ula Sheep 47.51 28 P **P** **08 24 51.6 +0.8**
SMPI Sarmi 47.83 290 P **P** **08 24 53.5 +0.3**
KIP Kipapa 48.12 24 P **P** **08 24 54.1 -1.1**
KIP Kipapa 48.12 24 P **P** **08 24 57.1 +1.9**
KIP Kipapa 48.12 24 ⇑*iP* **P** **08 24 57.0 +1.9**
KIP pmax pmax
comp=Z,135nm,1.0s
KIP Kipapa 48.12 24 P **P** **08 24 56.6 +1.4**
FORT Forrest 49.11 249 IAmb IAmb 08 25 03.1
comp=Z,35nm,0.9s
MTN Manton Dam 50.17 273 IAmb IAmb 08 25 10.4
comp=Z,34nm,0.7s
BAKI Biak 50.49 289 P **P** **08 25 14.0 +0.7**
comp=Z,2μmcomp=Z,150nm,1.3s
DRS Darwin Rock St 50.53 273 P **P** **08 25 13.0 -0.6**
AUDHS Darwin High Sc 50.59 273 P **P** **08 25 13.2 -0.9**
DRV Dumont d'Urvil 51.07 200 P **P** **08 25 17.9 +1.0**
RKPI Ransiki, Papua 52.02 287 P **P** **08 25 27.5 +2.7**
FAKI Fak Fak 53.07 285 P **P** **08 25 29.2 -3.3**
FAKI Fak Fak 53.07 285 P **P** **08 25 33.1 +0.6**
FAKI Fak Fak 53.07 285 P **P** **08 25 29.1 -3.4**
comp=Z,2μmcomp=Z,103nm,1.5s
FITZ Fitzroy Crossi 53.63 264 IAmb IAmb 08 25 38.0
comp=Z,29nm,1.1s
FITZ Fitzroy Crossi 53.63 264 P **P** **08 25 35.5 -1.0**
SWI Sorong 54.89 286 P **P** **08 25 45.0 -0.7**
SBA Scott Base 55.17 184 P **P** **08 25 46.0 -0.8**
SBA Scott Base 55.17 184 P **P** **08 25 46.0 -0.8**
SBA pmax pmax
comp=Z,125nm,1.8s
SBA Scott Base 55.17 184 P **P** **08 25 49.9 +3.2**
VNDA Vanda 55.24 185 P **P** **08 25 49.2 +2.0**
VNDA Vanda 55.24 185 P **P** **08 25 48.6 +1.4**
comp=Z,3.3nm,0.8s,baz=16,slow=7.6,SNR=15
VNDA PcP **PcP** **08 26 45.8 -0.2**
comp=Z,4.0nm,0.9s,baz=53,slow=10,SNR=4.3
comp=Z,3.3nm,0.8s
VNDA Vanda 55.24 185 P **P** **08 25 49.2 +2.0**
VNDA 08 26 45.8
VNDA pmax pmax
comp=Z,18nm,1.4s
AAI Ambon 56.37 282 P **P** **08 25 54.9 -1.3**
comp=Z,3μmcomp=Z,160nm,1.3s
NLAI Namlea 57.55 282 P **P** **08 26 03.9 -0.6**
comp=Z,3μmcomp=Z,186nm,1.5s
SOEI Soe 57.55 273 P **P** **08 26 05.6 +0.9**
SOEI Soe 57.55 273 P **P** **08 26 05.2 +0.5**
MBWA Marble Bar 58.20 259 P **P** **08 26 07.4 -1.6**
MBWA Marble Bar 58.20 259 P **P** **08 26 08.2 -0.8**
BLDU Ballidu 58.82 247 P **P** **08 26 12.7 -0.4**
MUN Mundaring 59.01 246 P **P** **08 26 14.8 +0.4**
SANI Sanana 59.06 282 P **P** **08 26 14.0 -1.0**
SANI Sanana 59.06 282 P **P** **08 26 13.9 -1.0**
comp=Z,1μmcomp=Z,74nm,1.4s
TNTI Ternate 59.09 286 P **P** **08 26 16.3 +1.1**
TNTI Ternate 59.09 286 P **P** **08 26 14.6 -0.6**
comp=Z,2μmcomp=Z,100nm,1.4s
AUMAZ Mazenod Senior 59.14 246 P **P** **08 26 15.5 +0.1**
MORW Morawa 59.68 249 IAmb IAmb 08 26 19.8
comp=Z,21nm,0.8s
MORW Morawa 59.68 249 P **P** **08 26 18.6 -0.5**
CCD Concordia, Ant 60.03 195 P **P** **08 26 22.4 +1.3**
CCD pP **pP** **08 26 58.4 -0.3**
CCD PcP **PcP** **08 27 05.7 +0.3**
EDFI Ende, Flores 60.29 273 P **P** **08 26 22.0 -1.5**
comp=Z,123nm,1.6s
BASI Baing, Sumba 60.78 271 P **P** **08 26 25.9 -0.8**
WSI Waingapu 61.23 272 P **P** **08 26 29.4 -0.4**
CASY Casey 61.87 206 P **P** **08 26 33.0 -0.2**
CASY IAmb IAmb 08 26 35.0
comp=Z,34nm,0.8s
CASY Casey 61.87 206 P **P** **08 26 33.2 0.0**
CASY pP **pP** **08 27 09.6 -1.4**
CASY PcP **pwP** **08 27 13.5 -0.1**
WBSI Waikabubak, Su 62.08 271 P **P** **08 26 34.8 -0.7**
comp=Z,152nm,1.5s
SGSI Sangihe 62.08 288 P **P** **08 26 31.6 -3.9**
BSSI Bau Bau, Buton 62.37 275 P **P** **08 26 35.9 -1.5**
comp=Z,98nm,1.6s
LUWI Luwuk 62.39 282 P **P** **08 26 36.4 -1.1**
LUWI Luwuk 62.39 282 P **P** **08 26 36.9 -0.6**
comp=Z,216nm,1.4s
BNSI Bone 63.41 277 P **P** **08 26 43.4 -0.9**
comp=Z,91nm,1.6s
APSI Ampana 63.46 281 P **P** **08 26 44.1 -0.5**
comp=Z,1μmcomp=Z,58nm,0.9s
KAPI Kappang 63.49 276 P **P** **08 26 43.3 -1.5**
KAPI Kappang 63.49 276 *d iP* **P** **08 26 43.6 -1.2**
KAPI pmax pmax
comp=Z,117nm,1.8s
MRSI Marisa 63.80 283 P **P** **08 26 45.0 -1.8**
PLAI Plampang 63.86 271 P **P** **08 26 46.7 -0.5**
PLAI Plampang 63.86 271 P **P** **08 26 46.2 -1.0**
comp=Z,158nm,1.4s
SPSI Sidrap Palu 63.89 277 P **P** **08 26 46.6 -0.8**
TWSI Taliwang, Sumb 64.71 271 P **P** **08 26 51.6 -1.2**
comp=Z,125nm,1.6s
TOLI2 Tolitoli 65.11 283 P **P** **08 26 53.2 -2.1**
TOLI2 Tolitoli 65.11 283 P **P** **08 26 54.3 -1.1**
QSPA South Pole Qui 66.80 180 IAmb IAmb 08 27 12.3
comp=Z,50nm,0.9s
QSPA South Pole Qui 66.80 180 P **P** **08 27 08.3 +2.9**
comp=Z,33nm,0.8s,baz=39,slow=2.0,SNR=51
QSPA S **S** **08 35 49.0 +4.5**
comp=Z,1.5nm,1.1s,baz=90,slow=7.1,SNR=7.7
comp=Z,33nm,0.8s
QSPA South Pole Qui 66.80 180 P **P** **08 27 10.2 +4.7**
JAGI Jajag, Banyuwa 67.32 270 P **P** **08 27 07.7 -1.8**
JAGI Jajag, Banyuwa 67.32 270 P **P** **08 27 08.6 -0.8**
JAGI Jajag, Banyuwa 67.32 270 P **P** **08 27 09.3 -0.1**
BBKI Banjar Baru 68.60 276 P **P** **08 27 18.7 +1.3**
PCJI Pacitan 70.16 269 P **P** **08 27 26.5 -0.5**
KPJI Karang Pucung 72.54 269 P **P** **08 27 40.3 -1.0**
comp=Z,46nm,1.4s
MJAR Matsushiro Arr 72.99 324 P **P** **08 27 42.1 -1.3**
MJAR Matsushiro Arr 72.99 324 P **P** **08 27 42.3 -1.2**
comp=Z,8.8nm,0.9s,baz=156,slow=5.9,SNR=14
comp=Z,8.8nm,0.9s
MAJO Matsushiro 73.00 324 P **P** **08 27 42.2 -1.3**
MAJO Matsushiro 73.00 324 P **P** **08 27 43.6 +0.1**
MAJO Matsushiro 73.00 324 ⇑*eP* **P** **08 27 42.9 -0.6**
MAJO pmax pmax
comp=Z,16nm,1.1s
SBUM Sibu 73.41 280 IAmb IAmb 08 28 29.0
comp=Z,57nm,1.8s
BBJI Bungbulang 73.67 269 P **P** **08 27 48.1 +0.1**
KSM Kuching 74.73 278 IAmb IAmb 08 27 55.9
comp=Z,28nm,0.9s
KSM Kuching 74.73 278 P **P** **08 27 54.0 -0.1**
DBJI Dramaga 74.84 269 P **P** **08 27 56.8 +2.1**
JNU Nakatsue 74.93 317 IAmb IAmb 08 28 41.9
comp=Z,133nm,1.8s
TPI Tanjungpandan 75.47 273 P **P** **08 27 59.8 +1.5**
NIKH Nikolski High 76.26 5 P **P** **08 28 02.4 +0.6**
NIKH Nikolski High 76.26 5 P **P** **08 28 01.8 0.0**
baz=188
SSLB Suanglung 76.28 304 IAmb IAmb 08 28 53.4
comp=Z,63nm,1.4s
JKA Kamikawa-asahi 76.60 331 IAmb IAmb 08 28 05.5
comp=Z,82nm,1.5s
BELA Belgrano 2 76.69 172 P **P** **08 28 04.2 +0.1**
BELA IAmb IAmb 08 28 07.1
comp=Z,31nm,0.8s
MDSI Maura Dua 77.99 270 P **P** **08 28 10.8 -1.6**
FALS False Pass 78.69 8 P **P** **08 28 16.0 +0.8**
baz=193
YSS Yuzhno-Sakhali 78.79 333 P **P** **08 28 16.3 +0.3**
YSS IAmb IAmb 08 28 18.3
comp=Z,66nm,1.4s
YSS Yuzhno-Sakhali 78.79 333 P **P** **08 28 16.3 +0.3**
YSS Yuzhno-Sakhali 78.79 333 *eP* **P** **08 28 16.9 +0.9**
YSS *eS* **S** **08 37 58.9 -1.0**
YSS *e*SS **SS** **08 43 08.0 -0.9**
YSS pmax pmax
comp=Z,300nm,4.2s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS smax smax
comp=N,200nm,6.1s
PET Petropavlovsk 78.88 345 ⇓*iP* **P** **08 28 16.2 -0.1**
PET pmax pmax
comp=Z,65nm,1.7s
HULI Fort Hunter Li 79.08 43 IAmb IAmb 08 28 22.7
comp=Z,79nm,1.4s
DSRI Dabo 79.18 274 P **P** **08 28 21.3 +2.3**
PEA0B Petropavlovsk- 79.19 345 IAmb IAmb 08 28 18.9
comp=Z,47nm,1.2s
PEA0B Petropavlovsk- 79.19 345 ⇑*iP* **P** **08 28 17.9 -0.1**
PETK Petropavlovsk- 79.19 345 P **P** **08 28 17.6 -0.5**
PETK Petropavlovsk- 79.19 345 P **P** **08 28 17.1 -0.9**
comp=Z,17nm,1.0s,baz=160,slow=6.0,SNR=14
comp=Z,17nm,1.0s
PETK Petropavlovsk- 79.19 345 P **P** **08 28 17.6 -0.5**
CHNA Chernabura Isl 79.21 10 P **P** **08 28 17.9 -0.1**
baz=196
MAW Mawson 79.28 200 P **P** **08 28 19.3 +0.8**
comp=Z,22nm,0.8s,baz=126,slow=8.4,SNR=17
comp=Z,22nm,0.8s
BBGB Big Mountain B 79.56 43 IAmb IAmb 08 29 08.6
comp=Z,50nm,1.3s
SDPT Sand Point 79.57 10 P **P** **08 28 21.6 +1.6**
baz=196
KSRS Korea Array 79.58 318 P **P** **08 28 20.5 0.0**
comp=Z,2.8nm,1.0s,baz=146,slow=6.0,SNR=8.0
comp=Z,2.8nm,1.0s
KSAR Wonju Array Be 79.60 318 P **P** **08 28 19.5 -1.1**
KSAR Wonju Array Be 79.60 318 P **P** **08 28 19.5 -1.1**
S12K Black Hills 79.69 9 P **P** **08 28 21.1 +0.4**
baz=194
P08K Saint George I 79.81 4 P **P** **08 28 21.6 +0.3**
baz=187
CVS Carmenet Viney 79.82 41 IAmb IAmb 08 29 32.1
comp=Z,58nm,1.5s
SLBS Sierra La Lagu 80.11 59 P **P** **08 28 24.0 +0.2**
SLBS IAmb IAmb 08 28 27.3
comp=Z,72nm,1.8s
TPO Tropico Hills 80.31 45 IAmb IAmb 08 28 29.0
comp=Z,87nm,1.5s
KMRM Mail Ridge 80.32 39 IAmb IAmb 08 29 11.8
comp=Z,37nm,0.9s
VES Vestal, Richgr 80.34 44 IAmb IAmb 08 28 28.6
comp=Z,44nm,1.1s
SPIA Saint Paul Isl 80.34 4 P **P** **08 28 24.8 +0.6**
baz=186
YUH Yuha Desert 80.54 48 IAmb IAmb 08 28 29.4
comp=Z,46nm,1.8s
MG05 Puerto Natales 80.54 142 P **P** **08 28 26.9 +1.3**
MG05 IAmb IAmb 08 28 28.8
comp=Z,48nm,1.1s
DNR Dunn Ranch,Anz 80.59 47 IAmb IAmb 08 28 29.8
comp=Z,75nm,1.7s
S14K Fog Glacier 80.62 10 P **P** **08 28 26.2 +0.5**
baz=196
ISA Isabella, Lake 80.62 45 IAmb IAmb 08 28 30.7
comp=Z,30nm,1.1s
PFO Pinyon Flats O 80.74 47 P **P** **08 28 28.1 +1.1**
PFO Pinyon Flats O 80.74 47 ⇓*iP* **P** **08 28 29.2 +2.2**
PFO pmax pmax
comp=Z,46nm,2.0s
PFO Pinyon Flats O 80.74 47 P **P** **08 28 28.2 +1.1**
PFO sP **sP** **08 29 22.0 -1.7**
MYKOM Kota Tinggi 80.75 276 IAmb IAmb 08 28 29.7
comp=Z,27nm,1.0s
MYKOM Kota Tinggi 80.75 276 P **P** **08 28 27.6 +0.2**
GO09 Cerro Castillo 80.81 142 IAmb IAmb 08 28 30.7
comp=Z,100nm,1.6s
CHIR Chirikof Islan 80.86 12 P **P** **08 28 27.0 +0.1**
baz=200
CCCA Chr Cany lake 81.26 45 IAmb IAmb 08 28 34.2
comp=Z,58nm,1.5s
BC3 Big Chuckawall 81.44 48 IAmb IAmb 08 28 35.5
comp=Z,60nm,1.6s
O03E Paynes Creek 81.47 39 IAmb IAmb 08 28 34.6
comp=Z,78nm,1.8s
GLA Glamis 81.53 49 IAmb IAmb 08 28 35.0
comp=Z,97nm,1.9s
WAKR Walker 81.75 42 IAmb IAmb 08 28 36.8
comp=Z,39nm,1.3s
USRK Ussuriysk Ar. 81.78 326 P **P** **08 28 32.4 +0.4**
comp=Z,10nm,0.8s,baz=152,slow=3.7,SNR=9.1
comp=Z,10nm,0.8s
SII Sitkinak Islan 81.83 13 P **P** **08 28 32.5 +0.4**
baz=201
M03C McCloud 81.92 39 IAmb IAmb 08 28 37.2
comp=Z,94nm,1.9s
IRM Iron Mountain 81.94 48 IAmb IAmb 08 28 38.0
comp=Z,41nm,1.3s
TYV Tymovskoe 81.95 336 *eP* **P** **08 28 32.8 0.0**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,27nm,1.1s
PNTR Pine Nut 82.02 41 IAmb IAmb 08 28 38.0
comp=Z,29nm,1.1s
DANC Danby, Needles 82.06 47 IAmb IAmb 08 28 38.5
comp=Z,37nm,1.1s
GRAC Grapevine Rang 82.14 44 IAmb IAmb 08 28 38.8
comp=Z,59nm,1.4s
R16K Pilot Point 82.17 10 P **P** **08 28 34.4 +0.7**
baz=198
SHOC Shoshone, Teco 82.20 46 IAmb IAmb 08 28 38.7
comp=Z,54nm,1.4s
214A Organ Pipe Nat 82.33 51 IAmb IAmb 08 28 40.1
comp=Z,42nm,1.6s
NJ2 Nanjing 82.37 310 *eP* **P** **08 28 37.5 +2.1**
NJ2 pmax pmax
comp=Z,13nm,0.6s
RYN Ryan 82.39 42 IAmb IAmb 08 29 21.1
comp=Z,70nm,2.0s
NVAR Mina Array Bea 82.41 43 P **P** **08 28 37.0 +1.2**
NVAR Mina Array Bea 82.41 43 P **P** **08 28 37.6 +1.8**
comp=Z,6.4nm,0.9s,baz=240,slow=3.9,SNR=26
comp=Z,6.4nm,0.9s
AY03 Cochrane 82.42 138 IAmb IAmb 08 28 39.4
comp=Z,60nm,1.6s
R17L Mt. Peulik Vol 82.44 11 P **P** **08 28 36.1 +1.0**
baz=199
OHAK Old Harbor 82.63 13 P **P** **08 28 36.9 +0.8**
baz=202
R18K Karluk 82.72 12 IAmb IAmb 08 28 39.0
comp=Z,44nm,0.9s
R18K Karluk 82.72 12 P **P** **08 28 37.1 +0.5**
baz=201
V12A Nelson 83.04 46 IAmb IAmb 08 28 42.6
comp=Z,56nm,1.9s
Q17K Contact Creek 83.12 11 P **P** **08 28 38.9 +0.2**
baz=200
O14K Tigyukauivet M 83.25 8 P **P** **08 28 39.9 +0.7**
baz=195
KDAK Kodiak Island 83.30 13 P **P** **08 28 40.5 +1.0**
baz=202
MDJ Mudanjiang 83.32 325 P **P** **08 28 40.3 +0.3**
O15K Ungalikthiuk R 83.37 9 P **P** **08 28 40.2 +0.3**
baz=196
Q16K King Salmon 83.38 11 P **P** **08 28 40.6 +0.7**
baz=199
I04A Tendick Farm, 83.40 36 IAmb IAmb 08 28 44.4
comp=Z,43nm,1.7s
COYC Coyhaique 83.48 137 IAmb IAmb 08 28 44.9
comp=Z,25nm,0.9s
COYC Coyhaique 83.48 137 P **P** **08 28 42.4 +1.3**
COYC sP **sP** **08 29 37.0 -1.4**
P16K Nushagak River 83.50 10 P **P** **08 28 40.8 +0.2**
baz=198
K05A Summer Lake 83.55 38 IAmb IAmb 08 29 27.3
comp=Z,34nm,1.2s
Q18K Katmai Hardscr 83.64 11 P **P** **08 28 41.7 +0.2**
baz=200
H03S2 Juan Fernandez 83.66 124 T T 10 00 46.1
baz=246,slow=74,SNR=186
H03S1 Juan Fernandez 83.67 124 T T 10 00 52.4
baz=246,slow=74,SNR=183
H03S3 Juan Fernandez 83.68 124 T T 10 00 52.6
baz=246,slow=74,SNR=168
J05D Fort Rock, OR 83.72 37 IAmb IAmb 08 29 27.9
comp=Z,28nm,1.3s
H03N2 Juan Fernandez 83.81 124 T T 10 00 56.9
baz=251,slow=72,SNR=50
H03N3 Juan Fernandez 83.81 124 T T 10 01 09.0
baz=251,slow=72,SNR=9.0
M11K Mekoryuk 83.83 5 P **P** **08 28 43.2 +1.0**
baz=190
H03N1 Juan Fernandez 83.83 124 T T 10 01 03.7
baz=251,slow=72,SNR=14
N14K Kuskokwak Cree 83.84 8 P **P** **08 28 43.1 +0.8**
baz=194,SNR=15
PRN Pahroc Range 83.87 45 IAmb IAmb 08 28 47.9
comp=Z,32nm,1.3s
P17K Kvichak River 83.91 10 P **P** **08 28 42.9 +0.3**
baz=199
TUC Tucson 83.97 51 P **P** **08 28 46.3 +2.6**
TUC IAmb IAmb 08 28 48.9
comp=Z,23nm,1.1s
TUC Tucson 83.97 51 P **P** **08 28 46.3 +2.6**
TUC pmax pmax
comp=Z,23nm,1.1s
TUC Tucson 83.97 51 P **P** **08 28 46.4 +2.6**
TUC pP **pwP** **08 29 28.2 +1.6**
O16K Kokwok River B 84.02 10 IAmb IAmb 08 28 44.6
comp=Z,61nm,1.1s
O16K Kokwok River B 84.02 10 P **P** **08 28 43.4 +0.2**
baz=198,SNR=8.8
Q20K Shuyak Island 84.10 13 P **P** **08 28 44.4 +0.7**
baz=203
M13K Dall Lake 84.13 7 P **P** **08 28 45.0 +1.2**
baz=193
Q19K Cape Douglas, 84.15 12 P **P** **08 28 44.3 +0.3**
baz=202
SYO Syowa Base 84.23 192 ⇑*iP* **P** **08 28 44.2 -0.2**
SYO Syowa Base 84.23 192 ⇓*i*PcP **P** **08 28 45.8 +1.4**
N15K Kwethluk River 84.29 8 P **P** **08 28 45.7 +1.2**
baz=196,SNR=13
P18K Big Mountain, 84.30 11 P **P** **08 28 45.1 +0.4**
baz=200
O17K Koliganek Bris 84.35 10 P **P** **08 28 44.9 +0.1**
baz=198,SNR=6.6
IPM Ipoh 84.41 277 P **P** **08 28 45.4 -0.9**
IPM IAmb IAmb 08 28 48.7
comp=Z,44nm,1.1s
IPM Ipoh 84.41 277 P **P** **08 28 46.7 +0.3**
319A Douglas 84.56 53 IAmb IAmb 08 28 52.0
comp=Z,34nm,1.0s
E03A Lebam 84.62 34 IAmb IAmb 08 28 50.5
comp=Z,46nm,1.0s
M14K Bethel 84.62 7 P **P** **08 28 46.8 +0.7**
baz=194,SNR=13
X16A Lo Mia Camp, P 84.63 49 IAmb IAmb 08 29 32.4
comp=Z,31nm,1.4s
WVOR Wild Horse Val 84.67 39 IAmb IAmb 08 29 31.5
comp=Z,36nm,1.6s
LL02 Futaleuf 84.70 135 P **P** **08 28 49.0 +1.7**
LL02 IAmb IAmb 08 28 50.8
comp=Z,29nm,0.9s
M15K Kasigluk River 84.72 8 P **P** **08 28 47.5 +0.9**
baz=195,SNR=22
O18K Koktuh Hills 84.74 11 P **P** **08 28 47.6 +0.8**
baz=200
N16K Nishlik Lake 84.77 9 P **P** **08 28 47.7 +0.7**
baz=197,SNR=7.5
WHN Wuhan 84.84 306 P **P** **08 28 48.8 +0.8**
P19K Oil Pt 84.91 12 P **P** **08 28 48.8 +1.1**
baz=202
TROLL Troll, Antarti 84.96 180 ⇑P **P** **08 28 48.5 +0.3**
comp=Z,1μm,0.5s
TROLL ⇓sP **pP** **08 29 29.9 +1.5**
TROLL ⇑S **S** **08 39 03.3 +0.3**
N17K Nushagak Hills 85.05 10 IAmb IAmb 08 28 50.7
comp=Z,27nm,1.2s
N17K Nushagak Hills 85.05 10 P **P** **08 28 49.4 +1.0**
baz=198
CN2 Changchun 85.06 322 P **P** **08 28 48.5 -0.3**
CN2 SKS **SKSac** **08 38 57.0 -0.9**
CN2 sS sS 08 40 08.0 -5.6
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,250nm,4.0s
CN2 LR LR
comp=Z,740nm,17.0s
CN2 LR LR
comp=Z,840nm,17.0s
CN2 LR LR
comp=Z,990nm,19.0s
L14K Kuka Creek 85.11 7 P **P** **08 28 49.0 +0.4**
baz=193,SNR=16
KNB Kanab 85.12 46 IAmb IAmb 08 28 54.2
comp=Z,54nm,1.5s
U15A North Rim 85.15 47 IAmb IAmb 08 28 54.5
comp=Z,28nm,1.1s
I07A Izee 85.20 38 IAmb IAmb 08 29 34.5
comp=Z,43nm,1.9s
O19K Port Alsworth 85.21 11 P **P** **08 28 49.8 +0.7**
baz=201,SNR=14
SNAA Sanae 85.22 178 ⇑P **P** **08 28 49.6 +0.2**
comp=Z,181nm,0.7s
SNAA ⇓sP **pP** **08 29 30.0 +0.4**
SNAA ⇓S **S** **08 39 05.1 -0.3**
SNAA Sanae 85.22 178 P **P** **08 28 49.0 -0.4**
SNAA IAmb IAmb 08 28 52.2
comp=Z,46nm,1.6s
SNAA Sanae 85.22 178 P **P** **08 28 49.0 -0.4**
comp=Z,8.9nm,0.8s,baz=187,slow=5.9,SNR=23
comp=Z,8.9nm,0.8s
SNAA Sanae 85.22 178 P **P** **08 28 49.0 -0.4**
BNX BinXian 85.22 325 ⇓P **P** **08 28 51.5 +1.9**
BNX pmax pmax
comp=Z,19nm,0.8s
M16K Timber Creek 85.27 9 P **P** **08 28 51.3 +1.8**
baz=197,SNR=21
WUAZ Upatiki 85.27 48 IAmb IAmb 08 29 36.2
comp=Z,32nm,1.4s
VNA3 Neumayer Olymp 85.32 176 ⇑P **P** **08 28 49.8 -0.1**
comp=Z,18nm,0.6s
VNA3 ⇓sP **pP** **08 29 30.4 +0.4**
VNA3 ⇓S **S** **08 39 04.2 -2.1**
N18K Kilae Creek 85.40 10 P **P** **08 28 51.2 +1.0**
baz=199
O20K Slope Mountain 85.42 12 P **P** **08 28 51.5 +1.1**
baz=202
BRSE Bradley Lake S 85.48 13 P **P** **08 28 51.1 +0.5**
baz=204
K13K Kusilvak Mount 85.49 6 P **P** **08 28 51.5 +1.0**
baz=191,SNR=8.9
L15K Ungalak Mounta 85.58 7 P **P** **08 28 51.5 +0.6**
baz=194,SNR=13
ZAIG Zacatecas 85.60 63 IAmb IAmb 08 28 56.1
comp=Z,41nm,1.6s
RPSI Rantau Prapat 85.62 275 IAmb IAmb 08 28 54.7
comp=Z,37nm,1.3s
X18A Snowflake 85.73 50 IAmb IAmb 08 29 38.7
comp=Z,53nm,1.9s
N19K Bonanza Creek 85.77 11 IAmb IAmb 08 28 53.6
comp=Z,76nm,1.4s
N19K Bonanza Creek 85.77 11 P **P** **08 28 51.7 -0.4**
baz=201
VNA2 Neumayer--Watz 85.77 177 ⇑P **P** **08 28 52.3 +0.2**
comp=Z,12nm,0.7s,baz=179,slow=4.5
VNA2 ⇑sP **pP** **08 29 33.1 +0.8**
baz=118,slow=34
VNA2 ⇓S **S** **08 39 10.2 -0.4**
baz=300,slow=35
TIA Tai'an 85.83 312 P **P** **08 28 53.3 +0.4**
TIA pmax pmax
comp=Z,22nm,1.2s
M17K Holitna River 85.85 9 P **P** **08 28 53.7 +1.4**
baz=198,SNR=12
D05A Enumclaw 85.85 34 IAmb IAmb 08 29 42.5
comp=Z,49nm,1.3s
L16K Owhat River 85.86 8 P **P** **08 28 53.8 +1.5**

baz=196,SNR=7.5
LR05 Currie 85.94 132 IAmb IAmb 08 28 56.9
comp=Z,39nm,0.8s
VNA1 Neumayer--Stat 85.99 176 ⇑P P 08 28 53.5 +0.4
comp=Z,19nm,0.9s
VNA1 ⇓sP pwP 08 29 36.5 +0.9
VNA1 ⇓S S 08 39 15.2 +2.5
SEW Seward 86.08 13 P P 08 28 54.9 +1.5
baz=205
CBB Campbell River 86.11 30 IAmb IAmb 08 28 59.6
comp=Z,22nm,1.1s
K15K Wolf Creek Mou 86.17 7 P P 08 28 55.7 +1.8
baz=194,SNR=19
M18K Stony River 86.18 10 P P 08 28 55.2 +1.2
baz=200
Q23K Middleton Isla 86.18 15 P P 08 28 55.4 +1.5
baz=208
W18A Petrified Fore 86.19 49 IAmb IAmb 08 29 43.4
comp=Z,30nm,1.5s
121A Cookes Peak, D 86.25 52 IAmb IAmb 08 29 41.5
comp=Z,78nm,1.8s
G08A Pilot Rock 86.25 37 IAmb IAmb 08 29 39.5
comp=Z,43nm,1.8s
CAPN Captain Cook N 86.34 12 P P 08 28 55.8 +1.1
baz=204
O22K Cooper Landing 86.37 13 P P 08 28 55.6 +0.8
baz=205
P23K Montague Islan 86.44 14 P P 08 28 56.0 +0.7
baz=207
N20K Mount Spurr 86.53 12 P P 08 28 55.5 -0.3
baz=203
SPCR Spurr Chakacha 86.53 12 P P 08 28 55.5 -0.3
baz=203,SNR=5.4
SPU Mount Spurr 86.55 12 IAmb IAmb 08 28 58.2
comp=Z,82nm,1.8s
TLIG Tlapa 86.67 69 IAmb IAmb 08 29 01.3
comp=Z,64nm,1.8s
PLCA Paso Flores 86.69 133 P P 08 28 58.4 +1.1
PLCA IAmb IAmb 08 29 00.8
comp=Z,39nm,1.4s
PLCA Paso Flores 86.69 133 P P 08 28 59.2 +1.9
comp=Z,12nm,1.1s,baz=246,slow=8.4,SNR=9.4
comp=Z,12nm,1.1s
PLCA Paso Flores 86.69 133 P P 08 28 59.3 +2.0
PLCA pP pP 08 29 40.3 +2.5
MA2 Magadan 86.70 344⇓eP P 08 28 55.8 -0.7
MA2 pmax pmax
comp=Z,38nm,1.7s
L18K Granite Mounta 86.74 9 P P 08 28 57.4 +0.8
baz=199
M19K Big River Lodg 86.80 10 IAmb IAmb 08 28 59.0
comp=Z,58nm,1.7s
M19K Big River Lodg 86.80 10 P P 08 28 57.7 +0.7
baz=201
EPT El Paso 86.81 54 IAmb IAmb 08 29 02.6
comp=Z,26nm,1.1s
GAMB Gambell 86.86 2 P P 08 28 57.9 +0.7
baz=185
CRAG Craig 86.88 23 P P 08 28 58.0 +0.6
baz=220
STLK Strandline Lak 86.88 12 IAmb IAmb 08 28 58.5
comp=Z,69nm,1.9s
RC01 Rabbit Creek A 86.92 13 P P 08 28 58.0 +0.5
baz=205
K17K Iditarod 86.98 9 P P 08 28 58.8 +1.0
baz=197
L19K White Mountain 86.99 10 P P 08 28 58.8 +0.9
baz=200
M20K Styx River 87.00 11 IAmb IAmb 08 29 43.8
comp=Z,23nm,1.4s
M20K Styx River 87.00 11 P P 08 28 59.2 +1.2
baz=202
PWL Port Wells 87.00 14 P P 08 28 58.1 +0.1
baz=206
SUA Susitna One 87.06 12 P P 08 28 58.7 +0.3
baz=204
KAIM Kayak Island 87.09 16 P P 08 28 59.4 +1.0
baz=210
J16K Anvik River 87.24 7 IAmb IAmb 08 29 01.8
comp=Z,49nm,1.2s
J16K Anvik River 87.24 7 P P 08 28 59.9 +0.9
baz=195,SNR=5.3
Q16A Castle Valley 87.25 45 IAmb IAmb 08 29 04.3
comp=Z,42nm,1.9s
GLI Glacier Island 87.30 14 P P 08 29 00.2 +0.8
baz=207
EYAK Cordova Ski Ar 87.31 15 P P 08 29 00.1 +0.7
baz=209
V35K Ketchikan 87.33 24 IAmb IAmb 08 29 03.2
comp=Z,26nm,1.1s
V35K Ketchikan 87.33 24 P P 08 29 00.7 +1.1
baz=221,SNR=5.5
SIT Sitka 87.35 21 P P 08 29 00.6 +1.0
baz=218
U33K Whale Pass 87.38 23 P P 08 29 00.7 +0.9
baz=220,SNR=6.3
SKT Skwentna 87.38 12 P P 08 28 59.5 -0.2
baz=203
L20K Farewell, AK 87.43 11 P P 08 28 59.8 -0.2
baz=201
TMUT Trail Mountain 87.43 45 IAmb IAmb 08 29 11.1
comp=Z,17nm,0.8s
M22K Willow 87.45 12 P P 08 29 00.1 +0.1
baz=205
VHRN Van Horn 87.46 55 IAmb IAmb 08 29 05.7
comp=Z,27nm,1.2s
KNK Knik Glacier 87.48 13 P P 08 29 00.6 +0.3
baz=206
PMR Palmer 87.50 13 IAmb IAmb 08 29 03.6
comp=Z,39nm,1.2s
PMR Palmer 87.50 13 P P 08 29 00.9 +0.6
PMR Palmer 87.50 13 P P 08 29 00.7 +0.4
baz=206
J17K VABM Dome 87.53 8 P P 08 29 00.4 -0.1
baz=196
BGLC Bering Glacier 87.55 16 P P 08 29 01.1 +0.6
baz=211
Y22A Socorro 87.55 51 IAmb IAmb 08 29 51.1
comp=Z,34nm,1.4s
MNTX Cornudas Mount 87.60 54 IAmb IAmb 08 29 49.9
comp=Z,51nm,1.8s
F10A Beach Ranch, E 87.63 37 IAmb IAmb 08 29 06.5
comp=Z,16nm,1.0s
TX31 Lajitas Ar. Si 87.77 57 IAmb IAmb 08 29 07.4
comp=Z,54nm,1.6s
TXAR Lajitas Array 87.77 57 P P 08 29 04.1 +1.6
TXAR Lajitas Array 87.77 57 P P 08 29 04.3 +1.7
comp=Z,4.0nm,0.9s,baz=244,slow=4.6,SNR=23
comp=Z,4.0nm,0.9s
S31K Pelican 87.78 20 P P 08 29 01.5 -0.2
baz=217
SRU San Rafael Swe 87.78 46 IAmb IAmb 08 29 12.0
comp=Z,16nm,0.8s
PLID Pearl Lake 87.79 38 IAmb IAmb 08 29 05.9
comp=Z,36nm,1.9s
I17K Unalakleet 87.81 7 P P 08 29 02.4 +0.7
baz=195
DIV Divide 87.82 15 IAmb IAmb 08 29 04.1
comp=Z,25nm,0.9s
SML Sawmill 87.86 13 P P 08 29 02.6 +0.5
baz=206
WRAK Wrangell Islan 87.89 23 IAmb IAmb 08 29 05.7
comp=Z,26nm,1.0s
WRAK Wrangell Islan 87.89 23 P P 08 29 02.5 +0.2
baz=220,SNR=6.5
S32K Killisnoo 87.93 21 P P 08 29 02.7 +0.3
baz=218
MESA MESA 87.94 17 P P 08 29 02.4 -0.3
baz=212
BMRM Bremner River 87.95 15 P P 08 29 01.9 -0.7
baz=210
M23K Glacier View 87.97 13 P P 08 29 02.9 +0.3
baz=207
B08A Colville Reser 87.98 34 P P 08 29 04.2 +1.3
CUT Chulitna 88.01 12 P P 08 29 03.4 +0.7
baz=204,SNR=5.0
ANM Nome 88.02 5 P P 08 29 03.4 +0.7
baz=191
SCM Sheep Creek Mo 88.10 14 P P 08 29 03.7 +0.4
baz=207,SNR=7.1
HNS HongShan 88.11 312 ⇑P P 08 29 04.5 +0.8
HNS pmax pmax
comp=Z,16nm,1.3s
KLU Klutina 88.11 14 P P 08 29 04.3 +1.0
baz=208
CRQE Cirque 88.14 16 P P 08 29 04.5 +0.9
baz=211
LLLB Lilloet 88.15 32 IAmb IAmb 08 29 07.0
comp=Z,19nm,1.1s
HEH HeiHe 88.16 328 eP P 08 29 03.3 -0.4
HEH S S 08 39 39.0 +5.2
HEH pmax pmax
comp=Z,24nm,1.8s
PNL Peninsula 88.21 18 P P 08 29 04.1 +0.3
baz=214
K20K Telida 88.22 10 P P 08 29 03.7 0.0
baz=201
LYN LuoYang 88.22 309 P P 08 29 05.5 +1.1
LYN SKS SKSac 08 39 18.0 +0.2
LYN S ScS 08 39 38.0 -2.6
LYN pmax pmax
comp=Z,21nm,1.1s
LYN pmax pmax
comp=Z,400nm,7.5s
ALPN Alpine 88.28 56 IAmb IAmb 08 29 51.4
comp=Z,32nm,1.4s
TCUT Toone Canyon 88.30 43 IAmb IAmb 08 29 08.8
comp=Z,33nm,1.3s
PINM Pinnacle 88.33 17 P P 08 29 03.9 -0.5
baz=213
ENH Enshi 88.37 304 P P 08 29 05.9 +0.7
H16K Elim 88.38 6 P P 08 29 04.5 +0.2
baz=194
PV20 West Nyswonger 88.41 47 IAmb IAmb 08 29 08.2
comp=Z,38nm,1.8s
ANMO Albuquerque 88.42 51 P P 08 29 07.5 +2.0
ANMO IAmb IAmb 08 29 55.2
comp=Z,28nm,1.5s
ANMO Albuquerque 88.42 51 P P 08 29 07.5 +2.0
ANMO pmax pmax
comp=Z,28nm,1.5s
ANMO Albuquerque 88.42 51 P P 08 29 07.4 +1.9
ANMO pP pwP 08 29 49.0 +0.1
PV02 Paradox Valley 88.49 47 IAmb IAmb 08 29 52.9
comp=Z,20nm,1.3s
N25K Chitina, Valde 88.51 15 IAmb IAmb 08 29 07.7
comp=Z,24nm,0.8s
N25K Chitina, Valde 88.51 15 P P 08 29 05.5 +0.3
baz=210,SNR=5.3
BJI Beijing 88.52 315 P P 08 29 05.0 -0.6
BJI pmax pmax
comp=Z,5.0nm,1.9s
G15K Niukluk 88.56 5 P P 08 29 05.1 -0.1
baz=192
GLB Gilahina Butte 88.56 15 IAmb IAmb 08 29 52.3
comp=Z,51nm,1.5s
J19K Poorman 88.58 9 P P 08 29 05.5 +0.1
baz=200
PECS Pecos 88.58 55 IAmb IAmb 08 29 51.7
comp=Z,26nm,1.6s
R32K Eaglecrest 88.58 21 P P 08 29 05.1 -0.4
baz=218
M24K Tolsona, Glenn 88.59 14 P P 08 29 04.9 -0.7
baz=208
P29M Windy Craggy 88.66 19 IAmb IAmb 08 29 09.2
comp=Z,35nm,1.1s
P29M Windy Craggy 88.66 19 P P 08 29 05.4 -0.5
baz=216,SNR=6.2
WAT6 Susitna Watana 88.68 13 P P 08 29 05.5 -0.6
baz=207,SNR=7.4
MCARA McCarthy VSAT 88.70 16 P P 08 29 05.7 -0.3
baz=211
BESE Bessie Mountai 88.71 21 IAmb IAmb 08 29 09.5
comp=Z,37nm,1.2s
WAT1 Susitna Watana 88.74 13 P P 08 29 06.1 -0.1
baz=206
LOGN Logan Glacier 88.74 17 IAmb IAmb 08 29 09.1
comp=Z,34nm,1.0s
CTG Chitna Glacier 88.77 17 P P 08 29 05.4 -1.2
baz=212,SNR=6.3
CTGM Chitina Glacie 88.77 17 IAmb IAmb 08 29 08.7
comp=Z,36nm,1.1s
GYA Guiyang 88.83 299 P P 08 29 09.0 +1.4
GYA pmax pmax
comp=Z,23nm,1.2s
TNA Tin City 88.83 4 P P 08 29 06.3 -0.2
baz=188
F14K Arctic Creek 88.85 4 P P 08 29 06.6 0.0
baz=190
SLVN Son La 88.86 294 IAmb IAmb 08 29 09.9
comp=Z,45nm,1.8s
SLVN Son La 88.86 294 P P 08 29 08.2 +0.4
O28M Mount Upton 88.91 17 P P 08 29 06.9 -0.4
baz=213
H17K Granite Mounta 88.92 7 IAmb IAmb 08 29 09.0
comp=Z,41nm,1.2s
H17K Granite Mounta 88.92 7 P P 08 29 07.1 +0.1
baz=196,SNR=6.2
PLBC Pleasant Camp 88.94 19 P P 08 29 07.0 -0.1
baz=217
KTH Kantishna Hill 88.94 11 IAmb IAmb 08 29 08.2
comp=Z,22nm,1.0s
TRF Thorofare Moun 88.96 12 P P 08 29 07.4 0.0
baz=204,SNR=20
O29M Mount Kennedy 88.97 18 P P 08 29 08.0 +0.5
baz=215
J20K Nowinta River 88.98 10 P P 08 29 07.6 +0.4
baz=201
CHUM Lake Minchumin 89.00 11 P P 08 29 07.2 -0.1
baz=203,SNR=6.5
T35M Bob Quinn 89.08 24 IAmb IAmb 08 29 11.8
comp=Z,23nm,1.4s
T35M Bob Quinn 89.08 24 P P 08 29 08.3 +0.5
baz=222
HARP HAARP 89.08 14 P P 08 29 08.3 +0.5
baz=209
G16K Koyuk River 89.10 6 P P 08 29 08.7 +1.0
baz=194
GCSA Galena City Sc 89.12 8 P P 08 29 08.1 +0.3
baz=198,SNR=7.2
DHY Denali Highway 89.20 13 P P 08 29 08.9 +0.5
baz=207,SNR=5.3
F15K North Star Dit 89.21 5 P P 08 29 08.7 +0.5
baz=191
SAND Sanderson 89.25 57 IAmb IAmb 08 29 13.4
comp=Z,33nm,1.9s
SKAG Skagway 89.26 20 P P 08 29 08.5 -0.1
SKAG Skagway 89.26 20 P P 08 29 09.4 +0.8
baz=218
SEY Seymchan 89.28 347⇓iP P 08 29 08.6 0.0
SEY pmax pmax
comp=Z,59nm,1.4s
P30M Million Dollar 89.29 19 P P 08 29 10.2 +1.3
baz=216
H18K Honhosa River 89.31 8 P P 08 29 09.7 +0.9
baz=197
G17K Kiwalik Mounta 89.38 7 P P 08 29 09.7 +0.6
baz=195
MNHN Monahans 89.40 55 IAmb IAmb 08 29 59.1
comp=Z,41nm,1.9s
MT01 Popeta 89.40 127 IAmb IAmb 08 29 12.7
comp=Z,46nm,1.5s
BPAW Bear Paw Mtn. 89.43 11 IAmb IAmb 08 29 52.7
comp=Z,44nm,1.8s
BPAW Bear Paw Mtn. 89.43 11 P P 08 29 10.6 +1.2
baz=204
S34M Telegraph Cree 89.46 23 IAmb IAmb 08 29 14.0
comp=Z,33nm,1.0s
S34M Telegraph Cree 89.46 23 P P 08 29 10.7 +1.1
baz=221,SNR=19
YUK8 Steele Glacier 89.46 17 P P 08 29 10.7 +0.8
baz=214,SNR=5.5
MCK McKinley 89.48 12 P P 08 29 10.3 +0.7
baz=206,SNR=8.8
I20K Naaghedeneel 89.51 9 P P 08 29 10.9 +1.3
baz=201
PAX Paxson 89.51 14 IAmb IAmb 08 29 11.1
comp=Z,62nm,1.8s
PAX Paxson 89.51 14 P P 08 29 10.8 +1.0
baz=209
S22A 4UR Ranch, Cre 89.55 48 IAmb IAmb 08 29 15.8
comp=Z,33nm,1.7s
YUK6 Outpost Mounta 89.56 18 P P 08 29 11.1 +0.7
baz=215
M26K Nabesna, AK 89.58 15 IAmb IAmb 08 29 12.9
comp=Z,27nm,1.2s
M26K Nabesna, AK 89.58 15 P P 08 29 10.8 +0.7
baz=211
HYT Haines Junctio 89.70 18 P P 08 29 12.0 +1.1
baz=216
YUK4 Talbot Arm 89.81 17 P P 08 29 12.2 +0.8
baz=215
M27K Edge Creek, AK 89.82 16 P P 08 29 12.7 +1.3
baz=212,SNR=10
Q32M Nakina River 89.86 21 IAmb IAmb 08 29 15.3
comp=Z,20nm,1.0s
Q32M Nakina River 89.86 21 P P 08 29 13.1 +1.4
baz=220
P32M Atlin 89.87 20 P P 08 29 12.6 +1.0
baz=219
H19K Roundabout Mou 89.92 8 P P 08 29 12.5 +1.0
baz=199,SNR=13
ODSA Odessa 89.92 55 IAmb IAmb 08 29 17.0
comp=Z,33nm,1.5s
G18K Tagagawik 89.99 7 IAmb IAmb 08 29 13.8
comp=Z,46nm,1.2s
G18K Tagagawik 89.99 7 P P 08 29 11.7 -0.2
baz=197
L26K Log Cabin Wild 90.04 15 IAmb IAmb 08 29 58.7
comp=Z,25nm,1.3s
L26K Log Cabin Wild 90.04 15 P P 08 29 13.2 +0.9
baz=211,SNR=5.4
O30N Mendenhall 90.07 19 IAmb IAmb 08 29 15.6
comp=Z,22nm,1.1s
O30N Mendenhall 90.07 19 P P 08 29 13.7 +1.2
baz=217,SNR=6.7
H20K Anotleneega Mo 90.10 9 P P 08 29 13.5 +1.0
baz=200,SNR=13
DRIO Del Rio 90.17 58 IAmb IAmb 08 29 16.5
comp=Z,27nm,1.3s
K24K Donnelly Dome 90.18 13 P P 08 29 13.6 +0.7
baz=208
NEA2 Nenana 90.23 12 IAmb IAmb 08 30 14.1
comp=Z,45nm,1.8s
NEA2 Nenana 90.23 12 P P 08 29 13.1 +0.1
baz=206
F17K Baldwin Pennin 90.23 6 P P 08 29 14.0 +1.0
baz=194
DLBC Dease Lake 90.24 23 P P 08 29 14.4 +1.1
baz=222,SNR=7.4
I21K Tanana 90.26 10 IAmb IAmb 08 29 59.1
comp=Z,26nm,1.1s
I21K Tanana 90.26 10 P P 08 29 13.3 +0.1
baz=203,SNR=9.9
WRH Wood River Hil 90.31 12 IAmb IAmb 08 29 59.2
comp=Z,34nm,1.2s
RIDG Independent Ri 90.32 14 IAmb IAmb 08 30 00.4
comp=Z,41nm,1.4s
RIDG Independent Ri 90.32 14 P P 08 29 13.8 +0.2
baz=209
MLY Manley 90.33 11 IAmb IAmb 08 29 18.8
comp=Z,18nm,1.4s
MLY Manley 90.33 11 P P 08 29 13.8 +0.2
baz=204,SNR=5.4
N30M Aishikik Lake 90.34 18 P P 08 29 14.4 +0.7
baz=216
PDAR Pinedale Array 90.34 43 P P 08 29 14.9 +0.5
PDAR Pinedale Array 90.34 43 P P 08 29 15.1 +0.6
comp=Z,2.6nm,0.8s,baz=238,slow=5.7,SNR=19
comp=Z,2.6nm,0.8s
WHY Whitehorse 90.35 19 IAmb IAmb 08 29 16.9
comp=Z,22nm,1.0s
WHY Whitehorse 90.35 19 P P 08 29 14.7 +0.9
baz=218
DOT Dot Lake 90.42 14 IAmb IAmb 08 29 16.3
comp=Z,16nm,0.9s
L27K Beaver Creek, 90.43 15 IAmb IAmb 08 29 16.6
comp=Z,11nm,0.9s
L27K Beaver Creek, 90.43 15 P P 08 29 15.1 +1.0
baz=212,SNR=7.0
BCAR Beaver Creek A 90.44 15 P P 08 29 15.1 +1.0
OZNA Ozona 90.45 56 IAmb IAmb 08 29 59.2
comp=Z,39nm,2.0s
YHL Hebgen Lake 90.47 40 IAmb IAmb 08 30 03.2
comp=Z,28nm,1.4s
HDA Harding Lake 90.47 13 P P 08 29 15.0 +0.7
baz=208,SNR=12
ZEA Zeya 90.50 331 eP P 08 29 14.6 0.0
ZEA e 08 30 06.7
ZEA pmax pmax
comp=Z,10.0nm,1.0s
CCB Clear Creek Bu 90.52 12 IAmb IAmb 08 29 15.3
comp=Z,29nm,1.2s
XAN Xi'an 90.55 307 P P 08 29 15.5 +0.1
XAN S S 08 39 56.0 -0.9
XAN pmax pmax
comp=Z,19nm,1.5s
XAN pmax pmax
comp=Z,250nm,4.8s
F18K Selawik 90.56 7 P P 08 29 15.7 +1.2
baz=196
H21K Melozitna Rive 90.57 10 IAmb IAmb 08 29 17.2
comp=Z,47nm,1.5s
H21K Melozitna Rive 90.57 10 P P 08 29 15.5 +0.9
baz=202
MSTX Muleshoe 90.61 53 IAmb IAmb 08 29 19.5
comp=Z,24nm,1.2s
R33M Jennings River 90.63 22 IAmb IAmb 08 29 18.7
comp=Z,28nm,1.2s
R33M Jennings River 90.63 22 P P 08 29 16.0 +0.8
baz=221,SNR=8.9
P33M Teslin, Yukon 90.64 20 IAmb IAmb 08 29 18.6
comp=Z,14nm,0.9s
P33M Teslin, Yukon 90.64 20 P P 08 29 16.2 +1.0
baz=220,SNR=9.5
833A Chaparral WMA, 90.65 59 IAmb IAmb 08 30 01.1
comp=Z,38nm,1.7s
I23K Minto, Yukon-K 90.68 11 IAmb IAmb 08 29 16.8
comp=Z,23nm,1.5s
I23K Minto, Yukon-K 90.68 11 P P 08 29 15.5 +0.3
baz=205
COLA College 90.71 12 P P 08 29 15.9 +0.6
COLA IAmb IAmb 08 30 00.7
comp=Z,20nm,0.9s
COLA College 90.71 12 P P 08 29 14.8 -0.5
COLA College 90.71 12 P P 08 29 15.9 +0.6
COLA pmax pmax
comp=Z,20nm,1.0s
COLA College 90.71 12 P P 08 29 16.0 +0.8
baz=207
SCRK Sand Creek 90.72 14 IAmb IAmb 08 30 01.9
comp=Z,18nm,1.2s
SCRK Sand Creek 90.72 14 P P 08 29 17.1 +1.6
baz=210,SNR=5.6
N31M Braeburn, Yuko 90.74 18 IAmb IAmb 08 29 19.0
comp=Z,26nm,1.0s
N31M Braeburn, Yuko 90.74 18 P P 08 29 16.7 +1.2
baz=217
M29M Somme Creek 90.77 17 IAmb IAmb 08 29 18.7
comp=Z,19nm,0.9s
M29M Somme Creek 90.77 17 P P 08 29 16.5 +0.8
baz=215,SNR=8.4
E17K Hotham Inlet 90.80 6 P P 08 29 16.9 +1.3
baz=194
ILAR Eielson Array 90.81 12 P P 08 29 15.8 +0.1
comp=Z,2.3nm,0.4s,baz=210,slow=5.2,SNR=80
ILAR PP PP 08 32 53.0 -1.1
comp=Z,1.9nm,1.0s,baz=214,slow=6.2,SNR=4.4
comp=Z,2.3nm,0.4s
J25K Salcha River, 90.98 13 IAmb IAmb 08 29 18.2
comp=Z,16nm,1.1s
J25K Salcha River, 90.98 13 P P 08 29 17.5 +0.9
baz=209
F19K Shaleruckik Mo 91.00 7 P P 08 29 16.9 +0.4
baz=198
POKR Poker Plat Res 91.01 12 P P 08 29 16.7 0.0
baz=207
H22K Ishtalitna Cre 91.02 10 P P 08 29 17.0 +0.3
baz=204
K27K Chicken 91.19 15 IAmb IAmb 08 30 05.1
comp=Z,38nm,1.5s
K27K Chicken 91.19 15 P P 08 29 18.5 +0.9
baz=212
CO03 El Pedregal 91.23 124 IAmb IAmb 08 30 06.2
comp=Z,11nm,1.1s
E18K Tukpahlearik C 91.25 6 P P 08 29 18.7 +1.0
baz=195
YNE Yellowstone No 91.26 41 IAmb IAmb 08 30 07.8
comp=Z,21nm,1.5s
G21K Allakaket 91.26 9 P P 08 29 17.9 +0.1
baz=202
J26L Joseph Creek 91.27 14 P P 08 29 19.4 +1.4
baz=210,SNR=28
HNDO Hondo 91.27 58 IAmb IAmb 08 29 21.2
comp=Z,12nm,1.0s
JCT Junction City 91.28 57 P P 08 29 19.0 +0.2
JCT IAmb IAmb 08 29 23.0
comp=Z,17nm,1.4s
JCT Junction City 91.28 57 P P 08 29 19.0 +0.2
JCT pmax pmax
comp=Z,17nm,1.4s
N32M Quiet Lake 91.28 20 P P 08 29 18.9 +0.8
baz=220
D17K Noatak River 91.29 5 P P 08 29 18.9 +1.0

baz=193
M30M Minto, Yukon 91.33 17 IAmb IAmb 08 29 21.3
comp=Z,18nm,0.9s
M30M Minto, Yukon 91.33 17 P **P** **08 29 19.2 +1.0**
baz=216,SNR=11
L29M L29M 91.40 17 P **P** **08 29 18.9 +0.3**
baz=215,SNR=18
KMI Kunming 91.44 297 P **P** **08 29 20.5 +0.6**
KMI SKS **SKSac** **08 39 35.5 -1.8**
KMI pmax pmax
comp=Z,24nm,1.6s
KMI pmax pmax
comp=Z,190nm,4.0s
KMI LR LR
comp=Z,510nm,23.8s
KMI LR LR
comp=Z,1μm,23.7s
KMI LR LR
comp=Z,2μm,27.4s
F20K Avaraart Lake 91.46 8 IAmb IAmb 08 29 21.1
comp=Z,33nm,1.2s
F20K Avaraart Lake 91.46 8 P **P** **08 29 19.8 +1.1**
baz=200
H24K Noodor Dome 91.57 12 P **P** **08 29 20.6 +1.2**
baz=207
HILR Hailar Array B 91.65 324 P **P** **08 29 20.5 +0.4**
comp=Z,1.0nm,0.3s,baz=122,slow=10,SNR=2.6
comp=Z,1.0nm,0.3s
RDOG Red Dog Mine 91.66 5 P **P** **08 29 20.4 +0.8**
baz=193
E19K Redstone River 91.66 7 P **P** **08 29 20.5 +0.9**
baz=198
C16K Lisburne Hills 91.69 4 P **P** **08 29 20.2 +0.5**
baz=191
DAWY Dawson 91.87 16 IAmb IAmb 08 30 07.2
comp=Z,22nm,1.2s
DAWY Dawson 91.87 16 P **P** **08 29 21.2 +0.5**
baz=214,SNR=9.2
BILL Bilibino 91.89 354 P **P** **08 29 20.8 +0.1**
BILL Bilibino 91.89 354 ⇓*i*P **P** **08 29 20.7 +0.1**
BILL pmax pmax
comp=Z,42nm,1.1s
CM31 Chiang Mai Arr 91.92 289 P **P** **08 29 21.1 -0.8**
CMAR Chiang Mai Arr 91.92 289 P **P** **08 29 21.6 -0.4**
CMAR Chiang Mai Arr 91.92 289 P **P** **08 29 22.1 +0.2**
comp=Z,17nm,1.0s,baz=115,slow=4.2,SNR=49
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 91.92 289 *i* P **P** **08 29 23.2 +1.2**
CMAR pmax pmax
comp=Z,11nm,0.8s
F21K Alatna River 91.93 9 IAmb IAmb 08 29 23.2
comp=Z,28nm,1.4s
F21K Alatna River 91.93 9 P **P** **08 29 21.5 +0.6**
baz=202
G22K Bettles 91.94 10 P **P** **08 29 22.2 +1.2**
baz=203
HHC Hu-ho-hao-te 91.95 314 *e*P **P** **08 29 24.8 +3.0**
HHC pmax pmax
comp=Z,16nm,0.7s
G23K Bananza Creek 91.99 10 P **P** **08 29 22.3 +1.0**
baz=205
C17K DeLong Mountai 92.05 5 P **P** **08 29 22.4 +1.0**
baz=193
I26K Coal Creek Min 92.05 14 IAmb IAmb 08 29 23.9
comp=Z,9.6nm,0.9s
I26K Coal Creek Min 92.05 14 P **P** **08 29 22.5 +1.1**
baz=211
CHTO Chiang Mai 92.06 289 P **P** **08 29 23.1 +0.5**
CHTO Chiang Mai 92.06 289 P **P** **08 29 23.2 +0.5**
CHTO Chiang Mai 92.06 289 P **P** **08 29 23.2 +0.5**
CHTO pmax pmax
comp=Z,38nm,1.1s
K29M Barlow Dome 92.16 16 P **P** **08 29 23.4 +1.2**
baz=216,SNR=15
BRDY Brady 92.25 57 IAmb IAmb 08 29 26.7
comp=Z,12nm,1.1s
TOAD Toad River Com 92.28 24 P **P** **08 29 24.1 +1.4**
baz=226,SNR=6.3
APMT Aspermont 92.29 55 IAmb IAmb 08 29 26.9
comp=Z,32nm,1.5s
H25L Birch Creek 92.34 12 P **P** **08 29 24.2 +1.4**
baz=208
LIRD Liard River Hi 92.35 23 P **P** **08 29 24.1 +1.1**
baz=226
F22K John River 92.38 9 P **P** **08 29 24.2 +1.2**
baz=203
C18K Utukok River 92.39 6 P **P** **08 29 24.4 +1.3**
baz=195
MAYO Mayo, Yukon 92.39 17 P **P** **08 29 24.3 +1.2**
baz=217
G24K Hadweenzic Riv 92.42 11 P **P** **08 29 24.6 +1.4**
baz=207
COLD Coldfoot 92.43 10 IAmb IAmb 08 29 26.8
comp=Z,15nm,1.2s
COLD Coldfoot 92.43 10 P **P** **08 29 24.7 +1.5**
baz=205
E20K Nigu River 92.55 8 P **P** **08 29 24.6 +0.8**
baz=199
D19K Kuna River 92.55 7 P **P** **08 29 24.2 +0.5**
baz=197
I27K Kandik River 92.64 14 P **P** **08 29 25.3 +1.1**
baz=212
G25K Bearman Lake 92.73 12 P **P** **08 29 25.7 +1.1**
baz=208
PZH PanZhiHua 92.83 298 P **P** **08 29 27.5 +1.3**
BTO Baotou 92.86 313 *e*P **P** **08 29 26.0 0.0**
BTO S **S** **08 40 16.0 -1.5**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,340nm,4.5s
BTO LR LR
comp=Z,1μm,15.2s
BTO LR LR
comp=Z,920nm,19.9s
BTO LR LR
comp=Z,2μm,13.5s
I28M Miner Creek 92.89 15 IAmb IAmb 08 29 28.4
comp=Z,12nm,0.9s
I28M Miner Creek 92.89 15 P **P** **08 29 26.1 +0.7**
baz=214,SNR=5.8
D20K Etivluk River 92.93 7 P **P** **08 29 27.0 +1.5**
baz=199
C19K Lookout Ridge 92.98 6 P **P** **08 29 26.8 +1.0**
baz=196
E21K Killik River 93.00 8 P **P** **08 29 26.4 +0.6**
baz=201
E22K Anaktuvuk Pass 93.02 9 P **P** **08 29 26.4 +0.4**
baz=203
B18K Kokolik River 93.03 5 P **P** **08 29 27.7 +1.8**
baz=194
KSCO Kaye Shedlock' 93.05 49 IAmb IAmb 08 29 30.5
comp=Z,32nm,1.4s
J30M Hart River 93.06 16 P **P** **08 29 27.4 +1.0**
baz=217
F24K Squaw Lake 93.08 11 P **P** **08 29 27.9 +1.7**
baz=207
TGTN Hyland Airport 93.11 21 P **P** **08 29 27.9 +1.4**
baz=224
H27K Steamboat Moun 93.19 14 IAmb IAmb 08 30 14.0
comp=Z,25nm,1.4s
H27K Steamboat Moun 93.19 14 P **P** **08 29 27.5 +0.7**
baz=212
E23K Chandalar 93.28 10 P **P** **08 29 28.3 +1.0**
baz=205
G26K Porcupine Rive 93.34 12 P **P** **08 29 28.7 +1.3**
baz=210
PLPT Palo Pinto 93.43 56 IAmb IAmb 08 29 33.1
comp=Z,26nm,1.3s
E24K Your Creek 93.48 10 P **P** **08 29 29.6 +1.5**
baz=206
F25K Christian Rive 93.55 12 IAmb IAmb 08 29 31.7
comp=Z,17nm,1.4s
F25K Christian Rive 93.55 12 P **P** **08 29 29.9 +1.5**
baz=209
I30M Mount Dempster 93.57 16 IAmb IAmb 08 30 18.4
comp=Z,20nm,1.2s
I30M Mount Dempster 93.57 16 P **P** **08 29 29.8 +1.1**
baz=217
C21K Knifeblade Rid 93.57 8 P **P** **08 29 30.0 +1.6**
baz=200
D22K Ayikyak River 93.59 9 P **P** **08 29 30.0 +1.5**
baz=202
KOTAN Kotaneelee Air 93.60 24 P **P** **08 29 29.5 +0.7**
baz=227
BMAR Burnt Mountain 93.60 12 P **P** **08 29 30.0 +1.3**
G27K Doyon Strip 93.66 13 P **P** **08 29 29.9 +1.0**
baz=212
TOLK Toolik Lake Re 93.82 10 P **P** **08 29 31.1 +1.4**
baz=205
H29M Whitestone 93.89 15 P **P** **08 29 31.3 +1.3**
baz=215
A19K Wainwright 93.91 5 P **P** **08 29 31.7 +1.8**
baz=195
F26K Sheenjek River 93.92 12 P **P** **08 29 32.0 +1.9**
baz=210
D23K Nanushuk River 93.95 9 P **P** **08 29 31.6 +1.5**
baz=204
E25K Arctic Village 94.03 11 P **P** **08 29 31.7 +1.1**
baz=209
B21K Ikpikpuk River 94.03 8 P **P** **08 29 31.7 +1.2**
baz=201
D24K Happy Valley 94.40 10 P **P** **08 29 33.8 +1.6**
baz=206
EPYK Eagle Plains 94.41 15 P **P** **08 29 32.5 +0.1**
baz=217
RSSD Black Hills 94.50 44 P **P** **08 29 34.3 +0.7**
RSSD IAmb IAmb 08 30 18.3
comp=Z,16nm,1.1s
RSSD Black Hills 94.50 44 P **P** **08 29 34.3 +0.7**
RSSD pmax pmax
comp=Z,16nm,1.2s
G29M Pine Creek 94.54 14 P **P** **08 29 34.2 +1.3**
baz=216
H31M Peel River 94.55 16 P **P** **08 29 33.1 +0.1**
baz=219
F28M Old Crow 94.71 13 P **P** **08 29 34.4 +0.7**
baz=214
C23K Itkillik River 94.76 9 P **P** **08 29 34.8 +1.0**
baz=204
E27K Coleen River 94.84 13 P **P** **08 29 35.1 +0.8**
baz=212
B22K Teshekpuk Lake 94.85 8 P **P** **08 29 34.2 0.0**
baz=202
C24K Franklin Bluff 94.93 10 P **P** **08 29 35.2 +0.6**
baz=206
D25K Kavik River 94.95 10 P **P** **08 29 35.4 +0.6**
baz=208
G30M tAoh Zraii Nji 95.02 15 IAmb IAmb 08 30 25.9
comp=Z,18nm,1.1s
G30M tAoh Zraii Nji 95.02 15 P **P** **08 29 35.1 0.0**
baz=217
YAK Yakutsk 95.03 338 ⇓*i*P **P** **08 29 36.4 +1.2**
YAK pmax pmax
comp=Z,37nm,1.4s
ATAH Atahualpa 95.04 100 P **P** **08 29 40.6 +3.6**
comp=Z,7.6nm,1.1s,baz=235,slow=9.8,SNR=6.1
comp=Z,7.6nm,1.1s
LZH Lanzhou 95.19 307 *e*P **P** **08 29 36.8 0.0**
LZH pP pP 08 30 12.5 -4.9
LZH pmax pmax
comp=Z,16nm,1.2s
LZDM Lanzhou Array 95.24 307 P **P** **08 29 38.0 +0.7**
comp=Z,1.3nm,0.3s,baz=143,slow=12,SNR=1.2
comp=Z,1.3nm,0.3s
A22K Sinclair Lake 95.29 7 P **P** **08 29 37.1 +0.9**
baz=200
A21K Barrow 95.41 6 P **P** **08 29 38.1 +1.4**
baz=199
G31M Satah River 95.44 16 P **P** **08 29 37.8 +0.8**
baz=219
E28M Babbage River 95.61 13 P **P** **08 29 38.9 +1.1**
baz=214
HOPE Hope Point 95.61 158 *i* P **P** **08 29 36.9 -1.4**
F30M Barrier River 95.62 15 P **P** **08 29 39.3 +1.5**
baz=218
C27K Jago River 95.67 11 P **P** **08 29 39.8 +1.7**
baz=210
C26K Camden Bay 95.72 11 P **P** **08 29 39.4 +1.2**
baz=209
E29M Blow River 95.78 14 P **P** **08 29 39.8 +1.3**
baz=216
JTS Las Juntas de 95.85 81 ⇓*e*P **P** **08 29 41.5 +1.3**
JTS pmax pmax
comp=Z,11nm,1.3s
D27M Malcolm River 95.86 12 P **P** **08 29 40.0 +1.1**
baz=213
F31M Tsiigehtchic 95.98 15 P **P** **08 29 40.2 +0.8**
baz=219
ULN Ulaanbaatar 98.06 319 ⇑*i*P **P** **08 29 49.2 -0.4**
ULN pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 98.45 318 P **P** **08 29 50.8 -0.5**
comp=Z,0.4nm,0.4s,baz=124,slow=2.6,SNR=1.5
SONM PP **PP** **08 33 50.0 -4.1**
comp=Z,1.3nm,0.9s,baz=123,slow=5.3,SNR=4.2
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 98.64 25 P **P** **08 29 51.0 -0.5**
comp=Z,2.8nm,0.9s,baz=240,slow=4.6,SNR=4.3
comp=Z,2.8nm,0.9s
JORH JORHAT 99.09 295 *e*P **Pdif** **08 29 55.8 +1.4**
GTA Gaotai 99.44 309 *e*P **Pdif** **08 29 58.3 +2.4**
GTA PP **PP** **08 34 06.5 +4.7**
GTA pmax pmax
comp=Z,4.0nm,1.0s
ITAN ITANAGAR 99.68 295 *e*P **Pdif** **08 29 58.5 +1.5**
ZIRO ZIRO 99.71 296 *e*P **Pdif** **08 29 56.2 -1.2**
LPAZ La Paz 100.13 113 P **Pdif** **08 30 03.2 +3.1**
comp=Z,0.9nm,0.6s,baz=225,slow=5.7,SNR=6.1
LPAZ PP **PP** **08 34 09.0 +1.4**
comp=Z,0.9nm,0.8s,baz=241,slow=10,SNR=5.7
TEZP TEZPUR 100.26 295 *e*P **Pdif** **08 30 00.7 +1.0**
TAWA Tawang 101.38 295 *e*P **Pdif** **08 30 05.6 +0.5**
TIXI Tiksi 101.66 345 ⇑*e*P **Pdif** **08 30 04.4 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.5s
WMQ Urumqi 109.44 310 Pdif **Pdif** **08 30 42.0 +1.9**
WMQ LR LR
comp=Z,750nm,18.9s
WMQ LR LR
comp=Z,640nm,23.7s
WMQ LR LR
comp=Z,800nm,24.2s
ZALV Zalesovo Beam 113.23 320 PKiKP **PKiKP** **08 34 48.4 -1.0**
comp=Z,1.6nm,0.4s,baz=112,slow=1.6,SNR=6.8
MK31 Makanchi Array 113.77 312 *c i* PKIKP **PKiKP** **08 34 50.2 -0.5**
MKAR Makanchi Array 113.77 312 PKiKP **PKiKP** **08 34 50.0 -0.7**
comp=Z,1.8nm,0.5s,baz=84,slow=1.0,SNR=23
MKAR Makanchi Array 113.77 312 *i* PKIKP **PKiKP** **08 34 50.0 -0.7**
KURK Kurchatov 116.66 316 **PKPdf** **08 34 55.5 -0.6**
KURK Kurchatov 116.66 316 *d i* PKIKP **PKiKP** **08 34 56.2 +0.1**
KURBB Kurchatov Arra 116.70 316 PKP **PKPdf** **08 34 55.5 -0.7**
comp=Z,3.3nm,0.7s,baz=92,slow=1.8,SNR=14
KURBB PP **PP** **08 36 02.8 -4.0**
comp=Z,1.5nm,0.8s,baz=95,slow=5.3,SNR=5.2
AAK Ala-Archa 118.73 307 PKP **PKPdf** **08 34 59.8 -0.8**
comp=Z,2.0nm,0.6s,baz=90,slow=10,SNR=5.0
AAK Ala-Archa 118.73 307 *d i* PKIKP **PKiKP** **08 35 01.3 +0.7**
NEEM North Greenlan 120.10 12 *i* P **PKiKP** **08 35 02.5 0.0**
KK31 Karatay Array 121.69 307 **PKPdf** **08 35 05.7 -0.4**
KK31 Karatay Array 121.69 307 PKIKP **PKPdf** **08 35 05.7 -0.4**
KKAR Karatay Array 121.69 307 **PKPdf** **08 35 05.8 -0.3**
KKAR Karatay Array 121.69 307 PKIKP **PKPdf** **08 35 05.8 -0.3**
BVAR Borovoye Array 121.79 319 PKP **PKPdf** **08 35 05.5 -0.4**
comp=Z,4.8nm,0.4s,baz=93,slow=2.9,SNR=23
BORK Borovoye 121.83 319 *c i* PKIKP **PKPdf** **08 35 06.0 0.0**
KBL Kabul 122.02 297 **PKPdf** **08 35 07.0 -0.2**
KBL Kabul 122.02 297 PKIKP **PKPdf** **08 35 07.0 -0.2**
NUUG Nuugaatsiaq 122.37 18 *i* P **PKPdf** **08 35 06.3 -0.2**
CHGR Chuyangaron 122.39 302 **PKPdf** **08 35 07.5 -0.1**
CHGR Chuyangaron 122.39 302 PKIKP **PKPdf** **08 35 07.5 -0.1**
SAATT Saattut 123.15 19 *i* P **PKiKP** **08 35 08.6 +0.4**
GDH Godhavn 123.22 21 *i* P **PKPdf** **08 35 06.3 -1.9**
BOSA Boshof 124.13 204 PKP **PKiKP** **08 35 11.9 +0.2**
comp=Z,7.2nm,0.9s,baz=125,slow=2.7,SNR=4.0
SPITS Spitsbergen Ar 124.68 357 PKP **PKiKP** **08 35 11.4 +0.3**
comp=Z,16nm,0.7s,baz=72,slow=4.7,SNR=13
SPITS Spitsbergen Ar 124.68 357 PKIKP **PKiKP** **08 35 11.6 +0.4**
SFJD Kangerlussuaq 125.15 23 *i* P **PKiKP** **08 35 12.4 +0.2**
DAG Danmarks Havn 125.40 6 *i* P **PKPdf** **08 35 11.7 -0.5**
SUMG Summit 125.61 14 **PKPdf** **08 35 12.7 -0.5**
SUMG Summit 125.61 14 PKIKP **PKPdf** **08 35 12.7 -0.5**
SUMG Summit 125.61 14 *i* P **PKPdf** **08 35 11.7 -1.5**
NUUK Nuuk 125.86 26 *i* P **PKiKP** **08 35 14.8 +1.0**
DY2G Dye2 126.92 22 *i* P **PKiKP** **08 35 16.5 +0.3**
ARTI Arti 128.11 324 **PKPdf** **08 35 17.7 -0.2**
ARTI Arti 128.11 324 PKP **PKiKP** **08 35 18.3 -0.3**
comp=Z,7.0nm,0.5s,baz=98,slow=1.7,SNR=12
ARTI Arti 128.11 324 *i* PKIKP **PKPdf** **08 35 17.9 0.0**
ARTI 08 37 22.9
ARTI 08 42 13.3
ARTI SP SP 08 47 11.9 -0.8
ARTI SS **SS** **08 54 20.4 -4.0**
IVI Ivigtut 128.53 29 *i* P **PKiKP** **08 35 19.2 +0.1**
ABKAR Akbulak array 128.73 315 **PKPdf** **08 35 18.7 -0.6**
AKTO Aktyubinsk 129.74 317 PKP **PKPdf** **08 35 21.0 -0.2**
comp=Z,6.0nm,0.8s,baz=70,slow=2.1,SNR=9.8
AKTO Aktyubinsk 129.74 317 PKIKP **PKPdf** **08 35 21.0 -0.2**
SOHO SOHO 131.24 282 *i* PKPdf **PKPdf** **08 35 24.5 -0.3**
SNR=7.9
UOSS Minazif 131.68 283 PKPdf **PKPdf** **08 35 25.5 -0.2**
HATD Hatta, Dubai 131.72 283 *i* PKPdf **PKPdf** **08 35 25.6 -0.2**
SNR=6.8
ASHO Ashiyiah 131.76 283 *i* PKPdf **PKPdf** **08 35 25.3 -0.5**
SNR=10
MSFE Esma-Masafi 131.78 284 *i* PKPdf **PKPdf** **08 35 25.7 -0.2**
SNR=7.2
ARCES ARCESS Array B 131.81 350 PKP **PKPdf** **08 35 24.0 -0.5**
comp=Z,4.3nm,0.5s,baz=28,slow=2.4,SNR=42
ARCES SKPbc **SKPab** **08 38 36.1 0.0**
comp=Z,30nm,1.1s,baz=31,slow=3.6,SNR=9.0
KIRV Kirov 131.83 329 PKP **PKPdf** **08 35 24.3 -0.5**
comp=Z,9.0nm,0.4s,baz=109,slow=1.1,SNR=4.2
KIRV SKPbc **SKPbc** **08 38 35.5 +0.1**
comp=Z,28nm,0.7s,baz=72,slow=3.2,SNR=22
NAZ Nazwa, Dubai 132.17 283 *i* PKPdf **PKPdf** **08 35 26.8 +0.2**
SNR=8.4
ASUD Al Ashush, Dub 132.41 283 *i* PKiKP **PKiKP** **08 35 27.6 -0.6**
SNR=5.3
MZR Muzera 133.79 280 *i* PKiKP **PKiKP** **08 35 31.1 +0.1**
SNR=5.8
KLMR Klimovskoe 134.79 336 *e*PKIKP **PKPdf** **08 35 29.7 -0.7**
KLMR *e* 08 36 11.6
KLMR pmax pmax
comp=Z,24nm,1.4s
BELG Belogornoye 135.37 322 ⇓*e*PKIKP **PKPdf** **08 35 32.4 +0.7**
FINES FINESS Array B 138.69 343 PKhKP PKPpre 08 35 27.2
comp=Z,0.8nm,0.4s,baz=44,slow=4.2,SNR=10
FINES PKP **PKPdf** **08 35 35.5 -2.0**
comp=Z,2.5nm,0.6s,baz=36,slow=2.9,SNR=3.5
FINES SKPbc **SKPbc** **08 38 58.0 +1.0**
comp=Z,6.9nm,0.9s,baz=45,slow=2.2,SNR=6.3
FINES SKPab **SKPab** **08 39 06.5 +0.1**
comp=Z,9.8nm,0.9s,baz=46,slow=6.0,SNR=8.1
MOS Moscow 138.77 331 *i* PKIKP **PKPdf** **08 35 37.7 -0.2**
MOS *e* 08 36 16.0
MOS pmax pmax
comp=Z,31nm,0.7s
VRH Novokhopyorsk 139.19 323 *e*PKIKP **PKPdf** **08 35 37.8 -1.0**
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 139.63 331 *c e*PKIKP **PKPdf** **08 35 38.4 -1.0**
OBN *e* 08 36 19.6
OBN *e* 08 38 40.3
OBN *e*PPP PPP 08 41 40.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 139.96 326 *e*PKIKP **PKPdf** **08 35 39.1 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 140.58 324 *e*PKIKP **PKPdf** **08 35 42.0 +0.7**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 140.64 324 *e*PKIKP **PKPdf** **08 35 41.5 +0.1**
VORD pmax pmax
comp=Z,10.0nm,1.1s
NCK Nalchik 141.05 311 ⇓*e*PKIKP **PKPdf** **08 35 43.6 +1.1**
RAYN Ar Rayn 141.11 279 **PKPdf** **08 35 43.7 +0.5**
RAYN Ar Rayn 141.11 279 PKPdf **PKPdf** **08 35 43.5 +0.3**
RAYN Ar Rayn 141.11 279 PKIKP **PKPdf** **08 35 43.7 +0.5**
GNI Garni 141.11 306 ⇑*e*PKIKP **PKPdf** **08 35 43.8 +0.9**
KBZ Khabaz 141.46 312 PKP **PKPdf** **08 35 43.4 +0.3**
comp=Z,3.3nm,0.9s,baz=45,slow=2.9,SNR=4.9
KBZ Khabaz 141.46 312 ⇑*e*PKIKP **PKPdf** **08 35 43.7 +0.6**
KIV Kislovodsk 141.53 312 *e*PKIKP **PKPdf** **08 35 43.3 -0.1**
KIV pmax pmax
comp=Z,12nm,1.0s
SHA1 Shidzhatmaz 141.62 312 ⇓*e*PKIKP **PKPdf** **08 35 44.1 +0.3**
NB2 NORSAR Subarra 141.84 354 PKP **PKPdf** **08 35 39.2 -4.2**
comp=Z,5.2nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 141.84 354 PKhKP PKPpre 08 35 37.9
comp=Z,3.7nm,0.8s,baz=16,slow=3.3,SNR=6.5
ERBR Yeremizino-Bor 142.35 316 *i* PKIKP **PKPdf** **08 35 42.3 -2.4**
ERBR *e* 08 36 23.7
ERBR pmax pmax
comp=Z,27nm,1.0s
HFS Hagfors 142.42 351 PKhKP PKPpre 08 35 39.0
comp=Z,6.2nm,0.5s,baz=47,slow=3.0,SNR=32
LABN Labinsk 142.61 314 *i* PKIKP **PKPdf** **08 35 42.9 -2.3**
LABN *e* 08 36 22.4
LABN pmax pmax
comp=Z,29nm,0.6s
LODK Lodwar 143.01 243 **PKPdf** **08 35 44.0 -2.9**
MNK Minsk 143.69 336 *i* PKIKP PKPbc 08 35 45.5 +0.8
MNK *i* 08 36 27.0
MNK *i* 08 39 00.5
MNK *i* PPP PPP 08 42 11.0
MNK *i* 08 42 39.9
MNK *i* SS SS 08 57 31.8 +2.5
MNK *i* SSS SSS 09 02 56.8
MNK pmax pmax
comp=E,23nm,0.6s
MNK pmax pmax
comp=Z,46nm,1.2s
MNK pmax pmax
comp=N,10.0nm,0.6s
MNK MLR MLR
comp=Z,255nm,18.0s
MNK MLR MLR
comp=E,646nm,27.0s
MNK MLR MLR
comp=N,569nm,23.0s
NACGM Naroch 143.79 337 *i* PKiKP **PKPdf** **08 35 46.0 -0.9**
comp=Z,70nm,1.2s,baz=39
STRU Stroemstad 143.81 353 *i* P PKPbc 08 35 44.7 -0.2
ANN Anapa 144.69 316 *i* PKIKP **PKPab** **08 35 47.2 -0.8**
ANN *e* 08 36 27.5
ANN pmax pmax
comp=Z,84nm,1.3s
TJOU Tjoern 144.73 352 *i* P **PKPab** **08 35 47.6 0.0**
HOMB Homborsund 144.82 355 *i* P **PKPdf** **08 35 48.4 -0.1**
SNART Snartemo 144.84 356 *i* P **PKPdf** **08 35 48.9 +0.3**
BORU Boraas 144.96 351 *i* P PKPbc 08 35 48.2 -0.3
ONAU Onsala 145.31 352 *i* P **PKPdf** **08 35 49.4 0.0**
KPL Plockton 145.40 8 *e*P **PKPbc** **08 35 50.0 +0.2**
FABU Falkenberg 145.58 351 *i* P **PKPdf** **08 35 50.1 +0.2**
SUW Suwalki 145.76 339 *e*PKP **PKPbc** **08 35 51.3 +0.2**
AK03 Malin Array Si 145.87 330 PKP **PKPdf** **08 35 50.2 -0.4**
AKASG Malin Array Be 145.88 330 **PKPdf** **08 35 50.5 -0.1**
AKASG Malin Array Be 145.88 330 PKPbc **PKPdf** **08 35 50.8 +0.1**
comp=Z,10.0nm,0.4s,baz=44,slow=4.2,SNR=76
AKASG SKPbc **SKiKP** **08 39 15.5 -0.2**
comp=Z,3.1nm,0.8s,baz=46,slow=3.0,SNR=4.6
AKBB Malin Array Si 145.88 330 *d i* PKP2 **PKPdf** **08 35 50.9 +0.2**
AKBB Malin Array Si 145.88 330 PKP **PKPdf** **08 35 50.2 -0.5**
AK23 Malin Array Si 145.89 330 PKP **PKPdf** **08 35 50.2 -0.5**
AK04 Malin Array Si 145.90 330 PKP **PKPdf** **08 35 50.2 -0.5**
AK01 Malin Array Si 145.90 330 PKP **PKPdf** **08 35 50.2 -0.5**
KIEV Kiev 145.90 330 **PKPdf** **08 35 50.8 +0.1**
KIEV Kiev 145.90 330 ⇓P **PKPdf** **08 35 51.0 +0.3**
KIEV Kiev 145.90 330 PKPdf **PKPdf** **08 35 50.5 -0.2**
KIEV Kiev 145.90 330 ⇓PKP2 **PKPdf** **08 35 51.0 +0.3**
KIEV Kiev 145.90 330 PKP **PKPdf** **08 35 50.2 -0.5**
DEL Delary 145.90 349 *i* P **PKPbc** **08 35 51.6 +0.1**
AK22 Malin Array Si 145.91 330 PKP **PKPdf** **08 35 50.2 -0.5**
AK09 Malin Array Si 145.91 330 PKP **PKPdf** **08 35 50.3 -0.4**
AK21 Malin Array Si 145.91 330 PKP **PKPdf** **08 35 50.2 -0.5**
AK08 Malin Array Si 145.92 330 PKP **PKPdf** **08 35 50.3 -0.4**
AK02 Malin Array Si 145.92 330 PKP **PKPdf** **08 35 50.3 -0.4**
AK11 Malin Array Si 145.93 330 PKP **PKPdf** **08 35 50.3 -0.4**
AK15 Malin Array Si 145.93 330 PKP **PKPdf** **08 35 50.3 -0.4**
MI28 Mi28,Pidlybu 146.42 331 PKP **PKPdf** **08 35 52.0 +0.4**
BJUU Bjuv 146.42 350 *i* P **PKPbc** **08 35 53.6 +0.6**
LAWE Loch Awe, Argy 146.48 8 *e*P **PKPbc** **08 35 53.0 -0.2**
INVG Invergeldie, C 146.49 7 *e*P **PKPbc** **08 35 52.9 -0.3**
SIM Simferopol' 146.70 318 *e*PKP2 **PKPbc** **08 35 54.7 +0.5**
SIM pmax pmax
comp=Z,78nm,0.5s
LUNU Lund 146.78 349 *i* P **PKPbc** **08 35 54.8 +0.8**
RNPP9 Sopachiv 146.82 334 PKP **PKPdf** **08 35 52.7 +0.5**
RNPP8 Varash 146.89 334 PKP **PKPdf** **08 35 53.3 +1.0**
RNPP5 Staryi Chortor 146.96 333 PKP **PKPbc** **08 35 53.7 -1.0**
LUBAR Lubar, Ukraine 147.10 330 PKP **PKPbc** **08 35 54.0 -1.1**
EKA Eskdalemuir Ar 147.66 7 PKPbc **PKPbc** **08 35 56.9 +0.4**
comp=Z,16nm,0.6s,baz=356,slow=2.2,SNR=35
ESK Eskdalemuir 147.67 7 **PKPbc** **08 35 56.5 0.0**
ESK Eskdalemuir 147.67 7 *e*P **PKPbc** **08 35 56.8 +0.3**
ESK Eskdalemuir 147.67 7 PKP2 **PKPbc** **08 35 56.5 0.0**

NEWG	New Galloway	147.75	8	eP	PKPbc	08 35 56.7 0.0
R9F13	Warsaw-Wawer	147.93	339	ePKP	PKiKP	08 35 58.6 -0.4
SORM	Soroca	148.05	327	⇓P	PKPbc	08 35 58.0 +0.3
SORM	Soroca	148.05	327	⇓PKP2	PKPbc	08 35 58.0 +0.3
GKP	Gorka Klasztor	148.16	344	ePKP	PKPbc	08 35 58.6 +0.8
BZK	Bozkurt	148.18	313	⇓P	PKPbc	08 35 58.7 +0.4
EDMD	Edmundbyers	148.27	5	eP	PKPbc	08 35 58.2 +0.1
BEL	Belsk	148.38	339	ePKP	PKiKP	08 35 59.5 -0.5
IOMK	Kirk Michael	148.54	9	eP	PKPbc	08 35 59.1 +0.3
ILGA	Ilgaz	148.76	312		PKiKP	08 36 01.1 -0.3
HPK	Haverah Park	149.17	5	eP	PKPbc	08 36 01.0 -0.5
VASR	Vaslui	149.32	326	⇑P	PKiKP	08 36 01.9 -0.2
BRTR	Keskin Array B	149.36	310	PKP	PKPdf	08 35 56.4 -0.6
	comp=Z,10nm,0.6s,baz=90,slow=0.1,SNR=7.9					
BRTR				PKPbc	PKPbc	08 36 01.1 -0.5
	comp=Z,10nm,0.6s,baz=112,slow=2.6,SNR=41					
KIRS	Kirsehir-Merke	149.39	308	⇓P	PKPbc	08 36 01.4 -0.1
KWP	Kalwaria Pacla	149.49	334	ePKP	PKiKP	08 36 02.4 +0.1
TLCR		149.69	322	⇑P	PKiKP	08 36 02.6 -0.3
TLCR		149.69	322	⇑PKP2	PKiKP	08 36 02.6 -0.3
ANTO	Ankara	149.90	310	⇓P	PKPbc	08 36 02.9 +0.2
ANTO	Ankara	149.90	310	⇓PKP2	PKPbc	08 36 02.9 +0.2
BURAR	Bucovina Array	149.93	329	⇑P	PKiKP	08 36 03.9 +0.5
BURAR	Bucovina Array	149.93	329	⇑PKP2	PKiKP	08 36 03.9 +0.5
MMAI	Mount Meron Ar	149.94	296	PKPbc	PKiKP	08 36 03.7 -0.2
	comp=Z,37nm,0.7s,baz=66,slow=3.6,SNR=30					
NEGRR	Negrea	149.99	324	⇑P	PKiKP	08 36 04.0 +0.5
FOEL	Foel Wylfa	150.06	8	eP	PKiKP	08 36 03.1 -0.3
CFR	Carcaliu	150.07	323	⇓P	PKiKP	08 36 03.3 -0.4
CFR	Carcaliu	150.07	323	⇓PKP2	PKiKP	08 36 03.3 -0.4
OJC	Ojcow	150.08	338	ePKP	PKPbc	08 36 02.6 -0.1
TPGR	Topolog	150.11	322	⇑P	PKiKP	08 36 04.2 +0.4
STHS	Stebnicka Huta	150.22	336	ePKIKP	PKiKP	08 36 03.7 -0.2
STHS	Stebnicka Huta	150.22	336	ePKP	PKiKP	08 36 03.7 -0.2
TIRR	Tirgusor	150.36	322	⇑P	PKiKP	08 36 04.2 -0.1
TIRR	Tirgusor	150.36	322	⇑PKIKP	PKiKP	08 36 04.2 -0.1
VRI	Vrincioaia	150.39	325	⇑P	PKiKP	08 36 04.2 -0.1
VRI	Vrincioaia	150.39	325	⇑PKIKP	PKiKP	08 36 04.2 -0.1
PLOR	Plostina	150.44	325	⇓P	PKiKP	08 36 04.3 -0.2
PLOR	Plostina	150.44	325	⇓PKIKP	PKiKP	08 36 04.3 -0.2
HLM1	Long Mynd	150.46	7	eP	PKPbc	08 36 03.5 -0.1
HARR	Harsova	150.49	322	⇑P	PKiKP	08 36 04.7 +0.2
HARR	Harsova	150.49	322	⇑PKIKP	PKiKP	08 36 04.7 +0.2
MFTR	Murfatlar	150.52	321	⇑P	PKiKP	08 36 05.1 +0.5
WACR	West Acre	150.54	3	eP	PKiKP	08 36 04.3 -0.1
NIE	Niedzica	150.57	337	ePKP	PKiKP	08 36 05.2 +0.6
BISRR	Bisoca	150.61	325	⇑P	PKiKP	08 36 05.0 +0.1
KSP	Ksiaz	150.61	343	ePKP	PKiKP	08 36 04.7 +0.1
MANR	Mangalia	150.64	320	⇓P	PKiKP	08 36 04.9 0.0
SAHE	Sakarya_HENDEK	150.79	313	⇑P	PKPbc	08 36 05.1 +0.3
OSTC	Ostas	150.89	343	⇑ePKP	PKiKP	08 36 06.3 +1.1
OSTC	Ostas	150.89	343	ePKIKP	PKiKP	08 36 06.3 +1.1
CHVC	Chvalec	150.91	343	⇑ePKP	PKiKP	08 36 05.2 -0.1
CHVC	Chvalec	150.91	343	ePKIKP	PKiKP	08 36 05.2 -0.1
NEHR	Nehoiu	150.91	325	⇑P	PKiKP	08 36 05.8 +0.3
MCH1	Michaelchurch	150.96	8	eP	PKPbc	08 36 04.6 -0.2
CLL	Collm	150.97	347	ePKIKP	PKPdf	08 35 59.0 +0.1
CLL				i		08 36 12.9
CLL				e		08 36 51.0
CLL				pmax	pmax	
	comp=Z,94nm,1.0s					
CLL				pmax	pmax	
	comp=Z,69nm,1.2s					
CLL	Collm	150.97	347	ePKPdf	PKPdf	08 35 59.0 +0.1
CLL				i PKPbc	PKiKP	08 36 05.4 +0.1
	comp=Z,94nm,1.0s					
CLL				i x	x	08 36 09.7
CLL				i PKPab	PKPab	08 36 12.9 +0.1
	comp=Z,69nm,1.2s					
CLL				ePKPab	pPKPab	08 36 51.0 -2.7
CLL				ePP	PP	08 39 42.0 -1.0
CLL				esPP		08 40 36.0
CLL				eSKKSac	SKKSac	08 46 24.0 +5.9
CLL				ePPPrev		08 49 42.0
CLL				esPSKS		08 51 00.0
CLL				ePPS	PPS	08 52 36.0
CLL				eSS	SS	08 58 42.0 -8.7
KALB	Balgarevo	150.98	320	⇑P	PKiKP	08 36 06.8 +1.2
STEB	Steborice	150.99	340	⇑ePKP	PKiKP	08 36 05.7 +0.3
UPC	Upice	150.99	343	⇑ePKP	PKiKP	08 36 06.1 +0.7
UPC	Upice	150.99	343	ePKIKP	PKiKP	08 36 06.1 +0.7
DPC	Dobruska-Polom	151.05	342	⇑ePKP	PKiKP	08 36 06.3 +0.7
DPC	Dobruska-Polom	151.05	342	ePKIKP	PKiKP	08 36 06.3 +0.7
MLR	Muntele Rosu	151.05	326	⇓P	PKPbc	08 36 05.2 -0.1
MLR	Muntele Rosu	151.05	326	⇓PKIKP	PKPbc	08 36 05.2 -0.1
MONM	Monmouth	151.14	7	eP	PKiKP	08 36 05.5 -0.2
KRLC	Kraliky	151.16	341	⇑ePKP	PKiKP	08 36 06.2 +0.3
KRLC	Kraliky	151.16	341	ePKIKP	PKiKP	08 36 06.2 +0.3
BRG	Berggiesshubel	151.17	346	⇓ePKPf		08 36 00.3
BRG				Amp		08 36 01.9
	comp=Z,7.0nm,1.0s					
BRG				⇑PKP	PKiKP	08 36 06.4 +0.7
BRG				Amp		08 36 07.5
	comp=Z,54nm,1.0s					
BRG	Berggiesshubel	151.17	346	P	PKPab	08 36 11.7 -2.0
BRG				Amp		08 36 12.7
	comp=Z,24nm,0.9s					
CSS	Mathiatis	151.18	301		PKPbc	08 36 05.5 -0.4
MORC	Moravsky Berou	151.20	340	⇓P	PKiKP	08 36 06.1 +0.2
MORC	Moravsky Berou	151.20	340	ePKP	PKiKP	08 36 06.6 +0.7
MORC	Moravsky Berou	151.20	340	⇓PKIKP	PKiKP	08 36 06.1 +0.2
CJR	Cluj-Napoca	151.34	330	⇑P	PKiKP	08 36 06.4 +0.1
CJR	Cluj-Napoca	151.34	330	⇑PKIKP	PKiKP	08 36 06.4 +0.1
PVCC	Panska Ves	151.34	345	⇑ePKP	PKiKP	08 36 06.9 +0.8
PVCC	Panska Ves	151.34	345	ePKIKP	PKiKP	08 36 06.9 +0.8
MAUC	Maruska	151.47	340	⇑ePKP	PKiKP	08 36 07.2 +0.7
HSKC	Hora Svate Kat	151.54	346	⇑ePKP	PKiKP	08 36 07.0 +0.4
MARR	Marisel-Cluj	151.59	330	⇓P	PKiKP	08 36 06.8 -0.2
DRGR		151.69	331	⇑P	PKiKP	08 36 07.7 +0.6
DRGR		151.69	331	⇑PKIKP	PKiKP	08 36 07.7 +0.6
PRU	Pruhonice	151.85	344	⇑ePKP	PKiKP	08 36 08.4 +1.2
PRU	Pruhonice	151.85	344	ePKIKP	PKiKP	08 36 08.4 +1.2
VRAC	Vranov	151.90	341	ePKP	PKiKP	08 36 08.0 +0.6
JAVC	Velka Javorina	151.96	339	ePKP	PKiKP	08 36 09.2 +1.6
PSZ	Piszkesteto	151.97	335	⇑P	PKiKP	08 36 07.9 +0.3
PSZ	Piszkesteto	151.97	335	⇑PKIKP	PKiKP	08 36 07.9 +0.3
LOT	Lotru	152.18	328	⇑P	PKiKP	08 36 08.3 +0.1
KRUC	Moravsky	152.18	341	ePKP	PKiKP	08 36 08.4 +0.5
ZVC	Zvikov	152.44	344	⇑ePKP	PKiKP	08 36 09.8 +1.3
MODS	Modra-Piesok	152.51	339	ePKIKP	PKiKP	08 36 09.3 +0.6
MODS				e		08 36 15.3
MODS	Modra-Piesok	152.51	339	ePKP	PKiKP	08 36 09.3 +0.6
MODS				e		08 36 15.3
UCC	Uccle	152.51	358	dPKiKP	PKiKP	08 36 08.8 +0.3
SIRR	Siria	152.56	331	⇑P	PKiKP	08 36 09.5 +0.7
MEM	Membach	152.62	356	dPKiKP	PKiKP	08 36 09.7 +0.9
MEM				dpPKPdf	pPKPbc	08 36 52.8 +2.1
BTNL	Ternell	152.63	356	dPKiKP	PKiKP	08 36 09.2 +0.3
BSTI	Sart Tilman	152.67	356	dPKiKP	PKiKP	08 36 09.6 +0.7
GZR	Gura Zlata	152.70	329	⇓P	PKiKP	08 36 09.3 +0.1
GZR	Gura Zlata	152.70	329	⇓PKIKP	PKiKP	08 36 09.3 +0.1
ELND	Elena	152.75	321	⇑P	PKiKP	08 36 09.5 +0.2
BCLA	Clavier	152.85	357	dPKiKP	PKiKP	08 36 10.2 +1.0
BCLA				dPKP	PKPab	08 36 19.7 -0.9
BAND	Balkesir-Ban	152.86	315	⇓P	PKPbc	08 36 08.9 -0.5
BHOU	Houvegnez	152.88	356	dPKiKP	PKiKP	08 36 10.0 +0.7
BHOU				dPKP	PKPab	08 36 20.2 -0.6
KHC	Kasperske Hory	152.88	345	ePKPDF	PKPdf	08 36 02.5 +0.6
KHC				⇑ePKP	PKiKP	08 36 10.2 +0.8
KHC				ex	x	08 37 06.0
KHC	Kasperske Hory	152.88	345	ePKIKP	PKPdf	08 36 02.5 +0.6
BGES	Gesves	152.90	357	dPKiKP	PKiKP	08 36 09.9 +0.6
BGES				dPKP	PKPab	08 36 20.8 0.0
BMRD	Maredsous	152.99	358	dPKiKP	PKiKP	08 36 10.5 +1.0
BMRD				dPKP	PKPab	08 36 19.7 -1.5
GERES	GERESS Array B	153.12	344	PKP	PKPdf	08 36 02.6 +0.2
	comp=Z,0.9nm,0.6s,baz=31,slow=0.6,SNR=12					
GERES				PKPbc	PKPbc	08 36 09.8 -0.1
	comp=Z,3.9nm,0.8s,baz=35,slow=3.6,SNR=16					
RCHB	Rochefort	153.12	357	dPKiKP	PKiKP	08 36 09.8 +0.1
PLVB	Pleven	153.16	324	⇑P	PKiKP	08 36 10.7 +0.6
DOU	Dourbes	153.21	358	dPKiKP	PKiKP	08 36 11.2 +1.2
HERR	Herculane	153.25	328	⇑P	PKiKP	08 36 10.3 +0.1
CONA	Conrad Observa	153.35	341	i PKP	PKPdf	08 36 03.0 +0.3
	comp=Z,30nm,1.4s					
RONA	Rosalia, Austr	153.42	340	ePKP	PKPdf	08 36 03.6 +0.9
	comp=Z,28nm,1.1s					
WLF	Walferdange	153.55	355	dPKiKP	PKiKP	08 36 11.8 +1.0
MDVR	Moldovita	153.66	329	⇓P	PKPbc	08 36 11.0 -0.1
MORH	Mrgy, Hungar	153.85	335	⇑P	PKPdf	08 36 04.8 +1.4
MOA	Molln	153.89	343	ePKP	PKPdf	08 36 04.3 +0.9
	comp=Z,21nm,1.3s					
ARSA	Arzberg	154.06	340	ePKP	PKPdf	08 36 04.1 +0.4
	comp=Z,7.3nm,1.2s					
BIOA	Bad Ischl, Aus	154.20	343	ePKP	PKPdf	08 36 04.5 +0.6
	comp=Z,66nm,1.3s					
EZN	Ezine	154.29	315	⇓P	PKiKP	08 36 12.9 +0.3
EZN	Ezine	154.29	315	⇓PKIKP	PKiKP	08 36 12.9 +0.3
BFO	Black Forest	154.65	352		PKPbc	08 36 11.6 -1.4
BFO	Black Forest	154.65	352	PKIKP	PKPbc	08 36 11.6 -1.4
LESA	Schwarzleotal	154.69	345	ePKP	PKPdf	08 36 04.8 +0.2
	comp=Z,36nm,1.1s					
SOKA	Soboth	154.72	340	i PKP	PKPdf	08 36 05.2 +0.6
	comp=Z,9.5nm,1.0s					
KBA	Koelnbreinsper	154.84	343	i PKP	PKPdf	08 36 04.8 -0.1
	comp=Z,12nm,1.2s					
OBKA	Obir	155.02	341	ePKP	PKPdf	08 36 05.1 0.0
	comp=Z,4.9nm,0.8s					
WATA	Walderalm	155.03	346	ePKP	PKPdf	08 36 05.5 +0.4
	comp=Z,17nm,0.7s					
RETA	Reutte	155.06	347	ePKP	PKPdf	08 36 06.2 +1.1
	comp=Z,38nm,1.2s					
WTTA	Wattenberg	155.09	346	ePKP	PKPdf	08 36 06.3 +1.0
	comp=Z,31nm,1.7s					
MOTA	Moosalm	155.12	347	ePKP	PKPdf	08 36 05.9 +0.6
	comp=Z,46nm,1.5s					
MYKA	Terra Mystica	155.17	342	ePKP	PKPdf	08 36 05.3 +0.1
	comp=Z,1.4nm,0.5s					
SQTA	Sankt Quirin	155.22	347	ePKP	PKPdf	08 36 06.3 +0.9
	comp=Z,7.7nm,0.6s					
CLF	Chambon-Foret	155.30	1		PKPab	08 36 31.9 +0.8
ABTA	Abfaltersbach	155.36	344	i PKP	PKPdf	08 36 05.4 -0.1
	comp=Z,21nm,1.2s,SNR=6.5					
DAVA	Damuels	155.42	349	ePKP	PKPdf	08 36 06.5 +0.8
	comp=Z,0.1nm,0.2s					
LJU	Ljubljana	155.45	340	ePKPdf	PKPdf	08 36 06.3 +0.7
FETA	Feichten	155.51	347	i PKP	PKPdf	08 36 06.4 +0.6
	comp=Z,20nm,1.1s					
BOJS	Bojanci	155.69	339	i PKPdf	PKPdf	08 36 06.8 +0.9
PBRG	Braganca	159.81	22	ePKPdf	PKPdf	08 36 13.9 +2.8
POLO	Lamas de Olo	159.81	24	ePKPab	PKPab	08 36 52.3 +1.3
MVO	Moncorvo	160.28	23	ePKPdf	PKPdf	08 36 14.0 +2.3
MVO				ePKPab	PKPab	08 36 53.7 +0.7
PVIS	Viseu	160.34	25	ePKPab	PKPab	08 36 54.8 +1.6
PCAS	Casmilo, Conde	160.65	28	ePKPab	PKPab	08 36 56.0 +1.4
MTE	Manteigas	160.75	25	ePKPdf	PKPdf	08 36 13.7 +1.4
MTE				ePKPab	PKPab	08 36 56.3 +1.2
PSARD	Sardoal	161.17	28	ePKPdf	PKPdf	08 36 14.0 +1.3
PSARD				ePKPab	PKPab	08 36 58.1 +1.2
PCBR	Castelo Branco	161.25	26	ePKPdf	PKPdf	08 36 14.3 +1.6
PCBR				ePKPab	PKPab	08 36 58.3 +1.1
PMRV	Marv??o	161.64	26	ePKPdf	PKPdf	08 36 15.1 +1.9
PMRV				ePKPab	PKPab	08 37 00.4 +1.4
DBIC	Dimbokro	161.83	154	PKPab	PKPab	08 37 01.7 +1.4
	comp=Z,6.1nm,1.0s,baz=199,slow=4.4,SNR=3.2					
ESDC	Sonseca Array	162.62	18		PKPdf	08 36 14.3 +0.1
ESDC					PKPab	08 37 04.5 +1.2
ESDC	Sonseca Array	162.62	18	PKP	PKPdf	08 36 15.4 +1.2
	comp=Z,2.3nm,1.1s,baz=350,slow=2.9,SNR=8.6					
ESDC				PKPab	PKPab	08 37 04.5 +1.2
	comp=Z,5.4nm,1.0s,baz=337,slow=4.6,SNR=16					
ESDC				PP	PP	08 40 47.9 +0.6
	comp=Z,0.6nm,0.7s,baz=334,slow=4.0,SNR=4.7					
PCVE	Castro Verde	162.84	31	ePKPdf	PKPdf	08 36 16.9 +2.5
PCVE				ePKPab	PKPab	08 37 05.6 +1.3
PBAR	Barrancos	162.84	28	ePKPdf	PKPdf	08 36 16.1 +1.7
PBAR				ePKPab	PKPab	08 37 05.7 +1.5
PVAQ	Vaqueiros	163.17	31	ePKPab	PKPab	08 37 07.2 +1.5
TORD	Torodi Ar. Bea	169.84	173	PKPab	PKPab	08 37 36.7 +1.2
	comp=Z,4.8nm,0.5s,baz=180,slow=3.9,SNR=3.1					

IDC ***29*** *08:33:08.6±0.3, 6°.68N×124°.94E, h0km, mb4.9/51, mbtmp4.9/53, ML4.5/1, MS4.8/18, Error ellipse: s-maj=7.3km s-min=6.7km az=16.0*

BJI ***29*** *08:33:09.1, 6°.71N×125°.19E, h13km, mB5.3/49, mb5.1/77, Ms5.1/75, Ms7 4.9/71*

MOS ***29*** *08:33:09.1±0.8, 6°.78N×124°.95E, h10km, mb5.5/62, MS4.8/8, Error ellipse: s-maj=8.8km s-min=4.3km az=114.6*

MAN ***29*** *08:33:11.3, 6°.83N×125°.02E, h13km, mb5.9, ML4.9, MS5.4*

MAN INTENSITY V - KIDAPAWAN CITY COTABATO; INTENSTIY IV - DAVAO CITY.

NEIC ***29*** *08:33:12.5, 6°.87N×124°.99E, h14km*

NEIC ***29*** *08:33:12.2±2.2, 6°.85N±0°.06×124°.99E±0°.03, h10km±1km, mb5.4/241, Mww5.4/21, Error ellipse: s-maj=10.1km s-min=2.8km az=340.0*

NEIC ***29*** *08:33:12.5, 6°.77N×125°.20E, h14km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; Mrr=0.12; Mθθ1.32; Mφφ-1.19; Mrθ-1.16; Mθφ-0.54; Mφr0.22; Fault plane solution: M0 1.81000×10^17^ NP1: φs=330.44000°, δ69.50000°, λ20.05000°. NP2: φs=233.15000°, δ71.27000°, λ158.30000°. Principal axes: T 2.0607, Plg28.0000°, Azm191.0000°; N -0.7559, Plg62.0000°, Azm14.0000°; P -1.3047, Plg1.0000°, Azm282.0000°;*

DJA ***29*** *08:33:13.9±0.4, 7°N±3°×125°.12E±°, h10km, M5.4/24, mb5.6/24, mB5.8/22, MLv5.8/9, Mw(mB)5.4/22, MwMwp5.3/10, Mwp5.5/10*

GCMT ***29*** *08:33:15.2±0.2, 6°.92N±0°.01×124°.94E±0°.01, h17km±1km, MW5.5/131, Moment Tensor Solution. s88, c127; s131, c223; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=0.03±.04; Mθθ1.68±.03; Mφφ-1.65±.04; Mrθ-0.81±.09; Mθφ-0.67±.03; Mφr0.05±.08; Best double couple: M0 1.95200×10^17^ NP1: φs=328.00000°, δ73.00000°, λ12.00000°. NP2: φs=234.00000°, δ78.00000°, λ162.00000°. Principal axes: T 2.1160, Plg21.0000°, Azm190.0000°; N -0.3300, Plg69.0000°, Azm22.0000°; P -1.7880, Plg4.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 08:33:12.3±0.4, 6.79N±0°.03×125°.06E±0°.04, h17km±2km, h17km: pP-P, n873, σ1 s53/863, mb5.3/249, MS4.9/51, 20C-16D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.58	62	Pg	Pb	08 33 24.2	+0.1
	18nm,0.3s,baz=262,slow=8.6,SNR=2174						
DAV				Lg	Lg	08 33 34.5	
	302nm,0.3s,baz=268,slow=7.5,SNR=74						
DAV	Davao City (W)	0.58	62	P	Pg	08 33 18.0	-6.0
SGSI	Sangihe	3.12	171	P	Pn	08 34 02.8	+1.9
SGSI				S	Sb	08 34 44.6	-0.7
KMSI	Cibinong	6.27	190	P	Pn	08 34 46.7	+2.5
TNTI	Ternate	6.41	159		Pn	08 34 49.3	+3.2
TNTI	Ternate	6.41	159	P	Pn	08 34 49.4	+3.3
TNTI	Ternate	6.41	159	P	Pn	08 34 49.2	+3.2
	1.7nm5μm365nm,0.9s						
MYLDM	Lahad Datu	6.72	257		Pn	08 34 52.3	+2.0
MYLDM	Lahad Datu	6.72	257	P	Pn	08 34 53.0	+2.7
MRSI	Marisa	7.00	207	P	Pn	08 34 54.5	+0.3
	11μm8μm744nm,0.5s						
TOLI2	Tolitoli	7.08	217	Pn	Pn	08 34 53.3	-1.9
LUWI	Luwuk	8.11	196		Pn	08 35 11.8	+2.3
LUWI	Luwuk	8.11	196	P	Pn	08 35 14.2	+4.8
LUWI	Luwuk	8.11	196	P	Pn	08 35 10.9	+1.5
	12μm11μm1μm,0.8s						
TGY	Tagaytay City	8.32	331	Pn	Pn	08 35 13.2	+0.8
	112nm,0.3s,baz=158,slow=19,SNR=3.6						
TGY				LR	LR	08 39 04.5	
	comp=Z,8μm,18.1s,baz=152,slow=43						
APSI	Ampana	8.38	204	P	Pn	08 35 16.8	+3.7
	7μm736nm,1.1s						
SANI	Sanana	8.83	174	P	Pn	08 35 20.4	+1.0
SANI	Sanana	8.83	174	P	Pn	08 35 19.9	+0.5
	9μm4μm458nm,0.9s						
I39PW	PALAU INFRASON	9.44	85	I	I	09 21 40.0	
	baz=269,slow=301,SNR=1.2						
SWI	Sorong	9.80	141	P	Pn	08 35 35.6	+2.9
	2μm164nm,0.6s						
NLAI	Namlea	10.17	168	P	Pn	08 35 39.0	+1.3
	5μm466nm,0.6s						
AAI	Ambon	10.87	163	P	Pn	08 35 49.0	+1.7
	4μm267nm,0.6s						
SPSI	Sidrap Palu	11.92	206	P	Pn	08 36 07.2	+5.5
FAKI	Fak Fak	12.02	143		Pn	08 36 06.0	+2.8
FAKI	Fak Fak	12.02	143	P	Pn	08 36 06.7	+3.6
FAKI	Fak Fak	12.02	143	P	Pn	08 36 08.9	+5.8
BNSI	Bone	12.17	204	P	Pn	08 36 10.4	+5.3
RKPI	Ransiki, Papua	12.28	132	P	P	08 36 15.5	-3.4
KAPI	Kappang	12.87	204		Pn	08 36 17.9	+3.3
KAPI	Kappang	12.87	204	Pn	Pn	08 36 13.6	-1.1
	1.7nm,0.3s,baz=12,slow=13,SNR=7.2						
KAPI				Sn	Sn	08 38 35.2	-2.4
	1.1nm,0.3s,baz=49,slow=20,SNR=0.9						
KAPI				LR	LR	08 41 28.8	
	comp=Z,6μm,21.1s,baz=50,slow=39						
KAPI	Kappang	12.87	204	P	Pn	08 36 18.7	+4.0
KAPI	Kappang	12.87	204	P	Pn	08 36 18.0	+3.3
KAPI						08 38 35.2	
SBUM	Sibu	13.50	252		Pn	08 36 25.2	+1.9
SBUM	Sibu	13.50	252	P	Pn	08 36 26.4	+3.1
BAKI	Biak	13.58	125	P	Pn	08 36 27.1	+2.7
	5μm237nm,1.4s						
BSSI	Bau Bau, Buton	13.63	200	P	P	08 36 30.0	-3.9
SRPI	Serui, Papua	14.09	127	P	P	08 36 40.8	+1.8
BBKI	Banjar Baru	14.42	225	P	P	08 36 45.6	+3.0
KSM	Kuching	15.63	251		Pn	08 36 52.7	+0.7
KSM	Kuching	15.63	251	P	P	08 36 55.2	-0.9
EDFI	Ende, Flores	15.80	192	P	P	08 36 57.6	-0.5
SAUI	Saumlaki	15.94	157		P	08 36 58.8	-0.8
SAUI				IAmb	IAmb	08 37 02.1	
	comp=Z,220nm,0.6s						
SMPI	Sarmi	16.18	122	P	P	08 37 02.7	+0.5
TWGBT	Beinan	16.39	347	P	Pn	08 37 01.7	0.0
TWG	Pinlang	16.39	347	Pn	Pn	08 37 02.2	+0.5
SOEI	Soe	16.46	183	P	P	08 37 05.0	-0.5
SOEI	Soe	16.46	183	P	P	08 37 06.3	+0.9
SOEI	Soe	16.46	183	P	P	08 37 06.5	+1.1
	comp=Z,4μmcomp=Z,255nm,0.8s						
YULB	Yu-li	16.90	348		Pn	08 37 07.5	-0.7
YULB	Yu-li	16.90	348	P	P	08 37 09.6	-0.5
BATI	Baumata	16.95	185	Pn	Pn	08 37 09.5	+0.6
	comp=Z,23nm,0.3s,baz=13,slow=1.8,SNR=13						
BATI				LR	LR	08 44 18.8	
	comp=Z,4μm,21.7s,baz=357,slow=40						
BATI	Baumata	16.95	185	P	P	08 37 13.9	+3.2
	comp=Z,4μmcomp=Z,355nm,0.7s						
TPUB	Ta-pu	16.96	346		Pn	08 37 07.8	-1.2
TPUB	Ta-pu	16.96	346	P	Pn	08 37 08.1	-0.9
DLV	Lat	17.13	289	P	P	08 37 13.0	0.0
PLAI	Plampang	17.13	205	P	P	08 37 14.8	+2.0
PLAI	Plampang	17.13	205	P	P	08 37 17.0	+4.2
WBSI	Waikabubak, Su	17.27	199	P	P	08 37 15.8	+1.4
	comp=Z,200nm,1.1s						
SSLB	Suanglung	17.35	347		Pn	08 37 12.3	-1.7
SSLB	Suanglung	17.35	347	P	Pn	08 37 13.2	-0.7
TWSI	Taliwang, Sumb	17.45	208	P	P	08 37 20.7	+4.4
NACB	Ninganchiao	17.60	349	P	P	08 37 19.0	+1.1
KMMI	Kalianget	17.65	219	P	P	08 37 21.8	+3.3
GENI	Genyem	17.73	121	P	P	08 37 22.7	+3.3
GENI	Genyem	17.73	121	P	P	08 37 23.8	+4.4
YHNB	Yeheng	18.12	349	P	Pn	08 37 23.3	-0.2
YHNB	Yeheng	18.12	349	P	Pn	08 37 23.5	0.0
JAY	Jayapura	18.15	120	P	Pn	08 37 24.0	+0.1
	comp=Z,1.7nm,0.3s,baz=303,slow=2.3,SNR=12						
JAY				S	Sn	08 40 42.5	-3.7
	comp=Z,5.1nm,0.8s,baz=325,slow=17,SNR=1.1						
	comp=Z,37nm,0.8s						
JAGI	Jajag, Banyuwa	18.66	216		Pn	08 37 30.7	+0.6
JAGI	Jajag, Banyuwa	18.66	216	P	Pn	08 37 32.6	+2.6
QZH	Quanzhou	19.08	342	P	P	08 37 34.5	+0.3
QZH				S	Sn	08 41 06.3	-2.2
QZH				pmax	pmax		
	comp=Z,140nm,1.2s						
QZH				pmax	pmax		
	comp=Z,2μm,6.2s						

SSE	**Sheshan**	**24.45 352**	P	**P**	**08 38 29.5 -0.9**
SSE			S	**S**	**08 42 50.5 +0.7**
SSE			pmax	pmax	
	comp=Z,45nm,1.2s				
SSE			pmax	pmax	
	comp=Z,170nm,4.1s				
SSE			LR	LR	
	comp=Z,400nm,20.5s				
SSE			LR	LR	
	comp=Z,2μm,20.2s				
MNAI	**Manna**	**24.69 244**	P	**P**	**08 38 34.9 +2.0**
FITZ	**Fitzroy Crossi**	**24.74 179**	P	**P**	**08 38 32.0 -1.1**
FITZ	**Fitzroy Crossi**	**24.74 179**	P	**P**	**08 38 32.4 -0.7**
SLVN	**Son La**	**25.05 307**	P	**P**	**08 38 35.9 -0.1**
SLVN	**Son La**	**25.05 307**	P	**P**	**08 38 37.0 +0.9**
WHN	**Wuhan**	**25.68 338**	P	**P**	**08 38 44.0 +2.5**
WHN			S	**S**	**08 43 12.8 +3.3**
WHN			pmax	pmax	
	comp=Z,220nm,1.3s				
WHN			pmax	pmax	
	comp=Z,1μm,4.1s				
WHN			LR	LR	
	comp=Z,3μm,15.5s				
WHN			LR	LR	
	comp=Z,13μm,18.8s				
WHN			LR	LR	
	comp=Z,5μm,22.2s				
NJ2	**Nanjing**	**25.79 348**	⇑P	**P**	**08 38 43.3 +0.8**
NJ2			pP	**pP**	**08 38 47.5 -0.3**
NJ2			S	**S**	**08 43 07.5 -3.7**
NJ2			pmax	pmax	
	comp=Z,59nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,760nm,4.7s				
NJ2			LR	LR	
	comp=Z,1μm,19.7s				
NJ2			LR	LR	
	comp=Z,4μm,22.5s				
NJ2			LR	LR	
	comp=Z,2μm,21.5s				
JCJ	**Chichijima**	**25.93 37**	P	P	08 38 33.8 -10
	comp=Z,116nm,0.7s,baz=286,slow=15,SNR=8.5				
JCJ			LR	LR	08 47 04.5
	comp=Z,974nm,21.9s,baz=213,slow=32				
JCJ	**Chichijima**	**25.93 37**	P	**P**	**08 38 43.5 -0.4**
GYA	**Guiyang**	**26.26 320**	⇑P	**P**	**08 38 46.5 -0.5**
GYA			S	**S**	**08 43 21.0 +2.0**
GYA			pmax	pmax	
	comp=Z,240nm,3.9s				
GYA			LR	LR	
	comp=Z,2μm,13.3s				
GYA			LR	LR	
	comp=Z,3μm,18.1s				
GYA			LR	LR	
	comp=Z,4μm,17.3s				
PSI	**Prapat**	**26.34 263**	LR	LR	08 52 30.1
	comp=Z,2μm,18.2s,baz=94,slow=44				
JNU	**Nakatsue**	**26.75 11**	P	**P**	**08 38 49.9 -1.4**
	comp=Z,44nm,1.1s,baz=186,slow=10,SNR=6.8				
JNU			LR	LR	08 48 51.9
	comp=Z,882nm,21.3s,baz=182,slow=35				
	comp=Z,44nm,1.1s				
JNU	**Nakatsue**	**26.75 11**	P	**P**	**08 38 49.8 -1.5**
PMG	**Port Moresby**	**27.27 126**	P	**P**	**08 38 55.6 -0.6**
PMG			IAmb	IAmb	08 39 03.3
	comp=Z,89nm,0.9s				
PMG	**Port Moresby**	**27.27 126**	P	**P**	**08 38 55.6 -0.6**
	comp=Z,39nm,0.7s,baz=315,slow=5.4,SNR=10				
	comp=Z,39nm,0.7s				
PMG	**Port Moresby**	**27.27 126**	P	**P**	**08 38 56.5 +0.3**
PMG	**Port Moresby**	**27.27 126**	*c iP*	**P**	**08 38 56.7 +0.5**
PMG			pmax	pmax	
	comp=Z,103nm,1.0s				
COEN	**Coen**	**27.36 139**	P	**P**	**08 38 57.6 +0.7**
	comp=Z,120nm,1.2s				
COEN	**Coen**	**27.36 139**	P	**P**	**08 38 57.1 +0.2**
COEN			IAmb	IAmb	08 39 07.1
	comp=Z,73nm,0.8s				
COEN	**Coen**	**27.36 139**	P	**P**	**08 38 57.9 +1.0**
ENH	**Enshi**	**27.56 330**	P	**P**	**08 38 58.1 -0.6**
ENH			IAmb	IAmb	08 39 06.9
	comp=Z,64nm,0.9s				
ENH	**Enshi**	**27.56 330**	P	**P**	**08 38 59.3 +0.7**
WB0	**Warramunga Arr**	**27.95 161**	IAmb	IAmb	08 39 35.1
	comp=Z,70nm,0.9s				
CMAR	**Chiang Mai Arr**	**27.95 297**	P	**P**	**08 39 01.5 -0.7**
CMAR	**Chiang Mai Arr**	**27.95 297**	P	**P**	**08 39 01.4 -0.8**
	comp=Z,2.5nm,0.3s,baz=113,slow=8.9,SNR=25				
CMAR			ScP	**ScP**	**08 45 58.1 +0.2**
	comp=Z,1.3nm,0.3s,baz=91,slow=2.7,SNR=2.2				
CMAR			LR	LR	08 50 45.1
	comp=Z,1μm,18.7s,baz=115,slow=38				
	comp=Z,2.5nm,0.3s				
JMN	**Monobe**	**28.02 16**	P	**P**	**08 39 03.2 +0.5**
KMI	**Kunming**	**28.07 313**	P	**P**	**08 39 04.8 +1.3**
KMI			S	**S**	**08 43 53.8 +5.9**
KMI			pmax	pmax	
	comp=Z,65nm,1.0s				
KMI			LR	LR	
	comp=Z,2μm,15.8s				
KMI			LR	LR	
	comp=Z,2μm,19.2s				
KMI			LR	LR	
	comp=Z,3μm,16.9s				
CHTO	**Chiang Mai**	**28.08 298**	P	**P**	**08 39 02.9 -0.5**
CHTO	**Chiang Mai**	**28.08 298**	P	**P**	**08 39 03.8 +0.4**
CHTO	**Chiang Mai**	**28.08 298**	P	**P**	**08 39 02.9 -0.5**
CHTO			pmax	pmax	
	comp=Z,16nm,0.9s				
WRAB	**Tennant Creek**	**28.09 161**	P	**P**	**08 39 02.5 -0.9**
WRAB			IAmb	IAmb	08 39 21.9
	comp=Z,65nm,1.0s				
WRAB	**Tennant Creek**	**28.09 161**	P	**P**	**08 39 03.1 -0.3**
WRAB	**Tennant Creek**	**28.09 161**	P	**P**	**08 39 02.5 -0.9**
WRAB			pmax	pmax	
	comp=Z,65nm,1.0s				
WRA	**Warramunga Arr**	**28.09 161**	P	**P**	**08 39 02.9 -0.6**
WRA	**Warramunga Arr**	**28.09 161**	P	**P**	**08 39 02.6 -0.9**
	comp=Z,6.8nm,0.5s,baz=338,slow=9.0,SNR=39				
WRA			S	**S**	**08 43 44.8 -3.1**
	comp=Z,2.8nm,0.8s,baz=331,slow=17,SNR=2.9				
	comp=Z,6.8nm,0.5s				
WB1	**Warramunga Ar.**	**28.11 161**	P	**P**	**08 39 03.1 -0.5**
WR8	**Warramunga Arr**	**28.16 161**	IAmb	IAmb	08 39 26.9
	comp=Z,66nm,0.8s				
MBWA	**Marble Bar**	**28.27 191**	P	**P**	**08 39 04.9 0.0**
	comp=Z,53nm,1.4s				
MBWA	**Marble Bar**	**28.27 191**	P	**P**	**08 39 05.0 0.0**
MBWA			IAmb	IAmb	08 39 11.3
	comp=Z,144nm,1.6s				
MBWA	**Marble Bar**	**28.27 191**	P	**P**	**08 39 05.2 +0.3**
PZH	**PanZhiHua**	**29.61 314**	P	**P**	**08 39 19.5 +2.4**
LYN	**LuoYang**	**29.97 339**	P	**P**	**08 39 23.5 +3.6**
LYN			S	**S**	**08 44 17.0 -0.1**
LYN			sS	sS	08 44 27.0 +1.2
LYN			pmax	pmax	
	comp=Z,46nm,1.2s				
LYN			pmax	pmax	
	comp=Z,470nm,5.5s				
LYN			LR	LR	
	comp=Z,4μm,24.0s				
LYN			LR	LR	
	comp=Z,5μm,24.4s				
LYN			LR	LR	
	comp=Z,3μm,20.3s				
TIA	**Tai'an**	**30.17 347**	P	**P**	**08 39 21.3 -0.4**
TIA			pP	**pP**	**08 39 25.8 -1.2**
TIA			sP	**sP**	**08 39 28.5 -0.6**
TIA			S	**S**	**08 44 19.5 -0.7**
TIA			sS	**sS**	**08 44 29.8 +0.9**
TIA			pmax	pmax	
	comp=Z,23nm,1.1s				
TIA			LR	LR	
	comp=Z,560nm,25.4s				
TIA			LR	LR	
	comp=Z,4μm,23.4s				
TIA			LR	LR	
	comp=Z,2μm,30.2s				
INU	**Inuyama**	**30.47 20**	IAmb	IAmb	08 39 30.5
	comp=Z,63nm,0.9s				
INU	**Inuyama**	**30.47 20**	P	**P**	**08 39 22.9 -1.5**
KSAR	**Wonju Array Be**	**30.62 4**	P	**P**	**08 39 24.6 -1.0**
KSAR	**Wonju Array Be**	**30.62 4**	P	**P**	**08 39 24.6 -1.0**
KSRS	**Korea Array**	**30.63 4**	P	**P**	**08 39 24.4 -1.4**
	comp=Z,3.7nm,0.7s,baz=190,slow=9.4,SNR=10				
	comp=Z,3.7nm,0.7s				
KS19	**Wonju Array Si**	**30.67 4**	P	**P**	**08 39 26.9 +0.7**
KS19			IAmb	IAmb	08 39 32.1
	comp=Z,115nm,1.8s				
QIS	**Mount Isa**	**30.71 153**	P	**P**	**08 39 26.9 +0.2**
	comp=Z,69nm,0.6s				
QIS	**Mount Isa**	**30.71 153**	P	**P**	**08 39 29.8 +3.1**
JGF	**Kuroka**	**30.82 20**	P	**P**	**08 39 29.1 +1.6**
XAN	**Xi'an**	**30.95 333**	P	**P**	**08 39 27.3 -1.4**
XAN			pP	pP	08 39 31.0 -3.0
XAN			PP	**PnPn**	**08 40 32.5 +2.8**
XAN			S	**S**	**08 44 31.5 -1.1**
XAN			sS	sS	08 44 41.5 +0.2
XAN			pmax	pmax	
	comp=Z,40nm,0.8s				
XAN			pmax	pmax	
	comp=Z,340nm,4.1s				
XAN			LR	LR	
	comp=Z,3μm,13.9s				
XAN			LR	LR	
	comp=Z,2μm,13.7s				
XAN			LR	LR	
	comp=Z,3μm,14.3s				
TNCH	**TengChong**	**31.20 309**	*e*P	**P**	**08 39 31.8 +0.6**
TNCH			pmax	pmax	
	comp=Z,120nm,0.8s				
TNCH			pmax	pmax	
	comp=Z,300nm,3.3s				
CD2	**Chengdu**	**31.21 323**	P	**P**	**08 39 30.5 -0.5**
CD2			pP	pP	08 39 34.0 -2.3
CD2			S	**S**	**08 44 32.8 -3.9**
CD2			sS	pS	08 44 43.5 +0.8
CD2			pmax	pmax	
	comp=Z,80nm,0.9s				
CD2			pmax	pmax	
	comp=Z,180nm,7.6s				
CD2			LR	LR	
	comp=Z,5μm,19.8s				
CD2			LR	LR	
	comp=Z,6μm,17.3s				
CD2			LR	LR	
	comp=Z,4μm,19.3s				
MTSU	**Mount Surprise**	**31.22 143**	P	**P**	**08 39 35.1 +3.9**
MTSU	**Mount Surprise**	**31.22 143**	P	**P**	**08 39 34.0 +2.8**
ASAR	**Alice Springs**	**31.48 164**		**P**	**08 39 32.9 -0.5**
ASAR	**Alice Springs**	**31.48 164**	P	**P**	**08 39 32.6 -0.9**
	comp=Z,8.1nm,0.5s,baz=342,slow=8.5,SNR=103				
ASAR			PcP	**PcP**	**08 42 25.8 -0.8**
	comp=Z,1.8nm,0.5s,baz=348,slow=2.3,SNR=1.6				
ASAR			S	**S**	**08 44 37.9 -3.1**
	comp=Z,4.1nm,0.8s,baz=340,slow=13,SNR=5.1				
	comp=Z,8.1nm,0.5s				
AUALC	**St Philip's Co**	**31.50 164**	P	**P**	**08 39 33.3 -0.3**
WRKA	**Warakurna**	**31.80 174**	P	**P**	**08 39 36.0 -0.2**
	comp=Z,0.0nmcomp=Z,15nm,0.8s				
HNS	**HongShan**	**31.89 344**	⇓P	**P**	**08 39 37.3 +0.5**
HNS			S	**S**	**08 44 46.5 -0.6**
HNS			pmax	pmax	
	comp=Z,98nm,1.0s				
HNS			LR	LR	
	comp=Z,2μm,21.0s				
HNS			LR	LR	
	comp=Z,3μm,21.9s				
HNS			LR	LR	
	comp=Z,2μm,18.8s				
MAJO	**Matsushiro**	**31.96 20**	P	**P**	**08 39 35.4 -2.1**
MAJO	**Matsushiro**	**31.96 20**	P	**P**	**08 39 35.4 -2.1**
MAJO	**Matsushiro**	**31.96 20**	P	**P**	**08 39 35.4 -2.1**
MAJO			pmax	pmax	
	comp=Z,21nm,0.9s				
MJAR	**Matsushiro Arr**	**31.96 20**	P	**P**	**08 39 34.9 -2.6**
MJAR			IAmb	IAmb	08 39 40.8
	comp=Z,29nm,0.9s				
MJAR	**Matsushiro Arr**	**31.96 20**	P	**P**	**08 39 35.2 -2.3**
	comp=Z,28nm,0.8s,baz=194,slow=8.9,SNR=26				
MJAR			LR	LR	08 52 01.9
	comp=Z,2μm,19.8s,baz=209,slow=35				
MJAR	**Matsushiro Arr**	**31.96 20**	P	**P**	**08 39 34.9 -2.6**
MJAR			pmax	pmax	
	comp=Z,29nm,0.9s				
DL2	**Dalian**	**32.12 355**	P	**P**	**08 39 40.3 +1.5**
DL2			S	**S**	**08 44 51.8 +1.2**
DL2			pmax	pmax	
	comp=Z,43nm,0.9s				
DL2			pmax	pmax	
	comp=Z,350nm,4.7s				
DL2			LR	LR	
	comp=Z,820nm,18.7s				
DL2			LR	LR	
	comp=Z,3μm,19.5s				
DL2			LR	LR	
	comp=Z,2μm,18.0s				
TV1H	**Townsville Har**	**33.60 141**	P	**P**	**08 39 55.2 +3.2**
MEEK	**Meekatharra**	**33.81 190**	P	**P**	**08 39 52.5 -1.4**
MEEK	**Meekatharra**	**33.81 190**	P	**P**	**08 39 53.3 -0.6**
BJT	**Baijiatuau**	**34.03 348**	P	**P**	**08 39 55.5 -0.1**
BJT			IAmb	IAmb	08 40 01.6
	comp=Z,51nm,0.8s				
BJT	**Baijiatuau**	**34.03 348**	P	**P**	**08 39 55.4 -0.1**
BJT	**Baijiatuau**	**34.03 348**	P	**P**	**08 39 55.5 -0.1**
BJT			pmax	pmax	
	comp=Z,51nm,0.8s				
BJI	**Beijing**	**34.05 348**	P	**P**	**08 39 55.5 -0.2**
BJI			S	**S**	**08 45 15.5 -5.1**
BJI			pmax	pmax	
	comp=Z,25nm,1.1s				
BJI			pmax	pmax	
	comp=Z,90nm,3.5s				
BJI			LR	LR	
	comp=Z,440nm,22.7s				
BJI			LR	LR	
	comp=Z,2μm,24.4s				
BJI			LR	LR	
	comp=Z,400nm,18.5s				
JMM	**Marumori**	**34.07 23**	P	**P**	**08 39 55.2 -0.7**
SNY	**Shenyang**	**34.91 358**	⇓P	**P**	**08 40 03.3 +0.2**
SNY			S	**S**	**08 45 32.0 -1.8**
SNY			pmax	pmax	
	comp=Z,29nm,1.1s				
SNY			pmax	pmax	
	comp=Z,280nm,3.5s				
SNY			LR	LR	
	comp=Z,1μm,17.5s				
SNY			LR	LR	
	comp=Z,750nm,13.7s				
SNY			LR	LR	
	comp=Z,2μm,18.1s				
LZDM	**Lanzhou Array**	**35.01 329**	P	**P**	**08 40 04.1 -0.4**
	comp=Z,15nm,0.8s,baz=152,slow=13,SNR=14				
LZDM			S	**S**	**08 45 38.7 +2.4**
	comp=Z,1.0nm,0.3s,baz=135,slow=15,SNR=1.4				
LZDM			LR	LR	08 55 08.6
	comp=Z,1μm,20.4s,baz=95,slow=38				
	comp=Z,15nm,0.8s				
LZH	**Lanzhou**	**35.04 329**	*e*P	**P**	**08 40 05.8 +1.3**
LZH			sP	sP	08 40 15.5 +3.5
LZH			PcP	**PcP**	**08 42 41.0 +4.5**
LZH			S	**S**	**08 45 41.0 +4.7**
LZH			pmax	pmax	
	comp=Z,110nm,1.1s				
LZH			pmax	pmax	
	comp=Z,390nm,4.3s				
LZH			LR	LR	
	comp=Z,3μm,17.9s				
LZH			LR	LR	
	comp=Z,2μm,18.7s				
LZH			LR	LR	
	comp=Z,2μm,17.9s				
BRDH	**Bariadhala**	**35.84 300**	LR	LR	08 57 01.6
	comp=Z,1μm,20.1s,baz=120,slow=40				
HHC	**Hu-ho-hao-te**	**35.99 342**	⇓*i*P	**P**	**08 40 13.8 +1.2**
HHC			pP	pP	08 40 18.0 +0.1
HHC			S	**S**	**08 45 51.3 +0.6**
HHC			pmax	pmax	
	comp=Z,23nm,1.2s				
HHC			pmax	pmax	
	comp=Z,330nm,4.2s				
HHC			LR	LR	
	comp=Z,2μm,20.5s				
HHC			LR	LR	
	comp=Z,1μm,21.4s				
HHC			LR	LR	
	comp=Z,3μm,21.9s				
MSHR	**Mys Shultsa**	**36.05 8**	⇑*e*P	**P**	**08 40 13.0 +0.1**
MSHR			pmax	pmax	
	comp=Z,78nm,1.1s				
BTO	**Baotou**	**36.26 340**	*e*P	**P**	**08 40 17.8 +2.9**
BTO			sP	**sP**	**08 40 24.0 +1.7**
BTO			PP	**PP**	**08 41 41.8 +4.3**
BTO			S	**S**	**08 46 01.8 +7.0**
BTO			pmax	pmax	
	comp=Z,24nm,0.7s				
BTO			pmax	pmax	
	comp=Z,500nm,6.0s				
BTO			LR	LR	
	comp=Z,4μm,17.7s				
BTO			LR	LR	
	comp=Z,5μm,18.3s				
BTO			LR	LR	
	comp=Z,5μm,19.8s				
VLA	**Vladivostok**	**36.68 8**	⇑*e*P	**P**	**08 40 18.8 +0.6**
VLA			pmax	pmax	
	comp=Z,154nm,1.1s				
MORW	**Morawa**	**36.70 193**	P	**P**	**08 40 18.5 -0.1**
	comp=Z,27nm,0.9s				
MORW	**Morawa**	**36.70 193**	P	**P**	**08 40 19.5 +0.9**
JTM	**Tenmabayashi**	**36.75 20**	IAmb	IAmb	08 40 25.6
	comp=Z,88nm,0.9s				
JTM	**Tenmabayashi**	**36.75 20**	P	**P**	**08 40 19.4 +0.5**
CN2	**Changchun**	**36.86 0**	P	**P**	**08 40 19.8 0.0**
CN2			S	**S**	**08 46 03.3 -0.4**
CN2			sS	pS	08 46 10.0 +0.2
CN2			LR	LR	
	comp=Z,740nm,20.0s				
CN2			LR	LR	
	comp=Z,900nm,20.0s				
CN2			LR	LR	
	comp=Z,1μm,21.0s				
FORT	**Forrest**	**37.47 176**	P	**P**	**08 40 24.7 -0.5**
	comp=Z,48nm,0.8s				
INKA	**Innaminka**	**37.53 157**	P	**P**	**08 40 26.0 +0.3**
USRK	**Ussuriysk Ar.**	**37.75 8**	P	**P**	**08 40 27.1 -0.3**
	comp=Z,33nm,0.8s,baz=183,slow=7.2,SNR=23				
	comp=Z,33nm,0.8s				
XLT	**XiLinHaoTe**	**37.79 349**	*e*P	**P**	**08 40 27.5 -0.3**
XLT			pP	pP	08 40 32.5 -0.6
XLT			sP	sP	08 40 34.0 -1.3
XLT			PP	**PP**	**08 41 53.0 -1.3**
XLT			S	**S**	**08 46 14.5 -3.5**
XLT			PcS	**PcS**	**08 46 33.5 +0.4**
XLT			ScS	**ScS**	**08 50 37.8 -2.4**
XLT			pmax	pmax	
	comp=Z,36nm,0.7s				
XLT			LR	LR	
	comp=Z,2μm,24.7s				
XLT			LR	LR	
	comp=Z,1μm,24.6s				
MDJ	**Mudanjiang**	**37.88 5**	P	**P**	**08 40 29.0 +0.5**
MDJ			PP	**PnPn**	**08 42 02.8 +6.4**
MDJ			S	**S**	**08 46 21.8 +2.6**
MDJ			pmax	pmax	
	comp=Z,42nm,1.8s				
MDJ			LR	LR	
	comp=Z,1μm,20.3s				
MDJ			LR	LR	
	comp=Z,2μm,21.7s				
MDJ			LR	LR	
	comp=Z,1μm,19.2s				
MDJ	**Mudanjiang**	**37.88 5**	IAmb	IAmb	08 40 39.2
	comp=Z,125nm,1.2s				
MDJ	**Mudanjiang**	**37.88 5**	P	**P**	**08 40 29.5 +1.0**
QLP	**Quilpie**	**38.03 151**	P	**P**	**08 40 30.3 +0.3**
	comp=Z,63nm,1.1s				
QLP	**Quilpie**	**38.03 151**	P	**P**	**08 40 32.4 +2.4**
BLDU	**Ballidu**	**38.05 192**	P	**P**	**08 40 29.6 -0.4**
	comp=Z,39nm,1.4s				
BLDU	**Ballidu**	**38.05 192**	P	**P**	**08 40 30.9 +0.9**
KMBL	**Kambalda**	**38.07 184**	P	**P**	**08 40 29.0 -1.2**
	comp=Z,35nm,0.9s				
BNX	**BinXian**	**38.85 3**	⇓P	**P**	**08 40 36.3 -0.3**
BNX			pP	**pP**	**08 40 39.5 -2.4**
BNX			sP	**sP**	**08 40 41.0 -3.0**
BNX			S	**S**	**08 46 35.8 +2.0**
BNX			sS	**pS**	**08 46 41.0 +1.0**
BNX			pmax	pmax	
	comp=Z,35nm,1.4s				
BNX			pmax	pmax	
	comp=Z,480nm,4.1s				
BNX			LR	LR	
	comp=Z,870nm,18.4s				
BNX			LR	LR	
	comp=Z,1μm,19.0s				
BNX			LR	LR	
	comp=Z,1μm,22.8s				
AUNRC	**North Rockhamp**	**38.95 141**	P	**P**	**08 40 40.9 +3.2**
LSA	**Lhasa**	**39.20 310**	P	**P**	**08 40 37.8 -2.5**
LSA			pmax	pmax	
	comp=Z,24nm,0.9s				
TEY	**Ternei**	**39.40 13**	*e*P	**P**	**08 40 42.3 +1.1**
TEY			*e*		08 46 42.3
MUN	**Mundaring**	**39.47 192**	P	**P**	**08 40 42.2 +0.3**
	comp=Z,48nm,1.4s				
MUN	**Mundaring**	**39.47 192**	P	**P**	**08 40 43.3 +1.4**
AUMAZ	**Mazenod Senior**	**39.53 192**	P	**P**	**08 40 43.7 +1.2**
GTA	**Gaotai**	**39.63 329**	P	**P**	**08 40 45.0 +1.6**
GTA			pP	sP	08 40 50.5 -0.4
GTA			S	**S**	**08 46 48.5 +2.5**
GTA			pmax	pmax	
	comp=Z,83nm,1.1s				
GTA			LR	LR	
	comp=Z,2μm,19.3s				
GTA			LR	LR	
	comp=Z,2μm,18.9s				
GTA			LR	LR	
	comp=Z,2μm,18.2s				
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 49.4 +1.4**
	comp=Z,47nm,1.1s				
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 48.5 +0.5**
	comp=Z,75nm,1.1s				
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 48.1 +0.1**
NWAO			IAmb	IAmb	08 40 54.3
	comp=Z,92nm,1.3s				
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 49.3 +1.4**
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 49.2 +1.2**
NWAO	**Narrogin (SRO)**	**40.20 190**	P	**P**	**08 40 48.1 +0.1**
NWAO			pmax	pmax	
	comp=Z,93nm,1.3s				
ASAJ	**Asahikawa**	**40.22 20**	P	**P**	**08 40 48.8 +0.7**
	comp=Z,47nm,0.8s,baz=223,slow=6.3,SNR=15				
	comp=Z,47nm,0.8s				
JKA	**Kamikawa-asahi**	**40.22 20**		**P**	**08 40 48.6 +0.5**
JKA			IAmb	IAmb	08 40 54.0
	comp=Z,88nm,1.0s				
GOMU	**GeErMu**	**40.27 321**	P	**P**	**08 40 50.5 +1.4**
GOMU			sP	sP	08 40 57.0 +0.4
GOMU			S	**S**	**08 46 59.3 +3.1**
GOMU			pmax	pmax	
	comp=Z,10.0nm,1.1s				
GOMU			LR	LR	
	comp=Z,1μm,17.7s				
GOMU			LR	LR	
	comp=Z,1μm,18.8s				
BBOO	**Buckleboo**	**40.75 166**	P	**P**	**08 40 52.5 0.0**
	comp=Z,98nm,0.8s				
BBOO	**Buckleboo**	**40.75 166**	P	**P**	**08 40 52.6 0.0**
BBOO			IAmb	IAmb	08 41 02.4
	comp=Z,87nm,1.0s				
BBOO	**Buckleboo**	**40.75 166**	P	**P**	**08 40 53.2 +0.6**
EIDS	**Eidsvold**	**40.78 143**	P	**P**	**08 40 53.5 +0.6**
	comp=Z,47nm,1.0s				
EIDS	**Eidsvold**	**40.78 143**	P	**P**	**08 40 53.3 +0.4**
EIDS	**Eidsvold**	**40.78 143**	P	**P**	**08 40 56.4 +3.5**
WHYH	**Whyalla**	**41.35 164**	P	**P**	**08 40 58.5 +1.0**
STKA	**Stephens Creek**	**41.57 159**	P	**P**	**08 40 59.4 0.0**
	comp=Z,256nm,0.9s				
STKA	**Stephens Creek**	**41.57 159**	P	**P**	**08 40 59.1 -0.2**
STKA	**Stephens Creek**	**41.57 159**	P	**P**	**08 40 58.9 -0.4**
	comp=Z,4.5nm,0.3s,baz=335,slow=10,SNR=26				
STKA			S	**S**	**08 47 11.8 -3.0**
	comp=Z,3.4nm,0.8s,baz=311,slow=19,SNR=3.0				
	comp=Z,4.5nm,0.3s				
STKA	**Stephens Creek**	**41.57 159**	P	**P**	**08 41 00.2 +0.9**
AUJCS	**Jamestown Cent**	**41.80 163**	P	**P**	**08 41 02.7 +1.4**
RKGY	**Rocky Gully**	**41.88 190**	P	**P**	**08 41 03.7 +1.9**
	comp=Z,105nm,0.8s				
AUCAS	**Cummins Area S**	**42.06 167**	P	**P**	**08 41 05.0 +1.7**
HTT	**Hallett**	**42.11 163**	P	**P**	**08 41 03.5 -0.3**
	comp=Z,19nm,1.0s				
HTT	**Hallett**	**42.11 163**	P	**P**	**08 41 04.7 +0.9**
AULRC	**Lightning Ridg**	**42.23 150**	P	**P**	**08 41 07.7 +2.9**
HIA	**Hailar**	**42.57 355**	P	**P**	**08 41 07.6 +0.3**
YSS	**Yuzhno-Sakhali**	**42.80 18**	P	**P**	**08 41 08.6 -0.6**

YSS IAmb IAmb 08 41 15.0
comp=Z,108nm,1.3s
YSS Yuzhno-Sakhali 42.80 18 P **P 08 41 10.0 +0.8**
YSS Yuzhno-Sakhali 42.80 18 *e*P **P 08 41 08.6 -0.6**
YSS *e*S **S 08 47 28.3 -4.3**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=N,30nm,1.4s
YSS pmax pmax
comp=Z,300nm,3.8s
YSS pmax pmax
comp=N,100nm,4.0s
YSS pmax pmax
comp=E,100nm,4.8s
YSS MLR MLR
comp=Z,700nm,19.0s
YSS MLR MLR
comp=N,600nm,17.0s
YSS MLR MLR
comp=E,700nm,17.0s
HILR Hailar Array B 42.85 355 P **P 08 41 09.4 -0.2**
comp=E,13nm,0.5s,baz=164,slow=9.6,SNR=21
HILR S **S 08 47 34.7 +1.3**
comp=E,0.8nm,0.4s,baz=182,slow=18,SNR=1.4
HILR LR LR 09 01 41.0
comp=E,774nm,18.3s,baz=115,slow=40
comp=E,13nm,0.5s
CMSA Cobar Meteorol 42.91 154 P **P 08 41 10.9 +0.6**
comp=Z,26nm,0.8s
CMSA Cobar Meteorol 42.91 154 P **P 08 41 13.6 +3.3**
TW1H Toowoomba 1 Ha 42.93 144 P **P 08 41 14.0 +3.4**
AUBSH Beerwah State 43.01 142 P **P 08 41 14.2 +3.1**
HEH HeiHe 43.36 2 *e*P **P 08 41 13.3 -0.4**
HEH PcP **PcP 08 43 03.8 +1.7**
HEH S **S 08 47 39.3 -1.4**
HEH pmax pmax
comp=Z,520nm,6.0s
HEH LR LR
comp=Z,880nm,17.7s
HEH LR LR
comp=Z,1μm,18.2s
HEH LR LR
comp=Z,1μm,19.9s
AUMAR Marden Senior 43.40 164 P **P 08 41 15.5 +1.4**
AUWSH Wavell State H 43.45 143 P **P 08 41 16.7 +2.0**
ULN Ulaanbaatar 43.71 342 P **P 08 41 16.9 +0.2**
ULN Ulaanbaatar 43.71 342⇓ *e*P **P 08 41 17.0 +0.2**
ULN pmax pmax
comp=Z,48nm,1.2s
AUMBR Murray Bridge 43.81 163 P **P 08 41 18.7 +1.3**
SONM Songino Array 43.89 342 P **P 08 41 18.6 +0.4**
SONM Songino Array 43.89 342 P **P 08 41 17.7 -0.4**
comp=Z,5.4nm,0.7s,baz=160,slow=7.7,SNR=16
SONM S **S 08 47 50.3 +1.5**
comp=Z,0.8nm,0.4s,baz=106,slow=11,SNR=2.1
SONM LR LR 09 00 44.7
comp=Z,3μm,21.2s,baz=156,slow=38
comp=Z,5.4nm,0.7s
UGL Uglegorsk 44.52 16 *e*P **P 08 41 24.5 +1.5**
UGL pmax pmax
comp=Z,200nm,0.9s
GRNR Gornyy 44.84 10⇑ *i*P **P 08 41 25.6 0.0**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,380nm,15.0s
GRNR MLR MLR
comp=Z,700nm,19.0s
ARMA Armidale 44.92 147 P **P 08 41 27.3 +0.7**
comp=Z,36nm,0.8s
ARMA Armidale 44.92 147 **P 08 41 27.8 +1.2**
ARMA Armidale 44.92 147 P **P 08 41 29.1 +2.5**
AUPHS Peel High Scho 45.06 148 P **P 08 41 30.7 +3.1**
CIT Chita 46.08 350 *e*P **P 08 41 36.2 +0.8**
CIT *e* 08 41 40.4
CIT pmax pmax
comp=Z,89nm,1.2s
ARPS Mount Arapiles 46.10 161 P **P 08 41 35.9 +0.2**
comp=Z,42nm,1.4s
TYV Tymovskoe 46.31 15 *e*P **P 08 41 36.3 -0.8**
TYV *e*S **S 08 48 25.0 +1.6**
TYV pmax pmax
comp=Z,20nm,1.6s
TYV pmax pmax
comp=Z,200nm,2.2s
TYV smax smax
comp=N,200nm,4.4s
TYV smax smax
comp=E,600nm,4.4s
YNG Young 46.45 153 P **P 08 41 39.7 +1.1**
comp=Z,46nm,1.2s
HYB Hyderabad 46.57 287 *e*P **P 08 41 39.3 -0.5**
HYB *ep*P **pP 08 41 42.4 -2.7**
HYB IVmB_BB 08 41 43.2
comp=Z,449nm,3.6s
HYB *e*PcP **PcP 08 43 14.0 0.0**
HYB *e*S **S 08 48 22.1 -6.1**
HYB *e*ScS **ScS 08 51 33.3 -1.6**
ZEA Zeya 46.84 2 *e*P **P 08 41 41.2 -0.1**
ZEA *e* 08 43 29.5
ZEA *e*S **S 08 48 31.2 +0.2**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA pmax pmax
comp=Z,200nm,4.8s
ZEA pmax pmax
comp=Z,200nm,5.4s
ZEA smax smax
comp=N,100nm,13.6s
ZEA MLR MLR
comp=N,300nm,21.0s
ZEA MLR MLR
comp=Z,500nm,20.0s
ZAK Zakamensk 47.10 341 *e*P **P 08 41 43.3 -0.3**
ZAK pmax pmax
comp=Z,13nm,2.0s
SYDH Sydney Hard Ro 47.11 150 P **P 08 41 46.8 +3.1**
BRAT Ballarat 47.50 160 P **P 08 41 49.2 +2.6**
AUMTC Mt Clear Colle 47.54 160 P **P 08 41 49.9 +3.0**
AUMTS Mt Stromlo 47.58 153 P **P 08 41 49.6 +2.2**
CAN Canberra 47.58 153 P **P 08 41 49.4 +2.0**
AUDAR Daramalan Coll 47.58 153 P **P 08 41 50.2 +2.8**
AUSIS Research Schoo 47.59 153 P **P 08 41 50.2 +2.7**
AUMHS Melrose High S 47.65 153 P **P 08 41 50.7 +2.8**
CNB Canberra Magne 47.74 153 P **P 08 41 51.0 +2.4**
TOO Toolangi 48.08 158 P **P 08 41 52.3 +1.1**
TOO Toolangi 48.08 158 P **P 08 41 52.3 +1.1**
TOO pmax pmax
comp=Z,29nm,1.5s
TLY Talaya 48.12 342 *ce*P **P 08 41 52.9 +1.6**
TLY pmax pmax
comp=Z,25nm,0.9s
WMQ Urumqi 49.28 325 *e*P **P 08 42 02.5 +2.1**
WMQ LR LR
comp=Z,2μm,17.3s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,1μm,24.1s
KNGR Kungurtug, Tuv 49.33 337⇑ *i*P **P 08 42 02.2 +1.4**
KNGR pmax pmax
comp=Z,28nm,1.1s
YATNC Mamie plateau, 50.02 126 P **P 08 42 08.3 +2.0**
BOD Bodaibo 51.62 352 *e*P **P 08 42 18.3 +0.5**
BOD pmax pmax
comp=Z,39nm,1.5s
ZSN Zaisan 53.05 327 *e*P **P 08 42 28.1 -0.5**
ZSN Zaisan 53.05 327 *e*P **P 08 42 28.1 -0.5**
DGZ Jazzator, Alta 53.13 330⇓ *e*P **P 08 42 27.5 -1.8**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
PEA0B Petropavlovsk- 53.28 24 IAmb IAmb 08 42 35.9
comp=Z,52nm,0.9s
PEA0B Petropavlovsk- 53.28 24 *d i*P **P 08 42 31.0 +0.8**
PETK Petropavlovsk- 53.28 24 **P 08 42 30.5 +0.3**
PETK Petropavlovsk- 53.28 24 P **P 08 42 28.4 -1.8**
comp=Z,16nm,0.9s,baz=230,slow=8.2,SNR=20
comp=Z,16nm,0.9s
PETK Petropavlovsk- 53.28 24 P **P 08 42 30.5 +0.3**
PET Petropavlovsk 53.61 25 P **P 08 42 33.4 +0.9**
PET IAmb IAmb 08 42 39.2
comp=Z,60nm,1.1s
PET Petropavlovsk 53.61 25 *e*P **P 08 42 33.9 +1.3**
PET Petropavlovsk 53.61 25⇓ *e*P **P 08 42 33.2 +0.6**
PET pmax pmax
comp=Z,95nm,1.5s
SHLS Shalkode 53.95 320 *e*P **P 08 42 32.9 -2.6**
comp=Z,22nm,0.8s
SHLS Shalkode 53.95 320 *e*P **P 08 42 32.8 -2.6**
SHLS pmax pmax
comp=Z,22nm,0.8s
MK31 Makanchi Array 54.11 325 *c i*P **P 08 42 36.4 0.0**
MKAR Makanchi Array 54.11 325 P **P 08 42 36.6 +0.1**
MKAR Makanchi Array 54.11 325 P **P 08 42 36.4 0.0**
comp=Z,14nm,0.7s,baz=125,slow=8.0,SNR=109
MKAR S **S 08 50 15.3 +3.0**
comp=Z,0.2nm,0.7s,baz=124,slow=23,SNR=1.5
MKAR LR LR 09 07 19.3
comp=Z,963nm,18.0s,baz=126,slow=38
comp=Z,14nm,0.7s
UZB Uzynbulak 54.22 320 *e*P **P 08 42 37.2 -0.4**
comp=Z,18nm,0.7s
UZB *e*S **S 08 50 15.1 +0.7**
UZB Uzynbulak 54.22 320 *e*P **P 08 42 37.1 -0.4**
UZB *e*S **S 08 50 15.0 +0.7**
UZB pmax pmax
comp=Z,18nm,0.7s
MAKZ Makanchi 54.30 325 P **P 08 42 37.9 +0.1**
MAKZ IAmb IAmb 08 42 47.1
comp=Z,32nm,0.9s
MAKZ Makanchi 54.30 325 P **P 08 42 37.9 +0.1**
MAKZ pmax pmax
comp=Z,33nm,1.0s
TARG Taragay, Kyrgy 54.38 317 IAmb IAmb 08 43 06.2
comp=Z,36nm,0.9s
SATY Saty 54.58 319 *e*P **P 08 42 39.8 -0.3**
comp=Z,27nm,0.8s
SATY Saty 54.58 319 *e*P **P 08 42 39.8 -0.3**
SATY pmax pmax
comp=Z,27nm,0.8s
KSH Kashi 54.72 314 P **P 08 42 42.8 +1.6**
KSH pmax pmax
comp=Z,21nm,1.2s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,850nm,15.5s
KSH LR LR
comp=Z,820nm,14.3s
NIL Nilore 54.76 307 **P 08 42 41.7 +0.3**
NIL Nilore 54.76 307 P **P 08 42 41.7 +0.3**
NIL pmax pmax
comp=Z,98nm,0.9s
KDJ Kajisay 54.97 318 IAmb IAmb 08 42 45.0
comp=Z,37nm,0.7s
YAK Yakutsk 55.23 3 P **P 08 42 44.4 +0.2**
YAK Yakutsk 55.23 3 P **P 08 42 44.4 +0.2**
comp=Z,16nm,0.5s,baz=182,slow=1.1,SNR=7.0
comp=Z,16nm,0.5s
YAK Yakutsk 55.23 3 *e*P **P 08 42 44.2 0.0**
YAK *e**PP **pP 08 42 49.3 -0.4**
YAK *e* 08 44 49.7
YAK *e*S **S 08 50 27.5 +0.7**
YAK *e**SS **pS 08 50 33.6 +0.2**
YAK *e*SS **SS 08 54 12.4 +1.3**
YAK *e*SSS SSS 08 56 14.4
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,159nm,3.5s
YAK pmax pmax
comp=N,50nm,1.8s
YAK pmax pmax
comp=E,38nm,2.0s
YAK smax smax
comp=N,35nm,1.8s
YAK smax smax
comp=E,103nm,3.1s
ARXS Arharly 55.49 320 *e*P **P 08 42 47.0 +0.4**
TDK Taldyqorghan 55.50 321 *e*P **P 08 42 46.3 -0.3**
comp=E,26nm,0.7s
TDK Taldyqorghan 55.50 321 *e*P **P 08 42 46.2 -0.3**
TDK pmax pmax
comp=Z,26nm,0.7s
MDOK Medeo 55.52 319 *e*P **P 08 42 46.4 -0.5**
MDOK *e*S **S 08 50 32.3 +0.6**
MDOK Medeo 55.52 319 *e*P **P 08 42 46.4 -0.5**
MDOK *e*S **S 08 50 32.2 +0.6**
TNSS Tian-Shan 55.52 319 *e*P **P 08 42 46.7 -0.5**
TNSS Tian-Shan 55.52 319 *e*P **P 08 42 46.6 -0.6**
AAA Alma-Ata 55.62 319 *e*P **P 08 42 47.1 -0.4**
comp=Z,31nm,0.8s
AAA Alma-Ata 55.62 319 *e*P **P 08 42 47.1 -0.4**
AAA pmax pmax
comp=Z,31nm,0.8s
ULHL Ulahol 55.65 317 P **P 08 42 48.8 +0.8**
SNR=18
MA2 Magadan 56.18 15 P **P 08 42 52.3 +1.2**
MA2 IAmb IAmb 08 42 58.4
comp=Z,30nm,0.9s
MA2 Magadan 56.18 15 P **P 08 42 51.9 +0.7**
comp=Z,11nm,0.6s,baz=189,slow=18,SNR=7.4
comp=Z,11nm,0.6s
MA2 Magadan 56.18 15 P **P 08 42 52.7 +1.6**
MA2 Magadan 56.18 15 P **P 08 42 52.3 +1.2**
MA2 pmax pmax
comp=Z,29nm,0.9s
TKM2 Tokmak 2 56.37 318 P **P 08 42 53.3 +0.3**
SNR=16
KBK Karagaybulak 56.69 317 P **P 08 42 56.2 +0.9**
SNR=12
UCH Uchtor 56.81 317 P **P 08 42 57.4 +0.9**
SNR=59
AAK Ala-Archa 56.99 317 P **P 08 42 57.8 +0.3**
AAK IAmb IAmb 08 43 09.4
comp=Z,91nm,1.8s
AAK Ala-Archa 56.99 317 P **P 08 42 58.0 +0.6**
comp=Z,7.8nm,0.8s,baz=108,slow=13,SNR=11
AAK S **S 08 50 52.4 +1.1**
comp=Z,0.5nm,0.3s,baz=156,slow=20,SNR=1.5
AAK LR LR 09 08 46.0
comp=Z,1μm,21.5s,baz=106,slow=38
comp=Z,7.8nm,0.8s
AAK Ala-Archa 56.99 317 P **P 08 42 58.2 +0.8**
SNR=7.9
ZALV Zalesovo Beam 57.12 333 P **P 08 42 57.0 -0.9**
ZALV Zalesovo Beam 57.12 333 P **P 08 42 57.3 -0.6**
comp=Z,4.7nm,0.7s,baz=139,slow=5.5,SNR=9.5
ZALV S **S 08 50 51.3 -1.0**
comp=Z,0.5nm,0.4s,baz=164,slow=16,SNR=1.0
ZALV LR LR 09 09 14.8
comp=Z,650nm,19.1s,baz=96,slow=38
comp=Z,4.7nm,0.7s
USP Ospenovka 57.24 318 P **P 08 42 59.5 +0.4**
SNR=14
EKS2 Erkin-Say 57.48 317 P **P 08 43 01.8 +0.9**
SNR=17
ARSB Arslanbob 57.52 315 IAmb IAmb 08 43 11.8
comp=Z,27nm,0.8s
MSVF Nonsavu 57.71 116 P **P 08 43 04.7 +1.9**
MSVF IAmb IAmb 08 43 40.6
comp=Z,61nm,1.2s
MSVF Nonsavu 57.71 116 P **P 08 43 04.6 +1.9**
MSVF Nonsavu 57.71 116⇓ *e*P **P 08 43 04.8 +2.0**
MSVF pmax pmax
comp=Z,55nm,1.1s
KURBB Kurchatov Arra 58.28 327 P **P 08 43 05.5 -0.6**
comp=Z,16nm,0.9s,baz=126,slow=6.1,SNR=76
KURBB LR LR 09 09 50.0
comp=Z,601nm,19.7s,baz=158,slow=38
comp=Z,16nm,0.9s
KURBB Kurchatov Arra 58.28 327 P **P 08 43 05.7 -0.4**
KURK Kurchatov 58.28 327 P **P 08 43 06.3 +0.2**
KURK Kurchatov 58.28 327 P **P 08 43 06.3 +0.2**
KURK pmax pmax
comp=Z,65nm,1.0s
KBL Kabul 58.36 306 P **P 08 43 07.3 0.0**
KBL IAmb IAmb 08 43 15.8
comp=Z,30nm,0.7s
KBL Kabul 58.36 306 P **P 08 43 07.3 0.0**
KBL pmax pmax
comp=Z,30nm,0.7s
DZA Taraz 59.24 316 *e*P **P 08 43 12.7 -0.3**
comp=Z,14nm,0.8s
DZA Taraz 59.24 316 *e*P **P 08 43 12.7 -0.3**
DZA pmax pmax
comp=Z,14nm,0.8s
SEY Seymchan 59.46 14 P **P 08 43 15.2 +1.1**
comp=Z,5.3nm,0.5s,baz=219,slow=9.9,SNR=12
comp=Z,5.3nm,0.5s
SEY Seymchan 59.46 14⇑ *e*P **P 08 43 16.5 +2.4**
SEY pmax pmax
comp=Z,37nm,1.1s
KK31 Karatay Array 59.88 316 P **P 08 43 17.5 +0.1**
KK31 IAmb IAmb 08 43 25.9
comp=Z,44nm,1.0s
KK31 Karatay Array 59.88 316 P **P 08 43 17.5 +0.1**
KK31 pmax pmax
comp=Z,44nm,1.0s
KKAR Karatay Array 59.88 316 **P 08 43 17.1 -0.2**
KKAR Karatay Array 59.88 316 P **P 08 43 17.2 -0.2**
CHM Chimkent 60.23 315 *e*P **P 08 43 19.6 -0.2**
CHM Chimkent 60.23 315 *e*P **P 08 43 19.6 -0.2**
BRLS Borolday 60.31 316 *e*P **P 08 43 20.0 -0.4**
comp=Z,21nm,1.4s
BRLS Borolday 60.31 316 *e*P **P 08 43 20.0 -0.4**
BRLS pmax pmax
comp=Z,21nm,1.4s
BRZS Berezniki 61.24 324 *e*P **P 08 43 26.5 -0.2**
BRZS Berezniki 61.24 324 *e*P **P 08 43 26.4 -0.2**
AMKA Amchitka 62.92 35 P **P 08 43 38.1 +0.4**
HRA Herat 63.82 305 **P 08 43 43.8 -0.5**
HRA IAmb IAmb 08 43 51.9
comp=Z,17nm,0.8s
BVA0 Borovoye Array 63.86 327 P **P 08 43 42.8 -1.2**
BVAR Borovoye Array 63.86 327 P **P 08 43 43.0 -1.0**
comp=Z,12nm,0.8s,baz=123,slow=5.3,SNR=18
comp=Z,12nm,0.8s
BORK Borovoye 63.91 327 *ce*P **P 08 43 44.0 -0.3**
BORK pmax pmax
comp=Z,47nm,1.0s
JCZ Jackson Bay 64.16 146 P **P 08 43 47.8 +1.6**
TIXI Tiksi 64.83 1 **P 08 43 50.3 +0.3**
TIXI IAmb IAmb 08 43 58.0
comp=Z,31nm,1.0s
TIXI Tiksi 64.83 1 P **P 08 43 49.2 -0.7**
comp=Z,6.1nm,0.3s,baz=222,slow=1.4,SNR=12
comp=Z,6.1nm,0.3s
TIXI Tiksi 64.83 1 P **P 08 43 50.3 +0.3**
TIXI pmax pmax
comp=Z,31nm,1.0s
THZ Tophouse 65.12 142 P **P 08 43 52.8 +0.3**
LBZ Lake Benmore 65.14 146 P **P 08 43 53.3 +0.8**
RPZ Rata Peaks 65.21 145 P **P 08 43 54.3 +1.3**
BKZ Black Stump Fm 65.96 138 P **P 08 43 59.0 +1.1**
BILL Bilibino 67.05 16 P **P 08 44 05.1 +0.7**
BILL IAmb IAmb 08 44 11.0
comp=Z,18nm,0.9s
BILL Bilibino 67.05 16⇑ *e*P **P 08 44 05.5 +1.1**
BILL pmax pmax
comp=Z,26nm,1.0s
AB31 Akbulak array 68.74 320 P **P 08 44 14.6 -0.7**
AB31 IAmb IAmb 08 44 22.7
comp=Z,18nm,0.8s
AB31 Akbulak array 68.74 320 P **P 08 44 14.3 -1.0**
ABKAR Akbulak array 68.74 320 P **P 08 44 14.3 -1.0**
AKTO Aktyubinsk 70.24 321 P **P 08 44 23.3 -1.3**
comp=Z,12nm,1.1s,baz=99,slow=7.3,SNR=20
comp=Z,12nm,1.1s
NIKH Nikolski High 70.30 36 P **P 08 44 24.4 -0.5**
baz=255
SVE Sverdlovsk 70.50 328 *e*P **P 08 44 25.7 -0.3**
SVE pmax pmax
comp=Z,24nm,0.7s
SPIA Saint Paul Isl 70.75 31 P **P 08 44 27.5 0.0**
baz=252
P08K Saint George I 70.94 32 P **P 08 44 28.4 -0.2**
baz=253
ARTI Arti 71.56 327 **P 08 44 30.9 -1.6**
ARTI Arti 71.56 327 P **P 08 44 30.6 -1.9**
comp=Z,5.7nm,0.6s,baz=104,slow=4.0,SNR=6.4
comp=Z,5.7nm,0.6s
ARTI Arti 71.56 327 *d i*P **P 08 44 31.1 -1.4**
ARTI 08 44 49.3
ARTI S **S 08 53 51.6 +0.8**
ARTI SS **SS 08 58 25.0 -0.9**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
ARTI MLR MLR
comp=Z,588nm,23.0s
GAMB Gambell 72.31 25 P **P 08 44 37.0 +0.2**
baz=249
CASY Casey 73.65 186 P **P 08 44 44.0 -0.6**
M11K Mekoryuk 73.69 29 P **P 08 44 45.5 +0.5**
baz=255
FALS False Pass 73.87 35 P **P 08 44 48.1 +1.9**
FALS False Pass 73.87 35 P **P 08 44 47.2 +1.0**
FALS False Pass 73.87 35 P **P 08 44 46.3 +0.1**
baz=259
TNA Tin City 74.44 23 P **P 08 44 49.5 +0.2**
baz=252
S12K Black Hills 74.79 34 P **P 08 44 52.0 +0.4**
baz=260
K13K Kusilvak Mount 74.81 27 P **P 08 44 52.2 +0.7**
baz=256
F14K Arctic Creek 75.05 24 P **P 08 44 53.5 +0.6**
baz=253
M13K Dall Lake 75.07 29 P **P 08 44 54.1 +1.0**
baz=257
ANM Nome 75.19 25 P **P 08 44 54.5 +0.8**
baz=254
L14K Kuka Creek 75.59 28 P **P 08 44 56.5 +0.4**
baz=258,SNR=7.3
SDPT Sand Point 75.62 35 P **P 08 44 56.3 0.0**
baz=261
N14K Kuskokwak Cree 75.78 30 P **P 08 44 57.9 +0.8**
baz=259
F15K North Star Dit 75.79 24 P **P 08 44 57.8 +0.7**
baz=255
M14K Bethel 75.81 29 P **P 08 44 57.9 +0.5**
baz=258,SNR=6.0
G15K Niukluk 75.85 24 P **P 08 44 58.3 +0.8**
baz=256
O14K Tigyukauivet M 75.86 31 P **P 08 44 57.9 +0.3**
baz=259
AKT Akhty 76.04 311 *e*P **P 08 44 58.3 -0.9**
AKT *e* 08 45 09.2
AKT *e* 08 47 46.6
AKT pmax pmax
comp=Z,32nm,0.8s
CHNA Chernabura Isl 76.05 35 P **P 08 44 59.2 +0.4**
baz=262
L15K Ungalak Mounta 76.22 28 P **P 08 45 00.1 +0.4**
baz=259
C16K Lisburne Hills 76.23 21 P **P 08 45 00.1 +0.5**
baz=253
S14K Fog Glacier 76.28 34 P **P 08 45 00.7 +0.5**
baz=262
MAK Makhachkala 76.30 312 *d i*P P 08 44 54.1 -6.4
MAK *e* 08 47 46.1
MAK *e*S **S 08 54 36.4 -8.2**
MAK *e*SS **SS 08 59 35.7 -3.0**
MAK *e*SSS SSS 09 02 55.9
MAK pmax pmax
comp=Z,163nm,1.3s
MAK MLR MLR
comp=Z,460nm,14.0s
K15K Wolf Creek Mou 76.33 27 IAmb IAmb 08 45 08.0
comp=Z,28nm,0.9s
K15K Wolf Creek Mou 76.33 27 P **P 08 45 00.8 +0.5**
baz=258
M15K Kasigluk River 76.41 29 P **P 08 45 01.4 +0.6**
baz=260,SNR=6.7
H16K Elim 76.51 25 P **P 08 45 01.4 +0.1**
baz=257
O15K Ungalikthiuk R 76.58 31 P **P 08 45 02.3 +0.6**
baz=261
N15K Kwethluk River 76.61 30 P **P 08 45 01.8 -0.1**
baz=260,SNR=7.2
G16K Koyuk River 76.64 24 P **P 08 45 02.8 +0.9**
baz=257
KIRV Kirov 76.76 329 P **P 08 45 01.8 -0.9**
comp=Z,17nm,0.6s,baz=87,slow=18,SNR=3.7
comp=Z,17nm,0.6s
D17K Noatak River 76.90 22 P **P 08 45 04.1 +0.7**
baz=256
J16K Anvik River 76.94 27 IAmb IAmb 08 45 11.6
comp=Z,29nm,0.9s
J16K Anvik River 76.94 27 P **P 08 45 04.7 +1.0**
baz=259

BELG	**Belogornoye**	76.98	322	P	P	08 45 02.8	-1.3
	comp=Z,28nm,0.8s,baz=104,slow=3.5,SNR=5.7						
	comp=Z,28nm,0.8s						
I17K	**Unalakleet**	77.02	26	IAmb	IAmb	08 45 12.5	
	comp=Z,34nm,0.9s						
I17K	**Unalakleet**	77.02	26	P	P	08 45 04.9	+0.8
	baz=259						
RDOG	**Red Dog Mine**	77.05	22	P	P	08 45 05.4	+1.1
	baz=256						
C17K	**DeLong Mountai**	77.06	21	P	P	08 45 05.1	+0.8
	baz=256						
L16K	**Owhat River**	77.17	28	IAmb	IAmb	08 45 12.5	
	comp=Z,48nm,1.1s						
L16K	**Owhat River**	77.17	28	P	P	08 45 05.8	+0.7
	baz=260,SNR=7.3						
E17K	**Hotham Inlet**	77.23	23	P	P	08 45 05.8	+0.6
	baz=257						
M16K	**Timber Creek**	77.30	29	P	P	08 45 06.0	+0.2
	baz=261,SNR=7.0						
F17K	**Baldwin Pennin**	77.31	23	IAmb	IAmb	08 45 40.9	
	comp=Z,57nm,1.4s						
F17K	**Baldwin Pennin**	77.31	23	P	P	08 45 06.7	+1.0
	baz=258						
N16K	**Nishlik Lake**	77.31	30	P	P	08 45 06.0	+0.1
	baz=261,SNR=5.5						
G17K	**Kiwalik Mounta**	77.35	24	P	P	08 45 05.8	-0.2
	baz=258						
P16K	**Nushagak River**	77.49	31	P	P	08 45 06.8	-0.1
	baz=262						
O16K	**Kokwok River B**	77.52	30	IAmb	IAmb	08 45 14.4	
	comp=Z,48nm,1.1s						
O16K	**Kokwok River B**	77.52	30	P	P	08 45 07.4	+0.3
	baz=262,SNR=5.0						
R16K	**Pilot Point**	77.52	33	P	P	08 45 06.9	-0.1
	baz=263						
H17K	**Granite Mounta**	77.55	25	IAmb	IAmb	08 45 15.3	
	comp=Z,34nm,0.9s						
H17K	**Granite Mounta**	77.55	25	P	P	08 45 07.5	+0.4
	baz=259						
J17K	**VABM Dome**	77.64	27	IAmb	IAmb	08 45 15.5	
	comp=Z,35nm,0.9s						
J17K	**VABM Dome**	77.64	27	P	P	08 45 08.0	+0.4
	baz=260						
B18K	**Kokolik River**	77.76	20	P	P	08 45 08.1	-0.1
	baz=257						
E18K	**Tukpahlearik C**	77.77	22	IAmb	IAmb	08 45 16.6	
	comp=Z,43nm,0.9s						
E18K	**Tukpahlearik C**	77.77	22	P	P	08 45 08.4	+0.1
	baz=258						
RAYN	**Ar Rayn**	77.77	293	P	P	08 45 08.6	-0.6
RAYN				IAmb	IAmb	08 45 17.0	
	comp=Z,27nm,0.8s						
RAYN	**Ar Rayn**	77.77	293	P	P	08 45 08.6	-0.6
RAYN				pmax	pmax		
	comp=Z,27nm,0.9s						
C18K	**Utukok River**	77.81	21	P	P	08 45 08.0	-0.6
	baz=257						
K17K	**Iditarod**	77.88	27	P	P	08 45 08.5	-0.4
	baz=261						
F18K	**Selawik**	77.97	23	P	P	08 45 09.1	-0.2
	baz=259						
O17K	**Koliganek Bris**	78.05	30	P	P	08 45 09.4	-0.6
	baz=263						
M17K	**Holitna River**	78.09	29	P	P	08 45 10.3	+0.1
	baz=262,SNR=6.8						
N17K	**Nushagak Hills**	78.09	30	P	P	08 45 10.5	+0.3
	baz=263,SNR=7.0						
Q16K	**King Salmon**	78.14	32	P	P	08 45 10.6	+0.1
	baz=264						
R17L	**Mt. Peulik Vol**	78.18	33	P	P	08 45 10.9	+0.1
	baz=264						
A19K	**Wainwright**	78.20	20	P	P	08 45 11.1	+0.5
	baz=257						
H18K	**Honhosa River**	78.23	25	P	P	08 45 10.4	-0.6
	baz=261						
G18K	**Tagagawik**	78.24	24	IAmb	IAmb	08 46 12.8	
	comp=Z,38nm,1.6s						
G18K	**Tagagawik**	78.24	24	P	P	08 45 10.8	-0.2
	baz=260						
GNI	**Garni**	78.26	309	P	P	08 45 10.3	-1.5
	comp=Z,7.9nm,0.3s,baz=130,slow=7.9,SNR=5.5						
	comp=Z,7.9nm,0.3s						
GNI	**Garni**	78.26	309⇑	*e*P	P	08 45 12.3	+0.5
GNI				pmax	pmax		
	comp=Z,68nm,1.4s						
P17K	**Kvichak River**	78.31	31	P	P	08 45 11.1	-0.3
	baz=264						
CHIR	**Chirikof Islan**	78.41	34	P	P	08 45 12.1	0.0
	baz=265						
C19K	**Lookout Ridge**	78.48	21	P	P	08 45 12.4	+0.1
	baz=259						
Q17K	**Contact Creek**	78.50	32	P	P	08 45 12.7	0.0
	baz=264						
L18K	**Granite Mounta**	78.55	28	IAmb	IAmb	08 45 22.8	
	comp=Z,52nm,1.4s						
L18K	**Granite Mounta**	78.55	28	P	P	08 45 12.5	-0.2
	baz=263						
F19K	**Shaleruckik Mo**	78.74	23	P	P	08 45 13.4	-0.3
	baz=261						
N18K	**Kilae Creek**	78.75	30	IAmb	IAmb	08 45 21.7	
	comp=Z,25nm,1.0s						
N18K	**Kilae Creek**	78.75	30	P	P	08 45 13.6	-0.3
	baz=264						
GCSA	**Galena City Sc**	78.80	25	P	P	08 45 13.8	-0.2
	baz=262						
M18K	**Stony River**	78.87	29	P	P	08 45 14.6	+0.1
	baz=264,SNR=5.8						
D19K	**Kuna River**	78.89	21	P	P	08 45 14.8	+0.2
	baz=260						
P18K	**Big Mountain,**	78.95	31	P	P	08 45 14.8	-0.2
	baz=265						
Q18K	**Katmai Hardscr**	78.99	32	P	P	08 45 15.4	0.0
	baz=265						
O18K	**Koktuh Hills**	79.00	30	P	P	08 45 15.1	-0.2
	baz=265						
E19K	**Redstone River**	79.05	23	IAmb	IAmb	08 45 23.8	
	comp=Z,53nm,0.9s						
E19K	**Redstone River**	79.05	23	P	P	08 45 15.2	-0.2
	baz=261						
H19K	**Roundabout Mou**	79.08	25	IAmb	IAmb	08 45 23.9	
	comp=Z,38nm,1.0s						
H19K	**Roundabout Mou**	79.08	25	P	P	08 45 15.8	+0.3
	baz=262						
NCK	**Nalchik**	79.17	313⇑	*e*P	P	08 45 16.9	+0.3
NCK				pmax	pmax		
	comp=Z,25nm,0.3s						
R18K	**Karluk**	79.20	33	P	P	08 45 16.4	+0.1
	baz=266						
J19K	**Poorman**	79.25	26	IAmb	IAmb	08 45 26.3	
	comp=Z,26nm,1.0s						
J19K	**Poorman**	79.25	26	P	P	08 45 16.8	+0.3
	baz=263						
SII	**Sitkinak Islan**	79.27	34	P	P	08 45 16.6	-0.3
	baz=266						
L19K	**White Mountain**	79.40	28	IAmb	IAmb	08 45 25.6	
	comp=Z,28nm,1.0s						
L19K	**White Mountain**	79.40	28	P	P	08 45 17.1	-0.3
	baz=264						
N19K	**Bonanza Creek**	79.45	29	IAmb	IAmb	08 45 25.6	
	comp=Z,50nm,1.1s						
N19K	**Bonanza Creek**	79.45	29	P	P	08 45 18.1	+0.3
	baz=265						
D20K	**Etivluk River**	79.47	21	IAmb	IAmb	08 45 27.3	
	comp=Z,59nm,1.0s						
D20K	**Etivluk River**	79.47	21	P	P	08 45 18.1	+0.5
	baz=262						
O19K	**Port Alsworth**	79.48	30	IAmb	IAmb	08 45 25.1	
	comp=Z,36nm,0.9s						
O19K	**Port Alsworth**	79.48	30	P	P	08 45 18.7	+0.9
	baz=265						
B20K	**Meade River**	79.48	20	P	P	08 45 18.1	+0.4
	baz=261						
E20K	**Nigu River**	79.56	22	P	P	08 45 18.7	+0.5
	baz=262						
F20K	**Avaraart Lake**	79.57	23	P	P	08 45 18.9	+0.7
	baz=263						
M19K	**Big River Lodg**	79.59	28	P	P	08 45 18.8	+0.4
	baz=265						
KBZ	**Khabaz**	79.68	313	P	P	08 45 18.4	-0.9
	comp=Z,8.5nm,0.9s,baz=90,slow=10,SNR=12						
	comp=Z,8.5nm,0.9s						
KBZ	**Khabaz**	79.68	313*c*	*i*P	P	08 45 18.7	-0.6
KBZ				pmax	pmax		
	comp=Z,26nm,1.1s						
Q19K	**Cape Douglas,**	79.72	31	P	P	08 45 19.7	+0.4
	baz=266						
H20K	**Anotleneega Mo**	79.73	25	P	P	08 45 19.6	+0.4
	baz=264						
OHAK	**Old Harbor**	79.80	33	P	P	08 45 20.2	+0.6
	baz=267						
I20K	**Naaghedeneel**	79.83	25	IAmb	IAmb	08 45 23.8	
	comp=Z,32nm,0.7s						
I20K	**Naaghedeneel**	79.83	25	P	P	08 45 20.3	+0.7
	baz=264						
KVAR	**Kislovodsk Arr**	79.83	313	P	P	08 45 19.2	-1.0
	comp=Z,3.6nm,0.4s,baz=90,slow=19,SNR=1.4						
	comp=Z,3.6nm,0.4s						
KIV	**Kislovodsk**	79.84	313	*e*P	P	08 45 21.0	+0.7
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
SHA1	**Shidzhatmaz**	79.86	313⇓	*e*P	P	08 45 20.5	-0.1
K20K	**Telida**	79.87	27	P	P	08 45 20.5	+0.6
	baz=265						
L20K	**Farewell, AK**	79.88	28	P	P	08 45 21.1	+1.0
	baz=265,SNR=5.8						
J20K	**Nowinta River**	79.91	26	IAmb	IAmb	08 45 28.7	
	comp=Z,74nm,1.7s						
J20K	**Nowinta River**	79.91	26	P	P	08 45 21.1	+1.0
	baz=265						
P19K	**Oil Pt**	79.98	31	P	P	08 45 21.3	+0.7
	baz=266						
M20K	**Styx River**	80.18	28	IAmb	IAmb	08 45 32.3	
	comp=Z,44nm,1.0s						
M20K	**Styx River**	80.18	28	P	P	08 45 22.2	+0.5
	baz=266						
C21K	**Knifeblade Rid**	80.18	21	P	P	08 45 22.3	+0.8
	baz=263						
KDAK	**Kodiak Island**	80.21	33	P	P	08 45 22.6	+0.7
KDAK				IAmb	IAmb	08 45 29.1	
	comp=Z,55nm,1.0s						
KDAK	**Kodiak Island**	80.21	33	P	P	08 45 21.3	-0.5
	comp=Z,17nm,0.7s,baz=242,slow=1.9,SNR=10						
	comp=Z,17nm,0.7s						
KDAK	**Kodiak Island**	80.21	33	P	P	08 45 22.6	+0.7
KDAK				pmax	pmax		
	comp=Z,55nm,1.0s						
KDAK	**Kodiak Island**	80.21	33	P	P	08 45 22.3	+0.5
	baz=267						
IMAR	**Indian Mountai**	80.24	24	P	P	08 45 22.5	+0.6
B21K	**Ikpikpuk River**	80.30	21	IAmb	IAmb	08 45 32.5	
	comp=Z,56nm,0.9s						
B21K	**Ikpikpuk River**	80.30	21	P	P	08 45 23.2	+1.1
	baz=263						
O20K	**Slope Mountain**	80.31	30	P	P	08 45 22.9	+0.4
	baz=267						
A22K	**Sinclair Lake**	80.35	19	P	P	08 45 22.5	+0.2
	baz=263						
Q20K	**Shuyak Island**	80.35	32	P	P	08 45 23.3	+0.7
	baz=267						
GURO	**Guroymak-BITLI**	80.36	308	IAmb	IAmb	08 45 31.4	
	comp=Z,40nm,1.0s						
G21K	**Allakaket**	80.39	24	IAmb	IAmb	08 45 34.2	
	comp=Z,25nm,0.8s						
G21K	**Allakaket**	80.39	24	P	P	08 45 23.5	+0.8
	baz=265						
E21K	**Killik River**	80.40	22	IAmb	IAmb	08 45 26.7	
	comp=Z,38nm,1.0s						
E21K	**Killik River**	80.40	22	P	P	08 45 23.1	+0.4
	baz=264						
F21K	**Alatna River**	80.46	23	P	P	08 45 23.7	+0.6
	baz=265						
VRH	**Novokhopyorsk**	80.57	321	*e*P	P	08 45 24.4	+0.5
VRH				pmax	pmax		
	comp=Z,32nm,0.9s						
N20K	**Mount Spurr**	80.58	29	P	P	08 45 24.0	+0.1
	baz=267						
H21K	**Melozitna Rive**	80.60	25	P	P	08 45 24.7	+0.9
	baz=266						
PPLA	**Purkeypile**	80.69	27	P	P	08 45 24.8	+0.3
	baz=267						
CHUM	**Lake Minchumin**	80.69	26	P	P	08 45 24.7	+0.4
	baz=266,SNR=11						
B22K	**Teshekpuk Lake**	80.78	20	P	P	08 45 25.4	+0.7
	baz=264						
HOM	**Homer**	80.79	31	P	P	08 45 24.9	0.0
	baz=268						
ABPO	**Ambohimpanom**	80.80	250	P	P	08 45 25.6	-0.4
ABPO	**Ambohimpanom**	80.80	250	P	P	08 45 25.6	-0.4
ABPO				pmax	pmax		
	comp=Z,14nm,1.1s						
D22K	**Ayikyak River**	80.91	21	P	P	08 45 25.9	+0.4
	baz=265						
I21K	**Tanana**	80.91	25	IAmb	IAmb	08 45 30.0	
	comp=Z,26nm,0.9s						
I21K	**Tanana**	80.91	25	P	P	08 45 25.7	+0.2
	baz=266,SNR=16						
SKT	**Skwentna**	80.94	28	P	P	08 45 24.9	-0.8
	baz=268						
F22K	**John River**	80.99	23	P	P	08 45 25.6	-0.3
	baz=266						
CAPN	**Captain Cook N**	81.08	30	P	P	08 45 26.7	+0.3
	baz=268						
E22K	**Anaktuvuk Pass**	81.17	22	IAmb	IAmb	08 45 41.4	
	comp=Z,33nm,0.9s						
E22K	**Anaktuvuk Pass**	81.17	22	P	P	08 45 26.9	0.0
	baz=266						
H22K	**Ishtalitna Cre**	81.21	24	P	P	08 45 27.0	-0.1
	baz=267						
G22K	**Bettles**	81.21	23	P	P	08 45 26.9	-0.1
	baz=267						
BRSE	**Bradley Lake S**	81.25	31	P	P	08 45 27.0	-0.4
	baz=268						
BPAW	**Bear Paw Mtn.**	81.28	26		P	08 45 27.9	+0.4
BPAW	**Bear Paw Mtn.**	81.28	26	P	P	08 45 27.0	-0.6
	baz=268,SNR=22						
SUA	**Susitna One**	81.30	29	P	P	08 45 27.4	-0.4
	baz=268						
MLY	**Manley**	81.43	25	IAmb	IAmb	08 45 41.7	
	comp=Z,59nm,1.4s						
MLY	**Manley**	81.43	25	P	P	08 45 28.3	0.0
	baz=268,SNR=6.2						
KOPT	**Kop Dagi**	81.52	309	P	P	08 45 30.6	+1.0
KOPT				IAmb	IAmb	08 45 39.7	
	comp=Z,52nm,1.2s						
SLKM	**Skilak Lake**	81.53	30	IAmb	IAmb	08 45 35.6	
	comp=Z,40nm,0.8s						
CUT	**Chulitna**	81.55	28	P	P	08 45 28.7	-0.2
	baz=268						
TRF	**Thorofare Moun**	81.57	27	IAmb	IAmb	08 45 41.3	
	comp=Z,34nm,0.9s						
TRF	**Thorofare Moun**	81.57	27	P	P	08 45 29.2	-0.1
	baz=268						
M22K	**Willow**	81.60	29	P	P	08 45 28.8	-0.4
	baz=269						
D23K	**Nanushuk River**	81.64	21	IAmb	IAmb	08 45 39.5	
	comp=Z,64nm,1.3s						
D23K	**Nanushuk River**	81.64	21	P	P	08 45 29.2	0.0
	baz=267						
C23K	**Itkillik River**	81.71	20	P	P	08 45 29.5	-0.1
	baz=267						
VOI	**Vohitsoka**	81.72	247	P	P	08 45 29.5	-1.3
COLD	**Coldfoot**	81.74	23	IAmb	IAmb	08 45 40.2	
	comp=Z,34nm,1.0s						
COLD	**Coldfoot**	81.74	23	P	P	08 45 29.7	-0.2
	baz=268						
VSLR	**Vesyoloye**	81.77	313*ce*	P	P	08 45 29.4	-1.1
VSLR				pmax	pmax		
	comp=Z,42nm,1.0s						
O22K	**Cooper Landing**	81.77	30	P	P	08 45 29.9	-0.2
	baz=269						
RC01	**Rabbit Creek A**	81.78	29	IAmb	IAmb	08 45 36.6	
	comp=Z,38nm,1.0s						
RC01	**Rabbit Creek A**	81.78	29	P	P	08 45 30.4	+0.2
	baz=269						
G23K	**Bananza Creek**	81.79	24	IAmb	IAmb	08 45 45.9	
	comp=Z,55nm,1.4s						
G23K	**Bananza Creek**	81.79	24	P	P	08 45 29.8	-0.3
	baz=268						
SEW	**Seward**	81.90	30	P	P	08 45 30.8	0.0
	baz=270						
KLMR	**Klimovskoe**	81.94	330	*e*P	P	08 45 28.5	-2.5
KLMR				*e*		08 45 33.8	
KLMR				pmax	pmax		
	comp=Z,20nm,0.9s						
KLMR				MLR	MLR		
	comp=Z,731nm,19.0s						
E23K	**Chandalar**	81.99	22	IAmb	IAmb	08 45 38.9	
	comp=Z,43nm,0.9s						
E23K	**Chandalar**	81.99	22	P	P	08 45 31.0	-0.3
	baz=268						
SOC	**Sochi**	81.99	313	*e*P	P	08 45 29.3	-2.4
SOC				*e*		08 48 39.0	
SOC				*e*S	S	08 55 44.4	-0.9
SOC				*e*SS	SS	09 01 05.6	+1.5
SOC				*e*SSS	SSS	09 04 29.3	
SOC				pmax	pmax		
	comp=Z,15nm,0.8s						
I23K	**Minto, Yukon-K**	82.02	25	IAmb	IAmb	08 45 44.8	
	comp=Z,35nm,0.9s						
I23K	**Minto, Yukon-K**	82.02	25	P	P	08 45 31.6	+0.3
	baz=269,SNR=13						
TOLK	**Toolik Lake Re**	82.03	22	IAmb	IAmb	08 45 43.3	
	comp=Z,28nm,0.9s						
TOLK	**Toolik Lake Re**	82.03	22	P	P	08 45 32.0	+0.6
	baz=268						
PMR	**Palmer**	82.07	29	IAmb	IAmb	08 45 38.7	
	comp=Z,32nm,0.8s						
PMR	**Palmer**	82.07	29	P	P	08 45 32.6	+0.9
PMR	**Palmer**	82.07	29	P	P	08 45 31.7	0.0
	baz=270						
VORD	**Divnogorie**	82.10	320	*e*P	P	08 45 29.6	-2.5
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
NEA2	**Nenana**	82.13	26	IAmb	IAmb	08 45 35.9	
	comp=Z,25nm,0.8s						
NEA2	**Nenana**	82.13	26	P	P	08 45 32.1	+0.1
	baz=269,SNR=18						
GHO	**Glory Hole Cre**	82.17	29	IAmb	IAmb	08 45 42.6	
	comp=Z,34nm,0.8s						
VSR	**Storozhevoye**	82.18	321	*e*P	P	08 45 29.2	-3.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MCK	**McKinley**	82.18	27	P	P	08 45 32.2	0.0
	baz=270,SNR=14						
RND	**Reindeer**	82.22	27	IAmb	IAmb	08 45 39.7	
	comp=Z,41nm,1.0s						
LPSR	**Galich'ya Gora**	82.30	322	*e*P	P	08 45 36.5	+3.4
LPSR				pmax	pmax		
	comp=Z,32nm,0.6s						
D24K	**Happy Valley**	82.31	21	P	P	08 45 32.9	+0.1
	baz=269						
WAT1	**Susitna Watana**	82.35	28	P	P	08 45 33.5	+0.3
	baz=270						
C24K	**Franklin Bluff**	82.37	21	P	P	08 45 33.6	+0.6
	baz=269						
KNK	**Knik Glacier**	82.39	29	P	P	08 45 33.6	+0.2
	baz=270						
E24K	**Your Creek**	82.42	22	IAmb	IAmb	08 45 44.2	
	comp=Z,22nm,0.8s						
E24K	**Your Creek**	82.42	22	P	P	08 45 33.7	+0.2
	baz=269						
SML	**Sawmill**	82.45	29	P	P	08 45 33.8	0.0
	baz=270						
PWL	**Port Wells**	82.46	30	P	P	08 45 33.9	+0.2
	baz=270,SNR=6.2						
WRH	**Wood River Hil**	82.56	26	IAmb	IAmb	08 45 41.6	
	comp=Z,31nm,0.9s						
F24K	**Squaw Lake**	82.64	23	IAmb	IAmb	08 45 49.5	
	comp=Z,19nm,0.8s						
F24K	**Squaw Lake**	82.64	23	P	P	08 45 35.1	+0.4
	baz=270,SNR=7.1						
H24K	**Noodor Dome**	82.64	24	IAmb	IAmb	08 45 45.2	
	comp=Z,40nm,1.0s						
H24K	**Noodor Dome**	82.64	24	P	P	08 45 35.4	+0.7
	baz=270						
COLA	**College**	82.66	25	P	P	08 45 34.1	-0.5
COLA	**College**	82.66	25	P	P	08 45 35.5	+0.8
COLA	**College**	82.66	25	*de*P	P	08 45 35.1	+0.4
COLA				pmax	pmax		
	comp=Z,25nm,0.9s						
COLA	**College**	82.66	25	P	P	08 45 34.9	+0.3
	baz=270						
CCB	**Clear Creek Bu**	82.68	26	IAmb	IAmb	08 45 41.9	
	comp=Z,25nm,1.1s						
WAT6	**Susitna Watana**	82.73	28	P	P	08 45 35.4	+0.1
	baz=271						
M23K	**Glacier View**	82.74	29	P	P	08 45 35.1	-0.2
	baz=271						
G24K	**Hadweenzic Riv**	82.80	24	IAmb	IAmb	08 45 45.4	
	comp=Z,21nm,0.8s						
G24K	**Hadweenzic Riv**	82.80	24	P	P	08 45 35.6	+0.1
	baz=270						
POKR	**Poker Plat Res**	82.83	25	P	P	08 45 34.4	-1.3
	baz=271						
DHY	**Denali Highway**	82.89	27	IAmb	IAmb	08 45 43.8	
	comp=Z,17nm,0.8s						
DHY	**Denali Highway**	82.89	27	P	P	08 45 34.6	-1.5
	baz=271						
SCM	**Sheep Creek Mo**	82.93	29	P	P	08 45 36.7	+0.4
	baz=271						
P23K	**Montague Islan**	82.93	30	P	P	08 45 37.0	+0.7
	baz=271						
MOS	**Moscow**	82.99	325	*e*P	P	08 45 39.5	+2.9
MOS				*e*		08 48 53.5	
MOS				pmax	pmax		
	comp=Z,34nm,0.6s						
MOS				MLR	MLR		
	comp=Z,500nm,19.0s						
HDA	**Harding Lake**	83.05	26	IAmb	IAmb	08 45 43.3	
	comp=Z,30nm,0.8s						
HDA	**Harding Lake**	83.05	26	P	P	08 45 36.5	-0.2
	baz=271						
GLI	**Glacier Island**	83.06	29	P	P	08 45 36.9	0.0
	baz=272						
IL31		83.07	26	IAmb	IAmb	08 45 45.7	
	comp=Z,19nm,0.9s						
ILAR	**Eielson Array**	83.07	26	P	P	08 45 35.8	-1.0
	comp=Z,7.0nm,0.8s,baz=259,slow=5.3,SNR=27						
	comp=Z,7.0nm,0.8s						
D25K	**Kavik River**	83.18	21	IAmb	IAmb	08 45 43.8	
	comp=Z,43nm,1.2s						
D25K	**Kavik River**	83.18	21	P	P	08 45 37.4	0.0
	baz=271						
G25K	**Bearman Lake**	83.35	24	P	P	08 45 38.4	+0.2
	baz=272						
M24K	**Tolsona, Glenn**	83.47	28	P	P	08 45 39.2	+0.2
	baz=272						
H25L	**Birch Creek**	83.48	24	P	P	08 45 39.2	+0.4
	baz=272,SNR=6.0						
Q23K	**Middleton Isla**	83.48	31	P	P	08 45 38.9	-0.1
	baz=272						
F25K	**Christian Rive**	83.50	23	IAmb	IAmb	08 45 54.3	
	comp=Z,18nm,1.0s						
F25K	**Christian Rive**	83.50	23	P	P	08 45 39.5	+0.4
	baz=272						
E25K	**Arctic Village**	83.51	22	IAmb	IAmb	08 46 04.8	
	comp=Z,31nm,1.3s						
E25K	**Arctic Village**	83.51	22	P	P	08 45 39.3	+0.2
	baz=272						
ANN	**Anapa**	83.58	314	*e*P	P	08 45 37.7	-2.2
ANN				*e**PP	PcP	08 45 40.8	-3.3
ANN				*e*S	S	08 55 59.2	-2.2
ANN				pmax	pmax		
	comp=Z,39nm,1.2s						
K24K	**Donnelly Dome**	83.58	27	P	P	08 45 39.8	+0.2
	baz=272						
KLU	**Klutina**	83.61	29	P	P	08 45 40.1	+0.3
	baz=272						
OBN	**Obninsk**	83.61	325	P	P	08 45 38.8	-1.0
	comp=Z,22nm,0.3s,baz=108,slow=4.4,SNR=3.6						
	comp=Z,22nm,0.3s						
OBN	**Obninsk**	83.61	325	*e*P	P	08 45 39.5	-0.3
OBN				*e**PP	pP	08 45 44.8	-0.8
OBN				*e*		08 48 52.1	
OBN				*e*PPP	PPP	08 50 41.6	
OBN				pmax	pmax		
	comp=Z,13nm,0.5s						
OBN				MLR	MLR		
	comp=Z,452nm,20.0s						
C26K	**Camden Bay**	83.68	20	P	P	08 45 40.5	+0.6
	baz=272						
J25K	**Salcha River,**	83.73	26	IAmb	IAmb	08 45 53.0	
	comp=Z,14nm,0.8s						
J25K	**Salcha River,**	83.73	26	P	P	08 45 41.0	+0.7
	baz=273						
EYAK	**Cordova Ski Ar**	83.74	30	P	P	08 45 40.4	+0.1
	baz=273						
PAX	**Paxson**	83.76	27	P	P	08 45 40.6	0.0
	baz=273						
BMAR	**Burnt Mountain**	83.92	23		P	08 45 42.3	+1.1
RIDG	**Independent Ri**	84.00	27	P	P	08 45 41.6	-0.1
	baz=273,SNR=13						
F26K	**Sheenjek River**	84.07

comp=Z,33nm,1.0s
G26K Porcupine Rive 84.25 23 P **P 08 45 43.3 +0.5**
baz=274
BMRM Bremner River 84.28 29 P **P 08 45 42.9 -0.3**
baz=274
DOT Dot Lake 84.36 27 IAmb IAmb 08 45 55.4
comp=Z,25nm,0.9s
SCRK Sand Creek 84.37 26 IAmb IAmb 08 45 57.6
comp=Z,30nm,1.1s
SCRK Sand Creek 84.37 26 P **P 08 45 43.4 -0.2**
baz=274
APA Apatity 84.40 337 ‖ *i P* **P 08 45 42.6 -1.0**
APA *e* 08 48 53.2
APA *i* S **SKSac 08 56 08.5 +2.1**
KAIM Kayak Island 84.44 30 P **P 08 45 43.5 -0.4**
baz=274
J26L Joseph Creek 84.51 26 IAmb IAmb 08 45 51.8
comp=Z,24nm,0.8s
J26L Joseph Creek 84.51 26 P **P 08 45 44.0 -0.4**
baz=274
I26K Coal Creek Min 84.63 25 P **P 08 45 44.9 +0.1**
baz=274
L26K Log Cabin Wild 84.72 27 IAmb IAmb 08 45 52.5
comp=Z,24nm,1.0s
L26K Log Cabin Wild 84.72 27 P **P 08 45 45.2 -0.1**
baz=275,SNR=5.2
ASF Jabal al Asfar 84.88 302 P **P 08 45 46.7 -0.2**
comp=Z,11nm,0.9s,baz=54,slow=4.0,SNR=9.7
comp=Z,11nm,0.9s
M26K Nabesna, AK 84.93 28 P **P 08 45 46.3 -0.2**
baz=275
E27K Coleen River 84.99 22 P **P 08 45 46.5 -0.1**
baz=276,SNR=6.1
MCARA McCarthy VSAT 85.01 29 P **P 08 45 46.3 -0.5**
baz=275
CRQE Cirque 85.03 30 P **P 08 45 46.7 -0.4**
baz=275
G27K Doyon Strip 85.10 23 IAmb IAmb 08 45 54.9
comp=Z,29nm,1.1s
G27K Doyon Strip 85.10 23 P **P 08 45 47.6 +0.4**
baz=276,SNR=19
D27M Malcolm River 85.11 21 P **P 08 45 47.2 0.0**
baz=276,SNR=31
BNN Bunyan 85.18 308 IAmb IAmb 08 45 55.4
comp=Z,28nm,1.2s
K27K Chicken 85.20 26 P **P 08 45 48.1 +0.4**
baz=276
H27K Steamboat Moun 85.21 24 IAmb IAmb 08 45 55.6
comp=Z,36nm,0.9s
H27K Steamboat Moun 85.21 24 P **P 08 45 48.3 +0.6**
baz=276,SNR=25
I27K Kandik River 85.24 25 P **P 08 45 48.1 +0.2**
baz=276
L27K Beaver Creek, 85.41 27 IAmb IAmb 08 45 57.3
comp=Z,27nm,0.9s
L27K Beaver Creek, 85.41 27 P **P 08 45 48.4 -0.4**
baz=276,SNR=7.3
BCAR Beaver Creek A 85.43 27 P **P 08 45 47.5 -1.4**
M27K Edge Creek, AK 85.46 28 P **P 08 45 48.7 -0.5**
baz=276
MESA MESA 85.65 30 P **P 08 45 50.1 -0.2**
baz=276
E28M Babbage River 85.70 21 IAmb IAmb 08 46 02.6
comp=Z,38nm,0.9s
E28M Babbage River 85.70 21 P **P 08 45 50.2 0.0**
baz=278
F28M Old Crow 85.70 22 P **P 08 45 50.4 +0.2**
baz=277,SNR=16
CTG Chitna Glacier 85.86 29 P **P 08 45 51.6 +0.4**
baz=276
SIM Simferopol' 85.92 315 *e P* **P 08 45 50.6 -1.1**
SIM pmax pmax
comp=Z,36nm,0.9s
I28M Miner Creek 85.95 25 P **P 08 45 51.7 +0.1**
baz=277,SNR=31
MAW Mawson 86.04 200 P **P 08 45 51.0 -0.7**
comp=Z,2.5nm,0.6s,baz=94,slow=6.8,SNR=8.9
comp=Z,2.5nm,0.6s
MAW Mawson 86.04 200 P **P 08 45 51.0 -0.7**
MMAI Mount Meron Ar 86.06 303 P **P 08 45 52.4 -0.4**
comp=Z,3.7nm,0.6s,baz=81,slow=9.1,SNR=4.6
comp=Z,3.7nm,0.6s
E29M Blow River 86.33 22 P **P 08 45 54.2 +1.0**
baz=279
DAWY Dawson 86.37 26 IAmb IAmb 08 46 02.3
comp=Z,29nm,1.0s
DAWY Dawson 86.37 26 P **P 08 45 54.2 +0.6**
baz=278,SNR=7.6
O28M Mount Upton 86.44 29 P **P 08 45 54.2 -0.1**
baz=278
H29M Whitestone 86.48 24 IAmb IAmb 08 46 04.8
comp=Z,31nm,0.9s
H29M Whitestone 86.48 24 P **P 08 45 54.6 +0.6**
baz=279,SNR=5.4
PINM Pinnacle 86.50 30 P **P 08 45 54.7 +0.4**
baz=278
G29M Pine Creek 86.51 23 P **P 08 45 54.3 +0.1**
baz=279,SNR=17
YUK8 Steele Glacier 86.58 29 P **P 08 45 54.7 -0.3**
baz=278
VNDA Vanda 86.66 173 **P 08 45 54.6 0.0**
VNDA Vanda 86.66 173 P **P 08 45 53.9 -0.7**
comp=Z,3.1nm,0.8s,baz=326,slow=5.6,SNR=24
VNDA PP **PP 08 49 15.6 -1.2**
comp=Z,1.8nm,0.9s,baz=305,slow=6.1,SNR=3.5
comp=Z,3.1nm,0.8s
VNDA Vanda 86.66 173 P **P 08 45 54.6 0.0**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
EIL Elat 86.78 299 P **P 08 45 55.6 -0.6**
comp=Z,14nm,0.9s,baz=121,slow=5.9,SNR=6.2
comp=Z,14nm,0.9s
BR104 Keskin Array S 86.80 309 P **P 08 45 53.8 -2.5**
comp=Z,44nmcomp=Z,5.8nm,0.9s
BR131 Keskin Array S 86.80 309 ‖ *e P* **P 08 45 55.6 -0.7**
BRTR Keskin Array B 86.80 309 **P 08 45 54.5 -1.9**
BRTR Keskin Array B 86.80 309 P **P 08 45 54.3 -2.1**
comp=Z,4.3nm,0.8s,baz=112,slow=5.4,SNR=16
BRTR PP **PP 08 49 18.7 -0.1**
comp=Z,1.0nm,0.9s,baz=101,slow=7.5,SNR=2.5
comp=Z,4.3nm,0.8s
BRTR Keskin Array B 86.80 309 *c e P* **P 08 45 55.0 -1.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR106 Keskin Array S 86.82 309 P **P 08 45 53.9 -2.5**
comp=Z,40nmcomp=Z,5.4nm,0.9s
BR105 Keskin Array S 86.82 309 P **P 08 45 53.9 -2.5**
comp=Z,46nmcomp=Z,6.9nm,0.9s
ARCES ARCESS Array B 87.02 340 P **P 08 45 54.7 -1.9**
comp=Z,8.6nm,1.0s,baz=57,slow=5.5,SNR=8.5
comp=Z,8.6nm,1.0s
M29M Somme Creek 87.02 28 IAmb IAmb 08 46 06.1
comp=Z,17nm,0.9s
M29M Somme Creek 87.02 28 P **P 08 45 57.0 +0.1**
baz=279
L29M L29M 87.07 27 P **P 08 45 57.6 +0.6**
baz=279
YUK4 Talbot Arm 87.11 29 P **P 08 45 57.3 -0.2**
baz=279
EPYK Eagle Plains 87.12 24 IAmb IAmb 08 46 12.1
comp=Z,47nm,1.3s
EPYK Eagle Plains 87.12 24 P **P 08 45 57.3 +0.2**
baz=280
SPITS Spitsbergen Ar 87.17 349 P **P 08 45 55.9 -1.3**
comp=Z,13nm,0.9s,baz=74,slow=12,SNR=4.8
comp=Z,13nm,0.9s
G30M tAoh Zrail Nji 87.20 23 P **P 08 45 57.7 +0.2**
baz=281
K29M Barlow Dome 87.22 26 P **P 08 45 57.9 0.0**
baz=280
F30M Barrier River 87.25 22 IAmb IAmb 08 46 09.4
comp=Z,19nm,0.9s
F30M Barrier River 87.25 22 P **P 08 45 57.8 +0.1**
baz=281
O29M Mount Kennedy 87.30 30 P **P 08 45 58.3 0.0**
baz=279
YUK6 Outpost Mounta 87.31 29 P **P 08 45 58.7 +0.3**
baz=279
KIBK Kibwezi 87.31 267 **P 08 45 58.0 -1.2**
I30M Mount Dempster 87.46 25 P **P 08 45 58.9 -0.1**
baz=281
CSS Mathiatis 87.57 305 P **P 08 45 56.0 -4.0**
comp=Z,15nm,1.0s
SBA Scott Base 87.58 172 **P 08 46 01.3 +2.3**
SBA IAmb IAmb 08 46 26.6
comp=Z,23nm,1.4s
SBA Scott Base 87.58 172 P **P 08 46 01.3 +2.3**
SBA pmax pmax
comp=Z,23nm,1.4s
J30M Hart River 87.60 25 P **P 08 45 59.6 -0.1**
baz=281
HYT Haines Junctio 87.74 29 P **P 08 46 00.6 +0.2**
baz=280
M30M Minto, Yukon 87.77 27 IAmb IAmb 08 46 10.1
comp=Z,18nm,1.0s
M30M Minto, Yukon 87.77 27 P **P 08 46 00.5 +0.1**
baz=280
P29M Windy Craggy 87.83 30 P **P 08 46 00.9 +0.2**
baz=280
N30M Aishikik Lake 87.83 28 P **P 08 46 00.5 -0.2**
baz=280
INK Inuvik 87.94 21 IAmb IAmb 08 46 21.6
comp=Z,12nm,0.9s
INK Inuvik 87.94 21 P **P 08 46 01.0 0.0**
baz=283
KMBO Kilima Mbogo 87.95 269 *c i P* **P 08 46 02.6 +0.1**
G31M Satah River 87.97 23 P **P 08 46 00.7 -0.4**
baz=282
MAYO Mayo, Yukon 87.98 26 P **P 08 46 01.4 0.0**
baz=281
F31M Tsiigehtchic 88.05 22 IAmb IAmb 08 46 13.6
comp=Z,15nm,0.8s
F31M Tsiigehtchic 88.05 22 P **P 08 46 01.0 -0.5**
baz=283
P30M Million Dollar 88.13 30 P **P 08 46 00.6 -1.6**
baz=280
H31M Peel River 88.18 24 P **P 08 46 01.6 -0.7**
baz=282
FINES FINESS Array B 88.36 332 P **P 08 46 00.5 -2.7**
comp=Z,2.9nm,0.6s,baz=60,slow=5.6,SNR=16
comp=Z,2.9nm,0.6s
FINES FINESS Array B 88.36 332 *i P* **P 08 46 01.0 -2.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
O30N Mendenhall 88.43 29 P **P 08 46 01.9 -1.7**
baz=281
N31M Braeburn, Yuko 88.44 28 P **P 08 46 02.4 -1.2**
baz=281
AK09 Malin Array Si 88.46 321 P **P 08 46 01.3 -2.5**
AK03 Malin Array Si 88.48 321 P **P 08 46 00.8 -3.1**
AK10 Malin Array Si 88.48 321 P **P 08 46 00.7 -3.2**
AKASG Malin Array Be 88.48 321 P **P 08 46 02.7 -1.2**
AKASG Malin Array Be 88.48 321 P **P 08 46 01.4 -2.6**
comp=Z,4.6nm,0.9s,baz=68,slow=4.9,SNR=7.2
comp=Z,4.6nm,0.9s
AKASG Malin Array Be 88.48 321 P **P 08 46 02.7 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 88.48 321 ⇑ *e P* **P 08 46 01.5 -2.5**
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 88.48 321 P **P 08 46 01.4 -2.5**
AK01 Malin Array Si 88.49 321 P **P 08 46 00.9 -3.1**
KIEV Kiev 88.49 321 **P 08 46 01.7 -2.3**
KIEV Kiev 88.49 321 P **P 08 46 01.7 -2.3**
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 88.49 321 P **P 08 46 01.4 -2.6**
comp=Z,53nm,1.8s
AK02 Malin Array Si 88.50 321 P **P 08 46 00.9 -3.1**
AK05 Malin Array Si 88.51 321 P **P 08 46 00.9 -3.2**
AK04 Malin Array Si 88.52 321 P **P 08 46 01.1 -3.0**
AK06 Malin Array Si 88.52 321 P **P 08 46 00.9 -3.2**
AK07 Malin Array Si 88.52 321 P **P 08 46 00.9 -3.2**
AK11 Malin Array Si 88.52 321 P **P 08 46 01.2 -2.9**
AK12 Malin Array Si 88.53 321 P **P 08 46 00.9 -3.3**
PLBC Pleasant Camp 88.54 30 P **P 08 46 03.3 -0.8**
baz=281
AK16 Malin Array Si 88.56 321 P **P 08 46 01.4 -2.9**
AK14 Malin Array Si 88.57 321 P **P 08 46 01.4 -2.9**
AK22 Malin Array Si 88.57 321 P **P 08 46 01.5 -2.9**
AK18 Malin Array Si 88.58 321 P **P 08 46 01.5 -2.9**
VSU Vasula 88.60 329 ‖ *e P* **P 08 46 04.6 +0.3**
VSU pmax pmax
comp=Z,32nm,1.1s
S31K Pelican 88.89 32 P **P 08 46 04.7 -1.0**
baz=281
WHY Whitehorse 89.03 29 P **P 08 46 06.1 -0.4**
baz=282
MI28 MI28,Pidlybu 89.42 321 P **P 08 46 06.0 -2.3**
LUBAR Lubar, Ukraine 89.54 320 P **P 08 46 06.1 -2.8**
R32K Eaglecrest 89.72 31 P **P 08 46 09.0 -0.6**
baz=282
N32M Quiet Lake 89.78 28 P **P 08 46 09.9 0.0**
baz=284
P32M Atlin 89.84 30 P **P 08 46 10.3 +0.1**
baz=283
S32K Killisnoo 89.86 32 P **P 08 46 10.5 +0.2**
baz=282
P33M Teslin, Yukon 90.13 29 P **P 08 46 11.6 -0.1**
baz=284
Q32M Nakina River 90.71 30 P **P 08 46 13.6 -0.9**
baz=284
TESR Tescani 90.88 317 P **P 08 46 12.1 -3.2**
U33K Whale Pass 90.95 33 P **P 08 46 14.1 -1.2**
baz=284
CRAG Craig 91.10 34 P **P 08 46 14.6 -1.4**
baz=284
R33M Jennings River 91.25 30 P **P 08 46 16.0 -0.8**
baz=286
WRAK Wrangell Islan 91.30 33 P **P 08 46 16.5 -0.4**
baz=284
MLR Muntele Rosu 91.56 316 IAmb IAmb 08 46 27.5
comp=Z,18nm,1.2s
MLR Muntele Rosu 91.56 316 P **P 08 46 17.0 -1.6**
comp=Z,3.9nm,0.8s,baz=75,slow=6.0,SNR=4.1
comp=Z,3.9nm,0.8s
S34M Telegraph Cree 91.56 31 P **P 08 46 17.8 -0.3**
baz=285
BURAR Bucovina Array 91.62 318 P **P 08 46 17.6 -1.3**
TGTN Hyland Airport 91.91 27 P **P 08 46 19.4 -0.4**
baz=288
V35K Ketchikan 91.97 34 P **P 08 46 20.0 -0.1**
baz=285
DLBC Dease Lake 91.98 31 P **P 08 46 20.0 -0.2**
baz=286
T35M Bob Quinn 92.27 32 P **P 08 46 21.0 -0.5**
baz=286
LIRD Liard River Hi 93.61 29 P **P 08 46 27.0 -0.7**
baz=290
TOAD Toad River Com 94.23 29 P **P 08 46 30.0 -0.5**
baz=290
IDI Anoyia 94.35 306 IAmb IAmb 08 46 49.7
comp=Z,14nm,1.2s
IDI Anoyia 94.35 306 P **P 08 46 30.7 -0.9**
comp=Z,8.5nm,0.9s,baz=79,slow=5.2,SNR=3.8
comp=Z,8.5nm,0.9s
HFS Hagfors 94.55 332 P **P 08 46 30.4 -1.5**
comp=Z,3.6nm,0.9s,baz=84,slow=13,SNR=4.3
comp=Z,3.6nm,0.9s
SYO Syowa Base 94.67 201 ⇑ *e P* **P 08 46 31.4 -0.7**
NB2 NORSAR Subarra 95.32 333 P **P 08 46 33.8 -1.7**
comp=Z,4.5nm,1.2s,baz=64,slow=4.4
NB2 NORSAR Subarra 95.32 333 P **P 08 46 33.8 -1.7**
baz=64,slow=4.4
NOA NORSAR Array B 95.32 333 P **P 08 46 33.0 -2.5**
comp=Z,1.3nm,0.9s,baz=67,slow=4.7,SNR=2.6
comp=Z,1.3nm,0.9s
QSPA South Pole Qui 96.68 180 P **P 08 46 42.1 +0.5**
QSPA IAmb IAmb 08 47 30.9
comp=Z,18nm,1.7s
QSPA South Pole Qui 96.68 180 P **P 08 46 38.6 -3.0**
comp=Z,0.4nm,0.8s,baz=303,slow=6.3,SNR=7.5
QSPA LR LR 09 30 30.2
comp=Z,754nm,20.3s,baz=6.5,slow=36
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 97.40 24 P **P 08 46 44.1 -0.7**
comp=Z,1.6nm,0.8s,baz=297,slow=5.7,SNR=4.3
comp=Z,1.6nm,0.8s
BRG Berggiesshubel 97.80 323 *e P* Pdif 08 46 49.6 +2.7
BRG Amp 08 46 53.8
comp=Z,4.9nm,0.9s
CLL Collm 98.20 324 *e P* Pdif 08 46 49.0 +0.3
CLL MLR MLR
comp=Z,900nm,21.9s
CLL Collm 98.20 324 *e* Pdif Pdif 08 46 49.0 +0.3
CLL *e* PP **PP 08 50 48.0 +0.2**
CLL Lm MLR 09 35 00.0
comp=Z,900nm,21.9s
GERES GERESS Array B 98.67 322 P **P 08 46 50.0 -1.0**
comp=Z,0.3nm,0.3s,baz=75,slow=8.3,SNR=1.9
comp=Z,0.3nm,0.3s
GERES GERESS Array B 98.67 322 P **P 08 46 50.0 -1.0**
NVAR Mina Array Bea 106.08 47 Pdiff **Pdif 08 47 24.3 0.0**
comp=Z,2.6nm,0.8s,baz=289,slow=5.3,SNR=12
NVAR PP **PP 08 51 47.5 -0.2**
comp=Z,1.5nm,0.9s,baz=291,slow=7.7,SNR=4.9
PDAR Pinedale Array 110.12 40 PKiKP **PKiKP 08 51 43.8 -0.1**
comp=Z,0.3nm,0.6s,baz=299,slow=3.5,SNR=3.5
PDAR PP **PP 08 52 15.7 -1.3**
comp=Z,0.9nm,0.7s,baz=300,slow=4.8,SNR=4.4
ESDC Sonseca Array 114.07 319 PP **PP 08 52 43.3 -1.8**
comp=Z,1.0nm,0.9s,baz=69,slow=6.4,SNR=5.1
ANMO Albuquerque 116.15 46 PKP **PKPdf 08 51 54.1 -1.4**
comp=Z,0.9nm,0.6s,baz=334,slow=1.2,SNR=4.3
TORD Torodi Ar. Bea 120.36 289 PKP **PKPdf 08 52 01.4 -2.5**
comp=Z,3.4nm,0.4s,baz=64,slow=6.6,SNR=1.6
TXAR Lajitas Array 120.98 50 PKP **PKPdf 08 52 04.3 -0.5**
comp=Z,0.8nm,0.7s,baz=336,slow=3.3,SNR=7.7
TXAR PP **PP 08 53 33.3 -0.4**
comp=Z,0.9nm,1.0s,baz=300,slow=7.8,SNR=1.7
OK052 Battle Ridge R 122.07 40 **PKPdf 08 52 05.3 -1.4**
U38A Gravette 123.29 38 **PKPdf 08 52 07.9 -1.1**
CCM Cathedral Cave 124.03 34 **PKPdf 08 52 08.8 -1.5**
CCM Cathedral Cave 124.03 34 PKIKP **PKPdf 08 52 08.8 -1.5**
WCI Wyandotte Cave 126.55 31 **PKPdf 08 52 14.4 -0.7**
WCI Wyandotte Cave 126.55 31 PKIKP **PKPdf 08 52 14.4 -0.7**
PLCA Paso Flores 143.44 160 **PKPdf 08 52 45.4 -1.2**
PLCA Paso Flores 143.44 160 PKP **PKPdf 08 52 45.8 -0.8**
comp=Z,5.4nm,0.9s,baz=198,slow=3.2,SNR=8.3
SIUN Universidad Ur 144.05 55 PKPbc 08 52 46.5 +0.3
ALIBA Liberia Airpor 144.97 61 *e P* **PKPab 08 52 48.5 -0.6**
LAPC Finca la Perla 144.99 60 *e P* **PKPab 08 52 46.5 -2.6**
MESS Mesas 145.21 60 *e P* **PKPbc 08 52 48.9 -1.1**
VMAR Armenia, Volca 145.24 60 *e P* **PKPdf 08 52 52.0 +1.6**
PLVR Palo Verde 145.26 61 *e P* **PKPbc 08 52 49.7 -0.5**
CUI Cuipilapa 145.27 60 *e P* **PKPbc 08 52 49.2 -0.9**
JTS Las Juntas de 145.63 61 **PKPdf 08 52 50.6 -0.4**
JTS Las Juntas de 145.63 61 PKP2 **PKPdf 08 52 50.6 -0.4**
JTS Las Juntas de 145.63 61 *e P* **PKPdf 08 52 49.4 -1.6**
TABAC Tabacon 145.69 60 *e P* **PKPdf 08 52 50.8 -0.4**
JCR1 Jicaral 145.70 62 *e P* **PKPdf 08 52 51.1 0.0**
ARE1 Arenal 1 145.75 60 *e P* **PKPdf 08 52 51.3 +0.1**
CASO Castillo 145.75 60 *e P* **PKPdf 08 52 50.8 -0.5**
VARE2 V. Arenal 145.75 60 *e P* **PKPdf 08 52 48.1 -3.2**
CEDE Laguna Cedeo 145.75 60 *e P* **PKPdf 08 52 49.4 -1.9**
VACR Volcan Arenal 145.78 60 *e P* **PKPdf 08 52 51.1 -0.1**
SOCE Pocosol 145.88 60 *e P* **PKPdf 08 52 51.3 -0.1**
ACOS Acosta 146.55 61 *e P* **PKPdf 08 52 52.9 +0.2**
PICV PH. Pirrs 146.60 61 *e P* **PKPbc 08 52 54.1 -0.1**
PITB Pirrs, San 146.73 61 *e P* **PKPbc 08 52 55.4 +0.6**
REPA Paraso 146.79 60 *e P* **PKPdf 08 52 54.0 +0.8**
PIEC Cerro El Cedra 146.81 61 *e P* **PKPbc 08 52 54.8 -0.3**
TRQA Tornquist 148.23 169 **PKPbc 08 52 57.1 -0.9**
TRQA Tornquist 148.23 169 PKP2 **PKPbc 08 52 57.1 -0.9**
ROC1 El Roble 149.97 152 *e P* **PKPbc 08 53 03.0 +0.1**
PEL Peldehue 149.98 153 *e P* **PKPbc 08 53 02.6 -0.1**
VA03 San Esteban 150.36 153 *e P* **PKPbc 08 53 03.4 -0.3**
AAGR Agrelo 150.83 156 *e P* **PKiKP 08 53 06.0 +0.6**
ASAL Salagasta 151.26 155 *e P* **PKiKP 08 53 06.3 +0.1**
AUSP Uspallata 151.34 154 *e P* **PKiKP 08 53 06.5 -0.2**
RTLS Leoncito 151.74 154 *e P* **PKPbc 08 53 06.7 -0.4**
ACAN Cantantal 152.19 157 *e P* **PKPbc 08 53 06.7 -1.1**
CFA Coronel Fontan 152.36 155 PKPbc **PKPbc 08 53 07.3 -0.9**
comp=Z,4.9nm,0.6s,baz=212,slow=3.0,SNR=16
LCO Las Campanas 153.36 148 **PKPbc 08 53 08.8 -2.0**
LCO Las Campanas 153.36 148 PKIKP **PKPbc 08 53 08.8 -2.0**
CPUP Villa Florida 160.44 174 PKP **PKPdf 08 53 09.2 -2.8**
comp=Z,0.4nm,0.9s,baz=154,slow=2.0,SNR=2.8
CPUP PKPab **PKPab 08 53 52.9 +0.2**
comp=Z,0.5nm,0.7s,baz=159,slow=4.2,SNR=3.4
LPAZ La Paz 164.01 127 PKP **PKPdf 08 53 16.3 -0.3**
comp=Z,2.6nm,0.8s,baz=282,slow=3.1,SNR=10.0
LPAZ PKPab **PKPab 08 54 09.2 -0.4**
comp=Z,3.0nm,0.8s,baz=243,slow=0.9,SNR=4.8
BOAV Boa Vista 169.31 32 **PKPdf 08 53 19.5 -0.5**
PTLB Pontes e Lacer 170.47 155 **PKPdf 08 53 19.3 -1.2**

CATAC 29 08:35:48.4±0.8, 12°N±6°×8°7W±°, h31km±4km, M2.9/11, MLv2.9/11, Error ellipse: s-maj=14.6km s-min=3.8km az=33.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.58**	**41**	P	Pn	08 36 01.6	+1.0
PKGN	**Cerro Pekin**	**0.61**	**48**	P	Pn	08 36 01.5	+0.5
QUEN	**Al S del Volca**	**0.66**	**60**	P	Pn	08 36 02.1	+0.4
HERN	**Volcan Telica**	**0.69**	**60**	S	Sn	08 36 12.1	+0.3
CSGN	**Cosiguina Volc**	**0.72**	**351**	P	Pb	08 36 02.7	+0.1
POTN	**Potosi Cosigui**	**0.74**	**355**	P	Pb	08 36 02.9	+0.1
POTN				S	Sn	08 36 14.0	+1.0
CNGA	**Al SSO del Vol**	**0.76**	**72**	P	Pn	08 36 02.8	-0.2
CNGN	**Cerro Negro**	**0.76**	**72**	P	Pn	08 36 02.9	-0.2
COPN	**Copaltepe**	**0.83**	**95**	P	Pn	08 36 03.9	-0.1
APQ3	**Volcan Apoyequ**	**1.04**	**89**	S	Sb	08 36 21.8	+0.4
CNCH	**Conchagua**	**1.08**	**339**	P	Pn	08 36 07.4	-0.2
APQ2	**Apoyeque**	**1.09**	**93**	P	Pn	08 36 07.6	+0.1
APQ2	**Apoyeque**	**1.09**	**93**	S	Sb	08 36 22.6	0.0
APQN	**BB Volcan Apoy**	**1.11**	**92**	S	Sn	08 36 22.3	+0.1
LCND	**La Caada**	**1.13**	**337**	P	Pn	08 36 07.8	-0.4
LCND	**La Caada**	**1.13**	**337**	S	Sb	08 36 23.6	-0.2
UNAN	**Cigeo UNAN**	**1.15**	**97**	S	Sn	08 36 23.5	+0.4
LIMN	**Finca el Limon**	**1.32**	**53**	P	Pn	08 36 10.6	-0.2

DJA ***29*** *08:44:02.6±0.2, 6°S±3°×15°5E±°, h10km, M6.0/96, mB6.3/74, mb6.0/96, MLv6.7/1, Mw(mB)6.0/74, MwMwp5.7/8, Mwp5.8/8*
BJI ***29*** *08:44:03.8, 6°21S×155°38E, h57km, mB5.7/35, mb5.8/83, Ms5.3/76, Ms7 5.2/72*
MOS ***29*** *08:44:06.2±0.9, 6°26S×154°82E, h58km, mb6.1/41, MS5.3/9, Error ellipse: s-maj=8.0km s-min=5.9km az=121.0*
ISC-PP ***29*** *08:44:08, 6°31S×154°84E, h61km±8km, Mwppsm6.4, Moment Tensor Solution. s44 Moment tensor: Scale 10^{18}Nm; M_{rr}0.25±.14; $M_{\theta\theta}$0.29±.29; $M_{\phi\phi}$-0.53±.25; $M_{r\theta}$0.22±.22; $M_{\theta\phi}$-0.26±.17; $M_{\phi r}$-0.41±.22; Fault plane solution: $M_0$4.95000×10^{18} NP1:ϕ_s163.60000°, δ72.70000°, λ34.00000°. NP2:ϕ_s62.30000°, δ57.70000°, λ159.40000°.*
NEIC ***29*** *08:44:08.6±2.2, 6°31S±0.06×154°84E±0.05, h54km±4km, mb5.8/611, Mww5.8/25 Error ellipse: s-maj=9.6km s-min=7.7km az=196.0*
IDC ***29*** *08:44:08.2±0.9, 6°33S×154°82E, h62km±7km, mb5.5/35, mbtmp5.8/39, MS5.1/47, Error ellipse: s-maj=7.5km s-min=6.8km az=79.0*
GCMT ***29*** *08:44:09.6±0.1, 6°49S±0°01×154°72E±0°01, h48km, MW5.8/150, Moment Tensor Solution. s149, c267; s150, c395; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; M_{rr}6.19±.06; $M_{\theta\theta}$-3.34±.04; $M_{\phi\phi}$-2.85±.04; $M_{r\theta}$-0.21±.04; $M_{\theta\phi}$3.45±.03; $M_{\phi r}$0.14±.04; Best double couple: $M_0$6.37700×10^{17} NP1:ϕ_s133.00000°, δ44.00000°, λ91.00000°. NP2:ϕ_s313.00000°, δ46.00000°, λ89.00000°. Principal axes: T 6.1950, Plg89.0000°, Azm205.0000°; N 0.3630, Plg0.0000°, Azm313.0000°; P -6.5590, Plg1.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *08:44:10.3, 6°31S×154°82E, h50km*
NEIC ***29*** *08:44:10.3, 6°21S×154°72E, h50km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^{17}Nm; M_{rr}5.52; $M_{\theta\theta}$-2.78; $M_{\phi\phi}$-2.73; $M_{r\theta}$0.51; $M_{\theta\phi}$3.71; $M_{\phi r}$0.53; Fault plane solution: $M_0$6.09000×10^{17} NP1: ϕ_s126.04000°, δ45.63000°, λ77.54000°. NP2: ϕ_s323.58000°, δ45.73000°, λ102.44000°. Principal axes: T 5.6293, Plg81.0000°, Azm315.0000°; N 0.8347, Plg9.0000°, Azm135.0000°; P -6.4640, Plg0.0000°, Azm45.0000°;*

ISC 29 08:44:07.5±0.3, 6°34S±0°03×154°95E±0°03, h60km±2km, h61km:pP-P, n1408, σ1°68/1246, mb5.8/452, 67C-34D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.50**	**308**		**Pn**	**08 45 01.3**	**+1.8**
SAVO	**Savo Central**	**5.57**	**120**	P	**Pn**	**08 45 32.3**	**+4.4**
HNR	**Honiara**	**5.83**	**122**	Pn	Pn	08 45 37.0	+5.6
HNR	**Honiara**	**5.83**	**122**	P	**Pn**	**08 45 35.2**	**+3.8**
	2μm,0.7s,baz=300,slow=4.5,SNR=27						
HNR				S	**Sn**	**08 46 38.2**	**+1.2**
	2μm,0.9s,baz=317,slow=19,SNR=3.8						
HNR				LR	LR	08 47 53.1	

comp=Z,31µm,20.0s,baz=297,slow=38
HNR Honiara 5.83 122 P **Pn 08 45 35.6 +4.2**
HNR Honiara 5.83 122 S **Sn 08 46 43.4 +6.5**
PMG Port Moresby 8.29 248 Pn 08 46 06.1 +0.9
PMG Port Moresby 8.29 248 P **Pn 08 46 06.0 +0.8**
3µm,0.8s,baz=63,slow=6.4,SNR=74
PMG S **Sn 08 47 37.6 +0.2**
705nm,0.4s,baz=67,slow=7.7,SNR=8.4
MANU Manus Island 8.68 299 Pn 08 46 12.3 +1.8
PATS Pohnpei 13.52 14 P **Pn 08 47 15.1 -1.5**
PATS Pohnpei 13.52 14 Pn 08 47 15.8 -0.7
PATS Pohnpei 13.52 14 Pn 08 47 16.6 +0.1
COEN Coen 13.83 236 P **Pn 08 47 20.2 -0.6**
comp=Z,0.0nmcomp=Z,221nm,1.2s
COEN Coen 13.83 236 Pn 08 47 20.6 -0.2
COEN Coen 13.83 236 P **Pn 08 47 20.2 -0.6**
MMPI Merauke 14.59 261 P **P 08 47 35.6 -0.2**
JAY Jayapura 14.70 284 P **Pn 08 47 31.7 -0.5**
comp=Z,128nm,1.1s,baz=109,slow=10,SNR=42
JAY Jayapura 14.70 284 Pn 08 47 32.2 0.0
SANVU Saraoutou 15.05 128 P 08 47 40.1 -0.7
SANVU IAmb IAmb 08 47 47.4
comp=Z,528nm,0.9s
SANVU Saraoutou 15.05 128 P **P 08 47 41.2 +0.4**
AUAYR Ayr State High 15.06 208 P **Pn 08 47 38.3 +1.5**
TV1H Townsville Har 15.09 211 P **Pn 08 47 38.4 +1.1**
GENI Genyem 15.19 284 P **Pn 08 47 39.1 +0.5**
GENI Genyem 15.19 284 P **Pn 08 47 39.1 +0.5**
MTSU Mount Surprise 15.65 221 P **Pn 08 47 45.6 +1.2**
comp=Z,209nm,0.9s
MTSU Mount Surprise 15.65 221 P **P 08 47 46.3 -1.2**
SMPI Sarmi 16.76 284 P **P 08 47 59.8 0.0**
comp=Z,9µmcomp=Z,615nm,2.0s
AUNRC North Rockhamp 17.44 194 P **P 08 48 07.6 +0.4**
GD1S Gladstone Soft 17.77 191 P **P 08 48 12.6 +1.7**
DZM Mont Dzumac 19.18 146 P **Pn 08 48 28.6 +0.6**
comp=Z,299nm,0.8s,baz=337,slow=11,SNR=106
DZM S **Sn 08 52 03.1 +0.7**
comp=Z,9.2nm,0.8s,baz=17,slow=12,SNR=1.3
DZM LR LR 08 55 03.0
comp=Z,9µm,21.4s,baz=324,slow=34
EIDS Eidsvold 19.28 191 P **Pn 08 48 29.5 +0.6**
comp=Z,102nm,0.8s
EIDS Eidsvold 19.28 191 Pn 08 48 29.7 +0.7
EIDS Eidsvold 19.28 191 P **Pn 08 48 30.0 +1.0**
ONTNC Ouen Toro 19.38 146 Pn 08 48 30.7 +0.5
ONTNC IAmb IAmb 08 48 33.1
comp=Z,1µm,1.6s
ONTNC Ouen Toro 19.38 146 P **Pn 08 48 31.0 +0.8**
YATNC Mamie plateau, 19.43 145 P **Pn 08 48 32.2 +1.4**
BAKI Biak 19.48 284 P **Pn 08 48 32.2 +0.8**
comp=Z,9µmcomp=Z,522nm,1.3s
TARA Tarawa 19.51 68 P **Pn 08 48 33.6 +1.7**
MARNC Mare, Loyalty 19.67 141 Pn 08 48 33.5 -0.1
MARNC Mare, Loyalty 19.67 141 P **Pn 08 48 34.1 +0.5**
OUENC Ouen Island, N 19.68 145 P **Pn 08 48 34.7 +0.9**
PINNC Pines Island, 20.18 145 Pn 08 48 40.0 +0.4
PINNC Pines Island, 20.18 145 P Pn 08 48 40.0 +0.4
AUBSH Beerwah State 20.49 185 P Pn 08 48 42.9 -0.4
QIS Mount Isa 20.52 225 P **P 08 48 41.5 +0.5**
comp=Z,0.0nmcomp=Z,263nm,0.8s
QIS Mount Isa 20.52 225 P **P 08 48 42.3 +1.3**
RMQ Roma 20.88 196 P Pn 08 48 47.0 -1.0
comp=Z,88nm,1.0s
RMQ Roma 20.88 196 P Pn 08 48 47.1 -0.8
AUWSH Wavell State H 21.02 185 P **P 08 48 49.0 +2.7**
TW1H Toowoomba 1 Ha 21.27 187 P **P 08 48 52.3 +3.2**
KMPI Kaimana, Papua 21.32 276 P **P 08 48 56.7 +7.0**
GC1S Gold Coast 1 S 21.74 183 P **P 08 48 57.3 +3.3**
GUMO Guam 22.19 333 P 08 48 58.5 -0.4
GUMO Guam 22.19 333 P **P 08 48 58.5 -0.4**
comp=Z,448nm,0.8s,baz=171,slow=18,SNR=15
GUMO S **S 08 52 58.2 -1.6**
comp=Z,64nm,0.9s,baz=180,slow=20,SNR=1.9
GUMO LR LR 08 56 44.4
comp=Z,2µm,21.8s,baz=153,slow=34
comp=Z,448nm,0.8s
GUMO Guam 22.19 333 P **P 08 48 59.3 +0.4**
QLP Quilpie 22.57 206 P **P 08 49 04.1 +1.1**
comp=Z,609nm,1.0s
QLP Quilpie 22.57 206 P **P 08 49 04.3 +1.3**
KDU Kakadu 23.03 252 P **P 08 49 07.4 -0.4**
comp=Z,127nm,0.8s
SAUI Saumlaki 23.52 265 P 08 49 13.2 +0.6
SAUI Saumlaki 23.52 265 P **P 08 49 13.7 +1.2**
SAUI Saumlaki 23.52 265 P **P 08 49 14.2 +1.7**
comp=Z,25µmcomp=Z,1µm,0.7s
AULRC Lightning Ridg 23.89 195 P **P 08 49 16.9 +1.2**
WB0 Warramunga Arr 24.02 234 P 08 49 17.9 +0.9
WB0 IAmb IAmb 08 49 20.9
comp=Z,551nm,1.2s
WR8 Warramunga Arr 24.03 234 IAmb IAmb 08 49 21.0
comp=Z,511nm,1.1s
WRAB Tennant Creek 24.14 234 P **P 08 49 18.5 +0.4**
WRAB IAmb IAmb 08 49 21.9
comp=Z,707nm,1.4s
WRAB Tennant Creek 24.14 234 P **P 08 49 18.8 +0.7**
WRAB Tennant Creek 24.14 234*c i*P **P 08 49 19.0 +0.9**
WRAB pmax pmax
comp=Z,368nm,1.0s
FUNA Funafuti 24.14 97 P 08 49 18.9 +0.7
FUNA IAmb IAmb 08 49 43.6
comp=Z,446nm,1.3s
FUNA Funafuti 24.14 97 P **P 08 49 19.3 +1.1**
WRA Warramunga Arr 24.15 234 IAmb IAmb 08 49 22.0
comp=Z,79nm,1.2s
WRA Warramunga Arr 24.15 234 P **P 08 49 18.7 +0.5**
comp=Z,280nm,0.9s,baz=56,slow=9.1,SNR=133
WRA PcP **PcP 08 52 58.1 0.0**
comp=Z,42nm,0.9s,baz=61,slow=2.8,SNR=6.5
WRA S **S 08 53 30.2 -2.1**
comp=Z,25nm,1.0s,baz=66,slow=15,SNR=9.3
WRA ScP **ScP 08 56 32.3 +0.6**
comp=Z,9.3nm,1.0s,baz=62,slow=3.1,SNR=6.0
WRA LR LR 08 58 23.0
comp=Z,11µm,21.8s,baz=88,slow=36
WRA P3KPbc 09 22 26.7
comp=Z,1.0nm,0.8s,baz=253,slow=3.1,SNR=8.1
comp=Z,280nm,0.9s
ARMA Armidale 24.15 187 P **P 08 49 19.7 +1.5**
comp=Z,0.0nmcomp=Z,192nm,1.0s
ARMA Armidale 24.15 187 P 08 49 19.4 +1.1
ARMA IAmb IAmb 08 49 21.7
comp=Z,343nm,1.4s
ARMA Armidale 24.15 187 P **P 08 49 19.9 +1.7**
SWI Sorong 24.25 282 P **P 08 49 20.6 +1.4**
comp=Z,6µmcomp=Z,688nm,0.9s
MTN Manton Dam 24.34 253 P **P 08 49 19.7 -0.3**
comp=Z,359nm,1.0s
MTN Manton Dam 24.34 253 P 08 49 19.6 -0.4
MTN IAmb IAmb 08 49 23.2
comp=Z,283nm,0.9s
DRS Darwin Rock St 24.47 254 P **P 08 49 22.2 +1.0**
AUDHS Darwin High Sc 24.54 254 P **P 08 49 22.5 +0.7**
AUPHS Peel High Scho 24.92 188 P **P 08 49 26.7 +1.6**
BNDI Bandanaira 24.99 273 P **P 08 49 27.0 +1.0**
BNDI Bandanaira 24.99 273 P **P 08 49 27.2 +1.2**
comp=Z,744nm,0.9s
INKA Innaminka 25.19 211 P 08 49 27.7 +0.1
MSVF Nonsavu 25.24 119 P 08 49 29.7 +1.4
MSVF Nonsavu 25.24 119 P **P 08 49 30.8 +2.6**
MSVF Nonsavu 25.24 119*c i*P **P 08 49 29.1 +0.9**
MSVF pmax pmax
comp=Z,231nm,1.3s
LHI Lord Howe Isla 25.34 172 P **P 08 49 30.0 +1.1**
comp=Z,0.0nmcomp=Z,239nm,0.9s
LHI Lord Howe Isla 25.34 172 P 08 49 29.8 +0.9
LHI IAmb IAmb 08 49 32.4
comp=Z,160nm,0.8s
LHI Lord Howe Isla 25.34 172 P **P 08 49 29.4 +0.5**
MSAI Masohi 26.09 275 P **P 08 49 39.2 +3.3**
comp=Z,269nm,0.8s
CMSA Cobar Meteorol 26.52 198 P **P 08 49 39.6 0.0**
comp=Z,0.0nmcomp=Z,99nm,0.9s
CMSA Cobar Meteorol 26.52 198 P **P 08 49 40.5 +0.9**
ASAR Alice Springs 26.57 227 P **P 08 49 40.3 +0.1**
ASAR Alice Springs 26.57 227 P **P 08 49 40.5 +0.2**
comp=Z,53nm,0.7s,baz=50,slow=9.0,SNR=222
ASAR PcP **PcP 08 53 03.8 +0.3**
comp=Z,57nm,0.9s,baz=51,slow=2.3,SNR=10
ASAR S **S 08 54 09.9 -0.8**
comp=Z,4.7nm,1.0s,baz=45,slow=18,SNR=1.6
ASAR ScP **ScP 08 56 39.7 +1.2**
comp=Z,9.2nm,0.9s,baz=56,slow=2.8,SNR=5.3
ASAR LR LR 08 59 46.2
comp=Z,11µm,20.6s,baz=104,slow=35
ASAR P3KPbc 09 22 19.0
comp=Z,4.4nm,1.0s,baz=224,slow=3.9,SNR=12
comp=Z,53nm,0.7s
AUALC St Philip's Co 26.60 227 P **P 08 49 40.7 +0.2**
AAI Ambon 26.77 274 P **P 08 49 44.7 +2.6**
comp=Z,3µmcomp=Z,268nm,0.7s
MGCD Mangrove Creek 26.97 187 P **P 08 49 45.7 +2.0**
comp=Z,186nm,0.8s
MGCD Mangrove Creek 26.97 187 P **P 08 49 46.2 +2.6**
H11S3 WAKE ISLAND Hy 27.26 25 T T 09 17 56.0
baz=204,slow=74,SNR=46
H11S2 WAKE ISLAND Hy 27.27 25 T T 09 17 55.5
baz=204,slow=74,SNR=61
H11S1 WAKE ISLAND Hy 27.28 25 T T 09 17 57.0
baz=204,slow=74,SNR=59
KNRA Kununurra 27.29 248 P **P 08 49 46.7 0.0**
comp=Z,196nm,0.9s
KNRA Kununurra 27.29 248 P 08 49 46.3 -0.4
KNRA IAmb IAmb 08 50 21.5
comp=Z,140nm,0.8s
SYDH Sydney Hard Ro 27.56 188 P **P 08 49 51.5 +2.6**
RIV Riverview 27.57 187 P **P 08 49 51.0 +2.0**
comp=Z,176nm,0.9s
RIV Riverview 27.57 187 P **P 08 49 51.0 +2.0**
NLAI Namlea 27.91 275 P pP 08 50 07.9 +1.7
STKA Stephens Creek 28.30 204 P **P 08 49 55.4 -0.1**
comp=Z,381nm,1.0s
STKA Stephens Creek 28.30 204 IAmb IAmb 08 50 22.2
comp=Z,283nm,0.8s
STKA Stephens Creek 28.30 204 P **P 08 49 54.7 -0.8**
comp=Z,44nm,0.6s,baz=28,slow=13,SNR=100
STKA PcP **PcP 08 53 07.6 +0.2**
comp=Z,46nm,1.0s,baz=26,slow=6.7,SNR=4.8
STKA S **S 08 54 37.4 -0.4**
comp=Z,9.4nm,0.8s,baz=7.6,slow=15,SNR=1.3
STKA LR LR 09 01 14.0
comp=Z,11µm,19.9s,baz=10,slow=36
STKA P3KPbc 09 22 12.2
comp=Z,3.2nm,1.0s,baz=212,slow=2.5,SNR=5.5
comp=Z,44nm,0.6s
STKA Stephens Creek 28.30 204 P **P 08 49 56.0 +0.4**
H11N1 WAKE ISLAND Hy 28.44 24 T T 09 19 37.5
baz=205,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 28.45 24 T T 09 19 25.4
baz=205,slow=76,SNR=121
H11N2 WAKE ISLAND Hy 28.46 24 T T 09 19 50.1
baz=205,slow=76,SNR=94
YNG Young 28.47 191 P **P 08 49 57.8 +0.8**
comp=Z,37nm,1.6s
SANI Sanana 29.18 277 P **P 08 50 02.9 -0.8**
SANI Sanana 29.18 277 P **P 08 50 04.0 +0.4**
SANI Sanana 29.18 277 P **P 08 50 04.0 +0.4**
comp=Z,4µmcomp=Z,454nm,1.0s
CNB Canberra Magne 29.29 189 P **P 08 50 05.4 +1.1**
comp=Z,0.0nmcomp=Z,59nm,1.0s
CAN Canberra 29.35 190 P **P 08 50 06.0 +1.1**
comp=Z,0.0nmcomp=Z,54nm,1.6s
SOEI Soe 30.56 262 P P 08 50 20.9 +5.0
AUJCS Jamestown Cent 30.73 207 P **P 08 50 17.7 +0.6**
HTT Hallett 30.79 207 P **P 08 50 17.4 -0.2**
comp=Z,28nm,1.1s
HTT Hallett 30.79 207 P **P 08 50 18.1 +0.5**
FITZ Fitzroy Crossi 30.87 245 P **P 08 50 18.2 -0.3**
comp=Z,38nm,1.0s
FITZ Fitzroy Crossi 30.87 245 P **P 08 50 18.1 -0.3**
comp=Z,140nm,0.9s,baz=77,slow=9.2,SNR=96
FITZ PcP **PcP 08 53 15.5 +1.3**
comp=Z,78nm,0.9s,baz=119,slow=1.9,SNR=4.4
FITZ S **S 08 55 17.2 -1.2**
comp=Z,12nm,1.0s,baz=68,slow=19,SNR=1.0
comp=Z,140nm,0.9s
FITZ Fitzroy Crossi 30.87 245 P **P 08 50 18.0 -0.5**
MILA Mila 31.02 189 P **P 08 50 20.6 +1.0**
comp=Z,22nm,1.8s
MILA Mila 31.02 189 P **P 08 50 20.6 +1.0**
WHYH Whyalla 31.08 209 P **P 08 50 20.5 +0.4**
BATI Baumata 31.18 261 S **S 08 55 19.2 -4.2**
comp=Z,34nm,0.4s,baz=90,slow=2.0,SNR=1.0
BATI LR LR 09 04 22.1
comp=Z,8µm,21.7s,baz=118,slow=39
BATI Baumata 31.18 261 P pP 08 50 39.2 +4.4
KMSI Cibinong 31.66 281 P **P 08 50 29.5 +4.0**
BBOO Buckleboo 31.66 211 P **P 08 50 25.3 0.0**
comp=Z,74nm,1.0s
BBOO Buckleboo 31.66 211 P **P 08 50 25.6 +0.3**
AUMBR Murray Bridge 32.08 205 P **P 08 50 29.4 +0.5**
AUMAR Marden Senior 32.14 206 P **P 08 50 30.3 +0.9**
TOO Toolangi 32.26 194 P **P 08 50 31.6 +1.2**
comp=Z,0.0nmcomp=Z,13nm,0.9s
LUWI Luwuk 32.52 278 P **P 08 50 33.4 +0.3**
LUWI Luwuk 32.52 278 P **P 08 50 34.2 +1.1**
LUWI Luwuk 32.52 278 P pP 08 50 48.4 +1.6
ARPS Mount Arapiles 32.57 200 P **P 08 50 33.6 +0.4**
comp=Z,73nm,1.1s
BRAT Ballarat 32.64 196 P **P 08 50 36.0 +2.2**
AUMTC Mt Clear Colle 32.71 196 P **P 08 50 36.4 +2.0**
AUCAS Cummins Area S 32.98 210 P **P 08 50 38.7 +1.9**
EDFI Ende, Flores 33.05 264 P **P 08 50 36.8 -1.0**
OUZ Omahuta 33.48 152 P **P 08 50 43.5 +2.4**
AFI Afiamalu 33.58 106 P 08 50 42.1 -0.2
AFI IAmb IAmb 08 50 44.8
comp=Z,159nm,1.4s
AFI Afiamalu 33.58 106 P **P 08 50 43.5 +1.2**
AFI Afiamalu 33.58 106 P **P 08 50 42.1 -0.2**
AFI pmax pmax
comp=Z,159nm,1.4s
MGBR Mount Gambier 33.87 201 IAmb IAmb 08 51 16.9
comp=Z,82nm,1.0s
BASI Baing, Sumba 34.21 261 P **P 08 50 50.8 +3.0**
BSSI Bau Bau, Buton 34.25 268 P **P 08 50 49.3 +1.2**
comp=Z,5µmcomp=Z,283nm,0.9s
WCZ Waipu Caves 34.42 152 P **P 08 50 51.6 +2.3**
WSI Waingapu 34.46 262 P **P 08 50 50.9 +1.0**
BKSI Bulukumba 34.65 270 P **P 08 50 53.9 +2.3**
comp=Z,126nm,1.0s
BNSI Bone 34.73 271 P **P 08 50 56.2 +3.9**
comp=Z,3µmcomp=Z,237nm,1.3s
BNSI P **pP 08 51 07.2 +0.5**
comp=Z,3µmcomp=Z,237nm,1.3s
TOLI2 Tolitoli 34.90 281 P 08 50 52.9 -0.8
TOLI2 Tolitoli 34.90 281 P **P 08 50 53.3 -0.4**
FORT Forrest 35.03 223 P **P 08 50 54.5 -0.1**
comp=Z,0.0nmcomp=Z,100nm,0.8s
FORT Forrest 35.03 223 IAmb IAmb 08 51 05.4
comp=Z,68nm,0.7s
KAPI Kappang 35.04 270 P 08 50 54.3 -0.6
KAPI IAmb IAmb 08 51 11.0
comp=Z,170nm,0.9s
KAPI Kappang 35.04 270 P **P 08 50 55.2 +0.3**
comp=Z,44nm,0.7s,baz=94,slow=11,SNR=10.0
KAPI PcP **PcP 08 53 26.8 +0.8**
comp=Z,37nm,0.9s,baz=85,slow=6.3,SNR=3.4
KAPI S **S 08 56 21.4 -1.9**
comp=Z,8.0nm,0.3s,baz=115,slow=14,SNR=2.0
KAPI LR LR 09 07 45.9
comp=Z,514nm,21.5s,baz=90,slow=41
comp=Z,44nm,0.7s
KAPI Kappang 35.04 270 P **P 08 50 55.5 +0.6**
KAPI Kappang 35.04 270 P **P 08 50 54.3 -0.6**
KAPI 08 53 26.8
KAPI pmax pmax
comp=Z,170nm,1.0s
KAPI Kappang 35.04 270 P **P 08 50 55.3 +0.3**
KAPI pP **pP 08 51 09.4 0.0**
KAPI PcP **PcP 08 53 26.9 +0.9**
GLAD Gladstone 35.05 189 P **P 08 50 57.0 +2.4**
SPSI Sidrap Palu 35.11 272 P **P 08 50 56.1 +0.6**
comp=Z,4µmcomp=Z,155nm,0.9s
GRZ Great Barrier 35.20 151 P **P 08 50 58.1 +2.1**
WBSI Waikabubak, Su 35.35 262 P **P 08 50 58.1 +0.5**
comp=Z,7µmcomp=Z,515nm,0.8s
JCJ Chichijima 35.46 340 LR LR 09 02 41.6
comp=Z,2µm,21.8s,baz=168,slow=31
CORO Coronation Par 35.65 190 P **P 08 51 02.5 +2.8**
KUZ Kuaotunu 35.73 151 P **P 08 51 02.7 +2.2**
KUZ Kuaotunu 35.73 151 P **P 08 51 02.5 +2.0**
TOZ Tauroa Road 36.41 152 P **P 08 51 08.5 +2.2**
MOO Moorlands 36.60 190 P **P 08 51 10.7 +2.8**
comp=Z,157nm,1.2s
MOO Moorlands 36.60 190 P **P 08 51 10.5 +2.6**
HIZ Hauiti 36.75 153 P **P 08 51 12.1 +2.8**
TLZ Tolley Road 36.91 153 P **P 08 51 12.9 +2.2**
PLAI Plampang 36.92 264 P **P 08 51 10.1 -0.9**
PLAI Plampang 36.92 264 P **P 08 51 09.8 -1.2**
TAU Tasmania Unive 37.04 189 P 08 51 12.9 +1.3
TAU Tasmania Unive 37.04 189 P **P 08 51 13.8 +2.2**
TAU Tasmania Unive 37.04 189 P **P 08 51 12.9 +1.3**
TAU pmax pmax
comp=Z,248nm,1.1s
AUTAR Taroona High S 37.06 189 P **P 08 51 14.0 +2.3**
MBWA Marble Bar 37.12 243 P **P 08 51 12.4 -0.2**
comp=Z,131nm,0.9s
MBWA Marble Bar 37.12 243 P 08 51 11.8 -0.8
MBWA IAmb IAmb 08 51 22.0
comp=Z,123nm,1.1s
MBWA Marble Bar 37.12 243 P **P 08 51 11.9 -0.8**
MBWA Marble Bar 37.12 243 P **P 08 51 12.3 -0.3**
MBWA pP **pP 08 51 25.8 -0.6**
MBWA PcP **PcP 08 53 32.4 +0.3**
VRZ Vera Road 37.22 154 P **P 08 51 14.1 +1.0**
WATZ Wairara 37.31 153 P **P 08 51 16.9 +2.9**
RATZ Rangitukua 37.45 153 P **P 08 51 17.9 +2.7**
TWVZ Taurewa 37.47 153 P **P 08 51 18.4 +3.0**
HAZ Te Kaha 37.53 150 P **P 08 51 17.4 +1.5**
WTVZ West Tongariro 37.58 153 P **P 08 51 19.3 +2.9**
KRVZ Karewarewa 37.58 153 P **P 08 51 18.6 +2.2**
RITZ Rihia Road 37.58 153 P **P 08 51 19.1 +2.8**
URZ Urewera 37.60 151 LR LR 09 06 21.9
comp=Z,3µm,18.6s,baz=322,slow=35
NNVZ North Ngauruho 37.60 153 P **P 08 51 19.0 +2.4**
NTVZ North Tongariр 37.60 153 P **P 08 51 18.8 +2.3**
PKVZ Pokaka 37.61 154 P **P 08 51 18.9 +2.3**
COVZ Chateau Observ 37.62 153 P **P 08 51 19.4 +2.7**
TMVZ Te Maari 37.63 153 P **P 08 51 19.3 +2.5**
NGZ Ngauruhoe 37.63 153 P **P 08 51 19.5 +2.6**
ETVZ East Tongariro 37.65 153 P **P 08 51 19.5 +2.5**
OTVZ Oturere 37.65 153 P **P 08 51 19.8 +2.8**
MXZ Matakaoa Point 37.65 149 P 08 51 18.3 +1.4
MXZ IAmb IAmb 08 51 22.6
comp=Z,211nm,1.3s
MXZ Matakaoa Point 37.65 149 P **P 08 51 19.0 +2.1**
SNVZ South Ngauruho 37.66 153 P **P 08 51 20.1 +3.0**
FWVZ Far West T-bar 37.67 153 P **P 08 51 19.7 +2.4**
MAVZ Matarangi 37.69 153 P **P 08 51 19.9 +2.4**
TRVZ Turoa 37.71 153 P **P 08 51 20.1 +2.5**
WHVZ Whangaehu Hut 37.71 153 P **P 08 51 19.7 +2.1**
TUVZ Tukino 37.73 153 P **P 08 51 20.7 +3.0**
MTVZ Mangateitei 37.74 154 P **P 08 51 22.2 +4.4**
WNVZ Wahianoa 37.75 153 P **P 08 51 20.7 +2.8**
QRZ Quartz Range 37.77 158 IAmb IAmb 08 51 22.1
comp=Z,84nm,0.8s
QRZ Quartz Range 37.77 158 P **P 08 51 20.5 +2.7**
TWSI Taliwang, Sumb 37.80 264 P **P 08 51 17.5 -0.9**
comp=Z,3µmcomp=Z,283nm,0.9s
WAZ Wanganui 37.84 154 P **P 08 51 22.8 +4.4**
MOVZ Moawhango 37.89 153 P **P 08 51 21.8 +2.9**
BKZ Black Stump Fm 38.03 152 IAmb IAmb 08 51 28.1
comp=Z,169nm,1.2s
BKZ Black Stump Fm 38.03 152 P **P 08 51 21.9 +1.8**
MYLDM Lahad Datu 38.14 287 P **P 08 51 22.3 +1.0**
MYLDM Lahad Datu 38.14 287 P **P 08 51 21.8 +0.5**
BKB Balikpapan 38.28 276 P P 08 51 39.5 +17
THZ Tophouse 38.72 158 P 08 51 27.0 +1.1
THZ IAmb IAmb 08 51 31.9
comp=Z,156nm,0.8s
THZ Tophouse 38.72 158 P **P 08 51 28.2 +2.4**
MRZ Mangatainoka R 38.84 155 P **P 08 51 26.5 -0.3**
PXZ Pawanui 38.89 153 P **P 08 51 28.2 +1.0**
SNZO South Karori 39.02 156 P **P 08 51 28.5 +0.2**
SNZO IAmb IAmb 08 51 32.1
comp=Z,114nm,0.8s
INZ Inchbonnie 39.06 161 P **P 08 51 29.5 +0.9**
BFZ Birch Farm 39.15 154 IAmb IAmb 08 51 33.7
comp=Z,196nm,1.3s
BFZ Birch Farm 39.15 154 P **P 08 51 30.7 +1.3**
BFZ Birch Farm 39.15 154 P **P 08 51 30.1 +0.7**
FOZ Fox Glacier 39.28 163 P **P 08 51 32.4 +1.9**
TGY Tagaytay City 39.39 301 P **P 08 51 30.1 -1.7**
comp=Z,134nm,0.3s,baz=128,slow=12,SNR=6.5
TGY LR LR 09 06 01.8
comp=Z,3µm,21.9s,baz=133,slow=34
comp=Z,134nm,0.3s
LTZ Lake Taylor 39.39 160 IAmb IAmb 08 51 35.6
comp=Z,141nm,0.8s
LTZ Lake Taylor 39.39 160 P **P 08 51 32.5 +1.0**
JMZ Minamidaito 2 39.41 325 P **P 08 51 32.9 +1.2**
SRBI Singaraja 39.45 265 P **P 08 51 31.9 -0.4**
comp=Z,172nm,0.9s
DNP Denpasar 39.45 264 P **P 08 51 32.4 +0.1**
JCZ Jackson Bay 39.49 164 P **P 08 51 34.9 +2.6**
JCZ Jackson Bay 39.49 164 P **P 08 51 34.2 +1.8**
KHZ Kahutara 39.52 158 IAmb IAmb 08 51 35.0
comp=Z,117nm,0.8s
KHZ Kahutara 39.52 158 P **P 08 51 33.0 +0.5**
KHZ Kahutara 39.52 158 P **P 08 51 32.6 +0.2**
KMBL Kambalda 39.70 227 P **P 08 51 34.4 +0.2**
comp=Z,0.0nmcomp=Z,60nm,0.9s
OXZ Oxford 39.80 160 IAmb IAmb 08 51 42.5
comp=Z,104nm,0.6s
OXZ Oxford 39.80 160 P **P 08 51 36.0 +1.3**
GVZ Greta Valley S 39.82 159 P **P 08 51 36.0 +1.1**
RPZ Rata Peaks 39.83 162 LR LR 09 07 36.4
comp=Z,6µm,18.2s,baz=322,slow=35
RPZ Rata Peaks 39.83 162 P **P 08 51 36.5 +1.5**
MSZ Milford Sound 39.83 166 P **P 08 51 38.4 +3.4**
MEEK Meekatharra 40.03 236 P **P 08 51 37.0 0.0**
comp=Z,323nm,0.9s
MEEK Meekatharra 40.03 236 P **P 08 51 37.2 +0.1**
BBKI Banjar Baru 40.05 272 P **P 08 51 39.7 +2.4**
comp=Z,11µmcomp=Z,285nm,0.9s
LBZ Lake Benmore 40.17 163 P 08 51 39.6 +1.7
LBZ Lake Benmore 40.17 163 P **P 08 51 38.2 +0.3**
WKZ Wanaka 40.25 164 P **P 08 51 39.8 +1.2**
WKZ Wanaka 40.25 164 P **P 08 51 39.8 +1.2**
MTKI Muara Teweh, K 40.31 276 P pP 08 51 55.3 +1.0
MQZ McQueen's Vall 40.34 160 P **P 08 51 38.4 -0.8**
MQZ IAmb IAmb 08 51 41.7
comp=Z,200nm,1.3s
MQZ McQueen's Vall 40.34 160 P **P 08 51 40.3 +1.1**
DCZ Deep Cove 40.39 167 P 08 51 40.5 +0.9
TMZ Timaru 40.41 162 P **P 08 51 39.4 -0.5**
ABJI Asem Bagus 40.42 265 P **P 08 51 40.7 +0.4**
comp=Z,241nm,1.0s
JAGI Jajag, Banyuwa 40.49 264 P 08 51 38.6 -2.4
JAGI Jajag, Banyuwa 40.49 264 P **P 08 51 39.6 -1.4**
JAGI Jajag, Banyuwa 40.49 264 P **P 08 51 39.2 -1.8**
comp=Z,4µmcomp=Z,406nm,0.9s
MLZ Mavora Lakes 40.53 166 IAmb IAmb 08 51 48.5
comp=Z,279nm,1.2s
MLZ Mavora Lakes 40.53 166 P **P 08 51 41.4 +0.5**
ODZ Otahua Downs 40.91 163 P **P 08 51 44.1 +0.2**
WHZ Wether Hill Ro 40.98 166 P **P 08 51 46.0 +1.5**
BLJI Banyuglugur 41.05 266 P **P 08 51 45.7 +0.2**
comp=Z,103nm,0.9s
TUZ Tuapeka 41.46 165 P **P 08 51 49.0 +0.6**
SZP Santa 41.52 305 P **P 08 51 50.0 +0.7**
APZ The Paps 41.87 167 P **P 08 51 52.8 +1.0**
SYZ Scrubby Hill 41.88 165 P **P 08 51 54.6 +2.8**
SYZ Scrubby Hill 41.88 165 P **P 08 51 52.3 +0.5**
JOW Kunigami 41.89 323 IAmb IAmb 08 51 57.5
comp=Z,126nm,0.8s
JOW Kunigami 41.89 323 P **P 08 51 50.5 -1.7**
comp=Z,102nm,0.8s,baz=138,slow=9.4,SNR=10
JOW LR LR 09 06 39.5
comp=Z,2µm,21.7s,baz=131,slow=32
comp=Z,102nm,0.8s
JOW Kunigami 41.89 323 P **P 08 51 52.8 +0.6**
GIRL Giralia 42.43 243 P **P 08 51 57.4 +0.7**
GIRL IAmb IAmb 08 51 59.0
comp=Z,212nm,1.1s
MORW Morawa 43.10 234 P **P 08 52 01.9 -0.2**
comp=Z,116nm,0.9s
MORW Morawa 43.10 234 P 08 52 01.0 -1.0
MORW IAmb IAmb 08 52 03.3
comp=Z,165nm,1.1s
MORW Morawa 43.10 234 P **P 08 52 02.4 +0.3**
NGJI Ngawi 43.17 266 P pP 08 52 18.3 +0.8
BLDU Ballidu 43.22 231 P **P 08 52 02.7 -0.4**
comp=Z,90nm,0.9s
BLDU Ballidu 43.22 231 P **P 08 52 02.8 -0.3**
PCJI Pacitan 43.44 265 P **P 08 52 04.7 -0.3**
MIDW Midway 43.52 37 P **P 08 52 07.0 +1.6**
MIDW IAmb IAmb 08 52 10.0
comp=Z,202nm,0.8s
MIDW Midway 43.52 37 P **P 08 52 07.8 +2.4**
SBUM Sibu 43.54 280 IAmb IAmb 08 52 22.4
comp=Z,221nm,1.2s
SBUM Sibu 43.54 280 P **P 08 52 06.6 +0.8**

YOJ	Yonaguni jima	43.66 316	P	P	08 52 06.8 +0.2
YOJ	Yonaguni jima	43.66 316	P	P	08 52 07.4 +0.9
YOJ	Yonaguni jima	43.66 316	P	P	08 52 06.8 +0.2
YOJ			pmax	pmax	
	comp=Z,314nm,0.8s				
NWAO	Narrogin (SRO)	43.89 228	P	P	08 52 08.2 -0.2
	comp=Z,0.0nmcomp=Z,83nm,1.2s				
NWAO	Narrogin (SRO)	43.89 228		P	08 52 07.6 -0.8
NWAO	Narrogin (SRO)	43.89 228	P	P	08 52 08.3 -0.1
NWAO	Narrogin (SRO)	43.89 228	P	P	08 52 08.4 0.0
NWAO	Narrogin (SRO)	43.89 228	P	P	08 52 07.6 -0.8
NWAO			pmax	pmax	
	comp=Z,120nm,1.3s				
NWAO	Narrogin (SRO)	43.89 228	P	P	08 52 08.3 0.0
NWAO			pP	pP	08 52 22.4 -0.7
NWAO			PcP	PcP	08 53 54.1 +0.4
TWGBT	Beinan	44.01 312	P	P	08 52 09.5 +0.1
UGM	Wanagama	44.09 265	P	P	08 52 10.5 +0.2
UGM	Wanagama	44.09 265	P	P	08 52 11.3 +1.0
	comp=Z,5μmcomp=Z,377nm,1.1s				
SMRI	Semarang	44.19 266	P	P	08 52 11.9 +0.8
SMRI	Semarang	44.19 266	P	pP	08 52 27.8 +2.0
YULB	Yu-li	44.20 313	IAmb	IAmb	08 52 13.7
	comp=Z,128nm,0.9s				
YULB	Yu-li	44.20 313	P	P	08 52 11.0 0.0
MUN	Mundaring	44.21 230	P	P	08 52 11.4 +0.4
YOGI	Yogyakarta	44.32 265	P	P	08 52 15.9 +3.8
	comp=Z,9μmcomp=Z,423nm,0.8s				
AUMAZ	Mazenod Senior	44.36 230	P	P	08 52 12.3 +0.2
NACB	Ninganchiao	44.47 314	P	P	08 52 13.2 +0.2
NACB			IAmb	IAmb	08 52 15.6
	comp=Z,183nm,0.8s				
NACB	Ninganchiao	44.47 314	P	P	08 52 13.7 +0.6
MTKN	Mount Kenneth	44.52 230	P	P	08 52 14.4 +1.0
JMN	Monobe	44.57 335	P	P	08 52 13.4 -0.3
JMN	Monobe	44.57 335	P	P	08 52 14.1 +0.3
TPUB	Ta-pu	44.63 312	IAmb	IAmb	08 52 19.2
	comp=Z,122nm,0.8s				
TPUB	Ta-pu	44.63 312	P	P	08 52 14.3 -0.1
SSLB	Suanglung	44.69 313	IAmb	IAmb	08 52 19.5
	comp=Z,136nm,0.8s				
SSLB	Suanglung	44.69 313	P	P	08 52 15.2 +0.3
INU	Inuyama	44.78 339	P	P	08 52 14.5 -0.8
INU	Inuyama	44.78 339	P	P	08 52 14.5 -0.8
CTZ	Chatham Island	44.84 151	P	P	08 52 17.4 +1.7
CTZ	Chatham Island	44.84 151	P	P	08 52 18.1 +2.4
CTZ	Chatham Island	44.84 151	P	P	08 52 17.6 +1.9
JGF	Kuroka	44.88 340	P	P	08 52 16.3 +0.1
YHNB	Yeheng	44.93 315	P	P	08 52 17.1 +0.2
YHNB			IAmb	IAmb	08 52 19.2
	comp=Z,136nm,0.8s				
YHNB	Yeheng	44.93 315	P	P	08 52 18.1 +1.2
AUHAR	St Anne's Scho	44.96 228	P	P	08 52 18.1 +1.2
KSM	Kuching	45.23 278	IAmb	IAmb	08 52 21.1
	comp=Z,107nm,0.7s				
KSM	Kuching	45.23 278	P	P	08 52 19.9 +0.6
JNU	Nakatsue	45.42 331	IAmb	IAmb	08 52 21.8
	comp=Z,160nm,0.8s				
JNU	Nakatsue	45.42 331	LR	LR	09 10 38.2
	comp=Z,384nm,19.4s,baz=144,slow=35				
JNU	Nakatsue	45.42 331	P	P	08 52 20.2 -0.3
MJAR	Matsushiro Arr	45.45 341	IAmb	IAmb	08 52 23.7
	comp=Z,17nm,0.8s				
MJAR	Matsushiro Arr	45.45 341	P	P	08 52 18.7 -2.0
	comp=Z,19nm,0.9s,baz=163,slow=7.8,SNR=20				
MJAR			PcP	PcP	08 53 59.1 +0.2
	comp=Z,23nm,0.9s,baz=161,slow=3.6,SNR=8.0				
MJAR			LR	LR	09 12 37.4
	comp=Z,966nm,18.1s,baz=160,slow=38				
	comp=Z,19nm,0.9s				
MJAR	Matsushiro Arr	45.45 341	P	P	08 52 19.6 -1.1
MJAR	Matsushiro Arr	45.45 341	pmax	pmax	
	comp=Z,17nm,0.9s				
MJAR	Matsushiro Arr	45.45 341	P	P	08 52 19.6 -1.1
MAJO	Matsushiro	45.45 341	IAmb	IAmb	08 52 23.4
	comp=Z,27nm,1.1s				
MAJO	Matsushiro	45.45 341	P	P	08 52 19.7 -1.0
MAJO	Matsushiro	45.45 341	P	P	08 52 19.5 -1.2
MAJO			pmax	pmax	
	comp=Z,27nm,1.1s				
MAJO	Matsushiro	45.45 341	P	P	08 52 19.3 -1.4
MAJO			PcP	PcP	08 53 59.1 +0.2
MAJO	Matsushiro	45.45 341	P	P	08 52 19.5 -1.2
MJB9	Matsu-Tunnel	45.46 341	IAmb	IAmb	08 52 23.6
	comp=Z,32nm,1.0s				
MJB9	Matsu-Tunnel	45.46 341	P	P	08 52 19.5 -1.2
KPJI	Karang Pucung	45.68 266	P	P	08 52 24.5 +1.6
	comp=Z,6μmcomp=Z,541nm,1.0s				
JMM	Marumori	45.92 344	P	P	08 52 25.1 +0.8
RAR	Rarotonga	46.21 113	LR	LR	09 08 44.7
	comp=Z,2μm,18.9s,baz=280,slow=32				
BBJI	Bungbulang	46.95 266	P	P	08 52 32.2 -0.7
LEM	Lembang	47.00 267	LR	LR	09 14 36.0
	comp=Z,1μm,21.0s,baz=132,slow=39				
H01W1	Cape Leeuwin H	47.07 227	P	P	08 52 35.2 +2.0
	baz=76,slow=8.2,SNR=5.2				
H01W3	Cape Leeuwin H	47.08 227	P	P	08 52 35.3 +2.0
	baz=76,slow=8.2,SNR=6.1				
H01W2	Cape Leeuwin H	47.09 227	P	P	08 52 35.4 +2.0
	baz=76,slow=8.2,SNR=4.1				
QZH	Quanzhou	47.10 313⇑	iP	P	08 52 34.8 +1.0
QZH			pP	pP	08 52 49.0 -0.3
QZH			S	S	08 59 22.5 +0.6
QZH			sS	sS	08 59 42.5 -5.7
QZH			pmax	pmax	
	comp=Z,330nm,0.9s				
QZH			LR	LR	
	comp=Z,1μm,22.3s				
QZH			LR	LR	
	comp=Z,2μm,18.9s				
QZH			LR	LR	
	comp=Z,3μm,26.5s				
TPI	Tanjungpandan	47.26 272	P	P	08 52 36.0 +0.7
	comp=Z,2μmcomp=Z,128nm,0.9s				
CNJI	Cibinong	47.47 266	P	P	08 52 36.1 -0.8
DBJI	Dramaga	47.88 267	P	P	08 52 42.9 +2.8
	comp=Z,277nm,0.9s				
SKJI	Sukabumi	48.05 266	P	P	08 52 41.6 +0.2
XMAS	Kiritimati	48.26 82	P	P	08 52 45.1 +2.1
XMAS			IAmb	IAmb	08 52 47.1
	comp=Z,144nm,0.9s				
XMAS	Kiritimati	48.26 82	P	P	08 52 45.5 +2.5
JTM	Tenmabayashi	48.60 346	IAmb	IAmb	08 52 46.4
	comp=Z,65nm,0.9s				
JTM	Tenmabayashi	48.60 346	P	P	08 52 45.7 +0.6
XMI	Christmas Isla	48.86 262	P	P	08 52 48.5 +0.9
HKPS	Hong Kong Po S	49.04 307	P	P	08 52 49.6 +0.7
DLV	Lat	49.65 291	P	P	08 52 54.7 +0.9
TJN	Taejon	49.74 331	P	P	08 52 54.1 +0.1
TJN	Taejon	49.74 331	d iP	P	08 52 53.8 -0.2
GZH	Guangzhou	50.09 307	P	P	08 52 57.8 +1.0
GZH			S	S	09 00 06.8 +2.8
GZH			pmax	pmax	
	comp=Z,140nm,0.9s				
GZH			LR	LR	
	comp=Z,2μm,23.2s				
GZH			LR	LR	
	comp=Z,2μm,25.8s				
GZH			LR	LR	
	comp=Z,4μm,21.6s				
KASI	Kota Agung	50.17 268	P	P	08 52 55.9 -1.7
	comp=Z,2μmcomp=Z,255nm,0.9s				
KSRS	Korea Array	50.34 332	P	P	08 52 58.3 -0.2
	comp=Z,82nm,0.9s,baz=145,slow=7.4,SNR=96				
KSRS			LR	LR	09 14 27.5
	comp=Z,284μm,18.9s,baz=140,slow=36				
	comp=Z,82nm,0.9s				
KSAR	Wonju Array Be	50.35 332	P	P	08 52 58.2 -0.3
KSAR	Wonju Array Be	50.35 332	P	P	08 52 58.2 -0.3
KS19	Wonju Array Si	50.41 332	IAmb	IAmb	08 53 00.4
	comp=Z,86nm,0.9s				
MDSI	Maura Dua	50.56 269	P	P	08 52 59.5 -1.0
	comp=Z,131nm,1.3s				
DSRI	Dabo	50.59 275	P	P	08 53 01.1 +0.3
	comp=Z,4μmcomp=Z,187nm,0.8s				
LWLI	Liwa	50.64 269	P	P	08 53 01.3 0.0
	comp=Z,424nm,1.0s				
YUK	Yuzh-Kuril'sk	50.81 352	P	P	08 52 55.2 -6.6
YUK			eS	S	09 00 15.2 +1.8
YUK			MLR	MLR	
	comp=Z,5μm,21.0s				
YUK			MLR	MLR	
	comp=N,2μm,20.0s				
TPRI	Tanjung Pinang	50.84 276	P	P	08 53 03.4 +0.7
	comp=N,198nm,0.9s				
INCN	Inchon	50.98 331	P	P	08 53 03.1 -0.2
INCN	Inchon	50.98 331	P	P	08 53 04.0 +0.7
INCN	Inchon	50.98 331	P	P	08 53 03.1 -0.2
INCN			pmax	pmax	
	comp=Z,296nm,0.9s				
QIZ	Qiongzhong	51.09 301	P	P	08 53 05.8 +1.4
QIZ			S	S	09 00 19.5 +1.5
QIZ			pmax	pmax	
	comp=Z,150nm,0.9s				
QIZ			pmax	pmax	
	comp=Z,730nm,4.6s				
QIZ			LR	LR	
	comp=Z,780nm,17.8s				
QIZ			LR	LR	
	comp=Z,1μm,20.6s				
QIZ			LR	LR	
	comp=Z,3μm,31.4s				
QIZ	Qiongzhong	51.09 301	IAmb	IAmb	08 53 06.8
	comp=Z,122nm,0.9s				
QIZ	Qiongzhong	51.09 301	P	P	08 53 05.8 +1.4
QIZ	Qiongzhong	51.09 301	P	P	08 53 05.3 +0.9
QIZ			pP	pP	08 53 20.1 +0.1
NJ2	Nanjing	51.38 320	⇑P	P	08 53 07.5 +1.1
NJ2			pP	sP	08 53 26.5 -2.5
NJ2			S	S	09 00 25.5 +3.8
NJ2			sS	sS	09 00 48.8 +0.5
NJ2			pmax	pmax	
	comp=Z,620nm,0.8s				
NJ2			pmax	pmax	
	comp=Z,1μm,7.9s				
NJ2			LR	LR	
	comp=Z,1μm,17.8s				
NJ2			LR	LR	
	comp=Z,1μm,18.7s				
NJ2			LR	LR	
	comp=Z,2μm,23.4s				
JKA	Kamikawa-asahi	51.45 349	IAmb	IAmb	08 53 57.2
	comp=Z,116nm,1.5s				
ASAJ	Asahikawa	51.45 349	LR	LR	09 13 05.8
	comp=Z,3μm,20.3s,baz=179,slow=34				
MYKOM	Kota Tinggi	51.65 277	IAmb	IAmb	08 53 10.2
	comp=Z,130nm,0.9s				
MYKOM	Kota Tinggi	51.65 277	P	P	08 53 09.2 +0.5
BTDF	Bukit Timah Da	51.65 277	P	P	08 53 09.5 +0.7
CNSH	ChangSha	53.10 312	P	P	08 53 20.5 +1.3
CNSH			S	S	09 00 47.5 +2.1
CNSH			pmax	pmax	
	comp=Z,180nm,1.0s				
CNSH			LR	LR	
	comp=Z,940nm,16.7s				
CNSH			LR	LR	
	comp=Z,1μm,23.3s				
CNSH			LR	LR	
	comp=Z,3μm,27.5s				
MSHR	Mys Shultsa	53.29 338⇓	eP	P	08 53 19.3 -1.0
MSHR			pmax	pmax	
	comp=Z,17nm,0.8s				
WHN	Wuhan	53.44 316	P	P	08 53 22.5 +0.8
WHN			sP	sP	08 53 47.5 +3.2
WHN			S	S	09 00 50.8 +0.9
WHN			pmax	pmax	
	comp=Z,2μm,5.2s				
WHN			LR	LR	
	comp=Z,1μm,12.8s				
WHN			LR	LR	
	comp=Z,4μm,21.2s				
WHN			LR	LR	
	comp=Z,4μm,24.5s				
KRJI	Kerinci	53.48 272	P	P	08 53 22.6 +0.2
VLA	Vladivostok	53.49 339⇓	eP	P	08 53 22.3 +0.5
VLA			pmax	pmax	
	comp=Z,187nm,1.6s				
GULI	GuiLin	53.54 308	P	P	08 53 26.0 +3.5
GULI			S	S	09 00 58.5 +7.1
GULI			pmax	pmax	
	comp=Z,320nm,1.0s				
GULI			LR	LR	
	comp=Z,2μm,21.8s				
GULI			LR	LR	
	comp=Z,1μm,21.8s				
GULI			LR	LR	
	comp=Z,2μm,20.6s				
KIP	Kipapa	53.75 58	P	P	08 53 26.1 +2.0
KIP	Kipapa	53.75 58	P	P	08 53 27.0 +2.8
KIP	Kipapa	53.75 58	P	P	08 53 26.9 +2.8
KIP	Kipapa	53.75 58	ceP	P	08 53 26.3 +2.2
KIP			pmax	pmax	
	comp=Z,218nm,1.2s				
YSS	Yuzhno-Sakhali	54.16 350	P	P	08 53 27.3 +0.7
YSS	Yuzhno-Sakhali	54.16 350	P	P	08 53 27.8 +1.2
YSS	Yuzhno-Sakhali	54.16 350	eP	P	08 53 27.1 +0.5
YSS			pmax	pmax	
	comp=Z,40nm,0.9s				
YSS			pmax	pmax	
	comp=E,30nm,0.8s				
YSS			pmax	pmax	
	comp=Z,400nm,6.8s				
YSS			MLR	MLR	
	comp=Z,2μm,16.0s				
YSS			MLR	MLR	
	comp=N,1μm,17.0s				
YSS			MLR	MLR	
	comp=E,300nm,17.0s				
YSS	Yuzhno-Sakhali	54.16 350	P	P	08 53 26.9 +0.4
BKNI	Bangkinang	54.20 275	P	P	08 53 26.9 -0.7
BKNI	Bangkinang	54.20 275	P	P	08 53 27.8 +0.2
BKNI	Bangkinang	54.20 275	P	P	08 53 27.4 -0.2
USRK	Ussuriysk Ar.	54.41 340	P	P	08 53 28.8 +0.4
	comp=E,60nm,0.9s,baz=155,slow=7.9,SNR=19				
	comp=E,60nm,0.9s				
DL2	Dalian	54.59 328	P	P	08 53 29.0 -0.9
DL2			S	S	09 01 05.0 -0.1
DL2			pmax	pmax	
	comp=E,250nm,0.8s				
DL2			pmax	pmax	
	comp=E,1μm,11.7s				
DL2			LR	LR	
	comp=E,1μm,19.5s				
DL2			LR	LR	
	comp=E,1μm,19.8s				
DL2			LR	LR	
	comp=E,2μm,19.1s				
PDSI	Padang	54.61 273	P	P	08 53 28.7 -1.9
	comp=E,359nm,0.9s				
PPI	Padang Panjang	54.73 274	P	P	08 53 30.3 -1.1
IPM	Ipoh	54.89 280	P	P	08 53 32.2 -0.4
HMH	Humu'ula Sheep	55.17 61	P	P	08 53 38.1 +3.3
POHA	Pohakuloa	55.19 61	P	P	08 53 35.8 +0.9
POHA	Pohakuloa	55.19 61	P	P	08 53 37.7 +2.8
TIA	Tai'an	55.22 323	P	P	08 53 34.0 -0.5
TIA			pmax	pmax	
	comp=E,82nm,0.9s				
TIA			LR	LR	
	comp=E,930nm,17.9s				
TIA			LR	LR	
	comp=E,280nm,16.5s				
TIA			LR	LR	
	comp=E,2μm,17.2s				
PPT	Papeete	55.23 107	P	P	08 53 35.6 +0.6
	comp=E,46nm,1.0s,baz=240,slow=20,SNR=3.2				
PPT			LR	LR	09 12 29.4
	comp=E,862nm,21.8s,baz=272,slow=31				
	comp=E,46nm,1.0s				
PPT2	Papeete2	55.23 107	eP	P	08 53 33.4 -1.6
	comp=E,59nm,1.2s				
PPT2	Papeete2	55.23 107	ePP	PP	08 55 35.2 -3.9
	comp=E,337nm,28.0s				
PPT2			eS	S	09 01 12.3 -2.3
	comp=E,1μm,26.2s				
PPT2			eSS	SS	09 05 04.7 +5.0
	comp=E,814nm,27.0s				
PPT2			eLQ	LQ	09 07 28.9
	comp=E,3μm,29.0s				
PPT2			eLR	LR	09 09 43.0
	comp=E,2μm,28.8s				
PPT2			eLR	LR	09 09 51.6
	comp=E,3μm,26.8s				
PAE	Paea	55.23 107	eP	P	08 53 34.9 0.0
	comp=E,18nm,1.1s				
PAE			epP	pP	08 53 48.6 -2.2
	comp=E,23nm,1.1s				
PAE			eS	S	09 01 04.8 -10
	comp=E,313nm,26.5s				
PAE			eSS	SS	09 04 53.2 -6.4
	comp=E,355nm,27.8s				
PAE			eLR	LR	09 09 38.2
	comp=E,525nm,24.1s				
UWE	Uwekahuna	55.27 61	IAmb	IAmb	08 53 59.1
	comp=Z,151nm,1.0s				
PUH	Pauahi	55.32 61	IAmb	IAmb	08 53 59.9
	comp=Z,121nm,1.1s				
STCH	Steam Cracks	55.40 61	IAmb	IAmb	08 53 40.6
	comp=Z,89nm,1.0s				
KULM	Kulim	55.42 281	IAmb	IAmb	08 53 37.2
	comp=Z,96nm,1.0s				
KULM	Kulim	55.42 281	P	P	08 53 35.9 -0.4
TIAR	Tiarei	55.45 107	eP	P	08 53 36.0 -0.5
	comp=Z,144nm,1.1s				
TIAR	Tiarei	55.45 107	eLR	LR	09 09 48.5
	comp=Z,3μm,25.7s				
TVO	Taravao	55.56 107	eP	P	08 53 38.2 +0.8
	comp=Z,33nm,1.1s				
TVO	Taravao	55.56 107	eLR	LR	09 09 49.9
	comp=Z,892nm,26.3s				
MDJ	Mudanjiang	55.62 338	P	P	08 53 37.0 -0.2
MDJ			pmax	pmax	
	comp=Z,77nm,1.5s				
MDJ	Mudanjiang	55.62 338	P	P	08 53 37.7 +0.5
MNSI	Mandailing Nat	55.71 275	P	P	08 53 37.3 -1.2
SISI	Saibi	55.93 273	P	P	08 53 40.7 +0.7
	comp=Z,253nm,0.9s				
TBI	Tubuai	55.98 114	eP	P	08 53 33.9 -6.3
	comp=Z,3μm,27.5s				
TBI			eS	S	09 01 27.5 +3.2
	comp=Z,6μm,29.8s				
TBI			eSS	SS	09 05 09.4 -1.8
	comp=Z,3μm,27.2s				
TBI			eLQ	LQ	09 07 46.6
	comp=Z,13μm,34.8s				
TBI			eLR	LR	09 10 04.7
	comp=Z,9μm,27.8s				
TBI			eLR	LR	09 10 10.8
	comp=Z,44μm,29.2s				
CN2	Changchun	56.58 335	P	P	08 53 43.8 -0.3
CN2			S	S	09 01 32.3 +0.7
CN2			pmax	pmax	
	comp=Z,70nm,0.9s				
CN2			pmax	pmax	
	comp=Z,260nm,8.0s				
RPSI	Rantau Prapat	56.65 277	IAmb	IAmb	08 53 47.1
	comp=Z,56nm,0.9s				
PMOR	Pomariorio Ree	56.70 104	eP	P	08 53 44.8 -0.6
	comp=Z,284nm,1.3s				
PMOR			epP	pP	08 53 58.1 -3.3
	comp=Z,174nm,1.1s				
PMOR			eS	S	09 01 21.7 -12
	comp=Z,3μm,27.8s				
PMOR			eLR	LR	09 10 18.9
	comp=Z,4μm,22.4s				
ENH	Enshi	56.76 313	IAmb	IAmb	08 54 11.0
	comp=Z,124nm,1.0s				
ENH	Enshi	56.76 313	P	P	08 53 45.8 +0.1
ENH	Enshi	56.76 313	P	P	08 53 45.8 +0.1
SKR	Severo-Kuril's	56.80 1	eP	P	08 53 48.0 +2.5
SKR			eS	S	09 01 40.6 +6.5
SKR			pmax	pmax	
	comp=Z,210nm,1.0s				
SKR			pmax	pmax	
	comp=Z,2μm,5.2s				
SKR			MLR	MLR	
	comp=Z,1μm,17.0s				
VAH	Vaihoa	56.96 104	eP	P	08 53 47.0 -0.3
	comp=Z,27nm,1.2s				
VAH			epP	pP	08 54 01.7 -1.6
	comp=Z,17nm,1.0s				
GYA	Guiyang	57.02 307	⇑P	P	08 53 48.8 +1.1
GYA			pP	pP	08 54 01.5 -2.0
GYA			PcP	PcP	08 54 43.8 +1.5
GYA			S	S	09 01 39.0 +0.8
GYA			pmax	pmax	
	comp=Z,61nm,1.2s				
GYA			LR	LR	
	comp=Z,960nm,21.2s				
GYA			LR	LR	
	comp=Z,960nm,19.9s				
GYA			LR	LR	
	comp=Z,2μm,21.7s				
LYN	LuoYang	57.10 318	⇑P	P	08 53 48.0 0.0
LYN			S	S	09 01 40.5 +1.8
LYN			sS	pS	09 01 59.5 +3.0
LYN			pmax	pmax	
	comp=Z,120nm,0.9s				
LYN			LR	LR	
	comp=Z,2μm,19.2s				
LYN			LR	LR	
	comp=Z,1μm,18.2s				
LYN			LR	LR	
	comp=Z,3μm,19.6s				
SLVN	Son La	57.11 300	P	P	08 53 49.7 +1.3
BNX	BinXian	57.39 337	⇓P	P	08 53 50.0 +0.2
BNX			pmax	pmax	
	comp=Z,120nm,0.9s				
HNS	HongShan	57.46 322	⇑P	P	08 53 50.5 +0.1
HNS			pmax	pmax	
	comp=Z,92nm,0.9s				
HNS			LR	LR	
	comp=Z,520nm,20.6s				
HNS			LR	LR	
	comp=Z,860nm,22.1s				
HNS			LR	LR	
	comp=Z,1μm,22.1s				
COCO	West Island	57.56 260	P	P	08 53 51.8 +0.3
COCO	West Island	57.56 260	P	P	08 53 53.1 +1.6
COCO	West Island	57.56 260	P	P	08 53 51.8 +0.3
COCO			pmax	pmax	
	comp=Z,294nm,1.1s				
KCSI	Kotacane, Aceh	57.92 278	P	P	08 53 52.2 -1.9
TYV	Tymovskoe	57.96 351	eP	P	08 53 53.7 +0.1
TYV			eS	S	09 01 47.8 -1.5
TYV			pmax	pmax	
	comp=Z,400nm,2.4s				
TYV			pmax	pmax	
	comp=Z,50nm,0.8s				
TYV			smax	smax	
	comp=N,300nm,3.8s				
TYV			smax	smax	
	comp=E,500nm,3.8s				
TYV			smax	smax	
	comp=N,15nm,1.7s				
TYV			smax	smax	
	comp=E,21nm,1.7s				
BJT	Baijiatuau	58.35 326	P	P	08 53 58.4 +1.8
LHMI	Lhok Sumawe	59.03 280	P	P	08 54 01.7 -0.1
LHMI	Lhok Sumawe	59.03 280	P	P	08 54 01.7 -0.1
	comp=E,4μmcomp=E,288nm,1.1s				
TIY	Taiyuan	59.05 321	P	P	08 54 02.0 +0.3
TIY			sP	sP	08 54 27.0 +2.5
TIY			pmax	pmax	
	comp=E,61nm,0.8s				
GRNR	Gornyy	59.09 346⇑	iP	P	08 54 02.1 +0.5
GRNR			pmax	pmax	
	comp=Z,10.0nm,1.0s				
XAN	Xi'an	59.21 316	⇑P	P	08 54 02.5 -0.3
XAN			PP	PP	08 56 15.8 +1.6
XAN			S	S	09 02 07.5 +1.2
XAN			SS	SS	09 06 03.8 +2.0
XAN			pmax	pmax	
	comp=Z,180nm,0.9s				
XAN			LR	LR	
	comp=Z,1μm,18.4s				
XAN			LR	LR	
	comp=Z,1μm,15.5s				
XAN			LR	LR	
	comp=Z,2μm,19.8s				
PET	Petropavlovsk	59.22 3	P	P	08 54 02.8 +0.4
PET	Petropavlovsk	59.22 3	P	P	08 54 03.9 +1.5
PET	Petropavlovsk	59.22 3	eP	P	08 54 03.0 +0.6
PET			e		08 54 50.7
PET			eS	S	09 02 09.6 +3.9
PET			pmax	pmax	
	comp=Z,600nm,15.5s				
PET			pmax	pmax	
	comp=Z,232nm,0.7s				
PET			pmax	pmax	
	comp=Z,1μm,15.8s				
PET	Petropavlovsk	59.22 3	P	P	08 54 03.3 +0.9
	comp=Z,213nm,0.8s				
PET	Petropavlovsk	59.22 3	P	P	08 54 03.6 +1.3
PET			sP	sP	08 54 25.1 -0.5
PEA0B	Petropavlovsk-	59.27 2	c iP	P	08 54 04.2 +1.5
PETK	Petropavlovsk-	59.27 2	P	P	08 54 04.0 +1.3
PETK	Petropavlovsk-	59.27 2	P	P	08 54 03.1 +0.3

comp=Z,276nm,0.9s,baz=188,slow=6.7,SNR=62
comp=Z,276nm,0.9s
PETK Petropavlovsk- 59.27 2 P P 08 54 04.0 +1.3
MLSI Meulaboh, Aceh 59.39 279 P P 08 54 02.9 -1.4
comp=Z,425nm,0.9s
KMI Kunming 59.61 304 ⇑P P 08 54 07.5 +1.5
KMI pP pP 08 54 21.0 -0.9
KMI pmax pmax
comp=Z,260nm,0.9s
KMI LR LR
comp=Z,520nm,19.8s
KMI LR LR
comp=Z,720nm,18.0s
KMI LR LR
comp=Z,1μm,21.1s
CM31 Chiang Mai Arr 60.46 295 P P 08 54 13.2 +1.5
CMAR Chiang Mai Arr 60.46 295 P P 08 54 12.2 +0.6
CMAR Chiang Mai Arr 60.46 295 P P 08 54 12.7 +1.1
comp=Z,505nm,0.9s,baz=110,slow=6.6,SNR=532
CMAR S **S 09 02 22.3 -0.5**
comp=Z,1.3nm,0.3s,baz=120,slow=8.7,SNR=4.5
CMAR LR LR 09 18 55.0
comp=Z,886nm,21.4s,baz=105,slow=35
CMAR PKPPKP **P'P'df 09 23 30.7 -3.4**
comp=Z,0.8nm,0.3s,baz=286,slow=1.8,SNR=4.6
CMAR PKP2bc **P'P'bc 09 23 41.4 -2.2**
comp=Z,2.8nm,0.9s,baz=308,slow=2.7,SNR=7.2
comp=Z,505nm,0.9s
CHTO Chiang Mai 60.58 296 P P 08 54 13.3 +0.9
CHTO Chiang Mai 60.58 296 P P 08 54 13.2 +0.9
CHTO Chiang Mai 60.58 296 P P 08 54 13.3 +0.9
CHTO pmax pmax
comp=Z,321nm,0.9s
PZH PanZhiHua 61.00 305 P P 08 54 15.5 +0.2
PZH S **S 09 02 29.5 -0.3**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,620nm,7.1s
PZH LR LR
comp=Z,910nm,20.0s
PZH LR LR
comp=Z,1μm,23.3s
PZH LR LR
comp=Z,1μm,23.1s
SHEM Shemya Is, Ala 61.06 13 P P 08 54 15.8 +0.8
comp=Z,374nm,1.1s,baz=207,slow=2.3,SNR=8.9
SHEM LR LR 09 17 56.3
comp=Z,5μm,20.4s,baz=182,slow=33
comp=Z,374nm,1.1s
SMY Shemya 61.06 13 P P 08 54 16.7 +1.8
XLT XiLinHaoTe 61.08 329 *eP* **P 08 54 15.5 +0.1**
XLT pP pP 08 54 27.5 -4.0
XLT sP sP 08 54 34.0 -4.3
XLT PcP **PcP 08 54 57.0 -1.0**
XLT pmax pmax
comp=Z,250nm,0.9s
XLT LR LR
comp=Z,1μm,23.5s
DRV Dumont d'Urvil 61.10 187 P P 08 54 16.2 +1.2
HEH HeiHe 61.21 340 *eP* **P 08 54 15.8 -0.2**
HEH PcP **PcP 08 54 57.8 -0.4**
HEH pmax pmax
comp=Z,75nm,0.9s
HEH LR LR
comp=Z,480nm,20.6s
HEH LR LR
comp=Z,790nm,18.8s
HEH LR LR
comp=Z,1μm,20.9s
CD2 Chengdu 61.36 310 P P 08 54 16.8 -0.7
CD2 pP pP 08 54 36.3 +2.9
CD2 sP sP 08 54 43.3 +3.2
CD2 S **S 09 02 32.0 -2.0**
CD2 sS sS 09 03 05.0 +4.2
CD2 pmax pmax
comp=Z,280nm,0.6s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,2μm,23.0s
CD2 LR LR
comp=Z,2μm,24.0s
HHC Hu-ho-hao-te 61.54 324⇑*iP* **P 08 54 18.8 +0.1**
HHC S **S 09 02 31.8 -4.3**
HHC pmax pmax
comp=Z,42nm,0.9s
HHC LR LR
comp=Z,770nm,20.2s
HHC LR LR
comp=Z,750nm,19.3s
HHC LR LR
comp=Z,2μm,18.5s
BTO Baotou 62.31 323 *eP* **P 08 54 25.0 +1.2**
BTO pP **pP 08 54 36.8 -3.2**
BTO PP **PP 08 56 42.5 +0.9**
BTO S **S 09 02 50.3 +4.5**
BTO pmax pmax
comp=Z,62nm,0.9s
BTO pmax pmax
comp=Z,1μm,6.6s
BTO LR LR
comp=Z,2μm,19.2s
BTO LR LR
comp=Z,2μm,17.9s
BTO LR LR
comp=Z,3μm,19.2s
KIWB Kanaga Island 62.70 19 P P 08 54 28.1 +2.1
ADK Adak 62.87 19 P P 08 54 29.2 +2.0
ADK Adak 62.87 19 P P 08 54 29.2 +2.0
ADK Adak 62.87 19 P P 08 54 29.2 +2.0
ADK pmax pmax
comp=Z,350nm,1.0s
TNCH TengChong 63.10 302 P P 08 54 29.8 +0.4
TNCH pP pP 08 54 41.3 -4.2
TNCH S **S 09 02 56.8 +0.4**
TNCH SS **SS 09 07 04.0 +0.6**
TNCH pmax pmax
comp=Z,310nm,0.8s
TNCH pmax pmax
comp=Z,890nm,3.2s
TNCH LR LR
comp=Z,870nm,22.3s
TNCH LR LR
comp=Z,550nm,18.0s
TNCH LR LR
comp=Z,1μm,23.2s
HIA Hailar 63.31 335 P P 08 54 30.4 +0.2
HIA Hailar 63.31 335 P P 08 54 30.1 -0.1
HILR Hailar Array B 63.53 335 P P 08 54 31.8 +0.1
comp=Z,107nm,0.8s,baz=136,slow=7.5,SNR=46
comp=Z,107nm,0.8s
LZH Lanzhou 63.82 315 ⇑P P 08 54 34.8 +0.8
LZH pP pP 08 54 47.5 -2.7
LZH sP sP 08 54 54.0 -2.9
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,540nm,4.3s
LZH LR LR
comp=Z,1μm,19.1s
LZH LR LR
comp=Z,1μm,18.9s
LZH LR LR
comp=Z,2μm,21.3s
LZDM Lanzhou Array 63.86 315 P P 08 54 35.0 +0.6
comp=Z,91nm,0.8s,baz=138,slow=7.1,SNR=50
LZDM S **S 09 03 05.5 -0.2**
comp=Z,1.6nm,0.3s,baz=119,slow=20,SNR=1.7
LZDM LR LR 09 21 15.6
comp=Z,1μm,21.3s,baz=70,slow=35
LZDM PKP2bc **P'P'bc 09 23 33.2 -0.7**
comp=Z,1.9nm,0.4s,baz=276,slow=4.2,SNR=5.0
comp=Z,91nm,0.8s
ZEA Zeya 64.24 342 *eP* **P 08 54 35.1 -1.1**
ZEA pmax pmax
comp=Z,400nm,9.7s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,40nm,1.0s
ZEA pmax pmax
comp=Z,80nm,1.0s
TAOE Nuku Hiva Isla 64.32 97 *eP* **P 08 54 36.8 -0.8**
comp=Z,229nm,1.2s
TAOE *e*S **S 09 03 04.9 -6.9**
comp=Z,437nm,27.9s
TAOE *e*SS **SS 09 07 14.3 -8.3**
comp=Z,504nm,32.7s
TAOE *e*LQ LQ 09 10 39.1
comp=Z,1μm,25.0s
TAOE *e*LR LR 09 13 50.0
comp=Z,2μm,23.4s
MA2 Magadan 65.79 358 P P 08 54 46.6 +0.5
MA2 Magadan 65.79 358 P P 08 54 46.5 +0.4
MA2 Magadan 65.79 358 P P 08 54 46.6 +0.5
MA2 pmax pmax
comp=Z,178nm,0.9s
MA2 Magadan 65.79 358 P P 08 54 46.3 +0.2
comp=Z,261nm,0.9s
MA2 Magadan 65.79 358 P P 08 54 46.5 +0.4
NIKH Nikolski High 66.57 23 P P 08 54 53.0 +1.8
NIKH Nikolski High 66.57 23 P P 08 54 52.6 +1.4
baz=220
IMP Imphal 66.92 300 *eP* **P 08 54 52.8 -1.4**
IMP IAmb IAmb 08 55 10.0
comp=Z,83nm,0.6s
IMP *e*S **S 09 03 46.0 +2.9**
KOHI KOHIMA 67.07 301 IAmb IAmb 08 54 57.1
comp=Z,94nm,1.1s
KOHI *eP* **P 08 54 58.1 +2.9**
SILR SILCHAR 67.89 300 *eP* **P 08 55 01.9 +1.7**
SILR IAmb IAmb 08 55 03.0
comp=Z,95nm,0.6s
ZIRO ZIRO 67.90 303 *eP* **P 08 55 03.0 +2.6**
ZIRO IAmb IAmb 08 55 04.9
comp=Z,87nm,1.1s
ZIRO *e*S **S 09 03 57.9 +2.9**
CIT Chita 68.01 334 *eP* **P 08 55 00.8 +0.4**
CIT *e* 08 55 16.8
CIT *e* 08 55 27.0
CIT pmax pmax
comp=Z,157nm,1.0s
GTA Gaotai 68.23 317 P P 08 55 03.5 +1.3
GTA pP pP 08 55 17.0 -1.6
GTA S **S 09 04 01.8 +3.3**
GTA pmax pmax
comp=Z,140nm,1.0s
GTA LR LR
comp=Z,750nm,22.9s
GTA LR LR
comp=Z,1μm,24.4s
GTA LR LR
comp=Z,2μm,24.0s
BRDH Bariadhala 68.26 297 P P 08 55 03.7 +1.2
comp=Z,612nm,1.0s,baz=65,slow=17,SNR=26
BRDH S **S 09 03 59.7 +0.7**
comp=Z,84nm,0.3s,baz=73,slow=19,SNR=1.5
BRDH LR LR 09 24 00.4
comp=Z,541nm,20.9s,baz=140,slow=35
comp=Z,612nm,1.0s
ULN Ulaanbaatar 68.43 328 P P 08 55 04.0 +0.7
ULN IAmb IAmb 08 55 05.7
comp=Z,70nm,0.8s
ULN Ulaanbaatar 68.43 328*c iP* **P 08 55 04.1 +0.8**
ULN pmax pmax
comp=Z,92nm,1.0s
TEZP TEZPUR 68.48 302 *eP* **P 08 55 06.0 +2.1**
TEZP IAmb IAmb 08 55 08.6
comp=Z,85nm,0.8s
AKUT Akutan 68.65 24 P P 08 55 05.7 +1.4
AKUT Akutan 68.65 24 P P 08 55 05.7 +1.4
SONM Songino Array 68.76 327 P P 08 55 05.9 +0.5
SONM IAmb IAmb 08 55 07.6
comp=Z,86nm,0.9s
SONM Songino Array 68.76 327 P P 08 55 05.8 +0.4
comp=Z,102nm,1.0s,baz=134,slow=6.0,SNR=77
SONM PKP2bc **P'P'bc 09 23 17.0 -1.7**
comp=Z,6.3nm,1.0s,baz=304,slow=2.6,SNR=8.8
SONM LR LR 09 26 48.6
comp=Z,719nm,19.1s,baz=132,slow=37
comp=Z,102nm,1.0s
SONM Songino Array 68.76 327 P P 08 55 05.9 +0.5
SONM pmax pmax
comp=Z,86nm,0.9s
SHL Shillong 68.92 300 *eP* **P 08 55 09.0 +2.1**
SHL IAmb IAmb 08 55 09.5
comp=Z,70nm,1.5s
SEY Seymchan 69.11 359⇑*eP* **P 08 55 07.7 +0.7**
SEY pmax pmax
comp=Z,97nm,1.0s
P08K Saint George I 69.14 20 P P 08 55 09.0 +1.7
baz=218
RKT Rikitea 69.23 112 *e*S **S 09 04 03.9 -6.7**
comp=Z,3μm,30.2s
RKT *e*SS **SS 09 08 31.9 -6.3**
comp=Z,2μm,36.5s
RKT *e*LQ LQ 09 13 17.2
comp=Z,5μm,27.2s
RKT *e*LR LR 09 16 12.6
comp=Z,30μm,29.8s
SPIA Saint Paul Isl 69.36 19 P P 08 55 10.3 +1.7
baz=217,SNR=5.1
TAWA Tawang 69.58 302 *eP* **P 08 55 13.7 +2.5**
TAWA IAmb IAmb 08 55 14.0
comp=Z,91nm,0.7s
FALS False Pass 70.12 24 IAmb IAmb 08 55 16.1
comp=Z,216nm,1.1s
FALS False Pass 70.12 24 P P 08 55 14.8 +1.4
FALS False Pass 70.12 24 P P 08 55 14.5 +1.2
baz=225,SNR=5.4
GOMU GeErMu 70.38 312 P P 08 55 16.5 +0.7
GOMU S **S 09 04 26.3 +2.0**
GOMU LR LR
comp=Z,730nm,18.6s
GOMU LR LR
comp=Z,610nm,18.8s
LSA Lhasa 70.87 304 P P 08 55 16.3 -2.8
LSA pmax pmax
comp=Z,49nm,0.9s
LSA LR LR
comp=Z,330nm,21.6s
LSA LR LR
comp=Z,650nm,25.9s
LSA LR LR
comp=Z,1μm,26.6s
LSA Lhasa 70.87 304 IAmb IAmb 08 55 35.9
comp=Z,112nm,1.2s
YAK Yakutsk 70.91 348 P P 08 55 18.8 +0.7
YAK Yakutsk 70.91 348 LR LR 09 24 38.4
comp=Z,1μm,21.7s,baz=152,slow=34
YAK Yakutsk 70.91 348 *eP* **P 08 55 18.1 +0.1**
YAK *e* 08 58 04.8
YAK *e*PPP PPP 08 59 36.2
YAK *e*S **S 09 04 31.6 +2.9**
YAK *e**SS **pS 09 04 51.6 +2.7**
YAK *e*SS **SS 09 08 57.2 -5.5**
YAK pmax pmax
comp=Z,195nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=N,38nm,1.1s
YAK pmax pmax
comp=Z,89nm,2.3s
YAK pmax pmax
comp=E,44nm,2.1s
YAK pmax pmax
comp=N,42nm,2.2s
YAK smax smax
comp=E,164nm,3.3s
YAK smax smax
comp=N,299nm,5.1s
YAK Yakutsk 70.91 348 P P 08 55 18.5 +0.4
VNDA Vanda 71.23 178 P P 08 55 20.5 +0.7
VNDA Vanda 71.23 178 P P 08 55 21.1 +1.3
comp=N,24nm,0.8s,baz=339,slow=6.9,SNR=78
VNDA S **S 09 04 29.4 -2.8**
comp=N,0.5nm,0.9s,baz=342,slow=3.2,SNR=1.2
comp=N,24nm,0.8s
VNDA Vanda 71.23 178 P P 08 55 21.3 +1.5
S12K Black Hills 71.27 24 P P 08 55 21.7 +1.3
baz=226,SNR=10.0
SDPT Sand Point 71.68 25 P P 08 55 25.0 +2.2
SDPT Sand Point 71.68 25 P P 08 55 24.6 +1.7
baz=227
CHNA Chernabura Isl 71.71 26 P P 08 55 24.9 +2.0
baz=228
SBA Scott Base 71.74 177 P P 08 55 25.1 +2.2
SBA Scott Base 71.74 177 P P 08 55 25.1 +2.2
SBA pmax pmax
comp=Z,62nm,1.2s
ZAK Zakamensk 71.92 328 *eP* **P 08 55 24.3 -0.2**
ZAK pmax pmax
comp=Z,132nm,1.0s
BOD Bodaibo 72.00 338 *eP* **P 08 55 24.3 -0.4**
BOD pmax pmax
comp=Z,67nm,1.1s
TLY Talaya 72.48 329 P P 08 55 27.6 -0.2
TLY Talaya 72.48 329*ceP* **P 08 55 28.4 +0.7**
TLY pmax pmax
comp=Z,66nm,1.0s
IRK Irkutsk 72.50 330 *eP* **P 08 55 27.2 -0.6**
IRK pmax pmax
comp=Z,109nm,0.8s
S14K Fog Glacier 72.70 25 P P 08 55 30.7 +1.7
baz=228,SNR=6.0
BWNR Bhubaneshwar 72.88 293 IAmb IAmb 08 55 32.9
comp=Z,16nm,0.4s
BWNR *e*P **P 08 55 33.4 +2.7**
M11K Mekoryuk 73.19 19 IAmb IAmb 08 55 35.0
comp=Z,132nm,1.0s
M11K Mekoryuk 73.19 19 P P 08 55 33.9 +2.2
baz=221,SNR=6.1
MOY Mondy 73.83 328 *eP* **P 08 55 36.0 +0.1**
MOY pmax pmax
comp=Z,68nm,1.0s
EVN Everest 73.96 301 IAmb IAmb 08 55 55.0
comp=Z,145nm,1.0s
O14K Tigyukauivet M 74.07 22 P P 08 55 38.9 +2.0
baz=226,SNR=24
CHIR Chirikof Islan 74.08 26 P P 08 55 38.4 +1.3
baz=232
M13K Dall Lake 74.16 20 P P 08 55 39.4 +2.1
baz=224,SNR=18
GAMB Gambell 74.30 15 IAmb IAmb 08 55 43.4
comp=Z,196nm,1.2s
GAMB Gambell 74.30 15 P P 08 55 40.1 +1.9
baz=215
N14K Kuskokwak Cree 74.39 21 IAmb IAmb 08 55 41.7
comp=Z,147nm,1.1s
N14K Kuskokwak Cree 74.39 21 P P 08 55 40.6 +1.9
baz=225,SNR=7.5
O15K Ungalikthiuk R 74.55 22 IAmb IAmb 08 55 42.6
comp=Z,104nm,1.1s
O15K Ungalikthiuk R 74.55 22 P P 08 55 41.5 +1.8
baz=227,SNR=9.9
VIS Vishakhapatnam 74.60 290 IAmb IAmb 08 55 42.9
comp=Z,97nm,0.6s
VIS *eP* **P 08 55 43.5 +2.7**
BILL Bilibino 74.64 4 P P 08 55 41.2 +1.1
BILL Bilibino 74.64 4*ceP* **P 08 55 41.2 +1.1**
BILL pmax pmax
comp=Z,272nm,1.0s
RAGD RAYAGADA 74.80 292 *eP* **P 08 55 44.6 +2.6**
RAGD IAmb IAmb 08 55 45.2
comp=Z,90nm,1.0s
K13K Kusilvak Mount 74.85 19 IAmb IAmb 08 55 44.7
comp=Z,107nm,0.9s
K13K Kusilvak Mount 74.85 19 P P 08 55 43.6 +2.3
baz=222,SNR=16
M14K Bethel 74.88 20 P P 08 55 43.6 +2.1
baz=225,SNR=34
R17L Mt. Peulik Vol 74.91 25 P P 08 55 43.8 +2.0
baz=231,SNR=12
L14K Kuka Creek 75.06 20 IAmb IAmb 08 55 45.8
comp=Z,162nm,0.9s
L14K Kuka Creek 75.06 20 P P 08 55 44.8 +2.2
baz=224,SNR=41
N15K Kwethluk River 75.13 21 IAmb IAmb 08 55 47.3
comp=Z,108nm,0.9s
N15K Kwethluk River 75.13 21 P P 08 55 45.4 +2.3
baz=227,SNR=19
KNGR Kungurtug, Tuv 75.14 326*c iP* **P 08 55 44.0 +0.5**
KNGR pmax pmax
comp=Z,138nm,0.9s
P16K Nushagak River 75.16 23 P P 08 55 45.2 +2.0
baz=229
SII Sitkinak Islan 75.17 26 P P 08 55 45.5 +2.1
SII Sitkinak Islan 75.17 26 P P 08 55 45.1 +1.7
baz=233
M15K Kasigluk River 75.28 21 P P 08 55 45.5 +1.6
baz=226,SNR=30
PALK Pallekele 75.29 279 P P 08 55 45.6 +0.6
PALK Pallekele 75.29 279 LR LR 09 34 60.0
comp=Z,379nm,18.1s,baz=108,slow=41
PALK Pallekele 75.29 279 P P 08 55 45.6 +0.6
PALK pmax pmax
comp=Z,221nm,1.0s
PALK Pallekele 75.29 279 P P 08 55 45.5 +0.5
Q16K King Salmon 75.45 24 P P 08 55 46.4 +1.6
baz=230
O16K Kokwok River B 75.49 23 P P 08 55 46.4 +1.3
baz=229
Q17K Contact Creek 75.50 24 P P 08 55 46.4 +1.0
baz=231
MALK Mahakanadarawa 75.61 280 P P 08 55 47.3 +0.5
R18K Karluk 75.67 25 IAmb IAmb 08 55 47.9
comp=Z,113nm,1.4s
R18K Karluk 75.67 25 P P 08 55 47.4 +1.3
baz=232
L15K Ungalak Mounta 75.70 20 P P 08 55 47.8 +1.5
baz=225,SNR=10
N16K Nishlik Lake 75.83 22 P P 08 55 49.4 +2.4
baz=228,SNR=20
P17K Kvichak River 75.87 23 P P 08 55 48.9 +1.7
baz=230
OHAK Old Harbor 75.97 26 P P 08 55 49.9 +2.0
OHAK Old Harbor 75.97 26 P P 08 55 49.9 +2.0
baz=234,SNR=6.2
O17K Koliganek Bris 75.99 23 P P 08 55 49.3 +1.4
baz=230,SNR=10
Q18K Katmai Hardscr 76.10 24 P P 08 55 49.8 +1.0
baz=232,SNR=46
K15K Wolf Creek Mou 76.12 19 IAmb IAmb 08 55 52.0
comp=Z,178nm,1.0s
K15K Wolf Creek Mou 76.12 19 P P 08 55 50.8 +2.1
baz=225,SNR=34
M16K Timber Creek 76.13 21 P P 08 55 50.7 +2.0
baz=228,SNR=44
L16K Owhat River 76.41 20 P P 08 55 52.1 +1.8
baz=227,SNR=18
N17K Nushagak Hills 76.45 22 IAmb IAmb 08 55 54.3
comp=Z,101nm,1.2s
N17K Nushagak Hills 76.45 22 P P 08 55 52.5 +1.9
baz=229,SNR=14
P18K Big Mountain, 76.48 24 P P 08 55 51.3 +0.5
baz=231,SNR=6.4
KDAK Kodiak Island 76.60 26 P P 08 55 52.2 +0.8
KDAK IAmb IAmb 08 55 55.7
comp=Z,106nm,0.9s
KDAK Kodiak Island 76.60 26 LR LR 09 24 46.5
comp=Z,2μm,21.7s,baz=235,slow=32
KDAK Kodiak Island 76.60 26 P P 08 55 52.2 +0.8
KDAK pmax pmax
comp=Z,106nm,1.0s
KDAK Kodiak Island 76.60 26 P P 08 55 53.2 +1.7
baz=234
KDAK Kodiak Island 76.60 26 P P 08 55 52.5 +1.1
ANM Nome 76.62 16 IAmb IAmb 08 55 54.6
comp=Z,118nm,1.0s
ANM Nome 76.62 16 P P 08 55 53.5 +2.1
baz=221,SNR=5.4
TNA Tin City 76.71 15 P P 08 55 53.3 +1.5
baz=218
O18K Koktuh Hills 76.78 23 P P 08 55 53.3 +0.9
baz=231,SNR=6.3
Q19K Cape Douglas, 76.84 25 P P 08 55 53.8 +1.0
baz=233,SNR=7.7
VJD Vijayawada 76.88 289 *eP* **P 08 55 56.6 +2.7**
VJD IAmb IAmb 08 56 01.9
comp=Z,92nm,1.2s
M17K Holitna River 76.93 21 IAmb IAmb 08 56 00.3
comp=Z,148nm,1.0s
M17K Holitna River 76.93 21 P P 08 55 55.6 +2.3
baz=229,SNR=48
N18K Kilae Creek 77.03 22 IAmb IAmb 08 55 57.4
comp=Z,145nm,1.0s
N18K Kilae Creek 77.03 22 P P 08 55 56.2 +2.3
baz=231,SNR=32
F14K Arctic Creek 77.06 16 P P 08 55 55.8 +1.9
baz=220,SNR=7.6
J16K Anvik River 77.13 19 IAmb IAmb 08 55 58.0
comp=Z,113nm,1.1s
J16K Anvik River 77.13 19 P P 08 55 56.8 +2.5
baz=226,SNR=18
Q20K Shuyak Island 77.17 25 P P 08 55 56.4 +1.8
baz=234
SYI Shuyak Island 77.17 25 IAmb IAmb 08 56 01.0

comp=Z,105nm,1.0s
G15K **Niukluk** 77.32 17 P P 08 55 56.7 +1.3
baz=222,SNR=11
O19K **Port Alsworth** 77.34 23 P P 08 55 56.3 +0.7
baz=232,SNR=9.7
P19K **Oil Pt** 77.44 24 P P 08 55 57.4 +1.1
baz=233,SNR=13
K17K **Iditarod** 77.50 20 IAmb IAmb 08 55 59.9
comp=Z,128nm,1.1s
K17K **Iditarod** 77.50 20 P P 08 55 58.4 +2.0
baz=228
I17K **Unalakleet** 77.52 18 IAmb IAmb 08 56 00.2
comp=Z,130nm,1.0s
I17K **Unalakleet** 77.52 18 P P 08 55 59.0 +2.6
baz=226,SNR=20
M18K **Stony River** 77.58 22 P P 08 55 59.2 +2.3
baz=230,SNR=20
H16K **Elim** 77.59 17 P P 08 55 58.6 +1.8
baz=224
N19K **Bonanza Creek** 77.66 23 P P 08 55 58.7 +1.2
baz=232,SNR=11
F15K **North Star Dit** 77.69 16 IAmb IAmb 08 56 00.9
comp=Z,116nm,1.0s
F15K **North Star Dit** 77.69 16 P P 08 55 59.3 +1.8
baz=221,SNR=16
J17K **VABM Dome** 77.70 19 IAmb IAmb 08 56 01.1
comp=Z,107nm,0.9s
J17K **VABM Dome** 77.70 19 P P 08 55 59.9 +2.3
baz=227
L18K **Granite Mounta** 77.73 21 IAmb IAmb 08 56 01.9
comp=Z,129nm,1.0s
L18K **Granite Mounta** 77.73 21 P P 08 56 00.1 +2.4
baz=230
O20K **Slope Mountain** 77.95 24 P P 08 56 00.0 +1.0
baz=234,SNR=6.2
HOM **Homer** 78.10 25 P P 08 56 02.2 +2.4
baz=235,SNR=6.6
G16K **Koyuk River** 78.10 17 P P 08 56 01.8 +2.1
baz=224,SNR=34
WMQ **Urumqi** 78.32 317 *e*P P 08 56 01.8 +0.3
WMQ PcP pP 08 56 14.5 -3.6
WMQ pmax pmax
comp=Z,41nm,1.3s
WMQ pmax pmax
comp=Z,530nm,5.1s
WMQ LR LR
comp=Z,830nm,21.1s
WMQ LR LR
comp=Z,640nm,20.3s
WMQ LR LR
comp=Z,960nm,23.1s
M19K **Big River Lodg** 78.37 22 IAmb IAmb 08 56 07.3
comp=Z,106nm,1.0s
M19K **Big River Lodg** 78.37 22 P P 08 56 03.5 +2.2
baz=232
L19K **White Mountain** 78.37 22 IAmb IAmb 08 56 04.6
comp=Z,126nm,1.0s
L19K **White Mountain** 78.37 22 P P 08 56 03.5 +2.2
baz=231,SNR=41
H17K **Granite Mounta** 78.50 18 IAmb IAmb 08 56 07.0
comp=Z,76nm,0.9s
H17K **Granite Mounta** 78.50 18 P P 08 56 04.0 +2.0
baz=226,SNR=22
BRSE **Bradley Lake S** 78.52 25 P P 08 56 03.6 +1.4
baz=236,SNR=7.5
G17K **Kiwalik Mounta** 78.68 17 P P 08 56 04.9 +2.0
baz=225,SNR=27
N20K **Mount Spurr** 78.77 23 P P 08 56 04.0 +0.3
baz=234
M20K **Styx River** 78.83 22 IAmb IAmb 08 56 09.8
comp=Z,88nm,1.0s
M20K **Styx River** 78.83 22 P P 08 56 05.6 +1.7
baz=233
KOD **Kodaikanal** 78.89 282 *e*P P 08 56 07.8 +2.4
KOD IAmb IAmb 08 56 08.7
comp=Z,99nm,0.6s
L20K **Farewell, AK** 78.91 22 P P 08 56 06.2 +1.9
baz=232,SNR=36
CAPN **Captain Cook N** 78.94 24 P P 08 56 06.3 +2.0
baz=235
HYB **Hyderabad** 79.01 289 *e*P P 08 56 05.7 -0.1
HYB IVmB_BB 08 56 06.8
comp=Z,1μm,1.2s
HYB *ep*P **pP** 08 56 20.1 -2.3
HYB *e*S **S** 09 05 59.3 -1.3
HYB *e*ScS **ScS** 09 06 23.1 -0.5
HYB IVMs_BB IVMs_BB 09 23 45.6
comp=Z,432nm,5.3s
H18K **Honhosa River** 79.13 18 P P 08 56 06.6 +1.2
baz=228
SLKM **Skilak Lake** 79.17 24 IAmb IAmb 08 56 08.1
comp=Z,116nm,1.0s
F17K **Baldwin Pennin** 79.17 16 IAmb IAmb 08 56 09.2
comp=Z,104nm,0.9s
F17K **Baldwin Pennin** 79.17 16 P P 08 56 07.4 +1.9
baz=225
J19K **Poorman** 79.25 20 P P 08 56 08.3 +2.2
baz=230
SEW **Seward** 79.26 25 IAmb IAmb 08 56 15.6
comp=Z,142nm,1.1s
SEW **Seward** 79.26 25 P P 08 56 07.6 +1.5
baz=237,SNR=9.3
GCSA **Galena City Sc** 79.33 19 P P 08 56 08.0 +1.6
baz=229,SNR=28
O22K **Cooper Landing** 79.36 24 IAmb IAmb 08 56 34.9
comp=Z,166nm,0.8s
O22K **Cooper Landing** 79.36 24 P P 08 56 08.1 +1.4
baz=236
K20K **Telida** 79.39 21 P P 08 56 08.6 +1.7
baz=232
C16K **Lisburne Hills** 79.47 14 P P 08 56 08.5 +1.4
baz=220
E17K **Hotham Inlet** 79.48 16 P P 08 56 09.1 +1.9
baz=224,SNR=40
SKT **Skwentna** 79.50 23 P P 08 56 08.1 +0.7
baz=234,SNR=8.8
SUA **Susitna One** 79.50 23 P P 08 56 08.3 +0.7
baz=235
G18K **Tagagawik** 79.55 18 P P 08 56 09.0 +1.4
baz=227,SNR=22
D17K **Noatak River** 79.59 15 P P 08 56 09.6 +1.7
baz=223,SNR=15
RC01 **Rabbit Creek A** 79.69 24 IAmb IAmb 08 56 12.0
comp=Z,134nm,1.1s
RC01 **Rabbit Creek A** 79.69 24 P P 08 56 09.6 +1.0
baz=236,SNR=12
TIXI **Tiksi** 79.71 352 P P 08 56 07.7 -0.7
TIXI **Tiksi** 79.71 352 LR LR 09 29 30.1
comp=Z,833nm,21.4s,baz=182,slow=34
TIXI **Tiksi** 79.71 352 *ce*P P 08 56 08.1 -0.3
TIXI pmax pmax
comp=Z,32nm,1.3s
TIXI **Tiksi** 79.71 352 P P 08 56 07.7 -0.7
TIXI pP pP 08 56 23.4 -1.8
F18K **Selawik** 79.74 17 P P 08 56 10.0 +1.4
baz=226,SNR=9.6
PPLA **Purkeypile** 79.79 22 IAmb IAmb 08 57 24.2
comp=Z,50nm,0.6s
PPLA **Purkeypile** 79.79 22 P P 08 56 10.1 +0.9
baz=234
J20K **Nowinta River** 79.87 20 IAmb IAmb 08 56 12.6
comp=Z,88nm,1.0s
J20K **Nowinta River** 79.87 20 P P 08 56 11.2 +1.8
baz=232,SNR=44
RDOG **Red Dog Mine** 79.90 15 IAmb IAmb 08 56 12.5
comp=Z,150nm,1.0s
RDOG **Red Dog Mine** 79.90 15 P P 08 56 11.2 +1.6
baz=223,SNR=16
M22K **Willow** 79.91 23 IAmb IAmb 08 56 13.9
comp=Z,212nm,1.1s
M22K **Willow** 79.91 23 P P 08 56 10.2 +0.5
baz=236,SNR=16
H19K **Roundabout Mou** 79.98 19 IAmb IAmb 08 56 15.3
comp=Z,134nm,0.9s
H19K **Roundabout Mou** 79.98 19 P P 08 56 11.8 +1.8
baz=229,SNR=64
E18K **Tukpahlearik C** 80.05 16 P P 08 56 12.1 +1.8
baz=225
P23K **Montague Islan** 80.07 26 P P 08 56 12.0 +1.4
baz=239
PWL **Port Wells** 80.14 25 IAmb IAmb 08 56 13.6
comp=Z,200nm,1.1s
PWL **Port Wells** 80.14 25 P P 08 56 12.3 +1.4
baz=238,SNR=21
C17K **DeLong Mountai** 80.15 14 P P 08 56 12.5 +1.7
baz=222,SNR=7.5
I20K **Naaghedeneel** 80.15 20 IAmb IAmb 08 56 14.7
comp=Z,160nm,1.0s
I20K **Naaghedeneel** 80.15 20 P P 08 56 12.4 +1.6
baz=231,SNR=18
PMR **Palmer** 80.22 24 IAmb IAmb 08 56 13.5
comp=Z,89nm,1.1s
PMR **Palmer** 80.22 24 P P 08 56 12.0 +0.7
PMR **Palmer** 80.22 24 P P 08 56 12.3 +1.0
baz=237,SNR=25
CUT **Chulitna** 80.22 23 IAmb IAmb 08 56 13.5
comp=Z,154nm,1.2s
CUT **Chulitna** 80.22 23 P P 08 56 11.7 +0.4
baz=236,SNR=7.7
Q23K **Middleton Isla** 80.24 26 P P 08 56 11.9 +0.4
baz=240
CHUM **Lake Minchumin** 80.33 21 P P 08 56 13.3 +1.5
baz=234,SNR=45
KNK **Knik Glacier** 80.39 24 IAmb IAmb 08 56 22.4
comp=Z,92nm,1.1s
KNK **Knik Glacier** 80.39 24 P P 08 56 13.8 +1.5
baz=237,SNR=11
GHO **Glory Hole Cre** 80.40 24 IAmb IAmb 08 56 26.0
comp=Z,96nm,1.0s
F19K **Shaleruckik Mo** 80.44 17 P P 08 56 13.8 +1.4
baz=228,SNR=20
H20K **Anotleneega Mo** 80.46 19 P P 08 56 14.3 +1.7
baz=231,SNR=40
SML **Sawmill** 80.65 24 P P 08 56 15.2 +1.5
baz=238,SNR=38
GLI **Glacier Island** 80.66 25 IAmb IAmb 08 56 17.3
comp=Z,194nm,1.3s
GLI **Glacier Island** 80.66 25 P P 08 56 15.0 +1.2
baz=239
C18K **Utukok River** 80.77 15 P P 08 56 15.5 +1.3
baz=224,SNR=5.0
TRF **Thorofare Moun** 80.81 22 P P 08 56 14.8 +0.1
baz=235,SNR=15
FID **Port Fidalgo** 80.86 25 IAmb IAmb 08 56 32.4
comp=Z,68nm,0.8s
M23K **Glacier View** 80.89 24 P P 08 56 16.0 +1.0
baz=238,SNR=8.2
BPAW **Bear Paw Mtn.** 80.93 21 P P 08 56 15.5 +0.4
baz=235,SNR=14
E19K **Redstone River** 81.02 17 IAmb IAmb 08 56 19.1
comp=Z,154nm,0.9s
E19K **Redstone River** 81.02 17 P P 08 56 17.5 +1.9
baz=228
EYAK **Cordova Ski Ar** 81.06 25 P P 08 56 18.0 +2.1
EYAK **Cordova Ski Ar** 81.06 25 P P 08 56 17.6 +1.8
baz=240
SCM **Sheep Creek Mo** 81.07 24 IAmb IAmb 08 56 40.4
comp=Z,113nm,1.0s
SCM **Sheep Creek Mo** 81.07 24 P P 08 56 17.5 +1.5
baz=238,SNR=14
WAT1 **Susitna Watana** 81.12 23 P P 08 56 17.2 +1.0
baz=237
IMAR **Indian Mountai** 81.13 19 P P 08 56 17.7 +1.5
B18K **Kokolik River** 81.14 14 P P 08 56 17.8 +1.7
baz=224
F20K **Avaraart Lake** 81.19 18 P P 08 56 18.2 +1.7
baz=230,SNR=24
I21K **Tanana** 81.22 20 IAmb IAmb 08 56 41.8
comp=Z,83nm,1.1s
I21K **Tanana** 81.22 20 P P 08 56 18.3 +1.7
baz=234,SNR=33
H21K **Melozitna Rive** 81.24 19 P P 08 56 18.4 +1.7
baz=233,SNR=15
WAT6 **Susitna Watana** 81.30 23 P P 08 56 18.4 +1.1
baz=238,SNR=19
RND **Reindeer** 81.32 22 IAmb IAmb 08 56 21.4
comp=Z,70nm,0.9s
DIV **Divide** 81.35 25 IAmb IAmb 08 56 21.3
comp=Z,94nm,1.1s
ZSN **Zaisan** 81.42 320⇑ *i*P P 08 56 18.0 -0.2
ZSN **Zaisan** 81.42 320 *c i*P P 08 56 17.9 -0.2
KLU **Klutina** 81.47 25 P P 08 56 19.9 +1.8
baz=240,SNR=44
MCK **McKinley** 81.47 22 P P 08 56 18.5 +0.5
baz=237,SNR=74
D19K **Kuna River** 81.48 16 IAmb IAmb 08 56 21.0
comp=Z,79nm,0.8s
D19K **Kuna River** 81.48 16 P P 08 56 19.4 +1.5
baz=227
C19K **Lookout Ridge** 81.51 15 IAmb IAmb 08 56 22.1
comp=Z,121nm,0.9s
C19K **Lookout Ridge** 81.51 15 P P 08 56 19.5 +1.3
baz=226,SNR=10
BWN **Browne** 81.52 21 IAmb IAmb 08 56 22.9
comp=Z,100nm,1.0s
G21K **Allakaket** 81.54 18 P P 08 56 19.8 +1.5
baz=232
MLY **Manley** 81.56 20 IAmb IAmb 08 56 22.6
comp=Z,91nm,1.2s
MLY **Manley** 81.56 20 P P 08 56 19.5 +1.0
baz=235,SNR=27
M24K **Tolsona, Glenn** 81.68 24 IAmb IAmb 08 56 24.8
comp=Z,139nm,0.9s
M24K **Tolsona, Glenn** 81.68 24 P P 08 56 21.1 +1.9
baz=239,SNR=18
DHY **Denali Highway** 81.71 23 P P 08 56 20.6 +1.1
baz=238,SNR=27
BMRM **Bremner River** 81.76 25 IAmb IAmb 08 56 24.3
comp=Z,217nm,1.4s
BMRM **Bremner River** 81.76 25 P P 08 56 21.1 +1.4
baz=241,SNR=15
E20K **Nigu River** 81.85 16 P P 08 56 21.6 +1.6
baz=229
H22K **Ishtalitna Cre** 81.85 20 P P 08 56 21.6 +1.6
baz=234
BERG **Berg Lake** 81.87 26 IAmb IAmb 08 56 24.4
comp=Z,170nm,1.1s
NEA2 **Nenana** 81.90 21 P P 08 56 20.4 +0.1
baz=236,SNR=34
A19K **Wainwright** 81.92 14 P P 08 56 21.2 +1.0
baz=224
BGLC **Bering Glacier** 81.93 26 P P 08 56 21.4 +1.0
baz=242
F21K **Alatna River** 81.98 18 P P 08 56 22.1 +1.4
baz=232,SNR=19
D20K **Etivluk River** 82.03 16 IAmb IAmb 08 56 24.6
comp=Z,115nm,1.1s
D20K **Etivluk River** 82.03 16 P P 08 56 22.2 +1.3
baz=229
KAAM **Kaadhehdhoo** 82.05 271 P P 08 56 23.0 +0.8
N25K **Chitina, Valde** 82.08 25 IAmb IAmb 08 56 25.6
comp=Z,84nm,1.1s
N25K **Chitina, Valde** 82.08 25 P P 08 56 22.9 +1.6
baz=241,SNR=17
I23K **Minto, Yukon-K** 82.11 21 P P 08 56 21.8 +0.5
baz=236,SNR=12
HARP **HAARP** 82.24 24 P P 08 56 23.7 +1.6
baz=240
WAX **Waxell Ridge** 82.27 26 IAmb IAmb 08 56 37.1
comp=Z,131nm,1.2s
CRQM **Cirque** 82.29 26 IAmb IAmb 08 56 26.5
comp=Z,171nm,1.1s
CRQE **Cirque** 82.31 26 P P 08 56 24.0 +1.4
baz=242,SNR=16
GLB **Gilahina Butte** 82.33 25 IAmb IAmb 08 56 26.6
comp=Z,137nm,1.1s
VRDI **Verde Repeater** 82.38 25 IAmb IAmb 08 56 27.5
comp=Z,140nm,1.2s
PAX **Paxson** 82.40 23 P P 08 56 24.2 +1.2
baz=240,SNR=7.2
G22K **Bettles** 82.42 19 P P 08 56 24.3 +1.5
baz=234,SNR=26
TGL **Tana Glacier** 82.42 26 IAmb IAmb 08 56 27.1
comp=Z,106nm,1.1s
COLA **College** 82.49 21 P P 08 56 23.2 0.0
COLA **College** 82.49 21 *c i*P P 08 56 22.7 -0.6
COLA pmax pmax
comp=Z,92nm,1.0s
COLA **College** 82.49 21 P P 08 56 23.5 +0.2
baz=238
COLA **College** 82.49 21 P P 08 56 23.3 0.0
MESA **MESA** 82.55 27 IAmb IAmb 08 56 28.2
comp=Z,120nm,1.1s
MESA **MESA** 82.55 27 P P 08 56 24.5 +0.5
baz=244
F22K **John River** 82.56 18 P P 08 56 25.0 +1.3
baz=233,SNR=22
ISLE **Juniper Island** 82.57 26 IAmb IAmb 08 56 27.8
comp=Z,123nm,1.2s
HDA **Harding Lake** 82.58 22 IAmb IAmb 08 56 53.5
comp=Z,96nm,1.4s
HDA **Harding Lake** 82.58 22 P P 08 56 24.2 +0.4
baz=238,SNR=24
E21K **Killik River** 82.60 17 IAmb IAmb 08 56 26.5
comp=Z,86nm,0.9s
E21K **Killik River** 82.60 17 P P 08 56 24.9 +1.1
baz=231,SNR=8.6
MCARA **McCarthy VSAT** 82.63 25 P P 08 56 26.0 +1.9
baz=242,SNR=26
K24K **Donnelly Dome** 82.70 23 IAmb IAmb 08 56 30.7
comp=Z,99nm,0.9s
K24K **Donnelly Dome** 82.70 23 P P 08 56 25.4 +1.0
baz=240
YAH **Yahtse** 82.72 27 IAmb IAmb 08 56 29.8
comp=Z,196nm,1.6s
B20K **Meade River** 82.75 15 IAmb IAmb 08 56 27.1
comp=Z,114nm,1.0s
B20K **Meade River** 82.75 15 P P 08 56 25.7 +1.1
baz=228
G23K **Bananza Creek** 82.77 19 IAmb IAmb 08 56 28.0
comp=Z,64nm,1.0s
G23K **Bananza Creek** 82.77 19 P P 08 56 26.3 +1.5
baz=235,SNR=45
POKR **Poker Plat Res** 82.78 21 P P 08 56 24.4 -0.4
baz=238,SNR=5.9
ILAR **Eielson Array** 82.79 22 P P 08 56 24.7 -0.2
ILAR **Eielson Array** 82.79 22 P P 08 56 24.6 -0.3
comp=Z,31nm,1.0s,baz=249,slow=5.2,SNR=120
ILAR S S 09 06 40.3 +2.2
comp=Z,0.6nm,1.0s,baz=229,slow=4.2,SNR=0.9
ILAR PKKPbc PKKPbc 09 14 48.8 -3.0
comp=Z,1.3nm,0.9s,baz=48,slow=1.3,SNR=6.1
ILAR PKPPKP P'P'df 09 22 46.0 -6.5
comp=Z,1.6nm,1.1s,baz=20,slow=2.9,SNR=4.2
ILAR LR LR 09 28 43.3
comp=Z,5μm,21.8s,baz=237,slow=32
comp=Z,31nm,1.0s
C21K **Knifeblade Rid** 82.83 16 P P 08 56 26.3 +1.3
baz=230,SNR=9.2
MK31 **Makanchi Array** 82.89 319 *c i*P P 08 56 25.6 -0.2
MKAR **Makanchi Array** 82.89 319 P P 08 56 26.1 +0.4
MKAR **Makanchi Array** 82.89 319 P P 08 56 25.1 -0.7
comp=Z,174nm,0.9s,baz=105,slow=4.8,SNR=98
MKAR S S 09 06 35.8 -4.1
comp=Z,0.4nm,0.3s,baz=121,slow=17,SNR=5.0
MKAR PKKPbc PKKPbc 09 14 49.5 -1.2
comp=Z,1.8nm,1.0s,baz=281,slow=3.3,SNR=6.1
MKAR LR LR 09 33 40.8
comp=Z,782nm,20.4s,baz=108,slow=36
comp=Z,174nm,0.9s
MKAR **Makanchi Array** 82.89 319 P P 08 56 26.2 +0.4
H24K **Noodor Dome** 83.01 20 P P 08 56 26.7 +0.7
baz=237,SNR=13
COLD **Coldfoot** 83.01 19 IAmb IAmb 08 56 30.6
comp=Z,76nm,1.1s
COLD **Coldfoot** 83.01 19 P P 08 56 27.1 +1.1
baz=235,SNR=26
TABL **Table Mountain** 83.03 27 IAmb IAmb 08 56 30.4
comp=Z,183nm,1.4s
RIDG **Independent Ri** 83.03 23 IAmb IAmb 08 56 30.5
comp=Z,140nm,1.2s
RIDG **Independent Ri** 83.03 23 P P 08 56 27.0 +0.8
baz=240,SNR=37
E22K **Anaktuvuk Pass** 83.05 18 IAmb IAmb 08 56 43.7
comp=Z,92nm,1.1s
E22K **Anaktuvuk Pass** 83.05 18 P P 08 56 27.6 +1.4
baz=233
BARN **Barnard Glacie** 83.07 26 IAmb IAmb 08 56 31.4
comp=Z,163nm,1.2s
MAKZ **Makanchi** 83.09 319 P P 08 56 27.4 +0.5
MAKZ **Makanchi** 83.09 319 P P 08 56 27.4 +0.5
MAKZ pmax pmax
comp=Z,249nm,0.9s
M26K **Nabesna, AK** 83.12 24 P P 08 56 28.2 +1.5
baz=242
B21K **Ikpikpuk River** 83.17 16 IAmb IAmb 08 56 30.3
comp=Z,99nm,1.0s
B21K **Ikpikpuk River** 83.17 16 P P 08 56 28.1 +1.4
baz=231,SNR=8.9
CTG **Chitna Glacier** 83.17 26 P P 08 56 28.8 +1.7
baz=244,SNR=17
CTGM **Chitina Glacie** 83.17 26 IAmb IAmb 08 56 31.8
comp=Z,186nm,1.3s
D22K **Ayikyak River** 83.24 17 IAmb IAmb 08 56 30.3
comp=Z,137nm,1.1s
D22K **Ayikyak River** 83.24 17 P P 08 56 28.8 +1.6
baz=233,SNR=22
J25K **Salcha River,** 83.27 22 IAmb IAmb 08 56 44.3
comp=Z,176nm,1.3s
J25K **Salcha River,** 83.27 22 P P 08 56 28.2 +0.7
baz=240
L26K **Log Cabin Wild** 83.27 24 P P 08 56 28.9 +1.4
baz=242,SNR=19
PCA **Pinnacle** 83.28 27 IAmb IAmb 08 56 31.0
comp=Z,87nm,0.9s
PINM **Pinnacle** 83.28 27 P P 08 56 29.4 +1.8
baz=245,SNR=7.2
DOT **Dot Lake** 83.29 23 IAmb IAmb 08 56 32.4
comp=Z,76nm,1.0s
SCRK **Sand Creek** 83.48 23 P P 08 56 29.8 +1.2
baz=241,SNR=23
PNL **Peninsula** 83.49 28 P P 08 56 30.7 +2.1
PNL **Peninsula** 83.49 28 P P 08 56 30.4 +1.8
baz=246,SNR=5.8
BCPM **Bancas Point** 83.50 27 IAmb IAmb 08 56 34.9
comp=Z,153nm,1.1s
M27K **Edge Creek, AK** 83.56 25 IAmb IAmb 08 56 35.4
comp=Z,151nm,1.0s
M27K **Edge Creek, AK** 83.56 25 P P 08 56 30.7 +1.6
baz=243,SNR=57
O28M **Mount Upton** 83.59 27 IAmb IAmb 08 56 48.1
comp=Z,75nm,0.9s
O28M **Mount Upton** 83.59 27 P P 08 56 30.8 +1.4
baz=245,SNR=18
G24K **Hadweenzic Riv** 83.61 20 P P 08 56 30.5 +1.4
baz=238,SNR=15
ZALV **Zalesovo Beam** 83.61 326 P P 08 56 28.6 -0.8
ZALV **Zalesovo Beam** 83.61 326 P P 08 56 28.1 -1.3
comp=Z,156nm,0.9s,baz=108,slow=5.3,SNR=116
ZALV S S 09 06 43.8 -3.0
comp=Z,0.6nm,0.3s,baz=134,slow=6.2,SNR=1.0
ZALV PKPPKP P'P'df 09 22 51.4 -0.3
comp=Z,0.6nm,0.3s,baz=311,slow=7.5,SNR=3.8
ZALV LR LR 09 31 23.9
comp=Z,346nm,21.4s,baz=90,slow=34
comp=Z,156nm,0.9s
QSPA **South Pole Qui** 83.63 180 P P 08 56 33.1 +3.7
QSPA **South Pole Qui** 83.63 180 P P 08 56 31.7 +2.3
comp=Z,237nm,1.0s,baz=358,slow=3.2,SNR=378
QSPA S SKSac 09 06 46.3 -0.5
comp=Z,2.6nm,1.1s,baz=63,slow=2.3,SNR=6.0
QSPA PKKPbc PKKPbc 09 14 47.1 -2.9
comp=Z,1.1nm,0.6s,baz=164,slow=5.9,SNR=7.3
comp=Z,237nm,1.0s
E23K **Chandalar** 83.67 18 IAmb IAmb 08 56 33.4
comp=Z,106nm,1.1s
E23K **Chandalar** 83.67 18 P P 08 56 31.1 +1.6
baz=236,SNR=38
A21K **Barrow** 83.77 14 P P 08 56 32.0 +2.2
baz=228
SHLS **Shalkode** 83.83 315⇑ *i*P P 08 56 29.0 -1.9
SHLS **Shalkode** 83.83 315 *c i*P P 08 56 28.9 -1.9
D23K **Nanushuk River** 83.88 17 P P 08 56 32.4 +2.0
baz=234,SNR=47
J26L **Joseph Creek** 83.89 22 P P 08 56 32.2 +1.5
baz=242,SNR=28
L27K **Beaver Creek,** 83.90 24 P P 08 56 32.4 +1.7
baz=243,SNR=18
F24K **Squaw Lake** 83.92 19 IAmb IAmb 08 56 34.2
comp=Z,74nm,0.9s
F24K **Squaw Lake** 83.92 19 P P 08 56 32.3 +1.6
baz=237,SNR=34
BCAR **Beaver Creek A** 83.92 24 P P 08 56 32.6 +1.8
B22K **Teshekpuk Lake** 83.94 15 IAmb IAmb 08 56 33.9
comp=Z,110nm,0.9s
B22K **Teshekpuk Lake** 83.94 15 P P 08 56 32.3 +1.7
baz=232
H25L **Birch Creek** 83.95 20 P P 08 56 32.4 +1.6
baz=239,SNR=5.8
A22K **Sinclair Lake** 83.96 15 P P 08 56 31.5 +0.8
baz=230
YUK8 **Steele Glacier** 84.00 26 P P 08 56 33.4 +1.9
baz=245,SNR=20
TOLK **Toolik Lake Re** 84.02 18 IAmb IAmb 08 56 34.3
comp=Z,74nm,0.9s
TOLK **Toolik Lake Re** 84.02 18 P P 08 56 32.8 +1.6
baz=236,SNR=23
E24K **Your Creek** 84.03 18 P P 08 56 32.6 +1.3
baz=237,SNR=23
G25K **Bearman Lake** 84.11 20 P P 08 56 33.3 +1.7
baz=239,SNR=15
O29M **Mount Kennedy** 84.13 27 IAmb IAmb 08 56 35.4
comp=Z,74nm,1.2s
O29M **Mount Kennedy** 84.13 27 P P 08 56 33.9 +1.9

baz=246,SNR=12
UZB Uzyunbulak 84.14 314⇑ *i*P P 08 56 31.9 -0.7
UZB Uzyunbulak 84.14 314 *c i*P P 08 56 31.8 -0.7
K27K Chicken 84.24 23 IAmb IAmb 08 56 50.5
comp=Z,72nm,1.1s
K27K Chicken 84.24 23 P **P 08 56 34.4 +2.0**
baz=243,SNR=42
P29M Windy Craggy 84.25 28 P **P 08 56 34.4 +1.9**
baz=247,SNR=7.7
S31K Pelican 84.34 30 P **P 08 56 34.9 +1.9**
baz=249
C23K Itkillik River 84.41 16 P **P 08 56 34.8 +1.8**
baz=234,SNR=32
I26K Coal Creek Min 84.43 22 P **P 08 56 34.4 +1.1**
baz=242
SIT Sitka 84.48 31 P **P 08 56 35.6 +1.9**
baz=250
YUK6 Outpost Mounta 84.48 27 P **P 08 56 35.9 +2.0**
baz=247
YUK4 Talbot Arm 84.52 26 P **P 08 56 36.4 +2.4**
baz=246,SNR=13
D24K Happy Valley 84.53 17 IAmb IAmb 08 56 36.6
comp=Z,86nm,1.0s
D24K Happy Valley 84.53 17 P **P 08 56 35.5 +1.8**
baz=236
SATY Saty 84.55 314⇑ *i*P P 08 56 34.1 -0.5
SATY Saty 84.55 314 *c i*P P 08 56 34.1 -0.5
TARG Taragay, Kyrgy 84.67 313 IAmb IAmb 08 56 49.0
comp=Z,70nm,1.0s
F25K Christian Rive 84.69 19 P **P 08 56 36.1 +1.5**
baz=239,SNR=26
R31K City Hall, Gus 84.75 30 P **P 08 56 36.8 +1.8**
baz=249
DIB Dawson Inlet, 84.76 35 IAmb IAmb 08 56 40.5
comp=Z,91nm,1.0s
H02S2 DAWSON INLET T 84.76 35 P **P 08 56 36.9 +1.7**
SNR=15
H02S2 T T 10 29 59.8
SNR=15
P30M Million Dollar 84.80 28 P **P 08 56 37.4 +2.1**
baz=248,SNR=15
HYT Haines Junctio 84.82 27 IAmb IAmb 08 56 41.1
comp=Z,67nm,0.8s
HYT Haines Junctio 84.82 27 P **P 08 56 37.6 +2.2**
baz=247,SNR=40
PLBC Pleasant Camp 84.83 29 P **P 08 56 37.1 +1.7**
baz=248,SNR=12
C24K Franklin Bluff 84.89 17 P **P 08 56 37.2 +1.7**
baz=236
BMAR Burnt Mountain 84.96 20 P **P 08 56 37.9 +1.9**
MAW Mawson 84.97 203 P **P 08 56 36.5 +0.5**
comp=Z,87nm,0.6s,baz=91,slow=5.8,SNR=206
MAW S **SKSac 09 06 50.5 -4.7**
comp=Z,2.7nm,0.9s,baz=136,slow=16,SNR=2.4
comp=Z,87nm,0.6s
E25K Arctic Village 84.98 19 P **P 08 56 37.8 +1.8**
baz=239,SNR=15
G26K Porcupine Rive 84.99 20 P **P 08 56 37.9 +1.9**
baz=241,SNR=119
S32K Killisnoo 85.00 31 IAmb IAmb 08 56 41.2
comp=Z,63nm,1.2s
S32K Killisnoo 85.00 31 P **P 08 56 38.0 +1.8**
baz=250,SNR=11
TDK Taldyqorghan 85.02 316 *e*P **P 08 56 36.4 -0.4**
comp=Z,49nm,0.8s
TDK Taldyqorghan 85.02 316 *e*P **P 08 56 36.3 -0.4**
TDK pmax pmax
comp=Z,49nm,0.8s
MOBC Moresby Island 85.03 35 IAmb IAmb 08 56 39.8
comp=Z,82nm,1.0s
M29M Somme Creek 85.04 25 P **P 08 56 38.1 +1.5**
baz=246,SNR=22
CRAG Craig 85.11 33 IAmb IAmb 08 56 39.7
comp=Z,86nm,1.3s
CRAG Craig 85.11 33 P **P 08 56 39.1 +2.2**
CRAG Craig 85.11 33 P **P 08 56 39.0 +2.2**
baz=252,SNR=6.4
I27K Kandik River 85.14 22 P **P 08 56 38.7 +1.8**
baz=243,SNR=36
HG4B Hotspring 85.23 36 IAmb IAmb 08 56 41.8
comp=Z,91nm,1.0s
ARXS Arharly 85.23 315 *e*P **P 08 56 37.9 0.0**
F26K Sheenjek River 85.24 20 IAmb IAmb 08 56 41.6
comp=Z,52nm,1.0s
F26K Sheenjek River 85.24 20 P **P 08 56 39.3 +2.0**
baz=241,SNR=34
BESE Bessie Mountai 85.25 30 IAmb IAmb 08 56 42.0
comp=Z,89nm,1.1s
N30M Aishikik Lake 85.25 27 P **P 08 56 39.5 +2.0**
baz=248,SNR=13
R32K Eaglecrest 85.31 30 P **P 08 56 39.7 +1.9**
baz=250,SNR=11
U33K Whale Pass 85.31 32 IAmb IAmb 08 56 42.1
comp=Z,66nm,1.1s
U33K Whale Pass 85.31 32 P **P 08 56 39.7 +1.9**
baz=252,SNR=10
DAWY Dawson 85.32 24 P **P 08 56 39.5 +1.7**
DAWY IAmb IAmb 08 56 43.0
comp=Z,58nm,1.1s
DAWY Dawson 85.32 24 P **P 08 56 39.8 +1.9**
baz=245,SNR=25
SKAG Skagway 85.32 29 P **P 08 56 40.1 +2.3**
SKAG Skagway 85.32 29 P **P 08 56 39.8 +2.0**
baz=249,SNR=9.7
D25K Kavik River 85.36 18 IAmb IAmb 08 56 41.3
comp=Z,88nm,1.0s
D25K Kavik River 85.36 18 P **P 08 56 39.1 +1.2**
baz=238,SNR=43
JIS Juneau Island 85.37 30 P **P 08 56 40.1 +2.0**
O30N Mendenhall 85.44 27 IAmb IAmb 08 56 43.3
comp=Z,55nm,1.1s
O30N Mendenhall 85.44 27 P **P 08 56 40.4 +1.9**
baz=249,SNR=19
L29M L29M 85.45 25 IAmb IAmb 08 56 43.9
comp=Z,71nm,1.1s
L29M L29M 85.45 25 P **P 08 56 40.6 +2.1**
baz=247,SNR=34
H27K Steamboat Moun 85.45 21 IAmb IAmb 08 56 56.3
comp=Z,68nm,1.1s
H27K Steamboat Moun 85.45 21 P **P 08 56 40.3 +1.8**
baz=243,SNR=44
MDOK Medeo 85.55 314 *e*P **P 08 56 39.2 -0.3**
MDOK Medeo 85.55 314 *e*P **P 08 56 39.2 -0.3**
KSH Kashi 85.55 310 P **P 08 56 41.3 +1.7**
KSH S **S 09 07 09.8 +2.7**
KSH pmax pmax
comp=Z,130nm,1.1s
KSH pmax pmax
comp=Z,670nm,5.7s
KSH LR LR
comp=Z,910nm,21.0s
KSH LR LR
comp=Z,1μm,20.6s
KSH LR LR
comp=Z,1μm,23.4s
TNSS Tian-Shan 85.59 314 *e*P **P 08 56 39.5 -0.6**
TNSS Tian-Shan 85.59 314 *e*P **P 08 56 39.5 -0.6**
T33K Petersburg 85.62 32 P **P 08 56 40.9 +1.5**
baz=252
AAA Alma-Ata 85.65 314 *e*P **P 08 56 39.6 -0.4**
comp=Z,31nm,0.6s
AAA Alma-Ata 85.65 314 *e*P **P 08 56 39.6 -0.4**
AAA pmax pmax
comp=Z,31nm,0.6s
G27K Doyon Strip 85.67 21 P **P 08 56 41.3 +1.8**
baz=243
I28M Miner Creek 85.70 22 P **P 08 56 41.2 +1.5**
baz=245,SNR=11
M30M Minto, Yukon 85.80 26 IAmb IAmb 08 56 45.3
comp=Z,69nm,1.1s
M30M Minto, Yukon 85.80 26 P **P 08 56 42.1 +1.8**
baz=248,SNR=35
WRAK Wrangell Islan 85.82 32 IAmb IAmb 08 56 44.7
comp=Z,121nm,1.1s
WRAK Wrangell Islan 85.82 32 P **P 08 56 42.5 +2.1**
baz=252,SNR=29
N31M Braeburn, Yuko 85.84 27 P **P 08 56 42.7 +2.2**
baz=249,SNR=28
V35K Ketchikan 85.88 33 IAmb IAmb 08 56 43.7
comp=Z,108nm,1.0s
V35K Ketchikan 85.88 33 P **P 08 56 42.5 +1.8**
baz=253,SNR=45
ULHL Ulahol 85.92 313 P **P 08 56 42.3 +0.8**
SNR=18
WHY Whitehorse 85.96 28 IAmb IAmb 08 56 43.5
comp=Z,86nm,1.2s
WHY Whitehorse 85.96 28 P **P 08 56 43.0 +1.8**
baz=250,SNR=10

K29M Barlow Dome 85.99 24 IAmb IAmb 08 56 47.1
comp=Z,95nm,0.9s
K29M Barlow Dome 85.99 24 P **P 08 56 43.2 +2.0**
baz=247,SNR=66
C26K Camden Bay 86.11 17 P **P 08 56 43.9 +2.4**
baz=240,SNR=79
P32M Atlin 86.14 29 P **P 08 56 43.8 +1.8**
baz=251,SNR=14
BOOM Boomskoye usch 86.19 313 IAmb IAmb 08 56 48.7
comp=Z,75nm,0.8s
KURK Kurchatov 86.29 322 P **P 08 56 41.9 -0.9**
KURK Kurchatov 86.29 322 IAmb IAmb 08 56 48.4
comp=Z,81nm,1.1s
KURK Kurchatov 86.29 322 P **P 08 56 41.9 -0.9**
KURK S **SKSac 09 07 04.0 +0.1**
E27K Coleen River 86.32 20 P **P 08 56 44.5 +1.8**
baz=243
C27K Jago River 86.32 18 P **P 08 56 44.5 +1.8**
baz=241,SNR=43
KURBB Kurchatov Arra 86.32 322 P **P 08 56 41.9 -1.1**
comp=Z,39nm,1.0s,baz=106,slow=2.9,SNR=46
KURBB S **SKSac 09 07 04.0 -0.1**
comp=Z,0.2nm,0.3s,baz=90,slow=6.5,SNR=1.6
KURBB PKKPbc **PKKPbc 09 14 40.4 -2.3**
comp=Z,1.9nm,0.8s,baz=294,slow=3.3,SNR=8.0
KURBB LR LR 09 38 29.1
comp=Z,309nm,18.1s,baz=154,slow=38
comp=Z,39nm,1.0s
RUBB Prince Rupert 86.35 35 IAmb IAmb 08 56 47.2
comp=Z,96nm,1.1s
TKM2 Tokmak 2 86.53 314 P **P 08 56 44.2 -0.4**
SNR=15
MAYO Mayo, Yukon 86.56 25 P **P 08 56 46.0 +2.0**
baz=249,SNR=31
NIL Nilore 86.60 304 P **P 08 56 45.3 +0.4**
NIL IAmb IAmb 08 56 46.3
comp=Z,65nm,0.9s
NIL Nilore 86.60 304 P **P 08 56 45.3 +0.4**
NIL pmax pmax
comp=Z,65nm,1.0s
H29M Whitestone 86.61 22 IAmb IAmb 08 57 20.7
comp=Z,54nm,1.1s
H29M Whitestone 86.61 22 P **P 08 56 46.4 +2.3**
baz=246,SNR=5.4
Q32M Nakina River 86.64 30 P **P 08 56 46.9 +2.2**
baz=252,SNR=12
F28M Old Crow 86.65 20 IAmb IAmb 08 56 48.2
comp=Z,83nm,1.1s
F28M Old Crow 86.65 20 P **P 08 56 46.1 +1.8**
baz=245,SNR=43
J30M Hart River 86.75 24 IAmb IAmb 08 56 48.3
comp=Z,101nm,1.1s
J30M Hart River 86.75 24 P **P 08 56 47.0 +2.0**
baz=248,SNR=51
P33M Teslin, Yukon 86.77 28 P **P 08 56 46.6 +1.5**
baz=252,SNR=7.2
S34M Telegraph Cree 86.90 31 P **P 08 56 48.0 +2.3**
baz=253,SNR=69
U35K Hyder 86.91 33 IAmb IAmb 08 57 32.7
comp=Z,85nm,0.9s
U35K Hyder 86.91 33 P **P 08 56 47.5 +1.7**
baz=254
KBK Karagaybulak 86.95 313 P **P 08 56 47.3 +0.8**
SNR=6.7
N32M Quiet Lake 86.95 28 IAmb IAmb 08 57 04.2
comp=Z,87nm,0.8s
N32M Quiet Lake 86.95 28 P **P 08 56 47.8 +1.9**
baz=251
I30M Mount Dempster 86.97 23 IAmb IAmb 08 56 50.5
comp=Z,95nm,1.2s
I30M Mount Dempster 86.97 23 P **P 08 56 47.6 +1.5**
baz=248,SNR=31
D27M Malcolm River 87.00 19 IAmb IAmb 08 57 04.0
comp=Z,70nm,0.9s
D27M Malcolm River 87.00 19 P **P 08 56 47.9 +1.8**
baz=244
G29M Pine Creek 87.01 21 P **P 08 56 47.8 +1.8**
baz=246
BBB Bella Bella 87.03 37 IAmb IAmb 08 57 11.0
comp=Z,54nm,1.2s
BBB Bella Bella 87.03 37 P **P 08 56 47.5 +1.1**
comp=Z,23nm,0.9s,baz=264,slow=9.4,SNR=5.3
BBB LR LR 09 28 24.1
comp=Z,2μm,21.9s,baz=265,slow=30
comp=Z,23nm,0.9s
T35M Bob Quinn 87.09 32 IAmb IAmb 08 56 50.6
comp=Z,80nm,1.1s
T35M Bob Quinn 87.09 32 P **P 08 56 48.8 +2.2**
baz=254,SNR=33
CHMS Chumysh 87.16 314 P **P 08 56 48.0 +0.7**
SNR=14
UCH Uchtor 87.18 313 P **P 08 56 48.6 +0.6**
SNR=7.2
E28M Babbage River 87.19 20 IAmb IAmb 08 56 49.9
comp=Z,70nm,1.1s
E28M Babbage River 87.19 20 P **P 08 56 48.7 +1.8**
baz=245,SNR=35
AAK Ala-Archa 87.27 313 P **P 08 56 48.4 +0.3**
AAK Ala-Archa 87.27 313 P **P 08 56 48.5 +0.4**
comp=Z,32nm,0.8s,baz=93,slow=5.6,SNR=29
AAK LR LR 09 38 23.1
comp=Z,377nm,19.4s,baz=99,slow=37
comp=Z,32nm,0.8s
AAK Ala-Archa 87.27 313 P **P 08 56 48.3 +0.3**
SNR=18
AAK Ala-Archa 87.27 313 P **P 08 56 47.9 -0.2**
EPYK Eagle Plains 87.28 22 P **P 08 56 48.9 +1.5**
baz=248,SNR=42
USP Ospenovka 87.39 314 P **P 08 56 48.5 +0.1**
SNR=16
R33M Jennings River 87.41 30 IAmb IAmb 08 56 53.8
comp=Z,49nm,1.1s
R33M Jennings River 87.41 30 P **P 08 56 50.5 +2.2**
baz=253,SNR=22
KCPM Cahto Peak 87.48 50 IAmb IAmb 08 56 54.5
comp=Z,92nm,1.0s
KMRM Mail Ridge 87.48 49 IAmb IAmb 08 56 57.2
comp=Z,69nm,1.2s
DLBC Dease Lake 87.61 31 P **P 08 56 50.7 +1.5**
comp=Z,641nm,1.1s,baz=239,slow=7.2,SNR=57
DLBC LR LR 09 29 33.9
comp=Z,19μm,21.2s,baz=246,slow=31
DLBC Dease Lake 87.61 31 P **P 08 56 51.3 +2.1**
baz=254,SNR=38
E29M Blow River 87.65 20 IAmb IAmb 08 57 21.9
comp=Z,51nm,1.2s
E29M Blow River 87.65 20 P **P 08 56 50.4 +1.3**
baz=247,SNR=9.0
G30M tAoh Zraii Nji 87.69 22 IAmb IAmb 08 56 52.8
comp=Z,75nm,1.1s
G30M tAoh Zraii Nji 87.69 22 P **P 08 56 50.7 +1.4**
baz=248,SNR=19
HOPS Hopland Field 87.75 51 IAmb IAmb 08 56 54.4
comp=Z,62nm,1.1s
D28M Stokes Point 87.75 19 P **P 08 56 51.7 +2.2**
baz=246
EKS2 Erkin-Say 87.80 313 P **P 08 56 51.0 +0.5**
SNR=14
GDXM Geysers 87.93 51 IAmb IAmb 08 56 56.1
comp=Z,56nm,1.0s
K02D Willamette Mer 87.96 47 IAmb IAmb 08 56 56.6
comp=Z,40nm,0.9s
H31M Peel River 87.98 23 IAmb IAmb 08 57 09.1
comp=Z,80nm,0.9s
H31M Peel River 87.98 23 P **P 08 56 52.2 +1.5**
baz=250,SNR=14
F30M Barrier River 88.08 21 IAmb IAmb 08 56 54.2
comp=Z,93nm,0.9s
F30M Barrier River 88.08 21 P **P 08 56 52.6 +1.4**
baz=249,SNR=15
CVS Carmenet Viney 88.11 51 IAmb IAmb 08 56 57.0
comp=Z,58nm,1.0s
O02D Mt. Diablo Mer 88.17 49 IAmb IAmb 08 57 01.3
comp=Z,49nm,1.0s
G31M Satah River 88.39 22 IAmb IAmb 08 56 55.1
comp=Z,75nm,1.0s
G31M Satah River 88.39 22 P **P 08 56 53.7 +1.1**
baz=250,SNR=14
YBH Yreka Blue Hor 88.49 48 P **P 08 56 55.3 +1.5**
comp=Z,1.0nm,0.9s,baz=254,slow=2.4,SNR=16
YBH LR LR 09 30 33.2
comp=Z,363nm,20.3s,baz=287,slow=31
RADR Rader Ridge 88.55 43 IAmb IAmb 08 56 56.4
comp=Z,62nm,1.0s
MHC Mount Hamilton 88.59 52 IAmb IAmb 08 56 58.7
comp=Z,39nm,1.1s
F03A Seaside 88.62 44 IAmb IAmb 08 56 58.0
comp=Z,63nm,1.0s

WTLY Watson Lake, Y 88.67 29 IAmb IAmb 08 56 59.5
comp=Z,56nm,1.1s
WTLY Watson Lake, Y 88.67 29 P **P 08 56 55.8 +1.7**
baz=255
G03D McMinnville, O 88.70 44 IAmb IAmb 08 56 58.5
comp=Z,59nm,1.0s
WISH Wishkah 88.70 42 IAmb IAmb 08 56 57.6
comp=Z,73nm,1.1s
BUCK Buck Mountain 88.72 45 IAmb IAmb 08 57 12.5
comp=Z,60nm,1.3s
DRK Karamyk 88.72 310 IAmb IAmb 08 56 57.5
comp=Z,83nm,1.0s
F31M Tsiigehtchic 88.76 21 IAmb IAmb 08 56 56.6
comp=Z,63nm,1.1s
F31M Tsiigehtchic 88.76 21 P **P 08 56 55.6 +1.3**
baz=250,SNR=8.5
SUTB Sutter Butte 88.78 50 IAmb IAmb 08 56 59.1
comp=Z,54nm,0.9s
CLRS Cowichan Lake 88.78 41 IAmb IAmb 08 56 58.4
comp=Z,73nm,1.3s
M03C McCloud 88.85 48 IAmb IAmb 08 57 00.4
comp=Z,71nm,0.9s
O03E Paynes Creek 88.93 49 IAmb IAmb 08 57 01.7
comp=Z,40nm,0.9s
H04D Lebanon 88.95 45 IAmb IAmb 08 56 59.8
comp=Z,51nm,1.1s
ORV Oroville 89.05 50 IAmb IAmb 08 57 02.1
comp=Z,35nm,1.0s
PMPB Monarch Peak 89.09 54 IAmb IAmb 08 57 04.7
comp=Z,51nm,1.1s
INK Inuvik 89.13 21 IAmb IAmb 08 56 59.0
comp=Z,41nm,1.1s
INK Inuvik 89.13 21 LR LR 09 34 05.2
comp=Z,4μm,20.8s,baz=238,slow=34
INK Inuvik 89.13 21 P **P 08 56 57.0 +0.9**
baz=251,SNR=8.7
PKD Bear Valley Ra 89.26 54 IAmb IAmb 08 57 04.6
comp=Z,87nm,1.1s
HATC Hat Creek Radi 89.27 49 IAmb IAmb 08 57 01.9
comp=Z,44nm,1.1s
TGTN Hyland Airport 89.28 28 P **P 08 56 58.9 +1.9**
baz=256,SNR=10
K04D Chiloquin, OR 89.34 47 IAmb IAmb 08 57 03.4
comp=Z,52nm,1.0s
DZA Taraz 89.61 313 *e*P **P 08 56 58.6 -0.3**
comp=Z,11nm,0.5s
DZA Taraz 89.61 313 *e*P **P 08 56 58.6 -0.3**
DZA pmax pmax
comp=Z,11nm,0.5s
J05D Fort Rock, OR 89.82 47 IAmb IAmb 08 57 04.1
comp=Z,70nm,1.0s
LIRD Liard River Hi 89.82 30 P **P 08 57 01.2 +1.7**
baz=257,SNR=21
HOOD Mount Hood Mea 89.84 44 IAmb IAmb 08 57 03.1
comp=Z,50nm,1.1s
D05A Enumclaw 89.91 43 IAmb IAmb 08 57 07.2
comp=Z,80nm,1.3s
BEKR Beckworth 89.96 50 IAmb IAmb 08 57 05.0
comp=Z,57nm,1.3s
K05A Summer Lake 89.98 47 IAmb IAmb 08 57 06.7
comp=Z,74nm,1.2s
G05A Wamic 90.06 45 IAmb IAmb 08 57 04.6
comp=Z,46nm,1.1s
PINE Pine Mountain 90.11 46 IAmb IAmb 08 57 05.4
comp=Z,36nm,1.0s
TOAD Toad River Com 90.14 31 P **P 08 57 02.2 +1.2**
baz=258,SNR=19
KBL Kabul 90.19 305 P **P 08 57 01.4 -0.6**
KBL Kabul 90.19 305 P **P 08 57 01.5 -0.6**
KBL pmax pmax
comp=Z,23nm,0.8s
VES Vestal, Richgr 90.41 54 IAmb IAmb 08 57 06.9
comp=Z,87nm,1.2s
PNTR Pine Nut 90.44 51 IAmb IAmb 08 57 07.6
comp=Z,71nm,1.0s
WAKR Walker 90.48 51 IAmb IAmb 08 57 07.8
comp=Z,32nm,0.9s
LLLB Lillooet 90.53 39 IAmb IAmb 08 57 06.3
comp=Z,34nm,1.0s
OSI Osito Audit: C 90.55 55 IAmb IAmb 08 57 08.7
comp=Z,87nm,1.2s
MDPB Devils Postpil 90.65 52 IAmb IAmb 08 57 08.4
comp=Z,37nm,1.0s
PAHR Pah Rah Range 90.69 50 IAmb IAmb 08 57 08.4
comp=Z,68nm,1.0s
BRLS Boroilday 90.72 313 *e*P **P 08 57 03.9 -0.2**
BRLS Boroilday 90.72 313 *e*P **P 08 57 03.8 -0.2**
CHM Chimkent 90.79 312 *e*P **P 08 57 04.0 -0.4**
CHM Chimkent 90.79 312 *e*P **P 08 57 04.0 -0.4**
ISA Isabella, Lake 90.88 54 IAmb IAmb 08 57 09.5
comp=Z,43nm,1.1s
KOTAN Kotaneelee Air 90.98 30 P **P 08 57 06.6 +1.7**
baz=259,SNR=7.5
F07A Phinny Hill Vi 91.12 44 IAmb IAmb 08 57 08.5
comp=Z,31nm,1.1s
E07A Sunnyside 91.26 43 IAmb IAmb 08 57 09.1
comp=Z,44nm,1.0s
CWC Cottonwood Cre 91.30 54 IAmb IAmb 08 57 11.6
comp=Z,55nm,1.1s
NVAR Mina Array Bea 91.36 52 P **P 08 57 09.8 +2.3**
NVAR Mina Array Bea 91.36 52 P **P 08 57 09.2 +1.8**
comp=Z,96nm,1.0s,baz=265,slow=4.9,SNR=184
NVAR PKKPbc **PKKPbc 09 14 29.6 -0.4**
comp=Z,1.8nm,0.9s,baz=66,slow=3.9,SNR=5.8
NVAR PKPPKP **P'P'df 09 22 37.8 -1.2**
comp=Z,1.7nm,1.0s,baz=68,slow=3.9,SNR=6.1
NVAR LR LR 09 33 02.8
comp=Z,2μm,19.9s,baz=283,slow=32
comp=Z,96nm,1.0s
HAWA Hanford 91.46 44 IAmb IAmb 08 57 10.0
comp=Z,44nm,1.1s
WAH2 Wahluke Slope 91.49 43 IAmb IAmb 08 57 09.9
comp=Z,46nm,1.1s
DSP Deep Springs 91.49 53 IAmb IAmb 08 57 12.7
comp=Z,58nm,1.1s
ELS Elsinore Mount 91.50 56 IAmb IAmb 08 57 12.7
comp=Z,56nm,1.2s
G08A Pilot Rock 91.72 45 IAmb IAmb 08 57 12.3
comp=Z,31nm,1.0s
BVAR Borovoye Array 91.75 323 P **P 08 57 07.4 -1.2**
comp=Z,125nm,0.9s,baz=102,slow=5.2,SNR=57
BVAR LR LR 09 37 45.9
comp=Z,755nm,21.2s,baz=92,slow=35
comp=Z,125nm,0.9s
BORK Borovoye 91.79 323 *ce*P **P 08 57 07.0 -1.8**
BORK pmax pmax
comp=Z,108nm,1.0s
YPT Yellepit 91.81 44 IAmb IAmb 08 57 11.7
comp=Z,46nm,1.1s
WRGLY Wrigley 91.84 27 IAmb IAmb 08 57 11.7
comp=Z,37nm,0.8s
B08A Colville Reser 91.85 42 IAmb IAmb 08 57 11.2
comp=Z,44nm,1.2s
GRAC Grapevine Rang 91.93 53 IAmb IAmb 08 57 14.5
comp=Z,52nm,1.0s
D08A Wollman Farm, 91.96 43 IAmb IAmb 08 57 12.2
comp=Z,32nm,1.1s
CBX Cerro Bola 91.99 58 IAmb IAmb 08 57 50.2
comp=Z,28nm,1.1s
BAR Barrett 92.02 58 IAmb IAmb 08 57 15.9
comp=Z,42nm,1.2s
GSC Goldstone, Bar 92.19 55 IAmb IAmb 08 57 15.7
comp=Z,56nm,1.1s
RPN Rapa Nui 92.21 117 LR LR 09 30 31.4
comp=Z,1μm,21.8s,baz=262,slow=30
PFO Pinyon Flats O 92.30 57 P **P 08 57 13.8 +2.0**
PFO Pinyon Flats O 92.30 57 P **P 08 57 13.4 +1.7**
comp=Z,68nm,1.1s,baz=276,slow=5.0,SNR=48
PFO PKKPbc **PKKPdf 09 14 24.7 -0.4**
comp=Z,3.1nm,0.9s,baz=52,slow=2.0,SNR=5.2
PFO LR LR 09 34 33.0
comp=Z,2μm,18.3s,baz=274,slow=33
comp=Z,68nm,1.1s
PFO Pinyon Flats O 92.30 57 *ce*P **P 08 57 14.1 +2.3**
PFO pmax pmax
comp=Z,120nm,1.1s
PMD Palm Desert 92.37 57 IAmb IAmb 08 57 16.5
comp=Z,63nm,1.1s
GWY Greenwater Val 92.40 54 IAmb IAmb 08 57 16.5
comp=Z,51nm,1.0s
E09A Wood Farm, Sta 92.43 44 IAmb IAmb 08 57 14.3
comp=Z,56nm,1.1s
C09A Chrisman Ranch 92.49 42 IAmb IAmb 08 57 15.3
comp=Z,42nm,1.1s
ESJX Sierra Juarez 92.56 58 IAmb IAmb 08 57 19.4
comp=Z,28nm,1.0s
YUH Yuha Desert 92.65 58 IAmb IAmb 08 57 18.2
comp=Z,36nm,1.1s

C36M	Paulatuk	92.71	21	P	P	08 57 14.2	+1.6
	baz=260						
BMO	Blue Mountains	92.83	45	IAmb	IAmb	08 57 17.3	
	comp=Z,32nm,1.1s						
SYO	Syowa Base	92.92	199	⇑iP	P	08 57 14.0	+0.3
SYO	Syowa Base	92.92	199	⇑iPcP	PcP	08 57 15.3	+1.0
SYO	Syowa Base	92.92	199	⇓iPP	pP	08 57 29.0	-1.7
F10A	Beach Ranch, E	93.00	44	IAmb	IAmb	08 57 16.8	
	comp=Z,30nm,1.0s						
MTPC	Mountain Pass	93.23	55	IAmb	IAmb	08 57 20.6	
	comp=Z,39nm,1.1s						
S11A	Rachel	93.28	53	IAmb	IAmb	08 57 22.7	
	comp=Z,37nm,0.9s						
NEW	Newport	93.31	42	IAmb	IAmb	08 57 19.1	
	comp=Z,55nm,1.1s						
NEW	Newport	93.31	42	P	P	08 57 16.8	+0.8
	comp=Z,52nm,1.1s,baz=269,slow=5.1,SNR=31						
NEW				LR	LR	09 32 34.9	
	comp=Z,6μm,21.3s,baz=298,slow=31						
	comp=Z,52nm,1.1s						
R11B	Troy Canyon, C	93.47	52	IAmb	IAmb	08 57 21.6	
	comp=Z,58nm,1.1s						
GLA	Glamis	93.61	57	IAmb	IAmb	08 57 21.8	
	comp=Z,31nm,1.0s						
SHPR	Sheep Range	93.64	54	IAmb	IAmb	08 57 22.8	
	comp=Z,48nm,1.1s						
V12A	Nelson	93.82	55	IAmb	IAmb	08 57 23.4	
	comp=Z,54nm,1.1s						
BLYC	Blythe	93.92	57	IAmb	IAmb	08 57 24.1	
	comp=Z,53nm,1.1s						
ELK	Elko	93.95	50	IAmb	IAmb	08 57 23.5	
	comp=Z,28nm,1.1s						
ELK	Elko	93.95	50	P	P	08 57 20.6	+1.2
	comp=Z,24nm,1.1s,baz=275,slow=5.7,SNR=44						
ELK				LR	LR	09 33 47.6	
	comp=Z,2μm,20.3s,baz=288,slow=32						
	comp=Z,24nm,1.1s						
LCMT	Little Creek M	95.22	53	IAmb	IAmb	08 57 29.9	
	comp=Z,30nm,1.1s						
SZCU	Shurtz Canyon	95.38	53	IAmb	IAmb	08 57 29.7	
	comp=Z,26nm,1.2s						
KNB	Kanab	95.55	53	IAmb	IAmb	08 57 30.7	
	comp=Z,46nm,1.2s						
BELA	Belgrano 2	95.73	178	P	P	08 57 26.9	+0.4
BELA				IAmb	IAmb	08 57 28.0	
	comp=Z,60nm,1.2s						
HRA	Herat	95.76	304	IAmb	IAmb	08 57 29.0	
	comp=Z,25nm,0.9s						
YKA	Yellowknife Ar	95.79	28	P	P	08 57 28.2	+1.3
YKA	Yellowknife Ar	95.79	28	P	P	08 57 28.0	+1.1
	comp=Z,25nm,0.9s,baz=269,slow=5.1,SNR=45						
YKA				PP	PP	09 01 16.1	-3.2
	comp=Z,3.8nm,1.0s,baz=276,slow=9.0,SNR=4.2						
YKA				PKKPbc	PKKPbc	09 14 15.8	-3.2
	comp=Z,3.3nm,0.9s,baz=76,slow=2.6,SNR=5.8						
YKA				LR	LR	09 36 59.1	
	comp=Z,666nm,20.9s,baz=286,slow=33						
	comp=Z,25nm,0.9s						
YKA	Yellowknife Ar	95.79	28	P	P	08 57 28.2	+1.3
YKAW3	Yellowknife Wh	95.79	28	IAmb	IAmb	08 57 29.3	
	comp=Z,45nm,1.1s						
YKAW1	Yellowknife Wh	95.84	28	IAmb	IAmb	08 57 29.6	
	comp=Z,48nm,1.1s						
H06N1	SOCORRO T-PHAS	95.86	72	T	T	10 43 37.1	
	SNR=4.9						
H06E1	SOCORRO T-PHAS	95.91	72	T	T	10 43 34.7	
	SNR=8.7						
U15A	North Rim	95.94	54	IAmb	IAmb	08 57 33.6	
	comp=Z,49nm,1.1s						
WUAZ	Wupatki	96.63	55	IAmb	IAmb	08 57 36.6	
	comp=Z,37nm,1.1s						
LPIG	La Paz	96.88	67	LR	LR	09 35 08.4	
	comp=Z,2μm,19.6s,baz=283,slow=32						
TMUT	Trail Mountain	96.95	51	IAmb	IAmb	08 57 37.6	
	comp=Z,24nm,1.0s						
TUC	Tucson	96.95	58	P	P	08 57 33.3	+0.2
TUC	Tucson	96.95	58	P	P	08 57 33.3	+0.2
TUC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
Q16A	Castle Valley	96.96	52	IAmb	IAmb	08 57 36.7	
	comp=Z,28nm,1.3s						
SLBS	Sierra La Lagu	97.18	67	P	Pdif	08 57 37.0	+2.7
TPAW	Teton Pass	97.30	47	IAmb	IAmb	08 57 38.2	
	comp=Z,27nm,1.4s						
P17A	Butcher Ranch,	97.32	51	IAmb	IAmb	08 57 38.8	
	comp=Z,22nm,1.1s						
YMR	Madison River	97.32	46	IAmb	IAmb	08 57 38.6	
	comp=Z,20nm,1.0s						
YFT	Old Faithful	97.41	46	IAmb	IAmb	08 57 40.3	
	comp=Z,26nm,1.0s						
PDAR	Pinedale Array	98.30	48	P	Pdif	08 57 39.4	+0.2
	comp=Z,12nm,1.0s,baz=278,slow=4.8,SNR=47						
PDAR				PP	PP	09 01 39.4	-0.2
	comp=Z,4.2nm,1.0s,baz=276,slow=8.7,SNR=5.7						
PDAR				PKKPbc	PKKPbc	09 14 10.5	-1.3
	comp=Z,0.4nm,0.5s,baz=98,slow=2.3,SNR=4.7						
PDAR				PKPPKP	P'P'df	09 22 26.5	+0.9
	comp=Z,1.4nm,1.1s,baz=97,slow=0.4,SNR=4.3						
PDAR				LR	LR	09 38 38.9	
	comp=Z,1μm,19.1s,baz=283,slow=33						
	comp=Z,12nm,1.0s						
PV05	Paradox Valley	98.56	53	IAmb	IAmb	08 57 45.0	
	comp=Z,26nm,1.2s						
PV10	Paradox Valley	98.61	52	IAmb	IAmb	08 58 14.7	
	comp=Z,26nm,0.9s						
PV16	Nyswonger Mesa	98.71	52	IAmb	IAmb	08 57 45.3	
	comp=Z,28nm,1.2s						
PV18	Skein Mesa, Pa	98.71	52	IAmb	IAmb	08 57 44.6	
	comp=Z,27nm,1.1s						
PV04	Paradox Valley	98.72	52	IAmb	IAmb	08 57 44.8	
	comp=Z,36nm,1.1s						
PV11	David Mesa, Pa	98.74	52	IAmb	IAmb	08 57 45.5	
	comp=Z,55nm,1.2s						
PV03	Paradox Valley	98.76	52	IAmb	IAmb	08 57 45.5	
	comp=Z,28nm,1.3s						
PV13	Radium Mtn., P	98.78	52	IAmb	IAmb	08 57 45.5	
	comp=Z,29nm,1.3s						
PV02	Paradox Valley	98.84	52	IAmb	IAmb	08 57 45.9	
	comp=Z,50nm,1.2s						
ARTI	Arti	98.88	326	P	P	08 57 39.1	-1.9
ARTI				IAmb	IAmb	08 57 40.0	
	comp=Z,34nm,0.9s						
ARTI	Arti	98.88	326	LR	LR	09 44 53.5	
	comp=Z,592nm,20.1s,baz=92,slow=37						
ARTI	Arti	98.88	326	*c iP*	P	08 57 38.5	-2.5
ARTI						09 01 38.6	
ARTI				S	SKSac	09 08 11.9	-2.0
ARTI				pmax	pmax		
	comp=Z,39nm,1.0s						
ARTI				MLR	MLR		
	comp=Z,773nm,21.0s						
PV01	Paradox Valley	98.98	52	IAmb	IAmb	08 57 46.5	
	comp=Z,24nm,1.2s						
MVCO	Mesa Verde	99.02	53	IAmb	IAmb	08 57 47.1	
	comp=Z,58nm,1.9s						
O20A	White River Ci	99.26	50	IAmb	IAmb	08 57 46.6	
	comp=Z,20nm,1.0s						
AKTO	Aktyubinsk	99.27	320	LR	LR	09 44 18.8	
	comp=Z,254nm,19.3s,baz=56,slow=36						
TROLL	Troll, Antarti	99.76	188	⇓P	Pdif	08 57 44.9	0.0
	comp=Z,1μm,0.8s						
ANMO	Albuquerque	100.64	56	P	Pdif	08 57 51.4	+1.8
	comp=Z,7.4nm,1.0s,baz=291,slow=8.6,SNR=14						
ANMO				PP	PP	09 01 58.2	+0.7
	comp=Z,3.3nm,1.0s,baz=321,slow=5.9,SNR=4.7						
ANMO				PKKPbc	PKKPbc	09 14 04.9	+0.2
	comp=Z,2.1nm,0.9s,baz=93,slow=11,SNR=4.8						
ANMO	Albuquerque	100.64	56	*c iP*	Pdif	08 57 52.2	+2.5
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SNAA	Sanae	100.78	187	⇓P	Pdif	08 57 48.6	-0.7
	comp=Z,169nm,1.1s						
SNAA				⇓PP	PP	09 01 59.4	+2.5
SNAA	Sanae	100.78	187	P	Pdif	08 57 48.2	-1.1
	comp=Z,8.1nm,1.1s,baz=170,slow=6.3,SNR=20						
SNAA				PP	PP	09 01 54.8	-2.0
	comp=Z,7.2nm,1.0s,baz=176,slow=5.2,SNR=5.4						
SNAA				PKKPbc	PKKPbc	09 14 01.7	-3.5
	comp=Z,2.0nm,1.0s,baz=332,slow=3.8,SNR=5.3						
SNAA	Sanae	100.78	187	*c iP*	Pdif	08 57 49.6	+0.3
SNAA				pmax	pmax		
	comp=Z,16nm,1.2s						
VNA3	Neumayer Olymp	101.90	185	⇑P	Pdif	08 57 54.2	0.0
	comp=Z,11nm,0.8s						
VNA3				sP	pPdif	08 58 10.9	-0.4
VNA3				⇑PP	PP	09 02 12.3	+7.1
VNA2	Neumayer--Watz	101.99	186	⇑P	Pdif	08 57 54.8	+0.1
	comp=Z,9.0nm,0.6s,baz=148,slow=3.1						
VNA1	Neumayer--Stat	102.34	186	⇓P	Pdif	08 57 56.8	+0.6
	comp=Z,11nm,1.0s						
VNA1				⇑sP	pPdif	08 58 13.7	+0.5
VNA1				⇓PP	PP	09 02 09.4	+0.9
TXAR	Lajitas Array	103.00	61	Pdiff	Pdif	08 58 02.2	+2.1
	comp=Z,1.0nm,0.9s,baz=275,slow=4.6,SNR=5.6						
TXAR				PP	PP	09 02 16.3	+1.0
	comp=Z,4.9nm,1.1s,baz=286,slow=6.1,SNR=4.5						
TXAR				PKKPbc	PKKPbc	09 13 57.2	-0.3
	comp=Z,6.9nm,0.9s,baz=78,slow=3.2,SNR=20						
TXAR				PKPPKP	P'P'df	09 22 15.5	-2.1
	comp=Z,0.4nm,0.9s,baz=115,slow=3.5,SNR=3.5						
OPO	Ambohidratompo	104.64	249	PKKPbc	PKKPbc	09 13 52.9	+0.5
	comp=Z,4.5nm,0.9s,baz=292,slow=19,SNR=4.2						
MAK	Makhachkala	107.05	313	*eP*	Pdif	08 58 16.2	-1.5
MAK				*e*		09 02 40.8	
MAK				*e*PPP	PPP	09 04 59.2	
MAK				*e*		09 08 53.1	
MAK				*e*PS	PS	09 12 01.6	-4.8
MAK				*e*SS	SS	09 17 49.2	+1.8
MAK				pmax	pmax		
	comp=Z,145nm,1.2s						
APA	Apatity	107.51	340	⇓*iP*	Pdif	08 58 14.9	-4.3
APA				SP	SP	09 12 02.0	+0.2
APA				*i* PS	PS	09 12 05.7	-4.4
APA				MLR	MLR		
	comp=Z,2μm,24.6s						
ARCES	ARCESS Array B	108.95	343	Pdiff	Pdif	08 58 25.1	-0.5
	comp=Z,3.7nm,0.8s,baz=36,slow=6.8,SNR=4.5						
ARCES				PKiKP	PKiKP	09 02 29.0	-0.8
	comp=Z,5.9nm,0.9s,baz=70,slow=1.5,SNR=5.6						
ARCES				PP	PP	09 02 57.4	-0.3
	comp=Z,5.8nm,1.0s,baz=56,slow=6.0,SNR=1.9						
ARCES				PKKPbc	PKKPbc	09 13 37.6	-2.9
	comp=Z,3.1nm,0.8s,baz=256,slow=3.6,SNR=4.1						
KBZ	Khabaz	110.25	314	PKKPbc	PKKPbc	09 13 35.5	+0.1
	comp=Z,1.2nm,0.6s,baz=276,slow=9.2,SNR=2.1						
KIV	Kislovodsk	110.35	315	*i* PKIKP	PKiKP	09 02 31.4	-1.9
KIV				*e*		09 03 06.1	
KIV				*e*PS	PS	09 12 36.0	-3.7
KIV				*e*SS	SS	09 18 30.4	-1.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SHA1	Shidzhatmaz	110.42	314	⇓*i* PKIKP	PKiKP	09 02 33.4	-0.2
OBN	Obninsk	111.18	327	*i* PKIKP	PKiKP	09 02 35.3	+1.0
OBN				*e*PPP	PPP	09 05 34.4	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOC	Sochi	112.53	315	*i* PKIKP	PKiKP	09 02 36.5	-0.8
SOC				*e*		09 03 21.5	
SOC				*e*PPP	PPP	09 05 46.3	
SOC				*e*PS	PS	09 13 00.0	+0.5
SOC				*e*SS	SS	09 18 57.6	-3.3
SOC				*e*PPP	PPP	09 23 10.0	
SOC				MLR	MLR		
	comp=Z,3μm,23.0s						
SUMG	Summit	113.33	4	PKP	PKiKP	09 02 39.4	+0.9
FINES	FINESS Array B	113.33	336	Pdiff	Pdif	08 58 43.6	-1.5
	comp=Z,7.2nm,1.0s,baz=132,slow=5.4,SNR=6.8						
FINES				PKiKP	PKiKP	09 02 38.1	-0.1
	comp=Z,8.2nm,0.9s,baz=33,slow=3.3,SNR=7.2						
FINES				PP	PP	09 03 29.8	+0.6
	comp=Z,7.4nm,0.9s,baz=71,slow=6.4,SNR=5.5						
FINES				PKKPbc	PKKPbc	09 13 23.4	-2.5
	comp=Z,2.6nm,0.8s,baz=214,slow=2.6,SNR=15						
FINES				PKKPab	PKKPab	09 13 31.5	+0.3
	comp=Z,5.1nm,0.9s,baz=224,slow=5.8,SNR=5.6						
FINES				PKKP	PKKPdf	09 13 45.7	-1.1
	comp=Z,3.1nm,0.8s,baz=224,slow=3.8,SNR=5.0						
E46A	Sault Ste Mari	115.54	41		PKPdf	09 02 43.3	+0.3
MNK	Minsk	116.01	329	*i* PKIKP	PKiKP	09 02 41.9	-1.7
MNK				*i*		09 03 46.5	
MNK				*i* PPP	PPP	09 06 13.6	
MNK				*i*		09 09 49.9	
MNK				*i* SS	SS	09 19 46.0	+0.3
MNK				*i* SSS	SSS	09 24 04.1	
MNK				pmax	pmax		
	comp=E,37nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,0.8s						
MNK				MLR	MLR		
	comp=N,718nm,22.0s						
MNK				MLR	MLR		
	comp=E,560nm,21.0s						
MNK				MLR	MLR		
	comp=Z,1μm,22.0s						
WCI	Wyandotte Cave	116.38	50		PKiKP	09 02 45.0	+0.2
WCI	Wyandotte Cave	116.38	50	PKIKP	PKiKP	09 02 45.0	+0.2
KIBK	Kibwezi	116.42	264	PKP	PKiKP	09 02 46.4	+0.7
AKASG	Malin Array Be	116.98	325		PKPdf	09 02 45.0	-0.6
AKASG	Malin Array Be	116.98	325	PKP	PKPdf	09 02 44.4	-1.1
	comp=Z,6.1nm,0.7s,baz=62,slow=2.4,SNR=13						
AKASG				PP	PP	09 03 52.6	-2.6
	comp=Z,1.9nm,0.6s,baz=57,slow=7.1,SNR=5.2						
AKASG				PKKPbc	PKKPbc	09 13 09.4	-3.4
	comp=Z,3.6nm,0.8s,baz=260,slow=3.9,SNR=9.1						
AKASG	Malin Array Be	116.98	325	*c iP*KIKP	PKPdf	09 02 45.0	-0.6
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKBB	Malin Array Si	116.98	325	*i* PKIKP	PKPdf	09 02 44.5	-1.1
KIEV	Kiev	117.00	325		PKPdf	09 02 45.2	-0.4
KIEV	Kiev	117.00	325	⇑P	PKPdf	09 02 45.5	-0.1
KIEV	Kiev	117.00	325	⇑PKIKP	PKPdf	09 02 45.5	-0.1
PLCA	Paso Flores	117.27	142	PKP	PKPdf	09 02 46.4	-0.3
	comp=Z,3.1nm,0.8s,baz=259,slow=3.6,SNR=3.6						
PLCA				PKKPbc	PKKPbc	09 13 11.0	-0.7
	comp=Z,8.4nm,0.9s,baz=34,slow=3.6,SNR=6.8						
TEIG	Tepich	117.28	71		PKiKP	09 02 47.6	+0.6
KMBO	Kilima Mbogo	117.37	265	PKP	PKPdf	09 02 46.2	-1.5
	comp=Z,2.5nm,0.3s,baz=158,slow=5.4,SNR=4.7						
KIRS	Kirsehir-Merke	117.87	311	⇓P	PKPdf	09 02 47.1	-0.7
BR131	Keskin Array S	117.92	312	*d iP*KIKP	PKPdf	09 02 47.3	-0.7
BRTR	Keskin Array B	117.92	312		PKPdf	09 02 46.4	-1.6
BRTR	Keskin Array B	117.92	312	PKP	PKPdf	09 02 46.2	-1.7
	comp=Z,7.2nm,1.0s,baz=108,slow=3.2,SNR=16						
BRTR				PP	PP	09 04 02.7	+0.2
	comp=Z,2.0nm,0.8s,baz=93,slow=6.0,SNR=4.6						
BRTR				PKKPbc	PKKPbc	09 13 09.0	-0.4
	comp=Z,2.4nm,1.0s,baz=206,slow=6.7,SNR=6.9						
BRTR	Keskin Array B	117.92	312	*c iP*KIKP	PKPdf	09 02 47.9	-0.1
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MMAI	Mount Meron Ar	118.12	304	PKP	PKPdf	09 02 47.6	-0.8
	comp=Z,1.7nm,0.3s,baz=107,slow=7.8,SNR=2.9						
ANTO	Ankara	118.50	312		PKPdf	09 02 48.9	-0.1
ANTO	Ankara	118.50	312	⇑P	PKPdf	09 02 48.4	-0.6
ANTO	Ankara	118.50	312	PKIKP	PKPdf	09 02 48.9	-0.1
HFS	Hagfors	118.88	339	PKP	PKPdf	09 02 48.2	-0.8
	comp=Z,4.7nm,1.0s,baz=31,slow=6.7,SNR=4.5						
HFS				PKKPbc	PKKPbc	09 13 05.3	-1.0
	comp=Z,6.8nm,1.0s,baz=191,slow=5.9,SNR=4.1						
NB2	NORSAR Subarra	119.07	341	PKPdf	PKPdf	09 02 48.4	-1.0
	comp=Z,2.6nm,1.0s,baz=44,slow=1.9						
NB2				PKKP	PKKPbc	09 13 05.2	-0.6
	comp=Z,9.6nm,1.2s,baz=224,slow=4.1						
NOA	NORSAR Array B	119.07	341	PKP	PKPdf	09 02 48.6	-0.8
	comp=Z,4.2nm,0.9s,baz=44,slow=1.8,SNR=7.7						
NOA				PP	PP	09 04 04.0	-5.4
	comp=Z,2.6nm,0.9s,baz=32,slow=8.3,SNR=4.0						
NOA				PKKPbc	PKKPbc	09 13 05.8	0.0
	comp=Z,1.1nm,0.9s,baz=227,slow=4.3,SNR=3.5						
BI02	San Fabin de	119.19	138		PKiKP	09 02 50.7	+0.2
VLDQ	Val d'Or	119.20	37		PKPdf	09 02 48.9	-1.0
SADO	Sadowa	119.49	42	PKKPbc	PKKPbc	09 13 03.2	-0.4
	comp=Z,121nm,1.0s,baz=89,slow=3.8,SNR=6.4						
SAHE	Sakarya_HENDEK	119.61	314	⇓P	PKPdf	09 02 50.0	-1.0
TPGR	Topolog	119.86	319	⇑P	PKPdf	09 02 50.8	-0.6
BOSA	Boshof	120.39	232	PKP	PKiKP	09 02 53.2	+0.1
	comp=Z,13nm,0.9s,baz=136,slow=2.0,SNR=17						
BOSA				PKKPbc	PKKPab	09 13 01.0	-0.8
	comp=Z,4.7nm,0.9s,baz=326,slow=3.6,SNR=4.0						
BOSA				SKKP		09 17 02.7	
	comp=Z,7.5nm,1.2s,baz=245,slow=7.0,SNR=3.0						
ONER	Baraj Valea Uz	120.55	321	⇓P	PKiKP	09 02 52.9	+0.1
BO02	Sierra Bellavi	120.58	137		PKiKP	09 02 53.3	0.0
JTS	Las Juntas de	120.67	82		PKPdf	09 02 51.8	-2.0
JTS	Las Juntas de	120.67	82	PKIKP	PKPdf	09 02 51.8	-2.0
BURAR	Bucovina Array	120.71	323		PKiKP	09 02 53.4	+0.3
BURAR	Bucovina Array	120.71	323	⇑P	PKPdf	09 02 52.7	-0.3
BURAR	Bucovina Array	120.71	323	⇑PKIKP	PKPdf	09 02 52.7	-0.3
MATP	Matopo	121.05	242	PKKPab	PKKPab	09 13 02.9	+4.0
	comp=Z,4.9nm,0.8s,baz=312,slow=4.7,SNR=7.0						
MREMI	Moremi	121.16	239	*i* P	PKiKP	09 02 54.9	+0.1
MLR	Muntele Rosu	121.20	320	PKP	PKPdf	09 02 54.1	0.0
	comp=Z,11nm,1.0s,baz=104,slow=4.2,SNR=5.9						
MLR				PKKPbc	PKKPab	09 12 55.4	-1.7
	comp=Z,5.5nm,0.7s,baz=233,slow=5.1,SNR=5.1						
MLR	Muntele Rosu	121.20	320	⇑P	PKPdf	09 02 53.3	-0.8
SCHQ	Schefferville	121.22	27	PKP	PKPdf	09 02 53.5	-0.2
	comp=Z,64nm,0.9s,baz=304,slow=3.6,SNR=3.8						
SCHQ				PKKPbc	PKKPab	09 12 56.8	+0.3
	comp=Z,132nm,0.9s,baz=129,slow=4.3,SNR=7.1						
VA06	Catapilco	121.45	134		PKPdf	09 02 54.1	-0.7
HDC	Heredia	121.49	82	*eP*	PKPdf	09 02 54.9	-0.6
LOZB	Loznitsa	121.66	318	⇓P	PKiKP	09 02 55.0	0.0
BAND	Balkesir-Ban	121.75	314	⇑P	PKPdf	09 02 54.1	-1.0
SUR	Sutherland	121.81	226		PKiKP	09 02 56.7	+0.7
BROLN	Tlhalogang	121.81	241	*i* P	PKiKP	09 02 56.2	+0.1
SSPA	Standing Stone	121.88	46		PKPdf	09 02 54.7	-0.7
ARR	Arges	122.08	321	⇑P	PKiKP	09 02 56.1	+0.2
STHS	Stebnicka Huta	122.11	326	*e*PKIKP	PKiKP	09 02 57.0	+1.3
STHS				*e*		09 04 30.4	
STHS	Stebnicka Huta	122.11	326	*e*PKP	PKiKP	09 02 57.0	+1.3
STHS				*e*PP	PP	09 04 30.4	-0.1
LPHEP	Lephephe	122.18	237	*i* P	PKiKP	09 02 57.1	+0.4
ELND	Elena	122.32	318	⇑P	PKPdf	09 02 56.0	-0.1
MARR	Marisel-Cluj	122.41	323	⇑P	PKPdf	09 02 56.4	0.0
DWPF	Disney Wildern	122.52	61		PKiKP	09 02 57.5	+0.4
PLVB	Pleven	122.96	319	⇓P	PKPdf	09 02 57.0	-0.4
LSZ	Lusaka	123.05	247		PKPdf	09 02 58.4	0.0
LSZ	Lusaka	123.05	247	PKIKP	PKPdf	09 02 58.4	0.0
KDWAN	Kaudwane	123.18	237	*i* P	PKiKP	09 02 59.1	+0.4
EZN	Ezine	123.21	314	⇑P	PKPdf	09 02 56.8	-1.1
EZN	Ezine	123.21	314	⇑PKIKP	PKPdf	09 02 56.8	-1.1
GZR	Gura Zlata	123.23	321	⇓P	PKPdf	09 02 57.8	-0.1
GZR	Gura Zlata	123.23	321	⇓PKIKP	PKPdf	09 02 57.8	-0.1
SKOMA	Sekoma	123.29	235	*i* P	PKiKP	09 02 59.4	+0.5
SIRR	Siria	123.49	323	⇑P	PKPdf	09 02 57.9	-0.4
OKC	Ostrava-Krasne	123.56	328	AMS	AMS	10 02 00.0	
	comp=Z,800nm,18.4s						
PSZ	Piszkesteto	123.67	325	⇓P	PKPdf	09 02 58.7	0.0
PSZ	Piszkesteto	123.67	325	⇓PKIKP	PKPdf	09 02 58.7	0.0
LCO	Las Campanas	123.76	131		PKPdf	09 02 59.7	0.0
LCO	Las Campanas	123.76	131	PKIKP	PKPdf	09 02 59.7	0.0
BZS	Buzias	123.84	322	⇑P	PKPdf	09 02 58.7	-0.3
BZS	Buzias	123.84	322	⇑PKIKP	PKPdf	09 02 58.7	-0.3
MORC	Moravsky Berou	123.91	328	⇑P	PKiKP	09 02 59.3	0.0
MORC	Moravsky Berou	123.91	328	*e*PKP	PKPdf	09 02 58.9	-0.1
MORC				*e*		09 03 13.8	
MORC	Moravsky Berou	123.91	328	PKIKP	PKiKP	09 02 59.3	0.0
TRQA	Tornquist	124.05	145		PKPdf	09 02 59.0	-0.7
TRQA	Tornquist	124.05	145	PKIKP	PKPdf	09 02 59.0	-0.7
BLKB	Belogradchik	124.12	320	⇓P	PKPdf	09 02 59.7	+0.1
OSTC	Ostas	124.13	329	AMS	AMS	09 56 20.0	
	comp=Z,2μm,25.5s						
KRLC	Kraliky	124.13	329	AMS	AMS	09 59 00.0	
	comp=Z,2μm,20.9s						
CFA	Coronel Fontan	124.14	135	PKP	PKPdf	09 02 59.9	-0.1
	comp=Z,9.2nm,0.9s,baz=250,slow=3.7,SNR=24						
MDVR	Moldovita	124.19	321	⇑P	PKPdf	09 02 59.6	-0.2
DPC	Dobruska-Polom	124.20	329	AMS	AMS	09 56 00.0	
	comp=Z,2μm,22.7s						
UPC	Upice	124.26	330	AMS	AMS	09 56 20.0	
	comp=Z,2μm,21.8s						
JAVC	Velka Javorina	124.38	327	*e*PKP	PKiKP	09 03 01.0	+0.7
LBNH	Lisbon	124.38	39		PKPdf	09 02 59.7	-0.4
LBNH	Lisbon	124.38	39	PKIKP	PKPdf	09 02 59.7	-0.4
PHDHD	Phuduhudu	124.58	240	*i* P	PKiKP	09 03 02.2	+0.6
D62A	Allapoint, All	124.67	35		PKPdf	09 03 00.4	-0.1
VRAC	Vranov	124.69	328	PKP	PKPdf	09 02 59.6	-0.9
	comp=Z,6.2nm,0.8s,baz=78,slow=5.0,SNR=4.7						
VRAC	Vranov	124.69	328	⇑P	PKPdf	09 03 00.6	+0.1
VRAC	Vranov	124.

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	0.49	34	Pg	**Pg**	08 46 12.5	+0.9
	13nm,0.3s,baz=248,slow=7.2,SNR=1198						
DAV				Lg	Lg	08 46 22.6	
	23nm,0.3s,baz=300,slow=12,SNR=31						
DAV	**Davao City (W)**	0.49	34	P	**Pg**	08 46 12.6	+0.9
DAV	**Davao City (W)**	0.49	34	S	**Sb**	08 46 22.9	+2.9
DAV	**Davao City (W)**	0.49	34	P	**Pg**	08 46 10.0	-1.6
KMSI	**Cibinong**	6.19	192	P	**Pn**	08 47 34.9	+1.2
TNTI	**Ternate**	6.20	161		**Pn**	08 47 34.0	+0.2
TNTI	**Ternate**	6.20	161	P	**Pn**	08 47 37.5	+3.7
TNTI	**Ternate**	6.20	161	P	**Pn**	08 47 35.9	+2.1
	175nm,0.8s						
MYLDM	**Lahad Datu**	6.93	258		**Pn**	08 47 43.1	-0.7
MYLDM	**Lahad Datu**	6.93	258	P	**Pn**	08 47 46.0	+2.2
MRSI	**Marisa**	7.00	209	P	**Pn**	08 47 43.7	-1.1
TOLI2	**Tolitoli**	7.13	219	Pn	**Pn**	08 47 43.1	-3.4
LUWI	**Luwuk**	8.06	198		**Pn**	08 48 03.0	+3.6
LUWI	**Luwuk**	8.06	198	P	**Pn**	08 48 03.8	+4.4
LUWI	**Luwuk**	8.06	198	S	**Sn**	08 49 36.7	+6.1
LUWI	**Luwuk**	8.06	198	P	**Pn**	08 48 01.8	+2.4
	6μm639nm,1.2s						
APSI	**Ampana**	8.36	206	P	**Pn**	08 48 06.7	+3.2
	3μm303nm,1.0s						
TGY	**Tagaytay City**	8.55	330	Pn	**Pn**	08 48 10.2	+4.0
	46nm,0.3s,baz=173,slow=17,SNR=1.6						
SANI	**Sanana**	8.68	175	P	**Pn**	08 48 06.9	-1.0
	2μm201nm,1.1s						
I39PW	**PALAU INFRASON**	9.21	84	I	I	09 42 57.3	
	baz=267,slow=304,SNR=1.0						
NLAI	**Namlea**	10.00	170	P	**Pn**	08 48 25.9	0.0
	2μm132nm,0.6s						
AAI	**Ambon**	10.68	164	P	**Pn**	08 48 35.8	+0.6
	98nm,0.6s						
FAKI	**Fak Fak**	11.77	144		**Pn**	08 48 53.0	+2.7
FAKI	**Fak Fak**	11.77	144	P	**Pn**	08 48 52.9	+2.7
FAKI	**Fak Fak**	11.77	144	P	**Pn**	08 48 53.2	+2.9
SPSI	**Sidrap Palu**	11.92	208	P	Pn	08 49 00.9	+8.7
RKPI	**Ransiki, Papua**	12.01	132	P	**Pn**	08 48 50.6	-2.9
BNSI	**Bone**	12.15	205	P	Pn	08 49 03.4	+7.9
KAPI	**Kappang**	12.86	206		**Pn**	08 49 07.6	+2.5
KAPI	**Kappang**	12.86	206	Pn	**Pn**	08 49 04.7	-0.4
	4.3nm,0.3s,baz=350,slow=1.1,SNR=7.0						
KAPI	**Kappang**	12.86	206	P	Pn	08 49 10.9	+5.8
KAPI	**Kappang**	12.86	206	⇓*e*P	**Pn**	08 49 08.6	+3.5
BKSI	**Bulukumba**	12.98	204	P	**Pn**	08 49 11.2	+4.4
	55nm,1.3s						
SBUM	**Sibu**	13.70	253		**Pn**	08 49 16.9	+0.2
SBUM	**Sibu**	13.70	253	P	**Pn**	08 49 19.0	+2.4
BBKI	**Banjar Baru**	14.50	226	P	P	08 49 40.2	+5.9
EDFI	**Ende, Flores**	15.73	193	P	**Pn**	08 49 45.8	+1.7
KSM	**Kuching**	15.82	252	Pn	**Pn**	08 49 44.3	-0.9
KSM	**Kuching**	15.82	252	P	**P**	08 49 47.9	-1.1
SOEI	**Soe**	16.34	184		**P**	08 49 54.4	-0.5
SOEI	**Soe**	16.34	184	P	**P**	08 49 56.0	+1.1
SOEI	**Soe**	16.34	184	P	**P**	08 49 53.7	-1.2
	3μm205nm,0.9s						
BATI	**Baumata**	16.84	186	Pn	**Pn**	08 49 57.5	-0.6
	10.0nm,0.3s,baz=355,slow=6.6,SNR=4.5						
PLAI	**Plampang**	17.12	206	P	**P**	08 50 04.2	+0.8
PLAI	**Plampang**	17.12	206	P	**P**	08 50 03.5	+0.1
	123nm,1.6s						
WBSI	**Waikabubak, Su**	17.23	200	P	**P**	08 50 04.1	-0.6
	7μm77nm,1.2s						
TWSI	**Taliwang, Sumb**	17.45	209	P	P	08 50 14.8	+7.7
KMMI	**Kalianget**	17.71	220	P	**P**	08 50 10.8	+0.9
	97nm,0.8s						
JAGI	**Jajag, Banyuwa**	18.70	217		**Pn**	08 50 21.2	0.0
JAGI				IAmb	IAmb	08 50 28.4	
	comp=Z,153nm,1.2s						
JAGI	**Jajag, Banyuwa**	18.70	217	P	**Pn**	08 50 22.5	+1.2
JAGI	**Jajag, Banyuwa**	18.70	217	P	**Pn**	08 50 22.4	+1.2
	comp=Z,85nm,1.1s						
QIZ	**Qiongzhong**	19.43	311	P	**Pn**	08 50 31.3	+1.3
QIZ				S	**Sn**	08 54 05.5	-2.7
QIZ				pmax	pmax		
	comp=Z,57nm,1.7s						
QIZ				LR	LR		
	comp=Z,1μm,22.2s						
QIZ				LR	LR		
	comp=Z,830nm,13.7s						
QIZ				LR	LR		
	comp=Z,1μm,15.2s						
NGJI	**Ngawi**	19.62	225	P	**Pn**	08 50 35.3	+3.0
	comp=Z,39nm,0.6s						
TPI	**Tanjungpandan**	19.95	243	P	Pn	08 50 44.1	+7.8
JOW	**Kunigami**	20.26	8	IAmb	IAmb	08 50 42.2	
	comp=Z,62nm,1.0s						
JOW	**Kunigami**	20.26	8	P	**P**	08 50 37.2	-0.6
	comp=Z,39nm,0.9s,baz=193,slow=11,SNR=4.6						
	comp=Z,39nm,0.9s						
UBPT	**Khong Chiam**	21.26	295	P	**P**	08 50 50.2	+1.5
KPJI	**Karang Pucung**	21.45	230	P	**P**	08 50 53.0	+2.2
	comp=Z,92nm,1.2s						
DSRI	**Dabo**	21.87	252	P	**P**	08 50 56.6	+1.3
	comp=Z,58nm,0.8s						
MYKOM	**Kota Tinggi**	21.93	258	P	**P**	08 50 55.4	-0.7
MYKOM	**Kota Tinggi**	21.93	258	P	**P**	08 50 59.2	+3.2
BTDF	**Bukit Timah Da**	22.11	257	P	**P**	08 51 00.8	+2.8
LEM	**Lembang**	22.16	233	P	**P**	08 50 53.7	-4.9
	comp=Z,13nm,0.4s,baz=74,slow=15,SNR=9.1						
	comp=Z,13nm,0.4s						
BBJI	**Bungbulang**	22.52	232	P	**P**	08 51 02.6	+0.2
MDSI	**Maura Dua**	23.82	243	P	**P**	08 51 14.8	-0.8
	comp=Z,33nm,0.8s						
LHSI	**Lahat**	24.11	245	P	**P**	08 51 18.9	+0.5
	comp=Z,3μmcomp=Z,73nm,1.0s						
LWLI	**Liwa**	24.18	242	P	**P**	08 51 22.3	+3.2
	comp=Z,190nm,1.0s						
IPM	**Ipoh**	24.26	266	P	**P**	08 51 19.0	-0.8
IPM	**Ipoh**	24.26	266	P	**P**	08 51 19.2	-0.6
CNSH	**ChangSha**	24.41	333	P	**P**	08 51 22.3	+1.4
CNSH				pmax	pmax		
	comp=Z,29nm,1.5s						
KULM	**Kulim**	24.56	268		**P**	08 51 21.1	-1.3
KULM				IAmb	IAmb	08 51 23.7	
	comp=Z,41nm,1.2s						
KULM	**Kulim**	24.56	268	P	**P**	08 51 22.3	-0.2
MASI	**Maura Aman, Be**	25.00	248	P	**P**	08 51 30.7	+4.2
SLVN	**Son La**	25.32	307	P	**P**	08 51 30.4	+1.0
KRJI	**Kerinci**	25.34	251	P	**P**	08 51 36.5	+6.9
PPI	**Padang Panjang**	25.84	255	P	**P**	08 51 35.1	+1.0
	comp=Z,35nm,1.3s						
WHN	**Wuhan**	25.89	338	P	**P**	08 51 37.8	+3.5
WHN				LR	LR		
	comp=Z,970nm,9.3s						
WHN				LR	LR		
	comp=Z,3μm,18.0s						
NJ2	**Nanjing**	25.97	347	*e*P	**P**	08 51 34.5	-0.5
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
PSI	**Prapat**	26.57	263	P	**P**	08 51 39.7	-1.1
PSI				pmax	pmax		
	comp=Z,30nm,0.9s						
RPSI	**Rantau Prapat**	26.59	263	P	**P**	08 51 39.7	-1.1
RPSI				IAmb	IAmb	08 51 44.8	
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	27.00	126	IAmb	IAmb	08 51 45.6	
	comp=Z,109nm,1.0s						
PMG	**Port Moresby**	27.00	126	P	**P**	08 51 42.9	-1.6
	comp=Z,77nm,0.9s,baz=307,slow=5.1,SNR=3.8						
	comp=Z,77nm,0.9s						
PMG	**Port Moresby**	27.00	126	*de*P	**P**	08 51 44.0	-0.5
PMG				pmax	pmax		
	comp=Z,126nm,1.1s						
COEN	**Coen**	27.09	139	P	**P**	08 51 48.5	+3.2
	comp=Z,89nm,1.1s						
COEN	**Coen**	27.09	139	P	**P**	08 51 45.6	+0.3
COEN				IAmb	IAmb	08 51 50.0	
	comp=Z,64nm,0.9s						
KCSI	**Kotacane, Aceh**	27.60	265	P	**P**	08 51 47.6	-2.4
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	27.89	162	P	**P**	08 51 49.4	-3.0
	comp=Z,8.5nm,0.8s,baz=330,slow=10,SNR=1.2						
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	28.23	297	P	**P**	08 51 53.0	-2.6
CMAR	**Chiang Mai Arr**	28.23	297	P	**P**	08 51 53.7	-1.9
	comp=Z,3.3nm,0.7s,baz=115,slow=8.6,SNR=28						
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	28.23	297	*i*P	**P**	08 51 57.5	+2.0
CMAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	28.34	313	P	**P**	08 51 59.5	+2.8
KMI				pmax	pmax		
	comp=Z,43nm,1.1s						
KMI				LR	LR		
	comp=Z,620nm,22.2s						
CHTO	**Chiang Mai**	28.36	298	P	**P**	08 51 53.1	-3.6
CHTO	**Chiang Mai**	28.36	298	P	**P**	08 51 58.1	+1.4
CHTO	**Chiang Mai**	28.36	298	P	**P**	08 51 53.1	-3.6
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s						
LYN	**LuoYang**	30.18	339	P	**P**	08 52 15.0	+2.4
LYN				pmax	pmax		
	comp=Z,22nm,1.0s						
TIA	**Tai'an**	30.35	347	P	**P**	08 52 15.8	+1.7
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KSAR	**Wonju Array Be**	30.73	4	P	**P**	08 52 16.7	-0.7
KSAR	**Wonju Array Be**	30.73	4	P	**P**	08 52 16.7	-0.7
KSRS	**Korea Array**	30.74	4	P	**P**	08 52 15.9	-1.7
	comp=Z,2.8nm,0.8s,baz=186,slow=9.1,SNR=6.9						
	comp=Z,2.8nm,0.8s						
XAN	**Xi'an**	31.18	333	P	**P**	08 52 21.3	-0.2
XAN				S	**S**	08 57 27.5	-0.2
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
XAN				LR	LR		
	comp=Z,780nm,12.7s						
XAN				LR	LR		
	comp=Z,650nm,12.7s						
XAN				LR	LR		
	comp=Z,1μm,14.8s						
ASAR	**Alice Springs**	31.29	165	P	**P**	08 52 18.4	-4.2
	comp=Z,5.9nm,0.7s,baz=341,slow=8.7,SNR=1.3						
	comp=Z,5.9nm,0.7s						
CD2	**Chengdu**	31.46	323	P	**P**	08 52 24.5	+0.4
CD2				pP	pP	08 52 27.0	-0.2
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
HNS	**HongShan**	32.08	344	⇑P	**P**	08 52 31.3	+1.9
HNS				pmax	pmax		
	comp=Z,25nm,1.4s						
BJT	**Baijiatuau**	34.21	347	P	**P**	08 52 48.7	+0.7
BJT				IAmb	IAmb	08 52 50.8	
	comp=Z,62nm,1.4s						
BJT	**Baijiatuau**	34.21	347	P	**P**	08 52 48.7	+0.7
BJT				pmax	pmax		
	comp=Z,62nm,1.4s						
BJI	**Beijing**	34.23	347	P	**P**	08 52 49.3	+1.2
BJI				pmax	pmax		
	comp=Z,16nm,1.1s						
BJI				LR	LR		
	comp=Z,250nm,15.1s						
BJI				LR	LR		
	comp=Z,290nm,21.0s						
SNY	**Shenyang**	35.05	358	⇓P	**P**	08 52 54.8	-0.4
SNY				pmax	pmax		
	comp=Z,20nm,0.9s						
SNY				pmax	pmax		
	comp=Z,670nm,11.8s						
SNY				LR	LR		
	comp=Z,780nm,18.2s						
SNY				LR	LR		
	comp=Z,650nm,23.9s						
SNY				LR	LR		
	comp=Z,2μm,24.6s						
LZDM	**Lanzhou Array**	35.25	329	P	**P**	08 52 56.7	-0.6
	comp=Z,1.1nm,0.3s,baz=131,slow=5.9,SNR=5.0						
	comp=Z,1.1nm,0.3s						
LZH	**Lanzhou**	35.27	329	*e*P	**P**	08 52 58.0	+0.6
LZH				sP	sP	08 53 03.8	+2.0
LZH				pmax	pmax		
	comp=Z,49nm,1.1s						
BRDH	**Bariadhala**	36.12	300	P	**P**	08 53 03.3	-1.4
	comp=Z,92nm,0.3s,baz=60,slow=20,SNR=5.9						
MSHR	**Mys Shultsa**	36.14	7	⇓*e*P	**P**	08 53 04.2	-0.3
MSHR				pmax	pmax		
	comp=Z,42nm,0.9s						
HHC	**Hu-ho-hao-te**	36.19	342	⇑*i*P	**P**	08 53 07.5	+2.4
HHC				sP	sP	08 53 17.5	+8.0
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				LR	LR		
	comp=Z,400nm,16.0s						
HHC				LR	LR		
	comp=Z,290nm,15.1s						
HHC				LR	LR		
	comp=Z,660nm,17.3s						
BTO	**Baotou**	36.46	340	*e*P	**P**	08 53 09.8	+2.3
BTO				S	**S**	08 58 54.3	+4.9
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,960nm,4.7s						
BTO				LR	LR		
	comp=Z,1μm,14.5s						
BTO				LR	LR		
	comp=Z,900nm,15.5s						
BTO				LR	LR		
	comp=Z,1μm,17.5s						
CN2	**Changchun**	36.99	0	P	**P**	08 53 13.0	+1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SHL	**Shillong**	37.03	304		**P**	08 53 10.4	-2.2
SHL	**Shillong**	37.03	304	P	**P**	08 53 10.4	-2.2
SHL				pmax	pmax		
	comp=Z,97nm,1.1s						
USRK	**Ussuriysk Ar.**	37.84	8	P	**P**	08 53 17.9	-1.0
	comp=Z,21nm,1.0s,baz=189,slow=8.5,SNR=11						
	comp=Z,21nm,1.0s						
USRK	**Ussuriysk Ar.**	37.84	8	P	**P**	08 53 18.0	-1.0
XLT	**XiLinHaoTe**	37.96	349	*e*P	**P**	08 53 21.0	+0.9
XLT				sP	sP	08 53 28.0	+3.5
XLT				pmax	pmax		
	comp=Z,17nm,1.2s						
MDJ	**Mudanjiang**	37.99	5	P	**P**	08 53 19.5	-0.7
MDJ				pmax	pmax		
	comp=Z,25nm,1.4s						
MDJ	**Mudanjiang**	37.99	5	P	**P**	08 53 20.1	-0.1
MDJ				IAmb	IAmb	08 53 25.1	
	comp=Z,59nm,1.2s						
BNX	**BinXian**	38.97	2	⇓P	**P**	08 53 29.5	+1.0
BNX				pmax	pmax		
	comp=Z,16nm,1.1s						
LSA	**Lhasa**	39.47	310	IAmb	IAmb	08 53 37.9	
	comp=Z,52nm,1.3s						
GTA	**Gaotai**	39.87	329	*e*P	**P**	08 53 36.3	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GOMU	**GeErMu**	40.53	321	P	**P**	08 53 45.0	+3.0
GOMU				pP	sP	08 53 48.0	+1.6
GOMU				sP	pP	08 53 51.3	+6.1
GOMU				pmax	pmax		
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	41.36	159	IAmb	IAmb	08 53 53.5	
	comp=Z,90nm,0.7s						
STKA	**Stephens Creek**	41.36	159	P	**P**	08 53 45.2	-3.2
	comp=Z,12nm,0.7s,baz=339,slow=9.2,SNR=3.8						
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	41.36	159	⇓*e*P	**P**	08 53 49.4	+1.0
EVN	**Everest**	42.14	305		**P**	08 53 54.7	-1.0
EVN				IAmb	IAmb	08 53 59.3	
	comp=Z,43nm,1.0s						
HIA	**Hailar**	42.72	355	*ce*P	**P**	08 54 01.5	+2.1
HIA				pmax	pmax		
	comp=Z,24nm,1.2s						
HILR	**Hailar Array B**	43.00	355	P	**P**	08 54 01.4	-0.4
	comp=Z,10nm,0.7s,baz=171,slow=10,SNR=12						
	comp=Z,10nm,0.7s						
HEH	**HeiHe**	43.48	2	*e*P	**P**	08 54 04.5	-1.0
ULN	**Ulaanbaatar**	43.91	342	⇑*e*P	**P**	08 54 10.9	+1.7
ULN				pmax	pmax		
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	44.09	342		**P**	08 54 10.6	0.0
SONM	**Songino Array**	44.09	342	P	**P**	08 54 11.1	+0.5
	comp=Z,3.5nm,1.0s,baz=157,slow=7.8,SNR=11						
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	44.09	342	P	**P**	08 54 10.6	0.0
SONM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HYB	**Hyderabad**	46.84	288	*e*P	**P**	08 54 31.2	-1.6
HYB				IVmB_BB		08 54 34.4	
	comp=Z,253nm,1.1s						
HYB				*e*PcP	**PcP**	08 56 04.8	-1.1
HYB				*e*PP	**PP**	08 56 18.9	-4.2
HYB				*e*S	**S**	09 01 24.4	+0.7
HYB				*e*ScS	**ScS**	09 04 25.9	-2.5
HYB				IVMs_BB	IVMs_BB	09 08 21.6	

IDC ***29*** *08:45:58.9±0.5, 6°.47N×125°.19E, h0km, mb4.6/24, mbtmp4.6/24, Error ellipse: s-maj=13.2km s-min=8.2km az=118.0*

MOS ***29*** *08:46:00.4±1.3, 6°.68N×125°.40E, h10km, mb5.3/38, Error ellipse: s-maj=12.2km s-min=5.6km az=121.3*

NEIC ***29*** *08:46:02.3±1.9, 6°.65N±0°.05×125°.25E±0°.06, h10km±1km, mb5.2/49, Error ellipse: s-maj=10.2km s-min=7.3km az=119.0*

DJA ***29*** *08:46:03.2±1.7, 7°.N±4°×12°.5E±°, h15km±12km, M5.3/43, mb5.1/43, mB5.8/15, MLv5.5/8, Mw(mB)5.3/15*

ISC 29 08:46:02.1±0.3, **6°.66N**±0°.04×**125°.31E**±0°.05, **h10**km, **n284,**

comp=Z,455nm,11.3s
CNB Canberra Magne 47.51 153 P P 08 54 41.7 +4.0
TLY Talaya 48.32 342⇓ eP P 08 54 44.6 +0.9
TLY pmax pmax
comp=Z,14nm,1.6s
DZM Mont Dzumac 49.39 127 P P 08 54 52.5 0.0
comp=Z,8.4nm,0.8s,baz=306,slow=16,SNR=2.8
comp=Z,8.4nm,0.8s
WMQ Urumqi 49.53 324 eP P 08 54 54.0 +0.8
KNGR Kungurtug, Tuv 49.55 337⇑ eP P 08 54 56.1 +2.8
KNGR pmax pmax
comp=Z,18nm,1.4s
ZSN Zaisan 53.29 327 eP P 08 55 22.3 +1.0
ZSN Zaisan 53.29 327 eP P 08 55 22.3 +1.0
SHLS Shalkode 54.20 320 eP P 08 55 27.2 -1.0
comp=Z,27nm,1.2s
SHLS Shalkode 54.20 320 eP P 08 55 27.2 -1.0
SHLS pmax pmax
comp=Z,27nm,1.2s
MK31 Makanchi Array 54.36 325 d iP P 08 55 30.0 +0.9
MKAR Makanchi Array 54.36 325 P 08 55 28.2 -0.9
MKAR Makanchi Array 54.36 325 P P 08 55 27.2 -1.9
comp=Z,4.7nm,0.8s,baz=126,slow=7.5,SNR=13
comp=Z,4.7nm,0.8s
UZB Uzynbulak 54.48 319 eP P 08 55 31.1 +0.9
comp=Z,18nm,1.1s
UZB Uzynbulak 54.48 319 eP P 08 55 31.1 +0.9
UZB pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 54.55 325 P P 08 55 30.5 0.0
MAKZ IAmb IAmb 08 55 35.1
comp=Z,18nm,1.2s
MAKZ Makanchi 54.55 325 P P 08 55 30.5 0.0
MAKZ pmax pmax
comp=Z,18nm,1.2s
SATY Saty 54.84 319 eP P 08 55 33.8 +1.0
comp=Z,25nm,1.0s
SATY Saty 54.84 319 eP P 08 55 33.8 +1.0
SATY pmax pmax
comp=Z,25nm,1.0s
KSH Kashi 54.99 314 P P 08 55 36.8 +2.8
KSH pmax pmax
comp=Z,27nm,1.5s
NIL Nilore 55.04 307 P P 08 55 33.4 -0.9
NIL IAmb IAmb 08 55 36.9
comp=Z,33nm,1.0s
NIL Nilore 55.04 307 P P 08 55 33.4 -0.9
NIL pmax pmax
comp=Z,33nm,1.0s
YAK Yakutsk 55.35 3 ceP P 08 55 34.0 -1.9
YAK pmax pmax
comp=Z,51nm,0.7s
TDK Taldyqorghan 55.76 321 eP P 08 55 40.4 +1.1
comp=Z,37nm,1.4s
TDK Taldyqorghan 55.76 321 eP P 08 55 40.3 +1.1
TDK pmax pmax
comp=Z,37nm,1.4s
MDOK Medeo 55.78 319 eP P 08 55 40.4 +0.8
MDOK Medeo 55.78 319 eP P 08 55 40.4 +0.8
TNSS Tian-Shan 55.79 318 eP P 08 55 40.6 +0.6
TNSS Tian-Shan 55.79 318 eP P 08 55 40.5 +0.6
AAA Alma-Ata 55.88 319 eP P 08 55 41.3 +1.0
AAA Alma-Ata 55.88 319 eP P 08 55 41.2 +1.0
ULHL Ulahol 55.91 317 P P 08 55 43.4 +2.7
SNR=14
BOOM Boomskoye usch 56.22 318 IAmb IAmb 08 55 46.7
comp=Z,42nm,1.4s
KUU Kurty 56.56 319 eP P 08 55 45.7 +0.6
comp=Z,28nm,1.3s
KUU Kurty 56.56 319 eP P 08 55 45.6 +0.6
KUU pmax pmax
comp=Z,28nm,1.3s
TKM2 Tokmak 2 56.63 318 P P 08 55 47.2 +1.4
SNR=9.9
KBK Karagaybulak 56.96 317 P P 08 55 51.0 +2.9
SNR=11
UCH Uchtor 57.08 317 P P 08 55 51.7 +2.5
SNR=35
CHMS Chumysh 57.23 318 P P 08 55 52.0 +2.2
SNR=5.4
AAK Ala-Archa 57.25 317 P 08 55 51.2 +1.1
AAK IAmb IAmb 08 55 54.3
comp=Z,26nm,1.2s
AAK Ala-Archa 57.25 317 P P 08 55 50.0 -0.1
comp=Z,6.9nm,0.9s,baz=117,slow=9.4,SNR=24
comp=Z,6.9nm,0.9s
AAK Ala-Archa 57.25 317 P P 08 55 52.6 +2.5
SNR=9.5
AAK Ala-Archa 57.25 317 de P P 08 55 52.1 +1.9
AAK pmax pmax
comp=Z,39nm,1.6s
ZALV Zalesovo Beam 57.35 333 P 08 55 49.6 -0.7
ZALV Zalesovo Beam 57.35 333 P P 08 55 48.3 -2.1
comp=Z,1.2nm,0.3s,baz=130,slow=6.3,SNR=6.2
comp=Z,1.2nm,0.3s
ZALV Zalesovo Beam 57.35 333 i P P 08 55 53.2 +2.8
ZALV pmax pmax
comp=Z,1.0nm,0.3s
MSVF Nonsavu 57.43 116 P 08 55 51.7 0.0
MSVF Nonsavu 57.43 116 P P 08 55 51.7 0.0
MSVF pmax pmax
comp=Z,44nm,1.2s
USP Ospenovka 57.51 318 P P 08 55 54.1 +2.4
SNR=12
EKS2 Erkin-Say 57.75 317 P P 08 55 55.4 +1.8
SNR=15
ARSB Arslanbob 57.79 315 IAmb IAmb 08 55 56.9
comp=Z,42nm,1.2s
KURBB Kurchatov Arra 58.52 327 P P 08 55 58.5 -0.2
comp=Z,5.9nm,0.8s,baz=126,slow=6.0,SNR=34
comp=Z,5.9nm,0.8s
KURK Kurchatov 58.52 327 P 08 55 58.2 -0.5
KURK IAmb IAmb 08 56 01.5
comp=Z,13nm,0.8s
KURK Kurchatov 58.52 327⇓ eP P 08 55 59.1 +0.4
KURK pmax pmax
comp=Z,43nm,1.5s
KBL Kabul 58.64 306 P P 08 55 58.7 -1.4
KBL Kabul 58.64 306 P P 08 55 58.7 -1.4
KBL pmax pmax
comp=Z,8.0nm,0.7s
DZA Taraz 59.50 316 eP P 08 56 06.7 +1.0
comp=Z,17nm,0.9s
DZA Taraz 59.50 316 eP P 08 56 06.6 +0.9
DZA pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 60.14 316 P P 08 56 07.8 -2.3
KKAR Karatay Array 60.14 316 P P 08 56 07.8 -2.3
CHM Chimkent 60.50 315 eP P 08 56 13.7 +1.1
CHM Chimkent 60.50 315 eP P 08 56 13.6 +1.1
BRLS Borolday 60.58 316 eP P 08 56 14.2 +1.0
comp=Z,14nm,1.2s
BRLS Borolday 60.58 316 eP P 08 56 14.1 +1.0
BRLS pmax pmax
comp=Z,14nm,1.2s
BRZS Berezniki 61.49 324 eP P 08 56 20.0 +0.8
BRZS Berezniki 61.49 324 eP P 08 56 20.0 +0.8
BVAR Borovoye Array 64.11 327 P P 08 56 36.0 -0.5
comp=Z,14nm,1.1s,baz=120,slow=8.5,SNR=10
comp=Z,14nm,1.1s
BORK Borovoye 64.15 327 c iP P 08 56 38.0 +1.2
BORK pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 64.95 1⇓ eP P 08 56 39.8 -1.8
TIXI pmax pmax
comp=Z,24nm,0.9s
BKZ Black Stump Fm 65.70 138 P 08 56 47.1 0.0
RTZ Ruatahuna 65.73 138 P 08 56 47.5 +0.1
AB31 Akbulak array 69.00 320 P P 08 57 05.6 -2.3
AB31 IAmb IAmb 08 57 10.5
comp=Z,28nm,1.1s
ABKAR Akbulak array 69.00 320 P P 08 57 05.2 -2.7
SVE Sverdlovsk 70.74 328 eP P 08 57 20.3 +1.9
ARTI Arti 71.80 327 P P 08 57 25.1 +0.3
ARTI IAmb IAmb 08 57 25.8
comp=Z,15nm,1.3s
ARTI Arti 71.80 327 c iP P 08 57 25.5 +0.7
ARTI 09 00 02.0
ARTI S S **09 06 44.0 -1.2**
ARTI pmax pmax
comp=Z,8.0nm,1.2s
AKT Akhty 76.31 311 eP P 08 57 51.6 -0.1
AKT e 08 58 03.4
AKT e 09 00 42.0
AKT pmax pmax
comp=Z,36nm,1.0s

KIRV Kirov 77.00 329⇓ eP P 08 57 55.6 +0.6
BELG Belogornoye 77.24 322 c iP P 08 57 56.7 +0.2
BELG pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 78.05 293 P 08 57 59.6 -2.1
RAYN IAmb IAmb 08 58 05.2
comp=Z,22nm,1.1s
RAYN Ar Rayn 78.05 293 P P 08 57 59.6 -2.1
RAYN pmax pmax
comp=Z,22nm,1.2s
GNI Garni 78.53 310 de P P 08 58 06.0 +1.8
GNI pmax pmax
comp=Z,62nm,1.6s
GNI Garni 78.53 310 P P 08 58 04.3 +0.1
comp=Z,22nm,1.2s
NCK Nalchik 79.44 313⇑ eP P 08 58 08.3 -0.7
NCK pmax pmax
comp=Z,74nm,0.6s
KBZ Khabaz 79.95 313 P P 08 58 10.9 -0.7
comp=Z,11nm,1.1s,baz=82,slow=4.2,SNR=13
comp=Z,11nm,1.1s
KIV Kislovodsk 80.11 313 eP P 08 58 14.3 +1.7
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 80.11 313 P P 08 58 13.7 +1.1
comp=Z,15nm,0.8s
SHA1 Shidzhatmaz 80.13 313 ceP P 08 58 14.1 +1.2
GURO Guroymak-BITLI 80.64 308 P 08 58 14.4 -1.2
GURO IAmb IAmb 08 58 19.4
comp=Z,35nm,1.1s
ABPO Ambohimpanom 80.98 250 P 08 58 17.5 -0.4
ABPO Ambohimpanom 80.98 250 P P 08 58 17.5 -0.4
ABPO pmax pmax
comp=Z,12nm,1.1s
KOPT Kop Dagi 81.79 309 IAmb IAmb 08 58 26.6
comp=Z,41nm,1.3s
VSLR Vesyoloye 82.03 313⇓ eP P 08 58 24.2 +1.4
VSLR pmax pmax
comp=Z,33nm,1.0s
KLMR Klimovskoe 82.17 330 eP P 08 58 17.8 -5.3
KLMR e 09 13 54.6
KLMR pmax pmax
comp=Z,32nm,1.0s
ILAR Eielson Array 83.08 26 P P 08 58 28.8 +1.0
comp=Z,6.7nm,1.0s,baz=263,slow=7.2,SNR=2.2
comp=Z,6.7nm,1.0s
OBN Obninsk 83.86 325 eP P 08 58 33.3 +1.3
OBN e*PP sP **08 58 37.5 +1.0**
OBN e 09 01 43.0
OBN ePPP PPP 09 03 38.3
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,320nm,18.0s
BNN Bunyan 85.45 308 P 08 58 39.5 -1.1
MMAI Mount Meron Ar 86.34 303 P P 08 58 43.9 -1.1
comp=Z,2.6nm,0.5s,baz=81,slow=10,SNR=6.6
comp=Z,2.6nm,0.5s
VNDA Vanda 86.50 173 IAmb IAmb 08 58 50.2
comp=Z,3.7nm,0.9s
VNDA Vanda 86.50 173 P P 08 58 42.7 -2.0
comp=Z,3.7nm,0.9s,baz=324,slow=5.7,SNR=1.6
comp=Z,3.7nm,0.9s
BR131 Keskin Array S 87.07 309⇓ eP P 08 58 49.8 +1.2
BRTR Keskin Array B 87.07 309 P P 08 58 46.5 -2.1
comp=Z,0.8nm,0.7s,baz=109,slow=6.4,SNR=5.2
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 87.07 309 i P P 08 58 51.7 +3.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BR106 Keskin Array S 87.09 309 P P 08 58 48.9 +0.2
comp=Z,2.4nm,0.9s
BR105 Keskin Array S 87.09 309 P P 08 58 49.2 +0.5
comp=Z,2.6nm,0.8s
KMBO Kilima Mbogo 88.20 269 i P P 08 58 55.5 +0.9
KMBO pmax pmax
comp=Z,3.0nm,0.4s
AK09 Malin Array Si 88.72 321 P P 08 58 55.7 -0.3
AK09 pP sP **08 59 00.2 -0.3**
AK08 Malin Array Si 88.73 321 P P 08 58 55.7 -0.3
AK10 Malin Array Si 88.74 321 P P 08 58 55.8 -0.3
AKASG Malin Array Be 88.74 321 IAmb IAmb 08 59 01.4
comp=Z,3.6nm,1.0s
AKASG Malin Array Be 88.74 321 P P 08 58 54.9 -1.2
comp=Z,1.6nm,0.6s,baz=72,slow=4.4,SNR=7.4
comp=Z,1.6nm,0.6s
AKASG Malin Array Be 88.74 321 i P P 08 58 55.7 -0.4
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 88.74 321⇑ eP P 08 58 56.0 -0.1
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 88.74 321 P P 08 58 55.4 -0.7
KIEV Kiev 88.75 321 P P 08 58 55.8 -0.3
comp=Z,38nm,0.9s
AK07 Malin Array Si 88.78 321 P P 08 58 55.8 -0.5
AK11 Malin Array Si 88.78 321 P P 08 58 55.8 -0.5
AK16 Malin Array Si 88.82 321 P P 08 58 56.0 -0.5
MNK Minsk 88.93 325 i LRM MLR 09 40 00.0
comp=Z,272nm,18.6s
MNK Minsk 88.93 325 i P P 08 58 56.3 -0.5
MNK i 09 02 24.8
MNK i PPP PPP 09 04 20.5
MNK i S **SKSac 09 09 25.1 -1.5**
MNK i SS **SS 09 15 37.6 +0.6**
MNK i SSS SSS 09 19 13.4
MNK pmax pmax
comp=E,19nm,1.0s
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=E,526nm,23.0s
MNK MLR MLR
comp=N,569nm,23.0s
MNK MLR MLR
comp=Z,272nm,19.0s
MNK Minsk 88.93 325 i P P 08 58 56.4 -0.5
comp=E,19nm,1.0s
MNK Minsk 88.93 325 i P P 08 58 56.4 -0.5
comp=N,22nm,0.9s
MNK Minsk 88.93 325 i P P 08 58 56.4 -0.5
comp=Z,12nm,0.8s,baz=80
MNK Minsk 88.93 325 i PP PP 09 02 24.9 -1.2
MNK Minsk 88.93 325 i PPP PPP 09 04 20.6
MNK Minsk 88.93 325 i S S 09 09 25.1 -20
MNK Minsk 88.93 325 i SS SS 09 15 37.7 +0.7
MNK Minsk 88.93 325 i SSS SSS 09 19 13.5
MNK Minsk 88.93 325 i LQ LQ 09 33 10.3
MNK Minsk 88.93 325 i LR LR 09 37 36.3
MNK Minsk 88.93 325 i LRM MLR 09 39 53.5
comp=E,526nm,23.2s
MNK Minsk 88.93 325 i LRM MLR 09 39 53.5
comp=N,569nm,22.5s
BORA Eskisehir 89.49 310 IAmb IAmb 08 59 01.2
comp=Z,16nm,1.4s
MI28 Mi28,Pidlybu 89.67 321 P P 08 59 00.4 -0.1
LUBAR Lubar, Ukraine 89.80 320 P P 08 59 01.0 -0.1
RNPP9 Sopachiv 90.69 322 P P 08 59 04.9 -0.3
RNPP5 Staryi Chortor 90.72 322 P P 08 59 05.0 -0.4
MANT Manisa 91.16 309 P P 08 59 06.9 -1.1
MANT IAmb IAmb 08 59 09.4
comp=Z,18nm,1.4s
SYO Syowa Base 94.63 201⇑ eP P 08 59 23.4 +0.5
SYO Syowa Base 94.63 201⇓ esP sP 08 59 28.8 +1.3
TXAR Lajitas Array 120.87 50 PKP PKPdf 09 04 53.0 -2.6
comp=Z,1.0nm,0.9s,baz=306,slow=4.9,SNR=2.4
TXAR Lajitas Array 120.87 50 PKIKP PKPdf 09 04 53.0 -2.6
PLCA Paso Flores 143.23 160 PKP PKPbc 09 05 34.8 +0.8
comp=Z,1.9nm,0.7s,baz=187,slow=8.1,SNR=3.8
TRQA Tornquist 148.06 169 PKPdf 09 05 46.0 +0.6
TRQA Tornquist 148.06 169 PKIKP PKPdf 09 05 46.0 +0.6
BO02 Sierra Bellavi 148.32 154 PKPbc 09 05 48.4 -1.0
BO04 La Punta 149.07 154 PKiKP 09 05 53.7 +1.1
CFA Coronel Fontan 152.14 155 PKPbc PKPbc 09 05 56.4 -2.3
comp=Z,2.1nm,0.8s,baz=200,slow=5.1,SNR=2.1

*CATAC **29** 08:46:25.9±0.8, 13°N±4°×9°0W±°, h5km±2km, M2.6/8, MLv2.6/8, Error ellipse: s-maj=8.1km s-min=3.8km az=22.0, confirmed*
*GCG **29** 08:46:26.8±0.3, 13°.28N×90°.41W, h19km±5km, MD4.1*
*SNET **29** 08:46:28.8±2.2, 13°.39N×90°.35W, h6km, ML2.7*

ISC 29 08:46:25.9±2.9, 13°.24N±0°.09×90°.4W±0°.1, h8km±10km, n34, σ0°47/43, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.69**	**30**	P	**Pb**	**08 46 40.6**	**+0.4**
FAME	**Alcaldia de Sa**	**0.69**	**30**	S	**Sn**	**08 46 51.5**	**-1.4**
NUBE	**Las Nubes**	**0.87**	**41**	*eP*	**Pg**	**08 46 43.1**	**+0.4**
NUBE				*eS*	**Sb**	**08 46 55.9**	**+0.6**
NUBE	**Las Nubes**	**0.87**	**41**	*i P*	**Pg**	**08 46 43.2**	**+0.4**
NUBE				*i S*	**Sb**	**08 46 55.8**	**+0.6**
NUBE	**Las Nubes**	**0.87**	**41**	P	**Pb**	**08 46 43.3**	**-0.1**
CEVE	**Cerro Verde**	**0.93**	**51**	*eP*	**Pb**	**08 46 44.4**	**0.0**
CEVE				*eS*	**Sn**	**08 46 58.6**	**-0.6**
CEVE	**Cerro Verde**	**0.93**	**51**	P	**Pb**	**08 46 44.6**	**+0.1**
SBLS	**San Blas**	**0.94**	**50**	*i P*	**Pb**	**08 46 44.5**	**0.0**
SBLS				*eP*	**Pb**	**08 46 44.6**	**0.0**
SBLS				*eS*	**Sb**	**08 46 57.7**	**+0.4**
LOAL	**Lomas de Alarc**	**0.95**	**37**	P	**Pb**	**08 46 44.9**	**+0.3**
JAYA	**Jayaque - finc**	**0.98**	**65**	*eP*	**Pg**	**08 46 44.7**	**-0.2**
JAYA				*eS*	**Sb**	**08 46 58.6**	**+0.1**
JAYA	**Jayaque - finc**	**0.98**	**65**	*i P*	**Pg**	**08 46 44.7**	**-0.2**
JAYA				*i S*	**Sb**	**08 46 58.8**	**+0.3**
JAYA	**Jayaque - finc**	**0.98**	**65**	P	**Pg**	**08 46 44.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.98**	**65**	S	**Sb**	**08 46 59.0**	**+0.5**
UNIC	**Universidad Ca**	**1.09**	**47**	P	**Pg**	**08 46 46.5**	**-0.3**
UNIC	**Universidad Ca**	**1.09**	**47**	S	**Sn**	**08 47 02.1**	**-0.6**
RBDL	**Robledal**	**1.09**	**37**	*i P*	**Pg**	**08 46 47.0**	**+0.1**
RBDL				*eS*	**Sn**	**08 47 02.8**	**-0.2**
CEDA	**San Andres**	**1.10**	**59**	S	**Sb**	**08 47 02.5**	**+0.8**
UEES	**Universidad Ev**	**1.20**	**67**	S	**Sb**	**08 47 04.6**	**+0.1**
PANCS	**Alcalda de**	**1.21**	**72**	S	**Sg**	**08 47 04.9**	**-0.2**
LOMA	**Loma Larga**	**1.23**	**71**	S	**Sb**	**08 47 05.8**	**+0.2**
IGN	**Direccin Gen**	**1.26**	**68**	S	**Sb**	**08 47 06.5**	**+0.2**
MTO3	**Montecristo**	**1.51**	**40**	*eP*	**Pn**	**08 46 53.3**	**-0.2**
MTO3				*eS*	**Sn**	**08 47 13.7**	**+0.3**
MTO3	**Montecristo**	**1.51**	**40**	*i P*	**Pn**	**08 46 53.4**	**-0.1**
MTO3	**Montecristo**	**1.51**	**40**	P	**Pn**	**08 46 53.5**	**0.0**
MTO3	**Montecristo**	**1.51**	**40**	S	**Sg**	**08 47 14.8**	**+0.1**
TECO	**Alcaldia de Te**	**1.57**	**79**	S	**Sn**	**08 47 13.9**	**-0.8**
TECO	**Alcaldia de Te**	**1.57**	**79**	P	**Pn**	**08 46 53.5**	**-0.6**
UESV	**Universidad de**	**1.59**	**75**	S	**Sn**	**08 47 15.8**	**+0.7**
ESQI	**Esquipulas**	**1.65**	**37**	S	**Sg**	**08 47 18.3**	**-0.7**
ESQI	**Esquipulas**	**1.65**	**37**	P	**Pb**	**08 46 56.4**	**-0.2**
LLGN	**La Laguna**	**1.66**	**56**	S	**Sb**	**08 47 18.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.66**	**74**	S	**Sb**	**08 47 18.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.66**	**74**	P	**Pn**	**08 46 56.1**	**+0.8**
PACA	**Pacayal**	**2.00**	**83**	S	**Sn**	**08 47 25.8**	**+0.4**

LJU 29 08:57:40.9, 45°.95N×14°.31E, h0km, ML0.2, 1C, Explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBAS	**Gorenja Brezov**	**0.09**	**96**	*i* Pg	Pg	08 57 42.3	-0.4
GBAS				*i* Sg	Sg	08 57 44.4	+0.6
GBAS				IAML		08 57 45.1	
	comp=Z,8.3nm,0.1s						
CRNS	**Crni Vrh**	**0.14**	**345**	*i* Pg	Pg	08 57 43.5	-0.1
CRNS				*i* Sg	Sg	08 57 45.9	+0.5
CRNS				IAML		08 57 47.3	
	comp=Z,3.0nm,0.1s						
JAVS	**Javornik**	**0.18**	**253**	*i* Pg	Pg	08 57 44.2	-0.2
JAVS				*i* Sg	Sg	08 57 47.3	+0.6
JAVS				IAML		08 57 48.5	
	comp=Z,2.4nm,0.1s						
CEY	**Cerknica**	**0.22**	**159⇑**	*i* Pg	Pg	08 57 44.9	-0.2
CEY				*i* Sg	Sg	08 57 49.0	+1.0
CEY				IAML		08 57 50.9	
	comp=Z,1.3nm,0.1s						
VISS	**Visnje**	**0.40**	**111**	*i* Sg	Sg	08 57 54.3	+0.7

VIE 29 08:58:01.1±0.2, 46°.68N×13°.70E, h0km, mb0.3/1, ml1.0/3, Error ellipse: s-maj=1.5km s-min=1.0km az=138.0 4 km SE of Feistritz a.d. Drau Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica**	**0.07**	**216**	*i* Pg	Pg	08 58 02.2	-0.1
	6.4nm,0.1s						
MYKA				*i* Sg	Sg	08 58 03.4	+0.2
	26nm,0.1s						
KBA	**Koelnbreinsper**	**0.46**	**329**	*i* Pg	Pg	08 58 10.3	+0.3
	0.3nm,0.1s						
KBA				*i* Sg	Sg	08 58 17.0	+1.0
	0.2nm,0.1s						
OBKA	**Obir**	**0.61**	**106**	*i* Pg	Pg	08 58 12.9	0.0
	0.5nm,0.1s						
OBKA				*e*Sg	Sg	08 58 22.3	+1.5
	1.3nm,0.2s						

*SJA **29** 09:05:53.5±0.7, 19°.00S×69°.37W, h120km±3km, ML4.1, MW4.0*
*GUC **29** 09:05:54.0±0.9, 18°.97S×69°.33W, h110km±3km, ML4.2*
*NEIC **29** 09:05:55.3±1.4, 18°.96S±0°.03×69°.36W±0°.05, h111km±4km, mb4.5/29, ML4.2(GUC), Error ellipse: s-maj=6.6km s-min=3.2km az=109.0*
*VAO **29** 09:05:55.0±0.8, 18°.92S×69°.09W, h124km±7km, mb4.6*
*IDC **29** 09:05:58.6±1.7, 18°.86S×68°.60W, h153km±15km, mb3.7/9, mbtmp4.2/13, Error ellipse: s-maj=20.9km s-min=14.8km az=71.0*

ISC 29 09:05:54.0±0.6, 18°.99S±0°.03×69°.24W±0°.05, h112km±5km, n145, σ1°.66/161, mb4.3/21, 8C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.67**	**176**		**Pn**	**09 06 14.1**	**+1.1**
GO01					**Sn**	**09 06 29.0**	**+1.8**
GO01	**Chusmiza**	**0.67**	**176**	*eP*	**Pn**	**09 06 13.9**	**+0.9**
GO01				*eS*	**Sn**	**09 06 29.0**	**+1.8**
GO01				IAML		09 06 29.3	
	comp=N,11μm,0.4s						
GO01	**Chusmiza**	**0.67**	**176**	*eP*	**Pn**	**09 06 13.4**	**+0.4**
GO01				*eS*	**Sn**	**09 06 29.2**	**+2.0**
GO01				IAML		09 06 29.3	
	comp=Z,3μm,0.5s						
PB16	**IPOC Station P**	**0.70**	**339**		**Pn**	**09 06 13.7**	**+0.4**
PB16					**Sn**	**09 06 27.9**	**+0.2**
PB16	**IPOC Station P**	**0.70**	**339⇓**	*eP*	**Pn**	**09 06 13.6**	**+0.3**
PB16				*eS*	**Sn**	**09 06 28.0**	**+0.2**
PB16				IAML		09 06 28.7	
	comp=E,14μm,0.4s						
PB16	**IPOC Station P**	**0.70**	**339**	*eP*	Pn	09 06 08.2	-5.2
PB16				IAML		09 06 29.1	
	comp=Z,6μm,0.4s						
PB11	**IPOC Station P**	**0.86**	**207**		**Pn**	**09 06 14.9**	**+0.6**
PB11					**Sn**	**09 06 30.1**	**+0.6**
PB11	**IPOC Station P**	**0.86**	**207⇑**	*eP*	**Pn**	**09 06 14.9**	**+0.6**
PB11				*eS*	**Sn**	**09 06 30.1**	**+0.6**
PB11				IAML		09 06 30.9	
	comp=E,18μm,0.5s						
PB11	**IPOC Station P**	**0.86**	**207**	*eP*	**Pn**	**09 06 14.2**	**-0.1**
PB11				*eS*	**Sn**	**09 06 30.4**	**+1.0**
PB11				IAML		09 06 31.0	
	comp=Z,5μm,0.3s						
PX02	**IPOC Station P**	**0.91**	**272⇑**	*eP*	**Pn**	**09 06 13.4**	**-1.2**
PX02				*eS*	**Sn**	**09 06 28.5**	**-1.6**
PB12	**IPOC Station P**	**1.10**	**290**		**Pn**	**09 06 16.1**	**-0.4**
PB12					**Sn**	**09 06 32.4**	**-1.1**
PB12	**IPOC Station P**	**1.10**	**290⇑**	*eP*	**Pn**	**09 06 16.0**	**-0.6**
PB12				*eS*	**Sn**	**09 06 32.5**	**-1.0**
PB12	**IPOC Station P**	**1.10**	**290**	*eP*	**Pn**	**09 06 15.3**	**-1.2**
PB12				*eS*	**Sn**	**09 06 32.8**	**-0.7**
PB12				IAML		09 06 33.0	
	comp=Z,5μm,0.4s						
PB08	**IPOC Station P**	**1.15**	**176**		**Pn**	**09 06 18.9**	**+1.4**
PB08	**IPOC Station P**	**1.15**	**176⇑**	*eP*	**Pn**	**09 06 18.8**	**+1.4**
PB08				*eS*	**Sn**	**09 06 37.0**	**+2.0**
PB08				IAML		09 06 39.1	
	comp=N,3μm,0.3s						
PB08	**IPOC Station P**	**1.15**	**176**	*eP*	**Pn**	**09 06 18.1**	**+0.8**
PB08				IAML		09 06 40.1	
	comp=Z,2μm,0.4s						
AP01	**Chacalluta**	**1.21**	**300**		**Pn**	**09 06 17.5**	**-0.2**
AP01	**Chacalluta**	**1.21**	**300⇑**	*eP*	**Pn**	**09 06 17.5**	**-0.2**
AP01				*i S*	**Sn**	**09 06 35.0**	**-0.6**
AP01	**Chacalluta**	**1.21**	**300**	*eP*	**Pn**	**09 06 17.7**	**0.0**
AP01				IAML		09 06 36.4	

comp=Z,4μm,0.2s
AP01 eS Sn 09 06 36.6 +1.0
PB18 Visviri 1.41 351 eP Pn 09 06 22.1 +1.6
PB18 eS Sn 09 06 42.5 +1.9
TA02 Huaiquique 1.52 213 eP Pn 09 06 21.3 +0.1
TA02 eS Sn 09 06 42.1 +0.2
TA02 IAML 09 06 50.2
comp=E,5μm,0.2s
TA02 Huaiquique 1.52 213 eP Pn 09 06 21.0 -0.3
TA02 eS Sn 09 06 38.0 -3.9
TA02 IAML 09 06 44.7
comp=Z,3μm,0.6s
TA01 Diego Aracena 1.80 209 Pn 09 06 24.9 +0.3
TA01 Diego Aracena 1.80 209 eP Pn 09 06 24.3 -0.3
TA01 eS Sn 09 06 47.8 -0.1
TA01 IAML 09 06 52.7
comp=E,2μm,0.5s
TA01 Diego Aracena 1.80 209 eP Pn 09 06 24.6 0.0
TA01 eS Sn 09 06 44.2 -3.7
TA01 IAML 09 06 53.4
comp=Z,957nm,0.4s
PATCX Punta Patache 2.01 205 Pn 09 06 27.6 +0.3
PATCX Punta Patache 2.01 205 eP Pn 09 06 27.4 +0.1
PATCX eS Sn 09 06 51.6 -1.2
PATCX IAML 09 06 59.0
comp=E,2μm,0.5s
PATCX Punta Patache 2.01 205 eP Pn 09 06 27.5 +0.1
PATCX eS Sn 09 06 51.6 -1.2
PATCX IAML 09 06 54.6
comp=Z,946nm,0.5s
PB01 IPOC Station P 2.05 186 Pn 09 06 29.0 +1.1
PB01 IPOC Station P 2.05 186⇑ eP Pn 09 06 28.9 +1.0
PB01 eS Sn 09 06 54.7 +0.9
PB01 IAML 09 06 57.4
comp=E,2μm,0.3s
PB01 IPOC Station P 2.05 186 eP Pn 09 06 28.7 +0.8
PB01 eS Sn 09 06 49.9 -3.9
PB01 IAML 09 06 57.5
comp=Z,837nm,0.3s
PB02 IPOC Station P 2.40 195 Pn 09 06 33.3 +0.9
PB02 IPOC Station P 2.40 195 eP Pn 09 06 33.2 +0.9
PB02 eS Sn 09 07 02.9 +1.2
PB02 IAML 09 07 11.9
comp=E,2μm,0.5s
PB02 IPOC Station P 2.40 195 eP Pn 09 06 33.3 +0.9
PB02 eS Sn 09 06 55.3 -6.3
PB02 IAML 09 07 12.8
comp=Z,2μm,0.4s
PB09 IPOC Station P 2.79 180 Pn 09 06 39.0 +1.5
PB09 IPOC Station P 2.79 180 eP Pn 09 06 39.1 +1.6
PB09 IAML 09 07 20.4
comp=E,563nm,0.4s
PB09 IPOC Station P 2.79 180 eP Pn 09 06 33.6 -3.9
PB09 IAML 09 07 37.9
comp=Z,486nm,0.7s
LPAZ La Paz 2.89 22 P Pn 09 06 41.2 +2.0
comp=Z,124nm,0.4s,baz=190,slow=6.7,SNR=357
LPAZ La Paz 2.89 22 eP Pn 09 06 40.8 +1.5
LPAZ La Paz 2.89 22 eP Pn 09 06 41.3 +2.0
PB03 IPOC Station P 3.08 189 eP Pn 09 06 42.6 +1.3
PB03 IAML 09 07 33.9
comp=E,450nm,0.5s
PB03 IPOC Station P 3.08 189 eP Pn 09 06 42.2 +0.9
PB03 eS Sn 09 07 13.1 -4.7
PB03 IAML 09 07 28.3
comp=Z,303nm,0.3s
PB06 IPOC Station P 3.71 185 Pn 09 06 50.5 +0.9
PB06 IPOC Station P 3.71 185 eP Pn 09 06 50.4 +0.7
PB06 IPOC Station P 3.71 185 eP Pn 09 06 50.1 +0.4
PB06 eS Sn 09 07 30.8 -1.9
PB06 IAML 09 07 45.1
comp=Z,295nm,0.8s
PB10 IPOC Station P 4.66 195 eP Pn 09 07 01.2 -1.1
PB10 IPOC Station P 4.66 195 eP Pn 09 07 01.5 -0.8
PB10 eS Sn 09 07 53.6 -1.8
PB10 IAML 09 08 30.4
comp=Z,81nm,0.6s
YJA Yavi 4.71 133 eP Pn 09 07 06.9 +3.4
PB14 IPOC Station P 5.71 191 Pn 09 07 15.3 -1.5
GO02 Mina Guanaco 6.15 183 Pn 09 07 22.4 -0.4
SIV San Ignacio 8.35 70 P Pn 09 07 50.1 -2.2
comp=Z,48nm,0.4s,baz=258,slow=11,SNR=102
NNA Nana 10.11 312 P Pn 09 08 26.2 +10
comp=Z,9.1nm,0.6s,baz=135,slow=7.1,SNR=4.1
NNA S Sn 09 10 18.2 +10
comp=Z,4.2nm,0.5s,baz=143,slow=6.7,SNR=1.7
PTLB Pontes e Lacer 10.28 71 eP Pn 09 08 15.7 -2.7
VILB Vilhena 10.56 57 eP Pn 09 08 18.9 -3.5
CFA Coronel Fontan 12.59 176 P Pn 09 08 46.1 -3.1
comp=Z,0.4nm,0.3s,baz=355,slow=16,SNR=1.6
CPUP Villa Florida 13.20 126 P Pn 09 08 56.0 -1.1
comp=Z,0.7nm,0.8s,baz=271,slow=17,SNR=2.3
SALV Santo Antonio 13.29 79 eP Pn 09 08 55.7 -2.7
MT08 Bocatoma Ro 14.41 183 Pn 09 09 13.8 +0.9
MT09 Talagante 14.81 186 Pn 09 09 19.3 +1.4
CLDB Colider 15.29 60 eP Pn 09 09 22.3 -1.6
BO01 Tunca 15.43 186 Pn 09 09 26.4 +0.9
H03N1 Juan Fernandez 16.79 209 T T 09 26 03.7
baz=33,slow=72,SNR=51
H03N2 Juan Fernandez 16.80 209 T T 09 25 59.1
baz=33,slow=72,SNR=21
H03N3 Juan Fernandez 16.80 209 T T 09 26 18.8
baz=33,slow=72,SNR=40
PTGB Pitanga 16.93 113 eP Pn 09 09 43.7 -0.5
LDASE Londrina, Braz 17.45 108 eP P 09 09 50.0 -0.2
ITAB Concordia 17.73 121 P Pn 09 09 54.5 +0.6
ITAB IAmb IAmb 09 09 55.8
comp=Z,24nm,0.5s
ITAB Concordia 17.73 121 eP P 09 09 52.6 -0.5
MACA Manacapuru-AM 17.82 29 P 09 09 52.6 -1.6
MACA IAmb IAmb 09 09 52.7
comp=Z,14nm,0.6s
MACA Manacapuru-AM 17.82 29 eP P 09 09 52.1 -2.1
NPGB Novo Progresso 17.98 50 eP P 09 09 54.4 -1.6
SNDB Serra Nova Dou 18.64 71 eP P 09 10 02.4 -0.8
FRTB Fartura 18.85 107 eP P 09 10 04.9 -0.5
PLTB Pedras Altas 18.98 135 eP P 09 10 05.3 -1.5
BB19B Bebedouro 19.57 100 eP P 09 10 12.5 -0.8
ITTB Itaituba 19.63 44 eP P 09 10 12.2 -1.7
IPMB Ipameri, GO 19.97 90 eP P 09 10 16.2 -1.5
TRQA Tornquist 20.02 163 P 09 10 19.0 +0.9
TRQA IAmb IAmb 09 10 19.6
comp=Z,12nm,0.7s
BDFB Brasilia 20.54 84 Pn 09 10 25.9 -1.2
BDFB IAmb IAmb 09 10 26.4
comp=Z,16nm,0.5s
BDFB Brasilia 20.54 84 P P 09 10 22.2 -1.6
comp=Z,14nm,0.5s,baz=259,slow=10,SNR=21
RCLB Rio Claro- Sao 20.59 103 eP P 09 10 22.8 -1.5
PET01 Itanhaem-SP 21.08 108 eP P 09 10 28.4 -1.1
VAO Valinhos 21.17 105 P P 09 10 29.0 -1.6
VAO IAmb IAmb 09 10 29.9
comp=Z,31nm,1.3s
VAO Valinhos 21.17 105 eP P 09 10 28.4 -2.2
PMNB Patos De Minas 21.60 93 eP P 09 10 33.6 -1.5
PLCA Paso Flores 21.70 183 P P 09 10 37.5 +1.5
PLCA IAmb IAmb 09 10 39.5
comp=Z,15nm,0.9s
PLCA Paso Flores 21.70 183 P P 09 10 37.4 +1.4
comp=Z,13nm,0.9s,baz=3.1,slow=13,SNR=13
comp=Z,13nm,0.9s
PLCA Paso Flores 21.70 183 eP P 09 10 35.7 -0.3
MAL2 Monte Alegre, 22.41 43 P P 09 10 41.5 -2.1
MAL2 IAmb IAmb 09 10 41.5
comp=Z,25nm,0.6s
BOAV Boa Vista 22.92 23 P P 09 10 47.7 -0.8
BOAV Boa Vista 22.92 23 eP P 09 10 46.6 -2.0
SMTB Santa Maria do 23.28 67 eP P 09 10 50.7 -1.4
DIAM Diamantina, MG 24.23 93 eP P 09 11 00.1 -0.7
SDBA SAO DESIDERIO 24.31 78 eP P 09 11 00.4 -1.0
RUSC La Rusia 25.02 351 P P 09 11 07.8 -0.5
RUSC IAmb IAmb 09 11 10.3
comp=Z,16nm,1.1s
DUB01 Friburgo-RJ 25.33 102 eP P 09 11 09.9 -0.8
BAUV El Baul 27.78 3 P P 09 11 31.4 -1.2
BAUV IAmb IAmb 09 11 31.9
comp=Z,13nm,0.8s
NBAN Anadia - AL 33.20 78 eP P 09 12 19.6 -0.9
EFI East Falkland 33.78 167 P P 09 12 26.4 +1.4
RCBR Riachuelo 35.01 72 P P 09 12 36.3 +0.2
553A Crawfordville 51.04 343 P P 09 14 45.7 +0.9
SWET Sewanee 56.19 344 P P 09 15 21.9 -0.4
SWET IAmb IAmb 09 15 50.5
comp=Z,3.1nm,0.8s
U49A Red Boiling Sp 57.38 344 P P 09 15 30.2 -0.5
U49A IAmb IAmb 09 15 50.8
comp=Z,5.7nm,1.4s
TXAR Lajitas Array 58.41 325 P P 09 15 39.3 +1.1
comp=Z,0.5nm,0.7s,baz=135,slow=7.0,SNR=2.1
comp=Z,0.5nm,0.7s
VHRN Van Horn 60.25 325 P P 09 15 51.1 +0.2
VHRN IAmb IAmb 09 16 35.1
comp=Z,4.6nm,1.4s
BELA Belgrano 2 61.26 172 P P 09 15 59.0 +2.1
BELA IAmb IAmb 09 15 59.1
comp=Z,5.6nm,1.4s
SFIN Lafayette 61.36 345 P P 09 15 57.2 -0.8
VNA3 Neumayer Olymp 62.54 162 ⇓P P 09 16 06.9 +1.3
comp=Z,3.1nm,0.8s
VNA1 Neumayer--Stat 62.74 161 ⇑P P 09 16 08.3 +1.5
comp=Z,2.7nm,0.8s
VNA2 Neumayer--Watz 63.11 161 ⇓P P 09 16 09.5 +0.2
comp=Z,3.5nm,0.8s,baz=310,slow=9.0
LMN Caledonia Moun 64.66 3 P P 09 16 19.2 -0.5
SNAA Sanae 64.74 161 ⇓P P 09 16 21.2 +1.1
comp=Z,53nm,0.6s
SNAA Sanae 64.74 161 P P 09 16 21.5 +1.4
SNAA Sanae 64.74 161 P P 09 16 20.4 +0.3
comp=Z,2.2nm,0.6s,baz=278,slow=6.9,SNR=15
comp=Z,2.2nm,0.6s
TROLL Troll, Antarti 66.45 161 ⇑P P 09 16 32.8 +1.6
comp=Z,187nm,0.7s
DBIC Dimbokro 68.34 75 P P 09 16 43.8 -0.1
DBIC IAmb IAmb 09 17 14.0
comp=Z,18nm,1.4s
DBIC Dimbokro 68.34 75 P P 09 16 39.6 -4.2
comp=Z,4.9nm,0.6s,baz=249,slow=5.7,SNR=7.4
comp=Z,4.9nm,0.6s
QSPA South Pole Qui 71.19 180 P P 09 17 04.8 +4.2
QSPA South Pole Qui 71.19 180 P P 09 17 04.8 +4.2
comp=Z,1.8nm,0.4s,baz=165,slow=2.8,SNR=26
PDAR Pinedale Array 71.79 330 P P 09 17 04.9 +0.3
comp=Z,0.5nm,0.6s,baz=132,slow=2.9,SNR=2.3
comp=Z,0.5nm,0.6s
YNE Yellowstone No 73.72 331 P P 09 17 17.0 +1.1
YNE IAmb IAmb 09 17 17.9
comp=Z,5.0nm,0.7s
PLID Pearl Lake 76.65 328 P P 09 17 34.2 +1.4
TORD Torodi Ar. Bea 76.82 71 P P 09 17 29.0 -5.1
comp=Z,3.5nm,0.3s,baz=200,slow=7.9,SNR=1.5
comp=Z,3.3nm,0.3s
VNDA Vanda 79.25 190 P P 09 17 49.1 +2.7
VNDA Vanda 79.25 190 P P 09 17 48.5 +2.0
comp=Z,0.7nm,0.8s,baz=129,slow=4.8,SNR=2.8
comp=Z,0.7nm,0.8s
ESDC Sonseca Array 84.28 45 P P 09 18 09.9 -3.5
comp=Z,0.2nm,0.4s,baz=241,slow=5.4,SNR=1.8
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 88.73 341 P P 09 18 34.7 +0.2
comp=Z,1.5nm,0.6s,baz=138,slow=4.3,SNR=11
comp=Z,1.5nm,0.6s
YKAW3 Yellowknife Wh 88.78 341 P P 09 18 35.7 +1.0
YKAW3 IAmb IAmb 09 18 39.0
comp=Z,12nm,1.1s
CASY Casey 94.99 180 P P 09 19 06.5 +2.9
H11S2 WAKE ISLAND Hyl 27.22 279 T T 11 44 24.2
baz=101,slow=75,SNR=15
H11S1 WAKE ISLAND Hyl 27.22 279 T T 11 44 17.8
baz=101,slow=75,SNR=15
H11N3 WAKE ISLAND Hyl 27.23 281 T T 11 44 19.2
baz=100,slow=74
H11S3 WAKE ISLAND Hyl 27.23 279 T T 11 44 29.3
baz=101,slow=75,SNR=19
H11N2 WAKE ISLAND Hyl 27.25 281 T T 11 44 16.4
baz=100,slow=74
H11N1 WAKE ISLAND Hyl 27.25 281 T T 11 44 19.9
baz=100
ASAR Alice Springs 131.96 209 PKP PKPdf 09 24 55.2 +0.1
comp=Z,0.5nm,0.5s,baz=143,slow=1.7,SNR=9.3
WRA Warramunga Arr 134.92 212 PKP PKPdf 09 25 01.2 +0.5
comp=Z,1.0nm,0.6s,baz=141,slow=1.8,SNR=10
HILR Hailar Array B 148.66 349 PKPbc PKPdf 09 25 23.5 -0.7
comp=Z,2.8nm,0.5s,baz=29,slow=3.3,SNR=2.1
USRK Ussuriysk Ar. 149.22 329 PKPbc PKiKP 09 25 30.2 -0.5
comp=Z,3.0nm,0.7s,baz=82,slow=3.0,SNR=2.6
MJAR Matsushiro Arr 150.23 312 PKPbc 09 25 32.5 +0.2
MJAR Matsushiro Arr 150.23 312 PKPbc PKPbc 09 25 32.2 -0.1
comp=Z,2.5nm,0.7s,baz=104,slow=1.4,SNR=7.1
SONM Songino Array 151.01 6 PKiKP 09 25 34.7 +0.2
SONM Songino Array 151.01 6 PKPbc PKiKP 09 25 34.3 -0.1
comp=Z,1.7nm,0.4s,baz=358,slow=1.7,SNR=5.5
DLV Lat 172.66 162 PKPab PKPab 09 27 15.6 -1.1

*CATAC **29** 09:08:24.9±0.6, 13°N±3°×8°9W±°, h24km±3km, M4.4/20, MLv4.4/20, Error ellipse: s-maj=7.7km s-min=3.8km az=20.6, confirmed*
*SNET **29** 09:08:25.2±1.0, 13.°03N×89.°20W, h35km, ML4.3*
*UCR **29** 09:08:25.5±1.3, 13.°24N×89.°08W, h23km±247km*
*GCG **29** 09:08:26.4±0.7, 13.°11N×89.°27W, h50km±5km, MD4.2, ML3.9, MW4.1*

ISC 29 09:08:24.2±1.4, 13.°04N±0.°05×89.°17W±0.°03, h9km±11km, n141, σ1°13/160, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**341**	*eP*	**Pb**	**09 08 36.1**	**+1.5**
LALI				*eS*	**Sb**	**09 08 43.1**	**+1.5**
LALI	**Alcalda de L**	**0.47**	**341**	*i P*	**Pb**	**09 08 36.1**	**+1.5**
LALI				*i S*	**Sb**	**09 08 43.9**	**+2.3**
LALI				IAML		09 08 45.0	
comp=E,6μm,0.4s							
LALI	**Alcalda de L**	**0.47**	**341**	P	**Pb**	**09 08 36.1**	**+1.5**
PANCS	**Alcalda de**	**0.57**	**359**	*eP*	**Pb**	**09 08 37.1**	**+0.8**
PANCS				*eS*	**Sb**	**09 08 45.7**	**+1.3**
PANCS	**Alcalda de**	**0.57**	**359**	P	**Pb**	**09 08 37.0**	**+0.8**
LFRS	**El Faro**	**0.59**	**10**	*i P*	**Pb**	**09 08 37.5**	**+0.8**
LOMA	**Loma Larga**	**0.60**	**359**	*eP*	**Pb**	**09 08 37.8**	**+1.0**
LOMA	**Loma Larga**	**0.60**	**359**	P	**Pb**	**09 08 37.7**	**+0.8**
TECO	**Alcaldia de Te**	**0.62**	**37**	*eP*	**Pb**	**09 08 37.7**	**+0.5**
TECO	**Alcaldia de Te**	**0.62**	**37**	P	**Pb**	**09 08 37.6**	**+0.5**
MAGS	**Ministerio de**	**0.65**	**350**	*eP*	**Pb**	**09 08 38.4**	**+0.7**
MAGS				*eS*	**Sb**	**09 08 48.2**	**+1.3**
SNVI	**San Vicente**	**0.65**	**29**	*eP*	**Pb**	**09 08 38.5**	**+0.7**
UTEC	**Universidad Te**	**0.66**	**357**	*eP*	**Pb**	**09 08 38.6**	**+0.8**
UTEC	**Universidad Te**	**0.66**	**357**	P	**Pb**	**09 08 38.6**	**+0.8**
IGN	**Direccin Gen**	**0.67**	**360**	*eP*	**Pb**	**09 08 38.7**	**+0.7**
IGN	**Direccin Gen**	**0.67**	**360**	P	**Pb**	**09 08 38.8**	**+0.7**
IGN	**Direccin Gen**	**0.67**	**360**	S	**Sb**	**09 08 49.0**	**+1.6**
JAYA	**Jayaque - finc**	**0.67**	**336**	P	**Pb**	**09 08 38.5**	**+0.5**
JAYA	**Jayaque - finc**	**0.67**	**336**	S	**Sb**	**09 08 48.1**	**+0.6**
UDBS	**Universidad Do**	**0.67**	**1**	*eP*	**Pb**	**09 08 38.8**	**+0.7**
UEES	**Universidad Ev**	**0.67**	**354**	*i P*	**Pb**	**09 08 38.8**	**+0.6**
UEES	**Universidad Ev**	**0.67**	**354**	P	**Pb**	**09 08 38.8**	**+0.6**
UEES	**Universidad Ev**	**0.67**	**354**	S	**Sb**	**09 08 48.6**	**+1.0**
UESS	**Universidad de**	**0.67**	**357**	*eP*	**Pb**	**09 08 38.9**	**+0.7**
PMON	**Piamonte**	**0.68**	**348**	*eP*	**Pg**	**09 08 38.1**	**+0.6**
PMON				*eS*	**Sb**	**09 08 48.6**	**+0.7**
PMON	**Piamonte**	**0.68**	**348**	P	**Pg**	**09 08 38.0**	**+0.6**
UESV	**Universidad de**	**0.70**	**32**	*eP*	**Pb**	**09 08 38.9**	**+0.4**
UESV				*eS*	**Sb**	**09 08 49.3**	**+1.1**
UESV	**Universidad de**	**0.70**	**32**	P	**Pb**	**09 08 39.0**	**+0.4**
BOQS	**Boqueron**	**0.70**	**351**	*i P*	**Pb**	**09 08 39.3**	**+0.6**
LBRS	**Las Brisas**	**0.70**	**10**	*i P*	**Pb**	**09 08 39.3**	**+0.7**
PAVA	**Las Pavas**	**0.70**	**18**	*eP*	**Pb**	**09 08 39.2**	**+0.6**
PAVA				*eS*	**Sb**	**09 08 50.1**	**+1.6**
PAVA	**Las Pavas**	**0.70**	**18**	P	**Pb**	**09 08 39.2**	**+0.6**
PAVA	**Las Pavas**	**0.70**	**18**	S	**Sb**	**09 08 49.8**	**+1.3**
LFU	**La Fuente**	**0.70**	**4**	*i P*	**Pb**	**09 08 39.2**	**+0.5**
PIC2	**El Picacho**	**0.70**	**353**	*i P*	**Pb**	**09 08 39.6**	**+0.9**
SCLA	**Alcaldia de Sa**	**0.78**	**33**	*eP*	**Pb**	**09 08 40.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.78**	**33**	P	**Pb**	**09 08 40.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.78**	**33**	S	**Sb**	**09 08 51.7**	**+1.0**
TECA	**Tecapa**	**0.79**	**55**	*i P*	**Pb**	**09 08 40.6**	**+0.4**
CEDA	**San Andres**	**0.79**	**344**	*i P*	**Pb**	**09 08 40.3**	**+0.2**
CEDA				*eS*	**Sb**	**09 08 51.6**	**+0.7**
CEDA	**San Andres**	**0.79**	**344**	P	**Pb**	**09 08 40.2**	**+0.2**
QUEZ	**Alcaldia de Qu**	**0.79**	**352**	*eP*	**Pb**	**09 08 40.5**	**+0.4**
PQSS	**Presa 15 de Se**	**0.82**	**45**	*eP*	**Pb**	**09 08 41.0**	**+0.4**
PQSS				*eS*	**Sb**	**09 08 53.1**	**+1.2**
PQSS	**Presa 15 de Se**	**0.82**	**45**	P	**Pb**	**09 08 41.1**	**+0.4**
CEVE	**Cerro Verde**	**0.90**	**330**	*eP*	**Pg**	**09 08 41.9**	**+0.4**
CEVE	**Cerro Verde**	**0.90**	**330**	P	**Pg**	**09 08 42.0**	**+0.5**
CEVE	**Cerro Verde**	**0.90**	**330**	S	**Sb**	**09 08 54.4**	**+0.2**
SBLS	**San Blas**	**0.91**	**331**	*eP*	**Pg**	**09 08 42.1**	**+0.3**
SBLS				*eP*	**Pg**	**09 08 42.1**	**+0.3**
PACA	**Pacayal**	**0.92**	**63**	*eP*	**Pb**	**09 08 43.1**	**+0.7**
PACA				*eS*	**Sb**	**09 08 56.0**	**+1.2**
PACA	**Pacayal**	**0.92**	**63**	P	**Pb**	**09 08 42.9**	**+0.5**
PACA	**Pacayal**	**0.92**	**63**	S	**Sb**	**09 08 55.9**	**+1.0**
SNJE	**San Jose**	**0.93**	**332**	*eP*	**Pg**	**09 08 42.2**	**+0.2**
SNJE				*i P*	**Pg**	**09 08 42.2**	**+0.2**
LCY	**Lacayo**	**0.93**	**66**	*i P*	**Pb**	**09 08 42.7**	**+0.2**
RANC	**El Ranchito**	**0.94**	**65**	*eP*	**Pb**	**09 08 42.9**	**+0.2**
RANC				*eS*	**Sb**	**09 08 56.7**	**+1.4**
VSM	**San Miguel**	**0.95**	**66**	*i P*	**Pb**	**09 08 43.2**	**+0.3**
RTR	**El Retiro**	**0.97**	**331**	*i P*	**Pg**	**09 08 43.1**	**+0.2**
BLLM	**Bellamira**	**0.99**	**66**	⇑*i P*	**Pg**	**09 08 43.4**	**+0.2**
UNIC	**Universidad Ca**	**1.00**	**338**	*eP*	**Pg**	**09 08 43.4**	**-0.1**
UNIC	**Universidad Ca**	**1.00**	**338**	S	**Sb**	**09 08 57.4**	**+0.3**
NUBE	**Las Nubes**	**1.04**	**325**	*eP*	**Pg**	**09 08 43.5**	**-0.7**
NUBE				*eS*	**Sg**	**09 08 56.9**	**-0.9**
NUBE	**Las Nubes**	**1.04**	**325**	*i P*	**Pg**	**09 08 43.6**	**-0.7**
NUBE				*i S*	**Sg**	**09 08 57.1**	**-0.8**
CNRM	**Centro Naciona**	**1.06**	**66**	*eP*	**Pg**	**09 08 44.5**	**0.0**
CNRM				*eS*	**Sb**	**09 08 59.5**	**+0.8**
LOAL	**Lomas de Alarc**	**1.12**	**328**	*eP*	**Pg**	**09 08 45.3**	**-0.5**
LOAL	**Lomas de Alarc**	**1.12**	**328**	P	**Pg**	**09 08 45.2**	**-0.5**
LLGN	**La Laguna**	**1.13**	**11**	*eP*	**Pg**	**09 08 44.9**	**-1.1**
LLGN	**La Laguna**	**1.13**	**11**	P	**Pg**	**09 08 45.0**	**-1.1**
FAME	**Alcaldia de Sa**	**1.15**	**314**	P	**Pg**	**09 08 44.6**	**-1.6**
CAHU	**Cacacuatique**	**1.18**	**52**	*i P*	**Pg**	**09 08 46.5**	**-0.4**
RBDL	**Robledal**	**1.18**	**335**	*i P*	**Pg**	**09 08 45.5**	**-1.3**
LCND	**La Caada**	**1.27**	**78**	*eP*	**Pn**	**09 08 47.4**	**-0.7**
LCND				*eS*	**Sb**	**09 09 03.9**	**-0.8**
LCND	**La Caada**	**1.27**	**78**	P	**Pn**	**09 08 47.6**	**-0.5**
CNCH	**Conchagua**	**1.32**	**80**	*eP*	**Pn**	**09 08 46.6**	**-2.2**
CNCH				*eP*	**Pb**	**09 08 47.8**	**-1.4**
CNCH	**Conchagua**	**1.32**	**80**	P	**Pn**	**09 08 48.0**	**-0.8**
MTO3	**Montecristo**	**1.36**	**352**	*i P*	**Pn**	**09 08 48.1**	**-1.5**
MTO3	**Montecristo**	**1.36**	**352**	*eP*	**Pn**	**09 08 48.3**	**-1.3**
MTO3	**Montecristo**	**1.36**	**352**	P	**Pn**	**09 08 48.2**	**-1.3**
ESQI	**Esquipulas**	**1.52**	**354**	*i P*	**Pn**	**09 08 50.7**	**-0.9**
ESQI	**Esquipulas**	**1.52**	**354**	P	**Pn**	**09 08 50.7**	**-0.9**
ZAFR2	**Estanzuela, Za**	**1.54**	**353**	*eP*	**Pg**	**09 08 56.6**	**+2.9**
CSGN	**Cosiguina Volc**	**1.57**	**92**	P	**Pn**	**09 08 51.3**	**-1.0**
CSGN	**Cosiguina Volc**	**1.57**	**92**	⇑*eP*	**Pn**	**09 08 51.5**	**-0.8**
CSGN				*eS*	**Sn**	**09 09 10.8**	**-1.9**
POTN	**Potosi Cosigui**	**1.62**	**91**	P	**Pn**	**09 08 51.8**	**-1.0**
POTN	**Potosi Cosigui**	**1.62**	**91**	⇓*i P*	**Pn**	**09 08 52.0**	**-0.9**
POTN				*eS*	**Sn**	**09 09 12.1**	**-1.7**
CRIN	**San Cristobal**	**2.09**	**99**	*eP*	**Pn**	**09 08 58.7**	**-0.8**
CNGN	**Cerro Negro**	**2.47**	**102**	*eP*	**Pn**	**09 09 03.3**	**-1.3**
STG2	**El Palmar, Qui**	**2.56**	**303**	*i P*	**Pb**	**09 09 09.5**	**-0.8**
COPN	**Copaltepe**	**2.66**	**109**	*eP*	**Pn**	**09 09 05.4**	**-1.8**
MGAN	**Managua**	**2.98**	**107**	*eP*	**Pn**	**09 09 10.4**	**-1.3**
NADN	**Granada**	**3.32**	**112**	*eP*	**Pn**	**09 09 16.2**	**-0.1**
LCRUZ	**La Cruz**	**3.97**	**119**	*eP*	**Pn**	**09 09 25.3**	**+0.1**
LAPC	**Finca la Perla**	**4.30**	**121**	*eP*	**Pn**	**09 09 29.8**	**0.0**
ALIBA	**Liberia Airpor**	**4.30**	**124**	*eP*	**Pn**	**09 09 30.7**	**+0.9**
BUAI	**Buenos Aires**	**4.33**	**119**	*eP*	**Pn**	**09 09 31.4**	**+1.3**
PEJA	**Penjamo Buenos**	**4.33**	**119**	*eP*	**Pn**	**09 09 31.4**	**+1.2**
VRLE	**La Escondida,**	**4.34**	**121**	*eP*	**Pn**	**09 09 31.1**	**+0.7**
GPS3	**Bodega del ICE**	**4.36**	**121**	*eP*	Pn	09 09 35.5	+4.9
DELF	**Filadelfia**	**4.38**	**126**	*eP*	**Pn**	**09 09 31.7**	**+0.9**
SAJU	**San Juanillo,**	**4.50**	**131**	⇓*eP*	**Pn**	**09 09 32.5**	**+0.1**
MESS	**Mesas**	**4.51**	**120**	*eP*	**Pn**	**09 09 32.2**	**-0.5**
VMAR	**Armenia, Volca**	**4.54**	**119**	*eP*	**Pn**	**09 09 32.0**	**-1.1**
JUD3	**Juan Diaz 3**	**4.56**	**128**	*eP*	**Pn**	**09 09 33.6**	**+0.2**
CUI	**Cuipilapa**	**4.58**	**121**	*eP*	**Pn**	**09 09 34.3**	**+0.6**
TENO	**El Achiote**	**4.71**	**119**	*eP*	**Pn**	**09 09 34.0**	**-1.5**
TIMP	**Tierras Morena**	**4.74**	**121**	*eP*	**Pn**	**09 09 35.9**	**0.0**
QUEB	**Quebradon, Cot**	**4.82**	**119**	*eP*	**Pn**	**09 09 36.9**	**-0.1**
TILA	**Tilaran**	**4.84**	**121**	*eP*	**Pn**	**09 09 38.4**	**+1.1**
JTS	**Las Juntas de**	**4.95**	**123**	*eP*	**Pn**	**09 09 39.0**	**+0.3**
MTEVE	**Monteverde**	**5.04**	**122**	*eP*	**Pn**	**09 09 40.3**	**+0.2**
ARE1	**Arenal 1**	**5.05**	**120**	*eP*	**Pn**	**09 09 41.1**	**+0.9**
CEDE	**Laguna Cedeo**	**5.05**	**120**	*eP*	**Pn**	**09 09 41.5**	**+1.3**
VARE2	**V. Arenal**	**5.05**	**120**	*eP*	**Pn**	**09 09 41.1**	**+0.9**
CASO	**Castillo**	**5.05**	**120**	*eP*	**Pn**	**09 09 39.9**	**-0.3**
VACR	**Volcan Arenal**	**5.08**	**120**	*eP*	**Pn**	**09 09 40.2**	**-0.3**
JCR1	**Jicaral**	**5.08**	**128**	*eP*	**Pn**	**09 09 40.7**	**+0.1**
SOCE	**Pocosol**	**5.18**	**120**	*eP*	**Pn**	**09 09 41.9**	**0.0**
PAQE	**Paquera**	**5.24**	**127**	*eP*	**Pn**	**09 09 44.1**	**+1.4**
ARZA	**Esparza**	**5.35**	**124**	*eP*	**Pn**	**09 09 44.8**	**+0.6**
VPL2	**V. Platanar**	**5.42**	**120**	*eP*	**Pn**	**09 09 47.0**	**+1.7**
PALD	**Palmares**	**5.50**	**122**	*eP*	**Pn**	**09 09 47.9**	**+1.4**
ARTO	**Ro Cuarto**	**5.54**	**118**	*eP*	**Pn**	**09 09 49.0**	**+2.2**
ATEO	**Atenas**	**5.59**	**123**	*eP*	**Pn**	**09 09 49.6**	**+2.0**
SANTA	**Santa Ana**	**5.78**	**122**	*eP*	**Pn**	**09 09 51.9**	**+1.7**
ACOS	**Acosta**	**5.87**	**123**	*eP*	**Pn**	**09 09 54.7**	**+3.2**
AMPA	**Desamparados**	**5.90**	**121**	*eP*	**Pn**	**09 09 55.3**	**+3.4**
PAR1A	**Puntarenas Pro**	**5.91**	**125**	*eP*	**Pn**	**09 09 53.5**	**+1.6**
PICV	**PH. Pirrs**	**5.94**	**124**	*eP*	**Pn**	**09 09 54.0**	**+1.6**
RAZU	**San Marcos de**	**6.06**	**123**	*eP*	**Pn**	**09 09 55.4**	**+1.2**
REPA	**Paraso**	**6.10**	**121**	*eP*	**Pn**	**09 09 56.3**	**+1.7**
LLNJ	**Naranjito**	**6.10**	**125**	*eP*	**Pn**	**09 09 56.6**	**+2.0**
PIEC	**Cerro El Cedra**	**6.13**	**123**	*eP*	**Pn**	**09 09 56.6**	**+1.3**
RESJ	**San Isidro (Tu**	**6.18**	**118**	*eP*	**Pn**	**09 09 57.2**	**+1.4**
BUS1	**Rivas**	**6.34**	**123**	*eP*	**Pn**	**09 09 59.0**	**+0.6**
SAJE	**San Jernim**	**6.66**	**123**	*eP*	**Pn**	**09 10 04.0**	**+1.7**
EDPE	**Pejibaye, P**	**6.71**	**125**	*eP*	**Pn**	**09 10 04.4**	**+1.4**
LAES	**El Progreso Va**	**6.83**	**118**	*eP*	**Pn**	**09 10 07.0**	**+2.5**
FIMO	**Fila Mora**	**6.98**	**125**	*eP*	**Pn**	**09 10 09.4**	**+2.6**
EDP2	**Potrero Grande**	**7.11**	**124**	*eP*	**Pn**	**09 10 10.2**	**+1.7**
ALCO	**Alturas Coton,**	**7.43**	**123**	*eP*	**Pn**	**09 10

BSMM	Soledad Missio	0.30	202		Pg	09 34 18.6 +0.1
LRV	Little Rabbit	0.32	137		Pg	09 34 19.3 +0.4
HTUM	Tustin Road	0.33	300		Pg	09 34 18.9 -0.1
HFEM	San Felipe	0.33	344		Pg	09 34 19.9 +0.8
HERM	Elkhorn Road	0.36	292		Pg	09 34 19.9 +0.2
CDC	Canada Road	0.39	337		Pb	09 34 21.2 -0.6
FORD	Fort Ord Natur	0.40	274		Pg	09 34 20.4 +0.1
FORD				Sg	Sb	09 34 26.8 -1.3
HPCM	Pacheco Lake	0.40	2		Pb	09 34 21.1 -0.8
BMSM	Mercy Hot Spri	0.40	91		Pb	09 34 21.4 -0.6
HCBM	Chamberlain	0.40	312		Pg	09 34 20.3 -0.1
SLD	San Luis Dam	0.41	8		Pg	09 34 21.3 +0.6
BCWM	Chews Ridge	0.42	212		Pg	09 34 20.7 0.0
GHS	Gilroy Hot Spr	0.45	344		Pg	09 34 22.0 +0.7
HLPM	Lions Peak	0.47	324		Pg	09 34 22.0 +0.4
JELB	Ellicott, Sant	0.51	302		Pg	09 34 22.4 0.0
HMOM	Monterey	0.51	263		Pg	09 34 22.3 -0.1
SCKWR	San Luis Creek	0.55	19		Pb	09 34 24.4 -0.1
CADM	Anderson Res.	0.57	332		Pg	09 34 23.8 +0.3
PCCM	Crazy Canyon	0.58	170		Pg	09 34 23.9 +0.1
PMPB	Monarch Peak	0.59	138		Pg	09 34 24.0 0.0
JLAB	Laurel Hill	0.61	324		Pg	09 34 24.6 +0.3
HULI	Fort Hunter Li	0.64	176		Pg	09 34 24.7 -0.2
HULI				IAML		09 34 39.7
	comp=E,1μm,0.5s					
HULI				IAML		09 34 44.5
	comp=N,1μm,0.6s					
CCOB	Coe Ranch Numb	0.67	333		Pb	09 34 26.4 -0.2
CMPM	Mikes Peak	0.69	358		Pb	09 34 26.8 -0.2
ARN	Arnold Ranch	0.71	344		Pb	09 34 26.9 -0.4
PSAM	San Ardo	0.71	153		Pg	09 34 26.0 -0.2
PPTM	Peach Tree Val	0.72	140		Pg	09 34 26.2 -0.2
C072	Blauer Lane Sa	0.72	329		Pb	09 34 27.7 +0.2
MHC	Mount Hamilton	0.73	337		Pg	09 34 27.1 +0.4
C054	Valleyhaven Wa	0.74	325		Pg	09 34 27.2 +0.4
JJOM	Saint Joseph's	0.77	315		Pg	09 34 27.0 -0.4
SCCB	Santa Clara Co	0.78	324		Pg	09 34 27.7 +0.3
CMMM	Mount Mocho	0.81	348		Pb	09 34 28.7 -0.3
PSMM	Smith Mountain	0.81	136		Pg	09 34 28.2 0.0
JBNB	Ben Lomond Mou	0.83	304		Pg	09 34 27.9 -0.7
MTOS	Mt Oso, Westle	0.84	358		Pb	09 34 29.6 +0.1
CMLM	Mount Lewis	0.86	341		Pb	09 34 29.6 -0.3
PHPM	Hope Ranch	0.88	141		Pg	09 34 28.8 -0.5
CALM	Calaveras Res.	0.89	333		Pg	09 34 29.4 -0.1
JSJM	St Joseph	0.93	316		Pg	09 34 30.1 -0.3
PKD	Bear Valley Ra	0.94	140		Pg	09 34 29.9 -0.7
PKD	Bear Valley Ra	0.94	140	Sg	Sg	09 34 42.6 -0.1
PKD				IAML		09 34 45.3
	comp=E,719nm,0.7s					
PKD				IAML		09 34 46.9
	comp=N,841nm,0.6s					
JBMM	Black Mountain	0.95	314		Pg	09 34 29.9 -0.9
PVCM	Vineyard Canyo	0.96	140		Pg	09 34 30.4 -0.5
PPO	Portuguese Can	0.96	145		Pg	09 34 30.9 -0.2
PSTM	Stockdale Moun	0.97	139		Pg	09 34 30.4 -0.8
CSTL	Corral Hollow	0.99	350		Pb	09 34 31.9 0.0
WSRE	Westside REC,	0.99	109		Pb	09 34 32.0 0.0
JFP	Foothills Park	1.00	314		Pg	09 34 30.8 -1.0
JPSM		1.00	303		Pg	09 34 30.9 -0.9
JSFB	Stanford Teles	1.02	316		Pg	09 34 31.2 -1.0
WENL	Wente Vineyard	1.03	339		Pg	09 34 32.1 -0.1
AVNL	Avenal, CA USA	1.03	129		Pg	09 34 32.2 -0.1
CVLM	Vallecito	1.06	336		Pg	09 34 32.4 -0.4
JRSC	Jasper Ridge	1.06	314		Pg	09 34 31.5 -1.3
JRSC				IAML		09 34 47.5
	comp=N,791nm,0.7s					
JRSC				IAML		09 34 51.0
	comp=E,692nm,0.7s					
PHFM	Heflinger Ranc	1.06	137		Pg	09 34 32.0 -0.8
CTM	Castle Mountai	1.06	133		Pb	09 34 33.4 +0.2
LEGD	La Grand CA	1.07	59		Pg	09 34 32.5 -0.6
RAMR	Ramage Ranch	1.08	162		Pg	09 34 32.2 -1.1
CBZL	Buffer Zone	1.08	342		Pg	09 34 33.1 -0.2
CBZL	Buffer Zone	1.08	342		Pg	09 34 33.4 +0.1
CNIC	Niles Canyon	1.09	330		Pg	09 34 32.4 -1.0
LCUV	Le Cuvier	1.10	156		Pg	09 34 32.2 -1.5
PCBM	Cambria	1.16	171		Pg	09 34 33.4 -1.4
PKLM	Kerr Lake	1.17	139		Pg	09 34 34.3 -0.7
MHDM	Hidden Dam	1.21	68		Pb	09 34 34.3 -1.4
TCAS	Cass Winery, P	1.21	150		Pb	09 34 33.9 -1.7
TCHL	Shandon	1.21	143		Pb	09 34 34.5 -1.2
CMOB	Morgan Territo	1.22	340		Pg	09 34 34.7 -1.2
JCHM	Cahill Ridge	1.22	315		Pb	09 34 33.6 -2.2
PMRM	Maxey Ranch	1.22	136		Pb	09 34 34.7 -1.3
JCPM	Coyote Point	1.24	319		Pn	09 34 34.1 -2.1
CLCB	Lake Chabot	1.24	330		Pb	09 34 34.4 -1.8
PAGB	Antelope Grade	1.25	138		Pn	09 34 34.7 -1.8
FRI	Friant	1.31	75		Pn	09 34 36.2 -1.0
JSBM	San Bruno Moun	1.35	319		Pn	09 34 35.1 -2.6
TSCN	Private Proper	1.35	145		Pn	09 34 35.8 -2.0
PTAM	Tassajara Cree	1.35	159		Pn	09 34 37.2 -0.7
BUCR	Buckhorn Ranch	1.36	42		Pn	09 34 36.8 -1.2
LSDC	Los Osos Digit	1.41	165		Pn	09 34 37.3 -1.2
BKS	Berkeley--Byer	1.43	328		Pn	09 34 37.0 -1.8
BRIB	Briones	1.43	332		Pn	09 34 37.2 -1.6
KARE	Kearney REC, C	1.44	92		Pn	09 34 37.9 -1.1
MMIM	Miami Mountain	1.45	58		Pn	09 34 38.5 -0.7
TRAY	Twisselman Ran	1.46	139		Pn	09 34 38.5 -0.8
PBPM	Bitterwater Pu	1.46	137		Pn	09 34 38.2 -1.1
JPRM	Presidio of Sa	1.47	320		Pn	09 34 36.9 -2.5
CPIM	Pinole Ridge	1.52	331		Pn	09 34 38.8 -1.2
CSPM	San Pablo Ridg	1.53	328		Pn	09 34 38.5 -1.7
CMB	Columbia Colle	1.55	27		Pn	09 34 39.7 -0.8
CMB				Sg	Sn	09 35 00.4 -0.5
CMB				IAML		09 35 05.1
	comp=E,180nm,0.7s					
CPMM	Point Molate	1.56	326		Pn	09 34 38.3 -2.4
KCC	Kaiser Creek	1.71	67		Pb	09 34 43.7 -0.6
FARB	Farallon Islan	1.71	308		Pn	09 34 40.4 -2.4
SNT	Sears Point	1.78	329		Pn	09 34 41.8 -1.8
CARC	Carrizo Plain	1.79	139		Pn	09 34 42.6 -1.3
WELL	Weller Preserv	1.83	14		Pn	09 34 43.9 -0.5
WELL	Weller Preserv	1.83	14	IAML		09 35 14.8
	comp=E,169nm,0.6s					
CVS	Carmenet Viney	1.92	331		Pn	09 34 44.0 -1.6
MCCM	Marconi Confer	1.95	320	Pn	Pn	09 34 44.0 -1.9
MCCM				IAML		09 35 21.0
	comp=E,153nm,1.1s					
MCCM				IAML		09 35 21.1
	comp=N,149nm,0.6s					
VES	Vestal, Richgr	1.96	114		Pn	09 34 45.4 -0.7
VES				IAML		09 35 12.4
	comp=N,170nm,0.8s					
VES				IAML		09 35 15.8
	comp=E,162nm,0.5s					
MDPB	Devils Postpil	2.01	61		Pn	09 34 47.4 +0.3
MDPB				IAML		09 35 15.5
	comp=E,234nm,0.5s					
NTYM	Taylor	2.04	328		Pn	09 34 45.7 -1.5
MDCM	Deadman Creek	2.08	59		Pb	09 34 49.5 -1.2
MTUM	Tungsten Hills	2.29	72		Pn	09 34 52.4 +1.5
WAKR	Walker	2.35	38		Pn	09 34 53.2 +1.4
GDXM	Geysers	2.45	331		Pn	09 34 51.2 -1.8
ISA	Isabella, Lake	2.49	113		Pn	09 34 53.3 -0.1
ISA				IAML		09 35 29.7
	comp=N,70nm,0.7s					
ISA				IAML		09 35 31.4
	comp=E,77nm,0.5s					
SUTB	Sutter Butte	2.59	351		Pn	09 34 53.6 -1.2
SUTB				IAML		09 35 45.8
	comp=E,108nm,0.6s					
SUTB				IAML		09 35 59.7
	comp=N,86nm,0.8s					
DSP	Deep Springs	2.75	74		Pn	09 34 59.0 +2.0
DSP				IAML		09 35 51.9
	comp=N,50nm,1.0s					
DSP				IAML		09 35 52.1
	comp=E,62nm,0.9s					
PNTR	Pine Nut	2.77	28		Pn	09 34 58.4 +1.0
ORV	Oroville	2.89	357		Pn	09 34 58.8 -0.2
RYN	Ryan	2.94	47		Pn	09 35 00.1 +0.2
RYN				IAML		09 35 47.3
	comp=E,105nm,0.8s					
RYN				IAML		09 36 00.7
	comp=N,86nm,1.0s					
NV11	Mina Array Sit	3.05	54		Pn	09 35 01.9 +0.6
NV11				IAML		09 35 53.0
	comp=N,43nm,1.1s					
TPO	Tropico Hills	3.06	125		Pn	09 35 01.2 -0.1
TPO				IAML		09 36 03.5
	comp=N,44nm,0.7s					
TPO				IAML		09 36 13.6
	comp=E,52nm,0.9s					
CLC	China Lake	3.10	105		Pn	09 35 02.3 +0.4
LRMC	Laurel Mtn Rad	3.15	111	IAML		09 36 01.4
	comp=N,51nm,0.7s					
WSHM	Spangler Hills	3.25	108	IAML		09 36 04.2
	comp=N,36nm,0.8s					
WSHM				IAML		09 36 05.0
	comp=N,33nm,0.8s					
BEKR	Beckworth	3.28	13		Pn	09 35 05.1 +0.6
BEKR				IAML		09 36 03.1
	comp=E,44nm,0.6s					
GMN	Gold Mountain	3.29	78	IAML		09 36 10.2
	comp=N,37nm,0.8s					
O03E	Paynes Creek	3.65	354		Pn	09 35 08.5 -1.0
O03E				IAML		09 36 31.3
	comp=E,52nm,1.3s					
BFSC	Mount Baldy Ra	3.83	128		Pn	09 35 12.0 +0.1
GSC	Goldstone, Bar	3.88	109	IAML		09 36 13.8
	comp=E,26nm,2.5s					
GSC				IAML		09 36 35.9
	comp=N,25nm,0.9s					
TPNV	Topopah Spring	4.05	84	IAML		09 36 34.8
	comp=N,23nm,1.4s					
TPNV				IAML		09 36 35.4
	comp=N,34nm,1.2s					
MTPC	Mountain Pass	4.79	103	IAML		09 37 57.5
	comp=E,10nm,0.1s					
DANC	Danby, Needles	5.22	111	IAML		09 37 06.9
	comp=N,17nm,1.6s					

IDC 29 09:35:20.4±2.3, 5°.90N×124°.33E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=173.0km s-min=28.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.88	177	P	P	09 40 36.2	+0.4
	1.0nm,0.6s,baz=0.0,slow=10,SNR=1.6						
	1.0nm,0.6s						
WRA	Warramunga Arr	27.50	159	P	P	09 41 08.2	-0.5
	0.3nm,0.7s,baz=336,slow=9.7,SNR=5.2						
	0.3nm,0.7s						
ASAR	Alice Springs	30.83	163	P	P	09 41 38.6	+0.2
	0.2nm,0.5s,baz=341,slow=8.2,SNR=6.8						
	0.2nm,0.5s						
MKAR	Makanchi Array	54.42	326	P	P	09 44 49.4	-0.1
	0.3nm,0.7s,baz=125,slow=7.6,SNR=2.6						
	0.3nm,0.7s						

*MOS **29** 09:39:41.8±1.2, 45°.04N×146°.51E, h166km, mb4.3/3, Error ellipse: s-maj=14.2km s-min=8.4km az=74.7*
*JMA **29** 09:39:43.8±0.4, 45°N±2°×14°7E±°, h166km±3km, MV3.6/32, NEAR ETOROFU ISLAND*
*NEIC **29** 09:39:43.9±1.6, 44°.9N±0°.1×146°.6E±0°.1, h171km±10km, mb4.1/14, Error ellipse: s-maj=16.8km s-min=13.2km az=135.0*
*SKHL **29** 09:39:43.1±0.1, 45°.20N×146°.50E, h149km±2km, mb4.8/8, msha5.5/4*
*IDC **29** 09:39:44.2±1.7, 45°.02N×146°.53E, h178km±16km, mb3.4/17, mbtmp3.9/22, Error ellipse: s-maj=19.4km s-min=12.7km az=145.0*
ISC 29 09:39:42.4±0.6, 44°.92N±0°.06×146°.72E±0°.06, h165km±6km, n100, σ1°32/111, mb3.9/24, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.87	69	*d* iPN	Pn	09 40 07.8	+0.2
KUR				*i* S	Sn	09 40 27.2	+0.3
KUR				pmax	pmax		
	comp=Z,269nm,0.4s						
KUR				pmax	pmax		
	comp=N,58nm,0.3s						
KUR				pmax	pmax		
	comp=E,64nm,0.4s						
KUR				smax	smax		
	comp=N,162nm,0.6s						
KUR				smax	smax		
	comp=E,234nm,0.6s						
KUR	Kuril'sk	0.87	69	*i* P	Pn	09 40 07.7	+0.2
KUR				AMB	AMB	09 40 09.2	
	comp=E,400nm,0.4s						
KUR				*e*S	Sn	09 40 26.1	-0.8
KUR				A	A	09 40 28.9	
	comp=E,690nm,0.4s						
KUR				A	A	09 40 28.9	
	comp=E,970nm,0.4s						
YUK	Yuzh-Kuril'sk	1.08	215	*c i* PN	Pn	09 40 10.2	+1.0
YUK				*i* S	Sn	09 40 30.8	+1.0
YUK				pmax	pmax		
	comp=N,157nm,0.2s						
YUK				pmax	pmax		
	comp=Z,420nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK				smax	smax		
	comp=N,3μm,0.8s						
YUK				smax	smax		
	comp=E,5μm,1.1s						
YUK	Yuzh-Kuril'sk	1.08	215	*e*P	Pn	09 40 09.8	+0.6
YUK				AMB	AMB	09 40 11.3	
	comp=E,420nm,0.4s						
YUK				*e*S	Sn	09 40 29.9	+0.1
YUK				A	A	09 40 31.5	
	comp=E,2μm,0.4s						
YUK				A	A	09 40 31.5	
	comp=E,2μm,0.4s						
RUSJ	Misakicho	1.33	233	*e*PN	Pn	09 40 12.4	+0.9
RUSJ				S	Sn	09 40 32.5	-1.3
JRA	Rausu	1.51	230	P	Pn	09 40 14.1	+0.9
JRA				*e*S	Sn	09 40 37.4	+0.5
JNSB	Nemuroshibetsu	1.68	228	*e*P	Pn	09 40 16.3	+1.3
JNSB				*e*S	Sn	09 40 41.4	+1.3
NEM2	Nemuro 2	1.71	205	*e*P	Pn	09 40 15.5	+0.3
NEM2				*e*S	Sn	09 40 40.1	-0.4
NMR	Nemuro--Hokkai	1.71	205	‖ *i* PN	Pn	09 40 15.5	+0.2
NMR				*i* S	Sn	09 40 40.1	-0.4
NMR	Nemuro--Hokkai	1.71	205	*i* P	Pn	09 40 15.7	+0.4
NMR				*i* S	Sn	09 40 40.1	-0.4
JKHN	Kushirohamanak	2.16	212	P	Pn	09 40 21.4	+1.2
JTKR	Abashiri--Toko	2.23	246	P	Pn	09 40 22.0	+1.0
AKK	Akkeshi	2.34	216	*e*P	Pn	09 40 23.1	+0.8
JAK	Akkeshi	2.42	218	P	Pn	09 40 23.9	+0.7
JAK				*e*S	Sn	09 40 53.7	-1.2
JMP	Maruseppu	2.58	250	*e*P	Pn	09 40 26.2	+1.1
JAR	Ashorobuto	2.68	234	*e*P	Pn	09 40 28.3	+1.9
JSE	Soyaes	2.94	272	*e*P	Pn	09 40 30.8	+1.3
JKK2	Kamakawa 2	3.04	251	*e*P	Pn	09 40 32.4	+1.6
JKA	Kamikawa-asahi	3.06	256		Pn	09 40 33.0	+2.0
ASAJ	Asahikawa	3.06	256	P	Pn	09 40 33.2	+2.2
	comp=E,185nm,0.5s,baz=73,slow=9.2,SNR=178						
JCH	Churui	3.35	228	*e*P	Pn	09 40 35.6	+0.8
JCH				*e*S	Sn	09 41 14.2	-1.2
YSS	Yuzhno-Sakhali	3.43	308	Pn	Pn	09 40 36.2	+0.5
YSS	Yuzhno-Sakhali	3.43	308	*e*PN	Pn	09 40 36.2	+0.5
YSS				*e*S	Sn	09 41 19.0	+1.7
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,20nm,1.3s						
YSS				smax	smax		
	comp=E,30nm,1.4s						
YSS	Yuzhno-Sakhali	3.43	308	*e*P	Pn	09 40 32.4	-3.3
YSS				AMB	AMB	09 40 33.1	
	comp=E,10.0nm,0.2s						
JWK2	Keihoku	3.44	278	*e*P	Pn	09 40 38.5	+2.8
ERM	Erimo	3.90	223		Pn	09 40 43.4	+1.7
ERM	Erimo	3.90	223	PN	Pn	09 40 43.4	+1.7
JNBK	Urakawa-nobuka	3.91	229	*e*P	Pn	09 40 41.8	-0.1
JEW	Eniwo	4.34	243	*e*P	Pn	09 40 49.9	+2.5
JTM	Tenmabayashi	5.86	227		Pn	09 41 06.5	-0.9
TYV	Tymovskoe	6.54	337	*e*P	Pn	09 41 13.4	-2.9
TYV				AMB	AMB	09 41 17.6	
	comp=E,10.0nm,0.4s						
JMM	Marumori	8.34	214		Pn	09 41 39.3	-0.9
SKR	Severo-Kuril's	8.55	44	*e*P	Pn	09 41 43.3	+0.4
SKR				AMB	AMB	09 41 45.5	
	comp=E,30nm,0.3s						
SKR				*e*S	Sn	09 43 14.5	-3.6
SKR				A	A	09 43 17.9	
	comp=E,30nm,0.5s						
SKR				A	A	09 43 17.9	
	comp=E,30nm,0.5s						
JSD	Sado	9.36	226	Pn	Pn	09 41 53.9	+0.2
PAU	Pauzhetka	9.39	42	*e*P	Pn	09 41 54.3	+0.4
PAU				AMB	AMB	09 41 56.5	
	comp=E,10.0nm,0.4s						
USRK	Ussuriysk Ar.	10.54	271	P	Pn	09 42 09.9	+0.7
	comp=E,2.0nm,0.7s,baz=81,slow=14,SNR=1.8						
MAJO	Matsushiro	10.57	221		Pn	09 42 09.8	+0.2
MAJO	Matsushiro	10.57	221	PN	Pn	09 42 09.8	+0.2
MJAR	Matsushiro Arr	10.57	221	P	Pn	09 42 09.4	-0.2
	comp=E,3.1nm,0.5s,baz=30,slow=13,SNR=11						
PEA0B	Petropavlovsk-	10.90	37		Pn	09 42 15.7	+1.9
PEA0B	Petropavlovsk-	10.90	37	PN	Pn	09 42 15.7	+1.9
PETK	Petropavlovsk-	10.90	37		Pn	09 42 15.3	+1.5
PETK	Petropavlovsk-	10.90	37	P	Pn	09 42 14.9	+1.1
	comp=E,8.5nm,0.5s,baz=224,slow=11,SNR=16						
PETK	Petropavlovsk-	10.90	37	PN	Pn	09 42 15.3	+1.5
PET	Petropavlovsk	11.27	40	Pn	Pn	09 42 21.2	+2.7
PET	Petropavlovsk	11.27	40	*e*P	Pn	09 42 18.1	-0.4
JGF	Kuroka	11.73	221	Pn	Pn	09 42 25.6	+0.8
KSRS	Korea Array	15.98	249	P	Pn	09 43 17.8	-0.2
	comp=E,0.6nm,0.5s,baz=58,slow=12,SNR=2.4						
SONM	Songino Array	27.75	291	P	P	09 45 13.9	-1.7
	comp=E,0.4nm,0.5s,baz=81,slow=9.2,SNR=1.4						
	comp=E,0.4nm,0.5s						
TLY	Talaya	29.10	299	P	P	09 45 24.6	-2.8
TLY				IAmb	IAmb	09 45 26.3	
	comp=Z,3.0nm,0.8s						
H11N2	WAKE ISLAND Hy	30.19	140	T	T	10 16 58.0	
	baz=330,slow=75,SNR=23						
H11N1	WAKE ISLAND Hy	30.20	140	T	T	10 16 56.9	
	baz=330,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	30.21	140	T	T	10 17 00.2	
	baz=330,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	31.17	141	T	T	10 18 29.4	
	baz=330,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	31.18	141	T	T	10 18 22.0	
	baz=330,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	31.19	141	T	T	10 18 29.0	
	baz=330,slow=76,SNR=14						
G18K	Tagagawik	35.85	35	P	P	09 46 27.1	+1.4
G18K				IAmb	IAmb	09 46 27.3	
	comp=Z,4.2nm,0.9s						
H19K	Roundabout Mou	36.70	36	P	P	09 46 34.9	+1.9
H19K				IAmb	IAmb	09 46 37.7	
	comp=Z,4.2nm,0.9s						
B20K	Meade River	37.15	28	P	P	09 46 37.7	+1.0
IMAR	Indian Mountai	37.85	35	P	P	09 46 44.0	+1.3
E24K	Your Creek	40.01	32	P	P	09 47 02.0	+1.3
E24K				IAmb	IAmb	09 47 20.2	
	comp=Z,7.4nm,1.3s						
ZALV	Zalesovo Beam	40.05	306	PcP	PcP	09 49 03.2	+0.7
	comp=Z,0.6nm,0.3s,baz=90,slow=1.4,SNR=1.8						
ILAR	Eielson Array	40.73	37	P	P	09 47 08.7	+2.1
ILAR	Eielson Array	40.73	37	P	P	09 47 07.9	+1.3
	comp=Z,0.8nm,0.5s,baz=274,slow=7.7,SNR=18						
	comp=Z,0.8nm,0.5s						
ILAR	Eielson Array	40.73	37	P	P	09 47 08.7	+2.1
BCAR	Beaver Creek A	43.18	39	P	P	09 47 28.3	+1.9
MKAR	Makanchi Array	43.78	296	P	P	09 47 32.0	+0.5
MKAR	Makanchi Array	43.78	296	P	P	09 47 31.3	-0.1
	comp=Z,1.0nm,0.7s,baz=72,slow=8.3,SNR=7.7						
MKAR				PcP	PcP	09 49 16.0	+1.0
	comp=Z,0.4nm,0.6s,baz=73,slow=3.2,SNR=5.3						
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	44.63	303	P	P	09 47 35.5	-2.6
KURK				IAmb	IAmb	09 47 39.8	
	comp=Z,4.8nm,0.8s						
KURK	Kurchatov	44.63	303	P	P	09 47 35.8	-2.3
KURK						09 49 18.5	
KURBB	Kurchatov Arra	44.71	303	P	P	09 47 35.8	-2.9
	comp=Z,0.6nm,0.4s,baz=73,slow=8.7,SNR=5.7						
KURBB				PcP	PcP	09 49 18.5	+0.4
	comp=Z,0.8nm,0.7s,baz=74,slow=3.6,SNR=4.1						
	comp=Z,0.6nm,0.4s						
INK	Inuvik	45.55	31	P	P	09 47 45.9	+0.8
INK				IAmb	IAmb	09 48 23.9	
	comp=Z,9.2nm,1.2s						
INK	Inuvik	45.55	31	P	P	09 47 45.1	+0.1
	comp=Z,3.5nm,1.0s,baz=293,slow=8.9,SNR=11						
	comp=Z,3.5nm,1.0s						
INK	Inuvik	45.55	31	P	P	09 47 45.9	+0.8
INK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
G31M	Satah River	45.56	33	P	P	09 47 46.4	+1.2
G31M				IAmb	IAmb	09 47 47.9	
	comp=Z,19nm,1.3s						
BVAR	Borovoye Array	48.53	308	P	P	09 48 08.8	+0.4
	comp=Z,0.3nm,0.3s,baz=73,slow=9.5,SNR=2.2						
BVAR				PcP	PcP	09 49 33.0	+1.4
	comp=Z,0.9nm,0.5s,baz=52,slow=5.7,SNR=3.7						
	comp=Z,0.3nm,0.3s						
KK31	Karatay Array	52.90	297	P	P	09 48 41.6	+0.4
KK31				IAmb	IAmb	09 48 42.2	
	comp=Z,5.0nm,1.2s						
KK31	Karatay Array	52.90	297	P	P	09 48 41.7	+0.4
KK31				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KKAR	Karatay Array	52.90	297	P	P	09 48 42.1	+0.8
KKAR	Karatay Array	52.90	297	P	P	09 48 42.1	+0.8
RES	Resolute Bay	53.93	17	P	P	09 48 47.3	-0.9
	comp=Z,1.3nm,0.6s,baz=316,slow=5.6,SNR=11						
	comp=Z,1.3nm,0.6s						
AB31	Akbulak array	56.10	308	P	P	09 49 03.7	-0.5
ABKAR	Akbulak array	56.10	308	P	P	09 49 03.8	-0.3
ARCES	ARCESS Array B	58.04	339	P	P	09 49 17.8	+0.3
ARCES	ARCESS Array B	58.04	339	P	P	09 49 17.1	-0.4
	comp=Z,2.4nm,0.9s,baz=41,slow=6.6,SNR=6.3						
	comp=Z,2.4nm,0.9s						
ARCES	ARCESS Array B	58.04	339	P	P	09 49 17.8	+0.3
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FIA1	FINESS Array S	63.69	333	P	P	09 49 55.1	-0.5
FINES	FINESS Array B	63.69	333	P	P	09 49 55.1	-0.6
FINES	FINESS Array B	63.69	333	P	P	09 49 54.6	-1.1
	comp=Z,2.5nm,0.5s,baz=44,slow=6.5,SNR=17						
	comp=Z,2.5nm,0.

comp=E,15μm,0.5s
BBGB IAML 09 43 02.4
comp=N,18μm,0.6s
BSGM Shirttail Gulc 0.24 174 Pg 09 42 56.3 -0.2
BSMM Soledad Missio 0.30 202 Pg 09 42 57.7 +0.1
LRV Little Rabbit 0.32 137 Pg 09 42 58.4 +0.5
HTUM Tustin Road 0.33 301 Pg 09 42 58.1 -0.1
HFEM San Felipe 0.34 344 Pg 09 42 58.9 +0.6
BMSM Mercy Hot Spri 0.40 90 Pb 09 43 00.4 -0.8
FORD Fort Ord Natur 0.40 274 Pg 09 42 59.5 +0.1
BCWM Chews Ridge 0.42 213 Pg 09 42 59.8 0.0
HMOM Monterey 0.51 264 Pg 09 43 01.4 -0.1
PMPB Monarch Peak 0.59 138 Pg 09 43 03.2 +0.1
HULI Fort Hunter Li 0.64 176 IAML 09 43 19.3
comp=E,812nm,0.5s
HULI IAML 09 43 24.1
comp=N,884nm,0.6s
CCOB Coe Ranch Numb 0.68 333 Pb 09 43 06.1 +0.1
CMPM Mikes Peak 0.70 358 Pb 09 43 06.5 +0.1
PSAM San Ardo 0.71 153 Pg 09 43 05.2 -0.2
PPTM Peach Tree Val 0.71 140 Pg 09 43 05.5 +0.1
ARN Arnold Ranch 0.72 344 Pg 09 43 06.1 +0.5
MHC Mount Hamilton 0.74 338 Pg 09 43 06.5 +0.5
PSMM Smith Mountain 0.81 136 Pb 09 43 07.8 -0.4
JBNB Ben Lomond Mou 0.84 304 Pg 09 43 07.5 -0.4
MTOS Mt Oso, Westle 0.85 358 Pb 09 43 08.8 0.0
CMLM Mount Lewis 0.87 341 Pb 09 43 09.2 -0.1
PHPM Hope Ranch 0.87 141 Pg 09 43 08.4 -0.1
CALM Calaveras Res. 0.89 333 Pg 09 43 09.2 +0.4
JSJM St Joseph 0.93 317 Pg 09 43 09.9 +0.2
PKD Bear Valley Ra 0.93 139 Pg 09 43 09.3 -0.3
PKD IAML 09 43 24.9
comp=E,369nm,0.8s
PKD IAML 09 43 33.0
comp=N,412nm,0.6s
PVCM Vineyard Canyo 0.95 140 Pb 09 43 10.4 -0.3
JBMM Black Mountain 0.96 314 Pg 09 43 09.5 -0.6
PPO Portuguese Can 0.96 145 Pb 09 43 10.5 -0.3
PSTM Stockdale Moun 0.96 139 Pg 09 43 09.8 -0.4
WSRE Westside REC, 0.99 108 Pb 09 43 11.1 -0.3
CSTL Corral Hollow 0.99 350 Pb 09 43 11.6 +0.3
JFP Foothills Park 1.01 314 Pg 09 43 10.6 -0.5
JPSM 1.01 303 Pg 09 43 10.5 -0.5
AVNL Avenal, CA USA 1.03 128 Pb 09 43 12.1 +0.2
JSFB Stanford Teles 1.03 317 Pg 09 43 10.9 -0.6
PHFM Heflinger Ranc 1.05 137 Pg 09 43 11.7 -0.2
JRSC Jasper Ridge 1.06 315 Pg 09 43 11.1 -1.0
JRSC IAML 09 43 27.2
comp=N,418nm,0.7s
JRSC IAML 09 43 31.0
comp=E,352nm,0.4s
LEGD La Grand CA 1.07 58 Pg 09 43 11.6 -0.6
RAMR Ramage Ranch 1.07 162 Pg 09 43 11.8 -0.5
LCUV Le Cuvier 1.10 156 Pg 09 43 11.9 -1.0
PCBM Cambria 1.15 171 Pg 09 43 12.9 -0.9
MHDM Hidden Dam 1.21 67 Pg 09 43 13.9 -1.0
JCHM Cahill Ridge 1.22 315 Pg 09 43 13.5 -1.7
CLCB Lake Chabot 1.24 330 Pg 09 43 14.4 -1.2
PAGB Antelope Grade 1.25 137 Pg 09 43 14.5 -1.2
FRI Friant 1.31 75 Pn 09 43 15.8 -0.8
JSBM San Bruno Moun 1.35 319 Pn 09 43 14.4 -2.8
LSDC Los Osos Digit 1.41 165 Pg 09 43 19.1 +0.4
BKS Berkeley--Byer 1.43 328 Pn 09 43 17.0 -1.3
MMIM Miami Mountain 1.45 58 Pn 09 43 18.6 0.0
PBPM Bitterwater Pu 1.46 137 Pn 09 43 17.9 -0.7
CMB Columbia Colle 1.55 27 Pn 09 43 19.1 -0.9
CMB IAML 09 43 46.6
comp=N,118nm,0.7s
SMMC Simmler 1.70 142 Pn 09 43 21.6 -0.4
WELL Weller Preserv 1.83 14 Pn 09 43 23.5 -0.3
WELL Weller Preserv 1.83 14 IAML 09 43 54.0
comp=E,88nm,0.9s
CVS Carmenet Viney 1.93 331 Pn 09 43 23.8 -1.2
MCCM Marconi Confer 1.95 320 Pn Pn 09 43 23.5 -1.9
MCCM IAML 09 44 00.8
comp=N,100nm,0.7s
MCCM IAML 09 44 04.2
comp=E,83nm,1.2s
VES Vestal, Richgr 1.96 114 Pn 09 43 24.5 -1.0
VES IAML 09 43 55.6
comp=E,99nm,0.8s
VES IAML 09 44 01.2
comp=N,109nm,0.7s
MDPB Devils Postpil 2.02 60 Pn 09 43 25.8 -0.7
MINS Minaret Summit 2.04 60 Pb 09 43 28.8 -0.6
NTYM Taylor 2.04 328 Pn 09 43 25.1 -1.5
WAKR Walker 2.36 38 Pb 09 43 33.4 -1.3
ISA Isabella, Lake 2.48 113 Pn 09 43 33.1 +0.3
CWC Cottonwood Cre 2.59 94 IAML 09 44 15.3
comp=N,37nm,0.6s
SUTB Sutter Butte 2.60 351 Pn 09 43 33.3 -1.0
SUTB IAML 09 44 25.5
comp=E,62nm,0.6s
SUTB IAML 09 44 44.1
comp=N,47nm,0.6s
HOPS Hopland Field 2.73 329 Pn Pn 09 43 34.5 -1.6
HOPS IAML 09 44 59.7
comp=E,32nm,3.0s
PNTR Pine Nut 2.77 28 Pn 09 43 37.2 +0.3
ORV Oroville 2.90 357 Pn 09 43 38.4 0.0
RYN Ryan 2.95 47 Pn 09 43 41.4 +2.1
RYN IAML 09 44 27.0
comp=E,56nm,0.8s
RYN IAML 09 44 40.3
comp=N,52nm,1.0s
NVAR Mina Array Bea 2.96 52 Pn Pb 09 43 42.4 -2.6
NV11 Mina Array Sit 3.06 54 IAML 09 44 33.4
comp=N,26nm,1.6s
TPO Tropico Hills 3.06 125 Pn 09 43 41.4 +0.7
TPO IAML 09 44 53.1
comp=E,33nm,1.0s
TPO IAML 09 44 56.8
comp=N,26nm,1.5s
LRMC Laurel Mtn Rad 3.15 111 IAML 09 44 41.0
comp=N,30nm,0.7s
GRAC Grapevine Rang 3.16 83 IAML 09 44 48.3
comp=N,45nm,0.8s
WSHM Spangler Hills 3.25 108 IAML 09 44 24.1
comp=N,38nm,0.1s
WSHM IAML 09 44 24.1
comp=N,21nm,0.1s
BEKR Beckworth 3.29 13 Pn 09 43 44.5 +0.6
GMN Gold Mountain 3.29 78 IAML 09 44 49.9
comp=N,22nm,0.8s
PAHR Pah Rah Range 3.39 26 Pn Pn 09 43 45.3 -0.1
PAHR IAML 09 44 48.8
comp=E,29nm,1.5s
FURC Furnace Creek, 3.57 92 Pn Pn 09 43 47.6 0.0
FURC IAML 09 44 53.5
comp=E,29nm,1.6s
FURC IAML 09 45 04.5
comp=N,28nm,1.4s
MWC Mount Wilson 3.58 132 IAML 09 44 34.0
comp=E,21nm,4.8s
MWC IAML 09 44 50.7
comp=N,19nm,2.5s
O03E Paynes Creek 3.65 354 Pn 09 43 49.8 +0.9
O03E IAML 09 44 44.4
comp=E,26nm,4.5s
O03E IAML 09 45 20.6
comp=N,16nm,1.4s
WCT Wildcat Mounta 3.75 87 Pn 09 43 49.3 -0.9
BFSC Mount Baldy Ra 3.82 128 Pn 09 43 51.3 0.0
GSC Goldstone, Bar 3.88 109 IAML 09 45 11.2
comp=N,15nm,4.8s
GSC IAML 09 45 31.8
comp=E,18nm,4.8s
TPNV Topopah Spring 4.05 84 IAML 09 45 15.0
comp=E,19nm,1.1s

IDC 29 09:47:08.0±6.5, 22°.97S×178°.75W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=177.2km s-min=103.3km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.14**	**247**	P	P	09 54 12.2	+0.1
	1.8nm,0.7s,baz=90,slow=11,SNR=5.4						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**43.33**	**259**	P	P	09 55 11.7	-0.4
	1.6nm,0.8s,baz=98,slow=7.8,SNR=14						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**43.62**	**265**	P	P	09 55 14.4	-0.1
	2.6nm,0.7s,baz=102,slow=8.0,SNR=21						
	2.6nm,0.7s						
HFS	**Hagfors**	**141.85**	**350**	PKP	PKPdf	10 06 41.0	-0.2
	1.0nm,0.4s,baz=15,slow=6.0,SNR=7.7						

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*TAP **29** 10:04:59.4, 24°.65N×122°.72E, h108km, ML3.4, C*
*JMA **29** 10:04:59.6±0.2, 25°.N±2°.×122°.7E±0°.5, h107km±1km,*
MV2.9/13, NW OFF ISHIGAKIJIMA IS
ISC 29 10:04:59.7±1.4, 24°.59N±0°.04×122°.71E±0°.03, h108km±8km, n91, σ0°.75/177, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**122**	*i* P	**Pn**	**10 05 15.0**	**0.0**
JYNG				*e*S	**Sn**	**10 05 26.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.30**	**114**	*e*P	**Pn**	**10 05 15.2**	**0.0**
YOJ				*e*S	**Sn**	**10 05 27.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.30**	**114**	*i* P	**Pn**	**10 05 15.1**	**-0.1**
YOJ				S	**Sn**	**10 05 26.7**	**-0.1**
EOS2	**EOS2**	**0.47**	**249**	P	**Pn**	**10 05 16.3**	**+0.4**
EOS2				S	**Sn**	**10 05 29.3**	**+1.2**
EOS3	**EOS3**	**0.47**	**230**	P	**Pn**	**10 05 16.6**	**+0.7**
EOS3				S	**Sn**	**10 05 29.6**	**+1.6**
EOS4	**EOS4**	**0.58**	**218**	P	**Pn**	**10 05 16.8**	**+0.3**
EOS4				*e*S	**Sn**	**10 05 30.2**	**+1.1**
TWB1	**Santiao Chiao**	**0.78**	**303**	P	**Pn**	**10 05 18.1**	**-0.4**
TWB1				*e*S	**Sn**	**10 05 31.6**	**-1.0**
TWC	**Suao**	**0.78**	**272**	P	**Pn**	**10 05 18.3**	**-0.2**
TWC				S	**Sn**	**10 05 31.4**	**-1.3**
ESAO	**Su ao**	**0.79**	**269**	P	**Pn**	**10 05 18.7**	**+0.1**
ESAO				*e*S	**Sn**	**10 05 32.0**	**-0.8**
EWUT	**Wuta**	**0.86**	**261**	P	**Pn**	**10 05 19.6**	**+0.3**
EWUT				*e*S	**Sn**	**10 05 33.6**	**-0.4**
TIPB	**Shuangxi**	**0.89**	**296**	P	**Pn**	**10 05 19.4**	**-0.2**
TIPB				S	**Sn**	**10 05 33.4**	**-1.2**
ILA	**Ilan**	**0.89**	**282**	*e*P	**Pn**	**10 05 19.6**	**0.0**
ILA				*e*S	**Sn**	**10 05 34.6**	**0.0**
ENA	**Nanau**	**0.90**	**260**	*e*P	**Pn**	**10 05 19.9**	**+0.3**
ENA				*e*S	**Sn**	**10 05 34.8**	**+0.1**
NDS	**Dongshan**	**0.90**	**273**	P	**Pn**	**10 05 20.0**	**+0.3**
NDS				*e*S	**Sn**	**10 05 34.1**	**-0.8**
SXI1	**Grass Mountain**	**0.91**	**304**	P	**Pn**	**10 05 19.6**	**-0.2**
SXI1				S	**Sn**	**10 05 34.7**	**-0.3**
EAHA	**Aohua**	**0.92**	**254**	P	**Pn**	**10 05 19.9**	**0.0**
EAHA				*e*S	**Sn**	**10 05 35.3**	**+0.2**
TWE	**Neicheng**	**0.96**	**278**	*e*P	**Pn**	**10 05 20.4**	**+0.2**
TWE				*e*S	**Sn**	**10 05 34.8**	**-0.9**
IRIF	**Iriomote-Funau**	**0.96**	**105**	P	**Pn**	**10 05 20.5**	**+0.2**
IRIF				*e*S	**Sn**	**10 05 35.7**	**-0.2**
NWF	**Wu-fen Shan**	**0.97**	**300**	P	**Pn**	**10 05 20.5**	**0.0**
NWF				S	**Sn**	**10 05 36.0**	**-0.2**
WFSB	**Wu-fen Shan**	**0.97**	**300**	P	**Pn**	**10 05 20.4**	**0.0**
WFSB				S	**Sn**	**10 05 35.8**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.03**	**280**	P	**Pn**	**10 05 21.2**	**0.0**
FUSB				*e*S	**Sn**	**10 05 36.1**	**-1.2**
ENTT	**Nioudou**	**1.04**	**273**	*e*P	**Pn**	**10 05 20.9**	**-0.2**
ENTT				*i* S	**Sn**	**10 05 37.1**	**-0.2**
ETL	**Fush Village**	**1.08**	**247**	*e*P	**Pn**	**10 05 21.3**	**-0.3**
ETL				*e*S	**Sn**	**10 05 37.5**	**-0.6**
LATG	**Datong**	**1.08**	**268**	P	**Pn**	**10 05 21.9**	**+0.3**
LATG				S	**Sn**	**10 05 38.1**	**-0.1**
TWA	**Mucha**	**1.09**	**291**	P	**Pn**	**10 05 21.6**	**-0.2**
TWA				*e*S	**Sn**	**10 05 37.6**	**-0.8**
NACB	**Ninganchiao**	**1.09**	**248**	P	**Pn**	**10 05 21.3**	**-0.4**
NACB				S	**Sn**	**10 05 37.4**	**-1.0**
NWLT	**Wulai**	**1.11**	**280**	P	**Pn**	**10 05 21.8**	**-0.1**
NWLT				S	**Sn**	**10 05 37.7**	**-1.0**
HATJ	**Hateruma jima**	**1.13**	**118**	*e*P	**Pn**	**10 05 22.9**	**+0.8**
HATJ				*e*S	**Sn**	**10 05 39.6**	**+0.5**
TWD	**Chiawan**	**1.13**	**244**	*e*P	**Pn**	**10 05 21.9**	**-0.2**
TWD				S	**Sn**	**10 05 38.5**	**-0.6**
YM01	**YM01**	**1.17**	**299**	*i* P	**Pn**	**10 05 22.7**	**0.0**
YM01				*i* S	**Sn**	**10 05 39.4**	**-0.5**
HWA	**Hwalien**	**1.18**	**239**	*e*P	**Pn**	**10 05 22.5**	**-0.1**
HWA				*e*S	**Sn**	**10 05 40.1**	**+0.3**
YM08	**YM08**	**1.18**	**301**	*e*P	**Pn**	**10 05 22.1**	**-0.5**
YM08				*e*S	**Sn**	**10 05 38.9**	**-1.2**
ETLH	**Xiulin Townshi**	**1.18**	**252**	*e*P	**Pn**	**10 05 22.9**	**+0.1**
ETLH				*e*S	**Sn**	**10 05 39.3**	**-0.9**
PCYT	**Pengchaiyu**	**1.19**	**331**	P	**Pn**	**10 05 22.9**	**+0.1**
PCYT				*e*S	**Sn**	**10 05 41.0**	**+0.8**
ZUZH	**Zhuzihu**	**1.20**	**299**	*e*P	**Pn**	**10 05 22.9**	**-0.1**
ZUZH				S	**Sn**	**10 05 39.6**	**-0.9**
YHNB	**Yeheng**	**1.22**	**274**	*i* P	**Pn**	**10 05 23.6**	**+0.4**
YHNB				*i* S	**Sn**	**10 05 40.5**	**-0.3**
NNSB	**Datong**	**1.22**	**263**	*e*P	**Pn**	**10 05 23.3**	**+0.1**
NNSB				*e*S	**Sn**	**10 05 40.3**	**-0.7**
TWY	**Chenhua**	**1.22**	**305**	*e*S	**Sn**	**10 05 41.1**	**+0.4**
NNS	**Nan Shan**	**1.23**	**263**	*e*P	**Pn**	**10 05 23.6**	**+0.3**
NNS				*e*S	**Sn**	**10 05 40.7**	**-0.5**
NSK	**Sanguang**	**1.23**	**274**	*e*P	**Pn**	**10 05 23.5**	**+0.2**
NSK				S	**Sn**	**10 05 40.6**	**-0.5**
JKRS	**Kuro-shima**	**1.24**	**106**	P	**Pn**	**10 05 23.9**	**+0.7**
JKRS				*e*S	**Sn**	**10 05 41.5**	**+0.4**
TEYL	**Yanliau Villag**	**1.24**	**235**	*e*P	**Pn**	**10 05 23.2**	**-0.1**
TEYL				*e*S	**Sn**	**10 05 41.6**	**+0.4**
ETM	**Tongmen**	**1.27**	**241**	P	**Pn**	**10 05 23.5**	**-0.2**
ETM				*e*S	**Sn**	**10 05 41.1**	**-0.7**
LXIB	**Xiulin Townshi**	**1.31**	**245**	*e*P	**Pn**	**10 05 24.0**	**-0.3**
LXIB				*e*S	**Sn**	**10 05 42.1**	**-0.8**
SHUL	**Shoufeng**	**1.31**	**233**	*e*P	**Pn**	**10 05 24.4**	**+0.2**
SHUL				S	**Sn**	**10 05 42.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.33**	**99**	P	**Pn**	**10 05 24.4**	**+0.1**
JIJ				S	**Sn**	**10 05 42.3**	**-0.6**
FUSS	**Fushou**	**1.38**	**256**	*e*P	**Pn**	**10 05 25.7**	**+0.6**
FUSS				*e*S	**Sn**	**10 05 44.4**	**-0.1**
TEGC	**Jichi Village**	**1.38**	**231**	*e*P	**Pn**	**10 05 25.2**	**+0.3**
TEGC				*e*S	**Sn**	**10 05 44.0**	**-0.1**
WHF	**Hehuan Shan**	**1.39**	**252**	*e*P	**Pn**	**10 05 25.5**	**+0.1**
WHF				S	**Sn**	**10 05 44.4**	**-0.6**
ESL	**Shilin**	**1.40**	**237**	*e*P	**Pn**	**10 05 24.8**	**-0.3**
ESL				*e*S	**Sn**	**10 05 43.9**	**-0.5**
KSHI	**Guanxi Townshi**	**1.41**	**278**	*e*P	**Pn**	**10 05 25.9**	**+0.7**
KSHI				S	**Sn**	**10 05 44.9**	**+0.2**
NCUH	**Zhongli**	**1.44**	**286**	*e*S	**Sn**	**10 05 45.3**	**+0.1**
NFF	**Wufeng Townshi**	**1.45**	**272**	*e*P	**Pn**	**10 05 26.6**	**+0.8**
NFF				*e*S	**Sn**	**10 05 44.5**	**-1.1**
TDCB	**Techi**	**1.45**	**257**	*e*P	**Pn**	**10 05 27.5**	**+1.5**
TDCB				*e*S	**Sn**	**10 05 45.5**	**-0.3**
JISG	**Ishigakijimahi**	**1.46**	**90**	*e*P	**Pn**	**10 05 26.1**	**+0.2**
JISG				*e*S	**Sn**	**10 05 45.1**	**-0.6**
EGFH	**Guangfu**	**1.48**	**232**	*e*P	**Pn**	**10 05 26.3**	**+0.1**
EGFH				*e*S	**Sn**	**10 05 45.6**	**-0.7**
WARBT	**Fenglin Townsh**	**1.48**	**235**	*e*P	**Pn**	**10 05 25.9**	**-0.4**
WARBT				S	**Sn**	**10 05 45.2**	**-1.1**
OWD	**Renai**	**1.53**	**246**	*e*P	**Pn**	**10 05 27.2**	**+0.3**
OWD				*e*S	**Sn**	**10 05 46.7**	**-0.9**
LIOB	**Emei**	**1.54**	**273**	P	**Pn**	**10 05 27.4**	**+0.5**
LIOB				*e*S	**Sn**	**10 05 47.3**	**-0.2**
NSTT	**Nanjuang**	**1.55**	**272**	*e*P	**Pn**	**10 05 26.7**	**-0.3**
NSTT				*e*S	**Sn**	**10 05 47.4**	**-0.4**
WUSB	**Renai**	**1.57**	**248**	P	**Pn**	**10 05 27.9**	**+0.6**
WUSB				*e*S	**Sn**	**10 05 48.1**	**-0.2**
HSN	**Hsinchu**	**1.59**	**278**	*e*S	**Sn**	**10 05 47.9**	**-0.8**
HGSD	**Ruisui**	**1.60**	**227**	*i* P	**Pn**	**10 05 27.8**	**+0.2**
HGSD				S	**Sn**	**10 05 48.8**	**-0.1**
WHP	**Taichung City**	**1.64**	**260**	*e*P	**Pn**	**10 05 29.6**	**+1.5**
WHP				*i* S	**Sn**	**10 05 50.2**	**+0.5**
EHYH	**Wanrong**	**1.65**	**229**	*e*P	**Pn**	**10 05 28.4**	**+0.1**
EHYH				*i* S	**Sn**	**10 05 49.0**	**-1.0**
VWDT	**VWDT**	**1.65**	**240**	*i* P	**Pn**	**10 05 28.9**	**+0.7**
VWDT				S	**Sn**	**10 05 49.8**	**-0.1**
EHY	**Hungye**	**1.66**	**230**	*e*P	**Pn**	**10 05 27.9**	**-0.5**
ECBN	**Changbin**	**1.71**	**223**	*e*P	**Pn**	**10 05 28.7**	**-0.2**
ECBN				*e*S	**Sn**	**10 05 51.4**	**+0.2**
NMLH	**Miaoli**	**1.75**	**269**	P	**Pn**	**10 05 29.5**	**+0.1**
NMLH				*e*S	**Sn**	**10 05 51.8**	**-0.2**
YULB	**Yu-li**	**1.75**	**228**	P	**Pn**	**10 05 28.9**	**-0.7**
YULB				*e*S	**Sn**	**10 05 51.1**	**-1.1**
TWF1	**Yuli**	**1.78**	**227**	*e*P	**Pn**	**10 05 29.6**	**-0.2**
TWF1				*e*S	**Sn**	**10 05 51.8**	**-1.1**
SSLB	**Suanglung**	**1.79**	**244**	*e*P	**Pn**	**10 05 30.3**	**+0.4**
SSLB				*e*S	**Sn**	**10 05 52.6**	**-0.4**
SMLT	**Sun Moon Lake**	**1.79**	**247**	*e*P	**Pn**	**10 05 30.9**	**+0.8**
SMLT				*e*S	**Sn**	**10 05 55.2**	**+1.9**
JTJ	**Tarama**	**1.82**	**88**	P	**Pn**	**10 05 30.7**	**+0.4**
JTJ				*e*S	**Sn**	**10 05 52.8**	**-0.7**
TYC	**Yuchr**	**1.82**	**248**	*e*P	**Pn**	**10 05 31.6**	**+1.3**
TYC				*e*S	**Sn**	**10 05 55.4**	**+1.7**
CHKH	**Chenggong**	**1.84**	**221**	*e*P	**Pn**	**10 05 30.6**	**+0.1**
CHKH				*e*S	**Sn**	**10 05 52.9**	**-1.1**
FULB	**Fuli**	**1.89**	**223**	*e*P	**Pn**	**10 05 31.5**	**+0.2**
FULB				*e*S	**Sn**	**10 05 55.5**	**+0.2**
WHYT	**Xinyi Township**	**1.91**	**243**	*e*P	**Pn**	**10 05 32.5**	**+1.0**
WHYT				*e*S	**Sn**	**10 05 57.9**	**+2.1**
CHKT	**Chengkung**	**1.92**	**220**	*e*P	**Pn**	**10 05 31.0**	**-0.6**
CHKT				S	**Sn**	**10 05 54.8**	**-1.2**
ALS	**Alishan**	**2.04**	**239**	*e*P	**Pn**	**10 05 34.8**	**+1.3**
ALS				*e*S	**Sn**	**10 06 00.4**	**+1.3**
EDH	**Donghe**	**2.06**	**219**	P	**Pn**	**10 05 33.1**	**-0.2**
EDH				*e*S	**Sn**	**10 05 57.8**	**-1.3**
ELDTW	**Lidau**	**2.08**	**228**	*e*P	**Pn**	**10 05 33.8**	**+0.1**
ELDTW				S	**Sn**	**10 05 58.9**	**-0.9**
CHN5	**Tsauling**	**2.10**	**242**	*e*P	**Pn**	**10 05 35.1**	**+1.1**
CHN5				*e*S	**Sn**	**10 06 02.6**	**+2.4**
LONT	**Longtian**	**2.21**	**221**	*e*P	**Pn**	**10 05 35.4**	**+0.1**
LONT				*e*S	**Sn**	**10 06 02.5**	**-0.1**
LDUT	**Ludao**	**2.22**	**211**	P	**Pn**	**10 05 35.4**	**0.0**
LDUT				S	**Sn**	**10 06 01.9**	**-0.8**
STYH	**Taoyuan**	**2.26**	**232**	*e*P	**Pn**	**10 05 37.4**	**+1.4**
STYH				*e*S	**Sn**	**10 06 05.2**	**+1.5**
TPUB	**Ta-pu**	**2.29**	**236**	*e*P	**Pn**	**10 05 37.8**	**+1.4**
TPUB				*e*S	**Sn**	**10 06 06.6**	**+2.1**
TWGBT	**Beinan**	**2.31**	**221**	*e*P	**Pn**	**10 05 36.3**	**-0.3**
TWGBT				*e*S	**Sn**	**10 06 03.8**	**-1.0**
TWG	**Pinlang**	**2.31**	**221**	*e*P	**Pn**	**10 05 36.6**	**0.0**
TWG				*e*S	**Sn**	**10 06 03.7**	**-1.1**
LAY	**Lan-yu**	**2.75**	**203**	*e*P	**Pn**	**10 05 41.8**	**-0.6**
LYUB	**Lan-yu**	**2.77**	**202**	P	**Pn**	**10 05 42.0**	**-0.7**
LYUB				*e*S	**Sn**	**10 06 13.4**	**-2.2**

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*GCG **29** 10:23:13.2±2.1, 15°.49N×93°.69W, h34km±999km, MD4.2, ML3.1*
*MEX **29** 10:23:15.0±0.6, 15°.52N×93°.63W, h71km±6km, MD4.1*
ISC 29 10:23:11.3±1.6, 15°.46N±0°.04×93°.71W±0°.03, h24km±17km, n33, σ1°.85/61, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53**	**62**	*e*P	**Pn**	**10 23 25.6**	**+2.3**
PCIG				*e*S	**Sn**	**10 23 34.8**	**+3.2**
TGIG		**1.43**	**23**	*e*P	**Pn**	**10 23 36.6**	**+0.8**
TGIG				*e*S	**Sn**	**10 23 53.3**	**-0.6**
TGIG		**1.43**	**23**	*i* P	**Pn**	**10 23 36.6**	**+0.8**
TGIG				IAML		10 24 09.1	
	comp=E,144nm,0.5s						
TGBT	**Tuxtla Gutierr**	**1.44**	**24**	*e*S	**Sn**	**10 23 53.7**	**-0.3**
PATR	**El Naranjo**	**1.46**	**103**	*e*P	**Pn**	**10 23 37.0**	**+0.7**
PATR				*e*S	**Sn**	**10 23 55.0**	**+0.2**
THIG		**1.49**	**111**	*e*P	**Pb**	**10 23 38.2**	**-0.1**
THIG				*e*S	**Sn**	**10 23 55.9**	**+0.6**
PAVE	**Pavencul**	**1.50**	**100**	*e*P	**Pn**	**10 23 37.9**	**+1.0**
PAVE				*e*S	**Sn**	**10 23 56.5**	**+0.8**
CHUJ	**Union Juarez**	**1.58**	**103**	*e*P	**Pn**	**10 23 38.8**	**+0.7**
CHUJ				*e*S	**Sn**	**10 23 58.3**	**+0.5**
SMCA	**Catarina**	**1.68**	**110**	*i* P	**Pn**	**10 23 39.9**	**+0.6**
SMCA				*i* S	**Sn**	**10 23 59.9**	**-0.1**
CCIG	**Comitan**	**1.72**	**61**	*e*P	**Pn**	**10 23 40.7**	**+0.8**
CCIG				*e*S	**Sn**	**10 24 00.1**	**-1.0**
CCIG	**Comitan**	**1.72**	**61**	*i* P	**Pn**	**10 23 40.8**	**+1.0**
CCIG				*i* S	**Sn**	**10 23 59.9**	**-1.2**
CCIG				IAML		10 24 16.0	
	comp=N,350nm,0.6s						
UXUV	**UXUV**	**1.90**	**347**	*e*P	**Pn**	**10 23 44.4**	**+2.2**
UXUV				*e*S	**Sn**	**10 24 06.2**	**+0.8**
CMIG	**Matias Romero**	**1.98**	**325**	*e*P	**Pn**	**10 23 44.3**	**+1.0**
CMIG				*e*S	**Sn**	**10 24 04.8**	**-2.7**
HUEH	**Huehuetenango**	**2.13**	**93**	*e*P	**Pn**	**10 23 46.5**	**+0.9**
HUEH				*e*S	**Sb**	**10 24 14.8**	**-0.6**
HUEH	**Huehuetenango**	**2.13**	**93**	*i* P	**Pn**	**10 23 47.4**	**+1.8**
HUEH				*i* S	**Sb**	**10 24 14.9**	**-0.5**
RTAL	**Retalhuleu**	**2.15**	**115**	*e*P	**Pn**	**10 23 47.6**	**+1.9**
RTAL				*e*S	**Sn**	**10 24 11.5**	**-0.1**
HUIG	**Huatulco**	**2.34**	**278**	*e*P	**Pn**	**10 23 48.8**	**+0.6**
HUIG				*e*S	**Sn**	**10 24 12.3**	**-3.8**
STG2	**El Palmar, Qui**	**2.47**	**114**	*i* P	**Pn**	**10 23 47.1**	**-3.1**
NEUV	**Arroyo Zacate**	**3.01**	**318**	*e*P	**Pn**	**10 23 58.6**	**+1.1**
NEUV				*e*S	**Sn**	**10 24 34.2**	**+1.3**
VHO	**Vista Hermosa**	**3.32**	**299**	*e*P	**Pn**	**10 24 05.5**	**+3.5**
VHO				*e*S	**Sn**	**10 24 41.2**	**+0.4**
PEIG	**Puerto Escondi**	**3.36**	**280**	*e*P	**Pn**	**10 24 02.7**	**+0.4**
PEIG				*e*S	**Sn**	**10 24 39.4**	**-2.0**
PMUV	**Sontecomapan**	**3.36**	**336**	*e*P	**Pn**	**10 24 02.9**	**+0.5**
PMUV				*e*S	**Sn**	**10 24 38.4**	**-3.2**
YOIG	**Yosondua**	**3.95**	**291**	*e*P	**Pn**	**10 24 13.8**	**+3.1**
YOIG				*e*S	**Sn**	**10 24 59.0**	**+2.7**
PETF	**Flores**	**3.96**	**68**	*e*P	**Pn**	**10 24 11.5**	**+0.9**
PETF				*e*S	**Sn**	**10 24 52.6**	**-3.7**
PETF	**Flores**	**3.96**	**68**	*i* P	**Pn**	**10 24 11.5**	**+0.9**
TOIG	**Toxpalan**	**4.15**	**310**	*e*P	**Pn**	**10 24 16.5**	**+3.2**
TOIG				*e*S	**Sn**	**10 24 57.5**	**-3.7**
SCIG	**Sabancuy**	**4.24**	**34**	*e*P	**Pn**	**10 24 13.8**	**-0.6**
SCIG				*e*S	**Sn**	**10 25 01.8**	**-1.4**
TXIG	**Tlaxiaco**	**4.29**	**295**	*e*P	**Pn**	**10 24 17.4**	**+2.0**
TXIG				*e*S	**Sn**	**10 25 03.6**	**-1.3**
PNIG	**Pinotepa**	**4.36**	**283**	*e*P	**Pn**	**10 24 16.4**	**+0.4**
PNIG				*e*S	**Sn**	**10 25 05.0**	**-1.0**
TPIG	**Tehuac#an**	**4.58**	**311**	*e*S	**Sn**	**10 25 14.9**	**+3.2**
JAUV	**Jalcomulco**	**4.89**	**323**	*e*P	**Pn**	**10 24 24.2**	**+0.8**
JAUV				*e*S	**Sn**	**10 25 16.7**

comp=E,22nm,0.7s
MEF AML AML 10 56 50.9
comp=N,21nm,0.7s
MEF AML AML 10 56 53.0
comp=Z,11nm,0.7s
FIA0 FINESS Array S 0.98 20 PG Pg 10 56 45.8 -1.1
baz=196
FIA0 SG Sg 10 56 57.7 -1.9
FIA0 MSG 10 56 58.2
comp=Z,1.2nm,0.2s
VJF Virojoki 1.08 88 PG Pg 10 56 47.5 -1.3
VJF MSG 10 57 01.0
comp=Z,2.5nm,0.2s
VJF SN Sn 10 57 06.7 +0.6
TVF Tvarminne 1.26 238 PN Pg 10 56 52.4 +0.1
TVF MSG 10 57 06.2
comp=Z,0.5nm,0.2s
KEF Keuruu 1.67 352 MSG 10 57 17.9
comp=Z,1.2nm,0.2s
KEF SN Sn 10 57 20.0 -0.5
SUF Sumiainen 2.23 9 MSG 10 57 34.2
comp=Z,0.7nm,0.2s
SUF SG Sb 10 57 37.0 -0.4
OBF8 Ulkokalla 3.92 348 PB Pb 10 57 35.7 -2.3
HEMU Hemsoen 4.12 305 PG Pb 10 57 41.3 0.0
OBF4 Vikkela, Lumij 4.31 358 SG Sb 10 58 41.1 +4.1

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*DJA **29** 11:14:58.3±4.3, 7°N±30°×12°5E±2°6, h10km, M4.2/5, mb4.7/2, MLv3.9/5*
*IDC **29** 11:14:58.5±1.5, 6°66N×124°94E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=24.4km s-min=11.6km az=137.0*
ISC 29 11:14:59.8±1.4, 6°7N±0°2×125°1E±0°2, h10km, n5, σ0s55/5, mb3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.59**	**57**	Pg	**Pb**	**11 15 12.7**	**+0.4**
	0.1nm,0.3s,baz=234,slow=19,SNR=26						
DAV				Lg	Lg	11 15 23.8	
	0.2nm,0.3s,baz=208,slow=7.6,SNR=6.1						
DAV	**Davao City (W)**	**0.59**	**57**	P	**Pg**	**11 15 11.0**	**-0.3**
WRA	**Warramunga Arr**	**28.04**	**161**	P	**P**	**11 20 51.1**	**-0.4**
	0.5nm,0.7s,baz=336,slow=10,SNR=5.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**31.43**	**164**	P	**P**	**11 21 21.9**	**+0.4**
	0.3nm,0.5s,baz=344,slow=7.3,SNR=5.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.16**	**325**	P	**P**	**11 24 25.4**	**0.0**
	0.4nm,0.7s,baz=126,slow=7.3,SNR=3.0						
	0.4nm,0.7s						

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*IDC **29** 11:17:26.6±1.2, 5°94S×151°93E, h0km, mb3.8/6, mbtmp3.8/7, ML1.9/1, Error ellipse: s-maj=48.1km s-min=22.2km az=123.0*
ISC 29 11:17:32.3±1.1, 5°9S±0°2×151°9E±0°2, h36km, n7, σ0s96/9, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.84**	**233**	Pn	**Pn**	**11 18 56.4**	**0.0**
	2.0nm,0.3s,baz=61,slow=10,SNR=7.4						
PMG				Sn	**Sn**	**11 20 02.8**	**+0.6**
	5.4nm,0.3s,baz=341,slow=12,SNR=11						
	16nm,0.6s						
WRA	**Warramunga Arr**	**22.04**	**229**	P	**P**	**11 22 23.4**	**-0.6**
	2.5nm,0.7s,baz=55,slow=9.9,SNR=11						
WRA				PcP	**PcP**	**11 26 21.4**	**0.0**
	0.4nm,0.7s,baz=70,slow=2.1,SNR=5.2						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**24.73**	**223**	P	**P**	**11 22 48.9**	**-1.6**
	2.3nm,0.6s,baz=60,slow=8.7,SNR=22						
	2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.57**	**327**	P	**P**	**11 29 45.3**	**-0.9**
	0.7nm,0.4s,baz=107,slow=5.0,SNR=1.7						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**11 29 56.4**	**+0.2**
	0.3nm,0.7s,baz=251,slow=5.0,SNR=6.5						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**11 29 59.7**	**+0.6**
	0.6nm,0.9s,baz=16,slow=7.4,SNR=6.2						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**84.11**	**322**	P	**P**	**11 30 00.4**	**+0.9**
	0.4nm,0.6s,baz=108,slow=3.8,SNR=3.1						
	0.4nm,0.6s						

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*IDC **29** 11:20:45.1±1.0, 6°77N×124°85E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=19.3km s-min=10.6km az=156.0*
ISC 29 11:20:47.1±1.0, 6°8N±0°1×125°0E±0°1, h13km, n8, σ0s70/8, mb3.7/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.66**	**68**	Pg	**Pg**	**11 21 00.2**	**+0.3**
	0.1nm,0.3s,baz=206,slow=12,SNR=30						
DAV				Lg	Lg	11 21 11.6	
	0.7nm,0.3s,baz=344,slow=18,SNR=11						
WRA	**Warramunga Arr**	**28.15**	**161**	P	**P**	**11 26 38.7**	**-0.6**
	0.9nm,0.8s,baz=340,slow=9.2,SNR=5.0						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**31.53**	**164**	P	**P**	**11 27 09.2**	**-0.1**
	0.4nm,0.6s,baz=344,slow=7.6,SNR=7.4						
	0.4nm,0.6s						
MJAR	**Matsushiro Arr**	**31.96**	**20**	P	**P**	**11 27 11.8**	**-1.2**
	1.5nm,0.8s,baz=191,slow=9.2,SNR=2.4						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**41.62**	**159**	P	**P**	**11 28 35.4**	**+0.2**
	0.9nm,0.6s,baz=334,slow=8.3,SNR=3.1						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**54.04**	**325**	P	**P**	**11 30 11.8**	**+0.5**
	0.5nm,0.6s,baz=133,slow=8.5,SNR=4.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**58.21**	**327**	P	**P**	**11 30 41.3**	**+0.3**
	0.9nm,0.9s,baz=127,slow=5.8,SNR=5.8						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**83.09**	**26**	P	**P**	**11 33 12.9**	**+0.5**
	0.4nm,0.7s,baz=256,slow=5.7,SNR=5.4						
	0.4nm,0.7s						

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*IDC **29** 11:24:12.9±1.0, 19°02S×168°76E, h0km, mb3.9/8, mbtmp3.9/9, ML4.2/1, MS3.2/1, Error ellipse: s-maj=34.5km s-min=22.2km az=120.0*
*NOU **29** 11:24:14.2, 19°25S×169°03E, h3km, MLv4.7/7, Vanuatu Islands*
ISC 29 11:24:14.0±0.8, 19°25S±0°06×168°9E±0°1, h10km, n21, σ2s00/21, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.37**	**200**	P	**Pn**	**11 24 54.0**	**+1.1**
MARNC	**Mare, Loyalty**	**2.37**	**200**	P	**Sn**	**11 25 19.9**	**-2.2**
YATNC	**Mamie plateau,**	**3.38**	**214**	P	**Pn**	**11 25 07.0**	**+0.2**
YATNC	**Mamie plateau,**	**3.38**	**214**	P	**Pn**	**11 25 07.3**	**+0.5**
PINNC	**Pines Island,**	**3.62**	**202**	P	**Pn**	**11 25 13.0**	**+2.9**
DZM	**Mont Dzumac**	**3.64**	**219**	Pn	**Pn**	**11 25 12.0**	**+1.5**
	20nm,0.3s,baz=52,slow=9.1,SNR=187						
DZM				Sn	**Sn**	**11 25 50.9**	**-2.7**
DZM				LR	LR	11 26 35.0	
	comp=Z,284nm,18.7s,baz=17,slow=38						
	54nm,0.4s						
OUENC	**Ouen Island, N**	**3.70**	**211**	P	**Pn**	**11 25 13.8**	**+2.6**
OUENC	**Ouen Island, N**	**3.70**	**211**	P	**Pn**	**11 25 13.5**	**+2.3**
ONTNC	**Ouen Toro**	**3.82**	**217**	P	**Pn**	**11 25 14.7**	**+1.9**
ONTNC	**Ouen Toro**	**3.82**	**217**	P	**Pn**	**11 25 15.0**	**+2.2**
SANVU	**Saraoutou**	**4.12**	**336**	P	**Pn**	**11 25 18.6**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.54**	**253**	P	**Pn**	**11 25 25.7**	**+2.9**
WRA	**Warramunga Arr**	**32.55**	**263**	P	**P**	**11 30 44.0**	**-1.5**
	0.2nm,0.5s,baz=86,slow=8.4,SNR=5.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**32.83**	**256**	P	**P**	**11 30 47.1**	**-0.8**
	0.6nm,0.5s,baz=84,slow=8.8,SNR=11						
	0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**62.62**	**332**	P	**P**	**11 34 38.3**	**-0.2**
	2.3nm,0.9s,baz=149,slow=6.9,SNR=3.2						
	2.3nm,0.9s						
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**11 35 33.6**	**+3.0**
	1.5nm,1.1s,baz=34,slow=8.2,SNR=7.2						
	1.5nm,1.1s						
PETK	**Petropavlovsk-**	**72.70**	**353**	P	**P**	**11 35 42.3**	**+0.4**
	3.1nm,0.7s,baz=153,slow=7.6,SNR=8.5						
	3.1nm,0.7s						
SONM	**Songino Array**	**87.04**	**323**	P	**P**	**11 36 59.7**	**-0.1**
	0.4nm,0.4s,baz=134,slow=10,SNR=2.0						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**89.04**	**49**	P	**P**	**11 37 08.8**	**-0.9**
	0.4nm,0.5s,baz=252,slow=6.7,SNR=1.7						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**90.33**	**17**	P	**P**	**11 37 12.8**	**-2.0**
	0.4nm,0.7s,baz=233,slow=5.2,SNR=7.9						
	0.4nm,0.7s						
GERES	**GERESS Array B**	**144.35**	**332**	PKP	PKPbc	11 43 49.5	+0.6
	0.6nm,0.3s,baz=51,slow=3.9,SNR=2.2						

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*SJA **29** 11:33:43.6±0.9, 19°80S×69°27W, h102km±3km, ML3.9, MW3.9*
*NEIC **29** 11:33:45.1±1.3, 19°83S±0°05×69°3W±0°1, h100km±5km, mb4.1/3, ML3.7(GUC), Error ellipse: s-maj=13.8km s-min=7.1km az=90.0*
*GUC **29** 11:33:45.9±0.7, 19°80S×69°26W, h95km±3km, ML3.7*
ISC 29 11:33:45.0±0.9, 19°85S±0°03×69°30W±0°05, h101km±5km, n54, σ1s09/77, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.20**	**29**		**Pn**	**11 33 59.4**	**-0.5**
GO01	**Chusmiza**	**0.20**	**29**	*e*P	**Pn**	**11 33 59.4**	**-0.5**
GO01				*i* S	**Sn**	**11 34 10.4**	**-0.5**
GO01	**Chusmiza**	**0.20**	**29**	*e*P	**Pn**	**11 33 58.7**	**-1.2**
GO01				*e*S	**Sn**	**11 34 11.1**	**+0.1**
GO01				IAML		11 34 11.8	
	comp=Z,3μm,0.3s						
PB08	**IPOC Station P**	**0.32**	**155**		**Pn**	**11 34 00.3**	**+0.1**
PB08	**IPOC Station P**	**0.32**	**155**	*e*P	**Pn**	**11 34 00.4**	**+0.1**
PB08				*i* S	**Sn**	**11 34 11.8**	**+0.1**
PB08				IAML		11 34 12.3	
	comp=E,7μm,0.3s						
PB08	**IPOC Station P**	**0.32**	**155**	*e*P	**Pn**	**11 33 59.6**	**-0.7**
PB08				*e*S	**Sn**	**11 34 12.1**	**+0.5**
PB08				IAML		11 34 12.7	
	comp=Z,4μm,0.2s						
PB11	**IPOC Station P**	**0.35**	**284**		**Pn**	**11 33 59.9**	**-0.2**
PB11	**IPOC Station P**	**0.35**	**284**	*e*P	**Pn**	**11 33 59.8**	**-0.4**
PB11				*i* S	**Sn**	**11 34 11.1**	**-0.3**
PB11	**IPOC Station P**	**0.35**	**284**	*e*P	**Pn**	**11 33 59.7**	**-0.4**
PB11				*e*S	**Sn**	**11 34 11.1**	**-0.3**
PB11				IAML		11 34 12.4	
	comp=Z,2μm,0.1s						
PX03	**IPOC Station P**	**0.64**	**209**	*e*P	**Pn**	**11 34 01.5**	**-0.5**
PX03				*i* S	**Sn**	**11 34 15.1**	**+0.2**
PX03				IAML		11 34 16.0	
	comp=N,3μm,0.2s						
TA02	**Huaiquique**	**0.89**	**242**	*e*P	**Pn**	**11 34 04.7**	**+0.5**
TA02				*i* S	**Sn**	**11 34 19.1**	**+0.3**
TA02	**Huaiquique**	**0.89**	**242**	*e*P	**Pn**	**11 34 04.8**	**+0.5**
TA02				*e*S	**Sn**	**11 34 19.9**	**+1.1**
TA02				IAML		11 34 20.4	
	comp=Z,4μm,0.1s						
TA01	**Diego Aracena**	**1.10**	**229**		**Pn**	**11 34 06.7**	**+0.2**
TA01	**Diego Aracena**	**1.10**	**229**	*e*P	**Pn**	**11 34 06.7**	**+0.2**
TA01				*i* S	**Sn**	**11 34 23.0**	**+0.3**
TA01				IAML		11 34 24.5	
	comp=E,1μm,0.1s						
TA01	**Diego Aracena**	**1.10**	**229**	*e*P	**Pn**	**11 34 06.5**	**+0.1**
TA01				*e*S	**Sn**	**11 34 23.6**	**+0.9**
PB01	**IPOC Station P**	**1.20**	**189**		**Pn**	**11 34 08.5**	**+0.6**
PB01	**IPOC Station P**	**1.20**	**189**	*e*P	**Pn**	**11 34 08.4**	**+0.5**
PB01				*i* S	**Sn**	**11 34 26.2**	**+1.1**
PB01	**IPOC Station P**	**1.20**	**189**	*e*P	**Pn**	**11 34 08.5**	**+0.6**
PB01				*e*S	**Sn**	**11 34 26.9**	**+1.8**
PB01				IAML		11 34 27.2	
	comp=Z,2μm,0.6s						
PATCX	**Punta Patache**	**1.26**	**220**		**Pn**	**11 34 09.0**	**+0.5**
PB16	**IPOC Station P**	**1.52**	**352**		**Pn**	**11 34 12.4**	**+0.3**
PB16	**IPOC Station P**	**1.52**	**352**	*e*P	**Pn**	**11 34 12.4**	**+0.3**
PB16				*i* S	**Sn**	**11 34 33.2**	**+0.7**
PB16				IAML		11 34 36.4	
	comp=N,773nm,0.4s						
PB16	**IPOC Station P**	**1.52**	**352**	*e*P	**Pn**	**11 34 12.3**	**+0.3**
PB16				*e*S	**Sn**	**11 34 34.3**	**+1.8**
PB16				IAML		11 34 35.5	
	comp=Z,577nm,0.3s						
PB12	**IPOC Station P**	**1.57**	**321**		**Pn**	**11 34 11.5**	**-0.7**
PB12	**IPOC Station P**	**1.57**	**321**	*e*P	**Pn**	**11 34 11.5**	**-0.7**
PB12				*i* S	**Sn**	**11 34 32.2**	**-0.6**
PB12				IAML		11 34 37.6	
	comp=N,1μm,0.5s						
PB12	**IPOC Station P**	**1.57**	**321**	*e*P	**Pn**	**11 34 11.5**	**-0.7**
PB12				*e*S	**Sn**	**11 34 32.8**	**0.0**
PB12				IAML		11 34 35.3	
	comp=Z,714nm,0.2s						
PB02	**IPOC Station P**	**1.57**	**201**		**Pn**	**11 34 12.7**	**+0.5**
PB02	**IPOC Station P**	**1.57**	**201**	*e*P	**Pn**	**11 34 12.7**	**+0.5**
PB02				*i* S	**Sn**	**11 34 34.0**	**+1.0**
PB02				IAML		11 34 40.4	
	comp=N,3μm,0.6s						
PB02	**IPOC Station P**	**1.57**	**201**	*e*P	**Pn**	**11 34 12.8**	**+0.5**
PB02				*e*S	**Sn**	**11 34 35.4**	**+2.4**
PB02				IAML		11 34 40.4	
	comp=Z,2μm,0.3s						
AP01	**Chacalluta**	**1.77**	**326**		**Pn**	**11 34 14.3**	**-0.3**
AP01	**Chacalluta**	**1.77**	**326**	*e*P	**Pn**	**11 34 14.1**	**-0.5**
AP01				IAML		11 34 41.0	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**1.94**	**178**		**Pn**	**11 34 18.1**	**+1.1**
PB09	**IPOC Station P**	**1.94**	**178**	*e*P	**Pn**	**11 34 17.8**	**+0.8**
PB09				*i* S	**Sn**	**11 34 43.1**	**+1.7**
PB09				IAML		11 34 48.1	
	comp=N,706nm,0.8s						
PB09	**IPOC Station P**	**1.94**	**178**	*e*P	**Pn**	**11 34 18.0**	**+1.0**
PB09				*e*S	**Sn**	**11 34 39.6**	**-1.8**
PB09				IAML		11 34 47.1	
	comp=Z,690nm,0.8s						
PB03	**IPOC Station P**	**2.23**	**191**		**Pn**	**11 34 21.0**	**+0.1**
PB03	**IPOC Station P**	**2.23**	**191**	*e*P	**Pn**	**11 34 20.9**	**+0.1**
PB03				*i* S	**Sn**	**11 34 47.8**	**-0.3**
PB03				IAML		11 34 53.6	
	comp=E,524nm,0.8s						
PB03	**IPOC Station P**	**2.23**	**191**	*e*P	**Pn**	**11 34 20.9**	**+0.1**
PB03				*e*S	**Sn**	**11 34 43.6**	**-4.5**
PB03				IAML		11 34 54.1	
	comp=Z,501nm,0.5s						
PB18	**Visviri**	**2.25**	**356**		**Pn**	**11 34 23.2**	**+1.8**
PB06	**IPOC Station P**	**2.86**	**185**		**Pn**	**11 34 29.2**	**+0.2**
PB06	**IPOC Station P**	**2.86**	**185**	*e*P	**Pn**	**11 34 29.3**	**+0.3**
PB06				*e*S	**Sn**	**11 35 02.2**	**-0.6**
PB06				IAML		11 35 11.4	
	comp=Z,377nm,0.5s						
AF01	**San Pedro de A**	**3.26**	**162**	*e*P	Pn	11 34 53.0	+19
AF01				IAML		11 36 05.0	
	comp=Z,232nm,0.7s						
LPAZ	**La Paz**	**3.71**	**18**		**Pn**	**11 34 41.9**	**+1.0**
LPAZ	**La Paz**	**3.71**	**18**	*e*P	**Pn**	**11 34 42.4**	**+1.5**
PB10	**IPOC Station P**	**3.83**	**198**	Pn	**Pn**	**11 34 41.1**	**-0.7**
PB10	**IPOC Station P**	**3.83**	**198**	*e*P	**Pn**	**11 34 41.2**	**-0.7**
PB10				*e*S	Sn	11 35 43.4	+17
YJA	**Yavi**	**4.23**	**124**	*e*P	**Pn**	**11 34 50.3**	**+2.7**
PB14	**IPOC Station P**	**4.87**	**192**		**Pn**	**11 34 54.9**	**-1.3**
PB14	**IPOC Station P**	**4.87**	**192**	*e*P	**Pn**	**11 34 55.1**	**-1.1**
PB14				IAML		11 36 11.2	
	comp=Z,51nm,0.5s						
HJA	**Humahuaca**	**4.93**	**133**	*e*P	**Pn**	**11 34 53.8**	**-3.3**
GO02	**Mina Guanaco**	**5.30**	**183**	Pn	**Pn**	**11 35 01.4**	**-0.6**
AC02	**Maricunga**	**6.96**	**179**	Pn	**Pn**	**11 35 23.9**	**-0.8**
MT02	**Curacav**	**13.46**	**187**	Pn	**Pn**	**11 36 52.2**	**+0.3**
TRQA	**Tornquist**	**19.23**	**162**	P	**P**	**11 38 01.6**	**+0.3**
TRQA				IAmb	IAmb	11 38 02.3	
	comp=Z,16nm,1.5s						
BOAV	**Boa Vista**	**23.72**	**22**	P	**P**	**11 38 47.1**	**-1.0**
BOAV				IAmb	IAmb	11 39 09.2	
	comp=Z,6.2nm,1.5s						
SNAA	**Sanae**	**63.95**	**161**	P	**P**	**11 44 07.3**	**+0.1**
SNAA				IAmb	IAmb	11 44 16.1	

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*IDC **29** 11:36:45.9±1.0, 18°99S×168°59E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, MS3.7/5, Error ellipse: s-maj=30.3km s-min=22.1km az=103.0*
*NEIC **29** 11:36:51.3±1.4, 19°26S±0°05×168°69E±0°07, h33km±5km, mb4.4/19, Error ellipse: s-maj=12.0km s-min=3.1km az=123.0*
*NOU **29** 11:37:13.1, 20°84S×167°79E, h0km, MLv3.4/5, Loyalty Islands*
ISC 29 11:36:51.5±0.6, 19°22S±0°06×168°70E±0°09, h42km, n61, σ0s85/57, mb4.3/16, MS3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.33**	**195**		**Pn**	**11 37 25.7**	**-1.7**
MARNC	**Mare, Loyalty**	**2.33**	**195**	P	**Pn**	**11 37 25.9**	**-1.5**
YATNC	**Mamie plateau,**	**3.29**	**211**	P	**Pn**	**11 37 39.8**	**-0.8**
DZM	**Mont Dzumac**	**3.53**	**216**	Pn	**Pn**	**11 37 43.0**	**-1.0**
	8.1nm,0.3s,baz=99,slow=12,SNR=95						
DZM				Sn	**Sn**	**11 38 24.1**	**-0.5**
	62nm,0.3s,baz=319,slow=21,SNR=14						
DZM				LR	LR	11 38 40.1	
	comp=Z,215nm,20.0s,baz=9.5,slow=31						
	31nm,0.5s						
PINNC	**Pines Island,**	**3.57**	**199**		**Pn**	**11 37 44.2**	**-0.2**
PINNC	**Pines Island,**	**3.57**	**199**	P	**Pn**	**11 37 45.2**	**+0.8**
OUENC	**Ouen Island, N**	**3.62**	**208**	P	**Pn**	**11 37 45.3**	**+0.2**
ONTNC	**Ouen Toro**	**3.72**	**214**		**Pn**	**11 37 46.4**	**-0.1**
ONTNC	**Ouen Toro**	**3.72**	**214**	P	**Pn**	**11 37 46.8**	**+0.4**
SANVU	**Saraoutou**	**4.02**	**339**	Pn	**Pn**	**11 37 50.7**	**+0.2**
MSVF	**Nonsavu**	**9.00**	**82**	Pn	**Pn**	**11 38 58.6**	**-0.4**
HNR	**Honiara**	**12.90**	**318**	LR	LR	11 43 58.6	
	comp=Z,180nm,21.3s,baz=186,slow=34						
EIDS	**Eidsvold**	**17.40**	**246**	P	**P**	**11 40 52.4**	**+0.2**
COEN	**Coen**	**25.00**	**278**	P	**P**	**11 42 11.8**	**+0.1**
INKA	**Innaminka**	**26.95**	**246**	P	**P**	**11 42 28.7**	**-0.5**
STKA	**Stephens Creek**	**27.42**	**237**	P	**P**	**11 42 33.7**	**+0.3**
STKA				IAmb	IAmb	11 42 35.2	
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**27.42**	**237**	P	**P**	**11 42 34.3**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=68,slow=8.6,SNR=11						
	comp=Z,3.2nm,0.6s						
WR8	**Warramunga Arr**	**32.20**	**263**	P	**P**	**11 43 14.6**	**-1.2**
WR8				IAmb	IAmb	11 43 18.7	
	comp=Z,2.9nm,0.9s						
WRA	**Warramunga Arr**	**32.35**	**263**	P	**P**	**11 43 15.3**	**-1.9**
WRA	**Warramunga Arr**	**32.35**	**263**	P	**P**	**11 43 15.6**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=88,slow=8.4,SNR=21						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**32.63**	**256**	P	**P**	**11 43 19.0**	**-0.7**
AS31				IAmb	IAmb	11 43 19.8	
	comp=Z,3.2nm,0.7s						
ASAR	**Alice Springs**	**32.63**	**256**	P	**P**	**11 43 19.0**	**-0.7**
ASAR	**Alice Springs**	**32.63**	**256**	P	**P**	**11 43 19.0**	**-0.7**
	comp=Z,7.5nm,0.6s,baz=84,slow=8.8,SNR=107						
ASAR				LR	LR	11 57 22.6	
	comp=Z,206nm,18.3s,baz=34,slow=38						
	comp=Z,7.5nm,0.6s						
FORT	**Forrest**	**38.39**	**244**	P	**P**	**11 44 08.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.73**	**264**	P	**P**	**11 44 28.1**	**-0.6**
FITZ				IAmb	IAmb	11 44 29.4	
	comp=Z,3.0nm,0.8s						
BATI	**Baumata**	**44.36**	**275**	LR	LR	12 03 16.1	
	comp=Z,470nm,18.5s,baz=248,slow=36						
MBWA	**Marble Bar**	**45.86**	**259**	P	**P**	**11 45 10.2**	**+0.3**
VNDA	**Vanda**	**58.43**	**182**	P	**P**	**11 46 42.7**	**+0.2**
VNDA	**Vanda**	**58.43**	**182**	P	**P**	**11 46 44.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=10,slow=5.4,SNR=2.1						
	comp=Z,0.4nm,0.8s						
SBA	**Scott Base**	**58.67**	**180**	P	**P**	**11 46 44.2**	**0.0**
SBA				IAmb	IAmb	11 47 04.8	
	comp=Z,4.6nm,1.1s						
CASY	**Casey**	**59.94**	**203**	P	**P**	**11 46 53.6**	**+0.5**
CASY				IAmb	IAmb	11 47 10.1	
	comp=Z,3.6nm,1.1s						
MJAR	**Matsushiro Arr**	**62.50**	**333**	P	**P**	**11 47 10.6**	**-0.3**
MJAR				IAmb	IAmb	11 47 20.9	
	comp=Z,2.8nm,1.0s						
MJAR	**Matsushiro Arr**	**62.50**	**333**	P	**P**	**11 47 10.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=154,slow=7.7,SNR=3.8						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**11 48 04.2**	**+0.5**
QSPA				IAmb	IAmb	11 48 16.3	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**11 48 06.9**	**+3.2**
	comp=Z,1.5nm,0.9s,baz=27,slow=1.8,SNR=10.0						
	comp=Z,1.5nm,0.9s						
CM31	**Chiang Mai Arr**	**78.03**	**294**	P	**P**	**11 48 46.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**78.03**	**294**	P	**P**	**11 48 46.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**78.03**	**294**	P	**P**	**11 48 47.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=137,slow=4.3,SNR=4.2						
	comp=Z,0.5nm,0.4s						
BELA	**Belgrano 2**	**82.16**	**175**	P	**P**	**11 49 07.9**	**+0.4**
BELA				IAmb	IAmb	11 49 30.0	
	comp=Z,3.2nm,0.8s						
ULN	**Ulaanbaatar**	**86.55**	**324**	P	**P**	**11 49 29.7**	**-0.6**
ULN				IAmb	IAmb	11 49 31.2	
	comp=Z,3.5nm,0.9s						
YAK	**Yakutsk**	**86.70**	**343**	LR	LR	12 24 09.3	
	comp=Z,26nm,19.1s,baz=156,slow=33						
SONM	**Songino Array**	**86.90**	**323**	P	**P**	**11 49 32.1**	**+0.1**
SONM				IAmb	IAmb	11 49 32.7	
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**86.90**	**323**	P	**P**	**11 49 31.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=144,slow=6.0,SNR=9.0						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**90.37**	**17**	P	**P**	**11 49 46.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=228,slow=5.7,SNR=2.3						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**124.92**	**345**	PKP	**PKPdf**	**11 55 45.4**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=98,slow=2.5,SNR=7.5						
CONA	**Conrad Observa**	**143.86**	**329**	*e*PKiKP	**PKiKP**	**11 56 26.5**	**+0.7**
	comp=Z,8.4nm,1.7s						
GERES	**GERESS Array B**	**144.24**	**331**	PKP	PKPbc	11 56 21.1	-0.1
	comp=Z,0.8nm,0.7s,baz=20,slow=3.3,SNR=4.0						
ARSA	**Arzberg**	**144.49**	**328**	*e*PKP	PKPbc	11 56 22.4	+0.4
	comp=Z,2.4nm,1.0s

4.3nm,1.2s
WRA Warramunga Arr 28.41 161 P P 11 59 51.7 -1.5
0.2nm,0.7s,baz=331,slow=10,SNR=5.0
0.2nm,0.7s
ASAR Alice Springs 31.79 164 P P 12 00 23.9 +0.8
0.3nm,1.0s,baz=345,slow=8.4,SNR=1.8
0.3nm,1.0s
MKAR Makanchi Array 53.74 325 P P 12 03 20.4 -0.4
0.2nm,0.7s,baz=140,slow=7.0,SNR=1.8
0.2nm,0.7s

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*SOME **29** 12:18:29.4,41.°08N×78.°73E,h5km*
*KRNET **29** 12:18:30.8±0.1,41.°19N×78.°84E,h14km,mb3.3*
*NNC **29** 12:18:31.3±0.9,41.°12N×78.°73E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=5.8km s-min=3.8km az=168.0
ISC 29 12:18:33.7±1.9,41°28N±0.'07×78°66E±0.'04,h3km±12km,
n40,σ1°76/54,14C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.78**	**305**	⇑*iP*	**Pg**	**12 18 49.0**	**+0.3**
TARG				*iS*	**Sb**	**12 19 02.3**	**+0.9**
PRZ	**Przheval'sk**	**1.22**	**351**	⇑*eP*	**Pg**	**12 18 56.4**	**-0.7**
PRZ				⇑*eS*	**Sg**	**12 19 15.0**	**+2.1**
KDJ	**Kajisay**	**1.40**	**308**	⇓*iP*	**Pb**	**12 18 59.8**	**-0.7**
KDJ				⇓*iS*	**Sg**	**12 19 21.1**	**+2.6**
SATY	**Saty**	**1.79**	**354**	Pg	**Pg**	**12 19 07.2**	**-0.8**
SATY	17nm,0.3s			Lg	Lg	12 19 34.4	
	57nm,0.2s						
UZB	**Uzynbulak**	**1.89**	**8**	Pg	**Pg**	**12 19 08.3**	**-1.5**
UZB				Lg	Lg	12 19 36.4	
UZB	**Uzynbulak**	**1.89**	**8**	*eP*	**Pg**	**12 19 08.3**	**-1.5**
UZB				*eS*	**Sg**	**12 19 36.4**	**+2.1**
SHLS	**Shalkode**	**1.97**	**17**	Pg	**Pg**	**12 19 11.6**	**+0.2**
SHLS	22nm,0.3s			Lg	Lg	12 19 42.0	
	168nm,0.4s						
SHLS	**Shalkode**	**1.97**	**17**	*eP*	**Pg**	**12 19 11.6**	**+0.2**
SHLS	22nm,0.3s			*eS*	**Sg**	**12 19 42.0**	**+5.1**
	168nm,0.4s						
ULHL	**Ulahol**	**2.05**	**299**	⇓*iP*	**Pb**	**12 19 10.8**	**-0.9**
ULHL				⇓*iS*	**Sg**	**12 19 40.1**	**+0.6**
TNSS	**Tian-Shan**	**2.17**	**325**	Pg	**Pg**	**12 19 14.3**	**-0.9**
TNSS	14nm,0.3s			Lg	Lg	12 19 46.5	
	20nm,0.4s						
TNSS	**Tian-Shan**	**2.17**	**325**	*eP*	**Pg**	**12 19 14.3**	**-0.9**
TNSS	14nm,0.3s			*eS*	**Sg**	**12 19 46.5**	**+3.1**
	20nm,0.4s						
KPKS	**Kokpek**	**2.19**	**0**	Pg	**Pg**	**12 19 13.5**	**-2.1**
KPKS	36nm,0.5s			Lg	Lg	12 19 45.2	
	95nm,0.4s						
MDOK	**Medeo**	**2.23**	**328**	Pg	**Pb**	**12 19 14.9**	**+0.2**
MDOK	44nm,0.4s			Lg	Lg	12 19 47.8	
	69nm,0.5s						
KURS	**Kuram**	**2.24**	**351**	Pg	**Pg**	**12 19 15.1**	**-1.4**
KURS	24nm,0.5s			Lg	Lg	12 19 48.1	
	24nm,0.4s						
JNKS	**Jany-Kuch**	**2.28**	**265**	⇑*eP*	**Pb**	**12 19 14.1**	**-1.5**
JNKS				⇑*iS*	**Sb**	**12 19 45.5**	**+1.2**
KNDC	**Almaty**	**2.31**	**328**	⇑Pg	**Pg**	**12 19 17.5**	**-0.5**
KNDC	71nm,0.6s			Lg	Lg	12 19 51.2	
	57nm,0.7s						
IZV	**Izvestkoviy**	**2.32**	**320**	Pg	**Pg**	**12 19 17.0**	**-1.2**
IZV	42nm,0.6s			Lg	Lg	12 19 51.2	
	69nm,0.3s						
IZV	**Izvestkoviy**	**2.32**	**320**	*eP*	**Pg**	**12 19 17.0**	**-1.2**
IZV	42nm,0.6s			*eS*	**Sg**	**12 19 51.2**	**+2.9**
	69nm,0.3s						
BOOM	**Boomskoye usch**	**2.36**	**302**	⇓*iP*	**Pb**	**12 19 15.0**	**-2.0**
BOOM				⇓*iS*	**Sb**	**12 19 47.7**	**+1.1**
MTBS	**Maitube**	**2.48**	**319**	Pg	**Pb**	**12 19 18.8**	**-0.2**
MTBS	26nm,0.4s			Lg	Lg	12 19 54.4	
	67nm,0.5s						
MTBS	**Maitube**	**2.48**	**319**	*eP*	**Pb**	**12 19 18.8**	**-0.2**
MTBS	26nm,0.4s			*eS*	**Sg**	**12 19 54.4**	**+0.9**
	67nm,0.5s						
KTMS	**Ketmen**	**2.50**	**30**	Pg	**Pg**	**12 19 18.9**	**-2.8**
KTMS	7.6nm,0.3s			Lg	Lg	12 19 54.5	
	28nm,0.4s						
KTMS	**Ketmen**	**2.50**	**30**	*eP*	**Pg**	**12 19 18.9**	**-2.8**
KTMS	7.6nm,0.3s			*eS*	**Sg**	**12 19 54.5**	**+0.4**
	28nm,0.4s						
KST	**Kastek**	**2.67**	**312**	Pg	**Pb**	**12 19 22.6**	**+0.4**
KST	15nm,0.4s			Lg	Lg	12 20 01.0	
	45nm,0.6s						
KST	**Kastek**	**2.67**	**312**	*eP*	**Pb**	**12 19 22.6**	**+0.4**
KST	15nm,0.4s			*eS*	**Sg**	**12 20 01.0**	**+1.6**
	45nm,0.6s						
TKM2	**Tokmak 2**	**2.81**	**307**	⇓*eP*	**Pb**	**12 19 21.3**	**-3.3**
TKM2				⇓*iS*	**Sb**	**12 19 58.2**	**-1.3**
KTBS	**Karatobe**	**2.84**	**330**	Pg	**Pb**	**12 19 25.3**	**+0.3**
KTBS	19nm,0.3s			Lg	Lg	12 20 05.5	
	71nm,0.4s						
CHKK	**Chushkaly**	**2.85**	**335**	Pg	**Pb**	**12 19 25.5**	**+0.2**
CHKK	6.4nm,0.1s			Lg	Lg	12 20 06.0	
	88nm,0.3s						
CHKK	**Chushkaly**	**2.85**	**335**	*eP*	**Pb**	**12 19 25.5**	**+0.2**
CHKK	6.4nm,0.1s			*eS*	**Sg**	**12 20 06.0**	**+0.6**
	88nm,0.3s						
DGS	**Degeres**	**2.90**	**313**	Pg	**Pb**	**12 19 27.0**	**+0.8**
DGS	21nm,0.5s			Lg	Lg	12 20 08.5	
	49nm,0.4s						
ARXS	**Arharly**	**3.00**	**348**	Pg	**Pb**	**12 19 28.1**	**+0.4**
ARXS	10nm,0.4s			Lg	Lg	12 20 10.0	
	87nm,0.4s						
ARXS	**Arharly**	**3.00**	**348**	*eP*	**Pb**	**12 19 28.1**	**+0.4**
ARXS				*eS*	**Sg**	**12 20 10.0**	**+0.1**
KRBS	**Karabastau**	**3.27**	**319**	Pg	**Pb**	**12 19 33.0**	**+0.6**
KRBS	4.7nm,0.3s			Lg	Lg	12 20 18.8	
	6.7nm,0.3s						
FRU1	**Bishkek**	**3.37**	**298**	⇓*eP*	Pb	12 19 29.6	-4.5
FRU1				⇓*eS*	**Sb**	**12 20 11.8**	**-3.6**
AAK	**Ala-Archa**	**3.39**	**295**	⇑Pg	**Pb**	**12 19 35.8**	**+1.3**
AAK	2.6nm,0.6s			⇓Lg	Lg	12 20 23.9	
	7.7nm,0.7s						
SALK	**Salom-Alik**	**3.68**	**265**	⇑*eP*	Pb	12 19 33.6	-5.8
SALK				⇑*eS*	**Sn**	**12 20 18.5**	**+2.9**
ARSB	**Arslanbob**	**4.28**	**272**	⇑*eP*	**Pn**	**12 19 41.8**	**+2.0**
ARSB				⇑*eS*	**Sn**	**12 20 32.8**	**+2.5**
MK31	**Makanchi Array**	**6.10**	**24**	Pn	Pn	12 20 07.0	+2.2
MK31	0.2nm,0.4s,baz=206,slow=12,SNR=9.2			⇑Pg	Pg	12 20 23.1	-7.5
	0.3nm,0.4s,baz=207,slow=16,SNR=3.7						
MK31				Sn	Sn	12 21 20.2	+5.1
	1.3nm,0.6s,baz=206,slow=23,SNR=4.5						
MK31				⇓Lg	Lg	12 21 47.2	
	2.8nm,0.7s,baz=210,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**9.35**	**360**	⇓Lg	Lg	12 23 29.4	
	4.8nm,0.7s						
KURK	**Kurchatov**	**9.44**	**360**	⇑Lg	Lg	12 23 29.7	
	1.6nm,0.8s						

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*UCR **29** 12:19:48.8±0.8,10.°53N×84.°60W,h6km±2km,MW3.9,*
Fault plane solution: NP1:ϕs169.08000°,δ44.81000°,
λ-44.81000°.
*CATAC **29** 12:19:49.3±0.2,10°N±2°×8°5W±°,h4km±2km,M3.3/11,*
MLv3.3/11,Error ellipse: s-maj=4.4km s-min=2.6km
az=36.9,confirmed
ISC 29 12:19:49.3±0.9,10°52N±0.'03×84°60W±0.'02,h17km±5km,
n78,σ0°74/83,23C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORC	**Fortuna**	**0.08**	**235**	⇑*eP*	**Pg**	**12 19 52.0**	**-0.7**
VACR	**Volcan Arenal**	**0.09**	**241**	⇑*eP*	**Pg**	**12 19 52.1**	**-0.6**
REZ	**Monterrey de S**	**0.10**	**278**	⇑*eP*	**Pg**	**12 19 52.4**	**-0.5**
CEDE	**Laguna Cedeo**	**0.10**	**255**	⇑*eP*	**Pg**	**12 19 52.6**	**-0.4**
ARE1	**Arenal 1**	**0.13**	**245**	⇑*eP*	**Pg**	**12 19 53.0**	**-0.2**
VARE2	**V. Arenal**	**0.13**	**245**	⇑*eP*	**Pg**	**12 19 53.0**	**-0.2**
SOCE	**Pocosol**	**0.13**	**187**	P	**Pg**	**12 19 52.8**	**-0.5**
SOCE	**Pocosol**	**0.13**	**187**	⇑*eP*	**Pg**	**12 19 52.8**	**-0.5**
SOCE				*eS*	**Sg**	**12 19 55.5**	**-0.3**
CASO	**Castillo**	**0.15**	**238**	⇑*eP*	**Pg**	**12 19 53.4**	**-0.2**
TABAC	**Tabacon**	**0.16**	**264**	⇑*eP*	**Pg**	**12 19 53.7**	**0.0**
QUEU	**Ciudad Quesada**	**0.25**	**139**	*eP*	**Pg**	**12 19 54.7**	**-0.3**
COVE	**Coope Vega, Sa**	**0.28**	**44**	P	**Pg**	**12 19 55.3**	**-0.2**
MTEVE	**Monteverde**	**0.29**	**229**	⇑*eP*	**Pg**	**12 19 55.6**	**-0.2**
MTEVE				*eS*	**Sb**	**12 20 00.6**	**-0.4**
QUEB	**Quebradon, Cot**	**0.31**	**290**	⇑*eP*	**Pg**	**12 19 56.0**	**0.0**
CHIK	**Chiripa**	**0.31**	**257**	*eP*	**Pb**	**12 19 56.1**	**-0.5**
ITAL	**Pital**	**0.33**	**101**	*eP*	**Pg**	**12 19 56.1**	**-0.2**
VPL1	**V. Platanar**	**0.35**	**138**	⇓*eP*	**Pg**	**12 19 56.6**	**0.0**
TILA	**Tilaran**	**0.36**	**263**	⇓*eP*	**Pg**	**12 19 56.9**	**-0.1**
ZARE	**Zarcero**	**0.39**	**148**	*eP*	**Pb**	**12 19 57.9**	**-0.1**
JTS	**Las Juntas de**	**0.41**	**237**	P	**Pg**	**12 19 57.4**	**-0.3**
JTS				S	**Sg**	**12 20 03.4**	**0.0**
JTS	**Las Juntas de**	**0.41**	**237**	⇑*eP*	**Pg**	**12 19 57.4**	**-0.3**
TENO	**El Achiote**	**0.41**	**297**	*eP*	**Pb**	**12 19 58.3**	**0.0**
ARTO	**Ro Cuarto**	**0.42**	**114**	*eP*	**Pg**	**12 19 57.7**	**-0.1**
TIMP	**Tierras Morena**	**0.42**	**279**	⇑*eP*	**Pg**	**12 19 57.7**	**-0.2**
INVE	**Universidad In**	**0.46**	**265**	⇑*eP*	**Pb**	**12 19 58.5**	**-0.4**
PALD	**Palmares**	**0.49**	**160**	⇓*eP*	**Pg**	**12 19 59.0**	**-0.1**
VPS8	**V Poas**	**0.49**	**133**	*eP*	**Pb**	**12 19 59.6**	**-0.1**
CNAS	**Canas**	**0.49**	**260**	⇑*eP*	**Pb**	**12 20 00.2**	**+0.7**
MOTZ	**Rio Naranjo**	**0.49**	**290**	*eP*	**Pg**	**12 19 59.2**	**0.0**
ARZA	**Esparza**	**0.52**	**187**	*eP*	**Pg**	**12 19 59.6**	**-0.2**
ROBF	**Roble, Puntare**	**0.55**	**194**	*eP*	**Pg**	**12 19 59.9**	**-0.3**
CUI	**Cuipilapa**	**0.57**	**284**	⇑*eP*	**Pg**	**12 20 00.4**	**-0.3**
SARA	**Sarapiqu**	**0.57**	**96**	*eP*	**Pg**	**12 20 00.5**	**-0.2**
ATEO	**Atenas**	**0.57**	**158**	*eP*	**Pg**	**12 20 00.8**	**0.0**
VMAR	**Armenia, Volca**	**0.58**	**301**	⇑*eP*	**Pg**	**12 20 00.7**	**-0.2**
OROT	**Orotina**	**0.60**	**173**	*eP*	**Pg**	**12 20 00.8**	**-0.4**
MESS	**Mesas**	**0.62**	**291**	*eP*	**Pg**	**12 20 01.4**	**-0.3**
BELE	**Belen**	**0.67**	**143**	*eP*	**Pg**	**12 20 02.2**	**-0.4**
PLVR	**Palo Verde**	**0.76**	**257**	*eP*	**Pg**	**12 20 03.7**	**-0.5**
PAQE	**Paquera**	**0.77**	**205**	*eP*	**Pg**	**12 20 04.0**	**-0.3**
GPS2	**Hotel Rincn d**	**0.78**	**288**	*eP*	**Pg**	**12 20 04.1**	**-0.4**
PEJA	**Penjamo Buenos**	**0.80**	**298**	*eP*	**Pg**	**12 20 04.2**	**-0.7**
VRLE	**La Escondida,**	**0.80**	**290**	⇑*eP*	**Pg**	**12 20 04.4**	**-0.5**
BUAI	**Buenos Aires**	**0.80**	**297**	*eP*	**Pg**	**12 20 04.1**	**-1.0**
JCR1	**Jicaral**	**0.83**	**217**	⇑*eP*	**Pg**	**12 20 05.0**	**-0.6**
ACOS	**Acosta**	**0.83**	**149**	*eP*	**Pg**	**12 20 04.7**	**-1.0**
TRT2	**Tortugero**	**0.85**	**87**	P	**Pg**	**12 20 05.8**	**-0.3**
TRT2	**Tortugero**	**0.85**	**87**	*eP*	**Pg**	**12 20 05.1**	**-0.9**
LAPC	**Finca la Perla**	**0.85**	**287**	⇑*eP*	**Pg**	**12 20 05.1**	**-0.9**
CVTG	**V. Turrialba,**	**0.89**	**114**	*eP*	**Pg**	**12 20 06.3**	**-0.4**
NICO	**Nicoya**	**0.91**	**246**	*eP*	**Pg**	**12 20 06.6**	**-0.5**
ALIBA	**Liberia Airpor**	**0.93**	**275**	*eP*	**Pg**	**12 20 06.7**	**-0.7**
ELI1	**Hacienda Flor**	**0.94**	**278**	P	**Pg**	**12 20 06.7**	**-1.0**
ELI1				S	**Sg**	**12 20 19.6**	**-0.5**
ELI1	**Hacienda Flor**	**0.94**	**278**	*eP*	**Pg**	**12 20 06.7**	**-1.0**
CVTR	**Volcan Turrial**	**0.96**	**121**	*eP*	**Pg**	**12 20 07.3**	**-0.8**
CVTQ	**Turrialba Volc**	**0.96**	**122**	*eP*	**Pg**	**12 20 07.4**	**-0.7**
LCR2	**La Lucha 2**	**0.97**	**143**	S	**Sg**	**12 20 20.0**	**-0.9**
PICV	**PH. Pirrs**	**0.97**	**156**	*eP*	**Pg**	**12 20 06.6**	**-1.6**
PAR1A	**Puntarenas Pro**	**0.97**	**159**	*eP*	**Pg**	**12 20 07.5**	**-0.7**
CVTV	**Tajo**	**0.98**	**121**	*eP*	**Pg**	**12 20 07.7**	**-0.7**
JUD3	**Juan Diaz 3**	**0.98**	**249**	⇑*eP*	**Pg**	**12 20 07.7**	**-0.8**
CBL1	**Cabuya**	**1.04**	**208**	*eP*	**Pg**	**12 20 08.1**	**-1.4**
EGUB	**Earth Gujpi**	**1.04**	**107**	*eP*	**Pg**	**12 20 08.6**	**-0.9**
PIEC	**Cerro El Cedra**	**1.09**	**144**	*eP*	**Pg**	**12 20 09.0**	**-1.5**
LCOCO	**El Coco**	**1.11**	**113**	*eP*	**Pg**	**12 20 09.5**	**-1.4**
CARN	**Rivas**	**1.12**	**307**	P	**Pg**	**12 20 10.1**	**-1.0**
CARN				S	**Sn**	**12 20 27.6**	**+2.1**
CARN	**Rivas**	**1.12**	**307**	*eP*	**Pg**	**12 20 09.4**	**-1.7**
IRES	**Siquirres**	**1.16**	**111**	*eP*	**Pg**	**12 20 10.7**	**-1.0**
QUEP	**Quepos**	**1.16**	**158**	S	**Sb**	**12 20 26.8**	**+1.1**
SAJU	**San Juanillo,**	**1.18**	**248**	⇑*eP*	**Pg**	**12 20 10.9**	**-1.2**
BUS1	**Rivas**	**1.27**	**139**	*eP*	**Pg**	**12 20 12.2**	**-1.8**
CONN	**Concepcion**	**1.45**	**316**	P	**Pn**	**12 20 15.2**	**+0.4**
MORN	**Al O del Volca**	**1.45**	**315**	P	**Pn**	**12 20 15.1**	**+0.2**
VERH	**Veragua Rainfo**	**1.51**	**113**	*eP*	**Pn**	**12 20 15.8**	**+0.2**
OCHAL	**Ojochal**	**1.69**	**146**	S	**Sb**	**12 20 42.1**	**+1.0**
LAES	**El Progreso Va**	**1.70**	**116**	*eP*	**Pn**	**12 20 19.3**	**+1.0**
LIMN	**Finca el Limon**	**3.07**	**326**	P	**Pn**	**12 20 37.0**	**-0.2**
SIUN	**Universidad Ur**	**3.19**	**357**	S	**Sb**	**12 21 23.6**	**-0.5**

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*IDC **29** 12:25:28.3±4.7,31.°76S×179.°74E,h438km±55km,mb3.0/3,*
mbtmp3.8/3,Error ellipse: s-maj=58.4km s-min=31.9km
az=10.0
*WEL **29** 12:25:32.8±0.8,32°S±6°×18°0W±1°5,h368km±11km,*
M4.3/13,mB5.0/13,Mw(mB)4.3/13,Error ellipse:
s-maj=20.3km s-min=4.5km az=108.9,confirmed
ISC 29 12:25:27.4±0.8,31.°79S±0.'08×179.°7W±0.'1,h450km,n62,
σ2°22/78,mb3.1/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.97**	**32**	P	**P**	**12 26 34.6**	**+0.3**
GLKZ				S	**S**	**12 27 24.3**	**-4.1**
RIZ	**Raoul Island**	**2.98**	**32**	S	**S**	**12 27 25.6**	**-3.0**
MXZ	**Matakaoa Point**	**5.98**	**195**	P	**P**	**12 27 02.8**	**+1.5**
MXZ				S	**S**	**12 28 16.0**	**-2.1**
WMGZ	**Waiomatatini S**	**6.20**	**194**	P	**P**	**12 27 05.1**	**+1.5**
WMGZ				S	**S**	**12 28 20.7**	**-1.7**
KUZ	**Kuaotunu**	**6.21**	**216**	P	**P**	**12 27 06.7**	**+3.1**
HAZ	**Te Kaha**	**6.29**	**198**	P	**P**	**12 27 05.2**	**+0.7**
HAZ				S	**S**	**12 28 22.9**	**-1.1**
PKGZ	**Pakihiroa**	**6.32**	**196**	P	**P**	**12 27 06.8**	**+1.9**
PKGZ				S	**S**	**12 28 22.4**	**-2.3**
WCZ	**Waipu Caves**	**6.43**	**228**	P	**P**	**12 27 07.3**	**+1.3**
PUZ	**Puketiti**	**6.48**	**194**	P	**P**	**12 27 08.4**	**+2.0**
PUZ				S	**S**	**12 28 24.5**	**-3.2**
RUGZ	**Raukumara Rang**	**6.51**	**198**	P	**P**	**12 27 07.8**	**+0.8**
RUGZ				S	**S**	**12 28 23.4**	**-5.1**
OUZ	**Omahuta**	**6.53**	**237**	P	**P**	**12 27 07.5**	**+0.5**
TWGZ	**Tauwhareparae**	**6.64**	**196**	P	**P**	**12 27 10.3**	**+2.1**
TWGZ				S	**S**	**12 28 30.2**	**-0.5**
OPRZ	**Ohinepanea**	**6.76**	**206**	P	**P**	**12 27 13.4**	**+4.0**
CNGZ	**Carnagh Statio**	**6.88**	**194**	P	**P**	**12 27 13.3**	**+2.6**
MWZ	**Matawai**	**6.90**	**198**	P	**P**	**12 27 11.8**	**+0.9**
MWZ				S	**S**	**12 28 32.3**	**-3.5**
TKGZ	**Te Karaka**	**6.92**	**196**	P	**P**	**12 27 12.3**	**+1.3**
TKGZ				S	**S**	**12 28 33.8**	**-2.3**
URZ	**Urewera**	**6.95**	**201**	P	**P**	**12 27 12.0**	**+0.6**
URZ	52nm,0.3s,baz=22,slow=11,SNR=198			S	**S**	**12 28 33.6**	**-3.0**
	46nm,0.4s,baz=48,slow=23,SNR=22						
URZ	**Urewera**	**6.95**	**201**	P	**P**	**12 27 11.9**	**+0.5**
URZ				S	**S**	**12 28 33.9**	**-2.7**
KARZ	**Kaharoa**	**7.04**	**207**	P	**P**	**12 27 15.6**	**+3.3**
OMRZ	**Omania**	**7.06**	**206**	P	**P**	**12 27 12.9**	**+0.3**
RAGZ	**Rawiri**	**7.08**	**198**	P	**P**	**12 27 14.9**	**+2.0**
RAGZ				S	**S**	**12 28 39.7**	**+0.4**
TOZ	**Tahuroa Road**	**7.10**	**212**	P	**P**	**12 27 16.5**	**+3.5**
RIGZ	**Rimuhau**	**7.19**	**196**	P	**P**	**12 27 15.4**	**+1.4**
RIGZ				S	**S**	**12 28 40.5**	**-1.0**
HLRZ	**Highlands Stat**	**7.20**	**205**	P	**P**	**12 27 17.7**	**+3.6**
RRRZ	**Republican Roa**	**7.22**	**204**	P	**P**	**12 27 17.2**	**+3.0**
RRRZ				S	**S**	**12 28 43.0**	**+1.0**
MUGZ	**Murupara**	**7.26**	**202**	P	**P**	**12 27 15.4**	**+0.7**
HSRZ	**Hossack Road**	**7.29**	**206**	P	**P**	**12 27 19.0**	**+4.0**
RTZ	**Ruatahuna**	**7.32**	**201**	P	**P**	**12 27 16.6**	**+1.3**
HRRZ	**Handcock Road**	**7.34**	**205**	P	**P**	**12 27 18.7**	**+3.0**
SNGZ	**Shannon Statio**	**7.37**	**198**	P	**P**	**12 27 17.2**	**+1.3**
GRRZ	**Galatos Road**	**7.37**	**206**	P	**P**	**12 27 19.3**	**+3.3**
PRGZ	**Paritu Road**	**7.38**	**195**	P	**P**	**12 27 18.5**	**+2.5**
PRRZ	**Plateau Road**	**7.40**	**204**	P	**P**	**12 27 18.5**	**+2.2**
ALRZ	**Allen Road**	**7.48**	**204**	P	**P**	**12 27 19.7**	**+2.7**
WPRZ	**Whakapapatarin**	**7.50**	**205**	P	**P**	**12 27 19.2**	**+1.9**
KNZ	**Kokohu**	**7.52**	**196**	P	**P**	**12 27 19.4**	**+2.0**
RAHZ	**Arahi**	**7.57**	**199**	P	**P**	**12 27 19.5**	**+1.5**
MTHZ	**Maungataniwha**	**7.58**	**201**	P	**P**	**12 27 20.3**	**+2.1**
TLZ	**Tolley Road**	**7.58**	**209**	P	**P**	**12 27 21.7**	**+3.5**
MHTZ	**Mahia Peninsul**	**7.59**	**194**	P	**P**	**12 27 21.2**	**+2.9**
MRHZ	**Matea Rd**	**7.70**	**203**	P	**P**	**12 27 21.2**	**+1.8**
NMHZ	**Naumai**	**7.81**	**200**	P	**P**	**12 27 22.7**	**+2.0**
ARHZ	**Aropaoanui**	**7.92**	**199**	P	**P**	**12 27 24.1**	**+2.5**
BKZ	**Black Stump Fm**	**7.97**	**202**	P	**P**	**12 27 23.7**	**+1.3**
MCHZ	**McNeill Hill**	**8.17**	**200**	P	**P**	**12 27 26.8**	**+2.4**
NTVZ	**North Tongarir**	**8.19**	**206**	P	**P**	**12 27 26.3**	**+1.5**
ETVZ	**East Tongariro**	**8.21**	**206**	P	**P**	**12 27 26.4**	**+1.3**
KWHZ	**Kaweka Forest**	**8.23**	**201**	P	**P**	**12 27 27.1**	**+1.9**
OTVZ	**Oturere**	**8.25**	**206**	P	**P**	**12 27 25.8**	**+0.2**
TWVZ	**Taurewa**	**8.26**	**207**	P	**P**	**12 27 27.3**	**+1.8**
CKHZ	**Cape Kidnapper**	**8.26**	**197**	P	**P**	**12 27 27.8**	**+2.4**
SNVZ	**South Ngauruho**	**8.28**	**206**	P	**P**	**12 27 27.2**	**+1.3**
WNVZ	**Wahianoa**	**8.42**	**206**	P	**P**	**12 27 28.2**	**+0.9**
KRHZ	**Kereru**	**8.45**	**201**	P	**P**	**12 27 28.1**	**+0.6**
ASAR	**Alice Springs**	**41.57**	**269**	P	**P**	**12 32 32.8**	**-1.7**
	0.2nm,0.6s,baz=110,slow=8.0,SNR=4.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**42.69**	**275**	P	**P**	**12 32 41.5**	**-1.9**
	0.4nm,0.5s,baz=111,slow=8.1,SNR=14						
	0.4nm,0.5s						
PETK	**Petropavlovsk-**	**86.80**	**347**	P	**P**	**12 37 24.4**	**+2.1**
	6.1nm,1.1s,baz=112,slow=9.9,SNR=4.8						
	6.1nm,1.1s						
KURBB	**Kurchatov Arra**	**120.96**	**313**	PKP	**PKiKP**	**12 43 28.3**	**+0.9**
	0.3nm,0.5s,baz=103,slow=2.9,SNR=2.5						
BVAR	**Borovoye Array**	**126.35**	**315**	PKP	**PKiKP**	**12 43 40.0**	**+2.0**
	0.5nm,0.4s,baz=45,slow=0.6,SNR=2.3						
FINES	**FINESS Array B**	**145.91**	**338**	PKPbc	**PKPab**	**12 44 15.9**	**-0.5**
	2.4nm,0.4s,baz=42,slow=4.1,SNR=25						
HFS	**Hagfors**	**150.28**	**346**	PKPbc	**PKiKP**	**12 44 27.4**	**+0.8**
	9.1nm,1.2s,baz=11,slow=2.9,SNR=4.6						
HFS				PKPab	**PKPab**	**12 44 33.7**	**-0.5**
	0.8nm,0.4s,baz=35,slow=5.3,SNR=4.5						
BRTR	**Keskin Array B**	**151.90**	**296**	PKPbc	**PKiKP**	**12 44 31.3**	**+0.4**
	0.4nm,0.5s,baz=85,slow=1.5,SNR=2.9						

STR 29 12:38:01.1±0.3,46°N±2°×°±°,h0km,MLv1.7/10,LOCSAT
earthModelID auvergne_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLDF	**La Plantade**	**0.86**	**240**	Pg	Pg	12 38 18.0	+0.5
PLDF				Sg	Sg	12 38 29.7	+1.0
RIVEL	**MONT RIVEL**	**0.92**	**67**	Pg	Pg	12 38 18.4	-0.3
RIVEL				Sg	Sb	12 38 32.3	-0.4
OGMY	**Moye**	**0.99**	**122**	Pg	Pg	12 38 19.9	-0.1
OGMY				Sg	Sg	12 38 33.4	+0.6
LOR	**Lormes**	**1.03**	**327**	Pg	Pg	12 38 19.9	-1.0
LOR				Sg	Sg	12 38 34.8	+0.6
FOURG	**Fourg**	**1.04**	**48**	Pg	Pg	12 38 19.9	-1.1
OGSM	**Saint Maurice**	**1.07**	**138**	Pg	Pg	12 38 20.9	-0.6
OGSM				Sg	Sg	12 38 35.4	+0.1
GIMEL	**St. Georges /**	**1.10**	**83**	Pg	Pg	12 38 22.3	+0.2
GIMEL				Sg	Sb	12 38 37.7	-0.1
COLF	**Collangettes**	**1.13**	**218**	Pg	Pg	12 38 22.3	-0.5
COLF				Sg	Sb	12 38 38.2	-0.6
SSB	**Saint Sauveur**	**1.14**	**185**	Pg	Pg	12 38 22.1	-0.8
SSB				Sg	Sg	12 38 37.3	-0.3
AGO	**Saint Agoulin**	**1.14**	**252**	Pg	Pg	12 38 22.3	-0.6
AGO				Sg	Sg	12 38 38.2	+0.6
BOUC	**Bouclans**	**1.36**	**52**	Pg	Pg	12 38 25.6	-1.6
BOUC				Sg	Sg	12 38 44.6	-0.2
GRN	**Grenoble**	**1.38**	**147**	Pg	Pg	12 38 26.7	-0.8
LBL	**Lubilhac**	**1.55**	**221**	Pg	Pn	12 38 29.7	-0.3
ORIF	**Oris-en-Rattie**	**1.71**	**150**	Pg	Pn	12 38 32.4	+0.1

IDC 29 12:51:24.3±1.0,29.°76S×178.°70W,h0km,mb4.1/5,
mbtmp4.1/5,Error ellipse: s-maj=33.7km s-min=14.4km
az=152.0,Kermadec Islands

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

SNT5			S	Sn	13 02 20.9	+0.7
SNT5	**Nea Kammeni, S**	**0.83 11**	P	Pn	13 02 09.0	+1.0
SNT5			S	Sn	13 02 20.5	+0.3
THR3	**Thira Island,**	**0.84 11**	P	Pn	13 02 09.6	+1.4
THR3	**Thira Island,**	**0.84 11**	P	Pn	13 02 09.0	+0.9
SIT2	**Siteia**	**0.84 117**	P	Pn	13 02 10.7	+2.6
SIT2			S	Sn	13 02 23.7	+3.4
THR5	**Thira Island,**	**0.84 8**	P	Pn	13 02 09.6	+1.4
THR5	**Thira Island,**	**0.84 8**	P	Pn	13 02 09.2	+1.1
THRA	**Thira**	**0.85 13**	P	Pn	13 02 09.6	+1.3
THRA			S	Sn	13 02 20.9	+0.4
THR8	**Santorini-Mono**	**0.85 16**	P	Pn	13 02 09.4	+1.1
THR8	**Santorini-Mono**	**0.85 16**	P	Pn	13 02 09.2	+0.9
SAP3	**Santorini-Thir**	**0.85 8**	P	Pn	13 02 10.0	+1.6
SAP3			S	Sn	13 02 22.2	+1.5
SAP3	**Santorini-Thir**	**0.85 8**	P	Pn	13 02 09.9	+1.6
SAP3			S	Sn	13 02 21.6	+0.9
SFIR	**Foira Santorin**	**0.85 13**	P	Pn	13 02 09.8	+1.4
SFIR			S	Sn	13 02 21.8	+1.1
THR2	**Thira island,**	**0.88 13**	P	Pn	13 02 09.6	+0.9
THR2	**Thira island,**	**0.88 13**	P	Pn	13 02 09.3	+0.6
CHNB	**Souda**	**0.93 264**	P	Pn	13 02 11.3	+2.1
CHNB			S	Sn	13 02 23.7	+1.5
CHAN	**Chania**	**0.94 266**	P	Pn	13 02 11.6	+2.2
CHAN			S	Sn	13 02 24.5	+1.9
CHAN	**Chania**	**0.94 266**	P	Pn	13 02 11.3	+1.9
CHAN			S	Sn	13 02 23.6	+1.1
ZKR	**Zakros**	**0.96 119**	Pg	Pn	13 02 12.9	+3.2
ZKR			Sg	Sn	13 02 27.5	+4.5
ZKR	**Zakros**	**0.96 119**	P	Pn	13 02 13.3	+3.7
ZKR	**Zakros**	**0.96 119**	P	Pn	13 02 12.8	+3.1
ZKR			S	Sn	13 02 26.3	+3.3
CH01	**Chania**	**0.96 266**	P	Pn	13 02 11.6	+2.0
CH01			S	Sn	13 02 24.2	+1.2
GVD	**Gavdhos**	**1.18 231**	Pn	Pn	13 02 15.7	+3.3
GVD	**Gavdhos**	**1.18 231**	P	Pn	13 02 16.0	+3.6
GVD			S	Sn	13 02 32.4	+4.6
GVD	**Gavdhos**	**1.18 231**	P	Pn	13 02 15.5	+3.1
MHLO	**Agia Marina, M**	**1.27 330**	P	Pn	13 02 15.2	+1.5
MHLO			S	Sn	13 02 30.6	+0.5
MHLO	**Agia Marina, M**	**1.27 330**	P	Pn	13 02 14.8	+1.1
MHLO			S	Sn	13 02 30.4	+0.3
ASTA	**Astypalaia**	**1.34 44**	P	Pn	13 02 15.6	+1.1
ASTA			S	Sn	13 02 32.5	+0.9
APE	**Apeiranthos**	**1.50 10**	Pn	Pn	13 02 17.1	+0.4
APE			Sn	Sn	13 02 34.3	-1.3
APE	**Apeiranthos**	**1.50 10**	P	Pn	13 02 17.8	+1.1
APE			S	Sn	13 02 36.0	+0.5
APE	**Apeiranthos**	**1.50 10**	⇓P	Pn	13 02 17.8	+1.1
APE	**Apeiranthos**	**1.50 10**	⇓P	Pn	13 02 17.8	+1.1
APE	**Apeiranthos**	**1.50 10**	P	Pn	13 02 17.7	+0.9
APE			S	Sn	13 02 38.5	+3.0
APE	**Apeiranthos**	**1.50 10**	P	Pn	13 02 17.5	+0.8
APE			S	Sn	13 02 35.5	0.0
NAX1	**Naxos Island**	**1.52 5**	P	Pn	13 02 17.8	+1.0
ANKY	**Antikythira Is**	**1.57 281**	P	Pn	13 02 19.0	+1.5
ANKY			S	Sn	13 02 38.2	+1.2
ANKY	**Antikythira Is**	**1.57 281**	P	Pn	13 02 18.7	+1.2
ANKY			S	Sn	13 02 37.1	+0.1
KARP	**Karpathos**	**1.60 91**	Pn	Pn	13 02 20.3	+2.3
KARP	**Karpathos**	**1.60 91**	P	Pn	13 02 20.4	+2.3
KARP	**Karpathos**	**1.60 91**		Pn	13 02 19.9	+1.9
KARP	**Karpathos**	**1.60 91**	P	Pn	13 02 19.9	+1.9
KARP			S	Sn	13 02 39.9	+2.0
KTHA	**Kythira Island**	**1.86 292**	Pn	Pn	13 02 22.8	+1.4
KTHA			Sn	Sn	13 02 44.3	+0.4
KTHA	**Kythira Island**	**1.86 292**	P	Pn	13 02 22.5	+1.1
KTHA	**Kythira Island**	**1.86 292**	P	Pn	13 02 22.7	+1.4
NISR	**Nisiros**	**1.87 56**	P	Pn	13 02 23.4	+1.8
NISR	**Nisiros**	**1.87 56**	P	Pn	13 02 23.1	+1.6
NISR			S	Sn	13 02 45.7	+1.5
TNSA	**Tinos**	**1.95 359**	P	Pn	13 02 23.6	+1.0
KLNA	**Kalymnos**	**1.98 46**	P	Pn	13 02 25.1	+2.0
MNVA	**Monemvasia**	**2.06 303**	P	Pn	13 02 26.3	+2.2
YAZI	**Mula-Dat§a-**	**2.13 59**	P	Pn	13 02 26.7	+1.7
YAZI			S	Sn	13 02 51.1	+0.6
VLI	**Veliai**	**2.15 302**	P	Pn	13 02 26.7	+1.4
VLI			S	Sn	13 02 51.2	+0.2
VLI	**Veliai**	**2.15 302**	P	Pn	13 02 26.3	+1.0
VLI			S	Sn	13 02 50.6	-0.4
DAT	**Datca**	**2.24 59**	Pn	Pn	13 02 28.6	+1.9
DAT	**Datca**	**2.24 59**	P	Pn	13 02 29.1	+2.4
DAT			S	Sn	13 02 53.4	+0.1
DAT	**Datca**	**2.24 59**	P	Pn	13 02 28.5	+1.9
YDRA	**Hydra**	**2.24 322**	P	Pn	13 02 28.0	+1.4
BODT	**Bodrum**	**2.25 49**	Pn	Pn	13 02 29.5	+2.7
BODT	**Bodrum**	**2.25 49**	P	Pn	13 02 30.0	+3.2
BODT			S	Sn	13 02 55.9	+2.3
RGE1	**Gennadi, Rhode**	**2.27 78**	P	Pn	13 02 29.4	+2.5
YKAV	**Yalikavak-Bodr**	**2.28 47**	Pn	Pn	13 02 28.7	+1.7
LVRA	**Laurium**	**2.31 337**	P	Pn	13 02 28.7	+1.2
BDRM	**Kayabasi**	**2.34 50**	P	Pn	13 02 29.2	+1.3
BDRM			S	Sn	13 02 55.2	-0.4
ARG	**Arkhangelos**	**2.46 74**	Pn	Pn	13 02 32.1	+2.6
ARG	**Arkhangelos**	**2.46 74**	P	Pn	13 02 32.2	+2.7
ARG	**Arkhangelos**	**2.46 74**		Pn	13 02 31.9	+2.4
ARG	**Arkhangelos**	**2.46 74**	P	Pn	13 02 31.9	+2.4
ARG	**Arkhangelos**	**2.46 74**	P	Pn	13 02 31.8	+2.3
MET6	**Megalochori,Me**	**2.49 324**	P	Pn	13 02 31.5	+1.6
DDIM	**Aydin, Didim**	**2.49 41**	P	Pn	13 02 32.1	+2.2
DDIM			S	Sn	13 02 59.0	-0.2
MET4	**Agioi Theodoro**	**2.49 325**	P	Pn	13 02 31.5	+1.6
SMG	**Samos**	**2.49 31**	S	Sn	13 00 00.8	+1.4
SMG	**Samos**	**2.49 31**	P	Pn	13 02 31.5	+1.5
MET5	**Makryloggos,Me**	**2.51 324**	P	Pn	13 02 31.8	+1.6
KARY	**Karystos**	**2.51 346**	P	Pn	13 02 32.0	+1.7
KARY	**Karystos**	**2.51 346**	P	Pn	13 02 31.5	+1.2
MET2	**Kameni Chora,**	**2.52 324**	P	Pn	13 02 31.9	+1.6
VLY	**Voula,Athens**	**2.52 334**	P	Pn	13 02 32.0	+1.6
VLY	**Voula,Athens**	**2.52 334**	P	Pn	13 02 32.0	+1.6
ATHU	**Athens Univers**	**2.63 335**	P	Pn	13 02 33.9	+2.0
ATHU	**Athens Univers**	**2.63 335**	P	Pn	13 02 33.4	+1.5
ATH	**Athens Observa**	**2.66 334**	P	Pn	13 02 34.2	+2.0
ATH	**Athens Observa**	**2.66 334**	P	Pn	13 02 33.9	+1.7
GCAM	**G?zelcaml?**	**2.67 37**	Pn	Pn	13 02 34.1	+1.7
GCAM	**G?zelcaml?**	**2.67 37**	P	Pn	13 02 34.9	+2.6
GCAM			S	Sn	13 03 03.9	+0.3
PTL	**Penteli**	**2.68 337**	P	Pn	13 02 34.2	+1.7
PTL	**Penteli**	**2.68 337**	P	Pn	13 02 34.1	+1.6
DION	**Dionisos Attik**	**2.68 338**	P	Pn	13 02 34.7	+2.1
DION	**Dionisos Attik**	**2.68 338**	P	Pn	13 02 34.3	+1.7
MLSB	**Milas**	**2.69 50**	Pn	Pn	13 02 33.6	+0.9
TURN	**Turunc**	**2.74 63**	Pn	Pn	13 02 35.9	+2.6
TURN	**Turunc**	**2.74 63**	P	Pn	13 02 36.1	+2.8
TURN			S	Sn	13 03 06.5	+1.3
ACHAR	**Athens-Acharne**	**2.74 335**	P	Pn	13 02 35.7	+2.3
DGB	**zmir**	**2.81 28**	P	Pn	13 02 35.0	+0.8
MAGU	**Magoula**	**2.83 332**	P	Pn	13 02 36.4	+1.9
ZEYE	**Izmir, Urla-Ze**	**2.85 21**	P	Pn	13 02 36.1	+1.3
CHOS	**Chios island**	**2.88 14**	Pn	Pn	13 02 36.5	+1.2
CHOS	**Chios island**	**2.88 14**	P	Pn	13 02 36.8	+1.5
CHOS	**Chios island**	**2.88 14**	P	Pn	13 02 36.6	+1.4
VLX	**Vlachokerasia**	**2.88 309**	P	Pn	13 02 37.3	+1.9
VLX			S	Sn	13 03 10.4	+1.4
STFN	**Stefani**	**2.90 333**	P	Pn	13 02 37.7	+2.1
STFN			S	Sn	13 03 10.8	+1.5
YER	**Yerkesik**	**2.93 57**	Pn	Pn	13 02 40.2	+4.2
VILL	**Villia**	**2.98 330**	P	Pn	13 02 38.7	+2.1
URLA	**Izmir**	**2.98 22**	Pn	Pn	13 02 37.9	+1.2
URLA	**Izmir**	**2.98 22**	P	Pn	13 02 38.1	+1.4
AYDN	**Tasoluk**	**2.99 45**	P	Pn	13 02 39.2	+2.4
LTK	**Loutraki**	**3.02 324**	P	Pn	13 02 39.0	+1.9
MULA	**Mugla, Merkez-**	**3.02 56**	P	Pn	13 02 40.2	+3.0
MULA			S	Sn	13 03 12.6	+0.3
VIL2	**Platees**	**3.04 330**	P	Pn	13 02 38.1	+0.7
DALY	**Dalyan (Mula)**	**3.05 65**	Pn	Pn	13 02 40.8	+3.2
ITM	**Ithomi**	**3.08 302**	P	Pn	13 02 40.0	+2.1
ITM	**Ithomi**	**3.08 302**		Pn	13 02 39.7	+1.7
ITM	**Ithomi**	**3.08 302**	P	Pn	13 02 39.6	+1.7
BLCB	**Balcova**	**3.16 27**	Pn	Pn	13 02 41.0	+2.0
BLCB	**Balcova**	**3.16 27**	P	Pn	13 02 42.2	+3.2
KYMI	**Kymi, Euboea I**	**3.16 344**	P	Pn	13 02 41.1	+2.0
KYMI	**Kymi, Euboea I**	**3.16 344**	P	Pn	13 02 40.6	+1.6
AYDB	**Zeytinkoy-Aydi**	**3.20 42**	Pn	Pn	13 02 41.7	+2.0
GUR	**Goura**	**3.28 316**	P	Pn	13 02 42.4	+1.7
GUR	**Goura**	**3.28 316**	P	Pn	13 02 42.2	+1.4
SABU	**Mula-Dalaman**	**3.29 67**	P	Pn	13 02 44.3	+3.4
SABU			S	Sn	13 03 18.1	-0.7
SKY	**Skiros Island**	**3.32 351**	P	Pn	13 02 43.2	+1.9
SKY	**Skiros Island**	**3.32 351**	P	Pn	13 02 42.8	+1.5
ESEN	**Aydn-Nazilli**	**3.36 48**	P	Pn	13 02 44.5	+2.8
IZMR	**zmir-demi**	**3.37 40**	P	Pn	13 02 44.3	+2.4
IZZE	**Mula-Seydike**	**3.38 74**	P	Pn	13 02 44.1	+2.1
IZZE			S	Sn	13 03 21.0	+0.1
AMT	**Artemida-Makis**	**3.41 306**	P	Pn	13 02 44.5	+2.0
KLV	**Kalavryta, Ach**	**3.46 316**	P	Pn	13 02 44.8	+1.6
KLV	**Kalavryta, Ach**	**3.46 316**	P	Pn	13 02 44.8	+1.6
DNZT	**Denizli-Tavas-**	**3.52 60**	P	Pn	13 02 47.5	+3.5
DNZT			S	Sn	13 03 26.0	+1.5
LKR	**Lokris**	**3.52 331**	P	Pn	13 02 46.2	+2.2
TAVA	**DENIZLI_Tavas**	**3.53 57**	P	Pn	13 02 48.0	+3.8
TAVA			S	Sn	13 03 23.6	-1.2
ODEM	**Odemis-Izmir**	**3.54 40**	Pn	Pn	13 02 46.5	+2.2
ATAL	**Atalanti**	**3.55 331**	P	Pn	13 02 46.3	+1.9
CAME	**Cameli-Denizli**	**3.58 67**	Pn	Pn	13 02 48.1	+3.1
KSL	**Kastellorizon**	**3.61 80**	P	Pn	13 02 47.5	+2.4
AKAS	**Kas**	**3.64 79**	Pn	Pn	13 02 48.3	+2.6
AKAS	**Kas**	**3.64 79**	P	Pn	13 02 47.9	+2.2
AKAS			S	Sn	13 03 26.3	-1.2
AKAS	**Kas**	**3.64 79**		Pn	13 02 47.9	+2.2
SIGR	**SIGRI**	**3.66 8**	Pn	Pn	13 02 47.2	+1.4
SIGR	**SIGRI**	**3.66 8**	P	Pn	13 02 46.9	+1.2
SIGR	**SIGRI**	**3.66 8**	P	Pn	13 02 46.7	+0.9
DRO	**Drossia**	**3.66 311**	P	Pn	13 02 48.8	+2.9
DRO	**Drossia**	**3.66 311**	P	Pn	13 02 48.4	+2.5
CAEL	**Denizli, Camel**	**3.66 64**	P	Pn	13 02 49.1	+3.0
CAEL			S	Sn	13 03 29.9	+1.8
DNIZ	**Denizli-Tavas-**	**3.70 56**	P	Pn	13 02 50.7	+4.2
DNIZ			S	Sn	13 03 24.6	-4.3
AOS2	**Alonissos-2**	**3.71 344**	P	Pn	13 02 48.0	+1.5
KALE	**Kalithea**	**3.72 320**	P	Pn	13 02 48.6	+2.0
KALE	**Kalithea**	**3.72 320**	P	Pn	13 02 48.2	+1.6
AOS	**Alonnisos**	**3.73 344**	P	Pn	13 02 48.3	+1.6
PRK	**Paraskevi**	**3.75 13**	P	Pn	13 02 48.6	+1.5
PRK	**Paraskevi**	**3.75 13**	P	Pn	13 02 48.3	+1.2
KNIK	**Mula-Seydike**	**3.75 69**	P	Pn	13 02 49.7	+2.4
KNIK			S	Sn	13 03 25.4	-4.9
AXAR	**Agios Charalam**	**3.76 328**	P	Pn	13 02 49.2	+2.0
SERG	**Sergoula**	**3.78 319**	P	Pn	13 02 48.9	+1.4
APMY	**Acipayam-Deniz**	**3.80 59**	Pn	Pn	13 02 50.8	+2.9
EFP	**Efpalio**	**3.87 318**	P	Pn	13 02 50.2	+1.5
RLS	**Riolos of Patr**	**3.88 311**	P	Pn	13 02 51.6	+2.8
GOLH	**Golhisar**	**3.89 64**	P	Pn	13 02 52.4	+3.3
GOLH			S	Sn	13 03 35.0	+1.5
MANT	**Manisa**	**3.95 42**		Pn	13 02 52.4	+2.3
ANX	**Ano Chora**	**3.98 320**	P	Pn	13 02 51.9	+1.5
ELL	**Elmali**	**3.98 72**	Pn	Pn	13 02 53.8	+3.4
ELL	**Elmali**	**3.98 72**		Pn	13 02 52.8	+2.4
ELL	**Elmali**	**3.98 72**	P	Pn	13 02 52.8	+2.4
AXS	**Araxos**	**4.02 312**	P	Pn	13 02 53.4	+2.6
KULA	**Kula-Manisa**	**4.03 42**	Pn	Pn	13 02 53.3	+2.4
NEO	**Neokhori**	**4.03 338**	P	Pn	13 02 53.1	+2.2
SLUM	**Salum**	**4.09 180**	⇓P	Pn	13 02 53.1	+1.4
SLUM			S	Sn	13 03 36.2	-2.0
INCE	**Denizli-Bozkur**	**4.11 58**	P	Pn	13 02 55.5	+3.4
AGG	**Agios Georgios**	**4.12 327**	P	Pn	13 02 54.2	+2.0
MAKR	**Makrakomi, Fth**	**4.20 325**	P	Pn	13 02 56.0	+2.7
PVO	**Paravola**	**4.21 317**	P	Pn	13 02 56.1	+2.8
EZN	**Ezine**	**4.32 12**	⇑P	Pn	13 02 55.9	+1.0
EZN	**Ezine**	**4.32 12**	⇑P	Pn	13 02 55.9	+1.0
KORT	**Korkueli**	**4.40 70**	Pn	Pn	13 03 00.1	+4.1
PSDA	**Pessada-Kefalo**	**4.47 306**	P	Pn	13 02 57.9	+0.9
VLS	**Valsamata**	**4.51 306**	P	Pn	13 02 59.4	+2.0
AMPL	**Ampelaki**	**4.60 318**	P	Pn	13 03 00.6	+1.9
COMU	**Canakkale**	**4.62 12**	Pn	Pn	13 03 01.1	+2.2
ISP	**Isparta**	**4.83 61**	⇑*eP*	Pn	13 03 04.9	+3.0
ISP			pmax	pmax		
	comp=Z,20nm,0.6s					
LKD2	**Lefkada island**	**4.83 313**	P	Pn	13 03 03.3	+1.5
OUR	**Ouranopolis**	**4.83 349**	P	Pn	13 03 03.8	+1.9
TSLK	**Tsoukalades, L**	**4.85 313**	P	Pn	13 03 03.8	+1.6
TETR	**Tetrakomo, Epi**	**4.88 321**	P	Pn	13 03 04.7	+2.1
GELI	**Tayfur-Gelibol**	**4.91 11**	Pn	Pn	13 03 05.2	+2.3
LPK	**Lapseki**	**4.93 14**	Pn	Pn	13 03 05.5	+2.3
PLG	**Polygyros**	**4.97 344**	P	Pn	13 03 05.7	+1.9
LIT	**Litokhoron**	**4.99 335**	P	Pn	13 03 06.0	+2.0
LIT	**Litokhoron**	**4.99 335**		Pn	13 03 05.7	+1.7
LIT	**Litokhoron**	**4.99 335**	P	Pn	13 03 05.7	+1.7
PRMD	**Pramanda**	**5.11 322**	P	Pn	13 03 07.5	+1.9
	comp=Z,0.2nmcomp=Z,135nm,0.9s					
CAVK	**Edirne/Enez-Ca**	**5.15 8**	⇑P	Pn	13 03 07.9	+1.6
SHUT	**Suhut-Afyon**	**5.21 54**	Pn	Pn	13 03 09.7	+2.6
HORT	**Hortiatis**	**5.27 342**	P	Pn	13 03 10.1	+2.2
BAND	**Balkesir-Ban**	**5.28 25**	⇓P	Pn	13 03 10.6	+2.6
ALN	**Alexandroupoli**	**5.34 7**		Pn	13 03 10.2	+1.4
ALN	**Alexandroupoli**	**5.34 7**	P	Pn	13 03 10.2	+1.4
RDO	**Rodhopi**	**5.56 3**		Pn	13 03 13.1	+1.4
SWA2		**6.33 178**	P	Pn	13 03 23.3	+1.0
SWA2			S	Sn	13 04 29.0	-4.3
OHR	**Ohrid**	**6.51 329**	*i* Pn	Pn	13 03 27.4	+2.6
OHR			*i* Sn	Sn	13 04 37.0	-0.6
CSS	**Mathiatis**	**6.68 93**		Pn	13 03 26.9	-0.3
CSS	**Mathiatis**	**6.68 93**	P	Pn	13 03 26.9	-0.3
CSS	**Mathiatis**	**6.68 93**	S	Sn	13 04 33.9	-8.1
TIP	**Timpagrande**	**7.61 301**		Pn	13 03 39.6	-0.3
TIP	**Timpagrande**	**7.61 301**	⇓P	Pn	13 03 40.0	+0.1
RYAN	**Fayoum**	**7.78 145**	⇓P	Pn	13 03 43.1	+0.9
BR105	**Keskin Array S**	**7.85 56**	P	Pn	13 03 45.8	+2.6
	comp=Z,0.0nmcomp=Z,165nmcomp=Z,9.4nm,1.3s					
BR106	**Keskin Array S**	**7.86 56**	P	Pn	13 03 45.9	+2.6
	comp=Z,0.0nmcomp=Z,132nmcomp=Z,9.1nm,1.2s					
BR104	**Keskin Array S**	**7.86 56**	P	Pn	13 03 45.9	+2.5
	comp=Z,0.0nmcomp=Z,87nmcomp=Z,7.0nm,1.5s					
BR131	**Keskin Array S**	**7.87 56**		Pn	13 03 46.1	+2.6
BR131	**Keskin Array S**	**7.87 56**	P	Pn	13 03 46.1	+2.6
BRTR	**Keskin Array B**	**7.87 56**	P	Pn	13 03 46.2	+2.7
	comp=Z,4.0nm,0.3s,baz=233,slow=13,SNR=34					
BRTR			LR	LR	13 07 44.0	
	comp=Z,38nm,19.5s,baz=232,slow=45					
BRTR	**Keskin Array B**	**7.87 56**	*i* P	Pn	13 03 46.7	+3.2
BRTR			pmax	pmax		
	comp=Z,4.0nm,0.3s					
ULC	**Ulcinj**	**7.88 326**	*eP*n	Pn	13 03 41.6	-1.9
ULC			*i* Sn	Sn	13 05 05.0	-6.2
CEL	**Celeste**	**7.91 292**		Pn	13 03 43.2	-0.8
HHAG	**Hagoal**	**8.08 132**	P	Pn	13 03 46.8	+0.4
DRME	**Dracevica, Mon**	**8.08 326**	*eP*n	Pn	13 03 44.3	-2.0
DRME			*i* Sn	Sn	13 05 09.7	-6.4
PDG	**Podgorica**	**8.25 328**	*eP*n	Pn	13 03 46.5	-2.0
PDG			*i* Sn	Sn	13 05 13.6	-6.5
BLKB	**Belogradchik**	**8.26 347**	⇑P	Pn	13 03 50.7	+2.0
BUM	**Brajici-Budva**	**8.31 326**	*eP*n	Pn	13 03 47.4	-2.0
BUM			*i* Sn	Sn	13 05 15.0	-6.7
MATE	**Matera**	**8.38 310**	⇑P	Pn	13 03 48.8	-1.6
BOVS	**Bovan**	**8.47 343**	⇑P	Pn	13 03 53.6	+2.0
KOME	**Kolasin**	**8.48 330**	⇓*i*Pn	Pn	13 03 49.7	-2.2
KOME			*i* Sn	Sn	13 05 18.9	-7.1
CEME	**Cevo**	**8.49 327**	*eP*n	Pn	13 03 49.9	-2.0
CEME			*i* Sn	Sn	13 05 19.3	-6.8
MMC7	**Mount Meron ar**	**8.82 104**	P	Pn	13 03 54.1	-2.3
MMA0B	**Mount Meron ar**	**8.83 104**	P	Pn	13 03 53.8	-2.7
MMA0B	**Mount Meron ar**	**8.83 104**	S	Sn	13 05 27.2	-7.3
MMAI	**Mount Meron Ar**	**8.83 104**	P	Pn	13 03 55.4	-1.1
	comp=Z,3.0nm,0.3s,baz=310,slow=12,SNR=21					
MMAI			S	Sn	13 05 28.0	-6.5
	comp=Z,4.8nm,0.2s,baz=358,slow=24,SNR=11					
MMAI			LR	LR	13 08 24.8	
	comp=Z,40nm,18.4s,baz=296,slow=44					
SLTI	**Sal'it**	**8.84 109**	P	Pn	13 03 54.1	-2.5
SLTI	**Sal'it**	**8.84 109**	S	Sn	13 05 27.4	-7.2
VAE	**Valguarnera**	**8.88 285**	P	Pn	13 03 57.2	-0.1
	comp=Z,7.3nm,0.3s,baz=90,slow=4.0,SNR=1.5					
VAE			S	Sn	13 05 29.4	-6.4
	comp=Z,46nm,0.5s,baz=350,slow=17,SNR=6.1					
QRWL	**Qaraoun**	**8.88 100**	*eP*	Pn	13 03 56.1	-1.2
RAFF	**Raffo Rosso**	**8.88 284**		Pn	13 03 56.6	-0.6
HWQ	**Hawqa**	**8.93 95**	*eP*	Pn	13 03 56.6	-1.3
PLE	**Pljevlja**	**8.94 332**	*eP*n	Pn	13 03 55.8	-2.3
PLE			*i* Sn	Sn	13 05 29.6	-7.6
BRY	**Bratogost**	**8.94 327**	*eP*n	Pn	13 03 56.2	-1.9
BRY			*i* Sn	Sn	13 05 30.2	-7.1
ACER	**Acerenza**	**8.94 308**		Pn	13 03 56.7	-1.4
GEM	**Giv'at Ha'Em**	**8.97 102**	P	Pn	13 03 55.6	-2.9
GEM	**Giv'at Ha'Em**	**8.97 102**	S	Sn	13 05 30.2	-7.7
SHBL	**Chebaa**	**8.99 101**	*eP*	Pn	13 03 57.3	-1.6
KZIT	**Kziot**	**9.01 119**	P	Pn	13 03 57.1	-1.9
KZIT	**Kziot**	**9.01 119**	S	Sn	13 05 32.2	-6.7
NATI	**Neve Ativ**	**9.01 102**	P	Pn	13 03 56.4	-2.6
NATI	**Neve Ativ**	**9.01 102**	S	Sn	13 05 31.7	-7.2
RCY	**Rachaya**	**9.02 100**	*eP*	Pn	13 03 57.9	-1.4
SALP	**Salfit**	**9.03 110**	P	Pn	13 03 56.8	-2.4
SALP	**Salfit**	**9.03 110**	S	Sn	13 05 32.2	-7.1
UPM	**Unac-Piva**	**9.03 329**	*eP*n	Pn	13 03 57.2	-2.1
UPM			*i* Sn	Sn	13 05 31.9	-7.5
MMLI	**Mount Malkishu**	**9.05 107**	P	Pn	13 03 57.3	-2.3
MMLI	**Mount Malkishu**	**9.05 107**	S	Sn	13 05 32.7	-7.3
BEIL	**Beino**	**9.07 93**	*eP*	Pn	13 03 58.5	-1.4
KSHT	**Keshet**	**9.16 103**	P	Pn	13 03 58.6	-2.5
KSHT	**Keshet**	**9.16 103**	S	Sn	13 05 35.4	-7.2
TIRR	**Tirgusor**	**9.20 15**	P	Pn	13 04 02.6	+1.2
	comp=Z,10nm,1.4s					
TAMRE	**El Minia**	**9.27 147**	P	Pn	13 04 02.1	-0.4
YTIR	**Yattir**	**9.29 114**	P	Pn	13 04 00.9	-2.1
YTIR	**Yattir**	**9.29 114**	S	Sn	13 05 39.7	-6.3
DSI	**Dead Sea**	**9.39 112**	P	Pn	13 04 01.9	-2.4
DSI	**Dead Sea**	**9.39 112**	S	Sn	13 05 41.4	-6.8
RMNI	**Mount Ramon**	**9.44 119**	P	Pn	13 04 03.4	-1.6
RMNI	**Mount Ramon**	**9.44 119**	S	Sn	13 05 43.4	-6.1
MSBI	**Mazada**	**9.50 114**	P	Pn	13 04 03.4	-2.3
MSBI	**Mazada**	**9.50 114**	S	Sn	13 05 43.9	-6.8
GHAJ	**Ghor Haditha**	**9.66 113**		Pn	13 04 07.6	-0.3
GHAJ	**Ghor Haditha**	**9.66 113**	P	Pn	13 04 05.6	-2.2
GHAJ	**Ghor Haditha**	**9.66 113**	S	Sn	13 05 47.9	-6.8
IDAN	**Idan**	**9.68 116**	P	Pn	13 04 05.9	-2.3
IDAN	**Idan**	**9.68 116**	S	Sn	13 05 48.4	-6.8
KRMI	**Paran Flat**	**9.69 122**	P	Pn	13 04 06.7	-1.7
KRMI	**Paran Flat**	**9.69 122**	S	Sn	13 05 47.4	-8.2
PRNI	**Paran**	**9.75 120**	P	Pn	13 04 07.2	-2.0
PRNI	**Paran**	**9.75 120**	S	Sn	13 05 51.0	-6.1
ZFRI	**Zfri**	**9.76 118**	P	Pn	13 04 07.1	-2.2
ZFRI	**Zfri**	**9.76 118**	S	Sn	13 05 50.7	-6.6
MLR	**Muntele Rosu**	**9.91 3**	⇑P	Pn	13 04 13.8	+2.4
MLR	**Muntele Rosu**	**9.91 3**	⇑P	Pn	13 04 13.8	+2.4
MLR	**Muntele Rosu**	**9.91 3**	P	Pn	13 04 13.7	+2.4
	comp=Z,12nm,1.1s					
HRFI	**Mount Harif**	**9.96 121**	P	Pn	13 04 10.1	-1.9
HRFI	**Mount Harif**	**9.96 121**	S	Sn	13 05 56.2	-5.9
GZR	**Gura Zlata**	**9.97 350**	⇓P

ARTI	**Arti**	**30.59**	**37**	*d* iP		**P**	**13 07 58.7 0.0**
ARTI				*PP		**pP**	**13 08 16.9 +2.1**
ARTI							13 08 57.4
ARTI				S		**S**	**13 12 57.6 +2.1**
ARTI				SS		**SnSn**	**13 14 41.2 +2.5**
ARTI				pmax		pmax	
	comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.79**	**229**	P		**P**	**13 08 01.1 +0.3**
	comp=Z,5.9nm,0.4s,baz=28,slow=10,SNR=5.4						
	comp=Z,5.9nm,0.4s						
ARCES	**ARCESS Array B**	**34.00**	**0**	P		**P**	**13 08 26.8 -1.6**
	comp=Z,5.8nm,1.2s,baz=185,slow=9.6,SNR=1.6						
	comp=Z,5.8nm,1.2s						
BORK	**Borovoye**	**35.99**	**47⇑**	*eP*		**P**	**13 08 44.8 -0.9**
BORK				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**36.03**	**47**	P		**P**	**13 08 46.5 +0.5**
	comp=Z,0.5nm,0.5s,baz=256,slow=10.0,SNR=2.4						
	comp=Z,0.5nm,0.5s						
AAK	**Ala-Archa**	**38.44**	**64⇑**	*eP*		**P**	**13 09 09.1 +2.3**
AAK				pmax		pmax	
	comp=Z,6.0nm,2.0s						
DBIC	**Dimbokro**	**39.86**	**231**	P		**P**	**13 09 19.4 +0.8**
DBIC				IAmb		IAmb	13 09 21.7
	comp=Z,13nm,1.1s						
DBIC	**Dimbokro**	**39.86**	**231**	P		**P**	**13 09 20.0 +1.4**
	comp=Z,5.5nm,0.5s,baz=57,slow=8.2,SNR=12						
	comp=Z,5.5nm,0.5s						
KSH	**Kashi**	**40.02**	**69**	P		**P**	**13 09 18.0 -1.9**
KSH				pmax		pmax	
	comp=Z,3.0nm,1.1s						
KURBB	**Kurchatov Arra**	**40.83**	**51**	P		**P**	**13 09 26.7 +0.4**
	comp=Z,1.7nm,0.5s,baz=276,slow=8.6,SNR=15						
KURBB				PcP		**PcP**	**13 11 27.7 +1.8**
	comp=Z,1.0nm,0.7s,baz=271,slow=3.9,SNR=5.7						
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**40.89**	**51**	P		**P**	**13 09 26.7 -0.1**
KURK	**Kurchatov**	**40.89**	**51**	P		**P**	**13 09 26.7 -0.1**
KURK							13 11 27.7
MK31	**Makanchi Array**	**43.52**	**57**	*c* iP		**P**	**13 09 49.4 +1.2**
MKAR	**Makanchi Array**	**43.52**	**57**	P		**P**	**13 09 48.2 -0.1**
MKAR	**Makanchi Array**	**43.52**	**57**	P		**P**	**13 09 49.4 +1.1**
	comp=Z,1.9nm,0.6s,baz=284,slow=6.7,SNR=25						
MKAR				PcP		**PcP**	**13 11 36.1 +1.1**
	comp=Z,0.8nm,0.7s,baz=284,slow=3.6,SNR=2.6						
	comp=Z,1.9nm,0.6s						
ZAA0	**Zalesovo Array**	**44.69**	**46**	P		**P**	**13 09 56.9 -0.6**
ZALV	**Zalesovo Beam**	**44.69**	**46**	P		**P**	**13 09 57.2 -0.2**
ZALV	**Zalesovo Beam**	**44.69**	**46**	P		**P**	**13 09 57.6 +0.2**
	comp=Z,2.6nm,0.5s,baz=269,slow=8.7,SNR=12						
	comp=Z,2.6nm,0.5s						
EVN	**Everest**	**52.20**	**80**	P		**P**	**13 10 58.0 +1.6**
EVN				IAmb		IAmb	13 10 58.8
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**59.19**	**51**	IAmb		IAmb	13 11 46.9
	comp=Z,3.2nm,1.5s						
SONM	**Songino Array**	**59.19**	**51**	P		**P**	**13 11 46.3 +0.8**
	comp=Z,0.5nm,0.5s,baz=297,slow=6.0,SNR=2.5						
	comp=Z,0.5nm,0.5s						
LZH	**Lanzhou**	**61.98**	**64**	*e*P		**P**	**13 12 03.5 -1.3**
LZH				pP		pP	13 12 20.5 -2.2
LZH				sP		sP	13 12 29.3 -1.1
LZH				pmax		pmax	
	comp=Z,10.0nm,1.2s						
SCHQ	**Schefferville**	**62.88**	**319**	P		**P**	**13 12 10.6 +0.3**
SCHQ	**Schefferville**	**62.88**	**319**	P		**P**	**13 12 10.5 +0.3**
	comp=Z,26nm,0.5s,baz=79,slow=6.5,SNR=5.3						
BOSA	**Boshof**	**63.86**	**180**	P		**P**	**13 12 18.8 +1.8**
BOSA				IAmb		IAmb	13 12 19.7
	comp=Z,13nm,1.2s						
BOSA	**Boshof**	**63.86**	**180**	P		**P**	**13 12 19.2 +2.2**
	comp=Z,1.9nm,0.6s,baz=2.5,slow=8.1,SNR=6.3						
	comp=Z,1.9nm,0.6s						
PZH	**PanZhiHua**	**64.72**	**75**	P		**P**	**13 12 24.5 +1.6**
HHC	**Hu-ho-hao-te**	**65.38**	**56**	*e*P		**P**	**13 12 27.5 +0.6**
HHC				pmax		pmax	
	comp=Z,21nm,0.8s						
ICQ	**Pointe Anglais**	**65.38**	**314**	P		**P**	**13 12 27.0 +0.4**
ICQ				IAmb		IAmb	13 13 01.7
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**66.49**	**84**	P		**P**	**13 12 35.8 +1.5**
	comp=Z,2.0nm,0.7s,baz=302,slow=7.6,SNR=15						
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	**74.82**	**61**	*e*P		**P**	**13 13 24.0 -0.7**
NJ2				pmax		pmax	
	comp=Z,7.0nm,0.6s						
INK	**Inuvik**	**75.20**	**352**	P		**P**	**13 13 25.9 -0.3**
INK				IAmb		IAmb	13 13 45.1
	comp=Z,14nm,1.3s						
INK	**Inuvik**	**75.20**	**352**	P		**P**	**13 13 25.9 -0.3**
INK				pmax		pmax	
	comp=Z,14nm,1.3s						
E29M	**Blow River**	**75.57**	**354**	P		**P**	**13 13 29.0 +0.7**
E29M				IAmb		IAmb	13 13 29.5
	comp=Z,4.0nm,0.8s						
TOLK	**Toolik Lake Re**	**76.01**	**358**	P		**P**	**13 13 30.4 -0.5**
TOLK				IAmb		IAmb	13 13 53.3
	comp=Z,6.4nm,1.2s						
F31M	**Tsiigehtchic**	**76.05**	**352**	P		**P**	**13 13 31.2 +0.1**
D19K	**Kuna River**	**76.20**	**1**	P		**P**	**13 13 31.6 -0.4**
D19K				IAmb		IAmb	13 13 33.4
	comp=Z,12nm,1.0s						
E24K	**Your Creek**	**76.54**	**358**	P		**P**	**13 13 33.8 -0.2**
E24K				IAmb		IAmb	13 13 47.0
	comp=Z,4.9nm,1.2s						
G31M	**Satah River**	**76.61**	**352**	P		**P**	**13 13 33.9 -0.3**
BMAR	**Burnt Mountain**	**77.01**	**356**	P		**P**	**13 13 37.5 +0.9**
G29M	**Pine Creek**	**77.02**	**353**	P		**P**	**13 13 36.8 +0.2**
G29M				IAmb		IAmb	13 13 38.2
	comp=Z,9.4nm,1.1s						
G27K	**Doyon Strip**	**77.43**	**355**	P		**P**	**13 13 39.2 +0.2**
G27K				IAmb		IAmb	13 14 13.1
	comp=Z,4.3nm,1.5s						
KSAR	**Wonju Array Be**	**77.98**	**53**	P		**P**	**13 13 43.6 +1.1**
KSAR	**Wonju Array Be**	**77.98**	**53**	P		**P**	**13 13 43.6 +1.1**
KSRS	**Korea Array**	**78.00**	**53**	P		**P**	**13 13 43.5 +0.9**
	comp=Z,3.3nm,0.6s,baz=309,slow=4.4,SNR=14						
	comp=Z,3.3nm,0.6s						
F17K	**Baldwin Pennin**	**78.17**	**3**	P		**P**	**13 13 43.1 +0.1**
I28M	**Miner Creek**	**78.63**	**354**	P		**P**	**13 13 45.9 +0.2**
I28M				IAmb		IAmb	13 14 15.1
	comp=Z,7.6nm,1.5s						
IMAR	**Indian Mountai**	**78.75**	**360**	P		**P**	**13 13 47.2 +0.9**
ILAR	**Eielson Array**	**79.78**	**357**	P		**P**	**13 13 51.5 -0.4**
ILAR	**Eielson Array**	**79.78**	**357**	P		**P**	**13 13 52.1 +0.3**
	comp=Z,0.5nm,0.8s,baz=358,slow=5.2,SNR=6.6						
	comp=Z,0.5nm,0.8s						
J26L	**Joseph Creek**	**79.85**	**355**	P		**P**	**13 13 52.7 +0.4**
DAWY	**Dawson**	**79.93**	**353**	P		**P**	**13 13 53.2 +0.5**
DAWY				IAmb		IAmb	13 14 27.9
	comp=Z,8.5nm,1.4s						
WRH	**Wood River Hil**	**80.13**	**357**	P		**P**	**13 13 54.1 +0.4**
WRH				IAmb		IAmb	13 13 54.9
	comp=Z,3.4nm,0.7s						
SCRK	**Sand Creek**	**80.40**	**355**	P		**P**	**13 13 56.0 +0.6**
BPAW	**Bear Paw Mtn.**	**80.60**	**358**	P		**P**	**13 13 56.1 -0.2**
BPAW				IAmb		IAmb	13 13 57.6
	comp=Z,3.2nm,0.9s						
BCAR	**Beaver Creek A**	**81.13**	**354**	P		**P**	**13 13 59.5 +0.3**
PPLA	**Purkeypile**	**81.83**	**359**	P		**P**	**13 14 03.2 +0.1**
SKT	**Skwentna**	**82.74**	**358**	P		**P**	**13 14 07.3 -0.3**
MJAR	**Matsushiro Arr**	**85.02**	**48**	IAmb		IAmb	13 14 22.1
	comp=Z,2.9nm,1.0s						
MJAR	**Matsushiro Arr**	**85.02**	**48**	P		**P**	**13 14 20.9 +1.2**
	comp=Z,3.8nm,0.8s,baz=302,slow=5.4,SNR=7.1						
	comp=Z,3.8nm,0.8s						
JMM	**Marumori**	**85.67**	**46**	P		**P**	**13 14 22.5 -0.4**
S32K	**Killisnoo**	**85.74**	**349**	P		**P**	**13 14 22.5 -0.3**
PDAR	**Pinedale Array**	**91.75**	**328**	P		**P**	**13 14 52.0 0.0**
	comp=Z,0.4nm,0.7s,baz=76,slow=6.3,SNR=4.2						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**98.97**	**332**	LR		LR	14 05 47.6
	comp=Z,53nm,18.2s,baz=269,slow=39						
WRA	**Warramunga Arr**	**116.61**	**96**	PKP		**PKiKP**	**13 20 28.3 +0.1**
	comp=Z,0.4nm,0.8s,baz=311,slow=1.7,SNR=2.1						
ASAR	**Alice Springs**	**118.10**	**100**	PKP		**PKiKP**	**13 20 31.5 +0.5**
	comp=Z,0.4nm,0.6s,baz=307,slow=1.5,SNR=13						
QSPA	**South Pole Qui**	**125.44**	**180**	PKP		**PKiKP**	**13 20 47.2 +3.1**
	comp=Z,1.4nm,0.5s,baz=348,slow=0.2,SNR=38						

SJA ***29*** *13:04:54.2±0.8, 22°.17S×68°.65W, h121km±7km, ML3.6, MW3.7*
GUC ***29*** *13:04:55.3±0.8, 22°.08S×68°.64W, h123km±4km, ML3.7*
ISC 29 13:04:55.8±1.3**, 22°.13S**±0°.03×**68°.73W**±0°.05**, h121**km±9km**,**
n37,σ1°**52**/63**, 6C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**305**	⇓*i*P	**Pn**	**13 05 14.7**	**+0.1**
PB09				*i* S	**Sn**	**13 05 28.6**	**-0.1**
PB09				IAML		13 05 31.0	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**0.58**	**305**	*e*P	**Pn**	**13 05 14.0**	**-0.6**
PB09				IAML		13 05 29.5	
	comp=Z,2μm,0.4s						
PB03	**IPOC Station P**	**0.95**	**275**	⇑*i*P	**Pn**	**13 05 17.9**	**+0.3**
PB03				*i* S	**Sn**	**13 05 35.0**	**+0.8**
PB03				IAML		13 05 36.3	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**0.95**	**275**	*e*P	**Pn**	**13 05 17.2**	**-0.4**
PB03				*e*S	**Sn**	**13 05 35.3**	**+1.2**
PB03				IAML		13 05 36.4	
	comp=Z,2μm,0.3s						
AF01	**San Pedro de A**	**0.96**	**148**	*e*P	**Pn**	**13 05 17.4**	**-0.6**
AF01				*i* S	**Sn**	**13 05 34.0**	**-0.7**
AF01				IAML		13 05 35.0	
	comp=N,2μm,0.4s						
AF01	**San Pedro de A**	**0.96**	**148**	*e*P	**Pn**	**13 05 14.5**	**-3.4**
AF01				*e*S	Sn	13 05 18.2	-16
AF01				*e*P		13 05 21.0	
AF01				IAML		13 05 49.8	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**0.96**	**233**	⇑*i*P	**Pn**	**13 05 18.2**	**+0.5**
PB06				*i* S	**Sn**	**13 05 35.7**	**+1.3**
PB06				IAML		13 05 38.7	
	comp=E,2μm,0.5s						
PB06	**IPOC Station P**	**0.96**	**233**	*e*P	**Pn**	**13 05 17.6**	**-0.2**
PB06				*e*S	**Sn**	**13 05 36.3**	**+1.9**
PB06				IAML		13 05 37.2	
	comp=Z,2μm,0.6s						
PB01	**IPOC Station P**	**1.29**	**327**	⇑*i*P	**Pn**	**13 05 20.7**	**-0.4**
PB01				*e*S	**Sn**	**13 05 39.9**	**-0.3**
PB01				IAML		13 05 41.6	
	comp=E,1μm,0.5s						
PB01	**IPOC Station P**	**1.29**	**327**	*e*P	**Pn**	**13 05 21.0**	**0.0**
PB01				*e*S	**Sn**	**13 05 41.1**	**+0.9**
PB01				IAML		13 05 41.9	
	comp=Z,629nm,0.2s						
PB02	**IPOC Station P**	**1.35**	**306**	⇑*i*P	**Pn**	**13 05 21.9**	**+0.2**
PB02				*i* S	**Sn**	**13 05 41.7**	**+0.3**
PB02				IAML		13 05 43.5	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.35**	**306**	*e*P	**Pn**	**13 05 21.3**	**-0.4**
PB02				*e*S	**Sn**	**13 05 42.2**	**+0.8**
PB02				IAML		13 05 43.6	
	comp=Z,2μm,0.3s						
PATCX	**Punta Patache**	**1.86**	**314**	⇑*i*P	**Pn**	**13 05 27.5**	**-0.2**
PATCX				*i* S	**Sn**	**13 05 51.8**	**-0.2**
PATCX				IAML		13 05 57.0	
	comp=N,900nm,0.2s						
PATCX	**Punta Patache**	**1.86**	**314**	*e*P	**Pn**	**13 05 27.7**	**0.0**
PATCX				*e*S	**Sn**	**13 05 53.8**	**+1.8**
PATCX				IAML		13 05 58.3	
	comp=Z,327nm,0.5s						
PB08	**IPOC Station P**	**2.02**	**349**	⇑*i*P	**Pn**	**13 05 30.3**	**+0.3**
PB08				*i* S	**Sn**	**13 05 56.5**	**+0.6**
PB08	**IPOC Station P**	**2.02**	**349**	*e*P	**Pn**	**13 05 30.4**	**+0.5**
PB08				*e*S	**Sn**	**13 05 57.6**	**+1.6**
PB08				IAML		13 05 58.5	
	comp=Z,102nm,0.4s						
TA01	**Diego Aracena**	**2.06**	**319**	*e*P	**Pn**	**13 05 29.5**	**-0.6**
TA01				*i* S	**Sn**	**13 05 55.8**	**-0.5**
TA01				IAML		13 05 58.3	
	comp=N,624nm,0.3s						
TA01	**Diego Aracena**	**2.06**	**319**	*e*P	**Pn**	**13 05 29.7**	**-0.4**
TA01				*e*S	**Sn**	**13 05 56.4**	**+0.1**
TA01				IAML		13 05 57.7	
	comp=Z,306nm,0.7s						
PB10	**IPOC Station P**	**2.17**	**230**	*e*P	**Pn**	**13 05 31.8**	**+0.3**
PB10				*i* S	**Sn**	**13 05 58.4**	**-0.4**
PB10	**IPOC Station P**	**2.17**	**230**	*e*P	**Pn**	**13 05 31.8**	**+0.3**
PB10				*e*S	**Sn**	**13 05 59.0**	**+0.1**
PB10				IAML		13 06 15.1	
	comp=Z,114nm,0.8s						
TA02	**Huaiquique**	**2.27**	**325**	*e*P	**Pn**	**13 05 34.5**	**+1.9**
TA02				*e*S	**Sn**	**13 05 54.4**	**-6.5**
TA02				IAML		13 06 07.1	
	comp=Z,208nm,0.1s						
GO01	**Chusmiza**	**2.49**	**350**	*e*P	**Pn**	**13 05 36.0**	**0.0**
GO01				*e*S	**Sn**	**13 06 05.6**	**-1.1**
GO01	**Chusmiza**	**2.49**	**350**	*e*P	**Pn**	**13 05 36.5**	**+0.6**
GO01				*e*S	**Sn**	**13 06 09.1**	**+2.4**
GO01				IAML		13 06 10.8	
	comp=Z,79nm,0.2s						
PB11	**IPOC Station P**	**2.51**	**340**	*e*P	**Pn**	**13 05 35.2**	**-0.7**
PB11				*i* S	**Sn**	**13 06 05.1**	**-1.7**
PB11				IAML		13 06 09.9	
	comp=E,226nm,0.3s						
PB11	**IPOC Station P**	**2.51**	**340**	*e*P	**Pn**	**13 05 35.2**	**-0.7**
PB11				*e*S	**Sn**	**13 06 06.2**	**-0.6**
PB11				IAML		13 06 13.0	
	comp=Z,145nm,0.3s						
PB14	**IPOC Station P**	**2.92**	**211**	*e*P	**Pn**	**13 05 41.0**	**-0.3**
PB14	**IPOC Station P**	**2.92**	**211**	*e*P	**Pn**	**13 05 41.2**	**-0.1**
PB14				*e*S	**Sn**	**13 06 14.0**	**-2.4**
PB14				IAML		13 06 36.1	
	comp=Z,108nm,0.6s						
YJA	**Yavi**	**2.98**	**91**	*e*P	**Pn**	**13 05 43.1**	**+0.7**
SALTA		**3.03**	**134**	*e*P	**Pn**	**13 05 41.4**	**-1.6**
SALTA				*e*P		13 05 41.6	
SALTA				*e*P		13 05 44.3	
SALTA				*e*S	Sn	13 06 28.9	+10
GO02	**Mina Guanaco**	**3.12**	**194**	*e*P	**Pn**	**13 05 43.6**	**-0.4**
GO02	**Mina Guanaco**	**3.12**	**194**	*e*S	**Sn**	**13 06 23.4**	**+2.2**
GO02				IAML		13 06 25.5	
	comp=Z,125nm,0.1s						
HJA	**Humahuaca**	**3.25**	**110**	*e*P	**Pn**	**13 05 46.3**	**+0.5**
PB12	**IPOC Station P**	**3.81**	**337**	*e*P	**Pn**	**13 05 51.8**	**-1.1**
PB12				IAML		13 07 01.6	
	comp=Z,44nm,0.7s						
PB16	**IPOC Station P**	**3.85**	**349**	*e*P	**Pn**	**13 05 55.0**	**+1.1**
PB16				IAML		13 07 13.1	
	comp=Z,39nm,0.7s						
AZAP	**Zapla**	**3.96**	**122**	*e*P	**Pn**	**13 05 55.2**	**0.0**
AC01	**Pan de Azucar**	**4.35**	**203**	*e*P	**Pn**	**13 05 58.5**	**-1.5**
AC01				*e*S	**Sn**	**13 06 47.5**	**-2.4**
AC01				IAML		13 07 05.3	
	comp=Z,37nm,0.8s						
AC02	**Maricunga**	**4.70**	**184**	*e*P	**Pn**	**13 06 05.1**	**-0.1**
AC02				*e*S	**Sn**	**13 07 04.0**	**+5.0**
AC02				IAML		13 07 51.8	
	comp=Z,112nm,0.8s						

IDC ***29*** *13:21:38.0±1.6, 2°.65S×138°.42E, h0km, mb3.2/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=30.9km s-min=17.1km az=171.0*
DJA ***29*** *13:21:39.4±0.9, 2°.5±7°×13°.8E±°, h18km±8km, M3.0/5, MLv3.0/5*
ISC 29 13:21:40.6±1.0**, 2°.54S**±0°.09×**138°.43E**±0°.06**, h32**km**, n8,**
σ1°67/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.61**	**27**	P	**Pb**	**13 21 52.1**	**-0.9**
GENI	**Genyem**	**1.73**	**92**	P	**Pb**	**13 22 10.8**	**-1.1**
GENI				S	**Sb**	**13 22 32.9**	**-0.4**
JAY	**Jayapura**	**2.27**	**90**	Pg	**Pb**	**13 22 19.1**	**-1.9**
	2.4nm,0.3s,baz=270,slow=12,SNR=14						
JAY				Lg	Lg	13 22 51.0	
	2.1nm,0.3s,baz=114,slow=19,SNR=4.2						
JAY	**Jayapura**	**2.27**	**90**	P	**Pn**	**13 22 16.0**	**0.0**
JAY				S	**Sb**	**13 22 48.9**	**+0.2**
BAKI	**Biak**	**2.68**	**300**	P	**Pn**	**13 22 19.7**	**-1.9**
WRA	**Warramunga Arr**	**17.76**	**193**	P	**Pn**	**13 25 44.9**	**-0.7**
	0.1nm,0.3s,baz=14,slow=12,SNR=9.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.46**	**191**	P	**P**	**13 26 27.4**	**+0.9**
	0.4nm,0.6s,baz=14,slow=11,SNR=9.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.48**	**322**	P	**P**	**13 32 49.1**	**+3.0**
	0.5nm,0.9s,baz=111,slow=6.6,SNR=3.8						
	0.5nm,0.9s						

IDC ***29*** *13:24:08.7±1.4, 6°.65N×125°.12E, h0km, mb3.6/4, mbtmp3.6/4, MS3.2/2, Error ellipse: s-maj=30.7km s-min=9.7km az=127.0*
ISC 29 13:24:10.5±1.3**, 6°.7N**±0°.1×**125°.3E**±0°.2**, h10**km**, n8,** σ0°**98**/6**, mb3.3**/4**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.49**	**40**	Pg	**Pg**	**13 24 19.5**	**-0.5**
	baz=208,slow=13						
DAV				Lg	Lg	13 24 29.9	
	baz=219,slow=16						
DAV	**Davao City (W)**	**0.49**	**40**	P	**Pb**	**13 24 22.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.63**	**179**	P	**P**	**13 29 32.2**	**+0.9**
	11nm,1.3s,baz=342,slow=9.6,SNR=6.0						
	11nm,1.3s						
PMG	**Port Moresby**	**27.05**	**126**	LR	LR	13 42 58.8	
	comp=Z,84nm,18.9s,baz=322,slow=42						
WRA	**Warramunga Arr**	**27.93**	**162**	P	**P**	**13 30 00.2**	**-1.0**
	0.4nm,0.8s,baz=328,slow=10,SNR=5.9						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.18**	**297**	LR	LR	13 40 53.4	
	comp=Z,26nm,18.9s,baz=155,slow=36						
ASAR	**Alice Springs**	**31.33**	**165**	P	**P**	**13 30 30.8**	**-0.4**
	0.2nm,0.7s,baz=342,slow=6.6,SNR=5.8						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**54.31**	**325**	P	**P**	**13 33 36.9**	**-0.2**
	0.2nm,0.5s,baz=134,slow=8.3,SNR=3.6						
	0.2nm,0.5s						

IDC ***29*** *13:33:20.8±1.2, 3°.08S×139°.14E, h0km, mb3.8/3, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=29.1km s-min=19.9km az=140.0*
DJA ***29*** *13:33:23.2±0.3, 3°.5±3°×13°.9E±°, h10km, M3.9/7, MLv3.9/7*
NEIC ***29*** *13:33:26.2±1.4, 3°.30S±0°.10×139°.35E±0°.09, h56km±8km, mb4.1/13, Error ellipse: s-maj=15.4km s-min=10.3km az=144.0*
ISC 29 13:33:24.3±0.7**, 3°.01S**±0°.06×**138°.59E**±0°.06**, h35**km**, n29,**
σ1°71/26, mb4.1/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.02**	**7**	P	Pn	13 33 34.3	-7.9
GENI	**Genyem**	**1.63**	**75**	P	**Pn**	**13 33 51.6**	**+1.0**
JAY	**Jayapura**	**2.17**	**77**	Pg	Pn	13 33 51.0	-7.0
	0.6nm,0.3s,baz=235,slow=21,SNR=9.8						
JAY				Lg	Lg	13 34 01.0	
	9.8nm,0.3s,baz=228,slow=9.4,SNR=30						
JAY	**Jayapura**	**2.17**	**77**	P	**Pn**	**13 33 58.5**	**+0.5**
BAKI	**Biak**	**3.07**	**306**	P	**Pn**	**13 34 09.9**	**-0.4**
BAKI				S	**Sn**	**13 34 44.5**	**-1.3**
RKPI	**Ransiki, Papua**	**4.65**	**289**	P	**Pn**	**13 34 31.9**	**-0.2**
FAKI	**Fak Fak**	**6.33**	**271**	Pn	Pn	13 35 06.5	+11
PMG	**Port Moresby**	**10.63**	**127**	Pn	Pn	13 35 43.1	-11
COEN	**Coen**	**11.78**	**158**	Pn	**Pn**	**13 36 08.0**	**-2.0**
KNRA	**Kununurra**	**15.87**	**217**	Pn	**P**	**13 37 09.0**	**+0.4**
KNRA				IAmb	IAmb	13 37 27.5	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**17.15**	**194**		**Pn**	**13 37 21.0**	**-0.4**
WB0				IAmb	IAmb	13 37 44.2	
	comp=Z,5.3nm,1.0s						
WR8	**Warramunga Arr**	**17.31**	**193**		**Pn**	**13 37 22.6**	**-0.7**
WR8				IAmb	IAmb	13 38 00.1	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**17.33**	**194**	P	**Pn**	**13 37 24.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=13,slow=12,SNR=17						
WRA				S	**Sn**	**13 40 37.0**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=358,slow=22,SNR=2.7						
	comp=Z,1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.64**	**219**	IAmb	IAmb	13 37 59.6	
	comp=Z,1.9nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.64**	**219**	P	**Pn**	**13 37 55.3**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=41,slow=11,SNR=2.2						
FITZ				S	**S**	**13 41 30.7**	**+0.7**
	comp=Z,2.3nm,1.0s,baz=17,slow=9.9,SNR=2.1						
	comp=Z,5.3nm,1.1s						
AS31	**Alice Springs**	**21.03**	**192**	P	**P**	**13 38 03.8**	**-1.4**
ASAR	**Alice Springs**	**21.03**	**192**	P	**P**	**13 38 03.1**	**-2.1**
ASAR	**Alice Springs**	**21.03**	**192**	P	**P**	**13 38 07.0**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=14,slow=11,SNR=21						
ASAR				S	**S**	**13 41 58.0**	**+0.4**
	comp=Z,0.4nm,1.0s,baz=17,slow=26,SNR=1.5						
	comp=Z,1.3nm,0.7s						
SHEM	**Shemya Is, Ala**	**63.07**	**23**	P	**P**	**13 43 47.0**	**-1.0**
SMY	**Shemya**	**63.07**	**23**	P	**P**	**13 43 46.9**	**-1.1**
MKAR	**Makanchi Array**	**69.95**	**323**	P	**P**	**13 44 35.4**	**+3.2**
MKAR	**Makanchi Array**	**69.95**	**323**	P	P	13 44 37.4	+5.2
	comp=Z,1.5nm,0.9s,baz=99,slow=7.5,SNR=6.2						
	comp=Z,1.5nm,0.9s						
KURK	**Kurchatov**	**73.89**	**325**	P	**P**	**13 44 58.6**	**+3.0**
KURK	**Kurchatov**	**73.89**	**325**	IAmb	IAmb	13 45 01.2	
	comp=Z,1.9nm,0.9s						
KURBB	**Kurchatov Arra**	**73.90**	**325**	P	**P**	**13 44 58.6**	**+2.9**
	comp=Z,0.3nm,0.2s,baz=113,slow=4.3,SNR=3.2						
	comp=Z,0.3nm,0.2s						
TOLK	**Toolik Lake Re**	**86.25**	**20**	P	**P**	**13 46 00.9**	**-1.1**

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     comp=N,1μm,0.5s
YOAB                    eSg   Sb   13 36 19.7 -0.8
YOAB                    Smax       13 36 24.4
     comp=N,5μm,0.7s
NIZB Nizh Angarsk 1.57 306⇑iPg  Pn   13 36 06.8 -0.9
NIZB                    Pmax       13 36 12.0
     comp=N,498nm,0.7s
NIZB                    eSg   Sn   13 36 27.3 -1.1
NIZB                    Smax       13 36 31.9
     comp=N,2μm,0.7s
NIZB Nizh Angarsk 1.57 306⇑iPN  Pn   13 36 06.8 -0.9
NIZB                    e          13 36 27.2
NIZB                    pmax  pmax
     comp=Z,364nm,0.5s
NIZB                    smax  smax
     comp=E,2μm,0.7s
SYVR Suvo         1.60 222 ePg  Pn   13 36 08.1 -0.1
SYVR                    ePb   Pb   13 36 09.1 -0.2
SYVR                    max        13 36 11.1
     comp=E,513nm,0.9s
SYVR                    eSg   Sn   13 36 28.7 -0.6
SYVR                    Smax       13 36 36.6
     comp=E,3μm,1.5s
SYVR Suvo         1.60 222⇑iPN  Pn   13 36 08.2  0.0
SYVR                    e          13 36 29.5
SYVR                    pmax  pmax
     comp=Z,581nm,0.5s
SYVR                    smax  smax
     comp=E,3μm,1.0s
SVKR Severomuysk  1.61  38 ePg  Pb   13 36 09.7 +0.3
SVKR                    Pmax       13 36 11.1
     comp=E,2μm,0.4s
SVKR                    eSg   Sg   13 36 31.9 +1.1
SVKR                    Smax       13 36 39.8
     comp=E,8μm,0.6s
SVKR Severomuysk  1.61  38 ePN  Pb   13 36 09.6 +0.2
SVKR                    e          13 36 31.5
SVKR                    pmax  pmax
     comp=Z,2μm,0.5s
SVKR                    smax  smax
     comp=E,7μm,0.5s
MXMB Maximikha    2.41 229 ePn  Pn   13 36 20.1 +0.8
MXMB                    ePg   Pb   13 36 22.8 -0.2
MXMB                    eSg   Sb   13 36 53.1 +0.1
OGRR Ongureny     2.75 245 ePn  Pn   13 36 24.2 +0.3
OGRR                    ePg   Pb   13 36 27.9 -0.9
OGRR                    Pmax       13 36 32.5
     comp=E,152nm,0.6s
OGRR                    eSn   Sn   13 36 57.4 -0.1
OGRR                    eSg   Sb   13 37 03.4 +0.7
OGRR                    Smax       13 37 10.1
     comp=E,929nm,0.9s
OGRR Ongureny     2.75 245 ePN  Pn   13 36 24.2 +0.3
OGRR                    e          13 36 28.8
OGRR                    e          13 37 03.1
OGRR                    pmax  pmax
     comp=Z,151nm,0.8s
OGRR                    smax  smax
     comp=N,938nm,1.4s
NLYR Nelyaty      2.75  52⇓iPn  Pn   13 36 25.3 +1.3
NLYR                    ePg   Pb   13 36 29.5 +0.6
NLYR                    Pmax       13 36 36.7
     comp=N,352nm,0.8s
NLYR                    e          13 36 56.2
NLYR                    eSg   Sg   13 37 06.0 -1.5
NLYR                    Smax       13 37 07.7
     comp=N,4μm,0.9s
NLYR                    eSgSg SnSn 13 37 16.3 +7.9
GORB Goryachinsk  2.80 229 ePn  Pn   13 36 26.2 +1.6
GORB                    ePg   Pb   13 36 30.2 +0.5
GORB                    eSg   Sb   13 37 06.1 +1.9
CIT  Chita        3.04 159 ePn  Pn   13 36 29.3 +1.3
CIT                     ePg   Pb   13 36 34.7 +0.9
CIT                     Pmax       13 36 40.7
     comp=N,181nm,0.7s
CIT                     eSn   Sn   13 37 04.5 -0.3
CIT                     eSg   Sb   13 37 14.4 +3.1
CIT                     Smax       13 37 16.7
     comp=N,3μm,1.0s
CIT  Chita        3.04 159 ePN  Pn   13 36 28.1 +0.1
CIT                     e          13 36 34.1
CIT                     eS    Sn   13 37 05.6 +0.8
CIT                     e          13 37 14.2
CIT                     pmax  pmax
     comp=Z,182nm,0.7s
CIT                     smax  smax
     comp=E,4μm,1.4s
KELR Kotokel      3.05 228 ePn  Pn   13 36 28.7 +0.7
KELR                    ePg   Pb   13 36 34.4 +0.5
KELR                    ePgPg PbPb 13 36 36.5 -0.5
KELR                    eSn   Sn   13 37 04.1 -0.8
KELR                    eSg   Sg   13 37 13.9 -3.1
BOD  Bodaibo      3.21  22⇓iPn  Pn   13 36 30.7 +0.5
BOD                     ePg   Pb   13 36 36.9 +0.3
BOD                     Pmax       13 36 43.3
     comp=E,440nm,1.2s
BOD                     e          13 37 06.5
BOD                     eSg   Sb   13 37 18.0 +2.1
BOD                     Smax       13 37 23.4
     comp=E,1μm,1.5s
BOD  Bodaibo      3.21  22 ePN  Pn   13 36 29.9 -0.3
BOD                     e          13 36 36.9
BOD                     e          13 37 18.0
BOD                     pmax  pmax
     comp=Z,275nm,0.8s
BOD                     smax  smax
     comp=N,1μm,1.5s
ZRHB Zarechye     3.60 232 ePg  Pb   13 36 43.9 +0.6
ZRHB                    Pmax       13 37 01.0
     comp=N,255nm,1.0s
ZRHB                    e          13 37 15.4
ZRHB                    eSg   Sb   13 37 29.9 +2.7
ZRHB                    Smax       13 38 03.3
     comp=N,2μm,1.2s
TRG  Tyrgan       3.85 239 ePn  Pn   13 36 39.6 +0.5
TRG                     ePg   Pb   13 36 48.2 +0.6
TRG                     Pmax       13 36 53.6
     comp=N,65nm,1.0s
TRG                     e          13 37 16.8
TRG                     eSg   Sb   13 37 37.4 +2.8
TRG                     Smax       13 37 50.9
     comp=N,425nm,1.5s
TRG  Tyrgan       3.85 239 ePN  Pn   13 36 39.7 +0.6
TRG                     e          13 36 48.8
TRG                     eS    Sn   13 37 24.0 -0.8
TRG                     e          13 37 37.6
TRG                     pmax  pmax
     comp=Z,64nm,0.7s
TRG                     smax  smax
     comp=N,410nm,1.1s
UUDB Ulan-Yde     3.89 221 ePn  Pn   13 36 40.3 +0.7
UUDB                    ePg   Pb   13 36 48.7 +0.4
UUDB                    Pmax       13 36 51.9
     comp=N,142nm,1.2s
UUDB                    eSn   Sn   13 37 23.2 -2.5
UUDB                    eSg   Sg   13 37 39.7 -4.3
UUDB                    Smax       13 37 48.4
     comp=N,1μm,1.8s
UUDB                    e          13 37 58.6
FFNB Fofonovo     4.12 229 ePn  Pn   13 36 43.6 +0.8
FFNB                    ePg   Pb   13 36 53.3 +1.1
FFNB                    e          13 37 34.3
FFNB                    eSg   Sb   13 37 46.1 +3.8
KAB  Kabansk      4.17 229 ePg  Pb   13 36 54.4 +1.4
KAB                     Pmax       13 37 05.5
     comp=N,232nm,0.9s
KAB                     eSn   Sn   13 37 30.7 -1.8
KAB                     eSg   Sg   13 37 48.2 -4.7
KAB                     Smax       13 38 08.8
     comp=N,2μm,1.0s
CRS  Chara        4.18  58 ePn  Pn   13 36 45.0 +1.4
CRS                     ePg   Pb   13 36 55.4 +2.2
CRS                     Pmax       13 37 01.0
     comp=N,299nm,0.9s
CRS                     e          13 37 19.9
CRS                     eSn   Sn   13 37 32.6 -0.3
CRS                     eSg   Sg   13 37 49.8 -3.6
CRS                     Smax       13 37 55.2
     comp=N,2μm,0.9s
CRS  Chara        4.18  58 ePN  Pn   13 36 44.4 +0.8
CRS                     e          13 36 56.0
CRS                     e          13 37 49.6
CRS                     pmax  pmax
     comp=Z,171nm,0.9s
CRS                     smax  smax
     comp=E,1μm,1.0s
HRMR Khuramsha    4.35 224 ePn  Pn   13 36 46.7 +0.7
HRMR                    ePg   Pb   13 36 57.3 +1.2
HRMR                    Pmax       13 37 14.8
     comp=E,162nm,1.6s
HRMR                    eSn   Sn   13 37 34.9 -2.2
HRMR                    eSg   Sg   13 37 54.3 -4.6
HRMR                    Smax       13 38 05.9
     comp=E,1μm,1.2s
VTMR Vitim        4.60   5 ePn  Pn   13 36 50.6 +1.2
VTMR                    ePg   Pb   13 37 01.5 +1.1
VTMR                    e          13 37 38.8
VTMR                    eSg   Sg   13 38 01.9 -5.0
BGT  Bolshoye Golou 4.75 236 ePn  Pn   13 36 51.7 +0.3
BGT                     ePg   Pb   13 37 04.8 +2.0
BGT                     Pmax       13 37 07.9
     comp=E,32nm,0.5s
BGT                     eSn   Sn   13 37 45.3 -1.4
BGT                     eSg   Sg   13 38 06.0 -5.5
BGT                     Smax       13 38 30.9
     comp=E,261nm,1.0s
TUP  Tupik        4.77  92 ePn  Pn   13 36 52.9 +1.2
TUP                     ePg   Pb   13 37 06.2 +3.0
TUP                     Pmax       13 37 12.9
     comp=E,99nm,0.8s
TUP                     eSn   Sn   13 37 46.6 -0.7
TUP                     eSg   Sg   13 38 07.9 -4.2
TUP                     Smax       13 38 13.5
     comp=E,1μm,0.7s
TUP                     e          13 38 20.5
TUP  Tupik        4.77  92 ePN  Pn   13 36 52.8 +1.1
TUP                     e          13 37 05.1
TUP                     eS    Sn   13 37 46.7 -0.6
TUP                     e          13 38 07.9
TUP                     pmax  pmax
     comp=Z,99nm,0.8s
TUP                     smax  smax
     comp=N,1μm,0.7s
KHNR Khani        5.05  63 ePn  Pn   13 36 57.6 +2.0
KHNR                    e          13 37 00.1
KHNR                    e          13 37 09.3
KHNR                    eSn   Sn   13 37 53.5 -0.8
KHNR                    eSg   Sg   13 38 17.1 -4.1
LSTR Listvyanka   5.13 237 ePn  Pn   13 36 58.3 +1.6
LSTR                    ePg   Pb   13 37 11.6 +2.2
LSTR                    Pmax       13 37 23.1
     comp=N,23nm,0.8s
LSTR                    eSn   Sn   13 37 54.8 -1.5
LSTR                    eSg   Sb   13 38 16.9 +5.5
LSTR                    Smax       13 38 26.6
     comp=N,308nm,1.3s
KPC  Khapcheranga 5.18 176 ePn  Pn   13 36 58.8 +1.3
KPC                     ePg   Pb   13 37 13.8 +3.4
KPC                     e          13 37 16.7
KPC                     max        13 37 21.3
     comp=N,50nm,0.7s
KPC                     eSn   Sn   13 37 56.1 -1.6
KPC                     eSg   Sg   13 38 20.8 -4.8
KPC                     Smax       13 38 24.3
     comp=N,904nm,1.8s
KPC                     e          13 38 32.9
KPC  Khapcheranga 5.18 176 ePN  Pn   13 36 59.3 +1.8
KPC                     e          13 37 14.1
KPC                     e          13 38 20.1
KPC                     pmax  pmax
     comp=Z,50nm,0.7s
KPC                     smax  smax
     comp=E,902nm,1.7s
IRK  Irkutsk      5.19 243 eSg  Sb   13 38 18.6 +5.5
IRK                     Smax       13 38 32.8
     comp=E,712nm,0.8s
IVK  Ivanovka     5.38 238 ePn  Pn   13 37 02.0 +1.9
IVK                     ePg   Pb   13 37 15.2 +1.6
IVK                     Pmax       13 37 35.6
     comp=E,50nm,0.8s
IVK                     e          13 37 57.7
IVK                     eSg   Sb   13 38 24.5 +6.1
IVK                     Smax       13 38 31.7
     comp=E,528nm,1.4s
TLY  Talaya       5.83 240         Pn   13 37 08.0 +1.7
TLY  Talaya       5.83 240 ePn  Pn   13 37 07.4 +1.1
TLY                     ePg   Pb   13 37 23.2 +1.8
TLY                     Pmax       13 37 29.4
     comp=E,23nm,0.6s
TLY                     eSn   Sn   13 38 12.1 -1.5
TLY                     eSg   Sb   13 38 37.8 +6.3
TLY                     Smax       13 38 49.0
     comp=E,154nm,0.9s
TLY  Talaya       5.83 240dePN  Pn   13 37 08.0 +1.7
YKLR Yuktali      5.84  69 ePn  Pn   13 37 07.5 +1.1
YKLR                    ePg   Pb   13 37 24.9 +3.5
YKLR                    eSn   Sn   13 38 13.7 +0.1
YKLR                    eSg   Sg   13 38 41.6 -4.9
ARS  Arshan       6.33 246 ePn  Pn   13 37 14.2 +1.0
ARS                     ePg   Pb   13 37 32.8 +3.0
ARS                     Pmax       13 37 35.9
     comp=E,92nm,0.6s
ARS                     e          13 38 31.9
ARS                     eSg   Sb   13 38 53.1 +7.3
ARS                     Smax       13 39 06.7
     comp=E,811nm,0.9s
ZAK  Zakamensk    6.85 233 ePn  Pn   13 37 22.9 +2.5
ZAK                     ePg   Pb   13 37 42.7 +4.0
ZAK                     Pmax       13 37 55.5
     comp=E,22nm,1.1s
ZAK                     eSn   Sn   13 38 35.7 -3.1
ZAK                     eSg   Sg   13 39 12.1 -6.9
ZAK                     Smax       13 39 34.5
     comp=E,210nm,1.5s
ZAK  Zakamensk    6.85 233 ePN  Pn   13 37 22.6 +2.2
ZAK                     e          13 37 46.4
ZAK                     e          13 39 14.8
ZAK                     pmax  pmax
     comp=Z,17nm,0.6s
ZAK                     smax  smax
     comp=N,211nm,1.4s
MOY  Mondy        7.22 248 ePn  Pn   13 37 27.7 +2.2
MOY                     e          13 37 46.8
MOY                     max        13 38 03.0
     comp=N,34nm,0.9s
MOY                     e          13 38 46.7
MOY                     eSg   Sg   13 39 21.8 -9.1
MOY                     Smax       13 39 33.6
     comp=N,429nm,1.3s
MOY  Mondy        7.22 248 ePN  Pn   13 37 29.1 +3.6
MOY                     i          13 37 48.5
MOY                     eS    Sn   13 38 46.6 -1.3
MOY                     e          13 39 26.9
HILR Hailar Array B       7.23 134 Pn  Pn   13 37 25.9 +0.4
     baz=329,slow=12
HILR                    Lg    Lg   13 39 27.0
     baz=332,slow=21
     comp=N,4.4nm,0.4s
HIA  Hailar       7.45 136 Pn  Pn   13 37 27.9 -0.6
HIA  Hailar       7.45 136 e   Pn   13 37 27.5 -1.0
HIA                     ePg   Pb   13 37 54.9 +6.1
HIA                     e          13 37 55.8
HIA                     max        13 38 05.7
     comp=N,37nm,1.0s
HIA                     eSn   Sn   13 38 51.1 -2.2
HIA                     eSg   Sg   13 39 31.8 -6.3
HIA                     Smax       13 39 36.3
     comp=N,488nm,1.6s
HIA  Hailar       7.45 136 PN  Pn   13 37 27.9 -0.6
ORL  Orlik        7.48 257 ePn  Pn   13 37 29.9 +0.9
ORL                     max        13 37 34.0
     comp=N,47nm,1.0s
ORL                     e          13 37 39.8
ORL                     e          13 37 57.8
ORL                     eSn   Sn   13 38 49.3 -5.0
ORL                     eSg   Sg   13 39 29.3 -10
ORL                     Smax       13 39 36.1
     comp=N,360nm,1.4s
ORL  Orlik        7.48 257 ePN  Pn   13 37 30.2 +1.2
ORL                     e          13 37 54.7
ORL                     e          13 39 29.0
ORL                     pmax  pmax
     comp=Z,51nm,0.9s
ORL                     smax  smax
     comp=N,380nm,1.8s
ULN  Ulaanbaatar  7.61 205 Pn  Pn   13 37 31.4 +0.6
ULN  Ulaanbaatar  7.61 205cePN  Pn   13 37 33.5 +2.7
CLNS Chul'man     7.64  70 e   Pb   13 37 55.8 +3.7
CLNS                    eSn   Sn   13 38 55.6 -2.4
CLNS                    eSg   Sg   13 39 36.5 -7.7
SONM Songino Array        7.81 208         Pn   13 37 35.7 +2.2
SONM Songino Array        7.81 208 Pn  Pn   13 37 33.7 +0.2
     comp=N,2.4nm,0.3s,baz=20,slow=13,SNR=19
SONM                    Sn    Sn   13 39 04.3 +2.0
     comp=N,0.8nm,0.3s,baz=19,slow=26,SNR=3.7
SONM                    Lg    Lg   13 39 45.3
     comp=N,0.7nm,0.3s,baz=27,slow=27,SNR=4.0
     comp=N,3.5nm,0.3s
SONM Songino Array        7.81 208 PN  Pn   13 37 35.7 +2.2
SONM                                       13 39 04.3
ZEA  Zeya         9.12  91 eP   Pn   13 37 54.7 +3.4
ZEA                     e          13 39 29.9
ZEA                     pmax  pmax
     comp=E,10.0nm,1.0s
ZEA                     pmax  pmax
     comp=Z,10.0nm,0.5s
ZEA                     MLR   MLR
     comp=E,300nm,5.0s
ZEA                     MLR   MLR
     comp=N,200nm,3.0s
ZEA                     MLR   MLR
     comp=Z,300nm,6.0s
TDJR Todzha       9.64 262 ePn  Pn   13 37 59.7 +1.1
TDJR                    ePg        13 38 32.6
TDJR                    eSg   Sn   13 40 37.0 +50
KNGR Kungurtug, Tuv       9.65 250 e          13 40 06.1
KNGR                    eSg   Sn   13 40 36.1 +49
KNGR Kungurtug, Tuv       9.65 250⇑eP   Pn   13 37 59.1 +0.4
HEH  HeiHe       10.57 109 eP   Pn   13 38 15.3 +4.1
HEH                     S     Sn   13 40 05.8 -4.1
HEH                     smax  smax
     comp=N,320nm,0.9s
HEH                     smax  smax
     comp=E,150nm,1.0s
KZLR Kyzyl        10.85 260 eSg  Sn   13 41 11.9 +55
YAK  Yakutsk      11.77  45 LR   LR   13 43 20.0
     comp=E,57nm,19.5s,baz=246,slow=39
YAK  Yakutsk      11.77  45⇓eP   Pn   13 38 29.0 +1.4
BTO  Baotou       14.32 185 eP   Pn   13 39 01.5 -1.1
BTO                     S     Sn   13 41 41.5 -0.3
BTO                     pmax  pmax
     comp=Z,13nm,0.5s
BTO                     pmax  pmax
     comp=Z,150nm,6.7s
BTO                     LR    LR
     comp=N,700nm,6.1s
BTO                     LR    LR
     comp=E,280nm,5.5s
BTO                     LR    LR
     comp=Z,570nm,9.4s
ZAA0 Zalesovo Array       15.69 278         Pn   13 39 20.4 -0.4
ZAA0                    IAmb  IAmb 13 39 23.4
     comp=Z,15nm,0.9s
ZALV Zalesovo Beam        15.69 278         Pn   13 39 20.4 -0.4
ZALV Zalesovo Beam        15.69 278 Pn  Pn   13 39 19.9 -0.9
     comp=Z,0.2nm,0.3s,baz=72,slow=11,SNR=31
ZALV                    Lg    Lg   13 43 49.6
     baz=84,slow=26
ZALV                    LR    LR   13 45 29.0
     comp=Z,78nm,19.5s,baz=28,slow=38
     comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam        15.69 278 P   Pn   13 39 20.4 -0.4
USRK Ussuriysk Ar.        16.84 121 Lg  Lg   13 44 31.6
     comp=Z,0.1nm,0.3s,baz=325,slow=26,SNR=5.1
TIXI Tiksi        18.38  17 P   Pn   13 39 51.1 -3.3
TIXI Tiksi        18.38  17 P   Pn   13 39 50.7 -3.7
     comp=Z,2.4nm,0.4s,baz=228,slow=9.9,SNR=13
TIXI                    Sn    Sn   13 43 05.2 -14
     comp=Z,0.6nm,0.3s,baz=180,slow=5.1,SNR=2.9
TIXI                    Lg    Lg   13 45 10.5
     comp=Z,0.1nm,0.3s,baz=334,slow=22,SNR=4.3
TIXI                    LR    LR   13 46 18.7
     comp=Z,48nm,18.4s,baz=214,slow=35
TIXI Tiksi        18.38  17ceP   Pn   13 39 50.7 -3.7
TIXI                    pmax  pmax
     comp=Z,7.0nm,1.0s
MK31 Makanchi Array       20.18 259⇓eP   Pn   13 40 15.9 -0.4
MKAR Makanchi Array       20.18 259         Pn   13 40 15.4 -0.9
MKAR Makanchi Array       20.18 259 P   P    13 40 14.3 -0.2
     comp=Z,1.0nm,0.7s,baz=49,slow=8.5,SNR=11
MKAR                    Lg    Lg   13 46 16.7
     baz=62,slow=29,SNR=5.3
MKAR                    LR    LR   13 48 05.8
     comp=Z,59nm,20.6s,baz=44,slow=37
     comp=Z,1.0nm,0.7s
MKAR Makanchi Array       20.18 259 i P   Pn   13 40 17.1 +0.8
MKAR                    pmax  pmax
     comp=Z,3.0nm,1.0s
MAKZ Makanchi             20.35 259         Pn   13 40 17.1 -1.2
MAKZ Makanchi             20.35 259 P   Pn   13 40 17.1 -1.2
MAKZ                    pmax  pmax
     comp=Z,4.0nm,1.1s
KURK Kurchatov            20.36 272         Pn   13 40 17.5 -0.9
KURK                    IAmb  IAmb 13 40 21.4
     comp=Z,7.0nm,1.0s
KURK Kurchatov            20.36 272 P   Pn   13 40 17.5 -0.9
KURK                    pmax  pmax
     comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra      20.45 272 P   P    13 40 17.4  0.0
     comp=Z,1.5nm,0.3s,baz=65,slow=11,SNR=13
KURBB                   Lg    Lg   13 46 19.8
     baz=68,slow=30,SNR=2.3
     comp=Z,1.5nm,0.3s
KSRS Korea Array          20.61 141 P   Pn   13 40 21.7 +0.4
     comp=Z,0.8nm,0.8s,baz=337,slow=12,SNR=4.9
     comp=Z,0.8nm,0.8s
SEY  Seymchan             22.12  52 P   P    13 40 37.4 +2.2
     comp=Z,1.4nm,0.7s,baz=273,slow=12,SNR=7.4
     comp=Z,1.4nm,0.7s
BVAR Borovoye Array       24.18 283 P   P    13 40 56.7 +0.4
     comp=Z,2.1nm,0.5s,baz=61,slow=12,SNR=20
BVAR                    LR    LR   13 51 23.3
     comp=Z,65nm,18.4s,baz=80,slow=39
     comp=Z,2.1nm,0.5s
BORK Borovoye             24.21 283⇓eP   P    13 40 56.6 +0.1
BORK                    pmax  pmax
     comp=Z,7.0nm,0.7s
MJAR Matsushiro Arr       25.76 124 LR  LR   13 51 35.8
     comp=Z,53nm,18.3s,baz=237,slow=37
PETK Petropavlovsk-       26.68  75 LR  LR   13 52 00.2
     comp=Z,46nm,18.6s,baz=212,slow=37
AAK  Ala-Archa            27.12 259 LR  LR   13 52 37.7
     comp=Z,68nm,18.2s,baz=38,slow=38
AAK  Ala-Archa            27.12 259⇓eP   P    13 41 21.7 -1.4
AAK                     pmax  pmax
     comp=Z,6.0nm,1.6s
ARTI Arti                 29.56 295 LR  LR   13 56 19.3
     comp=Z,40nm,18.3s,baz=73,slow=42
AB31 Akbulak array        31.74 282         P    13 42 04.6 +0.8
ABKAR Akbulak array       31.74 282 P   P    13 42 04.5 +0.7
D19K Kuna River           40.70  34 P   P    13 43 20.5 +0.3
D19K                    IAmb  IAmb 13 43 30.8
     comp=Z,15nm,1.4s
OBN  Obninsk              41.18 302 eP   P    13 43 24.5 +0.3
OBN                     e*PP  sP   13 43 30.2 +3.2
OBN                     e          13 44 59.4
OBN                     ePPP  PPP  13 45 25.2
OBN                     pmax  pmax
     comp=Z,3.0nm,0.8s
OBN                     MLR   MLR
     comp=Z,38nm,17.0s
B22K Teshekpuk Lake       41.28  31 P   P    13 43 24.7 -0.1
FINES FINESS Array B      42.57 315 P   P    13 43 35.1 -0.4
     comp=Z,2.2nm,0.8s,baz=77,slow=10.0,SNR=5.0
     comp=Z,2.2nm,0.8s
FINES FINESS Array B      42.57 315 i P   P    13 43 38.5 +3.0
FINES                   pmax  pmax
     comp=Z,1.0nm,0.5s
GNI  Garni                45.82 280 LR  LR   14 05 46.3
     comp=Z,33nm,18.1s,baz=88,slow=40
ILAR Eielson Array        46.48  35 P   P    13 44 06.8  0.0
ILAR Eielson Array        46.48  35 P   P    13 44 08.0 +1.3
     comp=Z,1.7nm,0.8s,baz=299,slow=6.6,SNR=18
     comp=Z,1.7nm,0.8s
AKASG Malin Array Be      47.36 301 IAmb  IAmb 13 44 17.4
     comp=Z,3.5nm,1.3s
AKASG Malin Array Be      47.36 301 P   P    13 44 14.2 +0.4
     comp=Z,0.4nm,0.4s,baz=49,slow=9.0,SNR=4.5
AKASG                   LR    LR   14 06 10.9
     comp=Z,42nm,19.6s,baz=52,slow=39
     comp=Z,0.4nm,0.4s
AKASG Malin Array Be      47.36 301 i P   P    13 44 16.2 +2.4
AKASG                   pmax  pmax
```

comp=Z,1.0nm,0.5s
HFS Hagfors 48.26 318 P **P 13 44 20.2 -0.4**
comp=Z,1.3nm,0.6s,baz=55,slow=7.8,SNR=5.6
comp=Z,1.3nm,0.6s
K27K Chicken 48.55 34 P **P 13 44 22.5 -0.3**
K27K IAmb IAmb 13 44 55.7
comp=Z,5.7nm,1.4s
NB2 NORSAR Subarra 48.61 320 P **P 13 44 22.9 -0.4**
comp=Z,1.8nm,0.7s,baz=48,slow=7.4
NOA NORSAR Array B 48.61 320 P **P 13 44 23.4 0.0**
comp=Z,0.7nm,0.6s,baz=48,slow=7.3,SNR=4.0
comp=Z,0.7nm,0.6s
NBO00 NORSAR Array S 48.77 321 P **P 13 44 24.1 -0.5**
N25K Chitina, Valde 49.33 38 P **P 13 44 27.8 -1.2**
N25K IAmb IAmb 13 45 10.3
comp=Z,5.7nm,1.1s
H31M Peel River 49.68 30 P **P 13 44 30.2 -1.2**
BRTR Keskin Array B 52.34 288 P **P 13 44 51.8 -0.1**
comp=Z,0.7nm,0.6s,baz=81,slow=8.9,SNR=4.7
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 52.34 288 *i* P **P 13 44 55.9 +4.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 52.45 298 LR LR 14 08 38.8
comp=Z,43nm,19.6s,baz=46,slow=38
TOLI2 Tolitoli 54.09 169 P **P 13 45 05.9 +1.1**
TOLI2 IAmb IAmb 13 45 29.4
comp=Z,4.1nm,0.8s
VRAC Vranov 54.36 307 LR LR 14 10 39.0
comp=Z,46nm,18.5s,baz=38,slow=39
ESDC Sonseca Array 71.03 313 P **P 13 46 57.9 0.0**
comp=Z,1.0nm,0.9s,baz=32,slow=6.6,SNR=6.6
comp=Z,1.0nm,0.9s
KNRA Kununurra 71.73 163 P **P 13 47 00.4 -1.8**
PDAR Pinedale Array 76.56 30 P **P 13 47 28.5 -2.0**
PDAR Pinedale Array 76.56 30 P **P 13 47 30.2 -0.3**
comp=Z,0.2nm,0.3s,baz=325,slow=8.0,SNR=2.1
comp=Z,0.2nm,0.3s
WRAB Tennant Creek 76.96 158 P **P 13 47 32.2 -0.4**
WRAB IAmb IAmb 13 48 15.1
comp=Z,10nm,1.4s
WRAB Tennant Creek 76.96 158 P **P 13 47 32.2 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,1.5s
WRA Warramunga Arr 76.97 158 P **P 13 47 32.0 -0.6**
WRA Warramunga Arr 76.97 158 P **P 13 47 32.5 -0.1**
comp=Z,0.4nm,0.7s,baz=355,slow=6.4,SNR=2.9
comp=Z,0.4nm,0.7s
WR8 Warramunga Arr 77.01 158 P **P 13 47 31.9 -1.0**
WR8 IAmb IAmb 13 47 56.9
comp=Z,12nm,1.5s
MDT Midelt 77.07 309 LR LR 14 24 43.7
comp=Z,40nm,18.6s,baz=58,slow=38
NVAR Mina Array Bea 77.66 38 P **P 13 47 37.7 +0.9**
comp=Z,0.2nm,0.3s,baz=349,slow=9.8,SNR=1.8
comp=Z,0.2nm,0.3s
ASAR Alice Springs 80.49 160 P **P 13 47 52.4 +0.4**
comp=Z,0.3nm,0.8s,baz=344,slow=8.4,SNR=1.8
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 144.63 180 PKP **PKPdf 13 55 15.9 +0.6**
comp=Z,1.1nm,0.7s,baz=329,slow=1.2,SNR=9.7
SNAA Sanae 148.24 213 PKPbc **PKPbc 13 55 24.6 -0.1**
comp=Z,1.5nm,1.1s,baz=8.8,slow=2.5,SNR=3.7

*TEH **29** 13:48:51.9, 27°.31N×55°.15E, h9km±35km*
*IDC **29** 13:48:56.5±14.0, 28°.14N×55°.33E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=296.5km s-min=39.4km az=178.0*
ISC 29 13:48:51.9±1.3, 27°.2N±0°.1×55°.13E±0°.05, h17km, n21, σ1°25/20, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.83**	**306**	Pg	**Pb**	**13 49 06.8**	**-1.2**
BNDS	**Bandar-Abbas**	**0.95**	**76**	Pg	**Pb**	**13 49 09.6**	**-0.5**
GENO	**Geno**	**0.95**	**76**	Pg	**Pb**	**13 49 09.9**	**-0.2**
IBND	**Bandar-abas**	**1.28**	**77**	Pg	**Pn**	**13 49 16.0**	**+0.9**
LMD1	**Lamerd**	**1.76**	**276**	Pg	**Pg**	**13 49 25.6**	**-0.1**
JHRM	**Jahrom**	**1.91**	**314**	Pn	**Pn**	**13 49 25.5**	**+1.7**
NGRK	**Negar Kerman**	**2.83**	**29**	Pn	**Pn**	**13 49 37.7**	**+0.9**
KRBR	**Kerman**	**3.14**	**27**	Pn	**Pn**	**13 49 42.1**	**+1.1**
KHGB	**Koh Gabri**	**3.40**	**20**	Pn	**Pn**	**13 49 46.1**	**+1.6**
KBAM	**BAM**	**3.52**	**56**	Pn	**Pn**	**13 49 47.5**	**+1.5**
IMEH	**Mehriz**	**4.22**	**354**	Pn	**Pn**	**13 49 57.2**	**+1.4**
IBAF	**Bafgh**	**4.42**	**5**	Pn	**Pn**	**13 49 59.3**	**+0.9**
KLNJ	**Kolanjah**	**4.92**	**322**	Pn	**Pn**	**13 50 06.7**	**+1.3**
TPRV	**Parvadeh(Tabas**	**5.99**	**13**	Pn	**Pn**	**13 50 21.1**	**+1.2**
TKDS	**Koohdasht(Taba**	**6.64**	**15**	Pn	**Pn**	**13 50 30.1**	**+1.2**
TNSJ	**Nastanj**	**6.88**	**10**	Pn	**Pn**	**13 50 32.6**	**+0.4**
BRTR	**Keskin Array B**	**21.80**	**310**	P	**P**	**13 53 45.2**	**+1.9**
	1.1nm,0.7s,baz=120,slow=12,SNR=6.2 1.1nm,0.7s						
BVAR	**Borovoye Array**	**28.21**	**20**	P	**P**	**13 54 42.2**	**-1.4**
	0.5nm,0.3s,baz=211,slow=10,SNR=4.4 0.5nm,0.3s						
MKAR	**Makanchi Array**	**28.99**	**40**	P	**P**	**13 54 50.5**	**-0.3**
	0.2nm,0.7s,baz=245,slow=9.4,SNR=2.1 0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**29.43**	**31**	LR	LR	14 08 22.1	
	comp=Z,39nm,19.7s,baz=181,slow=41						
ZALV	**Zalesovo Beam**	**34.52**	**31**	P	**P**	**13 55 38.1**	**-1.1**
	0.8nm,0.4s,baz=231,slow=8.1,SNR=5.5 0.8nm,0.4s						

IDC 29 13:50:23.3±2.9, 10°.04N×123°.61E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=289.1km s-min=26.7km az=64.0, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.61**	**160**	P	P	13 56 48.9	+0.8
	0.4nm,0.6s,baz=339,slow=10,SNR=7.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**34.98**	**163**	P	P	13 57 16.7	-0.8
	0.2nm,0.8s,baz=347,slow=7.0,SNR=8.2 0.2nm,0.8s						
MKAR	**Makanchi Array**	**50.65**	**324**	P	P	13 59 24.2	-0.1
	0.5nm,0.6s,baz=110,slow=7.8,SNR=6.0 0.5nm,0.6s						

*IDC **29** 13:52:04.9±4.8, 17°.41S×178°.90W, h528km±54km, mb3.5/10, mbtmp4.4/11, Error ellipse: s-maj=25.3km s-min=18.6km az=125.0*
*NEIC **29** 13:52:06.7±1.5, 17°.7S±0°.1×178°.8W±0°.1, h551km±8km, mb4.3/52, Error ellipse: s-maj=18.5km s-min=14.7km az=146.0*
ISC 29 13:52:05.5±0.5, 17°.62S±0°.10×178°.77W±0°.08, h539km, n73, σ0°97/75, mb4.3/35, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.04**	**267**		**P**	**13 53 24.6**	**+4.6**
AFI	**Afiamalu**	**7.67**	**62**		**P**	**13 53 58.7**	**-1.2**
NIUE	**Niue**	**8.52**	**101**	P	**P**	**13 54 08.7**	**+0.4**
MARNC	**Mare, Loyalty**	**13.02**	**251**	P	**P**	**13 54 54.6**	**-0.1**
PINNC	**Pines Island,**	**13.87**	**247**	P	**P**	**13 55 03.9**	**+0.5**
DZM	**Mont Dzumac**	**14.60**	**250**	P	**P**	**13 55 10.4**	**-0.8**
	14nm,0.6s,baz=73,slow=18,SNR=15						
ONTNC	**Ouen Toro**	**14.65**	**249**	P	**P**	**13 55 11.9**	**+0.3**
TUWZ	**Tuamarina**	**24.54**	**193**	P	**P**	**13 56 42.6**	**-0.1**
LTZ	**Lake Taylor**	**26.22**	**195**	P	**P**	**13 56 55.2**	**-2.2**
EIDS	**Eidsvold**	**29.05**	**249**	P	**P**	**13 57 22.4**	**-0.1**
EIDS				IAmb	IAmb	13 57 23.1	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**29.79**	**239**	P	**P**	**13 57 29.3**	**+0.3**
CAN	**Canberra**	**33.61**	**232**	P	**P**	**13 58 00.3**	**-1.1**
CAN				IAmb	IAmb	13 58 02.5	
	comp=Z,14nm,1.0s						
PMG	**Port Moresby**	**34.07**	**279**	P	**P**	**13 58 03.7**	**-1.8**
MANU	**Manus Island**	**36.67**	**291**		**P**	**13 58 27.4**	**+0.3**
COEN	**Coen**	**36.76**	**270**	P	**P**	**13 58 28.1**	**+0.3**
TOO	**Toolangi**	**37.09**	**230**		**P**	**13 58 30.6**	**+0.3**
TOO				IAmb	IAmb	13 58 31.4	
	comp=Z,8.6nm,0.8s						
STKA	**Stephens Creek**	**38.47**	**241**		**P**	**13 58 41.7**	**+0.1**
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**13 58 41.5**	**-0.1**
	comp=Z,14nm,1.0s,baz=91,slow=7.2,SNR=26 comp=Z,14nm,1.0s						
INKA	**Innaminka**	**38.54**	**247**		**P**	**13 58 42.4**	**+0.2**
INKA				IAmb	IAmb	13 58 43.8	
	comp=Z,7.6nm,1.1s						
BBOO	**Buckleboo**	**43.25**	**241**	P	**P**	**13 59 19.4**	**-0.2**

WR8	**Warramunga Arr**	**44.20**	**259**	P	**P**	**13 59 26.2**	**-0.9**
WR8				IAmb	IAmb	13 59 27.1	
	comp=Z,8.6nm,1.1s						
WB0	**Warramunga Arr**	**44.31**	**260**	P	**P**	**13 59 27.1**	**-0.9**
WB0				IAmb	IAmb	13 59 27.9	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**44.34**	**259**	P	**P**	**13 59 27.2**	**-1.0**
WRAB				IAmb	IAmb	13 59 28.1	
	comp=Z,5.9nm,0.8s						
WRA	**Warramunga Arr**	**44.35**	**259**		**P**	**13 59 27.2**	**-1.1**
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**13 59 27.1**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=96,slow=7.3,SNR=60						
WRA				PcP	**PcP**	**14 01 00.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=88,slow=3.2,SNR=3.7 comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	**44.54**	**254**		**P**	**13 59 29.3**	**-0.5**
AS31				IAmb	IAmb	13 59 30.4	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**44.54**	**254**		**P**	**13 59 29.3**	**-0.5**
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**13 59 29.1**	**-0.6**
	comp=Z,43nm,0.7s,baz=90,slow=7.6,SNR=654						
ASAR				PcP	**PcP**	**14 01 00.7**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=96,slow=3.8,SNR=2.8 comp=Z,43nm,0.7s						
MTN	**Manton Dam**	**48.46**	**268**	P	**P**	**13 59 59.2**	**-0.3**
MTN				IAmb	IAmb	14 00 19.2	
	comp=Z,21nm,1.2s						
FORT	**Forrest**	**49.82**	**244**	P	**P**	**14 00 08.5**	**-0.8**
FORT				IAmb	IAmb	14 00 09.2	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**50.18**	**264**	P	**P**	**14 00 11.8**	**-0.3**
KNRA				IAmb	IAmb	14 00 12.4	
	comp=Z,12nm,0.8s						
FAKI	**Fak Fak**	**50.19**	**281**	P	**P**	**14 00 11.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.74**	**260**	P	**P**	**14 00 31.2**	**+0.6**
MBWA	**Marble Bar**	**57.81**	**256**	P	**P**	**14 01 05.0**	**-0.9**
MBWA				IAmb	IAmb	14 01 37.7	
	comp=Z,39nm,1.4s						
SBA	**Scott Base**	**60.69**	**183**	P	**P**	**14 01 24.9**	**+0.8**
VNDA	**Vanda**	**60.70**	**185**	P	**P**	**14 01 24.5**	**+0.2**
GIRL	**Giralia**	**62.65**	**253**	P	**P**	**14 01 38.3**	**+0.4**
CASY	**Casey**	**66.25**	**205**	P	**P**	**14 01 59.1**	**-0.8**
SSLB	**Suanglung**	**71.79**	**303**	P	**P**	**14 02 32.3**	**-1.7**
SSLB				IAmb	IAmb	14 03 02.9	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**72.43**	**180**		**P**	**14 02 38.4**	**+1.3**
QSPA				IAmb	IAmb	14 02 40.0	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	**72.43**	**180**	P	**P**	**14 02 38.9**	**+1.8**
	comp=Z,3.6nm,0.9s,baz=19,slow=1.0,SNR=18 comp=Z,3.6nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.31**	**345**	P	**P**	**14 02 42.0**	**-0.1**
PETK	**Petropavlovsk-**	**73.31**	**345**	P	**P**	**14 02 42.0**	**-0.1**
	comp=Z,7.7nm,1.1s,baz=130,slow=7.7,SNR=6.0 comp=Z,7.7nm,1.1s						
N14K	**Kuskokwak Cree**	**78.51**	**9**	P	**P**	**14 03 11.1**	**+0.5**
MDPB	**Devils Postpil**	**78.51**	**44**	P	**P**	**14 03 11.4**	**-0.1**
CWC	**Cottonwood Cre**	**78.55**	**46**	P	**P**	**14 03 12.1**	**+0.4**
SLBS	**Sierra La Lagu**	**78.72**	**61**	P	**P**	**14 03 13.1**	**+0.4**
SLBS				IAmb	IAmb	14 03 17.5	
	comp=Z,14nm,1.2s						
DSP	**Deep Springs**	**79.11**	**45**		**P**	**14 03 14.8**	**+0.5**
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**14 03 16.8**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=228,slow=8.5,SNR=6.9 comp=Z,1.5nm,0.8s						
J05D	**Fort Rock, OR**	**80.31**	**39**	P	**P**	**14 03 21.1**	**+0.3**
J05D				IAmb	IAmb	14 03 22.3	
	comp=Z,5.6nm,0.7s						
M17K	**Holitna River**	**80.58**	**10**	P	**P**	**14 03 22.5**	**+1.0**
M17K				IAmb	IAmb	14 03 22.9	
	comp=Z,29nm,1.5s						
K15K	**Wolf Creek Mou**	**80.81**	**8**	P	**P**	**14 03 23.3**	**+0.6**
K15K				IAmb	IAmb	14 03 25.0	
	comp=Z,15nm,1.1s						
L18K	**Granite Mounta**	**81.47**	**10**	P	**P**	**14 03 26.4**	**+0.3**
J16K	**Anvik River**	**81.88**	**8**	P	**P**	**14 03 28.4**	**+0.2**
J16K				IAmb	IAmb	14 03 35.7	
	comp=Z,12nm,1.3s						
X16A	**Lo Mia Camp, P**	**82.26**	**50**		**P**	**14 03 31.3**	**+0.3**
U15A	**North Rim**	**82.58**	**48**	P	**P**	**14 03 33.2**	**+0.5**
U15A				IAmb	IAmb	14 03 34.4	
	comp=Z,4.9nm,0.9s						
ELK	**Elko**	**82.68**	**43**		**P**	**14 03 33.0**	**-0.1**
K20K	**Telida**	**82.99**	**11**	P	**P**	**14 03 33.8**	**0.0**
K20K				IAmb	IAmb	14 03 54.9	
	comp=Z,11nm,1.5s						
SCM	**Sheep Creek Mo**	**83.03**	**14**	P	**P**	**14 03 34.1**	**0.0**
N25K	**Chitina, Valde**	**83.52**	**16**	P	**P**	**14 03 36.4**	**-0.1**
N25K				IAmb	IAmb	14 04 02.1	
	comp=Z,17nm,1.4s						
O28M	**Mount Upton**	**84.04**	**18**	P	**P**	**14 03 39.4**	**-0.1**
F10A	**Beach Ranch, E**	**84.18**	**38**	P	**P**	**14 03 39.5**	**-0.8**
F10A				IAmb	IAmb	14 03 41.0	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**85.68**	**13**	P	**P**	**14 03 45.2**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=225,slow=5.0,SNR=9.2 comp=Z,0.8nm,0.8s						
J25K	**Salcha River,**	**85.88**	**14**	P	**P**	**14 03 47.5**	**-0.6**
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**14 03 50.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=221,slow=6.4,SNR=17 comp=Z,1.8nm,0.8s						
J26L	**Joseph Creek**	**86.21**	**14**	P	**P**	**14 03 50.0**	**+0.4**
M30M	**Minto, Yukon**	**86.47**	**18**	P	**P**	**14 03 50.6**	**-0.2**
M30M				IAmb	IAmb	14 04 08.7	
	comp=Z,7.6nm,1.5s						
HHC	**Hu-ho-hao-te**	**86.83**	**315**	*eP*	**P**	**14 03 54.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**14 03 55.5**	**-0.3**
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**14 03 55.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=208,slow=3.6,SNR=8.8 comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**88.45**	**13**	P	**P**	**14 04 00.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.46**	**290**	P	**P**	**14 04 01.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=115,slow=5.3,SNR=4.4 comp=Z,0.4nm,0.5s						
SNAA	**Sanae**	**90.89**	**179**	P	**P**	**14 04 09.6**	**-1.9**
SNAA				IAmb	IAmb	14 04 13.1	
	comp=Z,4.2nm,1.4s						

TAP 29 13:55:39.5, 22°.80N×120°.67E, h20km, ML2.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.06**	**211**	*i* P	Pg	13 55 43.6	+0.3
SSD				*i* S	Sg	13 55 46.3	+0.6
TSMG	**Majia**	**0.10**	**193**	*i* P	Pg	13 55 43.7	+0.2
TSMG				*i* S	Sg	13 55 46.5	+0.4
SGLT	**Jiouru**	**0.18**	**245**	*i* P	Pg	13 55 45.6	+1.2
SGLT				S	Sg	13 55 49.9	+2.2
SCST	**Cishan**	**0.18**	**298**	*i* P	Pg	13 55 45.0	+0.6
SCST				*i* S	Sg	13 55 50.3	+2.5
MASBT	**Mashibuluo**	**0.19**	**190**	*i* P	Pg	13 55 45.0	+0.4
MASBT				*i* S	Sg	13 55 48.7	+0.7
TSPT	**Pingtung City**	**0.20**	**232**	P	Pg	13 55 46.0	+1.2
TSPT				*eS*	Sg	13 55 49.6	+1.4
TWM1	**Shoushan**	**0.23**	**276**	*i* P	Pg	13 55 46.5	+1.3
TWM1				S	Sg	13 55 52.4	+3.4
ECL	**Taimali**	**0.33**	**127**	*i* P	Pb	13 55 47.4	+0.6
ECL				*i* S	Sg	13 55 52.7	+0.9
STYT	**Tauyuan**	**0.37**	**13**	*i* P	Pb	13 55 48.2	+0.7
STYT				*i* S	Sb	13 55 54.3	+1.4
TWG	**Pinlang**	**0.37**	**87**	*i* P	Pb	13 55 48.4	+0.9
TWG				*i* S	Sb	13 55 54.4	+1.5
TWGBT	**Beinan**	**0.38**	**87**	P	Pb	13 55 48.3	+0.7
TWGBT	**Beinan**	**0.38**	**87**	S	Sb	13 55 54.3	+1.2
TWGBT	**Beinan**	**0.38**	**87**	*i* P	Pb	13 55 48.5	+0.8
TWGBT				*i* S	Sb	13 55 54.5	+1.4
STYH	**Taoyuan**	**0.38**	**15**	*i* P	Pb	13 55 48.4	+0.8
STYH				*i* S	Sb	13 55 54.7	+1.6
CHN3	**Shinhua**	**0.39**	**314**	*eP*	Pn	13 55 50.5	+0.4
CHN3				*eS*	Sn	13 55 57.8	+0.8
CHN1	**Nanshi**	**0.40**	**341**	P	Pb	13 55 49.0	+0.9
CHN1				S	Sn	13 55 56.2	-1.1
WSSB	**Gushan**	**0.41**	**247**	*eP*	Pn	13 55 50.1	-0.2
WSSB				*eS*	Sn	13 55 58.3	+0.9
SCZT	**Fangliau**	**0.43**	**186**	*i* P	Pg	13 55 49.0	+0.5
LONT	**Longtian**	**0.44**	**76**	P	Pg	13 55 49.4	+0.8
LONT				*i* S	Sb	13 55 56.0	+1.2
TTN	**Taitung**	**0.45**	**96**	*i* P	Pn	13 55 50.3	-0.5
TTN				*i* S	Sn	13 55 58.2	-0.1
SNST	**Tainan City**	**0.45**	**339**	P	Pg	13 55 49.6	+0.8
SNST				*i* S	Sn	13 55 57.5	-0.8
WTP	**Ta-pu**	**0.45**	**354**	*i* P	Pg	13 55 49.4	+0.6
WTP				*i* S	Sn	13 55 56.9	-1.5
EAST	**Anshuo**	**0.45**	**158**	*i* P	Pg	13 55 49.3	+0.5
EAST				*i* S	Sb	13 55 56.7	+1.6
TAI1	**Yung-k'ang**	**0.47**	**300**	*eP*	Pn	13 55 51.0	-0.1
TAW	**Tawu**	**0.49**	**154**	*i* P	Pg	13 55 50.3	+0.7
TAW				S	Sg	13 55 57.6	+1.3
TWK	**Hsinying**	**0.49**	**340**	*eP*	Pn	13 55 51.1	-0.4
TWK				*i* S	Sn	13 55 58.7	-0.9
TPUB	**Ta-pu**	**0.50**	**356**	P	Pg	13 55 50.2	+0.5
TPUB	**Ta-pu**	**0.50**	**356**	S	Sn	13 55 58.2	-1.5
TPUB	**Ta-pu**	**0.50**	**356**	P	Pg	13 55 50.2	+0.4
TPUB				*i* S	Sn	13 55 58.2	-1.4
TAWH	**Dawu Township**	**0.50**	**156**	*i* P	Pg	13 55 50.4	+0.6
TAWH				*i* S	Sg	13 55 57.8	+1.2
ELDTW	**Lidau**	**0.50**	**40**	*eP*	Pg	13 55 50.3	+0.5
ELDTW				S	Sg	13 55 58.0	+1.2
SCLT	**Jiali**	**0.57**	**311**	*eP*	Pn	13 55 52.1	-0.5
SCLT				*i* S	Sn	13 56 02.3	+0.8
SLIU	**Shizi**	**0.59**	**168**	*eP*	Pg	13 55 52.1	+0.6
EDH	**Donghe**	**0.61**	**74**	*eP*	Pn	13 55 52.6	-0.5
EDH				S	Sg	13 56 01.1	+1.1
TSCK	**Chigu Township**	**0.64**	**303**	*eP*	Pn	13 55 53.4	-0.1
TSCK				*eS*	Sn	13 56 03.6	+0.6
WCKO	**Fanlu**	**0.64**	**355**	*eP*	Pn	13 55 53.5	0.0
WCKO				S	Sn	13 56 02.7	-0.4
CHN8	**Yiju**	**0.69**	**322**	*eS*	Sn	13 56 05.0	+0.8
FULB	**Fuli**	**0.70**	**55**	*eP*	Pn	13 55 54.1	-0.2
FULB				*eS*	Sn	13 56 04.5	-0.2
ALS	**Alishan**	**0.72**	**10**	P	Pn	13 55 54.9	0.0
ALS				*i* S	Sn	13 56 06.2	+0.7
CHY	**Chiayi**	**0.73**	**342**	*eP*	Pn	13 55 54.9	+0.1
CHY				*eS*	Sn	13 56 06.4	+1.1
LDUT	**Ludao**	**0.75**	**100**	*eP*	Pn	13 55 54.8	-0.3
LDUT				*eS*	Sn	13 56 06.0	+0.2
CHKH	**Chenggong**	**0.78**	**60**	*eP*	Pn	13 55 55.8	+0.4
CHN5	**Tsauling**	**0.79**	**1**	*eP*	Pn	13 55 56.4	+0.7
CHN5				S	Sn	13 56 08.4	+1.4
TWF1	**Yuli**	**0.80**	**46**	P	Pg	13 55 55.4	+0.1
TWF1				S	Sg	13 56 06.1	+0.2
WSL	**Shuilin Townsh**	**0.82**	**331**	*eP*	Pn	13 55 56.0	0.0
WSL				S	Sn	13 56 08.9	+1.2
YULB	**Yu-li**	**0.83**	**44**	P	Pg	13 55 55.8	0.0
YULB	**Yu-li**	**0.83**	**44**	*eP*	Pg	13 55 55.9	+0.1
YULB				S	Sg	13 56 06.7	-0.1
TWKBT	**Hengchun**	**0.87**	**171**	*eP*	Pn	13 55 57.3	+0.7
TWKBT				*eS*	Sn	13 56 10.2	+1.5
WDLH	**Douliu**	**0.89**	**352**	*eS*	Sn	13 56 10.3	+1.0
WHYT	**Xinyi Township**	**0.91**	**11**	P	Pg	13 55 58.1	+0.7
WHYT				S	Sn	13 56 11.7	+1.9
WTK	**Tuku**	**0.92**	**344**	*eP*	Pg	13 55 57.8	+0.2
WTK				*i* S	Sn	13 56 10.8	+0.8
EHY	**Hungye**	**0.93**	**40**	*eP*	Pg	13 55 57.8	+0.2
EHY				*eS*	Sg	13 56 10.0	+0.1
EHYH	**Wanrong**	**0.93**	**42**	*eP*	Pn	13 55 57.6	+0.1
EHYH				*eS*	Sn	13 56 10.3	0.0
WSF	**Szhu**	**0.93**	**334**	*eS*	Sn	13 56 11.2	+1.0
HGSD	**Ruisui**	**0.98**	**45**	*eP*	Pg	13 55 59.2	+0.5
HGSD				*eS*	Sg	13 56 13.1	+1.5
SSLB	**Suanglung**	**1.02**	**15**	P	Pg	13 55 59.7	+0.3
SSLB	**Suanglung**	**1.02**	**15**	S	Sg	13 56 13.0	+0.2
SSLB	**Suanglung**	**1.02**	**15**	*eP*	Pg	13 55 59.7	+0.3
SSLB				*i* S	Sg	13 56 13.9	+1.1
VWDT	**VWDT**	**1.04**	**25**	*eP*	Pg	13 56 00.2	+0.3
VWDT				S	Sg	13 56 15.8	+2.2
TYC	**Yuchr**	**1.11**	**9**	P	Pg	13 56 01.3	+0.2
TYC				S	Sg	13 56 17.2	+1.4
LAY	**Lan-yu**	**1.11**	**133**	*eP*	Pb	13 56 00.7	+0.5
LAY				S	Sg	13 56 15.6	-0.3
WARBT	**Fenglin Townsh**	**1.13**	**36**	P	Pg	13 56 01.1	-0.3
WARBT				*eS*	Sg	13 56 17.0	+0.7
PHUB	**P'eng-hu**	**1.23**	**305**	P	Pn	13 56 00.9	-0.8
PHUB				*eS*	Sb	13 56 16.4	-1.3
OWD	**Renai**	**1.24**	**22**	P	Pg	13 56 03.5	-0.1
OWD				S	Sg	13 56 20.2	+0.3
WUSB	**Renai**	**1.25**	**19**	*i* P	Pg	13 56 03.3	-0.6
WUSB				*eS*	Sg	13 56 20.3	-0.1
LXIB	**Xiulin Townshi**	**1.39**	**29**	*eP*	Pg	13 56 05.9	-0.7
LXIB				S	Sg	13 56 24.8	0.0
WHP	**Taichung City**	**1.49**	**10**	*eP*	Pb	13 56 06.7	0.0
WHP				*eS*	Sg	13 56 27.3	-0.6
ETLH	**Xiulin Townshi**	**1.59**	**28**	*eP*	Pb	13 56 08.9	+0.6
ETLH				*eS*	Sg	13 56 29.4	-1.5
NACB	**Ninganchiao**	**1.61**	**32**	P	Pb	13 56 09.5	+0.9
NACB	**Ninganchiao**	**1.61**	**32**	S	Sg	13 56 30.8	-0.8
LATG	**Datong**	**1.90**	**24**	*eP*	Pb	13 56 13.4	-0.2
LATG				*eS*	Sb	13 56 38.2	+1.3
YHNB	**Yeheng**	**1.97**	**19**	P	Pb	13 56 14.8	0.0
YHNB	**Yeheng**	**1.97**	**19**	S	Sb	13 56 39.6	+0.6

*IDC **29** 13:57:39.3±0.8, 6°.79N×124°.92E, h0km, mb3.7/9, mbtmp3.7/9, MS3

NEIC ***29*** *14:30:49.9±2.4, 46°.2S±0°.1×165°.92E±0°.04, h10km±1km, mb4.3/7, Error ellipse: s-maj=18.5km s-min=3.0km az=168.0*
NOU ***29*** *14:30:51.0, 46°.30S×166°.01E, h14km, MLv4.6/9, Off W. Coast of S. Island, N.Z.*
WEL ***29*** *14:30:52.1±0.9, 46°.5S±4°×16°.6E±°, h12km, M4.2/13, ML4.4/13, MLv4.2/13, Error ellipse: s-maj=7.0km s-min=5.2km az=70.3, confirmed*
ISC 29 14:30:50.8±1.6, 46°.15S±0°.05×165°.95E±0°.05, h18km±9km, n90, σ1°.41/114, mb4.4/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.51**	**92**		**Pb**	**14 31 01.5**	**+0.2**
PYZ					**Sb**	**14 31 09.5**	**+1.2**
PYZ	**Puysegur Point**	**0.51**	**92**	P	**Pb**	**14 31 01.5**	**+0.2**
PYZ	**Puysegur Point**	**0.51**	**92**	S	**Sb**	**14 31 09.0**	**+0.7**
PYZ	**Puysegur Point**	**0.51**	**92**	P	**Pb**	**14 31 01.7**	**+0.4**
PYZ				S	**Sb**	**14 31 09.1**	**+0.8**
RLNS	**Resolution Isl**	**0.69**	**48**	P	**Pg**	**14 31 04.5**	**+0.1**
RLNS				S	**Sn**	**14 31 15.6**	**-0.6**
RRKS	**Rarakau**	**1.06**	**90**	P	**Pb**	**14 31 10.1**	**-0.5**
RRKS				S	**Sb**	**14 31 24.3**	**+0.2**
DCZ	**Deep Cove**	**1.09**	**51**		**Pb**	**14 31 10.6**	**-0.5**
DCZ					**Sb**	**14 31 24.5**	**-0.4**
DCZ	**Deep Cove**	**1.09**	**51**	P	**Pb**	**14 31 10.2**	**-0.9**
DCZ				S	**Sb**	**14 31 24.6**	**-0.3**
ORPS	**Orepuki**	**1.27**	**97**	S	**Sb**	**14 31 29.7**	**-0.5**
WHZ	**Wether Hill Ro**	**1.42**	**80**		**Pn**	**14 31 15.7**	**0.0**
WHZ	**Wether Hill Ro**	**1.42**	**80**	P	**Pn**	**14 31 15.9**	**+0.1**
WHZ				S	**Sn**	**14 31 34.1**	**+0.2**
TAFS	**Te Anau Fire S**	**1.44**	**60**	P	**Pb**	**14 31 17.4**	**+0.3**
TAFS				S	**Sg**	**14 31 36.4**	**-0.9**
APZ	**The Paps**	**1.56**	**117**	P	**Pn**	**14 31 16.9**	**-0.9**
APZ				S	**Sn**	**14 31 35.1**	**-2.5**
MLZ	**Mavora Lakes**	**1.71**	**63**		**Pb**	**14 31 21.0**	**-0.7**
MLZ	**Mavora Lakes**	**1.71**	**63**	P	**Pb**	**14 31 21.5**	**-0.2**
MSZ	**Milford Sound**	**2.03**	**44**	P	**Pn**	**14 31 24.9**	**+0.8**
SYZ	**Scrubby Hill**	**2.24**	**101**	P	**Pn**	**14 31 27.0**	**0.0**
SYZ	**Scrubby Hill**	**2.24**	**101**	S	**Sn**	**14 31 54.4**	**+0.1**
SYZ	**Scrubby Hill**	**2.24**	**101**	P	**Pn**	**14 31 27.1**	**0.0**
SYZ				S	**Sn**	**14 31 54.8**	**+0.5**
EAZ	**Earnscleugh**	**2.53**	**70**	P	**Pn**	**14 31 32.6**	**+1.6**
EAZ				S	**Sb**	**14 32 06.9**	**+0.5**
WKZ	**Wanaka**	**2.53**	**60**		**Pn**	**14 31 32.7**	**+1.6**
WKZ	**Wanaka**	**2.53**	**60**	P	**Pn**	**14 31 33.5**	**+2.4**
TUZ	**Tuapeka**	**2.57**	**87**	P	**Pn**	**14 31 32.4**	**+0.8**
TUZ				S	**Sn**	**14 32 02.8**	**+0.4**
JCZ	**Jackson Bay**	**2.89**	**45**	P	**Pn**	**14 31 38.0**	**+1.9**
JCZ	**Jackson Bay**	**2.89**	**45**	P	**Pn**	**14 31 37.7**	**+1.6**
HHSZ	**Highcliff Hill**	**3.25**	**87**	P	**Pn**	**14 31 41.8**	**+0.9**
HHSZ				S	**Sn**	**14 32 21.8**	**+2.6**
LBZ	**Lake Benmore**	**3.47**	**61**		**Pn**	**14 31 44.8**	**+0.9**
LBZ	**Lake Benmore**	**3.47**	**61**	P	**Pn**	**14 31 44.9**	**+0.9**
ODZ	**Otahua Downs**	**3.48**	**73**		**Pn**	**14 31 43.7**	**-0.3**
ODZ	**Otahua Downs**	**3.48**	**73**	P	**Pn**	**14 31 43.7**	**-0.3**
ODZ	**Otahua Downs**	**3.48**	**73**	P	**Pn**	**14 31 43.8**	**-0.3**
ODZ				S	**Sn**	**14 32 25.3**	**+0.5**
FOZ	**Fox Glacier**	**3.80**	**48**		**Pn**	**14 31 49.0**	**+0.6**
FOZ	**Fox Glacier**	**3.80**	**48**	P	**Pn**	**14 31 50.0**	**+1.6**
FOZ				S	**Sn**	**14 32 34.5**	**+1.9**
TMZ	**Timaru**	**3.98**	**65**	P	**Pn**	**14 31 50.9**	**-0.1**
ARCZ	**Arundel**	**4.31**	**61**	P	**Pn**	**14 31 55.3**	**-0.2**
ARCZ				S	**Sn**	**14 32 46.1**	**+0.8**
RPZ	**Rata Peaks**	**4.37**	**58**		**Pn**	**14 31 56.4**	**+0.1**
RPZ				Sn	**Sn**	**14 32 47.2**	**+0.5**
RPZ	**Rata Peaks**	**4.37**	**58**	P	**Pn**	**14 31 56.6**	**+0.3**
OXZ	**Oxford**	**5.17**	**59**		**Pn**	**14 32 06.7**	**-0.7**
OXZ	**Oxford**	**5.17**	**59**	P	**Pn**	**14 32 06.8**	**-0.6**
OXZ				S	**Sn**	**14 33 03.3**	**-3.3**
INZ	**Inchbonnie**	**5.22**	**51**	Pn	**Pn**	**14 32 08.5**	**+0.6**
INZ	**Inchbonnie**	**5.22**	**51**	P	**Pn**	**14 32 08.6**	**+0.7**
INZ				S	**Sn**	**14 33 08.4**	**+0.8**
MQZ	**McQueen's Vall**	**5.35**	**65**	Pn	**Pn**	**14 32 09.8**	**+0.1**
MQZ	**McQueen's Vall**	**5.35**	**65**	P	**Pn**	**14 32 09.7**	**0.0**
OKCZ	**Okains Bay**	**5.60**	**67**	P	**Pn**	**14 32 15.8**	**+2.6**
OKCZ				S	**Sn**	**14 33 15.9**	**-1.3**
AMCZ	**Amberley**	**5.63**	**61**	P	**Pn**	**14 32 13.8**	**+0.2**
AMCZ				S	**Sn**	**14 33 16.5**	**-1.2**
LTZ	**Lake Taylor**	**5.64**	**56**		**Pn**	**14 32 13.2**	**-0.6**
LTZ	**Lake Taylor**	**5.64**	**56**	P	**Pn**	**14 32 13.3**	**-0.5**
GVZ	**Greta Valley S**	**5.98**	**60**	Pn	**Pn**	**14 32 17.9**	**-0.5**
GVZ	**Greta Valley S**	**5.98**	**60**	P	**Pn**	**14 32 18.3**	**-0.2**
GVZ				S	**Sn**	**14 33 25.2**	**-1.2**
DSZ	**Denniston Nort**	**6.10**	**46**	Pn	**Pn**	**14 32 20.0**	**-0.2**
DSZ	**Denniston Nort**	**6.10**	**46**	P	**Pn**	**14 32 20.6**	**+0.5**
KHZ	**Kahutara**	**6.60**	**58**	Pn	**Pn**	**14 32 26.4**	**-0.5**
KHZ				Sn	**Sn**	**14 33 40.1**	**-1.6**
KHZ	**Kahutara**	**6.60**	**58**	P	**Pn**	**14 32 28.9**	**+2.0**
KHZ	**Kahutara**	**6.60**	**58**	P	**Pn**	**14 32 27.1**	**+0.1**
THZ	**Tophouse**	**6.67**	**51**		**Pn**	**14 32 28.3**	**+0.4**
THZ	**Tophouse**	**6.67**	**51**	P	**Pn**	**14 32 30.7**	**+2.8**
MRNZ	**Matariki Terra**	**6.84**	**48**	Pn	**Pn**	**14 32 29.6**	**-0.7**
MRNZ	**Matariki Terra**	**6.84**	**48**	P	**Pn**	**14 32 31.5**	**+1.2**
QRZ	**Quartz Range**	**7.16**	**44**	Pn	**Pn**	**14 32 35.2**	**+0.6**
QRZ	**Quartz Range**	**7.16**	**44**	P	**Pn**	**14 32 36.3**	**+1.7**
QRZ	**Quartz Range**	**7.16**	**44**	P	**Pn**	**14 32 35.7**	**+1.2**
TKNZ	**Takaka Hill**	**7.21**	**47**	Pn	**Pn**	**14 32 36.8**	**+1.4**
TKNZ	**Takaka Hill**	**7.21**	**47**	P	**Pn**	**14 32 38.1**	**+2.7**
NNZ	**Nelson**	**7.30**	**50**	Pn	**Pn**	**14 32 39.0**	**+2.5**
NNZ				Sn	**Sn**	**14 33 57.4**	**-1.5**
NNZ	**Nelson**	**7.30**	**50**	P	**Pn**	**14 32 39.6**	**+3.0**
TUWZ	**Tuamarina**	**7.46**	**54**	Pn	**Pn**	**14 32 40.4**	**+1.7**
DUWZ	**D'Urville Isla**	**7.88**	**50**	P	**Pn**	**14 32 48.4**	**+3.8**
SNZO	**South Karori**	**7.97**	**56**	Pn	**Pn**	**14 32 47.5**	**+1.8**
MSWZ	**Moikau Station**	**8.22**	**58**	Pn	**Pn**	**14 32 50.4**	**+1.2**
MSWZ	**Moikau Station**	**8.22**	**58**	P	**Pn**	**14 32 51.6**	**+2.4**
CAW	**Cannon Point**	**8.31**	**56**	P	**Pn**	**14 32 52.2**	**+1.7**
OGWZ	**Otaki Gorge**	**8.56**	**55**	P	**Pn**	**14 32 56.4**	**+2.6**
MRZ	**Mangatainoka R**	**8.90**	**55**	Pn	**Pn**	**14 32 57.5**	**-0.9**
MRZ	**Mangatainoka R**	**8.90**	**55**	P	**Pn**	**14 32 59.3**	**+0.8**
NEZ	**North Egmont**	**9.12**	**44**	P	**Pn**	**14 33 03.2**	**+1.6**
DVHZ	**Dannevirke**	**9.47**	**56**	P	**Pn**	**14 33 08.3**	**+2.0**
VRZ	**Vera Road**	**9.56**	**46**	P	**Pn**	**14 33 10.2**	**+2.7**
NNVZ	**North Ngauruho**	**9.99**	**49**	P	**Pn**	**14 33 17.9**	**+4.3**
OTVZ	**Oturere**	**9.99**	**49**	P	**Pn**	**14 33 17.0**	**+3.3**
HIZ	**Hauiti**	**10.08**	**44**		**Pn**	**14 33 13.9**	**-0.8**
BKZ	**Black Stump Fm**	**10.44**	**52**	P	**Pn**	**14 33 20.8**	**+1.2**
CAN	**Canberra**	**16.76**	**304**		**Pn**	**14 34 44.1**	**-0.5**
CAN				IAmb	IAmb	14 35 05.4	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**17.45**	**292**		**P**	**14 34 55.3**	**+0.9**
STKA	**Stephens Creek**	**23.57**	**299**	P	**P**	**14 36 01.7**	**+1.4**
SBA	**Scott Base**	**31.81**	**180**	P	**P**	**14 37 14.6**	**+0.7**
SBA				IAmb	IAmb	14 37 44.5	
	comp=Z,4.0nm,1.3s						
WB2	**Warramunga Arr**	**36.80**	**305**	P	**P**	**14 37 55.9**	**-1.8**
WB2				IAmb	IAmb	14 38 30.1	
	comp=Z,9.8nm,1.4s						
WRAB	**Tennant Creek**	**36.80**	**305**	P	**P**	**14 37 57.2**	**-0.5**
WRAB				IAmb	IAmb	14 38 31.3	
	comp=Z,10.0nm,1.4s						
SNAA	**Sanae**	**62.21**	**184**	P	**P**	**14 41 11.0**	**+0.2**
SNAA				IAmb	IAmb	14 41 31.4	
	comp=Z,3.5nm,1.3s						
LMN	**Caledonia Moun**	**145.23**	**72**		**PKPbc**	**14 50 24.5**	**-1.9**
BZK	**Bozkurt**	**145.63**	**281**	PKPdf	**PKPdf**	**14 50 27.1**	**-0.4**

DNK ***29*** *14:36:12.3±4.2, 79°.66N×4°.10E, h0km±65km, ML4.0*
BJI ***29*** *14:36:13.0, 79°.50N×4°.10E, h10km, mB5.2/6, mb4.6/28, Ms4.5/9, Ms7 4.3/9*
BER ***29*** *14:36:14.6±4.1, 79°.65N×4°.56E, h10km, Mw5.0, ML4.4(NAO), Confirmed Earthquake*
IDC ***29*** *14:36:14.6±0.5, 79°.47N×3°.93E, h0km, mb4.2/21, mbtmp4.3/28, ML3.6/5, MS3.7/58, Error ellipse: s-maj=13.1km s-min=10.2km az=47.0*
NEIC ***29*** *14:36:16.2±1.6, 79°.47N±0°.09×4°.4E±0°.4, h10km±1km, mb4.9/148, Error ellipse: s-maj=16.2km s-min=12.7km az=203.0*
NAO ***29*** *14:36:16.2±0.0, 79°.80N×5°.65E, h24km±6km, ML4.4*
GCMT ***29*** *14:36:16.2±0.3, 79°.36N±0°.04×3°.6E±0°.1, h12km, MW4.7/93, Moment Tensor Solution. s17,c18; s93,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.13±.04; $M_{\theta\theta}$0.09±.04; $M_{\phi\phi}$1.04±.04; $M_{r\theta}$-0.70±.24; $M_{\theta\phi}$0.25±.04; $M_{\phi r}$0.23±.14; Best double couple: $M_0$1.29700×10^{16}*
NP1:ϕ_s*37.00000°,* δ*49.00000°,* λ*-55.00000°. NP2:* ϕ_s*170.00000°,* δ*52.00000°,* λ*-124.00000°. Principal axes: T 1.1050, Plg2.0000°, Azm283.0000°; N 0.3850, Plg26.0000°, Azm192.0000°; P -1.4890, Plg64.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KOLA ***29*** *14:36:18.3, 79°.40N×5°.42E, h0km, ML2.5, Greenland sea, Knipovich ridge, north*
FCIAR ***29*** *14:36:20.0, 79°.48N×5°.04E, h10km, station OMEGA has station magnitude of 4.60 station ZFI2 has station magnitude of 4.60*
ISC 29 14:36:15.8±1.0, 79°.42N±0°.04×4°.22E±0°.04, h11km±5km, n368, σ2°.38/298, mb4.8/103, MS3.7/58, 5C-2D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.54**	**105**	Pn	**Pn**	**14 36 40.5**	**-2.6**
KBS	**Kingsbay**	**1.54**	**105**	Pb	**Pn**	**14 36 40.5**	**-2.6**
KBS				Sb	**Sn**	**14 36 58.6**	**-4.5**
KBS	**Kingsbay**	**1.54**	**105**	S	Sn	14 36 52.4	-11
KBS	**Kingsbay**	**1.54**	**105**	↑*i*P	**Pn**	**14 36 40.6**	**-2.6**
KBS				*e*S	**Sn**	**14 36 58.0**	**-5.1**
KBS				IAML		14 37 08.2	
	comp=Z,2μm,0.4s						
KBS	**Kingsbay**	**1.54**	**105**	↑*i*P	**Pn**	**14 36 40.6**	**-2.5**
KBS				*i* S	**Sn**	**14 36 58.0**	**-5.1**
KBS	**Kingsbay**	**1.54**	**105**	P	**Pn**	**14 36 40.2**	**-3.0**
BRBB	**Barentsburg B**	**2.37**	**119**	Pn	**Pn**	**14 36 52.8**	**-1.7**
BRBB				Sn	**Sn**	**14 37 20.2**	**-3.2**
BRBB	**Barentsburg B**	**2.37**	**119**	S	**Sn**	**14 37 16.6**	**-6.9**
BRBB	**Barentsburg B**	**2.37**	**119**	*e*P	**Pn**	**14 36 52.6**	**-1.9**
BRBB				*e*S	**Sn**	**14 37 19.3**	**-4.2**
BRBB	**Barentsburg B**	**2.37**	**119**	P	**Pn**	**14 36 52.4**	**-2.1**
BRBA	**Barentsburg A**	**2.39**	**120**	Pn	**Pn**	**14 36 53.0**	**-1.8**
BRBA				Sn	**Sn**	**14 37 20.5**	**-3.5**
BRBA	**Barentsburg A**	**2.39**	**120**	*e*P	**Pn**	**14 36 52.9**	**-1.9**
BRBA				*e*S	**Sn**	**14 37 19.9**	**-4.1**
BRBA				IAML		14 37 26.6	
	comp=Z,637nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.68**	**112**	Pn	**Pn**	**14 36 57.3**	**-1.5**
	baz=304,slow=10						
SPA0				Sn	**Sn**	**14 37 27.0**	**-4.2**
	baz=314,slow=37						
SPA0	**Spitsbergen Ar**	**2.68**	**112**	*e*P	**Pn**	**14 36 56.2**	**-2.6**
SPA0				*e*S	**Sn**	**14 37 26.7**	**-4.4**
SPA0	**Spitsbergen Ar**	**2.68**	**112**	Pn	**Pn**	**14 36 57.3**	**-1.5**
	baz=304,slow=10						
SPA0				Sn	**Sn**	**14 37 27.0**	**-4.2**
	baz=314,slow=37						
SPA0				IAML		14 37 37.8	
	comp=Z,530nm,0.8s						
SPITS	**Spitsbergen Ar**	**2.68**	**112**	Pn	**Pn**	**14 36 57.3**	**-1.5**
	comp=Z,217nm,0.2s,baz=312,slow=8.7,SNR=9850						
SPITS				Sn	**Sn**	**14 37 26.1**	**-5.0**
	baz=312,slow=10.0						
SPITS				LR	LR	14 38 10.8	
	comp=Z,2μm,18.8s,baz=307,slow=42						
SPITS	**Spitsbergen Ar**	**2.68**	**112**	S	**Sn**	**14 37 27.7**	**-3.4**
SPITS	**Spitsbergen Ar**	**2.68**	**112**	P	**Pn**	**14 36 56.8**	**-2.0**
SPB2	**Spitsbergen Ar**	**2.68**	**112**		**Pn**	**14 36 57.3**	**-1.5**
HSPB	**Hornsund (broa**	**3.35**	**131**	*e*S	**Sn**	**14 37 43.3**	**-4.5**
HSPB	**Hornsund (broa**	**3.35**	**131**	Pn	**Pn**	**14 37 06.5**	**-1.5**
HSPB	**Hornsund (broa**	**3.35**	**131**	S	**Sn**	**14 37 40.9**	**-6.9**
HSPB	**Hornsund (broa**	**3.35**	**131**	*e*P	**Pn**	**14 37 05.4**	**-2.7**
HSPB				*e*S	**Sn**	**14 37 42.7**	**-5.1**
HSPB	**Hornsund (broa**	**3.35**	**131**	↑*i*P	**Pn**	**14 37 05.8**	**-2.3**
HSPB				*e*S	**Sn**	**14 37 42.7**	**-5.1**
HSPB				IAML		14 37 45.9	
	comp=Z,417nm,0.4s						
HSPB	**Hornsund (broa**	**3.35**	**131**	P	**Pn**	**14 37 06.2**	**-1.9**
HSPB	**Hornsund (broa**	**3.35**	**131**	*e*P	**Pn**	**14 37 06.9**	**-1.2**
NOR	**Nord**	**4.07**	**312**	Pn	**Pn**	**14 37 14.6**	**-3.3**
NOR	**Nord**	**4.07**	**312**	*e*P	**Pn**	**14 37 14.2**	**-3.6**
NOR	**Nord**	**4.07**	**312**	*i* P	**Pn**	**14 37 14.4**	**-3.5**
HOPEN	**Hopen**	**5.21**	**113**	Pn	**Pn**	**14 37 31.6**	**-1.8**
HOPEN				Sn	**Sn**	**14 38 27.4**	**-6.0**
HOPEN	**Hopen**	**5.21**	**113**	*e*P	**Pn**	**14 37 30.9**	**-2.6**
HOPEN				*e*S	**Sn**	**14 38 26.5**	**-6.9**
HOPEN	**Hopen**	**5.21**	**113**	*e*P	**Pn**	**14 37 31.5**	**-2.0**
HOPEN				*e*S	**Sn**	**14 38 26.8**	**-6.6**
HOPEN				IAML		14 38 30.4	
	comp=Z,139nm,0.3s						
DAG	**Danmarks Havn**	**5.39**	**252**	*e*P	**Pn**	**14 37 33.4**	**-2.6**
DAG				*e*S	**Sn**	**14 38 30.2**	**-7.7**
DAG	**Danmarks Havn**	**5.39**	**252**	*i* P	**Pn**	**14 37 33.6**	**-2.5**
DAG				*i* S	Sn	14 38 29.6	-8.4
DAG				IAML		14 38 38.6	
	comp=Z,86nm,0.7s						
BJO1	**Bjornoya**	**5.94**	**138**	*e*P	**Pn**	**14 37 41.8**	**-1.7**
BJO1				*e*S	**Sn**	**14 38 43.3**	**-8.2**
BJO1	**Bjornoya**	**5.94**	**138**	*e*P	**Pn**	**14 37 43.7**	**+0.2**
BEA6	**Bear Island, N**	**5.95**	**139**	Pn	**Pn**	**14 37 42.5**	**-1.1**
	baz=337,slow=18						
BEA6				Sn	**Sn**	**14 38 44.5**	**-7.0**
	baz=337,slow=37						
ZFI2	**Zemlya Franca-**	**7.45**	**59**	*e*P	**Pn**	**14 38 01.3**	**-2.8**
ZFI2				*e*S	Sn	14 39 17.3	-11
	comp=Z,176nm,0.8s						
OMEGA	**Omega**	**7.46**	**59**	*e*P	**Pn**	**14 38 01.3**	**-3.1**
OMEGA				*e*S	Sn	14 39 17.4	-11
	comp=Z,156nm,0.5s						
DBG	**Daneborg**	**7.49**	**240**	*e*P	**Pn**	**14 38 02.6**	**-2.1**
DBG				*e*S	**Sn**	**14 39 21.4**	**-8.1**
DBG	**Daneborg**	**7.49**	**240**	*e*P	**Pn**	**14 38 02.6**	**-2.1**
DBG				*i* S	**Sn**	**14 39 23.1**	**-6.4**
DBG				IAML		14 39 27.9	
	comp=Z,54nm,0.7s						
JNW	**Jan Mayen West**	**8.99**	**207**	*e*P	**Pn**	**14 38 24.9**	**-0.4**
JMIC	**Jan Mayen**	**9.04**	**207**	Pn	**Pn**	**14 38 24.9**	**-1.1**
	comp=Z,71nm,0.4s,baz=150,slow=5.8,SNR=6.5						
JMIC	**Jan Mayen**	**9.04**	**207**	*e*P	**Pn**	**14 38 26.2**	**+0.2**
JMI	**Jan Mayen**	**9.12**	**208**	*e*P	**Pn**	**14 38 27.4**	**+0.4**
HAMF	**Hammerfest**	**10.06**	**140**	P	**Pn**	**14 38 39.6**	**-0.4**
HAMF	**Hammerfest**	**10.06**	**140**	*e*P	**Pn**	**14 38 39.3**	**-0.6**
TRO	**Tromso**	**10.53**	**151**	*e*P	**Pn**	**14 38 50.2**	**+3.9**
JETT	**Jettan, Norway**	**10.74**	**148**	P	**Pn**	**14 38 49.9**	**+0.6**
JETT	**Jettan, Norway**	**10.74**	**148**	*e*P	**Pn**	**14 38 51.9**	**+2.6**
NEEM	**North Greenlan**	**10.89**	**288**	*i* P	Pn	14 38 45.3	-6.2
NEEM				*i* S	Sn	14 40 42.1	-11
NEEM	**North Greenlan**	**10.89**	**288**	*i* P	Pn	14 38 45.3	-6.2
NEEM				*i* S	Sn	14 40 42.1	-11
NEEM				IAML		14 40 43.8	
	comp=Z,55nm,0.6s						
SCO	**Scoresbysund**	**11.08**	**230**	Pn	**Pn**	**14 38 52.9**	**-1.0**
SCO	**Scoresbysund**	**11.08**	**230**	*i* P	Pn	14 38 44.3	-10
VADS	**Vadso**	**11.27**	**132**	P	**Pn**	**14 38 55.2**	**-1.2**
VADS	**Vadso**	**11.27**	**132**	P	**Pn**	**14 38 55.0**	**-1.5**
VADS				S	Sn	14 40 52.5	-10
VADS	**Vadso**	**11.27**	**132**	P	**Pn**	**14 38 55.2**	**-1.2**
KEV	**Kevo**	**11.30**	**137**	Pn	**Pn**	**14 38 56.9**	**+0.1**
KEV	**Kevo**	**11.30**	**137**	P	**Pn**	**14 38 57.0**	**+0.1**
KEV	**Kevo**	**11.30**	**137**	P	**Pn**	**14 38 57.0**	**+0.1**
KIF	**Kilpisjarvi**	**11.31**	**148**	P	**Pn**	**14 38 56.9**	**-0.2**
KIF	**Kilpisjarvi**	**11.31**	**148**	P	**Pn**	**14 38 56.9**	**-0.2**
ARA0	**ARCESS Array S**	**11.32**	**139**	Pn	**Pn**	**14 38 56.3**	**-0.8**
	baz=352,slow=12						
ARA0				Sn	Sn	14 40 52.0	-11
	baz=350,slow=22						
ARA0	**ARCESS Array S**	**11.32**	**139**	*e*P	**Pn**	**14 38 56.8**	**-0.4**
ARA0				Sn	Sn	14 40 52.0	-11
	baz=350,slow=22						
ARCES	**ARCESS Array B**	**11.32**	**139**		**Pn**	**14 38 56.8**	**-0.3**
ARCES	**ARCESS Array B**	**11.32**	**139**	Pn	**Pn**	**14 38 56.3**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=352,slow=12,SNR=62						
ARCES				Sn	**Sn**	**14 40 54.8**	**-8.7**
	comp=Z,0.9nm,0.3s,baz=0.0,slow=21,SNR=3.8						
ARCES				LR	LR	14 43 12.9	
	comp=Z,258nm,21.2s,baz=313,slow=37						
	comp=Z,12nm,0.5s						
ARCES	**ARCESS Array B**	**11.32**	**139**	P	**Pn**	**14 38 56.4**	**-0.8**
ARCES				S	Sn	14 40 53.1	-10
KTK1	**Kautokeino**	**11.56**	**144**	P	**Pn**	**14 39 01.2**	**+0.8**
KTK1	**Kautokeino**	**11.56**	**144**	*e*P	**Pn**	**14 39 01.3**	**+0.8**
LOF	**Lofoten**	**11.62**	**162**	*e*P	**Pn**	**14 39 03.2**	**+2.0**
STEI	**Steigen**	**11.92**	**160**	*e*P	**Pn**	**14 39 08.1**	**+2.8**
SUMG	**Summit**	**12.03**	**259**		**Pn**	**14 39 03.9**	**-3.3**
SUMG	**Summit**	**12.03**	**259**	*i* P	**Pn**	**14 39 03.6**	**-3.5**
SUMG				*i*		14 39 04.3	
SUMG				*i*		14 41 14.1	
HEF	**Hetta**	**12.18**	**144**	P	**Pn**	**14 39 09.4**	**+0.5**
HEF	**Hetta**	**12.18**	**144**	*e*P	**Pn**	**14 39 09.5**	**+0.5**
SALU	**Saltoluokta**	**12.70**	**154**	*e*P	**Pn**	**14 39 20.4**	**+4.4**
VAGH	**Vaagaholmen**	**12.99**	**164**	*e*P	**Pn**	**14 39 22.8**	**+2.7**
STOK	**Stokkvaagen**	**13.38**	**165**	*e*P	**Pn**	**14 39 27.6**	**+2.4**
KULLO	**Kullorsuaq**	**13.93**	**283**	*i*	Pn	14 39 26.7	-6.0
KULLO	**Kullorsuaq**	**13.93**	**283**	*i*	Pn	14 39 26.7	-6.0
LVZ	**Lovozero**	**14.07**	**128**	Pn	**Pn**	**14 39 32.8**	**-1.9**
APA0	**Apatity Array**	**14.11**	**131**	Pn	**Pn**	**14 39 31.6**	**-3.6**
	baz=339,slow=16						
APA0				Sn	Sn	14 41 56.2	-15
	baz=340,slow=28						
APA0	**Apatity Array**	**14.11**	**131**	P	**Pn**	**14 39 32.0**	**-3.1**
APA0				S	Sn	14 41 57.4	-14
APA0	**Apatity Array**	**14.11**	**131**	Pn	**Pn**	**14 39 31.6**	**-3.6**
	baz=339,slow=16						
APA0				Sn	Sn	14 41 56.2	-15
	baz=340,slow=28						
APA	**Apatity**	**14.20**	**130**	S	Sn	14 41 59.2	-14
TULEG	**Thule**	**14.52**	**297**	Pn	Pn	14 39 33.1	-7.7
TULEG	**Thule**	**14.52**	**297**	*i*	Pn	14 39 34.1	-6.8
TULEG	**Thule**	**14.52**	**297**	*i*	Pn	14 39 34.1	-6.8
KVDA	**Kovda**	**14.95**	**132**	P	**Pn**	**14 39 42.4**	**-4.3**
KVDA				S	Sn	14 42 20.8	-11
UPNV	**Upernavik**	**15.12**	**277**	*i*	Pn	14 39 41.6	-7.2
UPNV				*i*		14 42 17.9	
UPNV	**Upernavik**	**15.12**	**277**	*i*	Pn	14 39 41.6	-7.2
UPNV				*i*		14 42 17.9	
AKN	**Aaknes**	**17.35**	**176**	*e*P	**P**	**14 40 22.0**	**+3.1**
DOMB	**Dombas**	**17.53**	**172**	*e*P	**P**	**14 40 23.2**	**+2.4**
NC204	**NORSAR Array S**	**18.34**	**170**	P	**P**	**14 40 31.2**	**+1.3**
NC204	**NORSAR Array S**	**18.34**	**170**	*e*P	**P**	**14 40 31.5**	**+1.6**
NC303	**NORSAR Array S**	**18.41**	**169**		**Pn**	**14 40 32.2**	**+1.6**
NC303	**NORSAR Array S**	**18.41**	**169**	*e*P	**Pn**	**14 40 32.6**	**+2.0**
NC405	**NORSAR Array S**	**18.54**	**169**	P	**Pn**	**14 40 33.6**	**+1.4**
NB201	**NORSAR Array S**	**18.59**	**169**		**Pn**	**14 40 34.5**	**+1.8**
NB201	**NORSAR Array S**	**18.59**	**169**	*e*P	**Pn**	**14 40 35.8**	**+3.0**
NBO00	**NORSAR Array S**	**18.59**	**170**	P	**Pn**	**14 40 33.5**	**+0.7**
NBO00	**NORSAR Array S**	**18.59**	**170**	*e*P	**Pn**	**14 40 33.4**	**+0.7**
LSH	**Leshukonskoye**	**18.59**	**117**	*e*P	**P**	**14 40 28.8**	**-3.7**
LSH				*e*S	Sn	14 43 31.8	-28
NOA	**NORSAR Array B**	**18.59**	**169**	P	**P**	**14 40 32.9**	**+0.2**
	baz=352,slow=12,SNR=9.3						
NOA				LR	LR	14 46 29.4	
	comp=Z,130nm,21.9s,baz=0.0,slow=33						
	comp=Z,7.3nm,1.0s						
NAO01	**NORSAR Array S**	**18.78**	**170**	*e*P	**Pn**	**14 40 36.9**	**+1.9**
SKAR	**Skarslia**	**18.88**	**174**	*e*P	**Pn**	**14 40 36.7**	**+0.4**
NC602	**NORSAR Array S**	**18.91**	**169**	*e*P	**Pn**	**14 40 37.5**	**+0.8**
NRA0	**NORESS Array S**	**18.91

OJC Ojcow 29.83 160 P **P 14 42 22.6 +0.2**
comp=Z,10nm,0.8s
AK21 Malin Array Si 30.03 148 P **P 14 42 24.1 0.0**
AK22 Malin Array Si 30.05 148 P **P 14 42 24.2 -0.1**
AK20 Malin Array Si 30.06 148 P **P 14 42 24.3 -0.1**
AK19 Malin Array Si 30.08 148 P **P 14 42 24.5 -0.1**
AK18 Malin Array Si 30.08 148 P **P 14 42 24.5 -0.1**
AK04 Malin Array Si 30.09 148 P **P 14 42 24.6 -0.1**
AK17 Malin Array Si 30.12 148 P **P 14 42 24.9 -0.1**
AKASG Malin Array Be 30.12 148 P **P 14 42 25.2 +0.2**
comp=Z,2.1nm,0.6s,baz=350,slow=9.5,SNR=9.2
AKASG LR LR 14 54 21.6
comp=Z,202nm,21.6s,baz=348,slow=36
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 30.12 148 P **P 14 42 24.9 -0.1**
KIEV Kiev 30.12 148 P **P 14 42 24.9 -0.1**
MORC Moravsky Berou 30.13 163 **P 14 42 26.9 +1.8**
MORC Moravsky Berou 30.13 163 *eP* **P 14 42 27.0 +1.8**
AK07 Malin Array Si 30.27 148 P **P 14 42 26.2 -0.1**
ZVC Zvikov 30.31 167 *eP* **P 14 42 29.1 +2.4**
INK Inuvik 30.52 331 LR LR 14 56 45.9
comp=Z,98nm,19.4s,baz=358,slow=40
VRAC Vranov 30.55 164 LR LR 14 54 02.6
comp=Z,84nm,19.3s,baz=341,slow=35
VRAC Vranov 30.55 164 *eP* **P 14 42 30.9 +2.1**
KHC Kasperske Hory 30.59 168 *eP* **P 14 42 32.0 +2.8**
KHC Kasperske Hory 30.59 168 P **P 14 42 30.8 +1.6**
comp=Z,6.1nm,1.2s
KWP Kalwaria Pacla 30.61 156 P **P 14 42 30.7 +1.3**
comp=Z,24nm,1.4s
NIE Niedzica 30.66 159 *eP* **P 14 42 32.4 +2.6**
NIE Niedzica 30.66 159 P **P 14 42 31.1 +1.3**
STHS Stebnicka Huta 30.72 158 *eP* **P 14 42 31.8 +1.5**
LUBAR Lubar, Ukraine 30.75 150 P **P 14 42 31.0 +0.4**
KRUC Moravsky 30.79 164 *eP* **P 14 42 33.1 +2.2**
GEC2 GERESS Array S 30.88 168 P **P 14 42 33.9 +2.1**
GEC2 IAmb IAmb 14 42 36.5
comp=Z,12nm,1.1s
GERES GERESS Array B 30.88 168 P **P 14 42 34.3 +2.4**
comp=Z,5.3nm,1.0s,baz=10,slow=8.1,SNR=20
GERES LR LR 14 54 45.3
comp=Z,102nm,18.0s,baz=338,slow=36
comp=Z,5.3nm,1.0s
JAVC Velka Javorina 31.05 163 *eP* **P 14 42 36.3 +3.0**
MODS Modra-Piesok 31.52 163 *eP* **P 14 42 40.0 +2.6**
STNU Starunia 31.67 154 P **P 14 42 40.1 +1.4**
HOLU Holmets 31.69 157 P **P 14 42 40.2 +1.4**
HOLU pP **sP 14 42 42.8 +0.5**
MEZ Mezhgor'ye 31.79 155 P **P 14 42 41.2 +1.5**
BUR08 Bucovina Ar. S 32.78 153 P **P 14 42 50.3 +1.7**
BURAR Bucovina Array 32.81 153 P **P 14 42 50.3 +1.5**
COLD Coldfoot 32.82 342 P **P 14 42 49.6 +1.0**
COLD IAmb IAmb 14 42 59.4
comp=Z,34nm,1.8s
SCHQ Schefferville 33.25 266 LR LR 14 56 25.5
comp=Z,2μm,18.1s,baz=353,slow=36
YKA Yellowknife Ar 34.00 313 LR LR 14 56 46.1
comp=Z,139nm,18.9s,baz=70,slow=36
BVAR Borovoye Array 34.07 100 P **P 14 43 01.3 +1.6**
comp=Z,7.1nm,0.6s,baz=333,slow=10,SNR=30
BVAR LR LR 14 59 52.7
comp=Z,246nm,19.5s,baz=346,slow=42
comp=Z,7.1nm,0.6s
IMAR Indian Mountai 34.25 344 P **P 14 43 01.4 +0.3**
TEOL Teolo 34.29 171 P **P 14 43 03.0 +1.4**
AKTO Aktyubinsk 34.38 114 LR LR 14 58 21.4
comp=Z,185nm,19.8s,baz=70,slow=38
H19K Roundabout Mou 34.84 346 P **P 14 43 07.4 +1.4**
MLR Muntele Rosu 34.98 153 LR LR 14 57 17.4
comp=Z,113nm,21.5s,baz=5.5,slow=36
ILAR Eielson Array 35.06 339 P **P 14 43 09.4 +1.4**
comp=Z,1.7nm,0.9s,baz=2.7,slow=6.1,SNR=14
ILAR LR LR 14 56 26.2
comp=Z,70nm,20.5s,baz=14,slow=35
comp=Z,1.7nm,0.9s
YAK Yakutsk 35.30 42 **P 14 43 10.0 0.0**
YAK IAmb IAmb 14 43 10.8
comp=Z,12nm,0.8s
WRH Wood River Hil 35.43 340 P **P 14 43 12.0 +0.8**
WRH IAmb IAmb 14 44 29.0
comp=Z,12nm,1.2s
ABKAR Akbulak array 35.84 112 P **P 14 43 16.4 +1.5**
ZALV Zalesovo Beam 35.85 85 **PcP 14 45 42.0 +0.2**
ZALV Zalesovo Beam 35.85 85 P **14 43 15.7 +0.8**
comp=Z,1.0nm,0.4s,baz=353,slow=10,SNR=5.6
ZALV PcP **PcP 14 45 41.7 -0.1**
comp=Z,1.2nm,0.6s,baz=320,slow=3.9,SNR=4.1
ZALV LR LR 15 02 38.8
comp=Z,147nm,18.3s,baz=4.5,slow=44
comp=Z,1.0nm,0.4s
OSSC Osservatorio P 36.12 171 IAmb IAmb 14 43 20.8
comp=Z,22nm,1.1s
FDMO Fiordimonte 36.66 169 IAmb IAmb 14 43 26.7
comp=Z,23nm,1.3s
SEY Seymchan 36.67 24 LR LR 14 58 36.5
comp=Z,42nm,18.6s,baz=330,slow=37
NRCA Norcia 36.87 169 IAmb IAmb 14 43 28.7
comp=Z,24nm,1.1s
INTR Introdacqua 37.71 168 IAmb IAmb 14 43 34.4
comp=Z,15nm,1.1s
KURK Kurchatov 37.79 92 **PcP 14 45 48.7 +0.9**
KURK Kurchatov 37.79 92 P **14 43 32.6 +1.1**
KURK IAmb IAmb 14 43 49.0
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 37.87 93 P **P 14 43 33.5 +1.4**
comp=Z,6.6nm,0.8s,baz=340,slow=7.8,SNR=47
KURBB PcP **PcP 14 45 48.7 +0.7**
comp=Z,0.8nm,0.7s,baz=337,slow=3.7,SNR=4.8
KURBB LR LR 15 02 59.8
comp=Z,152nm,18.9s,baz=177,slow=42
comp=Z,6.6nm,0.8s
KVAR Kislovodsk Arr 38.35 134 LR LR 15 00 10.8
comp=Z,86nm,19.1s,slow=37
KBZ Khabaz 38.60 133 P **P 14 43 40.7 +2.4**
comp=Z,4.5nm,0.8s,baz=346,slow=3.5,SNR=13
KBZ LR LR 15 00 14.4
comp=Z,103nm,18.9s,baz=350,slow=37
comp=Z,4.5nm,0.8s
M17K Holitna River 39.00 346 P **P 14 43 43.0 +1.4**
M17K IAmb IAmb 14 45 10.1
comp=Z,17nm,0.8s
CUC Castrocucco 39.81 166 P **P 14 43 49.8 +1.2**
DLBC Dease Lake 39.82 324 LR LR 15 00 57.2
comp=Z,1μm,18.7s,baz=315,slow=37
ESDC Sonseca Array 39.99 190 P **P 14 43 51.7 +1.6**
ESDC Sonseca Array 39.99 190 P **P 14 43 51.4 +1.3**
comp=Z,3.5nm,1.0s,baz=359,slow=8.4,SNR=17
ESDC PcP **PcP 14 45 55.4 +0.5**
comp=Z,0.6nm,0.7s,baz=16,slow=2.7,SNR=1.9
ESDC LR LR 14 59 01.4
comp=Z,34nm,19.0s,baz=312,slow=34
comp=Z,3.5nm,1.0s
PAB San Pablo 40.13 190 P **P 14 43 52.8 +1.5**
TIP Timpagrande 40.66 165 P **P 14 43 57.1 +1.4**
BRTR Keskin Array B 41.43 145 P **P 14 44 02.9 +0.8**
BRTR Keskin Array B 41.43 145 P **P 14 44 03.7 +1.6**
comp=Z,2.9nm,1.0s,baz=348,slow=5.5,SNR=11
BRTR LR LR 15 03 06.4
comp=Z,34nm,19.1s,baz=344,slow=39
comp=Z,2.9nm,1.0s
E62A Clayton Lake 41.61 265 P **P 14 44 04.1 +0.9**
F64A Sherman 42.12 264 P **P 14 44 07.9 +0.4**
F64A IAmb IAmb 14 44 37.1
comp=Z,40nm,1.8s
MAKZ Makanchi 42.17 91 P **P 14 44 08.8 +0.9**
MKAR Makanchi Array 42.24 90 P **P 14 44 09.6 +1.1**
MKAR Makanchi Array 42.24 90 P **P 14 44 09.3 +0.8**
comp=Z,6.9nm,0.8s,baz=340,slow=6.8,SNR=50
MKAR LR LR 15 06 45.7
comp=Z,162nm,18.3s,baz=343,slow=43
comp=Z,6.9nm,0.8s
VAE Valguarnera 42.26 168 LR LR 15 03 02.8
comp=Z,57nm,18.2s,baz=349,slow=38
GNI Garni 42.37 132 LR LR 15 02 13.0
comp=Z,104nm,21.0s,baz=352,slow=37
KDAK Kodiak Island 42.37 342 LR LR 15 00 50.3
comp=Z,76nm,20.9s,baz=22,slow=35
PKME Peaks-Kenny Pk 42.88 264 P **P 14 44 14.3 +0.7**
PKME IAmb IAmb 14 44 16.1
comp=Z,30nm,1.2s
ULM Lac du Bonnet 42.88 292 P **P 14 44 13.5 -0.1**
comp=Z,6.9nm,0.8s,baz=9.2,slow=8.5,SNR=4.6
ULM LR LR 15 02 18.8
comp=Z,220nm,18.1s,baz=1.5,slow=36
comp=Z,6.9nm,0.8s
TRQ Mont Tremblant 42.92 270 P **P 14 44 14.5 +0.5**

EPLO Experimental L 43.07 290 P **P 14 44 15.5 +0.4**
EPLO IAmb IAmb 14 44 16.4
comp=Z,18nm,0.7s
KKAR Karatay Array 43.65 104 P **P 14 44 21.7 +1.8**
KEST Kesra 43.85 174 LR LR 15 01 31.3
comp=Z,42nm,20.8s,baz=354,slow=34
EYMN Ely 44.34 287 P **P 14 44 26.0 +0.6**
EYMN IAmb IAmb 14 44 27.6
comp=Z,14nm,0.8s
AAK Ala-Archa 44.82 100 P **P 14 44 31.0 +1.5**
AAK IAmb IAmb 14 44 48.4
comp=Z,11nm,1.0s
AAK Ala-Archa 44.82 100 LR LR 15 06 00.7
comp=Z,224nm,19.5s,baz=338,slow=40
SADO Sadowa 45.17 274 LR LR 15 03 22.4
comp=Z,2μm,18.0s,baz=22,slow=36
BOOM Boomskoye usch 45.23 98 IAmb IAmb 14 44 51.9
comp=Z,24nm,1.3s
SONM Songino Array 45.58 67 P **P 14 44 35.7 +0.3**
SONM Songino Array 45.58 67 P **P 14 44 36.0 +0.7**
comp=Z,2.1nm,0.7s,baz=336,slow=8.2,SNR=6.6
SONM PcP **PcP 14 46 14.2 +0.6**
comp=Z,1.1nm,0.8s,baz=357,slow=5.8,SNR=2.8
SONM LR LR 15 04 27.1
comp=Z,63nm,20.4s,baz=261,slow=37
comp=Z,2.1nm,0.7s
ULN Ulaanbaatar 45.66 67 P **P 14 44 37.1 +1.1**
ULN IAmb IAmb 14 44 38.1
comp=Z,8.7nm,0.8s
BBB Bella Bella 45.75 321 LR LR 15 04 07.0
comp=Z,52nm,18.6s,baz=30,slow=37
HILR Hailar Array B 46.06 55 P **P 14 44 40.2 +1.2**
comp=Z,2.1nm,0.6s,baz=338,slow=11,SNR=4.5
comp=Z,2.1nm,0.6s
WMQ Urumqi 46.11 86 *eP* **P 14 44 41.5 +2.0**
TARG Taragay, Kyrgy 46.31 97 P **P 14 44 42.9 +1.3**
TARG IAmb IAmb 14 45 00.1
comp=Z,7.0nm,0.9s
HEH HeiHe 46.48 48 *eP* **P 14 44 42.8 +0.5**
G40A Rib Lake 46.70 285 IAmb IAmb 14 44 46.1
comp=Z,11nm,1.1s
MD01 Midelt array s 46.81 190 P **P 14 44 45.9 +0.7**
PETK Petropavlovsk- 46.81 22 P **P 14 44 45.1 +0.3**
comp=Z,1.6nm,0.8s,baz=349,slow=4.4,SNR=3.5
comp=Z,1.6nm,0.8s
L56A Greenwood 47.42 271 P **P 14 44 50.8 +1.0**
CHGR Chuyangaron 47.73 107 P **P 14 44 53.9 +1.7**
CHGR IAmb IAmb 14 45 11.9
comp=Z,14nm,1.0s
SHEM Shemya Is, Ala 47.97 8 LR LR 15 05 40.8
comp=Z,49nm,18.1s,baz=113,slow=37
KSH Kashi 48.12 99 P **P 14 45 00.0 +4.7**
NEW Newport 48.17 310 LR LR 15 04 43.0
comp=Z,119nm,21.8s,baz=16,slow=36
MMAI Mount Meron Ar 48.26 144 LR LR 15 07 09.2
comp=Z,29nm,20.5s,baz=324,slow=38
PAOC Oil Creek Stat 48.42 273 P **P 14 44 58.2 +0.8**
HRY Holter Researc 48.91 305 P **P 14 45 01.6 +0.3**
JFWS Jewell Farm 48.99 284 P **P 14 45 02.1 +0.2**
ASF Jabal al Asfar 49.25 143 LR LR 15 08 52.2
comp=Z,31nm,18.8s,baz=37,slow=40
ECSD EROS Data Cent 49.32 290 P **P 14 45 04.5 +0.1**
O54A Avella 49.84 274 P **P 14 45 08.9 +0.6**
L40A Anamosa 49.99 285 P **P 14 45 10.1 +0.6**
N47A Urbana 50.14 279 P **P 14 45 11.3 +0.7**
O52A Adamsville 50.17 275 P **P 14 45 11.3 +0.4**
RSSD Black Hills 50.20 297 P **P 14 45 11.4 +0.1**
RSSD IAmb IAmb 14 45 13.6
comp=Z,9.2nm,0.9s
O49A Covington 50.56 277 P **P 14 45 14.2 +0.4**
P53A Whipple 50.70 274 IAmb IAmb 14 45 16.9
comp=Z,16nm,0.8s
Q56A Snyder Ridge, 50.73 272 IAmb IAmb 14 45 17.8
comp=Z,11nm,0.9s
Q54A Coxs Mills 51.09 274 P **P 14 45 18.4 +0.6**
EIL Elat 51.52 145 LR LR 15 10 21.2
comp=Z,35nm,18.2s,baz=340,slow=40
K22A Casper 52.04 299 IAmb IAmb 14 45 26.3
comp=Z,15nm,1.2s
PDAR Pinedale Array 52.41 302 P **P 14 45 28.0 +0.1**
comp=Z,1.0nm,0.9s,baz=356,slow=6.9,SNR=6.7
PDAR LR LR 15 08 22.8
comp=Z,74nm,18.6s,baz=7.0,slow=37
comp=Z,1.0nm,0.9s
R50A Paris 52.41 277 P **P 14 45 27.4 -0.2**
R50A IAmb IAmb 14 45 29.0
comp=Z,14nm,0.7s
GTA Gaotai 52.59 76 *eP* **P 14 45 29.5 +0.3**
GTA sP pwP 14 45 41.0 +5.6
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=Z,160nm,14.2s
GTA LR LR
comp=Z,110nm,14.9s
GTA LR LR
comp=Z,150nm,14.2s
BLA Blacksburg 52.73 273 IAmb IAmb 14 45 32.1
comp=Z,18nm,1.1s
S51A Beattyville 52.90 276 IAmb IAmb 14 45 32.6
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 53.03 45 P **P 14 45 32.0 -0.2**
comp=Z,1.9nm,0.6s,baz=350,slow=7.2,SNR=4.2
comp=Z,1.9nm,0.6s
BTO Baotou 53.21 66 *eP* **P 14 45 31.5 -2.2**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,190nm,4.1s
HHC Hu-ho-hao-te 53.23 65 *eP* **P 14 45 34.3 +0.4**
HHC pmax pmax
comp=Z,8.0nm,0.6s
U54A Nelsons Funny 53.66 274 IAmb IAmb 14 45 39.3
comp=Z,18nm,1.0s
SIUC Southern Illin 53.85 281 IAmb IAmb 14 45 39.4
comp=Z,13nm,0.7s
S44A Carbondale 53.88 281 IAmb IAmb 14 45 39.5
comp=Z,12nm,0.7s
CCM Cathedral Cave 53.89 283 P **P 14 45 37.7 -0.8**
CCM IAmb IAmb 14 45 38.7
comp=Z,6.4nm,0.7s
TZTN Tazewell 53.95 276 IAmb IAmb 14 45 40.5
comp=Z,12nm,0.8s
T47A Sharon Grove 54.17 279 IAmb IAmb 14 45 42.1
comp=Z,13nm,1.1s
W57A Gilead 54.65 272 IAmb IAmb 14 45 45.4
comp=Z,7.4nm,0.7s
V53A Saluda 54.67 275 IAmb IAmb 14 45 46.2
comp=Z,9.4nm,0.8s
GOMU GeErMu 54.81 82 P **P 14 45 46.8 +1.1**
GOMU pP sP 14 45 49.8 +0.7
GOMU sP pwP 14 45 53.0 +1.0
GOMU pmax pmax
comp=Z,8.0nm,0.7s
TKL Tuckaleechee C 54.86 276 IAmb IAmb 14 45 47.2
comp=Z,10nm,0.7s
TKL Tuckaleechee C 54.86 276 LR LR 15 09 02.8
comp=Z,127nm,19.1s,baz=10,slow=36
KMSC Kings Mountain 54.91 273 IAmb IAmb 14 46 04.8
comp=Z,23nm,1.6s
MGMO Mountain Grove 54.95 284 IAmb IAmb 14 45 47.3
comp=Z,5.8nm,0.7s
PAULI Pauline 55.31 273 IAmb IAmb 14 45 51.0
comp=Z,11nm,0.9s
V48A Smith Brothers 55.34 279 IAmb IAmb 14 45 49.7
comp=Z,9.4nm,0.9s
YBH Yreka Blue Hor 55.35 313 LR LR 15 08 18.0
comp=Z,7.5nm,20.1s,baz=8.0,slow=35
BG3 Lake Jocassee 55.35 275 IAmb IAmb 14 45 50.9
comp=Z,8.9nm,0.8s
W52A Murphy 55.43 276 IAmb IAmb 14 45 52.4
comp=Z,13nm,1.1s
W50A Signal Mountai 55.58 277 IAmb IAmb 14 45 52.1
comp=Z,7.6nm,0.9s
SWET Sewanee 55.68 278 IAmb IAmb 14 45 52.7
comp=Z,11nm,1.0s
JSC Jenkinsville 55.73 273 IAmb IAmb 14 45 53.7
comp=Z,7.3nm,0.9s
HODGE Hodges 55.96 274 IAmb IAmb 14 45 55.0
comp=Z,7.3nm,0.7s
U38A Gravette 56.02 286 IAmb IAmb 14 45 53.9
comp=Z,9.6nm,0.9s
PV22 Blue Mesa, Par 56.42 300 IAmb IAmb 14 45 59.5
comp=Z,6.5nm,0.8s
PV21 Cone Mtn., Par 56.42 300 IAmb IAmb 14 46 06.1
comp=Z,14nm,0.9s
PV04 Paradox Valley 56.58 300 IAmb IAmb 14 46 00.9
comp=Z,13nm,1.0s
PV20 West Nyswonger 56.64 300 IAmb IAmb 14 46 01.3
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 56.66 300 IAmb IAmb 14 46 01.5
comp=Z,19nm,1.5s
PV03 Paradox Valley 56.70 300 IAmb IAmb 14 46 01.8
comp=Z,11nm,1.2s
PV18 Skein Mesa, Pa 56.72 300 IAmb IAmb 14 46 01.9
comp=Z,17nm,0.9s
PV02 Paradox Valley 56.73 300 IAmb IAmb 14 46 01.1
comp=Z,7.8nm,0.8s
PV13 Radium Mtn., P 56.79 300 IAmb IAmb 14 46 02.6
comp=Z,10nm,0.9s
GOGA Godfrey 56.98 275 IAmb IAmb 14 46 02.5
comp=Z,5.6nm,0.8s
PNTR Pine Nut 57.51 310 IAmb IAmb 14 46 15.2
comp=Z,7.6nm,0.7s
X40A Basin Creek Fa 57.64 284 IAmb IAmb 14 46 07.9
comp=Z,11nm,1.2s
MVCO Mesa Verde 57.67 299 IAmb IAmb 14 46 09.1
comp=Z,18nm,1.6s
MIAR Mount Ida 57.72 285 IAmb IAmb 14 46 07.3
comp=Z,11nm,0.8s
NVAR Mina Array Bea 57.98 309 P **P 14 46 08.7 +0.6**
comp=Z,0.6nm,0.6s,baz=355,slow=7.4,SNR=4.0
comp=Z,0.6nm,0.6s
RAYN Ar Rayn 58.84 135 P **P 14 46 15.2 +1.2**
ANMO Albuquerque 59.55 297 LR LR 15 12 06.0
comp=Z,197nm,19.2s,baz=108,slow=36
POST Post 60.55 292 IAmb IAmb 14 46 28.0
comp=Z,6.5nm,0.7s
EVN Everest 61.35 92 P **P 14 46 32.8 +0.9**
EVN IAmb IAmb 14 46 33.8
comp=Z,3.7nm,0.6s
MJAR Matsushiro Arr 61.36 41 IAmb IAmb 14 46 32.1
comp=Z,4.2nm,1.1s
MJAR Matsushiro Arr 61.36 41 P **P 14 46 31.6 +0.4**
comp=Z,3.2nm,0.9s,baz=358,slow=6.7,SNR=5.7
comp=Z,3.2nm,0.9s
BRDY Brady 61.86 289 IAmb IAmb 14 46 36.5
comp=Z,6.5nm,0.8s
PFO Pinyon Flats O 62.43 306 LR LR 15 12 44.7
comp=Z,56nm,18.2s,baz=49,slow=35
MNTX Cornudas Mount 62.55 295 P **P 14 46 39.5 +0.4**
JCT Junction City 62.78 290 IAmb IAmb 14 46 43.2
comp=Z,12nm,1.1s
NJ2 Nanjing 63.02 60 *eP* **P 14 46 42.3 0.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
VHRN Van Horn 63.37 295 P **P 14 46 44.9 +0.1**
VHRN IAmb IAmb 14 46 47.3
comp=Z,11nm,1.1s
TXAR Lajitas Array 64.57 293 P **P 14 46 52.7 +0.1**
TXAR Lajitas Array 64.57 293 P **P 14 46 52.5 -0.2**
comp=Z,2.7nm,0.7s,baz=37,slow=4.6,SNR=32
TXAR LR LR 15 15 40.0
comp=Z,99nm,18.1s,baz=360,slow=37
comp=Z,2.7nm,0.7s
PZH PanZhiHua 65.51 77 P **14 47 00.8 +1.9**
SJG San Juan 68.73 254 LR LR 15 15 31.5
comp=Z,26nm,21.9s,baz=168,slow=34
LPIG La Paz 70.79 298 LR LR 15 19 20.1
comp=Z,119nm,19.5s,baz=348,slow=37
FURI Furi 72.45 144 LR LR 15 21 44.3
comp=Z,46nm,18.2s,baz=146,slow=38
CHTO Chiang Mai 72.50 82 P **P 14 47 41.8 -0.4**
CMAR Chiang Mai Arr 72.85 82 P **P 14 47 43.8 -0.5**
CMAR Chiang Mai Arr 72.85 82 P **P 14 47 44.2 -0.1**
comp=Z,2.9nm,0.9s,baz=345,slow=7.2,SNR=22
CMAR LR LR 15 25 19.9
comp=Z,48nm,18.1s,baz=185,slow=40
comp=Z,2.9nm,0.9s
DBIC Dimbokro 72.86 189 LR LR 15 20 45.4
comp=Z,23nm,18.6s,baz=8.0,slow=37
CMIG Matias Romero 74.98 282 LR LR 15 23 43.3
comp=Z,50nm,19.2s,baz=338,slow=38
MTO3 Montecristo 76.61 276 IAmb IAmb 14 48 10.8
comp=Z,6.6nm,1.1s
SDV Santo Domingo 78.55 257 LR LR 15 21 08.6
comp=Z,66nm,21.6s,baz=58,slow=34
JTS Las Juntas de 79.80 271 LR LR 15 24 07.5
comp=Z,75nm,18.8s,baz=358,slow=36
PALK Pallekele 80.42 102 LR LR 15 28 13.1
comp=Z,85nm,19.9s,baz=21,slow=39
RUSC La Rusia 81.92 259 P **P 14 48 35.5 -0.1**
BOAV Boa Vista 83.13 246 P **P 14 48 41.8 +0.5**
BOAV IAmb IAmb 14 48 43.0
comp=Z,5.1nm,1.1s
ROSC El Rosal 83.17 260 LR LR 15 26 24.1
comp=Z,62nm,18.2s,baz=262,slow=36
PSI Prapat 88.13 85 LR LR 15 34 16.2
comp=Z,95nm,18.5s,baz=66,slow=39
MACA Manacapuru-AM 88.60 245 P **P 14 49 09.2 +0.8**
ATAH Atahualpa 95.61 261 LR LR 15 33 07.3
comp=Z,36nm,21.7s,baz=29,slow=36
WRA Warramunga Arr 116.44 53 PKP **PKPdf 14 54 57.8 -1.1**
comp=Z,0.6nm,0.8s,baz=338,slow=2.1,SNR=5.3
ASAR Alice Springs 120.03 55 PKP **PKPdf 14 55 04.6 -1.1**
comp=Z,0.8nm,0.5s,baz=1.6,slow=1.8,SNR=37
VNA1 Neumayer--Stat 150.05 188 ⇓P **PKiKP 14 56 05.1 +0.1**
comp=Z,8.5nm,0.9s
VNA2 Neumayer--Watz 150.30 188 ⇑P **PKPbc 14 56 05.2 +0.4**
comp=Z,6.2nm,0.6s,baz=8.3,slow=3.1
MAW Mawson 150.56 138 PKPbc **PKiKP 14 56 06.1 0.0**
comp=Z,5.5nm,0.7s,baz=310,slow=6.8,SNR=11
VNA3 Neumayer Olymp 150.68 189 ⇓P **PKPbc 14 56 05.6 -0.1**
comp=Z,8.8nm,0.9s
SNAA Sanae 150.96 185 **PKiKP 14 56 07.2 +0.2**
SNAA Sanae 150.96 185 PKPbc **PKPbc 14 56 06.7 +0.4**
comp=Z,5.9nm,0.7s,baz=17,slow=3.0,SNR=23

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*IDC **29** 14:39:04.6±2.0, 38°.21N×141°.89E, h55km±18km, mb3.4/8, mbtmp3.7/12, ML3.2/4, MS2.4/1, Error ellipse: s-maj=20.4km s-min=10.9km az=104.0*
*JMA **29** 14:39:05.4±0.1, 38°.3N±0°.3×141°.8E±0°.5, h56km, MV3.5/40, E OFF MIYAGI PREF*

ISC 29 14:39:04.6±1.2, 38°22N±0°.05×141°86E±0°.09, h53km±9km, n33, σ0°63/41, mb3.7/8, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.32**	**286**	P	**Pn**	**14 39 14.8**	**+0.6**
JIKH				S	**Sn**	**14 39 21.4**	**+0.3**
JIO	**Ouri**	**0.47**	**300**	P	**Pn**	**14 39 16.1**	**+0.4**
JIO				S	**Sn**	**14 39 23.6**	**0.0**
JKMT	**Kesennumamotoy**	**0.66**	**333**	*i* P	**Pn**	**14 39 18.4**	**+0.3**
JKMT				S	**Sn**	**14 39 27.6**	**-0.2**
OFUJ	**Ofunato**	**0.87**	**350**	*i* P	**Pn**	**14 39 21.0**	**+0.3**
OFUJ				*e*S	**Sn**	**14 39 32.5**	**0.0**
JMK	**Ichinoseki**	**0.89**	**326**	⇓*i* P	**Pn**	**14 39 21.3**	**+0.4**
JMK				⇓S	**Sn**	**14 39 32.8**	**-0.1**
JMM	**Marumori**	**0.91**	**248**	*i* P	**Pn**	**14 39 21.4**	**+0.1**
JMM				S	**Sn**	**14 39 33.0**	**-0.5**
JOU	**Okura**	**0.95**	**279**	⇓*i* P	**Pn**	**14 39 22.0**	**+0.2**
JOU				⇓S	**Sn**	**14 39 34.4**	**-0.1**
JFK	**Kawauchi**	**1.16**	**223**	*i* P	**Pn**	**14 39 25.0**	**+0.4**
JFK				S	**Sn**	**14 39 39.5**	**+0.2**
JOM	**Ohasama**	**1.33**	**341**	⇓*i* P	**Pn**	**14 39 27.2**	**+0.4**
JOM				⇓S	**Sn**	**14 39 43.5**	**+0.1**
JYK	**Kaneyama**	**1.37**	**301**	⇓*i* P	**Pn**	**14 39 27.7**	**+0.3**
JYK				⇓*e*S	**Sn**	**14 39 44.5**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.38**	**242**	*i* P	**Pn**	**14 39 28.2**	**+0.7**
JOTO				*e*S	**Sn**	**14 39 44.5**	**-0.2**
JYS	**Shirataka**	**1.41**	**271**	⇓*i* P	**Pn**	**14 39 28.4**	**+0.4**
JRG	**Rokugo**	**1.52**	**321**	*i* P	**Pn**	**14 39 29.9**	**+0.6**
JYA	**Atsumi**	**1.73**	**283**	⇓*i* P	**Pn**	**14 39 32.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.36**	**241**	P	**Pn**	**14 39 56.4**	**+1.8**
	0.4nm,0.3s,baz=48,slow=11,SNR=21						
MJAR				S	**Sn**	**14 40 34.5**	**+1.3**
	2.7nm,0.4s,baz=217,slow=49,SNR=1.6						
MJAR				LR	LR	14 41 30.3	
	comp=Z,60nm,19.0s,baz=352,slow=43						
	3.9nm,0.5s						
JHJ	**Hachijo jima 2**	**5.36**	**199**	P	**Pn**	**14 40 22.9**	**+0.8**
	4.3nm,0.3s,baz=45,slow=4.3,SNR=0.9						
JHJ				S	**Sn**	**14 41 20.7**	**-1.8**
	149nm,0.7s,baz=113,slow=24,SNR=2.2						
	40nm,0.5s						
ASAJ	**Asahikawa**	**5.92**	**5**	P	**Pn**	**14 40 29.1**	**-0.5**
	0.8nm,0.3s,baz=235,slow=8.7,SNR=12						
ASAJ				S	**Sn**	**14 41 36.5**	**+0.5**
	13nm,1.0s,baz=354,slow=24,SNR=1.7						
	7.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.54**	**312**	P	**Pn**	**14 41 19.6**	**+0.4**

0.5nm,0.3s,baz=123,slow=14,SNR=5.9
2.3nm,0.7s
H11N2 WAKE ISLAND Hy 28.48 123 T T 15 15 17.6
baz=316,slow=75
H11N1 WAKE ISLAND Hy 28.48 123 T T 15 15 19.4
baz=316,slow=75
H11N3 WAKE ISLAND Hy 28.49 123 T T 15 15 17.5
baz=316,slow=75
H11S1 WAKE ISLAND Hy 29.23 125 T T 15 16 09.9
baz=317,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 29.23 125 T T 15 16 10.0
baz=317,slow=76,SNR=27
H11S2 WAKE ISLAND Hy 29.25 125 T T 15 16 11.6
baz=317,slow=76,SNR=23
ZALV Zalesovo Beam 41.39 311 P **P** **14 46 45.1 -0.2**
0.8nm,0.5s,baz=69,slow=7.9,SNR=2.4
0.8nm,0.5s
MKAR Makanchi Array 43.80 301 P **P** **14 47 04.8 -0.3**
0.6nm,0.7s,baz=87,slow=9.4,SNR=3.3
0.6nm,0.7s
KURBB Kurchatov Arra 45.56 307 P **P** **14 47 18.5 -0.5**
1.5nm,0.7s,baz=82,slow=8.3,SNR=9.6
1.5nm,0.7s
BVAR Borovoye Array 50.04 312 P **P** **14 47 52.7 -1.0**
0.4nm,0.6s,baz=67,slow=8.6,SNR=1.7
0.4nm,0.6s
WRA Warramunga Arr 58.28 188 P **P** **14 48 53.2 -0.7**
0.4nm,0.5s,baz=7.8,slow=7.7,SNR=9.2
0.4nm,0.5s
ASAR Alice Springs 62.01 188 P **P** **14 49 19.2 -0.2**
0.4nm,0.7s,baz=19,slow=9.0,SNR=7.5
0.4nm,0.7s
PDAR Pinedale Array 76.58 46 P **P** **14 50 49.5 -0.2**
0.3nm,0.6s,baz=278,slow=1.0,SNR=4.1
0.3nm,0.6s
TXAR Lajitas Array 89.12 53 P **P** **14 51 54.9 +0.3**
0.3nm,0.6s,baz=281,slow=2.7,SNR=4.2
0.3nm,0.6s
LPAZ La Paz 145.78 59 PKPbc **PKPdf** **14 58 38.9 +0.4**
0.4nm,0.4s,baz=297,slow=2.3,SNR=3.8

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*NEIC **29** 14:53:57.4±1.1, 1°.21S±0°.08×127°.50E±0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=14.7km s-min=6.8km az=33.0*
*IDC **29** 14:54:00.6±12.0, 1°.63S×127°.98E, h0km, mb4.0/2, mbtmp4.0/4, ML4.1/1, MS4.0/2, Error ellipse: s-maj=183.3km s-min=104.2km az=142.0*
*DJA **29** 14:54:01.7±0.4, 1°.5±2°×12°7E±°, h29km±4km, M4.0/16, mB4.9/3, mb4.3/6, MLv3.9/16, Mw(mB)4.2/3*
ISC 29 14:53:58.7±0.7, 1°.18S±0°.05×127°.48E±0°.05, h31km, n31, σ1ş70/32, mb4.2/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.72**	**240**	P	**Pn**	**14 54 27.2**	**+0.6**
SANI				S	**Sn**	**14 54 46.1**	**-1.5**
TNTI	**Ternate**	**1.94**	**357**		**Pn**	**14 54 30.7**	**+1.2**
TNTI	**Ternate**	**1.94**	**357**	P	**Pn**	**14 54 32.4**	**+2.8**
NLAI	**Namlea**	**2.08**	**190**	P	**Pb**	**14 54 34.7**	**-1.2**
NLAI				S	**Sb**	**14 54 59.4**	**-2.0**
AAI	**Ambon**	**2.59**	**164**	P	**Pb**	**14 54 43.3**	**-1.3**
MSAI	**Masohi**	**2.60**	**146**	P	**Pb**	**14 54 43.4**	**-1.3**
MSAI				S	**Sb**	**14 55 16.6**	**+0.4**
SWI	**Sorong**	**3.79**	**85**	P	**Pb**	**14 55 02.3**	**-2.7**
KMSI	**Cibinong**	**3.91**	**296**	P	**Pn**	**14 54 56.4**	**-0.2**
LUWI	**Luwuk**	**4.71**	**272**	Pn	**Pn**	**14 55 08.2**	**+0.5**
LUWI	**Luwuk**	**4.71**	**272**	P	**Pn**	**14 55 08.1**	**+0.5**
LUWI				S	**Sn**	**14 55 57.3**	**-4.0**
FAKI	**Fak Fak**	**5.07**	**110**	Pn	**Pn**	**14 55 12.9**	**+0.2**
FAKI	**Fak Fak**	**5.07**	**110**	P	Pn	14 55 17.9	+5.2
0.1nm26nm,1.2s
MRSI	**Marisa**	**5.78**	**286**	P	**Pn**	**14 55 23.4**	**+1.0**
0.1nm614nm13nm,0.5s
APSI	**Ampana**	**5.83**	**273**	P	**Pn**	**14 55 24.3**	**+1.1**
TOLI2	**Tolitoli**	**7.07**	**289**	Pn	**Pn**	**14 55 41.3**	**+1.1**
SPSI	**Sidrap Palu**	**8.18**	**250**	P	**Pn**	**14 55 58.4**	**+2.9**
604nm18nm,0.5s
BKSI	**Bulukumba**	**8.42**	**241**	P	**Pn**	**14 56 02.0**	**+3.3**
FITZ	**Fitzroy Crossi**	**16.91**	**186**	Pn	**P**	**14 57 53.7**	**-1.3**
3.0nm,0.8s,baz=9.5,slow=19,SNR=1.7
WRA	**Warramunga Arr**	**19.82**	**161**	P	**P**	**14 58 26.9**	**-0.1**
0.6nm,0.3s,baz=341,slow=11,SNR=6.4
2.2nm,0.5s
COEN	**Coen**	**20.06**	**130**	Pn	**Pn**	**14 58 32.0**	**+0.4**
COEN				IAmb	IAmb	14 58 48.9	
comp=Z,16nm,1.2s
AS31	**Alice Springs**	**23.21**	**165**	P	**P**	**14 59 02.2**	**-1.1**
AS31				IAmb	IAmb	14 59 05.5	
comp=Z,1.0nm,0.6s
ASAR	**Alice Springs**	**23.21**	**165**	P	**P**	**14 59 01.3**	**-2.0**
ASAR	**Alice Springs**	**23.21**	**165**	P	**P**	**14 59 03.0**	**-0.3**
comp=Z,3.0nm,0.7s,baz=346,slow=12,SNR=45
comp=Z,3.0nm,0.7s
BBOO	**Buckleboo**	**32.49**	**166**	P	**P**	**15 00 27.1**	**+0.5**
STKA	**Stephens Creek**	**33.32**	**158**	P	**P**	**15 00 34.3**	**+0.4**
STKA				IAmb	IAmb	15 00 36.0	
comp=Z,20nm,0.9s
STKA	**Stephens Creek**	**33.32**	**158**	P	**P**	**15 00 35.5**	**+1.5**
comp=Z,3.3nm,0.9s,baz=329,slow=11,SNR=5.5
comp=Z,3.3nm,0.9s
BRDH	**Bariadhala**	**42.20**	**306**	LR	LR	15 23 56.9	
comp=Z,229nm,18.1s,baz=295,slow=42
TIXI	**Tiksi**	**72.71**	**0**	P	**P**	**15 05 24.0**	**+0.7**
TIXI				IAmb	IAmb	15 05 37.8	
comp=Z,2.6nm,1.1s
ABKAR	**Akbulak array**	**76.41**	**321**	P	**P**	**15 05 45.9**	**+0.6**
QSPA	**South Pole Qui**	**88.76**	**180**	P	**P**	**15 06 51.6**	**+2.3**
QSPA				IAmb	IAmb	15 07 10.9	
comp=Z,3.5nm,1.5s
KMBO	**Kilima Mbogo**	**90.20**	**269**	LR	LR	15 45 58.9	
comp=Z,56nm,20.5s,baz=98,slow=34

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*BKK **29** 14:58:44.9±0.4, 23°N±4°×9°4E±°, h10km, M3.7/14, mB4.2/11, mb3.9/14, Mjma3.5/12, ML4.0/13, MLv4.0/9, Mw(mB)3.3/11*
*IDC **29** 14:58:49.3±4.1, 22°.75N×94°.02E, h75km±38km, mb3.4/8, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=63.5km s-min=15.6km az=57.0*
ISC 29 14:58:46.6±0.8, 22°.8N±0°.2×93°.8E±0°.1, h50km, n29, σ1ş61/38, mb3.7/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**5.68**	**119**	P	**Pn**	**15 00 05.7**	**-2.9**
MHMT	**Maesarieng**	**6.03**	**139**	P	**Pn**	**15 00 14.9**	**+1.6**
0.1nm0.1nm0.0nm16nm,0.7s
CHTO	**Chiang Mai**	**6.26**	**129**	P	**Pn**	**15 00 17.0**	**+0.6**
0.0nm0.1nm0.2nm4.0nm,0.9s
CM15	**Chiang Mai Arr**	**6.48**	**131**	P	**Pn**	**15 00 19.6**	**+0.1**
123nm7.2nm,0.8s
CM13	**Chiang Mai Arr**	**6.49**	**131**	P	**Pn**	**15 00 18.3**	**-1.3**
62nm4.8nm,0.5s
CMAR	**Chiang Mai Arr**	**6.49**	**131**	P	**Pn**	**15 00 18.6**	**-1.0**
0.4nm,0.3s,baz=309,slow=13,SNR=14
1.9nm,0.7s
CM02	**Chiang Mai Arr**	**6.51**	**131**	P	**Pn**	**15 00 19.9**	**+0.1**
65nm6.5nm,0.8s
CM01	**Chiang Mai Arr**	**6.53**	**131**	P	**Pn**	**15 00 19.6**	**-0.5**
294nm10nm,0.7s
CM05	**Chiang Mai Arr**	**6.53**	**131**	P	**Pn**	**15 00 20.2**	**+0.1**
5.4nm,0.9s
CM09	**Chiang Mai Arr**	**6.54**	**131**	P	**Pn**	**15 00 20.2**	**0.0**
7.3nm,0.8s
CM04	**Chiang Mai Arr**	**6.56**	**131**	P	**Pn**	**15 00 19.8**	**-0.7**
88nm5.9nm,0.7s
LAMP	**Lampang**	**6.95**	**127**	P	**Pn**	**15 00 26.5**	**+0.7**
ODAN	**Odare**	**7.07**	**306**	Pn	**Pn**	**15 00 29.4**	**+1.8**
baz=313,slow=0.0
ODAN				Sn	**Sn**	**15 01 46.7**	**0.0**
50nm,0.7s,baz=313,slow=0.0
RAMN	**Ramite**	**7.71**	**304**	Pn	**Pn**	**15 00 37.9**	**+1.4**
baz=310,slow=0.0
RAMN				Sn	**Sn**	**15 02 01.5**	**-1.1**
13nm,0.5s,baz=310,slow=0.0
GUN	**Gumba**	**8.76**	**307**	Pn	**Pn**	**15 00 52.9**	**+1.9**
baz=312,slow=0.0
GUN				Sn	**Sn**	**15 02 27.4**	**-1.2**
35nm,0.6s,baz=312,slow=0.0
PKI	**Pulchoki**	**8.94**	**304**	Pn	**Pn**	**15 00 53.8**	**+0.4**
baz=309,slow=0.0
PKI				Sn	**Sn**	**15 02 29.9**	**-3.0**
8.5nm,0.5s,baz=309,slow=0.0
PKIN	**Phulchoki**	**8.95**	**304**	Pn	**Pn**	**15 00 53.8**	**+0.3**
baz=309,slow=0.0
PKIN				Sn	**Sn**	**15 02 30.5**	**-2.6**
7.3nm,0.5s,baz=309,slow=0.0
KKN	**Kakani**	**9.15**	**305**	Pn	**Pn**	**15 00 57.6**	**+1.4**
baz=310,slow=0.0
KKN				Sn	**Sn**	**15 02 36.7**	**-1.1**
baz=310,slow=0.0
DMN	**Daman**	**9.19**	**303**	Pn	**Pn**	**15 00 56.8**	**0.0**
baz=308,slow=0.0
DMN				Sn	**Sn**	**15 02 35.9**	**-3.0**
15nm,0.8s,baz=308,slow=0.0
GKN	**Gorkha**	**9.75**	**304**	Pn	**Pn**	**15 01 04.3**	**0.0**
baz=309,slow=0.0
GKN				Sn	**Sn**	**15 02 49.9**	**-2.5**
14nm,0.4s,baz=309,slow=0.0
DANN	**Dangsing**	**10.59**	**303**	Pn	**Pn**	**15 01 16.8**	**+0.8**
baz=308,slow=0.0
DANN				Sn	**Sn**	**15 03 10.2**	**-3.1**
12nm,0.5s,baz=308,slow=0.0
MKAR	**Makanchi Array**	**25.66**	**342**	P	**P**	**15 04 13.6**	**+1.9**
1.7nm,0.8s,baz=151,slow=9.5,SNR=16
1.7nm,0.8s
KURBB	**Kurchatov Arra**	**30.20**	**341**	P	**P**	**15 04 53.7**	**+1.6**
0.6nm,0.7s,baz=153,slow=8.2,SNR=5.8
0.6nm,0.7s
ZALV	**Zalesovo Beam**	**31.82**	**350**	P	**P**	**15 05 08.8**	**+2.5**
0.6nm,0.4s,baz=171,slow=6.0,SNR=3.8
0.6nm,0.4s
AKASG	**Malin Array Be**	**56.66**	**317**	P	**P**	**15 08 25.1**	**+0.5**
0.3nm,0.3s,baz=84,slow=7.2,SNR=2.4
0.3nm,0.3s
WRA	**Warramunga Arr**	**58.08**	**134**	P	**P**	**15 08 33.8**	**-1.2**
0.4nm,0.5s,baz=318,slow=7.3,SNR=8.1
0.4nm,0.5s
ASAR	**Alice Springs**	**60.46**	**137**	P	**P**	**15 08 50.5**	**-0.9**
0.4nm,0.7s,baz=318,slow=7.0,SNR=8.5
0.4nm,0.7s
GERES	**GERESS Array B**	**66.77**	**315**	P	**P**	**15 09 34.1**	**+1.2**
0.6nm,0.5s,baz=75,slow=6.9,SNR=4.0
0.6nm,0.5s
ILAR	**Eielson Array**	**81.11**	**22**	P	**P**	**15 10 54.6**	**-1.6**
0.2nm,0.6s,baz=314,slow=5.8,SNR=4.1
0.2nm,0.6s

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*NEIC **29** 15:13:14.7±1.6, 6°.68N±0°.07×125°.09E±0°.06, h10km±1km, mb4.5/23, Error ellipse: s-maj=14.0km s-min=6.3km az=317.0*
*DJA **29** 15:13:15.6±0.6, 7°N±10°×12°5E±°, h30km±14km, M4.8/18, mb5.0/18, mB5.3/11, MLv5.0/10, Mw(mB)4.7/11*
*IDC **29** 15:13:22.3±1.1, 6°.68N×125°.17E, h82km±10km, mb3.7/16, mbtmp4.1/19, MS3.3/12, Error ellipse: s-maj=23.2km s-min=11.2km az=77.0*
ISC 29 15:13:15.1±0.4, 6°.77N±0°.05×125°.20E±0°.06, h13km, n85, σ1ş74/74, mb4.3/34, MS3.2/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.48**	**52**		**Pn**	**15 13 27.3**	**-0.4**
DAV					**Sb**	**15 13 34.0**	**+1.5**
DAV	**Davao City (W)**	**0.48**	**52**	P	Pn	15 13 37.4	+10
DAV	**Davao City (W)**	**0.48**	**52**	P	**Pb**	**15 13 26.0**	**+0.6**
SGSI	**Sangihe**	**3.08**	**174**	P	**Pn**	**15 14 05.4**	**+2.0**
SGSI				S	**Sn**	**15 14 43.1**	**+2.9**
KMSI	**Cibinong**	**6.27**	**191**	P	**Pn**	**15 14 49.0**	**+1.7**
TNTI	**Ternate**	**6.34**	**160**		**Pn**	**15 14 48.1**	**-0.2**
TNTI	**Ternate**	**6.34**	**160**	P	**Pn**	**15 14 50.2**	**+1.9**
0.3nm47nm,0.8s
MYLDM	**Lahad Datu**	**6.85**	**257**		**Pn**	**15 14 57.0**	**+1.8**
MRSI	**Marisa**	**7.04**	**208**	P	**Pn**	**15 14 57.5**	**-0.5**
TOLI2	**Tolitoli**	**7.14**	**218**	Pn	**Pn**	**15 14 56.5**	**-2.8**
LUWI	**Luwuk**	**8.13**	**197**		**Pn**	**15 15 15.5**	**+2.7**
LUWI	**Luwuk**	**8.13**	**197**	P	**Pn**	**15 15 14.9**	**+2.1**
2μm234nm,1.1s
APSI	**Ampana**	**8.41**	**205**	P	**Pn**	**15 15 17.2**	**+0.5**
1μm109nm,0.9s
SANI	**Sanana**	**8.79**	**175**	P	**Pn**	**15 15 22.4**	**+0.4**
936nm59nm,0.7s
I39PW	**PALAU INFRASON**	**9.31**	**85**	I	I	16 12 20.0	
baz=267,slow=303,SNR=1.0
SWI	**Sorong**	**9.70**	**141**	P	**Pn**	**15 15 35.9**	**+1.5**
28nm,0.8s
NLAI	**Namlea**	**10.12**	**169**	P	**Pn**	**15 15 39.8**	**-0.4**
1μm68nm,0.5s
AAI	**Ambon**	**10.81**	**164**	P	**Pn**	**15 15 51.9**	**+2.3**
90nm,0.5s
FAKI	**Fak Fak**	**11.92**	**144**	Pn	**Pn**	**15 16 04.7**	**-0.2**
SPSI	**Sidrap Palu**	**11.96**	**207**	P	**Pn**	**15 16 06.6**	**+1.2**
BNSI	**Bone**	**12.20**	**205**	P	**Pn**	**15 16 09.7**	**+1.0**
27nm,1.2s
KAPI	**Kappang**	**12.90**	**205**	P	**Pn**	**15 16 23.1**	**+4.8**
5.9nm,0.3s,baz=341,slow=15,SNR=3.7
KAPI				LR	LR	15 22 46.0	
comp=Z,170nm,18.3s,baz=55,slow=44
BATI	**Baumata**	**16.93**	**185**	P	**P**	**15 17 15.0**	**+1.1**
15nm,0.4s,baz=15,slow=3.5,SNR=4.4
TWSI	**Taliwang, Sumb**	**17.49**	**208**	P	**P**	**15 17 20.3**	**+0.3**
JAY	**Jayapura**	**18.02**	**120**	P	**P**	**15 17 26.9**	**+1.0**
6.9nm,0.8s,baz=321,slow=6.5,SNR=1.9
JOW	**Kunigami**	**20.17**	**8**	LR	LR	15 25 10.6	
comp=Z,94nm,21.9s,baz=275,slow=35
MTN	**Manton Dam**	**20.36**	**163**		**P**	**15 17 51.4**	**-0.1**
MTN				IAmb	IAmb	15 17 58.0	
comp=Z,16nm,0.6s
GUMO	**Guam**	**20.50**	**69**	LR	LR	15 24 34.9	
comp=Z,43nm,21.8s,baz=260,slow=33
LEM	**Lembang**	**22.14**	**233**	P	**P**	**15 18 15.5**	**+4.6**
comp=Z,16nm,0.5s,baz=326,slow=23,SNR=4.7
KNRA	**Kununurra**	**22.58**	**171**		**P**	**15 18 14.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.71**	**179**		**P**	**15 18 35.0**	**-1.2**
WHN	**Wuhan**	**25.75**	**338**	P	**P**	**15 18 50.3**	**+4.8**
NJ2	**Nanjing**	**25.84**	**348**	*e*P	**P**	**15 18 48.3**	**+2.0**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.6s
JCJ	**Chichijima**	**25.87**	**37**	LR	LR	15 27 31.6	
comp=Z,44nm,21.4s,baz=234,slow=33
JNU	**Nakatsue**	**26.75**	**11**	LR	LR	15 31 59.4	
comp=Z,34nm,18.1s,baz=196,slow=42
COEN	**Coen**	**27.25**	**139**	P	**P**	**15 18 59.1**	**-0.1**
COEN				IAmb	IAmb	15 19 06.4	
comp=Z,17nm,1.1s
WB0	**Warramunga Arr**	**27.88**	**161**	P	**P**	**15 19 03.1**	**-1.7**
WB0				IAmb	IAmb	15 19 24.1	
comp=Z,15nm,1.1s
WRAB	**Tennant Creek**	**28.02**	**161**	P	**P**	**15 19 04.8**	**-1.3**
WRAB				IAmb	IAmb	15 19 24.1	
comp=Z,6.3nm,0.7s
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**15 19 04.9**	**-1.3**
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**15 19 04.6**	**-1.6**
comp=Z,2.3nm,0.4s,baz=330,slow=11,SNR=36
comp=Z,2.3nm,0.4s
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**15 19 07.2**	**+0.4**
comp=Z,0.7nm,0.6s,baz=119,slow=7.2,SNR=8.2
comp=Z,0.7nm,0.6s
WR8	**Warramunga Arr**	**28.09**	**161**	P	**P**	**15 19 05.5**	**-1.2**
WR8				IAmb	IAmb	15 19 49.2	
comp=Z,8.2nm,0.8s
JHJ	**Hachijo jima 2**	**29.51**	**25**	LR	LR	15 31 50.0	
comp=Z,79nm,19.0s,baz=190,slow=37
PZH	**PanZhiHua**	**29.73**	**314**	P	**P**	**15 19 18.5**	**-2.9**
KSRS	**Korea Array**	**30.65**	**4**	P	**P**	**15 19 29.9**	**+0.8**
comp=Z,2.1nm,0.9s,baz=187,slow=8.8,SNR=5.5
comp=Z,2.1nm,0.9s
XAN	**Xi'an**	**31.04**	**333**	P	**P**	**15 19 35.3**	**+2.5**
XAN				pmax	pmax		
comp=Z,10.0nm,1.0s
AS31	**Alice Springs**	**31.42**	**165**		**P**	**15 19 34.4**	**-1.9**
ASAR	**Alice Springs**	**31.42**	**165**	P	**P**	**15 19 34.4**	**-1.9**
ASAR	**Alice Springs**	**31.42**	**165**	P	**P**	**15 19 34.8**	**-1.4**
comp=Z,1.9nm,0.5s,baz=340,slow=6.9,SNR=85
comp=Z,1.9nm,0.5s
MJAR	**Matsushiro Arr**	**31.93**	**20**	LR	LR	15 30 37.7	
comp=Z,61nm,21.6s,baz=200,slow=32
LZH	**Lanzhou**	**35.13**	**329**	*e*P	**P**	**15 20 10.5**	**+1.9**
LZH				sP	sP	15 20 18.0	+3.6
LZH				pmax	pmax		
comp=Z,18nm,1.0s
HHC	**Hu-ho-hao-te**	**36.06**	**342**	*e*P	**P**	**15 20 18.3**	**+1.8**
HHC				pmax	pmax		
comp=Z,8.0nm,0.7s
INKA	**Innaminka**	**37.45**	**157**	P	**P**	**15 20 27.6**	**-0.8**
INKA				IAmb	IAmb	15 20 34.6	
comp=Z,6.5nm,1.4s
USRK	**Ussuriysk Ar.**	**37.76**	**8**	P	**P**	**15 20 31.2**	**+0.5**
comp=Z,8.0nm,0.8s,baz=169,slow=7.1,SNR=9.0
comp=Z,8.0nm,0.8s
GTA	**Gaotai**	**39.73**	**329**	*e*P	**P**	**15 20 50.5**	**+3.0**
GTA				pmax	pmax		
comp=Z,4.0nm,1.4s
ASAJ	**Asahikawa**	**40.20**	**19**	LR	LR	15 38 21.2	
comp=Z,53nm,19.0s,baz=168,slow=37
BBOO	**Buckleboo**	**40.69**	**166**	P	**P**	**15 20 54.6**	**-0.9**
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**15 21 01.0**	**-1.0**
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**15 21 01.5**	**-0.6**
comp=Z,2.9nm,0.7s,baz=337,slow=9.4,SNR=6.4
comp=Z,2.9nm,0.7s
EVN	**Everest**	**41.99**	**305**		**P**	**15 21 06.6**	**-0.4**
HILR	**Hailar Array B**	**42.89**	**355**	P	**P**	**15 21 13.4**	**+0.2**
comp=Z,2.6nm,0.6s,baz=171,slow=14,SNR=4.1
comp=Z,2.6nm,0.6s
HEH	**HeiHe**	**43.38**	**2**	*e*P	**P**	**15 21 16.8**	**-0.4**
HEH				pmax	pmax		
comp=Z,6.0nm,1.0s
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**15 21 20.7**	**-1.3**
comp=Z,0.2nm,0.3s,baz=161,slow=9.2,SNR=3.8
SONM				LR	LR	15 40 17.4	
comp=Z,65nm,18.4s,baz=160,slow=37
comp=Z,0.2nm,0.3s
ARMA	**Armidale**	**44.83**	**147**	P	**P**	**15 21 27.9**	**-1.3**
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**15 21 52.2**	**-1.7**
TOO				IAmb	IAmb	15 22 14.0	
comp=Z,9.5nm,1.5s
PETK	**Petropavlovsk-**	**53.25**	**24**	P	**P**	**15 22 33.6**	**+0.3**
comp=Z,3.8nm,0.8s,baz=206,slow=4.5,SNR=11
PETK				LR	LR	15 45 30.9	
comp=Z,34nm,19.1s,baz=203,slow=36
comp=Z,3.8nm,0.8s
MKAR	**Makanchi Array**	**54.21**	**325**		**P**	**15 22 40.8**	**+0.3**
MKAR	**Makanchi Array**	**54.21**	**325**	P	**P**	**15 22 40.5**	**0.0**
comp=Z,1.3nm,0.6s,baz=126,slow=8.3,SNR=11
comp=Z,1.3nm,0.6s
KDJ	**Kajisay**	**55.08**	**318**		**P**	**15 22 47.1**	**0.0**
KDJ				IAmb	IAmb	15 22 55.5	
comp=Z,7.2nm,1.2s
ZALV	**Zalesovo Beam**	**57.21**	**333**	P	**P**	**15 23 00.6**	**-1.2**
comp=Z,0.3nm,0.3s,baz=111,slow=8.1,SNR=3.6
comp=Z,0.3nm,0.3s
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	**P**	**15 23 09.1**	**-1.0**
comp=Z,0.5nm,0.5s,baz=126,slow=6.0,SNR=8.6
comp=Z,0.5nm,0.5s
KURK	**Kurchatov**	**58.38**	**327**	P	**P**	**15 23 09.1**	**-1.0**
KURK	**Kurchatov**	**58.38**	**327**	IAmb	IAmb	15 23 17.7	
comp=Z,1.9nm,0.8s
SEY	**Seymchan**	**59.45**	**14**	LR	LR	15 48 31.3	
comp=Z,15nm,21.5s,baz=225,slow=35
KK31	**Karatay Array**	**59.99**	**316**		**P**	**15 23 21.7**	**+0.2**
KK31				IAmb	IAmb	15 23 29.0	
comp=Z,4.9nm,0.9s
KKAR	**Karatay Array**	**59.99**	**316**	P	**P**	**15 23 20.8**	**-0.7**
BVAR	**Borovoye Array**	**63.96**	**327**	P	**P**	**15 23 47.6**	**-0.4**
comp=Z,1.3nm,0.8s,baz=97,slow=12,SNR=4.2
comp=Z,1.3nm,0.8s
BKZ	**Black Stump Fm**	**65.85**	**138**	P	**P**	**15 23 58.0**	**-2.5**
CASY	**Casey**	**73.64**	**186**	P	**P**	**15 24 46.7**	**-1.2**
CASY				IAmb	IAmb	15 24 51.1	
comp=Z,2.9nm,0.7s
BPAW	**Bear Paw Mtn.**	**81.25**	**26**		**P**	**15 25 30.7**	**0.0**
BPAW				IAmb	IAmb	15 25 37.4	
comp=Z,5.0nm,0.9s
ILAR	**Eielson Array**	**83.04**	**26**	P	**P**	**15 25 39.2**	**-0.8**
comp=Z,0.6nm,0.8s,baz=246,slow=5.7,SNR=7.1
comp=Z,0.6nm,0.8s
VNDA	**Vanda**	**86.61**	**173**	IAmb	IAmb	15 26 03.2	
comp=Z,3.7nm,1.5s
VNDA	**Vanda**	**86.61**	**173**	P	**P**	**15 25 56.0**	**-1.7**
comp=Z,0.8nm,0.9s,baz=315,slow=5.2,SNR=4.9
comp=Z,0.8nm,0.9s
BRTR	**Keskin Array B**	**86.92**	**309**	P	**P**	**15 25 57.2**	**-3.1**
comp=Z,0.3nm,0.6s,baz=76,slow=6.1,SNR=2.6
comp=Z,0.3nm,0.6s
NOA	**NORSAR Array B**	**95.41**	**333**	LR	LR	16 13 44.3	
comp=Z,25nm,18.5s,baz=35,slow=38

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*NEIC **29** 15:21:16.8, 36°.67N×121°.29W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.04; $M_{\theta\theta}$-5.01; $M_{\phi\phi}$4.97; $M_{r\theta}$-0.70; $M_{r\phi}$-0.33; $M_{\theta r}$-1.70; Fault plane solution: $M_0$5.33000×10^{14} NP1:ϕ_s132.01000°, δ71.50000°, λ173.83000°. NP2:ϕ_s223.97000°, δ84.15000°, λ18.60000°. Principal axes: T 5.4971, Plg17.0000°, Azm89.0000°; N -0.3609, Plg71.0000°, Azm241.0000°; P -5.1362, Plg9.0000°, Azm357.0000°;*
*NEIC **29** 15:21:16.5±1.2, 36°.66N±0°.02×121°.29W±0°.02, h10km±2km Error ellipse: s-maj=3.3km s-min=2.8km az=229.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.42; $M_{\theta\theta}$-7.60; $M_{\phi\phi}$6.18; $M_{r\theta}$-2.12; $M_{\theta\phi}$1.42; $M_{\theta r}$-1.68; Fault plane solution: $M_0$7.64000×10^{14} NP1: ϕ_s140.21000°, δ67.67000°, λ174.30000°. NP2: ϕ_s232.39000°, δ84.73000°, λ22.43000°. Principal axes: T 6.9909, Plg19.0000°, Azm98.0000°; N 1.1596, Plg67.0000°, Azm245.0000°; P -8.1505, Plg12.0000°, Azm4.0000°;*
*NEIC **29** 15:21:16.8, 36°.67N×121°.29W, h8km*
*NEIC **29** 15:21:16.8, 36°.67N×121°.29W, h8km*
NCEDC 29 15:21:16.8±0.8, 36°.67N±0°.01×121°.29W±0°.02, h7km±4km, Mwr3.8/5, ML3.7/166(NEIC), Mwr3.9/44(NEIC), Error ellipse: s-maj=2.6km s-min=1.8km az=62.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.04**	**203**		Pg	15 21 18.5	+0.3
BJOM					Sg	15 21 19.7	+0.5
SCZ	**Santa Cruz**	**0.11**	**232**		Pg	15 21 19.2	-0.1
SCZ					Sg	15 21 20.9	0.0
BSLM	**Silva Ranch**	**0.12**	**337**		Pg	15 21 20.6	+1.2
BJCM	**Johnson Can.**	**0.14**	**214**		Pg	15 21 19.7	-0.1
SAO	**San Andreas Ge**	**0.16**	**308**		Pg	15 21 19.9	-0.2
FRP	**Fremont Peak**	**0.18**	**299**		Pg	15 21 20.4	-0.1
BSRM	**Salinas Radio**	**0.18**	**270**		Pg	15 21 20.5	0.0
BSRM					Sg	15 21 23.2	+0.3
BBGB	**Big Mountain B**	**0.22**	**113**		Pg	15 21 22.2	+0.9
BSGM	**Shirttail Gulc**	**0.25**	**173**		Pg	15 21 21.6	-0.2
BSGM					Sg	15 21 25.1	-0.1
BSMM	**Soledad Missio**	**0.30**	**201**		Pg	15 21 22.9	+0.1
HTUM	**Tustin Road**	**0.32**	**300**		Pg	15 21 23.2	0.0
HFEM	**San Felipe**	**0.33**	**345**		Pg	15 21 24.1	+0.9
LRV	**Little Rabbit**	**0.33**	**137**		Pg	15 21 23.6	+0.4
HERM	**Elkhorn Road**	**0.36**	**291**		Pg	15 21 24.1	+0.2
FORD	**Fort Ord Natur**	**0.39**	**273**	Pg	Pg	15 21 24.5	0.0
HPCM	**Pacheco Lake**	**0.39**	**2**		Pb	15 21 25.4	-0.8
HCBM	**Chamberlain**	**0.40**	**312**		Pg	15 21 24.5	0.0
BMSM	**Mercy Hot Spri**	**0.40**	**91**		Pb	15 21 25.6	-0.7
SLD	**San Luis Dam**	**0.41**	**8**		Pg	15 21 25.5	+0.7
BCWM	**Chews Ridge**	**0.42**	**212**		Pg	15 21 25.0	0.0
GHS	**Gilroy Hot Spr**	**0.45**	**344**		Pg	15 21 26.2	+0.7
HLPM	**Lions Peak**	**0.46**	**324**		Pg	15 21 26.2	+0.5

C016 Longford Drive 0.86 328 Pb 15 21 33.9 -0.2
PHPM Hope Ranch 0.88 141 Pg 15 21 33.1 -0.6
CALM Calaveras Res. 0.88 333 Pg 15 21 33.7 -0.1
JSJM St Joseph 0.92 316 Pg 15 21 34.4 -0.2
PKD Bear Valley Ra 0.94 140 Pg 15 21 34.0 -0.8
PKD IAML 15 21 51.4
comp=N,3μm,0.6s
PKD IAML 15 22 01.3
comp=E,3μm,0.7s
JBMM Black Mountain 0.95 314 Pg 15 21 34.3 -0.7
PVCM Vineyard Canyo 0.96 140 Pg 15 21 34.7 -0.6
PPO Portuguese Can 0.97 145 Pg 15 21 35.2 -0.2
PSTM Stockdale Moun 0.97 139 Pg 15 21 34.8 -0.7
CSTL Corral Hollow 0.98 350 Pb 15 21 36.2 0.0
CSTL Corral Hollow 0.98 350 Pb 15 21 36.2 -0.1
JFP Foothills Park 1.00 314 Pg 15 21 35.0 -1.0
JPSM 1.00 302 Pg 15 21 35.1 -0.9
WSRE Westside REC, 1.00 109 Pb 15 21 36.5 +0.1
JSFB Stanford Teles 1.02 316 Pg 15 21 35.6 -0.9
WENL Wente Vineyard 1.02 339 Pg 15 21 36.3 -0.2
AVNL Avenal, CA USA 1.03 129 Pg 15 21 36.7 0.0
CVLM Vallecito 1.05 336 Pg 15 21 36.6 -0.4
JRSC Jasper Ridge 1.06 314 Pg 15 21 35.5 -1.6
JRSC IAML 15 21 51.7
comp=N,4μm,0.7s
JRSC IAML 15 21 59.1
comp=E,3μm,0.9s
CSAM Sandia 1.06 342 Pg 15 21 37.0 -0.2
PHFM Heflinger Ranc 1.06 137 Pg 15 21 36.5 -0.8
CTM Castle Mountai 1.06 133 Pb 15 21 37.5 -0.2
LEGD La Grand CA 1.07 59 Pg 15 21 36.8 -0.5
CBZL Buffer Zone 1.08 342 Pg 15 21 37.6 +0.1
CBZL Buffer Zone 1.08 342 Pg 15 21 37.7 +0.1
CNIC Niles Canyon 1.08 330 Pg 15 21 36.7 -0.9
RAMR Ramage Ranch 1.08 161 Pg 15 21 36.5 -1.1
LCUV Le Cuvier 1.11 156 Pg 15 21 36.7 -1.4
PCBM Cambria 1.16 171 Pg 15 21 37.5 -1.6
PKLM Kerr Lake 1.18 139 Pg 15 21 38.0 -1.5
CBSNC Byron Hot Spri 1.18 346 Pg 15 21 38.7 -0.9
MHDM Hidden Dam 1.21 68 Pg 15 21 38.5 -1.5
TCAS Cass Winery, P 1.21 150 Pg 15 21 38.6 -1.4
CMOB Morgan Territo 1.21 341 Pn 15 21 41.3 +1.0
JCHM Cahill Ridge 1.21 315 Pg 15 21 38.0 -2.1
TCHL Shandon 1.21 143 Pg 15 21 38.9 -1.3
PMRM Maxey Ranch 1.23 136 Pg 15 21 39.0 -1.3
JCPM Coyote Point 1.23 318 Pb 15 21 38.3 -2.2
CSLM San Leandro Hi 1.25 328 Pb 15 21 38.5 -2.2
PAGB Antelope Grade 1.26 138 Pn 15 21 39.2 -1.7
TRAM Private Proper 1.29 140 Pn 15 21 40.5 -0.8
BGC Bolinger Road 1.30 332 Pn 15 21 40.0 -1.6
FRI Friant 1.31 75 Pn 15 21 40.4 -1.2
CRHM Round Hill Res 1.31 335 Pn 15 21 40.5 -1.2
JSBM San Bruno Moun 1.34 319 Pn 15 21 39.4 -2.6
JMGM Milagra Ridge 1.35 316 Pn 15 21 39.6 -2.5
TSCN Private Proper 1.36 145 Pn 15 21 40.8 -1.4
BUCR Buckhorn Ranch 1.36 42 Pn 15 21 41.1 -1.2
PTAM Tassajara Cree 1.36 159 Pn 15 21 40.4 -1.9
LSDC Los Osos Digit 1.41 165 Pn 15 21 43.2 +0.1
BKS Berkeley--Byer 1.42 328 Pn 15 21 41.1 -2.0
BRIB Briones 1.43 332 Pn 15 21 41.5 -1.7
VAK Adit at Lawren 1.43 328 Pn 15 21 41.4 -1.8
BL67 Building 67, L 1.43 328 Pn 15 21 41.5 -1.8
BRK Berkeley--Havi 1.43 328 Pn 15 21 41.3 -1.9
KARE Kearney REC, C 1.44 92 Pn 15 21 42.1 -1.2
MMIM Miami Mountain 1.45 58 Pn 15 21 43.0 -0.7
TRAY Twisselman Ran 1.46 139 Pn 15 21 42.3 -1.4
TWIT Twitchell Isla 1.46 348 Pn 15 21 42.9 -0.7
PBPM Bitterwater Pu 1.47 137 Pn 15 21 42.5 -1.2
JPRM Presidio of Sa 1.47 320 Pn 15 21 41.1 -2.7
CTAM Taylor 1.48 337 Pn 15 21 42.4 -1.5
DPD Davis Peak 1.49 164 Pn 15 21 43.6 -0.5
DCD Diablo Creek 1.50 166 Pn 15 21 44.0 -0.2
CPIM Pinole Ridge 1.51 331 Pn 15 21 43.0 -1.4
CSPM San Pablo Ridg 1.52 328 Pn 15 21 42.8 -1.7
CMB Columbia Colle 1.54 28 Pn 15 21 44.0 -0.9
CMB IAML 15 22 09.4
comp=E,796nm,0.7s
CMB IAML 15 22 10.1
comp=N,684nm,0.5s
CPMM Point Molate 1.56 326 Pn 15 21 42.5 -2.5
VOG Valley Oaks Go 1.58 102 Pn 15 21 44.8 -0.4
PINL Point Pinole R 1.59 328 Pn 15 21 43.7 -1.7
NLHM Lake Herman 1.60 335 Pn 15 21 43.5 -2.2
JEPS Jepson Natural 1.64 345 Pn 15 21 46.0 -0.2
FARB Farallon Islan 1.71 308 Pn 15 21 44.4 -2.7
FARB IAML 15 22 16.8
comp=N,520nm,1.4s
KCC Kaiser Creek 1.71 67 Pn 15 21 47.4 +0.2
SMMC Simmler 1.71 142 Pn 15 21 45.5 -1.7
SNT Sears Point 1.77 329 Pn 15 21 46.1 -1.9
CARC Carrizo Plain 1.79 139 Pn 15 21 46.9 -1.4
NOLM Olema 1.82 319 Pn 15 21 46.5 -2.1
WELL Weller Preserv 1.83 14 Pn 15 21 48.1 -0.6
WELL Weller Preserv 1.83 14 IAML 15 22 19.1
comp=E,638nm,0.6s
NADM Allendale 1.87 343 Pn 15 21 48.9 -0.4
CRGC Crocker Grade 1.91 138 Pn 15 21 48.5 -1.4
NPRM Point Reyes 1.91 315 Pn 15 21 47.3 -2.6
CVS Carmenet Viney 1.92 331 Pn 15 21 47.8 -2.2
NAPC Atlas Peak 1.93 337 Pn 15 21 48.9 -1.3
MCCM Marconi Confer 1.94 320 Pn 15 21 47.6 -2.7
MCCM IAML 15 22 25.3
comp=N,587nm,0.7s
MCCM IAML 15 22 28.7
comp=E,653nm,1.1s
VES Vestal, Richgr 1.97 114 Pn 15 21 49.8 -0.8
VES IAML 15 22 16.9
comp=N,703nm,0.8s
VES IAML 15 22 20.2
comp=E,524nm,0.7s
MRDM Red Cones 2.01 62 Pn 15 21 52.1 +0.5
MDPB Devils Postpil 2.01 61 Pn 15 21 51.9 +0.4
MDPB IAML 15 22 23.2
comp=E,1μm,1.1s
NTYM Taylor 2.04 328 Pn 15 21 49.5 -2.1
MINS Minaret Summit 2.04 60 Pn 15 21 52.6 +0.7
MMPM Mammoth Pass 2.04 62 Pn 15 21 52.6 +0.7
MLIM Lincoln Peak 2.06 61 Pb 15 21 53.6 -1.2
MDYM Dry Creek 2.07 61 Pn 15 21 53.6 +1.2
MDCM Deadman Creek 2.08 59 Pn 15 21 53.1 +0.7
MMLB Mammoth Lakes 2.10 61 Pb 15 21 54.1 -1.3
MLCM Laurel Creek C 2.12 63 Pb 15 21 54.9 -0.9
MEMM East Mammoth H 2.13 61 Pn 15 21 54.3 +1.1
MGPM Gravel Pit 2.14 63 Pb 15 21 54.8 -1.2
PKM Mcpherson Peak 2.14 145 Pn 15 21 52.5 -0.7
MCSM Casa Diablo Ho 2.15 62 Pn 15 21 54.8 +1.4
MCBM Casa Benchmark 2.15 62 Pb 15 21 55.1 -1.2
MCVM Convict Lake 2.17 64 Pn 15 21 54.7 +0.9
MLAC Mammoth, Mammo 2.19 63 Pb 15 21 56.1 -0.8
MDRNC Doe Ridge 2.19 63 Pn 15 21 55.1 +1.2
FIGC Figueroa Mtn. 2.21 151 Pn 15 21 52.5 -1.5
MLHM Little Hot Cre 2.22 62 Pn 15 21 53.5 -0.8
MTUM Tungsten Hills 2.29 72 Pn 15 21 56.1 +0.9
BCW Bitter Crk WRg 2.30 138 Pn 15 21 55.3 0.0
NJQ Nojoqui County 2.31 157 Pn 15 21 53.8 -1.6
GAXM Alexander Vall 2.35 331 Pn 15 21 53.5 -2.4
WAKR Walker 2.35 38 Pn 15 21 56.9 +0.8
WAKR IAML 15 22 42.5
comp=N,763nm,0.8s
FTR Fort Ross 2.37 322 Pn 15 21 54.1 -2.2
SYP Santa Ynez Pea 2.39 153 Pn 15 21 55.1 -1.4
WASM Alta Sierra Ca 2.40 112 Pn 15 21 56.9 +0.1
MRCM Red Rock Canyo 2.44 65 Pb 15 21 59.7 -1.5
MCDM Chidago Canyon 2.44 68 Pb 15 21 59.7 -1.5
GDXM Geysers 2.45 331 Pn 15 21 55.0 -2.3
TIN Tinemaha, Big 2.49 80 Pn 15 21 58.9 +1.0
ISA Isabella, Lake 2.49 113 Pn 15 21 57.6 -0.3
ISA IAML 15 22 35.9
comp=E,266nm,0.5s
ISA IAML 15 22 38.0
comp=N,310nm,0.9s
TEJ El Tejon 2.55 123 Pn 15 21 57.7 -1.0
OSUM Sutter Buttes 2.64 351 Pn 15 21 57.9 -2.0
WORM Onyx Ranch 2.65 111 Pn 15 22 00.8 +0.7
OHCM Honcut 2.67 357 Pn 15 21 59.4 -0.8
GALB Galbreath Wild 2.69 325 Pn 15 21 58.1 -2.4
HOPS Hopland Field 2.72 329 Pn 15 21 58.9 -2.1
DSP Deep Springs 2.75 74 Pn 15 22 02.4 +1.1
DSP IAML 15 22 56.2
comp=N,244nm,1.1s
DSP IAML 15 22 56.5
comp=E,217nm,1.0s
PNTR Pine Nut 2.77 28 Pn 15 22 02.6 +0.8
DONR Donner Summit 2.79 16 Pn 15 22 03.0 +0.8
OSI Osito Audit: C 2.93 134 Pn 15 22 05.5 +1.7
OSI IAML 15 22 50.7
comp=N,191nm,0.8s
OSI IAML 15 22 53.0
comp=E,230nm,0.8s
RYN Ryan 2.94 47 Pn 15 22 05.0 +0.8
RYN IAML 15 23 05.1
comp=N,383nm,1.1s
NVAR Mina Array Bea 2.96 53 Pn 15 22 03.8 -0.7
NV11 Mina Array Sit 3.05 54 IAML 15 22 58.1
comp=N,179nm,1.4s
NV11 IAML 15 23 03.0
comp=E,156nm,1.1s
TPO Tropico Hills 3.06 125 Pn 15 22 05.2 -0.6
TPO IAML 15 23 09.2
comp=E,248nm,1.2s
TPO IAML 15 23 21.6
comp=N,164nm,1.2s
LRMC Laurel Mtn Rad 3.15 111 IAML 15 23 00.5
comp=E,138nm,1.1s
LRMC IAML 15 23 05.8
comp=N,148nm,0.8s
GRAC Grapevine Rang 3.17 83 IAML 15 23 07.4
comp=E,361nm,1.0s
GRAC IAML 15 23 13.1
comp=N,294nm,0.8s
WSHM Spangler Hills 3.25 108 IAML 15 23 02.2
comp=N,138nm,1.5s
WSHM IAML 15 23 09.5
comp=N,137nm,1.0s
BEKR Beckworth 3.28 13 Pn 15 22 09.0 +0.2
BEKR IAML 15 23 00.8
comp=E,166nm,0.6s
BEKR IAML 15 23 02.7
comp=N,117nm,0.6s
GMN Gold Mountain 3.29 78 IAML 15 23 13.6
comp=N,140nm,0.7s
CCCA Chr Cany lake 3.38 109 IAML 15 23 33.8
comp=E,312nm,1.4s
PAHR Pah Rah Range 3.39 26 IAML 15 23 13.5
comp=E,260nm,1.3s
PAHR IAML 15 23 21.3
comp=N,110nm,1.2s
MWC Mount Wilson 3.59 132 IAML 15 23 16.0
comp=N,103nm,1.2s
MWC IAML 15 23 27.0
comp=E,92nm,1.2s
O03E Paynes Creek 3.65 354 Pn 15 22 12.7 -1.1
O03E IAML 15 23 35.0
comp=E,225nm,1.1s
O03E IAML 15 23 45.3
comp=N,106nm,1.0s
WCT Wildcat Mounta 3.75 87 IAML 15 23 24.2
comp=N,86nm,1.7s
GWY Greenwater Val 3.76 96 IAML 15 23 33.7
comp=N,79nm,1.2s
GWY IAML 15 23 39.3
comp=E,102nm,0.9s
BFSC Mount Baldy Ra 3.83 128 Pn 15 22 15.3 -1.0
GSC Goldstone, Bar 3.88 109 IAML 15 23 24.4
comp=E,103nm,1.1s
GSC IAML 15 23 40.3
comp=N,98nm,1.0s
TPNV Topopah Spring 4.06 85 IAML 15 23 34.8
comp=N,100nm,1.5s
TPNV IAML 15 23 39.8
comp=N,128nm,1.2s
HATC Hat Creek Radi 4.15 358 IAML 15 23 40.9
comp=N,144nm,1.8s
N02D Trinity Center 4.44 346 IAML 15 24 08.1
comp=E,47nm,0.8s
M03C McCloud 4.65 352 IAML 15 23 57.0
comp=E,71nm,0.9s
M03C IAML 15 23 57.5
comp=N,66nm,0.9s
R11B Troy Canyon, C 4.84 68 IAML 15 23 59.6
comp=N,40nm,0.9s
KRPM Rodgers 4.96 335 IAML 15 23 19.1
comp=E,75nm,4.0s
KRPM IAML 15 24 41.0
comp=N,82nm,2.3s
PFO Pinyon Flats O 5.00 126 Pn 15 22 31.8 -0.6
BELC Belle Mtn. Jos 5.08 120 IAML 15 24 25.4
comp=E,32nm,1.0s
DANC Danby, Needles 5.22 111 IAML 15 24 16.0
comp=N,66nm,0.9s
V12A Nelson 5.29 98 IAML 15 24 25.9
comp=N,25nm,1.9s

NNC 29 15:36:09.0±12.0, 37°29'N×71°00'E, h0km, mb3.6, mpv3.3, 3C-1D, Error ellipse: s-maj=131.9km s-min=72.8km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.82**	**356**	P	Pn	15 37 38.1	+1.6
	1.5nm,0.2s,baz=196,slow=15,SNR=21						
KK31				⇓S	Sn	15 38 46.9	+3.0
	1.0nm,0.3s,baz=188,slow=24,SNR=4.0						
AAK	**Ala-Archa**	**5.98**	**26**	⇑P	Pn	15 37 39.0	+0.2
	0.6nm,0.4s						
AAK				⇑S	Sn	15 38 48.3	+0.2
	0.9nm,0.6s						
AB31	**Akbulak array**	**14.40**	**330**	⇑P	Pn	15 39 30.5	-3.4
	0.4nm,0.5s						

*IDC **29** 15:49:19.1±1.1, 6°48N×125°24E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=21.7km s-min=10.0km az=114.0*

ISC 29 15:49:20.8±1.2, 6°6N±0°1×125°4E±0°3, h10km, n7, σ1°37/7, mb3.3/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**20**	Pg	**Pg**	**15 49 31.3**	**0.0**
	baz=210,slow=14						
DAV				Lg	Lg	15 49 41.8	
	0.5nm,0.3s,baz=208,slow=12,SNR=19						
DAV	**Davao City (W)**	**0.54**	**20**	P	**Pg**	**15 49 30.0**	**-1.3**
WRA	**Warramunga Arr**	**27.77**	**162**	P	**P**	**15 55 09.8**	**-0.3**
	0.3nm,0.5s,baz=334,slow=11,SNR=1.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**31.17**	**165**	P	**P**	**15 55 39.4**	**-0.9**
	0.4nm,0.9s,baz=338,slow=7.0,SNR=8.7						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**54.48**	**325**	P	**P**	**15 58 48.2**	**-0.5**
	0.1nm,0.5s,baz=142,slow=7.3,SNR=2.1						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**58.65**	**327**	P	**P**	**15 59 17.9**	**-0.3**
	0.2nm,0.5s,baz=128,slow=8.4,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.14**	**26**	P	**P**	**16 01 48.9**	**+2.2**
	0.2nm,0.5s,baz=283,slow=3.5,SNR=4.5						
	0.2nm,0.5s						

*IDC **29** 16:04:58.5±1.1, 6°64N×125°02E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/1, Error ellipse: s-maj=21.1km s-min=10.2km az=141.0*

ISC 29 16:04:59.8±1.2, 6°7N±0°1×125°1E±0°1, h10km, n7, σ0°23/6, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.63**	**51**	Pg	**Pg**	**16 05 12.0**	**0.0**
	baz=295,slow=7.3						
DAV				Lg	Lg	16 05 21.9	
	baz=197,slow=19						
JNU	**Nakatsue**	**26.86**	**11**	LR	LR	16 21 13.7	
	comp=Z,46nm,19.3s,baz=40,slow=36						
WRA	**Warramunga Arr**	**27.97**	**161**	P	**P**	**16 10 51.0**	**+0.1**
	0.8nm,0.7s,baz=345,slow=9.7,SNR=5.9						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.03**	**297**	P	**P**	**16 10 51.6**	**+0.2**
	0.7nm,0.7s,baz=122,slow=8.1,SNR=6.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**31.36**	**164**	P	**P**	**16 11 20.9**	**-0.1**
	0.3nm,0.4s,baz=342,slow=7.3,SNR=15						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**16 14 25.5**	**-0.3**
	0.1nm,0.4s,baz=113,slow=9.2,SNR=2.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**58.39**	**327**	P	**P**	**16 14 55.6**	**+0.1**
	1.0nm,0.2s,baz=128,slow=8.7,SNR=1.2						
	1.0nm,0.2s						

*NEIC **29** 16:21:32.1±0.6, 33°233N±0°008×116°739W±0°006, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.5km az=301.0*

PAS 29 16:21:32.6±0.6, 33°228N±0°009×116°743W±0°010, h10km±4km, Mwr3.6/4, ML3.7/62(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=146.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATG	**Mataguay Scout**	**0.09**	**110**		Pg	16 21 35.1	0.0
MATG					Sg	16 21 37.0	0.0
PLM	**Palomar**	**0.16**	**322**		Pb	16 21 39.5	+1.7
BZNA	**Buzz No.'s Pla**	**0.27**	**14**		Pg	16 21 37.9	-0.3
BZNA					Sg	16 21 41.7	-0.2
DPP	**Dos Picos Cty**	**0.28**	**216**		Pg	16 21 38.3	0.0
FRD	**Ford Ranch, An**	**0.29**	**24**		Pg	16 21 38.2	-0.3
FRD	**Ford Ranch, An**	**0.29**	**24**		Pn	16 21 42.3	-0.7
CRY	**Cary Ranch**	**0.34**	**1**		Sg	16 21 43.7	-0.2
EML	**El Monte Cty P**	**0.35**	**194**		Pg	16 21 39.3	-0.2
EML					Sg	16 21 44.2	+0.1
DNR	**Dunn Ranch,Anz**	**0.35**	**16**		Pg	16 21 39.3	-0.4
DNR	**Dunn Ranch,Anz**	**0.35**	**16**		Sg	16 21 44.6	+0.2
SLH	**Sleepy Hollow**	**0.41**	**95**		Pg	16 21 40.6	-0.1
SLH					Sg	16 21 46.4	+0.3
GORC	**Green Oak Ranc**	**0.41**	**260**		Pg	16 21 40.5	-0.2
GORC					Sg	16 21 46.5	+0.2
GVDA	**Garner Valley**	**0.44**	**8**		Pg	16 21 41.1	-0.3
GVDA					Sg	16 21 47.1	-0.1
PFO	**Pinyon Flats O**	**0.45**	**32**		Pg	16 21 41.0	-0.5
PFO				IAML		16 21 47.8	
	4μm,1.1s						
PFO	**Pinyon Flats O**	**0.45**	**32**		Sg	16 21 47.0	-0.4
CPE	**Camp Elliot**	**0.46**	**222**		Pg	16 21 41.1	-0.4
BACC	**Bachelor Mtn.**	**0.46**	**327**		Sg	16 21 47.5	-0.1
DGR	**Domenigoni Val**	**0.48**	**332**		Sg	16 21 48.1	-0.1
POB	**Polly Butte**	**0.48**	**342**		Pg	16 21 41.5	-0.5
POB					Sg	16 21 48.2	-0.2
MTRP	**Mission Trails**	**0.48**	**213**		Pg	16 21 41.7	-0.4
MTRP					Sg	16 21 48.4	-0.1
PMD	**Palm Desert**	**0.52**	**36**		Sg	16 21 48.7	-0.8
PMD	**Palm Desert**	**0.52**	**36**		Pg	16 21 41.9	-0.8
PMD				IAML		16 21 49.4	
	comp=N,3μm,0.3s						
PMD				IAML		16 21 49.5	
	comp=E,4μm,0.4s						
HMTC	**Hemet**	**0.53**	**336**		Pg	16 21 42.2	-0.6
HMTC					Sg	16 21 49.4	-0.5
BAR	**Barrett**	**0.55**	**174**		Sg	16 21 50.0	-0.6
BAR	**Barrett**	**0.55**	**174**		Pg	16 21 42.5	-0.8
BAR				IAML		16 21 50.3	
	comp=E,7μm,0.3s						
BAR				IAML		16 21 50.8	
	comp=N,10μm,0.2s						
SDMC	**San Diego Miss**	**0.55**	**217**		Pg	16 21 43.0	-0.4
DUZA	**Dulzura**	**0.62**	**182**		Pg	16 21 43.9	-0.7
DUZA					Sg	16 21 52.2	-0.6
SALN	**Salton City**	**0.64**	**85**		Sg	16 21 53.9	+0.6
SALN	**Salton City**	**0.64**	**85**		Pg	16 21 44.5	-0.4
SALN				IAML		16 21 55.8	
	comp=N,13μm,0.6s						
SALN				IAML		16 21 56.0	
	comp=E,6μm,0.5s						
TKX	**Tecate**	**0.67**	**170**		Pg	16 21 44.6	-0.9
TKX					Sg	16 21 53.4	-0.9
ELS	**Elsinore Mount**	**0.71**	**306**		Sg	16 21 54.8	-0.9
ELS	**Elsinore Mount**	**0.71**	**306**		Pg	16 21 45.4	-0.9
ELS				IAML		16 21 55.0	
	comp=N,1μm,0.5s						
ELS				IAML		16 21 58.5	
	comp=E,1μm,0.5s						
BBSC	**Beaumont Base**	**0.72**	**344**		Pg	16 21 46.2	-0.3
BBSC					Sg	16 21 56.2	+0.3
CRR	**Carrizo Plain**	**0.73**	**117**		Pg	16 21 46.5	-0.2
CRR					Sg	16 21 56.5	+0.2
PEC	**Perris**	**0.75**	**332**		Pg	16 21 46.0	-1.0
PEC					Sg	16 21 56.0	-0.9
CTCC	**Cactus City**	**0.76**	**56**		Pg	16 21 46.9	-0.4
CTCC					Sg	16 21 57.0	-0.2
TJX	**Tijuana**	**0.76**	**200**		Sg	16 21 57.6	+0.4
TJX	**Tijuana**	**0.76**	**200**		Pg	16 21 46.8	-0.6
EW2	**E Wide Canyon**	**0.76**	**21**		Sg	16 21 56.8	-0.6
ERRC	**Elmore Ranch**	**0.78**	**98**		Pg	16 21 47.5	-0.1
ERRC					Sb	16 21 58.8	0.0
IKP	**In-Ko-Pah, Jac**	**0.79**	**137**		Pg	16 21 47.3	-0.5
IKP					Sg	16 21 57.7	-0.3
RMX	**La Rumorosa**	**0.84**	**138**		Pb	16 21 49.4	+0.1
RMX					Sb	16 22 01.4	+0.8
SWSC	**Sam W. Stewart**	**0.84**	**109**		Pg	16 21 47.9	-0.9
SWSC					Sg	16 21 59.4	-0.4
CTW	**Cottonwood Mou**	**0.85**	**58**		Pg	16 21 48.4	-0.7
CTW					Sg	16 21 59.6	-0.6
BOMB	**Bombay Beach**	**0.86**	**81**		Pg	16 21 48.4	-0.8
BOMB					Sg	16 22 00.7	+0.3
CFT	**Crafton Hills**	**0.86**	**339**		Pg	16 21 48.5	-0.7
CFT					Sg	16 21 59.7	-0.8
RSBC	**Riverside Bore**	**0.89**	**327**		Pg	16 21 48.8	-1.0
RSBC					Sg	16 22 00.5	-0.8
RSBC	**Riverside Bore**	**0.89**	**327**		Pg	16 21 48.6	-1.1
BLAC	**Blackrock camp**	**0.89**	**19**		Sg	16 22 00.5	-0.9
YUH	**Yuha Desert**	**0.90**	**130**		Sg	16 22 01.1	-0.6
YUH	**Yuha Desert**	**0.90**	**130**		Pg	16 21 49.1	-0.8
YUH				IAML		16 22 01.8	
	comp=N,2μm,0.4s						
YUH				IAML		16 22 02.5	
	comp=E,1μm,0.4s						
CBX	**Cerro Bola**	**0.92**	**176**		Pg	16 21 49.0	-1.2
BELC	**Belle Mtn. Jos**	**0.99**	**39**		Pg	16 21 50.6	-1.0
BELC				IAML		16 22 06.3	
	comp=E,2μm,0.7s						
BELC				IAML		16 22 07.1	
	comp=N,1μm,0.5s						
BC3	**Big Chuckawall**	**1.16**	**68**		Pb	16 21 52.6	-2.2
BFSC	**Mount Baldy Ra**	**1.26**	**323**	Pn	Pn	16 21 54.9	-1.6
BFSC				IAML		16 22 18.7	
	comp=N,740nm,0.6s						
CCX	**Cicese**	**1.36**	**177**	Pn	Pn	16 21 56.3	-1.3
CCX				IAML		16 22 17.1	
	comp=N,2μm,0.4s						
CCX				IAML		16 22 17.4	
	comp=E,2μm,0.5s						
ESJX	**Sierra Juarez**	**1.39**	**151**	Pn	Pn	16 21 57.4	-0.8
ESJX				IAML		16 22 17.2	
	comp=N,1μm,0.1s						
ESJX				IAML		16 22 18.6	
	comp=E,2μm,0.1s						
MWC	**Mount Wilson**	**1.48**	**313**	Pn	Pn	16 21 58.5	-1.0
MWC				IAML		16 22 19.6	
	comp=E,1μm,0.6s						
MWC				IAML		16 22 22.0	
	comp=N,556nm,0.5s						
PASC	**Pasadena Art C**	**1.53**	**308**	IAML		16 22 20.6	
	comp=N,825nm,0.9s						
PASC				IAML		16 22 21.1	
	comp=E,765nm,0.4s						
GLA	**Glamis**	**1.62**	**96**	Pn	Pn	16 21 59.0	-2.2
GLA				IAML		16 22 37.5	
	comp=E,539nm,0.6s						
IRM	**Iron Mountain**	**1.62**	**55**	Pn	Pn	16 21 59.7	-1.6
IRM				IAML		16 22 25.5	
	comp=E,529nm,0.3s						
BLYC	**Blythe**	**1.93**	**74**		Pn	16 22 03.6	-1.8
VTX	**Valle De La Tr**	**2.00**	**156**		Pn	16 22 06.2	-0.3
VTX				IAML		16 22 36.2	
	comp=E,628nm,0.6s						
VTX				IAML		16 22 37.2	
	comp=N,494nm,0.7s						
TPO	**Tropico Hills**	**2.06**	**324**		Pn	16 22 07.0	-0.3
GSC	**Goldstone, Bar**	**2.07**	**359**	IAML		16 22 45.4	
	comp=E,396nm,0.8s						
GSC				IAML		16 22 46.7	
	comp=N,278nm,0.9s						
OSI	**Osito Audit: C**	**2.15**	**311**		Pn	16 22 08.3	-0.2
OSI				IAML		16 22 35.9	
	comp=E,422nm,0.9s						
OSI				IAML		16 22 38.6	
	comp=N,282nm,0.8s						

*IDC **29** 16:23:45.1±0.9,27.′13N×55.′12E,h0km,mb3.8/14, mbtmp3.8/17,ML3.8/3,MS3.2/14,Error ellipse: s-maj=21.2km s-min=17.5km az=7.0*
*NEIC **29** 16:23:47.0±2.3,27.′09N±0.′09×54.′90E±0.′07,h10km±1km, mb4.2/9,Error ellipse: s-maj=17.3km s-min=5.3km az=33.0*
*DSN **29** 16:23:47.2±1.4,27.′30N×55.′08E,h15km,ML3.6/12,Error ellipse: s-maj=17.9km s-min=6.5km az=28.0*
*TEH **29** 16:23:47.4,27.′19N×55.′08E,h11km±26km*
*OMAN **29** 16:23:48.4±0.1,27.′15N×55.′00E,h10km,mb4.8/4, ml3.8/20,Error ellipse: s-maj=1.3km s-min=0.8km az=353.0*
*THR **29** 16:23:48.0±0.0,27.′22N×55.′13E,h14km±50km,ML4.1*
ISC 29 16:23:48.2±1.2,27.′17N±0.′04×55.′04E±0.′03,h17km±8km, n119,σ1§49/131,mb3.7/16,MS3.1/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.77**	**310**	Pg	**Pg**	**16 24 02.2**	**-1.1**
GENO	**Geno**	**1.03**	**77**	Pg	**Pg**	**16 24 06.8**	**-1.5**
IBND	**Bandar-abas**	**1.36**	**78**	Pg	**Pn**	**16 24 13.2**	**+0.7**
SHME	**Shamm**	**1.49**	**138**	P	**Pn**	**16 24 14.5**	**+0.3**
SHME				S	**Sg**	**16 24 36.1**	**-0.3**
SHME	**Shamm**	**1.49**	**138**	*e*P	**Pn**	**16 24 14.1**	**-0.1**
SHME	SNR=9.9			S	**Sb**	**16 24 35.8**	**+1.7**
LMD1	**Lamerd**	**1.68**	**276**	Pg	**Pb**	**16 24 18.8**	**+0.1**
LMD1	**Lamerd**	**1.68**	**276**	*e*Pn	**Pb**	**16 24 18.7**	**+0.1**
LMD1				*e*Sg	**Sg**	**16 24 44.4**	**+2.1**
LMD1	comp=Z,4μm,1.0s			IAML		16 25 04.4	
BANOM	**Banah**	**1.68**	**138**	P	**Pn**	**16 24 17.5**	**+0.6**
BANOM				S	**Sn**	**16 24 39.3**	**+1.3**
BANOM	**Banah**	**1.68**	**138**	*e*P	**Pn**	**16 24 17.2**	**+0.4**
BANOM	SNR=36			S	**Sn**	**16 24 38.9**	**+0.9**
JHRM	**Jahrom**	**1.85**	**316**	Pn	**Pb**	**16 24 21.7**	**+0.1**
MASF	**Masafi**	**2.06**	**150**	P	**Pn**	**16 24 23.8**	**+1.7**
MASF	SNR=6.7			S	**Sb**	**16 24 50.7**	**+0.2**
MSFE	**Esma-Masafi**	**2.07**	**151**	*e*P	**Pn**	**16 24 22.4**	**+0.3**
MSFE	SNR=12			S	**Sn**	**16 24 50.2**	**+2.6**
MDH	**Madha**	**2.18**	**149**	P	**Pn**	**16 24 25.8**	**+2.1**
NAZ	**Nazwa, Dubai**	**2.25**	**165**	P	**Pn**	**16 24 27.0**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.25**	**165**	*e*P	**Pn**	**16 24 26.0**	**+1.4**
UOSS	**Minazif**	**2.45**	**154**		**Pn**	**16 24 27.9**	**+0.5**
UOSS	**Minazif**	**2.45**	**154**	P	**Pn**	**16 24 28.9**	**+1.4**
UOSS	**Minazif**	**2.45**	**154**	Pn	**Pn**	**16 24 29.1**	**+1.7**
UOSS	**Minazif**	**2.45**	**154**	*e*P	**Pn**	**16 24 28.2**	**+0.7**
FAQ	**Al Faqa, Dubai**	**2.47**	**168**	P	**Pn**	**16 24 29.9**	**+2.3**
FAQ				S	**Sn**	**16 24 59.3**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.47**	**168**	P	**Pn**	**16 24 29.8**	**+2.2**
KHNJ	**Kahnooj**	**2.49**	**71**	Pn	**Pn**	**16 24 28.7**	**+0.7**
HATD	**Hatta, Dubai**	**2.54**	**157**	P	**Pn**	**16 24 29.7**	**+1.1**
ASUD	**Al Ashush, Dub**	**2.55**	**174**	P	**Pn**	**16 24 31.3**	**+2.6**
ASUD				S	**Sn**	**16 25 00.8**	**+1.4**
ASUD	**Al Ashush, Dub**	**2.55**	**174**	P	**Pn**	**16 24 28.7**	**-0.1**
AJN	**Ajban**	**2.60**	**181**	P	**Pn**	**16 24 32.0**	**+2.5**
ASHO	**Ashiyiah**	**2.64**	**159**	P	**Pn**	**16 24 31.3**	**+1.2**
ASHO	**Ashiyiah**	**2.64**	**159**	*e*P	**Pn**	**16 24 31.0**	**+0.9**
NGRK	**Negar Kerman**	**2.88**	**31**	Pn	**Pn**	**16 24 34.5**	**+0.8**
ALNE	**Al Ain**	**3.17**	**168**	P	**Pn**	**16 24 38.9**	**+1.6**
ALNE	SNR=9.1			S	**Sn**	**16 25 17.8**	**+3.0**
ALNE	**Al Ain**	**3.17**	**168**	*i* P	**Pn**	**16 24 38.5**	**+1.2**
KRBR	**Kerman**	**3.18**	**28**	Pn	**Pn**	**16 24 39.6**	**+1.9**
KRBR	**Kerman**	**3.18**	**28**	*e*Pn	**Pn**	**16 24 40.8**	**+3.1**
KRBR	comp=Z,110nm,1.0s			IAML		16 25 57.4	
SOHO	**SOHO**	**3.31**	**156**	P	**Pn**	**16 24 40.0**	**+0.7**
SOHO	**SOHO**	**3.31**	**156**	*i* P	**Pn**	**16 24 40.2**	**+0.9**
KHGB	**Koh Gabri**	**3.43**	**21**	Pn	**Pn**	**16 24 43.1**	**+2.0**
CHMN	**Cheshme madani**	**3.47**	**39**	Pn	**Pn**	**16 24 43.7**	**+2.0**
DSBU	**Dashti - Bushe**	**3.55**	**290**	Pn	**Pn**	**16 24 45.3**	**+2.7**
MZWR	**Madinat Zayed**	**3.56**	**197**	P	**Pn**	**16 24 44.8**	**+2.2**
MZWR				S	**Sn**	**16 25 25.2**	**+0.9**
KBAM	**BAM**	**3.59**	**56**	Pn	**Pn**	**16 24 44.5**	**+1.4**
GHWR	**Ruwais**	**3.75**	**212**	P	**Pn**	**16 24 46.2**	**+1.0**
KRM1	**Kerman Provinc**	**3.85**	**30**	Pn	**Pn**	**16 24 47.8**	**+0.9**
SHMA	**Al-Shehemyia**	**3.88**	**251**	P	**Pn**	**16 24 48.6**	**+1.6**
SHMA	SNR=17			S	**Sn**	**16 25 34.1**	**+1.9**
ZRDN	**Zarand Kerman**	**4.00**	**19**	Pn	**Pn**	**16 24 50.6**	**+1.7**
ARQ	**Araqi**	**4.05**	**160**	P	**Pn**	**16 24 51.0**	**+1.5**
HOQ	**Hoqain**	**4.12**	**150**	P	**Pn**	**16 24 51.2**	**+0.8**
TRNA	**Turayna**	**4.21**	**236**	P	**Pn**	**16 24 52.6**	**+0.9**
TRNA	SNR=30			S	**Sn**	**16 25 41.6**	**+1.2**
IMEH	**Mehriz**	**4.22**	**355**	Pn	**Pn**	**16 24 53.0**	**+1.1**
SLWR	**Sila**	**4.32**	**225**	P	**Pn**	**16 24 53.4**	**+0.3**
SLWR				S	**Sn**	**16 25 43.9**	**+0.8**
MZR	**Muzera**	**4.39**	**199**	P	**Pn**	**16 24 54.9**	**+0.8**
MZR	SNR=7.6			S	**Sn**	**16 25 45.8**	**+1.0**
MZR	**Muzera**	**4.39**	**199**	*i* P	**Pn**	**16 24 54.5**	**+0.4**
IBAF	**Bafgh**	**4.42**	**6**	Pn	**Pn**	**16 24 55.8**	**+1.1**
UMZA	**Um Al Zommool**	**4.44**	**179**	P	**Pn**	**16 24 56.2**	**+1.4**
UMZA				S	**Sn**	**16 25 47.1**	**+1.0**
SMRA	**Abu-Samra**	**4.50**	**238**	P	**Pn**	**16 24 57.1**	**+1.6**
SMRA	SNR=10.0			S	**Sn**	**16 25 49.0**	**+1.5**
KLNJ	**Kolanjah**	**4.87**	**323**	Pn	**Pn**	**16 25 03.0**	**+2.0**
KLNJ	**Kolanjah**	**4.87**	**323**	*e*Pn	**Pn**	**16 25 02.9**	**+2.0**
KLNJ	comp=Z,82nm,1.0s			IAML		16 26 53.7	
SMDO	**Samad**	**4.92**	**146**	P	**Pn**	**16 25 03.1**	**+1.6**
ICHK	**Chekchek**	**5.08**	**354**	Pn	**Pn**	**16 25 05.9**	**+2.1**
WSAR	**Wadi Sarin**	**5.09**	**140**	P	**Pn**	**16 25 04.9**	**+1.1**
IRAM	**Ramesheh**	**5.17**	**334**	Pn	**Pn**	**16 25 06.9**	**+1.9**
YZKH	**Yazd**	**5.21**	**356**	*e*Pn	**Pn**	**16 25 06.8**	**+1.3**
YZKH	comp=Z,39nm,1.0s			IAML		16 26 58.9	
JMDO	**Jabal Madar**	**5.53**	**149**	P	**Pn**	**16 25 10.8**	**+1.0**
NGCH	**Negor - Chabah**	**5.76**	**107**	P	**Pn**	**16 25 13.9**	**+0.9**
NGCH	**Negor - Chabah**	**5.76**	**107**	Pn	**Pn**	**16 25 14.3**	**+1.3**
NASN	**Na'in**	**5.93**	**342**	*i* P	**Pn**	**16 25 16.7**	**+1.2**
NASN	comp=Z,27nm,1.0s			IAML		16 25 22.1	
BSRN	**Basiran**	**5.96**	**36**	*e*Pn	**Pn**	**16 25 16.3**	**+0.6**
BSRN	comp=Z,18nm,1.0s			IAML		16 27 22.6	
TPRV	**Parvadeh(Tabas**	**6.01**	**13**	Pn	**Pn**	**16 25 17.4**	**+1.0**
IKOO	**Kooshah**	**6.26**	**32**	Pn	**Pn**	**16 25 21.8**	**+1.7**
JHBN	**Jahan bin**	**6.31**	**324**	Pn	**Pn**	**16 25 23.4**	**+2.7**
TABS	**Tabas**	**6.70**	**15**	*e*Pn	**Pn**	**16 25 27.4**	**+1.5**
TABS	comp=Z,31nm,1.0s			IAML		16 27 52.2	
MHTO	**MHTO**	**6.72**	**156**	P	**Pn**	**16 25 26.7**	**+0.6**
IKLH	**Kolahrood**	**6.82**	**335**	Pn	**Pn**	**16 25 29.9**	**+2.2**
ISFB	**Sefidab**	**7.55**	**342**	Pn	**Pn**	**16 25 39.1**	**+1.5**
KHMZ	**Khomeyn**	**7.88**	**327**	*e*Pn	**Pn**	**16 25 45.2**	**+3.1**
KHMZ	comp=Z,23nm,1.0s			IAML		16 27 23.8	
DOK	**Doka**	**8.56**	**186**	P	**Pn**	**16 25 51.0**	**-0.4**
SHAO	**Shalim**	**9.12**	**176**	P	**Pn**	**16 25 58.4**	**-0.7**
WHFO	**Wadi Hawf**	**9.29**	**188**	P	**Pn**	**16 26 00.6**	**-0.8**
RAYN	**Ar Rayn**	**9.36**	**249**		**Pn**	**16 25 59.7**	**-2.7**
RAYN	**Ar Rayn**	**9.36**	**249**	P	**Pn**	**16 26 01.2**	**-1.2**
DMTO	**DMTO**	**9.41**	**181**	P	**Pn**	**16 26 02.3**	**-0.8**
ABTO	**Aybut**	**9.90**	**190**	P	**Pn**	**16 26 09.0**	**-0.9**
KBL	**Kabul**	**14.08**	**55**	P	**P**	**16 27 16.0**	**+1.2**
GNI	**Garni**	**15.51**	**329**	Pn	**Pn**	**16 27 26.0**	**-0.2**
GNI	comp=Z,16nm,1.1s			IAmb	IAmb	16 27 43.6	
GNI	**Garni**	**15.51**	**329**	Pn	**Pn**	**16 27 27.9**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.3,SNR=1.7						
GNI				LR	LR	16 34 30.9	
	comp=Z,58nm,18.6s,baz=129,slow=41						
	comp=Z,3.5nm,0.5s						
MARD	**Mardin**	**15.72**	**314**	Pn	**Pn**	**16 27 28.2**	**-0.8**
MARD				IAmb	IAmb	16 27 41.0	
	comp=Z,8.9nm,0.4s						
ASF	**Jabal al Asfar**	**16.53**	**292**	Pn	**Pn**	**16 27 38.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=155,slow=5.9,SNR=4.2						
ASF				Sn	**Sn**	**16 30 38.7**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=1.5						
ASF				LR	LR	16 35 50.6	
	comp=Z,52nm,18.9s,baz=125,slow=44						
	comp=Z,1.3nm,0.4s						
GAR	**Garm**	**17.38**	**43**	P	**Pn**	**16 27 52.0**	**+2.1**
EIL	**Elat**	**17.84**	**283**	LR	LR	16 36 20.8	
	comp=Z,84nm,19.0s,baz=146,slow=42						
MMAI	**Mount Meron Ar**	**17.95**	**294**	P	**P**	**16 27 58.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=2.7						
MMAI				LR	LR	16 36 36.3	
	comp=Z,62nm,21.0s,baz=90,slow=43						
	comp=Z,5.3nm,1.0s						
KBZ	**Khabaz**	**19.22**	**332**	P	**Pn**	**16 28 15.1**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=212,slow=13,SNR=1.9						
ARSB	**Arslanbob**	**20.42**	**42**	P	**P**	**16 28 24.4**	**-0.2**
BRTR	**Keskin Array B**	**21.74**	**311**	P	**P**	**16 28 38.0**	**-0.9**
BRTR	**Keskin Array B**	**21.74**	**311**	P	**P**	**16 28 38.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=130,slow=13,SNR=6.5						
BRTR				LR	LR	16 40 10.3	
	comp=Z,32nm,19.3s,baz=99,slow=45						
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**22.11**	**41**	LR	LR	16 37 45.8	
	comp=Z,75nm,19.7s,baz=238,slow=38						
AB31	**Akbulak array**	**22.37**	**8**	P	**P**	**16 28 44.8**	**-0.6**
AB31				IAmb	IAmb	16 28 58.6	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**22.37**	**8**	P	**P**	**16 28 45.0**	**-0.4**
AKTO	**Aktyubinsk**	**23.34**	**5**	LR	LR	16 40 10.6	
	comp=Z,74nm,18.1s,baz=239,slow=42						
FURI	**Furi**	**23.87**	**223**	LR	LR	16 39 59.5	
	comp=Z,46nm,20.1s,baz=134,slow=41						
BVAR	**Borovoye Array**	**28.24**	**20**	P	**P**	**16 29 39.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=223,slow=6.5,SNR=5.0						
BVAR				LR	LR	16 41 33.2	
	comp=Z,54nm,18.7s,baz=214,slow=38						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**29.05**	**40**	P	**P**	**16 29 47.5**	**0.0**
MKAR	**Makanchi Array**	**29.05**	**40**	P	**P**	**16 29 46.4**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=232,slow=7.5,SNR=4.1						
	comp=Z,0.2nm,0.6s						
ARTI	**Arti**	**29.29**	**4**	LR	LR	16 41 49.8	
	comp=Z,39nm,18.6s,baz=174,slow=37						
KURBB	**Kurchatov Arra**	**29.47**	**31**	P	**P**	**16 29 50.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=224,slow=7.8,SNR=1.5						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**34.57**	**31**	P	**P**	**16 30 35.6**	**-0.1**
ZALV	**Zalesovo Beam**	**34.57**	**31**	P	**P**	**16 30 35.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=231,slow=7.1,SNR=7.9						
ZALV				LR	LR	16 47 02.7	
	comp=Z,43nm,20.1s,baz=210,slow=40						
	comp=Z,1.3nm,0.5s						
FINES	**FINESS Array B**	**39.38**	**338**	P	**P**	**16 31 16.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=132,slow=8.5,SNR=6.9						
	comp=Z,1.6nm,0.7s						
GRA1	**Grafenberg Arr**	**40.28**	**316**	P	**P**	**16 31 22.7**	**-1.6**
GRA1				IAmb	IAmb	16 32 02.0	
	comp=Z,7.4nm,0.8s						
GRFO	**Grafenberg**	**40.28**	**316**	P	**P**	**16 31 22.6**	**-1.6**
GRFO				IAmb	IAmb	16 32 02.0	
	comp=Z,8.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.22**	**93**	P	**P**	**16 31 32.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=268,slow=7.2,SNR=1.8						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**43.28**	**331**	P	**P**	**16 31 49.6**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=125,slow=9.3,SNR=4.6						
HFS				LR	LR	16 52 31.1	
	comp=Z,36nm,19.9s,baz=77,slow=40						
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**44.79**	**331**	P	**P**	**16 32 01.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=116,slow=7.8,SNR=3.7						
NOA				LR	LR	16 54 12.8	
	comp=Z,15nm,18.5s,baz=235,slow=41						
	comp=Z,0.5nm,0.6s						
ESDC	**Sonseca Array**	**49.99**	**300**	P	**P**	**16 32 42.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=59,slow=7.0,SNR=2.0						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.63**	**265**	P	**P**	**16 32 53.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**51.63**	**265**	P	**P**	**16 32 53.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=60,slow=9.3,SNR=9.6						
	comp=Z,2.5nm,0.8s						
BOSA	**Boshof**	**62.39**	**210**	P	**P**	**16 34 07.4**	**-2.9**
BOSA	**Boshof**	**62.39**	**210**	P	**P**	**16 34 10.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=14,slow=8.3,SNR=1.2						
	comp=Z,1.9nm,0.8s						
SEY	**Seymchan**	**69.40**	**29**	LR	LR	17 08 26.9	
	comp=Z,44nm,19.7s,baz=220,slow=39						
WRA	**Warramunga Arr**	**89.91**	**112**	P	**P**	**16 36 45.1**	**-1.6**
	comp=Z,1.7nm,1.2s,baz=306,slow=4.4,SNR=4.9						
	comp=Z,1.7nm,1.2s						
ASAR	**Alice Springs**	**91.35**	**116**	P	**P**	**16 36 52.8**	**-0.6**
	comp=Z,0.2nm,0.9s,baz=293,slow=4.7,SNR=4.2						
	comp=Z,0.2nm,0.9s						

CATAC 29 16:37:04.6±0.9,9.°N±5.°×8.°0W±.°,h46km±7km,M1.4/7, MLv1.4/7,Error ellipse: s-maj=10.9km s-min=6.6km az=1.8,confirmed,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**0.32**	**250**	P	Pn	16 37 14.7	+1.2
BCIP				S	Sn	16 37 22.6	+2.7

*DJA **29** 16:37:28.8±1.2,7.°N±12.°×12.°5E±.°,h46km±17km,M4.8/13, mb4.9/13,mB5.1/6,MLv4.9/11,Mw(mB)4.5/6*
*IDC **29** 16:37:29.9±0.7,6.°62N×124.°99E,h0km,mb3.9/15, mbtmp3.9/15,MS3.5/22,Error ellipse: s-maj=14.8km s-min=9.7km az=142.0*
*NEIC **29** 16:37:32.7±1.6,6.°73N±0.°05×125.°22E±0.°04,h10km±1km, mb4.5/27,Error ellipse: s-maj=8.4km s-min=7.1km az=352.0*
ISC 29 16:37:32.5±0.4,6.°71N±0.°05×125.°19E±0.°07,h10km,n88, σ1§39/68,mb4.4/36,MS3.5/21,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.53**	**48**	Pg	**Pg**	**16 37 42.5**	**-0.3**
DAV	**Davao City (W)**	**0.53**	**48**	Pg	**Pb**	**16 37 44.2**	**+0.3**
DAV	baz=246,slow=8.3			Lg	Lg	16 37 54.4	
DAV	**Davao City (W)**	**0.53**	**48**	P	**Pg**	**16 37 41.0**	**-1.8**
SGSI	**Sangihe**	**3.02**	**173**	P	**Pn**	**16 38 22.0**	**+1.6**
SGSI				S	**Sb**	**16 39 01.4**	**-2.0**
KMSI	**Cibinong**	**6.21**	**191**	P	**Pn**	**16 39 06.3**	**+2.0**
TNTI	**Ternate**	**6.29**	**160**		**Pn**	**16 39 05.4**	**0.0**
TNTI	**Ternate**	**6.29**	**160**	P	**Pn**	**16 39 06.8**	**+1.5**
MYLDM	**Lahad Datu**	**6.82**	**257**		**Pn**	**16 39 13.4**	**+0.8**
MRSI	**Marisa**	**6.99**	**208**	P	**Pn**	**16 39 14.3**	**-0.6**
TOLI2	**Tolitoli**	**7.09**	**218**	Pn	**Pn**	**16 39 13.8**	**-2.5**
LUWI	**Luwuk**	**8.07**	**197**		**Pn**	**16 39 33.6**	**+3.8**
LUWI	**Luwuk**	**8.07**	**197**	P	**Pn**	**16 39 33.0**	**+3.2**
TGY	**Tagaytay City**	**8.45**	**331**	LR	LR	16 43 12.3	
SANI	**Sanana**	**8.74**	**175**	P	**Pn**	**16 39 39.7**	**+0.7**
I39PW	**PALAU INFRASON**	**9.33**	**84**	I	I	17 36 50.0	
JAGI	**Jajag, Banyuwa**	**18.66**	**216**	P	**P**	**16 41 51.0**	**+0.2**
JAGI				IAmb	IAmb	16 42 17.1	
JOW	**Kunigami**	**20.23**	**8**	LR	LR	16 50 19.6	
MTN	**Manton Dam**	**20.30**	**163**	P	**P**	**16 42 09.0**	**+0.2**
MTN				IAmb	IAmb	16 42 15.5	
GUMO	**Guam**	**20.54**	**69**	LR	LR	16 52 06.7	
KNRA	**Kununurra**	**22.52**	**171**		**P**	**16 42 32.7**	**+0.1**
KNRA				IAmb	IAmb	16 42 40.0	
FITZ	**Fitzroy Crossi**	**24.65**	**179**	P	**P**	**16 42 52.5**	**-1.1**
NJ2	**Nanjing**	**25.90**	**348**	*e*P	**P**	**16 43 06.3**	**+1.6**
NJ2				pmax	pmax		
JCJ	**Chichijima**	**25.93**	**37**	LR	LR	16 51 13.7	
	comp=Z,64nm,22.0s,baz=242,slow=32						
JNU	**Nakatsue**	**26.81**	**11**	LR	LR	16 53 36.4	
	comp=Z,61nm,20.5s,baz=198,slow=36						
WB0	**Warramunga Arr**	**27.83**	**161**		**P**	**16 43 20.9**	**-1.3**
WB0				IAmb	IAmb	16 43 44.9	
	comp=Z,5.8nm,0.7s						
WRAB	**Tennant Creek**	**27.97**	**161**	P	**P**	**16 43 22.0**	**-1.5**
WRAB				IAmb	IAmb	16 43 45.6	
	comp=Z,6.6nm,0.9s						
WRA	**Warramunga Arr**	**27.98**	**161**	P	**P**	**16 43 22.2**	**-1.4**
WRA	**Warramunga Arr**	**27.98**	**161**	P	**P**	**16 43 22.0**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=334,slow=9.9,SNR=11						
	comp=Z,1.1nm,0.7s						
WR8	**Warramunga Arr**	**28.04**	**161**		**P**	**16 43 22.9**	**-1.2**
WR8				IAmb	IAmb	16 44 01.5	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.10**	**297**	P	**P**	**16 43 23.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=120,slow=7.1,SNR=6.6						
	comp=Z,0.2nm,0.4s						
MBWA	**Marble Bar**	**28.21**	**191**	P	**P**	**16 43 26.3**	**+0.8**
JHJ	**Hachijo jima 2**	**29.57**	**25**	LR	LR	16 56 24.1	
	comp=Z,72nm,18.6s,baz=184,slow=38						
PZH	**PanZhiHua**	**29.76**	**314**	P	**P**	**16 43 41.5**	**+1.9**
KSRS	**Korea Array**	**30.70**	**4**	P	**P**	**16 43 47.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=186,slow=10.0,SNR=4.5						
	comp=Z,0.7nm,0.7s						
AS31	**Alice Springs**	**31.37**	**165**		**P**	**16 43 51.7**	**-1.9**
ASAR	**Alice Springs**	**31.37**	**165**	P	**P**	**16 43 52.0**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=340,slow=6.2,SNR=21						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**31.99**	**20**	LR	LR	16 56 59.2	
	comp=Z,61nm,18.4s,baz=194,slow=36						
BJI	**Beijing**	**34.16**	**348**	P	**P**	**16 44 20.5**	**+2.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LZH	**Lanzhou**	**35.17**	**329**	*e*P	P	16 44 36.8	+10
LZH				sP	sP	16 44 44.5	+13
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
BRDH	**Bariadhala**	**35.99**	**300**	LR	LR	17 01 10.9	
	comp=Z,156nm,18.3s,baz=132,slow=40						
HHC	**Hu-ho-hao-te**	**36.11**	**342**	*e*P	**P**	**16 44 36.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**37.38**	**176**	P	**P**	**16 44 45.0**	**-0.5**
FORT				IAmb	IAmb	16 44 58.9	
	comp=Z,11nm,1.0s						
INKA	**Innaminka**	**37.41**	**157**	P	**P**	**16 44 44.8**	**-1.0**
USRK	**Ussuriysk Ar.**	**37.81**	**8**	P	**P**	**16 44 48.5**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=196,slow=7.9,SNR=10						
	comp=Z,5.3nm,0.8s						
MDJ	**Mudanjiang**	**37.95**	**5**	P	**P**	**16 44 51.3**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
BNX	**BinXian**	**38.93**	**2**	⇓P	P	16 45 05.5	+7.0
BNX				pmax	pmax		
	comp=Z,37nm,0.8s						
GTA	**Gaotai**	**39.77**	**329**	*e*P	**P**	**16 45 07.5**	**+1.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.13**	**190**	P	**P**	**16 45 09.3**	**+0.6**
NWAO				IAmb	IAmb	16 45 23.5	
	comp=Z,20nm,1.2s						
ASAJ	**Asahikawa**	**40.26**	**19**	LR	LR	17 01 04.4	
	comp=Z,50nm,21.6s,baz=174,slow=35						
BBOO	**Buckleboo**	**40.64**	**166**		**P**	**16 45 12.3**	**-0.5**
BBOO				IAmb	IAmb	16 45 13.8	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**41.44**	**159**	P	**P**	**16 45 18.4**	**-1.1**
STKA	**Stephens Creek**	**41.44**	**159**	P	**P**	**16 45 19.3**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=339,slow=7.0,SNR=6.7						
	comp=Z,3.0nm,0.6s						
EVN	**Everest**	**42.01**	**305**	P	**P**	**16 45 25.9**	**+0.9**
HILR	**Hailar Array B**	**42.95**	**355**	P	**P**	**16 45 30.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=169,slow=12,SNR=3.8						
	comp=Z,0.6nm,0.3s						
HEH	**HeiHe**	**43.44**	**2**	*e*P	**P**	**16 45 35.3**	**-0.2**
SONM	**Songino Array**	**44.00**	**342**	P	**P**	**16 45 40.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=147,slow=8.3,SNR=4.2						
SONM				LR	LR	17 05 21.9	
	comp=Z,82nm,18.5s,baz=175,slow=38						
	comp=Z,0.5nm,0.6s						
TOO	**Toolangi**	**47.96**	**158**	P	**P**	**16 46 12.1**	**+0.7**
TOO				IAmb	IAmb	16 46 35.5	
	comp=Z,5.5nm,1.3s						
PETK	**Petropavlovsk-**	**53.31**	**24**	P	**P**	**16 46 51.2**	**-0.4**
PETK	**Petropavlovsk-**	**53.31**	**24**	P	**P**	**16 46 51.6**	**0.0**
	comp=Z,3.1nm,0.8s,baz=204,slow=9.2,SNR=4.7						
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**54.25**	**325**	P	**P**	**16 46 57.3**	**-1.3**
MKAR	**Makanchi Array**	**54.25**	**325**	P	**P**	**16 46 57.9**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=119,slow=8.0,SNR=8.1						
MKAR				LR	LR	17 09 53.9	
	comp=Z,48nm,21.2s,baz=95,slow=36						
	comp=Z,0.9nm,0.6s						
KSH	**Kashi**	**54.87**	**314**	P	**P**	**16 47 06.8**	**+3.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,

az=174.0
*KRSC **29** 17:00:40.7±1.2,54°.67N×164°.51E,h42km±26km,Ml4.0*
*MOS **29** 17:00:42.4±0.8,54°.68N×164°.58E,h35km,mb3.6/1,Error ellipse: s-maj=6.7km s-min=6.4km az=117.4*
ISC 29 17:00:41.6±0.6,54°.69N±0°.05×164°.50E±0°.05,h17km,n140, σ1§**22**/141,**mb4.2**/19,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.99**	**58**	PN	**Pb**	**17 00 59.4**	**-0.9**
BKI				S	**Sb**	**17 01 11.6**	**-1.4**
BKI	**Bering**	**0.99**	**58**	*i* P	**Pb**	**17 00 59.4**	**-0.9**
BKI				*e*S	**Sb**	**17 01 11.7**	**-1.4**
KBTR	**Krutoberegovo**	**1.79**	**328**	PN	**Pn**	**17 01 10.5**	**-1.2**
KBTR				S	**Sn**	**17 01 32.4**	**-1.6**
KBTR	**Krutoberegovo**	**1.79**	**328**	*e*P	**Pn**	**17 01 10.6**	**-1.2**
KBTR				*e*S	**Sn**	**17 01 32.4**	**-1.6**
KBG	**Krutoberegovo**	**1.87**	**328**	PN	**Pn**	**17 01 12.3**	**-0.4**
KBG	**Krutoberegovo**	**1.87**	**328**	*e*P	**Pn**	**17 01 12.3**	**-0.4**
TUMD	**Tumrok D**	**2.42**	**284**	PN	**Pn**	**17 01 20.9**	**+0.6**
TUMD	**Tumrok D**	**2.42**	**284**	*e*P	**Pn**	**17 01 21.0**	**+0.6**
KZV	**Kizimen**	**2.46**	**282**	PN	**Pn**	**17 01 21.5**	**+0.5**
KZV	**Kizimen**	**2.46**	**282**	*e*P	**Pn**	**17 01 21.6**	**+0.5**
ZLN	**Zelenaya**	**2.49**	**304**	PN	**Pn**	**17 01 22.5**	**+1.2**
ZLN	**Zelenaya**	**2.49**	**304**	*e*P	**Pn**	**17 01 22.6**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.51**	**301**	PN	**Pn**	**17 01 22.5**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.51**	**301**	*e*P	**Pn**	**17 01 22.6**	**+1.0**
SMKR	**Semkarok**	**2.56**	**319**	PN	**Pn**	**17 01 23.2**	**+1.0**
SMKR	**Semkarok**	**2.56**	**319**	*e*P	**Pn**	**17 01 23.3**	**+1.0**
BZMR	**Bezymyannaya**	**2.61**	**300**	PN	**Pn**	**17 01 24.3**	**+1.3**
BZMR	**Bezymyannaya**	**2.61**	**300**	*e*P	**Pn**	**17 01 24.3**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.62**	**301**	PN	**Pn**	**17 01 24.4**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.62**	**301**	*e*P	**Pn**	**17 01 24.5**	**+1.3**
KMNR	**Kamenistaya**	**2.66**	**295**	PN	**Pn**	**17 01 24.8**	**+1.1**
KMNR	**Kamenistaya**	**2.66**	**295**	*e*P	**Pn**	**17 01 24.8**	**+1.1**
KIRR	**Kirishev**	**2.69**	**300**	PN	**Pn**	**17 01 25.6**	**+1.5**
KIRR	**Kirishev**	**2.69**	**300**	*e*P	**Pn**	**17 01 25.7**	**+1.5**
SRKR	**Sorokina**	**2.72**	**318**	PN	**Pn**	**17 01 25.9**	**+1.4**
SRKR	**Sorokina**	**2.72**	**318**	*e*P	**Pn**	**17 01 25.9**	**+1.4**
KLY	**Klyuchi**	**2.72**	**308**	PN	**Pn**	**17 01 23.8**	**-0.6**
KLY	**Klyuchi**	**2.72**	**308**	*e*P	**Pn**	**17 01 23.8**	**-0.6**
KPT	**Kopyto**	**2.75**	**299**	PN	**Pn**	**17 01 26.5**	**+1.5**
KPT	**Kopyto**	**2.75**	**299**	*e*P	**Pn**	**17 01 26.6**	**+1.5**
KOZ	**Kozyrevsk**	**2.97**	**299**	PN	**Pn**	**17 01 29.5**	**+1.6**
KOZ	**Kozyrevsk**	**2.97**	**299**	*e*P	**Pn**	**17 01 29.5**	**+1.6**
SPN	**Mys Shipunski**	**3.09**	**241**	PN	**Pn**	**17 01 28.8**	**-0.7**
SPN	**Mys Shipunski**	**3.09**	**241**	*e*P	**Pn**	**17 01 28.9**	**-0.7**
SPN				*e*S	**Sn**	**17 02 02.1**	**-4.0**
ESO	**Esso**	**3.54**	**293**	PN	**Pn**	**17 01 36.2**	**+0.6**
ESO	**Esso**	**3.54**	**293**	*e*P	**Pn**	**17 01 36.3**	**+0.6**
SDLR	**Sedlovina**	**3.60**	**249**	PN	**Pn**	**17 01 38.5**	**+1.9**
SDLR	**Sedlovina**	**3.60**	**249**	*e*P	**Pn**	**17 01 38.6**	**+1.9**
SMAR	**Somma**	**3.66**	**249**	PN	**Pn**	**17 01 38.7**	**+1.2**
SMAR	**Somma**	**3.66**	**249**	*e*P	**Pn**	**17 01 38.8**	**+1.2**
KRER	**Koryakskii**	**3.67**	**250**	PN	**Pn**	**17 01 38.7**	**+1.1**
KRER	**Koryakskii**	**3.67**	**250**	*e*P	**Pn**	**17 01 38.7**	**+1.1**
UGLR	**Uglovaya**	**3.67**	**248**	PN	**Pn**	**17 01 39.0**	**+1.5**
UGLR	**Uglovaya**	**3.67**	**248**	*e*P	**Pn**	**17 01 39.1**	**+1.5**
AVH	**Avacha**	**3.69**	**250**	PN	**Pn**	**17 01 39.3**	**+1.5**
AVH	**Avacha**	**3.69**	**250**	*e*P	**Pn**	**17 01 39.4**	**+1.5**
KRX	**Arik**	**3.70**	**251**	PN	**Pn**	**17 01 39.2**	**+1.2**
KRX	**Arik**	**3.70**	**251**	*e*P	**Pn**	**17 01 39.3**	**+1.2**
KOK	**Koryaka**	**3.73**	**250**	PN	**Pn**	**17 01 39.9**	**+1.5**
KOK	**Koryaka**	**3.73**	**250**	*e*P	**Pn**	**17 01 39.9**	**+1.5**
DALK	**Dalny**	**3.79**	**246**	PN	**Pn**	**17 01 40.3**	**+1.3**
DALK	**Dalny**	**3.79**	**246**	*e*P	**Pn**	**17 01 40.4**	**+1.3**
PET	**Petropavlovsk**	**3.84**	**247**	Sn	**Sn**	**17 02 21.4**	**-3.1**
PET	**Petropavlovsk**	**3.84**	**247**	*e*PN	**Pn**	**17 01 41.7**	**+1.9**
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET	**Petropavlovsk**	**3.84**	**247**	*e*P	**Pn**	**17 01 41.1**	**+1.3**
GNL	**Ganaly**	**3.98**	**258**	PN	**Pn**	**17 01 43.2**	**+1.4**
GNL	**Ganaly**	**3.98**	**258**	*e*P	**Pn**	**17 01 43.3**	**+1.4**
KRMR	**Karymshinskiy**	**4.21**	**246**	PN	**Pn**	**17 01 47.1**	**+2.2**
KRMR	**Karymshinskiy**	**4.21**	**246**	*e*P	**Pn**	**17 01 47.1**	**+2.2**
PEA0B	**Petropavlovsk-**	**4.32**	**251**	Pn	**Pn**	**17 01 47.7**	**+1.2**
PEA0B				Sn	**Sn**	**17 02 34.5**	**-1.9**
PEA0B	**Petropavlovsk-**	**4.32**	**251**	PN	**Pn**	**17 01 47.7**	**+1.2**
PETK	**Petropavlovsk-**	**4.32**	**251**		**Pn**	**17 01 45.6**	**-0.9**
PETK	**Petropavlovsk-**	**4.32**	**251**	Pn	**Pn**	**17 01 47.0**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=68,slow=19,SNR=36						
PETK				Sn	**Sn**	**17 02 36.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=98,slow=17,SNR=8.1						
PETK	**Petropavlovsk-**	**4.32**	**251**	PN	**Pn**	**17 01 47.0**	**+0.5**
MTVR	**Mutnovka**	**4.37**	**242**	PN	**Pn**	**17 01 48.0**	**+0.8**
MTVR	**Mutnovka**	**4.37**	**242**	*e*P	**Pn**	**17 01 48.0**	**+0.8**
GRL	**Gorelyy**	**4.38**	**243**	PN	**Pn**	**17 01 49.9**	**+2.5**
GRL	**Gorelyy**	**4.38**	**243**	*e*P	**Pn**	**17 01 49.9**	**+2.5**
ASAK	**Asacha**	**4.56**	**242**	PN	**Pn**	**17 01 53.0**	**+3.2**
ASAK	**Asacha**	**4.56**	**242**	*e*P	**Pn**	**17 01 53.1**	**+3.2**
OSSR	**Ossora**	**4.64**	**351**	PN	**Pn**	**17 01 51.5**	**+0.8**
OSSR	**Ossora**	**4.64**	**351**	*e*P	**Pn**	**17 01 51.5**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.82**	**236**	PN	**Pn**	**17 01 53.9**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.82**	**236**	*e*P	**Pn**	**17 01 53.9**	**+0.7**
SHEM	**Shemya Is, Ala**	**6.03**	**105**	Pn	**Pn**	**17 02 10.5**	**+0.7**
SMY	**Shemya**	**6.03**	**105**	Pn	**Pn**	**17 02 10.7**	**+0.8**
SMY	**Shemya**	**6.03**	**105**	PN	**Pn**	**17 02 10.7**	**+0.8**
AMKA	**Amchitka**	**9.52**	**104**	Pn	**Pn**	**17 02 58.4**	**+0.8**
KIWB	**Kanaga Island**	**11.35**	**97**	Pn	**Pn**	**17 03 22.3**	**-0.4**
F15K	**North Star Dit**	**18.65**	**42**	P	**Pn**	**17 05 00.6**	**+2.0**
F15K				IAmb	IAmb	17 05 30.6	
	comp=Z,37nm,1.4s						
N14K	**Kuskokwak Cree**	**18.85**	**60**	P	**P**	**17 04 59.6**	**-0.8**
K15K	**Wolf Creek Mou**	**19.12**	**53**	P	**Pn**	**17 05 04.9**	**+0.7**
K15K				IAmb	IAmb	17 05 38.3	
	comp=Z,19nm,1.4s						
G16K	**Koyuk River**	**19.45**	**43**	P	**Pn**	**17 05 07.9**	**-0.3**
YAK	**Yakutsk**	**19.48**	**306**	P	**P**	**17 05 05.8**	**-1.4**
YAK	**Yakutsk**	**19.48**	**306**	P	**P**	**17 05 07.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=130,slow=1.9,SNR=4.1						
	comp=Z,3.9nm,0.5s						
C16K	**Lisburne Hills**	**19.51**	**34**	P	**Pn**	**17 05 08.2**	**-0.7**
N15K	**Kwethluk River**	**19.66**	**59**	P	**P**	**17 05 08.6**	**-0.6**
N15K				IAmb	IAmb	17 05 11.4	
	comp=Z,22nm,1.2s						
J16K	**Anvik River**	**19.69**	**50**	P	**Pn**	**17 05 10.6**	**-0.4**
J16K				IAmb	IAmb	17 05 38.1	
	comp=Z,22nm,1.5s						
I17K	**Unalakleet**	**19.76**	**48**	P	**Pn**	**17 05 11.4**	**-0.4**
L16K	**Owhat River**	**20.02**	**55**	P	Pn	17 05 14.0	-1.0
L16K				IAmb	IAmb	17 05 40.5	
	comp=Z,19nm,1.3s						
F17K	**Baldwin Pennin**	**20.21**	**41**	P	Pn	17 05 16.3	-0.8
F17K				IAmb	IAmb	17 05 52.5	
	comp=Z,23nm,1.4s						
RDOG	**Red Dog Mine**	**20.22**	**36**	P	**P**	**17 05 14.4**	**-0.9**
M16K	**Timber Creek**	**20.23**	**57**	P	**P**	**17 05 15.7**	**+0.2**
M16K				IAmb	IAmb	17 05 26.7	
	comp=Z,25nm,1.5s						
H17K	**Granite Mounta**	**20.32**	**46**	P	**P**	**17 05 17.2**	**+0.8**
K17K	**Iditarod**	**20.66**	**52**	P	**P**	**17 05 20.7**	**+0.6**
K17K				IAmb	IAmb	17 05 23.4	
	comp=Z,24nm,1.5s						
O16K	**Kokwok River B**	**20.68**	**61**	P	**P**	**17 05 21.0**	**+0.7**
O16K				IAmb	IAmb	17 06 02.4	
	comp=Z,12nm,1.1s						
E18K	**Tukpahlearik C**	**20.78**	**39**	P	Pn	17 05 23.2	-0.6
E18K				IAmb	IAmb	17 06 01.5	
	comp=Z,14nm,1.2s						
M17K	**Holitna River**	**20.98**	**56**	P	**P**	**17 05 24.6**	**+1.0**
M17K				IAmb	IAmb	17 05 42.7	
	comp=Z,16nm,1.3s						
H18K	**Honhosa River**	**21.01**	**45**	P	**P**	**17 05 24.9**	**+1.0**
H18K				IAmb	IAmb	17 05 41.5	
	comp=Z,19nm,1.2s						
C18K	**Utukok River**	**21.05**	**35**	P	**P**	**17 05 25.2**	**+0.9**
C18K				IAmb	IAmb	17 05 28.3	
	comp=Z,14nm,1.1s						
G18K	**Tagagawik**	**21.06**	**43**	P	**P**	**17 05 25.2**	**+0.8**
L18K	**Granite Mounta**	**21.37**	**54**	P	**P**	**17 05 28.1**	**+0.4**
F19K	**Shaleruckik Mo**	**21.65**	**41**	P	**P**	**17 05 31.1**	**+0.4**
F19K				IAmb	IAmb	17 05 52.6	
	comp=Z,20nm,1.5s						
C19K	**Lookout Ridge**	**21.77**	**35**	P	**P**	**17 05 32.3**	**+0.3**
F20K	**Avaraart Lake**	**22.48**	**41**	P	**P**	**17 05 40.1**	**+0.5**
J20K	**Nowinta River**	**22.66**	**49**	P	**P**	**17 05 42.4**	**+0.9**
TIXI	**Tiksi**	**22.81**	**332**	P	**P**	**17 05 44.1**	**+1.1**
TIXI	**Tiksi**	**22.81**	**332**	P	**P**	**17 05 44.3**	**+1.2**
	comp=Z,1.5nm,0.2s,baz=125,slow=5.3,SNR=4.4						
	comp=Z,1.5nm,0.2s						
G21K	**Allakaket**	**23.23**	**43**	P	**P**	**17 05 48.0**	**+0.5**
KDAK	**Kodiak Island**	**23.75**	**65**	P	**P**	**17 05 52.0**	**-0.7**
KDAK	**Kodiak Island**	**23.75**	**65**	P	**P**	**17 05 51.9**	**-0.7**
	comp=Z,13nm,1.1s,baz=288,slow=12,SNR=6.6						
	comp=Z,13nm,1.1s						
KDAK	**Kodiak Island**	**23.75**	**65**	P	**P**	**17 05 52.0**	**-0.7**
E22K	**Anaktuvuk Pass**	**24.19**	**39**	P	**P**	**17 05 57.0**	**+0.3**
E22K				IAmb	IAmb	17 05 57.7	
	comp=Z,5.7nm,0.6s						
COLD	**Coldfoot**	**24.64**	**42**	P	**P**	**17 06 01.1**	**+0.3**
NEA2	**Nenana**	**24.88**	**48**	P	**P**	**17 06 02.6**	**-0.4**
NEA2				IAmb	IAmb	17 06 04.9	
	comp=Z,4.7nm,0.6s						
TOLK	**Toolik Lake Re**	**25.10**	**38**	P	**P**	**17 06 04.6**	**-0.4**
TOLK				IAmb	IAmb	17 06 07.3	
	comp=Z,8.8nm,1.1s						
E24K	**Your Creek**	**25.41**	**40**	P	**P**	**17 06 08.2**	**+0.4**
E24K				IAmb	IAmb	17 06 10.6	
	comp=Z,6.4nm,0.7s						
CCB	**Clear Creek Bu**	**25.43**	**48**	P	**P**	**17 06 07.7**	**-0.2**
CCB				IAmb	IAmb	17 06 10.5	
	comp=Z,7.1nm,1.0s						
ILAR	**Eielson Array**	**25.82**	**48**	P	**P**	**17 06 12.1**	**+0.6**
ILAR	**Eielson Array**	**25.82**	**48**	P	**P**	**17 06 11.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=261,slow=8.5,SNR=15						
	comp=Z,1.1nm,0.4s						
ILAR	**Eielson Array**	**25.82**	**48**	P	**P**	**17 06 12.1**	**+0.6**
BMAR	**Burnt Mountain**	**26.82**	**42**	P	**P**	**17 06 19.7**	**-0.8**
SCRK	**Sand Creek**	**27.11**	**49**	P	**P**	**17 06 22.2**	**-1.1**
BCAR	**Beaver Creek A**	**28.19**	**51**	P	**P**	**17 06 33.7**	**+0.8**
H29M	**Whitestone**	**29.30**	**44**	P	**P**	**17 06 42.5**	**-0.2**
INK	**Inuvik**	**30.99**	**40**	P	**P**	**17 06 58.1**	**+0.6**
INK	**Inuvik**	**30.99**	**40**	P	**P**	**17 06 58.3**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=285,slow=6.1,SNR=5.7						
	comp=Z,1.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**34.95**	**176**	T	T	17 46 00.4	
	baz=359,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**34.96**	**176**	T	T	17 46 01.0	
	baz=359,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**34.97**	**176**	T	T	17 46 01.0	
	baz=359,slow=76,SNR=12						
BLKN	**Baker Lake**	**46.28**	**36**	P	**P**	**17 09 05.9**	**+0.4**
KURK	**Kurchatov**	**49.08**	**303**	P	**P**	**17 09 27.4**	**0.0**
KURK				IAmb	IAmb	17 09 39.6	
	comp=Z,2.6nm,1.0s						
KURK	**Kurchatov**	**49.08**	**303**	P	**P**	**17 09 29.1**	**+1.7**
KURBB	**Kurchatov Arra**	**49.18**	**303**	P	**P**	**17 09 29.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=56,slow=7.8,SNR=5.0						
	comp=Z,0.3nm,0.4s						
PLID	**Pearl Lake**	**49.49**	**66**	P	**P**	**17 09 30.8**	**-0.2**
PLID				IAmb	IAmb	17 09 58.5	
	comp=Z,3.6nm,1.3s						
MKAR	**Makanchi Array**	**49.78**	**297**	P	**P**	**17 09 32.8**	**-0.1**
MKAR	**Makanchi Array**	**49.78**	**297**	P	**P**	**17 09 33.7**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=57,slow=7.7,SNR=5.1						
	comp=Z,0.1nm,0.4s						
PDAR	**Pinedale Array**	**54.47**	**64**	P	**P**	**17 10 09.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=277,slow=7.8,SNR=2.8						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**67.63**	**71**	P	**P**	**17 11 38.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=296,slow=6.5,SNR=2.2						
	comp=Z,0.1nm,0.3s						
WRA	**Warramunga Arr**	**78.69**	**209**	P	**P**	**17 12 41.3**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=15,slow=6.3,SNR=1.2						
	comp=Z,0.1nm,0.6s						

*NEIC **29** 17:47:51.0±1.6,6°.85N±0°.06×124°.92E±0°.04,h13km±4km, mb4.8/74,Error ellipse: s-maj=9.3km s-min=5.3km az=161.0*
*IDC **29** 17:47:50.9±0.5,6°.56N×125°.05E,h0km,mb4.3/24, mbtmp4.3/25,ML4.0/1,MS3.6/35,Error ellipse: s-maj=12.9km s-min=8.3km az=130.0*
*BJI **29** 17:47:52.1,6°.97N×124°.98E,h5km,mB4.9/13,mb4.4/40, Ms4.3/11,Ms7 4.0/8*
*DJA **29** 17:47:55.5±0.3,7°N±3°×12°5E±°,h10km,M5.0/29, mb5.1/29,mB5.4/13,MLv5.2/8,Mw(mB)4.9/13*
ISC 29 17:47:51.5±0.3,6°.85N±0°.04×125°.01E±0°.04,h13km,n224, σ1§**92**/197,**mb4.7**/73,**MS3.7**/39,**1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.61**	**68**		**Pb**	**17 48 04.6**	**+0.6**
DAV					**Sb**	**17 48 13.9**	**+1.4**
DAV	**Davao City (W)**	**0.61**	**68**	Pg	**Pb**	**17 48 04.9**	**+1.0**
	12nm,0.3s,baz=310,slow=7.8,SNR=1432						
DAV				Lg	Lg	17 48 15.1	
	106nm,0.3s,baz=333,slow=16,SNR=164						
DAV	**Davao City (W)**	**0.61**	**68**	P	**Pn**	**17 48 05.2**	**-0.6**
DAV	**Davao City (W)**	**0.61**	**68**	S	**Sn**	**17 48 15.2**	**-0.3**
DAV	**Davao City (W)**	**0.61**	**68**	P	**Pg**	**17 48 02.0**	**-1.4**
SGSI	**Sangihe**	**3.18**	**171**	P	**Pn**	**17 48 42.6**	**+1.4**
SGSI				S	**Sn**	**17 49 19.0**	**-0.1**
KMSI	**Cibinong**	**6.31**	**189**	P	**Pn**	**17 49 26.1**	**+1.8**
TNTI	**Ternate**	**6.47**	**159**		**Pn**	**17 49 25.4**	**-1.1**
TNTI				Sn	**Sn**	**17 50 42.2**	**+1.8**
TNTI	**Ternate**	**6.47**	**159**	P	**Pn**	**17 49 27.5**	**+1.0**
TNTI	**Ternate**	**6.47**	**159**	P	**Pn**	**17 49 26.8**	**+0.3**
	0.5nm126nm,0.8s						
MRSI	**Marisa**	**7.03**	**206**	P	**Pn**	**17 49 35.6**	**+1.5**
TOLI2	**Tolitoli**	**7.09**	**217**		**Pn**	**17 49 33.2**	**-1.8**
TOLI2				Sn	**Sn**	**17 50 52.2**	**-3.3**
TOLI2	**Tolitoli**	**7.09**	**217**	P	**Pn**	**17 49 34.3**	**-0.7**
LUWI	**Luwuk**	**8.15**	**196**		**Pn**	**17 49 48.7**	**-0.8**
LUWI				Sn	**Sn**	**17 51 23.5**	**+1.9**
LUWI	**Luwuk**	**8.15**	**196**	P	**Pn**	**17 49 48.6**	**-0.9**
LUWI	**Luwuk**	**8.15**	**196**	P	Pn	17 49 54.6	+5.1
	3μm311nm,0.8s						
TGY	**Tagaytay City**	**8.25**	**331**	LR	LR	17 53 33.6	
	comp=Z,616nm,18.9s,baz=111,slow=40						
APSI	**Ampana**	**8.40**	**204**	P	**Pn**	**17 49 57.3**	**+4.3**
	2μm174nm,1.0s						
SANI	**Sanana**	**8.89**	**174**	P	**Pn**	**17 49 58.5**	**-1.2**
SANI	**Sanana**	**8.89**	**174**	S	**Sn**	**17 51 39.6**	**-0.2**
SANI	**Sanana**	**8.89**	**174**	P	**Pn**	**17 49 59.4**	**-0.3**
	1μm96nm,0.7s						
I39PW	**PALAU INFRASON**	**9.49**	**85**	I	I	18 46 00.0	
	baz=266,slow=294,SNR=0.6						
SWI	**Sorong**	**9.88**	**141**	P	**Pn**	**17 50 14.3**	**+1.1**
	61nm,0.7s						
NLAI	**Namlea**	**10.23**	**168**	P	**Pn**	**17 50 19.0**	**+0.9**
	1μm107nm,0.5s						
MSAI	**Masohi**	**10.85**	**159**	P	**Pn**	**17 50 29.0**	**+2.4**
	924nm70nm,0.8s						
AAI	**Ambon**	**10.93**	**163**	P	**Pn**	**17 50 26.7**	**-1.1**
	2μm98nm,0.7s						
KDI	**Kendari**	**10.99**	**193**	P	**Pn**	**17 50 30.8**	**+2.2**
SPSI	**Sidrap Palu**	**11.94**	**206**	P	**Pn**	**17 50 46.0**	**+4.4**
	22nm,0.8s						
FAKI	**Fak Fak**	**12.10**	**143**		**Pn**	**17 50 43.4**	**-0.3**
FAKI	**Fak Fak**	**12.10**	**143**	P	**Pn**	**17 50 44.7**	**+1.0**
FAKI	**Fak Fak**	**12.10**	**143**	P	**Pn**	**17 50 43.9**	**+0.2**
	86nm,1.1s						
BNSI	**Bone**	**12.20**	**204**	P	**Pn**	**17 50 48.6**	**+3.6**
	43nm,1.0s						
BBSI	**Bau Bau**	**12.49**	**191**	P	**Pn**	**17 50 50.5**	**+1.4**
	30nm,1.1s						
KAPI	**Kappang**	**12.90**	**204**		**Pn**	**17 50 52.7**	**-2.0**
KAPI	**Kappang**	**12.90**	**204**	Pn	**Pn**	**17 50 59.3**	**+4.7**
	0.9nm,0.3s,baz=348,slow=5.5,SNR=8.4						
SBUM	**Sibu**	**13.47**	**252**		**Pn**	**17 50 59.7**	**-2.8**
KSM	**Kuching**	**15.60**	**251**		**Pn**	**17 51 30.4**	**-0.8**
EDFI	**Ende, Flores**	**15.84**	**192**	P	**P**	**17 51 37.4**	**-0.8**
	24nm,0.8s						
SAUI	**Saumlaki**	**16.01**	**157**		**Pn**	**17 51 36.0**	**-0.5**
SOEI	**Soe**	**16.51**	**183**		**Pn**	**17 51 41.4**	**-1.7**
SOEI	**Soe**	**16.51**	**183**	P	**Pn**	**17 51 42.5**	**-0.5**
SOEI	**Soe**	**16.51**	**183**	P	**P**	**17 51 46.5**	**+0.8**
	56nm,0.9s						
TPUB	**Ta-pu**	**16.89**	**346**		**Pn**	**17 51 44.4**	**-3.4**
TPUB				IAmb	IAmb	17 51 45.7	
	comp=Z,164nm,1.8s						
BATI	**Baumata**	**16.99**	**185**	Pn	**P**	**17 51 50.8**	**-0.2**
	comp=Z,10nm,0.3s,baz=0.7,slow=3.0,SNR=17						
BATI	**Baumata**	**16.99**	**185**	P	**P**	**17 51 53.6**	**+2.7**
	comp=Z,91nm,0.7s						
PLAI	**Plampang**	**17.16**	**205**	P	**P**	**17 51 55.1**	**+2.4**
	comp=Z,77nm,0.9s						
SSLB	**Suanglung**	**17.29**	**347**		**Pn**	**17 51 49.1**	**-3.7**
TWSI	**Taliwang, Sumb**	**17.47**	**208**	P	**P**	**17 52 00.8**	**+4.6**
	comp=Z,70nm,0.8s						
GENI	**Genyem**	**17.80**	**121**	P	**P**	**17 52 02.9**	**+3.0**
JAY	**Jayapura**	**18.22**	**120**	P	**Pn**	**17 52 04.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=221,slow=4.9,SNR=4.9						
JAY				LR	LR	17 58 38.9	
	comp=Z,184nm,18.8s,baz=252,slow=36						
	comp=Z,6.3nm,0.7s						
JAY	**Jayapura**	**18.22**	**120**	P	**P**	**17 52 06.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**18.67**	**216**		**P**	**17 52 05.6**	**-3.9**
JAGI				IAmb	IAmb	17 52 17.1	
	comp=Z,45nm,0.8s						
DRS	**Darwin Rock St**	**20.02**	**163**	P	**P**	**17 52 25.2**	**+1.0**
SMRI	**Semarang**	**20.04**	**227**	P	**P**	**17 52 22.5**	**-2.0**
SMRI				IAmb	IAmb	17 52 23.4	
	comp=Z,106nm,1.5s						
JOW	**Kunigami**	**20.12**	**9**	P	**P**	**17 52 23.8**	**-1.5**
JOW				IAmb	IAmb	17 52 37.1	
	comp=Z,42nm,1.1s						
JOW	**Kunigami**	**20.12**	**9**	LR	LR	18 00 31.3	
	comp=Z,177nm,19.5s,baz=158,slow=37						
MTN	**Manton Dam**	**20.48**	**163**	P	**P**	**17 52 28.9**	**-0.3**
	comp=Z,37nm,0.5s						
MTN	**Manton Dam**	**20.48**	**163**		**P**	**17 52 27.7**	**-1.5**
MTN				IAmb	IAmb	17 52 30.4	
	comp=Z,32nm,0.5s						
GUMO	**Guam**	**20.65**	**69**	LR	LR	17 59 08.8	
	comp=Z,58nm,20.9s,baz=240,slow=33						
KDU	**Kakadu**	**20.77**	**159**	P	**P**	**17 52 31.8**	**-0.5**
	comp=Z,33nm,0.6s						
MYKOM	**Kota Tinggi**	**21.68**	**258**	P	**P**	**17 52 39.5**	**-2.7**
LEM	**Lembang**	**22.04**	**232**	P	**P**	**17 52 52.5**	**+6.3**
	comp=Z,37nm,0.7s,baz=56,slow=8.3,SNR=12						
KNRA	**Kununurra**	**22.68**	**171**	P	**P**	**17 52 51.7**	**-1.2**
	comp=Z,84nm,0.5s						
KNRA	**Kununurra**	**22.68**	**171**	P	**P**	**17 52 51.1**	**-1.8**
IPM	**Ipoh**	**23.98**	**266**	P	**P**	**17 53 03.4**	**-2.6**
MANU	**Manus Island**	**24.00**	**111**	P	**P**	**17 53 05.3**	**-0.9**
MANU				IAmb	IAmb	17 53 25.4	
	comp=Z,33nm,1.6s						
KULM	**Kulim**	**24.27**	**268**	P	**P**	**17 53 06.9**	**-1.8**
KULM				IAmb	IAmb	17 53 18.1	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.79**	**179**	P	**P**	**17 53 12.5**	**-0.8**
	comp=Z,6.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.79**	**179**	P	**P**	**17 53 11.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**24.79**	**179**	LR	LR	18 04 10.1	
	comp=Z,142nm,18.2s,baz=17,slow=40						
FITZ	**Fitzroy Crossi**	**24.79**	**179**	P	**P**	**17 53 13.1**	**-0.2**
NJ2	**Nanjing**	**25.73**	**348**	*e*P	**P**	**17 53 22.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JCJ	**Chichijima**	**25.92**	**37**	LR	LR	18 01 35.4	
	comp=Z,91nm,21.2s,baz=244,slow=32						
PSI	**Prapat**	**26.30**	**262**	P	**P**	**17 53 29.0**	**+1.8**
	comp=Z,5.2nm,0.5

BTO LR LR
comp=Z,460nm,16.5s
SHL Shillong 36.69 304 P **P 17 54 58.8 +0.2**
SHL IAmb IAmb 17 55 07.7
comp=Z,15nm,0.9s
MORW Morawa 36.73 193 P **P 17 54 58.0 -0.7**
MORW IAmb IAmb 17 54 59.7
comp=Z,39nm,1.6s
MORW Morawa 36.73 193 P **P 17 54 58.7 +0.1**
FORT Forrest 37.52 176 P **P 17 55 04.5 -0.8**
FORT IAmb IAmb 17 55 09.1
comp=Z,9.5nm,0.8s
INKA Innaminka 37.60 157 P **P 17 55 05.2 -0.8**
USRK Ussuriysk Ar. 37.71 8 P **P 17 55 10.4 +3.7**
comp=Z,12nm,0.8s,baz=181,slow=6.9,SNR=12
comp=Z,12nm,0.8s
BLDU Ballidu 38.09 192 P **P 17 55 10.2 +0.1**
KMBL Kambalda 38.11 184 P **P 17 55 09.2 -1.1**
comp=Z,7.7nm,0.9s
HNR Honiara 38.38 114 LR LR 18 11 21.5
comp=Z,58nm,18.5s,baz=346,slow=37
LSA Lhasa 39.12 310 P **P 17 55 20.8 +1.3**
LSA pmax pmax
comp=Z,4.0nm,0.7s
MUN Mundaring 39.51 192 P **P 17 55 22.0 0.0**
GTA Gaotai 39.56 329 *e*P P 17 55 28.0 +5.4
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA LR LR
comp=Z,200nm,15.3s
GTA LR LR
comp=Z,140nm,16.0s
GTA LR LR
comp=Z,150nm,16.0s
ASAJ Asahikawa 40.19 20 P **P 17 55 31.8 +4.2**
comp=Z,9.3nm,0.9s,baz=168,slow=9.3,SNR=4.4
ASAJ LR LR 18 11 36.8
comp=Z,74nm,20.4s,baz=178,slow=35
comp=Z,9.3nm,0.9s
JKA Kamikawa-asahi 40.19 20 **P 17 55 27.6 0.0**
GOMU GeErMu 40.20 321 P **P 17 55 28.5 +0.3**
GOMU pP pP 17 55 32.5 +0.2
GOMU sP sP 17 55 35.3 +1.4
GOMU pmax pmax
comp=Z,1.0nm,0.5s
NWAO Narrogin (SRO) 40.24 190 P **P 17 55 27.4 -0.6**
comp=Z,26nm,1.4s
NWAO Narrogin (SRO) 40.24 190 P **P 17 55 27.6 -0.4**
NWAO IAmb IAmb 17 55 29.8
comp=Z,49nm,1.4s
NWAO Narrogin (SRO) 40.24 190 P **P 17 55 27.8 -0.2**
NWAO Narrogin (SRO) 40.24 190 P **P 17 55 28.3 +0.3**
BBOO Buckleboo 40.81 166 P **P 17 55 31.9 -0.9**
comp=Z,32nm,0.8s
BBOO Buckleboo 40.81 166 P **P 17 55 32.0 -0.8**
BBOO IAmb IAmb 17 55 34.2
comp=Z,24nm,0.7s
BBOO Buckleboo 40.81 166 P **P 17 55 32.9 +0.1**
EIDS Eidsvold 40.85 143 P **P 17 55 32.8 -0.4**
EIDS IAmb IAmb 17 56 13.9
comp=Z,51nm,1.6s
STKA Stephens Creek 41.63 159 P **P 17 55 38.7 -0.8**
comp=Z,64nm,0.7s
STKA Stephens Creek 41.63 159 P **P 17 55 38.8 -0.8**
STKA Stephens Creek 41.63 159 P **P 17 55 39.4 -0.2**
comp=Z,11nm,0.8s,baz=329,slow=8.7,SNR=16
STKA LR LR 18 13 44.6
comp=Z,67nm,19.6s,baz=20,slow=38
comp=Z,11nm,0.8s
STKA Stephens Creek 41.63 159 P **P 17 55 39.4 -0.2**
EVN Everest 41.79 305 P **P 17 55 40.5 -1.3**
EVN IAmb IAmb 17 55 56.9
comp=Z,15nm,1.2s
HTT Hallett 42.18 163 P **P 17 55 44.0 0.0**
comp=Z,6.8nm,1.8s
HTT Hallett 42.18 163 P **P 17 55 45.1 +1.0**
HILR Hailar Array B 42.80 355 P P 17 55 53.9 +4.9
comp=Z,3.3nm,0.6s,baz=156,slow=11,SNR=4.1
comp=Z,3.3nm,0.6s
CMSA Cobar Meteorol 42.98 154 P **P 17 55 51.1 +0.5**
HEH HeiHe 43.31 2 *e*P **P 17 55 56.0 +3.0**
ULN Ulaanbaatar 43.65 342 P **P 17 55 54.3 -1.7**
SONM Songino Array 43.82 342 P **P 17 55 56.2 -1.1**
SONM Songino Array 43.82 342 P **P 17 56 01.8 +4.4**
comp=Z,0.7nm,0.9s,baz=154,slow=7.9,SNR=6.0
SONM LR LR 18 15 07.0
comp=Z,185nm,20.7s,baz=156,slow=37
comp=Z,0.7nm,0.9s
PALK Pallekele 43.96 273 LR LR 18 14 59.1
comp=Z,36nm,19.0s,baz=80,slow=37
ARMA Armidale 44.99 147 P **P 17 56 07.7 +0.8**
ARPS Mount Arapiles 46.16 161 P **P 17 56 15.9 0.0**
comp=Z,10nm,0.9s
CAN Canberra 47.65 153 P **P 17 56 25.9 -1.7**
CAN Canberra 47.65 153 P **P 17 56 28.7 +1.1**
CNB Canberra Magne 47.80 153 P **P 17 56 29.8 +0.9**
TOO Toolangi 48.15 158 P **P 17 56 30.4 -1.0**
TOO IAmb IAmb 17 58 02.1
comp=Z,10nm,1.5s
WMQ Urumqi 49.21 325 *e*P **P 17 56 40.5 +0.9**
DZM Mont Dzumac 49.74 126 LR LR 18 17 44.5
comp=Z,72nm,18.1s,baz=0.0,slow=36
PETK Petropavlovsk- 53.25 24 P **P 17 57 08.3 -1.4**
PETK Petropavlovsk- 53.25 24 P **P 17 57 12.6 +2.9**
comp=Z,5.5nm,0.9s,baz=184,slow=5.9,SNR=3.9
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 54.04 325 P **P 17 57 14.0 -1.7**
MKAR Makanchi Array 54.04 325 P **P 17 57 18.6 +2.9**
comp=Z,1.5nm,0.6s,baz=121,slow=8.1,SNR=20
MKAR LR LR 18 20 15.0
comp=Z,60nm,19.9s,baz=126,slow=36
comp=Z,1.5nm,0.6s
MAKZ Makanchi 54.23 325 P **P 17 57 15.4 -1.6**
MAKZ IAmb IAmb 17 57 32.9
comp=Z,11nm,1.4s
PRZ Przheval'sk 54.25 319 P **P 17 57 15.8 -1.7**
PRZ IAmb IAmb 17 57 27.4
comp=Z,14nm,1.0s
TARG Taragay, Kyrgy 54.31 317 P **P 17 57 16.4 -1.8**
KSH Kashi 54.65 314 P P 17 57 26.5 +6.1
KSH pmax pmax
comp=Z,7.0nm,1.4s
KDJ Kajisay 54.90 318 P **P 17 57 20.3 -1.9**
KDJ IAmb IAmb 17 57 32.0
comp=Z,32nm,1.7s
YAK Yakutsk 55.18 3 P **P 17 57 22.8 -0.8**
YAK Yakutsk 55.18 3 LR LR 18 23 28.5
comp=Z,51nm,19.2s,baz=190,slow=38
MA2 Magadan 56.15 15 P **P 17 57 30.0 -0.6**
AAK Ala-Archa 56.92 317 P **P 17 57 35.7 -1.0**
AAK IAmb IAmb 17 57 46.7
comp=Z,25nm,1.9s
AAK Ala-Archa 56.92 317 LR LR 18 24 50.7
comp=Z,88nm,19.6s,baz=105,slow=39
ZAA0 Zalesovo Array 57.05 333 P **P 17 57 36.2 -0.9**
ZALV Zalesovo Beam 57.05 333 P **P 17 57 35.8 -1.4**
ZALV Zalesovo Beam 57.05 333 P **P 17 57 40.2 +3.1**
comp=Z,1.1nm,0.6s,baz=120,slow=8.8,SNR=6.0
comp=Z,1.1nm,0.6s
ARSB Arslanbob 57.45 315 P **P 17 57 37.6 -2.8**
ARSB IAmb IAmb 17 57 49.3
comp=Z,9.0nm,1.2s
DRK Karamyk 57.64 313 P **P 17 57 40.7 -1.3**
MSVF Nonsavu 57.78 116 P **P 17 57 42.8 -0.1**
KURBB Kurchatov Arra 58.21 327 P **P 17 57 47.9 +2.5**
comp=Z,2.4nm,0.7s,baz=122,slow=6.7,SNR=21
comp=Z,2.4nm,0.7s
KURK Kurchatov 58.21 327 P **P 17 57 43.9 -1.5**
KURK IAmb IAmb 17 57 55.4
comp=Z,9.7nm,1.1s
GAR Garm 58.58 312 P **P 17 57 46.2 -2.2**
CHGR Chuyangaron 59.33 311 P **P 17 57 52.0 -1.5**
SEY Seymchan 59.42 14 LR LR 18 26 23.9
comp=Z,29nm,18.1s,baz=222,slow=39
KK31 Karatay Array 59.80 316 P **P 17 57 55.9 -0.7**
KK31 IAmb IAmb 17 58 04.9
comp=Z,8.7nm,1.1s
KKAR Karatay Array 59.80 316 P **P 17 57 55.6 -1.1**
BVAR Borovoye Array 63.79 327 P **P 17 58 26.2 +2.9**
comp=Z,2.4nm,0.7s,baz=111,slow=3.3,SNR=7.0
BVAR LR LR 18 26 45.4
comp=Z,60nm,18.2s,baz=115,slow=36
comp=Z,2.4nm,0.7s
PYZ Puysegur Point 64.51 149 P **P 17 58 27.8 -0.2**
TIXI Tiksi 64.78 1 P **P 17 58 29.0 -0.4**
TIXI IAmb IAmb 17 58 43.7
comp=Z,20nm,1.8s
TIXI Tiksi 64.78 1 LR LR 18 28 34.5
comp=Z,72nm,20.6s,baz=201,slow=38
BKZ Black Stump Fm 66.03 138 P **P 17 58 37.1 -1.0**
RTZ Ruatahuna 66.07 138 P **P 17 58 36.9 -1.6**
AB31 Akbulak array 68.67 320 P **P 17 58 51.7 -3.0**
AB31 IAmb IAmb 17 59 02.9
comp=Z,8.9nm,1.1s
ABKAR Akbulak array 68.67 320 P **P 17 58 52.2 -2.5**
CASY Casey 73.70 186 P **P 17 59 23.8 -0.9**
KBZ Khabaz 79.61 313 P **P 18 00 01.5 +2.9**
comp=Z,4.2nm,1.1s,baz=116,slow=4.8,SNR=6.0
comp=Z,4.2nm,1.1s
KDAK Kodiak Island 80.20 33 LR LR 18 33 37.1
comp=Z,18nm,21.7s,baz=231,slow=34
BPAW Bear Paw Mtn. 81.26 26 P **P 18 00 06.2 -1.0**
BPAW IAmb IAmb 18 00 19.4
comp=Z,8.5nm,1.0s
MLY Manley 81.41 25 P **P 18 00 06.8 -1.1**
MLY IAmb IAmb 18 00 21.1
comp=Z,33nm,1.8s
NEA2 Nenana 82.11 26 P **P 18 00 10.4 -1.2**
NEA2 IAmb IAmb 18 00 23.7
comp=Z,7.4nm,1.1s
ILAR Eielson Array 83.05 26 P **P 18 00 15.8 -0.7**
ILAR Eielson Array 83.05 26 P **P 18 00 18.2 +1.8**
comp=Z,1.3nm,0.9s,baz=246,slow=5.9,SNR=9.1
comp=Z,1.3nm,0.9s
RIDG Independent Ri 83.98 27 P **P 18 00 20.4 -0.9**
RIDG IAmb IAmb 18 00 29.7
comp=Z,8.0nm,0.9s
I26K Coal Creek Min 84.60 25 P **P 18 00 23.7 -0.8**
I28M Miner Creek 85.93 25 P **P 18 00 30.0 -1.2**
I28M IAmb IAmb 18 00 51.1
comp=Z,11nm,1.1s
MMAI Mount Meron Ar 85.99 303 P **P 18 00 34.7 +2.5**
comp=Z,0.6nm,0.4s,baz=104,slow=3.0,SNR=2.9
comp=Z,0.6nm,0.4s
VNDA Vanda 86.72 172 P **P 18 00 33.4 -1.3**
VNDA Vanda 86.72 172 P **P 18 00 33.9 -0.7**
comp=Z,2.0nm,1.0s,baz=310,slow=7.3,SNR=7.0
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 86.73 309 P **P 18 00 34.1 -1.6**
BRTR Keskin Array B 86.73 309 P **P 18 00 38.2 +2.5**
comp=Z,0.4nm,0.7s,baz=131,slow=5.9,SNR=2.8
comp=Z,0.4nm,0.7s
ARCES ARCESS Array B 86.95 340 LR LR 18 44 53.5
comp=Z,54nm,18.2s,baz=56,slow=39
FINES FINESS Array B 88.30 332 P **P 18 00 47.1 +4.5**
comp=Z,3.9nm,1.0s,baz=92,slow=4.4,SNR=5.3
FINES LR LR 18 42 14.5
comp=Z,70nm,20.9s,baz=66,slow=37
comp=Z,3.9nm,1.0s
AKASG Malin Array Be 88.41 321 LR LR 18 42 42.9
comp=Z,37nm,19.5s,baz=72,slow=37
HFS Hagfors 94.48 332 LR LR 18 45 52.1
comp=Z,60nm,21.5s,baz=69,slow=37
NOA NORSAR Array B 95.25 333 P **P 18 01 17.7 +2.7**
comp=Z,0.1nm,0.3s,baz=62,slow=4.9,SNR=1.6
NOA LR LR 18 48 11.0
comp=Z,27nm,20.4s,baz=60,slow=38
comp=Z,0.1nm,0.3s
JMIC Jan Mayen 96.44 346 LR LR 18 50 13.7
comp=Z,32nm,19.1s,baz=348,slow=39
VRAC Vranov 96.65 321 LR LR 18 47 48.7
comp=Z,29nm,18.9s,baz=72,slow=37
QSPA South Pole Qui 96.73 180 P **P 18 01 18.4 -3.2**
QSPA South Pole Qui 96.73 180 P **P 18 01 22.9 +1.3**
comp=Z,0.7nm,0.8s,baz=253,slow=4.5,SNR=2.0
comp=Z,0.7nm,0.8s
LSZ Lusaka 98.33 256 LR LR 18 38 35.6
comp=Z,28nm,21.7s,baz=148,slow=31
GERES GERESS Array B 98.60 322 LR LR 18 49 44.1
comp=Z,23nm,18.9s,baz=86,slow=38
TXAR Lajitas Array 120.98 50 **PKPdf 18 06 41.7 -3.0**
TXAR Lajitas Array 120.98 50 PKP **PKiKP 18 06 46.1 +1.3**
comp=Z,0.1nm,0.4s,baz=309,slow=2.6,SNR=1.3

*NEIC **29** 18:08:39.7±1.6, 55°.9S±0°.2×27°.7W±0°.2, h122km±8km, mb4.5/9, Error ellipse: s-maj=23.6km s-min=13.8km az=197.0*
*IDC **29** 18:08:40.7±7.8, 55°.99S×27°.11W, h116km±69km, mb3.6/5, mbtmp4.0/6, Error ellipse: s-maj=39.0km s-min=24.7km az=81.0*
ISC 29 18:08:38.9±0.7, 55°.9S±0°.1×27°.68W±0°.09, h112km, n21, σ1§71/21, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.31**	**284**	Pn	**Pn**	**18 09 59.0**	**+3.2**
HOPE				Sn	**Sn**	**18 10 52.9**	**-2.9**
ESPZ	**Base Esperanza**	**16.48**	**231**		**Pn**	**18 12 23.2**	**+0.1**
EFI	**East Falkland**	**18.36**	**271**	P	**Pn**	**18 12 44.4**	**-1.5**
EFI				IAmb	IAmb	18 13 17.8	
comp=Z,69nm,1.4s							
SNAA	**Sanae**	**18.99**	**156**	P	**P**	**18 12 49.3**	**-2.0**
SNAA				IAmb	IAmb	18 12 50.2	
comp=Z,4.4nm,0.5s							
SNAA	**Sanae**	**18.99**	**156**	P	**P**	**18 12 49.4**	**-2.0**
comp=Z,4.4nm,0.4s,baz=307,slow=10,SNR=63							
PMSA	**Palmer Station**	**19.79**	**229**		**Pn**	**18 13 02.5**	**0.0**
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**18 15 16.4**	**+1.8**
QSPA				IAmb	IAmb	18 15 30.2	
comp=Z,7.0nm,1.4s							
QSPA					**PcP**	**18 17 49.6**	**+1.9**
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**18 15 16.6**	**+1.9**
comp=Z,0.8nm,0.5s,baz=188,slow=3.7,SNR=9.5							
QSPA				PcP	**PcP**	**18 17 49.7**	**+2.0**
comp=Z,0.5nm,0.5s,baz=252,slow=3.2,SNR=1.6							
comp=Z,0.8nm,0.5s							
VNDA	**Vanda**	**46.71**	**183**	P	**P**	**18 16 55.5**	**-0.3**
VNDA	**Vanda**	**46.71**	**183**	P	**P**	**18 16 55.5**	**-0.3**
comp=Z,0.4nm,0.5s,baz=198,slow=8.9,SNR=4.0							
comp=Z,0.4nm,0.5s							
H10S2	**ASCENSION HYDR**	**47.94**	**17**	T	T	19 09 15.8	
baz=30,slow=74,SNR=3.1							
H10S3	**ASCENSION HYDR**	**47.94**	**17**	T	T	19 09 12.2	
baz=190,slow=74,SNR=2.8							
LBTB	**Lobatse**	**49.23**	**74**	P	**P**	**18 17 15.3**	**-0.6**
LBTB				IAmb	IAmb	18 17 35.0	
comp=Z,6.6nm,1.1s							
LPAZ	**La Paz**	**50.07**	**306**	P	**P**	**18 17 22.1**	**-0.8**
LPAZ	**La Paz**	**50.07**	**306**	P	P	18 17 26.7	+3.8
comp=Z,0.8nm,0.3s,baz=174,slow=10,SNR=2.6							
comp=Z,0.8nm,0.3s							
TORD	**Torodi Ar. Bea**	**73.06**	**30**	P	**P**	**18 19 58.0**	**+1.4**
comp=Z,1.5nm,0.7s,baz=193,slow=5.3,SNR=7.7							
comp=Z,1.5nm,0.7s							
ASAR	**Alice Springs**	**99.21**	**163**	P	**Pdif**	**18 22 06.6**	**-1.3**
comp=Z,0.4nm,0.8s,baz=183,slow=3.3,SNR=2.3							
comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**149.81**	**312**		**PKPbc**	**18 28 13.6**	**-0.6**
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	**PKiKP**	**18 28 14.9**	**-0.2**
comp=Z,1.8nm,0.8s,baz=122,slow=1.7,SNR=13							
SONM	**Songino Array**	**150.99**	**87**		**PKPbc**	**18 28 15.7**	**-2.0**
SONM	**Songino Array**	**150.99**	**87**	PKPbc	**PKiKP**	**18 28 17.7**	**-0.5**
comp=Z,1.5nm,0.6s,baz=230,slow=3.0,SNR=11							

*NEIC **29** 18:13:44.8±1.3, 2°.68S±0°.07×102°.31E±0°.07, h163km±7km, mb4.3/22, Error ellipse: s-maj=10.9km s-min=9.0km az=49.0*
*DJA **29** 18:13:44.2±0.2, 3°.S±3°.×10°.2E±°, h165km±3km, M4.3/25, mB5.2/7, mb4.1/12, MLv4.2/25, Mw(mB)4.6/7*
*IDC **29** 18:13:44.3±3.3, 2°.78S×102°.06E, h163km±29km, mb3.3/9, mbtmp3.8/11, Error ellipse: s-maj=49.6km s-min=11.6km az=53.0*
ISC 29 18:13:44.5±0.6, 2°.65S±0°.06×102°.28E±0°.05, h168km±6km, n82, σ1§32/90, mb3.9/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.49**	**184**	P	**Pn**	**18 14 08.1**	**+0.1**
MASI				S	**Sn**	**18 14 26.4**	**+0.4**
KRJI	**Kerinci**	**0.99**	**304**	P	**Pn**	**18 14 12.1**	**+1.1**
KRJI				S	**Sn**	**18 14 32.7**	**+1.3**
KSI	**Kapahiang**	**1.04**	**162**	P	**Pn**	**18 14 11.8**	**+0.3**
KSI				S	**Sn**	**18 14 32.3**	**0.0**
LHSI	**Lahat**	**1.71**	**133**	P	**Pn**	**18 14 18.0**	**+0.4**
LHSI				S	**Sn**	**18 14 42.6**	**-0.6**
MNAI	**Manna**	**1.83**	**158**		**Pn**	**18 14 18.5**	**-0.4**
MNAI				Sn	**Sn**	**18 14 44.0**	**-1.6**
MNAI	**Manna**	**1.83**	**158**	P	**Pn**	**18 14 18.7**	**-0.2**
MNAI	**Manna**	**1.83**	**158**	S	**Sn**	**18 14 44.8**	**-0.8**
MNAI	**Manna**	**1.83**	**158**	P	**Pn**	**18 14 18.6**	**-0.4**
PPSI	**Pulau Pagai**	**2.27**	**267**	P	**Pn**	**18 14 25.1**	**+1.3**
PDSI	**Padang**	**2.50**	**314**	P	**Pn**	**18 14 27.1**	**+0.4**
PMBI	**Palembang**	**2.51**	**96**	Pn	**Pn**	**18 14 23.8**	**-2.9**
PMBI				Sn	**Sn**	**18 14 55.9**	**-3.4**
MDSI	**Maura Dua**	**2.63**	**134**	P	**Pn**	**18 14 28.3**	**+0.2**
PPI	**Padang Panjang**	**2.88**	**319**	P	**Pn**	**18 14 31.9**	**+0.8**
LWLI	**Liwa**	**2.95**	**143**	P	**Pn**	**18 14 31.8**	**-0.3**
BKNI	**Bangkinang**	**3.21**	**337**		**Pn**	**18 14 35.9**	**+0.7**
BKNI	**Bangkinang**	**3.21**	**337**	P	**Pn**	**18 14 36.0**	**+0.7**
SISI	**Saibi**	**3.45**	**292**	P	**Pn**	**18 14 39.0**	**+0.8**
KASI	**Kota Agung**	**3.61**	**142**	P	**Pn**	**18 14 39.3**	**-1.0**
BLSI	**Bandar Lampung**	**4.01**	**132**	P	**Pn**	**18 14 43.3**	**-2.1**
MNSI	**Mandailing Nat**	**4.36**	**322**	P	**Pn**	**18 14 50.9**	**+1.0**
MYKOM	**Kota Tinggi**	**4.68**	**20**		**Pn**	**18 14 54.9**	**+0.8**
PBSI	**Pulau Batu**	**4.75**	**303**	P	**Pn**	**18 14 55.2**	**+0.1**
TPI	**Tanjungpandan**	**5.37**	**91**	P	**Pn**	**18 15 03.3**	**+0.2**
0.1nm17nm,0.8s							
GSI	**Gunungsitoli**	**6.13**	**310**		**Pn**	**18 15 13.0**	**-0.1**
GSI				Sn	**Sn**	**18 16 17.4**	**-5.3**
GSI	**Gunungsitoli**	**6.13**	**310**	P	**Pn**	**18 15 13.0**	**-0.1**
GSI	**Gunungsitoli**	**6.13**	**310**	P	**Pn**	**18 15 12.8**	**-0.3**
RPSI	**Rantau Prapat**	**6.28**	**328**		**Pn**	**18 15 15.6**	**+0.4**
RPSI	**Rantau Prapat**	**6.28**	**328**		**Pn**	**18 15 15.9**	**+0.8**
PSI	**Prapat**	**6.37**	**328**	P	**Pn**	**18 15 15.9**	**-0.5**
7.2nm,0.6s,baz=156,slow=12,SNR=7.5							
CNJI	**Cibinong**	**6.69**	**134**	P	**Pn**	**18 15 17.3**	**-3.3**
0.1nm933nm16nm,1.0s							
BBJI	**Bungbulang**	**7.17**	**132**	P	**Pn**	**18 15 24.7**	**-2.3**
IPM	**Ipoh**	**7.19**	**350**	Pn	**Pn**	**18 15 27.6**	**+0.4**
KCSI	**Kotacane, Aceh**	**7.61**	**324**	P	**Pn**	**18 15 31.0**	**-1.7**
0.1nm6.8nm,0.5s							
KULM	**Kulim**	**8.05**	**348**	Pn	**Pn**	**18 15 38.6**	**0.0**
KULM	**Kulim**	**8.05**	**348**	P	**Pn**	**18 15 39.6**	**+1.0**
KPJI	**Karang Pucung**	**8.10**	**125**	P	**Pn**	**18 15 38.3**	**-0.9**
21nm,1.1s							
XMI	**Christmas Isla**	**8.46**	**157**	P	**Pn**	**18 15 40.6**	**-3.4**
MLSI	**Meulaboh, Aceh**	**9.04**	**319**	P	**Pn**	**18 15 50.5**	**-1.1**
LHMI	**Lhok Sumawe**	**9.47**	**326**	Pn	**Pn**	**18 15 55.7**	**-1.5**
LHMI	**Lhok Sumawe**	**9.47**	**326**	P	**Pn**	**18 15 55.9**	**-1.4**
3um104nm,1.1s							
UGM	**Wanagama**	**9.73**	**123**	Pn	**Pn**	**18 15 59.8**	**-1.0**
PCJI	**Pacitan**	**10.43**	**122**	P	**Pn**	**18 16 08.3**	**-1.6**
JAGI	**Jajag, Banyuwa**	**13.15**	**117**	Pn	**Pn**	**18 16 42.8**	**-2.4**
KAPI	**Kappang**	**17.59**	**98**	P	**Pn**	**18 17 39.1**	**-0.5**
KAPI				IAmb	IAmb	18 17 44.1	
comp=Z,18nm,1.1s							
KAPI	**Kappang**	**17.59**	**98**	P	**Pn**	**18 17 42.4**	**+2.8**
comp=Z,8.6nm,0.5s,baz=247,slow=7.7,SNR=3.7							
TOLI2	**Tolitoli**	**18.87**	**79**	P	**P**	**18 17 52.6**	**+0.4**
TOLI2				IAmb	IAmb	18 17 57.7	
comp=Z,6.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**21.23**	**351**	P	**P**	**18 18 17.4**	**0.0**
comp=Z,0.9nm,0.6s,baz=171,slow=10.0,SNR=11							
comp=Z,0.9nm,0.6s							
PALK	**Pallekele**	**23.68**	**295**	P	**P**	**18 18 42.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**27.57**	**125**	P	**P**	**18 19 17.0**	**+0.9**
KNRA	**Kununurra**	**29.12**	**118**	P	**P**	**18 19 29.2**	**-0.6**
KNRA				IAmb	IAmb	18 19 44.7	
comp=Z,13nm,1.1s							
FAKI	**Fak Fak**	**29.94**	**91**	P	**P**	**18 19 37.1**	**0.0**
MTN	**Manton Dam**	**30.29**	**111**	P	**P**	**18 19 40.5**	**+0.3**
MTN				IAmb	IAmb	18 20 23.3	
comp=Z,14nm,1.2s							
EVN	**Everest**	**33.87**	**335**	P	**P**	**18 20 12.3**	**+0.2**
EVN				IAmb	IAmb	18 20 22.2	
comp=Z,4.5nm,1.3s							
WB0	**Warramunga Arr**	**35.68**	**121**	P	**P**	**18 20 26.1**	**-0.9**
WB0				IAmb	IAmb	18 20 53.6	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**35.71**	**121**	P	**P**	**18 20 26.9**	**-0.3**
WRA	**Warramunga Arr**	**35.71**	**121**	P	**P**	**18 20 27.6**	**+0.4**
comp=Z,0.4nm,0.3s,baz=303,slow=10,SNR=19							
WRA				PcP	**PcP**	**18 22 52.3**	**+0.6**
comp=Z,0.5nm,0.5s,baz=312,slow=2.2,SNR=6.2							
comp=Z,0.4nm,0.3s							
WR8	**Warramunga Arr**	**35.85**	**121**	P	**P**	**18 20 27.4**	**-1.0**
WR8				IAmb	IAmb	18 20 39.0	
comp=Z,7.5nm,1.4s							
ASAR	**Alice Springs**	**37.04**	**127**	P	**P**	**18 20 38.2**	**-0.3**
ASAR	**Alice Springs**	**37.04**	**127**	P	**P**	**18 20 38.4**	**0.0**
comp=Z,0.9nm,0.3s,baz=302,slow=7.9,SNR=33							
ASAR				PcP	**PcP**	**18 22 56.5**	**+0.7**
comp=Z,0.7nm,0.7s,baz=308,slow=2.8,SNR=6.5							
comp=Z,0.9nm,0.3s							
AS31	**Alice Springs**	**37.04**	**127**	P	**P**	**18 20 38.1**	**-0.4**
FORT	**Forrest**	**37.10**	**142**	P	**P**	**18 20 38.6**	**-0.3**
FORT				IAmb	IAmb	18 20 57.6	
comp=Z,10.0nm,1.1s							
BBOO	**Buckleboo**	**43.62**	**137**	P	**P**	**18 21 32.4**	**+0.1**
INKA	**Innaminka**	**44.40**	**128**	P	**P**	**18 21 38.0**	**-0.6**
STKA	**Stephens Creek**	**47.03**	**133**	P	**P**	**18 21 59.1**	**-0.1**
STKA	**Stephens Creek**	**47.03**	**133**	P	**P**	**18 22 01.9**	**+2.8**
comp=Z,0.7nm,0.3s,baz=308,slow=10.0,SNR=7.7							
comp=Z,0.7nm,0.3s							
KBL	**Kabul**	**48.41**	**323**	P	**P**	**18 22 09.1**	**-0.9**
KBL				IAmb	IAmb	18 22 10.4	
comp=Z,2.4nm,0.7s							
JCJ	**Chichijima**	**48.52**	**50**	P	**P**	**18 22 10.1**	**-0.7**
SONM	**Songino Array**	**50.41**	**4**	P	**P**	**18 22 25.4**	**+0.6**
SONM	**Songino Array**	**50.41**	**4**	P	**P**	**18 22 27.3**	**+2.5**
comp=Z,0.5nm,0.4s,baz=189,slow=8.8,SNR=5.4							
comp=Z,0.5nm,0.4s							
MKAR	**Makanchi Array**	**52.29**	**343**	P	**P**	**18 22 38.2**	**-0.5**
MKAR	**Makanchi Array**	**52.29**	**343**	P	**P**	**18 22 39.1**	**+0.4**
comp=Z,0.4nm,0.3s,baz=154,slow=8.8,SNR=10							
comp=Z,0.4nm,0.3s							
KK31	**Karatay Array**	**53.79**	**331**	P	**P**	**18 22 50.1**	**+0.4**
KK31				IAmb	IAmb	18 23 01.8	
comp=Z,3.6nm,0.5s							
KKAR	**Karatay Array**	**53.79**	**331**	P	**P**	**18 22 50.7**	**+1.0**
KURBB	**Kurchatov Arra**	**56.84**	**342**	P	**P**	**18 23 11.8**	**+0.5**
comp=Z,0.2nm,0.4s,baz=157,slow=6.2,SNR=4.5							
comp=Z,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**58.25**	**348**	P	**P**	**18 23 21.1**	**0.0**
ZALV	**Zalesovo Beam**	**58.25**	**348**	P	**P**	**18 23 22.4**	**+1.3**
comp=Z,0.6nm,0.4s,baz=178,slow=7.3,SNR=4.1							
comp=Z,0.6nm,0.4s							
AB31	**Akbulak array**	**63.31**	**330**	P	**P**	**18 23 56.0**	**+0.5**
AB31				IAmb	IAmb	18 23 56.7	
comp=Z,1.0nm,0.6s							
ABKAR	**Akbulak array**	**63.31**	**330**	P	**P**	**18 23 55.7**	**+0.3**
BRTR	**Keskin Array B**	**75.44**	**312**	P	**P**	**18 25 09.5**	**-0.8**
BRTR	**Keskin Array B**	**75.44**	**312**	P	**P**	**18 25 10.2**	**-0.1**
comp=Z,0.4nm,0.8s,baz=94,slow=6.1,SNR=3.3							
comp=Z,0.4nm,0.8s							
TXAR	**Lajitas Array**	**143.78**	**40**		PKPbc	18 32 58.8	+0.3
TXAR	**Lajitas Array**	**143.78**	**40**	PKP	**PKPdf**	**18 33 00.6**	**+0.1**
comp=Z,0.2nm,0.5s,baz=188,slow=2.1,SNR=2.2							

*NEIC **29** 18:24:58.0±1.2, 45°.1N±0°.1×106°.84W±0°.07, h0km±1km, ML2.9/42, Error ellipse: s-maj=19.1km s-min=7.2km az=10.0*
*IDC **29** 18:24:59.9±1.6, 45°.22N×107°.16W, h0km, mbtmp3.5/2, ML2.4/1, Error ellipse: s-maj=57.5km s-min=9.2km az=132.0*
ISC 29 18:24:58.1±1.2, 45°.13N±0°.07×107°.04W±0°.06, h0km, n32, σ1§45/31, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.58**	**271**		**Pg**	**18 25 32.2**	**+4.0**

FLWY IAML 18 27 18.6
comp=N,28nm,1.2s
YMR Madison River 2.83 262 Pn Pn 18 25 44.8 +0.1
YMR IAML 18 26 46.9
comp=N,48nm,1.0s
YMR IAML 18 26 53.6
comp=E,29nm,1.1s
YHL Hebgen Lake 2.95 266 Pb 18 25 49.4 -2.3
YHL IAML 18 26 55.6
comp=E,30nm,0.7s
YHL IAML 18 26 57.2
comp=N,29nm,1.3s
BW06 Boulder Array 2.98 218 Pn 18 25 47.1 +0.3
PD31 Pinedale Array 2.98 218 Pn 18 25 46.3 -0.5
PDAR Pinedale Array 2.98 218 Pn 18 25 47.9 +1.1
PDAR Pinedale Array 2.98 218 Pn **Pb 18 25 51.5 -0.7**
comp=N,3.9nm,0.3s,baz=43,slow=16,SNR=143
PDAR Lg Lg 18 26 33.5
comp=N,4.9nm,0.3s,baz=39,slow=31,SNR=11
QLMT Earthquake Lak 3.13 266 Pn 18 25 48.5 -0.3
FXWY Fox Creek 3.22 244 Pn 18 25 46.7 -3.4
TPAW Teton Pass 3.25 241 Pn **Pn 18 25 48.2 -2.3**
BOZ Bozeman (W) 3.27 280 Pn 18 25 49.2 -1.5
BOZ IAML 18 26 51.7
comp=N,17nm,1.4s
EGMT Eagleton 3.45 328 Pn 18 25 51.6 -1.5
AHID Auburn Hatcher 3.76 233 Pn 18 25 56.8 -0.8
AHID IAML 18 27 05.5
comp=N,23nm,1.2s
AHID IAML 18 27 31.0
comp=N,14nm,1.6s
LRM Limekiln Ridge 3.87 282 Pn 18 25 57.4 -1.6
DLMT Dillon 3.93 275 Pn **Pn 18 26 00.3 +0.5**
DLMT IAML 18 27 29.4
comp=N,17nm,4.2s
DLMT IAML 18 27 39.1
comp=N,19nm,4.4s
LYMT Lyon Mountain 4.09 299 Pn 18 26 01.9 -0.2
MCMT McKenzie Canyo 4.13 268 Pn 18 26 03.5 +0.8
HWUT Hardware Ranch 4.82 225 Pn **Pn 18 26 11.6 -0.5**
HWUT IAML 18 27 48.6
comp=N,12nm,1.4s
HWUT IAML 18 27 50.1
comp=N,9.3nm,2.3s
O20A White River Ci 5.07 190 Pn **Pn 18 26 15.2 -0.3**
PV22 Blue Mesa, Par 6.71 192 Pn 18 26 36.5 -1.6
PV07 Paradox Valley 6.79 191 Pn 18 26 37.6 -1.5
PV20 West Nyswonger 6.93 193 Pn 18 26 40.3 -0.8
PV18 Skein Mesa, Pa 7.02 192 Pn 18 26 41.8 -0.4
I10CA LAC DU BONNET 9.00 52 I I 19 19 10.0
baz=235,slow=263,SNR=1.8
ULM Lac du Bonnet 9.11 52 Pn **Pn 18 27 11.0 +0.4**
comp=N,0.7nm,0.3s,baz=230,slow=12,SNR=1.8
ULM Lg Lg 18 29 39.3
comp=N,0.5nm,0.3s,baz=143,slow=10.0,SNR=1.9
comp=N,1.5nm,0.3s

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*KRNET **29** 18:26:41.6±0.1, 41°.08N×71°.51E, h21km, mb3.2*
*ISU **29** 18:26:43, 41°.06N×71°.46E, h22km*
ISC 29 18:26:42.5±0.8, 41°.13N±0°.02×71°.50E±0°.02, h15km±5km, n37, σ1°75/59, 15C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.03**	**31**	P			**Pg**	**18 26 44.4**	**-1.0**
KSNS				S			**Sg**	**18 26 48.0**	**+0.7**
NAM	**Namangan**	**0.18**	**139**	P			**Pg**	**18 26 47.2**	**+0.3**
NAM				S			**Sg**	**18 26 51.2**	**+1.3**
TRKS	**Terek-Say**	**0.48**	**326**	⇑P			**Pb**	**18 26 50.9**	**-1.9**
TRKS				⇑S			**Sb**	**18 26 57.4**	**-2.4**
CHDK	**Chadak**	**0.59**	**255**	P			**Pb**	**18 26 53.1**	**-1.4**
CHDK				S			**Sb**	**18 27 01.2**	**-1.5**
ARK	**Arkit**	**0.75**	**27**	⇓P			**Pg**	**18 26 56.6**	**-0.6**
ARK				⇓S			**Sb**	**18 27 07.5**	**0.0**
ANR	**Andizhan**	**0.75**	**120**	S			**Sg**	**18 27 08.4**	**+1.3**
FRG	**Fergana**	**0.79**	**164**	P			**Pn**	**18 27 03.3**	**+4.2**
FRG				S			**Sn**	**18 27 13.8**	**+3.2**
CHMI	**Chimion**	**0.86**	**179**	P			**Pn**	**18 26 59.6**	**-0.5**
TSTA	**Tashata**	**0.93**	**126**	P			**Pn**	**18 27 02.9**	**+1.9**
TSTA				S			**Sn**	**18 27 15.8**	**+1.8**
ARSB	**Arslanbob**	**1.14**	**80**	⇑P			**Pg**	**18 27 02.9**	**-1.5**
ARSB				⇑S			**Sg**	**18 27 17.9**	**-1.4**
OHH	**Osh**	**1.15**	**121**	⇓P			**Pg**	**18 27 02.2**	**-2.5**
OHH				⇓S			**Sg**	**18 27 17.2**	**-2.5**
CHMG	**Chimgan**	**1.20**	**291**	P			**Pn**	**18 27 04.3**	**-0.5**
CHMG				S			**Sn**	**18 27 21.2**	**+0.3**
CHRV	**Charvak**	**1.27**	**294**	P			**Pn**	**18 27 05.6**	**-0.2**
CHRV				S			**Sn**	**18 27 23.5**	**+0.9**
TVKS	**Tavaksay**	**1.46**	**288**	P			Pg	18 27 16.6	+6.0
TVKS				S			Sn	18 27 36.8	+10
TGS	**TashGRES**	**1.52**	**282**	P			Pg	18 27 13.6	+1.9
TGS				S			**Sg**	**18 27 35.6**	**+4.1**
SALK	**Salom-Alik**	**1.77**	**97**	⇓P			**Pn**	**18 27 13.4**	**+0.6**
SALK				⇓S			**Sn**	**18 27 36.7**	**+1.5**
NZBK	**Nazarbek**	**1.80**	**274**	P			Pg	18 27 20.4	+3.3
NZBK				S			**Sg**	**18 27 45.1**	**+4.7**
SFK	**Sufi-Kurgan**	**1.89**	**126**	⇑P			**Pn**	**18 27 14.9**	**+0.4**
SFK				⇑S			**Sn**	**18 27 38.9**	**+0.7**
KK31	**Karatay Array**	**2.10**	**340**	⇑Pn			**Pg**	**18 27 21.1**	**-1.8**
	4.2nm,0.2s,baz=172,slow=17,SNR=76								
KK31					⇓Sn		**Sg**	**18 27 50.4**	**+0.3**
	20nm,0.3s,baz=167,slow=28,SNR=25								
ARLS	**Aral**	**2.24**	**70**	⇓P			**Pn**	**18 27 20.5**	**+1.3**
ARLS				⇓S			**Sn**	**18 27 48.7**	**+1.9**
EKS2	**Erkin-Say**	**2.29**	**47**	P			**Pg**	**18 27 26.6**	**+0.2**
	SNR=12								
EKS2	**Erkin-Say**	**2.29**	**47**	⇓P			**Pn**	**18 27 21.3**	**+1.5**
EKS2				⇓S			**Sn**	**18 27 50.1**	**+2.3**
GAR	**Garm**	**2.31**	**203**	⇓P			**Pn**	**18 27 20.5**	**+0.3**
GAR				⇓S			**Sn**	**18 27 48.9**	**+0.5**
UCH	**Uchtor**	**2.51**	**63**	P			**Pg**	**18 27 30.8**	**+0.1**
	SNR=13								
UCH	**Uchtor**	**2.51**	**63**	⇑P			**Pn**	**18 27 24.3**	**+1.1**
UCH				⇑S			**Sn**	**18 27 55.3**	**+1.6**
AAK	**Ala-Archa**	**2.70**	**55**	P			**Pg**	**18 27 33.6**	**-0.5**
	SNR=14								
AAK	**Ala-Archa**	**2.70**	**55**	⇓P			**Pn**	**18 27 26.9**	**+1.4**
AAK				⇓S			**Sn**	**18 27 59.7**	**+1.8**
FRU1	**Bishkek**	**2.88**	**53**	⇓P			**Pn**	**18 27 29.4**	**+1.6**
FRU1				⇓S			**Sn**	**18 28 03.9**	**+1.7**
KBK	**Karagaybulak**	**2.99**	**58**	P			**Pg**	**18 27 39.0**	**-0.9**
	SNR=9.2								
KBK	**Karagaybulak**	**2.99**	**58**	⇓P			**Pn**	**18 27 31.0**	**+1.4**
KBK				⇓S			**Sn**	**18 28 06.7**	**+1.5**
CHGR	**Chuyangaron**	**3.06**	**217**	⇑P			**Pn**	**18 27 31.1**	**+0.7**
CHGR				⇑S			**Sn**	**18 28 06.7**	**0.0**
CHMS	**Chumysh**	**3.06**	**51**	P			**Pg**	**18 27 40.2**	**-0.9**
	SNR=9.4								
CHMS	**Chumysh**	**3.06**	**51**	⇑P			**Pn**	**18 27 31.9**	**+1.6**
CHMS				⇑S			**Sn**	**18 28 08.4**	**+1.8**
USP	**Ospenovka**	**3.09**	**45**	P			**Pg**	**18 27 40.7**	**-0.9**
	SNR=6.7								
USP	**Ospenovka**	**3.09**	**45**	⇑P			**Pn**	**18 27 32.4**	**+1.7**
USP				⇑S			**Sn**	**18 28 09.0**	**+1.6**
TKM2	**Tokmak 2**	**3.54**	**58**	P			**Pb**	**18 27 42.7**	**-2.2**
	SNR=38								
ULHL	**Ulahol**	**3.72**	**71**	P			Pn	18 27 29.4	-10
	SNR=101								

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*SOME **29** 18:26:46.4, 41°.03N×78°.73E, h10km*
*KRNET **29** 18:26:48.9±0.1, 41°.26N×78°.81E, h13km, mb4.1*
*IDC **29** 18:26:48.2±1.0, 41°.05N×78°.79E, h0km, mb3.6/7, mbtmp3.5/12, ML2.9/5, Error ellipse: s-maj=17.9km s-min=13.3km az=40.0*
*NNC **29** 18:26:49.3±1.3, 41°.19N×78°.72E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=9.1km s-min=5.7km az=163.0*
ISC 29 18:26:49.5±1.7, 41°.21N±0°.05×78.77E±0°.04, h2km±10km, n69, σ1°47/98, mb3.5/5, 28C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.89**	**306**	⇑P			**Pg**	**18 27 05.8**	**-0.8**
TARG				⇑S			**Sg**	**18 27 18.3**	**+0.2**
PRZ	**Przheval'sk**	**1.30**	**348**	⇑P			**Pn**	**18 27 13.0**	**-1.9**
PRZ				⇑S			**Sb**	**18 27 30.6**	**-1.4**
KDJ	**Kajisay**	**1.50**	**308**	⇑P			**Pn**	**18 27 16.8**	**-0.9**
KDJ				⇑S			**Sn**	**18 27 36.9**	**-1.1**
SATY	**Saty**	**1.86**	**352**	Pg			**Pn**	**18 27 22.5**	**0.0**
	144nm,0.3s								
SATY					Lg		Lg	18 27 49.2	
	171nm,0.5s								
UZB	**Uzynbulak**	**1.94**	**5**	Pg			**Pn**	**18 27 24.3**	**+0.6**
	41nm,0.3s								
UZB					Lg		Lg	18 27 51.7	
	213nm,0.4s								
UZB	**Uzynbulak**	**1.94**	**5**	*eP*			**Pn**	**18 27 24.3**	**+0.6**
	41nm,0.3s								
UZB				*eS*			**Sg**	**18 27 51.7**	**-0.2**
	213nm,0.4s								
SHLS	**Shalkode**	**2.01**	**15**	Pg			**Pg**	**18 27 28.3**	**+0.3**
	141nm,0.6s								
SHLS					Lg		Lg	18 27 58.8	
	1μm,0.5s								
SHLS	**Shalkode**	**2.01**	**15**	*eP*			**Pg**	**18 27 28.3**	**+0.3**
	141nm,0.6s								
SHLS				*eS*			**Sg**	**18 27 58.8**	**+4.8**
	1μm,0.5s								
ULHL	**Ulahol**	**2.16**	**299**	⇓*iP*			**Pn**	**18 27 27.9**	**+1.2**
ULHL				⇓*iS*			**Sb**	**18 27 56.3**	**-0.4**
KPKS	**Kokpek**	**2.25**	**358**	Pg			**Pb**	**18 27 30.3**	**-0.7**
	0.3nm,0.2s								
KPKS					Lg		Lg	18 28 02.1	
	437nm,0.4s								
TNSS	**Tian-Shan**	**2.27**	**324**	Pg			**Pb**	**18 27 31.2**	**-0.3**
	80nm,0.6s								
TNSS					Lg		Lg	18 28 03.8	
	180nm,0.5s								
TNSS	**Tian-Shan**	**2.27**	**324**	*eP*			**Pb**	**18 27 31.2**	**-0.3**
	80nm,0.6s								
TNSS				*eS*			**Sg**	**18 28 03.8**	**+1.3**
	180nm,0.5s								
KURS	**Kuram**	**2.32**	**349**	Pg			**Pb**	**18 27 32.1**	**+0.1**
	189nm,0.7s								
KURS					Lg		Lg	18 28 05.4	
	277nm,0.5s								
MDOK	**Medeo**	**2.33**	**327**	Pg			**Pb**	**18 27 32.1**	**-0.2**
	267nm,0.5s								
MDOK					Lg		Lg	18 28 05.2	
	677nm,0.6s								
JNKS	**Jany-Kuch**	**2.36**	**267**	⇓*iP*			**Pn**	**18 27 31.2**	**+1.7**
JNKS				⇓*iS*			**Sb**	**18 28 02.1**	**-0.5**
AAA	**Alma-Ata**	**2.42**	**326**	Pg			**Pb**	**18 27 34.4**	**+0.6**
	559nm,0.4s								
AAA					Lg		Lg	18 28 09.1	
	120nm,0.4s								
AAA	**Alma-Ata**	**2.42**	**326**	*eP*			**Pb**	**18 27 34.4**	**+0.6**
	559nm,0.4s								
AAA				*eS*			**Sg**	**18 28 09.1**	**+1.8**
	120nm,0.4s								
IZV	**Izvestkoviy**	**2.43**	**319**	Pg			**Pb**	**18 27 33.5**	**-0.5**
	252nm,0.5s								
IZV					Lg		Lg	18 28 07.8	
	567nm,0.4s								
IZV	**Izvestkoviy**	**2.43**	**319**	*eP*			**Pb**	**18 27 33.5**	**-0.5**
	252nm,0.5s								
IZV				*eS*			**Sg**	**18 28 07.8**	**+0.3**
	567nm,0.4s								
BOOM	**Boomskoye usch**	**2.47**	**302**	⇓*iP*			**Pn**	**18 27 32.2**	**+1.3**
BOOM				⇓*iS*			**Sb**	**18 28 03.7**	**-2.0**
MTBS	**Maitube**	**2.59**	**319**	Pg			**Pb**	**18 27 35.5**	**-1.1**
	43nm,0.3s								
MTBS					Lg		Lg	18 28 11.0	
	341nm,0.3s								
MTBS	**Maitube**	**2.59**	**319**	*eP*			**Pb**	**18 27 35.5**	**-1.1**
	43nm,0.3s								
MTBS				*eS*			**Sg**	**18 28 11.0**	**-1.7**
	341nm,0.3s								
KST	**Kastek**	**2.78**	**312**	Pg			**Pb**	**18 27 39.2**	**-0.7**
	158nm,0.8s								
KST					Lg		Lg	18 28 17.6	
	434nm,0.4s								
KST	**Kastek**	**2.78**	**312**	*eP*			**Pb**	**18 27 39.2**	**-0.7**
	158nm,0.8s								
KST				*eS*			**Sg**	**18 28 17.6**	**-1.1**
	434nm,0.4s								
TKM2	**Tokmak 2**	**2.92**	**307**	⇓*iP*			**Pn**	**18 27 38.4**	**+1.3**
TKM2				⇓*iS*			**Sn**	**18 28 14.4**	**+1.6**
KTBS	**Karatobe**	**2.94**	**329**	Pg			**Pb**	**18 27 42.3**	**-0.3**
	167nm,0.6s								
KTBS					Lg		Lg	18 28 23.1	
	560nm,0.6s								
CHKK	**Chushkaly**	**2.95**	**334**	Pg			**Pb**	**18 27 42.6**	**-0.2**
	59nm,0.4s								
CHKK					Lg		Lg	18 28 23.6	
	332nm,0.4s								
CHKK	**Chushkaly**	**2.95**	**334**	*eP*			**Pb**	**18 27 42.6**	**-0.2**
	59nm,0.4s								
CHKK				*eS*			**Sg**	**18 28 23.6**	**-0.6**
	332nm,0.4s								
DGS	**Degeres**	**3.01**	**313**	Pg			**Pb**	**18 27 43.1**	**-0.8**
	153nm,0.5s								
DGS					Lg		Lg	18 28 24.5	
	286nm,0.3s								
ARXS	**Arharly**	**3.08**	**347**	Pg			**Pb**	**18 27 45.0**	**0.0**
	72nm,0.6s								
ARXS					Lg		Lg	18 28 27.3	
	451nm,0.7s								
ARXS	**Arharly**	**3.08**	**347**	*eP*			**Pb**	**18 27 45.0**	**0.0**
ARXS				*eS*			**Sg**	**18 28 27.2**	**-1.1**
KBK	**Karagaybulak**	**3.20**	**298**	⇓*eP*			**Pn**	**18 27 42.4**	**+1.5**
KBK				⇓*iS*			**Sn**	**18 28 21.4**	**+1.7**
KUU	**Kurty**	**3.23**	**327**	Pg			**Pb**	**18 27 46.2**	**-1.3**
	8.0nm,0.1s								
KUU					Lg		Lg	18 28 29.6	
	183nm,0.6s								
KUU	**Kurty**	**3.23**	**327**	*eP*			**Pb**	**18 27 46.2**	**-1.3**
	8.0nm,0.1s								
KUU				*eS*			**Sb**	**18 28 29.6**	**+2.4**
	183nm,0.6s								
UCH	**Uchtor**	**3.34**	**289**	⇑P			**Pn**	**18 27 44.6**	**+1.4**
UCH				⇑S			**Sn**	**18 28 25.4**	**+1.7**
KRBS	**Karabastau**	**3.38**	**318**	Pg			**Pb**	**18 27 49.6**	**-0.5**
	27nm,0.3s								
KRBS					Lg		Lg	18 28 35.6	
	94nm,0.5s								
ARLS	**Aral**	**3.40**	**282**	⇑P			**Pn**	**18 27 45.3**	**+1.6**
ARLS				⇑S			**Sn**	**18 28 26.5**	**+1.8**
FRU1	**Bishkek**	**3.47**	**299**	⇑P			**Pn**	**18 27 46.2**	**+1.6**
FRU1				⇑S			**Sn**	**18 28 28.3**	**+1.9**
CHMS	**Chumysh**	**3.48**	**302**	⇓P			**Pn**	**18 27 46.2**	**+1.5**
CHMS				⇓S			**Sn**	**18 28 28.3**	**+1.7**
AAK	**Ala-Archa**	**3.49**	**295**	Pg			**Pb**	**18 27 53.1**	**+0.9**
	9.9nm,0.3s,baz=122,slow=13,SNR=19								
AAK					Lg		Lg	18 28 41.0	
	11nm,0.3s,baz=267,slow=22,SNR=12								
AAK	**Ala-Archa**	**3.49**	**295**	⇑Pg			**Pb**	**18 27 53.4**	**+1.3**
	8.5nm,0.5s								
AAK				⇑Lg			Lg	18 28 41.1	
	141nm,0.9s								
AAK	**Ala-Archa**	**3.49**	**295**	⇑P			**Pn**	**18 27 46.4**	**+1.4**
AAK				⇑S			**Sn**	**18 28 28.5**	**+1.5**
SALK	**Salom-Alik**	**3.76**	**267**	⇑P			**Pn**	**18 27 50.6**	**+2.0**
SALK				⇑S			**Sn**	**18 28 35.6**	**+2.0**
USP	**Ospenovka**	**3.78**	**304**	⇓P			**Pn**	**18 27 50.3**	**+1.5**
USP				⇓S			**Sn**	**18 28 35.1**	**+1.3**
TDK	**Taldyqorghan**	**3.80**	**356**	Pg			**Pb**	**18 27 57.6**	**+0.4**
	40nm,0.5s								
TDK					Lg		Lg	18 28 49.4	
	452nm,0.4s								
TDK	**Taldyqorghan**	**3.80**	**356**	*eP*			**Pb**	**18 27 57.6**	**+0.4**
	40nm,0.5s								
TDK				*eS*			**Sg**	**18 28 49.4**	**-2.0**
	452nm,0.4s								
SGDS	**Sogindy**	**3.80**	**307**	Pg			**Pb**	**18 27 58.0**	**+0.7**
	7.9nm,0.1s								
SGDS					Lg		Lg	18 28 49.4	
	72nm,0.4s								
EKS2	**Erkin-Say**	**4.00**	**293**	⇓*iP*			**Pn**	**18 27 53.4**	**+1.5**
EKS2				⇓*iS*			**Sn**	**18 28 40.6**	**+1.2**
SFK	**Sufi-Kurgan**	**4.18**	**255**	⇓*iP*			**Pn**	**18 27 56.7**	**+2.1**
SFK				⇓*iS*			**Sn**	**18 28 46.0**	**+1.8**
MRKS	**Merke**	**4.41**	**292**	Pg			**Pb**	**18 28 09.2**	**+1.5**
	18nm,0.3s								
MRKS					Lg		Lg	18 29 09.1	
	40nm,0.5s								
MRKS	**Merke**	**4.41**	**292**	*eP*			**Pb**	**18 28 09.2**	**+1.5**
	18nm,0.3s								
MRKS				*eS*			**Sg**	**18 29 09.1**	**-2.0**
	40nm,0.5s								
MAKZ	**Makanchi**	**6.05**	**21**	⇑Pn			**Pn**	**18 28 21.5**	**+1.5**
	6.7nm,1.4s								
MAKZ				⇓Lg			Lg	18 29 55.7	
	15nm,0.9s								
MK31	**Makanchi Array**	**6.13**	**23**	⇑Pn			**Pn**	**18 28 22.7**	**+1.7**
	0.8nm,0.5s,baz=199,slow=11,SNR=31								
MK31				⇓Pg			Pb	18 28 41.9	+5.0
	2.2nm,0.5s,baz=202,slow=14,SNR=5.4								
MK31				⇑Sn			**Sn**	**18 29 37.0**	**+5.3**
	5.2nm,0.6s								
MK31				⇓Lg			Lg	18 29 59.3	
	8.0nm,0.7s,baz=200,slow=23,SNR=5.4								
MKAR	**Makanchi Array**	**6.13**	**23**	Pn			**Pn**	**18 28 22.2**	**+1.2**
	0.7nm,0.3s,baz=199,slow=11,SNR=30								
MKAR					Sn		**Sn**	**18 29 34.1**	**+2.4**
	0.5nm,0.3s,baz=213,slow=23,SNR=3.8								
MKAR					Lg		Lg	18 29 57.6	
	0.8nm,0.3s,baz=197,slow=27,SNR=5.8								
	1.1nm,0.4s								
BRLS	**Borolday**	**6.89**	**288**	Pg			Pg	18 28 56.4	-5.0
	3.6nm,0.3s								
BRLS					Lg		Lg	18 30 29.9	
	11nm,0.6s								
ZSN	**Zaisan**	**7.61**	**33**	Pg			Pg	18 29 09.7	-5.6
	3.4nm,0.6s								
KURBB	**Kurchatov Arra**	**9.41**	**359**	Pn			**Pn**	**18 29 08.1**	**+2.0**
	baz=185,slow=12,SNR=4.7								
KURBB					Lg		Lg	18 31 43.8	
	0.2nm,0.3s,baz=189,slow=30,SNR=7.6								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**9.41**	**359**	⇓Pn			Pn	18 29 11.2	+5.2
	0.7nm,0.6s								
KURBB				⇑Pg				18 29 43.8	
	2.2nm,0.7s								
KURBB				⇑Sn			**Sn**	**18 30 50.2**	**-2.2**
	8.3nm,0.7s								
KURBB				⇑Lg			Lg	18 31 46.1	
	73nm,1.1s								
KURK	**Kurchatov**	**9.51**	**359**	⇑Pn			Pn	18 29 14.4	+7.1
	0.4nm,0.8s								
KURK				⇑Pg				18 29 45.2	
	1.1nm,0.8s								
KURK				⇑Sn			**Sn**	**18 30 55.1**	**+0.4**
	3.0nm,0.8s								
KURK				⇑Lg			Lg	18 31 49.8	
	33nm,1.4s								
BVAR	**Borovoye Array**	**13.11**	**337**	Pn			**Pn**	**18 29 56.4**	**-0.3**
	baz=158,slow=14,SNR=2.6								
BVAR					Lg		Lg	18 33 37.4	
	baz=160,slow=26,SNR=3.8								
	0.4nm,0.4s								
ZALV	**Zalesovo Beam**	**13.37**	**16**	Pn			**Pn**	**18 30 00.4**	**+0.2**
	0.1nm,0.3s,baz=195,slow=16,SNR=1.9								
ZALV					Sn		**Sn**	**18 32 30.2**	**+0.9**
	0.2nm,0.3s,baz=202,slow=23,SNR=3.1								
ZALV					Lg		Lg	18 33 51.4	
	0.1nm,0.3s,baz=198,slow=32,SNR=1.7								
	0.3nm,0.3s								
AKTO	**Aktyubinsk**	**17.11**	**310**	P			**P**	**18 30 50.7**	**-0.7**
	0.3nm,0.3s,baz=86,slow=6.1,SNR=2.1								
	0.9nm,0.5s								
ARTI	**Arti**	**20.15**	**326**	P			Pn	18 31 26.3	-0.3
	1.6nm,0.6s,baz=140,slow=4.3,SNR=3.4								
	1.6nm,0.6s								
SONM	**Songino Array**	**20.71**	**62**	P			**P**	**18 31 30.8**	**-0.3**
	1.3nm,0.9s,baz=259,slow=9.8,SNR=7.3								
	1.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**28.51**	**137**	P			**P**	**18 32 45.6**	**-0.8**
	0.2nm,0.5s,baz=315,slow=3.9,SNR=2.0								
	0.2nm,0.5s								
BRTR	**Keskin Array B**	**34.08**	**283**	P			**P**	**18 33 34.8**	**-0.6**
	0.4nm,0.5s,baz=60,slow=7.3,SNR=3.9								
	0.4nm,0.5s								
ARCES	**ARCESS Array B**	**39.37**	**334**	P			**P**	**18 34 19.9**	**0.0**
	3.1nm,0.8s,baz=110,slow=11,SNR=5.3								
	3.1nm,0.8s								
WRA	**Warramunga Arr**	**79.70**	**128**	P			**P**	**18 38 56.7**	**-2.1**
	0.4nm,0.7s,baz=326,slow=5.6,SNR=2.8								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**82.33**	**131**	P			**P**	**18 39 10.8**	**-2.1**
	0.3nm,0.8s,baz=335,slow=6.2,SNR=5.1								
	0.3nm,0.8s								

IDC 29 18:47:17.8±4.3, 16°.65N×120°.61E, h121km±32km, mb2.8/4, mbtmp3.2/4, Error ellipse: s-maj=72.2km s-min=19.9km az=52.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.55**	**173**	P			Pn	18 47 58.1	-0.2
	134nm,0.3s,baz=36,slow=19,SNR=1.2								
TGY				S			Sn	18 48 30.2	+0.8
	143nm,0.3s,baz=299,slow=19,SNR=3.5								
CMAR	**Chiang Mai Arr**	**20.73**	**278**	P			P	18 51 49.0	+0.1
	0.5nm,0.7s,baz=101,slow=9.0,SNR=4.8								
	0.5nm,0.7s								
WRA	**Warramunga Arr**	**38.78**	**159**	P			P	18 54 30.2	-0.6
	0.1nm,0.5s,baz=336,slow=9.3,SNR=5.7								
	0.1nm,0.5s								
ASAR	**Alice Springs**	**42.12**	**162**	P			P	18 54 58.0	-0.2
	0.1nm,0.3s,baz=338,slow=7.0,SNR=7.0								
ASAR				PcP			PcP	18 56 51.2	+0.6
	0.2nm,0.7s,baz=353,slow=4.0,SNR=1.8								
	0.1nm,0.3s								
KURBB	**Kurchatov Arra**	**47.73**	**325**	P			P	18 55 41.9	-0.3
	0.3nm,0.7s,baz=122,slow=8.4,SNR=2.8								
	0.3nm,0.7s								

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*SJA **29** 18:50:10.2±0.7, 31°.06S×71°.61W, h66km±5km, ML3.6, MW3.8*
*GUC **29** 18:50:13.1±0.8, 31°.10S×71°.38W, h69km±3km, ML3.6*
ISC 29 18:50:10.4±2.2, 31°.19S±0°.04×71°.43W±0°.08, h86km±19km, n65, σ2°31/14, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.37**	**92**	⇑*iP*			Pn	18 50 24.2	+0.3
CO02				*eS*			Sn	18

MT02				IAML			18 51 16.8
	comp=Z,170nm,0.6s						
ACCO	**Cerro Coronel**	**2.12**	**74**	*eP*	Pn	18 50 48.0	+3.6
ACCO				*eS*	Sn	18 51 16.4	+6.0
MT10	**Hacienda Santa**	**2.21**	**160**	*eP*	Pn	18 50 49.2	+3.8
ACDV	**Cuesta del Vie**	**2.24**	**64**	*eP*	Pn	18 50 49.1	+3.3
ACDV				IAML		18 51 21.4	
	comp=Z,188nm,0.6s						
LCO	**Las Campanas**	**2.27**	**16**	*eP*	Pn	18 50 47.4	+1.1
LCO				*eS*	Sn	18 51 14.5	+0.9
LCO				IAML		18 51 15.1	
	comp=Z,493nm,0.3s						
MT05	**Renca**	**2.27**	**165**	*eP*	Pn	18 50 49.8	+3.7
MT05				*eS*	Sn	18 51 08.6	-4.8
MT05				IAML		18 51 24.1	
	comp=Z,256nm,0.2s						
MT14	**Cerro Calı̣n**	**2.33**	**161**	*eP*	Pn	18 50 51.0	+4.1
MT16	**CCHEN**	**2.36**	**161**	*eP*	Pn	18 50 51.5	+4.2
ZON	**Zonda**	**2.38**	**99**	*eP*	Pn	18 50 52.3	+4.7
ZON				*eS*	Sn	18 51 22.1	+6.0
ZON				IAML		18 51 24.1	
	comp=Z,277nm,0.8s						
MT03	**Universidad Ad**	**2.42**	**161**	*eP*	Pn	18 50 52.3	+4.1
MT03				*eS*	Sn	18 51 22.4	+5.3
MT03				IAML		18 51 26.9	
	comp=Z,369nm,0.1s						
MT04	**Ro Olivares**	**2.46**	**154**	*eP*	Pn	18 50 54.0	+5.1
MT04	**Ro Olivares**	**2.46**	**154**	*eP*	Pn	18 50 53.6	+4.8
MT04				*eS*	Sn	18 51 24.6	+6.3
MT04				IAML		18 51 28.5	
	comp=Z,164nm,0.5s						
SJA	**San Juan**	**2.48**	**98**	*eP*	Pn	18 50 54.9	+6.0
SJA				*eS*	**Sn**	**18 51 19.5**	**+1.1**
SJA				IAML		18 51 27.3	
	comp=Z,329nm,0.2s						
RTLL	**Cerro Villicun**	**2.54**	**94**	*eP*	Pn	18 50 53.4	+3.8
RTLL				*eS*	Sn	18 51 25.0	+5.2
RTLL				IAML		18 51 49.4	
	comp=Z,284nm,0.4s						
MT08	**Bocatoma Ro**	**2.55**	**152**	*eP*	Pn	18 50 55.7	+5.7
MT08	**Bocatoma Ro**	**2.55**	**152**	*eP*	Pn	18 50 55.9	+6.0
MT08				*eS*	Sn	18 51 27.6	+7.4
MT08				IAML		18 51 29.1	
	comp=Z,155nm,1.1s						
MT09	**Talagante**	**2.60**	**172**	*eP*	Pn	18 50 54.4	+3.8
ASAL	**Salagasta**	**2.61**	**123**	*eP*	Pn	18 50 51.2	+0.5
ASAL				*eS*	Sn	18 51 31.3	+10
MT12	**Pirque**	**2.64**	**164**	*eP*	Pn	18 50 55.1	+4.1
MT01	**Popeta**	**2.67**	**177**	*eP*	Pn	18 50 54.8	+3.4
MT01				*eS*	Sn	18 51 27.8	+5.0
MT01				IAML		18 51 30.7	
	comp=Z,146nm,0.1s						
ARCO	**CERRO ARCO**	**2.69**	**128**	*eP*	Pn	18 50 57.9	+6.1
ARCO				*eS*	Sn	18 51 35.5	+12
ARCO				IAML		18 51 35.9	
	comp=Z,167nm,0.3s						
CFA	**Coronel Fontan**	**2.76**	**99**	*eP*	Pn	18 50 56.9	+4.2
CFA				*eS*	Sn	18 51 31.1	+5.9
LMEL	**Las Melosas**	**2.84**	**159**	*eP*	Pn	18 50 58.6	+4.7
LMEL				*eS*	Sn	18 51 33.4	+6.1
LMEL				IAML		18 51 35.4	
	comp=Z,443nm,0.1s						
BO04	**La Punta**	**2.88**	**166**	⇓*iP*	Pn	18 50 58.0	+3.8
BO04				*eS*	**Sn**	**18 51 32.0**	**+4.1**
BO04				IAML		18 51 33.1	
	comp=E,238nm,0.2s						
AAGR	**Agrelo**	**2.91**	**131**	*eP*	Pn	18 50 56.1	+1.4
AAGR				*eS*	Sn	18 51 39.1	+10
AAGR				IAML		18 51 46.5	
	comp=Z,103nm,0.4s						
AC04	**Llanos de Chal**	**2.99**	**6**	*eP*	Pn	18 50 56.8	+1.1
AC04				IAML		18 51 51.0	
	comp=Z,133nm,0.3s						
AGUA	**GUANDACOL**	**3.06**	**57**	*eP*	Pn	18 51 01.4	+4.6
AGUA				IAML		18 52 01.0	
	comp=Z,149nm,0.3s						
BO01	**Tunca**	**3.20**	**175**	*eP*	Pn	18 51 01.9	+3.3
BO01	**Tunca**	**3.20**	**175**	*eP*	Pn	18 51 02.1	+3.5
BO01				*eS*	Sn	18 51 40.6	+4.8
BO01				IAML		18 51 41.1	
	comp=Z,59nm,0.6s						
BO03	**Pichilemu**	**3.32**	**188**	*eP*	Pn	18 51 02.7	+2.5
BO03				*eS*	**Sn**	**18 51 39.4**	**+0.8**
BO03				IAML		18 52 10.4	
	comp=E,58nm,0.5s						
AVIZ	**Vizcacheras**	**3.36**	**133**	*eP*	Pn	18 51 09.1	+8.3
AVFE	**Valle Fertil**	**3.46**	**82**	*eP*	Pn	18 51 05.1	+3.0
AVFE				*eS*	**Sn**	**18 51 39.4**	**-2.7**
AVFE				IAML		18 51 47.9	
	comp=Z,145nm,0.8s						
BO02	**Sierra Bellavi**	**3.63**	**171**	*eP*	Pn	18 51 08.4	+3.9
BO02	**Sierra Bellavi**	**3.63**	**171**	*eP*	Pn	18 51 08.5	+4.1
BO02				IAML		18 51 55.8	
	comp=Z,145nm,0.2s						
VCA	**Vinchina**	**3.72**	**50**	*eP*	Pn	18 51 09.9	+4.2
VCA	**Vinchina**	**3.72**	**50**	*eP*	Pn	18 51 09.3	+3.5
VCA				*eS*	Sn	18 51 32.7	-16
VCA				IAML		18 51 33.6	
	comp=Z,247nm,0.6s						
GO03	**Copiapo**	**3.73**	**17**	*eP*	Pn	18 51 07.2	+1.3
GO03				*eS*	Sn	18 51 59.0	+10
GO03				IAML		18 52 04.3	
	comp=Z,123nm,0.4s						
ACAN	**Cantantal**	**3.77**	**108**	*eP*	Pn	18 51 09.5	+3.1
GO05	**Hualane**	**3.83**	**186**	*eP*	Pn	18 51 10.0	+2.9
GO05				*eS*	**Sn**	**18 51 52.3**	**+1.3**
GO05				IAML		18 51 54.5	
	comp=Z,40nm,0.5s						
ACHE	**Chepes**	**4.09**	**91**	*eP*	Pn	18 51 08.6	-2.1
ACHE				*eP*		18 51 13.2	
ACHE				*eS*	**Sn**	**18 51 59.8**	**+2.3**
ACLC	**CERRO LA CRUZ**	**4.26**	**67**	*eP*	Pn	18 51 15.9	+2.9
ACLC				IAML		18 52 34.4	
	comp=Z,52nm,0.4s						
RFA	**San Rafael**	**4.35**	**146**	*eP*	Pn	18 51 18.6	+4.3
RFA				IAML		18 52 39.1	
	comp=Z,27nm,0.4s						
AC02	**Maricunga**	**4.79**	**26**	*eP*	Pn	18 51 22.0	+1.5
AC02				IAML		18 52 48.5	
	comp=Z,44nm,0.6s						
MRA	**San Martin**	**5.02**	**106**	*eP*	Pn	18 51 26.6	+3.3
MRA				*eS*	Sn	18 52 41.6	+22
MRA				IAML		18 52 53.6	
	comp=Z,73nm,0.6s						
AC01	**Pan de Azucar**	**5.08**	**9**	*eP*	Pn	18 51 23.6	-0.5
AC01				IAML		18 52 53.2	
	comp=Z,30nm,0.6s						
TCA	**Tanti**	**5.86**	**93**	*eP*	Pn	18 51 36.9	+2.2

*IDC **29** 18:50:04.6±2.4, 10°.35N×83°.81W, h0km, mb3.7/3, mbtmp3.8/4, ML4.1/1, MS3.0/1, Error ellipse: s-maj=64.3km s-min=13.0km az=169.0*
*NEIC **29** 18:50:11.4±1.3, 9°.91N±0°.04×84°.23W±0°.03, h68km±3km, mb4.3/15, Error ellipse: s-maj=6.7km s-min=4.4km az=202.0*
*UCR **29** 18:50:11.2±1.0, 9°.97N×84°.22W, h69km±2km, MW4.5, Fault plane solution: NP1:φs150.12000°, δ45.86000°, λ-9.85000°.*
*CATAC **29** 18:50:12.4±0.2, 10°N±2°×8°4W±°, h45km±3km, M4.4/24, MLv4.4/24, Error ellipse: s-maj=4.8km s-min=2.0km az=45.8, confirmed*
*SNET **29** 18:50:18.9±0.7, 11°.04N×84°.19W, h15km±999km, ML4.6*
ISC 29 18:50:10.9±0.6, **9°.95N**±0°.03×**84°.21W**±0°.03, **h68**km±4km, **n227**, σ1°.22/243, **mb4.2**/11, **37C-73D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANTA	**Santa Ana**	**0.03**	**121**	⇓*eP*	**Pn**	**18 50 21.3**	**+0.3**
BELE	**Belen**	**0.04**	**45**	⇓*eP*	**Pn**	**18 50 21.3**	**+0.4**
BELE				*eS*	**Sn**	**18 50 28.7**	**+0.4**
HEME	**Heredia, Merce**	**0.09**	**60**	⇓*eP*	**Pn**	**18 50 22.8**	**+1.8**
PAVB	**Pavas, San Jos**	**0.09**	**96**	*eP*	**Pn**	**18 50 21.5**	**+0.5**
HDC	**Heredia**	**0.11**	**63**	Pn	**Pn**	**18 50 21.6**	**+0.5**
HDC				Sn	**Sn**	**18 50 29.0**	**+0.4**
HDC	**Heredia**	**0.11**	**63**	⇓*eP*	**Pn**	**18 50 21.7**	**+0.6**
DOMI	**Santo Domingo**	**0.12**	**75**	⇓*eP*	**Pn**	**18 50 22.0**	**+0.8**
POAS	**San Pedro de P**	**0.13**	**347**	*eP*	**Pn**	**18 50 21.9**	**+0.7**
CENT	**San Jose**	**0.13**	**98**	*eP*	**Pn**	**18 50 22.7**	**+1.5**
PURI	**Puriscal**	**0.14**	**223**	⇑*eP*	**Pn**	**18 50 21.4**	**+0.2**
PURI				*eS*	**Sn**	**18 50 29.4**	**+0.7**
TIBA	**Tibas**	**0.14**	**85**	*eP*	**Pn**	**18 50 22.8**	**+1.6**
LUJA	**Lujan**	**0.14**	**100**	⇑*eP*	**Pn**	**18 50 21.6**	**+0.4**
LUPE	**Guadalupe**	**0.16**	**91**	⇑*eP*	**Pn**	**18 50 21.8**	**+0.6**
SJS	**Escuela Geolog**	**0.16**	**94**	⇑*eP*	**Pn**	**18 50 21.8**	**+0.5**
AMPA	**Desamparados**	**0.16**	**110**	⇑*eP*	**Pn**	**18 50 21.4**	**+0.1**
ECI	**Escuela Centro**	**0.16**	**94**	⇑*eP*	**Pn**	**18 50 21.8**	**+0.5**
ECI				*eS*	**Sn**	**18 50 29.9**	**+1.0**
SJS3	**Mercedes San J**	**0.16**	**94**	⇑*eP*	**Pn**	**18 50 21.9**	**+0.6**
ACOS	**Acosta**	**0.16**	**162**	⇑*eP*	**Pn**	**18 50 21.4**	**+0.1**
ATEO	**Atenas**	**0.17**	**279**	⇓*eP*	**Pn**	**18 50 21.5**	**+0.2**
ATEO				*eS*	**Sn**	**18 50 29.4**	**+0.6**
SARCI	**Sarchi**	**0.19**	**317**	⇓*eP*	**Pn**	**18 50 22.1**	**+0.7**
CORON	**Coronado**	**0.21**	**84**	⇑*eP*	**Pn**	**18 50 22.3**	**+0.8**
NARAN	**Naranjo de Ala**	**0.22**	**312**	⇓*eP*	**Pn**	**18 50 22.2**	**+0.7**
TRIO	**Tres Rios**	**0.22**	**102**	⇑*eP*	**Pn**	**18 50 21.9**	**+0.3**
VPS8	**V Poas**	**0.23**	**353**	⇓*eP*	**Pn**	**18 50 22.4**	**+0.6**
VPS5	**V. Poas**	**0.24**	**356**	⇓*eP*	**Pn**	**18 50 22.3**	**+0.4**
PALD	**Palmares**	**0.24**	**295**	⇓*eP*	**Pn**	**18 50 21.9**	**+0.3**
CVIMO	**Finca Echandi**	**0.28**	**75**	⇓*eP*	**Pn**	**18 50 22.6**	**+0.6**
RAMO	**San Ramon**	**0.28**	**299**	⇓*eP*	**Pn**	**18 50 22.4**	**+0.5**
ZARE	**Zarcero**	**0.29**	**323**	⇓*eP*	**Pn**	**18 50 22.8**	**+0.8**
LCR2	**La Lucha 2**	**0.29**	**135**	S	**Sn**	**18 50 30.5**	**+0.3**
TAGO	**Cartago**	**0.30**	**106**	⇑*eP*	**Pn**	**18 50 22.6**	**+0.6**
OROT	**Orotina**	**0.31**	**263**	⇓*eP*	**Pn**	**18 50 22.3**	**+0.4**
PICV	**PH. Pirrs**	**0.32**	**177**	⇑*eP*	**Pn**	**18 50 22.0**	**-0.1**
VPL1	**V. Platanar**	**0.34**	**334**	⇓*eP*	**Pn**	**18 50 22.9**	**+0.5**
PITB	**Pirrs, San**	**0.34**	**147**	⇑*eP*	**Pn**	**18 50 22.4**	**0.0**
RAZU	**San Marcos de**	**0.34**	**147**	⇑*eP*	**Pn**	**18 50 22.4**	**0.0**
PAR1A	**Puntarenas Pro**	**0.35**	**186**	⇑*eP*	**Pn**	**18 50 22.8**	**+0.5**
REPA	**Paraso**	**0.36**	**110**	⇑*eP*	**Pn**	**18 50 23.0**	**+0.5**
REPA				*eS*	**Sn**	**18 50 32.1**	**+1.2**
VICA	**Volcano Irazu**	**0.36**	**85**	⇑*eP*	**Pn**	**18 50 23.4**	**+0.5**
ARTO	**Ro Cuarto**	**0.39**	**360**	⇓*eP*	**Pn**	**18 50 23.3**	**+0.7**
VPL2	**V. Platanar**	**0.39**	**335**	⇓*eP*	**Pn**	**18 50 23.7**	**+0.9**
PCAYA	**Pacayas**	**0.40**	**95**	⇑*eP*	**Pn**	**18 50 23.5**	**+0.6**
PIEC	**Cerro El Cedra**	**0.41**	**142**	⇑*eP*	**Pn**	**18 50 23.0**	**-0.1**
QUEU	**Ciudad Quesada**	**0.43**	**329**	⇓*eP*	**Pn**	**18 50 24.1**	**+1.1**
CVTQ	**Turrialba Volc**	**0.44**	**83**	⇑*eP*	**Pn**	**18 50 24.4**	**+1.0**
ARZA	**Esparza**	**0.45**	**275**	⇓*eP*	**Pn**	**18 50 23.5**	**+0.4**
VTR0	**Volcan Turrial**	**0.45**	**81**	*eP*	**Pn**	**18 50 24.2**	**+0.7**
CVTR	**Volcan Turrial**	**0.45**	**81**	*eP*	**Pn**	**18 50 24.3**	**+0.7**
CVTV	**Tajo**	**0.46**	**83**	⇑*eP*	**Pn**	**18 50 24.4**	**+0.9**
VINA	**Juan Vinas**	**0.46**	**97**	⇑*eP*	**Pn**	**18 50 23.9**	**+0.5**
CVTG	**V. Turrialba,**	**0.47**	**66**	⇑*eP*	**Pn**	**18 50 24.0**	**+0.6**
LLNJ	**Naranjito**	**0.49**	**167**	⇑*eP*	**Pn**	**18 50 23.7**	**+0.2**
PILE	**Guapiles**	**0.49**	**58**	*eP*	**Pn**	**18 50 24.3**	**+0.8**
ROBF	**Roble, Puntare**	**0.52**	**273**	⇓*eP*	**Pn**	**18 50 24.2**	**+0.5**
QUEP	**Quepos**	**0.52**	**175**	S	**Sn**	**18 50 33.9**	**+0.8**
QUEP	**Quepos**	**0.52**	**175**	⇑P	**Pn**	**18 50 23.9**	**+0.1**
QUEP	**Quepos**	**0.52**	**175**	⇑*eP*	**Pn**	**18 50 23.9**	**+0.1**
SVQ2	**Quepos**	**0.52**	**175**	⇑*eP*	**Pn**	**18 50 23.9**	**+0.1**
TURIB	**Turrialba**	**0.52**	**95**	*eP*	**Pn**	**18 50 24.4**	**+0.5**
SARA	**Sarapiqu**	**0.53**	**21**	⇓*eP*	**Pn**	**18 50 24.3**	**+0.4**
RESJ	**San Isidro (Tu**	**0.57**	**82**	*eP*	**Pn**	**18 50 25.3**	**+1.0**
SOCE	**Pocosol**	**0.59**	**317**		**Pn**	**18 50 25.2**	**+0.8**
SOCE					**Sn**	**18 50 35.5**	**+1.1**
SOCE	**Pocosol**	**0.59**	**317**	S	**Sn**	**18 50 36.4**	**+2.0**
SOCE	**Pocosol**	**0.59**	**317**	P	**Pn**	**18 50 25.4**	**+0.9**
SOCE	**Pocosol**	**0.59**	**317**	⇓*eP*	**Pn**	**18 50 25.4**	**+0.9**
BUS1	**Rivas**	**0.61**	**131**	⇑*eP*	**Pn**	**18 50 24.9**	**-0.2**
CARI	**Cariari**	**0.62**	**49**	⇑*eP*	**Pn**	**18 50 25.7**	**+0.9**
RVLA	**Villa Bonita**	**0.64**	**76**	*eP*	**Pn**	**18 50 26.1**	**+1.1**
LCOCO	**El Coco**	**0.66**	**78**	⇓*eP*	**Pn**	**18 50 26.0**	**+0.8**
EGUB	**Earth Gujpi**	**0.67**	**67**	⇓*eP*	**Pn**	**18 50 26.3**	**+1.0**
FORC	**Fortuna**	**0.68**	**319**	⇓*eP*	**Pn**	**18 50 26.5**	**+1.0**
VACR	**Volcan Arenal**	**0.69**	**319**	⇓*eP*	**Pn**	**18 50 26.6**	**+1.0**
CASO	**Castillo**	**0.70**	**313**	*i* Pg	**Pn**	**18 50 26.6**	**+0.9**
CASO				*eP*	**Pn**	**18 50 26.6**	**+0.9**
MTEVE	**Monteverde**	**0.71**	**301**	*eP*	**Pn**	**18 50 26.8**	**+0.9**
ARE1	**Arenal 1**	**0.71**	**316**	⇓*eP*	**Pn**	**18 50 26.9**	**+1.1**
VARE2	**V. Arenal**	**0.71**	**316**	⇓*eP*	**Pn**	**18 50 26.9**	**+1.0**
IRES	**Siquirres**	**0.71**	**78**	*eP*	**Pn**	**18 50 26.7**	**+1.0**
CEDE	**Laguna Cedeo**	**0.72**	**318**	⇓*eP*	**Pn**	**18 50 27.0**	**+1.0**
PAQE	**Paquera**	**0.72**	**260**	*eP*	**Pn**	**18 50 26.7**	**+0.8**
REZ	**Monterrey de S**	**0.75**	**320**	⇓*eP*	**Pn**	**18 50 27.3**	**+1.1**
TRT2	**Tortugero**	**0.77**	**38**	S	**Sn**	**18 50 39.1**	**+1.2**
TRT2	**Tortugero**	**0.77**	**38**	⇑P	**Pn**	**18 50 26.9**	**+0.5**
TRT2	**Tortugero**	**0.77**	**38**	⇑*eP*	**Pn**	**18 50 26.9**	**+0.5**
TABAC	**Tabacon**	**0.77**	**315**	⇓*eP*	**Pn**	**18 50 27.6**	**+1.1**
COVE	**Coope Vega, Sa**	**0.79**	**346**	S	**Sn**	**18 50 39.3**	**+1.0**
COVE	**Coope Vega, Sa**	**0.79**	**346**	⇓P	**Pn**	**18 50 27.1**	**+0.4**
ZEDO	**Perez Zeledon**	**0.79**	**138**	⇑*eP*	**Pn**	**18 50 27.2**	**+0.4**
JTS	**Las Juntas de**	**0.80**	**295**	Pn	**Pn**	**18 50 27.4**	**+0.5**
JTS				Sn	**Sn**	**18 50 40.2**	**+1.5**
JTS	**Las Juntas de**	**0.80**	**295**	LR	LR	18 50 25.6	
	comp=Z,64nm,19.3s,baz=19,slow=19						
JTS				Pg	**Pn**	**18 50 27.5**	**+0.7**
	1μm,0.3s,baz=86,slow=15,SNR=1688						
JTS				Lg	Lg	18 50 40.4	
	904nm,0.3s,baz=347,slow=22,SNR=11						
JTS	**Las Juntas de**	**0.80**	**295**	P	**Pn**	**18 50 27.5**	**+0.7**
JTS				S	**Sn**	**18 50 40.4**	**+1.7**
JTS	**Las Juntas de**	**0.80**	**295**	⇓*eP*	**Pn**	**18 50 27.6**	**+0.7**
CHIK	**Chiripa**	**0.84**	**306**	⇓*eP*	**Pn**	**18 50 28.6**	**+1.2**
TILA	**Tilaran**	**0.91**	**305**	⇓*eP*	**Pn**	**18 50 29.0**	**+0.8**
CBL1	**Cabuya**	**0.94**	**248**	*eP*	**Pn**	**18 50 28.3**	**-0.2**
QUEB	**Quebradon, Cot**	**0.95**	**315**	⇓*eP*	**Pn**	**18 50 29.3**	**+0.6**
INVE	**Universidad In**	**0.99**	**302**	⇓*eP*	**Pn**	**18 50 30.2**	**+1.0**
CNAS	**Canas**	**0.99**	**299**	⇓*eP*	**Pn**	**18 50 31.3**	**+2.1**
VERH	**Veragua Rainfo**	**1.01**	**91**	⇓*eP*	**Pn**	**18 50 30.0**	**+0.6**
EDPE	**Pejibaye, P**	**1.01**	**141**	⇑*eP*	**Pn**	**18 50 30.1**	**+0.6**
TIMP	**Tierras Morena**	**1.01**	**309**	⇓*eP*	**Pn**	**18 50 30.2**	**+0.7**
OCHAL	**Ojochal**	**1.02**	**146**	S	**Sn**	**18 50 44.9**	**+1.5**
OCHAL	**Ojochal**	**1.02**	**146**	P	**Pn**	**18 50 30.0**	**+0.5**
TENO	**El Achiote**	**1.06**	**315**	⇓*eP*	**Pn**	**18 50 30.9**	**+0.8**
MOTZ	**Rio Naranjo**	**1.12**	**311**	⇓*eP*	**Pn**	**18 50 32.0**	**+1.2**
BURE	**Buenos Aires**	**1.16**	**132**	*eP*	**Pn**	**18 50 32.0**	**+0.7**
LAES	**El Progreso Va**	**1.16**	**99**	⇓*eP*	**Pn**	**18 50 32.3**	**+0.9**
CUI	**Cuipilapa**	**1.17**	**307**	⇓*eP*	**Pn**	**18 50 32.4**	**+0.9**
DRK0	**Durika**	**1.17**	**125**	S	**Sn**	**18 50 47.9**	**+0.7**
DRK0	**Durika**	**1.17**	**125**	⇓P	**Pn**	**18 50 31.8**	**+0.1**
DRK0	**Durika**	**1.17**	**125**	⇓*eP*	**Pn**	**18 50 31.8**	**+0.1**
LCHIL	**Los Chiles**	**1.19**	**335**	⇓*eP*	**Pn**	**18 50 32.2**	**+0.5**
PLVR	**Palo Verde**	**1.19**	**290**	⇓*eP*	**Pn**	**18 50 32.7**	**+0.9**
NICO	**Nicoya**	**1.23**	**279**	⇓*eP*	**Pn**	**18 50 32.9**	**+0.7**
VMAR	**Armenia, Volca**	**1.23**	**314**	⇓*eP*	**Pn**	**18 50 33.1**	**+0.8**
MESS	**Mesas**	**1.24**	**309**	⇓*eP*	**Pn**	**18 50 33.3**	**+0.8**
FIMO	**Fila Mora**	**1.28**	**138**	*eP*	**Pn**	**18 50 34.2**	**+1.2**
CEUA	**Cerro Uatsi, L**	**1.30**	**104**	*eP*	**Pn**	**18 50 34.6**	**+1.4**
JUD3	**Juan Diaz 3**	**1.32**	**279**	Pn	**Pn**	**18 50 34.0**	**+0.5**
JUD3	**Juan Diaz 3**	**1.32**	**279**	⇓*eP*	**Pn**	**18 50 34.0**	**+0.5**
GPS2	**Hotel Rincn d**	**1.38**	**306**	*eP*	**Pn**	**18 50 34.9**	**+0.7**
EDP2	**Potrero Grande**	**1.38**	**132**	*eP*	**Pn**	**18 50 35.0**	**+0.8**
GPS1	**Guardaparques**	**1.39**	**306**	*eP*	**Pn**	**18 50 35.0**	**+0.7**
VRLE	**La Escondida,**	**1.41**	**306**	⇓*eP*	**Pn**	**18 50 35.3**	**+0.6**
DELF	**Filadelfia**	**1.41**	**291**	*eP*	**Pn**	**18 50 35.8**	**+1.2**
VORI	**VORI**	**1.41**	**308**	⇓*eP*	**Pn**	**18 50 35.5**	**+0.7**
BRIBI	**Bribri**	**1.42**	**103**	⇓*eP*	**Pn**	**18 50 36.1**	**+1.4**
PEJA	**Penjamo Buenos**	**1.43**	**311**	⇓*eP*	**Pn**	**18 50 35.7**	**+0.8**
BUAI	**Buenos Aires**	**1.44**	**310**	⇓*eP*	**Pn**	**18 50 35.5**	**+0.6**
LAPC	**Finca la Perla**	**1.45**	**304**	⇓*eP*	**Pn**	**18 50 35.6**	**+0.4**
ALIBA	**Liberia Airpor**	**1.46**	**296**	⇓*eP*	**Pn**	**18 50 36.3**	**+1.1**
SAJU	**San Juanillo,**	**1.48**	**275**	⇓*eP*	**Pn**	**18 50 35.5**	**0.0**
ELI1	**Hacienda Flor**	**1.49**	**298**	P	**Pn**	**18 50 36.9**	**+1.2**
ELI1	**Hacienda Flor**	**1.49**	**298**	S	**Sn**	**18 50 55.8**	**+1.5**
RGM0	**Gandoca**	**1.62**	**103**		**Pn**	**18 50 38.5**	**+1.0**
RGM0	**Gandoca**	**1.62**	**103**	S	**Sn**	**18 50 59.1**	**+1.6**
RGM0	**Gandoca**	**1.62**	**103**	⇓P	**Pn**	**18 50 38.8**	**+1.4**
EDAD	**Golfito**	**1.65**	**141**	*eP*	**Pn**	**18 50 37.9**	**0.0**
JIME	**Puerto Jimenez**	**1.66**	**148**	*eP*	**Pn**	**18 50 40.1**	**+2.2**
PTJ1	**Puerto Jimnez**	**1.67**	**147**	S	**Sn**	**18 51 00.1**	**+1.5**
ALCO	**Alturas Coton,**	**1.69**	**126**	⇓*eP*	**Pn**	**18 50 38.7**	**+0.3**
PIRO	**Carate, Puerto**	**1.76**	**151**	Pn	**Pn**	**18 50 39.3**	**0.0**
PIRO	**Carate, Puerto**	**1.76**	**151**	S	**Sn**	**18 51 03.0**	**+2.1**
PIRO	**Carate, Puerto**	**1.76**	**151**	P	**Pn**	**18 50 41.4**	**+2.0**
PIRO	**Carate, Puerto**	**1.76**	**151**	*eP*	**Pn**	**18 50 41.3**	**+2.0**
CARN	**Rivas**	**1.78**	**314**	P	**Pn**	**18 50 40.3**	**+0.8**
CARN				S	**Sn**	**18 51 02.5**	**+1.2**
CARN	**Rivas**	**1.78**	**314**	⇓*eP*	**Pn**	**18 50 40.2**	**+0.8**
LCRUZ	**La Cruz**	**1.79**	**309**	⇓*eP*	**Pn**	**18 50 40.5**	**+0.8**
BRU2	**Volcan**	**1.89**	**127**	Pn	**Pn**	**18 50 41.6**	**+0.4**
BRU2	**Volcan**	**1.89**	**127**	S	**Sn**	**18 51 05.7**	**+1.5**
BRU2	**Volcan**	**1.89**	**127**	⇓P	**Pn**	**18 50 41.8**	**+0.6**
BRU2	**Volcan**	**1.89**	**127**	⇓*eP*	**Pn**	**18 50 41.7**	**+0.5**
DMCAL	**E. de Neily**	**1.89**	**132**	*eP*	**Pn**	**18 50 41.9**	**+0.7**
CDITO	**Canoas**	**1.90**	**136**	S	**Sn**	**18 51 05.8**	**+1.6**
CDITO	**Canoas**	**1.90**	**136**	⇑P	**Pn**	**18 50 41.6**	**+0.4**
JEFFS	**S de V. Baru**	**2.09**	**127**	*eP*	**Pn**	**18 50 44.4**	**+0.6**
BQTLY	**Boquete Panama**	**2.10**	**124**	*eP*	**Pn**	**18 50 44.6**	**+0.7**
DAP26	**falda E V. Bar**	**2.11**	**123**	*eP*	**Pn**	**18 50 44.5**	**+0.3**
CONN	**Concepcion**	**2.12**	**319**	⇓P	**Pn**	**18 50 44.4**	**+0.2**
MORN	**Al O del Volca**	**2.12**	**319**	⇓P	**Pn**	**18 50 44.4**	**+0.2**
WILLF	**Boquete**	**2.12**	**124**	⇑*eP*	**Pn**	**18 50 45.1**	**+0.9**
ARIN	**Rivas**	**2.19**	**313**	S	**Sn**	**18 51 12.6**	**+1.6**
PBNVO	**Pueblo Nuevo,**	**2.26**	**118**	⇓*eP*	**Pn**	**18 50 46.6**	**+0.6**
RBALA	**Bur**	**2.29**	**117**	⇓*eP*	**Pn**	**18 50 46.7**	**+0.2**
COPN	**Copaltepe**	**3.22**	**314**	P	**Pn**	**18 51 00.7**	**+1.6**
MOM2	**El Cardon**	**3.33**	**318**	P	**Pn**	**18 51 02.2**	**+1.6**
MOM2				S	**Sn**	**18 51 40.9**	**+2.0**
MATN	**Matagalpa**	**3.40**	**331**	S	**Sn**	**18 51 41.4**	**+0.5**
MATN	**Matagalpa**	**3.40**	**331**	P	**Pn**	**18 51 02.3**	**+0.6**
CNGA	**Al SSO del Vol**	**3.51**	**316**	P	**Pn**	**18 51 05.2**	**+2.1**
CNGA				S	**Sn**	**18 51 45.6**	**+2.0**
CNGN	**Cerro Negro**	**3.52**	**316**	Pn	**Pn**	**18 51 04.9**	**+1.7**
CNGN	**Cerro Negro**	**3.52**	**316**	⇑P	**Pn**	**18 51 05.6**	**+2.4**
HERN	**Volcan Telica**	**3.68**	**316**	Pn	**Pn**	**18 51 06.5**	**+1.0**
POLN	**Al Sur del Vol**	**3.70**	**317**	⇑P	**Pn**	**18 51 07.8**	**+2.2**
LIMN	**Finca el Limon**	**3.74**	**326**	⇓P	**Pn**	**18 51 07.7**	**+1.4**
SIUN	**Universidad Ur**	**3.78**	**352**	Pn	**Pn**	**18 51 07.3**	**+0.5**

*DNK **29** 19:34:15.2±1.6, 51°.73N×16°.38E, h0km±69km, ML2.9*
*VIE **29** 19:34:16.6±0.7, 51°.60N×15°.96E, h0km, mb2.5/4, ml3.2/4, Error ellipse: s-maj=8.9km s-min=3.8km az=47.0 93 km NW of Wroclaw Suspected Mining induced.*
*IPEC **29** 19:34:17.0±0.2, 51°.61N×16°.05E, h1km, ML2.8/6, Error ellipse: s-maj=1.7km s-min=1.3km az=66.0*
*BGR **29** 19:34:17.9±0.5, 51°.58N×15°.98E, h1km, ML2.9/14, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*IDC **29** 19:34:18.0±1.1, 51°.60N×15°.84E, h0km, mbtmp3.1/3, ML2.0/3, Error ellipse: s-maj=31.9km s-min=8.1km az=112.0*
*PRU **29** 19:34:19.5, 51°.52N×15°.99E, h0km*
ISC 29 19:34:15.2±0.8, 51°.68N±0°.03×16°.01E±0°.02, h0km, n51, σ1§08/98, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.85**	**168**	*e*Pg	**Pg**	**19 34 32.1**	**+0.6**
KSP				*e*Sg	**Sg**	19 34 42.5	-0.1
KSP	**Ksiaz**	**0.85**	**168**	*e*Pg	**Pg**	**19 34 32.2**	**+0.6**
KSP				*e*Sg	**Sg**	19 34 42.6	-0.1
CHVC	**Chvalec**	**1.09**	**179**	*e*PG	**Pb**	**19 34 36.6**	**-0.4**
CHVC				*e*SG	**Sg**	19 34 50.2	-0.1
OSTC	**Ostas**	**1.13**	**173**	*e*PG	**Pb**	**19 34 37.7**	**+0.1**
OSTC				*e*SG	**Sg**	19 34 51.7	+0.2
	comp=Z,78nm,0.3s						
UPC	**Upice**	**1.17**	**180**	*e*PG	**Pg**	**19 34 37.8**	**+0.1**
UPC				*e*SG	**Sg**	19 34 52.5	-0.3
	comp=Z,90nm,0.3s						
DPC	**Dobruska-Polom**	**1.34**	**172**	*e*SG	**Sg**	**19 34 57.4**	**-1.0**
	comp=Z,50nm,0.3s						
DPC	**Dobruska-Polom**	**1.34**	**172**	*e*Pg	**Pg**	**19 34 41.1**	**+0.2**
DPC				*e*Sg	**Sg**	19 34 57.8	-0.6
PVCC	**Panska Ves**	**1.47**	**219**	*e*PG	**Pb**	19 34 43.6	+0.2
PVCC				*e*SG	**Sb**	19 35 02.7	+0.1
	comp=Z,191nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**239**	*e*Pg	**Pg**	**19 34 45.0**	**+0.5**
BRG				*e*Sg	**Sn**	19 35 04.9	+0.6
BRG	**Berggiesshubel**	**1.53**	**239**	Pg	**Pg**	**19 34 45.0**	**+0.5**
BRG				Sg	**Sn**	**19 35 05.0**	**+0.6**
BRG				Amp		19 35 05.7	
	comp=Z,65nm,0.4s						
PIVO	**Bartosovice**	**1.53**	**167**	*e*Pg	**Pn**	**19 34 44.0**	**+0.2**
	baz=348						
PIVO				*e*Sg	**Sg**	19 35 02.5	-1.9
	comp=Z,78nm,0.2s,baz=348						
KRLC	**Kraliky**	**1.68**	**163**	*e*PG	**Pn**	**19 34 46.1**	**+0.2**
KRLC				*e*SG	**Sb**	19 35 08.4	-0.3
	comp=Z,101nm,0.5s						
FBE	**Freiberg**	**1.83**	**247**	*e*Pg	**Pg**	**19 34 50.9**	**+0.6**
FBE				*e*Sg	**Sg**	19 35 14.4	+0.4
RYBC	**Ceska Rybna**	**1.87**	**179**	*e*Pn	**Pn**	**19 34 48.9**	**+0.4**
	baz=360						
RYBC				*e*Sg	**Sn**	19 35 13.4	+0.6
	comp=Z,57nm,0.2s,baz=360						
CLL	**Collm**	**1.92**	**260**	*e*Pn	**Pn**	**19 34 49.2**	**+0.1**
CLL				*e*Pg	**Pg**	19 34 52.2	+0.3
CLL				*e*Sg	**Sg**	19 35 17.7	+0.9
CLL	**Collm**	**1.92**	**260**	*i* Pn	**Pn**	**19 34 49.1**	**0.0**
	comp=Z,10.0nm,0.5s						
CLL				*i* Pg	**Pg**	**19 34 52.5**	**+0.6**
CLL				*i* x	x	19 34 55.9	
	comp=Z,29nm,0.6s						
CLL				*i* x	x	19 35 07.5	
CLL				*e*Sg	**Sb**	**19 35 16.0**	**+0.5**
	comp=Z,24nm,0.5s						
PRU	**Pruhonice**	**1.93**	**209**	*e*PG	**Pb**	**19 34 51.4**	**+0.1**
PRU				*e*SG	**Sb**	19 35 15.5	-0.4
	comp=Z,45nm,0.5s						
HSKC	**Hora Svate Kat**	**1.95**	**238**	*e*PN	**Pb**	**19 34 50.7**	**-0.9**
STEB	**Steborice**	**2.07**	**147**	*e*PN	**Pn**	**19 34 52.3**	**+1.0**
STEB				*e*PG	**Pb**	19 34 54.2	+0.5
STEB				*e*SG	**Sg**	19 35 21.2	-0.6
	comp=Z,131nm,0.7s						
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn	**Pn**	**19 34 52.4**	**+0.2**
	baz=333						
MORC				*e*Sg	**Sb**	19 35 21.5	-0.4
	comp=Z,54nm,0.6s,baz=333						
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn	**Pn**	**19 34 52.5**	**+0.3**
MORC				*e*Sg	**Sb**	19 35 22.5	+0.6
OKC	**Ostrava-Krasne**	**2.29**	**143**	*e*SG	**Sb**	**19 35 26.8**	**+0.6**
VRAC	**Vranov**	**2.40**	**171**	*e*PN	**Pn**	**19 34 56.4**	**+0.6**
VRAC				*e*SG	**Sb**	19 35 29.9	+0.4
VRAC	**Vranov**	**2.40**	**171**	*e*Pn	**Pn**	**19 34 56.3**	**+0.5**
	baz=352						
VRAC				*e*Sg	**Sb**	**19 35 29.8**	**+0.3**
	comp=Z,40nm,0.5s,baz=352						
TREC	**Trest**	**2.41**	**188**	*e*SG	**Sg**	**19 35 31.5**	**-1.1**
	comp=Z,32nm,0.7s						
TANN	**Tannenbergstha**	**2.57**	**242**	*e*Pn	**Pn**	**19 34 58.8**	**+0.6**
TANN				*e*Pg	**Pg**	19 35 05.8	+1.3
TANN				*e*Sg	**Sg**	19 35 37.2	-0.6
KRUC	**Moravsky**	**2.63**	**175**	*e*Pn	**Pn**	**19 34 59.5**	**+0.6**
	baz=355						
KRUC	**Moravsky**	**2.63**	**175**	*e*Pg	**Pb**	**19 35 03.5**	**+0.3**
	baz=355						
KRUC				*e*Sg	**Sb**	**19 35 36.8**	**+0.8**
	comp=Z,55nm,1.0s,baz=355						
WERD	**Werda**	**2.64**	**244**	*e*Pn	**Pn**	**19 34 59.8**	**+0.6**
WERD				*e*Pg	**Pg**	19 35 06.9	+1.1
WERD				*e*Sg	**Sg**	19 35 40.5	+0.4
OJC	**Ojcow**	**2.81**	**120**	*e*Pg	**Pg**	19 35 09.7	+0.8
OJC				*e*Sg	**Sg**	19 35 46.1	+0.8
MOX	**Moxa**	**2.96**	**251**	*e*Pn	**Pn**	19 35 03.9	+0.5
MOX				*e*Pg	**Pg**	19 35 12.5	+0.7
MOX				*e*Sg	**Sg**	19 35 49.8	-0.3
KHC	**Kasperske Hory**	**2.99**	**212**	*e*PN	**Pn**	19 35 05.0	+1.1
KHC				*e*PG	**Pb**	19 35 10.5	+1.2
KHC				*e*SG	**Sb**	19 35 48.8	+2.4
	comp=Z,18nm,0.4s						
MANZ	**Manzenberg**	**3.00**	**237**	*e*Pn	**Pn**	19 35 05.1	+1.1
MANZ				*e*Sg	**Sg**	19 35 50.9	-0.6
JAVC	**Velka Javorina**	**3.02**	**159**	*e*PN	**Pn**	19 35 04.7	+0.4
JAVC	**Velka Javorina**	**3.02**	**159**	*e*Pn	**Pn**	19 35 04.6	+0.3
	baz=340						
ROTZ	**Rotzenmuhle**	**3.08**	**233**	*e*Pn	**Pn**	19 35 05.7	+0.6
ROTZ				*e*Sg	**Sg**	19 35 53.6	-0.6
GEC2	**GERESS Array S**	**3.20**	**208**	*e*Pn	**Pn**	19 35 07.3	+0.4
GEC2				*e*Sg	**Sg**	19 35 55.4	-2.6
GERES	**GERESS Array B**	**3.20**	**208**	Pn	**Pn**	**19 35 07.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=12						
GERES				Pg	**Pb**	**19 35 14.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=23,slow=17,SNR=30						
GERES				Sn	**Sn**	**19 35 43.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=29,slow=20,SNR=7.7						
GERES				Lg	Lg	19 35 56.0	
	comp=Z,0.4nm,0.3s,baz=26,slow=25,SNR=10						
	comp=Z,1.0nm,0.4s						
WET	**Wettzell**	**3.23**	**220**	*e*Pn	**Pn**	**19 35 07.9**	**+0.7**
WET				*e*Sg	**Sg**	**19 35 57.7**	**-1.3**
MODS	**Modra-Piesok**	**3.41**	**166**	*e*SG	**Sg**	**19 36 03.2**	**-1.4**
MODS				*e*LG	Lg	19 36 09.8	
NIE	**Niedzica**	**3.55**	**128**	*e*Pg	**Pg**	**19 35 23.6**	**+0.4**
NIE				*e*Sg	**Sg**	**19 36 08.3**	**-0.9**
CONA	**Conrad Observa**	**3.76**	**182**	*e*Pn	**Pn**	**19 35 14.2**	**-0.3**
	comp=Z,0.7nm,0.2s						
MOA	**Molln**	**4.00**	**197**	*e*Pn	**Pn**	**19 35 18.4**	**+0.7**
	comp=Z,1.4nm,0.2s						
STHS	**Stebnicka Huta**	**4.03**	**122**	*e*PG	**Pg**	**19 35 34.5**	**+2.1**
STHS				*e*SG	**Sg**	**19 36 27.0**	**+2.3**
LUNU	**Lund**	**4.25**	**340**	*i* P	**Pn**	**19 35 22.3**	**+1.3**
LUNU				*i* S	**Sn**	**19 36 10.3**	**-0.9**
BIOA	**Bad Ischl, Aus**	**4.28**	**202**	*e*Pn	**Pn**	**19 35 21.4**	**-0.2**
	comp=Z,0.7nm,0.2s						
BJUU	**Bjuv**	**4.75**	**339**	*i* P	**Pn**	**19 35 28.1**	**+0.2**
BJUU				*i* S	**Sn**	**19 36 22.6**	**-1.0**
DEL	**Delary**	**4.96**	**346**	*i* P	**Pn**	**19 35 31.6**	**+0.6**
DEL				*i* S	**Sn**	**19 36 27.8**	**-1.2**
FABU	**Falkenberg**	**5.67**	**341**	*i* P	**Pn**	**19 35 40.7**	**+0.1**
FABU				*i* S	**Sn**	**19 36 44.7**	**-1.7**
NOA	**NORSAR Array B**	**9.75**	**346**	Pn	**Pn**	**19 36 37.5**	**+0.9**
	baz=171,slow=11,SNR=1.8						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**11.24**	**26**	Pn	**Pn**	**19 36 57.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=221,slow=12,SNR=5.3						
FINES				Sn	**Sn**	**19 38 56.7**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=219,slow=20,SNR=1.8						
	comp=Z,2.5nm,0.9s						

*NEIC **29** 19:59:54.6±1.8, 43°.83N±0°.05×105°.23W±0°.06, h0km±1km, ML3.2/62, Error ellipse: s-maj=8.9km s-min=6.7km az=334.0*
*IDC **29** 19:59:56.3±2.0, 43°.76N×105°.50W, h0km, mb3.7/1, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=62.1km s-min=9.1km az=149.0*
ISC 29 19:59:55.7±1.2, 43°.79N±0°.07×105°.25W±0°.07, h0km, n45, σ1§07/45, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**69**		**Pn**	**20 00 16.1**	**-0.2**
K22A	**Casper**	**1.47**	**220**		**Pn**	**20 00 22.9**	**-0.7**
K22A				IAML		20 00 47.1	
	311nm,0.3s						
K22A				IAML		20 00 47.8	
	307nm,0.3s						
RLMT	**Red Lodge**	**3.17**	**296**	Pn	**Pn**	**20 00 47.0**	**-0.1**
RLMT				IAML		20 01 36.4	
	50nm,0.4s						
RLMT				IAML		20 01 45.1	
	58nm,0.3s						
BW06	**Boulder Array**	**3.31**	**253**	Pn	**Pn**	**20 00 50.0**	**+1.0**
BW06				IAML		20 01 43.8	
	42nm,0.6s						
PD31	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**20 00 49.5**	**+0.5**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**20 00 50.0**	**+1.1**
	5.3nm,0.3s,baz=64,slow=14,SNR=69						
PDAR				Lg	Lg	20 01 34.2	
	7.0nm,0.3s,baz=71,slow=33,SNR=4.1						
	5.1nm,0.4s						
HAYD	**Hayden**	**3.59**	**205**		**Pn**	**20 00 52.9**	**0.0**
HAYD				IAML		20 01 48.1	
	comp=E,33nm,0.4s						
HAYD				IAML		20 02 13.8	
	comp=N,32nm,1.1s						
YNE	**Yellowstone No**	**3.62**	**291**		**Pn**	**20 00 53.8**	**+0.5**
YNE				IAML		20 01 50.4	
	comp=N,44nm,0.5s						
YNE				IAML		20 01 55.2	
	comp=E,42nm,0.7s						
YMP	**Mirror Lake Pl**	**3.65**	**287**		**Pn**	**20 00 54.9**	**+1.2**
YMP				IAML		20 01 53.6	
	comp=E,67nm,0.8s						
YMP				IAML		20 01 59.1	
	comp=N,65nm,0.9s						
OGNE	**Ogallala**	**3.71**	**139**		**Pn**	**20 00 55.7**	**+1.4**
OGNE				IAML		20 02 03.6	
	comp=N,88nm,1.2s						
LOHW	**Long Hollow**	**3.89**	**269**		**Pn**	**20 00 57.6**	**+0.7**
FLWY	**Flagg Ranch**	**3.95**	**276**		**Pn**	**20 00 58.8**	**+1.1**
FLWY				IAML		20 02 07.5	
	comp=N,33nm,2.0s						
FLWY				IAML		20 02 09.6	
	comp=N,26nm,2.0s						
MOOW	**Moose Ponds**	**3.98**	**271**		**Pn**	**20 00 58.5**	**+0.3**
ISCO	**Idaho Springs**	**4.00**	**184**		**Pn**	**20 01 00.1**	**+1.7**
SNOW	**Snow King Moun**	**4.01**	**267**		**Pn**	**20 00 59.6**	**+1.0**
SNOW				IAML		20 02 21.2	
	comp=N,35nm,1.6s						
SNOW				IAML		20 02 28.7	
	comp=N,27nm,1.0s						
YPP	**Pitchstone Pla**	**4.04**	**279**	Pn	**Pn**	**20 01 00.6**	**+1.6**
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**20 00 59.4**	**-1.1**
TPAW	**Teton Pass**	**4.15**	**268**		**Pn**	**20 00 59.4**	**-1.1**
TPAW				IAML		20 02 23.1	
	comp=N,26nm,1.1s						
E28A	**Huff**	**4.26**	**48**	Pn	**Pn**	**20 01 00.6**	**-1.1**
K30B	**Basset**	**4.27**	**103**		**Pn**	**20 01 01.0**	**-0.9**
O20A	**White River Ci**	**4.28**	**212**		**Pn**	**20 01 01.5**	**-0.8**
O20A				IAML		20 02 18.1	
	comp=N,25nm,0.6s						
O20A				IAML		20 02 19.4	
	comp=N,37nm,0.8s						
YHL	**Hebgen Lake**	**4.39**	**286**		**Pn**	**20 01 03.4**	**-0.4**
YHL				IAML		20 02 24.5	
	comp=E,19nm,1.4s						
YHL				IAML		20 02 26.8	
	comp=N,19nm,1.3s						
AHID	**Auburn Hatcher**	**4.39**	**259**		**Pn**	**20 01 03.0**	**-0.9**
AHID				IAML		20 02 17.4	
	comp=N,25nm,1.1s						
AHID				IAML		20 02 33.8	
	comp=N,20nm,1.2s						
BOZ	**Bozeman (W)**	**4.89**	**294**		**Pn**	**20 01 10.6**	**-0.1**
HWUT	**Hardware Ranch**	**5.14**	**247**		**Pn**	**20 01 14.4**	**+0.4**
HWUT				IAML		20 02 44.0	
	comp=N,20nm,0.9s						
HWUT				IAML		20 03 09.7	
	comp=N,16nm,1.8s						
KSCO	**Kaye Shedlock'**	**5.17**	**157**		**Pn**	**20 01 15.6**	**+1.2**
BSUT	**Blindstream Ca**	**5.23**	**233**		**Pn**	**20 01 15.4**	**-0.1**
BSUT				IAML		20 03 04.7	
	comp=N,11nm,3.4s						
EGMT	**Eagleton**	**5.27**	**325**		**Pn**	**20 01 13.0**	**-2.7**
TCUT	**Toone Canyon**	**5.28**	**242**		**Pn**	**20 01 15.9**	**-0.2**
HRY	**Holter Researc**	**5.49**	**304**		**Pn**	**20 01 18.3**	**-0.4**
LRM	**Limekiln Ridge**	**5.51**	**294**		**Pn**	**20 01 19.7**	**+0.4**
MCMT	**McKenzie Canyo**	**5.55**	**283**		**Pn**	**20 01 18.9**	**-0.8**
P18A	**Preston Nutter**	**5.59**	**224**		**Pn**	**20 01 19.6**	**-0.7**
PV22	**Blue Mesa, Par**	**5.89**	**208**		**Pn**	**20 01 22.7**	**-1.7**
PV23	**Carpenter Ridg**	**6.04**	**209**		**Pn**	**20 01 25.9**	**-0.6**
PV20	**West Nyswonger**	**6.12**	**209**		**Pn**	**20 01 28.2**	**+0.6**
SRU	**San Rafael Swe**	**6.13**	**222**		**Pn**	**20 01 27.4**	**-0.2**
PV11	**David Mesa, Pa**	**6.13**	**208**		**Pn**	**20 01 27.4**	**-0.2**
PV16	**Nyswonger Mesa**	**6.13**	**208**		**Pn**	**20 01 26.1**	**-1.6**
PV03	**Paradox Valley**	**6.16**	**207**		**Pn**	**20 01 26.5**	**-1.6**
PV02	**Paradox Valley**	**6.17**	**206**		**Pn**	**20 01 25.9**	**-2.3**
CBKS	**Cedar Bluff**	**6.47**	**138**		**Pn**	**20 01 32.6**	**+0.3**
ELK	**Elko**	**8.01**	**251**	Pn	**Pn**	**20 01 54.3**	**+0.8**
	comp=N,0.1nm,0.3s,baz=62,slow=12,SNR=1.9						
	comp=N,0.4nm,0.3s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**20 02 08.5**	**+0.4**
	comp=N,2.6nm,0.3s,baz=226,slow=11,SNR=9.1						
ULM				Lg	Lg	20 04 41.6	
	comp=N,0.7nm,0.3s,baz=204,slow=20,SNR=3.3						
	comp=N,4.4nm,0.3s						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**20 12 55.3**	**+0.5**
	comp=N,0.3nm,0.7s,baz=2.0,slow=3.9,SNR=3.5						
	comp=N,0.3nm,0.7s						

IDC 29 20:04:06.8±9.4, 2°.56S×139°.22E, h0km, mb3.1/2, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=388.4km s-min=32.8km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.48**	**88**	LR	LR	20 05 17.6	
	comp=Z,93nm,21.5s,baz=348,slow=48						
WRA	**Warramunga Arr**	**17.93**	**195**	P	P	20 08 19.4	+1.0
	0.1nm,0.3s,baz=13,slow=13,SNR=6.2						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**21.61**	**193**	P	P	20 08 57.6	-1.1
	0.1nm,0.3s,baz=23,slow=10,SNR=1.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**69.98**	**322**	P	P	20 15 20.3	0.0
	0.4nm,0.8s,baz=113,slow=6.7,SNR=3.8						
	0.4nm,0.8s						

*KOLA **29** 20:06:00.1, 67°.67N×33°.71E, h0km, ML1.8, Error ellipse: s-maj=6.5km s-min=2.6km az=100.0, Khibiny, mines Kirovsk, Yukspor*
HEL 29 20:05:59.8±0.1, 67°.63N×33°.75E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**247**	P	Pg	20 06 02.5	0.0
APA0	**Apatity Array**	**0.29**	**267**	P	Pg	20 06 05.0	-0.3
LVZ	**Lovozero**	**0.44**	**51**	P	Pg	20 06 07.3	-0.9
LVZ				S	Sg	20 06 13.6	-0.3
LVZ	**Lovozero**	**0.44**	**51**	PG	Pg	20 06 07.8	-0.4
LVZ				SG	Sg	20 06 13.4	-0.5
KVDA	**Kovda**	**1.00**	**200**	P	Pg	20 06 18.4	-0.4
KVDA				S	Sg	20 06 32.3	+0.6
VRF	**Varrio**	**1.58**	**276**	PG	Pn	20 06 28.6	-0.5
VRF				MSG		20 06 47.2	
	comp=Z,4.5nm,0.2s						
VRF				SG	Sn	20 06 48.4	-1.9
TERR	**Teriberka**	**1.66**	**17**	P	Pn	20 06 28.9	-1.2
TERR				S	Sn	20 06 49.7	-2.4
OLKF	**Oulanka, Finla**	**2.15**	**235**	PG	Pb	20 06 38.3	-1.3
OLKF				MSG		20 07 03.5	
	comp=Z,2.1nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.21**	**295**	PB	Pn	20 06 38.0	+0.3
RAJF				SN	Sn	20 07 04.6	-1.2
KU6	**Riekki**	**2.21**	**225**	PG	Pb	20 06 39.5	-1.2
KU6				MSG		20 07 05.4	
	comp=Z,1.5nm,0.2s						
MSF	**Maaselka**	**2.54**	**230**	PG	Pb	20 06 44.6	-1.6
	baz=48						
KU1	**Kurvinen**	**2.66**	**221**	PG	Pb	20 06 47.5	-0.7
KU2	**Taivalkoski**	**2.92**	**231**	PG	Pb	20 06 50.8	-1.8
	baz=42						
KU2				SN	Sn	20 07 21.7	-1.5
VADS	**Vadso**	**2.97**	**330**	P	Pn	20 06 47.5	-0.6
VADS				S	Sn	20 07 21.9	-2.4
RNF	**Rovaniemi**	**3.19**	**255**	PN	Pn	20 06 51.2	+0.1
RANF	**Ranua**	**3.19**	**243**	PB	Pb	20 06 55.6	-1.7
	baz=57						
KEV	**Kevo**	**3.26**	**314**	PN	Pn	20 06 52.3	+0.2
KEV				SN	Sn	20 07 30.1	-1.4
ARA0	**ARCESS Array S**	**3.58**	**306**	PN	Pn	20 06 55.8	-0.7
	baz=120						
ARA0				SN	Sn	20 07 37.9	-1.5
ARCES	**ARCESS Array B**	**3.58**	**306**	P	Pn	20 06 55.6	-0.8
ARCES				S	Sn	20 07 37.2	-2.3
RMF	**Romuvaara**	**3.76**	**206**	PN	Pn	20 06 59.5	+0.5
HEF	**Hetta**	**3.87**	**286**	SG	Sb	20 07 56.7	+0.4
PAJU	**Pajala**	**4.16**	**267**	SN	Sn	20 07 53.0	-0.8
LANU	**Lannavaara**	**4.47**	**281**	PG	Pb	20 07 19.0	-0.1
LANU				SN	Sn	20 07 59.9	-1.5
ERTU	**Ertsjaerv**	**4.64**	**262**	SN	Sn	20 08 05.5	-0.1

WEL 29 20:07:53.3±0.8, 31°.S±17°.×18°.0W±4°.7, h438km±19km, M3.8/11, mB4.2/11, ML4.7/10, MLv4.5/9, Mw(mB)3.3/11, Error ellipse: s-maj=64.6km s-min=8.0km az=109.1, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.40**	**194**	P	P	20 09 32.0	+0.9
MXZ				S	S	20 10 50.5	-0.8
HAZ	**Te Kaha**	**6.70**	**197**	P	P	20 09 34.7	+0.3
HAZ				S	S	20 10 58.8	+1.7
PKGZ	**Pakihiroa**	**6.74**	**195**	P	P	20 09 35.5	+0.6
PKGZ				S	S	20 10 57.9	-0.1
RUGZ	**Raukumara Rang**	**6.92**	**197**	P	P	20 09 36.1	-0.9
RUGZ				S	S	20 11 02.5	+0.7
TWGZ	**Tauwhareparae**	**7.06**	**194**	P	P	20 09 40.0	+1.6
TWGZ				S	S	20 11 05.2	+0.9
MWZ	**Matawai**	**7.31**	**197**	P	P	20 09 41.7	+0.6
MWZ				S	S	20 11 08.6	-0.7
URZ	**Urewera**	**7.35**	**199**	P	P	20 09 41.9	+0.5
URZ				S	S	20 11 11.0	+1.0
RIGZ	**Rimuhau**	**7.61**	**195**	P	P	20 09 45.9	+1.6
RIGZ				S	S	20 11 15.6	+0.3
MUGZ	**Murupara**	**7.65**	**201**	P	P	20 09 45.1	+0.4
RTZ	**Ruatahuna**	**7.72**	**199**	P	P	20 09 45.0	-0.5
RTZ				S	S	20 11 18.6	+1.1
SNGZ	**Shannon Statio**	**7.78**	**197**	P	P	20 09 47.1	+0.9
SNGZ				S	S	20 11 18.7	0.0
RAHZ	**Arahi**	**7.97**	**198**	P	P	20 09 47.6	-0.7
MTHZ	**Maungataniwha**	**7.98**	**199**	P	P	20 09 48.9	+0.6
MTHZ				S	S	20 11 21.1	-1.6
NMHZ	**Naumai**	**8.22**	**199**	P	P	20 09 51.9	+1.0
ARHZ	**Aropaoanui**	**8.32**	**198**	P	P	20 09 52.9	+0.9
OTVZ	**Oturere**	**8.64**	**204**	P	P	20 09 55.7	+0.2
SNVZ	**South Ngauruho**	**8.67**	**204**	P	P	20 09 55.7	-0.2
WNVZ	**Wahianoa**	**8.81**	**204**	P	P	20 09 56.9	-0.5
KRHZ	**Kereru**	**8.85**	**200**	P	P	20 09 57.7	0.0
KRHZ				S	S	20 11 42.2	+2.1
KAHZ	**Kahuranaki**	**8.86**	**197**	P	P	20 09 58.0	+0.2
PXZ	**Pawanui**	**9.08**	**197**	P	P	20 09 60.0	-0.2
PXZ				S	S	20 11 46.0	+1.3
PNHZ	**Pukenui**	**9.15**	**200**	P	P	20 09 59.4	-1.6
PNHZ				S	S	20 11 47.6	+1.4
TSZ	**Takapari Road**	**9.35**	**200**	P	P	20 10 01.8	-1.5
TSZ				S	S	20 11 51.8	+1.5
PRHZ	**Porangahau**	**9.36**	**197**	P	P	20 10 03.7	+0.5
PRHZ				S	S	20 11 46.0	-4.4
BFZ	**Birch Farm**	**9.85**	**198**	P	P	20 10 09.3	+0.6
BFZ				S	S	20 12 00.3	0.0
MRZ	**Mangatainoka R**	**10.02**	**201**	P	P	20 10 09.3	-1.2
MRZ				S	S	20 12 06.2	+2.6
HOWZ	**Holdsworth Sta**	**10.26**	**200**	P	P	20 10 12.1	-1.0
HOWZ				S	S	20 12 08.7	+0.3
OGWZ	**Otaki Gorge**	**10.29**	**202**	P	P	20 10 12.6	-0.8
PLWZ	**Palliser**	**10.95**	**200**	P	P	20 10 21.0	+0.2
THZ	**Tophouse**	**11.93**	**207**	P	P	20 10 32.0	+0.5
KHZ	**Kahutara**	**12.27**	**204**	P	P	20 10 35.3	+0.3
GVZ	**Greta Valley S**	**12.93**	**204**	P	P	20 10 43.8	+1.6

*BJI **29** 20:16:18.5, 55°.72N×164°.47E, h8km, mB5.0/23, mb4.6/54, Ms5.2/53, Ms7 4.9/51*
*IDC **29** 20:16:19.6±0.5, 56°.16N×164°.59E, h0km, mb4.3/32, mbtmp4.4/37, ML4.7/4, MS4.4/77, Error ellipse: s-maj=12.6km s-min=10.1km az=163.0*
*KRSC **29** 20:16:19.9±0.9, 56°.09N×164°.80E, h52km±16km, Mc5.8, Ml5.1, Felt [II] at Nikolskoe.*
*NEIC **29** 20:16:20.6, 56°.08N×164°.85E, h18km, Moment Tensor Solution. Duration: 1§

BZWR	Bezymyannyi-We	2.42	268	eP		Pn	20 17 00.9 +0.6
BZMR	Bezymyannaya	2.43	268	PN		Pn	20 17 00.7 +0.4
BZMR	Bezymyannaya	2.43	268	eP		Pn	20 17 00.8 +0.4
KIRR	Kirishev	2.51	268	PN		Pn	20 17 02.1 +0.7
KIRR	Kirishev	2.51	268	eP		Pn	20 17 02.2 +0.7
KPT	Kopyto	2.57	269	PN		Pn	20 17 02.9 +0.7
KPT	Kopyto	2.57	269	eP		Pn	20 17 03.0 +0.7
KMNR	Kamenistaya	2.59	264	PN		Pn	20 17 03.2 +0.7
KMNR	Kamenistaya	2.59	264	eP		Pn	20 17 03.3 +0.7
TUMD	Tumrok D	2.65	252	PN		Pn	20 17 03.3 0.0
TUMD	Tumrok D	2.65	252	eP		Pn	20 17 03.4 0.0
KZV	Kizimen	2.75	251	PN		Pn	20 17 04.9 +0.2
KZV	Kizimen	2.75	251	eP		Pn	20 17 04.9 +0.2
KOZ	Kozyrevsk	2.76	271	PN		Pn	20 17 05.9 +1.1
KOZ	Kozyrevsk	2.76	271	eP		Pn	20 17 06.0 +1.1
SRDR	Sredinnyy	2.85	276	PN		Pn	20 17 06.3 +0.3
SRDR	Sredinnyy	2.85	276	eP		Pn	20 17 06.4 +0.3
OSSR	Ossora	3.29	344	PN		Pn	20 17 11.0 -1.0
OSSR	Ossora	3.29	344	eP		Pn	20 17 11.0 -1.0
ESO	Esso	3.43	270	PN		Pn	20 17 14.4 +0.4
ESO	Esso	3.43	270	eP		Pn	20 17 14.4 +0.4
KII	Karymskiy	3.71	238	PN		Pn	20 17 19.3 +1.5
KII	Karymskiy	3.71	238	eP		Pn	20 17 19.4 +1.5
PALN	Palana	3.96	321	PN		Pn	20 17 20.2 -1.0
PALN	Palana	3.96	321	eP		Pn	20 17 20.2 -1.0
SPN	Mys Shipunski	4.10	225	PN		Pn	20 17 21.7 -1.4
SPN	Mys Shipunski	4.10	225	eP		Pn	20 17 21.8 -1.4
NLC	Nalytchevo	4.32	229	PN		Pn	20 17 26.5 +0.3
NLC	Nalytchevo	4.32	229	eP		Pn	20 17 26.5 +0.3
TILK	Tilichiki	4.41	9	PN		Pn	20 17 28.2 +0.9
TILK	Tilichiki	4.41	9	eP		Pn	20 17 28.3 +0.9
SDLR	Sedlovina	4.45	233	PN		Pn	20 17 28.6 +0.5
SDLR	Sedlovina	4.45	233	eP		Pn	20 17 28.6 +0.5
KRER	Koryakskii	4.50	234	PN		Pn	20 17 29.4 +0.6
KRER	Koryakskii	4.50	234	eP		Pn	20 17 29.4 +0.6
SMAR	Somma	4.50	233	PN		Pn	20 17 29.3 +0.5
SMAR	Somma	4.50	233	eP		Pn	20 17 29.4 +0.5
KRX	Arik	4.50	235	PN		Pn	20 17 29.4 +0.6
KRX	Arik	4.50	235	eP		Pn	20 17 29.4 +0.6
UGLR	Uglovaya	4.53	233	PN		Pn	20 17 29.5 +0.4
UGLR	Uglovaya	4.53	233	eP		Pn	20 17 29.5 +0.4
AVH	Avacha	4.53	234	PN		Pn	20 17 29.6 +0.6
AVH	Avacha	4.53	234	eP		Pn	20 17 29.7 +0.6
KOK	Koryaka	4.55	234	PN		Pn	20 17 30.1 +0.6
KOK	Koryaka	4.55	234	eP		Pn	20 17 30.1 +0.6
GNL	Ganaly	4.64	241	PN		Pn	20 17 31.7 +1.1
GNL	Ganaly	4.64	241	eP		Pn	20 17 31.8 +1.1
DALK	Dalny	4.68	231	PN		Pn	20 17 30.9 -0.1
DALK	Dalny	4.68	231	eP		Pn	20 17 31.0 -0.1
INSR	Institute	4.72	232	eS		Sn	20 18 24.9 -1.0
PET	Petropavlovsk	4.73	232			Pn	20 17 31.2 -0.5
PET	Petropavlovsk	4.73	232	PN		Pn	20 17 31.6 -0.1
PET	Petropavlovsk	4.73	232	eP		Pn	20 17 31.7 -0.1
PET				eS		Sn	20 18 24.4 -1.6
PET	Petropavlovsk	4.73	232	P		Pn	20 17 30.6 -1.1
KRMR	Karymshinskiy	5.09	233	PN		Pn	20 17 37.4 +0.7
KRMR	Karymshinskiy	5.09	233	eP		Pn	20 17 37.4 +0.7
PEA0B	Petropavlovsk-	5.11	237	Pn		Pn	20 17 37.6 +0.7
PEA0B	Petropavlovsk-	5.11	237	cePN		Pn	20 17 38.0 +1.0
PETK	Petropavlovsk-	5.11	237	Pn		Pn	20 17 37.0 0.0
	27nm,0.7s,baz=66,slow=18,SNR=66						
PETK				Sn		Sn	20 18 36.5 +1.0
	8.8nm,0.3s,baz=346,slow=11,SNR=3.8						
PETK				LR		LR	20 19 58.7
	comp=Z,6µm,19.4s,baz=54,slow=44						
PETK	Petropavlovsk-	5.11	237	PN		Pn	20 17 37.0 0.0
RUS	Russkaya	5.21	228	PN		Pn	20 17 38.5 +0.2
RUS	Russkaya	5.21	228	eP		Pn	20 17 38.6 +0.2
GRL	Gorelyy	5.31	231	PN		Pn	20 17 41.1 +1.3
GRL	Gorelyy	5.31	231	eP		Pn	20 17 41.2 +1.3
MTVR	Mutnovka	5.31	230	PN		Pn	20 17 40.1 +0.2
MTVR	Mutnovka	5.31	230	eP		Pn	20 17 40.2 +0.2
APC	Apacha	5.47	238	PN		Pn	20 17 44.4 +2.4
APC	Apacha	5.47	238	eP		Pn	20 17 44.5 +2.4
ASAK	Asacha	5.50	230	PN		Pn	20 17 43.9 +1.4
ASAK	Asacha	5.50	230	eP		Pn	20 17 43.9 +1.4
KDTR	Khodutka, Kamc	5.86	225	PN		Pn	20 17 46.9 -0.3
KDTR	Khodutka, Kamc	5.86	225	eP		Pn	20 17 47.0 -0.3
MIPR	Malaya Ipel'ka	6.08	234	PN		Pn	20 17 52.0 +1.6
MIPR	Malaya Ipel'ka	6.08	234	eP		Pn	20 17 52.0 +1.6
SHEM	Shemya Is, Ala	6.39	118	Pn		Pn	20 17 54.9 +0.3
SHEM	Shemya Is, Ala	6.39	118	Pn		Pn	20 17 54.5 -0.1
	61nm,0.3s,baz=7.3,slow=2.0,SNR=25						
SHEM				Sn		Sn	20 19 05.1 -2.0
	14nm,0.3s,baz=133,slow=23,SNR=5.7						
SHEM				LR		LR	20 19 40.2
	comp=Z,2µm,18.9s,baz=296,slow=31						
	132nm,0.4s						
SMY	Shemya	6.39	118			Pn	20 17 54.5 -0.1
SMY	Shemya	6.39	118	P		Pn	20 17 56.1 +1.5
SMY	Shemya	6.39	118	PN		Pn	20 17 56.4 +1.8
KMSK	Kamenskaya	6.42	6	PN		Pn	20 17 55.6 +0.7
KMSK	Kamenskaya	6.42	6	eP		Pn	20 17 55.6 +0.7
SKR	Severo-Kuril's	7.51	227	ePN		Pn	20 18 09.7 -0.2
SKR				pmax		pmax	
	comp=Z,83nm,0.7s						
SKR				MLR		MLR	
	comp=Z,2µm,14.0s						
SKR	Severo-Kuril's	7.51	227	eP		Pn	20 18 10.2 +0.2
MA2	Magadan	8.25	301			Pn	20 18 19.5 -0.6
MA2	Magadan	8.25	301	Pn		Pn	20 18 19.3 -0.8
	comp=Z,0.8nm,0.3s,baz=202,slow=22,SNR=1.6						
	comp=Z,2.7nm,0.3s						
MA2	Magadan	8.25	301	PN		Pn	20 18 19.5 -0.6
SEY	Seymchan	9.30	322	Pn		Pn	20 18 33.0 -1.4
	comp=Z,0.3nm,0.3s,baz=108,slow=14,SNR=5.9						
SEY				LR		LR	20 22 18.1
	comp=Z,4µm,19.1s,baz=127,slow=39						
SEY	Seymchan	9.30	322	ePN		Pn	20 18 38.8 +4.4
SEY				pmax		pmax	
	comp=Z,6.0nm,0.8s						
AMKA	Amchitka	9.80	113			Pn	20 18 41.3 0.0
KIWB	Kanaga Island	11.44	104			Pn	20 19 02.6 -1.1
ADK	Adak	11.68	103			Pn	20 19 05.9 -1.1
ADK	Adak	11.68	103	P		Pn	20 19 06.6 -0.4
ADK	Adak	11.68	103	PN		Pn	20 19 06.2 -0.8
GSTR	Great Sitkin T	11.92	102			Pn	20 19 09.3 -1.0
BILL	Bilibino	12.00	3			Pn	20 19 11.4 +0.1
BILL	Bilibino	12.00	3	ePN		Pn	20 19 13.8 +2.5
BILL				MLR		MLR	
	comp=Z,4µm,16.0s						
ATKA	Atka Island	12.90	99			Pn	20 19 22.1 -1.6
SPIA	Saint Paul Isl	13.75	75	Pn		Pn	20 19 35.9 +0.7
SPIA	Saint Paul Isl	13.75	75	P		Pn	20 19 34.9 -0.3
	baz=276						
GAMB	Gambell	13.98	47	P		Pn	20 19 37.7 -0.7
	baz=248						
TYV	Tymovskoe	14.16	258	eP		Pn	20 19 41.4 +0.5
TYV				eS		Sn	20 22 16.8 -0.7
TYV				pmax		pmax	
	comp=Z,15nm,1.4s						
TYV				pmax		pmax	
	comp=Z,200nm,3.3s						
TYV				smax		smax	
	comp=N,12nm,1.3s						
TYV				smax		smax	
	comp=E,17nm,1.3s						
TYV				smax		smax	
	comp=N,200nm,2.8s						
TYV				smax		smax	
	comp=E,300nm,2.8s						
P08K	Saint George I	14.20	77	Pn		Pn	20 19 42.1 +0.7
P08K	Saint George I	14.20	77	P		Pn	20 19 40.7 -0.8
	baz=279						
NKL	Nikolayevsk	14.26	268	eP		Pn	20 19 43.9 +1.7
NKL				pmax		pmax	
	comp=E,36nm,0.1s						
NKL				pmax		pmax	
	comp=N,83nm,1.3s						
NKL				pmax		pmax	
	comp=Z,85nm,1.3s						
NKL				MLR		MLR	
	comp=E,23µm,23.0s						
NKL				MLR		MLR	
	comp=N,9µm,17.0s						
NKL				MLR		MLR	
	comp=Z,12µm,22.0s						
UGL	Uglegorsk	15.46	252	eP		Pn	20 19 59.4 +1.1
UGL				S		Sn	20 22 48.6 -0.3
UGL				smax		smax	
	comp=E,1µm,4.3s						
UGL				smax		smax	
	comp=N,900nm,6.2s						
UGL				MLR		MLR	
	comp=Z,3µm,18.0s						
UGL				MLR		MLR	
	comp=E,3µm,16.0s						
NIKH	Nikolski High	15.57	91			Pn	20 19 59.6 -0.1
NIKH	Nikolski High	15.57	91	P		Pn	20 20 00.9 +1.1
NIKH	Nikolski High	15.57	91	P		Pn	20 19 58.6 -1.2
	baz=292						
M11K	Mekoryuk	15.78	62	P		Pn	20 20 01.2 -1.2
	baz=267						
TNA	Tin City	16.18	43			Pn	20 20 08.8 +1.3
TNA	Tin City	16.18	43	P		Pn	20 20 06.9 -0.6
	baz=247						
YSS	Yuzhno-Sakhali	16.43	245			Pn	20 20 10.2 -0.6
YSS	Yuzhno-Sakhali	16.43	245	eP		Pn	20 20 11.2 +0.4
YSS				eS		Sn	20 23 11.7 -0.9
YSS				pmax		pmax	
	comp=Z,40nm,0.8s						
YSS				pmax		pmax	
	comp=Z,300nm,5.7s						
YSS				MLR		MLR	
	comp=Z,2µm,16.0s						
YSS				MLR		MLR	
	comp=N,3µm,17.0s						
YSS				MLR		MLR	
	comp=E,2µm,16.0s						
UNV	Unalaska Valle	16.57	86			Pn	20 20 12.6 -0.1
UNV				IAmb		IAmb	20 20 22.2
	comp=Z,115nm,1.2s						
UNV	Unalaska Valle	16.57	86	P		Pn	20 20 12.8 +0.1
	baz=290						
K13K	Kusilvak Mount	16.66	57	P		P	20 20 15.9 -0.1
K13K				IAmb		IAmb	20 20 18.4
	comp=Z,182nm,1.9s						
K13K	Kusilvak Mount	16.66	57	P		Pn	20 20 14.0 +0.3
	baz=264						
LVA	Lava Point	16.73	84	Pn		Pn	20 20 14.4 -0.3
LVA				IAmb		IAmb	20 20 20.8
	comp=Z,175nm,1.2s						
F14K	Arctic Creek	16.76	44	P		Pn	20 20 15.0 +0.1
	baz=250						
ANM	Nome	16.86	48	P		Pn	20 20 16.7 +0.4
ANM	Nome	16.86	48	P		Pn	20 20 16.7 +0.4
ANM				pmax		pmax	
	comp=Z,114nm,1.4s						
ANM	Nome	16.86	48	P		Pn	20 20 16.3 0.0
	baz=254						
AKUT	Akutan	16.89	84	P		Pn	20 20 17.2 +0.6
AKUT	Akutan	16.89	84	P		P	20 20 18.2 -0.3
M13K	Dall Lake	17.20	62	P		Pn	20 20 20.9 +0.5
M13K				IAmb		IAmb	20 20 26.3
	comp=Z,273nm,1.7s						
M13K	Dall Lake	17.20	62	P		Pn	20 20 20.0 -0.4
	baz=270						
J14K	Nanvaranak Lak	17.27	54	P		Pn	20 20 21.4 0.0
J14K	Nanvaranak Lak	17.27	54	P		Pn	20 20 20.8 -0.5
	baz=262						
F15K	North Star Dit	17.50	44	P		Pn	20 20 23.7 -0.5
F15K	North Star Dit	17.50	44	P		Pn	20 20 23.7 -0.5
	baz=251						
G15K	Niukluk	17.53	47	P		Pn	20 20 24.3 -0.3
	baz=254						
L14K	Kuka Creek	17.55	59			Pn	20 20 25.8 +1.0
L14K	Kuka Creek	17.55	59	P		Pn	20 20 25.0 +0.2
	baz=267,SNR=10						
GRNR	Gornyy	17.66	264	↓iP		Pn	20 20 27.5 +1.3
GRNR				pmax		pmax	
	comp=Z,10.0nm,1.0s						
GRNR				MLR		MLR	
	comp=E,2µm,15.0s						
GRNR				MLR		MLR	
	comp=N,1µm,17.0s						
GRNR				MLR		MLR	
	comp=Z,2µm,15.0s						
M14K	Bethel	17.88	61			Pn	20 20 28.0 -0.9
M14K				IAmb		IAmb	20 20 34.8
	comp=Z,158nm,1.4s						
M14K	Bethel	17.88	61	P		Pn	20 20 29.5 +0.6
	baz=270,SNR=7.8						
FALS	False Pass	17.97	81	P		P	20 20 31.9 +1.4
FALS	False Pass	17.97	81	P		Pn	20 20 30.4 +0.3
	baz=287						
N14K	Kuskokwak Cree	18.04	64			Pn	20 20 30.5 -0.3
N14K				IAmb		IAmb	20 20 35.1
	comp=Z,150nm,1.4s						
N14K	Kuskokwak Cree	18.04	64	P		Pn	20 20 30.7 -0.1
	baz=273						
L15K	Ungalak Mounta	18.14	58	P		Pn	20 20 31.5 -0.5
	baz=268						
K15K	Wolf Creek Mou	18.16	56	P		Pn	20 20 32.0 -0.2
K15K				IAmb		IAmb	20 20 39.5
	comp=Z,344nm,2.0s						
K15K	Wolf Creek Mou	18.16	56	P		Pn	20 20 31.6 -0.7
	baz=266,SNR=9.5						
H16K	Elim	18.19	49	P		Pn	20 20 32.4 -0.3
	baz=258						
C16K	Lisburne Hills	18.25	36	P		Pn	20 20 33.1 -0.3
C16K	Lisburne Hills	18.25	36	P		Pn	20 20 32.7 -0.7
	baz=243						
O14K	Tigyukauivet M	18.29	66			Pn	20 20 33.9 -0.1
O14K				IAmb		IAmb	20 20 39.5
	comp=Z,197nm,1.6s						
O14K	Tigyukauivet M	18.29	66	P		Pn	20 20 34.3 +0.4
	baz=275						
G16K	Koyuk River	18.32	46	P		Pn	20 20 32.1 -2.2
	baz=255						
S12K	Black Hills	18.49	77	P		P	20 20 36.7 +0.5
S12K	Black Hills	18.49	77	P		P	20 20 34.8 -1.4
	baz=285						
M15K	Kasigluk River	18.51	61	P		P	20 20 35.4 -1.0
	baz=271						
JKA	Kamikawa-asahi	18.52	239			P	20 20 35.7 -1.0
JKA				IAmb		IAmb	20 20 39.9
	comp=Z,103nm,0.9s						
ASAJ	Asahikawa	18.52	239	P		P	20 20 35.7 -1.0
	comp=Z,3.8nm,0.3s,baz=60,slow=9.6,SNR=38						
ASAJ				LR		LR	20 27 24.9
	comp=Z,2µm,19.7s,baz=48,slow=36						
	comp=Z,90nm,0.8s						
J16K	Anvik River	18.68	53	P		P	20 20 38.4 +0.1
J16K	Anvik River	18.68	53	P		P	20 20 37.6 -0.7
	baz=264						
I17K	Unalakleet	18.72	51	P		P	20 20 38.9 +0.3
I17K	Unalakleet	18.72	51	P		P	20 20 37.5 -1.2
	baz=262						
D17K	Noatak River	18.79	39	P		P	20 20 38.0 -1.4
	baz=248						
YAK	Yakutsk	18.82	303			P	20 20 36.9 -2.9
YAK	Yakutsk	18.82	303	P		P	20 20 37.6 -2.1
	comp=Z,1.5nm,0.3s,baz=159,slow=1.5,SNR=8.6						
YAK				S		Sn	20 24 07.0 -3.3
	comp=Z,5.9nm,0.4s,baz=152,slow=4.2,SNR=2.8						
YAK				LR		LR	20 27 53.4
	comp=Z,1µm,18.5s,baz=96,slow=37						
	comp=Z,16nm,0.7s						
YAK	Yakutsk	18.82	303	eP		P	20 20 39.7 -0.1
YAK				eS		Sn	20 24 11.0 +0.7
YAK				pmax		pmax	
	comp=Z,15nm,0.9s						
YAK				smax		smax	
	comp=E,84nm,3.0s						
YAK				smax		smax	
	comp=N,173nm,3.2s						
YAK				MLR		MLR	
	comp=Z,2µm,14.0s						
YAK				MLR		MLR	
	comp=N,1µm,12.0s						
YAK				MLR		MLR	
	comp=E,984nm,15.0s						
N15K	Kwethluk River	18.82	63	P		P	20 20 40.0 +0.1
N15K				IAmb		IAmb	20 20 52.8
	comp=Z,107nm,1.2s						
N15K	Kwethluk River	18.82	63	P		P	20 20 38.9 -1.0
	baz=273,SNR=6.3						
RDOG	Red Dog Mine	18.98	38	P		P	20 20 40.6 -1.0
	baz=247						
E17K	Hotham Inlet	19.02	41	P		P	20 20 41.4 -0.6
	baz=251						
G17K	Kiwalik Mounta	19.04	46	P		P	20 20 41.9 -0.3
	baz=257						
O15K	Ungalikthiuk R	19.04	66	P		P	20 20 42.3 +0.1
O15K	Ungalikthiuk R	19.04	66	P		P	20 20 41.8 -0.4
	baz=276						
F17K	Baldwin Pennin	19.04	43	P		P	20 20 43.3 +1.1
F17K	Baldwin Pennin	19.04	43	P		P	20 20 41.9 -0.3
	baz=254						
C17K	DeLong Mountai	19.06	37	P		P	20 20 41.2 -1.2
	baz=246						
L16K	Owhat River	19.10	58			Pn	20 20 44.1 +0.4
L16K				IAmb		IAmb	20 20 53.8
	comp=Z,162nm,1.9s						
L16K	Owhat River	19.10	58	P		P	20 20 42.8 0.0
	baz=269,SNR=6.7						
H17K	Granite Mounta	19.23	48	P		P	20 20 44.5 +0.3
H17K				IAmb		IAmb	20 20 56.8
	comp=Z,124nm,1.4s						
H17K	Granite Mounta	19.23	48	P		P	20 20 43.5 -0.8
	baz=260						
M16K	Timber Creek	19.35	60	P		P	20 20 45.7 +0.1
M16K				IAmb		IAmb	20 20 59.0
	comp=Z,193nm,1.6s						
M16K	Timber Creek	19.35	60	P		P	20 20 45.3 -0.3
	baz=272						
J17K	VABM Dome	19.37	53			P	20 20 45.5 -0.3
J17K				IAmb		IAmb	20 20 58.4
	comp=Z,110nm,1.6s						
J17K	VABM Dome	19.37	53	P		P	20 20 46.0 +0.1
	baz=265						
SDPT	Sand Point	19.45	78	P		P	20 20 47.1 +0.4
SDPT	Sand Point	19.45	78	P		Pn	20 20 49.8 +1.8
SDPT	Sand Point	19.45	78	P		P	20 20 45.8 -1.0
	baz=287						
N16K	Nishlik Lake	19.46	62	P		P	20 20 46.7 -0.3
	baz=273,SNR=8.5						
E18K	Tukpahlearik C	19.58	41			P	20 20 47.2 -0.9
E18K	Tukpahlearik C	19.58	41	P		P	20 20 47.6 -0.5
	baz=252						
L17K	Donlin	19.66	57	P		P	20 20 49.0 0.0
	baz=269						
K17K	Iditarod	19.68	55	P		P	20 20 47.8 -1.4
K17K				IAmb		IAmb	20 21 01.6
	comp=Z,88nm,1.2s						
K17K	Iditarod	19.68	55	P		P	20 20 48.8 -0.4
	baz=267						
S14K	Fog Glacier	19.70	75	P		P	20 20 49.6 0.0
	baz=285,SNR=9.5						
F18K	Selawik	19.70	44	P		P	20 20 49.1 -0.3
	baz=255						
C18K	Utukok River	19.80	37	P		P	20 20 49.7 -0.8
	baz=248						
O16K	Kokwok River B	19.87	65	P		Pn	20 20 52.9 -0.1
O16K				IAmb		IAmb	20 21 05.4
	comp=Z,75nm,1.2s						
O16K	Kokwok River B	19.87	65	P		P	20 20 50.8 -0.5
	baz=276						
JEM	Erimo	19.88	234	P		Pn	20 20 54.1 +1.0
ERM	Erimo	19.88	234	P		P	20 20 49.9 -1.6
ERM	Erimo	19.88	234	P		Pn	20 20 54.3 +1.1
ERM	Erimo	19.88	234	P		P	20 20 49.9 -1.6
ERM				pmax		pmax	
	comp=Z,177nm,1.2s						
B18K	Kokolik River	19.89	35	P		P	20 20 50.8 -0.7
	baz=245						
H18K	Honhosa River	19.91	48	P		P	20 20 52.1 +0.3
H18K				IAmb		IAmb	20 21 07.3
	comp=Z,226nm,1.8s						
H18K	Honhosa River	19.91	48	P		P	20 20 50.8 -0.9
	baz=261,SNR=9.6						
G18K	Tagagawik	19.93	46	P		P	20 20 51.8 -0.1
	baz=258						
P16K	Nushagak River	20.00	66	P		P	20 20 53.2 +0.6
P16K	Nushagak River	20.00	66	P		P	20 20 52.5 -0.1
	baz=278						
M17K	Holitna River	20.07	59	P		P	20 20 54.4 +0.9
M17K	Holitna River	20.07	59	P		P	20 20 53.8 +0.3
	baz=272,SNR=11						
CHNA	Chernabura Isl	20.09	79	P		P	20 20 54.3 +0.6
	baz=288						
N17K	Nushagak Hills	20.24	62	P		P	20 20 56.7 +1.3
N17K	Nushagak Hills	20.24	62	P		P	20 20 55.6 +0.2
	baz=274,SNR=6.2						
O17K	Koliganek Bris	20.36	64	P		P	20 20 56.7 +0.1
	baz=277						
L18K	Granite Mounta	20.41	57	IAmb		IAmb	20 21 09.6
	comp=Z,88nm,1.3s						
L18K	Granite Mounta	20.41	57	P		P	20 20 56.9 -0.3
	baz=270,SNR=9.1						
R16K	Pilot Point	20.46	70	P		P	20 20 58.0 +0.3
	baz=282						
GCSA	Galena City Sc	20.48	49	P		P	20 20 58.1 +0.3
	baz=263,SNR=5.4						
A19K	Wainwright	20.48	33	P		P	20 20 57.8 0.0
	baz=244						
F19K	Shaleruckik Mo	20.48	43	IAmb		IAmb	20 21 10.7
	comp=Z,114nm,1.3s						
F19K	Shaleruckik Mo	20.48	43	P		P	20 20 57.6 -0.3
	baz=257						
Q16K	King Salmon	20.73	67	P		P	20 21 00.2 -0.4
	baz=280						
H19K	Roundabout Mou	20.76	47	P		P	20 21 01.3 +0.4
H19K	Roundabout Mou	20.76	47	P		P	20 21 00.7 -0.2
	baz=262,SNR=7.6						
D19K	Kuna River	20.81	39	IAmb		IAmb	20 21 13.8
	comp=Z,101nm,1.5s						
D19K	Kuna River	20.81	39	P		P	20 21 01.6 +0.1
	baz=252						
E19K	Redstone River	20.84	42	P		P	20 21 00.9 -0.9
	baz=256						
M18K	Stony River	20.84	59	P		P	20 21 01.9 +0.1
	baz=273,SNR=12						
N18K	Kilae Creek	20.87	61	P		P	20 21 02.1 -0.1
	baz=275						
J19K	Poorman	20.95	52	IAmb		IAmb	20 21 18.4
	comp=Z,105nm,1.3s						
J19K	Poorman	20.95	52	P		P	20 21 02.9 -0.1
	baz=266,SNR=7.5						
R17L	Mt. Peulik Vol	21.09	70	P		P	20 21 03.9 -0.7
	baz=283						
Q17K	Contact Creek	21.21	68	P		P	20 21 06.6 +0.7
	baz=281						
L19K	White Mountain	21.28	57	IAmb		IAmb	20 21 19.3
	comp=Z,69nm,1.2s						
L19K	White Mountain	21.28	57	P		P	20 21 06.1 -0.5
	baz=272						
O18K	Koktuh Hills	21.29	63	P		P	20 21 05.4 -1.3
	baz=278						
F20K	Avaraart Lake	21.32	43	P		P	20 21 06.2 -0.7
	baz=259						
P18K	Big Mountain,	21.35	65	P		P	20 21 08.6 +1.2
P18K				IAmb		IAmb	20 21 25.9
	comp=Z,125nm,1.5s						
P18K	Big Mountain,	21.35	65	P		P	20 21 07.1 -0.2
	baz=279						
D20K	Etivluk River	21.40	39	IAmb		IAmb	20 21 23.9
	comp=Z,96nm,1.3s						
D20K	Etivluk River	21.40	39	P		P	20 21 07.6 -0.3
	baz=253						
H20K	Anotleneega Mo	21.41	48	P		P	20 21 07.6 -0.3
	baz=263,SNR=7.2						
E20K	Nigu River	21.43	40	P		P	20 21 08.2 0.0
	baz=255						
ACHA	Angle Creek He	21.51	68	P		P	20 21 09.8 +0.7
ACHA				IAmb		IAmb	20 21 25.4
	comp=Z,158nm,1.5s						
I20K	Naaghedeneel

TIXI	**Tiksi**	**21.66**	**330**		**P**	**P**	**20 21 09.1 -1.4**
TIXI	**Tiksi**	**21.66**	**330**	P	**P**	**P**	**20 21 11.2 +0.7**
	comp=Z,23nm,0.8s,baz=123,slow=8.0,SNR=80						
TIXI				LR	LR	LR	20 30 29.0
	comp=Z,2µm,18.2s,baz=136,slow=39						
	comp=Z,23nm,0.8s						
TIXI	**Tiksi**	**21.66**	**330**	⇓*iP*	**P**	**P**	**20 21 11.7 +1.1**
TIXI				pmax	pmax		
	comp=Z,29nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,2µm,16.0s						
O19K	**Port Alsworth**	**21.69**	**62**	P	**P**	**P**	**20 21 11.1 +0.2**
	baz=277						
L20K	**Farewell, AK**	**21.72**	**56**	P	**P**	**P**	**20 21 11.7 +0.3**
	baz=272						
JTM	**Tenmabayashi**	**21.81**	**235**	P	**P**	**P**	**20 21 10.5 -1.8**
JTM	**Tenmabayashi**	**21.81**	**235**	P	**P**	**P**	**20 21 14.3 +1.9**
IMAR	**Indian Mountai**	**21.93**	**47**	P	**P**	**P**	**20 21 12.0 -1.5**
CHIR	**Chirikof Islan**	**21.95**	**74**	P	**P**	**P**	**20 21 13.7 -0.1**
	baz=287						
G21K	**Allakaket**	**22.09**	**45**	IAmb	IAmb		20 21 27.7
	comp=Z,92nm,1.4s						
G21K	**Allakaket**	**22.09**	**45**	P	**P**	**P**	**20 21 14.2 -1.0**
	baz=262						
M20K	**Styx River**	**22.10**	**58**	IAmb	IAmb		20 21 27.2
	comp=Z,120nm,1.8s						
M20K	**Styx River**	**22.10**	**58**	P	**P**	**P**	**20 21 14.7 -0.8**
	baz=274						
R18K	**Karluk**	**22.11**	**69**	P	**P**	**P**	**20 21 15.2 -0.2**
	baz=284						
C21K	**Knifeblade Rid**	**22.16**	**38**	P	**P**	**P**	**20 21 15.3 -0.6**
	baz=254						
F21K	**Alatna River**	**22.21**	**43**	P	**P**	**P**	**20 21 16.0 -0.5**
	baz=261						
Q19K	**Cape Douglas,**	**22.23**	**65**	P	**P**	**P**	**20 21 16.7 -0.1**
	baz=281						
E21K	**Killik River**	**22.27**	**40**	P	**P**	**P**	**20 21 15.7 -1.5**
	baz=257						
H21K	**Melozitna Rive**	**22.28**	**47**	IAmb	IAmb		20 21 30.4
	comp=Z,60nm,1.4s						
H21K	**Melozitna Rive**	**22.28**	**47**	P	**P**	**P**	**20 21 16.8 -0.5**
	baz=265						
A21K	**Barrow**	**22.29**	**32**	P	**P**	**P**	**20 21 17.2 -0.1**
	baz=247						
ILSW	**Iliamna Southw**	**22.31**	**63**	P	**P**	**P**	**20 21 18.5 +0.8**
P19K	**Oil Pt**	**22.31**	**63**	P	**P**	**P**	**20 21 18.5 +0.8**
P19K	**Oil Pt**	**22.31**	**63**	P	**P**	**P**	**20 21 16.6 -1.1**
	baz=280						
B21K	**Ikpikpuk River**	**22.35**	**37**	P	**P**	**P**	**20 21 17.2 -0.7**
	baz=254						
CHUM	**Lake Minchumin**	**22.41**	**52**	P	**P**	**P**	**20 21 17.7 -1.0**
	baz=270						
PPLA	**Purkeypile**	**22.48**	**55**	P	**P**	**P**	**20 21 20.7 +1.1**
PPLA				IAmb	IAmb	IAmb	20 21 34.1
	comp=Z,133nm,1.5s						
PPLA	**Purkeypile**	**22.48**	**55**	P	**P**	**P**	**20 21 18.0 -1.6**
	baz=272						
SII	**Sitkinak Islan**	**22.51**	**72**	P	**P**	**P**	**20 21 20.7 +0.9**
SII	**Sitkinak Islan**	**22.51**	**72**	P	**P**	**P**	**20 21 18.4 -1.4**
	baz=286						
O20K	**Slope Mountain**	**22.55**	**62**	P	**P**	**P**	**20 21 19.7 -0.6**
	baz=279						
I21K	**Tanana**	**22.59**	**49**	P	**P**	**P**	**20 21 20.2 -0.4**
I21K				IAmb	IAmb	IAmb	20 21 31.8
	comp=Z,58nm,1.4s						
I21K	**Tanana**	**22.59**	**49**	P	**P**	**P**	**20 21 19.3 -1.3**
	baz=267						
N20K	**Mount Spurr**	**22.60**	**59**	P	**P**	**P**	**20 21 20.2 -0.6**
	baz=276						
SPCR	**Spurr Chakacha**	**22.60**	**59**	P	**P**	**P**	**20 21 20.2 -0.6**
	baz=276						
A22K	**Sinclair Lake**	**22.67**	**33**	P	**P**	**P**	**20 21 20.7 -0.7**
	baz=250						
SPU	**Mount Spurr**	**22.68**	**59**	P	**P**	**P**	**20 21 21.8 +0.2**
STLK	**Strandline Lak**	**22.75**	**58**	P	**P**	**P**	**20 21 22.7 +0.3**
STLK				IAmb	IAmb	IAmb	20 21 35.6
	comp=Z,89nm,1.5s						
F22K	**John River**	**22.75**	**43**	P	**P**	**P**	**20 21 21.3 -1.0**
	baz=261						
OHAK	**Old Harbor**	**22.80**	**70**	P	**P**	**P**	**20 21 23.0 +0.2**
OHAK	**Old Harbor**	**22.80**	**70**	P	**P**	**P**	**20 21 21.8 -1.1**
	baz=285						
D22K	**Ayikyak River**	**22.83**	**39**	P	**P**	**P**	**20 21 22.2 -0.8**
	baz=258						
SKT	**Skwentna**	**22.85**	**57**	P	**P**	**P**	**20 21 23.3 0.0**
SKT				IAmb	IAmb	IAmb	20 21 41.3
	comp=Z,149nm,1.8s						
SKT	**Skwentna**	**22.85**	**57**	P	**P**	**P**	**20 21 22.2 -1.1**
	baz=275						
H22K	**Ishtalitna Cre**	**22.89**	**47**	P	**P**	**P**	**20 21 22.9 -0.8**
	baz=266						
G22K	**Bettles**	**22.93**	**44**	P	**P**	**P**	**20 21 22.4 -1.7**
	baz=263						
Q20K	**Shuyak Island**	**22.93**	**66**	P	**P**	**P**	**20 21 23.7 -0.6**
	baz=282						
HEH	**HeiHe**	**22.95**	**271**	*e*P	**P**	**P**	**20 21 21.0 -3.4**
HEH				sP	**pP**	**P**	**20 21 27.8 -0.3**
HEH				S	**S**	**P**	**20 25 31.5 -2.1**
HEH				pmax	pmax		
	comp=Z,14nm,0.9s						
HEH				LR	LR		
	comp=Z,3µm,16.1s						
HEH				LR	LR		
	comp=Z,2µm,15.8s						
HEH				LR	LR		
	comp=Z,3µm,14.3s						
B22K	**Teshekpuk Lake**	**22.95**	**35**	P	**P**	**P**	**20 21 22.9 -1.3**
	baz=253						
E22K	**Anaktuvuk Pass**	**23.00**	**41**	IAmb	IAmb		20 21 49.5
	comp=Z,117nm,1.8s						
E22K	**Anaktuvuk Pass**	**23.00**	**41**	P	**P**	**P**	**20 21 23.7 -1.1**
	baz=260						
BPAW	**Bear Paw Mtn.**	**23.00**	**52**	IAmb	IAmb		20 21 43.2
	comp=Z,98nm,1.5s						
BPAW	**Bear Paw Mtn.**	**23.00**	**52**	P	**P**	**P**	**20 21 24.3 -0.6**
	baz=271,SNR=8.5						
KDAK	**Kodiak Island**	**23.03**	**68**	LR	LR		20 30 26.2
	comp=Z,1µm,18.3s,baz=254,slow=37						
KDAK	**Kodiak Island**	**23.03**	**68**	‖*eP*	**P**	**P**	**20 21 29.1 +3.9**
KDAK	**Kodiak Island**	**23.03**	**68**	P	**P**	**P**	**20 21 25.3 +0.1**
	baz=284						
HOM	**Homer**	**23.11**	**63**	P	**P**	**P**	**20 21 26.9 +0.9**
HOM	**Homer**	**23.11**	**63**	P	**P**	**P**	**20 21 25.4 -0.6**
	baz=280						
MLY	**Manley**	**23.11**	**49**	P	**P**	**P**	**20 21 25.7 -0.4**
MLY				IAmb	IAmb	IAmb	20 21 51.0
	comp=Z,138nm,1.8s						
MLY	**Manley**	**23.11**	**49**	P	**P**	**P**	**20 21 25.3 -0.7**
	baz=269,SNR=5.8						
CAPN	**Captain Cook N**	**23.17**	**60**	P	**P**	**P**	**20 21 26.1 -0.5**
	baz=278						
SUA	**Susitna One**	**23.27**	**58**	P	**P**	**P**	**20 21 27.0 -0.8**
SUA	**Susitna One**	**23.27**	**58**	P	**P**	**P**	**20 21 27.3 -0.5**
	baz=277						
TRF	**Thorofare Moun**	**23.32**	**53**	P	**P**	**P**	**20 21 26.9 -1.4**
	baz=273,SNR=7.5						
CUT	**Chulitna**	**23.40**	**56**	P	**P**	**P**	**20 21 29.6 +0.6**
CUT	**Chulitna**	**23.40**	**56**	P	**P**	**P**	**20 21 27.5 -1.4**
	baz=275						
COLD	**Coldfoot**	**23.48**	**44**	P	**P**	**P**	**20 21 27.9 -1.8**
	baz=264						
G23K	**Bananza Creek**	**23.50**	**45**	IAmb	IAmb		20 21 54.4
	comp=Z,62nm,1.4s						
G23K	**Bananza Creek**	**23.50**	**45**	P	**P**	**P**	**20 21 28.5 -1.5**
	baz=265						
M22K	**Willow**	**23.54**	**58**	P	**P**	**P**	**20 21 28.3 -1.9**
	baz=277						
BRSE	**Bradley Lake S**	**23.54**	**63**	P	**P**	**P**	**20 21 29.2 -1.2**
	baz=281						
D23K	**Nanushuk River**	**23.55**	**39**	P	**P**	**P**	**20 21 28.6 -1.8**
	baz=260						
H23K	**Yukon River**	**23.64**	**47**	IAmb	IAmb		20 21 57.8
	comp=Z,41nm,1.0s						
H23K	**Yukon River**	**23.64**	**47**	P	**P**	**P**	**20 21 30.0 -1.2**
	baz=268						
I23K	**Minto, Yukon-K**	**23.70**	**49**	P	**P**	**P**	**20 21 32.8 +1.0**
I23K				IAmb	IAmb	IAmb	20 21 58.5
	comp=Z,63nm,1.1s						
I23K	**Minto, Yukon-K**	**23.70**	**49**	P	**P**	**P**	**20 21 30.6 -1.2**
	baz=270,SNR=9.2						
C23K	**Itkillik River**	**23.75**	**37**	P	**P**	**P**	**20 21 30.7 -1.5**
	baz=258						
E23K	**Chandalar**	**23.80**	**42**	P	**P**	**P**	**20 21 31.1 -1.8**
	baz=263						
RC01	**Rabbit Creek A**	**23.81**	**59**	P	**P**	**P**	**20 21 31.2 -1.7**
	baz=279						
NEA2	**Nenana**	**23.82**	**50**	P	**P**	**P**	**20 21 32.4 -0.6**
NEA2				IAmb	IAmb		20 21 53.7
	comp=Z,53nm,1.4s						
NEA2	**Nenana**	**23.82**	**50**	P	**P**	**P**	**20 21 31.5 -1.5**
	baz=271						
TOLK	**Toolik Lake Re**	**23.90**	**40**	IAmb	IAmb		20 21 45.6
	comp=Z,46nm,0.8s						
TOLK	**Toolik Lake Re**	**23.90**	**40**	P	**P**	**P**	**20 21 32.1 -1.7**
	baz=261,SNR=9.0						
O22K	**Cooper Landing**	**23.91**	**61**	P	**P**	**P**	**20 21 32.5 -1.3**
	baz=280						
MCK	**McKinley**	**23.91**	**52**	IAmb	IAmb		20 21 53.8
	comp=Z,59nm,1.1s						
MCK	**McKinley**	**23.91**	**52**	P	**P**	**P**	**20 21 32.7 -1.2**
	baz=273						
USRK	**Ussuriysk Ar.**	**23.92**	**254**	P	**P**	**P**	**20 21 33.2 -0.8**
	comp=Z,5.0nm,0.7s,baz=44,slow=12,SNR=6.6						
	comp=Z,5.0nm,0.7s						
RND	**Reindeer**	**23.97**	**53**	P	**P**	**P**	**20 21 32.9 -1.6**
RND	**Reindeer**	**23.97**	**53**	P	**P**	**P**	**20 21 32.9 -1.6**
RND				pmax	pmax		
	comp=Z,168nm,1.7s						
PMR	**Palmer**	**24.03**	**58**	P	**P**	**P**	**20 21 34.0 -0.9**
	baz=278						
SEW	**Seward**	**24.11**	**61**	P	**P**	**P**	**20 21 33.7 -2.0**
SEW	**Seward**	**24.11**	**61**	P	**P**	**P**	**20 21 34.5 -1.3**
	baz=281						
WAT1	**Susitna Watana**	**24.15**	**55**	P	**P**	**P**	**20 21 35.1 -1.1**
	baz=276						
E24K	**Your Creek**	**24.22**	**42**	IAmb	IAmb		20 22 01.2
	comp=Z,47nm,1.1s						
E24K	**Your Creek**	**24.22**	**42**	P	**P**	**P**	**20 21 35.6 -1.2**
	baz=264						
D24K	**Happy Valley**	**24.24**	**39**	IAmb	IAmb		20 22 00.4
	comp=Z,52nm,1.2s						
D24K	**Happy Valley**	**24.24**	**39**	P	**P**	**P**	**20 21 36.0 -0.9**
	baz=261						
WRH	**Wood River Hil**	**24.25**	**51**	P	**P**	**P**	**20 21 35.4 -1.6**
WRH				IAmb	IAmb		20 22 03.1
	comp=Z,55nm,0.8s						
JMM	**Marumori**	**24.31**	**231**	P	**P**	**P**	**20 21 41.2 +3.5**
H24K	**Noodor Dome**	**24.32**	**47**	P	**P**	**P**	**20 21 36.0 -1.7**
	baz=269						
COLA	**College**	**24.34**	**50**	‖*eP*	**P**	**P**	**20 21 40.4 +2.6**
COLA				pmax	pmax		
	comp=Z,58nm,1.2s						
COLA	**College**	**24.34**	**50**	P	**P**	**P**	**20 21 37.4 -0.4**
	baz=272						
KNK	**Knik Glacier**	**24.37**	**58**	P	**P**	**P**	**20 21 37.8 -0.4**
	baz=279,SNR=5.6						
SML	**Sawmill**	**24.37**	**57**	IAmb	IAmb		20 22 02.0
	comp=Z,41nm,0.9s						
SML	**Sawmill**	**24.37**	**57**	P	**P**	**P**	**20 21 37.0 -1.2**
	baz=278						
C24K	**Franklin Bluff**	**24.38**	**38**	P	**P**	**P**	**20 21 37.7 -0.5**
C24K	**Franklin Bluff**	**24.38**	**38**	P	**P**	**P**	**20 21 37.5 -0.7**
	baz=260						
F24K	**Squaw Lake**	**24.40**	**43**	IAmb	IAmb		20 22 03.3
	comp=Z,58nm,1.6s						
F24K	**Squaw Lake**	**24.40**	**43**	P	**P**	**P**	**20 21 37.0 -1.4**
	baz=266						
G24K	**Hadweenzic Riv**	**24.51**	**45**	IAmb	IAmb		20 22 05.1
	comp=Z,40nm,0.8s						
G24K	**Hadweenzic Riv**	**24.51**	**45**	P	**P**	**P**	**20 21 37.6 -1.8**
	baz=268						
POKR	**Poker Plat Res**	**24.51**	**49**	IAmb	IAmb		20 21 51.9
	comp=Z,105nm,1.8s						
POKR	**Poker Plat Res**	**24.51**	**49**	P	**P**	**P**	**20 21 38.1 -1.3**
	baz=271						
PWL	**Port Wells**	**24.52**	**59**	P	**P**	**P**	**20 21 38.3 -1.2**
	baz=280						
WAT6	**Susitna Watana**	**24.55**	**55**	P	**P**	**P**	**20 21 38.5 -1.5**
	baz=277						
M23K	**Glacier View**	**24.66**	**57**	P	**P**	**P**	**20 21 40.0 -0.8**
	baz=278,SNR=8.7						
DHY	**Denali Highway**	**24.66**	**54**	IAmb	IAmb		20 22 06.3
	comp=Z,47nm,1.0s						
DHY	**Denali Highway**	**24.66**	**54**	P	**P**	**P**	**20 21 39.8 -1.2**
	baz=276						
HDA	**Harding Lake**	**24.75**	**51**	IAmb	IAmb		20 22 04.8
	comp=Z,34nm,0.9s						
HDA	**Harding Lake**	**24.75**	**51**	P	**P**	**P**	**20 21 40.4 -1.2**
	baz=273						
ILAR	**Eielson Array**	**24.76**	**50**	P	**P**	**P**	**20 21 41.8 +0.2**
ILAR				PcP	**PcP**	**PcP**	**20 25 16.0 -1.6**
ILAR	**Eielson Array**	**24.76**	**50**	P	**P**	**P**	**20 21 42.4 +0.7**
	comp=Z,3.6nm,0.7s,baz=260,slow=8.0,SNR=31						
ILAR				PcP	**PcP**	**PcP**	**20 25 18.5 +0.9**
	comp=Z,0.4nm,0.5s,baz=289,slow=3.7,SNR=1.6						
ILAR				LR	LR	LR	20 32 20.7
	comp=Z,1µm,18.2s,baz=255,slow=39						
	comp=Z,3.6nm,0.7s						
SCM	**Sheep Creek Mo**	**24.84**	**57**	P	**P**	**P**	**20 21 42.4 -0.1**
SCM	**Sheep Creek Mo**	**24.84**	**57**	P	**P**	**P**	**20 21 42.4 -0.1**
SCM				pmax	pmax		
	comp=Z,90nm,0.8s						
SCM	**Sheep Creek Mo**	**24.84**	**57**	P	**P**	**P**	**20 21 42.0 -0.5**
	baz=279,SNR=13						
MDJ	**Mudanjiang**	**24.95**	**258**	P	**P**	**P**	**20 21 40.5 -3.0**
MDJ				PP	**PnPn**	**PnPn**	**20 22 22.5 +6.1**
MDJ				S	**S**	**S**	**20 26 04.5 -1.6**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ				LR	LR		
	comp=Z,1µm,15.6s						
MDJ				LR	LR		
	comp=Z,2µm,16.0s						
MDJ				LR	LR		
	comp=Z,3µm,12.7s						
G25K	**Bearman Lake**	**25.06**	**45**	P	**P**	**P**	**20 21 43.9 -0.4**
	baz=269						
GLI	**Glacier Island**	**25.11**	**59**	P	**P**	**P**	**20 21 44.2 -0.6**
	baz=281						
D25K	**Kavik River**	**25.13**	**39**	IAmb	IAmb		20 21 56.5
	comp=Z,22nm,0.7s						
D25K	**Kavik River**	**25.13**	**39**	P	**P**	**P**	**20 21 45.0 0.0**
	baz=263						
P23K	**Montague Islan**	**25.14**	**61**	P	**P**	**P**	**20 21 44.4 -0.7**
	baz=282						
H25L	**Birch Creek**	**25.17**	**46**	P	**P**	**P**	**20 21 44.7 -0.6**
	baz=270						
F25K	**Christian Rive**	**25.26**	**43**	P	**P**	**P**	**20 21 44.9 -1.3**
	baz=268						
K24K	**Donnelly Dome**	**25.31**	**52**	P	**P**	**P**	**20 21 46.3 -0.3**
	baz=276						
E25K	**Arctic Village**	**25.32**	**42**	P	**P**	**P**	**20 21 46.8 +0.1**
E25K	**Arctic Village**	**25.32**	**42**	P	**P**	**P**	**20 21 46.3 -0.3**
	baz=267,SNR=6.5						
M24K	**Tolsona, Glenn**	**25.34**	**56**	P	**P**	**P**	**20 21 47.0 0.0**
M24K	**Tolsona, Glenn**	**25.34**	**56**	P	**P**	**P**	**20 21 46.6 -0.3**
	baz=279						
J25K	**Salcha River,**	**25.42**	**50**	P	**P**	**P**	**20 21 47.0 -0.7**
	baz=274						
BNX	**BinXian**	**25.45**	**262**	⇓P	**P**	**P**	**20 21 45.0 -3.0**
BNX				S	**S**	**S**	**20 26 13.0 -1.0**
BNX				sS	**pS**	**pS**	**20 26 19.8 +1.5**
BNX				pmax	pmax		
	comp=Z,15nm,1.1s						
BNX				pmax	pmax		
	comp=Z,190nm,6.2s						
BNX				LR	LR		
	comp=Z,1µm,13.6s						
BNX				LR	LR		
	comp=Z,3µm,14.1s						
BNX				LR	LR		
	comp=Z,2µm,12.5s						
PAX	**Paxson**	**25.54**	**54**	P	**P**	**P**	**20 21 48.6 -0.2**
PAX				IAmb	IAmb	IAmb	20 22 15.2
	comp=Z,39nm,1.2s						
PAX	**Paxson**	**25.54**	**54**	P	**P**	**P**	**20 21 48.6 -0.2**
PAX				pmax	pmax		
	comp=Z,39nm,1.2s						
PAX	**Paxson**	**25.54**	**54**	P	**P**	**P**	**20 21 47.9 -0.9**
	baz=278						
KLU	**Klutina**	**25.56**	**57**	IAmb	IAmb		20 22 23.2
	comp=Z,34nm,1.0s						
KLU	**Klutina**	**25.56**	**57**	P	**P**	**P**	**20 21 46.6 -2.4**
	baz=280						
BMAR	**Burnt Mountain**	**25.66**	**44**	P	**P**	**P**	**20 21 49.6 -0.2**
C26K	**Camden Bay**	**25.71**	**38**	P	**P**	**P**	**20 21 48.1 -2.0**
	baz=264						
RIDG	**Independent Ri**	**25.73**	**52**	P	**P**	**P**	**20 21 49.6 -0.8**
RIDG				IAmb	IAmb		20 22 21.0
	comp=Z,29nm,1.0s						
RIDG	**Independent Ri**	**25.73**	**52**	P	**P**	**P**	**20 21 49.7 -0.8**
	baz=276						
HARP	**HAARP**	**25.77**	**55**	P	**P**	**P**	**20 21 49.7 -1.1**
	baz=279						
Q23K	**Middleton Isla**	**25.79**	**62**	P	**P**	**P**	**20 21 50.1 -0.9**
	baz=284						
EYAK	**Cordova Ski Ar**	**25.83**	**60**	P	**P**	**P**	**20 21 50.1 -1.2**
	baz=282						
F26K	**Sheenjek River**	**25.84**	**43**	P	**P**	**P**	**20 21 50.5 -0.9**
	baz=269						
G26K	**Porcupine Rive**	**25.97**	**45**	P	**P**	**P**	**20 21 51.3 -1.3**
	baz=271						
SCRK	**Sand Creek**	**26.08**	**51**	IAmb	IAmb		20 22 16.4
	comp=Z,30nm,0.9s						
SCRK	**Sand Creek**	**26.08**	**51**	P	**P**	**P**	**20 21 51.9 -1.8**
	baz=277,SNR=6.7						
DOT	**Dot Lake**	**26.08**	**52**	P	**P**	**P**	**20 21 52.9 -0.7**
DOT				IAmb	IAmb	IAmb	20 22 06.6
	comp=Z,88nm,1.8s						
C27K	**Jago River**	**26.10**	**39**	P	**P**	**P**	**20 21 52.4 -1.3**
	baz=265						
N25K	**Chitina, Valde**	**26.16**	**57**	P	**P**	**P**	**20 21 54.2 -0.3**
N25K				IAmb	IAmb	IAmb	20 22 17.7
	comp=Z,21nm,0.8s						
N25K	**Chitina, Valde**	**26.16**	**57**	P	**P**	**P**	**20 21 53.3 -1.1**
	baz=281						
J26L	**Joseph Creek**	**26.20**	**50**	P	**P**	**P**	**20 21 53.5 -1.3**
	baz=276						
BMRM	**Bremner River**	**26.29**	**58**	P	**P**	**P**	**20 21 55.4 -0.2**
	baz=282,SNR=6.2						
L26K	**Log Cabin Wild**	**26.49**	**54**	P	**P**	**P**	**20 21 56.8 -0.5**
	baz=279						
MJB9	**Matsu-Tunnel**	**26.55**	**234**	P	**P**	**P**	**20 21 56.8 -1.3**
MJB9				IAmb	IAmb	IAmb	20 22 11.2
	comp=Z,51nm,1.0s						
MAJO	**Matsushiro**	**26.56**	**234**	P	**P**	**P**	**20 21 56.9 -1.2**
MAJO	**Matsushiro**	**26.56**	**234**	P	**P**	**P**	**20 21 59.9 +1.8**
MAJO	**Matsushiro**	**26.56**	**234**	*c iP*	**P**	**P**	**20 21 59.9 +1.8**
MAJO				pmax	pmax		
	comp=Z,58nm,1.0s						
MJAR	**Matsushiro Arr**	**26.56**	**234**			**P**	**20 21 57.8 -0.4**
MJAR	**Matsushiro Arr**	**26.56**	**234**	P		**P**	**20 21 59.1 +1.0**
	comp=Z,10nm,0.7s,baz=27,slow=8.4,SNR=31						
MJAR				LR	LR	LR	20 33 21.9
	comp=Z,859nm,19.6s,baz=32,slow=39						
	comp=Z,10nm,0.7s						
KAIM	**Kayak Island**	**26.62**	**61**	P	**P**	**P**	**20 21 57.9 -0.6**
	baz=284						
M26K	**Nabesna, AK**	**26.76**	**55**	IAmb	IAmb		20 22 21.8
	comp=Z,34nm,1.2s						
M26K	**Nabesna, AK**	**26.76**	**55**	P	**P**	**P**	**20 21 58.7 -1.1**
	baz=281						
E27K	**Coleen River**	**26.80**	**42**	P	**P**	**P**	**20 21 59.0 -1.1**
	baz=270						
G27K	**Doyon Strip**	**26.82**	**45**	P	**P**	**P**	**20 21 60.0 -0.3**
	baz=273						
H27K	**Steamboat Moun**	**26.90**	**46**	P	**P**	**P**	**20 22 00.9 -0.1**
H27K				IAmb	IAmb	IAmb	20 22 41.1
	comp=Z,42nm,1.2s						
H27K	**Steamboat Moun**	**26.90**	**46**	P	**P**	**P**	**20 22 00.2 -0.9**
	baz=274,SNR=6.1						
K27K	**Chicken**	**26.91**	**51**	IAmb	IAmb		20 22 26.3
	comp=Z,47nm,0.9s						
K27K	**Chicken**	**26.91**	**51**	P	**P**	**P**	**20 22 00.8 -0.2**
	baz=278						
I27K	**Kandik River**	**26.92**	**48**	P	**P**	**P**	**20 22 00.6 -0.6**
	baz=275						
MCARA	**McCarthy VSAT**	**26.95**	**57**	P	**P**	**P**	**20 22 00.5 -1.0**
	baz=283						
CRQM	**Cirque**	**27.03**	**58**	IAmb	IAmb		20 22 17.1
	comp=Z,48nm,0.9s						
D27M	**Malcolm River**	**27.05**	**40**	P	**P**	**P**	**20 22 01.2 -1.2**
	baz=269						
CRQE	**Cirque**	**27.06**	**58**	P	**P**	**P**	**20 22 00.8 -1.8**
	baz=284						
L27K	**Beaver Creek,**	**27.17**	**53**	P	**P**	**P**	**20 22 02.0 -1.5**
	baz=280,SNR=8.2						
BCAR	**Beaver Creek A**	**27.19**	**53**	P	**P**	**P**	**20 22 03.6 0.0**
M27K	**Edge Creek, AK**	**27.28**	**55**	IAmb	IAmb	IAmb	20 22 40.9
	comp=Z,42nm,1.2s						
M27K	**Edge Creek, AK**	**27.28**	**55**	P	**P**	**P**	**20 22 03.3 -1.3**
	baz=282						
F28M	**Old Crow**	**27.47**	**43**	IAmb	IAmb		20 22 30.8
	comp=Z,45nm,1.4s						
F28M	**Old Crow**	**27.47**	**43**	P	**P**	**P**	**20 22 05.1 -1.0**
	baz=273						
E28M	**Babbage River**	**27.56**	**41**	P	**P**	**P**	**20 22 04.9 -2.0**
	baz=271						
HILR	**Hailar Array B**	**27.58**	**275**	P	**P**	**P**	**20 22 06.6 -0.6**
	comp=Z,1.4nm,0.5s,baz=50,slow=12,SNR=2.5						
HILR				LR	LR	LR	20 34 20.3
	comp=Z,1µm,18.0s,baz=85,slow=39						
	comp=Z,1.4nm,0.5s						
I28M	**Miner Creek**	**27.63**	**48**			**P**	**20 22 07.3 -0.3**
I28M				IAmb	IAmb	IAmb	20 22 47.4
	comp=Z,32nm,1.4s						
I28M	**Miner Creek**	**27.63**	**48**	P	**P**	**P**	**20 22 06.4 -1.3**
	baz=277						
JGF	**Kuroka**	**27.72**	**234**	P	**P**	**P**	**20 22 07.2 -1.5**
JGF	**Kuroka**	**27.72**	**234**	P	**P**	**P**	**20 22 11.1 +2.5**
MESA	**MESA**	**27.75**	**59**	P	**P**	**P**	**20 22 07.3 -1.5**
	baz=286						
CN2	**Changchun**	**27.75**	**260**	P	**P**	**P**	**20 22 08.5 -0.3**
CN2				S	**S**	**S**	**20 26 47.3 -3.1**
CN2				sS	pS		20 26 56.3 +1.6
CN2				SS	**SnSn**		**20 28 06.3 +3.5**
CN2				LR	LR		
	comp=Z,2µm,16.0s						
CN2				LR	LR		
	comp=Z,2µm,16.0s						
CN2				LR	LR		
	comp=Z,2µm,14.0s						
CTG	**Chitna Glacier**	**27.84**	**58**	P	**P**	**P**	**20 22 09.0 -0.6**
	baz=284						
D28M	**Stokes Point**	**27.84**	**39**	P	**P**	**P**	**20 22 08.2 -1.1**
	baz=271						
DAWY	**Dawson**	**28.07**	**51**	P	**P**	**P**	**20 22 09.9 -1.6**
	baz=280						
E29M	**Blow River**	**28.17**	**41**	P	**P**	**P**	**20 22 11.0 -1.3**
	baz=273						
H29M	**Whitestone**	**28.18**	**46**	P	**P**	**P**	**20 22 10.8 -1.7**
	baz=277

baz=277
F31M Tsiigehtchic 29.83 43 P **P 20 22 25.6 -1.4**
baz=278
H31M Peel River 29.87 46 P **P 20 22 25.1 -2.3**
baz=281
P29M Windy Craggy 29.94 59 P **P 20 22 25.9 -2.2**
baz=289
P30M Million Dollar 30.15 58 P **P 20 22 27.3 -2.7**
baz=289
N31M Braeburn, Yuko 30.29 55 P **P 20 22 28.9 -2.3**
baz=287
O30N Mendenhall 30.36 56 P **P 20 22 30.0 -1.8**
baz=288
PLBC Pleasant Camp 30.66 59 P **P 20 22 32.7 -1.7**
baz=290
KSRS Korea Array 30.88 249 P **P 20 22 36.2 -0.3**
comp=Z,2.5nm,0.5s,baz=34,slow=9.0,SNR=11
comp=Z,2.5nm,0.5s
WHY Whitehorse 30.96 56 P **P 20 22 35.5 -1.7**
baz=289
SKAG Skagway 31.15 59 P **P 20 22 37.4 -1.4**
baz=291
S31K Pelican 31.26 62 P **P 20 22 37.6 -2.1**
baz=292
N32M Quiet Lake 31.63 55 P **P 20 22 40.8 -2.2**
baz=289
P32M Atlin 31.88 58 P **P 20 22 43.0 -2.2**
baz=291
MMPY Sheldon Lake, 31.97 52 P **P 20 22 46.1 0.0**
MMPY IAmb IAmb 20 23 26.2
comp=Z,21nm,1.2s
MMPY Sheldon Lake, 31.97 52 P **P 20 22 44.1 -1.9**
baz=288
R32K Eaglecrest 31.98 60 P **P 20 22 44.0 -2.1**
baz=293
SIT Sitka 32.07 63 P **P 20 22 44.7 -2.2**
baz=294
P33M Teslin, Yukon 32.07 56 P **P 20 22 44.6 -2.4**
baz=291
S32K Killisnoo 32.27 62 P **P 20 22 46.6 -2.1**
baz=294
JNU Nakatsue 32.80 240 LR LR 20 37 19.7
comp=Z,650nm,18.3s,baz=43,slow=38
Q32M Nakina River 32.80 58 P **P 20 22 51.3 -2.2**
baz=293
C36M Paulatuk 32.99 38 P **P 20 22 52.7 -2.1**
baz=283
DL2 Dalian 33.19 257 P **P 20 22 58.3 +1.5**
DL2 S **S 20 28 18.3 +2.8**
DL2 pmax pmax
comp=Z,68nm,1.9s
DL2 pmax pmax
comp=Z,240nm,7.9s
DL2 LR LR
comp=Z,3μm,17.5s
DL2 LR LR
comp=Z,2μm,17.6s
DL2 LR LR
comp=Z,2μm,18.9s
R33M Jennings River 33.25 57 IAmb IAmb 20 23 10.4
comp=Z,16nm,1.1s
R33M Jennings River 33.25 57 P **P 20 22 54.9 -2.4**
baz=293
JCJ Chichijima 33.25 219 LR LR 20 36 07.8
comp=Z,120nm,19.6s,baz=13,slow=36
U33K Whale Pass 33.58 63 P **P 20 22 57.7 -2.3**
baz=297
TGTN Hyland Airport 33.67 53 P **P 20 22 59.2 -1.7**
baz=292
S34M Telegraph Cree 33.77 60 P **P 20 22 59.6 -2.2**
baz=295
WRAK Wrangell Islan 33.83 63 P **P 20 23 00.6 -1.6**
baz=297
CRAG Craig 33.87 65 P **P 20 23 00.8 -1.8**
baz=298
DLBC Dease Lake 34.08 58 LR LR 20 37 45.7
comp=Z,6μm,18.2s,baz=278,slow=38
DLBC Dease Lake 34.08 58 P **P 20 23 02.4 -2.1**
baz=295,SNR=5.6
T35M Bob Quinn 34.61 61 IAmb IAmb 20 23 23.0
comp=Z,27nm,1.1s
T35M Bob Quinn 34.61 61 P **P 20 23 07.0 -2.1**
baz=297
V35K Ketchikan 34.70 64 P **P 20 23 08.1 -1.7**
baz=298
DIB Dawson Inlet, 35.30 68 IAmb IAmb 20 23 19.5
comp=Z,30nm,1.2s
LIRD Liard River Hi 35.51 55 P **P 20 23 15.2 -1.6**
baz=296
ULN Ulaanbaatar 35.54 282 P **P 20 23 15.4 -1.9**
ULN Ulaanbaatar 35.54 282*c i P* **P 20 23 18.9 +1.6**
ULN pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 35.92 282 **P 20 23 18.7 -1.8**
SONM Songino Array 35.92 282 P **P 20 23 20.6 +0.1**
comp=Z,2.2nm,0.5s,baz=60,slow=8.0,SNR=22
SONM PcP **PcP 20 25 49.3 +2.2**
comp=Z,0.8nm,0.8s,baz=58,slow=1.2,SNR=2.0
SONM LR LR 20 39 19.4
comp=Z,854nm,18.7s,baz=58,slow=39
comp=Z,2.2nm,0.5s
KOTAN Kotaneelee Air 36.13 53 P **P 20 23 20.5 -1.5**
baz=296
TOAD Toad River Com 36.16 56 P **P 20 23 21.6 -0.7**
baz=297
H11N2 WAKE ISLAND Hy 36.35 177 T T 21 01 27.9
baz=358,slow=76,SNR=1675
H11N3 WAKE ISLAND Hy 36.37 177 T T 21 01 28.9
baz=358,slow=76,SNR=1901
H11N1 WAKE ISLAND Hy 36.37 177 T T 21 01 29.3
baz=358,slow=76,SNR=1615
HHC Hu-ho-hao-te 37.43 269 *eP* **P 20 23 32.5 -1.0**
HHC S **S 20 29 22.3 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,72nm,6.7s
HHC LR LR
comp=Z,1μm,14.5s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,2μm,18.6s
H11S1 WAKE ISLAND Hy 37.56 177 T T 21 03 01.5
baz=359,slow=76,SNR=56
H11S3 WAKE ISLAND Hy 37.58 177 T T 21 02 60.0
baz=359,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 37.58 177 T T 21 03 01.5
baz=359,slow=76,SNR=54
TIA Tai'an 37.60 259 P **P 20 23 33.0 -1.8**
TIA S **S 20 29 16.8 -6.6**
TIA pmax pmax
comp=Z,7.0nm,0.6s
TIA LR LR
comp=Z,1μm,19.2s
TIA LR LR
comp=Z,770nm,17.2s
TIA LR LR
comp=Z,2μm,16.5s
BBB Bella Bella 38.09 67 LR LR 20 38 05.6
comp=Z,849nm,20.7s,baz=299,slow=34
BTO Baotou 38.46 270 *eP* **P 20 23 41.0 -1.2**
BTO PP **PP 20 25 10.0 0.0**
BTO S **S 20 29 35.3 -1.3**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,310nm,5.5s
BTO LR LR
comp=Z,4μm,16.6s
BTO LR LR
comp=Z,4μm,15.8s
BTO LR LR
comp=Z,2μm,19.5s
YKA Yellowknife Ar 39.09 47 P **P 20 23 49.0 +2.0**
comp=Z,1.9nm,0.7s,baz=298,slow=8.9,SNR=2.1
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 39.09 47 P **P 20 23 49.0 +2.0**
JOW Kunigami 39.27 237 LR LR 20 41 50.1
comp=Z,546nm,18.6s,baz=318,slow=39
SSE Sheshan 39.32 249 P **P 20 23 47.5 -1.8**
SSE S **S 20 29 47.0 -2.4**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,57nm,5.9s
SSE LR LR
comp=Z,260nm,20.3s
SSE LR LR
comp=Z,240nm,19.6s
RES Resolute Bay 39.47 24 LR LR 20 41 01.4
comp=Z,241nm,21.3s,baz=306,slow=38
NJ2 Nanjing 39.80 252 *eP* **P 20 23 52.3 -1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,730nm,13.6s
NJ2 LR LR
comp=Z,1μm,13.1s
NJ2 LR LR
comp=Z,920nm,20.6s
LLLB Lillooet 42.19 65 P **P 20 24 13.1 +0.2**
LLLB IAmb IAmb 20 24 25.9
comp=Z,29nm,1.3s
WHN Wuhan 43.40 256 P **P 20 24 20.8 -1.9**
ZALV Zalesovo Beam 43.47 302 P **P 20 24 22.0 -1.1**
ZALV Zalesovo Beam 43.47 302 P **P 20 24 23.1 0.0**
comp=Z,0.4nm,0.3s,baz=101,slow=7.6,SNR=2.0
ZALV LR LR 20 43 27.1
comp=Z,431nm,18.1s,baz=48,slow=38
comp=Z,0.4nm,0.3s
F03A Seaside 44.24 72 P **P 20 24 27.9 -1.5**
SPITS Spitsbergen Ar 44.59 351 P **P 20 24 32.5 +0.7**
comp=Z,11nm,0.7s,baz=55,slow=7.2,SNR=9.7
SPITS LR LR 20 42 50.0
comp=Z,359nm,20.3s,baz=22,slow=36
comp=Z,11nm,0.7s
SPB2 Spitsbergen Ar 44.60 351 P **P 20 24 30.6 -1.3**
NEEM North Greenlan 44.85 10 *i P* **P 20 24 35.1 +0.8**
NEEM IAmb IAmb 20 24 37.4
comp=Z,16nm,0.9s
B08A Colville Reser 44.89 66 IAmb IAmb 20 25 04.8
comp=Z,44nm,1.8s
GTA Gaotai 44.99 277 *eP* **P 20 24 35.5 -0.1**
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA LR LR
comp=Z,1μm,19.6s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,830nm,20.0s
LZH Lanzhou 45.09 270 *eP* **P 20 24 38.5 +2.0**
LZH sP pwP 20 24 45.8 +0.1
LZH pmax pmax
comp=Z,27nm,1.0s
LZH LR LR
comp=Z,2μm,13.9s
LZH LR LR
comp=Z,2μm,14.3s
LZH LR LR
comp=Z,3μm,14.1s
GUMO Guam 45.13 208 LR LR 20 44 53.2
comp=Z,152nm,18.6s,baz=28,slow=38
LZDM Lanzhou Array 45.26 270 LR LR 20 46 03.7
comp=Z,903nm,18.2s,baz=65,slow=40
C09A Chesman Ranch 45.80 66 IAmb IAmb 20 25 11.9
comp=Z,28nm,1.4s
NEW Newport 46.08 65 LR LR 20 42 27.0
comp=Z,753nm,21.3s,baz=305,slow=34
KULLO Kullorsuaq 46.62 14 *i P* **P 20 24 49.2 +1.3**
KULLO IAmb IAmb 20 24 50.8
comp=Z,16nm,0.8s
E09A Wood Farm, Sta 46.70 68 IAmb IAmb 20 25 18.1
comp=Z,12nm,0.9s
PINE Pine Mountain 47.05 72 P **P 20 24 52.1 +0.2**
PINE IAmb IAmb 20 25 14.8
comp=Z,18nm,1.2s
J05D Fort Rock, OR 47.24 73 IAmb IAmb 20 25 16.3
comp=Z,22nm,1.0s
DAG Danmarks Havn 47.37 1 *i P* **P 20 24 54.0 +0.3**
DAG IAmb IAmb 20 24 56.1
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 47.51 75 IAmb IAmb 20 25 14.1
comp=Z,12nm,1.2s
YBH Yreka Blue Hor 47.51 75 LR LR 20 44 29.0
comp=Z,18nm,18.1s,baz=292,slow=36
F10A Beach Ranch, E 47.54 68 IAmb IAmb 20 25 07.6
comp=Z,24nm,1.5s
ZSN Zaisan 47.56 295 *eP* **P 20 24 55.7 0.0**
comp=Z,9.8nm,1.4s
ZSN Zaisan 47.56 295 *eP* **P 20 24 55.6 0.0**
ZSN pmax pmax
comp=Z,10.0nm,1.4s
M02C Callahan 47.66 76 P **P 20 24 56.9 +0.3**
M02C IAmb IAmb 20 25 19.2
comp=Z,24nm,1.4s
N02D Trinity Center 48.03 76 IAmb IAmb 20 25 30.8
comp=Z,31nm,1.5s
KURK Kurchatov 48.46 302 P **P 20 25 01.4 -1.1**
KURK IAmb IAmb 20 25 45.5
comp=Z,19nm,1.1s
KURK Kurchatov 48.46 302 P **P 20 25 03.2 +0.7**
WMQ Urumqi 48.55 290 *eP* **P 20 25 06.5 +3.2**
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=Z,4μm,14.9s
WMQ LR LR
comp=Z,2μm,20.7s
WMQ LR LR
comp=Z,720nm,23.3s
KURBB Kurchatov Arra 48.57 302 P **P 20 25 03.1 -0.1**
comp=Z,2.3nm,0.2s,baz=53,slow=7.9,SNR=31
KURBB LR LR 20 47 35.8
comp=Z,264nm,18.1s,baz=147,slow=39
comp=Z,2.3nm,0.2s
KURBB Kurchatov Arra 48.57 302 P **P 20 25 03.0 -0.3**
MSO Missoula 48.65 65 IAmb IAmb 20 25 34.1
comp=Z,27nm,1.5s
PLID Pearl Lake 48.77 68 IAmb IAmb 20 25 08.1
comp=Z,23nm,1.6s
CD2 Chengdu 48.97 266 P **P 20 25 05.0 -1.6**
CD2 pP pP 20 25 08.0 -2.8
CD2 PP **PP 20 26 59.5 -0.4**
CD2 S **S 20 32 08.5 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,1μm,17.4s
CD2 LR LR
comp=Z,2μm,15.4s
CD2 LR LR
comp=Z,2μm,15.8s
O03E Paynes Creek 49.00 76 P **P 20 25 06.5 -0.4**
O03E IAmb IAmb 20 25 37.7
comp=Z,21nm,1.0s
WVOR Wild Horse Val 49.21 72 IAmb IAmb 20 25 27.1
comp=Z,24nm,1.7s
MK31 Makanchi Array 49.31 296*c i P* **P 20 25 08.8 -0.3**
MKAR Makanchi Array 49.31 296 **P 20 25 08.0 -1.1**
MKAR Makanchi Array 49.31 296 P **P 20 25 08.7 -0.3**
comp=Z,1.5nm,0.4s,baz=57,slow=6.4,SNR=50
MKAR LR LR 20 46 54.0
comp=Z,643nm,18.0s,baz=31,slow=37
comp=Z,1.5nm,0.4s
DBG Daneborg 49.82 2 *i P* **P 20 25 12.8 +0.3**
GOMU GeErMu 50.05 278 P **P 20 25 14.8 -0.4**
GOMU pP sP 20 25 22.3 +1.4
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU LR LR
comp=Z,520nm,15.9s
GOMU LR LR
comp=Z,310nm,16.1s
DLMT Dillon 50.33 65 IAmb IAmb 20 25 46.3
comp=Z,19nm,1.4s
SUMG Summit 50.60 9 **P 20 25 19.2 +0.3**
SUMG IAmb IAmb 20 25 49.2
comp=Z,17nm,1.0s
SUMG Summit 50.60 9 P **P 20 25 19.2 +0.3**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 50.60 9 *i P* **P 20 25 19.9 +1.0**
SUMG IAmb IAmb 20 25 23.9
comp=Z,11nm,1.0s
BVA0 Borovoye Array 50.65 309 P **P 20 25 19.6 +0.5**
BVAR Borovoye Array 50.65 309 P **P 20 25 19.6 +0.4**
comp=Z,12nm,0.7s,baz=54,slow=8.3,SNR=63
BVAR LR LR 20 48 39.5
comp=Z,298nm,21.7s,baz=46,slow=38
comp=Z,12nm,0.7s
BORK Borovoye 50.66 309*d i P* **P 20 25 19.6 +0.4**
BORK pmax pmax
comp=Z,12nm,0.8s
GYA Guiyang 50.79 259 P **P 20 25 20.5 -0.1**
GYA LR LR
comp=Z,1μm,19.2s
PNTR Pine Nut 51.05 76 IAmb IAmb 20 25 53.5
comp=Z,21nm,0.8s
ARCES ARCESS Array B 51.24 343 P **P 20 25 22.6 -0.8**
ARCES ARCESS Array B 51.24 343 P **P 20 25 23.3 0.0**
comp=Z,7.4nm,0.7s,baz=21,slow=7.5,SNR=8.0
ARCES LR LR 20 51 08.2
comp=Z,294nm,18.1s,baz=34,slow=41
comp=Z,7.4nm,0.7s
APA Apatity 51.48 338*|| eP* **P 20 25 29.3 +4.1**
APA *e* 20 26 36.6
APA MLR MLR
comp=Z,831nm,3.9s
BRZS Berezniki 51.74 305 *eP* **P 20 25 28.0 +0.6**
BRZS Berezniki 51.74 305 *eP* **P 20 25 28.0 +0.6**
SVE Sverdlovsk 51.94 317 *eP* **P 20 25 28.2 -0.5**
SVE pmax pmax
comp=Z,9.0nm,0.7s
RLMT Red Lodge 52.18 63 IAmb IAmb 20 25 54.2
comp=Z,15nm,0.9s
FLWY Flagg Ranch 52.20 65 IAmb IAmb 20 25 49.8
comp=Z,50nm,1.6s
ELK Elko 52.21 71 P **P 20 25 30.9 -0.4**
ELK Elko 52.21 71 LR LR 20 45 24.0
comp=Z,403nm,21.8s,baz=327,slow=33
ELK Elko 52.21 71 P **P 20 25 30.9 -0.4**
ELK pmax pmax
comp=Z,15nm,1.6s
NVAR Mina Array Bea 52.23 75 P **P 20 25 30.6 -0.9**
NVAR Mina Array Bea 52.23 75 P **P 20 25 33.3 +1.9**
comp=Z,0.7nm,0.4s,baz=314,slow=6.7,SNR=7.1
NVAR LR LR 20 45 49.2
comp=Z,307nm,21.5s,baz=274,slow=34
comp=Z,0.7nm,0.4s
NV11 Mina Array Sit 52.31 75 IAmb IAmb 20 25 48.0
comp=Z,28nm,1.6s
TDK Taldyqorghan 52.50 297 *eP* **P 20 25 33.5 +0.4**
TDK Taldyqorghan 52.50 297 *eP* **P 20 25 33.5 +0.4**
ARTI Arti 53.10 318 P **P 20 25 36.0 -1.3**
ARTI IAmb IAmb 20 26 02.7
comp=Z,17nm,0.6s
ARTI Arti 53.10 318 LR LR 20 51 19.3
comp=Z,429nm,19.3s,baz=48,slow=40
ARTI Arti 53.10 318*d i P* **P 20 25 38.0 +0.6**
ARTI 20 26 47.8
ARTI S **S 20 33 06.8 +0.3**
ARTI SS **SS 20 36 42.2 -2.9**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
ARTI MLR MLR
comp=Z,519nm,14.0s
SHLS Shalkode 53.28 295 *eP* **P 20 25 37.9 -1.2**
SHLS Shalkode 53.28 295 *eP* **P 20 25 37.8 -1.2**
PZH PanZhiHua 53.48 264 P **P 20 25 41.8 +1.1**
PZH S **S 20 33 11.8 -0.8**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.1s
PZH LR LR
comp=Z,470nm,16.5s
PZH LR LR
comp=Z,850nm,15.9s
PZH LR LR
comp=Z,740nm,17.6s
UZB Uzynbulak 53.52 295 *eP* **P 20 25 40.9 +0.1**
UZB Uzynbulak 53.52 295 *eP* **P 20 25 40.9 +0.1**
FRB Frobisher Bay 53.62 26 LR LR 20 51 50.5
comp=Z,473nm,18.6s,baz=316,slow=40
TGY Tagaytay City 53.67 237 LR LR 20 51 46.2
comp=Z,147nm,18.1s,baz=316,slow=40
PDAR Pinedale Array 53.72 66 P **P 20 25 42.2 -0.1**
PDAR Pinedale Array 53.72 66 P **P 20 25 44.0 +1.6**
comp=Z,1.8nm,0.6s,baz=318,slow=4.0,SNR=22
PDAR LR LR 20 49 04.8
comp=Z,228nm,20.7s,baz=328,slow=36
comp=Z,1.8nm,0.6s
SATY Saty 53.89 295 *eP* **P 20 25 43.7 +0.1**
SATY Saty 53.89 295 *eP* **P 20 25 43.6 +0.1**
SPR3 Spring Creek 3 53.95 72 IAmb IAmb 20 26 15.4
comp=Z,20nm,1.1s
SFJD Kangerlussuaq 54.39 16 LR LR 20 51 44.1
comp=Z,332nm,19.1s,baz=337,slow=39
MPMC Manual Prospec 54.40 77 P **P 20 25 47.3 -0.1**
MPMC IAmb IAmb 20 26 28.8
comp=Z,17nm,0.7s
MDOK Medeo 54.50 296 *eP* **P 20 25 48.3 +0.3**
MDOK Medeo 54.50 296 *eP* **P 20 25 48.2 +0.3**
CLC China Lake 54.52 77 IAmb IAmb 20 26 10.0
comp=Z,25nm,1.3s
AAA Alma-Ata 54.54 296 *eP* **P 20 25 48.5 +0.4**
comp=Z,11nm,1.0s
AAA Alma-Ata 54.54 296 *eP* **P 20 25 48.5 +0.4**
AAA pmax pmax
comp=Z,11nm,1.0s
KIRV Kirov 54.56 324 LR LR 20 52 15.0
comp=Z,586nm,19.1s,baz=39,slow=40
KIRV Kirov 54.56 324*de* **P 20 25 49.1 +1.2**
BSUT Blindstream Ca 54.71 68 IAmb IAmb 20 26 12.9
comp=Z,23nm,1.4s
LRMC Laurel Mtn Rad 54.73 77 P **P 20 25 48.8 -0.9**
LRMC IAmb IAmb 20 26 20.1
comp=Z,18nm,1.3s
WSHM Spangler Hills 54.74 77 IAmb IAmb 20 26 19.7
comp=Z,18nm,1.2s
GWY Greenwater Val 54.76 76 IAmb IAmb 20 26 30.3
comp=Z,23nm,1.0s
ULM Lac du Bonnet 54.77 51 P **P 20 25 51.6 +2.0**
comp=Z,5.3nm,0.8s,baz=315,slow=7.1,SNR=2.5
ULM LR LR 20 50 36.0
comp=Z,214nm,19.7s,baz=322,slow=38
comp=Z,5.3nm,0.8s
QIZ Qiongzhong 55.06 251 P **P 20 25 51.3 -0.7**
QIZ S **S 20 33 33.5 -0.2**
QIZ LR LR
comp=Z,780nm,13.7s
QIZ LR LR
comp=Z,660nm,12.4s
QIZ LR LR
comp=Z,580nm,16.9s
RSSD Black Hills 55.49 61 P **P 20 25 54.5 -0.7**
RSSD IAmb IAmb 20 26 07.1
comp=Z,8.8nm,0.8s
RSSD Black Hills 55.49 61 P **P 20 25 54.5 -0.7**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 55.68 331 *eP* **P 20 25 55.1 -0.9**
KLMR S **S 20 33 38.0 -3.0**
KLMR pmax pmax
comp=Z,15nm,1.6s
KLMR MLR MLR
comp=Z,591nm,12.0s
LCMT Little Creek M 55.99 73 IAmb IAmb 20 26 21.0
comp=Z,18nm,0.7s
V12A Nelson 56.08 75 IAmb IAmb 20 26 30.6
comp=Z,26nm,1.5s
AAK Ala-Archa 56.16 297 P **P 20 25 59.9 -0.1**
AAK IAmb IAmb 20 26 19.6
comp=Z,10nm,0.8s
AAK Ala-Archa 56.16 297 LR LR 20 49 41.8
comp=Z,438nm,21.4s,baz=42,slow=36
AAK Ala-Archa 56.16 297 *i P* **P 20 26 00.2 +0.2**
AAK pmax pmax
comp=Z,55nm,1.4s
AAK MLR MLR
comp=Z,308nm,15.0s
KNB Kanab 56.22 73 IAmb IAmb 20 26 55.0
comp=Z,15nm,1.1s
O20A White River Ci 56.31 67 IAmb IAmb 20 26 16.1
comp=Z,16nm,0.8s
PFO Pinyon Flats O 56.79 78 LR LR 20 47 46.2
comp=Z,265nm,20.1s,baz=270,slow=33
LSA Lhasa 56.94 275 P **P 20 26 03.5 -2.5**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 56.94 275 IAmb IAmb 20 26 38.4
comp=Z,8.8nm,0.7s
IRM Iron Mountain 57.10 77 **P 20 26 06.8 +0.3**
IRM IAmb IAmb 20 26 37.5
comp=Z,29nm,1.4s
PV10 Paradox Valley 57.21 69 IAmb IAmb 20 26 23.7
comp=Z,22nm,1.0s
PV22 Blue Mesa, Par 57.22 69 IAmb IAmb 20 26 23.3
comp=Z,27nm,1.3s

PV04 Paradox Valley 57.26 69 IAmb IAmb 20 26 33.9
comp=Z,15nm,0.8s
PV19 Morning Glory 57.28 69 P **P** **20 26 08.3 +0.3**
PV16 Nyswonger Mesa 57.32 69 IAmb IAmb 20 26 33.4
comp=Z,17nm,1.1s
PV07 Paradox Valley 57.36 69 IAmb IAmb 20 26 43.5
comp=Z,19nm,1.2s
PV03 Paradox Valley 57.40 69 IAmb IAmb 20 26 34.0
comp=Z,18nm,1.0s
PV05 Paradox Valley 57.40 69 IAmb IAmb 20 26 33.5
comp=Z,14nm,0.8s
PV13 Radium Mtn., P 57.48 69 IAmb IAmb 20 26 34.6
comp=Z,14nm,0.9s
PV02 Paradox Valley 57.49 69 P **P** **20 26 10.3 +0.7**
PV15 Paradox Valley 57.52 69 IAmb IAmb 20 26 25.4
comp=Z,20nm,0.9s
DZA Taraz 57.53 300 *e*P **P** **20 26 09.9 +0.4**
DZA Taraz 57.53 300 *e*P **P** **20 26 09.9 +0.4**
KSH Kashi 57.74 294 P **P** **20 26 15.5 +4.4**
KSH pmax pmax
comp=Z,10.0nm,1.9s
KSH LR LR
comp=Z,1μm,17.2s
KSH LR LR
comp=Z,630nm,14.4s
KSH LR LR
comp=Z,760nm,15.8s
AKTO Aktyubinsk 57.77 314 LR LR 20 51 55.8
comp=Z,319nm,18.9s,baz=352,slow=37
AKTO Aktyubinsk 57.77 314 P **P** **20 26 11.7 +0.7**
KK31 Karatay Array 57.77 300 IAmb IAmb 20 26 14.3
comp=Z,16nm,1.1s
KK31 Karatay Array 57.77 300 *i* P **P** **20 26 11.2 0.0**
KKAR Karatay Array 57.77 300 **P** **20 26 11.0 -0.2**
KKAR Karatay Array 57.77 300 P **P** **20 26 11.0 -0.2**
AB31 Akbulak array 57.88 312 IAmb IAmb 20 26 40.8
comp=Z,23nm,1.7s
ABKAR Akbulak array 57.88 312 **P** **20 26 11.4 -0.4**
FINES FINESS Array B 58.39 338 P **P** **20 26 15.5 +0.3**
comp=Z,6.5nm,0.7s,baz=24,slow=10,SNR=15
FINES LR LR 20 54 41.2
comp=Z,545nm,19.0s,baz=36,slow=40
comp=Z,6.5nm,0.7s
CHM Chimkent 58.80 300 *e*P **P** **20 26 18.9 +0.5**
comp=Z,7.0nm,1.2s
CHM Chimkent 58.80 300 *e*P **P** **20 26 18.9 +0.5**
CHM pmax pmax
comp=Z,7.0nm,1.2s
BORG Borgarnes 59.38 3 LR LR 20 50 47.7
comp=Z,158nm,21.8s,baz=349,slow=35
SDCO Great Sand Dun 59.52 67 IAmb IAmb 20 26 39.9
comp=Z,20nm,1.7s
SHL Shillong 59.73 271 P **P** **20 26 24.3 -0.9**
SHL IAmb IAmb 20 26 47.1
comp=Z,9.5nm,0.8s
SHL Shillong 59.73 271 P **P** **20 26 24.3 -0.9**
SHL pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 60.15 321 LR LR 20 55 24.6
comp=Z,721nm,18.8s,baz=60,slow=39
BELG Belogornoye 60.15 321 *d iP* **P** **20 26 27.8 +0.4**
BELG pmax pmax
comp=Z,5.0nm,1.0s
EVN Everest 60.70 277 P **P** **20 26 31.6 -0.7**
EVN IAmb IAmb 20 26 56.6
comp=Z,13nm,1.0s
VSU Vasula 60.95 336 *ce*P **P** **20 26 33.5 +0.7**
VSU pmax pmax
comp=Z,41nm,1.5s
GAR Garm 60.99 297 P **P** **20 26 33.4 -0.2**
CHTO Chiang Mai 61.15 261 P **P** **20 26 33.9 -0.8**
CHTO IAmb IAmb 20 26 59.2
comp=Z,12nm,0.8s
CHTO Chiang Mai 61.15 261 P **P** **20 26 33.9 -0.8**
CHTO pmax pmax
comp=Z,12nm,0.9s
ANMO Albuquerque 61.16 70 LR LR 20 50 37.6
comp=Z,201nm,21.1s,baz=61,slow=34
ANMO Albuquerque 61.16 70 *i* P **P** **20 26 37.3 +2.5**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
NC204 NORSAR Array S 61.19 346 IAmb IAmb 20 27 01.9
comp=Z,27nm,1.4s
NB201 NORSAR Array S 61.33 346 P **P** **20 26 35.8 +0.3**
NB2 NORSAR Subarra 61.35 346 P **P** **20 26 35.6 0.0**
comp=Z,2.9nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 61.35 346 P **P** **20 26 36.0 +0.4**
comp=Z,3.4nm,0.7s,baz=17,slow=6.9,SNR=22
NOA LR LR 20 54 49.6
comp=Z,139nm,18.7s,baz=355,slow=38
comp=Z,3.4nm,0.7s
NOA NORSAR Array B 61.35 346 P **P** **20 26 36.0 +0.4**
OBN Obninsk 61.40 329 LR LR 20 58 18.5
comp=Z,310nm,18.0s,baz=346,slow=41
OBN Obninsk 61.40 329 *e*P **P** **20 26 36.9 +1.0**
OBN *e* 20 27 14.4
OBN pmax pmax
comp=Z,31nm,2.0s
OBN MLR MLR
comp=Z,499nm,15.0s
CM31 Chiang Mai Arr 61.44 260 IAmb IAmb 20 26 39.5
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 61.44 260 **P** **20 26 37.2 +0.5**
CMAR Chiang Mai Arr 61.44 260 P **P** **20 26 38.0 +1.3**
comp=Z,8.9nm,0.7s,baz=22,slow=6.7,SNR=74
CMAR LR LR 20 56 20.2
comp=Z,543nm,18.5s,baz=30,slow=39
comp=Z,8.9nm,0.7s
CMAR Chiang Mai Arr 61.44 260 *i* P **P** **20 26 38.0 +1.3**
CMAR pmax pmax
comp=Z,10.0nm,0.7s
JAY Jayapura 61.65 208 LR LR 20 50 26.0
comp=Z,137nm,21.5s,baz=332,slow=33
SCHQ Schefferville 61.68 31 P **P** **20 26 37.3 -0.5**
SCHQ Schefferville 61.68 31 P **P** **20 26 39.0 +1.2**
comp=Z,19nm,0.6s,baz=0.0,slow=12,SNR=2.0
SCHQ LR LR 20 57 19.6
comp=Z,4μm,18.3s,baz=305,slow=40
comp=Z,19nm,0.6s
HFS Hagfors 61.86 344 P **P** **20 26 38.9 -0.1**
comp=Z,5.6nm,0.7s,baz=64,slow=6.6,SNR=12
HFS LR LR 20 53 30.1
comp=Z,363nm,22.0s,baz=31,slow=36
comp=Z,5.6nm,0.7s
BRDH Bariadhala 62.13 270 LR LR 20 57 33.1
comp=Z,643nm,18.1s,baz=45,slow=40
LPSR Galich'ya Gora 62.86 326 *e*P **P** **20 26 45.6 -0.1**
LPSR pmax pmax
comp=Z,14nm,0.7s
VRH Novokhopyorsk 63.16 324 *e*P **P** **20 26 47.1 -0.7**
VRH pmax pmax
comp=Z,9.0nm,0.6s
NIL Nilore 63.63 291 **P** **20 26 50.6 -0.6**
NIL Nilore 63.63 291 P **P** **20 26 50.6 -0.6**
NIL pmax pmax
comp=Z,25nm,1.0s
VSR Storozhevoye 63.98 325 *e*P **P** **20 26 51.0 -2.2**
VSR pmax pmax
comp=Z,5.0nm,0.8s
MNTX Cornudas Mount 64.24 71 IAmb IAmb 20 27 36.6
comp=Z,7.5nm,0.9s
MNK Minsk 64.27 334 *i* P **P** **20 26 55.6 +0.6**
MNK *i* 20 29 14.7
MNK *i* PPP PPP 20 30 46.4
MNK *i* S **S** **20 35 33.8 +2.3**
MNK *i* SS **SS** **20 39 45.3 +5.3**
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK MLR MLR
comp=Z,524nm,18.0s
MNK MLR MLR
comp=N,365nm,16.0s
MNK MLR MLR
comp=E,462nm,22.0s
PABE Paberze 64.27 336 P **P** **20 26 54.8 -0.2**
KBL Kabul 65.10 295 P **P** **20 26 59.5 -1.6**
KBL IAmb IAmb 20 27 23.4
comp=Z,12nm,0.8s
KBL Kabul 65.10 295 P **P** **20 26 59.5 -1.6**
KBL pmax pmax
comp=Z,12nm,0.8s
VHRN Van Horn 65.16 71 P **P** **20 27 01.4 0.0**
VHRN IAmb IAmb 20 27 28.6
comp=Z,18nm,1.5s
WMOK Wichita Mounta 65.27 64 P **P** **20 27 01.6 -0.4**
WMOK Wichita Mounta 65.27 64 P **P** **20 27 01.6 -0.4**
WMOK pmax pmax
comp=Z,7.0nm,1.0s
HNR Honiara 65.42 185 LR LR 20 53 45.7
comp=Z,528nm,18.8s,baz=359,slow=34
SADO Sadowa 66.04 44 LR LR 20 57 28.4
comp=Z,3μm,18.7s,baz=350,slow=37
PMG Port Moresby 66.90 199 LR LR 20 50 56.5
comp=Z,164nm,21.6s,baz=358,slow=31
TX31 Lajitas Ar. Si 67.00 71 IAmb IAmb 20 27 43.6
comp=Z,9.7nm,1.1s
TXAR Lajitas Array 67.00 71 **P** **20 27 13.5 +0.3**
TXAR Lajitas Array 67.00 71 P **P** **20 27 14.8 +1.6**
comp=Z,1.4nm,0.6s,baz=299,slow=4.6,SNR=17
comp=Z,1.4nm,0.6s
AK04 Malin Array Si 67.36 331 P **P** **20 27 14.5 -0.5**
AKASG Malin Array Be 67.37 331 P **P** **20 27 14.7 -0.3**
AKASG Malin Array Be 67.37 331 P **P** **20 27 15.1 +0.1**
comp=Z,2.2nm,0.6s,baz=29,slow=6.8,SNR=4.7
AKASG LR LR 21 00 30.7
comp=Z,670nm,18.5s,baz=31,slow=39
comp=Z,2.2nm,0.6s
AKBB Malin Array Si 67.37 331 ⇓ *e*P **P** **20 27 14.9 -0.1**
AKBB pmax pmax
comp=Z,21nm,2.4s
AK01 Malin Array Si 67.38 331 P **P** **20 27 13.9 -1.2**
AK20 Malin Array Si 67.39 331 P **P** **20 27 14.0 -1.2**
AK18 Malin Array Si 67.39 331 P **P** **20 27 14.0 -1.2**
AK19 Malin Array Si 67.41 331 P **P** **20 27 14.1 -1.2**
AK02 Malin Array Si 67.41 331 P **P** **20 27 14.1 -1.2**
AK08 Malin Array Si 67.42 331 P **P** **20 27 14.2 -1.2**
AK16 Malin Array Si 67.43 331 P **P** **20 27 14.2 -1.2**
AK17 Malin Array Si 67.43 331 P **P** **20 27 14.2 -1.2**
AK09 Malin Array Si 67.43 331 P **P** **20 27 14.2 -1.2**
AK12 Malin Array Si 67.44 331 P **P** **20 27 14.3 -1.2**
AK05 Malin Array Si 67.45 331 P **P** **20 27 14.4 -1.1**
AK10 Malin Array Si 67.45 331 P **P** **20 27 14.4 -1.2**
RNPP8 Varash 67.66 334 P **P** **20 27 16.1 -0.8**
LUBAR Lubar, Ukraine 68.47 332 P **P** **20 27 20.6 -1.4**
EKA Eskdalemuir Ar 68.49 353 P **P** **20 27 20.9 -1.1**
comp=Z,2.7nm,0.7s,baz=13,slow=6.8,SNR=6.0
comp=Z,2.7nm,0.7s
KVAR Kislovodsk Arr 69.03 319 LR LR 21 00 54.0
comp=Z,460nm,18.6s,baz=282,slow=39
KIV Kislovodsk 69.03 319 *e*P **P** **20 27 25.1 -0.6**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,300nm,17.0s
KBZ Khabaz 69.15 319 P **P** **20 27 26.9 +0.6**
comp=Z,4.2nm,0.8s,baz=3.2,slow=12,SNR=12
KBZ LR LR 21 02 06.9
comp=Z,552nm,18.1s,baz=30,slow=40
comp=Z,4.2nm,0.8s
KBZ Khabaz 69.15 319 *d iP* **P** **20 27 27.3 +1.0**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
AKT Akhty 69.21 314 *e*P **P** **20 27 25.1 -1.8**
AKT *e* 20 27 50.2
AKT pmax pmax
comp=Z,8.0nm,0.7s
AKT MLR MLR
comp=Z,428nm,11.0s
SHA1 Shidzhatmaz 69.23 319 ⇑ *e*P **P** **20 27 28.4 +1.2**
T50A Nancy 70.09 53 IAmb IAmb 20 27 30.1
comp=Z,20nm,1.6s
OJC Ojcow 70.12 337 P **P** **20 27 31.2 -1.0**
OJC Ojcow 70.12 337 P **P** **20 27 31.2 -1.0**
ANN Anapa 70.15 323 *e*P **P** **20 27 31.0 -1.4**
ANN *e*S **S** **20 36 40.6 -2.0**
ANN pmax pmax
comp=Z,7.0nm,0.8s
ANN MLR MLR
comp=Z,369nm,14.0s
VSLR Vesyoloye 70.42 321 ⇑ *e*P **P** **20 27 36.6 +2.4**
VSLR pmax pmax
comp=Z,23nm,1.1s
CLL Collm 70.43 342 *e*P **P** **20 27 34.0 -0.1**
CLL *e*S **S** **20 36 50.0 +4.3**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,400nm,19.9s
STHS Stebnicka Huta 70.55 336 *e*P **P** **20 27 34.1 -0.8**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 70.55 336 *e*P **P** **20 27 34.1 -0.8**
BRG Berggiesshubel 70.68 341 *e*P **P** **20 27 36.6 +1.0**
BRG Amp 20 27 44.9
comp=Z,2.0nm,0.8s
DPC Dobruska-Polom 70.73 339 *e*P **P** **20 27 37.7 +1.7**
DPC AMS AMS 21 02 30.0
comp=Z,500nm,21.9s
DPC Dobruska-Polom 70.73 339 *e*P **P** **20 27 37.7 +1.7**
DPC MLR MLR
comp=Z,500nm,21.9s
STEB Steborice 70.83 338 *e*P **P** **20 27 38.2 +1.7**
KRLC Kraliky 70.90 339 *e*P **P** **20 27 38.5 +1.5**
KRLC Kraliky 70.90 339 *e*P **P** **20 27 38.5 +1.5**
MORC Moravsky Berou 71.02 338 *e*P **P** **20 27 39.3 +1.5**
KAPI Kappang 71.19 228 LR LR 20 58 12.1
comp=Z,56nm,21.9s,baz=33,slow=35
BUR08 Bucovina Ar. S 71.23 332 IAmb IAmb 20 28 47.0
comp=Z,21nm,1.9s
PRU Pruhonice 71.42 340 *e*P **P** **20 27 41.7 +1.6**
PRU AMS AMS 21 03 10.0
comp=Z,400nm,15.1s
PRU Pruhonice 71.42 340 *e*P **P** **20 27 41.7 +1.6**
PRU MLR MLR
comp=Z,400nm,15.1s
GNI Garni 71.53 316 LR LR 21 04 11.5
comp=Z,402nm,18.8s,baz=22,slow=40
GNI Garni 71.53 316 ⇑ *e*P **P** **20 27 43.9 +2.8**
GNI pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 71.66 339 LR LR 21 03 38.3
comp=Z,257nm,18.2s,baz=26,slow=40
VRAC Vranov 71.66 339 *e*P **P** **20 27 42.6 +1.0**
TKL Tuckaleechee C 71.69 53 LR LR 20 59 48.5
comp=Z,916nm,21.3s,baz=341,slow=36
JAVC Velka Javorina 71.87 338 *e*P **P** **20 27 45.0 +2.1**
KRUC Moravsky 71.94 339 *e*P **P** **20 27 44.1 +0.8**
ZVC Zvikov 72.01 340 *e*P **P** **20 27 44.7 +1.0**
MODS Modra-Piesok 72.41 338 *e*P **P** **20 27 49.2 +3.1**
MODS pmax pmax
comp=Z,10.0nm,1.2s
MODS Modra-Piesok 72.41 338 *e*P **P** **20 27 49.2 +3.1**
KHC Kasperske Hory 72.42 341 *e*P **P** **20 27 48.0 +1.8**
KHC AMS AMS 21 02 20.0
comp=Z,500nm,22.5s
KHC Kasperske Hory 72.42 341 ⇑ *e*P **P** **20 27 46.8 +0.6**
KHC pmax pmax
comp=Z,11nm,2.0s
GERES GERESS Array B 72.67 340 P **P** **20 27 48.5 +0.7**
comp=Z,1.4nm,0.7s,baz=38,slow=6.8,SNR=10
GERES LR LR 21 03 30.3
comp=Z,392nm,19.0s,baz=29,slow=39
comp=Z,1.4nm,0.7s
MLR Muntele Rosu 73.02 331 LR LR 21 02 29.0
comp=Z,535nm,20.7s,baz=36,slow=38
CONA Conrad Observa 73.13 339 *e*pP **P** **20 27 52.2 +1.8**
comp=Z,1.5nm,0.6s
RONA Rosalia, Austr 73.26 338 *e*pP **P** **20 27 52.9 +1.8**
comp=Z,4.0nm,1.1s
KOPT Kop Dagi 73.26 319 IAmb IAmb 20 28 14.5
comp=Z,12nm,0.9s
HYB Hyderabad 73.66 277 *e*P **P** **20 27 53.4 -0.5**
HYB IVmB_BB 20 27 55.1
comp=Z,340nm,2.1s
HYB *e*PP **PP** **20 30 44.9 +6.9**
HYB *e*S **S** **20 37 24.8 +1.1**
HYB *e*ScS **SKKSac** **20 38 02.6 +2.5**
HYB IVMs_BB IVMs_BB 21 03 09.4
comp=Z,411nm,4.0s
LESA Schwarzleotal 74.23 341 *e*pP **P** **20 27 58.4 +1.5**
comp=Z,1.1nm,0.6s
PSI Prapat 74.40 251 LR LR 21 03 16.0
comp=Z,183nm,18.8s,baz=337,slow=38
KBA Koelnbreinsper 74.44 340 *i* pP **P** **20 27 59.9 +1.6**
comp=Z,2.0nm,0.6s
SOKA Soboth 74.49 339 *e*pP **P** **20 27 60.0 +1.5**
comp=Z,1.7nm,0.7s
WTTA Wattenberg 74.57 341 *i* pP **P** **20 28 00.8 +1.7**
comp=Z,0.4nm,0.2s
MOTA Moosalm 74.59 342 *e*pP **P** **20 28 00.5 +1.3**
comp=Z,1.6nm,0.6s
SQTA Sankt Quirin 74.69 342 *e*pP **P** **20 28 01.3 +1.6**
comp=Z,5.5nm,0.7s
OBKA Obir 74.75 339 *e*pP **P** **20 28 01.6 +1.6**
comp=Z,5.9nm,0.7s
ABTA Abfaltersbach 74.91 341 *e*pP **P** **20 28 01.9 +0.9**
comp=Z,1.3nm,0.4s
FETA Feichten 74.97 342 *e*pP **P** **20 28 02.7 +1.4**
comp=Z,1.9nm,0.8s
MARD Mardin 75.52 317 IAmb IAmb 20 28 28.5
comp=Z,8.3nm,0.7s
BR131 Keskin Array S 75.94 323 ⇑ *e*P **P** **20 28 08.7 +1.7**
BRTR Keskin Array B 75.94 323 P **P** **20 28 06.2 -0.9**
BRTR Keskin Array B 75.94 323 P **P** **20 28 07.3 +0.3**
comp=Z,0.7nm,0.7s,baz=57,slow=3.4,SNR=6.1
BRTR LR LR 21 05 05.3
comp=Z,204nm,20.3s,baz=38,slow=39
comp=Z,0.7nm,0.7s
BRTR Keskin Array B 75.94 323 *i* P **P** **20 28 08.0 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
TEOL Teolo 76.40 341 IAmb IAmb 20 28 43.8
comp=Z,16nm,0.9s
LEM Lembang 78.25 238 LR LR 21 03 39.7
comp=Z,92nm,20.9s,baz=10.0,slow=36
MURB Monte Urbino 78.27 340 IAmb IAmb 20 28 55.8
comp=Z,19nm,1.0s
FDMO Fiordimonte 78.37 339 IAmb IAmb 20 28 57.2
comp=Z,11nm,1.0s
NRCA Norcia 78.56 339 IAmb IAmb 20 28 25.6
comp=Z,14nm,0.8s
TAOE Nuku Hiva Isla 79.02 124 *e*P **P** **20 28 21.9 -2.5**
comp=Z,131nm,26.2s
TAOE Nuku Hiva Isla 79.02 124 *e*SS SS 20 43 24.9 -3.6
comp=Z,116nm,24.1s
TAOE *e*LR LR 20 53 00.8
comp=Z,274nm,25.6s
WRA Warramunga Arr 80.01 209 P **P** **20 28 28.4 -1.1**
WRA Warramunga Arr 80.01 209 P **P** **20 28 29.1 -0.4**
comp=Z,0.8nm,0.8s,baz=20,slow=6.1,SNR=5.1
comp=Z,0.8nm,0.8s
PALK Pallekele 80.72 269 LR LR 21 06 54.4
comp=Z,238nm,21.8s,baz=36,slow=38
MMAI Mount Meron Ar 81.35 319 LR LR 21 08 26.8
comp=Z,196nm,19.5s,baz=31,slow=38
ASF Jabal al Asfar 81.54 317 LR LR 21 10 42.6
comp=Z,326nm,18.5s,baz=134,slow=40
CMIG Matias Romero 81.60 72 LR LR 21 02 40.7
comp=Z,126nm,21.9s,baz=355,slow=34
IDI Anoyia 82.78 328 LR LR 21 08 31.9
comp=Z,196nm,20.8s,baz=62,slow=38
VAE Valguarnera 83.43 337 LR LR 21 11 10.6
comp=Z,202nm,18.4s,baz=330,slow=40
ASAR Alice Springs 83.68 208 **P** **20 28 48.9 +0.2**
ASAR Alice Springs 83.68 208 P **P** **20 28 49.9 +1.1**
comp=Z,0.8nm,0.8s,baz=15,slow=5.6,SNR=6.5
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 84.11 351 P **P** **20 28 50.2 -0.8**
ESDC IAmb IAmb 20 29 23.1
comp=Z,19nm,1.8s
ESDC Sonseca Array 84.11 351 P **P** **20 28 51.8 +0.7**
comp=Z,0.3nm,0.5s,baz=12,slow=6.4,SNR=4.6
comp=Z,0.3nm,0.5s
EIL Elat 84.52 318 LR LR 21 12 37.0
comp=Z,418nm,18.2s,baz=46,slow=40
RAYN Ar Rayn 85.58 307 **P** **20 28 58.0 -0.7**
RAYN IAmb IAmb 20 29 22.0
comp=Z,13nm,1.4s
RAYN Ar Rayn 85.58 307 P **P** **20 28 58.0 -0.7**
RAYN pmax pmax
comp=Z,13nm,1.4s
KEST Kesra 86.16 340 LR LR 21 13 26.9
comp=Z,187nm,18.1s,baz=299,slow=40
RAO Raoul Island 86.28 165 LR LR 21 00 14.9
comp=Z,300nm,21.9s,baz=318,slow=30
TBI Tubuai 88.11 139 *e*LQ LQ 20 53 23.5
comp=Z,2μm,27.5s
TBI *e*LR LR 20 56 21.3
comp=Z,4μm,25.0s
STKA Stephens Creek 89.84 200 P **P** **20 29 18.6 0.0**
STKA Stephens Creek 89.84 200 P **P** **20 29 20.7 +2.1**
comp=Z,1.3nm,0.8s,baz=345,slow=10,SNR=2.3
STKA LR LR 21 06 53.9
comp=Z,110nm,19.8s,baz=28,slow=34
comp=Z,1.3nm,0.8s
STKA Stephens Creek 89.84 200 P **P** **20 29 18.6 0.0**
MDT Midelt 90.97 351 LR LR 21 12 49.8
comp=Z,67nm,19.0s,baz=42,slow=37
JTS Las Juntas de 92.51 68 LR LR 21 12 36.8
comp=Z,120nm,21.9s,baz=307,slow=36
SJG San Juan 94.57 48 LR LR 21 15 41.8
comp=Z,197nm,18.7s,baz=332,slow=38
URZ Urewera 94.58 170 LR LR 21 06 51.9
comp=Z,128nm,20.1s,baz=95,slow=32
BSWZ Blackbirch Sta 97.75 173 P **P** **20 29 54.4 -0.3**
QSPA South Pole Qui 145.86 180 **PKPdf** **20 35 57.4 0.0**
QSPA South Pole Qui 145.86 180 PKPbc **PKPab** **20 35 59.9 +1.3**
comp=Z,3.1nm,0.8s,baz=10,slow=0.9,SNR=6.0
SYO Syowa Base 152.76 220 ⇑ *e*PKPdf **PKPdf** **20 36 09.4 +1.1**
SYO Syowa Base 152.76 220 ⇓ *ep*PKPdf pPKPdf 20 36 12.0 -0.9
NVL N'lazarevskaya 161.25 208 *e*PKIKP **PKPdf** **20 36 21.1 +2.0**
NVL *e* *e* 20 40 50.5
NVL *e*PPP PPP 20 44 28.1
NVL *e*SS SS 21 01 03.3 +2.2
NVL *e*SSS SSS 21 07 16.4
NVL pmax pmax
comp=Z,11nm,1.2s
TROLL Troll, Antarti 162.39 198 ⇓ P PKPab 20 37 17.6 +9.4
comp=Z,67nm,0.6s
SNAA Sanae 163.52 194 ⇓ P **PKPab** **20 37 15.8 +2.6**
comp=Z,13nm,0.7s
SNAA Sanae 163.52 194 PKPab **PKPab** **20 37 12.0 -1.1**
comp=Z,1.0nm,1.0s,baz=198,slow=9.6,SNR=2.7
VNA3 Neumayer Olymp 164.62 187 ⇓ P PKPab 20 37 26.7 +8.8
comp=Z,2.5nm,0.7s
VNA2 Neumayer--Watz 164.75 190 ⇓ P **PKPab** **20 37 19.8 +1.4**
comp=Z,1.9nm,0.9s,baz=160,slow=3.5
VNA1 Neumayer--Stat 165.09 189 ⇓ P PKPab 20 37 28.9 +9.0
comp=Z,1.9nm,0.7s

SJA ***29*** *20:16:56.9±0.8, 30°.15S×69°.34W, h120km±2km, ML4.2, MW4.0*
IDC ***29*** *20:16:56.7±2.8, 30°.08S×69°.37W, h107km±21km, mb3.5/3, mbtmp4.0/6, Error ellipse: s-maj=43.6km s-min=19.4km az=91.0*
GUC ***29*** *20:16:57.9±0.9, 30°.07S×69°.50W, h123km±6km, ML4.3*
NEIC ***29*** *20:16:57.4±1.9, 30°.15S±0°.05×69°.37W±0°.08, h126km±7km, mb4.2/2, ML4.3(GUC), Error ellipse: s-maj=10.0km s-min=6.6km az=73.0*
ISC 29 20:16:56.6±0.7,**30°.09S**±0°.03×**69°.33W**±0°.03,**h123**km±5km, **n118**,σ1**S58**/159,**mb4.3**/3,**4C-5D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.15**	**239**	*e*P	**Pn**	**20 17 14.7**	**+0.9**
ACDV	**Cuesta del Vie**	**0.20**	**114**	*e*P	**Pn**	**20 17 14.4**	**+0.7**
ACDV				*e*S	**Sn**	**20 17 26.9**	**+0.1**
ACDV				IAML		20 17 27.4	
comp=Z,7μm,0.1s							
ACCO	**Cerro Coronel**	**0.54**	**155**	*e*P	**Pn**	**20 17 16.0**	**+0.4**
ACCO				*e*S	**Sn**	**20 17 29.7**	**-0.2**
CO01	**Juntas del Tor**	**0.67**	**280**		**Pn**	**20 17 18.1**	**+1.8**
CO01	**Juntas del Tor**	**0.67**	**280**	⇑ *i P*	**Pn**	**20 17 18.2**	**+1.8**
CO01				*i* S	**Sn**	**20 17 32.7**	**+1.5**
CO01				IAML		20 17 33.2	
comp=E,6μm,0.2s							
CO01	**Juntas del Tor**	**0.67**	**280**	*e*P	Pn	20 17 08.9	-7.5
CO01				*e*P		20 17 13.1	
CO01				*e*P		20 17 17.5	
CO01				*e*S	**Sn**	**20 17 33.2**	**+2.0**
AGUA	**GUANDACOL**	**0.94**	**51**	*e*S	Sn	20 17 20.4	-15
AGUA				*e*P	Sn	20 17 20.4	-15
AGUA				*e*S		20 17 36.7	
AGUA				IAML		20 17 37.9	
comp=Z,9μm,0.4s							
GO04	**Tololo Observa**	**1.28**	**266**		**Pn**	**20 17 23.2**	**+1.3**
GO04				Sn	**Sn**	**20 17 42.2**	**+1.0**
GO04	**Tololo Observa**	**1.28**	**266**	*e*P	**Pn**	**20 17 23.2**	**+1.3**
GO04				*i* S	**Sn**	**20 17 42.1**	**+0.9**
GO04	**Tololo Observa**	**1.28**	**266**	*e*P	**Pn**	**20 17 21.7**	**-0.3**

GO04				*e*S	Sn	20 17 42.9	+1.6
CO03	**El Pedregal**	**1.39 237**			**Pn**	**20 17 23.9**	**+0.9**
CO03				Sn	**Sn**	**20 17 43.9**	**+0.7**
CO03	**El Pedregal**	**1.39 237**	⇓	*i*P	**Pn**	**20 17 24.0**	**+0.9**
CO03				*i* S	**Sn**	**20 17 43.8**	**+0.5**
CO03				IAML		20 17 46.3	
comp=E,9μm,0.4s							
CO03	**El Pedregal**	**1.39 237**		*e*P	**Pn**	**20 17 23.3**	**+0.3**
CO03				*e*S	**Sn**	**20 17 44.1**	**+0.9**
CO03				IAML		20 17 46.6	
comp=Z,3μm,0.3s							
RTLL	**Cerro Villicun**	**1.44 149**	⇑	*i*P	**Pn**	**20 17 24.0**	**+0.5**
RTLL	**Cerro Villicun**	**1.44 149**		*e*P	**Pn**	**20 17 24.1**	**+0.5**
RTLL				*e*S	**Sn**	**20 17 44.0**	**-0.1**
RTLL				*e*S		20 17 44.1	
RTLL				IAML		20 17 46.2	
comp=Z,2μm,0.2s							
ZON	**Zonda**	**1.55 159**			**Pn**	**20 17 25.4**	**+0.5**
ZON				Sn	**Sn**	**20 17 45.3**	**-1.2**
ZON	**Zonda**	**1.55 159**		*e*P	**Pn**	**20 17 24.8**	**-0.1**
ZON				*e*S	**Sn**	**20 17 44.1**	**-2.4**
ZON				*e*S		20 17 46.1	
ZON				IAML		20 17 47.0	
comp=Z,1μm,0.4s							
SJA	**San Juan**	**1.58 155**		*e*P	**Pn**	**20 17 26.0**	**+0.8**
SJA				*e*S	**Sn**	**20 17 47.4**	**+0.4**
SJA				IAML		20 17 52.7	
comp=Z,1μm,0.2s							
LCO	**Las Campanas**	**1.61 312**			**Pn**	**20 17 27.2**	**+1.4**
LCO				Sn	**Sn**	**20 17 49.3**	**+1.4**
LCO	**Las Campanas**	**1.61 312**		*e*P	**Pn**	**20 17 26.6**	**+0.8**
LCO				*i* S	**Sn**	**20 17 49.0**	**+1.0**
LCO	**Las Campanas**	**1.61 312**		*e*P	Pn	20 17 10.4	-15
LCO				*e*P		20 17 27.2	
LCO				*e*S	**Sn**	**20 17 44.1**	**-3.9**
LCO				*e*S		20 17 49.6	
LCO				*e*S		20 17 49.8	
LCO				IAML		20 17 51.4	
comp=Z,4μm,0.4s							
CO05	**La Serena**	**1.67 275**			**Pn**	**20 17 26.5**	**+0.4**
CO05				Sn	**Sn**	**20 17 48.3**	**-0.3**
CO05	**La Serena**	**1.67 275**	⇑	*i*P	**Pn**	**20 17 26.7**	**+0.5**
CO05				*i* S	**Sn**	**20 17 48.2**	**-0.4**
CO05				IAML		20 17 49.5	
comp=N,4μm,0.6s							
VCA	**Vinchina**	**1.67 36**	⇓	*i*P	**Pn**	**20 17 29.0**	**+2.6**
VCA	**Vinchina**	**1.67 36**		*e*P	**Pn**	**20 17 28.3**	**+2.0**
VCA				*e*S	**Sn**	**20 17 52.8**	**+3.7**
VCA				IAML		20 17 55.2	
comp=Z,4μm,0.3s							
RTLS	**Leoncito**	**1.70 179**		*e*P	**Pn**	**20 17 28.0**	**+1.1**
RTLS				*e*S	**Sn**	**20 17 50.6**	**+0.6**
RTLS				IAML		20 17 52.3	
comp=Z,6μm,0.5s							
CFA	**Coronel Fontan**	**1.78 148**		P	**Pn**	**20 17 28.1**	**+0.6**
comp=Z,504nm,0.3s,baz=327,slow=11,SNR=502							
CFA				S	**Sn**	**20 17 50.5**	**-0.7**
comp=Z,1μm,0.3s,baz=82,slow=18,SNR=71							
CFA	**Coronel Fontan**	**1.78 148**		*e*P	**Pn**	**20 17 27.6**	**0.0**
CFA				*e*S	**Sn**	**20 17 51.1**	**-0.1**
CO02	**Combarbal**	**1.82 232**			**Pn**	**20 17 28.5**	**+0.5**
CO02				Sn	**Sn**	**20 17 52.0**	**-0.1**
CO02	**Combarbal**	**1.82 232**	⇓	*i*P	**Pn**	**20 17 28.6**	**+0.5**
CO02				*i* S	**Sn**	**20 17 52.5**	**+0.4**
CO02	**Combarbal**	**1.82 232**		*e*P	**Pn**	**20 17 28.0**	**-0.1**
CO02				*e*S	**Sn**	**20 17 52.8**	**+0.7**
CO02				IAML		20 17 58.1	
comp=Z,3μm,0.9s							
CO06	**Fray Jorge**	**2.08 253**			**Pn**	**20 17 30.8**	**-0.3**
CO06	**Fray Jorge**	**2.08 253**		*e*P	**Pn**	**20 17 30.9**	**-0.3**
CO06				IAML		20 18 07.2	
comp=N,3μm,0.3s							
ACLC	**CERRO LA CRUZ**	**2.17 73**		*e*P	**Pn**	**20 17 34.1**	**+1.6**
ACLC				*e*S	**Sn**	**20 18 01.8**	**+1.9**
ACLC				IAML		20 18 03.8	
comp=Z,1μm,0.2s							
CO04	**Los Peladeros**	**2.40 216**	⇓	*i*P	**Pn**	**20 17 35.8**	**+0.2**
CO04				*i* S	**Sn**	**20 18 04.7**	**-0.7**
CO04				IAML		20 18 09.2	
comp=N,1μm,0.3s							
AC04	**Llanos de Chal**	**2.42 320**			**Pn**	**20 17 37.0**	**+1.5**
AC04				Sn	**Sn**	**20 18 05.4**	**0.0**
AC04	**Llanos de Chal**	**2.42 320**		*e*P	**Pn**	**20 17 37.0**	**+1.5**
AC04				*i* S	**Sn**	**20 18 05.6**	**+0.2**
AC04				IAML		20 18 11.0	
comp=N,1μm,0.5s							
AC04	**Llanos de Chal**	**2.42 320**		*e*P	**Pn**	**20 17 37.2**	**+1.7**
AC04				*e*S	**Sn**	**20 18 06.1**	**+0.7**
AC04				IAML		20 18 14.2	
comp=Z,602nm,0.8s							
AANI	**Anillaco**	**2.44 59**		*e*P	**Pn**	**20 17 37.8**	**+1.8**
AANI				*e*S	**Sn**	**20 18 07.8**	**+1.6**
ASAL	**Salagasta**	**2.53 171**		*e*P	**Pn**	**20 17 38.6**	**+1.6**
ASAL				*e*S	**Sn**	**20 18 08.9**	**+0.9**
GO03	**Copiapo**	**2.61 342**			**Pn**	**20 17 39.6**	**+1.5**
GO03				Sn	**Sn**	**20 18 10.4**	**+0.5**
GO03	**Copiapo**	**2.61 342**		*e*P	**Pn**	**20 17 39.7**	**+1.6**
GO03				*i* S	**Sn**	**20 18 10.9**	**+1.0**
GO03				IAML		20 18 12.0	
comp=N,2μm,0.3s							
GO03	**Copiapo**	**2.61 342**		*e*P	**Pn**	**20 17 39.9**	**+1.8**
GO03				*e*S	**Sn**	**20 18 06.1**	**-3.8**
GO03				*e*S		20 18 11.7	
GO03				IAML		20 18 11.8	
comp=Z,976nm,0.3s							
ARCO	**CERRO ARCO**	**2.76 173**		*e*P	**Pn**	**20 17 41.6**	**+1.5**
ARCO				*e*S	**Sn**	**20 18 16.0**	**+2.5**
ARCO				*e*S		20 18 16.0	
ARCO				IAML		20 18 17.7	
comp=Z,818nm,0.3s							
ACAN	**Cantantal**	**2.85 140**		*e*P	**Pn**	**20 17 41.4**	**+0.4**
ACAN				IAML		20 18 18.9	
comp=Z,2μm,0.3s							
VA03	**San Esteban**	**2.86 201**			**Pn**	**20 17 42.0**	**+0.7**
VA03				Sn	**Sn**	**20 18 15.8**	**+0.1**
VA03	**San Esteban**	**2.86 201**	⇓	*e*P	**Pn**	**20 17 42.1**	**+0.9**
VA03	**San Esteban**	**2.86 201**		*e*P	**Pn**	**20 17 41.6**	**+0.4**
VA03				*e*S	**Sn**	**20 18 13.6**	**-2.1**
VA03				IAML		20 18 25.3	
comp=Z,531nm,0.3s							
AC06	**Mina Casimiro**	**2.87 341**			**Pn**	**20 17 43.4**	**+2.1**
AC06				Sn	**Sn**	**20 18 15.9**	**+0.2**
VA06	**Catapilco**	**2.98 214**			**Pn**	**20 17 42.1**	**-0.7**
AAGR	**Agrelo**	**3.02 172**		*e*P	**Pn**	**20 17 44.5**	**+1.2**
AAGR				*e*S	Sn	20 18 04.6	-15
AAGR				*e*S		20 18 12.1	
AAGR				IAML		20 18 24.4	
comp=Z,446nm,0.2s							
ROCH	**El Roble**	**3.21 206**		*e*P		20 17 45.4	
ROCH				*e*P	**Pn**	**20 17 45.3**	**-0.7**
ROC1	**El Roble**	**3.22 206**		*e*S	Sn	20 18 12.1	-12
AC02	**Maricunga**	**3.25 3**			**Pn**	**20 17 49.3**	**+2.5**
AC02	**Maricunga**	**3.25 3**		*e*P	**Pn**	**20 17 49.0**	**+2.2**
AC02				*e*S	**Sn**	**20 18 28.4**	**+3.0**
AC02				IAML		20 18 48.1	
comp=Z,286nm,0.8s							
PEL	**Peldehue**	**3.26 200**			**Pn**	**20 17 46.4**	**0.0**
PEL	**Peldehue**	**3.26 200**		*e*P	**Pn**	**20 17 46.6**	**+0.2**
PEL				*e*S	Sn	20 18 13.1	-12
PEL				IAML		20 18 19.3	
comp=Z,233nm,0.6s							
MT04	**Ro Olivares**	**3.38 192**		*e*P	**Pn**	**20 17 49.0**	**+0.8**
MT04				*e*P		20 17 49.6	
MT04				*e*S	Sn	20 18 16.1	-12
MT04				IAML		20 18 29.4	
comp=Z,180nm,0.7s							
MT08	**Bocatoma Ro**	**3.40 190**			**Pn**	**20 17 49.3**	**+0.9**
MT08	**Bocatoma Ro**	**3.40 190**		*e*P	**Pn**	**20 17 49.6**	**+1.2**
MT08				*e*P		20 17 50.6	
MT08				*e*S	**Sn**	**20 18 31.6**	**+3.2**
MT08				*e*S		20 18 36.7	
AVIZ	**Vizcacheras**	**3.44 169**		*e*P	**Pn**	**20 17 50.4**	**+1.5**
AVIZ				*e*S	Sn	20 18 16.1	-13
MT16	**CCHEN**	**3.48 197**			**Pn**	**20 17 49.5**	**+0.1**
CYA	**Choya**	**3.49 63**		*e*P	**Pn**	**20 17 50.4**	**+0.9**
CYA				*e*P		20 17 50.5	
CYA				*e*S	**Sn**	**20 18 24.1**	**-6.3**
CYA				*e*S		20 18 30.3	
CYA				IAML		20 18 31.3	
comp=Z,342nm,0.3s							
MT05	**Renca**	**3.50 200**			**Pn**	**20 17 49.2**	**-0.4**
MT05	**Renca**	**3.50 200**		*e*P	**Pn**	**20 17 49.9**	**+0.2**
MT05				*e*S	Sn	20 18 18.1	-13
MT05				IAML		20 18 40.3	
comp=Z,273nm,0.5s							
MT02	**Curacav**	**3.52 206**			**Pn**	**20 17 48.9**	**-0.8**
MT02	**Curacav**	**3.52 206**		*e*P	**Pn**	**20 17 48.2**	**-1.5**
VA01	**Torpederas**	**3.53 214**			**Pn**	**20 17 48.4**	**-1.5**
VA01	**Torpederas**	**3.53 214**		*e*P	**Pn**	**20 17 49.0**	**-0.9**
MT03	**Universidad Ad**	**3.54 196**			**Pn**	**20 17 50.5**	**+0.4**
MT03	**Universidad Ad**	**3.54 196**		*e*P	**Pn**	**20 17 50.9**	**+0.7**
MT03				*e*P		20 17 51.1	
MT03				*e*S	**Sn**	**20 18 34.4**	**+2.8**
MT03				IAML		20 18 39.2	
comp=Z,421nm,0.5s							
LMEL	**Las Melosas**	**3.82 191**			**Pn**	**20 17 54.4**	**+0.5**
LMEL	**Las Melosas**	**3.82 191**		*e*P	**Pn**	**20 17 54.3**	**+0.4**
LMEL				IAML		20 18 52.1	
comp=Z,152nm,0.6s							
MRA	**San Martin**	**3.87 128**		*e*P	**Pn**	**20 17 55.0**	**+0.5**
MRA				*e*S	**Sn**	**20 18 39.4**	**0.0**
MRA				IAML		20 18 40.0	
comp=Z,231nm,0.7s							
MT09	**Talagante**	**3.94 201**			**Pn**	**20 17 54.0**	**-1.5**
BO04	**La Punta**	**4.04 195**			**Pn**	**20 17 56.0**	**-0.7**
AC01	**Pan de Azucar**	**4.09 344**			**Pn**	**20 17 58.6**	**+1.2**
AC01	**Pan de Azucar**	**4.09 344**		*e*P	**Pn**	**20 17 58.9**	**+1.4**
AC01				*e*S	Sn	20 18 31.6	-13
AC01				*e*S		20 18 44.8	
AC01				IAML		20 18 57.0	
comp=Z,324nm,0.5s							
MT01	**Popeta**	**4.10 203**			**Pn**	**20 17 56.0**	**-1.6**
MT01	**Popeta**	**4.10 203**		*e*P	**Pn**	**20 17 55.4**	**-2.1**
MT01				IAML		20 18 52.6	
comp=Z,113nm,0.5s							
TCA	**Tanti**	**4.26 108**	⇑	*i*P	**Pn**	**20 17 59.8**	**+0.1**
TCA	**Tanti**	**4.26 108**		*e*S	**Sn**	**20 18 47.3**	**-1.5**
TCA				IAML		20 19 31.4	
comp=Z,157nm,0.8s							
BO01	**Tunca**	**4.54 199**			**Pn**	**20 18 01.4**	**-1.9**
BO01	**Tunca**	**4.54 199**		*e*P	**Pn**	**20 18 01.6**	**-1.7**
RFA	**San Rafael**	**4.72 171**		*e*P	**Pn**	**20 18 05.8**	**-0.2**
RFA				*e*S	Sn	20 18 51.1	-8.7
RFA				*e*S		20 18 58.0	
RFA				IAML		20 18 59.0	
comp=Z,188nm,0.6s							
BO02	**Sierra Bellavi**	**4.85 194**			**Pn**	**20 18 06.5**	**-1.1**
GO02	**Mina Guanaco**	**4.92 357**			**Pn**	**20 18 09.9**	**+1.2**
GO02	**Mina Guanaco**	**4.92 357**		*e*P	**Pn**	**20 18 04.6**	**-4.2**
GO02				*e*P		20 18 10.4	
GO02				*e*S	**Sn**	**20 19 06.6**	**+1.7**
GO02				IAML		20 19 22.4	
comp=Z,161nm,0.6s							
FSA	**Cafayete**	**4.95 38**		*e*P	**Pn**	**20 18 10.8**	**+1.7**
PB14	**IPOC Station P**	**5.53 350**			**Pn**	**20 18 17.2**	**+0.2**
ML02	**Panimavida**	**5.92 197**		Pn	**Pn**	**20 18 18.8**	**-3.2**
PB10	**IPOC Station P**	**6.64 350**			**Pn**	**20 18 30.6**	**-1.2**
BI02	**San Fabin de**	**6.75 193**			**Pn**	**20 18 31.3**	**-1.9**
PB06	**IPOC Station P**	**7.36 358**			**Pn**	**20 18 39.5**	**-2.1**
PB03	**IPOC Station P**	**8.02 357**			**Pn**	**20 18 48.3**	**-2.2**
PB09	**IPOC Station P**	**8.26 1**			**Pn**	**20 18 52.8**	**-1.0**
PB02	**IPOC Station P**	**8.75 357**			**Pn**	**20 18 57.4**	**-2.9**
PB01	**IPOC Station P**	**9.01 359**			**Pn**	**20 19 01.2**	**-2.6**
TA01	**Diego Aracena**	**9.52 355**		Pn	**Pn**	**20 19 08.1**	**-2.4**
HMBC	**Humberstone**	**9.78 357**		Pn	**Pn**	**20 19 12.5**	**-1.8**
PB08	**IPOC Station P**	**9.91 1**		Pn	**Pn**	**20 19 14.6**	**-1.7**
TRQA	**Tornquist**	**10.01 144**			**Pn**	**20 19 15.2**	**-1.9**
GO01	**Chusmiza**	**10.38 1**			**Pn**	**20 19 21.4**	**-1.3**
PLCA	**Paso Flores**	**10.66 185**		Pn	**Pn**	**20 19 21.3**	**-4.7**
PLCA	**Paso Flores**	**10.66 185**		P	**Pn**	**20 19 24.5**	**-1.5**
comp=Z,3.3nm,0.9s,baz=3,3,slow=17,SNR=3.7							
CPUP	**Villa Florida**	**11.22 73**		Pn	**Pn**	**20 19 31.8**	**-1.7**
CPUP	**Villa Florida**	**11.22 73**		P	**Pn**	**20 19 31.2**	**-2.3**
comp=Z,0.2nm,0.3s,baz=94,slow=7.1,SNR=1.6							
PLTB	**Pedras Altas**	**13.60 101**		Pn	**Pn**	**20 20 02.1**	**-2.5**
LPAZ	**La Paz**	**13.78 5**		Pn	**Pn**	**20 20 06.3**	**-1.2**
LPAZ	**La Paz**	**13.78 5**		P	**Pn**	**20 20 07.5**	**0.0**
comp=Z,6.0nm,0.7s,baz=175,slow=12,SNR=24							
SIV	**San Ignacio**	**15.95 30**		P	**P**	**20 20 35.5**	**+0.1**
comp=Z,8.7nm,0.7s,baz=208,slow=12,SNR=39							
SNAA	**Sanae**	**54.37 159**		P	**P**	**20 26 10.4**	**+0.1**
SNAA				IAmb	IAmb	20 26 54.5	
comp=Z,3.1nm,1.1s							
SNAA	**Sanae**	**54.37 159**		P	**P**	**20 26 12.1**	**+1.8**
comp=Z,0.4nm,0.6s,baz=269,slow=11,SNR=6.7							
comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**60.13 180**		P	**P**	**20 26 53.4**	**+2.4**
comp=Z,1.2nm,0.2s,baz=113,slow=4.6,SNR=4.3							
comp=Z,1.2nm,0.2s							
SAND	**Sanderson**	**67.39 329**		P	**P**	**20 27 38.4**	**-0.4**
SAND				IAmb	IAmb	20 28 16.8	
comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**80.69 69**		P	**P**	**20 28 58.6**	**+2.2**
comp=Z,0.3nm,0.7s,baz=251,slow=7.2,SNR=1.8							
comp=Z,0.3nm,0.7s							
WRA	**Warramunga Arr**	**125.28 208**		PKP	**PKiKP**	**20 35 45.8**	**+1.9**
comp=Z,0.5nm,0.8s,baz=151,slow=2.0,SNR=5.1							
MKAR	**Makanchi Array**	**152.42 45**		PKPbc	**PKiKP**	**20 36 38.9**	**+0.6**
comp=Z,0.1nm,0.4s,baz=323,slow=2.0,SNR=1.9							

*NOU **29** 20:18:26.1, 39.°33S×176.°03E, h50km, MLv3.5/10, North Island, New Zealand*
*WEL **29** 20:18:26.6±0.6, 39.°3S±3.°×17.°6E±.°, h45km±5km, M3.3/79, ML3.5/20, MLv3.3/79, Error ellipse: s-maj=4.5km s-min=3.9km az=0.6, confirmed*

ISC 29 20:18:25.4±1.3, 39.°33S±0.°03×175.°95E±0.°03, h67km±6km, n148, σ0.°82/162, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.17**	**241**	P	**Pn**	**20 18 35.7**	**0.0**
MOVZ				S	**Sn**	**20 18 42.6**	**-0.7**
TUVZ	**Tukino**	**0.23**	**284**	P	**Pn**	**20 18 36.4**	**+0.2**
TUVZ				S	**Sn**	**20 18 43.8**	**-0.1**
ETVZ	**East Tongariro**	**0.26**	**316**	P	**Pn**	**20 18 36.4**	**+0.1**
ETVZ				S	**Sn**	**20 18 43.7**	**-0.4**
WNVZ	**Wahianoa**	**0.27**	**269**	P	**Pn**	**20 18 36.5**	**+0.2**
WNVZ				S	**Sn**	**20 18 44.0**	**-0.3**
OTVZ	**Oturere**	**0.27**	**306**	P	**Pn**	**20 18 36.6**	**+0.2**
OTVZ				S	**Sn**	**20 18 44.0**	**-0.3**
SNVZ	**South Ngauruho**	**0.28**	**300**	P	**Pn**	**20 18 36.6**	**+0.2**
SNVZ				S	**Sn**	**20 18 44.2**	**-0.2**
TMVZ	**Te Maari**	**0.28**	**318**	P	**Pn**	**20 18 36.5**	**+0.2**
TMVZ				S	**Sn**	**20 18 43.9**	**-0.5**
WHVZ	**Whangaehu Hut**	**0.28**	**279**	P	**Pn**	**20 18 36.7**	**+0.2**
WHVZ				S	**Sn**	**20 18 44.1**	**-0.4**
MAVZ	**Matarangi**	**0.30**	**281**	P	**Pn**	**20 18 36.9**	**+0.1**
NGZ	**Ngauruhoe**	**0.31**	**299**	P	**Pn**	**20 18 36.9**	**+0.3**
NGZ				S	**Sn**	**20 18 44.5**	**-0.2**
TRVZ	**Turoa**	**0.31**	**275**	P	**Pn**	**20 18 36.9**	**+0.2**
FWVZ	**Far West T-bar**	**0.31**	**283**	P	**Pn**	**20 18 36.9**	**+0.2**
NNVZ	**North Ngauruho**	**0.32**	**307**	P	**Pn**	**20 18 37.0**	**+0.3**
KRVZ	**Karewarewa**	**0.33**	**314**	P	**Pn**	**20 18 37.1**	**+0.4**
COVZ	**Chateau Observ**	**0.34**	**292**	P	**Pn**	**20 18 37.0**	**+0.2**
WTVZ	**West Tongariro**	**0.35**	**307**	P	**Pn**	**20 18 36.9**	**+0.1**
RITZ	**Rihia Road**	**0.35**	**349**	P	**Pn**	**20 18 37.0**	**+0.2**
MTVZ	**Mangateitei**	**0.38**	**261**	P	**Pn**	**20 18 37.4**	**+0.4**
MTVZ				S	**Sn**	**20 18 45.7**	**+0.2**
KWHZ	**Kaweka Forest**	**0.38**	**105**	P	**Pn**	**20 18 37.7**	**+0.7**
KATZ	**Kakaramea**	**0.40**	**331**	P	**Pn**	**20 18 37.5**	**+0.2**
KFHS	**Kaweka Forest**	**0.42**	**105**	P	**Pn**	**20 18 37.9**	**+0.6**
KFHS				S	**Sn**	**20 18 47.4**	**+1.4**
ORCS	**Ohakune Ruapeh**	**0.42**	**257**	P	**Pn**	**20 18 37.8**	**+0.4**
ORCS				S	**Sn**	**20 18 46.4**	**+0.3**
HATZ	**Hinemaiaia**	**0.45**	**15**	P	**Pn**	**20 18 37.3**	**-0.2**
HATZ				S	**Sn**	**20 18 45.4**	**-1.1**
BKZ	**Black Stump Fm**	**0.45**	**70**	P	**Pn**	**20 18 37.6**	**-0.1**
BKZ	**Black Stump Fm**	**0.45**	**70**	P	**Pn**	**20 18 37.5**	**-0.1**
BKZ	**Black Stump Fm**	**0.45**	**70**	P	Pn	20 18 46.8	+9.2
BKZ	**Black Stump Fm**	**0.45**	**70**	P	**Pn**	**20 18 37.7**	**+0.1**
BKZ				S	**Sn**	**20 18 46.3**	**-0.2**
KRHZ	**Kereru**	**0.46**	**134**	P	**Pn**	**20 18 38.4**	**+0.7**
KRHZ				S	**Sn**	**20 18 48.2**	**+1.6**
PKVZ	**Pokaka**	**0.47**	**274**	P	**Pn**	**20 18 38.1**	**+0.4**
TWVZ	**Taurewa**	**0.47**	**302**	P	**Pn**	**20 18 37.8**	**-0.1**
RATZ	**Rangitukua**	**0.48**	**343**	P	**Pn**	**20 18 37.8**	**-0.1**
WAKS	**Wakarara Rangi**	**0.51**	**152**	P	**Pn**	**20 18 39.1**	**+1.0**
MCHZ	**McNeill Hill**	**0.59**	**102**	P	**Pn**	**20 18 40.3**	**+1.3**
MRHZ	**Matea Rd**	**0.61**	**37**	P	**Pn**	**20 18 39.0**	**-0.2**
PNHZ	**Pukenui**	**0.62**	**162**	P	**Pn**	**20 18 40.0**	**+0.7**
WATZ	**Wairara**	**0.64**	**345**	P	**Pn**	**20 18 39.6**	**0.0**
WHTZ	**Whakaora**	**0.66**	**1**	P	**Pn**	**20 18 40.1**	**+0.3**
NMHZ	**Naumai**	**0.70**	**71**	P	**Pn**	**20 18 41.7**	**+1.4**
TSZ	**Takapari Road**	**0.73**	**179**	P	**Pn**	**20 18 41.5**	**+0.9**
ARHZ	**Aropaoanui**	**0.82**	**86**	P	**Pn**	**20 18 42.6**	**+1.1**
ALRZ	**Allen Road**	**0.82**	**22**	P	**Pn**	**20 18 41.5**	**-0.1**
WPHZ	**Waipukurau**	**0.83**	**153**	P	**Pn**	**20 18 42.5**	**+0.7**
KUTZ	**Kaahu Road**	**0.84**	**353**	P	**Pn**	**20 18 41.9**	**+0.1**
MTHZ	**Maungataniwha**	**0.84**	**56**	P	**Pn**	**20 18 42.2**	**+0.3**
KAHZ	**Kahuranaki**	**0.86**	**123**	P	**Pn**	**20 18 43.0**	**+0.9**
WAZ	**Wanganui**	**0.86**	**240**	P	**Pn**	**20 18 43.6**	**+1.6**
PRRZ	**Plateau Road**	**0.90**	**23**	P	**Pn**	**20 18 42.5**	**0.0**
CKHZ	**Cape Kidnapper**	**0.94**	**111**	P	**Pn**	**20 18 44.2**	**+1.2**
VRZ	**Vera Road**	**0.94**	**282**	P	**Pn**	**20 18 43.8**	**+0.7**
HRRZ	**Handcock Road**	**0.97**	**16**	P	**Pn**	**20 18 43.8**	**+0.3**
RAHZ	**Arahi**	**0.97**	**66**	P	**Pn**	**20 18 44.4**	**+0.9**
GRRZ	**Galatos Road**	**0.98**	**7**	P	**Pn**	**20 18 43.5**	**-0.1**
DVHZ	**Dannevirke**	**0.99**	**170**	P	**Pn**	**20 18 44.1**	**+0.4**
PXZ	**Pawanui**	**1.00**	**135**	P	**Pn**	**20 18 44.1**	**+0.4**
OHWZ	**Ohakea**	**1.01**	**209**	P	**Pn**	**20 18 45.9**	**+2.0**
WHHZ	**Waihua**	**1.03**	**76**	P	**Pn**	**20 18 45.0**	**+0.8**
HSRZ	**Hossack Road**	**1.04**	**13**	P	**Pn**	**20 18 44.6**	**+0.3**
TLZ	**Tolley Road**	**1.04**	**342**	P	**Pn**	**20 18 44.4**	**-0.1**
MUGZ	**Murupara**	**1.06**	**37**	P	**Pn**	**20 18 44.3**	**-0.3**
RTZ	**Ruatahuna**	**1.07**	**49**	P	**Pn**	**20 18 44.7**	**-0.1**
POWZ	**Post Office Ro**	**1.07**	**187**	P	**Pn**	**20 18 45.5**	**+0.8**
PRHZ	**Porangahau**	**1.08**	**151**	P	**Pn**	**20 18 45.4**	**+0.6**
RRRZ	**Republican Roa**	**1.08**	**24**	P	**Pn**	**20 18 44.9**	**0.0**
HLRZ	**Highlands Stat**	**1.12**	**17**	P	**Pn**	**20 18 46.1**	**+0.8**
TARZ	**Mount Tarawera**	**1.17**	**22**	P	**Pn**	**20 18 46.5**	**+0.4**
HIZ	**Hauiti**	**1.18**	**313**	P	**Pn**	**20 18 46.6**	**+0.6**
HIZ	**Hauiti**	**1.18**	**313**	S	**Sn**	**20 19 01.8**	**+0.4**
HIZ	**Hauiti**	**1.18**	**313**	P	**Pn**	**20 18 46.5**	**+0.4**
ANWZ	**Angora Road**	**1.20**	**160**	P	**Pn**	**20 18 47.0**	**+0.6**
LREZ	**Lake Rotokare**	**1.21**	**263**	P	**Pn**	**20 18 47.7**	**+1.3**
SNGZ	**Shannon Statio**	**1.21**	**64**	P	**Pn**	**20 18 47.3**	**+0.8**
PRWZ	**Pori Road**	**1.23**	**179**	P	**Pn**	**20 18 47.4**	**+0.7**
DREZ	**Durham Road**	**1.36**	**275**	P	**Pn**	**20 18 50.5**	**+2.0**
MRZ	**Mangatainoka R**	**1.36**	**192**	P	**Pn**	**20 18 48.8**	**+0.3**
BFZ	**Birch Farm**	**1.38**	**170**	P	**Pn**	**20 18 48.7**	**+0.1**
BFZ	**Birch Farm**	**1.38**	**170**	P	**Pn**	**20 18 48.8**	**+0.1**
BFZ	**Birch Farm**	**1.38**	**170**	P	**Pn**	**20 18 48.7**	**+0.1**
KNZ	**Kokohu**	**1.38**	**78**	P	**Pn**	**20 18 48.5**	**-0.1**
PREZ	**Palmer Road**	**1.39**	**269**	P	**Pn**	**20 18 50.8**	**+1.9**
URZ	**Urewera**	**1.40**	**41**	P	**Pn**	**20 18 48.8**	**-0.2**
URZ	**Urewera**	**1.40**	**41**	P	**Pn**	**20 18 48.9**	**-0.1**
URZ	**Urewera**	**1.40**	**41**	S	**Sn**	**20 19 06.6**	**0.0**
URZ	**Urewera**	**1.40**	**41**	P	**Pn**	**20 18 48.9**	**-0.1**
RAGZ	**Rawiri**	**1.41**	**55**	P	**Pn**	**20 18 50.1**	**+0.9**
NEZ	**North Egmont**	**1.44**	**272**	P	**Pn**	**20 18 51.9**	**+2.3**
TIWZ	**Tintock**	**1.45**	**182**	P	**Pn**	**20 18 49.9**	**+0.2**
KHEZ	**Kahui Hut**	**1.50**	**271**	P	**Pn**	**20 18 52.1**	**+1.7**
KHEZ	**Kahui Hut**	**1.50**	**271**	P	**Pn**	**20 18 52.5**	**+2.1**
PKE	**Pukeiti**	**1.53**	**274**	P	**Pn**	**20 18 52.5**	**+1.8**
MHGZ	**Mahia Peninsul**	**1.53**	**84**	P	**Pn**	**20 18 51.1**	**+0.3**
RIGZ	**Rimuhau**	**1.54**	**67**	P	**Pn**

PB08 *e*S **Sn** **20 32 49.8 -0.3**
PB08 IAML 20 32 51.0
comp=E,5μm,0.3s
PB08 IPOC Station P 1.19 346 *e*P **Pn** **20 32 31.0 -0.3**
PB08 *e*S **Sn** **20 32 50.5 +0.5**
PB08 IAML 20 32 53.4
comp=Z,2μm,0.2s
PATCX Punta Patache 1.31 291 **Pn** **20 32 32.3 +0.1**
PATCX Sn **Sn** **20 32 51.6 0.0**
PATCX Punta Patache 1.31 291⇑*i*P **Pn** **20 32 32.7 +0.5**
PATCX *e*S **Sn** **20 32 51.8 +0.2**
PATCX IAML 20 32 52.3
comp=N,19μm,0.4s
PATCX Punta Patache 1.31 291 *e*P **Pn** **20 32 32.0 -0.2**
PATCX IAML 20 32 54.2
comp=Z,5μm,0.5s
HMBC Humberstone 1.41 316 **Pn** **20 32 32.9 -0.4**
HMBC Sn **Sn** **20 32 53.0 -0.7**
HMBC Humberstone 1.41 316⇑*i*P **Pn** **20 32 33.2 -0.2**
HMBC *e*S **Sn** **20 32 52.9 -0.7**
HMBC IAML 20 32 55.1
comp=N,13μm,0.6s
HMBC Humberstone 1.41 316 *e*P **Pn** **20 32 32.4 -0.9**
HMBC *e*S **Sn** **20 32 53.7 0.0**
HMBC IAML 20 32 54.9
comp=Z,7μm,0.3s
TA01 Diego Aracena 1.44 300 **Pn** **20 32 33.6 -0.1**
TA01 Sn **Sn** **20 32 53.2 -0.9**
TA01 Diego Aracena 1.44 300 *i*P **Pn** **20 32 33.7 +0.1**
TA01 *e*S **Sn** **20 32 53.4 -0.7**
TA01 IAML 20 32 54.5
comp=E,9μm,0.2s
TA01 Diego Aracena 1.44 300 *e*P **Pn** **20 32 33.7 +0.1**
TA01 *e*S **Sn** **20 32 54.2 +0.1**
TA01 IAML 20 32 57.6
comp=Z,3μm,0.3s
PB06 IPOC Station P 1.55 205 **Pn** **20 32 36.3 +1.3**
PB06 Sn **Sn** **20 32 57.5 +0.9**
PB06 IPOC Station P 1.55 205⇑*i*P **Pn** **20 32 36.5 +1.5**
PB06 *e*S **Sn** **20 32 57.8 +1.2**
PB06 IAML 20 32 58.9
comp=E,7μm,0.4s
PB06 IPOC Station P 1.55 205 *e*P **Pn** **20 32 36.4 +1.3**
PB06 *e*S **Sn** **20 32 58.1 +1.5**
PB06 IAML 20 32 58.7
comp=Z,5μm,0.4s
TA02 Huaiquique 1.58 310⇑*e*P **Pn** **20 32 34.9 -0.2**
TA02 Huaiquique 1.58 310 *e*P **Pn** **20 32 34.4 -0.8**
TA02 *e*S **Sn** **20 32 57.4 +0.5**
TA02 IAML 20 33 04.2
comp=Z,2μm,0.3s
GO01 Chusmiza 1.66 349 **Pn** **20 32 36.7 0.0**
GO01 Sn **Sn** **20 32 59.4 -0.1**
GO01 Chusmiza 1.66 349 *i*P **Pn** **20 32 36.8 +0.2**
GO01 *e*S **Sn** **20 32 59.6 +0.2**
GO01 IAML 20 33 01.4
comp=N,5μm,0.4s
GO01 Chusmiza 1.66 349 *e*P **Pn** **20 32 36.8 +0.2**
GO01 *e*S **Sn** **20 33 00.3 +0.8**
GO01 IAML 20 33 01.6
comp=Z,2μm,0.5s
PB11 IPOC Station P 1.71 334 **Pn** **20 32 36.8 -0.1**
PB11 Sn **Sn** **20 32 59.1 -0.9**
PB11 IPOC Station P 1.71 334⇑*i*P **Pn** **20 32 36.8 -0.1**
PB11 *e*S **Sn** **20 32 59.2 -0.8**
PB11 IAML 20 33 01.2
comp=E,9μm,0.8s
PB11 IPOC Station P 1.71 334 *e*P **Pn** **20 32 36.1 -0.8**
PB11 *e*S **Sn** **20 33 00.1 +0.1**
PB11 IAML 20 33 00.7
comp=Z,3μm,0.3s
AF01 San Pedro de A 1.76 159 **Pn** **20 32 39.6 +2.0**
AF01 San Pedro de A 1.76 159 *e*P **Pn** **20 32 40.0 +2.4**
AF01 *e*S **Sn** **20 33 05.3 +4.1**
AF01 IAML 20 33 23.1
comp=E,6μm,0.8s
AF01 San Pedro de A 1.76 159 *e*P **Pn** **20 32 35.0 -2.6**
AF01 *e*S **Sn** **20 33 03.1 +1.9**
AF01 IAML 20 33 27.6
comp=Z,3μm,0.8s
PX02 IPOC Station P 2.65 331 *e*P **Pn** **20 32 46.8 -1.8**
PB10 IPOC Station P 2.70 215 **Pn** **20 32 49.3 +0.1**
PB10 IPOC Station P 2.70 215 *e*P **Pn** **20 32 49.7 +0.5**
PB10 *e*S **Sn** **20 33 19.9 -2.1**
PB10 IPOC Station P 2.70 215 *e*P **Pn** **20 32 49.1 -0.1**
PB10 *e*S **Sn** **20 33 19.0 -3.0**
PB10 IAML 20 33 21.6
comp=Z,579nm,0.2s
PB12 IPOC Station P 3.01 332 **Pn** **20 32 51.9 -1.5**
PB12 IPOC Station P 3.01 332⇑*i*P **Pn** **20 32 52.0 -1.3**
PB12 IPOC Station P 3.01 332 *e*P **Pn** **20 32 52.0 -1.3**
PB12 *e*S **Sn** **20 33 28.1 -1.2**
PB12 IAML 20 33 54.8
comp=Z,445nm,0.4s
YJA Yavi 3.22 106⇑*e*P **Pn** **20 32 58.8 +2.4**
YJA Yavi 3.22 106 *e*P **Pn** **20 32 53.5 -2.8**
AP01 Chacalluta 3.24 334 **Pn** **20 32 54.8 -1.3**
AP01 Chacalluta 3.24 334 *e*P **Pn** **20 32 56.0 -0.2**
AP01 Chacalluta 3.24 334 *e*P **Pn** **20 32 55.6 -0.5**
AP01 *e*S **Sn** **20 33 31.5 -2.9**
AP01 IAML 20 34 09.6
comp=Z,693nm,0.7s
PB14 IPOC Station P 3.60 203 **Pn** **20 33 00.5 -0.8**
PB14 IPOC Station P 3.60 203 *e*P **Pn** **20 33 00.5 -0.8**
PB14 *e*S **Sn** **20 33 43.4 -0.1**
PB14 IAML 20 34 09.9
comp=Z,368nm,0.4s
HJA Humahuaca 3.71 121 *e*P **Pn** **20 32 59.9 -2.9**
SALTA 3.72 142⇑*e*P **Pn** **20 33 05.6 +2.6**
SALTA 3.72 142 *e*P **Pn** **20 33 05.9 +3.0**
PB18 Visviri 3.74 351 **Pn** **20 33 03.6 +0.3**
PB18 Visviri 3.74 351 *e*P **Pn** **20 33 06.0 +2.7**
GO02 Mina Guanaco 3.90 190 **Pn** **20 33 05.6 +0.4**
GO02 Mina Guanaco 3.90 190⇑*i*P **Pn** **20 33 05.7 +0.4**
GO02 Mina Guanaco 3.90 190 *e*P **Pn** **20 33 05.8 +0.5**
GO02 *e*S **Sn** **20 33 51.4 +0.8**
GO02 IAML 20 33 55.3
comp=Z,957nm,0.2s
AZAP Zapla 4.55 130 *e*P **Pn** **20 33 09.9 -3.9**
SLA San Lorenzo 4.59 138⇑*e*P **Pn** **20 33 17.0 +2.6**
SLA San Lorenzo 4.59 138 *e*P **Pn** **20 33 17.4 +3.1**
LPAZ La Paz 5.04 8 **Pn** **20 33 22.1 +1.3**
LPAZ La Paz 5.04 8 P **Pn** **20 33 21.9 +1.1**
comp=Z,37nm,0.4s,baz=187,slow=7.2,SNR=138
LPAZ La Paz 5.04 8 *e*P **Pn** **20 33 16.5 -4.2**
LPAZ *e*S Sn 20 33 58.8 -19
AC01 Pan de Azucar 5.08 198 **Pn** **20 33 19.7 -1.0**
AC01 Pan de Azucar 5.08 198 *e*P **Pn** **20 33 19.6 -1.2**
AC01 *e*S **Sn** **20 34 15.1 -3.3**
AC01 IAML 20 34 17.0
comp=Z,148nm,0.2s
AC02 Maricunga 5.51 183 **Pn** **20 33 27.6 +0.6**
AC06 Mina Casimiro 6.18 192 Pn **Pn** **20 33 34.0 -1.6**
GO03 Copiapo 6.39 191 **Pn** **20 33 36.5 -1.8**
AC04 Llanos de Chal 7.16 196 Pn **Pn** **20 33 45.0 -3.7**
LCO Las Campanas 7.86 192 **Pn** **20 33 55.1 -3.2**
SIV San Ignacio 9.07 56 P **Pn** **20 34 11.8 -2.9**
comp=Z,8.6nm,0.4s,baz=254,slow=9.1,SNR=46
CO03 El Pedregal 9.64 189 **Pn** **20 34 18.6 -3.6**
CO06 Fray Jorge 9.66 194 Pn **Pn** **20 34 19.6 -2.8**
ZON Zonda 10.20 179 **Pn** **20 34 27.2 -2.6**
CFA Coronel Fontan 10.27 177 P **Pn** **20 34 28.1 -2.7**
comp=Z,6.5nm,0.3s,baz=357,slow=14,SNR=33
CFA S **Sn** **20 36 16.1 -8.0**
comp=Z,1.8nm,0.3s,baz=144,slow=18,SNR=1.8
PTLB Pontes e Lacer 10.91 59 **Pn** **20 34 36.9 -2.4**
CPUP Villa Florida 11.67 118 **Pn** **20 34 47.6 -1.8**
CPUP Villa Florida 11.67 118 P **Pn** **20 34 47.4 -2.0**
comp=Z,0.9nm,0.7s,baz=148,slow=12,SNR=8.5
VILB Vilhena 11.72 46 **Pn** **20 34 47.3 -2.8**
MT02 Curacav 12.08 189 Pn 20 34 49.4 -5.4
MT08 Bocatoma Ro 12.14 185 **Pn** **20 34 51.8 -4.0**
MT01 Popeta 12.69 189 Pn 20 34 56.4 -6.3
BO01 Tunca 13.19 188 **Pn** **20 35 07.6 -1.5**
BO02 Sierra Bellavi 13.54 187 **Pn** **20 35 12.7 -1.1**
BI02 San Fabin de 15.45 187 **P** **20 35 38.6 -1.1**
BI02 IAmb IAmb 20 35 40.6
comp=Z,42nm,0.8s
ITAB Concordia 16.34 114 P **Pn** **20 35 48.2 -0.8**
ITAB IAmb IAmb 20 35 52.2
comp=Z,32nm,1.1s
PLTB Pedras Altas 17.15 131 P **P** **20 35 56.4 -2.1**

TRQA Tornquist 17.72 162 **P** **20 36 03.1 -1.6**
TRQA IAmb IAmb 20 36 07.9
comp=Z,18nm,0.8s
PLCA Paso Flores 19.42 184 P **P** **20 36 22.9 -0.4**
PLCA Paso Flores 19.42 184 P **Pn** **20 36 26.1 +0.4**
comp=Z,3.2nm,0.5s,baz=343,slow=7.3,SNR=8.5
MACA Manacapuru-AM 19.71 25 **P** **20 36 25.6 -1.0**
MACA IAmb IAmb 20 36 29.0
comp=Z,33nm,0.9s
BOAV Boa Vista 24.93 20 P **P** **20 37 17.7 -0.7**
USHA Ushuaia 33.48 180 LR LR 20 54 21.8
comp=Z,701nm,18.0s,baz=266,slow=40
CRPR Cabo Rojo, PR 39.10 3 P **P** **20 39 20.3 -1.7**
OBIP Obispado Ponce 39.16 3 P **P** **20 39 21.3 -1.2**
TXAR Lajitas Array 60.50 325 P **P** **20 42 05.4 +1.6**
comp=Z,0.1nm,0.4s,baz=147,slow=13,SNR=2.1
comp=Z,0.1nm,0.4s
Q56A Snyder Ridge, 60.80 351 P **P** **20 42 06.7 +1.1**
Q56A IAmb IAmb 20 42 32.5
comp=Z,13nm,1.3s
CGM3 Cape Girardeau 61.50 341 P **P** **20 42 11.3 +1.0**
SNAA Sanae 62.45 161 P **P** **20 42 18.9 +2.5**
SNAA Sanae 62.45 161 P **P** **20 42 18.9 +2.5**
comp=Z,1.7nm,1.1s,baz=254,slow=9.4,SNR=5.9
SNAA pP **pP** **20 42 47.2 -0.1**
comp=Z,1.5nm,0.9s,baz=266,slow=7.5,SNR=3.7
SNAA LR LR 21 06 41.2
comp=Z,530nm,21.8s,baz=210,slow=33
comp=Z,1.7nm,1.1s
L56A Greenwood 63.63 353 P **P** **20 42 26.1 +1.6**
F64A Sherman 66.85 0 P **P** **20 42 46.2 +1.2**
214A Organ Pipe Nat 67.64 320 P **P** **20 42 49.2 -1.3**
214A IAmb IAmb 20 42 56.9
comp=Z,4.0nm,0.8s
D62A Allapoint, All 68.06 360 P **P** **20 42 54.3 +1.6**
D62A IAmb IAmb 20 43 38.1
comp=Z,6.5nm,1.2s
DBIC Dimbokro 68.63 73 P **P** **20 42 56.5 -0.4**
DBIC IAmb IAmb 20 42 58.5
comp=Z,4.6nm,0.8s
DBIC Dimbokro 68.63 73 P **P** **20 42 56.6 -0.3**
comp=Z,3.5nm,0.7s,baz=226,slow=4.4,SNR=3.4
comp=Z,3.5nm,0.7s
QSPA South Pole Qui 68.89 180 P P 20 43 03.5 +5.6
comp=Z,0.7nm,0.5s,baz=0.0,slow=1.0,SNR=3.9
PDAR Pinedale Array 73.97 330 P **P** **20 43 29.7 +0.9**
PDAR Pinedale Array 73.97 330 P **P** **20 43 31.4 +2.6**
comp=Z,0.7nm,0.8s,baz=175,slow=4.7,SNR=4.0
comp=Z,0.7nm,0.8s
SCHQ Schefferville 75.84 1 P **P** **20 43 39.6 +0.7**
SCHQ Schefferville 75.84 1 P **P** **20 43 39.9 +0.9**
comp=Z,40nm,0.9s,baz=202,slow=6.4,SNR=3.7
TORD Torodi Ar. Bea 77.24 70 P **P** **20 43 47.9 +0.2**
comp=Z,2.0nm,0.7s,baz=260,slow=3.6,SNR=15
TORD pP **pP** **20 44 19.1 -1.1**
comp=Z,1.7nm,0.8s,baz=266,slow=3.7,SNR=4.4
comp=Z,2.0nm,0.7s
MAW Mawson 84.50 163 P **P** **20 44 27.9 +2.6**
comp=Z,5.3nm,1.2s,baz=286,slow=15,SNR=2.2
comp=Z,5.3nm,1.2s
ESDC Sonseca Array 85.66 44 P **P** **20 44 32.4 +0.8**
comp=Z,0.8nm,0.9s,baz=236,slow=5.3,SNR=5.1
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 91.02 341 P **P** **20 44 57.9 +1.5**
comp=Z,2.7nm,0.7s,baz=141,slow=3.5,SNR=3.8
comp=Z,2.7nm,0.7s
ASAR Alice Springs 130.11 208 **PKiKP** **20 51 04.2 +0.6**
ASAR Alice Springs 130.11 208 PKP **PKiKP** **20 51 04.5 +0.9**
comp=Z,0.5nm,0.5s,baz=130,slow=2.0,SNR=6.6
ASAR pPKP **pPKPdf** **20 51 37.5 +0.4**
comp=Z,0.3nm,0.6s,baz=151,slow=5.6,SNR=3.6
WRA Warramunga Arr 133.15 211 PKP **PKiKP** **20 51 10.8 +1.0**
comp=Z,0.8nm,0.6s,baz=145,slow=1.8,SNR=14
ZALV Zalesovo Beam 141.75 25 **PKiKP** **20 51 25.0 -1.2**
ZALV Zalesovo Beam 141.75 25 PKP **PKiKP** **20 51 25.2 -0.9**
comp=Z,1.5nm,0.6s,baz=272,slow=3.1,SNR=7.2
MKAR Makanchi Array 145.44 36 PKPbc **PKiKP** **20 51 32.4 -1.7**
comp=Z,6.3nm,0.9s,baz=318,slow=3.4,SNR=38
MKAR pPKPbc pPKPbc 20 52 04.6 0.0
comp=Z,2.0nm,0.8s,baz=303,slow=3.3,SNR=5.5
HILR Hailar Array B 150.99 348 PKPbc **PKiKP** **20 51 46.1 +0.6**
comp=Z,0.7nm,0.4s,baz=72,slow=4.7,SNR=3.6
SONM Songino Array 153.25 7 PKPbc **PKiKP** **20 51 51.2 +0.9**
comp=Z,0.5nm,0.5s,baz=302,slow=2.2,SNR=3.4

TAP 29 20:36:41.1,24°.39N×121°.86E,h13km,ML2.7,6C-5D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.09**	**309**	*e*P	Pg	20 36 44.5	+0.5
EWUT				S	Sg	20 36 45.9	-0.1
ENA	**Nanau**	**0.11**	**291**	⇓*i*P	Pg	20 36 44.3	+0.1
ENA				*i* S	Sg	20 36 46.6	+0.1
EAHA	**Aohua**	**0.12**	**241**	P	Pg	20 36 44.3	0.0
EAHA				S	Sg	20 36 47.2	+0.6
ESAO	**Su ao**	**0.19**	**357**	P	Pg	20 36 45.1	-0.2
ESAO				S	Sg	20 36 48.3	0.0
TWC	**Suao**	**0.22**	**358**	⇑*i*P	Pg	20 36 45.8	-0.1
TWC				*i* S	Sg	20 36 49.1	-0.1
NDS	**Dongshan**	**0.28**	**332**	⇑*i*P	Pg	20 36 47.3	+0.4
NDS				S	Sg	20 36 51.2	+0.4
ETL	**Fush Village**	**0.31**	**223**	*i* P	Pg	20 36 47.4	-0.1
ETL				S	Sg	20 36 52.7	+0.9
NACB	**Ninganchiao**	**0.32**	**228**	⇓*i*P	Pg	20 36 47.5	-0.2
NACB				*i* S	Sg	20 36 52.3	+0.2
LATG	**Datong**	**0.33**	**296**	⇓*i*P	Pg	20 36 48.5	+0.5
LATG				*i* S	Sg	20 36 53.4	+0.8
EOS2	**EOS2**	**0.34**	**85**	*i* P	Pg	20 36 48.1	+0.1
EOS2				S	Sg	20 36 52.0	-0.7
ENTT	**Nioudou**	**0.36**	**314**	*i* P	Pb	20 36 49.1	-0.4
ENTT				*i* S	Sg	20 36 54.1	+0.7
TWE	**Neicheng**	**0.37**	**333**	⇑*i*P	Pg	20 36 49.0	+0.4
TWE				*i* S	Sg	20 36 53.2	-0.5
ETLH	**Xiulin Townshi**	**0.39**	**242**	⇑*i*P	Pg	20 36 48.9	+0.1
ETLH				S	Sg	20 36 54.8	+0.7
TWD	**Chiawan**	**0.39**	**218**	⇓*i*P	Pg	20 36 48.6	-0.2
TWD				*i* S	Sg	20 36 54.1	0.0
ILA	**Ilan**	**0.39**	**345**	P	Pb	20 36 49.6	-0.3
ILA				S	Sb	20 36 55.4	-0.4
EOS3	**EOS3**	**0.43**	**103**	P	Pg	20 36 49.4	-0.3
EOS3				S	Sb	20 36 56.4	-0.5
NNSB	**Datong**	**0.43**	**275**	*i* P	Pb	20 36 50.2	-0.5
NNSB				S	Sg	20 36 56.3	+0.7
NNS	**Nan Shan**	**0.44**	**277**	*i* P	Pg	20 36 50.4	+0.4
NNS				S	Sg	20 36 56.6	+0.7
FUSB	**Fushanzhiwuyua**	**0.44**	**327**	⇑*i*P	Pb	20 36 50.5	-0.3
FUSB				S	Sg	20 36 56.5	+0.6
EGS		**0.46**	**9**	*e*S	Sb	20 36 58.4	+0.6
HWA	**Hwalien**	**0.47**	**209**	*e*P	Pb	20 36 51.4	+0.1
HWA				*e*S	Sg	20 36 56.9	+0.3
NWLT	**Wulai**	**0.50**	**320**	P	Pb	20 36 51.5	-0.3
NWLT				S	Sg	20 36 58.1	+0.3
YHNB	**Yeheng**	**0.52**	**303**	⇑*i*P	Pb	20 36 52.2	0.0
YHNB				S	Sg	20 36 58.6	+0.3
ETM	**Tongmen**	**0.54**	**218**	P	Pg	20 36 51.2	-0.4
ETM				S	Sg	20 36 58.9	+0.1
NSK	**Sanguang**	**0.54**	**302**	*i* P	Pb	20 36 52.8	+0.3
NSK				*i* S	Sg	20 36 59.0	+0.2
LXIB	**Xiulin Townshi**	**0.55**	**228**	⇓*i*P	Pg	20 36 51.5	-0.3
LXIB				S	Sg	20 36 59.6	+0.5
FUSS	**Fushou**	**0.58**	**256**	P	Pg	20 36 52.7	+0.2
FUSS				S	Sb	20 37 01.4	0.0
TIPB	**Shuangxi**	**0.58**	**357**	P	Pg	20 36 52.8	+0.2
TIPB				S	Sg	20 37 00.3	+0.1
WHF	**Hehuan Shan**	**0.59**	**246**	*i* P	Pg	20 36 52.9	+0.1
WHF				*i* S	Sb	20 37 01.5	-0.5
TWB1	**Santiao Chiao**	**0.63**	**11**	*e*S	Sg	20 37 02.1	+0.3
TWT	**Tachien**	**0.64**	**258**	*i* P	Pb	20 36 54.5	+0.4
TWT				*i* S	Sb	20 37 03.4	+0.4
NHDH	**Xindian Distri**	**0.65**	**332**	*e*P	Pn	20 36 56.0	0.0
NHDH				*e*S	Sb	20 37 03.1	-0.1
TDCB	**Techi**	**0.65**	**258**	*e*P	Pb	20 36 54.6	+0.2
TDCB				*e*S	Sb	20 37 03.4	-0.1
SHUL	**Shoufeng**	**0.66**	**204**	*e*P	Pb	20 36 55.1	+0.7
SHUL				S	Sb	20 37 04.5	+1.1
NWF	**Wu-fen Shan**	**0.68**	**354**	*e*P	Pb	20 36 55.4	+0.4
NWF				S	Sb	20 37 05.6	+1.2
WFSB	**Wu-fen Shan**	**0.68**	**354**	P	Pb	20 36 55.5	+0.6
WFSB				*i* S	Sb	20 37 05.0	+0.7
ESL	**Shilin**	**0.69**	**214**	*e*P	Pg	20 36 54.2	-0.3
SXI1	**Grass Mountain**	**0.70**	**1**	P	Pb	20 36 55.3	+0.1
SXI1				*e*S	Sb	20 37 05.0	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NFF	**Wufeng Townshi**	**0.71**	**290**	*e*P	Pb	20 36 56.1	+0.7
NFF				*e*S	Sb	20 37 05.4	+0.2
TAP	**Taipei**	**0.72**	**334**	*e*P	Pn	20 36 56.6	-0.4
OWD	**Renai**	**0.76**	**235**	*i* P	Pg	20 36 55.9	+0.1
OWD				*e*S	Sb	20 37 06.2	-0.3
WUSB	**Renai**	**0.78**	**240**	*e*P	Pb	20 36 56.5	-0.1
WARBT	**Fenglin Townsh**	**0.79**	**213**	*e*P	Pg	20 36 56.1	-0.4
YM01	**YM01**	**0.80**	**341**	P	Pn	20 36 57.9	-0.2
LIOB	**Emei**	**0.81**	**289**	*e*P	Pn	20 36 58.6	+0.4
LIOB				S	Sn	20 37 09.0	-1.1
TWS1	**Kuangyinshan**	**0.81**	**331**	*e*P	Pn	20 36 58.6	+0.3
NSTT	**Nanjuang**	**0.82**	**287**	*e*P	Pn	20 36 58.0	-0.3
NSTT				*e*S	Sb	20 37 08.9	+0.8
ZUZH	**Zhuzihu**	**0.82**	**340**	*e*P	Pn	20 36 58.3	-0.2
YM08	**YM08**	**0.83**	**343**	*e*P	Pn	20 36 58.2	-0.4
WHP	**Taichung City**	**0.84**	**263**	*i* P	Pn	20 36 58.4	-0.3
WHP				*e*S	Sg	20 37 08.4	0.0
NCUH	**Zhongli**	**0.84**	**314**	*e*P	Pb	20 36 58.1	+0.5
ANP	**Anpu**	**0.85**	**339**	*e*P	Pn	20 36 58.7	-0.2
HSN	**Hsinchu**	**0.91**	**297**	*e*P	Pn	20 37 00.6	+1.1
HSN				*e*S	Sn	20 37 11.7	-0.8
VWDT	**VWDT**	**0.91**	**226**	P	Pn	20 36 59.2	-0.4
VWDT				*e*S	Sb	20 37 11.1	+0.4
HGSD	**Ruisui**	**0.98**	**204**	*e*P	Pn	20 37 00.5	0.0
TWQ1	**Liyutan**	**0.99**	**268**	*e*P	Pg	20 37 00.3	+0.1
EHY	**Hungye**	**1.00**	**209**	*e*P	Pg	20 37 00.5	0.0
SMLT	**Sun Moon Lake**	**1.01**	**240**	*e*P	Pn	20 37 01.0	-0.1
SSLB	**Suanglung**	**1.02**	**234**	*i* P	Pg	20 37 00.8	0.0
YOJ	**Yonaguni jima**	**1.05**	**86**	*e*P	Pb	20 37 00.5	-0.8
YOJ				*e*S	Sg	20 37 15.7	+0.4
YULB	**Yu-li**	**1.11**	**207**	*i* S	Sn	20 37 18.2	+0.5
ECBN	**Changbin**	**1.13**	**199**	*e*P	Pb	20 37 02.1	-0.4
WHYT	**Xinyi Township**	**1.15**	**233**	*e*P	Pb	20 37 01.5	-1.3
WNT	**Mingjian**	**1.19**	**245**	*e*P	Pg	20 37 06.1	+2.2
CHN5	**Tsauling**	**1.33**	**234**	P	Pg	20 37 08.1	+1.3
WDLH	**Douliu**	**1.39**	**240**	*e*P	Pg	20 37 08.4	+0.5
TWK	**Hsinying**	**1.68**	**229**	*e*P	Pb	20 37 12.5	+0.6
CHN1	**Nanshi**	**1.71**	**226**	*e*P	Pg	20 37 13.4	-0.5

GCMT 29 20:39:09.0±0.1,49°.68S±0°.01×115°.77W±0°.01,h14km±1km, MW5.2/121,Moment Tensor Solution. s86,c139; s121,c194; Duration: 1⁹0 Moment tensor: Scale 10^{16} Nm; M_{rr}**-0.64±.12;** $M_{\theta\theta}$**3.24±.14;** $M_{\phi\phi}$**-2.60±.13;** $M_{r\theta}$**0.91±.25;** $M_{\theta\phi}$**6.61±.12;** $M_{r\phi}$**1.46±.26; Best double couple:** M_0**7.41300×10^{16} NP1:**ϕ_s**102.00000°,**δ**78.00000°,** λ**3.00000°. NP2:**ϕ_s**12.00000°,**δ**87.00000°,**λ**168.00000°. Principal axes:** T **7.8340,** Plg**10.0000°,** Azm**326.0000°;** N **-0.8390,** Plg**78.0000°,** Azm**180.0000°;** P **-6.9920,** Plg**7.0000°,** Azm**58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

IDC 29 20:50:55.4±58.0,20°.43S×179°.31E,h0km,mb3.9/3, mbtmp3.9/3,MS3.9/3 Error ellipse: s-maj=1047.0km s-min=152.3km az=82.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**19.57**	**96**	LR	LR	21 01 35.1	
comp=Z,162nm,19.1s,baz=91,slow=33							
STKA	**Stephens Creek**	**35.55**	**244**	P	P	20 57 54.1	-0.5
1.1nm,0.5s,baz=97,slow=8.1,SNR=3.8							
1.1nm,0.5s							
ASAR	**Alice Springs**	**42.08**	**257**	P	P	20 58 49.1	-0.3
1.6nm,0.8s,baz=99,slow=8.3,SNR=18							
1.6nm,0.8s							
WRA	**Warramunga Arr**	**42.11**	**263**	P	P	20 58 50.0	+0.3
0.4nm,0.3s,baz=96,slow=7.8,SNR=14							
0.4nm,0.3s							
PMSA	**Palmer Station**	**82.34**	**157**	LR	LR	21 34 50.9	
comp=Z,120nm,19.8s,baz=260,slow=32							
ILAR	**Eielson Array**	**88.83**	**14**	LR	LR	21 35 43.6	
comp=Z,75nm,20.7s,baz=215,slow=30							

*SOME **29** 20:54:47.0,41°.37N×83°.48E,h10km*
*NNC **29** 20:54:50.7±2.2,41°.37N×83°.25E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=18.2km s-min=11.2km az=173.0*
ISC 29 20:54:48.2±3.2,41°.4N±0°.1×83°.36E±0°.09,h10km,n19, σ2°.84/25,1C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.37**	**302**	Pg	**Pb**	**20 55 45.8**	**-2.3**
7.4nm,0.3s							
SHLS				Lg	Lg	20 56 28.3	
90nm,0.5s							
SHLS	**Shalkode**	**3.37**	**302**	*e*P	**Pb**	**20 55 45.8**	**-2.3**
7.4nm,0.3s							
SHLS				*e*S	**Sb**	**20 56 28.3**	**-0.9**
90nm,0.5s							
UZB	**Uzynbulak**	**3.65**	**300**	Pg	**Pb**	**20 55 55.2**	**+2.4**
2.4nm,0.2s							
UZB				Lg	Lg	20 56 44.6	
29nm,0.3s							
UZB	**Uzynbulak**	**3.65**	**300**	*e*P	**Pb**	**20 55 55.2**	**+2.4**
2.4nm,0.2s							
UZB				*e*S	**Sg**	**20 56 44.6**	**-0.8**
29nm,0.3s							
KPKS	**Kokpek**	**4.02**	**302**	Pg	**Pb**	**20 56 02.2**	**+3.1**
1.8nm,0.2s							
KPKS				Lg	Lg	20 56 56.6	
11nm,0.4s							
SATY	**Saty**	**4.03**	**296**	Pg	**Pb**	**20 56 02.7**	**+3.4**
1.3nm,0.1s							
SATY				Lg	Lg	20 56 57.2	
22nm,0.4s							
KURS	**Kuram**	**4.36**	**300**	Pg	**Pg**	**20 56 10.1**	**-1.6**
5.7nm,0.9s							
KURS				Lg	Lg	20 57 10.4	
4.7nm,0.6s							
ARXS	**Arharly**	**4.93**	**306**	Pg	**Pb**	**20 56 19.4**	**+4.7**
1.3nm,0.2s							
ARXS				Lg	Lg	20 57 26.5	
11nm,0.5s							
ARXS	**Arharly**	**4.93**	**306**	*e*P	**Pb**	**20 56 19.4**	**+4.7**
ARXS				*e*S	**Sg**	**20 57 26.5**	**0.0**
MDOK	**Medeo**	**5.00**	**292**	Pg	**Pb**	**20 56 20.4**	**+4.6**
0.7nm,0.2s							
MDOK				Lg	Lg	20 57 27.6	
3.6nm,0.4s							
TNSS	**Tian-Shan**	**5.03**	**291**	Pg	**Pg**	**20 56 21.9**	**-2.6**
1.0nm,0.2s							
TNSS				Lg	Lg	20 57 30.0	
3.7nm,0.6s							
TNSS	**Tian-Shan**	**5.03**	**291**	*e*P	**Pg**	**20 56 21.9**	**-2.6**
1.0nm,0.2s							
TNSS				*e*S	**Sg**	**20 57 30.0**	**+0.4**
3.7nm,0.6s							
MK31	**Makanchi Array**	**5.42**	**352**	⇓Pn	Pb	20 56 18.0	-4.9
0.2nm,0.3s,baz=167,slow=14,SNR=5.5							
MK31				⇓Pg	**Pg**	**20 56 32.4**	**+0.4**
0.9nm,0.4s,baz=176,slow=17,SNR=6.9							
MK31				Lg	Lg	20 57 46.4	
5.2nm,0.6s,baz=171,slow=26,SNR=3.9							
KTBS	**Karatobe**	**5.44**	**297**

IDC ***29*** *21:22:05.0±0.5, 6°.72N×125°.01E, h0km, mb4.4/24, mbtmp4.4/26, ML3.9/1, MS3.9/40, Error ellipse: s-maj=21.2km s-min=11.6km az=75.0*
BJI ***29*** *21:22:05.6, 6°.61N×125°.23E, h22km, mB5.2/19, mb4.7/68, Ms4.4/41, Ms7 4.2/42*
MOS ***29*** *21:22:05.0±0.8, 6°.77N×124°.98E, h10km, mb5.1/59, Error ellipse: s-maj=10.7km s-min=5.1km az=119.5*
MAN ***29*** *21:22:06.4, 6°.80N×125°.02E, h7km, mb5.6, ML4.7, MS5.0*
MAN INTENSITY V - KIDAPAWAN CITY COTABATO.
GCMT ***29*** *21:22:07.9±0.3, 6°.87N±0°.03×125°.03E±0°.02, h12km±1km, MW4.9/96, Moment Tensor Solution. s22,c23; s96,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.17; $M_{\theta\theta}$-0.45±.09; $M_{\phi\phi}$-2.00±.11; $M_{r\theta}$0.65±.33; $M_{r\phi}$0.68±.05; $M_{\theta\phi}$~0.87±.25; Best double couple: $M_0$2.59000×10^{16} NP1:ϕ_s345.00000°, δ33.00000°, λ100.00000°. NP2: ϕ_s153.00000°, δ57.00000°, λ84.00000°. Principal axes: T 2.7010, Plg77.0000°, Azm43.0000°; N -0.2190, Plg5.0000°, Azm157.0000°; P -2.4800, Plg12.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *21:22:07.9±1.3, 6°.78N±0°.06×125°.11E±0°.06, h13km±4km, mb5.0/92 Error ellipse: s-maj=9.8km s-min=6.8km az=145.0*
DJA ***29*** *21:22:08.0±0.5, 7°N±4°×12°5E±°, h10km, M4.9/21, mb5.0/21, mB5.4/18, MLv5.2/11, Mw(mB)4.9/18, MwMwp4.7/5, Mwp5.0/5*

ISC 29 21:22:06.9±0.3, 6.74N±0°.04×125°.11E±0°.04, h10km, n549, σ1ˢ18/533, mb4.9/123, MS4.0/56, 10C-24D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**55**		**Pg**	**21 22 18.4**	**+0.5**
DAV				Sg	**Sg**	**21 22 26.1**	**+0.7**
DAV	**Davao City (W)**	**0.57**	**55**	P	**Pb**	**21 22 19.0**	**0.0**
SGSI	**Sangihe**	**3.07**	**172**	P	**Pn**	**21 22 58.8**	**+3.3**
SGSI				S	**Sb**	**21 23 39.0**	**-0.1**
KMSI	**Cibinong**	**6.23**	**190**	P	**Pn**	**21 23 42.9**	**+3.9**
TNTI	**Ternate**	**6.34**	**159**		**Pn**	**21 23 42.0**	**+1.4**
TNTI	**Ternate**	**6.34**	**159**	P	Pn	21 23 45.6	+5.0
	0.7nm2μm117nm,1.1s						
MYLDM	**Lahad Datu**	**6.76**	**257**		**Pn**	**21 23 48.6**	**+2.4**
MRSI	**Marisa**	**6.98**	**207**	P	**Pn**	**21 23 51.3**	**+1.9**
	0.9nm2μm1μm168nm,1.0s						
TOLI2	**Tolitoli**	**7.07**	**218**	Pn	**Pn**	**21 23 49.2**	**-1.4**
LBMI	**Labuha**	**7.71**	**162**	P	Pn	21 24 04.7	+5.3
LUWI	**Luwuk**	**8.08**	**197**		**Pn**	**21 24 05.5**	**+1.1**
LUWI	**Luwuk**	**8.08**	**197**	P	**Pn**	**21 24 07.8**	**+3.4**
	4μm305nm,1.2s						
APSI	**Ampana**	**8.35**	**205**	P	**Pn**	**21 24 11.7**	**+3.5**
	2μm205nm,1.1s						
SANI	**Sanana**	**8.78**	**174**	P	**Pn**	**21 24 16.2**	**+2.2**
	1μm127nm,1.3s						
I39PW	**PALAU INFRASON**	**9.40**	**85**	I	I	22 16 30.0	
	baz=266,slow=304,SNR=3.3						
SWI	**Sorong**	**9.73**	**141**	P	**Pn**	**21 24 31.5**	**+4.4**
	27nm,1.0s						
NLAI	**Namlea**	**10.11**	**169**	P	**Pn**	**21 24 36.3**	**+4.0**
	1μm88nm,0.9s						
MSAI	**Masohi**	**10.72**	**159**	P	**Pn**	**21 24 44.1**	**+3.4**
	64nm,0.4s						
AAI	**Ambon**	**10.81**	**163**	P	**Pn**	**21 24 45.3**	**+3.4**
	4μm137nm,0.8s						
SPSI	**Sidrap Palu**	**11.90**	**207**	P	**Pn**	**21 25 00.3**	**+3.5**
	29nm,1.0s						
FAKI	**Fak Fak**	**11.96**	**143**		**Pn**	**21 24 59.4**	**+1.8**
FAKI	**Fak Fak**	**11.96**	**143**	P	**Pn**	**21 25 01.5**	**+3.9**
	1μm68nm,1.2s						
BNSI	**Bone**	**12.15**	**204**	P	Pn	21 25 05.3	+5.1
	2μm35nm,1.1s						
RKPI	**Ransiki, Papua**	**12.21**	**132**	P	Pn	21 25 06.1	+5.0
	90nm,1.1s						
KAPI	**Kappang**	**12.85**	**205**	Pn	**Pn**	**21 25 11.6**	**+1.9**
KAPI	**Kappang**	**12.85**	**205**	Pn	**Pn**	**21 25 09.0**	**-0.8**
	5.3nm,0.3s,baz=189,slow=20,SNR=1.2						
KAPI				LR	LR	21 30 08.1	
	comp=Z,506nm,21.9s,baz=17,slow=38						
KAPI	**Kappang**	**12.85**	**205**	*ce*P	Pn	21 25 17.0	+7.2
BKSI	**Bulukumba**	**12.98**	**203**	P	**Pn**	**21 25 16.3**	**+4.7**
BAKI	**Biak**	**13.51**	**125**	P	**Pn**	**21 25 23.4**	**+4.5**
SBUM	**Sibu**	**13.54**	**252**		**Pn**	**21 25 20.3**	**+1.1**
KSM	**Kuching**	**15.66**	**251**	Pn	**Pn**	**21 25 48.6**	**+0.7**
SOEI	**Soe**	**16.41**	**183**		**Pn**	**21 25 57.0**	**-0.7**
BATI	**Baumata**	**16.90**	**185**	Pn	**P**	**21 26 05.7**	**-0.1**
	4.5nm,0.3s,baz=22,slow=2.3,SNR=12						
BATI				LR	LR	21 33 23.5	
	comp=Z,516nm,19.6s,baz=2.5,slow=40						
TPUB	**Ta-pu**	**17.02**	**346**	Pn	**Pn**	**21 26 05.1**	**-0.1**
JAY	**Jayapura**	**18.08**	**120**	P	**P**	**21 26 19.2**	**+0.3**
	0.4nm,0.3s,baz=355,slow=3.7,SNR=4.1						
JAY				LR	LR	21 33 39.3	
	comp=Z,368nm,18.6s,baz=313,slow=38						
	11nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.65**	**216**		**Pn**	**21 26 25.9**	**+0.5**
JAGI				IAmb	IAmb	21 26 36.5	
	comp=Z,207nm,2.0s						
QIZ	**Qiongzhong**	**19.23**	**311**	P	**Pn**	**21 26 32.5**	**+0.1**
QIZ				S	**S**	**21 30 11.5**	**+2.0**
QIZ				LR	LR		
	comp=Z,900nm,12.3s						
QIZ				LR	LR		
	comp=Z,590nm,11.7s						
QIZ				LR	LR		
	comp=Z,900nm,17.7s						
SMRI	**Semarang**	**20.05**	**227**	P	Pn	21 26 42.4	+0.2
JOW	**Kunigami**	**20.20**	**8**	P	**P**	**21 26 42.1**	**+0.1**
JOW				IAmb	IAmb	21 26 45.9	
	comp=Z,90nm,1.4s						
JOW	**Kunigami**	**20.20**	**8**	P	**P**	**21 26 42.4**	**+0.3**
	comp=Z,20nm,0.8s,baz=192,slow=13,SNR=2.6						
JOW				LR	LR	21 34 23.7	
	comp=Z,361nm,20.8s,baz=147,slow=36						
	comp=Z,20nm,0.8s						
MTN	**Manton Dam**	**20.36**	**163**		**P**	**21 26 43.5**	**-0.3**
GUMO	**Guam**	**20.59**	**69**	LR	LR	21 33 20.8	
	comp=Z,426nm,21.2s,baz=232,slow=33						
MYKOM	**Kota Tinggi**	**21.76**	**258**	P	**P**	**21 26 58.8**	**-0.1**
LEM	**Lembang**	**22.05**	**233**	LR	LR	21 35 48.2	
	comp=Z,554nm,20.6s,baz=26,slow=38						
PMBI	**Palembang**	**22.46**	**245**	P	**P**	**21 27 06.9**	**+0.4**
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**21 27 07.2**	**-0.4**
KNRA				IAmb	IAmb	21 27 15.5	
	comp=Z,47nm,0.8s						
IPM	**Ipoh**	**24.07**	**266**	P	**P**	**21 27 22.2**	**-0.6**
KULM	**Kulim**	**24.37**	**268**	P	**P**	**21 27 25.1**	**-0.4**
KULM				IAmb	IAmb	21 27 27.5	
	comp=Z,34nm,1.3s						
FITZ	**Fitzroy Crossi**	**24.69**	**179**	P	**P**	**21 27 28.0**	**-0.3**
BKNI	**Bangkinang**	**24.84**	**256**	P	**P**	**21 27 29.7**	**-0.1**
SLVN	**Son La**	**25.12**	**307**	P	**P**	**21 27 31.5**	**-0.8**
WHN	**Wuhan**	**25.74**	**338**	P	**P**	**21 27 40.0**	**+2.2**
NJ2	**Nanjing**	**25.85**	**348**	*e*P	**P**	**21 27 40.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JCJ	**Chichijima**	**25.94**	**37**	LR	LR	21 35 56.5	
	comp=Z,434nm,21.5s,baz=228,slow=32						
GYA	**Guiyang**	**26.33**	**320**	P	**P**	**21 27 44.5**	**+1.2**
GYA				pmax	pmax		
	comp=Z,15nm,1.4s						
GYA				LR	LR		
	comp=Z,800nm,16.9s						
PSI	**Prapat**	**26.38**	**263**	P	**P**	**21 27 43.5**	**-0.4**
PSI				pmax	pmax		
	comp=Z,23nm,1.3s						
RPSI	**Rantau Prapat**	**26.40**	**262**	P	**P**	**21 27 43.5**	**-0.4**
JNU	**Nakatsue**	**26.79**	**11**	P	**P**	**21 27 45.9**	**-1.4**
JNU	**Nakatsue**	**26.79**	**11**	P	**P**	**21 27 46.0**	**-1.2**
	comp=Z,23nm,1.2s,baz=229,slow=11,SNR=3.8						
JNU				LR	LR	21 39 25.4	
	comp=Z,125nm,18.8s,baz=168,slow=39						
	comp=Z,23nm,1.2s						
PMG	**Port Moresby**	**27.20**	**126**	P	**P**	**21 27 51.0**	**-0.2**
PMG				IAmb	IAmb	21 27 54.4	
	comp=Z,35nm,0.9s						
PMG	**Port Moresby**	**27.20**	**126**	LR	LR	21 39 07.8	
	comp=Z,188nm,19.9s,baz=328,slow=38						
PMG	**Port Moresby**	**27.20**	**126**	*d*P	**P**	**21 27 51.8**	**+0.6**
PMG				pmax	pmax		
	comp=Z,39nm,0.9s						
COEN	**Coen**	**27.29**	**139**	P	**P**	**21 27 52.2**	**+0.3**
COEN				IAmb	IAmb	21 27 57.8	
	comp=Z,49nm,0.9s						
ENH	**Enshi**	**27.63**	**330**	P	**P**	**21 27 55.9**	**+1.1**
ENH				IAmb	IAmb	21 28 01.5	
	comp=Z,34nm,1.6s						
WB0	**Warramunga Arr**	**27.88**	**161**	P	**P**	**21 27 56.7**	**-0.5**
WB0				IAmb	IAmb	21 28 22.1	
	comp=Z,24nm,1.0s						
GSI	**Gunungsitoli**	**27.98**	**260**	P	**P**	**21 27 57.4**	**-0.8**
GSI				IAmb	IAmb	21 28 06.9	
	comp=Z,37nm,1.0s						
CM31	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**21 27 57.9**	**-0.5**
CM31				IAmb	IAmb	21 28 12.6	
	comp=Z,30nm,1.7s						
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**21 27 57.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**21 27 57.9**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=119,slow=7.4,SNR=16						
CMAR				PcP	**PcP**	**21 31 13.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=86,slow=2.8,SNR=1.7						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.02**	**297**	P	**P**	**21 27 57.3**	**-1.2**
WRAB	**Tennant Creek**	**28.03**	**161**	⇑*e*P	**P**	**21 27 59.3**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**21 27 57.2**	**-1.3**
	comp=Z,4.6nm,0.7s,baz=337,slow=9.0,SNR=26						
	comp=Z,4.6nm,0.7s						
JMN	**Monobe**	**28.05**	**16**	P	**P**	**21 27 57.5**	**-1.2**
JMN				IAmb	IAmb	21 28 04.6	
	comp=Z,57nm,1.3s						
WR8	**Warramunga Arr**	**28.09**	**161**	P	**P**	**21 27 58.3**	**-0.8**
WR8				IAmb	IAmb	21 28 13.6	
	comp=Z,23nm,1.1s						
KMI	**Kunming**	**28.14**	**313**	⇓P	**P**	**21 28 01.5**	**+1.8**
KMI				S	**S**	**21 32 40.0**	**-5.3**
KMI				pmax	pmax		
	comp=Z,18nm,1.4s						
KMI				LR	LR		
	comp=Z,440nm,18.3s						
KMI				LR	LR		
	comp=Z,450nm,18.5s						
KMI				LR	LR		
	comp=Z,620nm,19.5s						
CHTO	**Chiang Mai**	**28.15**	**298**	P	**P**	**21 27 57.4**	**-2.2**
CHTO	**Chiang Mai**	**28.15**	**298**	P	**P**	**21 27 57.4**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,27nm,1.8s						
JHJ	**Hachijo jima 2**	**29.57**	**26**	LR	LR	21 38 16.9	
	comp=Z,345nm,21.8s,baz=226,slow=33						
PZH	**PanZhiHua**	**29.68**	**314**	P	**P**	**21 28 15.5**	**+2.2**
LYN	**LuoYang**	**30.03**	**339**	P	**P**	**21 28 17.5**	**+1.4**
LYN				pmax	pmax		
	comp=Z,14nm,1.3s						
LYN				LR	LR		
	comp=Z,290nm,16.5s						
LYN				LR	LR		
	comp=Z,350nm,13.1s						
LYN				LR	LR		
	comp=Z,460nm,16.1s						
TIA	**Tai'an**	**30.23**	**347**	P	**P**	**21 28 18.0**	**+0.1**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSAR	**Wonju Array Be**	**30.66**	**4**	P	**P**	**21 28 20.5**	**-1.1**
KSAR	**Wonju Array Be**	**30.66**	**4**	P	**P**	**21 28 20.5**	**-1.1**
KSRS	**Korea Array**	**30.68**	**4**	P	**P**	**21 28 21.9**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=181,slow=10,SNR=12						
	comp=Z,4.4nm,1.0s						
XAN	**Xi'an**	**31.02**	**333**	P	**P**	**21 28 24.8**	**-0.1**
XAN				S	**S**	**21 33 30.0**	**0.0**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,160nm,4.3s						
XAN				LR	LR		
	comp=Z,450nm,14.6s						
XAN				LR	LR		
	comp=Z,410nm,14.4s						
XAN				LR	LR		
	comp=Z,480nm,16.7s						
TNCH	**TengChong**	**31.27**	**309**	P	**P**	**21 28 28.5**	**+1.1**
TNCH				pmax	pmax		
	comp=Z,18nm,1.3s						
CD2	**Chengdu**	**31.28**	**323**	P	**P**	**21 28 27.0**	**-0.3**
CD2				pP	sP	21 28 32.3	+0.6
CD2				S	**S**	**21 33 35.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,1μm,17.1s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
CD2				LR	LR		
	comp=Z,710nm,14.1s						
AS31	**Alice Springs**	**31.42**	**164**	P	**P**	**21 28 28.1**	**-0.5**
ASAR	**Alice Springs**	**31.42**	**164**	P	**P**	**21 28 28.4**	**-0.2**
ASAR	**Alice Springs**	**31.42**	**164**	P	**P**	**21 28 28.0**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=340,slow=6.6,SNR=24						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**31.42**	**164**	P	**P**	**21 28 28.4**	**-0.2**
HNS	**HongShan**	**31.95**	**344**	⇓P	**P**	**21 28 33.8**	**+0.8**
HNS				pmax	pmax		
	comp=Z,25nm,1.1s						
MJAR	**Matsushiro Arr**	**31.98**	**20**	P	**P**	**21 28 31.8**	**-1.6**
	comp=Z,3.5nm,1.0s,baz=202,slow=8.7,SNR=5.9						
MJAR				LR	LR	21 39 21.1	
	comp=Z,375nm,21.9s,baz=199,slow=32						
	comp=Z,3.5nm,1.0s						
MAJO	**Matsushiro**	**31.99**	**20**	⇓*e*P	**P**	**21 28 30.5**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,27nm,1.6s						
BJT	**Baijiatuau**	**34.09**	**348**	P	**P**	**21 28 51.6**	**-0.1**
BJT				IAmb	IAmb	21 28 52.9	
	comp=Z,30nm,1.2s						
BJT	**Baijiatuau**	**34.09**	**348**	P	**P**	**21 28 51.6**	**-0.1**
BJT				pmax	pmax		
	comp=Z,30nm,1.2s						
JMM	**Marumori**	**34.10**	**22**	P	**P**	**21 28 50.8**	**-1.0**
BJI	**Beijing**	**34.11**	**348**	P	**P**	**21 28 52.5**	**+0.7**
BJI				LR	LR		
	comp=Z,70nm,14.3s						
BJI				LR	LR		
	comp=Z,95nm,17.7s						
BJI				LR	LR		
	comp=Z,93nm,18.5s						
LZDM	**Lanzhou Array**	**35.08**	**329**	P	**P**	**21 29 00.2**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=114,slow=14,SNR=1.0						
	comp=Z,1.6nm,0.3s						
LZH	**Lanzhou**	**35.10**	**329**	*e*P	**P**	**21 29 02.5**	**+1.7**
LZH				sP	sP	21 29 08.5	+3.3
LZH				S	**S**	**21 34 41.0**	**+7.3**
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				LR	LR		
	comp=Z,390nm,14.9s						
LZH				LR	LR		
	comp=Z,260nm,16.1s						
LZH				LR	LR		
	comp=Z,410nm,16.5s						
HHC	**Hu-ho-hao-te**	**36.05**	**342**	⇓*i*P	**P**	**21 29 10.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,140nm,8.4s						
HHC				LR	LR		
	comp=Z,200nm,14.9s						
HHC				LR	LR		
	comp=Z,100nm,12.6s						
HHC				LR	LR		
	comp=Z,200nm,14.3s						
MSHR	**Mys Shultsa**	**36.09**	**8**	⇑*e*P	**P**	**21 29 09.6**	**+0.7**
MSHR				pmax	pmax		
	comp=Z,22nm,0.9s						
BTO	**Baotou**	**36.32**	**340**	*e*P	**P**	**21 29 09.5**	**-1.6**
BTO				S	**S**	**21 34 49.8**	**-2.3**
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
BTO				pmax	pmax		
	comp=Z,300nm,4.1s						
BTO				LR	LR		
	comp=Z,350nm,8.3s						
BTO				LR	LR		
	comp=Z,330nm,13.2s						
BTO				LR	LR		
	comp=Z,280nm,16.3s						
MORW	**Morawa**	**36.66**	**193**	P	**P**	**21 29 13.2**	**-0.7**
MORW				IAmb	IAmb	21 29 28.0	
	comp=Z,40nm,1.6s						
VLA	**Vladivostok**	**36.72**	**8**	*de*P	**P**	**21 29 15.0**	**+0.8**
SHL	**Shillong**	**36.83**	**304**	P	**P**	**21 29 15.1**	**-0.6**
SHL				IAmb	IAmb	21 29 16.9	
	comp=Z,22nm,1.0s						
SHL	**Shillong**	**36.83**	**304**	P	**P**	**21 29 15.1**	**-0.6**
SHL				pmax	pmax		
	comp=Z,22nm,1.0s						
CN2	**Changchun**	**36.91**	**0**	P	**P**	**21 29 17.3**	**+1.4**
CN2				S	**S**	**21 35 01.5**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.7s						
CN2				LR	LR		
	comp=Z,210nm,17.0s						
CN2				LR	LR		
	comp=Z,260nm,17.0s						
CN2				LR	LR		
	comp=Z,160nm,18.0s						
FORT	**Forrest**	**37.42**	**176**	P	**P**	**21 29 20.6**	**+0.3**
INKA	**Innaminka**	**37.47**	**157**	P	**P**	**21 29 20.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**37.79**	**8**	P	**P**	**21 29 23.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**37.79**	**8**	P	**P**	**21 29 24.1**	**+0.7**
	comp=Z,15nm,0.9s,baz=190,slow=7.3,SNR=13						
	comp=Z,15nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.79**	**8**	P	**P**	**21 29 23.6**	**+0.2**
XLT	**XiLinHaoTe**	**37.85**	**349**	*e*P	**P**	**21 29 23.5**	**-0.5**
XLT				pP	sP	21 29 28.8	+0.4
XLT				sP	pP	21 29 33.0	+5.8
XLT				SS	SS	21 37 47.0	-15
XLT				pmax	pmax		
	comp=Z,21nm,0.9s						
XLT				pmax	pmax		
	comp=Z,96nm,5.8s						
XLT				LR	LR		
	comp=Z,180nm,16.0s						
XLT				LR	LR		
	comp=Z,140nm,18.2s						
MDJ	**Mudanjiang**	**37.93**	**5**	P	**P**	**21 29 25.0**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,30nm,1.9s						
MDJ	**Mudanjiang**	**37.93**	**5**	P	**P**	**21 29 24.8**	**+0.2**
MDJ				IAmb	IAmb	21 29 28.9	
	comp=Z,39nm,1.2s						
HNR	**Honiara**	**38.25**	**114**	LR	LR	21 43 11.5	
	comp=Z,137nm,21.4s,baz=312,slow=33						
BNX	**BinXian**	**38.90**	**3**	⇓P	**P**	**21 29 32.8**	**+0.1**
BNX				pmax	pmax		
	comp=Z,13nm,2.1s						
LSA	**Lhasa**	**39.27**	**310**	P	**P**	**21 29 34.5**	**-2.1**
LSA				pmax	pmax		
	comp=Z,13nm,1.7s						
LSA	**Lhasa**	**39.27**	**310**	P	**P**	**21 29 36.6**	**0.0**
LSA	**Lhasa**	**39.27**	**310**	P	**P**	**21 29 36.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	**39.70**	**329**	*e*P	**P**	**21 29 41.5**	**+1.8**
GTA				pmax	pmax		
	comp=Z,30nm,1.2s						
GTA				LR	LR		
	comp=Z,210nm,16.7s						
GTA				LR	LR		
	comp=Z,270nm,16.0s						
GTA				LR	LR		
	comp=Z,360nm,15.6s						
NWAO	**Narrogin (SRO)**	**40.16**	**190**	P	**P**	**21 29 44.6**	**+1.3**
NWAO				IAmb	IAmb	21 29 44.9	
	comp=Z,40nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.16**	**190**	P	**P**	**21 29 44.6**	**+1.3**
NWAO				pmax	pmax		
	comp=Z,40nm,1.3s						
ASAJ	**Asahikawa**	**40.25**	**20**	LR	LR	21 47 17.4	
	comp=Z,242nm,19.1s,baz=176,slow=38						
GOMU	**GeErMu**	**40.34**	**321**	P	**P**	**21 29 47.0**	**+1.7**
GOMU				pP	sP	21 29 50.0	+0.2
GOMU				sP	pP	21 29 54.5	+6.0
GOMU				S	**S**	**21 35 56.3**	**+2.7**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,270nm,15.9s						
GOMU				LR	LR		
	comp=Z,210nm,16.1s						
BBOO	**Buckleboo**	**40.69**	**166**		**P**	**21 29 47.5**	**-0.3**
BBOO				IAmb	IAmb	21 29 53.9	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**21 29 54.2**	**-0.2**
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**21 29 54.6**	**+0.2**
	comp=Z,17nm,1.1s,baz=342,slow=7.4,SNR=14						
STKA				LR	LR	21 48 13.1	
	comp=Z,115nm,19.8s,baz=3.7,slow=38						
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**41.50**	**159**	⇓*e*P	**P**	**21 29 55.4**	**+0.9**
EVN	**Everest**	**41.93**	**305**	P	**P**	**21 29 57.9**	**-1.0**
HIA	**Hailar**	**42.62**	**355**	P	**P**	**21 30 03.2**	**-0.2**
HIA	**Hailar**	**42.62**	**355**	P	**P**	**21 30 03.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,19nm,1.2s						
YSS	**Yuzhno-Sakhali**	**42.83**	**18**	⇑*e*P	**P**	**21 30 06.3**	**+1.2**
YSS				pmax	pmax		
	comp=Z,34nm,1.2s						
HILR	**Hailar Array B**	**42.91**	**355**	P	**P**	**21 30 05.8**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=163,slow=10,SNR=8.7						
	comp=Z,6.8nm,0.8s						
HEH	**HeiHe**	**43.41**	**2**	*e*P	**P**	**21 30 10.0**	**+0.3**
HEH				pmax	pmax		
	comp=Z,18nm,1.2s						
HEH				LR	LR		
	comp=Z,220nm,21.6s						
HEH				LR	LR		
	comp=Z,170nm,22.0s						
HEH				LR	LR		
	comp=Z,240nm,21.0s						
ULN	**Ulaanbaatar**	**43.77**	**342**	P	**P**	**21 30 12.2**	**-0.8**
ULN	**Ulaanbaatar**	**43.77**	**342**	⇓*e*P	**P**	**21 30 13.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,14nm,1.6s						
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**21 30 13.4**	**-0.9**
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**21 30 14.3**	**0.0**
	comp=Z,1.4nm,1.0s,baz=161,slow=8.8,SNR=6.7						
SONM				LR	LR	21 49 12.7	
	comp=Z,158nm,18.7s,baz=158,slow=37						
	comp=Z,1.4nm,1.0s						
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**21 30 13.4**	**-0.9**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PALK	**Pallekele**	**44.07**	**273**	LR	LR	21 49 03.9	
	comp=Z,218nm,21.3s,baz=118,slow=37						
ARMA	**Armidale**	**44.85**	**147**	P	**P**	**21 30 21.6**	**-0.1**
ARMA				IAmb	IAmb	21 31 26.5	
	comp=Z,33nm,1.6s						
GRNR	**Gornyy**	**44.88**	**10**	⇓*i*P	**P**	**21 30 21.5**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,230nm,22.0s						
GRNR				MLR	MLR		
	comp=N,130nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,180nm,15.0s						
HYB	**Hyderabad**	**46.63**	**288**	*e*P	**P**	**21 30 35.6**	**-0.3**
HYB				*e*pP	**pP**	**21 30 39.9**	**+0.7**
HYB				IVmB_BB		21 30 41.9	
	comp=Z,268nm,2.3s						
HYB				*e*PcP	**PcP**	**21 32 09.0**	**-1.0**

KNGR Kungurtug, Tuv 49.40 337↓ eP P 21 30 57.0 0.0
KNGR pmax pmax
comp=Z,18nm,2.0s
DZM Mont Dzumac 49.60 126 LR LR 21 51 19.8
comp=Z,117nm,21.8s,baz=300,slow=35
ZSN Zaisan 53.12 327 eP P 21 31 23.9 -0.9
ZSN Zaisan 53.12 327 eP P 21 31 23.9 -0.9
PEA0B Petropavlovsk- 53.30 24 P P 21 31 25.6 -0.5
PEA0B IAmb IAmb 21 31 29.9
comp=Z,38nm,1.1s
PEA0B Petropavlovsk- 53.30 24↑ eP P 21 31 26.8 +0.7
PETK Petropavlovsk- 53.30 24 P P 21 31 25.9 -0.2
PETK Petropavlovsk- 53.30 24 P P 21 31 26.9 +0.9
comp=Z,24nm,1.1s,baz=188,slow=4.2,SNR=14
PETK LR LR 21 52 44.4
comp=Z,120nm,20.5s,baz=173,slow=34
comp=Z,24nm,1.1s
PETK Petropavlovsk- 53.30 24 P P 21 31 25.9 -0.2
PET Petropavlovsk 53.63 24 P P 21 31 28.4 0.0
PET IAmb IAmb 21 31 31.1
comp=Z,33nm,1.1s
PET Petropavlovsk 53.63 24↓ eP P 21 31 29.7 +1.3
PET pmax pmax
comp=Z,42nm,1.3s
PET Petropavlovsk 53.63 24 P P 21 31 28.6 +0.2
comp=Z,31nm,1.5s
SHLS Shalkode 54.02 320 eP P 21 31 28.8 -2.9
comp=Z,9.1nm,1.1s
SHLS Shalkode 54.02 320 eP P 21 31 28.7 -2.9
SHLS pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 54.18 325 d iP P 21 31 33.1 +0.5
MKAR Makanchi Array 54.18 325 P P 21 31 31.6 -1.0
MKAR Makanchi Array 54.18 325 P P 21 31 32.5 -0.1
comp=Z,2.8nm,0.8s,baz=131,slow=7.2,SNR=26
MKAR LR LR 21 55 45.5
comp=Z,193nm,18.4s,baz=118,slow=37
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 54.18 325 P P 21 31 31.6 -1.0
UZB Uzynbulak 54.29 320 eP P 21 31 32.8 -1.0
comp=Z,18nm,1.3s
UZB Uzynbulak 54.29 320 eP P 21 31 32.7 -1.0
UZB pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 54.37 325 P P 21 31 33.8 -0.2
MAKZ IAmb IAmb 21 31 35.4
comp=Z,21nm,1.4s
MAKZ Makanchi 54.37 325 P P 21 31 33.8 -0.2
MAKZ pmax pmax
comp=Z,21nm,1.5s
PRZ Przheval'sk 54.39 319 P 21 31 35.5 +1.0
PRZ Przheval'sk 54.39 319 P P 21 31 35.5 +1.0
PRZ pmax pmax
comp=Z,88nm,1.7s
TARG Taragay, Kyrgy 54.45 317 P P 21 31 34.9 -0.3
TARG IAmb IAmb 21 31 47.8
comp=Z,21nm,1.4s
TARG Taragay, Kyrgy 54.45 317 P P 21 31 34.9 -0.3
TARG pmax pmax
comp=Z,21nm,1.4s
SATY Saty 54.65 319 eP P 21 31 35.5 -0.8
comp=Z,9.7nm,1.1s
SATY Saty 54.65 319 eP P 21 31 35.5 -0.8
SATY pmax pmax
comp=Z,10.0nm,1.1s
KSH Kashi 54.79 314 P P 21 31 38.8 +1.5
KSH pP sP 21 31 46.5 +4.6
KSH pmax pmax
comp=Z,9.0nm,1.5s
NIL Nilore 54.83 307 P 21 31 37.3 -0.3
NIL IAmb IAmb 21 31 39.2
comp=Z,18nm,1.0s
NIL Nilore 54.83 307 P P 21 31 37.3 -0.3
NIL pmax pmax
comp=Z,18nm,1.0s
KDJ Kajisay 55.04 318 P 21 31 39.2 0.0
KDJ IAmb IAmb 21 31 41.3
comp=Z,33nm,1.5s
KDJ Kajisay 55.04 318 P P 21 31 39.2 0.0
KDJ pmax pmax
comp=Z,33nm,1.5s
YAK Yakutsk 55.28 3 P P 21 31 39.7 -0.5
YAK IAmb IAmb 21 31 50.4
comp=Z,24nm,0.9s
YAK Yakutsk 55.28 3 eP P 21 31 39.9 -0.3
YAK e*PP pP 21 31 43.9 +0.4
YAK e 21 33 47.6
YAK ePPP PPP 21 34 55.3
YAK eS S 21 39 24.8 +1.0
YAK e*SS sS 21 39 30.9 +1.5
YAK eSS SS 21 43 10.9 +2.7
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,72nm,2.5s
YAK pmax pmax
comp=N,36nm,2.3s
YAK pmax pmax
comp=E,11nm,1.6s
YAK smax smax
comp=E,23nm,2.0s
YAK smax smax
comp=N,17nm,1.6s
TDK Taldyqorghan 55.57 321 eP P 21 31 42.0 -0.8
comp=N,15nm,1.2s
TDK Taldyqorghan 55.57 321 eP P 21 31 41.9 -0.8
TDK pmax pmax
comp=Z,15nm,1.2s
MDOK Medeo 55.59 319 eP P 21 31 42.3 -0.8
MDOK Medeo 55.59 319 eP P 21 31 42.2 -0.8
TNSS Tian-Shan 55.59 319 eP P 21 31 42.2 -1.2
TNSS Tian-Shan 55.59 319 eP P 21 31 42.2 -1.2
AAA Alma-Ata 55.69 319 eP P 21 31 43.1 -0.7
comp=Z,20nm,1.3s
AAA Alma-Ata 55.69 319 eP P 21 31 43.0 -0.7
AAA pmax pmax
comp=Z,20nm,1.3s
BOOM Boomskoye usch 56.03 318 P 21 31 46.3 +0.1
BOOM IAmb IAmb 21 31 48.2
comp=Z,27nm,1.5s
BOOM Boomskoye usch 56.03 318 P P 21 31 46.3 +0.1
BOOM pmax pmax
comp=Z,27nm,1.5s
MA2 Magadan 56.22 15 LR LR 21 53 54.5
comp=Z,85nm,21.3s,baz=186,slow=34
MA2 Magadan 56.22 15 P P 21 31 46.6 -0.5
comp=Z,19nm,1.5s
TKM2 Tokmak 2 56.44 318 P P 21 31 50.3 +1.0
SNR=14
KBK Karagaybulak 56.76 317 P P 21 31 52.5 +1.0
SNR=8.1
UCH Uchtor 56.88 317 P P 21 31 54.3 +1.6
SNR=23
AAK Ala-Archa 57.06 317 P P 21 31 53.1 -0.5
AAK IAmb IAmb 21 31 55.8
comp=Z,26nm,1.6s
AAK Ala-Archa 57.06 317 LR LR 21 59 03.7
comp=Z,209nm,21.2s,baz=100,slow=39
AAK Ala-Archa 57.06 317 P P 21 31 55.6 +2.0
SNR=5.7
AAK Ala-Archa 57.06 317 c iP P 21 31 54.4 +0.8
AAK pmax pmax
comp=Z,18nm,1.5s
ZALV Zalesovo Beam 57.19 333 P P 21 31 52.6 -1.4
ZALV Zalesovo Beam 57.19 333 P P 21 31 52.9 -1.2
comp=Z,1.1nm,0.7s,baz=122,slow=5.2,SNR=6.5
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 57.19 333 P P 21 31 52.6 -1.4
USP Ospenovka 57.31 318 P P 21 31 55.5 +0.3
SNR=19
EKS2 Erkin-Say 57.55 317 P P 21 31 58.4 +1.3
SNR=12
DRK Karamyk 57.78 313 P P 21 31 59.0 +0.1
DRK IAmb IAmb 21 32 07.7
comp=Z,31nm,1.4s
DRK Karamyk 57.78 313 P P 21 31 59.0 +0.1
DRK pmax pmax
comp=Z,31nm,1.4s
KURBB Kurchatov Arra 58.35 327 P P 21 32 01.4 -0.8
comp=Z,3.1nm,0.6s,baz=126,slow=5.7,SNR=28
comp=Z,3.1nm,0.6s
KURK Kurchatov 58.35 327 P P 21 32 01.7 -0.6
KURK IAmb IAmb 21 32 03.1
comp=Z,12nm,1.0s
KURK Kurchatov 58.35 327 c iP P 21 32 01.7 -0.6
KURK pmax pmax
comp=Z,19nm,1.1s
KBL Kabul 58.43 306 P P 21 32 02.6 -0.8
KBL Kabul 58.43 306 P P 21 32 02.7 -0.8
KBL pmax pmax
comp=Z,7.0nm,0.9s
GAR Garm 58.72 312 P P 21 32 04.6 -0.7
DZA Taraz 59.31 316 eP P 21 32 08.7 -0.5
comp=Z,11nm,1.3s
DZA Taraz 59.31 316 eP P 21 32 08.6 -0.5
DZA pmax pmax
comp=Z,11nm,1.3s
CHGR Chuyangaron 59.47 311 P P 21 32 09.9 -0.5
CHGR Chuyangaron 59.47 311 P P 21 32 10.0 -0.5
CHGR pmax pmax
comp=Z,43nm,1.4s
SEY Seymchan 59.50 14 LR LR 22 00 42.5
comp=Z,56nm,18.2s,baz=180,slow=39
SEY Seymchan 59.50 14↓ eP P 21 32 11.1 +1.1
SEY pmax pmax
comp=Z,24nm,1.6s
KK31 Karatay Array 59.95 316 P P 21 32 13.3 -0.3
KK31 IAmb IAmb 21 32 14.8
comp=Z,28nm,1.3s
KK31 Karatay Array 59.95 316 P P 21 32 13.3 -0.3
KK31 pmax pmax
comp=Z,28nm,1.3s
KKAR Karatay Array 59.95 316 P 21 32 13.4 -0.2
KKAR Karatay Array 59.95 316 P P 21 32 13.4 -0.2
CHM Chimkent 60.30 315 eP P 21 32 15.5 -0.6
comp=Z,9.0nm,1.2s
CHM Chimkent 60.30 315 eP P 21 32 15.4 -0.6
CHM pmax pmax
comp=Z,9.0nm,1.2s
BRLS Borolday 60.38 316 eP P 21 32 16.2 -0.4
comp=Z,6.6nm,1.3s
BRLS Borolday 60.38 316 eP P 21 32 16.1 -0.4
BRLS pmax pmax
comp=Z,7.0nm,1.3s
SHEM Shemya Is, Ala 60.73 32 LR LR 21 54 49.3
comp=Z,72nm,21.1s,baz=290,slow=32
BRZS Berezniki 61.31 324 eP P 21 32 22.1 -0.7
BRZS Berezniki 61.31 324 eP P 21 32 22.1 -0.7
HRA Herat 63.88 305 P P 21 32 39.5 -1.0
HRA IAmb IAmb 21 32 47.4
comp=Z,13nm,1.6s
BVAR Borovoye Array 63.93 327 P P 21 32 39.4 -0.8
comp=Z,4.4nm,0.9s,baz=117,slow=8.5,SNR=19
comp=Z,4.4nm,0.9s
BORK Borovoye 63.98 327 c iP P 21 32 39.5 -0.9
BORK pmax pmax
comp=Z,26nm,2.5s
TIXI Tiksi 64.88 1 P P 21 32 44.5 -1.4
TIXI IAmb IAmb 21 32 54.3
comp=Z,14nm,1.4s
TIXI Tiksi 64.88 1↓ iP P 21 32 44.9 -1.1
TIXI pmax pmax
comp=Z,10.0nm,1.2s
LBZ Lake Benmore 65.07 146 P P 21 32 48.2 +0.5
BKZ Black Stump Fm 65.89 138 P P 21 32 53.6 +0.4
ATKA Atka Island 66.97 36 P P 21 32 59.7 -0.1
BILL Bilibino 67.09 16↓ eP P 21 32 58.2 -2.1
BILL pmax pmax
comp=Z,20nm,1.7s
AB31 Akbulak array 68.81 320 P P 21 33 10.4 -1.1
AB31 IAmb IAmb 21 33 12.1
comp=Z,16nm,1.3s
ABKAR Akbulak array 68.81 320 P 21 33 10.6 -0.9
SVE Sverdlovsk 70.56 328 eP P 21 33 21.4 -0.7
SVE pmax pmax
comp=Z,11nm,1.2s
SPIA Saint Paul Isl 70.76 31 P P 21 33 23.2 -0.1
baz=252
P08K Saint George I 70.95 32 P P 21 33 23.8 -0.6
baz=253
UNV Unalaska Valle 71.89 35 P P 21 33 30.1 -0.2
baz=256
GAMB Gambell 72.33 25 P P 21 33 32.9 +0.3
baz=248
CASY Casey 73.61 186 P P 21 33 40.4 +0.3
FALS False Pass 73.88 35 P P 21 33 42.0 +0.1
baz=259
K13K Kusilvak Mount 74.83 27 P P 21 33 48.6 +1.2
baz=256
J14K Nanvaranak Lak 75.53 27 P P 21 33 52.0 +0.6
baz=256
L14K Kuka Creek 75.61 28 P P 21 33 52.3 +0.4
baz=258
SDPT Sand Point 75.63 35 P P 21 33 52.5 +0.4
baz=261
N14K Kuskokwak Cree 75.80 30 P P 21 33 53.1 +0.1
baz=259
F15K North Star Dit 75.81 24 P P 21 33 52.8 -0.2
baz=255
M14K Bethel 75.83 29 P P 21 33 53.3 +0.1
baz=258
G15K Niukluk 75.87 24 P P 21 33 53.0 -0.4
baz=255
CHNA Chernabura Isl 76.06 35 P P 21 33 54.7 +0.1
baz=262
AKT Akhty 76.11 311 eP P 21 33 54.8 -0.6
AKT e 21 34 07.0
AKT pmax pmax
comp=Z,29nm,1.2s
L15K Ungalak Mounta 76.24 28 P P 21 33 56.0 +0.5
baz=258
C16K Lisburne Hills 76.26 21 P P 21 33 54.9 -0.5
baz=253
S14K Fog Glacier 76.29 34 P P 21 33 55.2 -0.8
baz=262
K15K Wolf Creek Mou 76.34 27 P P 21 33 55.8 -0.3
baz=258
M15K Kasigluk River 76.43 29 P P 21 33 56.6 0.0
baz=259
O15K Ungalikthiuk R 76.60 31 P P 21 33 57.5 -0.1
baz=261
N15K Kwethluk River 76.63 30 P P 21 33 58.5 +0.7
baz=260
G16K Koyuk River 76.66 24 P P 21 33 58.4 +0.6
baz=257
D17K Noatak River 76.93 22 P P 21 34 00.1 +0.8
baz=256
J16K Anvik River 76.96 27 P P 21 33 59.6 0.0
baz=259
I17K Unalakleet 77.04 26 P P 21 33 59.3 -0.6
baz=259
BELG Belogornoye 77.05 322↓ eP P 21 33 59.1 -1.1
BELG pmax pmax
comp=Z,4.0nm,1.0s
RDOG Red Dog Mine 77.08 22 P P 21 34 00.8 +0.6
baz=256
C17K DeLong Mountai 77.09 21 P P 21 34 00.3 +0.1
baz=255
L16K Owhat River 77.19 28 P P 21 34 00.8 0.0
baz=260
E17K Hotham Inlet 77.25 23 P P 21 34 01.8 +0.7
baz=257
M16K Timber Creek 77.32 29 P P 21 34 02.0 +0.4
baz=261
N16K Nishlik Lake 77.33 30 P P 21 34 02.5 +0.8
baz=261
F17K Baldwin Pennin 77.33 23 P P 21 34 02.1 +0.6
baz=258
G17K Kiwalik Mounta 77.38 24 P P 21 34 02.7 +0.8
baz=258
O16K Kokwok River B 77.53 30 P P 21 34 02.8 -0.1
baz=262
R16K Pilot Point 77.54 33 P P 21 34 03.1 +0.3
baz=263
B18K Kokolik River 77.79 20 P P 21 34 04.4 +0.3
baz=256
E18K Tukpahlearik C 77.79 22 P P 21 34 04.8 +0.7
E18K Tukpahlearik C 77.79 22 P P 21 34 04.3 +0.2
baz=258
L17K Donlin 77.81 28 P P 21 34 05.0 +0.6
baz=261
RAYN Ar Rayn 77.83 293 P 21 34 04.0 -1.4
RAYN IAmb IAmb 21 34 07.0
comp=Z,10nm,0.9s
RAYN Ar Rayn 77.83 293 P P 21 34 04.0 -1.4
RAYN pmax pmax
comp=Z,10.0nm,1.0s
C18K Utukok River 77.84 21 P P 21 34 04.7 +0.2
baz=257
K17K Iditarod 77.89 27 P P 21 34 04.5 -0.3
baz=261
F18K Selawik 77.99 23 P P 21 34 05.5 +0.3
baz=259
O17K Koliganek Bris 78.06 30 P P 21 34 06.1 +0.4
baz=263
M17K Holitna River 78.11 29 P P 21 34 06.3 +0.3
baz=262
N17K Nushagak Hills 78.11 30 P P 21 34 06.3 +0.3
baz=263
Q16K King Salmon 78.15 32 P P 21 34 06.5 +0.3
baz=263
R17L Mt. Peulik Vol 78.19 33 P P 21 34 07.3 +0.7
baz=264
A19K Wainwright 78.23 20 P P 21 34 06.1 -0.4
baz=257
H18K Honhosa River 78.26 25 P P 21 34 07.0 +0.2
baz=261
G18K Tagagawik 78.26 24 P P 21 34 07.0 +0.2
baz=260
GNI Garni 78.33 309 P P 21 34 08.0 0.0
GNI Garni 78.33 309 c iP P 21 34 08.1 +0.2
GNI pmax pmax
comp=Z,24nm,1.4s
GNI Garni 78.33 309 P P 21 34 07.8 -0.1
comp=Z,16nm,1.2s
C19K Lookout Ridge 78.50 21 P P 21 34 07.0 -1.1
C19K Lookout Ridge 78.50 21 P P 21 34 07.8 -0.3
baz=259
Q17K Contact Creek 78.51 32 P P 21 34 08.4 0.0
baz=264
L18K Granite Mounta 78.57 28 P P 21 34 08.8 +0.3
baz=263
RAR Rarotonga 78.69 113 LR LR 22 06 37.6
comp=Z,29nm,19.1s,baz=284,slow=34
J18K Innoko River 78.72 27 P P 21 34 09.9 +0.6
J18K IAmb IAmb 21 34 13.9
comp=Z,21nm,1.4s
J18K Innoko River 78.72 27 P P 21 34 10.1 +0.7
baz=262
N18K Kilae Creek 78.77 30 P P 21 34 10.2 +0.5
baz=264
F19K Shaleruckik Mo 78.77 23 P P 21 34 10.4 +0.8
baz=261
GCSA Galena City Sc 78.82 25 P P 21 34 10.8 +0.9
baz=262
M18K Stony River 78.89 29 P P 21 34 10.9 +0.6
baz=264
D19K Kuna River 78.92 21 P P 21 34 10.6 +0.2
D19K Kuna River 78.92 21 P P 21 34 10.7 +0.3
baz=260
P18K Big Mountain, 78.96 31 P P 21 34 11.4 +0.6
baz=264
Q18K Katmai Hardscr 79.01 32 P P 21 34 11.6 +0.4
baz=265
O18K Koktuh Hills 79.02 30 P P 21 34 11.7 +0.6
baz=264
E19K Redstone River 79.08 23 P P 21 34 11.9 +0.7
baz=261
H19K Roundabout Mou 79.11 25 P P 21 34 12.2 +0.8
baz=262
R18K Karluk 79.21 33 P P 21 34 12.5 +0.3
baz=266
NCK Nalchik 79.24 313↓ eP P 21 34 12.4 -0.3
NCK pmax pmax
comp=Z,22nm,1.4s
J19K Poorman 79.27 26 P P 21 34 13.0 +0.6
baz=263
SII Sitkinak Islan 79.28 34 P P 21 34 13.5 +0.9
baz=266
L19K White Mountain 79.42 28 P P 21 34 13.6 +0.3
baz=264
N19K Bonanza Creek 79.47 29 P P 21 34 13.9 +0.3
baz=265
O19K Port Alsworth 79.49 30 P P 21 34 14.0 +0.4
baz=265
D20K Etivluk River 79.50 21 P P 21 34 14.0 +0.4
baz=262
B20K Meade River 79.51 20 P P 21 34 13.4 -0.1
baz=261
E20K Nigu River 79.59 22 P P 21 34 14.1 0.0
baz=262
F20K Avaraart Lake 79.60 23 P P 21 34 14.2 +0.1
baz=263
Q19K Cape Douglas, 79.74 31 P P 21 34 14.4 -0.7
baz=266
H20K Anotleneega Mo 79.75 25 P P 21 34 15.6 +0.6
baz=264
KBZ Khabaz 79.75 313 P P 21 34 14.7 -0.7
comp=Z,5.1nm,1.2s,baz=207,slow=4.5,SNR=9.3
comp=Z,5.1nm,1.2s
KBZ Khabaz 79.75 313↓ iP P 21 34 14.9 -0.5
KBZ pmax pmax
comp=Z,13nm,1.4s
OHAK Old Harbor 79.82 33 P P 21 34 15.7 +0.3
baz=267
I20K Naaghedeneel 79.85 25 P P 21 34 15.6 +0.1
baz=264
K20K Telida 79.89 27 P P 21 34 16.1 +0.3
baz=265
L20K Farewell, AK 79.90 28 P P 21 34 16.2 +0.3
baz=265
KIV Kislovodsk 79.91 313 P 21 34 15.8 -0.6
KIV IAmb IAmb 21 34 17.8
comp=Z,14nm,1.0s
KIV Kislovodsk 79.91 313 eP P 21 34 14.7 -1.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 79.91 313 P P 21 34 16.3 -0.1
comp=Z,9.0nm,1.3s
J20K Nowinta River 79.93 26 P P 21 34 16.6 +0.6
baz=265
P19K Oil Pt 80.00 31 P P 21 34 16.6 +0.1
baz=266
M20K Styx River 80.20 28 P P 21 34 17.7 +0.1
baz=266
C21K Knifeblade Rid 80.21 21 P P 21 34 18.0 +0.6
baz=263
KDAK Kodiak Island 80.23 33 LR LR 22 06 32.1
comp=Z,218nm,19.8s,baz=241,slow=33
KDAK Kodiak Island 80.23 33 P P 21 34 16.9 -0.7
baz=267
B21K Ikpikpuk River 80.33 21 P P 21 34 18.5 +0.5
baz=263
Q20K Shuyak Island 80.37 32 P P 21 34 18.8 +0.4
baz=267
A22K Sinclair Lake 80.38 19 P P 21 34 18.7 +0.5
baz=263
G21K Allakaket 80.42 24 P P 21 34 18.7 +0.2
baz=265
E21K Killik River 80.42 22 P P 21 34 18.6 +0.1
baz=264
GURO Guroymak-BITLI 80.43 308 P 21 34 19.7 +0.3
GURO IAmb IAmb 21 34 21.1
comp=Z,28nm,1.2s
F21K Alatna River 80.49 23 P P 21 34 19.3 +0.4
baz=265
N20K Mount Spurr 80.60 29 P P 21 34 20.3 +0.5
baz=267
SPCR Spurr Chakacha 80.60 29 P P 21 34 19.9 +0.2
baz=267
H21K Melozitna Rive 80.63 25 P P 21 34 20.2 +0.5
baz=266
PPLA Purkeypile 80.71 27 P P 21 34 20.8 +0.5
baz=267
CHUM Lake Minchumin 80.71 26 P P 21 34 19.8 -0.3
baz=266
OPO Ambohidratompo 80.78 250 LR LR 22 05 51.6
comp=Z,42nm,21.1s,baz=230,slow=33
B22K Teshekpuk Lake 80.81 20 P P 21 34 20.4 -0.2
baz=264
I21K Tanana 80.94 25 P P 21 34 21.3 -0.1
baz=266,SNR=9.1
SKT Skwentna 80.96 28 P P 21 34 20.9 -0.7
SKT Skwentna 80.96 28 P P 21 34 21.2 -0.4
baz=267
F22K John River 81.02 23 P P 21 34 21.7 -0.1
baz=266
CAPN Captain Cook N 81.09 30 P P 21 34 22.6 +0.3
baz=268
E22K Anaktuvuk Pass 81.20 22 P P 21 34 23.1 +0.3
baz=266
H22K Ishtalitna Cre 81.23 24 P P 21 34 22.9 0.0
baz=267
G22K Bettles 81.24 23 P P 21 34 23.4 +0.5
baz=267
BRSE Bradley Lake S 81.26 31 P P 21 34 23.3 +0.1
baz=268

BPAW Bear Paw Mtn. 81.31 26 P 21 34 23.4 0.0
BPAW IAmb IAmb 21 34 25.2
comp=Z,26nm,1.0s
BPAW Bear Paw Mtn. 81.31 26 P **P 21 34 23.5 0.0**
baz=268,SNR=12
SUA Susitna One 81.31 29 P **P 21 34 23.5 -0.1**
baz=268
MLY Manley 81.45 25 P 21 34 24.5 +0.3
MLY IAmb IAmb 21 34 26.2
comp=Z,14nm,1.1s
MLY Manley 81.45 25 P **P 21 34 24.4 +0.3**
baz=268
CUT Chulitna 81.57 28 P **P 21 34 25.0 +0.2**
baz=268
TRF Thorofare Moun 81.59 27 P **P 21 34 25.0 -0.1**
baz=268,SNR=6.1
M22K Willow 81.62 29 P **P 21 34 25.1 +0.1**
baz=269
D23K Nanushuk River 81.66 21 P **P 21 34 24.8 -0.4**
baz=267
C23K Itkillik River 81.73 20 P **P 21 34 25.0 -0.5**
baz=267
COLD Coldfoot 81.76 23 P **P 21 34 25.6 -0.1**
baz=268,SNR=5.5
O22K Cooper Landing 81.79 30 P **P 21 34 25.9 0.0**
baz=269
RC01 Rabbit Creek A 81.79 29 P **P 21 34 26.6 +0.6**
baz=269
G23K Bananza Creek 81.81 24 P **P 21 34 26.7 +0.7**
baz=268,SNR=6.7
VSLR Vesyoloye 81.84 313⇓ *e*P **P 21 34 25.7 -0.9**
VSLR pmax pmax
comp=Z,15nm,1.0s
SEW Seward 81.92 30 P **P 21 34 26.9 +0.3**
baz=269
H23K Yukon River 81.98 24 P **P 21 34 27.2 +0.3**
baz=268
KLMR Klimovskoe 82.00 330 *e*P **P 21 34 23.9 -3.2**
KLMR pmax pmax
comp=Z,19nm,1.5s
E23K Chandalar 82.02 22 P **P 21 34 27.8 +0.6**
baz=268
I23K Minto, Yukon-K 82.04 25 P **P 21 34 27.7 +0.5**
baz=269
TOLK Toolik Lake Re 82.05 22 P **P 21 34 27.6 +0.3**
baz=268
PMR Palmer 82.09 29 P **P 21 34 27.6 +0.1**
baz=270
NEA2 Nenana 82.16 26 P **P 21 34 28.5 +0.7**
baz=269
MCK McKinley 82.20 27 P 21 34 27.6 -0.5
MCK IAmb IAmb 21 34 29.2
comp=Z,22nm,0.9s
MCK McKinley 82.20 27 P **P 21 34 27.6 -0.5**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 82.20 27 P **P 21 34 27.9 -0.2**
baz=269,SNR=8.3
D24K Happy Valley 82.34 21 P **P 21 34 29.5 +0.9**
baz=269
WAT1 Susitna Watana 82.37 28 P **P 21 34 29.3 +0.2**
baz=270
C24K Franklin Bluff 82.39 21 P **P 21 34 29.8 +0.9**
baz=269
KNK Knik Glacier 82.41 29 P **P 21 34 29.0 -0.2**
baz=270
E24K Your Creek 82.44 22 P **P 21 34 30.3 +1.0**
baz=269
SML Sawmill 82.47 29 P **P 21 34 28.8 -0.8**
SML Sawmill 82.47 29 P **P 21 34 29.5 -0.2**
baz=270
PWL Port Wells 82.48 30 P **P 21 34 30.4 +0.8**
baz=270
F24K Squaw Lake 82.67 23 P **P 21 34 30.1 -0.4**
baz=270
H24K Noodor Dome 82.67 24 P **P 21 34 31.1 +0.6**
baz=270
COLA College 82.68 25⇑ *e*P **P 21 34 30.9 +0.4**
COLA pmax pmax
comp=Z,15nm,1.8s
COLA College 82.68 25 P **P 21 34 31.1 +0.6**
baz=270
WAT6 Susitna Watana 82.75 28 P **P 21 34 30.6 -0.5**
baz=271,SNR=5.1
M23K Glacier View 82.76 29 P **P 21 34 30.9 -0.1**
baz=271
G24K Hadweenzic Riv 82.83 24 P **P 21 34 30.8 -0.5**
baz=270
POKR Poker Plat Res 82.86 25 P **P 21 34 31.5 +0.1**
baz=271
DHY Denali Highway 82.91 27 P **P 21 34 32.0 +0.1**
baz=271
P23K Montague Islan 82.95 30 P **P 21 34 32.1 +0.1**
baz=271
SCM Sheep Creek Mo 82.95 29 P **P 21 34 32.4 +0.3**
baz=271
HDA Harding Lake 83.07 26 P **P 21 34 32.9 +0.3**
baz=271
GLI Glacier Island 83.08 29 P **P 21 34 33.2 +0.5**
baz=271
ILAR Eielson Array 83.09 26 P **P 21 34 31.8 -0.9**
ILAR Eielson Array 83.09 26 P **P 21 34 32.1 -0.6**
ILAR LR LR 22 15 32.4
comp=Z,4.1nm,1.0s,baz=256,slow=5.0,SNR=22
comp=Z,20nm,18.7s,baz=246,slow=39
comp=Z,4.1nm,1.0s
ILAR Eielson Array 83.09 26 P **P 21 34 31.8 -0.9**
D25K Kavik River 83.21 21 P **P 21 34 34.0 +0.8**
baz=271
G25K Bearman Lake 83.37 24 P **P 21 34 34.3 +0.2**
baz=272
M24K Tolsona, Glenn 83.49 28 P **P 21 34 35.7 +0.8**
baz=272
H25L Birch Creek 83.50 24 P **P 21 34 35.4 +0.7**
baz=272
Q23K Middleton Isla 83.50 31 P **P 21 34 35.3 +0.5**
baz=272
F25K Christian Rive 83.53 23 P **P 21 34 35.1 +0.1**
baz=272
E25K Arctic Village 83.54 22 P **P 21 34 35.0 +0.1**
baz=272
K24K Donnelly Dome 83.61 27 P **P 21 34 36.2 +0.8**
baz=272
KLU Klutina 83.63 29 P **P 21 34 36.5 +0.9**
baz=272
OBN Obninsk 83.68 325⇓ *e*P **P 21 34 34.5 -1.4**
OBN *e*PPP PPP 21 39 37.7
OBN pmax pmax
comp=Z,19nm,1.3s
C26K Camden Bay 83.71 20 P **P 21 34 36.8 +1.1**
baz=272
J25K Salcha River, 83.75 26 P **P 21 34 36.9 +0.8**
baz=272
EYAK Cordova Ski Ar 83.75 30 P **P 21 34 37.0 +0.8**
baz=273
PAX Paxson 83.78 27 P 21 34 36.2 -0.2
PAX Paxson 83.78 27 P **P 21 34 36.2 -0.2**
PAX pmax pmax
comp=Z,27nm,1.3s
PAX Paxson 83.78 27 P **P 21 34 37.0 +0.6**
baz=273,SNR=7.7
BMAR Burnt Mountain 83.94 23 P 21 34 37.5 +0.4
HARP HAARP 83.95 28 P **P 21 34 36.8 -0.4**
baz=273
RIDG Independent Ri 84.02 27 P **P 21 34 37.2 -0.4**
RIDG Independent Ri 84.02 27 P **P 21 34 37.6 +0.1**
baz=273,SNR=23
F26K Sheenjek River 84.09 23 P **P 21 34 38.4 +0.6**
baz=273
C27K Jago River 84.14 21 P **P 21 34 38.0 0.0**
baz=274,SNR=10
N25K Chitina, Valde 84.26 29 P **P 21 34 39.6 +0.8**
baz=274
G26K Porcupine Rive 84.28 23 P **P 21 34 39.4 +0.7**
baz=274,SNR=8.5
BMRM Bremner River 84.29 29 P **P 21 34 39.3 +0.3**
baz=274
GAZ Gaziantep 84.30 307 P **P 21 34 39.3 -0.3**
SCRK Sand Creek 84.39 26 P **P 21 34 39.5 0.0**
baz=274,SNR=6.2
KAIM Kayak Island 84.45 30 P **P 21 34 40.4 +0.6**
baz=274
J26L Joseph Creek 84.54 26 P **P 21 34 40.1 -0.1**
baz=274,SNR=9.9
GLB Gilahina Butte 84.64 29 P 21 34 41.2 +0.4
TOKA Tokat 84.64 310 P **P 21 34 40.8 -0.4**
TOKA IAmb IAmb 21 34 42.0
comp=Z,10.0nm,1.0s
I26K Coal Creek Min 84.65 25 P **P 21 34 40.8 +0.2**
baz=274
L26K Log Cabin Wild 84.74 27 P **P 21 34 41.5 +0.3**
baz=274
M26K Nabesna, AK 84.95 28 P **P 21 34 42.1 -0.2**
baz=275
E27K Coleen River 85.02 22 P **P 21 34 43.3 +0.8**
baz=276
MCARA McCarthy VSAT 85.03 29 P **P 21 34 43.0 +0.4**
baz=275
CRQE Cirque 85.05 30 P **P 21 34 43.0 +0.1**
baz=275
G27K Doyon Strip 85.13 23 P **P 21 34 43.7 +0.7**
baz=276,SNR=7.3
D27M Malcolm River 85.14 21 P **P 21 34 43.9 +0.8**
baz=276
K27K Chicken 85.22 26 P **P 21 34 43.8 +0.2**
baz=276
H27K Steamboat Moun 85.24 24 P **P 21 34 44.7 +1.1**
baz=276,SNR=11
BNN Bunyan 85.25 308 P 21 34 43.7 -0.7
BNN IAmb IAmb 21 34 45.2
comp=Z,16nm,1.2s
I27K Kandik River 85.26 25 P **P 21 34 45.0 +1.2**
baz=276,SNR=22
L27K Beaver Creek, 85.43 27 P **P 21 34 45.0 +0.4**
baz=276,SNR=8.3
BCAR Beaver Creek A 85.45 27 P **P 21 34 45.0 +0.2**
FURI Furi 85.47 278 LR LR 22 13 33.8
comp=Z,103nm,18.7s,baz=106,slow=36
M27K Edge Creek, AK 85.48 28 P **P 21 34 45.3 +0.2**
baz=276
MESA MESA 85.67 30 P **P 21 34 46.1 0.0**
baz=276
BARN Barnard Glacie 85.72 29 P **P 21 34 45.5 -0.8**
E28M Babbage River 85.73 21 P **P 21 34 47.0 +1.1**
baz=277
F28M Old Crow 85.73 22 P **P 21 34 47.3 +1.3**
baz=277
CTG Chitna Glacier 85.88 29 P **P 21 34 47.6 +0.5**
baz=276,SNR=6.4
CTGM Chitina Glacie 85.88 29 P **P 21 34 46.9 -0.2**
I28M Miner Creek 85.98 25 P **P 21 34 48.3 +0.9**
baz=277,SNR=9.4
MAW Mawson 86.01 200 LR LR 22 07 55.8
comp=Z,42nm,21.6s,baz=37,slow=32
MMAI Mount Meron Ar 86.13 303 P **P 21 34 49.4 +0.6**
comp=Z,6.3nm,1.1s,baz=97,slow=7.4,SNR=7.3
comp=Z,6.3nm,1.1s
E29M Blow River 86.36 22 P **P 21 34 50.3 +1.2**
baz=279
DAWY Dawson 86.39 26 P **P 21 34 50.4 +1.0**
baz=278
O28M Mount Upton 86.46 29 P **P 21 34 50.1 0.0**
baz=277
H29M Whitestone 86.51 24 P **P 21 34 50.8 +0.9**
baz=279
G29M Pine Creek 86.54 23 P **P 21 34 50.2 +0.2**
baz=279
VNDA Vanda 86.60 173 P 21 34 49.6 -0.4
VNDA IAmb IAmb 21 35 05.6
comp=Z,15nm,1.9s
VNDA Vanda 86.60 173 P **P 21 34 48.8 -1.2**
comp=Z,0.9nm,0.9s,baz=329,slow=7.0,SNR=5.6
VNDA LR LR 22 12 36.8
comp=Z,53nm,21.2s,baz=262,slow=35
comp=Z,0.9nm,0.9s
VNDA Vanda 86.60 173 P **P 21 34 49.6 -0.4**
VNDA pmax pmax
comp=Z,15nm,1.9s
BRTR Keskin Array B 86.87 309 P **P 21 34 50.5 -1.9**
comp=Z,0.6nm,0.7s,baz=130,slow=4.5,SNR=5.3
comp=Z,0.6nm,0.7s
M29M Somme Creek 87.04 28 P **P 21 34 52.7 0.0**
baz=279
ARCES ARCESS Array B 87.08 340 LR LR 22 18 27.4
comp=Z,122nm,18.7s,baz=40,slow=39
L29M L29M 87.09 27 P **P 21 34 53.6 +0.8**
baz=279
YUK4 Talbot Arm 87.12 29 P **P 21 34 54.0 +0.7**
baz=279
EPYK Eagle Plains 87.14 24 P **P 21 34 53.6 +0.6**
baz=280
G30M tAoh Zraii Nji 87.23 23 P **P 21 34 54.3 +0.8**
baz=281
K29M Barlow Dome 87.24 26 P **P 21 34 53.6 -0.1**
baz=280
F30M Barrier River 87.27 22 P **P 21 34 54.3 +0.7**
baz=281
O29M Mount Kennedy 87.32 30 P **P 21 34 54.1 -0.1**
baz=279
YUK6 Outpost Mounta 87.32 29 P **P 21 34 53.5 -0.8**
baz=279
I30M Mount Dempster 87.49 25 P **P 21 34 55.0 +0.1**
baz=281
PPT Papeete 87.57 108 LR LR 22 09 04.7
comp=Z,33nm,18.4s,baz=320,slow=32
PPT2 Papeete2 87.57 108 *e*S **S 21 45 35.8 -2.5**
comp=Z,43nm,24.2s
PPT2 *e*SS **SS 21 51 19.1 -5.2**
comp=Z,683nm,42.5s
PPT2 Papeete2 87.57 108 *e*LR LR 22 02 43.7
comp=Z,219nm,25.2s
PPT2 *e*LR LR 22 02 44.5
comp=Z,188nm,26.0s
J30M Hart River 87.63 25 P **P 21 34 55.1 -0.5**
baz=281
HYT Haines Junctio 87.76 29 P **P 21 34 56.1 -0.1**
baz=280
M30M Minto, Yukon 87.78 27 P **P 21 34 56.2 -0.1**
baz=280
P29M Windy Craggy 87.84 30 P **P 21 34 56.9 +0.4**
baz=280
N30M Aishikik Lake 87.85 28 P **P 21 34 55.7 -0.9**
baz=280
INK Inuvik 87.96 21 P **P 21 34 57.2 +0.4**
baz=283
G31M Satah River 87.99 23 P **P 21 34 57.0 0.0**
baz=282
H31M Peel River 88.20 24 P **P 21 34 58.2 +0.1**
baz=282
FINES FINESS Array B 88.43 332 P **P 21 34 57.0 -2.2**
comp=Z,2.4nm,0.9s,baz=90,slow=0.6,SNR=2.0
FINES LR LR 22 18 40.9
comp=Z,113nm,18.8s,baz=58,slow=38
comp=Z,2.4nm,0.9s
N31M Braeburn, Yuko 88.46 28 P **P 21 35 00.1 +0.7**
baz=281
TBI Tubuai 88.47 114 *e*S **S 21 45 42.2 -4.3**
TBI comp=Z,545nm,30.8s *e*SS **SS 21 51 30.0 -7.0**
comp=Z,2μm,34.8s
TBI Tubuai 88.47 114 *e*LR LR 22 03 00.0
comp=Z,845nm,30.8s
AKASG Malin Array Be 88.55 321 P **P 21 34 58.1 -1.9**
comp=Z,0.8nm,0.6s,baz=72,slow=4.1,SNR=4.1
comp=Z,0.8nm,0.6s
AKBB Malin Array Si 88.55 321⇓ *e*P **P 21 34 57.9 -2.1**
AKBB pmax pmax
comp=Z,7.0nm,1.5s
PLBC Pleasant Camp 88.56 30 P **P 21 35 00.3 +0.4**
baz=281
MNK Minsk 88.75 325 *i* P **P 21 34 59.2 -1.6**
MNK *i* 21 38 24.6
MNK *i* PPP PPP 21 40 24.1
MNK *i* S **SKSac 21 45 27.9 -2.4**
MNK *i* SS **SS 21 51 41.0 +1.8**
MNK *i* SSS SSS 21 55 12.9
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=N,20nm,1.0s
MNK MLR MLR
comp=N,76nm,22.0s
MNK MLR MLR
comp=Z,83nm,20.0s
MNK MLR MLR
comp=E,64nm,18.0s
M31M Drury Creek, Y 88.96 27 P **P 21 35 01.6 -0.2**
baz=282
WHY Whitehorse 89.05 29 P **P 21 35 02.8 +0.5**
baz=282
P32M Atlin 89.86 30 P **P 21 35 05.9 -0.2**
baz=283
MMPY Sheldon Lake, 90.27 27 P **P 21 35 07.8 -0.1**
baz=285
Q32M Nakina River 90.73 30 P **P 21 35 10.0 -0.3**
baz=284
CRAG Craig 91.11 34 P **P 21 35 11.6 -0.3**
baz=284
R33M Jennings River 91.26 30 P **P 21 35 12.6 -0.1**
baz=285
WRAK Wrangell Islan 91.31 33 P **P 21 35 12.6 -0.1**
baz=284
TGTN Hyland Airport 91.93 27 P **P 21 35 16.4 +0.7**
baz=288
DLBC Dease Lake 91.99 31 LR LR 22 09 46.8
comp=E,1μm,21.7s,baz=270,slow=31
TOAD Toad River Com 94.24 29 P **P 21 35 26.3 -0.1**
baz=290
HFS Hagfors 94.62 332 LR LR 22 20 52.2
comp=E,74nm,19.5s,baz=66,slow=37
SYO Syowa Base 94.64 201⇓ *e*P **P 21 35 28.9 +1.1**
BBB Bella Bella 94.85 36 LR LR 22 11 59.2
comp=E,74nm,21.9s,baz=256,slow=32
NOA NORSAR Array B 95.39 333 LR LR 22 22 50.5
comp=E,63nm,18.3s,baz=25,slow=38
TAOE Nuku Hiva Isla 95.68 98 *e*S S 21 46 41.5 -11
comp=E,214nm,28.7s
TAOE *e*SS **SS 21 53 23.7 +2.3**
comp=E,176nm,31.8s
TAOE Nuku Hiva Isla 95.68 98 *e*LR LR 22 06 24.0
comp=E,313nm,25.4s
QSPA South Pole Qui 96.63 180 LR LR 22 17 43.2
comp=E,68nm,21.7s,baz=279,slow=35
YKA Yellowknife Ar 97.42 24 LR LR 22 20 06.7
comp=E,48nm,22.0s,baz=270,slow=36
LSZ Lusaka 98.40 256 LR LR 22 16 37.4
comp=E,152nm,21.2s,baz=98,slow=33
MATP Matopo 98.50 250 LR LR 22 16 05.8
comp=E,113nm,21.1s,baz=84,slow=33
RKT Rikitea 101.71 112 *e*LR LR 22 09 16.8
comp=E,944nm,31.8s
TORD Torodi Ar. Bea 120.43 289 PKP **PKiKP 21 41 00.5 +0.6**
comp=E,0.6nm,1.0s,baz=44,slow=5.7,SNR=3.6
TXAR Lajitas Array 120.97 50 PKP **PKiKP 21 41 02.5 +1.8**
comp=E,0.4nm,0.8s,baz=48,slow=1.8,SNR=4.6
U38A Gravette 123.30 38 PKPdf 21 41 03.8 -1.0
R40A Maddies Statio 123.30 35 PKPdf 21 41 03.3 -1.4
MIAR Mount Ida 125.03 39 PKPdf 21 41 07.9 -0.2
MIAR Mount Ida 125.03 39 PKIKP **PKPdf 21 41 07.9 -0.2**
LPAZ La Paz 163.94 127 PKPdf 21 42 11.0 -1.3
LPAZ La Paz 163.94 127 PKP **PKPdf 21 42 12.3 0.0**
comp=E,4.4nm,1.1s,baz=22,slow=5.7,SNR=7.1
LPAZ La Paz 163.94 127 PKIKP **PKPdf 21 42 11.0 -1.3**

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*MCSM **29** 21:23:01.2±0.6, 46°N±4°×2°7E±°, h140km±4km, mb3.6, MLv2.6*
*SOF **29** 21:23:02.8, 45°.59N±0°.01×26°.58E±0°.01, h130km±4km, MD3.0/4*
*BUC **29** 21:23:02.8±0.2, 45°.64N×26°.56E, h129km±1km, ml3.7/63, Error ellipse: s-maj=1.2km s-min=1.0km az=10.0*
*BEO **29** 21:23:14.1±0.3, 45°.35N×25°.19E, h17km±5km, ML2.6/11*
ISC 29 21:23:00.6±1.3, **45°.68N**±0°.03×**26°.56E**±0°.03, **h147**km±6km,
n123, σ1°.09/177, **61C-57D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.17**	**140**	⇑P	**Pn**	**21 23 21.0**	**+0.4**
BISRR				⇑S	**Sn**	**21 23 34.9**	**-0.8**
BISRR	**Bisoca**	**0.17**	**140**	P	**Pn**	**21 23 21.1**	**+0.5**
PLOR5	**Plostina Array**	**0.19**	**24**	P	**Pn**	**21 23 21.1**	**+0.6**
PLOR	**Plostina**	**0.19**	**20**	⇑P	**Pn**	**21 23 20.9**	**+0.4**
PLOR				⇑S	**Sn**	**21 23 34.4**	**-1.4**
VRI	**Vrincioaia**	**0.23**	**32**	⇑P	**Pn**	**21 23 21.2**	**+0.5**
VRI				⇑S	**Sn**	**21 23 34.6**	**-1.3**
VRI	**Vrincioaia**	**0.23**	**32**	P	**Pn**	**21 23 21.1**	**+0.5**
NEHR	**Nehoiu**	**0.31**	**217**	⇑P	**Pn**	**21 23 21.5**	**+0.6**
NEHR				⇓S	**Sn**	**21 23 34.2**	**-2.0**
ODBI	**Odobesti**	**0.36**	**76**	P	**Pn**	**21 23 22.3**	**+1.4**
ODBI				S	**Sn**	**21 23 37.5**	**+1.0**
GRER		**0.42**	**135**	⇓S	**Sn**	**21 23 34.8**	**-2.1**
PANC	**Panciu**	**0.46**	**64**	⇓P	**Pn**	**21 23 22.2**	**+0.9**
PANC				⇓S	**Sn**	**21 23 36.8**	**-0.4**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑P	**Pn**	**21 23 22.4**	**+0.7**
MLR				⇑S	**Sn**	**21 23 37.2**	**-0.4**
MLR	**Muntele Rosu**	**0.47**	**247**	*e*Pg	**Pn**	**21 23 22.3**	**+0.7**
MLR				*e*Sg	**Sn**	**21 23 34.3**	**-3.3**
MLR	**Muntele Rosu**	**0.47**	**247**	P	**Pn**	**21 23 22.2**	**+0.6**
MLR				S	**Sn**	**21 23 38.4**	**+0.8**
TURR	**Turia**	**0.54**	**315**	⇑P	**Pn**	**21 23 22.4**	**+0.6**
TURR				⇑S	**Sn**	**21 23 37.2**	**-0.9**
ISR	**Istrita**	**0.56**	**181**	⇓P	**Pn**	**21 23 22.6**	**+0.6**
ISR	**Istrita**	**0.56**	**181**	P	**Pn**	**21 23 22.8**	**+0.8**
COSR	**Cosmesti PH**	**0.56**	**71**	⇑P	**Pn**	**21 23 20.8**	**-1.0**
COSR				⇑S	**Sn**	**21 23 37.9**	**-0.1**
ONER	**Baraj Valea Uz**	**0.67**	**350**	⇑P	**Pn**	**21 23 23.3**	**+0.7**
ONER				⇑S	**Sn**	**21 23 39.3**	**-0.2**
OZUR		**0.68**	**308**	⇑P	**Pn**	**21 23 23.0**	**+0.3**
OZUR				⇓S	**Sn**	**21 23 38.3**	**-1.3**
GHRR		**0.71**	**57**	⇓P	**Pn**	**21 23 23.8**	**+1.0**
GHRR				⇓S	**Sn**	**21 23 39.8**	**0.0**
GHRR		**0.71**	**57**	P	**Pn**	**21 23 23.3**	**+0.5**
GHRR				S	**Sn**	**21 23 40.9**	**+1.1**
BOSR	**Bodos**	**0.74**	**303**	⇑P	**Pn**	**21 23 23.6**	**+0.5**
BOSR				⇓S	**Sn**	**21 23 40.0**	**-0.3**
TUDR		**0.79**	**96**	⇓P	**Pn**	**21 23 24.0**	**+0.7**
TUDR				⇓S	**Sn**	**21 23 39.9**	**-0.7**
TESR	**Tescani**	**0.84**	**4**	⇓P	**Pn**	**21 23 24.1**	**+0.3**
TESR				⇑S	**Sn**	**21 23 40.0**	**-1.6**
TESR	**Tescani**	**0.84**	**4**	P	**Pn**	**21 23 24.0**	**+0.3**
IZVR	**Izvoarele**	**0.86**	**98**	⇓P	**Pn**	**21 23 24.6**	**+0.7**
IZVR				⇑S	**Sn**	**21 23 40.3**	**-1.3**
DOPR	**Dopca**	**0.87**	**290**	⇓P	**Pn**	**21 23 24.8**	**+0.8**
DOPR				⇓S	**Sn**	**21 23 41.5**	**-0.4**
SCHL	**Schela**	**0.91**	**101**	⇑P	**Pn**	**21 23 24.8**	**+0.6**
SCHL				⇑S	**Sn**	**21 23 41.3**	**-1.0**
SCHLR	**Schela**	**0.92**	**102**	⇑P	**Pn**	**21 23 24.9**	**+0.6**
SCHLR				⇑S	**Sn**	**21 23 41.4**	**-1.0**
VARL	**Varlezi**	**0.93**	**76**	⇓P	**Pn**	**21 23 25.1**	**+0.7**
VARL				⇑S	**Sn**	**21 23 42.0**	**-0.7**
NEGRR	**Negrea**	**0.94**	**98**	⇓P	**Pn**	**21 23 25.3**	**+0.8**
NEGRR				⇓S	**Sn**	**21 23 42.2**	**-0.6**
BIR	**Birlad**	**0.95**	**51**	⇓P	**Pn**	**21 23 25.5**	**+0.8**
BIR				⇓S	**Sn**	**21 23 42.1**	**-0.9**
SCTR	**Scanteiesti**	**1.01**	**90**	⇓P	**Pn**	**21 23 26.1**	**+1.0**
SCTR				⇑S	**Sn**	**21 23 43.2**	**-0.6**
SULR		**1.02**	**192**	⇓P	**Pn**	**21 23 26.0**	**+0.8**
TATR	**Tatarca**	**1.05**	**94**	⇓P	**Pn**	**21 23 26.4**	**+1.0**
TATR				⇑S	**Sn**	**21 23 44.0**	**-0.5**
GISR	**Galati**	**1.08**	**102**	⇓P	**Pn**	**21 23 26.9**	**+1.2**
GISR				⇑S	**Sn**	**21 23 44.5**	**-0.4**
VLDR	**Vladesti**	**1.08**	**80**	⇓P	**Pn**	**21 23 26.7**	**+0.9**
VLDR				⇑S	**Sn**	**21 23 44.3**	**-0.6**
VOIR		**1.08**	**258**	⇑S	**Sn**	**21 23 44.1**	**-1.1**
MTUR	**Matau**	**1.14**	**247**	⇓P	**Pn**	**21 23 27.3**	**+0.8**
GIUM	**Giurgiulesti**	**1.18**	**99**	⇓S	**Sn**	**21 23 46.0**	**-0.5**
AMRR	**Amara**	**1.20**	**152**	⇓P	**Pn**	**21 23 27.5**	**+0.6**
AMRR				⇓S	**Sn**	**21 23 46.9**	**0.0**
LEHL	**Lehliu**	**1.22**	**171**	⇑P	**Pn**	**21 23 27.9**	**+0.8**
LEHL				⇑S	**Sn**	**21 23 47.0**	**-0.2**
CFR	**Carcaliu**	**1.22**	**114**	⇑P	**Pn**	**21 23 27.5**	**+0.5**
CFR				⇓S	**Sn**	**21 23 46.3**	**-0.9**
JOSR	**Joseni**	**1.26**	**325**	⇓P	**Pn**	**21 23 28.3**	**+0.8**
GIRR	**Girov**	**1.28**	**358**	⇑P	**Pn**	**21 23 28.6**	**+1.0**
VASR	**Vaslui**	**1.29**	**41**	⇓P	**Pn**	**21 23 28.7**	**+1.0**
BIZ	**Bicaz**	**1.30**	**346**	⇓S	**Sn**	**21 23 49.2**	**+0.4**
BUC	**Bucharest**	**1.30**	**195**	⇓S	**Sn**	**21 23 48.8**	**+0.1**
CIOR	**Ciorogarla**	**1.32**	**202**	⇑P	**Pn**	**21 23 29.0**	**+1.0**
CIOR				⇑S	**Sn**	**21 23 48.3**	**-0.7**
HARR	**Harsova**	**1.38**	**135**	⇓P	**Pn**	**21 23 29.6**	**+0.9**
ARR	**Arges**	**1.39**	**258**	⇓P	**Pn**	**21 23 30.0**	**+1.2**
ARR				⇓S	**Sn**	**21 23 51.0**	**+0.7**
SGRR	**Singureni**	**1.51**	**196**	⇑P	**Pn**	**21 23 31.0**	**+1.0**
SGRR				⇑S	**Sn**	**21 23 52.2**	**-0.3**
TLBR	**Topalu**	**1.55**	**136**	⇑P	**Pn**	**21 23 31.1**	**+0.7**
TLBR				⇓S	**Sn**	**21 23 52.5**	**-0.7**
TPGR	**Topolog**	**1.55**	**121**	⇓P	**Pn**	**21 23 31.0**	**+0.5**
HUMR	**Humele**	**1.60**	**225**	⇑P	**Pn**	**21 23 31.9**	**+0.9**
HUMR				⇓S	**Sn**	**21 23 54.1**	**-0.1**
TNR	**Turnu Rosu**	**1.60**	**270**	⇓P	**Pn**	**21 23 31.8**	**+0.8**
TNR				⇓S	**Sn**	**21 23 54.3**	**0.0**
TLCR		**1.66**	**106**	⇑P	**Pn**	**21 23 32.4**	**+0.8**
TLCR				⇑S	**Sn**	**21 23 54.9**	**-0.6**
CVDA	**Cernavoda**	**1.70**	**141**	⇑P	**Pn**	**21 23 33.2**	**+1.1**

CVDA				⇑S	Sn	21 23 55.5	-0.8
ICOR	**Ion Corvin**	**1.79**	**150**	⇑P	Pn	21 23 34.5	+1.4
ICOR				⇓S	Sn	21 23 57.6	-0.4
TIRR	**Tirgusor**	**1.79**	**132**	⇓P	Pn	21 23 34.0	+0.9
TIRR				⇑S	Sn	21 23 57.3	-0.7
TIRR	**Tirgusor**	**1.79**	**132**	P	Pn	21 23 33.6	+0.5
COPA	**Copaceanca**	**1.81**	**212**	⇑P	Pn	21 23 34.3	+0.9
COPA				⇓S	Sn	21 23 58.1	-0.3
JURR	**Jurilovca**	**1.88**	**118**	⇓P	Pn	21 23 35.3	+1.3
LOT	**Lotru**	**1.97**	**264**	⇓P	Pn	21 23 36.5	+1.3
LOT				⇓S	Sn	21 24 02.9	+1.0
MFTR	**Murfatlar**	**2.00**	**138**	⇑P	Pn	21 23 36.6	+1.1
KIS	**Kishinev**	**2.05**	**49**	⇑P	Pn	21 23 37.0	+0.9
RAZG	**Razgrad**	**2.11**	**181**	⇓P	Pn	21 23 37.3	+0.4
RAZG				⇓S	Sn	21 24 03.9	-0.8
TSCT	**Constanta Port**	**2.13**	**135**	⇓S	Sn	21 24 04.6	-0.3
BURAR	**Bucovina Array**	**2.15**	**335**	⇑P	Pn	21 23 39.7	+2.4
EFOR	**EFORIE**	**2.17**	**137**	⇑S	Sn	21 24 06.3	+0.4
ZIMR		**2.19**	**203**	⇑P	Pn	21 23 38.8	+1.1
ZIMR				⇑S	Sn	21 24 05.7	-0.6
VLAD	**Vladila**	**2.27**	**223**	⇑P	Pn	21 23 39.5	+0.8
LOZB	**Loznitsa**	**2.31**	**179**	⇑P	Pn	21 23 40.2	+1.0
LOZB				⇓S	Sn	21 24 08.1	-0.8
PSN	**Preselentsi**	**2.33**	**150**	P	Pn	21 23 40.4	+1.0
PSN				S	Sn	21 24 08.3	-1.0
SZH	**Strazhitsa**	**2.44**	**190**	P	Pn	21 23 41.6	+0.7
SZH				S	Sn	21 24 10.6	-1.3
NEF	**NEVSHA**	**2.46**	**168**	P	Pn	21 23 42.4	+1.3
SRE	**Strehaia**	**2.58**	**248**	⇓P	Pn	21 23 43.5	+1.0
SRE				⇑S	Sn	21 24 14.5	-0.3
PRD	**Provadia**	**2.59**	**166**	P	Pn	21 23 44.0	+1.4
PRD				S	Sn	21 24 14.8	-0.2
MARR	**Marisel-Cluj**	**2.59**	**294**	⇑P	Pn	21 23 44.6	+1.3
GZR	**Gura Zlata**	**2.67**	**265**	⇑P	Pn	21 23 45.5	+1.8
GZR				⇑S	Sn	21 24 18.3	+1.3
GZR	**Gura Zlata**	**2.67**	**265**	*e*Pn	Pn	21 23 43.4	-0.3
GZR				*e*Sn	Sn	21 24 05.1	-12
PLVB	**Pleven**	**2.67**	**212**	⇑P	Pn	21 23 44.8	+1.1
PVL	**Pavlikeni**	**2.74**	**202**	P	Pn	21 23 45.8	+1.3
PVL				S	Sn	21 24 16.9	-1.5
ELND	**Elena**	**2.79**	**190**	⇓P	Pn	21 23 46.6	+1.4
ELND				⇑S	Sn	21 24 19.5	-0.1
BAIL	**Bailesti**	**2.82**	**235**	⇑S	Sn	21 24 19.8	-0.3
KMPD	**K-Podol'skiy**	**2.89**	**359**	P	Pn	21 23 46.0	-0.3
DRGR		**2.89**	**294**	⇓P	Pn	21 23 48.0	+1.5
DRGR		**2.89**	**294**	*e*Pn	Pn	21 23 47.3	+0.8
NDNU	**Novodnistrovsk**	**2.97**	**10**	P	Pn	21 23 47.7	+0.3
VALD	**Valchedram**	**2.98**	**229**	P	Pn	21 23 48.6	+1.1
HERR	**Herculane**	**3.03**	**256**	⇓P	Pn	21 23 49.1	+0.9
MPEP	**Malo Peshtene**	**3.07**	**222**	P	Pn	21 23 50.1	+1.4
SURR	**Surduc**	**3.11**	**273**	⇓P	Pn	21 23 50.5	+1.4
NE56	**Odesa**	**3.18**	**70**	P	Pn	21 23 49.9	-0.1
BLKB	**Belogradchik**	**3.45**	**235**	*e*Pn	Pn	21 23 53.9	+0.3
BLKB				*e*Sn	Sn	21 24 23.7	-11
BZS	**Buzias**	**3.46**	**271**	*e*Pn	Pn	21 23 55.1	+1.4
MDVR	**Moldovita**	**3.54**	**257**	*e*Pn	Pn	21 23 55.8	+1.1
MDVR				*e*Sg	Sn	21 24 33.0	-3.7
HORU	**Horodok**	**3.54**	**359**	P	Pn	21 23 54.7	0.0
ZAGS	**Zajecar**	**3.60**	**240**	*e*Pn	Pn	21 23 55.7	+0.2
ZAGS				*e*Sn	Sn	21 24 25.3	-13
KUBS	**Kucevo**	**3.68**	**252**	*e*Pn	Pn	21 23 56.0	-0.6
KUBS				*e*Sn	Sn	21 24 27.4	-13
ZAPS	**Zavoj**	**3.69**	**231**	*e*Pn	Pn	21 23 57.1	+0.3
ZAPS				*e*Sn	Sn	21 24 29.6	-11
VRSS	**Vrsac**	**3.73**	**263**	*e*Pn	Pn	21 23 58.2	+1.1
VRSS				*e*Sn	Sn	21 24 31.4	-10
VTS	**Vitosha**	**3.88**	**219**	*e*Pn	Pn	21 24 01.9	+2.6
VTS				*e*Sn	Sn	21 24 38.4	-6.5
BOVS	**Bovan**	**4.02**	**241**	*e*Pn	Pn	21 24 10.7	+10
BOVS				*e*Sn	Sn	21 24 36.1	-12
LUBAR	**Lubar, Ukraine**	**4.32**	**10**	P	Pn	21 24 05.0	+0.1
BOSS	**Bosilegrad**	**4.33**	**224**	*e*Pn	Pn	21 24 06.2	+1.2
BARS	**Barje**	**4.45**	**232**	*e*Pn	Pn	21 24 08.0	+1.4
BARS				*e*Sn	Sn	21 24 48.9	-9.0
GOCS	**Kraljevo Serbi**	**4.57**	**245**	*e*Pn	Pn	21 24 09.3	+1.0
GOCS				*e*Sn	Sn	21 24 48.8	-12
SELS	**Selova**	**4.60**	**240**	*e*Sn	Sn	21 24 50.2	-11
AK07	**Malin Array Si**	**5.19**	**19**	P	Pn	21 24 17.4	+1.1
AK10	**Malin Array Si**	**5.25**	**19**	P	Pn	21 24 17.9	+0.8
AK05	**Malin Array Si**	**5.25**	**19**	P	Pn	21 24 18.0	+0.8
AK12	**Malin Array Si**	**5.27**	**18**	P	Pn	21 24 18.0	+0.7
AK09	**Malin Array Si**	**5.27**	**19**	P	Pn	21 24 17.8	+0.4
AK08	**Malin Array Si**	**5.28**	**19**	P	Pn	21 24 18.3	+0.8
AK16	**Malin Array Si**	**5.28**	**18**	P	Pn	21 24 17.8	+0.3
AK17	**Malin Array Si**	**5.29**	**18**	P	Pn	21 24 18.0	+0.4
AK02	**Malin Array Si**	**5.29**	**19**	P	Pn	21 24 17.5	-0.1
AK18	**Malin Array Si**	**5.32**	**17**	P	Pn	21 24 17.7	-0.4
AK22	**Malin Array Si**	**5.36**	**17**	P	Pn	21 24 18.2	-0.3
BBLS	**Lazi&#263i**	**5.40**	**253**	*e*Pn	Pn	21 24 20.5	+1.2
BBLS				*e*Sn	Sn	21 25 07.4	-13
RNPP5	**Staryi Chortor**	**5.58**	**356**	P	Pn	21 24 21.9	+0.5
RNPP1	**Kostyukhnivka**	**5.70**	**355**	P	Pn	21 24 22.4	-0.7

*SJA **29** 21:24:35.2±0.7,23.°01S×70.°51W,h63km,ML3.4,MW3.6*
*GUC **29** 21:24:37.5±0.7,22.°97S×70.°32W,h43km±2km,ML3.3*
ISC 29 21:24:37.4±1.4,22.°97S±0.°03×70.°37W±0.°05,h21km±4km,
n30,σ1°47/43,5C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.57**	**197**	⇓*i*P	**Pb**	**21 24 49.0**	**+0.2**
PB10				*i* S	**Sb**	**21 24 57.5**	**+0.9**
PB10				IAML		21 24 59.7	
	comp=E,2μm,0.3s						
PB10	**IPOC Station P**	**0.57**	**197**	*e*P	**Pb**	**21 24 48.8**	**0.0**
PB10				IAML		21 24 59.5	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**0.78**	**71**	⇑*i*P	**Pb**	**21 24 51.5**	**-0.9**
PB06				*i* S	**Sb**	**21 25 01.5**	**-1.1**
PB06				IAML		21 25 02.7	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**0.78**	**71**	*e*P	**Pb**	**21 24 51.5**	**-0.9**
PB06				IAML		21 25 06.7	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**1.08**	**32**	⇑*i*P	**Pn**	**21 24 57.0**	**-0.4**
PB03				*i* S	**Sb**	**21 25 11.1**	**0.0**
PB03				IAML		21 25 12.9	
	comp=E,1μm,0.5s						
PB03	**IPOC Station P**	**1.08**	**32**	*e*P	**Pn**	**21 24 57.0**	**-0.4**
PB03				IAML		21 25 15.6	
	comp=Z,522nm,0.3s						
PB09	**IPOC Station P**	**1.56**	**42**	⇑*i*P	**Pn**	**21 25 04.2**	**+0.1**
PB09				*i* S	**Sn**	**21 25 24.1**	**+0.3**
PB09				IAML		21 25 25.4	
	comp=N,440nm,0.4s						
PB09	**IPOC Station P**	**1.56**	**42**	*e*P	**Pn**	**21 25 04.2**	**+0.1**
PB09				IAML		21 25 27.4	
	comp=Z,413nm,0.6s						
PB14	**IPOC Station P**	**1.65**	**181**	*e*P	**Pn**	**21 25 03.2**	**-2.2**
PB14				*i* S	**Sn**	**21 25 24.9**	**-1.3**
PB14	**IPOC Station P**	**1.65**	**181**	*e*P	**Pn**	**21 25 03.3**	**-2.2**
PB14				*e*S	**Sn**	**21 25 26.5**	**+0.2**
PB14				IAML		21 25 27.4	
	comp=Z,332nm,0.2s						
PB02	**IPOC Station P**	**1.70**	**15**	⇑*i*P	**Pn**	**21 25 05.5**	**-0.3**
PB02				*i* S	**Sn**	**21 25 27.4**	**+0.5**
PB02				IAML		21 25 34.6	
	comp=E,668nm,0.4s						
PB02	**IPOC Station P**	**1.70**	**15**	*e*P	**Pn**	**21 25 05.6**	**-0.2**
PB02				IAML		21 25 53.1	
	comp=Z,567nm,0.3s						
AF01	**San Pedro de A**	**2.02**	**90**	*e*P	**Pn**	**21 25 11.5**	**+1.0**
AF01				*i* S	**Sn**	**21 25 35.5**	**+0.2**
AF01	**San Pedro de A**	**2.02**	**90**	*e*P	**Pn**	**21 25 11.8**	**+1.2**
AF01				*e*S	**Sn**	**21 25 33.7**	**-1.6**
PB01	**IPOC Station P**	**2.08**	**23**	⇑*i*P	**Pn**	**21 25 11.2**	**0.0**
PB01				*i* S	**Sn**	**21 25 36.7**	**+0.3**
PB01				IAML		21 25 41.5	
	comp=E,236nm,0.3s						
PB01	**IPOC Station P**	**2.08**	**23**	*e*P	**Pn**	**21 25 11.2**	**0.0**
PB01				IAML		21 25 41.4	
	comp=Z,156nm,0.2s						
PATCX	**Punta Patache**	**2.14**	**5**	*e*P	**Pn**	**21 25 11.3**	**-0.7**
PATCX	**Punta Patache**	**2.14**	**5**	*e*P	**Pn**	**21 25 11.4**	**-0.6**
PATCX				IAML		21 25 53.1	
	comp=Z,121nm,0.8s						
GO02	**Mina Guanaco**	**2.30**	**162**	⇓*i*P	**Pn**	**21 25 13.2**	**-1.2**
GO02				*i* S	**Sn**	**21 25 42.9**	**+0.7**
GO02	**Mina Guanaco**	**2.30**	**162**	*e*P	**Pn**	**21 25 12.6**	**-1.8**
GO02				IAML		21 25 48.6	
	comp=Z,593nm,0.3s						
TA01	**Diego Aracena**	**2.39**	**4**	*e*P	**Pn**	**21 25 14.5**	**-0.9**
TA01	**Diego Aracena**	**2.39**	**4**	*e*P	**Pn**	**21 25 14.4**	**-0.9**
TA01				IAML		21 25 58.0	
	comp=Z,130nm,0.7s						
TA02	**Huaiquique**	**2.69**	**5**	*e*P	**Pb**	**21 25 25.0**	**+0.1**
TA02				*e*S	**Sb**	**21 25 58.7**	**+1.3**
TA02				IAML		21 26 10.9	
	comp=Z,103nm,0.6s						
HMBC	**Humberstone**	**2.71**	**10**	*e*P	**Pn**	**21 25 19.2**	**-0.7**
PB08	**IPOC Station P**	**3.03**	**22**	*e*P	**Pn**	**21 25 24.8**	**+0.3**
PB08				IAML		21 26 18.3	
	comp=Z,69nm,0.3s						
AC01	**Pan de Azucar**	**3.18**	**184**	*e*P	Pn	21 25 07.7	-18
AC01				*e*S	**Sn**	**21 26 06.0**	**+2.6**
AC01				IAML		21 26 14.2	
	comp=Z,76nm,0.6s						
PB11	**IPOC Station P**	**3.26**	**12**	*e*P	**Pn**	**21 25 26.0**	**-1.4**
PB11				IAML		21 26 29.9	
	comp=Z,94nm,1.2s						
GO01	**Chusmiza**	**3.46**	**19**	*e*P	**Pn**	**21 25 31.6**	**+1.1**
GO01				IAML		21 26 28.3	
	comp=Z,91nm,0.6s						
AC02	**Maricunga**	**4.01**	**164**	*e*P	**Pn**	**21 25 36.7**	**-1.4**
AC02				*e*S	**Sn**	**21 26 31.1**	**+6.4**
AC02				IAML		21 26 40.5	
	comp=Z,87nm,0.5s						
PB12	**IPOC Station P**	**4.33**	**1**	*e*P	**Pn**	**21 25 41.0**	**-1.1**
PB12				IAML		21 26 58.6	
	comp=Z,30nm,0.5s						

ANF 29 21:27:19.0±0.5,60.°08N×140.°73W,h13km±3km,Error ellipse: s-maj=5.4km s-min=2.5km az=18.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	**Pinnacle**	**0.24**	**85**	P	Pg	21 27 24.3	+0.2
	baz=261,SNR=41						
PINM				S	Sb	21 27 28.8	-0.5
	baz=261						
MESA	**MESA**	**0.62**	**280**	P	Pb	21 27 31.5	-0.3
	baz=100,SNR=17						
MESA				S	Sb	21 27 40.9	+0.4
	baz=100						
O28M	**Mount Upton**	**0.75**	**21**	P	Pg	21 27 33.4	-0.2
	baz=200,SNR=17						
PNL	**Peninsula**	**0.79**	**121**	P	Pg	21 27 32.9	-1.3
	baz=301,SNR=12						
PNL				S	Sg	21 27 44.5	+0.1
	baz=301						
CTG	**Chitna Glacier**	**0.94**	**341**	P	Pg	21 27 36.4	-0.8
	baz=161,SNR=14						
CTG				S	Sn	21 27 51.0	-0.5
	baz=161						
O29M	**Mount Kennedy**	**1.10**	**77**	S	Sn	21 27 55.1	-0.1
	baz=258						
YUK8	**Steele Glacier**	**1.30**	**21**	P	Pb	21 27 43.4	-0.1
	baz=201,SNR=13						
YUK6	**Outpost Mounta**	**1.46**	**52**	Pb	Pb	21 27 46.3	+0.3
	baz=234,SNR=12						
P29M	**Windy Craggy**	**1.57**	**105**	P	Pn	21 27 46.8	+0.2
	baz=287,SNR=6.0						
P29M				S	Sb	21 28 07.7	0.0
	baz=287						
YUK4	**Talbot Arm**	**1.63**	**38**	Pb	Pg	21 27 51.0	+0.6
	baz=219,SNR=8.9						
MCARA	**McCarthy VSAT**	**1.73**	**320**	P	Pn	21 27 49.4	+0.6
	baz=139,SNR=20						

ANF 29 21:28:10.3±0.3,60.°15N×140.°67W,h12km±2km,ML2.1/5, Error ellipse: s-maj=3.0km s-min=1.9km az=28.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	**Pinnacle**	**0.21**	**103**	P	Pb	21 28 15.7	-0.5
	baz=276,SNR=197						
PINM				S	Sg	21 28 20.7	+2.5
	baz=276						
MESA	**MESA**	**0.64**	**274**	P	Pg	21 28 23.1	+0.3
	baz=95,SNR=21						
MESA				S	Sb	21 28 32.7	+0.2
	baz=95						
O28M	**Mount Upton**	**0.67**	**21**	P	Pg	21 28 23.6	+0.2
	baz=202,SNR=50						
O28M				S	Sb	21 28 33.9	+0.4
	baz=202						
PNL	**Peninsula**	**0.80**	**126**	P	Pg	21 28 25.0	-0.8
	baz=305,SNR=48						
PNL				S	Sb	21 28 36.7	-0.2
	baz=305						
CTG	**Chitna Glacier**	**0.89**	**338**	P	Pg	21 28 26.7	-0.7
	baz=160,SNR=22						
CTG				S	Sb	21 28 39.7	+0.1
	baz=160						
O29M	**Mount Kennedy**	**1.06**	**81**	P	Pb	21 28 30.3	-0.3
	baz=261						
O29M				S	Sn	21 28 45.6	-0.2
	baz=261						
YUK8	**Steele Glacier**	**1.23**	**21**	P	Pn	21 28 33.3	-0.2
	baz=202,SNR=21						
YUK8				Sg	Sn	21 28 51.3	+1.1
	baz=202						
CRQE	**Cirque**	**1.35**	**298**	Sb	Sg	21 28 54.5	+0.9
	baz=117						
YUK6	**Outpost Mounta**	**1.39**	**54**	Pg	Pg	21 28 36.9	-0.2
	baz=236,SNR=18						
YUK6				Sg	Sg	21 28 56.6	+1.4
	baz=236						
YUK4	**Talbot Arm**	**1.56**	**39**	Pg	Pg	21 28 42.0	+1.7
	baz=220,SNR=8.8						
P29M	**Windy Craggy**	**1.57**	**108**	P	Pn	21 28 37.9	0.0
	baz=290,SNR=12						
P29M				S	Sb	21 28 59.0	0.0
	baz=290						
MCARA	**McCarthy VSAT**	**1.70**	**318**	Sb	Sg	21 29 04.3	-0.5
	baz=137						
HYT	**Haines Junctio**	**1.71**	**65**	Sb	Sg	21 29 05.0	-0.3
	baz=247						
M29M	**Somme Creek**	**2.54**	**24**	Pg	Pg	21 28 58.2	-0.8
	baz=206						

*IDC **29** 21:41:12.1±1.3,6.°63N×124.°98E,h0km,mb3.7/4, mbtmp3.7/4,MS3.7/3,Error ellipse: s-maj=27.8km s-min=10.9km az=137.0*
ISC 29 21:41:14.0±1.1,6.°6N±0.°1×125.°1E±0.°1,h10km,n10, σ0°64/7,mb3.6/5,MS4.0/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.63**	**45**	Pg	**Pg**	**21 41 26.2**	**0.0**
	0.1nm,0.3s,baz=211,slow=14,SNR=31						
DAV				Lg	Lg	21 41 36.8	
	0.4nm,0.3s,baz=213,slow=12,SNR=28						
DAV	**Davao City (W)**	**0.63**	**45**	P	**Pb**	**21 41 27.0**	**-0.1**
GUMO	**Guam**	**20.62**	**69**	LR	LR	21 52 29.2	
	comp=Z,54nm,21.0s,baz=181,slow=33						
WRA	**Warramunga Arr**	**27.91**	**161**	P	**P**	**21 47 04.6**	**+0.1**
	1.0nm,0.9s,baz=340,slow=8.6,SNR=5.5						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**31.30**	**164**	P	**P**	**21 47 34.5**	**0.0**
	0.3nm,0.4s,baz=341,slow=7.1,SNR=4.3						
	0.3nm,0.4s						
GTA	**Gaotai**	**39.81**	**329**	*e*P	**P**	**21 48 48.5**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PETK	**Petropavlovsk-**	**53.41**	**24**	P	**P**	**21 50 33.9**	**0.0**
	comp=Z,2.2nm,0.9s,baz=249,slow=6.0,SNR=3.7						
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**54.29**	**325**	P	**P**	**21 50 39.5**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=116,slow=8.9,SNR=3.8						
	comp=Z,0.3nm,0.6s						
AAK	**Ala-Archa**	**57.16**	**317**	LR	LR	22 16 42.5	
	comp=Z,142nm,20.8s,baz=103,slow=37						
KURBB	**Kurchatov Arra**	**58.46**	**327**	LR	LR	22 15 26.5	
	comp=Z,125nm,21.7s,baz=170,slow=35						

*IDC **29** 21:43:34.5±6.2,36.°32N×70.°91E,h170km±52km,mb3.5/6, mbtmp3.9/11,Error ellipse: s-maj=46.9km s-min=21.2km az=37.0*
*NEIC **29** 21:43:39.3±1.3,36.°61N±0.°06×70.°84E±0.°09,h215km±8km, mb4.1/3,Error ellipse: s-maj=10.3km s-min=8.9km az=122.0*
*NNC **29** 21:43:43.3±7.6,36.°94N×70.°82E,h195km±103km,mb2.4, mpv3.3,Error ellipse: s-maj=75.3km s-min=55.9km az=16.0*
ISC 29 21:43:38.0±0.8,36.°57N±0.°07×70.°99E±0.°08,h188km,n44, σ1°50/47,mb3.9/7,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.48**	**348**		**Pn**	**21 44 23.3**	**+2.2**
CHGR	**Chuyangaron**	**2.54**	**326**		**Pn**	**21 44 23.2**	**+1.6**
KBL	**Kabul**	**2.58**	**219**		**Pn**	**21 44 24.4**	**+2.1**
DRK	**Karamyk**	**2.97**	**12**	Pn	**Pn**	**21 44 28.7**	**+1.7**
NIL	**Nilore**	**3.45**	**147**		**Pn**	**21 44 36.2**	**+3.5**
KSH	**Kashi**	**4.91**	**52**	Pn	**Pn**	**21 44 48.8**	**-2.2**
KSH				Sn	Sn	21 45 40.5	-8.0
KSH				smax	smax		
	comp=N,58nm,0.7s						
KSH				smax	smax		
	comp=E,24nm,0.5s						
ARSB	**Arslanbob**	**4.99**	**17**	Pn	**Pn**	**21 44 53.4**	**+1.3**
UCH	**Uchtor**	**6.27**	**25**	P	**Pn**	**21 45 10.4**	**+1.3**
	SNR=21						
EKS2	**Erkin-Say**	**6.45**	**19**	P	**Pn**	**21 45 13.0**	**+1.9**
	SNR=7.3						
KK31	**Karatay Array**	**6.53**	**357**		**Pn**	**21 45 12.8**	**+0.8**
KK31	**Karatay Array**	**6.53**	**357**	⇑P	**Pn**	**21 45 13.3**	**+1.2**
	comp=E,0.4nm,0.2s,baz=184,slow=13,SNR=37						
KK31				⇑S	**Sn**	**21 46 23.3**	**-3.1**
	comp=E,4.4nm,0.5s,baz=190,slow=27,SNR=8.4						
KKAR	**Karatay Array**	**6.53**	**357**		**Pn**	**21 45 13.4**	**+1.4**
AAK	**Ala-Archa**	**6.63**	**23**	P	**Pn**	**21 45 14.8**	**+1.4**
	comp=E,4.5nm,0.3s,baz=164,slow=4.7,SNR=21						
AAK				S	**Sn**	**21 46 28.2**	**-0.7**
	comp=E,7.3nm,0.7s,baz=201,slow=13,SNR=4.7						
AAK	**Ala-Archa**	**6.63**	**23**	P	**Pn**	**21 45 15.0**	**+1.6**
	SNR=9.9						
AAK	**Ala-Archa**	**6.63**	**23**	⇑P	**Pn**	**21 45 14.4**	**+1.0**
	comp=E,1.6nm,0.5s						
AAK				⇓S	**Sn**	**21 46 28.4**	**-0.5**
	comp=E,5.6nm,0.6s						
KBK	**Karagaybulak**	**6.80**	**25**	P	**Pn**	**21 45 18.1**	**+2.5**
	SNR=8.6						
FRU1	**Bishkek**	**6.83**	**23**	Pn	**Pn**	**21 45 16.3**	**+0.3**
BOOM	**Boomskoye usch**	**7.04**	**31**		**Pn**	**21 45 19.8**	**+1.0**
USP	**Ospenovka**	**7.21**	**21**	P	**Pn**	**21 45 23.1**	**+2.2**
	SNR=6.7						
TKM2	**Tokmak 2**	**7.26**	**28**	P	**Pn**	**21 45 23.2**	**+1.4**
	SNR=27						
KDJ	**Kajisay**	**7.33**	**39**	Pn	**Pn**	**21 45 23.5**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.38**	**44**	Pn	**Pn**	**21 45 24.5**	**+0.9**
HRA	**Herat**	**7.46**	**256**		**Pn**	**21 45 24.1**	**-0.3**
MAKZ	**Makanchi**	**13.10**	**35**	P	**P**	**21 46 40.5**	**0.0**
MKAR	**Makanchi Array**	**13.24**	**36**		**Pn**	**21 46 40.9**	**+2.1**
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**21 46 39.6**	**+0.9**
	comp=E,1.2nm,0.9s,baz=212,slow=10,SNR=5.7						
WMQ	**Urumqi**	**14.66**	**55**	*e*P	**Pn**	**21 46 58.0**	**+1.5**
WMQ				LR	LR		
	comp=N,300nm,12.5s						
WMQ				LR	LR		
	comp=E,230nm,14.5s						
WMQ				LR	LR		
	comp=Z,200nm,17.5s						
AB31	**Akbulak array**	**15.02**	**331**	⇑P	**P**	**21 47 01.8**	**+0.1**
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**15.02**	**331**		**Pn**	**21 47 00.5**	**-0.3**
KURBB	**Kurchatov Arra**	**15.06**	**19**	P	**Pn**	**21 47 02.1**	**+0.9**
	comp=Z,1.5nm,0.2s,baz=208,slow=12,SNR=1.8						
EVN	**Everest**	**15.89**	**118**	P	**P**	**21 47 12.6**	**+0.4**
EVN				IAmb	IAmb	21 47 13.4	
	comp=Z,4.2nm,0.5s						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**21 47 18.6**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=153,slow=11,SNR=9.9						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**P**	**21 47 20.0**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=124,slow=7.9,SNR=3.9						
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**P**	**21 47 20.4**	**+0.1**
	comp=Z,1.2nm,0.7s						
ZAA0	**Zalesovo Array**	**19.85**	**25**		**P**	**21 47 54.2**	**-0.2**
ZAA0				IAmb	IAmb	21 47 55.2	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**P**	**21 47 53.9**	**-0.5**
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**P**	**21 47 54.5**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=218,slow=11,SNR=16						
	comp=Z,3.1nm,0.7s						
SONM	**Songino Array**	**28.30**	**55**	P	**P**	**21 49 15.6**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=242,slow=9.3,SNR=2.6						
	comp=Z,0.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**31.75**	**70**	*e*P	**P**	**21 49 44.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**21 51 02.6**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=122,slow=9.1,SNR=5.8						
	comp=Z,3.8nm,0.9s						
HFS	**Hagfors**	**43.01**	**322**	P	**P**	**21 51 18.0**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=130,slow=17,SNR=2.6						
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**81.95**	**122**	P	**P**	**21 55 35.4**	**-1.5**
WB0				IAmb	IAmb	21 55 45.9	
	comp=Z,7.2nm,1.4s						
**

PLIG				*e*S	**Sn**	**21 46 44.2**	**-1.4**
MAVM	**Malinalco, Edo**	**5.10**	**82**		Pb	21 45 54.8	-4.6
MAVM	**Malinalco, Edo**	**5.10**	**82**	*e*P	Pb	21 45 54.8	-4.6
MAVM				*e*S	**Sn**	**21 46 46.8**	**0.0**
DAIG	**Los Arroyos**	**5.11**	**104**		**Pn**	**21 45 48.8**	**+1.8**
DAIG	**Los Arroyos**	**5.11**	**104**	*e*P	**Pn**	**21 45 48.8**	**+1.8**
DAIG				*e*S	**Sn**	**21 46 43.0**	**-3.7**
YAIG	**Yautepec**	**5.50**	**84**		**Pn**	**21 45 55.4**	**+3.0**
YAIG	**Yautepec**	**5.50**	**84**	*e*P	**Pn**	**21 45 55.4**	**+3.0**
YAIG				*e*S	**Sn**	**21 46 54.7**	**-1.7**
PBXN	**Popocatepetl**	**5.90**	**82**	*e*P	**Pn**	**21 46 00.2**	**+2.0**
PBXN				*e*S	**Sn**	**21 47 13.1**	**+6.3**
PPCL	**Tochimilco**	**5.92**	**83**	*e*P	**Pn**	**21 46 01.2**	**+2.9**
PPCL				*e*S	**Sn**	**21 47 08.1**	**+1.0**
PPPT	**Popocatepetl**	**5.92**	**83**	*e*P	**Pn**	**21 46 01.2**	**+2.6**
TLIG	**Tlapa**	**6.02**	**96**	Pn	**Pn**	**21 45 59.5**	**0.0**
SLBS	**Sierra La Lagu**	**7.15**	**319**	Pn	**Pn**	**21 46 16.0**	**+1.0**
TXAR	**Lajitas Array**	**11.00**	**5**	Pn	**Pn**	**21 47 08.8**	**+0.9**
HSIG		**12.02**	**333**	Pn	**Pn**	**21 47 22.9**	**+1.2**
SGCY	**Sterling City**	**13.93**	**13**	Pn	**Pn**	**21 47 49.3**	**+1.4**
121A	**Cookes Peak, D**	**14.39**	**350**	Pn	**Pn**	**21 47 54.6**	**+0.3**
214A	**Organ Pipe Nat**	**15.36**	**334**	Pn	**Pn**	**21 48 09.4**	**+2.3**
214A				IAmb	IAmb	21 48 14.3	
	comp=Z,12nm,1.4s						
ANMO	**Albuquerque**	**16.61**	**355**	P	**P**	**21 48 27.8**	**+1.7**
X16A	**Lo Mia Camp, P**	**17.07**	**341**		**Pn**	**21 48 31.1**	**+1.8**
WHAR	**Wooly Hollow**	**20.23**	**31**	P	**P**	**21 49 07.0**	**+1.2**
LCAR	**Lake Charles**	**21.41**	**32**	P	**P**	**21 49 18.1**	**-0.4**
LCAR				IAmb	IAmb	21 49 21.1	
	comp=Z,14nm,1.5s						
P17A	**Butcher Ranch,**	**21.68**	**348**	P	**P**	**21 49 22.5**	**+0.9**
P17A				IAmb	IAmb	21 49 26.5	
	comp=Z,9.3nm,1.1s						
MGMO	**Mountain Grove**	**21.76**	**28**	P	**P**	**21 49 22.1**	**-0.2**
CCM	**Cathedral Cave**	**22.96**	**28**	P	**P**	**21 49 34.3**	**-0.7**
CCM				IAmb	IAmb	21 49 38.5	
	comp=Z,5.8nm,0.9s						
NV11	**Mina Array Sit**	**23.15**	**333**	P	**P**	**21 49 38.6**	**+1.4**
NV11				IAmb	IAmb	21 49 45.3	
	comp=Z,4.3nm,1.1s						

*IDC **29** 21:47:17.0±3.1, 20°.45N×71°.79E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=82.3km s-min=29.3km az=71.0*
*NDI **29** 21:47:30.0±1.8, 20°.05N×71°.99E, h21km±14km, ML3.4, MW3.4*

ISC 29 21:47:28.1±1.2, 20°.09N±0°.05×72°.06E±0°.08, h10km, n13, σ1§82/16, mb3.6/5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.38**	**149**	*e*P	**Pn**	**21 47 54.1**	**+0.6**
BOM				*e*S	**Sg**	**21 48 13.1**	**+0.4**
BOM				IAML		21 48 13.2	
	comp=N,954nm,0.3s						
BOM				IAML		21 48 14.4	
	comp=E,508nm,0.3s						
BHV	**Bhavnagar**	**1.65**	**3**	*e*P	**Pb**	**21 47 59.1**	**+0.4**
BHV				IAML		21 48 01.5	
	comp=E,850nm,0.3s						
BHV				IAML		21 48 01.7	
	comp=N,229nm,0.1s						
BHV				*e*S	**Sb**	**21 48 19.5**	**0.0**
POO	**Poona**	**2.29**	**132**	*e*P	**Pn**	**21 48 07.3**	**+1.2**
POO				*e*S	**Sn**	**21 48 35.1**	**+0.7**
POO				IAML		21 48 39.1	
	comp=E,229nm,0.5s						
POO				IAML		21 48 39.2	
	comp=N,244nm,0.4s						
KAD	**Karad**	**3.42**	**144**	*e*P	**Pn**	**21 48 22.6**	**+1.0**
KAD				*e*S	**Sn**	**21 49 01.1**	**-1.2**
KAD				IAML		21 49 02.6	
	comp=E,64nm,0.1s						
KAD				IAML		21 49 02.9	
	comp=N,71nm,0.6s						
BHUJ	**Bhuj**	**3.86**	**325**	*e*P	**Pn**	**21 48 28.1**	**+0.5**
BHUJ				*e*S	**Sn**	**21 49 10.8**	**-2.3**
BHUJ				IAML		21 49 21.7	
	comp=N,383nm,1.0s						
BHUJ				IAML		21 49 32.7	
	comp=E,490nm,1.3s						
LATR	**Latur**	**4.56**	**111**	*e*P	**Pn**	**21 48 37.6**	**+0.4**
LATR				IAML		21 49 25.6	
	comp=N,23nm,0.3s						
LATR				IAML		21 49 25.9	
	comp=E,27nm,0.3s						
LATR				*e*S	**Sn**	**21 49 26.0**	**-4.4**
UDPR	**Udaipur**	**4.72**	**19**	*e*P	**Pn**	**21 48 41.2**	**+1.7**
UDPR				*e*S	**Sn**	**21 49 32.8**	**-1.6**
UDPR				IAML		21 49 50.6	
	comp=E,61nm,0.8s						
UDPR				IAML		21 49 55.8	
	comp=N,48nm,0.2s						
BHPL	**Bhopal**	**5.89**	**57**	*e*P	**Pn**	**21 48 57.6**	**+2.1**
BHPL				*e*S	**Sn**	**21 50 01.3**	**-1.9**
BHPL				IAML		21 50 19.9	
	comp=E,62nm,0.7s						
BHPL				IAML		21 50 20.8	
	comp=N,108nm,0.2s						
AAK	**Ala-Archa**	**22.57**	**5**	P	P	21 52 16.2	-13
	comp=N,1.2nm,0.7s,baz=216,slow=10,SNR=2.1						
	comp=N,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.42**	**89**	P	P	21 52 49.0	-7.2
	comp=N,2.2nm,0.8s,baz=278,slow=8.6,SNR=20						
	comp=N,2.2nm,0.8s						
MKAR	**Makanchi Array**	**27.92**	**15**	P	P	21 53 05.8	-13
	comp=N,0.2nm,0.6s,baz=203,slow=11,SNR=1.5						
	comp=N,0.2nm,0.6s						
WRA	**Warramunga Arr**	**72.81**	**119**	P	P	21 58 50.1	-7.3
	comp=N,1.0nm,0.8s,baz=305,slow=6.1,SNR=6.0						
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**74.31**	**123**	P	P	21 58 59.3	-6.9
	comp=N,0.6nm,0.9s,baz=310,slow=5.8,SNR=4.4						
	comp=N,0.6nm,0.9s						

*IDC **29** 22:02:43.9±12.0, 38°.43N×20°.34E, h0km, mb3.5/5, mbtmp3.4/7, ML2.7/2, Error ellipse: s-maj=221.4km s-min=26.7km az=32.0*
*THE **29** 22:02:46.9, 38°.4N±0°.5×20°.5E±1°.0, h10km, M3.3/22, MLh3.3/22*
*ATH **29** 22:02:46.4, 38°.44N×20°.49E, h15km, ML3.4/16, Manual Solution by F.Xalaris First location: 2019/10/29 22:03:48, This location: 2019/10/29 22:27:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 29 22:02:46.6±0.7, 38°.45N±0°.02×20°.50E±0°.03, h12km±4km, n86, σ0§65/106, mb3.7/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.05**	**74**	P	**Pg**	**22 02 48.9**	**-0.1**
FSK				S	**Sg**	**22 02 50.5**	**-0.3**
FSK	**Fiskardo**	**0.05**	**74**	P	**Pg**	**22 02 48.9**	**-0.1**
FSK				S	**Sg**	**22 02 50.1**	**-0.7**
VSK1	**VASILIKIADES**	**0.06**	**124**	P	**Pg**	**22 02 48.9**	**-0.2**
VSK1				S	**Sg**	**22 02 50.9**	**-0.1**
EVGI	**Lefkada island**	**0.22**	**35**	P	**Pg**	**22 02 51.7**	**+0.4**
EVGI				S	**Sg**	**22 02 55.0**	**+0.5**
EVGI	**Lefkada island**	**0.22**	**35**	P	**Pg**	**22 02 51.8**	**+0.4**
EVGI				S	**Sg**	**22 02 54.5**	**0.0**
DMLN	**Damoulianata-K**	**0.23**	**205**	P	**Pg**	**22 02 51.6**	**0.0**
DMLN				S	**Sg**	**22 02 55.6**	**+0.8**
DMLN	**Damoulianata-K**	**0.23**	**205**	P	**Pg**	**22 02 51.4**	**-0.1**
DMLN				S	**Sg**	**22 02 54.6**	**-0.2**
LXR1	**Lixouri, Cepha**	**0.25**	**191**	P	**Pg**	**22 02 52.1**	**+0.2**
LXR1				S	**Sg**	**22 02 56.4**	**+1.1**
ARG2	**Argostoli**	**0.27**	**181**	P	**Pg**	**22 02 52.1**	**-0.1**
ARG2				S	**Sb**	**22 02 56.6**	**-1.1**
ARG2	**Argostoli**	**0.27**	**181**	P	**Pg**	**22 02 52.1**	**-0.1**
VLS	**Valsamata**	**0.28**	**165**	P	**Pg**	**22 02 52.3**	**-0.2**
VLS				S	**Sg**	**22 02 56.6**	**+0.4**
VLS	**Valsamata**	**0.28**	**165**	P	**Pg**	**22 02 52.2**	**-0.2**
VLS				S	**Sg**	**22 02 56.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.31**	**30**	P	**Pg**	**22 02 53.3**	**+0.3**
NYDR				S	**Sg**	**22 02 57.6**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.31**	**30**	P	**Pg**	**22 02 53.3**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.34**	**168**	P	**Pg**	**22 02 53.4**	**0.0**
PSDA				S	**Sg**	**22 02 58.2**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.34**	**168**	P	**Pg**	**22 02 53.4**	**0.0**
LKD2	**Lefkada island**	**0.37**	**20**	P	**Pg**	**22 02 54.3**	**+0.3**
LKD2				S	**Sg**	**22 02 59.6**	**+0.6**
LKD2	**Lefkada island**	**0.37**	**20**	P	**Pg**	**22 02 54.3**	**+0.3**
LKD2				S	**Sg**	**22 02 59.3**	**+0.3**
TSLK	**Tsoukalades, L**	**0.40**	**18**	P	**Pg**	**22 02 55.0**	**+0.4**
TSLK	**Tsoukalades, L**	**0.40**	**18**	P	**Pg**	**22 02 54.9**	**+0.3**
TSLK				S	**Sg**	**22 02 60.0**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.43**	**149**	P	**Pg**	**22 02 55.1**	**0.0**
AST1	**Astakos**	**0.47**	**78**	P	**Pg**	**22 02 56.3**	**+0.3**
ORTH	**Orthonies,Zaky**	**0.61**	**165**	P	**Pb**	**22 02 58.8**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.61**	**165**	P	**Pb**	**22 02 58.8**	**-0.4**
ORTH				S	**Sg**	**22 03 06.9**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.68**	**157**	P	**Pg**	**22 02 59.6**	**-0.1**
KYPS				S	**Sg**	**22 03 08.8**	**+0.2**
ZAK2	**Zakynthos**	**0.73**	**154**	P	**Pb**	**22 03 00.8**	**-0.4**
MSL1	**Messolongi**	**0.73**	**95**	P	**Pg**	**22 03 00.9**	**0.0**
AXS	**Araxos**	**0.73**	**109**	P	**Pg**	**22 03 00.7**	**-0.2**
AXS	**Araxos**	**0.73**	**109**	P	**Pg**	**22 03 00.7**	**-0.2**
AMPL	**Ampelaki**	**0.74**	**49**	P	**Pg**	**22 03 00.7**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**0.75**	**138**	P	**Pg**	**22 03 00.6**	**-0.5**
LTHK	**Lithakia**	**0.78**	**160**	P	**Pg**	**22 03 00.9**	**-0.9**
LTHK	**Lithakia**	**0.78**	**160**	P	**Pg**	**22 03 00.8**	**-0.9**
LTHK				S	**Sb**	**22 03 12.2**	**-0.4**
LCHA	**Lechaina**	**0.79**	**130**	P	**Pb**	**22 03 01.9**	**-0.3**
PVO	**Paravola**	**0.82**	**78**	P	**Pb**	**22 03 02.8**	**-0.1**
PVO	**Paravola**	**0.82**	**78**	P	**Pb**	**22 03 02.8**	**-0.1**
PRGA	**Parga**	**0.84**	**355**	P	**Pb**	**22 03 03.2**	**+0.1**
RLS	**Riolos of Patr**	**0.86**	**117**	P	**Pg**	**22 03 02.8**	**-0.3**
RLS	**Riolos of Patr**	**0.86**	**117**	P	**Pg**	**22 03 02.6**	**-0.5**
RLS				S	**Sg**	**22 03 13.8**	**-0.5**
PATG	**Patra B**	**0.99**	**102**	P	**Pb**	**22 03 06.0**	**+0.3**
PATC	**Patra C**	**1.01**	**100**	P	**Pn**	**22 03 06.5**	**0.0**
UPR	**University Cam**	**1.03**	**99**	P	**Pb**	**22 03 06.6**	**+0.3**
UPR	**University Cam**	**1.03**	**99**	P	**Pg**	**22 03 06.2**	**-0.2**
DRO	**Drossia**	**1.07**	**117**	P	**Pg**	**22 03 06.8**	**-0.6**
DRO	**Drossia**	**1.07**	**117**	P	**Pg**	**22 03 06.7**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.08**	**34**	P	**Pg**	**22 03 07.1**	**-0.4**
TETR	**Tetrakomo, Epi**	**1.08**	**34**	P	**Pg**	**22 03 06.8**	**-0.8**
IGT	**Igoumenitsa**	**1.09**	**353**	P	**Pg**	**22 03 07.1**	**-0.6**
IGT	**Igoumenitsa**	**1.09**	**353**	P	**Pg**	**22 03 07.0**	**-0.8**
EFP	**Efpalio**	**1.11**	**90**	P	**Pb**	**22 03 06.9**	**-0.8**
EFP	**Efpalio**	**1.11**	**90**	P	**Pb**	**22 03 06.8**	**-0.8**
ANX	**Ano Chora**	**1.13**	**82**	P	**Pb**	**22 03 07.7**	**-0.4**
ANX	**Ano Chora**	**1.13**	**82**	P	**Pb**	**22 03 07.5**	**-0.6**
EVR	**Evrytania**	**1.13**	**65**	P	**Pb**	**22 03 07.6**	**-0.6**
EVR	**Evrytania**	**1.13**	**65**	P	**Pb**	**22 03 07.6**	**-0.6**
SERG	**Sergoula**	**1.23**	**91**	P	**Pn**	**22 03 08.9**	**-0.7**
SERG	**Sergoula**	**1.23**	**91**	P	**Pn**	**22 03 09.0**	**-0.5**
TRIZ	**Trizonia**	**1.24**	**93**	P	**Pn**	**22 03 09.2**	**-0.5**
KALE	**Kalithea**	**1.29**	**92**	P	**Pn**	**22 03 09.9**	**-0.6**
KLV	**Kalavryta, Ach**	**1.36**	**107**	P	**Pn**	**22 03 11.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.40**	**66**	P	**Pb**	**22 03 12.6**	**-0.1**
GUR	**Goura**	**1.54**	**109**	P	**Pn**	**22 03 14.1**	**+0.1**
AGG	**Agios Georgios**	**1.55**	**68**	P	**Pb**	**22 03 14.9**	**-0.2**
THL	**Klokotos Trika**	**1.63**	**46**	P	**Pg**	**22 03 17.4**	**-0.5**
ITM	**Ithomi**	**1.70**	**138**	P	**Pb**	**22 03 17.7**	**0.0**
OHR	**Ohrid**	**2.67**	**5**	*i* Pn	**Pb**	**22 03 32.6**	**-1.8**
TREB	**Trebinje**	**4.57**	**340**	*e*Pn	**Pn**	**22 03 54.8**	**-0.7**
KLINJ	**Klinje**	**4.94**	**344**	*e*Pn	**Pn**	**22 04 00.0**	**-0.7**
RUDO	**Rudo**	**5.24**	**351**	*e*Pn	**Pn**	**22 04 03.2**	**-1.5**
AQU	**L'Aquila**	**6.67**	**308**	*e*Pn	**Pn**	**22 04 25.3**	**+0.8**
BLY	**Banja Luka**	**6.77**	**340**	*e*Pn	**Pn**	**22 04 25.7**	**0.0**
MORH	**Mrgy, Hungar**	**7.88**	**351**	*e*Pn	**Pn**	**22 04 39.4**	**-1.6**
SOKA	**Soboth**	**9.16**	**336**	*e*Pn	**Pn**	**22 04 57.6**	**-0.9**
	0.6nm,0.3s,SNR=5.5						
OBKA	**Obir**	**9.18**	**333**	*e*Pn	**Pn**	**22 04 58.5**	**-0.3**
	0.8nm,0.2s						
KBA	**Koelnbreinsper**	**10.10**	**331**	*e*Pn	**Pn**	**22 05 11.4**	**-0.1**
	0.7nm,0.3s						
ABTA	**Abfaltersbach**	**10.17**	**327**	*e*Pn	**Pn**	**22 05 11.9**	**-0.5**
	0.2nm,0.2s						
BRTR	**Keskin Array B**	**10.30**	**79**	Pn	**Pn**	**22 05 17.2**	**+3.0**
	0.1nm,0.3s,baz=259,slow=14,SNR=1.7						
	0.3nm,0.7s						
MOA	**Molln**	**10.44**	**336**	*e*Pn	**Pn**	**22 05 16.7**	**+0.7**
	1.6nm,0.3s						
LESA	**Schwarzleotal**	**10.64**	**330**	*e*Pn	**Pn**	**22 05 19.5**	**+0.6**
	1.4nm,0.3s,SNR=4.8						
MOTA	**Moosalm**	**11.24**	**325**	*e*Pn	**Pn**	**22 05 27.7**	**+0.6**
	1.2nm,0.4s						
GERES	**GERESS Array B**	**11.50**	**337**	Pn	**Pn**	**22 05 29.5**	**-1.0**
	baz=152,slow=17,SNR=3.1						
	0.2nm,0.3s						
HFS	**Hagfors**	**22.13**	**351**	P	**P**	**22 07 40.1**	**-1.7**
	1.6nm,0.5s,baz=154,slow=11,SNR=8.1						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**23.29**	**7**	P	**P**	**22 07 53.9**	**+0.1**
	4.6nm,0.9s,baz=171,slow=14,SNR=4.0						
	4.6nm,0.9s						
NOA	**NORSAR Array B**	**23.35**	**349**	P	**P**	**22 07 54.3**	**-0.3**
	0.2nm,0.4s,baz=161,slow=9.8,SNR=2.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.18**	**59**	P	**P**	**22 11 02.5**	**-0.7**
	0.1nm,0.4s,baz=282,slow=7.2,SNR=4.0						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**45.53**	**48**	P	**P**	**22 11 06.8**	**+1.1**
	0.7nm,0.5s,baz=265,slow=7.4,SNR=3.7						
	0.7nm,0.5s						

*IDC **29** 22:21:30.5±0.7, 6°.63N×124°.97E, h0km, mb4.0/16, mbtmp4.0/17, ML4.9/1, MS3.5/11, Error ellipse: s-maj=13.8km s-min=9.0km az=137.0*
*NEIC **29** 22:21:33.4±1.6, 6°.74N±0°.06×125°.04E±0°.05, h16km±4km, mb4.6/35, Error ellipse: s-maj=9.8km s-min=5.7km az=149.0*
*DJA **29** 22:21:33.8±0.4, 7°.N±3°×12°.5E±°, h10km, M4.9/25, mb4.8/25, mB5.4/12, MLv5.0/11, Mw(mB)4.8/12*

ISC 29 22:21:32.3±0.4, 6°.79N±0°.05×125°.12E±0°.05, h13km, n108, σ1§35/99, mb4.4/39, MS3.6/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**59**		**Pn**	**22 21 45.5**	**-0.3**
DAV				Sg	**Sn**	**22 21 55.0**	**+0.4**
DAV	**Davao City (W)**	**0.54**	**59**	Pg	**Pn**	**22 21 45.4**	**-0.3**
	baz=315,slow=9.3						
DAV				Lg	Lg	22 21 55.5	
	348nm,0.3s,baz=320,slow=10,SNR=325						
DAV				LR	LR	22 22 19.0	
	comp=Z,11nm,20.4s,baz=140,slow=65						
DAV	**Davao City (W)**	**0.54**	**59**	P	**Pg**	**22 21 41.0**	**-1.9**
SGSI	**Sangihe**	**3.11**	**172**	P	**Pn**	**22 22 22.0**	**+0.8**
SGSI				S	**Sn**	**22 22 58.9**	**+0.7**
KMSI	**Cibinong**	**6.28**	**190**	P	**Pn**	**22 23 06.3**	**+1.6**
TNTI	**Ternate**	**6.39**	**159**		**Pn**	**22 23 06.1**	**-0.1**
TNTI	**Ternate**	**6.39**	**159**	P	**Pn**	**22 23 08.4**	**+2.2**
	0.3nm95nm,1.2s						
MYLDM	**Lahad Datu**	**6.77**	**257**		**Pn**	**22 23 10.7**	**-0.8**
MRSI	**Marisa**	**7.03**	**207**	P	**Pn**	**22 23 15.2**	**+0.2**
TOLI2	**Tolitoli**	**7.11**	**218**		**Pn**	**22 23 14.4**	**-1.7**
LUWI	**Luwuk**	**8.13**	**197**		**Pn**	**22 23 30.3**	**+0.2**
LUWI	**Luwuk**	**8.13**	**197**	P	**Pn**	**22 23 32.8**	**+2.7**
	3μm222nm,0.9s						
APSI	**Ampana**	**8.40**	**204**	P	**Pn**	**22 23 37.2**	**+3.4**
	1μm107nm,0.9s						
SANI	**Sanana**	**8.83**	**174**	P	**Pn**	**22 23 38.3**	**-1.4**
	812nm79nm,0.9s						
I39PW	**PALAU INFRASON**	**9.39**	**85**	I	I	23 18 20.0	
	baz=264,slow=296,SNR=1.0						
SWI	**Sorong**	**9.77**	**141**	P	**Pn**	**22 23 54.3**	**+1.7**
	27nm,0.8s						
NLAI	**Namlea**	**10.16**	**169**	P	**Pn**	**22 23 58.5**	**+0.5**
	910nm67nm,0.8s						
AAI	**Ambon**	**10.85**	**163**	P	**Pn**	**22 24 09.9**	**+2.4**
	2μm61nm,0.7s						
KDI	**Kendari**	**10.96**	**193**	P	**Pn**	**22 24 08.6**	**-0.4**
SPSI	**Sidrap Palu**	**11.94**	**207**	P	**Pn**	**22 24 23.1**	**+0.7**
	13nm,0.6s						
FAKI	**Fak Fak**	**11.99**	**143**	Pn	**Pn**	**22 24 24.7**	**+1.6**
FAKI	**Fak Fak**	**11.99**	**143**	P	**Pn**	**22 24 26.6**	**+3.5**
	23nm,1.0s						
BNSI	**Bone**	**12.19**	**204**	P	**Pn**	**22 24 26.4**	**+0.6**
	20nm,1.4s						
BKSI	**Bulukumba**	**13.03**	**203**	P	**Pn**	**22 24 36.5**	**-0.7**
SBUM	**Sibu**	**13.56**	**252**	Pn	**Pn**	**22 24 44.1**	**-0.4**
EDFI	**Ende, Flores**	**15.81**	**193**	P	**Pn**	**22 25 16.0**	**+1.0**
SAUI	**Saumlaki**	**15.92**	**157**	Pn	**Pn**	**22 25 17.3**	**+1.1**
SOEI	**Soe**	**16.46**	**183**	Pn	**Pn**	**22 25 22.4**	**-0.9**
SOEI				IAmb	IAmb	22 25 50.3	
	comp=Z,55nm,1.2s						
SOEI	**Soe**	**16.46**	**183**	P	**P**	**22 25 27.1**	**+1.1**
	comp=Z,43nm,1.1s						
BATI	**Baumata**	**16.95**	**185**	Pn	**Pn**	**22 25 25.0**	**-4.4**
	comp=Z,4.7nm,0.3s,baz=88,slow=4.2,SNR=2.2						
	comp=Z,10nm,0.3s						
BATI	**Baumata**	**16.95**	**185**	P	**P**	**22 25 30.4**	**-0.9**
	comp=Z,46nm,0.7s						
PLAI	**Plampang**	**17.15**	**205**	P	**P**	**22 25 33.1**	**-0.5**
	comp=Z,33nm,0.9s						
GENI	**Genyem**	**17.68**	**121**	P	**P**	**22 25 42.8**	**+3.4**
JAY	**Jayapura**	**18.10**	**120**	LR	LR	22 32 31.2	
	comp=Z,79nm,20.9s,baz=83,slow=36						
MTN	**Manton Dam**	**20.40**	**163**		**P**	**22 26 08.3**	**-1.0**
MTN				IAmb	IAmb	22 26 23.9	
	comp=Z,15nm,0.5s						
KNRA	**Kununurra**	**22.61**	**171**		**P**	**22 26 32.0**	**-1.0**
KULM	**Kulim**	**24.38**	**268**	P	**P**	**22 26 50.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.74**	**179**		**P**	**22 26 52.1**	**-1.6**
NJ2	**Nanjing**	**25.80**	**348**	*e*P	**P**	**22 27 05.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
JNU	**Nakatsue**	**26.74**	**11**	P	**P**	**22 27 11.5**	**-0.2**
JNU				IAmb	IAmb	22 27 21.7	
	comp=Z,28nm,1.5s						
JNU	**Nakatsue**	**26.74**	**11**	LR	LR	22 39 25.6	
	comp=Z,68nm,18.1s,baz=217,slow=40						
COEN	**Coen**	**27.32**	**139**	P	**P**	**22 27 17.1**	**0.0**
COEN				IAmb	IAmb	22 27 30.2	
	comp=Z,19nm,1.1s						
WB0	**Warramunga Arr**	**27.93**	**161**		**P**	**22 27 22.1**	**-0.4**
WB0				IAmb	IAmb	22 27 36.9	
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**22 27 21.4**	**-1.9**
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**22 27 24.4**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=112,slow=9.5,SNR=6.4						
	comp=Z,0.7nm,0.3s						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**22 27 22.2**	**-1.6**
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**22 27 22.1**	**-1.7**
	comp=Z,1.0nm,0.4s,baz=332,slow=11,SNR=7.6						
	comp=Z,1.0nm,0.4s						
PZH	**PanZhiHua**	**29.66**	**314**	P	**P**	**22 27 39.5**	**+1.5**
KSAR	**Wonju Array Be**	**30.61**	**4**	P	**P**	**22 27 45.7**	**-0.4**
XAN	**Xi'an**	**30.98**	**333**	P	**P**	**22 27 50.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**31.46**	**164**	P	**P**	**22 27 53.1**	**-0.8**
AS31				IAmb	IAmb	22 27 56.7	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**31.47**	**164**	P	**P**	**22 27 54.0**	**+0.1**
ASAR	**Alice Springs**	**31.47**	**164**	P	**P**	**22 27 52.5**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=346,slow=7.8,SNR=23						
	comp=Z,1.9nm,0.4s						
MJAR	**Matsushiro Arr**	**31.94**	**20**	P	**P**	**22 27 58.8**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=197,slow=9.1,SNR=1.0						
	comp=Z,0.6nm,0.3s						
BJI	**Beijing**	**34.06**	**348**	P	**P**	**22 28 17.0**	**+0.6**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZDM	**Lanzhou Array**	**35.04**	**329**	P	**P**	**22 28 26.8**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=152,slow=9.4,SNR=1.2						
	comp=Z,1.0nm,0.3s						
LZH	**Lanzhou**	**35.07**	**329**	*e*P	**P**	**22 28 27.5**	**+2.1**
LZH				sP	sP	22 28 36.0	+4.9
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**36.01**	**342**	*e*P	**P**	**22 28 36.0**	**+2.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MORW	**Morawa**	**36.71**	**193**		**P**	**22 28 39.0**	**-0.3**
MORW				IAmb	IAmb	22 29 21.5	
	comp=Z,17nm,1.4s						
SHL	**Shillong**	**36.80**	**304**		**P**	**22 28 40.2**	**-0.2**
SHL				IAmb	IAmb	22 28 42.0	
	comp=Z,8.0nm,0.9s						
FORT	**Forrest**	**37.46**	**176**	P	**P**	**22 28 45.7**	**+0.1**
FORT				IAmb	IAmb	22 28 56.2	
	comp=Z,5.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**37.74**	**8**	P	**P**	**22 28 50.0**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=196,slow=8.2,SNR=7.0						
	comp=Z,

BMAR Burnt Mountain 83.89 23 P **P 22 34 02.2 +0.4**
C27K Jago River 84.09 21 P **P 22 34 03.6 +1.0**
FINES FINESS Array B 88.39 332 P **P 22 34 24.3 +0.4**
FINES FINESS Array B 88.39 332 P **P 22 34 24.4 +0.6**
comp=Z,1.3nm,0.7s,baz=67,slow=6.6,SNR=1.4
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 88.52 321 LR LR 23 15 50.0
comp=Z,28nm,19.3s,baz=336,slow=37
HFS Hagfors 94.58 332 LR LR 23 21 55.8
comp=Z,18nm,18.0s,baz=256,slow=38
NOA NORSAR Array B 95.35 333 LR LR 23 21 52.2
comp=Z,16nm,20.4s,baz=250,slow=38

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*AEIC **29** 22:32:16.4±0.6, 53°.11N±0°.06×167°.05W±0°.06, h26km±8km, Error ellipse: s-maj=9.7km s-min=3.8km az=153.0*
NEIC 29 22:32:16.7±0.6, 53°.10N±0°.05×167°.07W±0°.06, h35km±2km, ML2.9/8, ML2.6(AEIC), Error ellipse: s-maj=9.8km s-min=4.4km az=330.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.59**	**302**		Pn	22 32 28.6	-0.1
OKTU	**Okmok Mt. Tuli**	**0.65**	**296**		Pn	22 32 29.4	0.0
MGOD	**Makushin Gods**	**0.70**	**10**		Pn	22 32 30.0	-0.3
MAPS	**Pakushin South**	**0.71**	**6**		Pn	22 32 30.2	-0.1
OKNC	**Okmok New Cone**	**0.72**	**300**		Pn	22 32 30.5	0.0
OKNC					Sn	22 32 41.3	+0.9
OKCE	**Okmok Cone E**	**0.73**	**297**		Pn	22 32 30.8	+0.2
MREP	**Makushin Rep't**	**0.73**	**15**		Pn	22 32 30.5	-0.2
MREP					Sn	22 32 41.1	+0.4
MNAT	**Makushin Natee**	**0.82**	**16**		Pn	22 32 31.5	-0.3
UNV	**Unalaska Valle**	**0.82**	**24**	Pn	Pn	22 32 30.9	-0.8
UNV					Sn	22 32 41.2	-1.4
MSW	**Makushin Switc**	**0.83**	**12**		Pn	22 32 31.8	-0.2
MSW					Sn	22 32 43.8	+0.8
NIKH	**Nikolski High**	**1.08**	**264**		Pn	22 32 34.8	-0.6
NIKH					Sn	22 32 49.1	-0.1
NIKH				IAML		22 32 51.5	
comp=E,255nm,0.7s
AKMO Akutan Morgan 1.18 32 Pn 22 32 36.5 -0.2
AKMO Sn 22 32 52.6 +1.2
ZRO Akutan Zero 1.19 33 Pn 22 32 36.6 -0.3
AKBBA Akutan Broad B 1.21 34 Pn 22 32 37.3 +0.2
AKV Akutan Volcano 1.22 32 Pn 22 32 37.6 +0.2
LVA Lava Point 1.23 30 Pn 22 32 37.3 -0.1
LVA IAML 22 33 02.2
comp=E,197nm,0.7s
AKGG Akutan Green G 1.27 30 Pn 22 32 38.2 +0.2
AKUT Akutan 1.29 36 Pn Pn 22 32 37.8 -0.5
AKUT IAML 22 32 58.2
comp=N,185nm,0.2s
AKUT IAML 22 32 59.7
comp=E,163nm,0.2s
AKSA Akutan Strait 1.32 38 Pn 22 32 38.2 -0.4
AKSA Sn 22 32 55.8 +0.8
CLCO Concord Point, 1.64 260 Pn 22 32 43.2 +0.2
WEBT Westdahl Beart 2.03 42 Pn 22 32 49.3 +0.9
SSBA Shishaldin 2.42 45 Pn 22 32 54.5 +0.8
DT1 Dutton Round H 3.46 53 Pn 22 33 09.3 +1.2

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*TEH **29** 22:48:33.6, 36°.36N×58°.08E, h8km±20km*
*IDC **29** 22:48:36.2±2.2, 36°.73N×57°.68E, h0km, mb3.4/5, mbtmp3.5/9, ML3.1/4, MS3.0/1, Error ellipse: s-maj=49.3km s-min=19.8km az=161.0*
ISC 29 22:48:34.5±0.7, 36°.38N±0°.04×58°.07E±0°.03, h10km, n55, σ1§39/53, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBZV	**Sabzevar**	**0.37**	**271**	Pg	**Pg**	**22 48 41.6**	**-0.3**
IAKL	**Akhelmad**	**0.59**	**68**	Pg	**Pg**	**22 48 45.8**	**-0.3**
ISFR	**Sfrayin**	**0.68**	**355**	Pg	**Pb**	**22 48 47.7**	**-0.8**
IPAY	**Payeh**	**0.75**	**84**	Pg	**Pg**	**22 48 48.2**	**-0.7**
IPAY				Sg	**Sb**	**22 48 58.7**	**-1.4**
IMOG	**Moghan**	**1.06**	**104**	Pg	**Pb**	**22 48 53.9**	**-1.1**
IEMG	**Emamgholi**	**1.13**	**24**	Pg	**Pb**	**22 48 55.9**	**-0.4**
IKRD	**Kardeh**	**1.23**	**71**	Pg	**Pg**	**22 48 57.3**	**-0.8**
TBHD	**Torbat heydari**	**1.35**	**135**	Pg	**Pg**	**22 48 59.5**	**-0.9**
IMYA	**Miami**	**1.64**	**91**	Pg	**Pb**	**22 49 03.9**	**-0.9**
TAPT	**Tabas- Tapeh t**	**1.67**	**207**	Pg	**Pb**	**22 49 04.5**	**-0.8**
JRKH	**Jarkhoshk**	**1.90**	**104**	Pn	**Pb**	**22 49 08.6**	**-0.7**
MRVT	**Maraveh tapeh**	**2.04**	**309**	Pn	**Pb**	**22 49 10.3**	**-1.3**
IMND	**Minoodasht**	**2.31**	**293**	Pn	**Pb**	**22 49 13.8**	**-2.4**
TNSJ	**Nastanj**	**2.69**	**207**	Pn	**Pn**	**22 49 18.9**	**+0.9**
TKDS	**Koohdasht(Taba**	**2.87**	**196**	Pn	**Pn**	**22 49 21.7**	**+1.3**
AFRZ	**Afriz**	**3.05**	**165**	Pn	**Pn**	**22 49 24.3**	**+1.4**
SHRT	**Shahrakht**	**3.28**	**146**	Pn	**Pn**	**22 49 27.1**	**+1.1**
IGLO	**Ghaloghah**	**3.42**	**273**	Pn	**Pn**	**22 49 29.9**	**+1.9**
ITEG	**Tejag**	**3.52**	**171**	Pn	**Pn**	**22 49 31.0**	**+1.6**
TPRV	**Parvadeh(Tabas**	**3.53**	**199**	Pn	**Pn**	**22 49 30.3**	**+0.8**
IKIA	**Kiasar**	**3.55**	**269**	Pn	**Pn**	**22 49 31.3**	**+1.4**
IDAH	**Dahanechah**	**3.92**	**157**	Pn	**Pn**	**22 49 35.7**	**+0.7**
IKOO	**Kooshah**	**4.02**	**169**	Pn	**Pn**	**22 49 37.4**	**+1.0**
IALA	**Alasht**	**4.26**	**268**	Pn	**Pn**	**22 49 41.5**	**+1.8**
ILAS	**Lasjerd**	**4.27**	**258**	Pn	**Pn**	**22 49 41.0**	**+1.3**
IFIR	**Firoozkooh**	**4.37**	**262**	Pn	**Pn**	**22 49 42.5**	**+1.3**
BSRN	**Basiran**	**4.49**	**163**	Pn	**Pn**	**22 49 43.7**	**+1.0**
IPRN	**Peran**	**4.63**	**270**	Pn	**Pn**	**22 49 46.2**	**+1.6**
ANAR	**Anarak**	**4.79**	**230**	Pn	**Pn**	**22 49 46.9**	**+0.2**
IDMV	**Damavand**	**4.96**	**262**	Pn	**Pn**	**22 49 50.5**	**+1.2**
ICHK	**Chekchek**	**5.12**	**217**	Pn	**Pn**	**22 49 52.6**	**+1.2**
ISFB	**Sefidab**	**5.18**	**249**	Pn	**Pn**	**22 49 53.4**	**+1.3**
IBAF	**Bafgh**	**5.21**	**204**	Pn	**Pn**	**22 49 54.2**	**+1.6**
IVRN	**Varamin**	**5.34**	**257**	Pn	**Pn**	**22 49 55.8**	**+1.4**
IMEH	**Mehriz**	**5.75**	**211**	Pn	**Pn**	**22 50 01.3**	**+1.3**
KRM1	**Kerman Provinc**	**5.90**	**187**	Pn	**Pn**	**22 50 03.3**	**+1.1**
QAMS	**Qamsar**	**6.08**	**246**	Pn	**Pn**	**22 50 05.7**	**+1.1**
KHGB	**Koh Gabri**	**6.13**	**193**	Pn	**Pn**	**22 50 06.8**	**+1.4**
IKLH	**Kolahrood**	**6.15**	**242**	Pn	**Pn**	**22 50 07.1**	**+1.5**
IGZV	**Ghazvin**	**6.33**	**272**	Pn	**Pn**	**22 50 09.9**	**+1.8**
CHMN	**Cheshme madani**	**6.52**	**184**	Pn	**Pn**	**22 50 12.2**	**+1.5**
JIR1	**Jirandeh**	**6.67**	**275**	Pn	**Pn**	**22 50 14.1**	**+1.5**
NGRK	**Negar Kerman**	**6.81**	**190**	Pn	**Pn**	**22 50 16.5**	**+1.7**
KBAM	**BAM**	**7.23**	**177**	Pn	**Pn**	**22 50 21.6**	**+1.3**
KLNJ	**Kolanjah**	**7.65**	**227**	Pn	**Pn**	**22 50 27.5**	**+1.9**
KBZ	**Khabaz**	**13.73**	**307**	Pn	**Pn**	**22 51 46.6**	**-2.5**
0.1nm,0.3s,baz=79,slow=15,SNR=1.7
0.7nm,0.6s
BVAR Borovoye Array 18.76 24 P **Pn 22 52 55.3 +1.4**
baz=208,slow=8.4,SNR=11
1.6nm,0.6s
BRTR Keskin Array B 19.51 287 P **P 22 53 00.3 -1.6**
baz=113,slow=7.5,SNR=4.0
0.6nm,0.8s
ARTI Arti 20.02 1 P **P 22 53 07.4 +0.3**
0.1nm,0.3s,baz=78,slow=1.7,SNR=5.2
1.6nm,0.8s
KURBB Kurchatov Arra 20.47 40 P Pn 22 53 14.8 +0.5
0.8nm,0.8s,baz=238,slow=12,SNR=5.7
0.8nm,0.8s
MKAR Makanchi Array 20.81 52 P Pn 22 53 18.8 +0.5
0.6nm,0.9s,baz=246,slow=11,SNR=1.7
0.6nm,0.9s
ZALV Zalesovo Beam 25.54 38 P **P 22 54 05.4 +2.4**
0.4nm,0.4s,baz=247,slow=9.2,SNR=4.0
0.4nm,0.4s
ESDC Sonseca Array 48.12 294 P **P 22 57 14.1 -0.5**
0.4nm,0.7s,baz=82,slow=7.5,SNR=5.4
0.4nm,0.7s
TORD Torodi Ar. Bea 55.34 260 P **P 22 58 10.9 +2.2**
0.7nm,0.3s,baz=64,slow=6.6,SNR=1.6
0.7nm,0.3s
OPO Ambohidratompo 55.61 193 LR LR 23 23 12.2
comp=Z,14nm,18.4s,baz=270,slow=37

IDC 29 23:06:57.4±1.8, 7°.50N×123°.98E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=155.5km s-min=19.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.49**	**176**	P	P	23 12 26.9	-0.6
1.1nm,0.7s,baz=350,slow=10,SNR=1.6
1.1nm,0.7s
WRA Warramunga Arr 29.11 160 P P 23 13 00.4 +0.3
1.5nm,0.5s,baz=340,slow=9.3,SNR=17
1.5nm,0.5s
ASAR Alice Springs 32.46 163 P P 23 13 29.8 +0.1
1.0nm,0.3s,baz=342,slow=7.0,SNR=17
1.0nm,0.3s
MKAR Makanchi Array 52.92 325 P P 23 16 16.2 +0.8
0.5nm,0.4s,baz=120,slow=8.6,SNR=4.8
0.5nm,0.4s
KURBB Kurchatov Arra 57.11 327 P P 23 16 44.9 -0.8
0.6nm,0.6s,baz=132,slow=6.2,SNR=8.9
0.6nm,0.6s

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*FCIAR **29** 23:11:54.0, 75°.14N×15°.23E, h10km*
*NAO **29** 23:11:58.7±0.4, 75°.48N×17°.06E, h10km, ML2.5*
*KOLA **29** 23:11:59.7, 75°.60N×19°.60E, h0km, ML2.1, Barentz Sea*
BER 29 23:12:01.3±4.0, 75°.50N×17°.41E, h21km±16km, ML2.2, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**1.08**	**157**	Pb	Pn	23 12 18.7	-2.4
BJO1				Sg	Sb	23 12 34.9	0.0
BJO1	**Bjornoya**	**1.08**	**157**	*e*P	Pn	23 12 18.2	-2.9
BJO1				*e*S	Sb	23 12 34.3	-0.5
BJO1	**Bjornoya**	**1.08**	**157**	*e*P	Pn	23 12 19.7	-1.4
BJO1				*e*S	Sb	23 12 34.9	+0.1
BJO1				IAML		23 12 36.0	
comp=Z,79nm,0.8s
BEA6 Bear Island, N 1.09 157 Pb Pn 23 12 18.9 -2.2
baz=342,slow=18
BEA6 Sg Sn 23 12 35.4 -0.2
baz=342,slow=28
HSPB Hornsund (broa 1.58 344 Pb Pn 23 12 24.3 -3.7
HSPB Pg Pb 23 12 27.8 -2.0
HSPB Sn Sn 23 12 46.5 -1.2
HSPB Hornsund (broa 1.58 344 P Pn 23 12 24.2 -3.7
HSPB S Sn 23 12 46.0 -1.7
HSPB Hornsund (broa 1.58 344 *e*P Pn 23 12 24.8 -3.1
HSPB *e*S Sn 23 12 48.1 +0.4
HSPB Hornsund (broa 1.58 344 *e*P Pn 23 12 24.2 -3.7
HSPB *e*Pg Pb 23 12 27.3 -2.5
HSPB *e*Sg Sn 23 12 47.1 -0.6
HSPB IAML 23 12 47.9
comp=Z,28nm,0.4s
HOPEN Hopen 2.11 57 Pn Pn 23 12 33.7 -1.5
HOPEN Sg Sb 23 13 07.0 +2.6
HOPEN Hopen 2.11 57 *e*P Pn 23 12 33.9 -1.4
HOPEN *e*S Sb 23 13 06.2 +1.8
HOPEN Hopen 2.11 57 *e*P Pn 23 12 33.6 -1.6
HOPEN *e*Pg Pb 23 12 35.6 -3.2
HOPEN *e*S Sn 23 12 58.7 -2.0
HOPEN *e*Sg Sb 23 13 05.1 +0.7
HOPEN IAML 23 13 09.5
comp=Z,75nm,0.5s
BRBA Barentsburg A 2.68 346 Pn Pn 23 12 41.4 -1.7
BRBA Sg Sb 23 13 22.0 +1.2
BRBA Barentsburg A 2.68 346 Pn Pn 23 12 41.4 -1.7
BRBA Sg Sb 23 13 22.0 +1.2
BRBA IAML 23 13 29.3
comp=Z,30nm,0.4s
SPA0 Spitsbergen Ar 2.71 355 Pn Pn 23 12 41.1 -2.3
baz=164,slow=18
SPA0 Sn Sn 23 13 11.3 -4.3
baz=165,slow=37
SPA0 Sg Sb 23 13 22.9 +1.2
baz=166,slow=37
SPA0 Spitsbergen Ar 2.71 355 *e*P Pn 23 12 41.6 -1.9
SPA0 *e*S Sb 23 13 23.8 +2.1
SPA0 Spitsbergen Ar 2.71 355 Pn Pn 23 12 41.1 -2.3
baz=164,slow=18
SPA0 Sn Sn 23 13 11.3 -4.3
baz=165,slow=37
SPA0 Sg Sb 23 13 22.9 +1.2
baz=166,slow=37
SPA0 IAML 23 13 34.9
comp=Z,21nm,0.5s
SPITS Spitsbergen Ar 2.71 355 P Pn 23 12 41.2 -2.2
SPITS S Sn 23 13 11.9 -3.7
BRBB Barentsburg B 2.71 346 Pn Pn 23 12 41.9 -1.7
BRBB Sg Sb 23 13 23.3 +1.5
BRBB Barentsburg B 2.71 346 P Pn 23 12 41.6 -2.0
BRBB S Sn 23 13 10.5 -5.2
BRBB Barentsburg B 2.71 346 *e*P Pn 23 12 41.9 -1.7
BRBB Sg Sb 23 13 23.3 +1.5
KBS Kingsbay 3.66 343 Pn Pn 23 12 54.0 -2.4
KBS Pg Pb 23 13 05.0 -0.1
KBS Sn Sn 23 13 35.2 -3.6
KBS Sg Sb 23 13 52.6 +3.8
KBS Kingsbay 3.66 343 P Pn 23 12 53.7 -2.7
KBS S Sn 23 13 32.9 -5.9
KBS Kingsbay 3.66 343 *e*P Pn 23 12 53.9 -2.6
KBS *e*Pg Pb 23 13 04.1 -1.0
KBS *e*Sg Sb 23 13 53.0 +4.1
KBS IAML 23 14 01.2
comp=Z,17nm,0.5s
HAMF Hammerfest 5.21 156 *e*P Pn 23 13 14.9 -2.9
HAMF *e*S Sn 23 14 11.2 -5.8
HAMF IAML 23 14 35.2
comp=Z,5.3nm,0.8s
KEV Kevo 6.43 149 *e*P Pn 23 13 33.1 -1.5
KEV *e*S Sn 23 14 41.1 -6.0
VADS Vadso 6.44 141 Pn Pn 23 13 33.2 -1.5
VADS Sn Sn 23 14 02.0 -5.4
VADS Vadso 6.44 141 P Pn 23 13 33.5 -1.2
VADS S Sn 23 14 41.5 -5.9
VADS Vadso 6.44 141 *e*P Pn 23 13 33.4 -1.3
VADS IAML 23 14 40.2
comp=Z,6.9nm,0.7s
VADS *e*S Sn 23 14 41.9 -5.5
ARCES ARCESS Array B 6.46 154 P Pn 23 13 33.3 -1.7
ARCES S Sn 23 14 40.2 -7.7
ARA0 ARCESS Array S 6.46 154 Pn Pn 23 13 31.7 -3.3
baz=344,slow=12
ARA0 Sn Sn 23 14 40.3 -7.6
baz=352,slow=22
ARA0 ARCESS Array S 6.46 154 Pn Pn 23 13 31.7 -3.3
baz=344,slow=12
ARA0 Sn Sn 23 14 40.3 -7.6
baz=352,slow=22
ARA0 IAML 23 15 08.1
comp=Z,2.1nm,0.8s
LOF Lofoten 7.50 191 *e*P Pn 23 13 46.0 -3.2
LOF *e*S Sn 23 15 05.2 -8.2
LOF IAML 23 15 12.8
comp=Z,3.6nm,0.6s
ZFI2 Zemlya Franca- 8.05 35 *e*P Pn 23 13 53.2 -3.5
ZFI2 *e*S Sn 23 15 22.6 -4.4
OMEGA Omega 8.06 36 *e*P Pn 23 13 53.2 -3.5
OMEGA *e*S Sn 23 15 22.6 -4.4
FAUS Fauske 8.18 186 P Pn 23 13 54.8 -3.8
FAUS S Sn 23 15 25.7 -4.5
FAUS Fauske 8.18 186 *e*P Pn 23 13 55.0 -3.5
TERR Teriberka 8.25 131 S Sn 23 15 17.8 -14
APA0 Apatity Array 9.29 140 P Pn 23 14 12.9 -0.8
APA0 S Sn 23 15 48.8 -8.5

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*IDC **29** 23:13:47.3±5.5, 6°.62S×129°.80E, h104km±52km, mb3.4/4, mbtmp3.9/8, MS3.2/1, Error ellipse: s-maj=44.5km s-min=24.2km az=50.0*
ISC 29 23:13:46.7±1.3, 6°.7S±0°.1×129°.9E±0°.1, h100km, n9, σ1§43/10, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.12**	**240**	P	**Pn**	**23 15 28.9**	**+0.6**
26nm,0.5s,baz=73,slow=3.3,SNR=4.6
BATI S **Sn 23 16 47.4 -0.4**
23nm,0.4s,baz=47,slow=23,SNR=7.3
FITZ Fitzroy Crossi 12.09 200 P **Pn 23 16 35.1 -0.5**
1.4nm,0.4s,baz=30,slow=16,SNR=14
FITZ S Sn 23 18 37.9 -11
1.7nm,0.3s,baz=100,slow=15,SNR=4.1
WRA Warramunga Arr 13.85 162 P **Pn 23 16 59.4 +0.6**
1.4nm,0.6s,baz=337,slow=13,SNR=17
WRA S Sn 23 19 20.7 -11
2.0nm,0.5s,baz=336,slow=22,SNR=9.3
ASAR Alice Springs 17.30 168 P **Pn 23 17 44.2 +2.0**
6.0nm,0.7s,baz=346,slow=11,SNR=50
ASAR S **Sn 23 20 52.5 -2.3**
1.2nm,0.7s,baz=0.0,slow=31,SNR=6.5
LZDM Lanzhou Array 49.07 332 LR LR 23 44 43.3
comp=Z,26nm,21.8s,baz=250,slow=38
MKAR Makanchi Array 67.93 327 P **P 23 24 34.6 -0.2**
0.5nm,0.5s,baz=115,slow=7.9,SNR=7.6
0.5nm,0.5s
ZALV Zalesovo Beam 71.28 334 P **P 23 24 53.9 -1.3**
0.4nm,0.5s,baz=142,slow=5.4,SNR=2.0
0.4nm,0.5s
KURBB Kurchatov Arra 72.21 328 P **P 23 24 59.8 -1.1**
0.3nm,0.4s,baz=127,slow=4.9,SNR=6.2
0.3nm,0.4s
QSPA South Pole Qui 83.28 180 P **P 23 26 03.0 +0.8**
1.0nm,1.0s,baz=6.2,slow=4.0,SNR=2.0
1.0nm,1.0s

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*NEIC **29** 23:17:31.3±1.7, 19°.23N±0°.03×67°.11W±0°.03, h10km±1km, ML2.2/9, Md2.9/9(RSPR), Error ellipse: s-maj=6.3km s-min=3.7km az=52.0*
*SDD **29** 23:17:33.1±1.4, 19°.24N×67°.10W, h31km±30km, MD3.5, ML2.3, MW3.0*
*RSPR **29** 23:17:36.2, 19°.13N×67°.11W, h10km±31km, MD2.9/9*
ISC 29 23:17:31.3±1.8, 19°.19N±0°.07×67°.10W±0°.04, h6km±11km, n35, σ0§59/47, 14C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.72**	**181**		**Pn**	**23 17 47.4**	**-0.6**
AGPR **Sb 23 17 57.1 +0.7**
AGPR Aguadilla, PR 0.72 181 ⇑*e*P **Pn 23 17 47.4 -0.6**
AGPR Aguadilla, PR 0.72 181 *e*S **Sb 23 17 57.1 +0.7**
AGPR Aguadilla, PR 0.72 181 ⇑*e*Pg **Pb 23 17 46.8 +0.6**
AGPR ⇑*e*Sg **Sb 23 17 57.1 +0.7**
AGPR IAML 23 17 57.5
comp=N,140nm,0.3s
IDE Isla Desecheo 0.88 204 **Pn 23 17 50.0 -0.2**
IDE **Sb 23 18 01.4 +0.5**
IDE Isla Desecheo 0.88 204 ⇑*e*P **Pn 23 17 50.0 -0.2**
IDE Isla Desecheo 0.88 204 *e*S **Sb 23 18 01.4 +0.5**
EMPR Esperanza - Ma 0.89 143 Pg **Pn 23 17 50.0 -0.3**
AOPR Arecibo Observ 0.90 159 **Pn 23 17 50.0 -0.6**
AOPR **Sb 23 18 01.5 -0.1**
AOPR Arecibo Observ 0.90 159 ⇓*e*P **Pn 23 17 50.3 -0.3**
AOPR Arecibo Observ 0.90 159 *e*S **Sb 23 18 02.7 +1.0**
AOPR Arecibo Observ 0.90 159 ⇑*e*Pg **Pn 23 17 50.0 -0.6**
AOPR *e*Sg **Sn 23 18 03.0 -0.8**
AOPR IAML 23 18 05.5
comp=N,102nm,0.2s
UUPR Utuado, UPR, P 1.00 159 **Pn 23 17 52.6 +0.7**
UUPR **Sb 23 18 04.8 +0.4**
UUPR Utuado, UPR, P 1.00 159 ⇓*e*P **Pn 23 17 52.6 +0.7**
UUPR Utuado, UPR, P 1.00 159 *e*S **Sb 23 18 04.8 +0.4**
ECPR Experimental S 1.11 141 ⇓*e*P **Pn 23 17 54.6 +1.2**
ECPR Experimental S 1.11 141 *e*S **Sb 23 18 08.1 +0.4**
CRPR Cabo Rojo, PR 1.18 181 **Pg 23 17 53.8 -0.1**
CRPR **Sg 23 18 08.0 -1.2**
CRPR IAML 23 18 11.7
comp=N,52nm,1.4s
CRPR IAML 23 18 12.9
comp=E,50nm,1.1s
CRPR Cabo Rojo, PR 1.18 181 ⇓*e*P **Pg 23 17 54.1 +0.2**
CRPR Cabo Rojo, PR 1.18 181 *e*S **Sg 23 18 09.6 +0.3**
CRPR Cabo Rojo, PR 1.18 181 ⇑*e*Pg **Pg 23 17 54.1 +0.2**
CRPR ⇑*e*Sg **Sg 23 18 09.5 +0.3**
CRPR IAML 23 18 11.3
comp=N,62nm,1.9s
MLPR Magueyes Islan 1.22 178 ⇓*e*P **Pb 23 17 54.6 -0.1**
MLPR Magueyes Islan 1.22 178 *e*S **Sg 23 18 10.7 +0.3**
MLPR Magueyes Islan 1.22 178 ⇑*e*Pg **Pb 23 17 54.3 -0.4**
MLPR ⇑*e*Sg **Sg 23 18 10.3 -0.2**
MLPR IAML 23 18 13.3
comp=N,11nm,0.5s
OBIP Obispado Ponce 1.23 158 Pn **Pn 23 17 54.5 -0.6**
OBIP Sn **Sg 23 18 10.1 -0.8**
OBIP IAML 23 18 16.3
comp=N,46nm,0.5s
OBIP Obispado Ponce 1.23 158 ⇓*e*P **Pg 23 17 55.5 +0.6**
OBIP Obispado Ponce 1.23 158 *e*S **Sg 23 18 10.8 -0.2**
GCPR Guaynabo City 1.30 132 Pn **Pg 23 17 56.4 +0.2**
PCDR Punta Cana, DR 1.39 241 ⇑*e*Sg **Sb 23 18 16.1 +0.3**
PCDR IAML 23 18 34.6
comp=N,140nm,2.1s
SJG San Juan 1.40 140 Pn **Pb 23 17 57.2 -0.6**
SJG IAML 23 18 23.0
comp=N,38nm,0.3s
SJG IAML 23 18 24.3
comp=N,42nm,0.2s
MIDR Miches 1.86 264 ⇓*e*P **Pb 23 18 05.0 -0.7**
MIDR Miches 1.86 264 *e*S **Sn 23 18 27.8 +0.2**
MIDR Miches 1.86 264 ⇑*e*Pg **Pn 23 18 03.8 0.0**
MIDR ⇑*e*Sg **Sn 23 18 27.0 -0.5**
MIDR IAML 23 18 57.0
comp=N,13nm,1.1s
DR12 Loma Pena Alta 2.20 260 Pn **Pn 23 18 08.1 -0.3**
HATOM Hato Mayor del 2.20 260 ⇑*e*Pg **Pn 23 18 09.6 +1.2**
HATOM ⇑*e*Sg **Sn 23 18 36.0 0.0**
HATOM IAML 23 18 42.9
comp=N,19nm,0.7s

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*IDC **29** 23:30:56.3±2.5, 43°.40N×105°.23W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=59.5km s-min=11.7km az=157.0*
*NEIC **29** 23:30:57.2±1.7, 43°.56N±0°.05×105°.22W±0°.06, h0km±1km, ML2.8/34, Error ellipse: s-maj=11.3km s-min=3.8km az=320.0*
ISC 29 23:30:56.4±1.3, 43°.58N±0°.06×105°.08W±0°.09, h0km, n27, σ1§34/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**54**		**Pn**	**23 31 18.1**	**+1.2**
K22A	**Casper**	**1.41**	**229**		**Pb**	**23 31 23.5**	**-0.1**
K22A IAML 23 31 47.6
128nm,0.3s
K22A IAML 23 31 48.0
164nm,0.3s
PD31 Pinedale Array 3.38 258 Pn **Pn 23 31 51.6 +1.0**
PDAR Pinedale Array 3.38 258 Pn **Pn 23 31 51.6 +1.0**
PDAR Pinedale Array 3.38 258 Pn **Pn 23 31 52.0 +1.4**
1.3nm,0.3s,baz=82,slow=14,SNR=22
PDAR Lg Lg 23 32 36.6
4.6nm,0.3s,baz=81,slow=31,SNR=11
1.3nm,0.3s
BW06 Boulder Array 3.38 258 Pn **Pn 23 31 51.6 +1.0**
RLMT Red Lodge 3.38 299 Pn **Pn 23 31 50.8 +0.3**
RLMT IAML 23 32 45.4
20nm,0.7s
RLMT IAML 23 32 49.3
18nm,0.8s
HAYD Hayden 3.46 209 Pn **Pn 23 31 52.6 +0.8**
HAYD IAML 23 32 58.4
comp=E,17nm,0.8s
HAYD IAML 23 33 05.0
comp=N,26nm,1.0s
YNE Yellowstone No 3.82 294 Pn **Pn 23 31 56.5 -0.1**
YNE IAML 23 32 54.9
comp=E,15nm,1.8s
YNE IAML 23 33 00.4
comp=N,17nm,1.4s
YMP Mirror Lake Pl 3.83 289 Pn **Pn 23 31 57.3 +0.3**
O20A White River Ci 4.17 216 Pn **Pn 23 31 59.8 -1.8**
TPAW Teton Pass 4.27 271 Pn **Pn 23 32 03.1 +0.2**
TPAW IAML 23 33 20.8
comp=N,9.5nm,1.6s
TPAW IAML 23 33 36.8
comp=N,12nm,1.0s
FXWY Fox Creek 4.32 273 Pn **Pn 23 32 02.7 -0.9**
YHH Holmes Hill 4.32 288 Pn **Pn 23 32 02.9 -0.8**
YMR Madison River 4.38 286 Pn **Pn 23 32 03.5 -0.8**
BOZ Bozeman (W) 5.09 296 Pn **Pn 23 32 11.9 -2.2**
BOZ IAML 23 33 37.4
comp=N,8.1nm,1.5s
BOZ IAML 23 33 39.6
comp=N,6.2nm,3.5s
BSUT Blindstream Ca 5.21 236 Pn **Pn 23 32 16.8 +0.9**
BSUT IAML 23 33 50.3
comp=E,6.0nm,1.0s
BSUT IAML 23 33 50.7
comp=N,6.1nm,2.2s
TCUT Toone Canyon 5.30 244 Pn **Pn 23 32 17.6 +0.7**
EGMT Eagleton 5.52 325 Pn **Pn 23 32 20.2 +0.4**
PV23 Carpenter Ridg 5.92 211 Pn **Pn 23 32 24.6 -1.0**
PV14 Lion Creek, Pa 6.00 211 Pn **Pn 23 32 27.8 +1.2**
PV20 West Nyswonger 6.00 211 Pn **Pn 23 32 27.8 +1.2**
PV16 Nyswonger Mesa 6.01 210 Pn **Pn 23 32 23.2 -3.6**
PV19 Morning Glory 6.04 211 Pn **Pn 23 32 25.6 -1.5**
PV18 Skein Mesa, Pa 6.07 210 Pn **Pn 23 32 25.8 -1.8**
I10CA LAC DU BONNET 9.07 40 I I 00 25 50.0
baz=219,slow=272,SNR=1.9
ULM Lac du Bonnet 9.17 40 Pn **Pn 23 33 10.0 +0.1**

comp=N,0.5nm,0.3s,baz=230,slow=11,SNR=1.6
comp=N,1.7nm,0.4s

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*IDC **29** 23:41:27.2±18.0, 49°.83N×153°.28E, h213km±160km, mb3.1/5, mbtmp3.7/5, Error ellipse: s-maj=80.1km s-min=31.7km az=90.0*
*KRSC **29** 23:41:33.4±1.2, 49°.22N×154°.54E, h279km±8km, Ml4.1*
ISC 29 23:41:26.9±1.3, 49°.7N±0°.2×152°.8E±0°.2, h200km, n16, σ0s95/9, mb3.1/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.37**	**65**	*eP*	Pn	23 42 17.3	+8.1
KDTR	**Khodutka, Kamc**	**3.98**	**56**	*eP*	Pn	23 42 33.7	+5.5
KDTR				*eS*	Sn	23 43 18.3	+1.8
ASAK	**Asacha**	**4.21**	**49**	*eP*	Pn	23 42 38.6	+7.4
GRL	**Gorelyy**	**4.39**	**48**	*eP*	Pn	23 42 40.8	+7.2
MTVR	**Mutnovka**	**4.41**	**49**	*eP*	Pn	23 42 40.8	+7.0
RUS	**Russkaya**	**4.54**	**51**	*eP*	Pn	23 42 41.7	+6.4
RUS				*eS*	Sn	23 43 31.8	+2.6
UGLR	**Uglovaya**	**5.16**	**45**	*eP*	Pn	23 42 49.3	+5.9
SMAR	**Somma**	**5.19**	**44**	*eP*	Pn	23 42 51.0	+7.2
NLC	**Nalytchevo**	**5.38**	**47**	*eS*	**Sn**	**23 43 49.7**	**+1.1**
SPN	**Mys Shipunski**	**5.67**	**51**	*eP*	Pn	23 42 53.7	+3.9
SPN				*eS*	**Sn**	**23 43 54.9**	**-0.5**
KBTR	**Krutoberegovo**	**8.89**	**39**	*eP*	Pn	23 43 35.1	+3.5
MKAR	**Makanchi Array**	**45.42**	**295**	P	**P**	**23 49 26.6**	**+1.2**
	0.4nm,0.7s,baz=65,slow=7.2,SNR=3.2						
MKAR				PcP	**PcP**	**23 51 00.6**	**-0.4**
	0.1nm,0.3s,baz=65,slow=3.1,SNR=1.5						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.67**	**301**	P	**P**	**23 49 27.9**	**+0.6**
	0.4nm,0.5s,baz=64,slow=8.9,SNR=3.5						
KURBB				PcP	**PcP**	**23 51 00.9**	**-0.8**
	0.7nm,0.9s,baz=62,slow=1.6,SNR=4.1						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**61.26**	**334**	P	**P**	**23 51 19.4**	**-0.9**
	0.7nm,0.3s,baz=24,slow=6.5,SNR=8.2						
	0.7nm,0.3s						
HFS	**Hagfors**	**65.60**	**339**	P	**P**	**23 51 48.0**	**-0.7**
	2.5nm,0.9s,baz=235,slow=5.2,SNR=2.3						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**71.25**	**198**	P	**P**	**23 52 24.4**	**+0.2**
	0.2nm,0.7s,baz=8.3,slow=5.9,SNR=1.8						
	0.2nm,0.7s						

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*IDC **29** 23:59:45.8±1.9, 7°.87S×147°.20E, h0km, mb3.5/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=69.7km s-min=13.3km az=87.0*
ISC 29 23:59:50.9±1.8, 8°.0S±0°.1×147°.1E±0°.4, h35km, n7, σ0s76/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.37**	**178**	Pg	**Pn**	**00 00 13.7**	**+0.1**
	91nm,0.3s,baz=50,slow=6.1,SNR=104						
PMG				Lg	Lg	00 00 34.0	
	113nm,0.3s,baz=242,slow=20,SNR=29						
WRA	**Warramunga Arr**	**17.13**	**225**	P	**P**	**00 03 49.9**	**+0.7**
	0.2nm,0.3s,baz=49,slow=12,SNR=5.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**20.06**	**218**	P	**Pn**	**00 04 22.4**	**-0.9**
	0.6nm,0.6s,baz=39,slow=11,SNR=8.8						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**79.13**	**321**	P	**P**	**00 11 52.6**	**+0.6**
	0.4nm,0.6s,baz=102,slow=4.9,SNR=4.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**80.78**	**328**	P	**P**	**00 11 60.0**	**-0.7**
	0.2nm,0.5s,baz=117,slow=8.8,SNR=1.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**82.91**	**323**	P	**P**	**00 12 12.3**	**+0.2**
	0.2nm,0.3s,baz=119,slow=3.5,SNR=6.6						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**145.66**	**282**	PKPbc	**PKPbc**	**00 19 27.0**	**0.0**
	0.3nm,0.6s,baz=80,slow=5.5,SNR=2.6						

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*HEL **30** 00:34:14.8±0.1, 67°.85N×20°.18E, h0km, ML1.8, Explosion*
*UPP **30** 00:34:14.2±0.0, 67°.85N×20°.21E, h0km, ML2.3, Suspected explosion*
*IDC **30** 00:34:14.6±1.1, 67°.85N×20°.75E, h0km, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=17.5km s-min=7.1km az=120.0*
ISC 30 00:34:14.2±0.8, 67°.86N±0°.02×20°.21E±0°.03, h0km, n36, σ1s01/53, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**26**	P	**Pg**	**00 34 16.6**	**+0.3**
KUA				S	**Sg**	**00 34 18.3**	**+0.6**
KOVU	**Salmi**	**0.37**	**357**	P	**Pg**	**00 34 21.3**	**+0.1**
KOVU				S	**Sg**	**00 34 26.6**	**+0.6**
NIKU	**Nikkaluokta**	**0.45**	**272**	P	**Pg**	**00 34 22.7**	**0.0**
LANU	**Lannavaara**	**0.70**	**73**	P	**Pg**	**00 34 27.5**	**-0.2**
LANU				S	**Sg**	**00 34 36.9**	**+0.3**
LANU	**Lannavaara**	**0.70**	**73**	PG	**Pg**	**00 34 27.4**	**-0.2**
LANU				SG	**Sg**	**00 34 36.6**	**0.0**
DUNU	**Dundret**	**0.75**	**169**	P	**Pg**	**00 34 28.1**	**-0.5**
DUNU				S	**Sg**	**00 34 38.6**	**+0.3**
MASU	**Masugnsbyn**	**0.79**	**120**	P	**Pg**	**00 34 29.1**	**-0.3**
MASU				S	**Sg**	**00 34 39.9**	**+0.3**
SALU	**Saltoluokta**	**0.81**	**234**	P	**Pg**	**00 34 29.3**	**-0.5**
SALU				S	**Sg**	**00 34 40.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.17**	**10**	*eP*	**Pg**	**00 34 36.2**	**-0.5**
KIF	**Kilpisjarvi**	**1.17**	**10**	PG	**Pg**	**00 34 36.8**	**+0.1**
KIF				MSG		00 34 51.9	
	comp=Z,13nm,0.2s						
KIF				SG	**Sb**	**00 34 52.6**	**-0.4**
PAJU	**Pajala**	**1.40**	**125**	P	**Pn**	**00 34 39.8**	**-1.2**
PAJU	**Pajala**	**1.40**	**125**	PG	**Pn**	**00 34 39.6**	**-1.4**
PAJU				SG	**Sg**	**00 34 58.6**	**-0.4**
HEF	**Hetta**	**1.40**	**65**	*eP*	**Pn**	**00 34 39.3**	**-1.7**
HEF	**Hetta**	**1.40**	**65**	PG	**Pn**	**00 34 40.3**	**-0.8**
	baz=252						
HEF				MSG		00 34 57.6	
	comp=Z,7.9nm,0.2s						
HEF				SG	**Sg**	**00 34 59.2**	**-0.1**
ERTU	**Ertsjaerv**	**1.52**	**149**	P	**Pn**	**00 34 42.1**	**-0.5**
ERTU	**Ertsjaerv**	**1.52**	**149**	PG	**Pn**	**00 34 42.0**	**-0.5**
ERTU				SN	**Sg**	**00 35 02.9**	**0.0**
HARU	**Harads**	**1.73**	**170**	P	**Pn**	**00 34 45.5**	**0.0**
TRO	**Tromso**	**1.84**	**346**	PG	**Pb**	**00 34 47.9**	**-0.8**
TRO				SG	**Sb**	**00 35 12.2**	**-0.2**
TOF	**Tornio**	**2.41**	**136**	PB	**Pn**	**00 34 56.2**	**+1.4**
TOF				MSG		00 35 26.1	
	comp=Z,2.5nm,0.2s						
TOF				SG	**Sb**	**00 35 29.0**	**+0.4**
ARA0	**ARCESS Array S**	**2.56**	**46**	PB	**Pn**	**00 34 58.5**	**+1.6**
ARA0				SB	**Sb**	**00 35 32.2**	**-0.8**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	**Pn**	**00 34 57.5**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=225,slow=16,SNR=13						
ARCES				Lg	Lg	00 35 29.3	
	comp=Z,1.7nm,0.3s,baz=226,slow=24,SNR=11						
	comp=Z,1.4nm,0.3s						
RNF	**Rovaniemi**	**2.58**	**116**	PB	**Pn**	**00 34 59.0**	**+1.9**
	baz=300						
RNF				SB	**Sb**	**00 35 32.4**	**-1.1**
RAJF	**Raja-Jooseppi**	**3.09**	**75**	PB	**Pn**	**00 35 06.2**	**+2.0**
RAJF				SG	**Sb**	**00 35 47.6**	**-0.5**
KEV	**Kevo**	**3.12**	**49**	SB	**Sb**	**00 35 48.2**	**-0.7**
RANF	**Ranua**	**3.18**	**123**	PG	**Pb**	**00 35 12.6**	**+1.1**
BURU	**Burvik**	**3.32**	**171**	PB	**Pn**	**00 35 09.4**	**+2.0**
	baz=357						
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**00 35 18.0**	**-0.1**
KU2	**Taivalkoski**	**3.84**	**120**	PN	**Pn**	**00 35 15.7**	**+1.2**
OLKF	**Oulanka, Finla**	**3.91**	**109**	PG	**Pb**	**00 35 25.0**	**+1.1**
MSF	**Maaselka**	**3.99**	**115**	PG	**Pb**	**00 35 26.6**	**+1.2**
UMAU	**Umeaa**	**4.00**	**177**	PN	**Pn**	**00 35 18.9**	**+2.3**
	baz=354						
KU6	**Riekki**	**4.23**	**111**	PN	**Pn**	**00 35 20.8**	**+1.0**
	baz=300						
KU1	**Kurvinen**	**4.37**	**117**	PN	**Pn**	**00 35 23.6**	**+1.9**
FINES	**FINESS Array B**	**6.91**	**156**	Pn	**Pn**	**00 35 57.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=340,slow=16,SNR=1.7						
FINES				Sn	**Sn**	**00 37 13.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=347,slow=24,SNR=2.9						
FINES				Lg	Lg	00 37 46.6	
	comp=Z,0.3nm,0.3s,baz=340,slow=27,SNR=5.3						
	comp=Z,2.4nm,0.9s						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**00 36 09.1**	**-0.6**
	baz=23,slow=12,SNR=3.1						
NOA				Lg	Lg	00 38 18.9	
	baz=30,slow=11,SNR=4.6						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**8.26**	**203**	Pn	**Pn**	**00 36 14.3**	**-0.9**
	baz=23,slow=12,SNR=3.5						
	comp=Z,1.5nm,0.9s						

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*IDC **30** 00:36:58.6±0.7, 6°.67N×125°.05E, h0km, mb4.1/13, mbtmp4.2/14, ML4.8/1, MS3.6/29, Error ellipse: s-maj=14.9km s-min=9.0km az=140.0*
*DJA **30** 00:36:59.4±0.7, 7°.N±7°.×12°.5E±°, h10km, M5.0/26, mb4.9/26, mB5.5/11, MLv5.1/10, Mw(mB)5.0/11, MwMwp5.4/1, Mwp5.6/1*
*BJI **30** 00:37:00.8, 6°.75N×125°.19E, h17km, mB4.8/9, mb4.5/39, Ms4.3/17, Ms7 4.0/16*
*NEIC **30** 00:37:01.8±1.9, 6°.82N±0°.07×125°.18E±0°.06, h14km±5km, mb4.8/53, Error ellipse: s-maj=12.1km s-min=6.4km az=145.0*
ISC 30 00:37:01.4±0.4, 6°.75N±0°.05×125°.19E±0°.06, h13km, n144, σ1s56/115, mb4.7/51, MS3.6/33, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.50**	**50**	Pg	**Pg**	**00 37 11.1**	**-0.2**
DAV	**Davao City (W)**	**0.50**	**50**	Pg	**Pb**	**00 37 11.8**	**-0.2**
	baz=256,slow=6.5						
DAV				Lg	Lg	00 37 20.2	
	1.4nm,0.3s,baz=319,slow=16,SNR=40						
DAV	**Davao City (W)**	**0.50**	**50**	P	**Pg**	**00 37 10.0**	**-1.2**
SGSI	**Sangihe**	**3.06**	**174**	P	**Pn**	**00 37 51.3**	**+1.7**
KMSI	**Cibinong**	**6.25**	**191**	P	**Pn**	**00 38 34.4**	**+0.9**
TNTI	**Ternate**	**6.32**	**160**	Pn	**Pn**	**00 38 36.6**	**+2.1**
TNTI	**Ternate**	**6.32**	**160**	P	**Pn**	**00 38 36.9**	**+2.5**
	0.4nm2μm62nm,0.5s						
MYLDM	**Lahad Datu**	**6.84**	**257**	Pn	**Pn**	**00 38 44.0**	**+2.5**
MRSI	**Marisa**	**7.03**	**208**	P	**Pn**	**00 38 42.7**	**-1.4**
	0.6nm97nm,0.6s						
TOLI2	**Tolitoli**	**7.12**	**218**	Pn	**Pn**	**00 38 41.7**	**-3.7**
LUWI	**Luwuk**	**8.11**	**197**	Pn	**Pn**	**00 39 00.9**	**+1.9**
LUWI	**Luwuk**	**8.11**	**197**	P	**Pn**	**00 38 59.1**	**+0.1**
	3μm206nm,0.8s						
APSI	**Ampana**	**8.39**	**205**	P	**Pn**	**00 39 04.3**	**+1.4**
	88nm,0.8s						
TGY	**Tagaytay City**	**8.42**	**331**	LR	LR	00 43 13.0	
	comp=Z,286nm,18.3s,baz=54,slow=44						
SANI	**Sanana**	**8.78**	**175**	P	**Pn**	**00 39 07.7**	**-0.5**
	78nm,0.8s						
I39PW	**PALAU INFRASON**	**9.31**	**85**	I	I	01 37 10.0	
	baz=266,slow=298,SNR=0.8						
SWI	**Sorong**	**9.69**	**141**	P	**Pn**	**00 39 23.4**	**+2.8**
	2μm27nm,0.7s						
NLAI	**Namlea**	**10.11**	**169**	P	**Pn**	**00 39 27.4**	**+1.1**
	76nm,0.7s						
MSAI	**Masohi**	**10.70**	**160**	P	**Pn**	**00 39 36.6**	**+2.1**
	43nm,0.7s						
AAI	**Ambon**	**10.79**	**164**	P	**Pn**	**00 39 36.7**	**+0.9**
	90nm,1.1s						
FAKI	**Fak Fak**	**11.91**	**144**	Pn	**Pn**	**00 39 54.4**	**+3.3**
FAKI	**Fak Fak**	**11.91**	**144**	P	**Pn**	**00 39 54.1**	**+3.0**
	37nm,1.0s						
SPSI	**Sidrap Palu**	**11.94**	**207**	P	**Pn**	**00 39 51.9**	**+0.4**
	3μm15nm,0.7s						
RKPI	**Ransiki, Papua**	**12.16**	**132**	P	Pn	00 39 59.9	+5.5
KAPI	**Kappang**	**12.89**	**205**	LR	LR	00 45 13.6	
	comp=Z,253nm,21.0s,baz=41,slow=39						
BKSI	**Bulukumba**	**13.02**	**203**	P	**Pn**	**00 40 07.2**	**+1.0**
SBUM	**Sibu**	**13.62**	**252**	Pn	**Pn**	**00 40 15.2**	**+0.7**
KSM	**Kuching**	**15.74**	**251**	Pn	**Pn**	**00 40 44.6**	**+1.6**
SOEI	**Soe**	**16.42**	**183**		**P**	**00 40 53.8**	**-0.9**
SOEI	**Soe**	**16.42**	**183**	P	**Pn**	**00 40 53.4**	**+1.5**
	37nm,1.0s						
BATI	**Baumata**	**16.92**	**185**	Pn	**Pn**	**00 40 57.0**	**-1.1**
	3.2nm,0.3s,baz=321,slow=6.5,SNR=3.3						
BATI				LR	LR	00 48 05.1	
	comp=Z,163nm,18.4s,baz=38,slow=40						
	18nm,0.4s						
BATI	**Baumata**	**16.92**	**185**	P	**Pn**	**00 40 56.9**	**-1.1**
	57nm,0.9s						
PLAI	**Plampang**	**17.15**	**206**	P	**P**	**00 41 02.0**	**-0.6**
	1μm49nm,0.9s						
WBSI	**Waikabubak, Su**	**17.28**	**200**	P	**Pn**	**00 41 03.1**	**+0.4**
	34nm,1.0s						
TWSI	**Taliwang, Sumb**	**17.48**	**208**	P	**Pn**	**00 41 04.9**	**-0.2**
	36nm,1.4s						
JAY	**Jayapura**	**18.01**	**120**	LR	LR	00 46 56.1	
	comp=Z,145nm,19.8s,baz=316,slow=33						
JAGI	**Jajag, Banyuwa**	**18.70**	**216**	P	**Pn**	**00 41 21.5**	**+1.4**
QIZ	**Qiongzhong**	**19.29**	**311**	P	**Pn**	**00 41 27.0**	**-0.2**
QIZ				S	**S**	**00 45 04.3**	**-0.1**
QIZ				LR	LR		
	comp=N,660nm,13.4s						
QIZ				LR	LR		
	comp=E,510nm,9.1s						
QIZ				LR	LR		
	comp=Z,490nm,16.1s						
JOW	**Kunigami**	**20.18**	**8**	LR	LR	00 48 54.4	
	comp=Z,198nm,20.4s,baz=300,slow=35						
MTN	**Manton Dam**	**20.34**	**163**	P	**P**	**00 41 36.9**	**-0.7**
GUMO	**Guam**	**20.51**	**69**	LR	LR	00 48 13.5	
	comp=Z,97nm,20.9s,baz=214,slow=33						
KNRA	**Kununurra**	**22.56**	**171**	P	**P**	**00 42 00.9**	**-0.7**
IPM	**Ipoh**	**24.16**	**266**	P	**P**	**00 42 17.3**	**-0.4**
IPM				IAmb	IAmb	00 42 21.2	
	comp=Z,33nm,1.3s						
KULM	**Kulim**	**24.45**	**268**	P	**P**	**00 42 19.6**	**-0.7**
KULM				IAmb	IAmb	00 42 25.1	
	comp=Z,36nm,1.5s						
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**00 42 21.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**24.70**	**179**	LR	LR	00 52 53.2	
	comp=Z,79nm,18.3s,baz=13,slow=39						
NJ2	**Nanjing**	**25.86**	**348**	*eP*	**P**	**00 42 33.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JCJ	**Chichijima**	**25.89**	**37**	LR	LR	00 50 39.0	
	comp=Z,72nm,21.8s,baz=44,slow=32						
GYA	**Guiyang**	**26.37**	**320**	P	**P**	**00 42 38.5**	**+0.7**
GYA				LR	LR		
	comp=Z,270nm,16.9s						
PSI	**Prapat**	**26.47**	**263**	LR	LR	00 54 50.0	
	comp=Z,112nm,18.2s,baz=60,slow=41						
JNU	**Nakatsue**	**26.77**	**11**	LR	LR	00 53 01.7	
	comp=Z,76nm,21.1s,baz=201,slow=36						
PMG	**Port Moresby**	**27.14**	**126**	LR	LR	00 55 15.2	
	comp=Z,104nm,18.8s,baz=312,slow=40						
COEN	**Coen**	**27.24**	**139**	P	**P**	**00 42 46.6**	**+1.2**
COEN				IAmb	IAmb	00 42 57.4	
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**27.86**	**161**	P	**P**	**00 42 49.7**	**-1.4**
WB0				IAmb	IAmb	00 43 05.6	
	comp=Z,14nm,1.0s						
WRAB	**Tennant Creek**	**28.01**	**161**	P	**P**	**00 42 53.4**	**+1.1**
WRAB				IAmb	IAmb	00 43 28.8	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**28.01**	**161**	P	**P**	**00 42 49.6**	**-2.7**
WRA	**Warramunga Arr**	**28.01**	**161**	P	**P**	**00 42 50.4**	**-1.9**
	comp=Z,2.7nm,0.6s,baz=338,slow=9.0,SNR=7.3						
	comp=Z,2.7nm,0.6s						
WR8	**Warramunga Arr**	**28.07**	**161**	P	**P**	**00 42 53.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**00 42 51.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**00 42 54.0**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=118,slow=7.5,SNR=5.3						
CMAR				LR	LR	00 54 00.9	
	comp=Z,96nm,18.7s,baz=95,slow=36						
PZH	**PanZhiHua**	**29.74**	**314**	P	**P**	**00 43 09.8**	**+1.9**
KSRS	**Korea Array**	**30.66**	**4**	P	**P**	**00 43 18.6**	**+2.9**
	comp=Z,2.1nm,1.0s,baz=187,slow=9.7,SNR=5.2						
XAN	**Xi'an**	**31.05**	**333**	P	**P**	**00 43 21.0**	**+1.8**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=Z,210nm,11.9s						
XAN				LR	LR		
	comp=Z,270nm,12.2s						
XAN				LR	LR		
	comp=Z,260nm,13.9s						
AS31	**Alice Springs**	**31.41**	**165**	P	**P**	**00 43 22.8**	**+0.3**
ASAR	**Alice Springs**	**31.41**	**165**	P	**P**	**00 43 20.4**	**-2.0**
ASAR	**Alice Springs**	**31.41**	**165**	P	**P**	**00 43 21.2**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=333,slow=6.3,SNR=14						
	comp=Z,1.7nm,0.7s						
MJAR	**Matsushiro Arr**	**31.95**	**20**	P	**P**	**00 43 24.0**	**-3.1**
	comp=Z,1.2nm,0.4s,baz=199,slow=10,SNR=4.4						
MJAR				LR	LR	00 55 49.0	
	comp=Z,131nm,20.1s,baz=205,slow=35						
HNS	**HongShan**	**31.97**	**344**	∥P	**P**	**00 43 28.5**	**+1.3**
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
HNS				LR	LR		
	comp=Z,190nm,18.1s						
HNS				LR	LR		
	comp=Z,160nm,16.7s						
BJI	**Beijing**	**34.12**	**348**	P	**P**	**00 43 45.5**	**-0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				LR	LR		
	comp=Z,59nm,14.3s						
BJI				LR	LR		
	comp=Z,56nm,14.3s						
LZH	**Lanzhou**	**35.14**	**329**	*eP*	**P**	**00 43 54.3**	**-0.8**
LZH				pP	sP	00 44 01.0	+0.1
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				LR	LR		
	comp=Z,200nm,12.7s						
LZH				LR	LR		
	comp=Z,160nm,12.4s						
LZH				LR	LR		
	comp=Z,170nm,12.4s						
BRDH	**Bariadhala**	**35.98**	**300**	LR	LR	00 59 50.2	
	comp=Z,143nm,18.4s,baz=166,slow=38						
HHC	**Hu-ho-hao-te**	**36.07**	**342**	*eP*	**P**	**00 44 05.5**	**+2.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
HHC				LR	LR		
	comp=Z,140nm,16.8s						
HHC				LR	LR		
	comp=Z,120nm,16.0s						
HHC				LR	LR		
	comp=Z,220nm,19.3s						
BTO	**Baotou**	**36.34**	**340**	*eP*	**P**	**00 44 08.8**	**+3.5**
BTO				S	**S**	**00 49 53.5**	**+7.4**
BTO				pmax	pmax		
	comp=Z,11nm,0.7s						
BTO				pmax	pmax		
	comp=Z,120nm,3.9s						
BTO				LR	LR		
	comp=Z,230nm,7.3s						
BTO				LR	LR		
	comp=Z,420nm,14.9s						
BTO				LR	LR		
	comp=Z,180nm,10.0s						
SHL	**Shillong**	**36.89**	**304**	P	**P**	**00 44 09.6**	**-0.6**
FORT	**Forrest**	**37.42**	**176**	P	**P**	**00 44 15.2**	**+0.8**
FORT				IAmb	IAmb	00 44 22.0	
	comp=Z,30nm,1.6s						
INKA	**Innaminka**	**37.44**	**157**	P	**P**	**00 44 14.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**37.77**	**8**	P	**P**	**00 44 16.7**	**-0.5**
	comp=Z,9.1nm,0.9s,baz=150,slow=3.9,SNR=6.3						
	comp=Z,9.1nm,0.9s						
GTA	**Gaotai**	**39.74**	**329**	*eP*	**P**	**00 44 34.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				LR	LR		
	comp=Z,120nm,13.8s						
GTA				LR	LR		
	comp=Z,130nm,14.2s						
GTA				LR	LR		
	comp=Z,140nm,14.9s						
ASAJ	**Asahikawa**	**40.22**	**19**	LR	LR	01 00 49.7	
	comp=Z,71nm,20.2s,baz=118,slow=36						
BBOO	**Buckleboo**	**40.68**	**166**	P	**P**	**00 44 40.8**	**-0.8**
STKA	**Stephens Creek**	**41.48**	**159**	P	**P**	**00 44 48.2**	**-0.1**
STKA	**Stephens Creek**	**41.48**	**159**	P	**P**	**00 44 47.9**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=333,slow=8.4,SNR=9.1						
STKA				LR	LR	01 03 16.6	
	comp=Z,105nm,19.1s,baz=15,slow=38						
	comp=Z,2.6nm,0.6s						
EVN	**Everest**	**42.00**	**305**	P	**P**	**00 44 52.0**	**-1.3**
HILR	**Hailar Array B**	**42.91**	**355**	P	**P**	**00 45 00.5**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=170,slow=9.0,SNR=4.4						
	comp=Z,2.4nm,0.5s						
HEH	**HeiHe**	**43.40**	**2**	*eP*	**P**	**00 45 03.5**	**-0.1**
SONM	**Songino Array**	**43.97**	**342**	P	**P**	**00 45 08.3**	**-0.2**
SONM	**Songino Array**	**43.97**	**342**	P	**P**	**00 45 09.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=161,slow=14,SNR=8.5						
SONM				LR	LR	01 04 43.1	
	comp=Z,125nm,18.1s,baz=152,slow=38						
	comp=Z,0.7nm,0.8s						
PALK	**Pallekele**	**44.15**	**273**	LR	LR	01 07 07.8	
	comp=Z,48nm,18.4s,baz=84,slow=41						
WMQ	**Urumqi**	**49.39**	**325**	*eP*	**P**	**00 45 52.8**	**+1.8**
DZM	**Mont Dzumac**	**49.53**	**126**	LR	LR	01 06 46.2	
	comp=Z,78nm,18.3s,baz=215,slow=36						
PETK	**Petropavlovsk-**	**53.26**	**24**	P	**P**	**00 46 20.2**	**+0.4**
PETK	**Petropavlovsk-**	**53.26**	**24**	P	**P**	**00 46 19.2**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=220,slow=3.7,SNR=6.1						
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**00 46 25.5**	**-1.4**
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**00 46 25.7**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=120,slow=7.6,SNR=12						
	comp=Z,1.6nm,0.7s						
KSH	**Kashi**	**54.84**	**314**	P	**P**	**00 46 33.0**	**+1.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIL	**Nilore**	**54.89**	**307**		**P**	**00 46 32.0**	**-0.1**
NIL				IAmb	IAmb	00 46 39.2	
	comp=Z,15nm,1.0s						
KDJ	**Kajisay**	**55.09**	**318**	P	**P**	**00 46 32.5**	**-1.0**
KDJ				IAmb	IAmb	00 46 42.6	
	comp=Z,9.4nm,1.2s						
YAK	**Yakutsk**	**55.26**	**3**	LR	LR	01 10 48.8	
	comp=Z,58nm,20.3s,baz=205,slow=37						
AAK	**Ala-Archa**	**57.11**	**317**	P	**P**	**00 46 47.4**	**-0.5**
AAK				IAmb	IAmb	00 47 01.8	
	comp=Z,8.

BMAR	**Burnt Mountain**	**83.90**	**23**	P	**P**	**00 49 30.9**	**0.0**
RIDG	**Independent Ri**	**83.98**	**27**	P	**P**	**00 49 29.4**	**-1.9**
RIDG				IAmb	IAmb	00 49 34.3	
	comp=Z,9.0nm,0.9s						
J26L	**Joseph Creek**	**84.49**	**26**	IAmb	IAmb	00 49 37.1	
	comp=Z,4.2nm,0.9s						
I26K	**Coal Creek Min**	**84.61**	**25**	IAmb	IAmb	00 49 39.4	
	comp=Z,8.9nm,1.1s						
G27K	**Doyon Strip**	**85.09**	**23**	P	**P**	**00 49 36.7**	**-0.1**
G27K				IAmb	IAmb	00 51 12.9	
	comp=Z,19nm,1.9s						
D27M	**Malcolm River**	**85.10**	**21**	IAmb	IAmb	00 49 48.4	
	comp=Z,10nm,1.3s						
K27K	**Chicken**	**85.18**	**26**	IAmb	IAmb	00 49 41.8	
	comp=Z,8.7nm,1.0s						
BCAR	**Beaver Creek A**	**85.40**	**27**	P	**P**	**00 49 37.8**	**-0.7**
FURI	**Furi**	**85.55**	**278**	LR	LR	01 27 51.5	
	comp=Z,16nm,18.8s,baz=88,slow=36						
F28M	**Old Crow**	**85.69**	**23**	P	**P**	**00 49 39.1**	**-0.7**
F28M				IAmb	IAmb	00 49 42.3	
	comp=Z,6.2nm,1.1s						
I28M	**Miner Creek**	**85.94**	**25**	P	**P**	**00 49 42.0**	**+0.8**
I28M				IAmb	IAmb	00 49 45.4	
	comp=Z,7.4nm,0.9s						
BRTR	**Keskin Array B**	**86.93**	**309**	P	**P**	**00 49 45.6**	**-1.1**
BRTR	**Keskin Array B**	**86.93**	**309**	P	**P**	**00 49 45.2**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=98,slow=7.6,SNR=4.5						
BRTR				LR	LR	01 34 58.6	
	comp=Z,17nm,19.4s,baz=114,slow=40						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**87.10**	**340**	LR	LR	01 33 48.3	
	comp=Z,29nm,18.3s,baz=72,slow=39						
PPT	**Papeete**	**87.49**	**108**	LR	LR	01 26 57.8	
	comp=Z,15nm,18.1s,baz=88,slow=34						
MLR	**Muntele Rosu**	**91.68**	**316**	LR	LR	01 36 31.7	
	comp=Z,50nm,18.6s,baz=68,slow=39						
QSPA	**South Pole Qui**	**96.64**	**180**	LR	LR	01 33 31.7	
	comp=Z,21nm,21.9s,baz=348,slow=35						

*IDC **30** 00:39:36.9±1.0, 6°.68N×125°.00E, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/2, Error ellipse: s-maj=21.8km s-min=10.5km az=145.0*

ISC 30 00:39:38.4±1.2, 6°.8N±0°.2×125°.3E±0°.2, h10km, n8, σ0°38/6, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.43**	**49**	Pg	**Pn**	**00 39 50.8**	**+0.2**
	0.4nm,0.3s,baz=212,slow=12,SNR=9.2						
DAV				Lg	Lg	00 40 00.1	
	0.5nm,0.3s,baz=360,slow=22,SNR=8.0						
WRA	**Warramunga Arr**	**28.02**	**162**	P	**P**	**00 45 29.6**	**-0.3**
	0.8nm,0.5s,baz=342,slow=8.6,SNR=4.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**31.42**	**165**	P	**P**	**00 46 00.2**	**+0.2**
	0.9nm,0.6s,baz=343,slow=7.2,SNR=4.7						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**54.23**	**325**	P	**P**	**00 49 04.4**	**0.0**
	0.6nm,0.8s,baz=126,slow=7.3,SNR=2.9						
	0.6nm,0.8s						
MA2	**Magadan**	**56.14**	**15**	LR	LR	01 11 27.1	
	comp=Z,30nm,21.7s,baz=222,slow=34						
KURBB	**Kurchatov Arra**	**58.39**	**327**	P	**P**	**00 49 34.3**	**+0.3**
	0.6nm,0.5s,baz=118,slow=7.4,SNR=3.7						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**82.99**	**26**	P	**P**	**00 52 03.2**	**-0.4**
	0.4nm,0.9s,baz=270,slow=6.2,SNR=3.4						
	0.4nm,0.9s						
VNDA	**Vanda**	**86.63**	**173**	LR	LR	01 31 18.1	
	comp=Z,16nm,18.6s,baz=344,slow=36						

*TRN **30** 00:47:08.7, 10°.92N×61°.84W, h102km, MD3.0, North-west of Trinidad.*
*FUNV **30** 00:47:09.0, 10°.95N×62°.24W, h29km, MW3.5*

ISC 30 00:47:07.6±1.4, 10°.95N±0°.04×62°.34W±0°.04, h29km±15km, n14, σ1°28/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.82**	**108**	*e*P	**Pn**	**00 47 23.9**	**+0.7**
DMDM				*e*S	**Sn**	**00 47 34.5**	**+0.2**
PSMG	**Mucurapo Girls**	**0.84**	**109**	*e*P	**Pn**	**00 47 24.4**	**+0.9**
PSMG				*e*S	**Sn**	**00 47 35.1**	**+0.1**
TRN	**Trinidad (W)**	**0.97**	**108**	*e*P	**Pn**	**00 47 25.4**	**+0.1**
TRN				*e*S	**Sb**	**00 47 37.1**	**-1.3**
GRFF	**Grenada Fort F**	**1.25**	**28**	*e*S	**Sb**	**00 47 46.3**	**+0.1**
GRGR	**Grenville**	**1.36**	**30**	*e*P	**Pn**	**00 47 31.2**	**+0.5**
GRGR				*e*S	**Sn**	**00 47 48.6**	**+0.9**
GRW	**Mount Saint Ca**	**1.38**	**29**	*e*P	**Pb**	**00 47 33.2**	**+0.3**
GRW				*e*S	**Sb**	**00 47 50.4**	**+0.3**
GRHS	**Sauteurs**	**1.44**	**28**	*e*P	**Pn**	**00 47 32.7**	**+0.9**
GRHS				*e*S	**Sn**	**00 47 50.4**	**+0.6**
GRSS	**Sisters**	**1.52**	**28**	*e*P	**Pn**	**00 47 34.0**	**+1.0**
GRSS				*e*S	**Sb**	**00 47 53.1**	**-1.0**
GCMP	**Grenada, Carri**	**1.77**	**30**	*e*P	**Pn**	**00 47 36.5**	**+0.1**
GCMP				*e*S	**Sn**	**00 47 56.6**	**-1.4**
PCRV	**Puerto La Cruz**	**2.38**	**251**	*e*P	**Pn**	**00 47 46.9**	**+2.1**
PCRV				*e*S	**Sn**	**00 48 14.1**	**+1.0**
SVB	**Belmont**	**2.54**	**25**	*e*P	**Pn**	**00 47 45.9**	**-1.1**
BENV	**Beln**	**5.26**	**260**	*e*P	**Pn**	**00 48 26.0**	**+1.6**
BENV				*e*S	**Sn**	**00 49 22.5**	**-1.7**
CACV	**CAICARA DEL OR**	**5.33**	**231**	*e*P	Pn	00 48 20.6	-4.8
CACV				*e*S	Sn	00 49 14.4	-11
BAUV	**El Baul**	**5.96**	**251**	*e*P	**Pn**	**00 48 33.7**	**-0.2**
BAUV				*e*S	**Sn**	**00 49 37.9**	**-3.4**

*GCG **30** 00:52:48.6±1.4, 15°.78N×93°.67W, h101km±23km, MD4.2*
*MEX **30** 00:52:50.8±0.9, 15°.62N×93°.59W, h86km±7km, MD4.2*
*CATAC **30** 00:52:52.2±0.8, 16°.N±3°×9°.3W±°, h66km±5km, M4.7/6, mb5.8/1, mB5.8/1, MLv4.2/6, Mw(mB)5.4/1, Error ellipse: s-maj=10.7km s-min=5.4km az=70.6, confirmed*

ISC 30 00:52:49.3±1.2, 15°.62N±0°.04×93°.59W±0°.03, h88km±11km, n58, σ1°97/97, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.37**	**77**	*i* P	**Pn**	**00 53 02.5**	**-0.4**
PCIG				*e*S	**Sn**	**00 53 12.5**	**-0.5**
TGIG		**1.24**	**21**	*e*P	**Pn**	**00 53 12.2**	**+0.4**
TGIG				*e*S	**Sn**	**00 53 27.6**	**-1.1**
TGIG		**1.24**	**21**	*i* P	**Pn**	**00 53 10.5**	**-1.3**
TGIG				*i* S	**Sn**	**00 53 28.7**	**0.0**
TGBT	**Tuxtla Gutierr**	**1.25**	**23**	*e*P	**Pn**	**00 53 11.6**	**-0.2**
TGBT				*e*S	**Sn**	**00 53 28.2**	**-0.6**
PATR	**El Naranjo**	**1.40**	**111**	*e*P	**Pn**	**00 53 13.7**	**-0.3**
PATR				*e*S	**Sn**	**00 53 32.2**	**-0.4**
PAVE	**Pavencul**	**1.43**	**107**	*e*P	**Pn**	**00 53 14.4**	**+0.1**
PAVE				*e*S	**Sn**	**00 53 33.2**	**+0.1**
THIG		**1.46**	**119**	*e*P	**Pn**	**00 53 14.1**	**-0.4**
THIG				*e*S	**Sn**	**00 53 32.8**	**-0.8**
THIG		**1.46**	**119**	*i* P	**Pn**	**00 53 15.5**	**+1.0**
THIG				*i* S	**Sn**	**00 53 33.7**	**+0.1**
CHUJ	**Union Juarez**	**1.52**	**110**	*e*P	**Pn**	**00 53 15.3**	**-0.2**
CHUJ				*e*S	**Sn**	**00 53 35.0**	**-0.3**
CCIG	**Comitan**	**1.55**	**65**	*e*P	**Pn**	**00 53 17.3**	**+1.6**
CCIG				*e*S	**Sn**	**00 53 34.8**	**-0.9**
CCIG	**Comitan**	**1.55**	**65**	*i* P	**Pn**	**00 53 16.8**	**+1.0**
CCIG				*i* S	**Sn**	**00 53 39.0**	**+3.2**
CCIG	**Comitan**	**1.55**	**65**	P	**Pn**	**00 53 17.5**	**+1.7**
UXUV	**UXUV**	**1.77**	**343**	*e*P	**Pn**	**00 53 20.2**	**+1.7**
UXUV				*e*S	**Sn**	**00 53 40.0**	**-0.7**
CMIG	**Matias Romero**	**1.92**	**320**	*e*P	**Pn**	**00 53 21.1**	**+0.7**
CMIG				*e*S	**Sn**	**00 53 44.5**	**+0.4**
HUEH	**Huehuetenango**	**2.04**	**98**	*e*P	**Pn**	**00 53 23.3**	**+1.2**
HUEH				*e*S	**Sn**	**00 53 46.8**	**-0.4**
RTAL	**Retalhuleu**	**2.13**	**120**	*e*P	**Pn**	**00 53 23.3**	**+0.1**
RTAL				*e*S	**Sn**	**00 53 48.6**	**-0.5**
RTAL	**Retalhuleu**	**2.13**	**120**	P	**Pn**	**00 53 24.4**	**+1.2**
HUIG	**Huatulco**	**2.43**	**274**	*e*P	**Pn**	**00 53 26.5**	**-0.7**
HUIG				*e*S	**Sn**	**00 53 52.5**	**-3.6**
HUIG	**Huatulco**	**2.43**	**274**	*i* P	**Pn**	**00 53 26.3**	**-0.8**
QUIS	**Sacapulas**	**2.43**	**97**	*i* P	**Pn**	**00 53 29.0**	**+1.6**
TUIG	**Tuzandepetl**	**2.53**	**342**	*e*S	**Sn**	**00 53 57.1**	**-1.4**
ESSG	**Sabana Grande**	**2.94**	**114**	*i* P	**Pn**	**00 53 36.9**	**+2.8**
NEUV	**Arroyo Zacate**	**2.97**	**315**	*e*P	**Pn**	**00 53 35.4**	**+1.0**
NEUV				*e*S	**Sn**	**00 54 12.8**	**+3.6**
PMUV	**Sontecomapan**	**3.26**	**333**	*e*P	**Pn**	**00 53 40.5**	**+2.1**
PMUV				*e*S	**Sn**	**00 54 13.8**	**-2.4**
VHO	**Vista Hermosa**	**3.34**	**296**	*e*P	**Pn**	**00 53 41.6**	**+1.9**
VHO				*e*S	**Sn**	**00 54 20.6**	**+2.1**
PEIG	**Puerto Escondi**	**3.44**	**277**	*e*P	**Pn**	**00 53 39.8**	**-1.1**
PEIG				*e*S	**Sn**	**00 54 17.4**	**-3.3**
PETF	**Flores**	**3.80**	**70**	*e*P	**Pn**	**00 53 46.8**	**+1.1**
PETF				*e*S	**Sn**	**00 54 27.8**	**-1.6**
PETF	**Flores**	**3.80**	**70**	*i* P	**Pn**	**00 53 47.0**	**+1.3**
PETF				*i* S	**Sn**	**00 54 29.5**	**+0.1**
PETF	**Flores**	**3.80**	**70**	S	**Sn**	**00 54 28.0**	**-1.3**
PETF	**Flores**	**3.80**	**70**	P	**Pn**	**00 53 46.9**	**+1.1**
FAME	**Alcaldia de Sa**	**3.89**	**117**	S	**Sn**	**00 54 32.1**	**+0.7**
YOIG	**Yosondua**	**3.99**	**288**	*e*P	**Pn**	**00 53 49.7**	**+1.2**
YOIG				*e*S	**Sn**	**00 54 38.1**	**+3.8**
SCIG	**Sabancuy**	**4.04**	**34**	*e*P	**Pn**	**00 53 45.3**	**-3.7**
SCIG				*e*S	**Sn**	**00 54 34.3**	**-0.9**
SCIG	**Sabancuy**	**4.04**	**34**	*i* P	**Pn**	**00 53 47.4**	**-1.5**
NUBE	**Las Nubes**	**4.06**	**114**	*i* P	**Pn**	**00 53 52.5**	**+3.1**
TOIG	**Toxpalan**	**4.14**	**307**	*e*P	**Pn**	**00 53 49.8**	**-0.6**
TOIG				*e*S	**Sn**	**00 54 38.9**	**+1.2**
CEVE	**Cerro Verde**	**4.23**	**114**	S	**Sn**	**00 54 41.9**	**+1.7**
TXIG	**Tlaxiaco**	**4.32**	**293**	*e*P	**Pn**	**00 53 55.5**	**+2.4**
TXIG				*e*S	**Sn**	**00 54 45.9**	**+3.4**
PNIG	**Pinotepa**	**4.43**	**281**	*e*P	**Pn**	**00 53 52.8**	**-1.4**
PNIG				*e*S	**Sn**	**00 54 40.8**	**-3.9**
TPIG	**Tehuac#an**	**4.56**	**308**	*e*P	**Pn**	**00 53 58.5**	**+2.5**
TPIG				*e*P		00 53 58.9	
TPIG				*e*S	**Sn**	**00 54 53.2**	**+5.2**
HLIG	**Huajuapan de L**	**4.59**	**299**	*e*P	**Pn**	**00 53 57.0**	**+0.4**
HLIG				*e*S	**Sn**	**00 54 51.1**	**+2.2**
JAUV	**Jalcomulco**	**4.82**	**321**	*e*P	**Pn**	**00 53 59.2**	**-0.4**
JAUV				*e*S	**Sn**	**00 54 52.4**	**-1.8**
LVIG	**Laguna Verde**	**4.89**	**327**	*e*P	**Pn**	**00 53 59.0**	**-1.4**
LVIG				*e*S	**Sn**	**00 54 51.1**	**-4.6**
FTIG	**Fresnillo de T**	**4.91**	**298**	*e*P	**Pn**	**00 53 56.4**	**-4.4**
FTIG				*e*S	**Sn**	**00 54 59.2**	**+2.7**
POHV	**Veracruz**	**4.92**	**315**	*e*	Pn	00 53 51.2	-10
TLIG	**Tlapa**	**5.15**	**293**	*e*P	**Pn**	**00 54 05.9**	**+1.9**
TLIG				*e*S	**Sn**	**00 55 04.2**	**+1.9**
CRIG	**Cruz Grande**	**5.44**	**283**	*e*P	**Pn**	**00 54 07.9**	**0.0**
CRIG				*e*S	**Sn**	**00 55 07.7**	**-1.5**
PACA	**Pacayal**	**5.53**	**112**	P	**Pn**	**00 54 10.0**	**+0.7**
PPCL	**Tochimilco**	**5.81**	**305**	*e*P	**Pn**	**00 54 15.1**	**+1.8**
PPCL				*e*S	**Sn**	**00 55 22.2**	**+3.5**
PPPT	**Popocatepetl**	**5.85**	**305**	*e*S	**Sn**	**00 55 18.3**	**-1.7**
PBXN	**Popocatepetl**	**5.89**	**306**	*e*S	**Sn**	**00 55 16.4**	**-4.7**
CXUV	**Coxquihui**	**5.92**	**321**	*e*P	**Pn**	**00 54 15.1**	**+0.7**
CXUV				*e*S	**Sn**	**00 55 21.0**	**+0.2**
DAIG	**Los Arroyos**	**5.98**	**284**	*e*P	**Pn**	**00 54 15.6**	**+0.2**
DAIG				*e*S	**Sn**	**00 55 22.2**	**-0.3**
YAIG	**Yautepec**	**6.14**	**302**	*e*P	**Pn**	**00 54 17.8**	**+0.1**
YAIG				*e*S	**Sn**	**00 55 23.2**	**-3.5**
MEIG	**Mezcala**	**6.21**	**292**	*e*P	Pn	00 54 10.5	-8.1
MEIG				*e*S	**Sn**	**00 55 26.2**	**-2.0**
PLIG	**Platanillo**	**6.29**	**297**	*e*P	**Pn**	**00 54 21.6**	**+2.0**
PLIG				*e*S	**Sn**	**00 55 29.8**	**-0.3**
CAIG	**El Cayaco**	**6.56**	**283**	*e*P	**Pn**	**00 54 23.8**	**+0.5**
ARIG	**Puente Sto Nin**	**6.99**	**293**	*e*P	**Pn**	**00 54 30.8**	**+1.8**
ARIG				*e*S	**Sn**	**00 55 46.7**	**-0.3**

GII 30 00:56:11.6±0.0, 32°.409N±0°.001×35°.594E±0°.001, h9km, Mws1.6, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPN	**Kefar Rupin**	**0.06**	**326**	P	Pg	00 56 13.8	+0.3
MEHL	**Mehola**	**0.08**	**237**	P	Pg	00 56 13.8	+0.1
MEHL	**Mehola**	**0.08**	**237**	S	Sg	00 56 15.7	+0.4
BTSH	**Beit Shean**	**0.12**	**318**	P	Pg	00 56 14.3	-0.1
BTSH	**Beit Shean**	**0.12**	**318**	S	Sg	00 56 17.2	+0.9
MMLI	**Mount Malkishu**	**0.15**	**281**	P	Pg	00 56 14.9	+0.1
MMLI	**Mount Malkishu**	**0.15**	**281**	S	Sg	00 56 17.8	+0.7
ROII	**Roi**	**0.18**	**209**	P	Pg	00 56 15.3	0.0
ROII	**Roi**	**0.18**	**209**	S	Sg	00 56 18.9	+0.9
CVYN	**Cohav Hayarden**	**0.20**	**341**	P	Pg	00 56 15.5	-0.1
CVYN	**Cohav Hayarden**	**0.20**	**341**	S	Sg	00 56 19.2	+0.8
MLDT	**Moledet**	**0.22**	**324**	P	Pg	00 56 15.9	-0.2
MLDT	**Moledet**	**0.22**	**324**	S	Sg	00 56 19.5	+0.3
RGMN	**Argaman**	**0.25**	**194**	P	Pg	00 56 16.3	-0.2
RGMN	**Argaman**	**0.25**	**194**	S	Sg	00 56 20.8	+0.9
HMRA	**Hamra**	**0.25**	**213**	P	Pg	00 56 16.3	-0.2
HMRA	**Hamra**	**0.25**	**213**	S	Sg	00 56 20.5	+0.6
GNNR	**Gan-Ner**	**0.25**	**299**	P	Pg	00 56 16.4	-0.2
GNNR	**Gan-Ner**	**0.25**	**299**	S	Sg	00 56 20.5	+0.5
MNHA	**Menahamia**	**0.26**	**352**	P	Pg	00 56 16.4	-0.4
MNHA	**Menahamia**	**0.26**	**352**	S	Sg	00 56 20.8	+0.5
AMOT	**Alumot**	**0.30**	**352**	P	Pg	00 56 17.2	-0.4
AMOT	**Alumot**	**0.30**	**352**	S	Sg	00 56 22.2	+0.6
GOLA	**Golan Heights**	**0.31**	**9**	P	Pg	00 56 17.8	+0.1
MEFR	**Maale Efrayim**	**0.37**	**206**	P	Pg	00 56 18.6	-0.3
MEFR	**Maale Efrayim**	**0.37**	**206**	S	Sg	00 56 24.5	+0.6
ARIL	**Ariel Universi**	**0.45**	**227**	P	Pg	00 56 19.9	-0.4
ARIL	**Ariel Universi**	**0.45**	**227**	S	Sg	00 56 26.8	+0.7
RMOT	**Ramot**	**0.45**	**8**	P	Pg	00 56 20.0	-0.2
RMOT	**Ramot**	**0.45**	**8**	S	Sb	00 56 27.4	-1.0
KNHM	**Kefar Nahum**	**0.47**	**359**	P	Pg	00 56 21.2	+0.4
KNHM	**Kefar Nahum**	**0.47**	**359**	S	Sg	00 56 28.1	+1.0
SALP	**Salfit**	**0.48**	**225**	P	Pg	00 56 20.3	-0.6
SALP	**Salfit**	**0.48**	**225**	S	Sg	00 56 28.1	+0.8
YITV	**Yitav**	**0.48**	**198**	P	Pg	00 56 20.8	-0.2
YITV	**Yitav**	**0.48**	**198**	S	Sg	00 56 28.3	+1.0
SLTI	**Sal'it**	**0.50**	**250**	P	Pg	00 56 20.7	-0.6
SLTI	**Sal'it**	**0.50**	**250**	S	Sg	00 56 28.7	+0.9
KSHT	**Keshet**	**0.60**	**18**	P	Pg	00 56 23.2	0.0
KSHT	**Keshet**	**0.60**	**18**	S	Sg	00 56 31.8	+0.7
MMA0B	**Mount Meron ar**	**0.63**	**345**	P	Pg	00 56 23.1	-0.6
MMA0B	**Mount Meron ar**	**0.63**	**345**	S	Sg	00 56 32.4	+0.5
MMC7	**Mount Meron ar**	**0.63**	**345**	P	Pg	00 56 23.1	-0.8
GEM	**Giv'at Ha'Em**	**0.80**	**4**	P	Pg	00 56 26.8	-0.2
GEM	**Giv'at Ha'Em**	**0.80**	**4**	S	Sb	00 56 38.1	-0.5
DSI	**Dead Sea**	**0.86**	**192**	P	Pg	00 56 26.7	-1.3
DSI	**Dead Sea**	**0.86**	**192**	S	Sg	00 56 38.5	-0.7
NATI	**Neve Ativ**	**0.86**	**8**	P	Pg	00 56 27.2	-0.9
NATI	**Neve Ativ**	**0.86**	**8**	S	Sb	00 56 39.9	-0.4
YTIR	**Yattir**	**1.12**	**201**	P	Pg	00 56 32.6	-0.4
YTIR	**Yattir**	**1.12**	**201**	S	Sg	00 56 47.7	0.0

*SOME **30** 01:12:24.1, 42°.02N×82°.28E, h15km*
*NNC **30** 01:12:27.2±1.4, 42°.39N×82°.18E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.0km s-min=5.3km az=152.0*

ISC 30 01:12:25.1±2.1, 42°.21N±0°.10×82°.20E±0°.07, h10km, n36, σ1°86/48, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.23**	**296**	Pg	**Pn**	**01 13 03.6**	**+1.3**
	58nm,0.3s						
SHLS				Lg	Lg	01 13 32.2	
	158nm,0.2s						
SHLS	**Shalkode**	**2.23**	**296**	*e*P	**Pn**	**01 13 03.5**	**+1.3**
	58nm,0.3s						
SHLS				*e*S	**Sb**	**01 13 32.2**	**-1.1**
	193nm,0.5s						
UZB	**Uzynbulak**	**2.52**	**293**	Pg	**Pg**	**01 13 12.9**	**-0.6**
	15nm,0.2s						
UZB				Lg	Lg	01 13 48.0	
	108nm,0.5s						
UZB	**Uzynbulak**	**2.52**	**293**	*e*P	**Pg**	**01 13 13.3**	**-0.3**
	7.1nm,0.2s						
UZB				*e*S	**Sg**	**01 13 48.8**	**+2.6**
	89nm,0.4s						
KPKS	**Kokpek**	**2.88**	**297**	Pg	**Pg**	**01 13 18.9**	**-1.3**
	6.6nm,0.3s						
KPKS				Lg	Lg	01 13 57.6	
	44nm,0.5s						
SATY	**Saty**	**2.93**	**288**	Pg	**Pg**	**01 13 20.0**	**-1.2**
	4.4nm,0.3s						
SATY				Lg	Lg	01 13 59.8	
	53nm,0.5s						
KNOS	**Konyrlen**	**3.08**	**315**	Pg	**Pb**	**01 13 21.2**	**+1.1**
	5.0nm,0.3s						
KNOS				Lg	Lg	01 14 01.6	
	18nm,0.3s						
KURS	**Kuram**	**3.23**	**295**	Pg	**Pg**	**01 13 25.1**	**-1.9**
	3.2nm,0.5s						
KURS				Lg	Lg	01 14 08.6	
	14nm,0.4s						
BLB	**Baldybastay**	**3.31**	**306**	Pg	**Pb**	**01 13 24.5**	**+0.5**
	14nm,0.3s						
BLB				Lg	Lg	01 14 07.2	
	29nm,0.3s						
ARXS	**Arharly**	**3.77**	**303**	Pg	**Pb**	**01 13 34.5**	**+2.6**
	5.2nm,0.3s						
ARXS				Lg	Lg	01 14 24.3	
	33nm,0.6s						
ARXS	**Arharly**	**3.77**	**303**	*e*P	**Pg**	**01 13 35.0**	**-2.3**
ARXS				*e*S	**Sg**	**01 14 26.1**	**-0.1**
KOTS	**Kotyrbulak**	**3.89**	**287**	Pg	**Pb**	**01 13 34.4**	**+0.5**
	5.6nm,0.4s						
KOTS				Lg	Lg	01 14 24.7	
	34nm,0.5s						
KOTS	**Kotyrbulak**	**3.89**	**287**	*e*P	**Pb**	**01 13 36.2**	**+2.3**
	5.2nm,0.2s						
KOTS				*e*S	**Sg**	**01 14 27.9**	**-2.0**
	62nm,0.6s						
MDOK	**Medeo**	**3.92**	**286**	Pg	**Pb**	**01 13 35.8**	**+1.4**
	2.4nm,0.3s						
MDOK				Lg	Lg	01 14 26.9	
	12nm,0.6s						
TDK	**Taldyqorghan**	**3.92**	**317**	Pg	**Pb**	**01 13 34.8**	**+0.4**
	24nm,0.1s						
TDK				Lg	Lg	01 14 25.6	
	29nm,0.4s						
TDK	**Taldyqorghan**	**3.92**	**317**	*e*P	**Pg**	**01 13 38.4**	**-1.8**
	7.4nm,0.1s						
TDK				*e*S	**Sg**	**01 14 31.7**	**+0.7**
	32nm,0.2s						
TNSS	**Tian-Shan**	**3.97**	**284**	Pg	**Pb**	**01 13 36.7**	**+1.4**
	2.0nm,0.3s						
TNSS				Lg	Lg	01 14 28.6	
	3.7nm,0.7s						
TNSS	**Tian-Shan**	**3.97**	**284**	*e*P	**Pg**	**01 13 39.0**	**-2.1**
	0.2nm,0.1s						
TNSS				*e*S	**Sg**	**01 14 32.8**	**+0.3**
	5.5nm,0.4s						
CHKK	**Chushkaly**	**4.16**	**295**	Pg	**Pg**	**01 13 41.9**	**-3.0**
	9.8nm,0.5s						
CHKK				Lg	Lg	01 14 37.0	
	14nm,0.3s						
CHKK	**Chushkaly**	**4.16**	**295**	*e*P	**Pg**	**01 13 42.3**	**-2.5**
	0.6nm,0.0s						
CHKK				*e*S	**Sg**	**01 14 38.5**	**-0.2**
	9.4nm,0.4s						
IZV	**Izvestkoviy**	**4.21**	**283**	Pg	**Pb**	**01 13 39.8**	**+0.5**
	3.5nm,0.3s						
IZV				Lg	Lg	01 14 33.5	
	16nm,0.6s						
IZV	**Izvestkoviy**	**4.21**	**283**	*e*P	**Pb**	**01 13 42.2**	**+2.8**
	1.1nm,0.1s						
IZV				*e*S	**Sg**	**01 14 38.3**	**-1.9**
	30nm,0.5s						
KTBS	**Karatobe**	**4.32**	**292**	Pg	**Pg**	**01 13 45.5**	**-2.4**
	3.9nm,0.4s						
KTBS				Lg	Lg	01 14 43.5	
	17nm,0.6s						
MTBS	**Maitube**	**4.36**	**284**	Pg	**Pb**	**01 13 42.2**	**+0.4**
	2.2nm,0.3s						
MTBS				Lg	Lg	01 14 37.8	
	16nm,0.5s						
MTBS	**Maitube**	**4.36**	**284**	*e*P	**Pb**	**01 13 45.1**	**+3.3**
	0.7nm,0.1s						
MTBS				*e*S	**Sg**	**01 14 43.3**	**-1.7**
	5.6nm,0.2s						
MK31	**Makanchi Array**	**4.58**	**1**	⇑Pn	**Pn**	**01 13 36.2**	**+1.8**
	0.5nm,0.2s,baz=196,slow=13,SNR=35						
MK31				⇑Pg	**Pb**	**01 13 46.4**	**+0.9**
	1.1nm,0.3s,baz=179,slow=14,SNR=14						
MK31				⇓Lg	Lg	01 14 45.3	
	26nm,0.6s,baz=179,slow=27,SNR=13						
MAKZ	**Makanchi**	**4.60**	**358**	⇑Pn	**Pn**	**01 13 36.4**	**+1.7**
	0.7nm,0.3s						
MAKZ				⇓Pg	**Pb**	**01 13 47.0**	**+1.2**
	3.7nm,0.6s						
MAKZ				Sn	**Sn**	**01 14 29.2**	**+1.0**
	4.5nm,0.7s						
MAKZ				Lg	Lg	01 14 47.2	
	11nm,0.6s						
KUU	**Kurty**	**4.61**	**293**	Pg	**Pg**	**01 13 50.3**	**-3.2**
	4.7nm,0.0s						
KUU				Lg	Lg	01 14 51.8	
	14nm,0.4s						
KUU	**Kurty**	**4.61**	**293**	*e*P	**Pg**	**01 13 50.5**	**-3.0**
	2.4nm,0.0s						
KUU				*e*S	**Sg**	**01 14 52.4**	**-0.9**

DAV Lg Lg 01 38 22.5
9.9nm,0.3s,baz=342,slow=17,SNR=211
DAV Davao City (W) 0.51 58 P **Pg 01 38 09.0 -2.2**
SGSI Sangihe 3.11 173 P **Pn 01 38 51.8 +1.7**
SGSI S **Sn 01 39 30.3 +3.1**
KMSI Cibinong 6.29 191 P Pn 01 39 39.0 +5.2
TNTI Ternate 6.38 160 Pn **Pn 01 39 35.6 +0.6**
TNTI Ternate 6.38 160 P **Pn 01 39 37.7 +2.7**
0.3nm83nm,0.9s
MYLDM Lahad Datu 6.81 257 Pn **Pn 01 39 41.1 +0.2**
MRSI Marisa 7.05 207 P **Pn 01 39 45.6 +1.4**
0.7nm2μm166nm,0.6s
TOLI2 Tolitoli 7.13 218 Pn **Pn 01 39 41.0 -4.4**
LUWI Luwuk 8.14 197 Pn **Pn 01 40 02.5 +3.3**
LUWI Luwuk 8.14 197 P **Pn 01 40 03.5 +4.3**
211nm,0.6s
APSI Ampana 8.42 205 P **Pn 01 40 05.9 +2.9**
1μm97nm,0.6s
SANI Sanana 8.83 175 P **Pn 01 40 09.2 +0.6**
820nm81nm,1.0s
I39PW PALAU INFRASON 9.35 85 I I 02 34 00.0
baz=268,slow=304,SNR=1.0
NLAI Namlea 10.16 169 P **Pn 01 40 27.8 +0.9**
775nm60nm,0.6s
MSAI Masohi 10.76 159 P **Pn 01 40 39.5 +4.4**
KDI Kendari 10.98 193 P Pn 01 40 43.5 +5.4
FAKI Fak Fak 11.97 143 Pn **Pn 01 40 54.4 +2.6**
FAKI Fak Fak 11.97 143 P **Pn 01 40 52.9 +1.1**
46nm,0.8s
RKPI Ransiki, Papua 12.22 132 P **Pn 01 40 56.3 +1.2**
103nm,0.4s
KAPI Kappang 12.91 205 LR LR 01 46 25.2
comp=Z,304nm,21.2s,baz=64,slow=40
SBUM Sibu 13.59 252 Pn **Pn 01 41 15.0 +1.2**
KSM Kuching 15.71 251 P **P 01 41 46.0 -0.5**
KSM IAmb IAmb 01 41 46.1
comp=Z,20nm,0.2s
BATI Baumata 16.96 185 Pn **P 01 41 59.5 -0.8**
comp=Z,6.7nm,0.3s,baz=330,slow=1.0,SNR=7.3
BATI LR LR 01 49 31.0
comp=Z,198nm,18.4s,baz=348,slow=41
QIZ Qiongzhong 19.22 311 P **P 01 42 24.0 -1.3**
QIZ LR LR
comp=Z,500nm,9.8s
QIZ LR LR
comp=Z,320nm,10.7s
QIZ LR LR
comp=Z,400nm,17.7s
JOW Kunigami 20.14 8 LR LR 01 49 54.7
comp=Z,123nm,20.6s,baz=88,slow=35
MTN Manton Dam 20.40 163 P **P 01 42 37.8 -0.3**
LEM Lembang 22.12 233 LR LR 01 53 06.3
comp=Z,86nm,18.2s,baz=38,slow=41
KNRA Kununurra 22.61 171 P **P 01 43 01.8 -0.1**
KNRA IAmb IAmb 01 43 07.3
comp=Z,38nm,0.7s
FITZ Fitzroy Crossi 24.74 179 P **P 01 43 21.9 -0.8**
FITZ Fitzroy Crossi 24.74 179 P **P 01 43 21.6 -1.0**
comp=Z,16nm,0.6s,baz=3.3,slow=5.4,SNR=27
comp=Z,16nm,0.6s
WHN Wuhan 25.71 338 P **P 01 43 34.5 +3.2**
NJ2 Nanjing 25.80 348 *e*P **P 01 43 32.8 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
GYA Guiyang 26.31 320 P **P 01 43 35.0 -2.0**
GYA LR LR
comp=Z,270nm,19.2s
JNU Nakatsue 26.73 11 LR LR 01 55 30.3
comp=Z,68nm,19.7s,baz=196,slow=39
PMG Port Moresby 27.20 126 P **P 01 43 44.1 -0.9**
PMG IAmb IAmb 01 43 46.0
comp=Z,22nm,0.8s
COEN Coen 27.30 139 P **P 01 43 44.9 -1.0**
COEN IAmb IAmb 01 43 51.6
comp=Z,26nm,1.0s
WB0 Warramunga Arr 27.92 161 P **P 01 43 50.6 -0.7**
WB0 IAmb IAmb 01 44 04.3
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 28.03 297 P **P 01 43 51.2 -1.2**
CMAR Chiang Mai Arr 28.03 297 P **P 01 43 53.6 +1.3**
comp=Z,1.5nm,0.3s,baz=115,slow=7.1,SNR=5.1
CMAR LR LR 01 54 52.6
comp=Z,60nm,21.2s,baz=110,slow=36
comp=Z,1.5nm,0.3s
WRAB Tennant Creek 28.06 161 P **P 01 43 50.5 -2.1**
WRAB IAmb IAmb 01 44 27.8
comp=Z,13nm,1.0s
WRA Warramunga Arr 28.07 161 P **P 01 43 50.4 -2.2**
WRA Warramunga Arr 28.07 161 P **P 01 43 50.7 -2.0**
comp=Z,2.8nm,0.8s,baz=336,slow=10,SNR=13
comp=Z,2.8nm,0.8s
WR8 Warramunga Arr 28.13 161 P **P 01 43 52.0 -1.2**
WR8 IAmb IAmb 01 44 06.4
comp=Z,10.0nm,0.9s
PZH PanZhiHua 29.68 314 P **P 01 44 08.3 +1.2**
KSRS Korea Array 30.62 4 P **P 01 44 18.2 +3.1**
comp=Z,0.9nm,0.5s,baz=184,slow=11,SNR=5.2
comp=Z,0.9nm,0.5s
XAN Xi'an 30.99 333 P **P 01 44 21.0 +2.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN LR LR
comp=Z,290nm,12.4s
XAN LR LR
comp=Z,210nm,12.5s
XAN LR LR
comp=Z,260nm,13.7s
CD2 Chengdu 31.26 323 P **P 01 44 20.0 -0.9**
AS31 Alice Springs 31.46 164 P **P 01 44 21.9 -0.8**
ASAR Alice Springs 31.46 164 P **P 01 44 21.3 -1.4**
ASAR Alice Springs 31.46 164 P **P 01 44 21.5 -1.2**
comp=Z,1.9nm,0.7s,baz=348,slow=7.9,SNR=15
comp=Z,1.9nm,0.7s
MJAR Matsushiro Arr 31.92 20 P **P 01 44 26.0 -0.7**
MJAR Matsushiro Arr 31.92 20 P **P 01 44 27.7 +1.1**
comp=Z,2.1nm,0.5s,baz=195,slow=9.3,SNR=5.7
MJAR LR LR 01 57 08.9
comp=Z,105nm,19.1s,baz=186,slow=36
comp=Z,2.1nm,0.5s
BJI Beijing 34.06 348 P **P 01 44 45.5 +0.2**
BJI S **S 01 50 11.0 +0.4**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,39nm,12.6s
BJI LR LR
comp=Z,51nm,12.6s
BJI LR LR
comp=Z,58nm,15.1s
LZH Lanzhou 35.08 329 *e*P **P 01 44 55.5 +1.1**
LZH pP sP 01 45 01.8 +1.7
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,200nm,12.7s
LZH LR LR
comp=Z,220nm,12.4s
LZH LR LR
comp=Z,170nm,11.3s
HHC Hu-ho-hao-te 36.01 342 *e*P **P 01 45 03.0 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.0s
HHC LR LR
comp=Z,120nm,15.1s
HHC LR LR
comp=Z,140nm,17.7s
HHC LR LR
comp=Z,220nm,16.0s
BTO Baotou 36.28 340 *e*P **P 01 45 07.8 +3.2**
BTO S **S 01 50 52.0 +7.0**
BTO pmax pmax
comp=Z,11nm,0.8s
BTO pmax pmax
comp=Z,140nm,3.6s
BTO LR LR
comp=Z,240nm,6.8s
BTO LR LR
comp=Z,380nm,9.3s
BTO LR LR
comp=Z,250nm,7.0s
SHL Shillong 36.83 304 P **P 01 45 08.1 -1.4**
SHL IAmb IAmb 01 45 18.3
comp=Z,21nm,1.3s
CN2 Changchun 36.86 0 *e*P **P 01 45 10.0 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
FORT Forrest 37.47 176 P **P 01 45 13.8 -0.8**
USRK Ussuriysk Ar. 37.73 8 P **P 01 45 16.7 0.0**
comp=Z,3.0nm,0.7s,baz=173,slow=6.9,SNR=5.2
comp=Z,3.0nm,0.7s
GTA Gaotai 39.67 329 *e*P **P 01 45 35.5 +2.2**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,110nm,14.9s
GTA LR LR
comp=Z,140nm,15.3s
GTA LR LR
comp=Z,200nm,14.2s
BBOO Buckleboo 40.73 166 P **P 01 45 40.1 -1.8**
STKA Stephens Creek 41.54 159 P **P 01 45 46.3 -2.3**
STKA Stephens Creek 41.54 159 P **P 01 45 48.1 -0.4**
comp=Z,4.8nm,0.8s,baz=340,slow=9.5,SNR=9.9
comp=Z,4.8nm,0.8s
EVN Everest 41.93 305 P **P 01 45 50.4 -2.3**
HILR Hailar Array B 42.86 355 P **P 01 46 01.7 +2.6**
comp=Z,5.2nm,0.7s,baz=162,slow=10,SNR=5.0
comp=Z,5.2nm,0.7s
HEH HeiHe 43.35 2 *e*P **P 01 46 06.3 +3.2**
SONM Songino Array 43.91 342 P **P 01 46 04.0 -3.8**
SONM Songino Array 43.91 342 P **P 01 46 10.4 +2.6**
comp=Z,1.3nm,0.8s,baz=167,slow=9.4,SNR=5.8
SONM LR LR 02 04 48.3
comp=Z,123nm,21.0s,baz=140,slow=37
comp=Z,1.3nm,0.8s
ARMA Armidale 44.88 147 P **P 01 46 16.2 +0.5**
ARMA IAmb IAmb 01 47 20.0
comp=Z,23nm,1.4s
WMQ Urumqi 49.33 325 *e*P **P 01 46 52.0 +1.7**
WMQ LR LR
comp=Z,320nm,20.9s
PETK Petropavlovsk- 53.24 24 P **P 01 47 20.6 +1.2**
comp=Z,2.3nm,0.7s,baz=234,slow=7.5,SNR=4.4
comp=Z,2.3nm,0.7s
MKAR Makanchi Array 54.16 325 P **P 01 47 24.8 -1.4**
MKAR Makanchi Array 54.16 325 P **P 01 47 25.9 -0.4**
comp=Z,1.3nm,0.8s,baz=133,slow=7.1,SNR=6.8
comp=Z,1.3nm,0.8s
TARG Taragay, Kyrgy 54.43 317 P **P 01 47 26.6 -2.2**
TARG IAmb IAmb 01 47 41.0
comp=Z,8.3nm,1.2s
KSH Kashi 54.78 314 P **P 01 47 34.3 +3.2**
KSH pmax pmax
comp=Z,4.0nm,1.0s
NIL Nilore 54.83 307 P **P 01 47 29.6 -1.8**
NIL IAmb IAmb 01 47 37.7
comp=Z,17nm,0.8s
KDJ Kajisay 55.03 318 P **P 01 47 32.4 -0.5**
KDJ IAmb IAmb 01 47 39.0
comp=Z,9.7nm,1.0s
ZALV Zalesovo Beam 57.16 333 P **P 01 47 46.4 -1.2**
ZALV Zalesovo Beam 57.16 333 P **P 01 47 47.5 -0.1**
comp=Z,0.4nm,0.4s,baz=121,slow=6.0,SNR=2.6
comp=Z,0.4nm,0.4s
ARSB Arslanbob 57.58 315 P **P 01 47 49.5 -1.6**
KURBB Kurchatov Arra 58.32 327 P **P 01 47 54.6 -1.3**
comp=Z,1.6nm,0.8s,baz=129,slow=5.9,SNR=8.1
comp=Z,1.6nm,0.8s
KURK Kurchatov 58.33 327 P **P 01 47 54.8 -1.1**
KURK IAmb IAmb 01 48 11.5
comp=Z,5.6nm,0.9s
KBL Kabul 58.43 306 P **P 01 47 55.2 -2.0**
KBL IAmb IAmb 01 48 02.8
comp=Z,5.1nm,0.6s
GAR Garm 58.71 312 P **P 01 47 58.0 -1.0**
CHGR Chuyangaron 59.47 311 P **P 01 48 03.5 -0.8**
CHGR IAmb IAmb 01 48 24.9
comp=Z,11nm,1.1s
KK31 Karatay Array 59.93 316 P **P 01 48 05.2 -2.1**
KK31 IAmb IAmb 01 48 10.8
comp=Z,9.1nm,1.1s
KKAR Karatay Array 59.93 316 P **P 01 48 04.6 -2.7**
BVAR Borovoye Array 63.91 327 P **P 01 48 32.7 -1.1**
comp=Z,2.9nm,1.1s,baz=125,slow=7.8,SNR=7.7
comp=Z,2.9nm,1.1s
LBZ Lake Benmore 65.09 146 P **P 01 48 42.6 +0.9**
BKZ Black Stump Fm 65.90 138 P **P 01 48 45.6 -1.4**
RTZ Ruatahuna 65.94 138 P **P 01 48 45.4 -1.9**
AB31 Akbulak array 68.80 320 P **P 01 49 04.2 -1.0**
AB31 IAmb IAmb 01 49 08.2
comp=Z,5.2nm,1.1s
ABKAR Akbulak array 68.80 320 P **P 01 49 04.1 -1.1**
GURO Guroymak-BITLI 80.43 308 P **P 01 50 11.7 -1.4**
BPAW Bear Paw Mtn. 81.24 26 P **P 01 50 15.9 -0.9**
BPAW IAmb IAmb 01 50 21.2
comp=Z,10nm,1.0s
COLD Coldfoot 81.70 23 P **P 01 50 18.8 -0.3**
COLD IAmb IAmb 01 51 38.8
comp=Z,20nm,1.6s
MCK McKinley 82.14 27 P **P 01 50 20.1 -1.4**
H24K Noodor Dome 82.60 24 P **P 01 50 24.1 +0.2**
SCM Sheep Creek Mo 82.88 29 P **P 01 50 22.6 -2.9**
ILAR Eielson Array 83.03 26 P **P 01 50 26.3 +0.2**
ILAR Eielson Array 83.03 26 P **P 01 50 26.6 +0.4**
comp=Z,1.0nm,0.6s,baz=252,slow=4.9,SNR=16
comp=Z,1.0nm,0.6s
RIDG Independent Ri 83.96 27 P **P 01 50 30.8 -0.2**
RIDG IAmb IAmb 01 50 35.4
comp=Z,13nm,1.1s
J26L Joseph Creek 84.47 26 P **P 01 50 33.6 -0.1**
BCAR Beaver Creek A 85.38 27 P **P 01 50 37.6 -0.6**
BRTR Keskin Array B 86.87 309 P **P 01 50 45.3 -0.8**
BRTR Keskin Array B 86.87 309 P **P 01 50 47.6 +1.5**
comp=Z,0.3nm,0.7s,baz=97,slow=5.8,SNR=3.0
comp=Z,0.3nm,0.7s
FINES FINESS Array B 88.40 332 P **P 01 50 52.1 -0.7**
FINES FINESS Array B 88.40 332 P **P 01 50 52.4 -0.4**
comp=Z,3.0nm,0.8s,baz=29,slow=4.4,SNR=5.0
comp=Z,3.0nm,1.0s

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*GII **30** 01:42:19.7±0.0,35°.385N±0°.002×31°.809E±0°.001,h10km, Mws2.6,confirmed*
*NIC **30** 01:42:20.4,35°.68N×32°.01E,h18km±1km,Ml2.4/9*
*ISK **30** 01:42:21.2,35°.63N×32°.00E,h10km,ML2.6/36*
*AFAD **30** 01:42:23.9,35°.89N×31°.82E,h27km±1km,ML2.6*
ISC 30 01:42:20.3±1.1,**35°.57N**±0°.02×**31°.91E**±0°.02,**h17**km±9km,
n107,σ1°**58**/124,**1C-1D**,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.65**	**148**	P	**Pg**	**01 42 34.1**	**+1.0**
AKMS				S	**Sb**	**01 42 44.7**	**+2.7**
AKMS				AML	AML	01 42 50.8	
0.8nm,0.4s							
AKMS				AML	AML	01 42 51.5	
0.9nm,0.3s							
ALFC	**Alefka**	**0.70**	**126**	P	**Pb**	**01 42 34.9**	**+0.9**
ALFC				S	**Sb**	**01 42 44.7**	**+1.3**
ALFC				AML	AML	01 42 54.3	
0.6nm,0.3s							
ALFC				AML	AML	01 42 56.0	
0.6nm,0.5s							
GAZI	**Gazipasa**	**0.74**	**26**	Pg	**Pb**	**01 42 34.7**	**0.0**
GAZI				Sg	**Sb**	**01 42 43.9**	**-0.6**
GAZI	**Gazipasa**	**0.74**	**26**	P	**Pb**	**01 42 34.9**	**+0.2**
GAZI				S	**Sg**	**01 42 42.7**	**-1.9**
GAZI				*i* IAML		01 42 46.0	
comp=E,362nm,0.4s							
NATA	**Nata**	**0.96**	**146**	⇓*i*P	**Pg**	**01 42 39.1**	**+0.3**
NATA				S	**Sn**	**01 42 56.8**	**+4.6**
NATA				AML	AML	01 43 04.3	
1.1nm,0.7s							
NATA				AML	AML	01 43 05.7	
1.6nm,0.6s							
ALAN	**Alanya-ANTALYA**	**0.99**	**6**	Pg	**Pg**	**01 42 38.9**	**-0.5**
TROD	**Troodos**	**1.00**	**128**	P	**Pg**	**01 42 39.8**	**+0.1**
TROD				S	**Sn**	**01 42 55.5**	**+2.0**
TROD				AML	AML	01 43 06.7	
0.1nm,0.4s							
TROD				AML	AML	01 43 10.2	
0.2nm,0.8s							
BOZY	**Bozyazi-Mersin**	**1.02**	**58**	Pg	**Pb**	**01 42 39.5**	**+0.1**
XYLS	**Xyliatos**	**1.08**	**121**	P	**Pg**	**01 42 40.2**	**-1.1**
XYLS				S	**Sg**	**01 42 55.2**	**-0.4**
XYLS				AML	AML	01 43 04.4	
0.2nm,0.3s							
XYLS				AML	AML	01 43 06.2	
0.3nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.13**	**59**	Pg	**Pn**	**01 42 41.6**	**+0.3**
TEKE				Sg	**Sn**	**01 42 56.3**	**-0.1**
APOL	**The Sanctuary**	**1.19**	**139**	P	**Pb**	**01 42 42.4**	**0.0**
APOL				S	**Sn**	**01 43 00.8**	**+2.9**
APOL				AML	AML	01 43 17.3	
0.2nm,0.6s							
APOL				AML	AML	01 43 18.2	
0.2nm,0.4s							
MNVG	**Manavgat-Antal**	**1.28**	**342**	Pn	**Pg**	**01 42 45.2**	**+0.2**
CSS	**Mathiatis**	**1.31**	**117**	Pn	**Pn**	**01 42 45.2**	**+1.4**
CSS	**Mathiatis**	**1.31**	**117**	P	**Pn**	**01 42 43.7**	**-0.1**
CSS	**Mathiatis**	**1.31**	**117**	P	**Pn**	**01 42 42.5**	**-1.4**
CSS				S	**Sb**	**01 43 01.3**	**+0.3**
BERE	**Bereket-Mersin**	**1.31**	**54**	Pn	**Pg**	**01 42 44.9**	**-0.8**
BERE				Sn	**Sn**	**01 43 02.1**	**+0.9**
ERMK	**Ermenek**	**1.34**	**37**	P	**Pg**	**01 42 45.8**	**-0.3**
YORU	**Yoruktepe-Mers**	**1.34**	**64**	Pn	**Pg**	**01 42 45.2**	**-1.0**
ASGA	**Asgata**	**1.35**	**125**	P	**Pb**	**01 42 46.1**	**+1.1**
ASGA				S	**Sg**	**01 43 05.2**	**+1.4**
ASGA				AML	AML	01 43 12.8	
0.2nm,0.5s							
ASGA				AML	AML	01 43 14.1	
0.2nm,0.7s							
LFK	**Lefkose**	**1.36**	**102**	Pn	**Pg**	**01 42 46.1**	**-0.3**
OREN	**Orenkoy-Mersin**	**1.41**	**63**	Pn	**Pg**	**01 42 46.6**	**-0.8**
AKK1	**Akkuyu-Mersin**	**1.44**	**66**	Pn	**Pg**	**01 42 47.3**	**-0.7**
AKK2	**Akkuyu-Mersin**	**1.44**	**67**	Pn	**Pb**	**01 42 46.4**	**-0.3**
AKK2				Sn	**Sg**	**01 43 05.1**	**-1.8**
GULN	**MERSIN_Gulnar**	**1.46**	**65**	P	**Pb**	**01 42 46.6**	**-0.3**
HDMB	**Hadim**	**1.46**	**18**	Pn	**Pn**	**01 42 46.4**	**+0.3**
AKUM	**Antalya-Kumluc**	**1.48**	**301**	P	**Pn**	**01 42 47.3**	**+1.2**
AKUM				S	**Sn**	**01 43 05.7**	**+0.8**
TEPK	**Tepekoy-MERSIN**	**1.48**	**63**	Pn	**Pb**	**01 42 47.4**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.50**	**314**	Pn	**Pb**	**01 42 49.1**	**+1.4**
TEVE	**Tevekalti-Mers**	**1.51**	**55**	Pn	**Pb**	**01 42 47.7**	**-0.2**
MVOU	**Mavrovouni**	**1.51**	**111**⇑*e*P		**Pn**	**01 42 46.2**	**-0.3**
MVOU				S	**Sn**	**01 43 06.0**	**+0.1**
MVOU				AML	AML	01 43 17.7	
0.1nm,0.3s							
MVOU				AML	AML	01 43 21.1	
0.1nm,0.6s							
YESI	**Yesilovacik-Me**	**1.54**	**66**	Pn	**Pn**	**01 42 47.5**	**+0.6**
TISA	**Tisan-Mersin**	**1.55**	**67**	Pn	**Pb**	**01 42 48.4**	**-0.1**
KARG	**Kargicak-Mersi**	**1.59**	**66**	Pn	**Pb**	**01 42 48.9**	**-0.3**
KEBE	**Keben-Mersin**	**1.70**	**59**	Pn	**Pb**	**01 42 50.5**	**-0.6**
SILI	**Silifke-Mersin**	**1.81**	**64**	Pn	**Pb**	**01 42 52.1**	**-0.9**
SEYD	**Seydisehir-KON**	**1.83**	**358**	Pn	**Pn**	**01 42 52.2**	**+1.2**
PARAL	**Paralimni**	**1.83**	**108**	P	**Pg**	**01 42 55.5**	**-0.1**
PARAL				S	**Sg**	**01 43 22.5**	**+3.1**
PARAL				AML	AML	01 43 28.1	
0.2nm,0.6s							
PARAL				AML	AML	01 43 35.4	
0.3nm,0.7s							
KKBE	**Karaman, Kazim**	**1.84**	**26**	P	**Pb**	**01 42 53.0**	**-0.5**
KORT	**Korkueli**	**1.90**	**319**	Pn	**Pn**	**01 42 54.8**	**+2.8**
KORT	**Korkueli**	**1.90**	**319**	P	**Pn**	**01 42 54.9**	**+2.8**
KORT				S	**Sg**	**01 43 21.3**	**-0.3**
KRMN	**Karaman**	**1.94**	**34**	Pn	**Pn**	**01 42 53.9**	**+1.4**
AKAS	**Kas**	**1.98**	**290**	Pn	**Pn**	**01 42 56.6**	**+3.4**
AKAS	**Kas**	**1.98**	**290**	P	**Pn**	**01 42 53.8**	**+0.6**
ELL	**Elmali**	**2.00**	**306**	Pn	**Pn**	**01 42 56.1**	**+2.7**
KIZK	**Mersin**	**2.02**	**63**	Pn	**Pn**	**01 42 55.2**	**+1.6**
KIZK	**Mersin**	**2.02**	**63**	P	**Pb**	**01 42 56.3**	**-0.3**
KNIK	**Mula-Seydike**	**2.28**	**305**	P	**Pn**	**01 42 57.0**	**-0.2**
KNIK				S	**Sn**	**01 43 20.0**	**-4.9**
IZZE	**Mula-Seydike**	**2.34**	**292**	P	Pn	01 42 54.9	-3.1
KONT	**Konya--Tatoy**	**2.40**	**9**	Pn	**Pn**	**01 43 00.9**	**+2.2**
KONT	**Konya--Tatoy**	**2.40**	**9**	P	**Pn**	**01 43 00.4**	**+1.6**
MERS	**Mersin**	**2.48**	**58**	Pn	**Pn**	**01 43 01.6**	**+1.7**
GOLH	**Golhisar**	**2.52**	**312**	P	**Pn**	**01 43 03.6**	**+3.1**
DOGA	**KONYA_Doganhis**	**2.54**	**356**	P	**Pn**	**01 43 02.8**	**+2.0**
KERG	**Konya-Eregli**	**2.56**	**43**	P	**Pb**	**01 43 04.0**	**-1.9**
BAGO	**Egridir - ISPA**	**2.58**	**340**	P	**Pn**	**01 43 04.3**	**+3.0**
CAEL	**Denizli, Camel**	**2.60**	**307**	P	**Pb**	**01 43 06.2**	**-0.4**
LADK	**Ladik-KONYA**	**2.65**	**8**	Pn	**Pn**	**01 43 04.0**	**+1.7**
YESY	**Yesilyurt**	**2.65**	**33**	Pn	**Pn**	**01 43 04.0**	**+1.7**
SABU	**Mula-Dalaman**	**2.69**	**299**	P	**Pn**	**01 43 00.2**	**-2.6**
YVAC	**Isparta, Yalva**	**2.75**	**349**	P	**Pn**	**01 43 04.3**	**+0.7**
ALIN	**Konya, Altinte**	**2.83**	**16**	P	**Pn**	**01 43 07.1**	**+2.3**
INCE	**Denizli-Bozkur**	**2.84**	**319**	P	**Pn**	**01 43 05.4**	**+0.5**
GULE	**Gulek**	**2.87**	**53**	P	**Pb**	**01 43 09.2**	**-1.9**
DNZT	**Denizli-Tavas-**	**2.88**	**307**	P	**Pn**	**01 43 04.0**	**-1.5**
AFYN	**Afyon-Dinar-K**	**2.92**	**338**	P	**Pn**	**01 43 05.4**	**-0.7**
KDHN	**Kadinhani**	**2.95**	**3**	P	**Pn**	**01 43 07.4**	**+1.0**
KZIL	**AFYON_Kizioren**	**3.03**	**333**	P	**Pn**	**01 43 09.1**	**+1.5**
KARA	**Karaisali**	**3.04**	**55**	Pn	**Pn**	**01 43 09.6**	**+2.0**
UCKU	**Afyonkarahisar**	**3.08**	**353**	P	**Pn**	**01 43 09.5**	**+1.2**
CHBY	**Cihanbeyli**	**3.10**	**14**	Pn	**Pn**	**01 43 10.9**	**+2.4**
CBEY	**Konya-Cihanbey**	**3.19**	**12**	P	**Pn**	**01 43 12.6**	**+2.9**
CMRD	**Camardi-Nigde**	**3.24**	**49**	Pn	**Pn**	**01 43 12.6**	**+2.2**
CEYT	**Ceyhan**	**3.42**	**64**	Pn	**Pn**	**01 43 14.1**	**+1.4**
TAHT	**Tahtakopru-Hat**	**3.56**	**76**	Pn	**Pn**	**01 43 16.5**	**+1.8**
HNTI	**Hanita**	**3.67**	**132**	P	**Pn**	**01 43 15.8**	**-0.5**
HNTI	**Hanita**	**3.67**	**132**	S	**Sn**	**01 43 58.6**	**-0.4**
MMC7	**Mount Meron ar**	**3.84**	**130**	P	**Pn**	**01 43 18.6**	**-0.1**
MMA0B	**Mount Meron ar**	**3.85**	**130**	P	**Pn**	**01 43 18.8**	**0.0**
MMA0B	**Mount Meron ar**	**3.85**	**130**	S	**Sn**	**01 44 03.7**	**-0.1**
GEM	**Giv'at Ha'Em**	**3.90**	**126**	P	**Pn**	**01 43 19.4**	**+0.1**
GEM	**Giv'at Ha'Em**	**3.90**	**126**	S	**Sn**	**01 44 04.7**	**0.0**
NATI	**Neve Ativ**	**3.91**	**125**	P	**Pn**	**01 43 19.7**	**+0.1**
NATI	**Neve Ativ**	**3.91**	**125**	S	**Sn**	**01 44 04.9**	**-0.2**
KSHT	**Keshet**	**4.13**	**128**	P	**Pn**	**01 43 22.4**	**-0.3**
KSHT	**Keshet**	**4.13**	**128**	S	**Sn**	**01 44 10.7**	**+0.1**
SALP	**Salfit**	**4.43**	**141**	P	**Pn**	**01 43 25.9**	**-0.9**
SALP	**Salfit**	**4.43**	**141**	S	**Sn**	**01 44 16.8**	**-1.2**
UJAP	**Al Uja**	**4.67**	**140**	P	**Pn**	**01 43 29.2**	**-0.7**
UJAP	**Al Uja**	**4.67**	**140**	S	**Sn**	**01 44 22.6**	**-1.0**
DSI	**Dead Sea**	**4.93**	**143**	P	**Pn**	**01 43 32.6**	**-1.0**
DSI	**Dead Sea**	**4.93**	**143**	S	**Sn**	**01 44 28.5**	**-1.8**
KZIT	**Kziot**	**5.10**	**155**	P	**Pn**	**01 43 34.2**	**-1.6**
KZIT	**Kziot**	**5.10**	**155**	S	**Sn**	**01 44 32.2**	**-2.1**
MSBI	**Mazada**	**5.13**	**145**	P	**Pn**	**01 43 35.3**	**-1.0**
MSBI	**Mazada**	**5.13**	**145**	S	**Sn**	**01 44 33.3**	**-1.9**
GHAJ	**Ghor Haditha**	**5.24**	**143**	P	**Pn**	**01 43 37.4**	**-0.4**
GHAJ	**Ghor Haditha**	**5.24**	**143**	S	**Sn**	**01 44 36.8**	**-1.0**
RMNI	**Mount Ramon**	**5.51**	**153**	P	**Pn**	**01 43 39.9**	**-1.7**
RMNI	**Mount Ramon**	**5.51**	**153**	S	**Sn**	**01 44 42.6**	**-1.9**
PRNI	**Paran**	**5.82**	**153**	P	**Pn**	**01 43 44.9**	**-0.9**
PRNI	**Paran**	**5.82**	**153**	S	**Sn**	**01 44 49.9**	**-2.2**
HRFI	**Mount Harif**	**6.12**	**154**	P	**Pn**	**01 43 48.6**	**-1.2**
HRFI	**Mount Harif**	**6.12**	**154**	S	**Sn**	**01 44 56.6**	**-2.8**
MBRI	**Mt Berech**	**6.29**	**155**	P	**Pn**	**01 43 51.6**	**-0.8**
MBRI	**Mt Berech**	**6.29**	**155**	S	**Sn**	**01 45 01.8**	**-2.1**
EIL	**Elat**	**6.42**	**156**	P	**Pn**	**01 43 52.8**	**-1.2**
EIL	**Elat**	**6.42**	**156**	S	**Sn**	**01 45 03.9**	**-3.0**

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*IDC **30** 01:49:28.5±0.6,2°.63S×138°.32E,h0km,mb4.5/15, mbtmp4.5/19,ML4.4/4,MS3.8/28,Error ellipse: s-maj=22.1km s-min=13.1km az=79.0*
*NEIC **30** 01:49:32.0±1.8,2°.70S±0°.06×138°.31E±0°.03,h22km±4km, mb4.9/60,Error ellipse: s-maj=9.9km s-min=3.4km az=161.0*
*DJA **30** 01:49:31.6±0.8,3°S±4°×13°8E±°,h16km±8km,M4.8/25, mb5.0/25,mB5.3/12,MLv4.9/13,Mw(mB)4.7/12, MwMwp4.8/1,Mwp5.1/1*
ISC 30 01:49:29.5±0.3,**2.74S**±0°.04×**138°.39E**±0°.04,**h10**km,**n164**,
σ1°**61**/143,**mb4.9**/50,**MS3.9**/35,**2C-2D**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.81**	**23**	P	**Pg**	**01 49 43.2**	**-2.0**
GENI	**Genyem**	**1.78**	**85**	P	**Pg**	**01 50 03.3**	**-0.4**
GENI	**Genyem**	**1.78**	**85**	P	**Pb**	**01 50 01.9**	**-0.3**
SRPI	**Serui, Papua**	**2.32**	**292**	P	**Pn**	**01 50 08.3**	**+0.6**
SRPI				S	**Sn**	**01 50 37.2**	**+0.9**
JAY	**Jayapura**	**2.32**	**84**	Pn	**Pn**	**01 50 09.3**	**+1.5**
32nm,0.3s,baz=288,slow=7.3,SNR=100							
JAY				Sn	**Sg**	**01 50 43.7**	**-0.5**
25nm,0.3s,baz=100,slow=19,SNR=5.8							
JAY				LR	LR	01 50 57.7	
comp=Z,2μm,21.1s,baz=284,slow=37							
315nm,0.7s							
JAY	**Jayapura**	**2.32**	**84**	P	**Pn**	**01 50 09.3**	**+1.5**
BAKI	**Biak**	**2.75**	**304**	P	**Pn**	**01 50 15.3**	**+1.6**
RKPI	**Ransiki, Papua**	**4.38**	**286**	P	**Pn**	**01 50 37.1**	**+0.9**
KMPI	**Kaimana, Papua**	**4.77**	**259**	P	**Pn**	**01 50 42.7**	**+1.3**
MMPI	**Merauke**	**6.02**	**161**	P	Pn	01 51 04.6	+5.9
FAKI

0.4nm2μm125nm,0.8s
SWI Sorong 7.37 285 P **Pn 01 51 18.7 +1.5**
0.3nm1μm93nm,0.8s
BNDI Bandanaira 8.65 258 P Pn 01 51 40.1 +5.3
122nm,0.9s
SAUI Saumlaki 8.77 233 P **Pn 01 51 40.2 +3.8**
MANU Manus Island 8.99 86 Pn **Pn 01 51 41.5 +2.0**
MSAI Masohi 9.47 266 P **Pn 01 51 48.8 +2.8**
PMG Port Moresby 10.94 126 Pn 01 52 09.5 +3.3
PMG Port Moresby 10.94 128 Pn Pn 01 52 13.0 +6.8
1.9nm,0.3s,baz=281,slow=9.7,SNR=4.6
PMG LR LR 01 58 01.3
comp=Z,1μm,19.7s,baz=318,slow=46
NLAI Namlea 11.29 267 P **Pn 01 52 13.2 +2.3**
2μm143nm,1.0s
COEN Coen 12.10 157 Pn 01 52 23.7 +1.6
COEN Coen 12.10 157 P **Pn 01 52 24.3 +2.2**
MTN Manton Dam 12.34 215 Pn 01 52 25.4 +0.1
SANI Sanana 12.41 273 P **Pn 01 52 26.9 +0.6**
SANI Sanana 12.41 273 P **Pn 01 52 25.4 -0.9**
668nm58nm,0.7s
SOEI Soe 15.66 243 Pn **Pn 01 53 10.4 -0.2**
SOEI IAmb IAmb 01 53 18.7
comp=Z,91nm,0.8s
SOEI Soe 15.66 243 P **P 01 53 13.7 -1.0**
comp=Z,1μmcomp=Z,146nm,0.9s
LUWI Luwuk 15.70 276 Pn **Pn 01 53 10.5 -0.4**
LUWI IAmb IAmb 01 53 18.3
comp=Z,152nm,1.1s
LUWI Luwuk 15.70 276 P **Pn 01 53 11.2 +0.2**
comp=Z,2μmcomp=Z,124nm,1.3s
KDI Kendari 15.79 265 P **Pn 01 53 12.7 +0.6**
KNRA Kununurra 15.97 216 Pn **Pn 01 53 13.3 -1.1**
KNRA IAmb IAmb 01 53 21.7
comp=Z,44nm,0.6s
BBSI Bau Bau 16.01 260 P **P 01 53 18.1 -0.4**
comp=Z,103nm,1.2s
BATI Baumata 16.40 242 Pn **Pn 01 53 20.4 +0.5**
comp=Z,5.8nm,0.3s,baz=212,slow=19,SNR=3.7
comp=Z,37nm,0.5s
BATI Baumata 16.40 242 P **P 01 53 23.5 +0.7**
MRSI Marisa 16.75 281 P **P 01 53 26.9 +0.2**
comp=Z,58nm,0.7s
WB0 Warramunga Arr 17.36 193 Pn **Pn 01 53 31.8 -0.3**
GUMO Guam 17.45 21 P 01 53 34.2 -0.2
WR8 Warramunga Arr 17.52 192 Pn **Pn 01 53 33.1 -1.0**
WRAB Tennant Creek 17.53 193 Pn **Pn 01 53 33.8 -0.4**
WRAB Tennant Creek 17.53 193 P **Pn 01 53 34.6 +0.4**
WRA Warramunga Arr 17.55 193 Pn 01 53 33.4 -1.0
WRA Warramunga Arr 17.55 193 P **Pn 01 53 34.3 -0.1**
comp=Z,1.6nm,0.3s,baz=6.3,slow=13,SNR=29
WRA S **Sn 01 56 49.7 -0.3**
comp=Z,9.6nm,1.1s,baz=10,slow=21,SNR=5.3
comp=Z,6.7nm,0.6s
QIS Mount Isa 17.75 176 P **P 01 53 38.8 +1.1**
TOLI2 Tolitoli 18.02 282 Pn 01 53 39.9 -0.3
BSSI Bau Bau, Buton 18.16 259 P **P 01 53 44.3 +2.0**
comp=Z,66nm,0.8s
BNSI Bone 18.32 264 P **P 01 53 47.0 +2.9**
comp=Z,1μmcomp=Z,2μmcomp=Z,52nm,1.0s
BKSI Bulukumba 18.40 261 P **Pn 01 53 46.5 +1.6**
FITZ Fitzroy Crossi 19.73 218 P **P 01 53 58.6 -0.8**
FITZ Fitzroy Crossi 19.73 218 P **P 01 53 59.9 +0.5**
comp=Z,0.5nm,0.3s,baz=44,slow=11,SNR=18
FITZ S **S 01 57 32.8 -9.2**
comp=Z,12nm,0.8s,baz=189,slow=10,SNR=4.5
comp=Z,9.9nm,0.8s
WBSI Waikabubak, Su 20.08 249 P Pn 01 54 05.4 +0.2
comp=Z,64nm,0.8s
AS31 Alice Springs 21.25 191 P **P 01 54 15.2 -0.8**
ASAR Alice Springs 21.25 191 P **P 01 54 16.3 +0.4**
ASAR Alice Springs 21.25 191 P **P 01 54 16.8 +0.8**
comp=Z,20nm,0.8s,baz=23,slow=10,SNR=154
ASAR S **S 01 58 08.3 -3.9**
comp=Z,4.3nm,0.7s,baz=16,slow=27,SNR=4.5
comp=Z,20nm,0.8s
PLAI Plampang 21.37 253 P **P 01 54 18.1 +0.8**
PLAI Plampang 21.37 253 P **P 01 54 17.4 +0.1**
MYLDM Lahad Datu 21.37 292 P **P 01 54 17.2 -0.1**
MYLDM IAmb IAmb 01 54 34.2
comp=Z,66nm,1.2s
HNR Honiara 22.43 108 LR LR 02 04 27.3
comp=Z,212nm,18.6s,baz=287,slow=40
INKA Innaminka 24.96 175 P **P 01 54 53.5 +0.3**
MBWA Marble Bar 25.79 223 P **P 01 55 00.4 -0.5**
STKA Stephens Creek 29.14 174 P **P 01 55 30.2 -0.6**
STKA IAmb IAmb 01 56 20.5
comp=Z,24nm,0.8s
STKA Stephens Creek 29.14 174 P **P 01 55 31.6 +0.8**
comp=Z,1.6nm,0.6s,baz=338,slow=9.7,SNR=3.2
STKA LR LR 02 08 14.6
comp=Z,245nm,18.2s,baz=341,slow=38
comp=Z,1.6nm,0.6s
FORT Forrest 29.55 198 P **P 01 55 33.8 -0.6**
FORT IAmb IAmb 01 56 19.1
comp=Z,14nm,0.8s
JCJ Chichijima 29.89 7 LR LR 02 06 24.0
comp=Z,208nm,19.7s,baz=195,slow=34
JOW Kunigami 30.98 342 LR LR 02 05 54.5
comp=Z,276nm,21.4s,baz=100,slow=32
DZM Mont Dzumac 33.34 127 LR LR 02 10 14.2
comp=Z,267nm,21.3s,baz=288,slow=37
MORW Morawa 33.72 217 P **P 01 56 11.4 +0.2**
QIZ Qiongzhong 35.45 309 P **P 01 56 26.3 +0.1**
QIZ S **S 02 02 03.0 +1.5**
QIZ LR LR
comp=Z,520nm,12.0s
NWAO Narrogin (SRO) 35.98 211 LR LR 02 12 41.4
comp=Z,676nm,19.5s,baz=340,slow=39
IPM Ipoh 38.02 281 P **P 01 56 48.0 -0.3**
KULM Kulim 38.54 282 P **P 01 56 52.3 -0.4**
MJAR Matsushiro Arr 39.08 360 LR LR 02 11 07.4
comp=Z,177nm,20.6s,baz=172,slow=33
NJ2 Nanjing 39.26 333 *e*P **P 01 56 58.5 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 Nanjing 39.26 333 *e*P **PKiKP 02 06 23.0 +2.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
RPSI Rantau Prapat 39.82 277 P **P 01 57 02.4 -1.0**
RPSI IAmb IAmb 01 57 04.3
comp=Z,30nm,1.2s
PSI Prapat 39.83 278 LR LR 02 14 47.2
comp=Z,75nm,20.5s,baz=116,slow=38
WHN Wuhan 40.27 327 P **P 01 57 03.3 -3.6**
KSRS Korea Array 41.16 347 P **P 01 57 13.9 -0.1**
comp=Z,3.9nm,0.8s,baz=162,slow=8.9,SNR=11
comp=Z,3.9nm,0.8s
CM31 Chiang Mai Arr 44.18 300 P **P 01 57 39.2 +0.2**
CM31 IAmb IAmb 01 57 41.2
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 44.18 300 P **P 01 57 38.1 -0.8**
CMAR Chiang Mai Arr 44.18 300 P **P 01 57 39.0 +0.1**
comp=Z,1.9nm,0.3s,baz=121,slow=6.0,SNR=21
CMAR LR LR 02 17 51.4
comp=Z,73nm,18.1s,baz=120,slow=39
comp=Z,1.9nm,0.3s
KMI Kunming 44.30 311 P **P 01 57 41.5 +1.4**
KMI pmax pmax
comp=Z,15nm,1.0s
KMI LR LR
comp=Z,140nm,19.4s
CHTO Chiang Mai 44.33 301 P **P 01 57 39.2 -0.9**
LYN LuoYang 44.38 329 P **P 01 57 40.5 +0.2**
LYN S **S 02 04 12.5 -2.5**
LYN pmax pmax
comp=Z,43nm,1.0s
HNS HongShan 45.59 333 ⇓P **P 01 57 49.5 -0.4**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=N,220nm,15.7s
HNS LR LR
comp=E,250nm,10.6s
HNS LR LR
comp=Z,200nm,15.2s
PZH PanZhiHua 45.81 312 P P 01 57 58.5 +6.5
XAN Xi'an 45.92 325 P **P 01 57 51.5 -1.1**
XAN pmax pmax
comp=Z,35nm,1.2s
CD2 Chengdu 46.99 318 P **P 01 58 00.5 -0.6**
CD2 pmax pmax
comp=Z,30nm,1.1s
BJI Beijing 47.20 337 P **P 01 58 01.8 -0.7**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=N,88nm,18.5s
BJI LR LR
comp=E,62nm,18.5s
BJI LR LR
comp=Z,120nm,17.7s
BNX BinXian 49.25 350 ⇓P **P 01 58 17.8 -0.4**
BNX pmax pmax
comp=Z,18nm,0.9s
HHC Hu-ho-hao-te 49.82 333 *e*P **P 01 58 26.8 +4.0**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=N,130nm,17.7s
HHC LR LR
comp=E,120nm,18.5s
HHC LR LR
comp=Z,200nm,19.3s
TCW Tory Channel 50.07 145 P **P 01 58 25.2 +0.6**
RTZ Ruatahuna 50.12 140 P **P 01 58 26.5 +1.3**
BKZ Black Stump Fm 50.14 141 P **P 01 58 26.6 +1.3**
BKZ IAmb IAmb 01 59 41.3
comp=Z,31nm,1.5s
LZH Lanzhou 50.32 323 *e*P **P 01 58 27.8 +1.0**
LZH pP sP 01 58 35.5 +4.2
LZH pmax pmax
comp=Z,35nm,1.2s
LZH LR LR
comp=N,220nm,14.1s
LZH LR LR
comp=E,180nm,14.8s
LZH LR LR
comp=Z,250nm,13.7s
LZDM Lanzhou Array 50.32 323 P **P 01 58 27.8 +0.8**
comp=Z,0.9nm,0.3s,baz=173,slow=13,SNR=4.9
LZDM LR LR 02 17 43.6
comp=Z,98nm,21.7s,baz=180,slow=34
comp=Z,0.9nm,0.3s
BTO Baotou 50.33 332 *e*P **P 01 58 30.0 +3.3**
BTO S **S 02 05 44.5 +4.7**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,230nm,4.6s
BTO LR LR
comp=N,460nm,17.9s
BTO LR LR
comp=E,250nm,10.8s
BTO LR LR
comp=Z,390nm,11.3s
SHL Shillong 53.09 305 P **P 01 58 46.8 -0.9**
SHL IAmb IAmb 01 58 48.8
comp=Z,26nm,1.2s
HEH HeiHe 53.63 351 *e*P **P 01 58 50.5 -0.5**
HILR Hailar Array B 54.53 345 P **P 01 58 57.9 +0.3**
comp=Z,2.1nm,0.5s,baz=151,slow=13,SNR=5.2
comp=Z,2.1nm,0.5s
GTA Gaotai 54.91 324 *e*P **P 01 59 01.8 +1.1**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA LR LR
comp=N,100nm,14.5s
GTA LR LR
comp=E,110nm,13.5s
GTA LR LR
comp=Z,180nm,15.3s
ULN Ulaanbaatar 57.36 335 P **P 01 59 18.7 +0.5**
ULN IAmb IAmb 01 59 20.5
comp=Z,12nm,1.3s
SONM Songino Array 57.62 335 P **P 01 59 19.3 -0.5**
SONM IAmb IAmb 01 59 21.0
comp=Z,17nm,1.8s
SONM Songino Array 57.62 335 P **P 01 59 20.1 +0.2**
comp=Z,3.3nm,1.0s,baz=148,slow=6.1,SNR=8.0
comp=Z,3.3nm,1.0s
PETK Petropavlovsk- 57.97 14 P **P 01 59 21.8 -0.3**
PETK Petropavlovsk- 57.97 14 P **P 01 59 22.4 +0.3**
comp=Z,4.1nm,1.0s,baz=160,slow=4.7,SNR=4.5
PETK LR LR 02 22 33.1
comp=Z,60nm,20.9s,baz=185,slow=34
comp=Z,4.1nm,1.0s
EVN Everest 58.20 305 P **P 01 59 24.1 -0.8**
EVN IAmb IAmb 01 59 26.1
comp=Z,13nm,1.1s
PALK Pallekele 58.42 280 LR LR 02 26 37.9
comp=Z,48nm,18.7s,baz=103,slow=38
MA2 Magadan 62.90 7 LR LR 02 25 42.2
comp=Z,33nm,20.4s,baz=174,slow=35
SHEM Shemya Is, Ala 62.90 23 LR LR 02 22 47.0
comp=Z,125nm,21.1s,baz=278,slow=32
YAK Yakutsk 64.94 355 P **P 02 00 08.1 -0.9**
YAK Yakutsk 64.94 355 LR LR 02 25 10.1
comp=Z,124nm,21.5s,baz=173,slow=33
SEY Seymchan 66.35 7 LR LR 02 30 45.5
comp=Z,50nm,18.9s,baz=208,slow=37
MKAR Makanchi Array 69.62 323 P **P 02 00 39.1 0.0**
MKAR Makanchi Array 69.62 323 P **P 02 00 38.8 -0.3**
comp=Z,16nm,1.0s,baz=114,slow=7.5,SNR=59
MKAR LR LR 02 32 52.9
comp=Z,50nm,19.8s,baz=112,slow=38
comp=Z,16nm,1.0s
MAKZ Makanchi 69.82 322 P **P 02 00 40.1 -0.2**
TARG Taragay, Kyrgy 70.39 316 P **P 02 00 44.9 +0.5**
TARG IAmb IAmb 02 00 55.3
comp=Z,7.7nm,1.0s
KSH Kashi 70.88 313 P **P 02 00 47.3 +0.2**
ZAA0 Zalesovo Array 71.81 330 P **P 02 00 50.3 -1.9**
ZALV Zalesovo Beam 71.81 330 P **P 02 00 50.6 -1.6**
comp=Z,4.3nm,0.9s,baz=116,slow=6.8,SNR=12
ZALV LR LR 02 33 41.0
comp=Z,33nm,18.6s,baz=116,slow=37
comp=Z,4.3nm,0.9s
PPT2 Papeete2 72.05 107 *e*S **S 02 10 12.9 -4.0**
comp=Z,194nm,24.8s
PPT2 *e*SS **SS 02 14 51.4 -2.7**
comp=Z,202nm,26.8s
PPT2 *e*LR LR 02 22 57.5
comp=Z,65nm,22.8s
PPT2 *e*LR LR 02 23 01.9
comp=Z,128nm,29.0s
AAK Ala-Archa 73.01 316 P **P 02 00 58.6 -1.3**
AAK IAmb IAmb 02 01 01.2
comp=Z,14nm,1.5s
KURK Kurchatov 73.56 325 P **P 02 01 01.2 -1.5**
KURK IAmb IAmb 02 01 03.2
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 73.57 325 P **P 02 01 01.9 -0.9**
comp=Z,5.8nm,1.0s,baz=116,slow=5.8,SNR=25
comp=Z,5.8nm,1.0s
ARSB Arslanbob 73.63 314 P **P 02 01 03.4 -0.2**
ARSB IAmb IAmb 02 01 04.8
comp=Z,20nm,1.4s
TIXI Tiksi 74.52 357 P **P 02 01 06.6 -1.3**
TIXI Tiksi 74.52 357 LR LR 02 31 05.6
comp=Z,95nm,21.6s,baz=199,slow=34
CHGR Chuyangaron 75.66 311 P **P 02 01 13.5 -1.8**
CHGR IAmb IAmb 02 01 23.5
comp=Z,14nm,1.0s
VNDA Vanda 75.77 175 P **P 02 01 15.5 +0.4**
VNDA Vanda 75.77 175 P **P 02 01 16.3 +1.2**
comp=Z,4.6nm,0.7s,baz=357,slow=2.6,SNR=7.6
comp=Z,4.6nm,0.7s
KK31 Karatay Array 75.93 316 P **P 02 01 15.8 -0.9**
KK31 IAmb IAmb 02 01 33.5
comp=Z,15nm,1.3s
KKAR Karatay Array 75.93 316 P **P 02 01 15.5 -1.1**
M14K Bethel 78.09 26 P **P 02 01 30.0 +1.6**
BVAR Borovoye Array 79.16 325 P **P 02 01 34.6 +0.1**
comp=Z,3.6nm,0.5s,baz=114,slow=6.8,SNR=24
comp=Z,3.6nm,0.5s
TAOE Nuku Hiva Isla 81.15 98 *e*LR LR 02 27 07.9
comp=Z,140nm,22.6s
KDAK Kodiak Island 81.29 30 LR LR 02 34 33.1
comp=Z,194nm,19.3s,baz=240,slow=33
MAW Mawson 81.97 202 LR LR 02 36 40.8
comp=Z,77nm,19.6s,baz=57,slow=34
J20K Nowinta River 82.82 24 IAmb IAmb 02 01 56.0
comp=Z,30nm,1.8s
RND Reindeer 84.79 26 P **P 02 02 02.9 -1.0**
RND IAmb IAmb 02 02 14.9
comp=Z,7.4nm,1.0s
I23K Minto, Yukon-K 85.09 24 IAmb IAmb 02 02 11.9
comp=Z,17nm,1.5s
E22K Anaktuvuk Pass 85.12 21 P **P 02 02 05.8 +0.3**
E22K IAmb IAmb 02 02 10.7
comp=Z,20nm,1.5s
CCB Clear Creek Bu 85.58 24 P **P 02 02 06.3 -1.5**
CCB IAmb IAmb 02 02 19.0
comp=Z,10nm,1.2s
ILAR Eielson Array 86.00 24 P **P 02 02 08.3 -1.6**
comp=Z,1.4nm,0.7s,baz=261,slow=4.7,SNR=15
ILAR LR LR 02 35 26.3
comp=Z,58nm,21.9s,baz=233,slow=32
comp=Z,1.4nm,0.7s
ARTI Arti 86.74 327 LR LR 02 42 41.1
comp=Z,53nm,20.1s,baz=103,slow=37
DOT Dot Lake 86.93 26 P **P 02 02 14.3 -0.2**
DOT IAmb IAmb 02 02 59.9
comp=Z,26nm,2.0s
QSPA South Pole Qui 87.20 180 P **P 02 02 18.1 +2.2**
QSPA IAmb IAmb 02 02 19.9
comp=Z,7.9nm,0.9s
QSPA South Pole Qui 87.20 180 P **P 02 02 19.1 +3.2**
comp=Z,6.0nm,0.8s,baz=331,slow=1.6,SNR=17
comp=Z,6.0nm,0.8s
J26L Joseph Creek 87.32 25 IAmb IAmb 02 02 17.4
comp=Z,10nm,1.3s
BARN Barnard Glacie 87.52 29 P **P 02 02 18.0 +0.4**
BMAR Burnt Mountain 87.55 22 P **P 02 02 18.5 +1.0**
F26K Sheenjek River 87.78 22 IAmb IAmb 02 02 21.3
comp=Z,13nm,1.2s
BCAR Beaver Creek A 87.82 27 P **P 02 02 18.4 -0.4**
I28M Miner Creek 89.01 24 P **P 02 02 24.4 -0.1**
DAWY Dawson 89.04 26 P **P 02 02 24.4 -0.2**
DAWY IAmb IAmb 02 02 37.7
comp=Z,12nm,1.3s
HYT Haines Junctio 89.50 29 P **P 02 02 26.8 -0.1**
SYO Syowa Base 90.61 201⇑*e*P **P 02 02 31.2 -0.6**
KIRV Kirov 91.78 328 LR LR 02 45 38.9
comp=Z,65nm,20.5s,baz=78,slow=37
DLBC Dease Lake 93.15 32 LR LR 02 42 12.1
comp=Z,731nm,18.6s,baz=279,slow=34
BBB Bella Bella 94.30 38 LR LR 02 39 28.9
comp=Z,95nm,19.5s,baz=230,slow=32
YBH Yreka Blue Hor 98.46 48 LR LR 02 40 30.2
comp=Z,8.0nm,20.0s,baz=287,slow=31
TROLL Troll, Antarti 100.23 193 ⇑P **Pdif 02 03 16.6 +0.8**
comp=Z,62nm,0.8s
CPUP Villa Florida 147.34 153 PKPbc 02 09 14.0 -0.2
CPUP Villa Florida 147.34 153 PKPbc **PKPab 02 09 15.8 -0.1**
comp=Z,0.9nm,0.8s,baz=122,slow=1.4,SNR=7.7
LPAZ La Paz 147.68 127 PKPbc **PKPdf 02 09 14.3 +0.9**
LPAZ La Paz 147.68 127 PKPbc **PKPbc 02 09 16.6 +0.4**
comp=Z,4.7nm,0.8s,baz=152,slow=3.3,SNR=14

MOS ***30*** *01:56:49.5±0.8, 27°.09N×54°.99E, h11km, mb4.6/14, Error ellipse: s-maj=8.3km s-min=5.4km az=107.2*
IDC ***30*** *01:56:50.0±0.7, 27°.18N×55°.10E, h0km, mb4.1/21, mbtmp4.1/24, ML3.4/4, MS3.1/1, Error ellipse: s-maj=16.0km s-min=14.1km az=159.0*
DSN ***30*** *01:56:51.6±1.3, 27°.36N×55°.06E, h15km, ML3.9/17, Error ellipse: s-maj=15.7km s-min=3.6km az=20.0*
OMAN ***30*** *01:56:52.9±1.6, 27°.20N×55°.04E, h10km, ml4.0/18, Error ellipse: s-maj=21.1km s-min=4.8km az=18.0*
NEIC ***30*** *01:56:52.3±1.6, 27°.22N±0°.07×55°.03E±0°.08, h10km±1km, mb4.5/61, Error ellipse: s-maj=11.7km s-min=11.4km az=93.0*
TEH ***30*** *01:56:52.3, 27°.08N×55°.06E, h18km±25km*
THR ***30*** *01:56:54.2±0.0, 27°.26N×55°.15E, h14km±33km, ML4.1*
ISC 30 01:56:52.8±1.1**, 27°.09N**±0°.03×**55°.05E**±0°.03**, h18**km±5km**,**
n282, σ1$**24**/293**, mb4.4**/72**, MS3.9**/4**, 7C-8D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.83**	**314**	Pg	**Pb**	**01 57 08.0**	**-0.9**
BNDS	**Bandar-Abbas**	**1.04**	**73**	*e*Pg	**Pb**	**01 57 11.7**	**-0.8**
BNDS				IAML		01 57 35.5	
	comp=Z,2μm,1.0s						
GENO	**Geno**	**1.05**	**72**	Pg	**Pb**	**01 57 11.7**	**-0.8**
IBND	**Bandar-abas**	**1.37**	**75**	Pg	**Pb**	**01 57 18.0**	**0.0**
IBND				Sg	**Sg**	**01 57 38.0**	**+0.6**
SHME	**Shamm**	**1.42**	**136**	P	**Pg**	**01 57 19.4**	**-0.9**
	SNR=20						
SHME				S	**Sg**	**01 57 40.8**	**+1.9**
SHME	**Shamm**	**1.42**	**136**	*e*P	**Pg**	**01 57 19.4**	**-0.9**
	SNR=34						
SHME				S	**Sg**	**01 57 40.2**	**+1.3**
BANOM	**Banah**	**1.61**	**136**	P	**Pg**	**01 57 22.3**	**-1.6**
BANOM				P	**Pg**	**01 57 22.3**	**-1.6**
BANOM				S	**Sg**	**01 57 45.8**	**+0.8**
BANOM	**Banah**	**1.61**	**136**	*e*P	**Pg**	**01 57 22.4**	**-1.6**
	SNR=73						
BANOM				S	**Sg**	**01 57 46.1**	**+1.1**
UMQ	**Umm Al-Quwin**	**1.65**	**160**	P	**Pg**	**01 57 25.0**	**+0.3**
UMQ	**Umm Al-Quwin**	**1.65**	**160**	*e*P	**Pg**	**01 57 24.5**	**-0.2**
	SNR=17						
LMD1	**Lamerd**	**1.70**	**279**	Pg	**Pg**	**01 57 24.6**	**-0.9**
LMD1	**Lamerd**	**1.70**	**279**	*e*Pn	**Pg**	**01 57 24.6**	**-0.9**
LMD1				*e*Sg	**Sg**	**01 57 51.3**	**+3.6**
LMD1				IAML		01 57 59.8	
	comp=Z,5μm,1.0s						
JHRM	**Jahrom**	**1.92**	**318**	Pn	**Pb**	**01 57 26.4**	**-1.0**
MASF	**Masafi**	**1.98**	**150**	P	**Pb**	**01 57 28.5**	**+0.1**
	SNR=22						
MSFE	**Esma-Masafi**	**1.99**	**150**	*e*P	**Pb**	**01 57 28.4**	**-0.1**
	SNR=22						
MDH	**Madha**	**2.11**	**148**	P	**Pb**	**01 57 29.8**	**-0.7**
	SNR=9.5						
MDH	**Madha**	**2.11**	**148**	*e*P	**Pb**	**01 57 29.8**	**-0.7**
	SNR=15						
NAZ	**Nazwa, Dubai**	**2.16**	**165**	P	**Pb**	**01 57 31.7**	**+0.2**
	SNR=21						
NAZ	**Nazwa, Dubai**	**2.16**	**165**	*e*P	**Pb**	**01 57 31.0**	**-0.4**
	SNR=35						
UOSS	**Minazif**	**2.37**	**154**		**Pn**	**01 57 32.1**	**+1.2**
UOSS	**Minazif**	**2.37**	**154**	P	**Pb**	**01 57 33.5**	**-1.5**
UOSS	**Minazif**	**2.37**	**154**	Pn	**Pb**	**01 57 33.5**	**-1.5**
UOSS	**Minazif**	**2.37**	**154**	*e*P	**Pb**	**01 57 33.2**	**-1.8**
	SNR=34						
FAQ	**Al Faqa, Dubai**	**2.38**	**168**	P	**Pb**	**01 57 34.5**	**-0.7**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**2.38**	**168**	*e*P	**Pb**	**01 57 34.7**	**-0.6**
	SNR=13						
HATD	**Hatta, Dubai**	**2.46**	**156**	P	**Pb**	**01 57 35.1**	**-1.3**
	SNR=13						
HATD	**Hatta, Dubai**	**2.46**	**156**	*e*P	**Pb**	**01 57 34.5**	**-2.0**
	SNR=22						
ASUD	**Al Ashush, Dub**	**2.46**	**174**	P	**Pb**	**01 57 36.3**	**-0.3**
	SNR=8.7						
ASUD	**Al Ashush, Dub**	**2.46**	**174**	*e*P	**Pb**	**01 57 35.6**	**-1.0**
	SNR=8.7						
KHNJ	**Kahnooj**	**2.51**	**69**	Pn	**Pn**	**01 57 33.6**	**+0.9**
AJN	**Ajban**	**2.52**	**181**	P	**Pb**	**01 57 36.7**	**-0.7**
	SNR=12						
AJN	**Ajban**	**2.52**	**181**	P	**Pb**	**01 57 35.8**	**-1.7**
ASHO	**Ashiyiah**	**2.56**	**159**	P	**Pb**	**01 57 36.6**	**-1.6**
	SNR=214						
ASHO	**Ashiyiah**	**2.56**	**159**	*e*P	**Pb**	**01 57 36.7**	**-1.6**
	SNR=47						
NGRK	**Negar Kerman**	**2.95**	**30**	Pn	**Pn**	**01 57 39.7**	**+0.6**
ALNE	**Al Ain**	**3.08**	**168**	P	**Pb**	**01 57 44.0**	**-3.1**
	SNR=8.8						
ALNE	**Al Ain**	**3.08**	**168**	*i* P	**Pb**	**01 57 44.1**	**-3.1**
	SNR=8.9						
SOHO	**SOHO**	**3.23**	**155**	P	**Pn**	**01 57 44.5**	**+1.8**
SOHO	**SOHO**	**3.23**	**155**	*i* P	**Pn**	**01 57 44.2**	**+1.6**
	SNR=15						
KRBR	**Kerman**	**3.25**	**27**	*e*Pn	**Pn**	**01 57 46.1**	**+2.9**
KRBR				IAML		01 58 47.3	
	comp=Z,300nm,1.0s						
SHI	**Shiraz**	**3.39**	**319**	Pn	**Pn**	**01 57 46.5**	**+1.6**
MZWR	**Madinat Zayed**	**3.48**	**198**	P	**Pb**	**01 57 49.4**	**-4.5**
KHGB	**Koh Gabri**	**3.51**	**21**	Pn	**Pn**	**01 57 48.3**	**+1.6**
CHMN	**Cheshme madani**	**3.53**	**38**	Pn	**Pn**	**01 57 48.5**	**+1.4**
DSBU	**Dashti - Bushe**	**3.59**	**292**	Pn	**Pn**	**01 57 49.5**	**+1.8**
KBAM	**BAM**	**3.63**	**55**	Pn	**Pn**	**01 57 49.9**	**+1.6**
GHWR	**Ruwais**	**3.68**	**213**	P	**Pn**	**01 57 51.6**	**+2.8**
SHMA	**Al-Shehemyia**	**3.86**	**252**	P	**Pn**	**01 57 54.2**	**+2.9**
KRM1	**Kerman Provinc**	**3.92**	**29**	Pn	**Pn**	**01 57 53.7**	**+1.3**
ARQ	**Araqi**	**3.97**	**160**	P	**Pn**	**01 57 55.5**	**+2.7**
HOQ	**Hoqain**	**4.05**	**149**	Pn	**Pn**	**01 57 54.2**	**+0.3**
ZRDN	**Zarand Kerman**	**4.08**	**18**	Pn	**Pn**	**01 57 55.8**	**+1.3**
TRNA	**Turayna**	**4.17**	**237**	P	**Pn**	**01 57 58.2**	**+2.6**
SLWR	**Sila**	**4.27**	**226**	P	**Pn**	**01 57 58.8**	**+1.9**
IMEH	**Mehriz**	**4.30**	**355**	Pn	**Pn**	**01 57 59.1**	**+1.5**
MZR	**Muzera**	**4.31**	**200**	*i* P	**Pn**	**01 57 59.8**	**+2.3**
	SNR=11						

UMZA	Um Al Zommool	4.36 179	P	Pn	01 58 00.9 +2.8
SMRA	Abu-Samra	4.46 239	P	Pn	01 58 02.3 +2.7
	SNR=7.3				
IBAF	Bafgh	4.51 6	Pn	Pn	01 58 01.1 +0.7
KLNJ	Kolanjah	4.94 323	Pn	Pn	01 58 08.0 +1.5
KLNJ	Kolanjah	4.94 323	*e*Pn	Pn	01 58 08.7 +2.2
KLNJ			IAML		01 59 18.3
	comp=Z,91nm,1.0s				
CHBR	Chabahar	5.10 106	Pn	Pn	01 58 09.9 +1.6
ICHK	Chekchek	5.17 354	Pn	Pn	01 58 10.7 +1.2
IRAM	Ramesheh	5.25 334	Pn	Pn	01 58 11.8 +1.3
YZKH	Yazd	5.30 356	*e*Pn	Pn	01 58 12.8 +1.6
YZKH			IAML		01 58 13.8
	comp=Z,130nm,1.0s				
IBRJ	Brojen	5.83 326	Pn	Pn	01 58 19.9 +1.3
IGAR	Gharneh	5.91 334	Pn	Pn	01 58 20.7 +1.1
NASN	Na'in	6.01 342	*e*Pn	Pn	01 58 21.8 +0.6
NASN			IAML		01 58 23.5
	comp=Z,72nm,1.0s				
BSRN	Basiran	6.02 35	*e*Pn	Pn	01 58 21.9 +0.8
BSRN			IAML		02 00 18.8
	comp=Z,40nm,1.0s				
TPRV	Parvadeh(Tabas	6.09 13	Pn	Pn	01 58 23.3 +1.3
ANAR	Anarak	6.19 350	Pn	Pn	01 58 24.2 +0.8
ZNGN	Zangjan	6.20 325	Pn	Pn	01 58 25.4 +1.6
IKOO	Kooshah	6.33 32	Pn	Pn	01 58 26.9 +1.4
ITEG	Tejag	6.62 28	Pn	Pn	01 58 30.8 +1.5
TKDS	Koohdasht(Taba	6.75 15	Pn	Pn	01 58 32.0 +1.0
TABS	Tabas	6.78 15	*i* P	Pn	01 58 33.2 +1.7
TABS			IAML		02 00 57.8
	comp=Z,41nm,1.0s				
IKLH	Kolahrood	6.90 335	Pn	Pn	01 58 33.9 +0.6
TNSJ	Nastanj	6.98 11	Pn	Pn	01 58 35.4 +1.1
QAMS	Qamsar	7.34 335	Pn	Pn	01 58 40.2 +0.8
ISFB	Sefidab	7.63 342	Pn	Pn	01 58 44.1 +0.9
SHRT	Shahrakht	7.95 33	*e*Pn	Pn	01 58 49.2 +1.7
SHRT			IAML		02 01 09.1
	comp=Z,14nm,1.0s				
KHMZ	Khomeyn	7.95 328	IAML		02 00 21.6
	comp=Z,63nm,1.0s				
TAPT	Tabas- Tapeh t	7.98 13	Pn	Pn	01 58 49.5 +1.5
GHVR	GHOM	8.04 337	*e*Pn	Pn	01 58 51.3 +2.5
GHVR			IAML		02 00 42.3
	comp=Z,40nm,1.0s				
IVRN	Varamin	8.38 341	Pn	Pn	01 58 54.2 +0.7
DOK	Doka	8.47 186	P	Pn	01 58 55.8 +1.1
IFIR	Firoozkooh	8.75 348	Pn	Pn	01 58 59.4 +0.7
IDMV	Damavand	8.85 344	Pn	Pn	01 59 00.8 +0.8
DAMV	Damavand	8.91 344	*e*Pn	Pn	01 59 01.8 +0.9
DAMV			IAML		01 59 03.2
	comp=Z,27nm,0.6s				
WHFO	Wadi Hawf	9.20 188	P	Pn	01 59 05.9 +1.2
RAYN	Ar Rayn	9.34 250	Pn	Pn	01 59 05.4 -1.2
RAYN	Ar Rayn	9.34 250	P	Pn	01 59 05.9 -0.7
RAYN	Ar Rayn	9.34 250	*i* P	Pn	01 59 05.9 -0.7
	SNR=12				
RAYN	Ar Rayn	9.34 250	P	Pn	01 59 05.4 -1.2
HRA	Herat	9.55 39	Pn	Pn	01 59 09.1 -0.5
KBL	Kabul	14.12 55	Pn	Pn	02 00 12.6 +0.4
KBL	Kabul	14.12 55	P	Pn	02 00 12.6 +0.4
AKT	Akhty	15.57 339	*e*P	Pn	02 00 30.8 -0.7
AKT			pmax	pmax	
	comp=Z,6.0nm,0.3s				
GNI	Garni	15.59 329	P	P	02 00 36.6 +0.7
GNI			IAmb	IAmb	02 00 44.2
	comp=Z,9.9nm,0.6s				
GNI	Garni	15.59 329	Pn	P	02 00 36.1 +0.2
	comp=Z,2.1nm,0.3s,baz=30,slow=4.8,SNR=11				
GNI	Garni	15.59 329	P	P	02 00 36.6 +0.7
GNI			pmax	pmax	
	comp=Z,10.0nm,0.6s				
MARD	Mardin	15.79 314	Pn	Pn	02 00 33.9 -0.5
MARD			IAmb	IAmb	02 00 49.5
	comp=Z,22nm,0.6s				
CHGR	Chuyangaron	16.52 42	Pn	Pn	02 00 42.3 -1.3
CHGR	Chuyangaron	16.52 42	P	Pn	02 00 42.3 -1.3
CHGR			pmax	pmax	
	comp=Z,14nm,1.0s				
ASF	Jabal al Asfar	16.57 292	Pn	Pn	02 00 42.9 -1.5
	comp=Z,0.2nm,0.3s,baz=194,slow=8.3,SNR=5.8				
ASF			LR	LR	02 08 45.5
	comp=Z,63nm,19.5s,baz=154,slow=43				
	comp=Z,1.0nm,0.4s				
GAR	Garm	17.43 43	Pn	Pn	02 00 52.6 -2.6
EIL	Elat	17.87 283	Pn	P	02 01 04.0 +2.8
	comp=Z,0.4nm,0.3s,baz=108,slow=4.6,SNR=5.4				
MMAI	Mount Meron Ar	18.00 294	P	Pn	02 01 01.1 -1.0
	comp=Z,0.3nm,0.3s,baz=116,slow=12,SNR=3.1				
	comp=Z,1.3nm,0.6s				
ATD	Arta Tunnel	19.27 219	P	Pn	02 01 19.5 +1.8
ATD	Arta Tunnel	19.27 219	P	Pn	02 01 19.2 +1.6
	baz=41,slow=7.7,SNR=5.5				
KBZ	Khabaz	19.30 332	P	Pn	02 01 17.7 0.0
	comp=Z,0.2nm,0.3s,baz=164,slow=11,SNR=6.4				
	comp=Z,1.4nm,0.7s				
KBZ	Khabaz	19.30 332⇓	*e*P	Pn	02 01 17.9 +0.2
KBZ			pmax	pmax	
	comp=Z,5.0nm,0.9s				
SHA1	Shidzhatmaz	19.40 332⇓	*e*P	P	02 01 16.4 -1.7
KIV	Kislovodsk	19.57 333	P	P	02 01 19.6 -0.1
KIV			IAmb	IAmb	02 01 34.5
	comp=Z,12nm,0.6s				
KIV	Kislovodsk	19.57 333	*e*P	Pn	02 01 20.9 -0.2
KIV			pmax	pmax	
	comp=Z,11nm,1.1s				
BNN	Bunyan	19.89 311	P	Pn	02 01 25.3 +0.3
KSH	Kashi	21.38 49	P	P	02 01 36.3 -3.1
KSH			pmax	pmax	
	comp=Z,7.0nm,1.1s				
KSH			pmax	pmax	
	comp=Z,6.0nm,1.1s				
BR104	Keskin Array S	21.80 311	P	P	02 01 43.7 -0.2
	comp=Z,71nmcomp=Z,8.7nm,1.1s				
BR131	Keskin Array S	21.80 311	P	P	02 01 42.9 -1.2
BR131			IAmb	IAmb	02 01 52.6
	comp=Z,12nm,1.1s				
BR131	Keskin Array S	21.80 311⇑	*i* P	P	02 01 43.9 -0.1
BRTR	Keskin Array B	21.80 311	P	P	02 01 43.5 -0.6
BRTR	Keskin Array B	21.80 311	P	P	02 01 44.0 -0.1
	comp=Z,1.6nm,0.6s,baz=140,slow=13,SNR=11				
	comp=Z,1.6nm,0.6s				
BR105	Keskin Array S	21.82 311	P	P	02 01 44.0 -0.2
	comp=Z,76nmcomp=Z,8.4nm,1.3s				
BR106	Keskin Array S	21.82 311	P	P	02 01 44.0 -0.3
	comp=Z,64nmcomp=Z,7.9nm,1.1s				
AAK	Ala-Archa	22.17 41⇑	*e*P	P	02 01 49.7 +1.7
AAK			pmax	pmax	
	comp=Z,5.0nm,0.9s				
ANTO	Ankara	22.45 310		P	02 01 49.5 -1.4
ANTO			IAmb	IAmb	02 02 01.5
	comp=Z,6.0nm,0.7s				
ANTO	Ankara	22.45 310	P	P	02 01 49.5 -1.4
ANTO			pmax	pmax	
	comp=Z,6.0nm,0.7s				
AB31	Akbulak array	22.45 8	P	P	02 01 49.6 -1.2
AB31			IAmb	IAmb	02 01 54.6
	comp=Z,20nm,1.4s				
AB31	Akbulak array	22.45 8	P	P	02 01 50.1 -0.7
ABKAR	Akbulak array	22.45 8	P	P	02 01 49.6 -1.2
AKTO	Aktyubinsk	23.42 5	P	P	02 02 00.5 -0.3
BELG	Belogornoye	25.88 350	*ce*P	P	02 02 24.6 +1.2
BELG			pmax	pmax	
	comp=Z,1.0nm,0.5s				
VRH	Novokhopyorsk	26.12 341	*e*P	P	02 02 25.1 -0.5
VRH			pmax	pmax	
	comp=Z,12nm,0.4s				
VRH			pmax	pmax	
	comp=Z,42nm,1.7s				
ALN	Alexandroupoli	27.57 307	P	P	02 02 38.2 -0.5
ALN	Alexandroupoli	27.57 307	P	P	02 02 38.2 -0.5
RDO	Rodhopi	28.01 308	P	P	02 02 43.5 +0.8
EVN	Everest	28.15 81	P	P	02 02 46.1 +1.3
BORK	Borovoye	28.32 20	*ce*P	P	02 02 44.9 -0.4
BORK			pmax	pmax	
	comp=Z,19nm,3.5s				
BVAR	Borovoye Array	28.32 20	P	P	02 02 45.1 -0.2
	comp=Z,3.5nm,0.4s,baz=211,slow=7.4,SNR=14				
	comp=Z,3.5nm,0.4s				
MK31	Makanchi Array	29.11 40	*i*P	P	02 02 52.1 -0.3
MKAR	Makanchi Array	29.11 40	P	P	02 02 51.8 -0.6
MKAR	Makanchi Array	29.11 40	P	P	02 02 52.4 -0.1
	comp=Z,0.8nm,0.6s,baz=220,slow=10,SNR=4.9				
	comp=Z,0.8nm,0.6s				
ARTI	Arti	29.38 4	P	P	02 02 54.6 -0.1
ARTI					02 03 46.3
ARTI			S	S	02 07 49.8 +2.5
ARTI			SS	SnSn	02 09 14.5 +0.4
KURBB	Kurchatov Arra	29.54 31	P	P	02 02 55.6 -0.5
	comp=Z,1.0nm,0.7s,baz=233,slow=8.7,SNR=5.1				
	comp=Z,1.0nm,0.7s				
TESR	Tescani	29.64 318	P	P	02 02 56.4 -0.7
	comp=Z,6.1nm,1.8s				
KURK	Kurchatov	29.64 31	P	P	02 02 56.1 -1.0
KURK	Kurchatov	29.64 31⇓	*e*P	P	02 02 57.2 +0.1
KURK			pmax	pmax	
	comp=Z,3.0nm,0.9s				
AK07	Malin Array Si	30.61 327	P	P	02 03 05.3 -0.3
AK09	Malin Array Si	30.61 327	P	P	02 03 04.9 -0.8
AK10	Malin Array Si	30.62 327	P	P	02 03 04.3 -1.4
AK06	Malin Array Si	30.64 327	P	P	02 03 04.4 -1.5
AK08	Malin Array Si	30.64 327	P	P	02 03 04.5 -1.4
AK05	Malin Array Si	30.65 327	P	P	02 03 04.6 -1.4
AK02	Malin Array Si	30.68 327	P	P	02 03 04.8 -1.4
AK12	Malin Array Si	30.69 327	P	P	02 03 05.3 -1.1
AK01	Malin Array Si	30.70 327	P	P	02 03 05.2 -1.2
AKASG	Malin Array Be	30.70 327	P	P	02 03 05.6 -0.8
AKASG	Malin Array Be	30.70 327	P	P	02 03 05.7 -0.7
	comp=Z,1.1nm,0.4s,baz=106,slow=6.9,SNR=11				
	comp=Z,1.1nm,0.4s				
AKASG	Malin Array Be	30.70 327	*i* P	P	02 03 06.0 -0.4
AKASG			pmax	pmax	
	comp=Z,2.0nm,0.4s				
AKBB	Malin Array Si	30.70 327	P	P	02 03 05.0 -1.4
AKBB			IAmb	IAmb	02 03 13.4
	comp=Z,12nm,1.3s				
AKBB	Malin Array Si	30.70 327	*de*P	P	02 03 05.2 -1.2
AKBB			pmax	pmax	
	comp=Z,8.0nm,1.2s				
KIEV	Kiev	30.70 327	P	P	02 03 05.0 -1.4
KIEV			IAmb	IAmb	02 03 13.4
	comp=Z,11nm,1.3s				
KIEV	Kiev	30.70 327	P	P	02 03 05.0 -1.4
KIEV			pmax	pmax	
	comp=Z,11nm,1.3s				
AK03	Malin Array Si	30.71 327	P	P	02 03 05.6 -1.0
AK16	Malin Array Si	30.73 327	P	P	02 03 05.6 -1.1
AK16			pP	P	02 03 08.8 +2.1
AK04	Malin Array Si	30.74 327	P	P	02 03 05.6 -1.2
AK17	Malin Array Si	30.77 327	P	P	02 03 05.5 -1.5
AK18	Malin Array Si	30.79 327	P	P	02 03 05.6 -1.6
AK22	Malin Array Si	30.81 327	P	P	02 03 05.8 -1.6
AK19	Malin Array Si	30.81 327	P	P	02 03 05.8 -1.6
AK20	Malin Array Si	30.83 327	P	P	02 03 05.9 -1.7
BURAR	Bucovina Array	31.04 319	P	P	02 03 09.3 -0.3
BUR08	Bucovina Ar. S	31.07 319	P	P	02 03 09.6 -0.3
BUR08			IAmb	IAmb	02 03 25.0
	comp=Z,6.8nm,1.5s				
OBN	Obninsk	31.07 339	P	P	02 03 09.7 +0.1
OBN	Obninsk	31.07 339	*de*P	P	02 03 09.7 +0.1
OBN			*e*		02 04 11.0
OBN			pmax	pmax	
	comp=Z,11nm,0.5s				
OBN			MLR	MLR	
	comp=Z,36nm,19.0s				
OBN	Obninsk	31.07 339	P	P	02 03 09.5 -0.1
OBN			pP	P	02 03 11.7 +2.1
WMQ	Urumqi	31.14 49	*e*P	P	02 03 09.3 -1.2
WMQ			pmax	pmax	
	comp=Z,50nm,0.7s				
KIRV	Kirov	31.73 354⇑	*e*P	P	02 03 15.1 -0.3
BRIU	Brid	32.68 319	P	P	02 03 23.2 -0.7
PDG	Podgorica	32.88 307	P	P	02 03 25.0 -0.6
TIP	Timpagrande	34.02 301	P	P	02 03 36.3 +0.5
TIP			IAmb	IAmb	02 03 45.3
	comp=Z,18nm,1.5s				
KECS	Kecovo	34.25 318	*e*P	P	02 03 38.5 +0.9
KECS	Kecovo	34.25 318	*e*P	P	02 03 38.5 +0.9
ZAA0	Zalesovo Array	34.63 31	P	P	02 03 40.3 -0.6
ZAA0			IAmb	IAmb	02 03 40.8
	comp=Z,5.4nm,0.5s				
ZALV	Zalesovo Beam	34.63 31	P	P	02 03 40.1 -0.7
	comp=Z,5.6nm,0.5s,baz=241,slow=9.2,SNR=20				
	comp=Z,5.6nm,0.5s				
ZALV	Zalesovo Beam	34.63 31	*i* P	P	02 03 40.4 -0.4
ZALV			pmax	pmax	
	comp=Z,6.0nm,0.5s				
CUC	Castrocucco	34.87 302	P	P	02 03 44.1 +1.0
CUC			IAmb	IAmb	02 03 45.4
	comp=Z,9.2nm,0.7s				
PABE	Paberze	36.21 330	P	P	02 03 53.6 -0.7
STEB	Steborice	36.48 319	*e*P	P	02 03 56.3 -0.4
MORC	Moravsky Berou	36.55 318	P	P	02 03 56.1 -1.3
MORC			IAmb	IAmb	02 03 57.3
	comp=Z,7.9nm,1.4s				
MORC	Moravsky Berou	36.55 318	P	P	02 03 56.1 -1.3
MORC			pmax	pmax	
	comp=Z,8.0nm,1.4s				
KRLC	Kraliky	37.12 319	*e*P	P	02 04 01.5 -0.7
KRLC	Kraliky	37.12 319	*e*P	P	02 04 01.5 -0.7
NRCA	Norcia	37.37 306	P	P	02 04 05.0 +0.4
NRCA			IAmb	IAmb	02 04 05.8
	comp=Z,5.9nm,0.8s				
FDMO	Fiordimonte	37.43 306	P	P	02 04 05.2 +0.3
FDMO			IAmb	IAmb	02 04 39.7
	comp=Z,7.2nm,1.1s				
DPC	Dobruska-Polom	37.50 319	*e*P	P	02 04 05.1 -0.4
DPC	Dobruska-Polom	37.50 319	*e*P	P	02 04 05.1 -0.4
OSTC	Ostas	37.65 319	*e*P	P	02 04 06.1 -0.6
OSTC	Ostas	37.65 319	*e*P	P	02 04 06.1 -0.6
ZVC	Zvikov	38.44 317	*e*P	P	02 04 12.5 -0.8
GERES	GERESS Array B	38.54 316	P	P	02 04 12.5 -1.8
GERES	GERESS Array B	38.54 316	P	P	02 04 13.3 -1.0
	comp=Z,0.4nm,0.5s,baz=109,slow=7.2,SNR=4.6				
	comp=Z,0.4nm,0.5s				
ABTA	Abfaltersbach	38.69 312	*i* P	P	02 04 14.6 -1.0
	comp=Z,0.2nm,0.2s				
KHC	Kasperske Hory	38.71 316	*e*P	P	02 04 15.1 -0.6
KHC	Kasperske Hory	38.71 316	*e*P	P	02 04 15.1 -0.6
LESA	Schwarzleotal	38.76 313	*i* P	P	02 04 15.1 -1.1
	comp=Z,1.7nm,0.4s				
GTA	Gaotai	39.03 60	*e*P	P	02 04 19.3 +0.7
GTA			pmax	pmax	
	comp=Z,10.0nm,0.7s				
GTA			LR	LR	
	comp=N,100nm,14.5s				
GTA			LR	LR	
	comp=E,110nm,13.5s				
GTA			LR	LR	
	comp=Z,140nm,12.4s				
ZCCA	Zocca	39.19 308	P	P	02 04 21.1 +1.4
ZCCA			IAmb	IAmb	02 04 48.8
	comp=Z,34nm,1.4s				
WTTA	Wattenberg	39.40 312	*i* P	P	02 04 20.7 -1.0
	comp=Z,3.9nm,0.4s				
FIA1	FINESS Array S	39.47 339	P	P	02 04 21.4 -0.3
FINES	FINESS Array B	39.47 339	P	P	02 04 20.6 -1.1
FINES	FINESS Array B	39.47 339	P	P	02 04 21.2 -0.5
	comp=Z,0.9nm,0.3s,baz=146,slow=9.9,SNR=15				
	comp=Z,0.9nm,0.3s				
KEST	Kesra	39.65 294	P	P	02 04 24.1 +0.3
KEST	Kesra	39.65 294	P	P	02 04 25.2 +1.4
	comp=Z,1.2nm,0.5s,baz=74,slow=2.4,SNR=9.5				
	comp=Z,1.2nm,0.5s				
SQTA	Sankt Quirin	39.67 312	*i* P	P	02 04 22.9 -1.0
	comp=Z,8.8nm,0.5s,SNR=12				
VSL	Villasalto	39.74 300	P	P	02 04 25.6 +1.2
VSL			IAmb	IAmb	02 04 33.3
	comp=Z,7.6nm,1.1s				
MOTA	Moosalm	39.77 312	*i* P	P	02 04 23.9 -0.8
	comp=Z,2.2nm,0.4s,SNR=5.4				
CLL	Collm	39.81 319	*e*P	P	02 04 25.0 +0.2
CLL	Collm	39.81 319	*e*P	P	02 04 25.0 +0.2
CLL			*e*PP	PP	02 05 56.0 -0.3
CLL			Lm	MLR	03 00 00.0
	comp=N,100nm,20.1s				
CLL			Lm	MLR	03 00 00.0
	comp=E,100nm,19.1s				
FETA	Feichten	39.94 312	*i* P	P	02 04 25.4 -0.8
	comp=E,4.0nm,0.5s				
RETA	Reutte	40.03 313	*i* P	P	02 04 25.7 -1.1
	comp=E,2.6nm,0.5s,SNR=4.5				
FUORN	Ofenpass-Fuorn	40.16 311	P	P	02 04 27.6 -0.4
DAVA	Damuels	40.56 312	*i* P	P	02 04 30.3 -1.0
	comp=E,17nm,0.4s,SNR=35				
TUE	Stuetta	40.74 311	P	P	02 04 32.1 -0.7
TUE			IAmb	IAmb	02 04 36.2
	comp=Z,10nm,1.4s				
PZH	PanZhiHua	41.49 80	P	P	02 04 40.5 +1.3
SENIN	Lac Senin/Sane	42.11 310	P	P	02 04 42.8 -1.3
SENIN			IAmb	IAmb	02 04 43.8
	comp=Z,6.6nm,1.1s				
LZH	Lanzhou	42.15 65	*e*P	P	02 04 43.0 -1.5
LZH			pP	pP	02 04 50.3 -0.2
LZH			pmax	pmax	
	comp=Z,17nm,1.2s				
LZH			LR	LR	
	comp=N,140nm,18.2s				
LZH			LR	LR	
	comp=E,180nm,18.9s				
LZH			LR	LR	
	comp=Z,170nm,19.2s				
BNI	Bardonecchia	42.33 308	P	P	02 04 44.6 -1.2
BNI			IAmb	IAmb	02 05 05.0
	comp=Z,13nm,1.4s				
BNI	Bardonecchia	42.33 308	P	P	02 04 44.6 -1.2
BNI			pmax	pmax	
	comp=Z,13nm,1.5s				
HFS	Hagfors	43.36 331	P	P	02 04 53.0 -0.8
	comp=Z,3.5nm,0.5s,baz=129,slow=8.6,SNR=38				
	comp=Z,3.5nm,0.5s				
HFS	Hagfors	43.36 331	P	P	02 04 53.0 -0.8
TLY	Talaya	43.82 42⇓	*e*P	P	02 04 58.7 +1.1
BMRD	Maredsous	44.53 315	*d*P	P	02 05 02.5 -0.8
NC405	NORSAR Array S	44.70 332	P	P	02 05 03.4 -1.1
NC405			IAmb	IAmb	02 05 30.1
	comp=Z,19nm,1.4s				
NB201	NORSAR Array S	44.84 331	P	P	02 05 04.4 -1.3
NB201			IAmb	IAmb	02 05 13.0
	comp=Z,14nm,1.1s				
NB2	NORSAR Subarra	44.87 331	P	P	02 05 04.5 -1.4
	comp=Z,0.5nm,0.3s,baz=118,slow=8.6				
NOA	NORSAR Array B	44.87 331	P	P	02 05 04.5 -1.4
	comp=Z,1.5nm,0.6s,baz=120,slow=7.5,SNR=10				
	comp=Z,1.5nm,0.6s				
ULN	Ulaanbaatar	45.22 48⇑	*e*P	P	02 05 08.6 -0.4
ULN			pmax	pmax	
	comp=Z,5.0nm,1.3s				
ARCES	ARCESS Array B	45.83 346	P	P	02 05 12.2 -1.2
ARCES	ARCESS Array B	45.83 346	P	P	02 05 12.8 -0.6
	comp=Z,2.1nm,0.8s,baz=142,slow=6.0,SNR=8.8				
	comp=Z,2.1nm,0.8s				
CEST	Esterri de Car	46.03 304	P	P	02 05 15.3 -0.1
CEST			IAmb	IAmb	02 05 47.7
	comp=Z,13nm,1.3s				
HHC	Hu-ho-hao-te	48.07 58	*e*P	P	02 05 33.0 +1.6
HHC			pmax	pmax	
	comp=Z,6.0nm,0.7s				
HHC			pmax	pmax	
	comp=Z,97nm,5.4s				
ESDC	Sonseca Array	50.04 300	P	P	02 05 46.1 -0.4
ESDC	Sonseca Array	50.04 300	P	P	02 05 46.2 -0.3
	comp=Z,0.6nm,0.4s,baz=74,slow=7.1,SNR=11				
	comp=Z,0.6nm,0.4s				
EKA	Eskdalemuir Ar	50.20 321	P	P	02 05 46.4 -0.9
	comp=Z,0.9nm,0.3s,baz=101,slow=7.4,SNR=20				
	comp=Z,0.9nm,0.3s				
EKB	Eskdalemuir	50.22 321	P	P	02 05 46.2 -1.3
ESK	Eskdalemuir	50.23 321	P	P	02 05 46.9 -0.6
ESK	Eskdalemuir	50.23 321	P	P	02 05 46.9 -0.6
ESK			pmax	pmax	
	comp=Z,45nm,1.5s				
PAB	San Pablo	50.34 300	P	P	02 05 48.0 -0.8
PAB			IAmb	IAmb	02 05 54.2
	comp=Z,3.1nm,0.9s				
PAB	San Pablo	50.34 300	P	P	02 05 48.0 -0.8
PAB			pmax	pmax	
	comp=Z,3.0nm,1.0s				
MD01	Midelt array s	51.54 292	P	P	02 05 58.0 0.0
TORD	Torodi Ar. Bea	51.63 265	P	P	02 05 59.1 +0.4
	comp=Z,3.4nm,0.6s,baz=57,slow=9.6,SNR=27				
	comp=Z,3.4nm,0.6s				
GRTLG	Ghanzi	58.25 218	P	P	02 06 48.0 +1.5
KGCAE	Kacgae	58.93 216	P	P	02 06 52.1 +0.9
LBTB	Lobatse	59.08 211	P	P	02 06 53.5 +1.4
LBTB	Lobatse	59.08 211	P	P	02 06 53.6 +1.4
LBTB			pmax	pmax	
	comp=Z,15nm,1.5s				
TIXI	Tiksi	59.45 21⇑	*i* P	P	02 06 54.5 +0.5
TIXI			pmax	pmax	
	comp=Z,10.0nm,1.4s				
KOOLE	Kule	60.12 217	P	P	02 07 01.3 +1.9
DBIC	Dimbokro	60.24 262	P	P	02 06 59.7 -0.7
DBIC	Dimbokro	60.24 262	P	P	02 07 00.1 -0.2
	comp=Z,1.8nm,0.4s,baz=75,slow=6.3,SNR=5.8				
	comp=Z,1.8nm,0.4s				
KSRS	Korea Array	61.10 60	P	P	02 07 05.2 -0.8
	comp=Z,0.6nm,0.3s,baz=294,slow=7.8,SNR=3.5				
	comp=Z,0.6nm,0.3s				
BOSA	Boshof	62.33 210	P	P	02 07 15.2 +0.9
BOSA	Boshof	62.33 210	P	P	02 07 15.2 +0.9
	comp=Z,2.9nm,0.6s,baz=36,slow=6.3,SNR=10				
	comp=Z,2.9nm,0.6s				
FITZ	Fitzroy Crossi	81.84 115	P	P	02 09 11.7 +0.5
SCHQ	Schefferville	84.43 330	P	P	02 09 23.8 -0.4
SCHQ	Schefferville	84.43 330	P	P	02 09 23.6 -0.6
	comp=Z,21nm,0.6s,baz=340,slow=2.4,SNR=3.8				
F30M	Barrier River	85.24 4	P	P	02 09 27.6 -0.3
J20K	Nowinta River	86.20 12	P	P	02 09 32.8 0.0
J20K			IAmb	IAmb	02 09 40.2
	comp=Z,4.3nm,1.3s				
BPAW	Bear Paw Mtn.	86.84 11	P	P	02 09 36.0 0.0
BPAW			IAmb	IAmb	02 09 44.0
	comp=Z,8.0nm,1.4s				
ILAR	Eielson Array	86.86 9	P	P	02 09 35.2 -0.8
ILAR	Eielson Array	86.86 9	P	P	02 09 34.6 -1.4
	comp=Z,0.3nm,0.7s,baz=309,slow=4.9,SNR=4.6				
	comp=Z,0.3nm,0.7s				
ILAR	Eielson Array	86.86 9	P	P	02 09 35.2 -0.8
K20K	Telida	86.95 13	P	P	02 09 35.9 -0.6
K20K			IAmb	IAmb	02 10 13.4
	comp=Z,8.2nm,1.5s				
J26L	Joseph Creek	87.56 8	P	P	02 09 39.1 -0.4
J26L			IAmb	IAmb	02 09 39.9
	comp=Z,1.8nm,0.7s				
BCAR	Beaver Creek A	89.16 8	P	P	02 09 47.5 +0.4
WB0	Warramunga Arr	89.83 112	P	P	02 09 50.5 -0.3
WRA	Warramunga Arr	89.87 112	P	P	02 09 50.4 -0.6
WRA	Warramunga Arr	89.87 112	P	P	02 09 50.8 -0.3
	comp=Z,1.4nm,0.9s,baz=313,slow=3.9,SNR=10				
	comp=Z,1.4nm,0.9s				
WR8	Warramunga Arr	90.01 112	P	P	02 09 51.3 -0.4
WR8			IAmb	IAmb	02 10 29.5
	comp=Z,4.7nm,1.2s				
ASAR	Alice Springs	91.31 116	P	P	02 09 57.8 +0.1
ASAR	Alice Springs	91.31 116	P	P	02 09 57.6 0.0
	comp=Z,0.9nm,0.6s,baz=299,slow=4.1,SNR=7.7				
	comp=Z,0.9nm,0.6s				
ASAR	Alice Springs	91.31 116	P	P	02 09 57.8 +0.1

NEIC ***30*** *02:09:37.8±1.7,36°.00N±0°.03×139°.66E±0°.09, h135km±8km, mb4.1/10, Error ellipse: s-maj=10.6km s-min=2.8km az=70.0*

JMA ***30*** *02:09:38.9±0.1,36°.0N±0°.5×139°.6E±0°.6, h131km±1km, MV3.4/39, EASTERN SAITAMA PREF*

IDC ***30*** *02:09:38.8±1.3,35°.84N×139°.29E, h137km±5km, mb3.5/6, mbtmp3.9/7, MS3.8/7, Error ellipse: s-maj=34.8km s-min=7.0km az=66.0*

**ISC 30 02:09:37.8±0.8, 35°.99N±0°.04×139°.55E±0°.06, h138km±6km, n59, σ1°.03/62, mb4.0/12, Near south coast of eastern

JOTO *e*S **Sn** **02 10 33.3 +1.1**
JSG Sagara 1.72 221 Pn **Pn** **02 10 09.8 +0.9**
BSO1 Boso 1 1.77 138 P **Pn** **02 10 10.2 +1.2**
JGF Kuroka 1.82 258 Pn **Pn** **02 10 10.7 +0.5**
JGF Kuroka 1.82 258 P **Pn** **02 10 10.4 +0.2**
JGF Kuroka 1.82 258 S **Sn** **02 10 34.4 -0.5**
JNS Sasagawa 1.84 354 P **Pn** **02 10 10.7 +0.5**
JNS S **Sn** **02 10 35.9 +0.7**
JMM Marumori 2.12 28 Pn **Pn** **02 10 13.9 +0.3**
JMM Marumori 2.12 28 P **Pn** **02 10 13.8 +0.1**
INU Inuyama 2.16 254 P **Pn** **02 10 14.6 +0.5**
INU Inuyama 2.16 254 S **Sn** **02 10 41.7 -0.3**
JSD Sado 2.29 334 Pn **Pn** **02 10 15.3 -0.4**
JSD Sado 2.29 334 P **Pn** **02 10 15.8 +0.1**
JSD Sado 2.29 334 S **Sn** **02 10 44.4 -0.5**
JHJ Hachijo jima 2 2.87 176 P **Pn** **02 10 23.4 +0.3**
52nm,0.3s,baz=90,slow=21,SNR=7.6
JHJ S **Sn** **02 10 56.6 -1.2**
250nm,0.4s,baz=58,slow=23,SNR=17
JHJ2 Mitsune 2.88 176 Pn **Pn** **02 10 23.2 0.0**
JHJ2 Mitsune 2.88 176 P **Pn** **02 10 23.5 +0.4**
JHJ2 Mitsune 2.88 176 S **Sn** **02 10 57.4 -0.7**
JTM Tenmabayashi 4.94 14 Pn **Pn** **02 10 51.2 +1.0**
JTM Tenmabayashi 4.94 14 P **Pn** **02 10 51.3 +1.2**
JMN Monobe 5.18 246 P **Pn** **02 10 57.6 +4.1**
ERM Erimo 6.64 24 Pn **Pn** **02 11 11.3 -1.6**
JKA Kamikawa-asahi 8.45 15 Pn **Pn** **02 11 35.5 -1.6**
KSRS Korea Array 9.45 282 P **Pn** **02 11 52.1 +1.5**
0.7nm,0.4s,baz=90,slow=13,SNR=4.4
ZALV Zalesovo Beam 41.52 313 P **P** **02 17 11.0 -0.3**
ZALV Zalesovo Beam 41.52 313 P **P** **02 17 11.3 +0.1**
0.4nm,0.3s,baz=102,slow=6.1,SNR=3.2
0.4nm,0.3s
MKAR Makanchi Array 43.41 303 P **P** **02 17 27.6 +0.9**
MKAR Makanchi Array 43.41 303 P **P** **02 17 26.5 -0.2**
0.6nm,0.6s,baz=90,slow=9.4,SNR=5.5
0.6nm,0.6s
KURK Kurchatov 45.41 309 P **P** **02 17 42.7 +0.3**
KURBB Kurchatov Arra 45.47 309 P **P** **02 17 42.8 -0.2**
1.9nm,0.5s,baz=85,slow=7.7,SNR=19
1.9nm,0.5s
TARG Taragay, Kyrgy 47.52 297 P **P** **02 18 02.4 +2.8**
TARG IAmb IAmb 02 18 02.5
comp=Z,3.2nm,0.8s
BOOM Boomskoye usch 48.67 298 P **P** **02 18 09.8 +1.7**
BOOM IAmb IAmb 02 18 24.9
comp=Z,3.5nm,1.1s
BVAR Borovoye Array 50.17 313 P **P** **02 18 21.0 +1.9**
comp=Z,0.5nm,0.3s,baz=79,slow=7.5,SNR=6.5
comp=Z,0.5nm,0.3s
O28M Mount Upton 54.76 36 P **P** **02 18 51.6 -1.5**
O28M IAmb IAmb 02 18 59.0
comp=Z,3.4nm,0.9s
FITZ Fitzroy Crossi 55.38 196 P **P** **02 18 57.8 +0.1**
WB0 Warramunga Arr 55.66 186 P **P** **02 18 59.1 -0.6**
WRAB Tennant Creek 55.83 186 P **P** **02 18 59.9 -0.9**
WRAB IAmb IAmb 02 19 15.4
comp=Z,1.5nm,0.9s
WR8 Warramunga Arr 55.84 186 P **P** **02 19 00.4 -0.6**
WR8 IAmb IAmb 02 19 01.1
comp=Z,3.6nm,1.0s
WRA Warramunga Arr 55.84 186 P **P** **02 18 59.4 -1.5**
WRA Warramunga Arr 55.84 186 P **P** **02 19 00.5 -0.5**
comp=Z,1.7nm,0.4s,baz=1.5,slow=7.5,SNR=43
comp=Z,1.7nm,0.4s
AB31 Akbulak array 57.47 310 P **P** **02 19 11.8 -0.3**
AB31 IAmb IAmb 02 19 13.0
comp=Z,0.8nm,1.0s
ABKAR Akbulak array 57.47 310 P **P** **02 19 12.4 +0.3**
AKTO Aktyubinsk 58.26 312 LR LR 02 43 59.7
comp=Z,59nm,18.6s,baz=120,slow=35
ASAR Alice Springs 59.57 186 P **P** **02 19 26.9 -0.1**
comp=Z,0.5nm,0.5s,baz=8.9,slow=8.9,SNR=5.0
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 64.44 339 LR LR 02 51 15.4
comp=Z,54nm,21.8s,baz=56,slow=39
KBZ Khabaz 70.44 310 LR LR 02 56 04.4
comp=Z,66nm,18.0s,baz=80,slow=40
HFS Hagfors 74.41 335 LR LR 02 56 34.0
comp=Z,92nm,18.4s,baz=70,slow=38
NOA NORSAR Array B 74.56 337 LR LR 02 56 52.7
comp=Z,92nm,20.7s,baz=60,slow=38
MLR Muntele Rosu 79.20 319 LR LR 02 58 37.4
comp=Z,41nm,18.5s,baz=65,slow=37
VRAC Vranov 81.17 326 LR LR 03 00 29.2
comp=Z,62nm,18.1s,baz=66,slow=38

*IDC **30** 02:12:30.0±0.9, 41.°18N×143.°16E, h0km, mb4.0/15, mbtmp4.0/19, ML3.6/4, Error ellipse: s-maj=24.8km s-min=17.3km az=77.0*
*MOS **30** 02:12:37.5±0.9, 40.°99N×142.°31E, h50km, mb4.5/12, Error ellipse: s-maj=10.7km s-min=6.9km az=80.9*
*NIED **30** 02:12:37.9, 40.°95N×142.°43E, h36km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}5.96; $M_{\theta\theta}$-3.44; $M_{\phi\phi}$-2.52; $M_{r\theta}$2.60; $M_{r\phi}$-0.75; $M_{\theta\phi}$6.80; Fault plane solution: $M_0$8.65000×10^14^ NP1: ϕ_s229.00000°, δ18.00000°, λ111.00000°. NP2: ϕ_s27.00000°, δ74.00000°, λ83.00000°.*
*JMA **30** 02:12:37.9±0.1, 41.°0N±0.°4×142.°4E±0.°8, h36km, MD3.9/38, MV4.1/38, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*NEIC **30** 02:12:39.3±1.3, 40.°99N±0.°06×142.°35E±0.°07, h48km±7km, mb4.4/18, Error ellipse: s-maj=10.2km s-min=5.0km az=135.0*
ISC 30 02:12:38.8±0.7, 40.°96N±0.°04×142.°41E±0.°04, h48km±5km, n116, σ1§13/126, mb4.3/34, 5C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.79**	**274**	⇓*i*P	**Pn**	**02 12 52.9**	**-0.8**
JARK				⇓S	**Sn**	02 13 03.2	-1.3
JAHD	**Aomorihigashid**	**0.87**	**291**	⇓*i*P	**Pn**	**02 12 53.8**	**-0.9**
JAHD				⇓*e*S	**Sn**	**02 13 05.5**	**-0.9**
JAHD	**Aomorihigashid**	**0.87**	**291**	A	A	02 12 53.8	
comp=N,6.0nm,1.3s,comp=E,7.0nm,0.6s							
JANG	**Nango**	**0.90**	**230**	⇓*i*P	**Pn**	**02 12 54.4**	**-0.8**
JANG				⇓*e*S	**Sn**	**02 13 06.2**	**-1.0**
JANG	**Nango**	**0.90**	**230**	A	A	02 12 54.4	
comp=N,3.0nm,3.1s,comp=E,4.0nm,1.3s							
JKEN	**Kujiedanarisaw**	**0.92**	**216**	P	**Pn**	**02 12 54.4**	**-1.1**
JKEN				*e*S	**Sn**	02 13 06.2	-1.5
JTM	**Tenmabayashi**	**1.03**	**261**	Pn	**Pn**	**02 12 56.6**	**-0.3**
JTM				Sn	**Sn**	**02 13 09.4**	**-1.0**
JTM	**Tenmabayashi**	**1.03**	**261**	⇓*i*P	**Pn**	**02 12 56.6**	**-0.3**
JTM				⇓*e*S	**Sn**	**02 13 10.1**	**-0.3**
JTM	**Tenmabayashi**	**1.03**	**261**	A	A	02 12 56.6	
comp=N,8.0nm,0.7s,comp=E,7.0nm,0.4s							
JOT	**Ohata**	**1.11**	**293**	⇓*i*P	**Pn**	**02 12 57.4**	**-0.6**
ERM	**Erimo**	**1.19**	**28**	P	**Pn**	**02 12 59.3**	**+0.2**
ERM				Sn	**Sn**	02 13 14.1	-0.1
ERM	**Erimo**	**1.19**	**28**	P	**Pn**	**02 12 59.3**	**+0.2**
ERM						02 13 14.1	
JEM	**Erimo**	**1.19**	**28**	P	**Pn**	**02 12 59.5**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.34**	**11**	*e*P	**Pn**	**02 13 01.8**	**+0.6**
JKB	**Kayabe**	**1.39**	**312**	⇓*i*P	**Pn**	**02 13 01.3**	**-0.5**
JAH	**Hinai**	**1.56**	**241**	⇓*i*P	**Pn**	**02 13 04.3**	**+0.2**
JAH				⇓*e*S	**Sn**	**02 13 24.1**	**+1.0**
JSR	**Shiriuchi**	**1.61**	**291**	*i* P	**Pn**	**02 13 04.8**	**0.0**
JIAM	**Iburiatsuma**	**1.70**	**348**	A	A	02 13 06.3	
comp=N,7.0nm,0.7s,comp=E,8.0nm,0.5s							
JCH	**Churui**	**1.80**	**23**	*e*P	**Pn**	**02 13 07.9**	**+0.5**
JCH				*e*S	**Sn**	**02 13 29.7**	**+0.7**
JBT2	**Biratori 2**	**1.82**	**359**	*e*P	**Pn**	**02 13 08.9**	**+1.2**
JNB	**Noboribetsu**	**1.82**	**326**	*i* P	**Pn**	**02 13 07.0**	**-0.7**
ASAJ	**Asahikawa**	**3.16**	**2**	Pn	**Pn**	**02 13 26.9**	**+0.8**
comp=E,11nm,0.3s,baz=254,slow=8.9,SNR=11							
ASAJ				Sn	**Sn**	**02 14 02.4**	**0.0**
comp=E,5.9nm,0.3s,baz=259,slow=23,SNR=4.1							
ASAJ	**Asahikawa**	**3.16**	**2**	P	**Pn**	**02 13 25.9**	**-0.1**
ASAJ						02 14 02.3	
JKA	**Kamikawa-asahi**	**3.16**	**2**	Pn	**Pn**	**02 13 25.9**	**-0.1**
JKA				Sn	**Sn**	**02 14 02.3**	**-0.1**
JMM	**Marumori**	**3.33**	**203**	Pn	**Pn**	**02 13 29.2**	**+0.8**
JMM				Sn	**Sn**	**02 14 06.9**	**+0.1**
NMR	**Nemuro--Hokkai**	**3.44**	**45**	*e*P	**Pn**	**02 13 29.8**	**-0.1**
NMR				*e*S	**Sn**	**02 14 05.4**	**-4.1**
GLVR	**Golovnino**	**3.61**	**39**	P	**Pn**	**02 13 33.0**	**+0.9**
GLVR				*e*S	**Sn**	**02 14 10.8**	**-2.6**
GLVR				smax	smax		
comp=N,282nm,0.1s							
GLVR				smax	smax		
comp=E,425nm,0.4s							
RUSJ	**Misakicho**	**3.78**	**33**	*e*P	**Pn**	**02 13 37.4**	**+2.9**
RUSJ				*e*S	**Sn**	**02 14 18.5**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**3.99**	**39**	*e*P	**Pn**	**02 13 37.1**	**-0.3**
YUK				*e*S	**Sn**	**02 14 20.0**	**-2.9**
YUK				pmax	pmax		
comp=Z,96nm,0.3s							
YUK				pmax	pmax		
comp=E,46nm,0.2s							
YUK				smax	smax		
comp=N,151nm,0.3s							
YUK				smax	smax		
comp=E,571nm,0.6s							
JSD	**Sado**	**4.34**	**229**	Pn	**Pn**	**02 13 43.6**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.50**	**218**	Pn	**Pn**	**02 13 58.8**	**+0.6**
MAJO	**Matsushiro**	**5.50**	**218**	Pn	**Pn**	**02 13 58.8**	**+0.6**
MAJO	**Matsushiro**	**5.50**	**218**	⇓*e*P	**Pn**	**02 14 02.2**	**+4.0**
MJAR	**Matsushiro Arr**	**5.50**	**218**		**Pn**	**02 14 00.4**	**+2.2**
MJAR	**Matsushiro Arr**	**5.50**	**218**	Pn	**Pn**	**02 14 00.9**	**+2.7**
comp=E,0.2nm,0.3s,baz=31,slow=12,SNR=7.5							
comp=E,6.3nm,0.6s							
KUR	**Kuril'sk**	**5.85**	**41**	P	**Pn**	**02 14 04.8**	**+2.0**
KUR				*e*S	**Sn**	**02 15 05.4**	**-3.1**
TEY	**Ternei**	**5.89**	**316**	*e*P	Pn	02 14 09.4	+5.9
JGF	**Kuroka**	**6.67**	**218**	Pn	**Pn**	**02 14 15.9**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.34**	**296**	Pn	**Pn**	**02 14 38.0**	**+0.9**
comp=E,1.0nm,0.3s,baz=99,slow=15,SNR=7.8							
comp=E,6.1nm,0.6s							
USRK	**Ussuriysk Ar.**	**8.34**	**296**	P	**Pn**	**02 14 38.0**	**+0.9**
KSRS	**Korea Array**	**11.77**	**257**	Pn	Pn	02 15 29.8	+5.8
comp=E,0.3nm,0.3s,baz=69,slow=13,SNR=3.3							
comp=E,0.7nm,0.4s							
CN2	**Changchun**	**12.86**	**288**	*e*P	**Pn**	**02 15 41.0**	**+2.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
HILR	**Hailar Array B**	**18.07**	**306**	P	**P**	**02 16 44.6**	**-1.5**
baz=119,slow=14							
comp=Z,4.6nm,0.6s							
MA2	**Magadan**	**19.36**	**13**	⇓*e*P	**P**	**02 16 59.8**	**-0.3**
MA2				pmax	pmax		
comp=Z,26nm,1.4s							
NJ2	**Nanjing**	**20.87**	**252**	*e*P	**P**	**02 17 16.3**	**-0.4**
NJ2				pmax	pmax		
comp=Z,12nm,0.6s							
HHC	**Hu-ho-hao-te**	**23.26**	**280**	*e*P	**P**	**02 17 41.5**	**-0.6**
HHC				pmax	pmax		
comp=Z,16nm,0.5s							
HHC				pmax	pmax		
comp=Z,140nm,4.2s							
BTO	**Baotou**	**24.46**	**280**	*e*P	**P**	**02 17 53.0**	**-0.2**
BTO				pmax	pmax		
comp=Z,19nm,0.5s							
BTO				pmax	pmax		
comp=Z,180nm,5.6s							
SONM	**Songino Array**	**26.46**	**297**	P	**P**	**02 18 11.4**	**+0.2**
comp=Z,0.8nm,0.5s,baz=93,slow=8.9,SNR=3.4							
comp=Z,0.8nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**29.73**	**128**	T	T	02 50 17.6	
baz=321,slow=75,SNR=57							
H11N1	**WAKE ISLAND Hy**	**29.73**	**128**	T	T	02 50 18.3	
baz=321,slow=75,SNR=63							
H11N3	**WAKE ISLAND Hy**	**29.74**	**128**	T	T	02 50 18.8	
baz=321,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hy**	**30.56**	**130**	T	T	02 51 20.1	
baz=322,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**30.56**	**130**	T	T	02 51 24.6	
baz=322,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**30.58**	**130**	T	T	02 51 21.9	
baz=322,slow=76,SNR=14							
PZH	**PanZhiHua**	**36.43**	**260**	P	**P**	**02 19 39.8**	**+0.8**
ZAA0	**Zalesovo Array**	**39.95**	**309**	P	**P**	**02 20 07.2**	**-0.9**
ZAA0				IAmb	IAmb	02 20 08.5	
comp=Z,2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**39.95**	**309**		**P**	**02 20 07.2**	**-0.9**
ZALV	**Zalesovo Beam**	**39.95**	**309**	P	**P**	**02 20 07.4**	**-0.7**
comp=Z,2.3nm,0.6s,baz=85,slow=8.0,SNR=9.6							
comp=Z,2.3nm,0.6s							
MK31	**Makanchi Array**	**42.80**	**299**	*c i*P	**P**	**02 20 31.3**	**-0.4**
MKAR	**Makanchi Array**	**42.80**	**299**	P	**P**	**02 20 31.2**	**-0.5**
MKAR	**Makanchi Array**	**42.80**	**299**	P	**P**	**02 20 31.4**	**-0.3**
comp=Z,2.4nm,0.4s,baz=86,slow=11,SNR=26							
comp=Z,2.4nm,0.4s							
MAKZ	**Makanchi**	**43.01**	**299**	P	**P**	**02 20 33.3**	**0.0**
MAKZ				IAmb	IAmb	02 20 48.4	
comp=Z,3.7nm,0.9s							
MAKZ	**Makanchi**	**43.01**	**299**	P	**P**	**02 20 33.3**	**0.0**
MAKZ				pmax	pmax		
comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**44.22**	**305**	P	**P**	**02 20 42.0**	**-1.0**
KURK				IAmb	IAmb	02 20 43.1	
comp=Z,12nm,1.2s							
KURK	**Kurchatov**	**44.22**	**305**	P	**P**	**02 20 43.1**	**+0.2**
KURBB	**Kurchatov Arra**	**44.29**	**305**	P	**P**	**02 20 43.1**	**-0.5**
comp=Z,4.0nm,0.5s,baz=78,slow=8.8,SNR=29							
comp=Z,4.0nm,0.5s							
ILAR	**Eielson Array**	**45.79**	**34**		**P**	**02 20 56.3**	**+1.0**
ILAR	**Eielson Array**	**45.79**	**34**	P	P	02 20 47.1	-8.1
comp=Z,0.5nm,0.9s,baz=257,slow=4.5,SNR=4.2							
comp=Z,0.5nm,0.9s							
ILAR	**Eielson Array**	**45.79**	**34**	P	**P**	**02 20 56.3**	**+1.0**
BVAR	**Borovoye Array**	**48.58**	**310**	P	**P**	**02 21 17.1**	**0.0**
comp=Z,3.7nm,0.4s,baz=73,slow=8.3,SNR=29							
comp=Z,3.7nm,0.4s							
BORK	**Borovoye**	**48.61**	**310**	*d i*P	**P**	**02 21 17.5**	**+0.1**
BORK				pmax	pmax		
comp=Z,4.0nm,0.7s							
AAK	**Ala-Archa**	**49.40**	**296**	⇓*e*P	**P**	**02 21 24.1**	**+0.3**
INK	**Inuvik**	**50.55**	**29**	P	**P**	**02 21 32.7**	**+0.8**
INK				IAmb	IAmb	02 21 34.1	
comp=Z,4.1nm,0.9s							
INK	**Inuvik**	**50.55**	**29**	P	**P**	**02 21 32.7**	**+0.8**
INK				pmax	pmax		
comp=Z,4.0nm,0.9s							
G31M	**Satah River**	**50.59**	**30**	P	**P**	**02 21 32.7**	**+0.5**
ARTI	**Arti**	**54.09**	**317**	P	**P**	**02 21 57.9**	**-0.3**
ARTI	**Arti**	**54.09**	**317**	*c i*P	**P**	**02 21 58.0**	**-0.3**
ARTI						02 22 58.4	
ARTI				S	**S**	**02 29 30.0**	**-1.0**
ARTI				SS	**SKiKP**	**02 33 08.3**	**+2.7**
ARTI				pmax	pmax		
comp=Z,5.0nm,0.7s							
AB31	**Akbulak array**	**56.06**	**308**	P	**P**	**02 22 12.2**	**-0.5**
AB31				IAmb	IAmb	02 22 13.3	
comp=Z,3.7nm,0.6s							
ABKAR	**Akbulak array**	**56.06**	**308**	P	**P**	**02 22 12.3**	**-0.3**
KIRV	**Kirov**	**57.62**	**322**	*ce*P	**P**	**02 22 23.3**	**-0.2**
WB0	**Warramunga Arr**	**60.87**	**189**	P	**P**	**02 22 45.6**	**-0.8**
WR8	**Warramunga Arr**	**61.05**	**189**	P	**P**	**02 22 46.4**	**-1.2**
WR8				IAmb	IAmb	02 22 48.3	
comp=Z,4.5nm,1.1s							
WRA	**Warramunga Arr**	**61.05**	**189**	P	**P**	**02 22 47.1**	**-0.5**
WRA	**Warramunga Arr**	**61.05**	**189**	P	**P**	**02 22 46.5**	**-1.1**
comp=Z,1.4nm,0.8s,baz=6.1,slow=6.8,SNR=7.1							
comp=Z,1.4nm,0.8s							
WRA	**Warramunga Arr**	**61.05**	**189**	*i* P	**P**	**02 22 48.0**	**+0.4**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
BELG	**Belogornoye**	**61.49**	**316**	*ce*P	**P**	**02 22 50.0**	**-0.2**
BELG				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**64.78**	**189**	P	**P**	**02 23 12.7**	**+0.4**
ASAR	**Alice Springs**	**64.78**	**189**	P	**P**	**02 23 12.6**	**+0.3**
comp=Z,0.4nm,0.5s,baz=17,slow=9.1,SNR=5.1							
comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**64.78**	**189**	P	**P**	**02 23 12.7**	**+0.4**
FINES	**FINESS Array B**	**65.72**	**332**	P	**P**	**02 23 17.0**	**-1.0**
FINES	**FINESS Array B**	**65.72**	**332**	P	**P**	**02 23 17.3**	**-0.6**
comp=Z,1.2nm,0.5s,baz=38,slow=9.6,SNR=13							
comp=Z,1.2nm,0.5s							
KIV	**Kislovodsk**	**68.94**	**310**	*e*P	**P**	**02 23 39.5**	**+0.7**
KIV				pmax	pmax		
comp=Z,8.0nm,1.0s							
KIV				MLR	MLR		
comp=Z,38nm,17.0s							
KBZ	**Khabaz**	**68.96**	**310**	P	**P**	**02 23 39.7**	**+0.9**
comp=Z,1.8nm,0.8s,baz=36,slow=5.2,SNR=5.0							
comp=Z,1.8nm,0.8s							
MNK	**Minsk**	**69.69**	**326**	*i* P	**P**	**02 23 41.6**	**-1.5**
MNK				*i* *PP	**pP**	**02 23 55.7**	**-0.8**
MNK				*i*		02 24 03.9	
MNK				*i*		02 26 13.1	
MNK				*i* PPP	PPP	02 27 57.5	
MNK				*i* S	**S**	**02 32 46.9**	**-1.0**
MNK				*i* *SS	**sS**	**02 33 11.3**	**+0.8**
MNK				*i*		02 33 38.7	
MNK				*i* SS	**SS**	**02 37 16.8**	**+1.0**
MNK				pmax	pmax		
comp=E,15nm,1.4s							
MNK				pmax	pmax		
comp=Z,5.0nm,0.8s							
MNK				pmax	pmax		
comp=N,9.0nm,0.9s							
MNK				MLR	MLR		
comp=E,362nm,26.0s							
MNK				MLR	MLR		
comp=N,349nm,23.0s							
MNK				MLR	MLR		
comp=Z,61nm,17.0s							
HFS	**Hagfors**	**70.84**	**336**	P	**P**	**02 23 49.7**	**-0.4**
comp=Z,1.9nm,0.7s,baz=46,slow=6.4,SNR=8.2							
comp=Z,1.9nm,0.7s							
NB2	**NORSAR Subarra**	**70.87**	**337**	P	**P**	**02 23 49.7**	**-0.6**
comp=Z,0.7nm,0.6s,baz=44,slow=6.2							
NOA	**NORSAR Array B**	**70.87**	**337**	P	**P**	**02 23 49.7**	**-0.6**
comp=Z,0.2nm,0.5s,baz=34,slow=6.4,SNR=3.1							
comp=Z,0.2nm,0.5s							
BOZ	**Bozeman (W)**	**71.41**	**45**	P	**P**	**02 23 54.6**	**+0.6**
BOZ	**Bozeman (W)**	**71.41**	**45**	P	**P**	**02 23 54.6**	**+0.6**
BOZ				pmax	pmax		
comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**71.68**	**322**	P	**P**	**02 23 54.6**	**-0.6**
comp=Z,0.6nm,0.4s,baz=44,slow=7.0,SNR=5.5							
comp=Z,0.6nm,0.4s							
AKASG	**Malin Array Be**	**71.68**	**322**	*i* P	**P**	**02 23 55.5**	**+0.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**71.68**	**322**	⇑*e*P	**P**	**02 23 54.5**	**-0.8**
AKBB				pmax	pmax		
comp=Z,7.0nm,1.7s							
PDAR	**Pinedale Array**	**74.38**	**47**	P	**P**	**02 24 12.7**	**+0.9**
BUR08	**Bucovina Ar. S**	**75.70**	**322**	P	**P**	**02 24 18.6**	**-0.5**
BUR08				IAmb	IAmb	02 24 22.6	
comp=Z,6.7nm,1.4s							
BURAR	**Bucovina Array**	**75.72**	**322**	P	**P**	**02 24 19.1**	**-0.1**
ILGA	**Ilgaz**	**75.90**	**312**	P	**P**	**02 24 20.8**	**+0.3**
ILGA				IAmb	IAmb	02 24 43.0	
comp=Z,6.4nm,1.4s							
BRTR	**Keskin Array B**	**76.84**	**311**	P	**P**	**02 24 25.3**	**-0.4**
BRTR	**Keskin Array B**	**76.84**	**311**	P	**P**	**02 24 25.4**	**-0.3**
comp=Z,0.4nm,0.5s,baz=102,slow=1.9,SNR=3.7							
comp=Z,0.4nm,0.5s							
GERES	**GERESS Array B**	**79.78**	**328**	P	**P**	**02 24 41.9**	**+0.1**
GERES	**GERESS Array B**	**79.78**	**328**	P	**P**	**02 24 39.6**	**-2.2**
comp=Z,0.4nm,0.5s,baz=34,slow=5.6,SNR=3.5							
comp=Z,0.4nm,0.5s							
GERES	**GERESS Array B**	**79.78**	**328**	P	**P**	**02 24 41.9**	**+0.1**
PRED	**Cave del Predi**	**81.77**	**327**	P	**P**	**02 24 51.5**	**-0.8**
PRED				IAmb	IAmb	02 24 54.7	
comp=Z,4.0nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**82.94**	**329**	P	**P**	**02 24 58.8**	**+0.1**
FUORN				IAmb	IAmb	02 25 11.2	
comp=Z,9.0nm,1.3s							
IDI	**Anoyia**	**84.88**	**313**	P	**P**	**02 25 08.9**	**+0.4**
SNAA	**Sanae**	**144.72**	**198**	PKPdf	**PKPab**	**02 32 07.3**	**-0.6**
SNAA	**Sanae**	**144.72**	**198**	PKPbc	**PKPab**	**02 32 07.4**	**-0.5**
comp=Z,0.9nm,0.6s,baz=192,slow=4.7,SNR=17							

*SDD **30** 02:18:21.8±2.2, 19.°19N×66.°97W, h18km±10km, MD3.2, ML3.6, MW3.7*
*NEIC **30** 02:18:23.4±2.1, 19.°05N±0.°04×67.°12W±0.°03, h23km±3km, mb4.2/13, ML3.6/11, Md3.7/13(RSPR), Error ellipse: s-maj=5.9km s-min=3.9km az=202.0*
*OSPL **30** 02:18:23.6±1.4, 19.°10N×67.°11W, h5km±7km, ML3.6*
*RSPR **30** 02:18:24.5, 19.°12N×67.°13W, h24km±32km, MD3.7/13*
ISC 30 02:18:22.8±1.3, 19.°09N±0.°05×67.°15W±0.°03, h24km±11km, n93, σ1§22/107, mb4.2/5, 17C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.62**	**176**		**Pb**	**02 18 35.1**	**+0.1**
AGPR					**Sn**	**02 18 44.8**	**-0.6**
AGPR	**Aguadilla, PR**	**0.62**	**176**	⇑*i*P	**Pb**	**02 18 35.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.62**	**176**	⇑*i*P	**Pb**	**02 18 34.9**	**-0.1**
AGPR				⇑*i*S	**Sn**	**02 18 44.1**	**-1.3**
AGPR				IAML		02 18 51.8	
comp=N,5μm,0.3s							
AGPR	**Aguadilla, PR**	**0.62**	**176**	*i* P	**Pb**	**02 18 35.0**	**-0.1**
AGPR				*e*S	**Sb**	**02 18 44.0**	**+0.6**
AGPR				IAML		02 18 45.3	
comp=Z,3μm,0.4s							
IDE	**Isla Desecheo**	**0.76**	**204**		**Pb**	**02 18 37.4**	**-0.1**
IDE					**Sn**	**02 18 48.9**	**0.0**
IDE	**Isla Desecheo**	**0.76**	**204**	⇑*i*P	**Pb**	**02 18 37.4**	**-0.1**
IDE	**Isla Desecheo**	**0.76**	**204**	*e*S	**Sn**	**02 18 48.9**	**0.0**
AOPR	**Arecibo Observ**	**0.83**	**153**		**Pb**	**02 18 37.8**	**-0.8**
AOPR					**Sb**	**02 18 48.6**	**-0.8**
AOPR				IAML		02 18 53.9	
comp=N,5μm,0.3s							
AOPR	**Arecibo Observ**	**0.83**	**153**	⇓*i*P	**Pb**	**02 18 38.0**	**-0.6**
AOPR	**Arecibo Observ**	**0.83**	**153**	*e*S	**Sn**	**02 18 49.9**	**-0.8**
AOPR	**Arecibo Observ**	**0.83**	**153**	⇑*i*P	**Pb**	**02 18 37.8**	**-0.8**
AOPR				⇑*i*S	**Sb**	**02 18 48.3**	**-1.1**
EMPR	**Esperanza - Ma**	**0.85**	**136**		**Pn**	**02 18 39.6**	**+0.2**
EMPR					**Sn**	**02 18 52.6**	**+1.6**
EMPR	**Esperanza - Ma**	**0.85**	**136**	Pg	**Pb**	**02 18 38.7**	**-0.3**
EMPR	**Esperanza - Ma**	**0.85**	**136**	⇑*e*P	**

comp=Z,417nm,0.8s
HIDR Higuey Centro 1.56 252 ↓*iP* **Pn 02 18 49.4 +0.3**
HIDR Higuey Centro 1.56 252 *eS* **Sb 02 19 11.1 +0.7**
HIDR Higuey Centro 1.56 252 ↑*iP* **Pn 02 18 49.0 -0.2**
HIDR ↑↑*iS* **Sb 02 19 10.0 -0.4**
HIDR IAML 02 19 17.2
comp=N,1μm,0.2s
MIDR Miches 1.80 267 ↑*eP* **Pn 02 18 52.1 -0.2**
MIDR Miches 1.80 267 ↓*iP* **Pn 02 18 52.1 -0.2**
MIDR ↑↑*iS* **Sn 02 19 15.0 +0.6**
MIDR IAML 02 19 21.8
comp=N,229nm,0.9s
SMDR Samana, DR 1.93 276 ↑*eP* **Pn 02 18 53.1 -1.1**
DR12 Loma Pena Alta 2.13 262 Pn **Pn 02 18 56.9 -0.1**
HATOM Hato Mayor del 2.13 262 ↓*iP* **Pn 02 18 57.2 +0.2**
HATOM ↑↑*iS* **Sb 02 19 26.1 -0.7**
HATOM IAML 02 19 31.7
comp=N,325nm,0.5s
SDD Santo Domingo 2.69 257 Sn **Sn 02 19 38.9 +2.4**
SDD Santo Domingo 2.69 257 ↓*eP* **Pn 02 19 05.7 +1.1**
SDD Santo Domingo 2.69 257 *iP* **Pn 02 19 05.9 +1.2**
BANI BANI 3.12 258 Pn **Pn 02 19 11.4 +0.8**
SC01 Santiago de lo 3.39 276 ↑*eP* **Pn 02 19 15.6 +1.2**
SC01 Santiago de lo 3.39 276 *iP* **Pn 02 19 15.9 +1.6**
SDDR Presa de Saban 3.91 269 Pn **Pn 02 19 22.3 +0.8**
SDDR Presa de Saban 3.91 269 ↓*eP* **Pn 02 19 23.3 +1.8**
SDDR Presa de Saban 3.91 269 *iP* **Pn 02 19 23.1 +1.6**
SDDR IAML 02 20 25.9
comp=Z,100nm,0.5s
LONE3 El Aguacate, B 4.11 264 *iP* **Pn 02 19 26.0 +1.8**
LODU1 El Espartillar 4.16 261 *iP* **Pn 02 19 27.1 +2.2**
LOVI El Cajuil, Ovi 4.20 253 *iP* **Pn 02 19 26.9 +1.4**
LOVI *eS* **Sn 02 20 13.9 +0.1**
LOVI IAML 02 20 24.1
comp=Z,95nm,0.7s
LOBH Bahia de las A 4.43 255 *iP* **Pn 02 19 30.3 +1.8**
LOBH IAML 02 20 37.2
comp=Z,80nm,3.1s
MASC Masc 6.76 280 *eP* **Pn 02 19 56.7 -3.9**
MASC *eS* **Sn 02 21 11.0 -5.9**
QMBU Quimbuelo 7.30 280 *eP* Pn 02 20 02.9 -5.2
BIM Bigot 7.39 127 Pn **Pn 02 20 09.7 +0.3**
MOAC Moa 7.51 283 *eP* Pn 02 20 05.7 -5.2
NMDO Nuevo Mundo 7.51 283 *eP* Pn 02 20 05.7 -5.2
GTBY Guantanamo Bay 7.55 278 *eP* Pn 02 20 06.4 -5.1
MPOM Morne Pois Mar 7.59 127 Pn **Pn 02 20 13.4 +1.3**
SABCS La Quijada 7.79 281 *eP* Pn 02 20 10.3 -4.6
RCC Rio Carpintero 8.11 278 *eP* Pn 02 20 14.6 -4.6
PINC Pinares de May 8.25 281 *eP* Pn 02 20 15.4 -5.7
MARVS Santiago de Cu 8.30 278 *eP* **Pn 02 20 17.4 -4.4**
YAR Yar 8.76 280 *eP* Pn 02 20 22.3 -5.9
BAUV El Baul 10.12 185 Pn **Pn 02 20 48.0 +1.1**
CCCC Cccc 10.19 284 *eP* Pn 02 20 37.4 -10
RUSC La Rusia 14.33 205 Pn **Pn 02 21 45.0 +0.1**
BOAV Boa Vista 17.82 158 **P 02 22 29.6 -0.3**
Y60A Bolivia 17.83 329 Pn **Pn 02 22 28.8 -0.6**
Y60A IAmb IAmb 02 22 50.7
comp=Z,66nm,1.2s
Y58A Scranton 18.50 325 **Pn 02 22 39.8 +2.2**
Y58A IAmb IAmb 02 22 58.9
comp=Z,37nm,1.3s
V61A Roper 18.60 335 P **Pn 02 22 40.5 +1.7**
V53A Saluda 21.54 323 P **P 02 23 12.5 +2.0**
R55A Marlinton 22.20 332 P **P 02 23 19.9 +2.3**
R55A IAmb IAmb 02 23 35.1
comp=Z,12nm,1.2s
MACA Manacapuru-AM 23.01 163 P **P 02 23 24.8 -1.4**
MACA IAmb IAmb 02 23 26.4
comp=Z,10nm,1.3s
WHAR Wooly Hollow 27.46 311 P **P 02 24 06.7 -0.4**
WHAR IAmb IAmb 02 24 34.6
comp=Z,6.2nm,1.4s
MGMO Mountain Grove 28.40 315 P **P 02 24 15.7 +0.1**
MGMO IAmb IAmb 02 24 15.8
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 34.70 294 P **P 02 25 12.1 +1.0**
PB11 IPOC Station P 38.69 184 P **P 02 25 43.4 -1.8**
NEW Newport 49.59 318 **P 02 27 11.6 -0.6**
NEW IAmb IAmb 02 27 48.8
comp=Z,2.1nm,0.9s

IDC 30 02:22:59.7±1.7, 1°61'N×126°98'E, h0km, mb3.6/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=116.3km s-min=20.7km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.63**	**184**	P	P	02 27 29.5	-0.5
	0.1nm,0.3s,baz=9.9,slow=8.5,SNR=6.3 0.9nm,0.5s						
WRA	**Warramunga Arr**	**22.61**	**162**	P	P	02 28 01.0	-1.2
	0.7nm,0.3s,baz=340,slow=11,SNR=9.8 0.7nm,0.3s						
ASAR	**Alice Springs**	**26.01**	**165**	P	P	02 28 36.1	+1.5
	0.2nm,0.3s,baz=348,slow=14,SNR=4.4 0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	02 33 04.8	+0.5
	0.3nm,0.4s,baz=106,slow=7.6,SNR=5.7 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.65**	**328**	P	P	02 33 32.0	-0.6
	0.4nm,0.5s,baz=130,slow=6.4,SNR=4.5 0.4nm,0.5s						

PRU 30 02:24:11.7, 50°09'N×18°42'E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	**Steborice**	**0.45**	**250**	*e*PG	Pg	02 24 19.9	-0.3
STEB				*e*SG	Sg	02 24 26.2	+0.2
	comp=Z,6.6nm,0.3s						
MORC	**Moravsky Berou**	**0.65**	**241**	*e*PG	Pg	02 24 23.2	-0.9
MORC				*e*SG	Sg	02 24 31.9	-0.6
KRLC	**Kraliky**	**1.05**	**270**	*e*PG	Pg	02 24 30.3	-1.6
KRLC				*e*SG	Sg	02 24 44.6	-1.0
DPC	**Dobruska-Polom**	**1.37**	**282**	*e*PG	Pg	02 24 36.1	-1.9
DPC				*e*SG	Sg	02 24 55.7	-0.1
DPC	**Dobruska-Polom**	**1.37**	**282**	*e*	Sg	02 24 55.7	-0.1
DPC	**Dobruska-Polom**	**1.37**	**282**	*e*P	Pg	02 24 36.1	-1.9

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*AEIC **30** 02:27:27.3±1.1, 54°49'N±0°01'×161°50'W±0°03, h10km±4km, Error ellipse: s-maj=3.2km s-min=1.5km az=62.0*
NEIC 30 02:27:27.1±1.8, 54°44'N±0°03'×161°42'W±0°04, h26km±10km, ML2.5/8, ML2.1(AEIC)**, Error ellipse: s-maj=4.9km s-min=3.3km az=156.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.76**	**340**		Pb	02 27 41.1	-0.5
DOL					Sb	02 27 51.9	+0.4
DT1	**Dutton Round H**	**0.83**	**324**		Pb	02 27 41.9	-1.0
DT1					Sb	02 27 53.4	-0.4
PS4A	**Pavlof South-4**	**0.94**	**345**		Pn	02 27 44.4	-0.2
PS4A					Sn	02 27 57.4	+0.2
PS1A	**Pavlof South-1**	**1.00**	**349**		Pn	02 27 45.4	0.0
PS1A					Sn	02 27 59.3	+0.6
SDPT	**Sand Point**	**1.06**	**30**		Pn	02 27 46.1	-0.1
SDPT				Sg	Sb	02 28 01.1	+0.9
SDPT				IAML		02 28 01.8	
	comp=N,115nm,0.6s						
SDPT				IAML		02 28 02.5	
	comp=E,144nm,0.4s						
CNBA	**Chernabura Isl**	**1.13**	**70**	Pn	Pn	02 27 46.6	-0.5
FALS	**False Pass**	**1.23**	**291**	Pn	Pn	02 27 47.1	-1.5
S12K	**Black Hills**	**1.32**	**344**	Pn	Pb	02 27 50.6	-0.5
S12K				IAML		02 28 11.3	
	comp=E,79nm,0.5s						
S12K				IAML		02 28 13.0	
	comp=N,61nm,1.0s						
ISNN	**Isanotski Nort**	**1.43**	**287**		Pn	02 27 52.0	+0.7
SSLS	**Shishaldin Sou**	**1.53**	**281**		Pn	02 27 53.3	+0.6
SSLS					Sb	02 28 13.4	-0.3
SSLN	**Shishaldin Nor**	**1.54**	**285**		Pn	02 27 53.7	+0.8
SSLN					Sb	02 28 14.6	+0.4
SSBA	**Shishaldin**	**1.61**	**283**		Pn	02 27 54.3	+0.5
SSBA					Sb	02 28 15.9	-0.1

CATAC 30 02:51:28.5±0.4, 11°N±4°×8°6'W±°, h181km±3km, M3.1/20, MLv3.1/20, Error ellipse: s-maj=11.6km s-min=2.9km az=47.9, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.10**	**163**	P	Pn	02 51 53.3	+0.9
CARN				S	Sn	02 52 13.1	+2.3
MORN	**Al O del Volca**	**0.28**	**340**	P	Pn	02 51 53.0	+0.3
CONN	**Concepcion**	**0.29**	**345**	P	Pn	02 51 53.3	+0.6
ELI1	**Hacienda Flor**	**0.63**	**180**	P	Pn	02 51 54.2	+0.2
ELI1	**Hacienda Flor**	**0.63**	**180**	S	Sn	02 52 15.0	+1.3
NADN	**Granada**	**0.66**	**315**	P	Pn	02 51 55.0	+0.9
NADN				S	Sn	02 52 16.7	+2.7
UNAN	**Cigeo UNAN**	**1.08**	**320**	P	Pn	02 51 57.7	+0.7
JTS	**Las Juntas de**	**1.15**	**149**	P	Pn	02 51 57.6	+0.1
JTS				S	Sn	02 52 19.2	-0.7
SOCE	**Pocosol**	**1.28**	**134**	S	Sn	02 52 23.2	+1.3
SOCE	**Pocosol**	**1.28**	**134**	P	Pn	02 51 59.0	+0.4
COPN	**Copaltepe**	**1.35**	**311**	P	Pn	02 51 60.0	+0.8
MOM2	**El Cardon**	**1.47**	**322**	P	Pn	02 52 00.4	+0.2
MOM2				S	Sn	02 52 24.0	-0.9
MOM3	**MOM3**	**1.54**	**322**	P	Pn	02 52 02.0	+1.0
MOM3				S	Sn	02 52 25.4	-0.7
CNGA	**Al SSO del Vol**	**1.65**	**317**	P	Pn	02 52 02.6	+0.6
CNGA				S	Sn	02 52 29.1	+1.0
CNGN	**Cerro Negro**	**1.65**	**317**	S	Sn	02 52 29.6	+1.5
CNGN	**Cerro Negro**	**1.65**	**317**	P	Pn	02 52 02.9	+0.8
MATN	**Matagalpa**	**1.68**	**347**	P	Pn	02 52 01.4	-1.0
MATN	**Matagalpa**	**1.68**	**347**	S	Sn	02 52 28.4	-0.3
LIMN	**Finca el Limon**	**1.94**	**336**	P	Pn	02 52 05.6	+0.5
PKGN	**Cerro Pekin**	**1.96**	**315**	P	Pn	02 52 05.7	+0.5
PKGN				S	Sn	02 52 35.5	+1.7
CRIN	**San Cristobal**	**2.03**	**314**	S	Sn	02 52 36.0	+0.7
LCR2	**La Lucha 2**	**2.16**	**135**	S	Sn	02 52 37.0	-0.9
LCR2	**La Lucha 2**	**2.16**	**135**	P	Pn	02 52 07.7	+0.1
RCON	**San Juan de Ri**	**2.27**	**345**	P	Pn	02 52 09.3	+0.5
POTN	**Potosi Cosigui**	**2.56**	**312**	P	Pn	02 52 11.4	-0.5
POTN				S	Sn	02 52 44.9	-0.9
CSGN	**Cosiguina Volc**	**2.59**	**311**	P	Pn	02 52 12.7	+0.4
CSGN				S	Sn	02 52 46.1	-0.4
OCHAL	**Ojochal**	**2.87**	**139**	S	Sn	02 52 52.2	-0.1
OCHAL	**Ojochal**	**2.87**	**139**	P	Pn	02 52 15.9	+0.3
CNCH	**Conchagua**	**2.98**	**312**	S	Sn	02 52 55.4	+0.4
DRK0	**Durika**	**3.03**	**131**	P	Pn	02 52 18.1	+0.3
DRK0	**Durika**	**3.03**	**131**	S	Sn	02 52 54.6	-1.5
PACA	**Pacayal**	**3.47**	**309**	S	Sn	02 53 04.9	-1.0

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*IDC **30** 03:00:02.0±3.3, 6°82'N×124°84'E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=57.4km s-min=10.9km az=144.0*
ISC 30 03:00:03.1±19.0, 7°N±2°×125°E±°, h10km, n7, σ0s88/5, mb3.6/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.55**	**77**	Pg	**Pn**	**03 00 17.0**	**0.0**
	0.4nm,0.3s,baz=251,slow=9.3,SNR=92						
DAV				Lg	Lg	03 00 27.6	
	0.5nm,0.3s,baz=0.0,slow=19,SNR=59						
DAV	**Davao City (W)**	**0.55**	**77**	P	Pg	03 00 11.0	-2.8
FITZ	**Fitzroy Crossi**	**24.89**	**179**	P	**P**	**03 05 25.8**	**-0.5**
	1.8nm,0.9s,baz=9.1,slow=6.5,SNR=6.2 1.8nm,0.9s						
JNU	**Nakatsue**	**26.60**	**11**	LR	LR	03 16 16.3	
	comp=Z,48nm,19.0s,baz=215,slow=36						
WRA	**Warramunga Arr**	**28.25**	**161**	P	**P**	**03 05 55.7**	**-0.9**
	0.5nm,0.6s,baz=331,slow=10,SNR=8.2 0.5nm,0.6s						
ASAR	**Alice Springs**	**31.64**	**164**	P	**P**	**03 06 27.3**	**+0.7**
	0.3nm,0.4s,baz=344,slow=7.2,SNR=5.5 0.3nm,0.4s						
STKA	**Stephens Creek**	**41.72**	**159**	P	**P**	**03 07 52.5**	**+0.2**
	1.5nm,0.7s,baz=356,slow=14,SNR=3.0 1.5nm,0.7s						

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*IDC **30** 03:09:29.8±1.4, 16°59S×178°31W, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=102.7km s-min=19.9km az=150.0*
*NEIC **30** 03:10:29.5±1.3, 17°7S±0°1×178°8W±0°2, h604km±12km, mb4.2/22, Error ellipse: s-maj=27.5km s-min=13.0km az=125.0*
ISC 30 03:10:28.6±0.8, 17°6S±0°2×178°8W±0°1, h600km, n34, σ0s50/34, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.02**	**268**	P	**P**	**03 11 48.6**	**+0.6**
HNR	**Honiara**	**22.22**	**289**	P	**P**	**03 14 42.4**	**0.0**
EIDS	**Eidsvold**	**29.03**	**249**	P	**P**	**03 15 42.1**	**0.0**
EIDS				IAmb	IAmb	03 15 48.9	
	comp=Z,12nm,1.2s						
COEN	**Coen**	**36.75**	**270**	P	**P**	**03 16 46.1**	**-1.0**
COEN				IAmb	IAmb	03 16 50.6	
	comp=Z,9.9nm,1.1s						
TAU	**Tasmania Unive**	**38.20**	**221**	P	**P**	**03 16 58.2**	**-0.3**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 17 01.5**	**+0.8**
STKA				IAmb	IAmb	03 17 02.6	
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 17 01.2**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=80,slow=9.9,SNR=5.5 comp=Z,3.3nm,0.7s						
INKA	**Innaminka**	**38.52**	**247**	P	**P**	**03 17 00.6**	**-0.7**
BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**03 17 38.5**	**0.0**
BBOO				IAmb	IAmb	03 17 38.7	
	comp=Z,30nm,1.4s						
KHLH	**Kahului Airpor**	**44.13**	**31**	P	**P**	**03 17 45.5**	**0.0**
WR0	**Warramunga Arr**	**44.14**	**259**	P	**P**	**03 17 46.5**	**+0.7**
WR0				IAmb	IAmb	03 17 50.7	
	comp=Z,5.1nm,1.2s						
WR8	**Warramunga Arr**	**44.18**	**259**	P	**P**	**03 17 46.1**	**0.0**
WB0	**Warramunga Arr**	**44.30**	**260**	P	**P**	**03 17 47.0**	**+0.1**
WB0				IAmb	IAmb	03 17 47.9	
	comp=Z,2.4nm,0.6s						
WB2	**Warramunga Arr**	**44.32**	**259**	P	**P**	**03 17 47.2**	**+0.1**
WB2				IAmb	IAmb	03 17 53.8	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**44.33**	**259**	P	**P**	**03 17 47.2**	**0.0**
WRA	**Warramunga Arr**	**44.33**	**259**	P	**P**	**03 17 47.3**	**0.0**
	comp=Z,1.5nm,0.5s,baz=94,slow=7.4,SNR=30 comp=Z,1.5nm,0.5s						
AS31	**Alice Springs**	**44.52**	**254**	P	**P**	**03 17 49.2**	**+0.6**
AS31				IAmb	IAmb	03 17 50.2	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**03 17 48.7**	**+0.1**
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**03 17 49.1**	**+0.5**
	comp=Z,10nm,0.7s,baz=88,slow=8.6,SNR=133 comp=Z,10nm,0.7s						
FORT	**Forrest**	**49.80**	**244**	P	**P**	**03 18 27.0**	**-0.9**
FORT				IAmb	IAmb	03 18 29.8	
	comp=Z,6.9nm,1.2s						
KNRA	**Kununurra**	**50.16**	**264**	P	**P**	**03 18 31.4**	**+0.6**
KNRA				IAmb	IAmb	03 18 35.9	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.72**	**260**	P	**P**	**03 18 49.9**	**+0.8**
MBWA	**Marble Bar**	**57.80**	**256**	P	**P**	**03 19 24.3**	**0.0**
MBWA				IAmb	IAmb	03 19 24.4	
	comp=Z,18nm,1.4s						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**03 21 34.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=244,slow=7.8,SNR=3.8 comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**03 22 04.2**	**-0.5**
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**03 22 04.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=220,slow=5.0,SNR=8.5 comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**03 22 08.0**	**+0.2**
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**03 22 08.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=217,slow=6.0,SNR=12 comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**03 22 13.2**	**-0.3**
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**03 22 12.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=230,slow=4.3,SNR=4.8 comp=Z,0.4nm,0.6s						
F24K	**Squaw Lake**	**87.90**	**11**	P	**P**	**03 22 15.3**	**+0.3**
G31M	**Satah River**	**90.50**	**16**	P	**P**	**03 22 27.2**	**+0.2**
C27K	**Jago River**	**90.51**	**12**	P	**P**	**03 22 27.6**	**+0.6**
C27K				IAmb	IAmb	03 22 34.7	
	comp=Z,4.9nm,1.2s						
ESQI	**Esquipulas**	**93.80**	**76**	P	**P**	**03 22 43.0**	**-0.4**

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*IDC **30** 03:16:29.8±4.0, 5°63N×126°58E, h89km±36km, mb4.1/19, mbtmp4.4/20, MS3.1/8, Error ellipse: s-maj=26.7km s-min=10.9km az=69.0*
*NEIC **30** 03:16:31.3±1.8, 5°57N±0°05×126°61E±0°05, h96km±6km, mb4.5/30, Error ellipse: s-maj=8.6km s-min=6.2km az=143.0*
*DJA **30** 03:16:33.1±0.5, 5°N±4°×127°E±°, h10km, M5.0/15, mB5.5/7, mb4.9/15, MLv5.0/13, Mw(mB)4.9/7*
ISC 30 03:16:30.9±1.0, 5°60N±0°05×126°61E±0°09, h99km±9km, n108, σ1s19/104, mb4.5/36, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.78**	**325**	Pn	**Pn**	**03 17 00.9**	**+0.2**
DAV					**Sn**	**03 17 24.7**	**+1.3**
DAV	**Davao City (W)**	**1.78**	**325**	S	**Sn**	**03 17 21.5**	**-1.9**
	0.1nm,0.3s,baz=208,slow=11,SNR=3.9						
SGSI	**Sangihe**	**2.19**	**210**	P	**Pn**	**03 17 04.5**	**-1.5**
TNTI	**Ternate**	**4.86**	**171**		**Pn**	**03 17 40.6**	**-1.1**
TNTI	**Ternate**	**4.86**	**171**	P	**Pn**	**03 17 40.9**	**-0.9**
KMSI	**Cibinong**	**5.64**	**208**	P	**Pn**	**03 17 53.0**	**+0.6**
MRSI	**Marisa**	**6.90**	**223**	P	**Pn**	**03 18 09.6**	**0.0**
TOLI2	**Tolitoli**	**7.33**	**233**		**Pn**	**03 18 12.9**	**-2.5**
SANI	**Sanana**	**7.63**	**185**	P	Pn	03 18 15.3	-4.1
	0.6nm4μm141nm,0.8s						
LUWI	**Luwuk**	**7.63**	**210**		**Pn**	**03 18 19.0**	**-0.5**
LUWI	**Luwuk**	**7.63**	**210**	P	**Pn**	**03 18 22.4**	**+2.9**
	3μm332nm,1.0s						
MYLDM	**Lahad Datu**	**8.09**	**267**		**Pn**	**03 18 25.1**	**-0.5**
APSI	**Ampana**	**8.15**	**218**	P	**Pn**	**03 18 28.4**	**+1.9**
	0.5nm2μm165nm,0.9s						
NLAI	**Namlea**	**8.80**	**177**	P	**Pn**	**03 18 33.0**	**-2.3**
	210nm,0.7s						
AAI	**Ambon**	**9.36**	**170**	P	**Pn**	**03 18 42.2**	**-0.9**
	51nm,1.1s						
FAKI	**Fak Fak**	**10.17**	**146**		**Pn**	**03 18 53.6**	**-0.4**
FAKI	**Fak Fak**	**10.17**	**146**	P	**Pn**	**03 18 53.8**	**-0.2**
SPSI	**Sidrap Palu**	**11.71**	**216**	P	**Pn**	**03 19 14.7**	**-0.1**
	2μm36nm,0.8s						
KAPI	**Kappang**	**12.57**	**213**		**Pn**	**03 19 25.4**	**-1.0**
KAPI	**Kappang**	**12.57**	**213**	P	**Pn**	**03 19 26.1**	**-0.3**
	38nm,0.9s,baz=9.2,slow=4.5,SNR=18						
KAPI				LR	LR	03 23 32.6	
	comp=Z,130nm,20.6s,baz=62,slow=34						
BKSI	**Bulukumba**	**12.64**	**211**	P	**Pn**	**03 19 26.8**	**-0.4**
	19nm,0.9s						
SBUM	**Sibu**	**14.69**	**258**		**Pn**	**03 19 53.9**	**0.0**
EDFI	**Ende, Flores**	**15.08**	**199**	P	**P**	**03 20 02.8**	**+0.9**
	36nm,0.8s						
SOEI	**Soe**	**15.43**	**189**	Pn	**Pn**	**03 20 03.4**	**0.0**
SOEI				IAmb	IAmb	03 20 33.2	
	comp=Z,47nm,0.8s						
SOEI	**Soe**	**15.43**	**189**	P	P	03 20 13.6	+7.8
BATI	**Baumata**	**15.98**	**191**	P	**P**	**03 20 14.6**	**+2.9**
	comp=Z,41nm,0.3s,baz=152,slow=7.2,SNR=4.4						
KSM	**Kuching**	**16.78**	**256**	P	**Pn**	**03 20 20.5**	**+0.5**
KSM				IAmb	IAmb	03 20 24.3	
	comp=Z,47nm,1.1s						
PLAI	**Plampang**	**16.82**	**212**	P	**P**	**03 20 27.1**	**+6.0**
JAGI	**Jajag, Banyuwa**	**18.70**	**222**		**P**	**03 20 41.4**	**-0.4**
JAGI				IAmb	IAmb	03 20 45.9	
	comp=Z,26nm,0.9s						
MTN	**Manton Dam**	**18.87**	**166**		**P**	**03 20 43.1**	**-0.4**
MTN				IAmb	IAmb	03 20 50.6	
	comp=Z,11nm,0.6s						
GUMO	**Guam**	**19.66**	**65**	LR	LR	03 29 46.8	
	comp=Z,34nm,18.3s,baz=73,slow=40						
KNRA	**Kununurra**	**21.25**	**174**		**P**	**03 21 09.1**	**-0.1**
MYKOM	**Kota Tinggi**	**23.02**	**261**	P	**P**	**03 21 26.6**	**-1.1**
MYKOM				IAmb	IAmb	03 21 29.5	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**03 21 32.3**	**-0.5**
JCJ	**Chichijima**	**26.02**	**33**	LR	LR	03 33 39.8	
	comp=Z,12nm,19.1s,baz=243,slow=40						
WB0	**Warramunga Arr**	**26.35**	**163**	P	**P**	**03 21 57.2**	**-0.7**
WRAB	**Tennant Creek**	**26.49**	**163**	P	**P**	**03 22 01.3**	**+2.0**
WRAB				IAmb	IAmb	03 22 04.9	
	comp=Z,24nm,1.2s						
WRA	**Warramunga Arr**	**26.50**	**164**	P	**P**	**03 21 58.8**	**-0.5**
WRA					**PcP**	**03 25 21.0**	**-1.0**
WRA	**Warramunga Arr**	**26.50**	**164**	P	**P**	**03 21 58.9**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=344,slow=10,SNR=38						
WRA				PcP	**PcP**	**03 25 21.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=319,slow=3.2,SNR=5.2 comp=Z,2.0nm,0.4s						
WR8	**Warramunga Arr**	**26.56**	**163**	P	**P**	**03 21 59.9**	**+0.1**
WR8				IAmb	IAmb	03 22 05.4	
	comp=Z,10nm,0.8s						
NJ2	**Nanjing**	**27.30**	**346**	*e*P	**P**	**03 22 09.8**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JNU	**Nakatsue**	**27.67**	**8**	LR	LR	03 35 55.1	
	comp=Z,37nm,18.1s,baz=209,slow=42						
CMAR	**Chiang Mai Arr**	**29.86**	**298**	P	**P**	**03 22 27.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**29.86**	**298**	P	**P**	**03 22 29.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=52,slow=43,SNR=3.1						
CMAR				LR	LR	03 34 54.5	
	comp=Z,26nm,19.1s,baz=200,slow=37 comp=Z,0.9nm,0.3s						
AS31	**Alice Springs**	**29.95**	**167**	P	**P**	**03 22 30.3**	**+0.3**
AS31				PcP	**PcP**	**03 25 30.5**	**0.0**
ASAR	**Alice Springs**	**29.95**	**167**	P	**P**	**03 22 29.4**	**-0.6**
ASAR					**PcP**	**03 25 30.6**	**+0.2**
ASAR	**Alice Springs**	**29.95**	**167**	P	**P**	**03 22 30.0**	**0.0**
	comp=Z,1.8nm,0.5s,baz=345,slow=6.9,SNR=49						
ASAR				PcP	**PcP**	**03 25 31.4**	**+0.9**
	comp=Z,3.1nm,0.5s,baz=350,slow=2.3,SNR=19 comp=Z,1.8nm,0.5s						
PZH	**PanZhiHua**	**31.55**	**314**	P	**P**	**03 22 45.8**	**+1.6**
KSRS	**Korea Array**	**31.73**	**2**	LR	LR	03 38 45.0	
	comp=Z,3μm,18.3s,baz=180,slow=42						
MJAR	**Matsushiro Arr**	**32.58**	**18**	LR	LR	03 33 54.8	
	comp=Z,23nm,21.1s,baz=187,slow=32						
BJT	**Baijiatuau**	**35.53**	**346**	P	**P**	**03 23 17.8**	**-0.7**
BJI	**Beijing**	**35.55**	**346**	P	**P**	**03 23 19.0**	**+0.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
INKA	**Innaminka**	**35.85**	**158**	P	**P**	**03 23 22.1**	**+0.8**
INKA				IAmb	IAmb	03 23 24.7	
	comp=Z,3.3nm,0.7s						
MORW	**Morawa**	**35.94**	**196**	P	**P**	**03 23 22.3**	**+0.3**
MORW			

comp=Z,30nm,18.7s,baz=113,slow=39
PETK Petropavlovsk- 53.76 23 P P 03 25 43.5 +0.5
PETK Petropavlovsk- 53.76 23 P P 03 25 43.7 +0.7
comp=Z,2.7nm,0.8s,baz=230,slow=1.2,SNR=4.5
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 55.96 325 P P 03 25 58.5 -0.5
comp=Z,2.2nm,0.5s,baz=121,slow=8.3,SNR=14
MKAR PcP **PcP 03 26 56.8 +0.3**
comp=Z,2.2nm,0.7s,baz=101,slow=5.1,SNR=5.5
comp=Z,2.2nm,0.5s
KSH Kashi 56.65 314 P **P 03 26 05.8 +1.6**
ZAA0 Zalasovo Array 58.88 333 P 03 26 19.6 +0.2
ZAA0 IAmb IAmb 03 26 22.3
comp=Z,3.5nm,1.0s
ZALV Zalesovo Beam 58.88 333 P 03 26 19.5 +0.2
ZALV Zalesovo Beam 58.88 333 P **P 03 26 18.2 -1.1**
comp=Z,1.2nm,0.3s,baz=128,slow=5.9,SNR=9.2
comp=Z,1.2nm,0.3s
KURK Kurchatov 60.11 327 P 03 26 27.3 -0.5
KURK IAmb IAmb 03 26 30.2
comp=Z,4.4nm,0.6s
KURBB Kurchatov Arra 60.11 327 P **P 03 26 27.2 -0.6**
comp=Z,3.2nm,0.7s,baz=125,slow=6.6,SNR=12
comp=Z,3.2nm,0.7s
GAR Garm 60.58 312 P 03 26 30.9 -0.6
CHGR Chuyangaron 61.34 311 P 03 26 37.0 +0.4
CHGR IAmb IAmb 03 26 39.6
comp=Z,5.1nm,0.8s
BVAR Borovoye Array 65.70 327 P **P 03 27 05.0 +0.1**
comp=Z,3.5nm,0.8s,baz=113,slow=7.1,SNR=14
comp=Z,3.5nm,0.8s
AB31 Akbulak array 70.64 320 P 03 27 36.5 +0.7
ABKAR Akbulak array 70.64 320 P **P 03 27 35.5 -0.3**
MCK McKinley 82.55 27 P **P 03 28 42.7 0.0**
MCK IAmb IAmb 03 28 44.2
comp=Z,7.9nm,1.0s
CCB Clear Creek Bu 83.08 26 P **P 03 28 45.1 -0.3**
CCB IAmb IAmb 03 28 46.0
comp=Z,7.9nm,1.3s
ILAR Eielson Array 83.47 26 P **P 03 28 47.4 0.0**
ILAR Eielson Array 83.47 26 P **P 03 28 46.5 -0.9**
comp=Z,1.4nm,0.9s,baz=251,slow=4.9,SNR=14
ILAR LR LR 04 03 32.9
comp=Z,22nm,21.2s,baz=254,slow=34
comp=Z,1.4nm,0.9s
VNDA Vanda 85.29 173 P 03 28 56.8 +0.5
VNDA Vanda 85.29 173 P **P 03 28 57.0 +0.8**
comp=Z,1.5nm,0.8s,baz=323,slow=6.2,SNR=10
comp=Z,1.5nm,0.8s
PPT Papeete 85.80 108 P 03 28 59.2 -0.9
comp=Z,23nm,0.5s,baz=76,slow=14,SNR=5.0
SPITS Spitsbergen Ar 88.63 349 P 03 29 13.4 +0.9
comp=Z,3.1nm,0.7s,baz=46,slow=6.2,SNR=6.6
comp=Z,3.1nm,0.7s
ARCES ARCESS Array B 88.66 340 P 03 29 12.8 0.0
ARCES ARCESS Array B 88.66 340 P **P 03 29 12.5 -0.3**
comp=Z,3.7nm,0.7s,baz=78,slow=5.7,SNR=20
comp=Z,3.7nm,0.7s
BRTR Keskin Array B 88.74 310 P 03 29 12.8 -1.2
BRTR Keskin Array B 88.74 310 P **P 03 29 12.6 -1.4**
comp=Z,0.4nm,0.4s,baz=114,slow=3.1,SNR=4.5
comp=Z,0.4nm,0.4s
FINES FINESS Array B 90.14 332 P 03 29 19.6 -0.3
FINES FINESS Array B 90.14 332 P **P 03 29 19.2 -0.6**
comp=Z,1.3nm,0.5s,baz=56,slow=4.7,SNR=20
comp=Z,1.3nm,0.5s
HFS Hagfors 96.31 332 P P 03 29 47.6 -0.7
comp=Z,2.3nm,0.7s,baz=108,slow=4.8,SNR=7.4
comp=Z,2.3nm,0.7s
NB2 NORSAR Subarra 97.07 334 P P 03 29 50.4 -1.4
comp=Z,1.8nm,0.7s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.07 334 P **P 03 29 50.4 -1.4**
baz=66,slow=4.6
NOA NORSAR Array B 97.07 334 P P 03 29 50.0 -1.8
comp=Z,1.0nm,0.7s,baz=65,slow=4.5,SNR=5.1
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 120.54 51 PKP PKiKP 03 35 13.4 +1.3
comp=Z,0.3nm,0.8s,baz=339,slow=0.7,SNR=2.9
TORD Torodi Ar. Bea 122.21 289 PKP PKiKP 03 35 15.9 +0.4
comp=Z,1.5nm,0.7s,baz=48,slow=3.6,SNR=7.8
PLCA Paso Flores 141.79 159 PKPdf 03 35 50.0 -1.5
PLCA Paso Flores 141.79 159 PKP **PKPdf 03 35 49.2 -2.3**
comp=Z,1.3nm,0.6s,baz=297,slow=2.3,SNR=7.2

*NEIC **30** 03:16:43.7±1.8,21°.17S±0°.10×169°.46E±0°.04,h10km±1km, mb4.6/15,Error ellipse: s-maj=17.2km s-min=2.8km az=159.0*
*NOU **30** 03:16:44.7,21°.37S×169°.43E,h0km,MLv3.8/9,Southeast of Loyalty Islands*
*IDC **30** 03:16:46.2±0.9,21°.12S×169°.56E,h29km±5km,mb4.0/10, mbtmp4.2/11,ML3.4/1,MS3.5/9,Error ellipse: s-maj=22.0km s-min=18.8km az=88.0*
ISC 30 03:16:46.1±0.5,21°.12S±0°.09×169°.47E±0°.07,h30km,n72, σ0s87/71,**mb4.5**/20,**MS3.6**/7,**5C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.39**	**255**		**Pn**		**03 17 08.8**	**-0.7**
MARNC					Sn	**Sn**	**03 17 26.5**	**-0.4**
MARNC	**Mare, Loyalty**	**1.39**	**255**	P	**Pn**		**03 17 08.9**	**-0.6**
MARNC	**Mare, Loyalty**	**1.39**	**255**	S	**Sn**		**03 17 26.3**	**-0.5**
MARNC	**Mare, Loyalty**	**1.39**	**255**	P	**Pn**		**03 17 08.7**	**-0.7**
MARNC	**Mare, Loyalty**	**1.39**	**255**	S	**Sn**		**03 17 26.8**	**0.0**
PINNC	**Pines Island,**	**2.40**	**231**		**Pn**		**03 17 22.0**	**-1.3**
PINNC					Sn	**Sn**	**03 17 50.2**	**-1.5**
PINNC	**Pines Island,**	**2.40**	**231**	S	**Sn**		**03 17 51.2**	**-0.5**
PINNC	**Pines Island,**	**2.40**	**231**	P	**Pn**		**03 17 22.6**	**-0.7**
PINNC	**Pines Island,**	**2.40**	**231**	S	**Sn**		**03 17 51.5**	**-0.2**
YATNC	**Mamie plateau,**	**2.58**	**248**	P	**Pn**		**03 17 25.5**	**-0.3**
YATNC	**Mamie plateau,**	**2.58**	**248**	P	**Pn**		**03 17 25.6**	**-0.3**
OUENC	**Ouen Island, N**	**2.77**	**242**	P	**Pn**		**03 17 28.5**	**+0.1**
OUENC	**Ouen Island, N**	**2.77**	**242**	P	**Pn**		**03 17 28.8**	**+0.4**
OUENC	**Ouen Island, N**	**2.77**	**242**	S	**Sn**		**03 18 01.4**	**+0.6**
DZM	**Mont Dzumac**	**2.97**	**251**	Pn	**Pn**		**03 17 32.0**	**+0.7**
	4.8nm,0.3s,baz=120,slow=11,SNR=47							
DZM					Sn	**Sn**	**03 18 05.8**	**-0.2**
	18nm,0.3s,baz=124,slow=23,SNR=6.9							
DZM					LR	LR	03 18 41.3	
	comp=Z,459nm,18.1s,baz=99,slow=38							
	62nm,0.7s							
ONTNC	**Ouen Toro**	**3.05**	**247**		**Pn**		**03 17 31.2**	**-1.0**
ONTNC	**Ouen Toro**	**3.05**	**247**	P	**Pn**		**03 17 32.7**	**+0.5**
ONTNC	**Ouen Toro**	**3.05**	**247**	S	**Sn**		**03 18 08.2**	**+0.5**
MSVF	**Nonsavu**	**8.77**	**69**		**Pn**		**03 18 51.0**	**+0.1**
URZ	**Urewera**	**18.31**	**161**	LR	LR		03 26 34.6	
	comp=Z,136nm,20.4s,baz=332,slow=32							
PMG	**Port Moresby**	**24.43**	**295**	LR	LR		03 29 53.0	
	comp=Z,98nm,20.1s,baz=178,slow=32							
STKA	**Stephens Creek**	**27.08**	**241**	P	**P**		**03 22 26.8**	**+0.6**
STKA	**Stephens Creek**	**27.08**	**241**	P	**P**		**03 22 27.6**	**+1.4**
	1.9nm,0.8s,baz=45,slow=5.7,SNR=3.3							
	1.9nm,0.8s							
ASAR	**Alice Springs**	**32.93**	**259**	P	**P**		**03 23 16.8**	**-1.4**
ASAR	**Alice Springs**	**32.93**	**259**	P	**P**		**03 23 19.1**	**+0.9**
	1.8nm,0.9s,baz=89,slow=8.8,SNR=7.3							
ASAR					pP	**pP**	**03 23 26.8**	**+0.8**
	4.6nm,1.0s,baz=82,slow=9.3,SNR=11							
	1.8nm,0.9s							
PPT	**Papeete**	**38.73**	**92**	LR	LR		03 36 25.4	
	comp=Z,81nm,20.8s,baz=230,slow=30							
FITZ	**Fitzroy Crossi**	**41.31**	**266**	P	**P**		**03 24 29.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.31**	**266**	P	**P**		**03 24 29.7**	**+0.5**
	3.3nm,0.7s,baz=100,slow=11,SNR=4.1							
FITZ					LR	LR	03 41 14.0	
	comp=Z,192nm,19.7s,baz=120,slow=36							
	3.3nm,0.7s							
KAPI	**Kappang**	**50.77**	**281**	LR	LR		03 48 53.7	
	comp=Z,28nm,20.1s,baz=108,slow=38							
VNDA	**Vanda**	**56.57**	**182**	P	**P**		**03 26 27.3**	**+1.9**
VNDA	**Vanda**	**56.57**	**182**	P	**P**		**03 26 24.8**	**-0.7**
	0.6nm,0.8s,baz=348,slow=10,SNR=1.9							
	0.6nm,0.8s							
SBA	**Scott Base**	**56.80**	**181**	P	**P**		**03 26 28.5**	**+1.4**
SBA					IAmb	IAmb	03 26 29.1	
	comp=Z,4.9nm,0.9s							
MJAR	**Matsushiro Arr**	**64.51**	**332**	P	**P**		**03 27 20.0**	**0.0**
MJAR	**Matsushiro Arr**	**64.51**	**332**	P	**P**		**03 27 20.1**	**0.0**
	comp=Z,2.5nm,0.9s,baz=166,slow=8.8,SNR=5.2							
	comp=Z,2.5nm,0.9s							
QSPA	**South Pole Qui**	**68.95**	**180**	P	**P**		**03 27 49.4**	**+1.1**
QSPA	**South Pole Qui**	**68.95**	**180**	P	**P**		**03 27 49.6**	**+1.4**
	comp=Z,6.1nm,0.8s,baz=29,slow=2.1,SNR=17							
	comp=Z,6.1nm,0.8s							
ASAJ	**Asahikawa**	**69.43**	**340**	LR	LR		03 52 47.9	
	comp=Z,41nm,20.7s,baz=92,slow=31							
CMAR	**Chiang Mai Arr**	**79.47**	**294**	P	**P**		**03 28 50.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**79.47**	**294**	P	**P**		**03 28 51.9**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=128,slow=4.9,SNR=5.4							
CMAR					pP	**sP**	**03 29 00.8**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=119,slow=3.8,SNR=7.7							
	comp=Z,0.9nm,0.3s							
BELA	**Belgrano 2**	**80.22**	**175**	P	**P**		**03 28 52.4**	**-0.9**
BELA					IAmb	IAmb	03 28 54.1	
	comp=Z,7.5nm,1.3s							
MA2	**Magadan**	**81.85**	**351**	LR	LR		03 57 47.1	
	comp=Z,39nm,20.6s,baz=176,slow=30							
SEY	**Seymchan**	**84.85**	**352**	LR	LR		04 01 32.1	
	comp=Z,31nm,19.8s,baz=172,slow=32							
TROLL	**Troll, Antarti**	**86.69**	**184**	⇑P	**P**		**03 29 25.7**	**-1.1**
	comp=Z,300nm,0.8s							
SNAA	**Sanae**	**87.31**	**182**	⇑P	**P**		**03 29 28.6**	**-1.1**
	comp=Z,26nm,0.6s							
SNAA	**Sanae**	**87.31**	**182**	P	**P**		**03 29 28.7**	**-1.1**
SNAA					IAmb	IAmb	03 29 29.7	
	comp=Z,4.5nm,1.2s							
SNAA	**Sanae**	**87.31**	**182**	P	**P**		**03 29 28.7**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=205,slow=5.9,SNR=10							
SNAA					pP	**pP**	**03 29 39.5**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=218,slow=9.6,SNR=6.9							
	comp=Z,1.3nm,0.7s							
VNA3	**Neumayer Olymp**	**87.89**	**180**	⇑P	**P**		**03 29 31.2**	**-1.2**
	comp=Z,6.9nm,0.7s							
VNA2	**Neumayer--Watz**	**88.18**	**181**	⇑P	**P**		**03 29 32.9**	**-0.9**
	comp=Z,5.9nm,0.6s,baz=169,slow=5.0							
VNA1	**Neumayer--Stat**	**88.47**	**181**	⇑P	**P**		**03 29 34.0**	**-1.1**
	comp=Z,4.5nm,1.0s							
SONM	**Songino Array**	**88.84**	**323**	P	**P**		**03 29 37.9**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=62,slow=3.4,SNR=3.2							
	comp=Z,1.0nm,0.9s							
CCCA	**Chr Cany lake**	**89.23**	**51**	P	**P**		**03 29 41.0**	**+1.7**
DSP	**Deep Springs**	**89.63**	**49**	P	**P**		**03 29 41.4**	**+0.4**
DSP					IAmb	IAmb	03 29 42.2	
	comp=Z,3.9nm,1.1s							
NVAR	**Mina Array Bea**	**89.88**	**48**	P	**P**		**03 29 42.3**	**-0.3**
NVAR	**Mina Array Bea**	**89.88**	**48**	P	**P**		**03 29 42.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=226,slow=8.0,SNR=12							
	comp=Z,1.9nm,0.8s							
NV11	**Mina Array Sit**	**89.98**	**48**	P	**P**		**03 29 42.6**	**-0.3**
NV11					IAmb	IAmb	03 29 43.7	
	comp=Z,2.7nm,0.8s							
J05D	**Fort Rock, OR**	**90.21**	**43**	P	**P**		**03 29 44.5**	**+0.7**
J05D					IAmb	IAmb	03 29 45.4	
	comp=Z,5.5nm,1.0s							
PINE	**Pine Mountain**	**90.64**	**43**	P	**P**		**03 29 46.7**	**+0.8**
PINE					IAmb	IAmb	03 29 47.1	
	comp=Z,4.6nm,0.8s							
PRN	**Pahroc Range**	**91.73**	**50**	P	**P**		**03 29 51.5**	**+0.4**
PRN					IAmb	IAmb	03 29 52.8	
	comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**126.93**	**345**	PKP	**PKPdf**		**03 35 45.5**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=82,slow=1.7,SNR=12							
FINES	**FINESS Array B**	**132.40**	**337**		**PKiKP**		**03 35 57.2**	**-0.8**
FINES	**FINESS Array B**	**132.40**	**337**	PKP	**PKPdf**		**03 35 56.8**	**-0.1**
	comp=Z,4.6nm,1.0s,baz=127,slow=5.0,SNR=4.5							
EKA	**Eskdalemuir Ar**	**145.39**	**353**	PKPbc	**PKPbc**		**03 36 19.6**	**-1.1**
	comp=Z,4.2nm,0.5s,baz=2.0,slow=2.4,SNR=25							
RONA	**Rosalia, Austr**	**145.78**	**327**	*i* PKP	**PKPab**		**03 36 22.7**	**0.0**
	comp=Z,9.8nm,1.5s							
CONA	**Conrad Observa**	**145.85**	**328**	*e*PKP	**PKPab**		**03 36 23.1**	**+0.1**
	comp=Z,7.1nm,1.6s							
GERES	**GERESS Array B**	**146.24**	**331**		**PKPab**		**03 36 23.9**	**-0.5**
GERES	**GERESS Array B**	**146.24**	**331**	PKPbc	**PKPab**		**03 36 23.5**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=42,slow=3.3,SNR=21							
KBA	**Koelnbreinsper**	**147.67**	**329**	*i* PKP	**PKPbc**		**03 36 26.8**	**-1.0**
	comp=Z,5.7nm,1.1s							
LESA	**Schwarzleotal**	**147.74**	**330**	*e*PKP	**PKPbc**		**03 36 27.2**	**-0.8**
	comp=Z,3.0nm,0.6s							
MOTA	**Moosalm**	**148.52**	**331**	*e*PKP	**PKPbc**		**03 36 28.4**	**-1.7**
	comp=Z,6.9nm,0.8s							
SQTA	**Sankt Quirin**	**148.56**	**331**	*e*PKP	**PKPbc**		**03 36 29.7**	**-0.5**
	comp=Z,6.3nm,0.7s							
FETA	**Feichten**	**148.93**	**331**	*e*PKP	**PKPbc**		**03 36 30.8**	**-0.3**
	comp=Z,4.4nm,0.8s							
ESDC	**Sonseca Array**	**160.67**	**345**	PKPab	**PKPab**		**03 37 24.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=22,slow=5.1,SNR=6.2							

*IDC **30** 03:24:45.5±1.7,6°.67S×129°.12E,h0km,mb4.0/2, mbtmp4.3/5,ML4.4/3,MS3.2/1,Error ellipse: s-maj=86.8km s-min=25.0km az=70.0*
*NEIC **30** 03:24:59.9±0.8,7°.14S±0°.06×128°.82E±0°.09,h130km±8km, mb4.3/10,Error ellipse: s-maj=13.3km s-min=6.8km az=63.0*
ISC 30 03:25:00.1±0.8,7°.41S±0°.07×128°.99E±0°.08,h131km,n29, σ2s53/29,**mb4.1**/6,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.36**	**104**		**Pn**	**Pn**	**03 25 41.4**	**+2.8**
SOEI	**Soe**	**5.22**	**243**	Pn	**Pn**	**Pn**	**03 26 15.8**	**-0.4**
FAKI	**Fak Fak**	**5.52**	**36**		**Pn**	**Pn**	**03 26 18.5**	**-1.7**
MTN	**Manton Dam**	**5.80**	**159**	Pn	**Pn**	Pn	03 26 28.3	+4.4
BATI	**Baumata**	**5.95**	**242**	Sn	**Sn**	**Sn**	**03 27 35.0**	**+1.9**
	7.0nm,0.3s,baz=270,slow=20,SNR=2.8							
KNRA	**Kununurra**	**8.22**	**182**	Pn	**Pn**	**Pn**	**03 26 59.9**	**+3.4**
FITZ	**Fitzroy Crossi**	**11.11**	**197**	Pn	**Pn**	**Pn**	**03 27 36.8**	**+1.5**
	1.5nm,0.3s,baz=15,slow=10.0,SNR=66							
FITZ					Sn	**Sn**	**03 29 32.3**	**-5.6**
	2.4nm,0.3s,baz=119,slow=16,SNR=6.1							
	7.2nm,0.5s							
WB0	**Warramunga Arr**	**13.36**	**157**	Pn	**Pn**	**Pn**	**03 28 04.5**	**-0.1**
WRAB	**Tennant Creek**	**13.49**	**158**	Pn	**Pn**	**Pn**	**03 28 06.8**	**+0.4**
WRA	**Warramunga Arr**	**13.50**	**158**	Pn	**Pn**	**Pn**	**03 28 05.2**	**-1.2**
WRA	**Warramunga Arr**	**13.50**	**158**	Pn	**Pn**	**Pn**	**03 28 06.2**	**-0.2**
	1.8nm,0.3s,baz=334,slow=13,SNR=26							
WRA					Sn	**Sn**	**03 30 32.0**	**-3.5**
	1.9nm,0.3s,baz=333,slow=22,SNR=8.3							
	2.2nm,0.4s							
WB2	**Warramunga Arr**	**13.50**	**158**	Pn	**Pn**	**Pn**	**03 28 06.7**	**+0.2**
WR8	**Warramunga Arr**	**13.57**	**157**	Pn	**Pn**	**Pn**	**03 28 07.0**	**-0.3**
COEN	**Coen**	**15.38**	**116**	Pn	**P**	**P**	**03 28 32.7**	**+0.7**
COEN					IAmb	IAmb	03 29 06.3	
	comp=Z,16nm,1.2s							
AS31	**Alice Springs**	**16.84**	**164**		**Pn**	**Pn**	**03 28 50.8**	**+2.7**
ASAR	**Alice Springs**	**16.84**	**164**	P	**Pn**	**Pn**	**03 28 50.8**	**+2.7**
ASAR	**Alice Springs**	**16.84**	**164**	P	**Pn**	**Pn**	**03 28 51.0**	**+2.9**
	comp=Z,2.0nm,0.3s,baz=340,slow=10,SNR=97							
ASAR					S	**Sn**	**03 31 52.6**	**-3.3**
	comp=Z,1.3nm,0.6s,baz=345,slow=25,SNR=6.0							
	comp=Z,7.4nm,0.5s							
INKA	**Innaminka**	**23.09**	**153**	P	**P**	**P**	**03 29 56.3**	**+1.9**
INKA					IAmb	IAmb	03 29 58.5	
	comp=Z,3.9nm,0.8s							
BBOO	**Buckleboo**	**26.11**	**166**	P	**P**	**P**	**03 30 24.0**	**+2.2**
BBOO					IAmb	IAmb	03 30 52.1	
	comp=Z,24nm,1.4s							
GUMO	**Guam**	**26.15**	**37**	LR	LR	LR	03 42 09.5	
	comp=Z,51nm,18.6s,baz=114,slow=41							
STKA	**Stephens Creek**	**27.03**	**156**	P	**P**	**P**	**03 30 31.8**	**+1.7**
STKA					IAmb	IAmb	03 31 10.1	
	comp=Z,29nm,1.3s							
STKA	**Stephens Creek**	**27.03**	**156**	P	**P**	**P**	**03 30 35.2**	**+5.1**
	comp=Z,1.1nm,0.3s,baz=320,slow=10,SNR=4.4							
	comp=Z,1.1nm,0.3s							
CAN	**Canberra**	**33.30**	**149**	P	**P**	**P**	**03 31 27.0**	**+1.6**
CAN					IAmb	IAmb	03 32 02.9	
	comp=Z,18nm,1.5s							
CASY	**Casey**	**60.15**	**188**	P	**P**	**P**	**03 34 54.6**	**+1.1**
PAF	**Port-aux-Franc**	**64.33**	**218**	P	**P**	**P**	**03 35 20.9**	**-0.8**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**P**	**03 35 42.0**	**-3.2**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**P**	**03 35 43.3**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=119,slow=8.0,SNR=5.7							
	comp=Z,0.4nm,0.4s							
BOOM	**Boomskoye usch**	**69.22**	**321**	P	**P**	**P**	**03 35 51.4**	**-1.7**
BOOM					IAmb	IAmb	03 35 52.0	
	comp=Z,1.6nm,0.7s							
VNDA	**Vanda**	**72.17**	**173**	P	**P**	P	03 36 15.5	+5.5

*IDC **30** 03:37:56.6±0.8,56°.17S×29°.66W,h0km,mb4.2/7, mbtmp4.2/8,ML3.6/1,MS4.3/28,Error ellipse: s-maj=32.3km s-min=17.7km az=70.0*
*NEIC **30** 03:37:58.7±1.5,56°.30S±0°.03×30°.2W±0°.2,h10km±1km, mb4.9/20,Error ellipse: s-maj=17.3km s-min=5.3km az=81.0*
*GCMT **30** 03:38:00.7±0.2,56°.42S±0°.01×30°.30W±0°.01,h12km, MW5.1/126,Moment Tensor Solution. s55,c71; s126,c205; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.76±.10; $M_{\theta\theta}$=0.87±.11; $M_{\phi\phi}$=1.63±.10; $M_{r\theta}$=0.52±.28; $M_{\theta\phi}$=4.84±.07; $M_{r\phi}$=0.34±.26; Best double couple: M_0=5.04800×10^{16} NP1:ϕ_s=173.00000°, δ=83.00000°, λ=-174.00000°. NP2:ϕ_s=82.00000°, δ=84.00000°, λ=-7.00000°. Principal axes: T 5.3780, Plg0.0000°, Azm128.0000°; N -0.6620, Plg81.0000°, Azm221.0000°; P -4.7180, Plg9.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 03:37:58.5±0.5,56°.27S±0°.08×30°.13W±0°.09,h10km,n73, σ1s21/38,**mb4.7**/12,**MS4.3**/27,**6C-2D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.15**	**296**		Pn	**Pn**	**03 39 01.6**	**-0.1**
HOPE					Sn	**Sn**	**03 39 48.2**	**-2.0**
ESPZ	**Base Esperanza**	**15.18**	**231**			**P**	**03 41 37.6**	**0.0**
VNA1	**Neumayer--Stat**	**17.24**	**155**	⇑P		**Pn**	**03 41 57.3**	**-1.7**
	comp=Z,5.9nm,0.7s							
VNA3	**Neumayer Olymp**	**17.37**	**158**	⇑P		**Pn**	**03 41 59.3**	**-1.2**
	comp=Z,9.1nm,0.8s							
VNA2	**Neumayer--Watz**	**17.64**	**155**	⇑P		**Pn**	**03 42 03.6**	**-0.4**
	comp=Z,9.2nm,1.2s,baz=310,slow=12							
PMSA	**Palmer Station**	**18.51**	**229**	LR	LR		03 48 10.4	
	comp=Z,966nm,18.5s,baz=70,slow=33							
SNAA	**Sanae**	**19.24**	**154**	⇑P		**P**	**03 42 21.2**	**-1.3**
	comp=Z,272nm,0.8s							
SNAA	**Sanae**	**19.24**	**154**	P		**P**	**03 42 21.8**	**-0.7**
SNAA					IAmb	IAmb	03 42 25.7	
	comp=Z,228nm,1.9s							
SNAA	**Sanae**	**19.24**	**154**	P		**P**	**03 42 21.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=313,slow=11,SNR=29							
SNAA					LR	LR	03 48 15.7	
	comp=Z,637nm,20.9s,baz=314,slow=32							
	comp=Z,15nm,1.1s							
TROLL	**Troll, Antarti**	**20.80**	**152**	⇑P		**P**	**03 42 37.6**	**-2.0**
	comp=Z,412nm,0.8s							
BELA	**Belgrano 2**	**21.76**	**183**	P		**P**	**03 42 50.0**	**+0.3**
PLTB	**Pedras Altas**	**29.47**	**316**	P		**P**	**03 44 02.3**	**-0.1**
PLTB					IAmb	IAmb	03 44 35.3	
	comp=Z,32nm,1.5s							
PLCA	**Paso Flores**	**30.44**	**283**	P		**P**	**03 44 09.8**	**-1.2**
PLCA	**Paso Flores**	**30.44**	**283**	P		**P**	**03 44 13.8**	**+2.9**
	comp=Z,2.7nm,1.0s,baz=108,slow=5.3,SNR=4.5							
	comp=Z,2.7nm,1.0s							
SYO	**Syowa Base**	**32.45**	**141**↓	*e*pP		**P**	**03 44 28.3**	**+0.1**
SYO	**Syowa Base**	**32.45**	**141**↓	*e*sP		sP	03 44 30.0	-1.2
SYO	**Syowa Base**	**32.45**	**141**⇑	*e*PP		PP	03 45 37.5	-3.8
QSPA	**South Pole Qui**	**33.98**	**180**	P		**P**	**03 44 43.2**	**+1.3**
QSPA					IAmb	IAmb	03 44 51.2	
	comp=Z,16nm,1.2s							
QSPA	**South Pole Qui**	**33.98**	**180**	P		**P**	**03 44 44.4**	**+2.5**
	comp=Z,8.6nm,1.2s,baz=179,slow=4.2,SNR=8.4							
QSPA					LR	LR	03 58 41.0	
	comp=Z,251nm,19.4s,baz=190,slow=36							
	comp=Z,8.6nm,1.2s							
CPUP	**Villa Florida**	**35.77**	**315**	P		**P**	**03 44 58.1**	**+0.7**
CPUP	**Villa Florida**	**35.77**	**315**	P		**P**	**03 44 58.0**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=27,slow=9.9,SNR=4.4							
CPUP					LR	LR	04 00 34.1	
	comp=Z,145nm,18.7s,baz=16,slow=38							
	comp=Z,1.6nm,1.0s							
CO01	**Juntas del Tor**	**38.41**	**296**	P		**P**	**03 45 19.0**	**-1.2**
BDFB	**Brasilia**	**42.79**	**334**	P		**P**	**03 45 56.3**	**0.0**
BDFB	**Brasilia**	**42.79**	**334**	P		**P**	**03 45 56.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=203,slow=7.7,SNR=1.8							
BDFB					LR	LR	04 00 34.6	
	comp=Z,373nm,22.0s,baz=166,slow=32							
	comp=Z,1.2nm,0.7s							
PB01	**IPOC Station P**	**45.64**	**304**	P		**P**	**03 46 19.6**	**+0.5**
PB01					IAmb	IAmb	03 46 24.4	
	comp=Z,9.9nm,0.9s							
SBA	**Scott Base**	**45.73**	**185**			**P**	**03 46 19.1**	**+0.1**
SBA					IAmb	IAmb	03 46 33.0	
	comp=Z,39nm,1.8s							
VNDA	**Vanda**	**46.26**	**184**			**P**	**03 46 22.8**	**-0.4**
VNDA					IAmb	IAmb	03 46 37.0	
	comp=Z,20nm,1.6s							
VNDA	**Vanda**	**46.26**	**184**	P		**P**	**03 46 22.9**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=188,slow=6.5,SNR=14							
	comp=Z,2.8nm,0.9s							
**PT

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	91.92	173	LR	LR	04 30 26.2	
	comp=Z,193nm,18.1s,baz=197,slow=34						
RAR	Rarotonga	91.92	226	LR	LR	04 23 07.7	
	comp=Z,65nm,21.0s,baz=96,slow=29						
KEST	Kesra	97.60	31	LR	LR	04 30 10.3	
	comp=Z,461nm,20.9s,baz=211,slow=32						
ESDC	Sonseca Array	98.13	20	LR	LR	04 30 59.1	
	comp=Z,159nm,20.2s,baz=182,slow=32						
ASAR	Alice Springs	99.23	165	LR	LR	04 32 38.8	
	comp=Z,404nm,21.9s,baz=204,slow=33						
ZALV	Zalesovo Beam	143.95	66	PKP	PKPab	03 57 29.3	-0.8
	comp=Z,0.7nm,0.4s,baz=222,slow=1.9,SNR=2.9						
ILAR	Eielson Array	149.04	312	PKPdf	**PKPdf**	**03 57 42.6**	**+1.6**
ILAR	Eielson Array	149.04	312	PKPbc	**PKPdf**	**03 57 43.2**	**+2.1**
	comp=Z,2.0nm,1.0s,baz=140,slow=2.1,SNR=11						

*IDC **30** 03:49:09.9±0.5,29°.15S×61°.26E,h0km,mb4.4/22,*
mbtmp4.4/23,ML3.9/1,MS3.9/15,Error ellipse:
s-maj=17.7km s-min=14.3km az=67.0
*NEIC **30** 03:49:11.4±1.0,29°.18S±0°.09×61°.2E±0°.1,h10km±1km,*
mb4.8/40,Mww4.9/6,Error ellipse: s-maj=17.6km
s-min=12.6km az=133.0
ISC 30 03:49:11.2±0.4,29°.19S±0°.10×61°.20E±0°.08,h10km,n105,
σ0s96/84,mb4.8/44,MS4.1/16,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	Nahampoana Res	13.34	285	Pn	**Pn**	**03 52 18.8**	**-1.9**
VOI	Vohitsoka	14.88	296		**Pn**	**03 52 42.5**	**+0.6**
ABPO	Ambohimpanom	16.27	305	Pn	**Pn**	**03 52 59.8**	**-0.3**
OPO	Ambohidratompo	16.59	306	Pn	**Pn**	**03 53 04.2**	**0.0**
	baz=110,slow=18,SNR=4.7						
OPO				Sn	Sn	03 55 53.4	-15
	0.1nm,0.3s,baz=289,slow=18,SNR=5.8						
	1.4nm,0.3s						
H04N2	CROZET ISLANDS	18.48	201	T	T	04 12 07.6	
	baz=27,slow=75,SNR=1108						
H04N1	CROZET ISLANDS	18.49	201	T	T	04 12 09.5	
	baz=27,slow=75,SNR=1299						
H04N3	CROZET ISLANDS	18.50	201	T	T	04 12 08.3	
	baz=27,slow=75,SNR=1277						
H08S1	Diego Carcia H	23.92	29	T	T	04 19 05.4	
	baz=203,slow=76,SNR=76						
H08S2	Diego Garcia H	23.92	29	T	T	04 19 04.7	
	baz=203,slow=76,SNR=69						
H08S3	Diego Garcia H	23.94	29	T	T	04 19 06.4	
	baz=203,slow=76,SNR=113						
BOSA	Boshof	31.40	262	P	**P**	**03 55 32.6**	**0.0**
BOSA	Boshof	31.40	262	P	**P**	**03 55 32.6**	**0.0**
	2.9nm,0.8s,baz=123,slow=5.7,SNR=3.8						
	2.9nm,0.8s						
KHWEE	KHWEE	32.95	274	P	**P**	**03 55 46.0**	**-0.3**
LSZ	Lusaka	33.41	287		**P**	**03 55 51.0**	**+0.6**
LSZ				IAmb	IAmb	03 55 52.0	
	comp=Z,17nm,1.0s						
KSANE	Kasane	34.81	281		**P**	**03 56 02.2**	**-0.3**
KSANE				IAmb	IAmb	03 56 04.1	
	comp=Z,16nm,1.0s						
KMBO	Kilima Mbogo	36.05	316	LR	LR	04 08 09.2	
	comp=Z,228nm,20.9s,baz=140,slow=32						
GRTLG	Ghanzi	36.85	273		**P**	**03 56 19.9**	**-0.1**
GRTLG				IAmb	IAmb	03 56 21.6	
	comp=Z,20nm,1.2s						
QNGWA	Qangwa	37.55	276		**P**	**03 56 25.9**	**-0.1**
QNGWA				IAmb	IAmb	03 56 28.0	
	comp=Z,34nm,1.2s						
TSUM	Tsumeb	40.81	274		**P**	**03 56 52.9**	**-0.4**
TSUM				IAmb	IAmb	03 56 55.3	
	comp=Z,14nm,1.1s						
ATD	Arta Tunnel	44.19	334	LR	LR	04 13 12.4	
	comp=Z,9.6nm,19.2s,baz=186,slow=33						
H01W2	Cape Leeuwin H	44.80	111	T	T	04 45 03.3	
	baz=262,slow=75,SNR=171						
H01W3	Cape Leeuwin H	44.81	111	T	T	04 45 03.6	
	baz=262,slow=75,SNR=111						
H01W1	Cape Leeuwin H	44.82	111	T	T	04 45 04.6	
	baz=262,slow=75,SNR=128						
SNAA	Sanae	54.45	200	P	**P**	**03 58 38.5**	**0.0**
SNAA	Sanae	54.45	200	P	**P**	**03 58 37.9**	**-0.5**
	comp=Z,2.7nm,1.1s,baz=94,slow=5.7,SNR=7.4						
	comp=Z,2.7nm,1.1s						
CMAR	Chiang Mai Arr	59.76	42	P	**P**	**03 59 15.8**	**-0.8**
CMAR	Chiang Mai Arr	59.76	42	P	**P**	**03 59 16.9**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=216,slow=6.9,SNR=9.1						
	comp=Z,2.3nm,0.3s						
QSPA	South Pole Qui	60.97	180	P	**P**	**03 59 25.2**	**+0.8**
QSPA	South Pole Qui	60.97	180	P	**P**	**03 59 26.9**	**+2.5**
	comp=Z,14nm,1.0s,baz=264,slow=3.7,SNR=20						
QSPA				LR	LR	04 22 15.3	
	comp=Z,137nm,20.9s,baz=272,slow=32						
	comp=Z,14nm,1.0s						
EVN	Everest	61.89	26	P	**P**	**03 59 30.9**	**-0.7**
EVN				IAmb	IAmb	03 59 35.5	
	comp=Z,4.5nm,1.0s						
NIL	Nilore	63.53	11		**P**	**03 59 41.3**	**-0.5**
NIL				IAmb	IAmb	03 59 43.1	
	comp=Z,12nm,1.1s						
VNDA	Vanda	64.00	166		**P**	**03 59 44.3**	**0.0**
VNDA	Vanda	64.00	166	P	**P**	**03 59 44.7**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=269,slow=7.6,SNR=14						
VNDA				LR	LR	04 25 48.6	
	comp=Z,185nm,18.2s,baz=251,slow=34						
	comp=Z,3.6nm,1.0s						
TOLI2	Tolitoli	64.33	73		**P**	**03 59 46.2**	**-1.2**
ASAR	Alice Springs	64.41	104	P	**P**	**03 59 47.0**	**-1.0**
ASAR	Alice Springs	64.41	104	P	**P**	**03 59 47.4**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=243,slow=6.3,SNR=30						
	comp=Z,4.2nm,0.8s						
AS31	Alice Springs	64.41	104		**P**	**03 59 47.0**	**-0.9**
SBA	Scott Base	64.88	167		**P**	**03 59 50.5**	**+0.4**
SBA				IAmb	IAmb	03 59 59.8	
	comp=Z,7.4nm,1.1s						
WRA	Warramunga Arr	66.23	100		**P**	**03 59 58.7**	**-1.1**
WRA	Warramunga Arr	66.23	100	P	**P**	**03 59 59.4**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=246,slow=5.8,SNR=24						
	comp=Z,4.7nm,0.9s						
WB0	Warramunga Arr	66.35	100	P	**P**	**03 59 59.6**	**-0.9**
WB0				IAmb	IAmb	04 00 07.9	
	comp=Z,11nm,1.1s						
PZH	PanZhiHua	67.66	39	P	**P**	**04 00 11.5**	**+2.8**
STKA	Stephens Creek	67.72	115	P	**P**	**04 00 08.9**	**-0.1**
STKA	Stephens Creek	67.72	115	P	**P**	**04 00 09.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=333,slow=9.0,SNR=3.1						
	comp=Z,1.2nm,0.6s						
GAR	Garm	68.37	8		**P**	**04 00 12.5**	**-0.4**
GAR				IAmb	IAmb	04 00 13.6	
	comp=Z,9.1nm,1.0s						
INKA	Innaminka	68.58	111	P	**P**	**04 00 14.5**	**0.0**
DRK	Karamyk	69.03	9	P	**P**	**04 00 16.6**	**-0.6**
KSH	Kashi	69.72	12	P	**P**	**04 00 19.0**	**-2.3**
KSH				sP	pwP	04 00 26.3	-2.6
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
GURO	Guroymak-BITLI	69.73	344	P	**P**	**04 00 21.7**	**+0.4**
GURO				IAmb	IAmb	04 00 25.8	
	comp=Z,6.0nm,0.7s						
GNI	Garni	70.66	347	LR	LR	04 28 54.6	
	comp=Z,111nm,21.4s,baz=192,slow=34						
ARSB	Arslanbob	71.00	9		**P**	**04 00 28.7**	**-0.4**
ARSB				IAmb	IAmb	04 00 30.7	
	comp=Z,15nm,1.1s						
TORD	Torodi Ar. Bea	71.18	298	P	**P**	**04 00 31.4**	**+0.8**
	comp=Z,6.0nm,0.9s,baz=106,slow=7.1,SNR=7.2						
	comp=Z,6.0nm,0.9s						
BNN	Bunyan	71.70	339	P	**P**	**04 00 34.1**	**+0.7**
KARP	Karpathos	71.93	331	P	**P**	**04 00 34.4**	**-0.3**
KKAR	Karatay Array	72.44	7		**P**	**04 00 37.4**	**-0.2**
AAK	Ala-Archa	72.51	10		**P**	**04 00 38.0**	**-0.2**
AAK				IAmb	IAmb	04 00 40.4	
	comp=Z,6.9nm,0.9s						
AAK	Ala-Archa	72.51	10	P	**P**	**04 00 39.3**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=184,slow=4.6,SNR=8.4						
	comp=Z,1.8nm,0.3s						
BOOM	Boomskoye usch	72.60	11		**P**	**04 00 38.6**	**-0.2**
BOOM				IAmb	IAmb	04 00 40.4	
	comp=Z,6.6nm,1.2s						
DBIC	Dimbokro	72.75	288	P	**P**	**04 00 39.7**	**-0.3**
DBIC				IAmb	IAmb	04 00 42.3	
	comp=Z,17nm,1.1s						
DBIC	Dimbokro	72.75	288	P	**P**	**04 00 41.3**	**+1.2**
	comp=Z,7.9nm,1.0s,baz=138,slow=5.3,SNR=5.9						
DBIC				LR	LR	04 31 41.1	
	comp=Z,41nm,19.3s,baz=168,slow=35						
	comp=Z,7.9nm,1.0s						
BR131	Keskin Array S	73.20	338	P	**P**	**04 00 41.5**	**-0.9**
BRTR	Keskin Array B	73.20	338		**P**	**04 00 40.8**	**-1.6**
BRTR	Keskin Array B	73.20	338	P	**P**	**04 00 42.4**	**0.0**
	comp=Z,2.4nm,0.9s,baz=168,slow=7.9,SNR=16						
	comp=Z,2.4nm,0.9s						
MANT	Manisa	73.91	334	P	**P**	**04 00 46.6**	**-0.1**
KBZ	Khabaz	74.47	346	P	**P**	**04 00 50.4**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=200,slow=9.1,SNR=3.5						
KBZ				LR	LR	04 31 23.2	
	comp=Z,115nm,21.9s,baz=170,slow=34						
	comp=Z,2.0nm,0.7s						
MDUB	Mudurnu	74.69	337	P	**P**	**04 00 51.5**	**+0.6**
MDUB				IAmb	IAmb	04 00 53.0	
	comp=Z,16nm,1.0s						
KVAR	Kislovodsk Arr	74.73	346	LR	LR	04 32 21.5	
	comp=Z,58nm,20.7s,baz=73,slow=35						
LZH	Lanzhou	76.32	34	*e*P	**P**	**04 01 00.3**	**-0.2**
LZH				sP	pwP	04 01 08.5	+0.4
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
PMSA	Palmer Station	77.17	201	LR	LR	04 33 44.6	
	comp=Z,35nm,18.0s,baz=116,slow=35						
MKAR	Makanchi Array	77.99	15		**P**	**04 01 09.3**	**-0.2**
MKAR	Makanchi Array	77.99	15	P	**P**	**04 01 10.7**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=183,slow=4.9,SNR=6.2						
	comp=Z,2.1nm,0.8s						
AB31	Akbulak array	78.10	359		**P**	**04 01 09.9**	**0.0**
AB31				IAmb	IAmb	04 01 11.2	
	comp=Z,10nm,1.1s						
ABKAR	Akbulak array	78.10	359		**P**	**04 01 08.8**	**-1.1**
AKTO	Aktyubinsk	79.32	358	P	**P**	**04 01 16.6**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=243,slow=5.3,SNR=4.4						
	comp=Z,2.9nm,0.8s						
KURBB	Kurchatov Arra	80.93	11	P	**P**	**04 01 25.9**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=201,slow=6.2,SNR=10						
	comp=Z,2.6nm,1.0s						
KURK	Kurchatov	81.03	11		**P**	**04 01 26.3**	**+0.5**
KURK				IAmb	IAmb	04 01 28.0	
	comp=Z,8.9nm,1.2s						
NJ2	Nanjing	81.89	46	*e*P	**P**	**04 01 32.3**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
BVAR	Borovoye Array	82.25	6	P	**P**	**04 01 30.8**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=197,slow=4.6,SNR=5.6						
	comp=Z,1.7nm,0.8s						
BTO	Baotou	82.89	35	*e*P	**P**	**04 01 37.8**	**+1.7**
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,150nm,3.6s						
HHC	Hu-ho-hao-te	83.86	36	*e*P	**P**	**04 01 42.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
AKASG	Malin Array Be	84.42	340	P	**P**	**04 01 43.0**	**-0.5**
AKASG	Malin Array Be	84.42	340	P	**P**	**04 01 42.3**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=151,slow=4.0,SNR=8.2						
	comp=Z,1.7nm,0.7s						
ARTI	Arti	85.27	358		**P**	**04 01 48.1**	**+0.5**
ARTI	Arti	85.27	358	P	**P**	**04 01 48.3**	**+0.7**
	comp=Z,8.0nm,1.0s,baz=255,slow=3.9,SNR=6.5						
	comp=Z,8.0nm,1.0s						
ZAA0	Zalesovo Array	85.28	14		**P**	**04 01 46.6**	**-1.2**
ZAA0				IAmb	IAmb	04 01 50.1	
	comp=Z,5.8nm,0.9s						
ZALV	Zalesovo Beam	85.28	14		**P**	**04 01 46.8**	**-1.0**
ZALV	Zalesovo Beam	85.28	14	P	**P**	**04 01 48.0**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=224,slow=4.1,SNR=13						
	comp=Z,5.6nm,0.8s						
BJI	Beijing	85.73	39	P	P	04 01 55.8	+5.4
BJI				pmax	pmax		
	comp=Z,3.0nm,1.6s						
VRAC	Vranov	87.67	333	LR	LR	04 39 54.8	
	comp=Z,123nm,20.7s,baz=216,slow=35						
GERES	GERESS Array B	88.51	331	P	**P**	**04 02 03.0**	**-0.7**
GERES	GERESS Array B	88.51	331	P	**P**	**04 02 03.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=199,slow=5.7,SNR=3.7						
GERES				LR	LR	04 37 44.2	
	comp=Z,152nm,21.8s,baz=240,slow=33						
	comp=Z,0.4nm,0.7s						
CLL	Collm	90.68	332	*e*S	**S**	**04 13 12.0**	**+2.5**
CLL				*e*PS	PS	04 14 14.0	-4.2
ESDC	Sonseca Array	91.43	316	P	**P**	**04 02 16.9**	**-0.7**
ESDC				IAmb	IAmb	04 02 20.2	
	comp=Z,3.9nm,1.2s						
ESDC	Sonseca Array	91.43	316	P	**P**	**04 02 18.7**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=113,slow=3.9,SNR=8.9						
	comp=Z,1.9nm,1.0s						
HNR	Honiara	93.00	102	LR	LR	04 39 06.8	
	comp=Z,85nm,21.5s,baz=184,slow=32						
FINES	FINESS Array B	94.69	344	LR	LR	04 47 26.5	
	comp=Z,66nm,20.6s,baz=216,slow=37						
HFS	Hagfors	97.14	338	LR	LR	04 45 55.4	
	comp=Z,77nm,20.4s,baz=238,slow=35						
PLCA	Paso Flores	97.30	215	LR	LR	04 37 51.1	
	comp=Z,32nm,21.5s,baz=94,slow=30						
NOA	NORSAR Array B	98.64	338	LR	LR	04 47 28.1	
	comp=Z,25nm,19.5s,baz=120,slow=36						
TBI	Tubuai	120.01	147	*e*LR	LR	04 44 42.0	
	comp=Z,828nm,34.0s						
PPT2	Papeete2	124.81	144	*e*LR	LR	04 47 06.0	
	comp=Z,55nm,22.8s						
PDAR	Pinedale Array	164.53	334		**PKPdf**	**04 09 13.8**	**-1.7**
PDAR	Pinedale Array	164.53	334	PKP	**PKPdf**	**04 09 14.8**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=92,slow=4.5,SNR=4.7						
TXAR	Lajitas Array	166.78	274		**PKPdf**	**04 09 16.1**	**-1.4**
TXAR				PKPab	**PKPab**	**04 10 20.2**	**-0.5**
TXAR	Lajitas Array	166.78	274	PKP	**PKPdf**	**04 09 18.4**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=10.0,slow=2.1,SNR=4.1						
TXAR				PKPab	**PKPab**	**04 10 20.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=106,slow=4.4,SNR=4.1						

*SSNC **30** 03:50:26.6±1.3,19°.77N×75°.70W,h3km±6km,MD3.3,*
ML2.7,MW3.0
*OSPL **30** 03:50:27.1±1.5,19°.89N×75°.80W,h17km±9km,ML3.1*
ISC 30 03:50:26.0±1.0,19°.83N±0°.04×75°.75W±0°.03,h28km±7km,
n23,σ1s30/38,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.18	18	*e*P	**Pb**	**03 50 31.9**	**0.0**
RCC				*e*S	**Sb**	**03 50 34.9**	**-0.9**
RCC				IAML		03 50 35.1	
	comp=N,3μm,0.0s						
RCC				IAML		03 50 35.2	
	comp=E,3μm,0.0s						
MARVS	Santiago de Cu	0.22	322	*e*P	**Pb**	**03 50 32.9**	**+0.6**
MARVS				*e*S	**Sb**	**03 50 36.9**	**+0.3**
MARVS				IAML		03 50 38.5	
	comp=N,986nm,0.2s						
MARVS				IAML		03 50 38.6	
	comp=E,810nm,0.1s						
GTBY	Guantanamo Bay	0.61	80	*i* P	**Pn**	**03 50 38.6**	**-0.2**
GTBY				*e*S	**Sb**	**03 50 45.8**	**-0.9**
GTBY				IAML		03 50 47.8	
	comp=E,743nm,0.2s						
GTBY				IAML		03 50 48.0	
	comp=E,440nm,0.2s						
GTBY	Guantanamo Bay	0.61	80	*i* P	**Pn**	**03 50 38.6**	**-0.2**
GTBY				*e*S	**Sn**	**03 50 47.2**	**-0.6**
GTBY				IAML		03 50 49.1	
	comp=Z,617nm,0.2s						
CHIV	Chivirico	0.64	284	*e*P	**Pn**	**03 50 40.0**	**+0.8**
CHIV				*e*S	**Sn**	**03 50 49.3**	**+0.8**
CHIV				IAML		03 50 50.8	
	comp=E,332nm,0.2s						
CHIV				IAML		03 50 51.7	
	comp=N,316nm,0.4s						
PINC	Pinares de May	0.66	357	*e*P	**Pb**	**03 50 38.8**	**-0.2**
SABCS	La Quijada	0.68	38	*e*P	**Pb**	**03 50 39.5**	**+0.1**
YAR	Yar	0.79	314	*e*P	**Pn**	**03 50 41.6**	**+0.3**
YAR				*e*S	**Sb**	**03 50 51.9**	**+0.3**
YAR				IAML		03 50 54.3	
	comp=N,50nm,0.1s						
YAR				IAML		03 50 54.7	
	comp=E,79nm,0.2s						
QMBU	Quimbuelo	0.96	67	*e*P	**Pn**	**03 50 43.2**	**-0.5**
QMBU				*e*S	**Sn**	**03 50 54.5**	**-1.9**
QMBU				IAML		03 50 57.0	
	comp=N,398nm,0.2s						
QMBU				IAML		03 50 57.0	
	comp=E,317nm,0.2s						
NMDO	Nuevo Mundo	1.03	45	*e*P	**Pn**	**03 50 44.2**	**-0.4**
NMDO				*e*S	**Sn**	**03 50 56.6**	**-1.4**
NMDO				IAML		03 51 00.2	
	comp=E,141nm,0.2s						
NMDO				IAML		03 51 00.5	
	comp=N,175nm,0.1s						
HLGC	Holguin	1.10	345	*e*P	**Pb**	**03 50 48.0**	**+1.6**
HLGC				IAML		03 51 07.0	
	comp=E,905nm,0.5s						
HLGC				IAML		03 51 07.9	
	comp=N,430nm,0.3s						
MOAC	Moa	1.12	42	*e*P	**Pn**	**03 50 45.7**	**-0.1**
MOAC				*e*S	**Sn**	**03 51 00.3**	**+0.1**
MOAC				IAML		03 51 02.6	
	comp=N,67nm,0.3s						
MOAC				IAML		03 51 02.7	
	comp=E,81nm,0.3s						
LMGC	Las Mercedes	1.20	282	*e*P	**Pn**	**03 50 47.8**	**+0.9**
LMGC				*e*S	**Sn**	**03 51 02.4**	**0.0**
LMGC				IAML		03 51 05.7	
	comp=N,261nm,0.1s						
LMGC				IAML		03 51 06.4	
	comp=E,224nm,0.2s						
MASC	Masc	1.47	76	*e*P	**Pn**	**03 50 50.8**	**+0.1**
MASC				*e*S	**Sn**	**03 51 08.7**	**-0.3**
MASC				IAML		03 51 12.7	
	comp=E,94nm,0.2s						
MASC				IAML		03 51 13.2	
	comp=N,90nm,0.2s						
MASC	Masc	1.47	76	*i* P	**Pn**	**03 50 51.0**	**+0.3**
MASC				*e*S	**Sn**	**03 51 09.4**	**+0.4**
STH	Stony Hill	2.00	210	*e*P	**Pn**	**03 50 58.0**	**0.0**
STH				*e*S	**Sn**	**03 51 18.1**	**-4.2**
MTDJ	Mount Denham	2.32	227	*e*P	**Pn**	**03 51 02.9**	**+0.5**
MTDJ	Mount Denham	2.32	227	*i* P	**Pn**	**03 51 02.9**	**+0.5**
MTDJ				*e*S	**Sn**	**03 51 29.6**	**-0.4**
MTDJ				IAML		03 51 40.1	
	comp=Z,38nm,1.9s						
CCCC	Cccc	2.33	306	*e*P	**Pn**	**03 51 02.0**	**-0.4**
CCCC				*e*S	**Sn**	**03 51 26.8**	**-3.4**
LONE3	El Aguacate, B	4.24	106	*i* P	**Pn**	**03 51 31.1**	**+2.2**
LONE3				IAML		03 52 35.6	
	comp=Z,12nm,2.1s						
LODU1	El Espartillar	4.30	109	*i* P	**Pn**	**03 51 31.1**	**+1.5**
LODU1				IAML		03 52 42.2	
	comp=Z,49nm,1.6s						
LOBH	Bahia de las A	4.36	116	*i* P	**Pn**	**03 51 32.2**	**+1.8**
LOBH				IAML		03 52 33.9	
	comp=Z,33nm,0.9s						
GRTK	Grand Turk	4.64	68	*i* P	**Pn**	**03 51 36.1**	**+1.8**
GRTK				IAML		03 52 30.4	
	comp=Z,41nm,1.6s						

*AEIC **30** 04:02:15.7±0.8,52°.5N±0°.1×163°.8W±0°.1,h12km±8km,*
Error ellipse: s-maj=17.4km s-min=7.7km az=158.0
NEIC 30 04:02:13.8±0.9,52°.72N±0°.08×163°.94W±0°.08,h10km±2km,
ML2.7/12,ML2.6(AEIC),Error ellipse: s-maj=13.5km
s-min=7.7km az=160.0,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	1.77	324		Pn	04 02 44.3	-0.1
AKSA					Sn	04 03 06.5	-0.5
AKUT	Akutan	1.79	323	Pn	Pn	04 02 45.3	+0.5
AKUT				IAML		04 03 09.4	
	comp=E,52nm,1.0s						
AKBBA	Akutan Broad B	1.83	320		Pn	04 02 45.2	0.0
AKBBA					Sn	04 03 07.8	-0.7
ZRO	Akutan Zero	1.84	319		Pn	04 02 45.6	+0.1
ZRO					Sn	04 03 09.2	+0.4
UNV	Unalaska Valle	1.91	307		Pn	04 02 46.5	+0.1
UNV					Sn	04 03 10.3	-0.2
LVA	Lava Point	1.91	320	Pn	Pn	04 02 47.3	+0.8
LVA				IAML		04 03 30.8	
	comp=E,68nm,1.2s						
WEBT	Westdahl Beart	1.94	346		Pn	04 02 47.1	+0.2
WEBT					Sn	04 03 11.7	+0.4
SSLS	Shishaldin Sou	2.00	359		Pn	04 02 47.9	+0.2
SSLS					Sn	04 03 12.4	-0.4
MREP	Makushin Rep't	2.01	304		Pn	04 02 47.9	0.0
MREP					Sn	04 03 13.0	-0.1
MNAT	Makushin Natee	2.02	306		Pn	04 02 48.2	+0.2
MNAT					Sn	04 03 13.0	-0.2
SSBA	Shishaldin	2.06	357		Pn	04 02 48.5	0.0
SSBA					Sn	04 03 14.4	+0.1
MSW	Makushin Switc	2.08	306		Pn	04 02 49.2	+0.3
MSW					Sn	04 03 14.5	-0.3
SSLN	Shishaldin Nor	2.10	359		Pn	04 02 49.5	+0.4
SSLN					Sn	04 03 14.5	-0.7
ISNN	Isanotski Nort	2.12	3		Pn	04 02 49.5	+0.1
ISNN					Sn	04 03 14.6	-1.2
FALS	False Pass	2.17	8		Pn	04 02 49.6	-0.3
FALS					Sn	04 03 16.2	-0.6
FALS	False Pass	2.17	8	IAML		04 03 24.7	
	comp=E,90nm,0.6s						
OKTU	Okmok Mt. Tuli	2.56	287		Pn	04 02 55.3	-0.1
OKTU					Sn	04 03 24.7	-2.0
OKER	Okmok East Rim	2.59	288		Pn	04 02 55.7	-0.1
OKER					Sn	04 03 26.1	-1.2
DT1	Dutton Round H	2.59	22		Pn	04 02 55.0	-0.7
DT1					Sn	04 03 25.2	-2.0
OKNC	Okmok New Cone	2.63	288		Pn	04 02 55.9	-0.4
OKNC					Sn	04 03 28.5	+0.3
DOL	Dolgoi Island	2.73	26		Pn	04 02 57.5	-0.1
DOL					Sn	04 03 29.8	-0.9
NIKH	Nikolski High	2.99	277	Pn	Pn	04 03 01.1	-0.2
NIKH				IAML		04 04 12.1	
	comp=E,37nm,1.2s						
SDPT	Sand Point	3.33	36	Pn	Pn	04 03 06.0	+0.1
SDPT				IAML		04 03 44.3	
	comp=N,13nm,1.2s						
SDPT				IAML		04 05 05.7	
	comp=E,11nm,1.2s						
KDAK	Kodiak Island	8.23	47	Pn	Pn	04 04 13.9	+0.7

*JMA **30** 04:09:56.8±0.2,34°.N±1°.×137°.

JMN	Monobe	2.77	265		Pn	04 10 53.7	0.0
JMN	Monobe	2.77	265	eP	Pn	04 10 53.5	-0.1
JAG	Ashikaga	3.02	37	P	Pn	04 10 54.6	-1.2
JAG				S	S	04 11 39.2	-3.6
BSO1	Boso 1	3.19	78	P	Pn	04 10 55.5	-1.3
JHS	Saijyo	3.50	287	P	Pn	04 11 00.8	+0.3
JHS				eS	S	04 11 51.3	+0.1
JTO	Tosashimizu	3.85	254	eP	Pn	04 11 03.8	-0.2
JSD	Sado	4.09	12	Pn	Pn	04 11 06.2	-0.1
JMM	Marumori	4.81	36	Pn	Pn	04 11 13.0	-1.2
JNU	Nakatsue	5.35	262	P	Pn	04 11 20.2	0.0
	7.3nm,0.7s,baz=151,slow=10,SNR=4.1						
JTM	Tenmabayashi	7.47	23	Pn	Pn	04 11 43.6	-0.4
KSRS	Korea Array	8.27	297	P	Pn	04 11 55.1	+0.8
	6.8nm,0.7s,baz=112,slow=12,SNR=25						
KS19	Wonju Array Si	8.33	297		Pn	04 11 55.9	+0.8
JOW	Kunigami	10.52	229		P	04 12 21.8	-1.2
JOW	Kunigami	10.52	229	P	P	04 12 23.9	+0.8
	20nm,0.5s,baz=20,slow=4.6,SNR=4.3						
NACB	Ninganchiao	16.78	238	P	P	04 13 31.7	-0.2
YULB	Yu-li	17.49	237	P	P	04 13 39.5	-0.1
YULB				IAmb	IAmb	04 13 44.8	
	comp=Z,24nm,1.0s						
TPUB	Ta-pu	18.02	238	P	P	04 13 44.1	-1.0
HILR	Hailar Array B	20.16	326	P	P	04 14 08.4	+1.1
	comp=Z,4.4nm,0.6s,baz=126,slow=11,SNR=5.5						
	comp=Z,4.4nm,0.6s						
PEA0B	Petropavlovsk-	24.02	31	P	P	04 14 43.5	+1.1
PEA0B				IAmb	IAmb	04 15 01.1	
	comp=Z,31nm,1.5s						
PETK	Petropavlovsk-	24.02	31	P	P	04 14 42.6	+0.1
	comp=Z,3.9nm,0.9s,baz=226,slow=14,SNR=5.4						
	comp=Z,3.9nm,0.9s						
SONM	Songino Array	26.84	310	P	P	04 15 08.8	+1.0
SONM	Songino Array	26.84	310	P	P	04 15 09.3	+1.5
	comp=Z,2.6nm,0.8s,baz=125,slow=9.7,SNR=6.8						
	comp=Z,2.6nm,0.8s						
CMAR	Chiang Mai Arr	37.40	255	P	P	04 16 37.9	-1.3
	comp=Z,1.5nm,0.3s,baz=48,slow=7.9,SNR=6.7						
	comp=Z,1.5nm,0.3s						
ADK	Adak	37.45	47	P	P	04 16 39.5	+0.4
TIXI	Tixi	37.94	356	P	P	04 16 43.0	+0.2
	comp=Z,3.6nm,0.2s,baz=86,slow=3.6,SNR=3.3						
	comp=Z,3.6nm,0.2s						
MKAR	Makanchi Array	42.87	304	P	P	04 17 23.4	+0.1
	comp=Z,1.9nm,0.6s,baz=90,slow=9.8,SNR=14						
	comp=Z,1.9nm,0.6s						
KURK	Kurchatov	45.14	310	P	P	04 17 40.8	-0.3
KURK				IAmb	IAmb	04 17 46.4	
	comp=Z,2.8nm,0.5s						
KURBB	Kurchatov Arra	45.20	310	P	P	04 17 40.7	-0.9
	comp=Z,0.7nm,0.6s,baz=90,slow=6.1,SNR=5.4						
	comp=Z,0.7nm,0.6s						
D20K	Etivluk River	50.13	26	P	P	04 18 20.1	+1.3
D20K				IAmb	IAmb	04 18 46.5	
	comp=Z,9.8nm,1.3s						
J20K	Nowinta River	50.72	32	P	P	04 18 24.3	+1.2
J20K				IAmb	IAmb	04 18 25.4	
	comp=Z,5.0nm,1.1s						
B21K	Ikpikpuk River	50.96	25	P	P	04 18 26.2	+1.4
B21K				IAmb	IAmb	04 18 49.4	
	comp=Z,18nm,1.4s						
M20K	Styx River	51.15	35	P	P	04 18 27.1	+0.6
M20K				IAmb	IAmb	04 18 59.8	
	comp=Z,8.8nm,1.4s						
D22K	Ayikyak River	51.57	26	P	P	04 18 30.9	+1.5
D22K				IAmb	IAmb	04 18 31.6	
	comp=Z,23nm,1.4s						
KDAK	Kodiak Island	51.62	40	P	P	04 18 29.6	-0.2
KKAR	Karatay Array	51.68	301	P	P	04 18 30.8	+0.2
E22K	Anaktuvuk Pass	51.84	27	P	P	04 18 32.8	+1.4
E22K				IAmb	IAmb	04 18 36.0	
	comp=Z,11nm,1.4s						
BPAW	Bear Paw Mtn.	52.10	32	P	P	04 18 33.5	+0.1
FITZ	Fitzroy Crossi	53.00	194	P	P	04 18 39.8	-0.5
C24K	Franklin Bluff	53.03	25	P	P	04 18 41.3	+1.3
C24K				IAmb	IAmb	04 19 12.8	
	comp=Z,17nm,1.4s						
E24K	Your Creek	53.09	27	P	P	04 18 42.5	+2.0
E24K				IAmb	IAmb	04 18 43.3	
	comp=Z,6.9nm,1.2s						
GHO	Glory Hole Cre	53.15	35	P	P	04 18 42.5	+1.4
GHO				IAmb	IAmb	04 19 17.3	
	comp=Z,18nm,1.4s						
F24K	Squaw Lake	53.32	28	P	P	04 18 42.1	-0.1
G24K	Hadweenzic Riv	53.50	29	P	P	04 18 44.4	+0.9
PWL	Port Wells	53.52	36	P	P	04 18 45.7	+2.0
PWL				IAmb	IAmb	04 19 04.1	
	comp=Z,14nm,1.0s						
WB0	Warramunga Arr	53.57	183	P	P	04 18 43.5	-1.0
WB0				IAmb	IAmb	04 19 10.9	
	comp=Z,7.4nm,1.5s						
WRA	Warramunga Arr	53.74	183	P	P	04 18 44.9	-0.9
WRA	Warramunga Arr	53.74	183	P	P	04 18 44.6	-1.2
	comp=Z,1.1nm,0.3s,baz=359,slow=7.6,SNR=31						
	comp=Z,1.1nm,0.3s						
ILAR	Eielson Array	53.85	31	P	P	04 18 46.3	+0.3
ILAR	Eielson Array	53.85	31	P	P	04 18 45.9	-0.1
	comp=Z,0.7nm,0.9s,baz=271,slow=4.9,SNR=6.2						
	comp=Z,0.7nm,0.9s						
ASAR	Alice Springs	57.47	184	P	P	04 19 11.6	-0.4
	comp=Z,0.4nm,0.3s,baz=10,slow=14,SNR=10						
	comp=Z,0.4nm,0.3s						
NVAR	Mina Array Bea	79.55	51	P	P	04 21 26.9	-0.7
NVAR	Mina Array Bea	79.55	51	P	P	04 21 29.1	+1.4
	comp=Z,1.1nm,0.9s,baz=285,slow=6.6,SNR=5.3						
	comp=Z,1.1nm,0.9s						
PDAR	Pinedale Array	82.21	43	P	P	04 21 39.7	-1.8
PDAR	Pinedale Array	82.21	43	P	P	04 21 41.9	+0.3
	comp=Z,1.1nm,0.8s,baz=302,slow=2.8,SNR=7.5						
	comp=Z,1.1nm,0.8s						
PV19	Morning Glory	85.41	46	P	P	04 21 56.2	-1.5
TXAR	Lajitas Array	94.68	50	P	P	04 22 40.9	-0.1
TXAR	Lajitas Array	94.68	50	P	P	04 22 41.9	+1.0
	comp=Z,0.6nm,0.7s,baz=294,slow=3.2,SNR=10						
	comp=Z,0.6nm,0.7s						
833A	Chaparral WMA,	98.06	48	P	P	04 22 55.1	-1.0
QSPA	South Pole Qui	123.78	180		PKiKP	04 28 16.1	+1.4
QSPA	South Pole Qui	123.78	180	PKP	PKiKP	04 28 15.9	+1.2
	comp=Z,1.5nm,1.1s,baz=277,slow=1.5,SNR=6.3						
LPAZ	La Paz	151.19	58		PKPbc	04 29 10.2	-2.0
LPAZ	La Paz	151.19	58	PKPbc	PKPbc	04 29 12.2	0.0
	comp=Z,0.4nm,0.4s,baz=329,slow=5.9,SNR=4.4						

*IDC **30** 04:26:24.5±1.5, 31°.63S×58°.99E, h0km, mb4.0/6, mbtmp4.0/6, MS3.4/2, Error ellipse: s-maj=49.5km s-min=29.7km az=89.0*

ISC 30 04:26:26.1±1.6, 31°.6S±0°.2×59°.0E±0°.4, h10km, n17, σ0°23/6, mb4.2/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	15.54	199	T	T	04 45 51.7	
	baz=22,slow=74,SNR=221						
H04N1	CROZET ISLANDS	15.55	199	T	T	04 45 52.8	
	baz=22,slow=74,SNR=283						
H04N3	CROZET ISLANDS	15.56	199	T	T	04 45 54.4	
	baz=22,slow=74,SNR=205						
H08S1	Diego Carcia H	26.97	31	T	T	05 00 19.7	
	baz=205,slow=76,SNR=56						
H08S2	Diego Garcia H	26.98	31	T	T	05 00 19.8	
	baz=205,slow=76,SNR=37						
H08S3	Diego Garcia H	26.99	31	T	T	05 00 21.2	
	baz=205,slow=76,SNR=53						
BOSA	Boshof	29.27	267	LR	LR	04 41 45.6	
	comp=Z,69nm,18.2s,baz=84,slow=32						
FURI	Furi	44.74	331	LR	LR	04 51 04.9	
	comp=Z,34nm,18.6s,baz=10,slow=33						
H01W2	Cape Leeuwin H	45.73	110	T	T	05 24 00.5	
	baz=257,slow=75,SNR=69						
H01W3	Cape Leeuwin H	45.74	110	T	T	05 23 58.4	
	baz=257,slow=75,SNR=59						
H01W1	Cape Leeuwin H	45.75	110	T	T	05 24 01.8	
	baz=257,slow=75,SNR=62						
QSPA	South Pole Qui	58.53	180	P	P	04 36 22.6	0.0
	1.5nm,0.8s,baz=244,slow=6.1,SNR=5.3						
	1.5nm,0.8s						
CMAR	Chiang Mai Arr	62.84	43	P	P	04 36 52.2	-0.1
	1.2nm,0.3s,baz=232,slow=6.8,SNR=12						
	1.2nm,0.3s						
ASAR	Alice Springs	65.67	104	P	P	04 37 11.0	-0.1
	0.9nm,0.7s,baz=244,slow=5.8,SNR=7.2						
	0.9nm,0.7s						
WRA	Warramunga Arr	67.67	100	P	P	04 37 24.0	+0.2
	1.4nm,0.9s,baz=244,slow=5.3,SNR=4.3						
	1.4nm,0.9s						
KURBB	Kurchatov Arra	83.70	12	P	P	04 38 54.5	-0.2
	0.8nm,0.8s,baz=198,slow=6.0,SNR=4.4						
	0.8nm,0.8s						
BVAR	Borovoye Array	84.88	7	P	P	04 39 00.9	+0.2
	0.8nm,0.6s,baz=202,slow=7.7,SNR=4.6						
	0.8nm,0.6s						

*THE **30** 04:29:40.4, 40°.5N±0°.9×2°.1E±°, h7km±2km, M2.8/9, MLh2.8/9*
*TIR **30** 04:29:40.7, 40°.58N×20°.94E, h19km, Ml3.1/6*
*ATH **30** 04:29:41.4, 40°.41N×20°.89E, h20km±2km, ML2.7/6, Manual Solution by I.Dede First location: 2019/10/30 04:30:50, This location: 2020/10/23 14:57:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*BEO **30** 04:29:42.4±0.8, 40°.43N×20°.92E, h24km±3km, ML2.7/10*
*SKO **30** 04:29:42.1, 40°.50N×20°.86E, h14km, ML3.1*

ISC 30 04:29:41.2±0.8, 40°.47N±0°.02×20°.84E±0°.02, h12km±4km, n60, σ1°.25/88, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.16	345	P	Pg	04 29 43.9	-1.2
KBN				S	Sg	04 29 46.4	-1.3
KBN	Korca	0.16	345	Pg	Pg	04 29 43.9	-1.2
KBN				Sg	Sg	04 29 46.4	-1.3
KBN				AML	AML	04 29 47.1	
	28nm,0.5s						
NEST	Nestorio	0.16	108	P	Pg	04 29 45.4	+0.4
NEST				S	Sb	04 29 49.3	+1.5
NEST	Nestorio	0.16	108	Pg	Pg	04 29 45.4	+0.4
NEST				Sg	Sb	04 29 48.9	+1.2
NEST				AML	AML	04 29 49.5	
	22nm,0.2s						
NEST				AML	AML	04 29 49.6	
	17nm,0.2s						
NEST	Nestorio	0.16	108	P	Pb	04 29 46.0	-0.4
NEST				S	Sg	04 29 48.1	+0.3
PENT	Pentalofos	0.35	140	P	Pg	04 29 48.3	-0.1
PENT				S	Sb	04 29 54.9	-0.1
PENT	Pentalofos	0.35	140	P	Pg	04 29 48.2	-0.1
PENT				S	Sg	04 29 53.0	0.0
OHR	Ohrid	0.65	357	*i* Pg	Pg	04 29 53.7	-0.1
OHR				*i* Sg	Sg	04 30 03.1	+0.7
OHR				*e*Lg	Lg	04 30 03.9	
	comp=E,1μm,0.6s						
OHR				*e*Lg	Lg	04 30 04.3	
	comp=N,499nm,0.5s						
KZN	Kozani	0.72	102	P	Pg	04 29 55.0	-0.3
KZN				S	Sn	04 30 08.3	-0.2
KZN	Kozani	0.72	102	P	Pg	04 29 55.0	-0.3
KZN				S	Sg	04 30 04.1	-0.7
JAN	Janina	0.81	180	P	Pg	04 29 54.9	-1.9
JAN				S	Sn	04 30 07.7	-2.7
PRMD	Pramanda	0.95	168	P	Pb	04 29 58.4	-1.4
PRMD	Pramanda	0.95	168	P	Pb	04 29 58.4	-1.4
KTI	Kastanea	0.97	94	P	Pg	04 30 00.1	0.0
IGT	Igoumenitsa	1.01	203	P	Pb	04 29 59.2	-1.5
IGT	Igoumenitsa	1.01	203	Pg	Pn	04 30 00.2	-1.1
IGT				Sg	Sn	04 30 16.7	+1.3
IGT	Igoumenitsa	1.01	203	*i* Pg	Pg	04 30 00.1	-0.7
IGT				*i* Sg	Sn	04 30 16.3	+0.9
IGT	Igoumenitsa	1.01	203	*e*Pg	Pn	04 30 00.3	-1.0
IGT				*e*Sg	Sn	04 30 14.8	-0.6
IGT	Igoumenitsa	1.01	203	P	Pb	04 29 59.7	-1.0
VLO	Vlora	1.03	271	Pg	Pg	04 30 01.3	+0.2
VLO				Sg	Sn	04 30 16.2	+0.4
VLO				AML	AML	04 30 19.5	
	comp=N,4.1nm,0.5s						
KEK	Kerkira	1.10	227	Pn	Pg	04 30 04.4	+2.0
KEK	Kerkira	1.10	227	P	Pg	04 30 02.2	-0.2
TIR	Tirane	1.15	320	Pn	Pn	04 30 01.4	-1.8
TIR				Sn	Sb	04 30 18.1	0.0
TIR				AML	AML	04 30 26.0	
	comp=N,0.4nm,0.7s						
TIR				AML	AML	04 30 27.4	
	comp=N,0.4nm,0.8s						
TIR	Tirane	1.15	320	*i* Pg	Pn	04 30 02.2	-1.0
TETR	Tetrakomo, Epi	1.17	163	P	Pb	04 30 02.3	-1.1
TETR	Tetrakomo, Epi	1.17	163	P	Pb	04 30 02.4	-1.1
THL	Klokotos Trika	1.27	135	P	Pb	04 30 04.6	-0.6
THL	Klokotos Trika	1.27	135	Pn	Pg	04 30 04.9	-0.8
THL				Sn	Sg	04 30 24.7	+2.5
THL	Klokotos Trika	1.27	135	P	Pn	04 30 03.8	-1.0
LIT	Litokhoron	1.31	106	P	Pb	04 30 05.6	-0.2
LIT	Litokhoron	1.31	106	*i* Pg	Pg	04 30 06.4	-0.1
LIT				*i* Sg	Sg	04 30 26.5	+3.1
SKO	Skopje	1.57	16	*i* Pn	Pb	04 30 10.8	+0.5
THE	Thessaloniki	1.62	83	Sn	Sb	04 30 30.7	-0.9
THE	Thessaloniki	1.62	83	*i* Pn	Pg	04 30 12.3	-0.2
LKD2	Lefkada island	1.68	185	Pn	Pg	04 30 12.9	-0.6
LKD2				Sn	Sg	04 30 38.3	+3.0
LKD2				AML	AML	04 30 41.8	
	comp=N,0.5nm,0.7s						
KNT	Kendrikon	1.71	65	*i* Pn	Pb	04 30 11.6	-1.0
SOH	Sokhos	1.94	79	*i* Pn	Pb	04 30 15.3	-1.3
SOH				*i* Sn	Sb	04 30 40.6	-0.2
DRME	Dracevica, Mon	2.13	325	*e*Pn	Pn	04 30 18.0	+1.4
SRS	Serrai	2.19	72	*i* Pn	Pn	04 30 18.4	+0.9
KKB	Krupnik	2.21	51	*i* Pn	Pn	04 30 19.1	+1.4
PDG	Podgorica	2.30	329	Pn	Pn	04 30 20.4	+1.5
PDG				Sn	Sb	04 30 52.3	+1.3
PDG	Podgorica	2.30	329	*e*Pn	Pn	04 30 20.6	+1.7
BOSS	Bosilegrad	2.37	31	*e*Pn	Pn	04 30 20.6	+0.6
BOSS				*e*Sn	Sn	04 30 48.1	-1.0
MMB	Musomishta	2.45	63	*i* Pn	Pn	04 30 22.0	+0.9
BARS	Barje	2.46	17	*i* Pn	Pn	04 30 21.5	+0.2
BARS	Barje	2.46	17	*e*Pn	Pn	04 30 21.4	+0.2
BARS				*e*Sn	Sn	04 30 51.6	+0.4
KLV	Kalavryta, Ach	2.62	157	Pn	Pb	04 30 27.6	-0.7
SELS	Selova	2.76	4	*e*Pn	Pn	04 30 27.8	+2.4
SELS				*e*Sn	Sn	04 30 59.6	+1.0
VTS	Vitosha	2.80	39	*e*Pn	Pn	04 30 25.1	-0.9
SJES	Sjenica	2.87	347	*e*Pn	Pn	04 30 27.6	+0.7
SJES				*e*Sn	Sn	04 31 00.5	-0.9
GOCS	Kraljevo Serbi	3.10	0	*e*Pn	Pn	04 30 32.1	+2.1
GOCS				*e*Sn	Sn	04 31 05.1	-1.9
ZAPS	Zavoj	3.11	25	*e*Pn	Pn	04 30 30.9	+0.8
ZAPS				*e*Sn	Sn	04 31 05.2	-2.0
IVAS	Ivanjica	3.15	351	*e*Pn	Pn	04 30 30.0	-0.8
BOVS	Bovan	3.23	11	*e*Pn	Pn	04 30 31.7	-0.1
BLKB	Belogradchik	3.44	23	*e*Pn	Pn	04 30 34.6	-0.1
ZAGS	Zajecar	3.50	17	*e*Pn	Pn	04 30 36.0	+0.5
ZAGS				*e*Sn	Sn	04 31 16.8	0.0
TRUS	Trudelj	3.77	355	*e*Pn	Pn	04 30 39.3	+0.1
KUBS	Kucevo	3.99	9	*e*Pn	Pn	04 30 40.4	-1.9
SGRT	San Giovanni R	4.06	290	Pn	Pn	04 30 47.1	+3.8
SGRT				AML	AML	04 31 32.1	
TEKS	Tekeris	4.20	347	*e*Pn	Pn	04 30 45.5	+0.4

*SJA **30** 04:52:57.4±0.7, 19°.06S×69°.32W, h124km±3km, ML4.3, MW4.2*
*VAO **30** 04:52:57.9±0.4, 18°.95S×69°.12W, h113km, mb4.7*
*GUC **30** 04:52:58.9±0.8, 19°.02S×69°.31W, h115km±4km, ML4.3*
*NEIC **30** 04:52:59.2, 19°.05S×69°.37W, h111km*
*NEIC **30** 04:52:59.2±1.5, 19°.04S±0°.03×69°.36W±0°.05, h111km±4km, mb4.7/51, Mwr4.3/39, Mwr4.5(GUC), Error ellipse: s-maj=7.5km s-min=4.7km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.81; $M_{\theta\theta}$0.90; $M_{\phi\phi}$0.91; $M_{r\theta}$2.11; $M_{\theta\phi}$-0.84; $M_{\phi r}$-2.67; Fault plane solution: $M_0$3.84000×10^{15} NP1:ϕ_s320.87000°, δ76.25000°, λ-87.41000°. NP2:ϕ_s130.12000°, δ13.99000°, λ-100.45000°. Principal axes: T 3.8002, Plg31.0000°, Azm49.0000°; N 0.0772, Plg3.0000°, Azm140.0000°; P -3.8774, Plg59.0000°, Azm234.0000°;*
*IDC **30** 04:53:00.8±2.2, 18°.96S×69°.03W, h124km±19km, mb4.1/11, mbtmp4.5/13, MS3.3/1 Error ellipse: s-maj=19.4km s-min=14.4km az=77.0*

ISC 30 04:52:58.3±0.6, 19°.07S±0°.03×69°.25W±0°.05, h114km±5km, n187, σ1°60/208, mb4.7/33, 10C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.60	175		Pn	04 53 17.8	+0.9
GO01				Sn	Sn	04 53 32.1	+1.2
GO01	Chusmiza	0.60	175	⇑*i* P	Pn	04 53 17.7	+0.7
GO01				*e*S	Sn	04 53 31.8	+0.9
GO01				IAML		04 53 32.9	
	comp=E,15μm,0.1s						
GO01	Chusmiza	0.60	175	*e*P	Pn	04 53 17.5	+0.6
GO01				*e*S	Sn	04 53 32.6	+1.7
GO01				IAML		04 53 34.6	
	comp=Z,5μm,0.4s						
PB16	IPOC Station P	0.77	342		Pn	04 53 18.8	+0.4
PB16				Sn	Sn	04 53 33.8	+0.4
PB16	IPOC Station P	0.77	342	⇓*i* P	Pn	04 53 18.8	+0.4
PB16				*e*S	Sn	04 53 33.5	+0.1
PB16				IAML		04 53 34.7	
	comp=E,17μm,0.5s						
PB16	IPOC Station P	0.77	342	*e*P	Pn	04 53 18.0	-0.3
PB16				IAML		04 53 35.0	
	comp=Z,6μm,0.5s						
PB16				*e*S	Sn	04 53 35.2	+1.8
PB11	IPOC Station P	0.79	209		Pn	04 53 18.5	+0.4
PB11				Sn	Sn	04 53 33.4	+0.5
PB11	IPOC Station P	0.79	209	⇑*i* P	Pn	04 53 18.5	+0.4
PB11				*e*S	Sn	04 53 33.3	+0.4
PB11				IAML		04 53 34.1	
	comp=N,7μm,0.3s						
PB11	IPOC Station P	0.79	209	*e*P	Pn	04 53 18.5	+0.4
PB11				*e*S	Sn	04 53 33.8	+0.8
PB11				IAML		04 53 36.8	
	comp=Z,4μm,0.2s						
PX02	IPOC Station P	0.90	276	⇓*e*P	Pn	04 53 17.9	-1.1
PB08	IPOC Station P	1.07	175		Pn	04 53 22.1	+1.0
PB08				Sn	Sn	04 53 39.7	+1.5
PB08	IPOC Station P	1.07	175	⇑*i* P	Pn	04 53 22.3	+1.2
PB08				*e*S	Sn	04 53 39.8	+1.5
PB08				IAML		04 53 41.0	
	comp=E,4μm,0.2s						
PB08	IPOC Station P	1.07	175	*e*P	Pn	04 53 22.3	+1.2
PB08				*e*S	Sn	04 53 40.5	+2.3
PB08				IAML		04 53 42.6	
	comp=Z,2μm,0.5s						
PB12	IPOC Station P	1.11	294		Pn	04 53 20.8	-0.4
PB12				Sn	Sn	04 53 37.0	-1.4
PB12	IPOC Station P	1.11	294	⇑*i* P	Pn	04 53 20.7	-0.4
PB12				*e*S	Sn	04 53 37.2	-1.2
PB12				IAML		04 53 38.3	
	comp=E,20μm,0.3s						
PB12	IPOC Station P	1.11	294	*e*P	Pn	04 53 20.1	-1.1
PB12				IAML		04 53 37.7	
	comp=Z,7μm,0.3s						
AP01	Chacalluta	1.24	304		Pn	04 53 22.4	0.0
AP01	Chacalluta	1.24	304	*e*P	Pn	04 53 22.4	0.0
AP01	Chacalluta	1.24	304	*e*P	Pn	04 53 22.6	+0.2
AP01				*e*S	Sn	04 53 40.6	-0.1
AP01				IAML		04 53 45.1	
	comp=Z,8μm,0.3s						
PX03	IPOC Station P	1.38	195	*e*P	Pn	04 53 23.9	-0.2
TA02	Huaiquique	1.46	214	*e*P	Pn	04 53 25.1	+0.3
TA02	Huaiquique	1.46	214	*e*P	Pn	04 53 25.0	+0.1
TA02				*e*S	Sn	04 53 45.7	+0.7
TA02				IAML		04 53 49.9	
	comp=Z,3μm,0.1s						
PB18	Visviri	1.48	352		Pn	04 53 26.0	+0.2
PB18	Visviri	1.48	352	⇓*i* P	Pn	04 53 27.6	+1.8
TA01	Diego Aracena	1.73	210		Pn	04 53 27.6	-0.6
TA01	Diego Aracena	1.73	210	*e*P	Pn	04 53 27.7	-0.4
TA01	Diego Aracena	1.73	210	*e*P	Pn	04 53 27.9	-0.2
TA01				*e*S	Sn	04 53 51.8	+0.9
TA01				IAML		04 53 55.4	
	comp=Z,1μm,0.5s						
PATCX	Punta Patache	1.94	206		Pn	04 53 30.7	-0.2
PATCX	Punta Patache	1.94	206	*e*P	Pn	04 53 30.9	0.0
PATCX				IAML		04 54 01.0	
	comp=E,2μm,0.4s						
PATCX	Punta Patache	1.94	206	*e*P	Pn	04 53 30.9	0.0
PATCX				*e*S	Sn	04 53 50.2	-5.5
PATCX				IAML		04 53 55.8	
	comp=Z,1μm,0.5s						
PB01	IPOC Station P	1.98	186		Pn	04 53 32.2	+0.8
PB01	IPOC Station P	1.98	186	⇑*i* P	Pn	04 53 32.1	+0.7
PB01				IAML		04 54 01.4	
	comp=E,3μm,0.5s						
PB01	IPOC Station P	1.98	186	*e*P	Pn	04 53 32.1	+0.8
PB01				*e*S	Sn	04 53 58.1	+1.6
PB01				IAML		04 53 59.5	
	comp=Z,1μm,0.2s						
PB02	IPOC Station P	2.32	195		Pn	04 53 35.9	+0.2
PB02	IPOC Station P	2.32	195	*e*P	Pn	04 53 35.9	+0.2
PB02				IAML		04 54 14.2	
	comp=E,2μm,0.4s						
PB02	IPOC Station P	2.32	195	*e*P	Pn	04 53 36.2	+0.5
PB02				*e*S	Sn	04 54 00.5	-3.9
PB02				IAML		04 54 12.3	
	comp=Z,2μm,0.4s						
PB09	IPOC Station P	2.72	180		Pn	04 53 42.8	+1.9
PB09	IPOC Station P	2.72	180	*e*P	Pn	04 53 42.1	+1.2
PB09				IAML		04 54 23.5	
	comp=N,722nm,0.4s						
PB09	IPOC Station P	2.72	180	*e*P	Pn	04 53 42.4	+1.5
PB09				*e*S	Sn	04 54 06.5	-7.2
PB09				IAML		04 54 21.5	
	comp=Z,969nm,0.8s						
LPAZ	La Paz	2.96	21		Pn	04 53 46.8	+2.1
LPAZ	La Paz	2.96	21	P	Pn	04 53 46.7	+2.1
	comp=Z,470nm,0.6s,baz=211,slow=6.5,SNR=2468						
LPAZ	La Paz	2.96	21	*e*P	Pn	04 53 46.7	+2.1
LPAZ	La Paz	2.96	21	*e*P	Pn

MACA Manacapuru-AM 17.89 29 P P 04 56 57.7 -1.4
MACA IAmb IAmb 04 57 00.9
comp=Z,36nm,0.6s
MACA Manacapuru-AM 17.89 29 *eP* **P 04 56 55.8 -3.3**
NPGB Novo Progresso 18.04 50 *eP* **P 04 56 59.2 -1.5**
FRTB Fartura 18.84 106 *eP* **P 04 57 07.6 -1.9**
BB19B Bebedouro 19.57 99 *eP* **P 04 57 16.2 -1.3**
ITTB Itaituba 19.69 44 *eP* **P 04 57 17.3 -1.4**
TRQA Tornquist 19.96 163 P **Pn 04 57 22.9 -1.3**
TRQA IAmb IAmb 04 57 23.4
comp=Z,26nm,0.7s
MAJ01 Sao Joao Batis 20.35 118 *eP* **P 04 57 24.8 -0.9**
BDFB Brasilia 20.55 84 P Pn 04 57 29.0 -2.5
BDFB IAmb IAmb 04 57 31.2
comp=Z,20nm,0.5s
BDFB Brasilia 20.55 84 P **P 04 57 27.5 -0.7**
comp=Z,20nm,0.5s,baz=259,slow=8.9,SNR=62
comp=Z,20nm,0.5s
RCLB Rio Claro- Sao 20.59 103 *eP* **P 04 57 27.5 -0.9**
VAO Valinhos 21.16 105 P **P 04 57 33.5 -1.1**
VAO Valinhos 21.16 105 *eP* **P 04 57 33.7 -1.0**
OTAV Otavalo 21.20 334 *eP* **P 04 57 34.5 -0.9**
FLOC Florencia 21.46 342 P **P 04 57 35.3 -2.5**
PMNB Patos De Minas 21.61 92 *eP* **P 04 57 38.0 -1.4**
PLCA Paso Flores 21.62 183 P **P 04 57 39.2 -0.2**
PLCA IAmb IAmb 04 57 43.9
comp=Z,31nm,1.1s
PLCA Paso Flores 21.62 183 P **P 04 57 40.8 +1.4**
comp=Z,20nm,0.9s,baz=3.9,slow=11,SNR=32
comp=Z,20nm,0.9s
PLCA Paso Flores 21.62 183 *eP* **P 04 57 39.5 +0.1**
MAL2 Monte Alegre, 22.47 43 P **P 04 57 46.6 -1.7**
PRPB Parauapebas 22.86 58 *eP* **P 04 57 49.1 -3.0**
BOAV Boa Vista 22.99 23 P **P 04 57 51.9 -1.4**
BOAV Boa Vista 22.99 23 *eP* **P 04 57 52.0 -1.4**
SMTB Santa Maria do 23.32 67 *eP* **P 04 57 55.1 -1.3**
DIAM Diamantina, MG 24.24 92 *eP* **P 04 58 03.7 -1.3**
SDBA SAO DESIDERIO 24.34 78 *eP* **P 04 58 04.4 -1.3**
RUSC La Rusia 25.09 351 P **P 04 58 12.9 -0.1**
RUSC IAmb IAmb 04 58 15.1
comp=Z,74nm,1.3s
TMAB Tom-Au,PA,Br 26.54 54 *eP* **P 04 58 24.3 -1.3**
SJMB Sao Joao De Ma 26.55 94 *eP* **P 04 58 24.5 -1.2**
RIB01 Linhares ES 27.25 95 *eP* **P 04 58 30.7 -1.2**
SDV Santo Domingo 27.81 357 P **P 04 58 35.7 -1.4**
SDV IAmb IAmb 04 58 37.5
comp=Z,13nm,0.7s
BAUV El Baul 27.86 3 P **P 04 58 36.6 -0.7**
GUA01 Guaratinga, BA 28.13 90 *eP* **P 04 58 38.6 -1.2**
CMC01 Camacan, BA 28.62 87 *eP* **P 04 58 43.1 -1.1**
NBAN Anadia - AL 33.23 78 *eP* **P 04 59 23.8 -1.0**
RCBR Riachuelo 35.04 72 P **P 04 59 40.2 -0.2**
RCBR Riachuelo 35.04 72 *eP* **P 04 59 38.7 -1.8**
CRPR Cabo Rojo, PR 36.90 3 P **P 04 59 54.6 -1.5**
OBIP Obispado Ponce 36.97 4 P **P 04 59 55.3 -1.4**
RPN Rapa Nui 37.60 250 LR LR 05 10 55.0
comp=Z,39nm,18.1s,baz=84,slow=28
KMSC Kings Mountain 55.12 348 P **P 05 02 18.5 -0.2**
V55A Taylorsville 55.78 348 P **P 05 02 24.5 +1.1**
X48A Hartselle 55.85 342 **P 05 02 24.2 +0.2**
X48A IAmb IAmb 05 02 25.1
comp=Z,5.5nm,0.6s
V53A Saluda 55.93 347 P **P 05 02 24.9 +0.4**
V53A IAmb IAmb 05 02 26.3
comp=Z,3.0nm,0.6s
TKL Tuckaleechee C 56.14 346 **P 05 02 25.9 -0.1**
TKL IAmb IAmb 05 02 26.6
comp=Z,6.2nm,0.8s
SWET Sewanee 56.26 344 P **P 05 02 27.0 +0.1**
SWET IAmb IAmb 05 02 27.4
comp=Z,10nm,0.6s
V48A Smith Brothers 56.99 343 P **P 05 02 32.7 +0.7**
V48A IAmb IAmb 05 02 32.8
comp=Z,6.0nm,0.6s
CLTN Cedars of Leba 57.19 344 P **P 05 02 33.6 +0.2**
CLTN IAmb IAmb 05 02 34.8
comp=Z,4.1nm,0.6s
T50A Nancy 57.69 345 **P 05 02 37.0 +0.1**
T50A IAmb IAmb 05 02 37.3
comp=Z,5.1nm,0.7s
T47A Sharon Grove 58.24 343 **P 05 02 41.2 +0.4**
T47A IAmb IAmb 05 02 42.3
comp=Z,14nm,1.0s
TXAR Lajitas Array 58.46 325 P **P 05 02 42.4 -0.1**
TXAR **PcP 05 03 32.6 +0.6**
TXAR Lajitas Array 58.46 325 P **P 05 02 42.6 0.0**
comp=Z,0.1nm,0.4s,baz=152,slow=10.0,SNR=3.8
TXAR PcP **PcP 05 03 33.3 +1.3**
comp=Z,0.3nm,0.6s,baz=136,slow=5.8,SNR=2.6
PBMO Poplar Bluff 59.03 340 **P 05 02 46.7 +0.5**
P53A Whipple 59.34 349 **P 05 02 48.9 +0.6**
P53A IAmb IAmb 05 02 49.9
comp=Z,9.5nm,0.8s
SIUC Southern Illin 59.52 342 P **P 05 02 50.0 +0.4**
FVM French Village 60.14 341 **P 05 02 54.5 +0.7**
CCM Cathedral Cave 60.46 340 P **P 05 02 56.0 -0.1**
CCM IAmb IAmb 05 03 00.7
comp=Z,4.2nm,0.6s
R40A Maddies Statio 61.01 339 **P 05 03 00.3 +0.6**
R40A IAmb IAmb 05 03 04.1
comp=Z,3.3nm,0.6s
BELA Belgrano 2 61.19 172 P **P 05 03 02.6 +2.1**
N49A Columbus Grove 61.27 347 P **P 05 03 01.4 0.0**
VNA3 Neumayer Olymp 62.48 162 ⇑P **P 05 03 10.8 +1.6**
comp=Z,3.7nm,0.8s
VNA1 Neumayer--Stat 62.68 161 ⇑P **P 05 03 12.1 +1.6**
comp=Z,5.5nm,0.9s
VNA2 Neumayer--Watz 63.04 161 ⇑P **P 05 03 14.7 +1.8**
comp=Z,3.5nm,0.6s,baz=293,slow=6.3
MNTQ Montreal, Queb 64.38 357 P **P 05 03 22.8 +0.9**
MNTQ IAmb IAmb 05 03 23.5
comp=Z,11nm,0.6s
SNAA Sanae 64.67 161 ⇑P **P 05 03 25.3 +1.6**
comp=Z,115nm,0.7s
SNAA Sanae 64.67 161 P **P 05 03 25.6 +1.9**
SNAA IAmb IAmb 05 03 26.4
comp=Z,4.3nm,0.7s
SNAA Sanae 64.67 161 P **P 05 03 25.7 +2.0**
comp=Z,3.7nm,0.6s,baz=285,slow=8.0,SNR=52
comp=Z,3.7nm,0.6s
LMN Caledonia Moun 64.73 3 P **P 05 03 24.2 -0.1**
LMN IAmb IAmb 05 03 26.9
comp=Z,20nm,1.4s
BUKO Buck Lake 64.86 352 P **P 05 03 25.3 +0.3**
BUKO IAmb IAmb 05 03 26.0
comp=Z,9.4nm,0.7s
TRQ Mont Tremblant 65.16 356 P **P 05 03 27.3 +0.2**
TRQ IAmb IAmb 05 03 27.9
comp=Z,7.4nm,0.6s
E62A Clayton Lake 65.38 360 P **P 05 03 28.8 +0.4**
E62A IAmb IAmb 05 03 29.5
comp=Z,6.7nm,0.8s
D62A Allapoint, All 65.84 0 **P 05 03 31.6 +0.3**
D62A IAmb IAmb 05 03 32.4
comp=Z,6.8nm,0.8s
BATG Bathurst New B 66.09 2 P **P 05 03 33.3 +0.3**
TROLL Troll, Antarti 66.39 161 ⇑P **P 05 03 36.6 +1.7**
comp=Z,286nm,0.5s
DBIC Dimbokro 68.38 74 P **P 05 03 47.4 -0.7**
DBIC IAmb IAmb 05 03 48.5
comp=Z,9.0nm,0.8s
DBIC Dimbokro 68.38 74 P **P 05 03 47.5 -0.6**
comp=Z,7.9nm,0.8s,baz=269,slow=7.7,SNR=8.1
comp=Z,7.9nm,0.8s
QSPA South Pole Qui 71.11 180 P **P 05 04 08.9 +4.7**
QSPA South Pole Qui 71.11 180 P P 05 04 09.1 +5.0
comp=Z,3.2nm,0.5s,baz=171,slow=0.2,SNR=56
PDAR Pinedale Array 71.85 330 P **P 05 04 09.5 +0.5**
PDAR Pinedale Array 71.85 330 P **P 05 04 09.8 +0.8**
comp=Z,0.4nm,0.6s,baz=122,slow=8.8,SNR=4.9
comp=Z,0.4nm,0.6s
ULM Lac du Bonnet 72.91 342 P **P 05 04 16.5 +1.7**
comp=Z,7.6nm,0.6s,baz=145,slow=6.0,SNR=5.5
comp=Z,7.6nm,0.6s
NVAR Mina Array Bea 73.39 322 P **P 05 04 18.0 -0.2**
NVAR Mina Array Bea 73.39 322 P **P 05 04 20.2 +2.0**
comp=Z,0.3nm,0.6s,baz=131,slow=4.2,SNR=2.2
comp=Z,0.3nm,0.6s
SCHQ Schefferville 73.63 1 P **P 05 04 19.0 0.0**
SCHQ Schefferville 73.63 1 P **P 05 04 19.0 0.0**
comp=Z,21nm,0.8s,baz=190,slow=5.4,SNR=4.3
comp=Z,21nm,0.8s
YNE Yellowstone No 73.78 331 P **P 05 04 22.2 +1.9**
HLID Hailey 74.82 328 P **P 05 04 28.5 +2.1**
PLID Pearl Lake 76.71 328 **P 05 04 37.6 +0.5**

TORD Torodi Ar. Bea 76.86 71 P **P 05 04 37.7 -0.6**
comp=Z,3.3nm,0.4s,baz=258,slow=3.9,SNR=31
comp=Z,3.3nm,0.4s
BMO Blue Mountains 77.20 327 P **P 05 04 41.1 +1.4**
VNDA Vanda 79.18 190 P **P 05 04 52.8 +2.7**
VNDA Vanda 79.18 190 P **P 05 04 53.5 +3.4**
comp=Z,0.9nm,0.8s,baz=142,slow=4.2,SNR=5.8
comp=Z,0.9nm,0.8s
ESDC Sonseca Array 84.34 45 P **P 05 05 18.9 +1.1**
ESDC Sonseca Array 84.34 45 P **P 05 05 19.1 +1.3**
comp=Z,1.2nm,0.5s,baz=250,slow=5.8,SNR=13
comp=Z,1.2nm,0.5s
ASAR Alice Springs 131.89 209 **PKiKP 05 11 59.6 -0.4**
ASAR Alice Springs 131.89 209 PKP **PKiKP 05 11 59.9 -0.2**
comp=Z,0.5nm,0.5s,baz=135,slow=1.8,SNR=11
WRA Warramunga Arr 134.85 212 **PKiKP 05 12 05.5 -0.6**
WRA Warramunga Arr 134.85 212 PKP **PKiKP 05 12 06.0 -0.1**
comp=Z,1.1nm,0.6s,baz=154,slow=1.6,SNR=15
HILR Hailar Array B 148.73 349 PKPbc **PKiKP 05 12 33.4 -0.3**
comp=Z,1.8nm,0.4s,baz=146,slow=1.7,SNR=4.4
MJAR Matsushiro Arr 150.27 312 **PKiKP 05 12 37.4 +0.2**
MJAR Matsushiro Arr 150.27 312 PKPbc **PKiKP 05 12 37.8 +0.6**
comp=Z,1.9nm,0.6s,baz=88,slow=1.6,SNR=4.8
SONM Songino Array 151.09 6 **PKiKP 05 12 39.4 +0.7**
SONM Songino Array 151.09 6 PKPbc **PKiKP 05 12 39.0 +0.4**
comp=Z,1.4nm,0.5s,baz=320,slow=1.1,SNR=6.3

HEL 30 05:13:11.3±0.3, 67°.56N×33°.74E, h0km, ML1.7,
Suspected explosion, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero** baz=225	**0.48**	**45**	PG	Pg	05 13 20.1	-0.5
VRF	**Varrio**	**1.59**	**279**	PG	Pn	05 13 40.6	0.0
VRF				MSG		05 13 59.0	
	comp=Z,6.3nm,0.2s						
VRF				SN	Sn	05 14 01.9	0.0
OLKF	**Oulanka, Finla**	**2.11**	**236**	PG	Pb	05 13 49.2	-1.2
OLKF				MSG		05 14 14.0	
	comp=Z,4.8nm,0.2s						
OLKF				SG	Sg	05 14 18.6	-0.5
KU6	**Riekki** baz=44	**2.17**	**226**	PG	Pn	05 13 49.5	+0.9
KU6				MSG		05 14 15.6	
	comp=Z,3.4nm,0.2s						
KU6				SG	Sg	05 14 20.2	-0.7
RAJF	**Raja-Jooseppi**	**2.24**	**297**	PG	Pn	05 13 50.5	+0.9
RAJF				SG	Sn	05 14 18.8	+0.9
MSF	**Maaselka** baz=49	**2.50**	**231**	PG	Pb	05 13 56.6	-0.4
MSF				SG	Sg	05 14 30.2	-1.2
RANF	**Ranua** baz=54	**3.16**	**244**	PB	Pb	05 14 06.5	-1.7
RANF				SG	Sb	05 14 49.4	+2.1
RNF	**Rovaniemi** baz=73	**3.17**	**256**	PN	Pn	05 14 02.5	+0.1
KEV	**Kevo**	**3.31**	**315**	PN	Pn	05 14 03.6	-0.6
KEV				SN	Sn	05 14 43.4	-0.7
ARA0	**ARCESS Array S**	**3.62**	**307**	PN	Pn	05 14 07.0	-1.5
ARA0				SN	Sn	05 14 49.4	-2.4
RMF	**Romuvaara**	**3.70**	**207**	PN	Pn	05 14 08.8	-0.8
HEF	**Hetta**	**3.89**	**287**	SN	Sn	05 14 58.3	-0.3
TOF	**Tornio**	**4.01**	**253**	PG	Pb	05 14 23.8	+1.2
TOF				SN	Sn	05 15 02.3	+0.9

CATAC ***30*** *05:27:13.4±0.7, 14°.N±5°.×9°.2W±°, h38km±7km, M3.0/8, MLv3.0/8, Error ellipse: s-maj=12.3km s-min=4.6km az=31.8, confirmed*
GCG ***30*** *05:27:14.0±0.9, 14°.30N×91°.84W, h72km±10km, MD3.7*
ISC 30 05:27:13.3±2.2, 14°.1N±0°.1×91°.9W±0°.1, h60km±23km, n14, σ0.45/20, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.48**	**30**	P	**Pn**	**05 27 25.2**	**+0.1**
RTAL				S	**Sn**	**05 27 33.6**	**-0.1**
STG2	**El Palmar, Qui**	**0.64**	**59**	*i* P	**Pn**	**05 27 27.1**	**0.0**
STG2				*i* S	**Sn**	**05 27 37.1**	**+0.1**
SMCA	**Catarina**	**0.76**	**350**	*i* P	**Pn**	**05 27 28.2**	**-0.1**
THIG		**0.85**	**339**	*i* P	**Pn**	**05 27 29.2**	**-0.3**
THIG				*i* S	**Sn**	**05 27 41.7**	**+0.3**
QUEO	**Labor Ovalle**	**0.87**	**29**	*i* P	**Pn**	**05 27 30.2**	**+0.2**
QUEO				*i* S	**Sn**	**05 27 42.3**	**+0.1**
QUEO				*i* S		05 27 43.1	
SOKI	**Kika Raxquin**	**0.88**	**36**	*i* P	**Pn**	**05 27 30.2**	**-0.1**
SOKI				*i* S	**Sn**	**05 27 42.6**	**-0.1**
ESSG	**Sabana Grande**	**1.11**	**76**	*i* P	**Pn**	**05 27 32.6**	**-0.3**
FG8	**Yepocapa, Chim**	**1.35**	**83**	*i* P	Pn	05 27 31.1	-5.0
FAME	**Alcaldia de Sa**	**1.89**	**98**	P	**Pn**	**05 27 43.0**	**-0.3**
FAME	**Alcaldia de Sa**	**1.89**	**98**	S	**Sn**	**05 28 04.9**	**-1.3**
NUBE	**Las Nubes**	**2.11**	**95**	*i* P	**Pn**	**05 27 46.8**	**+0.4**
NUBE				*i* S	**Sn**	**05 28 11.5**	**-0.2**
NUBE	**Las Nubes**	**2.11**	**95**	P	**Pn**	**05 27 46.6**	**+0.2**
JAYA	**Jayaque - finc**	**2.47**	**100**	*i* P	**Pn**	**05 27 51.7**	**+0.4**
JAYA				*i* S	**Sn**	**05 28 21.0**	**+0.7**
JAYA	**Jayaque - finc**	**2.47**	**100**	P	**Pn**	**05 27 51.8**	**+0.4**

KRNET ***30*** *05:29:48.0±0.1, 40°.79N×70°.59E, h14km, mb3.7*
ISU ***30*** *05:29:48, 40°.88N×70°.53E, h21km*
SOME ***30*** *05:29:48.8, 40°.87N×70°.65E, h10km*
NNC ***30*** *05:29:51.2±4.9, 40°.62N×69°.80E, h71km±139km, mb3.1, mpv3.0, Error ellipse: s-maj=48.6km s-min=18.0km az=19.0*
ISC 30 05:29:48.7±1.0, 40°.81N±0°.02×70°.40E±0°.02, h13km±7km, n56, σ2.54/103, 35C-19D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHDK	**Chadak**	**0.31**	**58**	P	**Pg**	**05 29 54.5**	**-0.6**
CHDK				S	**Sg**	**05 29 58.6**	**-0.8**
MINT	**Mingtut**	**0.56**	**128**	P	**Pg**	**05 29 59.8**	**+0.2**
MINT				S	**Sb**	**05 30 07.8**	**-0.3**
CHMG	**Chimgan**	**0.80**	**338**	P	**Pg**	**05 30 03.5**	**-0.7**
CHMG				S	**Sg**	**05 30 14.6**	**-0.1**
TGS	**TashGRES**	**0.91**	**313**	P	**Pn**	**05 30 08.0**	**+0.9**
TGS				S	**Sn**	**05 30 22.6**	**+2.5**
TRKS	**Terek-Say**	**0.91**	**37**	⇑*eP*	**Pg**	**05 30 03.5**	**-2.8**
TRKS				⇑*eS*	**Sg**	**05 30 14.8**	**-3.4**
TVKS	**Tavaksay**	**0.95**	**324**	S	**Sb**	**05 30 19.9**	**+0.3**
TVKS				S	Sn	05 30 33.4	+12
NAM	**Namangan**	**0.97**	**79**	P	**Pg**	**05 30 06.2**	**-1.2**
CHMI	**Chimion**	**1.01**	**122**	P	**Pg**	**05 30 07.6**	**-0.6**
NZBK	**Nazarbek**	**1.06**	**293**	P	Pn	05 30 15.1	+5.9
NZBK				S	**Sn**	**05 30 31.6**	**+7.8**
FRG	**Fergana**	**1.14**	**112**	P	**Pb**	**05 30 09.7**	**-0.5**
FRG				S	**Sb**	**05 30 25.0**	**+0.1**
ANR	**Andizhan**	**1.49**	**91**	S	**Sg**	**05 30 37.6**	**+1.0**
ARK	**Arkit**	**1.54**	**49**	⇑*eP*	**Pn**	**05 30 15.4**	**-0.5**
ARK				⇑*eS*	**Sn**	**05 30 35.3**	**-0.5**
TSTA	**Tashata**	**1.59**	**98**	P	**Pg**	**05 30 20.0**	**+0.7**
TSTA				S	**Sg**	**05 30 41.2**	**+1.2**
CHM	**Chimkent** 154nm,0.2s	**1.62**	**339**	*eP*	**Pg**	**05 30 19.9**	**+0.1**
CHM				*eS*	**Sg**	**05 30 42.7**	**+1.7**
DRK	**Karamyk** 1μm,0.2s	**1.71**	**141**	⇑*eP*	**Pn**	**05 30 18.1**	**-0.3**
DRK				⇑*eS*	**Sn**	**05 30 40.1**	**-0.1**
GAR	**Garm**	**1.81**	**182**	⇓*eP*	**Pb**	**05 30 21.7**	**0.0**
GAR				⇓*eS*	**Sg**	**05 30 46.1**	**-0.8**
OHH	**Osh**	**1.83**	**98**	⇓*eP*	**Pn**	**05 30 19.3**	**-0.7**
OHH				⇓*eS*	**Sn**	**05 30 42.6**	**-0.5**
ARSB	**Arslanbob**	**2.02**	**74**	⇑*eP*	**Pn**	**05 30 23.1**	**+0.6**
ARSB				⇑*eS*	**Sn**	**05 30 48.6**	**+0.9**
DZI	**Dzhizak**	**2.09**	**251**	S	**Sg**	**05 30 54.5**	**-1.3**
BXML	**Bakhmal**	**2.13**	**239**	P	**Pg**	**05 30 28.5**	**-1.1**
BXML				S	**Sg**	**05 31 00.9**	**+3.6**
DZA	**Taraz** 57nm,0.1s	**2.19**	**18**	*eP*	**Pb**	**05 30 27.4**	**-0.8**
DZA				*eS*	**Sb**	**05 30 55.5**	**+0.2**
BRLS	**Borolday** 11nm,0.1s	**2.26**	**349**	*eP*	**Pn**	**05 30 26.2**	**+0.4**
BRLS				*eS*	**Sn**	**05 30 53.5**	**-0.1**
KK31	**Karatay Array** 2.6nm,0.3s,baz=194,slow=18,SNR=94	**2.29**	**2**	Pn	**Pn**	**05 30 28.1**	**+1.8**
KK31	36nm,0.2s,baz=188,slow=29,SNR=18			Sn	**Sb**	**05 30 60.0**	**+1.8**

CHGR Chuyangaron 2.35 204 ⇑*eP* **Pb 05 30 30.6 -0.4**
CHGR ⇑*eS* **Sb 05 31 01.7 +1.7**
SFK Sufi-Kurgan 2.50 108 ⇑*eP* **Pn 05 30 30.1 +0.9**
SFK ⇑*eS* **Sn 05 31 00.8 +1.1**
SALK Salom-Alik 2.59 87 ⇓*eP* **Pn 05 30 31.3 +0.8**
SALK ⇓*eS* **Sn 05 31 03.0 +1.0**
MRKS Merke 2.86 47 *eP* **Pb 05 30 37.9 -1.8**
3.6nm,0.1s
MRKS *eS* **Sb 05 31 12.9 -1.7**
63nm,0.2s
AGL Agalyk 2.99 246 P **Pn 05 30 37.7 +1.8**
AGL S **Sb 05 31 19.5 +1.2**
EKS2 Erkin-Say 3.13 53 ⇑*eP* **Pn 05 30 39.4 +1.6**
EKS2 ⇑*eS* **Sn 05 31 16.9 +1.8**
ARLS Aral 3.13 69 ⇑*eP* **Pn 05 30 39.1 +1.2**
ARLS ⇑*eS* **Sn 05 31 16.4 +1.1**
UCH Uchtor 3.40 64 ⇑*eP* **Pn 05 30 43.0 +1.2**
UCH ⇑*eS* **Sn 05 31 23.3 +1.1**
AAK Ala-Archa 3.56 58 ⇓Pn **Pb 05 30 52.3 +0.6**
2.1nm,0.4s
AAK ⇓Sn **Sb 05 31 37.3 +2.4**
6.6nm,0.5s
AAK Ala-Archa 3.56 58 ⇑*eP* **Pn 05 30 45.4 +1.6**
AAK ⇑*eS* **Sn 05 31 27.2 +1.3**
FRU1 Bishkek 3.74 56 ⇑*eP* **Pn 05 30 47.7 +1.6**
FRU1 ⇑*eS* **Sn 05 31 31.4 +1.3**
PKMR Pachkamar 3.84 235 S **Sn 05 31 28.4 -4.0**
KBK Karagaybulak 3.87 60 ⇓*eP* **Pn 05 30 49.6 +1.6**
KBK ⇓*eS* **Sn 05 31 34.5 +1.1**
CHMS Chumysh 3.91 55 ⇓*eP* **Pn 05 30 50.2 +1.7**
CHMS ⇓*eS* **Sn 05 31 35.5 +1.2**
USP Ospenovka 3.92 50 ⇑*eP* **Pn 05 30 50.3 +1.7**
USP ⇑*eS* **Sn 05 31 35.7 +1.3**
JNKS Jany-Kuch 3.98 85 ⇓*eP* **Pn 05 30 50.8 +1.1**
JNKS ⇓*eS* **Sn 05 31 36.6 +0.2**
ZRB Zarabog 4.18 231 S **Sn 05 31 44.3 +3.3**
TKM2 Tokmak 2 4.42 60 ⇑*eP* **Pn 05 30 57.2 +1.6**
TKM2 ⇑*eS* **Sn 05 31 47.7 +0.8**
TMD Tamdy-Bulak 4.44 284 S **Sn 05 31 48.5 +1.2**
BOOM Boomskoye usch 4.47 66 ⇑*eP* **Pn 05 30 57.8 +1.4**
BOOM ⇑*eS* **Sn 05 31 48.8 +0.4**
ULHL Ulahol 4.61 70 ⇓*eP* **Pn 05 30 59.7 +1.4**
ULHL ⇓*eS* **Sn 05 31 52.0 +0.2**
KST Kastek 4.71 60 *eP* **Pb 05 31 11.8 +0.6**
0.8nm,0.2s
KST *eS* **Sb 05 32 11.4 +3.6**
33nm,0.5s
KDJ Kajisay 5.26 73 ⇓*eP* **Pn 05 31 08.6 +1.5**
KDJ ⇓*eS* **Sn 05 32 07.5 -0.2**
TNSS Tian-Shan 5.37 63 *eP* **Pb 05 31 23.2 +0.7**
1.1nm,0.2s
TNSS *eS* **Sb 05 32 30.8 +3.9**
5.2nm,0.9s
KUU Kurty 5.37 53 *eP* **Pb 05 31 23.4 +1.0**
1.4nm,0.0s
KUU *eS* **Sb 05 32 31.1 +4.4**
5.6nm,0.1s
KOTS Kotyrbulak 5.55 62 *eP* **Pb 05 31 28.0 +2.5**
2.9nm,0.2s
KOTS *eS* **Sb 05 32 39.3 +7.2**
21nm,0.4s
TARG Taragay, Kyrgy 5.65 78 ⇑*eP* **Pn 05 31 14.0 +1.2**
TARG ⇑*eS* **Sn 05 32 16.7 -1.0**
CHKK Chushkaly 5.75 56 *eP* **Pb 05 31 31.3 +2.4**
4.0nm,0.1s
CHKK *eS* **Sb 05 32 44.7 +7.1**
14nm,0.2s
PRZ Przheval'sk 6.22 72 ⇑*eP* **Pn 05 31 21.8 +1.5**
PRZ ⇑*eS* **Sn 05 32 30.2 -1.2**
ARXS Arharly 6.45 56 *eP* **Pb 05 31 44.0 +3.1**
ARXS *eS* **Sb 05 33 06.8 +8.9**
UZB Uzynbulak 6.83 67 *eP* **Pb 05 31 51.9 +4.5**
1.6nm,0.1s
UZB *eS* **Sg 05 33 19.9 -8.0**
9.8nm,0.8s
AB31 Akbulak array 11.22 322 ⇓Pn **Pn 05 32 27.3 -1.3**
0.4nm,0.3s,baz=130,slow=14,SNR=11
AB31 ⇑Sn **Sn 05 34 28.0 -5.8**
0.9nm,0.4s,baz=135,slow=25,SNR=3.6
AKTO Aktyubinsk 12.94 322 ⇑Pn **Pn 05 32 50.5 -1.7**
0.9nm,0.8s
AKTO ⇑Sn **Sn 05 35 09.4 -6.4**
0.8nm,0.5s

NEIC ***30*** *05:39:19.4±0.5, 19°.23N±0°.03×155°.52W±0°.02, h41km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=155.0*
HVO 30 05:39:20.8±0.9, 19°.20N±0°.02×155°.52W±0°.02, h36km±2km, ML2.5/28, ML2.4/42(NEIC), Error ellipse: s-maj=3.9km s-min=2.7km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.10**	**298**		Pn	05 39 26.4	-4.7
KHU					Sn	05 39 30.4	-10
HPO	**Honuapo**	**0.11**	**197**		Pn	05 39 27.0	-3.5
HPO					Sn	05 39 30.3	-8.8
HTC	**Hot Caves**	**0.12**	**71**		Pn	05 39 26.6	-3.7
AIN	**Ainahou**	**0.18**	**18**		Pn	05 39 27.1	-2.2
AIN					Sn	05 39 31.6	-5.0
AIN	**Ainahou** comp=E,899nm,0.3s	**0.18**	**18**	IAML		05 39 31.9	
AIN	comp=N,1μm,0.4s			IAML		05 39 32.4	
HLP	**Hilina Pali**	**0.22**	**64**		Pn	05 39 27.3	-1.6
HLP					Sn	05 39 32.3	-3.4
HLP	**Hilina Pali** comp=N,486nm,0.3s	**0.22**	**64**	IAML		05 39 32.5	
HLP	comp=E,506nm,1.4s			IAML		05 39 40.4	
SDHHI	**Sand Hill**	**0.28**	**48**		Pn	05 39 27.7	-1.2
SDHHI					Sn	05 39 32.9	-2.5
WRMHI	**West Rim**	**0.29**	**45**		Pn	05 39 27.7	-1.2
WRMHI					Sn	05 39 33.2	-2.2
MWH	**Mokuaweoweo**	**0.29**	**345**		Pn	05 39 27.8	-1.7
MWH	**Mokuaweoweo** comp=N,202nm,0.8s	**0.29**	**345**	IAML		05 39 35.3	
MWH	comp=E,269nm,0.7s			IAML		05 39 36.8	
RIM	**Rim**	**0.30**	**50**		Pn	05 39 27.8	-1.2
UWE	**Uwekahuna**	**0.31**	**44**		Pn	05 39 27.9	-1.2
UWE	comp=E,433nm,1.3s			IAML		05 39 37.5	
UWE	**Uwekahuna**	**0.31**	**44**		Sn	05 39 33.5	-2.1
UWE	**Uwekahuna** comp=N,506nm,2.3s	**0.31**	**44**	IAML		05 39 33.0	
KKO	**Keanakako'i**	**0.31**	**50**		Pn	05 39 27.9	-1.1
OBL	**Observatory Le**	**0.31**	**45**		Pn	05 39 27.9	-1.2
OBL					Sn	05 39 33.7	-1.8
MLH	**Mauna Loa**	**0.32**	**23**		Pn	05 39 28.2	-1.1
MLH					Sn	05 39 33.8	-2.0
MLH	**Mauna Loa** comp=E,222nm,0.4s	**0.32**	**23**	IAML		05 39 33.9	
MLH	comp=N,284nm,0.4s			IAML		05 39 33.9	
UWB	**Uwekahuna Bluf**	**0.32**	**45**		Pn	05 39 27.9	-1.3
BYL	**Byron's Ledge**	**0.32**	**49**		Pn	05 39 28.0	-1.2
BYL	**Byron's Ledge** comp=N,186nm,3.1s	**0.32**	**49**	IAML		05 39 31.9	
BYL	comp=E,243nm,0.7s			IAML		05 39 34.0	
SBLHI	**Steaming Bluff**	**0.33**	**46**		Pn	05 39 27.9	-1.3
SBLHI					Sn	05 39 33.3	-2.3
HATHI	**Halema'uma'u T**	**0.33**	**47**		Pn	05 39 28.0	-1.2
HATHI					Sn	05 39 33.3	-2.4
HATHI	**Halema'uma'u T** comp=N,265nm,1.8s	**0.33**	**47**	IAML		05 39 33.6	
HATHI	comp=E,258nm,1.6s			IAML		05 39 39.2	
PUH	**Pauahi**	**0.34**	**58**		Pn	05 39 28.1	-1.1
PUH					Sn	05 39 33.5	-2.2
PUH	**Pauahi** comp=E,298nm,0.3s	**0.34**	**58**	IAML		05 39 33.8	
PUH	comp=N,208nm,1.2s			IAML		05 39 36.2	
RSD	**Rainshed**	**0.35**	**41**		Pn	05 39 28.2	-1.2
RSD					Sn	05 39 34.3	-1.6
RSD	**Rainshed** comp=E,306nm,0.1s	**0.35**	**41**	IAML		05 39 34.8	
RSD	comp=N,262nm,2.0s			IAML		05 39 36.0	
ALEP	**Alea Permanent**	**0.36**	**341**		Pn	05 39 28.3	-1.5
ALEP					Sn	05 39 34.1	-2.4
KNHH	**Kane Nui o Ham**	**0.38**	**61**		Pn	05 39 28.6	-1.1

HMH	**Humu'ula Sheep**	**0.40**	**5**		Pn	05 39 29.4	-0.9
HMH					Sn	05 39 35.7	-1.5
HMH	**Humu'ula Sheep**	**0.40**	**5**	IAML		05 39 36.2	
	comp=N,419nm,0.2s						
HMH				IAML		05 39 36.4	
	comp=E,344nm,0.3s						
STCH	**Steam Cracks**	**0.41**	**63**		Pn	05 39 29.0	-1.2
STCH					Sn	05 39 35.3	-1.7
STCH	**Steam Cracks**	**0.41**	**63**	IAML		05 39 35.9	
	comp=E,5.3nm,0.1s						
STCH				IAML		05 39 36.0	
	comp=N,347nm,0.1s						
NPOC	**North of Pu'u**	**0.43**	**63**		Pn	05 39 29.2	-1.2
NPOC					Sn	05 39 35.6	-1.7
JCUZ	**Jacuzzi**	**0.43**	**65**		Pn	05 39 29.4	-1.1
JCUZ					Sn	05 39 35.7	-1.7
JOKA	**Jonika Flow**	**0.54**	**64**		Pn	05 39 30.4	-1.6
JOKA					Sn	05 39 37.6	-2.3
JOKA	**Jonika Flow**	**0.54**	**64**	IAML		05 39 38.3	
	comp=N,245nm,0.8s						
JOKA				IAML		05 39 40.0	
	comp=E,163nm,0.9s						
POHA	**Pohakuloa**	**0.56**	**359**		Pn	05 39 30.6	-1.9
POHA					Sn	05 39 37.8	-2.8
POHA	**Pohakuloa**	**0.56**	**359**	IAML		05 39 36.1	
	comp=E,130nm,3.1s						
POHA				IAML		05 39 38.8	
	comp=E,191nm,4.0s						
HUH	**Hualalai**	**0.57**	**328**		Pn	05 39 31.1	-1.6
HUH					Sn	05 39 38.6	-2.4
HUH	**Hualalai**	**0.57**	**328**	IAML		05 39 39.9	
	comp=E,468nm,0.2s						
HUH				IAML		05 39 44.1	
	comp=N,491nm,0.2s						
HPAH	**Hawaii Prepara**	**0.84**	**348**	Pn	Pn	05 39 34.5	-1.8

OTT 30 05:39:47.9±0.3, 42°.09N×55°.42W, h18km, ML3.6/14, Atlantic Ocean. 558km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.53**	**309**	PN	Pn	05 41 09.1	-0.1
GBN				SN	Sn	05 42 08.0	-4.2
GBN				Trac		05 42 16.2	
	comp=Z,3.9nm,0.1s						
HAL	**Halifax**	**6.48**	**296**	PN	Pn	05 41 21.4	-1.0
HAL				SN	Sn	05 42 30.0	-5.8
HAL				Trac		05 42 38.0	
	comp=Z,5.9nm,0.0s						
DRLN	**Deer Lake**	**7.32**	**349**	PN	Pn	05 41 32.1	-1.7
DRLN				SN	Sn	05 42 51.0	-5.4
DRLN				Trac		05 42 54.1	
	comp=Z,1.3nm,0.1s						
LMN	**Caledonia Moun**	**7.75**	**302**	PN	Pn	05 41 39.1	-0.7
LMN				SN	Sn	05 43 01.1	-5.9
LMN				Trac		05 43 05.5	
	comp=Z,4.8nm,0.1s						
ELNB	**Elgin, New Bru**	**7.97**	**302**	PN	Pn	05 41 41.7	-1.0
ELNB				SN	Sn	05 43 06.2	-6.2
ELNB				Trac		05 43 12.9	
	comp=Z,0.8nm,0.1s						
WCNB	**Wards Creek**	**8.12**	**299**	PN	Pn	05 41 43.8	-1.0
WCNB				SN	Sn	05 43 10.0	-5.9
WCNB				Trac		05 43 15.8	
	comp=Z,4.3nm,0.1s						
HKNB	**Havelock Quarr**	**8.16**	**302**	PN	Pn	05 41 39.4	-6.1
HKNB				SN	Sn	05 43 05.2	-12
HKNB				Trac		05 43 09.6	
	comp=Z,15nm,0.2s						
SRNB	**Snider Mountai**	**8.27**	**300**	PN	Pn	05 41 45.7	-1.2
SRNB				Trac		05 42 56.6	
	comp=Z,0.8nm,0.0s						
GGN	**Saint George**	**8.83**	**294**	PN	Pn	05 41 52.9	-1.7
GGN				SN	Sn	05 43 26.2	-7.3
GGN				Trac		05 43 33.0	
	comp=Z,2.2nm,0.1s						
HSNB	**Heath Steele M**	**9.19**	**308**	PN	Pn	05 41 58.1	-1.4
HSNB				SN	Sn	05 43 34.7	-7.6
HSNB				Trac		05 43 38.5	
	comp=Z,1.6nm,0.1s						
PCAQ	**Pointe Carleto**	**9.27**	**328**	PN	Pn	05 41 59.6	-0.9
PCAQ				SN	Sn	05 43 37.3	-7.0
PCAQ				Trac		05 43 41.1	
	comp=Z,6.3nm,0.3s						
MCNB	**McAdam**	**9.29**	**296**	PN	Pn	05 41 59.5	-1.4
MCNB				SN	Sn	05 43 38.2	-6.6
MCNB				Trac		05 43 44.2	
	comp=Z,0.8nm,0.0s						
BJBQ	**Baie Johan-Bee**	**9.67**	**331**	PN	Pn	05 42 05.2	-0.8
BJBQ				SN	Sn	05 43 47.0	-7.1
BJBQ				Trac		05 43 54.4	
	comp=Z,24nm,0.6s						
PMAQ	**Port Menier**	**9.92**	**324**	PN	Pn	05 42 08.4	-1.0
PMAQ				SN	Sn	05 43 52.2	-7.9
PMAQ				Trac		05 43 59.9	
	comp=Z,7.2nm,0.3s						
SNFQ	**Sainte-Felicit**	**10.79**	**313**	PN	Pn	05 42 20.1	-1.3
SNFQ				SN	Sn	05 44 12.9	-8.6
SNFQ				Trac		05 44 21.9	
	comp=Z,3.8nm,0.3s						
ICQ	**Pointe Anglais**	**11.12**	**316**	PN	Pn	05 42 23.9	-1.9
ICQ				SN	Sn	05 44 20.3	-9.3
ICQ				Trac		05 44 27.8	
	comp=Z,1.7nm,0.2s						

*IDC **30** 06:09:54.8±2.2, 15°.98S×168°.03E, h175km±18km, mb4.0/14, mbtmp4.4/15, Error ellipse: s-maj=22.0km s-min=13.6km az=75.0*
*NEIC **30** 06:09:55.3±1.6, 16°.03S±0°.03×168°.1E±0°.1, h177km±6km, mb4.4/25, Error ellipse: s-maj=17.9km s-min=2.9km az=99.0*
*NOU **30** 06:09:58.6, 16°.25S×168°.19E, h133km, mb4.6/9, Vanuatu Islands*

ISC 30 06:09:54.7±0.7, 16°.05S±0°.06×168°.1E±0°.1, h177km, n60, σ1§14/60, mb4.4/25, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.05**	**305**		**Pn**	**06 10 22.6**	**+0.1**
SANVU	**Saraoutou**	**1.05**	**305**	P	**Pn**	**06 10 23.2**	**+0.7**
SANVU	**Saraoutou**	**1.05**	**305**	P	**Sn**	**06 10 45.1**	**+1.2**
MARNC	**Mare, Loyalty**	**5.40**	**181**		**Pn**	**06 11 13.5**	**-0.3**
MARNC	**Mare, Loyalty**	**5.40**	**181**	P	**Pn**	**06 11 13.8**	**0.0**
MARNC	**Mare, Loyalty**	**5.40**	**181**	S	**Sn**	**06 12 13.5**	**-2.5**
KOUNC	**Koumac, New Ca**	**5.75**	**218**	P	**Pn**	**06 11 19.7**	**+1.3**
YATNC	**Mamie plateau,**	**6.08**	**191**	P	**Pn**	**06 11 24.4**	**+1.6**
DZM	**Mont Dzumac**	**6.19**	**194**	P	**Pn**	**06 11 25.4**	**+1.1**
	31nm,0.3s,baz=328,slow=21,SNR=64						
DZM				S	**Sn**	**06 12 32.7**	**-2.1**
	8.0nm,0.4s,baz=319,slow=20,SNR=2.0						
ONTNC	**Ouen Toro**	**6.41**	**194**		**Pn**	**06 11 27.6**	**+0.5**
ONTNC	**Ouen Toro**	**6.41**	**194**	P	**Pn**	**06 11 29.6**	**+2.5**
OUENC	**Ouen Island, N**	**6.44**	**190**	P	**Pn**	**06 11 29.1**	**+1.6**
PINNC	**Pines Island,**	**6.56**	**185**		**Pn**	**06 11 30.4**	**+1.4**
PINNC	**Pines Island,**	**6.56**	**185**	P	**Pn**	**06 11 30.6**	**+1.7**
EIDS	**Eidsvold**	**18.40**	**237**	P	**P**	**06 13 57.2**	**+0.7**
EIDS				IAmb	IAmb	06 13 57.7	
	comp=Z,18nm,1.4s						
TOZ	**Tahuroa Road**	**22.57**	**165**	P	**P**	**06 14 41.3**	**+1.3**
TOZ				IAmb	IAmb	06 14 42.7	
	comp=Z,19nm,0.9s						
URZ	**Urewera**	**23.50**	**162**	P	**P**	**06 14 49.4**	**+0.8**
	comp=Z,12nm,0.6s,baz=277,slow=4.1,SNR=10.0						
	comp=Z,12nm,0.6s						
RTZ	**Ruatahuna**	**23.80**	**163**	P	**P**	**06 14 51.9**	**+0.6**
BKZ	**Black Stump Fm**	**24.17**	**164**	P	**P**	**06 14 55.8**	**+1.1**
TKNZ	**Takaka Hill**	**25.25**	**171**	P	**P**	**06 15 05.5**	**+1.1**
TCW	**Tory Channel**	**25.63**	**169**	P	**P**	**06 15 08.4**	**+0.6**
KHZ	**Kahutara**	**26.69**	**171**	P	**P**	**06 15 17.2**	**0.0**
LBZ	**Lake Benmore**	**28.30**	**177**	P	**P**	**06 15 31.8**	**+0.2**
STKA	**Stephens Creek**	**28.78**	**232**	P	**P**	**06 15 35.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=80,slow=5.3,SNR=4.5						
	comp=Z,1.6nm,0.6s						
WR8	**Warramunga Arr**	**32.15**	**258**	P	**P**	**06 16 05.1**	**-0.8**
WR8				IAmb	IAmb	06 16 38.8	
	comp=Z,8.9nm,1.4s						
WB0	**Warramunga Arr**	**32.25**	**258**	P	**P**	**06 16 05.5**	**-1.2**
WB0				IAmb	IAmb	06 16 39.4	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**32.30**	**258**	P	**P**	**06 16 07.5**	**+0.4**
WRA	**Warramunga Arr**	**32.30**	**258**	P	**P**	**06 16 06.5**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=90,slow=8.2,SNR=9.1						
WRA				ScP	**ScP**	**06 22 18.3**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=91,slow=3.8,SNR=6.4						
	comp=Z,1.2nm,0.8s						
AS31	**Alice Springs**	**32.98**	**251**	P	**P**	**06 16 12.5**	**-0.5**
ASAR	**Alice Springs**	**32.98**	**251**	P	**P**	**06 16 12.5**	**-0.5**
	comp=Z,8.3nm,0.6s,baz=80,slow=8.7,SNR=123						
ASAR				ScP	**ScP**	**06 22 20.4**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=94,slow=3.3,SNR=21						
	comp=Z,8.3nm,0.6s						
BBOO	**Buckleboo**	**33.43**	**234**	P	**P**	**06 16 15.6**	**-1.2**
KNRA	**Kununurra**	**37.80**	**265**	P	**P**	**06 16 53.3**	**-0.9**
KNRA				IAmb	IAmb	06 17 19.6	
	comp=Z,7.3nm,1.1s						
FORT	**Forrest**	**39.33**	**241**	P	**P**	**06 17 05.9**	**-0.9**
FORT				IAmb	IAmb	06 17 25.9	
	comp=Z,9.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.57**	**261**	P	**P**	**06 17 17.2**	**0.0**
MBWA	**Marble Bar**	**45.98**	**256**	P	**P**	**06 18 00.3**	**-0.2**
MBWA				IAmb	IAmb	06 18 03.0	
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**49.43**	**245**	P	**P**	**06 18 26.1**	**-0.9**
MORW				IAmb	IAmb	06 18 56.2	
	comp=Z,25nm,1.4s						
JGF	**Kuroka**	**59.05**	**331**	P	**P**	**06 19 36.0**	**-0.2**
JGF				IAmb	IAmb	06 20 06.7	
	comp=Z,9.3nm,1.1s						
MJAR	**Matsushiro Arr**	**59.44**	**332**	P	**P**	**06 19 38.0**	**-0.9**
MJAR	**Matsushiro Arr**	**59.44**	**332**	P	**P**	**06 19 38.8**	**0.0**
	comp=Z,1.8nm,0.4s,baz=168,slow=8.5,SNR=7.3						
	comp=Z,1.8nm,0.4s						
VNDA	**Vanda**	**61.57**	**182**	P	**P**	**06 19 52.8**	**+0.2**
VNDA	**Vanda**	**61.57**	**182**	P	**P**	**06 19 53.1**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=358,slow=7.2,SNR=14						
	comp=Z,1.8nm,0.5s						
SBA	**Scott Base**	**61.83**	**180**	P	**P**	**06 19 55.7**	**+1.3**
SBA				IAmb	IAmb	06 19 56.8	
	comp=Z,7.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**68.42**	**333**	P	**P**	**06 20 38.6**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=108,slow=10,SNR=4.0						
	comp=Z,1.6nm,0.5s						
QSPA	**South Pole Qui**	**73.98**	**180**	P	**P**	**06 21 13.6**	**+3.0**
QSPA				IAmb	IAmb	06 21 14.5	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**73.98**	**180**	P	**P**	**06 21 13.1**	**+2.5**
	comp=Z,10nm,0.7s,baz=321,slow=0.6,SNR=74						
	comp=Z,10nm,0.7s						
CMAR	**Chiang Mai Arr**	**76.21**	**294**	P	**P**	**06 21 24.1**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=125,slow=6.0,SNR=4.9						
	comp=Z,1.7nm,0.3s						
SONM	**Songino Array**	**84.03**	**323**	IAmb	IAmb	06 22 06.7	
	comp=Z,4.9nm,1.1s						
SONM	**Songino Array**	**84.03**	**323**	P	**P**	**06 22 05.3**	**0.0**
	comp=Z,3.1nm,0.8s,baz=138,slow=5.3,SNR=8.2						
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**87.53**	**18**	P	**P**	**06 22 20.3**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=239,slow=5.0,SNR=8.9						
	comp=Z,0.3nm,0.6s						
TROLL	**Troll, Antarti**	**91.61**	**184**	⇑P	**P**	**06 22 41.1**	**-0.2**
	comp=Z,402nm,1.0s						
SNAA	**Sanae**	**92.28**	**183**	⇑P	**P**	**06 22 43.7**	**-0.7**
	comp=Z,50nm,0.7s						
SNAA	**Sanae**	**92.28**	**183**	P	**P**	**06 22 43.5**	**-0.8**
SNAA				IAmb	IAmb	06 22 44.6	
	comp=Z,8.5nm,1.5s						
SNAA	**Sanae**	**92.28**	**183**	P	**P**	**06 22 43.4**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=201,slow=15,SNR=20						
	comp=Z,1.6nm,0.6s						
VNA3	**Neumayer Olymp**	**92.91**	**181**	⇑P	**P**	**06 22 46.4**	**-0.8**
	comp=Z,1.9nm,0.4s						
VNA2	**Neumayer--Watz**	**93.19**	**181**	⇑P	**P**	**06 22 47.6**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=177,slow=5.0						
VNA1	**Neumayer--Stat**	**93.48**	**181**	⇑P	**P**	**06 22 49.1**	**-0.7**
	comp=Z,2.8nm,1.0s						
MKAR	**Makanchi Array**	**98.70**	**316**	P	Pdif	06 23 15.0	+1.1
	comp=Z,0.4nm,0.6s,baz=85,slow=4.8,SNR=3.7						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**98.92**	**324**	P	**P**	**06 23 13.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=94,slow=9.4,SNR=3.5						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**121.72**	**345**	PKP	**PKPdf**	**06 28 26.3**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=60,slow=2.0,SNR=8.9						
GERES	**GERESS Array B**	**141.18**	**333**	PKhKP	PKPpre	06 29 00.5	
	comp=Z,0.2nm,0.3s,baz=323,slow=1.5,SNR=4.1						

*AEIC **30** 06:14:53.8±1.6, 53°.34N±0°.10×160°.3W±0°.2, h27km±9km, Error ellipse: s-maj=16.3km s-min=10.9km az=139.0*

NEIC 30 06:14:52.0±1.0, 53°.30N±0°.04×160°.3W±0°.1, h10km±2km, ML2.6/8, ML2.5(AEIC), Error ellipse: s-maj=12.9km s-min=4.1km az=63.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**2.05**	**357**		Pn	06 15 26.0	-0.5
SDPT					Sn	06 15 51.5	-0.7
DOL	**Dolgoi Island**	**2.07**	**334**		Pn	06 15 26.9	+0.1
DOL					Sn	06 15 52.1	-0.5
DT1	**Dutton Round H**	**2.15**	**328**		Pn	06 15 27.2	-0.7
DT1					Sn	06 15 54.2	-0.5
PS4A	**Pavlof South-4**	**2.24**	**337**		Pn	06 15 29.1	-0.1
PS4A					Sn	06 15 57.7	+0.8
PS1A	**Pavlof South-1**	**2.29**	**339**		Pn	06 15 29.8	+0.1
PS1A					Sn	06 15 58.2	+0.2
FALS	**False Pass**	**2.41**	**311**		Pn	06 15 31.5	+0.1
FALS					Sn	06 16 00.2	-0.7
ISNN	**Isanotski Nort**	**2.56**	**308**		Pn	06 15 33.8	+0.2
ISNN					Sn	06 16 05.4	+0.6
S12K	**Black Hills**	**2.62**	**337**		Pn	06 15 34.8	+0.5
S12K					Sn	06 16 06.7	+0.6
S12K	**Black Hills**	**2.62**	**337**	IAML		06 16 10.2	
	comp=N,22nm,1.3s						
S12K				IAML		06 16 11.7	
	comp=E,25nm,0.9s						
SSLN	**Shishaldin Nor**	**2.66**	**306**		Pn	06 15 35.4	+0.6
SSLN					Sn	06 16 06.7	-0.4
SSBA	**Shishaldin**	**2.70**	**305**		Pn	06 15 35.4	-0.1
SSBA					Sn	06 16 08.0	-0.2
ZRO	**Akutan Zero**	**3.47**	**285**		Pn	06 15 46.9	+0.9
ZRO					Sn	06 16 26.7	-0.5
UNV	**Unalaska Valle**	**3.74**	**281**		Pn	06 15 49.6	-0.1
UNV	**Unalaska Valle**	**3.74**	**281**	IAML		06 16 48.6	
	comp=N,10nm,1.3s						
UNV				IAML		06 17 59.9	
	comp=E,17nm,1.4s						

*SJA **30** 06:29:22.0±0.7, 28°.57S×71°.73W, h26km±2km, ML3.3, MW3.5*
*GUC **30** 06:29:24.6±0.8, 28°.67S×71°.36W, h25km±6km, ML3.0*

ISC 30 06:29:24.4±1.3, 28°.65S±0°.02×71°.40W±0°.05, h14km±10km, n32, σ1§91/62, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.53**	**32⇓**	*eP*	**Pb**	**06 29 35.8**	**+0.3**
AC04				*eS*	**Sb**	**06 29 43.5**	**+0.6**
AC04				IAML		06 29 46.8	
	comp=N,2μm,0.1s						
AC04	**Llanos de Chal**	**0.53**	**32**	*eP*	**Pg**	**06 29 35.4**	**+0.5**
AC04				*eS*	**Sn**	**06 29 46.1**	**-0.1**
AC04				IAML		06 29 46.5	
	comp=Z,1μm,0.4s						
LCO	**Las Campanas**	**0.70**	**121**	*i P*	**Pb**	**06 29 39.2**	**+0.5**
LCO				*i S*	**Sn**	**06 29 49.3**	**-1.7**
LCO				IAML		06 29 55.6	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**0.70**	**121**	*eP*	**Pn**	**06 29 39.6**	**-0.5**
LCO				*eS*	**Sn**	**06 29 49.9**	**-1.1**
LCO				IAML		06 29 54.4	
	comp=Z,1μm,0.3s						
CO05	**La Serena**	**1.27**	**174**	*eP*	**Pn**	**06 29 47.7**	**0.0**
CO05				*eS*	**Sb**	**06 30 04.3**	**+0.1**
CO05				IAML		06 30 10.9	
	comp=E,526nm,0.5s						
GO03	**Copiapo**	**1.47**	**44⇑**	*eP*	**Pb**	**06 29 51.3**	**-0.2**
GO03				*eS*	**Sg**	**06 30 11.4**	**-0.4**
GO03				IAML		06 30 17.7	
	comp=E,355nm,0.4s						
GO03	**Copiapo**	**1.47**	**44**	*eP*	**Pb**	**06 29 51.8**	**+0.2**
GO03				*eS*	**Sg**	**06 30 13.2**	**+1.4**
GO03				IAML		06 30 16.5	
	comp=Z,346nm,0.6s						
AC06	**Mina Casimiro**	**1.58**	**36**	*eP*	**Pb**	**06 29 52.8**	**-0.6**
AC06				*eS*	**Sg**	**06 30 14.5**	**-1.0**
AC06				IAML		06 30 20.9	
	comp=E,386nm,0.6s						
GO04	**Tololo Observa**	**1.60**	**161⇓**	*eP*	**Pb**	**06 29 53.4**	**-0.5**
GO04				*eS*	**Sb**	**06 30 15.0**	**+0.9**
GO04	**Tololo Observa**	**1.60**	**161**	*eP*	**Pb**	**06 29 53.6**	**-0.3**
GO04				*eS*	**Sg**	**06 30 15.6**	**-0.5**
GO04				IAML		06 30 16.5	
	comp=Z,425nm,0.9s						
CO01	**Juntas del Tor**	**1.74**	**140**	*eP*	**Pb**	**06 29 56.6**	**+0.4**
CO01				*eS*	**Sg**	**06 30 19.5**	**-1.0**
CO01				IAML		06 30 20.8	
	comp=N,230nm,0.4s						
CO01	**Juntas del Tor**	**1.74**	**140**	*eP*	**Pb**	**06 29 57.0**	**+0.7**
CO01				*eS*	**Sg**	**06 30 20.3**	**-0.2**
CO01				IAML		06 30 22.9	
	comp=Z,248nm,0.6s						
CO06	**Fray Jorge**	**2.02**	**186**	*eP*	**Pn**	**06 29 57.3**	**-0.7**
CO06				*eS*	**Sn**	**06 30 22.4**	**-0.8**
CO06				IAML		06 30 31.2	
	comp=E,143nm,0.3s						
AROD	**Rodeo**	**2.25**	**132**	*eP*	**Pb**	**06 30 06.2**	**+1.1**
AROD				*eS*	**Sb**	**06 30 33.9**	**+1.0**
CO03	**El Pedregal**	**2.26**	**164**	*i P*	**Pn**	**06 30 02.6**	**+1.1**
CO03				*i S*	**Sn**	**06 30 30.6**	**+1.4**
CO03				IAML		06 30 39.2	
	comp=E,177nm,0.3s						
CO03	**El Pedregal**	**2.26**	**164**	*eP*	**Pn**	**06 30 02.8**	**+1.4**
CO03				*eS*	**Sb**	**06 30 32.7**	**-0.3**
CO03				IAML		06 30 42.5	
	comp=Z,116nm,0.6s						
ACDV	**Cuesta del Vie**	**2.50**	**128**	*eP*	**Pg**	**06 30 12.7**	**+0.4**
ACDV				IAML		06 30 52.5	
	comp=Z,67nm,0.5s						
CO02	**Combarbal**	**2.56**	**172**	*eP*	**Pn**	**06 30 06.3**	**+0.7**
CO02				*eS*	**Sn**	**06 30 36.8**	**+0.1**
CO02	**Combarbal**	**2.56**	**172**	*eP*	**Pn**	**06 30 06.3**	**+0.7**
CO02				*eS*	**Sn**	**06 30 34.6**	**-2.0**
CO02				IAML		06 30 53.6	
	comp=Z,166nm,0.3s						
AC01	**Pan de Azucar**	**2.59**	**16**	*eP*	**Pn**	**06 30 04.3**	**-1.6**
AC01				*eS*	**Sb**	**06 30 41.6**	**-0.8**
AGUA	**GUANDACOL**	**2.67**	**109**	*eP*	**Pb**	**06 30 13.3**	**+1.2**
AGUA				*eS*	**Sg**	**06 30 48.5**	**-1.8**
AGUA				IAML		06 30 58.2	
	comp=Z,120nm,0.7s						
AC02	**Maricunga**	**2.70**	**48**	*eP*	**Pn**	**06 30 10.3**	**+2.4**
AC02				*eS*	**Sb**	**06 30 44.5**	**-1.6**
AC02				IAML		06 30 52.1	
	comp=Z,66nm,0.7s						
ACCO	**Cerro Coronel**	**2.80**	**134**	*eP*	**Pb**	**06 30 14.2**	**-0.1**
ACCO				*eS*	**Sb**	**06 30 49.5**	**+0.9**
VCA	**Vinchina**	**2.80**	**92**	*eP*	**Pn**	**06 30 11.1**	**+2.2**
VCA				*eS*	**Sg**	**06 30 54.7**	**+0.2**
VCA				IAML		06 31 08.3	
	comp=Z,78nm,1.2s						
GO02	**Mina Guanaco**	**3.83**	**25**	*eP*	**Pn**	**06 30 23.4**	**+0.2**
GO02				*eS*	**Sb**	**06 31 20.9**	**+2.6**
GO02				IAML		06 31 33.7	
	comp=Z,59nm,0.6s						
ACLC	**CERRO LA CRUZ**	**3.96**	**102**	*eP*	**Pb**	**06 30 29.6**	**-4.5**
ACLC				*eS*	**Sb**	**06 31 21.4**	**-0.7**
ACLC				IAML		06 31 27.6	
	comp=Z,32nm,0.5s						
AVFE	**Valle Fertil**	**3.97**	**121**	*eP*	**Pn**	**06 30 29.4**	**+4.5**
AVFE				*eS*	**Sb**	**06 31 20.1**	**-2.0**
AVFE				IAML		06 31 29.1	
	comp=Z,33nm,0.8s						
CFA	**Coronel Fontan**	**4.02**	**138**	*eP*	**Pn**	**06 30 30.0**	**+4.5**
CFA				*eS*	**Sg**	**06 31 29.4**	**-4.0**
VA03	**San Esteban**	**4.16**	**170**	*eP*	**Pn**	**06 30 29.9**	**+2.4**
VA03				*eS*	**Sb**	**06 31 28.6**	**+1.0**
VA03				IAML		06 31 45.4	
	comp=Z,34nm,0.8s						
MT02	**Curacav**	**4.60**	**177**	*eP*	**Pn**	**06 30 33.5**	**+0.1**
MT02				*eS*	**Sb**	**06 31 40.0**	**0.0**
MT02				IAML		06 31 54.6	
	comp=Z,21nm,0.6s						
CYA	**Choya**	**4.92**	**89**	*eP*	**Pn**	**06 30 42.5**	**+4.5**
CYA				*eS*	**Sb**	**06 31 42.7**	**-6.8**
CYA				IAML		06 32 05.3	
	comp=Z,12nm,1.1s						
MT01	**Popeta**	**5.20**	**179**	*eP*	**Pn**	**06 30 43.0**	**+1.4**
MT01				IAML		06 32 05.7	
	comp=Z,15nm,1.9s						

*IDC **30** 06:56:56.7±0.9, 5°.46S×150°.83E, h0km, mb4.2/7, mbtmp4.2/7, MS3.4/7, Error ellipse: s-maj=57.3km s-min=19.8km az=116.0*
*NEIC **30** 06:57:01.1±3.0, 5°.87S±0°.09×151°.23E±0°.06, h20km±5km, mb4.6/13, Error ellipse: s-maj=14.8km s-min=5.5km az=148.0*

ISC 30 06:57:02.3±0.7, 5°.83S±0°.10×151°.2E±0°.1, h35km, n36, σ1§36/32, mb4.4/12, MS3.4/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.90**	**31**	Pn	**Pn**	**06 57 33.7**	**+1.5**
PMG	**Port Moresby**	**5.35**	**228**		**Pn**	**06 58 20.5**	**+0.8**
PMG	**Port Moresby**	**5.35**	**228**	Pn	**Pn**	**06 58 21.4**	**+1.8**
	11nm,0.3s,baz=33,slow=7.9,SNR=11						
PMG				Sn	**Sn**	**06 59 18.2**	**-1.9**
	9.7nm,0.3s,baz=124,slow=13,SNR=4.1						
PMG	**Port Moresby**	**5.35**	**228**	P	**Pn**	**06 58 21.7**	**+2.0**
MANU	**Manus Island**	**5.36**	**314**		**Pn**	**06 58 22.3**	**+2.4**
COEN	**Coen**	**11.29**	**224**	Pn	**Pn**	**06 59 41.1**	**-0.2**
QIS	**Mount Isa**	**18.46**	**216**	P	**Pn**	**07 01 15.7**	**+0.2**
GUMO	**Guam**	**20.29**	**342**	LR	LR	07 08 52.3	

comp=Z,20nm,18.5s,baz=260,slow=35
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 84.13 180 IAmb IAmb 07 10 05.3
comp=Z,4.7nm,1.4s
QSPA South Pole Qui 84.13 180 P **P** **07 09 32.1 +2.4**
comp=Z,0.6nm,0.7s,baz=348,slow=5.0,SNR=4.2
comp=Z,0.6nm,0.7s
DLBC Dease Lake 89.08 31 LR LR 07 47 27.3
comp=Z,250nm,19.1s,baz=156,slow=34
NVAR Mina Array Bea 93.98 52 P **P** **07 10 17.8 +0.5**
comp=Z,1.0nm,0.7s,baz=264,slow=6.3,SNR=8.4
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 149.08 286 PKPbc **PKPbc** **07 16 46.8 -1.2**
comp=Z,2.8nm,0.6s,baz=65,slow=4.6,SNR=19

*NNC **30** 07:00:14.0±0.6, 49°.98N×78°.69E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=15.5km s-min=2.7km az=76.0, Suspected Mining explosion.*
*IDC **30** 07:00:14.9±1.5, 50°.04N×78°.81E, h0km, mbtmp2.5/2, ML1.8/1, Error ellipse: s-maj=14.3km s-min=9.1km az=59.0*
ISC 30 07:00:14.4±1.4, **49°.96N**±0°.08×**78°.8E**±0°.2, **h0km, n16,**
σ1§**10**/27, **17C-8D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.65**	**345**	⇑P	**Pg**	**07 00 26.0**	**-0.8**
KUR07				⇓S	**Sg**	**07 00 35.2**	**0.0**
KUR06	**Kurchatov Arra**	**0.67**	**346**	⇑P	**Pg**	**07 00 26.1**	**-1.0**
KUR06				⇑S	**Sg**	**07 00 35.8**	**0.0**
KUR14	**Kurchatov Arra**	**0.67**	**350**	⇑P	**Pg**	**07 00 26.2**	**-1.0**
KUR14				⇑S	**Sg**	**07 00 35.3**	**-0.5**
KUR15	**Kurchatov Arra**	**0.68**	**348**	⇓P	**Pg**	**07 00 26.5**	**-0.8**
KUR15				⇓S	**Sg**	**07 00 36.4**	**+0.3**
KURBB	**Kurchatov Arra**	**0.69**	**347**	Pg	**Pg**	**07 00 26.7**	**-0.8**
0.5nm,0.3s,baz=165,slow=18,SNR=22
KURBB Lg Lg 07 00 35.5
0.6nm,0.3s,baz=160,slow=33,SNR=5.5
KURBB Kurchatov Arra 0.69 347 ⇑P **Pg** **07 00 26.6 -0.9**
11nm,0.5s
KURBB ⇑S **Sg** **07 00 35.8 -0.5**
23nm,0.7s
KUR16 Kurchatov Arra 0.69 345 ⇑P **Pg** **07 00 26.9 -0.7**
KUR16 ⇓S **Sg** **07 00 36.0 -0.6**
KUR05 Kurchatov Arra 0.70 348 ⇓P **Pg** **07 00 26.7 -1.1**
KUR05 ⇓S **Sg** **07 00 36.4 -0.6**
KUR17 Kurchatov Arra 0.70 344 ⇓P **Pg** **07 00 27.2 -0.7**
KUR17 ⇓S **Sg** **07 00 36.8 -0.2**
KUR04 Kurchatov Arra 0.72 348 ⇑P **Pg** **07 00 27.4 -0.8**
KUR04 ⇑S **Sg** **07 00 37.0 -0.5**
KURK Kurchatov 0.77 353 ⇑P **Pg** **07 00 28.2 -0.8**
3.1nm,0.8s
KURK ⇑S **Sg** **07 00 38.5 -0.4**
4.8nm,0.6s
MAKZ Makanchi 3.81 145 ⇑Pg **Pb** **07 01 21.5 -0.9**
0.6nm,0.4s
MAKZ ⇑Lg Lg 07 02 16.3
6.9nm,0.8s
MK31 Makanchi Array 3.94 142 ⇑Pn **Pn** **07 01 18.8 +2.7**
0.3nm,0.5s,baz=320,slow=9.7,SNR=4.3
MK31 ⇑Pg **Pg** **07 01 28.5 -1.3**
0.4nm,0.4s,baz=316,slow=15,SNR=6.3
MK31 ⇑Lg Lg 07 02 21.0
4.5nm,0.6s,baz=338,slow=29,SNR=12
MKAR Makanchi Array 3.94 142 Pn **Pn** **07 01 18.0 +2.0**
0.1nm,0.3s,baz=328,slow=10,SNR=1.7
MKAR Pg **Pg** **07 01 28.3 -1.5**
0.2nm,0.3s,baz=314,slow=14,SNR=6.9
MKAR Lg Lg 07 02 20.1
0.7nm,0.3s,baz=337,slow=27,SNR=10
0.1nm,0.4s
I46RU ZALESOVO INFRA 5.47 41 I I 07 32 30.0
baz=223,slow=310,SNR=3.6
ZALV Zalesovo Beam 5.47 41 Pn **Pn** **07 01 38.7 +1.7**
0.6nm,0.3s,baz=232,slow=14,SNR=1.9

*SFS **30** 07:04:36.8, 33°.95N×5°.86W, h8km, ML3.4/8, ML3.4/8, MLv3.3/8*
*MDD **30** 07:04:37.5±1.0, 33°.84N×5°.91W, h5km±9km, Mb3.8/7, M_mb3.1/7, Error ellipse: s-maj=7.5km s-min=4.8km az=152.0*
*CNRM **30** 07:04:37.7, 33°.67N×5°.94W, h24km, ML2.9*
*INMG **30** 07:04:38.9±2.0, 33°.78N×5°.76W, h53km±14km, ML2.1, Error ellipse: s-maj=6.7km s-min=4.5km az=83.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Fez (Marr)*
*IGIL **30** 07:04:39.5, 33°.77N×5°.74W, h58km, ML2.2*
ISC 30 07:04:35.8±0.7, **33°.79N**±0°.02×**5°.94W**±0°.02, **h13km, n67,**
σ1§**91**/97, **6C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	**Ifrane**	**0.73**	**111**	S	**Sb**	**07 05 00.3**	**-0.2**
IFR				P	**Pg**	**07 04 50.3**	**+0.2**
RTC	**Rabat Centre**	**0.79**	**285**	P	**Pn**	**07 04 53.0**	**+0.3**
RTC				S	**Sn**	**07 05 05.2**	**+0.9**
RTC	**Rabat Centre**	**0.79**	**285**	P	**Pn**	**07 04 53.2**	**+0.5**
LCRM	**LCR**	**0.91**	**96**	P	**Pb**	**07 04 53.9**	**+0.4**
LCRM	**LCR**	**0.91**	**96**	S	**Sg**	**07 05 05.3**	**-0.1**
RSA	**Sarsar**	**1.10**	**5**	P	**Pg**	**07 04 59.4**	**+2.3**
RSA	**Sarsar**	**1.10**	**5**	S	**Sn**	**07 05 15.3**	**+3.1**
AVE	**Averroes**	**1.32**	**249**	S	**Sg**	**07 05 20.4**	**+2.0**
AVE				P	**Pg**	**07 05 01.9**	**+0.6**
MD31	**MD31**	**1.35**	**132**	P	**Pn**	**07 05 00.8**	**+0.3**
MD31	**MD31**	**1.35**	**132**	S	**Sb**	**07 05 17.4**	**-0.8**
MDT	**Midelt**	**1.48**	**131**	P	**Pn**	**07 05 02.7**	**+0.4**
MDT	**Midelt**	**1.48**	**131**	S	**Sn**	**07 05 20.7**	**-0.8**
AKLM	**AKL**	**1.87**	**67**	P	**Pn**	**07 05 08.7**	**+1.1**
AKLM	**AKL**	**1.87**	**67**	P	**Pg**	**07 05 12.5**	**+0.8**
AKLM	**AKL**	**1.87**	**67**	S	**Sn**	**07 05 31.7**	**+0.5**
SRHM	**Skhour des Reh**	**2.10**	**232**	P	**Pb**	**07 05 14.3**	**+0.4**
SRHM	**Skhour des Reh**	**2.10**	**232**	S	**Sg**	**07 05 42.3**	**-1.1**
TISM	**Timmit**	**2.10**	**192**	P	**Pn**	**07 05 09.8**	**-0.8**
TISM	**Timmit**	**2.10**	**192**	S	**Sn**	**07 05 34.7**	**-2.0**
ECEU	**Ceuta**	**2.16**	**12**	S	**Sn**	**07 05 39.1**	**+0.9**
PALE	**Palemas**	**2.19**	**49**	P	**Pn**	**07 05 13.4**	**+1.4**
PALE	**Palemas**	**2.19**	**49**	S	**Sb**	**07 05 41.9**	**-0.4**
GOLM	**Goulmima**	**2.24**	**158**	P	**Pn**	**07 05 13.3**	**+0.6**
GOLM	**Goulmima**	**2.24**	**158**	S	**Sn**	**07 05 40.6**	**+0.3**
ARF	**Arif**	**2.76**	**148**	P	**Pn**	**07 05 18.8**	**-1.1**
ARF	**Arif**	**2.76**	**148**	S	**Sn**	**07 05 51.6**	**-1.5**
GOG	**Mont Gurugu**	**2.82**	**59**	P	**Pn**	**07 05 22.3**	**+1.5**
GOG	**Mont Gurugu**	**2.82**	**59**	S	**Sn**	**07 05 56.7**	**+2.0**
OUZM	**OUZ**	**2.95**	**194**	P	**Pn**	**07 05 23.1**	**+0.6**
OUZM	**OUZ**	**2.95**	**194**	S	**Sn**	**07 05 59.2**	**+1.3**
TZRR	**Tazzarine**	**3.01**	**174**	P	**Pn**	**07 05 22.5**	**-0.8**
TZRR	**Tazzarine**	**3.01**	**174**	S	**Sn**	**07 05 57.5**	**-1.7**
OUK	**Oukaimeden**	**3.04**	**213**	P	**Pn**	**07 05 23.2**	**-0.7**
OUK	**Oukaimeden**	**3.04**	**213**	S	**Sn**	**07 05 58.7**	**-1.8**
TIO	**Tiouine**	**3.06**	**202**	P	**Pb**	**07 05 28.1**	**-2.1**
TIO				S	**Sb**	**07 06 09.4**	**+1.8**
ELGU	**Los Guajares,**	**3.61**	**31**	P	**Pn**	**07 05 31.5**	**-0.1**
ELGU				⇑*i*VmbVC		07 05 37.4
77nm,SNR=1.3
ELGU S **Sn** **07 06 11.7 -2.4**
PBDV Barranco-do-Ve 3.81 335 S **Sn** **07 06 16.7 -2.4**
PBDV P **Pn** **07 05 35.3 +1.0**
PBDV Barranco-do-Ve 3.81 335 *e*P **Pn** **07 05 33.6 -0.7**
PBDV *e*S **Sn** **07 06 16.6 -2.4**
PBDV *i* IAML 07 06 22.3
PBDV *i* IAML 07 06 22.5
PBDV *i* IAML 07 06 22.6
PVAQ Vaqueiros 3.89 339 *e*P **Pn** **07 05 36.1 +0.8**
PVAQ *e*S **Sn** **07 06 20.3 -0.5**
PVAQ *i* IAML 07 06 23.7
PVAQ *i* IAML 07 06 27.1
PVAQ *i* IAML 07 06 29.0
EGRO El Granado 3.95 342 S **Sn** **07 06 20.0 -2.2**
EGRO P **Pn** **07 05 37.9 +1.9**
EGRO El Granado 3.95 342 P **Pn** **07 05 38.3 +2.2**
EGRO ⇑*i*VmbVC 07 05 42.5
178nm,SNR=3.0
EGRO S **Sn** **07 06 19.7 -2.5**
EMIN Mina Concepcio 4.02 352 S **Sn** **07 06 21.6 -2.4**
EMIN P **Pn** **07 05 38.8 +1.7**
EMIN Mina Concepcio 4.02 352 P **Pn** **07 05 38.8 +1.7**
EMIN ⇑*i*VmbVC 07 05 42.9
90nm,SNR=1.9
EMIN S **Sn** **07 06 23.6 -0.4**
PFVI Vila Bisbo 4.09 326 S **Sn** **07 06 24.6 -1.1**
PFVI P **Pn** **07 05 39.5 +1.5**
PFVI Vila Bisbo 4.09 326 *e*P **Pn** **07 05 40.9 +2.9**
PFVI *e*S **Sn** **07 06 24.3 -1.4**
PFVI *i* IAML 07 06 27.4
PFVI *i* IAML 07 06 28.7
PFVI *i* IAML 07 06 32.2
MORF Marmelete 4.15 329 *e*P **Pn** **07 05 40.2 +1.3**
MORF *e*S **Sn** **07 06 24.5 -2.8**
MORF IAML 07 06 30.5
comp=N,4.5nm,0.1s
MORF Marmelete 4.15 329 *e*P **Pn** **07 05 40.2 +1.3**
MORF *e*S **Sn** **07 06 27.4 +0.1**
MORF *i* IAML 07 06 28.9
MORF *i* IAML 07 06 29.1
MORF *i* IAML 07 06 30.5
PCVE Castro Verde 4.20 337 S **Sn** **07 06 27.5 -1.0**
PCVE P **Pn** **07 05 41.4 +1.8**
PCVE Castro Verde 4.20 337 *e*P **Pn** **07 05 41.9 +2.3**
PCVE *e*S **Sn** **07 06 28.0 -0.5**
PCVE *i* IAML 07 06 32.7
PCVE *i* IAML 07 06 35.3
PCVE *i* IAML 07 06 36.0
ECAB El Cabril 4.30 6 S **Sn** **07 06 29.4 -1.7**
ECAB P **Pn** **07 05 41.8 +0.8**
ECAB El Cabril 4.30 6 P **Pn** **07 05 42.1 +1.0**
ECAB ⇑*i*VmbVC 07 05 42.2
comp=N,101nm,SNR=1.9
ECAB S **Sn** **07 06 30.1 -1.0**
PTEO Sao Teotonio 4.38 330 *e*P **Pn** **07 05 44.2 +2.2**
PTEO *e*S **Sn** **07 06 33.5 +0.5**
PTEO *i* IAML 07 06 36.4
PTEO *i* IAML 07 06 40.2
PTEO *i* IAML 07 06 45.8
MESJ Messejana 4.45 336 *e*P **Pn** **07 05 44.1 +1.1**
PBAR Barrancos 4.47 349 S **Sn** **07 06 33.5 -1.7**
PBAR Barrancos 4.47 349 *e*P **Pn** **07 05 44.5 +1.2**
PBAR *e*S **Sn** **07 06 32.9 -2.3**
PBAR *i* IAML 07 06 35.7
PBAR *i* IAML 07 06 37.4
PBAR *i* IAML 07 06 38.0
EADA Adamuz 4.51 14 S **Sn** **07 06 33.7 -2.6**
EADA Adamuz 4.51 14 P **Pn** **07 05 44.8 +0.9**
EADA ⇑*i*VmbVC 07 05 54.4
comp=N,60nm,SNR=1.1
EADA S **Sn** **07 06 35.1 -1.1**
PBEJ Beja 4.51 340 *e*S **Sn** **07 06 30.4 -5.8**
EBAD Badajoz 5.04 350 S **Sn** **07 06 46.7 -2.4**
EBAD Badajoz 5.04 350 P **Pn** **07 05 52.0 +0.9**
EBAD ⇑*i*VmbVC 07 06 01.7
comp=N,129nm,SNR=2.1
EBAD S **Sn** **07 06 47.6 -1.5**
PESTR Estremoz 5.24 346 *e*P **Pn** **07 05 55.5 +1.6**
PESTR *e*S **Sn** **07 06 50.5 -3.8**
PSIM Granatula de C 5.33 19 P **Pn** **07 05 55.7 +0.6**
PSIM S **Sn** **07 06 52.3 -4.0**
PMTG Montargil 5.58 341 *e*P **Pn** **07 05 57.6 -1.0**
PMTG *e*S **Sn** **07 07 00.2 -2.4**
PMTG *i* IAML 07 07 19.1
PMTG *i* IAML 07 07 28.1
PMRV Marv??o 5.75 349 *e*P **Pn** **07 06 01.8 +0.9**
PMRV *e*S **Sn** **07 07 03.0 -3.8**
PMRV *i* IAML 07 07 07.0
PMRV *i* IAML 07 07 07.7
PMRV *i* IAML 07 07 17.9
PSARD Sardoal 6.07 344 *e*P **Pn** **07 06 05.1 -0.2**
PSARD *e*S **Sn** **07 07 11.8 -2.9**
PSARD *i* IAML 07 07 12.1
PSARD *i* IAML 07 07 16.7
PSARD *i* IAML 07 07 26.7
PCBR Castelo Branco 6.17 349 *e*S **Sn** **07 07 14.1 -2.9**
PCBR *i* IAML 07 07 15.3
PCBR *i* IAML 07 07 27.6
MVO Moncorvo 7.42 354 *e*P **Pn** **07 06 25.8 +2.0**
MVO *e*S **Sn** **07 07 40.9 -7.0**

*NNC **30** 07:29:12.6±4.0, 52°.19N×75°.73E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=136.9km s-min=14.5km az=29.0, Suspected Mining explosion.*
*IDC **30** 07:29:13.5±1.0, 51°.70N×75°.38E, h0km, mbtmp2.5/3, ML2.1/3, Error ellipse: s-maj=23.7km s-min=8.0km az=29.0*
ISC 30 07:29:12.0±1.0, **51°.66N**±0°.09×**75°.33E**±0°.06, **h0km, n9,**
σ1§**59**/11, **6C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.27**	**116**	Pn	**Pn**	**07 29 51.5**	**+0.8**
0.3nm,0.3s,baz=302,slow=18,SNR=8.5
KURBB Lg Lg 07 30 23.7
0.6nm,0.3s,baz=307,slow=14,SNR=13
1.0nm,0.5s
KURBB Kurchatov Arra 2.27 116 ⇑Pn **Pb** **07 29 52.5 -1.3**
2.9nm,0.4s
KURBB ⇑Sn **Sg** **07 30 24.4 -0.4**
36nm,0.6s
KURK Kurchatov 2.28 113 ⇑Pn **Pb** **07 29 52.9 -1.1**
0.6nm,0.4s
KURK ⇓Sn **Sn** **07 30 20.6 +1.0**
3.8nm,0.6s
BVA0 Borovoye Array 3.32 296 ⇑Pg **Pg** **07 30 13.8 -1.9**
2.2nm,0.8s,baz=114,slow=16,SNR=11
BVA0 ⇑Lg Lg 07 30 58.2
12nm,0.9s,baz=108,slow=22,SNR=13
BVAR Borovoye Array 3.32 296 Pg **Pb** **07 30 12.2 +0.4**
0.1nm,0.3s,baz=114,slow=14,SNR=13
BVAR Lg Lg 07 30 58.6
0.2nm,0.3s,baz=110,slow=25,SNR=8.9
I46RU ZALESOVO INFRA 6.20 65 I I 08 02 00.0
baz=250,slow=328,SNR=13
ZALV Zalesovo Beam 6.20 65 Pn **Pn** **07 30 47.2 +2.5**
0.2nm,0.3s,baz=253,slow=15,SNR=2.8
ZALV Sn **Sn** **07 31 55.2 -1.0**
0.2nm,0.3s,baz=251,slow=27,SNR=3.9
ZALV Lg Lg 07 32 29.7
baz=258,slow=28
0.6nm,0.5s
MK31 Makanchi Array 6.67 134 ⇑Lg Lg 07 32 48.6
2.7nm,0.6s,baz=328,slow=26,SNR=9.1
MKAR Makanchi Array 6.67 134 Pn **Pn** **07 30 53.4 +2.2**
0.1nm,0.3s,baz=316,slow=12,SNR=2.0
MKAR Sn **Sn** **07 32 08.3 +0.5**
0.2nm,0.3s,baz=322,slow=21,SNR=4.6
MKAR Lg Lg 07 32 42.0
0.4nm,0.3s,baz=316,slow=22,SNR=6.6
0.2nm,0.5s

*JMA **30** 07:58:00.5±0.2, 29°.1N±0°.5×13°.0E±°, h52km±4km, MV3.3/17, NEAR AMAMI-OSHIMA ISLAND*
*IDC **30** 07:58:02.7±6.4, 28°.88N×130°.21E, h78km±49km, mb3.6/7, mbtmp3.9/8, ML3.2/1, MS3.1/2, Error ellipse: s-maj=96.6km s-min=36.9km az=110.0*
ISC 30 07:58:00.4±0.9, **29°.08N**±0°.05×**130°.09E**±0°.09, **h34km, n20,**
σ0§**93**/23, **mb3.6/7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.77**	**188**	P	**Pb**	**07 58 15.6**	**+0.1**
JNN	**Nakanoshima**	**0.78**	**346**	P	**Pn**	**07 58 15.3**	**+0.3**
JNN				S	**Sb**	**07 58 27.2**	**+1.3**
JTAJ	**Takarajima**	**0.78**	**275**	P	**Pn**	**07 58 15.4**	**+0.4**
JAM	**Amami Oshima**	**0.79**	**213**	P	**Pn**	**07 58 15.0**	**-0.1**
JAM				*e*S	**Sb**	**07 58 26.1**	**-0.2**
JAMN	**Amaminishikomi**	**1.16**	**224**	P	**Pn**	**07 58 20.9**	**+0.7**
JYAK	**Yakushimahirau**	**1.21**	**18**	P	**Pn**	**07 58 21.3**	**+0.4**
JYAK				*e*S	**Sb**	**07 58 37.9**	**-0.2**
JKC	**Kuchinoerabu**	**1.38**	**4**	P	**Pn**	**07 58 24.0**	**+0.9**
JMTN	**Minamitane**	**1.49**	**28**	P	**Pn**	**07 58 25.6**	**+0.9**
JTK	**Tokunoshima**	**1.64**	**218**	*i* P	**Pn**	**07 58 28.0**	**+1.3**
JTN	**Tanegashima 3**	**1.75**	**26**	P	**Pn**	**07 58 29.2**	**+0.9**
JYRO	**Yoronjima**	**2.51**	**216**	*e*P	**Pn**	**07 58 39.6**	**+0.8**
JOW	**Kunigami**	**2.76**	**216**	P	**Pn**	**07 58 43.5**	**+1.3**
7.2nm,0.3s,baz=108,slow=21,SNR=13
JOW S **Sn** **07 59 15.4 +1.0**
40nm,0.5s,baz=352,slow=14,SNR=4.5
JOW LR LR 08 00 04.9
comp=Z,134nm,19.2s,baz=57,slow=46
21nm,0.4s
HILR Hailar Array B 21.91 342 P **P** **08 02 52.2 +1.6**
1.4nm,0.5s,baz=153,slow=9.7,SNR=1.7
1.4nm,0.5s
SONM Songino Array 26.19 322 P **P** **08 03 31.6 -0.3**
0.7nm,0.5s,baz=139,slow=11,SNR=1.6
0.7nm,0.5s
ZALV Zalesovo Beam 41.05 320 P **P** **08 05 39.7 -0.6**
0.5nm,0.4s,baz=119,slow=9.0,SNR=1.8
0.5nm,0.4s
KURBB Kurchatov Arra 43.99 314 P **P** **08 06 03.7 -0.7**
0.5nm,0.5s,baz=94,slow=8.7,SNR=3.8
0.5nm,0.5s
BVAR Borovoye Array 49.30 317 P **P** **08 06 45.9 0.0**
2.7nm,0.6s,baz=93,slow=9.5,SNR=11
2.7nm,0.6s
PALK Pallekele 51.24 255 LR LR 08 29 44.2
comp=Z,40nm,20.4s,baz=94,slow=37
FINES FINESS Array B 71.20 330 P **P** **08 09 14.2 -1.4**
0.5nm,0.3s,baz=64,slow=5.8,SNR=4.9
0.5nm,0.3s
AKASG Malin Array Be 74.44 320 P **P** **08 09 33.7 -1.2**
0.6nm,0.4s,baz=59,slow=6.0,SNR=3.2
0.6nm,0.4s

*IDC **30** 08:00:11.0±0.6, 6°.71N×124°.93E, h0km, mb4.3/19, mbtmp4.3/20, ML4.8/1, MS3.7/36, Error ellipse: s-maj=12.5km s-min=8.9km az=150.0*
*BJI **30** 08:00:13.8, 6°.70N×125°.10E, h10km, mB4.9/8, mb4.7/46, Ms4.4/20, Ms7 4.0/18*
*GCMT **30** 08:00:14.1±0.4, 6°.86N±0°.02×125°.13E±0°.03, h24km±1km, MW4.8/67, Moment Tensor Solution. s12,c13; s67,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.85±.19; $M_{\theta\theta}$2.10±.13; $M_{\phi\phi}$-1.25±.12; $M_{r\theta}$-0.16±.15; $M_{\theta\phi}$0.74±.08; $M_{\phi r}$0.24±.18; Best double couple: $M_0$1.88800×10^{16} NP1:ϕ_s215.00000°, δ73.00000°, λ-165.00000°. NP2: ϕ_s121.00000°, δ76.00000°, λ-18.00000°. Principal axes: T 2.2600, Plg2.0000°, Azm168.0000°; N -0.7450, Plg68.0000°, Azm263.0000°; P -1.5160, Plg22.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 08:00:14.1±2.0, 6°.74N±0°.07×125°.07E±0°.05, h10km±1km, mb4.9/59 Error ellipse: s-maj=12.3km s-min=7.9km az=332.0*
*DJA **30** 08:00:15.9±0.2, 7°N±2°×12°5E±°, h10km, M5.0/35, mb5.0/35, mB5.4/14, MLv5.2/11, Mw(mB)4.9/14*
ISC 30 08:00:14.4±0.4, **6°.75N**±0°.05×**125°.14E**±0°.06, **h13km, n145,**
σ1§**99**/105, **mb4.7**/64, **MS3.9**/40, **1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**54**	Pg	**Pb**	**08 00 25.7**	**0.0**
5.2nm,0.3s,baz=242,slow=6.4,SNR=555
DAV Lg Lg 08 00 35.5
48nm,0.3s,baz=8.2,slow=22,SNR=104
DAV Davao City (W) 0.54 54 P Pg 08 00 19.0 -6.0
SGSI Sangihe 3.07 173 P **Pn** **08 01 04.7 +2.0**
KMSI Cibinong 6.24 191 P **Pn** **08 01 49.5 +3.2**
TNTI Ternate 6.34 159 **Pn** **08 01 48.5 +0.8**
TNTI Ternate 6.34 159 P **Pn** **08 01 49.7 +2.0**
0.5nm88nm,0.8s
MYLDM Lahad Datu 6.79 257 **Pn** **08 01 53.3 -0.4**
MRSI Marisa 7.00 207 P **Pn** **08 01 56.8 +0.1**
1.0nm2μm254nm,0.9s
TOLI2 Tolitoli 7.09 218 **Pn** **08 01 55.7 -2.2**
LUWI Luwuk 8.10 197 **Pn** **08 02 11.6 -0.1**
LUWI Luwuk 8.10 197 P **Pn** **08 02 15.8 +4.1**
APSI Ampana 8.37 205 P **Pn** **08 02 18.5 +3.0**
1μm153nm,0.9s
TGY Tagaytay City 8.39 331 LR LR 08 05 50.9
comp=Z,616nm,18.2s,baz=54,slow=41
SANI Sanana 8.78 174 P **Pn** **08 02 21.3 +0.1**
1μm89nm,0.7s
NLAI Namlea 10.12 169 P **Pn** **08 02 39.2 -0.3**
1μm118nm,0.5s
MSAI Masohi 10.72 159 P **Pn** **08 02 51.1 +3.3**
52nm,0.5s
FAKI Fak Fak 11.95 143 **Pn** **08 03 04.5 -0.1**
FAKI Fak Fak 11.95 143 P **Pn** **08 03 08.7 +4.2**
78nm,1.0s
BNSI Bone 12.16 205 P **Pn** **08 03 11.8 +4.3**
31nm,1.1s
KAPI Kappang 12.87 205 LR LR 08 08 28.2
comp=Z,416nm,20.2s,baz=36,slow=39
BKSI Bulukumba 13.00 203 P **Pn** **08 03 22.0 +3.1**
KMPI Kaimana, Papua 13.42 140 P **Pn** **08 03 26.8 +2.1**
BAKI Biak 13.49 125 P **Pn** **08 03 27.8 +2.1**
61nm,1.0s
SBUM Sibu 13.56 252 **Pn** **08 03 25.9 -0.8**
BSSI Bau Bau, Buton 13.62 200 P **Pn** **08 03 30.8 +3.3**
34nm,0.7s
KSM Kuching 15.69 251 Pn **Pn** **08 03 55.4 0.0**
SOEI Soe 16.42 183 **Pn** **08 04 05.8 +0.9**
BATI Baumata 16.91 185 Pn **Pn** **08 04 10.6 -0.4**
3.4nm,0.3s,baz=317,slow=23,SNR=1.1
BATI LR LR 08 12 09.1
comp=Z,284nm,19.3s,baz=24,slow=43
20nm,0.3s
WSI Waingapu 17.01 197 P Pn 08 04 01.4 -11
PLAI Plampang 17.13 205 P **P** **08 04 16.8 +1.5**
56nm,0.9s
WBSI Waikabubak, Su 17.26 199 P **P** **08 04 18.7 +1.8**
83nm,0.6s
TWSI Taliwang, Sumb 17.45 208 P **P** **08 04 22.5 +3.6**
36nm,1.0s
GENI Genyem 17.64 121 P **P** **08 04 22.2 +1.2**
82nm,0.4s
KMMI Kalianget 17.67 219 P **P** **08 04 24.6 +3.3**
60nm,1.4s
JAY Jayapura 18.06 120 LR LR 08 11 14.5
comp=Z,172nm,19.2s,baz=310,slow=36
QIZ Qiongzhong 19.24 311 P **P** **08 04 36.3 -2.4**
QIZ S **Sn** **08 08 14.8 -0.6**
QIZ LR LR
comp=N,700nm,9.8s
QIZ LR LR
comp=E,590nm,5.0s
QIZ LR LR
comp=Z,520nm,9.7s
JOW Kunigami 20.19 8 LR LR 08 12 40.3
comp=Z,209nm,20.3s,baz=178,slow=37
MTN Manton Dam 20.36 163 **P** **08 04 50.9 0.0**
GUMO Guam 20.56 69 LR LR 08 14 36.3
comp=Z,92nm,18.2s,baz=228,slow=42
KPJI Karang Pucung 21.38 229 P **P** **08 05 05.2 +3.3**
KNRA Kununurra 22.57 171 **P** **08 05 13.9 -0.7**
KNRA IAmb IAmb 08 05 25.5
comp=Z,30nm,0.7s
KULM Kulim 24.40 268 P **P** **08 05 30.9 -1.9**
KULM IAmb IAmb 08 05 39.3
comp=Z,52nm,1.6s
FITZ Fitzroy Crossi 24.70 179 **P** **08 05 34.0 -1.4**
NJ2 Nanjing 25.85 348 *e*P **P** **08 05 47.0 +1.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
JCJ Chichijima 25.92 37 LR LR 08 14 03.3
comp=Z,103nm,21.6s,baz=204,slow=32
RPSI Rantau Prapat 26.43 262 P **P** **08 05 49.7 -1.5**
JNU Nakatsue 26.77 11 P **P** **08 05 52.4 -1.7**
comp=Z,9.6nm,0.9s,baz=169,slow=13,SNR=3.8
JNU LR LR 08 16 37.3
comp=Z,137nm,20.0s,baz=220,slow=37
comp=Z,9.6nm,0.9s
COEN Coen 27.27 139 P **P** **08 05 57.0 -1.7**
COEN IAmb IAmb 08 06 11.4
comp=Z,19nm,1.1s
KCSI Kotacane, Aceh 27.44 265 P **P** **08 06 02.9 +2.5**
WB0 Warramunga Arr 27.88 161 P **P** **08 06 02.9 -1.3**
WB0 IAmb IAmb 08 06 28.1
comp=Z,20nm,0.8s
WRA Warramunga Arr 28.03 161 P **P** **08 06 04.6 -0.9**
WRA Warramunga Arr 28.03 161 P **P** **08 06 03.8 -1.7**
comp=Z,2.4nm,0.7s,baz=330,slow=11,SNR=18
comp=Z,2.4nm,0.7s
CMAR Chiang Mai Arr 28.04 297 P **P** **08 06 02.6 -3.1**
comp=Z,0.9nm,0.3s,baz=117,slow=7.3,SNR=7.4
CMAR LR LR 08 19 54.8
comp=Z,56nm,18.7s,baz=240,slow=42
comp=Z,0.9nm,0.3s
WR8 Warramunga Arr 28.09 161 IAmb IAmb 08 06 27.7
comp=Z,15nm,0.8s
KMI Kunming 28.15 313 P P 08 06 12.0 +5.1
KMI pmax pmax
comp=Z,17nm,0.7s
KMI LR LR
comp=Z,210nm,22.1s

KMI LR LR
comp=Z,230nm,22.8s
KMI LR LR
comp=Z,210nm,21.2s
PSA00 Pilbara Seismi 28.62 190 P P 08 06 09.5 -1.2
PSA00 IAmb IAmb 08 06 15.8
comp=Z,25nm,1.2s
JHJ Hachijo jima 2 29.55 25 LR LR 08 17 37.1
comp=Z,172nm,20.9s,baz=184,slow=35
PZH PanZhiHua 29.70 314 P P 08 06 22.8 +2.3
INU Inuyama 30.48 19 P 08 06 27.8 +0.7
INU IAmb IAmb 08 06 30.4
comp=Z,15nm,0.8s
KSRS Korea Array 30.67 4 P P 08 06 25.9 -2.8
comp=Z,1.3nm,0.7s,baz=186,slow=11,SNR=5.7
comp=Z,1.3nm,0.7s
XAN Xi'an 31.02 333 P P 08 06 33.8 +1.8
XAN pmax pmax
comp=Z,11nm,1.1s
AS31 Alice Springs 31.42 164 P 08 06 34.2 -1.3
ASAR Alice Springs 31.42 164 P P 08 06 34.6 -1.0
ASAR Alice Springs 31.42 164 P P 08 06 34.5 -1.1
comp=Z,2.4nm,0.5s,baz=338,slow=6.8,SNR=51
comp=Z,2.4nm,0.5s
HNS HongShan 31.95 344 ⇑P P 08 06 43.5 +3.5
HNS pmax pmax
comp=Z,15nm,0.8s
HNS LR LR
comp=Z,170nm,16.9s
HNS LR LR
comp=Z,270nm,15.7s
HNS LR LR
comp=Z,200nm,18.8s
MJAR Matsushiro Arr 31.97 20 IAmb IAmb 08 06 43.8
comp=Z,3.5nm,1.1s
MJAR Matsushiro Arr 31.97 20 P P 08 06 36.9 -3.3
comp=Z,7.1nm,0.8s,baz=191,slow=9.0,SNR=9.3
MJAR LR LR 08 19 03.3
comp=Z,181nm,19.9s,baz=208,slow=35
BJT Baijiatuau 34.09 348 P P 08 06 57.2 -1.5
BJT IAmb IAmb 08 07 03.5
comp=Z,15nm,0.9s
BJI Beijing 34.11 348 P P 08 07 02.0 +3.2
BJI S S **08 12 27.3 +2.8**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI LR LR
comp=Z,55nm,16.0s
BJI LR LR
comp=Z,100nm,15.1s
LZDM Lanzhou Array 35.09 329 P P 08 07 05.8 -2.0
comp=Z,1.0nm,0.3s,baz=157,slow=7.8,SNR=1.6
comp=Z,1.0nm,0.3s
LZH Lanzhou 35.11 329 *e*P **P 08 07 08.0 +0.2**
LZH pP sP 08 07 13.3 -0.3
LZH pmax pmax
comp=Z,28nm,1.3s
LZH LR LR
comp=Z,330nm,13.7s
LZH LR LR
comp=Z,220nm,13.4s
LZH LR LR
comp=Z,240nm,13.4s
HHC Hu-ho-hao-te 36.05 342 *e*P **P 08 07 17.3 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,39nm,5.6s
HHC LR LR
comp=Z,170nm,19.3s
HHC LR LR
comp=Z,220nm,15.1s
HHC LR LR
comp=Z,230nm,17.7s
BTO Baotou 36.32 340 *e*P **P 08 07 21.3 +3.2**
BTO S **S 08 13 05.3 +6.5**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,170nm,4.7s
BTO LR LR
comp=Z,340nm,5.9s
BTO LR LR
comp=Z,380nm,5.8s
BTO LR LR
comp=Z,420nm,17.1s
SHL Shillong 36.84 304 P P 08 07 21.6 -1.3
SHL IAmb IAmb 08 07 28.4
comp=Z,18nm,0.6s
INKA Innaminka 37.46 157 P P 08 07 27.1 -0.6
USRK Ussuriysk Ar. 37.78 8 P P 08 07 29.2 -1.1
comp=Z,18nm,1.0s,baz=182,slow=6.5,SNR=17
comp=Z,18nm,1.0s
MDJ Mudanjiang 37.92 5 P P 08 07 31.5 +0.1
MDJ pmax pmax
comp=Z,17nm,1.1s
HNR Honiara 38.23 114 LR LR 08 23 00.5
comp=Z,57nm,18.4s,baz=1,0,slow=36
BNX BinXian 38.89 3 ⇓P P 08 07 41.5 +1.9
BNX pmax pmax
comp=Z,8.0nm,1.0s
GTA Gaotai 39.71 329 *e*P **P 08 07 47.3 +0.6**
GTA pmax pmax
comp=Z,6.0nm,0.5s
GTA LR LR
comp=Z,180nm,17.5s
GTA LR LR
comp=Z,140nm,20.0s
GTA LR LR
comp=Z,170nm,17.1s
ASAJ Asahikawa 40.23 20 P P 08 07 51.4 +0.5
comp=Z,9.8nm,0.8s,baz=243,slow=16,SNR=4.1
ASAJ LR LR 08 23 55.2
comp=Z,126nm,20.4s,baz=138,slow=35
comp=Z,9.8nm,0.8s
JKA Kamikawa-asahi 40.24 20 P P 08 07 51.4 +0.5
JKA Kamikawa-asahi 40.24 20 IAmb IAmb 08 07 58.6
comp=Z,30nm,1.0s
GOMU GeErMu 40.35 321 P P 08 07 57.3 +4.9
GOMU pP sP 08 08 00.5 +2.3
GOMU sP pP 08 08 03.3 +6.8
GOMU S **S 08 14 02.8 +2.4**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
BBOO Buckleboo 40.69 166 P P 08 07 54.3 -0.5
BBOO IAmb IAmb 08 08 03.1
comp=Z,18nm,0.8s
EIDS Eidsvold 40.70 143 P P 08 07 55.3 +0.4
EIDS IAmb IAmb 08 08 08.8
comp=Z,49nm,1.8s
STKA Stephens Creek 41.50 159 P P 08 08 01.1 -0.3
STKA Stephens Creek 41.50 159 P P 08 08 00.8 -0.6
comp=Z,3.7nm,0.6s,baz=347,slow=8.5,SNR=16
STKA LR LR 08 28 43.4
comp=Z,46nm,18.9s,baz=12,slow=41
comp=Z,3.7nm,0.6s
EVN Everest 41.95 305 P P 08 08 05.2 -0.8
HILR Hailar Array B 42.90 355 P P 08 08 11.6 -1.1
comp=Z,2.4nm,0.4s,baz=163,slow=10,SNR=4.7
comp=Z,2.4nm,0.4s
HEH HeiHe 43.40 2 *e*P **P 08 08 15.0 -1.6**
SONM Songino Array 43.95 342 P P 08 08 23.5 +2.2
SONM Songino Array 43.95 342 P P 08 08 20.6 -0.7
comp=Z,0.6nm,0.5s,baz=170,slow=10,SNR=11
SONM LR LR 08 28 19.3
comp=Z,163nm,18.6s,baz=165,slow=38
comp=Z,0.6nm,0.5s
CAN Canberra 47.51 153 P P 08 08 49.6 +0.1
CAN IAmb IAmb 08 09 00.3
comp=Z,15nm,1.1s
WMQ Urumqi 49.36 325 *e*P **P 08 09 07.0 +3.3**
WMQ LR LR
comp=Z,390nm,22.1s
WMQ LR LR
comp=Z,160nm,23.1s
PETK Petropavlovsk- 53.28 24 P P 08 09 32.1 -0.8
comp=Z,5.6nm,0.8s,baz=206,slow=6.4,SNR=6.8
comp=Z,5.6nm,0.8s
MKAR Makanchi Array 54.19 325 P P 08 09 38.5 -1.2
comp=Z,1.0nm,0.6s,baz=121,slow=7.9,SNR=8.1
MKAR LR LR 08 32 57.5
comp=Z,68nm,20.5s,baz=122,slow=36
comp=Z,1.0nm,0.6s
MAKZ Makanchi 54.37 325 P P 08 09 41.4 +0.4
MAKZ IAmb IAmb 08 09 47.0
comp=Z,19nm,1.4s
KSH Kashi 54.80 314 P P 08 09 49.5 +5.1
KSH pmax pmax
comp=Z,8.0nm,1.2s
KDJ Kajisay 55.05 318 IAmb IAmb 08 09 52.2
comp=Z,13nm,1.0s
YAK Yakutsk 55.27 3 LR LR 08 34 13.4
comp=Z,70nm,20.4s,baz=190,slow=37
AAK Ala-Archa 57.07 317 P P 08 10 00.9 +0.2
AAK IAmb IAmb 08 10 07.4
comp=Z,10nm,1.3s
AAK Ala-Archa 57.07 317 LR LR 08 36 56.9
comp=Z,106nm,22.0s,baz=106,slow=39
ZALV Zalesovo Beam 57.19 333 LR LR 08 35 32.7
comp=Z,37nm,18.4s,baz=136,slow=37
KURBB Kurchatov Arra 58.36 327 P P 08 10 07.2 -2.1
comp=Z,1.4nm,0.2s,baz=113,slow=7.0,SNR=5.9
comp=Z,1.4nm,0.2s
KURK Kurchatov 58.36 327 P P 08 10 08.5 -0.8
KURK IAmb IAmb 08 10 14.7
comp=Z,8.6nm,0.9s
KBL Kabul 58.45 306 P P 08 10 11.1 +0.6
KBL IAmb IAmb 08 10 16.4
comp=Z,8.2nm,0.7s
SEY Seymchan 59.48 14 LR LR 08 35 08.3
comp=Z,40nm,21.8s,baz=193,slow=35
KKAR Karatay Array 59.96 316 P P 08 10 19.4 -1.2
BVAR Borovoye Array 63.94 327 P P 08 10 45.4 -1.8
comp=Z,1.0nm,0.6s,baz=123,slow=11,SNR=3.9
BVAR LR LR 08 38 53.8
comp=Z,63nm,20.2s,baz=120,slow=36
comp=Z,1.0nm,0.6s
AB31 Akbulak array 68.82 320 P P 08 11 19.0 +0.4
AB31 IAmb IAmb 08 11 23.2
comp=Z,6.5nm,1.0s
AKTO Aktyubinsk 70.32 321 LR LR 08 44 16.1
comp=Z,76nm,21.3s,baz=37,slow=38
KIRV Kirov 76.83 329 LR LR 08 48 29.5
comp=Z,51nm,18.1s,baz=76,slow=38
RAYN Ar Rayn 77.86 293 P 08 12 11.2 -1.2
KBZ Khabaz 79.77 313 P P 08 12 20.5 -1.9
comp=Z,1.6nm,0.6s,baz=199,slow=3.3,SNR=2.9
KBZ LR LR 08 51 28.0
comp=Z,60nm,19.9s,baz=75,slow=39
comp=Z,1.6nm,0.6s
I21K Tanana 80.92 25 IAmb IAmb 08 12 33.6
comp=Z,6.7nm,0.8s
SKT Skwentna 80.94 28 IAmb IAmb 08 12 32.4
comp=Z,9.8nm,0.9s
BPAW Bear Paw Mtn. 81.29 26 IAmb IAmb 08 12 35.1
comp=Z,10nm,0.8s
TRF Thorofare Moun 81.57 27 IAmb IAmb 08 12 37.5
comp=Z,6.9nm,0.9s
H23K Yukon River 81.96 24 IAmb IAmb 08 13 33.5
comp=Z,9.2nm,1.2s
MCK McKinley 82.18 27 P P 08 12 35.9 +0.9
RND Reindeer 82.22 27 IAmb IAmb 08 12 40.3
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 82.68 26 P P 08 12 38.6 +1.2
CCB IAmb IAmb 08 12 41.4
comp=Z,17nm,1.4s
HDA Harding Lake 83.06 26 IAmb IAmb 08 12 45.4
comp=Z,5.9nm,0.7s
ILAR Eielson Array 83.08 26 P P 08 12 37.8 -1.8
comp=Z,0.7nm,0.6s,baz=248,slow=4.1,SNR=8.8
ILAR LR LR 08 50 45.0
comp=Z,30nm,19.7s,baz=306,slow=36
comp=Z,0.7nm,0.6s
SCRK Sand Creek 84.37 26 P P 08 12 47.4 +1.0
SCRK IAmb IAmb 08 12 54.6
comp=Z,7.5nm,1.3s
E27K Coleen River 85.00 22 IAmb IAmb 08 13 18.6
comp=Z,13nm,1.4s
H27K Steamboat Moun 85.22 24 IAmb IAmb 08 12 56.1
comp=Z,4.6nm,0.9s
G29M Pine Creek 86.52 23 IAmb IAmb 08 13 01.8
comp=Z,10nm,1.0s
VNDA Vanda 86.61 173 P P 08 12 56.3 -0.7
VNDA Vanda 86.61 173 P P 08 12 55.1 -1.9
comp=Z,1.0nm,0.8s,baz=322,slow=3.5,SNR=7.4
VNDA LR LR 08 50 16.2
comp=Z,16nm,21.1s,baz=331,slow=35
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 86.89 309 P P 08 12 57.9 -1.5
comp=Z,0.7nm,0.7s,baz=55,slow=5.5,SNR=2.8
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 87.08 340 LR LR 08 57 00.9
comp=Z,43nm,18.6s,baz=64,slow=39
SPITS Spitsbergen Ar 87.23 349 LR LR 08 57 07.2
comp=Z,43nm,18.6s,baz=64,slow=39
FINES FINESS Array B 88.44 332 LR LR 08 53 57.9
comp=Z,80nm,21.3s,baz=90,slow=36
AKASG Malin Array Be 88.56 321 LR LR 08 54 37.1
comp=Z,55nm,21.7s,baz=62,slow=37
DLBC Dease Lake 91.97 31 LR LR 08 50 25.6
comp=Z,317nm,20.4s,baz=299,slow=33
HFS Hagfors 94.62 332 LR LR 08 58 00.2
comp=Z,90nm,21.0s,baz=70,slow=37
NOA NORSAR Array B 95.39 333 LR LR 09 02 39.8
comp=Z,42nm,18.8s,baz=70,slow=39
VRAC Vranov 96.80 321 LR LR 09 00 44.3
comp=Z,32nm,19.6s,baz=68,slow=38
CLL Collm 98.28 324 *i* PP **PP 08 17 51.4 +0.3**
CLL *e*SS SS 08 32 36.0 +34
CLL LmH 08 59 00.0
comp=Z,100nm,22.0s
CLL LmV 09 03 00.0
comp=Z,100nm,20.8s
LSZ Lusaka 98.43 256 LR LR 08 56 51.4
comp=Z,42nm,18.4s,baz=202,slow=35
GERES GERESS Array B 98.75 322 LR LR 09 01 52.2
comp=Z,46nm,20.5s,baz=95,slow=38
TXAR Lajitas Array 120.95 50 PKP PKPdf 08 19 05.9 -1.6
comp=Z,0.2nm,0.7s,baz=278,slow=2.3,SNR=2.1
PLCA Paso Flores 143.37 160 PKP PKPbc 08 19 46.7 +0.5
comp=Z,1.4nm,1.1s,baz=225,slow=7.1,SNR=3.1

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*ASRS **30** 08:01:28.0±0.6, 54°.64N×83°.66E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 30 08:01:29.9±1.6, 54°.65N×83°.75E, h0km, mbtmp3.0/3, ML2.0/2, Error ellipse: s-maj=13.7km s-min=8.7km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**138**	I	I	08 06 35.4	
	0.2nm,1.3s,baz=317,slow=325,SNR=7.8						
ZALV	**Zalesovo Beam**	**0.94**	**138**	Pg	Pg	08 01 47.6	-0.3
ZALV				Lg	Lg	08 02 01.3	
	5.9nm,0.3s,baz=319,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**5.14**	**220**	Pn	Pn	08 02 48.4	+0.4
	baz=38,slow=14,SNR=6.0						
KURBB				Sn	Sn	08 03 47.4	-0.5
	baz=38,slow=29,SNR=5.8						
KURBB				Lg	Lg	08 04 14.4	
	0.1nm,0.3s,baz=41,slow=23,SNR=6.0						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**7.92**	**187**	Pn	Pn	08 03 26.3	0.0
	0.4nm,0.6s,baz=8.6,slow=11,SNR=2.0						
MKAR				Sn	Sn	08 04 55.4	-1.2
	0.1nm,0.3s,baz=8.0,slow=22,SNR=3.2						
MKAR				Lg	Lg	08 05 41.1	
	0.1nm,0.3s,baz=8.5,slow=32,SNR=4.7						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	08 03 27.3	-0.9
	0.1nm,0.3s,baz=68,slow=14,SNR=4.9						
BVAR				Sn	Sn	08 04 56.3	-3.9
	baz=71,slow=23,SNR=5.2						
	1.0nm,0.4s						

ASRS 30 08:08:34.0±0.5, 54°.05N×86°.56E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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ASRS 30 08:09:17.0±1.3, 53°.82N×88°.20E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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*IDC **30** 08:14:05.7±0.9, 27°.98N×130°.88E, h0km, mb3.8/7, mbtmp3.9/10, ML3.6/3, Error ellipse: s-maj=35.8km s-min=18.0km az=106.0*
*NEIC **30** 08:14:07.4±2.0, 27°.95N±0°.05×130°.91E±0°.07, h10km±1km, mb4.5/6, Error ellipse: s-maj=10.7km s-min=8.2km az=88.0*
*JMA **30** 08:14:07.7±0.1, 28°.0N±0°.3×130°.9E±0°.5, h72km±1km, MV3.9/37, N PHILIPPINE BASIN*

ISC 30 08:14:10.0±0.7, 27°.95N±0°.03×130°.88E±0°.04, h35km, n44, σ19 54/66, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.88**	**294**	*i* P	**Pn**	**08 14 24.9**	**-0.9**
JZK				S	**Sn**	**08 14 38.1**	**+0.7**
JAM	**Amami Oshima**	**1.21**	**292**	*i* P	**Pn**	**08 14 29.4**	**-1.0**
JAM				S	**Sn**	**08 14 44.7**	**-1.0**
JAMN	**Amaminishikomi**	**1.53**	**281**	*i* P	**Pn**	**08 14 33.5**	**-1.4**
JAMN				S	**Sn**	**08 14 52.5**	**-1.0**
JTK	**Tokunoshima**	**1.72**	**265**	*i* P	**Pn**	**08 14 36.4**	**-1.0**
JTK				*e*S	**Sn**	**08 14 56.3**	**-1.8**
JTAJ	**Takarajima**	**1.90**	**309**	P	**Pn**	**08 14 38.4**	**-1.5**
JTAJ				S	**Sn**	**08 15 01.0**	**-1.6**
JKDJ	**Kitadaitoujima**	**2.03**	**169**	P	**Pn**	**08 14 40.4**	**-1.3**
JKDJ				S	**Sn**	**08 15 03.9**	**-1.9**
JNN	**Nakanoshima**	**2.08**	**335**	P	**Pn**	**08 14 41.1**	**-1.2**
JNN				S	**Sn**	**08 15 05.8**	**-1.2**
JOKE	**Okinoerabujima**	**2.13**	**254**	P	**Pn**	**08 14 42.0**	**-1.1**
JOKE				*e*S	**Sn**	**08 15 06.2**	**-2.1**
JMZ	**Minamidaito 2**	**2.15**	**172**	Pn	**Pn**	**08 14 42.4**	**-0.9**
JMZ					**Sn**	**08 15 06.6**	**-2.1**
JMZ	**Minamidaito 2**	**2.15**	**172**	P	**Pn**	**08 14 41.9**	**-1.4**
JMZ				S	**Sn**	**08 15 06.4**	**-2.3**
JYAK	**Yakushimahirau**	**2.30**	**352**	P	**Pn**	**08 14 44.4**	**-1.0**
JYAK				S	**Sn**	**08 15 10.4**	**-2.0**
JYRO	**Yoronjima**	**2.35**	**247**	P	**Pn**	**08 14 44.9**	**-1.2**
JYRO				S	**Sn**	**08 15 11.7**	**-2.0**
JMTN	**Minamitane**	**2.44**	**0**	P	**Pn**	**08 14 46.0**	**-1.3**
JMTN				S	**Sn**	**08 15 13.0**	**-2.9**
JKC	**Kuchinoerabu**	**2.57**	**347**	P	**Pn**	**08 14 48.2**	**-0.9**
JKC				S	**Sn**	**08 15 17.9**	**-1.2**
JOW	**Kunigami**	**2.57**	**245**		**Pn**	**08 14 48.2**	**-1.0**
JOW					**Sn**	**08 15 17.9**	**-1.3**
JOW	**Kunigami**	**2.57**	**245**	Pn	**Pn**	**08 14 48.1**	**-1.0**
	16nm,0.3s,baz=83,slow=5.2,SNR=74						
JOW				Sn	**Sn**	**08 15 16.3**	**-2.9**
	27nm,0.3s,baz=111,slow=25,SNR=16						
	66nm,0.2s						
JOW	**Kunigami**	**2.57**	**245**	P	**Pn**	**08 14 48.1**	**-1.0**
JOW				*e*S	**Sn**	**08 15 17.9**	**-1.3**
JTN	**Tanegashima 3**	**2.69**	**2**	P	**Pn**	**08 14 49.5**	**-1.3**
JTN				*e*S	**Sn**	**08 15 20.7**	**-1.5**
JIH	**Iheya**	**2.74**	**251**	P	**Pn**	**08 14 50.4**	**-1.1**
JIH				S	**Sn**	**08 15 21.3**	**-2.2**
JNTH	**Nagotoyohara**	**2.92**	**241**	P	**Pn**	**08 14 52.7**	**-1.2**
JNTH				S	**Sn**	**08 15 25.9**	**-1.8**
JTSR	**Tashiro 2**	**3.20**	**1**	P	**Pn**	**08 14 56.8**	**-1.0**
JTSR				S	**Sn**	**08 15 32.6**	**-2.2**
JAGN	**Aguni-jima**	**3.51**	**248**	P	**Pn**	**08 15 00.7**	**-1.3**
JAGN				S	**Sn**	**08 15 40.0**	**-2.4**
JSU	**Suzuyama**	**3.56**	**354**	P	**Pn**	**08 15 01.4**	**-1.3**
JSU				S	**Sn**	**08 15 41.1**	**-2.5**
JNAR	**Kushima--Naru**	**3.58**	**5**	S	**Sn**	**08 15 42.8**	**-1.2**
JNU	**Nakatsue**	**5.15**	**360**	Pn	**Pn**	**08 15 23.6**	**-1.1**
	4.9nm,0.3s,baz=190,slow=17,SNR=22						
JNU				Sn	**Sn**	**08 16 18.7**	**-4.2**
	5.0nm,0.3s,baz=214,slow=22,SNR=8.6						
	14nm,0.3s						
JMN	**Monobe**	**6.31**	**23**	Pn	**Pn**	**08 15 39.7**	**-0.8**
INU	**Inuyama**	**9.04**	**34**	Pn	**Pn**	**08 16 17.5**	**-0.4**
JGF	**Kuroka**	**9.40**	**34**	Pn	**Pn**	**08 16 22.8**	**-0.2**
MAJO	**Matsushiro**	**10.57**	**34**	Pn	**Pn**	**08 16 38.7**	**-0.3**
MJAR	**Matsushiro Arr**	**10.57**	**34**	Pn	**Pn**	**08 16 39.2**	**+0.2**
	0.2nm,0.3s,baz=207,slow=15,SNR=7.4						
	0.9nm,0.4s						
MJB9	**Matsu-Tunnel**	**10.57**	**34**	Pn	**Pn**	**08 16 38.6**	**-0.4**
WB0	**Warramunga Arr**	**47.56**	**176**	P	**P**	**08 22 43.0**	**+0.8**
WB0				IAmb	IAmb	08 22 43.5	
	comp=Z,4.3nm,1.0s						
WRAB	**Tennant Creek**	**47.72**	**176**	P	**P**	**08 22 44.2**	**+0.8**
WRAB				IAmb	IAmb	08 22 45.9	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**47.73**	**176**	IAmb	IAmb	08 22 47.3	
	comp=Z,0.4nm,1.3s						
WRA	**Warramunga Arr**	**47.73**	**176**	P	**P**	**08 22 44.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=353,slow=8.3,SNR=9.4						
	comp=Z,1.6nm,0.8s						
WR8	**Warramunga Arr**	**47.76**	**175**	P	**P**	**08 22 43.4**	**-0.3**
ASAR	**Alice Springs**	**51.40**	**176**	P	**P**	**08 23 12.8**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=10.0,slow=14,SNR=22						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**57.21**	**313**	P	**P**	**08 23 53.4**	**-0.1**
ILAR	**Eielson Array**	**61.80**	**29**	P	**P**	**08 24 24.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=291,slow=7.6,SNR=4.2						
	comp=Z,0.3nm,0.8s						
INK	**Inuvik**	**66.37**	**24**	IAmb	IAmb	08 25 02.1	
	comp=Z,5.8nm,1.2s						
INK	**Inuvik**	**66.37**	**24**	P	**P**	**08 24 55.4**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=306,slow=7.5,SNR=3.6						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**72.52**	**331**	P	**P**	**08 25 35.1**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=67,slow=6.7,SNR=2.3						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**87.61**	**47**	P	**P**	**08 26 56.7**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=309,slow=3.6,SNR=3.8						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**90.34**	**40**	P	**P**	**08 27 09.2**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=333,slow=7.0,SNR=4.2						
	comp=Z,0.5nm,0.9s						

NNC 30 08:21:46.8±5.2, 52°.17N×75°.55E, h21km±67km, mb2.9, mpv2.4, 3C-4D, Error ellipse: s-maj=54.1km s-min=43.0km az=175.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.41**	**126**	IAmb	IAmb	08 22 27.5	
	comp=Z,2.5nm,0.4s						
KURK	**Kurchatov**	**2.41**	**126**	⇑Pn	Pn	08 22 25.0	-0.1
	comp=Z,0.5nm,0.5s						
KURK				⇓Sn	Sn	08 22 53.0	-0.9
	comp=Z,3.3nm,0.7s						
KURK	**Kurchatov**	**2.41**	**126**	P	Pn	08 22 25.0	0.0
KURBB	**Kurchatov Arra**	**2.43**	**129**	⇑Pn	Pn	08 22 26.4	+1.1
	comp=Z,1.5nm,0.4s,baz=308,slow=18						
KURBB				⇓Sn	Sn	08 22 56.3	+2.0
	comp=Z,25nm,0.8s,baz=312,slow=30						
BVA0	**Borovoye Array**	**3.26**	**287**	⇓Pg	Pb	08 22 45.5	+1.5
	comp=Z,1.9nm,0.8s,baz=239,slow=39,SNR=4.1						
BVA0				⇓Lg	Lg	08 23 31.2	
	comp=Z,7.4nm,0.8s,baz=111,slow=27,SNR=5.9						
MK31	**Makanchi Array**	**6.95**	**138**	⇑Lg	Lg	08 25 24.3	
	comp=Z,1.4nm,0.7s,baz=322,slow=26,SNR=4.9						

IDC 30 08:24:24.2±3.2, 18°.83N×120°.12E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=329.5km s-min=22.6km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.98**	**159**	P	P	08 32 08.6	-0.5
	0.8nm,0.5s,baz=339,slow=8.5,SNR=3.5						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**41.66**	**321**	P	P	08 32 14.4	0.0
	0.7nm,0.8s,baz=120,slow=8.5,SNR=5.5						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**44.33**	**162**	P	P	08 32 36.4	+0.1
	0.9nm,0.6s,baz=339,slow=6.7,SNR=13						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.68**	**324**	P	P	08 32 46.5	-0.3
	0.8nm,0.6s,baz=119,slow=8.1,SNR=3.6						
	0.8nm,0.6s						

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*NNC **30** 08:30:17.9±1.1, 50°.16N×76°.09E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=9.1km s-min=5.4km az=114.0, Suspected Mining explosion.*
*IDC **30** 08:30:20.0±1.5, 50°.19N×76°.23E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=18.5km s-min=11.2km az=25.0*

ISC 30 08:30:20.1±2.2, 50°.14N±0°.09×76°.2E±0°.1, h0km, n9, σ19 17/13, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**1.55**	**71**	Pg	**Pn**	**08 30 47.7**	**-1.2**

0.8nm,0.3s,baz=255,slow=15,SNR=35
KURBB Lg Lg 08 31 10.3
0.7nm,0.3s,baz=255,slow=30,SNR=4.6
KURBB Kurchatov Arra 1.55 71 ⇓Pn **Pn 08 30 47.7 -1.2**
1.6nm,0.2s
KURBB ⇑Sn **Sn 08 31 10.7 +1.0**
16nm,0.7s
KURK Kurchatov 1.63 69 ⇓Pn **Pn 08 30 49.3 -0.8**
0.6nm,0.2s
KURK ⇑Sn **Sb 08 31 12.3 +0.2**
1.6nm,0.3s
BVAR Borovoye Array 4.65 311 Pn **Pn 08 31 31.2 -0.3**
baz=119,slow=13,SNR=2.0
BVAR Lg Lg 08 32 45.2
baz=123,slow=29,SNR=2.2
0.5nm,0.3s
MAKZ Makanchi 5.07 129 ⇑Pn **Pn 08 31 35.4 -2.0**
0.5nm,0.4s
MAKZ ⇓Sn **Sn 08 32 37.9 +1.2**
0.6nm,0.3s
MAKZ ⇓Lg Lg 08 33 00.6
0.9nm,0.7s
MK31 Makanchi Array 5.24 127 ⇑Pn **Pn 08 31 39.1 -0.7**
0.1nm,0.3s,baz=308,slow=10.0,SNR=11
MK31 ⇑Sn **Sn 08 32 42.2 +1.4**
0.5nm,0.5s
MK31 ⇓Lg Lg 08 33 04.4
0.5nm,0.4s,baz=197,slow=30
MKAR Makanchi Array 5.24 127 Pn **Pn 08 31 39.1 -0.6**
0.1nm,0.3s,baz=307,slow=13,SNR=2.3
MKAR Sn **Sn 08 32 41.5 +0.7**
0.2nm,0.3s,baz=336,slow=27,SNR=2.5
MKAR Lg Lg 08 33 02.1
0.3nm,0.3s,baz=332,slow=28,SNR=5.5
0.1nm,0.2s
ZALV Zalesovo Beam 6.52 51 Pn **Pn 08 31 57.3 +0.1**
0.5nm,0.3s,baz=240,slow=16,SNR=5.5
0.9nm,0.3s
I46RU ZALESOVO INFRA 6.52 51 I I 09 08 20.0
baz=236,slow=314,SNR=1.5

*IDC **30** 08:30:43.0±0.6, 6°.72N×72°.93W, h157km±5km, mb3.1/5, mbtmp3.7/8, Error ellipse: s-maj=17.6km s-min=7.4km az=128.0*
*RSNC **30** 08:30:44.5±0.0, 7°.N±1°.×7°.3W±°, h148km±2km, M4.0, mB4.9, mb4.2, ML3.7, Mw(mB)4.2*
ISC 30 08:30:43.4±0.6, **6°.86N**±0°.03×**73°.12W**±0°.04, **h155**km±5km, **n53**, σ1§**65**/91, **mb3.2**/6, **2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**193**	P	**Pn**	**08 31 04.5**	**-0.3**
BARC				S	**Sn**	**08 31 20.2**	**-0.8**
BRJC	**Barrancabermej**	**0.63**	**280**	P	**Pn**	**08 31 06.2**	**+0.2**
BRJC				S	**Sn**	**08 31 22.7**	**-0.4**
PAMC	**Pamplona, Colo**	**0.63**	**41**	P	**Pn**	**08 31 07.4**	**+0.8**
PAMC				S	**Sn**	**08 31 23.5**	**-0.8**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**08 31 08.4**	**-0.5**
RUSC				S	**Sn**	**08 31 27.6**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	P	**Pn**	**08 31 10.9**	**-1.1**
PTBC				S	**Sn**	**08 31 32.1**	**-1.7**
OCAC	**Ocana**	**1.38**	**352**	P	**Pn**	**08 31 12.9**	**+0.6**
OCAC				S	**Sn**	**08 31 34.7**	**+0.1**
SPBC	**San Pablo de B**	**1.53**	**218**	P	**Pn**	**08 31 13.3**	**-0.4**
SPBC				S	**Sn**	**08 31 36.4**	**-0.6**
CHIC	**Chingaza**	**2.30**	**195**	P	**Pn**	**08 31 22.5**	**-0.3**
CHIC				S	**Sn**	**08 31 52.6**	**-0.5**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**08 31 24.5**	**+1.3**
	443nm,0.3s,baz=131,slow=20,SNR=623						
ROSC				S	**Sn**	**08 31 53.5**	**-0.3**
	786nm,0.3s,baz=182,slow=20,SNR=9.8						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**08 31 24.2**	**+1.0**
ROSC				S	**Sn**	**08 31 55.3**	**+1.5**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**08 31 24.4**	**-0.5**
HELC				S	**Sn**	**08 31 55.5**	**-1.4**
CVER	**Cruz Verde, Cu**	**2.51**	**202**	P	**Pn**	**08 31 26.2**	**+0.8**
CVER				S	**Sn**	**08 31 58.1**	**+0.4**
MEDEC	**Medelln, Ant**	**2.52**	**257**	P	**Pn**	**08 31 26.8**	**+1.6**
MEDEC				S	**Sn**	**08 31 57.2**	**-0.2**
UREC	**San Jos de Ur**	**2.55**	**290**	P	**Pn**	**08 31 24.3**	**-1.1**
UREC				S	**Sn**	**08 31 54.9**	**-2.9**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**08 31 28.5**	**+0.1**
GUY2C				S	**Sn**	**08 32 02.8**	**-0.4**
RECRC	**Villamaria, Ca**	**2.91**	**230**	P	**Pn**	**08 31 32.7**	**+2.3**
RECRC				S	**Sn**	**08 32 07.2**	**+0.5**
CMAN1	**Manizales, Cal**	**2.98**	**233**	P	**Pn**	**08 31 33.1**	**+2.1**
CMAN1				S	**Sn**	**08 32 08.8**	**+1.1**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**08 31 32.3**	**+0.7**
CBOC				S	**Sn**	**08 32 07.4**	**-1.5**
DBBC	**Dabeiba**	**3.07**	**273**	P	**Pn**	**08 31 31.8**	**-0.1**
DBBC				S	**Sn**	**08 32 06.9**	**-2.6**
ARGC	**Ariguani, Magd**	**3.18**	**340**	P	**Pn**	**08 31 34.5**	**+1.3**
ARGC				S	**Sn**	**08 32 13.1**	**+1.2**
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**08 31 34.1**	**+0.6**
	73nm,0.3s,baz=202,slow=3.0,SNR=66						
SDV				S	**Sn**	**08 32 10.8**	**-1.4**
	215nm,0.5s,baz=56,slow=22,SNR=39						
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**08 31 34.1**	**+0.6**
SDV				S	**Sn**	**08 32 11.6**	**-0.6**
ANIL	**Santa Ana**	**3.27**	**224**	P	**Pn**	**08 31 35.7**	**+1.0**
ANIL				S	**Sn**	**08 32 15.1**	**+0.7**
APAC	**Apartado, Choc**	**3.58**	**287**	P	**Pn**	**08 31 38.4**	**0.0**
APAC				S	**Sn**	**08 32 19.1**	**-2.0**
PRAC	**Prado**	**3.59**	**209**	P	**Pn**	**08 31 37.7**	**-0.8**
PRAC				S	**Sn**	**08 32 19.8**	**-1.5**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**08 31 39.0**	**+0.1**
ORTC				S	**Sn**	**08 32 22.2**	**+0.2**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**08 31 38.1**	**-1.1**
SJCC				S	**Sn**	**08 32 19.7**	**-2.8**
URMC	**La Uribe, Meta**	**3.80**	**199**	P	**Pn**	**08 31 41.4**	**+0.1**
URMC				S	**Sn**	**08 32 24.6**	**-1.8**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**08 31 45.0**	**-0.7**
YOTC	**Yotoco, Valle**	**4.30**	**228**	P	**Pn**	**08 31 47.2**	**-0.6**
YOTC				S	**Sn**	**08 32 39.5**	**+1.6**
SOLC	**Bahia Solano**	**4.31**	**262**	P	**Pn**	**08 31 48.9**	**+1.1**
SOLC				S	**Sn**	**08 32 35.6**	**-2.3**
SMRC	**Santa Marta, M**	**4.41**	**346**	P	**Pn**	**08 31 49.2**	**0.0**
SMRC				S	**Sn**	**08 32 37.6**	**-2.9**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**08 31 51.5**	**-2.0**
MACC				S	**Sn**	**08 32 43.5**	**-4.8**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**08 31 54.9**	**-1.2**
URIC				S	**Sn**	**08 32 48.4**	**-4.5**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**08 32 04.4**	**-0.2**
	24nm,0.6s						
POPC				S	**Sn**	**08 33 05.1**	**-3.0**
	24nm,0.6s						
FLOC	**Florencia**	**5.82**	**206**	P	**Pn**	**08 32 07.2**	**-0.6**
	640nm19nm,0.5s						
FLOC				S	**Sn**	**08 33 11.3**	**-2.6**
	640nm19nm,0.5s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**08 32 14.0**	**-0.4**
BCIP	**Isla Barro Col**	**7.03**	**289**	P	**Pn**	**08 32 21.8**	**-2.1**
HOJ	**Hope**	**11.63**	**343**	*i* P	**Pn**	**08 33 28.4**	**+3.6**
GWJ	**Greenwich**	**11.69**	**343**	⇑P	**Pn**	**08 33 28.6**	**+2.9**
STH	**Stony Hill**	**11.71**	**342**	⇑P	**Pn**	**08 33 28.7**	**+2.8**
MTDJ	**Mount Denham**	**12.09**	**340**	*i* P	**Pn**	**08 33 33.9**	**+3.1**
JTS	**Las Juntas de**	**12.18**	**287**	P	**Pn**	**08 33 35.2**	**+3.2**
	1.6nm,0.4s,baz=147,slow=1.8,SNR=16						
MDP	**Montagnes des**	**20.44**	**94**	pP	pP	08 35 34.2	-1.9
	5.8nm,0.7s,baz=276,slow=13,SNR=1.9						
LPAZ	**La Paz**	**23.52**	**168**	P	**P**	**08 35 37.5**	**-2.8**
	0.5nm,0.6s,baz=315,slow=2.9,SNR=2.1						
	0.5nm,0.6s						
CPUP	**Villa Florida**	**36.38**	**156**	P	**P**	**08 37 31.6**	**-1.3**
	0.3nm,0.7s,baz=101,slow=6.9,SNR=2.8						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**08 37 34.2**	**+0.7**
	0.4nm,0.6s,baz=122,slow=9.1,SNR=5.8						
TXAR				PcP	**PcP**	**08 39 55.5**	**+1.1**
	0.3nm,0.7s,baz=111,slow=6.9,SNR=4.1						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	**08 39 08.2**	**+0.8**
	0.3nm,0.8s,baz=139,slow=8.1,SNR=1.9						
PDAR				pP	**pP**	**08 39 44.5**	**+2.2**
	0.1nm,0.4s,baz=110,slow=9.0,SNR=1.4						
	0.3nm,0.8s						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**08 39 07.9**	**+0.6**
	42nm,0.6s,baz=193,slow=6.1,SNR=10						
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**08 43 08.6**	**-0.5**
	2.5nm,1.0s,baz=266,slow=2.5,SNR=1.4						
	2.5nm,1.0s						
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	**PKPdf**	**08 49 19.1**	**-1.2**
	0.2nm,0.4s,baz=333,slow=1.6,SNR=2.4						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**08 50 13.2**	**-1.1**
	1.0nm,0.7s,baz=121,slow=3.6,SNR=17						
ASAR				pPKPbc	**pPKPbc**	**08 50 54.1**	**-1.3**
	0.5nm,0.7s,baz=140,slow=3.9,SNR=3.3						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**08 50 16.1**	**-1.3**
	1.1nm,0.6s,baz=109,slow=2.5,SNR=11						
WRA				pPKPbc	**pPKPbc**	**08 50 57.5**	**-1.4**
	0.4nm,0.5s,baz=107,slow=2.7,SNR=2.1						

OMAN 30 08:33:49.7±0.2, **19°.06N×59°.78E, h10**km, **ml3.7/8, Error ellipse: s-maj=3.6km s-min=1.3km az=299.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**2.29**	**293**	P	Pn	08 34 28.8	+1.2
MHTO	**MHTO**	**2.57**	**319**	P	Pn	08 34 32.0	+0.5
	SNR=43						
MHTO				S	Sn	08 35 05.1	+2.3
JMDO	**Jabal Madar**	**3.65**	**335**	P	Pn	08 34 46.3	-0.1
	SNR=22						
JMDO				S	Sn	08 35 31.0	+1.4
	SNR=19						
SHAO	**Shalim**	**4.08**	**256**	P	Pn	08 34 51.6	-0.6
	SNR=27						
SHAO				S	Sn	08 35 40.6	+0.6
SMDO	**Samad**	**4.30**	**338**	P	Pn	08 34 55.0	-0.4
	SNR=7.1						
SMDO				S	Sn	08 35 45.9	+0.2
BSY	**Bisya**	**4.39**	**327**	P	Pn	08 34 56.6	0.0
BSY				S	Sn	08 35 50.6	+2.7
	SNR=8.0						
DMTO	**DMTO**	**4.78**	**255**	P	Pn	08 35 01.4	-0.5
	SNR=15						
DMTO				S	Sn	08 35 58.1	+0.7
	SNR=6.5						
ARQ	**Araqi**	**5.24**	**325**	P	Pn	08 35 09.0	+0.8
	SNR=6.7						
ARQ				S	Sn	08 36 07.3	-1.4
DOK	**Doka**	**5.37**	**266**	P	Pn	08 35 10.2	+0.1
DOK				S	Sn	08 36 11.8	-0.2
WHFO	**Wadi Hawf**	**5.82**	**260**	P	Pn	08 35 16.1	-0.1
	SNR=13						
WHFO				S	Sn	08 36 22.9	-0.1
SOHO	**SOHO**	**5.89**	**330**	P	Pn	08 35 17.1	0.0
SOHO				S	Sn	08 36 26.5	+1.8

IDC 30 10:11:02.6±1.2, **6°.43N×125°.51E, h0**km, **mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=60.6km s-min=8.7km az=93.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.64**	**6**	Pg	Pg	10 11 14.6	-0.3
	0.8nm,0.3s,baz=208,slow=11,SNR=119						
DAV				Lg	Lg	10 11 24.1	
	0.5nm,0.3s,baz=350,slow=18,SNR=22						
FITZ	**Fitzroy Crossi**	**24.38**	**180**	P	P	10 16 22.6	-0.1
	0.9nm,0.4s,baz=7.0,slow=10,SNR=8.0						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**27.61**	**162**	P	P	10 16 51.5	-0.5
	0.5nm,0.8s,baz=342,slow=8.9,SNR=1.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**31.02**	**165**	P	P	10 17 22.9	+0.6
	0.3nm,0.5s,baz=342,slow=9.1,SNR=7.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.66**	**325**	P	P	10 20 33.3	-0.1
	0.2nm,0.4s,baz=108,slow=7.4,SNR=2.5						
	0.2nm,0.4s						

IDC 30 10:13:38.6±1.7, **2°.47S×138°.25E, h0**km, **mb3.3/2, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=35.3km s-min=32.3km az=98.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.45**	**91**	Pn	Pn	10 14 19.1	-0.7
	1.5nm,0.3s,baz=244,slow=12,SNR=7.3						
	4.6nm,0.4s						
WRA	**Warramunga Arr**	**17.78**	**192**	P	Pn	10 17 47.1	-0.6
	0.1nm,0.3s,baz=9.9,slow=11,SNR=2.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.48**	**191**	P	P	10 18 28.6	-0.4
	0.6nm,0.7s,baz=22,slow=11,SNR=6.2						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**69.33**	**323**	P	P	10 24 48.8	+0.8
	0.3nm,0.5s,baz=106,slow=5.1,SNR=2.6						
	0.3nm,0.5s						

*IDC **30** 10:14:26.7±0.8, 2°.54S×138°.35E, h0km, mb4.0/6, mbtmp3.9/9, ML3.7/3, MS3.2/6, Error ellipse: s-maj=20.1km s-min=15.6km az=8.0*
*DJA **30** 10:14:29.5±0.3, 2°.S±4°.×13°.9E±°, h10km, M4.2/7, mb4.3/6, mB5.8/1, MLv4.1/7, Mw(mB)5.3/1*
*NEIC **30** 10:14:31.4±1.1, 2°.6S±0°.1×138°.46E±0°.08, h39km±7km, mb4.1/13, Error ellipse: s-maj=14.9km s-min=11.1km az=199.0*
ISC 30 10:14:29.0±0.7, **2°.73S**±0°.08×**138°.43E**±0°.07, **h10**km, **n43**, σ2§**26**/34, **mb4.1**/8, **MS3.3**/3, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.79**	**21**	P	Pg	10 14 38.4	-5.8
GENI	**Genyem**	**1.75**	**86**	P	**Pn**	**10 14 59.5**	**+0.2**
JAY	**Jayapura**	**2.29**	**85**	Pn	**Pn**	**10 15 06.4**	**-0.4**
	12nm,0.3s,baz=228,slow=12,SNR=14						
JAY				Lg	Lg	10 15 41.6	
	10nm,0.3s,baz=266,slow=21,SNR=6.0						
JAY				LR	LR	10 16 21.7	
	comp=Z,618nm,18.6s,baz=96,slow=49						
	26nm,0.3s						
JAY	**Jayapura**	**2.29**	**85**	P	**Pn**	**10 15 07.3**	**+0.5**
BAKI	**Biak**	**2.78**	**303**	P	**Pn**	**10 15 13.9**	**+0.4**
FAKI	**Fak Fak**	**6.17**	**268**		**Pn**	**10 16 00.2**	**-0.1**
FAKI	**Fak Fak**	**6.17**	**268**	P	**Pn**	**10 15 59.1**	**-1.2**
	0.1nm38nm,1.1s						
MSAI	**Masohi**	**9.51**	**266**	P	**Pn**	**10 16 49.3**	**+3.3**
PMG	**Port Moresby**	**10.92**	**128**	LR	LR	10 21 47.2	
	comp=Z,102nm,21.8s,baz=304,slow=40						
NLAI	**Namlea**	**11.32**	**267**	P	**Pn**	**10 17 13.9**	**+3.0**
	36nm,1.3s						
COEN	**Coen**	**12.10**	**157**	Pn	**Pn**	**10 17 23.4**	**+1.8**
MTN	**Manton Dam**	**12.37**	**215**	Pn	**Pn**	**10 17 26.1**	**+0.8**
SOEI	**Soe**	**15.70**	**243**		**Pn**	**10 18 11.4**	**+0.8**
SOEI	**Soe**	**15.70**	**243**	P	P	10 18 33.4	+19
LUWI	**Luwuk**	**15.74**	**276**	Pn	**Pn**	**10 18 10.1**	**-0.8**
KNRA	**Kununurra**	**16.00**	**216**	Pn	**Pn**	**10 18 13.5**	**-0.8**
KNRA				IAmb	IAmb	10 18 28.4	
	comp=Z,13nm,0.8s						
WB0	**Warramunga Arr**	**17.39**	**193**		**Pn**	**10 18 31.9**	**0.0**
WB0				IAmb	IAmb	10 18 42.0	
	comp=Z,10nm,1.1s						
WR8	**Warramunga Arr**	**17.54**	**192**		**Pn**	**10 18 35.0**	**+1.1**
WR8				IAmb	IAmb	10 18 56.7	
	comp=Z,7.4nm,0.9s						
WRAB	**Tennant Creek**	**17.55**	**193**	P	**Pn**	**10 18 33.5**	**-0.5**
WRAB				IAmb	IAmb	10 18 58.4	
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**17.57**	**193**		**Pn**	**10 18 33.2**	**-0.9**
WRA	**Warramunga Arr**	**17.57**	**193**	P	**Pn**	**10 18 34.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=16,slow=12,SNR=12						
WRA				S	Sn	10 21 41.2	-8.7
	comp=Z,1.2nm,0.8s,baz=12,slow=22,SNR=3.2						
	comp=Z,1.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.76**	**219**	P	**P**	**10 18 59.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.76**	**219**	P	**P**	**10 18 59.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=41,slow=12,SNR=1.6						
FITZ				S	**S**	**10 22 34.4**	**-7.7**
	comp=Z,2.1nm,0.6s,baz=56,slow=11,SNR=1.9						
FITZ				LR	LR	10 26 49.5	
	comp=Z,140nm,21.3s,baz=38,slow=37						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**21.27**	**191**		**P**	**10 19 16.2**	**+0.5**
ASAR	**Alice Springs**	**21.27**	**191**		**P**	**10 19 15.2**	**-0.4**
ASAR	**Alice Springs**	**21.27**	**191**	P	**P**	**10 19 16.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=13,slow=11,SNR=18						
ASAR				S	**S**	**10 23 10.6**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=12,slow=24,SNR=4.2						
	comp=Z,3.0nm,0.7s						
BBKI	**Banjar Baru**	**23.56**	**268**	P	**P**	**10 19 45.5**	**+5.6**
JNU	**Nakatsue**	**36.37**	**349**	LR	LR	10 33 46.4	
	comp=Z,47nm,19.6s,baz=216,slow=32						
CMAR	**Chiang Mai Arr**	**44.20**	**300**	P	P	10 22 34.8	-3.8
CMAR	**Chiang Mai Arr**	**44.20**	**300**	P	**P**	**10 22 36.5**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=116,slow=5.9,SNR=12						
CMAR				LR	LR	10 42 08.3	
	comp=Z,16nm,18.0s,baz=120,slow=38						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**57.62**	**335**	LR	LR	10 48 25.0	
	comp=Z,24nm,21.7s,baz=148,slow=36						
PET	**Petropavlovsk**	**58.10**	**14**	P	P	10 24 19.8	-2.6
MKAR	**Makanchi Array**	**69.63**	**323**	P	P	10 25 35.7	-3.0
MKAR	**Makanchi Array**	**69.63**	**323**	P	**P**	**10 25 37.2**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=108,slow=7.8,SNR=15						
	comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**69.83**	**322**	P	P	10 25 37.2	-2.6
MAKZ				IAmb	IAmb	10 25 40.7	
	comp=Z,4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**71.81**	**330**	P	P	10 25 48.4	-3.3
ZALV	**Zalesovo Beam**	**71.81**	**330**	P	P	10 25 49.1	-2.6
	comp=Z,0.5nm,0.4s,baz=141,slow=7.1,SNR=2.4						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**75.78**	**175**	P	**P**	**10 26 13.2**	**-1.5**
VNDA				IAmb	IAmb	10 26 16.5	
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**75.78**	**175**	P	**P**	**10 26 15.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=323,slow=6.4,SNR=12						
	comp=Z,0.9nm,0.6s						
ILAR	**Eielson Array**	**85.97**	**24**	P	**P**	**10 27 07.2**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=271,slow=5.0,SNR=5.3						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**87.22**	**180**	P	**P**	**10 27 14.1**	**-1.4**
QSPA				IAmb	IAmb	10 27 25.0	
	comp=Z,2.4nm,1.0s						
QSPA	**South Pole Qui**	**87.22**	**180**	P	**P**	**10 27 18.5**	**+3.0**
	comp=Z,1.7nm,0.8s,baz=314,slow=0.3,SNR=12						
LPAZ	**La Paz**	**147.66**	**127**	PKPbc	**PKPdf**	**10 34 16.0**	**+3.1**
	comp=Z,0.3nm,0.5s,baz=304,slow=5.7,SNR=1.4						

*IDC **30** 10:20:11.6±1.2, 6°.59N×125°.22E, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/1, Error ellipse: s-maj=34.1km s-min=9.2km az=119.0*
ISC 30 10:20:13.1±1.1, **6°.78N**±0°.10×**125°.6E**±0°.4, **h10**km, **n8**, σ1§**53**/7, **mb3.7**/5, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.29**	**1**	Pg	**Pn**	**10 20 22.2**	**-1.2**
	baz=276,slow=9.0						
DAV				Lg	Lg	10 20 32.3	
	1.1nm,0.3s,baz=357,slow=19,SNR=24						
DAV	**Davao City (W)**	**0.29**	**1**	P	**Pg**	**10 20 19.0**	**+0.1**
GUMO	**Guam**	**20.15**	**69**	LR	LR	10 31 42.2	
	comp=Z,38nm,19.5s,baz=240,slow=34						
FITZ	**Fitzroy Crossi**	**24.72**	**180**	P	**P**	**10 25 34.6**	**-0.1**
	2.1nm,0.6s,baz=354,slow=9.2,SNR=1.9						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**27.92**	**162**	P	**P**	**10 26 01.5**	**-2.2**
	0.5nm,0.8s,baz=342,slow=9.9,SNR=2.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**31.34**	**165**	P	**P**	**10 26 33.7**	**-0.3**
	0.7nm,0.6s,baz=342,slow=6.8,SNR=10						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**58.57**	**327**	P	**P**	**10 30 10.0**	**0.0**
	0.3nm,0.5s,baz=122,slow=6.7,SNR=2.6						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**82.86**	**26**	P	**P**	**10 32 39.4**	**+1.8**
	0.3nm,0.7s,baz=264,slow=5.3,SNR=5.2						
	0.3nm,0.7s						

*CATAC **30** 10:26:23.1±0.6, 14°.N±3°.×9°.2W±°, h24km±3km, M3.3/11, MLv3.3/11, Error ellipse: s-maj=7.8km s-min=4.7km az=31.0, confirmed*
*MEX **30** 10:26:24.6±0.4, 14°.51N×92°.18W, h78km±5km, MD4.0*
*GCG **30** 10:26:25.0±0.8, 14°.39N×92°.19W, h42km±13km, MD3.7, ML3.2*
ISC 30 10:26:23.2±1.3, **14°.36N**±0°.05×**92°.32W**±0°.03, **h32**km±12km, **n38**, σ1§**47**/58, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.55**	**25**	*i* P	**Pn**	**10 26 35.2**	**+0.4**
SMCA				IAML		10 26 43.9	
	comp=N,2μm,0.3s						
THIG		**0.55**	**5**	*e*P	**Pn**	**10 26 35.7**	**+0.9**
THIG				*e*S	**Sn**	**10 26 44.8**	**+1.9**
THIG		**0.55**	**5**	*i* P	**Pn**	**10 26 35.5**	**+0.7**
THIG				IAML		10 26 45.4	
	comp=E,2μm,0.4s						
RTAL	**Retalhuleu**	**0.62**	**75**	*e*P	**Pb**	**10 26 36.4**	**+0.7**
RTAL				*e*S	**Sn**	**10 26 46.1**	**+1.3**
RTAL	**Retalhuleu**	**0.62**	**75**	P	**Pb**	**10 26 36.3**	**+0.7**
RTAL				S	**Sb**	**10 26 45.3**	**+1.0**
CHUJ	**Union Juarez**	**0.76**	**15**	*e*P	**Pb**	**10 26 37.8**	**-0.3**
CHUJ				*e*S	**Sn**	**10 26 48.0**	**-0.4**
PATR	**El Naranjo**	**0.76**	**6**	*e*P	**Pb**	**10 26 37.8**	**-0.3**
PATR				*e*S	**Sn**	**10 26 48.0**	**-0.4**
PAVE	**Pavencul**	**0.84**	**9**	*e*P	**Pb**	**10 26 39.0**	**-0.5**
PAVE				*e*S	**Sn**	**10 26 50.2**	**-0.3**
STG2	**El Palmar, Qui**	**0.91**	**85**	*i* P	**Pb**	**10 26 37.8**	**-2.9**
QUEO	**Labor Ovalle**	**0.93**	**57**	*i* P	**Pb**	**10 26 40.8**	**-0.1**
QUEO				*i* S	**Sn**	**10 26 53.5**	**+0.8**
QUEO				IAML		10 26 54.9	
	comp=E,2μm,0.1s						
SOKI	**Kika Raxquin**	**0.99**	**62**	*i* P	**Pb**	**10 26 41.8**	**-0.4**
SOKI				*i* S	**Sb**	**10 26 55.4**	**+0.3**
SOKI				IAML		10 26 56.3	
	comp=E,374nm,0.4s					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.93**	**175**	P	**Pn**	**10 27 56.9**	**-1.7**
WBSI				S	**Sn**	**10 28 15.1**	**-3.8**
WSI	**Waingapu**	**1.37**	**135**	P	**Pn**	**10 28 01.7**	**-0.4**
PLAI	**Plampang**	**1.52**	**265**	P	**Pn**	**10 28 02.2**	**-1.4**
BASI	**Baing, Sumba**	**1.96**	**140**	P	**Pn**	**10 28 08.5**	**+0.3**
EDFI	**Ende, Flores**	**2.35**	**91**	P	**Pn**	**10 28 12.6**	**-0.2**
TWSI	**Taliwang, Sumb**	**2.40**	**269**	P	**Pn**	**10 28 12.2**	**-1.0**
BSSI	**Bau Bau, Buton**	**2.80**	**25**	P	**Pn**	**10 28 17.0**	**-1.1**
BKSI	**Bulukumba**	**3.46**	**14**	P	**Pn**	**10 28 25.7**	**-0.5**
KAPI	**Kappang**	**3.69**	**7**	P	**Pn**	**10 28 28.2**	**-1.0**
	4.7nm,0.3s,baz=169,slow=16,SNR=1.4						
KAPI				S	**Sn**	**10 29 10.8**	**-2.9**
	4.5nm,0.3s,baz=268,slow=22,SNR=3.6						
DNP	**Denpasar**	**4.05**	**270**	P	**Pn**	**10 28 32.6**	**-1.2**
SRBI	**Singaraja**	**4.10**	**278**	P	**Pn**	**10 28 34.0**	**-0.4**
BATI	**Baumata**	**4.55**	**110**	P	**Pn**	**10 28 41.4**	**+1.1**
	40nm,0.3s,baz=270,slow=6.1,SNR=11						
BATI				S	**Sn**	**10 29 30.6**	**-2.7**
	44nm,0.3s,baz=180,slow=22,SNR=8.3						
BATI	**Baumata**	**4.55**	**110**	P	**Pn**	**10 28 41.3**	**+1.1**
SOEI	**Soe**	**5.00**	**102**	P	**Pn**	**10 28 47.6**	**+1.3**
	0.4nm30nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.11**	**272**	P	**Pn**	**10 28 46.5**	**-1.0**
	3μm32nm,0.9s						
PCJI	**Pacitan**	**8.06**	**273**	P	**Pn**	**10 29 26.9**	**+0.4**
	30nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.18**	**147**	P	**Pn**	**10 30 08.7**	**+1.2**
	7.9nm,0.7s,baz=337,slow=11,SNR=21						
FITZ				S	**Sn**	**10 32 06.9**	**-4.6**
	4.6nm,0.5s,baz=192,slow=18,SNR=7.0						
FAKI	**Fak Fak**	**14.09**	**67**	P	**Pn**	**10 30 45.4**	**+0.7**
WRA	**Warramunga Arr**	**18.34**	**129**	P	**Pn**	**10 31 36.7**	**+0.7**
	0.3nm,0.3s,baz=304,slow=12,SNR=9.6						
WRA				S	**S**	**10 34 50.3**	**-4.5**
	0.9nm,0.6s,baz=250,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**20.41**	**139**	P	**P**	**10 31 59.7**	**+3.4**
	0.7nm,0.6s,baz=310,slow=8.7,SNR=9.1						
ASAR				S	**S**	**10 35 39.6**	**+3.9**
	0.2nm,0.4s,baz=316,slow=24,SNR=2.4						
	0.7nm,0.6s						
SONM	**Songino Array**	**57.44**	**350**	P	**P**	**10 37 03.7**	**+0.3**
	0.6nm,0.7s,baz=169,slow=6.9,SNR=3.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**64.34**	**333**	P	**P**	**10 37 51.5**	**+1.8**
	2.0nm,0.6s,baz=135,slow=7.9,SNR=20						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**68.84**	**334**	P	**P**	**10 38 19.6**	**+1.4**
	0.8nm,0.7s,baz=134,slow=5.3,SNR=1.7						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**68.88**	**339**	P	**P**	**10 38 19.0**	**+0.7**
	2.5nm,0.6s,baz=143,slow=5.5,SNR=8.6						
	2.5nm,0.6s						

*NNC **30** 10:46:02.3±2.2, 44°.60N×81°.86E, h13km±20km, mb3.5, mpv3.4, Error ellipse: s-maj=16.0km s-min=13.1km az=73.0*

*SOME **30** 10:46:03.1, 44°.75N×82°.00E, h30km*

ISC 30 10:45:59.2±1.6, 44°.60N±0°.06×82°.20E±0°.09, h10km, n14, σ0°89/20, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**2.13**	**290**	Pg	**Pb**	**10 46 37.5**	**-0.4**
	4.8nm,0.1s						
KAPS				Lg	Lg	10 47 04.3	
	32nm,0.2s						
KNOS	**Konyrlen**	**2.17**	**265**	Pg	**Pb**	**10 46 38.7**	**0.0**
	10nm,0.2s						
KNOS				Lg	Lg	10 47 06.6	
	14nm,0.3s						
MK31	**Makanchi Array**	**2.20**	**2**	⇓Pn	**Pb**	**10 46 38.8**	**-0.2**
	3.5nm,0.3s,baz=184,slow=15,SNR=274						
MK31				⇑Sn	**Sb**	**10 47 06.7**	**+0.4**
	3.9nm,0.3s,baz=187,slow=24,SNR=16						
MAKZ	**Makanchi**	**2.22**	**356**	⇑Pn	**Pb**	**10 46 38.9**	**-0.5**
	3.5nm,0.3s						
MAKZ				⇑Sn	**Sb**	**10 47 07.0**	**+0.2**
	10nm,0.3s						
SHLS	**Shalkode**	**2.45**	**235**	Pg	**Pn**	**10 46 40.8**	**+1.4**
	22nm,0.2s						
SHLS				Lg	Lg	10 47 09.8	
	24nm,0.2s						
SHLS	**Shalkode**	**2.45**	**235**	*e*P	**Pb**	**10 46 41.9**	**-1.4**
	9.1nm,0.2s						
SHLS				*e*S	**Sn**	**10 47 09.8**	**+0.5**
	24nm,0.2s						
UZB	**Uzynbulak**	**2.72**	**239**	Pg	**Pb**	**10 46 48.1**	**+0.1**
	7.1nm,0.2s						
UZB				Lg	Lg	10 47 22.3	
	3.2nm,0.2s						
UZB	**Uzynbulak**	**2.72**	**239**	*e*P	**Pg**	**10 46 49.7**	**-1.5**
	1.8nm,0.1s						
UZB				*e*S	**Sb**	**10 47 23.1**	**+1.7**
	5.2nm,0.2s						
TDK	**Taldyqorghan**	**2.73**	**280**	*e*P	**Pb**	**10 46 48.6**	**+0.5**
	11nm,0.2s						
TDK				*e*S	**Sb**	**10 47 21.2**	**-0.4**
	22nm,0.2s						
KPKS	**Kokpek**	**2.78**	**247**	Pg	**Pb**	**10 46 48.2**	**-0.7**
	3.0nm,0.1s						
KPKS				Lg	Lg	10 47 22.5	
	7.9nm,0.3s						
SATY	**Saty**	**3.15**	**242**	Pg	**Pb**	**10 46 55.2**	**-0.1**
	5.2nm,0.2s						
SATY				Lg	Lg	10 47 35.6	
	8.0nm,0.2s						
ARXS	**Arharly**	**3.16**	**265**	Pg	**Pb**	**10 46 54.4**	**-1.0**
	4.0nm,0.3s						
ARXS				Lg	Lg	10 47 33.2	
	11nm,0.5s						
ARXS	**Arharly**	**3.16**	**265**	*e*P	**Pb**	**10 46 56.0**	**+0.6**
ARXS				*e*S	**Sb**	**10 47 33.8**	**-0.2**
KTBS	**Karatobe**	**4.07**	**259**	Pg	**Pb**	**10 47 10.1**	**-0.8**
	1.1nm,0.5s						
KTBS				Lg	Lg	10 48 00.2	
	6.2nm,0.5s						

*IDC **30** 11:04:31.1±0.7, 36°.74N×75°.45E, h0km, mb4.0/17, mbtmp4.0/23, ML3.5/6, MS3.4/18, Error ellipse: s-maj=17.0km s-min=13.2km az=41.0*

*NEIC **30** 11:04:32.4±1.8, 36°.76N±0°.07×75°.67E±0°.09, h10km±1km, mb4.4/14, Error ellipse: s-maj=12.1km s-min=11.1km az=117.0*

*MOS **30** 11:04:32.6±1.8, 36°.84N×75°.52E, h10km, mb4.5/15, Error ellipse: s-maj=8.9km s-min=5.1km az=95.3*

*NNC **30** 11:04:34.6±3.9, 36°.48N×75°.52E, h132km±21km, mb3.9, mpv4.7, Error ellipse: s-maj=39.4km s-min=21.8km az=36.0*

*BJI **30** 11:04:34.9, 37°.02N×75°.86E, h8km, mB4.3/3, mb4.4/16, ML4.2/7, Ms3.8/7, Ms7 3.6/7*

ISC 30 11:04:33.6±0.3, 36°.87N±0°.03×75°.57E±0°.04, h10km, n139, σ2°34/135, mb4.2/33, MS3.4/17, 12C-11D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.66**	**7**	Pn	**Pn**	**11 05 13.5**	**-3.2**
KSH				Sn	**Sn**	**11 05 43.3**	**-5.7**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
ALCI	**Alchi Leh**	**2.96**	**153**	*e*P	**Pg**	**11 05 31.5**	**+1.2**
ALCI				*e*S	**Sb**	**11 06 04.8**	**+1.8**
ALCI				IAML		11 06 13.5	
	comp=N,1μm,0.2s						
ALCI				IAML		11 06 13.8	
	comp=E,2μm,1.1s						
NIL	**Nilore**	**3.73**	**211**		**Pn**	**11 05 30.0**	**-1.3**
NIL	**Nilore**	**3.73**	**211**	PN	**Pn**	**11 05 30.0**	**-1.3**
TSSA	**Tissa**	**4.05**	**173**	⇓*e*P	**Pb**	**11 05 46.0**	**+0.9**
TSSA				⇓*e*S	**Sb**	**11 06 31.1**	**-3.1**
TSSA				IAML		11 06 46.9	
	comp=E,1μm,0.4s						
TSSA				IAML		11 06 47.5	
	comp=N,1μm,1.0s						
JMU	**Jammu**	**4.18**	**188**	*e*P	**Pb**	**11 05 46.7**	**-0.5**
JMU				*e*S	**Sn**	**11 06 32.1**	**+5.9**
JMU				IAML		11 06 55.1	
	comp=N,880nm,2.0s						
JMU				IAML		11 06 56.6	
	comp=E,718nm,1.6s						
THN	**Thein Dam**	**4.43**	**178**	*e*P	**Pb**	**11 05 52.0**	**+0.6**
THN				*e*S	**Sb**	**11 06 40.7**	**-4.2**
THN				IAML		11 07 09.7	
	comp=E,722nm,1.8s						
THN				IAML		11 07 11.9	
	comp=N,640nm,1.3s						
DHRM	**DHARAMSHALA**	**4.65**	**172**	*e*P	**Pb**	**11 05 56.3**	**+0.9**
DHRM				*e*S	**Sn**	**11 06 43.4**	**+5.2**
DHRM				IAML		11 06 47.1	
	comp=E,824nm,0.8s						
DHRM				IAML		11 06 50.4	
	comp=N,966nm,0.7s						
GAR	**Garm**	**4.67**	**299**		**Pn**	**11 05 46.1**	**+1.9**
ARSB	**Arslanbob**	**4.88**	**336**		**Pn**	**11 05 48.5**	**+1.3**
ARSB	**Arslanbob**	**4.88**	**336**	PN	**Pn**	**11 05 48.5**	**+1.3**
HNLY	**HANLEY**	**4.95**	**145**	*e*P	**Pb**	**11 05 58.4**	**-2.2**
HNLY				⇓*e*S	**Sn**	**11 06 50.6**	**+4.6**
HNLY				IAML		11 07 31.9	
	comp=N,733nm,1.6s						
HNLY				IAML		11 07 33.0	
	comp=E,625nm,2.0s						
TARG	**Taragay, Kyrgy**	**5.15**	**19**		**Pn**	**11 05 50.7**	**-0.4**
TARG	**Taragay, Kyrgy**	**5.15**	**19**	PN	**Pn**	**11 05 50.7**	**-0.4**
CHGR	**Chuyangaron**	**5.39**	**291**		**Pn**	**11 05 54.0**	**-0.1**
CHGR	**Chuyangaron**	**5.39**	**291**	PN	**Pn**	**11 05 54.0**	**-0.1**
ULHL	**Ulahol**	**5.39**	**5**	P	**Pn**	**11 05 58.3**	**+4.0**
	SNR=13						
KDJ	**Kajisay**	**5.40**	**13**		**Pn**	**11 05 54.9**	**+0.6**
KDJ	**Kajisay**	**5.40**	**13**	PN	**Pn**	**11 05 54.9**	**+0.6**
UCH	**Uchtor**	**5.41**	**352**	P	Pn	11 05 59.5	+4.7
	SNR=12						
KBL	**Kabul**	**5.80**	**248**		**Pn**	**11 05 59.2**	**-0.6**
KBL	**Kabul**	**5.80**	**248**	PN	**Pn**	**11 05 59.2**	**-0.6**
KBK	**Karagaybulak**	**5.80**	**355**	P	Pb	11 06 07.6	-7.3
	SNR=32						
AAK	**Ala-Archa**	**5.82**	**352**		**Pn**	**11 06 01.4**	**+1.3**
AAK	**Ala-Archa**	**5.82**	**352**	Pn	Pn	11 06 06.7	+6.6
	comp=E,3.7nm,0.3s,baz=179,slow=3.8,SNR=50						
AAK				Sn	**Sn**	**11 07 14.8**	**+7.9**
	comp=E,5.8nm,0.3s,baz=360,slow=13,SNR=4.1						
AAK				Lg	Lg	11 07 34.0	
	comp=E,0.5nm,0.3s,baz=307,slow=19,SNR=1.4						
AAK				LR	LR	11 08 36.3	
	comp=E,237nm,19.4s,baz=174,slow=41						
	comp=E,49nm,0.6s						
AAK	**Ala-Archa**	**5.82**	**352**	P	Pn	11 06 05.2	+5.1
	SNR=63						
AAK	**Ala-Archa**	**5.82**	**352**	⇑P	Pn	11 06 05.6	+5.5
	comp=E,124nm,1.0s						
AAK				⇑S	**Sn**	**11 07 15.0**	**+8.0**
	comp=E,64nm,0.8s						
SMLA	**Simla**	**5.88**	**167**	*e*P	Pb	11 06 10.5	-5.6
SMLA				*e*S	**Sn**	**11 07 13.1**	**+5.0**
SMLA				IAML		11 07 17.5	
	comp=N,287nm,0.5s						
SMLA				IAML		11 07 19.5	
	comp=E,498nm,0.5s						
EKS2	**Erkin-Say**	**5.95**	**347**	P	Pn	11 06 07.6	+5.8
	SNR=17						
PRZ	**Przheval'sk**	**6.02**	**20**		**Pn**	**11 06 02.5**	**-0.3**
PRZ	**Przheval'sk**	**6.02**	**20**	PN	**Pn**	**11 06 02.5**	**-0.3**
TKM2	**Tokmak 2**	**6.04**	**0**	P	Pn	11 06 07.8	+4.6
	SNR=38						
CHMS	**Chumysh**	**6.15**	**354**	P	Pn	11 06 09.7	+5.1
	SNR=19						
USP	**Ospenovka**	**6.44**	**353**	P	Pn	11 06 13.2	+4.6
	SNR=27						
DDI	**Dehra Dun**	**6.85**	**162**	*e*P	Pn	11 06 23.8	+10
DDI				*e*S	**Sn**	**11 07 36.0**	**+3.7**
DDI				IAML		11 07 59.6	
	comp=E,255nm,0.0s						
JOSI	**Joshimath**	**7.12**	**151**	*e*P	Pn	11 06 28.3	+10
JOSI				IAML		11 07 41.3	
	comp=N,358nm,0.3s						
JOSI				IAML		11 07 41.7	
	comp=E,252nm,0.3s						
JOSI				*e*S	**Sn**	**11 07 43.1**	**+4.1**
KK31	**Karatay Array**	**7.34**	**330**		**Pn**	**11 06 21.7**	**+0.9**
KK31	**Karatay Array**	**7.34**	**330**	⇑P	**Pn**	**11 06 23.7**	**+2.9**
	comp=E,17nm,0.8s,baz=142,slow=12,SNR=79						
KK31				⇓S	**Sn**	**11 07 47.3**	**+3.2**
	comp=E,115nm,1.4s,baz=152,slow=22,SNR=9.1						
KK31	**Karatay Array**	**7.34**	**330**	P	**Pn**	**11 06 21.7**	**+0.9**
KKAR	**Karatay Array**	**7.34**	**330**		**Pn**	**11 06 20.9**	**+0.1**
KKAR	**Karatay Array**	**7.34**	**330**	P	**Pn**	**11 06 20.9**	**+0.1**
KUDL	**Kundal**	**8.73**	**175**	*e*P	Pn	11 06 49.5	+10
KUDL				IAML		11 08 19.1	
	comp=E,130nm,0.5s						
KUDL				*e*S	**Sn**	**11 08 19.9**	**+1.4**
KUDL				IAML		11 08 23.2	
	comp=N,124nm,0.4s						
MAKZ	**Makanchi**	**11.02**	**24**		**Pn**	**11 07 11.4**	**+0.2**
MAKZ	**Makanchi**	**11.02**	**24**	⇓P	**Pn**	**11 07 11.9**	**+0.7**
	comp=N,18nm,1.1s						
MAKZ	**Makanchi**	**11.02**	**24**	P	**Pn**	**11 07 11.4**	**+0.2**
MK31	**Makanchi Array**	**11.11**	**25**	Pn	**Pn**	**11 07 12.5**	**+0.1**
MK31	**Makanchi Array**	**11.11**	**25**	⇑P	**Pn**	**11 07 12.4**	**0.0**
	comp=N,5.3nm,0.7s,baz=200,slow=12,SNR=22						
MK31	**Makanchi Array**	**11.11**	**25**	P	**Pn**	**11 07 12.5**	**+0.1**
MKAR	**Makanchi Array**	**11.11**	**25**		**Pn**	**11 07 12.8**	**+0.4**
MKAR	**Makanchi Array**	**11.11**	**25**	Pn	**Pn**	**11 07 13.3**	**+0.9**
	comp=N,0.6nm,0.3s,baz=203,slow=12,SNR=23						
MKAR				Sn	**Sn**	**11 09 15.1**	**-1.5**
	baz=208,slow=24,SNR=2.4						
MKAR				Lg	Lg	11 10 23.9	
	comp=N,0.2nm,0.3s,baz=212,slow=24,SNR=1.4						
MKAR				LR	LR	11 11 58.8	
	comp=N,232nm,21.0s,baz=208,slow=40						
	comp=N,4.5nm,0.7s						
HRA	**Herat**	**11.13**	**261**	Pn	**Pn**	**11 07 11.9**	**-1.1**
WMQ	**Urumqi**	**11.56**	**49**	*e*P	**Pn**	**11 07 17.0**	**-1.7**
WMQ				pmax	pmax		
	comp=N,27nm,0.7s						
WMQ				LR	LR		
	comp=N,300nm,23.9s						
EVN	**Everest**	**13.00**	**130**		**Pn**	**11 07 35.5**	**-3.4**
KURBB	**Kurchatov Arra**	**13.91**	**8**	Pn	**Pn**	**11 07 50.6**	**-0.1**
	baz=191,slow=12,SNR=14						
KURBB				Sn	**Sn**	**11 10 23.0**	**-2.1**
	baz=187,slow=39,SNR=2.0						
KURBB				Lg	Lg	11 11 45.1	
	baz=194,slow=30,SNR=1.9						
KURBB				LR	LR	11 13 54.7	
	comp=N,39nm,19.0s,baz=154,slow=40						
	comp=N,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**13.91**	**8**	⇓P	**Pn**	**11 07 50.7**	**0.0**
	comp=N,12nm,0.9s						
KURK	**Kurchatov**	**14.01**	**8**		**Pn**	**11 07 51.4**	**-0.6**
KURK	**Kurchatov**	**14.01**	**8**	⇓P	**Pn**	**11 07 53.3**	**+1.2**
	comp=N,4.3nm,0.7s						
KURK	**Kurchatov**	**14.01**	**8**	P	**Pn**	**11 07 50.6**	**-1.5**
KURK						11 10 23.0	
LSA	**Lhasa**	**14.85**	**114**	Pn	Pn	11 07 58.9	-5.1
LSA	**Lhasa**	**14.85**	**114**	P	Pn	11 07 58.9	-5.2
BVA0	**Borovoye Array**	**16.56**	**349**	⇑P	**Pn**	**11 08 23.0**	**-2.7**
	comp=N,22nm,1.1s,baz=161,slow=8.9,SNR=96						
BVAR	**Borovoye Array**	**16.56**	**349**	Pn	**Pn**	**11 08 24.0**	**-1.7**
	baz=162,slow=11,SNR=7.0						
BVAR				Sn	**Sn**	**11 11 25.4**	**-4.0**
	baz=167,slow=26,SNR=1.6						
BVAR				Lg	Lg	11 13 13.9	
	baz=156,slow=28,SNR=2.1						
BVAR				LR	LR	11 15 24.1	
	comp=N,102nm,20.6s,baz=162,slow=39						
	comp=N,0.6nm,0.5s						
BORK	**Borovoye**	**16.59**	**349**	*c* *i*P	**P**	**11 08 29.8**	**+1.2**
BORK				pmax	pmax		
	comp=Z,39nm,2.5s						
AB31	**Akbulak array**	**16.80**	**322**		**Pn**	**11 08 27.4**	**-1.4**
AB31	**Akbulak array**	**16.80**	**322**	⇑P	**Pn**	**11 08 28.1**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=136,slow=13,SNR=26						
AB31				⇑S	**Sn**	**11 11 33.0**	**-2.4**
	comp=Z,1.0nm,0.6s,baz=126,slow=25,SNR=2.6						
ABKAR	**Akbulak array**	**16.80**	**322**		**Pn**	**11 08 27.4**	**-1.4**
ZAA0	**Zalesovo Beam**	**18.24**	**18**	P	**Pn**	**11 08 43.8**	**-2.9**
ZALV	**Zalesovo Beam**	**18.24**	**18**	P	**Pn**	**11 08 44.1**	**-2.6**
ZALV	**Zalesovo Beam**	**18.24**	**18**	P	**P**	**11 08 47.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=212,slow=11,SNR=14						
	comp=Z,5.6nm,0.5s						
ZALV	**Zalesovo Beam**	**18.24**	**18**	*e*P	**P**	**11 08 47.8**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**18.52**	**323**	P	**Pn**	**11 08 49.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=144,slow=8.3,SNR=7.6						
	comp=Z,1.5nm,0.4s						
AKTO	**Aktyubinsk**	**18.52**	**323**	⇓P	P	11 08 41.6	-8.3
	comp=Z,5.4nm,1.0s						
AKTO				⇓S	**Sn**	**11 12 11.6**	**-5.3**
	comp=Z,2.5nm,1.1s						
GTA	**Gaotai**	**19.23**	**75**	*e*P	**Pn**	**11 08 59.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAK	**Makhachkala**	**22.31**	**295**	*c* *i*P	**P**	**11 09 27.4**	**-3.7**
MAK				*e*		11 09 51.9	
MAK				*e*S	**S**	**11 13 32.2**	**-4.2**
MAK				pmax	pmax		
	comp=Z,26nm,0.3s						
MAK				MLR	MLR		
	comp=Z,72nm,17.0s						
LZDM	**Lanzhou Array**	**22.62**	**84**	P	**P**	**11 09 34.6**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=294,slow=8.8,SNR=2.0						
	comp=Z,1.4nm,0.3s						
ARTI	**Arti**	**22.69**	**335**	P	**P**	**11 09 34.4**	**-0.7**
ARTI				IAmb	IAmb	11 09 48.6	
	comp=Z,23nm,1.2s						
ARTI	**Arti**	**22.69**	**335**	*c* *i*P	**P**	**11 09 36.2**	**+1.1**
ARTI						11 09 57.4	
ARTI				S	**S**	**11 13 45.5**	**+2.2**
ARTI				SS	**SnSn**	**11 14 14.9**	**+1.9**
ARTI				pmax	pmax		
	comp=Z,14nm,1.2s						
GNI	**Garni**	**24.29**	**287**	P	**P**	**11 09 51.2**	**0.0**
GNI				IAmb	IAmb	11 09 57.7	
	comp=Z,25nm,1.1s						
GNI	**Garni**	**24.29**	**287**	*c* *e*P	**P**	**11 09 52.3**	**+1.1**
GNI				pmax	pmax		
	comp=Z,26nm,1.2s						
BELG	**Belogornoye**	**25.01**	**317**	⇓*e*P	**P**	**11 09 59.8**	**+2.4**
BELG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**25.12**	**54**	P	**P**	**11 09 56.6**	**-2.0**
SONM				IAmb	IAmb	11 10 04.1	
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**25.12**	**54**	P	**P**	**11 09 59.0**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=253,slow=8.8,SNR=16						
SONM				LR	LR	11 21 16.1	
	comp=Z,168nm,19.9s,baz=258,slow=40						
	comp=Z,4.3nm,0.9s						
SONM	**Songino Array**	**25.12**	**54**	*e*P	**P**	**11 10 01.6**	**+3.0**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ULN	**Ulaanbaatar**	**25.55**	**55**	P	**P**	**11 10 01.5**	**-1.1**
ULN				IAmb	IAmb	11 10 08.8	
	comp=Z,14nm,1.5s						
ULN	**Ulaanbaatar**	**25.55**	**55**	*i*P	**P**	**11 10 06.0**	**+3.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KBZ	**Khabaz**	**25.73**	**296**	P	**P**	**11 10 03.1**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=173,slow=4.1,SNR=2.4						
	comp=Z,1.4nm,0.7s						
KIV	**Kislovodsk**	**25.90**	**296**	*e*P	**P**	**11 10 06.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BTO	**Baotou**	**27.02**	**71**	*e*P	**P**	**11 10 14.8**	**-1.1**
BTO				S	**S**	**11 14 53.0**	**-0.6**
BTO				pmax	pmax		
	comp=Z,17nm,0.5s						
BTO				pmax	pmax		
	comp=Z,240nm,3.8s						
BTO				LR	LR		
	comp=Z,330nm,5.8s						
BTO				LR	LR		
	comp=Z,220nm,5.0s						
BTO				LR	LR		
	comp=Z,340nm,15.8s						
CMAR	**Chiang Mai Arr**	**27.53**	**125**	P	**P**	**11 10 18.7**	**-1.8**
CMAR	**Chiang Mai Arr**	**27.53**	**125**	P	**P**	**11 10 20.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=308,slow=10,SNR=7.2						
	comp=Z,0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**27.53**	**125**	*i*P	**P**	**11 10 22.7**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SOC	**Sochi**	**28.03**	**295**	*e*P	**P**	**11 10 24.8**	**0.0**
SOC				*e*PPP	PPP	11 11 20.4	
SOC				*e*S	**S**	**11 15 09.6**	**+0.5**
SOC				*e*SS	**SnSn**	**11 16 24.9**	**+1.4**
ENH	**Enshi**	**28.91**	**93**	P	**P**	**11 10 31.1**	**-1.7**
RAYN	**Ar Rayn**	**29.06**	**251**	P	**P**	**11 10 32.4**	**-1.8**
RAYN	**Ar Rayn**	**29.06**	**251**	P	**P**	**11 10 32.4**	**-1.8**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PALK	**Pallekele**	**29.83**	**170**	LR	LR	11 22 24.6	
	comp=Z,89nm,18.9s,baz=347,slow=36						
OBN	**Obninsk**	**32.11**	**317**	⇓*e*P	**P**	**11 11 03.1**	**+2.4**
OBN				*e*		11 12 09.3	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,42nm,15.0s						
BRTR	**Keskin Array B**	**32.82**	**288**	P	**P**	**11 11 06.4**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=86,slow=8.8,SNR=4.4						
BRTR				LR	LR	11 27 13.8	
	comp=Z,26nm,20.6s,baz=83,slow=42						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**32.82**	**288**	*e*P	**P**	**11 11 08.4**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**35.60**	**308**	P	**P**	**11 11 30.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=81,slow=7.5,SNR=6.0						
	comp=Z,0.2nm,0.3s						
AKASG	**Malin Array Be**	**35.60**	**308**	*i*P	**P**	**11 11 34.7**	**+3.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**35.60**	**308**	⇑*i*P	**P**	**11 11 32.0**	**+0.9**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NACGM	**Naroch**	**37.55**	**315**	*e*P	**P**	**11 11 50.1**	**+2.4**
	comp=Z,10.0nm,0.8s,baz=98						
FINES	**FINESS Array B**	**39.27**	**325**	P

comp=Z,61nm,18.1s,baz=42,slow=40
JHJ Hachijo jima 2 51.85 74 LR LR 11 37 04.4
comp=Z,24nm,19.4s,baz=42,slow=38
EKA Eskdalemuir Ar 54.56 317 P **P 11 13 60.0 -1.7**
comp=Z,1.3nm,0.6s,baz=83,slow=6.5,SNR=3.3
comp=Z,1.3nm,0.6s
EKA Eskdalemuir Ar 54.56 317 P **P 11 14 00.0 -1.7**
BILL Bilibino 56.64 27 *i* P **P 11 14 20.3 +3.9**
BILL pmax pmax
comp=Z,2.0nm,1.0s
PETK Petropavlovsk- 57.12 45 LR LR 11 38 50.4
comp=Z,47nm,20.0s,baz=307,slow=36
KAPI Kappang 58.60 126 LR LR 11 46 09.9
comp=Z,45nm,18.1s,baz=92,slow=43
ESDC Sonseca Array 60.51 299 IAmb IAmb 11 14 44.9
comp=Z,3.0nm,1.4s
ESDC Sonseca Array 60.51 299 P **P 11 14 41.9 -2.0**
comp=Z,0.7nm,0.7s,baz=71,slow=7.3,SNR=5.2
comp=Z,0.7nm,0.7s
ABPO Ambohimpanom 61.69 211 P P 11 14 45.6 -6.5
ABPO Ambohimpanom 61.69 211 P P 11 14 45.6 -6.5
ABPO pmax pmax
comp=Z,14nm,1.4s
SUMG Summit 61.88 342 P P 11 14 47.8 -5.3
SUMG Summit 61.88 342 P P 11 14 47.8 -5.3
SUMG pmax pmax
comp=Z,18nm,0.8s
TORD Torodi Ar. Bea 69.39 271 P **P 11 15 39.6 -2.3**
comp=Z,1.3nm,0.8s,baz=51,slow=6.6,SNR=7.0
comp=Z,1.3nm,0.8s
ILAR Eielson Array 73.37 18 P **P 11 16 05.8 +0.6**
comp=Z,1.0nm,0.9s,baz=327,slow=4.7,SNR=10
ILAR LR LR 11 55 32.2
comp=Z,45nm,18.5s,baz=86,slow=42
comp=Z,1.0nm,0.9s
ILAR Eielson Array 73.37 18 *e*P **P 11 16 08.6 +3.4**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
KDAK Kodiak Island 77.42 24 LR LR 11 55 26.6
comp=Z,68nm,19.4s,baz=179,slow=39
WRA Warramunga Arr 79.13 125 P **P 11 16 38.6 0.0**
comp=Z,0.9nm,0.9s,baz=312,slow=5.3,SNR=5.8
comp=Z,0.9nm,0.9s
ASAR Alice Springs 81.51 128 P **P 11 16 50.3 -1.1**
comp=Z,0.4nm,0.7s,baz=336,slow=5.8,SNR=5.2
comp=Z,0.4nm,0.7s

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*IDC **30** 11:13:38.0±1.0, 52°.47N×168°.35W, h0km, mb4.0/19, mbtmp4.0/20, ML3.5/1, Error ellipse: s-maj=27.1km s-min=16.1km az=170.0*
*AEIC **30** 11:13:40.7±2.2, 52°.28N±0°.02×168°.23W±0°.07, h17km±4km, Error ellipse: s-maj=5.9km s-min=3.5km az=95.0*
*NEIC **30** 11:13:42.5±2.2, 52°.40N±0°.05×168°.23W±0°.08, h28km±5km, mb4.0/36, ML3.4(AEIC), Error ellipse: s-maj=8.3km s-min=5.5km az=130.0*
ISC 30 11:13:40.9±1.8, 52°.28N±0°.07×168°.22W±0°.04, h23km±12km, n127, σ1§69/147, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.80**	**331**		**Pn**	**11 13 55.9**	**-0.8**
OKSP	**Okmok Steeple**	**0.97**	**357**		**Pn**	**11 13 58.9**	**-0.3**
OKSP					**Sn**	**11 14 11.9**	**-0.4**
OKSP					**Sb**	**11 14 13.0**	**+1.4**
CLCO	**Concord Point,**	**1.05**	**299**		**Pn**	**11 13 59.7**	**-0.5**
CLCO					**Sb**	**11 14 14.8**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.11**	**5**		**Pn**	**11 14 01.2**	**+0.1**
OKTU					**Sb**	**11 14 17.4**	**+2.0**
OKFG	**Magazine Ridge**	**1.15**	**9**		**Pn**	**11 14 01.6**	**0.0**
OKCE	**Okmok Cone E**	**1.15**	**2**		**Pn**	**11 14 01.7**	**+0.1**
CLES	**Cleveland East**	**1.16**	**299**		**Pn**	**11 14 01.4**	**-0.3**
OKNC	**Okmok New Cone**	**1.18**	**3**		**Pn**	**11 14 02.2**	**+0.2**
OKNC					**Pb**	**11 14 02.5**	**-0.1**
OKNC					**Sb**	**11 14 19.4**	**+1.9**
OKNC					**Sn**	**11 14 20.3**	**+2.9**
MREP	**Makushin Rep't**	**1.77**	**29**		**Pn**	**11 14 10.4**	**+0.2**
MSW	**Makushin Switc**	**1.85**	**27**		**Pn**	**11 14 11.8**	**+0.5**
MSW					**Sb**	**11 14 35.4**	**-1.4**
MSW					**Sn**	**11 14 35.8**	**+1.9**
MNAT	**Makushin Natee**	**1.85**	**29**		**Pn**	**11 14 11.6**	**+0.3**
UNV	**Unalaska Valle**	**1.88**	**33**		**Pn**	**11 14 11.7**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.26**	**34**		**Pn**	**11 14 17.4**	**+0.6**
AKRB					**Pn**	**11 14 17.6**	**+0.7**
AKRB					**Sb**	**11 14 46.7**	**-1.7**
ZRO	**Akutan Zero**	**2.26**	**36**		**Pn**	**11 14 17.6**	**+0.7**
ZRO					**Pn**	**11 14 17.9**	**+1.0**
ZRO					**Sb**	**11 14 46.4**	**-2.0**
LVA	**Lava Point**	**2.30**	**34**		**Pn**	**11 14 18.8**	**+1.5**
AHB	**Akutan Harbor**	**2.34**	**37**		**Pn**	**11 14 18.3**	**+0.4**
AHB					**Pn**	**11 14 18.5**	**+0.6**
AHB					**Sb**	**11 14 48.9**	**-1.8**
AKUT	**Akutan**	**2.37**	**37**		**Pn**	**11 14 18.8**	**+0.5**
AKSA	**Akutan Strait**	**2.40**	**38**		**Pn**	**11 14 18.8**	**+0.1**
WEBT	**Westdahl Beart**	**3.11**	**40**		**Pn**	**11 14 29.5**	**+1.0**
WEBT					**Sn**	**11 15 08.2**	**+3.3**
SSBA	**Shishaldin**	**3.49**	**43**		**Pn**	**11 14 34.8**	**+1.0**
SSBA					**Pn**	**11 14 35.3**	**+1.5**
SSBA					**Sn**	**11 15 17.6**	**+3.2**
SSLN	**Shishaldin Nor**	**3.57**	**43**		**Pn**	**11 14 36.4**	**+1.4**
SSLN					**Sn**	**11 15 19.9**	**+3.5**
KOSE	**Korovin Southe**	**3.58**	**273**		**Pn**	**11 14 36.3**	**+1.3**
KOSE					**Sn**	**11 15 20.0**	**+3.4**
KOKL	**Mount Kliuchef**	**3.67**	**273**		**Pn**	**11 14 37.7**	**+1.4**
KOKL					**Sn**	**11 15 22.0**	**+3.1**
ATKA	**Atka Island**	**3.68**	**271**	Pn	**Pn**	**11 14 37.0**	**+0.7**
KOWE	**Korovin West**	**3.70**	**274**		**Pn**	**11 14 37.6**	**+0.9**
KOWE					**Pn**	**11 14 37.7**	**+1.0**
FALS	**False Pass**	**3.85**	**46**	Pn	**Pn**	**11 14 43.0**	**+4.3**
DT1	**Dutton Round H**	**4.52**	**49**		**Pn**	**11 14 49.3**	**+1.4**
DT1					**Pn**	**11 14 50.0**	**+2.0**
DOL	**Dolgoi Island**	**4.74**	**50**		**Pn**	**11 14 51.7**	**+0.8**
GSIG	**Igitkin Island**	**4.76**	**269**		**Pn**	**11 14 50.8**	**-0.4**
GSIG					**Pn**	**11 14 51.8**	**+0.6**
GSTD	**Great Sitkin T**	**4.89**	**270**		**Pn**	**11 14 53.4**	**+0.4**
GSTD					**Pn**	**11 14 53.7**	**+0.7**
GSTD					**Sn**	**11 15 52.2**	**+3.4**
GSCK	**Great Sitkin C**	**4.90**	**270**		**Pn**	**11 14 53.5**	**+0.4**
GSCK					**Pn**	**11 14 53.8**	**+0.6**
S12K	**Black Hills**	**4.99**	**44**	Pn	**Pn**	**11 14 56.3**	**+1.9**
SPIA	**Saint Paul Isl**	**5.05**	**347**		**Pn**	**11 14 56.8**	**+1.7**
SPIA					**Pn**	**11 14 57.0**	**+2.0**
ETKA	**Kagalaska Isla**	**5.07**	**268**		**Pn**	**11 14 55.9**	**+0.5**
ADAG	**Mount Adagdak**	**5.17**	**270**		**Pn**	**11 14 58.3**	**+1.4**
ADK	**Adak**	**5.24**	**269**	Pn	**Pn**	**11 14 58.7**	**+1.0**
SDPT	**Sand Point**	**5.52**	**53**	Pn	**Pn**	**11 15 02.7**	**+1.1**
KIWB	**Kanaga Island**	**5.53**	**269**	Pn	**Pn**	**11 15 03.2**	**+1.4**
KIKV	**Kanaga Island**	**5.54**	**269**		**Pn**	**11 15 03.3**	**+1.4**
CNBA	**Chernabura Isl**	**5.74**	**60**	Pn	**Pn**	**11 15 04.5**	**0.0**
VNKR	**Veniaminof 5**	**6.41**	**51**		**Pn**	**11 15 16.4**	**+2.5**
GAKI	**Gareloi-Kavalg**	**6.60**	**268**		**Pn**	**11 15 17.5**	**+1.1**
AMKA	**Amchitka**	**7.79**	**268**	Pn	**Pn**	**11 15 33.5**	**+0.7**
CHIR	**Chirikof Islan**	**8.21**	**59**	Pn	**Pn**	**11 15 38.5**	**0.0**
N14K	**Kuskokwak Cree**	**8.48**	**23**		Pn	11 15 36.2	-6.0
PLK4	**Peulik 4**	**8.67**	**47**	Pn	**Pn**	**11 15 48.2**	**+3.3**
CNTC	**Contact Creek**	**9.24**	**45**		**Pn**	**11 15 55.6**	**+2.9**
ANCK	**Angle Creek**	**9.37**	**46**		**Pn**	**11 15 56.7**	**+2.2**
ACHA	**Angle Creek He**	**9.45**	**46**	Pn	**Pn**	**11 15 58.4**	**+2.9**
KABU	**Katmai Buttres**	**9.50**	**46**		**Pn**	**11 15 58.5**	**+2.2**
L14K	**Kuka Creek**	**9.57**	**16**	Pn	**Pn**	**11 15 52.5**	**-4.6**
KAHC	**Katmai Hardscr**	**9.84**	**44**		**Pn**	**11 16 03.1**	**+2.2**
KDAK	**Kodiak Island**	**10.52**	**52**	Pn	**Pn**	**11 16 08.5**	**-1.6**
KDAK	**Kodiak Island**	**10.52**	**52**	Pn	**Pn**	**11 16 08.6**	**-1.5**
1.0nm,0.3s,baz=97,slow=1.6,SNR=27
KDAK Sn **Sn 11 18 01.9 -5.1**
0.1nm,0.3s,baz=152,slow=17,SNR=1.8
SHEM Shemya Is, Ala 10.79 279 Pn Pn 11 16 08.4 -5.4
2.3nm,0.3s,baz=90,slow=23,SNR=2.4
SYI Shuyak Island 10.98 49 Pn **Pn 11 16 16.4 0.0**
SCM Sheep Creek Mo 14.78 42 **Pn 11 17 06.3 -2.1**
RND Reindeer 15.10 35 Pn **Pn 11 17 10.1 -2.6**
KLU Klutina 15.20 44 **Pn 11 17 12.6 -1.4**
I21K Tanana 15.36 26 P **P 11 17 21.0 +0.6**
I21K IAmb IAmb 11 17 21.9
comp=Z,10nm,0.9s
M24K Tolsona, Glenn 15.39 42 **Pn 11 17 15.7 -0.7**
I23K Minto, Yukon-K 16.09 30 P **Pn 11 17 26.7 +1.3**
CRQM Cirque 16.14 48 Pn **Pn 11 17 25.0 -1.2**
CRQM IAmb IAmb 11 17 33.1
comp=Z,12nm,0.9s
WAX Waxell Ridge 16.17 50 Pn **Pn 11 17 24.4 -2.0**
TGL Tana Glacier 16.28 49 Pn **Pn 11 17 27.5 -0.5**
TGL IAmb IAmb 11 17 34.6
comp=Z,20nm,1.0s
MESA MESA 16.51 51 Pn **Pn 11 17 27.4 -3.6**
IL31 16.63 33 **Pn 11 17 29.5 -2.8**
ILAR Eielson Array 16.63 33 Pn **Pn 11 17 29.8 -2.5**
comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=10
comp=Z,1.0nm,0.8s
RIDG Independent Ri 16.76 38 Pn **Pn 11 17 31.9 -2.0**
M26K Nabesna, AK 16.85 43 **Pn 11 17 33.7 -1.3**
M26K IAmb IAmb 11 17 39.1
comp=Z,9.2nm,1.2s
H24K Noodor Dome 17.02 29 Pn **Pn 11 17 33.9 -3.3**
G23K Bananza Creek 17.05 25 P **P 11 17 40.7 +1.5**
J25K Salcha River, 17.06 35 **Pn 11 17 35.1 -2.6**
J25K IAmb IAmb 11 17 37.8
comp=Z,6.0nm,0.8s
SCRK Sand Creek 17.21 38 **Pn 11 17 37.2 -2.4**
P29M Windy Craggy 18.45 55 P **P 11 17 54.0 -0.6**
P29M IAmb IAmb 11 18 02.8
comp=Z,9.1nm,0.9s
HYT Haines Junctio 18.80 51 **Pn 11 18 02.7 +3.5**
HYT IAmb IAmb 11 18 05.8
comp=Z,8.2nm,0.7s
M29M Somme Creek 18.82 46 **Pn 11 18 00.3 +1.0**
M29M IAmb IAmb 11 18 03.5
comp=Z,4.8nm,0.6s
S31K Pelican 19.03 60 P **P 11 18 00.1 -0.9**
S31K IAmb IAmb 11 18 20.4
comp=Z,14nm,1.1s
DAWY Dawson 19.03 41 P **P 11 17 59.7 -1.4**
DAWY IAmb IAmb 11 18 03.7
comp=Z,5.9nm,0.9s
N30M Aishikik Lake 19.15 49 **Pn 11 18 04.3 +1.0**
N30M IAmb IAmb 11 18 07.3
comp=Z,13nm,0.8s
L29M L29M 19.19 44 **Pn 11 18 04.6 +0.8**
L29M IAmb IAmb 11 18 16.5
comp=Z,6.3nm,0.9s
H27K Steamboat Moun 19.30 33 P **P 11 18 03.6 -0.3**
I28M Miner Creek 19.45 36 **Pn 11 18 06.4 -0.6**
N31M Braeburn, Yuko 19.77 50 **Pn 11 18 12.4 +1.7**
WHY Whitehorse 20.03 52 Pn 11 18 16.8 +2.9
WHY IAmb IAmb 11 18 17.6
comp=Z,14nm,0.9s
H29M Whitestone 20.39 35 P **P 11 18 14.4 -1.4**
H29M IAmb IAmb 11 18 19.0
comp=Z,7.6nm,1.0s
PEA0B Petropavlovsk- 20.57 286 P **P 11 18 14.3 -3.5**
PETK Petropavlovsk- 20.57 286 P **P 11 18 15.2 -2.6**
PETK Petropavlovsk- 20.57 286 P **P 11 18 16.8 -1.0**
comp=Z,5.4nm,0.5s,baz=82,slow=14,SNR=55
comp=Z,5.4nm,0.5s
G29M Pine Creek 20.85 34 P **P 11 18 20.1 -0.7**
EPYK Eagle Plains 21.05 36 P **P 11 18 21.7 -1.3**
EPYK IAmb IAmb 11 18 23.3
comp=Z,11nm,0.8s
H11N2 WAKE ISLAND Hy 37.83 220 T T 12 01 55.2
baz=24,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 37.84 220 T T 12 01 52.9
baz=24,slow=75,SNR=17
H11N1 WAKE ISLAND Hy 37.85 220 T T 12 01 54.1
baz=24,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 39.02 220 T T 12 03 03.2
baz=23,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 39.03 220 T T 12 03 04.0
baz=23,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 39.03 220 T T 12 03 13.0
baz=23,slow=76,SNR=14
PDAR Pinedale Array 39.72 80 P **P 11 21 12.3 +0.7**
PDAR Pinedale Array 39.72 80 P **P 11 21 12.4 +0.8**
comp=Z,0.8nm,0.7s,baz=311,slow=5.6,SNR=8.6
comp=Z,0.8nm,0.7s
MJAR Matsushiro Arr 40.40 269 P **P 11 21 17.4 +0.3**
MJAR IAmb IAmb 11 21 18.0
comp=Z,2.1nm,1.1s
MJAR Matsushiro Arr 40.40 269 P **P 11 21 16.7 -0.3**
comp=Z,1.2nm,0.6s,baz=27,slow=8.2,SNR=1.8
comp=Z,1.2nm,0.6s
KSRS Korea Array 46.12 278 P **P 11 22 03.8 +0.6**
comp=Z,2.1nm,0.7s,baz=49,slow=7.0,SNR=6.5
comp=Z,2.1nm,0.7s
SONM Songino Array 51.95 301 P **P 11 22 48.8 +0.9**
SONM IAmb IAmb 11 22 49.7
comp=Z,1.5nm,1.1s
SONM Songino Array 51.95 301 P **P 11 22 47.3 -0.6**
comp=Z,0.4nm,0.4s,baz=69,slow=7.9,SNR=2.9
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 52.04 90 P **P 11 22 49.1 +0.3**
TXAR Lajitas Array 52.04 90 P **P 11 22 50.2 +1.4**
comp=Z,0.6nm,0.7s,baz=301,slow=5.3,SNR=7.5
comp=Z,0.6nm,0.7s
P40A Paris 52.14 72 P **P 11 22 49.2 0.0**
ZALV Zalesovo Beam 57.96 318 P **P 11 23 30.5 -0.6**
ZALV Zalesovo Beam 57.96 318 P **P 11 23 30.2 -0.9**
comp=Z,0.3nm,0.3s,baz=39,slow=5.5,SNR=2.2
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 58.08 354 P **P 11 23 31.0 -0.7**
comp=Z,1.1nm,0.6s,baz=352,slow=5.5,SNR=7.2
comp=Z,1.1nm,0.6s
KURK Kurchatov 62.91 319 P **P 11 24 05.0 +0.1**
KURK IAmb IAmb 11 24 05.6
comp=Z,0.9nm,0.8s
KURBB Kurchatov Arra 63.02 319 P **P 11 24 04.6 -1.0**
comp=Z,0.4nm,0.6s,baz=45,slow=7.5,SNR=6.2
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 64.18 325 P **P 11 24 12.9 -0.4**
comp=Z,1.8nm,0.5s,baz=54,slow=6.0,SNR=12
comp=Z,1.8nm,0.5s
MKAR Makanchi Array 64.38 314 P **P 11 24 13.6 -1.1**
MKAR Makanchi Array 64.38 314 P **P 11 24 13.5 -1.2**
comp=Z,0.5nm,0.5s,baz=46,slow=6.9,SNR=6.1
comp=Z,0.5nm,0.5s
ARTI Arti 65.10 334 P **P 11 24 19.6 +0.3**
FINES FINESS Array B 66.05 353 P **P 11 24 24.6 -0.6**
FINES FINESS Array B 66.05 353 P **P 11 24 23.9 -1.3**
comp=Z,1.3nm,0.5s,baz=23,slow=10,SNR=6.2
comp=Z,1.3nm,0.5s
NOA NORSAR Array B 67.03 0 P **P 11 24 30.8 -0.8**
comp=Z,0.4nm,0.5s,baz=357,slow=6.2,SNR=3.4
comp=Z,0.4nm,0.5s
HFS Hagfors 67.93 359 P **P 11 24 36.7 -0.5**
comp=Z,1.8nm,0.5s,baz=8.5,slow=3.0,SNR=8.6
comp=Z,1.8nm,0.5s
AKASG Malin Array Be 76.34 349 P **P 11 25 27.0 -0.6**
comp=Z,1.4nm,0.5s,baz=15,slow=5.6,SNR=5.6
comp=Z,1.4nm,0.5s
CMAR Chiang Mai Arr 77.33 284 P **P 11 25 34.9 +1.1**
CMAR Chiang Mai Arr 77.33 284 P **P 11 25 34.5 +0.7**
comp=Z,1.5nm,0.3s,baz=27,slow=6.4,SNR=8.8
comp=Z,1.5nm,0.3s
BRTR Keskin Array B 86.42 343 P **P 11 26 22.3 +0.8**
BRTR Keskin Array B 86.42 343 P **P 11 26 21.4 -0.1**
comp=Z,0.8nm,0.5s,baz=2.1,slow=1.1,SNR=4.3
comp=Z,0.8nm,0.5s
ESDC Sonseca Array 87.40 12 P **P 11 26 26.6 +0.5**
comp=Z,0.8nm,0.7s,baz=354,slow=4.8,SNR=5.6
comp=Z,0.8nm,0.7s
ASAR Alice Springs 90.89 231 P **P 11 26 42.4 -0.1**
comp=Z,0.4nm,0.8s,baz=27,slow=4.5,SNR=4.7
comp=Z,0.4nm,0.8s

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*IDC **30** 11:31:24.9±7.2, 17°.67S×178°.49W, h594km±80km, mb2.8/5, mbtmp3.7/5, Error ellipse: s-maj=103.1km s-min=27.0km az=148.0*
ISC 30 11:31:20.8±1.8, 17°.6S±0°.7×178°.5W±0°.4, h547km, n6, σ0§84/8, mb3.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.65**	**259**	P	**P**	**11 38 45.7**	**+0.4**
0.3nm,0.4s,baz=96,slow=7.5,SNR=7.1
WRA PcP **PcP 11 40 15.6 -0.6**
0.3nm,0.6s,baz=87,slow=3.1,SNR=1.2
0.3nm,0.4s
ASAR Alice Springs 44.83 254 P **P 11 38 47.4 +0.6**
1.3nm,0.6s,baz=87,slow=9.0,SNR=30
ASAR PcP **PcP 11 40 15.8 -1.0**
0.2nm,0.5s,baz=99,slow=3.8,SNR=5.7
1.3nm,0.6s
NVAR Mina Array Bea 79.25 44 P **P 11 42 29.8 -0.2**
0.5nm,0.7s,baz=211,slow=3.2,SNR=3.7
0.5nm,0.7s
ILAR Eielson Array 85.63 13 P **P 11 43 01.6 +0.3**
0.2nm,0.4s,baz=218,slow=5.0,SNR=8.3
0.2nm,0.4s
TXAR Lajitas Array 85.88 58 P **P 11 43 04.0 +0.6**
0.3nm,0.6s,baz=212,slow=4.4,SNR=4.0
0.3nm,0.6s
GERES GERESS Array B 147.34 345 PKPbc **PKPbc 11 50 02.2 -1.1**
0.4nm,0.4s,baz=1.2,slow=4.1,SNR=2.1

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*NEIC **30** 11:32:48.7±1.2, 17°.7N±0°.1×68°.59W±0°.04, h35km±2km, ML2.9/13, Md3.2/10(RSPR), Error ellipse: s-maj=18.3km s-min=5.5km az=186.0*
*SDD **30** 11:32:50.9±1.9, 18°.17N×68°.53W, h102km±18km, MD3.4, ML3.5, MW3.3*
*RSPR **30** 11:32:50.7, 17°.88N×68°.59W, h58km±6km, MD3.2/10*
*OSPL **30** 11:32:51.9±1.9, 17°.82N×68°.60W, h57km±75km, ML2.7*
ISC 30 11:32:49.4±1.3, 17°.91N±0°.08×68°.58W±0°.03, h78km±17km, n54, σ1§08/71, 24C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.69**	**349**	*e*P	**Pn**	**11 33 05.2**	**+0.4**
HIDR	**Higuey Centro**	**0.69**	**349**	*e*S	**Sn**	**11 33 14.7**	**-1.5**
HIDR	**Higuey Centro**	**0.69**	**349**	⇑*e*Pg	**Pn**	**11 33 05.2**	**+0.4**
HIDR ⇑*e*Sg **Sn 11 33 17.1 +0.9**
HIDR IAML 11 33 18.2
comp=N,1μm,0.1s
IDE Isla Desecheo 1.16 65 **Pn 11 33 11.0 +0.8**
IDE **Sn 11 33 26.0 +0.2**
IDE Isla Desecheo 1.16 65 ⇑*e*P **Pn 11 33 11.0 +0.8**
IDE Isla Desecheo 1.16 65 *e*S **Sn 11 33 26.0 +0.2**
DR12 Loma Pena Alta 1.16 319 **Pn 11 33 10.1 -0.3**
HATOM Hato Mayor del 1.16 319 ⇑*e*Pg **Pn 11 33 10.2 -0.1**
HATOM ⇑*e*Sg **Sn 11 33 25.2 -0.8**
HATOM IAML 11 33 25.8
comp=N,653nm,0.1s
MIDR Miches 1.16 337 ⇑*e*P **Pn 11 33 09.7 -0.6**
MIDR Miches 1.16 337 *e*S **Sn 11 33 24.6 -1.3**
MIDR Miches 1.16 337 ⇑*e*Pg **Pn 11 33 09.5 -0.8**
MIDR ⇑*e*Sg **Sn 11 33 24.3 -1.6**
MIDR IAML 11 33 25.3
comp=N,730nm,0.4s
SDD Santo Domingo 1.38 294 **Sn 11 33 31.0 +0.1**
SDD Santo Domingo 1.38 294 *i* P **Pn 11 33 14.9 +1.9**
SDD *e*S **Sn 11 33 30.9 +0.1**
CRPR Cabo Rojo, PR 1.40 86 **Pn 11 33 12.1 -1.2**
CRPR IAML 11 33 33.2
comp=N,190nm,0.3s
CRPR IAML 11 33 33.7
comp=E,152nm,0.3s
CRPR Cabo Rojo, PR 1.40 86 ⇑*e*P **Pn 11 33 13.7 +0.3**
CRPR Cabo Rojo, PR 1.40 86 *e*S **Sn 11 33 30.8 -0.7**
CRPR Cabo Rojo, PR 1.40 86 ⇑*e*Pg **Pn 11 33 14.0 +0.6**
CRPR ⇑*e*Sg **Sn 11 33 31.6 +0.1**
CRPR IAML 11 33 33.1
comp=N,225nm,0.2s
CRPR Cabo Rojo, PR 1.40 86 *i* P **Pn 11 33 13.8 +0.4**
CRPR IAML 11 33 34.3
comp=Z,95nm,0.2s
MLPR Magueyes Islan 1.46 87 ⇓*e*P **Pn 11 33 14.3 +0.2**
MLPR Magueyes Islan 1.46 87 *e*S **Sn 11 33 32.4 -0.5**
SMDR Samana, DR 1.49 337 ⇑*e*P **Pn 11 33 15.3 +0.8**
SMDR Samana, DR 1.49 337 *e*S **Sn 11 33 34.0 +0.6**
AGPR Aguadilla, PR 1.50 68 **Pn 11 33 15.1 +0.4**
AGPR **Sn 11 33 34.5 +0.7**
AGPR Aguadilla, PR 1.50 68 ⇑*e*P **Pn 11 33 15.1 +0.4**
AGPR Aguadilla, PR 1.50 68 ⇑*e*Pg **Pn 11 33 15.6 +0.9**
AGPR ⇑*e*Sg **Sn 11 33 33.7 -0.1**
AGPR IAML 11 33 36.9
comp=N,158nm,0.3s
AGPR Aguadilla, PR 1.50 68 *i* P **Pn 11 33 15.5 +0.9**
AGPR *e*S **Sn 11 33 34.9 +1.2**
AGPR IAML 11 33 40.8
comp=Z,88nm,0.2s
DR08 Loma La Naviza 1.72 308 ⇑*e*Pg **Pn 11 33 17.1 -0.6**
DR08 ⇑*e*Sg **Sn 11 33 37.0 -2.1**
DR08 IAML 11 33 45.5
comp=N,3μm,0.2s
BANI BANI 1.76 286 Pn **Pn 11 33 18.1 -0.1**
BANI BANI 1.76 286 ⇓*e*Pg **Pn 11 33 20.5 +2.4**
BANI ⇓*e*Sg **Sn 11 33 40.9 +1.0**
BANI IAML 11 33 44.6
comp=N,265nm,0.2s
AOPR Arecibo Observ 1.79 76 **Pn 11 33 18.8 +0.2**
AOPR **Sn 11 33 40.7 +0.1**
AOPR Arecibo Observ 1.79 76 ⇑*e*P **Pn 11 33 18.7 +0.2**
AOPR Arecibo Observ 1.79 76 *e*S **Sn 11 33 40.2 -0.4**
UUPR Utuado, UPR, P 1.80 79 **Pn 11 33 18.6 0.0**
UUPR **Sn 11 33 40.5 -0.4**
UUPR Utuado, UPR, P 1.80 79 ⇑*e*P **Pn 11 33 18.6 0.0**
UUPR Utuado, UPR, P 1.80 79 *e*S **Sn 11 33 40.5 -0.4**
OBIP Obispado Ponce 1.88 86 **Pn 11 33 16.4 -3.3**
OBIP IAML 11 33 44.1
comp=E,61nm,0.8s
OBIP Obispado Ponce 1.88 86 ⇑*e*P **Pn 11 33 19.5 -0.2**
OBIP Obispado Ponce 1.88 86 *e*S **Sn 11 33 42.2 -0.5**
EMPR Esperanza - Ma 2.03 73 **Sn 11 33 47.1 +0.9**
EMPR Esperanza - Ma 2.03 73 Pn **Pn 11 33 21.6 -0.1**
EMPR Esperanza - Ma 2.03 73 ⇑*e*P **Pn 11 33 21.7 +0.1**
EMPR Esperanza - Ma 2.03 73 *e*S **Sn 11 33 47.1 +0.9**
ECPR Experimental S 2.15 79 ⇑*e*P **Pn 11 33 23.7 +0.4**
ECPR Experimental S 2.15 79 *e*S **Sn 11 33 48.9 -0.2**
SJG San Juan 2.32 85 Pn **Pn 11 33 24.2 -1.3**
SJG IAML 11 33 59.7
comp=E,70nm,0.3s
SJG IAML 11 34 03.4
comp=E,43nm,0.2s
GCPR Guaynabo City 2.41 80 Pn **Pn 11 33 26.1 -0.6**
SC01 Santiago de Io 2.54 307 Pn **Pn 11 33 29.8 +1.3**
SC01 Santiago de Io 2.54 307 *i* P **Pn 11 33 30.0 +1.6**
LOVI El Cajuil, Ovi 2.66 268 *i* P **Pn 11 33 30.7 +0.7**
LOVI *e*S **Sn 11 33 59.1 -2.2**
LOVI IAML 11 34 02.9
comp=Z,110nm,1.1s
SDDR Presa de Saban 2.78 293 **Pn 11 33 32.0 +0.1**
SDDR IAML 11 34 15.0
comp=Z,35nm,0.4s
SDDR IAML 11 34 15.3
comp=Z,42nm,0.6s
SDDR Presa de Saban 2.78 293 *i* P **Pn 11 33 34.1 +2.3**
SDDR *e*S **Sn 11 34 02.0 -2.5**
SDDR IAML 11 34 06.1
comp=Z,26nm,0.3s
LODU1 El Espartillar 2.79 280 *i* P **Pn 11 33 33.5 +1.7**
LODU1 *e*S **Sn 11 34 04.2 -0.3**
LODU1 IAML 11 34 07.0
comp=Z,54nm,0.4s
LONE3 El Aguacate, B 2.82 285 *i* P **Pn 11 33 33.7 +1.3**
LONE3 IAML 11 34 07.5
comp=Z,28nm,0.5s
LOBH Bahia de las A 2.91 270 *i* P **Pn 11 33 34.4 +0.8**
LOBH *e*S **Sn 11 34 05.8 -1.7**
LOBH IAML 11 34 09.5
comp=Z,50nm,0.8s

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*MOS **30** 11:33:01.9±0.9, 27°.16N×55°.06E, h10km, mb4.3/16, Error ellipse: s-maj=10.7km s-min=6.8km az=100.7*
*IDC **30** 11:33:01.8±1.0, 27°.14N×55°.05E, h0km, mb4.0/19, mbtmp4.0/23, ML4.1/4, MS2.9/2, Error ellipse: s-maj=22.2km s-min=15.6km az=8.0*
*NEIC **30** 11:33:04.7±1.9, 27°.26N±0°.05×55°.07E±0°.07, h10km±1km, mb4.3/20, Error ellipse: s-maj=12.6km s-min=5.8km az=123.0*
*DSN **30** 11:33:04.7±1.5, 27°.38N×55°.08E, h22km±44km, ML3.6/13, Error ellipse: s-maj=36.7km s-min=11.0km az=171.0*
*TEH **30** 11:33:06.2, 27°.24N×55°.12E, h17km±16km*
*THR **30** 11:33:06.9±0.0, 27°.34N×55°.12E, h14km±31km, ML4.0*
*OMAN **30** 11:33:11.2±1.1, 26°.78N×54°.98E, h10km, mb4.7/5, ml3.5/13, Error ellipse: s-maj=13.8km s-min=3.5km az=9.0*
ISC 30 11:33:05.1±0.4, 27°.20N±0°.03×55°.10E±0°.03, h17km, n169, σ1§48/176, mb4.3/41, 9C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.80**	**306**	Pg	**Pn**	**11 33 21.3**	**-0.4**
BNDS	**Bandar-Abbas**	**0.97**	**78**	*e*Pg	**Pn**	**11 33 25.3**	**+1.2**
GENO	**Geno**	**0.97**	**78**	Pg	**Pn**	**11 33 24.7**	**+0.5**
IBND	**Bandar-abas**	**1.30**	**79**	Pg	**Pg**	**11 33 30.3**	**+0.1**
SHME	**Shamm**	**1.48**	**141**	P	**Pb**	**11 33 32.8**	**+0.7**
SNR=5.9
SHME S **Sg 11 33 54.0 +1.3**
SHME Shamm 1.48 141 *e*P **Pb 11 33 32.1 0.0**
SNR=10.0

SHME S **Sg** **11 33 53.0 +0.2**
BANOM Banah 1.66 140 P **Pg** **11 33 36.8 -0.3**
BANOM S **Sg** **11 33 58.9 +0.1**
BANOM Banah 1.66 140 *eP* **Pb** **11 33 35.3 0.0**
SNR=7.1
LMD1 Lamerd 1.73 275 Pg **Pg** **11 33 38.6 +0.2**
LMD1 Lamerd 1.73 275 *ePn* **Pg** **11 33 38.4 0.0**
LMD1 IAML 11 34 09.0
comp=Z,5μm,1.0s
JHRM Jahrom 1.87 314 Pn **Pb** **11 33 39.5 +0.5**
MASF Masafi 2.05 152 P **Pb** **11 33 41.1 -0.9**
SNR=11
MSFE Esma-Masafi 2.06 152 *eP* **Pn** **11 33 40.3 +1.3**
MSFE S **Sb** **11 34 08.4 +0.8**
MDH Madha 2.18 150 P **Pb** **11 33 43.1 -1.0**
MDH Madha 2.18 150 P **Pn** **11 33 42.4 +1.8**
NAZ Nazwa, Dubai 2.26 167 P **Pb** **11 33 44.3 -1.1**
SNR=5.7
NAZ Nazwa, Dubai 2.26 167 *eP* **Pb** **11 33 44.1 -1.4**
SNR=7.3
KHNJ Kahnooj 2.43 72 Pn **Pn** **11 33 45.4 +1.4**
UOSS Minazif 2.46 156 **Pn** **11 33 45.4 +1.0**
UOSS Minazif 2.46 156 P **Pb** **11 33 47.3 -1.5**
UOSS Minazif 2.46 156 Pn **Pb** **11 33 47.5 -1.3**
UOSS Minazif 2.46 156 P **Pn** **11 33 46.3 +1.9**
FAQ Al Faqa, Dubai 2.48 170 P **Pb** **11 33 47.7 -1.6**
FAQ Al Faqa, Dubai 2.48 170 P **Pn** **11 33 47.1 +2.3**
HATD Hatta, Dubai 2.54 158 P **Pb** **11 33 48.7 -1.5**
HATD Hatta, Dubai 2.54 158 P **Pn** **11 33 47.3 +1.7**
HATD P **Pb** **11 33 47.4 -2.9**
ASUD Al Ashush, Dub 2.57 175 P **Pb** **11 33 49.2 -1.6**
ASUD Al Ashush, Dub 2.57 175 P **Pn** **11 33 48.1 +2.1**
ASHO Ashiyiah 2.65 161 P **Pn** **11 33 49.3 +2.2**
SNR=14
ASHO Ashiyiah 2.65 161 *eP* **Pn** **11 33 48.6 +1.5**
SNR=14
NGRK Negar Kerman 2.83 30 Pn **Pn** **11 33 52.3 +2.4**
KRBR Kerman 3.13 27 *ePn* **Pb** **11 33 58.1 -2.4**
KRBR IAML 11 34 55.8
comp=Z,240nm,1.0s
ALNE Al Ain 3.19 169 P **Pn** **11 33 56.9 +2.4**
ALNE Al Ain 3.19 169 P **Pn** **11 33 56.9 +2.4**
SOHO SOHO 3.31 157 P **Pn** **11 33 59.4 +3.2**
SOHO SOHO 3.31 157 P **Pn** **11 33 56.9 +0.7**
KHGB Koh Gabri 3.39 21 Pn **Pn** **11 33 59.6 +2.2**
CHMN Cheshme madani 3.41 38 Pn **Pn** **11 33 59.8 +2.0**
KBAM BAM 3.53 56 Pn **Pn** **11 34 01.8 +2.6**
KRM1 Kerman Provinc 3.80 30 Pn **Pn** **11 34 05.3 +2.1**
SHMA Al-Shehemyia 3.94 251 P **Pn** **11 34 07.5 +2.7**
SNR=9.6
SHMA S **Sn** **11 34 54.2 +3.6**
ZRDN Zarand Kerman 3.96 18 Pn **Pn** **11 34 07.5 +2.2**
IMEH Mehriz 4.20 354 Pn **Pn** **11 34 11.4 +2.8**
TRNA Turayna 4.28 236 P **Pn** **11 34 11.6 +2.2**
IBAF Bafgh 4.39 5 Pn **Pn** **11 34 13.2 +2.0**
SMRA Abu-Samra 4.56 239 P **Pn** **11 34 16.0 +2.7**
SNR=16
SMRA S **Sn** **11 35 06.5 +0.5**
KLNJ Kolanjah 4.88 322 Pn **Pn** **11 34 20.7 +2.6**
KLNJ Kolanjah 4.88 322 *ePn* **Pn** **11 34 20.6 +2.5**
KLNJ IAML 11 35 23.8
comp=Z,120nm,1.0s
SMDO Samad 4.91 146 P **Pn** **11 34 21.1 +2.8**
ICHK Chekchek 5.06 353 Pn **Pn** **11 34 22.7 +2.3**
WSAR Wadi Sarin 5.08 140 P **Pn** **11 34 22.6 +2.1**
IRAM Ramesheh 5.17 333 Pn **Pn** **11 34 24.1 +2.2**
YZKH Yazd 5.19 355 *ePn* **Pn** **11 34 24.8 +2.7**
YZKH IAML 11 36 06.0
comp=Z,45nm,1.0s
ZHSF Zahedan 5.54 63 *ePn* **Pn** **11 34 29.7 +2.7**
ZHSF IAML 11 36 23.6
comp=Z,23nm,1.0s
IBRJ Brojen 5.76 325 Pn **Pn** **11 34 33.0 +2.9**
IGAR Gharneh 5.83 334 Pn **Pn** **11 34 33.0 +2.1**
BSRN Basiran 5.90 35 *ePn* **Pn** **11 34 34.0 +2.1**
BSRN IAML 11 36 28.5
comp=Z,35nm,1.0s
NASN Na'in 5.92 341 *ePn* **Pn** **11 34 34.6 +2.2**
NASN IAML 11 34 39.0
comp=Z,31nm,1.0s
TPRV Parvadeh(Tabas 5.97 13 Pn **Pn** **11 34 35.2 +2.4**
ANAR Anarak 6.09 349 Pn **Pn** **11 34 36.6 +2.2**
SRVN Saravan 6.50 87 Pn **Pn** **11 34 42.8 +2.7**
TKDS Koohdasht(Taba 6.63 15 Pn **Pn** **11 34 44.3 +2.4**
TABS Tabas 6.66 15 *ePn* **Pn** **11 34 44.7 +2.4**
TABS IAML 11 37 11.4
comp=Z,39nm,1.0s
MHTO MHTO 6.72 156 P **Pn** **11 34 45.1 +2.1**
MHTO S **Sn** **11 35 58.7 -0.5**
TNSJ Nastanj 6.87 11 Pn **Pn** **11 34 46.8 +1.7**
AFRZ Afriz 7.07 28 Pn **Pn** **11 34 50.5 +2.6**
ISFB Sefidab 7.54 342 Pn **Pn** **11 34 57.0 +2.6**
SHRT Shahrakht 7.83 34 *ePn* **Pn** **11 35 00.9 +2.6**
SHRT IAML 11 35 02.8
comp=Z,12nm,1.0s
DOK Doka 8.59 186 P **Pn** **11 35 09.5 +0.8**
SNR=11
SHAO Shalim 9.15 177 P **Pn** **11 35 17.4 +1.0**
WHFO Wadi Hawf 9.32 188 P **Pn** **11 35 19.0 +0.3**
SNR=6.8
RAYN Ar Rayn 9.42 249 **Pn** **11 35 19.6 -0.5**
RAYN Ar Rayn 9.42 249 P **Pn** **11 35 19.7 -0.5**
HRA Herat 9.43 39 Pn **Pn** **11 35 19.0 -1.5**
DMTO DMTO 9.44 181 P **Pn** **11 35 22.1 +1.7**
ABTO Aybut 9.94 190 P **Pn** **11 35 28.8 +1.5**
AKT Akhty 15.48 339 *eP* **Pn** **11 36 42.8 +0.1**
AKT pmax pmax
comp=Z,3.0nm,0.2s
GNI Garni 15.51 329 **Pn** **11 36 39.8 -3.4**
GNI IAmb IAmb 11 36 56.2
comp=Z,14nm,0.7s
GNI Garni 15.51 329 Pn **Pn** **11 36 43.9 +0.7**
comp=Z,1.3nm,0.3s,baz=30,slow=18,SNR=1.5
GNI LR LR 11 43 16.7
comp=Z,58nm,18.6s,baz=190,slow=40
comp=Z,4.8nm,0.4s
MARD Mardin 15.74 313 **Pn** **11 36 44.0 -2.2**
ASF Jabal al Asfar 16.57 292 Pn **Pn** **11 36 56.0 -0.8**
comp=Z,0.4nm,0.3s,baz=155,slow=12,SNR=3.5
ASF Sn **Sn** **11 39 59.6 -0.9**
comp=Z,0.6nm,0.3s,baz=185,slow=12,SNR=5.6
comp=Z,1.1nm,0.3s
ASF Jabal al Asfar 16.57 292 P **Pn** **11 36 56.0 -0.8**
GAR Garm 17.32 43 P **Pn** **11 37 06.8 +0.6**
MMAI Mount Meron Ar 17.99 294 P **Pn** **11 37 13.8 -0.8**
comp=Z,2.0nm,0.3s,baz=85,slow=19,SNR=3.5
MMAI LR LR 11 46 17.3
comp=Z,24nm,21.9s,baz=22,slow=44
comp=Z,0.5nm,0.2s
KBZ Khabaz 19.22 332 P **Pn** **11 37 29.3 +0.1**
comp=Z,0.1nm,0.3s,baz=141,slow=16,SNR=2.6
comp=Z,1.2nm,0.5s
KIV Kislovodsk 19.49 332 P **Pn** **11 37 32.7 0.0**
KIV Kislovodsk 19.49 332 *eP* **P** **11 37 30.3 -1.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KK31 Karatay Array 20.21 34 P **P** **11 37 39.8 +0.7**
KK31 Karatay Array 20.21 34 P **P** **11 37 39.8 +0.7**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 20.21 34 **P** **11 37 40.1 +1.0**
KKAR Karatay Array 20.21 34 P **P** **11 37 40.1 +1.0**
ARSB Arslanbob 20.36 42 Pn **P** 11 37 45.8 +2.7
ARSB Arslanbob 20.36 42 P Pn 11 37 45.8 +2.8
ARSB pmax pmax
comp=Z,4.0nm,0.7s
BR131 Keskin Array S 21.77 310 P **P** **11 37 56.2 +0.1**
BR131 IAmb IAmb 11 38 09.8
comp=Z,5.1nm,0.9s
BR131 Keskin Array S 21.77 310 P **P** **11 37 56.2 +0.1**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 21.77 310 P **P** **11 37 56.3 +0.2**
BRTR Keskin Array B 21.77 310 P **P** **11 37 55.4 -0.7**
comp=Z,1.8nm,0.8s,baz=126,slow=13,SNR=7.6
comp=Z,1.8nm,0.8s
BRTR Keskin Array B 21.77 310 P **P** **11 37 56.3 +0.1**
AAK Ala-Archa 22.06 41 **P** **11 37 59.8 +0.5**
AAK Ala-Archa 22.06 41 P **P** **11 37 58.9 -0.3**
comp=Z,1.9nm,0.8s,baz=212,slow=12,SNR=6.1
comp=Z,1.9nm,0.8s
AAK Ala-Archa 22.06 41 P **P** **11 37 59.8 +0.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AB31 Akbulak array 22.34 8 **P** **11 38 02.0 0.0**
AB31 IAmb IAmb 11 38 05.3
comp=Z,10nm,1.1s
ABKAR Akbulak array 22.34 8 **P** **11 38 02.2 +0.3**
BOOM Boomskoye usch 22.83 43 P **P** **11 38 08.0 +0.5**
BOOM IAmb IAmb 11 38 11.3
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 22.83 43 P **P** **11 38 08.0 +0.5**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
BORK Borovoye 28.20 20 *ceP* **P** **11 38 57.1 +0.4**
BORK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 28.20 20 P **P** **11 38 56.2 -0.5**
comp=Z,3.3nm,0.6s,baz=212,slow=8.1,SNR=16
comp=Z,3.3nm,0.6s
MK31 Makanchi Array 28.99 40 *ceP* **P** **11 39 04.3 +0.4**
MKAR Makanchi Array 28.99 40 P **P** **11 39 03.1 -0.8**
MKAR Makanchi Array 28.99 40 P **P** **11 39 04.1 +0.2**
comp=Z,0.6nm,0.6s,baz=222,slow=8.2,SNR=4.6
comp=Z,0.6nm,0.6s
ARTI Arti 29.26 4 *d iP* **P** **11 39 04.6 -1.5**
ARTI S **S** **11 43 57.9 -0.2**
ARTI pmax pmax
comp=Z,8.0nm,2.5s
KURBB Kurchatov Arra 29.42 31 P **P** **11 39 08.4 +0.8**
comp=Z,0.9nm,0.7s,baz=234,slow=8.7,SNR=9.5
comp=Z,0.9nm,0.7s
KURK Kurchatov 29.52 31 P **P** **11 39 08.4 -0.1**
AKASG Malin Array Be 30.63 327 P **P** **11 39 17.4 -0.9**
comp=Z,0.8nm,0.4s,baz=133,slow=8.5,SNR=6.2
comp=Z,0.8nm,0.4s
AKASG Malin Array Be 30.63 327 *ceP* **P** **11 39 17.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 30.63 327 P **P** **11 39 16.9 -1.4**
AKBB Malin Array Si 30.63 327 *ceP* **P** **11 39 18.3 0.0**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 30.63 327 P **P** **11 39 17.2 -1.1**
KIEV IAmb IAmb 11 39 19.3
comp=Z,5.8nm,1.0s
KIEV Kiev 30.63 327 P **P** **11 39 17.2 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
OBN Obninsk 30.98 339↑ *eP* **P** **11 39 20.5 -0.8**
OBN *e* 11 40 24.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
WMQ Urumqi 31.03 49 *eP* **P** **11 39 25.0 +3.0**
ZAA0 Zalesovo Array 34.52 31 **P** **11 39 52.0 -0.2**
ZAA0 IAmb IAmb 11 39 53.0
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 34.52 31 P **P** **11 39 52.2 -0.1**
ZALV Zalesovo Beam 34.52 31 P **P** **11 39 52.5 +0.2**
comp=Z,4.8nm,0.7s,baz=235,slow=8.9,SNR=21
comp=Z,4.8nm,0.7s
CUC Castrocucco 34.85 302 **P** **11 39 55.4 0.0**
LANS Liptovska Anna 35.09 318 *eP* **P** **11 39 58.7 +1.3**
LANS Liptovska Anna 35.09 318 *eP* **P** **11 39 58.7 +1.3**
CAMP Campotosto 37.08 305 P **P** **11 40 14.8 +0.2**
NRCA Norcia 37.35 306 **P** **11 40 17.3 +0.5**
NRCA IAmb IAmb 11 40 27.6
comp=Z,6.6nm,0.9s
GERES GERESS Array B 38.49 315 P **P** **11 40 25.1 -1.3**
GERES GERESS Array B 38.49 315 P **P** **11 40 23.8 -2.6**
comp=Z,0.5nm,0.7s,baz=84,slow=10.0,SNR=3.6
comp=Z,0.5nm,0.7s
GERES GERESS Array B 38.49 315 P **P** **11 40 25.1 -1.3**
KHC Kasperske Hory 38.66 316 *ceP* **P** **11 40 27.2 -0.6**
KHC pmax pmax
comp=Z,8.0nm,2.5s
GTA Gaotai 38.94 60 *eP* **P** **11 40 31.5 +1.2**
GTA pmax pmax
comp=Z,7.0nm,0.8s
WTTA Wattenberg 39.36 312 *eP* **P** **11 40 33.3 -0.4**
comp=Z,5.2nm,0.6s
FIA1 FINESS Array S 39.38 338 P **P** **11 40 33.8 +0.4**
FINES FINESS Array B 39.38 338 P **P** **11 40 33.3 -0.2**
FINES FINESS Array B 39.38 338 P **P** **11 40 33.0 -0.5**
comp=Z,1.8nm,0.6s,baz=148,slow=11,SNR=7.1
comp=Z,1.8nm,0.6s
FINES FINESS Array B 39.38 338 *ceP* **P** **11 40 33.5 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
WATA Walderalm 39.42 312 *eP* **P** **11 40 33.5 -0.7**
comp=Z,5.0nm,0.6s
SQTA Sankt Quirin 39.63 312 *eP* **P** **11 40 35.3 -0.6**
comp=Z,6.4nm,0.6s
VSL Villasalto 39.72 300 P **P** **11 40 36.7 0.0**
VSL IAmb IAmb 11 40 40.8
comp=Z,8.5nm,0.9s
MOTA Moosalm 39.73 312 *eP* **P** **11 40 36.5 -0.3**
comp=Z,5.1nm,0.9s
CLL Collm 39.76 319 *i P* **P** **11 40 37.0 +0.2**
FETA Feichten 39.90 312 *eP* **P** **11 40 38.0 -0.2**
comp=Z,3.4nm,0.5s
RETA Reutte 39.99 312 *eP* **P** **11 40 38.5 -0.4**
comp=Z,2.1nm,0.5s
DAVA Damuels 40.52 312 *eP* **P** **11 40 42.9 -0.5**
comp=Z,12nm,0.5s
HFS Hagfors 43.28 331 P **P** **11 41 05.2 -0.4**
comp=Z,3.0nm,0.7s,baz=102,slow=14,SNR=6.5
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 44.80 331 P **P** **11 41 17.1 -0.7**
comp=Z,1.9nm,0.6s,baz=118,slow=7.9
NOA NORSAR Array B 44.80 331 P **P** **11 41 17.2 -0.7**
comp=Z,2.0nm,0.8s,baz=118,slow=7.7,SNR=7.0
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 45.73 346 IAmb IAmb 11 41 30.0
comp=Z,5.8nm,1.1s
ARCES ARCESS Array B 45.73 346 P **P** **11 41 24.8 -0.2**
comp=Z,3.2nm,0.9s,baz=104,slow=7.6,SNR=5.0
comp=Z,3.2nm,0.9s
ARCES ARCESS Array B 45.73 346 P **P** **11 41 24.8 -0.2**
ARCES pmax pmax
comp=Z,6.0nm,1.2s
HHC Hu-ho-hao-te 47.97 58 *eP* **P** **11 41 42.5 -0.6**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,70nm,4.8s
ESDC Sonseca Array 50.02 300 P **P** **11 41 58.4 -0.5**
comp=Z,0.7nm,0.6s,baz=66,slow=6.0,SNR=7.0
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 51.69 265 P **P** **11 42 11.1 -0.5**
comp=Z,2.5nm,0.7s,baz=56,slow=9.2,SNR=16
comp=Z,2.5nm,0.7s
KBS Kingsbay 55.13 351 *ceP* **P** **11 42 33.7 -2.3**
KBS pmax pmax
comp=Z,110nm,2.5s
TIXI Tiksi 59.33 21 *ceP* **P** **11 43 05.1 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
BILL Bilibino 72.53 22 *i P* **P** **11 44 31.0 +0.3**
BILL pmax pmax
comp=Z,4.0nm,1.1s
FITZ Fitzroy Crossi 81.84 115 P **P** **11 45 23.7 0.0**
FITZ Fitzroy Crossi 81.84 115 P **P** **11 45 23.4 -0.3**
comp=Z,3.9nm,1.1s,baz=326,slow=5.0,SNR=2.3
comp=Z,3.9nm,1.1s
ILAR Eielson Array 86.74 9 P **P** **11 45 48.3 +0.4**
ILAR Eielson Array 86.74 9 P **P** **11 45 47.2 -0.7**
comp=Z,0.3nm,0.7s,baz=323,slow=3.9,SNR=3.0
comp=Z,0.3nm,0.7s
ILAR Eielson Array 86.74 9 P **P** **11 45 48.3 +0.4**
WRA Warramunga Arr 89.87 112 P **P** **11 46 03.2 -0.3**
comp=Z,0.5nm,0.8s,baz=298,slow=5.2,SNR=2.1
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 90.24 355 P **P** **11 46 04.2 -0.4**
comp=Z,1.6nm,0.8s,baz=4.8,slow=8.1,SNR=2.9
comp=Z,1.6nm,0.8s
ASAR Alice Springs 91.31 116 P **P** **11 46 09.2 -1.0**
ASAR Alice Springs 91.31 116 P **P** **11 46 08.9 -1.3**
comp=Z,0.7nm,0.9s,baz=301,slow=4.4,SNR=5.6
comp=Z,0.7nm,0.9s
ASAR Alice Springs 91.31 116 P **P** **11 46 09.2 -1.0**

*NEIC **30** 11:38:17.7±1.7, 19°.16N±0°.04×67°.06W±0°.02, h10km±1km, ML2.2/5, Md3.2/6(RSPR), Error ellipse: s-maj=6.8km s-min=2.9km az=185.0*
*RSPR **30** 11:38:20.7, 19°.13N×67°.14W, h41km±7km, MD3.2/6*
*SDD **30** 11:38:22.4±1.8, 18°.78N×67°.24W, h104km±20km, MD3.1, ML2.4, MW2.9*

ISC 30 11:38:16.5±1.8, 19°.18N±0°.07×67°.14W±0°.04, h10km±10km, n31, σ0°99/43, 2C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**178**			**Pn**		**11 38 32.0**	**-0.7**
AGPR						**Sb**		**11 38 41.1**	**+0.2**
AGPR	**Aguadilla, PR**	**0.71**	**178**↑	*eP*		**Pn**		**11 38 32.0**	**-0.7**
AGPR	**Aguadilla, PR**	**0.71**	**178**	*eS*		**Sb**		**11 38 41.1**	**+0.2**
IDE	**Isla Desecheo**	**0.85**	**202**			**Pn**		**11 38 34.2**	**-0.3**
IDE						**Sb**		**11 38 45.7**	**+0.8**
IDE	**Isla Desecheo**	**0.85**	**202**	‖ *eP*		**Pn**		**11 38 34.2**	**-0.3**
IDE	**Isla Desecheo**	**0.85**	**202**	*eS*		**Sb**		**11 38 45.7**	**+0.8**
AOPR	**Arecibo Observ**	**0.91**	**156**			**Pn**		**11 38 34.9**	**-0.5**
AOPR						**Sb**		**11 38 46.8**	**+0.2**
AOPR	**Arecibo Observ**	**0.91**	**156**	‖ *eP*		**Pn**		**11 38 35.1**	**-0.2**
AOPR	**Arecibo Observ**	**0.91**	**156**	*eS*		**Sb**		**11 38 46.8**	**+0.2**
AOPR	**Arecibo Observ**	**0.91**	**156**	*ePg*		**Pn**		**11 38 39.0**	**+3.6**
AOPR				*eSg*		**Sn**		**11 38 50.8**	**+2.2**
AOPR				IAML				11 38 52.9	
comp=N,78nm,0.2s									
EMPR	**Esperanza - Ma**	**0.91**	**140**	Pg		**Pb**		**11 38 33.9**	**-0.5**
PRSN	**Puerto Rico Se**	**0.96**	**180**	*ePg*		**Pn**		**11 38 38.2**	**+2.1**
PRSN				*eSg*		**Sn**		**11 38 49.7**	**-0.1**
PRSN				IAML				11 38 53.6	
comp=N,179nm,0.2s									
LSP	**Las Mesas**	**1.00**	**177**			**Pn**		**11 38 36.2**	**-0.4**
LSP						**Sg**		**11 38 48.8**	**0.0**
LSP	**Las Mesas**	**1.00**	**177**↑	*eP*		**Pn**		**11 38 36.2**	**-0.4**
LSP	**Las Mesas**	**1.00**	**177**	*eS*		**Sg**		**11 38 48.8**	**0.0**
ECPR	**Experimental S**	**1.13**	**139**	‖ *eP*		**Pn**		**11 38 38.9**	**+0.4**
ECPR	**Experimental S**	**1.13**	**139**	*eS*		**Sg**		**11 38 52.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**			**Pb**		**11 38 38.8**	**0.0**
CRPR						**Sb**		**11 38 53.9**	**-0.2**
CRPR				IAML				11 38 54.5	
comp=N,47nm,0.4s									
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	‖ *eP*		**Pg**		**11 38 38.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	*eS*		**Sb**		**11 38 53.2**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.17**	**178**	*ePg*		**Pg**		**11 38 39.6**	**+0.6**
CRPR				*eSg*		**Sb**		**11 38 53.2**	**-0.8**
CRPR				IAML				11 38 54.4	
comp=N,56nm,0.2s									
MLPR	**Magueyes Islan**	**1.21**	**176**	‖ *iP*		**Pg**		**11 38 39.6**	**-0.1**
MLPR	**Magueyes Islan**	**1.21**	**176**	*eS*		**Sb**		**11 38 53.4**	**-1.8**
MLPR	**Magueyes Islan**	**1.21**	**176**	*ePg*		**Pg**		**11 38 39.6**	**-0.1**
MLPR				*eSg*		**Sb**		**11 38 53.9**	**-1.3**
MLPR				IAML				11 38 54.3	
comp=N,18nm,0.3s									
OBIP	**Obispado Ponce**	**1.24**	**156**			**Pb**		**11 38 39.9**	**-0.2**
OBIP				IAML				11 38 56.6	
comp=N,43nm,0.3s									
OBIP				IAML				11 38 57.9	
comp=E,43nm,0.4s									
OBIP	**Obispado Ponce**	**1.24**	**156**	‖ *eP*		**Pn**		**11 38 39.5**	**-0.5**
OBIP	**Obispado Ponce**	**1.24**	**156**	*eS*		**Sb**		**11 38 54.4**	**-1.7**
PCDR	**Punta Cana, DR**	**1.35**	**241**	*ePg*		**Pb**		**11 38 42.0**	**+0.2**
PCDR				*eSg*		**Sb**		**11 38 59.2**	**+0.1**
PCDR				IAML				11 39 42.1	
comp=N,157nm,1.4s									
HIDR	**Higuey Centro**	**1.60**	**249**	*ePg*		**Pg**		**11 38 48.0**	**+0.9**
HIDR				*eSg*		**Sn**		**11 39 04.8**	**-0.8**
HIDR				IAML				11 39 39.6	
comp=N,95nm,0.1s									
MIDR	**Miches**	**1.81**	**264**	*ePg*		**Pg**		**11 38 51.2**	**-0.1**
MIDR				*eSg*		**Sn**		**11 39 10.4**	**-0.5**
MIDR				IAML				11 39 19.1	
comp=N,23nm,1.7s									
DR12	**Loma Pena Alta**	**2.15**	**260**	Pn		**Pb**		**11 38 55.5**	**-0.2**

IDC 30 11:40:29.2±999.0, 57°.71N×28°.69E, h0km, Error ellipse: s-maj=1401.0km s-min=114.0km az=97.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.74**	**98**		I		I	12 11 20.0	
0.3nm,0.6s,baz=284,slow=304,SNR=1.0									
I31KZ	**AKTYUBINSK INF**	**18.60**	**100**		I		I	13 31 31.8	
baz=309,slow=318,SNR=3.8									
I46RU	**ZALESOVO INFRA**	**30.98**	**72**		I		I	14 49 00.0	
baz=300,slow=316,SNR=1.1									

*IDC **30** 11:43:02.9±0.7, 12°.17N×143°.90E, h0km, mb4.0/12, mbtmp3.9/12, Error ellipse: s-maj=27.9km s-min=15.5km az=106.0*
*NEIC **30** 11:43:05.6±0.8, 12°.21N±0°.09×143°.9E±0°.2, h12km±2km, mb4.3/18, Error ellipse: s-maj=27.6km s-min=8.5km az=114.0*

ISC 30 11:43:07.1±0.6, 12°.15N±0°.10×143°.9E±0°.2, h26km, n42, σ0°65/37, mb4.2/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**33**			**Pn**		**11 43 34.7**	**-0.4**
GUMO					Sn	**Sn**		**11 43 55.8**	**-0.4**
GUMO	**Guam**	**1.71**	**33**		Pn	**Pn**		**11 43 34.7**	**-0.4**
126nm,0.3s,baz=12,slow=5.1,SNR=45									
GUMO					Sn	**Sn**		**11 43 56.1**	**0.0**
193nm,0.3s,baz=58,slow=21,SNR=30									
H11S3	**WAKE ISLAND Hy**	**22.84**	**71**		T	T		12 11 53.8	
baz=253									
H11S1	**WAKE ISLAND Hy**	**22.86**	**71**		T	T		12 11 50.9	
baz=253									
H11S2	**WAKE ISLAND Hy**	**22.86**	**71**		T	T		12 11 59.0	
baz=253									
H11N1	**WAKE ISLAND Hy**	**23.32**	**68**		T	T		12 12 36.9	
baz=255									
H11N2	**WAKE ISLAND Hy**	**23.33**	**68**		T	T		12 12 39.2	
baz=255									
H11N3	**WAKE ISLAND Hy**	**23.34**	**68**		T	T		12 12 33.6	
baz=255									
WB0	**Warramunga Arr**	**33.08**	**197**		P	**P**		**11 49 40.6**	**-0.3**
WB0					IAmb	IAmb		11 49 56.7	
comp=Z,1.8nm,0.8s									
WR8	**Warramunga Arr**	**33.23**	**196**		P	**P**		**11 49 42.2**	**0.0**
WRAB	**Tennant Creek**	**33.24**	**197**		P	**P**		**11 49 42.2**	**-0.2**
WRAB					IAmb	IAmb		11 49 44.0	
comp=Z,4.2nm,1.1s									
WRA	**Warramunga Arr**	**33.26**	**197**		P	**P**		**11 49 41.1**	**-1.3**
WRA	**Warramunga Arr**	**33.26**	**197**		P	**P**		**11 49 42.0**	**-0.4**
comp=Z,0.6nm,0.6s,baz=20,slow=9.6,SNR=7.9									
comp=Z,0.6nm,0.6s									
AS31	**Alice Springs**	**36.92**	**195**		P	**P**		**11 50 14.4**	**+0.4**
ASAR	**Alice Springs**	**36.92**	**195**		P	**P**		**11 50 14.7**	**+0.7**
ASAR	**Alice Springs**	**36.92**	**195**		P	**P**		**11 50 14.4**	**+0.4**
comp=Z,0.4nm,0.7s,baz=18,slow=11,SNR=11									
comp=Z,0.4nm,0.7s									
EIDS	**Eidsvold**	**37.94**	**169**		P	**P**		**11 50 22.8**	**+0.1**
EIDS					IAmb	IAmb		11 50 30.6	
comp=Z,5.3nm,1.1s									
INKA	**Innaminka**	**39.78**	**184**		P	**P**		**11 50 38.1**	**+0.1**
STKA	**Stephens Creek**	**43.84**	**183**		P	**P**		**11 51 10.1**	**-1.0**
comp=Z,0.9nm,0.5s,baz=350,slow=10,SNR=3.5									
comp=Z,0.9nm,0.5s									
BBOO	**Buckleboo**	**45.34**	**189**		P	**P**		**11 51 22.9**	**-0.2**
MORW	**Morawa**	**49.03**	**213**		P	**P**		**11 51 52.4**	**+0.4**
MKAR	**Makanchi Array**	**61.88**	**317**		P	**P**		**11 53 24.2**	**-0.1**
comp=Z,0.4nm,0.7s,baz=91,slow=8.8,SNR=2.6									
comp=Z,0.4nm,0.7s									
ZALV	**Zalesovo Beam**	**62.25**	**325**		P	**P**		**11 53 26.8**	**+0.2**
ZALV	**Zalesovo Beam**	**62.25**	**325**		P	**P**		**11 53 27.0**	**+0.4**
comp=Z,0.3nm,0.3s,baz=126,slow=7.3,SNR=2.5									
comp=Z,0.3nm,0.3s									
KURK	**Kurchatov**	**65.08**	**320**		P	**P**		**11 53 45.3**	**0.0**
KURK					IAmb	IAmb		11 53 47.4	
comp=Z,2.1nm,0.8s									
KURBB	**Kurchatov Arra**	**65.12**	**320**		P	**P**		**11 53 45.7**	**+0.1**
comp=Z,1.1nm,0.6s,baz=103,slow=6.7,SNR=11									
comp=Z,1.1nm,0.6s									
I23K	**Minto, Yukon-K**	**69.34**	**25**		P	**P**		**11 54 13.1**	**+1.0**
I23K					IAmb	IAmb		11 54 26.0	
comp=Z,1.3nm,0.9s									
SCM	**Sheep Creek Mo**	**69.38**	**28**		P	**P**		**11 54 13.1**	**+0.6**
SCM					IAmb	IAmb		11 54 41.3	
comp=Z,5.3nm,1.0s									
B22K	**Teshekpuk Lake**	**69.59**	**19**		P	**P**		**11 54 14.8**	**+1.4**
B22K					IAmb	IAmb		11 54 34.3	
comp=Z,4.7nm,0.8s

PAX IAmb IAmb 11 54 28.9
comp=Z,2.9nm,1.1s
BVAR Borovoye Array 70.47 322 P P 11 54 19.1 -0.3
comp=Z,1.3nm,0.3s,baz=96,slow=8.5,SNR=8.1
comp=Z,1.3nm,0.3s
RIDG Independent Ri 70.90 26 P P 11 54 22.3 +0.5
DOT Dot Lake 71.22 27 P P 11 54 23.5 -0.2
DOT IAmb IAmb 11 54 24.5
comp=Z,1.7nm,0.7s
WAX Waxell Ridge 71.25 30 P P 11 54 23.9 -0.1
ARCES ARCESS Array B 88.15 342 IAmb IAmb 11 56 15.4
comp=Z,2.3nm,0.9s
ARCES ARCESS Array B 88.15 342 P P 11 55 55.5 +0.1
comp=Z,2.8nm,0.9s,baz=46,slow=5.2,SNR=4.5
comp=Z,2.8nm,0.9s
NVAR Mina Array Bea 88.54 51 P P 11 55 59.4 +1.3
comp=Z,1.0nm,0.7s,baz=269,slow=6.0,SNR=7.8
comp=Z,1.0nm,0.7s
FINES FINESS Array B 92.06 335 P P 11 56 13.0 -0.7
FINES FINESS Array B 92.06 335 P P 11 56 12.6 -1.1
comp=Z,1.3nm,0.5s,baz=57,slow=4.3,SNR=8.0
comp=Z,1.3nm,0.5s
PDAR Pinedale Array 93.63 45 P P 11 56 22.0 +0.3
comp=Z,0.2nm,0.6s,baz=272,slow=5.0,SNR=2.4
comp=Z,0.2nm,0.6s

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*IDC **30** 11:51:34.2±4.1, 7°.23S×129°.17E, h48km±37km, mb3.7/8, mbtmp3.9/11, ML3.8/3, Error ellipse: s-maj=60.2km s-min=17.4km az=67.0*
*NEIC **30** 11:51:41.2±1.2, 7°.6S±0°.1×128°.78E±0°.08, h115km±9km, mb4.0/7, Error ellipse: s-maj=15.4km s-min=11.4km az=166.0*
*DJA **30** 11:52:25.0±0.4, 8°.S±6°.×12°.6E±°., h77km±12km, M4.5/11, mb4.7/7, mB5.7/3, MLv4.4/11, Mw(mB)5.2/3*
ISC 30 11:51:40.3±0.6, 7°.64S±0°.06×128°.74E±0°.07, h100km, n41, σ1°.86/43, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.56**	**98**			**Pn**	**11 52 21.4**	**+1.2**
SOEI	**Soe**	**4.89**	**244**			**Pn**	**11 52 53.4**	**+1.7**
SOEI	**Soe**	**4.89**	**244**	P		**Pn**	**11 52 55.0**	**+3.3**
BATI	**Baumata**	**5.62**	**243**	P		**Pn**	**11 53 04.4**	**+2.8**
	135nm,0.4s,baz=128,slow=4.8,SNR=25							
BATI				S		**Sn**	**11 54 06.8**	**+1.9**
	88nm,0.4s,baz=250,slow=23,SNR=10							
BATI	**Baumata**	**5.62**	**243**	P		**Pn**	**11 53 04.2**	**+2.7**
MTN	**Manton Dam**	**5.69**	**156**			**Pn**	**11 53 05.2**	**+2.8**
FAKI	**Fak Fak**	**5.85**	**37**			**Pn**	**11 53 06.3**	**+1.8**
FAKI				Sn		**Sn**	**11 54 09.7**	**-0.6**
EDFI	**Ende, Flores**	**7.06**	**260**	P		**Pn**	**11 53 23.3**	**+2.1**
KNRA	**Kununurra**	**7.99**	**180**			**Pn**	**11 53 35.7**	**+2.0**
BSSI	**Bau Bau, Buton**	**8.32**	**280**	P		Pn	11 53 44.6	+6.4
	0.1nm23nm,1.2s							
BASI	**Baing, Sumba**	**8.46**	**252**	P		**Pn**	**11 53 40.9**	**+0.8**
	0.8nm214nm,0.9s							
WSI	**Waingapu**	**8.58**	**256**	P		**Pn**	**11 53 42.1**	**+0.3**
WBSI	**Waikabubak, Su**	**9.45**	**257**	P		**Pn**	**11 53 53.9**	**+0.3**
	0.2nm59nm,0.6s							
FITZ	**Fitzroy Crossi**	**10.83**	**196**			**Pn**	**11 54 12.3**	**0.0**
FITZ	**Fitzroy Crossi**	**10.83**	**196**	P		**Pn**	**11 54 11.8**	**-0.5**
	0.3nm,0.3s,baz=24,slow=8.6,SNR=28							
FITZ				S		**Sn**	**11 56 05.2**	**-6.4**
	4.9nm,0.3s,baz=89,slow=12,SNR=7.1							
	1.1nm,0.4s							
PLAI	**Plampang**	**10.91**	**263**	P		**Pn**	**11 54 13.3**	**-0.2**
WB0	**Warramunga Arr**	**13.25**	**156**			**Pn**	**11 54 43.7**	**-0.9**
WRAB	**Tennant Creek**	**13.38**	**157**			**Pn**	**11 54 45.7**	**-0.5**
WRA	**Warramunga Arr**	**13.39**	**157**			**Pn**	**11 54 44.1**	**-2.2**
WRA	**Warramunga Arr**	**13.39**	**157**	P		**Pn**	**11 54 45.0**	**-1.3**
	0.8nm,0.3s,baz=346,slow=13,SNR=27							
WRA				S		Sn	11 57 04.2	-9.5
	8.4nm,0.6s,baz=333,slow=22,SNR=14							
	1.8nm,0.4s							
WR8	**Warramunga Arr**	**13.46**	**156**			**Pn**	**11 54 46.0**	**-1.3**
COEN	**Coen**	**15.51**	**115**			**Pn**	**11 55 14.6**	**+1.1**
COEN				IAmb		IAmb	11 55 26.6	
	comp=Z,10nm,1.1s							
PSA00	**Pilbara Seismi**	**16.30**	**211**			**Pn**	**11 55 23.7**	**+0.4**
ASAR	**Alice Springs**	**16.69**	**163**	P		**Pn**	**11 55 28.4**	**+0.2**
ASAR	**Alice Springs**	**16.69**	**163**	P		**Pn**	**11 55 28.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=335,slow=10,SNR=14							
ASAR				S		Sn	11 58 21.8	-12
	comp=Z,1.5nm,0.7s,baz=353,slow=28,SNR=7.0							
	comp=Z,0.5nm,0.4s							
FORT	**Forrest**	**23.03**	**181**	P		**P**	**11 56 38.1**	**+1.2**
FORT				IAmb		IAmb	11 56 41.1	
	comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**25.96**	**166**	P		**P**	**11 57 04.8**	**+1.3**
BBOO				IAmb		IAmb	11 57 11.0	
	comp=Z,4.4nm,0.9s							
LZDM	**Lanzhou Array**	**49.35**	**333**	P		**P**	**12 00 19.0**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=127,slow=9.6,SNR=1.9							
	comp=Z,1.2nm,0.3s							
SONM	**Songino Array**	**58.66**	**343**	P		**P**	**12 01 25.3**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=162,slow=6.7,SNR=2.6							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**68.08**	**328**	P		**P**	**12 02 28.2**	**-1.1**
MKAR	**Makanchi Array**	**68.08**	**328**	P		**P**	**12 02 28.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=116,slow=8.2,SNR=7.7							
	comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**71.60**	**334**	P		**P**	**12 02 49.3**	**-1.4**
ZALV	**Zalesovo Beam**	**71.60**	**334**	P		**P**	**12 02 49.0**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=123,slow=7.3,SNR=4.2							
	comp=Z,0.9nm,0.6s							
VNDA	**Vanda**	**71.97**	**173**	P		**P**	**12 02 53.5**	**+0.9**
VNDA	**Vanda**	**71.97**	**173**	P		**P**	**12 02 53.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=320,slow=7.3,SNR=6.4							
	comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**72.40**	**329**	P		**P**	**12 02 54.5**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=131,slow=5.1,SNR=14							
	comp=Z,1.1nm,0.6s							
KURK	**Kurchatov**	**72.41**	**329**	P		**P**	**12 02 54.9**	**-0.7**
KURK				IAmb		IAmb	12 02 56.4	
	comp=Z,1.8nm,0.6s							
BVAR	**Borovoye Array**	**77.94**	**328**	P		**P**	**12 03 25.1**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=132,slow=6.0,SNR=4.6							
	comp=Z,0.7nm,0.5s							
QSPA	**South Pole Qui**	**82.34**	**180**	P		**P**	**12 03 50.0**	**-1.0**
QSPA				IAmb		IAmb	12 03 54.5	
	comp=Z,2.0nm,0.9s							
QSPA	**South Pole Qui**	**82.34**	**180**	P		**P**	**12 03 53.9**	**+2.9**
	comp=Z,1.5nm,0.9s,baz=269,slow=0.4,SNR=9.6							
	comp=Z,1.5nm,0.9s							
LPAZ	**La Paz**	**150.95**	**145**	PKPbc		**PKPbc**	**12 11 24.1**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=50,slow=2.1,SNR=7.5							

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*IDC **30** 11:58:04.4±3.5, 6°.16S×103°.29E, h0km, mb3.7/7, mbtmp3.7/7, MS2.7/1, Error ellipse: s-maj=147.3km s-min=28.9km az=50.0*
*DJA **30** 11:58:05.4±0.4, 6°.S±4°.×10°.3E±°., h10km, M4.0/11, mB4.9/1, mb3.9/3, MLv4.0/11, Mw(mB)4.2/1*
ISC 30 11:58:08.9±1.2, 6°.3S±0°.1×103°.38E±0°.10, h35km, n28, σ0°.80/17, mb3.6/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.36**	**55**	P		**Pn**	**11 58 30.1**	**-1.2**
LWLI	**Liwa**	**1.45**	**28**	P		**Pn**	**11 58 32.9**	**+0.1**
LWLI				S		**Sn**	**11 58 51.3**	**+0.6**
MDSI	**Maura Dua**	**1.98**	**24**	P		**Pn**	**11 58 40.3**	**+0.4**
MNAI	**Manna**	**1.99**	**348**	P		**Pn**	**11 58 40.5**	**+0.5**
LHSI	**Lahat**	**2.47**	**3**	P		**Pn**	**11 58 47.6**	**+0.9**
PPSI	**Pulau Pagai**	**4.87**	**316**	P		**Pn**	**11 59 19.9**	**+0.2**
PDSI	**Padang**	**6.11**	**331**	P		**Pn**	**11 59 36.2**	**-0.5**
	0.1nm980nm15nm,1.3s							
PCJI	**Pacitan**	**7.96**	**104**	P		**Pn**	**12 00 02.1**	**0.0**
CMAR	**Chiang Mai Arr**	**25.00**	**350**	P		**P**	**12 03 28.2**	**-1.4**
	0.4nm,0.3s,baz=183,slow=9.0,SNR=6.8							
CMAR				LR		LR	12 12 21.2	
	comp=Z,19nm,21.6s,baz=205,slow=34							
	0.4nm,0.3s							
H01W3	**Cape Leeuwin H**	**30.11**	**162**	T		T	12 35 42.0	
	baz=340							
H01W2	**Cape Leeuwin H**	**30.13**	**162**	T		T	12 35 38.1	
	baz=340							
H01W1	**Cape Leeuwin H**	**30.13**	**162**	T		T	12 35 43.4	
	baz=340							
H08S2	**Diego Garcia H**	**30.69**	**266**	T		T	12 36 36.3	
	baz=89,slow=75,SNR=2.8							
H08S3	**Diego Garcia H**	**30.70**	**266**	T		T	12 36 35.8	
	baz=89,slow=75,SNR=5.5							
H08S1	**Diego Carcia H**	**30.70**	**266**	T		T	12 36 36.1	
	baz=89,slow=75,SNR=3.9							
WRA	**Warramunga Arr**	**32.97**	**117**	P		**P**	**12 04 42.4**	**+1.7**
	0.3nm,0.6s,baz=298,slow=8.8,SNR=2.1							
	0.3nm,0.6s							
SONM	**Songino Array**	**53.98**	**3**	P		**P**	**12 07 29.2**	**-0.3**
	0.7nm,0.4s,baz=194,slow=5.3,SNR=2.3							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**56.09**	**343**	P		**P**	**12 07 44.5**	**-0.1**
	0.4nm,0.6s,baz=141,slow=8.0,SNR=2.8							
	0.4nm,0.6s							
H04N2	**CROZET ISLANDS**	**59.48**	**219**	T		T	13 12 37.3	
	baz=63,slow=75,SNR=22							
H04N1	**CROZET ISLANDS**	**59.49**	**219**	T		T	13 12 38.4	
	baz=63,slow=75,SNR=26							
H04N3	**CROZET ISLANDS**	**59.50**	**219**	T		T	13 12 39.5	
	baz=63,slow=75,SNR=17							
H04S1	**CROZET ISLANDS**	**59.70**	**218**	T		T	13 12 53.1	
	baz=63,slow=76,SNR=4.3							
H04S3	**CROZET ISLANDS**	**59.72**	**218**	T		T	13 12 50.9	
	baz=63,slow=76,SNR=7.0							
H04S2	**CROZET ISLANDS**	**59.72**	**218**	T		T	13 12 54.8	
	baz=63,slow=76,SNR=4.2							
KURBB	**Kurchatov Arra**	**60.64**	**342**	P		**P**	**12 08 15.9**	**-0.3**
	0.3nm,0.6s,baz=159,slow=6.8,SNR=2.5							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**62.04**	**348**	P		**P**	**12 08 25.5**	**-0.1**
	0.8nm,0.4s,baz=147,slow=7.0,SNR=5.1							
	0.8nm,0.4s							
BVAR	**Borovoye Array**	**65.38**	**339**	P		**P**	**12 08 47.0**	**-0.7**
	0.5nm,0.3s,baz=129,slow=6.7,SNR=3.3							
	0.5nm,0.3s							
TXAR	**Lajitas Array**	**145.72**	**45**	PKPbc		**PKPab**	**12 17 45.2**	**-0.1**
	0.3nm,0.5s,baz=297,slow=1.2,SNR=6.4							

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*HLW **30** 12:01:47.8, 27°.96N×34°.52E, h10km±1km, Ml2.6*
*SGS **30** 12:01:49.4, 27°.93N×34°.49E, h8km, Ml2.2*
ISC 30 12:01:48.6±0.9, 27°.97N±0°.05×34°.46E±0°.03, h15km, n23, σ0°.57/23, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSHS		**0.45**	**42**	S		**Sb**	**12 02 05.0**	**+0.3**
RSHS		**0.45**	**42**	P		**Pg**	**12 01 57.8**	**+0.3**
TR1	**Tor 1**	**0.45**	**275**	P		**Pg**	**12 01 57.6**	**0.0**
HKAT	**Jabal Katrina**	**0.69**	**324**	P		**Pg**	**12 02 01.8**	**-0.4**
KRABS	**KRABS**	**0.71**	**79**	P		**Pg**	**12 02 02.5**	**-0.1**
KRABS	**KRABS**	**0.71**	**79**	S		**Sb**	**12 02 11.9**	**-0.6**
BDAS	**Al Bad`**	**0.73**	**51**	S		**Sb**	**12 02 14.2**	**+1.3**
BDAS	**Al Bad`**	**0.73**	**51**	P		**Pg**	**12 02 03.2**	**+0.3**
AYUS	**`Aynunah**	**0.75**	**73**	P		**Pg**	**12 02 03.2**	**-0.1**
AYUS	**`Aynunah**	**0.75**	**73**	S		**Sb**	**12 02 13.7**	**+0.3**
HDHB	**Dhahab**	**0.77**	**10**	P		**Pg**	**12 02 02.8**	**-0.8**
TR2	**Tor 2**	**0.77**	**303**	P		**Pg**	**12 02 03.9**	**+0.2**
HHRG	**Al Ghardaqah**	**1.08**	**227**	P		**Pb**	**12 02 09.8**	**+0.6**
JLOS		**1.19**	**50**	S		**Sn**	**12 02 26.8**	**-0.1**
JLOS		**1.19**	**50**	P		**Pn**	**12 02 10.1**	**-0.8**
HRDS	**Abu Rudays**	**1.27**	**306**	P		**Pn**	**12 02 11.2**	**-0.7**
WTBKS	**WTBKS**	**1.29**	**84**	S		**Sb**	**12 02 28.3**	**-0.8**
WTBKS	**WTBKS**	**1.29**	**84**	P		**Pn**	**12 02 11.7**	**-0.6**
JMOS	**Jabal al Moall**	**1.33**	**25**	P		**Pn**	**12 02 13.0**	**+0.4**
GRB	**Gharib**	**1.51**	**282**	P		**Pn**	**12 02 15.0**	**-0.2**
DESA	**DESA**	**1.58**	**106**	S		**Sn**	**12 02 35.9**	**-0.4**
DESA	**DESA**	**1.58**	**106**	P		**Pn**	**12 02 15.6**	**-0.5**
TBKS	**Tabuk**	**1.85**	**82**	P		**Pn**	**12 02 20.5**	**+0.6**

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*NEIC **30** 12:03:13.5±1.8, 20°.32S±0°.09×169°.67E±0°.05, h122km±7km, mb4.1/13, Error ellipse: s-maj=13.9km s-min=4.7km az=158.0*
*IDC **30** 12:03:13.9±3.5, 20°.23S×169°.55E, h127km±28km, mb3.5/7, mbtmp4.0/9, Error ellipse: s-maj=28.8km s-min=22.1km az=50.0*
*NOU **30** 12:03:15.8, 20°.40S×169°.61E, h95km, MLv4.2/9, Vanuatu Islands*
ISC 30 12:03:10.2±0.7, 20°.21S±0°.07×169°.80E±0°.09, h100km, n42, σ1°.44/44, mb4.0/12, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.09**	**232**			**Pn**	**12 03 46.3**	**+2.4**
MARNC					Sn	**Sn**	**12 04 09.7**	**+0.1**
MARNC	**Mare, Loyalty**	**2.09**	**232**	P		**Pn**	**12 03 46.3**	**+2.4**
MARNC	**Mare, Loyalty**	**2.09**	**232**	S		**Sn**	**12 04 09.4**	**-0.2**
PINNC	**Pines Island,**	**3.25**	**222**			**Pn**	**12 04 00.8**	**+1.6**
PINNC					Sn	**Sn**	**12 04 35.5**	**-1.6**
PINNC	**Pines Island,**	**3.25**	**222**	P		**Pn**	**12 04 01.1**	**+1.9**
PINNC	**Pines Island,**	**3.25**	**222**	S		**Sn**	**12 04 36.7**	**-0.4**
YATNC	**Mamie plateau,**	**3.28**	**235**	P		**Pn**	**12 04 01.0**	**+1.3**
YATNC	**Mamie plateau,**	**3.28**	**235**	S		**Sn**	**12 04 36.7**	**-1.3**
OUENC	**Ouen Island, N**	**3.53**	**231**	P		**Pn**	**12 04 05.3**	**+2.3**
DZM	**Mont Dzumac**	**3.64**	**239**	P		**Pn**	**12 04 06.5**	**+1.9**
	232nm,0.8s,baz=57,slow=18							
DZM				S		**Sn**	**12 04 46.8**	**0.0**
	111nm,0.4s,baz=158,slow=21,SNR=12							
ONTNC	**Ouen Toro**	**3.76**	**236**			**Pn**	**12 04 08.5**	**+2.4**
ONTNC	**Ouen Toro**	**3.76**	**236**	P		**Pn**	**12 04 08.5**	**+2.4**
ONTNC	**Ouen Toro**	**3.76**	**236**	S		**Sn**	**12 04 50.2**	**+0.8**
SANVU	**Saraoutou**	**5.34**	**332**	Pn		**Pn**	**12 04 29.1**	**+1.5**
URZ	**Urewera**	**19.07**	**162**	P		**Pn**	**12 07 26.2**	**-0.3**
	3.9nm,0.4s,baz=37,slow=4.2,SNR=7.9							
ARMA	**Armidale**	**19.30**	**235**	P		**P**	**12 07 26.4**	**-0.9**
ARMA				IAmb		IAmb	12 07 30.2	
	comp=Z,6.5nm,0.9s							
WR8	**Warramunga Arr**	**33.12**	**264**	P		**P**	**12 09 36.4**	**-0.6**
WR8				IAmb		IAmb	12 09 44.9	
	comp=Z,3.3nm,1.1s							
WB0	**Warramunga Arr**	**33.24**	**265**	P		**P**	**12 09 37.6**	**-0.5**
WB0				IAmb		IAmb	12 10 04.7	
	comp=Z,3.2nm,1.1s							
WRA	**Warramunga Arr**	**33.27**	**264**	P		**P**	**12 09 36.8**	**-1.5**
WRA	**Warramunga Arr**	**33.27**	**264**	P		**P**	**12 09 37.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=100,slow=6.5,SNR=5.0							
	comp=Z,0.3nm,0.5s							
AS31	**Alice Springs**	**33.42**	**257**	P		**P**	**12 09 38.9**	**-0.7**
ASAR	**Alice Springs**	**33.42**	**257**	P		**P**	**12 09 38.0**	**-1.6**
ASAR	**Alice Springs**	**33.42**	**257**	P		**P**	**12 09 38.5**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=84,slow=9.0,SNR=15							
	comp=Z,1.8nm,0.7s							
MTN	**Manton Dam**	**37.72**	**275**	P		**P**	**12 10 16.4**	**-0.1**
MTN				IAmb		IAmb	12 10 29.9	
	comp=Z,6.2nm,1.0s							
FORT	**Forrest**	**38.93**	**246**	P		**P**	**12 10 25.9**	**-0.4**
KNRA	**Kununurra**	**39.23**	**270**	P		**P**	**12 10 27.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**41.68**	**265**	P		**P**	**12 10 48.2**	**-1.0**
VNDA	**Vanda**	**57.48**	**182**	P		**P**	**12 12 47.3**	**-1.1**
VNDA				IAmb		IAmb	12 12 48.5	
	comp=Z,1.7nm,1.1s							
VNDA	**Vanda**	**57.48**	**182**	P		**P**	**12 12 48.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=17,slow=7.1,SNR=4.6							
	comp=Z,0.7nm,0.7s							
SBA	**Scott Base**	**57.71**	**181**	P		**P**	**12 12 50.0**	**+0.2**
QSPA	**South Pole Qui**	**69.85**	**180**	P		**P**	**12 14 10.8**	**+0.9**
QSPA				IAmb		IAmb	12 14 12.6	
	comp=Z,4.7nm,0.8s							
QSPA	**South Pole Qui**	**69.85**	**180**	P		**P**	**12 14 12.1**	**+2.1**
	comp=Z,4.6nm,0.7s,baz=33,slow=0.8,SNR=27							
	comp=Z,4.6nm,0.7s							
TROLL	**Troll, Antarti**	**87.61**	**184**	⇑P		**P**	**12 15 45.8**	**-1.2**
	comp=Z,150nm,0.7s							
SNAA	**Sanae**	**88.22**	**182**	⇑P		**P**	**12 15 47.3**	**-2.6**
	comp=Z,39nm,1.0s							
SNAA	**Sanae**	**88.22**	**182**	IAmb		IAmb	12 15 49.3	
	comp=Z,1.3nm,0.8s							
SNAA	**Sanae**	**88.22**	**182**	P		**P**	**12 15 48.5**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=187,slow=6.0,SNR=5.6							
	comp=Z,1.1nm,0.7s							
VNA3	**Neumayer Olymp**	**88.79**	**180**	⇑P		**P**	**12 15 51.0**	**-1.5**
	comp=Z,4.9nm,0.6s							
NVAR	**Mina Array Bea**	**89.04**	**48**	P		**P**	**12 15 56.0**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=220,slow=7.2,SNR=4.3							
	comp=Z,0.6nm,0.7s							
VNA2	**Neumayer--Watz**	**89.09**	**181**	⇑P		**P**	**12 15 52.9**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=174,slow=5.2							
ILAR	**Eielson Array**	**91.00**	**17**	P		**P**	**12 16 03.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=204,slow=8.8,SNR=1.6							
	comp=Z,0.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**144.53**	**353**	PKP		**PKPdf**	**12 22 33.4**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=360,slow=2.4,SNR=8.4							
GERES	**GERESS Array B**	**145.59**	**332**	PKPbc		**PKPab**	**12 22 37.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=22,slow=4.8,SNR=4.8							

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*IDC **30** 12:06:24.1±1.2, 60°.19N×153°.53W, h125km±17km, mb3.6/9, mbtmp4.0/12, Error ellipse: s-maj=23.8km s-min=10.6km az=110.0*
*NEIC **30** 12:06:26.2±0.6, 60°.15N±0°.04×153°.43W±0°.02, h152km±4km, Error ellipse: s-maj=6.0km s-min=1.0km az=185.0*
*AEIC **30** 12:06:27.2±0.9, 60°.14N±0°.04×153°.37W±0°.08, h149km±4km, ML3.7, mb4.1/5(NEIC), ML3.8/172(NEIC), Error ellipse: s-maj=6.2km s-min=5.7km az=130.0*
ISC 30 12:06:26.1±0.7, 60°.10N±0°.04×153°.37W±0°.04, h151km±5km, n218, σ0°.99/235, mb3.9/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.17**	**137**			**Pn**	**12 06 46.4**	**-0.2**
ILSW					Sn	**Sn**	**12 07 02.0**	**-0.2**
ILSW					IAML		12 07 03.2	
	comp=N,441nm,0.9s							
ILSW					IAML		12 07 07.5	
	comp=E,368nm,0.7s							
O20K	**Slope Mountain**	**0.37**	**93**			**Pn**	**12 06 47.3**	**+0.2**
O20K						**Sn**	**12 07 03.7**	**+0.6**
OPT	**Oil Point**	**0.46**	**171**			**Pn**	**12 06 48.0**	**+0.6**
P19K	**Oil Pt**	**0.46**	**171**			**Pn**	**12 06 48.0**	**+0.5**
P19K					Sn	**Sn**	**12 07 04.4**	**+0.8**
P19K					IAML		12 07 05.0	
	comp=N,3μm,0.5s							
RDWB	**Redoubt West**	**0.47**	**34**			**Pn**	**12 06 47.6**	**0.0**
RDWB						**Sn**	**12 07 03.4**	**-0.6**
O19K	**Port Alsworth**	**0.48**	**281**			**Pn**	**12 06 47.4**	**-0.1**
O19K					Sn	**Sn**	**12 07 03.0**	**-0.7**
O19K					IAML		12 07 03.9	
	comp=E,1μm,0.5s							
O19K					IAML		12 07 04.7	
	comp=N,2μm,0.4s							
DFR	**Drift River**	**0.60**	**34**			**Pn**	**12 06 48.1**	**-0.1**
DFR						**Sn**	**12 07 04.7**	**-0.4**
AU22	**Augustine Moun**	**0.73**	**180**			**Pn**	**12 06 49.5**	**+0.6**
AU22						**Sn**	**12 07 07.1**	**+0.8**
N19K	**Bonanza Creek**	**0.90**	**323**			**Pn**	**12 06 50.0**	**-0.3**
N19K					IAML		12 07 08.2	
	comp=E,389nm,0.7s							
N19K					IAML		12 07 08.3	
	comp=N,392nm,0.6s							
O18K	**Koktuh Hills**	**0.96**	**256**			**Pn**	**12 06 50.8**	**+0.2**
O18K						**Sn**	**12 07 09.2**	**-0.2**
HOM	**Homer**	**0.98**	**116**			**Pn**	**12 06 51.3**	**+0.6**
HOM					Sn	**Sn**	**12 07 11.3**	**+1.8**
HOM					IAML		12 07 12.2	
	comp=E,3μm,0.4s							
HOM					IAML		12 07 12.6	
	comp=N,3μm,0.3s							
P18K	**Big Mountain,**	**1.18**	**234**			**Pn**	**12 06 52.6**	**0.0**
P18K					Sn	**Sn**	**12 07 12.3**	**-0.6**
Q19K	**Cape Douglas,**	**1.19**	**187**			**Pn**	**12 06 53.0**	**+0.3**
Q19K						**Sn**	**12 07 13.2**	**+0.2**
CNPM	**China Poot**	**1.22**	**117**			**Pn**	**12 06 53.4**	**+0.4**
CNPM					Sn	**Sn**	**12 07 13.2**	**-0.4**
SPCR	**Spurr Chakacha**	**1.24**	**27**			**Pn**	**12 06 53.1**	**-0.1**
SPCR						**Sn**	**12 07 14.0**	**0.0**
SPCR	**Spurr Chakacha**	**1.24**	**27**			**Pn**	**12 06 53.1**	**-0.1**
SPCR						**Sn**	**12 07 13.4**	**-0.6**
SPBG	**Spurr Blockage**	**1.26**	**23**			**Pn**	**12 06 53.7**	**+0.3**
SPBG						**Sn**	**12 07 14.6**	**+0.2**
SPU	**Mount Spurr**	**1.26**	**30**			**Pn**	**12 06 53.2**	**-0.1**
SPCN	**Chakachatna No**	**1.27**	**27**			**Pn**	**12 06 53.6**	**+0.1**
CAPN	**Captain Cook N**	**1.28**	**58**			**Pn**	**12 06 55.1**	**+1.6**
BRLK	**Bradley Lake**	**1.29**	**104**			**Pn**	**12 06 54.2**	**+0.5**
SPNN	**North Nagishla**	**1.31**	**14**			**Pn**	**12 06 53.9**	**0.0**
SPCG	**Spurr Capps Gl**	**1.36**	**28**			**Pn**	**12 06 54.3**	**-0.1**
BRSE	**Bradley Lake S**	**1.37**	**104**			**Pn**	**12 06 54.9**	**+0.5**
N18K	**Kilae Creek**	**1.38**	**296**	Pn		**Pn**	**12 06 54.2**	**-0.3**
SYI	**Shuyak Island**	**1.58**	**161**			**Pn**	**12 06 56.6**	**0.0**
SYI					IAML		12 07 20.4	
	comp=N,2μm,0.6s							
SYI					IAML		12 07 20.8	
	comp=E,1μm,0.6s							
STLK	**Strandline Lak**	**1.59**	**28**			**Pn**	**12 06 56.5**	**-0.2**
STLK					IAML		12

PLK1	Peulik 1	2.85	217		Pn	12 07 12.0	+0.4
PPLA	Purkeypile	2.86	11		Pn	12 07 12.1	+0.4
OHAK	Old Harbor	2.89	179		Pn	12 07 10.8	-1.2
OHAK				IAML		12 07 46.2	
	comp=N,475nm,0.4s						
OHAK				IAML		12 07 47.9	
	comp=E,435nm,0.3s						
PLK4	Peulik 4	2.92	213		Pn	12 07 13.0	+0.4
PLK4				IAML		12 07 51.4	
	comp=E,119nm,0.5s						
PLK4				IAML		12 07 54.3	
	comp=N,96nm,0.9s						
SML	Sawmill	2.99	53		Pn	12 07 11.8	-1.5
SML				IAML		12 07 47.5	
	comp=N,452nm,0.6s						
SML				IAML		12 07 48.4	
	comp=E,322nm,0.3s						
P23K	Montague Islan	2.99	89		Pn	12 07 13.5	+0.2
PLBL	Peulik Blue Cr	3.00	218		Pn	12 07 13.8	+0.3
K20K	Telida	3.28	354		Pn	12 07 16.9	-0.1
R16K	Pilot Point	3.35	223	Pn	Pn	12 07 18.9	+1.0
R16K				IAML		12 08 00.8	
	comp=N,144nm,1.0s						
R16K				IAML		12 09 25.6	
	comp=E,114nm,1.1s						
N15K	Kwethluk River	3.36	274		Pn	12 07 18.9	+0.9
L16K	Owhat River	3.39	301		Pn	12 07 18.7	+0.4
O15K	Ungalikthiuk R	3.41	257	Pn	Pn	12 07 19.7	+1.1
SCM	Sheep Creek Mo	3.42	57		Pn	12 07 17.3	-1.5
SCM				IAML		12 07 59.9	
	comp=N,415nm,0.9s						
HIN	Hinchinbrook I	3.44	82	Pn	Pn	12 07 18.7	-0.3
HIN				IAML		12 07 58.9	
	comp=E,468nm,0.6s						
FID	Port Fidalgo	3.48	76		Pn	12 07 17.5	-2.0
WAT7	Susitna Watana	3.49	36		Pn	12 07 18.6	-1.2
SII	Sitkinak Islan	3.58	187		Pn	12 07 19.7	-1.2
SII				IAML		12 08 10.8	
	comp=N,424nm,0.8s						
WAT1	Susitna Watana	3.58	38		Pn	12 07 19.7	-1.1
MID	Middleton Isla	3.62	98		Pn	12 07 21.3	0.0
MID				IAML		12 08 05.1	
	comp=E,199nm,1.0s						
MID				IAML		12 08 05.2	
	comp=N,264nm,0.9s						
KTH	Kantishna Hill	3.65	17		Pn	12 07 20.7	-1.1
KTH				IAML		12 08 05.2	
	comp=N,40nm,0.6s						
TRF	Thorofare Moun	3.66	22		Pn	12 07 21.6	-0.5
TRF				IAML		12 08 07.8	
	comp=N,71nm,0.4s						
TRF				IAML		12 08 11.7	
	comp=E,45nm,0.5s						
M15K	Kasigluk River	3.68	282		Pn	12 07 22.1	0.0
EYAK	Cordova Ski Ar	3.81	80		Pn	12 07 23.7	-0.2
EYAK				IAML		12 08 09.1	
	comp=E,262nm,0.4s						
EYAK				IAML		12 08 09.5	
	comp=N,142nm,0.7s						
CHUM	Lake Minchumin	3.83	7		Pn	12 07 23.6	-0.4
DIV	Divide	3.88	71		Pn	12 07 23.5	-1.3
DIV				IAML		12 08 10.7	
	comp=E,331nm,0.3s						
KLU	Klutina	3.91	66		Pn	12 07 23.9	-1.2
RND	Reindeer	3.95	31		Pn	12 07 24.9	-0.8
RND				IAML		12 08 12.3	
	comp=E,56nm,0.3s						
RND				IAML		12 08 17.7	
	comp=N,40nm,0.3s						
M24K	Tolsona, Glenn	4.03	57		Pn	12 07 26.0	-0.7
ANNE	Aniakchak Nort	4.04	220		Pn	12 07 27.3	+0.5
J19K	Poorman	4.05	346		Pn	12 07 26.6	-0.3
J20K	Nowinta River	4.11	355		Pn	12 07 27.6	0.0
DHY	Denali Highway	4.13	41		Pn	12 07 27.1	-1.0
DHY				IAML		12 08 17.2	
	comp=E,97nm,0.3s						
DHY				IAML		12 08 17.5	
	comp=N,170nm,0.5s						
BPAW	Bear Paw Mtn.	4.17	15		Pn	12 07 27.1	-1.3
BPAW				IAML		12 08 14.2	
	comp=E,23nm,0.9s						
BPAW				IAML		12 08 16.4	
	comp=N,23nm,0.8s						
ANPB	Aniakchak Plen	4.20	220		Pn	12 07 29.1	+0.2
MCK	McKinley	4.20	28		Pn	12 07 28.5	-0.4
MCK				IAML		12 08 19.5	
	comp=E,38nm,0.3s						
MCK				IAML		12 08 19.7	
	comp=N,46nm,0.6s						
J17K	VABM Dome	4.28	323		Pn	12 07 29.1	-0.7
J17K				IAML		12 08 17.8	
	comp=N,27nm,1.1s						
M14K	Bethel	4.31	282		Pn	12 07 31.2	+0.9
BWN	Browne	4.47	22		Pn	12 07 31.8	-0.6
BWN				IAML		12 08 46.5	
	comp=E,54nm,0.7s						
BWN				IAML		12 09 09.4	
	comp=N,48nm,1.1s						
KAIM	Kayak Island	4.50	88		Pn	12 07 32.9	+0.2
KAIM				IAML		12 08 25.8	
	comp=N,218nm,1.0s						
KAIM				IAML		12 08 29.1	
	comp=E,209nm,0.6s						
K15K	Wolf Creek Mou	4.52	303		Pn	12 07 33.8	+0.8
N25K	Chitina, Valde	4.55	67		Pn	12 07 32.6	-0.9
J16K	Anvik River	4.69	316		Pn	12 07 35.1	-0.3
NICHA	Nichawak Mount	4.70	84		Pn	12 07 35.4	-0.1
I20K	Naaghedeneel	4.74	354		Pn	12 07 36.4	+0.6
I20K				IAML		12 08 14.8	
	comp=N,50nm,0.6s						
I20K				IAML		12 08 25.2	
	comp=E,58nm,1.0s						
L14K	Kuka Creek	4.74	289		Pn	12 07 36.9	+1.0
PAX	Paxson	4.75	49		Pn	12 07 35.5	-0.6
PAX				IAML		12 08 28.2	
	comp=N,75nm,0.5s						
PAX				IAML		12 08 29.7	
	comp=E,80nm,0.5s						
WACK	Wrangell Chich	4.78	63		Pn	12 07 35.8	-0.9
BERG	Berg Lake	4.83	82	Pn	Pn	12 07 36.8	-0.3
GLB	Gilahina Butte	4.88	70		Pn	12 07 36.9	-0.8
GLB				IAML		12 08 33.7	
	comp=N,113nm,0.5s						
GLB				IAML		12 08 34.5	
	comp=E,136nm,0.4s						
NEA2	Nenana	4.93	22		Pn	12 07 37.1	-1.3
NEA2				IAML		12 08 33.1	
	comp=N,16nm,1.2s						
NEA2				IAML		12 08 33.9	
	comp=E,21nm,0.7s						
GCSA	Galena City Sc	4.94	342		Pn	12 07 37.6	-0.9
VRDI	Verde Repeater	5.01	73		Pn	12 07 39.0	-0.7
VRDI				IAML		12 08 37.2	
	comp=E,145nm,0.5s						
VNSG	Veniaminof 6	5.01	220		Pn	12 07 39.7	+0.1
WRH	Wood River Hil	5.03	27		Pn	12 07 38.6	-1.2
WRH				IAML		12 08 35.2	
	comp=N,20nm,0.4s						
WRH				IAML		12 08 35.3	
	comp=E,17nm,0.4s						
VNFG	Fog Glacier, M	5.04	223		Pn	12 07 41.0	+1.0
VNFG				IAML		12 08 24.3	
	comp=N,64nm,1.0s						
VNFG				IAML		12 08 45.9	
	comp=E,89nm,1.2s						
KHIT	Khitrov Hills	5.05	82		Pn	12 07 39.7	-0.4
MLY	Manley	5.09	13		Pn	12 07 40.0	-0.6
CRQM	Cirque	5.11	78		Pn	12 07 41.1	+0.1
I21K	Tanana	5.14	7		Pn	12 07 40.4	-0.8
I21K				IAML		12 08 36.3	
	comp=E,15nm,0.8s						
I21K				IAML		12 08 38.4	
	comp=N,14nm,0.9s						
K24K	Donnelly Dome	5.16	41	Pn	Pn	12 07 42.1	+0.6
VNKR	Veniaminof 5	5.18	221		Pn	12 07 41.6	-0.2
CCB	Clear Creek Bu	5.24	27		Pn	12 07 41.4	-1.2
CCB				IAML		12 08 40.9	
	comp=E,23nm,0.3s						
CCB				IAML		12 08 43.0	
	comp=N,17nm,0.6s						
HDA	Harding Lake	5.26	32		Pn	12 07 41.8	-1.0
HDA				IAML		12 08 41.0	
	comp=E,108nm,0.4s						
TGL	Tana Glacier	5.26	78		Pn	12 07 42.9	-0.1
I23K	Minto, Yukon-K	5.39	18		Pn	12 07 43.6	-0.9
I23K				IAML		12 09 35.3	
	comp=N,10nm,0.9s						
BARK	Barkley Ridge	5.43	82		Pn	12 07 45.4	+0.3
COLA	College	5.43	26		Pn	12 07 44.2	-0.7
COLA				IAML		12 08 45.4	
	comp=N,69nm,0.5s						
COLA				IAML		12 08 49.8	
	comp=N,44nm,0.5s						
RIDG	Independent Ri	5.43	44		Pn	12 07 44.8	-0.3
PTPK	Patty Peak	5.47	74		Pn	12 07 46.1	+0.2
KIAG	Kiagna River	5.50	77		Pn	12 07 45.5	-0.7
BALM	Baldy	5.52	75		Pn	12 07 46.5	+0.2
IL31		5.57	30		Pn	12 07 45.7	-1.1
ILAR	Eielson Array	5.57	30		Pn	12 07 45.6	-1.3
ILAR	Eielson Array	5.57	30	P	Pn	12 07 45.4	-1.5
	comp=N,88nm,0.4s,baz=217,slow=13,SNR=1128						
ILAR				S	Sn	12 08 46.8	-3.2
	comp=N,12nm,0.7s,baz=214,slow=24,SNR=8.4						
H21K	Melozitna Rive	5.58	2	Pn	Pn	12 07 46.7	-0.4
BAGL	Bagley Icefiel	5.62	81		Pn	12 07 47.7	+0.1
DOT	Dot Lake	5.66	47		Pn	12 07 47.4	-0.7
MESA	MESA	5.71	84		Pn	12 07 49.5	+0.5
POKR	Poker Plat Res	5.73	26		Pn	12 07 48.3	-0.7
GRNC	Granite Creek	5.79	79		Pn	12 07 50.4	+0.3
BARN	Barnard Glacie	5.85	76		Pn	12 07 51.3	+0.5
J25K	Salcha River,	5.86	36		Pn	12 07 49.9	-0.9
SCRK	Sand Creek	5.88	45		Pn	12 07 49.9	-1.2
IMAR	Indian Mountai	5.91	358	Pn	Pn	12 07 51.0	-0.3
RKAV	Rock Avalanche	6.00	83		Pn	12 07 53.6	+0.8
H23K	Yukon River	6.00	15		Pn	12 07 52.3	-0.4
CTGM	Chitina Glacie	6.00	77		Pn	12 07 53.2	+0.3
TABL	Table Mountain	6.09	82		Pn	12 07 54.2	+0.1
CHX	Chaix Hills	6.13	85		Pn	12 07 55.5	+1.0
LOGN	Logan Glacier	6.16	78		Pn	12 07 55.3	+0.4
H24K	Noodor Dome	6.27	21		Pn	12 07 55.5	-0.8
BC03		6.28	57		Pn	12 07 55.9	-0.4
BCAR	Beaver Creek A	6.28	57		Pn	12 07 56.0	-0.3
J26L	Joseph Creek	6.35	42		Pn	12 07 56.2	-1.1
S12K	Black Hills	6.39	230	Pn	Pn	12 07 59.6	+1.6
G21K	Allakaket	6.44	360	Pn	Pn	12 07 58.5	+0.1
PS1A	Pavlof South-1	6.49	227		Pn	12 08 00.2	+1.0
O28M	Mount Lipton	6.56	78		Pn	12 08 01.3	+1.0
PCA	Pinnacle	6.56	84		Pn	12 08 00.6	+0.4
PN7A	Pavlof North-7	6.57	228		Pn	12 08 00.1	-0.2
PS4A	Pavlof South-4	6.59	227		Pn	12 07 59.9	-0.6
K27K	Chicken	6.60	49	Pn	Pn	12 08 00.2	-0.4
HAG	Hague Volcano	6.63	227		Pn	12 08 00.5	-0.6
YUK8	Steele Glacier	6.78	74		Pn	12 08 05.0	+1.7
DT1	Dutton Round H	6.92	228		Pn	12 08 04.4	-0.6
PNL	Peninsula	7.04	87		Pn	12 08 06.0	-0.6
H25L	Birch Creek	7.06	26		Pn	12 08 05.0	-1.7
COLD	Coldfoot	7.29	10		Pn	12 08 09.3	-0.4
O29M	Mount Kennedy	7.38	82	Pn	Pn	12 08 13.0	+1.9
G25K	Bearman Lake	7.43	23		Pn	12 08 09.9	-1.8
YUK6	Outpost Mounta	7.45	77		Pn	12 08 11.4	-0.8
M29M	Somme Creek	7.55	65	Pn	Pn	12 08 14.1	+0.7
DAWY	Dawson	7.66	53		Pn	12 08 14.7	-0.2
ISNN	Isanotski Nort	7.70	231		Pn	12 08 14.9	-0.5
F24K	Squaw Lake	7.83	16		Pn	12 08 16.2	-0.7
L29M	L29M	7.86	61		Pn	12 08 18.0	+0.6
SSBA	Shishaldin	7.88	232		Pn	12 08 17.1	-0.7
G26K	Porcupine Rive	8.09	28	Pn	Pn	12 08 18.9	-1.4
I28M	Miner Creek	8.15	43		Pn	12 08 20.8	-0.6
F25K	Christian Rive	8.25	21		Pn	12 08 21.1	-1.5
E24K	Your Creek	8.28	13		Pn	12 08 22.6	-0.4
BMAR	Burnt Mountain	8.31	24		Pn	12 08 21.8	-1.6
BM01	Burnt Mountain	8.34	24		Pn	12 08 21.4	-2.3
M30M	Minto, Yukon	8.34	66		Pn	12 08 24.5	+0.6
K29M	Barlow Dome	8.34	57		Pn	12 08 24.3	+0.4
TOLK	Toolik Lake Re	8.73	9		Pn	12 08 29.3	+0.4
E25K	Arctic Village	8.73	20		Pn	12 08 27.6	-1.5
AKSA	Akutan Strait	8.98	234		Pn	12 08 33.0	+0.7
J30M	Hart River	9.09	53	Pn	Pn	12 08 35.1	+1.2
WHY	Whitehorse	9.17	79	Pn	Pn	12 08 36.3	+1.4
UNV	Unalaska Valle	9.52	235		Pn	12 08 38.5	-1.0
N32M	Quiet Lake	10.02	75	Pn	Pn	12 08 47.4	+1.3
S32K	Killisnoo	10.10	97	Pn	Pn	12 08 49.9	+2.8
G30M	tAoh Zraii Nji	10.27	41	Pn	Pn	12 08 48.4	-0.9
H31M	Peel River	10.35	48	Pn	Pn	12 08 50.2	-0.2
U33K	Whale Pass	11.41	102	Pn	Pn	12 09 06.2	+1.7
INK	Inuvik	11.87	38	P	Pn	12 09 09.2	-1.0
	comp=N,3.4nm,0.5s,baz=245,slow=16,SNR=19						
INK				S	Sn	12 11 27.6	+6.5
	comp=N,3.3nm,0.8s,baz=26,slow=29,SNR=6.0						
DLBC	Dease Lake	12.04	88	P	Pn	12 09 13.8	+1.1
	comp=N,8.8nm,0.6s,baz=281,slow=10,SNR=15						
DLBC				S	Sn	12 11 23.6	-2.0
	comp=N,18nm,1.0s,baz=354,slow=22,SNR=1.6						
C36M	Paulatuk	15.38	41	Pn	Pn	12 09 53.1	-1.7
C36M				IAmb	IAmb	12 09 57.6	
	comp=Z,32nm,1.1s						
A36M	Sachs Harbour	16.27	32	Pn	Pn	12 10 04.7	-0.8
PETK	Petropavlovsk-	27.26	277	P	P	12 11 54.3	-1.5
	comp=Z,2.7nm,1.0s,baz=71,slow=14,SNR=2.1						
	comp=Z,2.7nm,1.0s						
SONM	Songino Array	54.58	306	IAmb	IAmb	12 15 40.5	
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	54.58	306	P	P	12 15 39.8	+1.4
	comp=Z,1.0nm,0.5s,baz=50,slow=6.6,SNR=5.5						
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	57.18	323	P	P	12 15 57.0	+0.4
	comp=Z,1.7nm,0.5s,baz=27,slow=7.9,SNR=7.4						
	comp=Z,1.7nm,0.5s						
FINES	FINESS Array B	58.78	0	P	P	12 16 07.4	-0.2
	comp=Z,0.9nm,0.7s,baz=355,slow=11,SNR=1.2						
	comp=Z,0.9nm,0.7s						
HFS	Hagfors	59.67	7	P	P	12 16 13.7	-0.1
	comp=Z,0.4nm,0.3s,baz=48,slow=2.1,SNR=0.9						
	comp=Z,0.4nm,0.3s						
BVAR	Borovoye Array	61.89	332	P	P	12 16 28.4	-0.4
	comp=Z,2.3nm,0.6s,baz=32,slow=7.7,SNR=10						
	comp=Z,2.3nm,0.6s						
KURBB	Kurchatov Arra	61.95	325	P	P	12 16 28.6	-0.6
	comp=Z,0.8nm,0.6s,baz=33,slow=6.4,SNR=5.3						
	comp=Z,0.8nm,0.6s						
EKA	Eskdalemuir Ar	62.49	19	P	P	12 16 32.1	-0.7
	comp=Z,1.1nm,0.7s,baz=328,slow=5.9,SNR=1.5						
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	64.23	321	P	P	12 16 43.3	-1.1
	comp=Z,0.3nm,0.5s,baz=17,slow=5.7,SNR=2.7						
	comp=Z,0.3nm,0.5s						
AB31	Akbulak array	67.70	337	IAmb	IAmb	12 17 06.6	
	comp=Z,1.5nm,0.6s						
QSPA	South Pole Qui	149.90	180	PKPbc	PKiKP	12 25 59.2	+1.7
	comp=Z,1.0nm,1.0s,baz=69,slow=1.7,SNR=1.7						

*IDC **30** 12:25:59.1±1.3,3°.19N×126°.32E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=103.0km s-min=19.9km az=68.0*

*NEIC **30** 12:26:03.8±0.4,3°.4N±0°.1×126°.80E±0°.07,h35km±2km, mb4.1/11,Error ellipse: s-maj=18.6km s-min=10.6km az=14.0*

*DJA **30** 12:26:05.7±0.6,3°.N±.7°×12°.7E±°,h24km±11km,M4.2/13, mB5.0/5,mb4.4/6,MLv4.1/13,Mw(mB)4.3/5*

ISC 30 12:26:04.6±0.9,**3°.50N**±0°.10×**127°.00E**±0°.08,**h48**km,**n33,** σ1°**33**/34,**mb4.1**/10,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.48	277	P	Pn	12 26 29.5	+0.7
SGSI				S	Sn	12 26 47.5	+0.5
TNTI	Ternate	2.74	172	Pn	Pn	12 26 44.2	-1.9
TNTI	Ternate	2.74	172	P	Pn	12 26 47.9	+1.8
KMSI	Cibinong	4.19	226	P	Pn	12 27 06.9	+0.9
SANI	Sanana	5.61	190	P	Pn	12 27 26.6	+1.1
MRSI	Marisa	5.88	239	P	Pn	12 27 32.2	+2.9
	0.1nm28nm,0.6s						
SWI	Sorong	6.08	135	P	Pn	12 27 34.9	+3.0
	0.1nm34nm,0.8s						
LUWI	Luwuk	6.18	223	Pn	Pn	12 27 29.8	-3.7
LUWI	Luwuk	6.18	223	P	Pn	12 27 35.2	+1.8
	0.2nm1μm31nm,0.8s						
TOLI2	Tolitoli	6.65	249	Pn	Pn	12 27 40.4	+0.6
NLAI	Namlea	6.70	179	P	Pn	12 27 42.3	+1.8
	1μm27nm,0.7s						
FAKI	Fak Fak	8.26	141	Pn	Pn	12 28 01.7	-0.2
FAKI	Fak Fak	8.26	141	P	Pn	12 28 04.6	+2.7
MTN	Manton Dam	16.75	166	Pn	Pn	12 29 54.9	-1.1
MTN				IAmb	IAmb	12 30 14.2	
	comp=Z,9.2nm,1.1s						
JAGI	Jajag, Banyuwa	17.48	227	P	Pn	12 30 03.9	-1.2
JAGI				IAmb	IAmb	12 30 22.3	
	comp=Z,20nm,1.1s						
KNRA	Kununurra	19.14	175	P	P	12 30 23.6	-0.3
KNRA				IAmb	IAmb	12 30 44.5	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	21.51	184	P	P	12 30 48.0	-1.5
FITZ	Fitzroy Crossi	21.51	184	P	P	12 30 48.0	-1.5
	comp=Z,1.4nm,0.4s,baz=5.4,slow=8.2,SNR=9.1						
	comp=Z,1.4nm,0.4s						
PMG	Port Moresby	23.83	123	P	P	12 31 13.7	+0.2
WB0	Warramunga Arr	24.24	163	P	P	12 31 16.9	-0.3
WRAB	Tennant Creek	24.38	163	P	P	12 31 18.4	-0.2
WRAB				IAmb	IAmb	12 31 20.0	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	24.39	163	P	P	12 31 17.8	-0.7
WRA	Warramunga Arr	24.39	163	P	P	12 31 18.1	-0.5
	comp=Z,6.3nm,0.8s,baz=338,slow=11,SNR=20						
	comp=Z,6.3nm,0.8s						
WR8	Warramunga Arr	24.45	163	P	P	12 31 18.7	-0.4
WR8				IAmb	IAmb	12 31 20.0	
	comp=Z,7.3nm,1.1s						
ASAR	Alice Springs	27.83	166	P	P	12 31 48.4	-1.3
ASAR	Alice Springs	27.83	166	P	P	12 31 48.9	-0.8
	comp=Z,0.2nm,0.3s,baz=338,slow=7.1,SNR=10						
ASAR				PcP	PcP	12 35 06.3	+1.3
	comp=Z,0.5nm,1.1s,baz=345,slow=2.5,SNR=4.1						
	comp=Z,0.2nm,0.3s						
BBOO	Buckleboo	37.12	167	P	P	12 33 10.0	-0.7
BBOO				IAmb	IAmb	12 33 32.2	
	comp=Z,3.8nm,1.1s						
STKA	Stephens Creek	37.82	160	P	P	12 33 16.9	+0.3
	comp=Z,1.7nm,0.4s,baz=336,slow=9.2,SNR=6.8						
	comp=Z,1.7nm,0.4s						
MKAR	Makanchi Array	57.89	325	P	P	12 35 51.8	0.0
	comp=Z,0.2nm,0.4s,baz=122,slow=7.4,SNR=2.4						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	62.07	327	P	P	12 36 20.8	+0.5
	comp=Z,0.3nm,0.3s,baz=123,slow=6.6,SNR=4.0						
	comp=Z,0.3nm,0.3s						
KURK	Kurchatov	62.08	327	P	P	12 36 20.0	-0.3
KURK				IAmb	IAmb	12 36 39.3	
	comp=Z,1.0nm,0.8s						
ABKAR	Akbulak array	72.50	321	P	P	12 37 26.1	-0.3
VNDA	Vanda	83.17	173	P	P	12 38 25.6	+0.5

*NEIC **30** 12:26:23.7±1.8,37°.20N±0°.06×71°.54E±0°.10,h108km±6km, mb4.4/4,Error ellipse: s-maj=11.2km s-min=9.2km az=73.0*

*IDC **30** 12:26:24.8±7.1,37°.25N×71°.64E,h115km±54km,mb3.6/5, mbtmp3.9/11,MS4.2/1,Error ellipse: s-maj=64.2km s-min=44.1km az=155.0*

ISC 30 12:26:22.4±0.7,**37°.19N**±0°.05×**71°.62E**±0°.07,**h106**km,**n49,** σ2°**39**/60,**mb4.1**/7,**3C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.08	331		Pn	12 26 57.3	+0.9
CHGR	Chuyangaron	2.44	308		Pn	12 27 00.7	-0.3
KBL	Kabul	3.37	219		Pn	12 27 14.8	+1.4
NIL	Nilore	3.77	159		Pn	12 27 20.5	+1.8
ARSB	Arslanbob	4.27	14	Pn	Pn	12 27 25.4	+0.1
JMU	Jammu	5.21	148	eP	Pn	12 27 41.3	+3.3
JMU				eS	Sn	12 28 33.8	-3.1
JMU				IAML		12 28 39.0	
	comp=E,474nm,0.6s						
JMU				IAML		12 28 40.5	
	comp=N,469nm,0.6s						
ALCI	Alchi Leh	5.42	122	eP	Pn	12 27 43.7	+2.6
ALCI				eS	Sn	12 28 40.9	-1.5
ALCI				IAML		12 28 43.0	
	comp=E,414nm,0.8s						
ALCI				IAML		12 28 43.4	
	comp=N,454nm,0.5s						
UCH	Uchtor	5.51	23	P	Pn	12 27 44.7	+2.3
	SNR=21						
EKS2	Erkin-Say	5.71	16	P	Pn	12 27 47.5	+2.5
	SNR=25						
TSSA	Tissa	5.71	138	eP	Pn	12 27 47.8	+2.7
TSSA				eS	Sn	12 28 48.6	-0.8
TSSA				IAML		12 28 48.7	
	comp=E,591nm,0.4s						
TSSA				IAML		12 28 49.8	
	comp=N,417nm,0.4s						
AAK	Ala-Archa	5.88	21		Pn	12 27 49.5	+2.3
AAK	Ala-Archa	5.88	21	P	Pn	12 27 49.9	+2.7
	comp=N,29nm,0.4s,baz=182,slow=5.6,SNR=97						
AAK				S	Sn	12 28 54.7	+1.5
	comp=N,10nm,0.3s,baz=336,slow=23,SNR=14						
AAK	Ala-Archa	5.88	21	P	Pn	12 27 49.8	+2.6
	SNR=20						
AAK	Ala-Archa	5.88	21	⇑P	Pn	12 27 49.6	+2.5
	comp=N,6.5nm,0.4s						
AAK				⇑S	Sn	12 28 54.1	+0.9
	comp=N,9.2nm,0.6s						
KK31	Karatay Array	5.97	352		Pn	12 27 49.0	+0.8
KK31	Karatay Array	5.97	352	⇑P	Pn	12 27 49.5	+1.2
	comp=N,9.1nm,0.4s,baz=182,slow=14,SNR=103						
KK31				⇓S	Sn	12 28 54.0	-1.3
	comp=N,11nm,0.5s,baz=179,slow=20,SNR=7.1						
KKAR	Karatay Array	5.97	352		Pn	12 27 49.2	+0.9
BOOM	Boomskoye usch	6.25	31		Pn	12 27 53.0	+0.7
DHRM	DHARAMSHALA	6.25	141	eP	Pn	12 27 54.4	+2.0
DHRM				eS	Sn	12 28 59.5	-3.1
DHRM				IAML		12 29 01.9	
	comp=N,319nm,0.3s						
DHRM				IAML		12 29 02.6	
	comp=E,505nm,0.4s						
CHMS	Chumysh	6.28	22	P	Pn	12 27 55.0	+2.5
	SNR=20						
USP	Ospenovka	6.46	19	P	Pn	12 27 57.0	+2.0
	SNR=12						
TKM2	Tokmak 2	6.49	27	P	Pn	12 27 58.0	+2.5
	SNR=23						
KDJ	Kajisay	6.54	39	Pn	Pn	12 27 56.6	+0.4
SMLA	Simla	7.59

comp=Z,7.3nm,1.0s
NB2 NORSAR Subarra 44.13 323 P **P** 12 34 20.9 +0.9
comp=Z,0.9nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.13 323 P **P** 12 34 20.9 +0.9
comp=Z,0.8nm,0.5s,baz=97,slow=7.2,SNR=5.0
comp=Z,0.8nm,0.5s
NC204 NORSAR Array S 44.37 323 P **P** 12 34 23.2 +1.3
TGY Tagaytay City 49.40 104 LR LR 12 56 33.0
comp=Z,277nm,21.1s,baz=124,slow=37
ESDC Sonseca Array 57.58 298 P **P** 12 36 02.0 +0.9
comp=Z,0.7nm,0.6s,baz=49,slow=6.4,SNR=4.5
comp=Z,0.7nm,0.6s

*SJA **30** 12:38:42.1±0.9, 19.°21S×70.°18W, h37km±2km, ML3.6, MW3.7*
*GUC **30** 12:38:44.2±0.7, 19.°20S×70.°15W, h56km±7km, ML3.7*
ISC 30 12:38:44.2±1.0,**19.°22S**±0.°03×**70.°19W**±0.°05,**h32**km±9km,
n26,σ0.°**67**/41,**1C**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.25**	**359**	*e*P	**Pb**	**12 38 51.6**	**+0.2**
PB12	**IPOC Station P**	**0.61**	**348**	⇑*i*P	**Pb**	**12 38 56.5**	**-0.2**
PB12				*e*S	**Sb**	**12 39 05.9**	**+0.7**
PB12				IAML		12 39 07.1	
comp=E,3μm,0.1s							
PB12	**IPOC Station P**	**0.61**	**348**	*i*P	**Pb**	**12 38 55.8**	**-0.9**
PB12				*e*S	**Sb**	**12 39 04.7**	**-0.5**
PB12				IAML		12 39 07.2	
comp=Z,2μm,0.4s							
PB11	**IPOC Station P**	**0.74**	**137**	*i*P	**Pb**	**12 38 58.1**	**-0.7**
PB11				*e*S	**Sb**	**12 39 09.0**	**+0.3**
PB11				IAML		12 39 09.7	
comp=N,9μm,0.2s							
PB11	**IPOC Station P**	**0.74**	**137**	*i*P	**Pb**	**12 38 58.0**	**-0.8**
PB11				*e*S	**Sb**	**12 39 08.6**	**-0.1**
PB11				IAML		12 39 09.3	
comp=Z,4μm,0.3s							
AP01	**Chacalluta**	**0.85**	**350**	*i*P	**Pn**	**12 38 59.8**	**-0.1**
AP01				*e*S	**Sn**	**12 39 11.7**	**+0.4**
AP01				IAML		12 39 13.2	
comp=N,5μm,0.4s							
AP01	**Chacalluta**	**0.85**	**350**	*i*P	**Pn**	**12 38 59.2**	**-0.8**
AP01				*e*S	**Sn**	**12 39 11.5**	**+0.2**
AP01				IAML		12 39 12.7	
comp=Z,4μm,0.1s							
GO01	**Chusmiza**	**1.04**	**116**	*i*P	**Pn**	**12 39 02.8**	**-0.1**
GO01				*e*S	**Sn**	**12 39 17.2**	**+0.5**
GO01				IAML		12 39 17.9	
comp=N,4μm,0.1s							
GO01	**Chusmiza**	**1.04**	**116**	*i*P	**Pn**	**12 39 02.9**	**-0.1**
GO01				*e*S	**Sn**	**12 39 17.2**	**+0.5**
GO01				IAML		12 39 17.4	
comp=Z,1μm,0.2s							
TA02	**Huaiquique**	**1.05**	**177**	*e*P	**Pn**	**12 39 02.7**	**0.0**
PB16	**IPOC Station P**	**1.09**	**37**	*i*P	**Pn**	**12 39 03.1**	**-0.6**
PB16				*e*S	**Sn**	**12 39 17.4**	**-0.6**
PB16	**IPOC Station P**	**1.09**	**37**	*i*P	**Pn**	**12 39 03.3**	**-0.4**
PB16				IAML		12 39 17.6	
comp=Z,310nm,0.7s							
PB16				*e*S	**Sn**	**12 39 17.8**	**-0.2**
TA01	**Diego Aracena**	**1.34**	**180**	*e*P	**Pn**	**12 39 05.8**	**-0.9**
TA01				*e*S	**Sn**	**12 39 23.4**	**+0.1**
TA01				IAML		12 39 28.2	
comp=N,2μm,0.7s							
TA01	**Diego Aracena**	**1.34**	**180**	*i*P	**Pn**	**12 39 06.2**	**-0.4**
TA01				*e*S	**Sn**	**12 39 24.1**	**+0.7**
TA01				IAML		12 39 25.7	
comp=Z,926nm,0.3s							
PB08	**IPOC Station P**	**1.34**	**133**	*i*P	**Pn**	**12 39 06.7**	**-0.3**
PB08				*e*S	**Sn**	**12 39 24.5**	**+0.6**
PB08				IAML		12 39 25.5	
comp=N,2μm,0.2s							
PB08	**IPOC Station P**	**1.34**	**133**	*i*P	**Pn**	**12 39 06.6**	**-0.4**
PB08				*e*S	**Sn**	**12 39 24.4**	**+0.6**
PB08				IAML		12 39 27.9	
comp=Z,1μm,0.3s							
PB18	**Visviri**	**1.75**	**23**	*e*P	**Pn**	**12 39 14.8**	**+2.0**
PB01	**IPOC Station P**	**1.93**	**160**	*e*P	**Pn**	**12 39 14.1**	**-0.7**
PB01				*e*S	**Sn**	**12 39 38.9**	**+0.7**
PB01				IAML		12 39 48.3	
comp=E,597nm,0.2s							
PB01	**IPOC Station P**	**1.93**	**160**	*i*P	**Pn**	**12 39 14.3**	**-0.6**
PB01				*e*S	**Sn**	**12 39 39.2**	**+1.1**
PB01				IAML		12 39 45.0	
comp=Z,354nm,0.3s							
PB02	**IPOC Station P**	**2.11**	**172**	*e*P	**Pn**	**12 39 17.7**	**+0.4**
PB02	**IPOC Station P**	**2.11**	**172**	*i*P	**Pn**	**12 39 17.0**	**-0.3**
PB02				IAML		12 40 03.4	
comp=Z,614nm,0.4s							
PB09	**IPOC Station P**	**2.71**	**161**	*e*P	**Pn**	**12 39 27.1**	**+1.4**
PB09	**IPOC Station P**	**2.71**	**161**	*i*P	**Pn**	**12 39 26.2**	**+0.4**
PB09				IAML		12 40 20.7	
comp=Z,312nm,0.5s							
PB03	**IPOC Station P**	**2.85**	**172**	*e*P	**Pn**	**12 39 27.3**	**-0.2**
PB03	**IPOC Station P**	**2.85**	**172**	*i*P	**Pn**	**12 39 27.3**	**-0.2**
PB03				IAML		12 40 12.7	
comp=Z,320nm,0.5s							
PB06	**IPOC Station P**	**3.52**	**171**	*e*P	Pn	12 39 27.5	-9.2

*NOU **30** 12:41:57.7, 41.°55S×174.°40E, h81km, MLv3.5/12, Cook Strait, New Zealand*
*WEL **30** 12:41:58.8±0.5, 41.°S±4.°×17.°4E±.°, h42km±5km, M2.9/18, ML3.1/18, MLv2.9/18, Error ellipse: s-maj=5.2km s-min=3.1km az=161.3, confirmed*
ISC 30 12:41:58.1±1.3,**41.°47S**±0.°04×**174.°29E**±0.°03,**h65**km±6km,
n65,σ0.°**88**/76,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDS	**Seddon Fire St**	**0.26**	**219**	P	**Pn**	**12 42 09.3**	**+0.9**
SEDS				S	**Sn**	**12 42 17.1**	**+1.2**
TCW	**Tory Channel**	**0.26**	**357**	P	**Pn**	**12 42 08.2**	**-0.2**
TCW				S	**Sn**	**12 42 14.5**	**-1.4**
MGCS	**Blenheim Marlb**	**0.26**	**262**	P	**Pn**	**12 42 08.8**	**+0.4**
MGCS				S	**Sn**	**12 42 15.6**	**-0.3**
TUWZ	**Tuamarina**	**0.27**	**279**	P	**Pn**	**12 42 08.3**	**-0.2**
TUWZ				S	**Sn**	**12 42 14.7**	**-1.3**
QCCS	**Picton Queen C**	**0.28**	**314**	P	**Pn**	**12 42 08.0**	**-0.5**
QCCS				S	**Sn**	**12 42 14.8**	**-1.3**
CMWZ	**Cape Campbell**	**0.28**	**192**	P	**Pn**	**12 42 09.6**	**+1.1**
BWRS	**Waikakaho Road**	**0.29**	**276**	P	**Pn**	**12 42 08.6**	**0.0**
BWRS				S	**Sn**	**12 42 15.0**	**-1.3**
SNZO	**South Karori**	**0.35**	**62**	P	**Pn**	**12 42 13.2**	**+4.2**
MKVS	**Makara Village**	**0.37**	**56**	P	**Pn**	**12 42 09.3**	**+0.1**
WNKS	**Wellington Kar**	**0.39**	**61**	P	**Pn**	**12 42 09.6**	**+0.2**
MKBS	**Makara Bunker**	**0.39**	**51**	P	**Pn**	**12 42 09.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.40**	**232**	P	**Pn**	**12 42 09.9**	**+0.5**
BSWZ				S	**Sn**	**12 42 18.3**	**+0.6**
TRTW	**Torrens Terrac**	**0.40**	**64**	P	**Pn**	**12 42 09.7**	**+0.2**
WNHS	**Wellington Hig**	**0.40**	**65**	P	**Pn**	**12 42 09.8**	**+0.3**
WEL	**Wellington**	**0.41**	**62**	P	**Pn**	**12 42 09.8**	**+0.3**
WEL				S	**Sn**	**12 42 17.7**	**-0.2**
FKPS	**Wellington Fra**	**0.41**	**63**	P	**Pn**	**12 42 09.8**	**+0.3**
TEPS	**Wellington Te**	**0.41**	**64**	P	**Pn**	**12 42 09.7**	**+0.2**
HAVS	**Havelock**	**0.43**	**298**	P	**Pn**	**12 42 09.6**	**-0.1**
BHW	**Baring Head**	**0.44**	**82**	P	**Pn**	**12 42 10.2**	**+0.3**
BHW				S	**Sn**	**12 42 18.3**	**-0.1**
CAW	**Cannon Point**	**0.69**	**58**	P	**Pn**	**12 42 12.6**	**+0.2**
CAW				S	**Sn**	**12 42 23.1**	**+0.1**
MSWZ	**Moikau Station**	**0.72**	**86**	P	**Pn**	**12 42 13.2**	**+0.3**
DUWZ	**D'Urville Isla**	**0.73**	**337**	P	**Pn**	**12 42 12.6**	**-0.4**
DUWZ				S	**Sn**	**12 42 22.7**	**-1.2**
PLWZ	**Palliser**	**0.73**	**98**	P	**Pn**	**12 42 13.5**	**+0.5**
NNZ	**Nelson**	**0.73**	**290**	P	**Pn**	**12 42 12.6**	**-0.3**
KIW	**Kapiti Island**	**0.77**	**37**	P	**Pn**	**12 42 13.6**	**+0.1**
PAWZ	**Paruwai Farm**	**0.86**	**84**	P	**Pn**	**12 42 14.6**	**+0.1**
OGWZ	**Otaki Gorge**	**0.93**	**46**	P	**Pn**	**12 42 15.5**	**+0.1**
MTW	**Mount Morrison**	**0.96**	**71**	P	**Pn**	**12 42 15.7**	**-0.1**
TRWZ	**Traveller**	**1.05**	**86**	P	**Pn**	**12 42 17.1**	**+0.1**
THZ	**Tophouse**	**1.08**	**254**	P	**Pn**	**12 42 17.4**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.09**	**58**	P	**Pn**	**12 42 17.1**	**-0.4**
KHZ	**Kahutara**	**1.10**	**211**	P	**Pn**	**12 42 18.3**	**+0.8**
KHZ	**Kahutara**	**1.10**	**211**	S	**Sn**	**12 42 32.6**	**+0.6**
KHZ	**Kahutara**	**1.10**	**211**	P	**Pn**	**12 42 18.5**	**+1.0**
TKNZ	**Takaka Hill**	**1.10**	**293**	P	**Pn**	**12 42 17.4**	**-0.1**
MRNZ	**Matariki Terra**	**1.16**	**273**	P	**Pn**	**12 42 18.5**	**+0.2**
TMWZ	**Te Maipa**	**1.26**	**74**	P	**Pn**	**12 42 19.3**	**-0.4**
MRZ	**Mangatainoka R**	**1.27**	**51**	P	**Pn**	**12 42 19.5**	**-0.3**
TIWZ	**Tintock**	**1.39**	**60**	P	**Pn**	**12 42 21.0**	**-0.5**
QRZ	**Quartz Range**	**1.48**	**295**	P	**Pn**	**12 42 22.7**	**+0.1**
QRZ	**Quartz Range**	**1.48**	**295**	P	**Pn**	**12 42 22.8**	**+0.2**
POWZ	**Post Office Ro**	**1.55**	**46**	P	**Pn**	**12 42 23.2**	**-0.4**
PRWZ	**Pori Road**	**1.57**	**55**	P	**Pn**	**12 42 23.2**	**-0.5**
BFZ	**Birch Farm**	**1.68**	**62**	P	**Pn**	**12 42 24.2**	**-1.0**
BFZ	**Birch Farm**	**1.68**	**62**	P	**Sn**	**12 42 45.0**	**-0.7**
BFZ	**Birch Farm**	**1.68**	**62**	P	**Pn**	**12 42 24.2**	**-1.0**
GVZ	**Greta Valley S**	**1.76**	**212**	P	**Pn**	**12 42 26.7**	**+0.4**
WAZ	**Wanganui**	**1.80**	**17**	P	**Pn**	**12 42 28.1**	**+1.3**
DSZ	**Denniston Nort**	**1.89**	**261**	P	**Pn**	**12 42 28.1**	**0.0**
LTZ	**Lake Taylor**	**1.99**	**228**	P	**Pn**	**12 42 29.7**	**+0.2**
PNHZ	**Pukenui**	**2.13**	**44**	P	**Pn**	**12 42 30.3**	**-1.0**
KHEZ	**Kahui Hut**	**2.19**	**354**	P	**Pn**	**12 42 34.6**	**+2.4**
KHEZ	**Kahui Hut**	**2.19**	**354**	P	**Pn**	**12 42 33.4**	**+1.1**
MTVZ	**Mangateitei**	**2.27**	**24**	P	**Pn**	**12 42 34.6**	**+1.2**
PKVZ	**Pokaka**	**2.33**	**21**	P	**Pn**	**12 42 34.8**	**+0.7**
WNVZ	**Wahianoa**	**2.36**	**25**	P	**Pn**	**12 42 35.5**	**+0.8**
VRZ	**Vera Road**	**2.37**	**9**	P	**Pn**	**12 42 35.7**	**+1.0**
OKCZ	**Okains Bay**	**2.43**	**202**	P	**Pn**	**12 42 35.1**	**-0.3**
OXZ	**Oxford**	**2.49**	**221**	P	**Pn**	**12 42 35.6**	**-0.7**
MQZ	**McQueen's Vall**	**2.54**	**208**	P	**Pn**	**12 42 35.7**	**-1.2**
BKZ	**Black Stump Fm**	**2.85**	**37**	P	**Pn**	**12 42 41.7**	**+0.4**
HIZ	**Hauiti**	**2.99**	**8**	P	**Pn**	**12 42 43.6**	**+0.6**
HIZ	**Hauiti**	**2.99**	**8**	S	**Sn**	**12 43 19.2**	**+1.5**
ODZ	**Otahua Downs**	**4.45**	**216**	P	**Pn**	**12 43 02.6**	**-0.4**
JCZ	**Jackson Bay**	**4.81**	**236**	P	**Pn**	**12 43 08.5**	**+0.4**

*GEN **30** 12:48:53.9, 45.°88N×6.°97E, h6km±1km, MI1.5*
*ZUR **30** 12:48:54.7, 45.°87N×6.°97E, h3km, MLh1.7/31, Error ellipse: s-maj=1512.9km s-min=519.1km az=197.0*
*LDG **30** 12:48:54.4±0.1, 45.°85N×6.°99E, h5km, Md2.5/2, Ml2.4/12, Error ellipse: s-maj=1.8km s-min=1.4km az=70.0*
*STR **30** 12:48:54.4±0.0, 45.°84N±0.°05×7.°00E±0.°06, h21km, MLv1.8/18, LOCSAT earthModelID alpes_taup-2.11 preliminary*
ROM 30 12:48:54.4±0.1,**45.°853N**±0.°010×**6.°98E**±0.°01,**h8**km,
ML1.6/13,**16C-3D**,**Error ellipse: s-maj=1.1km**
s-min=1.1km az=215.0,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.03**	**254**	⇓Pg	Pg	12 48 56.1	-0.3
BLANC				Sg	Sg	12 48 56.9	-0.9
MRGE	**Morge**	**0.10**	**146**	P	Pg	12 48 57.4	+0.5
MRGE				S	Sg	12 48 59.1	+0.5
MRGE	**Morge**	**0.10**	**146**	P	Pg	12 48 57.4	+0.5
MRGE				S	Sg	12 48 59.1	+0.5
MRGE				AML	AML		
comp=E,934μm,0.2s							
MRGE				AML	AML		
comp=N,1305μm,0.4s							
MRGE				AML	AML		
comp=E,936μm,0.2s							
MRGE				AML	AML		
comp=N,1300μm,0.2s							
REMY	**Saint-Rhmy-en**	**0.12**	**97**	⇑Pg	Pg	12 48 57.9	+0.6
REMY				Sg	Sg	12 49 00.2	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**97**	P	Pg	12 48 57.9	+0.6
REMY				S	Sg	12 49 00.2	+0.9
REMY	**Saint-Rhmy-en**	**0.12**	**97**	P	Pg	12 48 57.9	+0.6
REMY				S	Sg	12 49 00.0	+0.7
REMY				AML	AML		
comp=E,653μm,0.3s							
REMY				AML	AML		
comp=N,1068μm,0.1s							
REMY				AML	AML		
comp=N,1067μm,0.1s							
REMY				AML	AML		
comp=E,540μm,0.2s							
REMY	**Saint-Rhmy-en**	**0.12**	**97**	Pg	Pg	12 48 57.9	+0.6
REMY				Sg	Sg	12 49 00.1	+0.7
MFERR	**Prayon, Val Fe**	**0.14**	**44**	⇑Pg	Pg	12 48 57.7	+0.3
MFERR				Sg	Sg	12 48 59.7	+0.2
SEMOS	**Emosson Stauma**	**0.22**	**352**	⇑Pg	Pg	12 48 59.1	+0.3
SEMOS				Sg	Sg	12 49 01.8	0.0
SMAO	**Martigny, Rue**	**0.25**	**15**	⇑Pg	Pg	12 48 59.9	+0.4
SMAO				Sg	Sg	12 49 03.1	+0.2
SALAN	**Lac Salanfe**	**0.29**	**359**	⇑Pg	Pg	12 49 00.5	+0.2
SALAN				Sg	Sg	12 49 04.2	0.0
RSL	**Roselend**	**0.30**	**236**	⇑Pg	Pg	12 49 00.7	+0.4
RSL				Sg	Sg	12 49 04.5	+0.2
RSL	**Roselend**	**0.30**	**236**	P	Pg	12 49 00.7	+0.4
RSL				S	Sg	12 49 04.4	+0.2
RSL	**Roselend**	**0.30**	**236**	Pg	Pg	12 49 00.7	+0.4
RSL				Sg	Sg	12 49 04.3	0.0
FULLY	**Reservoir Maze**	**0.32**	**20**	⇑Pg	Pg	12 49 01.0	+0.3
FULLY				Sg	Sg	12 49 05.0	0.0
LAVEY	**Lavey les Bain**	**0.35**	**5**	⇑Pg	Pg	12 49 01.5	+0.3
LAVEY				Sg	Sg	12 49 05.8	-0.1
ILLEZ	**Chalet Vouargn**	**0.37**	**356**	⇑Pg	Pg	12 49 01.8	+0.2
ILLEZ				Sg	Sg	12 49 06.5	+0.1
DIX	**Grande Dixence**	**0.38**	**53**	⇑Pg	Pg	12 49 02.1	+0.3
DIX				Sg	Sg	12 49 07.2	+0.5
DIX	**Grande Dixence**	**0.38**	**53**	P	Pg	12 49 02.1	+0.3
DIX				S	Sg	12 49 07.3	+0.5
DIX	**Grande Dixence**	**0.38**	**53**	P	Pg	12 49 02.1	+0.3
DIX				S	Sg	12 49 07.8	+1.0
DIX				AML	AML		
comp=E,146μm,0.3s							
DIX				AML	AML		
comp=N,174μm,1.6s							
DIX				AML	AML		
comp=N,154μm,0.2s							
DIX				AML	AML		
comp=E,146μm,0.3s							
DIX	**Grande Dixence**	**0.38**	**53**	Pg	Pg	12 49 02.0	+0.2
DIX				Sg	Sg	12 49 07.1	+0.4
LPL	**La Plagne**	**0.38**	**207**	*e*Pg	Pg	12 49 02.3	+0.5
LPL				*e*Sg	Sg	12 49 06.9	+0.1
comp=E,16nm,0.3s							
RAW4	**Former Reservo**	**0.38**	**21**	⇑Pg	Pg	12 49 02.2	+0.4
RAW4				Sg	Sg	12 49 07.1	+0.2
LPG	**La Plagne**	**0.39**	**204**	*e*Pg	Pg	12 49 02.5	+0.4
LPG				*e*Sg	Sg	12 49 07.5	+0.3
comp=E,15nm,0.2s							
GRYON	**Gryon**	**0.41**	**13**	⇑Pg	Pg	12 49 02.7	+0.3
GRYON				Sg	Sg	12 49 07.5	-0.3
LSD	**Lago del Serru**	**0.41**	**165**	⇑Pg	Pg	12 49 02.9	+0.5
LSD				Sg	Sg	12 49 08.3	+0.5
LSD	**Lago del Serru**	**0.41**	**165**	P	Pg	12 49 02.9	+0.5
LSD				S	Sg	12 49 04.8	-3.0
LSD	**Lago del Serru**	**0.41**	**165**	P	Pg	12 49 02.9	+0.5
LSD				S	Sg	12 49 08.0	+0.2
LSD	**Lago del Serru**	**0.41**	**165**	P	Pg	12 49 02.9	+0.5
LSD				S	Sg	12 49 08.9	+1.1
LSD				AML	AML		
comp=E,95μm,0.2s							
LSD				AML	AML		
comp=N,45μm,1.2s							
LSD				AML	AML		
comp=E,96μm,0.2s							
LSD				AML	AML		
comp=N,42μm,0.2s							
LSD	**Lago del Serru**	**0.41**	**165**	Pg	Pg	12 49 02.9	+0.5
LSD				Sg	Sg	12 49 08.4	+0.6
VET01	**Vtroz, Route**	**0.42**	**29**	Sg	Sg	12 49 08.3	+0.2
SHER	**Hrmence, R**	**0.44**	**41**	⇓Pg	Pg	12 49 03.4	+0.4
SHER				Sg	Sg	12 49 09.4	+0.6
SIOV	**Sion-Valere**	**0.47**	**35**	Sg	Sg	12 49 09.7	+0.1
CIRO	**Champorcher**	**0.48**	**121**	⇑Pg	Pg	12 49 04.0	+0.2
CIRO				Sg	Sg	12 49 10.6	+0.4
CIRO	**Champorcher**	**0.48**	**121**	P	Pg	12 49 04.2	+0.4
CIRO				S	Sg	12 49 09.3	-0.9
CIRO	**Champorcher**	**0.48**	**121**	P	Pg	12 49 04.2	+0.4
CIRO				S	Sg	12 49 10.1	-0.1
CIRO	**Champorcher**	**0.48**	**121**	P	Pg	12 49 04.2	+0.5
CIRO				AML	AML		
comp=E,49μm,0.8s							
CIRO				AML	AML		
comp=N,60μm,0.5s							
CIRO				AML	AML		
comp=N,54μm,0.2s							
CIRO				AML	AML		
comp=E,31μm,0.1s							
CIRO	**Champorcher**	**0.48**	**121**	Pg	Pg	12 49 04.2	+0.4
CIRO				Sg	Sg	12 49 10.7	+0.6
AIGLE	**Aigle**	**0.49**	**358**	⇑Pg	Pg	12 49 04.2	+0.3
AIGLE				Sg	Sg	12 49 10.3	+0.1
AIGLE	**Aigle**	**0.49**	**358**	Pg	Pg	12 49 04.1	+0.3
AIGLE				Sg	Sg	12 49 10.4	+0.1
SENIN	**Lac Senin/Sane**	**0.56**	**23**	⇑Pg	Pg	12 49 05.4	+0.3
SENIN				Sg	Sg	12 49 12.8	+0.2
SENIN	**Lac Senin/Sane**	**0.56**	**23**	P	Pb	12 49 06.6	+0.1
SENIN				S	Sg	12 49 12.8	+0.2
SATI	**Passo del Sala**	**0.62**	**88**	P	Pg	12 49 05.5	-0.9
SATI				S	Sg	12 49 14.6	0.0
SATI	**Passo del Sala**	**0.62**	**88**	P	Pb	12 49 07.1	-0.6
SATI	**Passo del Sala**	**0.62**	**88**	Pg	Pg	12 49 06.0	-0.4
SATI				Sg	Sg	12 49 15.0	+0.4
TRAV	**Traversella**	**0.64**	**122**	⇓Pg	Pg	12 49 07.0	+0.4
TRAV	**Traversella**	**0.64**	**122**	P	Pg	12 49 07.0	+0.4
TRAV				S	Sg	12 49 15.1	+0.1
TRAV	**Traversella**	**0.64**	**122**	P	Pg	12 49 07.0	+0.4
TRAV				S	Sg	12 49 14.9	0.0
TRAV	**Traversella**	**0.64**	**122**	P	Pg	12 49 07.0	+0.4
TRAV				AML	AML		
comp=N,68μm,1.4s							
TRAV				AML	AML		
comp=E,56μm,0.3s							
TRAV				AML	AML		
comp=E,55μm,0.2s							
TRAV				AML	AML		
comp=N,58μm,0.2s							
TRAV	**Traversella**	**0.64**	**122**	Pg	Pg	12 49 07.0	+0.3
TRAV				Sg	Sg	12 49 15.1	+0.1
EMBD	**Embd, Matterta**	**0.70**	**58**	P	Pg	12 49 07.8	0.0
EMBD				S	Sg	12 49 17.2	+0.3
EMBD	**Embd, Matterta**	**0.70**	**58**	Pg	Pg	12 49 07.9	+0.1
EMBD				Sg	Sg	12 49 17.3	+0.4
MMK	**Mattmark**	**0.71**	**74**	Pg	Pg	12 49 08.6	+0.4
MMK	**Mattmark**	**0.71**	**74**	P	Pg	12 49 08.5	+0.4
MMK				S	Sg	12 49 17.1	-0.4
MMK	**Mattmark**	**0.71**	**74**	P	Pg	12 49 08.5	+0.3
RSP	**Reno Superiore**	**0.73**	**164**	P	Pg	12 49 08.8	+0.3
RSP				S	Sb	12 49 19.2	-0.5
RSP	**Reno Superiore**	**0.73**	**164**	P	Pg	12 49 08.8	+0.3
RSP				S	Sg	12 49 18.5	+0.5
RSP	**Reno Superiore**	**0.73**	**164**	P	Pb	12 49 09.2	-0.3
RSP				AML	AML		
comp=E,45μm,0.2s							
RSP	**Reno Superiore**	**0.73**	**164**	Pg	Pg	12 49 08.8	+0.3
SAVIG	**Le Moulin, Sav**	**0.73**	**287**	Pg	Pb	12 49 09.2	-0.3
SAVIG				Sg	Sb	12 49 19.0	-0.6
OGMY	**Moye**	**0.76**	**272**	Pg	Pb	12 49 10.3	+0.4
OGMY				Sg	Sb	12 49 20.7	+0.2
LAUCH	**Lauchernalp**	**0.79**	**44**	P	Pb	12 49 10.6	+0.2
LAUCH				S	Sb	12 49 20.8	-0.6
JAUN	**Jaun, Euschels**	**0.81**	**15**	Pg	Pb	12 49 10.7	-0.1
JAUN				Sg	Sb	12 49 22.0	0.0
GIMEL	**St. Georges /**	**0.84**	**324**	P	Pb	12 49 11.3	0.0
GIMEL	**St. Georges /**	**0.84**	**324**	Pg	Pb	12 49 11.1	-0.2
GIMEL				Sg	Sb	12 49 22.9	0.0
TORNY	**Torny/Romont**	**0.92**	**359**	Pg	Pb	12 49 13.0	+0.3
OGSM	**Saint Maurice**	**0.93**	**255**	Pg	Pb	12 49 12.7	0.0
OGSM				Sg	Sb	12 49 25.4	+0.1
RRL	**Rocca Remolon**	**0.94**	**188**	P	Pb	12 49 12.8	-0.3
RRL	**Rocca Remolon**	**0.94**	**188**	Pg	Pg	12 49 12.7	+0.2
RRL				Sg	Sb	12 49 25.8	0.0
CABF	**La Chapelle**	**0.98**	**321**	*e*Pg	Pn	12 49 14.2	-0.3
CABF				*e*Sg	Sb	12 49 26.5	-0.3
comp=E,28nm,0.3s							
OG35	**Corcelles**	**1.00**	**282**	Pg	Pb	12 49 14.1	+0.1
OG35				Sg	Sb	12 49 27.4	0.0
BHB	**Bricherasio**	**1.03**	**169**	Pg	Pg	12 49 13.7	-0.5
BHB				Sg	Sb	12 49 28.1	-0.1
MBDF	**Montbardon**	**1.14**	**187**	*e*Pg	Pg	12 49 15.6	-0.6
MBDF				*e*Sg	Sb	12 49 31.7	+0.4
comp=E,11nm,0.6s							
RIVEL	**MONT RIVEL**	**1.17**	**321**	Pg	Pb	12 49 16.8	0.0
ORIF	**Oris-en-Rattie**	**1.21**	**220**	*e*Pg	Pb	12 49 17.4	-0.2
ORIF				*e*Sg	Sg	12 49 33.4	0.0
comp=E,9.7nm,0.4s							
PZZ	**Stroppo**	**1.35**	**176**	Pg	Pn	12 49 19.7	0.0
CHMF	**Charmoille**	**1.41**	**351**	Pg	Pn	12 49 20.4	-0.1
CHMF				Sg	Sg	12 49 40.9	+1.0
BOUC	**Bouclans**	**1.48**	**341**	Pg	Pn	12 49 21.2	-0.2
BOUC				Sg	Sg	12 49 42.8	+0.9
BALST	**Balsthal**	**1.56**	**18**	Pg	Pg	12 49 24.2	-0.1
SSB	**Saint Sauveur**	**1.81**	**252**	Pg	Pn	12 49 26.7	+0.9
SSB				Sg	Sg	12 49 52.0	-0.3
RONF	**Ronchamp**	**1.87**	**353**	Pg	Pg	12 49 30.2	-0.1
PLYF	**Puligny Montra**	**1.90**	**306**	Pn	Pn	12 49 25.9	-1.2
VIVF	**Saint-Julien-l**	**1.91**	**239**	*e*Pg	Pb	12 49 29.7	+0.3
VIVF				*e*Sg	Sg	12 49 55.0	-0.6
comp=E,12nm,0.3s							
ENDD	**Endenburg**	**1.93**	**15**	Pg	Pb	12 49 30.3	+0.4
ENDD				Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**114**	Pg	**Pb**	**13 13 20.8**	**-0.1**
TIR				Sg	**Sb**	**13 13 25.0**	**-0.4**
TIR				AML	AML	13 13 25.1	
	5.9nm,0.5s						
ULC	**Ulcinj**	**0.56**	**336**	⇑*i*Pg	**Pg**	**13 13 24.8**	**-0.3**
ULC				*i* Sg	**Sg**	**13 13 32.1**	**-0.4**
DRME	**Dracevica, Mon**	**0.78**	**340**	*e*Pg	**Pg**	**13 13 29.2**	**-0.1**
DRME	**Dracevica, Mon**	**0.78**	**340**	⇑*i*Pg	**Pg**	**13 13 28.5**	**-0.8**
DRME				*i* Sg	**Sb**	**13 13 40.0**	**-0.4**
BUM	**Brajici-Budva**	**0.98**	**330**	⇑*i*Pg	**Pg**	**13 13 32.7**	**-0.3**
BUM				*i* Sg	**Sb**	**13 13 46.3**	**+0.2**
PDG	**Podgorica**	**1.00**	**347**	⇑P	**Pn**	**13 13 34.4**	**+0.3**
PDG				⇓S	**Sn**	**13 13 48.4**	**+0.2**
PDG	**Podgorica**	**1.00**	**347**	*e*Pg	**Pb**	**13 13 33.8**	**+0.3**
PDG				*e*Sg	**Sn**	**13 13 48.4**	**+0.2**
PDG	**Podgorica**	**1.00**	**347**	⇑*i*Pg	**Pb**	**13 13 33.2**	**-0.3**
PDG				*i* Sg	**Sb**	**13 13 47.5**	**+0.9**
OHR	**Ohrid**	**1.00**	**110**	*i* Pn	**Pn**	**13 13 33.8**	**-0.4**
OHR				*i* Sn	**Sn**	**13 13 51.0**	**+2.7**
PVY	**Plav**	**1.18**	**15**	⇓*i*Pg	**Pn**	**13 13 37.2**	**+0.5**
PVY				*i* Sg	**Sn**	**13 13 54.4**	**+1.6**
CEME	**Cevo**	**1.19**	**337**	⇓*i*Pg	**Pg**	**13 13 36.2**	**-0.8**
CEME				*i* Sg	**Sn**	**13 13 53.1**	**+0.1**
KBN	**Korca**	**1.25**	**131**	P	**Pn**	**13 13 38.4**	**+0.8**
KBN				S	**Sn**	**13 13 54.8**	**+0.2**
HCY	**Herceg Novi**	**1.27**	**322**	⇑*i*Pg	**Pn**	**13 13 37.8**	**0.0**
HCY				*i* Sg	**Sn**	**13 13 55.2**	**+0.4**
NKME	**Niksic**	**1.38**	**342**	⇑*i*Pg	**Pn**	**13 13 39.6**	**+0.1**
NKME				*i* Sg	**Sg**	**13 13 59.4**	**+0.6**
KOME	**Kolasin**	**1.40**	**359**	*e*Pg	**Pg**	**13 13 40.9**	**-0.1**
KOME	**Kolasin**	**1.40**	**359**	⇓*i*Pg	**Pg**	**13 13 40.9**	**-0.1**
KOME				*i* Sg	**Sg**	**13 14 00.9**	**+1.8**
IVA	**Berane**	**1.44**	**10**	⇓*i*Pg	**Pg**	**13 13 41.2**	**-0.6**
IVA				*i* Sg	**Sg**	**13 14 02.2**	**+1.7**
SKO	**Skopje**	**1.51**	**69**	*i* Pn	**Pg**	**13 13 42.9**	**-0.2**
SKO				*i* Sn	**Sg**	**13 14 03.5**	**+0.9**
NEST	**Nestorio**	**1.54**	**132**	Pn	**Pg**	**13 13 43.1**	**-0.6**
NEST				Sn	**Sg**	**13 14 04.5**	**+0.8**
NEST				AMd		13 15 03.0	
TREB	**Trebinje**	**1.54**	**325**	*e*Pn	**Pn**	**13 13 40.8**	**-0.8**
DBRK	**Dubrovnik**	**1.60**	**320**	*e*Pn	**Pb**	**13 13 43.2**	**-0.5**
DBRK				Sn	**Sn**	**13 14 03.1**	**0.0**
BRY	**Bratogost**	**1.63**	**333**	⇓*i*Pg	**Pn**	**13 13 43.5**	**+0.6**
BRY				*i* Sg	**Sb**	**13 14 05.6**	**+0.7**
UPM	**Unac-Piva**	**1.81**	**345**	⇑*i*Pn	**Pn**	**13 13 45.9**	**+0.4**
UPM				*i* Sn	**Sb**	**13 14 10.4**	**+0.2**
SJES	**Sjenica**	**1.83**	**10**	*e*Pg	**Pb**	**13 13 48.1**	**+0.3**
SJES				*e*Sg	**Sg**	**13 14 11.6**	**-1.5**
KLINJ	**Klinje**	**1.86**	**338**	*e*Pn	**Pn**	**13 13 46.8**	**+0.8**
PLE	**Pljevlja**	**1.88**	**356**	⇑*i*Pn	**Pn**	**13 13 47.4**	**+1.1**
PLE				*i* Sn	**Sb**	**13 14 12.2**	**+0.1**
STON	**Ston**	**1.97**	**316**	*e*Pn	**Pn**	**13 13 47.2**	**-0.3**
STON				Sn	**Sn**	**13 14 11.0**	**-1.2**
STON	**Ston**	**1.97**	**316**	*e*Pn	**Pn**	**13 13 47.7**	**+0.2**
NOCI	**Noci**	**1.99**	**251**	Pn	**Pg**	**13 13 52.5**	**+0.1**
NOCI				Sn	**Sg**	**13 14 20.4**	**+2.2**
NOCI				AML	AML	13 14 25.9	
	0.7nm,0.3s						
IGT	**Igoumenitsa**	**2.01**	**162**	P	**Pg**	**13 13 52.4**	**-0.3**
IGT				Sn	**Sg**	**13 14 18.2**	**-0.6**
BARS	**Barje**	**2.17**	**50**	*e*Pg	**Pn**	**13 13 51.0**	**+0.8**
BARS				*e*Sg	**Sb**	**13 14 18.6**	**-1.6**
RUDO	**Rudo**	**2.17**	**357**	*e*Pn	**Pb**	**13 13 52.3**	**-1.1**
IVAS	**Ivanjica**	**2.17**	**12**	*e*Pg	**Pb**	**13 13 53.0**	**-0.4**
IVAS				*e*Sg	**Sg**	**13 14 23.5**	**-0.3**
VAY	**Valandovo**	**2.28**	**92**	*i* Pn	**Pb**	**13 13 53.6**	**-1.7**
MATE	**Matera**	**2.30**	**250**	⇑P	**Pn**	**13 13 52.3**	**+0.4**
GOCS	**Kraljevo Serbi**	**2.32**	**24**	*e*Pg	**Pn**	**13 13 53.3**	**+0.9**
GOCS				*e*Sg	**Sn**	**13 14 22.7**	**+1.7**
BOSS	**Bosilegrad**	**2.42**	**64**	*e*Pg	**Pn**	**13 13 54.5**	**+0.8**
BOSS				*e*Sg	**Sb**	**13 14 26.3**	**-1.3**
BOVS	**Bovan**	**2.70**	**35**	⇓P	**Pn**	**13 13 57.4**	**0.0**
BOVS				⇑S	**Sn**	**13 14 30.6**	**+0.5**
RICI	**Ricice**	**2.71**	**320**	*e*Pn	**Pn**	**13 13 57.4**	**-0.3**
RICI				Sn	**Sn**	**13 14 29.5**	**-0.9**
SGRT	**San Giovanni R**	**2.87**	**277**	Pn	**Pb**	**13 14 05.6**	**+0.2**
SGRT				Sn	**Sb**	**13 14 42.4**	**+1.8**
SGRT				AML	AML	13 15 01.5	
	0.1nm,0.5s						
HVAR	**Hvar**	**2.87**	**308**	*e*Pn	**Pn**	**13 13 58.7**	**-1.1**
TIP	**Timpagrande**	**3.12**	**224**	⇑P	**Pn**	**13 14 02.9**	**-0.4**
BLKB	**Belogradchik**	**3.17**	**46**	⇓P	**Pn**	**13 14 04.9**	**+0.9**
BLKB	**Belogradchik**	**3.17**	**46**	*e*Pn	**Pn**	**13 14 02.3**	**-1.7**
KIJV	**Kijevo**	**3.44**	**319**	*e*Pn	**Pn**	**13 14 07.6**	**-0.1**
ZIRJ	**Zirje**	**3.63**	**309**	*e*Pn	**Pn**	**13 14 09.6**	**-0.6**
MDVR	**Moldovita**	**3.68**	**25**	⇓P	**Pn**	**13 14 11.2**	**+0.2**
MORI	**Morici**	**3.72**	**312**	*e*Pn	**Pn**	**13 14 11.5**	**0.0**
MORI				Sn	**Sn**	**13 14 53.4**	**-1.9**
BLY	**Banja Luka**	**3.72**	**333**	*e*Pn	**Pb**	**13 14 20.7**	**+0.8**
DUGI	**Dugi Otok**	**4.17**	**309**	*e*Pn	**Pn**	**13 14 17.4**	**-0.3**
VIRC	**Vir**	**4.35**	**312**	*i* Pn	**Pn**	**13 14 19.9**	**-0.2**
VIRC				Sn	**Sn**	**13 15 08.0**	**-2.9**
GZR	**Gura Zlata**	**4.58**	**30**	⇑P	**Pn**	**13 14 24.1**	**+0.7**
SURR	**Surduc**	**4.69**	**23**	⇑P	**Pn**	**13 14 25.3**	**+0.5**

ZUR 30 13:18:25.3, 45.°87N×6.°96E, h2km, MLh1.1/9, 7C-1D, Error ellipse: s-maj=1554.5km s-min=638.9km az=209.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.03**	**220**	⇓Pg	Pg	13 18 26.6	+0.4
BLANC				Sg	Sg	13 18 27.4	+0.6
MFERR	**Prayon, Val Fe**	**0.14**	**51**	⇑Pg	Pg	13 18 28.2	+0.2
MFERR				Sg	Sg	13 18 30.1	+0.4
REMY	**Saint-Rhmy-en**	**0.14**	**102**	⇑Pg	Pg	13 18 28.4	+0.3
REMY				Sg	Sg	13 18 30.7	+0.7
SEMOS	**Emosson Stauma**	**0.20**	**355**	⇑Pg	Pg	13 18 29.5	+0.3
SEMOS				Sg	Sg	13 18 32.3	+0.4
SALAN	**Lac Salanfe**	**0.28**	**2**	⇑Pg	Pg	13 18 30.9	+0.3
SALAN				Sg	Sg	13 18 34.6	+0.3
RSL	**Roselend**	**0.29**	**233**	Pg	Pg	13 18 31.3	+0.3
RSL				Sg	Sg	13 18 34.7	-0.1
LAVEY	**Lavey les Bain**	**0.34**	**7**	⇑Pg	Pg	13 18 31.9	+0.2
LAVEY				Sg	Sg	13 18 36.2	+0.1
ILLEZ	**Chalet Vouargn**	**0.35**	**358**	Pg	Pg	13 18 32.3	+0.2
ILLEZ				Sg	Sg	13 18 36.9	+0.3
DIX	**Grande Dixence**	**0.38**	**55**	Pg	Pg	13 18 32.7	+0.2
DIX				Sg	Sg	13 18 37.7	+0.2
GRYON	**Gryon**	**0.40**	**15**	⇑Pg	Pg	13 18 33.1	+0.2
GRYON				Sg	Sg	13 18 38.1	0.0
LSD	**Lago del Serru**	**0.42**	**163**	Pg	Pg	13 18 33.4	0.0
SHER	**Hrmence, R**	**0.44**	**43**	Sg	Sg	13 18 39.8	+0.4
CIRO	**Champorcher**	**0.50**	**122**	⇑Pg	Pg	13 18 34.7	-0.1

*ROM **30** 13:18:41.7±0.2, 45.°87N±0.°01×6.°97E±0.°02, h9km, ML1.9/17, Error ellipse: s-maj=1.4km s-min=1.0km az=138.0*
*LDG **30** 13:18:42.4±0.0, 45.°84N×6.°98E, h5km, Md2.6/2, Ml2.7/17, Error ellipse: s-maj=1.0km s-min=0.7km az=102.0*
*GEN **30** 13:18:42, 45.°86N×7.°00E, h6km±1km, Ml1.8*
*STR **30** 13:18:42.4±0.0, 45.°84N±0.°04×6.°98E±0.°06, h3km, MLv2.2/19, LOCSAT earthModelID alpes_taup-2.11 preliminary*

ZUR 30 13:18:42.4, 45.°87N×6.°97E, h2km, MLh2.1/43, 14C-3D, Error ellipse: s-maj=1501.7km s-min=550.7km az=204.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.03**	**225**	⇓Pg	Pg	13 18 43.7	+0.4
BLANC				Sg	Sg	13 18 44.6	+0.6
MRGE	**Morge**	**0.12**	**146**	P	Pg	13 18 45.1	+0.3
MRGE				S	Sg	13 18 46.8	+0.5
MRGE	**Morge**	**0.12**	**146**	P	Pg	13 18 45.0	+0.3
MRGE				S	Sg	13 18 46.8	+0.5
MRGE				AML	AML		
	comp=N,5410μm,0.3s						
MRGE				AML	AML		
	comp=E,2535μm,0.1s						
MRGE				AML	AML		
	comp=N,5118μm,0.2s						
MRGE				AML	AML		
	comp=E,2538μm,0.1s						
MFERR	**Prayon, Val Fe**	**0.13**	**50**	⇑Pg	Pg	13 18 45.3	+0.3
MFERR				Sg	Sg	13 18 47.3	+0.5
REMY	**Saint-Rhmy-en**	**0.14**	**103**	⇑Pg	Pg	13 18 45.5	+0.4
REMY	**Saint-Rhmy-en**	**0.14**	**103**	P	Pg	13 18 45.6	+0.4
REMY				S	Sg	13 18 47.9	+0.9
REMY	**Saint-Rhmy-en**	**0.14**	**103**	P	Pg	13 18 45.5	+0.4
REMY				S	Sg	13 18 47.8	+0.8
REMY				AML	AML		
	comp=E,1580μm,0.3s						
REMY				AML	AML		
	comp=N,2435μm,0.2s						
REMY				AML	AML		
	comp=E,1418μm,0.2s						
REMY				AML	AML		
	comp=N,2437μm,0.2s						
SEMOS	**Emosson Stauma**	**0.20**	**354**	⇑Pg	Pg	13 18 46.7	+0.3
SEMOS				Sg	Sg	13 18 49.5	+0.4
SMAO	**Martigny, Rue**	**0.24**	**18**	⇑Pg	Pg	13 18 47.5	+0.4
SMAO				Sg	Sg	13 18 50.8	+0.5
SALAN	**Lac Salanfe**	**0.28**	**1**	⇑Pg	Pg	13 18 48.1	+0.4
SALAN				Sg	Sg	13 18 51.8	+0.4
RSL	**Roselend**	**0.30**	**233**	⇑Pg	Pg	13 18 48.4	+0.2
RSL				Sg	Sg	13 18 52.2	+0.1
RSL	**Roselend**	**0.30**	**233**	P	Pg	13 18 48.4	+0.2
RSL				S	Sg	13 18 52.1	0.0
FULLY	**Reservoir Maze**	**0.31**	**22**	⇑Pg	Pg	13 18 48.7	+0.2
FULLY				Sg	Sg	13 18 52.7	+0.2
LAVEY	**Lavey les Bain**	**0.33**	**7**	⇑Pg	Pg	13 18 49.1	+0.3
LAVEY				Sg	Sg	13 18 53.4	+0.1
ILLEZ	**Chalet Vouargn**	**0.35**	**357**	⇑Pg	Pg	13 18 49.5	+0.2
ILLEZ				Sg	Sg	13 18 54.2	+0.3
RAW4	**Former Reservo**	**0.37**	**23**	⇑Pg	Pg	13 18 49.9	+0.3
RAW4				Sg	Sg	13 18 54.8	+0.4
DIX	**Grande Dixence**	**0.37**	**55**	⇑Pg	Pg	13 18 49.8	+0.1
DIX				Sg	Sg	13 18 54.8	+0.3
DIX	**Grande Dixence**	**0.37**	**55**	P	Pg	13 18 49.9	+0.2
DIX				S	Sg	13 18 54.7	+0.2
DIX	**Grande Dixence**	**0.37**	**55**	P	Pg	13 18 49.7	0.0
DIX				S	Sg	13 18 54.7	+0.2
DIX				AML	AML		
	comp=E,457μm,1.5s						
DIX				AML	AML		
	comp=N,313μm,0.3s						
DIX				AML	AML		
	comp=E,383μm,0.3s						
DIX				AML	AML		
	comp=N,313μm,0.3s						
DIX	**Grande Dixence**	**0.37**	**55**	Pg	Pg	13 18 49.9	+0.2
DIX				Sg	Sg	13 18 54.8	+0.3
LPL	**La Plagne**	**0.39**	**205**	*e*Pg	Pg	13 18 49.9	0.0
LPL				*e*Sg	Sg	13 18 55.3	+0.3
	comp=N,58nm,0.3s						
GRYON	**Gryon**	**0.40**	**15**	⇑Pg	Pg	13 18 50.3	+0.3
GRYON				Sg	Sg	13 18 55.3	+0.1
LPG	**La Plagne**	**0.40**	**202**	*e*Pg	Pg	13 18 50.2	+0.1
LPG				*e*Sg	Sg	13 18 55.2	-0.2
	comp=N,60nm,0.2s						
VET02	**Vtroz, Route**	**0.41**	**31**	Sg	Sg	13 18 56.4	+0.8
VET01	**Vtroz, Route**	**0.41**	**30**	Sg	Sg	13 18 55.9	+0.1
LSD	**Lago del Serru**	**0.42**	**164**	⇑Pg	Pg	13 18 50.6	0.0
LSD	**Lago del Serru**	**0.42**	**164**	P	Pg	13 18 50.6	0.0
LSD				S	Sg	13 18 56.0	-0.2
LSD	**Lago del Serru**	**0.42**	**164**	P	Pg	13 18 50.6	0.0
LSD				S	Sg	13 18 56.5	+0.4
LSD				AML	AML		
	comp=E,162μm,0.2s						
LSD				AML	AML		
	comp=N,107μm,1.3s						
LSD				AML	AML		
	comp=N,100μm,0.2s						
LSD	**Lago del Serru**	**0.42**	**164**	Pg	Pg	13 18 50.6	0.0
LSD				Sg	Sg	13 18 54.9	-1.2
SHER	**Hrmence, R**	**0.44**	**43**	⇑Pg	Pg	13 18 51.0	+0.2
SHER				Sg	Sg	13 18 56.9	+0.4
AIGLE	**Aigle**	**0.47**	**359**	Pg	Pg	13 18 51.7	+0.2
AIGLE				Sg	Sg	13 18 58.0	+0.3
CIRO	**Champorcher**	**0.50**	**122**	⇓Pg	Pg	13 18 51.8	-0.2
CIRO	**Champorcher**	**0.50**	**122**	P	Pg	13 18 51.8	-0.1
CIRO				S	Sg	13 18 58.2	-0.3
CIRO	**Champorcher**	**0.50**	**122**	P	Pg	13 18 51.8	-0.2
CIRO				AML	AML		
	comp=E,116μm,1.5s						
CIRO				AML	AML		
	comp=N,186μm,0.5s						
CIRO				AML	AML		
	comp=N,140μm,0.2s						
CIRO				AML	AML		
	comp=E,66μm,0.2s						
CIRO	**Champorcher**	**0.50**	**122**	Pg	Pg	13 18 51.8	-0.2
CIRO				Sg	Sg	13 18 58.3	-0.1
SENIN	**Lac Senin/Sane**	**0.55**	**25**	P	Pg	13 18 53.1	+0.1
SENIN				S	Sg	13 18 60.0	-0.1
VANNI	**Vissoie, Val d**	**0.56**	**52**	P	Pg	13 18 53.2	+0.1
VANNI				S	Sg	13 19 00.4	+0.1
SATI	**Passo dei Sala**	**0.63**	**89**	S	Sg	13 19 02.2	-0.5
TRAV	**Traversella**	**0.65**	**123**	⇓Pg	Pg	13 18 54.7	-0.2
TRAV	**Traversella**	**0.65**	**123**	P	Pg	13 18 54.7	-0.2
TRAV	**Traversella**	**0.65**	**123**	P	Pg	13 18 54.5	-0.4
TRAV				AML	AML		
	comp=N,158μm,0.3s						
TRAV				AML	AML		
	comp=E,144μm,0.3s						
TRAV				AML	AML		
	comp=N,158μm,0.3s						
TRAV				AML	AML		
	comp=E,144μm,0.3s						
TRAV	**Traversella**	**0.65**	**123**	Pg	Pg	13 18 54.7	-0.2
EMBD	**Embd, Matterta**	**0.70**	**60**	P	Pg	13 18 55.6	-0.2
EMBD				S	Sg	13 19 04.3	-0.5
EMBD	**Embd, Matterta**	**0.70**	**60**	Pg	Pg	13 18 55.6	-0.2
EMBD				Sg	Sg	13 19 05.0	+0.2
MMK	**Mattmark**	**0.72**	**75**	P	Pg	13 18 56.4	+0.2
MMK				S	Sg	13 19 05.5	-0.1
MMK	**Mattmark**	**0.72**	**75**	P	Pg	13 18 56.3	0.0
RSP	**Reno Superiore**	**0.75**	**164**	P	Pg	13 18 56.8	0.0
RSP				S	Sg	13 19 06.3	-0.2
RSP	**Reno Superiore**	**0.75**	**164**	P	Pg	13 18 56.8	0.0
RSP				AML	AML		
	comp=E,86μm,0.5s						
RSP				AML	AML		
	comp=N,91μm,0.2s						
RSP				AML	AML		
	comp=E,84μm,0.2s						
RSP				AML	AML		
	comp=N,91μm,0.2s						
RSP	**Reno Superiore**	**0.75**	**164**	Pg	Pg	13 18 56.5	-0.3
LAUCH	**Lauchernalp**	**0.78**	**45**	P	Pb	13 18 58.4	-0.5
LAUCH				S	Sg	13 19 08.1	+0.5
GIMEL	**St. Georges /**	**0.83**	**324**	Pg	Pg	13 18 58.7	+0.5
GIMEL				Sg	Sb	13 19 10.8	-0.4
BNI	**Bardonecchia**	**0.84**	**194**	P	Pg	13 18 58.0	-0.5
TORNY	**Torny/Romont**	**0.91**	**360**	Pg	Pg	13 19 00.0	+0.2
TORNY				Sg	Sb	13 19 13.1	-0.4
OGSM	**Saint Maurice**	**0.93**	**254**	Pg	Pg	13 19 00.1	-0.1
OGSM				Sg	Sg	13 19 13.0	+0.8
RRL	**Rocca Remolon**	**0.95**	**188**	P	Pg	13 19 00.2	-0.6
RRL				AML	AML		
	comp=E,49μm,0.8s						
RRL				AML	AML		
	comp=N,58μm,0.8s						
RRL				AML	AML		
	comp=E,41μm,0.3s						
RRL				AML	AML		
	comp=N,58μm,0.8s						
RRL	**Rocca Remolon**	**0.95**	**188**	Pg	Pg	13 19 00.3	-0.5
CABF	**La Chapelle**	**0.96**	**321**	*e*Pn	Pg	13 19 00.5	-0.4
CABF				*e*Sn	Sb	13 19 14.7	-0.4
	comp=N,63nm,0.3s						
OG35	**Corcelles**	**0.99**	**281**	Pg	Pg	13 19 01.2	-0.2
OG35				Sg	Sb	13 19 15.4	-0.4
BHB	**Bricherasio**	**1.05**	**168**	P	Pg	13 19 02.2	-0.3
BHB				AML	AML		
	comp=E,33μm,0.2s						
BHB				AML	AML		
	comp=N,54μm,1.3s						
BHB				AML	AML		
	comp=E,33μm,0.2s						
BHB				AML	AML		
	comp=N,48μm,0.2s						
BHB	**Bricherasio**	**1.05**	**168**	Pg	Pg	13 19 01.7	-0.8
GRN	**Grenoble**	**1.06**	**234**	Pg	Pn	13 19 04.9	+0.5
GRN				Sg	Sb	13 19 18.1	+0.1
BRANT	**Les Verrieres**	**1.12**	**342**	Pg	Pg	13 19 04.1	+0.1
BRANT				Sg	Sn	13 19 20.8	-0.6
RIVEL	**MONT RIVEL**	**1.15**	**321**	Pg	Pg	13 19 04.6	+0.1
RIVEL				Sg	Sb	13 19 20.5	0.0
MBDF	**Montbardon**	**1.15**	**187**	*e*Pg	Pg	13 19 03.7	-0.8
MBDF				*e*Sg	Sg	13 19 18.2	-1.1
	comp=N,32nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.22**	**219**	*e*Pg	Pg	13 19 05.4	-0.4
ORIF				*e*Sg	Sg	13 19 20.4	-1.2
	comp=N,27nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.22**	**219**	Pg	Pg	13 19 05.3	-0.5
CREF	**Crivoux**	**1.34**	**191**	Pn	Pg	13 19 07.4	-0.7
CREF				Sg	Sb	13 19 26.0	0.0
PZZ	**Stroppo**	**1.36**	**176**	Pg	Pg	13 19 07.7	-0.9
CHMF	**Charmoille**	**1.40**	**351**	Pn	Pn	13 19 08.9	-0.1
CHMF				Sg	Sn	13 19 28.5	+0.4
JAUF	**Jausiers**	**1.45**	**186**	Pg	Pn	13 19 09.1	-0.7
BOUC	**Bouclans**	**1.46**	**341**	Pn	Pg	13 19 11.2	+0.7
BOUC				Sg	Sn	13 19 30.5	+0.8
BOURR	**Bourrignon**	**1.54**	**7**	Pn	Pn	13 19 10.5	-0.4
BALST	**Balsthal**	**1.55**	**19**	Pg	Pg	13 19 12.8	+0.6
BALST				Pn	Sg	13 19 33.6	+1.3
ENAUX	**Enaux**	**1.76**	**184**	Pg	Pg	13 19 16.6	+0.4
SPIF	**crte de Spivo**	**1.82**	**174**	Pg	Pb	13 19 16.2	-0.4
SULZ	**Cheisacher**	**1.84**	**25**	Pg	Pg	13 19 17.7	0.0
SULZ				Pn	Sg	13 19 42.3	+0.9
VIVF	**Saint-Julien-l**	**1.91**	**239**	*e*Pg	Pb	13 19 17.7	-0.3
VIVF				*e*Sg	Sb	13 19 42.4	+0.1
	comp=N,24nm,0.2s						
ENDD	**Endenburg**	**1.92**	**16**	Pg	Pg	13 19 18.9	-0.4
HINF	**Hinterzarfeld**	**1.95**	**358**	*e*Sg	Sb	13 19 44.3	+0.8
	comp=N,13nm,0.2s						
SBF	**Sospel**	**2.03**	**170**	*e*Pg	Pg	13 19 21.0	-0.4
SMRF	**Simiane la Rot**	**2.13**	**208**	*e*Pg	Pb	13 19 21.2	-0.6
TRIGF	**Trigance**	**2.16**	**191**	Pg	Pb	13 19 21.0	-1.3
SLE	**Schleitheim**	**2.17**	**28**	Pg	Pg	13 19 23.6	-0.3
HAU	**Haudompre**	**2.18**	**349**	*e*Pn	Pn	13 19 18.1	-1.7
HAU				*e*Sn	Sn	13 19 44.6	-2.7
HAU				*e*Sg	Sg	13 19 51.6	-0.9
	comp=N,12nm,0.2s						
SMF	**Signal de Mont**	**2.30**	**291**	*e*Pg	Pg	13 19 25.9	-0.7
SMF				*e*Sn	Sn	13 19 45.8	-4.6
SMF				*e*Sg	Sb	13 19 54.9	+1.3
	comp=N,14nm,0.3s						
PLDF	**La Plantade**	**2.34**	**274**	Pn	Pn	13 19 21.8	-0.1
CDF	**Champ du Feu**	**2.55**	**5**	*e*Pn	Pn	13 19 22.8	-2.1
CDF	**Champ du Feu**	**2.55**	**5**	*e*Pg	Pg	13 19 30.4	-1.0
CDF				*e*Sn	Sn	13 19 52.6	-4.1
CDF				*e*Sg	Sg	13 20 03.1	-1.4
	comp=N,2.8nm,0.2s						
LMR	**La Mourre**	**2.56**	**188**	*e*Pg	Pb	13 19 29.1	+0.1
LMR				*e*Sg	Sb	13 20 01.1	+0.3
	comp=N,2.2nm,0.2s						
LOR	**Lormes**	**2.56**	**304**	*e*Pg	Pb	13 19 30.2	+1.1
LOR				*e*Sg	Sb	13 20 02.8	+1.7
	comp=N,16nm,0.5s						
AVF	**Avril sur Loir**	**2.67**	**292**	*e*Pg	Pb	13 19 32.2	+1.3
AVF				*e*Sn	Sn	13 19 55.1	-4.2
AVF				*e*Sg	Sb	13 20 06.0	+1.9
	comp=N,10nm,0.6s						
SSF	**Saint Saulge**	**2.67**	**298**	*e*Pn	Pn	13 19 24.6	-1.9
SSF	**Saint Saulge**	**2.67**	**298**	*e*Pg	Pb	13 19 32.3	+1.3
SSF				*e*Sg	Sg	13 20 07.4	-0.9
	comp=N,6.4nm,0.3s						
PAGF	**Fort de Pagny**	**2.82**	**343**	*e*Pg	Pg	13 19 35.4	-1.0
PAGF				*e*Sn	Sn	13 19 59.5	-3.5
	comp=N,0.7nm,0.1s						
BGF	**Bois d'Agland**	**2.94**	**285**	*e*Pn	Pn	13 19 28.8	-1.4
BGF				*e*Sg	Sg	13 20 15.9	-1.1
	comp=N,20nm,0.4s						
HYF	**Humbligny**	**3.30**	**297**	*e*Pn	Pn	13 19 32.7	-2.4
TCF	**Toulx Ste Croi**	**3.34**	**279**	*e*Pg	Pb	13 19 44.3	+2.0
TCF				*e*Sg	Sg	13 20 26.7	-2.9
	comp=N,2.5nm,0.3s						

*NEIC **30** 13:27:41.0±1.4, 14.°41S±0.°09×167.°4E±0.°1, h174km±6km, mb4.6/47, Error ellipse: s-maj=16.2km s-min=12.9km az=73.0*
*IDC **30** 13:27:41.5±0.7, 14.°47S×167.°28E, h179km±5km, mb4.1/22, mbtmp4.6/24, MS3.9/1, Error ellipse: s-maj=14.0km s-min=9.4km az=89.0*
*NOU **30** 13:28:01.4, 14.°74S×166.°58E, h332km, mb4.7/30, Vanuatu Islands*

ISC 30 13:27:40.4±0.3, 14.°43S±0.°05×167.°33E±0.°07, h170km, n169, σ1°22/191, mb4.7/56, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.02**	**187**		**Pn**	**13 28 08.0**	**+0.8**
MARNC	**Mare, Loyalty**	**7.04**	**175**	Pn	**Pn**	**13 29 20.2**	**-0.9**
DZM	**Mont Dzumac**	**7.64**	**186**	P	**Pn**	**13 29 29.5**	**+0

comp=Z,2.9nm,0.9s,baz=77,slow=9.7,SNR=2.1
ASAR sP **sP** **13 34 54.9 +3.7**
comp=Z,2.7nm,0.8s,baz=80,slow=9.4,SNR=2.4
ASAR PcP **PcP** **13 36 38.2 -0.9**
comp=Z,1.5nm,0.7s,baz=80,slow=2.2,SNR=6.0
ASAR S **S** **13 38 57.5 -5.5**
comp=Z,1.1nm,0.9s,baz=81,slow=18,SNR=6.1
ASAR ScP **ScP** **13 40 07.2 -0.1**
comp=Z,0.2nm,0.7s,baz=94,slow=2.9,SNR=2.2
comp=Z,8.9nm,0.5s
AUALC St Philip's Co 32.85 249 P **P** **13 33 57.2 -1.1**
AUMAR Marden Senior 32.89 227 P **P** **13 33 59.2 +0.8**
TAU Tasmania Unive 33.19 207 P **P** **13 34 00.9 0.0**
BBOO Buckleboo 33.80 232 **P** **13 34 06.7 +0.3**
BBOO Buckleboo 33.80 232 P **P** **13 34 07.0 +0.6**
AUCAS Cummins Area S 34.69 230 P **P** **13 34 14.7 +0.7**
MTN Manton Dam 35.19 268 **P** **13 34 18.6 +0.2**
MTN IAmb IAmb 13 34 32.9
comp=Z,28nm,1.5s
FAKI Fak Fak 36.45 285 **P** **13 34 29.4 +0.1**
FAKI IAmb IAmb 13 34 31.3
comp=Z,17nm,0.8s
KNRA Kununurra 37.23 263 **P** **13 34 35.1 -0.6**
SWI Sorong 38.11 288 P **P** **13 34 45.3 +2.1**
comp=Z,840nmcomp=Z,58nm,0.8s
BNDI Bandanaira 38.14 281 P **P** **13 34 44.5 +1.0**
BNDI Bandanaira 38.14 281 P **P** **13 34 44.4 +1.0**
FORT Forrest 39.49 239 **P** **13 34 54.2 -0.3**
FITZ Fitzroy Crossi 40.12 259 **P** **13 34 59.5 -0.4**
NLAI Namlea 41.20 282 P **P** **13 35 08.2 -0.5**
comp=Z,55nm,1.3s
SOEI Soe 42.31 271 **P** **13 35 18.5 +0.6**
SOEI IAmb IAmb 13 35 19.9
comp=Z,24nm,0.9s
SOEI Soe 42.31 271 P **P** **13 35 19.2 +1.3**
SOEI Soe 42.31 271 P **P** **13 35 21.6 +3.7**
comp=Z,32nm,1.1s
SANI Sanana 42.63 283 P **P** **13 35 20.7 +0.4**
SANI Sanana 42.63 283 P **P** **13 35 21.0 +0.7**
comp=Z,30nm,0.9s
BATI Baumata 42.82 270 LR LR 13 53 01.4
comp=Z,148nm,18.3s,baz=79,slow=36
BATI Baumata 42.82 270 P **P** **13 35 20.2 -1.7**
EDFI Ende, Flores 45.00 272 P **P** **13 35 39.3 -0.1**
comp=Z,33nm,1.1s
MEEK Meekatharra 46.95 247 P **P** **13 35 54.2 -0.2**
MORW Morawa 49.44 244 **P** **13 36 12.9 -0.6**
MORW Morawa 49.44 244 P **P** **13 36 13.1 -0.4**
TWSI Taliwang, Sumb 49.66 271 P **P** **13 36 16.4 +1.1**
PCJI Pacitan 55.30 270 P **P** **13 36 59.3 +2.6**
comp=Z,2μmcomp=Z,101nm,1.1s
KPJI Karang Pucung 57.65 270 P **P** **13 37 14.6 +1.2**
comp=Z,62nm,0.8s
MJAR Matsushiro Arr 57.67 332 **P** **13 37 12.7 -0.4**
MJAR Matsushiro Arr 57.67 332 P **P** **13 37 12.5 -0.6**
comp=Z,2.9nm,0.6s,baz=171,slow=8.1,SNR=10
comp=Z,2.9nm,0.6s
MAJO Matsushiro 57.67 332 P **P** **13 37 12.7 -0.4**
MAJO IAmb IAmb 13 37 13.5
comp=Z,9.2nm,1.1s
MJB9 Matsu-Tunnel 57.67 332 P **P** **13 37 12.4 -0.7**
MJB9 IAmb IAmb 13 37 44.3
comp=Z,19nm,1.5s
MDSI Maura Dua 62.90 272 P **P** **13 37 46.7 -2.4**
comp=Z,817nmcomp=Z,20nm,0.6s
VNDA Vanda 63.16 181 **P** **13 37 49.2 -0.4**
VNDA IAmb IAmb 13 37 51.2
comp=Z,8.4nm,1.1s
VNDA Vanda 63.16 181 P **P** **13 37 49.3 -0.4**
comp=Z,3.9nm,0.9s,baz=357,slow=7.6,SNR=15
comp=Z,3.9nm,0.9s
SBA Scott Base 63.43 180 **P** **13 37 51.7 +0.2**
SBA IAmb IAmb 13 37 53.1
comp=Z,18nm,1.0s
KSRS Korea Array 63.52 326 P **P** **13 37 53.0 +0.4**
comp=Z,2.2nm,0.8s,baz=139,slow=7.8,SNR=7.7
comp=Z,2.2nm,0.8s
USRK Ussuriysk Ar. 66.65 333 P **P** **13 38 13.1 +0.5**
comp=Z,2.3nm,0.6s,baz=157,slow=6.2,SNR=6.0
comp=Z,2.3nm,0.6s
PET Petropavlovsk 67.59 354 P **P** **13 38 19.0 +0.6**
PET Petropavlovsk 67.59 354 P **P** **13 38 18.2 -0.2**
comp=Z,16nm,1.1s
PETK Petropavlovsk- 67.77 354 P **P** **13 38 20.4 +0.8**
comp=Z,12nm,0.8s,baz=158,slow=6.2,SNR=18
comp=Z,12nm,0.8s
MDJ Mudanjiang 68.05 332 P **P** **13 38 21.9 +0.5**
MDJ IAmb IAmb 13 38 23.3
comp=Z,17nm,1.0s
IPM Ipoh 68.34 281 **P** **13 38 23.8 -0.2**
IPM IAmb IAmb 13 38 25.0
comp=Z,16nm,1.1s
IPM Ipoh 68.34 281 P **P** **13 38 24.2 +0.2**
BNX BinXian 69.90 331 ⇓P **P** **13 38 33.3 +0.4**
BNX pmax pmax
comp=Z,20nm,0.7s
LYN LuoYang 71.31 315 *e*P **P** **13 38 42.3 +0.7**
LYN pmax pmax
comp=Z,22nm,0.8s
XAN Xi'an 73.53 312 P **P** **13 38 55.0 +0.1**
XAN pmax pmax
comp=Z,14nm,1.0s
CMAR Chiang Mai Arr 74.88 294 **P** **13 39 03.5 +0.5**
CMAR Chiang Mai Arr 74.88 294 P **P** **13 39 03.9 +0.9**
comp=Z,3.5nm,0.8s,baz=127,slow=4.6,SNR=28
CMAR pP **pwP** **13 39 48.1 +1.9**
comp=Z,3.9nm,0.9s,baz=123,slow=4.4,SNR=5.2
comp=Z,3.5nm,0.8s
CHTO Chiang Mai 75.00 294 **P** **13 39 04.4 +0.7**
CHTO IAmb IAmb 13 39 05.3
comp=Z,9.1nm,1.1s
CHTO Chiang Mai 75.00 294 P **P** **13 39 04.8 +1.1**
QSPA South Pole Qui 75.59 180 **P** **13 39 07.5 +1.2**
QSPA IAmb IAmb 13 39 08.7
comp=Z,10nm,0.9s
QSPA South Pole Qui 75.59 180 P **P** **13 39 08.1 +1.8**
comp=Z,9.4nm,1.0s,baz=359,slow=0.9,SNR=45
comp=Z,9.4nm,1.0s
HILR Hailar Array B 76.25 330 P **P** **13 39 11.2 +1.1**
comp=Z,1.2nm,0.4s,baz=172,slow=21,SNR=1.9
comp=Z,1.2nm,0.4s
LZH Lanzhou 78.16 312 *e*P **P** **13 39 22.0 +0.8**
LZH pP PcP 13 39 27.0 -3.1
LZH pmax pmax
comp=Z,19nm,1.3s
LZDM Lanzhou Array 78.21 312 P **P** **13 39 21.2 -0.5**
comp=Z,1.4nm,0.3s,baz=62,slow=10.0,SNR=1.2
comp=Z,1.4nm,0.3s
YAK Yakutsk 81.76 343 **P** **13 39 39.8 +0.1**
ULN Ulaanbaatar 81.93 324 **P** **13 39 41.6 +0.5**
ULN IAmb IAmb 13 39 42.7
comp=Z,7.7nm,0.8s
MAW Mawson 82.18 202 P **P** **13 39 41.5 -0.5**
comp=Z,11nm,0.7s,baz=86,slow=6.0,SNR=8.9
comp=Z,11nm,0.7s
BILL Bilibino 82.25 360 **P** **13 39 42.0 -0.1**
BILL IAmb IAmb 13 39 43.3
comp=Z,19nm,1.3s
SONM Songino Array 82.29 324 **P** **13 39 43.1 +0.1**
SONM Songino Array 82.29 324 P **P** **13 39 43.4 +0.4**
comp=Z,1.9nm,0.6s,baz=152,slow=6.9,SNR=12
comp=Z,1.9nm,0.6s
GTA Gaotai 82.50 314 *e*P **P** **13 39 45.5 +1.2**
GTA pP pwP 13 40 29.5 +1.4
GTA pmax pmax
comp=Z,9.0nm,0.9s
SHL Shillong 83.47 298 **P** **13 39 49.3 -0.3**
SHL IAmb IAmb 13 39 50.7
comp=Z,19nm,0.9s
TRF Thorofare Moun 84.24 18 P **P** **13 39 51.5 -1.2**
RND Reindeer 84.64 18 P **P** **13 39 54.0 -0.5**
I21K Tanana 85.09 16 P **P** **13 39 56.7 +0.1**
I21K IAmb IAmb 13 39 58.1
comp=Z,6.3nm,0.8s
IL31 86.23 18 P **P** **13 40 01.1 -1.2**
ILAR Eielson Array 86.23 18 P **P** **13 40 01.1 -1.1**
comp=Z,3.1nm,0.7s,baz=240,slow=5.0,SNR=31
ILAR pP **pP** **13 40 48.7 +4.2**
comp=Z,1.1nm,0.8s,baz=239,slow=5.6,SNR=3.3
ILAR PKKP **PKKPdf** **13 57 54.9 -1.3**
comp=Z,0.3nm,0.6s,baz=357,slow=0.6,SNR=4.6
comp=Z,3.1nm,0.7s
NVAR Mina Array Bea 87.04 49 P **P** **13 40 07.0 -0.1**
comp=Z,1.2nm,0.8s,baz=235,slow=6.4,SNR=8.0
comp=Z,1.2nm,0.8s
EVN Everest 88.52 299 **P** **13 40 14.3 -0.6**

SPR3 Spring Creek 3 90.15 50 **P** **13 40 21.4 -0.6**
F10A Beach Ranch, E 90.44 42 P **P** **13 40 22.3 -0.5**
F10A IAmb IAmb 13 40 23.1
comp=Z,4.3nm,0.7s
PLID Pearl Lake 90.95 44 P **P** **13 40 24.9 -0.4**
TROLL Troll, Antarti 93.16 185 ⇑P **P** **13 40 33.7 -1.3**
comp=Z,335nm,0.6s
SNAA Sanae 93.85 183 ⇑P **P** **13 40 36.2 -1.8**
comp=Z,84nm,0.8s
SNAA Sanae 93.85 183 **P** **13 40 36.0 -2.1**
SNAA IAmb IAmb 13 40 38.7
comp=Z,5.5nm,0.9s
SNAA Sanae 93.85 183 P **P** **13 40 36.6 -1.5**
comp=Z,5.0nm,1.0s,baz=208,slow=5.5,SNR=27
comp=Z,5.0nm,1.0s
VNA3 Neumayer Olymp 94.51 181 ⇑P **P** **13 40 39.1 -2.0**
comp=Z,8.0nm,0.6s
PDAR Pinedale Array 94.71 47 P **P** **13 40 42.6 -0.1**
comp=Z,0.2nm,0.5s,baz=296,slow=5.5,SNR=1.7
comp=Z,0.2nm,0.5s
VNA2 Neumayer--Watz 94.78 182 ⇑P **P** **13 40 40.7 -1.6**
comp=Z,8.1nm,0.6s,baz=173,slow=5.3
VNA1 Neumayer--Stat 95.08 181 ⇑P **P** **13 40 41.3 -2.3**
comp=Z,1.8nm,0.5s
TXAR Lajitas Array 96.09 61 P **P** **13 40 48.1 -1.0**
comp=Z,0.1nm,0.3s,baz=226,slow=8.5,SNR=2.1
comp=Z,0.1nm,0.3s
MKAR Makanchi Array 97.03 316 **P** **13 40 52.4 -0.6**
MKAR Makanchi Array 97.03 316 P **P** **13 40 52.9 0.0**
comp=Z,4.4nm,0.7s,baz=94,slow=6.4,SNR=37
MKAR PKiKP **PKiKP** **13 45 27.4 -0.6**
comp=Z,0.9nm,1.0s,baz=231,slow=1.8,SNR=5.8
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 97.19 324 **P** **13 40 52.4 -1.0**
ZALV Zalesovo Beam 97.19 324 P **P** **13 40 52.5 -0.8**
comp=Z,3.5nm,0.7s,baz=112,slow=4.1,SNR=16
comp=Z,3.5nm,0.7s
KURBB Kurchatov Arra 100.25 320 PKiKP **PKiKP** **13 45 33.4 -0.1**
comp=Z,0.4nm,0.2s,baz=115,slow=1.2,SNR=8.0
BVAR Borovoye Array 105.55 322 PKiKP **PKiKP** **13 45 42.8 -0.4**
comp=Z,0.9nm,0.5s,baz=126,slow=2.0,SNR=4.5
ARCES ARCESS Array B 119.98 345 PKP **PKPdf** **13 46 09.6 -0.5**
comp=Z,5.4nm,0.6s,baz=55,slow=1.1,SNR=37
BOSA Boshof 123.63 220 PKP **PKPdf** **13 46 18.2 -0.4**
comp=Z,3.2nm,0.8s,baz=141,slow=1.3,SNR=4.1
KBZ Khabaz 124.59 313 PKP **PKiKP** **13 46 20.1 +0.1**
comp=Z,2.4nm,0.8s,baz=96,slow=4.4,SNR=5.6
FINES FINESS Array B 125.47 338 PKP **PKPdf** **13 46 20.4 -0.5**
comp=Z,7.5nm,0.9s,baz=73,slow=3.0,SNR=10
NB2 NORSAR Subarra130.35 345 PKPdf **PKPdf** **13 46 30.6 +0.4**
comp=Z,1.8nm,0.8s,baz=31,slow=1.9
NB2 pPKP **SKPbc** **13 49 37.8 0.0**
comp=Z,2.1nm,0.7s,baz=39,slow=4.4
NOA NORSAR Array B130.35 345 PKP **PKPdf** **13 46 30.5 +0.2**
comp=Z,2.5nm,0.8s,baz=33,slow=2.0,SNR=6.5
NOA SKPbc **SKPbc** **13 49 36.7 -1.0**
comp=Z,2.4nm,0.7s,baz=33,slow=2.9,SNR=12
HFS Hagfors 130.46 343 PKP **PKPdf** **13 46 29.7 -0.7**
comp=Z,3.0nm,0.8s,baz=40,slow=4.7,SNR=4.0
HFS SKPbc **SKPbc** **13 49 37.7 -0.4**
comp=Z,4.3nm,0.7s,baz=46,slow=4.3,SNR=6.1
AKASG Malin Array Be 130.52 326 PKP **PKPdf** **13 46 30.4 -0.4**
comp=Z,1.7nm,0.6s,baz=60,slow=1.6,SNR=6.6
AKASG SKPbc **SKPbc** **13 49 38.5 -0.1**
comp=Z,1.8nm,0.5s,baz=48,slow=4.4,SNR=12
BRTR Keskin Array B 132.36 311 PKP **PKPdf** **13 46 35.2 +0.4**
comp=Z,1.6nm,0.5s,baz=85,slow=1.8,SNR=8.2
BRTR SKPbc **SKPbc** **13 49 44.2 -1.6**
comp=Z,0.5nm,0.5s,baz=84,slow=1.8,SNR=3.6
RONA Rosalia, Austr 139.04 330 *i* PKiKP **PKiKP** **13 46 49.3 +0.1**
comp=Z,9.4nm,1.0s
CONA Conrad Observa 139.09 331 *i* PKiKP **PKiKP** **13 46 49.3 -0.1**
comp=Z,4.0nm,0.6s
GERES GERESS Array B 139.40 333 PKP **PKPdf** **13 46 48.6 +1.0**
comp=Z,2.2nm,0.7s,baz=43,slow=2.4,SNR=11
SOKA Soboth 140.37 330 *e*PKiKP **PKiKP** **13 46 52.1 +0.1**
comp=Z,4.6nm,1.0s
LESA Schwarzleotal 140.93 333 *i* PKP **PKPdf** **13 46 49.3 -1.1**
comp=Z,2.2nm,0.4s
WATA Walderalm 141.48 333 *i* PKP **PKPdf** **13 46 51.4 -0.1**
comp=Z,12nm,1.5s
WTTA Wattenberg 141.51 333 *e*PKP **PKPdf** **13 46 51.8 +0.3**
comp=Z,8.7nm,0.8s
ABTA Abfaltersbach 141.51 332 *e*PKiKP **PKPdf** **13 46 52.7 +1.2**
comp=Z,3.5nm,0.6s
MOTA Moosalm 141.68 334 *i* PKP **PKPdf** **13 46 52.1 +0.2**
comp=Z,6.8nm,1.0s
SQTA Sankt Quirin 141.73 334 *i* PKiKP **PKiKP** **13 46 54.7 0.0**
comp=Z,6.6nm,0.7s
FETA Feichten 142.09 334 *i* PKP **PKPdf** **13 46 50.1 -2.4**
comp=Z,8.7nm,1.2s
DAVA Damuels 142.24 335 *i* PKP **PKPdf** **13 46 49.6 -3.2**
comp=Z,3.7nm,0.8s
KEST Kesra 151.01 321 PKPbc **PKiKP** **13 47 14.1 -0.1**
comp=Z,28nm,0.7s,baz=193,slow=1.2,SNR=27
KEST PKPab **PKPab** **13 47 21.4 -0.4**
comp=Z,5.9nm,0.7s,baz=117,slow=16,SNR=7.1
PBRG Braganca 152.24 350 *e*PKPbc **PKPbc** **13 47 16.1 -0.2**
PBRG *e*PKPab **PKPab** **13 47 27.0 +0.5**
POLO Lamas de Olo 152.82 352 *e*PKPbc **PKiKP** **13 47 17.7 -0.1**
PVRL Vila Real 152.91 352 *e*PKPab **PKPab** **13 47 30.4 +1.0**
MVO Moncorvo 152.91 351 *e*PKPbc **PKiKP** **13 47 18.0 +0.1**
PVIS Viseu 153.48 352 *e*PKPab **PKPab** **13 47 33.0 +1.2**
ESDC Sosseca Array 153.71 345 PKP **PKPdf** **13 47 10.8 -0.8**
comp=Z,0.3nm,0.4s,baz=40,slow=41,SNR=2.2
ESDC PKPbc **PKPbc** **13 47 18.6 -1.0**
comp=Z,1.9nm,0.8s,baz=5.6,slow=2.0,SNR=13
ESDC PKPab **PKPab** **13 47 32.6 -0.2**
comp=Z,0.9nm,0.7s,baz=16,slow=4.0,SNR=8.6
MTE Manteigas 153.74 351 *e*PKPab **PKPab** **13 47 33.7 +0.8**
PMRV Marv??o 154.67 350 *e*PKPab **PKPab** **13 47 36.6 -0.2**
PBAR Barrancos 155.83 349 *e*PKPab **PKPab** **13 47 42.5 +0.7**
PBEJ Beja 156.12 351 *e*PKPab **PKPab** **13 47 44.5 +1.4**
MESJ Messejana 156.35 351 *e*PKPab **PKPab** **13 47 45.4 +1.3**
PCVE Castro Verde 156.53 351 *e*PKPab **PKPab** **13 47 46.0 +1.1**
PFVI Vila Bisbo 157.13 352 *e*PKPab **PKPab** **13 47 48.5 +1.0**
TORD Torodi Ar. Bea 165.98 267 PKP **PKPdf** **13 47 25.8 -0.2**
comp=Z,0.7nm,0.7s,baz=62,slow=2.4,SNR=4.2
TORD PKPab **PKPab** **13 48 26.3 -0.8**
comp=Z,3.1nm,0.9s,baz=95,slow=4.4,SNR=7.6

*GEN **30** 13:33:05.8,45°.86N×6°.99E,h12km±1km,Ml1.2*
*LDG **30** 13:33:06.7±0.1,45°.86N×6°.96E,h5km,Md1.9/2,Ml2.1/4,*
Error ellipse: s-maj=1.0km s-min=0.8km az=96.0
*STR **30** 13:33:06.7±0.0,45°.86N±0°.08×6°.96E±0°.07,h11km,*
MLv1.3/9,LOCSAT earthModelID alpes_taup-2.11
preliminary
ZUR 30 13:33:06.9,45°.87N×6°.97E,h2km,MLh1.2/11,6C-3D,
Error ellipse: s-maj=1536.6km s-min=633.6km az=206.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.03**	**225**	⇓Pg	Pg	13 33 08.2	+0.4
BLANC				Sg	Sg	13 33 09.1	+0.6
MRGE	**Morge**	**0.12**	**146**	P	Pg	13 33 09.5	+0.3
MRGE				S	Sg	13 33 11.2	+0.5
MRGE	**Morge**	**0.12**	**146**	P	Pg	13 33 09.5	+0.3
MRGE				S	Sg	13 33 11.2	+0.5
MFERR	**Prayon, Val Fe**	**0.13**	**50**	⇑Pg	Pg	13 33 09.8	+0.3
MFERR				Sg	Sg	13 33 11.6	+0.3
REMY	**Saint-Rhmy-en**	**0.14**	**102**	⇑Pg	Pg	13 33 10.0	+0.4
REMY				Sg	Sg	13 33 12.3	+0.8
REMY	**Saint-Rhmy-en**	**0.14**	**102**	P	Pg	13 33 10.0	+0.4
REMY				S	Sg	13 33 12.3	+0.9
REMY	**Saint-Rhmy-en**	**0.14**	**102**	Pg	Pg	13 33 09.9	+0.3
REMY				Sg	Sg	13 33 12.3	+0.9
SEMOS	**Emosson Stauma**	**0.20**	**354**	⇑Pg	Pg	13 33 11.2	+0.3
SEMOS				Sg	Sg	13 33 14.0	+0.4
SALAN	**Lac Salanfe**	**0.28**	**1**	⇑Pg	Pg	13 33 12.6	+0.3
SALAN				Sg	Sg	13 33 16.3	+0.3
RSL	**Roselend**	**0.30**	**233**	⇑Pg	Pg	13 33 12.8	+0.2
RSL				Sg	Sg	13 33 16.6	+0.1
RSL	**Roselend**	**0.30**	**233**	P	Pg	13 33 12.8	+0.2
RSL				S	Sg	13 33 16.7	+0.2
RSL	**Roselend**	**0.30**	**233**	Pg	Pg	13 33 12.8	+0.1
RSL				Sg	Sg	13 33 16.7	+0.2
LAVEY	**Lavey les Bain**	**0.34**	**7**	Pg	Pg	13 33 13.6	+0.2
LAVEY				Sg	Sg	13 33 17.8	+0.1
ILLEZ	**Chalet Vouargn**	**0.35**	**357**	⇓Pg	Pg	13 33 14.0	+0.3
ILLEZ				Sg	Sg	13 33 18.6	+0.2
DIX	**Grande Dixence**	**0.38**	**55**	⇓Pg	Pg	13 33 14.3	+0.1
DIX				Sg	Sg	13 33 19.3	+0.2
DIX	**Grande Dixence**	**0.38**	**55**	P	Pg	13 33 14.3	+0.2
DIX				S	Sg	13 33 19.4	+0.3
DIX	**Grande Dixence**	**0.38**	**55**	P	Pg	13 33 14.3	+0.1
DIX				S	Sg	13 33 19.0	-0.1
DIX	**Grande Dixence**	**0.38**	**55**	Pg	Pg	13 33 14.2	+0.1
DIX				Sg	Sg	13 33 19.3	+0.2
LPL	**La Plagne**	**0.39**	**205**	*e*Pg	Pg	13 33 13.6	-0.8
LPL				*e*Sg	Sg	13 33 19.1	-0.3
	6.3nm,0.3s						
GRYON	**Gryon**	**0.40**	**15**	⇑Pg	Pg	13 33 14.8	+0.2
GRYON				Sg	Sg	13 33 19.8	+0.1
LPG	**La Plagne**	**0.40**	**202**	*e*Pg	Pg	13 33 14.6	0.0
LPG				*e*Sg	Sg	13 33 19.7	-0.1
	6.0nm,0.2s						
LSD	**Lago del Serru**	**0.42**	**164**	Pg	Pg	13 33 15.1	+0.1
LSD	**Lago del Serru**	**0.42**	**164**	P	Pg	13 33 15.1	0.0
LSD				S	Sg	13 33 20.0	-0.6
LSD	**Lago del Serru**	**0.42**	**164**	P	Pg	13 33 15.1	0.0
LSD				S	Sg	13 33 20.0	-0.6
LSD	**Lago del Serru**	**0.42**	**164**	Pg	Pg	13 33 15.0	0.0
LSD				Sg	Sg	13 33 20.5	0.0
SHER	**Hrmence, R**	**0.44**	**43**	Sg	Sg	13 33 21.6	+0.5
AIGLE	**Aigle**	**0.47**	**359**	Pg	Pg	13 33 16.2	+0.2
AIGLE				Sg	Sg	13 33 22.5	+0.3
CIRO	**Champorcher**	**0.50**	**122**	Pg	Pg	13 33 16.4	-0.1
CIRO				Sg	Sg	13 33 22.7	-0.2
CIRO	**Champorcher**	**0.50**	**122**	P	Pg	13 33 16.3	-0.1
CIRO				S	Sg	13 33 22.5	-0.4
CIRO	**Champorcher**	**0.50**	**122**	P	Pg	13 33 16.3	-0.1
CIRO				S	Sg	13 33 22.7	-0.2
CIRO	**Champorcher**	**0.50**	**122**	Pg	Pg	13 33 16.3	-0.1
CIRO				Sg	Sg	13 33 22.8	-0.1
SENIN	**Lac Senin/Sane**	**0.55**	**25**	Pg	Pg	13 33 17.6	+0.2
SENIN				Sg	Sg	13 33 24.7	+0.1
SENIN	**Lac Senin/Sane**	**0.55**	**25**	P	Pg	13 33 17.6	+0.1
SENIN				S	Sg	13 33 24.9	+0.3
SENIN	**Lac Senin/Sane**	**0.55**	**25**	P	Pg	13 33 17.6	+0.1
SENIN				S	Sg	13 33 24.6	+0.1
SATI	**Passo dei Sala**	**0.63**	**89**	Pg	Pg	13 33 19.2	+0.2
SATI				Sg	Sg	13 33 27.4	+0.2
TRAV	**Traversella**	**0.65**	**123**	P	Pg	13 33 19.1	-0.2
TRAV	**Traversella**	**0.65**	**123**	Pg	Pg	13 33 19.1	-0.3
TRAV				Sg	Sg	13 33 27.7	-0.1
RSP	**Reno Superiore**	**0.75**	**164**	Pg	Pg	13 33 21.1	-0.2
JAUN	**Jaun, Euschels**	**0.80**	**16**	Pg	Pb	13 33 23.0	-0.6
GIMEL	**St. Georges /**	**0.83**	**324**	Pg	Pn	13 33 25.4	-0.3
OGSM	**Saint Maurice**	**0.93**	**254**	Pg	Pg	13 33 23.7	-0.9
RRL	**Rocca Remolon**	**0.95**	**187**	Pg	Pg	13 33 24.7	-0.5
CABF	**La Chapelle**	**0.96**	**321**	*e*Pg	Pg	13 33 25.3	-0.1
CABF				*e*Sg	Sg	13 33 37.1	-0.7
	8.3nm,0.3s						
OG35	**Corcelles**	**0.99**	**281**	Pg	Pg	13 33 25.3	-0.5
MBDF	**Montbardon**	**1.15**	**187**	*e*Pg	Pg	13 33 27.6	-1.3
MBDF				*e*Sg	Sg	13 33 42.3	-1.5
ORIF	**Oris-en-Rattie**	**1.22**	**219**	*e*Sg	Sg	13 33 45.4	-0.6
	3.8nm,0.4s						
VIVF	**Saint-Julien-l**	**1.91**	**239**	*e*Sg	Sg	13 34 07.8	-0.3
	2.2nm,0.2s						
SMF	**Signal de Mont**	**2.30**	**291**	*e*Sg	Sb	13 34 18.3	+0.2
AVF	**Avril sur Loir**	**2.67**	**292**	*e*Sg	Sb	13 34 29.8	+1.2

TRN 30 13:48:14.2,16°.62N×61°.80W,h18km,MD3.6,North of Guadeloupe.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHSZ	**Broadband at M**	**0.35**	**175**	*e*P	Pn	13 48 23.8	-0.6
DHSZ				*e*S	Sb	13 48 28.8	+1.7
MLYT	**Lee's Yard**	**0.39**	**285**	*e*P	Pn	13 48 25.1	+0.2
MLYT				*e*S	Sn	13 48 31.3	-0.7
MBWH	**Windy Hill**	**0.39**	**288**	*e*P	Pn	13 48 25.1	0.0
MBWH				*e*S	Sn	13 48 30.5	-1.6
MBFL	**Flemmings, Mon**	**0.41**	**288**	*e*P	Pn	13 48 25.4	+0.1
MBFL				*e*S	Sn	13 48 31.1	-1.6
MMLZ	**Guadeloupe Bro**	**0.59**	**168**	*e*P	Pn	13 48 28.9	+1.2
MMLZ				*e*S	Sn	13 48 37.1	+0.3
DSDZ	**La Diserade, G**	**0.77**	**114**	*e*P	Pn	13 48 31.9	+1.8
DSDZ				*e*S	Sn	13 48 42.7	+1.4
ANWB	**Willy Bob**	**1.04**	**1**	*e*P	Pg	13 48 35.9	+1.5
ANWB				*e*S	Sg	13 48 50.9	+2.8
SKOC	**St. Kitts, UWI**	**1.11**	**307**	x	Sg	13 48 50.7	+0.3
SKI	**Saint Kitts**	**1.14**	**308**	*e*P	Pg	13 48 38.0	+1.7
SKI				*e*S	Sg	13 48 52.7	+1.3
DWS	**Wesley**	**1.15**	**156**	*e*P	Pb	13 48 35.8	+0.3
DWS				*e*S	Sg	13 48 53.4	+2.0
DSLB	**Salisbury**	**1.23**	**163**	*e*P	Pg	13 48 39.8	+1.8
DSLB				*e*S	Sg	13 48 56.4	+2.2
SVN	**Savane Anatole**	**1.87**	**161**	*e*P	Pb	13 48 48.0	+0.1
SVN				*e*S	Sb	13 49 11.8	+0.7
BIM	**Bigot**	**2.21**	**161**	*e*P	Pn	13 48 51.8	+1.8
BIM				*e*S	Sb	13 49 20.0	-0.7

*JMA **30** 13:55:24.8±0.2,25°.N±2°.×122°.5E±0°.6,h118km±2km,*
MV2.7/12,NW OFF ISHIGAKIJIMA IS
*TAP **30** 13:55:24.2,24°.79N×122°.55E,h120km,ML3.5,D*
ISC 30 13:55:25.0±1.5,24°.71N±0°.04×122°.56E±0°.03,h115km±8km,
n108,σ0°.91/206,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.42**	**225**	*i* P	**Pn**	**13 55 42.2**	**+0.4**
EOS2				S	**Sn**	**13 55 55.9**	**+1.5**
JYNG	**Yonagunijimaku**	**0.44**	**127**	P	**Pn**	**13 55 42.2**	**+0.1**
JYNG				*e*S	**Sn**	**13 55 55.5**	**+0.6**
EOS3	**EOS3**	**0.48**	**207**	*i* P	**Pn**	**13 55 42.7**	**+0.6**
EOS3				S	**Sn**	**13 55 56.4**	**+1.4**
YOJ	**Yonaguni jima**	**0.48**	**121**	P	**Pn**	**13 55 42.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.48**	**121**	P	**Pn**	**13 55 42.4**	**+0.1**
YOJ				*e*S	**Sn**	**13 55 55.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.48**	**121**	*i* P	**Pn**	**13 55 42.3**	**+0.1**
YOJ				S	**Sn**	**13 55 56.1**	**+0.8**
TWB1	**Santiao Chiao**	**0.59**	**300**	*i* P	**Pn**	**13 55 43.0**	**0.0**
TWB1				*i* S	**Sn**	**13 55 56.5**	**-0.2**
EOS4	**EOS4**	**0.63**	**200**	*i* P	**Pn**	**13 55 43.2**	**+0.3**
EOS4				*i* S	**Sn**	**13 55 57.4**	**+1.0**
TWC	**Suao**	**0.65**	**261**	*i* P	**Pn**	**13 55 42.8**	**-0.7**
TWC				*i* S	**Sn**	**13 55 56.5**	**-0.9**
ESAO	**Su ao**	**0.67**	**258**	P	**Pn**	**13 55 44.3**	**+0.7**
ESAO				*i* S	**Sn**	**13 55 56.7**	**-0.9**
TIPB	**Shuangxi**	**0.71**	**291**	*i* P	**Pn**	**13 55 44.0**	**0.0**
TIPB				*i* S	**Sn**	**13 55 57.7**	**-0.6**
SXI1	**Grass Mountain**	**0.73**	**302**	*i* P	**Pn**	**13 55 44.1**	**-0.1**
SXI1				*e*S	**Sn**	**13 55 58.2**	**-0.5**
ILA	**Ilan**	**0.74**	**274**	*e*P	**Pn**	**13 55 44.8**	**+0.6**
ILA				S	**Sn**	**13 55 59.2**	**+0.5**
EWUT	**Wuta**	**0.76**	**250**	*i* P	**Pn**	**13 55 44.2**	**-0.2**
EWUT				*i* S	**Sn**	**13 55 58.6**	**-0.4**
NDS	**Dongshan**	**0.77**	**264**	*i* P	**Pn**	**13 55 44.5**	**+0.1**
NDS

NACB			*i* S		Sn	13 56 02.6	-0.9
YHNB	**Yeheng**	**1.08 268**	P		Pn	13 55 47.4	-0.1
YHNB	**Yeheng**	**1.08 268**	S		Sn	13 56 04.3	-0.2
YHNB	**Yeheng**	**1.08 268**	*i* P		Pn	13 55 47.6	+0.1
YHNB			*i* S		Sn	13 56 04.3	-0.2
TWD	**Chiawan**	**1.08 234**	*eP*		Pn	13 55 46.9	-0.5
TWD			*i* S		Sn	13 56 04.5	+0.1
NSK	**Sanguang**	**1.09 268**	*i* P		Pn	13 55 47.6	0.0
NSK			*i* S		Sn	13 56 04.3	-0.4
ETLH	**Xiulin Townshi**	**1.10 243**	*i* P		Pn	13 55 47.6	-0.2
ETLH			*i* S		Sn	13 56 04.5	-0.5
TWS1	**Kuangyinshan**	**1.10 291**	P		Pn	13 55 47.1	-0.6
TWS1			*eS*		Sn	13 56 04.6	-0.3
NNSB	**Datong**	**1.11 255**	*i* P		Pn	13 55 47.8	-0.1
NNSB			*i* S		Sn	13 56 05.1	-0.1
NNSH	**Datong**	**1.11 255**	*i* P		Pn	13 55 47.9	0.0
NNSH			*eS*		Sn	13 56 04.9	-0.3
NNS	**Nan Shan**	**1.11 256**	*i* P		Pn	13 55 48.1	+0.1
NNS			*i* S		Sn	13 56 05.0	-0.3
IRIF	**Iriomote-Funau**	**1.13 109**	P		Pn	13 55 48.1	+0.2
HWA	**Hwalien**	**1.14 230**	*i* P		Pn	13 55 48.0	0.0
HWA			*i* S		Sn	13 56 06.3	+0.8
TEYL	**Yanliau Villag**	**1.22 226**	*eP*		Pn	13 55 48.6	-0.3
TEYL			S		Sn	13 56 07.5	+0.5
ETM	**Tongmen**	**1.23 233**	*i* P		Pn	13 55 48.4	-0.6
ETM			*eS*		Sn	13 56 06.8	-0.4
KSHI	**Guanxi Townshi**	**1.26 273**	*i* P		Pn	13 55 49.7	+0.3
KSHI			*i* S		Sn	13 56 08.3	+0.4
FUSS	**Fushou**	**1.28 249**	*i* P		Pn	13 55 50.2	+0.3
FUSS			S		Sn	13 56 08.9	+0.1
SHUL	**Shoufeng**	**1.29 225**	*i* P		Pn	13 55 49.7	-0.1
SHUL			*i* S		Sn	13 56 09.0	+0.4
WHF	**Hehuan Shan**	**1.31 245**	*i* P		Pn	13 55 50.4	0.0
WHF			*i* S		Sn	13 56 08.8	-0.8
HATJ	**Hateruma jima**	**1.31 120**	*eP*		Pn	13 55 50.7	+0.7
HATJ			*eS*		Sn	13 56 09.9	+1.1
NFF	**Wufeng Townshi**	**1.31 267**	*i* P		Pn	13 55 49.9	-0.1
NFF			*i* S		Sn	13 56 08.6	-0.5
TWT	**Tachien**	**1.34 250**	*eP*		Pn	13 55 51.3	+0.8
TWT			*i* S		Sn	13 56 09.9	+0.2
TDCB	**Techi**	**1.36 251**	*eP*		Pn	13 55 51.2	+0.6
TDCB			*i* S		Sn	13 56 10.0	0.0
ESL	**Shilin**	**1.36 229**	*i* P		Pn	13 55 49.9	-0.7
ESL			S		Sn	13 56 07.7	-2.3
JKRS	**Kuro-shima**	**1.40 109**	P		Pn	13 55 51.4	+0.4
JKRS			S		Sn	13 56 11.4	+0.6
LIOB	**Emei**	**1.41 268**	*i* P		Pn	13 55 51.1	0.0
LIOB			*i* S		Sn	13 56 10.6	-0.2
NSTT	**Nanjuang**	**1.42 267**	*i* P		Pn	13 55 50.9	-0.3
NSTT			*i* S		Sn	13 56 10.4	-0.7
WARBT	**Fenglin Townsh**	**1.46 227**	*i* P		Pn	13 55 51.0	-0.7
WARBT			*i* S		Sn	13 56 10.2	-1.8
EGFH	**Guangfu**	**1.47 225**	*i* P		Pn	13 55 51.0	-0.8
EGFH			*i* S		Sn	13 56 10.7	-1.4
JIJ	**Ishigaki jima**	**1.48 103**	P		Pn	13 55 51.6	-0.4
JIJ			*eS*		Sn	13 56 11.6	-0.8
WUSB	**Renai**	**1.50 242**	*i* P		Pn	13 55 52.8	+0.6
WUSB			S		Sn	13 56 12.9	-0.1
WHP	**Taichung City**	**1.53 254**	*i* P		Pn	13 55 53.2	+0.6
WHP			*i* S		Sn	13 56 14.1	+0.5
HGSD	**Ruisui**	**1.60 221**	*i* P		Pn	13 55 53.0	-0.4
HGSD			*i* S		Sn	13 56 15.2	+0.3
JISG	**Ishigakijimahi**	**1.60 94**	P		Pn	13 55 53.4	+0.2
JISG			S		Sn	13 56 14.3	-0.5
VWDT	**VWDT**	**1.61 234**	*i* P		Pn	13 55 54.1	+0.7
VWDT			*i* S		Sn	13 56 14.7	-0.3
NMLH	**Miaoli**	**1.62 264**	*eP*		Pn	13 55 54.7	+1.2
NMLH			*i* S		Sn	13 56 15.1	-0.1
DPDB	**Guoxing**	**1.64 246**	P		Pn	13 55 55.5	+1.7
DPDB			*i* S		Sn	13 56 17.1	+1.3
EHYH	**Wanrong**	**1.65 223**	*i* P		Pn	13 55 53.3	-0.6
EHYH			S		Sn	13 56 14.2	-1.6
EHY	**Hungye**	**1.65 223**	*i* P		Pn	13 55 53.4	-0.6
EHY			S		Sn	13 56 14.3	-1.7
TWQ1	**Liyutan**	**1.67 258**	*i* P		Pn	13 55 53.7	-0.4
TWQ1			*i* S		Sn	13 56 16.3	0.0
ECBN	**Changbin**	**1.72 216**	*eP*		Pn	13 55 54.3	-0.5
ECBN			S		Sn	13 56 16.9	-0.6
SMLT	**Sun Moon Lake**	**1.73 242**	*i* P		Pn	13 55 56.1	+1.2
SMLT			*i* S		Sn	13 56 19.9	+2.2
SSLB	**Suanglung**	**1.73 238**	P		Pn	13 55 55.9	+1.0
SSLB	**Suanglung**	**1.73 238**	S		Sn	13 56 19.2	+1.4
SSLB	**Suanglung**	**1.73 238**	*i* P		Pn	13 55 56.0	+1.0
SSLB			*i* S		Sn	13 56 19.0	+1.3
TYC	**Yuchr**	**1.75 243**	*i* P		Pn	13 55 56.0	+0.9
TYC			*i* S		Sn	13 56 19.6	+1.6
YULB	**Yu-li**	**1.75 221**	P		Pn	13 55 55.9	+0.7
YULB	**Yu-li**	**1.75 221**	*i* P		Pn	13 55 54.2	-0.9
YULB			*i* S		Sn	13 56 16.8	-1.4
TWF1	**Yuli**	**1.78 221**	*i* P		Pn	13 55 55.0	-0.5
TWF1			*i* S		Sn	13 56 17.8	-1.0
TCU	**Taichung**	**1.81 252**	*eP*		Pn	13 55 56.6	+0.8
TCU			S		Sn	13 56 19.7	+0.4
FULB	**Fuli**	**1.90 218**	*i* P		Pn	13 55 57.2	+0.1
FULB			*i* S		Sn	13 56 21.7	+0.2
WNT	**Mingjian**	**1.90 244**	*eP*		Pn	13 55 58.2	+1.2
WNT			*i* S		Sn	13 56 22.6	+1.1
CHKT	**Chengkung**	**1.94 214**	*eP*		Pn	13 55 57.0	-0.6
CHKT			*i* S		Sn	13 56 20.8	-1.6
ALS	**Alishan**	**2.00 234**	*i* P		Pn	13 55 59.4	+0.9
ALS			*i* S		Sn	13 56 25.2	+1.1
CHN5	**Tsauling**	**2.05 237**	*i* P		Pn	13 55 59.4	+0.4
CHN5			*i* S		Sn	13 56 26.1	+1.2
ELDTW	**Lidau**	**2.07 223**	*i* P		Pn	13 55 58.4	-0.9
ELDTW			*i* S		Sn	13 56 25.1	-0.4
EDH	**Donghe**	**2.08 214**	*eP*		Pn	13 55 59.4	+0.1
EDH			*i* S		Sn	13 56 24.1	-1.4
WDLH	**Douliu**	**2.11 241**	*eP*		Pn	13 56 00.6	+0.9
WDLH			*eS*		Sn	13 56 27.4	+1.3
WCKO	**Fanlu**	**2.19 235**	*i* P		Pn	13 56 01.5	+0.8
WCKO			*i* S		Sn	13 56 29.1	+1.1
LONT	**Longtian**	**2.23 216**	P		Pn	13 55 59.7	-1.4
LONT			S		Sn	13 56 27.9	-0.8
WTK	**Tuku**	**2.23 243**	*eP*		Pn	13 56 00.0	-1.1
WTK			S		Sn	13 56 28.3	-0.5
STYH	**Taoyuan**	**2.24 227**	*i* P		Pn	13 56 02.0	+0.7
STYH			*i* S		Sn	13 56 29.9	+0.8
TPUB	**Ta-pu**	**2.26 232**	P		Pn	13 56 02.2	+0.7
TPUB	**Ta-pu**	**2.26 232**	S		Sn	13 56 30.4	+0.9
TPUB	**Ta-pu**	**2.26 232**	*i* P		Pn	13 56 01.8	+0.3
TPUB			*i* S		Sn	13 56 29.5	0.0
WTP	**Ta-pu**	**2.30 231**	*i* P		Pn	13 56 02.9	+0.7
WTP			*i* S		Sn	13 56 31.9	+1.4
TWGBT	**Beinan**	**2.32 216**	*eP*		Pn	13 56 02.2	-0.1
TWGBT			*i* S		Sn	13 56 29.5	-1.5
TWG	**Pinlang**	**2.33 216**	*eP*		Pn	13 56 03.1	+0.7
TWG			*i* S		Sn	13 56 29.6	-1.5
TWK	**Hsinying**	**2.38 233**	*i* P		Pn	13 56 02.9	-0.2
TWK			*i* S		Sn	13 56 33.5	+1.1
CHN1	**Nanshi**	**2.40 231**	*i* P		Pn	13 56 03.7	+0.3
CHN1			*i* S		Sn	13 56 34.0	+1.2
SNST	**Tainan City**	**2.40 232**	*i* P		Pn	13 56 04.5	+1.1
SNST			*i* S		Sn	13 56 33.1	+0.3
WSL	**Shuilin Townsh**	**2.44 241**	*eP*		Pn	13 56 04.0	+0.1
WSL			*eS*		Sn	13 56 33.5	-0.1
ECL	**Taimali**	**2.57 215**	*eP*		Pn	13 56 06.2	+0.7
ECL			*i* S		Sn	13 56 34.6	-2.1
SCST	**Cishan**	**2.62 227**	*eP*		Pn	13 56 07.2	+0.9
SCST			*eS*		Sn	13 56 41.6	+3.6
SSD	**Sandimen**	**2.64 222**	P		Pn	13 56 06.7	+0.2
SSD			*eS*		Sn	13 56 40.4	+2.1
MASBT	**Mashibuluo**	**2.74 221**	*i* P		Pn	13 56 08.1	+0.4
MASBT			S		Sn	13 56 41.6	+1.0
EAST	**Anshuo**	**2.80 214**	*eP*		Pn	13 56 08.5	-0.2
EAST			*eS*		Sn	13 56 42.2	+0.1
LYUB	**Lan-yu**	**2.84 199**	*eP*		Pn	13 56 08.6	-0.6
LYUB			*eS*		Sn	13 56 38.0	-5.1

*GUC **30** 14:03:43.6±0.8, 22°.45S×68°.74W, h117km±4km, ML3.8*
*NEIC **30** 14:03:44.3±1.8, 22°.44S±0°.05×68°.71W±0°.06, h99km±7km, mb4.0/6, ML3.8(GUC), Error ellipse: s-maj=8.3km s-min=7.1km az=49.0*

ISC 30 14:03:44.4±0.8, **22°.47S**±0°.03×**68°.74W**±0°.06, **h107**km±6km, **n37**, σ1§**09**/46, **5C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.71 133**			**Pn**	**14 04 02.1**	**-0.8**
AF01	**San Pedro de A**	**0.71 133**		*eP*	**Pn**	**14 04 02.4**	**-0.5**
AF01				*eS*	**Sn**	**14 04 15.7**	**-1.1**
AF01				IAML		14 04 27.0	
	comp=E,4μm,0.4s						
PB06	**IPOC Station P**	**0.80 253**			**Pn**	**14 04 03.4**	**-0.2**
PB06	**IPOC Station P**	**0.80 253**	⇑	*iP*	**Pn**	**14 04 03.5**	**-0.2**
PB06				*i* S	**Sn**	**14 04 18.1**	**+0.1**
PB06				IAML		14 04 21.1	
	comp=N,2μm,0.1s						
PB09	**IPOC Station P**	**0.82 325**			**Pn**	**14 04 03.7**	**-0.1**
PB09	**IPOC Station P**	**0.82 325**	⇑	*iP*	**Pn**	**14 04 03.9**	**+0.1**
PB09				*i* S	**Sn**	**14 04 18.9**	**+0.6**
PB09				IAML		14 04 21.1	
	comp=E,2μm,0.5s						
PB03	**IPOC Station P**	**1.03 294**			**Pn**	**14 04 05.5**	**-0.4**
PB03	**IPOC Station P**	**1.03 294**	⇑	*iP*	**Pn**	**14 04 05.8**	**-0.1**
PB03				*i* S	**Sn**	**14 04 22.3**	**+0.3**
PB03				IAML		14 04 24.7	
	comp=E,2μm,0.1s						
PB02	**IPOC Station P**	**1.57 317**			**Pn**	**14 04 12.0**	**-0.1**
PB02	**IPOC Station P**	**1.57 317**	⇑	*iP*	**Pn**	**14 04 11.9**	**-0.2**
PB02				*i* S	**Sn**	**14 04 32.5**	**-0.5**
PB02				IAML		14 04 34.5	
	comp=E,3μm,0.4s						
PB01	**IPOC Station P**	**1.58 334**			**Pn**	**14 04 11.7**	**-0.4**
PB01	**IPOC Station P**	**1.58 334**	⇑	*iP*	**Pn**	**14 04 11.8**	**-0.4**
PB01				*i* S	**Sn**	**14 04 32.8**	**-0.4**
PB01				IAML		14 04 34.5	
	comp=N,3μm,0.2s						
PB10	**IPOC Station P**	**1.97 238**			**Pn**	**14 04 16.7**	**-0.2**
PB10	**IPOC Station P**	**1.97 238**		*eP*	**Pn**	**14 04 16.4**	**-0.4**
PB10				*eS*	**Sn**	**14 04 39.9**	**-1.7**
PATCX	**Punta Patache**	**2.10 321**			**Pn**	**14 04 17.6**	**-1.1**
TA01	**Diego Aracena**	**2.32 324**			**Pn**	**14 04 20.2**	**-1.3**
TA01	**Diego Aracena**	**2.32 324**		*eP*	**Pn**	**14 04 20.2**	**-1.3**
TA01				*eS*	**Sn**	**14 04 48.6**	**-1.2**
TA01				IAML		14 04 56.2	
	comp=N,372nm,0.3s						
PB08	**IPOC Station P**	**2.35 350**			**Pn**	**14 04 21.4**	**-0.8**
PB14	**IPOC Station P**	**2.63 215**			**Pn**	**14 04 26.6**	**+0.7**
PB14	**IPOC Station P**	**2.63 215**		*eP*	**Pn**	**14 04 26.3**	**+0.5**
PB14				*eS*	**Sn**	**14 04 55.0**	**-2.6**
GO02	**Mina Guanaco**	**2.79 196**			**Pn**	**14 04 26.8**	**-1.1**
GO02	**Mina Guanaco**	**2.79 196**		*eP*	**Pn**	**14 04 27.2**	**-0.7**
GO01	**Chusmiza**	**2.82 351**			**Pn**	**14 04 27.6**	**-0.8**
GO01	**Chusmiza**	**2.82 351**		*eP*	**Pn**	**14 04 28.2**	**-0.3**
PB11	**IPOC Station P**	**2.83 342**			**Pn**	**14 04 26.6**	**-1.7**
PB11	**IPOC Station P**	**2.83 342**		*eP*	**Pn**	**14 04 26.8**	**-1.5**
AC01	**Pan de Azucar**	**4.04 204**		Pn	**Pn**	**14 04 41.9**	**-2.3**
PB12	**IPOC Station P**	**4.12 339**			**Pn**	**14 04 42.9**	**-2.5**
PB16	**IPOC Station P**	**4.18 350**			**Pn**	**14 04 45.9**	**-0.8**
AC02	**Maricunga**	**4.36 185**			**Pn**	**14 04 48.3**	**-0.8**
ITAB	**Concordia**	**15.80 111**		Pn	**Pn**	**14 07 20.1**	**-0.9**
ITAB				IAmb	IAmb	14 07 38.8	
	comp=Z,9.0nm,1.0s						
TRQA	**Tornquist**	**16.59 161**		P	**P**	**14 07 32.0**	**+0.8**
PLCA	**Paso Flores**	**18.27 184**		P	**P**	**14 07 49.4**	**-0.4**
PLCA				IAmb	IAmb	14 07 54.4	
	comp=Z,8.3nm,1.4s						
PMSA	**Palmer Station**	**42.40 177**		P	**P**	**14 11 28.3**	**+0.3**
TXAR	**Lajitas Array**	**61.51 325**		P	**P**	**14 13 49.6**	**-0.7**
QSPA	**South Pole Qui**	**67.73 180**		P	**P**	**14 14 32.6**	**+2.3**
QSPA				IAmb	IAmb	14 14 33.6	
	comp=Z,5.5nm,1.5s						
DBIC	**Dimbokro**	**68.86 73**		P	**P**	**14 14 39.1**	**+1.1**

*GCG **30** 14:17:23.6±1.0, 13°.44N×90°.29W, h34km±11km, MD4.0*
*SNET **30** 14:17:23.1±0.7, 13°.25N×90°.13W, h13km±10km, ML2.8*
*CATAC **30** 14:17:30.6±0.5, 14°.N±4°×9°.0W±°, h9km±2km, M2.9/18, MLv2.9/18, Error ellipse: s-maj=9.6km s-min=3.7km az=36.6, confirmed*

ISC 30 14:17:19.1±2.0, **13°.27N**±0°.08×**90°.31W**±0°.06, **h14**km±11km, **n36**, σ1§**58**/47, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.81**	**40**	*eP*	**Pn**	**14 17 37.0**	**+0.6**
NUBE				*eS*	**Sg**	**14 17 47.0**	**+1.3**
NUBE	**Las Nubes**	**0.81**	**40**	*i* P	**Pn**	**14 17 37.0**	**+0.6**
NUBE				*eS*	**Sb**	**14 17 48.1**	**+2.0**
NUBE	**Las Nubes**	**0.81**	**40**	P	**Pn**	**14 17 37.0**	**+0.6**
CEVE	**Cerro Verde**	**0.87**	**50**	P	**Pg**	**14 17 34.6**	**-1.5**
SBLS	**San Blas**	**0.88**	**50**	*eP*	**Pn**	**14 17 38.0**	**+0.7**
SBLS				*eS*	**Sb**	**14 17 49.7**	**+1.7**
LOAL	**Lomas de Alarc**	**0.89**	**36**	*eP*	**Pn**	**14 17 38.1**	**+0.8**
LOAL				*eS*	**Sb**	**14 17 50.4**	**+2.2**
LOAL	**Lomas de Alarc**	**0.89**	**36**	P	**Pn**	**14 17 38.5**	**+1.2**
RTR	**El Retiro**	**0.90**	**46**	*eP*	**Pn**	**14 17 38.6**	**+1.0**
RTR				*eS*	**Sb**	**14 17 50.4**	**+1.8**
SNJE	**San Jose**	**0.91**	**49**	*eP*	**Pn**	**14 17 38.5**	**+0.8**
SNJE				*eS*	**Sb**	**14 17 50.5**	**+1.6**
JAYA	**Jayaque - finc**	**0.92**	**66**	*eP*	**Pn**	**14 17 38.0**	**+0.1**
JAYA				*eS*	**Sg**	**14 17 48.5**	**-0.7**
JAYA				IAML		14 17 53.2	
	comp=Z,405nm,0.2s						
JAYA	**Jayaque - finc**	**0.92**	**66**	*i* P	**Pn**	**14 17 38.4**	**+0.5**
JAYA				*eS*	**Sb**	**14 17 51.1**	**+1.8**
JAYA	**Jayaque - finc**	**0.92**	**66**	P	**Pn**	**14 17 38.3**	**+0.5**
LALI	**Alcalda de L**	**0.99**	**77**	P	**Pn**	**14 17 39.5**	**+0.8**
RBDL	**Robledal**	**1.04**	**36**	*eP*	**Pn**	**14 17 40.8**	**+1.4**
RBDL				*eS*	**Sb**	**14 17 54.6**	**+2.1**
CEDA	**San Andres**	**1.04**	**59**	P	**Pg**	**14 17 37.7**	**-1.5**
BOQS	**Boqueron**	**1.11**	**65**	*eP*	**Pn**	**14 17 41.3**	**+0.8**
UEES	**Universidad Ev**	**1.14**	**67**	P	**Pg**	**14 17 40.0**	**-1.0**
PANCS	**Alcalda de**	**1.16**	**73**	P	**Pn**	**14 17 41.2**	**+0.3**
LOMA	**Loma Larga**	**1.17**	**71**	*eP*	**Pb**	**14 17 41.5**	**+0.2**
LOMA	**Loma Larga**	**1.17**	**71**	P	**Pb**	**14 17 41.3**	**+0.1**
IGN	**Direccin Gen**	**1.20**	**68**	P	**Pn**	**14 17 41.0**	**-0.5**
ESSG	**Sabana Grande**	**1.22**	**336**	*eP*	**Pb**	**14 17 42.3**	**+0.4**
ESSG				*eS*	**Sg**	**14 17 56.5**	**-1.9**
LFRS	**El Faro**	**1.27**	**74**	*eP*	**Pb**	**14 17 42.9**	**0.0**
LFRS				*eS*	**Sb**	**14 17 58.9**	**-0.2**
PAVA	**Las Pavas**	**1.41**	**72**	*eP*	**Pb**	**14 17 45.5**	**+0.2**
PAVA	**Las Pavas**	**1.41**	**72**	S	**Sn**	**14 17 56.7**	**-6.2**
PAVA	**Las Pavas**	**1.41**	**72**	P	**Pb**	**14 17 45.5**	**+0.2**
MTO3	**Montecristo**	**1.45**	**39**	*eP*	**Pg**	**14 17 46.9**	**-0.2**
MTO3	**Montecristo**	**1.45**	**39**	P	**Pg**	**14 17 46.9**	**-0.2**
TECO	**Alcaldia de Te**	**1.52**	**80**	P	**Pg**	**14 17 48.7**	**+0.4**
ESQI	**Esquipulas**	**1.59**	**36**	P	**Pg**	**14 17 49.1**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.60**	**74**	P	**Pg**	**14 17 49.4**	**-0.5**
PQSS	**Presa 15 de Se**	**1.74**	**78**	P	**Pg**	**14 17 52.4**	**-0.2**
LCND	**La Caada**	**2.36**	**89**	*eP*	**Pn**	**14 17 58.8**	**+1.3**
CNCH	**Conchagua**	**2.42**	**90**	P	**Pb**	**14 18 02.8**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.06**	**75**	P	**Pn**	**14 18 10.2**	**+3.0**
YUSH	**Yuscaran**	**3.44**	**78**	P	**Pn**	**14 18 15.8**	**+3.3**

BER 30 14:18:55.4±0.7, **59°.87N**×**11°.24E**, **h0**km, **ML0.7**, **Suspected explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.88**	**10**	*eP*	Pg	14 19 11.2	-1.0
NC602				IAML		14 19 27.9	
	comp=Z,2.2nm,0.2s						
NAO01	**NORSAR Array S**	**0.99**	**350**	*eP*	Pg	14 19 13.8	-0.6
NAO01				IAML		14 19 42.7	
	comp=Z,2.7nm,0.8s						
NB201	**NORSAR Array S**	**1.18**	**1**	*eP*	Pg	14 19 16.2	-1.8
NB201				*eS*	Sg	14 19 32.3	-1.0
NB201				IAML		14 19 44.0	
	comp=Z,1.9nm,0.7s						
NBO00	**NORSAR Array S**	**1.18**	**349**	*eP*	Pg	14 19 16.6	-1.4
NBO00				*eS*	Sg	14 19 32.0	-1.4
NC303	**NORSAR Array S**	**1.36**	**3**	*eP*	Pg	14 19 19.6	-1.8
NC204	**NORSAR Array S**	**1.43**	**351**	*eP*	Pn	14 19 20.2	-2.5
NC204				*eS*	Sg	14 19 39.5	-1.7
NC204				IAML		14 19 40.9	
	comp=Z,2.1nm,0.7s						

DNK 30 14:19:10.2±0.4, **58°.52N**×**13°.82E**, **h0**km, **ML1.3**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKPU	**Falk**	**0.36 188**		P	Pg	14 19 16.8	-0.3
FKPU				S	Sg	14 19 21.8	+0.1
NASU	**Vaermlandsnaes**	**0.53 322**		P	Pg	14 19 19.7	-0.6
NASU				S	Sg	14 19 27.1	-0.1
ASKU	**Askersund**	**0.65 54**		P	Pg	14 19 21.9	-0.7
ASKU				S	Sg	14 19 30.9	-0.1
VANU	**Vaenersborg**	**0.92 269**		P	Pg	14 19 26.9	-0.9
LNKU	**Linkoeping**	**0.94 108**		P	Pg	14 19 27.1	-1.0
LNKU				S	Sg	14 19 39.8	-0.4
BORU	**Boraas**	**1.04 213**		P	Pg	14 19 29.4	-0.8
EKSU	**Eksjoe**	**1.23 140**		P	Pg	14 19 32.5	-1.2
TJOU	**Tjoern**	**1.26 248**		P	Pg	14 19 33.0	-1.3
VIKU	**Vikbolandet**	**1.51 89**		P	Pn	14 19 37.6	-0.9
VSTU	**Vaestervik**	**1.68 120**		P	Pn	14 19 40.4	-0.4

*NEIC **30** 14:29:47.3±0.6, 36°.274N±0°.009×97°.64W±0°.01, h7km±4km, Error ellipse: s-maj=1.3km s-min=1.2km az=213.0*

NEIC 30 14:29:46.8±0.6, **36°.273N**±0°.007×**97°.635W**±0°.009, **h1**km±1km, **mb_Lg2.4**/35, **ML2.7**/70, **ML2.5**/49, **Error ellipse: s-maj=1.1km s-min=1.0km az=51.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.36 310**			Pg	14 29 54.7	+0.8
CROK					Sg	14 29 59.8	+1.2
OK048	**Pawnee Station**	**0.58 75**			Pg	14 29 58.4	+0.6
BLOK	**Blackwell**	**0.59 35**			Pg	14 29 58.4	+0.2
BLOK				IAML		14 30 20.1	
	comp=E,298nm,0.2s						
GC02	**Grant County #**	**0.60 343**			Pg	14 29 59.1	+0.7
GC02					Sg	14 30 07.2	+0.9
BCOK	**Bluff Creek, N**	**0.61 178**			Pg	14 29 59.3	+0.6
BCOK					Sg	14 30 07.8	+1.2
OK051	**E0350 and S346**	**0.69 70**			Pg	14 30 00.2	+0.3
OK051				IAML		14 30 11.1	
	comp=E,396nm,0.2s						
OK052	**Battle Ridge R**	**0.73 112**			Pg	14 30 01.4	+0.6
OK052				IAML		14 30 12.6	
	comp=E,259nm,0.2s						
KAN14	**Manchester OK**	**0.73 339**			Pg	14 30 01.4	+0.5
KAN13	**South Haven SW**	**0.75 10**			Pg	14 30 01.8	+0.5
KAN13					Sg	14 30 12.1	+1.2
QUOK	**Quay**	**0.76 97**			Pg	14 30 01.9	+0.6
QUOK				IAML		14 30 12.4	
	comp=N,309nm,0.3s						
QUOK				IAML		14 30 15.5	
	comp=E,233nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.88 169**			Pg	14 30 04.3	+0.6
KAN01	**Argonia South**	**0.88 354**			Pg	14 30 04.3	+0.5
KAN01				IAML		14 30 16.4	
	comp=E,197nm,0.3s						
KAN08	**Anthony NE Sta**	**0.99 344**		IAmb_Lg		14 30 18.6	
	comp=Z,41nm,0.8s						
DEOK	**Depew**	**1.02 115**			Pg	14 30 06.3	0.0
DEOK					Sb	14 30 20.3	-0.8
DEOK				IAML		14 30 20.5	
	comp=N,189nm,0.2s						
DEOK				IAML		14 30 20.8	
	comp=E,167nm,0.2s						
FNO	**Franklin**	**1.03 169**			Pg	14 30 06.3	-0.3
FNO				IAML		14 30 22.0	
	comp=E,223nm,0.2s						
CSTR	**Hydro, Custer**	**1.06 234**			Pg	14 30 07.2	+0.1
CSTR					Sb	14 30 21.8	-0.5
NOKA	**Waynoka**	**1.11 289**			Pg	14 30 08.3	+0.2
NOKA					Sg	14 30 22.8	+0.4
NOKA				IAML		14 30 26.4	
	comp=E,187nm,0.2s						
T35A	**Sooner Cattle**	**1.11 54**			Pg	14 30 08.4	+0.3
T35A					Sg	14 30 22.9	+0.4
T35A				IAML		14 30 27.5	
	comp=E,172nm,0.3s						
TUL3	**Leonard**	**1.54 103**			Pn	14 30 15.0	-0.4
X34A	**Smith Ranch, M**	**1.68 186**			Pn	14 30 17.8	+0.5
WMOK	**Wichita Mounta**	**1.79 212**			Pn	14 30 18.9	-0.1
WMOK	**Wichita Mounta**	**1.79 212**		IAmb_Lg		14 30 43.5	
	comp=Z,17nm,0.8s						
LOOK	**Love County**	**2.31 171**		IAmb_Lg		14 30 58.9	
	comp=Z,22nm,0.9s						
SMWD	**Samnorwood**	**2.42 242**		IAmb_

SALF	Salau	0.78	110	Pg	Pg	14 50 35.8	-0.8
SALF				Sg	Sg	14 50 46.8	0.0
CRAS	Crastes	0.79	29	Pg	Pn	14 50 38.3	-0.3
CTRE	Tremp	0.82	149	P	Pg	14 50 36.8	-0.7
CTRE				S	Sg	14 50 47.8	-0.4
33nm,0.2s							
MLZA	Monlezun-d-Arm	0.83	344	Pg	Pn	14 50 39.0	-0.2
MLZA				Sg	Sn	14 50 52.5	+1.0
ORDF	Ordiarp	0.85	283	Pg	Pb	14 50 37.9	-0.3
ORDF				Sg	Sb	14 50 50.4	+0.7
CEST	Esterri de Car	0.89	119	P	Pg	14 50 38.1	-0.5
CEST				S	Sb	14 50 51.2	+0.3
46nm,0.1s							
IRAF	Chalets d'Irat	0.91	271	Pg	Pg	14 50 38.5	-0.5
IRAF				Sg	Sb	14 50 51.1	-0.4
CSOR	Sort	0.95	133	P	Pg	14 50 39.6	-0.3
CSOR				S	Sb	14 50 53.1	+0.4
31nm,0.3s							
GENF	Genat	1.03	101	P	Pb	14 50 41.4	0.0
GENF				S	Sn	14 50 56.1	-0.3
SJPF	Ste Jean	1.04	275	*e*Pg	Pg	14 50 41.0	-0.6
SJPF				*e*Sg	Sg	14 50 54.4	-0.8
38nm,0.2s							
OSSF	Osses	1.09	282	P	Pn	14 50 42.8	+0.1
OSSF				S	Sn	14 50 58.0	+0.2
OSSF	Osses	1.09	282	Pg	Pg	14 50 41.4	-1.1
PAND	Andorre	1.11	117	P	Pg	14 50 42.6	-0.4
PAND				S	Sn	14 50 58.6	-0.1
41nm,0.2s							
PAND	Andorre	1.11	117	Pg	Pg	14 50 41.9	-1.1
CORG	Organya	1.15	134	P	Pb	14 50 43.3	-0.1
CORG				S	Sb	14 50 58.7	+0.3
23nm,0.3s							
ARBS	La Rabassa	1.15	120	P	Pg	14 50 43.5	-0.3
ARBS				S	Sb	14 50 59.3	+0.7
40nm,0.3s							
TERF	Tercis-les-Bai	1.16	305	Pn	Pn	14 50 45.8	+2.2
DUNF	Dun	1.18	90	Pg	Pg	14 50 44.8	+0.5
CAVN	Les Avellanes	1.22	160	P	Pn	14 50 44.0	-0.5
CAVN				S	Sb	14 51 00.1	-0.2
63nm,0.3s							
EARA	Aranguren	1.33	259	Pg	Pg	14 50 47.3	+0.3
EARA				Sg	Sg	14 51 06.0	+1.6
EARA				*i* IVmb_Lg		14 51 09.7	
EARA	Aranguren	1.33	259	Pn	Pg	14 50 47.5	+0.4
ESAC	San Caprasio	1.40	201	Pg	Pb	14 50 47.8	+0.1
ESAC				Sg	Sg	14 51 06.3	-0.2
ESAC	San Caprasio	1.40	201	P	Pb	14 50 47.3	-0.3
ESAC				S	Sb	14 51 05.4	-0.1
48nm,0.2s							
FNEB	Nbias	1.41	94	P	Pg	14 50 48.7	+0.1
FNEB				S	Sg	14 51 08.3	+1.5
20nm,0.3s							
FNEB	Nbias	1.41	94	Pn	Pg	14 50 48.4	-0.2
FNEB				Sg	Sg	14 51 08.3	+1.5
CLLI	Llivia	1.42	112	P	Pg	14 50 48.3	-0.5
CLLI				S	Sg	14 51 07.8	+0.5
21nm,0.2s							
CARF	Carcanieres	1.44	102	P	Pg	14 50 49.1	-0.1
CARF				S	Sg	14 51 08.8	+1.1
28nm,0.2s							
CARF	Carcanieres	1.44	102	Pn	Pb	14 50 48.4	0.0
CARF				Sg	Sg	14 51 08.6	+0.8
VALC	Valcebollere	1.51	115	P	Pb	14 50 49.7	+0.1
VALC				S	Sg	14 51 10.6	+0.6
30nm,0.2s							
VALC	Valcebollere	1.51	115	Pn	Pb	14 50 49.7	+0.1
MTLF	Montolieu	1.51	77	*e*Pn	Pb	14 50 49.0	-0.6
MTLF	Montolieu	1.51	77	*e*Pg	Pg	14 50 50.7	+0.2
MTLF				*e*Sg	Sg	14 51 10.9	+0.8
39nm,0.2s							
MTLF	Montolieu	1.51	77	Pn	Pn	14 50 48.5	0.0
MTLF				Pg	Pg	14 50 50.5	0.0
MTLF				Sg	Sg	14 51 10.8	+0.7
MONQ	Montcuq	1.52	28	Pn	Pb	14 50 49.2	-0.6
MONQ				Pg	Pg	14 50 51.7	+1.0
MONQ				Sg	Sg	14 51 12.6	+2.1
CBRU	Bruguera	1.64	116	P	Pg	14 50 52.7	-0.3
CBRU				S	Sg	14 51 14.0	-0.3
24nm,0.6s							
CORI	Orista	1.73	127	P	Pb	14 50 53.6	+0.3
CORI				S	Sb	14 51 15.6	+0.6
41nm,0.2s							
EPOB	Poblet	1.80	158	Pn	Pn	14 50 53.3	+0.8
EPOB				Sn	Sn	14 51 16.3	+0.9
EPOB				*i* IVmb_Lg		14 51 17.6	
EPOB	Poblet	1.80	158	P	Pb	14 50 54.0	-0.6
EPOB				S	Sb	14 51 17.1	0.0
37nm,0.3s							
FILF	Fillols	1.80	104	P	Pn	14 50 53.2	+0.7
FILF				S	Sn	14 51 15.6	+0.2
8.8nm,0.3s							
FILF	Fillols	1.80	104	Pn	Pn	14 50 53.0	+0.4
FILF				Sg	Sb	14 51 17.6	+0.5
SLVF	La Salvetat-Pe	1.84	50	Pn	Pn	14 50 52.6	-0.5
SLVF				Pg	Pg	14 50 57.1	+0.2
SLVF				Sg	Sg	14 51 22.1	+1.4
LFF	La Frestale	1.95	11	*e*Pg	Pg	14 50 59.5	+0.6
LFF				*e*Sg	Sg	14 51 25.9	+1.7
94nm,0.4s							
LRVF	chteau la Riv	1.95	349	Pg	Pg	14 50 59.8	+0.8
LRVF				Sg	Sg	14 51 26.3	+2.0
CBEU	Beuda	1.99	112	P	Pb	14 50 57.4	-0.3
SJAF	Saint Jean de	2.05	104	P	Pb	14 50 57.9	-0.9
SJAF				S	Sb	14 51 24.8	+0.5
14nm,0.4s							
SJAF	Saint Jean de	2.05	104	Pg	Pg	14 51 00.5	-0.3
EJON	La Jonquera	2.07	105	Pn	Pn	14 50 57.5	+1.3
EJON				Sn	Sb	14 51 24.7	0.0
EJON				*i* IVmb_Lg		14 51 30.6	
ERTA	Horta de San J	2.07	177	Pn	Pb	14 50 58.9	-0.2
ERTA				Sn	Sb	14 51 23.9	-1.0
ERTA				*i* IVmb_Lg		14 51 28.6	
ERTA	Horta de San J	2.07	177	P	Pn	14 50 57.4	+1.1
CFON	Fontmartina	2.09	127	P	Pb	14 50 58.5	-0.9
CFON				S	Sb	14 51 25.3	0.0
CLAF	Gruissan	2.12	86	P	Pb	14 50 59.6	-0.4
CLAF				S	Sb	14 51 26.2	-0.1
CLAF	Gruissan	2.12	86	Pg	Pb	14 51 00.5	+0.6
CGAR	Garraf	2.15	143	S	Sb	14 51 26.1	-1.2
11nm,0.3s							
CPAL	Palau Saverder	2.30	107	P	Pb	14 51 01.8	-1.2
CPAL				S	Sb	14 51 30.2	-1.3
4.1nm,0.1s							
CMAS	Mas de Barbera	2.30	178	P	Pn	14 51 01.0	+1.6
CMAS				S	Sn	14 51 29.1	+1.4
18nm,0.2s							
CCAS	Cassa de la Se	2.31	119	P	Pb	14 51 01.8	-1.3
CCAS				S	Sb	14 51 30.8	-0.9
13nm,0.4s							
CAF	Calviac	2.33	35	*e*Pn	Pn	14 50 59.9	+0.1
CAF				*e*Sg	Sg	14 51 37.4	+1.1
34nm,0.3s							
LAJAS	L'Hospitalet-d	2.39	66	Pn	Pn	14 50 60.0	-0.7
LAJAS				Sg	Sg	14 51 39.5	+1.1
LEUC	Leucamp	2.43	44	Pn	Pn	14 51 00.6	-0.5
LEUC				Pg	Pg	14 51 08.3	+0.2
LEUC				Sg	Sg	14 51 40.5	+0.9
RJF	Les Rejaudoux	2.46	22	*e*Pn	Pn	14 51 01.7	+0.1
RJF	Les Rejaudoux	2.46	22	*e*Pg	Pg	14 51 08.6	-0.1
RJF				*e*Sg	Sg	14 51 40.4	-0.3
38nm,0.2s							
ALCN	Alcanar	2.49	175	S	Sn	14 51 33.0	+0.8
19nm,0.2s							
ELAN	Lanestosa	2.67	276	Pn	Pn	14 51 06.0	+1.6
ELAN				Sn	Sn	14 51 38.6	+1.9
ELAN				*i* IVmb_Lg		14 51 47.1	
EMOS	Mosqueruela	2.71	191	Pn	Pn	14 51 06.7	+1.6
EMOS				Pg	Pb	14 51 11.6	+1.4
EMOS				Sn	Sn	14 51 39.6	+1.5
EMOS				Sg	Sg	14 51 47.1	-1.5
EMOS				*i* IVmb_Lg		14 51 52.7	
ETOR	Torete	2.77	218	Pn	Pn	14 51 07.8	+1.8
ETOR				Pg	Pg	14 51 12.9	-1.8
ETOR				Sn	Sn	14 51 40.8	+1.3
ETOR				Sg	Sg	14 51 52.1	+1.4
ETOR				*i* IVmb_Lg		14 51 59.8	
LASF	Ste Croix	2.86	67	*e*Pn	Pn	14 51 07.6	+0.5
LASF	Ste Croix	2.86	67	*e*Pg	Pg	14 51 16.8	+0.5
LASF				*e*Sg	Sg	14 51 54.1	+0.8
19nm,0.3s							
FRNF	Fournols	2.91	35	Pn	Pn	14 51 07.4	-0.3
TCF	Toulx Ste Croi	3.56	23	*e*Pg	Pg	14 51 29.1	-0.6
TCF				*e*Sg	Sg	14 52 14.6	-1.2
12nm,0.2s							
MFF	Saint Martin d	3.58	356	*e*Pn	Pn	14 51 17.1	+0.1
MFF	Saint Martin d	3.58	356	*e*Pn	Pn	14 51 17.8	+0.8
MFF	Saint Martin d	3.58	356	*e*Pg	Pg	14 51 28.8	-1.3
MFF	Saint Martin d	3.58	356	*e*Pg	Pg	14 51 29.4	-0.7
MFF				*e*Sg	Sg	14 52 15.9	-0.5
8.2nm,0.3s							
MFF				*e*Sg	Sg	14 52 16.0	-0.5
14nm,0.3s							
VIVF	Saint-Julien-l	3.71	59	*e*Pg	Pg	14 51 31.6	-1.0
VIVF				*e*Sg	Sg	14 52 19.4	-1.3
12nm,0.4s							
EARI	Arriondas	3.96	276	Pn	Pn	14 51 24.1	+1.8
EARI				*i* IVmb_Lg		14 51 31.9	
EARI				Sn	Sn	14 52 09.7	+1.0
BGF	Bois d'Agland	4.00	27	*e*Pg	Pg	14 51 37.7	-0.4
BGF				*e*Sg	Sg	14 52 28.2	-1.7
38nm,0.4s							
AVF	Avril sur Loir	4.38	30	*e*Pg	Pg	14 51 43.3	-2.0
AVF				*e*Sg	Sg	14 52 40.3	-1.7
8.6nm,0.5s							
SMF	Signal de Mont	4.45	34	*e*Pn	Pn	14 51 30.0	+1.1
SMF				*e*Sg	Sg	14 52 41.8	-2.5
4.3nm,0.2s							
SSF	Saint Saulge	4.66	29	*e*Pg	Pg	14 51 49.5	-1.3
SSF				*e*Sg	Sg	14 52 49.0	-2.2
4.8nm,0.3s							
PAB	San Pablo	4.88	226	Pn	Pn	14 51 36.5	+1.6
PAB				Sn	Sn	14 52 30.1	-1.4
PAB				*i* IVmb_Lg		14 53 20.7	
LOR	Lormes	4.97	30	*e*Sg	Sg	14 52 59.7	-1.2
7.6nm,0.3s							
ECAL	Calabor	5.24	260	Pn	Pn	14 51 40.6	+0.7
ECAL				*i* IVmb_Lg		14 52 40.2	
ECAL				Sn	Sn	14 52 40.5	+0.2
QUIF	Quistinic	5.43	335	*e*Pn	Pn	14 51 40.1	-2.2
QUIF				*e*Sn	Sn	14 52 43.6	-1.1
LDF	La Druitiere	5.57	358	*e*Sg	Sg	14 53 19.0	-1.2
2.0nm,0.2s							

*IDC **30** 14:56:57.2±0.8, 15°.43S×70°.25W, h204km±6km, mb3.8/10, mbtmp4.3/15, Error ellipse: s-maj=14.2km s-min=8.4km az=43.0*
*NEIC **30** 14:56:57.5±1.5, 15°.50S±0°.08×70°.3W±0°.1, h205km±8km, mb4.6/37, Error ellipse: s-maj=17.1km s-min=12.1km az=86.0*
*VAO **30** 14:56:58.8±0.5, 15°.38S×70°.24W, h225km±4km, mb4.3*
ISC 30 14:56:56.6±0.4, **15°.51S**±0°.04×**70°.28W**±0°.05, **h200**km, **n130**, σ1.9**32**/145, **mb4.4**/21, **3C-5D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	2.21	160		Pn	14 57 41.3	+3.4
PB18	Visviri	2.21	160	⇑ *i* P	Pn	14 57 41.8	+3.9
PB18				*i* S	Sn	14 58 15.9	+5.8
LPAZ	La Paz	2.21	111		Pn	14 57 41.3	+3.3
LPAZ	La Paz	2.21	111	P	Pn	14 57 40.8	+2.8
3μm,0.5s,baz=296,slow=6.8,SNR=8193							
LPAZ				S	Sn	14 58 11.7	+1.6
284nm,0.8s,baz=328,slow=17,SNR=1.3							
LPAZ	La Paz	2.21	111	*e*P	Pn	14 57 41.7	+3.7
AP01	Chacalluta	2.84	181		Pn	14 57 45.4	+1.0
AP01	Chacalluta	2.84	181	*e*P	Pn	14 57 45.2	+0.8
AP01				*e*S	Sn	14 58 20.7	-1.3
AP01				IAML		14 58 23.7	
comp=N,6μm,0.5s							
PB16	IPOC Station P	2.91	165		Pn	14 57 48.1	+2.3
PB16	IPOC Station P	2.91	165	⇑ *i* P	Pn	14 57 48.4	+2.7
PB16				*i* S	Sn	14 58 26.8	+2.6
PB16				IAML		14 58 29.9	
comp=N,644nm,0.5s							
PB12	IPOC Station P	3.09	181		Pn	14 57 47.9	+0.4
PB12	IPOC Station P	3.09	181	⇑ *i* P	Pn	14 57 47.8	+0.4
PB12				*i* S	Sn	14 58 25.3	-1.9
PB12				IAML		14 58 27.5	
comp=N,2μm,0.5s							
GO01	Chusmiza	4.26	166		Pn	14 58 03.2	+1.0
GO01	Chusmiza	4.26	166	*e*P	Pn	14 58 03.5	+1.4
GO01				*e*S	Sn	14 58 53.0	-0.7
PB11	IPOC Station P	4.27	172		Pn	14 58 02.0	+0.1
PB11	IPOC Station P	4.27	172	*e*P	Pn	14 58 02.3	+0.4
PB11				*i* S	Sn	14 58 50.4	-3.0
PB08	IPOC Station P	4.73	167		Pn	14 58 08.8	+0.9
HMBC	Humberstone	4.76	176		Pn	14 58 07.5	-0.6
TA01	Diego Aracena	5.03	179		Pn	14 58 11.1	-0.3
PB01	IPOC Station P	5.55	172	Pn	Pn	14 58 18.1	-0.2
PB02	IPOC Station P	5.79	176		Pn	14 58 20.9	-0.4
PB09	IPOC Station P	6.33	171		Pn	14 58 28.1	-0.2
PB03	IPOC Station P	6.52	176		Pn	14 58 30.0	-0.8
PB06	IPOC Station P	7.19	175		Pn	14 58 39.2	-0.3
NNA	Nana	7.27	298		Pn	14 58 40.3	-0.3
NNA	Nana	7.27	298	P	Pn	14 58 40.5	-0.1
comp=N,18nm,0.4s,baz=131,slow=9.7,SNR=10.0							
NNA				S	Sn	15 00 03.8	+0.7
comp=N,28nm,0.4s,baz=38,slow=19,SNR=6.2							
PB10	IPOC Station P	7.97	182		Pn	14 58 49.5	+0.1
CZSB	Cruzeiro do Su	8.09	343		Pn	14 58 49.3	-1.8
CZSB	Cruzeiro do Su	8.09	343	*e*P	Pn	14 58 50.3	-0.8
SIV	San Ignacio	8.88	94	P	Pn	14 59 01.3	-0.1
comp=N,23nm,0.7s,baz=276,slow=12,SNR=126							
SIV				S	Sn	15 00 41.8	+0.7
comp=N,7.4nm,0.5s,baz=288,slow=20,SNR=1.4							
PB14	IPOC Station P	9.07	181		Pn	14 59 03.2	-0.9
GO02	Mina Guanaco	9.62	176		Pn	14 59 11.3	0.0
VILB	Vilhena	10.10	77		Pn	14 59 17.0	-0.3
VILB	Vilhena	10.10	77	*e*P	Pn	14 59 17.4	+0.2
PTLB	Pontes e Lacer	10.74	91		Pn	14 59 25.8	+0.3
PTLB	Pontes e Lacer	10.74	91	*e*P	Pn	14 59 25.4	-0.1
AC02	Maricunga	11.32	175		Pn	14 59 34.1	+0.8
ATAH	Atahualpa	11.51	315	P	Pn	14 59 35.6	-0.1
comp=N,12nm,0.9s,baz=130,slow=12,SNR=10							
ATAH				S	S	15 01 46.0	+1.4
comp=N,3.1nm,0.5s,baz=113,slow=18,SNR=1.5							
AC06	Mina Casimiro	11.79	180		Pn	14 59 38.5	-0.3
GO03	Copiapo	12.03	180		Pn	14 59 42.2	+0.4
TEFE	Tefe	13.16	26	*e*P	Pn	14 59 56.8	+0.6
LCO	Las Campanas	13.44	182		Pn	15 00 00.7	+0.8
BDQN	Bodoquena, MS	13.78	113	*e*P	Pn	15 00 04.8	+0.9
SALV	Santo Antonio	14.05	94	*e*P	Pn	15 00 08.2	+0.9
CO01	Juntas del Tor	14.40	179	P	P	15 00 13.0	-0.1
GO04	Tololo Observa	14.60	182	P	Pn	15 00 14.7	+0.5
CLDB	Colider	14.83	74	*e*P	P	15 00 18.2	+0.4
PP1B	Ponte de Pedra	14.91	100	*e*P	P	15 00 19.2	+0.6
CO03	El Pedregal	15.26	181		Pn	15 00 22.2	+0.1
CO03				IAmb	IAmb	15 00 25.6	
comp=Z,38nm,1.2s							
MACA	Manacapuru-AM	15.49	39		P	15 00 25.5	+0.5
MACA	Manacapuru-AM	15.49	39	*e*P	Pn	15 00 24.3	-0.6
CO02	Combarbal	15.64	182	P	P	15 00 26.6	0.0
CO02				IAmb	IAmb	15 00 33.0	
comp=Z,38nm,1.2s							
COHC	Cochancay	15.69	325		Pn	15 00 28.8	+1.4
COHC				IAmb	IAmb	15 00 32.2	
comp=Z,16nm,0.6s							
CFA	Coronel Fontan	16.13	174	P	Pn	15 00 32.7	+0.2
comp=Z,7.0nm,0.5s,baz=352,slow=11,SNR=22							
CFA				S	S	15 03 25.9	-5.1
comp=Z,1.1nm,0.4s,baz=151,slow=19,SNR=2.4							
CPUP	Villa Florida	16.18	134	P	P	15 00 33.0	+0.5
CPUP	Villa Florida	16.18	134	P	P	15 00 32.9	+0.4
comp=Z,1.2nm,0.6s,baz=295,slow=19,SNR=11							
NPGB	Novo Progresso	16.87	62	*e*P	P	15 00 40.5	+0.3
VA03	San Esteban	17.18	181	P	Pn	15 00 44.8	-0.3
PEL	Peldehue	17.56	181		P	15 00 47.6	-0.1
PEL				IAmb	IAmb	15 00 49.6	
comp=Z,24nm,0.8s							
OTAV	Otavalo	17.61	332	P	P	15 00 48.5	-0.3
OTAV				IAmb	IAmb	15 00 57.9	
comp=Z,13nm,0.8s							
OTAV	Otavalo	17.61	332	*e*P	P	15 00 47.3	-1.5
MT02	Curacav	17.69	182	P	P	15 00 49.7	+0.7
MT02				IAmb	IAmb	15 00 53.1	
comp=Z,18nm,0.7s							
ARAG	Araguaiana, MT	17.79	93	*e*P	P	15 00 50.4	+0.1
MT08	Bocatoma Ro	17.86	179	P	P	15 00 49.6	-1.5
MT03	Universidad Ad	17.91	181	P	P	15 00 52.4	+0.8
ITTB	Itaituba	18.09	54	*e*P	P	15 00 53.7	+0.1
MT09	Talagante	18.20	182		P	15 00 54.6	-0.2
MT09				IAmb	IAmb	15 00 58.4	
comp=Z,19nm,0.8s							
MT01	Popeta	18.30	183	P	P	15 00 55.6	0.0
MT01				IAmb	IAmb	15 01 00.7	
comp=Z,24nm,0.9s							
BO04	La Punta	18.40	181	P	P	15 00 57.1	+0.2
BO04				IAmb	IAmb	15 01 02.8	
comp=Z,16nm,0.7s							
SNDB	Serra Nova Dou	18.77	82	*e*P	P	15 01 00.9	-0.1
BO01	Tunca	18.82	182		P	15 01 00.1	-1.1
BO02	Sierra Bellavi	19.21	181	P	P	15 01 06.4	+0.9
PSAL	Palomas, Salto	19.36	145	*e*P	P	15 01 08.4	+1.3
PTGB	Pitanga	19.38	121	*e*P	P	15 01 07.9	+0.3
BOAV	Boa Vista	20.24	29		P	15 01 16.8	+0.1
BOAV	Boa Vista	20.24	29	*e*P	P	15 01 16.2	-0.5
ITAB	Concordia	20.51	128		P	15 01 18.9	-0.6
ITAB				IAmb	IAmb	15 01 22.8	
comp=Z,14nm,0.8s							
ITAB	Concordia	20.51	128	*e*P	P	15 01 21.2	+1.7
FRTB	Fartura	21.02	115	*e*P	P	15 01 26.2	+1.3
BI02	San Fabin de	21.09	182		P	15 01 26.9	+1.3
IPMB	Ipameri, GO	21.27	100	*e*P	P	15 01 26.1	-1.6
RUSC	La Rusia	21.45	352		P	15 01 29.3	-0.6
BDFB	Brasilia	21.45	93		P	15 01 28.9	-0.7
BDFB				IAmb	IAmb	15 01 30.7	
comp=Z,6.4nm,0.5s							
BDFB	Brasilia	21.45	93	P	P	15 01 29.4	-0.2
comp=Z,5.8nm,0.4s,baz=265,slow=10,SNR=7.4							
comp=Z,5.8nm,0.4s							
PLTB	Pedras Altas	22.20	140		P	15 01 37.2	+0.4
PLTB				IAmb	IAmb	15 01 37.9	
comp=Z,16nm,0.7s							
PLTB	Pedras Altas	22.20	140	*e*P	P	15 01 37.5	+0.7
MAJ01	Sao Joao Batis	23.02	124	*e*P	P	15 01 43.1	-1.1
TRQA	Tornquist	23.63	163		P	15 01 50.0	+0.4
TRQA				IAmb	IAmb	15 01 53.1	
comp=Z,13nm,0.8s							
BAUV	El Baul	24.40	5		P	15 01 55.6	-1.2
BAUV				IAmb	IAmb	15 02 00.3	
comp=Z,15nm,0.7s							
PLCA	Paso Flores	25.13	180	P	P	15 02 03.3	0.0
PLCA	Paso Flores	25.13	180	P	P	15 02 03.3	0.0
comp=Z,5.7nm,0.6s,baz=4.3,slow=11,SNR=18							
comp=Z,5.7nm,0.6s							
PLCA	Paso Flores	25.13	180	*e*P	P	15 02 06.1	+2.8
GUA01	Guaratinga, BA	29.29	96	*e*P	P	15 02 41.0	+0.4
CMC01	Camacan, BA	29.64	94	*e*P	P	15 02 44.0	+0.3
NBAN	Anadia - AL	33.66	84	*e*P	P	15 03 17.5	-1.3
MTO3	Montecristo	35.20	327		P	15 03 32.1	-0.1
TXAR	Lajitas Array	55.02	324	P	P	15 06 07.5	-0.2
comp=Z,1.8nm,0.6s,baz=152,slow=9.0,SNR=20							
comp=Z,1.8nm,0.6s							
WTFS	Witchita Falls	55.89	332		P	15 06 13.7	+0.1
APMT	Aspermont	56.30	330		P	15 06 16.2	-0.4
APMT				IAmb	IAmb	15 06 17.2	
comp=Z,12nm,0.7s							
SDCO	Great Sand Dun	62.46	329	P	P	15 06 58.8	-0.3
SDCO				IAmb	IAmb	15 07 00.2	
comp=Z,6.0nm,0.9s							
KNB	Kanab	65.84	324		P	15 07 22.1	+1.1
KNB				IAmb	IAmb	15 07 23.0	
comp=Z,8.7nm,0.9s							
VNA3	Neumayer Olymp	66.14	162	⇓P	P	15 07 22.2	0.0
comp=Z,3.3nm,0.5s							
VNA1	Neumayer--Watz	66.34	161	⇓P	P	15 07 24.2	+0.8
comp=Z,5.4nm,0.6s							
VNA2	Neumayer--Watz	66.71	161	⇓P	P	15 07 25.4	-0.3
comp=Z,3.1nm,0.3s,baz=295,slow=8.0							
SHPR	Sheep Range	66.86	322	P	P	15 07 27.1	-0.3
PDAR	Pinedale Array	68.30	330	P	P	15 07 35.9	-0.5
comp=Z,0.7nm,0.6s,baz=123,slow=7.5,SNR=8.5							
comp=Z,0.7nm,0.6s							
SNAA	Sanae	68.34	162	⇓P	P	15 07 36.4	+0.4
comp=Z,341nm,0.6s							
SNAA	Sanae	68.34	162		P	15 07 36.2	+0.2
SNAA	Sanae	68.34	162	P	P	15 07 36.4	+0.4
comp=Z,10nm,0.5s,baz=285,slow=8.5,SNR=202							
comp=Z,10nm,0.5s							
DBIC	Dimbokro	68.43	76	P	P	15 07 35.5	-2.0
comp=Z,1.8nm,0.5s,baz=282,slow=8.4,SNR=5.2							
comp=Z,1.8nm,0.5s							
NVAR	Mina Array Bea	70.01	322	P	P	15 07 46.2	-0.8
comp=Z,0.9nm,0.7s,baz=158,slow=8.6,SNR=5.3							
comp=Z,0.9nm,0.7s							
TROLL	Troll, Antarti	70.05	162	⇓P	P	15 07 47.3	+0.7
comp=Z,378nm,0.4s							
YNE	Yellowstone No	70.20	331	P	P	15 07 48.0	0.0
YNE				IAmb	IAmb	15 07 49.1	
comp=Z,9.3nm,0.7s							
YHL	Hebgen Lake	70.64	330	P	P	15 07 51.6	+0.9
QSPA	South Pole Qui	74.65	180	P	P	15 08 17.1	+3.2
QSPA	South Pole Qui	74.65	180	P	P	15 08 16.1	+2.2
comp=Z,4.7nm,0.7s,baz=157,slow=0.9,SNR=34							
comp=Z,4.7nm,0.7s							
VNDA	Vanda	82.49	190	IAmb	IAmb	15 08 58.5	
comp=Z,1.6nm,1.1s							
VNDA	Vanda	82.49	190	P	P	15 08 56.6	+0.3
comp=Z,0.8nm,0.8s,baz=135,slow=

FBMT	**Ferry Basin**	**1.41 292**		Pb	14 59 38.5	+0.1
YBMT	**Yellow Bay**	**1.42 314**		Pb	14 59 38.9	+0.4
BOZ	**Bozeman (W)**	**1.43 155**		Pg	14 59 39.3	-0.4
BOZ	**Bozeman (W)**	**1.43 155**		Sg	14 59 58.7	+0.4
BOZ			IAML		14 59 59.8	
	94nm,0.4s					
BOZ			IAML		15 00 00.6	
	75nm,0.4s					
JTMT	**Jette**	**1.49 306**		Pn	14 59 38.7	0.0
DLMT	**Dillon**	**1.54 183**		Pb	14 59 40.5	0.0
NDMT	**Ninemile Divid**	**1.62 284**		Pb	14 59 42.4	+0.4
BGMT	**Barton Gulch**	**1.69 169**		Pb	14 59 43.0	-0.2
BSMT	**Bassoo Peak**	**1.83 302**		Pb	14 59 46.1	+0.5
BHMT	**Big Hole Peak**	**1.87 292**		Pb	14 59 46.8	+0.6
MCMT	**McKenzie Canyo**	**2.08 187**		Pn	14 59 48.2	+1.2
EGMT	**Eagleton**	**2.17 58**	Pn	Pn	14 59 49.2	+1.1
EGMT			IAML		15 00 23.2	
	47nm,0.3s					
QLMT	**Earthquake Lak**	**2.20 160**	Pn	Pn	14 59 49.4	+0.9
YHL	**Hebgen Lake**	**2.24 155**		Pn	14 59 48.8	-0.4
YHB	**Horse Butte**	**2.33 157**	Pn	Pn	14 59 50.5	+0.2
YHB			IAML		15 00 26.6	
	comp=E,33nm,0.6s					
YHB			IAML		15 00 26.9	
	comp=N,40nm,0.4s					
YHH	**Holmes Hill**	**2.40 151**		Pn	14 59 51.3	-0.1
YMR	**Madison River**	**2.47 154**	Pn	Pn	14 59 53.0	+0.7
YMR			IAML		15 00 30.6	
	comp=E,36nm,0.6s					
YNR	**Norris Junctio**	**2.52 149**	Pn	Pn	14 59 52.4	-0.6
YNR			IAML		15 00 32.2	
	comp=E,13nm,0.3s					
RLMT	**Red Lodge**	**2.86 127**		Pn	14 59 59.2	+1.5
RLMT			IAML		15 00 45.3	
	comp=E,12nm,0.2s					
RLMT			IAML		15 00 46.9	
	comp=E,12nm,0.7s					
PLID	**Pearl Lake**	**3.04 235**	Pn	Pn	15 00 00.2	0.0
PLID			IAML		15 00 50.6	
	comp=E,10nm,0.3s					
PLID			IAML		15 00 52.7	
	comp=E,7.0nm,0.2s					
IMW	**Indian Meadow**	**3.19 159**	Pn	Pn	15 00 03.0	+0.7
IMW			IAML		15 00 55.4	
	comp=E,16nm,0.3s					
MOOW	**Moose Ponds**	**3.38 158**	Pn	Pn	15 00 03.6	-1.2
F10A	**Beach Ranch, E**	**3.40 256**	Pn	Pn	15 00 04.4	-0.6
NEW	**Newport**	**3.42 295**	Pn	Pn	15 00 05.3	+0.1
NEW			IAML		15 01 04.1	
	comp=E,6.8nm,2.4s					
LOHW	**Long Hollow**	**3.54 157**	Pn	Pn	15 00 05.5	-1.6
LOHW			IAML		15 01 06.4	
	comp=E,6.7nm,0.6s					

NEIC ***30*** *15:14:05.6±1.4, 34°.944N±0°.008×97°.78W±0°.01, h5km±1km, mb_Lg2.3/28, MLL2.1/14, ML2.4/36, Error ellipse: s-maj=2.6km s-min=1.6km az=8.0*

NEIC 30 15:14:06.2±1.4, 34°.968N±0°.010×97°.78W±0°.01, h7km±3km, Error ellipse: s-maj=1.5km s-min=1.4km az=62.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**0.37**	**186**	Pg	Pg	15 14 14.0	+0.6
X34A				Sg	Sg	15 14 16.4	-1.8
FNO	**Franklin**	**0.43**	**47**	Pg	Pg	15 14 14.5	+0.1
FNO				IAML		15 14 27.8	
	comp=E,240nm,0.7s						
WMOK	**Wichita Mounta**	**0.85**	**255**	Sg	Sg	15 14 33.2	-0.4
CSTR	**Hydro, Custer**	**1.00**	**313**	Pg	Pg	15 14 25.4	0.0
CSTR				Sg	Sb	15 14 39.2	-0.1
LOOK	**Love County**	**1.09**	**153**	Pg	Pg	15 14 26.4	-0.7
LOOK				Sg	Sb	15 14 41.7	-0.1
OK052	**Battle Ridge R**	**1.30**	**38**		Pn	15 14 29.8	-0.9
WTFS	**Witchita Falls**	**1.32**	**205**		Pn	15 14 30.1	-0.9
OK048	**Pawnee Station**	**1.60**	**25**		Pn	15 14 34.3	-0.5
Z35A	**Perchaven, San**	**1.69**	**165**		Pn	15 14 35.4	-0.6
OK051	**E0350 and S346**	**1.72**	**26**	Pn	Pn	15 14 35.5	-0.9
OK051				IAmb_Lg		15 15 05.2	
	comp=Z,13nm,0.8s						
ELIS	**Ellis County**	**1.73**	**310**	Pn	Pn	15 14 36.3	-0.3
TUL3	**Leonard**	**1.88**	**59**	Pn	Pn	15 14 38.9	+0.2
GC02	**Grant County #**	**1.88**	**358**	Pn	Pn	15 14 38.7	0.0
NOKA	**Waynoka**	**1.91**	**331**	IAmb_Lg		15 15 10.9	
	comp=Z,18nm,0.7s						
FW03	**Perrin-Whitt E**	**1.94**	**187**		Pn	15 14 39.2	-0.3
SMWD	**Samnorwood**	**2.02**	**275**	Pn	Pn	15 14 41.6	+0.9
SMWD				IAmb_Lg		15 15 11.8	
	comp=Z,12nm,0.8s						
PLPT	**Palo Pinto**	**2.19**	**192**	Pn	Pn	15 14 43.9	+0.9
T35A	**Sooner Cattle**	**2.20**	**28**	Pn	Pn	15 14 43.8	+0.6
T35A				IAmb_Lg		15 15 15.2	
	comp=Z,9.5nm,0.8s						
RLO	**Rose Lookout**	**2.55**	**61**	Pn	Pn	15 14 48.1	+0.3
FW13	**Cleburne**	**2.63**	**173**	IAmb_Lg		15 15 26.5	
	comp=Z,13nm,0.7s						
WHTX	**Lake Whitney,**	**2.98**	**175**	Pn	Pn	15 14 54.3	+0.5
HHAR	**Hobbs**	**3.39**	**66**	Pn	Pn	15 14 59.4	-0.2
HHAR				IAmb_Lg		15 16 03.1	
	comp=Z,6.8nm,0.7s						
MIAR	**Mount Ida**	**3.49**	**96**	Pn	Pn	15 15 01.9	+1.1
BRDY	**Brady**	**3.81**	**196**	Pn	Pn	15 15 05.1	-0.1
BRDY				IAmb_Lg		15 16 10.3	
	comp=Z,5.5nm,0.9s						
X40A	**Basin Creek Fa**	**4.10**	**95**	IAmb_Lg		15 16 24.4	
	comp=Z,8.9nm,0.9s						
SGCY	**Sterling City**	**4.13**	**223**	Pn	Pn	15 15 10.0	+0.3
MSTX	**Muleshoe**	**4.24**	**258**	Pn	Pn	15 15 12.1	+0.9
WHAR	**Wooly Hollow**	**4.51**	**84**	Pn	Pn	15 15 15.3	+0.4
WHAR				IAmb_Lg		15 16 38.7	
	comp=Z,6.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.71**	**77**	Pn	Pn	15 15 17.3	-0.3
FCAR				IAmb_Lg		15 16 38.5	
	comp=Z,5.6nm,0.9s						
OZNA	**Ozona**	**4.92**	**216**	Pn	Pn	15 15 20.3	-0.2
MGMO	**Mountain Grove**	**4.97**	**62**	IAmb_Lg		15 16 41.0	
	comp=Z,6.3nm,0.7s						
T25A	**Trinidad**	**5.79**	**294**	IAmb_Lg		15 17 15.7	
	comp=Z,5.2nm,1.0s						
SAND	**Sanderson**	**6.20**	**217**	IAmb_Lg		15 17 29.0	
	comp=Z,5.4nm,0.9s						

IDC ***30*** *15:35:29.7±28.0, 23°.50N×65°.17E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/7, Error ellipse: s-maj=490.8km s-min=102.3km az=31.0*

OMAN ***30*** *15:35:48.3±0.1, 23°.95N×64°.69E, h41km±10km, mb4.2/10, ml4.1/1, Error ellipse: s-maj=2.9km s-min=2.1km az=288.0*

ISC 30 15:35:46.8±4.2, 23°.9N±0°.1×64°.8E±0°.2, h35km, n28, σ1°.70/32, mb3.5/5, MS3.1/7, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**3.59**	**294**	P	**Pn**	**15 36 39.7**	**-0.3**
NGCH				S	**Sn**	**15 37 23.9**	**+2.6**
JLN	**Jalan Bani Buh**	**5.24**	**251**	P	**Pn**	**15 37 01.5**	**-1.2**
	SNR=7.4						
JLN				S	**Sn**	**15 38 02.7**	**+0.8**
WSAR	**Wadi Sarin**	**5.67**	**264**	P	**Pn**	**15 37 06.9**	**-1.7**
WSAR				S	**Sn**	**15 38 12.9**	**+0.4**
SMDO	**Samad**	**6.22**	**263**	P	**Pn**	**15 37 15.2**	**-1.1**
SMDO				S	**Sn**	**15 38 26.7**	**+0.3**
JMDO	**Jabal Madar**	**6.32**	**257**	P	**Pn**	**15 37 17.0**	**-0.7**
	SNR=16						
JMDO				S	**Sn**	**15 38 29.7**	**+1.1**
HOQ	**Hoqain**	**6.84**	**269**	P	**Pn**	**15 37 23.8**	**-0.9**
HOQ				S	**Sn**	**15 38 42.2**	**+0.9**
SOHO	**SOHO**	**7.53**	**273**	P	**Pn**	**15 37 33.1**	**-1.1**
SOHO				S	**Sn**	**15 38 58.3**	**+0.1**
ARQ	**Araqi**	**7.58**	**267**	P	**Pn**	**15 37 36.0**	**+1.1**
	SNR=25						
ARQ				S	**Sn**	**15 39 01.7**	**+2.0**
MDH	**Madha**	**7.82**	**282**	P	**Pn**	**15 37 36.4**	**-1.8**
MDH				S	**Sn**	**15 39 03.8**	**-1.8**
UOSS	**Minazif**	**7.87**	**279**	P	**Pn**	**15 37 37.0**	**-1.8**
UOSS				S	**Sn**	**15 39 04.3**	**-2.3**
BANOM	**Banah**	**7.94**	**286**	P	**Pn**	**15 37 39.5**	**-0.3**
BANOM				S	**Sn**	**15 39 04.8**	**-3.6**
MASF	**Masafi**	**7.96**	**282**	P	**Pn**	**15 37 40.8**	**+0.7**
MASF				S	**Sn**	**15 39 05.8**	**-3.2**
ASHO	**Ashiyiah**	**7.98**	**277**	P	**Pn**	**15 37 42.5**	**+2.2**
ASHO				S	**Sn**	**15 39 11.0**	**+1.5**

SHME	**Shamm**	**8.10 287**	P	**Pn**	**15 37 43.2**	**+1.2**
	SNR=7.0					
ALNE	**Al Ain**	**8.24 273**	P	**Pn**	**15 37 45.4**	**+1.4**
NAZ	**Nazwa, Dubai**	**8.36 279**	P	**Pn**	**15 37 47.2**	**+1.7**
FAQ	**Al Faqa, Dubai**	**8.40 277**	P	**Pn**	**15 37 47.7**	**+1.6**
UMQ	**Umm Al-Quwin**	**8.43 283**	P	**Pn**	**15 37 48.3**	**+1.9**
ASUD	**Al Ashush, Dub**	**8.64 277**	P	**Pn**	**15 37 51.4**	**+2.0**
AAK	**Ala-Archa**	**20.32 21**	LR	LR	15 49 25.2	
	comp=Z,44nm,20.3s,baz=192,slow=41					
PALK	**Pallekele**	**22.54 135**	LR	LR	15 47 40.7	
	comp=Z,41nm,19.9s,baz=269,slow=33					
MKAR	**Makanchi Array**	**26.80 27**	P	P	15 41 13.8	-10
	1.0nm,0.7s,baz=206,slow=7.7,SNR=7.0					
MKAR			LR	LR	15 54 03.3	
	comp=Z,66nm,18.4s,baz=225,slow=41 1.0nm,0.7s					
KURBB	**Kurchatov Arra**	**28.71 18**	P	P	15 41 31.1	-9.5
	0.4nm,0.5s,baz=210,slow=8.6,SNR=4.5					
KURBB			LR	LR	15 55 21.0	
	comp=Z,49nm,19.2s,baz=160,slow=41 0.4nm,0.5s					
BVAR	**Borovoye Array**	**29.36 7**	P	P	15 41 37.8	-8.6
	0.5nm,0.5s,baz=171,slow=10,SNR=3.0					
BVAR			LR	LR	15 56 29.2	
	comp=Z,41nm,18.3s,baz=208,slow=42 0.5nm,0.5s					
CMAR	**Chiang Mai Arr**	**32.28 93**	LR	LR	15 57 57.3	
	comp=Z,17nm,18.1s,baz=230,slow=42					
ZALV	**Zalesovo Beam**	**33.55 22**	P	P	15 42 12.8	-10
	0.7nm,0.4s,baz=232,slow=10.0,SNR=5.6 0.7nm,0.4s					
SONM	**Songino Array**	**40.63 43**	P	P	15 43 12.0	-12
	0.3nm,0.4s,baz=251,slow=8.7,SNR=2.9 0.3nm,0.4s					
MA2	**Magadan**	**67.69 33**	LR	LR	16 20 34.8	
	comp=Z,34nm,18.2s,baz=136,slow=40					

SOF ***30*** *15:50:42.9, 41°.79N±0°.01×22°.23E±0°.01, h10km±2km, MD3.1/6*

SKO ***30*** *15:50:44.0, 41°.78N×22°.27E, h15km, ML3.0*

BEO ***30*** *15:50:45.8±0.4, 41°.87N×22°.34E, h16km±3km, ML2.6/16*

ATH ***30*** *15:50:45.9±0.7, 41°.69N×22°.35E, h5km, ML2.6/6, Manual Solution by S.Liakopoulos First location: 2019/10/30 15:52:26, This location: 2020/11/19 02:37:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*

THE ***30*** *15:50:46.3, 42°.N±2°.×2°.2E±°, h0km±1km, M2.6/12, MLh2.6/12*

ISC 30 15:50:44.3±1.0, 41°.83N±0°.01×22°.37E±0°.02, h13km±8km, n78, σ1°.02/133, 10C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.53**	**164**	⇑*i*Pg	**Pg**	**15 50 54.1**	**-0.5**
VAY				*e*Lg	Lg	15 51 01.3	
	comp=E,2μm,0.3s						
VAY				*i* Sg	**Sg**	**15 51 01.4**	**-0.2**
VAY				*e*Lg	Lg	15 51 01.4	
	comp=N,2μm,0.3s						
KKB	**Krupnik**	**0.56**	**88**	Pg	**Pn**	**15 50 57.2**	**-0.9**
KKB				Sg	**Sn**	**15 51 05.2**	**-2.1**
KKB	**Krupnik**	**0.56**	**88**	P	**Pb**	**15 50 56.7**	**+0.6**
KKB				S	**Sn**	**15 51 05.1**	**-2.3**
KKB	**Krupnik**	**0.56**	**88**	*i* Pg	**Pn**	**15 50 56.9**	**-1.2**
KKB				*i* Sg	**Sn**	**15 51 05.3**	**-2.0**
BOSS	**Bosilegrad**	**0.67**	**7**	*e*Pg	**Pg**	**15 50 57.6**	**+0.2**
BOSS				*e*Sg	**Sg**	**15 51 06.5**	**+0.2**
SKO	**Skopje**	**0.71**	**282**	*i* Pg	**Pg**	**15 50 57.9**	**-0.2**
KNT	**Kendrikon**	**0.77**	**149**	P	**Pg**	**15 50 59.0**	**-0.2**
KNT				S	**Sg**	**15 51 09.0**	**-0.4**
KNT	**Kendrikon**	**0.77**	**149**	*i* Pg	**Pg**	**15 50 58.9**	**-0.4**
KNT				*i* Sg	**Sg**	**15 51 09.4**	**0.0**
KNT	**Kendrikon**	**0.77**	**149**	P	**Pg**	**15 50 59.1**	**-0.2**
KNT				S	**Sg**	**15 51 08.3**	**-1.0**
PLNA	**Plana**	**1.02**	**50**	Pg	**Pn**	**15 51 05.6**	**+1.2**
PLNA				Sg	**Sn**	**15 51 20.1**	**+1.5**
VTS	**Vitosha**	**1.02**	**39**	Pg	**Pn**	**15 51 04.3**	**-0.2**
VTS				Sg	**Sn**	**15 51 19.2**	**+0.5**
VTS	**Vitosha**	**1.02**	**39**	*e*Pg	**Pn**	**15 51 04.3**	**-0.2**
VTS				*e*Sg	**Sn**	**15 51 17.8**	**-0.9**
MMB	**Musomishta**	**1.07**	**105**	P	**Pn**	**15 51 05.7**	**+0.7**
MMB				S	**Sn**	**15 51 20.7**	**+0.9**
MMB	**Musomishta**	**1.07**	**105**	P	**Pn**	**15 51 05.4**	**+0.4**
MMB				S	**Sn**	**15 51 20.1**	**+0.3**
MMB	**Musomishta**	**1.07**	**105**	*i* Pg	**Pn**	**15 51 05.4**	**+0.4**
MMB				*i* Sg	**Sn**	**15 51 20.9**	**+1.1**
BARS	**Barje**	**1.07**	**337**	*i* Pg	**Pb**	**15 51 03.7**	**-1.0**
BARS				*i* Sg	**Sb**	**15 51 18.9**	**+0.2**
BARS	**Barje**	**1.07**	**337**	*e*Pg	**Pb**	**15 51 04.4**	**-0.3**
BARS				*e*Sg	**Sb**	**15 51 16.9**	**-1.8**
SRS	**Serrai**	**1.16**	**127**	P	**Pn**	**15 51 06.4**	**+0.1**
SRS				S	**Sn**	**15 51 22.9**	**+0.9**
SRS	**Serrai**	**1.16**	**127**	*i* Pg	**Pg**	**15 51 06.6**	**0.0**
SRS	**Serrai**	**1.16**	**127**	*e*Pg	**Pb**	**15 51 06.2**	**0.0**
SRS				*e*Sg	**Sn**	**15 51 24.8**	**+2.8**
SRS	**Serrai**	**1.16**	**127**	P	**Pn**	**15 51 06.4**	**+0.1**
SRS				S	**Sg**	**15 51 21.4**	**-0.3**
BLSH	**Balsha**	**1.23**	**33**	P	**Pg**	**15 51 09.7**	**+1.8**
BLSH				S	**Sg**	**15 51 26.6**	**+2.6**
SOH	**Sokhos**	**1.25**	**143**	P	**Pn**	**15 51 07.9**	**+0.4**
SOH				S	**Sg**	**15 51 24.6**	**+0.1**
SOH	**Sokhos**	**1.25**	**143**	*i* Pg	**Pn**	**15 51 07.8**	**+0.4**
SOH				*i* Sg	**Sg**	**15 51 25.1**	**+0.6**
SOH	**Sokhos**	**1.25**	**143**	P	**Pn**	**15 51 07.8**	**+0.4**
SOH				S	**Sb**	**15 51 22.9**	**-0.9**
THE	**Thessaloniki**	**1.27**	**159**	P	**Pn**	**15 51 08.1**	**+0.3**
THE				S	**Sb**	**15 51 24.5**	**+0.1**
THE	**Thessaloniki**	**1.27**	**159**	*i* Pg	**Pn**	**15 51 08.2**	**+0.3**
THE				*i* Sg	**Sb**	**15 51 24.5**	**+0.1**
THE	**Thessaloniki**	**1.27**	**159**	P	**Pn**	**15 51 08.1**	**+0.3**
THE				S	**Sb**	**15 51 23.3**	**-1.1**
HORT	**Hortiatis**	**1.34**	**156**	P	**Pn**	**15 51 09.2**	**+0.3**
HORT				S	**Sg**	**15 51 27.9**	**+0.3**
HORT	**Hortiatis**	**1.34**	**156**	P	**Pn**	**15 51 09.2**	**+0.3**
HORT				S	**Sb**	**15 51 26.6**	**0.0**
LMS2	**Laimos Florina**	**1.36**	**224**	P	**Pn**	**15 51 08.2**	**-0.8**
LMS2				S	**Sn**	**15 51 25.6**	**-1.3**
STCV	**Stivos**	**1.37**	**149**	P	**Pb**	**15 51 10.2**	**+0.4**
STCV				S	**Sn**	**15 51 27.2**	**+0.1**
OHR	**Ohrid**	**1.38**	**239**	*i* Pg	**Pn**	**15 51 09.5**	**+0.1**
OHR				*i* Sg	**Sn**	**15 51 27.1**	**-0.5**
OHR				*e*Lg	Lg	15 51 27.5	
	comp=N,40nm,0.4s						
OHR				*e*Lg	Lg	15 51 28.9	
	comp=E,61nm,0.6s						
ZAPS	**Zavoj**	**1.46**	**7**	*e*Pg	**Pg**	**15 51 12.5**	**+0.2**
ZAPS				*e*Sg	**Sg**	**15 51 30.7**	**-0.6**
PGB	**Panagyurishte**	**1.50**	**62**	P	**Pg**	**15 51 13.5**	**+0.3**
PGB				S	**Sg**	**15 51 35.1**	**+2.4**
KZN	**Kozani**	**1.58**	**197**	P	**Pn**	**15 51 12.4**	**+0.3**
PLG	**Polygyros**	**1.66**	**150**	P	**Pb**	**15 51 14.8**	**0.0**
PLG	**Polygyros**	**1.66**	**150**	P	**Pn**	**15 51 14.2**	**+1.0**
LIT	**Litokhoron**	**1.73**	**177**	*i* Pn	**Pn**	**15 51 14.6**	**+0.5**
LIT	**Litokhoron**	**1.73**	**177**	P	**Pn**	**15 51 14.3**	**+0.2**
NEST	**Nestorio**	**1.73**	**216**	P	**Pn**	**15 51 15.1**	**+0.9**
RZN	**Rozhen**	**1.77**	**93**	P	**Pb**	**15 51 17.2**	**+0.4**
RZN				S	**Sg**	**15 51 41.4**	**0.0**
PLD	**Plovdiv**	**1.80**	**79**	P	**Pb**	**15 51 17.4**	**+0.4**
PLD	**Plovdiv**	**1.80**	**79**	*i* Pn	**Pg**	**15 51 17.6**	**-1.2**
PLD	**Plovdiv**	**1.80**	**79**	*e*Pg	**Pb**	**15 51 17.5**	**+0.4**
PLD				*e*Sg	**Sg**	**15 51 43.1**	**+1.0**
BLKB	**Belogradchik**	**1.81**	**7**	⇓P	**Pb**	**15 51 16.6**	**-0.7**
BLKB				⇑S	**Sn**	**15 51 38.4**	**+0.3**
BLKB	**Belogradchik**	**1.81**	**7**	*e*Pg	**Pb**	**15 51 17.0**	**-0.3**
BLKB				*e*Sg	**Sg**	**15 51 42.9**	**+0.4**
KAVA	**Kavala**	**1.81**	**117**	P	**Pb**	**15 51 16.9**	**-0.4**
KAVA	**Kavala**	**1.81**	**117**	P	**Pb**	**15 51 16.9**	**-0.4**
MPEP	**Malo Peshtene**	**1.83**	**33**	P	**Pg**	**15 51 19.2**	**-0.2**
MPEP				S	**Sg**	**15 51 44.5**	**+1.3**
BOVS	**Bovan**	**1.87**	**345**	⇑P	**Pb**	**15 51 18.2**	**-0.2**
BOVS				⇓S	**Sn**	**15 51 40.2**	**+0.6**
BOVS	**Bovan**	**1.87**	**345**	*e*Pn	**Pn**	**15 51 17.4**	**+1.3**
BOVS				*e*Sg	**Sg**	**15 51 44.6**	**+0.1**
OUR	**Ouranopolis**	**1.92**	**140**	P	**Pn**	**15 51 18.2**	**+1.5**
ZAGS	**Zajecar**	**1.99**	**357**	*e*Pg	**Pn**	**15 51 18.9**	**+1.3**
ZAGS				*e*Sg	**Sg**	**15 51 48.1**	**-0.1**
GOCS	**Kraljevo Serbi**	**2.06**	**328**	*e*Pn	**Pn**	**15 51 19.3**	**+0.6**
GOCS				*e*Sg	**Sg**	**15 51 50.5**	**+0.1**

BORS2	**Bor- Borsko je**	**2.28 354**	*e*Pn	**Pn**	**15 51 21.2**	**-0.4**
BORS2			*e*Sg	**Sg**	**15 51 56.0**	**-1.5**
PLVB	**Pleven**	**2.28 46**	⇑P	**Pb**	**15 51 23.8**	**-1.5**
PLVB			⇑S	**Sn**	**15 51 50.0**	**+0.5**
GRUS	**Gruza**	**2.39 330**	*e*Pn	**Pn**	**15 51 23.8**	**+0.6**
GRUS			*e*Sg	**Sg**	**15 52 02.6**	**+1.4**
IVAS	**Ivanjica**	**2.40 318**	*e*Pn	**Pn**	**15 51 22.7**	**-0.6**
PDG	**Podgorica**	**2.40 286**	⇓P	**Pb**	**15 51 27.9**	**+0.6**
PDG			⇑S	**Sb**	**15 51 57.9**	**+1.1**
RDO	**Rodhopi**	**2.47 105**	P	**Pb**	**15 51 26.5**	**-2.1**
PUNG	**Punghina**	**2.48 9**	⇓P	**Pn**	**15 51 25.9**	**+1.4**
PUNG			⇓S	**Sn**	**15 51 55.0**	**+0.4**
KUBS	**Kucevo**	**2.63 349**	*e*Pn	**Pn**	**15 51 25.0**	**-1.5**
KUBS			*e*Sg	**Sg**	**15 52 07.4**	**-1.5**
IGT	**Igoumenitsa**	**2.77 215**	*e*Pn	**Pn**	**15 51 31.6**	**+3.2**
TRUS	**Trudelj**	**2.80 330**	*e*Pn	**Pn**	**15 51 29.2**	**+0.4**
TRUS			*e*Sg	**Sg**	**15 52 13.5**	**-0.6**
ELND	**Elena**	**2.82 66**	⇓P	**Pb**	**15 51 32.0**	**-2.4**
ELND			⇑S	**Sb**	**15 52 06.8**	**-2.1**
DIVS	**Divibare**	**2.87 323**	*e*Pn	**Pn**	**15 51 29.5**	**-0.3**
ALN	**Alexandroupoli**	**2.92 107**	P	**Pn**	**15 51 32.4**	**+2.0**
MDVR	**Moldovita**	**2.99 351**	⇓P	**Pn**	**15 51 31.6**	**+0.1**
MDVR			⇓S	**Sn**	**15 52 07.7**	**+0.4**
MDVR	**Moldovita**	**2.99 351**	*e*Pn	**Pn**	**15 51 31.4**	**-0.1**
VRSS	**Vrsac**	**3.38 347**	*e*Pn	**Pn**	**15 51 38.3**	**+1.5**
VRSS			*e*Sg	**Sg**	**15 52 31.6**	**-1.3**
TEKS	**Tekeris**	**3.42 324**	*e*Pn	**Pn**	**15 51 37.9**	**+0.5**
GZR	**Gura Zlata**	**3.58 5**	⇑P	**Pn**	**15 51 40.7**	**+1.1**
GZR			⇑S	**Sn**	**15 52 21.1**	**-0.7**
GZR	**Gura Zlata**	**3.58 5**	*e*Pn	**Pn**	**15 51 40.9**	**+1.3**
BZS	**Buzias**	**3.83 352**	⇓P	**Pn**	**15 51 42.5**	**-0.4**
BZS	**Buzias**	**3.83 352**	*e*Pn	**Pn**	**15 51 43.9**	**+1.0**
SURR	**Surduc**	**3.93 357**	⇓P	**Pn**	**15 51 46.0**	**+1.7**
SURR			⇓S	**Sn**	**15 52 30.4**	**+0.1**
MARR	**Marisel-Cluj**	**4.88 6**	⇓P	**Pn**	**15 51 58.1**	**+0.7**
MARR			⇑S	**Sn**	**15 52 53.4**	**-0.4**

IDC ***30*** *15:54:50.6±0.9, 30°.15N×141°.25E, h0km, mb3.9/12, mbtmp3.9/16, ML3.3/4, Error ellipse: s-maj=44.6km s-min=13.2km az=73.0*

NEIC ***30*** *15:54:56.0±1.2, 30°.26N±0°.03×141°.4E±0°.2, h35km±2km, mb4.5/10, Error ellipse: s-maj=29.3km s-min=3.0km az=81.0*

JMA ***30*** *15:54:56.9±0.2, 30°N±1°×14°2E±°, h52km, MV4.3/24, NEAR TORISHIMA IS*

ISC 30 15:54:55.4±0.6, 30°.23N±0°.05×141°.5E±0°.1, h35km, n51, σ1°.95/52, mb4.1/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.18 170**		*e*P	Pn	15 55 47.4	+4.5
CBIJ				*e*S	**Sn**	**15 56 22.7**	**+3.2**
JCJ	**Chichijima**	**3.18 170**		Pn	**Pn**	**15 55 45.2**	**+2.3**
JCJ	**Chichijima**	**3.18 170**		Pn	**Pn**	**15 55 40.0**	**-3.0**
	10nm,0.3s,baz=8.1,slow=14,SNR=33						
JCJ				Sn	**Sn**	**15 56 15.2**	**-4.4**
	49nm,0.3s,baz=266,slow=22,SNR=14 25nm,0.2s						
JHCJ	**Hachijojimakas**	**3.19 333**		*e*P	**Pn**	**15 55 45.3**	**+2.2**
JHCJ				*e*S	**Sn**	**15 56 19.4**	**-0.6**
JHJ2	**Mitsune**	**3.22 333**		Pn	**Pn**	**15 55 43.9**	**+0.4**
JHJ2	**Mitsune**	**3.22 333**		*e*P	**Pn**	**15 55 46.2**	**+2.7**
JHJ2				*e*S	**Sn**	**15 56 20.4**	**-0.3**
JHJ	**Hachijo jima 2**	**3.24 333**		Pn	**Pn**	**15 55 43.8**	**0.0**
	6.2nm,0.3s,baz=31,slow=21,SNR=1.5						
JHJ				Sn	**Sn**	**15 56 20.4**	**-0.8**
	42nm,0.3s,baz=86,slow=22,SNR=6.6 61nm,0.6s						
JHH2	**Haha-jima-NKT2**	**3.63 171**		*e*S	**Sn**	**15 56 35.5**	**+4.7**
JMYK	**Miyake Tsubota**	**4.17 337**		*e*S	**Sn**	**15 56 44.5**	**+0.5**
BSO1	**Boso 1**	**4.43 354**		*e*S	**Sn**	**15 56 51.4**	**+1.6**
JGF	**Kuroka**	**6.40 328**		Pn	**Pn**	**15 56 28.9**	**+1.7**
JHO	**Hitachi**	**6.41 353**		*e*P	**Pn**	**15 56 29.3**	**+2.0**
MJAR	**Matsushiro Arr**	**6.88 337**		Pn	**Pn**	**15 56 35.7**	**+2.0**
MJAR	**Matsushiro Arr**	**6.88 337**		Pn	**Pn**	**15 56 33.7**	**-0.1**
	0.1nm,0.3s,baz=164,slow=14,SNR=6.1						
MJAR	

comp=Z,0.7nm,0.8s,baz=270,slow=1.3,SNR=4.5
comp=Z,0.7nm,0.8s

IDC 30 16:24:59.7±1.6, 10°.07N×122°.22E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=88.6km s-min=20.7km az=58.0, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	24.03	293	P	P	16 30 16.1	-0.5
	0.4nm,0.3s,baz=115,slow=7.5,SNR=4.7						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	32.13	158	P	P	16 31 30.0	+0.9
	1.0nm,0.9s,baz=340,slow=8.2,SNR=5.0						
	1.0nm,0.9s						
ASAR	**Alice Springs**	35.43	161	P	P	16 31 57.0	-0.7
	0.6nm,0.8s,baz=346,slow=7.1,SNR=13						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	49.83	325	P	P	16 33 54.5	-0.1
	0.2nm,0.5s,baz=122,slow=7.4,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	54.02	327	P	P	16 34 25.9	+0.2
	0.6nm,0.8s,baz=130,slow=6.4,SNR=5.8						
	0.6nm,0.8s						

*IDC **30** 16:35:22.9±0.6, 6°.65N×124°.92E, h0km, mb4.0/18, mbtmp4.0/19, ML4.0/1, MS3.2/9, Error ellipse: s-maj=12.5km s-min=9.3km az=138.0*
*NEIC **30** 16:35:24.8±1.5, 6°.72N±0°.07×124°.97E±0°.06, h10km±1km, mb4.4/23, Error ellipse: s-maj=14.2km s-min=5.5km az=323.0*
*DJA **30** 16:35:27.6±1.3, 7°N±12°×12°5E±°, h10km, M4.7/16, mb4.8/16, mB5.2/11, MLv4.8/10, Mw(mB)4.6/11*
ISC 30 16:35:24.6±0.4, 6.75N±0°.05×125°.08E±0°.06, h10km, n80, σ1§36/70, mb4.2/32, MS3.0/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	0.59	57		Pn	16 35 38.3	-0.8
DAV				Sg	Sn	16 35 48.0	-0.8
DAV	**Davao City (W)**	0.59	57	Pg	Pn	16 35 38.5	-0.6
	2.4nm,0.3s,baz=266,slow=7.5,SNR=329						
DAV				Lg	Lg	16 35 48.5	
	12nm,0.3s,baz=321,slow=9.1,SNR=9.2						
DAV	**Davao City (W)**	0.59	57	Pg	Pg	16 35 35.0	-1.1
SGSI	**Sangihe**	3.08	172	P	Pn	16 36 15.5	+2.2
KMSI	**Cibinong**	6.23	190	P	Pn	16 36 59.8	+3.1
TNTI	**Ternate**	6.36	159	Pn	Pn	16 36 59.5	+0.9
TNTI	**Ternate**	6.36	159	P	Pn	16 37 04.8	+6.3
	27nm,0.7s						
MYLDM	**Lahad Datu**	6.73	257	Pn	Pn	16 37 03.1	-0.4
MRSI	**Marisa**	6.97	207	P	Pn	16 37 08.0	+1.1
	0.7nm2μm178nm,0.9s						
TOLI2	**Tolitoli**	7.05	218	Pn	Pn	16 37 06.8	-1.2
LUWI	**Luwuk**	8.07	197	Pn	Pn	16 37 26.0	+4.0
LUWI	**Luwuk**	8.07	197	P	Pn	16 37 28.0	+5.9
	2μm137nm,1.1s						
APSI	**Ampana**	8.34	204	P	Pn	16 37 30.9	+5.1
	874nm68nm,0.5s						
SANI	**Sanana**	8.79	174	P	Pn	16 37 32.2	+0.4
	34nm,0.6s						
I39PW	**PALAU INFRASON**	9.43	85	I	I	17 28 10.0	
	baz=266,slow=281,SNR=0.6						
NLAI	**Namlea**	10.12	168	P	Pn	16 37 51.1	+0.9
	849nm50nm,0.6s						
FAKI	**Fak Fak**	11.98	143	Pn	Pn	16 38 18.3	+2.7
KAPI	**Kappang**	12.84	205	Pn	Pn	16 38 31.8	+4.4
	baz=34,slow=5.7						
KAPI				LR	LR	16 43 52.9	
	comp=Z,107nm,19.2s,baz=34,slow=40						
SOEI	**Soe**	16.42	183		P	16 39 17.2	-1.0
SOEI				IAmb	IAmb	16 39 56.4	
	comp=Z,22nm,1.0s						
BATI	**Baumata**	16.90	185	Pn	P	16 39 24.1	+0.5
	comp=Z,8.8nm,0.3s,baz=38,slow=4.1,SNR=11						
JAY	**Jayapura**	18.11	120	P	P	16 39 38.7	+1.7
	comp=Z,0.5nm,0.3s,baz=254,slow=12,SNR=1.7						
	comp=Z,1.8nm,0.4s						
MTN	**Manton Dam**	20.37	163	P	P	16 40 01.8	+0.2
MTN				IAmb	IAmb	16 40 04.9	
	comp=Z,17nm,0.4s						
GUMO	**Guam**	20.62	69	LR	LR	16 49 17.1	
	comp=Z,30nm,19.1s,baz=190,slow=40						
KNRA	**Kununurra**	22.58	171	P	P	16 40 24.7	-0.7
FITZ	**Fitzroy Crossi**	24.70	179	P	P	16 40 45.4	-0.6
FITZ	**Fitzroy Crossi**	24.70	179	P	P	16 40 45.8	-0.3
	comp=Z,9.1nm,0.5s,baz=8.3,slow=7.5,SNR=58						
	comp=Z,9.1nm,0.5s						
PSI	**Prapat**	26.35	263	LR	LR	16 54 23.9	
	comp=Z,38nm,20.3s,baz=92,slow=44						
JNU	**Nakatsue**	26.79	11	LR	LR	16 51 40.2	
	comp=Z,25nm,21.9s,baz=172,slow=36						
COEN	**Coen**	27.31	139	P	P	16 41 09.2	-0.5
COEN				IAmb	IAmb	16 41 25.2	
	comp=Z,31nm,1.5s						
WB0	**Warramunga Arr**	27.90	161	P	P	16 41 13.5	-1.6
WB0				IAmb	IAmb	16 41 38.7	
	comp=Z,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	27.99	297	P	P	16 41 14.3	-1.6
CMAR	**Chiang Mai Arr**	27.99	297	P	P	16 41 13.9	-1.9
	comp=Z,0.5nm,0.3s,baz=122,slow=7.9,SNR=7.4						
	comp=Z,0.5nm,0.3s						
WRAB	**Tennant Creek**	28.04	161	P	P	16 41 14.6	-1.7
WRAB				IAmb	IAmb	16 41 40.6	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	28.05	161	P	P	16 41 13.8	-2.5
WRA	**Warramunga Arr**	28.05	161	P	P	16 41 15.2	-1.2
	comp=Z,1.4nm,0.4s,baz=330,slow=11,SNR=34						
WRA				LR	LR	16 51 51.4	
	comp=Z,72nm,19.6s,baz=34,slow=35						
	comp=Z,1.4nm,0.4s						
WB2	**Warramunga Arr**	28.05	161	P	P	16 41 14.9	-1.5
WB2				IAmb	IAmb	16 41 33.7	
	comp=Z,4.7nm,0.8s						
WR8	**Warramunga Arr**	28.11	161	P	P	16 41 14.9	-2.1
WR8				IAmb	IAmb	16 41 40.3	
	comp=Z,6.0nm,0.9s						
WR0	**Warramunga Arr**	28.13	161	P	P	16 41 15.7	-1.3
WR0				IAmb	IAmb	16 41 41.7	
	comp=Z,6.1nm,0.8s						
JHJ	**Hachijo jima 2**	29.58	26	LR	LR	16 51 55.0	
	comp=Z,36nm,21.9s,baz=162,slow=33						
PZH	**PanZhiHua**	29.66	314	P	P	16 41 31.5	+0.7
AS31	**Alice Springs**	31.43	164	P	P	16 41 45.1	-1.3
ASAR	**Alice Springs**	31.43	164	P	P	16 41 45.5	-0.9
	comp=Z,1.9nm,0.5s,baz=341,slow=7.1,SNR=126						
	comp=Z,1.9nm,0.5s						
HNS	**HongShan**	31.94	344	⇓P	P	16 41 58.3	+7.7
HNS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MJAR	**Matsushiro Arr**	31.99	20	P	P	16 41 51.2	+0.1
	comp=Z,1.4nm,0.7s,baz=195,slow=9.5,SNR=4.0						
MJAR				LR	LR	16 54 44.6	
	comp=Z,39nm,19.4s,baz=183,slow=36						
	comp=Z,1.4nm,0.7s						
HHC	**Hu-ho-hao-te**	36.04	342	*e*P	P	16 42 28.3	+1.9
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,6.7s						
FORT	**Forrest**	37.42	176	P	P	16 42 36.1	-2.0
FORT				IAmb	IAmb	16 42 49.4	
	comp=Z,10nm,1.1s						
INKA	**Innaminka**	37.48	157	P	P	16 42 37.1	-1.6
USRK	**Ussuriysk Ar.**	37.79	8	P	P	16 42 41.7	+0.6
	comp=Z,2.4nm,0.8s,baz=198,slow=12,SNR=7.7						
	comp=Z,2.4nm,0.8s						
GTA	**Gaotai**	39.68	329	*e*P	P	16 43 00.0	+2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAJ	**Asahikawa**	40.26	20	LR	LR	16 58 48.0	
	comp=Z,29nm,20.9s,baz=46,slow=35						
BBOO	**Buckleboo**	40.70	166	P	P	16 43 05.3	-0.2
STKA	**Stephens Creek**	41.52	159	P	P	16 43 11.8	-0.5
STKA	**Stephens Creek**	41.52	159	P	P	16 43 12.1	-0.2
	comp=Z,2.6nm,0.5s,baz=338,slow=9.2,SNR=9.6						
	comp=Z,2.6nm,0.5s						
HEH	**HeiHe**	43.40	2	*e*P	P	16 43 29.3	+1.9
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,150nm,4.5s						
SONM	**Songino Array**	43.93	342	P	P	16 43 31.5	-0.4
SONM	**Songino Array**	43.93	342	P	P	16 43 32.5	+0.6
	comp=Z,0.2nm,0.4s,baz=166,slow=7.5,SNR=4.0						
SONM				LR	LR	17 02 04.0	
	comp=Z,66nm,19.5s,baz=168,slow=36						
	comp=Z,0.2nm,0.4s						
TOO	**Toolangi**	48.03	158	P	P	16 44 04.1	-0.1
TOO				IAmb	IAmb	16 44 12.4	
	comp=Z,5.0nm,1.2s						
DZM	**Mont Dzumac**	49.62	126	P	P	16 44 16.8	+0.1
	comp=Z,3.7nm,0.7s,baz=235,slow=16,SNR=1.5						
	comp=Z,3.7nm,0.7s						
PETK	**Petropavlovsk-**	53.31	24	P	P	16 44 43.0	-0.8
PETK	**Petropavlovsk-**	53.31	24	P	P	16 44 44.3	+0.4
	comp=Z,2.9nm,0.9s,baz=208,slow=6.5,SNR=5.8						
	comp=Z,2.9nm,0.9s						
MKAR	**Makanchi Array**	54.16	325	P	P	16 44 49.6	-0.5
MKAR	**Makanchi Array**	54.16	325	P	P	16 44 50.5	+0.3
	comp=Z,0.5nm,0.6s,baz=128,slow=9.3,SNR=5.0						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	57.17	333	P	P	16 45 11.8	+0.2
ZALV	**Zalesovo Beam**	57.17	333	P	P	16 45 12.3	+0.7
	comp=Z,0.3nm,0.3s,baz=132,slow=2.1,SNR=2.0						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	58.33	327	P	P	16 45 19.7	-0.2
	comp=Z,0.9nm,0.7s,baz=124,slow=5.7,SNR=7.2						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	58.33	327	P	P	16 45 19.0	-0.8
KURK				IAmb	IAmb	16 45 21.2	
	comp=Z,5.9nm,1.4s						
GAR	**Garm**	58.69	312	P	P	16 45 22.2	-0.6
SEY	**Seymchan**	59.50	14	P	P	16 45 28.4	+0.7
	comp=Z,0.8nm,0.5s,baz=176,slow=14,SNR=1.7						
	comp=Z,0.8nm,0.5s						
KK31	**Karatay Array**	59.92	316	P	P	16 45 29.7	-1.4
KK31				IAmb	IAmb	16 45 43.6	
	comp=Z,2.8nm,1.1s						
KKAR	**Karatay Array**	59.92	316	P	P	16 45 30.0	-1.1
BVAR	**Borovoye Array**	63.91	327	P	P	16 45 57.4	-0.3
	comp=Z,1.1nm,0.7s,baz=120,slow=10,SNR=5.9						
	comp=Z,1.1nm,0.7s						
URZ	**Urewera**	65.86	137	P	P	16 46 11.2	+0.6
RIGZ	**Rimuhau**	66.52	137	P	P	16 46 14.1	-0.8
MHGZ	**Mahia Peninsul**	66.85	138	P	P	16 46 17.8	+0.9
ILAR	**Eielson Array**	83.10	26	P	P	16 47 49.6	-0.9
ILAR	**Eielson Array**	83.10	26	P	P	16 47 51.2	+0.7
	comp=Z,0.3nm,0.6s,baz=231,slow=5.3,SNR=4.1						
	comp=Z,0.3nm,0.6s						
K27K	**Chicken**	85.23	26	P	P	16 47 59.5	-1.8
VNDA	**Vanda**	86.61	173	P	P	16 48 05.8	-1.9
VNDA				IAmb	IAmb	16 48 26.3	
	comp=Z,3.8nm,1.5s						
VNDA	**Vanda**	86.61	173	P	P	16 48 06.2	-1.6
	comp=Z,0.3nm,0.6s,baz=292,slow=6.0,SNR=4.5						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	88.53	321	P	P	16 48 17.8	+0.2
	comp=Z,0.2nm,0.4s,baz=77,slow=4.9,SNR=1.4						
	comp=Z,0.2nm,0.4s						

*NEIC **30** 16:44:08.8±2.2, 30°.22S±0°.07×177°.8W±0°.2, h35km±2km, mb4.7/26, Error ellipse: s-maj=27.7km s-min=11.6km az=82.0*
*IDC **30** 16:44:08.8±2.3, 30°.24S×177°.77W, h40km±17km, mb4.1/9, mbtmp4.4/9, MS3.6/7, Error ellipse: s-maj=24.0km s-min=15.3km az=106.0*
ISC 30 16:44:07.7±0.6, 30°.39S±0°.05×177°.8W±0°.1, h35km, n110, σ1§69/105, mb4.7/23, MS3.5/5, 6C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	1.13	355	P	Pn	16 44 26.2	-0.7
GLKZ				S	Sn	16 44 38.7	-2.6
RAO	**Raoul Island**	1.14	355	P	Pn	16 44 26.0	-1.1
	2μm,0.2s,baz=45,slow=18,SNR=11						
RAO				S	Sn	16 44 39.6	-1.9
	12μm,0.3s,baz=174,slow=22,SNR=6.6						
RIZ	**Raoul Island**	1.15	355	P	Pn	16 44 26.7	-0.5
RIZ				S	Sn	16 44 39.9	-1.8
MXZ	**Matakaoa Point**	7.84	203	Pn	Pn	16 45 59.2	0.0
MXZ	**Matakaoa Point**	7.84	203	P	Pn	16 45 57.8	-1.4
MXZ				S	Sn	16 47 26.5	-0.2
WMGZ	**Waiomatatini S**	8.04	202	P	Pn	16 46 00.2	-1.8
WMGZ				S	Sn	16 47 31.2	-0.4
PKGZ	**Pakihiroa**	8.20	203	P	Pn	16 46 02.0	-2.1
PKGZ				S	Sn	16 47 35.3	-0.2
HAZ	**Te Kaha**	8.20	205	P	Pn	16 46 02.3	-1.8
HAZ				S	Sn	16 47 37.0	+1.5
PUZ	**Puketiti**	8.32	202	P	Pn	16 46 05.4	-0.5
PUZ				S	Sn	16 47 38.3	-0.3
RUGZ	**Raukumara Rang**	8.43	205	P	Pn	16 46 04.6	-2.8
RUGZ				S	Sn	16 47 40.3	-1.0
TWGZ	**Tauwhareparae**	8.51	203	P	Pn	16 46 03.7	-4.8
TWGZ				S	Sn	16 47 42.3	-0.9
WCZ	**Waipu Caves**	8.59	228	P	Pn	16 46 18.0	+8.6
OUZ	**Omahuta**	8.68	234	P	Pn	16 46 18.5	+7.8
CNGZ	**Carnagh Statio**	8.71	201	P	Pn	16 46 08.9	-2.3
CNGZ				S	Sn	16 47 46.5	-1.7
MWZ	**Matawai**	8.81	205	P	Pn	16 46 06.3	-6.2
MWZ				S	Sn	16 47 49.5	-1.1
MARZ	**Manawahe**	8.84	210	P	Pn	16 46 12.3	-0.7
URZ	**Urewera**	8.90	207	P	Pn	16 46 10.6	-3.1
	4.1nm,0.3s,baz=265,slow=4.2,SNR=15						
URZ				S	Sn	16 47 51.0	-1.7
	9.9nm,0.3s,baz=19,slow=23,SNR=12						
MUGZ	**Murupara**	9.22	208	P	Pn	16 46 15.3	-2.8
RTZ	**Ruatahuna**	9.26	206	P	Pn	16 46 16.2	-2.6
SNGZ	**Shannon Statio**	9.27	204	P	Pn	16 46 17.6	-1.3
MTHZ	**Maungataniwha**	9.52	206	P	Pn	16 46 19.9	-2.4
BKZ	**Black Stump Fm**	9.92	207	Pn	Pn	16 46 23.5	-4.3
OTVZ	**Oturere**	10.26	210	P	Pn	16 46 31.2	-1.3
SNVZ	**South Ngauruho**	10.29	210	P	Pn	16 46 34.6	+1.6
BFZ	**Birch Farm**	11.35	204	Pn	Pn	16 46 42.4	-4.8
TUWZ	**Tuamarina**	12.87	209	Pn	Pn	16 47 03.8	-4.3
CTZ	**Chatham Island**	13.35	176	Pn	Pn	16 47 12.9	-1.8
THZ	**Tophouse**	13.59	211	Pn	Pn	16 47 13.6	-4.4
LTZ	**Lake Taylor**	14.69	210	Pn	Pn	16 47 30.4	-2.5
RPZ	**Rata Peaks**	15.97	211	Pn	Pn	16 47 47.7	-2.0
RPZ	**Rata Peaks**	15.97	211	P	Pn	16 47 47.1	-2.6
	13nm,0.9s,baz=54,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	16.36	297	LR	LR	16 52 52.4	
	comp=Z,187nm,20.5s,baz=174,slow=32						
FOZ	**Fox Glacier**	16.40	213	Pn	Pn	16 47 53.2	-1.9
FOZ				IAmb	IAmb	16 48 06.9	
	comp=Z,78nm,1.2s						
WKZ	**Wanaka**	17.75	212	Pn	Pn	16 48 10.2	-1.9
WKZ				IAmb	IAmb	16 48 14.2	
	comp=Z,101nm,1.5s						
RAR	**Rarotonga**	18.62	65	LR	LR	16 53 24.4	
	comp=Z,230nm,21.9s,baz=253,slow=30						
WHZ	**Wether Hill Ro**	19.06	212	P	P	16 48 25.6	-1.3
WHZ				IAmb	IAmb	16 49 02.5	
	comp=Z,93nm,1.4s						
ARMA	**Armidale**	26.32	262	P	P	16 49 40.2	-0.1
ARMA				IAmb	IAmb	16 49 51.0	
	comp=Z,13nm,1.2s						
EIDS	**Eidsvold**	27.89	273	P	P	16 49 55.5	+1.0
CAN	**Canberra**	28.23	251	P	P	16 49 59.6	+2.2
CAN				IAmb	IAmb	16 50 01.3	
	comp=Z,14nm,0.8s						
PPT2	**Papeete2**	28.68	70	*e*LR	LR	16 57 08.4	
	comp=Z,133nm,26.5s						
PPT2				*e*LR	LR	16 57 16.9	
	comp=Z,136nm,26.8s						
PPT	**Papeete**	28.70	70	LR	LR	16 58 57.2	
	comp=Z,19nm,20.2s,baz=86,slow=31						
TOO	**Toolangi**	31.11	247	P	P	16 50 24.9	+2.0
STKA	**Stephens Creek**	34.63	257	P	P	16 50 55.7	+2.0
STKA	**Stephens Creek**	34.63	257	P	P	16 50 55.9	+2.2
	comp=Z,21nm,0.8s,baz=100,slow=11,SNR=57						
STKA				LR	LR	17 02 36.4	
	comp=Z,92nm,19.3s,baz=34,slow=32						
	comp=Z,21nm,0.8s						
INKA	**Innaminka**	36.17	264	P	P	16 51 08.9	+1.9
INKA				IAmb	IAmb	16 51 10.2	
	comp=Z,4.5nm,0.8s						
PMG	**Port Moresby**	38.75	295	LR	LR	17 03 21.9	
	comp=Z,80nm,21.8s,baz=6.5,slow=30						
BBOO	**Buckleboo**	39.12	254	P	P	16 51 32.0	+0.1
BBOO				IAmb	IAmb	16 51 35.2	
	comp=Z,21nm,1.1s						
COEN	**Coen**	39.42	286	P	P	16 51 36.4	+1.9
COEN				IAmb	IAmb	16 51 59.1	
	comp=Z,19nm,1.3s						
TAOE	**Nuku Hiva Isla**	41.16	67	*e*LR	LR	17 02 54.1	
	comp=Z,155nm,30.3s						
AS31	**Alice Springs**	43.27	267	P	P	16 52 06.0	-0.1
AS31				IAmb	IAmb	16 52 07.4	
	comp=Z,3.1nm,0.4s						
ASAR	**Alice Springs**	43.27	267	P	P	16 52 05.8	-0.3
ASAR	**Alice Springs**	43.27	267	P	P	16 52 06.8	+0.7
	comp=Z,3.8nm,0.3s,baz=105,slow=7.3,SNR=222						
ASAR				ScP	ScP	16 57 44.0	+0.5
	comp=Z,0.7nm,0.8s,baz=127,slow=4.3,SNR=5.8						
ASAR				LR	LR	17 09 54.0	
	comp=Z,103nm,18.1s,baz=104,slow=36						
	comp=Z,3.8nm,0.3s						
WR8	**Warramunga Arr**	44.11	272	P	P	16 52 12.9	0.0
WR8				IAmb	IAmb	16 52 15.7	
	comp=Z,8.9nm,0.6s						
WRAB	**Tennant Creek**	44.25	272	P	P	16 52 14.2	+0.2
WRAB				IAmb	IAmb	16 52 16.8	
	comp=Z,9.3nm,0.7s						
WRA	**Warramunga Arr**	44.26	272	P	P	16 52 13.7	-0.4
WRA	**Warramunga Arr**	44.26	272	P	P	16 52 13.9	-0.1
	comp=Z,11nm,0.3s,baz=110,slow=8.1,SNR=121						
	comp=Z,11nm,0.3s						
WB0	**Warramunga Arr**	44.28	272	P	P	16 52 13.9	-0.3
FORT	**Forrest**	46.20	255	P	P	16 52 27.8	-1.5
FORT				IAmb	IAmb	16 52 30.2	
	comp=Z,24nm,1.4s						
SBA	**Scott Base**	48.06	184	P	P	16 52 47.8	+4.7
SBA				IAmb	IAmb	16 52 52.7	
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	48.12	186	P	P	16 52 45.6	+2.0
	comp=Z,0.4nm,0.5s,baz=355,slow=5.7,SNR=8.2						
	comp=Z,0.4nm,0.5s						
MTN	**Manton Dam**	50.14	279	P	P	16 52 59.8	0.0
MTN				IAmb	IAmb	16 53 27.7	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	50.86	274	P	P	16 53 05.1	-0.2
FITZ	**Fitzroy Crossi**	52.52	270	P	P	16 53 17.7	+0.1
FITZ	**Fitzroy Crossi**	52.52	270	P	P	16 53 18.5	+0.8
	comp=Z,3.0nm,0.6s,baz=135,slow=14,SNR=4.2						
	comp=Z,3.0nm,0.6s						
CASY	**Casey**	55.22	208	P	P	16 53 37.0	+0.2
MORW	**Morawa**	56.69	253	P	P	16 53 46.9	-1.0
OSPA	**South Pole Qui**	59.72	180	P	P	16 54 13.3	+4.7
BELA	**Belgrano 2**	69.77	172	P	P	16 55 14.7	+1.0
SYO	**Syowa Base**	77.16	193	⇑*e*P	P	16 55 58.0	+0.7
TROLL	**Troll, Antarti**	77.88	180	⇑P	P	16 56 02.8	+1.3
	comp=Z,137nm,0.4s						
SNAA	**Sanae**	78.16	178	⇑P	P	16 56 03.8	+0.8
	comp=Z,46nm,0.4s						
SNAA	**Sanae**	78.16	178	P	P	16 56 04.3	+1.4
SNAA	**Sanae**	78.16	178	P	P	16 56 04.2	+1.2
	comp=Z,0.5nm,0.4s,baz=200,slow=9.8,SNR=8.0						
	comp=Z,0.5nm,0.4s						
VNA3	**Neumayer Olymp**	78.30	176	⇑P	P	16 56 04.7	+1.0
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	78.33	325	P	P	16 56 04.2	0.0
	comp=Z,0.8nm,0.7s,baz=142,slow=10,SNR=2.3						
	comp=Z,0.8nm,0.7s						
VNA2	**Neumayer--Watz**	78.74	177	⇑P	P	16 56 07.6	+1.5
	comp=Z,11nm,0.7s,baz=168,slow=4.9						
VNA1	**Neumayer--Stat**	78.97	176	⇑P	P	16 56 09.3	+2.0
	comp=Z,7.0nm,0.7s						
H03S2	**Juan Fernandez**	80.34	123	T	T	18 25 28.1	
	baz=238,slow=74,SNR=151						
H03S1	**Juan Fernandez**	80.35	123	T	T	18 25 29.3	
	baz=238,slow=74,SNR=207						
H03S3	**Juan Fernandez**	80.35	123	T	T	18 25 28.2	
	baz=238,slow=74,SNR=152						
H03N3	**Juan Fernandez**	80.53	123	T	T	18 25 42.2	
	baz=241,slow=72,SNR=48						
H03N2	**Juan Fernandez**	80.53	123	T	T	18 25 41.4	
	baz=241,slow=72,SNR=41						
H03N1	**Juan Fernandez**	80.55	123	T	T	18 25 40.9	
	baz=241,slow=72,SNR=57						
PETK	**Petropavlovsk-**	85.84	345	P	P	16 56 43.6	+0.4
	comp=Z,2.6nm,0.7s,baz=175,slow=7.5,SNR=7.8						
	comp=Z,2.6nm,0.7s						
NVAR	**Mina Array Bea**	88.12	43	P	P	16 56 56.1	+1.1
	comp=Z,0.6nm,0.7s,baz=217,slow=7.1,SNR=3.8						
	comp=Z,0.6nm,0.7s						
ELK	**Elko**	91.43	42	LR	LR	17 30 09.5	
	comp=Z,318nm,21.2s,baz=251,slow=30						
SADO	**Sadowa**	116.50	52	PKP	**PKPdf**	17 02 46.7	-0.8
	comp=Z,14nm,0.3s,baz=315,slow=2.9,SNR=1.7						
MKAR	**Makanchi Array**	117.89	310		**PKPdf**	17 02 49.1	-1.1
MKAR	**Makanchi Array**	117.89	310	PKP	**PKPdf**	17 02 49.5	-0.7
	comp=Z,0.5nm,0.6s,baz=105,slow=2.3,SNR=7.8						
MAKZ	**Makanchi**	118.10	310	PKPdf	**PKPdf**	17 02 49.6	-1.1
ZALV	**Zalesovo Beam**	118.13	318	PKP	**PKPdf**	17 02 49.7	-0.7
	comp=Z,0.3nm,0.3s,baz=101,slow=1.5,SNR=2.1						
KURK	**Kurchatov**	121.16	314	PKPdf	**PKPdf**	17 02 55.2	-1.1
KURBB	**Kurchatov Arra**	121.20	314	PKP	**PKPdf**	17 02 55.6	-0.8
	comp=Z,1.9nm,0.7s,baz=110,slow=1.8,SNR=26						
KK31	**Karatay Array**	125.20	304	PKPdf	**PKiKP**	17 03 04.4	-0.4
KKAR	**Karatay Array**	125.20	304	PKPdf	**PKiKP**	17 03 04.3	-0.5
BVAR	**Borovoye Array**	126.51

WR8 IAmb IAmb 17 09 59.1
comp=Z,10nm,1.4s
MKAR Makanchi Array 42.14 319 P P 17 09 42.2 +0.6
comp=Z,1.2nm,0.6s,baz=114,slow=8.8,SNR=11
comp=Z,1.2nm,0.6s
H11S3 WAKE ISLAND Hy 42.25 84 T T 17 55 30.3
baz=279,slow=75,SNR=8.3
H11S1 WAKE ISLAND Hy 42.26 84 T T 17 55 32.5
baz=279,slow=75,SNR=8.7
H11N1 WAKE ISLAND Hy 42.26 82 T T 17 55 28.6
baz=278,slow=75,SNR=27
H11N2 WAKE ISLAND Hy 42.27 82 T T 17 55 30.5
baz=278,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 42.27 84 T T 17 55 30.3
baz=279,slow=75,SNR=7.7
H11N3 WAKE ISLAND Hy 42.28 82 T T 17 55 29.9
baz=278,slow=75,SNR=20
MAKZ Makanchi 42.34 319 P **P 17 09 44.0 +0.9**
MAKZ IAmb IAmb 17 09 58.0
comp=Z,3.1nm,1.1s
ZALV Zalesovo Beam 44.45 329 P **P 17 09 59.8 -0.2**
comp=Z,0.3nm,0.3s,baz=129,slow=7.8,SNR=2.0
comp=Z,0.3nm,0.3s
AS31 Alice Springs 44.60 164 P **P 17 10 01.9 +0.3**
ASAR Alice Springs 44.60 164 P **P 17 10 02.3 +0.7**
comp=Z,1.9nm,0.5s,baz=346,slow=6.8,SNR=53
comp=Z,1.9nm,0.5s
KURK Kurchatov 46.05 323 P **P 17 10 10.9 -1.8**
KURK IAmb IAmb 17 10 14.7
comp=Z,2.7nm,1.1s
KURBB Kurchatov Arra 46.06 323 P **P 17 10 13.8 +0.9**
comp=Z,1.6nm,0.8s,baz=120,slow=7.6,SNR=10
comp=Z,1.6nm,0.8s
GAR Garm 48.27 305 P **P 17 10 31.2 +0.8**
KKAR Karatay Array 48.84 311 P **P 17 10 35.5 +0.8**
CHGR Chuyangaron 49.12 304 P **P 17 10 37.4 +0.5**
AB31 Akbulak array 57.14 316 P **P 17 11 36.7 +1.1**
AB31 IAmb IAmb 17 11 37.4
comp=Z,2.0nm,1.0s
ABKAR Akbulak array 57.14 316 P **P 17 11 36.5 +0.9**
FINES FINESS Array B 75.71 330 P **P 17 13 34.5 +0.4**
comp=Z,1.6nm,0.8s,baz=42,slow=5.9,SNR=4.4
comp=Z,1.6nm,0.8s
HFS Hagfors 81.85 331 P **P 17 14 07.4 -0.5**
comp=Z,1.5nm,0.7s,baz=122,slow=5.4,SNR=5.7
comp=Z,1.5nm,0.7s
NOA NORSAR Array B 82.55 333 P **P 17 14 10.9 -0.6**
comp=Z,0.5nm,0.7s,baz=67,slow=4.6,SNR=1.9
comp=Z,0.5nm,0.7s

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*GCG **30** 17:08:52.7±0.3, 13°.31N×89°.86W, h35km±3km, MD3.9*
*SNET **30** 17:08:52.0±1.0, 13°.24N×89°.79W, h41km±15km, ML3.2*
*CATAC **30** 17:08:52.9±0.6, 13°N±4°×9°0W±°, h16km±3km, M3.3/19, MLv3.3/19, Error ellipse: s-maj=8.3km s-min=4.1km az=21.2, confirmed*
ISC 30 17:08:52.5±2.2, 13°.23N±0°.09×89°.83W±0°.07, h29km±12km, n51, σ0.95/61, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.55**	**63**	*eP*	**Pb**	**17 09 03.1**	**-0.7**
LALI				*eS*	**Sb**	**17 09 11.3**	**-0.2**
LALI	**Alcalda de L**	**0.55**	**63**	P	**Pb**	**17 09 04.0**	**+0.1**
LALI	**Alcalda de L**	**0.55**	**63**	S	**Sb**	**17 09 13.3**	**+1.7**
JAYA	**Jayaque - finc**	**0.56**	**41**	*eP*	**Pb**	**17 09 03.4**	**-0.6**
JAYA				*eS*	**Sb**	**17 09 11.9**	**+0.1**
JAYA				IAML		17 09 13.1	
comp=Z,1μm,0.2s							
JAYA	**Jayaque - finc**	**0.56**	**41**	*i* P	**Pb**	**17 09 03.6**	**-0.4**
JAYA				*eS*	**Sb**	**17 09 12.1**	**+0.3**
JAYA	**Jayaque - finc**	**0.56**	**41**	P	**Pb**	**17 09 03.6**	**-0.4**
CEVE	**Cerro Verde**	**0.62**	**19**	*eP*	**Pb**	**17 09 04.6**	**-0.5**
CEVE				*eS*	**Sb**	**17 09 15.0**	**+1.3**
CEVE				IAML		17 09 17.9	
comp=Z,797nm,0.2s							
CEVE	**Cerro Verde**	**0.62**	**19**	S	**Sb**	**17 09 14.0**	**+0.2**
CEVE	**Cerro Verde**	**0.62**	**19**	P	**Pb**	**17 09 04.9**	**-0.2**
FAME	**Alcaldia de Sa**	**0.63**	**343**	P	**Pb**	**17 09 04.7**	**-0.5**
FAME	**Alcaldia de Sa**	**0.63**	**343**	S	**Sb**	**17 09 13.9**	**+0.2**
SBLS	**San Blas**	**0.63**	**18**	*eP*	**Pb**	**17 09 04.8**	**-0.6**
NUBE	**Las Nubes**	**0.67**	**4**	*eP*	**Pb**	**17 09 05.1**	**-0.6**
NUBE				*eS*	**Sb**	**17 09 14.7**	**-0.1**
NUBE	**Las Nubes**	**0.67**	**4**	*eP*	**Pb**	**17 09 05.2**	**-0.6**
NUBE				*eS*	**Sb**	**17 09 14.9**	**0.0**
NUBE	**Las Nubes**	**0.67**	**4**	P	**Pb**	**17 09 05.2**	**-0.6**
SNJE	**San Jose**	**0.67**	**19**	*eP*	**Pb**	**17 09 05.2**	**-0.6**
SNJE				*eS*	**Sb**	**17 09 15.5**	**+0.6**
RTR	**El Retiro**	**0.68**	**15**	*eP*	**Pb**	**17 09 05.5**	**-0.6**
CEDA	**San Andres**	**0.70**	**37**	S	**Sb**	**17 09 16.5**	**+0.7**
CEDA	**San Andres**	**0.70**	**37**	P	**Pb**	**17 09 06.6**	**+0.2**
BOQS	**Boqueron**	**0.73**	**47**	*eP*	**Pb**	**17 09 05.6**	**-1.3**
PANCS	**Alcalda de**	**0.73**	**59**	*eP*	**Pb**	**17 09 05.0**	**-1.9**
UEES	**Universidad Ev**	**0.75**	**50**	P	**Pb**	**17 09 07.5**	**+0.4**
PIC2	**El Picacho**	**0.75**	**48**	*eP*	**Pb**	**17 09 06.8**	**-0.5**
LOMA	**Loma Larga**	**0.76**	**57**	*eP*	**Pb**	**17 09 06.0**	**-1.4**
LOMA	**Loma Larga**	**0.76**	**57**	P	**Pb**	**17 09 08.3**	**+0.9**
LOAL	**Lomas de Alarc**	**0.76**	**3**	*eP*	**Pb**	**17 09 07.3**	**-0.1**
LOAL				*eS*	**Sb**	**17 09 17.5**	**+0.1**
LOAL	**Lomas de Alarc**	**0.76**	**3**	P	**Pb**	**17 09 07.2**	**-0.1**
UTEC	**Universidad Te**	**0.77**	**53**	P	**Pb**	**17 09 07.9**	**+0.5**
SLOZ	**Alcaldia de Sa**	**0.79**	**3**	P	**Pb**	**17 09 07.8**	**0.0**
IGN	**Direccin Gen**	**0.80**	**53**	P	**Pb**	**17 09 08.6**	**+0.6**
UDBS	**Universidad Do**	**0.81**	**54**	P	**Pb**	**17 09 08.8**	**+0.7**
LFRS	**El Faro**	**0.84**	**62**	*eP*	**Pb**	**17 09 07.1**	**-1.6**
LFU	**La Fuente**	**0.86**	**54**	*eP*	**Pb**	**17 09 07.8**	**-1.2**
RBDL	**Robledal**	**0.88**	**9**	*eP*	**Pb**	**17 09 08.7**	**-0.8**
LBRS	**Las Brisas**	**0.91**	**57**	*eP*	**Pb**	**17 09 08.3**	**-1.6**
LBRS				*eS*	**Sb**	**17 09 20.3**	**-1.4**
PAVA	**Las Pavas**	**0.99**	**61**	*eP*	**Pn**	**17 09 09.2**	**-1.4**
PAVA				*eS*	**Sb**	**17 09 23.3**	**-0.6**
PAVA	**Las Pavas**	**0.99**	**61**	P	**Pn**	**17 09 11.7**	**+1.1**
PAVA	**Las Pavas**	**0.99**	**61**	S	**Sb**	**17 09 25.0**	**+1.0**
TECO	**Alcaldia de Te**	**1.06**	**73**	P	**Pn**	**17 09 13.1**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.17**	**66**	*eP*	**Pn**	**17 09 12.1**	**-0.9**
MTO3	**Montecristo**	**1.24**	**21**	*eP*	**Pn**	**17 09 13.4**	**-0.8**
MTO3	**Montecristo**	**1.24**	**21**	*eP*	**Pn**	**17 09 13.7**	**-0.5**
MTO3	**Montecristo**	**1.24**	**21**	P	**Pn**	**17 09 13.7**	**-0.5**
MTO3	**Montecristo**	**1.24**	**21**	S	**Sn**	**17 09 30.9**	**+0.8**
PQSS	**Presa 15 de Se**	**1.29**	**72**	P	**Pn**	**17 09 15.9**	**+1.3**
TECA	**Tecapa**	**1.32**	**79**	*eP*	**Pn**	**17 09 13.6**	**-1.5**
ESQI	**Esquipulas**	**1.40**	**20**	P	**Pn**	**17 09 16.8**	**+0.6**
PACA	**Pacayal**	**1.48**	**81**	*eP*	**Pn**	**17 09 16.7**	**-0.6**
PACA	**Pacayal**	**1.48**	**81**	P	**Pn**	**17 09 18.7**	**+1.4**
CNCH	**Conchagua**	**1.94**	**89**	*eP*	**Pn**	**17 09 21.9**	**-1.7**
CNCH				IAML		17 09 51.5	
comp=Z,216nm,0.3s							
CSGN	**Cosiguina Volc**	**2.23**	**96**	P	**Pn**	**17 09 29.3**	**+1.8**

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*IDC **30** 17:28:22.9±4.4, 37°.57N×21°.96E, h0km, mb3.6/5, mbtmp3.6/6, ML0.7/1, Error ellipse: s-maj=91.4km s-min=28.9km az=54.0*
*ATH **30** 17:28:23.8, 37°.10N×21°.52E, h20km±1km, ML2.9/26, Manual Solution by A.Plessa First location: 2019/10/30 17:29:24, This location: 2019/10/30 17:42:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **30** 17:28:24.7, 37°N±2°×2°2E±°, h14km±2km, M2.7/24, MLh2.7/24*
ISC 30 17:28:23.6±0.9, 37°.14N±0°.03×21°.55E±0°.03, h26km±6km, n72, σ0.97/83, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL1	**Pylos**	**0.25**	**152**	P	**Pb**	**17 28 29.5**	**-0.5**
PYL1				S	**Sb**	**17 28 33.8**	**-0.5**
PYL2	**Kinigos**	**0.27**	**149**	P	**Pb**	**17 28 29.9**	**-0.5**
PYL2				S	**Sb**	**17 28 34.2**	**-0.7**
ITM	**Ithomi**	**0.30**	**82**	P	**Pb**	**17 28 30.9**	**+0.1**
ITM				S	**Sb**	**17 28 36.3**	**+0.5**
ITM	**Ithomi**	**0.30**	**82**	P	**Pb**	**17 28 30.8**	**0.0**
ITM				S	**Sb**	**17 28 36.3**	**+0.5**
MTHA	**Methoni**	**0.34**	**158**	P	**Pb**	**17 28 31.7**	**+0.4**
MTHA				S	**Sb**	**17 28 36.7**	**+0.2**
ZARO	**Zacharo**	**0.36**	**13**	P	**Pn**	**17 28 32.5**	**-0.5**
ZARO				S	**Sn**	**17 28 38.9**	**-0.4**
AMT	**Artemida-Makis**	**0.41**	**18**	P	**Pb**	**17 28 33.2**	**+0.7**
AMT				S	**Sn**	**17 28 40.3**	**-0.4**
VLX	**Vlachokerasia**	**0.70**	**70**	P	**Pb**	**17 28 37.8**	**+0.5**
VLX				S	**Sn**	**17 28 48.1**	**+0.1**
LTHK	**Lithakia**	**0.80**	**315**	P	**Pn**	**17 28 39.2**	**0.0**
LTHK	**Lithakia**	**0.80**	**315**	P	**Pn**	**17 28 39.2**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.82**	**336**	P	**Pn**	**17 28 40.4**	**+0.9**
DRO	**Drossia**	**0.82**	**9**	P	**Pn**	**17 28 39.8**	**+0.3**
DRO	**Drossia**	**0.82**	**9**	P	**Pn**	**17 28 39.7**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.89**	**320**	P	**Pn**	**17 28 41.3**	**+0.9**
RLS	**Riolos of Patr**	**0.92**	**356**	P	**Pn**	**17 28 41.8**	**+0.9**
RLS	**Riolos of Patr**	**0.92**	**356**	P	**Pn**	**17 28 41.7**	**+0.9**
ORTH	**Orthonies,Zaky**	**0.98**	**317**	P	**Pn**	**17 28 43.0**	**+1.3**
ORTH	**Orthonies,Zaky**	**0.98**	**317**	P	**Pn**	**17 28 42.2**	**+0.5**
GUR	**Goura**	**1.02**	**38**	P	**Pn**	**17 28 43.1**	**+0.8**
GUR	**Goura**	**1.02**	**38**	P	**Pn**	**17 28 42.9**	**+0.6**
KLV	**Kalavryta, Ach**	**1.02**	**28**	P	**Pn**	**17 28 42.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.02**	**28**	P	**Pn**	**17 28 42.8**	**+0.5**
AXS	**Araxos**	**1.06**	**353**	P	**Pb**	**17 28 44.5**	**+1.1**
RTZL	**Ratzakli, Kefa**	**1.12**	**327**	P	**Pb**	**17 28 44.7**	**+0.4**
VLI	**Veliai**	**1.19**	**110**	P	**Pb**	**17 28 45.8**	**+0.3**
VLI	**Veliai**	**1.19**	**110**	P	**Pn**	**17 28 45.1**	**+0.6**
PSDA	**Pessada-Kefalo**	**1.24**	**322**	P	**Pb**	**17 28 46.5**	**+0.2**
PSDA				S	**Sb**	**17 29 04.1**	**+2.2**
PSDA	**Pessada-Kefalo**	**1.24**	**322**	P	**Pb**	**17 28 46.4**	**+0.2**
VLS	**Valsamata**	**1.29**	**324**	P	**Pb**	**17 28 46.9**	**-0.2**
VLS	**Valsamata**	**1.29**	**324**	P	**Pn**	**17 28 46.0**	**+0.1**
TRIZ	**Trizonia**	**1.29**	**19**	P	**Pb**	**17 28 47.4**	**+0.2**
EFP	**Efpalio**	**1.32**	**12**	P	**Pb**	**17 28 48.4**	**+0.7**
SERG	**Sergoula**	**1.33**	**17**	P	**Pb**	**17 28 49.4**	**+1.4**
SERG	**Sergoula**	**1.33**	**17**	P	**Pb**	**17 28 49.0**	**+1.0**
KALE	**Kalithea**	**1.34**	**20**	P	**Pb**	**17 28 49.4**	**+1.4**
KALE	**Kalithea**	**1.34**	**20**	P	**Pb**	**17 28 49.2**	**+1.2**
LTK	**Loutraki**	**1.43**	**51**	P	**Pb**	**17 28 49.6**	**0.0**
LTK	**Loutraki**	**1.43**	**51**	P	**Pb**	**17 28 49.4**	**-0.2**
ANX	**Ano Chora**	**1.48**	**11**	P	**Pb**	**17 28 51.7**	**+1.1**
MET2	**Kameni Chora,**	**1.50**	**71**	P	**Pb**	**17 28 50.1**	**-0.6**
KTHA	**Kythira Island**	**1.50**	**125**	P	**Pb**	**17 28 51.3**	**+0.6**
KTHA	**Kythira Island**	**1.50**	**125**	P	**Pb**	**17 28 50.8**	**0.0**
FSK	**Fiskardo**	**1.53**	**330**	P	**Pb**	**17 28 51.7**	**+0.4**
MET4	**Agioi Theodoro**	**1.55**	**71**	P	**Pb**	**17 28 51.2**	**-0.4**
EVGI	**Lefkada island**	**1.64**	**335**	P	**Pb**	**17 28 53.8**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.71**	**337**	P	**Pb**	**17 28 55.2**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.71**	**337**	P	**Pb**	**17 28 54.4**	**+0.1**
VIL2	**Platees**	**1.73**	**51**	P	**Pn**	**17 28 53.4**	**+1.3**
VILL	**Villia**	**1.73**	**53**	P	**Pb**	**17 28 53.9**	**-0.8**
LKD2	**Lefkada island**	**1.79**	**337**	P	**Pb**	**17 28 56.4**	**+0.7**
AXAR	**Agios Charalam**	**1.85**	**28**	P	**Pb**	**17 28 56.5**	**-0.2**
LKR	**Lokris**	**1.90**	**37**	P	**Pb**	**17 28 56.2**	**-1.3**
ANKY	**Antikythira Is**	**1.90**	**131**	P	**Pn**	**17 28 56.3**	**+2.1**
ANKY				S	**Sb**	**17 29 20.4**	**-0.4**
VLY	**Voula,Athens**	**1.92**	**68**	P	**Pn**	**17 28 56.1**	**+1.5**
VLY	**Voula,Athens**	**1.92**	**68**	P	**Pn**	**17 28 55.9**	**+1.3**
ATAL	**Atalanti**	**1.94**	**36**	P	**Pb**	**17 28 56.8**	**-1.4**
ATAL	**Atalanti**	**1.94**	**36**	P	**Pn**	**17 28 56.3**	**+1.4**
DION	**Dionisos Attik**	**2.11**	**63**	P	**Pn**	**17 28 59.1**	**+1.8**
DION	**Dionisos Attik**	**2.11**	**63**	P	**Pn**	**17 28 57.7**	**+0.5**
TETR	**Tetrakomo, Epi**	**2.21**	**355**	P	**Pb**	**17 29 02.6**	**-0.3**
TETR	**Tetrakomo, Epi**	**2.21**	**355**	P	**Pb**	**17 29 01.4**	**-1.6**
KARY	**Karystos**	**2.46**	**68**	P	**Pn**	**17 29 03.5**	**+1.4**
KYMI	**Kymi, Euboea I**	**2.51**	**53**	P	**Pn**	**17 29 04.3**	**+1.6**
KYMI	**Kymi, Euboea I**	**2.51**	**53**	P	**Pn**	**17 29 04.3**	**+1.6**
AOS	**Alonnisos**	**2.74**	**41**	P	**Pn**	**17 29 07.4**	**+1.6**
APE	**Apeiranthos**	**3.19**	**90**	P	**Pn**	**17 29 12.9**	**+0.9**
IDI	**Anoyia**	**3.27**	**123**	Pn	**Pn**	**17 29 15.6**	**+2.4**
0.4nm,0.3s,baz=206,slow=7.0,SNR=6.1							
IDI				Sn	**Sn**	**17 29 52.7**	**+1.4**
3.2nm,0.3s,baz=252,slow=21,SNR=9.3							
2.5nm,0.6s							
HFS	**Hagfors**	**23.56**	**350**	P	**P**	**17 33 30.9**	**-0.7**
0.8nm,0.4s,baz=163,slow=10,SNR=6.6							
0.8nm,0.4s							
FINES	**FINESS Array B**	**24.50**	**5**	P	**P**	**17 33 39.3**	**-1.0**
1.2nm,0.7s,baz=194,slow=11,SNR=4.2							
1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**42.20**	**53**	P	**P**	**17 36 13.2**	**-0.8**
0.7nm,0.3s,baz=275,slow=8.7,SNR=7.5							
0.7nm,0.3s							
MKAR	**Makanchi Array**	**45.16**	**58**	P	**P**	**17 36 36.8**	**-1.1**
0.2nm,0.3s,baz=270,slow=8.5,SNR=6.0							
0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**45.78**	**47**	P	**P**	**17 36 41.3**	**-1.4**
0.3nm,0.2s,baz=271,slow=7.8,SNR=2.4							
0.3nm,0.2s							

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*BJI **30** 17:28:55.5, 1°.18N×126°.38E, h15km, mB5.4/51, mb4.9/82, Ms4.7/75, MsT 4.6/72*
*IDC **30** 17:28:56.9±0.4, 1°.41N×126°.23E, h0km, mb5.0/31, mbtmp5.0/33, ML4.5/2, MS4.4/46, Error ellipse: s-maj=18.6km s-min=9.6km az=75.0*
*NEIC **30** 17:28:58.9, 1°.38N×126°.39E, h30km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.50; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-1.24; $M_{r\theta}$-0.33; $M_{\theta\phi}$-0.58; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.55000×10^{17} NP1: ϕ_s217.97000°, δ46.15000°, λ108.69000°. NP2: ϕ_s11.94000°, δ46.91000°, λ71.55000°. Principal axes: T 1.5916, Plg77.0000°, Azm207.0000°; N -0.0836, Plg13.0000°, Azm25.0000°; P -1.5079, Plg0.0000°, Azm115.0000°;*
*MOS **30** 17:28:58.8±1.0, 1°.45N×126°.28E, h25km, mb5.5/52 Error ellipse: s-maj=8.1km s-min=4.4km az=115.3*
*NEIC **30** 17:28:58.9, 1°.48N×126°.39E, h30km*
*NEIC **30** 17:29:00.8±2.1, 1°.47N±0°.05×126°.39E±0°.05, h26km±2km, mb5.4/243, Mww5.4/35, Error ellipse: s-maj=7.8km s-min=6.6km az=172.0*
*DJA **30** 17:29:03.4±0.2, 1°N±2°×12°6E±°, h53km±2km, M5.2/108, mb5.3/108, mB5.7/82, MLv5.5/21, Mw(mB)5.2/82, MwMwp5.2/41, Mwp5.4/41*
*GCMT **30** 17:29:03.8±0.1, 1°.46N±0°.01×126°.36E±0°.01, h32km, MW5.4/136, Moment Tensor Solution. s136,c249; s127,c238; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.80±.02; $M_{\theta\theta}$-0.29±.02; $M_{\phi\phi}$-1.51±.02; $M_{r\theta}$-0.17±.03; $M_{\theta\phi}$-0.70±.01; $M_{\phi r}$0.26±.03; Best double couple: $M_0$1.84200×10^{17} NP1:ϕ_s213.00000°, δ43.00000°, λ102.00000°. NP2:ϕ_s16.00000°, δ48.00000°, λ79.00000°. Principal axes: T 1.8460, Plg81.0000°, Azm222.0000°; N -0.0050, Plg8.0000°, Azm24.0000°; P -1.8380, Plg3.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 17:29:00.7±0.5, 1°.45N±0°.03×126°.34E±0°.04, h26km±2km, h26km:pP-P, n926, σ1.67/872, mb5.3/242, MS4.5/83, 49C-20D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**123**		**Pn**	**17 29 21.3**	**-1.0**
TNTI	**Ternate**	**1.23**	**123**	P	**Pn**	**17 29 21.9**	**-0.4**
TNTI	**Ternate**	**1.23**	**123**	P	**Pn**	**17 29 21.3**	**-1.0**
SGSI	**Sangihe**	**2.36**	**340**	P	**Pn**	**17 29 39.2**	**+1.4**
KMSI	**Cibinong**	**2.52**	**250**	P	**Pn**	**17 29 42.4**	**+2.5**
SANI	**Sanana**	**3.50**	**186**	P	**Pn**	**17 29 54.4**	**+0.9**
SANI	**Sanana**	**3.50**	**186**	P	**Pn**	**17 29 53.8**	**+0.3**
LUWI	**Luwuk**	**4.34**	**235**		**Pn**	**17 30 06.2**	**+1.0**
LUWI	**Luwuk**	**4.34**	**235**	P	**Pn**	**17 30 07.7**	**+2.6**
LUWI	**Luwuk**	**4.34**	**235**	P	**Pn**	**17 30 08.0**	**+2.9**
MRSI	**Marisa**	**4.50**	**258**	P	**Pn**	**17 30 09.6**	**+2.3**
NLAI	**Namlea**	**4.72**	**171**	P	**Pn**	**17 30 10.9**	**+0.6**
APSI	**Ampana**	**5.25**	**243**	P	**Pn**	**17 30 21.1**	**+3.6**
MSAI	**Masohi**	**5.42**	**152**	P	**Pn**	**17 30 22.6**	**+2.6**
SWI	**Sorong**	**5.43**	**115**	P	**Pn**	**17 30 20.7**	**+0.6**
1.2nm23μm5μm227nm,0.8s							
AAI	**Ambon**	**5.43**	**160**	P	**Pn**	**17 30 21.3**	**+1.2**
2.1nm13μm6μm601nm,0.9s							
TOLI2	**Tolitoli**	**5.57**	**267**		**Pn**	**17 30 22.8**	**+0.9**
TOLI2	**Tolitoli**	**5.57**	**267**	P	**Pn**	**17 30 23.6**	**+1.7**
DAV	**Davao City (W)**	**5.63**	**352**	Pn	**Pn**	**17 30 23.7**	**+0.9**
DAV	**Davao City (W)**	**5.63**	**352**	P	Pb	17 30 32.0	-6.3
KDI	**Kendari**	**6.54**	**215**	P	**Pn**	**17 30 37.7**	**+2.4**
MPSI	**Mapaga**	**6.54**	**260**	P	**Pn**	**17 30 38.2**	**+2.9**
BNDI	**Bandanaira**	**6.92**	**149**	P	**Pn**	**17 30 42.6**	**+2.0**
BNDI	**Bandanaira**	**6.92**	**149**	P	**Pn**	**17 30 41.5**	**+0.9**
2.8nm15μm10μm450nm,0.7s							
FAKI	**Fak Fak**	**7.33**	**126**		**Pn**	**17 30 47.0**	**+0.8**
FAKI	**Fak Fak**	**7.33**	**126**	P	**Pn**	**17 30 47.8**	**+1.6**
FAKI	**Fak Fak**	**7.33**	**126**	P	**Pn**	**17 30 47.3**	**+1.1**
1.3nm15μm4μm466nm,0.8s							
BBSI	**Bau Bau**	**7.86**	**209**	P	**Pn**	**17 30 57.3**	**+3.9**
RKPI	**Ransiki, Papua**	**8.37**	**111**	P	**Pn**	**17 31 01.6**	**+1.1**
3μm147nm,0.7s							
SPSI	**Sidrap Palu**	**8.49**	**231**	P	**Pn**	**17 31 05.2**	**+3.1**
BNSI	**Bone**	**8.52**	**227**	P	**Pn**	**17 31 05.0**	**+2.5**
6μm5μm471nm,1.1s							
MYLDM	**Lahad Datu**	**8.66**	**296**		**Pn**	**17 31 08.7**	**+4.3**
MYLDM	**Lahad Datu**	**8.66**	**296**	P	**Pn**	**17 31 06.5**	**+2.1**
KMPI	**Kaimana, Papua**	**8.95**	**125**	P	**Pn**	**17 31 09.7**	**+1.3**
14μm8μm486nm,1.1s							
SGKI	**Sangatta, Kali**	**8.95**	**257**	P	**Pn**	**17 31 08.9**	**+0.4**
13μm8μm488nm,1.3s							
BKSI	**Bulukumba**	**9.16**	**223**	P	**Pn**	**17 31 13.8**	**+2.5**
5μm3μm356nm,1.2s							
KAPI	**Kappang**	**9.20**	**226**		**Pn**	**17 31 13.4**	**+1.6**
KAPI	**Kappang**	**9.20**	**226**	Pn	**Pn**	**17 31 15.3**	**+3.5**
19nm,0.3s,baz=34,slow=8.8,SNR=19							
KAPI				Sn	**Sn**	**17 32 56.4**	**+1.8**
3.8nm,0.3s,baz=251,slow=22,SNR=1.4							
KAPI	**Kappang**	**9.20**	**226**	P	**Pn**	**17 31 15.7**	**+3.9**
KAPI				S	**Sn**	**17 32 59.1**	**+4.5**
KAPI	**Kappang**	**9.20**	**226**	P	**Pn**	**17 31 13.1**	**+1.3**
KAPI	**Kappang**	**9.20**	**226**	P	**Pn**	**17 31 13.4**	**+1.6**
KAPI						17 32 56.4	
BSSI	**Bau Bau, Buton**	**9.54**	**218**	P	**Pn**	**17 31 19.3**	**+2.7**
4μm334nm,0.9s							
BKB	**Balikpapan**	**9.82**	**254**		**Pn**	**17 31 22.7**	**+2.3**
BKB	**Balikpapan**	**9.82**	**254**	P	**Pn**	**17 31 23.6**	**+3.2**
11μm6μm404nm,1.9s							
BAKI	**Biak**	**10.11**	**105**	P	**Pn**	**17 31 28.3**	**+3.9**
11μm536nm,2.2s							
EDFI	**Ende, Flores**	**11.14**	**204**	P	**Pn**	**17 31 40.8**	**+2.2**
4μm2μm113nm,1.4s							
SOEI	**Soe**	**11.32**	**190**		Pn	17 31 46.5	+5.4
SOEI	**Soe**	**11.32**	**190**	P	**Pn**	**17 31 42.3**	**+1.2**
SOEI	**Soe**	**11.32**	**190**	P	Pn	17 31 46.8	+5.7
MTKI	**Muara Teweh, K**	**11.69**	**258**	P	**Pn**	**17 31 49.7**	**+3.7**
8μm227nm,1.6s							
BATI	**Baumata**	**11.89**	**193**	Pn	**Pn**	**17 31 52.4**	**+3.7**
8.9nm,0.3s,baz=242,slow=0.8,SNR=16							
BATI	**Baumata**	**11.89**	**193**	P	Pn	17 31 53.6	+4.9
4μm3μm222nm,1.2s							
BBKI	**Banjar Baru**	**12.49**	**247**	P	**Pn**	**17 32 00.8**	**+3.9**
5μm6μm192nm,1.6s							
WSI	**Waingapu**	**12.58**	**208**	P	**Pn**	**17 32 02.0**	**+3.8**
3μm218nm,1.1s							
SMPI	**Sarmi**	**12.83**	**105**	P	**Pn**	**17 32 03.6**	**+2.0**
7μm5μm102nm,1.0s							
WBSI	**Waikabubak, Su**	**13.01**	**212**	P	**Pn**	**17 32 06.9**	**+2.8**
3μm135nm,1.1s							
PLAI	**Plampang**	**13.31**	**220**	P	**Pn**	**17 32 08.9**	**+0.8**
PLAI	**Plampang**	**13.31**	**220**	P	**P**	**17 32 13.5**	**-4.1**
TGY	**Tagaytay City**	**13.66**	**337**	Pn	**Pn**	**17 32 16.8**	**+3.9**
3.6nm,0.3s,baz=237,slow=7.6,SNR=6.0							
TGY				LR	LR	17 37 37.6	
comp=Z,2μm,20.1s,baz=128,slow=38							
TWSI	**Taliwang, Sumb**	**13.83**	**223**	P	**P**	**17 32 20.0**	**-3.4**
SBUM	**Sibu**	**14.15**	**274**		**Pn**	**17 32 20.2**	**+0.6**
SBUM	**Sibu**	**14.15**	**274**	P	**Pn**	**17 32 20.8**	**+1.2**
GENI	**Genyem**	**14.40**	**106**	P	**Pn**	**17 32 23.7**	**+0.7**
6μm4μm232nm,0.8s							
DRS	**Darwin Rock St**	**14.52**	**162**	P	**Pn**	**17 32 26.0**	**+1.3**
SRBI	**Singaraja**	**14.59**	**229**	P	**Pn**	**17 32 27.6**	**+2.0**
4μm3μm271nm,1.7s							
JAY	**Jayapura**	**14.89**	**105**	Pn	**Pn**	**17 32 32.2**	**+2.4**
0.2nm,0.3s,baz=279,slow=14,SNR=4.4							
JAY				LR	LR	17 37 51.5	
comp=Z,3μm,19.7s,baz=282,slow=36							
17nm,0.8s							
JAY	**Jayapura**	**14.89**	**105**

LHSI	**Lahat**	**23.40 257**	P	**P**	**17 34 07.9**	**0.0**
	comp=Z,2μmcomp=Z,75nm,1.2s					
YHNB	**Yeheng**	**23.57 349**	P	**P**	**17 34 09.4**	**-0.1**
YHNB			IAmb	IAmb	17 34 36.1	
	comp=Z,105nm,1.1s					
YHNB	**Yeheng**	**23.57 349**	P	**P**	**17 34 10.3**	**+0.8**
XMI	**Christmas Isla**	**23.71 240**	P	**P**	**17 34 11.7**	**+0.8**
PSA00	**Pilbara Seismi**	**23.75 195**	P	**P**	**17 34 09.6**	**-1.6**
PSA00	**Pilbara Seismi**	**23.75 195**	P	**P**	**17 34 11.6**	**+0.4**
QIZ	**Qiongzhong**	**23.80 318**	P	**P**	**17 34 12.5**	**+0.8**
QIZ			S	**S**	**17 38 28.8**	**+2.8**
QIZ			pmax	pmax		
	comp=Z,100nm,2.3s					
QIZ			LR	LR		
	comp=Z,2μm,21.0s					
QIZ			LR	LR		
	comp=Z,870nm,20.6s					
QIZ			LR	LR		
	comp=Z,2μm,21.6s					
QIZ	**Qiongzhong**	**23.80 318**	IAmb	IAmb	17 34 15.9	
	comp=Z,317nm,1.7s					
QIZ	**Qiongzhong**	**23.80 318**	P	**P**	**17 34 13.0**	**+1.3**
TATO	**Taipei**	**23.85 349**	P	**P**	**17 34 11.6**	**-0.4**
MNAI	**Manna**	**24.07 256**	P	**P**	**17 34 14.7**	**+0.4**
KSI	**Kapahiang**	**24.27 258**	P	**P**	**17 34 17.2**	**+1.0**
	comp=Z,5μmcomp=Z,86nm,1.0s					
MASI	**Maura Aman, Be**	**24.52 259**	P	**P**	**17 34 18.9**	**+0.4**
KRJI	**Kerinci**	**25.12 262**	P	**P**	**17 34 24.3**	**+0.3**
JOW	**Kunigami**	**25.30 4**	P	**P**	**17 34 27.7**	**+2.4**
BKNI	**Bangkinang**	**25.32 268**	P	**P**	**17 34 26.5**	**+0.8**
	comp=Z,2μmcomp=Z,185nm,1.6s					
QIS	**Mount Isa**	**25.45 150**	P	**P**	**17 34 26.7**	**0.0**
IPM	**Ipoh**	**25.45 277**	P	**P**	**17 34 26.2**	**-0.8**
IPM			IAmb	IAmb	17 34 45.5	
	comp=Z,143nm,1.4s					
IPM	**Ipoh**	**25.45 277**	P	**P**	**17 34 28.0**	**+1.1**
KULM	**Kulim**	**25.92 279**	P	**P**	**17 34 30.4**	**-0.8**
KULM			IAmb	IAmb	17 34 54.3	
	comp=Z,193nm,1.4s					
KULM	**Kulim**	**25.92 279**	P	**P**	**17 34 32.0**	**+0.9**
PDSI	**Padang**	**25.98 265**	P	**P**	**17 34 31.6**	**-0.1**
	comp=Z,1μmcomp=Z,71nm,1.0s					
PPI	**Padang Panjang**	**26.01 266**	P	**P**	**17 34 32.1**	**+0.2**
ASAR	**Alice Springs**	**26.03 164**		**P**	**17 34 31.0**	**-1.0**
ASAR	**Alice Springs**	**26.03 164**	P	**P**	**17 34 31.0**	**-1.0**
	comp=Z,40nm,0.6s,baz=345,slow=10,SNR=225					
ASAR			PcP	**PcP**	**17 38 00.8**	**+0.8**
	comp=Z,7.0nm,0.6s,baz=328,slow=2.2,SNR=5.6					
ASAR			S	**S**	**17 39 00.9**	**-0.8**
	comp=Z,5.1nm,0.8s,baz=357,slow=25,SNR=4.9					
	comp=Z,40nm,0.6s					
MTSU	**Mount Surprise**	**26.31 139**	P	**P**	**17 34 35.0**	**+0.4**
RABL	**Rabaul**	**26.41 102**	P	**P**	**17 34 34.7**	**-0.9**
RABL			IAmb	IAmb	17 34 46.7	
	comp=Z,52nm,0.7s					
GIRL	**Giralia**	**26.70 206**	P	**P**	**17 34 38.4**	**+0.3**
GIRL			IAmb	IAmb	17 34 40.2	
	comp=Z,171nm,1.4s					
MNSI	**Mandailing Nat**	**26.76 269**	P	**P**	**17 34 38.5**	**-0.2**
	comp=Z,964nmcomp=Z,53nm,1.0s					
SISI	**Saibi**	**27.39 264**	P	**P**	**17 34 45.7**	**+1.3**
	comp=Z,115nm,0.9s					
RPSI	**Rantau Prapat**	**27.42 273**	IAmb	IAmb	17 34 49.2	
	comp=Z,127nm,1.4s					
GULI	**GuiLin**	**28.27 328**	P	**P**	**17 34 54.8**	**+2.7**
GULI			pmax	pmax		
	comp=Z,25nm,1.5s					
GULI			pmax	pmax		
	comp=Z,160nm,5.4s					
KCSI	**Kotacane, Aceh**	**28.61 275**	P	**P**	**17 34 54.1**	**-1.2**
	comp=Z,25nm,0.8s					
GSI	**Gunungsitoli**	**28.76 270**	IAmb	IAmb	17 34 56.9	
	comp=Z,91nm,1.2s					
GSI	**Gunungsitoli**	**28.76 270**	P	**P**	**17 34 56.3**	**-0.3**
GSI	**Gunungsitoli**	**28.76 270**	P	**P**	**17 34 55.1**	**-1.5**
	comp=Z,75nm,2.0s					
TV1H	**Townsville Har**	**28.77 137**	P	**P**	**17 34 57.6**	**+1.0**
MEEK	**Meekatharra**	**28.91 194**	P	**P**	**17 34 57.4**	**-0.4**
SSE	**Sheshan**	**29.88 351**	P	**P**	**17 35 08.5**	**+2.2**
SSE			S	**S**	**17 40 01.5**	**-0.6**
SSE			pmax	pmax		
	comp=Z,7.0nm,0.7s					
SSE			pmax	pmax		
	comp=Z,110nm,4.4s					
SSE			LR	LR		
	comp=Z,310nm,23.2s					
SSE			LR	LR		
	comp=Z,230nm,23.2s					
WHN	**Wuhan**	**31.09 340**	P	**P**	**17 35 20.0**	**+3.0**
WHN			S	**S**	**17 40 22.0**	**+1.0**
WHN			pmax	pmax		
	comp=Z,120nm,1.3s					
WHN			LR	LR		
	comp=Z,780nm,4.2s					
WHN			LR	LR		
	comp=Z,1μm,3.7s					
WHN			LR	LR		
	comp=Z,4μm,18.5s					
GYA	**Guiyang**	**31.24 324**	⇑P	**P**	**17 35 20.5**	**+1.9**
GYA			pP	sP	17 35 30.3	+1.5
GYA			S	**S**	**17 40 21.0**	**-2.8**
GYA			ScS	**ScS**	**17 45 52.5**	**+0.4**
GYA			pmax	pmax		
	comp=Z,30nm,0.9s					
GYA			LR	LR		
	comp=Z,840nm,19.2s					
GYA			LR	LR		
	comp=Z,770nm,16.2s					
GYA			LR	LR		
	comp=Z,1μm,17.9s					
NJ2	**Nanjing**	**31.24 348**	⇑P	**P**	**17 35 20.8**	**+2.5**
NJ2			S	**S**	**17 40 25.8**	**+2.4**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,360nm,4.4s					
NJ2			LR	LR		
	comp=Z,340nm,12.3s					
NJ2			LR	LR		
	comp=Z,460nm,14.2s					
NJ2			LR	LR		
	comp=Z,520nm,17.6s					
CM31	**Chiang Mai Arr**	**31.75 304**	P	**P**	**17 35 23.1**	**+0.1**
	SNR=5.7					
CM31			P	**P**	**17 35 23.1**	**+0.1**
	SNR=5.7					
CMAR	**Chiang Mai Arr**	**31.75 304**	P	**P**	**17 35 22.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.75 304**	P	**P**	**17 35 23.4**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=130,slow=7.3,SNR=27					
CMAR			PcP	**PcP**	**17 38 15.3**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=160,slow=1.4,SNR=5.2					
CMAR			ScP	**ScP**	**17 41 57.9**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=153,slow=2.4,SNR=4.4					
CMAR			LR	LR	17 49 20.3	
	comp=Z,870nm,19.5s,baz=120,slow=39					
	comp=Z,3.1nm,0.8s					
JNU	**Nakatsue**	**31.79 7**	IAmb	IAmb	17 35 30.6	
	comp=Z,33nm,0.9s					
JNU	**Nakatsue**	**31.79 7**	LR	LR	17 46 56.6	
	comp=Z,350nm,21.7s,baz=174,slow=34					
JNU	**Nakatsue**	**31.79 7**	P	**P**	**17 35 24.3**	**+1.1**
MORW	**Morawa**	**31.91 197**	IAmb	IAmb	17 35 29.1	
	comp=Z,63nm,1.1s					
MORW	**Morawa**	**31.91 197**	P	**P**	**17 35 24.0**	**-0.3**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**17 35 24.1**	**-0.4**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**17 35 24.9**	**+0.3**
CHTO			P	**P**	**17 35 24.9**	**+0.3**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**17 35 24.8**	**+0.3**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**17 35 24.1**	**-0.4**
CHTO			pmax	pmax		
	comp=Z,15nm,0.7s					
FORT	**Forrest**	**32.10 177**	IAmb	IAmb	17 35 35.9	
	comp=Z,42nm,0.8s					
KMI	**Kunming**	**32.75 318**	P	**P**	**17 35 32.8**	**+0.8**
KMI			S	**S**	**17 40 52.5**	**+4.9**
KMI			pmax	pmax		
	comp=Z,42nm,1.3s					
KMI			LR	LR		
	comp=Z,1μm,18.9s					
KMI			LR	LR		
	comp=Z,890nm,19.9s					
KMI			LR	LR		
	comp=Z,2μm,21.0s					
ENH	**Enshi**	**32.82 332**	IAmb	IAmb	17 35 40.7	
	comp=Z,53nm,0.8s					
ENH	**Enshi**	**32.82 332**	P	**P**	**17 35 33.6**	**+1.3**

JMN	**Monobe**	**32.88 12**	P	**P**	**17 35 31.8**	**-0.9**
JMN			IAmb	IAmb	17 35 39.5	
	comp=Z,78nm,1.4s					
JMN	**Monobe**	**32.88 12**	P	**P**	**17 35 34.4**	**+1.7**
JTU	**Tsushima**	**33.02 5**	P	**P**	**17 35 36.2**	**+2.2**
BLDU	**Ballidu**	**33.18 195**	P	**P**	**17 35 35.7**	**+0.3**
JHJ	**Hachijo jima 2**	**33.94 20**	LR	LR	17 47 58.1	
	comp=Z,420nm,20.9s,baz=191,slow=34					
PZH	**PanZhiHua**	**34.34 319**	P	**P**	**17 35 46.3**	**+0.6**
PZH			S	**S**	**17 41 04.0**	**-8.0**
PZH			pmax	pmax		
	comp=Z,30nm,1.3s					
PZH			pmax	pmax		
	comp=Z,140nm,4.8s					
PZH			LR	LR		
	comp=Z,970nm,19.6s					
PZH			LR	LR		
	comp=Z,820nm,18.4s					
PZH			LR	LR		
	comp=Z,530nm,19.0s					
MUN	**Mundaring**	**34.61 195**	P	**P**	**17 35 48.2**	**+0.4**
INU	**Inuyama**	**35.16 15**	P	**P**	**17 35 51.9**	**-0.6**
INU			IAmb	IAmb	17 36 02.7	
	comp=Z,56nm,1.1s					
HNR	**Honiara**	**35.18 109**	P	**P**	**17 35 51.7**	**-1.2**
HNR	**Honiara**	**35.18 109**	LR	LR	17 50 01.7	
	comp=Z,829nm,21.3s,baz=296,slow=36					
HNR	**Honiara**	**35.18 109**	P	**P**	**17 35 53.8**	**+0.9**
HNR	**Honiara**	**35.18 109**	P	**P**	**17 35 51.7**	**-1.2**
HNR			pmax	pmax		
	comp=Z,84nm,0.9s					
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**17 35 53.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**17 35 53.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**17 35 53.5**	**+0.1**
BBOO	**Buckleboo**	**35.30 166**	P	**P**	**17 35 52.9**	**-0.8**
LYN	**LuoYang**	**35.38 340**	P	**P**	**17 35 57.3**	**+2.9**
LYN			SS	SS	17 43 46.0	-16
LYN			pmax	pmax		
	comp=Z,40nm,0.9s					
LYN			pmax	pmax		
	comp=Z,190nm,6.5s					
LYN			LR	LR		
	comp=Z,700nm,19.6s					
LYN			LR	LR		
	comp=Z,1μm,21.6s					
LYN			LR	LR		
	comp=Z,2μm,23.4s					
JGF	**Kuroka**	**35.48 16**	P	**P**	**17 35 56.6**	**+1.2**
TIA	**Tai'an**	**35.62 347**	P	**P**	**17 35 56.5**	**0.0**
TIA			S	**S**	**17 41 25.0**	**-6.3**
TIA			pmax	pmax		
	comp=Z,13nm,1.3s					
TIA			LR	LR		
	comp=Z,540nm,24.0s					
TIA			LR	LR		
	comp=Z,520nm,20.1s					
TIA			LR	LR		
	comp=Z,980nm,24.0s					
TNCH	**TengChong**	**35.64 313**	P	**P**	**17 35 57.0**	**0.0**
TNCH			pP	pP	17 36 00.0	-4.3
TNCH			sP	sP	17 36 04.0	-3.3
TNCH			S	**S**	**17 41 27.8**	**-4.4**
TNCH			pmax	pmax		
	comp=Z,82nm,1.7s					
TNCH			LR	LR		
	comp=Z,780nm,14.7s					
TNCH			LR	LR		
	comp=Z,590nm,20.3s					
TNCH			LR	LR		
	comp=Z,1μm,20.3s					
KSAR	**Wonju Array Be**	**35.84 2**	P	**P**	**17 35 57.9**	**-0.4**
KSAR	**Wonju Array Be**	**35.84 2**	P	**P**	**17 35 57.9**	**-0.4**
EIDS	**Eidsvold**	**35.84 140**	P	**P**	**17 35 56.8**	**-1.8**
EIDS			IAmb	IAmb	17 35 59.4	
	comp=Z,39nm,1.1s					
EIDS	**Eidsvold**	**35.84 140**	P	**P**	**17 35 59.0**	**+0.5**
KSRS	**Korea Array**	**35.85 2**	P	**P**	**17 35 59.9**	**+1.5**
	comp=Z,3.7nm,0.6s,baz=186,slow=9.8,SNR=18					
KSRS			PcP	**PcP**	**17 38 27.5**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=193,slow=2.6,SNR=5.8					
	comp=Z,3.7nm,0.6s					
WHYH	**Whyalla**	**35.91 164**	P	**P**	**17 35 58.7**	**-0.2**
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**17 36 00.0**	**-1.2**
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**17 36 00.9**	**-0.3**
	comp=Z,44nm,0.7s,baz=329,slow=8.5,SNR=81					
	comp=Z,44nm,0.7s					
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**17 36 00.7**	**-0.5**
CD2	**Chengdu**	**36.27 326**	P	**P**	**17 36 00.8**	**-1.4**
CD2			pP	pP	17 36 05.5	-4.0
CD2			S	**S**	**17 41 44.0**	**+2.5**
CD2			pmax	pmax		
	comp=Z,100nm,1.1s					
CD2			pmax	pmax		
	comp=Z,210nm,5.7s					
CD2			LR	LR		
	comp=Z,1μm,15.7s					
CD2			LR	LR		
	comp=Z,2μm,17.1s					
CD2			LR	LR		
	comp=Z,1μm,19.2s					
XAN	**Xi'an**	**36.28 335**	P	**P**	**17 36 02.0**	**-0.2**
XAN			pP	sP	17 36 13.8	+1.3
XAN			S	**S**	**17 41 40.3**	**-1.2**
XAN			pmax	pmax		
	comp=Z,47nm,0.7s					
XAN			pmax	pmax		
	comp=Z,290nm,4.0s					
XAN			LR	LR		
	comp=Z,960nm,15.3s					
XAN			LR	LR		
	comp=Z,630nm,17.0s					
XAN			LR	LR		
	comp=Z,1μm,16.8s					
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**17 36 03.2**	**-1.7**
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**17 36 06.0**	**+1.1**
MAJO	**Matsushiro**	**36.60 16**	*d iP*	**P**	**17 36 04.8**	**-0.1**
MAJO			pmax	pmax		
	comp=Z,20nm,0.9s					
MJAR	**Matsushiro Arr**	**36.60 16**	P	**P**	**17 36 02.5**	**-2.4**
MJAR	**Matsushiro Arr**	**36.60 16**	P	**P**	**17 36 04.5**	**-0.3**
	comp=Z,11nm,0.7s,baz=183,slow=9.4,SNR=32					
MJAR			PcP	**PcP**	**17 38 29.1**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=154,slow=2.9,SNR=4.2					
	comp=Z,11nm,0.7s					
HTT	**Hallett**	**36.67 162**	P	**P**	**17 36 06.2**	**+0.7**
HNS	**HongShan**	**37.34 345**	⇓P	**P**	**17 36 12.0**	**+0.9**
HNS			S	**S**	**17 41 53.3**	**-4.2**
HNS			pmax	pmax		
	comp=Z,18nm,1.0s					
HNS			LR	LR		
	comp=Z,790nm,18.8s					
HNS			LR	LR		
	comp=Z,530nm,18.2s					
HNS			LR	LR		
	comp=Z,1μm,23.5s					
DL2	**Dalian**	**37.52 354**	P	**P**	**17 36 13.5**	**+0.9**
DL2			S	**S**	**17 42 00.5**	**+0.3**
DL2			pmax	pmax		
	comp=Z,130nm,0.7s					
DL2			pmax	pmax		
	comp=Z,240nm,8.0s					
DL2			LR	LR		
	comp=Z,690nm,19.6s					
DL2			LR	LR		
	comp=Z,570nm,17.8s					
DL2			LR	LR		
	comp=Z,1μm,18.6s					
CMSA	**Cobar Meteorol**	**37.60 152**	P	**P**	**17 36 13.6**	**+0.2**
JMM	**Marumori**	**38.60 18**	IAmb	IAmb	17 36 28.4	
	comp=Z,122nm,1.1s					
JMM	**Marumori**	**38.60 18**	P	**P**	**17 36 22.8**	**+1.1**
IMP	**Imphal**	**38.97 309**	*e*P	P	17 36 15.0	-10
IMP			IAmb	IAmb	17 36 28.4	
	comp=Z,29nm,0.2s					
IMP			*e*S	**S**	**17 42 14.5**	**-8.1**
KOHI	**KOHIMA**	**39.31 311**	*e*P	P	17 36 16.6	-11
KOHI			IAmb	IAmb	17 36 30.9	
	comp=Z,42nm,1.6s					
KOHI			*e*S	**S**	**17 42 20.0**	**-8.0**
BJI	**Beijing**	**39.51 348**	P	**P**	**17 36 31.0**	**+1.7**
BJI			pP	**pP**	**17 36 33.5**	**-3.1**
BJI			sP	**sP**	**17 36 35.5**	**-4.0**
BJI			S	**S**	**17 42 26.3**	**-3.8**
BJI			pmax	pmax		
	comp=Z,12nm,0.8s					

BJI			pmax	pmax		
	comp=Z,120nm,3.5s					
BJI			LR	LR		
	comp=Z,310nm,22.7s					
BRDH	**Bariadhala**	**39.76 305**	LR	LR	17 54 24.7	
	comp=Z,1μm,20.8s,baz=131,slow=38					
ARMA	**Armidale**	**39.82 145**	IAmb	IAmb	17 36 34.3	
	comp=Z,60nm,0.9s					
ARMA	**Armidale**	**39.82 145**	P	**P**	**17 36 32.5**	**+0.3**
LZDM	**Lanzhou Array**	**40.24 331**	P	**P**	**17 36 36.8**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=149,slow=17,SNR=4.5					
LZDM			PcP	**PcP**	**17 38 40.6**	**+1.0**
	comp=Z,4.3nm,0.4s,baz=131,slow=4.0,SNR=2.5					
	comp=Z,1.6nm,0.3s					
SNY	**Shenyang**	**40.27 357**	⇓P	**P**	**17 36 36.8**	**+1.2**
SNY			S	**S**	**17 42 39.5**	**-2.0**
SNY			pmax	pmax		
	comp=Z,41nm,1.0s					
SNY			pmax	pmax		
	comp=Z,220nm,5.8s					
SNY			LR	LR		
	comp=Z,560nm,23.9s					
SNY			LR	LR		
	comp=Z,460nm,19.7s					
SNY			LR	LR		
	comp=Z,450nm,24.5s					
LZH	**Lanzhou**	**40.28 331**	*e*P	**P**	**17 36 37.5**	**+1.5**
LZH			pP	pP	17 36 43.8	+0.5
LZH			S	**S**	**17 42 36.5**	**-5.7**
LZH			pmax	pmax		
	comp=Z,80nm,1.2s					
LZH			pmax	pmax		
	comp=Z,370nm,5.1s					
LZH			LR	LR		
	comp=Z,880nm,13.7s					
LZH			LR	LR		
	comp=Z,780nm,14.4s					
LZH			LR	LR		
	comp=Z,1μm,13.7s					
ZIRO	**ZIRO**	**40.50 313**	*e*P	P	17 36 27.0	-11
ZIRO			IAmb	IAmb	17 36 41.6	
	comp=Z,52nm,0.5s					
TEZP	**TEZPUR**	**40.79 311**	*e*P	P	17 36 29.3	-11
TEZP			IAmb	IAmb	17 36 43.7	
	comp=Z,152nm,1.9s					
TEZP			*e*S	S	17 42 40.1	-10
SHL	**Shillong**	**40.95 309**	P	**P**	**17 36 40.4**	**-1.3**
SHL			IAmb	IAmb	17 36 42.3	
	comp=Z,61nm,0.6s					
SHL	**Shillong**	**40.95 309**	P	**P**	**17 36 41.2**	**-0.5**
	SNR=16					
SHL	**Shillong**	**40.95 309**	*e*P	P	17 36 29.3	-12
SHL			IAmb	IAmb	17 36 42.3	
	comp=Z,47nm,0.7s					
SHL	**Shillong**	**40.95 309**	P	**P**	**17 36 40.4**	**-1.3**
SHL			pmax	pmax		
	comp=Z,61nm,0.6s					
MGBR	**Mount Gambier**	**41.15 163**	P	**P**	**17 36 42.8**	**-0.1**
MGBR			IAmb	IAmb	17 37 38.6	
	comp=Z,100nm,1.4s					
MSHR	**Mys Shultsa**	**41.17 5**	*ceP*	**P**	**17 36 44.8**	**+1.8**
MSHR			pmax	pmax		
	comp=Z,26nm,0.7s					
JTM	**Tenmabayashi**	**41.36 17**	P	**P**	**17 36 44.8**	**+0.2**
JTM			IAmb	IAmb	17 37 02.5	
	comp=Z,109nm,1.2s					
JTM	**Tenmabayashi**	**41.36 17**	P	**P**	**17 36 46.7**	**+2.1**
HHC	**Hu-ho-hao-te**	**41.44 343**	*e*P	**P**	**17 36 48.3**	**+2.9**
HHC			S	**S**	**17 43 01.0**	**+1.9**
HHC			sS	pS	17 43 08.5	+0.9
HHC			pmax	pmax		
	comp=Z,16nm,0.7s					
HHC			pmax	pmax		
	comp=Z,260nm,4.8s					
HHC			LR	LR		
	comp=Z,530nm,21.9s					
HHC			LR	LR		
	comp=Z,250nm,21.9s					
HHC			LR	LR		
	comp=Z,880nm,21.0s					
BTO	**Baotou**	**41.69 341**	*e*P	**P**	**17 36 52.0**	**+4.6**
BTO			PP	**PP**	**17 38 25.8**	**+1.7**
BTO			S	**S**	**17 43 09.3**	**+6.4**
BTO			pmax	pmax		
	comp=Z,13nm,0.6s					
BTO			pmax	pmax		
	comp=Z,370nm,4.8s					
BTO			LR	LR		
	comp=Z,1μm,18.3s					
BTO			LR	LR		
	comp=Z,2μm,19.4s					
BTO			LR	LR		
	comp=Z,1μm,20.2s					
VLA	**Vladivostok**	**41.78 6**	*i* P	**P**	**17 36 47.5**	**-0.5**
VLA			pmax	pmax		
	comp=Z,56nm,1.1s					
TAWA	**Tawang**	**42.01 311**	*e*P	P	17 36 40.3	-10
TAWA			IAmb	IAmb	17 36 52.9	
	comp=Z,37nm,0.7s					
TAWA			*e*S	S	17 42 57.9	-11
RIV	**Riverview**	**42.16 149**	P	**P**	**17 36 51.8**	**+0.6**
CN2	**Changchun**	**42.17 359**	*e*P	**P**	**17 36 52.8**	**+1.6**
CN2			*e*S	**S**	**17 43 10.8**	**+1.1**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,5.0s					
CN2			LR	LR		
	comp=Z,200nm,13.0s					
CN2			LR	LR		
	comp=Z,200nm,13.0s					
CN2			LR	LR		
	comp=Z,400nm,14.0s					
CAN	**Canberra**	**42.28 152**	P	**P**	**17 36 51.6**	**-0.7**
CAN			IAmb	IAmb	17 36 55.3	
	comp=Z,34nm,0.6s					
CAN	**Canberra**	**42.28 152**	P	**P**	**17 36 52.9**	**+0.6**
CAN	**Canberra**	**42.28 152**	P	**P**	**17 36 51.6**	**-0.7**
CAN			pmax	pmax		
	comp=Z,34nm,0.6s					
CNB	**Canberra Magne**	**42.45 152**	P	**P**	**17 36 54.1**	**+0.4**
TOO	**Toolangi**	**42.69 157**	P	**P**	**17 36 55.6**	**0.0**
TOO	**Toolangi**	**42.69 157**	P	**P**	**17 36 55.6**	**0.0**
TOO			pmax	pmax		
	comp=Z,40nm,1.8s					
USRK	**Ussuriysk Ar.**	**42.86 6**	P	**P**	**17 36 58.1**	**+1.3**
	comp=Z,18nm,0.8s,baz=194,slow=6.6,SNR=22					
	comp=Z,18nm,0.8s					
MDJ	**Mudanjiang**	**43.08 3**	P	**P**	**17 36 59.5**	**+0.9**
MDJ			S	**S**	**17 43 28.8**	**+5.8**
MDJ			sS	sS	17 43 37.0	+1.9
MDJ			pmax	pmax		
	comp=Z,12nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,350nm,5.3s					
MDJ			LR	LR		
	comp=Z,470nm,18.2s					
MDJ			LR	LR		
	comp=Z,220nm,17.6s					
MDJ			LR	LR		
	comp=Z,780nm,23.9s					
XLT	**XiLinHaoTe**	**43.24 349**	*e*P	**P**	**17 37 00.8**	**+0.8**
XLT			S	**S**	**17 43 26.8**	**+1.2**
XLT			SS	**SS**	**17 46 32.8**	**-6.6**
XLT			ScS	**ScS**	**17 46 55.3**	**-3.5**
XLT			pmax	pmax		
	comp=Z,15nm,1.1s					
XLT			pmax	pmax		
	comp=Z,320nm,5.2s					
XLT			LR	LR		
	comp=Z,360nm,21.3s					
XLT			LR	LR		
	comp=Z,470nm,21.4s					
LSA	**Lhasa**	**43.68 313**	P	**P**	**17 37 01.0**	**-3.2**
LSA			pmax	pmax		
	comp=Z,25nm,0.7s					
LSA	**Lhasa**	**43.68 313**	IAmb	IAmb	17 37 09.4	
	comp=Z,193nm,1.8s					
LSA	**Lhasa**	**43.68 313**	P	**P**	**17 37 04.7**	**+0.5**
BNX	**BinXian**	**44.11 1**	⇓P	**P**	**17 37 07.0**	**+0.1**
BNX			pP	**sP**	**17 37 16.5**	**-0.7**
BNX			S	**S**	**17 43 37.8**	**-0.3**
BNX			pmax	pmax		
	comp=Z,10.0nm,1.3s					
BNX			pmax	pmax		
	comp=Z,190nm,3.9s					

BNX LR LR
comp=Z,470nm,20.1s
BNX LR LR
comp=Z,340nm,19.7s
BNX LR LR
comp=Z,630nm,20.7s
TEY Ternei 44.34 10⇑ *e*P **P 17 37 09.8 +1.1**
TEY *e* 17 43 34.4
TEY *e* 17 47 09.6
TEY pmax pmax
comp=N,10.0nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.7s
GTA Gaotai 44.86 331 *e*P **P 17 37 13.5 +0.4**
GTA PcP **PcP 17 38 56.3 +1.6**
GTA ScS ScS 17 47 09.5 +0.2
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA LR LR
comp=Z,470nm,19.6s
GTA LR LR
comp=Z,700nm,19.3s
GTA LR LR
comp=Z,1μm,20.0s
ASAJ Asahikawa 44.87 17 LR LR 18 01 10.4
comp=Z,312nm,18.1s,baz=164,slow=43
ASAJ Asahikawa 44.87 17 P **P 17 37 13.6 +0.6**
ASAJ pmax pmax
comp=Z,38nm,0.9s
JKA Kamikawa-asahi 44.87 17 P **P 17 37 13.6 +0.7**
JKA IAmb IAmb 17 37 58.6
comp=Z,38nm,0.9s
GOMU GeErMu 45.24 323 P **P 17 37 17.5 +0.9**
GOMU pP pP 17 37 21.0 -2.9
GOMU sP sP 17 37 23.8 -3.1
GOMU LR LR
comp=Z,500nm,17.0s
GOMU LR LR
comp=Z,300nm,17.5s
PALK Pallekele 45.84 279 P **P 17 37 20.3 -1.0**
PALK IAmb IAmb 17 37 41.5
comp=Z,104nm,1.9s
PALK Pallekele 45.84 279 LR LR 17 58 28.5
comp=Z,966nm,20.3s,baz=101,slow=39
PALK Pallekele 45.84 279 P **P 17 37 21.4 +0.1**
PALK Pallekele 45.84 279 P **P 17 37 20.3 -1.0**
PALK pmax pmax
comp=Z,105nm,1.9s
EVN Everest 46.06 309 P **P 17 37 22.1 -1.4**
EVN IAmb IAmb 17 37 27.9
comp=Z,41nm,1.0s
GLAD Gladstone 46.62 157 P **P 17 37 27.0 +0.2**
PINNC Pines Island, 46.66 123 P **P 17 37 28.0 +0.6**
MARNC Mare, Loyalty 46.68 122 P **P 17 37 28.5 +0.9**
COROnation Par 46.70 158 P **P 17 37 28.2 +0.8**
YSS Yuzhno-Sakhali 47.53 15 P **P 17 37 34.4 +0.6**
YSS Yuzhno-Sakhali 47.53 15 P **P 17 37 35.7 +1.9**
YSS Yuzhno-Sakhali 47.53 15 *e*P **P 17 37 34.0 +0.2**
YSS *e**SP **pP 17 37 40.8 -0.4**
YSS *e* 17 39 19.5
YSS *e*S **S 17 44 26.0 -1.2**
YSS pmax pmax
comp=Z,300nm,3.4s
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,500nm,16.0s
KUR Kuril'sk 47.55 21 *i*P **P 17 37 33.2 -0.8**
KUR pmax pmax
comp=Z,340nm,1.5s
MOO Moorlands 47.58 159 P **P 17 37 35.0 +0.7**
TAU Tasmania Unive 48.03 159 P **P 17 37 38.7 +0.9**
HILR Hailar Array B 48.25 354 P **P 17 37 41.4 +1.9**
comp=Z,17nm,0.5s,baz=186,slow=9.3,SNR=17
comp=Z,17nm,0.5s
HEH HeiHe 48.63 1 *e*P **P 17 37 42.5 +0.2**
HEH pP **pP 17 37 46.8 -2.9**
HEH S **S 17 44 44.5 +1.8**
HEH sS **pS 17 44 52.5 +1.0**
HEH pmax pmax
comp=Z,42nm,1.0s
HEH pmax pmax
comp=Z,380nm,7.3s
HEH LR LR
comp=Z,440nm,19.5s
HEH LR LR
comp=Z,290nm,19.8s
HEH LR LR
comp=Z,820nm,21.2s
SALM Salem 48.81 284 *e*P P 17 37 33.8 -10
SALM IAmb IAmb 17 37 57.3
comp=Z,312nm,3.7s
ULN Ulaanbaatar 49.16 343 P **P 17 37 46.4 -0.2**
ULN Ulaanbaatar 49.16 343 P **P 17 37 47.4 +0.8**
ULN Ulaanbaatar 49.16 343*ce*P **P 17 37 47.1 +0.5**
ULN pmax pmax
comp=Z,24nm,1.3s
SONM Songino Array 49.33 342 P **P 17 37 47.1 -0.7**
SONM Songino Array 49.33 342 P **P 17 37 48.0 +0.2**
comp=Z,8.9nm,0.6s,baz=161,slow=7.6,SNR=32
SONM PcP **PcP 17 39 11.5 +1.2**
comp=Z,2.7nm,0.6s,baz=159,slow=3.7,SNR=1.3
SONM LR LR 18 02 37.8
comp=Z,293nm,18.1s,baz=155,slow=41
comp=Z,8.9nm,0.6s
HYB Hyderabad 49.55 292 *e*P **P 17 37 49.2 -0.7**
HYB IVmB_BB 17 37 52.5
comp=Z,930nm,2.2s
HYB *e*PcP **PcP 17 39 10.7 -0.9**
HYB *e*S **S 17 44 56.9 +0.1**
HYB *e*pS **pS 17 45 05.6 +0.2**
HYB IVMs_BB IVMs_BB 17 51 58.5
comp=Z,619nm,3.7s
GRNR Gornyy 49.88 8⇓ *i*P **P 17 37 52.4 +0.6**
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,200nm,21.0s
GRNR MLR MLR
comp=N,210nm,17.0s
GRNR MLR MLR
comp=Z,280nm,18.0s
CIT Chita 51.52 350 *e*P **P 17 38 05.2 +0.9**
CIT *e* 17 38 14.0
CIT *e* 17 38 20.6
CIT *e* 17 39 22.6
CIT *e* 17 39 57.6
CIT pmax pmax
comp=Z,219nm,1.7s
ZEA Zeya 52.12 1 *e*P **P 17 38 09.1 +0.5**
ZEA *e* 17 45 38.9
ZEA pmax pmax
comp=Z,100nm,5.9s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,200nm,21.0s
ZEA MLR MLR
comp=N,300nm,22.0s
ZEA MLR MLR
comp=Z,300nm,22.0s
ZAK Zakamensk 52.54 342 *e*P **P 17 38 10.8 -1.2**
ZAK pmax pmax
comp=Z,15nm,1.9s
KAAM Kaadhehdhoo 53.34 270 P **P 17 38 19.0 +0.5**
TLY Talaya 53.56 343 P **P 17 38 19.4 +0.1**
TLY Talaya 53.56 343 P **P 17 38 20.2 +0.8**
TLY P **P 17 38 20.2 +0.8**
TLY Talaya 53.56 343 *i*P **P 17 38 19.8 +0.4**
TLY pmax pmax
comp=Z,13nm,0.9s
IRK Irkutsk 53.88 343 *e*P **P 17 38 20.0 -1.7**
IRK pmax pmax
comp=Z,66nm,2.4s
MSVF Nonsavu 54.36 113 P **P 17 38 26.8 +1.0**
MSVF Nonsavu 54.36 113 *i*P **P 17 38 25.6 -0.2**
WMQ Urumqi 54.37 326 *e*P **P 17 38 28.0 +2.5**
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,190nm,3.8s
WMQ LR LR
comp=Z,500nm,20.7s
WMQ LR LR
comp=Z,780nm,19.1s
WMQ LR LR
comp=Z,630nm,22.5s
MOY Mondy 54.38 341 *e*P **P 17 38 26.8 +1.3**
MOY pmax pmax
comp=Z,72nm,3.0s
KNGR Kungurtug, Tuv 54.72 338 *i*P **P 17 38 28.4 +0.4**
BOD Bodaibo 57.05 352 *e*P **P 17 38 45.0 +0.7**
BOD pmax pmax
comp=Z,56nm,1.3s
PEA0B Petropavlovsk- 57.67 22 *i*P **P 17 38 48.6 -0.3**
PETK Petropavlovsk- 57.67 22 P **P 17 38 48.1 -0.8**
PETK Petropavlovsk- 57.67 22 P **P 17 38 50.0 +1.1**
comp=Z,25nm,0.9s,baz=166,slow=6.6,SNR=25
comp=Z,25nm,0.9s
PETK Petropavlovsk- 57.67 22 P **P 17 38 50.0 +1.1**
PET Petropavlovsk 57.97 22 *e*P **P 17 38 53.0 +2.1**
PET *e*S **S 17 46 52.1 +2.6**
PET pmax pmax
comp=Z,200nm,12.5s
PET MLR MLR
comp=Z,200nm,19.0s
ZSN Zaisan 58.21 328 *e*P **P 17 38 52.1 -0.7**
comp=Z,6.2nm,0.8s
ZSN Zaisan 58.21 328 *e*P **P 17 38 52.9 +0.1**
ZSN pmax pmax
comp=Z,6.0nm,0.8s
DGZ Jazzator, Alta 58.38 331 *i*P **P 17 38 54.5 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 58.85 321 *e*P **P 17 38 55.5 -2.0**
comp=Z,13nm,0.8s
SHLS Shalkode 58.85 321 *e*P **P 17 38 55.5 -2.0**
SHLS pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 59.02 309 P **P 17 38 58.3 -0.4**
NIL Nilore 59.02 309 P **P 17 38 58.3 -0.4**
NIL pmax pmax
comp=Z,123nm,1.7s
JCZ Jackson Bay 59.05 145 P **P 17 38 58.9 +0.1**
UZB Uzynbulak 59.12 321 *e*P **P 17 38 59.3 -0.1**
comp=Z,4.2nm,0.6s
UZB Uzynbulak 59.12 321 *e*P **P 17 38 59.3 -0.1**
UZB pmax pmax
comp=Z,4.0nm,0.6s
TARG Taragay, Kyrgy 59.19 319 IAmb IAmb 17 39 06.9
comp=Z,54nm,1.5s
MK31 Makanchi Array 59.20 326*ce*P **P 17 38 59.6 -0.1**
MKAR Makanchi Array 59.20 326 P **P 17 38 58.9 -0.8**
MKAR Makanchi Array 59.20 326 P **P 17 38 59.4 -0.3**
comp=Z,20nm,0.4s,baz=119,slow=7.7,SNR=184
MKAR LR LR 18 05 07.0
comp=Z,1000nm,20.6s,baz=114,slow=37
comp=Z,20nm,0.4s
KSH Kashi 59.39 316 P **P 17 39 04.3 +3.0**
KSH pmax pmax
comp=Z,22nm,1.3s
KSH LR LR
comp=Z,360nm,17.9s
KSH LR LR
comp=Z,360nm,17.2s
KSH LR LR
comp=Z,630nm,20.6s
MAKZ Makanchi 59.39 326 P **P 17 38 59.9 -1.1**
MAKZ IAmb IAmb 17 39 05.0
comp=Z,43nm,0.9s
MAKZ Makanchi 59.39 326 P **P 17 39 00.6 -0.4**
QRZ Quartz Range 59.42 140 P **P 17 39 01.8 +0.5**
SATY Saty 59.47 321 *e*P **P 17 39 01.5 -0.2**
SATY Saty 59.47 321 *e*P **P 17 39 01.5 -0.2**
KDJ Kajisay 59.79 319 P **P 17 39 03.5 -0.6**
KDJ IAmb IAmb 17 39 08.9
comp=Z,38nm,0.9s
KDJ Kajisay 59.79 319 P **P 17 39 03.5 -0.6**
KDJ pmax pmax
comp=Z,38nm,0.9s
TOZ Tahuroa Road 59.80 136 P **P 17 39 03.8 -0.2**
TOZ IAmb IAmb 17 39 37.3
comp=Z,29nm,1.1s
LBZ Lake Benmore 60.04 145 P **P 17 39 04.5 -1.0**
RPZ Rata Peaks 60.15 144 LR LR 18 05 46.1
comp=Z,521nm,21.8s,baz=314,slow=37
MDOK Medeo 60.38 320 *e*P **P 17 39 07.8 -0.2**
MDOK Medeo 60.38 320 *e*P **P 17 39 07.8 -0.2**
TNSS Tian-Shan 60.38 320 *e*P **P 17 39 07.9 -0.5**
TNSS Tian-Shan 60.38 320 *e*P **P 17 39 07.9 -0.5**
ULHL Ulahol 60.46 319 P **P 17 39 08.7 0.0**
SNR=18
TDK Taldyqorghan 60.47 323 *e*P **P 17 39 08.3 -0.1**
TDK Taldyqorghan 60.47 323 *e*P **P 17 39 08.3 -0.1**
YAK Yakutsk 60.48 2 P **P 17 39 08.0 -0.2**
YAK Yakutsk 60.48 2 LR LR 18 06 24.8
comp=Z,272nm,21.9s,baz=182,slow=37
YAK Yakutsk 60.48 2 P **P 17 39 08.8 +0.7**
AAA Alma-Ata 60.49 320 *e*P **P 17 39 08.5 -0.2**
AAA Alma-Ata 60.49 320 *e*P **P 17 39 08.5 -0.2**
TUWZ Tuamarina 60.64 140 P **P 17 39 08.2 -1.4**
BOOM Boomskoye usch 60.77 319 IAmb IAmb 17 39 16.1
comp=Z,48nm,1.4s
KHZ Kahutara 60.92 142 P **P 17 39 11.9 +0.4**
MA2 Magadan 60.99 14 P **P 17 39 11.9 +0.2**
MA2 IAmb IAmb 17 39 19.0
comp=Z,40nm,0.9s
MA2 Magadan 60.99 14 P **P 17 39 12.9 +1.2**
MA2 Magadan 60.99 14*ce*P **P 17 39 12.2 +0.5**
MA2 pmax pmax
comp=Z,29nm,0.8s
URZ Urewera 61.17 136 LR LR 18 08 28.5
comp=Z,284nm,18.2s,baz=318,slow=39
URZ Urewera 61.17 136 P **P 17 39 14.1 +0.8**
BKZ Black Stump Fm 61.18 137 P **P 17 39 13.1 -0.3**
BKZ IAmb IAmb 17 39 36.8
comp=Z,44nm,1.1s
BKZ Black Stump Fm 61.18 137 P **P 17 39 14.2 +0.8**
TKM2 Tokmak 2 61.20 320 P **P 17 39 13.4 -0.3**
SNR=30
RTZ Ruatahuna 61.25 136 P **P 17 39 12.1 -1.8**
KBK Karagaybulak 61.50 319 P **P 17 39 16.7 +1.0**
SNR=13
UCH Uchtor 61.59 318 P **P 17 39 16.9 +0.2**
SNR=44
BFZ Birch Farm 61.75 139 P **P 17 39 17.7 +0.5**
AAK Ala-Archa 61.79 319 P **P 17 39 17.2 -0.5**
AAK Ala-Archa 61.79 319 P **P 17 39 17.4 -0.2**
comp=Z,8.0nm,0.8s,baz=131,slow=4.6,SNR=14
comp=Z,8.0nm,0.8s
AAK Ala-Archa 61.79 319 P **P 17 39 19.2 +1.5**
AAK P **P 17 39 19.2 +1.5**
AAK Ala-Archa 61.79 319 P **P 17 39 19.7 +2.1**
SNR=13
AAK Ala-Archa 61.79 319*ce*P **P 17 39 18.9 +1.3**
AAK pmax pmax
comp=Z,48nm,2.5s
SGDS Sogindy 62.07 320 *e*P **P 17 39 19.2 -0.2**
comp=Z,5.0nm,1.0s
USP Ospenovka 62.07 319 P **P 17 39 18.9 -0.5**
SNR=35
ARSB Arslanbob 62.23 317 IAmb IAmb 17 39 25.9
comp=Z,35nm,1.1s
EKS2 Erkin-Say 62.27 319 P **P 17 39 21.0 +0.2**
SNR=20
ZAA0 Zalesovo Array 62.44 334 IAmb IAmb 17 39 25.6
comp=Z,47nm,1.6s
ZALV Zalesovo Beam 62.44 334 P **P 17 39 19.9 -1.6**
ZALV Zalesovo Beam 62.44 334 P **P 17 39 20.7 -0.8**
comp=Z,8.4nm,0.4s,baz=107,slow=6.1,SNR=41
ZALV LR LR 18 08 00.1
comp=Z,317nm,19.7s,baz=134,slow=38
ZALV PKP2bc **P'P'bc 18 08 33.2 -1.4**
comp=Z,0.3nm,0.4s,baz=343,slow=4.5,SNR=3.6
comp=Z,8.4nm,0.4s
KBL Kabul 62.61 309 P **P 17 39 22.3 -1.0**
KBL Kabul 62.61 309 P **P 17 39 23.5 +0.2**
SNR=20
KBL P **P 17 39 23.5 +0.2**
SNR=20
KBL Kabul 62.61 309 P **P 17 39 22.3 -1.0**
KBL pmax pmax
comp=Z,33nm,0.6s
KURBB Kurchatov Arra 63.44 328 P **P 17 39 27.9 -0.4**
comp=Z,29nm,0.5s,baz=128,slow=6.2,SNR=257
KURBB PKP2bc **P'P'bc 18 08 29.9 -2.4**
comp=Z,0.4nm,0.4s,baz=292,slow=3.2,SNR=5.6
comp=Z,29nm,0.5s
KURK Kurchatov 63.45 328 P **P 17 39 27.7 -0.6**
KURK Kurchatov 63.45 328 P **P 17 39 28.0 -0.3**
KURK P **P 17 39 28.0 -0.3**
KURK Kurchatov 63.45 328*ce*P **P 17 39 28.0 -0.3**
KURK pmax pmax
comp=Z,62nm,0.7s
DZA Taraz 64.00 318 *e*P **P 17 39 32.0 -0.2**
comp=Z,8.4nm,0.8s
DZA Taraz 64.00 318 *e*P **P 17 39 32.0 -0.2**
DZA pmax pmax
comp=Z,8.0nm,0.8s
SEY Seymchan 64.32 13 LR LR 18 10 03.5
comp=Z,98nm,19.2s,baz=209,slow=38
SEY Seymchan 64.32 13*ce*P **P 17 39 35.1 +1.3**
SEY pmax pmax
comp=Z,7.0nm,0.6s
IUG Iuzhnay 64.58 317 *e*P **P 17 39 35.8 -0.3**
IUG Iuzhnay 64.58 317 *e*P **P 17 39 35.8 -0.3**
SHEM Shemya Is, Ala 64.61 30 LR LR 18 05 51.0
comp=Z,154nm,20.5s,baz=260,slow=34
KK31 Karatay Array 64.63 318 IAmb IAmb 17 39 41.2
comp=Z,78nm,1.6s
KKAR Karatay Array 64.63 318 P **P 17 39 35.1 -1.2**
KKAR Karatay Array 64.63 318 P **P 17 39 35.1 -1.2**
CHM Chimkent 64.94 317 *e*P **P 17 39 38.3 -0.1**
comp=Z,13nm,1.1s
CHM Chimkent 64.94 317 *e*P **P 17 39 38.2 -0.1**
CHM pmax pmax
comp=Z,13nm,1.1s
HRA Herat 67.95 307 IAmb IAmb 17 40 02.6
comp=Z,67nm,1.9s
BVAR Borovoye Array 69.01 328 P **P 17 40 04.1 +0.1**
comp=Z,9.2nm,0.5s,baz=126,slow=7.3,SNR=28
BVAR LR LR 18 11 10.9
comp=Z,385nm,20.6s,baz=130,slow=37
comp=Z,9.2nm,0.5s
BORK Borovoye 69.06 328*ce*P **P 17 40 03.8 -0.5**
BORK pmax pmax
comp=Z,39nm,1.3s
MHTO MHTO 69.31 292 P **P 17 40 04.9 -1.5**
TIXI Tiksi 70.11 1 P **P 17 40 09.1 -1.2**
TIXI IAmb IAmb 17 40 18.8
comp=Z,70nm,1.6s
TIXI Tiksi 70.11 1 LR LR 18 09 38.9
comp=Z,246nm,22.0s,baz=200,slow=35
TIXI Tiksi 70.11 1 P **P 17 40 10.1 -0.3**
ARQ Araqi 70.92 294 P **P 17 40 15.8 -0.5**
ARQ P **P 17 40 15.8 -0.5**
SOHO SOHO 71.00 295 P **P 17 40 18.2 +1.4**
SHAO Shalim 71.22 288 P **P 17 40 17.0 -1.2**
ASHO Ashiyiah 71.50 295 P **P 17 40 20.2 +0.4**
ASHO P **P 17 40 20.2 +0.4**
ALNE Al Ain 71.70 295 P **P 17 40 20.3 -0.7**
ALNE P **P 17 40 20.3 -0.7**
BILL Bilibino 71.84 15*d i*P **P 17 40 23.8 +2.8**
BILL pmax pmax
comp=Z,15nm,1.5s
BILL MLR MLR
comp=Z,201nm,24.0s
DMTO DMTO 71.84 288 P **P 17 40 22.0 0.0**
AB31 Akbulak array 73.66 321 IAmb IAmb 17 40 36.5
comp=Z,58nm,1.6s
ABKAR Akbulak array 73.66 321 P **P 17 40 31.2 -1.0**
NIKH Nikolski High 73.89 35 P **P 17 40 34.0 +0.6**
baz=250
SPIA Saint Paul Isl 74.64 30 P **P 17 40 38.1 +0.4**
baz=248
P08K Saint George I 74.79 31 P **P 17 40 39.4 +0.9**
baz=249
AKTO Aktyubinsk 75.20 322 LR LR 18 15 19.4
comp=Z,518nm,21.2s,baz=101,slow=37
UNV Unalaska Valle 75.51 34 P **P 17 40 43.9 +1.2**
baz=252
RAR Rarotonga 75.53 112 LR LR 18 11 47.2
comp=Z,84nm,21.9s,baz=262,slow=34
SVE Sverdlovsk 75.69 329*de*P **P 17 40 43.7 0.0**
SVE pmax pmax
comp=Z,91nm,1.2s
GAMB Gambell 76.62 24 P **P 17 40 50.1 +1.2**
baz=245
ARTI Arti 76.72 328 P **P 17 40 48.3 -1.3**
ARTI IAmb IAmb 17 40 53.1
comp=Z,32nm,0.8s
ARTI Arti 76.72 328 LR LR 18 15 54.6
comp=Z,311nm,21.2s,baz=106,slow=37
ARTI Arti 76.72 328*c i*P **P 17 40 49.2 -0.5**
ARTI S **S 17 50 35.7 +0.7**
ARTI pmax pmax
comp=Z,53nm,1.4s
FALS False Pass 77.53 34 P **P 17 40 55.3 +1.1**
baz=254
M11K Mekoryuk 77.75 28 P **P 17 40 56.3 +1.0**
baz=251
S12K Black Hills 78.50 33 P **P 17 41 00.5 +0.9**
baz=255
TNA Tin City 78.82 23 P **P 17 41 02.6 +1.5**
baz=248
K13K Kusilvak Mount 78.95 27 IAmb IAmb 17 41 07.7
comp=Z,31nm,1.1s
K13K Kusilvak Mount 78.95 27 P **P 17 41 03.5 +1.6**
baz=252
M13K Dall Lake 79.10 28 P **P 17 41 04.2 +1.5**
baz=253
SDPT Sand Point 79.29 34 P **P 17 41 05.3 +1.4**
SDPT Sand Point 79.29 34 P **P 17 41 05.0 +1.2**
baz=257
F14K Arctic Creek 79.41 23 P **P 17 41 06.2 +1.8**
baz=250
ANM Nome 79.49 24 P **P 17 41 06.1 +1.3**
baz=251
J14K Nanvaranak Lak 79.69 26 P **P 17 41 07.3 +1.4**
baz=253
N14K Kuskokwak Cree 79.77 29 P **P 17 41 07.5 +1.1**
baz=255
O14K Tigyukauivet M 79.81 30 P **P 17 41 07.7 +1.0**
baz=255
M14K Bethel 79.86 28 IAmb IAmb 17 41 14.8
comp=Z,60nm,1.2s
M14K Bethel 79.86 28 P **P 17 41 08.4 +1.6**
baz=254
S14K Fog Glacier 80.00 33 P **P 17 41 08.7 +0.8**
baz=257
F15K North Star Dit 80.15 23 P **P 17 41 09.8 +1.4**
baz=251
G15K Niukluk 80.17 24 P **P 17 41 09.3 +0.9**
baz=252
ABPO Ambohimpanom 80.18 251 P **P 17 41 09.0 -0.7**
ABPO IAmb IAmb 17 41 19.1
comp=Z,39nm,1.4s
ABPO Ambohimpanom 80.18 251 P **P 17 41 09.0 -0.7**
ABPO pmax pmax
comp=Z,39nm,1.4s
L15K Ungalak Mounta 80.32 27 P **P 17 41 10.5 +1.1**
baz=255
M15K Kasigluk River 80.45 28 P **P 17 41 11.1 +1.0**
baz=256
K15K Wolf Creek Mou 80.47 27 IAmb IAmb 17 41 18.0
comp=Z,28nm,0.9s
K15K Wolf Creek Mou 80.47 27 P **P 17 41 11.8 +1.6**
baz=255
AKT Akhty 80.50 312 *e*P **P 17 41 10.6 -0.4**
AKT *e* 17 41 16.3
AKT *e* 17 44 15.3
AKT *e*S **S 17 51 18.8 +2.5**
AKT pmax pmax
comp=Z,42nm,1.4s
O15K Ungalikthiuk R 80.51 30 P **P 17 41 11.7 +1.2**
baz=257
N15K Kwethluk River 80.61 29 IAmb IAmb 17 41 17.2
comp=Z,63nm,1.3s
N15K Kwethluk River 80.61 29 P **P 17 41 12.4 +1.4**
baz=256
C16K Lisburne Hills 80.74 21 P **P 17 41 13.2 +1.8**
baz=250
H16K Elim 80.80 24 P **P 17 41 13.0 +1.2**
baz=254
MAK Makhachkala 80.84 313*c i*P **P 17 41 08.7 -3.8**
MAK *e* 17 44 11.4
MAK *e*S **S 17 51 16.2 -3.2**
MAK *e*SS **SS 17 56 36.2 +2.8**
MAK *e*SS **PKKPbc 17 59 55.6 +3.0**

MAK				pmax	pmax		
	comp=Z,121nm,1.3s						
MAK				MLR	MLR		
	comp=Z,211nm,17.0s						
VOI	**Vohitsoka**	**80.84**	**248**	P	**P**	**17 41 12.9**	**-0.3**
G16K	**Koyuk River**	**80.97**	**24**	P	**P**	**17 41 14.0**	**+1.3**
	baz=253						
RAYN	**Ar Rayn**	**81.02**	**293**	P	**P**	**17 41 12.9**	**-1.1**
RAYN	**Ar Rayn**	**81.02**	**293**	P	**P**	**17 41 13.8**	**-0.2**
J16K	**Anvik River**	**81.13**	**26**	IAmb	IAmb	17 41 21.6	
	comp=Z,38nm,1.0s						
J16K	**Anvik River**	**81.13**	**26**	P	**P**	**17 41 15.7**	**+2.0**
	baz=255						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**17 41 13.6**	**-0.3**
VNDA				IAmb	IAmb	17 41 18.2	
	comp=Z,31nm,1.1s						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**17 41 13.7**	**-0.3**
	comp=Z,20nm,0.8s,baz=318,slow=6.4,SNR=61						
VNDA				LR	LR	18 18 11.9	
	comp=Z,150nm,19.6s,baz=343,slow=36						
	comp=Z,20nm,0.8s						
I17K	**Unalakleet**	**81.25**	**25**	P	**P**	**17 41 15.8**	**+1.6**
	baz=255						
L16K	**Owhat River**	**81.26**	**28**	IAmb	IAmb	17 41 21.8	
	comp=Z,30nm,1.0s						
L16K	**Owhat River**	**81.26**	**28**	P	**P**	**17 41 15.6**	**+1.2**
	baz=257						
N16K	**Nishlik Lake**	**81.32**	**29**	P	**P**	**17 41 16.2**	**+1.5**
	baz=257						
M16K	**Timber Creek**	**81.35**	**28**	IAmb	IAmb	17 41 22.4	
	comp=Z,31nm,1.0s						
M16K	**Timber Creek**	**81.35**	**28**	P	**P**	**17 41 16.2**	**+1.3**
	baz=257						
D17K	**Noatak River**	**81.36**	**21**	P	**P**	**17 41 16.2**	**+1.4**
	baz=252						
P16K	**Nushagak River**	**81.40**	**30**	P	**P**	**17 41 16.3**	**+1.1**
	baz=258						
O16K	**Kokwok River B**	**81.46**	**30**	IAmb	IAmb	17 41 23.4	
	comp=Z,37nm,1.2s						
O16K	**Kokwok River B**	**81.46**	**30**	P	**P**	**17 41 16.8**	**+1.3**
	baz=258						
MAW	**Mawson**	**81.50**	**200**	P	**P**	**17 41 15.7**	**+0.2**
	comp=Z,11nm,0.9s,baz=66,slow=6.5,SNR=8.4						
MAW				LR	LR	18 15 59.4	
	comp=Z,116nm,19.4s,baz=70,slow=35						
	comp=Z,11nm,0.9s						
RDOG	**Red Dog Mine**	**81.53**	**21**	P	**P**	**17 41 17.4**	**+1.7**
	baz=252						
C17K	**DeLong Mountai**	**81.57**	**21**	P	**P**	**17 41 17.5**	**+1.6**
	baz=252						
E17K	**Hotham Inlet**	**81.65**	**22**	P	**P**	**17 41 18.0**	**+1.7**
	baz=254						
G17K	**Kiwalik Mounta**	**81.68**	**24**	P	**P**	**17 41 18.2**	**+1.7**
	baz=255						
F17K	**Baldwin Pennin**	**81.69**	**23**	P	**P**	**17 41 18.4**	**+1.9**
	baz=254						
J17K	**VABM Dome**	**81.83**	**26**	IAmb	IAmb	17 41 24.0	
	comp=Z,50nm,1.3s						
J17K	**VABM Dome**	**81.83**	**26**	P	**P**	**17 41 19.1**	**+1.7**
	baz=257						
H17K	**Granite Mounta**	**81.84**	**24**	IAmb	IAmb	17 41 20.5	
	comp=Z,88nm,1.6s						
H17K	**Granite Mounta**	**81.84**	**24**	P	**P**	**17 41 19.1**	**+1.7**
	baz=256						
KIRV	**Kirov**	**81.96**	**329**	*ce*P	**P**	**17 41 18.7**	**+0.6**
BELG	**Belogornoye**	**81.96**	**323**	LR	LR	18 21 57.3	
	comp=Z,385nm,19.5s,baz=95,slow=39						
BELG	**Belogornoye**	**81.96**	**323**	*i* P	**P**	**17 41 18.5**	**+0.2**
BELG				pmax	pmax		
	comp=Z,21nm,1.4s						
R17L	**Mt. Peulik Vol**	**81.98**	**32**	P	**P**	**17 41 18.9**	**+0.6**
	baz=260						
PLK4	**Peulik 4**	**81.98**	**32**	IAmb	IAmb	17 41 49.9	
	comp=Z,38nm,1.1s						
O17K	**Koliganek Bris**	**82.00**	**30**	P	**P**	**17 41 19.6**	**+1.3**
	baz=259						
Q16K	**King Salmon**	**82.02**	**31**	P	**P**	**17 41 19.8**	**+1.4**
	baz=260						
K17K	**Iditarod**	**82.02**	**27**	P	**P**	**17 41 20.2**	**+1.8**
	baz=258						
CHIR	**Chirikof Islan**	**82.08**	**34**	P	**P**	**17 41 20.1**	**+1.2**
CHIR	**Chirikof Islan**	**82.08**	**34**	P	**P**	**17 41 20.2**	**+1.4**
	baz=261						
N17K	**Nushagak Hills**	**82.09**	**29**	P	**P**	**17 41 20.8**	**+2.0**
	baz=259						
M17K	**Holitna River**	**82.15**	**28**	IAmb	IAmb	17 41 26.0	
	comp=Z,32nm,1.1s						
M17K	**Holitna River**	**82.15**	**28**	P	**P**	**17 41 21.0**	**+1.9**
	baz=258						
SBA	**Scott Base**	**82.15**	**172**	P	**P**	**17 41 19.1**	**+0.3**
SBA	**Scott Base**	**82.15**	**172**	P	**P**	**17 41 19.1**	**+0.3**
SBA				pmax	pmax		
	comp=Z,20nm,0.9s						
E18K	**Tukpahlearik C**	**82.20**	**22**	IAmb	IAmb	17 41 27.1	
	comp=Z,42nm,0.9s						
E18K	**Tukpahlearik C**	**82.20**	**22**	P	**P**	**17 41 20.8**	**+1.6**
	baz=255						
B18K	**Kokolik River**	**82.31**	**20**	P	**P**	**17 41 21.6**	**+1.9**
	baz=253						
C18K	**Utukok River**	**82.31**	**21**	P	**P**	**17 41 21.5**	**+1.5**
	baz=254						
Q17K	**Contact Creek**	**82.34**	**31**	P	**P**	**17 41 20.9**	**+0.6**
	baz=260						
F18K	**Selawik**	**82.35**	**23**	P	**P**	**17 41 21.4**	**+1.4**
	baz=256						
H18K	**Honhosa River**	**82.53**	**24**	P	**P**	**17 41 22.5**	**+1.4**
	baz=257,SNR=5.7						
G18K	**Tagagawik**	**82.58**	**24**	P	**P**	**17 41 22.4**	**+1.2**
	baz=257,SNR=8.1						
GNI	**Garni**	**82.64**	**310**	P	**P**	**17 41 21.5**	**-0.8**
GNI				IAmb	IAmb	17 41 48.3	
	comp=Z,36nm,1.1s						
GNI	**Garni**	**82.64**	**310**	*ce*P	**P**	**17 41 22.9**	**+0.6**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
L18K	**Granite Mounta**	**82.66**	**27**	IAmb	IAmb	17 41 30.0	
	comp=Z,33nm,0.8s						
L18K	**Granite Mounta**	**82.66**	**27**	P	**P**	**17 41 23.4**	**+1.6**
	baz=259						
N18K	**Kilae Creek**	**82.75**	**29**	IAmb	IAmb	17 41 29.0	
	comp=Z,63nm,1.8s						
N18K	**Kilae Creek**	**82.75**	**29**	P	**P**	**17 41 23.9**	**+1.6**
	baz=260						
Q18K	**Katmai Hardscr**	**82.86**	**31**	P	**P**	**17 41 24.2**	**+1.2**
	baz=261						
P18K	**Big Mountain,**	**82.86**	**30**	P	**P**	**17 41 24.0**	**+1.1**
	baz=261						
J18K	**Innoko River**	**82.88**	**26**	IAmb	IAmb	17 41 30.1	
	comp=Z,29nm,0.8s						
J18K	**Innoko River**	**82.88**	**26**	P	**P**	**17 41 24.0**	**+1.1**
	baz=259						
M18K	**Stony River**	**82.92**	**28**	P	**P**	**17 41 24.5**	**+1.3**
	baz=260						
O18K	**Koktuh Hills**	**82.95**	**30**	P	**P**	**17 41 24.6**	**+1.2**
	baz=261						
R18K	**Karluk**	**82.99**	**32**	IAmb	IAmb	17 41 29.6	
	comp=Z,29nm,1.3s						
R18K	**Karluk**	**82.99**	**32**	P	**P**	**17 41 24.4**	**+0.9**
	baz=262						
SII	**Sitkinak Islan**	**82.99**	**33**	P	**P**	**17 41 24.9**	**+1.3**
SII	**Sitkinak Islan**	**82.99**	**33**	P	**P**	**17 41 25.2**	**+1.6**
	baz=262						
C19K	**Lookout Ridge**	**83.00**	**20**	P	**P**	**17 41 25.4**	**+1.9**
	baz=256						
GCSA	**Galena City Sc**	**83.06**	**25**	P	**P**	**17 41 25.1**	**+1.4**
	baz=258,SNR=16						
F19K	**Shaleruckik Mo**	**83.13**	**23**	IAmb	IAmb	17 42 04.1	
	comp=Z,36nm,1.1s						
F19K	**Shaleruckik Mo**	**83.13**	**23**	P	**P**	**17 41 25.2**	**+1.2**
	baz=257						
ATD	**Arta Tunnel**	**83.34**	**281**	IAmb	IAmb	17 41 30.9	
	comp=Z,29nm,1.0s						
ATD	**Arta Tunnel**	**83.34**	**281**	P	**P**	**17 41 28.0**	**+1.7**
	SNR=7.8						
D19K	**Kuna River**	**83.37**	**21**	P	**P**	**17 41 26.9**	**+1.6**
	baz=257						
H19K	**Roundabout Mou**	**83.39**	**24**	P	**P**	**17 41 27.1**	**+1.7**
	baz=259,SNR=31						
O19K	**Port Alsworth**	**83.44**	**30**	P	**P**	**17 41 26.8**	**+1.0**
	baz=261						
N19K	**Bonanza Creek**	**83.46**	**29**	P	**P**	**17 41 27.5**	**+1.4**
	baz=261						
J19K	**Poorman**	**83.46**	**26**	IAmb	IAmb	17 41 34.0	
	comp=Z,46nm,1.0s						
J19K	**Poorman**	**83.46**	**26**	P	**P**	**17 41 27.3**	**+1.5**
	baz=260						
E19K	**Redstone River**	**83.47**	**22**	P	**P**	**17 41 27.4**	**+1.6**
	baz=258						
L19K	**White Mountain**	**83.50**	**28**	P	**P**	**17 41 27.5**	**+1.4**
	baz=261						
OHAK	**Old Harbor**	**83.56**	**33**	IAmb	IAmb	17 41 46.5	
	comp=Z,73nm,1.6s						
OHAK	**Old Harbor**	**83.56**	**33**	P	**P**	**17 41 27.4**	**+0.9**
OHAK	**Old Harbor**	**83.56**	**33**	P	**P**	**17 41 27.6**	**+1.1**
	baz=263						
P19K	**Oil Pt**	**83.91**	**30**	P	**P**	**17 41 29.0**	**+0.7**
	baz=262						
D20K	**Etivluk River**	**83.96**	**21**	P	**P**	**17 41 29.8**	**+1.4**
	baz=258						
F20K	**Avaraart Lake**	**83.97**	**23**	P	**P**	**17 41 29.8**	**+1.5**
	baz=259						
L20K	**Farewell, AK**	**83.99**	**27**	P	**P**	**17 41 29.9**	**+1.2**
	baz=262						
ILSW	**Iliamna Southw**	**84.00**	**30**	IAmb	IAmb	17 42 01.7	
	comp=Z,44nm,1.4s						
KDAK	**Kodiak Island**	**84.01**	**32**	P	**P**	**17 41 28.1**	**-0.7**
KDAK				IAmb	IAmb	17 41 35.8	
	comp=Z,29nm,0.9s						
KDAK	**Kodiak Island**	**84.01**	**32**	LR	LR	18 13 43.4	
	comp=Z,191nm,21.8s,baz=249,slow=32						
KDAK	**Kodiak Island**	**84.01**	**32**	P	**P**	**17 41 28.1**	**-0.7**
KDAK				pmax	pmax		
	comp=Z,29nm,0.9s						
KDAK	**Kodiak Island**	**84.01**	**32**	P	**P**	**17 41 30.0**	**+1.2**
	baz=263						
E20K	**Nigu River**	**84.02**	**21**	P	**P**	**17 41 30.1**	**+1.3**
	baz=259						
H20K	**Anotleneega Mo**	**84.03**	**24**	P	**P**	**17 41 30.2**	**+1.4**
	baz=260,SNR=11						
B20K	**Meade River**	**84.03**	**20**	P	**P**	**17 41 30.8**	**+2.1**
	baz=258						
K20K	**Telida**	**84.03**	**26**	IAmb	IAmb	17 41 37.2	
	comp=Z,49nm,1.4s						
K20K	**Telida**	**84.03**	**26**	P	**P**	**17 41 30.5**	**+1.6**
	baz=261						
I20K	**Naagheedeneel**	**84.08**	**25**	P	**P**	**17 41 30.7**	**+1.7**
	baz=261						
J20K	**Nowinta River**	**84.13**	**26**	IAmb	IAmb	17 41 37.5	
	comp=Z,27nm,1.1s						
J20K	**Nowinta River**	**84.13**	**26**	P	**P**	**17 41 30.4**	**+1.1**
	baz=261						
Q20K	**Shuyak Island**	**84.21**	**31**	P	**P**	**17 41 30.4**	**+0.6**
	baz=263						
GOF	**Gofitskoye**	**84.23**	**315**	*ce*P	**P**	**17 41 30.2**	**0.0**
KBZ	**Khabaz**	**84.25**	**314**	P	**P**	**17 41 30.4**	**+0.1**
	comp=Z,11nm,0.7s,baz=108,slow=3.6,SNR=26						
	comp=Z,11nm,0.7s						
M20K	**Styx River**	**84.25**	**28**	P	**P**	**17 41 31.2**	**+1.1**
	baz=262						
O20K	**Slope Mountain**	**84.27**	**30**	P	**P**	**17 41 31.1**	**+0.9**
	baz=263						
KIV	**Kislovodsk**	**84.42**	**314**	P	**P**	**17 41 29.1**	**-2.3**
KIV	**Kislovodsk**	**84.42**	**314**	⇑P	**P**	**17 41 31.6**	**+0.3**
KIV	**Kislovodsk**	**84.42**	**314**	*eP*	**P**	**17 41 29.2**	**-2.1**
KIV				*e*		17 51 52.0	
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
KIV				pmax	pmax		
	comp=Z,36nm,3.5s						
KIV				MLR	MLR		
	comp=Z,166nm,20.0s						
KIV	**Kislovodsk**	**84.42**	**314**	P	**P**	**17 41 32.3**	**+1.0**
	comp=Z,445nmcomp=Z,30nm,0.8s						
SHA1	**Shidzhatmaz**	**84.43**	**314**	*i* P	**P**	**17 41 31.9**	**+0.3**
IMAR	**Indian Mountai**	**84.57**	**24**	P	**P**	**17 41 31.8**	**+0.3**
N20K	**Mount Spurr**	**84.61**	**29**	P	**P**	**17 41 32.5**	**+0.7**
	baz=263						
SPCR	**Spurr Chakacha**	**84.61**	**29**	P	**P**	**17 41 32.6**	**+0.7**
	baz=263						
C21K	**Knifeblade Rid**	**84.69**	**21**	P	**P**	**17 41 33.2**	**+1.1**
	baz=260						
G21K	**Allakaket**	**84.75**	**23**	P	**P**	**17 41 33.4**	**+1.0**
	baz=261						
PPT2	**Papeete2**	**84.80**	**108**	*eP*	P	17 41 25.4	-8.3
	comp=Z,70nm,30.0s						
PPT2	**Papeete2**	**84.80**	**108**	*eS*	**SKSac**	**17 51 54.4**	**-2.7**
	comp=Z,168nm,23.2s						
PPT2				*e*SS	**SS**	**17 57 27.5**	**-5.9**
	comp=Z,296nm,31.8s						
PPT2	**Papeete2**	**84.80**	**108**	*e*LR	LR	18 08 06.6	
	comp=Z,297nm,25.0s						
PPT2				*e*LR	LR	18 08 15.2	
	comp=Z,289nm,28.0s						
PPLA	**Puyepile**	**84.82**	**27**	P	**P**	**17 41 33.6**	**+0.6**
	baz=263						
STLK	**Strandline Lak**	**84.82**	**28**	IAmb	IAmb	17 41 37.5	
	comp=Z,28nm,1.5s						
B21K	**Ikpikpuk River**	**84.83**	**20**	P	**P**	**17 41 34.1**	**+1.4**
	baz=260						
F21K	**Alatna River**	**84.86**	**23**	P	**P**	**17 41 34.5**	**+1.6**
	baz=261						
CHUM	**Lake Minchumin**	**84.88**	**26**	P	**P**	**17 41 34.3**	**+1.2**
	baz=263						
H21K	**Melozitna Rive**	**84.91**	**24**	P	**P**	**17 41 34.3**	**+1.1**
	baz=262						
A22K	**Sinclair Lake**	**84.95**	**19**	P	**P**	**17 41 34.6**	**+1.3**
	baz=260						
SKT	**Skwentna**	**85.02**	**28**	IAmb	IAmb	17 41 40.1	
	comp=Z,26nm,1.2s						
SKT	**Skwentna**	**85.02**	**28**	P	**P**	**17 41 34.7**	**+0.9**
	baz=264						
BRSE	**Bradley Lake S**	**85.17**	**30**	P	**P**	**17 41 35.8**	**+1.1**
	baz=264						
I21K	**Tanana**	**85.19**	**25**	IAmb	IAmb	17 42 35.8	
	comp=Z,24nm,1.3s						
I21K	**Tanana**	**85.19**	**25**	P	**P**	**17 41 36.0**	**+1.5**
	baz=263						
TBI	**Tubuai**	**85.24**	**113**	*eP*	P	17 41 30.2	-5.5
	comp=Z,1μm,39.2s						
TBI	**Tubuai**	**85.24**	**113**	*eS*	**SKSac**	**17 52 01.0**	**+1.4**
	comp=Z,654nm,25.0s						
TBI				*e*SS	**SS**	**17 57 31.9**	**-7.8**
	comp=Z,2μm,36.8s						
TBI				*e*LQ	LQ	18 04 50.7	
	comp=Z,3μm,45.8s						
TBI				*e*LR	LR	18 08 20.7	
	comp=Z,1μm,28.0s						
TBI				*e*LR	LR	18 08 22.0	
	comp=Z,2μm,36.0s						
SUA	**Susitna One**	**85.34**	**29**	P	**P**	**17 41 36.8**	**+1.2**
	baz=264						
B22K	**Teshekpuk Lake**	**85.35**	**20**	P	**P**	**17 41 37.0**	**+1.8**
	baz=261						
D22K	**Ayikyak River**	**85.39**	**21**	P	**P**	**17 41 37.3**	**+1.7**
	baz=262						
F22K	**John River**	**85.40**	**22**	P	**P**	**17 41 37.1**	**+1.5**
	baz=263						
BPAW	**Bear Paw Mtn.**	**85.49**	**26**	P	**P**	**17 41 37.0**	**+0.9**
	baz=264						
VRH	**Novokhopyorsk**	**85.49**	**321**	*eP*	**P**	**17 41 35.6**	**-0.8**
VRH				pmax	pmax		
	comp=Z,99nm,0.6s						
H22K	**Ishtalitna Cre**	**85.52**	**24**	P	**P**	**17 41 37.3**	**+1.0**
	baz=263						
G22K	**Bettles**	**85.59**	**23**	P	**P**	**17 41 37.6**	**+1.1**
	baz=263						
E22K	**Anaktuvuk Pass**	**85.61**	**22**	IAmb	IAmb	17 42 06.0	
	comp=Z,24nm,1.2s						
E22K	**Anaktuvuk Pass**	**85.61**	**22**	P	**P**	**17 41 38.0**	**+1.3**
	baz=263						
CUT	**Chulitna**	**85.65**	**28**	P	**P**	**17 41 37.8**	**+0.9**
	baz=265						
TRF	**Thorofare Moun**	**85.73**	**27**	P	**P**	**17 41 38.6**	**+1.1**
	baz=265						
O22K	**Cooper Landing**	**85.75**	**30**	P	**P**	**17 41 38.6**	**+1.2**
	baz=265						
RC01	**Rabbit Creek A**	**85.79**	**29**	IAmb	IAmb	17 41 44.4	
	comp=Z,26nm,0.8s						
RC01	**Rabbit Creek A**	**85.79**	**29**	P	**P**	**17 41 38.4**	**+0.7**
	baz=265						
SEW	**Seward**	**85.85**	**30**	P	**P**	**17 41 38.9**	**+1.0**
	baz=266						
LABN	**Labinsk**	**85.86**	**314**	*eP*	**P**	**17 41 39.5**	**+1.1**
LABN				pmax	pmax		
	comp=Z,28nm,0.9s						
ERBR	**Yeremizino-Bor**	**86.07**	**316**	*eP*	**P**	**17 41 38.8**	**-0.6**
ERBR				*eS*	**SKSac**	**17 52 04.8**	**+0.9**
ERBR				pmax	pmax		
	comp=Z,45nm,0.7s						
PMR	**Palmer**	**86.12**	**28**	IAmb	IAmb	17 41 46.0	
	comp=Z,14nm,0.7s						
PMR	**Palmer**	**86.12**	**28**	P	**P**	**17 41 40.3**	**+1.1**
	baz=266						
D23K	**Nanushuk River**	**86.12**	**21**	P	**P**	**17 41 40.6**	**+1.4**
	baz=264						
COLD	**Coldfoot**	**86.13**	**23**	IAmb	IAmb	17 41 46.3	
	comp=Z,18nm,0.9s						
COLD	**Coldfoot**	**86.13**	**23**	P	**P**	**17 41 40.4**	**+1.1**
	baz=264						
G23K	**Bananza Creek**	**86.15**	**23**	IAmb	IAmb	17 41 46.0	
	comp=Z,22nm,1.1s						
G23K	**Bananza Creek**	**86.15**	**23**	P	**P**	**17 41 40.6**	**+1.2**
	baz=265						
C23K	**Itkillik River**	**86.24**	**20**	IAmb	IAmb	17 41 46.5	
	comp=Z,51nm,1.3s						
C23K	**Itkillik River**	**86.24**	**20**	P	**P**	**17 41 41.2**	**+1.5**
	baz=264						
H23K	**Yukon River**	**86.26**	**24**	P	**P**	**17 41 40.9**	**+0.9**
	baz=265						
I23K	**Minto, Yukon-K**	**86.28**	**25**	P	**P**	**17 41 41.6**	**+1.6**
	baz=265,SNR=9.5						
VSLR	**Vesyoloye**	**86.32**	**313**	*i* P	**P**	**17 41 41.4**	**+0.7**
VSLR				pmax	pmax		
	comp=Z,97nm,0.8s						
MCK	**McKinley**	**86.36**	**26**	P	**P**	**17 41 41.4**	**+0.9**
	baz=266						
NEA2	**Nenana**	**86.37**	**25**	P	**P**	**17 41 41.6**	**+1.1**
	baz=266						
E23K	**Chandalar**	**86.43**	**22**	IAmb	IAmb	17 41 47.9	
	comp=Z,25nm,0.8s						
E23K	**Chandalar**	**86.43**	**22**	P	**P**	**17 41 42.1**	**+1.3**
	baz=265						
KNK	**Knik Glacier**	**86.43**	**29**	IAmb	IAmb	17 41 47.0	
	comp=Z,31nm,1.0s						
KNK	**Knik Glacier**	**86.43**	**29**	P	**P**	**17 41 41.9**	**+1.0**
	baz=266						
PWL	**Port Wells**	**86.45**	**29**	IAmb	IAmb	17 41 47.0	
	comp=Z,38nm,1.0s						
PWL	**Port Wells**	**86.45**	**29**	P	**P**	**17 41 42.1**	**+1.1**
	baz=266						
WAT1	**Susitna Watana**	**86.47**	**27**	P	**P**	**17 41 42.2**	**+1.1**
	baz=266						
TOLK	**Toolik Lake Re**	**86.49**	**21**	P	**P**	**17 41 42.4**	**+1.3**
	baz=265						
SML	**Sawmill**	**86.51**	**28**	IAmb	IAmb	17 41 47.2	
	comp=Z,25nm,0.9s						
SML	**Sawmill**	**86.51**	**28**	P	**P**	**17 41 42.2**	**+0.9**
	baz=266						
SOC	**Sochi**	**86.55**	**313**	*eP*	**P**	**17 41 40.5**	**-1.3**
SOC				*e*		17 45 02.0	
SOC				*e*PPP	PPP	17 46 56.6	
SOC				*eS*	**SKSac**	**17 52 06.7**	**-0.3**
SOC				*eS*S	**SS**	**17 57 55.0**	**-2.9**
SOC				*eS*SS	SSS	18 01 29.6	
SOC				pmax	pmax		
	comp=Z,43nm,0.8s						
SOC				MLR	MLR		
	comp=Z,240nm,22.0s						
M23K	**Glacier View**	**86.80**	**28**	P	**P**	**17 41 44.0**	**+1.3**
	baz=267						
D24K	**Happy Valley**	**86.81**	**21**	IAmb	IAmb	17 41 50.4	
	comp=Z,19nm,0.8s						
D24K	**Happy Valley**	**86.81**	**21**	P	**P**	**17 41 43.8**	**+1.3**
	baz=266						
WAT6	**Susitna Watana**	**86.83**	**28**	P	**P**	**17 41 44.1**	**+1.1**
	baz=267						
E24K	**Your Creek**	**86.85**	**22**	P	**P**	**17 41 43.9**	**+1.1**
	baz=266						
P23K	**Montague Islan**	**86.87**	**30**	P	**P**	**17 41 44.0**	**+1.0**
	baz=267						
C24K	**Franklin Bluff**	**86.89**	**20**	P	**P**	**17 41 44.1**	**+1.2**
	baz=266						
H24K	**Noodor Dome**	**86.95**	**24**	P	**P**	**17 41 44.7**	**+1.3**
	baz=267						
SCM	**Sheep Creek Mo**	**86.99**	**28**	IAmb	IAmb	17 41 55.8	
	comp=Z,22nm,1.0s						
SCM	**Sheep Creek Mo**	**86.99**	**28**	P	**P**	**17 41 44.7**	**+1.0**
	baz=267						
VORD	**Divnogorie**	**87.01**	**321**	*eP*	**P**	**17 41 42.9**	**-1.0**
VORD				pmax	pmax		
	comp=Z,60nm,1.1s						
DHY	**Denali Highway**	**87.02**	**27**	P	**P**	**17 41 45.3**	**+1.4**
	baz=267						
F24K	**Squaw Lake**	**87.04**	**23**	P	**P**	**17 41 45.6**	**+1.8**
	baz=267						
GLI	**Glacier Island**	**87.06**	**29**	P	**P**	**17 41 45.6**	**+1.6**
	baz=268						
POKR	**Poker Plat Res**	**87.10**	**25**	P	**P**	**17 41 45.6**	**+1.6**
	baz=267						
VSR	**Storozhevoye**	**87.10**	**321**	*eP*	**P**	**17 41 43.7**	**-0.6**
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
G24K	**Hadweenzic Riv**	**87.16**	**23**	P	**P**	**17 41 45.2**	**+0.9**
	baz=267						
KLMR	**Klimovskoe**	**87.19**	**331**	*eP*	**P**	**17 41 42.5**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,52nm,1.1s						
HDA	**Harding Lake**	**87.27**	**26**	P	**P**	**17 41 46.2**	**+1.4**
	baz=268						
LPSR	**Galich'ya Gora**	**87.28**	**322**	*eP*	**P**	**17 41 46.3**	**+1.2**
LPSR				pmax	pmax		
	comp=Z,48nm,0.7s						
ILAR	**Eielson Array**	**87.31**	**25**	P	**P**	**17 41 42.8**	**-2.3**
ILAR	**Eielson Array**	**87.31**	**25**	P	**P**	**17 41 44.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=247,slow=5.0,SNR=17						
	comp=Z,1.3nm,0.5s						
FURI	**Furi**	**87.47**	**279**	LR	LR	18 20 25.3	
	comp=Z,420nm,20.6s,baz=71,slow=35						
M24K	**Tolsona, Glenn**	**87.54**	**28**	IAmb	IAmb	17 41 56.6	
	comp=Z,20nm,0.8s						
M24K	**Tolsona, Glenn**	**87.54**	**28**	P	**P**	**17 41 47.6**	**+1.3**
	baz=268						
KLU	**Klutina**	**87.65**	**29**	P	**P**	**17 41 47.8**	**+0.9**
	baz=269						
D25K	**Kavik River**	**87.69**	**21**	P	**P**	**17 41 48.3**	**+1.4**
	baz=268						
G25K	**Bearman Lake**	**87.71**	**23**	P	**P**	**17 41 48.0**	**+1.1**
	baz=268						
DIV	**Divide**	**87.71**	**29**	IAmb	IAmb	17 41 52.4	
	comp=Z,19nm,1.0s						
K24K	**Donnelly Dome**	**87.77**	**26**	P	**P**	**17 41 48.5**	**+1.1**
	baz=269						
H25L	**Birch Creek**	**87.81**	**24**	P	**P**	**17 41 48.5**	**+1.1**
	baz=268						
PAX	**Paxson**	**87.89**	**27**	P	**P**	**17 41 49.0**	**+1.0**
	baz=269						
F25K	**Christian Rive**	**87.91**	**23**	IAmb	IAmb	17 42 44.7	
	comp=Z,25nm,1.8s						
F25K	**Christian Rive**	**87.91**	**23**	P	**P**	**17 41 49.0**	**+1.0**
	baz=269						
E25K	**Arctic Village**	**87.95**	**22**	IAmb	IAmb	17 41 59.6	
	comp=Z,15nm,0.9s						
E25K	**Arctic Village**	**87.95**	**22**	P	**P**	**17 41 49.2**	**+1.1**
	baz=269						
J25K	**Salcha River,**	**87.96**	**26**	P	**P**	**17 41 47.9**	**-0.4**
	baz=269						
HARP	**HAARP**	**88.03**	**28**	P	**P

comp=Z,16nm,1.0s
C27K Jago River 88.63 21 P P 17 41 52.1 +0.9
baz=270
OBN Obninsk 88.69 325 P P 17 41 51.0 -0.7
OBN Obninsk 88.69 325 LR LR 18 23 11.5
comp=Z,175nm,20.9s,baz=14,slow=37
OBN Obninsk 88.69 325 ⇓P P 17 41 52.4 +0.6
OBN Obninsk 88.69 325 *de*P P 17 41 51.2 -0.6
OBN *e* 17 45 22.0
OBN *e*PPP PPP 17 47 16.3
OBN *i* S S 17 52 29.7 -7.3
OBN *i* SS SS 17 58 22.9 -5.5
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,441nm,22.0s
OBN Obninsk 88.69 325 P P 17 41 51.6 -0.2
comp=Z,59nm,0.8s
J26L Joseph Creek 88.74 26 P P 17 41 53.0 +1.0
baz=271
ASF Jabal al Asfar 88.76 302 LR LR 18 26 09.4
comp=Z,319nm,21.4s,baz=134,slow=39
L26K Log Cabin Wild 88.86 27 P P 17 41 53.6 +1.1
baz=271
I26K Coal Creek Min 88.90 25 P P 17 41 53.6 +1.0
baz=271
BGLC Bering Glacier 88.94 30 P P 17 41 53.6 +0.8
baz=271
CRQE Cirque 89.02 29 P P 17 41 53.8 +0.4
baz=271
M26K Nabesna, AK 89.03 28 P P 17 41 54.3 +0.9
baz=271
MCARA McCarthy VSAT 89.04 29 P P 17 41 54.2 +0.9
baz=271
KMBO Kilima Mbogo 89.12 269 P P 17 41 56.0 +1.0
comp=Z,4.5nm,0.7s,baz=109,slow=4.8,SNR=8.9
KMBO LR LR 18 19 09.5
comp=Z,387nm,20.7s,baz=102,slow=34
comp=Z,4.5nm,0.7s
KMBO Kilima Mbogo 89.12 269 *i* P P 17 41 56.5 +1.5
KMBO pmax pmax
comp=Z,5.0nm,0.7s
K27K Chicken 89.40 26 P P 17 41 56.0 +1.0
baz=272
E27K Coleen River 89.43 22 P P 17 41 56.0 +0.9
baz=272
G27K Doyon Strip 89.47 23 P P 17 41 56.4 +1.1
baz=272
BNN Bunyan 89.48 309 IAmb IAmb 17 42 02.4
comp=Z,19nm,1.1s
I27K Kandik River 89.54 25 P P 17 41 56.4 +0.7
baz=272
H27K Steamboat Moun 89.55 24 IAmb IAmb 17 42 03.4
comp=Z,40nm,1.9s
H27K Steamboat Moun 89.55 24 P P 17 41 56.7 +1.0
baz=272
L27K Beaver Creek, 89.55 27 P P 17 41 56.6 +0.9
baz=272,SNR=10.0
M27K Edge Creek, AK 89.55 28 P P 17 41 56.6 +0.6
baz=272
BCAR Beaver Creek A 89.57 27 P P 17 41 55.5 -0.3
MESA MESA 89.60 30 P P 17 41 56.7 +0.4
baz=272
D27M Malcolm River 89.61 21 P P 17 41 57.4 +1.4
baz=273
BARN Barnard Glacie 89.71 29 IAmb IAmb 17 42 21.4
comp=Z,30nm,1.4s
APA Apatity 89.79 337 ⇓*e*P P 17 41 57.3 +0.6
APA *e* 17 45 30.1
APA MLR MLR
comp=Z,865nm,4.7s
CTG Chitna Glacier 89.87 29 P P 17 41 58.2 +0.7
baz=273
MMAI Mount Meron Ar 90.00 303 P P 17 41 59.6 +1.1
comp=Z,40nm,1.1s,baz=84,slow=7.9,SNR=15
MMAI LR LR 18 27 38.4
comp=Z,238nm,21.3s,baz=96,slow=39
comp=Z,40nm,1.1s
PLTM Poltava 90.07 319 P P 17 41 58.3 -0.1
F28M Old Crow 90.12 22 P P 17 41 59.0 +0.7
baz=274
E28M Babbage River 90.17 21 P P 17 41 59.2 +0.7
baz=274
SYO Syowa Base 90.18 201 ⇑*e*P P 17 42 00.5 +2.1
I28M Miner Creek 90.24 25 IAmb IAmb 17 42 05.6
comp=Z,20nm,1.1s
I28M Miner Creek 90.24 25 P P 17 41 59.5 +0.5
baz=274,SNR=5.1
D28M Stokes Point 90.40 21 P P 17 42 00.4 +0.9
baz=275
O28M Mount Upton 90.44 29 P P 17 42 00.8 +0.5
baz=274
EIL Elat 90.50 300 P P 17 42 01.5 +0.6
comp=Z,19nm,1.0s,baz=41,slow=1.6,SNR=9.0
EIL LR LR 18 27 08.4
comp=Z,357nm,20.6s,baz=157,slow=39
comp=Z,19nm,1.0s
SIM Simferopol' 90.56 315 *e*P P 17 42 00.4 -0.4
SIM *e*S S 17 52 53.2 -1.7
SIM pmax pmax
comp=Z,32nm,0.7s
SIM smax smax
comp=N,61nm,17.3s
SIM MLR MLR
comp=Z,142nm,21.7s
DAWY Dawson 90.58 26 P P 17 42 01.2 +0.6
baz=274,SNR=6.6
YUK8 Steele Glacier 90.61 29 P P 17 42 01.6 +0.5
baz=274
E29M Blow River 90.79 22 P P 17 42 02.5 +1.1
baz=276
H29M Whitestone 90.82 24 P P 17 42 02.4 +0.8
baz=275
LODK Lodwar 90.89 273 P P 17 42 06.2 +3.1
SNR=5.9
G29M Pine Creek 90.89 23 P P 17 42 02.7 +0.8
baz=276
KIRS Kirsehir-Merke 90.98 309 ⇑P P 17 42 05.1 +2.1
M29M Somme Creek 91.14 28 P P 17 42 04.0 +0.8
baz=275
YUK4 Talbot Arm 91.15 29 P P 17 42 04.1 +0.7
baz=275
BR104 Keskin Array S 91.16 310 P P 17 42 03.9 0.0
comp=Z,57nmcomp=Z,7.4nm,0.9s
BR131 Keskin Array S 91.16 310 *i* P P 17 42 04.3 +0.4
BRTR Keskin Array B 91.16 310 P P 17 42 02.7 -1.2
BRTR Keskin Array B 91.16 310 P P 17 42 03.0 -0.9
comp=Z,2.3nm,0.7s,baz=109,slow=5.5,SNR=15
BRTR LR LR 18 27 33.8
comp=Z,96nm,21.6s,baz=80,slow=39
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 91.16 310 *i* P P 17 42 03.0 -0.9
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BR106 Keskin Array S 91.18 310 P P 17 42 04.0 0.0
comp=Z,64nmcomp=Z,6.9nm,1.0s
BR105 Keskin Array S 91.18 310 P P 17 42 04.1 +0.1
comp=Z,64nmcomp=Z,8.0nm,0.8s
L29M L29M 91.22 27 IAmb IAmb 17 42 11.3
comp=Z,20nm,1.0s
L29M L29M 91.22 27 P P 17 42 04.6 +1.0
baz=276,SNR=12
O29M Mount Kennedy 91.28 30 P P 17 42 04.8 +0.8
baz=275
YUK6 Outpost Mounta 91.32 29 P P 17 42 05.0 +0.7
baz=275
QSPA South Pole Qui 91.38 180 P P 17 42 04.5 +0.2
QSPA IAmb IAmb 17 42 16.5
comp=Z,49nm,1.9s
QSPA South Pole Qui 91.38 180 P P 17 42 05.6 +1.3
comp=Z,3.3nm,0.8s,baz=336,slow=1.7,SNR=19
comp=Z,3.3nm,0.8s
K29M Barlow Dome 91.42 26 IAmb IAmb 17 42 12.1
comp=Z,40nm,2.0s
K29M Barlow Dome 91.42 26 P P 17 42 05.1 +0.5
baz=276
EPYK Eagle Plains 91.47 24 IAmb IAmb 17 42 11.2
comp=Z,21nm,1.1s
EPYK Eagle Plains 91.47 24 P P 17 42 05.6 +1.0
baz=277
G30M tAoh Zraii Nji 91.59 23 IAmb IAmb 17 42 13.4
comp=Z,26nm,1.4s
G30M tAoh Zraii Nji 91.59 23 P P 17 42 05.8 +0.6
baz=277
CSS Mathiatis 91.65 305 P P 17 42 07.6 +1.5
comp=Z,421nmcomp=Z,46nm,1.0s
F30M Barrier River 91.67 22 P P 17 42 05.9 +0.4
baz=278

I30M Mount Dempster 91.75 25 P P 17 42 06.4 +0.3
baz=277
HYT Haines Junctio 91.75 29 IAmb IAmb 17 42 40.1
comp=Z,40nm,1.9s
HYT Haines Junctio 91.75 29 P P 17 42 07.0 +0.8
baz=276
P29M Windy Craggy 91.76 30 IAmb IAmb 17 42 13.8
comp=Z,16nm,1.1s
P29M Windy Craggy 91.76 30 P P 17 42 06.9 +0.8
baz=276
J30M Hart River 91.85 25 IAmb IAmb 17 42 31.1
comp=Z,35nm,2.0s
J30M Hart River 91.85 25 P P 17 42 07.2 +0.6
baz=277
N30M Aishikik Lake 91.88 29 IAmb IAmb 17 42 11.9
comp=Z,20nm,1.4s
N30M Aishikik Lake 91.88 29 P P 17 42 07.3 +0.6
baz=276
M30M Minto, Yukon 91.89 27 IAmb IAmb 17 42 14.2
comp=Z,26nm,1.6s
M30M Minto, Yukon 91.89 27 P P 17 42 07.6 +0.9
baz=277,SNR=7.2
P30M Million Dollar 92.10 30 P P 17 42 08.4 +0.7
baz=276
MAYO Mayo, Yukon 92.17 26 P P 17 42 09.0 +1.1
baz=278
G31M Satah River 92.36 23 P P 17 42 08.7 +0.1
baz=279
INK Inuvik 92.41 21 IAmb IAmb 17 42 13.3
comp=Z,15nm,1.1s
INK Inuvik 92.41 21 LR LR 18 23 59.2
comp=Z,91nm,21.4s,baz=326,slow=36
INK Inuvik 92.41 21 P P 17 42 08.8 -0.1
baz=280
ARCES ARCESS Array B 92.44 340 P P 17 42 08.6 -0.4
comp=Z,3.2nm,0.4s,baz=83,slow=6.3,SNR=48
ARCES LR LR 18 27 36.1
comp=Z,177nm,21.8s,baz=82,slow=38
comp=Z,3.2nm,0.4s
ARCES ARCESS Array B 92.44 340 P P 17 42 08.6 -0.4
ARCES pmax pmax
comp=Z,154nm,2.0s
O30N Mendenhall 92.45 29 P P 17 42 09.9 +0.6
baz=277
PLBC Pleasant Camp 92.47 30 P P 17 42 10.0 +0.6
baz=277
F31M Tsiigehtchic 92.48 22 IAmb IAmb 17 42 15.3
comp=Z,34nm,1.4s
F31M Tsiigehtchic 92.48 22 P P 17 42 10.0 +0.9
baz=280
N31M Braeburn, Yuko 92.50 28 P P 17 42 10.0 +0.5
baz=278
H31M Peel River 92.51 24 P P 17 42 10.0 +0.6
baz=279
SPITS Spitsbergen Ar 92.62 349 P P 17 42 09.6 -0.1
comp=Z,4.8nm,0.6s,baz=64,slow=11,SNR=8.9
SPITS LR LR 18 30 44.9
comp=Z,167nm,18.2s,baz=66,slow=40
comp=Z,4.8nm,0.6s
S31K Pelican 92.73 32 P P 17 42 11.7 +1.1
baz=277
SKAG Skagway 93.00 30 P P 17 42 12.6 +0.8
baz=278
WHY Whitehorse 93.05 29 P P 17 42 13.1 +0.9
baz=278,SNR=9.2
M31M Drury Creek, Y 93.05 28 IAmb IAmb 17 42 19.1
comp=Z,21nm,1.4s
M31M Drury Creek, Y 93.05 28 P P 17 42 12.9 +0.9
baz=279,SNR=7.1
AK09 Malin Array Si 93.37 321 P P 17 42 13.8 +0.1
AK08 Malin Array Si 93.39 321 P P 17 42 13.8 +0.1
AK10 Malin Array Si 93.39 321 P P 17 42 13.7 -0.1
AKASG Malin Array Be 93.40 321 IAmb IAmb 17 42 18.2
comp=Z,14nm,1.4s
AKASG Malin Array Be 93.40 321 P P 17 42 13.6 -0.2
comp=Z,4.7nm,0.7s,baz=71,slow=4.5,SNR=7.6
AKASG LR LR 18 28 05.5
comp=Z,276nm,21.0s,baz=82,slow=38
comp=Z,4.7nm,0.7s
AKASG Malin Array Be 93.40 321 *i* P P 17 42 15.1 +1.3
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 93.40 321 *ce*P P 17 42 12.2 -1.6
AKBB pmax pmax
comp=Z,6.0nm,1.4s
KIEV Kiev 93.41 321 ⇑P P 17 42 13.1 -0.8
KIEV Kiev 93.41 321 ⇑P P 17 42 13.1 -0.8
AK06 Malin Array Si 93.43 321 P P 17 42 13.4 -0.5
AK07 Malin Array Si 93.43 321 P P 17 42 14.0 +0.1
AK04 Malin Array Si 93.43 321 P P 17 42 13.8 -0.2
AK11 Malin Array Si 93.44 321 P P 17 42 13.9 -0.1
AK12 Malin Array Si 93.45 321 P P 17 42 14.1 +0.1
AK16 Malin Array Si 93.48 321 P P 17 42 14.2 0.0
R32K Eaglecrest 93.59 32 IAmb IAmb 17 42 22.6
comp=Z,18nm,1.2s
R32K Eaglecrest 93.59 32 P P 17 42 15.4 +0.9
baz=278
FINES FINESS Array B 93.64 332 P P 17 42 13.7 -0.9
comp=Z,2.7nm,0.7s,baz=50,slow=4.4,SNR=16
FINES LR LR 18 28 21.3
comp=Z,142nm,18.1s,baz=74,slow=38
comp=Z,2.7nm,0.7s
S32K Killisnoo 93.67 32 P P 17 42 15.9 +1.0
baz=278
TAOE Nuku Hiva Isla 93.69 99 *e*LR LR 18 12 26.3
comp=Z,298nm,22.7s
MNK Minsk 93.74 325 *i* P P 17 42 12.6 -2.7
MNK *i* 17 45 58.0
MNK *i* PPP PPP 17 47 58.5
MNK *i* S SKSac 17 52 47.0 -1.3
MNK *i* PS PS 17 54 38.3 -1.6
MNK *i* SS SS 17 59 42.8 +1.5
MNK *i* SSS SSS 18 03 23.8
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK MLR MLR
comp=N,348nm,25.0s
MNK MLR MLR
comp=E,119nm,20.0s
MNK MLR MLR
comp=Z,496nm,23.0s
P32M Atlin 93.79 30 P P 17 42 16.2 +0.7
baz=279
N32M Quiet Lake 93.84 29 P P 17 42 16.5 +0.7
baz=280
P33M Teslin, Yukon 94.13 29 P P 17 42 17.9 +0.7
baz=280
A36M Sachs Harbour 94.26 17 P P 17 42 18.9 +1.5
baz=288
SORM Soroca 94.26 318 ⇓P P 17 42 16.8 -1.1
SORM Soroca 94.26 318 ⇓P P 17 42 16.8 -1.1
ELL Elmali 94.30 307 IAmb IAmb 17 42 23.0
comp=Z,9.5nm,0.8s
Q32M Nakina River 94.63 31 P P 17 42 20.2 +0.6
baz=280
U33K Whale Pass 94.68 34 P P 17 42 20.5 +0.9
baz=280
CRAG Craig 94.78 34 P P 17 42 20.9 +0.9
baz=279
HARR Harsova 94.97 315 ⇑P P 17 42 22.5 +1.3
HARR Harsova 94.97 315 ⇑P P 17 42 22.5 +1.3
WRAK Wrangell Islan 95.05 33 P P 17 42 21.9 +0.7
baz=280
ICOR Ion Corvin 95.13 314 ⇑P P 17 42 25.7 +3.8
R33M Jennings River 95.21 30 IAmb IAmb 17 42 29.0
comp=Z,43nm,1.9s
R33M Jennings River 95.21 30 P P 17 42 22.4 +0.3
baz=282
RNPP2 Kostyukhnivka 95.40 322 P P 17 42 22.9 -0.1
S34M Telegraph Cree 95.42 32 P P 17 42 23.7 +0.8
baz=281
C36M Paulatuk 95.47 20 P P 17 42 24.0 +1.1
baz=289
TESR Tescani 95.62 317 ⇑P P 17 42 24.5 +0.4
TESR Tescani 95.62 317 P P 17 42 23.4 -0.7
V35K Ketchikan 95.66 34 P P 17 42 24.8 +0.8
baz=281
VRI Vrincioaia 95.66 316 ⇓P P 17 42 27.2 +2.9
VRI Vrincioaia 95.66 316 ⇓P P 17 42 27.2 +2.9
BISRR Bisoca 95.72 316 ⇑P P 17 42 26.2 +1.5
PLOR Plostina 95.72 316 ⇑P P 17 42 25.8 +1.2
PLOR Plostina 95.72 316 ⇑P P 17 42 25.8 +1.2
DLBC Dease Lake 95.88 31 LR LR 18 20 56.5

comp=Z,168nm,21.6s,baz=260,slow=32
DLBC Dease Lake 95.88 31 P P 17 42 25.7 +0.5
baz=282
NEHR Nehoiu 96.02 316 ⇑P P 17 42 26.4 +0.4
TGTN Hyland Airport 96.03 28 P P 17 42 26.5 +0.8
baz=284
T35M Bob Quinn 96.08 32 P P 17 42 26.7 +0.7
baz=282
WTLY Watson Lake, Y 96.12 29 IAmb IAmb 17 42 33.7
comp=Z,26nm,1.1s
WTLY Watson Lake, Y 96.12 29 P P 17 42 27.2 +1.1
baz=284,SNR=10
TURR Turia 96.12 316 ⇓P P 17 42 28.5 +2.0
MLR Muntele Rosu 96.25 316 LR LR 18 31 09.1
comp=Z,277nm,20.6s,baz=78,slow=39
MLR Muntele Rosu 96.25 316 ⇑P P 17 42 29.5 +2.3
MLR Muntele Rosu 96.25 316 ⇑P P 17 42 29.5 +2.3
BURAR Bucovina Array 96.43 318 P P 17 42 26.2 -1.7
BURAR Bucovina Array 96.43 318 ⇑P P 17 42 28.4 +0.5
BURAR Bucovina Array 96.43 318 ⇑P P 17 42 28.4 +0.5
ELND Elena 96.68 313 ⇑P P 17 42 31.9 +2.9
EZN Ezine 96.77 310 ⇑P P 17 42 33.6 +4.1
EZN Ezine 96.77 310 ⇑P P 17 42 33.6 +4.1
ARCR ARCALIA 97.09 318 ⇑P Pdif 17 42 32.5 +1.6
RDO Rodhopi 97.18 312 IAmb IAmb 17 42 36.2
comp=Z,14nm,1.3s
ARR Arges 97.19 316 ⇓P Pdif 17 42 32.1 +0.6
WRGLY Wrigley 97.69 25 P Pdif 17 42 33.9 +0.8
baz=289
LOT Lotru 97.77 316 ⇑P P 17 42 33.9 -0.2
MARR Marisel-Cluj 98.00 317 ⇓P P 17 42 34.9 -0.1
R9F13 Warsaw-Wawer 98.13 323 *e*P P 17 42 29.0 -6.3
TOAD Toad River Com 98.21 30 P Pdif 17 42 36.2 +0.6
baz=287
LSZ Lusaka 98.24 255 LR LR 18 25 07.3
comp=Z,282nm,19.0s,baz=104,slow=34
DRGR 98.25 318 ⇑P Pdif 17 42 37.4 +1.2
DRGR 98.25 318 ⇑P Pdif 17 42 37.4 +1.2
BBB Bella Bella 98.34 37 LR LR 18 19 47.3
comp=Z,173nm,21.6s,baz=246,slow=31
GZR Gura Zlata 98.47 316 ⇑P Pdif 17 42 39.6 +2.4
GZR Gura Zlata 98.47 316 ⇑P Pdif 17 42 39.6 +2.4
IDI Anoyia 98.50 306 IAmb IAmb 17 44 21.4
comp=Z,31nm,1.8s
IDI Anoyia 98.50 306 P P 17 42 36.9 -0.6
comp=Z,4.5nm,0.6s,baz=85,slow=3.0,SNR=3.2
IDI LR LR 18 35 27.7
comp=Z,59nm,20.2s,baz=114,slow=40
comp=Z,4.5nm,0.6s
SURR Surduc 98.85 317 ⇑P Pdif 17 42 40.4 +1.7
SIRR Siria 99.07 317 ⇑P Pdif 17 42 41.0 +1.2
BOVS Bovan 99.56 315 ⇑P Pdif 17 42 44.2 +2.3
HFS Hagfors 99.84 332 P Pdif 17 42 41.3 -1.5
comp=Z,1.9nm,0.5s,baz=103,slow=6.5,SNR=11
HFS LR LR 18 31 16.4
comp=Z,315nm,21.4s,baz=66,slow=38
comp=Z,1.9nm,0.5s
LANS Liptovska Anna 99.88 320 *i* P Pdif 17 42 45.4 +2.1
LANS Liptovska Anna 99.88 320 *e*PDIFF Pdif 17 42 45.4 +2.1
NB2 NORSAR Subarra100.64 333 P Pdif 17 42 45.1 -1.3
comp=Z,3.3nm,0.7s,baz=68,slow=4.6
NB2 NORSAR Subarra100.64 333 P Pdif 17 42 45.1 -1.3
baz=68,slow=4.6
NOA NORSAR Array B 100.64 333 P Pdif 17 42 45.4 -1.0
comp=Z,0.6nm,0.5s,baz=78,slow=4.3,SNR=6.8
MORC Moravsky Berou 100.93 321 ⇑P Pdif 17 42 49.9 +1.9
MORC Moravsky Berou 100.93 321 ⇑P Pdif 17 42 49.9 +1.9
MODS Modra-Piesok 101.47 320 *i* P Pdif 17 42 56.9 +6.5
MODS Modra-Piesok 101.47 320 *e*PDIFF Pdif 17 42 56.9 +6.5
PDG Podgorica 101.57 314 ⇓P Pdif 17 42 53.4 +2.5
BRG Berggiesshubel 102.82 323 ⇓*e*Pif 17 42 57.7
BRG Amp 17 42 60.0
comp=Z,2.7nm,0.9s
BRG Berggiesshubel 102.82 323 SS SS 18 01 50.0 +1.2
SNAA Sanae 102.93 195 ⇑P Pdif 17 42 58.9 +2.5
comp=Z,18nm,0.5s
SNAA Sanae 102.93 195 P Pdif 17 42 58.7 +2.4
comp=Z,0.6nm,0.4s,baz=183,slow=12,SNR=9.0
SNAA PKKPbc PKKPbc 17 58 55.0 -1.7
comp=Z,0.7nm,0.8s,baz=12,slow=3.3,SNR=4.5
CLL Collm 103.24 324 *e*PP PKiKP 17 47 13.0 -4.4
CLL Lm MLR 18 34 00.0
comp=Z,300nm,20.7s
GERES GERESS Array B 103.61 321 Pdiff Pdif 17 43 02.4 +2.4
comp=Z,1.4nm,0.9s,baz=46,slow=4.6,SNR=7.4
NVAR Mina Array Bea 108.70 49 PKiKP PKiKP 17 47 31.4 +3.1
comp=Z,0.6nm,0.7s,baz=268,slow=1.6,SNR=3.8
NVAR PKKP PKKPab 17 58 49.6 -1.0
comp=Z,0.8nm,0.8s,baz=114,slow=2.9,SNR=3.8
PDAR Pinedale Array 113.31 42 PKiKP PKiKP 17 47 37.2 +0.3
comp=Z,0.6nm,0.7s,baz=333,slow=0.3,SNR=5.5
ESDC Sonseca Array 118.88 318 PKP PKPdf 17 47 47.2 -0.2
comp=Z,0.4nm,0.6s,baz=43,slow=1.6,SNR=2.0
ESDC PKKPbc PKKPbc 17 58 03.2 -0.2
comp=Z,0.4nm,0.8s,baz=266,slow=4.0,SNR=4.2
ECSD EROS Data Cent 120.86 35 PKPdf 17 47 47.5 -3.6
MNTX Cornudas Mount 120.98 51 PKPdf 17 47 50.6 -1.0
VHRN Van Horn 121.65 52 PKPdf 17 47 51.0 -2.1
SCHQ Schefferville 122.86 9 PKP PKPdf 17 47 54.2 -0.4
comp=Z,3.9nm,0.4s,baz=281,slow=4.8,SNR=9.8
TXAR Lajitas Array 123.28 53 PKP PKPdf 17 47 56.3 0.0
comp=Z,1.9nm,0.7s,baz=228,slow=0.7,SNR=13
BRDY Brady 126.06 49 PKPdf 17 48 00.6 -0.9
R40A Maddies Statio 126.81 38 PKPdf 17 48 01.6 -1.0
DBIC Dimbokro 130.63 280 PKP PKPdf 17 48 10.8 +0.2
comp=Z,6.4nm,1.1s,baz=303,slow=3.4,SNR=3.1
DBIC SKPbc SKPbc 17 51 32.5 -0.4
comp=Z,8.7nm,1.1s,baz=109,slow=5.6,SNR=4.8
PLCA Paso Flores 138.01 161 PKiKP 17 48 25.1 -0.6
comp=Z,3.7nm,0.7s,baz=180,slow=0.5,SNR=6.5
PLCA SKPbc SKPbc 17 51 57.5 +1.2
comp=Z,1.3nm,0.8s,baz=276,slow=3.8,SNR=2.8
BO01 Tunca 143.41 155 PKPbc 17 48 31.1 +0.4
PEL Peldehue 144.65 155 PKPbc 17 48 34.7 +0.1
PEL Peldehue 144.65 155 PKIKP PKPbc 17 48 34.7 +0.1
CFA Coronel Fontan 147.00 157 PKPbc PKPbc 17 48 41.8 -0.1
comp=Z,9.8nm,0.6s,baz=237,slow=3.7,SNR=30
LCO Las Campanas 148.14 151 PKPbc 17 48 44.7 -0.7
LCO Las Campanas 148.14 151 PKP2 PKPbc 17 48 44.7 -0.7
PLTB Pedras Altas 149.85 180 PKPbc 17 48 49.3 0.0
PLTB Pedras Altas 149.85 180 *e*P PKPdf 17 48 42.4 -2.1
PSAL Palomas, Salto 150.29 173 *e*P PKPdf 17 48 44.7 -0.5
CPUP Villa Florida 155.01 172 PKPdf 17 48 54.5 +2.2
CPUP Villa Florida 155.01 172 PKP PKPdf 17 48 53.6 +1.4
comp=Z,0.7nm,0.7s,baz=28,slow=5.0,SNR=5.3
CPUP Villa Florida 155.01 172 PKIKP PKPdf 17 48 54.5 +2.2
LPAZ La Paz 159.49 137 PKP PKPdf 17 48 59.9 +0.9
comp=Z,2.5nm,0.7s,baz=330,slow=2.2,SNR=8.8
LPAZ PKPab PKPab 17 49 37.2 +0.5
comp=Z,3.0nm,0.6s,baz=50,slow=3.7,SNR=5.8
LPAZ La Paz 159.49 137 *e*P PKPdf 17 48 58.3 -0.6
CZSB Cruzeiro do Su 160.03 109 *e*P PKPdf 17 48 58.5 -0.3
SDV Santo Domingo 160.21 58 *e*P PKPdf 17 48 58.9 -0.4
SIV San Ignacio 163.81 154 PKP PKPdf 17 49 03.6 +0.9
comp=Z,1.7nm,0.6s,baz=203,slow=0.7,SNR=11
SIV PKPab PKPab 17 49 55.1 +0.3
comp=Z,4.8nm,0.7s,baz=192,slow=4.7,SNR=11
BDFB Brasilia 164.84 201 PKPab PKPab 17 49 59.9 +0.5
comp=Z,1.3nm,0.3s,baz=174,slow=7.4,SNR=3.7
SALV Santo Antonio 165.50 172 *e*P PKPdf 17 49 03.6 -0.5
BOAV Boa Vista 172.15 61 *e*P PKPdf 17 49 08.7 +0.2
NPGB Novo Progresso 174.19 163 *e*P PKPdf 17 49 09.5 +0.2
ITTB Itaituba 176.44 144 *e*P PKPdf 17 49 08.0 -1.9

IDC ***30*** *17:58:22.6±1.3, 22°.69N×121°.52E, h0km, mb3.8/7, mbtmp3.8/10, ML3.4/3, MS3.7/2, Error ellipse: s-maj=26.2km s-min=25.1km az=1.0*
TAP ***30*** *17:58:25.0, 22°.75N×121°.52E, h19km, ML3.9, C*
JMA ***30*** *17:58:25.7±0.1, 22°.8N±0°.5×121°.5E±0°.6, h35km, MV3.8/14, TAIWAN REGION*
ISC 30 17:58:24.8±0.9, 22°.74N±0°.02×121°.57E±0°.02, h19km±3km, n171, σ1$06/265, mb3.8/7, 9C-23D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.12	233	⇑*i*P	Pg	17 58 29.1	+0.2
LDUT				*i* S	Sg	17 58 31.8	+0.2
EDH	Donghe	0.34	313	⇓*i*P	Pg	17 58 31.6	-0.4
EDH				S	Sg	17 58 36.2	-0.8
TTN	Taitung	0.39	272	⇓*i*P	Pg	17 58 32.3	-0.7
TTN				S	Sg	17 58 37.6	-0.9
CHKT	Chengkung	0.40	332	⇑*i*P	Pg	17 58 32.7	-0.5
CHKT				S	Sg	17 58 38.0	-0.9

LONT	Longtian	0.44 292	P	Pg	17 58 32.9	-0.9
LONT			S	Sg	17 58 39.9	-0.1
TWGBT	Beinan	0.46 279	P	Pg	17 58 33.0	-1.2
TWGBT	Beinan	0.46 279	S	Sg	17 58 40.7	+0.1
TWGBT	Beinan	0.46 279 ⇊	iP	Pg	17 58 33.0	-1.2
TWGBT			S	Sg	17 58 39.6	-1.0
TWG	Pinlang	0.47 280 ⇓	iP	Pg	17 58 32.9	-1.5
TWG			S	Sg	17 58 39.7	-1.1
CHKH	Chenggong	0.47 340	P	Pg	17 58 34.0	-0.5
CHKH			S	Sg	17 58 40.2	-0.8
ECS	Chishang	0.48 317 ⇊	iP	Pg	17 58 34.3	-0.3
ECS			S	Sb	17 58 41.5	+0.2
FULB	Fuli	0.52 331	P	Pb	17 58 34.5	-0.8
FULB			S	Sb	17 58 41.4	-1.0
ECBN	Changbin	0.58 349 ⇑	iP	Pb	17 58 35.6	-0.6
ECBN			S	Sb	17 58 43.5	-0.5
ECL	Taimali	0.59 256 ⇓	iP	Pb	17 58 35.4	-1.0
ECL			S	Sb	17 58 42.7	-1.5
EYUL	Yuli	0.64 339	eP	Pb	17 58 37.2	-0.2
TWF1	Yuli	0.66 337 ⇑	iP	Pb	17 58 36.8	-0.7
ELDTW	Lidau	0.68 311 ⇓	iP	Pb	17 58 36.5	-1.5
ELDTW			S	Sb	17 58 44.5	-2.5
YULB	Yu-li	0.69 339	P	Pb	17 58 37.5	-0.8
YULB	Yu-li	0.69 339	P	Pb	17 58 37.4	-0.8
LAY	Lan-yu	0.70 182	P	Pb	17 58 37.9	-0.5
LAY			eS	Sb	17 58 47.4	-0.3
TAW	Tawu	0.73 238	eP	Pb	17 58 37.8	-1.2
LYUB	Lan-yu	0.74 179	P	Pb	17 58 37.6	-1.4
LYUB			S	Sb	17 58 46.6	-2.1
TAWH	Dawu Township	0.75 238	eP	Pb	17 58 38.2	-1.0
HGSD	Ruisui	0.76 350 ⇑	iP	Pb	17 58 38.1	-1.2
EAST	Anshuo	0.76 242 ⇓	iP	Pb	17 58 38.2	-1.2
EHYH	Wanrong	0.78 344	eP	Pb	17 58 39.3	-0.4
EHYH			eS	Sb	17 58 49.0	-0.8
EHY	Hungye	0.79 343 ⇑	iP	Pb	17 58 39.0	-0.9
STYH	Taoyuan	0.85 300	eP	Pb	17 58 39.9	-0.9
STYH			eS	Sb	17 58 50.7	-1.1
SSD	Sandimen	0.87 270 ⇓	iP	Pb	17 58 39.7	-1.5
MASBT	Mashibuluo	0.88 262 ⇓	iP	Pb	17 58 40.1	-1.3
MASBT			eS	Sb	17 58 48.1	-4.6
SLIU	Shizi	0.89 234	P	Pb	17 58 40.3	-1.2
SCZT	Fangliau	0.95 247	P	Pb	17 58 41.6	-1.1
WARBT	Fenglin Townsh	0.98 350 ⇓	P	Pb	17 58 42.0	-1.2
SMST	Manzhou Townsh	0.99 223	eP	Pb	17 58 42.3	-1.0
SMST			eS	Sb	17 58 54.4	-1.5
SGLT	Jiouru	1.00 269	eP	Pb	17 58 43.4	0.0
SCST	Cishan	1.00 278	eP	Pb	17 58 43.5	0.0
WTP	Ta-pu	1.01 300 ⇓	P	Pb	17 58 43.1	-0.6
WTP			eS	Sb	17 58 57.3	+0.6
TPUB	Ta-pu	1.03 303	P	Pb	17 58 43.3	-0.7
TPUB	Ta-pu	1.03 303	S	Sn	17 58 58.2	+0.1
TPUB	Ta-pu	1.03 303 ⇓	P	Pb	17 58 43.3	-0.7
TPUB			i S	Sb	17 58 57.3	+0.2
ALS	Alishan	1.04 317 ⇓	iP	Pb	17 58 43.5	-0.8
ALS			eS	Sb	17 58 57.7	0.0
SHUL	Shoufeng	1.04 360	eP	Pb	17 58 43.2	-0.9
SHUL			eS	Sb	17 58 56.9	-0.5
TSEB	Hengchuen, Pin	1.04 217	eS	Sb	17 58 57.9	+0.4
CHN1	Nanshi	1.06 295 ⇓	iP	Pb	17 58 44.2	-0.3
CHN1			S	Sb	17 58 58.4	+0.5
TWM1	Shoushan	1.06 274 ⇓	P	Pn	17 58 44.9	+0.3
TWKBT	Hengchun	1.06 221 ⇓	P	Pb	17 58 43.3	-1.3
TWKBT			eS	Sb	17 58 57.3	-0.8
HEN	Hengchun	1.06 227	eP	Pb	17 58 44.1	-0.5
TWK1	Hengchun	1.07 222	eP	Pb	17 58 43.0	-1.6
TWK1			eS	Sb	17 58 57.0	-1.2
ESL	Shilin	1.07 353 ⇑	iP	Pb	17 58 43.1	-1.6
ESL			eS	Sb	17 58 56.6	-1.7
VWDT	VWDT	1.08 339 ⇓	P	Pb	17 58 44.1	-0.8
SNST	Tainan City	1.10 296 ⇓	P	Pn	17 58 44.9	-0.3
SNST			eS	Sg	17 59 00.9	+0.4
TEYL	Yanliau Villag	1.12 1	P	Pn	17 58 45.1	-0.3
TEYL			S	Sb	17 58 59.7	0.0
TWK	Hsinying	1.13 298 ⇓	P	Pn	17 58 45.2	-0.4
TWK			eS	Sb	17 59 00.5	+0.6
WCKO	Fanlu	1.13 308	eP	Pb	17 58 45.9	+0.3
WCKO			eS	Sn	17 59 01.3	+0.8
WHYT	Xinyi Township	1.16 325	P	Pn	17 58 46.1	+0.2
WHYT			S	Sb	17 59 00.2	-0.5
CHN3	Shinhua	1.16 287	eP	Pg	17 58 47.7	+0.4
CHN3			eS	Sg	17 59 04.8	+2.2
SHHT	Tainan City	1.16 284	eP	Pg	17 58 47.8	+0.4
WLCH	Liuqiu	1.17 251	eP	Pg	17 58 48.5	+1.1
CHN5	Tsauling	1.18 316 ⇓	iP	Pn	17 58 46.2	-0.2
CHN5			S	Sn	17 59 02.8	+0.8
SSLB	Suanglung	1.18 331	P	Pn	17 58 45.8	-0.5
SSLB	Suanglung	1.18 331	P	Pn	17 58 45.8	-0.5
TWP	Hsiaoliuchiu	1.19 251	P	Pg	17 58 48.9	+1.1
TWP			eS	Sg	17 59 06.5	+3.2
WSSB	Gushan	1.21 265	P	Pg	17 58 48.5	+0.2
ETM	Tongmen	1.22 357	P	Pn	17 58 45.9	-0.9
ETM			S	Sb	17 59 00.1	-2.4
OWD	Renai	1.26 343	eP	Pn	17 58 46.9	-0.6
CHN2	Minshiung	1.28 308	P	Pb	17 58 48.8	+0.5
CHN2			S	Sg	17 59 05.7	-0.6
SMLT	Sun Moon Lake	1.29 332	P	Pn	17 58 47.9	0.0
SMLT			S	Sn	17 59 04.2	-0.5
CHY	Chiayi	1.29 306	P	Pb	17 58 49.0	+0.5
CHY			S	Sb	17 59 05.6	+0.9
WUSB	Renai	1.31 342	i P	Pn	17 58 47.6	-0.5
WUSB			S	Sn	17 59 03.5	-1.7
WGK	Gukeng	1.32 315	eP	Pb	17 58 49.3	+0.4
WGK			S	Sb	17 59 06.7	+1.3
WJS	Zhushan	1.32 324	P	Pb	17 58 48.7	+0.7
WJS			S	Sb	17 59 06.5	+0.9
TYC	Yuchr	1.33 331 ⇑	iP	Pb	17 58 49.1	0.0
TYC			S	Sn	17 59 05.6	+0.2
TWD	Chiawan	1.33 1	P	Pn	17 58 47.1	-1.2
TWD			S	Sb	17 59 06.2	+0.5
WDLH	Douliu	1.34 315 ⇓	iP	Pb	17 58 49.7	+0.4
WDLH			i S	Sg	17 59 07.7	-0.5
ICHU	Yijhu	1.34 298	eP	Pb	17 58 49.3	+0.1
ICHU			eS	Sg	17 59 08.1	-0.2
SCLT	Jiali	1.34 289	eP	Pb	17 58 49.6	+0.3
SCLT			eS	Sb	17 59 07.4	+1.3
WDL	Douliou City	1.35 316	P	Pb	17 58 50.0	+0.5
WDL			S	Sg	17 59 08.3	-0.5
CHN8	Yiju	1.39 296 ⇑	iP	Pb	17 58 50.0	-0.1
CHN8			S	Sb	17 59 08.2	+0.7
WNT	Mingjian	1.39 324	eP	Pb	17 58 50.6	+0.4
WNT			eS	Sb	17 59 10.0	+0.4
ETL	Fush Village	1.41 2	eP	Pn	17 58 48.5	-0.9
NACB	Ninganchiao	1.42 1	P	Pn	17 58 48.5	-1.1
NACB	Ninganchiao	1.42 1	P	Pn	17 58 48.3	-1.3
NACB			S	Sn	17 59 05.0	-2.7
WHF	Hehuan Shan	1.42 349	eP	Pn	17 58 49.5	-0.5
WHF			eS	Sn	17 59 07.2	-1.2
TSCK	Chigu Township	1.43 287	P	Pb	17 58 50.6	-0.1
TSCK			eS	Sb	17 59 08.5	0.0
WTK	Tuku	1.44 311	P	Pb	17 58 50.6	-0.3
WTK			S	Sb	17 59 09.7	+0.8
WCS	Beigang Elemen	1.44 335	P	Pn	17 58 50.5	+0.7
ETLH	Xiulin Townshi	1.46 357	P	Pn	17 58 49.3	-0.9
WSL	Shuilin Townsh	1.46 302	P	Pb	17 58 51.1	-0.2
WSL			S	Sb	17 59 09.8	+0.3
FUSS	Fushou	1.53 349	P	Pn	17 58 51.3	+0.1
WSF	Szhu	1.53 306	P	Pn	17 58 51.7	+0.7
WSF			S	Sb	17 59 11.4	0.0
EOS4	EOS4	1.53 26	P	Pn	17 58 50.9	+0.1
EOS4			S	Sn	17 59 08.7	-1.3
TWT	Tachien	1.55 346	P	Pn	17 58 51.7	+0.2
TWT			S	Sn	17 59 09.3	-1.8
TDCB	Techi	1.55 346	P	Pn	17 58 51.4	-0.1
EAHA	Aohua	1.59 6	S	Sn	17 59 11.1	-0.7
TCU	Taichung	1.62 330	P	Pb	17 58 53.5	-0.5
TCU			S	Sb	17 59 15.2	+1.0
WCH1	Changhua City	1.62 325	P	Pb	17 58 53.6	-0.4
WCH1			eS	Sb	17 59 15.1	+0.9
WCHH	Zhanghua	1.62 325	eP	Pb	17 58 53.8	-0.3
WCHH			S	Sb	17 59 14.2	0.0
WHP	Taichung City	1.63 340	P	Pb	17 58 54.8	+0.5
WHP			S	Sg	17 59 16.4	-1.2
EOS3	EOS3	1.68 24	P	Pn	17 58 53.4	+0.4
EOS3			eS	Sn	17 59 13.5	-0.5
ENA	Nanau	1.68 5	eP	Pn	17 58 52.4	-0.8
ENA			S	Sn	17 59 13.2	-1.0
NNSB	Datong	1.69 354	P	Pn	17 58 53.4	+0.1
NNS	Nan Shan	1.70 354	eP	Pn	17 58 53.8	+0.3
TWQ1	Liyutan	1.76 336	P	Pb	17 58 56.2	-0.2
TWQ1			S	Sb	17 59 18.2	+0.1
EOS2	EOS2	1.77 20	P	Pn	17 58 55.3	+1.0
EOS2			S	Sn	17 59 17.1	+0.8
LATG	Datong	1.78 359	eP	Pn	17 58 54.5	-0.1
WDJ	Dajia District	1.81 332	P	Pb	17 58 57.4	0.0
WDJ			S	Sb	17 59 20.6	+1.0
NSY	Sanyi	1.82 336	P	Pb	17 58 57.4	-0.2
NSY			S	Sb	17 59 20.4	+0.4
WDGT	Dungji	1.83 287	eP	Pn	17 58 55.3	0.0
ENTT	Nioudou	1.89 360	P	Pn	17 58 56.2	+0.2
NMLH	Miaoli	1.92 338	eP	Pb	17 58 58.4	-0.9
NMLH			eS	Sb	17 59 22.2	-0.7
NFF	Wufeng Townshi	1.93 348	eP	Pb	17 58 58.4	-0.9
NFF			eS	Sn	17 59 21.7	+1.4
YHNB	Yeheng	1.93 355	P	Pn	17 58 57.1	+0.6
YHNB	Yeheng	1.93 355	P	Pn	17 58 57.2	+0.6
NSK	Sanguang	1.93 354	eP	Pn	17 58 57.4	+0.7
NSTT	Nanjuang	1.95 345	eP	Pb	17 58 58.8	-0.9
NSTT			eS	Sb	17 59 22.9	-0.7
LIOB	Emei	1.96 345	P	Pb	17 58 58.7	-1.2
LIOB			S	Sb	17 59 23.1	-0.8
TWE	Neicheng	1.97 3	eP	Pn	17 58 58.0	+0.9
TWE			eS	Sn	17 59 22.0	+0.8
PHUB	P'eng-hu	1.99 293	eP	Pn	17 58 57.4	0.0
PHUB			S	Sn	17 59 20.1	-1.7
FUSB	Fushanzhiwuyua	2.01 0	eP	Pn	17 58 58.4	+0.7
NWLT	Wulai	2.02 358	eP	Pn	17 58 58.6	+0.7
VCHM	Qimei	2.03 284	eP	Pn	17 58 58.4	+0.5
VCHM			eS	Sn	17 59 21.9	-0.8
PNG	Penghu	2.03 294	eP	Pn	17 58 57.9	0.0
PNG			eS	Sn	17 59 22.2	-0.5
KSHI	Guanxi Townshi	2.06 350	eP	Pb	17 59 00.8	-0.7
KSHI			eS	Sb	17 59 26.8	-0.3
JYNG	Yonagunijimaku	2.12 36	eP	Pn	17 58 59.8	+0.7
JYNG			eS	Sn	17 59 24.2	-0.6
YOJ	Yonaguni jima	2.16 37	eP	Pn	17 59 00.4	+0.7
YOJ			eS	Sn	17 59 25.4	-0.6
YOJ	Yonaguni jima	2.16 37	eP	Pn	17 59 00.5	+0.8
YOJ			eS	Sn	17 59 26.5	+0.5
NHDH	Xindian Distri	2.21 359	eP	Pn	17 59 02.0	+1.6
NHDH			eS	Sn	17 59 27.8	+0.6
TATO	Taipei	2.22 358	P	Pn	17 59 01.5	+0.9
TIPB	Shuangxi	2.23 6	eP	Pn	17 59 02.0	+1.3
TWB1	Santiao Chiao	2.29 10	eP	Pn	17 59 03.0	+1.5
TWB1			eS	Sn	17 59 29.1	0.0
NWF	Wu-fen Shan	2.32 5	eP	Pn	17 59 03.6	+1.5
NWF			eS	Sn	17 59 31.1	+1.0
WFSB	Wu-fen Shan	2.32 5	eP	Pn	17 59 03.5	+1.5
TWS1	Kuangyinshan	2.35 357	eP	Pb	17 59 04.7	-1.8
SXI1	Grass Mountain	2.36 7 ⇓	P	Pn	17 59 03.6	+1.1
SXI1			S	Sn	17 59 30.6	-0.4
YM01	YM01	2.39 360	eP	Pn	17 59 04.0	+1.0
YM01			eS	Sn	17 59 31.8	0.0
ZUZH	Zhuzihu	2.41 359	eP	Pn	17 59 04.0	+0.8
ZUZH			eS	Sn	17 59 31.8	-0.3
HATJ	Hateruma jima	2.43 57	eP	Pn	17 59 04.1	+0.6
HATJ			eS	Sn	17 59 32.1	-0.6
YM08	YM08	2.43 0	eP	Pn	17 59 04.1	+0.6
IRIF	Iriomote-Funau	2.54 51	eP	Pn	17 59 06.1	+1.2
IRIF			eS	Sn	17 59 35.4	+0.1
JKRS	Kuro-shima	2.69 56	eP	Pn	17 59 08.2	+1.2
JKRS			eS	Sn	17 59 38.5	-0.5
JIJ	Ishigaki jima	2.86 55	eP	Pn	17 59 10.5	+1.2
JIJ			eS	Sn	17 59 42.1	-1.1
JISG	Ishigakijimahi	3.11 53	eP	Pn	17 59 13.3	+0.5
JISG			eS	Sn	17 59 49.2	-0.2
PTMZ	Houxiangcun	3.20 316	P	Pn	17 59 14.2	+0.1
PTMZ			S	Sn	17 59 49.4	-2.3
KNM	Kinmen	3.33 301	eP	Pn	17 59 16.9	+1.1
JTJ	Tarama	3.44 56	eP	Pn	17 59 18.4	+1.2
JTJ			eS	Sn	17 59 57.0	-0.4
MATB	Ma-tsu	3.70 337	P	Pn	17 59 20.8	-0.2
MATB			S	Sn	18 00 01.4	-2.7
ZPLA	Ao Xicun	3.71 289	P	Pn	17 59 21.4	+0.4
ZPLA			S	Sn	18 00 02.7	-1.4
JIRB	Irabujima	3.90 57	eP	Pn	17 59 24.5	+0.9
JIRB			eS	Sn	18 00 07.8	-1.1
DSXP	Dongshan	3.93 285	P	Pn	17 59 24.3	+0.2
DSXP			S	Sn	18 00 08.9	-0.8
AXDP	Jialang	3.94 304	P	Pn	17 59 24.0	-0.2
AXDP			S	Sn	18 00 06.6	-3.1
MHZQ	Yeshan	4.07 326	P	Pn	17 59 26.3	+0.4
MHZQ			S	Sn	18 00 10.9	-2.1
XPSS	Dashiqiu	4.35 344	P	Pn	17 59 29.9	0.0
XPSS			S	Sn	18 09 18.2	-1.9
SXFK	Yanhouchang	5.10 316	P	Pn	17 59 39.8	-0.4
SXFK			S	Sn	18 00 35.8	-2.8
JOW	Kunigami	7.33 55	Pn	Pn	18 00 10.2	-0.6
	2.2nm,0.3s,baz=243,slow=11,SNR=9.4					
JOW			Sn	Sn	18 01 28.3	-5.1
	0.5nm,0.3s,baz=274,slow=27,SNR=0.9					
	11nm,0.5s					
KSRS	Korea Array	15.65 19	Pn	Pn	18 02 05.9	+1.7
	0.3nm,0.3s,baz=196,slow=11,SNR=8.9					
	1.2nm,0.5s					
MJAR	Matsushiro Arr	19.91 43	P	Pn	18 02 58.0	+1.0
	baz=225,slow=8.9,SNR=6.5					
	1.9nm,0.8s					
CMAR	Chiang Mai Arr	21.60 263	P	P	18 03 13.2	-0.5
	0.5nm,0.8s,baz=69,slow=8.7,SNR=4.9					
	0.5nm,0.8s					
KAPI	Kappang	27.64 184	LR	LR	18 16 00.6	
	comp=Z,82nm,18.4s,baz=342,slow=38					
SONM	Songino Array	27.83 338	P	P	18 04 12.7	-0.3
	0.8nm,0.8s,baz=153,slow=9.7,SNR=5.1					
	0.8nm,0.8s					
MKAR	Makanchi Array	39.62 317	P	P	18 05 57.2	+2.1
	1.5nm,0.7s,baz=112,slow=9.4,SNR=15					
	1.5nm,0.7s					
ZALV	Zalesovo Beam	41.65 328	P	P	18 06 11.7	0.0
	5.5nm,0.7s,baz=114,slow=8.1,SNR=28					
	5.5nm,0.7s					
H11N1	WAKE ISLAND Hy 42.23	85	T	T	18 51 26.9	
	baz=282,slow=75,SNR=67					
H11N2	WAKE ISLAND Hy 42.23	85	T	T	18 51 27.0	
	baz=282,slow=75,SNR=62					
H11N3	WAKE ISLAND Hy 42.25	85	T	T	18 51 28.2	
	baz=282,slow=75,SNR=52					
H11S3	WAKE ISLAND Hy 42.32	87	T	T	18 51 33.8	
	baz=284,slow=75,SNR=87					
H11S1	WAKE ISLAND Hy 42.33	87	T	T	18 51 35.7	
	baz=284,slow=75,SNR=69					
H11S2	WAKE ISLAND Hy 42.34	87	T	T	18 51 35.3	
	baz=284,slow=75,SNR=94					
KURBB	Kurchatov Arra	43.44 321	P	P	18 06 27.2	+0.9
	0.8nm,0.2s,baz=117,slow=7.0,SNR=7.2					
	0.8nm,0.2s					
WRA	Warramunga Arr	44.22 163	P	P	18 06 33.3	+0.4
	0.2nm,0.7s,baz=344,slow=8.2,SNR=1.6					
	0.2nm,0.7s					
BVAR	Borovoye Array	49.01 321	P	P	18 07 11.3	+1.1
	0.9nm,0.7s,baz=96,slow=9.1,SNR=5.2					
	0.9nm,0.7s					
DZM	Mont Dzumac	62.40 132	LR	LR	18 33 53.4	
	comp=Z,110nm,18.0s,baz=5.0,slow=34					

IDC 30 18:04:55.9±2.1, 2°.68N×128°.61E, h0km, mb3.4/4, mbtmp3.4/4, MS3.3/1, Error ellipse: s-maj=163.7km s-min=24.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	13.64	327	LR	LR	18 12 45.8	
	comp=Z,140nm,20.8s,baz=117,slow=34						
WRA	Warramunga Arr	23.18	166	P	P	18 10 03.5	-0.9
	0.3nm,0.5s,baz=346,slow=10.0,SNR=2.2						
	0.3nm,0.5s						
ASAR	Alice Springs	26.70	169	P	P	18 10 37.1	+0.1
	0.2nm,0.7s,baz=345,slow=10,SNR=2.2						
	0.2nm,0.7s						
MKAR	Makanchi Array	59.48	325	P	P	18 15 01.4	+0.6
	0.2nm,0.5s,baz=134,slow=6.7,SNR=4.8						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	63.63	327	P	P	18 15 28.5	-0.2
	0.6nm,0.3s,baz=124,slow=6.7,SNR=3.8						
	0.6nm,0.3s						

*MEX **30** 18:23:42.1±0.4, 13°.60N×92°.38W, h15km±49km, MD4.0*
*GCG **30** 18:23:43.1±0.8, 13°.55N×92°.04W, h19km±27km, MD4.2*
ISC 30 18:23:41.5±2.5, 13°.7N±0°.1×92°.22W±0°.07, h33km±8km, n16, σ1§17/25, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.96	32	i P	Pb	18 24 00.9	+1.1
RTAL				i S	Sb	18 24 13.3	+1.0
SMCA	Catarina	1.16	7	eP	Pb	18 24 04.5	+1.5
SOKI	Kika Raxquin	1.36	35	eP	Pb	18 24 06.3	-0.5
CHUJ	Union Juarez	1.39	4	eP	Pn	18 24 05.3	+0.4
CHUJ				eS	Sn	18 24 23.0	+0.7
PATR	El Naranjo	1.41	359	eP	Pn	18 24 05.4	+0.3
PATR				eS	Sn	18 24 23.8	+1.1
PAVE	Pavencul	1.49	1	eP	Pn	18 24 06.1	-0.1
PAVE				i S	Sn	18 24 25.6	+1.0
FG16	Alotenango, Sa	1.75	71	i P	Pn	18 24 08.7	-1.1
APG	El Apazote	2.14	52	i P	Pb	18 24 18.4	-1.3
PCIG		2.22	334	eP	Pn	18 24 15.1	-1.0
PCIG				eS	Sn	18 24 41.3	-1.0
NUBE	Las Nubes	2.37	85	eP	Pn	18 24 20.4	+2.1
CCIG	Comitan	2.57	2	eP	Pb	18 24 26.2	-0.9
CCIG				eS	Sb	18 24 56.6	-1.7
CCIG	Comitan	2.57	2	i P	Pb	18 24 26.4	-0.7
JAYA	Jayaque - finc	2.69	91	eP	Pn	18 24 22.8	+0.2
JAYA				eS	Sn	18 24 53.8	-0.4
MTO3	Montecristo	2.86	76	eP	Pn	18 24 26.4	+1.4
UXUV	UXUV	4.05	333	eP	Pn	18 24 42.7	+1.4
UXUV				i S	Sn	18 25 29.3	+1.7
CMIG	Matias Romero	4.24	323	eP	Pn	18 24 44.7	+0.8
CMIG				eS	Sn	18 25 32.4	0.0

*IDC **30** 18:23:45.5±0.6, 6°.65N×124°.97E, h0km, mb4.1/16, mbtmp4.1/17, ML4.2/1, MS3.5/18, Error ellipse: s-maj=13.0km s-min=9.4km az=143.0*
*DJA **30** 18:23:48.4±0.6, 7°N±6°×12°5E±°, h10km, M4.9/16, mb5.0/16, mB5.2/9, MLv5.1/12, Mw(mB)4.7/9*
*NEIC **30** 18:23:48.9±1.6, 6°.80N±0°.06×125°.14E±0°.05, h17km±3km, mb4.7/47, Error ellipse: s-maj=9.3km s-min=6.7km az=142.0*
ISC 30 18:23:47.4±0.4, 6°.74N±0°.05×125°.08E±0°.06, h10km, n115, σ1§66/90, mb4.6/48, MS3.5/18, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.59	57		Pg	18 23 59.2	+0.4
DAV	Davao City (W)	0.59	57	Pg	Pb	18 23 59.4	-0.4
	baz=278,slow=7.9						
DAV				Lg	Lg	18 24 10.1	
	baz=263,slow=9.1						
DAV	Davao City (W)	0.59	57	P	Pg	18 23 58.0	-0.8
SGSI	Sangihe	3.07	172	P	Pn	18 24 38.4	+2.4
KMSI	Cibinong	6.23	190	P	Pn	18 25 22.1	+2.7
	4μm475nm,1.0s						
TNTI	Ternate	6.35	159		Pn	18 25 22.7	+1.5
TNTI	Ternate	6.35	159	P	Pn	18 25 24.7	+3.5
	0.3nm854nm71nm,0.7s						
MYLDM	Lahad Datu	6.73	257		Pn	18 25 28.0	+1.6
MRSI	Marisa	6.97	207	P	Pn	18 25 30.8	+1.2
	0.7nm2μm113nm,0.8s						
TOLI2	Tolitoli	7.05	218		Pn	18 25 28.9	-1.8
LUWI	Luwuk	8.07	197		Pn	18 25 47.1	+2.3
LUWI	Luwuk	8.07	197	P	Pn	18 25 49.2	+4.4
	2μm231nm,0.8s						
TGY	Tagaytay City	8.37	331	LR	LR	18 29 27.4	
	comp=Z,323nm,18.1s,baz=116,slow=41						
SANI	Sanana	8.78	174	P	Pn	18 25 54.9	+0.4
	0.3nm771nm80nm,0.7s						
I39PW	PALAU INFRASON	9.42	85	I	I	19 18 49.4	
	baz=265,slow=284,SNR=0.5						
SWI	Sorong	9.75	141	P	Pn	18 26 08.3	+0.5
	27nm,0.7s						
NLAI	Namlea	10.12	168	P	Pn	18 26 15.3	+2.4
	886nm61nm,0.6s						
AAI	Ambon	10.82	163	P	Pn	18 26 25.5	+3.1
	43nm,1.0s						
FAKI	Fak Fak	11.97	143		Pn	18 26 37.6	-0.7
BNDI	Bandanaira	12.18	157	P	Pn	18 26 45.1	+4.0
	60nm,1.3s						
RKPI	Ransiki, Papua	12.23	132	P	Pn	18 26 44.9	+3.1
KAPI	Kappang	12.84	205	Pn	Pn	18 26 54.7	+4.6
	0.7nm,0.3s,baz=44,slow=13,SNR=4.4						
SBUM	Sibu	13.51	252	Pn	Pn	18 27 00.6	+1.3
SOEI	Soe	16.41	183		Pn	18 27 37.9	-0.2
SOEI				IAmb	IAmb	18 28 03.5	
	comp=Z,40nm,1.0s						
BATI	Baumata	16.90	185	Pn	P	18 27 46.6	+0.4
	comp=Z,6.2nm,0.3s,baz=58,slow=4.8,SNR=6.9						
JAY	Jayapura	18.10	120	P	P	18 28 00.8	+1.2
	comp=Z,0.7nm,0.3s,baz=273,slow=3.8,SNR=4.7						
	comp=Z,10.0nm,0.8s						
JOW	Kunigami	20.21	8	LR	LR	18 36 34.8	
	comp=Z,136nm,19.4s,baz=164,slow=38						
MTN	Manton Dam	20.37	163		P	18 28 24.6	+0.3
MTN				IAmb	IAmb	18 28 31.6	
	comp=Z,20nm,0.8s						
GUMO	Guam	20.62	69	P	P	18 28 25.9	-1.2
GUMO	Guam	20.62	69	P	Pn	18 28 29.3	0.0
	comp=Z,49nm,0.3s,baz=271,slow=11,SNR=8.3						
GUMO				LR	LR	18 35 02.9	
	comp=Z,63nm,20.6s,baz=261,slow=33						
KNRA	Kununurra	22.57	171		P	18 28 48.2	+0.1
KNRA				IAmb	IAmb	18 28 54.5	
	comp=Z,27nm,0.7s						
F

HHC pmax pmax
comp=Z,84nm,4.0s
SHL Shillong 36.81 304 P P 18 30 54.9 -1.1
SHL IAmb IAmb 18 31 26.4
comp=Z,9.1nm,1.0s
INKA Innaminka 37.48 157 P 18 31 01.0 -0.3
USRK Ussuriysk Ar. 37.80 8 P P 18 31 04.4 +0.5
comp=Z,13nm,0.8s,baz=192,slow=7.6,SNR=19
comp=Z,13nm,0.8s
MDJ Mudanjiang 37.93 5 P P 18 31 05.8 +0.8
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ Mudanjiang 37.93 5 P 18 31 04.0 -1.0
MDJ IAmb IAmb 18 31 07.5
comp=Z,15nm,0.8s
BNX BinXian 38.90 3 ⇑P P 18 31 14.3 +1.2
BNX pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 39.69 329 *eP* **P 18 31 22.0 +2.0**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=N,150nm,12.0s
GTA LR LR
comp=E,120nm,13.4s
GTA LR LR
comp=Z,120nm,14.5s
ASAJ Asahikawa 40.26 20 LR LR 18 49 27.6
comp=Z,74nm,18.5s,baz=140,slow=38
BBOO Buckleboo 40.70 166 P 18 31 28.1 -0.2
BBOO IAmb IAmb 18 31 35.4
comp=Z,15nm,0.6s
STKA Stephens Creek 41.51 159 P **P 18 31 34.7 -0.3**
STKA Stephens Creek 41.51 159 P **P 18 31 35.1 +0.1**
comp=Z,3.9nm,0.7s,baz=340,slow=7.4,SNR=9.1
comp=Z,3.9nm,0.7s
EVN Everest 41.91 305 P 18 31 39.2 +0.1
HILR Hailar Array B 42.90 355 P **P 18 31 46.5 +0.4**
comp=Z,3.2nm,0.6s,baz=182,slow=10,SNR=3.9
comp=Z,3.2nm,0.6s
HEH HeiHe 43.41 2 *eP* **P 18 31 50.0 -0.2**
HEH pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 43.94 342 P **P 18 31 55.5 +0.8**
comp=Z,0.9nm,0.7s,baz=157,slow=8.8,SNR=5.8
SONM LR LR 18 50 50.1
comp=Z,104nm,19.4s,baz=174,slow=37
comp=Z,0.9nm,0.7s
PALK Pallekele 44.04 273 LR LR 18 50 30.0
comp=Z,43nm,19.2s,baz=72,slow=36
PETK Petropavlovsk- 53.31 24 P **P 18 33 06.3 -0.3**
PETK Petropavlovsk- 53.31 24 P **P 18 33 06.7 +0.1**
comp=Z,8.3nm,0.8s,baz=197,slow=4.6,SNR=6.6
comp=Z,8.3nm,0.8s
MKAR Makanchi Array 54.16 325 P **P 18 33 12.9 -0.1**
MKAR Makanchi Array 54.16 325 P **P 18 33 13.6 +0.6**
comp=Z,1.2nm,0.5s,baz=119,slow=6.2,SNR=13
comp=Z,1.2nm,0.5s
KSH Kashi 54.77 314 P **P 18 33 21.5 +3.8**
YAK Yakutsk 55.28 3 LR LR 18 59 11.5
comp=Z,64nm,18.6s,baz=236,slow=38
AAK Ala-Archa 57.04 317 LR LR 18 59 38.0
comp=Z,65nm,21.3s,baz=108,slow=38
ZALV Zalesovo Beam 57.18 333 P **P 18 33 33.9 -0.6**
ZALV Zalesovo Beam 57.18 333 P **P 18 33 34.6 +0.2**
comp=Z,0.4nm,0.4s,baz=107,slow=7.9,SNR=4.6
comp=Z,0.4nm,0.4s
ARSB Arslanbob 57.57 315 P 18 33 36.7 -0.9
KURBB Kurchatov Arra 58.33 327 P **P 18 33 42.5 -0.1**
comp=Z,1.6nm,0.2s,baz=126,slow=5.9,SNR=5.2
comp=Z,1.6nm,0.2s
KURK Kurchatov 58.34 327 P 18 33 41.5 -1.1
KURK IAmb IAmb 18 33 53.5
comp=Z,3.7nm,0.8s
GAR Garm 58.70 312 P 18 33 45.4 -0.2
CHGR Chuyangaron 59.45 311 P 18 33 50.4 -0.4
CHGR IAmb IAmb 18 33 53.5
comp=Z,5.6nm,0.8s
SEY Seymchan 59.50 14 LR LR 18 58 40.5
comp=Z,24nm,21.7s,baz=236,slow=35
KK31 Karatay Array 59.93 316 P 18 33 53.7 -0.2
KK31 IAmb IAmb 18 34 04.2
comp=Z,3.8nm,0.9s
KKAR Karatay Array 59.93 316 P 18 33 53.6 -0.3
BVAR Borovoye Array 63.92 327 P **P 18 34 19.5 -1.0**
comp=Z,1.3nm,0.7s,baz=134,slow=8.5,SNR=7.1
comp=Z,1.3nm,0.7s
AB31 Akbulak array 68.80 320 P 18 34 51.2 -0.6
AB31 IAmb IAmb 18 34 58.2
comp=Z,5.5nm,1.4s
KIRV Kirov 76.81 329 LR LR 19 11 42.3
comp=Z,50nm,18.3s,baz=96,slow=37
RAYN Ar Rayn 77.81 293 P 18 35 45.5 -0.1
H19K Roundabout Mou 79.12 25 P 18 35 50.6 -1.3
H19K IAmb IAmb 18 35 55.1
comp=Z,15nm,1.2s
KDAK Kodiak Island 80.24 33 LR LR 19 07 00.5
comp=Z,44nm,20.1s,baz=221,slow=32
GURO Guroymak-BITLI 80.41 308 P 18 35 59.3 -0.5
GURO IAmb IAmb 18 36 04.4
comp=Z,6.4nm,1.2s
SKT Skwentna 80.97 28 IAmb IAmb 18 36 05.8
comp=Z,7.4nm,0.9s
TRF Thorofare Moun 81.60 27 IAmb IAmb 18 36 08.8
comp=Z,5.4nm,0.9s
I23K Minto, Yukon-K 82.05 25 IAmb IAmb 18 36 11.7
comp=Z,5.8nm,1.0s
MCK McKinley 82.22 27 P **P 18 36 08.4 -0.2**
ILAR Eielson Array 83.11 26 P **P 18 36 12.1 -1.2**
comp=Z,0.7nm,0.6s,baz=240,slow=5.0,SNR=11
comp=Z,0.7nm,0.6s
RIDG Independent Ri 84.03 27 IAmb IAmb 18 36 33.5
comp=Z,5.9nm,0.9s
I26K Coal Creek Min 84.66 25 P 18 36 21.6 +0.4
L27K Beaver Creek, 85.44 27 P 18 36 26.2 +1.1
L27K IAmb IAmb 18 36 28.7
comp=Z,3.4nm,0.9s
F28M Old Crow 85.74 22 P 18 36 27.6 +1.1
F28M IAmb IAmb 18 36 50.9
comp=Z,3.9nm,0.9s
I28M Miner Creek 85.99 25 P 18 36 28.4 +0.5
DAWY Dawson 86.40 26 P 18 36 29.4 -0.6
DAWY IAmb IAmb 18 36 33.1
comp=Z,8.9nm,1.3s
VNDA Vanda 86.61 173 P **P 18 36 29.1 -1.4**
VNDA Vanda 86.61 173 P **P 18 36 29.4 -1.2**
comp=Z,0.2nm,0.5s,baz=295,slow=7.8,SNR=4.7
comp=Z,0.2nm,0.5s
BRTR Keskin Array B 86.85 309 P **P 18 36 31.4 -1.4**
comp=Z,0.4nm,0.7s,baz=90,slow=4.3,SNR=2.1
comp=Z,0.4nm,0.7s
L29M L29M 87.10 27 IAmb IAmb 18 36 37.7
comp=Z,4.6nm,0.9s
N32M Quiet Lake 89.81 28 IAmb IAmb 18 36 50.2
comp=Z,7.3nm,1.1s
NOA NORSAR Array B 95.38 333 LR LR 19 22 41.9
comp=Z,16nm,18.1s,baz=230,slow=37
GERES GERESS Array B 98.72 322 LR LR 19 25 29.2
comp=Z,27nm,19.1s,baz=68,slow=38

UCR ***30*** *18:29:23.9±0.8, 10.79N×85.11W, h5km±1km, MW3.5, Fault plane solution: NP1:ϕs44.12000°, δ66.60000°, λ-9.06000°.*
CATAC ***30*** *18:29:23.8±0.2, 11.N±2.×8.5W±., h7km±2km, M2.8/9, MLv2.8/9, Error ellipse: s-maj=5.0km s-min=2.6km az=53.4, confirmed*
ISC 30 18:29:24.0±0.9,**10.79N**±0.03×**85.10W**±0.02,**h13**km±5km, **n44**, σ0.48/52,**17C-8D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMAR	**Armenia, Volca**	**0.02**	**333**	*eP*	**Pg**	**18 29 25.6**	**-0.7**
MESS	**Mesas**	**0.10**	**241**	⇑*eP*	**Pg**	**18 29 27.2**	**+0.1**
HORNC	**Hornillas**	**0.11**	**224**	⇓*eP*	**Pg**	**18 29 27.1**	**0.0**
HORNC				*eS*	**Sg**	**18 29 29.1**	**-0.3**
MOTZ	**Rio Naranjo**	**0.11**	**164**	⇓*eP*	**Pg**	**18 29 27.4**	**+0.3**
CUI	**Cuipilapa**	**0.15**	**204**	⇓*eP*	**Pg**	**18 29 27.8**	**+0.1**
CUI				*eS*	**Sg**	**18 29 30.4**	**+0.2**
TENO	**El Achiote**	**0.15**	**125**	*eP*	**Pg**	**18 29 28.4**	**+0.7**
TIMP	**Tierras Morena**	**0.22**	**158**	⇓*eP*	**Pg**	**18 29 29.4**	**+0.5**
PEJA	**Penjamo Buenos**	**0.23**	**297**	⇑*eP*	**Pg**	**18 29 29.8**	**+0.8**
BUAI	**Buenos Aires**	**0.24**	**291**	⇑*eP*	**Pg**	**18 29 29.7**	**+0.5**
VORI	**VORI**	**0.24**	**276**	⇑*eP*	**Pg**	**18 29 29.7**	**+0.4**
GPS1	**Guardaparques**	**0.24**	**266**	⇑*eP*	**Pg**	**18 29 29.8**	**+0.5**
GPS2	**Hotel Rincn d**	**0.25**	**261**	⇑*eP*	**Pg**	**18 29 29.8**	**+0.5**
VRLE	**La Escondida,**	**0.26**	**269**	⇑*eP*	**Pb**	**18 29 30.1**	**-0.6**
GPS3	**Bodega del ICE**	**0.26**	**262**	*eP*	**Pn**	**18 29 33.0**	**-0.7**
QUEB	**Quebradon, Cot**	**0.26**	**129**	⇑*eP*	**Pb**	**18 29 30.1**	**-0.6**
INVE	**Universidad In**	**0.32**	**173**	⇓*eP*	**Pb**	**18 29 31.2**	**-0.4**
INVE				*eS*	**Sb**	**18 29 36.4**	**-0.3**
LAPC	**Finca la Perla**	**0.33**	**266**	⇑*eP*	**Pg**	**18 29 31.0**	**+0.3**
TILA	**Tilaran**	**0.35**	**158**	*eP*	**Pb**	**18 29 31.7**	**-0.5**
TABAC	**Tabacon**	**0.44**	**131**	⇑*eP*	**Pb**	**18 29 33.9**	**+0.1**
ELI1	**Hacienda Flor**	**0.47**	**252**	P	**Pb**	**18 29 34.0**	**-0.1**
ELI1	**Hacienda Flor**	**0.47**	**252**	S	**Sg**	**18 29 40.0**	**+0.6**
REZ	**Monterrey de S**	**0.48**	**123**	*eP*	**Pb**	**18 29 34.6**	**+0.2**
ALIBA	**Liberia Airpor**	**0.48**	**246**	⇑*eP*	**Pb**	**18 29 34.2**	**-0.1**
CEDE	**Laguna Cedeo**	**0.49**	**128**	⇑*eP*	**Pb**	**18 29 34.9**	**+0.2**
ARE1	**Arenal 1**	**0.50**	**131**	⇑*eP*	**Pb**	**18 29 35.0**	**+0.2**
VARE2	**V. Arenal**	**0.50**	**131**	⇑*eP*	**Pb**	**18 29 35.0**	**+0.2**
CASO	**Castillo**	**0.51**	**134**	⇑*eP*	**Pb**	**18 29 35.0**	**+0.1**
JTS	**Las Juntas de**	**0.52**	**163**	P	**Pg**	**18 29 34.4**	**+0.2**
JTS				S	**Sg**	**18 29 41.8**	**+0.6**
JTS	**Las Juntas de**	**0.52**	**163**	⇓*eP*	**Pg**	**18 29 34.4**	**+0.2**
JTS				*eS*	**Sg**	**18 29 41.6**	**+0.5**
VACR	**Volcan Arenal**	**0.52**	**127**	⇑*eP*	**Pb**	**18 29 35.3**	**+0.2**
CARN	**Rivas**	**0.57**	**314**	P	**Pb**	**18 29 35.9**	**0.0**
CARN				S	**Sb**	**18 29 44.3**	**+0.4**
SOCE	**Pocosol**	**0.63**	**130**	P	**Pb**	**18 29 36.7**	**-0.2**
SOCE	**Pocosol**	**0.63**	**130**	S	**Sg**	**18 29 45.0**	**+0.5**
SOCE	**Pocosol**	**0.63**	**130**	⇑*eP*	**Pb**	**18 29 36.6**	**-0.3**
COVE	**Coope Vega, Sa**	**0.69**	**96**	P	**Pg**	**18 29 37.1**	**-0.4**
JUD3	**Juan Diaz 3**	**0.76**	**215**	*eP*	**Pg**	**18 29 38.9**	**+0.2**
NYURE	**Nandayure**	**0.80**	**191**	*eP*	**Pg**	**18 29 39.3**	**-0.3**
MORN	**Al O del Volca**	**0.92**	**325**	P	**Pg**	**18 29 41.5**	**-0.3**
MORN				S	**Sb**	**18 29 54.7**	**+0.5**
CONN	**Concepcion**	**0.92**	**326**	P	**Pg**	**18 29 41.7**	**-0.2**
CONN				S	**Sb**	**18 29 55.0**	**+0.8**
SAJU	**San Juanillo,**	**0.94**	**220**	⇓*eP*	**Pg**	**18 29 42.0**	**-0.1**
LCR2	**La Lucha 2**	**1.50**	**134**	P	**Pn**	**18 29 49.7**	**-1.2**
LCR2	**La Lucha 2**	**1.50**	**134**	S	**Sb**	**18 30 11.8**	**+0.8**
PIEC	**Cerro El Cedra**	**1.62**	**136**	*eP*	**Pn**	**18 29 53.1**	**+0.6**
QUEP	**Quepos**	**1.64**	**146**	P	**Pn**	**18 29 51.7**	**-0.9**

IDC ***30*** *18:36:17.2±1.2, 1.95N×127.47E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=89.7km s-min=16.2km az=68.0*
DJA ***30*** *18:36:32.5±0.4, 2.N±4.×12.7E±., h101km±6km, M3.9/15, mB5.1/1, mb4.0/5, MLv3.9/15, Mw(mB)4.4/1*
NEIC ***30*** *18:36:32.0±0.9, 1.82N±0.10×127.5E±0.2, h126km±6km, mb4.2/14, Error ellipse: s-maj=24.6km s-min=9.8km az=62.0*
ISC 30 18:36:30.4±0.8,**1.86N**±0.08×**127.34E**±0.09,**h112**km,**n34**, σ1.48/31,**mb4.2**/13,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**178**		**Pn**	**18 36 55.0**	**+2.4**
TNTI	**Ternate**	**1.08**	**178**	P	**Pn**	**18 36 55.0**	**+2.4**
SGSI	**Sangihe**	**2.56**	**315**	P	**Pn**	**18 37 11.8**	**+1.1**
KMSI	**Cibinong**	**3.59**	**249**	P	**Pn**	**18 37 25.2**	**+0.9**
SANI	**Sanana**	**4.11**	**199**	P	**Pn**	**18 37 31.4**	**+0.1**
SWI	**Sorong**	**4.76**	**125**	P	**Pn**	**18 37 42.9**	**+2.8**
NLAI	**Namlea**	**5.07**	**183**	P	**Pn**	**18 37 45.2**	**+1.0**
LUWI	**Luwuk**	**5.40**	**238**	Pn	**Pn**	**18 37 52.1**	**+3.4**
LUWI	**Luwuk**	**5.40**	**238**	P	**Pn**	**18 37 49.8**	**+1.2**
MRSI	**Marisa**	**5.56**	**256**	P	**Pn**	**18 37 52.4**	**+1.5**
	0.1nm12nm,0.5s						
AAI	**Ambon**	**5.57**	**171**	P	**Pn**	**18 37 51.7**	**+0.6**
	0.1nm14nm,0.6s						
TOLI2	**Tolitoli**	**6.59**	**264**	Pn	**Pn**	**18 38 06.4**	**+1.5**
FAKI	**Fak Fak**	**6.83**	**134**	P	**Pn**	**18 38 10.6**	**+2.5**
MTN	**Manton Dam**	**15.08**	**166**	Pn	**Pn**	**18 39 55.5**	**-2.2**
MTN				IAmb	IAmb	18 40 06.6	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**17.48**	**175**	P	**P**	**18 40 26.8**	**0.0**
KNRA				IAmb	IAmb	18 41 00.9	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.90**	**185**	IAmb	IAmb	18 40 53.4	
	comp=Z,1.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.90**	**185**	P	**P**	**18 40 52.7**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=356,slow=8.6,SNR=8.4						
	comp=Z,2.3nm,0.8s						
TPUB	**Ta-pu**	**22.29**	**344**	P	**P**	**18 41 18.7**	**+0.1**
WB0	**Warramunga Arr**	**22.58**	**162**	P	**P**	**18 41 20.6**	**-1.0**
WB0				IAmb	IAmb	18 41 21.4	
	comp=Z,7.5nm,0.5s						
WRAB	**Tennant Creek**	**22.72**	**163**	P	**P**	**18 41 22.3**	**-0.8**
WRAB				IAmb	IAmb	18 41 22.9	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**22.73**	**163**	IAmb	IAmb	18 41 23.1	
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**22.73**	**163**	P	**P**	**18 41 22.2**	**-1.0**
	comp=Z,7.2nm,0.5s,baz=343,slow=11,SNR=61						
	comp=Z,7.2nm,0.5s						
WR8	**Warramunga Arr**	**22.79**	**162**	P	**P**	**18 41 22.6**	**-1.1**
WR8				IAmb	IAmb	18 41 23.5	
	comp=Z,8.4nm,0.5s						
AS31	**Alice Springs**	**26.16**	**166**	P	**P**	**18 41 53.5**	**-1.0**
AS31				IAmb	IAmb	18 41 57.9	
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**26.16**	**166**	P	**P**	**18 41 53.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=342,slow=7.4,SNR=33						
	comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**35.45**	**167**	P	**P**	**18 43 14.5**	**-1.5**
STKA	**Stephens Creek**	**36.18**	**159**	P	**P**	**18 43 22.1**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=328,slow=7.7,SNR=10						
	comp=Z,2.1nm,0.4s						
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**18 46 22.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=116,slow=7.9,SNR=16						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**59.62**	**325**	P	**P**	**18 46 22.7**	**0.0**
MAKZ				IAmb	IAmb	18 46 55.7	
	comp=Z,3.1nm,1.2s						
KURBB	**Kurchatov Arra**	**63.63**	**328**	P	**P**	**18 46 49.9**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=129,slow=5.9,SNR=5.8						
	comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**63.63**	**328**	P	**P**	**18 46 49.9**	**+0.4**
KURK	**Kurchatov**	**63.63**	**328**	IAmb	IAmb	18 46 53.5	
	comp=Z,1.7nm,0.6s						
BVAR	**Borovoye Array**	**69.21**	**327**	P	**P**	**18 47 25.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.1						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**18 48 34.5**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=300,slow=7.5,SNR=1.6						
	comp=Z,0.2nm,0.7s						

NEIC ***30*** *18:52:37, 65.67N×165.33W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr1.16; Mθθ1.46; Mϕϕ-2.62; Mrθ1.58; Mθϕ-1.53; Mϕr-0.14; Fault plane solution: M0 3.16000×10^14 NP1:ϕs57.00000°, δ69.00000°, λ148.00000°. NP2:ϕs160.00000°, δ60.00000°, λ25.00000°. Principal axes: T 3.1679, Plg38.0000°, Azm16.0000°; N -0.0027, Plg52.0000°, Azm207.0000°; P -3.1652, Plg5.0000°, Azm110.0000°;*
NEIC ***30*** *18:52:38.8±1.2, 65.64N±0.04×165.27W±0.07, h6km±6km Error ellipse: s-maj=6.2km s-min=1.9km az=144.0*
AEIC 30 18:52:38.4±1.3,**65.63N**±0.03×**165.28W**±0.05,**h6**km±5km, **ML3.5,ML3.6**/71(NEIC),**Mwr3.6**/41(SLM),**Error ellipse: s-maj=4.7km s-min=1.6km az=211.0,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F15K	**North Star Dit**	**0.27**	**73**		**Pg**	**18 52 44.0**	**+0.3**
F15K					**Sg**	**18 52 47.9**	**+0.5**
F15K	**North Star Dit**	**0.27**	**73**	IAML		**18 52 51.2**	
	comp=N,7μm,0.9s						
F15K				IAML		18 52 51.8	
	comp=E,4μm,1.1s						
F14K	**Arctic Creek**	**0.46**	**251**		**Pg**	**18 52 47.5**	**+0.2**
F14K					**Sg**	**18 52 53.8**	**+0.4**
G15K	**Niukluk**	**0.82**	**140**		**Pg**	**18 52 53.6**	**-0.5**
G15K					**Sg**	**18 53 05.4**	**+0.6**
ANM	**Nome**	**1.07**	**182**		**Sb**	**18 53 13.9**	**+0.5**
ANM	**Nome**	**1.07**	**182**		**Pg**	**18 52 58.1**	**-0.8**
ANM				IAML		18 53 15.4	
	comp=E,2μm,0.5s						
ANM				IAML		18 53 16.9	
	comp=N,2μm,0.4s						
TNA	**Tin City**	**1.10**	**268**		**Pg**	**18 52 58.8**	**-0.7**
TNA				IAML		18 53 19.0	
	comp=E,2μm,0.4s						
G16K	**Koyuk River**	**1.24**	**100**		**Pg**	**18 53 01.3**	**-0.9**
G16K					**Pb**	**18 53 01.5**	**-0.7**
G16K					**Sb**	**18 53 18.6**	**+0.1**
G16K					**Sn**	**18 53 18.9**	**-0.4**
H16K	**Elim**	**1.62**	**126**		**Pn**	**18 53 07.5**	**-0.1**
H16K					**Sb**	**18 53 29.6**	**+0.1**
F17K	**Baldwin Pennin**	**1.84**	**62**		**Pn**	**18 53 10.4**	**-0.1**
F17K					**Sb**	**18 53 35.3**	**-0.2**
F17K	**Baldwin Pennin**	**1.84**	**62**	IAML		**18 53 42.4**	
	comp=E,456nm,0.5s						
F17K				IAML		18 53 47.7	
	comp=N,503nm,0.9s						
G17K	**Kiwalik Mounta**	**1.93**	**92**		**Pn**	**18 53 11.2**	**-0.5**
G17K					**Sb**	**18 53 38.1**	**-0.1**
E17K	**Hotham Inlet**	**2.02**	**42**		**Pn**	**18 53 12.4**	**-0.6**
E17K					**Sb**	**18 53 40.3**	**-0.5**
D17K	**Noatak River**	**2.26**	**22**		**Pn**	**18 53 16.4**	**+0.2**
D17K					**Sn**	**18 53 44.9**	**+0.5**
D17K					**Sb**	**18 53 45.4**	**-2.2**
H17K	**Granite Mounta**	**2.36**	**105**		**Sb**	**18 53 48.9**	**-1.8**
H17K	**Granite Mounta**	**2.36**	**105**		**Pn**	**18 53 17.5**	**-0.1**
H17K				IAML		18 53 53.8	
	comp=E,249nm,0.5s						
H17K				IAML		18 53 59.9	
	comp=N,302nm,0.7s						
F18K	**Selawik**	**2.49**	**64**		**Pn**	**18 53 19.3**	**-0.1**
F18K					**Pb**	**18 53 20.1**	**-3.4**
F18K					**Sn**	**18 53 52.0**	**+1.9**
E18K	**Tukpahlearik C**	**2.60**	**44**		**Sn**	**18 53 54.7**	**+2.0**
E18K	**Tukpahlearik C**	**2.60**	**44**		**Pn**	**18 53 20.1**	**-0.8**
E18K				IAML		18 54 04.7	
	comp=E,262nm,0.6s						
E18K				IAML		18 54 05.0	
	comp=N,325nm,0.7s						
RDOG	**Red Dog Mine**	**2.61**	**20**		**Pn**	**18 53 21.5**	**+0.4**
RDOG					**Sn**	**18 53 55.2**	**+2.0**
I17K	**Unalakleet**	**2.63**	**130**		**Pn**	**18 53 22.1**	**+0.8**
I17K					**Sn**	**18 53 54.2**	**+0.7**
C16K	**Lisburne Hills**	**2.66**	**359**		**Pn**	**18 53 22.6**	**+0.8**
C16K				IAML		18 53 56.8	
	comp=N,212nm,0.4s						
C16K				IAML		18 54 09.6	
	comp=E,210nm,0.7s						
G18K	**Tagagawik**	**2.75**	**81**		**Pn**	**18 53 22.6**	**-0.3**
G18K					**Pb**	**18 53 22.8**	**-5.1**
H18K	**Honhosa River**	**2.93**	**96**		**Pn**	**18 53 25.8**	**+0.2**
H18K				IAML		18 54 13.6	
	comp=N,234nm,0.9s						
C17K	**DeLong Mountai**	**2.98**	**15**		**Pn**	**18 53 26.9**	**+0.8**
J14K	**Nanvaranak Lak**	**2.99**	**165**		**Pn**	**18 53 26.6**	**+0.4**
J14K				IAML		18 54 23.1	
	comp=E,210nm,0.9s						
J14K				IAML		18 54 25.0	
	comp=N,151nm,0.7s						
J16K	**Anvik River**	**3.10**	**137**		**Pn**	**18 53 28.2**	**+0.4**
F19K	**Shaleruckik Mo**	**3.27**	**65**		**Pn**	**18 53 30.9**	**+0.7**
GAMB	**Gambell**	**3.33**	**239**		**Pb**	**18 53 38.7**	**+1.0**
GAMB	**Gambell**	**3.33**	**239**		**Pn**	**18 53 31.7**	**+0.9**
C18K	**Utukok River**	**3.43**	**26**		**Pb**	**18 53 40.2**	**+0.7**
C18K	**Utukok River**	**3.43**	**26**		**Pn**	**18 53 33.1**	**+0.8**
J17K	**VABM Dome**	**3.49**	**127**	IAML		**18 54 33.9**	
	comp=E,134nm,0.6s						
J17K				IAML		18 54 40.0	
	comp=N,136nm,1.0s						
H19K	**Roundabout Mou**	**3.67**	**88**		**Pn**	**18 53 36.0**	**+0.4**
H19K				IAML		18 54 35.1	
	comp=N,90nm,0.6s						
H19K				IAML		18 54 45.2	
	comp=E,107nm,1.0s						
E19K	**Redstone River**	**3.71**	**57**		**Pn**	**18 53 36.5**	**+0.3**
E19K	**Redstone River**	**3.71**	**57**	IAML		**18 54 40.2**	
	comp=N,111nm,0.6s						
E19K				IAML		18 54 44.1	
	comp=E,117nm,0.9s						
K13K	**Kusilvak Mount**	**3.72**	**175**		**Pn**	**18 53 36.8**	**+0.5**
K13K	**Kusilvak Mount**	**3.72**	**175**	IAML		**18 54 46.6**	
	comp=N,106nm,0.7s						
K13K				IAML		18 54 48.0	
	comp=E,120nm,0.9s						
K15K	**Wolf Creek Mou**	**3.73**	**152**		**Pn**	**18 53 37.4**	**+0.9**
D19K	**Kuna River**	**4.02**	**41**		**Pn**	**18 53 40.9**	**+0.5**
D19K				IAML		18 54 58.5	
	comp=E,79nm,0.8s						
D19K				IAML		18 54 59.5	
	comp=N,60nm,0.8s						
C19K	**Lookout Ridge**	**4.13**	**30**	Pn	**Pn**	**18 53 42.4**	**+0.4**
C19K				IAML		18 54 55.0	
	comp=E,58nm,0.7s						
J18K	**Innoko River**	**4.29**	**116**		**Pn**	**18 53 45.2**	**+1.1**
J18K				IAML		18 55 00.5	
	comp=N,75nm,0.8s						
L15K	**Ungalak Mounta**	**4.31**	**155**		**Pn**	**18 53 45.3**	**+0.9**
J19K	**Poorman**	**4.44**	**107**		**Pn**	**18 53 47.9**	**+1.7**
J19K				IAML		18 55 01.2	
	comp=N,45nm,0.8s						
J19K				IAML		18 55 08.7	
	comp=E,45nm,0.9s						
L14K	**Kuka Creek**	**4.46**	**164**		**Pn**	**18 53 46.8**	**+0.4**
D20K	**Etivluk River**	**4.58**	**44**	Pn	**Pn**	**18 53 48.2**	**0.0**
D20K				IAML		18 55 14.6	
	comp=E,38nm,1.1s						
I20K	**Naaghedeneel**	**4.62**	**95**		**Pn**	**18 53 49.0**	**+0.3**
L17K	**Donlin**	**4.67**	**135**		**Pn**	**18 53 50.1**	**+0.8**
L16K	**Owhat River**	**4.70**	**144**		**Pn**	**18 53 50.6**	**+0.8**
IMAR	**Indian Mountai**	**4.76**	**80**		**Pn**	**18 53 50.2**	**-0.4**
G21K	**Allakaket**	**4.88**	**74**		**Pn**	**18 53 52.7**	**+0.5**
J20K	**Nowinta River**	**4.96**	**102**		**Pn**	**18 53 54.5**	**+1.2**
J20K	**Nowinta River**	**4.96**	**102**	IAML		**18 55 21.2**	
	comp=N,34nm,0.7s						
F21K	**Alatna River**	**5.00**	**66**		**Pn**	**18 53 54.9**	**+1.0**
F21K				IAML		18 55 24.0	
	comp=E,35nm,0.7s						
F21K				IAML		18 55 25.1	
	comp=N,32nm,0.7s						
L18K	**Granite Mounta**	**5.10**	**128**	IAML		**18 55 37.6**	
	comp=E,31nm,1.2s						
M14K	**Bethel**	**5.12**	**161**		**Pn**	**18 53 56.5**	**+1.0**
M14K	**Bethel**	**5.12**	**161**	IAML		**18 55 38.6**	
	comp=E,37nm,1.0s						
H21K	**Melozitna Rive**	**5.17**	**84**	IAML		**18 55 28.1**	
	comp=E,27nm,0.7s						
H21K				IAML		18 55 29.3	
	comp=N,28nm,1.2s						
K20K	**Telida**	**5.35**	**110**		**Pn**	**18 54 00.1**	**+1.3**
M15K	**Kasigluk River**	**5.37**	**155**		**Pn**	**18 53 59.7**	**+0.8**
C21K	**Knifeblade Rid**	**5.38**	**44**		**Pn**	**18 54 00.5**	**+1.5**
M16K	**Timber Creek**	**5.43**	**145**		**Pn**	**18 54 01.4**	**+1.6**
M17K	**Holitna River**	**5.50**	**137**		**Pn**	**18 54 02.5**	**+1.7**
L19K	**White Mountain**	**5.75**	**122**

mbtmp4.1/4, Error ellipse: s-maj=199.5km s-min=38.7km az=30.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.52**	**245**	P	P	19 03 51.1	-0.1
	0.9nm,0.4s,baz=83,slow=11,SNR=4.6 0.9nm,0.4s						
ASAR	**Alice Springs**	**44.35**	**257**	P	P	19 04 47.5	-0.3
	1.8nm,0.4s,baz=95,slow=7.4,SNR=37 1.8nm,0.4s						
WRA	**Warramunga Arr**	**44.48**	**263**	P	P	19 04 48.9	0.0
	2.7nm,0.7s,baz=99,slow=8.1,SNR=48 2.7nm,0.7s						
QSPA	**South Pole Qui**	**69.06**	**180**	P	P	19 07 43.0	+0.1
	1.5nm,0.9s,baz=41,slow=7.5,SNR=8.2 1.5nm,0.9s						

*NNC **30** 19:01:47.4±10.0, 38°.91N×71°.12E, h9km±52km, mb3.9, mpv3.7, Error ellipse: s-maj=71.6km s-min=42.6km az=179.0*

*KRNET **30** 19:01:47.7±0.1, 39°.21N×71°.65E, h16km, mb3.8*

ISC 30 19:01:46.7±1.4, 39°.23N±0°.06×71°.53E±0°.03, h2km±10km, n34, σ1§84/56, 30C-22D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.33**	**40**	↑eP	**Pg**	**19 01 53.8**	**+0.7**
DRK				↑eS	**Sg**	**19 01 58.3**	**+0.9**
GAR	**Garm**	**0.97**	**257**	↓eP	**Pn**	**19 02 07.6**	**+0.1**
GAR				↓eS	**Sn**	**19 02 22.1**	**+0.2**
OHH	**Osh**	**1.62**	**36**	↑eP	**Pb**	**19 02 16.8**	**-0.6**
OHH				↑eS	**Sb**	**19 02 38.1**	**-0.2**
SFK	**Sufi-Kurgan**	**1.71**	**62**	↓eP	**Pb**	**19 02 18.1**	**-1.0**
SFK				↓eS	**Sb**	**19 02 40.1**	**-1.2**
CHGR	**Chuyangaron**	**1.93**	**254**	eP	**Pg**	**19 02 23.9**	**+0.1**
CHGR				eS	**Sg**	**19 02 50.3**	**+1.4**
TRKS	**Terek-Say**	**2.32**	**353**	↓eP	**Pb**	**19 02 27.8**	**-1.6**
TRKS				↓eS	**Sb**	**19 02 57.0**	**-1.6**
ARSB	**Arslanbob**	**2.37**	**28**	↑eP	**Pb**	**19 02 28.6**	**-1.7**
ARSB				↑eS	**Sb**	**19 02 58.5**	**-1.5**
SALK	**Salom-Alik**	**2.42**	**46**	↑eP	**Pb**	**19 02 28.8**	**-2.2**
SALK				↑eS	**Sb**	**19 02 58.8**	**-2.5**
ARK	**Arkit**	**2.59**	**7**	↑eP	**Pb**	**19 02 32.2**	**-1.8**
ARK				↑eS	**Sb**	**19 03 04.7**	**-1.6**
ARLS	**Aral**	**3.38**	**38**	↑eP	**Pn**	**19 02 42.4**	**+1.6**
ARLS				↑eS	**Sn**	**19 03 22.4**	**+0.8**
JNKS	**Jany-Kuch**	**3.65**	**59**	↓eP	**Pn**	**19 02 45.9**	**+1.4**
JNKS				↓eS	**Sn**	**19 03 28.3**	**0.0**
UCH	**Uchtor**	**3.76**	**36**	P	**Pb**	**19 02 51.2**	**-2.9**
	SNR=29						
UCH	**Uchtor**	**3.76**	**36**	↓eP	**Pn**	**19 02 48.0**	**+1.8**
UCH				↓eS	**Sn**	**19 03 31.9**	**+0.7**
EKS2	**Erkin-Say**	**3.83**	**26**	P	**Pb**	**19 02 51.9**	**-3.2**
	SNR=25						
EKS2	**Erkin-Say**	**3.83**	**26**	↑eP	**Pn**	**19 02 48.9**	**+2.1**
EKS2				↑eS	**Sn**	**19 03 33.7**	**+1.2**
KK31	**Karatay Array**	**3.95**	**349**	Pn	**Pb**	**19 02 53.5**	**-3.6**
	6.0nm,0.3s,baz=179,slow=13,SNR=235						
KK31				↓Sn	**Sb**	**19 03 43.9**	**-1.4**
	7.8nm,0.4s,baz=165,slow=22,SNR=3.5						
KK31				Lg	Lg	19 03 58.5	
	23nm,0.7s,baz=179,slow=32,SNR=6.6						
AAK	**Ala-Archa**	**4.08**	**32**	P	**Pb**	**19 02 55.4**	**-4.0**
	SNR=38						
AAK	**Ala-Archa**	**4.08**	**32**	↓Pn	**Pb**	**19 02 55.6**	**-3.8**
	4.2nm,0.4s						
AAK				↑Sn	**Sb**	**19 03 47.4**	**-1.8**
	6.0nm,0.7s						
AAK				↑Lg	Lg	19 04 09.7	
	7.8nm,0.6s						
AAK	**Ala-Archa**	**4.08**	**32**	↑eP	**Pn**	**19 02 52.2**	**+1.9**
AAK				↑eS	**Sn**	**19 03 39.5**	**+0.8**
FRU1	**Bishkek**	**4.28**	**32**	↑eP	**Pn**	**19 02 55.2**	**+2.2**
FRU1				↑eS	**Sn**	**19 03 44.4**	**+0.9**
KBK	**Karagaybulak**	**4.29**	**36**	P	**Pb**	**19 02 59.0**	**-4.1**
	SNR=23						
KBK	**Karagaybulak**	**4.29**	**36**	↓eP	**Pn**	**19 02 55.2**	**+1.9**
KBK				↓eS	**Sn**	**19 03 44.4**	**+0.4**
CHMS	**Chumysh**	**4.49**	**32**	P	Pb	19 03 01.4	-4.8
	SNR=11						
CHMS	**Chumysh**	**4.49**	**32**	↑eP	**Pn**	**19 02 57.8**	**+2.0**
CHMS				↑eS	**Sn**	**19 03 49.0**	**+0.5**
USP	**Ospenovka**	**4.62**	**28**	P	Pn	19 03 02.5	+5.0
	SNR=62						
USP	**Ospenovka**	**4.62**	**28**	↑eP	**Pn**	**19 02 59.7**	**+2.1**
USP				↑eS	**Sn**	**19 03 52.3**	**+0.5**
BOOM	**Boomskoye usch**	**4.67**	**44**	↓eP	**Pn**	**19 03 00.3**	**+1.9**
BOOM				↓eS	**Sn**	**19 03 53.2**	**-0.1**
ULHL	**Ulahol**	**4.68**	**48**	P	Pn	19 03 02.8	+4.2
	SNR=6.4						
ULHL	**Ulahol**	**4.68**	**48**	↑eP	**Pn**	**19 03 00.3**	**+1.7**
ULHL				↑eS	**Sn**	**19 03 53.2**	**-0.4**
TKM2	**Tokmak 2**	**4.80**	**39**	P	Pn	19 03 05.2	+4.9
	SNR=32						
TKM2	**Tokmak 2**	**4.80**	**39**	↓eP	**Pn**	**19 03 02.2**	**+1.9**
TKM2				↓eS	**Sn**	**19 03 56.5**	**-0.1**
KDJ	**Kajisay**	**5.18**	**54**	↑eP	**Pn**	**19 03 07.1**	**+1.6**
KDJ				↑eS	**Sn**	**19 04 05.1**	**-0.9**
TARG	**Taragay, Kyrgy**	**5.40**	**60**	↓eP	**Pn**	**19 03 10.1**	**+1.4**
TARG				↓eS	**Sn**	**19 04 10.1**	**-1.5**
AB31	**Akbulak array**	**13.00**	**324**	↓Pn	**Pn**	**19 04 54.2**	**+1.8**
	0.4nm,0.3s						
AB31				↓Sn	**Sn**	**19 07 18.1**	**+0.5**
	1.8nm,0.7s						

*IDC **30** 19:13:40.0±0.6, 15°.24S×173°.38W, h0km, mb4.1/12, mbtmp4.1/12, MS3.5/8, Error ellipse: s-maj=28.2km s-min=16.7km az=134.0*

*NEIC **30** 19:13:41.6±2.0, 15°.37S±0°.08×173°.26W±0°.10, h10km±1km, mb4.5/18, Error ellipse: s-maj=18.3km s-min=11.5km az=125.0*

ISC 30 19:13:40.7±0.5, 15°.32S±0°.08×173°.2W±0°.1, h10km, n56, σ1§44/36, mb4.5/19, MS3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**45**		**Pn**	**19 14 14.6**	**+0.3**
AFI				Sn	**Sn**	**19 14 35.1**	**-4.0**
NIUE	**Niue**	**4.87**	**140**	Pn	**Pn**	**19 14 52.6**	**-1.5**
RAR	**Rarotonga**	**14.03**	**117**	LR	LR	19 21 04.7	
	comp=Z,35nm,21.8s,baz=216,slow=31						
DZM	**Mont Dzumac**	**20.40**	**248**	P	Pn	19 18 19.3	-0.9
	9.8nm,1.1s,baz=82,slow=14,SNR=4.6 9.8nm,1.1s						
PPT	**Papeete**	**22.77**	**99**	LR	LR	19 24 51.8	
	comp=Z,36nm,20.0s,baz=336,slow=29						
PPT2	**Papeete2**	**22.77**	**99**	eLR	LR	19 23 58.3	
	135nm,26.8s						
PPT2				eLR	LR	19 24 02.4	
	79nm,32.2s						
TBI	**Tubuai**	**23.76**	**113**	eLR	LR	19 24 54.1	
	1μm,37.8s						
QRZ	**Quartz Range**	**28.28**	**203**	P	**P**	**19 19 34.8**	**+0.6**
ARMA	**Armidale**	**35.54**	**239**	P	**P**	**19 20 38.0**	**-0.4**
ARMA				IAmb	IAmb	19 20 52.2	
	comp=Z,8.4nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	20 02 11.6	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	20 01 55.5	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	20 01 56.0	
	baz=149,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	20 04 02.4	
	baz=150,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	20 04 02.7	
	baz=150,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	20 04 03.7	
	baz=150,slow=76,SNR=5.7						
STKA	**Stephens Creek**	**44.24**	**240**	IAmb	IAmb	19 21 50.1	
	comp=Z,43nm,1.4s						
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**19 21 49.6**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=63,slow=7.6,SNR=5.1 comp=Z,2.7nm,0.8s						
INKA	**Innaminka**	**44.34**	**246**	P	**P**	**19 21 47.3**	**-4.1**
INKA				IAmb	IAmb	19 21 48.6	
	comp=Z,3.5nm,0.5s						
BBOO	**Buckleboo**	**49.01**	**240**	P	**P**	**19 22 27.1**	**-0.9**
WR8	**Warramunga Arr**	**49.89**	**257**	P	**P**	**19 22 34.5**	**-0.3**
WR8				IAmb	IAmb	19 22 48.3	
	comp=Z,7.7nm,1.4s						
WB0	**Warramunga Arr**	**50.01**	**257**	P	**P**	**19 22 34.1**	**-1.6**
WB0				IAmb	IAmb	19 23 03.2	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**50.05**	**257**	IAmb	IAmb	19 22 35.4	
	comp=Z,0.2nm,1.1s						
WRA	**Warramunga Arr**	**50.05**	**257**	P	**P**	**19 22 35.3**	**-0.7**
	comp=Z,2.4nm,1.1s,baz=82,slow=6.1,SNR=15 comp=Z,2.4nm,1.1s						
AS31	**Alice Springs**	**50.31**	**252**	P	**P**	**19 22 36.6**	**-1.5**
AS31				IAmb	IAmb	19 22 37.9	
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**19 22 37.0**	**-1.0**
	comp=Z,7.1nm,0.6s,baz=86,slow=8.2,SNR=154						
ASAR				LR	LR	19 42 10.8	
	comp=Z,75nm,21.3s,baz=97,slow=34 comp=Z,7.1nm,0.6s						
FORT	**Forrest**	**55.62**	**243**	P	**P**	**19 23 15.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**58.41**	**258**	IAmb	IAmb	19 23 43.0	
	comp=Z,2.6nm,1.2s						
FITZ	**Fitzroy Crossi**	**58.41**	**258**	P	**P**	**19 23 36.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=98,slow=7.1,SNR=1.5 comp=Z,1.7nm,0.9s						
BATI	**Baumata**	**61.61**	**267**	LR	LR	19 48 58.2	
	comp=Z,67nm,18.3s,baz=169,slow=34						
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**19 24 10.7**	**+0.3**
VNDA				IAmb	IAmb	19 24 12.4	
	comp=Z,5.3nm,1.4s						
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**19 24 10.9**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=18,slow=8.5,SNR=10 comp=Z,1.5nm,0.9s						
PETK	**Petropavlovsk-**	**72.61**	**342**	P	**P**	**19 25 08.0**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=112,slow=6.6,SNR=3.5 comp=Z,4.0nm,0.8s						
PFO	**Pinyon Flats O**	**72.73**	**47**	LR	LR	19 47 49.8	
	comp=Z,80nm,21.4s,baz=170,slow=28						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**19 25 19.3**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=248,slow=7.8,SNR=4.1 comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**74.72**	**180**	P	**P**	**19 25 23.2**	**+2.6**
QSPA				IAmb	IAmb	19 25 24.7	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui**	**74.72**	**180**	P	**P**	**19 25 23.2**	**+2.6**
	comp=Z,4.7nm,0.8s,baz=59,slow=2.2,SNR=13 comp=Z,4.7nm,0.8s						
HLID	**Hailey**	**79.45**	**39**	P	**P**	**19 25 48.9**	**+1.3**
PV23	**Carpenter Ridg**	**80.38**	**46**	P	**P**	**19 25 53.9**	**+1.0**
PV23				IAmb	IAmb	19 25 55.2	
	comp=Z,7.1nm,0.9s						
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**19 25 54.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=224,slow=3.5,SNR=4.9						
TXAR				LR	LR	19 56 12.2	
	comp=Z,27nm,18.9s,baz=248,slow=32 comp=Z,0.5nm,0.7s						
ANMO	**Albuquerque**	**80.61**	**50**	LR	LR	19 53 50.7	
	comp=Z,50nm,18.9s,baz=308,slow=30						
CCB	**Clear Creek Bu**	**82.05**	**11**		**P**	**19 26 00.9**	**+0.1**
CCB				IAmb	IAmb	19 26 02.2	
	comp=Z,3.8nm,0.9s						
PD31	**Pinedale Array**	**82.08**	**42**	P	**P**	**19 26 02.3**	**+0.5**
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**19 26 02.2**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=228,slow=3.8,SNR=6.0 comp=Z,0.9nm,0.9s						
YHL	**Hebgen Lake**	**82.10**	**39**	IAmb	IAmb	19 26 04.6	
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**82.33**	**11**	P	**P**	**19 26 03.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=226,slow=6.1,SNR=14						
ILAR				LR	LR	19 57 00.4	
	comp=Z,35nm,19.4s,baz=86,slow=32 comp=Z,0.7nm,0.6s						
H03S2	**Juan Fernandez**	**85.09**	**124**	T	T	21 00 07.8	
	baz=251,slow=74,SNR=4.7						
H03S1	**Juan Fernandez**	**85.10**	**124**	T	T	21 00 08.4	
	baz=251,slow=74,SNR=3.9						
H03S3	**Juan Fernandez**	**85.10**	**124**	T	T	21 00 04.7	
	baz=251,slow=74,SNR=3.5						
BVAR	**Borovoye Array**	**117.94**	**322**	PKP	**PKPdf**	**19 32 27.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=354,slow=1.4,SNR=3.6						
ARCES	**ARCESS Array B**	**124.56**	**352**	PKP	**PKPdf**	**19 32 39.7**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=352,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	**131.91**	**348**	PKP	**PKPdf**	**19 32 53.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=15,slow=7.9,SNR=3.9						
KMBO	**Kilima Mbogo**	**145.74**	**244**	PKPbc	**PKPab**	**19 33 21.9**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=170,slow=6.1,SNR=4.8						
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPab**	**19 33 21.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=39,slow=8.6,SNR=5.2						
BRTR	**Keskin Array B**	**146.22**	**321**		**PKPab**	**19 33 22.5**	**-0.1**
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	**PKPab**	**19 33 22.9**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=122,slow=2.8,SNR=24						
MMAI	**Mount Meron Ar**	**148.67**	**309**	PKPbc	**PKPbc**	**19 33 29.2**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=51,slow=0.9,SNR=6.1						

*IDC **30** 19:20:15.9±1.5, 1°.34N×125°.93E, h0km, mb3.9/4, mbtmp3.8/5, ML3.5/1, MS3.4/1, Error ellipse: s-maj=119.1km s-min=18.8km az=68.0*

*DJA **30** 19:20:18.8±0.2, 1°.N±2°.×12°.6E±°., h10km, M3.8/10, mb4.0/1, MLv3.7/10*

*NEIC **30** 19:20:20.1±1.9, 1°.5N±0°.1×126°.40E±0°.07, h35km±2km, mb4.0/11, Error ellipse: s-maj=21.7km s-min=3.1km az=212.0*

ISC 30 19:20:20.7±0.8, 1°.47N±0°.05×126°.46E±0°.06, h47km, n26, σ1§16/30, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**127**	Pn	**Pn**	**19 20 40.7**	**+0.4**
TNTI				Sn	**Sn**	**19 20 54.8**	**0.0**
TNTI	**Ternate**	**1.14**	**127**	P	**Pn**	**19 20 40.7**	**+0.4**
TNTI				S	**Sn**	**19 20 55.8**	**+1.0**
SGSI	**Sangihe**	**2.39**	**337**	P	**Pn**	**19 20 58.4**	**+1.0**
SGSI				S	**Sn**	**19 21 26.9**	**+1.4**
KMSI	**Cibinong**	**2.63**	**250**	P	**Pn**	**19 21 01.1**	**+0.4**
KMSI				S	**Sn**	**19 21 33.3**	**+1.8**
SANI	**Sanana**	**3.53**	**188**	P	**Pn**	**19 21 14.3**	**+1.3**
LUWI	**Luwuk**	**4.45**	**236**		**Pn**	**19 21 24.4**	**-1.4**
LUWI	**Luwuk**	**4.45**	**236**	P	**Pn**	**19 21 26.9**	**+1.2**
MRSI	**Marisa**	**4.62**	**258**	P	**Pn**	**19 21 29.3**	**+1.2**
TOLI2	**Tolitoli**	**5.69**	**266**	Pn	**Pn**	**19 21 39.5**	**-3.1**
MYLDM	**Lahad Datu**	**8.76**	**295**	Pn	**Pn**	**19 22 24.4**	**-0.4**
KNRA	**Kununurra**	**17.19**	**172**	P	**Pn**	**19 24 17.7**	**+0.1**
KNRA				IAmb	IAmb	19 24 23.9	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P	**P**	**19 24 43.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=8.7,slow=13,SNR=2.0 comp=Z,2.4nm,0.9s						
TPUB	**Ta-pu**	**22.43**	**346**	P	**P**	**19 25 14.9**	**-0.8**
WB0	**Warramunga Arr**	**22.50**	**160**		**P**	**19 25 17.0**	**+0.6**
WB0				IAmb	IAmb	19 25 18.6	
	comp=Z,3.3nm,0.7s						
WRAB	**Tennant Creek**	**22.64**	**160**	P	**P**	**19 25 17.6**	**-0.3**
WRAB				IAmb	IAmb	19 25 20.1	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**22.64**	**160**	P	**P**	**19 25 17.2**	**-0.7**
WRA	**Warramunga Arr**	**22.64**	**160**	P	**P**	**19 25 19.4**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=337,slow=11,SNR=18 comp=Z,3.7nm,0.8s						
WR8	**Warramunga Arr**	**22.71**	**160**	P	**P**	**19 25 18.5**	**-0.1**
WR8				IAmb	IAmb	19 25 20.4	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**26.01**	**164**	P	**P**	**19 25 48.0**	**-1.5**
AS31				IAmb	IAmb	19 25 54.5	
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**26.01**	**164**	P	**P**	**19 25 50.9**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=344,slow=11,SNR=20 comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**19 30 18.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=118,slow=7.9,SNR=12						
MKAR				LR	LR	19 56 56.0	
	comp=Z,30nm,19.5s,baz=326,slow=37 comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**59.44**	**326**	P	**P**	**19 30 17.2**	**-1.5**
MAKZ				IAmb	IAmb	19 30 25.7	
	comp=Z,3.0nm,1.2s						
KURBB	**Kurchatov Arra**	**63.49**	**328**	P	**P**	**19 30 46.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.0,SNR=9.1 comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**63.50**	**328**	P	**P**	**19 30 46.4**	**+0.4**
AB31	**Akbulak array**	**73.72**	**321**	P	**P**	**19 31 48.6**	**-1.2**
AB31				IAmb	IAmb	19 31 56.9	
	comp=Z,2.5nm,1.2s						
ABKAR	**Akbulak array**	**73.72**	**321**	P	**P**	**19 31 49.6**	**-0.2**

*IDC **30** 20:31:28.5±0.9, 6°.87N×124°.97E, h0km, mb3.6/7, mbtmp3.6/7, MS3.1/2, Error ellipse: s-maj=17.5km s-min=9.7km az=158.0*

*DJA **30** 20:31:30.0±1.4, 7°.N±13°.×12°.5E±°., h10km, M4.7/8, mB5.3/1, mb4.9/6, MLv4.7/8, Mw(mB)4.8/1*

ISC 30 20:31:30.7±0.8, 6°.95N±0°.09×125°.1E±0°.1, h13km, n14, σ1§01/12, mb3.7/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.48**	**76**	Pg	**Pg**	**20 31 40.8**	**+0.6**
	baz=258,slow=6.5						
DAV				Lg	Lg	20 31 49.6	
	baz=287,slow=14						
SGSI	**Sangihe**	**3.27**	**173**	P	**Pn**	**20 32 22.9**	**+1.2**
KMSI	**Cibinong**	**6.43**	**190**	P	**Pn**	**20 33 05.9**	**+0.7**
	0.5nm135nm,0.6s						
MRSI	**Marisa**	**7.17**	**206**	P	**Pn**	**20 33 16.4**	**+1.1**
SANI	**Sanana**	**8.98**	**174**	P	**Pn**	**20 33 39.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.89**	**179**	P	**P**	**20 36 53.8**	**+0.3**
	2.6nm,0.6s,baz=349,slow=7.4,SNR=7.2 2.6nm,0.6s						
WRA	**Warramunga Arr**	**28.23**	**161**	P	**P**	**20 37 21.7**	**-1.8**
	0.4nm,0.5s,baz=333,slow=11,SNR=5.9 0.4nm,0.5s						
ASAR	**Alice Springs**	**31.62**	**164**	P	**P**	**20 37 52.6**	**-0.9**
	0.6nm,0.5s,baz=339,slow=6.9,SNR=12 0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**31.79**	**20**	LR	LR	20 52 34.1	
	comp=Z,33nm,18.0s,baz=186,slow=40						
ASAJ	**Asahikawa**	**40.06**	**20**	LR	LR	20 55 07.7	
	comp=Z,29nm,20.1s,baz=179,slow=35						
STKA	**Stephens Creek**	**41.69**	**159**	P	**P**	**20 39 19.6**	**+0.3**
	1.1nm,0.6s,baz=349,slow=13,SNR=3.0 1.1nm,0.6s						
SONM	**Songino Array**	**43.75**	**342**	P	**P**	**20 39 35.8**	**-0.3**
	0.2nm,0.5s,baz=152,slow=6.7,SNR=4.5 0.2nm,0.5s						
MKAR	**Makanchi Array**	**54.01**	**325**	P	**P**	**20 40 54.0**	**-0.7**
	0.2nm,0.5s,baz=121,slow=8.7,SNR=5.3 0.2nm,0.5s						
BVAR	**Borovoye Array**	**63.76**	**327**	P	**P**	**20 42 03.0**	**+0.7**
	0.2nm,0.3s,baz=127,slow=6.7,SNR=1.5 0.2nm,0.3s						

*IDC **30** 20:35:46.6±0.7, 6°.74N×124°.95E, h0km, mb3.9/12, mbtmp3.9/12, MS3.4/6, Error ellipse: s-maj=14.3km s-min=9.5km az=150.0*

*NEIC **30** 20:35:48.7±2.3, 6°.87N±0°.09×125°.04E±0°.05, h10km±1km, mb4.4/23, Error ellipse: s-maj=15.1km s-min=7.9km az=159.0*

*DJA **30** 20:35:48.1±0.9, 7°.N±5°.×12°.5E±°., h29km±8km, M4.8/13, mb4.8/13, mB5.3/6, MLv4.9/11, Mw(mB)4.7/6*

ISC 30 20:35:48.0±0.5, 6°.79N±0°.06×125°.09E±0°.07, h13km, n57, σ1§74/46, mb4.2/24, MS3.1/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.56**	**60**	Pg	**Pg**	**20 35 59.8**	**+0.8**
	baz=230,slow=7.7						
DAV				Lg	Lg	20 36 10.8	
	baz=209,slow=18						
DAV	**Davao City (W)**	**0.56**	**60**	P	**Pg**	**20 35 57.0**	**-2.0**
SGSI	**Sangihe**	**3.11**	**172**	P	**Pn**	**20 36 38.0**	**+1.2**
KMSI	**Cibinong**	**6.27**	**190**	P	Pn	20 37 26.6	+6.4
TNTI	**Ternate**	**6.39**	**159**	Pn	**Pn**	**20 37 19.7**	**-2.2**
TNTI	**Ternate**	**6.39**	**159**	P	Pn	20 37 27.5	+5.6
	45nm,1.1s						
MYLDM	**Lahad Datu**	**6.74**	**257**		**Pn**	**20 37 27.4**	**+0.7**
MRSI	**Marisa**	**7.01**	**207**	P	**Pn**	**20 37 32.9**	**+2.5**
	0.4nm63nm,0.5s						
TOLI2	**Tolitoli**	**7.08**	**217**		**Pn**	**20 37 31.2**	**-0.2**
TOLI2				Sn	**Sn**	**20 38 46.7**	**-5.2**
LUWI	**Luwuk**	**8.11**	**197**	Pn	**Pn**	**20 37 49.3**	**+3.7**
LUWI	**Luwuk**	**8.11**	**197**	P	Pn	20 37 51.8	+6.3
	1μm146nm,0.9s						
TGY	**Tagaytay City**	**8.34**	**331**	LR	LR	20 41 04.8	
	comp=Z,211nm,19.2s,baz=122,slow=38						
APSI	**Ampana**	**8.38**	**204**	P	Pn	20 37 54.8	+5.6
	45nm,0.8s						
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**20 37 57.4**	**+2.1**
	18nm,0.8s						
I39PW	**PALAU INFRASON**	**9.42**	**85**	I	I	21 26 25.6	
	baz=266,slow=284,SNR=0.8						
SBUM	**Sibu**	**13.53**	**252**	Pn	**Pn**	**20 38 59.9**	**+0.2**
BATI	**Baumata**	**16.94**	**185**	LR	LR	20 47 12.3	
	comp=Z,102nm,18.1s,baz=16,slow=41						
BATI	**Baumata**	**16.94**	**185**	P	**P**	**20 39 50.1**	**+3.3**
JOW	**Kunigami**	**20.17**	**8**	LR	LR	20 48 03.5	
	comp=Z,104nm,20.1s,baz=106,slow=36						
MTN	**Manton Dam**	**20.41**	**163**	P	**P**	**20 40 25.5**	**+0.6**
MTN				IAmb	IAmb	20 40 53.0	
	comp=Z,19nm,1.2s						
GUMO	**Guam**	**20.60**	**69**	LR	LR	20 47 02.2	
	comp=Z,70nm,21.1s,baz=201,slow=33						
KNRA	**Kununurra**	**22.61**	**171**		**P**	**20 40 51.0**	**+2.4**
KNRA				IAmb	IAmb	20 41 12.9	
	comp=Z,21nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.73**	**179**		**P**	**20 41 11.4**	**+2.2**
FITZ	**Fitzroy Crossi**	**24.73**	**179**	P	**P**	**20 41 10.6**	**+1.4**
	comp=Z,5.4nm,0.5s,baz=359,

comp=Z,6.2nm,1.3s
KKAR Karatay Array 59.90 316 P **P 20 45 52.8 -1.0**
BVAR Borovoye Array 63.88 327 P **P 20 46 20.8 +0.5**
comp=Z,0.5nm,0.6s,baz=116,slow=6.8,SNR=4.1
comp=Z,0.5nm,0.6s
AB31 Akbulak array 68.77 320 P **P 20 46 48.8 -2.9**
ABKAR Akbulak array 68.77 320 P **P 20 46 49.2 -2.5**
RAYN Ar Rayn 77.80 293 P **P 20 47 44.2 -1.5**
RAYN IAmb IAmb 20 47 48.1
comp=Z,2.1nm,0.7s
ILAR Eielson Array 83.07 26 P **P 20 48 13.5 +0.4**
comp=Z,0.5nm,0.9s,baz=248,slow=6.1,SNR=4.1
comp=Z,0.5nm,0.9s

DJA 30 20:42:40.0±0.4,**9°S**±3°×**11°0E**±°,**h10**km,**M3.6**/14,**mb3.5**/1,**MLv3.7**/14,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.11**	**10**	P	Pb	20 43 00.6	-0.7
UGM				S	Sg	20 43 14.5	-1.3
PCJI	**Pacitan**	**1.17**	**46**	P	Pb	20 43 00.0	-2.4
YOGI	**Yogyakarta**	**1.19**	**359**	P	Pb	20 43 01.2	-1.4
YOGI				S	Sb	20 43 18.1	+0.1
SMRI	**Semarang**	**1.95**	**4**	P	Pb	20 43 14.7	-1.0
SMRI				S	Sb	20 43 40.3	+0.2
NGJI	**Ngawi**	**1.98**	**35**	P	Pb	20 43 16.3	+0.1
KPJI	**Karang Pucung**	**2.16**	**320**	P	Pn	20 43 15.4	-0.7
KPJI				S	Sn	20 43 44.5	+1.6
BLJI	**Banyuglugur**	**3.48**	**69**	P	Pn	20 43 34.4	+0.2
CNJI	**Cibinong**	**3.58**	**298**	P	Pn	20 43 35.0	-0.6
JAGI	**Jajag, Banyuwa**	**3.83**	**82**	P	Pn	20 43 39.0	0.0
ABJI	**Asem Bagus**	**4.06**	**73**	P	Pn	20 43 42.6	+0.4

MOS ***30*** *20:55:25.3±1.0,2°.73S×28°.59E,h10km,mb5.1/43, MS4.4/12,Error ellipse: s-maj=9.2km s-min=4.3km az=81.6*

IDC ***30*** *20:55:25.8±0.4,2°.76S×28°.56E,h0km,mb4.6/28, mbtmp4.6/31,ML2.6/1,MS4.3/26,Error ellipse: s-maj=16.2km s-min=10.5km az=102.0*

NEIC ***30*** *20:55:27.4,2°.79S×28°.49E,h10km*

NEIC ***30*** *20:55:27.4,2°.79S×28°.49E,h24km*

NEIC ***30*** *20:55:27.2±2.2,2°.78S±0°.07×28°.47E±0°.09,h10km±1km, mb5.3/154,Mwb5.1/25,Mww5.1/10,Error ellipse: s-maj=14.8km s-min=12.3km az=269.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=5.15; $M_{\theta\theta}$1.77; $M_{\phi\phi}$3.38; $M_{r\theta}$1.41; $M_{\theta\phi}$3.50; $M_{\phi r}$1.29; Fault plane solution: M_0=6.04000×10^{16} NP1:ϕ_s=222.10000°, δ=54.33000°, λ=-85.55000°. NP2:ϕ_s=34.50000°, δ=35.91000°, λ=-96.16000°. Principal axes: T 6.4762, Plg9.0000°, Azm309.0000°; N -0.9998, Plg4.0000°, Azm40.0000°; P -5.4764, Plg80.0000°, Azm151.0000°;*

NEIC ***30*** *20:55:27.4,3°.09S×28°.09E,h24km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.89; $M_{\theta\theta}$0.96; $M_{\phi\phi}$3.92; $M_{r\theta}$-0.67; $M_{\theta\phi}$3.49; $M_{\phi r}$1.55; Fault plane solution: M_0=5.93000×10^{16} NP1:ϕ_s=52.12000°, δ=43.46000°, λ=-61.94000°. NP2:ϕ_s=195.83000°, δ=52.62000°, λ=-114.03000°. Principal axes: T 6.3106, Plg5.0000°, Azm303.0000°; N -0.8622, Plg19.0000°, Azm211.0000°; P -5.4484, Plg70.0000°, Azm46.0000°;*

BJI ***30*** *20:55:27.4,2°.47S×28°.69E,h10km,mB5.4/19,mb4.9/56, Ms5.0/26,Ms7 4.7/26*

GCMT ***30*** *20:55:29.2±0.2,2°.77S±0°.01×28°.41E±0°.01,h20km, MW5.2/120,Moment Tensor Solution. s112,c164; s120,c190; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.92±.13; $M_{\theta\theta}$2.11±.09; $M_{\phi\phi}$3.81±.11; $M_{r\theta}$2.59±.20; $M_{\theta\phi}$3.13±.07; $M_{\phi r}$0.21±.20; Best double couple: M_0=6.59600×10^{16} NP1:ϕ_s=22.00000°, δ=39.00000°, λ=-116.00000°. NP2:ϕ_s=234.00000°, δ=55.00000°, λ=-70.00000°. Principal axes: T 6.4600, Plg8.0000°, Azm310.0000°; N 0.2720, Plg16.0000°, Azm42.0000°; P -6.7310, Plg72.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 20:55:26.9±0.5,**2°85S**±0°.04×**28°54E**±0°.05,**h13**km±2km, **h13**km:**pP-P,n611,**σ1§**76**/494,**mb5.2**/218,**MS4.5**/52, **77C-57D,Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I32KE	**NAIROBI INFRAS**	**8.43**	**79**	Lg	Lg	20 59 49.1	
I32KE				I	I	21 43 00.0	
KMBO	**Kilima Mbogo**	**8.87**	**79**	Pn	**Pn**	**20 57 36.0**	**+0.7**
KMBO				Sn	**Sn**	**20 59 12.4**	**-2.9**
KMBO				Lg	Lg	21 00 02.9	
LODK	**Lodwar**	**9.24**	**48**	Pn	**Pn**	**20 57 36.2**	**-3.8**
LODK	**Lodwar**	**9.24**	**48**	P	**Pn**	**20 57 38.6**	**-1.5**
LODK				S	**Sn**	**20 59 28.2**	**+4.2**
KIBK	**Kibwezi**	**9.51**	**87**	P	**Pn**	**20 57 41.1**	**-2.7**
KIBK	**Kibwezi**	**9.51**	**87**	P	**Pn**	**20 57 41.8**	**-2.0**
LSZ	**Lusaka**	**12.35**	**182**		**Pn**	**20 58 19.6**	**-3.1**
LSZ	**Lusaka**	**12.35**	**182**	Pn	**Pn**	**20 58 23.8**	**+1.1**
LSZ				Sn	**Sn**	**21 00 32.8**	**-7.6**
LSZ				Lg	Lg	21 01 52.7	
LSZ				LR	LR	21 02 19.8	
LSZ	**Lusaka**	**12.35**	**182**	P	**Pn**	**20 58 22.0**	**-0.7**
LSZ	**Lusaka**	**12.35**	**182**	*i* P	**Pn**	**20 58 21.9**	**-0.9**
LSZ				*i* S	**Sn**	**21 00 47.3**	**+6.8**
KSANE	**Kasane**	**15.22**	**192**		**Pn**	**20 58 59.6**	**-2.3**
KSANE				IAmb	IAmb	20 59 10.4	
KSANE	**Kasane**	**15.22**	**192**	*i* P	**Pn**	**20 59 00.4**	**-1.4**
FURI	**Furi**	**15.44**	**41**	LR	LR	21 04 43.0	
XAUDM	**Khaudum**	**17.11**	**204**		Pn	20 59 19.4	-6.7
XAUDM	**Khaudum**	**17.11**	**204**	*i* P	**Pn**	**20 59 25.1**	**-1.1**
BLWY	**Bulawayo**	**17.18**	**180**	*i* P	**Pn**	**20 59 25.4**	**-1.6**
GMARE	**Gumare**	**17.58**	**200**	P	**Pn**	**20 59 28.7**	**-3.3**
GMARE				IAmb	IAmb	20 59 43.1	
GMARE	**Gumare**	**17.58**	**200**	*i* P	**Pn**	**20 59 30.7**	**-1.3**
GMARE				*i* S	Sn	21 02 32.6	-15
PHDHD	**Phuduhudu**	**17.68**	**192**		**Pn**	**20 59 29.7**	**-3.5**
PHDHD				IAmb	IAmb	20 59 40.8	
PHDHD	**Phuduhudu**	**17.68**	**192**	*i* P	**Pn**	**20 59 33.6**	**+0.5**
QNGWA	**Qangwa**	**18.07**	**203**		**Pn**	**20 59 34.2**	**-3.8**
QNGWA	**Qangwa**	**18.07**	**203**	*i* P	**Pn**	**20 59 36.3**	**-1.8**
BROLN	**Tlhalogang**	**18.18**	**184**	*i* P	**Pn**	**20 59 38.8**	**-0.6**
BROLN				*i* S	Sn	21 02 46.6	-16
KHWEE	**KHWEE**	**19.22**	**189**	P	**Pn**	**20 59 52.2**	**+0.2**
KHWEE				IAmb	IAmb	21 00 00.8	
KHWEE	**KHWEE**	**19.22**	**189**	*i* P	**Pn**	**20 59 53.1**	**+1.2**
MUSN	**Musina, Limpop**	**19.36**	**176**	*i* P	**P**	**20 59 50.8**	**-1.7**
MUSN				*i* S	**S**	**21 03 35.8**	**+4.3**
TSUM	**Tsumeb**	**19.47**	**213**		**P**	**20 59 53.4**	**-0.4**
TSUM	**Tsumeb**	**19.47**	**213**	P	**Pn**	**20 59 55.0**	**0.0**
TSUM				S	**Sn**	**21 03 25.3**	**-8.2**
TSUM				Lg	Lg	21 05 39.9	
TSUM				LR	LR	21 07 52.8	
TSUM	**Tsumeb**	**19.47**	**213**	*i* P	**P**	**20 59 53.9**	**+0.2**
EDA	**Edea**	**19.52**	**290**	P	**P**	**20 59 51.4**	**-2.9**
EDA				IAmb	IAmb	20 59 59.8	
MREMI	**Moremi**	**19.63**	**183**	*i* P	**Pn**	**20 59 57.0**	**+0.1**
GRTLG	**Ghanzi**	**19.73**	**201**	P	**Pn**	**20 59 58.0**	**-0.1**
GRTLG				IAmb	IAmb	21 00 06.8	
GRTLG	**Ghanzi**	**19.73**	**201**	*i* P	**Pn**	**20 59 58.8**	**+0.6**
ATD	**Arta Tunnel**	**20.16**	**45**		Pn	21 00 02.8	-0.4
ATD	**Arta Tunnel**	**20.16**	**45**	P	**P**	**21 00 00.3**	**-1.0**
ATD				Lg	Lg	21 05 57.1	
ATD				LR	LR	21 08 04.3	
ATD	**Arta Tunnel**	**20.16**	**45**	P	Pn	21 00 03.5	+0.3
LPHEP	**Lephephe**	**20.56**	**187**	P	**P**	**21 00 05.1**	**-0.5**
LPHEP				IAmb	IAmb	21 00 19.5	
LPHEP	**Lephephe**	**20.56**	**187**	*i* P	Pn	21 00 07.3	-0.5
LPHEP				*i* S	S	21 03 43.2	-12
KDWAN	**Kaudwane**	**20.75**	**190**	P	**P**	**21 00 07.9**	**+0.1**
KDWAN				IAmb	IAmb	21 00 23.3	
KDWAN	**Kaudwane**	**20.75**	**190**	*i* P	**P**	**21 00 08.8**	**+1.1**
KDWAN				*i* S	S	21 03 47.0	-12
KGCAE	**Kacgae**	**20.81**	**197**	P	**P**	**21 00 09.9**	**+1.5**
KGCAE	**Kacgae**	**20.81**	**197**	*i* P	Pn	21 00 11.0	+0.1
KOOLE	**Kule**	**21.59**	**201**	P	**P**	**21 00 17.6**	**+0.8**
KOOLE	**Kule**	**21.59**	**201**	*i* P	**P**	**21 00 18.4**	**+1.5**
SKOMA	**Sekoma**	**21.99**	**191**	*i* P	**P**	**21 00 22.1**	**+1.1**
LBTB	**Lobatse**	**22.22**	**187**	P	**P**	**21 00 23.4**	**-0.1**
LBTB				IAmb	IAmb	21 00 34.0	
LBTB	**Lobatse**	**22.22**	**187**	P	**P**	**21 00 24.3**	**+0.8**
LBTB				Lg	Lg	21 07 03.4	
LBTB				LR	LR	21 09 19.8	
LBTB	**Lobatse**	**22.22**	**187**	*i* P	**P**	**21 00 21.8**	**-1.7**
LKGWB	**Lokgwabe**	**22.29**	**198**	P	**P**	**21 00 23.1**	**-1.3**
WIN	**Windhoek**	**22.52**	**209**	P	**P**	**21 00 28.4**	**+1.5**
WIN				IAmb	IAmb	21 00 36.6	
WIN	**Windhoek**	**22.52**	**209**	P	**P**	**21 00 28.4**	**+1.5**
WIN				pmax	pmax		
MAKGR	**Makgori**	**23.11**	**189**	*i* P	**P**	**21 00 33.6**	**+0.7**
PHPEN	**Phepeng**	**23.15**	**193**	P	**P**	**21 00 33.0**	**-0.4**
PHPEN	**Phepeng**	**23.15**	**193**	*i* P	**P**	**21 00 34.3**	**+1.0**
OPO	**Ambohidratompo**	**24.03**	**132**	LR	LR	21 09 04.1	
ABPO	**Ambohimpanom**	**24.34**	**133**	P	**P**	**21 00 46.5**	**+1.5**
ABPO	**Ambohimpanom**	**24.34**	**133**	P	**P**	**21 00 46.5**	**+1.5**
ABPO				pmax	pmax		
BOSA	**Boshof**	**25.81**	**187**	P	**P**	**21 00 57.3**	**-0.8**
BOSA				IAmb	IAmb	21 01 06.4	
BOSA	**Boshof**	**25.81**	**187**	P	**P**	**21 00 58.8**	**+0.6**
BOSA				Lg	Lg	21 08 57.6	
BOSA				LR	LR	21 11 28.4	
BOSA	**Boshof**	**25.81**	**187**	*i* P	**P**	**21 00 55.7**	**-2.4**
VOI	**Vohitsoka**	**25.95**	**138**	P	**P**	**21 00 59.6**	**+0.2**
VOI				IAmb	IAmb	21 01 22.1	
SUR	**Sutherland**	**30.26**	**193**	P	**P**	**21 01 39.3**	**+1.4**
RAYN	**Ar Rayn**	**30.99**	**31**	P	**P**	**21 01 46.0**	**+1.7**
RAYN	**Ar Rayn**	**30.99**	**31**	P	**P**	**21 01 46.1**	**+1.7**
RAYN	**Ar Rayn**	**30.99**	**31**	*i* P	**P**	**21 01 46.1**	**+1.7**
RAYN	**Ar Rayn**	**30.99**	**31**	P	**P**	**21 01 46.0**	**+1.7**
RAYN				pmax	pmax		
TORD	**Torodi Ar. Bea**	**31.03**	**301**	P	**P**	**21 01 45.6**	**+0.8**
TORD				Lg	Lg	21 11 41.8	
TORD				LR	LR	21 16 17.4	
ABTO	**Aybut**	**31.62**	**50**	P	**P**	**21 01 51.9**	**+1.9**
WHFO	**Wadi Hawf**	**32.32**	**49**	P	**P**	**21 01 58.2**	**+2.1**
EIL	**Elat**	**32.91**	**10**	LR	LR	21 14 14.2	
TAM	**Tamanrasset**	**33.97**	**320**	P	**P**	**21 02 11.1**	**+0.4**
TAM	**Tamanrasset**	**33.97**	**320**	P	**P**	**21 02 11.1**	**+0.4**
TAM				pmax	pmax		
GHAJ	**Ghor Haditha**	**34.62**	**11**	P	**P**	**21 02 13.6**	**-2.3**
GHAJ				IAmb	IAmb	21 02 23.1	
DBIC	**Dimbokro**	**34.66**	**286**	P	**P**	**21 02 13.3**	**-3.2**
DBIC	**Dimbokro**	**34.66**	**286**	P	**P**	**21 02 16.5**	**0.0**
SMRA	**Abu-Samra**	**34.94**	**37**	P	**P**	**21 02 20.3**	**+1.5**
MZR	**Muzera**	**35.38**	**42**	P	**P**	**21 02 24.6**	**+1.9**
MZR	**Muzera**	**35.38**	**42**	*i* P	**P**	**21 02 23.7**	**+1.0**
ASF	**Jabal al Asfar**	**35.72**	**12**	LR	LR	21 17 36.8	
MMAI	**Mount Meron Ar**	**36.26**	**10**	P	**P**	**21 02 31.8**	**+1.7**
UMZA	**Um Al Zommool**	**36.34**	**44**	P	**P**	**21 02 32.7**	**+1.8**
ALNE	**Al Ain**	**37.63**	**43**	P	**P**	**21 02 44.0**	**+2.1**
ALNE	**Al Ain**	**37.63**	**43**	*i* P	**P**	**21 02 42.8**	**+0.9**
ASUD	**Al Ashush, Dub**	**37.73**	**42**	P	**P**	**21 02 44.6**	**+2.0**
ASUD	**Al Ashush, Dub**	**37.73**	**42**	P	**P**	**21 02 44.0**	**+1.3**
CSS	**Mathiatis**	**37.88**	**6**	P	**P**	**21 02 43.9**	**+0.1**
CSS				IAmb	IAmb	21 02 53.7	
IDI	**Anoyia**	**38.09**	**355**	P	**P**	**21 02 45.4**	**-0.3**
IDI				IAmb	IAmb	21 02 59.3	
KARP	**Karpathos**	**38.22**	**358**	P	**P**	**21 02 46.6**	**0.0**
SOHO	**SOHO**	**38.22**	**44**	P	**P**	**21 02 48.6**	**+1.8**
SOHO	**SOHO**	**38.22**	**44**	*i* P	**P**	**21 02 47.9**	**+1.1**
ASHO	**Ashiyiah**	**38.26**	**43**	P	**P**	**21 02 48.9**	**+1.8**
ASHO	**Ashiyiah**	**38.26**	**43**	*i* P	**P**	**21 02 48.4**	**+1.2**
HATD	**Hatta, Dubai**	**38.40**	**43**	P	**P**	**21 02 50.2**	**+1.8**
HATD	**Hatta, Dubai**	**38.40**	**43**	P	**P**	**21 02 50.1**	**+1.7**
HOQ	**Hoqain**	**38.41**	**45**	P	**P**	**21 02 50.2**	**+1.8**
HOQ				P	**P**	**21 02 50.2**	**+1.8**
UOSS	**Minazif**	**38.53**	**43**	P	**P**	**21 02 50.0**	**+0.5**
UOSS				IAmb	IAmb	21 02 52.0	
SMDO	**Samad**	**38.62**	**47**	P	**P**	**21 02 51.7**	**+1.4**
MSFE	**Esma-Masafi**	**38.77**	**42**	P	**P**	**21 02 53.2**	**+1.7**
MDH	**Madha**	**38.83**	**42**	P	**P**	**21 02 53.4**	**+1.5**
MDH	**Madha**	**38.83**	**42**	P	**P**	**21 02 52.5**	**+0.6**
ARG	**Arkhangelos**	**38.87**	**359**	P	**P**	**21 02 52.1**	**0.0**
ARG				IAmb	IAmb	21 02 59.4	
ARG	**Arkhangelos**	**38.87**	**359**	P	**P**	**21 02 52.1**	**0.0**
ARG				pmax	pmax		
SHME	**Shamm**	**39.23**	**41**	P	**P**	**21 02 56.6**	**+1.3**
SHME	**Shamm**	**39.23**	**41**	*i* P	**P**	**21 02 56.2**	**+0.9**
BANOM	**Banah**	**39.25**	**42**	P	**P**	**21 02 56.8**	**+1.4**
BANOM	**Banah**	**39.25**	**42**	P	**P**	**21 02 56.7**	**+1.2**
APE	**Apeiranthos**	**39.81**	**356**	*i* P	**P**	**21 02 59.6**	**-0.4**
APE				pmax	pmax		
ISP	**Isparta**	**40.51**	**2**	IAmb	IAmb	21 03 18.0	
GAZ	**Gaziantep**	**40.63**	**11**	IAmb	IAmb	21 03 17.6	
MANT	**Manisa**	**41.14**	**0**	P	**P**	**21 03 12.0**	**+0.9**
MANT				IAmb	IAmb	21 03 25.6	
MARD	**Mardin**	**41.55**	**15**	IAmb	IAmb	21 03 25.1	
RAFF	**Raffo Rosso**	**41.99**	**343**	P	**P**	**21 03 16.2**	**-1.8**
RAFF				IAmb	IAmb	21 03 24.9	
KIRS	**Kirsehir-Merke**	**42.07**	**6**	⇑P	P	21 03 24.9	+6.3
KEST	**Kesra**	**42.38**	**337**	IAmb	IAmb	21 03 29.5	
KEST	**Kesra**	**42.38**	**337**	P	**P**	**21 03 22.2**	**+1.0**
KEST				LR	LR	21 23 09.5	
KEST	**Kesra**	**42.38**	**337**	P	**P**	**21 03 24.5**	**+3.2**
EZN	**Ezine**	**42.52**	**357**	⇑P	P	21 03 28.9	+6.8
EZN	**Ezine**	**42.52**	**357**	⇑P	P	21 03 28.9	+6.7
CEL	**Celeste**	**42.55**	**345**	P	**P**	**21 03 22.4**	**-0.2**
CEL				IAmb	IAmb	21 03 33.8	
BORA	**Eskisehir**	**42.56**	**2**	IAmb	IAmb	21 03 32.9	
BRTR	**Keskin Array B**	**42.63**	**6**	P	**P**	**21 03 23.1**	**-0.1**
BRTR	**Keskin Array B**	**42.63**	**6**	P	**P**	**21 03 23.9**	**+0.7**
BRTR				LR	LR	21 24 25.9	
BRTR	**Keskin Array B**	**42.63**	**6**	P	**P**	**21 03 24.0**	**+0.7**
BR131	**Keskin Array S**	**42.63**	**6**	P	**P**	**21 03 24.2**	**+1.0**
BR131	**Keskin Array S**	**42.63**	**6**	*i* P	**P**	**21 03 22.8**	**-0.5**
ANTO	**Ankara**	**42.69**	**5**	P	**P**	**21 03 23.2**	**-0.5**
ANTO	**Ankara**	**42.69**	**5**	P	**P**	**21 03 23.2**	**-0.5**
ANTO				pmax	pmax		
TIP	**Timpagrande**	**43.21**	**347**	⇓P	**P**	**21 03 29.3**	**+1.4**
SAHE	**Sakarya_HENDEK**	**43.55**	**3**	⇓P	P	21 03 37.3	+6.8
RDO	**Rodhopi**	**43.87**	**357**	IAmb	IAmb	21 03 43.4	
KOPT	**Kop Dagi**	**44.05**	**13**	IAmb	IAmb	21 03 46.0	
CUC	**Castrocucco**	**44.21**	**346**	P	**P**	**21 03 34.0**	**-1.9**
VAY	**Valandovo**	**44.30**	**354**	*i* P	**P**	**21 03 37.1**	**+0.6**
OHR	**Ohrid**	**44.32**	**352**	*i* P	**P**	**21 03 38.1**	**+1.3**
MATE	**Matera**	**44.62**	**347**	⇓P	**P**	**21 03 39.1**	**-0.1**
ACER	**Acerenza**	**44.93**	**346**	IAmb	IAmb	21 03 48.7	
GNI	**Garni**	**45.30**	**18**	P	**P**	**21 03 44.7**	**-0.1**
GNI				IAmb	IAmb	21 03 58.9	
GNI	**Garni**	**45.30**	**18**	P	**P**	**21 03 46.5**	**+1.8**
GNI	**Garni**	**45.30**	**18**	P	**P**	**21 03 44.7**	**-0.1**
GNI				pmax	pmax		
PAOL	**Paolisi**	**45.50**	**345**	IAmb	IAmb	21 03 52.7	
ELND	**Elena**	**45.63**	**357**	⇓P	P	21 03 52.2	+5.0
VSL	**Villasalto**	**45.68**	**339**	IAmb	IAmb	21 03 56.3	
PDG	**Podgorica**	**45.85**	**350**	IAmb	IAmb	21 03 55.9	
PDG	**Podgorica**	**45.85**	**350**	⇓P	**P**	**21 03 49.7**	**+0.8**
LOZB	**Loznitsa**	**46.04**	**358**	⇑P	**P**	**21 03 51.7**	**+1.3**
PLVB	**Pleven**	**46.16**	**356**	⇓P	P	21 03 56.7	+5.4
RAZG	**Razgrad**	**46.24**	**358**	⇑P	**P**	**21 03 53.3**	**+1.3**
BOVS	**Bovan**	**46.68**	**353**	⇓P	**P**	**21 03 55.8**	**+0.4**
ICOR	**Ion Corvin**	**46.76**	**359**	⇓P	P	21 04 02.0	+6.0
VLAD	**Vladila**	**46.79**	**356**	⇑P	**P**	**21 03 60.0**	**+3.8**
COPA	**Copaceanca**	**46.87**	**357**	⇑P	P	21 04 02.2	+5.3
TLBR	**Topalu**	**47.19**	**360**	⇑P	P	21 04 04.2	+4.9
SOC	**Sochi**	**47.31**	**11**	*e*P	**P**	**21 03 58.1**	**-2.2**
SOC				*e*		21 05 49.0	
SOC				*e*PPP	PPP	21 06 31.8	
SOC				*e*S	**S**	**21 10 51.8**	**-1.7**
SOC				*e*SSS	SSS	21 15 22.4	
SOC				MLR	MLR		
HARR	**Harsova**	**47.33**	**359**	⇓P	P	21 04 05.9	+5.5
HARR	**Harsova**	**47.33**	**359**	⇓P	P	21 04 05.9	+5.5
MDT	**Midelt**	**47.35**	**321**	LR	LR	21 24 17.4	
SULR	**Jurilovca**	**47.36**	**358**	⇓P	P	21 04 07.1	+6.4
JURR	**Jurilovca**	**47.41**	**0**	⇑P	P	21 04 06.4	+5.4
AKT	**Akhty**	**47.45**	**20**	*e*P	**P**	**21 04 02.3**	**+0.7**
AKT				*e*		21 05 32.5	
AKT				*e*		21 05 54.6	
AKT				*e*PPP	PPP	21 06 39.0	
AKT				*e*S	**S**	**21 10 55.2**	**-0.7**
AKT				pmax	pmax		
AKT				MLR	MLR		
MD01	**Midelt array s**	**47.48**	**321**	P	**P**	**21 04 01.2**	**-0.8**
MD31	**MD31**	**47.48**	**321**	IAmb	IAmb	21 04 11.4	
TPGR	**Topolog**	**47.50**	**360**	⇓P	**P**	**21 04 04.8**	**+3.0**
NRCA	**Norcia**	**47.56**	**345**	IAmb	IAmb	21 04 11.4	
ISR	**Istrita**	**47.79**	**358**	⇑P	P	21 04 11.0	+6.9
ISR	**Istrita**	**47.79**	**358**	⇑P	P	21 04 11.0	+6.9
MDVR	**Moldovita**	**47.81**	**353**	⇑P	**P**	**21 04 04.3**	**0.0**
CFR	**Carcaliu**	**47.82**	**360**	⇑P	**P**	**21 04 06.3**	**+2.1**
CFR	**Carcaliu**	**47.82**	**360**	⇑P	**P**	**21 04 06.3**	**+2.1**
HERR	**Herculane**	**47.84**	**354**	⇑P	**P**	**21 04 04.9**	**+0.5**
SIM	**Simferopol'**	**47.85**	**5**	*e*P	P	21 04 09.8	+5.3
SIM				MLR	MLR		
BBTS	**Babate**	**47.91**	**293**	LR	LR	21 27 21.9	
MTUR	**Matau**	**47.97**	**357**	⇑P	P	21 04 11.3	+5.8
MTUR	**Matau**	**47.97**	**357**	⇑P	P	21 04 11.3	+5.8
GRER		**48.04**	**359**	⇑P	P	21 04 13.3	+7.4
SHA1	**Shidzhatmaz**	**48.08**	**14**	*i* P	**P**	**21 04 05.9**	**-0.7**
NEHR	**Nehoiu**	**48.11**	**358**	⇓P	**P**	**21 04 10.5**	**+4.0**
ARR	**Arges**	**48.13**	**356**	⇑P	**P**	**21 04 07.2**	**+0.4**
KBZ	**Khabaz**	**48.13**	**14**	P	**P**	**21 04 08.1**	**+1.4**
NEGRR	**Negrea**	**48.18**	**359**	⇑P	P	21 04 13.0	+6.0
MLR	**Muntele Rosu**	**48.19**	**358**	⇑P	**P**	**21 04 07.7**	**+0.5**
MLR	**Muntele Rosu**	**48.19**	**358**	⇑P	**P**	**21 04 07.7**	**+0.5**
IZVR	**Izvoarele**	**48.19**	**359**	⇑P	P	21 04 12.7	+5.6
BISRR	**Bisoca**	**48.22**	**358**	⇓P	**P**	**21 04 11.1**	**+3.7**
TUDR		**48.24**	**359**	⇑P	P	21 04 13.9	+6.5
LOT	**Lotru**	**48.27**	**356**	⇑P	**P**	**21 04 08.3**	**+0.4**
KIV	**Kislovodsk**	**48.30**	**14**	P	**P**	**21 04 07.9**	**-0.2**
KIV	**Kislovodsk**	**48.30**	**14**	⇓P	**P**	**21 04 10.4**	**+2.4**
KIV	**Kislovodsk**	**48.30**	**14**	P	**P**	**21 04 09.3**	**+1.2**
KIV	**Kislovodsk**	**48.30**	**14**	*e*P	**P**	**21 04 07.8**	**-0.2**
KIV				pmax	pmax		
KIV				MLR	MLR		
GZR	**Gura Zlata**	**48.31**	**355**	⇑P	**P**	**21 04 08.9**	**+0.8**
GZR	**Gura Zlata**	**48.31**	**355**	⇑P	**P**	**21 04 08.9**	**+0.8**
ODBI	**Odobesti**	**48.42**	**359**	⇑P	P	21 04 15.3	+6.5
TNR	**Turnu Rosu**	**48.44**	**356**	⇓P	P	21 04 14.2	+5.2
TNR	**Turnu Rosu**	**48.44**	**356**	⇓P	P	21 04 14.2	+5.1
BLY	**Banja Luka**	**48.46**	**349**	⇑P	P	21 04 14.0	+4.7
BANR	**Banloc**	**48.47**	**353**	⇑P	P	21 04 15.8	+6.6
VLDR	**Vladesti**	**48.49**	**360**	⇓P	P	21 04 15.2	+5.8
COSR	**Cosmesti PH**	**48.51**	**359**	⇑P	P	21 04 15.6	+6.1
PLOR	**Plostina**	**48.52**	**358**	⇓P	**P**	**21 04 09.8**	**+0.1**
PLOR	**Plostina**	**48.52**	**358**	⇓P	**P**	**21 04 09.8**	**+0.1**
PANC	**Panciu**	**48.53**	**359**	⇑P	P	21 04 16.2	+6.5
VRI	**Vrincioaia**	**48.53**	**358**	⇑P	P	21 04 15.0	+5.3
VRI	**Vrincioaia**	**48.53**	**358**	⇑P	P	21 04 15.0	+5.2
VARL	**Varlezi**	**48.54**	**359**	⇑P	P	21 04 15.3	+5.5
BZS	**Buzias**	**48.65**	**354**	⇑P	**P**	**21 04 11.7**	**+1.1**
BZS	**Buzias**	**48.65**	**354**	⇑P	**P**	**21 04 11.7**	**+1.1**
DOPR	**Dopca**	**48.69**	**357**	⇓P	**P**	**21 04 15.3**	**+4.4**
GHRR		**48.71**	**359**	⇑P	P	21 04 17.2	+6.1
MAK	**Makhachkala**	**48.71**	**19**	*c*P	P	21 04 05.5	-5.6
MAK				*e*S	**S**	**21 11 05.4**	**-8.0**
MAK				*e*SS	**SS**	**21 14 43.0**	**-1.0**
MAK				*e*SSS	SSS	21 16 02.0	
MAK				pmax	pmax		
MAK				MLR	MLR		
OSSC	**Osservatorio P**	**48.72**	**343**	IAmb	IAmb	21 04 31.2	
SURR	**Surduc**	**48.73**	**354**	⇑P	**P**	**21 04 12.1**	**+0.9**
TURR	**Turia**	**48.75**	**358**	⇑P	**P**	**21 04 11.4**	**0.0**
HRA	**Herat**	**48.75**	**38**	IAmb	IAmb	21 04 19.2	
DEV	**Deva**	**48.

OZUR		48.80	357	⇑P	P	21 04 11.7 -0.2
BIR	Birlad	48.91	359	⇑P	P	21 04 18.1 +5.4
BIR	Birlad	48.91	359	⇑P	P	21 04 18.1 +5.5
ONER	Baraj Valea Uz	49.01	358	⇓P	P	21 04 13.4 0.0
TESR	Tescani	49.18	358	⇓P	P	21 04 13.8 -0.9
PURM	Purcari	49.18	1	⇑P	P	21 04 20.5 +5.8
SIRR	Siria	49.29	354	⇑P	P	21 04 16.5 +0.9
VASR	Vaslui	49.29	359	⇑P	P	21 04 21.5 +6.0
GOF	Gofitskoye	49.42	14	*c*eP	P	21 04 19.8 +3.2
CJR	Cluj-Napoca	49.55	356	⇑P	P	21 04 19.0 +1.5
CJR	Cluj-Napoca	49.55	356	⇑P	P	21 04 19.0 +1.5
MARR	Marisel-Cluj	49.55	355	⇓P	P	21 04 18.3 +0.6
MILM	Milestii Mici	49.56	0	⇑P	P	21 04 21.5 +3.9
MILM	Milestii Mici	49.56	0	⇑P	P	21 04 21.5 +3.9
CBBR	Cluj-Babes-Bol	49.60	355	⇓P	P	21 04 18.8 +0.9
MORH	Mrgy, Hungar	49.63	351	⇓P	P	21 04 18.6 +0.5
DRGR		49.70	355	⇓P	P	21 04 19.5 +0.8
DRGR		49.70	355	⇓P	P	21 04 19.5 +0.8
ARCR	ARCALIA	49.86	356	⇑P	P	21 04 25.9 +6.0
LEGS	Legarje	49.98	348	*e*P	P	21 04 21.2 +0.3
MESR	Meseseni	50.03	355	⇓P	P	21 04 26.7 +5.5
BORR	Bors	50.09	354	⇑P	P	21 04 28.9 +7.4
KOGS	Kog	50.28	349	*e*P	P	21 04 23.4 +0.3
BURAR	Bucovina Array	50.34	357	P	P	21 04 24.3 +0.7
BURAR				IAmb	IAmb	21 04 31.4
	comp=Z,34nm,1.0s					
BURAR	Bucovina Array	50.34	357	⇑P	P	21 04 25.4 +1.8
BURAR	Bucovina Array	50.34	357	⇑P	P	21 04 25.4 +1.8
BUR08	Bucovina Ar. S	50.37	357	IAmb	IAmb	21 04 31.4
	comp=Z,40nm,1.1s					
BSZH	Besenyszg	50.47	353	⇑P	P	21 04 27.1 +2.7
BMR	Baia Mare	50.51	356	⇓P	P	21 04 31.0 +6.2
BMR	Baia Mare	50.51	356	⇓P	P	21 04 31.0 +6.2
CADS	Cadrg	50.60	347	*i* P	P	21 04 25.3 -0.3
CORI	Orista	50.68	335	IAmb	IAmb	21 04 32.7
	comp=Z,44nm,1.1s					
OBKA	Obir	50.68	348	*i* P	P	21 04 27.0 +0.8
	comp=Z,18nm,1.4s					
SOKA	Soboth	50.74	348	*i* P	P	21 04 27.3 +0.7
	comp=Z,12nm,1.3s					
SORM	Soroca	50.78	360	⇑P	P	21 04 26.5 -0.3
SORM	Soroca	50.78	360	⇑P	P	21 04 26.5 -0.3
STAL	STALIGIAL	50.87	346	IAmb	IAmb	21 04 33.9
	comp=Z,50nm,1.3s					
CTI	Castel Tesino	50.94	345	IAmb	IAmb	21 04 35.7
	comp=Z,87nm,1.4s					
MYKA	Terra Mystica	51.00	347	*i* P	P	21 04 29.8 +1.2
	comp=Z,17nm,1.5s					
PSZ	Piszkesteto	51.12	353	IAmb	IAmb	21 04 36.0
	comp=Z,54nm,0.9s					
PSZ	Piszkesteto	51.12	353	⇑P	P	21 04 30.2 +0.7
PSZ	Piszkesteto	51.12	353	⇑P	P	21 04 30.2 +0.7
ARSA	Arzberg	51.19	349	IAmb	IAmb	21 04 37.0
	comp=Z,45nm,1.1s					
ARSA	Arzberg	51.19	349	*i* P	P	21 04 31.7 +1.8
	comp=Z,21nm,1.3s					
SRO	Srobarova	51.24	351	*e*P	P	21 04 31.1 +0.7
SRO				*e*		21 04 36.3
SRO				pmax	pmax	
	comp=Z,38nm,1.4s					
SRO	Srobarova	51.24	351	*e*P	P	21 04 31.0 +0.7
SRO				*e*		21 04 36.3
SRO				*e*		21 07 01.4
ABTA	Abfaltersbach	51.37	346	*i* P	P	21 04 32.4 +1.0
	comp=Z,16nm,1.3s,SNR=5.3					
RONA	Rosalia, Austr	51.47	349	*i* P	P	21 04 32.8 +0.7
	comp=Z,13nm,1.2s,SNR=15					
KBA	Koelnbreinsper	51.49	347	*i* P	P	21 04 33.1 +0.7
	comp=Z,30nm,1.3s,SNR=18					
CEST	Esterri de Car	51.53	334	IAmb	IAmb	21 04 41.4
	comp=Z,43nm,1.2s					
KECS	Kecovo	51.60	353	*e*P	P	21 04 34.4 +1.4
KECS				*e*		21 04 39.0
KECS				pmax	pmax	
	comp=Z,27nm,1.2s					
KECS	Kecovo	51.60	353	*e*P	P	21 04 34.4 +1.4
KECS				*e*		21 04 39.0
CONA	Conrad Observa	51.77	349	*i* P	P	21 04 35.0 +0.6
	comp=Z,13nm,1.0s,SNR=17					
ESDC	Sonseca Array	51.78	328	P	P	21 04 34.9 +0.3
ESDC	Sonseca Array	51.78	328	P	P	21 04 35.0 +0.5
	comp=Z,8.9nm,1.2s,baz=137,slow=7.4,SNR=24					
ESDC				PcP	PcP	21 05 48.3 +0.6
	comp=Z,5.1nm,0.9s,baz=133,slow=4.8,SNR=6.6					
ESDC				LR	LR	21 26 52.7
	comp=Z,231nm,19.1s,baz=126,slow=36					
	comp=Z,8.9nm,1.2s					
FUORN	Ofenpass-Fuorn	51.84	344	IAmb	IAmb	21 04 44.6
	comp=Z,40nm,1.1s					
PAB	San Pablo	51.89	328	P	P	21 04 35.5 0.0
PAB	San Pablo	51.89	328	P	P	21 04 35.5 0.0
PAB				pmax	pmax	
	comp=Z,23nm,1.3s					
MODS	Modra-Piesok	51.95	350	*e*P	P	21 04 35.9 +0.2
MODS				*e*		21 04 40.7
MODS				pmax	pmax	
	comp=Z,47nm,1.2s					
MODS	Modra-Piesok	51.95	350	*e*P	P	21 04 35.9 +0.2
MODS				*e*		21 04 40.7
LESA	Schwarzleotal	51.97	346	*i* P	P	21 04 36.1 +0.2
	comp=Z,20nm,1.2s,SNR=16					
BIOA	Bad Ischl, Aus	52.00	347	*i* P	P	21 04 35.7 -0.3
	comp=Z,13nm,1.2s					
MOA	Molln	52.02	348	*i* P	P	21 04 36.7 +0.6
	comp=Z,35nm,1.2s,SNR=20					
SMOL	Smolenice	52.06	351	*e*P	P	21 04 42.0 +5.5
WTTA	Wattenberg	52.07	345	*i* P	P	21 04 36.7 0.0
	comp=Z,32nm,1.1s,SNR=22					
FETA	Feichten	52.08	345	*e*P	P	21 04 37.0 +0.2
	comp=Z,15nm,1.3s					
SQTA	Sankt Quirin	52.14	345	*i* P	P	21 04 37.5 +0.3
	comp=Z,26nm,1.3s,SNR=11					
WATA	Walderalm	52.15	345	*i* P	P	21 04 37.5 +0.2
	comp=Z,25nm,1.3s,SNR=14					
MOTA	Moosalm	52.28	345	*i* P	P	21 04 37.8 -0.5
	comp=Z,16nm,1.0s,SNR=13					
PVAQ	Vaqueiros	52.30	323	*e*P	P	21 04 39.0 +0.5
PVAQ				*i* IAmb	IAmb	21 05 03.1
	comp=Z,30nm,1.5s					
PVAQ				*e*S	S	21 12 10.4 +6.8
PVAQ				*e*LR	LR	21 25 29.2
PVAQ				*i* IAMs_20	IAMs_20	21 28 25.6
	comp=Z,247nm,20.0s					
PBDV	Barranco-do-Ve	52.33	323	*e*P	P	21 04 39.7 +1.0
PBDV				*i* IAmb	IAmb	21 05 09.2
	comp=Z,31nm,1.9s					
JAVC	Velka Javorina	52.36	351	*e*P	P	21 04 39.2 +0.5
JAVC				*e*		21 07 09.4
LANS	Liptovska Anna	52.39	352	*e*P	P	21 04 40.0 +1.1
LANS				*e*		21 04 45.5
LANS				pmax	pmax	
	comp=Z,24nm,1.3s					
LANS	Liptovska Anna	52.39	352	*e*P	P	21 04 40.0 +1.1
LANS				*e*		21 04 45.5
PBAR	Barrancos	52.42	325	*e*P	P	21 04 44.4 +5.1
PBAR				*i* IAmb	IAmb	21 05 02.7
	comp=Z,21nm,1.8s					
SSB	Saint Sauveur	52.47	339	IAmb	IAmb	21 04 46.2
	comp=Z,36nm,1.0s					
RETA	Reutte	52.50	345	*i* P	P	21 04 39.4 -0.5
	comp=Z,23nm,1.1s,SNR=10					
KWP	Kalwaria Pacla	52.52	355	*e*P	P	21 04 40.7 +0.9
KWP				*e*L	L	21 27 39.4
	comp=Z,344nm,24.3s					
NIE	Niedzica	52.55	353	*e*P	P	21 04 41.0 +1.0
NIE				*e*L	L	21 26 01.5
	comp=Z,212nm,22.9s					
DAVA	Damuels	52.55	344	*i* P	P	21 04 39.8 -0.5
	comp=Z,51nm,1.3s,SNR=31					
PCVE	Castro Verde	52.65	323	*e*P	P	21 04 46.5 +5.5
PCVE				*i* IAmb	IAmb	21 05 19.0
	comp=Z,21nm,1.7s					
KRUC	Moravsky	52.77	350	*e*P	P	21 04 41.2 -0.5
KRUC				*e*		21 07 11.2
PFVI	Vila Bisbo	52.79	322	*e*P	P	21 04 44.7 +2.6
PFVI				*i* IAmb	IAmb	21 04 51.8
	comp=Z,92nm,2.2s					
MORF	Marmelete	52.80	323	*e*P	P	21 04 42.4 +0.2
MORF				*i* IAmb	IAmb	21 05 06.6
	comp=Z,39nm,1.6s					
PBEJ	Beja	52.81	324	*e*P	P	21 04 43.4 +1.2
PBEJ				*i* IAmb	IAmb	21 05 16.2
	comp=Z,18nm,1.6s					
MAUC	Maruska	52.83	351	*e*P	P	21 04 42.7 +0.5
MAUC				*e*pP	sP	21 04 48.0 -0.5
MESJ	Messejana	52.89	324	*e*P	P	21 04 48.4 +5.6
VRAC	Vranov	52.97	350	LR	LR	21 29 02.0
	comp=Z,186nm,18.8s,baz=248,slow=38					
VRAC	Vranov	52.97	350	*e*P	P	21 04 42.7 -0.5
VRAC				*e*		21 07 12.9
PALK	Pallekele	53.02	79	LR	LR	21 24 34.1
	comp=Z,594nm,20.2s,baz=256,slow=33					
GEC2	GERESS Array S	53.08	348	IAmb	IAmb	21 04 50.2
	comp=Z,31nm,0.9s					
GERES	GERESS Array B	53.08	348	P	P	21 04 43.2 -0.9
GERES	GERESS Array B	53.08	348	P	P	21 04 44.0 -0.1
	comp=Z,5.4nm,0.9s,baz=167,slow=6.6,SNR=28					
	comp=Z,5.4nm,0.9s					
GERES	GERESS Array B	53.08	348	P	P	21 04 44.0 -0.1
TREC	Trest	53.16	349	*e*P	P	21 04 44.1 -0.5
TREC				*e*pP	pP	21 04 49.4 +0.3
TREC	Trest	53.16	349	*e*P	P	21 04 44.1 -0.5
TREC				*e**PP	pP	21 04 49.4 +0.3
PESTR	Estremoz	53.21	325	IAmb	IAmb	21 04 54.6
	comp=Z,42nm,1.3s					
PESTR	Estremoz	53.21	325	*e*P	P	21 04 48.3 +3.1
PESTR				*i* IAmb	IAmb	21 04 54.5
	comp=Z,58nm,1.4s					
EVO	Evora	53.23	324	*e*P	P	21 04 56.7 +11
EVO				*i* IAmb	IAmb	21 05 04.9
	comp=Z,36nm,1.4s					
HYB	Hyderabad	53.27	66	*e*P	P	21 04 42.5 -3.5
HYB				IVmB_BB		21 04 43.4
	comp=Z,433nm,4.6s					
HYB				*e*PcP	PcP	21 05 53.5 -0.3
HYB				*e*S	S	21 12 18.5 +1.0
HYB				IVMs_BB	IVMs_BB	21 31 56.3
	comp=Z,628nm,3.7s					
MORC	Moravsky Berou	53.27	351	IAmb	IAmb	21 04 51.8
	comp=Z,44nm,1.1s					
MORC	Moravsky Berou	53.27	351	⇑P	P	21 04 45.7 +0.3
MORC	Moravsky Berou	53.27	351	*e*P	P	21 04 45.2 -0.2
MORC				*e*		21 07 15.7
MORC	Moravsky Berou	53.27	351	⇑P	P	21 04 45.7 +0.3
KIEV	Kiev	53.34	1	P	P	21 04 45.4 -0.5
KIEV	Kiev	53.34	1	⇓P	P	21 04 50.8 +5.0
KIEV	Kiev	53.34	1	*i* P	P	21 04 48.9 +3.1
	SNR=8.0					
KIEV	Kiev	53.34	1	⇓P	P	21 04 50.8 +5.0
AKASG	Malin Array Be	53.35	1	IAmb	IAmb	21 04 54.2
	comp=Z,12nm,1.4s					
AKASG	Malin Array Be	53.35	1	P	P	21 04 45.6 -0.3
	comp=Z,3.2nm,0.8s,baz=187,slow=6.7,SNR=11					
	comp=Z,3.2nm,0.8s					
AKASG	Malin Array Be	53.35	1	P	P	21 04 45.6 -0.3
AKASG				pmax	pmax	
	comp=Z,13nm,1.4s					
AKBB	Malin Array Si	53.35	1	IAmb	IAmb	21 04 51.6
	comp=Z,31nm,1.0s					
AKBB	Malin Array Si	53.35	1	*c*eP	P	21 04 44.8 -1.1
AKBB				pmax	pmax	
	comp=Z,26nm,1.0s					
KHC	Kasperske Hory	53.38	348	*e*P	P	21 04 45.9 -0.3
KHC				*e*pP	pP	21 04 50.6 -0.2
KHC				AMS	AMS	21 29 50.0
	comp=Z,500nm,19.0s					
KHC	Kasperske Hory	53.38	348	*e*P	P	21 04 45.9 -0.3
KHC				*e**PP	pP	21 04 50.6 -0.2
KHC				MLR	MLR	
	comp=Z,500nm,19.0s					
STEB	Steborice	53.39	351	*e*P	P	21 04 46.3 0.0
STEB				*e*pP	sP	21 04 51.3 -1.3
OJC	Ojcow	53.40	353	*e*P	P	21 04 46.0 -0.3
OJC				*e*L	L	21 26 49.5
	comp=Z,244nm,24.4s					
PMRV	Marv??o	53.48	326	*e*P	P	21 04 50.9 +3.8
PMRV				*i* IAmb	IAmb	21 04 56.3
	comp=Z,48nm,1.3s					
PMRV				*e*LR	LR	21 25 57.4
PMRV				*i* IAMs_20	IAMs_20	21 34 35.3
	comp=Z,432nm,16.0s					
ZVC	Zvikov	53.54	348	*e*P	P	21 04 46.9 -0.5
ZVC				*e*pP	pP	21 04 52.2 +0.3
ZVC				AMS	AMS	21 32 00.0
	comp=Z,400nm,17.1s					
KRLC	Kraliky	53.68	351	*e*P	P	21 04 48.2 -0.3
KRLC				*e*pP	sP	21 04 53.8 -1.0
KRLC				AMS	AMS	21 33 10.0
	comp=Z,600nm,14.4s					
KRLC	Kraliky	53.68	351	*e*P	P	21 04 48.2 -0.3
KRLC				*e**PP	sP	21 04 53.8 -1.0
KRLC				MLR	MLR	
	comp=Z,600nm,14.4s					
PMTG	Montargil	53.71	325	*e*P	P	21 04 54.5 +5.7
PMTG				*i* IAmb	IAmb	21 04 58.3
	comp=Z,28nm,1.4s					
PCBR	Castelo Branco	53.81	326	*e*P	P	21 04 54.5 +5.0
PCBR				*i* IAmb	IAmb	21 04 58.5
	comp=Z,23nm,1.3s					
BFO	Black Forest	53.94	343	P	P	21 04 49.2 -1.1
BFO				IAmb	IAmb	21 04 56.4
	comp=Z,52nm,1.3s					
BFO	Black Forest	53.94	343	P	P	21 04 49.2 -1.1
BFO				pmax	pmax	
	comp=Z,52nm,1.3s					
PRU	Pruhonice	54.00	349	AMS	AMS	21 31 40.0
	comp=Z,400nm,14.3s					
PARRA	Arraiolos	54.02	324	*e*P	P	21 04 47.6 -3.4
PARRA				*i* IAmb	IAmb	21 04 56.4
	comp=Z,73nm,1.3s					
DPC	Dobruska-Polom	54.03	350	*e*P	P	21 04 51.2 +0.2
DPC				AMS	AMS	21 33 10.0
	comp=Z,300nm,14.2s					
DPC	Dobruska-Polom	54.03	350	*e*P	P	21 04 51.2 +0.2
DPC				MLR	MLR	
	comp=Z,300nm,14.2s					
PSARD	Sardoal	54.03	325	*e*P	P	21 04 57.0 +5.8
PSARD				*i* IAmb	IAmb	21 05 00.5
	comp=Z,48nm,1.3s					
PRA	Prague	54.10	349	AMS	AMS	21 34 00.0
	comp=Z,400nm,15.1s					
ECH	Echery	54.18	342	IAmb	IAmb	21 04 58.2
	comp=Z,31nm,1.1s					
UPC	Upice	54.23	350	*e*P	P	21 04 52.6 +0.2
UPC	Upice	54.23	350	*e*P	P	21 04 52.6 +0.2
MTE	Manteigas	54.23	326	*e*P	P	21 04 57.8 +5.1
MTE				*i* IAmb	IAmb	21 05 01.2
	comp=Z,28nm,1.2s					
MTE				*e*LR	LR	21 26 44.4
MTE				*i* IAMs_20	IAMs_20	21 30 09.9
	comp=Z,698nm,16.0s					
OSTC	Ostas	54.24	350	*e*P	P	21 04 52.2 -0.3
OSTC				*e*pP	pP	21 04 57.3 +0.2
OSTC				AMS	AMS	21 32 50.0
	comp=Z,400nm,15.4s					
OSTC	Ostas	54.24	350	*e*P	P	21 04 52.2 -0.3
OSTC				*e**PP	pP	21 04 57.3 +0.2
OSTC				MLR	MLR	
	comp=Z,400nm,15.4s					
CHVC	Chvalec	54.30	350	*e*P	P	21 04 52.5 -0.4
CHVC				*e*pP	pP	21 04 57.8 +0.3
CHVC	Chvalec	54.30	350	*e*P	P	21 04 52.5 -0.4
CHVC				*e**PP	pP	21 04 57.8 +0.3
GRFO	Grafenberg	54.43	346	P	P	21 04 52.9 -1.0
GRFO	Grafenberg	54.43	346	P	P	21 04 52.9 -1.0
GRFO				pmax	pmax	
	comp=Z,56nm,1.0s					
MVO	Moncorvo	54.48	327	*e*P	P	21 04 59.9 +5.4
MVO				*i* IAmb	IAmb	21 05 04.8
	comp=Z,67nm,1.9s					
MVO				*e*LR	LR	21 26 26.1
MVO				*i* IAMs_20	IAMs_20	21 30 26.9
	comp=Z,730nm,18.0s					
KSP	Ksiaz	54.51	350	*e*P	P	21 04 57.9 +3.5
KSP				*e*L	L	21 27 41.5
	comp=Z,289nm,22.9s					
PCAS	Casmilo, Conde	54.53	325	*e*P	P	21 04 58.5 +3.7
PVIS	Viseu	54.64	326	*e*P	P	21 05 01.0 +5.4
PBRG	Braganca	54.78	328	*e*P	P	21 04 59.8 +3.2
PBRG				*i* IAmb	IAmb	21 05 05.9
	comp=Z,38nm,1.6s					
HSKC	Hora Svate Kat	54.81	348	*e*P	P	21 04 56.4 -0.2
HSKC				*e*pP	pP	21 05 01.2 0.0
HSKC				AMS	AMS	21 34 20.0
	comp=Z,600nm,16.1s					
BEL	Belsk	54.88	354	*e*P	P	21 05 01.8 +4.7
BEL				*e*L	L	21 27 40.0
	comp=Z,7μm,21.2s					
PVRL	Vila Real	54.93	327	*e*P	P	21 05 01.1 +3.4
PVRL				*i* IAmb	IAmb	21 05 07.0
	comp=Z,77nm,1.5s					
BRG	Berggiesshubel	54.96	349	*e*P	P	21 04 57.2 -0.5
BRG				Amp		21 04 58.9
	comp=Z,16nm,1.4s					
BRG	Berggiesshubel	54.96	349	P	P	21 05 02.1 +4.5
BRG				Amp		21 05 03.1
	comp=Z,41nm,1.5s					
POLO	Lamas de Olo	55.04	327	*e*P	P	21 04 59.6 +1.1
POLO				*i* IAmb	IAmb	21 05 08.1
	comp=Z,21nm,1.4s					
PCAB	Cabril	55.40	327	*e*P	P	21 05 06.7 +5.7
PCAB				*i* IAmb	IAmb	21 05 09.6
	comp=Z,64nm,1.8s					
CLL	Collm	55.56	348	*i* P	P	21 05 01.2 -0.8
CLL				*i*		21 05 06.7
CLL				pmax	pmax	
	comp=Z,25nm,1.8s					
CLL				MLR	MLR	
	comp=Z,400nm,20.6s					
CLL	Collm	55.56	348	*i* P	P	21 05 01.2 -0.8
	comp=Z,25nm,1.8s					
CLL				*i* sP	pP	21 05 06.7 +0.2
	comp=Z,27nm,1.3s					
CLL				*e*PPP	PPP	21 08 21.0
CLL				*e*ScP	ScP	21 09 57.0 -3.6
CLL				*e*PcS	PcS	21 10 04.0 +2.4
CLL				*e*S	S	21 12 42.0 -5.2
CLL				*e*SS	SS	21 16 37.0 +4.6
CLL				*e*x	x	21 17 42.0
CLL				Lm	MLR	21 30 00.0
	comp=N,300nm,20.5s					
CLL				Lm	MLR	21 30 00.0
	comp=E,300nm,20.8s					
CLL				Lm	MLR	21 30 00.0
	comp=Z,400nm,20.6s					
NIL	Nilore	55.61	45	P	P	21 05 01.1 -1.7
NIL				IAmb	IAmb	21 05 10.5
	comp=Z,45nm,1.2s					
NIL	Nilore	55.61	45	P	P	21 05 04.5 +1.8
NIL	Nilore	55.61	45	P	P	21 05 01.1 -1.7
NIL				pmax	pmax	
	comp=Z,45nm,1.3s					
PGAV	Gavieira, Arco	55.71	327	*e*LR	LR	21 26 48.4
PGAV				*i* IAMs_20	IAMs_20	21 31 12.8
	comp=Z,631nm,16.0s					
WLF	Walferdange	55.77	343	IAmb	IAmb	21 05 09.9
	comp=Z,46nm,1.2s					
WLF	Walferdange	55.77	343	*d*P	P	21 05 03.2 -0.3
	comp=Z,17nm,1.2s					
BHOU	Houvegnez	56.43	343	*d*P	P	21 05 08.3 +0.1
	comp=Z,16nm,1.0s					
RCHB	Rochefort	56.48	342	*d*P	P	21 05 07.5 -1.1
	comp=Z,12nm,1.2s					
BTNL	Ternell	56.60	343	*d*P	P	21 05 06.7 -2.8
	comp=Z,11nm,1.3s					
DOU	Dourbes	56.63	342	*d*P	P	21 05 13.8 +4.2
	comp=Z,8.8nm,1.4s					
MEM	Membach	56.65	343	*d*P	P	21 05 10.3 +0.5
	comp=Z,13nm,1.2s					
GAR	Garm	56.67	38	IAmb	IAmb	21 05 17.4
	comp=Z,36nm,1.0s					
BGES	Gesves	56.73	342	*d*P	P	21 05 11.3 +1.0
	comp=Z,16nm,1.1s					
BMRD	Maredsous	56.75	342	*d*P	P	21 05 15.2 +4.7
	comp=Z,11nm,1.2s					
BMRD				*d*PcP	PcP	21 06 05.8 -0.5
BSTI	Sart Tilman	56.76	343	*d*P	P	21 05 11.6 +1.0
	comp=Z,4.5nm,1.1s					
SUW	Suwalki	56.84	356	*e*P	P	21 05 15.8 +4.7
SUW				*e*L	L	21 31 04.8
	comp=Z,402nm,20.3s					
BEBN	Eben Emael	56.92	343	*d*P	P	21 05 17.0 +5.3
	comp=Z,10nm,0.0s					
MNK	Minsk	57.16	360	*i* P	P	21 05 10.6 -2.7
MNK				*i*		21 06 05.5
MNK				*i*		21 07 17.3
MNK				*i* S	S	21 13 05.8 -2.4
MNK				*i*		21 15 00.1
MNK				*i* SS	SS	21 16 55.8 -1.6
MNK				pmax	pmax	
	comp=E,11nm,1.0s					
MNK				pmax	pmax	
	comp=Z,14nm,1.1s					
MNK				pmax	pmax	
	comp=N,17nm,1.2s					
MNK				MLR	MLR	
	comp=N,186nm,17.0s					
MNK				MLR	MLR	
	comp=Z,153nm,18.0s					
MNK				MLR	MLR	
	comp=E,170nm,17.0s					
UCC	Uccle	57.31	342	IAmb	IAmb	21 05 21.0
	comp=Z,39nm,1.1s					
UCC	Uccle	57.31	342	*d*P	P	21 05 15.0 +0.5
	comp=Z,21nm,1.2s					
BELG	Belogornoye	57.36	14	*i* P	P	21 05 13.6 -1.1
BELG				pmax	pmax	
	comp=Z,6.0nm,1.0s					
OBN	Obninsk	58.15	5	*d*eP	P	21 05 19.5 -0.7
OBN				*e*		21 07 30.6
OBN				pmax	pmax	
	comp=Z,10.0nm,1.0s					
OBN				MLR	MLR	
	comp=Z,131nm,16.0s					
CHM	Chimkent	58.31	35	*e*P	P	21 05 21.1 -0.7
	comp=Z,16nm,1.3s					
CHM	Chimkent	58.31	35	*e*P	P	21 05 21.0 -0.7
CHM				pmax	pmax	
	comp=Z,16nm,1.3s					
IUG	Iuzhnay	58.44	35	*e*P	P	21 05 22.2 -0.5
	comp=Z,23nm,1.2s					
IUG	Iuzhnay	58.44	35	*e*P	P	21 05 22.2 -0.5
IUG				pmax	pmax	
	comp=Z,23nm,1.2s					
ABKAR	Akbulak array	58.59	24	P	P	21 05 22.8 -0.7
MOS	Moscow	58.87	6	*e*P	P	21 05 24.9 -0.4
MOS				*e*		21 07 34.0
MOS				*e*S	S	21 13 23.5 -7.1
MOS				pmax	pmax	
	comp=Z,137nm,1.3s					
MOS				pmax	pmax	
	comp=N,49nm,0.9s					
BRLS	Borolday	58.89	34	⇓*i* P	P	21 05 23.5 -2.3
	comp=N,10nm,1.1s					
BRLS	Borolday	58.89	34	*d* P	P	21 05 23.5 -2.3
BRLS				pmax	pmax	
	comp=Z,10.0nm,1.1s					
KK31	Karatay Array	59.32	35	IAmb	IAmb	21 05 35.4
	comp=Z,25nm,1.0s					
KKAR	Karatay Array	59.32	35	P	P	21 05 28.1 -0.7
KKAR	Karatay Array	59.32	35	P	P	21 05 28.1 -0.7
DZA	Taraz	59.66	35	*e*P	P	21 05 30.5 -0.6
	comp=Z,7.5nm,0.9s					
DZA	Taraz	59.66	35	*e*P	P	21 05 30.5 -0.6
DZA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
ARSB	Arslanbob	59.70	38	IAmb	IAmb	21 05 37.8
	comp=Z,24nm,1.3s					
BJUU	Bjuv	60.09	350	*i* P	P	21 05 39.2 +5.6
SSRD	Sdr. Stenderup	60.18	348	*i* P	P	21 05 41.0 +6.7
SSRD				IAmb	IAmb	21 05 41.3
	comp=Z,123nm,0.8s					
DEL	Delary	60.32	351	*i* P	P	21 05 40.5 +5.2
KSH	Kashi	60.57	41	P	P	21 05 36.0 -1.6
KSH				PcP	PcP

comp=Z,16nm,1.4s
ONAU Onsala 61.54 350 *i* P P 21 05 49.0 +5.5
FOEL Foel Wylfa 61.62 339 *eP* **P 21 05 44.3 +0.1**
FOEL IAmb IAmb 21 05 45.7
comp=Z,21nm,1.1s
BORU Boraas 61.62 350 *i* P P 21 05 49.6 +5.6
SGDS Sogindy 61.93 36⇓*iP* **P 21 05 46.1 -0.5**
comp=Z,8.2nm,1.0s
HPK Haverah Park 61.94 340 *eP* **P 21 05 47.0 +0.7**
HPK IAmb IAmb 21 05 49.5
comp=Z,10nm,0.6s
BOOM Boomskoye usch 62.17 38 IAmb IAmb 21 05 55.5
comp=Z,32nm,1.5s
TJOU Tjoern 62.19 350 *i* P P 21 05 53.2 +5.3
KDJ Kajisay 62.75 39 IAmb IAmb 21 05 58.1
comp=Z,30nm,1.7s
TARG Taragay, Kyrgy 62.93 40 IAmb IAmb 21 06 02.0
comp=Z,20nm,0.9s
HOMB Homborsund 63.00 348 *i* P P 21 05 59.0 +5.7
TNSS Tian-Shan 63.09 38 *eP* **P 21 05 53.9 -0.9**
TNSS Tian-Shan 63.09 38 *eP* **P 21 05 53.9 -0.9**
AAA Alma-Ata 63.17 38 *eP* **P 21 05 54.3 -0.6**
comp=Z,7.2nm,0.6s
AAA Alma-Ata 63.17 38 *eP* **P 21 05 54.2 -0.6**
AAA pmax pmax
comp=Z,7.0nm,0.6s
STRU Stroemstad 63.22 350 *i* P P 21 05 59.8 +5.1
MDOK Medeo 63.23 38 *eP* **P 21 05 54.8 -0.6**
MDOK Medeo 63.23 38 *eP* **P 21 05 54.7 -0.6**
SNART Snartemo 63.34 348 *eP* P 21 06 02.0 +6.4
SNART Snartemo 63.34 348 *i* P P 21 06 02.0 +6.5
KIRV Kirov 63.47 12*ceP* **P 21 05 56.2 -0.2**
EKA Eskdalemuir Ar 63.58 340 P **P 21 05 57.9 +0.7**
comp=Z,5.7nm,1.0s,baz=124,slow=6.1,SNR=9.4
comp=Z,5.7nm,1.0s
ESK Eskdalemuir 63.58 340 *eP* **P 21 05 57.4 +0.2**
ESK IAmb IAmb 21 05 58.8
comp=Z,8.6nm,1.0s
PRZ Przheval'sk 63.70 39 IAmb IAmb 21 06 12.2
comp=Z,19nm,1.1s
EVN Everest 63.80 57 P **P 21 05 57.4 -2.6**
ARTI Arti 63.85 18 P **P 21 05 58.6 -0.4**
ARTI Arti 63.85 18*diP* **P 21 05 59.0 0.0**
ARTI 21 06 34.9
ARTI 21 08 14.2
ARTI S **S 21 14 33.7 -0.2**
ARTI pmax pmax
comp=Z,22nm,1.4s
HFS Hagfors 63.87 352 P **P 21 05 58.7 -0.3**
comp=Z,2.6nm,0.8s,baz=176,slow=5.9,SNR=7.6
comp=Z,2.6nm,0.8s
SATY Saty 64.01 39 *eP* **P 21 06 00.2 -0.3**
comp=Z,12nm,1.1s
SATY Saty 64.01 39 *eP* **P 21 06 00.2 -0.3**
SATY pmax pmax
comp=Z,12nm,1.1s
EDI Edinburgh 64.07 341 *eP* **P 21 06 01.4 +1.0**
EDI IAmb IAmb 21 06 02.7
comp=Z,10nm,0.9s
KONO Kongsberg 64.08 349 P **P 21 06 00.0 -0.4**
KONO Kongsberg 64.08 349*ceP* **P 21 06 01.0 +0.6**
KONO pmax pmax
comp=Z,82nm,2.5s
KONO Kongsberg 64.08 349 *eP* **P 21 06 04.3 +3.9**
KLMR Klimovskoe 64.09 6 *eP* **P 21 05 58.3 -2.2**
KLMR *e* 21 08 18.5
KLMR pmax pmax
comp=Z,94nm,1.4s
FINES FINESS Array B 64.14 359 P **P 21 06 00.3 -0.5**
FINES FINESS Array B 64.14 359 P **P 21 06 01.4 +0.6**
comp=Z,19nm,1.0s,baz=162,slow=5.3,SNR=18
comp=Z,19nm,1.0s
FIA1 FINESS Array S 64.14 359 **P 21 06 00.0 -0.8**
OSL Oslo 64.15 350 *eP* P 21 06 06.3 +5.5
UZB Uzynbulak 64.44 39 *eP* **P 21 06 02.8 -0.6**
comp=Z,14nm,1.3s
UZB Uzynbulak 64.44 39 *eP* **P 21 06 02.8 -0.6**
UZB pmax pmax
comp=Z,14nm,1.3s
BLS5 Blasjo 64.49 348 *eP* P 21 06 08.0 +4.8
KMY Karmoy 64.56 347 *eP* P 21 06 09.0 +5.4
SHLS Shalkode 64.72 39 *eP* **P 21 06 06.3 +1.1**
comp=Z,6.4nm,1.2s
SHLS Shalkode 64.72 39 *eP* **P 21 06 06.3 +1.1**
SHLS pmax pmax
comp=Z,6.0nm,1.2s
INVG Invergeldie, C 64.76 341 *eP* **P 21 06 05.1 +0.2**
INVG IAmb IAmb 21 06 07.0
comp=Z,2.6nm,0.7s
NC602 NORSAR Array S 64.77 351 *eP* **P 21 06 09.6 +4.7**
ODD1 Odda 64.90 348 *eP* P 21 06 11.5 +5.6
SVE Sverdlovsk 64.92 19 *eP* **P 21 06 06.0 0.0**
TDK Taldyqorghan 65.04 37 *eP* **P 21 06 06.5 -0.7**
comp=Z,6.4nm,0.8s
TDK Taldyqorghan 65.04 37 *eP* **P 21 06 06.4 -0.7**
TDK pmax pmax
comp=Z,6.0nm,0.8s
LAWE Loch Awe, Argy 65.08 340 *eP* **P 21 06 07.7 +0.6**
LAWE IAmb IAmb 21 06 08.1
comp=Z,5.1nm,0.6s
NB201 NORSAR Array S 65.11 351 P **P 21 06 06.9 -0.3**
NB2 NORSAR Subarra 65.11 351 P **P 21 06 07.3 +0.1**
comp=Z,74nm,1.0s,baz=161,slow=6.5
NB2 NORSAR Subarra 65.11 351 P **P 21 06 07.3 +0.1**
baz=161,slow=6.5
NOA NORSAR Array B 65.11 351 P **P 21 06 07.7 +0.5**
comp=Z,11nm,0.9s,baz=162,slow=6.3,SNR=39
comp=Z,11nm,0.9s
SKAR Skarsila 65.28 349 *eP* P 21 06 14.2 +5.9
MCD Coleburn Disti 65.44 342 *eP* **P 21 06 09.7 +0.3**
MCD IAmb IAmb 21 06 10.6
comp=Z,7.7nm,1.0s
BER Bergen 65.60 348 *eP* **P 21 06 14.6 +4.3**
ASK Askoy 65.72 348 *eP* **P 21 06 14.7 +3.6**
BORK Borovoye 65.78 26 *i* P **P 21 06 12.0 +0.4**
BORK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 65.79 26 P **P 21 06 12.0 +0.2**
comp=Z,1.9nm,0.8s,baz=235,slow=5.2,SNR=8.8
comp=Z,1.9nm,0.8s
BVAR Borovoye Array 65.79 26 P **P 21 06 12.0 +0.2**
KPL Plockton 66.02 341 *eP* **P 21 06 13.9 +0.9**
HYA Hoyanger 66.14 348 *eP* P 21 06 19.6 +5.9
SUE Sulen 66.33 348 *eP* **P 21 06 18.8 +3.7**
BIGH Upper Bighouse 66.39 342 *eP* **P 21 06 17.5 +2.1**
DOMB Dombas 66.41 350 *eP* **P 21 06 20.2 +4.7**
SYO Syowa Base 66.47 176⇑*eP* **P 21 06 17.0 +1.2**
SYO Syowa Base 66.47 176⇑*esP* sP 21 06 22.8 +0.7
LINV Loch Inver, As 66.51 341 *eP* **P 21 06 16.4 +0.2**
LINV IAmb IAmb 21 06 20.3
comp=Z,4.2nm,0.9s
BRDH Bariadhala 66.52 64 LR LR 21 34 28.1
comp=Z,477nm,21.8s,baz=290,slow=35
FOO Floro 66.76 348 *eP* **P 21 06 21.0 +3.2**
AKN Aaknes 66.91 349 *eP* P 21 06 24.6 +5.9
MOL Molde 67.17 350 *eP* P 21 06 26.3 +6.0
SHL Shillong 67.45 61 P **P 21 06 23.5 +0.3**
SNR=12
MAKZ Makanchi 68.11 36 P **P 21 06 26.5 -0.2**
MAKZ IAmb IAmb 21 06 33.2
comp=Z,21nm,1.1s
MAKZ Makanchi 68.11 36 P **P 21 06 26.5 -0.2**
MAKZ pmax pmax
comp=Z,21nm,1.1s
KURBB Kurchatov Arra 68.23 32 P **P 21 06 27.2 -0.1**
comp=Z,4.7nm,0.9s,baz=239,slow=6.5,SNR=38
comp=Z,4.7nm,0.9s
MK31 Makanchi Array 68.29 37*ceP* **P 21 06 28.1 +0.3**
MKAR Makanchi Array 68.29 37 P **P 21 06 26.6 -1.3**
MKAR Makanchi Array 68.29 37 P **P 21 06 27.8 -0.1**
comp=Z,4.4nm,0.7s,baz=243,slow=6.2,SNR=34
comp=Z,4.4nm,0.7s
KURK Kurchatov 68.33 32 P **P 21 06 28.4 +0.6**
KURK IAmb IAmb 21 06 34.7
comp=Z,19nm,1.1s
KURK Kurchatov 68.33 32 P **P 21 06 28.5 +0.6**
KURK pmax pmax
comp=Z,19nm,1.1s
MAW Mawson 68.80 167 P **P 21 06 33.4 +2.9**
comp=Z,14nm,0.9s,baz=314,slow=8.4,SNR=15
MAW LR LR 21 33 06.3
comp=Z,383nm,20.7s,baz=314,slow=33
comp=Z,14nm,0.9s
ZSN Zaisan 70.15 37 *eP* **P 21 06 39.1 -0.2**
ZSN Zaisan 70.15 37 *eP* **P 21 06 39.1 -0.2**

WMQ Urumqi 70.33 41 *eP* **P 21 06 41.8 +1.2**
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ LR LR
comp=Z,300nm,22.3s
WMQ LR LR
comp=Z,450nm,22.3s
WMQ LR LR
comp=Z,330nm,24.1s
APA Apatity 70.35 2⇓*eP* **P 21 06 43.5 +3.4**
APA MLR MLR
comp=Z,913nm,4.8s
PSI Prapat 70.58 86 LR LR 21 33 15.5
comp=Z,320nm,21.8s,baz=244,slow=32
TROLL Troll, Antarti 70.98 188 ⇓P **P 21 06 47.3 +3.2**
comp=Z,1μm,0.8s
SNAA Sanae 71.54 190 ⇓P **P 21 06 49.8 +2.4**
comp=Z,142nm,0.8s
SNAA Sanae 71.54 190 P **P 21 06 49.0 +1.6**
SNAA IAmb IAmb 21 06 51.5
comp=Z,26nm,1.3s
SNAA Sanae 71.54 190 P **P 21 06 50.0 +2.6**
comp=Z,9.7nm,1.1s,baz=31,slow=6.1,SNR=22
comp=Z,9.7nm,1.1s
VNA1 Neumayer--Watz 71.75 192 ⇓P **P 21 06 51.7 +3.2**
comp=Z,59nm,1.0s
VNA2 Neumayer--Watz 71.79 192 ⇓P **P 21 06 51.4 +2.5**
comp=Z,22nm,0.7s,baz=27,slow=5.9
ARCES ARCESS Array B 72.27 359 P **P 21 06 51.6 -0.1**
comp=Z,2.2nm,0.8s,baz=177,slow=5.1,SNR=6.1
ARCES LR LR 21 41 31.3
comp=Z,140nm,19.0s,baz=184,slow=38
comp=Z,2.2nm,0.8s
ARCES ARCESS Array B 72.27 359 P **P 21 06 51.6 -0.1**
ARCES pmax pmax
comp=Z,114nm,1.9s
CM31 Chiang Mai Arr 72.40 70 IAmb IAmb 21 06 55.4
comp=Z,35nm,1.4s
CM31 Chiang Mai Arr 72.40 70 P **P 21 06 54.3 +0.8**
SNR=5.2
CMAR Chiang Mai Arr 72.40 70 P **P 21 06 52.1 -1.4**
CMAR Chiang Mai Arr 72.40 70 P **P 21 06 54.0 +0.5**
comp=Z,2.4nm,0.7s,baz=263,slow=6.7,SNR=24
CMAR LR LR 21 36 44.2
comp=Z,108nm,21.9s,baz=270,slow=34
comp=Z,2.4nm,0.7s
CMAR Chiang Mai Arr 72.40 70 P **P 21 06 54.0 +0.5**
CHTO Chiang Mai 72.45 69 P **P 21 06 54.0 +0.2**
CHTO Chiang Mai 72.45 69 P **P 21 06 54.3 +0.5**
CHTO P **P 21 06 54.3 +0.5**
CHTO Chiang Mai 72.45 69 P **P 21 06 54.0 +0.2**
CHTO pmax pmax
comp=Z,11nm,1.1s
VNA3 Neumayer Olymp 72.50 192 ⇓P **P 21 06 55.0 +1.9**
comp=Z,44nm,0.8s
DGZ Jazzator, Alta 72.69 36 *i* P **P 21 06 53.6 -1.2**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
GOMU GeErMu 72.78 51 P **P 21 06 56.3 +0.4**
GOMU pP pP 21 07 00.5 -0.1
GOMU sP sP 21 07 03.8 +1.5
GOMU pmax pmax
comp=Z,21nm,1.5s
IPM Ipoh 72.79 84 P **P 21 06 55.0 -0.9**
IPM IAmb IAmb 21 07 03.0
comp=Z,31nm,1.0s
TNCH TengChong 73.18 63 P **P 21 06 58.8 +0.6**
TNCH pP pP 21 07 03.5 +0.6
TNCH pmax pmax
comp=Z,30nm,1.3s
TNCH pmax pmax
comp=Z,180nm,3.9s
ZAA0 Zalesovo Array 73.27 31 IAmb IAmb 21 07 04.0
comp=Z,31nm,1.2s
ZALV Zalesovo Beam 73.27 31 P **P 21 06 56.7 -1.2**
ZALV Zalesovo Beam 73.27 31 P **P 21 06 57.4 -0.5**
comp=Z,5.0nm,0.8s,baz=253,slow=4.5,SNR=30
comp=Z,5.0nm,0.8s
LHSI Lahat 74.84 93 P **P 21 07 10.9 +2.9**
comp=Z,2μmcomp=Z,54nm,1.1s
MYKOM Kota Tinggi 75.43 87 P **P 21 07 11.4 +0.1**
MYKOM IAmb IAmb 21 07 18.4
comp=Z,36nm,1.0s
MDSI Maura Dua 75.47 94 P **P 21 07 13.0 +1.4**
comp=Z,534nmcomp=Z,28nm,1.0s
TPRI Tanjung Pinang 76.05 88 P **P 21 07 16.3 +1.4**
comp=Z,1μmcomp=Z,22nm,1.1s
BDFB Brasilia 76.29 255 P **P 21 07 16.8 +0.4**
BDFB Brasilia 76.29 255 P **P 21 07 17.6 +1.2**
comp=Z,9.2nm,1.0s,baz=98,slow=4.5,SNR=6.7
BDFB LR LR 21 36 03.0
comp=Z,259nm,21.6s,baz=113,slow=32
comp=Z,9.2nm,1.0s
PZH PanZhiHua 76.31 62 P **P 21 07 18.5 +2.2**
BORG Borgarnes 76.61 340*ceP* **P 21 07 17.6 +0.6**
KMI Kunming 76.96 64 P **P 21 07 21.5 +1.4**
KMI pmax pmax
comp=Z,18nm,1.1s
KMI LR LR
comp=Z,250nm,25.8s
GTA Gaotai 77.46 49 *eP* **P 21 07 23.5 +1.0**
GTA pP sP 21 07 28.5 -0.4
GTA pmax pmax
comp=Z,25nm,1.3s
GTA LR LR
comp=Z,170nm,14.5s
GTA LR LR
comp=Z,200nm,14.2s
GTA LR LR
comp=Z,240nm,17.1s
CD2 Chengdu 78.83 58 P **P 21 07 30.5 +0.3**
CD2 pmax pmax
comp=Z,60nm,0.6s
KNGR Kungurtug, Tuv 79.03 37 *i* P **P 21 07 31.2 +0.2**
LZH Lanzhou 79.85 53 *eP* **P 21 07 37.8 +2.0**
LZH pP PcP 21 07 43.0 -0.4
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,320nm,4.5s
LZH LR LR
comp=Z,320nm,15.8s
LZH LR LR
comp=Z,320nm,15.8s
LZH LR LR
comp=Z,440nm,15.1s
KPJI Karang Pucung 80.12 97 P **P 21 07 39.3 +1.8**
comp=Z,45nm,1.0s
SCO Scoresbysund 80.39 345 *i* P P 21 07 45.2 +7.5
SCO IAmb IAmb 21 07 46.3
comp=Z,16nm,1.0s
ITAB Concordia 80.41 243 **P 21 07 37.6 -1.2**
GYA Guiyang 80.66 63 ⇑P **P 21 07 41.0 +0.7**
GYA pmax pmax
comp=Z,21nm,1.5s
SPITS Spitsbergen Ar 81.20 357 P **P 21 07 42.5 +0.4**
comp=Z,5.7nm,0.9s,baz=171,slow=10,SNR=4.4
comp=Z,5.7nm,0.9s
MOY Mondy 81.44 37 *eP* **P 21 07 45.1 +1.2**
MOY pmax pmax
comp=Z,46nm,1.8s
MDP Montagnes des 81.48 276 LR LR 21 38 31.0
comp=Z,183nm,20.4s,baz=74,slow=32
BELA Belgrano 2 81.74 191 P **P 21 07 44.9 -0.1**
BELA IAmb IAmb 21 07 48.5
comp=Z,40nm,1.2s
KBS Kingsbay 82.15 357 *i* P P 21 07 54.5 +7.5
DBG Daneborg 82.44 348 *i* P P 21 07 55.2 +6.7
DBG IAmb IAmb 21 07 55.9
comp=Z,19nm,1.3s
ZAK Zakamensk 82.51 39 *eP* **P 21 07 50.3 +0.7**
ZAK pmax pmax
comp=Z,24nm,1.5s
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ANGG Ammassalik, Gr 82.96 338 *i* P P 21 07 58.3 +6.9
ANGG IAmb IAmb 21 08 01.3
comp=Z,46nm,1.0s
TLY Talaya 83.04 37 P **P 21 07 55.4 +3.2**
TLY P **P 21 07 55.4 +3.2**
IRK Irkutsk 83.55 37 *eP* **P 21 07 55.5 +0.7**
IRK pmax pmax
comp=Z,51nm,2.2s
XAN Xi'an 83.62 55 P **P 21 07 57.0 +1.4**
XAN pmax pmax
comp=Z,10.0nm,0.9s

DAG Danmarks Havn 83.79 350 *i* P P 21 08 01.9 +6.4
DAG IAmb IAmb 21 08 02.6
comp=Z,35nm,1.2s
SBUM Sibu 83.81 87 P **P 21 07 56.7 -0.3**
SBUM IAmb IAmb 21 08 04.8
comp=Z,21nm,1.0s
SONM Songino Array 83.97 41 P **P 21 07 58.2 +1.0**
SONM IAmb IAmb 21 08 05.6
comp=Z,52nm,1.7s
SONM Songino Array 83.97 41 P **P 21 07 58.8 +1.6**
comp=Z,3.2nm,1.1s,baz=243,slow=3.6,SNR=23
comp=Z,3.2nm,1.1s
ULN Ulaanbaatar 84.41 42 P **P 21 08 01.1 +1.6**
ULN Ulaanbaatar 84.41 42*ceP* **P 21 07 59.9 +0.4**
ULN pmax pmax
comp=Z,32nm,2.5s
NRS Narsarsuaq 84.80 332 *i* P P 21 08 07.2 +6.3
NRS IAmb IAmb 21 08 08.2
comp=Z,89nm,1.3s
CPUP Villa Florida 85.05 244 LR LR 21 41 35.6
comp=Z,51nm,20.9s,baz=320,slow=32
BTO Baotou 85.38 49 *eP* **P 21 08 05.5 +1.1**
BTO pP **sP 21 08 11.0 +0.1**
BTO S **S 21 18 38.3 +2.9**
BTO pmax pmax
comp=Z,22nm,1.1s
BTO pmax pmax
comp=Z,470nm,4.6s
BTO LR LR
comp=Z,300nm,14.9s
BTO LR LR
comp=Z,230nm,18.4s
BTO LR LR
comp=Z,380nm,18.6s
SUMG Summit 85.96 344 IAmb IAmb 21 08 16.0
comp=Z,30nm,1.0s
SUMG Summit 85.96 344 *i* P P 21 08 13.4 +6.4
SUMG IAmb IAmb 21 08 15.8
comp=Z,36nm,1.1s
IVI Ivigtut 86.11 332 *i* P P 21 08 16.3 +8.9
IVI IAmb IAmb 21 08 18.6
comp=Z,25nm,1.1s
DY2G Dye2 86.57 337 *i* P P 21 08 17.3 +7.3
DY2G IAmb IAmb 21 08 18.6
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 86.57 49⇓*iP* **P 21 08 12.5 +2.1**
HHC pP sP 21 08 17.5 +0.7
HHC sP pP 21 08 23.5 +8.4
HHC pmax pmax
comp=Z,27nm,1.1s
LYN LuoYang 86.60 55 P **P 21 08 12.8 +2.3**
LYN pP sP 21 08 17.5 +0.6
LYN pmax pmax
comp=Z,34nm,0.8s
LYN pmax pmax
comp=Z,220nm,6.9s
NOR Nord 86.87 354 *i* P P 21 08 16.5 +5.6
NOR IAmb IAmb 21 08 17.6
comp=Z,23nm,1.5s
BLDU Ballidu 86.99 120 P **P 21 08 09.5 -3.0**
PTLB Pontes e Lacer 87.01 255 P **P 21 08 12.3 -0.6**
PTLB IAmb IAmb 21 08 21.4
comp=Z,37nm,1.8s
WHN Wuhan 87.82 59 P **P 21 08 17.8 +1.3**
TWSI Taliwang, Sumb 87.94 99 P **P 21 08 17.9 +0.5**
NUUK Nuuk 88.31 334 *i* P P 21 08 25.1 +7.0
NUUK IAmb IAmb 21 08 25.7
comp=Z,48nm,1.2s
HNS HongShan 88.67 53 ⇑P **P 21 08 22.3 +2.0**
HNS pmax pmax
comp=Z,14nm,1.5s
HNS LR LR
comp=Z,230nm,15.1s
HNS LR LR
comp=Z,290nm,17.1s
TRQA Tornquist 88.67 232 P **P 21 08 20.9 +0.5**
TRQA Tornquist 88.67 232 P **P 21 08 20.9 +0.5**
TRQA pmax pmax
comp=Z,54nm,1.7s
BOAV Boa Vista 89.18 272 P **P 21 08 22.8 -0.5**
BOAV IAmb IAmb 21 08 31.0
comp=Z,17nm,1.1s
BJI Beijing 90.00 50 P **P 21 08 28.0 +1.5**
BJI sP **sP 21 08 33.3 +0.3**
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI LR LR
comp=Z,140nm,19.3s
BJI LR LR
comp=Z,110nm,20.2s
BJI LR LR
comp=Z,180nm,19.3s
MYLDM Lahad Datu 90.21 85 IAmb IAmb 21 08 40.9
comp=Z,23nm,1.0s
NJ2 Nanjing 91.76 58 *eP* **P 21 08 34.8 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
LPAZ La Paz 95.60 253 P **P 21 08 54.3 +0.6**
comp=Z,1.1nm,0.8s,baz=87,slow=4.5,SNR=6.6
comp=Z,1.1nm,0.8s
TIXI Tiksi 95.94 18 **P 21 08 51.5 -1.7**
TIXI Tiksi 95.94 18*ceP* **P 21 08 51.8 -1.4**
CN2 Changchun 96.95 46 *eP* **P 21 08 58.5 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 97.73 28 *i* P Pdif 21 09 01.9 +0.3
YAK pmax pmax
comp=Z,2.0nm,1.0s
KSAR Wonju Array Be 99.15 53 P **Pdif 21 09 06.6 -1.9**
KSAR Wonju Array Be 99.15 53 P **Pdif 21 09 06.6 -1.9**
KSRS Korea Array 99.18 53 P **Pdif 21 09 08.0 -0.6**
comp=Z,1.0nm,0.8s,baz=277,slow=4.6,SNR=6.2
comp=Z,1.0nm,0.8s
ASAR Alice Springs 102.88 115 Pdiff **Pdif 21 09 25.4 0.0**
comp=Z,0.8nm,0.9s,baz=274,slow=3.1,SNR=4.9
ILAR Eielson Array 118.12 358 **PKPdf 21 14 12.3 -1.2**
ILAR Eielson Array 118.12 358 PKP **PKPdf 21 14 13.4 -0.1**
comp=Z,1.1nm,1.0s,baz=348,slow=5.7,SNR=6.9
BCAR Beaver Creek A 119.50 355 **PKiKP 21 14 17.1 +0.8**
SKT Skwentna 121.01 0 **PKPdf 21 14 18.5 -0.6**
PDAR Pinedale Array 125.51 323 **PKPdf 21 14 28.4 -0.2**
PDAR Pinedale Array 125.51 323 PKP **PKiKP 21 14 29.8 +0.7**
comp=Z,2.8nm,1.0s,baz=98,slow=3.0,SNR=15
PV22 Blue Mesa, Par 127.34 318 **PKPdf 21 14 30.2 -2.0**
ANMO Albuquerque 127.47 313*c iPKIKP* **PKPdf 21 14 32.0 -0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
TXAR Lajitas Array 127.59 305 **PKPdf 21 14 32.0 -0.8**
TXAR Lajitas Array 127.59 305 PKP **PKiKP 21 14 33.2 -0.2**
comp=Z,1.6nm,0.9s,baz=116,slow=2.9,SNR=9.3
MNTX Cornudas Mount 128.05 309 **PKPdf 21 14 33.5 -0.1**
NVAR Mina Array Bea 133.42 324 **PKPdf 21 14 42.0 -1.8**
NVAR Mina Array Bea 133.42 324 PKP **PKPdf 21 14 43.6 -0.2**
comp=Z,1.1nm,0.7s,baz=48,slow=2.2,SNR=6.7
BEKR Beckworth 133.61 327 PKPdf **PKPdf 21 14 40.1 -3.9**
RKT Rikitea 149.59 211 *e*LR LR 22 04 50.4
comp=Z,3μm,34.5s
TBI Tubuai 153.89 184 *e*LQ LQ 22 00 01.0
comp=Z,2μm,38.0s
TBI *e*LR LR 22 06 39.9
comp=Z,930nm,36.8s
PPT2 Papeete2 159.60 185 *e*LQ LQ 22 02 39.1
comp=Z,297nm,23.2s
PPT2 *e*LR LR 22 09 18.2
comp=Z,167nm,25.5s
PPT2 *e*LR LR 22 09 21.3
comp=Z,135nm,22.0s

HVO ***30*** *20:56:31.9±0.9, 19°.461N±0°.007×155°.607W±0°.008, h-2km±4km, ML2.5/29, ML2.4/44(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=47.0*
NEIC 30 20:56:32.3±0.9, 19°.449N±0°.007×155°.613W±0°.008, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.2km az=22.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.04**	**23**	Pg	Pg	20 56 33.0	-1.1
ALEP	**Alea Permanent**	**0.10**	**342**		Pg	20 56 34.6	0.0
ALEP					Sg	20 56 36.5	+0.3
AIN	**Ainahou**	**0.17**	**117**		Pg	20 56 36.2	+0.5
HMH	**Humu'ula Sheep**	**0.20**	**39**		Pg	20 56 36.1	-0.2
HMH				IAML		20 56 40.5	
	comp=N,695nm,0.7s						

KHU	**Kahuku**	**0.20**	**181**			Pg		20 56 36.7	+0.3
KHU						Sg		20 56 40.4	+1.3
MLH	**Mauna Loa**	**0.22**	**78**			Pg		20 56 36.9	+0.2
MLH				IAML				20 56 41.1	
	comp=N,1μm,0.3s								
MLH				IAML				20 56 42.6	
	comp=E,852nm,0.6s								
HTC	**Hot Caves**	**0.29**	**136**			Pg		20 56 38.2	+0.2
WRMHI	**West Rim**	**0.30**	**98**			Pg		20 56 38.2	+0.1
WRMHI						Sg		20 56 42.9	+0.7
UWE	**Uwekahuna**	**0.30**	**95**			Pg		20 56 38.5	+0.2
UWE						Sg		20 56 43.3	+1.0
UWE	**Uwekahuna**	**0.30**	**95**	IAML				20 56 46.0	
	comp=E,1μm,0.3s								
UWE				IAML				20 56 47.7	
	comp=N,923nm,0.7s								
SDHHI	**Sand Hill**	**0.31**	**101**			Pg		20 56 38.4	0.0
OBL	**Observatory Le**	**0.31**	**96**			Pg		20 56 38.5	+0.1
OBL						Sg		20 56 43.3	+0.7
HUH	**Hualalai**	**0.32**	**318**			Pg		20 56 38.1	-0.4
POHA	**Pohakuloa**	**0.32**	**14**			Pg		20 56 38.0	-0.6
POHA				IAML				20 56 46.2	
	comp=N,448nm,0.6s								
POHA				IAML				20 56 46.6	
	comp=N,665nm,0.7s								
POHA	**Pohakuloa**	**0.32**	**14**			Sb		20 56 44.8	-1.4
RSD	**Rainshed**	**0.32**	**87**			Pg		20 56 38.8	+0.3
RSD						Sg		20 56 43.6	+0.8
RSD	**Rainshed**	**0.32**	**87**	IAML				20 56 48.2	
	comp=N,682nm,0.3s								
RSD				IAML				20 56 48.8	
	comp=E,566nm,0.3s								
UWB	**Uwekahuna Bluf**	**0.32**	**94**			Pg		20 56 38.5	-0.1
UWB						Sg		20 56 43.2	+0.4
RIM	**Rim**	**0.32**	**99**			Pg		20 56 38.6	-0.1
RIM						Sg		20 56 43.8	+0.8
HLP	**Hilina Pali**	**0.33**	**118**			Pg		20 56 38.8	+0.1
HLP						Sg		20 56 44.2	+1.2
HLP	**Hilina Pali**	**0.33**	**118**	IAML				20 56 45.1	
	comp=E,602nm,2.3s								
HLP				IAML				20 56 47.6	
	comp=N,376nm,0.8s								
SBLHI	**Steaming Bluff**	**0.33**	**94**			Pg		20 56 38.7	0.0
SBLHI						Sg		20 56 43.8	+0.8
KKO	**Keanakako'i**	**0.33**	**99**			Pg		20 56 38.8	0.0
KKO						Sg		20 56 44.1	+0.9
HATHI	**Halema'uma'u T**	**0.33**	**94**			Pg		20 56 38.8	-0.1
HATHI						Sg		20 56 44.0	+0.7
HATHI	**Halema'uma'u T**	**0.33**	**94**	IAML				20 56 47.3	
	comp=N,532nm,0.8s								
HATHI				IAML				20 56 49.0	
	comp=E,634nm,0.7s								
BYL	**Byron's Ledge**	**0.34**	**96**			Pg		20 56 39.0	+0.1
BYL						Sg		20 56 44.1	+0.8
BYL	**Byron's Ledge**	**0.34**	**96**	IAML				20 56 44.7	
	comp=N,379nm,0.8s								
BYL				IAML				20 56 49.1	
	comp=E,509nm,0.4s								
PUH	**Pauahi**	**0.38**	**101**			Pg		20 56 39.4	-0.4
PUH						Sg		20 56 45.1	+0.3
PUH	**Pauahi**	**0.38**	**101**	IAML				20 56 48.0	
	comp=E,211nm,0.8s								
PUH				IAML				20 56 51.5	
	comp=N,278nm,0.8s								
KNHH	**Kane Nui o Ham**	**0.42**	**99**			Pg		20 56 40.3	-0.2
STCH	**Steam Cracks**	**0.47**	**98**			Pg		20 56 40.9	-0.5
STCH						Sg		20 56 48.5	+1.0
STCH	**Steam Cracks**	**0.47**	**98**	IAML				20 56 55.4	
	comp=N,239nm,0.9s								
NPOC	**North of Pu'u**	**0.48**	**97**			Pg		20 56 41.4	-0.2
NPOC						Sg		20 56 49.0	+1.2
JCUZ	**Jacuzzi**	**0.49**	**97**			Pg		20 56 41.6	-0.1
JCUZ						Sg		20 56 49.2	+1.1
JOKA	**Jonika Flow**	**0.57**	**91**			Pg		20 56 42.6	-0.8
JOKA				IAML				20 56 58.4	
	comp=N,272nm,1.2s								
JOKA	**Jonika Flow**	**0.57**	**91**			Sg		20 56 50.9	0.0
HPAH	**Hawaii Prepara**	**0.58**	**352**			Pg		20 56 44.0	+0.4
HPAH	**Hawaii Prepara**	**0.58**	**352**	IAML				20 57 02.0	
	comp=N,242nm,0.9s								
HPAH				IAML				20 57 02.5	
	comp=E,237nm,0.5s								

*IDC **30** 20:57:49.9±1.1, 2°.86S×28°.47E, h0km, mb4.4/16, mbtmp4.4/17, ML2.9/1, MS4.4/3, Error ellipse: s-maj=27.4km s-min=23.0km az=150.0*
*NEIC **30** 20:57:51.1±1.8, 2°.93S±0°.10×28°.60E±0°.04, h10km±1km, mb4.9/33, Error ellipse: s-maj=16.4km s-min=6.9km az=183.0*

ISC 30 20:57:51.0±0.5, 2°.88S±0°.09×28°.62E±0°.08, h10km, n73, σ1§10/71, mb4.8/30, MS4.4/3, 5C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.80**	**79**	Sn	**Sn**	**21 01 37.1**	**-1.0**
	8.1nm,0.3s,baz=211,slow=21,SNR=1.6						
KMBO				Lg	Lg	21 02 26.7	
	28nm,0.3s,baz=357,slow=24,SNR=4.3						
LODK	**Lodwar**	**9.19**	**47**	Pn	**Pn**	**21 00 05.8**	**+1.9**
KIBK	**Kibwezi**	**9.43**	**87**	Pn	**Pn**	**21 00 06.9**	**-0.3**
LSZ	**Lusaka**	**12.33**	**182**	Lg	Lg	21 04 13.4	
	9.4nm,0.3s,baz=87,slow=21,SNR=1.6						
FURI	**Furi**	**15.40**	**41**	Pn	**Pn**	**21 01 29.7**	**+0.7**
FURI				IAmb	IAmb	21 01 29.9	
	comp=Z,22nm,0.5s						
TSUM	**Tsumeb**	**19.49**	**213**	IAmb	IAmb	21 02 21.3	
	comp=Z,95nm,0.9s						
TSUM	**Tsumeb**	**19.49**	**213**	P	**P**	**21 02 18.4**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=31,slow=15,SNR=3.8						
	comp=Z,75nm,0.8s						
KOOLE	**Kule**	**21.60**	**202**	P	**P**	**21 02 40.0**	**-1.4**
WIN	**Windhoek**	**22.54**	**209**	P	**P**	**21 02 52.2**	**+0.6**
WIN				IAmb	IAmb	21 03 01.6	
	comp=Z,50nm,1.0s						
TORD	**Torodi Ar. Bea**	**31.11**	**301**	IAmb	IAmb	21 04 46.0	
	comp=Z,9.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.11**	**301**	P	**P**	**21 04 10.1**	**+0.1**
	comp=Z,12nm,0.7s,baz=112,slow=10,SNR=1.5						
	comp=Z,12nm,0.7s						
CSS	**Mathiatis**	**37.90**	**6**	P	**P**	**21 05 07.6**	**-0.9**
CSS				IAmb	IAmb	21 05 19.1	
	comp=Z,18nm,0.9s						
IDI	**Anoyia**	**38.12**	**355**	P	**P**	**21 05 09.3**	**-1.2**
IDI				IAmb	IAmb	21 05 17.5	
	comp=Z,26nm,0.9s						
UOSS	**Minazif**	**38.49**	**42**	P	**P**	**21 05 11.9**	**-1.7**
ARG	**Arkhangelos**	**38.89**	**359**	P	**P**	**21 05 15.4**	**-1.4**
AKAS	**Kas**	**38.92**	**1**	P	**P**	**21 05 16.2**	**-1.0**
AKAS				IAmb	IAmb	21 05 26.8	
	comp=Z,20nm,0.8s						
MANT	**Manisa**	**41.16**	**360**	P	**P**	**21 05 35.5**	**-0.4**
MANT				IAmb	IAmb	21 05 52.7	
	comp=Z,22nm,1.0s						
KEST	**Kesra**	**42.43**	**337**	IAmb	IAmb	21 05 58.1	
	comp=Z,24nm,0.8s						
KEST	**Kesra**	**42.43**	**337**	P	**P**	**21 05 47.2**	**+1.0**
	comp=Z,12nm,0.9s,baz=340,slow=4.1,SNR=5.6						
	comp=Z,12nm,0.9s						
BRTR	**Keskin Array B**	**42.64**	**6**	P	**P**	**21 05 47.8**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=179,slow=7.3,SNR=4.8						
	comp=Z,4.1nm,0.8s						
TOKA	**Tokat**	**43.59**	**9**	P	**P**	**21 05 56.1**	**+0.6**
RDO	**Rodhopi**	**43.90**	**357**	P	**P**	**21 05 58.6**	**+0.7**
RDO				IAmb	IAmb	21 06 04.5	
	comp=Z,14nm,1.0s						
PAOL	**Paolisi**	**45.54**	**345**	P	**P**	**21 06 10.6**	**-0.5**
PAOL				IAmb	IAmb	21 06 22.8	
	comp=Z,12nm,1.0s						
MLR	**Muntele Rosu**	**48.21**	**357**	LR	LR	21 27 34.8	
	comp=Z,430nm,20.1s,baz=186,slow=37						
CORI	**Orista**	**50.74**	**334**		**P**	**21 06 48.5**	**-2.7**
CORI				IAmb	IAmb	21 06 59.5	
	comp=Z,19nm,0.9s						
CTI	**Castel Tesino**	**50.98**	**345**	P	**P**	**21 06 52.4**	**-0.7**
PSZ	**Piszkesteto**	**51.16**	**352**	P	**P**	**21 06 54.2**	**-0.1**
ESDC	**Sonseca Array**	**51.84**	**328**	P	**P**	**21 06 59.7**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=146,slow=8.3,SNR=5.3						
	comp=Z,3.1nm,1.0s						
LANS	**Liptovska Anna**	**52.42**	**352**	*e*P	**P**	**21 07 04.8**	**+1.1**
LANS				*e*		21 07 10.4	
MAUC	**Maruska**	**52.87**	**351**	*e*P	**P**	**21 07 07.3**	**+0.3**
MAUC				*ep*P	**sP**	**21 07 12.9**	**+0.7**
GEC2	**GERESS Array S**	**53.12**	**348**	P	**P**	**21 07 09.1**	**+0.1**
GEC2				IAmb	IAmb	21 07 15.2	
	comp=Z,11nm,0.8s						
GERES	**GERESS Array B**	**53.12**	**348**	P	**P**	**21 07 08.3**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=157,slow=7.2,SNR=8.9						
	comp=Z,2.3nm,0.7s						
TREC	**Trest**	**53.20**	**349**	*e*P	**P**	**21 07 09.0**	**-0.4**
TREC				*ep*P	**sP**	**21 07 14.8**	**+0.2**
MORC	**Moravsky Berou**	**53.31**	**351**	P	**P**	**21 07 08.5**	**-1.8**
MORC				IAmb	IAmb	21 07 16.6	
	comp=Z,12nm,0.9s						
AKASG	**Malin Array Be**	**53.37**	**0**	P	**P**	**21 07 09.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=188,slow=6.7,SNR=5.4						
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**53.42**	**348**	*e*P	**P**	**21 07 11.1**	**0.0**
KHC				*ep*P	**sP**	**21 07 16.4**	**+0.1**
STEB	**Steborice**	**53.43**	**351**	*e*P	**P**	**21 07 11.1**	**0.0**
STEB				*ep*P	**sP**	**21 07 16.4**	**+0.1**
ZVC	**Zvikov**	**53.58**	**348**	*e*P	**P**	**21 07 11.7**	**-0.5**
ZVC				*ep*P	**sP**	**21 07 17.2**	**-0.2**
KRLC	**Kraliky**	**53.72**	**351**	*e*P	**P**	**21 07 13.2**	**-0.1**
KRLC				*ep*P	**sP**	**21 07 18.6**	**+0.1**
DPC	**Dobruska-Polom**	**54.06**	**350**	*e*P	**P**	**21 07 15.9**	**+0.1**
DPC				*ep*P	**sP**	**21 07 21.2**	**+0.2**
CLL	**Collm**	**55.60**	**348**	*e*Px	Px	21 07 24.0	
SUW	**Suwalki**	**56.87**	**356**	P	**P**	**21 07 35.7**	**-0.1**
AKTO	**Aktyubinsk**	**58.79**	**22**	LR	LR	21 37 31.4	
	comp=Z,164nm,19.8s,baz=83,slow=40						
KK31	**Karatay Array**	**59.30**	**35**	P	**P**	**21 07 53.4**	**+0.3**
KK31				IAmb	IAmb	21 08 00.3	
	comp=Z,9.2nm,0.9s						
KKAR	**Karatay Array**	**59.30**	**35**	P	**P**	**21 07 52.4**	**-0.7**
EKA	**Eskdalemuir Ar**	**63.63**	**340**	P	**P**	**21 08 22.4**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=140,slow=4.1,SNR=3.7						
	comp=Z,4.8nm,0.8s						
EVN	**Everest**	**63.74**	**57**	P	**P**	**21 08 23.1**	**-1.1**
HFS	**Hagfors**	**63.91**	**352**	P	**P**	**21 08 24.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=171,slow=9.8,SNR=6.0						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**64.17**	**359**	P	**P**	**21 08 25.2**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=184,slow=4.2,SNR=9.4						
	comp=Z,4.5nm,1.0s						
NC405	**NORSAR Array S**	**65.14**	**351**	P	**P**	**21 08 32.0**	**+0.1**
NB2	**NORSAR Subarra**	**65.15**	**351**	P	**P**	**21 08 32.3**	**+0.3**
	comp=Z,18nm,0.9s,baz=162,slow=6.5						
NB2	**NORSAR Subarra**	**65.15**	**351**	P	**P**	**21 08 32.3**	**+0.3**
	baz=162,slow=6.5						
NOA	**NORSAR Array B**	**65.15**	**351**	P	**P**	**21 08 32.3**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=163,slow=6.3,SNR=7.5						
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**68.21**	**32**	P	**P**	**21 08 53.7**	**+1.9**
	comp=Z,2.5nm,0.3s,baz=245,slow=6.2,SNR=4.4						
	comp=Z,2.5nm,0.3s						
MKAR	**Makanchi Array**	**68.26**	**37**	P	**P**	**21 08 51.9**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=244,slow=5.6,SNR=7.7						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**68.31**	**32**	P	**P**	**21 08 53.6**	**+1.3**
KURK	**Kurchatov**	**68.31**	**32**	IAmb	IAmb	21 08 59.0	
	comp=Z,4.1nm,0.8s						
TROLL	**Troll, Antarti**	**70.97**	**188**	⇑P	**P**	**21 09 11.8**	**+3.2**
	comp=Z,498nm,0.9s						
SNAA	**Sanae**	**71.53**	**190**	⇑P	**P**	**21 09 14.1**	**+2.1**
	comp=Z,90nm,1.1s						
VNA1	**Neumayer--Stat**	**71.74**	**192**	⇑P	**P**	**21 09 15.4**	**+2.3**
	comp=Z,20nm,1.0s						
VNA2	**Neumayer--Watz**	**71.78**	**192**	⇑P	**P**	**21 09 15.1**	**+1.8**
	comp=Z,6.6nm,0.7s,baz=26,slow=6.5						
CMAR	**Chiang Mai Arr**	**72.33**	**70**	P	**P**	**21 09 19.3**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=261,slow=6.3,SNR=5.8						
	comp=Z,0.9nm,0.6s						
VNA3	**Neumayer Olymp**	**72.50**	**192**	⇑P	**P**	**21 09 18.9**	**+1.2**
	comp=Z,14nm,0.8s						
IPM	**Ipoh**	**72.71**	**84**	P	**P**	**21 09 19.6**	**-0.5**
ZALV	**Zalesovo Beam**	**73.25**	**31**	P	**P**	**21 09 22.4**	**0.0**
ZALV	**Zalesovo Beam**	**73.25**	**31**	P	**P**	**21 09 24.3**	**+1.9**
	comp=Z,4.1nm,0.9s,baz=256,slow=4.4,SNR=4.2						
	comp=Z,4.1nm,0.9s						
BDFB	**Brasilia**	**76.36**	**255**	P	**P**	**21 09 40.0**	**-1.4**
BDFB	**Brasilia**	**76.36**	**255**	P	**P**	**21 09 40.0**	**-1.4**
	comp=Z,5.8nm,0.7s,baz=80,slow=5.8,SNR=3.8						
	comp=Z,5.8nm,0.7s						
BELA	**Belgrano 2**	**81.73**	**191**	P	**P**	**21 10 08.4**	**-1.1**
BELA				IAmb	IAmb	21 10 51.4	
	comp=Z,8.3nm,0.7s						
SONM	**Songino Array**	**83.93**	**41**	P	**P**	**21 10 23.4**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=253,slow=4.4,SNR=6.0						
	comp=Z,0.4nm,0.7s						
ULN	**Ulaanbaatar**	**84.38**	**42**	P	**P**	**21 10 24.8**	**+0.8**
PMSA	**Palmer Station**	**88.56**	**205**	LR	LR	21 48 15.8	
	comp=Z,271nm,18.8s,baz=78,slow=34						
Y14A	**Wickenburg**	**132.74**	**315**		**PKPdf**	**21 17 06.0**	**-1.0**

*NEIC **30** 21:30:31.6±0.8, 6°.86N±0°.10×125°.11E±0°.05, h10km±2km, mb4.3/7, Error ellipse: s-maj=17.9km s-min=6.0km az=335.0*
*DJA **30** 21:30:31.7±0.4, 7°.N±3°×12°.5E±°, h10km, M4.8/12, mb4.8/12, mB5.3/6, MLv4.9/11, Mw(mB)4.7/6*
*IDC **30** 21:30:33.8±5.2, 7°.26N×125°.86E, h34km±32km, mb3.7/5, mbtmp4.0/6, ML4.6/1, MS3.7/3, Error ellipse: s-maj=85.6km s-min=19.5km az=58.0*

ISC 30 21:30:32.0±0.7, 6°.88N±0°.07×125°.20E±0°.07, h13km, n32, σ1§55/31, mb3.9/9, MS3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.42**	**63**		**Pg**	**21 30 40.9**	**+0.5**
DAV				Sg	**Sb**	**21 30 48.8**	**+1.3**
DAV	**Davao City (W)**	**0.42**	**63**	Pg	**Pg**	**21 30 41.2**	**+0.8**
	baz=228,slow=11						
DAV				Lg	Lg	21 30 49.8	
	baz=343,slow=19						
DAV	**Davao City (W)**	**0.42**	**63**	P	**Pg**	**21 30 37.0**	**-3.3**
SGSI	**Sangihe**	**3.19**	**174**	P	**Pn**	**21 31 23.4**	**+1.5**
SGSI				S	**Sn**	**21 32 01.4**	**+1.6**
KMSI	**Cibinong**	**6.38**	**191**	P	**Pn**	**21 32 06.5**	**+0.7**
	2.4nm334nm,0.8s						
TNTI	**Ternate**	**6.44**	**160**	P	**Pn**	**21 32 02.3**	**-4.3**
	0.7nm3μm159nm,0.6s						
MYLDM	**Lahad Datu**	**6.88**	**256**	Pn	**Pn**	**21 32 10.7**	**-1.9**
MRSI	**Marisa**	**7.14**	**207**	P	**Pn**	**21 32 16.3**	**0.0**
	0.6nm767nm92nm,0.8s						
TOLI2	**Tolitoli**	**7.23**	**218**	Pn	**Pn**	**21 32 15.2**	**-2.2**
LUWI	**Luwuk**	**8.24**	**197**	Pn	**Pn**	**21 32 29.6**	**-1.7**
LUWI	**Luwuk**	**8.24**	**197**	P	**Pn**	**21 32 31.1**	**-0.1**
	1μm63nm,0.9s						
APSI	**Ampana**	**8.51**	**205**	P	**Pn**	**21 32 35.2**	**+0.1**
	779nm47nm,1.2s						
SANI	**Sanana**	**8.91**	**175**	P	**Pn**	**21 32 38.6**	**-1.9**
	11nm,1.0s						
I39PW	**PALAU INFRASON**	**9.29**	**85**	I	I	22 21 10.0	
	baz=265,slow=285,SNR=0.6						
BATI	**Baumata**	**17.05**	**185**	P	**P**	**21 34 34.0**	**+2.0**
	1.9nm,0.3s,baz=14,slow=1.5,SNR=5.1						
	8.5nm,0.5s						
MTN	**Manton Dam**	**20.46**	**163**	P	**P**	**21 35 08.9**	**-0.6**
MTN				IAmb	IAmb	21 35 17.3	
	comp=Z,20nm,1.4s						
KNRA	**Kununurra**	**22.69**	**171**	P	**P**	**21 35 32.6**	**-0.9**
KNRA				IAmb	IAmb	21 35 42.6	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.82**	**179**	P	**P**	**21 35 53.0**	**-1.1**
FITZ				IAmb	IAmb	21 35 55.9	
	comp=Z,3.6nm,1.4s						
PMG	**Port Moresby**	**27.21**	**126**	LR	LR	21 47 59.2	
	comp=Z,93nm,18.2s,baz=311,slow=39						
WB0	**Warramunga Arr**	**27.98**	**161**	P	**P**	**21 36 22.1**	**-0.5**
WB0				IAmb	IAmb	21 36 40.0	
	comp=Z,6.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.04**	**297**	P	**P**	**21 36 24.6**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=109,slow=9.4,SNR=4.9						
CMAR				LR	LR	21 47 25.7	
	comp=Z,56nm,18.9s,baz=285,slow=36						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**28.13**	**162**	P	**P**	**21 36 22.6**	**-1.4**
WRA	**Warramunga Arr**	**28.13**	**162**	P	**P**	**21 36 23.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=329,slow=11,SNR=9.7						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**31.53**	**165**	P	**P**	**21 36 53.2**	**-0.8**
ASAR	**Alice Springs**	**31.53**	**165**	P	**P**	**21 36 55.2**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=345,slow=7.5,SNR=23						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**40.80**	**166**	P	**P**	**21 38 12.8**	**-0.5**
BBOO				IAmb	IAmb	21 38 40.3	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**41.60**	**159**	P	**P**	**21 38 19.1**	**-0.7**
STKA	**Stephens Creek**	**41.60**	**159**	P	**P**	**21 38 20.2**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=318,slow=7.1,SNR=7.0						
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**21 39 55.8**	**-0.9**
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**21 39 57.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=120,slow=7.2,SNR=4.2						
	comp=Z,0.5nm,0.8s						
SEY	**Seymchan**	**59.34**	**14**	LR	LR	22 06 07.0	
	comp=Z,305nm,19.9s,baz=294,slow=36						
KKAR	**Karatay Array**	**59.91**	**316**	P	**P**	**21 40 37.8**	**-0.1**

*DMN **30** 21:32:22.6±0.0, 23°.87N×89°.86E, h10km, Ml4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **30** 21:32:33.1±2.7, 25°.94N×90°.84E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=102.9km s-min=27.3km az=71.0*

ISC 30 21:32:33.2±1.3, 24°.7N±0°.2×89°.5E±0°.1, h10km, n14, σ2§56/20, mb3.4/4, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**2.90**	**319**	Pn	**Pn**	**21 33 17.6**	**-2.1**
	baz=324,slow=0.0						
ODAN				Sn	**Sb**	**21 33 59.8**	**-1.0**
	baz=324,slow=0.0						
ODAN				Sn	**Sn**	**21 34 00.1**	**+5.3**
	353nm,0.3s,baz=324,slow=0.0						
RAMN	**Ramite**	**3.47**	**311**	Pn	**Pn**	**21 33 25.2**	**-2.4**
	baz=317,slow=0.0						
RAMN				Sn	**Sn**	**21 34 12.4**	**+3.5**
	53nm,0.3s,baz=317,slow=0.0						
GUN	**Gumba**	**4.59**	**315**	Pn	**Pn**	**21 33 41.1**	**-1.9**
	baz=319,slow=0.0						
PKI	**Pulchoki**	**4.69**	**309**	Pn	**Pn**	**21 33 42.2**	**-2.2**
	baz=313,slow=0.0						
PKI				Sn	**Sn**	**21 34 41.2**	**+2.2**
	15nm,0.2s,baz=313,slow=0.0						
PKIN	**Phulchoki**	**4.70**	**309**	Pn	**Pn**	**21 33 42.3**	**-2.2**
	baz=313,slow=0.0						
PKIN				Sn	**Sn**	**21 34 40.9**	**+1.7**
	20nm,0.2s,baz=313,slow=0.0						
KKN	**Kakani**	**4.91**	**310**	Pn	**Pn**	**21 33 45.5**	**-1.8**
	baz=314,slow=0.0						
KKN				Sn	**Sn**	**21 34 46.8**	**+2.4**
	26nm,0.2s,baz=314,slow=0.0						
DMN	**Daman**	**4.93**	**307**	Pn	**Pn**	**21 33 45.3**	**-2.3**
	baz=312,slow=0.0						
GKN	**Gorkha**	**5.49**	**308**	Pn	**Pn**	**21 33 52.9**	**-2.4**
	baz=312,slow=0.0						
GKN				Sn	**Sn**	**21 35 00.3**	**+1.7**
	20nm,0.2s,baz=312,slow=0.0						
DANN	**Dangsing**	**6.33**	**306**	Pn	**Pn**	**21 34 03.8**	**-3.1**
	baz=310,slow=0.0						
DANN				Sn	**Sn**	**21 35 19.4**	**0.0**
	14nm,0.3s,baz=310,slow=0.0						
LZH	**Lanzhou**	**16.76**	**44**	*e*P	**Pn**	**21 36 27.0**	**-1.3**
LZH				pP	pP	21 36 33.0	-0.4
LZH				sP	sP	21 36 37.0	+2.3
LZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MKAR	**Makanchi Array**	**22.81**	**347**	P	P	21 37 27.9	-8.3
	comp=Z,0.4nm,0.5s,baz=154,slow=9.4,SNR=6.6						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**26.69**	**26**	P	P	21 37 58.9	-14
	comp=Z,0.4nm,0.5s,baz=224,slow=8.8,SNR=3.6						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**62.20**	**131**	P	**P**	**21 42 57.1**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=315,slow=6.3,SNR=2.4						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**64.51**	**135**	P	**P**	**21 43 11.6**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=309,slow=4.8,SNR=1.2						
	comp=Z,0.1nm,0.4s						

*WEL **30** 21:34:03.6±1.1, 42°.5N±3°×17°.4E±°, h14km±7km, M2.6/13, ML2.7/5, MLv2.6/13, Error ellipse: s-maj=4.0km s-min=3.6km az=96.6, confirmed*
*NOU **30** 21:34:05.6, 42°.06S×173°.74E, h104km, MLv3.5/8, South Island, New Zealand*

ISC 30 21:34:04.3±0.8, 41°.69S±0°.03×174°.26E±0°.02, h17km±4km, n56, σ0§86/65, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**212**	P	**Pg**	**21 34 07.6**	**0.0**
CMWZ				S	**Sg**	**21 34 10.7**	**+0.8**
SDNS	**Seddon**	**0.10**	**285**	P	**Pb**	**21 34 07.6**	**-0.2**
SDNS				S	**Sb**	**21 34 10.5**	**+0.3**
SEDS	**Seddon Fire St**	**0.14**	**277**	P	**Pg**	**21 34 08.0**	**-0.3**
SEDS				S	**Sg**	**21 34 11.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.29**	**265**	P	**Pg**	**21 34 10.4**	**-0.2**
BSWZ				S	**Sg**	**21 34 15.2**	**

AF01	**San Pedro de A**	**1.77 257**	*e*P	Pn	21 50 49.0	+10
AF01			IAML		21 51 37.4	
comp=Z,105nm,0.2s						
AZAP	**Zapla**	**2.00 145**	*e*P	Pn	21 50 40.9	-0.1
AZAP			*e*S	S	21 51 13.9	-1.3
PB09	**IPOC Station P**	**2.83 285**	*e*P	Pn	21 50 50.4	+1.3
PB09			*e*S	S	21 51 29.0	-0.6
PB09			IAML		21 51 32.1	
comp=Z,44nm,0.1s						
PB03	**IPOC Station P**	**3.23 279**	*e*P	Pn	21 50 53.8	+0.4
PB03			*e*S	S	21 51 35.1	-2.3
PB03			IAML		21 51 35.6	
comp=Z,142nm,0.1s						
PB01	**IPOC Station P**	**3.32 297**	*e*P	Pn	21 50 54.6	+0.3
PB01			*e*S	S	21 51 36.7	-2.4
PB01			IAML		21 51 39.1	
comp=Z,74nm,0.1s						
PB02	**IPOC Station P**	**3.56 290**	*e*P	Pn	21 50 57.6	+0.7
PB02			*e*S	S	21 51 41.2	-2.6
PB02			IAML		21 51 43.0	
comp=Z,180nm,0.2s						
PB08	**IPOC Station P**	**3.59 312**	*e*P	Pn	21 50 58.9	+1.3
PB08			*e*S	S	21 51 45.3	+0.2
GO02	**Mina Guanaco**	**3.96 229**	*e*P	Pn	21 51 01.7	0.0
GO02			*e*S	S	21 51 50.1	-2.3
GO02			IAML		21 51 51.7	
comp=Z,84nm,0.5s						
PB10	**IPOC Station P**	**4.02 256**	*e*P	Pn	21 51 02.2	+0.1
PB10			*e*S	S	21 51 50.4	-2.9
PB10			IAML		21 51 56.0	
comp=Z,28nm,0.4s						
HMBC	**Humberstone**	**4.04 304**	*e*P	Pn	21 51 02.8	+0.2
HMBC			*e*S	S	21 51 51.9	-2.1
HMBC			IAML		21 51 54.6	
comp=Z,64nm,0.2s						
TA01	**Diego Aracena**	**4.12 298**	*e*P	Pn	21 51 04.1	+0.8
TA01			*e*S	S	21 51 52.3	-3.1
TA01			IAML		21 51 54.1	
comp=Z,45nm,0.2s						
PB11	**IPOC Station P**	**4.19 311**	*e*P	Pn	21 51 04.6	+0.3
PB11			*e*S	S	21 51 54.4	-2.9
PB11			IAML		21 51 56.4	
comp=Z,31nm,0.1s						
PB14	**IPOC Station P**	**4.28 241**	*e*P	Pn	21 51 05.0	-0.4
PB14			*e*S	S	21 51 55.6	-3.6
PB14			IAML		21 51 59.4	
comp=Z,66nm,0.2s						
AC02	**Maricunga**	**4.96 211**	*e*P	Pn	21 51 13.8	+0.1
AC02			*e*S	S	21 51 57.3	-17
PB16	**IPOC Station P**	**5.17 324**	*e*P	Pn	21 51 18.5	+1.9
PB16			*e*S	S	21 52 19.9	+0.6
AC01	**Pan de Azucar**	**5.29 227**	*e*P	Pn	21 51 15.8	-1.5
AC01			*e*S	S	21 52 14.6	-6.2
AC01			IAML		21 52 32.0	
comp=Z,24nm,1.4s						

GCG 30 21:57:34.8±0.4, 13°.59N×91°.03W, h21km±11km, MD3.7, ML2.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.82**	**14**	*e*P	Pb	21 57 50.0	-0.3
FG16	**Alotenango, Sa**	**0.85**	**36**	*e*P	Pn	21 57 51.4	-0.4
APG	**El Apazote**	**1.51**	**21**	*e*P	Pn	21 58 01.3	+0.4

*NNC **30** 22:11:48.7±7.1, 37°.65N×71°.44E, h108km±130km, mb3.1, mpv3.5, Error ellipse: s-maj=56.9km s-min=40.7km az=12.0*

ISC 30 22:11:47.3±3.0, 37°.6N±0°.2×71°.6E±0°.1, h109km, n10, σ1§25/14, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.16**	**25**	P	**Pn**	**22 13 02.7**	**+0.2**
SNR=25							
EKS2	**Erkin-Say**	**5.34**	**18**	P	**Pn**	**22 13 05.8**	**+1.0**
SNR=9.4							
AAK	**Ala-Archa**	**5.52**	**23**	P	**Pn**	**22 13 07.7**	**+0.6**
SNR=19							
AAK	**Ala-Archa**	**5.52**	**23**	⇑P	**Pn**	**22 13 07.5**	**+0.3**
0.9nm,0.3s							
AAK				⇓S	**Sn**	**22 14 09.6**	**+0.2**
6.0nm,0.5s							
KK31	**Karatay Array**	**5.57**	**352**	⇑P	**Pn**	**22 13 09.6**	**+1.8**
3.6nm,0.2s,baz=177,slow=13,SNR=52							
KK31				⇓S	**Sn**	**22 14 11.9**	**+1.4**
9.9nm,0.3s,baz=176,slow=23,SNR=20							
ULHL	**Ulahol**	**5.87**	**36**	P	**Pn**	**22 13 11.8**	**-0.3**
SNR=10							
USP	**Ospenovka**	**6.10**	**20**	P	**Pn**	**22 13 15.5**	**+0.6**
SNR=16							
TKM2	**Tokmak 2**	**6.15**	**29**	P	**Pn**	**22 13 16.0**	**+0.2**
SNR=6.3							
AB31	**Akbulak array**	**14.39**	**328**	⇓P	**Pn**	**22 15 05.2**	**-0.4**
0.7nm,0.3s							
AB31				⇓S	**Sn**	**22 17 42.3**	**-2.0**
5.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.10**	**327**	⇓P	**P**	**22 15 28.8**	**+0.5**
2.2nm,0.9s							
AKTO				⇑S	**Sn**	**22 18 23.0**	**-2.4**
3.2nm,1.2s							

*IDC **30** 22:19:04.9±2.3, 6°.09S×145°.62E, h80km±33km, mb4.0/3, mbtmp4.4/6, Error ellipse: s-maj=47.1km s-min=16.4km az=59.0*

ISC 30 22:19:01.1±3.2, 6°.0S±0°.2×145°.4E±0°.2, h35km, n9, σ0§65/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**153**	P	**Pn**	**22 19 57.7**	**+0.1**
58nm,0.3s,baz=349,slow=14,SNR=49							
PMG				S	**Sn**	**22 20 41.0**	**-0.4**
33nm,0.3s,baz=299,slow=19,SNR=6.9							
PMG	**Port Moresby**	**3.83**	**153**	P	**Pn**	**22 19 57.7**	**+0.1**
JAY	**Jayapura**	**5.81**	**306**	P	Pn	22 20 33.8	+9.0
5.0nm,0.2s,baz=130,slow=16,SNR=14							
SAUI	**Saumlaki**	**14.14**	**261**	P	Pn	22 22 10.2	-8.8
200nm,0.6s							
QIS	**Mount Isa**	**15.55**	**201**	P	**P**	**22 22 42.0**	**+0.2**
WRA	**Warramunga Arr**	**17.56**	**217**	P	**P**	**22 23 05.2**	**+1.1**
6.6nm,0.3s,baz=39,slow=11,SNR=107							
WRA				S	**S**	**22 26 25.6**	**+0.7**
4.2nm,0.9s,baz=39,slow=20,SNR=8.1							
ASAR	**Alice Springs**	**20.78**	**211**	P	**P**	**22 23 38.8**	**-0.5**
6.1nm,0.6s,baz=48,slow=8.3,SNR=121							
ASAR				S	**S**	**22 27 28.9**	**-0.6**
2.1nm,0.8s,baz=32,slow=23,SNR=7.7							
6.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.74**	**236**	P	**P**	**22 23 59.8**	**-0.5**
5.3nm,0.5s,baz=63,slow=10,SNR=24							
5.3nm,0.5s							
STKA	**Stephens Creek**	**26.01**	**187**	P	**P**	**22 24 31.3**	**+0.4**
3.6nm,0.6s,baz=358,slow=12,SNR=6.7							
3.6nm,0.6s							

*IDC **30** 22:25:32.0±1.7, 8°.34S×119°.58E, h165km±18km, mb3.4/4, mbtmp4.0/9, Error ellipse: s-maj=33.1km s-min=12.4km az=52.0*

*DJA **30** 22:25:34.0±0.3, 8°.S±3°.×12°.0E±°, h163km±4km, M3.7/12, mb4.0/5, MLv3.6/12*

ISC 30 22:25:32.0±0.8, 8°.29S±0°.05×119°.72E±0°.06, h170km, n20, σ2§04/27, mb3.6/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.38**	**194**	P	**Pn**	**22 26 03.4**	**+1.3**
WBSI				S	**Sn**	**22 26 25.0**	**-0.4**
WSI	**Waingapu**	**1.48**	**158**	P	**Pn**	**22 26 04.8**	**+1.8**
WSI				S	**Sn**	**22 26 27.6**	**+0.6**
EDFI	**Ende, Flores**	**2.00**	**103**	P	**Pn**	**22 26 10.4**	**+1.9**
PLAI	**Plampang**	**2.00**	**254**	P	**Pn**	**22 26 10.1**	**+1.7**
PLAI				S	**Sn**	**22 26 37.0**	**+0.5**
BASI	**Baing, Sumba**	**2.09**	**156**	P	**Pn**	**22 26 11.3**	**+1.9**
BASI				S	**Sn**	**22 26 39.0**	**+0.5**
BSSI	**Bau Bau, Buton**	**2.27**	**20**	P	**Pn**	**22 26 13.6**	**+2.2**
TWSI	**Taliwang, Sumb**	**2.85**	**261**	P	**Pn**	**22 26 20.1**	**+1.8**
BKSI	**Bulukumba**	**2.98**	**8**	P	**Pn**	**22 26 22.5**	**+2.6**
KAPI	**Kappang**	**3.25**	**0**	P	**Pn**	**22 26 24.9**	**+1.5**
19nm,0.4s,baz=170,slow=10,SNR=14							
KAPI				S	**Sn**	**22 27 01.0**	**-2.4**
5.5nm,0.5s,baz=85,slow=19,SNR=1.3							
BNSI	**Bone**	**3.88**	**6**	P	**Pn**	**22 26 33.4**	**+2.1**
BATI	**Baumata**	**4.33**	**116**	P	**Pn**	**22 26 39.9**	**+2.8**
23nm,0.3s,baz=274,slow=3.5,SNR=9.4							
BATI				S	**Sn**	**22 27 29.2**	**+1.2**
33nm,0.3s,baz=210,slow=20,SNR=8.5							
BATI	**Baumata**	**4.33**	**116**	P	**Pn**	**22 26 39.9**	**+2.8**
PCJI	**Pacitan**	**8.46**	**270**	P	**Pn**	**22 27 32.9**	**+1.4**
31nm,1.5s							
FITZ	**Fitzroy Crossi**	**11.32**	**150**	P	**Pn**	**22 28 09.2**	**+0.2**
4.4nm,1.0s,baz=306,slow=10,SNR=11							
FITZ				S	**Sn**	**22 30 10.3**	**-4.3**
2.5nm,0.4s,baz=170,slow=17,SNR=12							
LEM	**Lembang**	**12.09**	**276**	P	**Pn**	**22 28 17.4**	**-1.7**
19nm,0.5s,baz=265,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**18.29**	**131**	P	**Pn**	**22 29 35.1**	**0.0**
0.8nm,0.7s,baz=303,slow=12,SNR=11							
WRA				S	**S**	**22 32 50.0**	**-3.5**
0.4nm,0.5s,baz=309,slow=26,SNR=2.1							
ASAR	**Alice Springs**	**20.45**	**140**	P	Pn	22 29 58.6	-2.3
1.6nm,0.4s,baz=315,slow=9.7,SNR=27							
1.6nm,0.4s							
STKA	**Stephens Creek**	**31.06**	**142**	P	**P**	**22 31 35.7**	**+1.7**
1.3nm,0.3s,baz=316,slow=11,SNR=4.3							
1.3nm,0.3s							
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**22 35 48.6**	**+0.3**
0.4nm,0.5s,baz=138,slow=6.8,SNR=6.7							
0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**	**22 36 15.4**	**-1.2**
0.3nm,0.3s,baz=134,slow=6.2,SNR=2.6							
0.3nm,0.3s							

*IDC **30** 22:26:32.1±1.7, 4°.36S×101°.09E, h0km, mb4.2/10, mbtmp4.2/10, MS3.0/4, Error ellipse: s-maj=58.0km s-min=18.9km az=54.0*

*NEIC **30** 22:26:33.3±0.7, 4°.43S±0°.07×101°.11E±0°.06, h10km±1km, mb4.4/18, Error ellipse: s-maj=12.4km s-min=10.2km az=183.0*

*DJA **30** 22:26:33.7±2.3, 4°.S±3°.×10°.1E±°, h12km±19km, M4.4/17, mB5.2/2, mb4.5/8, MLv4.4/17, Mw(mB)4.5/2*

ISC 30 22:26:33.0±0.6, 4°.39S±0°.07×101°.09E±0°.06, h10km, n72, σ1§05/59, mb4.4/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.67**	**64**	P	**Pb**	**22 27 03.8**	**-0.1**
MASI	**Maura Aman, Be**	**1.69**	**43**	P	**Pb**	**22 27 04.3**	**0.0**
MNAI	**Manna**	**1.86**	**89**		**Pb**	**22 27 06.0**	**-1.1**
MNAI				Sn	**Sn**	**22 27 28.0**	**-0.6**
MNAI	**Manna**	**1.86**	**89**	P	**Pb**	**22 27 07.3**	**+0.1**
PPSI	**Pulau Pagai**	**1.94**	**326**	P	**Pn**	**22 27 07.1**	**+1.0**
KRJI	**Kerinci**	**2.31**	**9**	P	**Pb**	**22 27 14.4**	**-0.6**
LHSI	**Lahat**	**2.49**	**77**	P	**Pb**	**22 27 16.0**	**-1.9**
LWLI	**Liwa**	**3.02**	**102**	P	**Pn**	**22 27 23.3**	**+2.2**
MDSI	**Maura Dua**	**3.08**	**92**	P	**Pn**	**22 27 23.4**	**+1.6**
PDSI	**Padang**	**3.51**	**350**	P	**Pn**	**22 27 27.7**	**-0.1**
KASI	**Kota Agung**	**3.58**	**108**	P	**Pn**	**22 27 29.9**	**+1.3**
SISI	**Saibi**	**3.64**	**327**	P	**Pn**	**22 27 29.9**	**+0.4**
PMBI	**Palembang**	**3.95**	**69**	Pn	**Pn**	**22 27 32.4**	**-1.4**
PPI	**Padang Panjang**	**3.97**	**350**	P	**Pn**	**22 27 35.2**	**+1.2**
BKNI	**Bangkinang**	**4.69**	**359**	Pn	**Pn**	**22 27 44.0**	**+0.2**
PBSI	**Pulau Batu**	**5.14**	**327**	P	**Pn**	**22 27 50.5**	**+0.4**
0.5nm127nm,1.2s							
DSRI	**Dabo**	**5.22**	**42**	P	**Pn**	**22 27 52.7**	**+1.5**
6μm52nm,0.5s							
GSI	**Gunungsitoli**	**6.66**	**328**	Pn	**Pn**	**22 28 11.3**	**+0.3**
GSI	**Gunungsitoli**	**6.66**	**328**	P	**Pn**	**22 28 11.6**	**+0.6**
0.2nm26nm,1.2s							
CNJI	**Cibinong**	**6.67**	**116**	P	**Pn**	**22 28 12.0**	**+0.8**
0.1nm591nm13nm,0.6s							
LEM	**Lembang**	**6.93**	**111**	LR	LR	22 31 26.5	
comp=Z,143nm,21.2s,baz=347,slow=42							
PSI	**Prapat**	**7.46**	**343**	LR	LR	22 31 01.7	
comp=Z,41nm,21.2s,baz=176,slow=37							
SNSI	**Sinabang, Aceh**	**8.26**	**325**	P	**Pn**	**22 28 33.7**	**+0.6**
KPJI	**Karang Pucung**	**8.33**	**111**	P	**Pn**	**22 28 35.7**	**+1.7**
16nm,0.8s							
KCSI	**Kotacane, Aceh**	**8.53**	**337**	P	**Pn**	**22 28 37.7**	**+0.9**
COCO	**West Island**	**8.82**	**208**	Pn	**Pn**	**22 28 40.0**	**-0.6**
KULM	**Kulim**	**9.63**	**357**	Pn	**Pn**	**22 28 52.7**	**+0.9**
TOLI2	**Tolitoli**	**20.42**	**75**	P	**P**	**22 31 09.3**	**-1.3**
LUWI	**Luwuk**	**21.91**	**82**	P	**P**	**22 31 25.6**	**-1.1**
LUWI				IAmb	IAmb	22 31 38.8	
comp=Z,21nm,0.8s							
CMAR	**Chiang Mai Arr**	**22.80**	**355**		**P**	**22 31 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.80**	**355**	P	**P**	**22 31 35.5**	**-0.7**
comp=Z,5.0nm,0.9s,baz=171,slow=8.7,SNR=25							
CMAR				LR	LR	22 42 14.2	
comp=Z,47nm,18.6s,baz=245,slow=41							
comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**23.15**	**355**		**P**	**22 31 39.6**	**-0.3**
PALK	**Pallekele**	**23.41**	**300**	LR	LR	22 39 27.6	
comp=Z,52nm,19.6s,baz=112,slow=33							
H08S2	**Diego Garcia H**	**28.62**	**262**	T	T	23 02 19.4	
baz=85,slow=75,SNR=1304							
H08S3	**Diego Garcia H**	**28.62**	**262**	T	T	23 02 19.9	
baz=85,slow=75,SNR=1013							
H08S1	**Diego Carcia H**	**28.64**	**262**	T	T	23 02 19.2	
baz=85,slow=75,SNR=567							
H01W3	**Cape Leeuwin H**	**32.66**	**160**	T	T	23 07 30.8	
baz=336,slow=76,SNR=102							
H01W2	**Cape Leeuwin H**	**32.67**	**160**	T	T	23 07 30.3	
baz=336,slow=76,SNR=135							
H01W1	**Cape Leeuwin H**	**32.68**	**160**	T	T	23 07 31.9	
baz=336,slow=76,SNR=97							
EVN	**Everest**	**34.98**	**338**		**P**	**22 33 26.7**	**+0.3**
EVN				IAmb	IAmb	22 33 36.9	
comp=Z,5.1nm,1.0s							
LSA	**Lhasa**	**35.21**	**345**	P	**P**	**22 33 28.4**	**+0.2**
LSA				IAmb	IAmb	22 33 30.8	
comp=Z,5.3nm,1.2s							
WRA	**Warramunga Arr**	**35.88**	**118**	P	**P**	**22 33 33.1**	**-0.5**
comp=Z,1.5nm,0.9s,baz=292,slow=8.3,SNR=5.9							
comp=Z,1.5nm,0.9s							
ASAR	**Alice Springs**	**36.99**	**124**	P	**P**	**22 33 44.0**	**+0.9**
comp=Z,0.6nm,0.5s,baz=294,slow=8.7,SNR=6.2							
comp=Z,0.6nm,0.5s							
HHC	**Hu-ho-hao-te**	**46.03**	**11**	*e*P	**P**	**22 34 59.5**	**+2.5**
HHC				pmax	pmax		
comp=Z,7.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,53nm,5.3s							
KSRS	**Korea Array**	**48.55**	**29**	P	**P**	**22 35 16.5**	**0.0**
comp=Z,3.0nm,0.9s,baz=215,slow=8.3,SNR=7.1							
comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**49.49**	**347**	*e*P	**P**	**22 35 24.3**	**+0.6**
WMQ				PcS	**PcS**	**22 40 38.0**	**-4.3**
WMQ				pmax	pmax		
comp=Z,19nm,0.7s							
KDJ	**Kajisay**	**51.15**	**337**	P	**P**	**22 35 36.6**	**0.0**
DRK	**Karamyk**	**51.33**	**331**	P	**P**	**22 35 37.9**	**-0.2**
BOOM	**Boomskoye usch**	**51.95**	**336**	P	**P**	**22 35 42.5**	**0.0**
SONM	**Songino Array**	**52.21**	**5**	P	**P**	**22 35 45.0**	**+0.7**
SONM				IAmb	IAmb	22 35 46.8	
comp=Z,3.5nm,0.8s							
SONM	**Songino Array**	**52.21**	**5**	P	**P**	**22 35 45.3**	**+1.0**
comp=Z,4.0nm,0.8s,baz=184,slow=9.3,SNR=28							
comp=Z,4.0nm,0.8s							
ARSB	**Arslanbob**	**52.24**	**333**	P	**P**	**22 35 44.4**	**-0.2**
ARSB				IAmb	IAmb	22 36 25.4	
comp=Z,4.0nm,0.6s							
ULN	**Ulaanbaatar**	**52.30**	**5**	P	**P**	**22 35 45.3**	**+0.3**
ULN				IAmb	IAmb	22 35 47.3	
comp=Z,3.8nm,0.9s							
MKAR	**Makanchi Array**	**53.61**	**344**		**P**	**22 35 54.9**	**+0.5**
MKAR	**Makanchi Array**	**53.61**	**344**	P	**P**	**22 35 55.0**	**+0.5**
comp=Z,3.1nm,0.7s,baz=148,slow=8.3,SNR=29							
comp=Z,3.1nm,0.7s							
KKAR	**Karatay Array**	**54.76**	**333**	P	**P**	**22 36 02.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**55.77**	**27**	P	**P**	**22 36 10.5**	**+0.3**
comp=Z,6.1nm,0.8s,baz=201,slow=5.0,SNR=11							
comp=Z,6.1nm,0.8s							
KURBB	**Kurchatov Arra**	**58.13**	**343**	P	**P**	**22 36 27.2**	**+0.4**
comp=Z,2.3nm,0.9s,baz=156,slow=6.7,SNR=9.9							
comp=Z,2.3nm,0.9s							
KURK	**Kurchatov**	**58.19**	**343**		**P**	**22 36 27.2**	**0.0**
KURK				IAmb	IAmb	22 36 29.3	
comp=Z,4.1nm,0.9s							
H04N2	**CROZET ISLANDS**	**59.56**	**218**	T	T	23 41 13.1	
baz=60,slow=75,SNR=304							
H04N1	**CROZET ISLANDS**	**59.57**	**218**	T	T	23 41 13.5	
baz=60,slow=75,SNR=375							
H04N3	**CROZET ISLANDS**	**59.57**	**218**	T	T	23 41 12.2	
baz=60,slow=75,SNR=268							
ZAA0	**Zalesovo Array**	**59.70**	**349**		**P**	**22 36 37.4**	**-0.3**
ZALV	**Zalesovo Beam**	**59.70**	**349**	P	**P**	**22 36 37.8**	**+0.1**
comp=Z,3.1nm,0.7s,baz=170,slow=4.5,SNR=14							
comp=Z,3.1nm,0.7s							
H04S1	**CROZET ISLANDS**	**59.82**	**217**	T	T	23 41 32.3	
baz=58,slow=76,SNR=170							
H04S3	**CROZET ISLANDS**	**59.83**	**217**	T	T	23 41 32.3	
baz=58,slow=76,SNR=219							
H04S2	**CROZET ISLANDS**	**59.84**	**217**	T	T	23 41 32.3	
baz=58,slow=76,SNR=185							
BVAR	**Borovoye Array**	**62.79**	**340**	P	**P**	**22 36 58.3**	**-0.3**
comp=Z,2.0nm,0.7s,baz=144,slow=11,SNR=9.0							
comp=Z,2.0nm,0.7s							
AB31	**Akbulak array**	**64.25**	**331**	P	**P**	**22 37 08.1**	**-0.2**
AB31				IAmb	IAmb	22 37 17.4	
comp=Z,3.2nm,0.9s							
ABKAR	**Akbulak array**	**64.25**	**331**	P	**P**	**22 37 08.3**	**-0.1**
VNDA	**Vanda**	**79.62**	**169**	P	**P**	**22 38 40.2**	**0.0**
TXAR	**Lajitas Array**	**145.86**	**41**	PKPbc	**PKPab**	**22 46 15.2**	**+1.2**
comp=Z,2.0nm,0.9s,baz=301,slow=3.8,SNR=8.8							

*IDC **30** 22:40:08.6±0.9, 24°.38N×126°.28E, h0km, mb4.1/12, mbtmp4.1/15, ML4.1/3, MS3.4/8, Error ellipse: s-maj=24.0km s-min=16.9km az=80.0*

*NEIC **30** 22:40:10.4±1.6, 24°.37N±0°.09×126°.36E±0°.07, h10km±1km, mb4.4/24, Error ellipse: s-maj=15.4km s-min=10.2km az=153.0*

*NIED **30** 22:40:12.5, 24°.47N×126°.29E, h89km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.21; $M_{\theta\theta}$0.77; $M_{\phi\phi}$-0.56; $M_{r\theta}$-0.70; $M_{\theta\phi}$2.21; $M_{\phi r}$-0.36; Fault plane solution: $M_0$2.42000×10^{15} NP1: ϕ_s187.00000°, δ76.00000°, λ172.00000°. NP2: ϕ_s279.00000°, δ82.00000°, λ14.00000°.*

*JMA **30** 22:40:12.5±0.2, 24°.N±2°.×12°.6E±°, h89km±3km, MD4.3/24, MV3.9/24, NEAR MIYAKOJIMA ISLAND*

ISC 30 22:40:10.6±2.0, 24°.34N±0°.07×126°.35E±0°.06, h15km±11km, n99, σ1§11/98, mb4.2/22, MS3.4/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.95**	**296**	P	**Pn**	**22 40 30.6**	**+1.1**
JOGS				S	**Sn**	**22 40 43.8**	**+1.0**
JOGS	**Gusukube**	**0.95**	**296**	A	A	22 40 30.6	
comp=N,32nm,2.9s,comp=E,21nm,2.6s							
JMJ2	**Miyako jima3**	**1.01**	**294**	P	**Pn**	**22 40 31.4**	**+1.2**
JMJ2				S	**Sn**	**22 40 45.1**	**+0.9**
JMJ2	**Miyako jima3**	**1.01**	**294**	A	A	22 40 31.4	
comp=N,24nm,4.8s,comp=E,19nm,1.3s							
JMJ	**Miyako jima 2**	**1.07**	**297**	P	**Pn**	**22 40 31.4**	**+0.3**
JIKM	**Ikemajima**	**1.16**	**300**	P	**Pg**	**22 40 33.1**	**+0.1**
JIKM	**Ikemajima**	**1.16**	**300**	A	A	22 40 33.1	
comp=N,16nm,2.2s,comp=E,18nm,2.1s							
JIRB	**Irabujima**	**1.17**	**295**	P	**Pg**	**22 40 33.2**	**-0.1**
JIRB	**Irabujima**	**1.17**	**295**	A	A	22 40 33.2	
comp=N,13nm,1.7s,comp=E,16nm,1.7s							
JTJ	**Tarama**	**1.53**	**282**	*i* P	**Pn**	**22 40 37.9**	**+0.6**
JTJ				S	**Sn**	**22 40 56.5**	**-0.5**
JTJ	**Tarama**	**1.53**	**282**	A	A	22 40 37.9	
comp=N,12nm,2.6s,comp=E,6.0nm,1.6s							
JISG	**Ishigakijimahi**	**1.87**	**278**	P	**Pn**	**22 40 42.5**	**+0.4**
JISG				*e*S	**Sn**	**22 41 05.3**	**-0.2**
JIJ	**Ishigaki jima**	**2.01**	**271**	*i* P	**Pn**	**22 40 44.4**	**+0.4**
JIJ				S	**Sn**	**22 41 07.0**	**-1.9**
JKE	**Kume jima 2**	**2.02**	**11**	*i* P	**Pn**	**22 40 43.9**	**-0.2**
JKRS	**Kuro-shima**	**2.13**	**268**	P	**Pn**	**22 40 46.4**	**+0.7**
JKRS				*e*S	**Sn**	**22 41 11.1**	**-0.9**
JKRS	**Kuro-shima**	**2.13**	**268**	A	A	22 40 46.4	
comp=N,8.0nm,3.3s,comp=E,8.0nm,1.8s							
JJT3	**Tamagusuku3**	**2.22**	**36**	P	**Pn**	**22 40 46.8**	**-0.1**
JJT3				S	**Sn**	**22 41 12.3**	**-1.8**
HATJ	**Hateruma jima**	**2.34**	**264**	P	**Pn**	**22 40 48.6**	**+0.1**
HATJ				S	**Sn**	**22 41 14.8**	**-2.2**
JAGN	**Aguni-jima**	**2.38**	**20**	*e*P	**Pn**	**22 40 49.1**	**0.0**
JAGN				*e*S	**Sn**	**22 41 16.2**	**-1.9**
IRIF	**Iriomote-Funau**	**2.39**	**270**	P	**Pn**	**22 40 49.5**	**+0.4**
JNTH	**Nagotoyohara**	**2.65**	**35**	P	**Pn**	**22 40 52.2**	**-0.6**
JOW	**Kunigami**	**3.03**	**35**	Pn	**Pn**	**22 40 58.2**	**+0.1**
comp=E,55nm,0.3s,baz=142,slow=25,SNR=215							
JOW				Sn	**Sn**	**22 41 31.4**	**-2.7**
comp=E,37nm,0.3s,baz=295,slow=28,SNR=12							
comp=E,130nm,0.2s							
JOW	**Kunigami**	**3.03**	**35**	P	**Pn**	**22 40 58.1**	**+0.1**
JOW	**Kunigami**	**3.03**	**35**	*i* P	**Pn**	**22 40 58.2**	**+0.1**
YOJ	**Yonaguni jima**	**3.04**	**273**		**Pn**	**22 40 58.3**	**+0.1**
YOJ	**Yonaguni jima**	**3.04**	**273**	P	**Pn**	**22 40 58.6**	**+0.4**
YOJ	**Yonaguni jima**	**3.04**	**273**	P	**Pn**	**22 40 58.8**	**+0.5**
JIH	**Iheya**	**3.06**	**28**	P	**Pn**	**22 40 58.3**	**-0.2**
JIH				*e*S	**Sn**	**22 41 31.8**	**-3.0**
JYNG	**Yonagunijimaku**	**3.10**	**273**	*e*S	**Sn**	**22 41 33.0**	**-2.9**
JYRO	**Yoronjima**	**3.28**	**35**	P	**Pn**	**22 41 01.3**	**-0.2**
JOKE	**Okinoerabujima**	**3.62**	**33**	P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0				IAmb	IAmb	22 48 07.6	
	comp=Z,6.1nm,0.8s						
ZALV	**Zalesovo Beam**	**42.76**	**325**	**P**	**P**	**22 48 06.4**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=111,slow=8.4,SNR=24						
ZALV				LR	LR	23 08 36.5	
	comp=Z,24nm,18.3s,baz=97,slow=40						
	comp=Z,5.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**43.63**	**306**		**P**	**22 48 14.6**	**-0.5**
TARG				IAmb	IAmb	22 48 18.2	
	comp=Z,7.6nm,1.4s						
KDJ	**Kajisay**	**44.15**	**306**		**P**	**22 48 19.6**	**+0.7**
KDJ				IAmb	IAmb	22 48 21.1	
	comp=Z,4.0nm,0.8s						
WB0	**Warramunga Arr**	**44.53**	**169**	P	**P**	**22 48 21.6**	**-0.3**
WB0				IAmb	IAmb	22 48 50.3	
	comp=Z,8.2nm,1.2s						
WRA	**Warramunga Arr**	**44.70**	**169**	P	**P**	**22 48 23.0**	**-0.2**
WRA	**Warramunga Arr**	**44.70**	**169**	P	**P**	**22 48 23.3**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=349,slow=8.0,SNR=11						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.08**	**318**	P	**P**	**22 48 24.2**	**-1.8**
	comp=Z,2.1nm,0.6s,baz=105,slow=8.3,SNR=19						
	comp=Z,2.1nm,0.6s						
ARSB	**Arslanbob**	**47.19**	**305**	P	**P**	**22 48 43.2**	**+0.2**
ARSB				IAmb	IAmb	22 48 44.7	
	comp=Z,2.3nm,0.8s						
DRK	**Karamyk**	**48.01**	**302**	P	**P**	**22 48 49.3**	**-0.2**
DRK				IAmb	IAmb	22 48 56.5	
	comp=Z,5.7nm,1.1s						
ASAR	**Alice Springs**	**48.28**	**171**	P	**P**	**22 48 52.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=357,slow=8.8,SNR=5.3						
	comp=Z,0.3nm,0.3s						
KK31	**Karatay Array**	**49.14**	**307**	P	**P**	**22 48 58.7**	**+0.9**
KK31				IAmb	IAmb	22 49 00.6	
	comp=Z,5.1nm,1.4s						
KKAR	**Karatay Array**	**49.14**	**307**	P	**P**	**22 48 58.5**	**+0.7**
GAR	**Garm**	**49.16**	**301**		**P**	**22 48 58.3**	**+0.1**
CHGR	**Chuyangaron**	**50.06**	**301**		**P**	**22 49 04.9**	**-0.2**
BVAR	**Borovoye Array**	**50.58**	**320**	P	**P**	**22 49 08.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=100,slow=7.5,SNR=3.3						
	comp=Z,0.7nm,0.5s						
AB31	**Akbulak array**	**56.71**	**314**		**P**	**22 49 53.9**	**+0.3**
AB31				IAmb	IAmb	22 49 55.1	
	comp=Z,3.4nm,0.7s						
ABKAR	**Akbulak array**	**56.71**	**314**		**P**	**22 49 53.8**	**+0.2**
ARTI	**Arti**	**57.93**	**323**	P	**P**	**22 50 01.7**	**-0.4**
ARTI	**Arti**	**57.93**	**323**	LR	LR	23 16 28.7	
	comp=Z,35nm,18.7s,baz=94,slow=38						
D23K	**Nanushuk River**	**65.01**	**23**	P	**P**	**22 50 50.9**	**+1.2**
H23K	**Yukon River**	**65.67**	**27**	P	**P**	**22 50 55.3**	**+1.2**
ARCES	**ARCESS Array B**	**71.14**	**339**	LR	LR	23 29 53.1	
	comp=Z,32nm,19.1s,baz=360,slow=42						
FINES	**FINESS Array B**	**73.66**	**330**	P	**P**	**22 51 43.4**	**+0.1**
FINES	**FINESS Array B**	**73.66**	**330**	P	**P**	**22 51 43.8**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=74,slow=8.7,SNR=5.0						
	comp=Z,1.9nm,0.7s						
AKASG	**Malin Array Be**	**75.86**	**319**	IAmb	IAmb	22 51 60.0	
	comp=Z,2.9nm,1.2s						
AKASG	**Malin Array Be**	**75.86**	**319**	P	**P**	**22 51 56.5**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=60,slow=6.3,SNR=5.2						
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**76.84**	**308**	P	**P**	**22 52 02.8**	**+0.5**
BRTR	**Keskin Array B**	**76.84**	**308**	P	**P**	**22 52 03.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=93,slow=5.9,SNR=6.7						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**80.24**	**333**	LR	LR	23 29 22.9	
	comp=Z,24nm,19.4s,baz=340,slow=37						

*SDD **30** 22:48:01.5±1.8, 18°.35N×70°.46W, h21km±8km, MD3.0, ML1.9, MW3.2*
*OSPL **30** 22:48:01.5±1.1, 18°.40N×70°.44W, h6km±61km, ML2.1*
ISC 30 22:48:01.1±1.3, 18°.34N±0'.06×70°.41W±0'.03, h21km±9km, n12, σ2s21/22, 12C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.07**	**45**	⇑*e*Pg	**Pb**	**22 48 05.3**	**+0.1**
BANI				⇑*e*Sg	**Sb**	**22 48 08.5**	**+0.5**
BANI				IAML		22 48 09.4	
	comp=N,2μm,0.1s						
ABDR	**Alto Bandera**	**0.51**	**337**	⇑*e*Pg	**Pb**	**22 48 10.5**	**-1.2**
ABDR				⇑*e*Sg	**Sb**	**22 48 18.1**	**-0.7**
ABDR				IAML		22 48 37.7	
	comp=N,0.3nm,0.7s						
DR08	**Loma La Naviza**	**0.72**	**31**	⇑*e*Pg	**Pb**	**22 48 12.6**	**-2.5**
DR08				⇑*e*Sg	**Sb**	**22 48 24.5**	**0.0**
DR08				IAML		22 48 26.1	
	comp=N,1μm,0.2s						
LODU1	**El Espartillar**	**1.01**	**271**	*i* P	**Pb**	**22 48 19.6**	**-0.2**
LODU1				IAML		22 48 34.5	
	comp=Z,58nm,1.3s						
LONE3	**El Aguacate, B**	**1.03**	**285**	*i* P	**Pb**	**22 48 19.1**	**-1.2**
LONE3				*e*S	**Sb**	**22 48 32.4**	**-1.0**
LONE3				IAML		22 48 34.5	
	comp=Z,23nm,0.4s						
SDDR	**Presa de Saban**	**1.05**	**308**	⇑*e*Pg	**Pb**	**22 48 19.6**	**-1.0**
SDDR				⇑*e*Sg	**Sb**	**22 48 33.0**	**-0.9**
SDDR				IAML		22 48 35.5	
	comp=N,28nm,0.3s						
SDDR	**Presa de Saban**	**1.05**	**308**	*i* P	**Pb**	**22 48 19.7**	**-0.9**
SDDR				*e*S	**Sb**	**22 48 31.8**	**-2.1**
SDDR				IAML		22 48 35.8	
	comp=Z,14nm,0.8s						
LOVI	**El Cajuil, Ovi**	**1.06**	**239**	*i* P	**Pn**	**22 48 20.1**	**-0.5**
LOVI				*e*S	**Sb**	**22 48 34.1**	**0.0**
LOVI				IAML		22 48 39.7	
	comp=Z,71nm,1.6s						
HATOM	**Hato Mayor del**	**1.07**	**65**	⇑*e*Pg	**Pb**	**22 48 21.5**	**+0.4**
HATOM				⇑*e*Sg	**Sn**	**22 48 36.2**	**+0.9**
HATOM				IAML		22 48 36.5	
	comp=N,25nm,0.4s						
REDR	**Restauracion**	**1.24**	**312**	⇑*e*Pg	**Pb**	**22 48 27.7**	**+3.9**
REDR				⇑*e*Sg	**Sb**	**22 48 46.6**	**+7.2**
REDR				IAML		22 48 49.2	
	comp=N,62nm,0.1s						
LOBH	**Bahia de las A**	**1.26**	**248**	*i* P	**Pn**	**22 48 23.3**	**-0.1**
LOBH				*e*S	**Sb**	**22 48 40.7**	**+0.7**
LOBH				IAML		22 48 46.7	
	comp=Z,40nm,1.0s						
MIDR	**Miches**	**1.44**	**63**	*e*Sg	**Sb**	**22 48 46.4**	**+1.2**
MIDR				IAML		22 48 58.2	
	comp=N,14nm,1.3s						

*NEIC **30** 22:57:26.0±1.6, 35°.54N±0'.01×117°.52W±0'.01, h7km±1km, Error ellipse: s-maj=1.7km s-min=1.6km az=59.0*
PAS 30 22:57:26.7±1.8, 35°.548N±0'.009×117°.53W±0'.01, h4km, ML3.5/301, ML3.2/128(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=69.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**30**		Pg	22 57 28.2	0.0
WSHM					Sg	22 57 29.3	+0.2
CCCA	**Chr Cany lake**	**0.14**	**99**		Pg	22 57 29.9	+0.4
CCCA				Sg	Sg	22 57 32.4	+1.2
CCCA				IAML		22 57 34.1	
	comp=E,14μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.14**	**241**		Pg	22 57 29.7	+0.1
LRMC				Sg	Sg	22 57 31.9	+0.5
GPO	**China Lake**	**0.15**	**313**		Pg	22 57 29.9	+0.2
GPO					Sg	22 57 32.4	+0.8
CLC	**China Lake**	**0.27**	**348**		Pg	22 57 31.9	-0.1
CLC				IAML		22 57 36.4	
	comp=E,4μm,0.5s						
TOW	**Tower One**	**0.32**	**324**		Pg	22 57 33.3	+0.4
TOW					Sg	22 57 38.8	+1.5
DTP	**Desert Tortois**	**0.38**	**223**		Sg	22 57 39.2	+0.2
JRC2	**Joshua Ridge**	**0.49**	**332**		Sg	22 57 43.1	+0.6
WBSM	**Bird Springs**	**0.50**	**269**		Sg	22 57 43.2	+0.5
MPMC	**Manual Prospec**	**0.51**	**4**		Pg	22 57 36.3	-0.2
MPMC					Sg	22 57 43.3	+0.1
MPMC				IAML		22 57 46.7	
	comp=E,1μm,0.5s						
WCSM	**Coso Springs S**	**0.52**	**338**		Pg	22 57 36.4	-0.2
WCSM					Sg	22 57 43.7	+0.4
WRVM	**Rose V. Centra**	**0.55**	**328**		Sg	22 57 44.7	+0.4
MFS	**McCloud Flat S**	**0.63**	**335**		Sg	22 57 47.1	+0.2
GSC	**Goldstone, Bar**	**0.64**	**112**		Pg	22 57 38.8	-0.2
GSC				IAML		22 57 51.6	
	comp=N,933nm,0.3s						
GSC				IAML		22 57 52.6	
	comp=E,1μm,0.5s						
GSC	**Goldstone, Bar**	**0.64**	**112**		Sg	22 57 47.4	+0.1
QSM	**Queen of Sheba**	**0.68**	**52**		Pg	22 57 39.6	-0.2
QSM				IAML		22 57 51.7	
	comp=E,1μm,0.7s						
QSM				IAML		22 57 53.2	
	comp=N,2μm,0.6s						
WHFM	**Hanning Flat**	**0.68**	**283**		Pg	22 57 39.4	-0.4
WHFM					Sg	22 57 48.5	-0.1
EDW2	**Edwards Air Fo**	**0.77**	**210**		Sg	22 57 51.3	0.0
ISA	**Isabella, Lake**	**0.78**	**279**		Pg	22 57 41.1	-0.5
ISA				IAML		22 57 52.1	
	comp=N,917nm,0.2s						
ISA				IAML		22 57 53.7	
	comp=E,576nm,0.3s						
RRX	**Edison Barstow**	**0.80**	**147**		Sg	22 57 52.5	+0.2
WASM	**Alta Sierra Ca**	**0.86**	**283**		Sg	22 57 54.3	0.0
TPO	**Tropico Hills**	**0.88**	**221**		Pg	22 57 43.0	-0.5
TPO				IAML		22 58 01.5	
	comp=N,2μm,0.7s						
GWY	**Greenwater Val**	**0.95**	**47**		Pg	22 57 44.4	-0.5
GWY				IAML		22 58 00.7	
	comp=N,1μm,0.4s						
CWC	**Cottonwood Cre**	**1.00**	**334**		Pg	22 57 45.4	-0.4
ADO	**Adelanto Recei**	**1.00**	**175**		Pg	22 57 45.7	-0.1
VTV	**Victorville**	**1.00**	**170**		Pg	22 57 45.3	-0.5
FURC	**Furnace Creek,**	**1.06**	**30**		Pg	22 57 46.7	-0.4
FURC				IAML		22 58 04.2	
	comp=N,758nm,0.8s						
FURC				IAML		22 58 09.7	
	comp=E,1μm,0.8s						
SHOC	**Shoshone, Teco**	**1.08**	**71**		Pg	22 57 46.8	-0.6
SHOC					Sg	22 58 01.5	+0.1
VES	**Vestal, Richgr**	**1.30**	**283**		Pn	22 57 50.6	-1.0
VES				IAML		22 57 56.3	
	comp=E,565nm,0.8s						
VES				IAML		22 58 13.2	
	comp=N,757nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.31**	**185**		Pg	22 57 50.6	-1.2
BFSC				IAML		22 58 11.1	
	comp=E,388nm,0.3s						
BFSC				IAML		22 58 13.1	
	comp=N,275nm,0.5s						
MWC	**Mount Wilson**	**1.39**	**198**		Pn	22 57 52.4	-0.6
MWC				IAML		22 58 13.5	
	comp=N,707nm,0.6s						
MWC				IAML		22 58 14.9	
	comp=E,465nm,0.5s						
WCT	**Wildcat Mounta**	**1.44**	**30**		Pn	22 57 52.5	-1.2
GRAC	**Grapevine Rang**	**1.45**	**5**		Pn	22 57 53.1	-0.6
GRAC				IAML		22 58 17.9	
	comp=E,256nm,0.6s						
GRAC				IAML		22 58 20.0	
	comp=N,335nm,0.5s						
PASC	**Pasadena Art C**	**1.48**	**202**		Pn	22 57 52.7	-1.3
PASC				IAML		22 58 16.8	
	comp=N,312nm,0.5s						
PASC				IAML		22 58 17.3	
	comp=E,375nm,0.3s						
MTPC	**Mountain Pass**	**1.61**	**92**		Pn	22 57 54.8	-1.2
MTPC				IAML		22 58 19.9	
	comp=N,182nm,0.8s						
TPNV	**Topopah Spring**	**1.74**	**36**		Pn	22 57 56.9	-0.9
TPNV				IAML		22 58 25.0	
	comp=N,225nm,1.0s						
TPNV				IAML		22 58 25.8	
	comp=N,294nm,0.7s						
GMN	**Gold Mountain**	**1.76**	**7**		Pn	22 57 57.5	-0.7
DSP	**Deep Springs**	**1.85**	**349**		Pn	22 57 58.6	-0.5
ELS	**Elsinore Mount**	**1.90**	**177**		Pn	22 57 59.1	-0.8
ELS				IAML		22 58 29.3	
	comp=N,143nm,0.3s						
ELS				IAML		22 58 29.4	
	comp=E,209nm,0.4s						
BELC	**Belle Mtn. Jos**	**1.99**	**140**		Pn	22 57 59.7	-1.6
BELC				IAML		22 58 30.7	
	comp=N,255nm,0.6s						
BELC				IAML		22 58 33.1	
	comp=E,260nm,0.6s						
DNR	**Dunn Ranch,Anz**	**2.11**	**159**		Pn	22 58 02.8	-0.1
PMD	**Palm Desert**	**2.12**	**153**		Pn	22 58 01.5	-1.4
PMD				IAML		22 58 35.3	
	comp=N,154nm,0.7s						
PMD				IAML		22 58 35.6	
	comp=E,181nm,0.5s						
PFO	**Pinyon Flats O**	**2.12**	**155**		Pn	22 58 01.9	-1.1
PFO				IAML		22 58 35.6	
	comp=E,118nm,0.6s						
PFO				IAML		22 58 36.0	
	comp=E,118nm,0.7s						
SHPR	**Sheep Range**	**2.15**	**63**		Pn	22 58 02.5	-0.9
V12A	**Nelson**	**2.19**	**85**		Pn	22 58 02.2	-1.7
IRM	**Iron Mountain**	**2.40**	**125**		Pn	22 58 04.7	-2.0
MDPB	**Devils Postpil**	**2.43**	**330**		Pn	22 58 07.5	+0.2
MDPB				IAML		22 58 47.2	
	comp=E,85nm,0.7s						
PKD	**Bear Valley Ra**	**2.48**	**280**		Pn	22 58 07.0	-0.9
NEE2	**Needles Airpor**	**2.51**	**107**		Pn	22 58 06.4	-1.8
NEE2				IAML		22 58 51.5	
	comp=N,173nm,0.5s						
NEE2				IAML		22 58 55.4	
	comp=E,148nm,0.7s						
DPP	**Dos Picos Cty**	**2.59**	**169**	Pn	Pn	22 58 08.8	-0.6
DPP				IAML		22 58 48.1	
	comp=E,148nm,0.3s						
CPE	**Camp Elliot**	**2.67**	**172**	Pn	Pn	22 58 09.3	-1.2
CPE				IAML		22 58 50.7	
	comp=E,140nm,0.5s						
CPE				IAML		22 58 51.8	
	comp=N,156nm,0.3s						
PRN	**Pahroc Range**	**2.73**	**46**		Pn	22 58 10.5	-0.8
PMPB	**Monarch Peak**	**2.74**	**285**		Pn	22 58 10.1	-1.3
PMPB				IAML		22 58 58.8	
	comp=E,179nm,0.7s						
PMPB				IAML		22 59 09.2	
	comp=N,101nm,1.4s						
LHV	**Little Huntoon**	**2.81**	**344**		Pn	22 58 12.2	-0.2
LHV				IAML		22 59 04.4	
	comp=E,54nm,1.4s						
NV11	**Mina Array Sit**	**2.92**	**350**		Pn	22 58 13.7	-0.4
NVAR	**Mina Array Bea**	**2.94**	**348**		Pn	22 58 14.3	-0.1
BAR	**Barrett**	**2.95**	**166**		Pn	22 58 13.6	-0.7
BAR				IAML		22 58 59.2	
	comp=N,114nm,0.2s						
BAR				IAML		22 58 59.5	
	comp=E,150nm,0.5s						
W13A	**Hualapai Mount**	**3.01**	**97**		Pn	22 58 14.0	-1.4
W13A				IAML		22 59 09.5	
	comp=N,44nm,1.2s						
BBGB	**Big Mountain B**	**3.02**	**291**		Pn	22 58 14.6	-0.8
RYN	**Ryan**	**3.18**	**346**		Pn	22 58 16.7	-0.8
R11B	**Troy Canyon, C**	**3.20**	**29**		Pn	22 58 16.7	-1.2
CBX	**Cerro Bola**	**3.31**	**167**		Pn	22 58 18.9	-0.4
GLA	**Glamis**	**3.35**	**137**		Pn	22 58 20.2	+0.4
SAO	**San Andreas Ge**	**3.40**	**292**	Pn	Pn	22 58 20.1	-0.3
MHC	**Mount Hamilton**	**3.77**	**300**	Pn	Pn	22 58 25.1	-0.6
MHC				IAML		22 59 29.7	
	comp=N,34nm,0.9s						
MHC				IAML		22 59 33.1	
	comp=E,40nm,2.2s						
ESJX	**Sierra Juarez**	**3.77**	**159**	Pn	Pn	22 58 25.4	-0.3
113A	**Mohawk Valley,**	**4.17**	**131**	Pn	Pn	22 58 30.5	-0.6
U15A	**North Rim**	**4.34**	**77**		Pn	22 58 33.7	+0.1
U15A				IAML		22 59 44.1	
	comp=N,18nm,1.1s						
U15A				IAML		22 59 44.6	
	comp=E,18nm,0.9s						
PAHR	**Pah Rah Range**	**4.41**	**341**	Pn	Pn	22 58 33.7	-0.7
ELK	**Elko**	**5.49**	**18**	Pn	Pn	22 58 49.6	+0.1

*NEIC **30** 22:59:08.4±2.1, 7°.37S±0'.06×119°.97E±0'.06, h407km±4km, mb4.6/79, Error ellipse: s-maj=9.2km s-min=9.0km az=144.0*
*DJA **30** 22:59:08.6±0.1, 7°.S±2'.×12'.0E±', h412km±1km, M4.7/58, mb4.8/58, mB5.3/29, MLv5.1/28, Mw(mB)4.7/29, MwMwp4.8/1, Mwp5.1/1*
*IDC **30** 22:59:09.3±0.6, 7°.31S×120°.04E, h423km±5km, mb4.1/28, mbtmp4.8/32, Error ellipse: s-maj=12.2km s-min=6.5km az=66.0*
ISC 30 22:59:08.2±0.5, 7°.43S±0'.04×120°.00E±0'.04, h416km±5km, n276, σ1s20/291, mb4.6/76, 1C-3D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.37**	**21**	P	**P**	**23 00 02.6**	**+0.2**
BSSI					S	**23 00 46.0**	**-0.1**
BKSI	**Bulukumba**	**2.10**	**3**	P	**P**	**23 00 07.0**	**+0.8**
BKSI					S	**23 00 53.0**	**-0.1**
EDFI	**Ende, Flores**	**2.13**	**128**	P	**P**	**23 00 05.7**	**-0.8**
EDFI					S	**23 00 49.6**	**-4.0**
WSI	**Waingapu**	**2.25**	**172**	P	**P**	**23 00 07.1**	**0.0**
WSI					S	**23 00 52.1**	**-2.7**
WBSI	**Waikabubak, Su**	**2.28**	**195**	P	**P**	**23 00 07.1**	**-0.3**
WBSI					S	**23 00 52.2**	**-3.1**
KAPI	**Kappang**	**2.41**	**354**		**P**	**23 00 09.8**	**+1.6**
KAPI					Sn	**23 00 57.7**	**+0.9**
KAPI	**Kappang**	**2.41**	**354**	P	**P**	**23 00 10.0**	**+1.8**
	3μm,0.5s,baz=187,slow=4.8,SNR=895						
KAPI					S	**23 00 58.1**	**+1.3**
	115nm,0.6s,baz=156,slow=20,SNR=19						
KAPI	**Kappang**	**2.41**	**354**	P	**P**	**23 00 09.8**	**+1.6**
KAPI	**Kappang**	**2.41**	**354**	S	**S**	**23 00 58.2**	**+1.4**
PLAI	**Plampang**	**2.60**	**238**	P	**P**	**23 00 10.0**	**+0.5**
PLAI	**Plampang**	**2.60**	**238**	S	**S**	**23 00 58.6**	**-0.7**
PLAI	**Plampang**	**2.60**	**238**	P	**P**	**23 00 09.7**	**+0.2**
PLAI					S	**23 00 57.7**	**-1.6**
BASI	**Baing, Sumba**	**2.83**	**168**	P	**P**	**23 00 12.2**	**+1.0**
BASI					S	**23 01 00.6**	**-1.8**
BNSI	**Bone**	**3.01**	**2**	P	**P**	**23 00 14.4**	**+1.8**
BNSI					S	**23 01 06.6**	**+1.7**
BBSI	**Bau Bau**	**3.20**	**53**	P	**P**	**23 00 16.4**	**+2.2**
BBSI					S	**23 01 09.8**	**+2.1**
TWSI	**Taliwang, Sumb**	**3.35**	**247**	P	**P**	**23 00 15.3**	**-0.1**
SPSI	**Sidrap Palu**	**3.45**	**356**	P	**P**	**23 00 17.8**	**+1.6**
KDI	**Kendari**	**4.32**	**37**	P	**P**	**23 00 25.5**	**+1.3**
BATI	**Baumata**	**4.55**	**128**	P	**P**	**23 00 27.0**	**+0.6**
	239nm,0.3s,baz=39,slow=2.2,SNR=82						
BATI					S	**23 01 22.3**	**-7.9**
	3μm,0.3s,baz=270,slow=20,SNR=12						
BATI	**Baumata**	**4.55**	**128**	P	**P**	**23 00 26.8**	**+0.4**
SRBI	**Singaraja**	**4.79**	**262**	P	**P**	**23 00 29.4**	**+0.7**
SOEI	**Soe**	**4.81**	**119**		**P**	**23 00 29.9**	**+0.9**
SOEI					Sn	**23 01 31.6**	**-3.4**
SOEI	**Soe**	**4.81**	**119**	P	**P**	**23 00 30.4**	**+1.4**
SOEI	**Soe**	**4.81**	**119**	P	**P**	**23 00 30.0**	**+0.9**
DNP	**Denpasar**	**4.90**	**255**	P	**P**	**23 00 30.6**	**+0.8**
ABJI	**Asem Bagus**	**5.73**	**266**	P	**P**	**23 00 39.0**	**+0.7**
	1.0nm2μm211nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.88**	**259**		**P**	**23 00 39.6**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.88**	**259**	P	**P**	**23 00 40.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**5.88**	**259**	P	**P**	**23 00 39.8**	**-0.1**
	3.1nm9μm217nm,1.0s						
KMMI	**Kalianget**	**6.00**	**273**	P	**P**	**23 00 43.9**	**+2.8**
	0.4nm152nm,0.7s						
BLJI	**Banyuglugur**	**6.36**	**267**	P	**P**	**23 00 47.1**	**+2.1**
	1.7nm5μm498nm,0.6s						
BBKI	**Banjar Baru**	**6.47**	**307**	P	**P**	**23 00 47.4**	**+1.2**
	1.0nm108nm,0.8s						
APSI	**Ampana**	**6.68**	**14**	P	**P**	**23 00 50.0**	**+0.9**
	1.4nm5μm506nm,0.8s						
LUWI	**Luwuk**	**6.92**	**24**		**P**	**23 00 52.4**	**+0.7**
LUWI	**Luwuk**	**6.92**	**24**	P	**P**	**23 00 52.4**	**+0.7**
LUWI	**Luwuk**	**6.92**	**24**	P	**P**	**23 00 52.4**	**+0.7**
	1.7nm10μm585nm,1.0s						
GRJI	**Gresik**	**7.48**	**273**	P	**P**	**23 00 57.8**	**0.0**
	0.6nm168nm,0.8s						
SANI	**Sanana**	**8.01**	**48**	P	**P**	**23 01 04.3**	**+0.8**
SANI	**Sanana**	**8.01**	**48**	P	**P**	**23 01 04.4**	**+0.9**
MRSI	**Marisa**	**8.09**	**14**	P	**P**	**23 01 05.1**	**+0.7**
NLAI	**Namlea**	**8.20**	**60**	P	**P**	**23 01 07.9**	**+2.2**
TOLI2	**Tolitoli**	**8.52**	**5**		**P**	**23 01 10.0**	**+0.8**
TOLI2	**Tolitoli**	**8.52**	**5**	P	**P**	**23 01 09.8**	**+0.6**
PCJI	**Pacitan**	**8.78**	**264**	P	**P**	**23 01 11.4**	**-0.6**
	2μm134nm,1.0s						
KMSI	**Cibinong**	**8.88**	**27**	P	**P**	**23 01 14.9**	**+1.7**
AAI	**Ambon**	**8.96**	**66**	P	**P**	**23 01 15.6**	**+1.5**
UGM	**Wanagama**	**9.40**	**266**	P	**P**	**23 01 18.6**	**-0.4**
UGM	**Wanagama**	**9.40**	**266**	P	**P**	**23 01 20.5**	**+1.5**
	65nm,1.0s						
BNDI	**Bandanaira**	**10.26**	**74**	P	**P**	**23 01 30.5**	**+2.0**
BNDI	**Bandanaira**	**10.26**	**74**	S	**S**	**23 03 25.7**	**+1.4**
BNDI	**Bandanaira**	**10.26**	**74**	P	**P**	**23 01 30.2**	**+1.7**
	360nm,0.7s						
TNTI	**Ternate**	**10.97**	**42**		**P**	**23 01 36.7**	**+0.4**
TNTI	**Ternate**	**10.97**	**42**	P	**P**	**23 01 37.9**	**+1.6**
TNTI	**Ternate**	**10.97**	**42**	P	**P**	**23 01 37.3**	**+1.0**
	2μm158nm,1.1s						
KPJI	**Karang Pucung**	**10.98**	**270**	P	**P**	**23 01 37.0**	**+0.7**
	85nm,0.7s						
SAUI	**Saumlaki**	**11.21**	**94**		**P**	**23 01 39.5**	**+0.6**
SAUI	**Saumlaki**	**11.21**	**94**	P	**P**	**23 01 40.6**	**+1.7**
SAUI	**Saumlaki**	**11.21**	**94**	P	**P**	**23 01 40.2**	**+1.3**
AUDHS	**Darwin High Sc**	**11.77**	**116**	P	**P**	**23 01 46.5**	**+1.4**
DRS	**Darwin Rock St**	**11.83**	**116**	P	**P**	**23 01 47.4**	**+1.7**
KNRA	**Kununurra**	**11.87**	**134**	P	**P**	**23 01 47.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.95**	**153**	P	**P**	**23 01 48.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.95**	**153**	P	**P**	**23 01 48.0**	**+1.1**
	17nm,0.4s,baz=337,slow=8.4,SNR=138						
FITZ					S	**23 03 58.7**	**+0.6**
	9.0nm,0.4s,baz=24,slow=19,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.95**	**153**	P	**P**	**23 01 48.5**	**+1.6**
MTN	**Manton Dam**	**12.21**	**117**	P	**P**	**23 01 50.8**	**+1.0**
BBJI	**Bungbulang**	**12.25**	**269**	P	**P**	**23 01 50.4**	**0.0**
LEM	**Lembang**	**12.30**	**272**	P	**P**	**23 01 51.9**	**+0.8**
	119nm,0.7s,baz=56,sl

comp=Z,341nm,0.5s,baz=182,slow=6.5,SNR=7.6
TGY S **S** **23 06 51.5 -1.9**
comp=Z,150nm,0.3s,baz=135,slow=17,SNR=1.1
IPM Ipoh 22.32 301 P **P** **23 03 32.2 -0.7**
IPM IAmb IAmb 23 03 34.0
comp=Z,11nm,0.8s
QIS Mount Isa 23.03 127 P **P** **23 03 39.7 +0.4**
KULM Kulim 23.07 303 P **P** **23 03 39.2 -0.5**
GSI Gunungsitoli 23.99 290 P **P** **23 03 47.9 -0.1**
GSI IAmb IAmb 23 03 48.3
comp=Z,59nm,1.5s
FORT Forrest 24.43 163 P **P** **23 03 52.5 +0.8**
PMG Port Moresby 26.94 96 P **P** **23 04 14.6 +0.5**
comp=Z,5.6nm,0.3s,baz=271,slow=15,SNR=1.6
comp=Z,5.6nm,0.3s
QIZ Qiongzhong 28.13 339 P **P** **23 04 24.2 -0.4**
INKA Innaminka 28.18 138 **P** **23 04 26.1 +1.2**
INKA IAmb IAmb 23 04 45.4
comp=Z,19nm,0.8s
BBOO Buckleboo 29.33 152 P **P** **23 04 35.6 +0.7**
BBOO IAmb IAmb 23 04 36.6
comp=Z,30nm,0.8s
BBOO Buckleboo 29.33 152 P **P** **23 04 35.9 +0.9**
TPUB Ta-pu 30.55 1 P **P** **23 04 45.6 0.0**
HTT Hallett 31.25 148 P **P** **23 04 53.2 +1.5**
NACB Ninganchiao 31.45 3 P **P** **23 04 52.5 -0.9**
NACB IAmb IAmb 23 05 36.2
comp=Z,41nm,1.1s
STKA Stephens Creek 31.57 143 P **P** **23 04 55.4 +0.9**
STKA Stephens Creek 31.57 143 P **P** **23 04 55.7 +1.3**
comp=Z,20nm,0.7s,baz=314,slow=9.9,SNR=31
comp=Z,20nm,0.7s
STKA Stephens Creek 31.57 143 P **P** **23 04 55.8 +1.3**
YHNB Yeheng 31.93 2 P **P** **23 04 55.5 -2.2**
CM31 Chiang Mai Arr 33.06 321 P **P** **23 05 07.1 -0.3**
CMAR Chiang Mai Arr 33.06 321 P **P** **23 05 07.4 -0.1**
CMAR PcP **PcP** **23 07 40.6 +0.9**
CMAR Chiang Mai Arr 33.06 321 P **P** **23 05 08.3 +0.9**
comp=Z,4.2nm,0.8s,baz=147,slow=7.0,SNR=24
CMAR PcP **PcP** **23 07 40.7 +1.0**
comp=Z,3.8nm,0.7s,baz=139,slow=3.2,SNR=16
comp=Z,4.2nm,0.8s
PBA Port Blair 33.08 305 P **P** **23 05 07.5 -0.1**
PBA IAmb IAmb 23 05 16.8
comp=Z,78nm,1.5s
CHTO Chiang Mai 33.33 322 P **P** **23 05 10.0 +0.2**
CHTO Chiang Mai 33.33 322 P **P** **23 05 10.4 +0.7**
JOW Kunigami 34.99 13 P **P** **23 05 23.1 -0.6**
JOW IAmb IAmb 23 06 01.6
comp=Z,69nm,1.3s
GYA Guiyang 36.09 339 ⇓P **P** **23 05 33.5 +0.5**
GYA pmax pmax
comp=Z,21nm,0.6s
ARMA Armidale 37.43 132 P **P** **23 05 46.0 +1.9**
ARMA IAmb IAmb 23 05 47.2
comp=Z,17nm,0.8s
TOO Toolangi 37.88 146 P **P** **23 05 49.8 +2.0**
PZH PanZhiHua 38.10 333 P **P** **23 05 51.8 +2.1**
WHN Wuhan 38.14 352 P **P** **23 05 50.3 +0.5**
CAN Canberra 38.44 140 P **P** **23 05 53.8 +1.4**
ENH Enshi 38.82 345 P **P** **23 05 55.1 -0.3**
ENH Enshi 38.82 345 P **P** **23 05 55.5 0.0**
NJ2 Nanjing 39.27 358 ⇓P **P** **23 05 59.8 +0.7**
NJ2 pmax pmax
comp=Z,18nm,0.6s
JCJ Chichijima 40.49 31 P **P** **23 06 07.9 -1.2**
CD2 Chengdu 41.17 339 P **P** **23 06 13.8 -0.7**
CD2 pmax pmax
comp=Z,90nm,0.7s
PALK Pallekele 41.82 290 P **P** **23 06 19.9 -0.2**
PALK IAmb IAmb 23 06 23.1
comp=Z,19nm,1.1s
LYN LuoYang 42.35 351 *e*P **P** **23 06 23.5 -0.3**
LYN pmax pmax
comp=Z,25nm,0.9s
XAN Xi'an 42.56 346 P **P** **23 06 24.8 -0.7**
XAN pmax pmax
comp=Z,60nm,0.6s
SHL Shillong 42.70 321 **P** **23 06 26.2 -0.7**
SHL IAmb IAmb 23 06 27.3
comp=Z,15nm,0.7s
LHI Lord Howe Isla 43.58 129 P **P** **23 06 34.7 +1.1**
LHI IAmb IAmb 23 06 35.9
comp=Z,29nm,1.0s
HNS HongShan 44.87 354 ⇓P **P** **23 06 42.8 -0.7**
HNS pmax pmax
comp=Z,12nm,0.8s
KSAR Wonju Array Be 45.24 9 P **P** **23 06 46.1 -0.3**
KSRS Korea Array 45.26 9 P **P** **23 06 46.5 0.0**
comp=Z,7.8nm,0.7s,baz=189,slow=8.7,SNR=25
KSRS PcP **PcP** **23 08 18.1 -0.1**
comp=Z,3.8nm,0.8s,baz=197,slow=3.8,SNR=8.0
comp=Z,7.8nm,0.7s
LZDM Lanzhou Array 45.80 341 P **P** **23 06 51.5 +0.3**
comp=Z,1.3nm,0.3s,baz=151,slow=11,SNR=6.1
comp=Z,1.3nm,0.3s
JGF Kuroka 45.82 20 P **P** **23 06 49.8 -1.2**
LZH Lanzhou 45.87 342 *e*P **P** **23 06 52.0 +0.5**
LZH pP pP 23 08 13.0 +0.1
LZH sP sP 23 08 58.3 -1.2
LZH pmax pmax
comp=Z,23nm,1.2s
LSA Lhasa 46.17 324 P **P** **23 06 51.5 -2.8**
LSA pmax pmax
comp=Z,28nm,0.7s
LSA Lhasa 46.17 324 P **P** **23 06 54.4 +0.1**
LSA IAmb IAmb 23 06 56.0
comp=Z,21nm,0.7s
MAJO Matsushiro 46.96 20 **P** **23 06 57.8 -1.8**
MAJO IAmb IAmb 23 06 58.8
comp=Z,13nm,0.8s
MAJO Matsushiro 46.96 20 P **P** **23 06 58.4 -1.3**
MJAR Matsushiro Arr 46.96 20 **P** **23 06 57.5 -2.2**
MJAR Matsushiro Arr 46.96 20 P **P** **23 06 57.9 -1.7**
comp=Z,12nm,0.8s,baz=194,slow=8.1,SNR=33
comp=Z,12nm,0.8s
MJB9 Matsu-Tunnel 46.96 20 P **P** **23 06 57.9 -1.8**
DZM Mont Dzumac 47.01 113 P **P** **23 07 01.3 +0.8**
comp=Z,12nm,1.0s,baz=298,slow=16,SNR=1.6
comp=Z,12nm,1.0s
BJT Baijiatuau 47.34 356 P **P** **23 07 01.5 -1.0**
BJT IAmb IAmb 23 07 02.4
comp=Z,21nm,0.5s
BJT Baijiatuau 47.34 356 P **P** **23 07 02.5 +0.1**
BJI Beijing 47.36 356 P **P** **23 07 02.0 -0.6**
BJI PcP **PcP** **23 08 26.5 +0.9**
BJI pmax pmax
comp=Z,14nm,0.5s
EVN Everest 47.60 319 **P** **23 07 05.4 -0.1**
EVN IAmb IAmb 23 07 06.5
comp=Z,26nm,0.8s
JSD Sado 48.33 19 P **P** **23 07 08.8 -1.2**
JSD IAmb IAmb 23 07 09.6
comp=Z,30nm,0.7s
HHC Hu-ho-hao-te 48.66 351 *e*P **P** **23 07 14.3 +1.7**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,86nm,4.5s
JMM Marumori 49.06 22 P **P** **23 07 14.0 -1.5**
JMM IAmb IAmb 23 07 19.2
comp=Z,22nm,0.9s
JMM Marumori 49.06 22 P **P** **23 07 15.0 -0.4**
GTA Gaotai 50.22 340 *e*P **P** **23 07 25.5 +1.3**
GTA pmax pmax
comp=Z,25nm,0.9s
XLT XiLinHaoTe 51.21 356 *e*P **P** **23 07 31.3 -0.1**
XLT PcS PcS 23 12 22.0 -16
XLT S **S** **23 14 14.0 -3.5**
XLT pmax pmax
comp=Z,27nm,0.8s
XLT pmax pmax
comp=Z,76nm,4.2s
USRK Ussuriysk Ar. 52.52 11 P **P** **23 07 39.9 -0.8**
comp=Z,9.8nm,0.6s,baz=199,slow=7.2,SNR=20
comp=Z,9.8nm,0.6s
MDJ Mudanjiang 52.52 9 P **P** **23 07 40.5 -0.3**
MDJ pmax pmax
comp=Z,37nm,0.8s
MDJ Mudanjiang 52.52 9 P **P** **23 07 39.5 -1.2**
MDJ IAmb IAmb 23 07 41.1
comp=Z,24nm,0.8s
MDJ Mudanjiang 52.52 9 P **P** **23 07 40.5 -0.3**
BNX BinXian 53.34 6 ⇑P **P** **23 07 45.3 -1.3**
BNX pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 56.23 350 **P** **23 08 07.1 -0.2**
ULN IAmb IAmb 23 08 08.5
comp=Z,28nm,1.2s
SONM Songino Array 56.32 349 **P** **23 08 07.8 -0.1**
SONM IAmb IAmb 23 08 08.9
comp=Z,34nm,1.2s
SONM Songino Array 56.32 349 P **P** **23 08 08.0 +0.1**
comp=Z,12nm,0.5s,baz=170,slow=7.8,SNR=63
comp=Z,12nm,0.5s
HIA Hailar 56.45 360 P **P** **23 08 07.8 -0.8**
HIA Hailar 56.45 360 P **P** **23 08 08.4 -0.2**
HILR Hailar Array B 56.74 360 P **P** **23 08 10.6 -0.1**
comp=Z,20nm,0.5s,baz=185,slow=9.1,SNR=32
comp=Z,20nm,0.5s
LBZ Lake Benmore 56.99 139 P **P** **23 08 12.5 0.0**
RPZ Rata Peaks 57.29 138 **P** **23 08 15.1 +0.5**
MRNZ Matariki Terra 57.58 135 P **P** **23 08 17.5 +0.9**
WMQ Urumqi 58.79 333 *e*P **P** **23 08 25.8 +0.9**
WMQ pmax pmax
comp=Z,19nm,0.9s
BKZ Black Stump Fm 59.58 131 P **P** **23 08 30.4 +0.1**
BKZ IAmb IAmb 23 08 31.9
comp=Z,34nm,1.2s
NIL Nilore 60.26 316 **P** **23 08 33.6 -1.3**
NIL IAmb IAmb 23 08 34.4
comp=Z,17nm,0.6s
TLY Talaya 60.53 348 P **P** **23 08 36.1 -0.2**
TLY IAmb IAmb 23 08 37.6
comp=Z,25nm,0.9s
KSH Kashi 61.95 322 P **P** **23 08 46.0 -0.1**
KSH pmax pmax
comp=Z,25nm,0.7s
TARG Taragay, Kyrgy 62.30 325 **P** **23 08 48.5 -0.2**
PRZ Przheval'sk 62.47 326 **P** **23 08 50.2 +0.6**
PRZ IAmb IAmb 23 08 51.3
comp=Z,15nm,1.0s
MKAR Makanchi Array 63.53 332 P **P** **23 08 56.1 0.0**
comp=Z,20nm,0.6s,baz=146,slow=7.7,SNR=209
comp=Z,20nm,0.6s
MAKZ Makanchi 63.69 332 **P** **23 08 56.6 -0.5**
MAKZ IAmb IAmb 23 08 57.8
comp=Z,18nm,1.2s
KBL Kabul 63.69 314 **P** **23 08 56.7 -0.9**
KBL IAmb IAmb 23 08 57.5
comp=Z,18nm,0.8s
BOOM Boomskoye usch 63.85 325 **P** **23 08 58.0 -0.4**
BOOM IAmb IAmb 23 08 59.2
comp=Z,11nm,0.9s
TKM2 Tokmak 2 64.32 325 P **P** **23 09 01.2 -0.3**
SNR=6.7
UCH Uchtor 64.51 324 P **P** **23 09 03.0 -0.1**
SNR=7.8
DRK Karamyk 64.52 320 P **P** **23 09 02.6 -0.3**
DRK IAmb IAmb 23 09 03.8
comp=Z,19nm,0.7s
KBK Karagaybulak 64.52 325 P **P** **23 09 03.1 +0.3**
SNR=7.4
AAK Ala-Archa 64.77 324 **P** **23 09 04.0 -0.3**
AAK IAmb IAmb 23 09 05.3
comp=Z,8.4nm,0.8s
ARSB Arslanbob 64.86 323 **P** **23 09 04.5 -0.5**
USP Ospenovka 65.16 325 P **P** **23 09 06.2 -0.4**
SNR=12
GAR Garm 65.20 319 **P** **23 09 06.4 -0.7**
EKS2 Erkin-Say 65.20 324 P **P** **23 09 06.7 -0.3**
SNR=9.3
CHGR Chuyangaron 65.77 318 **P** **23 09 09.6 -1.0**
KK31 Karatay Array 67.39 323 **P** **23 09 19.6 -1.0**
KKAR Karatay Array 67.39 323 **P** **23 09 19.4 -1.2**
ZAA0 Zalesovo Array 67.94 338 **P** **23 09 22.6 -1.1**
ZALV Zalesovo Beam 67.94 338 P **P** **23 09 22.9 -0.8**
comp=Z,45nm,0.5s,baz=139,slow=4.9,SNR=244
comp=Z,45nm,0.5s
KURBB Kurchatov Arra 68.02 333 P **P** **23 09 23.9 -0.4**
comp=Z,4.5nm,0.5s,baz=138,slow=4.8,SNR=89
comp=Z,4.5nm,0.5s
KURK Kurchatov 68.04 333 **P** **23 09 23.9 -0.5**
KURK IAmb IAmb 23 09 25.0
comp=Z,18nm,0.9s
PEA0B Petropavlovsk- 68.25 23 P **P** **23 09 25.5 -0.1**
PETK Petropavlovsk- 68.25 23 P **P** **23 09 25.5 -0.1**
PETK Petropavlovsk- 68.25 23 P **P** **23 09 26.1 +0.4**
comp=Z,18nm,0.9s,baz=201,slow=2.3,SNR=16
comp=Z,18nm,0.9s
YAK Yakutsk 69.66 5 **P** **23 09 32.5 -1.4**
MAW Mawson 71.04 200 P **P** **23 09 44.1 +1.9**
comp=Z,3.4nm,0.9s,baz=39,slow=11,SNR=4.2
comp=Z,3.4nm,0.9s
MA2 Magadan 71.15 16 P **P** **23 09 42.8 -0.1**
VOI Vohitsoka 71.72 249 P **P** **23 09 47.0 -0.3**
VNDA Vanda 73.38 171 **P** **23 09 56.7 +1.0**
VNDA Vanda 73.38 171 P **P** **23 09 56.8 +1.0**
comp=Z,1.4nm,0.4s,baz=315,slow=6.6,SNR=25
comp=Z,1.4nm,0.4s
VNDA Vanda 73.38 171 P **P** **23 09 56.6 +0.9**
BVAR Borovoye Array 73.39 331 P **P** **23 09 55.7 -0.5**
comp=Z,9.6nm,0.8s,baz=125,slow=6.6,SNR=34
comp=Z,9.6nm,0.8s
AB31 Akbulak array 76.86 324 **P** **23 10 15.1 -0.7**
AB31 IAmb IAmb 23 10 16.1
comp=Z,18nm,1.2s
ABKAR Akbulak array 76.86 324 **P** **23 10 15.1 -0.7**
RAYN Ar Rayn 78.91 296 **P** **23 10 27.2 -0.4**
TIXI Tiksi 79.13 3 **P** **23 10 26.6 -1.0**
TIXI IAmb IAmb 23 10 27.3
comp=Z,12nm,0.8s
ARTI Arti 81.06 330 **P** **23 10 36.8 -1.3**
ARTI IAmb IAmb 23 10 37.7
comp=Z,23nm,1.4s
QSPA South Pole Qui 82.56 180 P **P** **23 10 48.4 +2.5**
KMBO Kilima Mbogo 82.66 270 P **P** **23 10 48.9 +1.2**
comp=Z,1.1nm,0.4s,baz=108,slow=16,SNR=3.0
comp=Z,1.1nm,0.4s
GURO Guroymak-BITLI 85.27 310 **P** **23 11 00.3 +0.3**
KBZ Khabaz 85.87 315 P **P** **23 11 02.7 +0.1**
comp=Z,11nm,0.8s,baz=116,slow=3.7,SNR=18
comp=Z,11nm,0.8s
KOPT Kop Dagi 86.76 311 P **P** **23 11 07.8 +0.5**
KOPT IAmb IAmb 23 11 12.0
comp=Z,11nm,1.0s
ARPR Arapgir-MALATY 88.21 310 P **P** **23 11 13.8 -0.2**
ARPR IAmb IAmb 23 11 15.7
comp=Z,16nm,1.2s
MMAI Mount Meron Ar 89.49 303 P **P** **23 11 21.0 +1.0**
comp=Z,1.7nm,0.6s,baz=94,slow=2.5,SNR=5.7
comp=Z,1.7nm,0.6s
BOSA Boshof 90.63 241 P **P** **23 11 26.0 +0.5**
comp=Z,1.1nm,0.5s,baz=110,slow=7.2,SNR=1.6
comp=Z,1.1nm,0.5s
BRTR Keskin Array B 91.90 310 P **P** **23 11 29.8 -1.4**
comp=Z,2.4nm,0.9s,baz=104,slow=6.1,SNR=10
comp=Z,2.4nm,0.9s
SNAA Sanae 92.77 195 P **P** **23 11 34.8 +0.5**
SNAA Sanae 92.77 195 P **P** **23 11 34.9 +0.5**
comp=Z,1.2nm,0.7s,baz=177,slow=2.8,SNR=15
comp=Z,1.2nm,0.7s
BELA Belgrano 2 93.67 185 P **P** **23 11 38.3 0.0**
BELA IAmb IAmb 23 12 17.7
comp=Z,3.5nm,1.0s
AKASG Malin Array Be 96.18 320 P **P** **23 11 48.6 -1.5**
comp=Z,1.2nm,0.6s,baz=81,slow=4.3,SNR=5.5
comp=Z,1.2nm,0.6s
FINES FINESS Array B 98.35 331 P **P** **23 11 58.8 -0.8**
comp=Z,1.5nm,0.7s,baz=146,slow=1.0,SNR=3.6
FINES PKiKP **PKiKP** **23 16 29.2 -0.1**
comp=Z,4.9nm,1.1s,baz=101,slow=2.8,SNR=4.3
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 98.48 339 P Pdif 23 12 00.5 +0.4
comp=Z,2.5nm,0.9s,baz=82,slow=4.2,SNR=1.9
comp=Z,2.5nm,0.9s
YKA Yellowknife Ar 112.36 24 PKiKP **PKiKP** **23 16 54.7 -0.6**
comp=Z,1.4nm,0.7s,baz=301,slow=2.5,SNR=6.0
EKA Eskdalemuir Ar 114.54 328 PKP **PKiKP** **23 16 59.8 +0.1**
comp=Z,0.2nm,0.3s,baz=42,slow=3.0,SNR=1.6
J05D Fort Rock, OR 115.86 45 PKPdf **PKiKP** **23 17 03.2 +0.4**
TORD Torodi Ar. Bea 119.15 281 PKP **PKiKP** **23 17 09.8 0.0**
comp=Z,2.9nm,0.3s,baz=85,slow=2.5,SNR=1.7
NVAR Mina Array Bea 119.26 50 **PKPdf** **23 17 09.2 -0.4**
NVAR Mina Array Bea 119.26 50 PKP **PKiKP** **23 17 10.1 +0.5**
comp=Z,1.0nm,0.7s,baz=239,slow=1.5,SNR=5.3
HLID Hailey 120.51 43 **PKPdf** **23 17 11.7 -0.1**
ESDC Sonseca Array 120.61 312 PKP **PKPdf** **23 17 11.4 -0.5**
comp=Z,0.8nm,0.8s,baz=18,slow=3.2,SNR=7.1
ELK Elko 120.87 47 **PKPdf** **23 17 12.2 -0.4**
ELK Elko 120.87 47 PKP **PKiKP** **23 17 13.1 +0.3**
comp=Z,2.8nm,0.9s,baz=314,slow=4.1,SNR=7.3
EGMT Eagleton 121.69 37 **PKPdf** **23 17 13.1 -0.7**
PFO Pinyon Flats O 121.87 55 PKP **PKiKP** **23 17 15.4 +0.6**
comp=Z,3.3nm,0.8s,baz=360,slow=2.9,SNR=4.1
DBIC Dimbokro 125.30 273 **PKPdf** **23 17 21.1 -0.4**
DBIC Dimbokro 125.30 273 PKP **PKPdf** **23 17 21.6 +0.1**
comp=Z,2.8nm,0.5s,baz=113,slow=3.6,SNR=6.1
ANMO Albuquerque 129.38 50 PKP **PKiKP** **23 17 29.7 -0.1**
comp=Z,1.4nm,0.7s,baz=285,slow=3.9,SNR=4.1
MNTX Cornudas Mount 131.37 54 **PKiKP** **23 17 33.5 -0.2**
TXAR Lajitas Array 133.55 56 PKPdf **PKPdf** **23 17 37.3 +0.4**
TXAR Lajitas Array 133.55 56 PKP **PKiKP** **23 17 38.0 -0.2**
comp=Z,1.6nm,0.8s,baz=321,slow=3.2,SNR=4.5
HRV Adam Dziewonsk 143.60 14 PKPdf PKPbc 23 17 53.4 +0.5
KSCT Kent School, K 143.81 17 PKPbc 23 17 53.8 +0.1
W50A Signal Mountai 143.89 36 PKPab 23 17 53.6 -0.6
AC06 Mina Casimiro 144.00 164 PKPbc PKPbc 23 17 55.1 +0.3
FPAL Fort Paine 144.16 38 PKPbc 23 17 54.2 -0.9
LRAL Lakeview Retre 144.29 41 PKPbc 23 17 55.0 -0.5
TKL Tuckaleechee C 144.45 34 PKPbc 23 17 55.6 -0.4
TKL Tuckaleechee C 144.45 34 PKP PKPbc 23 17 55.9 -0.1
comp=Z,62nm,0.6s,baz=90,slow=1.0,SNR=116
ITAB Concordia 144.71 192 PKPbc **PKPab** **23 17 57.3 0.0**
SDMD Soldier's Deli 144.74 23 PKPbc 23 17 56.0 -0.7
AC01 Pan de Azucar 145.07 163 PKPdf **PKPdf** **23 17 57.7 -0.1**
Y52A Lilburn 145.56 37 **PKPbc** **23 17 59.2 -0.2**
152A Waverly Hall 145.98 39 **PKPbc** **23 18 00.4 -0.3**
CPUP Villa Florida 146.34 184 **PKPbc** **23 18 01.8 -0.1**
CPUP Villa Florida 146.34 184 PKPbc **PKPbc** **23 18 02.6 +0.7**
comp=Z,2.1nm,0.9s,baz=360,slow=4.3,SNR=12
JSC Jenkinsville 146.85 33 **PKPbc** **23 18 02.5 -0.5**
PB03 IPOC Station P 149.19 162 PKPbc **PKPbc** **23 18 09.5 -0.1**
LPAZ La Paz 155.10 161 PKPab **PKPab** **23 18 42.0 +0.9**
comp=Z,4.5nm,0.8s,baz=181,slow=4.5,SNR=9.7
RUSC La Rusia 166.92 96 **PKPdf** **23 18 25.1 -1.6**

BJI ***30*** *22:59:07.3, 10.°18S×162.°02E, h11km, mB5.2/10, mb4.7/33, Ms5.3/1*
NOU ***30*** *22:59:12.8, 10.°31S×161.°43E, h14km, mb4.5/8, Solomon Islands*
NEIC ***30*** *22:59:16.3±1.3, 10.°42S±0.°08×161.°28E±0.°08, h48km±7km, mb5.0/57, Error ellipse: s-maj=13.4km s-min=8.6km az=224.0*
IDC ***30*** *22:59:17.3±2.1, 10.°44S×161.°18E, h63km±16km, mb4.4/21, mbtmp4.6/23, MS3.9/39, Error ellipse: s-maj=19.8km s-min=13.4km az=74.0*
ISC 30 22:59:17.2±0.3, 10.°49S±0.°05×161.°21E±0.°06, h62km, n369, σ1§14/344, mb4.9/61, 5C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.62**	**310**	P	**Pn**	**22 59 41.3**	**-2.2**
	2μm,0.4s,baz=216,slow=1.5,SNR=49						
HNR				S	**Sn**	**23 00 02.7**	**-0.9**
	6μm,0.3s,baz=48,slow=23,SNR=33						
HNR	**Honiara**	**1.62**	**310**	P	**Pn**	**22 59 41.4**	**-2.2**
HNR	**Honiara**	**1.62**	**310**	S	**Sn**	**23 00 04.3**	**+0.7**
SAVO	**Savo Central**	**1.91**	**314**	P	**Pn**	**22 59 45.4**	**-2.1**
SANVU	**Saraoutou**	**7.64**	**131**		**Pn**	**23 01 03.0**	**-2.9**
SANVU	**Saraoutou**	**7.64**	**131**	P	**Pn**	**23 01 03.7**	**-2.2**
SANVU	**Saraoutou**	**7.64**	**131**	S	**Sn**	**23 02 29.9**	**-1.2**
DZM	**Mont Dzumac**	**12.56**	**157**	P	**Pn**	**23 02 14.1**	**+0.9**
	6.8nm,0.7s,baz=331,slow=23,SNR=12						
DZM				S	**Sn**	**23 04 26.5**	**-5.1**
	8.7nm,1.0s,baz=112,slow=22,SNR=1.9						
MARNC	**Mare, Loyalty**	**12.74**	**150**	Pn	**Pn**	**23 02 14.3**	**-1.3**
MARNC	**Mare, Loyalty**	**12.74**	**150**	P	**Pn**	**23 02 14.5**	**-1.1**
	0.3nm,2.2s						
PMG	**Port Moresby**	**13.88**	**273**		**Pn**	**23 02 28.1**	**-3.0**
PMG	**Port Moresby**	**13.88**	**273**	P	**Pn**	**23 02 31.1**	**+0.1**
	6.1nm,0.5s,baz=119,slow=7.0,SNR=3.2						
PMG				LR	LR	23 07 32.8	
	comp=Z,448nm,21.3s,baz=108,slow=36						
PATS	**Pohnpei**	**17.45**	**350**		**Pn**	**23 03 14.4**	**-2.0**
PATS				IAmb	IAmb	23 03 18.8	
	comp=Z,202nm,1.3s						
EIDS	**Eidsvold**	**17.64**	**212**		**P**	**23 03 20.2**	**+1.2**
EIDS	**Eidsvold**	**17.64**	**212**	P	**P**	**23 03 21.0**	**+2.0**
COEN	**Coen**	**17.96**	**257**		**Pn**	**23 03 23.8**	**+1.1**
COEN	**Coen**	**17.96**	**257**	P	**Pn**	**23 03 25.9**	**+3.2**
ARMA	**Armidale**	**21.75**	**203**		**P**	**23 04 03.9**	**+0.3**
JAY	**Jayapura**	**21.84**	**290**	P	**P**	**23 04 04.6**	**-0.2**
	comp=Z,8.5nm,0.6s,baz=27,slow=10,SNR=4.1						
	comp=Z,8.5nm,0.6s						
SMPI	**Sarmi**	**23.89**	**289**	P	**P**	**23 04 28.2**	**+2.9**
	comp=Z,45nm,0.9s						
INKA	**Innaminka**	**25.78**	**225**	P	**P**	**23 04 42.8**	**+0.4**
WB0	**Warramunga Arr**	**27.44**	**247**	P	**P**	**23 04 57.1**	**-0.4**
WB0				IAmb	IAmb	23 04 59.0	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**27.54**	**247**	P	**P**	**23 04 57.4**	**-1.0**
WRA	**Warramunga Arr**	**27.54**	**247**	P	**P**	**23 04 55.4**	**-3.0**
	comp=Z,6.7nm,0.6s,baz=73,slow=9.0,SNR=8.1						
WRA				LR	LR	23 15 34.1	
	comp=Z,302nm,18.4s,baz=56,slow=36						
STKA	**Stephens Creek**	**27.96**	**218**	LR	LR	23 16 04.5	
	comp=Z,586nm,19.4s,baz=37,slow=36						
RKPI	**Ransiki, Papua**	**28.30**	**287**	P	**P**	**23 05 02.7**	**-2.4**
GUMO	**Guam**	**28.90**	**326**	LR	LR	23 15 39.3	
	comp=Z,108nm,20.8s,baz=144,slow=34						
ASAR	**Alice Springs**	**29.14**	**240**	LR	LR	23 16 56.9	
	comp=Z,758nm,18.0s,baz=72,slow=36						
TOO	**Toolangi**	**30.45**	**205**	P	**P**	**23 05 24.8**	**+0.8**
URZ	**Urewera**	**31.12**	**155**	LR	LR	23 16 48.7	
	comp=Z,181nm,18.9s,baz=334,slow=34						
BKZ	**Black Stump Fm**	**31.65**	**157**	P	**P**	**23 05 34.8**	**+0.2**
BKZ				IAmb	IAmb	23 05 56.3	
	comp=Z,80nm,1.8s						
BBOO	**Buckleboo**	**32.09**	**222**		**P**	**23 05 38.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**35.24**	**254**	P	**P**	**23 06 06.3**	**+0.4**
	comp=Z,11nm,0.3s,baz=85,slow=11,SNR=1.9						
FITZ				LR	LR	23 19 48.3	
	comp=Z,138nm,21.4s,baz=59,slow=35						
	comp=Z,11nm,0.3s						
BATI	**Baumata**	**36.92**	**267**	P	**P**	**23 06 20.5**	**0.0**
	comp=Z,18nm,0.4s,baz=124,slow=3.6,SNR=2.2						
BATI				LR	LR	23 21 37.2	
	comp=Z,145nm,19.9s,baz=124,slow=36						
	comp=Z,18nm,0.4s						
LUWI	**Luwuk**	**39.33**	**281**	P	**P**	**23 06 40.5**	**-0.2**
LUWI				IAmb	IAmb	23 07 06.7	
	comp=Z,29nm,0.9s						
KAPI	**Kappang**	**41.41**	**274**	LR	LR	23 25 07.8	
	comp=Z,58nm,20.2s,baz=99,slow=38						
JAGI	**Jajag, Banyuwa**	**46.42**	**268**		**P**	**23 07 36.5**	**-1.6**
JHJ	**Hachijo jima 2**	**47.93**	**336**	LR	LR	23 30 22.0	
	comp=Z,74nm,18.0s,baz=120,slow=39						
PPT	**Papeete**	**48.16**	**104**	LR	LR	23 23 27.6	
	comp=Z,80nm,21.3s,baz=356,slow=30						
PPT2	**Papeete2**	**48.16**	**104**	*e*LQ	LQ	23 19 21.7	
	comp=Z,4μm,34.2s						
PPT2				*e*LR	LR	23 21 31.8	
	comp=Z,136nm,22.8s						
PPT2				*e*LR	LR	23 21 32.2	
	comp=Z,132nm,24.2s						
TBI	**Tubuai**	**48.67**	**112**	*e*LQ	LQ	23 19 44.8	
	comp=Z,1μm,25.0s						
UGM	**Wanagama**	**50.06**	**268**	P	**P**	**23 08 04.9**	**-1.3**
INU	**Inuyama**	**51.01**	**334**	P	**P**	**23 08 11.8**	**-1.1**
INU				IAmb	IAmb	23 08 13.9	
	comp=Z,15nm,0.9s						
JGF	**Kuroka**	**51.08**	**335**	P	**P**	**23 08 12.5**	**-1.0**
JGF				IAmb	IAmb	23 08 20.7	
	comp=Z,51nm,1.7s						
JMN	**Monobe**	**51.08**	**331**	P	**P**	**23 08 12.8**	**-0.8**
MJAR	**Matsushiro Arr**	**51.55**	**336**	P	**P**	**23 08 15.4**	**-1.6**
MJAR	**Matsushiro Arr**	**51.55**	**336**	P	**P**	**23 08 14.9**	**-2.0**
	comp=Z,3.7nm,0.6s,baz=161,slow=8.3,SNR=12						
MJAR				LR	LR	23 31 49.5	
	comp=Z,58nm,18.9s,baz=164,slow=38						
	comp=Z,3.7nm,0.6s						
MAJO	**Matsushiro**	**51.55**	**336**		**P**	**23 08 14.1**	**-2.9**
MAJO				IAmb	IAmb	23 08 18.5	
	comp=Z,9.9nm,0.8s						
MJB9	**Matsu-Tunnel**	**51.55**	**336**	P	**P**	**23 08 14.1**	**-2.9**
MJB9				IAmb	IAmb	23 08 18.5	
	comp=Z,9.5nm,0.8s						
YULB	**Yu-li**	**51.56**	**311**	P	**P**	**23 08 17.6**	**+0.3**
NACB	**Ninganchiao**	**51.80**	**312**	P	**P**	**23 08 18.6**	**-0.5**
TPUB	**Ta-pu**	**52.00**	**311**	P	**P**	**23 08 21.1**	**+0.5**
SSLB	**Suanglung**	**52.04**	**311**	P	**P**	**23 08 20.9**	**0.0**
JNU	**Nakatsue**	**52.12**	**328**	P	**P**	**23 08 20.8**	**-0.5**
JNU				IAmb	IAmb	23 08 27.7	

comp=Z,20nm,1.1s
LEM Lembang 53.05 269 P P 23 08 29.1 +0.3
comp=Z,21nm,0.6s,baz=187,slow=13,SNR=4.4
comp=Z,21nm,0.6s
JTM Tenmabayashi 54.30 341 P P 23 08 36.3 -0.9
JKA Kamikawa-asahi 56.91 344 P P 23 08 55.5 -0.3
ASAJ Asahikawa 56.91 344 LR LR 23 30 51.7
comp=Z,221nm,21.5s,baz=140,slow=33
KSRS Korea Array 56.99 329 P P 23 08 56.1 -0.4
comp=Z,3.7nm,0.7s,baz=146,slow=7.0,SNR=8.9
comp=Z,3.7nm,0.7s
KSAR Wonju Array Be 57.00 329 P P 23 08 56.4 -0.2
TAOE Nuku Hiva Isla 57.76 94 eLR LR 23 25 55.3
comp=Z,175nm,27.7s
NJ2 Nanjing 58.55 318 eP P 23 09 08.5 +0.9
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
USRK Ussuriysk Ar. 60.54 336 P P 23 09 20.6 -0.4
comp=Z,12nm,0.9s,baz=138,slow=6.5,SNR=9.6
comp=Z,12nm,0.9s
RKT Rikitea 61.96 111 eLR LR 23 27 53.7
comp=Z,13µm,37.8s
CN2 Changchun 63.05 332 eP P 23 09 41.5 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 63.41 358 P P 23 09 40.3 +0.2
PETK Petropavlovsk- 63.41 358 P P 23 09 40.5 +0.4
comp=Z,6.4nm,0.8s,baz=177,slow=6.6,SNR=5.4
PETK LR LR 23 33 03.2
comp=Z,99nm,21.8s,baz=151,slow=32
comp=Z,6.4nm,0.8s
BNX BinXian 63.69 334 ⇓P P 23 09 41.3 -0.8
BNX pmax pmax
comp=Z,14nm,0.6s
SHEM Shemya Is, Ala 63.93 9 LR LR 23 31 24.0
comp=Z,61nm,20.6s,baz=143,slow=30
LYN LuoYang 64.32 316 P P 23 09 48.8 +2.3
LYN pmax pmax
comp=Z,14nm,0.9s
HNS HongShan 64.55 320 ⇑P P 23 09 50.0 +2.2
HNS pmax pmax
comp=Z,7.0nm,1.0s
KIWB Kanaga Island 64.84 15 P 23 09 49.8 +0.4
XAN Xi'an 66.49 314 P P 23 10 00.5 -0.1
XAN pmax pmax
comp=Z,14nm,0.6s
VNDA Vanda 67.02 180 P P 23 10 03.0 -0.1
comp=Z,3.9nm,0.8s,baz=329,slow=6.1,SNR=24
VNDA LR LR 23 33 37.6
comp=Z,41nm,21.9s,baz=346,slow=31
comp=Z,3.9nm,0.8s
CMAR Chiang Mai Arr 67.82 295 P P 23 10 09.2 0.0
CMAR Chiang Mai Arr 67.82 295 P P 23 10 09.1 -0.1
comp=Z,0.8nm,0.3s,baz=109,slow=6.0,SNR=5.9
comp=Z,0.8nm,0.3s
CCD Concordia, Ant 67.95 190 P P 23 10 09.9 +0.3
PZH PanZhiHua 68.44 304 P P 23 10 15.3 +2.2
HHC Hu-ho-hao-te 68.57 322 eP P 23 10 19.0 +5.3
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,79nm,5.0s
BTO Baotou 69.38 321 eP P 23 10 23.3 +4.6
BTO pmax pmax
comp=Z,6.0nm,0.6s
BTO pmax pmax
comp=Z,300nm,5.4s
HIA Hailar 69.75 332 P P 23 10 20.4 -0.2
HIA IAmb IAmb 23 10 21.6
comp=Z,18nm,1.3s
HILR Hailar Array B 69.95 333 P P 23 10 21.3 -0.6
comp=Z,2.0nm,0.4s,baz=132,slow=8.8,SNR=3.9
HILR LR LR 23 38 52.9
comp=Z,79nm,21.8s,baz=15,slow=34
comp=Z,2.0nm,0.4s
MA2 Magadan 70.33 354 LR LR 23 38 37.0
comp=Z,52nm,20.6s,baz=144,slow=34
LZH Lanzhou 71.12 314 eP P 23 10 31.0 +1.5
LZH pmax pmax
comp=Z,17nm,1.3s
SPIA Saint Paul Isl 71.41 16 P P 23 10 31.6 +1.1
baz=210
FALS False Pass 71.57 21 P P 23 10 32.4 +0.9
baz=217
S12K Black Hills 72.72 21 P P 23 10 38.0 -0.4
CHNA Chernabura Isl 72.93 22 P P 23 10 40.1 +0.5
baz=220
SEY Seymchan 73.51 356 LR LR 23 40 02.4
comp=Z,88nm,21.2s,baz=162,slow=33
CHIR Chirikof Islan 75.19 24 P P 23 10 54.1 +1.2
baz=224
M11K Mekoryuk 75.25 16 P P 23 10 54.0 +1.0
baz=213
ULN Ulaanbaatar 75.28 326 P 23 10 53.7 0.0
ULN Ulaanbaatar 75.28 326 P P 23 10 53.9 +0.2
ULN PcP PcP 23 11 06.7 -0.1
GTA Gaotai 75.49 315 eP P 23 10 57.8 +2.7
GTA pmax pmax
comp=Z,9.0nm,0.7s
SONM Songino Array 75.63 325 P 23 10 55.7 0.0
SONM IAmb IAmb 23 11 00.5
comp=Z,8.9nm,0.7s
SONM Songino Array 75.63 325 P P 23 10 55.7 0.0
comp=Z,8.3nm,0.5s,baz=141,slow=5.3,SNR=29
SONM LR LR 23 45 58.1
comp=Z,43nm,18.8s,baz=110,slow=37
comp=Z,8.3nm,0.5s
R16K Pilot Point 75.74 21 P P 23 10 56.6 +0.7
baz=222
O14K Tigyukauivet M 75.78 19 P P 23 10 57.1 +1.0
baz=218
M13K Dall Lake 76.08 17 P P 23 10 58.7 +1.0
baz=216
N14K Kuskokwak Cree 76.18 18 P P 23 10 59.2 +0.8
baz=218
O15K Ungalikthiuk R 76.19 19 P P 23 10 59.2 +0.8
baz=220
R17L Mt. Peulik Vol 76.23 22 P P 23 10 59.8 +1.1
baz=223
PLK4 Peulik 4 76.23 22 P 23 10 58.5 -0.3
PLK4 IAmb IAmb 23 11 08.5
comp=Z,45nm,1.3s
SII Sitkinak Islan 76.29 24 P P 23 10 59.7 +0.6
baz=225
YAK Yakutsk 76.36 345 LR LR 23 41 43.8
comp=Z,109nm,22.0s,baz=141,slow=33
P16K Nushagak River 76.69 20 P P 23 11 02.0 +0.8
baz=221
M14K Bethel 76.76 18 P P 23 11 02.4 +0.8
baz=217
N15K Kwethluk River 76.87 19 P P 23 11 02.6 +0.3
baz=219
GAMB Gambell 76.88 12 P P 23 11 02.8 +0.6
baz=207
R18K Karluk 76.89 23 P P 23 11 03.1 +0.7
baz=225
K13K Kusilvak Mount 76.96 16 P P 23 11 02.9 +0.2
baz=214
L14K Kuka Creek 77.02 17 P P 23 11 03.7 +0.6
baz=216
O16K Kokwok River B 77.08 20 P P 23 11 03.8 +0.3
baz=221
M15K Kasigluk River 77.10 18 P P 23 11 04.0 +0.5
baz=218
OHAK Old Harbor 77.10 23 P P 23 11 03.5 -0.1
baz=226
P17K Kvichak River 77.35 21 P P 23 11 04.7 -0.3
baz=223
Q18K Katmai Hardscr 77.46 22 P P 23 11 06.0 +0.2
baz=224,SNR=12
N16K Nishlik Lake 77.53 19 P P 23 11 07.1 +1.0
baz=220
O17K Koliganek Bris 77.55 20 P P 23 11 06.4 +0.3
baz=222
L15K Ungalak Mounta 77.64 17 P P 23 11 07.1 +0.6
baz=218
KDAK Kodiak Island 77.77 23 P 23 11 07.5 +0.1
KDAK IAmb IAmb 23 11 09.0
comp=Z,18nm,0.8s
KDAK Kodiak Island 77.77 23 LR LR 23 42 01.0
comp=Z,88nm,20.0s,baz=220,slow=33
KDAK Kodiak Island 77.77 23 P P 23 11 07.4 +0.1
baz=226
KDAK Kodiak Island 77.77 23 P P 23 11 07.3 +0.1
M16K Timber Creek 77.89 19 P P 23 11 08.6 +0.6
baz=220
P18K Big Mountain, 77.92 21 P P 23 11 08.4 +0.2
baz=224
J14K Nanvaranak Lak 77.92 16 P P 23 11 08.7 +0.7
baz=215
N17K Nushagak Hills 78.08 20 P P 23 11 10.0 +1.0
baz=222
K15K Wolf Creek Mou 78.11 17 P P 23 11 10.4 +1.3
baz=217
L16K Owhat River 78.26 18 P P 23 11 10.9 +0.9
baz=219
O18K Koktuh Hills 78.26 21 P P 23 11 10.8 +0.8
baz=224
BILL Bilibino 78.41 2 P 23 11 09.7 -1.0
BILL IAmb IAmb 23 11 12.0
comp=Z,15nm,1.0s
Q20K Shuyak Island 78.41 23 P P 23 11 11.5 +0.7
baz=226
N18K Kilae Creek 78.63 20 P P 23 11 13.2 +1.1
baz=223
M17K Holitna River 78.66 19 P P 23 11 13.2 +1.0
baz=221
O19K Port Alsworth 78.82 21 P P 23 11 14.2 +1.2
baz=224
P19K Oil Pt 78.82 22 P P 23 11 13.4 +0.3
baz=226
L17K Donlin 78.94 18 P P 23 11 15.1 +1.3
baz=220
ANM Nome 78.97 14 P P 23 11 14.2 +0.4
baz=213
J16K Anvik River 79.16 17 P P 23 11 15.7 +0.8
baz=218
N19K Bonanza Creek 79.20 20 P P 23 11 15.9 +0.6
baz=224
TNA Tin City 79.23 13 P P 23 11 16.6 +1.4
baz=211
M18K Stony River 79.24 19 P P 23 11 16.4 +0.9
baz=223
O20K Slope Mountain 79.34 22 P P 23 11 17.0 +0.9
baz=226
K17K Iditarod 79.39 18 P P 23 11 17.2 +1.1
baz=220
HOM Homer 79.41 22 P P 23 11 16.8 +0.5
baz=227
CNPM China Poot 79.47 22 P 23 11 17.1 +0.4
CNPM IAmb IAmb 23 11 18.7
comp=Z,23nm,0.9s
L18K Granite Mounta 79.50 19 P P 23 11 18.1 +1.3
baz=222
F14K Arctic Creek 79.51 13 P P 23 11 18.0 +1.2
baz=212
QSPA South Pole Qui 79.51 180 P P 23 11 19.4 +2.4
QSPA South Pole Qui 79.51 180 P P 23 11 20.7 +3.6
I17K Unalakleet 79.61 16 P P 23 11 18.6 +1.3
baz=218
J17K VABM Dome 79.68 17 P P 23 11 19.2 +1.5
baz=220
H16K Elim 79.80 15 P P 23 11 20.0 +1.6
baz=216
BRSE Bradley Lake S 79.80 23 P P 23 11 19.4 +0.9
baz=228
M19K Big River Lodg 80.02 20 P P 23 11 20.3 +0.7
baz=224
L19K White Mountain 80.06 19 P P 23 11 21.1 +1.2
baz=224,SNR=16
F15K North Star Dit 80.09 14 P P 23 11 21.0 +1.1
baz=214
N20K Mount Spurr 80.26 21 P P 23 11 21.6 +0.5
baz=226
G16K Koyuk River 80.38 15 P P 23 11 22.5 +1.1
baz=216
M20K Styx River 80.42 20 P P 23 11 22.8 +0.9
baz=225
J18K Innoko River 80.43 18 P P 23 11 22.6 +0.8
baz=222
SLKM Skilak Lake 80.51 22 P P 23 11 22.7 +0.4
SLKM IAmb IAmb 23 11 25.2
comp=Z,14nm,0.8s
SEW Seward 80.53 23 P P 23 11 23.0 +0.6
baz=229
L20K Farewell, AK 80.59 19 P P 23 11 23.4 +0.6
baz=225,SNR=11
H17K Granite Mounta 80.65 16 P P 23 11 23.8 +0.9
baz=219
SUA Susitna One 80.96 21 P P 23 11 24.6 -0.2
baz=228
RC01 Rabbit Creek A 81.07 22 P P 23 11 25.5 +0.3
baz=229
J19K Poorman 81.15 18 P P 23 11 26.2 +0.6
baz=223
K20K Telida 81.16 19 P P 23 11 26.3 +0.5
baz=224
Q23K Middleton Isla 81.31 24 P P 23 11 27.5 +0.9
baz=232
GCSA Galena City Sc 81.34 17 P P 23 11 27.6 +1.0
baz=222
PWL Port Wells 81.44 22 P 23 11 27.7 +0.4
PWL IAmb IAmb 23 11 30.0
comp=Z,22nm,1.0s
PWL Port Wells 81.44 22 P P 23 11 27.7 +0.4
baz=230
PPLA Purkeypile 81.44 20 P P 23 11 28.2 +0.8
baz=226
PMR Palmer 81.62 22 P P 23 11 28.9 +0.8
baz=229
G18K Tagagawik 81.72 16 P P 23 11 29.6 +1.0
baz=220
J20K Nowinta River 81.73 18 P P 23 11 29.7 +1.0
baz=224
KNK Knik Glacier 81.75 22 P P 23 11 30.0 +1.1
baz=230
CUT Chulitna 81.76 21 P P 23 11 29.4 +0.6
baz=228
E17K Hotham Inlet 81.87 14 P P 23 11 30.3 +0.9
baz=217
F18K Selawik 82.02 15 P P 23 11 30.9 +0.8
baz=219
H19K Roundabout Mou 82.04 16 P P 23 11 31.0 +0.8
baz=222
SML Sawmill 82.06 22 P P 23 11 30.9 +0.4
baz=230
PALK Pallekele 82.06 279 LR LR 23 51 39.0
comp=Z,24nm,19.6s,baz=98,slow=38
I20K Nagahedeneel 82.07 18 P P 23 11 31.3 +0.9
baz=224
D17K Noatak River 82.09 13 P P 23 11 31.5 +1.1
baz=215
CHUM Lake Minchumin 82.09 19 P P 23 11 31.3 +0.7
baz=226
EYAK Cordova Ski Ar 82.24 23 P P 23 11 32.4 +1.0
baz=232
M23K Glacier View 82.27 22 P P 23 11 32.5 +0.9
baz=230
KAIM Kayak Island 82.40 24 P P 23 11 32.8 +0.5
baz=234
E18K Tukpahlearik C 82.43 14 P P 23 11 33.1 +0.8
baz=218
SCM Sheep Creek Mo 82.44 22 P P 23 11 32.3 -0.2
SCM IAmb IAmb 23 14 08.6
comp=Z,19nm,1.0s
SCM Sheep Creek Mo 82.44 22 P P 23 11 33.0 +0.5
baz=231
TRF Thorofare Moun 82.45 20 P P 23 11 32.5 -0.2
baz=228,SNR=10
H20K Anotleneega Mo 82.46 17 P P 23 11 33.0 +0.5
baz=223
WAT1 Susitna Watana 82.64 21 P P 23 11 34.1 +0.5
baz=230
BPAW Bear Paw Mtn. 82.67 19 P P 23 11 34.1 +0.5
baz=227
F19K Shaleruckik Mo 82.67 15 P P 23 11 34.2 +0.7
baz=220
C17K DeLong Mountai 82.70 13 P P 23 11 34.5 +0.8
baz=215
KLU Klutina 82.75 23 P P 23 11 34.6 +0.4
baz=232
WAT6 Susitna Watana 82.77 21 P P 23 11 34.8 +0.5
baz=230
BMRM Bremner River 82.94 23 P P 23 11 35.6 +0.4
baz=233
M24K Tolsona, Glenn 83.04 22 P P 23 11 36.3 +0.7
baz=232
I21K Tanana 83.10 18 P P 23 11 36.7 +0.9
baz=226
MCK McKinley 83.10 20 P P 23 11 36.0 +0.1
baz=229,SNR=20
IMAR Indian Mountai 83.14 17 P P 23 11 36.2 +0.2
H21K Melozitna Rive 83.18 17 P P 23 11 37.3 +1.0
baz=225
BWN Browne 83.21 20 P P 23 11 36.5 +0.1
BWN IAmb IAmb 23 11 37.7
comp=Z,30nm,1.0s
DHY Denali Highway 83.21 21 P P 23 11 37.5 +0.8
baz=231
C18K Utukok River 83.27 13 P P 23 11 37.7 +0.9
baz=217
E19K Redstone River 83.29 15 P P 23 11 37.7 +0.9
baz=221
N25K Chitina, Valde 83.33 23 P P 23 11 37.8 +0.6
baz=233,SNR=7.1
WAX Waxell Ridge 83.34 24 P P 23 11 38.1 +0.8
WAX IAmb IAmb 23 11 40.3
comp=Z,27nm,0.9s
F20K Avaraart Lake 83.37 16 P P 23 11 38.3 +1.2
baz=222
CRQE Cirque 83.42 24 P P 23 11 38.5 +0.8
baz=235,SNR=5.2
GLB Gilahina Butte 83.53 23 P 23 11 38.8 +0.6
GLB IAmb IAmb 23 11 40.1
comp=Z,13nm,0.9s
MAW Mawson 83.55 202 P P 23 11 38.8 +0.6
comp=Z,6.1nm,0.7s,baz=96,slow=7.2,SNR=13
MAW LR LR 23 44 03.6
comp=Z,44nm,21.0s,baz=88,slow=32
comp=Z,6.1nm,0.7s
MESA MESA 83.56 25 P P 23 11 39.2 +0.7
baz=236
G21K Allakaket 83.59 17 P P 23 11 38.9 +0.6
baz=225
HARP HAARP 83.59 22 P P 23 11 38.8 +0.4
baz=233
NEA2 Nenana 83.62 19 P P 23 11 38.6 +0.2
baz=229,SNR=9.1
H22K Ishtalitna Cre 83.77 18 P P 23 11 39.9 +0.6
baz=227
MCARA McCarthy VSAT 83.81 24 P P 23 11 40.1 +0.6
baz=235,SNR=5.1
PAX Paxson 83.83 22 P P 23 11 40.1 +0.4
baz=232
D19K Kuna River 83.86 14 P P 23 11 40.1 +0.3
baz=220
I23K Minto, Yukon-K 83.89 19 P P 23 11 40.0 +0.2
baz=229
F21K Alatna River 84.10 16 P P 23 11 41.2 +0.3
baz=225
E20K Nigu River 84.15 15 P P 23 11 41.9 +0.6
baz=222
COLA College 84.20 19 P P 23 11 40.9 -0.5
COLA IAmb IAmb 23 11 42.2
comp=Z,23nm,0.8s
COLA College 84.20 19 P P 23 11 41.6 +0.2
baz=230
COLA College 84.20 19 P P 23 11 40.8 -0.6
HDA Harding Lake 84.20 20 P P 23 11 41.8 +0.3
baz=231,SNR=11
PINM Pinnacle 84.22 25 P P 23 11 42.7 +0.9
baz=237
K24K Donnelly Dome 84.23 21 P P 23 11 42.6 +1.0
baz=232,SNR=7.4
CTG Chitna Glacier 84.24 24 P P 23 11 42.4 +0.5
baz=236,SNR=5.7
H23K Yukon River 84.28 18 P P 23 11 43.0 +1.2
baz=228
D20K Etivluk River 84.39 14 P P 23 11 43.2 +0.8
baz=222
M26K Nabesna, AK 84.41 23 P P 23 11 43.5 +0.9
baz=235
G22K Bettles 84.44 17 P P 23 11 43.5 +0.9
baz=226
ILAR Eielson Array 84.45 20 P P 23 11 42.3 -0.5
ILAR Eielson Array 84.45 20 P P 23 11 42.1 -0.6
comp=Z,4.7nm,0.6s,baz=247,slow=4.7,SNR=60
ILAR LR LR 23 45 19.2
comp=Z,100nm,18.9s,baz=244,slow=33
comp=Z,4.7nm,0.6s
POKR Poker Plat Res 84.49 19 P P 23 11 43.2 +0.2
baz=230
RIDG Independent Ri 84.52 21 P P 23 11 43.7 +0.6
baz=233
O28M Mount Upton 84.61 25 P P 23 11 44.6 +0.6
baz=237
L26K Log Cabin Wild 84.64 22 P P 23 11 44.8 +1.0
baz=234,SNR=8.6
F22K John River 84.66 16 P P 23 11 44.7 +1.0
baz=226
G23K Bananza Creek 84.73 17 P P 23 11 45.2 +1.0
baz=228
H24K Noodor Dome 84.81 19 P P 23 11 45.5 +0.9
baz=230
M27K Edge Creek, AK 84.81 23 P P 23 11 45.3 +0.5
baz=236,SNR=7.1
J25K Salcha River, 84.87 20 P P 23 11 45.7 +0.8
baz=232
S31K Pelican 84.92 28 P P 23 11 46.1 +1.0
baz=241
SIT Sitka 84.92 29 P P 23 11 46.0 +0.8
baz=242
SCRK Sand Creek 84.97 21 P P 23 11 46.2 +0.7
baz=234,SNR=17
O29M Mount Kennedy 85.04 26 P P 23 11 46.8 +0.8
baz=239
YUK8 Steele Glacier 85.06 25 P P 23 11 47.0 +0.8
baz=238,SNR=12
C21K Knifeblade Rid 85.16 14 P P 23 11 47.6 +1.4
baz=223
E22K Anaktuvuk Pass 85.20 16 P P 23 11 47.6 +1.2
baz=226
L27K Beaver Creek, 85.23 23 P P 23 11 47.5 +0.8
baz=236
B20K Meade River 85.24 13 P P 23 11 47.9 +1.3
baz=221
BCAR Beaver Creek A 85.25 23 P P 23 11 47.1 +0.2
CRAG Craig 85.29 31 P P 23 11 48.2 +1.1
baz=244
YUK6 Outpost Mounta 85.46 25 P P 23 11 49.0 +0.8
baz=239
S32K Killisnoo 85.47 29 P P 23 11 48.8 +0.9
baz=243
D22K Ayikyak River 85.49 15 P P 23 11 49.0 +1.1
baz=225
YUK4 Talbot Arm 85.55 25 P P 23 11 49.7 +1.2
baz=239,SNR=12
WMQ Urumqi 85.57 316 eP P 23 11 51.0 +2.1
U33K Whale Pass 85.58 31 P P 23 11 49.0 +0.5
baz=244
PLBC Pleasant Camp 85.58 27 P P 23 11 49.2 +0.7
baz=241
P30M Million Dollar 85.65 26 P P 23 11 49.9 +1.0
baz=240
K27K Chicken 85.68 22 P P 23 11 50.3 +1.4
baz=235
E23K Chandalar 85.75 17 P P 23 11 50.4 +1.1
baz=228
HYT Haines Junctio 85.76 26 P 23 11 49.6 +0.1
HYT IAmb IAmb 23 11 52.3
comp=Z,6.7nm,1.1s
HYT Haines Junctio 85.76 26 P P 23 11 50.6 +1.0
baz=240
R32K Eaglecrest 85.87 29 P P 23 11 50.4 +0.4
baz=243
F24K Squaw Lake 85.89 17 P P 23 11 51.2 +1.2
baz=230
G25K Bearman Lake 85.96 18 P P 23 11 51.0 +0.9
baz=232
V35K Ketchikan 86.01 32 P P 23 11 51.4 +0.7
baz=245
I26K Coal Creek Min 86.04 20 P P 23 11 51.5 +0.9
baz=234
D23K Nanushuk River 86.08 16 P P 23 11 52.4 +1.7
baz=227
E24K Your Creek 86.08 17 P P 23 11 52.1 +1.2
baz=229
WRAK Wrangell Islan 86.10 31 P P 23 11 52.0 +1.0
baz=245
TOLK Toolik Lake Re 86.15 16 P P 23 11 52.8 +1.6
baz=228
M29M Somme Creek 86.20 24 P P 23 11 52.8 +1.2
baz=239
HYB Hyderabad 86.20 288 eP P 23 11 49.7 -2.9
HYB ePcP PcP 23 11 55.0 -0.1
HYB IVmB_BB 23 11 57.9
comp=Z,704nm,3.4s
O02D Mt. Diablo Mer 86.21 48 P P 23 11 52.9 +0.7
O02D IAmb IAmb 23 11 55.1
comp=Z,12nm,1.1s
N30M Aishikik Lake 86.26 25 P P 23 11 52.8 +0.9
baz=240
O30N Mendenhall 86.34 26 P P 23 11 52.9 +0.6

baz=241
A22K Sinclair Lake 86.47 13 P **P 23 11 54.3 +1.7**
baz=223
M02C Callahan 86.52 47 P **P 23 11 54.3 +0.6**
F25K Christian Rive 86.61 18 P **P 23 11 55.0 +1.5**
baz=232
L29M L29M 86.67 23 P **P 23 11 55.0 +1.2**
baz=239
BBB Bella Bella 86.68 36 LR LR 23 42 55.4
comp=Z,52nm,21.0s,baz=224,slow=30
C23K Itkillik River 86.69 15 P **P 23 11 55.3 +1.6**
baz=227
DAWY Dawson 86.69 22 **P 23 11 54.9 +1.0**
DAWY IAmb IAmb 23 11 56.2
comp=Z,13nm,1.1s
DAWY Dawson 86.69 22 P **P 23 11 55.1 +1.2**
baz=238
D24K Happy Valley 86.70 16 P **P 23 11 55.2 +1.4**
baz=229
I27K Kandik River 86.74 20 P **P 23 11 55.1 +1.0**
baz=236
G26K Porcupine Rive 86.80 19 P **P 23 11 55.6 +1.3**
baz=234
WHY Whitehorse 86.81 26 P **P 23 11 55.8 +1.1**
baz=242
N31M Braeburn, Yuko 86.82 25 P **P 23 11 55.4 +0.8**
baz=241
BMAR Burnt Mountain 86.83 18 P **P 23 11 56.2 +1.6**
P32M Atlin 86.84 28 P **P 23 11 55.6 +0.8**
baz=243
M30M Minto, Yukon 86.93 24 P **P 23 11 55.9 +0.8**
baz=240
E25K Arctic Village 86.96 17 P **P 23 11 56.4 +1.2**
baz=232
C24K Franklin Bluff 87.10 16 P **P 23 11 57.3 +1.6**
baz=229
H27K Steamboat Moun 87.12 20 P **P 23 11 57.2 +1.2**
baz=236
F26K Sheenjek River 87.13 18 P **P 23 11 57.3 +1.3**
baz=233
Q32M Nakina River 87.23 28 P **P 23 11 57.9 +1.0**
baz=244
I28M Miner Creek 87.23 21 P **P 23 11 57.7 +1.0**
baz=237
K29M Barlow Dome 87.28 23 P **P 23 11 57.9 +1.0**
baz=240
S34M Telegraph Cree 87.33 30 P **P 23 11 57.8 +0.7**
baz=246
G27K Doyon Strip 87.40 19 P **P 23 11 58.5 +1.2**
baz=236
D25K Kavik River 87.48 16 P **P 23 11 58.4 +0.8**
baz=231
M31M Drury Creek, Y 87.74 25 P **P 23 11 59.8 +0.8**
baz=242
N32M Quiet Lake 87.82 26 P **P 23 12 00.1 +0.7**
baz=244
BEKR Beckworth 87.92 49 **P 23 12 01.0 +0.4**
R33M Jennings River 88.02 28 P **P 23 12 01.0 +0.4**
baz=246
DLBC Dease Lake 88.08 29 LR LR 23 49 15.6
comp=Z,73nm,18.0s,baz=218,slow=34
DLBC Dease Lake 88.08 29 P **P 23 12 01.7 +0.9**
baz=246
J30M Hart River 88.10 23 P **P 23 12 01.4 +0.6**
baz=241
H29M Whitestone 88.19 21 P **P 23 12 02.2 +1.1**
baz=239
E27K Coleen River 88.20 18 P **P 23 12 02.5 +1.4**
baz=236
C26K Camden Bay 88.25 16 P **P 23 12 02.3 +1.1**
baz=233
K05A Summer Lake 88.30 46 **P 23 12 02.4 +0.1**
K05A IAmb IAmb 23 12 05.1
comp=Z,8.4nm,0.9s
I30M Mount Dempster 88.40 22 **P 23 12 02.9 +0.7**
I30M IAmb IAmb 23 12 04.4
comp=Z,4.0nm,0.7s
I30M Mount Dempster 88.40 22 P **P 23 12 02.9 +0.7**
baz=241
C27K Jago River 88.41 17 P **P 23 12 03.1 +1.1**
baz=234
G29M Pine Creek 88.67 20 P **P 23 12 04.1 +0.8**
baz=239
EPYK Eagle Plains 88.84 21 P **P 23 12 04.8 +0.6**
baz=240
E28M Babbage River 89.07 18 P **P 23 12 06.1 +0.9**
baz=238
NVAR Mina Array Bea 89.10 51 P **P 23 12 06.8 +0.6**
NVAR Mina Array Bea 89.10 51 P **P 23 12 07.2 +1.0**
comp=Z,3.4nm,0.8s,baz=238,slow=6.2,SNR=14
NVAR LR LR 23 45 25.1
comp=Z,53nm,18.9s,baz=271,slow=31
comp=Z,3.4nm,0.8s
MMPY Sheldon Lake, 89.23 25 P **P 23 12 06.8 +0.7**
baz=245
G30M tAoh Zraii Nji 89.32 20 P **P 23 12 07.4 +1.1**
baz=241
H31M Peel River 89.42 22 P **P 23 12 07.8 +0.9**
baz=242
PFO Pinyon Flats O 89.43 56 LR LR 23 43 39.3
comp=Z,121nm,21.4s,baz=274,slow=30
E29M Blow River 89.47 19 P **P 23 12 08.5 +1.5**
baz=239
FURC Furnace Creek, 89.75 53 P **P 23 12 09.5 +0.4**
F30M Barrier River 89.77 20 P **P 23 12 09.7 +1.2**
baz=241
G31M Satah River 89.97 21 P **P 23 12 10.7 +1.4**
baz=242
MK31 Makanchi Array 90.08 318 P **P 23 12 09.3 -1.1**
MKAR Makanchi Array 90.08 318 P **P 23 12 09.2 -1.2**
comp=Z,1.4nm,0.7s,baz=106,slow=5.3,SNR=4.4
comp=Z,1.4nm,0.7s
F31M Tsiigehtchic 90.39 20 P **P 23 12 12.7 +1.5**
baz=243
ZALV Zalesovo Beam 90.52 325 LR LR 23 52 17.3
comp=Z,26nm,21.0s,baz=64,slow=35
INK Inuvik 90.85 20 LR LR 23 48 21.9
comp=Z,120nm,19.6s,baz=308,slow=32
INK Inuvik 90.85 20 P **P 23 12 15.0 +1.6**
baz=243
SHPR Sheep Range 91.10 53 **P 23 12 15.4 -0.1**
SHPR IAmb IAmb 23 12 18.4
comp=Z,5.3nm,1.1s
BELA Belgrano 2 91.33 177 P **P 23 12 16.2 +0.5**
W13A Hualapai Mount 91.83 55 **P 23 12 19.1 +0.1**
NEW Newport 92.25 41 LR LR 23 46 27.3
comp=Z,66nm,20.3s,baz=270,slow=31
LPIG La Paz 92.85 66 LR LR 23 44 43.7
comp=Z,48nm,20.4s,baz=228,slow=29
KURBB Kurchatov Arra 93.41 321 P **P 23 12 24.1 -1.6**
comp=Z,0.9nm,0.8s,baz=105,slow=4.3,SNR=5.2
comp=Z,0.9nm,0.8s
A36M Sachs Harbour 94.89 17 P **P 23 12 33.6 +1.6**
baz=251
PDAR Pinedale Array 96.47 48 P **P 23 12 40.2 0.0**
PDAR Pinedale Array 96.47 48 P **P 23 12 41.1 +0.9**
comp=Z,0.7nm,0.9s,baz=222,slow=2.0,SNR=5.5
PDAR LR LR 23 51 18.5
comp=Z,35nm,18.7s,baz=264,slow=32
comp=Z,0.7nm,0.9s
TROLL Troll, Antarti 96.48 187 ⇑P **P 23 12 39.7 +0.1**
comp=Z,54nm,0.7s
YKA Yellowknife Ar 96.54 28 P **P 23 12 39.8 +0.1**
comp=Z,1.9nm,0.7s,baz=217,slow=7.8,SNR=12
YKA LR LR 23 50 06.2
comp=Z,65nm,19.6s,baz=273,slow=32
comp=Z,1.9nm,0.7s
SNAA Sanae 97.33 185 ⇑P **P 23 12 43.1 -0.2**
comp=Z,21nm,0.7s
SNAA Sanae 97.33 185 P **P 23 12 42.7 -0.6**
SNAA IAmb IAmb 23 12 48.0
comp=Z,14nm,1.9s
SNAA Sanae 97.33 185 P **P 23 12 42.9 -0.4**
comp=Z,0.9nm,0.7s,baz=204,slow=3.2,SNR=5.4
SNAA LR LR 23 53 07.0
comp=Z,44nm,20.8s,baz=172,slow=33
comp=Z,0.9nm,0.7s
ANMO Albuquerque 97.82 56 LR LR 23 48 56.0
comp=Z,65nm,20.5s,baz=344,slow=30
VNA3 Neumayer Olymp 98.22 183 ⇑P **P 23 12 46.6 -0.7**
comp=Z,1.4nm,0.7s
VNA2 Neumayer--Watz 98.41 184 ⇑P **P 23 12 47.8 -0.3**
comp=Z,1.3nm,0.6s,baz=151,slow=8.0
BVAR Borovoye Array 98.78 322 P **P 23 12 48.7 -1.4**
comp=Z,1.2nm,0.9s,baz=108,slow=4.7,SNR=3.0
BVAR LR LR 23 59 16.8
comp=Z,29nm,18.9s,baz=74,slow=36
comp=Z,1.2nm,0.9s

TXAR Lajitas Array 99.49 62 LR LR 23 49 12.5
comp=Z,50nm,21.8s,baz=268,slow=30
MEM Membach 135.09 338 *d*PKiKP **PKiKP 23 18 31.3 +0.3**
KEST Kesra 144.17 319 PKP PKPbc 23 18 45.1 +0.3
comp=Z,3.0nm,0.7s,baz=85,slow=2.9,SNR=6.9
ESDC Sonseca Array 148.08 338 PKPbc **PKPbc 23 18 55.2 -1.0**
comp=Z,0.7nm,0.8s,baz=350,slow=3.1,SNR=4.5

*NEIC **30** 23:02:12.4±1.2, 19°.45N±0°.09×64°.88W±0°.06, h10km±2km, ML2.7/15, Md3.9/9(RSPR), Error ellipse: s-maj=14.4km s-min=9.9km az=356.0*
*RSPR **30** 23:02:13.8, 19°.47N×64°.92W, h129km±11km, MD3.9/9*
ISC 30 23:02:12.2±2.2, 19°.6N±0°.1×64°.82W±0°.06, h23km, n27, σ0s83/30, 7C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.73**	**215**	Pn	**Pn**	**23 02 40.5**	**-0.3**
HUMP				Sn	**Sn**	**23 03 01.7**	**-0.5**
HUMP				IAML		23 03 05.3	
	comp=N,81nm,0.2s						
HUMP				IAML		23 03 12.4	
	comp=E,87nm,0.2s						
HUMP	**Col San Antoni**	**1.73**	**215**	‖*e*P	**Pn**	**23 02 40.6**	**-0.3**
HUMP	**Col San Antoni**	**1.73**	**215**	*e*S	**Sb**	**23 03 05.3**	**+0.7**
GCPR	**Guaynabo City**	**1.74**	**224**	Pn	**Pn**	**23 02 40.7**	**-0.3**
GCPR					**Sn**	**23 03 02.1**	**-0.3**
GCPR	**Guaynabo City**	**1.74**	**224**	⇑*e*P	**Pb**	**23 02 42.5**	**-0.9**
GCPR	**Guaynabo City**	**1.74**	**224**	*e*S	**Sb**	**23 03 05.7**	**+0.9**
ECPR	**Experimental S**	**1.92**	**230**	‖*e*P	**Pn**	**23 02 43.9**	**+0.4**
ECPR	**Experimental S**	**1.92**	**230**	*e*S	**Sb**	**23 03 09.8**	**-0.3**
SJG	**San Juan**	**1.93**	**221**	Pn	**Pn**	**23 02 43.1**	**-0.4**
SJG				IAML		23 03 25.7	
	comp=E,52nm,0.2s						
SJG	**San Juan**	**1.93**	**221**	⇑*e*P	**Pn**	**23 02 44.8**	**+1.3**
SJG	**San Juan**	**1.93**	**221**	*e*S	**Sb**	**23 03 09.6**	**-0.6**
AOPR	**Arecibo Observ**	**2.20**	**237**	Pn	**Pn**	**23 02 47.5**	**+0.1**
AOPR				IAML		23 03 29.4	
	comp=N,75nm,0.5s						
AOPR	**Arecibo Observ**	**2.20**	**237**	⇑*e*P	**Pn**	**23 02 48.2**	**+0.8**
AOPR	**Arecibo Observ**	**2.20**	**237**	*e*S	**Sn**	**23 03 14.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.23**	**234**	*e*S	**Sn**	**23 03 16.0**	**+1.4**
OBIP	**Obispado Ponce**	**2.28**	**228**	Pn	**Pn**	**23 02 47.5**	**-0.9**
OBIP				IAML		23 03 26.8	
	comp=E,38nm,0.7s						
OBIP				IAML		23 03 29.2	
	comp=N,30nm,0.6s						
OBIP	**Obispado Ponce**	**2.28**	**228**	⇑*e*P	**Pn**	**23 02 49.1**	**+0.7**
OBIP	**Obispado Ponce**	**2.28**	**228**	*e*S	**Sn**	**23 03 16.8**	**+1.0**
SABA	**Saba**	**2.45**	**142**	Pn	**Pn**	**23 02 51.9**	**+1.1**
SABA				IAML		23 04 15.2	
	comp=N,102nm,0.6s						
LSP	**Las Mesas**	**2.56**	**237**	⇑*e*P	**Pn**	**23 02 53.5**	**+1.2**
MLPR	**Magueyes Islan**	**2.65**	**233**	⇑*e*P	**Pn**	**23 02 54.2**	**+0.7**
MLPR	**Magueyes Islan**	**2.65**	**233**	*e*S	**Sn**	**23 03 24.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.67**	**235**	Pn	**Pn**	**23 02 54.2**	**+0.4**
CRPR				IAML		23 03 39.4	
	comp=E,35nm,1.9s						
CRPR				IAML		23 03 53.0	
	comp=N,30nm,1.1s						
CRPR	**Cabo Rojo, PR**	**2.67**	**235**	⇑*e*P	**Pn**	**23 02 54.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.67**	**235**	*e*S	**Sn**	**23 03 26.7**	**+1.2**
DR12	**Loma Pena Alta**	**4.38**	**260**	Pn	**Pn**	**23 03 18.0**	**+0.6**
DR12				Sn	**Sn**	**23 04 06.3**	**-1.6**
CBE	**Ff, Capester**	**4.64**	**138**	Pn	**Pn**	**23 03 20.5**	**-0.4**

*IDC **30** 23:24:39.0±0.8, 26°.23N×141°.41E, h361km±20km, mb3.2/5, mbtmp4.0/5, Error ellipse: s-maj=89.2km s-min=18.9km az=75.0*
*JMA **30** 23:24:45.2±0.2, 26°N±2°×14°1E±°, h353km, MV4.3/7, W OFF OGASAWARA*
ISC 30 23:24:43.5±1.7, 26°.5N±0°.3×140°.4E±0°.2, h350km, n9, σ3s09/10, mb3.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.56**	**85**	*e*P	**Pn**	**23 25 33.6**	**+1.7**
JHH2				*e*S	**S**	**23 26 11.7**	**+0.9**
CBIJ	**Chichi jima**	**1.66**	**69**	*e*P	**Pn**	**23 25 34.2**	**+1.7**
CBIJ				*e*S	**S**	**23 26 12.7**	**+0.8**
JCJ	**Chichijima**	**1.66**	**69**	P	Pn	23 25 26.3	-6.3
	28nm,0.5s,baz=194,slow=19,SNR=14						
JCJ				S	**S**	**23 26 04.7**	**-7.3**
	68nm,0.3s,baz=270,slow=20,SNR=18						
BSO1	**Boso 1**	**8.14**	**3**	*e*P	**P**	**23 26 43.2**	**+1.7**
WRA	**Warramunga Arr**	**46.55**	**188**	P	P	23 32 30.9	-6.6
	0.7nm,0.4s,baz=10,slow=8.1,SNR=11						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**49.66**	**310**	P	**P**	**23 33 00.8**	**-0.1**
	0.3nm,0.5s,baz=99,slow=7.6,SNR=3.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**52.35**	**315**	P	**P**	**23 33 20.5**	**0.0**
	0.5nm,0.5s,baz=92,slow=8.3,SNR=6.5						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**57.43**	**318**	P	**P**	**23 33 56.5**	**0.0**
	1.5nm,0.4s,baz=90,slow=7.2,SNR=12						
	1.5nm,0.4s						
FINES	**FINESS Array B**	**77.78**	**333**	P	**P**	**23 36 00.5**	**-1.9**
	4.0nm,1.0s,baz=64,slow=5.4,SNR=4.0						
	4.0nm,1.0s						

IDC 30 23:30:18.0±7.8, 15°.58S×176°.37W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=349.7km s-min=38.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.02**	**257**	P	P	23 38 51.7	+0.2
	0.8nm,0.6s,baz=91,slow=7.1,SNR=2.1						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**47.33**	**252**	P	P	23 38 53.6	-0.3
	3.2nm,0.3s,baz=89,slow=7.9,SNR=34						
	3.2nm,0.3s						
ILAR	**Eielson Array**	**83.20**	**12**	P	P	23 42 45.8	0.0
	0.3nm,0.7s,baz=209,slow=4.9,SNR=4.6						
	0.3nm,0.7s						

*IDC **30** 23:31:18.8±7.7, 36°.32N×70°.72E, h196km±64km, mb3.1/4, mbtmp3.7/8, Error ellipse: s-maj=68.9km s-min=26.7km az=41.0*
ISC 30 23:31:20.3±1.4, 36°.5N±0°.1×70°.8E±0°.2, h200km, n17, σ1s42/20, mb3.3/3, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.39**	**26**	P	**Pn**	**23 32 54.1**	**+1.1**
	SNR=56						
EKS2	**Erkin-Say**	**6.55**	**20**	P	**Pn**	**23 32 56.5**	**+1.7**
	SNR=12						
KK31	**Karatay Array**	**6.57**	**358**	P	**Pn**	**23 32 55.9**	**+1.0**
	2.0nm,0.5s,baz=183,slow=12,SNR=26						
KK31				‖S	**Sn**	**23 34 07.1**	**-2.8**
	3.1nm,0.3s,baz=187,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.75**	**24**	P	**Pn**	**23 32 58.8**	**+1.4**
	10nm,0.3s,baz=198,slow=5.9,SNR=46						
AAK				S	**Sn**	**23 34 12.8**	**-1.6**
	7.4nm,0.7s,baz=321,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.75**	**24**	P	**Pn**	**23 32 58.5**	**+1.2**
	SNR=24						
AAK	**Ala-Archa**	**6.75**	**24**	⇑P	**Pn**	**23 32 58.3**	**+1.0**
	4.4nm,0.5s						
AAK				⇑S	**Sn**	**23 34 12.7**	**-1.6**
	2.5nm,0.5s						
KBK	**Karagaybulak**	**6.92**	**27**	P	**Pn**	**23 33 01.1**	**+1.4**
	SNR=11						
ULHL	**Ulahol**	**7.12**	**35**	P	**Pn**	**23 33 03.5**	**+1.3**
	SNR=7.9						
USP	**Ospenovka**	**7.32**	**22**	P	**Pn**	**23 33 05.0**	**+0.4**
	SNR=9.0						
TKM2	**Tokmak 2**	**7.39**	**29**	P	**Pn**	**23 33 06.8**	**+1.1**
	SNR=28						
MKAR	**Makanchi Array**	**13.38**	**36**	P	**Pn**	**23 34 22.6**	**+0.1**
	1.0nm,0.6s,baz=217,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**15.16**	**19**	P	**Pn**	**23 34 44.0**	**-0.3**
	0.4nm,0.7s,baz=205,slow=11,SNR=3.8						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**23 35 02.4**	**+2.0**
	0.5nm,0.4s,baz=170,slow=9.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**19.97**	**25**	P	**P**	**23 35 38.0**	**+0.8**
	0.7nm,0.4s,baz=215,slow=10,SNR=3.6						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**23 38 43.9**	**+0.2**
	2.3nm,0.9s,baz=119,slow=9.0,SNR=4.7						
	2.3nm,0.9s						
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**23 39 08.9**	**-0.6**
	0.8nm,0.8s,baz=103,slow=7.4,SNR=3.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**82.17**	**122**	P	**P**	**23 43 17.6**	**-1.4**
	0.3nm,0.7s,baz=319,slow=5.4,SNR=5.8						
	0.3nm,0.7s						

DJA 30 23:33:31.7±0.3, 3°.5±4°.×10°.2E±°, h78km±5km, M3.7/12, mB5.1/2, mb3.8/4, MLv3.6/12, Mw(mB)4.4/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.36**	**59**	P	Pn	23 33 45.4	+1.2
MASI				S	Sn	23 33 56.0	+2.6
KSI	**Kapahiang**	**0.73**	**116**	P	Pn	23 33 49.1	+1.4
KRJI	**Kerinci**	**1.32**	**339**	P	Pn	23 33 55.7	+1.0
MNAI	**Manna**	**1.45**	**135**	P	Pn	23 33 57.4	+1.1
LHSI	**Lahat**	**1.67**	**107**	P	Pn	23 34 00.6	+1.5
PPSI	**Pulau Pagai**	**2.00**	**286**	P	Pn	23 34 04.1	+0.6
MDSI	**Maura Dua**	**2.52**	**117**	P	Pn	23 34 11.3	+0.8
PDSI	**Padang**	**2.81**	**329**	P	Pn	23 34 15.1	+0.5
SISI	**Saibi**	**3.47**	**305**	P	Pn	23 34 23.4	0.0
PBSI	**Pulau Batu**	**4.89**	**312**	P	Pn	23 34 42.7	-0.1
GSI	**Gunungsitoli**	**6.33**	**317**	P	Pn	23 35 01.9	-0.6
	4μm23nm,0.5s						
CNJI	**Cibinong**	**6.51**	**128**	P	Pn	23 35 03.7	-1.3
	0.1nm738nm11nm,1.2s						

IDC 30 23:34:04.3±1.8, 0°.39N×126°.01E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=200.2km s-min=23.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**158**	P	P	23 38 57.0	-1.1
	0.9nm,0.6s,baz=337,slow=11,SNR=7.2						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.11**	**163**	P	P	23 39 32.0	+0.9
	0.3nm,0.4s,baz=343,slow=12,SNR=5.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.90**	**327**	P	P	23 44 12.1	0.0
	0.2nm,0.4s,baz=130,slow=6.7,SNR=5.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.17**	**329**	P	P	23 44 40.5	-0.2
	0.4nm,0.7s,baz=129,slow=6.3,SNR=2.8						
	0.4nm,0.7s						

IDC 31 00:12:02.5±2.4, 1°.53N×126°.49E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=214.6km s-min=27.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.69**	**161**	P	P	00 17 05.2	-0.7
	0.6nm,0.4s,baz=339,slow=11,SNR=6.1						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.07**	**164**	P	P	00 17 38.6	+0.6
	0.2nm,0.6s,baz=348,slow=13,SNR=2.6						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.22**	**326**	P	P	00 22 05.7	0.0
	0.1nm,0.3s,baz=124,slow=7.7,SNR=4.7						
	0.1nm,0.3s						

GII 31 00:26:11.0±0.0, 32°.40N±0°.02×35°.519E±0°.008, h20km, Mws1.4, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRPN	**Kefar Rupin**	**0.07**	**26**	P	Pb	00 26 14.9	+0.3
KRPN	**Kefar Rupin**	**0.07**	**26**	S	Sb	00 26 18.0	+0.8
MMLI	**Mount Malkishu**	**0.09**	**297**	P	Pb	00 26 14.9	-0.1
MMLI	**Mount Malkishu**	**0.09**	**297**	S	Sb	00 26 17.9	+0.2
HMDT	**Nahal Hemdat**	**0.14**	**178**	P	Pb	00 26 15.4	0.0
HMDT	**Nahal Hemdat**	**0.14**	**178**	S	Sb	00 26 18.9	+0.5
ROII	**Roi**	**0.15**	**190**	P	Pb	00 26 15.6	+0.2
ROII	**Roi**	**0.15**	**190**	S	Sb	00 26 18.7	+0.2
CVYN	**Cohav Hayarden**	**0.20**	**360**	P	Pb	00 26 16.6	+0.4
CVYN	**Cohav Hayarden**	**0.20**	**360**	S	Sb	00 26 20.1	+0.5
GNNR	**Gan-Ner**	**0.20**	**311**	P	Pb	00 26 16.0	-0.2
GNNR	**Gan-Ner**	**0.20**	**311**	S	Sb	00 26 20.5	+0.8
HMRA	**Hamra**	**0.21**	**200**	P	Pb	00 26 16.1	-0.1
HMRA	**Hamra**	**0.21**	**200**	S	Sb	00 26 19.9	+0.2
RGMN	**Argaman**	**0.23**	**179**	P	Pb	00 26 16.2	-0.3
RGMN	**Argaman**	**0.23**	**179**	S	Sb	00 26 21.2	+1.0
MNHA	**Menahamia**	**0.27**	**6**	P	Pb	00 26 17.8	+0.7
MNHA	**Menahamia**	**0.27**	**6**	S	Sb	00 26 22.0	+0.7
GOLA	**Golan Heights**	**0.34**	**19**	P	Pb	00 26 18.5	+0.3
GOLA	**Golan Heights**	**0.34**	**19**	S	Sb	00 26 24.3	+1.1
MEFR	**Maale Efrayim**	**0.34**	**197**	P	Pb	00 26 18.2	0.0
MEFR	**Maale Efrayim**	**0.34**	**197**	S	Sb	00 26 24.1	+0.9
SALP	**Salfit**	**0.43**	**221**	P	Pb	00 26 19.6	-0.3
SALP	**Salfit**	**0.43**	**221**	S	Sb	00 26 26.2	+0.3
SLTI	**Sal'it**	**0.43**	**249**	P	Pb	00 26 19.7	-0.2
SLTI	**Sal'it**	**0.43**	**249**	S	Sb	00 26 27.0	+1.0
YITV	**Yitav**	**0.46**	**190**	P	Pb	00 26 20.5	+0.3
YITV	**Yitav**	**0.46**	**190**	S	Sb	00 26 27.2	+0.7
MMA0B	**Mount Meron ar**	**0.63**	**351**	P	Pb	00 26 23.5	+0.2
MMA0B	**Mount Meron ar**	**0.63**	**351**	S	Sb	00 26 32.0	+0.3
MMC7	**Mount Meron ar**	**0.63**	**350**	P	Pb	00 26 23.6	+0.1
KSHT	**Keshet**	**0.64**	**23**	P	Pb	00 26 23.2	-0.2
KSHT	**Keshet**	**0.64**	**23**	S	Sb	00 26 32.4	+0.5
DSI	**Dead Sea**	**0.83**	**188**	P	Pb	00 26 25.9	-0.8
DSI	**Dead Sea**	**0.83**	**188**	S	Sb	00 26 38.1	+0.6
NATI	**Neve Ativ**	**0.88**	**12**	P	Pb	00 26 27.1	-0.5
NATI	**Neve Ativ**	**0.88**	**12**	S	Sb	00 26 39.5	+0.5

*NIED **31** 00:27:15.2, 33°.52N×132°.41E, h45km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-6.33; $M_{\theta\theta}$1.14; $M_{\phi\phi}$5.19; $M_{r\theta}$-0.89; $M_{\theta\phi}$-0.10; $M_{\phi r}$0.85; Fault plane solution: $M_0$5.88000×10^{14} NP1:ϕ_s5.00000°, δ41.00000°, λ-80.00000°. NP2:ϕ_s172.00000°, δ50.00000°, λ-98.00000°.*
*JMA **31** 00:27:15.2±0.0, 33°.5N±0°.1×132°.4E±0°.1, h45km, MD3.7/36, MV4.0/36, SW EHIME PREF*
JMA Felt II J1 at SW EHIME PREF .
*IDC **31** 00:27:16.2±1.9, 33°.53N×132°.22E, h57km±16km, mb3.5/8, mbtmp3.8/10, MS2.5/1, Error ellipse: s-maj=18.1km s-min=13.3km az=93.0*
ISC 31 00:27:15.0±0.9, 33°.51N±0°.05×132°.41E±0°.04, h46km±9km, n32, σ0s97/30, mb3.9/8, 2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.08**	**50**	‖*i*P	Pn	00 27 22.1	-0.2
JNA				‖S	Sn	00 27 27.1	-0.4
JNA	**Nagahama**	**0.08**	**50**	A	A	00 27 22.1	
	comp=N,6.0nm,0.3s,comp=E,13nm,2.5s						
UWA2	**Uwa jima 2**	**0.34**	**148**	*i* P	**Pn**	**00 27 24.1**	**-0.1**
UWA2				*i* S	**Sn**	**00 27 30.8**	**0.0**
UWA2	**Uwa jima 2**	**0.34**	**148**	A	A	00 27 24.1	
	comp=N,14nm,0.3s,comp=E,15nm,0.3s						
JKU	**Kubokawa**	**0.58**	**110**	P	**Pn**	**00 27 27.0**	**0.0**
JKU				S	**Sn**	**00 27 36.0**	**+0.2**
JKU	**Kubokawa**	**0.58**	**110**	A	A	00 27 27.0	
	comp=N,10.0nm,1.0s,comp=E,8.0nm,0.8s						
JET	**Tanbara**	**0.60**	**63**	P	**Pn**	**00 27 27.2**	**-0.1**
JET				S	**Sn**	**00 27 36.2**	**0.0**
JET	**Tanbara**	**0.60**	**63**	A	A	00 27 27.2	
	comp=N,40nm,0.3s,comp=E,23nm,0.3s						
JUS	**Usuki**	**0.70**	**231**	A	A	00 27 29.0	
	comp=N,4.0nm,1.4s,comp=E,4.0nm,1.8s						
JKI	**Kunimi**	**0.71**	**280**	A	A	00 27 29.0	
	comp=N,7.0nm,0.6s,comp=E,6.0nm,1.4s						
JTO	**Tosashimizu**	**0.73**	**153**	*i* P	**Pn**	**00 27 29.1**	**+0.2**
JTO				S	**Sn**	**00 27 39.6**	**+0.6**
JHT	**Toyohira**	**1.15**	**1**	*i* P	**Pn**	**00 27 35.2**	**+0.5**
JHT	**Toyohira**	**1.15**	**1**	A	A	00 27 35.2	
	comp=N,3.0nm,0.2s,comp=E,4.0

JTU	**Tsushima**	**2.70**	**293**	S	**Sn**	**00 28 27.0**	**-0.2**
INU	**Inuyama**	**4.23**	**63**	P	**Pn**	**00 28 18.5**	**+1.6**
JGF	**Kuroka**	**4.59**	**62**	P	**Pn**	**00 28 22.1**	**+0.3**
KSRS	**Korea Array**	**5.38**	**318**	P	**Pn**	**00 28 33.4**	**+0.9**
	comp=E,0.7nm,0.3s,baz=129,slow=14,SNR=2.8						
KSRS				S	**Sn**	**00 29 33.0**	**-0.2**
	comp=E,5.0nm,0.6s,baz=141,slow=25,SNR=5.3						
MAJO	**Matsushiro**	**5.64**	**56**	P	**Pn**	**00 28 37.1**	**+0.9**
MJAR	**Matsushiro Arr**	**5.64**	**56**	P	**Pn**	**00 28 37.9**	**+1.7**
	comp=E,4.0nm,0.3s,baz=240,slow=14,SNR=16						
MJAR				LR	LR	00 30 58.0	
	comp=E,50nm,20.4s,baz=284,slow=39						
SONM	**Songino Array**	**24.23**	**314**	P	**P**	**00 32 27.2**	**-0.2**
	comp=E,0.7nm,0.5s,baz=122,slow=10,SNR=2.6						
	comp=E,0.7nm,0.5s						
BVAR	**Borovoye Array**	**47.57**	**314**	P	**P**	**00 35 44.8**	**-0.9**
	comp=E,0.7nm,0.5s,baz=94,slow=11,SNR=5.5						
	comp=E,0.7nm,0.5s						
WRA	**Warramunga Arr**	**53.18**	**178**	P	**P**	**00 36 28.4**	**0.0**
	comp=E,0.7nm,0.6s,baz=354,slow=8.1,SNR=8.3						
	comp=E,0.7nm,0.6s						
ILAR	**Eielson Array**	**56.34**	**31**	P	**P**	**00 36 51.1**	**+0.3**
	comp=E,0.2nm,0.5s,baz=277,slow=7.3,SNR=3.8						
	comp=E,0.2nm,0.5s						
ASAR	**Alice Springs**	**56.87**	**178**	P	**P**	**00 36 56.2**	**+1.1**
	comp=E,0.5nm,0.6s,baz=9.8,slow=12,SNR=6.6						
	comp=E,0.5nm,0.6s						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**00 38 10.2**	**-0.9**
	comp=E,1.6nm,0.5s,baz=66,slow=6.5,SNR=15						
	comp=E,1.6nm,0.5s						
HFS	**Hagfors**	**74.05**	**333**	P	**P**	**00 38 44.9**	**-0.8**
	comp=E,1.3nm,0.5s,baz=48,slow=4.4,SNR=8.1						
	comp=E,1.3nm,0.5s						
NOA	**NORSAR Array B**	**74.37**	**334**	P	**P**	**00 38 46.8**	**-0.7**
	comp=E,1.1nm,0.7s,baz=48,slow=5.8,SNR=4.9						
	comp=E,1.1nm,0.7s						

RSNC 31 00:28:34.7±0.0, 4°N±2°×7°6W±°, h67km±4km, M2.2, ML1.9, MLv2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.24**	**235**	P	Pn	00 28 44.8	-0.5
YOTC				S	Sn	00 28 53.7	+0.6
YOTC	**Yotoco, Valle**	**0.24**	**235**	P	Pn	00 28 44.8	-0.5
PLMC	**San Jos del P**	**0.79**	**350**	P	Pn	00 28 50.3	-0.3
PLMC				S	Sn	00 29 03.0	+0.7
PLMC	**San Jos del P**	**0.79**	**350**	P	Pn	00 28 50.5	-0.1
PLMC				S	Sn	00 29 05.4	+3.1
ANIL	**Santa Ana**	**0.83**	**64**	P	Pn	00 28 49.9	-1.4
ANIL				S	Sn	00 29 02.5	-1.0
ANIL	**Santa Ana**	**0.83**	**64**	P	Pn	00 28 50.0	-1.3
ORTC	**Ortega, Tolima**	**0.93**	**103**	P	Pn	00 28 51.2	-1.0
ORTC				S	Sn	00 29 04.8	-0.3
ORTC	**Ortega, Tolima**	**0.93**	**103**	P	Pn	00 28 51.2	-1.0
ORTC				S	Sn	00 29 05.3	+0.2
PRAC	**Prado**	**1.32**	**108**	P	Pn	00 28 56.3	-1.0
PRAC				S	Sn	00 29 14.4	+0.2
PRAC	**Prado**	**1.32**	**108**	P	Pn	00 28 56.3	-1.0
GUY2C	**Guyana, Caldas**	**1.35**	**35**	P	Pn	00 28 57.3	-0.7
GUY2C				S	Sn	00 29 13.9	-1.5
GUY2C	**Guyana, Caldas**	**1.35**	**35**	P	Pn	00 28 57.2	-0.8
GUY2C				S	Sn	00 29 15.4	0.0
BETC	**Betania**	**1.59**	**154**	P	Pn	00 29 00.2	-0.7
BETC				S	Sn	00 29 20.6	-0.1
POPC	**Popayan, Colom**	**1.66**	**199**	P	Pn	00 29 00.4	-1.5
POPC				S	Sn	00 29 20.7	-1.7
POPC	**Popayan, Colom**	**1.66**	**199**	P	Pn	00 29 00.7	-1.2
CBOC	**Ciudad Bolivar**	**1.74**	**5**	P	Pn	00 29 04.4	+1.4
CBOC				S	Sn	00 29 23.9	-0.4
CBOC	**Ciudad Bolivar**	**1.74**	**5**	P	Pn	00 29 03.6	+0.6
URMC	**La Uribe, Meta**	**1.97**	**116**	P	Pn	00 29 04.9	-1.1
URMC				S	Sn	00 29 28.8	-0.9
URMC	**La Uribe, Meta**	**1.97**	**116**	P	Pn	00 29 04.8	-1.2
CVER	**Cruz Verde, Cu**	**2.11**	**79**	P	Pn	00 29 07.1	-1.1
HELC	**Santa Helena**	**2.15**	**17**	P	Pn	00 29 09.0	+0.3
CHIC	**Chingaza**	**2.46**	**78**	P	Pn	00 29 13.1	+0.1
CHIC				S	Sn	00 29 39.4	-2.8
CHIC	**Chingaza**	**2.46**	**78**	P	Pn	00 29 13.0	0.0
CHIC				S	Sn	00 29 43.8	+1.6
FLOC	**Florencia**	**2.57**	**169**	P	Pn	00 29 13.3	-0.8
MACC	**Macarena, Meta**	**3.02**	**130**	P	Pn	00 29 18.7	-1.5
MACC	**Macarena, Meta**	**3.02**	**130**	P	Pn	00 29 18.6	-1.6
GCUF	**Volcan Galeras**	**3.11**	**203**	P	Pn	00 29 20.2	-1.7
GCUF				S	Sn	00 29 54.1	-4.1
RUSC	**La Rusia**	**3.53**	**60**	P	Pn	00 29 26.9	-0.6
RUSC				S	Sn	00 30 01.9	-6.4
UREC	**San Jos de Ur**	**3.66**	**10**	P	Pn	00 29 29.3	+0.4
BCIP	**Isla Barro Col**	**6.21**	**324**	P	Pn	00 30 02.5	-1.3

*IDC **31** 00:53:14.2±2.4, 22°29S×67°37W, h161km±25km, mb3.1/2, mbtmp3.7/6, Error ellipse: s-maj=31.6km s-min=20.6km az=88.0*
*SJA **31** 00:53:14.0±0.5, 22°33S×67°55W, h186km±4km, ML3.7, MW3.7*
*SCB **31** 00:53:15.9±1.2, 22°33S×67°57W, h154km±13km, ML4.1/3, Error ellipse: s-maj=5.9km s-min=3.7km az=0.0*
*NEIC **31** 00:53:15.3±1.2, 22°32S±0°06×67°7W±0°1, h192km±5km, mb4.2/7, ML4.0(GUC), Error ellipse: s-maj=14.5km s-min=7.5km az=68.0*
*GUC **31** 00:53:15.4±0.8, 22°40S×67°64W, h186km±12km, ML4.0*
ISC 31 00:53:14.2±0.7, 22°32S±0°04×67°57W±0°04, h181km±6km, n93, σ1§29/118, mb3.7/4, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.84**	**222**		**Pn**	**00 53 42.6**	**+1.3**
AF01				Sn	**Sn**	**00 54 04.0**	**+1.7**
AF01	**San Pedro de A**	**0.84**	**222**	*eP*	**Pn**	**00 53 42.0**	**+0.7**
AF01	**San Pedro de A**	**0.84**	**222**	*eP*	**Pn**	**00 53 40.8**	**-0.5**
AF01				*eS*	**Sn**	**00 53 59.7**	**-2.6**
AF01				IAML		00 54 18.6	
	comp=Z,317nm,1.3s						
PB09	**IPOC Station P**	**1.63**	**288**		**Pn**	**00 53 49.2**	**+1.5**
PB09				Sn	**Sn**	**00 54 14.7**	**+1.0**
PB09	**IPOC Station P**	**1.63**	**288**	⇑*iP*	**Pn**	**00 53 49.4**	**+1.7**
PB09	**IPOC Station P**	**1.63**	**288**	Pg	**Pn**	**00 53 48.8**	**+1.0**
PB09	**IPOC Station P**	**1.63**	**288**	*eP*	**Pn**	**00 53 49.4**	**+1.7**
PB09				*eS*	**Sn**	**00 54 14.5**	**+0.8**
PB09				IAML		00 54 15.9	
	comp=Z,177nm,1.0s						
PB06	**IPOC Station P**	**1.89**	**258**		**Pn**	**00 53 51.4**	**+1.0**
YJA	**Yavi**	**1.91**	**86**	*eP*	**Pn**	**00 53 51.8**	**+0.9**
YJA	**Yavi**	**1.91**	**86**	Pg	**Pn**	**00 53 51.9**	**+1.0**
YJA	**Yavi**	**1.91**	**86**	*eP*	**Pn**	**00 53 52.1**	**+1.2**
YJA				*eS*	**Sn**	**00 54 19.9**	**+0.6**
PB03	**IPOC Station P**	**2.04**	**277**		**Pn**	**00 53 52.7**	**+0.8**
PB03				Sn	**Sn**	**00 54 20.6**	**-0.5**
PB03	**IPOC Station P**	**2.04**	**277**	⇑*iP*	**Pn**	**00 53 52.9**	**+1.0**
PB03				*eS*	**Sn**	**00 54 21.2**	**0.0**
PB03				IAML		00 54 23.1	
	comp=E,490nm,0.1s						
PB03	**IPOC Station P**	**2.04**	**277**	*eP*	**Pn**	**00 53 53.0**	**+1.0**
PB03				*eS*	**Sn**	**00 54 21.5**	**+0.3**
PB03				IAML		00 54 22.1	
	comp=Z,388nm,0.1s						
MOCB	**Mochara**	**2.09**	**60**	Pg	**Pn**	**00 53 53.5**	**+0.7**
MOCB				Sg	**Sn**	**00 54 21.4**	**-1.3**
MOCB				IAML		00 54 23.5	
	comp=Z,1μm,0.8s						
HJA	**Humahuaca**	**2.18**	**114**	*eP*	**Pn**	**00 53 55.0**	**+1.2**
PB01	**IPOC Station P**	**2.19**	**305**		**Pn**	**00 53 54.5**	**+0.9**
PB01	**IPOC Station P**	**2.19**	**305**	⇑*iP*	**Pn**	**00 53 54.4**	**+0.9**
PB01				IAML		00 54 24.7	
	comp=N,827nm,0.2s						
PB01	**IPOC Station P**	**2.19**	**305**	Pg	**Pn**	**00 53 54.5**	**+0.9**
PB01	**IPOC Station P**	**2.19**	**305**	*eP*	**Pn**	**00 53 54.5**	**+0.9**
PB01				*eS*	**Sn**	**00 54 24.4**	**+0.4**
PB01				IAML		00 54 24.8	
	comp=Z,496nm,0.2s						
SALTA		**2.21**	**149**	*i* P	**Pn**	**00 53 55.6**	**+1.5**
SALTA		**2.21**	**149**	*eP*	**Pn**	**00 53 55.7**	**+1.5**
SALTA				*eP*		00 53 56.1	
SALTA				*eS*	Sn	00 54 40.6	+15
PB02	**IPOC Station P**	**2.38**	**294**		**Pn**	**00 53 56.5**	**+0.8**
PB02	**IPOC Station P**	**2.38**	**294**	⇑*iP*	**Pn**	**00 53 56.4**	**+0.8**
PB02				IAML		00 54 30.0	
	comp=E,764nm,0.2s						
PB02	**IPOC Station P**	**2.38**	**294**	Pg	**Pn**	**00 53 56.5**	**+0.8**
PB02				Sg	**Sn**	**00 54 27.4**	**-0.4**
PB02				IAML		00 54 29.1	
	comp=E,510nm,0.3s						
PB02	**IPOC Station P**	**2.38**	**294**	*eP*	**Pn**	**00 53 56.6**	**+0.9**
PB02				*eS*	**Sn**	**00 54 28.1**	**+0.2**
PB02				IAML		00 54 30.0	
	comp=Z,682nm,0.4s						
PB08	**IPOC Station P**	**2.62**	**325**		**Pn**	**00 54 00.7**	**+1.8**
PB08	**IPOC Station P**	**2.62**	**325**	⇑*iP*	**Pn**	**00 54 00.3**	**+1.5**
PB08				IAML		00 54 35.0	
	comp=E,295nm,0.5s						
PB08	**IPOC Station P**	**2.62**	**325**	Pg	**Pn**	**00 54 00.5**	**+1.7**
PB08	**IPOC Station P**	**2.62**	**325**	*eP*	**Pn**	**00 53 59.8**	**+1.0**
PB08				*eS*	**Sn**	**00 54 33.7**	**+0.3**
PB08				IAML		00 54 36.8	
	comp=Z,164nm,0.4s						
PATCX	**Punta Patache**	**2.83**	**301**		**Pn**	**00 54 01.5**	**+0.5**
HMBC	**Humberstone**	**2.96**	**313**		**Pn**	**00 54 02.8**	**+0.1**
HMBC	**Humberstone**	**2.96**	**313**	⇑*iP*	**Pn**	**00 54 02.5**	**-0.1**
HMBC	**Humberstone**	**2.96**	**313**	*eP*	**Pn**	**00 54 02.6**	**-0.1**
HMBC				*eS*	**Sn**	**00 54 39.4**	**-0.9**
TA01	**Diego Aracena**	**2.99**	**305**		**Pn**	**00 54 03.0**	**+0.2**
TA01	**Diego Aracena**	**2.99**	**305**	*eP*	**Pn**	**00 54 02.7**	**-0.2**
TA01	**Diego Aracena**	**2.99**	**305**	*eP*	**Pn**	**00 54 02.9**	**+0.1**
TA01				*eS*	**Sn**	**00 54 39.7**	**-1.0**
TA01				IAML		00 54 42.4	
	comp=Z,150nm,0.2s						
PB10	**IPOC Station P**	**3.00**	**246**		**Pn**	**00 54 03.5**	**+0.6**
PB10	**IPOC Station P**	**3.00**	**246**	⇑*iP*	**Pn**	**00 54 03.5**	**+0.6**
PB10	**IPOC Station P**	**3.00**	**246**	*eP*	**Pn**	**00 54 03.9**	**+1.0**
PB10				*eS*	**Sn**	**00 54 40.5**	**-0.2**
PB10				IAML		00 54 42.3	
	comp=Z,77nm,0.5s						
GO01	**Chusmiza**	**3.04**	**330**		**Pn**	**00 54 05.1**	**+1.1**
GO01	**Chusmiza**	**3.04**	**330**	⇑*iP*	**Pn**	**00 54 05.0**	**+1.1**
GO01	**Chusmiza**	**3.04**	**330**	Pg	**Pn**	**00 54 05.0**	**+1.1**
GO01	**Chusmiza**	**3.04**	**330**	*eP*	**Pn**	**00 54 05.1**	**+1.1**
GO01				*eS*	**Sn**	**00 54 44.3**	**+1.7**
GO01				IAML		00 54 47.1	
	comp=Z,147nm,0.2s						
SLA	**San Lorenzo**	**3.05**	**142**	*eP*	**Pn**	**00 54 05.0**	**+1.3**
SLA	**San Lorenzo**	**3.05**	**142**	*eP*	**Pn**	**00 54 05.5**	**+1.7**
TA02	**Huaiquique**	**3.14**	**310**	*eP*	**Pn**	**00 54 05.5**	**+0.9**
TA02				*eS*	**Sn**	**00 54 43.6**	**-0.2**
TA02				IAML		00 54 46.6	
	comp=Z,258nm,0.1s						
PB11	**IPOC Station P**	**3.20**	**322**		**Pn**	**00 54 05.7**	**+0.1**
PB11	**IPOC Station P**	**3.20**	**322**	*eP*	**Pn**	**00 54 05.5**	**0.0**
PB11	**IPOC Station P**	**3.20**	**322**	Pg	**Pn**	**00 54 05.9**	**+0.3**
PB11				Sg	**Sn**	**00 54 44.6**	**-1.1**
PB11				IAML		00 54 46.1	
	comp=Z,386nm,0.3s						
PB11	**IPOC Station P**	**3.20**	**322**	*eP*	**Pn**	**00 54 05.6**	**0.0**
PB11				*eS*	**Sn**	**00 54 44.4**	**-1.3**
PB11				IAML		00 54 47.0	
	comp=Z,295nm,0.3s						
GO02	**Mina Guanaco**	**3.38**	**213**		**Pn**	**00 54 09.1**	**+1.1**
GO02	**Mina Guanaco**	**3.38**	**213**	⇑*iP*	**Pn**	**00 54 08.9**	**+1.0**
GO02	**Mina Guanaco**	**3.38**	**213**	*eP*	**Pn**	**00 54 09.0**	**+1.1**
GO02				IAML		00 54 54.0	
	comp=Z,87nm,0.1s						
PB14	**IPOC Station P**	**3.47**	**228**		**Pn**	**00 54 09.8**	**+0.8**
PB14	**IPOC Station P**	**3.47**	**228**	⇑*iP*	**Pn**	**00 54 09.6**	**+0.6**
PB14	**IPOC Station P**	**3.47**	**228**	Pg	**Pn**	**00 54 09.7**	**+0.8**
PB14	**IPOC Station P**	**3.47**	**228**	*eP*	**Pn**	**00 54 09.6**	**+0.6**
PB14				IAML		00 54 54.6	
	comp=Z,79nm,0.7s						
PB16	**IPOC Station P**	**4.36**	**335**		**Pn**	**00 54 21.6**	**+1.0**
PB16	**IPOC Station P**	**4.36**	**335**	*eP*	**Pn**	**00 54 21.4**	**+0.8**
PB16	**IPOC Station P**	**4.36**	**335**	Pg	**Pn**	**00 54 21.6**	**+1.0**
SOET	**ToroToro**	**4.50**	**22**	Pg	**Pn**	**00 54 23.2**	**+1.1**
PB12	**IPOC Station P**	**4.50**	**324**		**Pn**	**00 54 21.0**	**-1.0**
PB12	**IPOC Station P**	**4.50**	**324**	*eP*	**Pn**	**00 54 20.5**	**-1.4**
PB12	**IPOC Station P**	**4.50**	**324**	*eP*	**Pn**	**00 54 20.9**	**-1.0**
PB12				*eS*	**Sn**	**00 55 13.0**	**-2.0**
PB12				IAML		00 55 15.2	
	comp=Z,72nm,0.2s						
AC01	**Pan de Azucar**	**4.71**	**215**	Pn	**Pn**	**00 54 23.9**	**-0.5**
AC01	**Pan de Azucar**	**4.71**	**215**	*eP*	**Pn**	**00 54 24.2**	**-0.2**
AC01				*eS*	**Sn**	**00 55 17.1**	**-2.4**
AC01				IAML		00 55 34.1	
	comp=Z,30nm,1.8s						
AC02	**Maricunga**	**4.71**	**197**		**Pn**	**00 54 25.9**	**+0.8**
AC02	**Maricunga**	**4.71**	**197**	*eP*	**Pn**	**00 54 25.8**	**+0.8**
AC02				*eS*	**Sn**	**00 55 18.2**	**-2.3**
PB18	**Visviri**	**5.04**	**339**		**Pn**	**00 54 29.6**	**+0.4**
BBOJ	**La Paz, Jacaqu**	**5.35**	**354**	Pg	**Pn**	**00 54 35.1**	**+1.8**
BBOE	**La Paz, Chanca**	**5.49**	**356**	Pg	**Pn**	**00 54 37.1**	**+1.9**
AC06	**Mina Casimiro**	**5.62**	**206**	Pn	**Pn**	**00 54 34.9**	**-1.3**
BBOD	**La Paz, Gloria**	**5.73**	**350**	Pg	**Pn**	**00 54 40.2**	**+1.8**
GO03	**Copiapo**	**5.78**	**204**	Pn	**Pn**	**00 54 37.6**	**-0.8**
LPAZ	**La Paz**	**6.02**	**355**		**Pn**	**00 54 43.3**	**+1.1**
LPAZ	**La Paz**	**6.02**	**355**	P	**Pn**	**00 54 43.4**	**+1.2**
	comp=Z,3.3nm,0.3s,baz=170,slow=12,SNR=8.7						
LPAZ				S	**Sn**	**00 55 48.4**	**-3.0**
	comp=Z,1.6nm,0.4s,baz=84,slow=19,SNR=1.5						
BBOB	**La Paz, Bander**	**6.17**	**355**	Pg	**Pn**	**00 54 45.6**	**+1.6**
LCO	**Las Campanas**	**7.24**	**202**	Pn	**Pn**	**00 54 55.9**	**-1.8**
SIV	**San Ignacio**	**8.79**	**45**	P	**Pn**	**00 55 15.1**	**-3.0**
	comp=Z,3.5nm,0.3s,baz=229,slow=9.8,SNR=55						
SIV				S	Sn	00 56 48.1	-8.3
	comp=Z,3.0nm,0.4s,baz=217,slow=11,SNR=5.2						
CFA	**Coronel Fontan**	**9.27**	**184**	P	**Pn**	**00 55 23.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=313,slow=17,SNR=1.9						
CFA				S	**Sn**	**00 57 02.4**	**-5.2**
	comp=Z,0.6nm,0.3s,baz=287,slow=19,SNR=3.3						
PTLB	**Pontes e Lacer**	**10.51**	**51**	Pn	**Pn**	**00 55 38.0**	**-2.4**
ITAB	**Concordia**	**14.85**	**112**	P	**P**	**00 56 37.3**	**+0.6**
TRQA	**Tornquist**	**16.41**	**164**	P	**P**	**00 56 54.0**	**+0.2**
TRQA				IAmb	IAmb	00 56 58.6	
	comp=Z,9.6nm,1.4s						
VAO	**Valinhos**	**19.03**	**96**	P	**P**	**00 57 21.8**	**-1.0**
VAO				IAmb	IAmb	00 57 23.7	
	comp=Z,21nm,1.1s						
BDFB	**Brasilia**	**19.64**	**74**	P	**P**	**00 57 28.4**	**-1.0**
BDFB				IAmb	IAmb	00 57 40.5	
	comp=Z,8.0nm,1.2s						
BDFB	**Brasilia**	**19.64**	**74**	P	**P**	**00 57 29.0**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=254,slow=12,SNR=5.3						
MAL2	**Monte Alegre,**	**24.01**	**35**	P	**P**	**00 58 12.8**	**+0.2**
MAL2				IAmb	IAmb	00 58 39.9	
	comp=Z,16nm,1.0s						
BOAV	**Boa Vista**	**25.51**	**17**	P	**P**	**00 58 24.8**	**-1.4**
BOAV				IAmb	IAmb	00 58 49.8	
	comp=Z,3.9nm,1.5s						
SNAA	**Sanae**	**61.10**	**161**	P	**P**	**01 03 09.4**	**+0.5**
SNAA	**Sanae**	**61.10**	**161**	P	**P**	**01 03 11.2**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=270,slow=12,SNR=4.5						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**75.44**	**329**	P	**P**	**01 04 40.5**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=135,slow=6.7,SNR=3.9						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**81.97**	**118**	P	**P**	**01 05 14.6**	**+0.2**

*IDC **31** 00:59:07.4±0.9, 6°81N×125°00E, h0km, mb3.9/8, mbtmp3.9/8, MS3.1/1, Error ellipse: s-maj=17.6km s-min=9.7km az=156.0*
*DJA **31** 00:59:08.5±1.9, 7°N±17°×12°5E±°, h10km, M4.8/8, mB5.9/2, mb4.8/8, MLv4.8/8, Mw(mB)5.5/2*
*NEIC **31** 00:59:09.6±1.2, 6°87N±0°03×125°08E±0°04, h10km±1km, mb4.2/7, Error ellipse: s-maj=7.1km s-min=4.6km az=288.0*
ISC 31 00:59:09.6±0.7, 6°93N±0°08×125°13E±0°07, h13km, n29, σ1§52/29, mb4.0/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.47**	**72**		**Pg**	**00 59 19.1**	**+0.2**
DAV				Sg	**Sb**	**00 59 27.7**	**+1.1**
DAV	**Davao City (W)**	**0.47**	**72**	Pg	**Pg**	**00 59 19.3**	**+0.4**
	0.4nm,0.3s,baz=210,slow=13,SNR=63						
DAV				Lg	Lg	00 59 28.7	
	1.0nm,0.3s,baz=326,slow=16,SNR=20						
DAV	**Davao City (W)**	**0.47**	**72**	P	**Pg**	**00 59 15.0**	**-3.9**
SGSI	**Sangihe**	**3.24**	**173**	P	**Pn**	**01 00 02.7**	**+2.5**
KMSI	**Cibinong**	**6.41**	**190**	P	**Pn**	**01 00 46.3**	**+2.5**
	1.0nm236nm,0.6s						
TNTI	**Ternate**	**6.51**	**160**	Pn	**Pn**	**01 00 44.7**	**-0.4**
MRSI	**Marisa**	**7.15**	**207**	P	**Pn**	**01 00 56.0**	**+2.0**
	0.3nm53nm,0.6s						
TOLI2	**Tolitoli**	**7.22**	**217**	Pn	**Pn**	**01 00 53.9**	**-1.0**
LUWI	**Luwuk**	**8.26**	**197**	Pn	**Pn**	**01 01 08.9**	**-0.2**
LUWI	**Luwuk**	**8.26**	**197**	P	**Pn**	**01 01 11.0**	**+1.8**
	64nm,0.9s						
SANI	**Sanana**	**8.96**	**174**	P	**Pn**	**01 01 21.0**	**+2.2**
	25nm,0.8s						
KAPI	**Kappang**	**13.02**	**204**	LR	LR	01 07 15.8	
	comp=Z,74nm,19.6s,baz=50,slow=38						
FITZ	**Fitzroy Crossi**	**24.87**	**179**		**P**	**01 04 33.2**	**+1.1**
FITZ				IAmb	IAmb	01 04 38.3	
	comp=Z,1.3nm,0.9s						
WB0	**Warramunga Arr**	**28.05**	**161**	P	**P**	**01 04 59.9**	**-1.0**
WB0				IAmb	IAmb	01 05 26.3	
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	**28.20**	**161**	P	**P**	**01 04 59.8**	**-2.4**
WRA	**Warramunga Arr**	**28.20**	**161**	P	**P**	**01 05 02.3**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=328,slow=11,SNR=6.8						
	comp=Z,1.3nm,0.9s						
PSA00	**Pilbara Seismi**	**28.79**	**190**	P	**P**	**01 05 06.2**	**-1.2**
PSA00				IAmb	IAmb	01 05 13.4	
	comp=Z,4.2nm,1.1s						
ASAR	**Alice Springs**	**31.59**	**165**	P	**P**	**01 05 30.4**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=343,slow=7.0,SNR=10						
	comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**37.61**	**8**	P	**P**	**01 06 25.2**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=176,slow=6.4,SNR=6.8						
	comp=Z,5.0nm,0.7s						
STKA	**Stephens Creek**	**41.66**	**159**	P	**P**	**01 06 57.6**	**-0.4**
STKA	**Stephens Creek**	**41.66**	**159**	P	**P**	**01 06 57.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=14,slow=4.2,SNR=3.2						
	comp=Z,2.1nm,0.7s						
MKAR	**Makanchi Array**	**54.04**	**325**	P	**P**	**01 08 34.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=113,slow=9.3,SNR=3.6						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**58.21**	**327**	P	**P**	**01 09 04.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=128,slow=5.8,SNR=4.3						
	comp=Z,0.7nm,0.3s						
GAR	**Garm**	**58.61**	**312**	P	**P**	**01 09 06.4**	**-0.3**
GAR				IAmb	IAmb	01 09 18.0	
	comp=Z,6.4nm,0.9s						
KK31	**Karatay Array**	**59.83**	**316**	P	**P**	**01 09 14.4**	**-0.6**
KK31				IAmb	IAmb	01 09 27.9	
	comp=Z,3.0nm,1.2s						
KKAR	**Karatay Array**	**59.83**	**316**	P	**P**	**01 09 15.1**	**+0.2**
BVAR	**Borovoye Array**	**63.79**	**327**	P	**P**	**01 09 40.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=102,slow=6.2,SNR=4.5						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**82.92**	**26**	P	**P**	**01 11 34.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=236,slow=6.4,SNR=4.4						
	comp=Z,0.7nm,0.9s						
BMAR	**Burnt Mountain**	**83.77**	**23**	P	**P**	**01 11 39.6**	**+1.2**

*KRNET **31** 01:02:33.0±0.1, 41°26N×72°45E, h13km, mb2.8*
*ISU **31** 01:02:34, 41°36N×72°47E, h11km*
*SOME **31** 01:02:34.2, 41°28N×72°42E, h10km*
*KNET **31** 01:02:35.8±0.3, 41°36N×72°61E, h8km±1km, ml2.2, Error ellipse: s-maj=3.6km s-min=2.0km az=134.0*
*NNC **31** 01:02:36.6±2.5, 41°36N×72°51E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=22.5km s-min=8.1km az=176.0*
ISC 31 01:02:34.2±0.7, 41°30N±0°02×72°49E±0°02, h10km, n45, σ1§64/83, 36C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.37**	**86**	⇑*iP*	**Pg**	**01 02 41.1**	**-0.5**
ARSB				⇑*iS*	**Sg**	**01 02 46.9**	**+0.4**
ARK	**Arkit**	**0.64**	**322**	⇓*iP*	**Pg**	**01 02 45.6**	**-1.1**
ARK				⇓*iS*	**Sb**	**01 02 55.0**	**-1.6**
OHH	**Osh**	**0.80**	**164**	⇑*iP*	**Pg**	**01 02 47.9**	**-1.8**
OHH				⇑*iS*	**Sg**	**01 02 58.6**	**-1.6**
TRKS	**Terek-Say**	**1.04**	**283**	⇑*iP*	**Pg**	**01 02 51.9**	**-2.4**
TRKS				⇑*iS*	**Sg**	**01 03 05.8**

8.2nm,0.8s
KST Kastek 3.11 55 Pg **Pb 01 03 31.0 +1.3**
2.8nm,0.3s
KST Lg Lg 01 04 11.4
8.7nm,0.6s
KST Kastek 3.11 55 *eP* **Pb 01 03 31.0 +1.3**
2.8nm,0.3s
KST *eS* **Sg 01 04 11.4 -2.8**
8.7nm,0.6s
MTBS Maitube 3.45 57 Pg **Pg 01 03 38.1 -2.3**
1.0nm,0.1s
MTBS Lg Lg 01 04 23.3
6.9nm,0.3s
MTBS Maitube 3.45 57 *eP* **Pg 01 03 38.1 -2.3**
1.0nm,0.1s
MTBS *eS* **Sg 01 04 23.3 -1.7**
6.9nm,0.3s
KDJ Kajisay 3.61 75⇓*eP* **Pn 01 03 33.1 +2.8**
KDJ ⇓*iS* **Sn 01 04 16.9 +3.8**
KTBS Karatobe 3.93 51 Pg **Pg 01 03 45.9 -3.6**
0.9nm,0.2s
KTBS Lg Lg 01 04 36.7
5.0nm,0.4s
TARG Taragay, Kyrgy 4.01 82⇓*iP* **Pn 01 03 38.7 +2.6**
TARG ⇓*iS* **Sn 01 04 26.5 +3.1**

*MAN **31** 01:11:17.2, 6.92N×125.13E, h11km, mb6.6, ML5.7, MS6.5*
MAN INTENSITY VII - KIDAPAWAN CITY MAKILALA AND TULUNAN COTABATO; DIGOS CITY BANSALAN MAGSAYSAY MATANAO AND SANTA CRUZ DAVAO DEL SUR; INTENSITY VI - DAVAO CITY; HAGONOY DAVAO DEL SUR; INTENSITY V - GENERAL SANTOS CITY; KORONADAL CITY POLOMOLOK SANTO NIO SURALLAH TAMPAKAN AND TUPI SOUTH COTABATO; ISULAN SULTAN KUDARAT; MALUNGON SARANGANI; INTENSITY IV- PIGCAWAYAN COTABATO; LAKE SEBU SOUTH COTABATO; TACURONG CITY ESPERANZA KALAMANSIG AND LEBAK SULTAN KUDARAT; ALABEL KIAMBA AND MALAPATAN ; SARANGANI; DAMULOG KADINGILAN KALILANGAN AND TALAKAG BUKIDNON; INTENSITY III - BANGA SOUTH COTABATO; LAMBAYONG SULTAN KUDARAT; MALAYBALAY CITY VALENCIA CITY BAUNGON DON CARLOS LIBONA MANOLO FORTICH MARAMAG AND QUEZON ; BUKIDNON; CAGAYAN DE ORO CITY; EL SALVADOR CITY GINGOOG CITY AND NAAWAN MISAMIS ORIENTAL; ILIGAN CITY; KAUSWAGAN AND TUBOD LANAO DEL NORTE; BISLIG CITY SURIGAO DEL ; SUR; BUTUAN CITY; INTENSITY II - DAPITAN CITY DIPOLOG CITY POLANCO AND SINDANGAN ZAMBOANGA DEL NORTE; LAS NIEVES AGUSAN DEL NORTE; INTENSITY I - ZAMBOANGA CITY.
*BJI **31** 01:11:18.4, 7.10N×125.20E, h10km, mB6.6/81, mb6.2/70, Ms6.7/99, Ms7 6.6/97*
*NEIC **31** 01:11:19.1±1.5, 6.91N±0.06×125.18E±0.07, h10km±1km, mb6.3/441, Ms_20 6.5/651, Mwb6.4/113, Mww6.5/51, Error ellipse: s-maj=11.6km s-min=9.7km az=78.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.28; Mθθ4.02; Mφφ-4.31; Mrθ1.27; Mθφ1.25; Mφr-0.74; Fault plane solution: M0≈4.60000×1018 NP1: φs127.24000°, δ86.76000°, λ18.74000°. NP2:φs36.14000°, δ71.29000°, λ176.58000°. Principal axes: T 4.5244, Plg15.0000°, Azm353.0000°; N 0.1403, Plg71.0000°, Azm137.0000°; P -4.6647, Plg11.0000°, Azm260.0000°;*
*NEIC **31** 01:11:19.1, 6.91N×125.18E, h12km*
*NEIC **31** 01:11:19.1, 6.71N×125.49E, h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 1018Nm; Mrr-1.41; Mθθ6.02; Mφφ-4.61; Mrθ-0.68; Mθφ1.79; Mφr-1.98; Fault plane solution: M0≈6.11000×1018 NP1: φs303.75000°, δ67.97000°, λ-11.90000°. NP2:φs38.27000°, δ78.98000°, λ-157.53000°. Principal axes: T 6.4422, Plg7.0000°, Azm169.0000°; N -0.7384, Plg65.0000°, Azm63.0000°; P -5.7038, Plg24.0000°, Azm263.0000°;*
*NEIC **31** 01:11:19.1, 6.91N×125.15E, h10km*
*ISC-PP **31** 01:11:19, 6.91N×125.18E, h8km±4km, Mwppsm6.5, Moment Tensor Solution. s44 Moment tensor: Scale 1018Nm; Mrr-0.55±.13; Mθθ0.58±.21; Mφφ0.03±.21; Mrθ0.32±.12; Mθφ-0.20±.21; Mφr-0.18±.13; Fault plane solution: M0≈8.04000×1018 NP1:φs295.00000°, δ61.30000°, λ278.30000°. NP2:φs98.10000°, δ29.80000°, λ-104.90000°.*
*IPGP **31** 01:11:19.0, 6.93N×125.24E, h8km, Mw6.6, Fault plane solution: NP1:φs44.00000°, δ59.00000°, λ-152.00000°. NP2:φs299.00000°, δ66.00000°, λ-34.00000°.*
*IDC **31** 01:11:21.6±0.7, 6.91N×125.26E, h32km±4km, mb5.5/47, mbtmp5.7/51, ML5.1/4, MS6.4/66, Error ellipse: s-maj=9.6km s-min=7.2km az=89.0*
*DJA **31** 01:11:21.7±0.4, 7.1N±1.1×125.1E±1.1, h28km±3km, M6.5/144, mB6.8/144, mb6.1/140, MLv6.9/11, Mw6.5/77, Mw(mB)6.6/144, MwMwp6.4/132, Mwp6.3/132*
*GCMT **31** 01:11:21.1±0.0, 6.98N×125.10E, h12km, MW6.5/169, Moment Tensor Solution. s166, c414; s169, c744; Duration: 4s2 Moment tensor: Scale 1018Nm; Mrr-2.31±.02; Mθθ6.78±.02; Mφφ-4.47±.02; Mrθ0.78±.06; Mθφ1.59±.02; Mφr-1.60±.06; Best double couple: M0≈6.30400×1018 NP1:φs40.00000°, δ68.00000°, λ-162.00000°. NP2:φs303.00000°, δ73.00000°, λ-23.00000°. Principal axes: T 7.0340, Plg3.0000°, Azm353.0000°; N -1.4600, Plg62.0000°, Azm89.0000°; P -5.5740, Plg28.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 31 01:11:19.4±0.4, 6.92N±0.02×125.26E±0.03, h16km±1km, h15km:pP-P, n2083, σ1.95/2265, mb6.2/392, MS6.5/465, 59C-103D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.35**	**64**		**Pb**	**01 11 27.3**	**0.0**
DAV	**Davao City (W)**	**0.35**	**64**	Pg	**Pn**	**01 11 28.6**	**-1.3**
199nm,0.3s,baz=333,slow=11,SNR=2519							
DAV				Lg	Lg	01 11 38.8	
404nm,0.3s,baz=263,slow=16,SNR=28							
DAV	**Davao City (W)**	**0.35**	**64**	P	**Pn**	**01 11 28.7**	**-1.2**
DAV	**Davao City (W)**	**0.35**	**64**	P	**Pb**	**01 11 27.9**	**+0.6**
DAV	**Davao City (W)**	**0.35**	**64**	⇑P	**Pb**	**01 11 27.3**	**0.0**
DAV	**Davao City (W)**	**0.35**	**64**	P	**Pb**	**01 11 28.2**	**+0.9**
DAV	**Davao City (W)**	**0.35**	**64**	P	**Pb**	**01 11 27.0**	**-0.3**
SGSI	**Sangihe**	**3.22**	**175**	P	**Pn**	**01 12 10.0**	**+0.5**
SGSI				S	**Sn**	**01 12 50.5**	**+2.9**
KMSI	**Cibinong**	**6.43**	**192**	P	**Pn**	**01 12 54.7**	**+1.1**
TNTI	**Ternate**	**6.46**	**161**		**Pn**	**01 12 54.1**	**+0.1**
TNTI	**Ternate**	**6.46**	**161**	P	**Pn**	**01 12 55.0**	**+1.0**
TNTI	**Ternate**	**6.46**	**161**	P	**Pn**	**01 12 56.0**	**+2.0**
TNTI	**Ternate**	**6.46**	**161**	⇑P	**Pn**	**01 12 54.0**	**0.0**
MYLDM	**Lahad Datu**	**6.95**	**256**		**Pn**	**01 12 60.0**	**-0.7**
MYLDM	**Lahad Datu**	**6.95**	**256**	P	**Pn**	**01 13 01.4**	**+0.7**
MYLDM	**Lahad Datu**	**6.95**	**256**	⇓P	**Pn**	**01 13 00.6**	**-0.1**
MRSI	**Marisa**	**7.21**	**208**	P	**Pn**	**01 13 03.5**	**-0.8**
TOLI2	**Tolitoli**	**7.30**	**218**		Pn	01 13 00.4	-5.1
TOLI2	**Tolitoli**	**7.30**	**218**	P	**Pn**	**01 13 01.8**	**-3.7**
TOLI2	**Tolitoli**	**7.30**	**218**	S	**Sn**	**01 14 25.0**	**-3.2**
LUWI	**Luwuk**	**8.29**	**198**	P	**Pn**	**01 13 21.7**	**+2.6**
LUWI				S	**Sn**	**01 14 55.3**	**+2.7**
LUWI	**Luwuk**	**8.29**	**198**		**Pn**	**01 13 19.3**	**+0.2**
LUWI	**Luwuk**	**8.29**	**198**	P	**Pn**	**01 13 19.8**	**+0.7**
LUWI	**Luwuk**	**8.29**	**198**	P	**Pn**	**01 13 21.9**	**+2.8**
LUWI	**Luwuk**	**8.29**	**198**	⇓P	**Pn**	**01 13 17.8**	**-1.3**
TGY	**Tagaytay City**	**8.31**	**330**	Pn	**Pn**	**01 13 20.5**	**+1.0**
69nm,0.3s,baz=184,slow=2.3,SNR=18							
TGY				Sn	Sb	01 15 10.4	-11
65nm,0.3s,baz=32,slow=15,SNR=1.7							
TGY				LR	LR	01 16 59.3	
comp=Z,478μm,19.5s,baz=146,slow=41							
144nm,0.3s							
APSI	**Ampana**	**8.57**	**205**	P	**Pn**	**01 13 24.6**	**+1.6**
SANI	**Sanana**	**8.94**	**175**	P	**Pn**	**01 13 26.3**	**-1.8**
SANI				S	**Sn**	**01 15 02.4**	**-6.1**
SANI	**Sanana**	**8.94**	**175**	P	**Pn**	**01 13 27.1**	**-0.9**
SANI	**Sanana**	**8.94**	**175**	S	**Sn**	**01 15 08.5**	**0.0**
SANI	**Sanana**	**8.94**	**175**	P	**Pn**	**01 13 27.3**	**-0.7**
39μm2μm,0.8s							
SANI	**Sanana**	**8.94**	**175**	⇑P	**Pn**	**01 13 25.3**	**-2.7**
I39PW	**PALAU INFRASON**	**9.23**	**86**	I	I	01 58 58.8	
0.2nm,0.7s,baz=270,slow=305,SNR=4.1							
SWI	**Sorong**	**9.77**	**142**	P	**Pn**	**01 13 42.8**	**+3.3**
248μm34μm1μm,1.1s							
NLAI	**Namlea**	**10.26**	**170**	P	**Pn**	**01 13 44.3**	**-1.8**
MSAI	**Masohi**	**10.83**	**160**	P	**Pn**	**01 13 55.9**	**+1.9**
38μm2μm,1.6s							
AAI	**Ambon**	**10.93**	**164**	P	**Pn**	**01 13 56.9**	**+1.5**
20μm2μm,1.2s							
BKB	**Balikpapan**	**11.65**	**226**		**Pn**	**01 14 03.1**	**-2.1**
BKB	**Balikpapan**	**11.65**	**226**	P	**Pn**	**01 14 03.8**	**-1.4**
BKB	**Balikpapan**	**11.65**	**226**	P	**Pn**	**01 14 07.6**	**+2.4**
242μm29μm872nm,1.2s							
BKB	**Balikpapan**	**11.65**	**226**	⇓P	**Pn**	**01 14 01.6**	**-3.6**
FAKI	**Fak Fak**	**12.00**	**144**		**Pn**	**01 14 09.8**	**-0.3**
FAKI	**Fak Fak**	**12.00**	**144**	P	**Pn**	**01 14 11.3**	**+1.2**
FAKI	**Fak Fak**	**12.00**	**144**	P	**Pn**	**01 14 12.5**	**+2.4**
215μm34μm2μm,1.1s							
FAKI	**Fak Fak**	**12.00**	**144**	⇑P	**Pn**	**01 14 10.5**	**+0.4**
SPSI	**Sidrap Palu**	**12.12**	**207**	P	**Pn**	**01 14 12.3**	**+0.6**
200μm23μm478nm,1.1s							
RKPI	**Ransiki, Papua**	**12.22**	**133**	P	Pn	01 14 18.8	+5.8
100μm51μm2μm,1.6s							
BNDI	**Bandanaira**	**12.27**	**158**	P	**Pn**	**01 14 15.9**	**+2.2**
BNDI	**Bandanaira**	**12.27**	**158**	P	**Pn**	**01 14 14.6**	**+0.9**
3μm,2.3s							
BNDI	**Bandanaira**	**12.27**	**158**	⇑P	**Pn**	**01 14 12.2**	**-1.6**
BNSI	**Bone**	**12.37**	**205**	P	**Pn**	**01 14 15.5**	**+0.5**
237μm43μm860nm,0.8s							
MTKI	**Muara Teweh, K**	**12.96**	**233**	P	**Pn**	**01 14 27.6**	**+4.4**
KAPI	**Kappang**	**13.07**	**205**		**Pn**	**01 14 25.2**	**+0.6**
KAPI	**Kappang**	**13.07**	**205**	Pn	**Pn**	**01 14 26.5**	**+1.9**
4.2nm,0.3s,baz=352,slow=8.7,SNR=20							
KAPI				Sn	**Sn**	**01 16 58.4**	**+8.6**
1.0nm,0.3s,baz=38,slow=19,SNR=2.5							
KAPI				LR	LR	01 19 38.1	
comp=Z,290μm,21.0s,baz=42,slow=38							
85nm,0.6s							
KAPI	**Kappang**	**13.07**	**205**	P	**Pn**	**01 14 28.6**	**+3.9**
KAPI				P	**Pn**	**01 14 28.6**	**+3.9**
KAPI				P	**Pn**	**01 14 28.6**	**+3.9**
KAPI				S	**Sn**	**01 16 54.7**	**+4.8**
KAPI				S	**Sn**	**01 16 54.7**	**+4.8**
KAPI				S	**Sn**	**01 16 54.7**	**+4.8**
KAPI	**Kappang**	**13.07**	**205**	P	**Pn**	**01 14 25.4**	**+0.8**
KAPI	**Kappang**	**13.07**	**205**	P	**Pn**	**01 14 28.9**	**+4.3**
KAPI				S	**Sn**	**01 16 56.0**	**+6.2**
BKSI	**Bulukumba**	**13.20**	**203**	P	**Pn**	**01 14 28.5**	**+2.1**
200μm24μm509nm,1.2s							
KMPI	**Kaimana, Papua**	**13.47**	**141**	P	**Pn**	**01 14 34.6**	**+4.5**
180μm45μm2μm,1.4s							
BAKI	**Biak**	**13.49**	**126**	P	**Pn**	**01 14 32.3**	**+1.9**
83μm41μm1μm,1.1s							
SBUM	**Sibu**	**13.73**	**252**		**Pn**	**01 14 33.3**	**-0.5**
SBUM	**Sibu**	**13.73**	**252**	P	**Pn**	**01 14 34.8**	**+1.1**
SBUM	**Sibu**	**13.73**	**252**	⇓P	**Pn**	**01 14 33.7**	**-0.1**
BSSI	**Bau Bau, Buton**	**13.82**	**200**	P	**Pn**	**01 14 38.1**	**+3.2**
176μm50μm1μm,3.0s							
BBKI	**Banjar Baru**	**14.65**	**226**	P	**Pn**	**01 14 49.2**	**+2.9**
145μm2μm,1.4s							
MMRI	**Maumere**	**15.74**	**191**	Pn	**Pn**	**01 15 01.5**	**+0.8**
MMRI				IAmb	IAmb	01 15 08.7	
comp=Z,6μm,1.9s							
MMRI	**Maumere**	**15.74**	**191**	P	**Pn**	**01 15 01.4**	**+0.6**
MMRI	**Maumere**	**15.74**	**191**	P	**P**	**01 15 03.3**	**-1.4**
comp=Z,162μmcomp=Z,54μmcomp=Z,2μm,1.8s							
MMRI	**Maumere**	**15.74**	**191**	⇑P	**Pn**	**01 15 00.5**	**-0.2**
KSM	**Kuching**	**15.86**	**251**	Pn	**Pn**	**01 15 01.2**	**-1.1**
KSM	**Kuching**	**15.86**	**251**	P	**Pn**	**01 15 02.6**	**+0.3**
KSM	**Kuching**	**15.86**	**251**	⇑P	**Pn**	**01 15 02.2**	**-0.1**
SAUI	**Saumlaki**	**15.98**	**158**		**Pn**	**01 15 03.0**	**-0.8**
SAUI				IAmb	IAmb	01 15 12.3	
comp=Z,1μm,0.7s							
SAUI	**Saumlaki**	**15.98**	**158**	P	**P**	**01 15 05.7**	**-1.6**
SAUI	**Saumlaki**	**15.98**	**158**	P	**Pn**	**01 15 04.7**	**+0.9**
SAUI	**Saumlaki**	**15.98**	**158**	⇑P	**Pn**	**01 15 00.2**	**-3.6**
SMPI	**Sarmi**	**16.07**	**123**	P	**P**	**01 15 08.3**	**0.0**
comp=Z,98μmcomp=Z,34μmcomp=Z,977nm,1.2s							
TWGBT	**Beinan**	**16.31**	**346**	P	**Pn**	**01 15 08.2**	**+0.2**
TWG	**Pinlang**	**16.32**	**346**	Pn	**Pn**	**01 15 07.4**	**-0.7**
SOEI	**Soe**	**16.59**	**183**	P	**Pn**	**01 15 12.4**	**+0.6**
SOEI				S	**Sn**	**01 18 11.8**	**-4.1**
SOEI	**Soe**	**16.59**	**183**		**Pn**	**01 15 12.3**	**+0.6**
SOEI	**Soe**	**16.59**	**183**	P	**P**	**01 15 13.1**	**-1.1**
SOEI	**Soe**	**16.59**	**183**	P	**Pn**	**01 15 11.6**	**-0.2**
comp=Z,195μmcomp=Z,65μmcomp=Z,3μm,1.4s							
SOEI	**Soe**	**16.59**	**183**	⇑P	**Pn**	**01 15 12.6**	**+0.8**
YULB	**Yu-li**	**16.82**	**347**	Pn	**Pn**	**01 15 12.0**	**-2.4**
YULB	**Yu-li**	**16.82**	**347**	P	**P**	**01 15 15.9**	**-0.7**
TPUB	**Ta-pu**	**16.89**	**345**	Pn	**Pn**	**01 15 14.7**	**-0.7**
TPUB	**Ta-pu**	**16.89**	**345**	P	**P**	**01 15 17.2**	**-0.1**
BATI	**Baumata**	**17.09**	**185**	P	**Pn**	**01 15 17.9**	**-0.1**
comp=Z,10nm,0.3s,baz=72,slow=1.5,SNR=40							
BATI				S	**Sn**	**01 18 30.9**	**+3.2**
comp=Z,108nm,1.0s,baz=183,slow=18,SNR=2.3							
BATI				LR	LR	01 23 27.2	
comp=Z,138μm,21.4s,baz=14,slow=42							
comp=Z,485nm,0.9s							
BATI	**Baumata**	**17.09**	**185**	P	**Pn**	**01 15 18.0**	**+0.1**
comp=Z,50μmcomp=Z,2μm,0.9s							
WSI	**Waingapu**	**17.20**	**197**	P	**P**	**01 15 21.5**	**+0.6**
comp=Z,3μm,1.8s							
SSLB	**Suanglung**	**17.28**	**347**		**Pn**	**01 15 20.2**	**0.0**
SSLB	**Suanglung**	**17.28**	**347**	P	**P**	**01 15 21.6**	**-0.1**
PLAI	**Plampang**	**17.33**	**206**	P	**P**	**01 15 22.6**	**+0.3**
PLAI	**Plampang**	**17.33**	**206**	P	**P**	**01 15 23.3**	**+1.0**
comp=Z,149μmcomp=Z,51μmcomp=Z,2μm,0.9s							
WBSI	**Waikabubak, Su**	**17.46**	**200**	P	**Pn**	**01 15 22.6**	**0.0**
comp=Z,155μmcomp=Z,45μmcomp=Z,2μm,1.8s							
NACB	**Ninganchiao**	**17.52**	**349**	Pn	**Pn**	**01 15 22.7**	**-0.5**
NACB	**Ninganchiao**	**17.52**	**349**	P	**P**	**01 15 25.3**	**+1.1**
YOJ	**Yonaguni jima**	**17.58**	**353**		**Pn**	**01 15 24.0**	**+0.1**
YOJ	**Yonaguni jima**	**17.58**	**353**	P	**P**	**01 15 25.8**	**+0.9**
YOJ	**Yonaguni jima**	**17.58**	**353**	⇑P	**Pn**	**01 15 22.1**	**-1.8**
YOJ	**Yonaguni jima**	**17.58**	**353**	P	**Pn**	**01 15 23.7**	**-0.2**
GENI	**Genyem**	**17.62**	**122**	P	**P**	**01 15 28.1**	**+2.6**
GENI	**Genyem**	**17.62**	**122**	P	**P**	**01 15 27.5**	**+2.0**
comp=Z,112μmcomp=Z,51μmcomp=Z,1μm,1.3s							
GENI	**Genyem**	**17.62**	**122**	⇑P	**Pn**	**01 15 23.2**	**-1.4**
BASI	**Baing, Sumba**	**17.65**	**195**	P	**P**	**01 15 25.6**	**-0.2**
comp=Z,137μmcomp=Z,42μmcomp=Z,1μm,2.0s							
TWSI	**Taliwang, Sumb**	**17.66**	**208**	P	**Pn**	**01 15 25.4**	**+0.4**
comp=Z,137μmcomp=Z,41μmcomp=Z,1μm,1.0s							
JMJ	**Miyako jima 2**	**17.80**	**0**	P	**P**	**01 15 28.3**	**+1.0**
BWJI	**Bawean**	**17.86**	**225**	P	**Pn**	**01 15 25.9**	**-1.7**
comp=Z,98μmcomp=Z,57μmcomp=Z,3μm,1.4s							
KMMI	**Kalianget**	**17.88**	**219**	P	**P**	**01 15 29.3**	**+1.0**
comp=Z,163μmcomp=Z,2μm,2.7s							
SRBI	**Singaraja**	**17.96**	**214**	P	**P**	**01 15 30.4**	**+1.2**
comp=Z,110μmcomp=Z,53μmcomp=Z,992nm,1.4s							
JAY	**Jayapura**	**18.04**	**121**	P	**Pn**	**01 15 28.4**	**-1.3**
comp=Z,3.8nm,0.3s,baz=246,slow=3.5,SNR=15							
JAY				S	**Sn**	**01 18 46.6**	**-4.2**
comp=Z,20nm,0.9s,baz=339,slow=13,SNR=1.7							
JAY				LR	LR	01 21 35.0	
comp=Z,128μm,20.0s,baz=299,slow=34							
comp=Z,26nm,0.7s							
JAY	**Jayapura**	**18.04**	**121**	P	**P**	**01 15 31.4**	**+1.3**
YHNB	**Yeheng**	**18.04**	**349**		**Pn**	**01 15 29.5**	**-0.3**
YHNB	**Yeheng**	**18.04**	**349**	P	**P**	**01 15 31.6**	**+1.5**
ABJI	**Asem Bagus**	**18.29**	**217**	P	**P**	**01 15 34.3**	**+1.4**
comp=Z,175μmcomp=Z,51μmcomp=Z,667nm,1.1s							
TATO	**Taipei**	**18.32**	**349**		**Pn**	**01 15 32.9**	**-0.1**
TATO	**Taipei**	**18.32**	**349**	P	**Pn**	**01 15 30.9**	**-2.1**
TATO				P	**Pn**	**01 15 30.9**	**-2.1**
TATO				P	**Pn**	**01 15 30.9**	**-2.1**
TATO				S	**Sn**	**01 18 53.8**	**-3.6**
TATO				S	**Sn**	**01 18 53.8**	**-3.6**
TATO				S	**Sn**	**01 18 53.8**	**-3.6**
TATO	**Taipei**	**18.32**	**349**	P	**P**	**01 15 35.3**	**+2.2**
DNP	**Denpasar**	**18.45**	**213**	P	**Pn**	**01 15 39.9**	**+5.2**
comp=Z,144μmcomp=Z,74μmcomp=Z,2μm,1.6s							
BLJI	**Banyuglugur**	**18.64**	**219**	P	**Pn**	**01 15 37.7**	**+0.6**
comp=Z,153μmcomp=Z,43μmcomp=Z,672nm,1.6s							
KNMB	**Chin-men Tao**	**18.65**	**340**	P	**Pn**	**01 15 37.1**	**0.0**
KNMB				IAmb	IAmb	01 15 47.8	
comp=Z,6μm,1.9s							
HKPS	**Hong Kong Po S**	**18.66**	**326**	P	**P**	**01 15 36.5**	**-0.4**
HKPS	**Hong Kong Po S**	**18.66**	**326**	P	**Pn**	**01 15 38.9**	**+1.6**
HKC	**Hong Kong Obse**	**18.66**	**326**	⇑P	**P**	**01 15 37.0**	**+0.1**
GRJI	**Gresik**	**18.75**	**223**	P	**Pn**	**01 15 41.6**	**+3.2**
comp=Z,113μmcomp=Z,58μmcomp=Z,1μm,1.3s							
JAGI	**Jajag, Banyuwa**	**18.88**	**216**	P	**P**	**01 15 39.1**	**-0.2**
JAGI				IAmb	IAmb	01 15 50.4	
comp=Z,2μm,1.3s							
JAGI	**Jajag, Banyuwa**	**18.88**	**216**	P	**Pn**	**01 15 40.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**18.88**	**216**	P	**Pn**	**01 15 40.3**	**+0.3**
comp=Z,118μmcomp=Z,29μmcomp=Z,1μm,1.4s							
JAGI	**Jajag, Banyuwa**	**18.88**	**216**	⇓P	**P**	**01 15 38.3**	**-1.1**
QZH	**Quanzhou**	**19.03**	**341**	⇑*iP*	**P**	**01 15 40.8**	**-0.1**
QZH				S	**Sn**	**01 19 14.8**	**+0.2**
QZH				pmax	pmax		
comp=Z,1μm,1.6s							
QZH				pmax	pmax		
comp=Z,46μm,5.9s							
QZH				LR	LR		
comp=Z,189μm,23.0s							
QZH				LR	LR		
comp=Z,319μm,26.5s							
TBJI	**Tambak Boyo**	**19.11**	**225**	P	**Pn**	**01 15 44.2**	**+1.4**
comp=Z,106μmcomp=Z,64μmcomp=Z,2μm,1.6s							
QIZ	**Qiongzhong**	**19.23**	**310**	P	**Pn**	**01 15 44.0**	**-0.2**
QIZ				S	**Sn**	**01 19 19.0**	**-0.7**
QIZ				pmax	pmax		
comp=Z,600nm,1.4s							
QIZ				pmax	pmax		
comp=Z,18μm,5.3s							
QIZ				LR	LR		
comp=Z,188μm,13.5s							
QIZ				LR	LR		
comp=Z,197μm,15.5s							
QIZ				LR	LR		
comp=Z,207μm,17.0s							
QIZ	**Qiongzhong**	**19.23**	**310**	P	**P**	**01 15 42.6**	**-0.6**
QIZ				IAmb	IAmb	01 15 52.5	
comp=Z,4μm,1.8s							
QIZ	**Qiongzhong**	**19.23**	**310**	P	**Pn**	**01 15 44.9**	**+0.7**
JMZ	**Minamidaito 2**	**19.64**	**16**	P	**P**	**01 15 47.5**	**0.0**
JMZ				IAmb	IAmb	01 15 54.9	
comp=Z,5μm,2.0s							
JMZ	**Minamidaito 2**	**19.64**	**16**	P	**Pn**	**01 15 50.2**	**+1.2**
JMZ	**Minamidaito 2**	**19.64**	**16**	⇓P	**P**	**01 15 48.1**	**+0.5**
JMZ	**Minamidaito 2**	**19.64**	**16**	P	**P**	**01 15 48.0**	**+0.4**
GZH	**Guangzhou**	**19.75**	**326**	P	**Pn**	**01 15 51.8**	**+1.5**
GZH				sP	**sP**	**01 16 00.0**	**+4.4**
GZH				S	**Sn**	**01 19 36.5**	**+4.5**
GZH				pmax	pmax		
comp=Z,280nm,0.9s							
GZH				pmax	pmax		
comp=Z,11μm,5.0s							
GZH				LR	LR		
comp=Z,233μm,20.4s							
GZH				LR	LR		
comp=Z,195μm,22.5s							
NGJI	**Ngawi**	**19.77**	**224**	P	**Pn**	**01 15 50.9**	**+0.2**
comp=Z,586nm,1.0s							
JOW	**Kunigami**	**20.01**	**8**	P	**P**	**01 15 52.2**	**+0.6**
JOW				IAmb	IAmb	01 16 01.9	
comp=Z,2μm,1.2s							
JOW	**Kunigami**	**20.01**	**8**	P	**P**	**01 15 50.8**	**-0.8**
comp=Z,349nm,0.7s,baz=210,slow=10,SNR=44							
JOW				S	**S**	**01 19 27.2**	**-9.0**
comp=Z,16nm,0.8s,baz=98,slow=15,SNR=1.8							
JOW				LR	LR	01 23 13.3	
comp=Z,198μm,21.2s,baz=175,slow=36							
comp=Z,349nm,0.7s							
JOW	**Kunigami**	**20.01**	**8**	P	Pn	01 15 53.4	0.0
JOW	**Kunigami**	**20.01**	**8**	⇑P	**P**	**01 15 51.5**	**-0.1**
JOW	**Kunigami**	**20.01**	**8**	P	**P**	**01 15 51.5**	**-0.1**
AUDHS	**Darwin High Sc**	**20.01**	**164**	P	**P**	**01 15 51.6**	**-0.1**
AUDHS	**Darwin High Sc**	**20.01**	**164**	S	**S**	**01 19 36.8**	**+0.4**
DRS	**Darwin Rock St**	**20.02**	**164**	P	**P**	**01 15 52.2**	**+0.4**
DRS	**Darwin Rock St**	**20.02**	**164**	S	**S**	**01 19 36.7**	**+0.1**
TPI	**Tanjungpandan**	**20.03**	**242**	P	**P**	**01 15 50.9**	**-1.1**
SMRI	**Semarang**	**20.28**	**227**	P	**P**	**01 15 54.5**	**-0.2**
SMRI				IAmb	IAmb	01 16 07.4	
comp=Z,3μm,1.5s							
SMRI				IAMs_20	IAMs_20	01 23 51.9	
comp=Z,165μm,18.0s							
SMRI	**Semarang**	**20.28**	**227**	P	Pn	01 15 55.8	-0.9
SMRI	**Semarang**	**20.28**	**227**	P	Pn	01 15 56.4	-0.3
comp=Z,127μmcomp=Z,78μmcomp=Z,1μm,1.2s							
SMRI	**Semarang**	**20.28**	**227**	⇓P	**P**	**01 15 55.4**	**+0.7**
GUMO	**Guam**	**20.39**	**69**	P	**P**	**01 15 56.6**	**+0.8**
GUMO				IAmb	IAmb	01 16 08.7	
comp=Z,4μm,1.8s							
GUMO	**Guam**	**20.39**	**69**	P	**P**	**01 15 55.2**	**-0.6**
comp=Z,87nm,0.3s,baz=322,slow=2.8,SNR=8.8							
GUMO				S	Sn	01 19 58.7	+11
comp=Z,64nm,0.3s,baz=30,slow=20,SNR=2.8							
GUMO				LR	LR	01 22 18.6	
comp=Z,78μm,21.3s,baz=244,slow=32							
comp=Z,87nm,0.3s							
GUMO	**Guam**	**20.39**	**69**	P	Pn	01 15 58.6	+0.6
MTN	**Manton Dam**	**20.48**	**163**	P	**P**	**01 15 55.0**	**-1.8**
comp=Z,0.0nmcomp=Z,1μm,1.0s							
MTN	**Manton Dam**	**20.48**	**163**	P	**P**	**01 15 56.0**	**-0.8**
**PC

comp=Z,171μm,25.7s
LHSI Lahat 24.18 244 P **P 01 16 36.1 +0.6**
comp=Z,75μmcomp=Z,50μmcomp=Z,982nm,1.5s
IPM Ipoh 24.24 266 P **P 01 16 34.3 -1.7**
IPM IAmb IAmb 01 16 38.2
comp=Z,2μm,1.5s
IPM Ipoh 24.24 266 P **P 01 16 34.4 -1.6**
IPM Ipoh 24.24 266 ⇓P **P 01 16 34.0 -2.1**
LWLI Liwa 24.26 241 P **P 01 16 36.8 +0.5**
SSE Sheshan 24.35 351 P **P 01 16 37.0 +0.2**
SSE pP **pP 01 16 40.8 -1.2**
SSE sP **sP 01 16 42.0 -2.0**
SSE S **S 01 20 55.0 -0.7**
SSE pmax pmax
comp=Z,330nm,1.6s
SSE pmax pmax
comp=Z,2μm,3.8s
KULM Kulim 24.53 268 P **P 01 16 37.7 -0.9**
KULM Kulim 24.53 268 P **P 01 16 37.8 -0.8**
KULM Kulim 24.53 268 ⇓P **P 01 16 37.2 -1.4**
FITZ Fitzroy Crossi 24.86 179 LR LR 01 29 33.4
comp=Z,65μm,18.5s,baz=12,slow=44
FITZ Fitzroy Crossi 24.86 179 P **P 01 16 41.0 -0.5**
MNAI Manna 24.93 244 P **P 01 16 40.5 -1.8**
MNAI Manna 24.93 244 P **P 01 16 43.1 +0.9**
MNAI Manna 24.93 244 P **P 01 16 39.2 -3.0**
comp=Z,80μmcomp=Z,2μm,1.4s
MNAI Manna 24.93 244 ⇑P **P 01 16 41.5 -0.7**
KSI Kapahiang 24.95 246 P **P 01 16 43.5 +1.0**
comp=Z,73μmcomp=Z,1μm,2.1s
BKNI Bangkinang 25.04 256 P **P 01 16 42.7 -0.5**
BKNI S **S 01 21 09.3 +2.2**
BKNI Bangkinang 25.04 256 P **P 01 16 42.3 -0.9**
BKNI IAmb IAmb 01 16 45.9
comp=Z,658nm,0.9s
BKNI Bangkinang 25.04 256 P **P 01 16 44.7 +1.5**
BKNI Bangkinang 25.04 256 P **P 01 16 44.8 +1.5**
comp=Z,59μmcomp=Z,24μmcomp=Z,927nm,2.4s
MASI Maura Aman, Be 25.06 247 P **P 01 16 44.1 +0.6**
comp=Z,75μmcomp=Z,2μm,1.3s
KRJI Kerinci 25.39 250 P **P 01 16 46.3 -0.2**
WHN Wuhan 25.64 338 ⇑P **P 01 16 49.0 +0.5**
WHN sP **sP 01 16 55.0 -0.5**
WHN S **S 01 21 15.0 -1.3**
WHN SS **SnSn 01 22 18.3 +7.4**
WHN pmax pmax
comp=Z,720nm,0.9s
WHN pmax pmax
comp=Z,29μm,4.9s
WHN LR LR
comp=Z,115μm,12.3s
WHN LR LR
comp=Z,527μm,18.0s
NJ2 Nanjing 25.71 347 ⇑*i*P **P 01 16 49.3 +0.2**
NJ2 S **S 01 21 19.0 +1.6**
NJ2 pmax pmax
comp=Z,360nm,1.4s
NJ2 pmax pmax
comp=Z,20μm,3.8s
NJ2 LR LR
comp=Z,70μm,17.0s
NJ2 LR LR
comp=Z,79μm,18.9s
NJ2 LR LR
comp=Z,111μm,16.6s
CBIJ Chichi jima 25.71 37 P **P 01 16 46.8 -2.4**
JCJ Chichijima 25.71 37 P **P 01 16 49.0 -0.3**
JCJ Chichijima 25.71 37 S S 01 21 01.6 -16
comp=Z,202nm,1.1s,baz=310,slow=21,SNR=6.2
JCJ Chichijima 25.71 37 P **P 01 16 49.4 +0.2**
JCJ Chichijima 25.71 37 ⇑P **P 01 16 46.5 -2.7**
JFU Fukue jima 2 25.81 7 P **P 01 16 49.6 -0.5**
PPI Padang Panjang 25.87 255 P **P 01 16 50.7 -0.1**
comp=Z,56μmcomp=Z,20μmcomp=Z,534nm,2.1s
PDSI Padang 25.94 253 P **P 01 16 51.9 +0.4**
comp=Z,52μmcomp=Z,26μmcomp=Z,413nm,2.0s
XMI Christmas Isla 26.03 229 P **P 01 16 51.9 -0.3**
XMI Christmas Isla 26.03 229 ⇓P **P 01 16 50.1 -2.1**
GYA Guiyang 26.29 320 ⇓P **P 01 16 58.0 +3.4**
GYA sP sP 01 17 00.8 -0.9
GYA S **S 01 21 27.3 +0.3**
GYA pmax pmax
comp=Z,140nm,1.4s
GYA LR LR
comp=Z,175μm,20.8s
GYA LR LR
comp=Z,243μm,16.2s
MNSI Mandailing Nat 26.33 258 P **P 01 16 55.8 +0.9**
comp=Z,53μmcomp=Z,16μmcomp=Z,306nm,1.2s
PSI Prapat 26.56 262 LR LR 01 28 56.9
comp=Z,60μm,20.2s,baz=76,slow=40
PSI Prapat 26.56 262 P **P 01 16 56.1 -1.1**
RPSI Rantau Prapat 26.57 262 P **P 01 16 56.5 -0.7**
RPSI IAmb IAmb 01 17 06.1
comp=Z,1μm,1.4s
RPSI PcP **PcP 01 20 20.0 -1.6**
JNU Nakatsue 26.59 11 P **P 01 16 56.3 -0.8**
JNU Nakatsue 26.59 11 P **P 01 16 55.2 -1.9**
comp=Z,154nm,0.8s,baz=159,slow=2.3,SNR=46
JNU S **S 01 21 29.8 -1.6**
comp=Z,6.6nm,0.8s,baz=94,slow=16,SNR=12
JNU LR LR 01 26 59.4
comp=Z,100μm,22.0s,baz=189,slow=35
comp=Z,154nm,0.8s
JNU Nakatsue 26.59 11 P **P 01 16 57.0 -0.1**
JNU Nakatsue 26.59 11 ⇑P **P 01 16 54.8 -2.3**
JNU Nakatsue 26.59 11 P **P 01 16 55.4 -1.7**
PPSI Pulau Pagai 26.98 250 P **P 01 17 00.6 -0.2**
PMG Port Moresby 27.18 126 P **P 01 17 02.6 -0.1**
PMG IAmb IAmb 01 17 19.3
comp=Z,508nm,1.1s
PMG S **S 01 21 42.0 +1.0**
PMG Port Moresby 27.18 126 LR LR 01 29 41.6
comp=Z,52μm,18.8s,baz=292,slow=40
PMG Port Moresby 27.18 126 P **P 01 17 02.7 +0.1**
PMG Port Moresby 27.18 126 ⇑P **P 01 17 01.8 -0.8**
COEN Coen 27.32 139 P **P 01 17 02.8 -1.0**
comp=Z,0.0nmcomp=Z,554nm,1.0s
COEN Coen 27.32 139 P **P 01 17 03.9 +0.1**
COEN IAmb IAmb 01 17 11.1
comp=Z,575nm,1.1s
COEN S **S 01 21 44.0 +0.9**
COEN Coen 27.32 139 P **P 01 17 03.8 0.0**
COEN Coen 27.32 139 ⇑P **P 01 17 02.5 -1.3**
SISI Saibi 27.38 254 P **P 01 17 03.6 -0.8**
comp=Z,49μmcomp=Z,18μmcomp=Z,614nm,1.8s
ENH Enshi 27.56 329 IAMs_20 IAMs_20 01 29 25.4
comp=Z,140μm,18.0s
ENH Enshi 27.56 329 P **P 01 17 08.1 +2.2**
KCSI Kotacane, Aceh 27.58 264 P **P 01 17 04.1 -2.2**
comp=Z,28μmcomp=Z,390nm,1.0s
JTU Tsushima 27.74 7 P **P 01 17 09.8 +2.4**
JTU Tsushima 27.74 7 ⇑P **P 01 17 06.1 -1.3**
JMN Monobe 27.85 16 P **P 01 17 07.2 -1.2**
JMN IAmb IAmb 01 17 15.7
comp=Z,299nm,0.9s
JMN PcP **PcP 01 20 25.0 +0.6**
JMN Monobe 27.85 16 P **P 01 17 08.7 +0.3**
JMN Monobe 27.85 16 ⇑P **P 01 17 07.2 -1.2**
JMN Monobe 27.85 16 P **P 01 17 06.8 -1.6**
WB0 Warramunga Arr 28.00 161 IAmb IAmb 01 17 53.0
comp=Z,549nm,1.0s
CM31 Chiang Mai Arr 28.08 297 IAmb IAmb 01 17 14.5
comp=Z,736nm,1.6s
CM31 Chiang Mai Arr 28.08 297 P **P 01 17 11.1 +0.4**
SNR=58
CM31 P **P 01 17 11.1 +0.4**
SNR=58
CM31 P **P 01 17 11.1 +0.4**
SNR=58
CM31 S **S 01 21 55.2 +0.1**
CM31 S **S 01 21 55.2 +0.1**
CM31 S **S 01 21 55.2 +0.1**
CMAR Chiang Mai Arr 28.08 297 P **P 01 17 09.6 -1.1**
CMAR Chiang Mai Arr 28.08 297 P **P 01 17 10.8 +0.2**
comp=Z,72nm,0.8s,baz=120,slow=7.4,SNR=160
CMAR S **S 01 21 55.6 +0.5**
comp=Z,2.5nm,0.3s,baz=137,slow=31,SNR=4.1
CMAR LR LR 01 28 23.4
comp=Z,61μm,19.1s,baz=110,slow=36
comp=Z,72nm,0.8s
KMI Kunming 28.13 313 ⇓P **P 01 17 13.8 +2.5**
KMI S **S 01 21 57.8 +1.5**
KMI pmax pmax
comp=Z,5μm,6.3s
KMI LR LR
comp=Z,138μm,19.0s
KMI LR LR
comp=Z,120μm,17.6s
KMI LR LR
comp=Z,135μm,15.1s
WRAB Tennant Creek 28.14 162 P **P 01 17 10.1 -1.1**
WRAB IAmb IAmb 01 17 37.5
comp=Z,416nm,1.1s
WRAB Tennant Creek 28.14 162 P **P 01 17 09.6 -1.5**
WRA Warramunga Arr 28.15 162 P **P 01 17 09.0 -2.2**
WRA Warramunga Arr 28.15 162 P **P 01 17 09.8 -1.4**
comp=Z,104nm,0.8s,baz=339,slow=9.7,SNR=84
WRA S **S 01 21 54.4 -1.7**
comp=Z,87nm,1.2s,baz=337,slow=15,SNR=5.6
WRA P3KPbc 01 49 33.9
comp=Z,0.5nm,0.6s,baz=157,slow=4.0,SNR=5.2
comp=Z,104nm,0.8s
GSI Gunungsitoli 28.16 260 IAMs_20 IAMs_20 01 28 54.2
comp=Z,130μm,22.0s
GSI Gunungsitoli 28.16 260 P **P 01 17 09.2 -2.3**
GSI Gunungsitoli 28.16 260 P **P 01 17 09.6 -1.9**
comp=Z,57μmcomp=Z,20μmcomp=Z,1μm,1.6s
GSI Gunungsitoli 28.16 260 ⇓P **P 01 17 09.3 -2.2**
CHTO Chiang Mai 28.20 297 P **P 01 17 10.6 -1.2**
CHTO IAmb IAmb 01 17 15.2
comp=Z,893nm,1.7s
CHTO Chiang Mai 28.20 297 P **P 01 17 08.7 -3.1**
CHTO P **P 01 17 08.7 -3.1**
CHTO P **P 01 17 08.7 -3.1**
CHTO S **S 01 21 57.7 +0.5**
CHTO S **S 01 21 57.7 +0.5**
CHTO S **S 01 21 57.7 +0.5**
CHTO Chiang Mai 28.20 297 P **P 01 17 11.1 -0.7**
CHTO Chiang Mai 28.20 297 ⇓P **P 01 17 11.5 -0.3**
CHTO Chiang Mai 28.20 297 P **P 01 17 11.7 0.0**
CHTO S **S 01 22 00.0 +2.9**
LHMI Lhok Sumawe 28.21 268 P **P 01 17 13.2 +1.4**
LHMI Lhok Sumawe 28.21 268 P **P 01 17 13.3 +1.4**
comp=Z,78μmcomp=Z,22μmcomp=Z,835nm,1.2s
WR8 Warramunga Arr 28.21 161 IAmb IAmb 01 17 34.6
comp=Z,466nm,1.0s
MBWA Marble Bar 28.43 191 P **P 01 17 12.4 -1.3**
comp=Z,0.0nmcomp=Z,267nm,1.4s
MBWA Marble Bar 28.43 191 P **P 01 17 12.8 -0.9**
MBWA IAmb IAmb 01 17 21.1
comp=Z,1μm,1.9s
MBWA Marble Bar 28.43 191 P **P 01 17 12.6 -1.0**
MBWA P **P 01 17 12.6 -1.0**
MBWA S **S 01 22 07.0 +6.6**
MBWA S **S 01 22 07.0 +6.6**
MBWA Marble Bar 28.43 191 P **P 01 17 13.3 -0.3**
MBWA Marble Bar 28.43 191 ⇑P **P 01 17 12.7 -0.9**
MBWA Marble Bar 28.43 191 P **P 01 17 12.3 -1.3**
PSAC1 Pilbara Seismi 28.78 191 P **P 01 17 15.8 -1.0**
comp=Z,423nm,1.4s
PSA00 Pilbara Seismi 28.81 191 P **P 01 17 16.0 -1.0**
comp=Z,0.0nmcomp=Z,395nm,1.4s
PSA00 Pilbara Seismi 28.81 191 P **P 01 17 15.5 -1.5**
PSA00 Pilbara Seismi 28.81 191 P **P 01 17 16.8 -0.3**
PSAB3 Pilbara Seismi 28.83 190 P **P 01 17 16.2 -1.0**
comp=Z,0.0nmcomp=Z,397nm,1.5s
MLSI Meulaboh, Aceh 28.84 266 P **P 01 17 16.3 -1.2**
comp=Z,52μmcomp=Z,16μmcomp=Z,456nm,1.0s
SNSI Sinabang, Aceh 29.18 263 P **P 01 17 20.7 +0.2**
comp=Z,53μmcomp=Z,15μmcomp=Z,567nm,1.2s
JHJ Hachijo jima 2 29.35 25 P **P 01 17 21.9 +0.1**
comp=Z,122nm,0.8s,baz=151,slow=7.0,SNR=5.6
JHJ S **S 01 22 16.4 +1.5**
comp=Z,36nm,0.7s,baz=60,slow=16,SNR=1.9
JHJ LR LR 01 28 31.3
comp=Z,131μm,20.1s,baz=238,slow=35
comp=Z,122nm,0.8s
TJN Taejon 29.38 3 IAmb IAmb 01 17 40.7
comp=Z,490nm,1.0s
TJN Taejon 29.38 3 P **P 01 17 22.9 +0.9**
PZH PanZhiHua 29.68 314 ⇑P **P 01 17 27.0 +2.1**
PZH PP **PnPn 01 18 21.3 +1.2**
PZH S **S 01 22 19.8 -0.6**
PZH pmax pmax
comp=Z,250nm,1.4s
PZH pmax pmax
comp=Z,2μm,7.3s
PZH LR LR
comp=Z,126μm,20.6s
PZH LR LR
comp=Z,126μm,22.5s
PZH LR LR
comp=Z,77μm,20.0s
JWT Wachi 29.73 17 P **P 01 17 24.3 -0.8**
LYN LuoYang 29.93 339 ⇑P **P 01 17 26.3 -0.6**
LYN sP sP 01 17 33.3 -0.6
LYN S **S 01 22 22.0 -1.8**
LYN pmax pmax
comp=Z,160nm,1.8s
LYN pmax pmax
comp=Z,5μm,6.2s
LYN LR LR
comp=Z,198μm,24.7s
LYN LR LR
comp=Z,255μm,24.4s
JSG Sagara 30.08 22 P **P 01 17 30.2 +2.0**
TIA Tai'an 30.09 347 P **P 01 17 27.5 -0.8**
TIA sP **pP 01 17 33.3 0.0**
TIA S **S 01 22 22.3 -4.1**
TIA pmax pmax
comp=Z,8μm,4.1s
TIA LR LR
comp=Z,56μm,33.0s
TIA LR LR
comp=Z,147μm,24.5s
TIA LR LR
comp=Z,106μm,23.3s
INU Inuyama 30.29 19 IAmb IAmb 01 17 33.0
comp=Z,317nm,0.9s
INU IAMs_20 IAMs_20 01 28 30.0
comp=Z,143μm,19.0s
INU Inuyama 30.29 19 P **P 01 17 29.0 -1.0**
INU Inuyama 30.29 19 ⇑P **P 01 17 28.4 -1.6**
INCN Inchon 30.45 2 IAMs_20 IAMs_20 01 29 50.3
comp=Z,96μm,19.0s
INCN Inchon 30.45 2 P **P 01 17 29.5 -2.0**
INCN P **P 01 17 29.5 -2.0**
INCN P **P 01 17 29.5 -2.0**
INCN Inchon 30.45 2 P **P 01 17 32.8 +1.3**
KSAR Wonju Array Be 30.48 4 P **P 01 17 32.0 +0.3**
KSAR PcP **PcP 01 20 32.8 +1.9**
KSRS Korea Array 30.49 4 P **P 01 17 30.9 -0.9**
comp=Z,59nm,0.9s,baz=186,slow=9.8,SNR=42
KSRS PcP **PcP 01 20 30.1 -0.8**
comp=Z,10nm,0.8s,baz=188,slow=2.8,SNR=5.2
KSRS S **S 01 22 24.9 -7.7**
comp=Z,0.5nm,0.3s,baz=129,slow=33,SNR=2.2
KSRS LR LR 01 29 53.6
comp=Z,63530μm,21.8s,baz=180,slow=36
comp=Z,59nm,0.9s
KS19 Wonju Array Si 30.54 4 IAmb IAmb 01 17 39.9
comp=Z,400nm,1.4s
JGF Kuroka 30.63 20 P **P 01 17 32.9 -0.2**
JGF Kuroka 30.63 20 ⇓P **P 01 17 31.2 -1.9**
QIS Mount Isa 30.73 153 P **P 01 17 33.2 -0.9**
comp=Z,0.0nmcomp=Z,289nm,0.8s
QIS Mount Isa 30.73 153 P **P 01 17 33.7 -0.4**
XAN Xi'an 30.93 333 P **P 01 17 35.8 0.0**
XAN pP pP 01 17 39.3 -1.5
XAN PP **PP 01 18 41.8 -4.0**
XAN S **S 01 22 41.3 +1.6**
XAN pmax pmax
comp=Z,120nm,1.4s
XAN pmax pmax
comp=Z,5μm,3.8s
XAN LR LR
comp=Z,123μm,14.8s
XAN LR LR
comp=Z,215μm,16.0s
CMBY CAMPBELL BAY 31.10 272 ⇓*e*P **P 01 17 36.5 -1.0**
CMBY IAmb IAmb 01 17 42.1
comp=Z,152nm,1.0s
CMBY *e*S **S 01 22 45.3 +2.6**
MTSU Mount Surprise 31.20 143 P **P 01 17 38.9 +0.6**
comp=Z,132nm,1.0s
MTSU Mount Surprise 31.20 143 P **P 01 17 39.4 +1.1**
CD2 Chengdu 31.23 323 P **P 01 17 37.8 -0.7**
CD2 pP pP 01 17 41.5 -2.1
CD2 sP sP 01 17 42.8 -2.8
CD2 S **S 01 22 46.8 +2.3**
CD2 sS sS 01 22 55.5 +2.9
CD2 pmax pmax
comp=Z,160nm,0.9s
CD2 pmax pmax
comp=Z,6μm,6.5s
CD2 LR LR
comp=Z,329μm,21.0s
CD2 LR LR
comp=Z,227μm,18.3s
TNCH TengChong 31.28 308 ⇓P **P 01 17 39.5 +0.3**
TNCH pP pP 01 17 41.8 -2.5
TNCH sP sP 01 17 45.0 -1.4
TNCH S **S 01 22 43.3 -2.4**
TNCH sS sS 01 22 54.3 +0.6
TNCH pmax pmax
comp=Z,410nm,1.9s
TNCH pmax pmax
comp=Z,5μm,5.0s
TNCH LR LR
comp=Z,30μm,19.0s
TNCH LR LR
comp=Z,35μm,14.6s
TNCH LR LR
comp=Z,106μm,18.1s
GIRL Giralia 31.30 200 P **P 01 17 39.6 +0.5**
comp=Z,0.0nmcomp=Z,135nm,1.1s
JRY Ryogami san 31.54 21 P **P 01 17 39.9 -1.3**
ASAR Alice Springs 31.55 165 P **P 01 17 40.9 -0.4**
ASAR Alice Springs 31.55 165 P **P 01 17 39.5 -1.8**
comp=Z,30nm,0.5s,baz=340,slow=8.2,SNR=146
ASAR S **S 01 22 44.4 -5.1**
comp=Z,18nm,0.8s,baz=346,slow=15,SNR=4.2
comp=Z,30nm,0.5s
MAJO Matsushiro 31.77 20 P **P 01 17 40.9 -2.3**
MAJO Matsushiro 31.77 20 P **P 01 17 42.2 -1.0**
MAJO Matsushiro 31.77 20 ⇑P **P 01 17 39.9 -3.3**
MAJO Matsushiro 31.77 20 P **P 01 17 40.4 -2.7**
MAT Matsushiro 31.77 20 P **P 01 17 40.3 -2.9**
MJAR Matsushiro Arr 31.77 20 P **P 01 17 40.8 -2.3**
MJAR **PcP 01 20 34.5 +0.1**
MJAR **ScP 01 24 17.8 +0.4**
MJAR Matsushiro Arr 31.77 20 P **P 01 17 40.2 -3.0**
comp=Z,141nm,0.9s,baz=193,slow=8.9,SNR=62
MJAR PcP **PcP 01 20 35.8 +1.3**
comp=Z,15nm,0.8s,baz=177,slow=2.5,SNR=5.3
MJAR ScP **ScP 01 24 18.4 +1.0**
comp=Z,1.5nm,0.5s,baz=212,slow=5.3,SNR=4.5
MJAR LR LR 01 29 57.6
comp=Z,142μm,20.1s,baz=206,slow=35
HNS HongShan 31.83 344 ⇑P **P 01 17 42.5 -1.1**
HNS S **S 01 22 52.5 -1.0**
HNS pmax pmax
comp=Z,200nm,1.3s
HNS pmax pmax
comp=Z,6μm,5.2s
HNS LR LR
comp=Z,72μm,23.9s
HNS LR LR
comp=Z,123μm,23.9s
HNS LR LR
comp=Z,150μm,19.6s
WRKA Warakurna 31.90 175 P **P 01 17 43.4 -1.0**
comp=Z,0.0nmcomp=Z,70nm,1.2s
DL2 Dalian 32.02 355 ⇑*i*P **P 01 17 45.8 +0.6**
DL2 S **S 01 22 57.8 +1.4**
DL2 pmax pmax
comp=Z,590nm,1.6s
DL2 pmax pmax
comp=Z,10μm,3.7s
DL2 LR LR
comp=Z,65μm,18.8s
DL2 LR LR
comp=Z,100μm,22.0s
DL2 LR LR
comp=Z,123μm,15.9s
DGPR DIGLIPUR 32.42 284 *e*P **P 01 17 49.7 +0.6**
DGPR IAmb IAmb 01 18 01.3
comp=Z,108nm,0.7s
DGPR *e*S **S 01 23 05.8 +2.6**
PBA Port Blair 32.42 281 IAmb IAmb 01 18 04.9
comp=Z,400nm,1.2s
PBA Port Blair 32.42 281 P **P 01 17 47.2 -1.9**
SNR=12
PBA Port Blair 32.42 281 *e*P **P 01 17 49.9 +0.7**
PBA IAmb IAmb 01 18 04.7
comp=Z,873nm,1.8s
PBA *e*S **S 01 23 04.3 +0.9**
PBA Port Blair 32.42 281 ⇓P **P 01 17 47.7 -1.5**
TIY Taiyuan 32.80 341 P **P 01 17 53.0 +0.8**
TIY S **S 01 23 11.8 +3.0**
TIY pmax pmax
comp=Z,170nm,1.0s
TIY pmax pmax
comp=Z,5μm,4.5s
TIY LR LR
comp=Z,89μm,16.4s
TIY LR LR
comp=Z,165μm,20.1s
PATS Pohnpei 32.81 88 P **P 01 17 52.8 +0.3**
comp=Z,0.0nmcomp=Z,270nm,2.0s
PATS Pohnpei 32.81 88 P **P 01 17 52.5 0.0**
PATS IAmb IAmb 01 17 57.4
comp=Z,525nm,1.4s
PATS IAMs_20 IAMs_20 01 28 36.2
comp=Z,94μm,19.0s
PATS Pohnpei 32.81 88 P **P 01 17 55.0 +2.5**
JSD Sado 33.15 19 P **P 01 17 56.9 +1.7**
JSD Sado 33.15 19 ⇑P **P 01 17 51.9 -3.3**
TV1H Townsville Har 33.57 141 P **P 01 18 00.5 +1.5**
JMM Marumori 33.88 22 P **P 01 17 59.9 -1.7**
JMM Marumori 33.88 22 ⇑P **P 01 17 59.9 -1.7**
JMM Marumori 33.88 22 P **P 01 17 59.9 -1.7**
BJT Baijiatuau 33.95 347 **P 01 18 01.7 -0.5**
BJT IAmb IAmb 01 18 09.3
comp=Z,461nm,0.9s
BJT Baijiatuau 33.95 347 P **P 01 18 02.0 -0.2**
BJI Beijing 33.97 347 P **P 01 18 01.0 -1.3**
BJI pP **pP 01 18 05.0 -2.3**
BJI sP **sP 01 18 08.3 -1.3**
BJI S **S 01 23 26.5 -0.3**
BJI pmax pmax
comp=Z,5μm,3.9s
BJI LR LR
comp=Z,17μm,20.2s
BJI LR LR
comp=Z,50μm,22.7s
BJI LR LR
comp=Z,31μm,22.7s
MEEK Meekatharra 33.97 191 P **P 01 18 02.6 +0.1**
comp=Z,0.0nmcomp=Z,177nm,0.7s
MEEK Meekatharra 33.97 191 P **P 01 18 02.7 +0.1**
COCO West Island 34.05 236 P **P 01 18 02.4 -0.9**
COCO IAmb IAmb 01 18 10.0
comp=Z,715nm,1.6s
COCO West Island 34.05 236 P **P 01 18 01.2 -2.1**
COCO S **S 01 23 28.0 -0.6**
COCO West Island 34.05 236 P **P 01 18 04.0 +0.7**
AUAYR Ayr State High 34.19 141 P **P 01 18 05.9 +1.5**
SNY Shenyang 34.80 358 ⇓P **P 01 18 09.0 -0.4**
SNY S **S 01 23 40.8 +1.3**
SNY SS **SnSn 01 25 52.8 -0.8**
SNY pmax pmax
comp=Z,450nm,2.0s
SNY pmax pmax
comp=Z,11μm,3.7s
SNY LR LR
comp=Z,45μm,16.1s
SNY LR LR
comp=Z,61μm,19.2s
SNY LR LR
comp=Z,102μm,18.6s
IMP Imphal 34.85 304 *e*P **P 01 18 10.8 +0.6**
IMP IAML 01 18 15.0
comp=Z,100nm,0.9s
IMP *e*S **S 01 23 43.8 +2.7**
LZH Lanzhou 35.03 329 ⇑P **P 01 18 13.0 +1.2**
LZH pP pP 01 18 17.3 +0.4
LZH S **S 01 23 45.0 +1.3**
LZH pmax pmax
comp=Z,480nm,1.3s
LZH pmax pmax
comp=Z,6μm,4.5s
LZH LR LR
comp=Z,140μm,14.4s

LZH LR LR
comp=Z,158μm,15.8s
KOHI KOHIMA 35.11 306 *eP* **P 01 18 13.7 +1.1**
KOHI IAmb IAmb 01 18 18.8
comp=Z,798nm,1.8s
KOHI *eS* **S 01 23 46.5 +1.4**
JORH JORHAT 35.47 307 *eP* **P 01 18 15.8 +0.4**
JORH IAmb IAmb 01 18 21.7
comp=Z,336nm,1.2s
JORH *eS* **S 01 23 52.4 +2.2**
HHC Hu-ho-hao-te 35.94 342⇑*iP* **P 01 18 20.3 +0.9**
HHC pP pP 01 18 24.8 +0.4
HHC PP **PP 01 19 43.0 +1.8**
HHC S **S 01 23 58.8 +1.5**
HHC sS sS 01 24 04.5 -1.3
HHC SS **SnSn 01 26 16.8 -4.6**
HHC pmax pmax
comp=Z,320nm,2.4s
HHC pmax pmax
comp=Z,7μm,6.1s
HHC LR LR
comp=Z,92μm,21.9s
HHC LR LR
comp=Z,127μm,23.6s
HHC LR LR
comp=Z,172μm,22.9s
BRDH Bariadhala 35.96 299 LR LR 01 34 08.5
comp=Z,87μm,19.8s,baz=118,slow=38
ITAN ITANAGAR 36.07 308 *eP* **P 01 18 22.6 +2.0**
ITAN IAML 01 18 26.5
comp=Z,354nm,1.5s
ITAN *eS* **S 01 24 01.0 +1.5**
ZIRO ZIRO 36.15 308 *eP* **P 01 18 25.0 +3.4**
ZIRO *eS* **S 01 24 02.9 +1.8**
BTO Baotou 36.21 340 *eP* **P 01 18 23.0 +1.2**
BTO sP **sP 01 18 30.5 +1.7**
BTO S **S 01 24 05.8 +4.3**
BTO pmax pmax
comp=Z,180nm,1.9s
BTO pmax pmax
comp=Z,12μm,4.2s
BTO LR LR
comp=Z,321μm,19.1s
JTM Tenmabayashi 36.56 20 IAmb IAmb 01 18 33.2
comp=Z,373nm,1.0s
JTM Tenmabayashi 36.56 20 P **P 01 18 26.7 +2.1**
JTM Tenmabayashi 36.56 20⇑P **P 01 18 23.4 -1.3**
TEZP TEZPUR 36.56 306 *eP* **P 01 18 25.7 +0.9**
TEZP *eS* **S 01 24 08.7 +1.6**
AGT Agartala 36.73 301 *eP* **P 01 18 27.0 +0.7**
AGT IAmb IAmb 01 18 34.4
comp=Z,448nm,1.0s
AGT *eS* **S 01 24 11.0 +1.4**
CN2 Changchun 36.74 0⇑P **P 01 18 26.0 -0.1**
CN2 PP **PP 01 19 51.5 +1.6**
CN2 S **S 01 24 06.8 -2.4**
CN2 pmax pmax
comp=Z,170nm,1.0s
CN2 pmax pmax
comp=Z,7μm,4.0s
CN2 LR LR
comp=Z,34μm,15.0s
CN2 LR LR
comp=Z,72μm,15.0s
CN2 LR LR
comp=Z,55μm,18.0s
SHL Shillong 36.86 304 IAmb IAmb 01 18 34.1
comp=Z,1μm,1.1s
SHL Shillong 36.86 304 P **P 01 18 26.6 -1.0**
SNR=260
SHL Shillong 36.86 304 *eP* **P 01 18 27.0 -0.6**
SHL *eS* **S 01 24 11.8 -0.1**
MORW Morawa 36.86 194 P **P 01 18 28.6 +1.3**
comp=Z,0.0nmcomp=Z,163nm,0.9s
MORW Morawa 36.86 194 P **P 01 18 29.0 +1.7**
MORW Morawa 36.86 194⇓P **P 01 18 26.8 -0.6**
INKA Innaminka 37.57 157 P **P 01 18 32.2 -1.0**
FORT Forrest 37.58 176 P **P 01 18 32.3 -1.0**
comp=Z,0.0nmcomp=Z,209nm,0.9s
USRK Ussuriysk Ar. 37.60 8 P **P 01 18 32.7 -0.7**
comp=Z,616nm,0.8s,baz=194,slow=7.1,SNR=64
comp=Z,616nm,0.8s
XLT XiLinHaoTe 37.70 349 *eP* **P 01 18 34.0 -0.4**
XLT pP pP 01 18 39.3 -0.3
XLT S **S 01 24 21.3 -2.9**
XLT pmax pmax
comp=Z,410nm,1.0s
XLT pmax pmax
comp=Z,10μm,4.1s
XLT LR LR
comp=Z,61μm,15.1s
XLT LR LR
comp=Z,52μm,19.5s
MDJ Mudanjiang 37.74 5 P **P 01 18 34.0 -0.6**
MDJ S **S 01 24 28.5 +4.0**
MDJ LR LR
comp=Z,84μm,18.9s
MDJ LR LR
comp=Z,59μm,14.1s
MDJ LR LR
comp=Z,96μm,22.7s
MDJ Mudanjiang 37.74 5 IAMs_20 IAMs_20 01 36 09.3
comp=Z,80μm,20.0s
MDJ Mudanjiang 37.74 5 P **P 01 18 35.0 +0.4**
TAWA Tawang 37.74 307 *eP* **P 01 18 36.0 +0.7**
TAWA *eS* **S 01 24 26.9 +1.2**
SAVO Savo Central 37.95 114 P **P 01 18 39.6 +2.8**
QLP Quilpie 38.05 152 P **P 01 18 36.7 -0.7**
QLP Quilpie 38.05 152⇑P **P 01 18 36.6 -0.7**
HNR Honiara 38.18 115 LR LR 01 32 23.2
comp=Z,26μm,21.6s,baz=292,slow=33
HNR Honiara 38.18 115 P **P 01 18 41.4 +2.7**
KMBL Kambalda 38.21 185 P **P 01 18 37.3 -1.3**
comp=Z,0.0nmcomp=Z,190nm,2.0s
BLDU Ballidu 38.21 192 P **P 01 18 39.3 +0.6**
ERM Erimo 38.38 22 P **P 01 18 41.3 +1.3**
ERM IAmb IAmb 01 18 49.4
comp=Z,377nm,1.1s
ERM Erimo 38.38 22 IAMs_20 IAMs_20 01 34 15.0
comp=Z,104μm,21.0s
ERM Erimo 38.38 22 P **P 01 18 42.2 +2.2**
ERM Erimo 38.38 22 P **P 01 18 40.5 +0.4**
ERM S **S 01 24 33.7 -0.6**
BNX BinXian 38.72 2⇑P **P 01 18 42.5 -0.3**
BNX S **S 01 24 37.3 -2.0**
BNX pmax pmax
comp=Z,300nm,3.1s
BNX pmax pmax
comp=Z,10μm,4.4s
BNX LR LR
comp=Z,85μm,18.1s
BNX LR LR
comp=Z,95μm,20.0s
CAL Calcutta 38.80 298 *eP* **P 01 18 44.8 +1.0**
CAL IAmb IAmb 01 18 47.6
comp=Z,359nm,0.2s
CAL ⇓*eS* **S 01 24 42.4 +1.2**
LSA Lhasa 39.27 310 P **P 01 18 45.0 -3.3**
LSA S **S 01 24 41.3 -7.7**
LSA pmax pmax
comp=Z,220nm,1.7s
LSA LR LR
comp=Z,36μm,16.9s
LSA LR LR
comp=Z,27μm,16.2s
LSA LR LR
comp=Z,57μm,18.3s
LSA Lhasa 39.27 310 IAmb IAmb 01 18 56.4
comp=Z,865nm,1.6s
LSA Lhasa 39.27 310 *i* P **P 01 18 50.1 +1.8**
SNR=35
GTA Gaotai 39.63 329 P **P 01 18 50.5 -0.2**
GTA S **S 01 24 52.8 -0.7**
GTA SS **SS 01 27 45.3 -3.6**
GTA pmax pmax
comp=Z,6μm,4.7s
GTA LR LR
comp=Z,78μm,19.6s
GTA LR LR
comp=Z,147μm,20.7s
MUN Mundaring 39.63 192 P **P 01 18 51.8 +1.2**
GD1S Gladstone Soft 39.68 141 P **P 01 18 52.6 +1.5**
AUMAZ Mazenod Senior 39.70 192 P **P 01 18 51.8 +0.6**
JPG JALPAIGURI 39.86 304 *eP* **P 01 18 54.6 +2.0**
JPG IAmb IAmb 01 19 00.4
comp=Z,303nm,1.1s
JPG *eS* **S 01 24 58.3 +1.3**
ASAJ Asahikawa 40.04 19 P **P 01 18 53.8 0.0**
comp=Z,267nm,1.0s,baz=236,slow=15,SNR=32
ASAJ LR LR 01 34 49.5
comp=Z,90μm,20.6s,baz=226,slow=35
comp=Z,267nm,1.0s
ASAJ Asahikawa 40.04 19 P **P 01 18 53.9 0.0**
JKA Kamikawa-asahi 40.04 19 P **P 01 18 54.8 +0.9**
JMP Maruseppu 40.20 20 P **P 01 18 56.1 +0.8**
GOMU GeErMu 40.30 321 P **P 01 18 56.5 -0.1**
GOMU sP sP 01 19 03.8 0.0
GOMU S **S 01 25 05.0 +0.9**
GOMU pmax pmax
comp=Z,160nm,1.5s
GOMU pmax pmax
comp=Z,7μm,6.3s
GOMU LR LR
comp=Z,71μm,22.7s
GOMU LR LR
comp=Z,300μm,22.6s
NWAO Narrogin (SRO) 40.35 190 P **P 01 18 56.1 -0.5**
NWAO IAmb IAmb 01 19 05.0
comp=Z,488nm,1.2s
NWAO Narrogin (SRO) 40.35 190 LR LR 01 36 32.9
comp=Z,18μm,20.4s,baz=10,slow=38
NWAO Narrogin (SRO) 40.35 190 P **P 01 18 58.2 +1.6**
NWAO P **P 01 18 58.2 +1.6**
NWAO S **S 01 25 02.1 -2.0**
NWAO S **S 01 25 02.1 -2.0**
NWAO Narrogin (SRO) 40.35 190 P **P 01 18 56.8 +0.2**
BWNR Bhubaneshwar 40.47 293 *eP* **P 01 18 58.2 +0.4**
BWNR IAmb IAmb 01 19 05.4
comp=Z,980nm,1.7s
BWNR *eS* **S 01 25 07.0 +0.8**
EIDS Eidsvold 40.75 143 P **P 01 18 57.9 -2.1**
comp=Z,120nm,0.7s
EIDS Eidsvold 40.75 143 P **P 01 18 58.7 -1.3**
BBOO Buckleboo 40.82 166 P **P 01 18 58.6 -1.9**
comp=Z,0.0nmcomp=Z,637nm,1.0s
BBOO Buckleboo 40.82 166 P **P 01 18 59.9 -0.6**
BBOO IAmb IAmb 01 19 06.2
comp=Z,1μm,1.4s
BBOO Buckleboo 40.82 166 P **P 01 18 59.2 -1.3**
BOK Bokaro 41.33 298 *eP* **P 01 19 05.3 +0.4**
BOK IAmb IAmb 01 19 12.6
comp=Z,603nm,1.5s
BOK *eS* **S 01 25 20.3 +1.4**
WHYH Whyalla 41.42 164 P **P 01 19 05.7 +0.4**
STKA Stephens Creek 41.61 159 P **P 01 19 05.8 -1.2**
comp=Z,2μm,0.8s,comp=Z,0.0nm
STKA Stephens Creek 41.61 159 P **P 01 19 06.7 -0.3**
STKA PP **PP 01 20 40.5 -2.9**
STKA ScP **ScP 01 24 51.7 -2.1**
STKA Stephens Creek 41.61 159 P **P 01 19 07.0 0.0**
comp=Z,244nm,0.7s,baz=336,slow=8.3,SNR=77
STKA S **S 01 25 18.6 -4.2**
comp=Z,35nm,1.0s,baz=102,slow=24,SNR=6.2
STKA LR LR 01 38 28.1
comp=Z,22μm,21.1s,baz=335,slow=39
comp=Z,244nm,0.7s
STKA Stephens Creek 41.61 159 P **P 01 19 06.9 0.0**
PTPS Port Pirie 41.66 164 P **P 01 19 08.8 +1.4**
EVN Everest 41.96 305 P **P 01 19 10.0 -0.8**
EVN IAmb IAmb 01 19 25.1
comp=Z,1μm,1.6s
RKGY Rocky Gully 42.04 190 P **P 01 19 11.1 +0.7**
comp=Z,0.0nmcomp=Z,638nm,0.9s
AUCAS Cummins Area S 42.13 167 P **P 01 19 13.2 +2.0**
HTT Hallett 42.17 163 P **P 01 19 10.8 -0.8**
comp=Z,0.0nmcomp=Z,147nm,2.0s
HTT Hallett 42.17 163 P **P 01 19 12.1 +0.5**
VIS Vishakhapatnam 42.26 289 *eP* **P 01 19 13.2 +0.7**
VIS IAmb IAmb 01 19 20.6
comp=Z,217nm,1.8s
VIS *eS* **S 01 25 34.1 +1.3**
RAGD RAYAGADA 42.41 291⇓*eP* **P 01 19 14.4 +0.7**
RAGD IAmb IAmb 01 19 21.9
comp=Z,563nm,1.3s
RAGD *eS* **S 01 25 36.2 +1.2**
HIA Hailar 42.46 355 IAMs_20 IAMs_20 01 37 46.8
comp=Z,75μm,19.0s
HIA Hailar 42.46 355 IAmb IAmb 01 19 18.0
comp=Z,521nm,1.2s
HIA Hailar 42.46 355 P **P 01 19 15.0 +1.3**
YSS Yuzhno-Sakhali 42.62 18 P **P 01 19 15.9 +0.9**
YSS IAmb IAmb 01 19 22.9
comp=Z,942nm,1.7s
YSS Yuzhno-Sakhali 42.62 18 P **P 01 19 16.5 +1.5**
HILR Hailar Array B 42.75 355 P **P 01 19 16.2 +0.2**
comp=Z,220nm,0.9s,baz=167,slow=10,SNR=62
HILR LR LR 01 39 50.5
comp=Z,49μm,18.2s,baz=110,slow=40
comp=Z,220nm,0.9s
TW1H Toowoomba 1 Ha 42.91 144 P **P 01 19 19.6 +1.9**
CMSA Cobar Meteorol 42.94 154 P **P 01 19 17.2 -0.6**
comp=Z,0.0nmcomp=Z,169nm,1.4s
CMSA Cobar Meteorol 42.94 154 P **P 01 19 18.0 +0.2**
HEH HeiHe 43.23 2 *eP* **P 01 19 19.3 -0.6**
HEH pP **pP 01 19 23.0 -2.2**
HEH S **S 01 25 46.5 +0.3**
HEH sS **sS 01 25 54.5 -0.2**
HEH ScS **ScS 01 29 19.5 -0.2**
HEH pmax pmax
comp=Z,210nm,1.1s
HEH pmax pmax
comp=Z,13μm,5.5s
HEH LR LR
comp=Z,32μm,21.6s
HEH LR LR
comp=Z,107μm,20.9s
AUWSH Wavell State H 43.43 143 P **P 01 19 24.1 +2.3**
AUMAR Marden Senior 43.46 164 P **P 01 19 22.8 +0.9**
GHSS Government Hou 43.48 164 P **P 01 19 24.3 +2.2**
ULN Ulaanbaatar 43.66 342 P **P 01 19 23.6 0.0**
ULN Ulaanbaatar 43.66 342 P **P 01 19 22.6 -1.0**
ULN S **S 01 25 53.5 +0.6**
ULN Ulaanbaatar 43.66 342⇑P **P 01 19 22.7 -0.9**
SONM Songino Array 43.83 342 P **P 01 19 25.1 +0.1**
SONM Songino Array 43.83 342 P **P 01 19 25.3 +0.3**
comp=Z,44nm,0.8s,baz=161,slow=8.6,SNR=50
SONM LR LR 01 38 53.7
comp=Z,162μm,21.7s,baz=158,slow=38
comp=Z,44nm,0.8s
AUMBR Murray Bridge 43.87 163 P **P 01 19 26.0 +0.8**
PALK Pallekele 44.21 273 P **P 01 19 27.1 -1.3**
PALK Pallekele 44.21 273 LR LR 01 41 28.8
comp=Z,20μm,18.1s,baz=86,slow=41
PALK Pallekele 44.21 273 P **P 01 19 28.2 -0.2**
PALK S **S 01 26 00.9 -0.8**
PALK Pallekele 44.21 273 P **P 01 19 28.6 +0.2**
PALK S **S 01 26 00.5 -1.2**
BLSP Bilaspur 44.23 295 *eP* **P 01 19 28.9 +0.5**
BLSP IAmb IAmb 01 19 30.3
comp=Z,184nm,0.5s
BLSP *eS* **S 01 26 03.2 +1.6**
VAR Varanasi 44.27 299 *eP* **P 01 19 29.6 +0.9**
VAR *eS* **S 01 26 03.7 +1.6**
GC1S Gold Coast 1 S 44.27 143 P **P 01 19 30.1 +1.5**
VJD Vijayawada 44.62 286 *eP* **P 01 19 31.7 +0.1**
VJD *eS* **S 01 26 08.9 +1.4**
ARMA Armidale 44.92 147 P **P 01 19 32.7 -1.2**
comp=Z,0.0nmcomp=Z,145nm,0.8s
ARMA Armidale 44.92 147 P **P 01 19 34.4 +0.5**
ARMA PcP **PcP 01 21 15.0 -0.3**
ARMA Armidale 44.92 147 P **P 01 19 35.1 +1.2**
AUPHS Peel High Scho 45.06 148 P **P 01 19 37.0 +2.1**
ALBI Allahabad 45.32 299 *eP* **P 01 19 38.2 +1.1**
ALBI IAmb IAmb 01 19 39.3
comp=Z,357nm,0.6s
ARPS Mount Arapiles 46.15 161 P **P 01 19 42.6 -0.8**
comp=Z,0.0nmcomp=Z,297nm,1.5s
BRCI Bahraich 46.17 302 *eP* **P 01 19 44.1 +0.3**
BRCI IAmb IAmb 01 19 46.6
comp=Z,616nm,1.4s
BRCI *eS* **S 01 26 30.8 +1.2**
YNG Young 46.47 153 P **P 01 19 45.5 -0.5**
comp=Z,176nm,2.0s
LKN LUCKNOW 46.53 300 *eP* **P 01 19 47.3 +0.7**
LKN IAmb IAmb 01 19 53.1
comp=Z,648nm,1.5s
LKN *eS* **S 01 26 35.9 +1.1**
AUMAG Moama Anglican 46.54 158 P **P 01 19 49.2 +2.7**
SALM Salem 46.64 279⇓*eP* **P 01 19 48.0 +0.3**
SALM IAmb IAmb 01 19 50.6
comp=Z,403nm,1.2s
SALM *eS* **S 01 26 38.5 +1.8**
MGBR Mount Gambier 46.66 163 P **P 01 19 48.0 +0.6**
MGBR IAmb IAmb 01 20 23.0
comp=Z,248nm,0.9s
HYB Hyderabad 46.72 287 *eP* **P 01 19 47.7 -0.6**
HYB IVmB_BB 01 19 49.1
comp=Z,5μm,3.1s
HYB *e*PP **PP 01 21 36.8 -1.5**
HYB *e*PcS **PcS 01 25 15.8 -1.1**
HYB *e*S **S 01 26 38.9 +1.0**
HYB IVMs_BB IVMs_BB 01 44 19.1
comp=Z,12μm,17.8s
MGCD Mangrove Creek 46.85 150 P **P 01 19 47.9 -1.1**
comp=Z,63nm,1.1s
SANVU Saraoutou 47.12 118 P **P 01 19 52.1 +0.9**
SANVU ScP **ScP 01 25 17.8 +1.1**
SANVU Saraoutou 47.12 118 P **P 01 19 52.2 +0.9**
SYDH Sydney Hard Ro 47.12 151 P **P 01 19 53.1 +2.1**
AUKHS Kincumber High 47.19 150 P **P 01 19 53.9 +2.3**
KOD Kodaikanal 47.35 278⇓*eP* **P 01 19 53.1 -0.4**
KOD IAmb IAmb 01 19 55.7
comp=Z,311nm,2.3s
KOD *eS* **S 01 26 47.6 +0.3**
RIV Riverview 47.38 150 P **P 01 19 55.3 +2.3**
BRAT Ballarat 47.55 160 P **P 01 19 56.0 +1.7**
AUMTS Mt Stromlo 47.60 154 P **P 01 19 54.9 +0.1**
CAN Canberra 47.60 154 P **P 01 19 53.9 -0.9**
comp=Z,0.0nmcomp=Z,260nm,1.5s
CAN Canberra 47.60 154 P **P 01 19 55.3 +0.5**
CAN IAmb IAmb 01 20 14.8
comp=Z,293nm,1.1s
CAN PP **PP 01 21 45.8 -0.8**
CAN Canberra 47.60 154 P **P 01 19 55.1 +0.3**
AUSIS Research Schoo 47.61 153 P **P 01 19 56.7 +1.8**
AUMHS Melrose High S 47.67 153 P **P 01 19 56.3 +0.9**
CNB Canberra Magne 47.76 153 P **P 01 19 55.7 -0.4**
comp=Z,0.0nmcomp=Z,226nm,0.9s
CNB Canberra Magne 47.76 153 P **P 01 19 57.2 +1.1**
TARA Tarawa 47.83 94 IAMs_20 IAMs_20 01 38 05.3
comp=Z,57μm,19.0s
LGTI Lohaghat 47.88 304 *eP* **P 01 19 58.3 +1.2**
LGTI IAmb IAmb 01 20 04.2
comp=Z,190nm,1.0s
LGTI *eS* **S 01 26 57.5 +3.4**
TLY Talaya 48.06 342 P **P 01 19 58.6 +0.4**
TLY Talaya 48.06 342 P **P 01 19 57.3 -0.9**
TLY P **P 01 19 57.3 -0.9**
TLY S **S 01 26 51.7 -4.3**
TLY S **S 01 26 51.7 -4.3**
TOO Toolangi 48.12 158 P **P 01 19 58.3 -0.5**
comp=Z,0.0nmcomp=Z,80nm,2.0s
TOO Toolangi 48.12 158 P **P 01 19 58.9 +0.1**
TOO PP **PP 01 21 51.2 0.0**
AKL Akola 48.62 291 *eP* **P 01 20 03.6 +0.6**
AKL IAmb IAmb 01 20 16.6
comp=Z,534nm,2.0s
AKL *eS* **S 01 27 05.7 +0.9**
BHPL Bhopal 48.71 295 *eP* **P 01 20 04.4 +0.8**
BHPL IAmb IAmb 01 20 05.8
comp=Z,141nm,0.8s
BHPL *eS* **S 01 27 07.3 +1.3**
JOSI Joshimath 48.81 305 *eP* **P 01 20 05.2 +0.6**
JOSI IAmb IAmb 01 20 11.5
comp=Z,160nm,1.4s
JOSI *eS* **S 01 27 09.0 +1.5**
NRDN NARMADA NAGAR 48.84 294 *eP* **P 01 20 05.3 +0.7**
NRDN *eS* **S 01 27 08.9 +1.2**
GUNA GUNA 49.09 297⇓*eP* P 01 20 11.9 +5.4
GUNA IAmb IAmb 01 20 19.8
comp=Z,585nm,1.0s
GUNA *eS* **S 01 27 11.9 +0.6**
MILA Mila 49.12 155 P **P 01 20 05.7 -0.9**
comp=Z,0.0nmcomp=Z,47nm,2.6s
MILA Mila 49.12 155 P **P 01 20 08.2 +1.6**
WMQ Urumqi 49.30 324⇓P **P 01 20 09.8 +1.9**
WMQ S **S 01 27 15.0 +1.3**
WMQ pmax pmax
comp=Z,200nm,1.5s
WMQ pmax pmax
comp=Z,4μm,3.8s
WMQ LR LR
comp=Z,84μm,20.5s
WMQ LR LR
comp=Z,73μm,17.9s
UGON Onchagaon 49.50 301 *eP* **P 01 20 10.4 +0.8**
UGON *eS* **S 01 27 11.0 -5.9**
DZM Mont Dzumac 49.58 127 LR LR 01 42 25.0
comp=Z,20μm,19.4s,baz=309,slow=38
ONTNC Ouen Toro 49.70 127 P **P 01 20 12.7 +1.5**
ASOR Ausora 49.74 302 *eP* **P 01 20 12.0 +0.6**
ASOR IAmb IAmb 01 20 14.2
comp=Z,463nm,1.0s
ASOR *eS* **S 01 27 23.1 +3.0**
MERT Meerut 49.83 302 *eP* **P 01 20 12.6 +0.5**
MERT IAmb IAmb 01 20 17.4
comp=Z,528nm,0.7s
MERT *eS* **S 01 27 22.7 +1.2**
YATNC Mamie plateau, 49.93 126 P **P 01 20 15.0 +2.1**
DDI Dehra Dun 49.96 304 *eP* **P 01 20 14.9 +1.7**
DDI IAmb IAmb 01 20 20.1
comp=Z,227nm,0.7s
DDI *eS* **S 01 27 24.7 +1.3**
BISR Bishrakh 49.97 302 *eP* **P 01 20 13.8 +0.7**
BISR IAmb IAmb 01 20 17.7
comp=Z,589nm,0.5s
BISR *eS* **S 01 27 25.2 +1.8**
LHI Lord Howe Isla 50.03 142 P **P 01 20 13.3 -0.2**
comp=Z,0.0nmcomp=Z,101nm,0.9s
LHI Lord Howe Isla 50.03 142 P **P 01 20 14.2 +0.7**
OUENC Ouen Island, N 50.07 127 P **P 01 20 15.3 +1.3**
LDR Lodi Road 50.16 302 *eP* **P 01 20 15.1 +0.6**
LDR IAmb IAmb 01 20 24.1
comp=Z,193nm,1.0s
LDR *eS* **S 01 27 27.4 +1.3**
NDI New Delhi 50.19 302 *eP* **P 01 20 15.5 +0.7**
NDI IAmb IAmb 01 20 26.5
comp=Z,389nm,0.0s
NDI *eS* **S 01 27 28.1 +1.6**
AYAN Aya Nagar 50.21 301 *eP* **P 01 20 19.0 +4.0**
AYAN IAmb IAmb 01 20 20.1
comp=Z,464nm,1.6s
AYAN *eS* **S 01 27 28.4 +1.6**
GNR GANAUR 50.48 302⇓*eP* **P 01 20 18.1 +1.0**
GNR *eS* **S 01 27 32.1 +1.6**
MARNC Mare, Loyalty 50.56 125 IAmb IAmb 01 20 35.1
comp=Z,361nm,1.1s
MARNC Mare, Loyalty 50.56 125 P **P 01 20 19.6 +1.9**
PINNC Pines Island, 50.65 127 IAmb IAmb 01 20 33.1
comp=Z,760nm,1.5s
PINNC Pines Island, 50.65 127 P **P 01 20 20.3 +2.0**
KUDL Kundal 50.66 301 *eP* **P 01 20 19.1 +0.8**
KUDL IAmb IAmb 01 20 21.1
comp=Z,314nm,1.3s
KUDL *eP* **pP 01 20 24.4 +0.7**
KUDL IAmb IAmb 01 20 30.7
comp=E,780nm,2.1s
KUDL *eS* **S 01 27 34.4 +1.3**
KAD Karad 50.86 287⇓*eP* **P 01 20 20.0 -0.1**
KAD IAmb IAmb 01 20 33.1
comp=Z,392nm,1.4s
KAD *eS* **S 01 27 37.4 +1.2**
SMLA Simla 50.94 305 *eP* **P 01 20 21.1 +0.6**
SMLA IAML 01 20 27.8
comp=Z,97nm,1.3s
SMLA *eS* **S 01 27 38.7 +1.9**
RTK Rohtak 50.96 302⇑*eP* **P 01 20 20.6 0.0**
RTK IAmb IAmb 01 20 32.0
CGRH CHANDIGARH 51.14 304 *eP* **P 01 20 23.1 +1.1**
CGRH IAmb IAmb 01 20 30.0
comp=Z,284nm,1.3s
CGRH *eS* **S 01 27 40.6 +0.9**
POO Poona 51.30 288 *eP* **P 01 20 22.8 -0.6**
POO IAmb IAmb 01 20 25.3
comp=Z,156nm,0.4s
POO IAML 01 20 36.3
comp=Z,98nm,0.8s
POO *eS* **S 01 27 43.3 +1.0**
AUBRN Burnie High Sc 51.34 160 P **P 01 20 25.2 +2.0**
BHK Bhakra 51.64 305 *eP* **P 01 20 24.3 -1.4**
BHK IAmb IAmb 01 20 33.3
comp=Z,237nm,1.6s
BHK *eS* **S 01 27 40.8 -5.8**

ALCI	**Alchi Leh**	**51.93**	**308**	*e*P	**P**	**01 20 30.4**	**+2.1**
ALCI				IAmb	IAmb	01 20 34.8	
	comp=Z,303nm,1.4s						
ALCI				*e*S	**S**	**01 27 51.9**	**+0.7**
DHRM	**DHARAMSHALA**	**51.99**	**306**	*e*P	**P**	**01 20 28.7**	**+0.1**
DHRM				IAmb	IAmb	01 20 35.3	
	comp=Z,489nm,1.6s						
DHRM				*e*S	**S**	**01 27 53.0**	**+1.2**
GLAD	**Gladstone**	**52.05**	**158**	P	**P**	**01 20 29.9**	**+1.4**
CORO	**Coronation Par**	**52.15**	**159**	P	**P**	**01 20 31.4**	**+2.2**
TLWR	**Talawar**	**52.17**	**305**	*e*P	**P**	**01 20 30.8**	**+1.0**
TSSA	**Tissa**	**52.29**	**306**	*e*P	**P**	**01 20 30.7**	**-0.1**
TSSA				*e*S	**S**	**01 27 56.6**	**+0.8**
UDPR	**Udaipur**	**52.30**	**296**	*e*P	**P**	**01 20 30.3**	**-0.5**
UDPR				*e*S	**S**	**01 27 56.8**	**+0.9**
KAAM	**Kaadhehdhoo**	**52.52**	**265**	IAmb	IAmb	01 20 34.9	
	comp=Z,479nm,1.4s						
KAAM	**Kaadhehdhoo**	**52.52**	**265**	P	**P**	**01 20 33.0**	**+0.5**
	SNR=6.4						
KAAM				S	**S**	**01 27 53.9**	**-5.2**
MOO	**Moorlands**	**53.04**	**160**	P	**P**	**01 20 35.2**	**-0.7**
	comp=Z,0.0nmcomp=Z,167nm,1.1s						
MOO	**Moorlands**	**53.04**	**160**	P	**P**	**01 20 37.5**	**+1.7**
MOO	**Moorlands**	**53.04**	**160**	P	**P**	**01 20 37.2**	**+1.4**
ZSN	**Zaisan**	**53.06**	**327**	*e*P	**P**	**01 20 35.7**	**-0.3**
ZSN				*e*S	**S**	**01 28 06.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**53.08**	**24**	IAmb	IAmb	01 20 57.5	
	comp=Z,355nm,1.1s						
PETK	**Petropavlovsk-**	**53.08**	**24**	P	**P**	**01 20 36.4**	**+0.3**
	comp=Z,122nm,0.9s,baz=213,slow=5.1,SNR=43						
PETK				LR	LR	01 43 01.5	
	comp=Z,69µm,20.2s,baz=222,slow=36						
	comp=Z,122nm,0.9s						
JMU	**Jammu**	**53.26**	**306**	*e*P	**P**	**01 20 39.8**	**+2.2**
JMU				IAmb	IAmb	01 20 45.5	
	comp=Z,452nm,0.9s						
JMU				*e*S	**S**	**01 28 11.6**	**+3.0**
SRGN	**SRI GANGA NAGA**	**53.32**	**302**	*e*P	**P**	**01 20 38.8**	**+0.6**
SRGN				IAmb	IAmb	01 20 44.9	
	comp=Z,560nm,1.6s						
SRGN				*e*S	**S**	**01 28 11.0**	**+1.4**
BKNR	**BIKANER**	**53.38**	**300**	*e*P	**P**	**01 20 39.5**	**+0.8**
BKNR				IAmb	IAmb	01 20 42.1	
	comp=Z,323nm,1.1s						
BKNR				*e*S	**S**	**01 28 12.3**	**+1.8**
PET	**Petropavlovsk**	**53.41**	**24**	P	**P**	**01 20 39.0**	**+0.6**
PET				IAmb	IAmb	01 20 46.2	
	comp=Z,781nm,1.6s						
PET				IAMs_20	IAMs_20	01 45 39.6	
	comp=Z,45µm,20.0s						
PET	**Petropavlovsk**	**53.41**	**24**	P	**P**	**01 20 39.8**	**+1.4**
PET	**Petropavlovsk**	**53.41**	**24**	P	**P**	**01 20 40.2**	**+1.8**
	comp=Z,13µmcomp=Z,271nm,2.2s						
TAU	**Tasmania Unive**	**53.50**	**160**	P	**P**	**01 20 39.0**	**-0.2**
TAU	**Tasmania Unive**	**53.50**	**160**	P	**P**	**01 20 40.6**	**+1.4**
AUTAR	**Taroona High S**	**53.54**	**160**	P	**P**	**01 20 42.1**	**+2.6**
SRNI	**Srinagar**	**53.72**	**308**	*e*P	**P**	**01 20 41.0**	**-0.1**
SRNI				*e*S	**S**	**01 28 15.2**	**+0.4**
SHLS	**Shalkode**	**53.98**	**320**	*e*P	**P**	**01 20 40.4**	**-2.6**
	comp=Z,284nm,1.2s						
SHLS				*e*S	**S**	**01 28 15.0**	**-3.4**
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**01 20 43.6**	**-0.3**
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**01 20 43.7**	**-0.2**
	comp=Z,69nm,0.9s,baz=123,slow=7.6,SNR=89						
MKAR				LR	LR	01 46 03.9	
	comp=Z,47µm,18.2s,baz=120,slow=38						
MKAR				PKPPKP	P'P'df	01 50 48.0	-14
	comp=Z,0.5nm,0.8s,baz=298,slow=3.1,SNR=4.2						
	comp=Z,69nm,0.9s						
UZB	**Uzynbulak**	**54.26**	**319**	*e*P	**P**	**01 20 44.4**	**-0.6**
	comp=Z,183nm,1.1s						
UZB				*e*S	**S**	**01 28 22.7**	**+0.4**
MAKZ	**Makanchi**	**54.31**	**325**	P	**P**	**01 20 44.9**	**-0.4**
MAKZ				IAmb	IAmb	01 20 49.5	
	comp=Z,313nm,1.2s						
TARG	**Taragay, Kyrgy**	**54.42**	**317**	IAmb	IAmb	01 20 52.6	
	comp=Z,703nm,1.7s						
NFK	**Norfolk Island**	**54.45**	**133**	P	**P**	**01 20 45.9**	**-0.6**
	comp=Z,224nm,2.3s						
NFK	**Norfolk Island**	**54.45**	**133**	P	**P**	**01 20 47.6**	**+1.2**
DGAR	**Diego Garcia**	**54.56**	**256**	P	**P**	**01 20 46.6**	**-0.9**
DGAR	**Diego Garcia**	**54.56**	**256**	P	**P**	**01 20 46.4**	**-1.2**
SATY	**Saty**	**54.62**	**319**	*e*P	**P**	**01 20 47.0**	**-0.6**
	comp=Z,248nm,1.1s						
SATY				*e*S	**S**	**01 28 27.5**	**+0.4**
KSH	**Kashi**	**54.78**	**314**	P	**P**	**01 20 50.0**	**+1.1**
KSH				S	**S**	**01 28 34.0**	**+4.7**
KSH				pmax	pmax		
	comp=Z,340nm,1.2s						
KSH				pmax	pmax		
	comp=Z,7µm,6.1s						
KSH				LR	LR		
	comp=Z,42µm,21.6s						
KSH				LR	LR		
	comp=Z,49µm,17.9s						
NIL	**Nilore**	**54.85**	**306**	P	**P**	**01 20 48.9**	**-0.5**
NIL				PP	**PP**	**01 22 56.5**	**+4.2**
KDJ	**Kajisay**	**55.02**	**318**	IAmb	IAmb	01 20 55.5	
	comp=Z,378nm,1.2s						
YAK	**Yakutsk**	**55.10**	**3**	P	**P**	**01 20 51.1**	**+0.6**
YAK	**Yakutsk**	**55.10**	**3**	P	**P**	**01 20 50.0**	**-0.5**
	comp=Z,424nm,1.0s,baz=179,slow=9.2,SNR=54						
YAK				S	S	01 28 22.7	-10
	comp=Z,14nm,0.4s,baz=115,slow=16,SNR=2.3						
YAK				LR	LR	01 46 32.1	
	comp=Z,55µm,19.4s,baz=188,slow=38						
	comp=Z,424nm,1.0s						
JASL	**Jaisalmer**	**55.22**	**298**	*e*P	**P**	**01 20 51.0**	**-1.2**
JASL				IAmb	IAmb	01 20 59.1	
	comp=Z,717nm,1.8s						
JASL				*e*S	**S**	**01 28 37.1**	**+1.7**
TDK	**Taldyqorghan**	**55.53**	**321**	*e*P	**P**	**01 20 53.8**	**-0.3**
	comp=Z,380nm,1.1s						
TDK				*e*S	**S**	**01 28 39.6**	**+0.6**
TDK				LR	LR	01 46 03.0	
	comp=Z,31µm,16.5s						
MDOK	**Medeo**	**55.56**	**319**	*e*P	**P**	**01 20 53.9**	**-0.6**
MDOK				*e*S	**S**	**01 28 40.0**	**+0.3**
MDOK				LR	LR	01 46 04.5	
TNSS	**Tian-Shan**	**55.57**	**318**	*e*P	**P**	**01 20 54.0**	**-0.8**
AAA	**Alma-Ata**	**55.66**	**319**	*e*P	**P**	**01 20 54.6**	**-0.5**
	comp=Z,208nm,1.0s						
AAA				LR	LR	01 46 07.6	
	comp=Z,31µm,14.7s						
ULHL	**Ulahol**	**55.70**	**317**	P	**P**	**01 20 58.0**	**+2.4**
	SNR=136						
BHUJ	**Bhuj**	**55.76**	**293**	*e*P	**P**	**01 20 56.6**	**+0.6**
BHUJ				IAmb	IAmb	01 21 13.8	
	comp=Z,379nm,2.7s						
BHUJ				*e*S	**S**	**01 28 44.2**	**+1.7**
CHKK	**Chushkaly**	**55.90**	**319**	*e*P	**P**	**01 20 56.3**	**-0.5**
FUNA	**Funafuti**	**55.91**	**105**	P	**P**	**01 20 58.8**	**+1.5**
FUNA	**Funafuti**	**55.91**	**105**	P	**P**	**01 20 59.8**	**+2.6**
BOOM	**Boomskoye usch**	**56.00**	**317**	IAmb	IAmb	01 21 03.1	
	comp=Z,919nm,1.9s						
MA2	**Magadan**	**56.01**	**15**	P	**P**	**01 20 58.0**	**+0.8**
MA2				IAmb	IAmb	01 21 01.7	
	comp=Z,302nm,0.9s						
MA2	**Magadan**	**56.01**	**15**	P	**P**	**01 20 57.4**	**+0.2**
MA2	**Magadan**	**56.01**	**15**	P	**P**	**01 20 57.4**	**+0.2**
	comp=Z,18µmcomp=Z,604nm,0.9s						
KUU	**Kurty**	**56.34**	**319**	*e*P	**P**	**01 20 59.3**	**-0.6**
	comp=Z,305nm,1.2s						
KUU				*e*S	**S**	**01 28 50.2**	**+0.4**
KUU				LR	LR	01 46 32.6	
TKM2	**Tokmak 2**	**56.41**	**318**	P	**P**	**01 21 02.9**	**+2.2**
	SNR=172						
KBK	**Karagaybulak**	**56.74**	**317**	P	**P**	**01 21 05.5**	**+2.5**
	SNR=132						
UCH	**Uchtor**	**56.86**	**317**	P	**P**	**01 21 07.0**	**+2.8**
	SNR=209						
CHMS	**Chumysh**	**57.01**	**318**	P	**P**	**01 21 06.5**	**+1.8**
	SNR=35						
FRU1	**Bishkek**	**57.02**	**317**	IAmb	IAmb	01 21 09.3	
	comp=Z,212nm,1.2s						
AAK	**Ala-Archa**	**57.04**	**317**	P	**P**	**01 21 04.8**	**-0.3**
AAK				IAmb	IAmb	01 21 10.7	
	comp=Z,784nm,1.8s						
AAK	**Ala-Archa**	**57.04**	**317**	S	**S**	**01 29 02.6**	**+3.2**
	comp=Z,3.0nm,0.9s,baz=227,slow=19,SNR=6.1						
AAK				LR	LR	01 48 13.5	
	comp=Z,92µm,21.4s,baz=103,slow=39						
AAK	**Ala-Archa**	**57.04**	**317**	P	**P**	**01 21 05.0**	**-0.1**
AAK				P	**P**	**01 21 05.0**	**-0.1**
AAK				S	**S**	**01 28 57.6**	**-1.8**
AAK				S	**S**	**01 28 57.6**	**-1.8**
AAK	**Ala-Archa**	**57.04**	**317**	P	**P**	**01 21 05.0**	**-0.1**
	SNR=114						
AAK	**Ala-Archa**	**57.04**	**317**	*i* P	**P**	**01 21 06.6**	**+1.5**
	SNR=110						
AAK	**Ala-Archa**	**57.04**	**317**	P	**P**	**01 21 06.0**	**+1.0**
ZALV	**Zalesovo Beam**	**57.10**	**333**	P	**P**	**01 21 04.4**	**-0.7**
	comp=Z,72nm,1.0s,baz=120,slow=5.3,SNR=112						
ZALV				LR	LR	01 48 04.0	
	comp=Z,35µm,18.3s,baz=132,slow=39						
ZALV				PKPPKP	**P'P'df**	**01 50 59.2**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=280,slow=2.7,SNR=3.5						
	comp=Z,72nm,1.0s						
SGDS	**Sogindy**	**57.28**	**318**	*e*P	**P**	**01 21 06.2**	**-0.4**
USP	**Ospenovka**	**57.29**	**318**	P	**P**	**01 21 08.4**	**+1.7**
	SNR=188						
EKS2	**Erkin-Say**	**57.53**	**317**	P	**P**	**01 21 10.8**	**+2.2**
	SNR=163						
MSVF	**Nonsavu**	**57.59**	**116**	P	**P**	**01 21 09.7**	**+0.5**
MSVF				IAmb	IAmb	01 21 16.5	
	comp=Z,361nm,1.1s						
MSVF	**Nonsavu**	**57.59**	**116**	IAMs_20	IAMs_20	01 46 10.6	
	comp=Z,34µm,19.0s						
MSVF	**Nonsavu**	**57.59**	**116**	P	**P**	**01 21 11.2**	**+2.0**
MIDW	**Midway**	**58.08**	**61**	P	**P**	**01 21 15.3**	**+2.9**
KURBB	**Kurchatov Arra**	**58.29**	**327**	P	**P**	**01 21 12.5**	**-1.0**
	comp=Z,176nm,1.0s,baz=127,slow=5.7,SNR=176						
KURBB				S	**S**	**01 29 14.3**	**-0.8**
	comp=Z,0.4nm,0.2s,baz=334,slow=0.8,SNR=2.8						
KURBB				LR	LR	01 47 45.8	
	comp=Z,43µm,18.9s,baz=126,slow=38						
KURBB				PKPPKP	P'P'bc	01 50 47.0	-20
	comp=Z,1.0nm,0.3s,baz=270,slow=3.9,SNR=8.5						
	comp=Z,176nm,1.0s						
KURK	**Kurchatov**	**58.29**	**327**	P	**P**	**01 21 12.5**	**-0.9**
KURK				IAmb	IAmb	01 21 16.5	
	comp=Z,359nm,1.1s						
KURK	**Kurchatov**	**58.29**	**327**	IAMs_20	IAMs_20	01 44 54.6	
	comp=Z,34µm,20.0s						
KURK	**Kurchatov**	**58.29**	**327**	P	**P**	**01 21 12.3**	**-1.1**
KURK				P	**P**	**01 21 12.3**	**-1.1**
KURK				S	**S**	**01 29 10.1**	**-5.0**
KURK				S	**S**	**01 29 10.1**	**-5.0**
KBU	**Kabul Universi**	**58.37**	**306**	P	**P**	**01 21 13.8**	**-0.8**
KBU				S	**S**	**01 29 14.0**	**-3.2**
KBL	**Kabul**	**58.45**	**306**	P	**P**	**01 21 14.3**	**-0.8**
KBL				IAmb	IAmb	01 21 19.9	
	comp=Z,259nm,1.1s						
KBL	**Kabul**	**58.45**	**306**	P	**P**	**01 21 14.4**	**-0.8**
	SNR=164						
KBL				P	**P**	**01 21 14.4**	**-0.8**
	SNR=164						
KBL				S	**S**	**01 29 16.8**	**-1.6**
KBL				S	**S**	**01 29 16.8**	**-1.6**
KBL				S	**S**	**01 29 17.6**	**-0.7**
KBL				S	**S**	**01 29 17.6**	**-0.7**
DZA	**Taraz**	**59.29**	**316**	*e*P	**P**	**01 21 20.3**	**-0.4**
	comp=Z,171nm,1.2s						
SEY	**Seymchan**	**59.29**	**14**	LR	LR	01 46 00.6	
	comp=Z,38µm,21.7s,baz=214,slow=35						
KKAR	**Karatay Array**	**59.93**	**316**	P	**P**	**01 21 23.7**	**-1.3**
IUG	**Iuzhnay**	**59.93**	**315**	*e*P	**P**	**01 21 24.8**	**-0.5**
	comp=Z,267nm,1.3s						
IUG				*e*S	**S**	**01 29 37.3**	**+0.3**
CHM	**Chimkent**	**60.29**	**315**	*e*P	**P**	**01 21 27.2**	**-0.3**
	comp=Z,170nm,1.3s						
CHM				LR	LR	01 49 34.2	
	comp=Z,17µm,18.9s						
BRLS	**Borolday**	**60.37**	**316**	*e*P	**P**	**01 21 27.9**	**-0.2**
	comp=Z,215nm,1.3s						
SHEM	**Shemya Is, Ala**	**60.50**	**32**	LR	LR	01 45 00.3	
	comp=Z,14µm,19.7s,baz=238,slow=33						
SMY	**Shemya**	**60.50**	**32**	IAmb	IAmb	01 21 33.7	
	comp=Z,541nm,1.3s						
SMY	**Shemya**	**60.50**	**32**	P	**P**	**01 21 29.8**	**+1.1**
OUZ	**Omahuta**	**61.85**	**136**	IAMs_20	IAMs_20	01 46 24.7	
	comp=Z,46µm,22.0s						
OUZ	**Omahuta**	**61.85**	**136**	P	**P**	**01 21 41.4**	**+3.2**
WCZ	**Waipu Caves**	**62.76**	**136**	P	**P**	**01 21 46.8**	**+2.6**
NGCH	**Negor - Chabah**	**63.71**	**295**	P	**P**	**01 21 51.2**	**+0.4**
NGCH				S	**S**	**01 30 26.5**	**+1.4**
BVAR	**Borovoye Array**	**63.87**	**327**	P	**P**	**01 21 49.9**	**-1.5**
	comp=Z,206nm,0.9s,baz=120,slow=8.8,SNR=132						
BVAR				S	**S**	**01 30 23.3**	**-2.9**
	comp=Z,0.4nm,0.4s,baz=251,slow=38,SNR=2.6						
BVAR				PKP2bc	**P'P'bc**	**01 50 47.1**	**-5.8**
	comp=Z,0.5nm,0.6s,baz=202,slow=3.1,SNR=4.1						
BVAR				LR	LR	01 52 15.6	
	comp=Z,42µm,18.8s,baz=113,slow=38						
	comp=Z,206nm,0.9s						
HRA	**Herat**	**63.91**	**305**	P	**P**	**01 21 51.4**	**-0.8**
HRA				IAmb	IAmb	01 21 54.4	
	comp=Z,155nm,1.1s						
MSZ	**Milford Sound**	**64.08**	**147**	P	**P**	**01 21 55.8**	**+3.0**
KUZ	**Kuaotunu**	**64.12**	**136**	P	**P**	**01 21 54.1**	**+0.9**
JCZ	**Jackson Bay**	**64.15**	**147**	P	**P**	**01 21 54.7**	**+1.3**
JCZ	**Jackson Bay**	**64.15**	**147**	P	**P**	**01 21 55.6**	**+2.1**
DCZ	**Deep Cove**	**64.21**	**149**	P	**P**	**01 21 54.4**	**+0.8**
DCZ				IAmb	IAmb	01 21 56.6	
	comp=Z,117nm,1.0s						
DCZ				IAMs_20	IAMs_20	01 49 57.2	
	comp=Z,30µm,22.0s						
DCZ	**Deep Cove**	**64.21**	**149**	P	**P**	**01 21 56.2**	**+2.6**
QRZ	**Quartz Range**	**64.32**	**142**	IAmb	IAmb	01 22 08.4	
	comp=Z,234nm,1.1s						
QRZ	**Quartz Range**	**64.32**	**142**	P	**P**	**01 21 56.0**	**+1.6**
DSZ	**Denniston Nort**	**64.43**	**143**	IAMs_20	IAMs_20	01 47 46.4	
	comp=Z,33µm,22.0s						
DSZ	**Denniston Nort**	**64.43**	**143**	P	**P**	**01 21 57.8**	**+2.6**
PYZ	**Puysegur Point**	**64.44**	**149**	IAMs_20	IAMs_20	01 53 57.4	
	comp=Z,29µm,18.0s						
HIZ	**Hauiti**	**64.49**	**139**	IAmb	IAmb	01 22 07.6	
	comp=Z,202nm,1.0s						
HIZ				IAMs_20	IAMs_20	01 48 52.3	
	comp=Z,28µm,20.0s						
HIZ	**Hauiti**	**64.49**	**139**	P	**P**	**01 21 58.1**	**+2.5**
TOZ	**Tahuroa Road**	**64.50**	**138**	IAMs_20	IAMs_20	01 47 42.5	
	comp=Z,30µm,21.0s						
TOZ	**Tahuroa Road**	**64.50**	**138**	P	**P**	**01 21 57.8**	**+2.2**
WVZ	**Waitaha Valley**	**64.61**	**145**	P	**P**	**01 21 58.4**	**+2.1**
MLZ	**Mavora Lakes**	**64.65**	**148**	IAmb	IAmb	01 22 26.5	
	comp=Z,312nm,1.9s						
MLZ				IAMs_20	IAMs_20	01 49 46.9	
	comp=Z,38µm,21.0s						
MLZ	**Mavora Lakes**	**64.65**	**148**	P	**P**	**01 21 58.4**	**+1.9**
TIXI	**Tiksi**	**64.70**	**1**	P	**P**	**01 21 55.4**	**-1.1**
TIXI				IAmb	IAmb	01 22 10.8	
	comp=Z,121nm,1.0s						
TIXI	**Tiksi**	**64.70**	**1**	LR	LR	01 51 36.6	
	comp=Z,79µm,20.3s,baz=206,slow=37						
VRZ	**Vera Road**	**64.76**	**139**	P	**P**	**01 22 00.4**	**+3.0**
WKZ	**Wanaka**	**64.77**	**147**	IAMs_20	IAMs_20	01 49 42.2	
	comp=Z,38µm,20.0s						
INZ	**Inchbonnie**	**64.81**	**144**	IAMs_20	IAMs_20	01 50 29.4	
	comp=Z,26µm,19.0s						
WHZ	**Wether Hill Ro**	**64.91**	**148**	IAmb	IAmb	01 21 59.9	
	comp=Z,183nm,1.4s						
WHZ				IAMs_20	IAMs_20	01 50 17.7	
	comp=Z,30µm,22.0s						
KIWB	**Kanaga Island**	**64.92**	**35**	P	**P**	**01 21 58.5**	**+0.3**
KIWB				IAmb	IAmb	01 22 02.5	
	comp=Z,284nm,1.1s						
NNZ	**Nelson**	**65.07**	**142**	IAmb	IAmb	01 22 12.9	
	comp=Z,443nm,1.7s						
NNZ				IAMs_20	IAMs_20	01 52 00.5	
	comp=Z,32µm,20.0s						
NNZ	**Nelson**	**65.07**	**142**	P	**P**	**01 22 00.4**	**+1.0**
JLN	**Jalan Bani Buh**	**65.08**	**291**	P	**P**	**01 21 59.0**	**-0.8**
JLN				P	**P**	**01 21 59.0**	**-0.8**
JLN				S	**S**	**01 30 38.5**	**-3.7**
JLN				S	**S**	**01 30 38.5**	**-3.7**
THZ	**Tophouse**	**65.10**	**142**	IAmb	IAmb	01 22 02.6	
	comp=Z,166nm,0.8s						
THZ				IAMs_20	IAMs_20	01 51 53.2	
	comp=Z,41µm,19.0s						
THZ	**Tophouse**	**65.10**	**142**	P	**P**	**01 22 00.4**	**+0.7**
EAZ	**Earnscleugh**	**65.19**	**147**	P	**P**	**01 22 01.6**	**+1.6**
RPZ	**Rata Peaks**	**65.19**	**145**	LR	LR	01 50 44.2	
	comp=Z,21µm,19.9s,baz=311,slow=36						
RPZ	**Rata Peaks**	**65.19**	**145**	P	**P**	**01 22 01.4**	**+1.3**
ADK	**Adak**	**65.19**	**35**	P	**P**	**01 22 00.5**	**+0.5**
ADK				IAmb	IAmb	01 22 04.1	
	comp=Z,253nm,1.0s						
ADK	**Adak**	**65.19**	**35**	IAMs_20	IAMs_20	01 51 05.0	
	comp=Z,30µm,21.0s						
ADK	**Adak**	**65.19**	**35**	P	**P**	**01 22 01.9**	**+1.9**
LTZ	**Lake Taylor**	**65.33**	**144**	IAmb	IAmb	01 22 27.9	
	comp=Z,373nm,1.7s						
LTZ				IAMs_20	IAMs_20	01 52 02.1	
	comp=Z,26µm,20.0s						
LTZ	**Lake Taylor**	**65.33**	**144**	P	**P**	**01 22 02.6**	**+1.6**
NGZ	**Ngauruhoe**	**65.34**	**139**	P	**P**	**01 22 04.4**	**+3.1**
OXZ	**Oxford**	**65.52**	**144**	IAMs_20	IAMs_20	01 51 00.2	
	comp=Z,28µm,19.0s						
ODZ	**Otahua Downs**	**65.80**	**146**	IAMs_20	IAMs_20	01 50 34.4	
	comp=Z,30µm,19.0s						
ODZ	**Otahua Downs**	**65.80**	**146**	P	**P**	**01 22 05.2**	**+1.2**
AFI	**Afiamalu**	**65.81**	**109**	P	**P**	**01 22 05.5**	**+0.7**
AFI				IAmb	IAmb	01 22 11.8	
	comp=Z,333nm,1.2s						
AFI	**Afiamalu**	**65.81**	**109**	P	**P**	**01 22 07.3**	**+2.6**
TUZ	**Tuapeka**	**65.83**	**148**	P	**P**	**01 22 06.5**	**+2.4**
WSAR	**Wadi Sarin**	**65.85**	**292**	LR	LR	01 53 34.7	
	comp=Z,72nm,20.6s,baz=108,slow=38						
WSAR	**Wadi Sarin**	**65.85**	**292**	P	**P**	**01 22 04.0**	**-0.8**
WSAR				S	**S**	**01 30 48.5**	**-3.1**
URZ	**Urewera**	**65.86**	**137**	LR	LR	01 49 35.5	
	comp=Z,23µm,21.8s,baz=299,slow=35						
URZ	**Urewera**	**65.86**	**137**	P	**P**	**01 22 06.1**	**+1.6**
KHZ	**Kahutara**	**65.86**	**143**	P	**P**	**01 22 04.1**	**-0.3**
GVZ	**Greta Valley S**	**65.89**	**143**	P	**P**	**01 22 07.5**	**+2.8**
BKZ	**Black Stump Fm**	**65.92**	**138**	IAmb	IAmb	01 22 18.0	
	comp=Z,389nm,1.1s						
BKZ	**Black Stump Fm**	**65.92**	**138**	P	**P**	**01 22 04.0**	**-1.0**
BKZ	**Black Stump Fm**	**65.92**	**138**	P	**P**	**01 22 05.9**	**+1.0**
SNZO	**South Karori**	**65.94**	**141**	P	**P**	**01 22 05.1**	**+0.2**
SNZO				IAmb	IAmb	01 22 10.2	
	comp=Z,159nm,0.8s						
SNZO	**South Karori**	**65.94**	**141**	IAMs_20	IAMs_20	01 53 04.6	
	comp=Z,35µm,18.0s						
SNZO	**South Karori**	**65.94**	**141**	P	**P**	**01 22 04.8**	**-0.2**
SNZO	**South Karori**	**65.94**	**141**	P	**P**	**01 22 04.7**	**-0.2**
RTZ	**Ruatahuna**	**65.95**	**138**	IAMs_20	IAMs_20	01 49 28.1	
	comp=Z,33µm,22.0s						
RTZ	**Ruatahuna**	**65.95**	**138**	P	**P**	**01 22 05.6**	**+0.4**
TSZ	**Takapari Road**	**66.05**	**139**	P	**P**	**01 22 07.2**	**+1.5**
HAZ	**Te Kaha**	**66.05**	**137**	P	**P**	**01 22 07.2**	**+1.5**
MRZ	**Mangatainoka R**	**66.13**	**140**	IAMs_20	IAMs_20	01 49 56.7	
	comp=Z,25µm,19.0s						
MRZ	**Mangatainoka R**	**66.13**	**140**	P	**P**	**01 22 06.4**	**+0.2**
MWZ	**Matawai**	**66.17**	**137**	P	**P**	**01 22 07.5**	**+0.9**
JMDO	**Jabal Madar**	**66.30**	**291**	P	**P**	**01 22 06.7**	**-1.1**
	SNR=5.6						
JMDO				P	**P**	**01 22 06.7**	**-1.1**
	SNR=5.6						
JMDO				S	**S**	**01 30 53.5**	**-3.6**
JMDO				S	**S**	**01 30 53.5**	**-3.6**
MXZ	**Matakaoa Point**	**66.31**	**136**	P	**P**	**01 22 09.5**	**+2.1**
MSWZ	**Moikau Station**	**66.34**	**141**	P	**P**	**01 22 08.0**	**+0.4**
MSWZ				PP	**PP**	**01 24 37.7**	**+3.8**
SMDO	**Samad**	**66.38**	**292**	P	**P**	**01 22 07.2**	**-1.2**
SMDO				P	**P**	**01 22 07.2**	**-1.2**
SMDO				S	**S**	**01 30 54.4**	**-3.8**
SMDO				S	**S**	**01 30 54.4**	**-3.8**
PUZ	**Puketiti**	**66.54**	**137**	P	**P**	**01 22 09.1**	**+0.2**
BFZ	**Birch Farm**	**66.57**	**140**	P	**P**	**01 22 09.2**	**+0.1**
BFZ				IAmb	IAmb	01 22 21.5	
	comp=Z,174nm,1.1s						
BFZ				IAMs_20	IAMs_20	01 49 26.2	
	comp=Z,35µm,20.0s						
BFZ	**Birch Farm**	**66.57**	**140**	P	**P**	**01 22 09.7**	**+0.7**
BFZ	**Birch Farm**	**66.57**	**140**	P	**P**	**01 22 09.6**	**+0.5**
PXZ	**Pawanui**	**66.62**	**139**	P	**P**	**01 22 10.8**	**+1.4**
KNZ	**Kokohu**	**66.63**	**138**	P	**P**	**01 22 11.6**	**+2.2**
ATKA	**Atka Island**	**66.75**	**36**	P	**P**	**01 22 12.1**	**+2.1**
DQM	**DQM**	**66.76**	**289**	P	**P**	**01 22 09.7**	**-1.0**
DQM				P	**P**	**01 22 09.7**	**-1.0**
DQM				S	**S**	**01 31 00.3**	**-2.4**
DQM				S	**S**	**01 31 00.3**	**-2.4**
BILL	**Bilibino**	**66.88**	**16**	P	**P**	**01 22 09.8**	**-0.8**
BILL				IAmb	IAmb	01 22 23.1	
	comp=Z,226nm,1.1s						
HOQ	**Hoqain**	**67.08**	**293**	P	**P**	**01 22 10.1**	**-2.6**
	SNR=9.5						
HOQ				P	**P**	**01 22 10.1**	**-2.6**
	SNR=9.5						
HOQ				S	**S**	**01 31 03.9**	**-2.6**
HOQ				S	**S**	**01 31 03.9**	**-2.6**
ARQ	**Araqi**	**67.79**	**292**	P	**P**	**01

ASUD	**Al Ashush, Dub**	**68.92**	**294**	*i* P	**P**	**01 22 22.8**	**-1.5**
	SNR=10						
UMZA	**Um Al Zommool**	**69.03**	**292**	P	**P**	**01 22 22.0**	**-2.9**
UMZA				P	**P**	**01 22 22.0**	**-2.9**
UMZA				S	**S**	**01 31 26.7**	**-3.1**
UMZA				S	**S**	**01 31 26.7**	**-3.1**
DMTO	**DMTO**	**69.21**	**286**	P	**P**	**01 22 25.8**	**-0.3**
	SNR=14						
DMTO				P	**P**	**01 22 25.8**	**-0.3**
	SNR=14						
DMTO				S	**S**	**01 31 30.0**	**-2.1**
DMTO				S	**S**	**01 31 30.0**	**-2.1**
AJN	**Ajban**	**69.23**	**294**	P	**P**	**01 22 25.1**	**-1.1**
	SNR=10						
AJN				P	**P**	**01 22 25.1**	**-1.1**
	SNR=10						
AJN				S	**S**	**01 31 27.9**	**-4.3**
AJN				S	**S**	**01 31 27.9**	**-4.3**
AJN	**Ajban**	**69.23**	**294**	*i* P	**P**	**01 22 24.5**	**-1.7**
	SNR=16						
RBK	**Rabkut**	**69.92**	**286**	P	**P**	**01 22 30.0**	**-0.6**
	SNR=27						
RBK				S	**S**	**01 31 37.8**	**-2.8**
DOK	**Doka**	**69.98**	**287**	P	**P**	**01 22 30.2**	**-0.6**
	SNR=19						
DOK				S	**S**	**01 31 38.5**	**-2.6**
NIKH	**Nikolski High**	**70.08**	**36**	P	**P**	**01 22 32.0**	**+1.1**
NIKH				IAMs_20	IAMs_20	01 46 28.4	
	comp=Z,27µm,22.0s						
NIKH	**Nikolski High**	**70.08**	**36**	P	**P**	**01 22 31.3**	**+0.4**
	baz=255						
NIKH				S	**S**	**01 31 44.1**	**+2.9**
	baz=255						
MZWR	**Madinat Zayed**	**70.23**	**293**	P	**P**	**01 22 31.7**	**-0.6**
MZWR				S	**S**	**01 31 39.9**	**-4.0**
AKTO	**Aktyubinsk**	**70.27**	**321**	P	**P**	**01 22 32.2**	**+0.1**
	comp=Z,110nm,0.9s,baz=180,slow=16,SNR=131						
AKTO				S	**S**	**01 31 40.9**	**-2.7**
	comp=Z,1.3nm,0.8s,baz=245,slow=19,SNR=3.0						
AKTO				LR	LR	01 55 43.5	
	comp=Z,66µm,20.8s,baz=108,slow=38						
	comp=Z,110nm,0.9s						
WHFO	**Wadi Hawf**	**70.33**	**286**	P	**P**	**01 22 31.8**	**-1.3**
	SNR=30						
WHFO				S	**S**	**01 31 42.0**	**-3.4**
SPIA	**Saint Paul Isl**	**70.53**	**31**	P	**P**	**01 22 34.4**	**+0.8**
	baz=252						
SPIA				S	**S**	**01 31 48.5**	**+2.3**
	baz=252						
MZR	**Muzera**	**70.58**	**292**	P	**P**	**01 22 34.1**	**-0.5**
	SNR=51						
MZR				S	**S**	**01 31 44.2**	**-3.9**
MZR	**Muzera**	**70.58**	**292**	*i* P	**P**	**01 22 32.8**	**-1.8**
	SNR=70						
MSEY	**Mahe Island**	**70.59**	**263**	P	**P**	**01 22 33.1**	**-1.7**
MSEY				IAmb	IAmb	01 22 36.9	
	comp=Z,512nm,1.5s						
MSEY	**Mahe Island**	**70.59**	**263**	IAMs_20	IAMs_20	01 54 04.1	
	comp=Z,27µm,19.0s						
MSEY	**Mahe Island**	**70.59**	**263**	P	**P**	**01 22 33.8**	**-1.0**
MSEY				S	**S**	**01 31 47.7**	**-0.9**
MSEY	**Mahe Island**	**70.59**	**263**	*i* P	**P**	**01 22 31.9**	**-2.9**
	SNR=16						
P08K	**Saint George I**	**70.72**	**32**	P	**P**	**01 22 35.7**	**+1.1**
	baz=253						
P08K				S	**S**	**01 31 53.4**	**+4.9**
	baz=253						
ABTO	**Aybut**	**70.79**	**286**	P	**P**	**01 22 35.3**	**-0.6**
	SNR=37						
ABTO				S	**S**	**01 31 48.2**	**-2.7**
GHWR	**Ruwais**	**71.15**	**293**	P	**P**	**01 22 37.5**	**-0.4**
GHWR				S	**S**	**01 31 50.6**	**-4.1**
JRN	**Qarnain Island**	**71.19**	**294**	P	**P**	**01 22 37.6**	**-0.5**
	SNR=12						
JRN				S	**S**	**01 31 50.0**	**-5.1**
ARTI	**Arti**	**71.56**	**327**	LR	LR	01 56 58.3	
	comp=Z,37µm,18.8s,baz=104,slow=38						
UNV	**Unalaska Valle**	**71.67**	**35**	P	**P**	**01 22 40.8**	**+0.3**
UNV				IAmb	IAmb	01 22 47.3	
	comp=Z,451nm,1.2s						
UNV				IAMs_20	IAMs_20	01 48 04.2	
	comp=Z,31µm,22.0s						
UNV	**Unalaska Valle**	**71.67**	**35**	P	**P**	**01 22 43.5**	**+3.1**
UNV	**Unalaska Valle**	**71.67**	**35**	P	**P**	**01 22 40.4**	**0.0**
	baz=256,SNR=10						
UNV				S	**S**	**01 32 02.2**	**+2.7**
	baz=256						
GAMB	**Gambell**	**72.11**	**25**	IAmb	IAmb	01 22 47.6	
	comp=Z,296nm,1.1s						
GAMB	**Gambell**	**72.11**	**25**	P	**P**	**01 22 43.8**	**+0.9**
	baz=248,SNR=18						
GAMB				S	**S**	**01 32 07.5**	**+3.3**
	baz=248						
AKUT	**Akutan**	**72.15**	**35**	P	**P**	**01 22 46.3**	**+2.9**
SLWR	**Sila**	**72.23**	**293**	P	**P**	**01 22 44.2**	**-0.3**
TRNA	**Turayna**	**72.67**	**294**	P	**P**	**01 22 46.7**	**-0.3**
	SNR=9.3						
TRNA				S	**S**	**01 32 09.4**	**-2.8**
CTZ	**Chatham Island**	**72.68**	**140**	IAMs_20	IAMs_20	01 52 46.1	
	comp=Z,24µm,22.0s						
SHMA	**Al-Shehemyia**	**72.91**	**295**	P	**P**	**01 22 48.1**	**-0.3**
SHMA				S	**S**	**01 32 12.8**	**-1.9**
SMRA	**Abu-Samra**	**73.03**	**294**	P	**P**	**01 22 48.7**	**-0.5**
	SNR=12						
SMRA				S	**S**	**01 32 13.1**	**-3.0**
SAKB	**Bahrain**	**73.29**	**295**	P	**P**	**01 22 50.4**	**-0.3**
SAKB				S	**S**	**01 32 16.4**	**-2.8**
M11K	**Mekoryuk**	**73.48**	**29**	IAmb	IAmb	01 22 56.6	
	comp=Z,408nm,1.2s						
M11K	**Mekoryuk**	**73.48**	**29**	P	**P**	**01 22 52.8**	**+1.7**
	baz=255						
M11K				S	**SKiKP**	**01 32 23.8**	**+2.4**
	baz=255						
FALS	**False Pass**	**73.65**	**35**	IAMs_20	IAMs_20	01 49 06.6	
	comp=Z,35µm,22.0s						
FALS	**False Pass**	**73.65**	**35**	P	**P**	**01 22 55.3**	**+3.1**
FALS	**False Pass**	**73.65**	**35**	P	**P**	**01 22 51.8**	**-0.4**
	baz=259,SNR=10						
FALS				S	**S**	**01 32 24.2**	**+2.0**
	baz=259						
PAF	**Port-aux-Franc**	**73.66**	**214**	IAMs_20	IAMs_20	01 54 28.8	
	comp=Z,24µm,21.0s						
CASY	**Casey**	**73.80**	**186**	P	**P**	**01 22 51.5**	**-1.3**
TNA	**Tin City**	**74.25**	**23**	IAMs_20	IAMs_20	01 57 28.5	
	comp=Z,26µm,19.0s						
TNA	**Tin City**	**74.25**	**23**	P	**P**	**01 22 56.7**	**+1.2**
	baz=252						
TNA				S	**S**	**01 32 31.3**	**+2.8**
	baz=252						
S12K	**Black Hills**	**74.57**	**34**	IAmb	IAmb	01 23 22.0	
	comp=Z,384nm,1.6s						
S12K	**Black Hills**	**74.57**	**34**	P	**P**	**01 22 57.4**	**-0.3**
	baz=260						
S12K				S	**S**	**01 32 34.0**	**+1.4**
	baz=260						
K13K	**Kusilvak Mount**	**74.61**	**27**	IAmb	IAmb	01 23 02.7	
	comp=Z,276nm,1.1s						
K13K	**Kusilvak Mount**	**74.61**	**27**	P	**P**	**01 22 58.8**	**+1.1**
	baz=256						
K13K				S	**S**	**01 32 37.5**	**+4.9**
	baz=256						
F14K	**Arctic Creek**	**74.86**	**24**	P	**P**	**01 23 00.3**	**+1.3**
	baz=253,SNR=28						
F14K				S	**S**	**01 32 39.3**	**+3.9**
	baz=253						
M13K	**Dall Lake**	**74.86**	**29**	IAmb	IAmb	01 23 04.4	
	comp=Z,318nm,1.1s						
M13K	**Dall Lake**	**74.86**	**29**	P	**P**	**01 23 00.2**	**+1.0**
	baz=257						
M13K				S	**S**	**01 32 41.1**	**+5.5**
	baz=257						
ANM	**Nome**	**74.99**	**25**	P	**P**	**01 23 01.2**	**+1.3**
	baz=254,SNR=6.3						
ANM				S	**S**	**01 32 39.0**	**+2.2**
	baz=254						
KIP	**Kipapa**	**75.17**	**70**	P	**P**	**01 23 04.6**	**+2.8**
KIP	**Kipapa**	**75.17**	**70**	P	**P**	**01 23 04.8**	**+3.0**
J14K	**Nanvaranak Lak**	**75.31**	**27**	P	**P**	**01 23 02.7**	**+1.0**
	baz=256						
J14K				S	**S**	**01 32 42.2**	**+1.8**
	baz=256						
L14K	**Kuka Creek**	**75.39**	**28**	IAmb	IAmb	01 23 07.3	
	comp=Z,504nm,1.1s						
L14K	**Kuka Creek**	**75.39**	**28**	P	**P**	**01 23 03.7**	**+1.6**
	baz=258						
L14K				S	**S**	**01 32 42.7**	**+1.4**
	baz=258						
SDPT	**Sand Point**	**75.40**	**35**	P	**P**	**01 23 05.4**	**+3.0**
SDPT	**Sand Point**	**75.40**	**35**	P	**P**	**01 23 02.5**	**+0.1**
	baz=261						
SDPT				S	**S**	**01 32 41.8**	**+0.1**
	baz=261						
N14K	**Kuskokwak Cree**	**75.57**	**30**	IAmb	IAmb	01 23 07.9	
	comp=Z,357nm,1.1s						
N14K	**Kuskokwak Cree**	**75.57**	**30**	P	**P**	**01 23 04.4**	**+1.1**
	baz=259,SNR=16						
N14K				S	**S**	**01 32 42.1**	**-1.4**
	baz=259						
F15K	**North Star Dit**	**75.59**	**24**	IAmb	IAmb	01 23 12.6	
	comp=Z,414nm,1.3s						
F15K				IAMs_20	IAMs_20	01 58 28.1	
	comp=Z,23µm,19.0s						
F15K	**North Star Dit**	**75.59**	**24**	P	**P**	**01 23 04.4**	**+1.1**
	baz=255						
F15K				S	**S**	**01 32 43.8**	**+0.3**
	baz=255						
M14K	**Bethel**	**75.61**	**29**	P	**P**	**01 23 04.2**	**+0.7**
M14K				IAmb	IAmb	01 23 08.4	
	comp=Z,461nm,1.1s						
M14K	**Bethel**	**75.61**	**29**	P	**P**	**01 23 05.1**	**+1.7**
	baz=258,SNR=33						
M14K				S	**S**	**01 32 44.3**	**+0.5**
	baz=258						
G15K	**Niukluk**	**75.65**	**24**	P	**P**	**01 23 04.7**	**+1.0**
	baz=255,SNR=20						
G15K				S	**S**	**01 32 44.5**	**+0.3**
	baz=255						
O14K	**Tigyukauivet M**	**75.65**	**31**	IAmb	IAmb	01 23 08.3	
	comp=Z,263nm,1.1s						
O14K	**Tigyukauivet M**	**75.65**	**31**	P	**P**	**01 23 04.8**	**+1.1**
	baz=259,SNR=17						
O14K				S	**S**	**01 32 44.2**	**-0.1**
	baz=259						
KBD	**Kabd**	**75.82**	**298**	P	**P**	**01 23 04.7**	**-0.7**
KBD				S	**S**	**01 32 42.3**	**-5.1**
CNBA	**Chernabura Isl**	**75.83**	**35**	IAmb	IAmb	01 23 11.2	
	comp=Z,467nm,1.3s						
CHNA	**Chernabura Isl**	**75.83**	**35**	P	**P**	**01 23 07.9**	**+3.1**
CHNA	**Chernabura Isl**	**75.83**	**35**	P	**P**	**01 23 05.3**	**+0.4**
	baz=262						
CHNA				S	**S**	**01 32 46.6**	**+0.2**
	baz=262						
L15K	**Ungalak Mounta**	**76.02**	**28**	P	**P**	**01 23 06.3**	**+0.5**
	baz=258						
L15K				S	**S**	**01 32 49.4**	**+1.0**
	baz=258						
C16K	**Lisburne Hills**	**76.05**	**21**	P	**P**	**01 23 06.5**	**+0.7**
	baz=253,SNR=17						
C16K				S	**S**	**01 32 49.1**	**+0.7**
	baz=253						
S14K	**Fog Glacier**	**76.06**	**34**	P	**P**	**01 23 06.4**	**+0.1**
	baz=262						
S14K				S	**S**	**01 32 49.3**	**+0.1**
	baz=262						
K15K	**Wolf Creek Mou**	**76.12**	**27**	IAmb	IAmb	01 23 11.6	
	comp=Z,270nm,1.1s						
K15K	**Wolf Creek Mou**	**76.12**	**27**	P	**P**	**01 23 07.8**	**+1.4**
	baz=258						
K15K				S	**S**	**01 32 49.9**	**+0.4**
	baz=258						
M15K	**Kasigluk River**	**76.21**	**29**	P	**P**	**01 23 08.2**	**+1.3**
	baz=260,SNR=35						
M15K				S	**S**	**01 32 50.8**	**+0.3**
	baz=260						
H16K	**Elim**	**76.31**	**25**	P	**P**	**01 23 08.9**	**+1.4**
	baz=257,SNR=30						
H16K				S	**S**	**01 32 52.4**	**+0.9**
	baz=257						
O15K	**Ungalikthiuk R**	**76.37**	**31**	IAmb	IAmb	01 23 12.4	
	comp=Z,214nm,1.1s						
O15K	**Ungalikthiuk R**	**76.37**	**31**	P	**P**	**01 23 09.2**	**+1.4**
	baz=261,SNR=16						
O15K				S	**S**	**01 32 53.1**	**+0.7**
	baz=261						
N15K	**Kwethluk River**	**76.40**	**30**	IAmb	IAmb	01 23 12.9	
	comp=Z,362nm,1.1s						
N15K	**Kwethluk River**	**76.40**	**30**	P	**P**	**01 23 09.8**	**+1.7**
	baz=260,SNR=48						
N15K				S	**S**	**01 32 53.3**	**+0.6**
	baz=260						
G16K	**Koyuk River**	**76.44**	**24**	IAmb	IAmb	01 23 12.8	
	comp=Z,200nm,1.1s						
G16K				IAMs_20	IAMs_20	01 56 23.5	
	comp=Z,21µm,20.0s						
G16K	**Koyuk River**	**76.44**	**24**	P	**P**	**01 23 09.1**	**+1.0**
	baz=257						
G16K				S	**S**	**01 32 53.8**	**+0.9**
	baz=257						
D17K	**Noatak River**	**76.71**	**22**	P	**P**	**01 23 11.1**	**+1.5**
	baz=256,SNR=69						
D17K				S	**S**	**01 32 56.6**	**+0.9**
	baz=256						
J16K	**Anvik River**	**76.74**	**27**	IAmb	IAmb	01 23 19.5	
	comp=Z,314nm,1.1s						
J16K				IAMs_20	IAMs_20	01 59 44.6	
	comp=Z,24µm,20.0s						
J16K	**Anvik River**	**76.74**	**27**	P	**P**	**01 23 11.4**	**+1.5**
	baz=259						
J16K				S	**S**	**01 32 58.9**	**+2.7**
	baz=259						
KIRV	**Kirov**	**76.76**	**329**	S	S	01 32 45.3	-11
	comp=Z,2.2nm,0.5s,baz=312,slow=16,SNR=1.7						
KIRV				LR	LR	02 00 30.1	
	comp=Z,54µm,19.3s,baz=100,slow=38						
I17K	**Unalakleet**	**76.81**	**26**	IAmb	IAmb	01 23 15.5	
	comp=Z,384nm,1.1s						
I17K	**Unalakleet**	**76.81**	**26**	P	**P**	**01 23 11.8**	**+1.5**
	baz=259,SNR=19						
I17K				S	**S**	**01 32 57.9**	**+1.0**
	baz=259						
RDOG	**Red Dog Mine**	**76.86**	**22**	IAmb	IAmb	01 23 24.8	
	comp=Z,554nm,1.2s						
RDOG				IAMs_20	IAMs_20	01 59 19.5	
	comp=Z,23µm,21.0s						
RDOG	**Red Dog Mine**	**76.86**	**22**	P	**P**	**01 23 12.2**	**+1.6**
	baz=256,SNR=41						
RDOG				S	**S**	**01 32 57.8**	**+0.4**
	baz=256						
C17K	**DeLong Mountai**	**76.87**	**21**	P	**P**	**01 23 12.3**	**+1.8**
	baz=255,SNR=9.0						
C17K				S	**S**	**01 32 58.2**	**+0.6**
	baz=255						
L16K	**Owhat River**	**76.97**	**28**	IAmb	IAmb	01 23 20.4	
	comp=Z,528nm,1.4s						
L16K	**Owhat River**	**76.97**	**28**	P	**P**	**01 23 12.7**	**+1.5**
	baz=260,SNR=73						
L16K				S	**S**	**01 33 00.5**	**+1.8**
	baz=260						
BELG	**Belogornoye**	**77.01**	**322**	P	**P**	**01 23 10.8**	**-0.7**
	comp=Z,457nm,1.0s,baz=111,slow=1.6,SNR=62						
BELG				S	S	01 32 48.6	-11
	comp=Z,12nm,0.8s,baz=263,slow=8.1,SNR=1.9						
BELG				LR	LR	01 59 52.5	
	comp=Z,34µm,21.5s,baz=91,slow=38						
	comp=Z,457nm,1.0s						
E17K	**Hotham Inlet**	**77.03**	**23**	P	**P**	**01 23 12.8**	**+1.3**
	baz=257						
E17K				S	**S**	**01 33 00.8**	**+1.5**
	baz=257						
M16K	**Timber Creek**	**77.10**	**29**	IAmb	IAmb	01 23 16.8	
	comp=Z,311nm,1.1s						
M16K	**Timber Creek**	**77.10**	**29**	P	**P**	**01 23 13.4**	**+1.5**
	baz=261						
M16K				S	**S**	**01 33 01.9**	**+1.7**
	baz=261						
N16K	**Nishlik Lake**	**77.10**	**30**	P	**P**	**01 23 13.5**	**+1.4**
	baz=261						
N16K				S	**S**	**01 33 03.0**	**+2.6**
	baz=261						
F17K	**Baldwin Pennin**	**77.11**	**23**	P	**P**	**01 23 13.8**	**+1.9**
	baz=258						
F17K				S	**S**	**01 33 02.7**	**+2.5**
	baz=258						
G17K	**Kiwalik Mounta**	**77.16**	**24**	P	**P**	**01 23 14.3**	**+2.1**
	baz=258,SNR=60						
G17K				S	**S**	**01 33 02.2**	**+1.5**
	baz=258						
P16K	**Nushagak River**	**77.28**	**31**	P	**P**	**01 23 14.5**	**+1.5**
	baz=262						
P16K				S	**S**	**01 33 06.0**	**+3.8**
	baz=262						
O16K	**Kokwok River B**	**77.31**	**30**	IAmb	IAmb	01 23 17.9	
	comp=Z,298nm,1.1s						
O16K	**Kokwok River B**	**77.31**	**30**	P	**P**	**01 23 14.2**	**+1.0**
	baz=262,SNR=44						
O16K				S	**S**	**01 33 05.2**	**+2.6**
	baz=262						
R16K	**Pilot Point**	**77.31**	**33**	P	**P**	**01 23 13.7**	**+0.5**
	baz=263						
R16K				S	**S**	**01 33 03.1**	**+0.5**
	baz=263						
H17K	**Granite Mounta**	**77.35**	**25**	IAmb	IAmb	01 23 22.7	
	comp=Z,368nm,1.2s						
H17K	**Granite Mounta**	**77.35**	**25**	P	**P**	**01 23 14.8**	**+1.5**
	baz=259,SNR=64						
H17K				S	**S**	**01 33 04.7**	**+1.8**
	baz=259						
J17K	**VABM Dome**	**77.43**	**27**	IAmb	IAmb	01 23 19.0	
	comp=Z,262nm,1.1s						
J17K				IAMs_20	IAMs_20	02 00 16.0	
	comp=Z,22µm,19.0s						
J17K	**VABM Dome**	**77.43**	**27**	P	**P**	**01 23 15.5**	**+1.7**
	baz=260						
J17K				S	**S**	**01 33 06.5**	**+2.7**
	baz=260						
POHA	**Pohakuloa**	**77.56**	**71**	P	**P**	**01 23 18.3**	**+2.6**
E18K	**Tukpahlearik C**	**77.57**	**22**	IAmb	IAmb	01 23 24.0	
	comp=Z,382nm,1.1s						
E18K	**Tukpahlearik C**	**77.57**	**22**	P	**P**	**01 23 16.1**	**+1.6**
	baz=258,SNR=36						
E18K				S	**S**	**01 33 08.6**	**+3.4**
	baz=258						
B18K	**Kokolik River**	**77.57**	**20**	P	**P**	**01 23 15.8**	**+1.3**
	baz=256						
B18K				S	**S**	**01 33 07.2**	**+2.1**
	baz=256						
L17K	**Donlin**	**77.58**	**28**	P	**P**	**01 23 16.4**	**+1.7**
	baz=261						
L17K				S	**S**	**01 33 09.1**	**+3.6**
	baz=261						
C18K	**Utukok River**	**77.62**	**21**	IAmb	IAmb	01 23 23.9	
	comp=Z,306nm,1.1s						
C18K	**Utukok River**	**77.62**	**21**	P	**P**	**01 23 16.1**	**+1.2**
	baz=257						
C18K				S	**S**	**01 33 07.9**	**+2.0**
	baz=257						
K17K	**Iditarod**	**77.67**	**27**	P	**P**	**01 23 16.6**	**+1.5**
	baz=261						
K17K				S	**S**	**01 33 09.9**	**+3.5**
	baz=261						
F18K	**Selawik**	**77.77**	**23**	P	**P**	**01 23 16.6**	**+1.0**
	baz=259,SNR=39						
F18K				S	**S**	**01 33 09.7**	**+2.4**
	baz=259						
O17K	**Koliganek Bris**	**77.83**	**30**	P	**P**	**01 23 17.4**	**+1.3**
	baz=263,SNR=36						
O17K				S	**S**	**01 33 10.5**	**+2.2**
	baz=263						
M17K	**Holitna River**	**77.88**	**29**	IAmb	IAmb	01 23 21.8	
	comp=Z,339nm,1.1s						
M17K	**Holitna River**	**77.88**	**29**	P	**P**	**01 23 18.4**	**+2.0**
	baz=262,SNR=34						
M17K				S	**S**	**01 33 11.7**	**+3.0**
	baz=262						
N17K	**Nushagak Hills**	**77.89**	**30**	IAmb	IAmb	01 23 26.2	
	comp=Z,582nm,1.4s						
N17K	**Nushagak Hills**	**77.89**	**30**	P	**P**	**01 23 18.3**	**+1.9**
	baz=263,SNR=62						
N17K				S	**S**	**01 33 12.4**	**+3.7**
	baz=263						
RAYN	**Ar Rayn**	**77.91**	**293**	P	**P**	**01 23 15.2**	**-2.2**
RAYN				IAmb	IAmb	01 23 20.8	
	comp=Z,218nm,1.0s						
RAYN	**Ar Rayn**	**77.91**	**293**	IAMs_20	IAMs_20	02 02 14.5	
	comp=Z,23µm,21.0s						
RAYN	**Ar Rayn**	**77.91**	**293**	P	**P**	**01 23 16.9**	**-0.5**
RAYN				S	**S**	**01 33 07.2**	**-3.3**
RAYN	**Ar Rayn**	**77.91**	**293**	*i* P	**P**	**01 23 15.6**	**-1.7**
	SNR=51						
Q16K	**King Salmon**	**77.93**	**32**	P	**P**	**01 23 17.1**	**+0.5**
	baz=264,SNR=6.1						
Q16K				S	**S**	**01 33 10.0**	**+0.7**
	baz=264						
R17L	**Mt. Peulik Vol**	**77.97**	**33**	P	**P**	**01 23 17.8**	**+0.9**
	baz=264,SNR=22						
R17L				S	**S**	**01 33 09.5**	**-0.3**
	baz=264						
PLK4	**Peulik 4**	**77.97**	**33**	IAmb	IAmb	01 23 23.1	
	comp=Z,635nm,1.4s						
A19K	**Wainwright**	**78.02**	**20**	P	**P**	**01 23 18.8**	**+1.9**
	baz=257						
A19K				S	**S**	**01 33 12.1**	**+2.3**
	baz=257						
H18K	**Honhosa River**	**78.04**	**25**	IAmb	IAmb	01 23 26.1	
	comp=Z,274nm,1.2s						
H18K	**Honhosa River**	**78.04**	**25**	P	**P**	**01 23 18.3**	**+1.1**
	baz=261						
H18K				S	**S**	**01 33 11.2**	**+0.9**
	baz=261						
G18K	**Tagagawik**	**78.04**	**24**	IAmb	IAmb	01 23 25.3	
	comp=Z,702nm,1.9s						
G18K				IAMs_20	IAMs_20	01 57 10.9	
	comp=Z,20µm,20.0s						
G18K	**Tagagawik**	**78.04**	**24**	P	**P**	**01 23 18.1**	**+0.9**
	baz=260,SNR=57						
G18K				S	**S**	**01 33 10.9**	**+0.5**
	baz=260						
P17K	**Kvichak River**	**78.10**	**31**	P	**P**	**01 23 18.8**	**+1.2**
	baz=264						
P17K				S	**S**	**01 33 12.9**	**+1.9**
	baz=264						
CHIR	**Chirikof Islan**	**78.19**	**34**	IAMs_20	IAMs_20	01 53 10.7	
	comp=Z,24µm,22.0s						
CHIR	**Chirikof Islan**	**78.19**	**34**	P	**P**	**01 23 21.3**	**+3.1**
CHIR	**Chirikof Islan**	**78.19**	**34**	P	**P**	**01 23 19.7**	**+1.5**
	baz=265,SNR=9.5						
CHIR				S	**S**	**01 33 14.9**	**+2.6**
	baz=265						
C19K	**Lookout Ridge**	**78.29**	**21**	P	**P**	**01 23 19.6**	**+1.1**
	baz=259,SNR=27						
C19K				S	**S**	**01 33 15.6**	**+2.7**
	baz=259						
GNI	**Garni**	**78.34**	**309**	P	**P**	**01 23 19.3**	**-0.2**
GNI	**Garni**	**78.34**	**309**	P	**P**	**01 23 20.3**	**+0.8**
	comp=Z,503nm,1.4s,baz=211,slow=2.3,SNR=30						
	comp=Z,503nm,1.4s						
GNI	**Garni**	**78.34**	**309**	P	**P**	**01 23 20.6**	**+1.0**
GNI				S	**S**	**01 33 14.3**	**-0.5**
GNI	**Garni**	**78.34**	**309**	P	**P**	**01 23 19.8**	**+0.2**
L18K	**Granite Mounta**	**78.34**	**28**	IAmb	IAmb	01 23 28.6	
	comp=Z,407nm,1.4s						
L18K	**Granite Mounta**	**78.34**	**28**	P	**P**	**01 23 20.8**	**+1.9**
	baz=263,SNR=54						
L18K				S	**S**	**01 33 16.7**	**+3.0**
	baz=263						
J18K	**Innoko River**	**78.49**	**27**	IAmb	IAmb	01 23 28.8	
	comp=Z,278nm,1.4s						
J18K				IAMs_20	IAMs_20	02 01 07.6	
	comp=Z,21µm,20.0s						
J18K	**Innoko River**	**78.49**	**27**	P	**P**	**01 23 20.7**	**+1.0**
	baz=262						
J18K				S	**S**	**01 33 17.1**	**+1.9**
	baz=262						
N18K	**Kilae Creek**	**78.54**	**30**	IAmb	IAmb	01 23 29.6	
	comp=Z,894nm,2.0s						
N18K	**Kilae Creek**	**78.54**	**30**	P	**P**	**01 23 21.6**	**+1.6**
	baz=264						
N18K				S	**S**	**01 33 19.8**	**+3.9**
	baz=264						
F19K	**Shaleruckik Mo**	**78.55**	**23**	IAmb	IAmb	01 23 27.9	
	comp=Z,589nm,1.8s						
F19K	**Shaleruckik Mo**	**78.55**	**23**	P	**P**	**01 23 20.6**	**+0.7**
	baz=261						
F19K				S	**S**	**01 33 17.4**	**+1.7**
	baz=261						
ACHA	**Angle Creek He**	**78.57**	**32**	IAmb	IAmb	01 23 28.4	
	comp=Z,401nm,1.6s						
GCSA	**Galena City Sc**	**78.60**	**25**	P	**P**	**01 23 21.7**	**+1.5**
	baz=262,SNR=31						
GCSA				S	**S**	**01 33 19.4**	**+3.2**
	baz=262						
M18K	**Stony River**	**78.66**	**29**	P	**P**	**01 23 22.1**	**+1.4**
	baz=264

	comp=Z,274nm,1.5s					
P18K	**Big Mountain,**	**78.74**	**31**	P	**P**	**01 23 21.8 +0.6**
	baz=265,SNR=22					
P18K				S	**S**	**01 33 17.8 -0.2**
	baz=265					
Q18K	**Katmai Hardscr**	**78.78**	**32**	P	**P**	**01 23 21.4 -0.1**
	baz=265,SNR=38					
Q18K				S	**S**	**01 33 17.7 -1.0**
	baz=265					
O18K	**Koktuh Hills**	**78.79**	**30**	P	**P**	**01 23 23.3 +1.8**
	baz=264,SNR=109					
O18K				S	**S**	**01 33 21.2 +2.6**
	baz=264					
E19K	**Redstone River**	**78.86**	**23**	IAmb	IAmb	01 23 31.1
	comp=Z,594nm,1.2s					
E19K	**Redstone River**	**78.86**	**23**	P	**P**	**01 23 23.4 +1.8**
	baz=261,SNR=59					
E19K				S	**S**	**01 33 19.1 +0.1**
	baz=261					
H19K	**Roundabout Mou**	**78.89**	**25**	IAmb	IAmb	01 23 31.3
	comp=Z,440nm,1.1s					
H19K	**Roundabout Mou**	**78.89**	**25**	P	**P**	**01 23 23.7 +1.9**
	baz=262					
H19K				S	**S**	**01 33 23.7 +4.4**
	baz=262					
R18K	**Karluk**	**78.98**	**33**	P	**P**	**01 23 23.1 +0.6**
	baz=266					
R18K				S	**S**	**01 33 20.9 +0.3**
	baz=266					
J19K	**Poorman**	**79.04**	**26**	IAmb	IAmb	01 23 32.1
	comp=Z,312nm,1.3s					
J19K	**Poorman**	**79.04**	**26**	P	**P**	**01 23 24.5 +1.8**
	baz=263,SNR=77					
J19K				S	**S**	**01 33 23.6 +2.4**
	baz=263					
SII	**Sitkinak Islan**	**79.05**	**34**	IAMs_20	IAMs_20	01 53 17.4
	comp=Z,32µm,22.0s					
SII	**Sitkinak Islan**	**79.05**	**34**	P	**P**	**01 23 26.2 +3.3**
SII	**Sitkinak Islan**	**79.05**	**34**	P	**P**	**01 23 24.7 +1.8**
	baz=266,SNR=9.2					
SII				S	**S**	**01 33 24.3 +2.8**
	baz=266					
L19K	**White Mountain**	**79.19**	**28**	IAmb	IAmb	01 23 28.7
	comp=Z,283nm,1.3s					
L19K	**White Mountain**	**79.19**	**28**	P	**P**	**01 23 25.4 +1.8**
	baz=264					
L19K				S	**S**	**01 33 25.4 +2.6**
	baz=264					
N19K	**Bonanza Creek**	**79.24**	**29**	P	**P**	**01 23 25.8 +1.8**
	baz=265,SNR=37					
N19K				S	**S**	**01 33 26.3 +2.8**
	baz=265					
O19K	**Port Alsworth**	**79.27**	**30**	IAmb	IAmb	01 23 33.0
	comp=Z,708nm,1.6s					
O19K	**Port Alsworth**	**79.27**	**30**	P	**P**	**01 23 25.2 +1.2**
	baz=265,SNR=28					
O19K				S	**S**	**01 33 25.8 +2.3**
	baz=265					
D20K	**Etivluk River**	**79.28**	**21**	IAmb	IAmb	01 23 33.2
	comp=Z,606nm,1.2s					
D20K	**Etivluk River**	**79.28**	**21**	P	**P**	**01 23 25.4 +1.4**
	baz=262,SNR=35					
D20K				S	**S**	**01 33 25.5 +2.0**
	baz=262					
B20K	**Meade River**	**79.29**	**20**	IAmb	IAmb	01 23 31.7
	comp=Z,319nm,1.0s					
B20K				IAMs_20	IAMs_20	02 02 04.4
	comp=Z,30µm,20.0s					
B20K	**Meade River**	**79.29**	**20**	P	**P**	**01 23 24.8 +0.8**
	baz=261					
B20K				S	**S**	**01 33 26.2 +2.7**
	baz=261					
E20K	**Nigu River**	**79.37**	**22**	P	**P**	**01 23 26.0 +1.5**
	baz=262,SNR=38					
E20K				S	**S**	**01 33 25.6 +1.1**
	baz=262					
F20K	**Avaraart Lake**	**79.38**	**23**	IAmb	IAmb	01 23 33.9
	comp=Z,349nm,1.3s					
F20K	**Avaraart Lake**	**79.38**	**23**	P	**P**	**01 23 25.9 +1.5**
	baz=263					
F20K				S	**S**	**01 33 26.0 +1.5**
	baz=263					
M19K	**Big River Lodg**	**79.38**	**28**	P	**P**	**01 23 26.5 +1.8**
	baz=265					
M19K				S	**S**	**01 33 28.5 +3.7**
	baz=265					
H20K	**Anotleneega Mo**	**79.53**	**25**	P	**P**	**01 23 27.1 +1.7**
	baz=264,SNR=106					
H20K				S	**S**	**01 33 28.6 +2.3**
	baz=264					
OHAK	**Old Harbor**	**79.59**	**33**	IAmb	IAmb	01 23 32.7
	comp=Z,276nm,1.0s					
OHAK	**Old Harbor**	**79.59**	**33**	P	**P**	**01 23 27.5 +1.7**
OHAK	**Old Harbor**	**79.59**	**33**	P	**P**	**01 23 27.3 +1.5**
	baz=267,SNR=40					
OHAK				S	**S**	**01 33 28.9 +1.9**
	baz=267					
I20K	**Naaghedeneel**	**79.63**	**25**	IAMs_20	IAMs_20	02 00 17.8
	comp=Z,21µm,20.0s					
I20K	**Naaghedeneel**	**79.63**	**25**	P	**P**	**01 23 27.6 +1.8**
	baz=264,SNR=41					
I20K				S	**S**	**01 33 30.5 +3.3**
	baz=264					
K20K	**Telida**	**79.67**	**27**	P	**P**	**01 23 28.1 +1.9**
	baz=265,SNR=80					
K20K				S	**S**	**01 33 30.3 +2.6**
	baz=265					
L20K	**Farewell, AK**	**79.67**	**28**	P	**P**	**01 23 28.0 +1.8**
	baz=265,SNR=72					
L20K				S	**S**	**01 33 31.4 +3.5**
	baz=265					
A21K	**Barrow**	**79.68**	**19**	P	**P**	**01 23 27.2 +1.2**
	baz=261					
A21K				S	**S**	**01 33 29.7 +2.1**
	baz=261					
J20K	**Nowinta River**	**79.71**	**26**	P	**P**	**01 23 28.3 +2.0**
	baz=265					
J20K				S	**S**	**01 33 30.6 +2.4**
	baz=265					
KBZ	**Khabaz**	**79.75**	**313**	P	**P**	**01 23 27.1 +0.2**
	comp=Z,95nm,1.2s,baz=114,slow=1.9,SNR=38					
KBZ				LR	LR	02 02 34.5
	comp=Z,31µm,21.2s,baz=76,slow=38					
	comp=Z,95nm,1.2s					
P19K	**Oil Pt**	**79.77**	**31**	IAmb	IAmb	01 23 35.9
	comp=Z,668nm,1.8s					
P19K	**Oil Pt**	**79.77**	**31**	P	**P**	**01 23 27.2 +0.4**
	baz=266					
P19K				S	**S**	**01 33 30.3 +1.2**
	baz=266					
KVAR	**Kislovodsk Arr**	**79.89**	**313**	P	**P**	**01 23 28.9 +1.0**
	comp=Z,22nm,0.9s,baz=90,slow=20,SNR=42					
	comp=Z,22nm,0.9s					
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 27.1 -0.8**
KIV				IAmb	IAmb	01 23 31.9
	comp=Z,806nm,1.8s					
KIV				IAMs_20	IAMs_20	02 04 15.5
	comp=Z,25µm,18.0s					
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 27.8 -0.1**
KIV				S	**S**	**01 33 27.8 -3.3**
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 27.8 -0.1**
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 27.2 -0.8**
	SNR=53					
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 27.5 -0.4**
	comp=Z,5µmcomp=Z,168nm,1.6s					
KIV	**Kislovodsk**	**79.90**	**313**	P	**P**	**01 23 28.0 0.0**
KIV				S	**S**	**01 33 30.1 -1.0**
M20K	**Styx River**	**79.98**	**28**	IAmb	IAmb	01 23 37.4
	comp=Z,798nm,1.5s					
M20K	**Styx River**	**79.98**	**28**	P	**P**	**01 23 29.7 +1.7**
	baz=266					
M20K				S	**S**	**01 33 34.7 +3.5**
	baz=266					
C21K	**Knifeblade Rid**	**80.00**	**21**	P	**P**	**01 23 29.6 +1.8**
	baz=263,SNR=11					
C21K				S	**S**	**01 33 33.8 +2.7**
	baz=263					
KDAK	**Kodiak Island**	**80.00**	**33**	P	**P**	**01 23 28.3 +0.3**
KDAK	**Kodiak Island**	**80.00**	**33**	IAMs_20	IAMs_20	01 53 18.3
	comp=Z,24µm,22.0s					
KDAK	**Kodiak Island**	**80.00**	**33**	P	**P**	**01 23 28.8 +0.8**
	comp=Z,157nm,1.0s,baz=246,slow=5.1,SNR=60					
KDAK				LR	LR	01 58 06.5
	comp=Z,9µm,18.8s,baz=249,slow=35					
	comp=Z,157nm,1.0s					
KDAK	**Kodiak Island**	**80.00**	**33**	P	**P**	**01 23 29.2 +1.2**
	baz=267					
KDAK				S	**S**	**01 33 33.2 +1.8**
	baz=267					
RED	**Redoubt Volcan**	**80.05**	**30**	IAmb	IAmb	01 23 31.8
	comp=Z,200nm,1.0s					
O20K	**Slope Mountain**	**80.11**	**30**	P	**P**	**01 23 29.1 +0.5**
	baz=267,SNR=6.2					
O20K				S	**S**	**01 33 31.7 -0.9**
	baz=267					
B21K	**Ikpikpuk River**	**80.11**	**21**	IAmb	IAmb	01 23 42.7
	comp=Z,441nm,1.1s					
B21K				IAMs_20	IAMs_20	02 00 19.3
	comp=Z,27µm,21.0s					
B21K	**Ikpikpuk River**	**80.11**	**21**	P	**P**	**01 23 29.8 +1.4**
	baz=263,SNR=25					
B21K				S	**S**	**01 33 34.7 +2.6**
	baz=263					
Q20K	**Shuyak Island**	**80.14**	**32**	P	**P**	**01 23 29.9 +1.1**
	baz=267,SNR=19					
Q20K				S	**S**	**01 33 33.6 +0.8**
	baz=267					
SYI	**Shuyak Island**	**80.14**	**32**	IAmb	IAmb	01 23 38.4
	comp=Z,433nm,1.3s					
A22K	**Sinclair Lake**	**80.16**	**19**	P	**P**	**01 23 29.9 +1.3**
	baz=263					
A22K				S	**S**	**01 33 35.3 +2.7**
	baz=263					
G21K	**Allakaket**	**80.19**	**24**	IAMs_20	IAMs_20	01 59 57.7
	comp=Z,20µm,21.0s					
G21K	**Allakaket**	**80.19**	**24**	P	**P**	**01 23 30.7 +1.7**
	baz=265					
G21K				S	**S**	**01 33 33.5 +0.3**
	baz=265					
E21K	**Killik River**	**80.21**	**22**	IAMs_20	IAMs_20	02 01 38.7
	comp=Z,19µm,20.0s					
E21K	**Killik River**	**80.21**	**22**	P	**P**	**01 23 30.3 +1.3**
	baz=264					
E21K				S	**S**	**01 33 33.9 +0.5**
	baz=264					
F21K	**Alatna River**	**80.27**	**23**	P	**P**	**01 23 30.5 +1.1**
	baz=265,SNR=20					
F21K				S	**S**	**01 33 33.6 -0.5**
	baz=265					
N20K	**Mount Spurr**	**80.37**	**29**	P	**P**	**01 23 30.7 +0.6**
	baz=267					
N20K				S	**S**	**01 33 36.2 +0.8**
	baz=267					
SPCR	**Spurr Chakacha**	**80.37**	**29**	P	**P**	**01 23 30.8 +0.7**
	baz=267,SNR=38					
SPCR				S	**S**	**01 33 36.5 +1.1**
	baz=267					
H21K	**Melozitna Rive**	**80.41**	**25**	IAMs_20	IAMs_20	02 01 02.4
	comp=Z,19µm,20.0s					
H21K	**Melozitna Rive**	**80.41**	**25**	P	**P**	**01 23 32.2 +2.0**
	baz=266,SNR=74					
H21K				S	**S**	**01 33 36.0 +0.5**
	baz=266					
GURO	**Guroymak-BITLI**	**80.44**	**308**	IAmb	IAmb	01 23 37.0
	comp=Z,551nm,1.4s					
PPLA	**Purkeypile**	**80.48**	**27**	IAmb	IAmb	01 23 40.8
	comp=Z,412nm,1.3s					
PPLA	**Purkeypile**	**80.48**	**27**	P	**P**	**01 23 31.8 +1.1**
	baz=267,SNR=50					
PPLA				S	**S**	**01 33 37.8 +1.1**
	baz=267					
CHUM	**Lake Minchumin**	**80.49**	**26**	P	**P**	**01 23 32.2 +1.6**
	baz=266,SNR=6.5					
CHUM				S	**S**	**01 33 38.5 +2.2**
	baz=266					
HOM	**Homer**	**80.58**	**31**	IAmb	IAmb	01 24 37.1
	comp=Z,366nm,1.2s					
HOM	**Homer**	**80.58**	**31**	P	**P**	**01 23 31.5 +0.4**
	baz=268					
HOM				S	**S**	**01 33 38.3 +0.9**
	baz=268					
B22K	**Teshekpuk Lake**	**80.60**	**20**	IAmb	IAmb	01 23 40.3
	comp=Z,547nm,1.2s					
B22K				IAMs_20	IAMs_20	02 03 13.1
	comp=Z,25µm,20.0s					
B22K	**Teshekpuk Lake**	**80.60**	**20**	P	**P**	**01 23 32.2 +1.2**
	baz=264					
B22K				S	**S**	**01 33 39.7 +2.5**
	baz=264					
I21K	**Tanana**	**80.72**	**25**	P	**P**	**01 23 33.5 +1.7**
	baz=266					
I21K				S	**S**	**01 33 40.7 +2.0**
	baz=266					
D22K	**Ayikyak River**	**80.72**	**21**	IAmb	IAmb	01 23 42.3
	comp=Z,636nm,1.5s					
D22K				IAMs_20	IAMs_20	01 58 31.4
	comp=Z,20µm,22.0s					
D22K	**Ayikyak River**	**80.72**	**21**	P	**P**	**01 23 33.2 +1.5**
	baz=265,SNR=14					
D22K				S	**S**	**01 33 39.3 +0.7**
	baz=265					
SKT	**Skwentna**	**80.74**	**28**	IAmb	IAmb	01 23 35.5
	comp=Z,303nm,1.1s					
SKT	**Skwentna**	**80.74**	**28**	P	**P**	**01 23 32.1 +0.2**
	baz=267,SNR=92					
SKT				S	**S**	**01 33 39.5 +0.4**
	baz=267					
CNPM	**China Poot**	**80.78**	**31**	IAmb	IAmb	01 23 41.2
	comp=Z,583nm,1.3s					
F22K	**John River**	**80.80**	**23**	P	**P**	**01 23 33.7 +1.5**
	baz=266					
F22K				S	**S**	**01 33 41.8 +2.3**
	baz=266					
CAPN	**Captain Cook N**	**80.87**	**30**	P	**P**	**01 23 33.2 +0.6**
	baz=268					
CAPN				S	**S**	**01 33 42.9 +2.6**
	baz=268					
BRLK	**Bradley Lake**	**80.97**	**31**	IAmb	IAmb	01 23 39.1
	comp=Z,418nm,1.0s					
E22K	**Anaktuvuk Pass**	**80.98**	**22**	IAmb	IAmb	01 23 40.1
	comp=Z,313nm,1.1s					
E22K	**Anaktuvuk Pass**	**80.98**	**22**	P	**P**	**01 23 34.3 +1.1**
	baz=266					
E22K				S	**S**	**01 33 43.1 +1.6**
	baz=266					
H22K	**Ishtalitna Cre**	**81.01**	**24**	P	**P**	**01 23 35.0 +1.7**
	baz=267					
H22K				S	**S**	**01 33 44.7 +2.9**
	baz=267					
G22K	**Bettles**	**81.02**	**23**	P	**P**	**01 23 34.5 +1.2**
	baz=267					
G22K				S	**S**	**01 33 40.9 -0.8**
	baz=267					
ABPO	**Ambohimpanom**	**81.03**	**250**	P	**P**	**01 23 33.2 -1.3**
BRSE	**Bradley Lake S**	**81.04**	**31**	P	**P**	**01 23 34.4 +0.8**
	baz=268,SNR=44					
BRSE				S	**S**	**01 33 41.1 -1.2**
	baz=268					
BPAW	**Bear Paw Mtn.**	**81.08**	**26**	IAMs_20	IAMs_20	02 02 47.5
	comp=Z,22µm,19.0s					
BPAW	**Bear Paw Mtn.**	**81.08**	**26**	P	**P**	**01 23 34.8 +1.0**
	baz=268,SNR=281					
BPAW				S	**S**	**01 33 41.3 -1.3**
	baz=268					
KTH	**Kantishna Hill**	**81.09**	**27**	IAmb	IAmb	01 23 40.1
	comp=Z,417nm,1.2s					
SUA	**Susitna One**	**81.09**	**29**	IAmb	IAmb	01 23 37.5
	comp=Z,432nm,1.0s					
SUA	**Susitna One**	**81.09**	**29**	P	**P**	**01 23 34.3 +0.4**
	baz=268					
SUA				S	**S**	**01 33 41.7 -1.3**
	baz=268					
MLY	**Manley**	**81.23**	**25**	P	**P**	**01 23 36.2 +1.6**
	baz=268					
MLY				S	**S**	**01 33 44.1 -0.1**
	baz=268					
ATD	**Arta Tunnel**	**81.25**	**281**	LR	LR	01 58 16.1
	comp=Z,430nm,21.8s,baz=65,slow=35					
ATD	**Arta Tunnel**	**81.25**	**281**	P	**P**	**01 23 36.1 +0.4**
	SNR=44					
ATD				S	**S**	**01 33 46.6 +0.4**
SLKM	**Skilak Lake**	**81.32**	**30**	IAmb	IAmb	01 23 38.6
	comp=Z,473nm,1.2s					
CUT	**Chulitna**	**81.35**	**28**	P	**P**	**01 23 35.5 +0.3**
	baz=268,SNR=44					
CUT				S	**S**	**01 33 45.1 -0.2**
	baz=268					
TRF	**Thorofare Moun**	**81.37**	**27**	P	**P**	**01 23 35.9 +0.4**
	baz=268,SNR=104					
TRF				S	**S**	**01 33 45.9 0.0**
	baz=268					
M22K	**Willow**	**81.40**	**29**	P	**P**	**01 23 35.5 +0.1**
	baz=269,SNR=55					
M22K				S	**S**	**01 33 45.4 -0.5**
	baz=269					
D23K	**Nanushuk River**	**81.45**	**21**	IAMs_20	IAMs_20	02 05 36.2
	comp=Z,20µm,21.0s					
D23K	**Nanushuk River**	**81.45**	**21**	P	**P**	**01 23 37.3 +1.7**
	baz=267					
D23K				S	**S**	**01 33 49.3 +3.1**
	baz=267					
MARD	**Mardin**	**81.47**	**307**	IAmb	IAmb	01 23 42.0
	comp=Z,322nm,1.7s					
C23K	**Itkillik River**	**81.52**	**20**	P	**P**	**01 23 37.3 +1.4**
	baz=267					
C23K				S	**S**	**01 33 48.7 +1.8**
	baz=267					
COLD	**Coldfoot**	**81.55**	**23**	IAmb	IAmb	01 23 40.5
	comp=Z,228nm,1.1s					
COLD	**Coldfoot**	**81.55**	**23**	P	**P**	**01 23 38.1 +1.9**
	baz=268,SNR=62					
COLD				S	**S**	**01 33 49.9 +2.6**
	baz=268					
O22K	**Cooper Landing**	**81.56**	**30**	P	**P**	**01 23 37.1 +0.8**
	baz=269,SNR=10					
O22K				S	**S**	**01 33 48.3 +0.7**
	baz=269					
RC01	**Rabbit Creek A**	**81.57**	**29**	IAmb	IAmb	01 23 48.8
	comp=Z,208nm,1.0s					
RC01	**Rabbit Creek A**	**81.57**	**29**	P	**P**	**01 23 36.5 +0.2**
	baz=269,SNR=19					
RC01				S	**S**	**01 33 46.6 -1.1**
	baz=269					
G23K	**Bananza Creek**	**81.59**	**24**	IAmb	IAmb	01 23 50.5
	comp=Z,510nm,1.4s					
G23K	**Bananza Creek**	**81.59**	**24**	P	**P**	**01 23 37.9 +1.4**
	baz=268					
G23K				S	**S**	**01 33 52.2 +4.3**
	baz=268					
KOPT	**Kop Dagi**	**81.59**	**309**	IAmb	IAmb	01 23 43.2
	comp=Z,527nm,1.3s					
SEW	**Seward**	**81.69**	**30**	IAmb	IAmb	01 23 50.9
	comp=Z,555nm,1.3s					
SEW	**Seward**	**81.69**	**30**	P	**P**	**01 23 37.5 +0.5**
	baz=270,SNR=42					
SEW				S	**S**	**01 33 50.0 +1.0**
	baz=270					
H23K	**Yukon River**	**81.76**	**24**	IAmb	IAmb	01 23 45.2
	comp=Z,250nm,1.1s					
H23K				IAMs_20	IAMs_20	02 00 48.2
	comp=Z,19µm,21.0s					
H23K	**Yukon River**	**81.76**	**24**	P	**P**	**01 23 38.2 +0.8**
	baz=269					
H23K				S	**S**	**01 33 54.4 +4.8**
	baz=269					
E23K	**Chandalar**	**81.80**	**22**	P	**P**	**01 23 39.4 +1.8**
	baz=268,SNR=111					
E23K				S	**S**	**01 33 52.9 +2.8**
	baz=268					
I23K	**Minto, Yukon-K**	**81.82**	**25**	P	**P**	**01 23 39.0 +1.4**
	baz=269,SNR=24					
I23K				S	**S**	**01 33 53.7 +3.6**
	baz=269					
TOLK	**Toolik Lake Re**	**81.84**	**22**	P	**P**	**01 23 39.0 +1.3**
	baz=268,SNR=35					
TOLK				S	**S**	**01 33 53.4 +3.1**
	baz=268					
PMR	**Palmer**	**81.87**	**29**	IAmb	IAmb	01 23 41.6
	comp=Z,355nm,1.2s					
PMR	**Palmer**	**81.87**	**29**	P	**P**	**01 23 38.3 +0.4**
PMR	**Palmer**	**81.87**	**29**	P	**P**	**01 23 38.0 +0.1**
	baz=270,SNR=45					
PMR				S	**S**	**01 33 50.6 -0.1**
	baz=270					
NEA2	**Nenana**	**81.93**	**26**	IAmb	IAmb	01 23 42.7
	comp=Z,225nm,1.1s					
NEA2				IAMs_20	IAMs_20	02 00 31.9
	comp=Z,24µm,21.0s					
NEA2	**Nenana**	**81.93**	**26**	P	**P**	**01 23 38.5 +0.3**
	baz=269,SNR=26					
NEA2				S	**S**	**01 33 52.6 +1.2**
	baz=269					
VOI	**Vohitsoka**	**81.96**	**247**	IAMs_20	IAMs_20	01 55 14.1
	comp=Z,22µm,21.0s					
VOI	**Vohitsoka**	**81.96**	**247**	P	**P**	**01 23 39.5 +0.1**
	SNR=10					
GHO	**Glory Hole Cre**	**81.97**	**29**	IAmb	IAmb	01 24 00.7
	comp=Z,308nm,1.0s					
MCK	**McKinley**	**81.98**	**27**	IAMs_20	IAMs_20	02 03 05.2
	comp=Z,20µm,20.0s					
MCK	**McKinley**	**81.98**	**27**	P	**P**	**01 23 38.7 +0.1**
	baz=269,SNR=241					
MCK				S	**S**	**01 33 52.8 +0.9**
	baz=269					
RND	**Reindeer**	**82.01**	**27**	IAMs_20	IAMs_20	02 03 20.0
	comp=Z,23µm,20.0s					
D24K	**Happy Valley**	**82.12**	**21**	IAmb	IAmb	01 23 47.0
	comp=Z,430nm,1.1s					
D24K				IAMs_20	IAMs_20	02 01 04.3
	comp=Z,30µm,22.0s					
D24K	**Happy Valley**	**82.12**	**21**	P	**P**	**01 23 40.0 +0.9**
	baz=269,SNR=44					
D24K				S	**S**	**01 33 56.6 +3.5**
	baz=269					
WAT1	**Susitna Watana**	**82.15**	**28**	P	**P**	**01 23 40.0 +0.6**
	baz=270					
WAT1				S	**S**	**01 33 53.0 -0.7**
	baz=270					
C24K	**Franklin Bluff**	**82.18**	**21**	IAMs_20	IAMs_20	02 01 34.7
	comp=Z,27µm,20.0s					
C24K	**Franklin Bluff**	**82.18**	**21**	P	**P**	**01 23 40.7 +1.3**
	baz=269					
C24K				S	**S**	**01 33 54.9 +1.2**
	baz=269					
KNK	**Knik Glacier**	**82.19**	**29**	P	**P**	**01 23 40.3 +0.7**
	baz=270,SNR=57					
KNK				S	**S**	**01 33 53.6 -0.6**
	baz=270					
E24K	**Your Creek**	**82.22**	**22**	IAmb	IAmb	01 24 00.3
	comp=Z,253nm,1.3s					
E24K	**Your Creek**	**82.22**	**22**	P	**P**	**01 23 40.6 +0.8**
	baz=269					
E24K				S	**SKSac**	**01 33 59.2 -0.6**
	baz=269					
SML	**Sawmill**	**82.25**	**29**	P	**P**	**01 23 40.4 +0.4**
	baz=270,SNR=98					
SML				S	**S**	**01 33 55.3 +0.5**
	baz=270					
PWL	**Port Wells**	**82.25**	**30**	P	**P**	**01 23 40.6 +0.6**
	baz=270,SNR=125					
PWL				S	**S**	**01 33 55.0 +0.2**
	baz=270					
WRH	**Wood River Hil**	**82.36**	**26**	IAMs_20	IAMs_20	02 00 55.0
	comp=Z,20µm,20.0s					
FOMA	**Nahampoana Res**	**82.38**	**244**	IAmb	IAmb	01 23 42.3
	comp=Z,214nm,1.4s					
FOMA				IAMs_20	IAMs_20	01 54 36.0
	comp=Z,28µm,21.0s					
H24K	**Noodor Dome**	**82.45**	**24**	IAmb	IAmb	01 23 52.9
	comp=Z,432nm,1.2s					
H24K	**Noodor Dome**	**82.45**	**24**	P	**P**	**01 23 42.4 +1.5**
	baz=270					
H24K				S	**S**	**01 34 00.4 +3.6**
	baz=270					
F24K	**Squaw Lake**	**82.45**	**23**	IAmb	IAmb	01 23 45.3
	comp=Z,140nm,1.0s					
F24K				IAMs_20	IAMs_20	02 02 35.2
	comp=Z,19µm,21.0s					
F24K	**Squaw Lake**	**82.45**	**23**	P	**P**	**01 23 42.7 +1.7**
	baz=270,SNR=52					
F24K				S	**SKSac**	**01 34 00.7 -0.5**
	baz=270					
COLA	**College**	**82.46**	**25**	P	**P**	**01 23 41.6 +0.7**
COLA	**College**	**82.46**	**25**	IAMs_20	IAMs_20	02 00 56.6
	comp=Z,19µm,20.0s					
COLA	**College**	**82.46**	**25**	P	**P**	**01 23 41.7 +0.8**
COLA	**College**	**82.46**	**25**	P	**P**	**01 23 41.3 +0.4**
	baz=270					
COLA				S	**S**	**01 33 57.7 +1.0**
	baz=270					
COLA	**College**	**82.46**	**25**	P	**P**	**01 23 40.8 -0.1**
COLA				S	**S**	**01 33 56.9 +0.2**
CCB	**Clear Creek Bu**	**82.48**	**26**	IAMs_20	IAMs_20	02 00 58.3
	comp=Z,19µm,21.0s					
WAT6	**Susitna Watana**	**82.52**	**28**	P	**P**	**01 23 41.8 +0.3**
	baz=271,SNR=166					
WAT6				S	**S**	**01 33 58.1 +0.2**
	baz=271					
M23K	**Glacier View**	**82.54**	**29**	P	**P**	**01 23 41.8 +0.3**
	baz=271,SNR=53					
M23K				S	**S**	**01 33 58.1 +0.4**
	baz=271					
G24K	**Hadweenzic Riv**	**82.61**	**24**	IAmb	IAmb	01 23 56.3
	comp=Z,348nm,1.3s					

G24K	Hadweenzic Riv	82.61	24	P	P	01 23 42.7	+1.0
	baz=270,SNR=10.0						
G24K				S	SKSac	01 34 01.9	-0.4
	baz=270						
POKR	Poker Plat Res	82.64	25	IAmb	IAmb	01 23 53.1	
	comp=Z,151nm,1.1s						
POKR				IAMs_20	IAMs_20	02 03 31.4	
	comp=Z,17μm,18.0s						
POKR	Poker Plat Res	82.64	25	P	P	01 23 42.3	+0.4
	baz=271,SNR=11						
POKR				S	S	01 33 59.3	+0.7
	baz=271						
DHY	Denali Highway	82.68	27	IAmb	IAmb	01 23 50.3	
	comp=Z,127nm,0.9s						
DHY	Denali Highway	82.68	27	P	P	01 23 43.0	+0.6
	baz=271,SNR=30						
DHY				S	S	01 33 59.2	-0.2
	baz=271						
P23K	Montague Islan	82.72	30	P	P	01 23 43.5	+1.0
	baz=271,SNR=32						
P23K				S	S	01 34 02.2	+2.6
	baz=271						
SCM	Sheep Creek Mo	82.72	29	P	P	01 23 43.3	+0.8
	baz=271,SNR=61						
SCM				S	S	01 34 00.8	+1.1
	baz=271						
HDA	Harding Lake	82.85	26	IAmb	IAmb	01 23 50.7	
	comp=Z,248nm,0.9s						
HDA				IAMs_20	IAMs_20	02 01 10.2	
	comp=Z,21μm,21.0s						
HDA	Harding Lake	82.85	26	P	P	01 23 43.2	+0.2
	baz=271,SNR=127						
HDA				S	S	01 34 00.4	-0.4
	baz=271						
GLI	Glacier Island	82.86	30	P	P	01 23 44.1	+1.0
	baz=271						
GLI				S	S	01 34 02.2	+1.2
	baz=271						
IL31		82.87	26	IAmb	IAmb	01 23 50.6	
	comp=Z,601nm,1.8s						
ILAR	Eielson Array	82.87	26	P	P	01 23 42.5	-0.6
ILAR	Eielson Array	82.87	26	P	P	01 23 42.2	-0.9
	comp=Z,49nm,1.0s,baz=261,slow=4.9,SNR=82						
ILAR				S	S	01 33 57.5	-3.5
	comp=Z,0.2nm,0.6s,baz=315,slow=37,SNR=3.0						
ILAR				PKKPbc	PKKPbc	01 42 09.4	+0.5
	comp=Z,1.2nm,0.9s,baz=50,slow=1.4,SNR=6.7						
ILAR				PKPPKP	P'P'df	01 50 07.3	-5.7
	comp=Z,0.7nm,1.1s,baz=205,slow=4.0,SNR=4.0						
ILAR				LR	LR	02 00 49.5	
	comp=Z,12μm,20.2s,baz=264,slow=36						
	comp=Z,49nm,1.0s						
D25K	Kavik River	83.00	21	IAmb	IAmb	01 23 50.6	
	comp=Z,250nm,1.1s						
D25K				IAMs_20	IAMs_20	02 02 01.5	
	comp=Z,24μm,20.0s						
D25K	Kavik River	83.00	21	P	P	01 23 45.0	+1.3
	baz=271						
D25K				S	S	01 34 04.9	+2.7
	baz=271						
G25K	Bearman Lake	83.15	24	P	P	01 23 46.1	+1.6
	baz=272,SNR=24						
G25K				S	SKSac	01 34 07.8	+2.0
	baz=272						
M24K	Tolsona, Glenn	83.26	28	P	P	01 23 46.7	+1.4
	baz=272,SNR=46						
M24K				S	S	01 34 07.7	+2.5
	baz=272						
Q23K	Middleton Isla	83.27	31	P	P	01 23 46.8	+1.5
	baz=272						
Q23K				S	SKSac	01 34 08.5	+1.7
	baz=272						
H25L	Birch Creek	83.28	24	P	P	01 23 46.7	+1.6
	baz=272,SNR=25						
H25L				S	SKSac	01 34 08.1	+1.4
	baz=272						
F25K	Christian Rive	83.31	23	IAMs_20	IAMs_20	02 03 11.9	
	comp=Z,21μm,20.0s						
F25K	Christian Rive	83.31	23	P	P	01 23 46.9	+1.4
	baz=272						
F25K				S	SKSac	01 34 09.2	+2.3
	baz=272						
E25K	Arctic Village	83.32	22	IAMs_20	IAMs_20	02 05 25.2	
	comp=Z,26μm,19.0s						
E25K	Arctic Village	83.32	22	P	P	01 23 46.7	+1.3
	baz=272,SNR=77						
E25K				S	SKSac	01 34 08.3	+1.3
	baz=272						
K24K	Donnelly Dome	83.38	27	P	P	01 23 46.1	+0.3
	baz=272,SNR=66						
K24K				S	S	01 34 07.2	+1.0
	baz=272						
KLU	Klutina	83.41	29	P	P	01 23 47.2	+1.1
	baz=272,SNR=34						
KLU				S	S	01 34 08.4	+1.7
	baz=272						
C26K	Camden Bay	83.49	20	P	P	01 23 47.9	+1.7
	baz=272,SNR=13						
C26K				S	SKSac	01 34 10.1	+2.2
	baz=272						
EYAK	Cordova Ski Ar	83.53	30	P	P	01 23 49.4	+2.8
EYAK	Cordova Ski Ar	83.53	30	P	P	01 23 47.9	+1.4
	baz=273,SNR=19						
EYAK				S	SKSac	01 34 10.1	+1.6
	baz=273						
J25K	Salcha River,	83.53	26	IAmb	IAmb	01 23 53.6	
	comp=Z,125nm,1.0s						
J25K				IAMs_20	IAMs_20	02 01 39.0	
	comp=Z,18μm,19.0s						
J25K	Salcha River,	83.53	26	P	P	01 23 46.9	+0.3
	baz=272						
J25K				S	S	01 34 08.0	+0.2
	baz=272						
PAX	Paxson	83.56	27	IAMs_20	IAMs_20	02 04 19.9	
	comp=Z,27μm,20.0s						
PAX	Paxson	83.56	27	P	P	01 23 48.0	+1.2
	baz=273,SNR=108						
PAX				S	SKSac	01 34 11.5	+2.7
	baz=273						
OBN	Obninsk	83.63	325	P	P	01 23 46.1	-1.1
OBN				IAmb	IAmb	01 24 19.0	
	comp=Z,506nm,1.7s						
OBN	Obninsk	83.63	325	P	P	01 23 46.7	-0.5
	comp=Z,45nm,0.8s,baz=6.1,slow=3.4,SNR=24						
OBN				S	S	01 33 54.7	-14
	comp=Z,14nm,0.5s,baz=242,slow=7.5,SNR=4.0						
OBN				LR	LR	02 04 01.3	
	comp=Z,40μm,20.1s,baz=30,slow=38						
	comp=Z,45nm,0.8s						
OBN	Obninsk	83.63	325	⇓P	P	01 23 46.7	-0.5
OBN	Obninsk	83.63	325	P	P	01 23 46.1	-1.1
	comp=Z,7μmcomp=Z,132nm,2.1s						
BMAR	Burnt Mountain	83.72	23	P	P	01 23 48.4	+0.8
HARP	HAARP	83.73	28	P	P	01 23 48.7	+1.1
	baz=273,SNR=25						
HARP				S	S	01 34 12.4	+2.7
	baz=273						
RIDG	Independent Ri	83.80	27	IAMs_20	IAMs_20	02 01 41.2	
	comp=Z,18μm,20.0s						
RIDG	Independent Ri	83.80	27	P	P	01 23 48.5	+0.5
	baz=273,SNR=47						
RIDG				S	SKSac	01 34 11.4	+1.1
	baz=273						
LVZ	Lovozero	83.87	338	P	P	01 23 48.4	+0.1
LVZ				IAmb	IAmb	01 23 51.3	
	comp=Z,396nm,1.6s						
F26K	Sheenjek River	83.88	23	IAMs_20	IAMs_20	02 03 30.9	
	comp=Z,20μm,20.0s						
F26K	Sheenjek River	83.88	23	P	P	01 23 49.9	+1.6
	baz=273,SNR=84						
F26K				S	SKSac	01 34 12.5	+1.8
	baz=273						
C27K	Jago River	83.92	21	P	P	01 23 50.1	+1.6
	baz=274,SNR=47						
C27K				S	SKSac	01 34 12.3	+1.5
	baz=274						
N25K	Chitina, Valde	84.03	29	P	P	01 23 50.8	+1.5
	baz=274,SNR=121						
N25K				S	S	01 34 14.3	+1.3
	baz=274						
G26K	Porcupine Rive	84.06	23	P	P	01 23 50.7	+1.5
	baz=274,SNR=85						
G26K				S	SKSac	01 34 13.0	+1.3
	baz=274						
BMRM	Bremner River	84.07	29	IAMs_20	IAMs_20	01 56 27.6	
	comp=Z,23μm,22.0s						
BMRM	Bremner River	84.07	29	P	P	01 23 50.4	+1.0
	baz=274,SNR=51						
BMRM				S	S	01 34 15.2	+1.9
	baz=274						
KHAM	Kharkiv	84.12	320	P	P	01 23 50.5	+0.6
DOT	Dot Lake	84.15	27	IAmb	IAmb	01 24 00.2	
	comp=Z,273nm,1.1s						
SCRK	Sand Creek	84.17	26	IAMs_20	IAMs_20	02 03 26.9	
	comp=Z,19μm,20.0s						
SCRK	Sand Creek	84.17	26	P	P	01 23 50.4	+0.5
	baz=274,SNR=104						
SCRK				S	S	01 34 17.4	+3.0
	baz=274						
KAIM	Kayak Island	84.23	30	P	P	01 23 51.7	+1.5
	baz=274,SNR=17						
KAIM				S	S	01 34 17.4	+2.6
	baz=274						
J26L	Joseph Creek	84.31	26	IAmb	IAmb	01 24 03.7	
	comp=Z,382nm,1.2s						
J26L				IAMs_20	IAMs_20	02 01 23.8	
	comp=Z,23μm,21.0s						
J26L	Joseph Creek	84.31	26	P	P	01 23 51.5	+0.9
	baz=274						
J26L				S	S	01 34 17.4	+1.7
	baz=274						
GLB	Gilahina Butte	84.42	29	IAmb	IAmb	01 24 02.1	
	comp=Z,330nm,1.0s						
I26K	Coal Creek Min	84.43	25	P	P	01 23 52.0	+0.9
	baz=274						
I26K				S	S	01 34 18.3	+1.7
	baz=274						
L26K	Log Cabin Wild	84.52	27	IAmb	IAmb	01 24 03.7	
	comp=Z,216nm,1.2s						
L26K				IAMs_20	IAMs_20	02 04 12.3	
	comp=Z,25μm,19.0s						
L26K	Log Cabin Wild	84.52	27	P	P	01 23 52.8	+1.2
	baz=274,SNR=84						
L26K				S	S	01 34 19.8	+2.1
	baz=274						
VRDI	Verde Repeater	84.61	29	IAmb	IAmb	01 24 06.3	
	comp=Z,387nm,1.2s						
TOKA	Tokat	84.65	310	IAmb	IAmb	01 23 56.1	
	comp=Z,295nm,1.4s						
M26K	Nabesna, AK	84.73	28	IAMs_20	IAMs_20	02 02 28.0	
	comp=Z,18μm,20.0s						
M26K	Nabesna, AK	84.73	28	P	P	01 23 54.0	+1.2
	baz=275						
M26K				S	S	01 34 21.2	+1.3
	baz=275						
BGLC	Bering Glacier	84.78	30	P	P	01 23 54.8	+1.9
	baz=275						
CRQM	Cirque	84.80	30	IAmb	IAmb	01 23 59.8	
	comp=Z,262nm,0.9s						
CRQM				IAMs_20	IAMs_20	02 07 07.5	
	comp=Z,21μm,20.0s						
E27K	Coleen River	84.80	22	IAMs_20	IAMs_20	02 06 28.3	
	comp=Z,20μm,20.0s						
E27K	Coleen River	84.80	22	P	P	01 23 53.8	+0.8
	baz=276,SNR=81						
E27K				S	S	01 34 23.2	+2.9
	baz=276						
MCARA	McCarthy VSAT	84.80	29	P	P	01 23 54.6	+1.5
	baz=275,SNR=28						
MCARA				S	S	01 34 21.9	+1.4
	baz=275						
CRQE	Cirque	84.82	30	P	P	01 23 54.3	+1.0
	baz=275,SNR=52						
CRQE				S	S	01 34 21.7	+0.7
	baz=275						
G27K	Doyon Strip	84.91	23	P	P	01 23 55.0	+1.4
	baz=276,SNR=152						
G27K				S	S	01 34 24.5	+3.0
	baz=276						
D27M	Malcolm River	84.92	21	P	P	01 23 54.8	+1.2
	baz=276						
D27M				S	S	01 34 24.9	+3.3
	baz=276						
TGL	Tana Glacier	84.95	30	IAMs_20	IAMs_20	02 07 10.9	
	comp=Z,19μm,20.0s						
ASF	Jabal al Asfar	84.99	302	P	P	01 23 55.7	+0.9
	comp=Z,172nm,1.1s,baz=7.0,slow=0.5,SNR=101						
ASF				S	SKSac	01 34 21.1	+1.8
	comp=Z,0.3nm,0.4s,baz=330,slow=16,SNR=2.4						
ASF				LR	LR	02 07 51.4	
	comp=Z,12μm,20.1s,baz=106,slow=40						
	comp=Z,172nm,1.1s						
K27K	Chicken	85.00	26	IAMs_20	IAMs_20	02 04 01.8	
	comp=Z,23μm,20.0s						
K27K	Chicken	85.00	26	P	P	01 23 55.4	+1.3
	baz=276,SNR=372						
K27K				S	S	01 34 24.6	+2.2
	baz=276						
H27K	Steamboat Moun	85.02	24	P	P	01 23 55.7	+1.6
	baz=276,SNR=122						
H27K				S	S	01 34 27.1	+4.5
	baz=276						
I27K	Kandik River	85.04	25	P	P	01 23 55.6	+1.4
	baz=276						
I27K				S	S	01 34 26.2	+3.3
	baz=276						
L27K	Beaver Creek,	85.20	27	P	P	01 23 55.9	+0.8
	baz=276						
L27K				S	S	01 34 28.0	+3.5
	baz=276						
BCAR	Beaver Creek A	85.22	27	P	P	01 23 55.6	+0.4
M27K	Edge Creek, AK	85.25	28	IAmb	IAmb	01 24 08.2	
	comp=Z,159nm,1.0s						
M27K				IAMs_20	IAMs_20	02 04 19.8	
	comp=Z,23μm,20.0s						
M27K	Edge Creek, AK	85.25	28	P	P	01 23 56.6	+1.1
	baz=276						
M27K				S	S	01 34 27.9	+2.7
	baz=276						
MESA	MESA	85.44	30	P	P	01 23 57.5	+1.0
	baz=276,SNR=22						
MESA				S	S	01 34 29.9	+2.6
	baz=276						
BARN	Barnard Glacie	85.49	29	IAmb	IAmb	01 24 03.8	
	comp=Z,261nm,0.9s						
E28M	Babbage River	85.51	22	IAMs_20	IAMs_20	02 06 38.0	
	comp=Z,19μm,19.0s						
E28M	Babbage River	85.51	22	P	P	01 23 57.6	+1.1
	baz=278,SNR=78						
E28M				S	S	01 34 27.8	+0.5
	baz=278						
F28M	Old Crow	85.51	23	IAMs_20	IAMs_20	02 06 52.1	
	comp=Z,25μm,20.0s						
F28M	Old Crow	85.51	23	P	P	01 23 57.5	+1.0
	baz=277,SNR=57						
F28M				S	S	01 34 30.9	+3.5
	baz=277						
VADS	Vadso	85.56	340	*e*P	P	01 23 57.0	+0.4
VADS				IVmBBB		01 23 59.5	
	comp=Z,2μm,2.9s						
VADS				*e*SKSac	SKSac	01 34 20.5	-0.7
VADS				IVMs_BB	IVMs_BB	02 08 09.6	
	comp=Z,11μm,15.4s						
HWQ	Hawqa	85.59	304	*e*P	P	01 23 57.5	-0.3
FURI	Furi	85.59	278	LR	LR	02 02 50.8	
	comp=Z,27μm,18.6s,baz=77,slow=36						
CTG	Chitna Glacier	85.66	29	P	P	01 23 58.6	+1.1
	baz=276,SNR=119						
CTG				S	S	01 34 32.0	+2.7
	baz=276						
D28M	Stokes Point	85.70	21	P	P	01 23 58.6	+1.3
	baz=278						
D28M				S	S	01 34 33.5	+4.5
	baz=278						
HOPEN	Hopen	85.71	347	*e*P	P	01 23 57.9	+0.6
HOPEN				IVmBBB		01 24 01.0	
	comp=Z,3μm,4.3s						
HOPEN				*e*SKSac	SKSac	01 34 24.3	+2.4
HOPEN				*e*SS	SS	01 40 09.0	+4.0
HOPEN				IVMs_BB	IVMs_BB	02 07 47.4	
	comp=Z,19μm,16.6s						
I28M	Miner Creek	85.76	25	IAMs_20	IAMs_20	02 05 44.8	
	comp=Z,17μm,20.0s						
I28M	Miner Creek	85.76	25	P	P	01 23 59.1	+1.2
	baz=277						
I28M				S	S	01 34 33.8	+3.8
	baz=277						
BHL	Bhannes	85.87	304	*e*P	P	01 23 58.9	-0.2
E29M	Blow River	86.14	22	IAmb	IAmb	01 24 09.6	
	comp=Z,415nm,1.6s						
E29M				IAMs_20	IAMs_20	02 06 48.6	
	comp=Z,16μm,19.0s						
E29M	Blow River	86.14	22	P	P	01 24 00.4	+0.9
	baz=279,SNR=45						
E29M				S	S	01 34 35.3	+1.9
	baz=279						
MMAI	Mount Meron Ar	86.16	303	P	P	01 24 00.7	+0.2
	comp=Z,132nm,1.1s,baz=85,slow=5.2,SNR=76						
MMAI				S	SKSac	01 34 30.0	+3.4
	comp=Z,3.7nm,0.9s,baz=315,slow=55,SNR=2.3						
MMAI				LR	LR	02 10 35.9	
	comp=Z,12μm,18.3s,baz=82,slow=41						
	comp=Z,132nm,1.1s						
DAWY	Dawson	86.17	26	IAmb	IAmb	01 24 09.3	
	comp=Z,616nm,1.9s						
DAWY	Dawson	86.17	26	P	P	01 24 01.2	+1.3
	baz=278,SNR=50						
DAWY				S	S	01 34 37.2	+3.2
	baz=278						
MAW	Mawson	86.23	200	P	P	01 23 59.8	-0.2
	comp=Z,14nm,0.8s,baz=50,slow=4.0,SNR=14						
MAW				S	SKSac	01 34 27.6	+2.4
	comp=Z,0.4nm,0.3s,baz=221,slow=19,SNR=2.5						
MAW				PKPPKP		01 49 59.3	
	comp=Z,2.9nm,1.0s,baz=224,slow=3.3,SNR=4.3						
MAW				LR	LR	02 01 55.2	
	comp=Z,7μm,19.5s,baz=55,slow=35						
	comp=Z,14nm,0.8s						
O28M	Mount Upton	86.24	29	IAmb	IAmb	01 24 19.1	
	comp=Z,196nm,1.1s						
O28M	Mount Upton	86.24	29	P	P	01 24 01.7	+1.1
	baz=277						
O28M				S	S	01 34 39.3	+4.0
	baz=277						
H29M	Whitestone	86.29	24	IAmb	IAmb	01 24 14.8	
	comp=Z,326nm,1.2s						
H29M	Whitestone	86.29	24	P	P	01 24 01.4	+1.0
	baz=279						
H29M				S	S	01 34 37.4	+2.4
	baz=279						
PINM	Pinnacle	86.29	30	P	P	01 24 01.9	+1.2
	baz=277,SNR=12						
PINM				S	S	01 34 39.9	+4.5
	baz=277						
G29M	Pine Creek	86.32	23	P	P	01 24 01.6	+1.0
	baz=279,SNR=101						
G29M				S	S	01 34 37.9	+2.6
	baz=279						
BZK	Bozkurt	86.36	312	IAmb	IAmb	01 24 05.8	
	comp=Z,189nm,1.2s						
YUK8	Steele Glacier	86.38	29	P	P	01 24 01.9	+0.7
	baz=278,SNR=44						
YUK8				S	S	01 34 41.3	+4.7
	baz=278						
KEV	Kevo	86.41	340	P	P	01 24 00.9	0.0
KIRS	Kirsehir-Merke	86.73	309	⇓P	P	01 24 02.6	-0.7
VNDA	Vanda	86.75	173	P	P	01 24 02.0	-0.3
VNDA	Vanda	86.75	173	P	P	01 24 01.9	-0.5
	comp=Z,8.6nm,0.9s,baz=310,slow=5.7,SNR=30						
VNDA				S	SKSac	01 34 31.0	+2.8
	comp=Z,0.6nm,0.9s,baz=120,slow=20,SNR=3.0						
VNDA				PKKPbc	PKKPbc	01 41 58.1	-2.4
	comp=Z,2.0nm,1.0s,baz=301,slow=3.8,SNR=6.0						
VNDA				LR	LR	02 03 56.5	
	comp=Z,8μm,18.6s,baz=335,slow=36						
	comp=Z,8.6nm,0.9s						
PNL	Peninsula	86.78	30	P	P	01 24 05.8	+2.9
PNL	Peninsula	86.78	30	P	P	01 24 03.8	+0.8
	baz=278						
PNL				S	S	01 34 43.6	+3.6
	baz=278						
M29M	Somme Creek	86.82	28	P	P	01 24 04.5	+1.3
	baz=279						
M29M				S	S	01 34 45.2	+4.6
	baz=279						
L29M	L29M	86.87	27	IAmb	IAmb	01 24 13.2	
	comp=Z,507nm,1.6s						
L29M				IAMs_20	IAMs_20	02 03 27.4	
	comp=Z,17μm,20.0s						
L29M	L29M	86.87	27	P	P	01 24 04.4	+1.0
	baz=279						
L29M				S	S	01 34 45.7	+4.9
	baz=279						
BR104	Keskin Array S	86.88	309	P	P	01 24 03.0	-1.0
	comp=Z,295nmcomp=Z,24nm,1.0s						
BRTR	Keskin Array B	86.88	309	P	P	01 24 02.7	-1.4
BRTR					PP	01 27 30.4	+3.7
BRTR	Keskin Array B	86.88	309	P	P	01 24 02.8	-1.2
	comp=Z,12nm,0.9s,baz=114,slow=4.1,SNR=48						
BRTR				PP	PP	01 27 21.4	-5.4
	comp=Z,4.0nm,1.0s,baz=120,slow=3.6,SNR=3.0						
BRTR				LR	LR	02 09 20.9	
	comp=Z,11μm,20.6s,baz=80,slow=40						
	comp=Z,12nm,0.9s						
EIL	Elat	86.89	299	P	P	01 24 04.3	+0.2
	comp=Z,123nm,1.0s,baz=58,slow=2.9,SNR=48						
EIL				S	S	01 34 37.9	-4.4
	comp=Z,3.6nm,0.9s,baz=358,slow=23,SNR=6.0						
EIL				LR	LR	02 09 56.8	
	comp=Z,25μm,19.1s,baz=73,slow=40						
	comp=Z,123nm,1.0s						
BR106	Keskin Array S	86.89	309	P	P	01 24 03.5	-0.6
	comp=Z,324nmcomp=Z,27nm,1.1s						
BR105	Keskin Array S	86.90	309	P	P	01 24 03.5	-0.6
	comp=Z,328nmcomp=Z,35nm,1.0s						
YUK4	Talbot Arm	86.90	29	P	P	01 24 04.9	+1.1
	baz=279,SNR=22						
EPYK	Eagle Plains	86.92	24	P	P	01 24 03.8	+0.3
	baz=280,SNR=68						
EPYK				S	S	01 34 43.6	+2.3
	baz=280						
ARA0	ARCESS Array S	86.97	340	*e*P	P	01 24 03.5	-0.2
ARA0				IVmB_BB		01 27 32.4	
	comp=Z,4μm,4.3s						
ARA0				*e*		01 34 30.9	
ARCES	ARCESS Array B	86.97	340	P	P	01 24 03.2	-0.4
ARCES	ARCESS Array B	86.97	340	P	P	01 24 03.0	-0.6
	comp=Z,60nm,1.0s,baz=76,slow=5.1,SNR=34						
ARCES				PKKPbc	PKKPdf	01 41 55.3	+3.0
	comp=Z,2.2nm,0.8s,baz=274,slow=3.2,SNR=5.3						
ARCES				LR	LR	02 09 03.6	
	comp=Z,31μm,18.1s,baz=86,slow=40						
	comp=Z,60nm,1.0s						
G30M	tAoh Zraii Nji	87.01	23	IAmb	IAmb	01 24 13.1	
	comp=Z,584nm,1.8s						
G30M	tAoh Zraii Nji	87.01	23	P	P	01 24 04.2	+0.3
	baz=281,SNR=33						
G30M				S	S	01 34 43.6	+1.6
	baz=281						
K29M	Barlow Dome	87.02	26	IAmb	IAmb	01 24 14.6	
	comp=Z,379nm,1.9s						
K29M				IAMs_20	IAMs_20	02 05 34.3	
	comp=Z,20μm,20.0s						
K29M	Barlow Dome	87.02	26	P	P	01 24 04.9	+0.7
	baz=280						
K29M				S	S	01 34 45.8	+3.3
	baz=280						
F30M	Barrier River	87.06	22	IAmb	IAmb	01 24 13.2	
	comp=Z,183nm,1.1s						
F30M				IAMs_20	IAMs_20	02 08 23.9	
	comp=Z,18μm,20.0s						
F30M	Barrier River	87.06	22	P	P	01 24 04.4	+0.2
	baz=281,SNR=34						
F30M				S	S	01 34 44.6	+2.1
	baz=281						
SPB2	Spitsbergen Ar	87.09	349	P	P	01 24 04.6	+0.5
SPA0	Spitsbergen Ar	87.09	349	*e*P	P	01 24 04.8	+0.7
SPA0				*e*PP	PP	01 27 28.1	+0.9
SPA0				IVmB_BB		01 27 32.1	
	comp=Z,4μm,3.1s						
SPA0				*e*		01 34 31.2	
SPA0				IVMs_BB	IVMs_BB	02 08 39.4	
	comp=Z,15μm,17.5s						
SPITS	Spitsbergen Ar	87.09	349	P	P	01 24 02.9	-1.2
	comp=Z,30nm,0.9s,baz=85,slow=10,SNR=13						
SPITS				LR	LR	02 08 52.4	
	comp=Z,41μm,18.4s,baz=58,slow=40						
	comp=Z,30nm,0.9s						
O29M	Mount Kennedy	87.09	30	IAMs_20	IAMs_20	02 05 24.6	
	comp=Z,17μm,20.0s						
O29M	Mount Kennedy	87.09	30	P	P	01 24 05.3	+0.7
	baz=279						
O29M				S	S	01 34 47.5	+4.2
	baz=279						
YUK6	Outpost Mounta	87.10	29	P	P	01 24 05.9	+1.1
	baz=279,SNR=16						
YUK6				S	S	01 34 47.2	+3.7
	baz=279						
I30M	Mount Dempster	87.27	25	IAMs_20	IAMs_20	02 08 25.7	
	comp=Z,17μm,20.0s						
I30M	Mount Dempster	87.27	25	P	P	01 24 06.2	+0.8
	baz=281						
I30M				S	S	01 34 48.0	+3.2
	baz=281						

HAMF	**Hammerfest**	**87.34**	**341**	*e*P	**P**	**01 24 05.8**	**+0.4**
HAMF				IVmBBB		01 24 14.7	
	comp=Z,3μm,5.1s						
HAMF				*e*SKSac	**SKSac**	**01 34 33.8**	**+1.5**
HAMF				*e*SS	**SS**	**01 40 33.8**	**+4.8**
HAMF				IVMs_BB	IVMs_BB	02 07 50.0	
	comp=Z,12μm,19.9s						
J30M	**Hart River**	**87.40**	**25**	IAMs_20	IAMs_20	02 04 46.4	
	comp=Z,21μm,22.0s						
J30M	**Hart River**	**87.40**	**25**	P	**P**	**01 24 06.7**	**+0.7**
	baz=281						
J30M				S	**S**	**01 34 49.3**	**+3.2**
	baz=281						
PPT	**Papeete**	**87.48**	**108**	LR	LR	02 00 35.1	
	comp=Z,6μm,18.1s,baz=267,slow=34						
PPT2	**Papeete2**	**87.48**	**108**	*e*P	**P**	**01 24 07.8**	**+0.6**
	comp=Z,105nm,1.3s						
PPT2	**Papeete2**	**87.48**	**108**	*e*PP	**PP**	**01 27 32.9**	**+0.7**
	comp=Z,865nm,22.8s						
PPT2				*e*S	**S**	**01 34 44.9**	**-3.5**
	comp=Z,4μm,25.0s						
PPT2				*e*SS	**SS**	**01 40 28.0**	**-6.0**
	comp=Z,11μm,24.2s						
PPT2				*e*LQ	LQ	01 48 06.3	
	comp=Z,85μm,37.8s						
PPT2				*e*LR	LR	01 51 53.0	
	comp=Z,24μm,25.2s						
PPT2				*e*LR	LR	01 51 53.8	
	comp=Z,33μm,25.0s						
PAE	**Paea**	**87.49**	**108**	*e*PP	**PP**	**01 27 26.9**	**-5.2**
	comp=Z,338nm,26.7s						
PAE				*e*S	**S**	**01 34 41.8**	**-6.5**
	comp=Z,452nm,22.4s						
PAE				*e*SS	**SS**	**01 40 32.9**	**-1.0**
	comp=Z,874nm,24.0s						
PAE	**Paea**	**87.49**	**108**	*e*LR	LR	01 51 49.9	
	comp=Z,5μm,24.1s						
ANTO	**Ankara**	**87.51**	**310**	P	**P**	**01 24 06.2**	**-0.8**
ANTO	**Ankara**	**87.51**	**310**	P	**P**	**01 24 05.9**	**-1.1**
ANTO	**Ankara**	**87.51**	**310**	P	**P**	**01 24 06.2**	**-0.8**
	comp=Z,2μmcomp=Z,20nm,1.5s						
ANTO	**Ankara**	**87.51**	**310**	P	**P**	**01 24 06.2**	**-0.8**
ANTO				S	**S**	**01 34 45.4**	**-2.6**
KIBK	**Kibwezi**	**87.52**	**267**	P	**P**	**01 24 06.7**	**-0.9**
KIBK	**Kibwezi**	**87.52**	**267**	IAmb	IAmb	01 24 11.8	
	comp=Z,119nm,1.2s						
KIBK				IAMs_20	IAMs_20	02 03 19.7	
	comp=Z,17μm,20.0s						
HYT	**Haines Junctio**	**87.53**	**29**	P	**P**	**01 24 07.7**	**+1.0**
	baz=280,SNR=47						
HYT				S	**S**	**01 34 51.0**	**+3.5**
	baz=280						
M30M	**Minto, Yukon**	**87.56**	**27**	IAmb	IAmb	01 24 16.3	
	comp=Z,408nm,2.0s						
M30M	**Minto, Yukon**	**87.56**	**27**	P	**P**	**01 24 08.2**	**+1.5**
	baz=280,SNR=52						
M30M				S	**S**	**01 34 51.5**	**+3.9**
	baz=280						
P29M	**Windy Craggy**	**87.61**	**30**	IAmb	IAmb	01 24 19.3	
	comp=Z,95nm,1.0s						
P29M	**Windy Craggy**	**87.61**	**30**	P	**P**	**01 24 08.1**	**+1.1**
	baz=280						
P29M				S	**S**	**01 34 52.1**	**+4.0**
	baz=280						
N30M	**Aishikik Lake**	**87.62**	**28**	P	**P**	**01 24 08.1**	**+1.1**
	baz=280						
N30M				S	**S**	**01 34 51.1**	**+2.9**
	baz=280						
KBS	**Kingsbay**	**87.63**	**350**	*e*P	**P**	**01 24 07.2**	**+0.6**
KBS				IVmBBB		01 24 16.2	
	comp=Z,2μm,4.4s						
KBS				IVMsBB		02 10 13.4	
	comp=Z,14μm,17.8s						
KBS	**Kingsbay**	**87.63**	**350**	*i* P	**P**	**01 24 06.5**	**-0.2**
CSS	**Mathiatis**	**87.67**	**305**	IAmb	IAmb	01 24 10.3	
	comp=Z,218nm,1.5s						
CSS	**Mathiatis**	**87.67**	**305**	P	**P**	**01 24 07.4**	**-0.4**
	comp=Z,3μmcomp=Z,97nm,1.3s						
HSPB	**Hornsund (broa**	**87.67**	**348**	*e*P	**P**	**01 24 09.7**	**+2.9**
HSPB				*e*PP	**PP**	**01 27 37.6**	**+5.7**
HSPB				*e*S	**SKSac**	**01 34 28.2**	**-5.8**
HSPB				*e*S	**SKKSac**	**01 34 44.1**	**+0.4**
HSPB				*e*L	L	02 01 41.1	
	comp=Z,52μm,25.0s						
SBA	**Scott Base**	**87.67**	**172**	P	**P**	**01 24 07.0**	**+0.2**
SBA				IAmb	IAmb	01 24 32.4	
	comp=Z,184nm,1.6s						
BJO1	**Bjornoya**	**87.68**	**345**	*e*P	**P**	**01 24 07.2**	**+0.2**
BJO1				*e*SKSac	**SKSac**	**01 34 35.3**	**+1.2**
BJO1				IVMs_BB	IVMs_BB	02 12 36.8	
	comp=Z,14μm,14.5s						
TIAR	**Tiarei**	**87.69**	**108**	*e*P	P	01 24 13.2	+5.0
	comp=Z,434nm,1.5s						
TIAR	**Tiarei**	**87.69**	**108**	*e*S	**S**	**01 34 47.1**	**-3.2**
	comp=Z,6μm,28.8s						
TIAR				*e*SS	**SS**	**01 40 36.3**	**-0.7**
	comp=Z,5μm,23.5s						
TIAR	**Tiarei**	**87.69**	**108**	*e*LR	LR	01 51 56.1	
	comp=Z,26μm,23.6s						
INK	**Inuvik**	**87.75**	**21**	IAmb	IAmb	01 24 18.2	
	comp=Z,170nm,1.4s						
INK	**Inuvik**	**87.75**	**21**	P	**P**	**01 24 06.5**	**-0.9**
	comp=Z,62nm,1.0s,baz=273,slow=7.6,SNR=52						
INK				S	**SKSac**	**01 34 33.2**	**-1.5**
	comp=Z,2.1nm,1.0s,baz=74,slow=25,SNR=8.5						
INK				LR	LR	02 07 25.7	
	comp=Z,11μm,19.1s,baz=284,slow=38						
	comp=Z,62nm,1.0s						
INK	**Inuvik**	**87.75**	**21**	P	**P**	**01 24 07.9**	**+0.5**
	baz=283,SNR=45						
INK				S	**S**	**01 34 50.6**	**+1.7**
	baz=283						
G31M	**Satah River**	**87.77**	**23**	P	**P**	**01 24 07.5**	**0.0**
	baz=282,SNR=39						
G31M				S	**S**	**01 34 51.0**	**+1.8**
	baz=282						
MAYO	**Mayo, Yukon**	**87.78**	**26**	IAmb	IAmb	01 24 14.8	
	comp=Z,195nm,0.9s						
MAYO	**Mayo, Yukon**	**87.78**	**26**	P	**P**	**01 24 08.6**	**+0.9**
	baz=281,SNR=21						
MAYO				S	**S**	**01 34 53.2**	**+3.7**
	baz=281						
TVO	**Taravao**	**87.81**	**108**	*e*P	**P**	**01 24 09.4**	**+0.6**
	comp=Z,28nm,0.8s						
TVO	**Taravao**	**87.81**	**108**	*e*S	**SKSac**	**01 34 40.3**	**+3.1**
	comp=Z,808nm,23.6s						
TVO				*e*SS	**SS**	**01 40 37.9**	**-1.0**
	comp=Z,1μm,26.7s						
TVO	**Taravao**	**87.81**	**108**	*e*LR	LR	01 52 00.4	
	comp=Z,5μm,24.0s						
F31M	**Tsiigehtchic**	**87.86**	**22**	P	**P**	**01 24 08.2**	**+0.3**
	baz=283,SNR=53						
F31M				S	**S**	**01 34 51.1**	**+1.1**
	baz=283						
KTK1	**Kautokeino**	**87.87**	**339**	*e*P	**P**	**01 24 08.4**	**+0.4**
KTK1				IVmBBB		01 24 10.6	
	comp=Z,3μm,5.4s						
KTK1				*e*SKSac	**SKSac**	**01 34 37.3**	**+1.7**
KTK1				IVMsBB		02 07 34.2	
	comp=Z,11μm,19.9s						
P30M	**Million Dollar**	**87.92**	**30**	P	**P**	**01 24 09.7**	**+1.2**
	baz=280						
P30M				S	**S**	**01 34 53.9**	**+2.8**
	baz=280						
H31M	**Peel River**	**87.98**	**24**	IAmb	IAmb	01 24 19.5	
	comp=Z,94nm,1.0s						
H31M	**Peel River**	**87.98**	**24**	P	**P**	**01 24 09.5**	**+0.8**
	baz=282						
H31M				S	**S**	**01 34 52.4**	**+1.0**
	baz=282						
NE56	**Odesa**	**88.01**	**317**	P	**P**	**01 24 07.3**	**-1.8**
KMBO	**Kilima Mbogo**	**88.16**	**269**	P	**P**	**01 24 10.3**	**-0.6**
	comp=Z,30nm,1.0s,baz=70,slow=5.2,SNR=60						
KMBO				S	**SKSac**	**01 34 37.1**	**-2.8**
	comp=Z,2.0nm,0.4s,baz=208,slow=16,SNR=2.6						
KMBO				LR	LR	02 00 46.6	
	comp=Z,8μm,21.9s,baz=79,slow=34						
	comp=Z,30nm,1.0s						
O30N	**Mendenhall**	**88.22**	**29**	P	**P**	**01 24 10.8**	**+0.8**
	baz=281,SNR=20						
O30N				S	**S**	**01 34 56.3**	**+2.4**
	baz=281						
N31M	**Braeburn, Yuko**	**88.23**	**28**	IAmb	IAmb	01 24 14.5	
	comp=Z,82nm,0.9s						
N31M				IAMs_20	IAMs_20	02 07 08.6	
	comp=Z,18μm,20.0s						
N31M	**Braeburn, Yuko**	**88.23**	**28**	P	**P**	**01 24 11.3**	**+1.3**
	baz=281,SNR=30						
N31M				S	**S**	**01 34 57.4**	**+3.4**
	baz=281						
PLBC	**Pleasant Camp**	**88.33**	**30**	P	**P**	**01 24 11.0**	**+0.6**
	baz=281,SNR=12						
PLBC				S	**S**	**01 34 56.8**	**+2.0**
	baz=281						
FIA1	**FINESS Array S**	**88.35**	**332**	IAmb	IAmb	01 24 38.5	
	comp=Z,170nm,1.0s						
FINES	**FINESS Array B**	**88.35**	**332**	P	**P**	**01 24 09.4**	**-1.0**
FINES	**FINESS Array B**	**88.35**	**332**	P	**P**	**01 24 09.0**	**-1.4**
	comp=Z,35nm,1.0s,baz=97,slow=4.8,SNR=31						
FINES				LR	LR	02 07 33.2	
	comp=Z,39μm,20.1s,baz=81,slow=38						
	comp=Z,35nm,1.0s						
TBI	**Tubuai**	**88.39**	**114**	*e*P	P	01 24 05.7	-5.7
	comp=Z,4μm,29.0s						
TBI	**Tubuai**	**88.39**	**114**	*e*PP	**PP**	**01 27 35.4**	**-3.9**
	comp=Z,6μm,27.2s						
TBI				*e*S	**S**	**01 34 53.5**	**-3.3**
	comp=Z,20μm,25.5s						
TBI				*e*SS	**SS**	**01 40 44.5**	**-2.5**
	comp=Z,34μm,28.0s						
TBI				*e*LQ	LQ	01 48 33.6	
	comp=Z,203μm,37.8s						
TBI				*e*LR	LR	01 52 14.5	
	comp=Z,111μm,28.8s						
TBI				*e*LR	LR	01 52 16.7	
	comp=Z,25μm,29.0s						
AK09	**Malin Array Si**	**88.49**	**321**	P	**P**	**01 24 09.9**	**-1.4**
AK08	**Malin Array Si**	**88.51**	**321**	P	**P**	**01 24 10.3**	**-1.1**
AK10	**Malin Array Si**	**88.51**	**321**	P	**P**	**01 24 10.1**	**-1.3**
AKASG	**Malin Array Be**	**88.52**	**321**	P	**P**	**01 24 10.2**	**-1.3**
AKASG				PP	**PP**	**01 27 39.9**	**+0.6**
AKASG	**Malin Array Be**	**88.52**	**321**	P	**P**	**01 24 10.1**	**-1.3**
	comp=Z,51nm,1.0s,baz=71,slow=4.3,SNR=59						
AKASG				PP	**PP**	**01 27 39.6**	**+0.3**
	comp=Z,6.1nm,0.8s,baz=69,slow=8.0,SNR=3.0						
AKASG				LR	LR	02 07 33.0	
	comp=Z,20μm,19.6s,baz=78,slow=38						
	comp=Z,51nm,1.0s						
AKBB	**Malin Array Si**	**88.52**	**321**	P	**P**	**01 24 09.9**	**-1.5**
AK01	**Malin Array Si**	**88.52**	**321**	P	**P**	**01 24 10.3**	**-1.2**
KIEV	**Kiev**	**88.53**	**321**	P	**P**	**01 24 10.1**	**-1.3**
KIEV	**Kiev**	**88.53**	**321**	⇓P	**P**	**01 24 11.0**	**-0.5**
KIEV	**Kiev**	**88.53**	**321**	*i* P	**P**	**01 24 10.2**	**-1.3**
	SNR=31						
KIEV	**Kiev**	**88.53**	**321**	P	**P**	**01 24 09.9**	**-1.6**
	comp=Z,10μmcomp=Z,305nm,1.1s						
AK02	**Malin Array Si**	**88.53**	**321**	P	**P**	**01 24 10.2**	**-1.3**
AK05	**Malin Array Si**	**88.54**	**321**	P	**P**	**01 24 10.1**	**-1.4**
AK04	**Malin Array Si**	**88.55**	**321**	P	**P**	**01 24 10.1**	**-1.5**
AK07	**Malin Array Si**	**88.55**	**321**	P	**P**	**01 24 10.7**	**-0.9**
AK12	**Malin Array Si**	**88.57**	**321**	P	**P**	**01 24 10.6**	**-1.1**
AK18	**Malin Array Si**	**88.61**	**321**	P	**P**	**01 24 10.8**	**-1.1**
AK13	**Malin Array Si**	**88.63**	**321**	P	**P**	**01 24 10.5**	**-1.5**
AK20	**Malin Array Si**	**88.64**	**321**	P	**P**	**01 24 10.5**	**-1.5**
AK19	**Malin Array Si**	**88.64**	**321**	P	**P**	**01 24 10.5**	**-1.5**
S31K	**Pelican**	**88.68**	**32**	P	**P**	**01 24 13.4**	**+1.4**
	baz=281						
S31K				S	**S**	**01 35 01.9**	**+3.7**
	baz=281						
BAL3X	**Bal3x, Balta**	**88.70**	**318**	P	**P**	**01 24 11.9**	**-0.5**
JETT	**Jettan, Norway**	**88.70**	**340**	*e*P	**P**	**01 24 11.5**	**-0.5**
JETT				IVmB_BB		01 28 18.6	
	comp=Z,3μm,5.7s						
JETT				*e*		01 34 41.3	
PURM	**Purcari**	**88.73**	**317**	⇓P	**P**	**01 24 11.8**	**-0.8**
M31M	**Drury Creek, Y**	**88.73**	**27**	P	**P**	**01 24 13.0**	**+0.8**
	baz=282,SNR=20						
M31M				S	**S**	**01 35 01.4**	**+2.8**
	baz=282						
PMOR	**Pomariorio Ree**	**88.73**	**105**	*e*P	P	01 24 18.2	+5.1
	comp=Z,262nm,1.2s						
PMOR	**Pomariorio Ree**	**88.73**	**105**	*e*LR	LR	01 52 27.9	
	comp=Z,31μm,22.7s						
WHY	**Whitehorse**	**88.83**	**29**	IAmb	IAmb	01 24 24.5	
	comp=Z,285nm,1.1s						
WHY	**Whitehorse**	**88.83**	**29**	P	**P**	**01 24 14.4**	**+1.5**
	baz=282,SNR=52						
WHY				S	**S**	**01 35 02.6**	**+2.8**
	baz=282						
SAHE	**Sakarya_HENDEK**	**88.85**	**311**	⇓P	**P**	**01 24 12.0**	**-1.3**
R31K	**City Hall, Gus**	**88.85**	**31**	P	**P**	**01 24 14.0**	**+1.2**
	baz=281						
R31K				S	**S**	**01 35 03.7**	**+4.0**
	baz=281						
SKAG	**Skagway**	**88.85**	**30**	P	**P**	**01 24 15.9**	**+3.1**
SKAG	**Skagway**	**88.85**	**30**	P	**P**	**01 24 14.4**	**+1.6**
	baz=282,SNR=6.8						
SKAG				S	**S**	**01 35 01.7**	**+1.9**
	baz=282						
VAH	**Vaihoa**	**89.02**	**105**	*e*P	**P**	**01 24 17.7**	**+3.2**
	comp=Z,47nm,1.1s						
VAH	**Vaihoa**	**89.02**	**105**	*e*LR	LR	01 52 38.2	
	comp=Z,25μm,31.3s						
TRO	**Tromso**	**89.18**	**340**	*e*P	**P**	**01 24 14.4**	**+0.3**
TRO				IVmBBB		01 24 46.1	
	comp=Z,3μm,3.5s						
TRO				*e*SKSac	**SKSac**	**01 34 45.3**	**+2.1**
TRO				*e*		01 41 16.9	
TRO				IVMs_BB	IVMs_BB	02 12 32.6	
	comp=Z,14μm,13.7s						
SIT	**Sitka**	**89.34**	**33**	P	**P**	**01 24 18.0**	**+2.9**
SIT	**Sitka**	**89.34**	**33**	P	**P**	**01 24 16.4**	**+1.3**
	baz=282						
SIT				S	**S**	**01 35 08.1**	**+3.7**
	baz=282						
A36M	**Sachs Harbour**	**89.39**	**17**	P	**P**	**01 24 15.6**	**+0.6**
	baz=291						
A36M				S	**S**	**01 35 05.4**	**+1.1**
	baz=291						
MI28	**Mi28,Pidlybu**	**89.45**	**321**	P	**P**	**01 24 14.8**	**-1.0**
SORM	**Soroca**	**89.50**	**318**	⇓P	**P**	**01 24 15.6**	**-0.4**
LODK	**Lodwar**	**89.50**	**273**	P	**P**	**01 24 15.8**	**-1.1**
LODK				IAMs_20	IAMs_20	02 04 18.0	
	comp=Z,23μm,20.0s						
LODK	**Lodwar**	**89.50**	**273**	P	**P**	**01 24 16.7**	**-0.2**
	SNR=32						
R32K	**Eaglecrest**	**89.51**	**31**	P	**P**	**01 24 17.2**	**+1.2**
	baz=282						
R32K				S	**S**	**01 35 09.5**	**+3.5**
	baz=282						
LUBAR	**Lubar, Ukraine**	**89.57**	**320**	P	**P**	**01 24 14.9**	**-1.5**
N32M	**Quiet Lake**	**89.58**	**28**	IAMs_20	IAMs_20	02 07 49.0	
	comp=Z,19μm,19.0s						
N32M	**Quiet Lake**	**89.58**	**28**	P	**P**	**01 24 17.7**	**+1.4**
	baz=284						
N32M				S	**S**	**01 35 09.4**	**+2.8**
	baz=284						
JIS	**Juneau Island**	**89.58**	**31**	P	**P**	**01 24 19.1**	**+2.9**
P32M	**Atlin**	**89.63**	**30**	P	**P**	**01 24 17.6**	**+1.0**
	baz=283,SNR=7.9						
P32M				S	**S**	**01 35 09.0**	**+1.8**
	baz=283						
S32K	**Killisnoo**	**89.65**	**32**	P	**P**	**01 24 17.6**	**+1.0**
	baz=282						
S32K				S	**S**	**01 35 10.9**	**+3.6**
	baz=282						
NOR	**Nord**	**89.81**	**355**	*i* P	**P**	**01 24 16.3**	**-0.6**
NOR				IAmb	IAmb	01 24 20.7	
	comp=Z,80nm,1.5s						
P33M	**Teslin, Yukon**	**89.92**	**29**	IAMs_20	IAMs_20	01 59 30.4	
	comp=Z,18μm,22.0s						
P33M	**Teslin, Yukon**	**89.92**	**29**	P	**P**	**01 24 19.2**	**+1.2**
	baz=284,SNR=24						
P33M				S	**S**	**01 35 13.1**	**+3.1**
	baz=284						
TPGR	**Topolog**	**90.00**	**315**	⇓P	**P**	**01 24 18.8**	**+0.2**
VLDR	**Vladesti**	**90.07**	**316**	⇓P	**P**	**01 24 18.4**	**-0.5**
TIRR	**Tirgusor**	**90.07**	**315**	IAMs_20	IAMs_20	02 11 46.7	
	comp=Z,27μm,21.0s						
TIRR	**Tirgusor**	**90.07**	**315**	⇓P	**P**	**01 24 18.8**	**0.0**
VASR	**Vaslui**	**90.13**	**317**	⇓P	**P**	**01 24 18.5**	**-0.6**
TATR	**Tatarca**	**90.13**	**316**	⇓P	**P**	**01 24 18.5**	**-0.6**
CFR	**Carcaliu**	**90.15**	**315**	⇓P	**P**	**01 24 18.6**	**-0.6**
SCTR	**Scanteiesti**	**90.16**	**316**	⇓P	**P**	**01 24 18.7**	**-0.5**
ELL	**Elmali**	**90.18**	**307**	IAmb	IAmb	01 24 22.4	
	comp=Z,142nm,1.3s						
VARL	**Varlezi**	**90.22**	**316**	⇓P	**P**	**01 24 19.2**	**-0.3**
BIR	**Birlad**	**90.31**	**317**	⇓P	**P**	**01 24 20.4**	**+0.5**
TLBR	**Topalu**	**90.32**	**315**	⇓P	**P**	**01 24 20.2**	**+0.2**
IZVR	**Izvoarele**	**90.34**	**316**	⇓P	**P**	**01 24 20.5**	**+0.5**
TUDR		**90.40**	**316**	⇓P	**P**	**01 24 19.8**	**-0.6**
RNPP9	**Sopachiv**	**90.46**	**322**	P	**P**	**01 24 19.4**	**-1.1**
GHRR		**90.49**	**316**	⇑P	**P**	**01 24 21.3**	**+0.5**
RNPP8	**Varash**	**90.50**	**322**	P	**P**	**01 24 19.8**	**-0.9**
RNPP5	**Staryi Chortor**	**90.50**	**322**	P	**P**	**01 24 19.8**	**-0.9**
Q32M	**Nakina River**	**90.50**	**30**	P	**P**	**01 24 21.7**	**+0.9**
	baz=284						
Q32M				S	**S**	**01 35 17.5**	**+1.9**
	baz=284						
HORU	**Horodok**	**90.56**	**320**	P	**P**	**01 24 20.1**	**-0.9**
COSR	**Cosmesti PH**	**90.60**	**316**	⇑P	**P**	**01 24 21.8**	**+0.5**
DRBR	**Darabani**	**90.63**	**319**	⇓P	**P**	**01 24 20.8**	**-0.6**
KMPD	**K-Podol'skiy**	**90.66**	**319**	P	**P**	**01 24 20.3**	**-1.2**
T33K	**Petersburg**	**90.66**	**33**	P	**P**	**01 24 22.5**	**+1.2**
	baz=284						
T33K				S	**S**	**01 35 19.0**	**+2.3**
	baz=284						
PABE	**Paberze**	**90.70**	**326**	IAmb	IAmb	01 24 51.6	
	comp=Z,119nm,1.1s						
C36M	**Paulatuk**	**90.71**	**19**	IAmb	IAmb	01 24 29.1	
	comp=Z,286nm,1.6s						
C36M	**Paulatuk**	**90.71**	**19**	P	**P**	**01 24 22.0**	**+0.7**
	baz=292,SNR=8.3						
C36M				S	**S**	**01 35 18.4**	**+1.7**
	baz=292						
U33K	**Whale Pass**	**90.73**	**33**	P	**P**	**01 24 23.1**	**+1.4**
	baz=284						
U33K				S	**S**	**01 35 20.3**	**+3.0**
	baz=284						
CRAG	**Craig**	**90.88**	**34**	P	**P**	**01 24 25.2**	**+2.8**
CRAG	**Craig**	**90.88**	**34**	P	**P**	**01 24 23.4**	**+1.1**
	baz=284						
CRAG				S	**S**	**01 35 22.7**	**+4.0**
	baz=284						
TESR	**Tescani**	**90.93**	**317**	⇓P	**P**	**01 24 21.8**	**-1.0**
TESR	**Tescani**	**90.93**	**317**	P	**P**	**01 24 21.9**	**-1.0**
VRI	**Vrincioaia**	**91.00**	**316**	⇑P	**P**	**01 24 22.7**	**-0.5**
BAND	**Balkesir-Ban**	**91.00**	**311**	⇓P	**P**	**01 24 22.0**	**-1.3**
STEI	**Steigen**	**91.01**	**339**	*e*P	**P**	**01 24 22.8**	**+0.1**
STEI				*e*SKSac	**SKSac**	**01 34 53.7**	**-0.3**
STEI				IVMsBB		02 04 00.6	
	comp=Z,13μm,24.0s						
PRD	**Provadia**	**91.02**	**314**	P	**P**	**01 24 23.8**	**+0.5**
R33M	**Jennings River**	**91.04**	**30**	IAMs_20	IAMs_20	02 08 17.9	
	comp=Z,16μm,20.0s						
R33M	**Jennings River**	**91.04**	**30**	P	**P**	**01 24 24.4**	**+1.2**
	baz=285						
R33M				S	**S**	**01 35 25.4**	**+5.1**
	baz=285						
PLOR	**Plostina**	**91.05**	**316**	⇓P	**P**	**01 24 23.1**	**-0.4**
WRAK	**Wrangell Islan**	**91.08**	**33**	P	**P**	**01 24 24.0**	**+0.7**
	baz=284						
WRAK				S	**S**	**01 35 22.9**	**+2.4**
	baz=284						
ONER	**Baraj Valea Uz**	**91.13**	**317**	⇑P	**P**	**01 24 24.2**	**+0.4**
FAUS	**Fauske**	**91.19**	**339**	*e*P	**P**	**01 24 24.2**	**+0.7**
FAUS				*e*SKSac	**SKSac**	**01 34 56.5**	**+1.4**
FAUS				*e*SS	**SS**	**01 41 28.2**	**+3.3**
FAUS				IVMs_BB	IVMs_BB	02 07 42.7	
	comp=Z,15μm,21.0s						
PHSR	**Pinarhisar**	**91.21**	**312**	⇓P	**P**	**01 24 24.1**	**-0.1**
S34M	**Telegraph Cree**	**91.34**	**31**	P	**P**	**01 24 25.8**	**+1.3**
	baz=285,SNR=20						
S34M				S	**S**	**01 35 25.8**	**+2.9**
	baz=285						
NEHR	**Nehoiu**	**91.38**	**316**	⇑P	**P**	**01 24 25.3**	**+0.3**
TURR	**Turia**	**91.45**	**317**	⇑P	**P**	**01 24 25.2**	**-0.1**
SUW	**Suwalki**	**91.49**	**325**	*e*P	**P**	**01 24 24.3**	**-1.0**
SUW				*e*S	S	01 35 07.2	-17
SUW				*e*L	L	02 07 10.1	
	comp=Z,59μm,22.2s						
LOF	**Lofoten**	**91.53**	**340**	*e*P	**P**	**01 24 25.0**	**-0.1**
LOF				IVmBBB		01 24 27.0	
	comp=Z,2μm,3.8s						
LOF				*e*SKSac	**SKSac**	**01 34 58.5**	**+1.5**
LOF				IVMsBB		02 09 55.3	
	comp=Z,13μm,17.5s						
SULR		**91.55**	**315**	⇓P	**P**	**01 24 25.4**	**-0.3**
LOZB	**Loznitsa**	**91.56**	**314**	⇑P	**P**	**01 24 25.1**	**-0.8**
MLR	**Muntele Rosu**	**91.61**	**316**	IAmb	IAmb	01 24 30.3	
	comp=Z,245nm,1.8s						
MLR	**Muntele Rosu**	**91.61**	**316**	P	**P**	**01 24 25.7**	**-0.5**
	comp=Z,38nm,1.0s,baz=35,slow=1.7,SNR=32						
MLR				LR	LR	02 11 14.8	
	comp=Z,21μm,21.9s,baz=66,slow=39						
	comp=Z,38nm,1.0s						
MLR	**Muntele Rosu**	**91.61**	**316**	⇓P	**P**	**01 24 25.6**	**-0.6**
BURAR	**Bucovina Array**	**91.67**	**318**	P	**P**	**01 24 25.0**	**-1.4**
BURAR	**Bucovina Array**	**91.67**	**318**	⇓P	**P**	**01 24 25.6**	**-0.7**
ARG	**Arkhangelos**	**91.68**	**307**	IAmb	IAmb	01 24 29.1	
	comp=Z,251nm,1.3s						
TGTN	**Hyland Airport**	**91.71**	**27**	P	**P**	**01 24 27.4**	**+1.2**
	baz=288						
TGTN				S	**S**	**01 35 27.8**	**+1.6**
	baz=288						
V35K	**Ketchikan**	**91.75**	**34**	P	**P**	**01 24 27.4**	**+1.0**
	baz=285						
V35K				S	**S**	**01 35 28.4**	**+1.8**
	baz=285						
DLBC	**Dease Lake**	**91.77**	**31**	P	**P**	**01 24 27.5**	**+0.9**
	comp=Z,14nm,0.9s,baz=260,slow=4.9,SNR=24						
DLBC				LR	LR	02 06 58.6	
	comp=Z,7μm,18.6s,baz=280,slow=36						
	comp=Z,14nm,0.9s						
DLBC	**Dease Lake**	**91.77**	**31**	P	**P**	**01 24 27.8**	**+1.2**
	baz=286,SNR=36						
DLBC				S	**S**	**01 35 27.8**	**+0.9**
	baz=286						
JMB	**Yambol**	**91.78**	**313**	P	**P**	**01 24 25.9**	**-0.9**
WTLY	**Watson Lake, Y**	**91.89**	**29**	IAmb	IAmb	01 24 35.3	
	comp=Z,364nm,1.7s						
WTLY	**Watson Lake, Y**	**91.89**	**29**	P	**P**	**01 24 28.1**	**+1.1**
	baz=287,SNR=30						
WTLY				S	**S**	**01 35 28.7**	**+0.8**
	baz=287						
**D

CJR Cluj-Napoca 92.94 318 ⇓P **P 01 24 32.2 -0.1**
PLVB Pleven 92.97 314 ⇑P **P 01 24 32.1 -0.3**
VLAD Vladila 92.99 315 ⇑P **P 01 24 32.0 -0.4**
LOT Lotru 93.11 316 ⇑P **P 01 24 32.8 -0.3**
WRGLY Wrigley 93.24 25 IAmb IAmb 01 24 42.6
comp=Z,108nm,1.2s
WRGLY Wrigley 93.24 25 P **P 01 24 33.9 +0.8**
baz=292
WRGLY S **S 01 35 38.2 -1.4**
baz=292
RZN Rozhen 93.24 312 P **P 01 24 32.5 -1.4**
MARR Marisel-Cluj 93.27 318 ⇓P **P 01 24 33.3 -0.5**
LIRD Liard River Hi 93.41 29 P **P 01 24 35.0 +0.9**
baz=290
BEL Belsk 93.45 323 *e*P **P 01 24 34.1 -0.3**
BEL *e*PP **PP 01 28 21.2 +2.8**
BEL *e*S **SKSac 01 35 17.6 +9.4**
BEL *e*L L 02 09 10.3
comp=Z,710μm,21.3s
DRGR 93.52 318 ⇑P **P 01 24 34.0 -0.9**
NSS Namsos 93.55 337 *e*P **P 01 24 34.6 +0.1**
NSS IVMsBB 02 09 48.6
comp=Z,17μm,22.4s
APE Apeiranthos 93.58 308 ⇓P **P 01 24 34.0 -1.4**
MPEP Malo Peshtene 93.60 314 P **P 01 24 34.2 -1.1**
DEV Deva 93.60 317 ⇓P **P 01 24 34.9 -0.3**
BAIL Bailesti 93.73 315 ⇑P **P 01 24 35.6 -0.2**
GZR Gura Zlata 93.81 316 ⇓P **P 01 24 35.6 -0.6**
DAG Danmarks Havn 93.92 352 *i* P **P 01 24 35.5 -0.6**
DAG IAmb IAmb 01 24 37.6
comp=Z,70nm,1.0s
PUNG Punghina 93.96 315 ⇓P **P 01 24 36.5 -0.3**
MMB Musomishta 94.00 312 P **P 01 24 35.5 -1.7**
TOAD Toad River Com 94.02 29 P **P 01 24 36.8 0.0**
baz=290
PLNA Plana 94.02 313 P **P 01 24 36.5 -0.9**
BLSH Balsha 94.04 314 P **P 01 24 36.8 -0.6**
KOTAN Kotaneelee Air 94.12 28 P **P 01 24 38.3 +1.0**
baz=292
VTS Vitosha 94.13 314 P **P 01 24 36.8 -1.1**
DJES Djerdap 94.16 316 ⇑P **P 01 24 37.6 -0.2**
SURR Surduc 94.16 317 ⇓P **P 01 24 37.0 -0.8**
HERR Herculane 94.17 316 ⇓P **P 01 24 38.0 +0.2**
SIRR Siria 94.35 317 ⇓P **P 01 24 38.0 -0.7**
KKB Krupnik 94.38 313 P **P 01 24 37.5 -1.4**
NIE Niedzica 94.41 321 *e*P **P 01 24 38.8 -0.1**
NIE *e*PP **PP 01 28 20.8 -5.2**
NIE *e*S **S 01 35 49.4 -1.1**
NIE *e*L L 02 12 48.4
comp=Z,20μm,20.6s
IDI Anoyia 94.44 306 P **P 01 24 37.9 -1.5**
IDI Anoyia 94.44 306 IAmb IAmb 01 24 41.8
comp=Z,106nm,1.1s
OJC Ojcow 94.50 322 *e*P **P 01 24 38.8 -0.4**
OJC *e*PP **PP 01 28 19.3 -7.3**
OJC *e*S **S 01 35 51.4 +0.2**
OJC *e*L L 02 11 48.6
comp=Z,40μm,19.9s
TRAN Tran 94.50 314 P **P 01 24 38.3 -1.2**
HFS Hagfors 94.54 332 P **P 01 24 37.7 -1.4**
comp=Z,11nm,0.8s,baz=67,slow=3.9,SNR=15
HFS PKKP **PKKPdf 01 41 37.1 -1.8**
comp=Z,1.2nm,0.5s,baz=256,slow=5.8,SNR=6.6
HFS LR LR 02 09 16.5
comp=Z,71μm,21.7s,baz=62,slow=37
comp=Z,11nm,0.8s
BZS Buzias 94.54 317 ⇑P **P 01 24 38.7 -0.8**
KECS Kecovo 94.54 320 *e*P **P 01 24 40.7 +1.2**
BBB Bella Bella 94.62 36 IAmb IAmb 01 24 47.1
comp=Z,161nm,1.9s
BBB Bella Bella 94.62 36 P **P 01 24 39.2 -0.4**
comp=Z,6.5nm,0.8s,baz=261,slow=8.9,SNR=4.9
MDVR Moldovita 94.69 316 ⇓P **P 01 24 39.5 -0.8**
SYO Syowa Base 94.86 201 ⇑*i*P **P 01 24 40.8 +0.5**
SYO Syowa Base 94.86 201 ⇓*i*sP sP 01 24 47.0 -0.7
VAY Valandovo 94.91 312 *i* P **P 01 24 39.8 -1.5**
BANR Banloc 94.93 317 ⇓P **P 01 24 40.8 -0.4**
RES Resolute Bay 94.95 10 LR LR 02 12 18.1
comp=Z,12μm,19.2s,baz=323,slow=38
BOVS Bovan 94.97 315 ⇓P **P 01 24 40.5 -1.0**
LANS Liptovska Anna 95.00 321 *e*P **P 01 24 42.3 +0.7**
LANS *e*PP **PP 01 28 37.4 +6.8**
NC405 NORSAR Array S 95.05 333 IAmb IAmb 01 25 25.4
comp=Z,149nm,1.6s
GKP Gorka Klasztor 95.10 325 *e*P **P 01 24 41.7 -0.1**
GKP *e*S **S 01 35 50.4 -5.8**
GKP *e*L L 02 08 39.7
comp=Z,62μm,24.8s
LIT Litokhoron 95.26 311 IAmb IAmb 01 24 43.4
comp=Z,143nm,1.5s
NC602 NORSAR Array S 95.28 333 *e*P **P 01 24 42.9 +0.4**
NB2 NORSAR Subarra 95.30 333 P **P 01 24 40.5 -2.2**
comp=Z,44nm,1.4s,baz=66,slow=4.6
NB2 NORSAR Subarra 95.30 333 P **P 01 24 40.5 -2.2**
baz=66,slow=4.6
NOA NORSAR Array B 95.30 333 P **P 01 24 40.4 -2.2**
comp=Z,5.8nm,0.7s,baz=66,slow=4.6,SNR=14
NOA PP **PP 01 28 25.1 -7.5**
comp=Z,4.3nm,0.9s,baz=68,slow=7.6,SNR=4.4
NOA PKKP **PKKPdf 01 41 36.3 -1.3**
comp=Z,1.0nm,0.9s,baz=247,slow=4.4,SNR=3.5
NOA LR LR 02 10 37.0
comp=Z,20μm,19.1s,baz=65,slow=37
comp=Z,5.8nm,0.7s
TAOE Nuku Hiva Isla 95.55 98 *e*PP PP 01 28 24.1 -12
comp=Z,855nm,24.5s
TAOE *e*S **S 01 35 56.6 -5.4**
comp=Z,7μm,24.5s
TAOE *e*SS **SS 01 42 30.1 -0.6**
comp=Z,7μm,24.9s
TAOE *e*LQ LQ 01 50 27.2
comp=Z,38μm,37.0s
TAOE *e*LR LR 01 55 34.5
comp=Z,44μm,23.7s
OKC Ostrava-Krasne 95.62 322 AMS AMS 02 12 30.0
comp=Z,30μm,18.1s
NEEM North Greenlan 95.74 359 *i* P **P 01 24 44.8 +0.1**
NEEM IAmb IAmb 01 24 49.7
comp=Z,58nm,0.9s
DOMB Dombas 95.80 335 *e*P **P 01 24 45.1 +0.2**
DOMB *e*SKSac **SKSac 01 35 23.1 +2.4**
DOMB *e*SS **SS 01 42 32.3 +1.3**
DOMB IVMs_BB IVMs_BB 02 09 26.5
comp=Z,22μm,24.4s
DEL Delary 95.82 329 *i* P **P 01 24 47.1 +2.0**
STEB Steborice 95.83 322 *e*P **P 01 24 45.3 0.0**
BORU Boraas 95.94 330 *i* P **P 01 24 49.9 +4.3**
OSL Oslo 95.98 333 *e*P **P 01 24 46.0 +0.2**
OSL IVmB_BB 01 24 54.6
comp=Z,2μm,6.0s
OSL *e*SKSac **SKSac 01 35 23.5 +2.0**
OSL IVMs_BB IVMs_BB 02 13 39.7
comp=Z,15μm,17.4s
MORC Moravsky Berou 96.02 322 ⇓P **P 01 24 46.1 -0.1**
MORC Moravsky Berou 96.02 322 *e*P **P 01 24 45.3 -0.9**
MORC *e*PP **PP 01 28 44.0 +5.5**
SRO Srobarova 96.13 320 *e*P **P 01 24 47.0 +0.3**
SRO *e*PP **PP 01 28 45.9 +6.6**
DBG Daneborg 96.17 351 *i* P **P 01 24 45.7 -0.7**
DBG IAmb IAmb 01 24 47.8
comp=Z,32nm,1.0s
MOL Molde 96.19 336 *e*P **P 01 24 46.9 +0.3**
MOL *e*SKSac **SKSac 01 35 23.7 +1.2**
MOL *e*SS **SS 01 42 42.4 +6.0**
MOL IVMs_BB IVMs_BB 02 12 11.2
comp=Z,25μm,18.6s
FABU Falkenberg 96.21 329 *i* P **P 01 24 49.8 +2.9**
JAVC Velka Javorina 96.22 321 *e*P **P 01 24 45.9 -1.3**
JAVC *e*PP **PP 01 28 45.9 +5.8**
OHR Ohrid 96.26 313 *i* P **P 01 24 45.6 -1.9**
TJOU Tjoern 96.34 331 *i* P P 01 24 54.9 +7.5
ITM Ithomi 96.37 309 IAmb IAmb 01 24 49.7
comp=Z,142nm,1.5s
MORH Mrgy, Hungar 96.38 318 ⇓P **P 01 24 47.1 -0.8**
JNE Jan Mayen East 96.38 346 *e*P **P 01 24 47.6 +0.3**
JNE *e*PP **PP 01 28 42.2 +1.7**
KRLC Kraliky 96.39 322 *e*P **P 01 24 47.2 -0.7**
KRLC *e*PP PP 01 28 32.6 -8.7
KRLC AMS AMS 02 11 40.0
comp=Z,28μm,18.0s
JMIC Jan Mayen 96.43 346 LR LR 02 13 57.4
comp=Z,18μm,19.4s,baz=53,slow=39
KSP Ksiaz 96.44 323 *e*Pdif **P 01 24 44.9 -3.1**
KSP *e*P **PcP 01 24 47.8 -0.4**
KSP *e*PP **PP 01 28 45.0 +3.4**
KSP *e*S **S 01 36 03.4 -4.7**
KSP *e*L L 02 06 37.7
comp=Z,25μm,29.2s
IVA Berane 96.45 314 ⇓*i*P **P 01 24 46.9 -1.5**
PVY Plav 96.48 314 ⇓*i*P **P 01 24 46.9 -1.7**
JMI Jan Mayen 96.53 346 *e*P **P 01 24 51.9 +3.9**
OSTC Ostas 96.58 323 *e*P **P 01 24 48.7 0.0**
OSTC AMS AMS 02 11 00.0
comp=Z,35μm,19.8s
DPC Dobruska-Polom 96.58 322 *e*P **P 01 24 48.2 -0.6**
DPC *e*PP PP 01 28 33.5 -9.3
DPC AMS AMS 02 11 00.0
comp=Z,30μm,20.7s
AKN Aaknes 96.60 335 *e*P **P 01 24 48.8 +0.2**
MODS Modra-Piesok 96.62 320 *e*P **P 01 24 49.7 +0.7**
MODS *e*PP **PP 01 28 47.7 +4.6**
KONO Kongsberg 96.62 333 *e*P **P 01 24 48.9 +0.2**
KONO IVmB_BB 01 24 50.8
comp=Z,971nm,2.4s
KONO *e*SS SS 01 42 45.3 +2.6
KONO IVMs_BB IVMs_BB 02 14 07.5
comp=Z,14μm,17.5s
CHVC Chvalec 96.66 323 *e*P **P 01 24 49.2 +0.1**
CHVC AMS AMS 02 11 00.0
comp=Z,34μm,19.6s
PLE Pljevlja 96.68 315 ⇓*i*P **P 01 24 48.2 -1.3**
UPC Upice 96.72 323 *e*P **P 01 24 49.2 -0.1**
UPC AMS AMS 02 11 10.0
comp=Z,37μm,19.9s
KOME Kolasin 96.72 315 ⇓*i*P **P 01 24 48.8 -0.9**
SKAR Skarslia 96.74 334 *e*P **P 01 24 49.4 +0.1**
SKAR IVmB_BB 01 24 52.2
comp=Z,2μm,5.0s
SKAR *e*SKSac **SKSac 01 35 26.7 +1.0**
SKAR IVMs_BB IVMs_BB 02 09 47.5
comp=Z,19μm,19.0s
VRAC Vranov 96.75 321 P **P 01 24 49.1 -0.4**
comp=Z,15nm,1.1s,baz=63,slow=6.8,SNR=13
VRAC LR LR 02 12 53.9
comp=Z,21μm,20.5s,baz=72,slow=38
comp=Z,15nm,1.1s
VRAC Vranov 96.75 321 ⇓P **P 01 24 49.4 -0.1**
VRAC Vranov 96.75 321 *e*P **P 01 24 48.7 -0.8**
VRAC *e*PP **PP 01 28 49.0 +4.9**
ZST Bratislava 96.78 320 *e*PP **PP 01 28 50.7 +6.3**
QSPA South Pole Qui 96.80 180 P **P 01 24 48.5 -1.0**
QSPA South Pole Qui 96.80 180 IAms_20 IAms_20 02 15 39.8
comp=Z,19μm,18.0s
QSPA South Pole Qui 96.80 180 P **P 01 24 51.4 +2.0**
comp=Z,6.3nm,0.8s,baz=308,slow=1.8,SNR=9.9
QSPA S **SKSac 01 35 26.2 +0.5**
comp=Z,3.4nm,1.1s,baz=201,slow=21,SNR=7.0
QSPA PKKPbc **PKKPbc 01 41 28.7 -6.3**
comp=Z,1.3nm,0.6s,baz=261,slow=2.4,SNR=2.5
QSPA LR LR 02 10 10.5
comp=Z,10μm,20.3s,baz=352,slow=36
KRUC Moravsky 96.95 321 *e*P **P 01 24 49.0 -1.4**
KRUC *e*PP **PP 01 28 49.8 +4.1**
PDG Podgorica 97.02 314 ⇓P **P 01 24 49.5 -1.4**
PDG Podgorica 97.02 314 ⇓*i*P **P 01 24 49.4 -1.4**
UPM Unac-Piva 97.06 315 ⇓*i*P **P 01 24 49.7 -1.6**
DRME Dracevica, Mon 97.14 314 ⇓*i*P **P 01 24 50.1 -1.4**
NKME Niksic 97.14 315 ⇓*i*P **P 01 24 50.0 -1.5**
ULC Ulcinj 97.16 314 ⇓*i*P **P 01 24 50.6 -1.0**
YKAW3 Yellowknife Wh 97.17 24 IAmb IAmb 01 24 59.7
comp=Z,36nm,0.9s
YKA Yellowknife Ar 97.20 24 P Pdif 01 24 51.3 0.0
YKA **PP 01 28 48.9 +1.8**
YKA Yellowknife Ar 97.20 24 P Pdif 01 24 51.3 0.0
comp=Z,20nm,0.9s,baz=299,slow=5.5,SNR=45
YKA PP **PP 01 28 43.7 -3.4**
comp=Z,1.5nm,0.9s,baz=307,slow=6.6,SNR=2.8
YKA PKKPbc **PKKPbc 01 41 28.8 -4.1**
comp=Z,1.6nm,0.8s,baz=121,slow=1.5,SNR=8.6
comp=Z,20nm,0.9s
CEME Cevo 97.23 314 ⇓*i*P **P 01 24 50.2 -1.7**
YKAW1 Yellowknife Wh 97.26 24 IAmb IAmb 01 25 00.1
comp=Z,33nm,1.0s
BRY Bratogost 97.40 315 ⇓*i*P **P 01 24 51.3 -1.5**
HYA Hoyanger 97.42 335 *e*P Pdif 01 24 52.6 +0.3
HYA IVMs_BB IVMs_BB 02 13 22.5
comp=Z,22μm,16.8s
TREC Trest 97.44 322 AMS AMS 02 14 50.0
comp=Z,29μm,17.5s
RONA Rosalia, Austr 97.45 320 *i* PcP **P 01 24 52.5 -0.3**
comp=Z,6.4nm,1.1s
RONA *i* PP **PP 01 28 49.6 0.0**
comp=Z,24nm,1.4s
HCY Herceg Novi 97.56 314 ⇓*i*P **P 01 24 51.4 -1.9**
PVCC Panska Ves 97.58 323 *e*P Pdif 01 24 53.7 +0.4
PVCC AMS AMS 02 11 40.0
comp=Z,22μm,17.9s
CONA Conrad Observa 97.66 320 *i* PcP **P 01 24 53.3 -0.5**
comp=Z,5.0nm,1.2s
CONA *i* PP **PP 01 28 52.6 +1.4**
comp=Z,48nm,1.5s
FOO Floro 97.69 335 *e*P Pdif 01 24 53.7 +0.2
FOO *e*SKSac **SKSac 01 35 37.1 +6.8**
FOO IVMs_BB IVMs_BB 02 13 07.6
comp=Z,22μm,15.2s
HOMB Homborsund 97.74 332 *e*P Pdif 01 24 53.9 +0.2
HOMB IVmB_BB 01 24 56.0
comp=Z,1μm,6.1s
HOMB *e*SS SS 01 43 05.9 +7.5
HOMB IVMs_BB IVMs_BB 02 12 56.9
comp=Z,16μm,21.1s
PRU Pruhonice 97.78 322 *e*P Pdif 01 24 54.5 +0.3
PRU *e*x x 01 25 06.4
PRU AMS AMS 02 11 50.0
comp=Z,35μm,19.6s
PRA Prague 97.82 323 AMS AMS 02 11 50.0
comp=Z,34μm,19.6s
BRG Berggiesshubel 97.83 323 *e*P **P 01 24 53.8 -0.5**
BRG Amp 01 24 55.9
comp=Z,40nm,1.1s
BRG Berggiesshubel 97.83 323 S **S 01 36 17.0 -2.9**
BRG Berggiesshubel 97.83 323 PS PS 01 37 43.0 -1.7
BRG Berggiesshubel 97.83 323 SS SS 01 42 56.0 -4.2
ODD1 Odda 97.84 333 *e*P Pdif 01 24 54.4 +0.1
ODD1 IVmB_BB 01 24 56.8
comp=Z,1μm,3.3s
ODD1 *e*SS SS 01 43 08.6 +8.7
ODD1 IVMs_BB IVMs_BB 02 08 08.9
comp=Z,13μm,24.2s
RICC Richard 97.85 323 AMS AMS 02 10 40.0
comp=Z,28μm,20.8s
KOGS Kog 97.89 319 *e*Pdif **P 01 24 54.5 -0.2**
KOGS *e* 01 27 02.2
KOGS *i* PP **PP 01 28 56.8 +3.8**
KOGS *e* 01 29 50.5
SUE Sulen 98.08 335 *e*P Pdif 01 24 55.6 +0.4
ARSA Arzberg 98.10 320 *i* P **P 01 24 54.2 -1.5**
comp=Z,10nm,1.3s
ARSA *e*PP **PP 01 28 50.5 -4.0**
comp=Z,22nm,2.0s
CLRS Cowichan Lake 98.11 39 IAmb IAmb 01 25 03.3
comp=Z,99nm,1.7s
BLS5 Blasjo 98.15 333 *e*P Pdif 01 24 55.7 +0.1
BLS5 IVmB_BB 01 25 05.9
comp=Z,2μm,4.1s
BLS5 *e* 01 35 46.5
BLS5 *e*SS SS 01 43 03.4 -0.9
BLS5 IVMs_BB IVMs_BB 02 08 21.0
comp=Z,14μm,23.5s
BER Bergen 98.17 334 *e*P Pdif 01 24 55.9 +0.3
BER *e*SS SS 01 43 06.7 +2.2
BER IVMs_BB IVMs_BB 02 10 39.3
comp=Z,19μm,22.1s
ASK Askoy 98.19 334 *e*P Pdif 01 24 56.0 +0.3
ASK IVmB_BB 01 24 59.1
comp=Z,3μm,4.3s
ASK *e*SKSac **SKSac 01 35 36.5 +3.6**
ASK IVMs_BB IVMs_BB 02 11 15.6
comp=Z,21μm,20.5s
ZVC Zvikov 98.19 322 AMS AMS 02 15 40.0
comp=Z,32μm,19.4s
MUD Monsted U'grnd 98.22 330 *i* P Pdif 01 24 58.9 +3.0
HSKC Hora Svate Kat 98.22 323 *e*P Pdif 01 24 57.1 +0.9
HSKC AMS AMS 02 11 00.0
comp=Z,38μm,26.0s
SNART Snartemo 98.32 332 *i* P Pdif 01 25 01.9 +5.5
SSRD Sdr. Stenderup 98.40 329 *i* P **P 01 24 56.1 -0.6**
LSZ Lusaka 98.59 256 P **P 01 24 57.3 -1.3**
LSZ IAmb IAmb 01 28 56.7
comp=Z,123nm,1.9s
LSZ Lusaka 98.59 256 LR LR 02 06 17.3
comp=Z,28μm,21.7s,baz=92,slow=33
PGC Sidney 98.59 39 IAmb IAmb 01 25 05.5
comp=Z,88nm,1.6s
SOKA Soboth 98.61 319 *i* Pdiff **P 01 24 57.0 -1.1**
comp=Z,17nm,1.6s
SOKA *e*PP **PP 01 28 59.8 +1.3**
comp=Z,39nm,1.9s
KHC Kasperske Hory 98.67 322 *e*P **P 01 24 56.2 -2.0**
KHC *e*x x 01 28 34.5
KHC *e*PP **PP 01 28 59.0 +0.1**
KHC *e*SKS **SKSac 01 35 34.7 -1.3**
KHC AMS AMS 02 12 10.0
comp=Z,29μm,19.2s
MOA Molln 98.70 320 *i* Pdiff **P 01 24 58.1 -0.2**
comp=Z,13nm,1.1s
MOA *e*PP **PP 01 29 00.7 +1.7**
comp=Z,31nm,2.2s
GERES GERESS Array B 98.70 322 P **P 01 24 57.9 -0.6**
GERES GERESS Array B 98.70 322 P **P 01 24 58.0 -0.4**
comp=Z,6.4nm,1.0s,baz=50,slow=4.2,SNR=26
GERES PP **PP 01 28 59.4 +0.2**
comp=Z,5.8nm,1.1s,baz=56,slow=6.0,SNR=4.7
GERES PKKPbc **PKKPbc 01 41 26.8 -1.6**
comp=Z,0.8nm,0.8s,baz=294,slow=1.3,SNR=3.9
GERES LR LR 02 12 45.1
comp=Z,28μm,20.5s,baz=66,slow=37
comp=Z,6.4nm,1.0s
B04A Port Angeles 98.77 39 IAmb IAmb 01 25 06.7
comp=Z,124nm,1.8s
NLWA Neilton Lookou 98.77 40 IAmb IAmb 01 25 06.0
comp=Z,125nm,1.8s
NLWA IAMs_20 IAMs_20 02 01 24.5
comp=Z,15μm,21.0s
KMY Karmoy 98.79 333 *e*Pdif Pdif 01 24 58.8 +0.4
KMY IVmB_BB 01 25 23.0
comp=Z,1μm,3.9s
KMY *e*SKSac **SKSac 01 35 35.8 -0.2**
KMY IVMs_BB IVMs_BB 02 08 38.6
comp=Z,11μm,19.8s
LLLB Lillooet 98.83 36 IAmb IAmb 01 25 05.8
comp=Z,95nm,1.6s
OBKA Obir 98.98 319 *i* Pdiff **P 01 24 59.6 -0.1**
comp=Z,14nm,1.2s
OBKA *e*PP **PP 01 29 04.3 +3.0**
comp=Z,31nm,1.9s
BIOA Bad Ischl, Aus 99.15 320 *i* Pdiff **Pdif 01 24 59.9 -0.5**
comp=Z,8.2nm,1.0s
BIOA *i* PP **PP 01 29 01.7 -0.9**
comp=Z,19nm,2.0s
LJU Ljubljana 99.15 319 *e*Pdiff **Pdif 01 24 59.3 -1.1**
LJU *e* 01 27 08.4
LJU *e*PP **PP 01 29 07.3 +4.8**
LJU *e* 01 33 29.5
LJU *e* 01 35 46.8
LJU *e*SKKSac **SKKSac 01 36 11.6 +1.9**
LJU *e*SS **SS 01 43 18.6 -0.5**
E03A Lebam 99.26 41 P **Pdif 01 25 00.6 -0.2**
E03A IAmb IAmb 01 25 08.5
comp=Z,180nm,1.8s
CEY Cerknica 99.32 318 *e*Pdiff **Pdif 01 24 59.7 -1.5**
CEY *e* 01 27 08.8
CEY *i* PP **PP 01 29 07.6 +3.7**
GNW Green Mountain 99.37 40 IAmb IAmb 01 25 09.3
comp=Z,103nm,1.7s
MYKA Terra Mystica 99.52 319 *i* Pdiff **Pdif 01 25 02.9 +0.8**
comp=Z,4.9nm,1.1s
MYKA *i* PP **PP 01 29 07.8 +2.3**
comp=Z,29nm,1.6s
MYKA *e*PKKP **PKKPbc 01 41 25.4 -0.6**
comp=Z,4.0nm,0.9s
KBA Koelnbreinsper 99.55 320 *i* Pdiff **Pdif 01 25 01.6 -0.8**
comp=Z,11nm,1.2s
KBA *e*PP **PP 01 29 06.8 +0.9**
comp=Z,40nm,2.0s
SCO Scoresbysund 99.66 349 *i* P **Pdif 01 25 02.9 +0.8**
TIP Timpagrande 99.77 312 ⇓P **Pdif 01 25 02.2 -1.1**
LESA Schwarzleotal 99.85 320 *i* Pdiff **Pdif 01 25 02.8 -0.8**
comp=Z,7.6nm,1.1s
LESA *i* PP **PP 01 29 07.5 -0.5**
comp=Z,50nm,1.3s
LESA *e*PKKP **PKKPbc 01 41 25.4 +0.3**
comp=Z,10nm,1.2s
SUMG Summit 99.96 355 PP **PP 01 29 06.9 -1.4**
SUMG Summit 99.96 355 IAMs_20 IAMs_20 02 15 21.4
comp=Z,21μm,20.0s
SUMG Summit 99.96 355 *i* P **Pdif 01 25 03.3 -0.6**
COR Corvallis 100.11 43 IAMs_20 IAMs_20 02 01 36.2
comp=Z,15μm,22.0s
ABTA Abfaltersbach 100.20 320 *i* Pdiff **Pdif 01 25 03.9 -1.3**
comp=Z,9.6nm,1.1s
ABTA *i* PP **PP 01 29 10.0 -0.7**
comp=Z,15nm,1.6s
CUC Castrocucco 100.22 313 IAMs_20 IAMs_20 02 19 03.2
comp=Z,21μm,22.0s
WTTA Wattenberg 100.57 321 *i* Pdiff **Pdif 01 25 06.2 -0.8**
comp=Z,13nm,1.0s
WTTA *i* PP **PP 01 29 14.1 +0.5**
comp=Z,48nm,1.2s
WATA Walderalm 100.58 321 *i* Pdiff **Pdif 01 25 06.6 -0.3**
comp=Z,14nm,1.1s
WATA *i* PP **PP 01 29 11.3 -2.3**
comp=Z,46nm,1.3s
CEL Celeste 100.69 311 IAMs_20 IAMs_20 02 18 49.8
comp=Z,18μm,22.0s
KRPM Rodgers 100.76 46 IAMs_20 IAMs_20 02 11 58.9
comp=Z,13μm,19.0s
SQTA Sankt Quirin 100.85 321 *i* Pdiff **Pdif 01 25 07.4 -0.7**
comp=Z,10nm,1.1s,SNR=5.1
SQTA *e*PP **PP 01 29 15.4 -0.2**
comp=Z,46nm,1.3s
MOTA Moosalm 100.87 321 *i* Pdiff **Pdif 01 25 07.0 -1.3**
comp=Z,9.2nm,1.0s
MOTA *i* PP **PP 01 29 16.1 +0.3**
comp=Z,46nm,1.7s
MOTA *e*PKKP **PKKPdf 01 41 26.9 -0.6**
comp=Z,4.2nm,1.1s
KMPM Mount Pierce 100.93 47 IAMs_20 IAMs_20 02 03 19.4
comp=Z,18μm,20.0s
RETA Reutte 101.03 321 *i* Pdiff **Pdif 01 25 09.3 +0.5**
comp=Z,5.9nm,1.1s
RETA *i* PP **PP 01 29 17.4 +0.5**
comp=Z,39nm,1.3s
LRW Lerwick 101.04 336 IAMs_20 IAMs_20 02 16 31.1
comp=Z,45μm,18.5s
KHMM Horse Mountain 101.06 46 IAMs_20 IAMs_20 02 12 17.8
comp=Z,14μm,19.0s
AQU L'Aquila 101.17 315 PP **PP 01 29 16.6 -1.5**
FETA Feichten 101.23 321 *i* Pdiff **Pdif 01 25 08.5 -1.3**
comp=Z,13nm,1.1s,SNR=5.8
FETA *e*PP **PP 01 29 19.8 +1.3**
comp=Z,21nm,1.5s
FETA *e*PKKP **PKKPdf 01 41 26.1 -0.7**
comp=Z,7.6nm,1.2s
YBH Yreka Blue Hor 101.50 45 P **Pdif 01 25 14.5 +3.5**
comp=Z,0.3nm,1.0s,baz=47,slow=0.8,SNR=7.7
YBH PP **PP 01 29 19.9 -0.7**
comp=Z,0.5nm,1.1s,baz=340,slow=6.4,SNR=4.7
KHBM Hayfork Bally 101.50 46 IAMs_20 IAMs_20 02 06 25.4
comp=Z,16μm,20.0s
KCPM Cahto Peak 101.56 47 IAMs_20 IAMs_20 02 03 23.1
comp=Z,19μm,21.0s
RKT Rikitea 101.64 112 *e*PP **PP 01 29 19.9 -2.5**
comp=Z,1μm,30.2s
RKT *e*S **Sdif 01 36 51.8 -1.1**
comp=Z,17μm,25.5s
RKT *e*SS **SS 01 43 53.3 -2.2**
comp=Z,38μm,28.8s
DAVA Damuels 101.66 321 *i* Pdiff **Pdif 01 25 11.8 +0.1**
comp=Z,6.7nm,1.0s
DAVA *i* PP **PP 01 29 20.6 -1.1**
comp=Z,24nm,1.5s
N02D Trinity Center 101.76 46 IAMs_20 IAMs_20 02 12 41.3
comp=Z,14μm,20.0s
BTNL Ternell 102.47 325 *d*PP **PP 01 29 25.0 -2.5**
BTNL *d*PKiKP **PKiKP 01 29 34.8 -1.7**
VLC Villacollemand 102.56 318 PP **PP 01 29 27.2 -1.3**
MCCM Marconi Confer 102.58 49 IAMs_20 IAMs_20 02 03 14.4
comp=Z,14μm,21.0s
NEW Newport 102.62 37 P **Pdif 01 25 16.7 +0.9**
comp=Z,7.9nm,0.9s,baz=266,slow=3.4,SNR=15
BEBN Eben Emael 102.63 326 *d*PKiKP **PKiKP 01 29 36.1 -0.6**
BHOU Houvegnez 102.65 325 *d*PKiKP **PKiKP 01 29 36.0 -0.8**
CVS Carmenet Viney 102.83 48 IAMs_20 IAMs_20 02 03 44.9
comp=Z,14μm,21.0s
WLF Walferdange 102.88 324 PP **PKiKP 01 29 32.4 -4.8**

ORV Oroville 103.11 47 IAMs_20 IAMs_20 02 04 48.3
comp=Z,12µm,20.0s
BIGH Upper Bighouse 103.15 335 *e*P **Pdif 01 25 21.6 +3.8**
BIGH IAMs_20 IAMs_20 02 07 38.6
comp=Z,48µm,27.7s
RCHB Rochefort 103.18 325 *d*PKiKP **PKiKP 01 29 36.5 -1.3**
JRSC Jasper Ridge 103.31 49 IAMs_20 IAMs_20 02 07 39.6
comp=Z,14µm,21.0s
BMRD Maredsous 103.37 325 *d*PKiKP **PKiKP 01 29 37.5 -0.6**
MCD Coleburn Disti 103.43 334 *e*P **Pdif 01 25 22.5 +3.4**
MCD IAMs_20 IAMs_20 02 16 59.4
comp=Z,63µm,20.4s
DRUM Mains of Drumt 103.49 334 *e*P **Pdif 01 25 22.3 +2.8**
DRUM IAMs_20 IAMs_20 02 11 37.6
comp=Z,47µm,27.1s
MHC Mount Hamilton 103.77 49 IAMs_20 IAMs_20 02 03 37.0
comp=Z,14µm,21.0s
ILULI Ilulissat 104.00 359 IAMs_20 IAMs_20 02 17 54.2
comp=Z,16µm,20.0s
WVOR Wild Horse Val 104.06 43 IAMs_20 IAMs_20 02 06 31.8
comp=Z,14µm,21.0s
WELL Weller Preserv 104.07 48 IAMs_20 IAMs_20 02 04 25.8
comp=Z,14µm,21.0s
SAO San Andreas Ge 104.12 50 IAMs_20 IAMs_20 02 20 04.1
comp=Z,13µm,18.0s
BORG Borgarnes 104.32 346 IAMs_20 IAMs_20 02 17 15.5
comp=Z,15µm,20.0s
WACR West Acre 104.37 329 *e*P **Pdif 01 25 28.1 +4.6**
WACR IAMs_20 IAMs_20 02 16 03.4
comp=Z,42µm,22.7s
EDI Edinburgh 104.40 333 *e*P **Pdif 01 25 26.8 +3.3**
EDI IAMs_20 IAMs_20 02 13 39.9
comp=Z,43µm,23.2s
LMK Market Rasen 104.46 330 *e*P **Pdif 01 25 28.4 +4.6**
LMK IAMs_20 IAMs_20 02 14 48.1
comp=Z,43µm,20.5s
CMB Columbia Colle 104.47 48 IAMs_20 IAMs_20 02 04 15.2
comp=Z,16µm,22.0s
INVG Invergeldie, C 104.47 334 *e*P **Pdif 01 25 28.8 +5.0**
INVG IAMs_20 IAMs_20 02 17 04.7
comp=Z,49µm,19.6s
HULI Fort Hunter Li 104.53 50 IAMs_20 IAMs_20 02 09 26.1
comp=Z,12µm,20.0s
LEWI Lewis, Hebride 104.58 336 *e*P **Pdif 01 25 29.2 +5.0**
LEWI IAMs_20 IAMs_20 02 16 43.4
comp=Z,31µm,19.4s
KPL Plockton 104.60 335 *e*P **Pdif 01 25 29.1 +4.7**
KPL IAMs_20 IAMs_20 02 14 51.1
comp=Z,46µm,21.2s
PLID Pearl Lake 104.69 40 IAMs_20 IAMs_20 02 04 53.3
comp=Z,16µm,22.0s
ESK Eskdalemuir 104.77 332 *e*P **Pdif 01 25 29.0 +3.9**
ESK IAMs_20 IAMs_20 02 13 51.7
comp=Z,49µm,23.2s
HPK Haverah Park 104.81 331 *e*P **Pdif 01 25 29.7 +4.3**
HPK IAMs_20 IAMs_20 02 14 30.6
comp=Z,32µm,21.4s
ELSH Elham, Standar 104.95 327 *e*P **Pdif 01 25 30.7 +4.7**
ELSH IAMs_20 IAMs_20 02 18 15.1
comp=Z,57µm,18.8s
VSL Villasalto 105.05 314 IAMs_20 IAMs_20 02 17 41.0
comp=Z,15µm,21.0s
LAWE Loch Awe, Argy 105.17 334 *e*P **Pdif 01 25 30.4 +3.5**
LAWE IAMs_20 IAMs_20 02 15 18.6
comp=Z,53µm,21.5s
LBWR Ladybower, Pea 105.18 330 *e*P **Pdif 01 25 29.2 +2.2**
LBWR IAMs_20 IAMs_20 02 14 17.5
comp=Z,41µm,27.0s
NEWG New Galloway 105.36 333 *e*P **Pdif 01 25 32.3 +4.5**
NEWG IAMs_20 IAMs_20 02 14 20.2
comp=Z,46µm,22.2s
HMNX Herstmonceux 105.52 327 *e*P **Pdif 01 25 34.6 +6.1**
HMNX IAMs_20 IAMs_20 02 18 42.0
comp=Z,41µm,18.4s
GAL1 Galloway 105.73 333 *e*P **Pdif 01 25 31.4 +2.0**
GAL1 IAMs_20 IAMs_20 02 14 30.7
comp=Z,48µm,21.9s
NVAR Mina Array Bea 105.84 47 Pdif **Pdif 01 25 30.7 0.0**
NVAR Mina Array Bea 105.84 47 Pdiff **Pdif 01 25 32.6 +1.9**
comp=Z,2.5nm,0.6s,baz=297,slow=5.7,SNR=18
NVAR PP **PKiKP 01 29 46.6 +3.3**
comp=Z,3.4nm,0.9s,baz=294,slow=8.0,SNR=3.7
NVAR PKKPbc **PKKPbc 01 41 06.8 -0.5**
comp=Z,1.0nm,0.9s,baz=78,slow=2.7,SNR=4.8
NVAR PKKP **PKKPdf 01 41 17.3 -1.0**
comp=Z,2.5nm,1.0s,baz=83,slow=4.5,SNR=4.2
SUR Sutherland 105.87 238 IAMs_20 IAMs_20 02 13 56.1
comp=Z,14µm,20.0s
IOMK Kirk Michael 106.03 332 *e*P **Pdif 01 25 34.5 +3.7**
IOMK IAMs_20 IAMs_20 02 15 46.0
comp=Z,17µm,20.4s
FOEL Foel Wylfa 106.20 330 IAMs_20 IAMs_20 02 15 11.8
comp=Z,38µm,23.7s
SFJD Kangerlussuaq 106.21 358 IAMs_20 IAMs_20 02 14 57.5
comp=Z,15µm,21.0s
HLM1 Long Mynd 106.26 330 IAMs_20 IAMs_20 02 14 37.7
comp=Z,34µm,24.1s
TROLL Troll, Antarti 106.29 196 ⇑P **Pdif 01 25 39.4 +7.7**
comp=Z,74nm,0.9s
TROLL Troll, Antarti 106.29 196 ⇓P **PKiKP 01 29 45.5 +2.4**
comp=Z,250nm,0.9s
TIN Tinemaha, Big 106.42 48 IAMs_20 IAMs_20 02 09 20.0
comp=Z,17µm,22.0s
KEST Kesra 106.47 310 PP **PKiKP 01 29 50.3 +5.9**
comp=Z,7.8nm,1.0s,baz=2.9,slow=5.5,SNR=4.6
MCH1 Michaelchurch 106.62 330 *e*P **Pdif 01 25 37.7 +4.2**
MCH1 IAMs_20 IAMs_20 02 14 50.2
comp=Z,41µm,23.7s
DLMT Dillon 106.71 39 IAMs_20 IAMs_20 02 21 57.3
comp=Z,14µm,22.0s
CWC Cottonwood Cre 106.76 49 IAMs_20 IAMs_20 02 05 19.1
comp=Z,15µm,21.0s
IDGL Inch Island, C 106.85 334 *e*P **Pdif 01 25 41.1 +6.7**
IDGL IAMs_20 IAMs_20 02 18 51.7
comp=Z,47µm,20.0s
OSI Osito Audit: C 106.94 51 IAMs_20 IAMs_20 02 10 43.2
comp=Z,14µm,20.0s
FFC Flin Flon 107.07 26 IAMs_20 IAMs_20 02 17 43.4
comp=Z,15µm,20.0s
ELK Elko 107.07 44 Pdiff **Pdif 01 25 38.6 +2.6**
comp=Z,1.7nm,0.8s,baz=262,slow=1.0,SNR=8.1
ELK PKiKP **PKiKP 01 29 43.8 -1.7**
comp=Z,2.5nm,1.0s,baz=297,slow=4.5,SNR=3.8
PASC Pasadena Art C 107.52 51 IAMs_20 IAMs_20 02 14 17.4
comp=Z,12µm,20.0s
MWC Mount Wilson 107.60 51 IAMs_20 IAMs_20 02 06 23.5
comp=Z,15µm,22.0s
SNAA Sanae 107.90 195 P **Pdif 01 25 43.7 +4.9**
SNAA Sanae 107.90 195 P **PKiKP 01 29 47.6 +1.7**
SNAA Sanae 107.90 195 IAMs_20 IAMs_20 02 08 03.8
comp=Z,16µm,20.0s
SNAA Sanae 107.90 195 Pdiff **Pdif 01 25 43.9 +5.1**
comp=Z,0.4nm,0.6s,baz=132,slow=9.2,SNR=3.1
SNAA PKKPbc **PKKPbc 01 40 57.6 -4.1**
comp=Z,6.5nm,1.0s,baz=320,slow=1.2,SNR=14
BFSC Mount Baldy Ra 107.90 51 IAMs_20 IAMs_20 02 06 44.5
comp=Z,14µm,21.0s
TPNV Topopah Spring 107.92 48 IAMs_20 IAMs_20 02 06 26.7
comp=Z,14µm,21.0s
HTL Hartland 107.97 329⇑ *e*P **Pdif 01 25 43.9 +4.4**
HTL IAMs_20 IAMs_20 02 16 57.7
comp=Z,36µm,23.0s
FXWY Fox Creek 108.53 40 IAMs_20 IAMs_20 02 11 56.6
comp=Z,14µm,21.0s
TPAW Teton Pass 108.65 40 IAMs_20 IAMs_20 02 12 00.7
comp=Z,13µm,20.0s
SNOW Snow King Moun 108.78 40 IAMs_20 IAMs_20 02 06 54.5
comp=Z,16µm,22.0s
AHID Auburn Hatcher 108.91 40 IAMs_20 IAMs_20 02 07 51.8
comp=Z,14µm,22.0s
TSUM Tsumeb 108.91 252 IAMs_20 IAMs_20 02 17 19.3
comp=Z,17µm,20.0s
PFO Pinyon Flats O 109.06 51 IAMs_20 IAMs_20 02 12 28.3
comp=Z,14µm,20.0s
BELC Belle Mtn. Jos 109.27 51 IAMs_20 IAMs_20 02 15 32.6
comp=Z,15µm,20.0s
DANC Danby, Needles 109.49 50 IAMs_20 IAMs_20 02 19 24.3
comp=Z,11µm,18.0s
VNA2 Neumayer–Watz 109.52 195 P **PKiKP 01 29 49.5 +0.6**
baz=92,slow=2.1
LAO LASA Array 109.80 35 IAMs_20 IAMs_20 02 26 24.6
comp=Z,13µm,22.0s
BC3 Big Chuckawall 109.82 51 IAMs_20 IAMs_20 02 15 48.2
comp=Z,13µm,20.0s
IRM Iron Mountain 109.86 50 IAMs_20 IAMs_20 02 17 07.2
comp=Z,11µm,19.0s
VNA3 Neumayer Olymp 109.88 194 P **PKiKP 01 29 48.5 -1.1**
VNA3 Neumayer Olymp 109.88 194 ⇑P **Pdif 01 25 54.8 +7.2**
comp=Z,1.1nm,1.0s
DGMT Dagmar 109.89 33 IAMs_20 IAMs_20 02 21 44.7
comp=Z,12µm,21.0s
BW06 Boulder Array 109.89 40 IAMs_20 IAMs_20 02 08 13.8
comp=Z,18µm,22.0s
PDAR Pinedale Array 109.89 40 **Pdif 01 25 46.5 -2.1**
PDAR **PKiKP 01 29 48.2 -2.5**
PDAR Pinedale Array 109.89 40 Pdiff **Pdif 01 25 46.5 -2.1**
comp=Z,0.2nm,0.6s,baz=211,slow=4.6,SNR=2.8
PDAR PKiKP **PKiKP 01 29 49.5 -1.2**
comp=Z,1.7nm,1.0s,baz=313,slow=2.7,SNR=4.3
PDAR PKKPbc **PKKPbc 01 40 55.5 +0.6**
comp=Z,1.0nm,0.9s,baz=134,slow=3.0,SNR=4.0
PDAR PKKPab **PKKPab 01 41 04.0 -2.1**
comp=Z,4.2nm,1.0s,baz=117,slow=2.5,SNR=13
VNA1 Neumayer--Stat 109.92 195 P **PKiKP 01 29 53.0 +3.5**
GLA Glamis 110.54 51 IAMs_20 IAMs_20 02 15 55.3
comp=Z,11µm,18.0s
O20A White River Ci 112.08 42 IAMs_20 IAMs_20 02 17 18.9
comp=Z,13µm,21.0s
ECHE Chera 112.18 318 PP **PP 01 30 35.9 -3.0**
RSSD Black Hills 112.53 36 IAMs_20 IAMs_20 02 27 13.2
comp=Z,14µm,20.0s
MDND Maddock 112.68 31 IAMs_20 IAMs_20 02 25 44.3
comp=Z,17µm,21.0s
ULM Lac du Bonnet 112.85 27 PKiKP **PKiKP 01 29 55.0 -0.8**
comp=Z,7.1nm,0.8s,baz=323,slow=1.6,SNR=5.0
ETOB Tobarra 113.04 317 PP **PP 01 30 38.4 -6.8**
CART Cartagena 113.19 316 PP **PP 01 30 44.9 -1.3**
CART Cartagena 113.19 316 IAMs_20 IAMs_20 02 22 20.5
comp=Z,11µm,20.0s
EMUR La Murta 113.23 316 PP **PP 01 30 42.9 -3.6**
UCM Universidad Co 113.30 319 PKP **PKiKP 01 29 53.7 -3.3**
MVCO Mesa Verde 113.36 45 IAMs_20 IAMs_20 02 10 34.4
comp=Z,18µm,21.0s
TUC Tucson 113.94 50 IAMs_20 IAMs_20 02 19 53.5
comp=Z,11µm,19.0s
ISCO Idaho Springs 113.97 41 IAMs_20 IAMs_20 02 21 20.9
comp=Z,14µm,21.0s
ESDC Sonseca Array 114.11 319 PKPdf 01 29 56.7 -1.9
ESDC Sonseca Array 114.11 319 PKP PKPdf 01 29 58.2 -0.4
comp=Z,1.0nm,0.9s,baz=36,slow=1.6,SNR=5.0
ESDC PP **PP 01 30 47.1 -5.6**
comp=Z,2.8nm,1.0s,baz=63,slow=5.5,SNR=5.7
ESDC PKKPbc **PKKPbc 01 40 39.1 -1.4**
comp=Z,0.7nm,1.0s,baz=132,slow=1.9,SNR=3.2
AGMN Agassiz Nation 114.22 29 IAMs_20 IAMs_20 02 21 30.0
comp=Z,16µm,21.0s
EDA Edea 114.37 277 IAMs_20 IAMs_20 02 19 58.1
comp=Z,11µm,20.0s
PAB San Pablo 114.43 319 IAMs_20 IAMs_20 02 21 14.0
comp=Z,14µm,22.0s
PBRG Braganca 114.66 322 *e*PKPdf **PKiKP 01 29 58.4 -1.2**
PBRG *e*PP **PP 01 30 58.9 +2.5**
MVO Moncorvo 115.21 322 *e*PKPdf **PKPdf 01 30 01.6 +0.9**
MVO *e*PP **PP 01 31 02.3 +1.9**
MVO *e*LR LR 02 07 22.2
SUSD Miller 115.22 34 IAMs_20 IAMs_20 02 27 59.0
comp=Z,13µm,21.0s
PGAV Gavieira, Arco 115.48 323 *e*PKPdf **PKPdf 01 30 04.2 +3.0**
PGAV *e*PP **PP 01 31 04.9 +2.6**
PGAV *e*SS SS 01 47 09.6 +9.1
PGAV *e*LQ LQ 02 05 37.5
PGAV *e*LR LR 02 06 21.1
PGAV *i* IAMs_20 IAMs_20 02 27 12.3
comp=Z,23µm,18.0s
PCAB Cabril 115.49 323 *e*PP **PP 01 31 03.4 +1.1**
POLO Lamas de Olo 115.55 322 *e*PKPdf **PKPdf 01 30 01.7 +0.3**
POLO *e*PP **PP 01 31 04.9 +2.1**
PVRL Vila Real 115.56 322 *e*PKPdf **PKPdf 01 30 02.4 +1.1**
PVRL *e*PP **PP 01 31 04.1 +1.3**
OGNE Ogallala 115.59 38 IAMs_20 IAMs_20 02 24 35.3
comp=Z,11µm,21.0s
F33A 5 Mile Ranch, 115.71 31 IAMs_20 IAMs_20 02 20 50.5
comp=Z,16µm,22.0s
ANMO Albuquerque 115.91 46 **PKiKP 01 30 01.6 -0.8**
ANMO Albuquerque 115.91 46 IAMs_20 IAMs_20 02 30 24.0
comp=Z,13µm,21.0s
MTE Manteigas 115.97 321 *e*PKPdf **PKiKP 01 30 01.3 -0.9**
MTE *e*PP **PP 01 31 08.2 +2.5**
MTE *e*SS SS 01 47 12.5 +5.6
MTE *e*LQ LQ 02 04 38.6
MTE *e*LR LR 02 05 26.9
MTE *i* IAMs_20 IAMs_20 02 22 56.9
comp=Z,21µm,22.0s
PVIS Viseu 116.00 322 *e*PKPdf **PKPdf 01 30 02.4 +0.2**
PVIS *e*PP **PP 01 31 09.0 +3.1**
PCBR Castelo Branco 116.26 321 *e*PKPdf **PKiKP 01 30 02.9 +0.3**
PCBR *e*PP **PP 01 31 01.9 -5.8**
KSCO Kaye Shedlock' 116.34 40 IAMs_20 IAMs_20 02 26 45.4
comp=Z,15µm,20.0s
PMRV Marv??o 116.44 320 *e*PKPdf **PKiKP 01 30 03.2 +0.1**
PMRV *e*PP **PP 01 31 11.6 +2.6**
PMRV *e*SS SS 01 47 20.4 +7.3
PMRV *e*LQ LQ 02 04 59.6
PMRV *e*LR LR 02 08 22.5
PMRV *i* IAMs_20 IAMs_20 02 24 59.4
comp=Z,18µm,20.0s
EYMN Ely 116.50 27 IAMs_20 IAMs_20 02 21 09.9
comp=Z,13µm,22.0s
PCAS Casmilo, Conde 116.77 322 *e*PKPdf **PKiKP 01 30 04.0 +0.3**
PCAS *e*PP **PP 01 31 14.2 +3.0**
PSARD Sardoal 116.83 321 *e*PKPdf **PKiKP 01 30 04.3 +0.5**
PSARD *e*PP **PP 01 31 13.8 +2.2**
PESTR Estremoz 116.89 320 *e*PP **PP 01 31 15.3 +3.2**
PBAR Barrancos 116.94 319 *e*PKPdf **PKiKP 01 30 04.2 +0.1**
PBAR *e*PP **PP 01 31 16.1 +3.6**
ECSD EROS Data Cent 116.96 33 IAMs_20 IAMs_20 02 26 38.9
comp=Z,15µm,21.0s
PMTG Montargil 117.18 321 *e*PKPdf **PKPdf 01 30 02.9 -1.5**
PMTG *e*PP **PP 01 31 16.1 +2.0**
PSBE So Bento 117.27 321 *e*PP **PP 01 31 16.8 +2.0**
EVO Evora 117.36 320 *e*PP PP 01 31 28.8 +13
EPT El Paso 117.42 49 IAMs_20 IAMs_20 02 19 56.4
comp=Z,10µm,20.0s
E38A The Farm, Brul 117.47 28 IAMs_20 IAMs_20 02 22 22.7
comp=Z,14µm,21.0s
PBEJ Beja 117.56 319 *e*PKPdf **PKiKP 01 30 05.9 +0.7**
PBEJ *e*PP PP 01 31 27.3 +10
BGNE Belgrade 117.62 36 IAMs_20 IAMs_20 02 26 43.8
comp=Z,11µm,22.0s
SCHQ Schefferville 117.65 8 PKP **PKiKP 01 30 05.1 +0.2**
comp=Z,11nm,0.8s,baz=109,slow=2.6,SNR=7.9
PVAQ Vaqueiros 117.82 319 *e*PKPdf **PKiKP 01 30 06.4 +0.6**
PVAQ *e*PP **PP 01 31 20.9 +2.3**
PVAQ *e*SS SS 01 47 41.9 +11
PVAQ *e*LQ LQ 02 06 53.2
PVAQ *e*LR LR 02 09 24.4
PVAQ *i* IAMs_20 IAMs_20 02 29 50.9
comp=Z,11µm,18.0s
PARRA Arraiolos 117.84 321 *e*PKPdf **PKPdf 01 30 05.0 -0.7**
PARRA *e*PP **PP 01 31 16.1 -2.6**
MESJ Messejana 117.89 319 *e*PKPdf **PKPdf 01 30 05.7 -0.2**
MESJ *e*PP **PP 01 31 19.2 +0.1**
MESJ *e*SS SS 01 47 33.9 +1.9
MESJ IAMs_20 IAMs_20 02 24 26.3
comp=Z,20µm,22.2s
MESJ Messejana 117.89 319 *e*PKPdf **PKiKP 01 30 06.2 +0.3**
MESJ *e*PP **PP 01 31 21.7 +2.5**
PCVE Castro Verde 117.89 319 *e*PKPdf **PKiKP 01 30 07.0 +1.1**
PCVE *e*PP **PP 01 31 21.3 +2.2**
PMAFR Mafra 117.91 321 *e*PP **PP 01 31 23.9 +4.7**
LIS Lisbon 117.97 321 *e*PP **PP 01 31 19.7 +0.1**
LIS IAMs_20 IAMs_20 02 15 01.5
comp=E,44µm,32.9s
PBDV Barranco-do-Ve 118.05 319 *e*PKPdf **PKiKP 01 30 06.4 +0.1**
PBDV *e*PP **PP 01 31 22.4 +2.1**
IFR Ifrane 118.14 314 PP PP 01 31 21.7 +0.3
MD01 Midelt array s 118.21 313 **PKPdf 01 30 05.9 -0.9**
L34A Svendsen Farm, 118.27 34 IAMs_20 IAMs_20 02 27 32.7
comp=Z,13µm,20.0s
MNTX Cornudas Mount 118.30 48 IAMs_20 IAMs_20 02 30 11.5
comp=Z,10µm,19.0s
PTEO Sao Teotonio 118.39 319 *e*PP **PP 01 31 24.3 +1.7**
I37A Lemond, Waseca 118.45 31 IAMs_20 IAMs_20 02 22 43.1
comp=Z,15µm,20.0s
MORF Marmelete 118.48 319 *e*PKPdf **PKPdf 01 30 06.7 -0.3**
MORF *e*PP **PP 01 31 23.4 +0.1**
MORF *e*SS SS 01 47 41.7 +2.0
MORF IAMs_20 IAMs_20 02 17 15.4
comp=E,31µm,30.1s
MORF Marmelete 118.48 319 *e*PKPdf **PKiKP 01 30 07.4 +0.3**
PFVI Vila Bisbo 118.69 319 *e*PKPdf **PKiKP 01 30 08.7 +1.2**
PFVI *e*PP PP 01 31 15.7 -9.0
MSTX Muleshoe 119.02 45 IAMs_20 IAMs_20 02 18 24.2
comp=Z,10µm,21.0s
R32A Long Quarter, 119.15 39 IAMs_20 IAMs_20 02 26 50.7
comp=Z,12µm,20.0s
AMTX Amarillo 119.28 44 IAMs_20 IAMs_20 02 14 05.8
comp=Z,16µm,22.0s
N35A Tabor 119.42 35 IAMs_20 IAMs_20 02 20 41.1
comp=Z,11µm,21.0s
F42A Maple Grove Fa 119.66 26 IAMs_20 IAMs_20 02 30 26.4
comp=Z,15µm,19.0s
AVE Averroes 119.89 315 PP PP 01 31 28.9 -4.2
AVE Averroes 119.89 315 IAMs_20 IAMs_20 02 29 28.8
comp=Z,11µm,21.0s
SCIA State Center 120.03 32 IAMs_20 IAMs_20 02 21 33.2
comp=Z,13µm,21.0s
TORD Torodi Ar. Bea 120.51 290 **PKPdf 01 30 09.6 -1.9**
TORD Torodi Ar. Bea 120.51 290 PKP **PKPdf 01 30 10.7 -0.8**
comp=Z,8.2nm,0.7s,baz=89,slow=2.8,SNR=3.7
I42A Draeger Farm, 120.74 28 IAMs_20 IAMs_20 02 29 46.3
comp=Z,14µm,21.0s
TXAR Lajitas Array 120.74 50 **PKPdf 01 30 10.8 -0.9**
TXAR Lajitas Array 120.74 50 PKP **PKiKP 01 30 12.1 +0.2**
comp=Z,3.6nm,0.9s,baz=219,slow=0.8,SNR=7.8
TXAR PKKPbc **PKKPbc 01 40 16.2 -0.4**
comp=Z,4.2nm,1.0s,baz=111,slow=5.5,SNR=11
N38A Joes South For 120.80 33 IAMs_20 IAMs_20 02 25 17.6
comp=Z,11µm,20.0s
L40A Anamosa 120.97 31 IAMs_20 IAMs_20 02 33 03.6
comp=Z,13µm,20.0s
TIO Tiouine 121.03 312 PP PP 01 31 40.4 -0.8
WMOK Wichita Mounta 121.32 42 IAMs_20 IAMs_20 02 15 40.6
comp=Z,13µm,21.0s
P38A Dawn 121.44 35 IAMs_20 IAMs_20 02 26 43.7
comp=Z,12µm,22.0s
T35A Sooner Cattle 121.45 39 IAMs_20 IAMs_20 02 29 14.7
comp=Z,14µm,20.0s
OK051 E0350 and S346 121.51 39 IAMs_20 IAMs_20 02 14 38.2
comp=Z,14µm,22.0s
L42A Oliver, Polo 121.80 30 IAMs_20 IAMs_20 02 23 27.5
comp=Z,14µm,21.0s
OK052 Battle Ridge R 121.85 40 IAMs_20 IAMs_20 02 17 22.2
comp=Z,14µm,20.0s
PMSA Palmer Station 121.87 175 IAMs_20 IAMs_20 02 28 45.4
comp=Z,9µm,19.0s
K43A Burlington 121.92 29 IAMs_20 IAMs_20 02 26 12.6
comp=Z,16µm,20.0s
ABTX Abilene, Hawle 121.95 45 IAMs_20 IAMs_20 02 22 17.6
comp=Z,13µm,21.0s
N41A Harden Midland 122.14 32 IAMs_20 IAMs_20 02 26 25.7
comp=Z,12µm,20.0s
P40A Paris 122.33 34 IAMs_20 IAMs_20 02 32 37.2
comp=Z,14µm,21.0s
L44A Lake County Fo 122.52 29 IAMs_20 IAMs_20 02 26 29.5
comp=Z,14µm,20.0s
TUL3 Leonard 122.54 39 IAMs_20 IAMs_20 02 16 06.4
comp=Z,12µm,20.0s
JCT Junction City 123.02 47 IAMs_20 IAMs_20 02 32 29.3
comp=Z,12µm,20.0s
R40A Maddies Statio 123.07 35 IAMs_20 IAMs_20 02 33 00.9
comp=Z,12µm,21.0s
Z35A Perchaven, San 123.17 43 IAMs_20 IAMs_20 02 28 50.8
comp=Z,12µm,21.0s
P43A Skaggs, Pawnee 123.61 32 IAMs_20 IAMs_20 02 33 06.8
comp=Z,13µm,20.0s
CCM Cathedral Cave 123.81 34 **PKPdf 01 30 16.9 -0.3**
CCM Cathedral Cave 123.81 34 IAMs_20 IAMs_20 02 35 16.1
comp=Z,13µm,20.0s
SFIN Lafayette 124.29 30 IAMs_20 IAMs_20 02 27 48.5
comp=Z,16µm,22.0s
Q44A Meyer Farm, Va 124.42 32 IAMs_20 IAMs_20 02 26 33.2
comp=Z,14µm,22.0s
Z38A Mt. Pleasant 124.72 41 IAMs_20 IAMs_20 02 36 06.5
comp=Z,11µm,20.0s
MIAR Mount Ida 124.80 39 IAMs_20 IAMs_20 02 30 30.4
comp=Z,14µm,20.0s
P46A Rosedale 124.82 30 IAMs_20 IAMs_20 02 27 57.5
comp=Z,13µm,21.0s
S44A Carbondale 125.17 33 IAMs_20 IAMs_20 02 28 27.3
comp=Z,12µm,20.0s
735A Kenedy 125.36 47 IAMs_20 IAMs_20 02 28 04.4
comp=Z,14µm,20.0s
LONY Lake Ozonia 125.67 17 IAMs_20 IAMs_20 02 29 15.5
comp=Z,16µm,22.0s
P48A Milroy 125.82 29 IAMs_20 IAMs_20 02 33 47.8
comp=Z,15µm,20.0s
J55A Hilton 125.83 21 IAMs_20 IAMs_20 02 27 54.2
comp=Z,15µm,20.0s
T45A Paducah 126.00 33 IAMs_20 IAMs_20 02 29 02.2
comp=Z,13µm,20.0s
ERPA Erie 126.02 23 IAMs_20 IAMs_20 02 32 30.5
comp=Z,15µm,20.0s
PMPST Porto Santo, M 126.03 320 *e*PP **PP 01 32 18.0 +3.6**
G62A West of Eustis 126.20 14 IAMs_20 IAMs_20 02 28 33.0
comp=Z,16µm,21.0s
WCI Wyandotte Cave 126.34 31 **PKPdf 01 30 21.7 -0.3**
WCI Wyandotte Cave 126.34 31 IAMs_20 IAMs_20 02 26 34.8
comp=Z,15µm,20.0s
PMAR Madeira 126.63 320 *e*PKPdf **PKiKP 01 30 24.2 +0.6**
PMAR *e*PP **PP 01 32 21.0 +2.3**
PMOZ Porto Moniz, M 126.75 320 *e*PP **PP 01 32 22.1 +2.8**
PMOZ *e*SS SS 01 49 31.6 +6.7
PMOZ *e*LR LR 02 12 46.8
PMOZ *i* IAMs_20 IAMs_20 02 33 41.4
comp=Z,9µm,18.0s
K57A Scipio Center 126.75 20 IAMs_20 IAMs_20 02 28 50.4
comp=Z,14µm,21.0s
R49A Shelbyville 126.85 30 IAMs_20 IAMs_20 02 34 14.2
comp=Z,10µm,19.0s
T47A Sharon Grove 126.85 32 IAMs_20 IAMs_20 02 33 37.6
comp=Z,14µm,21.0s
HNH Hanover 127.16 16 IAMs_20 IAMs_20 02 27 24.8
comp=Z,15µm,21.0s
I62A Tamworth 127.26 15 IAMs_20 IAMs_20 02 29 26.3
comp=Z,14µm,22.0s
OXF Oxford 127.36 36 IAMs_20 IAMs_20 02 28 04.5
comp=Z,13µm,21.0s
BINY Binghamton 127.41 20 IAMs_20 IAMs_20 02 33 34.7
comp=Z,14µm,20.0s
J61A Chester 127.42 16 IAMs_20 IAMs_20 02 26 45.7
comp=Z,13µm,22.0s
441A DeRidder 127.48 42 IAMs_20 IAMs_20 02 30 25.7
comp=Z,12µm,20.0s
TRY Troy 127.67 18 IAMs_20 IAMs_20 02 29 12.3
comp=Z,13µm,21.0s
Q52A Bidwell 127.69 27 IAMs_20 IAMs_20 02 28 06.2
comp=Z,14µm,21.0s
Y45A Yeager Farm, C 127.73 37 IAMs_20 IAMs_20 02 21 17.5
comp=Z,12µm,21.0s
M57A Sunshine Farm, 127.77 21 IAMs_20 IAMs_20 02 32 03.5
comp=Z,15µm,21.0s
PLAL Pickwick Lake 127.79 35 IAMs_20 IAMs_20 02 36 06.8
comp=Z,14µm,21.0s
U49A Red Boiling Sp 127.91 32 IAMs_20 IAMs_20 02 30 13.5
comp=Z,14µm,21.0s
V48A Smith Brothers 127.93 33 IAMs_20 IAMs_20 02 33 33.3
comp=Z,13µm,21.0s
T50A Nancy 128.00 31 IAMs_20 IAMs_20 02 34 18.8
comp=Z,14µm,20.0s
SSPA Standing Stone 128.10 22 PKPdf **PKPdf 01 30 25.1 -0.3**
K62A Royalston 128.14 16 IAMs_20 IAMs_20 02 36 24.7
comp=Z,12µm,20.0s
L61B Northampton 128.21 17 IAMs_20 IAMs_20 02 27 00.7
comp=Z,16µm,22.0s
VBMS Vicksburg 128.26 39 IAMs_20 IAMs_20 02 19 59.8
comp=Z,13µm,22.0s
DBIC Dimbokro 128.44 284 PKP **PKPdf 01 30 25.6 -1.1**
comp=Z,22nm,0.9s,baz=83,slow=2.0,SNR=6.5
DBIC Dimbokro 128.44 284 PKP **PKPdf 01 30 25.3 -1.4**
X48A Hartselle 128.76 34 IAMs_20 IAMs_20 02 34 10.4
comp=Z,12µm,20.0s
146A Union 128.87 38 IAMs_20 IAMs_20 02 21 37.9
comp=Z,15µm,21.0s
Q56A Snyder Ridge, 128.96 24 IAMs_20 IAMs_20 02 29 12.3
comp=Z,15µm,22.0s
Z47A Carrollton 129.07 36 IAMs_20 IAMs_20 02 22 30.9
comp=Z,15µm,21.0s
WSPT Westport, CT 129.19 18 IAMs_20 IAMs_20 02 32 16.7
comp=Z,14µm,21.0s
M63A Gales Ferry 129.36 17 IAMs_20 IAMs_20 02 30 32.0
comp=Z,14µm,21.0s
346A Big Creek Wild 129.48 39 IAMs_20 IAMs_20 02 20 26.2
comp=Z,11µm,21.0s
LRAL Lakeview Retre 129.81 36 IAMs_20 IAMs_20 02 23 19.4
comp=Z,13µm,21.0s
X51A Calhoun 129.87 33 IAMs_20 IAMs_20 02 36 23.7
comp=Z,11µm,20.0s
P61A Hammonton 130.07 20 IAMs_20 IAMs_20 02 37 41.2

comp=Z,13μm,21.0s
USHA Ushuaia 130.97 170 PKP **PKiKP 01 30 31.9 +0.6**
comp=Z,31nm,0.9s,baz=203,slow=0.7,SNR=5.6
SHEL Horse Pasture 131.25 255 IAMs_20 IAMs_20 02 27 11.4
comp=Z,12μm,20.0s
152A Waverly Hall 131.38 34 IAMs_20 IAMs_20 02 35 53.7
comp=Z,14μm,20.0s
352A Blakely 132.14 35 IAMs_20 IAMs_20 02 38 52.7
comp=Z,13μm,20.0s
451A Vernon 132.29 37 IAMs_20 IAMs_20 02 38 12.4
comp=Z,13μm,20.0s
TIGA Tifton 132.93 34 IAMs_20 IAMs_20 02 32 29.9
comp=Z,12μm,20.0s
MG05 Puerto Natales 133.03 165 IAMs_20 IAMs_20 02 24 08.2
comp=Z,9μm,22.0s
553A Crawfordville 133.38 36 IAMs_20 IAMs_20 02 39 38.0
comp=Z,14μm,21.0s
GO09 Cerro Castillo 133.44 165 IAMs_20 IAMs_20 02 24 30.2
comp=Z,9μm,22.0s
AY03 Cochrane 137.00 162 IAMs_20 IAMs_20 02 29 51.6
comp=Z,11μm,20.0s
TEIG Tepich 137.39 50 IAMs_20 IAMs_20 02 24 03.4
comp=Z,9μm,22.0s
060A Indiantown 138.10 35 IAMs_20 IAMs_20 02 37 21.9
comp=Z,12μm,21.0s
COYC Coyhaique 138.66 162 IAMs_20 IAMs_20 02 25 57.6
comp=Z,10μm,22.0s
SOR Soroa 139.54 42 *i P* **PKiKP 01 30 49.9 +0.3**
SOR IAmb IAmb 01 30 52.9
comp=Z,54nm,1.0s
SOR *eS* PP 01 33 30.7 -10
BBSR BB Station 139.79 13 IAMs_20 IAMs_20 02 36 02.8
comp=Z,9μm,20.0s
GO07 Milladeo Hill, 140.28 158 IAMs_20 IAMs_20 02 28 51.9
comp=Z,11μm,22.0s
CAMR Camarioca 140.42 40 *eP* **PKPdf 01 30 49.0 +0.2**
LL02 Futaleuf 140.86 160 IAMs_20 IAMs_20 02 31 17.9
comp=Z,9μm,20.0s
LL01 San Ignacio de 141.38 159 IAMs_20 IAMs_20 02 31 47.8
comp=Z,10μm,22.0s
TGUH Tegucigalpa,Un 141.57 57 IAMs_20 IAMs_20 02 31 18.2
comp=Z,9μm,22.0s
LL05 Los Muermos 141.82 157 IAMs_20 IAMs_20 02 26 42.9
comp=Z,8μm,21.0s
CAIB Caibarien 142.04 39 *eP* PKPpre 01 30 42.3
SACV Santiago Islan 142.25 305 IAMs_20 IAMs_20 02 46 40.1
comp=Z,9μm,18.0s
CNGN Cerro Negro 142.83 59 *eP* PKPpre 01 30 49.2
PLCA Paso Flores 143.48 160 PKP **PKPdf 01 30 53.3 -0.7**
comp=Z,7.3nm,0.7s,baz=185,slow=4.2,SNR=9.3
PLCA Paso Flores 143.48 160 *eP* **PKPdf 01 30 52.6 -1.3**
PLCA Paso Flores 143.48 160 PKP PKPbc 01 30 51.2 0.0
LR03 Panguipulli 143.78 157 IAMs_20 IAMs_20 02 33 35.8
comp=Z,9μm,21.0s
PAYG Puerto Ayora 144.01 82 IAMs_20 IAMs_20 02 25 43.3
comp=Z,9μm,20.0s
CCCC Cccc 144.05 38 *eP* **PKPab 01 30 51.3 -1.5**
CARN Rivas 144.47 60 *eP* **PKPab 01 30 54.4 -0.2**
ELI1 Hacienda Flor 144.71 61 *eP* **PKPdf 01 30 56.7 0.0**
ALIBA Liberia Airpor 144.74 61 *eP* **PKPab 01 30 54.6 -0.9**
LAPC Finca la Perla 144.75 60 *eP* **PKPdf 01 30 56.3 -0.5**
BUAI Buenos Aires 144.79 60 *eP* **PKPab 01 30 55.8 0.0**
VRLE La Escondida, 144.80 60 *eP* **PKPab 01 30 54.8 -1.1**
VORI VORI 144.80 60 *eP* **PKPab 01 30 54.5 -1.5**
JUD3 Juan Diaz 3 144.94 61 *eP* **PKPab 01 30 55.9 -0.5**
MESS Mesas 144.97 60 *eP* **PKPab 01 30 55.8 -0.7**
HORNC Hornillas 145.00 60 *eP* PKPbc 01 30 56.9 +0.3
VMAR Armenia, Volca 145.00 60 *eP* **PKPab 01 30 55.4 -1.2**
PLVR Palo Verde 145.02 61 *eP* **PKPdf 01 30 59.0 +1.6**
CUI Cuipilapa 145.03 60 *eP* **PKPbc 01 30 55.5 -1.2**
NICO Nicoya 145.04 61 *eP* **PKPdf 01 30 58.3 +1.1**
MOTZ Rio Naranjo 145.10 60 *eP* **PKPdf 01 30 58.2 +0.8**
INVE Universidad In 145.21 61 *eP* **PKPdf 01 30 57.9 +0.3**
NYURE Nandayure 145.27 61 *eP* **PKPdf 01 30 58.7 +1.0**
QUEB Quebradon, Cot 145.28 60 *eP* **PKPbc 01 30 56.7 -0.8**
TILA Tilaran 145.29 60 *eP* **PKPdf 01 30 59.6 +1.8**
HLGC Holguin 145.32 37 *eP* **PKPbc 01 30 53.5 -3.9**
LMGC Las Mercedes 145.37 39 *eP* **PKPbc 01 30 54.2 -3.3**
JUNT Juntas 145.39 61 *eP* **PKPab 01 30 59.6 +1.7**
JTS Las Juntas de 145.39 61 *eP* **PKPbc 01 30 56.0 -1.8**
TABAC Tabacon 145.45 60 *eP* **PKPab 01 30 59.0 +0.8**
JCR1 Jicaral 145.46 62 *eP* **PKPab 01 30 58.5 +0.2**
MTEVE Monteverde 145.49 61 *eP* **PKPab 01 30 59.6 +1.1**
ARE1 Arenal 1 145.51 60 *eP* **PKPab 01 30 58.7 +0.3**
CASO Castillo 145.51 60 *eP* **PKPdf 01 30 55.2 -3.0**
VARE2 V. Arenal 145.51 60 *eP* **PKPab 01 30 58.5 0.0**
CEDE Laguna Cedeo 145.51 60 *eP* **PKPdf 01 30 56.9 -1.3**
VACR Volcan Arenal 145.54 60 *eP* **PKPab 01 30 59.0 +0.5**
FORC Fortuna 145.55 60 *eP* **PKPab 01 30 59.6 +1.1**
CBL1 Cabuya 145.60 62 *eP* **PKiKP 01 30 00.7 -1.6**
PAQE Paquera 145.63 61 *eP* **PKiKP 01 31 01.3 -1.0**
SOCE Pocosol 145.64 60 *eP* **PKPab 01 31 00.1 +1.2**
PINC Pinares de May 145.79 37 *i P* **PKPab 01 30 59.7 +0.5**
CHIV Chivirico 145.80 38 *eP* **PKPdf 01 30 56.4 -2.0**
BI05 Punta Hualpn 145.86 153 IAMs_20 IAMs_20 02 40 34.3
comp=Z,8μm,19.0s
VPL2 V. Platanar 145.88 60 *eP* **PKPbc 01 30 59.5 0.0**
VPL1 V. Platanar 145.92 60 *eP* **PKPdf 01 30 58.7 -0.4**
VPS8 V Poas 146.06 60 *eP* **PKPab 01 31 01.4 +0.6**
MARVS Santiago de Cu 146.10 38 *eP* **PKPdf 01 30 55.7 -3.2**
MOAC Moa 146.15 36 *eP* **PKPdf 01 30 58.9 -0.1**
NMDO Nuevo Mundo 146.21 36 *eP* **PKPbc 01 30 59.7 -0.4**
VBV1 V. Barva 146.21 60 *eP* **PKPdf 01 30 59.2 -0.5**
RCC Rio Carpintero 146.23 37 *i P* **PKPdf 01 30 57.2 -2.0**
HDC Heredia 146.25 60 *eP* **PKPbc 01 31 00.9 +0.3**
PAR1A Puntarenas Pro 146.33 61 *eP* **PKiKP 01 31 02.9 -0.8**
LUJA Lujan 146.33 61 *eP* **PKiKP 01 31 03.5 -0.4**
ECI Escuela Centro 146.34 60 *eP* **PKPab 01 31 02.6 +0.9**
PICV PH. Pirrs 146.36 61 *eP* **PKiKP 01 31 02.8 -1.1**
MTDJ Mount Denham 146.38 42 IAMs_20 IAMs_20 02 47 45.5
comp=Z,12μm,21.0s
MTDJ Mount Denham 146.38 42 ||*iP* **PKPab 01 31 02.4 +0.8**
MTDJ Mount Denham 146.38 42 *eP* **PKPbc 01 31 00.8 0.0**
CVIMO Finca Echandi 146.39 60 *eP* **PKPab 01 31 03.0 +1.1**
PILE Guapiles 146.43 60 *eP* **PKPab 01 31 02.8 +0.9**
MCJ Malvern 146.49 42 *i P* **PKiKP 01 31 04.4 +0.3**
VICA Volcano Irazu 146.50 60 *eP* **PKPab 01 31 03.0 +0.4**
CVTQ Turrialba Volc 146.55 60 *eP* **PKPdf 01 31 00.3 0.0**
VTR0 Volcan Turrial 146.55 60 *eP* **PKPbc 01 31 01.4 -0.5**
CVTV Tajo 146.57 60 *eP* **PKPdf 01 31 00.9 +0.6**
PIEC Cerro El Cedra 146.57 61 *eP* **PKPab 01 31 02.9 +0.2**
QMBU Quimbuelo 146.59 36 *i P* **PKPbc 01 31 00.7 -0.6**
EGUB Earth Gupi 146.60 60 *eP* **PKPbc 01 31 00.9 -0.5**
GTBY Guantanamo Bay 146.63 37 IAMs_20 IAMs_20 02 48 19.4
comp=Z,9μm,21.0s
GTBY Guantanamo Bay 146.63 37 *eP* **PKPdf 01 30 56.5 -3.4**
VERB Verbena 146.64 60 *eP* **PKPab 01 31 03.0 +0.2**
RESJ San Isidro (Tu 146.65 60 *eP* **PKPbc 01 31 01.4 -0.3**
RVLA Villa Bonita 146.66 60 *eP* **PKiKP 01 31 05.7 +1.3**
LCOCO El Coco 146.69 60 *eP* **PKPab 01 31 02.8 -0.1**
BI02 San Fabin de 146.76 155 IAMs_20 IAMs_20 02 39 22.5
comp=Z,8μm,20.0s
BUS1 Rivas 146.78 61 *eP* **PKPdf 01 31 01.4 +0.5**
MASC Masc 146.94 35 *eP* **PKPbc 01 31 02.6 +0.4**
STH Stony Hill 146.96 41 *i P* **PKPbc 01 31 02.7 +0.3**
GWJ Greenwich 147.01 41 ||*iP* **PKPbc 01 31 02.5 -0.2**
HOJ Hope 147.05 41 *i P* **PKiKP 01 31 04.9 -0.2**
VERH Veragua Rainfo 147.09 60 *eP* **PKPbc 01 31 03.6 +0.7**
LAES El Progreso Va 147.29 60 *eP* **PKPdf 01 30 59.2 -1.9**
DRK0 Durika 147.36 61 *eP* **PKPdf 01 31 02.2 +0.8**
PIRO Carate, Puerto 147.68 62 *eP* **PKPbc 01 31 05.3 +0.8**
ALCO Alturas Coton, 147.86 61 *eP* **PKPdf 01 30 60.0 -2.3**
NELY Ciudad Neily 147.91 62 *eP* **PKiKP 01 31 07.0 0.0**
DMCAL E. de Neily 148.03 61 *eP* **PKPbc 01 31 04.8 -0.7**
BRU2 Volcan 148.06 61 **PKPdf 01 31 02.0 -0.6**
BRU2 Volcan 148.06 61 *eP* **PKPdf 01 31 01.8 -0.9**
LMNES Limones 148.24 62 *eP* **PKPdf 01 31 02.7 0.0**
JEFFS S de V. Baru 148.26 61 *eP* **PKiKP 01 31 07.5 -0.4**
BQTLY Boquete Panama 148.28 61 *eP* **PKPbc 01 31 06.8 +0.5**
WILLF Boquete 148.30 61 *eP* **PKPbc 01 31 06.8 +0.4**
TRQA Tornquist 148.31 169 PKPdf **PKPdf 01 31 01.8 -0.4**
TRQA IAMs_20 IAMs_20 02 35 37.0
comp=Z,12μm,22.0s
TRQA Tornquist 148.31 169 PKP **PKPdf 01 31 02.3 +0.1**
BO02 Sierra Bellavi 148.56 154 IAMs_20 IAMs_20 02 36 39.4
comp=Z,9μm,21.0s
BO02 Sierra Bellavi 148.56 154 *i P* **PKPbc 01 31 07.0 +0.6**
BO01 Tunca 148.77 153 IAMs_20 IAMs_20 02 28 52.0
comp=Z,8μm,22.0s
BO01 Tunca 148.77 153 *i P* **PKPbc 01 31 06.8 0.0**
MT01 Popeta 149.14 153 *i P* **PKPbc 01 31 05.9 -1.9**
BO04 La Punta 149.32 154 IAMs_20 IAMs_20 02 40 45.5
comp=Z,7μm,19.0s
MT09 Talagante 149.33 153 IAMs_20 IAMs_20 02 48 02.8
comp=Z,6μm,18.0s
RFA San Rafael 149.53 157 *i P* **PKPbc 01 31 08.8 0.0**
LMEL Las Melosas 149.62 154 IAMs_20 IAMs_20 02 36 38.3
comp=Z,8μm,21.0s
VA01 Torpederas 149.65 151 IAMs_20 IAMs_20 02 37 13.6
comp=Z,9μm,21.0s
MT02 Curacav 149.69 152 IAMs_20 IAMs_20 02 42 51.5
comp=Z,7μm,19.0s
MT02 Curacav 149.69 152 *i P* **PKPbc 01 31 07.5 -1.7**
MT05 Renca 149.76 153 IAMs_20 IAMs_20 02 53 23.4
comp=Z,7μm,20.0s
MT03 Universidad Ad 149.78 153 IAMs_20 IAMs_20 02 39 37.8
comp=Z,7μm,20.0s
GMAL Guarumal, Vera 149.82 62 *eP* **PKPdf 01 31 04.0 -1.3**
PEL Peldehue 150.00 153 IAMs_20 IAMs_20 02 36 49.7
comp=Z,7μm,22.0s
MT08 Bocatoma Ro 150.04 154 IAMs_20 IAMs_20 02 48 52.1
comp=Z,7μm,19.0s
BCIP Isla Barro Col 150.32 58 IAMs_20 IAMs_20 02 50 19.4
comp=Z,7μm,20.0s
BCIP Isla Barro Col 150.32 58 *eP* **PKPdf 01 31 02.0 -4.0**
VA03 San Esteban 150.38 152 IAMs_20 IAMs_20 02 37 48.6
comp=Z,9μm,22.0s
VA03 San Esteban 150.38 152 *i P* **PKPbc 01 31 11.0 0.0**
AZU Azuero 150.64 61 *eP* **PKPdf 01 31 06.0 -0.5**
CAZU Cerro Azul, Pa 150.64 57 *eP* **PKPdf 01 31 05.3 -1.4**
CO02 Combarbal 151.44 150 IAMs_20 IAMs_20 02 44 24.3
comp=Z,8μm,19.0s
CO02 Combarbal 151.44 150 *i P* **PKPbc 01 31 13.3 -0.3**
CO06 Fray Jorge 151.54 148 IAMs_20 IAMs_20 02 32 46.2
comp=Z,8μm,21.0s
ACAN Cantantal 152.23 157 *i P* **PKPbc 01 31 14.4 -0.8**
CO05 La Serena 152.35 148 IAMs_20 IAMs_20 02 38 51.6
comp=Z,7μm,20.0s
GO04 Tololo Observa 152.38 149 IAMs_20 IAMs_20 02 40 03.0
comp=Z,10μm,19.0s
GO04 Tololo Observa 152.38 149 *i P* **PKPbc 01 31 15.4 -0.5**
CFA Coronel Fontan 152.39 155 PKPbc **PKPbc 01 31 12.8 -2.8**
comp=Z,12nm,0.6s,baz=217,slow=2.1,SNR=25
CFA Coronel Fontan 152.39 155 *i P* **PKPbc 01 31 14.9 -0.7**
SJG San Juan 152.70 24 PKPdf **PKPdf 01 31 08.2 -1.3**
CO01 Juntas del Tor 152.89 150 IAMs_20 IAMs_20 02 51 25.7
comp=Z,10μm,22.0s
AROD Rodeo 153.04 151 *i P* **PKPbc 01 31 16.9 -0.6**
LCO Las Campanas 153.35 148 PKPdf **PKPdf 01 31 09.1 -1.5**
LCO Las Campanas 153.35 148 *i P* **PKiKP 01 31 19.6 +1.3**
ACHE Chepes 153.42 157 *i P* **PKiKP 01 31 18.4 +0.2**
AVFE Valle Fertil 153.54 155 *i P* **PKiKP 01 31 18.7 +0.3**
AGUA GUANDACOL 154.08 152 *i P* **PKiKP 01 31 20.9 +1.3**
SEUS St. Eustatius 154.41 18 IAMs_20 IAMs_20 02 40 31.5
comp=Z,10μm,22.0s
ANWB Willy Bob 154.60 16 IAMs_20 IAMs_20 02 41 12.1
comp=Z,12μm,22.0s
GO03 Copiapo 154.72 146 IAMs_20 IAMs_20 02 34 16.9
comp=Z,7μm,20.0s
AC06 Mina Casimiro 154.84 146 IAMs_20 IAMs_20 02 38 11.1
comp=Z,7μm,20.0s
PLTB Pedras Altas 155.26 182 PKP **PKPdf 01 31 14.5 +1.7**
OTAV Otavalo 155.30 74 IAMs_20 IAMs_20 02 29 10.9
comp=Z,9μm,22.0s
OTAV Otavalo 155.30 74 PKP **PKPdf 01 31 15.2 +1.3**
AC01 Pan de Azucar 155.62 143 IAMs_20 IAMs_20 02 35 38.2
comp=Z,7μm,21.0s
ABD La Joyeuse, An 155.82 16 IAMs_20 IAMs_20 02 50 33.4
comp=Z,11μm,22.0s
AC02 Maricunga 155.92 147 IAMs_20 IAMs_20 02 36 24.6
comp=Z,10μm,22.0s
MAGL Barre de l'ile 156.37 16 IAMs_20 IAMs_20 02 46 08.2
comp=Z,10μm,22.0s
CPSB Cacapava Do Su 156.60 183 PKP **PKPdf 01 31 15.4 +0.8**
PB14 IPOC Station P 156.86 141 PKP **PKPdf 01 31 13.8 -1.7**
PB14 IPOC Station P 156.86 141 IAMs_20 IAMs_20 02 51 05.5
comp=Z,6μm,20.0s
GO02 Mina Guanaco 156.96 144 IAMs_20 IAMs_20 02 43 42.6
comp=Z,9μm,22.0s
ROSC El Rosal 157.23 60 PKP **PKPdf 01 31 17.2 +0.9**
comp=Z,30nm,0.9s,baz=326,slow=5.8,SNR=16
CNLB Canela 157.42 189 PKP **PKPdf 01 31 16.0 +0.3**
SVN Savane Anatole 157.46 16 IAMs_20 IAMs_20 02 55 27.1
comp=Z,9μm,21.0s
ILAM Ilet Lapin Mar 157.60 16 IAMs_20 IAMs_20 02 51 41.8
comp=Z,10μm,21.0s
NNA Nana 157.63 105 IAMs_20 IAMs_20 02 27 52.7
comp=Z,9μm,22.0s
SDV Santo Domingo 157.69 45 PKP **PKPdf 01 31 15.8 -0.9**
BIM Bigot 157.80 16 IAMs_20 IAMs_20 02 43 56.9
comp=Z,10μm,22.0s
PB06 IPOC Station P 158.77 139 IAMs_20 IAMs_20 02 54 45.3
comp=Z,7μm,21.0s
MAJ01 Sao Joao Batis 158.92 194 PKP **PKPdf 01 31 20.2 +2.6**
AF01 San Pedro de A 159.47 142 IAMs_20 IAMs_20 02 41 34.1
comp=Z,8μm,21.0s
PB02 IPOC Station P 159.51 136 IAMs_20 IAMs_20 02 37 13.4
comp=Z,8μm,22.0s
PB09 IPOC Station P 159.63 138 IAMs_20 IAMs_20 02 39 25.1
comp=Z,8μm,21.0s
PATCX Punta Patache 159.66 134 IAMs_20 IAMs_20 02 41 36.5
comp=Z,6μm,20.0s
TA01 Diego Aracena 159.80 134 IAMs_20 IAMs_20 02 42 20.5
comp=Z,6μm,20.0s
GRGR Grenville 159.86 20 IAMs_20 IAMs_20 02 42 22.2
comp=Z,9μm,22.0s
CAM01 Campos-RJ 160.53 219 PKP **PKPdf 01 31 19.4 -0.1**
CPUP Villa Florida 160.54 173 **PKPdf 01 31 17.7 -1.7**
CPUP Villa Florida 160.54 173 PKP **PKPdf 01 31 19.9 +0.5**
comp=Z,6.3nm,1.0s,baz=297,slow=1.3,SNR=20
CPUP PKPab **PKPab 01 32 03.0 +2.5**
comp=Z,3.8nm,1.0s,baz=50,slow=0.7,SNR=4.9
CPUP Villa Florida 160.54 173 PKP **PKPdf 01 31 20.0 +0.6**
NBPV Pedro Velho 160.68 270 PKP **PKPdf 01 31 20.1 +0.2**
DUB01 Friburgo-RJ 160.78 217 PKP **PKPdf 01 31 20.5 +0.6**
PB08 IPOC Station P 160.81 135 PKP **PKPdf 01 31 20.4 +0.1**
ABR01 Abrolhos, BA 160.89 233 PKP **PKPdf 01 31 21.4 +1.4**
TIJ01 Guaruva-PR 160.90 196 PKP **PKPdf 01 31 21.0 +1.0**
VAS01 Vassouras-RJ 161.24 214 PKP **PKPdf 01 31 21.4 +1.1**
RCBR Riachuelo 161.25 272 PKP **PKPdf 01 31 20.4 -0.2**
PET01 Itanhaem-SP 161.30 202 PKP **PKPdf 01 31 20.5 +0.2**
NBCA Caruaru-PE 161.40 265 PKP **PKPdf 01 31 21.7 +0.9**
PARB Paraibuna 161.47 207 PKP **PKPdf 01 31 21.1 +0.5**
NBAN Anadia - AL 161.53 260 PKP **PKPdf 01 31 21.2 +0.3**
PTGB Pitanga 162.12 188 PKP **PKPdf 01 31 22.3 +1.1**
VABB Valinhos 162.35 204 PKP **PKPdf 01 31 22.6 +1.1**
SJMB Sao Joao De Ma 162.36 227 PKP **PKPdf 01 31 21.4 -0.2**
NBPA Parau_RN 162.44 273 PKP **PKPdf 01 31 21.8 0.0**
GUA01 Guaratinga, BA 162.52 235 PKP **PKPdf 01 31 21.8 0.0**
NBLA Lagarto - SE 162.78 255 PKP **PKPdf 01 31 21.5 -0.6**
CMC01 Camacan, BA 162.89 239 PKP **PKPdf 01 31 22.1 0.0**
FRTB Fartura 162.93 196 PKP **PKPdf 01 31 22.5 +0.5**
BSCB Bom Sucesso 163.00 214 PKP **PKPdf 01 31 23.4 +1.1**
NBIT Itapeh - BA 163.01 241 PKP **PKPdf 01 31 23.8 +1.6**
LPAZ La Paz 163.92 127 **PKPdf 01 31 22.2 -1.7**
LPAZ La Paz 163.92 127 PKP **PKPdf 01 31 25.0 +1.2**
comp=Z,77nm,1.3s,baz=19,slow=2.3,SNR=23
LPAZ PKPab **PKPab 01 32 15.8 -0.7**
comp=Z,12nm,1.0s,baz=175,slow=4.0,SNR=3.0
LPAZ La Paz 163.92 127 PKP **PKPdf 01 31 25.4 +1.6**
NBMA Muriti-CE 164.15 267 PKP **PKPdf 01 31 23.1 -0.3**
ANA01 Lindo Horizont 164.32 240 PKP **PKPdf 01 31 24.1 +0.5**
DIAM Diamantina, MG 164.38 223 PKP **PKPdf 01 31 23.7 0.0**
BB19B Bebedouro 164.71 203 PKP **PKPdf 01 31 24.0 +0.2**
NBPB Pedra_Branca-C 164.88 274 PKP **PKPdf 01 31 23.7 -0.4**
SBBR Sobral 165.26 282 PKP **PKPdf 01 31 23.1 -1.3**
JQT1 Jequitai-MG 165.58 224 PKP **PKPdf 01 31 24.1 -0.4**
MC01 Montes Claros 165.65 226 PKP **PKPdf 01 31 24.9 +0.3**
PMNB Patos De Minas 165.91 214 PKP **PKPdf 01 31 25.0 +0.1**
SGC2 Sao Gabriel da 166.06 62 PKP **PKPdf 01 31 25.2 +0.2**
AQDB Aquidauana 166.49 176 PKP **PKPdf 01 31 25.1 -0.1**
NBPS Pedro II - PI 166.54 280 PKP **PKPdf 01 31 24.5 -1.0**
ITRB Iturama 166.60 198 PKP **PKPdf 01 31 25.3 0.0**
IPMB Ipameri, GO 167.29 209 PKP **PKPdf 01 31 25.4 -0.5**
ITU3 Corumbazu 167.40 206 PKP **PKPdf 01 31 25.4 -0.6**
BAT3 Ipameri 167.44 213 PKP **PKPdf 01 31 25.7 -0.3**
MDP Montagnes des 167.88 350 PKP **PKPdf 01 31 26.7 +0.4**
comp=Z,14nm,1.0s,baz=312,slow=1.8,SNR=5.1
MDP PKPab **PKPab 01 32 33.3 +0.3**
comp=Z,33nm,1.1s,baz=6.7,slow=6.5,SNR=5.0
C2SB Chapadao do Su 168.18 189 PKP **PKPdf 01 31 27.2 +0.9**
SDBA SAO DESIDERIO 168.88 240 PKP **PKPdf 01 31 27.5 +0.4**
LABB Ljbrea 168.91 103 PKP **PKPdf 01 31 27.3 +0.2**
SIV San Ignacio 169.05 146 PKP **PKPdf 01 31 26.4 -0.7**
comp=Z,14nm,1.0s,baz=162,slow=1.6,SNR=25
BOAV Boa Vista 169.09 32 PKP **PKPdf 01 31 27.0 -0.2**
BDFB Brasilia 169.11 217 **PKPdf 01 31 26.9 -0.3**
BDFB PKPab **PKPab 01 32 38.4 -0.2**
BDFB Brasilia 169.11 217 PKP **PKPdf 01 31 27.1 -0.2**
comp=Z,17nm,1.1s,baz=48,slow=5.0,SNR=14
BDFB Brasilia 169.11 217 PKP **PKPdf 01 31 28.0 +0.8**
TEFE Tefe 169.58 72 PKP **PKPdf 01 31 27.4 0.0**
PTLB Pontes e Lacer 170.49 153 PKP **PKPdf 01 31 28.1 +0.2**
SALV Santo Antonio 171.02 174 PKP **PKPdf 01 31 27.4 -0.8**
VILB Vilhena 171.94 139 PKP **PKPdf 01 31 29.5 +0.8**
TMAB Tom-Au,PA,Br 171.99 304 PKP **PKPdf 01 31 28.7 0.0**
MAS01 UHE Manso 172.01 172 PKP **PKPdf 01 31 29.1 +0.4**
PAL2 UHE Estreito - 172.64 271 PKP **PKPdf 01 31 28.5 -0.5**
SMTB Santa Maria do 172.66 254 PKP **PKPdf 01 31 28.3 -0.7**
PAL01 Palmeiras do T 172.87 272 PKP **PKPdf 01 31 28.5 -0.7**
LAJE UHE Lajeado 172.96 244 PKP **PKPdf 01 31 28.0 -1.1**
MACA Manacapuru-AM 173.00 58 PKP **PKPdf 01 31 28.6 -0.6**
SNDB Serra Nova Dou 173.94 214 PKP **PKPdf 01 31 28.9 -0.6**
PDRB Porto dos Gac 174.94 157 PKP **PKPdf 01 31 29.2 -0.7**
PRPB Parauapebas 175.06 278 PKP **PKPdf 01 31 28.9 -1.0**
BMO2 UHE Belo Monte 175.52 322 PKP **PKPdf 01 31 29.4 -0.6**
CLDB Colider 175.93 165 PKP **PKPdf 01 31 29.5 -0.6**
ITTB Itaituba 177.28 21 PKP **PKPdf 01 31 29.8 -0.6**
NPGB Novo Progresso 179.37 102 PKP **PKPdf 01 31 30.0 -0.6**

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*SOME **31** 01:16:30.7, 43.°27N×80.°10E, h15km*
*NNC **31** 01:16:32.5±0.9, 43.°34N×79.°95E, h0km, mb3.8, mpv2.9, Error ellipse: s-maj=6.4km s-min=3.7km az=80.0*
ISC 31 01:16:27.6±3.3, 43.°13N±0.°09×80.°1E±0.°1, h4km±11km, n10, σ1°75/20, 2C, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 31nm,0.1s	**0.46**	**273**	P	**Pg**	**01 16 36.0**	**-0.4**
SHLS	123nm,0.2s			S	**Sg**	**01 16 40.0**	**-2.4**
SHLS	**Shalkode** 31nm,0.1s	**0.46**	**273**	*eP*	**Pg**	**01 16 36.0**	**-0.4**
SHLS	123nm,0.2s			*eS*	**Sg**	**01 16 40.0**	**-2.4**
UZB	**Uzynbulak** 1.4nm,0.1s	**0.78**	**271**	P	**Pn**	**01 16 45.6**	**+0.1**
UZB	4.0nm,0.1s			S	**Sn**	**01 16 56.2**	**-1.4**
UZB	**Uzynbulak** 1.4nm,0.1s	**0.78**	**271**	*eP*	**Pn**	**01 16 45.5**	**+0.1**
UZB	4.0nm,0.1s			*eS*	**Sn**	**01 16 56.2**	**-1.4**
KPKS	**Kokpek** 0.3nm,0.1s	**1.08**	**288**	P	**Pg**	**01 16 50.4**	**+2.2**
KPKS	3.8nm,0.2s			S	**Sb**	**01 17 04.5**	**+1.3**
SATY	**Saty** 5.8nm,0.1s	**1.23**	**267**	P	**Pg**	**01 16 53.8**	**+2.6**
SATY	23nm,0.1s			S	**Sg**	**01 17 10.5**	**+3.2**
KNOS	**Konyrlen** 2.1nm,0.1s	**1.39**	**332**	P	**Pg**	**01 16 54.5**	**+0.3**
KNOS	2.9nm,0.1s			S	**Sn**	**01 17 11.5**	**-1.3**
ARXS	**Arharly** 0.6nm,0.2s	**1.96**	**304**	P	**Pg**	**01 17 05.2**	**0.0**
ARXS	4.7nm,0.3s			S	**Sb**	**01 17 30.2**	**+1.4**
ARXS	**Arharly**	**1.96**	**304**	*eP*	**Pg**	**01 17 05.2**	**0.0**
ARXS				*eS*	**Sb**	**01 17 30.2**	**+1.4**
KNDC	**Almaty** 11nm,0.4s	**2.29**	**273**	⇑Pn	**Pg**	**01 17 09.7**	**-1.6**
KNDC	15nm,0.5s			⇑Sn	**Sb**	**01 17 38.4**	**+0.4**

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*IDC **31** 01:20:56.4±0.8, 6.°93N×125.°16E, h0km, mb4.3/8, mbtmp4.3/8, Error ellipse: s-maj=53.3km s-min=16.8km az=71.0*
*NEIC **31** 01:20:58.7±1.0, 6.°87N±0.°04×125.°16E±0.°05, h10km±1km, mb5.1/16, Error ellipse: s-maj=9.2km s-min=7.1km az=295.0*
ISC 31 01:20:58.4±0.6, 6.°87N±0.°08×125.°13E±0.°09, h13km, n32, σ0°86/34, mb4.7/14, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.49**	**66**	Pg	**Pg**	**01 21 07.7**	**-0.4**
LUWI	**Luwuk**	**8.21**	**197**	Pn	**Pn**	**01 22 58.2**	**+0.9**
SOEI	**Soe**	**16.54**	**183**	Pn	**Pn**	**01 24 50.1**	**-0.4**
SOEI	comp=Z,155nm,1.4s			IAmb	IAmb	01 24 54.5	
KNRA	**Kununurra**	**22.69**	**171**	P	**P**	**01 26 00.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.82**	**179**	P	**P**	**01 26 20.8**	**+0.2**
COEN	**Coen**	**27.37**	**139**	P	**P**	**01 26 43.5**	**-0.2**
WB0	**Warramunga Arr**	**28.00**	**161**	P	**P**	**01 26 49.2**	**-0.1**
WB0	comp=Z,99nm,1.9s			IAmb	IAmb	01 26 53.0	
WRA	**Warramunga Arr**	**28.15**	**161**	P	**P**	**01 26 50.7**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=331,slow=9.9,SNR=3.9 comp=Z,3.3nm,0.8s						
WR8	**Warramunga Arr**	**28.21**	**161**	P	**P**	**01 26 50.8**	**-0.3**
MBWA	**Marble Bar**	**28.36**	**191**	P	**P**	**01 26 52.5**	**+0.1**
PSA00	**Pilbara Seismi**	**28.74**	**190**	P	**P**	**01 26 55.8**	**-0.1**
PSA00	comp=Z,56nm,1.5s			IAmb	IAmb	01 27 01.1	
ASAR	**Alice Springs**	**31.54**	**164**	P	**P**	**01 27 20.2**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=339,slow=6.7,SNR=7.3 comp=Z,1.9nm,0.7s						
FORT	**Forrest**	**37.54**	**176**	P	**P**	**01 28 10.8**	**-1.7**
FORT	comp=Z,25nm,0.9s			IAmb	IAmb	01 28 17.6	
USRK	**Ussuriysk Ar.**	**37.66**	**8**	P	**P**	**01 28 13.5**	**+0.2**
	comp=Z,9.5nm,0.8s,baz=188,slow=7.4,SNR=7.8 comp=Z,9.5nm,0.8s						
BBOO	**Buckleboo**	**40.81**	**166**	P	**P**	**01 28 38.9**	**-0.9**
STKA	**Stephens Creek**	**41.62**	**159**	P	**P**	**01 28 46.0**	**-0.5**
STKA	**Stephens Creek**	**41.62**	**159**	P	**P**	**01 28 47.9**	**+1.5**
	comp=Z,11nm,0.9s,baz=335,slow=11,SNR=4.6 comp=Z,11nm,0.9s						
HYB	**Hyderabad**	**46.61**	**287**	*eP*	**P**	**01 29 27.4**	**+0.5**
HYB	comp=Z,2μm,8.7s			IVmB_BB		01 29 28.2	
HYB				*ep*P	**pP**	**01 29 30.1**	**-0.9**
HYB				*eS*	**S**	**01 36 14.3**	**-1.6**
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**01 30 22.5**	**-0.5**
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**01 30 23.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.4,SNR=3.1 comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**58.25**	**327**	P	**P**	**01 30 51.7**	**

DAV Davao City (W) 0.55 64 Pg **Pg 01 27 43.0 -0.7**
DAV Davao City (W) 0.55 64 Pg **Pg 01 27 43.3 -0.5**
3.3nm,0.3s,baz=301,slow=8.9,SNR=23
DAV Lg Lg 01 27 51.2
9.2nm,0.3s,baz=345,slow=18,SNR=43
SGSI Sangihe 3.15 172 P **Pn 01 28 24.4 +1.9**
KMSI Cibinong 6.31 190 P **Pn 01 29 05.9 0.0**
3.7nm455nm,0.7s
TNTI Ternate 6.43 159 Pn **Pn 01 29 08.0 +0.4**
TNTI Ternate 6.43 159 P **Pn 01 29 10.2 +2.6**
1.5nm85nm,0.6s
MYLDM Lahad Datu 6.75 256 Pn **Pn 01 29 12.9 +0.9**
MRSI Marisa 7.05 207 P **Pn 01 29 17.1 +1.1**
3.1nm242nm,0.9s
TOLI2 Tolitoli 7.12 217 Pn **Pn 01 29 17.9 +0.8**
LUWI Luwuk 8.15 197 Pn **Pn 01 29 32.2 +1.0**
APSI Ampana 8.42 204 P **Pn 01 29 36.3 +1.4**
115nm,0.7s
SANI Sanana 8.87 174 P **Pn 01 29 42.3 +1.3**
86nm,0.7s
NLAI Namlea 10.20 169 P **Pn 01 30 02.1 +2.8**
92nm,0.6s
FAKI Fak Fak 12.04 143 Pn **Pn 01 30 24.8 +0.3**
FAKI Fak Fak 12.04 143 P **Pn 01 30 25.6 +1.1**
SOEI Soe 16.50 183 Pn **Pn 01 31 25.6 +1.1**
SOEI IAmb IAmb 01 31 56.7
comp=Z,46nm,0.9s
BATI Baumata 16.98 185 Pn **Pn 01 31 28.9 -1.7**
comp=Z,5.7nm,0.3s,baz=331,slow=13,SNR=2.0
comp=Z,14nm,0.4s
MTN Manton Dam 20.45 163 P **P 01 32 10.6 +0.2**
MTN IAmb IAmb 01 32 13.3
comp=Z,20nm,0.9s
KNRA Kununurra 22.66 171 P **P 01 32 34.1 -0.1**
FITZ Fitzroy Crossi 24.77 179 P **P 01 32 54.5 -0.2**
COEN Coen 27.36 139 P **P 01 33 16.9 -1.3**
COEN IAmb IAmb 01 33 26.6
comp=Z,36nm,1.5s
CMAR Chiang Mai Arr 27.96 297 P **P 01 33 23.7 +0.1**
comp=Z,1.7nm,0.3s,baz=122,slow=7.1,SNR=7.8
comp=Z,1.7nm,0.3s
WB0 Warramunga Arr 27.97 161 P **P 01 33 22.8 -0.9**
WB0 IAmb IAmb 01 33 36.2
comp=Z,14nm,0.8s
WRA Warramunga Arr 28.12 161 P **P 01 33 23.9 -1.0**
comp=Z,3.2nm,0.5s,baz=330,slow=11,SNR=16
comp=Z,3.2nm,0.5s
KSRS Korea Array 30.59 4 P **P 01 33 48.9 +2.1**
comp=Z,1.5nm,0.7s,baz=190,slow=12,SNR=4.5
comp=Z,1.5nm,0.7s
AS31 Alice Springs 31.51 164 P 01 33 55.7 +0.7
ASAR Alice Springs 31.51 164 P **P 01 33 54.7 -0.3**
ASAR Alice Springs 31.51 164 P **P 01 33 54.2 -0.8**
comp=Z,2.3nm,0.4s,baz=346,slow=7.2,SNR=14
comp=Z,2.3nm,0.4s
MJAR Matsushiro Arr 31.91 20 P **P 01 33 56.7 -1.8**
MJAR Matsushiro Arr 31.91 20 P **P 01 33 59.3 +0.8**
comp=Z,3.0nm,0.7s,baz=186,slow=9.5,SNR=7.9
comp=Z,3.0nm,0.7s
FORT Forrest 37.50 176 P **P 01 34 46.3 -0.5**
FORT IAmb IAmb 01 34 49.5
comp=Z,13nm,0.7s
USRK Ussuriysk Ar. 37.71 8 P **P 01 34 50.8 +2.4**
comp=Z,14nm,0.8s,baz=186,slow=5.9,SNR=9.4
comp=Z,14nm,0.8s
EIDS Eidsvold 40.79 143 P **P 01 35 13.8 -0.6**
STKA Stephens Creek 41.59 159 P **P 01 35 20.7 -0.1**
STKA Stephens Creek 41.59 159 P **P 01 35 21.0 +0.2**
comp=Z,11nm,0.6s,baz=331,slow=8.9,SNR=19
comp=Z,11nm,0.6s
HILR Hailar Array B 42.82 355 P **P 01 35 31.2 +0.5**
comp=Z,2.4nm,0.5s,baz=170,slow=12,SNR=4.1
comp=Z,2.4nm,0.5s
SONM Songino Array 43.86 342 P **P 01 35 38.9 -0.3**
SONM Songino Array 43.86 342 P **P 01 35 39.6 +0.4**
comp=Z,0.4nm,0.3s,baz=152,slow=6.5,SNR=2.8
comp=Z,0.4nm,0.3s
CAN Canberra 47.60 153 P **P 01 36 08.5 -0.3**
MKAR Makanchi Array 54.09 325 P 01 36 58.0 +0.3
MKAR Makanchi Array 54.09 325 P **P 01 36 58.2 +0.5**
comp=Z,1.8nm,0.6s,baz=121,slow=8.1,SNR=18
comp=Z,1.8nm,0.6s
MAKZ Makanchi 54.28 325 P **P 01 36 59.5 +0.4**
TARG Taragay, Kyrgy 54.37 317 P **P 01 37 01.3 +1.0**
TARG IAmb IAmb 01 37 10.0
comp=Z,12nm,1.5s
KURBB Kurchatov Arra 58.27 327 P **P 01 37 27.6 +0.2**
comp=Z,1.7nm,0.2s,baz=124,slow=6.1,SNR=12
comp=Z,1.7nm,0.2s
KURK Kurchatov 58.27 327 P **P 01 37 26.7 -0.7**
KURK IAmb IAmb 01 37 28.3
comp=Z,3.7nm,0.8s
GAR Garm 58.64 312 P **P 01 37 30.8 +0.4**
KK31 Karatay Array 59.87 316 P 01 37 39.0 +0.3
KK31 IAmb IAmb 01 37 39.8
comp=Z,4.7nm,0.9s
BVAR Borovoye Array 63.85 327 P **P 01 38 04.7 -0.5**
comp=Z,2.1nm,0.6s,baz=124,slow=8.0,SNR=8.8
comp=Z,2.1nm,0.6s
ARTI Arti 71.54 327 P **P 01 38 52.1 -1.6**
ARTI IAmb IAmb 01 38 52.3
comp=Z,15nm,1.5s
ARTI Arti 71.54 327 P **P 01 38 52.4 -1.4**
comp=Z,1.8nm,0.4s,baz=349,slow=11,SNR=3.9
comp=Z,1.8nm,0.4s
RAYN Ar Rayn 77.78 293 P **P 01 39 31.0 +0.3**
RAYN IAmb IAmb 01 39 31.6
comp=Z,3.1nm,0.7s
GURO Guroymak-BITLI 80.36 308 P **P 01 39 45.0 +0.3**
GURO IAmb IAmb 01 39 46.1
comp=Z,4.1nm,0.9s
ILAR Eielson Array 83.03 26 P **P 01 39 59.8 +1.8**
comp=Z,1.2nm,0.6s,baz=253,slow=4.3,SNR=4.3
comp=Z,1.2nm,0.6s
FINES FINESS Array B 88.35 332 P **P 01 40 24.0 -0.4**
FINES FINESS Array B 88.35 332 P **P 01 40 21.8 -2.6**
comp=Z,1.7nm,0.8s,baz=91,slow=13,SNR=3.9

IDC 31 01:33:43.3±1.4, 6°.56N×125°.14E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=25.6km s-min=16.5km az=105.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.67**	**40**	Pg	Pg	01 33 55.8	-0.4
	0.2nm,0.3s,baz=223,slow=17,SNR=5.8						
WRA	**Warramunga Arr**	**27.84**	**161**	P	P	01 39 34.1	-0.6
	0.5nm,1.0s,baz=329,slow=10,SNR=2.7						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**31.23**	**164**	P	P	01 40 05.2	+0.4
	0.3nm,0.5s,baz=344,slow=7.4,SNR=4.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.35**	**325**	P	P	01 43 12.5	+0.7
	0.2nm,0.5s,baz=118,slow=7.1,SNR=2.3						
	0.2nm,0.5s						

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*IDC **31** 01:38:27.9±1.1, 6°.70N×125°.00E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=22.8km s-min=16.3km az=139.0*
*NEIC **31** 01:38:29.8±1.1, 6°.74N±0°.04×125°.13E±0°.05, h10km±1km, mb4.5/10, Error ellipse: s-maj=8.4km s-min=6.0km az=301.0*
ISC 31 01:38:32.6±0.7, 6°.80N±0°.09×125°.3E±0°.1, h35km, n19, σ0°.81/20, mb4.3/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.41**	**49**		**Pn**	**01 38 40.5**	**-1.5**
DAV				Sg	**Sn**	**01 38 49.7**	**+1.2**
DAV	**Davao City (W)**	**0.41**	**49**	Pg	**Pn**	**01 38 40.7**	**-1.3**
	0.7nm,0.3s,baz=291,slow=7.8,SNR=15						
KNRA	**Kununurra**	**22.60**	**171**	P	P	**01 43 29.8**	**-0.6**
KNRA				IAmb	IAmb	01 43 45.2	
	comp=Z,38nm,1.5s						
FITZ	**Fitzroy Crossi**	**24.75**	**179**	P	**P**	**01 43 50.1**	**-0.9**
WB0	**Warramunga Arr**	**27.89**	**161**	P	**P**	**01 44 18.6**	**-0.8**
WB0				IAmb	IAmb	01 44 26.2	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**28.04**	**162**	P	**P**	**01 44 20.9**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=330,slow=11,SNR=5.1						
	comp=Z,1.2nm,1.0s						
WR8	**Warramunga Arr**	**28.10**	**161**	P	**P**	**01 44 20.5**	**-0.8**
WR8				IAmb	IAmb	01 44 33.2	
	comp=Z,7.5nm,1.4s						

ASAR	**Alice Springs**	**31.44**	**165**	P	**P**	**01 44 50.4**	**-0.4**
ASAR	**Alice Springs**	**31.44**	**165**	P	**P**	**01 44 51.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=341,slow=8.7,SNR=3.7						
	comp=Z,0.5nm,0.4s						
PATS	**Pohnpei**	**32.81**	**88**	P	**P**	**01 45 03.4**	**+0.4**
BBOO	**Buckleboo**	**40.71**	**166**	P	**P**	**01 46 10.4**	**+0.4**
BBOO				IAmb	IAmb	01 46 17.5	
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**01 47 07.8**	**-0.6**
TOO				IAmb	IAmb	01 47 23.5	
	comp=Z,8.3nm,1.4s						
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**01 47 54.6**	**-0.3**
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**01 47 55.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=112,slow=10,SNR=5.2						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	**P**	**01 48 24.4**	**-0.1**
	comp=Z,0.8nm,0.2s,baz=123,slow=5.9,SNR=5.9						
	comp=Z,0.8nm,0.2s						
KURK	**Kurchatov**	**58.38**	**327**	P	**P**	**01 48 25.1**	**+0.7**
HRA	**Herat**	**63.98**	**305**	P	**P**	**01 49 03.2**	**+0.2**
HRA				IAmb	IAmb	01 49 10.2	
	comp=Z,5.0nm,1.5s						
THZ	**Tophouse**	**65.01**	**142**	P	**P**	**01 49 10.7**	**+1.3**
ABKAR	**Akbulak array**	**68.87**	**320**	P	**P**	**01 49 33.6**	**-0.1**

DJA 31 01:51:38.8±1.0, 7°.7N±16°.×12°.5E±°, h18km±22km, M4.9/7, mb4.8/5, MLv4.9/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.24**	**171**	P	Pn	01 52 28.5	-0.4
SGSI				S	Sn	01 53 07.6	+0.5
MRSI	**Marisa**	**7.09**	**206**	P	Pn	01 53 21.7	0.0
SANI	**Sanana**	**8.95**	**174**	P	Pn	01 53 44.4	-2.9

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*IDC **31** 01:52:09.5±1.0, 2°.57S×138°.23E, h0km, mb3.7/5, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=25.9km s-min=23.2km az=53.0*
ISC 31 01:52:14.4±0.9, 2°.7S±0°.1×138°.24E±0°.10, h35km, n7, σ1°.15/8, mb3.7/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.46**	**87**	Pn	**Pn**	**01 52 50.6**	**-1.5**
	4.4nm,0.3s,baz=219,slow=12,SNR=10						
JAY				Sn	**Sn**	**01 53 22.9**	**+1.8**
	1.4nm,0.3s,baz=168,slow=14,SNR=3.0						
	9.0nm,0.3s						
WRA	**Warramunga Arr**	**17.60**	**192**	P	**Pn**	**01 56 17.3**	**+0.2**
	0.2nm,0.3s,baz=4.9,slow=11,SNR=7.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.30**	**191**	P	**P**	**01 56 58.3**	**0.0**
	1.0nm,0.5s,baz=22,slow=10,SNR=12						
	1.0nm,0.5s						
SONM	**Songino Array**	**57.48**	**335**	P	**P**	**02 01 59.6**	**-0.5**
	0.3nm,0.5s,baz=151,slow=6.3,SNR=2.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.46**	**323**	P	**P**	**02 03 20.1**	**+0.7**
	1.2nm,0.6s,baz=113,slow=8.0,SNR=9.1						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**79.00**	**325**	P	**P**	**02 04 15.1**	**+0.3**
	0.9nm,0.5s,baz=108,slow=7.0,SNR=5.8						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**85.98**	**25**	P	**P**	**02 04 50.8**	**-0.1**
	0.4nm,0.7s,baz=259,slow=5.3,SNR=3.1						
	0.4nm,0.7s						

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*DJA **31** 01:56:12.8±0.7, 8°.5S±3°.×10°.8E±°, h25km±6km, M4.8/32, mbB4.6/1, mb4.8/14, MLv4.8/32, Mw(mB)3.8/1*
*NEIC **31** 01:56:15.5±1.5, 7°.85S±0°.07×108°.44E±0°.07, h87km±6km, mb4.4/13, Error ellipse: s-maj=11.4km s-min=8.7km az=217.0*
*IDC **31** 01:56:16.6±0.9, 7°.75S×108°.44E, h95km±7km, mb4.0/21, mbtmp4.3/22, Error ellipse: s-maj=19.9km s-min=9.9km az=57.0*
ISC 31 01:56:14.2±0.9, 7°.98S±0°.07×108°.25E±0°.05, h77km±7km, n107, σ1°.52/108, mb4.3/28, 5C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.28**	**45**	P	**Pn**	**01 56 23.9**	**-2.1**
BBJI	**Bungbulang**	**0.79**	**311**	P	**Pn**	**01 56 29.9**	**-0.8**
BBJI	**Bungbulang**	**0.79**	**311**	S	**Sn**	**01 56 42.0**	**-0.9**
KPJI	**Karang Pucung**	**0.94**	**46**	P	**Pn**	**01 56 32.5**	**+0.2**
KPJI				S	**Sn**	**01 56 47.3**	**+1.5**
CNJI	**Cibinong**	**1.30**	**301**	P	**Pn**	**01 56 36.1**	**-0.7**
LEM	**Lembang**	**1.31**	**331**	P	**Pn**	**01 56 38.9**	**+1.8**
	3μm,0.4s,baz=128,slow=6.2,SNR=250						
LEM				S	**Sn**	**01 56 56.8**	**+2.5**
	1μm,0.3s,baz=191,slow=23,SNR=6.2						
LEM	**Lembang**	**1.31**	**331**	P	**Pn**	**01 56 38.4**	**+1.3**
SKJI	**Sukabumi**	**1.94**	**300**	P	**Pn**	**01 56 45.6**	**+0.4**
YOGI	**Yogyakarta**	**2.03**	**85**	P	**Pn**	**01 56 44.9**	**-1.6**
DBJI	**Dramaga**	**2.06**	**314**	P	**Pn**	**01 56 48.5**	**+1.7**
UGM	**Wanagama**	**2.25**	**88**		**Pn**	**01 56 48.0**	**-1.4**
UGM	**Wanagama**	**2.25**	**88**	P	**Pn**	**01 56 48.7**	**-0.8**
UGM	**Wanagama**	**2.25**	**88**	P	**Pn**	**01 56 48.1**	**-1.4**
SMRI	**Semarang**	**2.36**	**67**		**Pn**	**01 56 51.2**	**+0.3**
SMRI	**Semarang**	**2.36**	**67**	P	**Pn**	**01 56 52.4**	**+1.5**
SMRI	**Semarang**	**2.36**	**67**	S	**Sn**	**01 57 22.5**	**+3.4**
SMRI	**Semarang**	**2.36**	**67**	P	**Pn**	**01 56 52.1**	**+1.2**
TNG	**Tangerang**	**2.40**	**318**	P	**Pn**	**01 56 52.8**	**+1.4**
SBJI	**Serang**	**2.80**	**311**	P	**Pn**	**01 56 59.4**	**+2.6**
PCJI	**Pacitan**	**2.91**	**94**	P	**Pn**	**01 56 57.1**	**-1.2**
NGJI	**Ngawi**	**3.24**	**79**	P	**Pn**	**01 57 03.5**	**+0.7**
TBJI	**Tambak Boyo**	**3.75**	**72**	P	**Pn**	**01 57 09.5**	**-0.3**
BLSI	**Bandar Lampung**	**3.96**	**311**	P	**Pn**	**01 57 14.0**	**+1.4**
GRJI	**Gresik**	**4.33**	**76**	P	**Pn**	**01 57 17.5**	**-0.1**
KASI	**Kota Agung**	**4.46**	**303**	P	**Pn**	**01 57 20.6**	**+1.2**
KLI	**Kotabumi**	**4.58**	**312**	P	**Pn**	**01 57 23.6**	**+2.5**
BWJI	**Bawean**	**4.86**	**64**	P	**Pn**	**01 57 24.3**	**-0.6**
TPI	**Tanjungpandan**	**5.23**	**353**	P	**Pn**	**01 57 31.6**	**+1.7**
	0.3nm75nm,0.7s						
BLJI	**Banyuglugur**	**5.30**	**88**	P	**Pn**	**01 57 30.1**	**-0.8**
	0.6nm75nm,0.5s						
MDSI	**Maura Dua**	**5.33**	**310**	P	**Pn**	**01 57 33.4**	**+2.1**
	89nm,1.0s						
KMMI	**Kalianget**	**5.75**	**81**	P	**Pn**	**01 57 35.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**5.86**	**95**		**Pn**	**01 57 37.1**	**-1.5**
JAGI	**Jajag, Banyuwa**	**5.86**	**95**	P	**Pn**	**01 57 40.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**5.86**	**95**	P	**Pn**	**01 57 38.8**	**+0.2**
	0.8nm97nm,0.9s						
ABJI	**Asem Bagus**	**5.93**	**89**	P	**Pn**	**01 57 39.9**	**+0.4**
PPBI	**Pangkal Pinang**	**6.15**	**340**	P	**Pn**	**01 57 44.7**	**+2.1**
LHSI	**Lahat**	**6.26**	**311**	P	**Pn**	**01 57 46.2**	**+2.2**
	0.3nm67nm,0.9s						
MNAI	**Manna**	**6.38**	**304**	P	**Pn**	**01 57 47.9**	**+2.3**
MNAI	**Manna**	**6.38**	**304**	P	**Pn**	**01 57 47.3**	**+1.7**
	107nm,0.8s						
SRBI	**Singaraja**	**6.90**	**91**	P	**Pn**	**01 57 55.0**	**+2.3**
	0.3nm88nm,0.7s						
DSRI	**Dabo**	**8.30**	**334**	P	**Pn**	**01 58 14.7**	**+2.7**
TWSI	**Taliwang, Sumb**	**8.58**	**96**	P	**Pn**	**01 58 15.5**	**-0.2**
	27nm,0.6s						
PLAI	**Plampang**	**9.46**	**96**	P	**Pn**	**01 58 27.8**	**0.0**
PLAI	**Plampang**	**9.46**	**96**	P	**Pn**	**01 58 26.1**	**-1.7**
	48nm,0.9s						
BKSI	**Bulukumba**	**12.09**	**78**	P	**Pn**	**01 59 05.7**	**+2.1**
EDFI	**Ende, Flores**	**13.32**	**94**	P	**Pn**	**01 59 16.5**	**-3.8**
	20nm,0.8s						
MMRI	**Maumere**	**13.86**	**94**	Pn	**Pn**	**01 59 24.7**	**-2.6**
BATI	**Baumata**	**15.38**	**99**	P	**P**	**01 59 49.5**	**-0.6**
	62nm,0.4s,baz=245,slow=4.3,SNR=5.3						
KCSI	**Kotacane, Aceh**	**15.49**	**317**	P	**Pn**	**01 59 49.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.68**	**122**	P	**P**	**02 00 36.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.68**	**122**	P	**P**	**02 00 37.4**	**0.0**
	4.6nm,0.8s,baz=305,slow=3.3,SNR=6.7						
KNRA	**Kununurra**	**21.47**	**113**	P	**P**	**02 00 55.4**	**-1.3**
KNRA				IAmb	IAmb	02 01 03.2	
	comp=Z,9.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.83**	**341**	P	**P**	**02 01 57.0**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=161,slow=8.6,SNR=5.9						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**27.92**	**118**	P	**P**	**02 01 55.7**	**-1.7**
WRA	**Warramunga Arr**	**27.92**	**118**	P	**P**	**02 01 57.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=293,slow=10,SNR=14						
	comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**29.11**	**125**	P	**P**	**02 02 08.4**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=301,slow=8.7,SNR=11						
ASAR				PcP	**PcP**	**02 05 14.6**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=298,slow=2.0,SNR=4.9						
	comp=Z,1.5nm,0.8s						

H08S2	**Diego Garcia H**	**35.42**	**268**	T	T	02 40 16.8	
	baz=93,slow=75,SNR=169						
H08S3	**Diego Garcia H**	**35.43**	**268**	T	T	02 40 17.6	
	baz=93,slow=75,SNR=170						
H08S1	**Diego Garcia H**	**35.44**	**268**	T	T	02 40 21.6	
	baz=93,slow=75,SNR=152						
STKA	**Stephens Creek**	**39.07**	**132**	P	**P**	**02 03 33.2**	**-0.7**
STKA	**Stephens Creek**	**39.07**	**132**	P	**P**	**02 03 34.5**	**+0.6**
	comp=Z,3.9nm,0.4s,baz=294,slow=8.2,SNR=7.6						
STKA				PcP	**PcP**	**02 05 43.0**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=332,slow=5.0,SNR=2.9						
	comp=Z,3.9nm,0.4s						
EVN	**Everest**	**41.30**	**331**		**P**	**02 03 50.9**	**-2.2**
EVN				IAmb	IAmb	02 04 05.4	
	comp=Z,5.6nm,1.3s						
MJAR	**Matsushiro Arr**	**52.47**	**30**	P	**P**	**02 05 16.8**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=197,slow=7.5,SNR=6.0						
	comp=Z,1.4nm,0.3s						
SONM	**Songino Array**	**55.60**	**358**	P	**P**	**02 05 41.9**	**-0.2**
SONM				IAmb	IAmb	02 05 51.9	
	comp=Z,2.5nm,1.4s						
SONM					**PcP**	**02 06 41.3**	**+0.4**
SONM	**Songino Array**	**55.60**	**358**	P	**P**	**02 05 41.8**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=167,slow=9.8,SNR=4.0						
SONM				PcP	**PcP**	**02 06 40.6**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=182,slow=4.3,SNR=4.4						
	comp=Z,1.5nm,0.4s						
GAR	**Garm**	**58.52**	**326**		**P**	**02 06 01.7**	**-1.2**
MKAR	**Makanchi Array**	**59.23**	**340**	P	**P**	**02 06 06.3**	**-1.2**
MKAR	**Makanchi Array**	**59.23**	**340**	P	**P**	**02 06 05.5**	**-2.1**
	comp=Z,2.6nm,0.6s,baz=150,slow=7.9,SNR=26						
	comp=Z,2.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.34**	**221**	T	T	03 13 13.2	
	baz=68,slow=76,SNR=203						
H04N1	**CROZET ISLANDS**	**61.35**	**221**	T	T	03 13 16.6	
	baz=68,slow=76,SNR=187						
H04N3	**CROZET ISLANDS**	**61.35**	**221**	T	T	03 13 15.3	
	baz=68,slow=76,SNR=241						
KURBB	**Kurchatov Arra**	**63.80**	**339**	P	**P**	**02 06 37.2**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=156,slow=5.2,SNR=4.9						
KURBB				PcP	**PcP**	**02 07 13.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=149,slow=3.7,SNR=7.2						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**64.79**	**345**	P	**P**	**02 06 42.6**	**-2.0**
ZALV	**Zalesovo Beam**	**64.79**	**345**	P	**P**	**02 06 42.1**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=146,slow=6.8,SNR=4.6						
	comp=Z,1.0nm,0.3s						
MAW	**Mawson**	**66.79**	**197**	P	**P**	**02 06 58.3**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=12,slow=7.3,SNR=8.1						
	comp=Z,1.9nm,0.5s						
BVAR	**Borovoye Array**	**68.75**	**337**	P	**P**	**02 07 08.8**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=125,slow=8.5,SNR=15						
	comp=Z,2.8nm,0.5s						
RAYN	**Ar Rayn**	**68.80**	**299**	P	**P**	**02 07 10.7**	**-0.1**
RAYN				IAmb	IAmb	02 07 11.3	
	comp=Z,9.6nm,1.4s						
AB31	**Akbulak array**	**70.89**	**329**		**P**	**02 07 22.5**	**-0.5**
AB31				IAmb	IAmb	02 07 23.8	
	comp=Z,4.5nm,0.8s						
ABKAR	**Akbulak array**	**70.89**	**329**		**P**	**02 07 21.6**	**-1.4**
PETK	**Petropavlovsk-**	**73.85**	**28**	P	**P**	**02 07 40.0**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=202,slow=1.8,SNR=6.3						
	comp=Z,1.4nm,0.5s						
VNDA	**Vanda**	**74.78**	**170**	P	**P**	**02 07 46.3**	**+0.7**
VNDA	**Vanda**	**74.78**	**170**	P	**P**	**02 07 46.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=334,slow=5.6,SNR=7.0						
	comp=Z,0.6nm,0.3s						
KBZ	**Khabaz**	**78.20**	**318**	P	**P**	**02 08 05.6**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=164,slow=4.8,SNR=5.7						
	comp=Z,3.3nm,0.7s						
MMAI	**Mount Meron Ar**	**80.18**	**305**	P	**P**	**02 08 18.3**	**+1.7**
	comp=Z,2.4nm,0.5s,baz=101,slow=6.4,SNR=17						
	comp=Z,2.4nm,0.5s						
QSPA	**South Pole Qui**	**82.01**	**180**	P	**P**	**02 08 29.2**	**+3.4**
	comp=Z,1.5nm,0.9s,baz=110,slow=2.1,SNR=3.8						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**83.40**	**312**	P	**P**	**02 08 33.3**	**-0.2**
BRTR	**Keskin Array B**	**83.40**	**312**	P	**P**	**02 08 33.5**	**0.0**
	comp=Z,2.5nm,0.7s,baz=137,slow=7.2,SNR=19						
	comp=Z,2.5nm,0.7s						
TROLL	**Troll, Antarti**	**87.26**	**197**	⇑P	**P**	**02 08 52.8**	**+0.7**
	comp=Z,37nm,0.7s						
SNAA	**Sanae**	**88.96**	**197**	⇑P	**P**	**02 09 00.7**	**+0.6**
	comp=Z,33nm,0.4s						
SNAA	**Sanae**	**88.96**	**197**	P	**P**	**02 09 01.7**	**+1.5**
SNAA				IAmb	IAmb	02 09 04.5	
	comp=Z,2.5nm,0.9s						
SNAA	**Sanae**	**88.96**	**197**	P	**P**	**02 09 01.6**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=195,slow=5.4,SNR=55						
	comp=Z,1.7nm,0.5s						
AKASG	**Malin Array Be**	**89.23**	**321**	P	**P**	**02 09 00.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=90,slow=4.5,SNR=5.7						
	comp=Z,0.5nm,0.4s						
VNA2	**Neumayer--Watz**	**90.61**	**197**	⇑P	**P**	**02 09 09.3**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=102,slow=4.2						
VNA1	**Neumayer--Stat**	**90.99**	**197**	⇑P	**P**	**02 09 14.1**	**+4.6**
	comp=Z,2.7nm,0.9s						
VNA3	**Neumayer Olymp**	**91.11**	**197**	⇑P	**P**	**02 09 11.4**	**+1.3**
	comp=Z,1.2nm,0.8s						
FINES	**FINESS Array B**	**93.22**	**332**	P	**P**	**02 09 20.2**	**+0.4**
FINES	**FINESS Array B**	**93.22**	**332**	P	**P**	**02 09 18.1**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=121,slow=4.6,SNR=9.1						
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**94.89**	**340**	P	**P**	**02 09 26.5**	**-0.9**
ARCES				IAmb	IAmb	02 10 10.8	
	comp=Z,3.7nm,1.1s						
ARCES	**ARCESS Array B**	**94.89**	**340**	P	**P**	**02 09 26.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=108,slow=4.9,SNR=11			

JMM	Marumori	2.23	14		Pn	02 07 08.2	-0.3
JMM	Marumori	2.23	14	P	Pn	02 07 08.9	+0.4
JMM	Marumori	2.23	14	S	Sn	02 07 34.9	-0.1
JGF	Kuroka	2.26	268		Pn	02 07 09.7	+0.7
JGF	Kuroka	2.26	268	P	Pn	02 07 10.1	+1.1
INU	Inuyama	2.56	263		Pn	02 07 12.0	-1.1
INU	Inuyama	2.56	263	P	Pn	02 07 13.6	+0.5
JHJ	Hachijo jima 2	2.59	186	P	Pn	02 07 13.7	+0.1
	145nm,0.3s,baz=336,slow=18,SNR=23						
JHJ				S	Sn	02 07 42.6	-1.3
	290nm,0.3s,baz=119,slow=23,SNR=13						
JHJ2	Mitsune	2.60	186		Pn	02 07 11.9	-1.6
JHJ2	Mitsune	2.60	186	P	Pn	02 07 13.7	+0.1
JHJ2	Mitsune	2.60	186	S	Sn	02 07 43.2	-0.9
JSD	Sado	2.77	328		Pn	02 07 15.4	-0.5
JSD	Sado	2.77	328	P	Pn	02 07 15.3	-0.6
JTM	Tenmabayashi	5.13	8		Pn	02 07 47.5	-0.6
JTM	Tenmabayashi	5.13	8	P	Pn	02 07 47.5	-0.6
JMN	Monobe	5.51	251	Pn	Pn	02 07 53.1	-0.3
ERM	Erimo	6.73	20	Pn	Pn	02 08 07.3	-2.6
ERM	Erimo	6.73	20	P	Pn	02 08 07.8	-2.1
JEM	Erimo	6.73	20	P	Pn	02 08 09.2	-0.8
JCJ	Chichijima	8.76	168		Pn	02 08 36.3	-1.4
JCJ	Chichijima	8.76	168	P	Pn	02 08 26.0	-12
	28nm,0.3s,baz=270,slow=23,SNR=9.7						
JCJ				S	Sn	02 09 54.0	-21
	89nm,1.1s,baz=253,slow=19,SNR=1.9						
JCJ	Chichijima	8.76	168	P	Pn	02 08 35.7	-2.0
KSRS	Korea Array	9.97	284	P	Pn	02 08 57.7	+3.5
	1.5nm,0.4s,baz=97,slow=14,SNR=3.9						
YOJ	Yonaguni jima	18.54	238		P	02 10 44.5	-0.2
YOJ				IAmb	IAmb	02 10 45.7	
	comp=Z,42nm,0.7s						
H11N2	WAKE ISLAND Hy	28.41	117	T	T	02 41 53.1	
	baz=308,slow=75,SNR=21						
H11N1	WAKE ISLAND Hy	28.42	117	T	T	02 41 54.6	
	baz=308,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	28.43	117	T	T	02 41 57.7	
	baz=308,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	29.06	119	T	T	02 42 19.9	
	baz=312,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	29.06	119	T	T	02 42 26.2	
	baz=312,slow=75,SNR=34						
H11S2	WAKE ISLAND Hy	29.08	119	T	T	02 42 32.2	
	baz=312,slow=75,SNR=14						
ADK	Adak	34.54	48	P	P	02 13 14.6	-0.6
ZAA0	Zalesovo Array	42.06	313	P	P	02 14 19.1	+0.9
ZALV	Zalesovo Beam	42.06	313	P	P	02 14 18.3	0.0
	comp=Z,1.9nm,0.5s,baz=102,slow=8.3,SNR=8.3						
	comp=Z,1.9nm,0.5s						
MKAR	Makanchi Array	43.96	303	P	P	02 14 33.0	-0.8
MKAR	Makanchi Array	43.96	303	P	P	02 14 33.6	-0.1
	comp=Z,0.7nm,0.4s,baz=83,slow=11,SNR=14						
	comp=Z,0.7nm,0.4s						
MAKZ	Makanchi	44.17	303	P	P	02 14 35.8	+0.4
L16K	Owhat River	45.38	36	P	P	02 14 46.0	+1.2
L16K				IAmb	IAmb	02 14 51.9	
	comp=Z,12nm,1.4s						
KURK	Kurchatov	45.95	309	P	P	02 14 49.1	-0.3
KURK				IAmb	IAmb	02 14 51.5	
	comp=Z,4.5nm,0.7s						
KURBB	Kurchatov Arra	46.02	309	P	P	02 14 49.9	-0.1
	comp=Z,2.3nm,0.5s,baz=85,slow=8.0,SNR=18						
	comp=Z,2.3nm,0.5s						
G18K	Tagagawik	46.32	30	P	P	02 14 52.8	+0.7
H18K	Honhosa River	46.32	31	P	P	02 14 52.6	+0.5
H18K				IAmb	IAmb	02 14 59.0	
	comp=Z,12nm,1.3s						
M17K	Holitna River	46.33	36	P	P	02 14 53.4	+1.1
M17K				IAmb	IAmb	02 14 54.5	
	comp=Z,11nm,1.4s						
PLK4	Peulik 4	46.76	41	P	P	02 14 56.8	+0.9
PLK4				IAmb	IAmb	02 15 04.2	
	comp=Z,19nm,1.1s						
E19K	Redstone River	47.13	28	P	P	02 14 59.8	+1.3
E19K				IAmb	IAmb	02 15 07.8	
	comp=Z,16nm,1.4s						
KDJ	Kajisay	48.42	298	P	P	02 15 09.5	+0.4
KDJ				IAmb	IAmb	02 15 11.2	
	comp=Z,4.8nm,1.1s						
KDAK	Kodiak Island	48.78	41	P	P	02 15 11.6	+0.3
MTN	Manton Dam	49.02	192	P	P	02 15 13.5	-0.1
MTN				IAmb	IAmb	02 15 17.7	
	comp=Z,6.8nm,1.1s						
BOOM	Boomskoye usch	49.22	298	P	P	02 15 15.1	0.0
BOOM				IAmb	IAmb	02 15 18.7	
	comp=Z,4.7nm,1.4s						
E22K	Anaktuvuk Pass	49.26	27	P	P	02 15 14.6	-0.3
E22K				IAmb	IAmb	02 15 17.5	
	comp=Z,6.1nm,1.2s						
FIS	Fire Island	49.81	37	P	P	02 15 19.2	+0.2
SLKM	Skilak Lake	49.84	37	P	P	02 15 19.7	+0.3
TOLK	Toolik Lake Re	50.13	27	P	P	02 15 22.4	+0.9
E24K	Your Creek	50.50	27	P	P	02 15 25.6	+1.2
E24K				IAmb	IAmb	02 15 29.7	
	comp=Z,7.1nm,1.4s						
BVAR	Borovoye Array	50.71	313	P	P	02 15 27.0	+1.0
	comp=Z,0.6nm,0.5s,baz=82,slow=6.2,SNR=4.7						
	comp=Z,0.6nm,0.5s						
ILAR	Eielson Array	51.17	32	P	P	02 15 29.4	+0.1
ILAR	Eielson Array	51.17	32	P	P	02 15 30.1	+0.7
	comp=Z,0.4nm,0.8s,baz=253,slow=6.8,SNR=4.6						
	comp=Z,0.4nm,0.8s						
KKAR	Karatay Array	52.90	301	P	P	02 15 42.7	+0.2
GRNC	Granite Creek	53.96	36	P	P	02 15 48.9	-1.3
GRNC				IAmb	IAmb	02 15 50.0	
	comp=Z,14nm,1.4s						
G31M	Satah River	56.05	28	P	P	02 16 05.4	+0.6
ARTI	Arti	56.78	319	P	P	02 16 10.3	+0.1
AB31	Akbulak array	58.01	310	P	P	02 16 19.0	-0.1
ABKAR	Akbulak array	58.01	310	P	P	02 16 19.1	+0.1
MBWA	Marble Bar	59.76	202	P	P	02 16 31.3	-0.1
ARCES	ARCESS Array B	64.88	339	P	P	02 17 05.0	0.0
ARCES	ARCESS Array B	64.88	339	P	P	02 17 04.4	-0.6
	comp=Z,2.3nm,0.8s,baz=60,slow=7.3,SNR=6.2						
	comp=Z,2.3nm,0.8s						
FINES	FINESS Array B	69.50	332	P	P	02 17 34.3	-0.1
FINES	FINESS Array B	69.50	332	P	P	02 17 34.0	-0.4
	comp=Z,1.0nm,0.7s,baz=86,slow=7.8,SNR=8.3						
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	74.71	322	P	P	02 18 05.4	-0.2
	comp=Z,1.2nm,0.4s,baz=50,slow=5.9,SNR=12						
	comp=Z,1.2nm,0.4s						
HFS	Hagfors	74.87	335	P	P	02 18 06.5	+0.1
	comp=Z,1.9nm,0.8s,baz=112,slow=1.6,SNR=5.3						
	comp=Z,1.9nm,0.8s						
NOA	NORSAR Array B	75.01	337	P	P	02 18 07.2	0.0
	comp=Z,0.5nm,0.6s,baz=43,slow=5.8,SNR=2.1						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	79.34	45	P	P	02 18 32.2	+0.1
PDAR	Pinedale Array	79.34	45	P	P	02 18 32.5	+0.3
	comp=Z,0.2nm,0.5s,baz=238,slow=0.8,SNR=5.9						
	comp=Z,0.2nm,0.5s						
H03N2	Juan Fernandez	147.90	97	T	T	05 10 59.0	
	baz=290,slow=76,SNR=4.7						
H03N3	Juan Fernandez	147.91	98	T	T	05 10 59.5	
	baz=290,slow=76,SNR=4.1						
H03N1	Juan Fernandez	147.91	97	T	T	05 10 56.2	
	baz=290,slow=76,SNR=4.1						

NEIC ***31*** *02:08:40.4±1.7,20°.9S±0°.1×178°.9W±0°.1,h610km±6km, mb4.6/247,Error ellipse: s-maj=18.6km s-min=14.6km az=108.0*

IDC ***31*** *02:08:41.2±0.7,20°.87S×179°.03W,h625km±8km,mb3.9/20, mbtmp4.8/21,Error ellipse: s-maj=12.3km s-min=9.2km az=138.0*

ISC 31 02:08:40.4±0.3,20°.88S±0°.06×178°.88W±0°.07,h619km, n517,σ0°92/463,mb4.6/137,20C-16D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.26	317		P	02 10 09.4	+0.1
NIUE	Niue	8.61	80	P	P	02 10 45.2	-1.0
AFI	Afiamalu	9.70	45	P	P	02 10 54.2	-2.7
MARNC	Mare, Loyalty	12.22	265	P	P	02 11 21.1	-0.3
MARNC	Mare, Loyalty	12.22	265	P	P	02 11 20.9	-0.5
FUNA	Funafuti	12.42	351	P	P	02 11 22.4	-1.0
PINNC	Pines Island,	12.82	260	P	P	02 11 27.4	+0.2
PINNC	Pines Island,	12.82	260	P	P	02 11 29.3	+2.1
DZM	Mont Dzumac	13.71	262	P	P	02 11 34.1	-2.0
	4.8nm,0.4s,baz=81,slow=21,SNR=3.2						
SANVU	Saraoutou	14.28	290	P	P	02 11 41.7	+0.3
OUZ	Omahuta	15.74	203	P	P	02 11 57.4	+3.0
KUZ	Kuaotunu	16.49	195	P	P	02 12 01.6	+0.3

TOZ	Tahuroa Road	17.48	195	P	P	02 12 10.7	+0.4
TOZ				IAmb	IAmb	02 12 12.9	
	comp=Z,27nm,0.9s						
URZ	Urewera	17.66	190	P	P	02 12 08.5	-3.4
	comp=Z,39nm,0.8s,baz=26,slow=4.7,SNR=13						
URZ				S	S	02 14 58.9	-4.6
	comp=Z,25nm,0.8s,baz=42,slow=21,SNR=9.5						
URZ	Urewera	17.66	190	P	P	02 12 09.8	-2.1
RTZ	Ruatahuna	18.03	191	P	P	02 12 14.8	-0.6
RTZ				IAmb	IAmb	02 12 18.5	
	comp=Z,28nm,1.1s						
HIZ	Hauiti	18.38	196	P	P	02 12 20.1	+1.6
HIZ	Hauiti	18.38	196	P	P	02 12 18.3	-0.2
BKZ	Black Stump Fm	18.65	191	P	P	02 12 19.6	-1.4
BFZ	Birch Farm	20.17	191	P	P	02 12 32.5	-2.1
SNZO	South Karori	21.08	194	P	P	02 12 41.0	-1.7
QRZ	Quartz Range	21.18	198	P	P	02 12 43.5	-0.2
KHZ	Kahutara	22.40	195	P	P	02 12 52.3	-2.1
LTZ	Lake Taylor	23.06	197		P	02 12 58.2	-2.3
JCZ	Jackson Bay	25.30	201	P	P	02 13 21.0	+0.8
WHZ	Wether Hill Ro	27.18	200	P	P	02 13 36.7	+0.1
STKA	Stephens Creek	36.88	244	P	P	02 14 58.6	-0.1
STKA				IAmb	IAmb	02 15 18.3	
	comp=Z,29nm,1.1s						
STKA	Stephens Creek	36.88	244	P	P	02 14 58.9	+0.2
	comp=Z,3.6nm,0.6s,baz=84,slow=9.6,SNR=6.0						
STKA				ScP	ScP	02 19 54.2	+2.2
	comp=Z,2.7nm,0.8s,baz=40,slow=4.8,SNR=5.3						
	comp=Z,3.6nm,0.6s						
WR8	Warramunga Arr	43.58	263		P	02 15 51.2	-0.7
WR8				IAmb	IAmb	02 15 52.8	
	comp=Z,15nm,1.0s						
AS31	Alice Springs	43.62	257		P	02 15 52.2	-0.1
ASAR	Alice Springs	43.63	257		P	02 15 52.0	-0.3
ASAR					PcP	02 17 25.0	-0.4
ASAR	Alice Springs	43.63	257	P	P	02 15 52.5	+0.1
	comp=Z,20nm,0.6s,baz=90,slow=8.2,SNR=187						
ASAR				PcP	PcP	02 17 25.5	+0.1
	comp=Z,2.3nm,0.6s,baz=99,slow=3.9,SNR=6.4						
ASAR				ScP	ScP	02 20 20.5	+1.5
	comp=Z,1.0nm,0.6s,baz=99,slow=4.8,SNR=5.0						
ASAR				S	S	02 21 37.0	-1.7
	comp=Z,4.6nm,0.8s,baz=94,slow=16,SNR=21						
	comp=Z,20nm,0.6s						
WB0	Warramunga Arr	43.71	263		P	02 15 52.2	-0.7
WRA	Warramunga Arr	43.73	263		P	02 15 52.0	-1.1
WRA	Warramunga Arr	43.73	263	P	P	02 15 52.6	-0.5
	comp=Z,18nm,0.6s,baz=98,slow=8.6,SNR=195						
WRA				S	S	02 21 36.8	-3.4
	comp=Z,2.1nm,1.0s,baz=97,slow=13,SNR=6.0						
	comp=Z,18nm,0.6s						
HMH	Humu'ula Sheep	46.30	31	P	P	02 16 13.4	+0.5
DHH	Diamond Head	46.68	27	P	P	02 16 15.7	+0.3
MTN	Manton Dam	48.34	271		P	02 16 27.5	-0.4
MTN				IAmb	IAmb	02 16 28.2	
	comp=Z,24nm,0.7s						
KNRA	Kununurra	49.81	267		P	02 16 37.9	-0.7
KNRA				IAmb	IAmb	02 16 38.9	
	comp=Z,16nm,0.7s						
SOEI	Soe	55.69	272		P	02 17 20.0	-0.5
SBA	Scott Base	57.44	184		P	02 17 32.3	+1.1
VNDA	Vanda	57.46	185		P	02 17 32.5	+1.1
VNDA					ScP	02 21 17.9	+0.5
VNDA	Vanda	57.46	185	P	P	02 17 32.5	+1.1
	comp=Z,5.8nm,0.8s,baz=358,slow=7.3,SNR=37						
VNDA				ScP	ScP	02 21 16.1	-1.3
	comp=Z,1.5nm,0.7s,baz=345,slow=5.0,SNR=5.2						
	comp=Z,5.8nm,0.8s						
CASY	Casey	63.27	205	P	P	02 18 09.9	+0.2
QSPA	South Pole Qui	69.19	180	P	P	02 18 49.1	+2.8
QSPA				IAmb	IAmb	02 18 50.7	
	comp=Z,35nm,1.1s						
QSPA	South Pole Qui	69.19	180	P	P	02 18 49.7	+3.4
	comp=Z,25nm,0.9s,baz=17,slow=1.3,SNR=71						
MJAR	Matsushiro Arr	70.03	324		P	02 18 51.8	+0.2
MJAR	Matsushiro Arr	70.03	324	P	P	02 18 51.6	0.0
	comp=Z,9.3nm,0.7s,baz=155,slow=5.9,SNR=18						
	comp=Z,9.3nm,0.7s						
MAJO	Matsushiro	70.03	324	P	P	02 18 51.3	-0.4
MAJO				IAmb	IAmb	02 18 52.4	
	comp=Z,12nm,0.6s						
MJB9	Matsu-Tunnel	70.04	324	P	P	02 18 51.6	-0.1
MJB9				IAmb	IAmb	02 18 52.4	
	comp=Z,12nm,0.6s						
SHEM	Shemya Is, Ala	73.55	356	P	P	02 19 11.2	-0.3
SHEM	Shemya Is, Ala	73.55	356	P	P	02 19 10.2	-1.3
	comp=Z,31nm,0.8s,baz=270,slow=13,SNR=4.1						
	comp=Z,31nm,0.8s						
NIKH	Nikolski High	74.06	6	P	P	02 19 14.8	+0.4
	baz=190						
UNV	Unalaska Valle	75.18	8	P	P	02 19 20.6	0.0
	baz=192						
PETK	Petropavlovsk-	76.43	346	P	P	02 19 27.3	-0.3
	comp=Z,13nm,0.7s,baz=128,slow=6.9,SNR=16						
	comp=Z,13nm,0.7s						
FALS	False Pass	76.59	9	P	P	02 19 28.0	-0.4
	baz=195						
KSRS	Korea Array	76.63	319	P	P	02 19 30.0	+1.0
	comp=Z,2.1nm,0.7s,baz=149,slow=5.5,SNR=6.2						
	comp=Z,2.1nm,0.7s						
SDPT	Sand Point	77.53	11	P	P	02 19 33.7	+0.3
	baz=198						
P08K	Saint George I	77.58	5	P	P	02 19 33.2	-0.5
	baz=189						
S12K	Black Hills	77.61	10	P	P	02 19 34.0	+0.1
	baz=196						
SPIA	Saint Paul Isl	78.09	5	P	P	02 19 37.0	+0.6
	baz=188						
S14K	Fog Glacier	78.58	11	P	P	02 19 39.8	+0.6
	baz=198						
USRK	Ussuriysk Ar.	78.82	326	P	P	02 19 41.7	+1.1
	comp=Z,13nm,0.7s,baz=125,slow=5.1,SNR=15						
	comp=Z,13nm,0.7s						
MHC	Mount Hamilton	79.09	43	P	P	02 19 43.7	+1.3
CVS	Carmenet Viney	79.18	42	P	P	02 19 43.8	+1.1
CVS				IAmb	IAmb	02 19 44.8	
	comp=Z,24nm,0.9s						
BELA	Belgrano 2	79.29	173	P	P	02 19 42.0	-0.6
BELA				IAmb	IAmb	02 19 43.2	
	comp=Z,18nm,0.9s						
NJ2	Nanjing	79.49	310	*eP*	P	02 19 49.5	+5.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
KMRM	Mail Ridge	79.58	40		P	02 19 46.5	+1.7
VES	Vestal, Richgr	79.89	46	P	P	02 19 47.4	+1.0
VES				IAmb	IAmb	02 19 48.2	
	comp=Z,19nm,0.9s						
SII	Sitkinak Islan	79.91	14	P	P	02 19 46.5	+0.4
	baz=203						
TPO	Tropico Hills	79.92	47	P	P	02 19 48.1	+1.4
TPO				IAmb	IAmb	02 19 49.0	
	comp=Z,19nm,1.0s						
KHMM	Horse Mountain	79.97	39	P	P	02 19 48.8	+1.9
KHMM				IAmb	IAmb	02 19 49.7	
	comp=Z,20nm,0.9s						
O02D	Mt. Diablo Mer	80.10	40	P	P	02 19 49.2	+1.7
O02D				IAmb	IAmb	02 19 50.5	
	comp=Z,31nm,1.1s						
KHBM	Hayfork Bally	80.14	40	P	P	02 19 49.2	+1.3
KHBM				IAmb	IAmb	02 19 50.4	
	comp=Z,22nm,1.1s						
BORC	Borrego Spring	80.29	49	P	P	02 19 49.9	+1.3
CMB	Columbia Colle	80.31	43		P	02 19 49.4	+0.8
CMB				IAmb	IAmb	02 19 50.6	
	comp=Z,27nm,1.4s						
MDJ	Mudanjiang	80.36	325	P	P	02 19 50.0	+1.4
MDJ				pmax	pmax		
	comp=Z,20nm,1.0s						
R17L	Mt. Peulik Vol	80.45	12	P	P	02 19 49.2	+0.3
	baz=201						
PLK4	Peulik 4	80.45	12		P	02 19 49.3	+0.4
KSXB	Camp Six Broad	80.48	38	P	P	02 19 51.0	+1.4
KSXB				IAmb	IAmb	02 19 52.3	
	comp=Z,21nm,1.0s						
N02D	Trinity Center	80.64	40	IAmb	IAmb	02 19 53.2	
	comp=Z,24nm,1.0s						
OHAK	Old Harbor	80.71	14	P	P	02 19 50.2	0.0
	baz=204						
O03E	Paynes Creek	80.77	41	IAmb	IAmb	02 19 53.8	
	comp=Z,37nm,1.1s						
R18K	Karluk	80.78	13	P	P	02 19 50.8	+0.4
	baz=203						
M02C	Callahan	80.81	39	IAmb	IAmb	02 19 54.2	
	comp=Z,26nm,0.8s						
L02F	Cave Junction	80.84	38	IAmb	IAmb	02 19 54.0	
	comp=Z,21nm,1.3s						

CCCA	Chr Cany lake	80.87	47	IAmb	IAmb	02 19 53.9	
	comp=Z,22nm,1.1s						
CLC	China Lake	80.87	46	IAmb	IAmb	02 19 53.7	
	comp=Z,17nm,1.0s						
MAW	Mawson	80.92	200	P	P	02 19 51.3	+0.1
	comp=Z,3.6nm,0.8s,baz=116,slow=6.2,SNR=10						
	comp=Z,3.6nm,0.8s						
YBH	Yreka Blue Hor	81.11	39	IAmb	IAmb	02 19 55.3	
	comp=Z,19nm,0.8s						
O14K	Tigyukauivet M	81.15	9	P	P	02 19 52.3	-0.1
	baz=197						
WAKR	Walker	81.19	43	IAmb	IAmb	02 19 55.8	
	comp=Z,24nm,1.2s						
O15K	Ungalikthiuk R	81.30	10	P	P	02 19 53.1	0.0
	baz=198						
Q16K	King Salmon	81.37	12	P	P	02 19 53.5	0.0
	baz=201						
KDAK	Kodiak Island	81.38	14	P	P	02 19 53.7	+0.1
KDAK	Kodiak Island	81.38	14	P	P	02 19 54.0	+0.5
	comp=Z,7.4nm,0.8s,baz=226,slow=4.0,SNR=10						
	comp=Z,7.4nm,0.8s						
KDAK	Kodiak Island	81.38	14	P	P	02 19 53.5	0.0
	baz=205						
BEKR	Beckworth	81.40	42		P	02 19 55.4	+1.0
BEKR				IAmb	IAmb	02 19 56.4	
	comp=Z,24nm,1.3s						
PNTR	Pine Nut	81.42	43		P	02 19 55.7	+1.2
P16K	Nushagak River	81.46	11	P	P	02 19 54.2	+0.3
	baz=200						
DSP	Deep Springs	81.49	45		P	02 19 55.8	+1.2
LHV	Little Huntoon	81.64	44	P	P	02 19 56.6	+1.3
LHV				IAmb	IAmb	02 19 57.9	
	comp=Z,14nm,1.0s						
L04D	Klamath Falls	81.64	39		P	02 19 56.7	+1.2
IRM	Iron Mountain	81.66	49	IAmb	IAmb	02 19 58.2	
	comp=Z,19nm,1.4s						
Q18K	Katmai Hardscr	81.66	12	P	P	02 19 54.9	-0.3
	baz=202,SNR=12						
GRAC	Grapevine Rang	81.68	45	P	P	02 19 57.1	+1.4
GRAC				IAmb	IAmb	02 19 58.0	
	comp=Z,35nm,1.4s						
GWY	Greenwater Val	81.70	46		P	02 19 56.8	+0.9
FURC	Furnace Creek,	81.72	46	P	P	02 19 57.2	+1.4
N14K	Kuskokwak Cree	81.73	9	P	P	02 19 55.4	+0.2
	baz=196						
BBOR	Butler Butte	81.84	38	P	P	02 19 57.5	+1.1
RYN	Ryan	81.84	43	P	P	02 19 57.2	+0.6
NVAR	Mina Array Bea	81.87	44	P	P	02 19 57.7	+0.8
NVAR	Mina Array Bea	81.87	44	P	P	02 19 58.1	+1.2
	comp=Z,8.4nm,0.8s,baz=223,slow=8.2,SNR=58						
	comp=Z,8.4nm,0.8s						
BLYC	Blythe	81.89	49		P	02 19 57.8	+1.1
P17K	Kvichak River	81.90	11	P	P	02 19 56.0	-0.1
	baz=201						
PAHR	Pah Rah Range	81.92	42	P	P	02 19 57.6	+0.7
PAHR				IAmb	IAmb	02 19 59.0	
	comp=Z,17nm,0.9s						
113A	Mohawk Valley,	81.92	51		P	02 19 57.3	+0.4
GMN	Gold Mountain	81.92	45	P	P	02 19 57.3	+0.2
I03D	Drain, OR	81.96	37	P	P	02 19 57.7	+0.9
I03D				IAmb	IAmb	02 19 59.2	
	comp=Z,18nm,1.0s						
NV11	Mina Array Sit	81.97	44	P	P	02 19 56.2	-1.0
NV11				IAmb	IAmb	02 19 59.2	
	comp=Z,17nm,1.1s						
O16K	Kokwok River B	81.98	11	P	P	02 19 56.2	-0.3
	baz=200						
M13K	Dall Lake	81.98	8	P	P	02 19 56.8	+0.3
	baz=195						
WHN	Wuhan	82.01	307	P	P	02 19 58.5	+1.1
CN2	Changchun	82.10	323	P	P	02 19 57.8	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,920nm,9.0s						
Q20K	Shuyak Island	82.18	14	P	P	02 19 57.8	+0.2
	baz=205						
N15K	Kwethluk River	82.20	9	P	P	02 19 58.1	+0.4
	baz=198						
K04D	Chiloquin, OR	82.21	39	P	P	02 19 59.0	+0.7
K04D				IAmb	IAmb	02 20 00.6	
	comp=Z,23nm,0.9s						
BNX	BinXian	82.26	325	⇑P	P	02 19 58.8	+0.5
BNX				pmax	pmax		
	comp=Z,22nm,0.8s						
P18K	Big Mountain,	82.31	12	P	P	02 19 58.1	-0.2
	baz=202,SNR=5.3						
O17K	Koliganek Bris	82.32	11	P	P	02 19 58.5	+0.2
	baz=200						
J04A	Umpqua Nationa	82.38	38	P	P	02 19 59.2	-0.1
TPNV	Topopah Spring	82.40	46	P	P	02 19 59.7	+0.3
TPNV				IAmb	IAmb	02 20 01.5	
	comp=Z,15nm,0.9s						
BUCK	Buck Mountain	82.48	37		P	02 19 59.9	+0.3
M14K	Bethel	82.49	8	P	P	02 19 59.5	+0.4
	baz=196						
I04A	Tendick Farm,	82.55	38	P	P	02 20 00.0	+0.1
I04A				IAmb	IAmb	02 20 01.8	
	comp=Z,17nm,0.9s						
M15K	Kasigluk River	82.62	9	P	P	02 20 00.4	+0.7
	baz=197						
N16K	Nishlik Lake	82.70	10	P	P	02 20 00.7	+0.5
	baz=199						
O18K	Koktuh Hills	82.74	12	P	P	02 20 00.3	-0.1
	baz=202,SNR=18						
K05A	Summer Lake	82.78	39		P	02 20 02.1	+0.9
H04D	Lebanon	82.82	37	P	P	02 20 01.9	+0.8
H04D				IAmb	IAmb	02 20 03.6	
	comp=Z,20nm,0.9s						
SHPR	Sheep Range	82.90	47

319A	Douglas	84.54	54	IAmb	IAmb	02 20 13.0
	comp=Z,28nm,1.1s					
N20K	Mount Spurr	84.57	13	P	P	02 20 08.8 -0.7
	baz=205					
SPCR	Spurr Chakacha	84.57	13	P	P	02 20 09.0 -0.5
	baz=205					
P23K	Montague Islan	84.58	15	P	P	02 20 09.2 -0.3
	baz=209					
L18K	Granite Mounta	84.69	10	P	P	02 20 10.2 +0.2
	baz=201					
CLRS	Cowichan Lake	84.79	33	IAmb	IAmb	02 20 12.8
	comp=Z,12nm,0.9s					
M19K	Big River Lodg	84.80	11	P	P	02 20 10.6 +0.1
	baz=203					
U15A	North Rim	84.83	48	IAmb	IAmb	02 20 13.9
	comp=Z,15nm,0.7s					
K17K	Iditarod	84.90	9	P	P	02 20 11.3 +0.3
	baz=199					
STLK	Strandline Lak	84.92	13	IAmb	IAmb	02 20 10.9
	comp=Z,10nm,0.8s					
L19K	White Mountain	84.97	11	P	P	02 20 11.6 +0.3
	baz=202					
CBB	Campbell River	84.97	31	IAmb	IAmb	02 20 13.7
	comp=Z,23nm,1.3s					
M20K	Styx River	85.01	12	P	P	02 20 11.9 +0.3
	baz=204					
PGC	Sidney	85.03	33	IAmb	IAmb	02 20 13.8
	comp=Z,12nm,0.9s					
J16K	Anvik River	85.11	8	P	P	02 20 12.4 +0.5
	baz=197					
PWL	Port Wells	85.12	14	IAmb	IAmb	02 20 12.7
	comp=Z,26nm,1.0s					
PWL	Port Wells	85.12	14	P	P	02 20 12.4 +0.4
	baz=208					
SUA	Susitna One	85.12	13	P	P	02 20 12.0 -0.2
	baz=206					
HNS	HongShan	85.20	313	⇑P	P	02 20 14.0 +1.1
HNS				pmax	pmax	
	comp=Z,13nm,1.1s					
HEH	HeiHe	85.20	329	eP	P	02 20 13.0 +0.3
HEH				pmax	pmax	
	comp=Z,17nm,0.6s					
KAIM	Kayak Island	85.29	17	P	P	02 20 12.8 -0.1
	baz=212					
LYN	LuoYang	85.36	310	P	P	02 20 15.3 +1.5
LYN				pmax	pmax	
	comp=Z,27nm,0.7s					
SKT	Skwentna	85.42	13	P	P	02 20 13.2 -0.3
	baz=206					
L20K	Farewell, AK	85.42	11	P	P	02 20 13.5 0.0
	baz=203					
G08A	Pilot Rock	85.42	38	IAmb	IAmb	02 20 16.1
	comp=Z,23nm,1.2s					
GLI	Glacier Island	85.43	15	P	P	02 20 13.6 +0.1
	baz=210					
J17K	VABM Dome	85.43	9	P	P	02 20 13.6 +0.1
	baz=199					
MXC	Moxie City	85.43	36	IAmb	IAmb	02 20 16.0
	comp=Z,10nm,0.8s					
EYAK	Cordova Ski Ar	85.47	16	P	P	02 20 13.6 -0.1
	baz=211					
M22K	Willow	85.51	13	P	P	02 20 13.7 -0.1
	baz=207					
KNK	Knik Glacier	85.58	14	P	P	02 20 14.5 +0.2
	baz=208					
PMR	Palmer	85.58	14	P	P	02 20 14.3 +0.1
	baz=208,SNR=5.5					
BJI	Beijing	85.58	316	P	P	02 20 15.3 +0.6
BJI				pmax	pmax	
	comp=Z,5.0nm,0.8s					
LTY	Liberty	85.64	35	IAmb	IAmb	02 20 16.6
	comp=Z,14nm,1.2s					
E07A	Sunnyside	85.67	36	IAmb	IAmb	02 20 17.3
	comp=Z,19nm,1.0s					
HAWA	Hanford	85.75	37	IAmb	IAmb	02 20 17.6
	comp=Z,17nm,0.9s					
J18K	Innoko River	85.85	10	P	P	02 20 15.9 +0.4
	baz=201					
U33K	Whale Pass	85.88	24	P	P	02 20 16.2 +0.5
	baz=222					
V35K	Ketchikan	85.88	25	P	P	02 20 16.3 +0.5
	baz=224					
WAH2	Wahluke Slope	85.94	36	IAmb	IAmb	02 20 17.8
	comp=Z,8.4nm,0.7s					
SML	Sawmill	85.95	14	P	P	02 20 16.7 +0.6
	baz=208					
CUT	Chulitna	86.06	13	P	P	02 20 16.4 0.0
	baz=207					
M23K	Glacier View	86.08	14	P	P	02 20 16.6 0.0
	baz=209					
PPLA	Purkeypile	86.12	12	P	P	02 20 16.9 0.0
	baz=205					
BMRM	Bremner River	86.13	16	IAmb	IAmb	02 20 17.5
	comp=Z,14nm,0.7s					
BMRM	Bremner River	86.13	16	P	P	02 20 17.1 +0.2
	baz=212,SNR=6.8					
S31K	Pelican	86.17	21	P	P	02 20 17.9 +0.9
	baz=219					
MESA	MESA	86.18	18	P	P	02 20 17.4 0.0
	baz=214					
K20K	Telida	86.19	11	P	P	02 20 17.6 +0.5
	baz=203					
SCM	Sheep Creek Mo	86.21	14	P	P	02 20 17.5 +0.2
	baz=209,SNR=9.9					
MFID	Camas Ranch	86.21	41	IAmb	IAmb	02 20 19.8
	comp=Z,10nm,1.0s					
H16K	Elim	86.21	7	P	P	02 20 18.0 +0.9
	baz=196					
KLU	Klutina	86.25	15	P	P	02 20 18.0 +0.6
	baz=211					
CRQE	Cirque	86.34	17	P	P	02 20 18.5 +0.5
	baz=213					
G15K	Niukluk	86.36	6	P	P	02 20 18.4 +0.6
	baz=194					
S32K	Killisnoo	86.37	22	P	P	02 20 19.0 +1.1
	baz=221					
WRAK	Wrangell Islan	86.40	24	P	P	02 20 19.3 +1.1
	baz=223					
D08A	Wollman Farm,	86.48	36	IAmb	IAmb	02 20 20.9
	comp=Z,21nm,1.0s					
PNL	Peninsula	86.51	19	P	P	02 20 19.2 +0.6
	baz=216					
J19K	Poorman	86.52	10	P	P	02 20 19.5 +0.8
	baz=202					
SEY	Seymchan	86.56	347	P	P	02 20 19.1 +0.3
	comp=Z,13nm,0.8s,baz=135,slow=6.1,SNR=26					
	comp=Z,13nm,0.8s					
E09A	Wood Farm, Sta	86.60	37	IAmb	IAmb	02 20 21.8
	comp=Z,17nm,1.1s					
PINM	Pinnacle	86.60	18	P	P	02 20 19.1 0.0
	baz=216					
N25K	Chitina, Valde	86.67	16	P	P	02 20 19.7 +0.2
	baz=212,SNR=8.4					
M24K	Tolsona, Glenn	86.72	15	P	P	02 20 20.6 +0.9
	baz=210					
GLB	Gilahina Butte	86.73	16	IAmb	IAmb	02 20 20.3
	comp=Z,10nm,0.6s					
WAT6	Susitna Watana	86.77	14	P	P	02 20 20.2 +0.2
	baz=209,SNR=12					
H17K	Granite Mounta	86.79	8	P	P	02 20 20.0 +0.2
	baz=198					
WAT1	Susitna Watana	86.81	13	P	P	02 20 20.2 +0.2
	baz=208					
MCARA	McCarthy VSAT	86.89	16	IAmb	IAmb	02 20 22.4
	comp=Z,26nm,1.2s					
MCARA	McCarthy VSAT	86.89	16	P	P	02 20 20.5 +0.1
	baz=213					
G16K	Koyuk River	86.93	7	P	P	02 20 20.9 +0.4
	baz=196					
J20K	Nowinta River	86.94	11	P	P	02 20 21.0 +0.4
	baz=203					
P29M	Windy Craggy	86.99	20	IAmb	IAmb	02 20 22.9
	comp=Z,16nm,1.1s					
P29M	Windy Craggy	86.99	20	P	P	02 20 21.6 +0.7
	baz=218					
CHUM	Lake Minchumin	87.00	11	P	P	02 20 20.8 -0.1
	baz=205					
TRF	Thorofare Moun	87.00	12	P	P	02 20 20.9 -0.2
	baz=207					
R32K	Eaglecrest	87.00	22	P	P	02 20 21.6 +0.7
	baz=221					
CTG	Chitna Glacier	87.00	17	P	P	02 20 21.7 +0.6
	baz=215,SNR=6.2					
TMUT	Trail Mountain	87.01	46	IAmb	IAmb	02 20 24.4
	comp=Z,12nm,1.1s					
B08A	Colville Reser	87.02	35	IAmb	IAmb	02 20 22.7
	comp=Z,15nm,0.8s					
GCSA	Galena City Sc	87.03	9	P	P	02 20 21.4 +0.4
	baz=201					
PLID	Pearl Lake	87.03	39	IAmb	IAmb	02 20 23.5
	comp=Z,25nm,1.4s					
LLLB	Lillooet	87.06	32	IAmb	IAmb	02 20 23.2
	comp=Z,16nm,1.1s					
HLID	Hailey	87.16	41	IAmb	IAmb	02 20 24.6
	comp=Z,9.4nm,0.9s					
O28M	Mount Upton	87.17	18	P	P	02 20 22.4 +0.4
	baz=216					
H18K	Honhosa River	87.20	9	P	P	02 20 22.4 +0.6
	baz=199					
HARP	HAARP	87.21	15	P	P	02 20 22.7 +0.7
	baz=211					
G17K	Kiwalik Mounta	87.23	8	P	P	02 20 21.9 0.0
	baz=197					
O29M	Mount Kennedy	87.26	19	P	P	02 20 23.2 +0.9
	baz=217					
C09A	Chrisman Ranch	87.27	36	IAmb	IAmb	02 20 24.2
	comp=Z,21nm,1.1s					
DHY	Denali Highway	87.28	14	P	P	02 20 22.1 -0.3
	baz=209					
PLBC	Pleasant Camp	87.29	20	P	P	02 20 23.3 +1.0
	baz=219					
TROLL	Troll, Antarti	87.35	180	⇑P	P	02 20 22.0 -0.7
	comp=Z,396nm,0.8s					
SRU	San Rafael Swe	87.38	46	IAmb	IAmb	02 20 25.3
	comp=Z,9.6nm,0.8s					
P17A	Butcher Ranch,	87.42	46	IAmb	IAmb	02 20 55.0
	comp=Z,9.5nm,0.6s					
BPAW	Bear Paw Mtn.	87.44	12	P	P	02 20 22.2 -0.8
	baz=206					
I20K	Naaghedeneel	87.46	10	P	P	02 20 23.2 +0.3
	baz=203					
MCK	McKinley	87.53	13	P	P	02 20 23.4 +0.1
	baz=208					
VHRN	Van Horn	87.55	56	IAmb	IAmb	02 20 26.9
	comp=Z,15nm,1.2s					
T35M	Bob Quinn	87.60	24	P	P	02 20 24.8 +0.9
	baz=225					
P30M	Million Dollar	87.62	20	P	P	02 20 25.1 +1.2
	baz=219					
PAX	Paxson	87.63	15	P	P	02 20 23.7 -0.3
	baz=211					
SKAG	Skagway	87.63	21	P	P	02 20 24.8 +0.9
	baz=220					
MNTX	Cornudas Mount	87.65	55	IAmb	IAmb	02 20 26.9
	comp=Z,7.6nm,0.9s					
SNAA	Sanae	87.65	179	⇑P	P	02 20 23.0 -1.1
	comp=Z,36nm,0.5s					
SNAA	Sanae	87.65	179	P	P	02 20 23.2 -0.9
SNAA	Sanae	87.65	179	P	P	02 20 23.1 -0.9
	comp=Z,1.5nm,0.5s,baz=207,slow=8.9,SNR=57					
SNAA				pP	pP	02 22 37.0 +1.0
	comp=Z,1.1nm,0.9s,baz=142,slow=5.6,SNR=3.3					
	comp=Z,1.5nm,0.5s					
YUK8	Steele Glacier	87.70	18	P	P	02 20 25.3 +0.8
	baz=216,SNR=17					
XAN	Xi'an	87.71	308	P	P	02 20 26.3 +1.3
XAN				pmax	pmax	
	comp=Z,30nm,0.9s					
M26K	Nabesna, AK	87.75	16	P	P	02 20 25.4 +0.9
	baz=213					
TCUT	Toone Canyon	87.79	44	IAmb	IAmb	02 20 27.5
	comp=Z,14nm,0.9s					
VNA3	Neumayer Olymp	87.81	177	⇑P	P	02 20 24.0 -0.8
	comp=Z,19nm,0.6s					
H19K	Roundabout Mou	87.83	9	IAmb	IAmb	02 20 25.9
	comp=Z,14nm,0.9s					
H19K	Roundabout Mou	87.83	9	P	P	02 20 25.2 +0.5
	baz=201					
YUK6	Outpost Mounta	87.84	19	P	P	02 20 25.6 +0.4
	baz=217					
G18K	Tagagawik	87.86	8	P	P	02 20 24.6 -0.3
	baz=199					
BSUT	Blindstream Ca	87.93	45	IAmb	IAmb	02 20 28.3
	comp=Z,12nm,1.0s					
S34M	Telegraph Cree	87.94	23	P	P	02 20 26.8 +1.4
	baz=224,SNR=8.6					
TX31	Lajitas Ar. Si	87.96	58	IAmb	IAmb	02 20 28.8
	comp=Z,9.3nm,0.9s					
TXAR	Lajitas Array	87.96	58		P	02 20 27.1 +0.8
TXAR	Lajitas Array	87.96	58	P	P	02 20 28.1 +1.8
	comp=Z,6.2nm,0.8s,baz=216,slow=6.2,SNR=19					
TXAR				pP	pwP	02 22 40.0 -0.9
	comp=Z,1.0nm,0.8s,baz=307,slow=2.9,SNR=4.4					
	comp=Z,6.2nm,0.8s					
HYT	Haines Junctio	88.00	19	IAmb	IAmb	02 20 27.4
	comp=Z,11nm,0.9s					
HYT	Haines Junctio	88.00	19	P	P	02 20 26.8 +1.0
	baz=218,SNR=6.6					
M27K	Edge Creek, AK	88.00	16	P	P	02 20 26.9 +1.1
	baz=214,SNR=13					
H20K	Anotleneega Mo	88.04	10	P	P	02 20 26.7 +1.0
	baz=202					
PV10	Paradox Valley	88.04	48	IAmb	IAmb	02 20 28.0
	comp=Z,14nm,1.2s					
F17K	Baldwin Pennin	88.07	7	P	P	02 20 26.5 +0.8
	baz=196					
PV18	Skein Mesa, Pa	88.07	48	IAmb	IAmb	02 20 28.3
	comp=Z,9.6nm,1.1s					
YUK4	Talbot Arm	88.07	18	P	P	02 20 27.8 +1.6
	baz=217					
PV23	Carpenter Ridg	88.10	48	IAmb	IAmb	02 20 28.7
	comp=Z,10nm,0.9s					
PV12	Saucer Basin,	88.18	48	IAmb	IAmb	02 20 29.6
	comp=Z,13nm,1.1s					
L26K	Log Cabin Wild	88.19	15	P	P	02 20 27.2 +0.7
	baz=213,SNR=7.9					
I21K	Tanana	88.24	11	P	P	02 20 27.2 +0.6
	baz=205					
VNA2	Neumayer--Watz	88.25	177	⇑P	P	02 20 26.3 -0.5
	comp=Z,14nm,0.8s,baz=175,slow=4.1					
NEA2	Nenana	88.26	12	P	P	02 20 26.4 -0.4
	baz=208					
P32M	Atlin	88.26	21	P	P	02 20 27.7 +0.8
	baz=222					
K24K	Donnelly Dome	88.27	14	P	P	02 20 27.6 +0.7
	baz=211					
TASM	ASL Pad, Albuq	88.29	52	IAmb	IAmb	02 20 29.7
	comp=Z,8.2nm,1.1s					
TASM	ASL Pad, Albuq	88.29	52	IAmb	IAmb	02 20 29.7
	comp=Z,8.0nm,1.1s					
TASM	ASL Pad, Albuq	88.29	52	IAmb	IAmb	02 20 29.6
	comp=Z,8.5nm,1.2s					
ABQ	Albuquerque	88.29	52	IAmb	IAmb	02 20 29.7
	comp=Z,7.9nm,1.1s					
ANMO	Albuquerque	88.29	52		P	02 20 28.6 +0.7
ANMO				IAmb	IAmb	02 20 29.6
	comp=Z,7.6nm,1.1s					
Q32M	Nakina River	88.30	22	P	P	02 20 28.3 +1.0
	baz=223					
O30N	Mendenhall	88.39	19	P	P	02 20 28.3 +0.8
	baz=219,SNR=8.5					
ALPN	Alpine	88.42	57	IAmb	IAmb	02 20 30.5
	comp=Z,8.4nm,1.0s					
RIDG	Independent Ri	88.43	14	P	P	02 20 27.9 +0.3
	baz=212,SNR=5.2					
VNA1	Neumayer--Stat	88.48	177	⇑P	P	02 20 27.4 -0.4
	comp=Z,16nm,0.8s					
H21K	Melozitna Rive	88.53	11	P	P	02 20 28.2 +0.2
	baz=204					
HDA	Harding Lake	88.54	13	P	P	02 20 28.0 0.0
	baz=210					
L27K	Beaver Creek,	88.60	16	P	P	02 20 28.6 +0.2
	baz=214					
BCAR	Beaver Creek A	88.62	16	P	P	02 20 29.2 +0.7
E17K	Hotham Inlet	88.62	7	P	P	02 20 29.0 +0.6
	baz=196					
N30M	Aishikik Lake	88.62	19	P	P	02 20 29.2 +0.6
	baz=219					
IMAR	Indian Mountai	88.67	10	P	P	02 20 28.8 +0.2
HILR	Hailar Array B	88.69	325	P	P	02 20 29.2 +0.1
	comp=Z,4.5nm,0.6s,baz=123,slow=5.5,SNR=6.7					
	comp=Z,4.5nm,0.6s					
WHY	Whitehorse	88.69	20	P	P	02 20 29.8 +0.8
	baz=220					
DLBC	Dease Lake	88.73	23	P	P	02 20 30.3 +1.2
	baz=225					
RDMU	Red Mountain	88.74	45	IAmb	IAmb	02 20 31.4
	comp=Z,7.9nm,0.8s					
COLA	College	88.76	13	P	P	02 20 28.8 -0.2
COLA	College	88.76	13	P	P	02 20 28.7 -0.3
	baz=209					
AHID	Auburn Hatcher	88.82	43	IAmb	IAmb	02 20 32.2
	comp=Z,8.8nm,0.9s					
SCRK	Sand Creek	88.84	15	IAmb	IAmb	02 20 30.6
	comp=Z,8.5nm,0.9s					
SCRK	Sand Creek	88.84	15	P	P	02 20 29.9 +0.3
	baz=212					
IL31		88.87	13	IAmb	IAmb	02 20 29.8
	comp=Z,13nm,1.0s					
ILAR	Eielson Array	88.87	13	P	P	02 20 28.9 -0.6
ILAR					pP	02 22 40.2 -2.1
ILAR	Eielson Array	88.87	13	P	P	02 20 29.1 -0.6
	comp=Z,8.2nm,0.9s,baz=227,slow=5.5,SNR=41					
ILAR				pP	pP	02 22 42.7 +0.4
	comp=Z,1.2nm,1.0s,baz=219,slow=6.9,SNR=5.3					
	comp=Z,8.2nm,0.9s					
F19K	Shaleruckik Mo	88.87	8	P	P	02 20 29.8 +0.3
	baz=200					
H22K	Ishtalitna Cre	88.99	11	P	P	02 20 30.6 +0.4
	baz=206					
M29M	Somme Creek	89.00	18	P	P	02 20 31.2 +0.8
	baz=217					
HHC	Hu-ho-hao-te	89.03	315	eP	P	02 20 33.0 +2.0
HHC				pmax	pmax	
	comp=Z,15nm,0.8s					
HHC				pmax	pmax	
	comp=Z,760nm,5.3s					
P33M	Teslin, Yukon	89.03	21	P	P	02 20 31.4 +0.9
	baz=222					
N31M	Braeburn, Yuko	89.04	19	P	P	02 20 31.4 +0.9
	baz=220					
POKR	Poker Plat Res	89.06	13	P	P	02 20 30.3 -0.2
	baz=209					
J25K	Salcha River,	89.06	14	IAmb	IAmb	02 20 31.2
	comp=Z,7.7nm,0.7s					
J25K	Salcha River,	89.06	14	P	P	02 20 30.4 -0.1
	baz=211					
R33M	Jennings River	89.07	22	IAmb	IAmb	02 20 32.9
	comp=Z,10nm,1.1s					
R33M	Jennings River	89.07	22	P	P	02 20 32.0 +1.2
	baz=224					
E18K	Tukpahlearik C	89.08	7	P	P	02 20 31.2 +0.7
	baz=197					
D17K	Noatak River	89.09	6	P	P	02 20 31.9 +1.4
	baz=195					
G21K	Allakaket	89.20	10	P	P	02 20 31.8 +0.7
	baz=204					
DLMT	Dillon	89.21	40	IAmb	IAmb	02 20 33.8
	comp=Z,6.6nm,0.9s					
H23K	Yukon River	89.27	12	P	P	02 20 30.8 -0.6
	baz=207					
S22A	4UR Ranch, Cre	89.29	49	IAmb	IAmb	02 20 34.6
	comp=Z,10.0nm,1.3s					
K27K	Chicken	89.34	15	P	P	02 20 33.2 +1.4
	baz=214					
F20K	Avaraart Lake	89.36	9	P	P	02 20 32.5 +0.7
	baz=202					
J26L	Joseph Creek	89.38	14	P	P	02 20 33.1 +1.1
	baz=213					
O20A	White River Ci	89.42	46	IAmb	IAmb	02 20 34.7
	comp=Z,8.0nm,0.9s					
RDOG	Red Dog Mine	89.45	6	P	P	02 20 33.4 +1.1
	baz=195					
CMAR	Chiang Mai Arr	89.46	290		P	02 20 33.6 +0.2
CMAR	Chiang Mai Arr	89.46	290	P	P	02 20 35.3 +1.9
	comp=Z,7.3nm,0.9s,baz=127,slow=3.0,SNR=30					
E19K	Redstone River	89.53	8	P	P	02 20 33.6 +1.0
	baz=200					
M30M	Minto, Yukon	89.59	18	P	P	02 20 33.7 +0.7
	baz=219,SNR=15					
PLCA	Paso Flores	89.61	134	P	P	02 20 34.4 +0.6
PLCA	Paso Flores	89.61	134	P	P	02 20 35.4 +1.5
	comp=Z,3.3nm,0.9s,baz=197,slow=5.4,SNR=6.9					
	comp=Z,3.3nm,0.9s					
L29M	L29M	89.63	17	P	P	02 20 34.1 +0.9
	baz=218,SNR=15					
N32M	Quiet Lake	89.64	20	P	P	02 20 35.0 +1.7
	baz=222					
BW06	Boulder Array	89.81	44	IAmb	IAmb	02 20 36.0
	comp=Z,7.0nm,0.8s					
PD31	Pinedale Array	89.81	44	IAmb	IAmb	02 20 36.0
	comp=Z,7.3nm,0.8s					
PDAR	Pinedale Array	89.81	44	P	P	02 20 34.5 -0.2
PDAR	Pinedale Array	89.81	44	P	P	02 20 35.2 +0.4
	comp=Z,4.4nm,0.7s,baz=210,slow=3.4,SNR=45					
PDAR				PP	PP	02 24 17.1 -2.2
	comp=Z,1.0nm,1.1s,baz=269,slow=5.9,SNR=5.1					
	comp=Z,4.4nm,0.7s					
YHL	Hebgen Lake	89.81	41	IAmb	IAmb	02 20 36.8
	comp=Z,5.7nm,0.9s					
F21K	Alatna River	89.86	10	P	P	02 20 34.3 +0.2
	baz=204					
G22K	Bettles	89.90	10	P	P	02 20 34.9 +0.6
	baz=206					
BOZ	Bozeman (W)	89.91	40	IAmb	IAmb	02 20 37.0
	comp=Z,5.3nm,0.9s					
G23K	Bananza Creek	89.97	11	P	P	02 20 35.2 +0.5
	baz=207					
M31M	Drury Creek, Y	90.02	19	P	P	02 20 35.2 +0.3
	baz=221					
DAWY	Dawson	90.06	16	P	P	02 20 35.9 +0.7
	baz=216					
I26K	Coal Creek Min	90.15	14	P	P	02 20 36.2 +0.7
	baz=213					
PZH	PanZhiHua	90.16	298	P	P	02 20 38.3 +1.7
C18K	Utukok River	90.20	6	P	P	02 20 36.4 +0.7
	baz=196					
F22K	Jorn River	90.33	10	P	P	02 20 37.0 +0.7
	baz=205					
WTLY	Watson Lake, Y	90.36	23	P	P	02 20 37.9 +1.3
	baz=226					
K29M	Barlow Dome	90.38	17	P	P	02 20 37.1 +0.4
	baz=218					
D19K	Kuna River	90.40	8	P	P	02 20 37.5 +0.8
	baz=199					
COLD	Coldfoot	90.40	11	P	P	02 20 37.6 +1.0
	baz=207					
E20K	Nigu River	90.42	8	P	P	02 20 37.6 +0.8
	baz=201					
MAYO	Mayo, Yukon	90.64	18	P	P	02 20 38.9 +1.1
	baz=220					
I27K	Kandik River	90.76	15	P	P	02 20 39.0 +0.6
	baz=214					
D20K	Etivluk River	90.80	8	P	P	02 20 39.3 +0.8
	baz=201					
B18K	Kokolik River	90.83	6	P	P	02 20 39.7 +1.1
	baz=196					
TOAD	Toad River Com	90.84	25	P	P	02 20 39.5 +0.7
	baz=229,SNR=8.9					
LIRD	Liard River Hi	90.88	24	P	P	02 20 40.2 +1.2
	baz=228					
E22K	Anaktuvuk Pass	90.95	10	P	P	02 20 40.1 +0.9
	baz=205					
I28M	Miner Creek	91.04	15	IAmb	IAmb	02 20 40.0
	comp=Z,4.9nm,0.8s					
I28M	Miner Creek	91.04	15	P	P	02 20 40.1 +0.4
	baz=216					
E23K	Chandalar	91.25	11	P	P	02 20 41.7 +1.1
	baz=207					
J30M	Hart River	91.28	17	P	P	02 20 41.9 +1.0
	baz=219					
H27K	Steamboat Moun	91.30	14	IAmb	IAmb	02 20 42.1
	comp=Z,6.2nm,1.1s					
H27K	Steamboat Moun	91.30	14	P	P	02 20 41.7 +0.8
	baz=215					
G26K	Porcupine Rive	91.40	13	IAmb	IAmb	02 20 43.5
	comp=Z,9.3nm,1.0s					
G26K	Porcupine Rive	91.40	13	P	P	02 20 42.8 +1.6
	baz=212					
E24K	Your Creek	91.46	11	P	P	02 20 42.9 +1.3
	baz=208					
D22K	Ayikyak River	91.50	9	P	P	02 20 42.9 +1.3
	baz=204					
TGTN	Hyland Airport	91.53	22	P	P	02 20 43.4 +1.4
	baz=226					
F25K	Christian Rive	91.57	12	P	P	02 20 43.6 +1.5
	baz=211					
A19K	Wainwright	91.71	6	P	P	02 20 43.1 +0.6
	baz=197					
G27K	Doyon Strip	91.75	14	P	P	02 20 43.0 +0.2
	baz=214					
I30M	Mount Dempster	91.77	17	P	P	02 20 42.9 -0.2
	baz=219					
D23K	Nanushuk River	91.89	10	P	P	02 20 44.7 +1.3
	baz=206					
B21K	Ikpikpuk River	91.91	8	P	P	02 20 45.3 +1.8
	baz=203					
F26K	Sheenjek River	91.96	13	P	P	02 20 44.7 +0.9
	baz=212					
E25K	Arctic Village	92.04	12	P	P	02 20 45.2 +1.0
	baz=211					
H29M	Whitestone	92.04	15	P	P	02 20 45.1 +0.9
	baz=217					
LZH	Lanzhou	92.34	308	eP	P	02 20 48.8 +2.3

LZH pmax pmax
comp=Z,23nm,1.2s
EPYK Eagle Plains 92.57 16 P **P 02 20 46.2 -0.5**
baz=219
G29M Pine Creek 92.68 15 P **P 02 20 47.6 +0.5**
baz=218
H31M Peel River 92.76 17 P **P 02 20 47.9 +0.3**
baz=221
G30M tAoh Zraii Nji 93.17 15 P **P 02 20 50.2 +0.8**
baz=219
A21K Barrow 93.25 7 P **P 02 20 50.6 +1.1**
baz=201
G31M Satah River 93.63 16 P **P 02 20 51.1 -0.3**
baz=221
E28M Babbage River 93.69 13 P **P 02 20 52.2 +0.6**
baz=216
C26K Camden Bay 93.71 11 P **P 02 20 53.6 +1.9**
baz=212
F30M Barrier River 93.77 15 P **P 02 20 53.9 +1.8**
baz=220
RSSD Black Hills 94.00 44 **P 02 20 53.1 -0.8**
RSSD IAmb IAmb 02 20 56.2
comp=Z,6.3nm,1.1s
F31M Tsiigehtchic 94.15 16 **P 02 20 53.2 -0.5**
F31M Tsiigehtchic 94.15 16 P **P 02 20 54.0 +0.2**
baz=222
INK Inuvik 94.86 15 P **P 02 20 56.5 -0.4**
comp=Z,3.5nm,0.9s,baz=7.5,slow=2.8,SNR=5.2
comp=Z,3.5nm,0.9s
ZALV Zalesovo Beam 110.27 321 PKiKP **PKiKP 02 26 01.2 -1.8**
comp=Z,1.4nm,0.6s,baz=298,slow=0.3,SNR=7.7
MKAR Makanchi Array 110.86 313 PKiKP **PKiKP 02 26 03.1 -1.2**
comp=Z,0.6nm,0.5s,baz=72,slow=2.6,SNR=8.9
KURBB Kurchatov Arra 113.76 317 PKiKP **PKiKP 02 26 08.6 -1.1**
comp=Z,1.4nm,0.7s,baz=90,slow=1.9,SNR=14
BVAR Borovoye Array 118.84 320 PKP **PKPdf 02 26 18.8 -0.7**
comp=Z,4.1nm,0.4s,baz=118,slow=2.2,SNR=16
SPITS Spitsbergen Ar 122.19 356 PKP **PKPdf 02 26 24.5 -0.8**
comp=Z,9.4nm,0.7s,baz=57,slow=6.1,SNR=6.7
ARTI Arti 125.15 325 **PKPdf 02 26 31.2 -0.2**
ARCES ARCESS Array B 129.14 349 **PKPdf 02 26 38.3 -0.4**
ARCES ARCESS Array B 129.14 349 PKP **PKPdf 02 26 38.0 -0.8**
comp=Z,3.6nm,0.6s,baz=359,slow=1.0,SNR=24
FINES FINESS Array B 135.90 343 PKhKP PKPpre 02 26 38.2
comp=Z,1.7nm,0.8s,baz=336,slow=4.2,SNR=4.6
FINES PKP **PKPdf 02 26 50.1 -1.5**
comp=Z,2.0nm,0.6s,baz=90,slow=3.8,SNR=5.7
FINES SKP 02 29 26.8
comp=Z,6.6nm,0.9s,baz=112,slow=1.5,SNR=8.0
NOA NORSAR Array B 139.25 352 PKhKP PKPpre 02 26 47.3
comp=Z,1.7nm,0.6s,baz=16,slow=4.6,SNR=9.1
NOA PKP **PKiKP 02 26 59.4 -0.9**
comp=Z,1.0nm,1.0s,baz=14,slow=4.0,SNR=4.8
NOA SKPbc **SKPbc 02 29 36.0 +0.1**
comp=Z,3.5nm,0.9s,baz=16,slow=2.6,SNR=7.0
HFS Hagfors 139.78 350 PKhKP PKPpre 02 26 50.7
comp=Z,4.2nm,0.5s,baz=64,slow=3.4,SNR=28
HFS SKPbc **SKPbc 02 29 37.9 +0.7**
comp=Z,2.1nm,0.9s,baz=126,slow=2.5,SNR=3.6
AKASG Malin Array Be 142.94 330 **PKPdf 02 27 02.1 -2.5**
AKASG Malin Array Be 142.94 330 PKP **PKPdf 02 27 02.0 -2.7**
comp=Z,24nm,0.5s,baz=44,slow=4.3,SNR=152
KIEV Kiev 142.95 330 PKPdf **PKPdf 02 27 02.1 -2.5**
MCD Coleburn Disti 143.21 4 *e*P PKPab 02 27 02.6 -0.6
KPL Plockton 143.25 6 *e*P PKPab 02 27 02.9 -0.5
INVG Invergeldie, C 144.30 5 *e*P **PKPdf 02 27 06.3 -0.6**
LAWE Loch Awe, Argy 144.34 6 *e*P **PKPdf 02 27 06.4 -0.5**
EDI Edinburgh 144.86 4 *e*P **PKPdf 02 27 07.9 +0.1**
R9F13 Warsaw-Wawer 145.07 338 *e*PKPc 02 28 16.8
BNN Bunyan 145.23 309 **PKPbc 02 27 09.9 -0.6**
EKA Eskdalemuir Ar 145.45 4 PKPbc **PKPbc 02 27 09.9 -0.4**
comp=Z,10nm,0.7s,baz=349,slow=2.5,SNR=20
ESK Eskdalemuir 145.46 4 *e*P **PKPdf 02 27 08.9 +0.1**
GAL1 Galloway 145.78 6 *e*P **PKPdf 02 27 10.3 +0.8**
ILTH Belurgan, Co L 146.42 8 *e*P **PKPbc 02 27 12.5 -0.6**
BRTR Keskin Array B 146.48 311 **PKPdf 02 27 12.0 +0.7**
BRTR Keskin Array B 146.48 311 PKPbc **PKPbc 02 27 13.7 -0.2**
comp=Z,5.9nm,0.7s,baz=135,slow=4.8,SNR=35
HPK Haverah Park 146.91 3 *e*P **PKPbc 02 27 14.0 -0.4**
BURAR Bucovina Array 146.98 330 **PKPdf 02 27 12.6 +0.8**
ANTO Ankara 147.00 312 **PKPbc 02 27 15.0 -0.2**
MMAI Mount Meron Ar 147.28 299 PKPbc **PKPbc 02 27 16.8 +0.7**
comp=Z,9.3nm,0.5s,baz=64,slow=3.8,SNR=29
OSTC Ostas 148.08 342↑*e*PKP **PKPbc 02 27 18.0 +0.4**
MLR Muntele Rosu 148.09 326 PKPbc **PKPbc 02 27 17.8 -0.1**
CHVC Chvalec 148.10 342↑*e*PKP **PKPbc 02 27 18.0 +0.4**
OKC Ostrava-Krasne 148.10 339↑*e*PKP **PKiKP 02 27 18.2 -0.6**
STEB Steborice 148.14 339↑*e*PKP **PKPbc 02 27 17.6 -0.1**
STEB *e*PKPab **PKPab 02 27 23.1 +0.1**
UPC Upice 148.18 342↑*e*PKP **PKPbc 02 27 18.3 +0.5**
DPC Dobruska-Polom 148.23 341↑*e*PKP **PKPbc 02 27 18.4 +0.4**
DPC *e*PKPab **PKPab 02 27 24.3 +0.9**
KRLC Kraliky 148.33 341↑*e*PKP **PKPbc 02 27 18.7 +0.5**
MAUC Maruska 148.61 339↑*e*PKP **PKiKP 02 27 19.7 -0.2**
PRA Prague 149.02 343↑*e*PKP **PKPbc 02 27 19.9 +0.1**
PRU Pruhonice 149.06 343↑*e*PKP **PKPbc 02 27 20.0 +0.1**
TREC Trest 149.42 341↑*e*PKP **PKPbc 02 27 21.1 +0.3**
ZVC Zvikov 149.66 343↑*e*PKP **PKPbc 02 27 21.4 0.0**
BEBN Eben Emael 149.93 354 *d*PKP **PKPbc 02 27 21.7 -0.2**
BEBN *d*PKPab **PKPab 02 27 30.3 0.0**
UCC Uccle 150.03 356 *d*PKP **PKPbc 02 27 21.9 -0.3**
MEM Membach 150.08 354 *d*PKP **PKPbc 02 27 21.8 -0.5**
BTNL Ternell 150.09 354 *d*PKP **PKPab 02 27 31.0 -0.1**
KHC Kasperske Hory 150.11 343↑*e*PKP **PKiKP 02 27 22.8 -0.2**
KHC *e*PKPAB **PKPab 02 27 31.1 -0.2**
BSTI Sart Tilman 150.15 354 *d*PKP **PKPbc 02 27 22.6 +0.1**
GERES GERESS Array B 150.33 343 PKPbc **PKPbc 02 27 23.1 0.0**
comp=Z,6.8nm,0.8s,baz=29,slow=3.0,SNR=36
BHOU Houvegnez 150.34 354 *d*PKP **PKPbc 02 27 22.9 -0.1**
BHOU *d*PKPab **PKPab 02 27 32.0 -0.1**
BGES Gesves 150.39 355 *d*PKP **PKPbc 02 27 22.8 -0.3**
BGES *d*PKPab **PKPab 02 27 31.6 -0.8**
BMRD Maredsous 150.50 355 *d*PKP **PKPbc 02 27 23.4 +0.1**
BMRD *d*PKPab **PKPab 02 27 32.5 -0.3**
CONA Conrad Observa 150.51 340 *i* PKP **PKiKP 02 27 23.9 -0.1**
comp=Z,13nm,0.6s,SNR=17
CONA Conrad Observa 150.51 340 *e*P **PKiKP 02 27 23.9 -0.1**
comp=Z,13nm,0.6s,SNR=17
RONA Rosalia, Austr 150.56 339 *i* PKP **PKiKP 02 27 23.9 -0.1**
comp=Z,17nm,0.5s,SNR=26
RONA Rosalia, Austr 150.56 339 *e*P **PKiKP 02 27 23.9 -0.1**
comp=Z,17nm,0.5s,SNR=26
RCHB Rochefort 150.61 355 *d*PKP **PKPbc 02 27 23.2 -0.3**
DOU Dourbes 150.72 355 *d*PKP **PKPbc 02 27 23.8 0.0**
WLF Walferdange 151.00 353 *d*PKP **PKPbc 02 27 24.5 0.0**
WLF *d*PKPab **PKPab 02 27 35.0 0.0**
MOA Molln 151.07 342 *i* PKP **PKPbc 02 27 24.6 -0.2**
comp=Z,4.9nm,0.6s,SNR=6.1
MOA Molln 151.07 342 *e*P **PKPbc 02 27 24.6 -0.2**
comp=Z,4.9nm,0.6s,SNR=6.1
ARSA Arzberg 151.21 339 *i* PKP **PKiKP 02 27 25.5 +0.2**
comp=Z,3.2nm,1.0s
BIOA Bad Ischl, Aus 151.40 342 *i* PKP **PKPbc 02 27 25.0 -0.4**
comp=Z,7.6nm,0.9s,SNR=4.2
BIOA Bad Ischl, Aus 151.40 342 *e*P **PKPbc 02 27 25.0 -0.4**
comp=Z,7.6nm,0.9s,SNR=4.2
SOKA Soboth 151.88 339 *i* PKP **PKPbc 02 27 26.0 -0.6**
comp=Z,8.2nm,0.9s,SNR=6.8
LESA Schwarzleotal 151.91 343 *i* PKP **PKPbc 02 27 26.2 -0.5**
comp=Z,8.4nm,0.9s,SNR=5.3
KBA Koelnbreinsper 152.04 342 *i* PKP **PKPbc 02 27 26.2 -0.9**
comp=Z,5.8nm,0.6s,SNR=7.2
OBKA Obir 152.18 340 *e*PKP **PKPbc 02 27 26.1 -1.2**
comp=Z,8.4nm,1.4s
WATA Walderalm 152.28 345 *i* PKP **PKPbc 02 27 27.2 -0.3**
comp=Z,4.7nm,0.5s
RETA Reutte 152.33 346 *i* PKP **PKPbc 02 27 26.7 -0.9**
comp=Z,3.8nm,0.9s
RETA *i* PKP **PKPab 02 27 40.9 +0.1**
comp=Z,15nm,1.2s,SNR=6.6
WTTA Wattenberg 152.33 344 *i* PKP **PKPbc 02 27 27.5 -0.2**
comp=Z,8.9nm,0.5s,SNR=9.0
WTTA Wattenberg 152.33 344 *i* P **PKPbc 02 27 27.5 -0.2**
comp=Z,8.9nm,0.5s,SNR=9.0
MYKA Terra Mystica 152.36 341 *i* PKP **PKPbc 02 27 26.7 -0.9**
comp=Z,5.3nm,0.5s,SNR=4.9
MYKA Terra Mystica 152.36 341 *e*P **PKPbc 02 27 26.7 -0.9**
comp=Z,5.3nm,0.5s,SNR=4.9
MOTA Moosalm 152.38 345 *i* PKP **PKPbc 02 27 27.7 -0.1**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 152.48 345 *i* PKP **PKPbc 02 27 27.7 -0.3**
comp=Z,9.8nm,1.0s
ABTA Abfaltersbach 152.58 343 *i* PKP **PKPbc 02 27 27.4 -0.7**
comp=Z,9.9nm,0.6s,SNR=8.9
ABTA Abfaltersbach 152.58 343 *e*P **PKPbc 02 27 27.4 -0.7**
comp=Z,9.9nm,0.6s,SNR=8.9
DAVA Damuels 152.72 347 *i* PKP **PKPbc 02 27 28.4 -0.2**
comp=Z,6.8nm,0.9s
DAVA *i* PKP **PKPab 02 27 42.5 0.0**
comp=Z,3.5nm,0.5s,SNR=4.4
DAVA Damuels 152.72 347 *e*P **PKPab 02 27 42.5 0.0**
comp=Z,3.5nm,0.5s,SNR=4.4
FETA Feichten 152.78 346 *i* PKP **PKPdf 02 27 20.6 -0.3**
comp=Z,5.2nm,1.0s
ESDC Sonseca Array 160.77 12 **PKPab 02 28 17.4 -0.1**
ESDC Sonseca Array 160.77 12 PKPab **PKPab 02 28 17.3 -0.2**
comp=Z,3.9nm,1.0s,baz=346,slow=4.1,SNR=16
KEST Kesra 163.54 336 PKPab **PKPab 02 28 30.1 +0.3**
comp=Z,5.9nm,0.8s,baz=51,slow=6.4,SNR=8.0
DBIC Dimbokro 164.73 157 **PKPab 02 28 34.6 -0.8**
DBIC Dimbokro 164.73 157 PKPab **PKPab 02 28 34.9 -0.5**
comp=Z,4.3nm,1.1s,baz=264,slow=6.4,SNR=3.6
MD31 MD31 166.97 22 **PKPab 02 28 44.9 -0.1**

UCR ***31*** *02:19:33.7±1.3, 7°.56N×82°.39W, h19km±7km, MW3.8*
UPA ***31*** *02:19:33.0±1.7, 7°.38N×82°.48W, h21km±12km, ML3.7, MW4.0*
ISC 31 02:19:30.8±1.7, 7°.49N±0°.06×82°.38W±0°.04, h2km±11km, n65, σ1°.06/97, 1C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMNES	Limones	0.77	322	*e*P	Pg	02 19 47.0	+1.3
PEDE3	Pedregal, Chir	0.89	358	*e*P	Pn	02 19 51.1	+0.7
PEDE3				*e*S	Sn	02 20 03.2	-0.7
CHIR3	Chiriqui UPA,	0.91	3	*e*P	Pn	02 19 50.8	+0.2
CHIR3				AMP		02 19 53.7	
	comp=Z,1μm,0.2s						
CHIR3				*e*S	Sn	02 20 04.2	0.0
LOCO3	Loma Colorada,	0.92	358	*e*P	Pn	02 19 52.0	+1.2
LOCO3				AMP		02 19 52.4	
	comp=Z,5μm,0.1s						
LOCO3				*e*S	Sn	02 20 04.3	-0.3
LOMA3	Las Lomas, Chi	0.94	360	*e*P	Pn	02 19 51.1	+0.1
LOMA3				*e*S	Sn	02 20 04.7	-0.4
DVD	David	0.95	356	*e*P	Pn	02 19 51.3	+0.1
DVD				*e*S	Sn	02 20 04.4	-0.9
BAGA3	Bagala, Chiriq	0.99	352	*e*P	Pb	02 19 51.2	+0.5
BAGA3				AMP		02 19 51.3	
	comp=Z,774nm,0.1s						
BAGA3				*e*S	Sn	02 20 07.9	+1.6
LESP3	La Esperanza,	1.00	336	*e*P	Pg	02 19 49.8	-0.3
LESP3				*e*S	Sb	02 20 05.5	+1.0
GMAL	Guarumal, Vera	1.17	76	*e*P	Pn	02 19 54.6	+0.3
GMAL				*e*S	Sn	02 20 10.4	-0.5
GMAL	Guarumal, Vera	1.17	76	*e*P	Pb	02 19 54.0	+0.2
JEFFS	S de V. Baru	1.19	353	*e*P	Pn	02 19 54.7	+0.2
PSOM3	Paja de Sombre	1.19	3	*e*P	Pn	02 19 55.0	+0.4
PSOM3				*e*S	Sn	02 20 12.2	+0.8
PTAR3	Potrerillos Ar	1.21	355	*e*P	Pn	02 19 55.9	+1.0
PTAR3				*e*S	Sn	02 20 11.6	-0.3
DMCAL	E. de Neily	1.24	341⇓	*e*P	Pg	02 19 54.4	-0.4
BQSF3	Alto Boquete,	1.25	358	*e*P	Pn	02 19 55.7	+0.2
BQSF3				*e*S	Sn	02 20 13.3	+0.3
WILLF	Boquete	1.26	358	*e*P	Pg	02 19 54.4	-0.6
BOTL1	Boquete Panama	1.27	357	*e*P	Pg	02 19 54.7	-0.5
DAP26	falda E V. Bar	1.29	358	*e*P	Pg	02 19 54.7	-1.0
LNBQ3	Los Naranjos,	1.30	357	*e*P	Pg	02 19 55.3	-0.5
LNBQ3				AMP		02 19 57.6	
	comp=Z,594nm,0.1s						
LNBQ3				*e*S	Sn	02 20 14.6	+0.4
RSUS3	Rio de Jesus,	1.31	68	*e*P	Pn	02 19 57.2	+1.0
RSUS3				*e*S	Sn	02 20 15.1	+0.9
BRU2	Volcan	1.33	347	*e*P	Pn	02 19 57.8	+1.1
BRU2				AMP		02 19 59.1	
	comp=Z,508nm,0.2s						
BRU2				*e*S	Sn	02 20 15.9	+0.8
BRU2	Volcan	1.33	347	*e*P	Pg	02 19 56.6	+0.1
BC3P	Paso Ancho	1.34	350	*e*P	Pn	02 19 57.3	+0.5
BC3P				*e*S	Sn	02 20 16.5	+1.2
MESA3	La Mesa, Verag	1.36	61	*e*P	Pb	02 19 57.8	+0.8
MESA3				*e*S	Sn	02 20 17.0	+1.6
PTJ1	Puerto Jimnez	1.39	319	*e*P	Pn	02 19 56.0	-1.2
MARI3	Mariato, Verag	1.39	83	*e*P	Pb	02 19 58.4	+0.8
MARI3				*e*S	Sn	02 20 16.4	+0.2
RBALA	Bur	1.40	9	*e*P	Pn	02 19 57.3	-0.2
PBNVO	Pueblo Nuevo,	1.41	8	*e*P	Pn	02 19 56.9	-0.6
KKNTU	Kakint²	1.46	23	*e*P	Pn	02 19 58.2	0.0
CHGR2	Aguacate	1.46	9	*e*P	Pg	02 20 00.0	+1.1
CHGR2				AMP		02 20 00.8	
	comp=Z,796nm,0.0s						
CHGR2				*e*S	Sn	02 20 19.2	+1.1
CACAO	El Cacao, Vera	1.52	95	*e*P	Pn	02 19 59.0	0.0
CACAO				*e*S	Sn	02 20 19.0	-0.3
ALCO	Alturas Coton,	1.52	343	*e*P	Pn	02 19 58.7	-0.5
STIA3	Santiago, Vera	1.53	66	*e*P	Pn	02 19 59.3	+0.1
STIA3				*e*S	Sg	02 20 21.2	+1.3
EDP2	Potrero Grande	1.71	333	*e*P	Pn	02 20 01.2	-0.5
CALO3	Calobre, Verag	1.74	61	*e*P	Pg	02 20 04.1	-0.1
CALO3				*e*S	Sg	02 20 26.0	-0.8
FIMO	Fila Mora	1.78	327	*e*P	Pn	02 20 02.2	-0.5
PESE3	Pese, Herrera	1.80	76	*e*P	Pn	02 20 03.7	+0.7
PESE3				*e*S	Sb	02 20 26.9	-0.8
CRIS3	El Cristo, Coc	1.91	66	*e*P	Pn	02 20 05.3	+0.9
DRK0	Durika	1.96	334	*e*P	Pn	02 20 05.0	-0.3
DRK0				*e*S	Sn	02 20 31.4	+0.8
DRK0	Durika	1.96	334⇓	*i*P	Pn	02 20 05.0	-0.3
CHIT3	Chitre	2.00	76	*e*P	Pn	02 20 06.6	+0.9
CHIT3				AMP		02 20 08.0	
	comp=Z,3μm,0.0s						
CHIT3				*e*S	Sb	02 20 32.1	-1.3
EDPE	Pejibaye, P	2.04	325	*e*P	Pn	02 20 05.8	-0.5
AZU	Azuero	2.11	82	*e*P	Pb	02 20 09.4	-0.5
AZU				*e*S	Sn	02 20 34.2	+0.1
AZU	Azuero	2.11	82	*e*P	Pn	02 20 08.3	+1.1
CEUA	Cerro Uatsi, L	2.19	345	*e*P	Pb	02 20 11.3	0.0
ACHO3	Achotines, Los	2.19	92	*e*P	Pn	02 20 09.2	+0.9
ACHO3				*e*S	Sn	02 20 36.6	+0.5
LAES	El Progreso Va	2.36	344	*e*P	Pn	02 20 12.4	+1.9
BUS1	Rivas	2.46	327	*e*P	Pn	02 20 11.8	-0.5
VERH	Veragua Rainfo	2.55	342	*e*P	Pn	02 20 13.7	+0.4
PIEC	Cerro El Cedra	2.63	324	*e*P	Pn	02 20 14.6	-0.1
LCOCO	El Coco	2.83	336⇑	*i*P	Pn	02 20 19.3	+2.2
CVTV	Tajo	2.84	332	*e*P	Pn	02 20 18.1	+0.5
CVTQ	Turrialba Volc	2.85	331	*e*P	Pn	02 20 18.1	+0.3
CVTR	Volcan Turrial	2.86	332	*e*P	Pn	02 20 18.7	+0.7
VICA	Volcano Irazu	2.87	330	*e*P	Pn	02 20 18.9	+0.8
ZANG	Zanguenga, Cho	2.89	59	*e*P	Pb	02 20 22.2	-0.9
ZANG				*e*S	Sb	02 20 55.9	-3.0
ZANG	Zanguenga, Cho	2.89	59	*e*P	Pb	02 20 22.8	-0.4
BCIP	Isla Barro Col	3.02	56	*e*P	Pb	02 20 24.2	-1.2
BCIP				*e*S	Sn	02 20 57.1	+0.5
BCIP	Isla Barro Col	3.02	56	*e*P	Pb	02 20 24.5	-0.9
MLIR	Monte Lirio	3.05	55	*e*P	Pn	02 20 22.6	+2.5
MLIR				*e*S	Sn	02 20 58.5	+1.3
GAMB1	Gamboa	3.10	58	*e*P	Pn	02 20 23.2	+2.3
GAMB1				*e*S	Sb	02 21 01.2	-3.9
VBV1	V. Barva	3.11	327	*e*P	Pn	02 20 22.1	+0.8
FRIJ	El Hiral	3.15	57	*e*P	Pn	02 20 23.8	+2.4
FRIJ				*e*S	Sn	02 20 58.4	-1.2
UPA	Univ. de Panam	3.19	62	*e*P	Pn	02 20 24.1	+2.1
UPA				*e*S	Sn	02 21 02.0	+1.3
JTS	Las Juntas de	3.77	318	*e*P	Pn	02 20 29.5	-0.6

IDC ***31*** *02:22:28.5±2.1, 1°.70S×128°.39E, h0km, mb3.8/2, mbtmp3.8/3, ML3.4/1, MS4.8/1, Error ellipse: s-maj=123.3km s-min=27.9km az=68.0*
DJA ***31*** *02:22:48.0±0.4, 4°.5±3°×12°.8E±°, h10km, M3.4/5, MLv3.4/5*
ISC 31 02:22:48.3±1.1, 3°.5S±0°.1×128°.41E±0°.06, h10km, n8, σ0°.45/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.28	232	P	Pg	02 22 54.0	+0.1
AAI				S	Sg	02 22 57.6	0.0
MSAI	Masohi	0.54	72	P	Pb	02 23 00.1	+0.2
MSAI				S	Sb	02 23 07.8	0.0
NLAI	Namlea	1.34	282	P	Pn	02 23 12.6	-0.4
BNDI	Bandanaira	1.79	124	P	Pn	02 23 18.7	-0.6
WRA	Warramunga Arr	17.32	161	P	P	02 26 52.2	+0.5
	0.1nm,0.3s,baz=342,slow=12,SNR=8.1						
	2.2nm,0.8s						
ASAR	Alice Springs	20.72	166	P	Pn	02 27 29.7	-1.8
	9.6nm,0.8s,baz=345,slow=11,SNR=59						
	9.6nm,0.8s						
LEM	Lembang	20.97	260	LR	LR	02 35 49.2	
	comp=Z,2μm,18.1s,baz=334,slow=38						
MKAR	Makanchi Array	64.46	327	P	P	02 32 57.0	-28
	0.2nm,0.4s,baz=134,slow=6.2,SNR=2.3						
	0.2nm,0.4s						

GII 31 02:32:51.3±0.0, 33°.213N±0°.001×34°.591E±0°.002, h18km, Mws2.0, confirmed, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMA0B	Mount Meron ar	0.71	106	P	Pg	02 33 05.3	+0.1
MMA0B	Mount Meron ar	0.71	106	S	Sg	02 33 14.8	+0.1
KNHM	Kefar Nahum	0.89	111	P	Pb	02 33 08.1	-0.2
KNHM	Kefar Nahum	0.89	111	S	Sg	02 33 20.5	+0.1
GEM	Giv'at Ha'Em	0.90	90	P	Pb	02 33 08.0	-0.4
GEM	Giv'at Ha'Em	0.90	90	S	Sg	02 33 20.6	-0.1
HDNS	Had-Ness	0.93	108	P	Pb	02 33 08.8	0.0
HDNS	Had-Ness	0.93	108	S	Sg	02 33 21.6	0.0
NATI	Neve Ativ	0.96	87	P	Pb	02 33 08.9	-0.5
NATI	Neve Ativ	0.96	87	S	Sb	02 33 21.9	+0.2
MMLI	Mount Malkishu	1.04	138	P	Pb	02 33 10.0	-0.8
MMLI	Mount Malkishu	1.04	138	S	Sb	02 33 24.1	0.0
KSHT	Keshet	1.05	102	P	Pb	02 33 10.4	-0.5
KSHT	Keshet	1.05	102	S	Sn	02 33 25.0	-0.4
HMDT	Nahal Hemdat	1.24	140	P	Pn	02 33 13.1	-0.6
HMDT	Nahal Hemdat	1.24	140	S	Sn	02 33 30.0	+0.1
DSI	Dead Sea	1.77	158	P	Pn	02 33 20.4	-0.6
DSI	Dead Sea	1.77	158	S	Sn	02 33 42.2	-0.8
KZIT	Kziot	2.31	184	P	Pn	02 33 27.7	-0.7
KZIT	Kziot	2.31	184	S	Sn	02 33 55.0	-1.3

DJA ***31*** *03:12:16.7±0.4, 4°.N±5°×12°.7E±°, h36km±6km, M3.5/6, MLv3.5/6*
IDC ***31*** *03:12:24.0±8.5, 2°.65N×127°.24E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=137.7km s-min=105.8km az=136.0*
ISC 31 03:12:17.0±5.0, 4°.0N±0°.6×126°.6E±0°.2, h45km, n5, σ0°.16/6, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.09	256	P	Pn	03 12 35.9	0.0
SGSI				S	Sn	03 12 49.7	-0.1
FITZ	Fitzroy Crossi	21.93	182	P	P	03 17 06.8	+0.1
	4.8nm,1.1s,baz=26,slow=8.9,SNR=6.3						
	4.8nm,1.1s						
WRA	Warramunga Arr	24.93	162	P	P	03 17 36.0	-0.2
	0.4nm,0.4s,baz=340,slow=11,SNR=12						
	0.4nm,0.4s						
ASAR	Alice Springs	28.36	166	P	P	03 18 07.2	+0.1
	0.2nm,0.3s,baz=339,slow=8.3,SNR=4.4						
	0.2nm,0.3s						
STKA	Stephens Creek	38.38	159	P	P	03 19 34.0	-0.1
	1.4nm,0.7s,baz=342,slow=15,SNR=3.3						
	1.4nm,0.7s						

IDC ***31*** *03:23:32.1±4.2, 22°.25S×177°.72W, h0km, mb4.3/5, mbtmp4.3/5, Error ellipse: s-maj=98.3km s-min=42.4km az=38.0*
ISC 31 03:23:35.5±2.3, 22°.0S±0°.4×177°.6W±0°.3, h35km, n6, σ0°.23/6, mb4.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.53	246	P	P	03 30 46.3	-0.1
	3.1nm,0.6s,baz=73,slow=9.5,SNR=7.8						
	3.1nm,0.6s						
ASAR	Alice Springs	44.60	258	P	P	03 31 44.8	+0.1
	7.1nm,0.8s,baz=95,slow=7.9,SNR=29						
	7.1nm,0.8s						
WRA	Warramunga Arr	44.83	263	P	P	03 31 46.9	+0.4
	7.8nm,0.7s,baz=102,slow=7.9,SNR=38						
	7.8nm,0.7s						
FITZ	Fitzroy Crossi	53.26	263	P	P	03 32 51.0	-0.1
	4.0nm,0.7s,baz=153,slow=9.3,SNR=9.1						
	4.0nm,0.7s						
VNDA	Vanda	56.44	185	P	P	03 33 13.3	+0.1
	0.7nm,0.9s,baz=0.0,slow=4.0,SNR=4.3						
	0.7nm,0.9s						
HFS	Hagfors	141.09	351	PKP	PKiKP	03 43 04.4	0.0
	0.6nm,0.4s,baz=46,slow=4.2,SNR=7.7						

SNET ***31*** *03:25:48.0±2.0, 14°.31N×92°.05W, h67km, ML3.9*
CATAC ***31*** *03:25:48.3±0.4, 14°.N±3°×9°.2W±°, h40km±4km, M3.9/21, MLv3.9/21, Error ellipse: s-maj=6.5km s-min=2.9km az=38.9, confirmed*
NEIC ***31*** *03:25:49.6±1.8, 14°.46N±0°.07×92°.10W±0°.05, h65km±4km, mb4.0/3, Md4.3/65(MEX), Error ellipse: s-maj=9.7km s-min=6.8km az=183.0*
MEX ***31*** *03:25:49.1±1.0, 14°.34N×92°.08W, h69km±8km, MD4.3*
GCG ***31*** *03:25:49.0±0.9, 14°.42N×91°.97W, h64km±4km, MD4.7, ML4.1*
ISC 31 03:25:48.1±0.9, 14°.32N±0°.05×92°.12W±0°.03, h74km±7km, n126, σ2°.39/175, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.46	64		Pn	03 25 59.7	-1.3
RTAL				Sn	Sn	03 26 07.5	-2.9
RTAL	Retalhuleu	0.46	64	*e*P	Pn	03 25 59.8	-1.1
RTAL				*e*S	Sn	03 26 08.3	-2.0
RTAL	Retalhuleu	0.46	64	*e*P	Pn	03 25 59.6	-1.3
RTAL				*e*S	Sn	03 26 08.2	-2.2
RTAL	Retalhuleu	0.46	64	P	Pn	03 25 59.6	-1.3
SMCA	Catarina	0.53	5⇑	*i*P	Pn	03 26 00.6	-1.0
SMCA				*e*S	Sn	03 26 09.8	-1.7
SMCA				IAML		03 26 10.2	
	comp=E,10μm,0.3s						
TH

PCG5				*i* S	Sn	03 26 29.9	-7.1
PCIG		**1.73**	**323**		Pn	03 26 16.6	+0.3
PCIG					Sn	03 26 37.8	+0.1
PCIG		**1.73**	**323**	*e*P	Pn	03 26 16.6	+0.3
PCIG				*e*S	Sn	03 26 37.8	+0.1
APG	**El Apazote**	**1.74**	**67**	*i* P	Pn	03 26 15.3	-1.3
ESSJ	**San Jos, E**	**1.75**	**115**	*e*P	Pn	03 26 10.7	-5.8
CCIG	**Comitan**	**1.95**	**360**		Pn	03 26 18.4	-1.0
CCIG	**Comitan**	**1.95**	**360**	*e*P	Pn	03 26 19.5	+0.1
CCIG				*e*S	Sn	03 26 42.0	-1.0
CCIG	**Comitan**	**1.95**	**360**	⇓*i* P	Pn	03 26 19.5	+0.1
CCIG				IAML		03 26 58.7	
	comp=N,331nm,0.4s						
CCIG	**Comitan**	**1.95**	**360**	P	Pn	03 26 19.8	+0.5
FAME	**Alcaldia de Sa**	**2.10**	**103**	P	Pn	03 26 20.6	-0.6
SLOZ	**Alcaldia de Sa**	**2.29**	**97**	P	Pn	03 26 24.0	+0.2
SLOZ	**Alcaldia de Sa**	**2.29**	**97**	S	Sn	03 26 49.8	-1.3
RBDL	**Robledal**	**2.37**	**95**	*e*P	Pn	03 26 24.6	-0.4
RTR	**El Retiro**	**2.44**	**100**	*e*P	Pn	03 26 26.5	+0.6
SBLS	**San Blas**	**2.47**	**101**	*e*P	Pn	03 26 27.2	+0.8
CEVE	**Cerro Verde**	**2.48**	**101**	*e*S	Sn	03 26 55.0	-0.8
UNIC	**Universidad Ca**	**2.52**	**97**	P	Pn	03 26 27.0	+0.1
UNIC	**Universidad Ca**	**2.52**	**97**	S	Sn	03 26 56.5	-0.2
TGIG		**2.62**	**339**		Pn	03 26 26.9	-1.4
TGIG					Sn	03 26 58.0	-1.2
TGIG		**2.62**	**339**	*e*P	Pn	03 26 26.9	-1.4
TGIG				*e*S	Sn	03 26 58.0	-1.2
MTO3	**Montecristo**	**2.68**	**88**		Pn	03 26 28.0	-1.2
MTO3	**Montecristo**	**2.68**	**88**	P	Pn	03 26 28.1	-1.2
JAYA	**Jayaque - finc**	**2.68**	**104**	*e*P	Pn	03 26 28.6	-0.6
JAYA	**Jayaque - finc**	**2.68**	**104**	*i* Pg	Pn	03 26 28.8	-0.4
JAYA	**Jayaque - finc**	**2.68**	**104**	P	Pn	03 26 28.9	-0.3
JAYA	**Jayaque - finc**	**2.68**	**104**	S	Sn	03 26 60.0	-0.7
ESQI	**Esquipulas**	**2.71**	**85**	Pn	Pn	03 26 30.9	+1.4
BOQS	**Boqueron**	**2.82**	**102**	*e*P	Pn	03 26 30.9	-0.2
LALI	**Alcalda de L**	**2.84**	**107**	P	Pn	03 26 30.3	-1.0
LALI	**Alcalda de L**	**2.84**	**107**	S	Sn	03 27 04.5	0.0
UEES	**Universidad Ev**	**2.86**	**102**	S	Sn	03 27 05.5	+0.4
UEES	**Universidad Ev**	**2.86**	**102**	P	Pn	03 26 30.6	-1.0
LOMA	**Loma Larga**	**2.94**	**103**	S	Sn	03 27 07.4	+0.3
LOMA	**Loma Larga**	**2.94**	**103**	P	Pn	03 26 34.0	+1.2
UDBS	**Universidad Do**	**2.94**	**101**	S	Sn	03 27 08.4	+1.4
UDBS	**Universidad Do**	**2.94**	**101**	P	Pn	03 26 33.0	+0.3
LFRS	**El Faro**	**3.05**	**103**	*e*P	Pn	03 26 35.0	+0.8
PAVA	**Las Pavas**	**3.15**	**101**	S	Sn	03 27 12.3	+0.2
PAVA	**Las Pavas**	**3.15**	**101**	P	Pn	03 26 35.4	-0.2
SARH	**Santa Rosa de**	**3.29**	**82**	P	Pn	03 26 37.0	-0.4
UESV	**Universidad de**	**3.31**	**101**	P	Pn	03 26 37.2	-0.4
UESV	**Universidad de**	**3.31**	**101**	S	Sn	03 27 16.6	+0.7
TECO	**Alcaldia de Te**	**3.34**	**103**	P	Pn	03 26 37.6	-0.4
TECO	**Alcaldia de Te**	**3.34**	**103**	S	Sn	03 27 16.5	-0.1
SCLA	**Alcaldia de Sa**	**3.35**	**100**	P	Pn	03 26 38.0	-0.2
SCLA	**Alcaldia de Sa**	**3.35**	**100**	S	Sn	03 27 17.8	+0.9
PETF	**Flores**	**3.37**	**40**		Pn	03 26 37.1	-1.3
PETF	**Flores**	**3.37**	**40**	*e*P	Pn	03 26 37.3	-1.1
PETF				*e*S	Sn	03 27 11.2	-6.2
PETF	**Flores**	**3.37**	**40**	*i* P	Pn	03 26 37.4	-1.1
PETF	**Flores**	**3.37**	**40**	P	Pn	03 26 37.5	-1.0
UXUV	**UXUV**	**3.56**	**327**		Pn	03 26 41.3	+0.3
UXUV					Sn	03 27 22.3	+0.4
UXUV	**UXUV**	**3.56**	**327**	*e*P	Pn	03 26 41.3	+0.3
UXUV				*e*S	Sn	03 27 22.3	+0.4
PACA	**Pacayal**	**3.79**	**102**	S	Sn	03 27 28.2	+0.5
CMIG	**Matias Romero**	**3.83**	**316**		Pn	03 26 45.2	+0.6
CMIG					Sn	03 27 28.5	+0.1
CMIG	**Matias Romero**	**3.83**	**316**	*e*P	Pn	03 26 45.2	+0.6
CMIG				*e*S	Sn	03 27 28.5	+0.1
HUIG	**Huatulco**	**4.11**	**291**		Pn	03 26 48.0	-0.5
HUIG					Sn	03 27 30.3	-5.1
HUIG	**Huatulco**	**4.11**	**291**	*e*P	Pn	03 26 48.0	-0.5
HUIG				*e*S	Sn	03 27 30.3	-5.1
NEUV	**Arroyo Zacate**	**4.89**	**314**		Pn	03 26 59.5	+0.4
NEUV					Sn	03 27 54.0	-0.4
NEUV	**Arroyo Zacate**	**4.89**	**314**	*e*P	Pn	03 26 59.5	+0.4
NEUV				*e*S	Sn	03 27 54.0	-0.4
PMUV	**Sontecomapan**	**5.09**	**326**		Sn	03 27 53.5	-6.0
PMUV	**Sontecomapan**	**5.09**	**326**	*e*S	Sn	03 27 53.5	-6.0
PEIG	**Puerto Escondi**	**5.13**	**290**		Pn	03 27 02.7	+0.3
PEIG					Sn	03 27 54.3	-6.0
PEIG	**Puerto Escondi**	**5.13**	**290**	*e*P	Pn	03 27 02.7	+0.3
PEIG				*e*S	Sn	03 27 54.3	-6.0
OXIG	**Oaxaca**	**5.21**	**302**		Pn	03 27 10.2	+6.4
OXIG					Sn	03 28 01.5	-1.2
VHO	**Vista Hermosa**	**5.21**	**302**	*e*P	Pn	03 27 10.2	+6.4
VHO				*e*S	Sn	03 28 01.5	-1.2
YOIG	**Yosondua**	**5.80**	**296**		Pn	03 27 12.8	+1.0
YOIG					Sn	03 28 14.3	-2.8
YOIG	**Yosondua**	**5.80**	**296**	*e*P	Pn	03 27 12.8	+1.0
YOIG				*e*S	Sn	03 28 14.3	-2.8
TOIG	**Toxpalan**	**6.05**	**309**		Pn	03 27 11.4	-3.7
TOIG					Sn	03 28 16.6	-6.5
TOIG	**Toxpalan**	**6.05**	**309**	*e*P	Pn	03 27 11.4	-3.7
TOIG				*e*S	Sn	03 28 16.6	-6.5
PNIG	**Pinotepa**	**6.15**	**290**		Pn	03 27 18.0	+1.6
PNIG					Sn	03 28 20.4	-4.9
PNIG	**Pinotepa**	**6.15**	**290**	*e*P	Pn	03 27 18.0	+1.6
PNIG				*e*S	Sn	03 28 20.4	-4.9
TXIG	**Tlaxiaco**	**6.17**	**299**		Pn	03 27 19.5	+2.7
TXIG					Sn	03 28 25.8	-0.3
TXIG	**Tlaxiaco**	**6.17**	**299**	*e*P	Pn	03 27 19.5	+2.7
TXIG				*e*S	Sn	03 28 25.8	-0.3
JAUV	**Jalcomulco**	**6.72**	**319**		Pn	03 27 21.9	-2.4
JAUV					Sn	03 28 34.4	-5.1
JAUV	**Jalcomulco**	**6.72**	**319**	*e*P	Pn	03 27 21.9	-2.4
JAUV				*e*S	Sn	03 28 34.4	-5.1
FTIG	**Fresnillo de T**	**6.79**	**302**		Pn	03 27 26.4	+1.2
FTIG					Sn	03 28 35.6	-5.5
FTIG	**Fresnillo de T**	**6.79**	**302**	*e*P	Pn	03 27 26.4	+1.2
FTIG				*e*S	Sn	03 28 35.6	-5.5
POHV	**Veracruz**	**6.83**	**314**	*e*P	Pn	03 27 15.4	-11
POHV				*e*S	Sn	03 28 31.5	-11
MGIG	**Malinaltepec**	**6.90**	**296**		Pn	03 27 29.8	+2.9
MGIG					Sn	03 28 42.8	-1.3
MGIG	**Malinaltepec**	**6.90**	**296**	*e*P	Pn	03 27 29.8	+2.9
MGIG				*e*S	Sn	03 28 42.8	-1.3
TEIG	**Tepich**	**6.93**	**32**	Pn	Pn	03 27 24.5	-2.5
TLIG	**Tlapa**	**6.99**	**298**		Pn	03 27 28.6	+0.7
TLIG	**Tlapa**	**6.99**	**298**	*e*P	Pn	03 27 34.5	+6.7
TLIG				*e*S	Sn	03 28 40.3	-5.6
CRIG	**Cruz Grande**	**7.17**	**290**		Pn	03 27 32.0	+1.7
CRIG					Sn	03 28 50.4	+0.1
CRIG	**Cruz Grande**	**7.17**	**290**	*e*P	Pn	03 27 32.0	+1.7
CRIG				*e*S	Sn	03 28 50.4	+0.1
JUD3	**Juan Diaz 3**	**7.65**	**122**	Pn	Pn	03 27 38.8	+1.8
CXUV	**Coxquihui**	**7.82**	**319**		Sn	03 29 02.3	-3.9
CXUV	**Coxquihui**	**7.82**	**319**	*e*S	Sn	03 29 02.3	-3.9
YAIG	**Yautepec**	**8.04**	**305**		Pn	03 27 45.5	+3.2
YAIG	**Yautepec**	**8.04**	**305**	*e*P	Pn	03 27 45.5	+3.2
MEIG	**Mezcala**	**8.04**	**297**		Pn	03 27 45.6	+3.2
MEIG	**Mezcala**	**8.04**	**297**	*e*P	Pn	03 27 45.6	+3.2
JTS	**Las Juntas de**	**8.07**	**119**	Pn	Pn	03 27 44.4	+1.7
CAIG	**El Cayaco**	**8.30**	**290**		Pn	03 27 48.0	+2.3
CAIG	**El Cayaco**	**8.30**	**290**	*e*P	Pn	03 27 48.0	+2.3
ARIG	**Puente Sto Nin**	**8.82**	**298**		Pn	03 27 57.2	+4.3
ARIG					Sn	03 29 31.6	+0.8
ARIG	**Puente Sto Nin**	**8.82**	**298**	*e*P	Pn	03 27 57.2	+4.3
ARIG				*e*S	Sn	03 29 31.6	+0.8
SOR	**Soroa**	**12.06**	**44**	Pn	Pn	03 28 37.0	-0.1
CHIV	**Chivirico**	**16.03**	**67**		P	03 29 32.5	+1.3
CHIV				IAmb	IAmb	03 29 35.3	
	comp=Z,11nm,1.0s						
TXAR	**Lajitas Array**	**18.36**	**326**	P	P	03 29 57.1	+0.1
146A	**Union**	**18.45**	**8**	P	Pn	03 30 01.2	+2.5
146A				IAmb	IAmb	03 30 06.1	
	comp=Z,18nm,1.3s						

*IDC **31** 03:25:52.1±1.0,2°.66S×141°.63E, h0km, mb3.7/7, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=21.1km s-min=17.5km az=36.0*

ISC 31 03:25:58.1±1.0, 2°.8S±0°.1×141°.4E±0°.2, h35km, n17, σ1ᵍ87/11, mb3.8/8, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.70**	**290**	Pg	**Pn**	**03 26 10.9**	**-0.6**
	47nm,0.3s,baz=112,slow=7.9,SNR=74						
WRA	**Warramunga Arr**	**18.40**	**201**	P	**Pn**	**03 30 10.6**	**0.0**
	0.4nm,0.3s,baz=18,slow=13,SNR=16						
	1.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.68**	**224**	P	**P**	**03 30 45.4**	**-0.6**
	1.7nm,0.5s,baz=180,slow=16,SNR=3.0						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**22.00**	**199**	P	**P**	**03 30 48.6**	**-0.9**
	1.0nm,0.6s,baz=30,slow=9.8,SNR=11						
	1.0nm,0.6s						
STKA	**Stephens Creek**	**28.96**	**180**	P	**P**	**03 31 54.8**	**+0.3**
	1.8nm,0.7s,baz=331,slow=13,SNR=2.9						
	1.8nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.68**	**49**	T	T	04 06 36.7	
	baz=232,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**32.69**	**49**	T	T	04 06 37.5	
	baz=232,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**32.70**	**49**	T	T	04 06 38.8	
	baz=232,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.58**	**47**	T	T	04 07 46.2	
	baz=230,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hy**	**33.60**	**47**	T	T	04 07 47.4	
	baz=230,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**33.60**	**47**	T	T	04 07 47.6	
	baz=230,slow=75,SNR=51						
MKAR	**Makanchi Array**	**71.46**	**322**	P	**P**	**03 37 14.9**	**-0.3**
	0.3nm,0.4s,baz=106,slow=7.7,SNR=4.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**75.31**	**324**	P	**P**	**03 37 42.1**	**+4.4**
	0.5nm,0.5s,baz=112,slow=6.7,SNR=3.8						
VNDA	**Vanda**	**75.51**	**175**	P	**P**	**03 37 39.4**	**+1.0**
	0.2nm,0.6s,baz=316,slow=7.2,SNR=4.2						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**80.87**	**325**	P	**P**	**03 38 07.6**	**-1.0**
	0.7nm,0.6s,baz=103,slow=6.4,SNR=3.7						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.79**	**24**	P	**P**	**03 38 26.5**	**-2.1**
	0.8nm,0.8s,baz=267,slow=4.9,SNR=8.2						
	0.8nm,0.8s						
LPAZ	**La Paz**	**145.25**	**124**	PKPbc	**PKPdf**	**03 45 33.9**	**-0.2**
	1.2nm,0.8s,baz=234,slow=4.0,SNR=4.3						

*IDC **31** 03:36:22.5±0.8, 6°.70N×124°.97E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=18.1km s-min=15.1km az=107.0*

*NEIC **31** 03:36:24.7±1.6, 6°.78N±0°.10×125°.04E±0°.07, h10km±1km, mb4.4/13, Error ellipse: s-maj=18.7km s-min=7.1km az=148.0*

ISC 31 03:36:24.3±0.7, 6°.76N±0°.08×125°.20E±0°.10, h13km, n26, σ0ᵍ90/27, mb4.0/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.49**	**51**		**Pn**	**03 36 36.4**	**-0.7**
DAV				Sg	**Sn**	**03 36 45.4**	**0.0**
DAV	**Davao City (W)**	**0.49**	**51**	Pg	**Pb**	**03 36 36.1**	**+1.3**
	4.3nm,0.3s,baz=273,slow=5.6,SNR=9.0						
DAV	**Davao City (W)**	**0.49**	**51**	P	**Pg**	**03 36 33.0**	**-1.0**
MTN	**Manton Dam**	**20.35**	**163**	P	**P**	**03 41 01.4**	**+0.7**
MTN				IAmb	IAmb	03 41 05.9	
	comp=Z,5.7nm,0.9s						
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**03 41 24.8**	**+0.2**
KNRA				IAmb	IAmb	03 41 30.0	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.71**	**179**	P	**P**	**03 41 45.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.71**	**179**	P	**P**	**03 41 46.5**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=8.2,slow=14,SNR=6.4						
	comp=Z,3.1nm,0.9s						
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**03 42 15.9**	**+0.6**
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**03 42 16.4**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=337,slow=9.7,SNR=6.6						
	comp=Z,1.4nm,0.9s						
WR8	**Warramunga Arr**	**28.09**	**161**	P	**P**	**03 42 15.9**	**0.0**
WR8				IAmb	IAmb	03 42 28.2	
	comp=Z,3.4nm,0.9s						
JHJ2	**Mitsune**	**29.53**	**25**	P	**P**	**03 42 29.6**	**+1.0**
ASAR	**Alice Springs**	**31.42**	**165**	P	**P**	**03 42 45.4**	**-0.1**
ASAR	**Alice Springs**	**31.42**	**165**	P	**P**	**03 42 44.7**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=352,slow=7.8,SNR=7.2						
	comp=Z,0.6nm,0.6s						
MJAR	**Matsushiro Arr**	**31.94**	**20**	P	**P**	**03 42 49.4**	**-0.5**
MJAR				IAmb	IAmb	03 42 51.7	
	comp=Z,2.8nm,1.4s						
MORW	**Morawa**	**36.70**	**193**	P	**P**	**03 43 31.0**	**-0.2**
BBOO	**Buckleboo**	**40.69**	**166**	P	**P**	**03 44 04.4**	**-0.2**
BBOO				IAmb	IAmb	03 44 06.8	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**03 44 11.9**	**+0.6**
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**03 44 10.2**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=331,slow=13,SNR=3.1						
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**43.96**	**342**	P	**P**	**03 44 31.3**	**0.0**
SONM	**Songino Array**	**43.96**	**342**	P	**P**	**03 44 33.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=152,slow=6.5,SNR=4.8						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.21**	**325**	P	**P**	**03 45 48.3**	**-1.4**
MKAR	**Makanchi Array**	**54.21**	**325**	P	**P**	**03 45 49.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=112,slow=8.0,SNR=5.3						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	**P**	**03 46 19.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=128,slow=5.7,SNR=4.3						
	comp=Z,0.6nm,0.7s						
KURK	**Kurchatov**	**58.38**	**327**	P	**P**	**03 46 19.6**	**+0.2**
KURK				IAmb	IAmb	03 46 20.5	
	comp=Z,4.9nm,1.2s						
GAR	**Garm**	**58.77**	**312**	P	**P**	**03 46 22.5**	**0.0**
GAR				IAmb	IAmb	03 46 25.2	
	comp=Z,9.1nm,1.1s						
BVAR	**Borovoye Array**	**63.96**	**327**	P	**P**	**03 46 55.2**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=131,slow=5.9,SNR=4.8						
	comp=Z,1.2nm,0.8s						

*NNC **31** 03:42:28.2±0.4, 42°.97N×76°.77E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=3.1km s-min=1.9km az=137.0*

*SOME **31** 03:42:28.8, 42°.92N×77°.03E, h5km*

ISC 31 03:42:26.5±1.5, 42°.89N±0°.09×76°.88E±0°.05, h20km±3km, n7, σ0ᵍ70/13, 4C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.15**	**20**	P	**Pg**	**03 42 31.9**	**+0.4**
	4.3nm,0.1s						
TNSS				S	**Sg**	**03 42 33.9**	**-0.9**
	5.6nm,0.1s						
TNSS	**Tian-Shan**	**0.15**	**20**	*e*P	**Pg**	**03 42 31.9**	**+0.4**
	4.3nm,0.1s						
TNSS				*e*S	**Sg**	**03 42 33.9**	**-0.9**
	5.6nm,0.1s						
MDOK	**Medeo**	**0.30**	**25**	Pg	**Pb**	**03 42 33.6**	**+0.4**
	2.7nm,0.1s						
MDOK				Lg	Lg	03 42 37.3	
	8.2nm,0.4s						
KNDC	**Almaty**	**0.33**	**11**	⇑P	**Pb**	**03 42 33.9**	**+0.1**
	5.9nm,0.2s						
KNDC				⇑S	**Sb**	**03 42 38.0**	**-0.7**
	19nm,0.5s						
MTBS	**Maitube**	**0.41**	**306**	*e*P	**Pn**	**03 42 37.9**	**+0.6**
	0.7nm,0.1s						
MTBS				*e*S	**Sn**	**03 42 44.8**	**+0.3**
	8.6nm,0.1s						
KST	**Kastek**	**0.69**	**283**	P	**Pb**	**03 42 39.9**	**0.0**
	0.7nm,0.2s						
KST				S	**Sb**	**03 42 48.1**	**-0.9**
	3.5nm,0.2s						
PDGK	**Podgornoye**	**1.96**	**76**	⇑Pn	**Pg**	**03 43 03.7**	**-0.5**
	0.8nm,0.3s						
PDGK				⇑Sn	**Sg**	**03 43 30.1**	**+0.3**
	1.6nm,0.5s						

*IDC **31** 03:51:33.3±2.2, 1°.06N×126°.49E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=184.9km s-min=26.8km az=65.0*

*DJA **31** 03:51:35.5±0.4, 1°.N±4°×12°.6E±°, h10km, M3.5/8, MLv3.5/8*

ISC 31 03:51:39.5±1.2, 0°.73N±0°.08×126°.16E±0°.08, h44km, n7, σ1ᵍ26/7, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**88**	P	**Pn**	**03 51 59.0**	**-0.9**
KMSI	**Cibinong**	**2.19**	**266**	P	**Pn**	**03 52 12.6**	**-0.8**
SANI	**Sanana**	**2.77**	**184**	P	**Pn**	**03 52 20.8**	**-0.6**
SGSI	**Sangihe**	**3.00**	**348**	P	**Pn**	**03 52 24.6**	**0.0**
WRA	**Warramunga Arr**	**22.06**	**159**	P	**P**	**03 56 31.6**	**+0.9**
	0.9nm,0.5s,baz=339,slow=10,SNR=8.5						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.39**	**163**	P	**P**	**03 57 04.8**	**+1.9**
	0.6nm,0.6s,baz=350,slow=14,SNR=6.6						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**59.70**	**327**	P	**P**	**04 01 39.1**	**-0.5**
	0.3nm,0.4s,baz=115,slow=8.0,SNR=4.4						
	0.3nm,0.4s						

*CATAC **31** 04:08:30.2±0.7, 7°.N±2°×7°.3W±°, h162km±6km, M3.9/7, MLv3.9/7, Error ellipse: s-maj=13.6km s-min=5.1km az=92.9, confirmed*

*RSNC **31** 04:08:32.4±0.0, 7°.N±1°×7°.3W±°, h148km±1km, M3.4, mB4.4, mb4.0, ML3.1, Mw(mB)3.6*

ISC 31 04:08:30.3±0.9, 6°.87N±0°.03×73°.11W±0°.04, h159km±7km, n40, σ1ᵍ17/75, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**194**	P	**Pn**	**04 08 52.7**	**+0.5**
BARC				S	**Sn**	**04 09 08.2**	**-0.7**
BRJC	**Barrancabermej**	**0.64**	**279**	P	**Pn**	**04 08 54.3**	**+0.9**
BRJC				S	**Sn**	**04 09 10.8**	**-0.2**
RUSC	**La Rusia**	**0.97**	**178**	P	**Pn**	**04 08 56.5**	**+0.2**
RUSC				S	**Sn**	**04 09 15.6**	**-0.6**
RUSC	**La Rusia**	**0.97**	**178**	P	**Pn**	**04 08 56.6**	**+0.2**
RUSC				S	**Sn**	**04 09 15.2**	**-1.0**
OCAC	**Ocana**	**1.38**	**351**	P	**Pn**	**04 09 00.7**	**+1.2**
OCAC				S	**Sn**	**04 09 22.6**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.38**	**256**	P	**Pn**	**04 08 59.2**	**-0.2**
PTBC				S	**Sn**	**04 09 20.5**	**-1.1**
SPBC	**San Pablo de B**	**1.54**	**218**	P	**Pn**	**04 09 01.4**	**+0.3**
SPBC				S	**Sn**	**04 09 23.9**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**04 09 04.7**	**+0.5**
ZARC				S	**Sn**	**04 09 30.4**	**+0.1**
CHIC	**Chingaza**	**2.31**	**196**	P	**Pn**	**04 09 10.6**	**+0.5**
CHIC				S	**Sn**	**04 09 39.4**	**-1.3**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**04 09 12.1**	**+1.6**
ROSC				S	**Sn**	**04 09 41.6**	**+0.1**
HELC	**Santa Helena**	**2.50**	**254**	P	**Pn**	**04 09 14.5**	**+2.3**
HELC				S	**Sn**	**04 09 44.7**	**+0.2**
HELC	**Santa Helena**	**2.50**	**254**	P	**Pn**	**04 09 13.2**	**+1.0**
HELC				S	**Sn**	**04 09 44.5**	**0.0**
CVER	**Cruz Verde, Cu**	**2.52**	**202**	P	**Pn**	**04 09 14.0**	**+1.3**
CVER				S	**Sn**	**04 09 45.3**	**0.0**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**04 09 12.3**	**-0.3**
UREC				S	**Sn**	**04 09 43.9**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**04 09 16.4**	**+0.7**
GUY2C				S	**Sn**	**04 09 50.0**	**-0.8**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**04 09 20.3**	**+1.4**
CBOC				S	**Sn**	**04 09 56.7**	**+0.2**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**04 09 20.1**	**+1.0**
DBBC				S	**Sn**	**04 09 55.8**	**-1.2**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**04 09 22.1**	**+1.7**
SDV				S	**Sn**	**04 09 59.2**	**0.0**
ARGC	**Ariguani, Magd**	**3.17**	**339**	P	**Pn**	**04 09 22.8**	**+2.5**
ARGC				S	**Sn**	**04 10 01.7**	**+2.6**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**04 09 22.7**	**+0.7**
ANIL				S	**Sn**	**04 10 02.6**	**+0.6**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**04 09 26.5**	**+1.0**
APAC				S	**Sn**	**04 10 08.1**	**-0.3**
PRAC	**Prado**	**3.60**	**209**	P	**Pn**	**04 09 26.6**	**+0.9**
PRAC				S	**Sn**	**04 10 08.5**	**-0.4**
PRAC	**Prado**	**3.60**	**209**	P	**Pn**	**04 09 26.0**	**+0.3**
PRAC				S	**Sn**	**04 10 08.0**	**-0.8**
ORTO	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**04 09 26.6**	**+0.5**
ORTC				S	**Sn**	**04 10 09.6**	**+0.1**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**04 09 26.4**	**+0.1**
SJCC				S	**Sn**	**04 10 09.5**	**-0.2**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**04 09 26.3**	**+0.1**
SJCC				S	**Sn**	**04 10 08.9**	**-0.8**
PLMC	**San Jos del P**	**3.71**	**238**	P	**Pn**	**04 09 28.1**	**+0.9**
PLMC				S	**Sn**	**04 10 08.3**	**-3.1**
URMC	**La Uribe, Meta**	**3.81**	**199**	P	**Pn**	**04 09 29.9**	**+1.4**
URMC				S	**Sn**	**04 10 13.6**	**-0.3**
CRJC

N19K				IAmb	IAmb	04 50 59.8	
	comp=Z,9.9nm,1.4s						
KURBB	**Kurchatov Arra**	**62.41**	**319**	P	**P**	**04 51 07.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=93,slow=6.6,SNR=6.5						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**64.91**	**26**	P	**P**	**04 51 21.0**	**-2.6**
ILAR	**Eielson Array**	**64.91**	**26**	P	**P**	**04 51 22.4**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=256,slow=5.6,SNR=6.8						
	comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**74.41**	**317**	P	**P**	**04 52 21.6**	**-0.4**

*ATH **31** 04:45:52.2, 40.°51N×20.°71E, h11km±2km, ML2.7/7, Manual Solution by I.Dede First location: 2019/10/31 04:47:04, This location: 2020/10/23 15:03:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **31** 04:45:53.0, 40.°5N±0.°8×2.°1E±.°, h2km±2km, M2.5/8, MLh2.5/8*
*TIR **31** 04:45:53.3, 40.°56N×20.°92E, h18km, Ml2.9/6*
*BEO **31** 04:45:54.5±0.3, 40.°55N×20.°74E, h0km, ML2.4/3*
*SKO **31** 04:45:54.7, 40.°46N×20.°97E, h0km, ML2.7*

ISC 31 04:45:53.2±0.9, 40.°48N±0.°02×20.°73E±0.°02, h7km±8km, n46, σ0.°94/77, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.15**	**16**	P	**Pg**	**04 45 56.5**	**+0.1**
KBN				S	**Sg**	**04 45 58.9**	**+0.3**
KBN	**Korca**	**0.15**	**16**	Pg	**Pg**	**04 45 56.5**	**+0.1**
KBN				Sg	**Sg**	**04 45 58.9**	**+0.3**
KBN				AML	AML	04 45 59.6	
	18nm,0.3s						
NEST	**Nestorio**	**0.25**	**104**	P	**Pg**	**04 45 58.0**	**-0.1**
NEST				S	**Sg**	**04 46 02.0**	**+0.6**
NEST	**Nestorio**	**0.25**	**104**	Pg	**Pg**	**04 45 57.9**	**-0.1**
NEST				Sg	**Sg**	**04 46 01.1**	**-0.4**
NEST				AML	AML	04 46 02.1	
	12nm,0.2s						
NEST	**Nestorio**	**0.25**	**104**	P	**Pg**	**04 45 58.2**	**+0.1**
NEST				S	**Sg**	**04 46 02.1**	**+0.6**
PENT	**Pentalofos**	**0.42**	**132**	P	**Pg**	**04 46 00.9**	**-0.4**
PENT				S	**Sg**	**04 46 08.0**	**+1.2**
PENT	**Pentalofos**	**0.42**	**132**	P	**Pg**	**04 46 01.0**	**-0.3**
PENT				S	**Sg**	**04 46 07.8**	**+1.1**
OHR	**Ohrid**	**0.64**	**5**	*i* Pg	**Pb**	**04 46 06.2**	**-0.6**
OHR				*i* Sg	**Sb**	**04 46 16.0**	**+0.1**
OHR				*e*Lg	Lg	04 46 16.5	
	comp=E,781nm,0.5s						
OHR				*e*Lg	Lg	04 46 16.9	
	comp=N,280nm,0.5s						
KZN	**Kozani**	**0.81**	**102**	P	**Pg**	**04 46 08.5**	**-0.3**
KZN				S	**Sb**	**04 46 20.8**	**-0.1**
KZN	**Kozani**	**0.81**	**102**	P	**Pg**	**04 46 08.5**	**-0.3**
KZN				S	**Sg**	**04 46 20.0**	**+0.7**
JAN	**Janina**	**0.82**	**174**	P	**Pg**	**04 46 08.4**	**-0.6**
JAN				S	**Sb**	**04 46 20.4**	**-0.7**
JAN	**Janina**	**0.82**	**174**	P	**Pg**	**04 46 08.6**	**-0.4**
JAN				S	**Sb**	**04 46 20.0**	**-1.1**
VLO	**Vlora**	**0.94**	**270**	Pg	**Pn**	**04 46 13.1**	**+0.2**
VLO				Sg	**Sn**	**04 46 28.4**	**+1.8**
VLO				AML	AML	04 46 33.3	
	comp=N,2.1nm,0.5s						
PRMD	**Pramanda**	**0.98**	**163**	P	**Pg**	**04 46 11.4**	**-0.7**
PRMD				S	**Sb**	**04 46 25.9**	**0.0**
IGT	**Igoumenitsa**	**0.99**	**198**	P	**Pn**	**04 46 12.3**	**-1.3**
IGT				S	**Sn**	**04 46 26.6**	**-1.2**
IGT	**Igoumenitsa**	**0.99**	**198**	Pg	**Pb**	**04 46 12.2**	**-0.6**
IGT				Sg	**Sn**	**04 46 29.0**	**+1.1**
IGT	**Igoumenitsa**	**0.99**	**198**	*i* Pg	**Pn**	**04 46 12.2**	**-1.3**
IGT				*i* Sg	**Sn**	**04 46 28.9**	**+1.1**
IGT	**Igoumenitsa**	**0.99**	**198**	*e*Pg	**Pb**	**04 46 12.1**	**-0.6**
IGT				*e*Sg	**Sn**	**04 46 28.6**	**+0.8**
IGT	**Igoumenitsa**	**0.99**	**198**	P	**Pb**	**04 46 12.1**	**-0.6**
IGT				S	**Sb**	**04 46 25.3**	**-0.6**
KEK	**Kerkira**	**1.04**	**224**	Pn	**Pn**	**04 46 17.1**	**+2.8**
KEK	**Kerkira**	**1.04**	**224**	P	**Pb**	**04 46 12.6**	**-1.0**
TIR	**Tirane**	**1.09**	**323**	Pn	**Pn**	**04 46 14.4**	**-0.5**
TIR				Sn	**Sn**	**04 46 30.8**	**+0.4**
TIR				AML	AML	04 46 39.2	
	comp=N,0.3nm,0.6s						
TIR	**Tirane**	**1.09**	**323**	*i* Pn	**Pn**	**04 46 14.8**	**-0.1**
TETR	**Tetrakomo, Epi**	**1.20**	**160**	P	**Pb**	**04 46 15.6**	**-0.8**
THL	**Klokotos Trika**	**1.34**	**132**	Pn	**Pn**	**04 46 17.5**	**-0.9**
LIT	**Litokhoron**	**1.40**	**105**	P	**Pb**	**04 46 19.2**	**-0.5**
LIT				S	**Sb**	**04 46 37.9**	**+0.3**
LIT	**Litokhoron**	**1.40**	**105**	*i* Pn	**Pb**	**04 46 19.1**	**-0.5**
LIT				*i* Sn	**Sg**	**04 46 39.3**	**+1.3**
SKO	**Skopje**	**1.59**	**19**	*i* Pn	**Pg**	**04 46 23.7**	**+0.1**
VAY	**Valandovo**	**1.63**	**58**	*i* Pn	**Pb**	**04 46 22.7**	**-0.9**
VAY				*i* Sn	**Sb**	**04 46 45.1**	**+0.7**
VAY				*e*Lg	Lg	04 46 46.8	
	comp=N,50nm,0.7s						
VAY				*e*Lg	Lg	04 46 49.5	
	comp=E,34nm,0.5s						
LKD2	**Lefkada island**	**1.69**	**182**	Pn	**Pg**	**04 46 25.6**	**+0.1**
LKD2				Sn	**Sg**	**04 46 50.5**	**+3.2**
LKD2				AML	AML	04 46 54.4	
	comp=E,0.3nm,0.6s						
KNT	**Kendrikon**	**1.78**	**67**	P	**Pn**	**04 46 24.0**	**-0.5**
KNT				S	**Sb**	**04 46 48.7**	**0.0**
KNT	**Kendrikon**	**1.78**	**67**	*i* Pn	**Pn**	**04 46 24.3**	**-0.1**
KNT				*i* Sn	**Sg**	**04 46 51.1**	**+0.7**
SOH	**Sokhos**	**2.02**	**79**	*i* Pn	**Pn**	**04 46 27.6**	**-0.2**
SOH				*i* Sn	**Sn**	**04 46 53.3**	**-0.1**
DRME	**Dracevica, Mon**	**2.07**	**326**	*e*Pg	**Pb**	**04 46 30.7**	**-0.4**
DRME				*e*Sg	**Sg**	**04 46 59.5**	**-0.2**
PDG	**Podgorica**	**2.25**	**331**	Pn	**Pb**	**04 46 32.8**	**-1.3**
PDG	**Podgorica**	**2.25**	**331**	*e*Pg	**Pg**	**04 46 35.1**	**-1.1**
PDG				*e*Sg	**Sb**	**04 47 02.9**	**+0.8**
BOSS	**Bosilegrad**	**2.41**	**32**	*e*Pn	**Pn**	**04 46 33.5**	**+0.4**
KOME	**Kolasin**	**2.54**	**339**	*e*Pg	**Pb**	**04 46 38.4**	**-0.8**
KOME				*e*Sg	**Sb**	**04 47 11.3**	**+0.5**
KLV	**Kalavryta, Ach**	**2.67**	**155**	Pn	**Pb**	**04 46 40.0**	**-1.3**
SELS	**Selova**	**2.76**	**6**	*e*Pn	**Pb**	**04 46 43.1**	**+0.3**
SJES	**Sjenica**	**2.84**	**349**	*e*Pg	**Pb**	**04 46 43.2**	**-1.1**
SJES				*e*Sg	**Sg**	**04 47 21.8**	**-2.6**
IVAS	**Ivanjica**	**3.13**	**352**	*e*Pn	**Pn**	**04 46 44.5**	**+1.5**
ZAPS	**Zavoj**	**3.14**	**26**	*e*Pn	**Pn**	**04 46 43.5**	**+0.4**
BOVS	**Bovan**	**3.24**	**13**	*e*Pn	**Pn**	**04 46 44.2**	**-0.3**
ZAGS	**Zajecar**	**3.52**	**18**	*e*Pn	**Pn**	**04 46 48.8**	**+0.5**
TRUS	**Trudelj**	**3.75**	**356**	*e*Pn	**Pn**	**04 46 52.8**	**+1.2**

GCG 31 04:55:47.5±1.8, 12.°90N×91.°80W, h35km±999km, MD3.9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**1.58**	**15**	*e*P	Pn	04 56 16.1	+2.9
JAYA	**Jayaque - finc**	**2.41**	**72**	*e*P	Pn	04 56 24.5	-0.1
JAYA				*e*S	Sn	04 56 52.4	-0.5
APG	**El Apazote**	**2.46**	**32**	*i* P	Pn	04 56 27.2	+1.8
MTO3	**Montecristo**	**2.80**	**58**	*e*P	Pn	04 56 30.4	+0.4

GCG 31 05:05:39.6±1.0, 13.°90N×91.°17W, h55km±17km, MD3.8, ML3.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.57**	**339**	*e*P	Pn	05 05 57.6	+5.4
STG2				*e*S	Sn	05 06 09.8	+8.6
FG8	**Yepocapa, Chim**	**0.69**	**59**	*e*P	Pn	05 05 52.8	-0.7
FG8				*e*S	Sn	05 06 02.6	-1.1
FG16	**Alotenango, Sa**	**0.73**	**60**	*e*P	Pn	05 05 53.4	-0.8
FG16				*e*S	Sn	05 06 03.9	-1.0
FG16				IAML		05 06 04.8	
	comp=N,4μm,0.2s						
PCG5	**San Vicente Pa**	**0.83**	**68**	*e*P	Pn	05 05 54.0	-1.4
SOKI	**Kika Raxquin**	**0.94**	**346**	*e*P	Pn	05 05 58.4	+1.2
SOKI				*e*S	Sn	05 06 12.6	+2.6
SOKI				IAML		05 06 16.3	
	comp=N,163nm,0.5s						
APG	**El Apazote**	**1.29**	**32**	*e*P	Pn	05 06 02.7	+1.1
JAYA	**Jayaque - finc**	**1.69**	**98**	*e*P	Pn	05 06 06.6	-0.3
JAYA				*i* S	Sn	05 06 27.3	-0.1

*SOME **31** 05:08:03.2, 41.°13N×78.°78E, h15km*

*KRNET **31** 05:08:03.5±0.1, 41.°24N×78.°85E, h16km, mb3.5*
*NNC **31** 05:08:04.9±1.0, 41.°21N×78.°74E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=6.9km s-min=4.4km az=168.0*

ISC 31 05:08:07.9±1.4, 41.°38N±0.°04×78.°66E±0.°03, h0km±10km, n65, σ1.°62/97, 32C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.73**	**299**	⇓*iP*	**Pg**	**05 08 21.0**	**-0.9**
TARG				⇓*iS*	**Sb**	**05 08 34.1**	**-0.4**
PRZ	**Przheval'sk**	**1.12**	**350**	⇓*iP*	**Pg**	**05 08 27.8**	**-1.7**
PRZ				⇓*iS*	**Sb**	**05 08 45.4**	**-0.2**
KDJ	**Kajisay**	**1.34**	**305**	⇓*eP*	**Pn**	**05 08 31.8**	**-2.2**
KDJ				⇓*iS*	**Sg**	**05 08 52.1**	**+1.2**
SATY	**Saty**	**1.69**	**354**	Pg	**Pb**	**05 08 38.9**	**-1.1**
	70nm,0.4s						
SATY				Lg	Lg	05 09 04.6	
	84nm,0.4s						
UZB	**Uzynbulak**	**1.79**	**9**	Pg	**Pb**	**05 08 40.0**	**-1.7**
	53nm,0.3s						
UZB				Lg	Lg	05 09 06.3	
	119nm,0.5s						
UZB	**Uzynbulak**	**1.79**	**9**	*e*P	**Pb**	**05 08 40.0**	**-1.7**
	53nm,0.3s						
UZB				*e*S	**Sg**	**05 09 06.3**	**+0.8**
	119nm,0.5s						
SHLS	**Shalkode**	**1.88**	**18**	*e*P	**Pg**	**05 08 44.1**	**+0.2**
	109nm,0.3s						
SHLS				*e*S	**Sg**	**05 09 13.9**	**+5.6**
	323nm,0.5s						
ULHL	**Ulahol**	**2.00**	**296**	⇓*iP*	**Pn**	**05 08 42.4**	**-0.8**
ULHL				⇓*iS*	**Sb**	**05 09 10.7**	**-0.2**
PDGK	**Podgornoye**	**2.05**	**17**	⇑Pg	**Pb**	**05 08 44.6**	**-1.5**
	32nm,0.4s						
PDGK				⇑Lg	Lg	05 09 14.8	
	260nm,0.8s						
KPKS	**Kokpek**	**2.09**	**1**	Pg	**Pg**	**05 08 46.4**	**-1.5**
	0.6nm,0.4s						
KPKS				Lg	Lg	05 09 17.4	
	118nm,0.4s						
TNSS	**Tian-Shan**	**2.09**	**323**	Pg	**Pb**	**05 08 46.8**	**-0.2**
	25nm,0.4s						
TNSS				Lg	Lg	05 09 18.2	
	34nm,0.3s						
TNSS	**Tian-Shan**	**2.09**	**323**	*e*P	**Pb**	**05 08 46.8**	**-0.2**
	25nm,0.4s						
TNSS				*e*S	**Sg**	**05 09 18.2**	**+3.1**
	34nm,0.3s						
KURS	**Kuram**	**2.14**	**350**	Pg	**Pg**	**05 08 47.7**	**-1.3**
	72nm,0.6s						
KURS				Lg	Lg	05 09 19.9	
	48nm,0.6s						
MDOK	**Medeo**	**2.15**	**327**	Pg	**Pb**	**05 08 47.6**	**-0.2**
	81nm,0.5s						
MDOK				Lg	Lg	05 09 20.0	
	136nm,0.7s						
KOTS	**Kotyrbulak**	**2.18**	**329**	Pg	**Pb**	**05 08 48.3**	**-0.1**
	70nm,0.3s						
KOTS				Lg	Lg	05 09 20.0	
	149nm,0.6s						
KOTS	**Kotyrbulak**	**2.18**	**329**	*e*P	**Pb**	**05 08 48.3**	**-0.1**
	70nm,0.3s						
KOTS				*e*S	**Sg**	**05 09 21.0**	**+3.0**
	149nm,0.6s						
KNDC	**Almaty**	**2.23**	**326**	⇓Pg	**Pb**	**05 08 49.1**	**0.0**
	105nm,0.5s						
KNDC				⇑Lg	Lg	05 09 23.5	
	285nm,0.7s						
AAA	**Alma-Ata**	**2.24**	**325**	Pg	**Pg**	**05 08 49.6**	**-1.3**
	130nm,0.3s						
AAA				Lg	Lg	05 09 22.7	
	6.1nm,0.2s						
AAA	**Alma-Ata**	**2.24**	**325**	*e*P	**Pg**	**05 08 49.6**	**-1.3**
	130nm,0.3s						
AAA				*e*S	**Sg**	**05 09 22.7**	**+2.8**
	6.1nm,0.2s						
IZV	**Izvestkoviy**	**2.25**	**318**	Pg	**Pb**	**05 08 49.6**	**0.0**
	64nm,0.5s						
IZV				Lg	Lg	05 09 22.7	
	128nm,0.3s						
IZV	**Izvestkoviy**	**2.25**	**318**	*e*P	**Pb**	**05 08 49.6**	**0.0**
	64nm,0.5s						
IZV				*e*S	**Sg**	**05 09 22.7**	**+2.5**
	128nm,0.3s						
JNKS	**Jany-Kuch**	**2.29**	**263**	⇑*iP*	**Pn**	**05 08 45.4**	**-1.8**
JNKS				⇑*iS*	**Sn**	**05 09 16.2**	**0.0**
BOOM	**Boomskoye usch**	**2.31**	**300**	⇑*iP*	**Pn**	**05 08 46.7**	**-0.7**
BOOM				⇑*iS*	**Sn**	**05 09 18.2**	**+1.5**
MTBS	**Maitube**	**2.41**	**317**	Pg	**Pb**	**05 08 51.5**	**-0.7**
	52nm,0.5s						
MTBS				Lg	Lg	05 09 26.3	
	125nm,0.5s						
MTBS	**Maitube**	**2.41**	**317**	*e*P	**Pb**	**05 08 51.5**	**-0.7**
	52nm,0.5s						
MTBS				*e*S	**Sg**	**05 09 26.3**	**+1.0**
	125nm,0.5s						
KTMS	**Ketmen**	**2.42**	**31**	Pg	**Pb**	**05 08 50.0**	**-2.4**
	14nm,0.3s						
KTMS				Lg	Lg	05 09 24.3	
	177nm,0.5s						
KTMS	**Ketmen**	**2.42**	**31**	*e*P	**Pb**	**05 08 50.0**	**-2.4**
	14nm,0.3s						
KTMS				*e*S	**Sg**	**05 09 24.3**	**-1.3**
	177nm,0.5s						
KST	**Kastek**	**2.60**	**311**	Pg	**Pb**	**05 08 54.3**	**-1.3**
	44nm,0.7s						
KST				Lg	Lg	05 09 31.3	
	86nm,0.8s						
KST	**Kastek**	**2.60**	**311**	*e*P	**Pb**	**05 08 54.3**	**-1.3**
	44nm,0.7s						
KST				*e*S	**Sg**	**05 09 31.3**	**-0.3**
	86nm,0.8s						
TKM2	**Tokmak 2**	**2.75**	**305**	P	**Pb**	**05 08 58.5**	**+0.4**
	SNR=10						
TKM2	**Tokmak 2**	**2.75**	**305**	⇑*iP*	**Pn**	**05 08 52.8**	**-0.7**
TKM2				⇑*iS*	**Sn**	**05 09 29.0**	**+1.5**
KTBS	**Karatobe**	**2.75**	**329**	Pg	**Pb**	**05 08 57.9**	**-0.1**
	57nm,0.4s						
KTBS				Lg	Lg	05 09 37.3	
	93nm,0.4s						
KSH	**Kashi**	**2.77**	**229**	Pn	**Pg**	**05 09 00.0**	**-0.9**
KSH				Sn	**Sg**	**05 09 43.3**	**+6.5**
KSH				smax	smax		
	comp=N,52nm,0.9s						
KSH				smax	smax		
	comp=E,57nm,0.9s						
CHKK	**Chushkaly**	**2.77**	**334**	Pg	**Pb**	**05 08 58.5**	**+0.2**
	comp=E,65nm,0.5s						
CHKK				Lg	Lg	05 09 37.8	
	comp=E,138nm,0.5s						
CHKK	**Chushkaly**	**2.77**	**334**	*e*P	**Pb**	**05 08 58.5**	**+0.2**
	comp=E,65nm,0.5s						
CHKK				*e*S	**Sg**	**05 09 37.9**	**+1.1**
	comp=E,138nm,0.5s						
ARXS	**Arharly**	**2.90**	**348**	*e*P	**Pb**	**05 08 59.8**	**-0.8**
ARXS				*e*S	**Sg**	**05 09 40.4**	**-0.7**
KNOS	**Konyrlen**	**3.01**	**7**	Pg	**Pb**	**05 09 02.2**	**-0.3**
	comp=E,25nm,0.4s						
KNOS				Lg	Lg	05 09 44.6	
	comp=E,96nm,0.5s						
KUU	**Kurty**	**3.04**	**327**	Pg	**Pb**	**05 09 01.6**	**-1.4**
	comp=E,3.7nm,0.1s						
KUU				Lg	Lg	05 09 43.4	
	comp=E,42nm,0.7s						
KUU	**Kurty**	**3.04**	**327**	*e*P	**Pb**	**05 09 01.6**	**-1.4**
	comp=E,3.7nm,0.1s						
KUU				*e*S	**Sb**	**05 09 43.4**	**+2.8**
	comp=E,42nm,0.7s						
KBK	**Karagaybulak**	**3.04**	**296**	P	**Pg**	**05 09 04.3**	**-2.0**
	SNR=10						
KBK	**Karagaybulak**	**3.04**	**296**	⇑*iP*	**Pn**	**05 08 57.0**	**-0.5**
KBK				⇑*eS*	**Sn**	**05 09 35.8**	**+1.1**
KRBS	**Karabastau**	**3.20**	**317**	Pg	**Pb**	**05 09 05.6**	**0.0**
	comp=E,18nm,0.4s						
KRBS				Lg	Lg	05 09 50.6	
	comp=E,22nm,0.4s						
UCH	**Uchtor**	**3.21**	**287**	P	**Pb**	**05 09 06.2**	**0.0**
	SNR=12						
UCH	**Uchtor**	**3.21**	**287**	⇓*iP*	**Pn**	**05 08 59.3**	**-0.8**
UCH				⇓*iS*	**Sn**	**05 09 39.9**	**+0.6**
ARLS	**Aral**	**3.29**	**280**	⇑*iP*	**Pn**	**05 08 59.9**	**-0.9**
ARLS				⇑*iS*	**Sn**	**05 09 40.9**	**+0.3**
FRU1	**Bishkek**	**3.32**	**297**	⇓*eP*	**Pn**	**05 09 00.8**	**-0.4**
FRU1				⇓*eS*	**Sn**	**05 09 42.3**	**+0.9**
CHMS	**Chumysh**	**3.32**	**300**	⇑*iP*	**Pn**	**05 09 00.7**	**-0.5**
CHMS				⇑*iS*	**Sn**	**05 09 42.3**	**+0.9**
AAK	**Ala-Archa**	**3.35**	**293**	P	**Pb**	**05 09 08.6**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**3.35**	**293**	⇑Pg	**Pb**	**05 09 07.9**	**-0.4**
	comp=E,3.6nm,0.5s						
AAK				⇑Lg	Lg	05 09 54.5	
	comp=E,35nm,1.1s						
AAK	**Ala-Archa**	**3.35**	**293**	⇑*eP*	**Pn**	**05 09 01.1**	**-0.6**
AAK				⇑*iS*	**Sn**	**05 09 43.0**	**+0.8**
USP	**Ospenovka**	**3.62**	**303**	P	**Pb**	**05 09 13.1**	**+0.4**
	SNR=7.1						
USP	**Ospenovka**	**3.62**	**303**	⇓*iP*	**Pn**	**05 09 04.8**	**-0.4**
USP				⇓*iS*	**Sn**	**05 09 49.4**	**+0.8**
SGDS	**Sogindy**	**3.63**	**306**	Pg	**Pb**	**05 09 13.4**	**+0.4**
	comp=E,4.0nm,0.2s						
SGDS				Lg	Lg	05 10 03.5	
	comp=E,17nm,0.4s						
SALK	**Salom-Alik**	**3.69**	**264**	⇑*iP*	**Pn**	**05 09 04.8**	**-1.5**
SALK				⇑*iS*	**Sn**	**05 09 49.5**	**-1.0**
EKS2	**Erkin-Say**	**3.86**	**291**	P	**Pb**	**05 09 18.6**	**+1.7**
	SNR=15						
EKS2	**Erkin-Say**	**3.86**	**291**	⇑*eP*	**Pn**	**05 09 08.0**	**-0.6**
EKS2				⇑*iS*	**Sn**	**05 09 54.9**	**+0.2**
KAPS	**Kapalarasan**	**3.94**	**7**	Pg	**Pb**	**05 09 19.1**	**+0.8**
	comp=E,13nm,0.3s						
KAPS				Lg	Lg	05 10 13.2	
	comp=E,30nm,0.4s						
SFK	**Sufi-Kurgan**	**4.15**	**253**	⇑*eP*	**Pn**	**05 09 10.5**	**-2.2**
SFK				⇑*eS*	**Sn**	**05 10 00.1**	**-1.9**
MRKS	**Merke**	**4.27**	**290**	*eP*	**Pg**	**05 09 27.2**	**-2.5**
	comp=E,9.5nm,0.6s						
MRKS				*eS*	**Sg**	**05 10 27.1**	**+2.1**
	comp=E,14nm,0.6s						
ARK	**Arkit**	**5.04**	**277**	⇓*eP*	**Pn**	**05 09 23.8**	**-1.0**
ARK				⇓*eS*	**Sn**	**05 10 22.4**	**-1.4**
MAKZ	**Makanchi**	**5.93**	**23**	⇑Pn	**Pn**	**05 09 39.0**	**+2.0**
	comp=E,3.6nm,1.1s						
MAKZ				⇑Sn	**Sn**	**05 10 48.5**	**+2.8**
	comp=E,1.0nm,0.4s						
MAKZ				⇓Lg	Lg	05 11 17.4	
	comp=E,7.4nm,0.8s						
MK31	**Makanchi Array**	**6.01**	**25**	Pn	**Pn**	**05 09 38.6**	**+0.5**
	comp=E,0.8nm,0.5s,baz=207,slow=14,SNR=18						
MK31				⇑Pg	**Pb**	**05 09 55.5**	**+1.9**
	comp=E,0.6nm,0.4s,baz=196,slow=13,SNR=4.7						
MK31				⇑Lg	Lg	05 11 21.6	
	comp=E,5.6nm,0.7s,baz=204,slow=28,SNR=4.4						
KK31	**Karatay Array**	**6.29**	**289**	⇑Pg	**Pg**	**05 10 05.2**	**-3.2**
	comp=E,1.9nm,0.6s,baz=99,slow=17,SNR=13						
KK31				⇑Lg	Lg	05 11 29.3	
	comp=E,3.2nm,0.6s,baz=107,slow=25,SNR=3.9						
KURBB	**Kurchatov Arra**	**9.25**	**359**	⇓Lg	Lg	05 13 03.4	
	comp=E,18nm,0.8s						
KURK	**Kurchatov**	**9.34**	**360**	⇑Lg	Lg	05 13 07.4	
	comp=E,3.6nm,0.8s						

*NEIC **31** 05:09:31.7±0.9, 35.°387N±0.°010×97.°90W±0.°01, h5km±1km, ML2.1/61, ML2.1/14, Error ellipse: s-maj=2.4km s-min=1.8km az=245.0*

NEIC 31 05:09:31.9±1.0, 35.°407N±0.°009×97.°892W±0.°007, h6km±2km, Error ellipse: s-maj=1.5km s-min=0.5km az=207.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.34**	**43**		Pb	05 09 39.9	-0.5
OKCSW	**OKLAHOMA CITY**	**0.37**	**90**	Pg	Pg	05 09 39.0	-0.2
FNO	**Franklin**	**0.43**	**110**		Pg	05 09 40.3	+0.1
FNO					Sg	05 09 46.8	+1.0
ADOK	**Arcadia Dam**	**0.49**	**60**	Pg	Pg	05 09 41.0	-0.3
CSTR	**Hydro, Custer**	**0.69**	**290**		Pg	05 09 45.8	+0.5
CSTR					Sb	05 09 55.5	-0.8
X34A	**Smith Ranch, M**	**0.81**	**176**		Pg	05 09 47.1	-0.2
X34A				IAML		05 09 59.8	
	comp=N,53nm,0.4s						
WMOK	**Wichita Mounta**	**0.99**	**228**		Pg	05 09 49.9	-1.0
WMOK	**Wichita Mounta**	**0.99**	**228**	Sg	Sg	05 10 03.1	-0.6
OK052	**Battle Ridge R**	**1.06**	**56**		Pg	05 09 52.3	0.0
OK052					Sb	05 10 06.5	-0.3
OK052				IAML		05 10 09.3	
	comp=N,63nm,0.4s						
OK052				IAML		05 10 12.1	
	comp=N,71nm,0.4s						
DEOK	**Depew**	**1.22**	**69**		Pg	05 09 54.4	-0.9
DEOK					Sg	05 10 10.4	-0.6
DEOK				IAML		05 10 15.7	
	comp=N,35nm,0.2s						
DEOK				IAML		05 10 18.9	
	comp=E,46nm,0.1s						
QUOK	**Quay**	**1.23**	**51**		Pg	05 09 54.9	-0.6
OK048	**Pawnee Station**	**1.27**	**37**		Pn	05 09 55.9	-0.3
GC02	**Grant County #**	**1.44**	**1**		Pb	05 09 58.9	-0.3
BLOK	**Blackwell**	**1.46**	**22**		Pn	05 09 58.9	+0.1
NOKA	**Waynoka**	**1.49**	**326**		Pn	05 09 58.8	-0.4
WTFS	**Witchita Falls**	**1.70**	**196**		Pn	05 10 02.2	+0.1
KAN01	**Argonia South**	**1.75**	**3**	Pn	Pn	05 10 02.8	0.0
TUL3	**Leonard**	**1.78**	**73**		Pn	05 10 03.6	+0.4
T35A	**Sooner Cattle**	**1.88**	**36**		Pn	05 10 05.2	+0.6
SMWD	**Samnorwood**	**1.95**	**262**		Pn	05 10 05.9	+0.4

*NEIC **31** 05:12:54.0±1.0, 6.°74N±0.°07×125.°27E±0.°07, h10km±1km, mb4.2/19, Error ellipse: s-maj=14.5km s-min=7.2km az=131.0*
*IDC **31** 05:12:53.0±1.1, 6.°67N×125.°26E, h0km, mb3.8/5, mbtmp3.8/5, MS3.5/10, Error ellipse: s-maj=19.3km s-min=9.1km az=119.0*
*DJA **31** 05:12:54.3±0.5, 7.°N±4.°×12.°5E±.°, h10km, M4.7/10, mb4.7/8, mB5.2/2, MLv4.7/

ASAR Alice Springs 31.41 165 P **P 05 19 15.2 +0.1**
comp=Z,1.0nm,0.6s,baz=341,slow=6.6,SNR=10
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 31.91 20 LR LR 05 32 10.2
comp=Z,80nm,20.0s,baz=179,slow=36
BJT Baijiatuau 34.09 348 P **P 05 19 39.2 +0.8**
SHL Shillong 36.92 304 P **P 05 20 03.3 +0.1**
SHL IAmb IAmb 05 20 13.1
comp=Z,5.2nm,0.9s
ASAJ Asahikawa 40.18 19 LR LR 05 37 40.2
comp=Z,69nm,19.4s,baz=148,slow=37
BBOO Buckleboo 40.69 166 P **P 05 20 33.8 -0.6**
BBOO IAmb IAmb 05 20 51.0
comp=Z,12nm,1.1s
STKA Stephens Creek 41.48 159 P **P 05 20 39.9 -1.1**
comp=Z,3.2nm,0.8s,baz=337,slow=7.9,SNR=4.3
comp=Z,3.2nm,0.8s
EVN Everest 42.02 305 P **P 05 20 44.8 -1.5**
EVN IAmb IAmb 05 20 59.3
comp=Z,2.5nm,0.8s
SONM Songino Array 43.96 342 P **P 05 21 01.4 +0.3**
SONM Songino Array 43.96 342 LR LR 05 40 23.0
comp=Z,109nm,19.3s,baz=146,slow=37
TOO Toolangi 47.99 158 P **P 05 21 31.8 -1.1**
MK31 Makanchi Array 54.23 325 P **P 05 22 19.1 -0.6**
MK31 IAmb IAmb 05 22 31.8
comp=Z,2.3nm,1.1s
MKAR Makanchi Array 54.23 325 P **P 05 22 19.1 -0.6**
MKAR Makanchi Array 54.23 325 P **P 05 22 21.7 +2.0**
comp=Z,0.5nm,0.7s,baz=139,slow=7.3,SNR=3.8
MKAR LR LR 05 47 16.0
comp=Z,59nm,19.5s,baz=352,slow=38
comp=Z,0.5nm,0.7s
MAKZ Makanchi 54.42 325 P **P 05 22 21.2 +0.2**
MAKZ IAmb IAmb 05 22 24.6
comp=Z,1.9nm,1.1s
NIL Nilore 54.92 307 P **P 05 22 24.3 -0.7**
BOOM Boomskoye usch 56.10 317 P **P 05 22 33.0 -0.4**
BOOM IAmb IAmb 05 22 40.6
comp=Z,2.6nm,1.2s
KURBB Kurchatov Arra 58.40 327 P **P 05 22 50.2 +0.9**
comp=Z,0.7nm,0.7s,baz=125,slow=7.0,SNR=4.1
comp=Z,0.7nm,0.7s
KURK Kurchatov 58.40 327 P **P 05 22 49.2 -0.1**
KURK IAmb IAmb 05 22 56.3
comp=Z,2.2nm,1.1s
GAR Garm 58.80 312 P **P 05 22 52.2 -0.3**

*JMA **31** 05:13:30.6±0.1,26°.6N±0°.4×127°.8E±0°.4,h45km±1km, MV3.2/14,NEAR OKINAWAJIMA ISLAND*
*IDC **31** 05:13:30.1±6.1,26°.91N×127°.68E,h33km±52km,mb3.7/6, mbtmp3.8/6,MS3.5/1,Error ellipse: s-maj=38.1km s-min=19.8km az=41.0*
ISC 31 05:13:30.4±0.9,26°.60N±0°.05×127°.83E±0°.04,h51km±7km, n20,σ1§41/31,mb3.9/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.20**	**115**	*i* P	**Pn**	**05 13 38.6**	**-0.2**
JNTH				*e*S	**Sn**	**05 13 44.5**	**-0.3**
JIH	**Iheya**	**0.45**	**16**	P	**Pn**	**05 13 40.8**	**-0.4**
JJT3	**Tamagusuku3**	**0.46**	**185**	P	**Pn**	**05 13 41.6**	**+0.4**
JJT3				*e*S	**Sn**	**05 13 49.7**	**+0.6**
JOW	**Kunigami**	**0.46**	**60**	LR	LR	05 13 30.0	
	comp=Z,74nm,19.0s,baz=227,slow=0.3						
JOW				Pn	**Pn**	**05 13 41.5**	**+0.1**
	260nm,0.3s,baz=126,slow=29,SNR=311						
JOW				Sn	**Sn**	**05 13 48.7**	**-0.5**
	2μm,0.3s,baz=119,slow=19,SNR=84						
JOW	**Kunigami**	**0.46**	**60**	P	**Pn**	**05 13 41.2**	**-0.1**
JOW				*e*S	**Sn**	**05 13 48.7**	**-0.5**
JAGN	**Aguni-jima**	**0.52**	**269**	P	**Pn**	**05 13 41.4**	**-0.6**
JAGN				S	**Sn**	**05 13 49.4**	**-0.9**
JYRO	**Yoronjima**	**0.70**	**53**	P	**Pn**	**05 13 44.5**	**+0.3**
JYRO				*e*S	**Sn**	**05 13 54.1**	**-0.1**
JKE	**Kume jima 2**	**0.97**	**254**	P	**Pn**	**05 13 47.2**	**-0.6**
JKE				S	**Sn**	**05 13 59.2**	**-1.3**
JOKE	**Okinoerabujima**	**1.01**	**41**	P	**Pn**	**05 13 48.1**	**-0.1**
JOKE				S	**Sn**	**05 14 00.6**	**-0.8**
JTK	**Tokunoshima**	**1.55**	**40**	P	**Pn**	**05 13 55.6**	**0.0**
JTK				*e*S	**Sn**	**05 14 13.4**	**-1.1**
JAMN	**Amaminishikomi**	**2.03**	**36**	P	**Pn**	**05 14 02.0**	**-0.1**
JAMN				S	**Sn**	**05 14 25.7**	**-0.6**
JAM	**Amami Oshima**	**2.40**	**41**	*e*P	**Pn**	**05 14 08.1**	**+0.9**
JAM				*e*S	**Sn**	**05 14 36.5**	**+1.2**
JMZ	**Minamidaito 2**	**3.15**	**104**	P	**Pn**	**05 14 15.7**	**-1.8**
JMZ				S	**Sn**	**05 14 49.5**	**-4.4**
MKAR	**Makanchi Array**	**41.02**	**312**	P	**P**	**05 21 07.6**	**-1.0**
	0.7nm,0.6s,baz=101,slow=9.3,SNR=7.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**41.73**	**323**	P	**P**	**05 21 13.0**	**-1.2**
	1.1nm,0.5s,baz=107,slow=9.2,SNR=4.6						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**44.33**	**316**	P	**P**	**05 21 34.8**	**-0.5**
	1.7nm,0.4s,baz=104,slow=9.0,SNR=19						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**46.70**	**172**	P	**P**	**05 21 58.5**	**+4.2**
	0.1nm,0.3s,baz=338,slow=13,SNR=3.8						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**49.76**	**318**	P	**P**	**05 22 16.5**	**-1.0**
	0.7nm,0.5s,baz=90,slow=8.0,SNR=4.2						
	0.7nm,0.5s						
NWAO	**Narrogin (SRO)**	**60.05**	**190**	LR	LR	05 51 43.8	
	comp=Z,40nm,19.1s,baz=38,slow=38						
FINES	**FINESS Array B**	**72.36**	**330**	P	**P**	**05 24 50.1**	**-0.5**
	2.1nm,0.8s,baz=64,slow=3.2,SNR=5.6						
	2.1nm,0.8s						

*NEIC **31** 05:27:52.0±1.1,40°.44S±0°.03×75°.4W±0°.1,h10km±1km, mb4.1/2,ML3.7(GUC),Error ellipse: s-maj=14.9km s-min=6.0km az=276.0*
*GUC **31** 05:27:55.1±0.7,40°.50S×75°.21W,h27km±8km,ML3.7*
ISC 31 05:27:55.4±1.1,40°.41S±0°.06×75°.32W±0°.10,h35km,n57, σ1§21/61,mb3.8/4,4C-2D,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR04	**Corral**	**1.54**	**71**		**Pn**	**05 28 20.2**	**-0.2**
LR04	**Corral**	**1.54**	**71**	*e*P	**Pn**	**05 28 20.2**	**-0.2**
LR04				*e*S	**Sn**	**05 28 38.8**	**-0.4**
LR04				IAML		05 28 40.6	
	comp=N,3μm,0.3s						
LR02	**Universidad Au**	**1.70**	**70**	*e*P	**Pn**	**05 28 22.6**	**+0.1**
LR02				*e*S	**Sn**	**05 28 43.0**	**0.0**
LR02				IAML		05 28 44.2	
	comp=E,3μm,0.2s						
LL05	**Los Muermos**	**1.72**	**126**		**Pn**	**05 28 21.8**	**-1.0**
LL05	**Los Muermos**	**1.72**	**126**	*e*P	**Pn**	**05 28 21.8**	**-1.0**
LL05				*e*S	**Sn**	**05 28 40.8**	**-2.8**
LC02	**Puerto Saavedr**	**2.20**	**44**		**Pn**	**05 28 31.4**	**+2.0**
LC02	**Puerto Saavedr**	**2.20**	**44**	*e*P	**Pn**	**05 28 30.2**	**+0.8**
LC02				IAML		05 28 58.8	
	comp=N,1μm,0.4s						
LL06	**Loncomilla**	**2.21**	**145**	*e*P	**Pn**	**05 28 28.7**	**-0.9**
LL06				IAML		05 29 13.8	
	comp=E,279nm,0.4s						
BI04	**Isla Mocha**	**2.28**	**30**	*i* P	**Pn**	**05 28 31.0**	**+0.5**
BI04				*e*S	**Sn**	**05 28 56.9**	**-0.4**
BI04				IAML		05 28 58.3	
	comp=N,1μm,0.5s						
LL03	**Petrohue**	**2.33**	**109**		**Pn**	**05 28 33.4**	**+2.1**
LL03	**Petrohue**	**2.33**	**109**	*e*P	**Pn**	**05 28 30.4**	**-0.9**
LL03				IAML		05 29 09.1	
	comp=N,363nm,0.4s						
LR03	**Panguipulli**	**2.41**	**72**		**Pn**	**05 28 33.1**	**+0.8**
LR03	**Panguipulli**	**2.41**	**72**	*e*P	**Pn**	**05 28 33.2**	**+0.8**
LR03				IAML		05 29 04.2	
	comp=N,511nm,0.3s						
LR05	**Currie**	**2.54**	**87**		**Pn**	**05 28 34.7**	**+0.6**
LR05	**Currie**	**2.54**	**87**	*e*P	**Pn**	**05 28 34.5**	**+0.4**
LR05				IAML		05 29 06.2	
	comp=E,585nm,0.4s						
LL01	**San Ignacio de**	**2.95**	**133**		**Pn**	**05 28 39.1**	**-0.5**
LL01	**San Ignacio de**	**2.95**	**133**	*e*P	**Pn**	**05 28 39.2**	**-0.5**
GO07	**Milladeo Hill,**	**2.98**	**156**		**Pn**	**05 28 39.9**	**-0.2**
GO07	**Milladeo Hill,**	**2.98**	**156**	⇑*i*P	**Pn**	**05 28 39.5**	**-0.6**
LC01	**Cunco**	**3.06**	**62**	*e*P	**Pn**	**05 28 42.1**	**+0.9**
GO06	**Curarrehue**	**3.07**	**76**	*e*P	**Pn**	**05 28 42.6**	**+1.1**
GO06				IAML		05 29 21.3	
	comp=N,75nm,0.5s						
PLCA	**Paso Flores**	**3.65**	**97**		**Pn**	**05 28 50.8**	**+1.4**
LL02	**Futaleuf**	**3.81**	**138**		**Pn**	**05 28 50.8**	**-0.7**
BI05	**Punta Hualpn**	**4.02**	**25**	*e*P	**Pn**	**05 28 54.3**	**-0.1**
BI02	**San Fabin de**	**4.90**	**42**		**Pn**	**05 29 07.5**	**+0.9**
ML02	**Panimavida**	**5.56**	**35**		**Pn**	**05 29 15.9**	**+0.2**
COYC	**Coyhaique**	**5.68**	**156**	Pn	**Pn**	**05 29 17.6**	**+0.3**
BO02	**Sierra Bellavi**	**6.66**	**34**		**Pn**	**05 29 31.1**	**+0.3**
BO01	**Tunca**	**6.88**	**31**		**Pn**	**05 29 33.4**	**-0.4**
AY03	**Cochrane**	**7.12**	**165**		**Pn**	**05 29 39.1**	**+2.0**
MT01	**Popeta**	**7.29**	**28**		**Pn**	**05 29 38.7**	**-0.7**
VA04	**Juan Fernndez**	**7.31**	**336**	Pn	**Pn**	**05 29 38.9**	**-0.7**
BO04	**La Punta**	**7.43**	**32**	Pn	**Pn**	**05 29 40.5**	**-0.8**
MT09	**Talagante**	**7.47**	**29**		**Pn**	**05 29 41.4**	**-0.6**
LMEL	**Las Melosas**	**7.72**	**34**		**Pn**	**05 29 45.7**	**+0.3**
MT02	**Curacav**	**7.88**	**26**	Pn	**Pn**	**05 29 46.4**	**-1.1**
MT03	**Universidad Ad**	**7.90**	**31**	Pn	**Pn**	**05 29 47.2**	**-0.7**
MT05	**Renca**	**7.90**	**29**	Pn	**Pn**	**05 29 47.6**	**-0.2**
VA01	**Torpederas**	**7.94**	**23**	Pn	**Pn**	**05 29 47.2**	**-1.1**
PEL	**Peldehue**	**8.14**	**29**		**Pn**	**05 29 50.6**	**-0.6**
VA06	**Catapilco**	**8.47**	**24**	Pn	**Pn**	**05 29 54.5**	**-1.1**
VA03	**San Esteban**	**8.54**	**28**		**Pn**	**05 29 55.9**	**-0.7**
CO02	**Combarbal**	**9.83**	**22**		**Pn**	**05 30 13.5**	**-0.8**
CO06	**Fray Jorge**	**10.16**	**18**	Pn	**Pn**	**05 30 17.5**	**-1.3**
CO03	**El Pedregal**	**10.26**	**23**		**Pn**	**05 30 19.5**	**-0.7**
ZON	**Zonda**	**10.35**	**33**		**Pn**	**05 30 20.8**	**-0.5**
GO04	**Tololo Observa**	**10.86**	**21**	Pn	**Pn**	**05 30 27.5**	**-1.0**
CO01	**Juntas del Tor**	**11.25**	**24**	Pn	**Pn**	**05 30 31.8**	**-2.1**
AC02	**Maricunga**	**14.48**	**23**	Pn	**Pn**	**05 31 16.4**	**-1.8**
PLTB	**Pedras Altas**	**19.52**	**71**	P	**P**	**05 32 19.2**	**-0.5**
PLTB				IAmb	IAmb	05 32 29.4	
	comp=Z,8.6nm,1.0s						
VNA3	**Neumayer Olymp**	**44.54**	**155**	⇑P	**P**	**05 36 05.1**	**+1.9**
	comp=Z,0.8nm,0.6s						
VNA1	**Neumayer--Stat**	**44.93**	**154**	⇑P	**P**	**05 36 07.9**	**+1.6**
	comp=Z,0.9nm,0.7s						
VNA2	**Neumayer--Watz**	**45.24**	**155**	⇑P	**P**	**05 36 11.8**	**+3.0**
	comp=Z,0.9nm,0.7s,baz=285,slow=6.6						
SNAA	**Sanae**	**46.75**	**156**	⇓P	**P**	**05 36 23.6**	**+2.9**
	comp=Z,25nm,0.8s						
SNAA	**Sanae**	**46.75**	**156**	P	**P**	**05 36 20.9**	**+0.2**
SNAA				IAmb	IAmb	05 36 32.1	
	comp=Z,2.4nm,0.9s						
TROLL	**Troll, Antarti**	**48.42**	**156**	⇓P	**P**	**05 36 36.9**	**+3.1**
	comp=Z,62nm,0.7s						
QSPA	**South Pole Qui**	**49.84**	**180**	P	**P**	**05 36 44.7**	**-0.1**

*NEIC **31** 05:34:22.7±1.4,6°.85N±0°.07×125°.09E±0°.04,h10km±1km, mb4.6/34,Error ellipse: s-maj=13.8km s-min=4.3km az=152.0*
*DJA **31** 05:34:23.9±0.5,7°.N±3°×12°.5E±°,h10km,M4.8/11, mb5.0/11,mB5.2/6,MLv5.0/11,Mw(mB)4.6/6*
*IDC **31** 05:34:24.7±2.5,6°.82N×125°.26E,h28km±17km,mb3.9/13, mbtmp4.0/13,MS3.4/6,Error ellipse: s-maj=31.8km s-min=14.1km az=74.0*
ISC 31 05:34:23.0±0.5,6°.82N±0°.05×125°.11E±0°.07,h13km,n73, σ1§26/68,mb4.5/35,MS3.4/5,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.53**	**62**	Pg	**Pg**	**05 34 33.4**	**+0.1**
	4μm,0.3s,baz=262,slow=7.2,SNR=160						
DAV	**Davao City (W)**	**0.53**	**62**	P	Pg	05 34 24.0	-9.4
SGSI	**Sangihe**	**3.14**	**172**	P	**Pn**	**05 35 13.9**	**+1.6**
SGSI				S	**Sn**	**05 35 53.2**	**+3.5**
KMSI	**Cibinong**	**6.31**	**190**	P	**Pn**	**05 35 56.6**	**+0.8**
TNTI	**Ternate**	**6.42**	**159**	Pn	**Pn**	**05 35 54.9**	**-2.4**
TNTI	**Ternate**	**6.42**	**159**	P	**Pn**	**05 35 59.0**	**+1.7**
	67nm,0.8s						
MYLDM	**Lahad Datu**	**6.77**	**256**		**Pn**	**05 36 01.7**	**-0.4**
MRSI	**Marisa**	**7.05**	**207**	P	**Pn**	**05 36 07.8**	**+1.8**
	2μm139nm,0.6s						
MRSI				S	**Sn**	**05 37 23.8**	**-2.3**
	2μm139nm,0.6s						
TOLI2	**Tolitoli**	**7.13**	**217**		**Pn**	**05 36 05.8**	**-1.3**
LUWI	**Luwuk**	**8.15**	**197**	P	Pn	05 36 27.6	+6.5
SANI	**Sanana**	**8.86**	**174**	P	**Pn**	**05 36 31.8**	**+1.0**
	48nm,1.1s						
I39PW	**PALAU INFRASON**	**9.39**	**85**	I	I	06 30 10.0	
	baz=265,slow=298,SNR=1.5						
FAKI	**Fak Fak**	**12.02**	**143**	Pn	**Pn**	**05 37 15.1**	**+0.9**
KAPI	**Kappang**	**12.92**	**205**	LR	LR	05 42 49.1	
	comp=Z,114nm,20.3s,baz=55,slow=39						
JOW	**Kunigami**	**20.13**	**8**	LR	LR	05 45 56.7	
	comp=Z,87nm,21.6s,baz=97,slow=34						
MTN	**Manton Dam**	**20.43**	**163**		**P**	**05 39 00.1**	**-0.1**
MTN				IAmb	IAmb	05 39 15.1	
	comp=Z,40nm,1.4s						
GUMO	**Guam**	**20.57**	**69**	LR	LR	05 48 26.5	
	comp=Z,48nm,18.5s,baz=350,slow=41						
KNRA	**Kununurra**	**22.65**	**171**		**P**	**05 39 24.7**	**+0.7**
KNRA				IAmb	IAmb	05 39 31.5	
	comp=Z,19nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.77**	**179**	P	**P**	**05 39 44.8**	**+0.2**
NJ2	**Nanjing**	**25.77**	**348**	*e*P	**P**	**05 39 55.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RPSI	**Rantau Prapat**	**26.41**	**262**	P	**P**	**05 39 58.5**	**-1.2**
RPSI				IAmb	IAmb	05 40 03.0	
	comp=Z,8.5nm,0.5s						
PMG	**Port Moresby**	**27.25**	**126**	P	**P**	**05 40 06.0**	**-1.1**
COEN	**Coen**	**27.34**	**139**	P	**P**	**05 40 05.7**	**-2.4**
COEN				IAmb	IAmb	05 40 32.3	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**27.96**	**161**		**P**	**05 40 12.2**	**-1.2**
WB0				IAmb	IAmb	05 40 34.6	
	comp=Z,6.0nm,0.8s						
JMN	**Monobe**	**27.98**	**16**	P	**P**	**05 40 12.7**	**-0.8**
JMN				IAmb	IAmb	05 40 13.7	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.98**	**297**	P	**P**	**05 40 15.2**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=126,slow=7.7,SNR=4.5						
	comp=Z,0.9nm,0.3s						
WRAB	**Tennant Creek**	**28.10**	**161**	P	**P**	**05 40 14.7**	**0.0**
WRAB				IAmb	IAmb	05 40 41.9	
	comp=Z,6.5nm,0.6s						
WRA	**Warramunga Arr**	**28.11**	**161**	P	**P**	**05 40 14.3**	**-0.4**
WRA	**Warramunga Arr**	**28.11**	**161**	P	**P**	**05 40 13.3**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=330,slow=10,SNR=14						
	comp=Z,1.3nm,0.8s						
WR8	**Warramunga Arr**	**28.17**	**161**		**P**	**05 40 13.6**	**-1.8**
WR8				IAmb	IAmb	05 40 40.4	
	comp=Z,6.7nm,0.8s						
PZH	**PanZhiHua**	**29.63**	**314**	P	**P**	**05 40 31.3**	**+2.9**
AS31	**Alice Springs**	**31.50**	**164**	P	**P**	**05 40 44.1**	**-0.7**
ASAR	**Alice Springs**	**31.50**	**164**	P	**P**	**05 40 45.0**	**+0.2**
ASAR	**Alice Springs**	**31.50**	**164**	P	**P**	**05 40 43.8**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=346,slow=7.8,SNR=18						
	comp=Z,1.6nm,0.7s						
MJAR	**Matsushiro Arr**	**31.91**	**20**	P	**P**	**05 40 47.4**	**-1.0**
MJAR	**Matsushiro Arr**	**31.91**	**20**	P	**P**	**05 40 46.2**	**-2.2**
MJAR				LR	LR	05 53 01.9	
	comp=Z,1.9nm,0.5s,baz=185,slow=9.5,SNR=4.3						
	comp=Z,77nm,20.1s,baz=194,slow=35						
	comp=Z,1.9nm,0.5s						
BJI	**Beijing**	**34.03**	**348**	P	**P**	**05 41 07.0**	**+0.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LZH	**Lanzhou**	**35.04**	**329**	*e*P	**P**	**05 41 18.0**	**+2.2**
LZH				pP	sP	05 41 22.8	+1.2
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC	**Hu-ho-hao-te**	**35.98**	**342**	*e*P	**P**	**05 41 25.3**	**+1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,57nm,5.1s						
FORT	**Forrest**	**37.49**	**176**	P	**P**	**05 41 36.6**	**0.0**
FORT				IAmb	IAmb	05 41 58.0	
	comp=Z,19nm,1.4s						
USRK	**Ussuriysk Ar.**	**37.71**	**8**	P	**P**	**05 41 37.7**	**-0.6**
	comp=Z,7.8nm,0.8s,baz=192,slow=11,SNR=12						
	comp=Z,7.8nm,0.8s						
GTA	**Gaotai**	**39.63**	**329**	*e*P	**P**	**05 41 56.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BBOO	**Buckleboo**	**40.77**	**166**	P	**P**	**05 42 04.3**	**+0.4**
STKA	**Stephens Creek**	**41.58**	**159**	P	**P**	**05 42 11.0**	**+0.3**
STKA	**Stephens Creek**	**41.58**	**159**	P	**P**	**05 42 10.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=344,slow=9.5,SNR=4.0						
	comp=Z,2.1nm,0.7s						
EVN	**Everest**	**41.89**	**305**	P	**P**	**05 42 14.2**	**+0.1**
HILR	**Hailar Array B**	**42.83**	**355**	P	**P**	**05 42 21.3**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=153,slow=10.0,SNR=5.6						
	comp=Z,2.5nm,0.4s						
SONM	**Songino Array**	**43.87**	**342**	P	**P**	**05 42 28.8**	**-0.5**
SONM	**Songino Array**	**43.87**	**342**	P	**P**	**05 42 28.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=113,slow=10.0,SNR=2.1						
SONM				LR	LR	06 01 46.1	
	comp=Z,91nm,19.6s,baz=146,slow=37						
	comp=Z,0.4nm,0.5s						
ARMA	**Armidale**	**44.92**	**147**	P	**P**	**05 42 36.6**	**-1.2**
ARMA				IAmb	IAmb	05 42 55.7	
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**53.23**	**24**	LR	LR	06 06 05.7	
	comp=Z,34nm,19.5s,baz=134,slow=36						
MKAR	**Makanchi Array**	**54.11**	**325**	P	**P**	**05 43 46.7**	**-1.0**
MKAR	**Makanchi Array**	**54.11**	**325**	P	**P**	**05 43 48.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=125,slow=7.9,SNR=9.5						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**57.12**	**333**	P	**P**	**05 44 08.1**	**-1.1**
ZALV	**Zalesovo Beam**	**57.12**	**333**	P	**P**	**05 44 07.7**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=144,slow=5.4,SNR=2.0						
	comp=Z,0.5nm,0.6s						
ARSB	**Arslanbob**	**57.53**	**315**	P	**P**	**05 44 12.2**	**-0.4**
KURBB	**Kurchatov Arra**	**58.28**	**327**	P	**P**	**05 44 17.4**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=128,slow=5.7,SNR=15						
	comp=Z,1.8nm,0.8s						
KURK	**Kurchatov**	**58.28**	**327**	P	**P**	**05 44 16.5**	**-0.9**
KURK				IAmb	IAmb	05 44 17.8	
	comp=Z,2.5nm,0.8s						
GAR	**Garm**	**58.66**	**312**	P	**P**	**05 44 20.0**	**-0.5**
GAR				IAmb	IAmb	05 44 29.7	
	comp=Z,6.4nm,0.9s						
KK31	**Karatay Array**	**59.89**	**316**	P	**P**	**05 44 28.6**	**-0.1**
KK31				IAmb	IAmb	05 44 37.1	
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**59.89**	**316**	P	**P**	**05 44 28.5**	**-0.2**
BVAR	**Borovoye Array**	**63.87**	**327**	P	**P**	**05 44 53.8**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=111,slow=8.1,SNR=5.2						
	comp=Z,2.0nm,0.9s						
AB31	**Akbulak array**	**68.75**	**320**	P	**P**	**05 45 26.1**	**-0.5**
ABKAR	**Akbulak array**	**68.75**	**320**	P	**P**	**05 45 26.1**	**-0.5**
SKT	**Skwentna**	**80.89**	**28**	P	**P**	**05 46 35.0**	**-1.8**
SKT				IAmb	IAmb	05 46 41.5	
	comp=Z,7.0nm,1.2s						
CNPM	**China Poot**	**80.94**	**31**	P	**P**	**05 46 36.7**	**-0.3**
BPAW	**Bear Paw Mtn.**	**81.24**	**26**	P	**P**	**05 46 39.0**	**+0.4**
BPAW				IAmb	IAmb	05 47 01.4	
	comp=Z,11nm,1.3s						
RND	**Reindeer**	**82.17**	**27**	P	**P**	**05 46 44.0**	**+0.5**
RND				IAmb	IAmb	05 46 48.9	
	comp=Z,6.8nm,1.0s						
CCB	**Clear Creek Bu**	**82.63**	**26**	P	**P**	**05 46 45.5**	**-0.3**
CCB				IAmb	IAmb	05 46 48.2	
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**83.02**	**26**	P	**P**	**05 46 47.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=243,slow=4.7,SNR=19						
	comp=Z,0.5nm,0.8s						
RIDG	**Independent Ri**	**83.95**	**27**	P	**P**	**05 46 51.4**	**-1.4**
C27K	**Jago River**	**84.07**	**21**	P	**P**	**05 46 52.5**	**-0.7**
GLB	**Gilahina Butte**	**84.58**	**29**	P	**P**	**05 46 55.7**	**-0.2**
GLB				IAmb	IAmb	05 47 19.8	
	comp=Z,7.5nm,1.2s						

*TEH **31** 05:36:16.1,38°.06N×56°.61E,h10km±86km*
ISC 31 05:36:15.0±1.1,38°.17N±0°.09×56°.60E±0°.05,h10km,n10, σ1§43/12,1C-1D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.65**	**218**	Pg	**Pg**	**05 36 27.4**	**-0.2**
MRVT				Sg	**Sb**	**05 36 36.9**	**-0.7**
IMND	**Minoodasht**	**1.31**	**226**	Pg	**Pb**	**05 36 39.9**	**+0.1**
IMND				Sg	**Sn**	**05 36 58.4**	**+1.5**
ISFR	**Sfrayin**	**1.58**	**135**	Pg	**Pb**	**05 36 44.1**	**-0.4**
IEMG	**Emamgholi**	**1.79**	**114**	Pg	**Pn**	**05 36 46.9**	**+0.6**
IAKL	**Akhelmad**	**2.33**	**132**	Pn	**Pb**	**05 36 56.4**	**-0.8**
IPAY	**Payeh**	**2.57**	**131**	Pn	**Pb**	**05 36 59.2**	**-2.2**
IKRD	**Kardeh**	**2.71**	**120**	Pn	**Pn**	**05 37 01.3**	**+2.4**
IGLO	**Ghaloghah**	**2.76**	**234**	Pn	**Pb**	**05 37 02.7**	**-1.9**
IMYA	**Miami**	**3.34**	**122**	Pn	**Pn**	**05 37 07.8**	**+0.3**
AB31	**Akbulak array**	**11.34**	**11**	⇓P	**Pn**	**05 38 57.0**	**-0.1**
	0.3nm,0.5s,baz=197,slow=13,SNR=6.5						
AB31				⇑S	Sn	05 40 53.9	-10
	0.3nm,0.5s,baz=198,slow=24						

*IDC **31** 05:56:38.6±4.7,6°.14S×147°.35E,h19km±28km,mb4.1/10, mbtmp4.3/12,ML3.8/2,MS3.3/6,Error ellipse: s-maj=32.9km s-min=16.1km az=88.0*
*NEIC **31** 05:56:42.3±0.8,6°.47S±0°.06×147°.4E±0°.1,h35km±2km, mb4.3/22,Error ellipse: s-maj=18.7km s-min=10.5km az=87.0*
ISC 31 05:56:44.2±0.7,6°.40S±0°.06×147°.31E±0°.10,h63km,n63, σ1§68/64,mb4.3/18,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**183**		**Pn**	**05 57 26.4**	**-2.8**
PMG				Sn	**Sn**	**05 58

BBOO	**Buckleboo**	**28.28**	**200**	P	**P**	**06 02 33.1**	**+1.3**
PLAI	**Plampang**	**29.37**	**263**	P	**P**	**06 02 40.9**	**-0.7**
FORT	**Forrest**	**30.24**	**214**	P	**P**	**06 02 49.1**	**0.0**
FORT				IAmb	IAmb	06 03 03.8	
	comp=Z,11nm,1.1s						
MBWA	**Marble Bar**	**30.46**	**238**	P	**P**	**06 02 51.2**	**+0.1**
MBWA				IAmb	IAmb	06 02 55.8	
	comp=Z,7.1nm,0.9s						
MBWA	**Marble Bar**	**30.46**	**238**	P	**P**	**06 02 51.7**	**+0.5**
PSA00	**Pilbara Seismi**	**30.54**	**238**	P	**P**	**06 02 52.2**	**+0.3**
PSA00				IAmb	IAmb	06 02 57.3	
	comp=Z,3.5nm,0.9s						
MEEK	**Meekatharra**	**33.93**	**230**	P	**P**	**06 03 22.5**	**+0.9**
BLDU	**Ballidu**	**37.47**	**226**	P	**P**	**06 03 53.3**	**+1.4**
BBJI	**Bungbulang**	**39.38**	**266**	P	**P**	**06 04 08.4**	**+0.3**
MYKOM	**Kota Tinggi**	**44.14**	**279**		**P**	**06 04 47.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**53.71**	**298**	P	**P**	**06 05 59.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=114,slow=7.2,SNR=1.9						
	comp=Z,0.7nm,0.3s						
HHC	**Hu-ho-hao-te**	**57.34**	**328**	*e*P	**P**	**06 06 26.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,90nm,4.4s						
PETK	**Petropavlovsk-**	**59.94**	**7**	LR	LR	06 34 01.5	
	comp=Z,23nm,18.0s,baz=159,slow=38						
SONM	**Songino Array**	**64.90**	**331**	P	**P**	**06 07 16.6**	**-0.6**
SONM				IAmb	IAmb	06 07 18.0	
	comp=Z,1.9nm,1.1s						
SONM	**Songino Array**	**64.90**	**331**	P	**P**	**06 07 16.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=151,slow=9.4,SNR=4.5						
	comp=Z,0.8nm,0.7s						
SEY	**Seymchan**	**69.25**	**2**	LR	LR	06 35 51.3	
	comp=Z,17nm,20.8s,baz=60,slow=34						
VNDA	**Vanda**	**71.49**	**177**	P	**P**	**06 07 58.1**	**+0.4**
VNDA				IAmb	IAmb	06 08 01.9	
	comp=Z,3.6nm,1.4s						
VNDA	**Vanda**	**71.49**	**177**	P	**P**	**06 07 59.2**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=333,slow=7.6,SNR=9.6						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**78.00**	**320**	P	**P**	**06 08 34.4**	**-1.6**
MKAR	**Makanchi Array**	**78.00**	**320**	P	**P**	**06 08 31.8**	**-4.1**
	comp=Z,1.4nm,0.7s,baz=117,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**79.52**	**328**		**P**	**06 08 42.5**	**-1.5**
ZALV	**Zalesovo Beam**	**79.52**	**328**	P	**P**	**06 08 42.2**	**-1.8**
	comp=Z,2.0nm,0.5s,baz=108,slow=6.1,SNR=9.5						
	comp=Z,2.0nm,0.5s						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**06 09 07.5**	**+2.0**
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**06 09 08.3**	**+2.9**
	comp=Z,4.0nm,0.6s,baz=272,slow=0.5,SNR=48						
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**85.73**	**23**	P	**P**	**06 09 13.9**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=259,slow=5.4,SNR=4.2						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**87.28**	**324**	P	**P**	**06 09 22.8**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=104,slow=9.5,SNR=5.1						
	comp=Z,1.1nm,0.5s						
BBB	**Bella Bella**	**91.69**	**38**	LR	LR	06 41 46.8	
	comp=Z,26nm,21.6s,baz=169,slow=30						
TORD	**Torodi Ar. Bea**	**145.49**	**284**	PKPbc	**PKPab**	**06 16 17.2**	**+0.6**
	comp=Z,9.1nm,0.6s,baz=59,slow=6.3,SNR=7.6						
DBIC	**Dimbokro**	**152.35**	**272**	PKPbc	**PKiKP**	**06 16 34.6**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=113,slow=2.4,SNR=3.8						
BDFB	**Brasilia**	**153.35**	**145**	PKPbc	**PKiKP**	**06 16 36.0**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=175,slow=6.5,SNR=4.8						

*ISK **31** 05:58:54.9, 39°.69N×25°.61E, h8km, ML2.7/28*
*THE **31** 05:58:55.6, 39°.7N±0°.8×25°.6E±1°.0, h10km±1km, M2.4/10, MLh2.4/10*
*ATH **31** 05:58:55.3, 39°.68N×25°.56E, h20km±1km, ML2.3/6, Manual Solution by I.Dede First location: 2019/10/31 06:00:15, This location: 2019/10/31 07:32:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **31** 05:58:55.7, 39°.70N×25°.63E, h7km±2km, ML2.4*
ISC 31 05:58:55.3±0.9,**39°.68N**±0°.02×**25°.58E**±0°.02,**h15**km±7km, **n66**,σ0ˢ**60**/107,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**306**	P	**Pg**	**05 59 03.3**	**+0.4**
LIA				S	**Sg**	**05 59 08.7**	**+0.6**
LIA	**Limnos Island**	**0.37**	**306**	P	**Pg**	**05 59 03.1**	**+0.2**
LIA				S	**Sg**	**05 59 08.7**	**+0.6**
BOZC	**Bozcaada**	**0.40**	**66**	Pg	**Pg**	**05 59 02.9**	**-0.6**
BOZC				Sg	**Sg**	**05 59 08.6**	**-0.4**
BOZC	**Bozcaada**	**0.40**	**66**	P	**Pg**	**05 59 02.8**	**-0.6**
BOZC				*i* IAML		05 59 08.0	
	comp=N,902nm,0.4s						
BOZC				*i* IAML		05 59 08.0	
	comp=E,314nm,0.5s						
BOZC				S	**Sg**	**05 59 08.6**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.47**	**112**	P	**Pg**	**05 59 04.3**	**-0.4**
KOCA				S	**Sb**	**05 59 11.7**	**-0.3**
KOCA				*i* IAML		05 59 15.0	
	comp=E,328nm,0.3s						
EFSA	**Agios Efstrati**	**0.47**	**253**	P	**Pg**	**05 59 05.2**	**+0.4**
EFSA				S	**Sg**	**05 59 11.7**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.49**	**117**	Pg	**Pg**	**05 59 04.4**	**-0.6**
GPNR				Sg	**Sg**	**05 59 11.8**	**+0.3**
SIGR	**SIGRI**	**0.52**	**155**	Pg	**Pg**	**05 59 05.2**	**-0.4**
SIGR				Sg	**Sg**	**05 59 12.9**	**+0.4**
SIGR	**SIGRI**	**0.52**	**155**	P	**Pg**	**05 59 05.4**	**-0.2**
SIGR				S	**Sg**	**05 59 12.7**	**+0.2**
SIGR	**SIGRI**	**0.52**	**155**	P	**Pg**	**05 59 05.2**	**-0.4**
SIGR				S	**Sg**	**05 59 12.9**	**+0.4**
GOAD	**anakkale-G¶**	**0.54**	**28**	P	**Pg**	**05 59 05.8**	**-0.3**
GOAD				S	**Sb**	**05 59 13.8**	**-0.3**
GOAD				*i* IAML		05 59 14.0	
	comp=N,252nm,0.2s						
GOAD				*i* IAML		05 59 14.0	
	comp=E,239nm,0.2s						
GADA	**Gvkgeada**	**0.57**	**26**	Pg	**Pg**	**05 59 06.1**	**-0.5**
GADA				Sg	**Sg**	**05 59 14.3**	**+0.2**
GADA	**Gvkgeada**	**0.57**	**26**	P	**Pg**	**05 59 06.1**	**-0.5**
GADA				S	**Sg**	**05 59 14.0**	**-0.1**
ECEA	**Canakkale, Ece**	**0.59**	**52**	P	**Pg**	**05 59 06.5**	**-0.3**
ECEA				S	**Sb**	**05 59 14.9**	**-0.4**
ECEA				*i* IAML		05 59 16.0	
	comp=N,306nm,0.4s						
ECEA				*i* IAML		05 59 21.0	
	comp=E,233nm,0.3s						
EZN	**Ezine**	**0.60**	**76**	Pg	**Pg**	**05 59 06.5**	**-0.6**
EZN				Sg	**Sg**	**05 59 14.5**	**-0.5**
EZN	**Ezine**	**0.60**	**76**	P	**Pg**	**05 59 06.5**	**-0.6**
EZN				S	**Sg**	**05 59 14.4**	**-0.6**
EZNE	**Ezine-Canakkal**	**0.61**	**83**	Pg	**Pg**	**05 59 06.8**	**-0.6**
EZNE				Sg	**Sg**	**05 59 15.3**	**-0.3**
PRK	**Paraskevi**	**0.69**	**129**	P	**Pg**	**05 59 08.7**	**-0.2**
PRK				S	**Sb**	**05 59 18.7**	**+0.3**
CNKL	**anakkale-Mer**	**0.73**	**58**	P	**Pg**	**05 59 09.0**	**-0.7**
CNKL				S	**Sg**	**05 59 18.7**	**-0.6**
CNKL				*i* IAML		05 59 19.0	
	comp=N,171nm,0.3s						
CNKL				*i* IAML		05 59 25.0	
	comp=E,108nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.75**	**85**	P	**Pg**	**05 59 09.3**	**-0.7**
BAYC				S	**Sg**	**05 59 19.4**	**-0.5**
BAYC				*i* IAML		05 59 21.0	
	comp=N,119nm,0.2s						
BAYC				*i* IAML		05 59 21.0	
	comp=E,160nm,0.2s						
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**05 59 10.5**	**-0.2**
SMTH				S	**Sg**	**05 59 21.3**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**05 59 10.5**	**-0.2**
SMTH				S	**Sg**	**05 59 21.0**	**-0.1**
COMU	**Canakkale**	**0.81**	**59**	Pg	**Pg**	**05 59 10.4**	**-0.7**
COMU				Sg	**Sb**	**05 59 21.8**	**0.0**
AYVA	**Ayvalik**	**0.94**	**113**	P	**Pb**	**05 59 13.5**	**+0.3**
AYVA				S	**Sb**	**05 59 26.4**	**+0.9**
AYVA				*i* IAML		05 59 27.0	
	comp=N,210nm,0.2s						
AYVA				*i* IAML		05 59 27.0	
	comp=E,156nm,0.6s						
GELI	**Tayfur-Gelibol**	**0.99**	**44**	Pg	**Pg**	**05 59 14.2**	**-0.4**
GELI				Sg	**Sb**	**05 59 27.9**	**+0.8**
ENZZ	**Sultanice-Enez**	**1.02**	**25**	Pg	**Pg**	**05 59 14.7**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**1.11**	**24**	P	**Pb**	**05 59 15.5**	**-0.6**
CAVK				S	**Sb**	**05 59 31.3**	**+0.9**
CAVK				*i* IAML		05 59 36.0	
	comp=E,126nm,0.6s						
SKY	**Skiros Island**	**1.13**	**225**	P	**Pb**	**05 59 15.9**	**-0.6**
SKY				S	**Sb**	**05 59 29.9**	**-1.2**
LPK	**Lapseki**	**1.14**	**52**	Pn	**Pb**	**05 59 16.8**	**0.0**
ENEZ	**Enez**	**1.14**	**23**	Pn	**Pb**	**05 59 16.9**	**+0.1**
ENEZ	**Enez**	**1.14**	**23**	P	**Pb**	**05 59 16.2**	**-0.5**
ENEZ				S	**Sn**	**05 59 32.8**	**+0.7**
YAYO	**Edremit-Balk**	**1.16**	**93**	Pn	**Pb**	**05 59 16.9**	**-0.1**
YAYO				Sn	**Sn**	**05 59 33.0**	**+0.5**
BUHA	**Balikesir, Bur**	**1.17**	**98**	P	**Pb**	**05 59 17.0**	**-0.2**
BUHA				S	**Sg**	**05 59 33.1**	**-0.2**
BUHA				*i* IAML		05 59 34.0	
	comp=N,156nm,0.5s						
BUHA				*i* IAML		05 59 34.0	
	comp=E,145nm,0.7s						
CANM	**Can-anakkale**	**1.18**	**73**	Pn	**Pb**	**05 59 17.4**	**-0.1**
DKL	**Dikili**	**1.20**	**120**	Pn	**Pb**	**05 59 17.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.22**	**36**	Pn	**Pb**	**05 59 18.3**	**+0.2**
ALN	**Alexandroupoli**	**1.27**	**16**	Pn	**Pn**	**05 59 18.7**	**+0.3**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**05 59 18.2**	**-0.2**
ALN				S	**Sg**	**05 59 35.8**	**-0.5**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**05 59 18.3**	**-0.1**
ALN				S	**Sb**	**05 59 35.0**	**+0.1**
YENI	**Yenice-Canakka**	**1.31**	**78**	Pn	**Pn**	**05 59 19.7**	**+0.7**
CHOS	**Chios island**	**1.34**	**164**	Pn	**Pn**	**05 59 19.8**	**+0.2**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**05 59 19.4**	**-0.2**
CHOS				S	**Sg**	**05 59 39.3**	**+0.5**
OUR	**Ouranopolis**	**1.39**	**299**	Pn	**Pn**	**05 59 21.2**	**+1.1**
OUR	**Ouranopolis**	**1.39**	**299**	P	**Pn**	**05 59 19.9**	**-0.2**
OUR				S	**Sn**	**05 59 38.7**	**+0.6**
OUR	**Ouranopolis**	**1.39**	**299**	P	**Pn**	**05 59 20.0**	**-0.2**
OUR				S	**Sn**	**05 59 37.0**	**-1.1**
KESN	**Edirne-Kesan**	**1.42**	**36**	P	**Pn**	**05 59 20.6**	**-0.4**
KESN				S	**Sg**	**05 59 40.9**	**-0.4**
AOS2	**Alonissos-2**	**1.44**	**249**	P	**Pn**	**05 59 20.3**	**-0.6**
AOS2				S	**Sn**	**05 59 39.4**	**-0.1**
CESE	**eme**	**1.46**	**157**	Pn	**Pn**	**05 59 21.9**	**+0.8**
RDO	**Rodhopi**	**1.46**	**359**	Pn	**Pn**	**05 59 21.9**	**+0.7**
RDO	**Rodhopi**	**1.46**	**359**	P	**Pn**	**05 59 22.2**	**+1.1**
RDO				S	**Sb**	**05 59 41.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.50**	**61**	Pn	**Pn**	**05 59 22.6**	**+0.9**
URLA	**Izmir**	**1.54**	**149**	Pn	**Pn**	**05 59 22.9**	**+0.7**
KAVA	**Kavala**	**1.54**	**329**	P	**Pn**	**05 59 22.2**	**-0.1**
KAVA				S	**Sn**	**05 59 41.4**	**-0.6**
KAVA	**Kavala**	**1.54**	**329**	P	**Pn**	**05 59 21.7**	**-0.6**
KAVA				S	**Sn**	**05 59 41.0**	**-1.0**
BALY	**Balya**	**1.58**	**87**	P	**Pn**	**05 59 22.4**	**-0.4**
BALY				S	**Sn**	**05 59 42.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.59**	**50**	Pn	**Pn**	**05 59 23.5**	**+0.6**
UKOP	**Uzunkopru-Edir**	**1.66**	**29**	Pn	**Pn**	**05 59 24.7**	**+0.9**
GONE	**Gonen-Balikesi**	**1.67**	**77**	Pn	**Pn**	**05 59 24.5**	**+0.6**
BLCB	**Balcova**	**1.73**	**138**	Pn	**Pn**	**05 59 25.8**	**+1.1**
MRMT	**Marmara Adasi**	**1.80**	**59**	Pn	**Pn**	**05 59 26.3**	**+0.4**
KARY	**Karystos**	**1.87**	**209**	P	**Pn**	**05 59 25.6**	**-1.2**
EDC	**Edincik**	**1.88**	**69**	Pn	**Pn**	**05 59 28.3**	**+1.4**
KDZ	**Kurdzhali**	**1.96**	**355**	Pn	**Pn**	**05 59 29.3**	**+1.4**
GORD	**Gordes-Manisa**	**2.16**	**110**	Pn	**Pn**	**05 59 31.7**	**+0.9**
TVSB	**Tavsanli**	**3.01**	**93**	Pn	**Pn**	**05 59 43.6**	**+1.0**
YLV	**Yalova**	**3.04**	**72**	Pn	**Pn**	**05 59 44.4**	**+1.5**

*DJA **31** 05:59:03.7±0.6, 7°.N±5°.×12°.5E±°, h10km, M5.0/9, mB5.0/3, mb5.1/6, MLv4.9/9, Mw(mB)4.4/3*
ISC 31 05:59:01.6±3.1,**7°.1N**±0°.2×**125°.1E**±0°.1,**h13**km,**n5**,σ**2**ˢ**39**/7, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.52**	**94**	P	**Pg**	**05 59 11.0**	**-0.7**
SGSI	**Sangihe**	**3.43**	**172**	P	**Pn**	**05 59 57.3**	**+2.5**
SGSI				S	**Sn**	**06 00 35.8**	**+0.5**
KMSI	**Cibinong**	**6.58**	**189**	P	**Pn**	**06 00 39.9**	**+1.8**
	1.2nm185nm,0.6s						
MRSI	**Marisa**	**7.28**	**205**	P	**Pn**	**06 00 49.1**	**+1.3**
	64nm,0.9s						
MRSI				S	**Sn**	**06 02 07.3**	**-3.1**
	64nm,0.9s						
SANI	**Sanana**	**9.14**	**174**	P	**Pn**	**06 01 12.3**	**-1.0**

*ASRS **31** 06:10:59.0±2.5, 53°.77N×91°.04E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 31 06:11:02.7±4.8,**53°.90N**×**90°.97E**,**h0**km,**mbtmp3.5**/2, **ML2.6**/2,**Error ellipse: s-maj=50.8km s-min=27.4km az=21.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.63**	**273**	Pg	Pb	06 12 07.5	-0.2
	0.5nm,0.3s,baz=90,slow=14,SNR=8.5						
ZALV				Lg	Lg	06 12 58.8	
	0.6nm,0.3s,baz=86,slow=30,SNR=6.2						
KURBB	**Kurchatov Arra**	**8.30**	**252**	Pn	Pn	06 13 04.9	+0.7
	0.1nm,0.3s,baz=66,slow=15,SNR=1.5						
KURBB				Sn	Sn	06 14 36.1	-2.5
	baz=225,slow=49						
KURBB				Lg	Lg	06 15 26.7	
	baz=236,slow=6.8						
	2.7nm,0.2s						
MKAR	**Makanchi Array**	**9.02**	**221**	Pn	Pn	06 13 14.3	+0.3
	0.1nm,0.3s,baz=37,slow=14,SNR=2.9						
MKAR				Lg	Lg	06 15 43.1	
	0.1nm,0.3s,baz=38,slow=31,SNR=2.0						
	0.3nm,0.5s						
I34MN	**SONGINO INFRAS**	**11.50**	**116**	I	I	07 17 10.0	
	baz=311,slow=322,SNR=1.0						

KRSC 31 06:41:04.9±1.6,**55°.05N**×**164°.94E**,**h51**km±20km,**Ml3.7**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.61**	**75**	*e*P	Pn	06 41 18.5	+1.0
BKI				*e*S	Sn	06 41 27.0	+0.3
KBTR	**Krutoberegovo**	**1.67**	**315**	*e*P	Pn	06 41 32.8	+1.0
KBTR				*e*S	Sn	06 41 52.0	0.0
KBG	**Krutoberegovo**	**1.75**	**315**	*e*P	Pn	06 41 32.2	-0.6
KBG				*e*S	Sn	06 41 54.6	+0.8
SMKR	**Semkarok**	**2.49**	**310**	*e*P	Pn	06 41 45.9	+2.9
SMKR				*e*S	Sn	06 42 16.8	+4.6
ZLN	**Zelenaya**	**2.54**	**294**	*e*P	Pn	06 41 48.2	+4.5
BZGR	**Bezymyannyi-Gr**	**2.57**	**292**	*e*P	Pn	06 41 48.1	+3.9
TUMD	**Tumrok D**	**2.61**	**275**	*e*P	Pn	06 41 48.3	+3.7
TUMD				*e*S	Sn	06 42 19.6	+4.6
KZV	**Kizimen**	**2.67**	**273**	*e*P	Pn	06 41 49.1	+3.6
KZV				*e*S	Sn	06 42 20.8	+4.1
BZMR	**Bezymyannaya**	**2.68**	**291**	*e*P	Pn	06 41 49.4	+3.7
BZWR	**Bezymyannyi-We**	**2.69**	**292**	*e*P	Pn	06 41 50.0	+4.2
KLY	**Klyuchi**	**2.74**	**299**	*e*P	Pn	06 41 48.9	+2.6
KIRR	**Kirishev**	**2.77**	**291**	*e*P	Pn	06 41 51.1	+4.3
KMNR	**Kamenistaya**	**2.77**	**287**	*e*P	Pn	06 41 51.6	+4.7
KMNR				*e*S	Sn	06 42 24.5	+5.3
KPT	**Kopyto**	**2.83**	**291**	*e*P	Pn	06 41 52.3	+4.5
SRDR	**Sredinnyy**	**3.22**	**295**	*e*P	Pn	06 41 58.2	+5.3
NLC	**Nalytchevo**	**3.79**	**243**	*e*P	Pn	06 42 04.8	+4.1
NLC				*e*S	Sn	06 42 46.3	+2.3
SDLR	**Sedlovina**	**3.98**	**246**	*e*P	Pn	06 42 08.2	+4.8
SDLR				*e*S	Sn	06 42 51.4	+2.6
SMAR	**Somma**	**4.03**	**246**	*e*P	Pn	06 42 08.3	+4.1
SMAR				*e*S	Sn	06 42 52.9	+2.7
KRER	**Koryakskii**	**4.04**	**247**	*e*P	Pn	06 42 09.2	+4.9
KRER				*e*S	Sn	06 42 53.5	+3.1
UGLR	**Uglovaya**	**4.04**	**245**	*e*P	Pn	06 42 09.1	+4.8
UGLR				*e*S	Sn	06 42 53.5	+3.1
AVH	**Avacha**	**4.06**	**246**	*e*P	Pn	06 42 09.5	+5.0
AVH				*e*S	Sn	06 42 54.1	+3.3
KRX	**Arik**	**4.06**	**248**	*e*P	Pn	06 42 09.3	+4.7
KRX				*e*S	Sn	06 42 53.8	+2.9
KOK	**Koryaka**	**4.10**	**247**	*e*P	Pn	06 42 09.9	+4.8
KOK				*e*S	Sn	06 42 55.0	+3.2
DALK	**Dalny**	**4.17**	**244**	*e*P	Pn	06 42 10.3	+4.3
DALK				*e*S	Sn	06 42 55.1	+1.8
OSSR	**Ossora**	**4.33**	**347**	*e*P	Pn	06 42 11.6	+3.4
OSSR				*e*S	Sn	06 42 58.8	+1.5
KRMR	**Karymshinskiy**	**4.59**	**244**	*e*P	Pn	06 42 16.2	+4.5
KRMR				*e*S	Sn	06 43 06.7	+2.9
MTVR	**Mutnovka**	**4.76**	**240**	*e*P	Pn	06 42 18.3	+4.2
MTVR				*e*S	Sn	06 43 09.6	+1.5
GRL	**Gorelyy**	**4.78**	**241**	*e*P	Pn	06 42 15.2	+0.8
ASAK	**Asacha**	**4.96**	**240**	*e*P	Pn	06 42 21.6	+4.7
KDTR	**Khodutka, Kamc**	**5.23**	**234**	*e*P	Pn	06 42 23.6	+3.2

TRN 31 06:44:44.5,**10°.60N**×**59°.81W**,**h76**km,**MD3.5**,**Far East of Trinidad.**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.56**	**272**	*e*P	Pn	06 45 10.3	-0.2
TRN				*e*S	Sn	06 45 30.3	+0.1
GRGR	**Grenville**	**2.36**	**310**	*e*P	Pn	06 45 21.0	-0.2
GRFF	**Grenada Fort F**	**2.37**	**307**	*e*P	Pn	06 45 21.9	+0.6
GRFF				*e*S	Sn	06 45 48.8	-0.8
GRW	**Mount Saint Ca**	**2.38**	**311**	*e*P	Pn	06 45 22.2	+0.7
SVB	**Belmont**	**3.00**	**332**	*e*P	Pn	06 45 30.3	+0.4
SVB				*e*S	Sn	06 46 03.0	-1.9
SLBI	**Saint Lucia, B**	**3.58**	**342**	*e*P	Pn	06 45 38.4	+0.7
SLBI				*e*S	Sn	06 46 18.4	-0.5
BIM	**Bigot**	**4.08**	**343**	*e*P	Pn	06 45 45.0	+0.5
BIM				*e*S	Sn	06 46 28.7	-2.4
BAUV	**El Baul**	**8.28**	**259**	*e*P	Pn	06 46 41.9	0.0
BAUV				*e*S	Sn	06 48 08.3	-5.6
BAUV	**El Baul**	**8.28**	**259**	*e*S	Sn	06 48 08.3	-5.6

DJA 31 06:53:55.1±0.2,**0°.S**±2°.×**12°.3E**±°,**h43**km±11km,**M4.4**/19, **mB5.2**/1,**mb4.5**/9,**MLv4.3**/19,**Mw(mB)4.6**/1,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.75**	**198**	P	Pn	06 54 10.6	+1.3
LUWI				S	Sn	06 54 21.8	+2.2
KMSI	**Cibinong**	**1.32**	**48**	P	Pn	06 54 17.3	+0.2
MRSI	**Marisa**	**1.32**	**307**	P	Pn	06 54 16.1	-1.0
MRSI				S	Sn	06 54 32.6	-1.0
APSI	**Ampana**	**1.47**	**247**	P	Pn	06 54 20.1	+0.9
SANI	**Sanana**	**3.45**	**120**	P	Pn	06 54 43.8	-2.5
KDI	**Kendari**	**3.63**	**186**	P	Pn	06 54 47.8	-1.1
SPSI	**Sidrap Palu**	**4.85**	**222**	P	Pn	06 55 06.2	+0.6
BNSI	**Bone**	**4.98**	**215**	P	Pn	06 55 07.9	+0.5
NLAI	**Namlea**	**5.02**	**125**	P	Pn	06 55 07.3	-0.6
	3μm39nm,0.8s						
BBSI	**Bau Bau**	**5.15**	**185**	P	Pn	06 55 09.3	-0.5
BKSI	**Bulukumba**	**5.74**	**210**	P	Pn	06 55 17.8	0.0
	0.1nm16nm,0.6s						
BSSI	**Bau Bau, Buton**	**6.30**	**203**	P	Pn	06 55 26.4	+0.8
	0.2nm75nm,0.7s						
EDFI	**Ende, Flores**	**8.47**	**189**	P	Pn	06 55 56.0	+0.5

*IDC **31** 06:58:58.3±1.1, 38°.98N×17°.45E, h0km, mb3.7/6, mbtmp3.8/14, ML3.7/6, MS3.3/12, Error ellipse: s-maj=19.5km s-min=15.5km az=128.0*
*ROM **31** 06:59:00.1±0.1, 38°.894N±0°.006×17°.55E±0°.01, h27km, ML3.9/168, Mw4.1, Error ellipse: s-maj=1.0km s-min=0.2km az=299.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.53; $M_{\theta\theta}$1.30; $M_{\phi\phi}$-1.83; $M_{r\theta}$-0.11; $M_{\theta\phi}$0.30; $M_{\phi r}$0.07; Fault plane solution: $M_0$1.60255×10^{15} NP1:ϕ_s310.00000°, δ86.00000°, λ6.00000°. NP2:ϕ_s219.00000°, δ84.00000°, λ176.00000°.*
*PDG **31** 06:59:00.1±0.7, 38°.99N×17°.35E, h20km±2km, ML4.1/13 Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
*INMG **31** 06:59:02.0±3.6, 38°.89N×17°.34E, h20km, mb4.1, ML4.0, #DIST_RANGE: DISTANT*
*MED_RC **31** 06:59:02.0±0.5, 38°.89N×17°.34E, h22km±3km, MW4.1/8, Moment Tensor Solution.Mantle waves: s8,c11; Duration: 1ˢ0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.51±.43; $M_{\theta\theta}$2.15±.30; $M_{\phi\phi}$-1.64±.26; $M_{r\theta}$-0.12±.21; $M_{\theta\phi}$0.39±.22; $M_{\phi r}$0.41±.30; Best double couple: $M_0$2.00000×10^{15} NP1:ϕ_s220.00000°, δ76.00000°, λ-168.00000°. NP2: ϕ_s128.00000°, δ79.00000°, λ-14.00000°. Principal axes: T 2.1900, Plg2.0000°, Azm174.0000°; N -0.3700, Plg72.0000°, Azm269.0000°; P -1.8200, Plg18.0000°, Azm84.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*BEO **31** 06:59:02.6±0.6, 39°.18N×17°.46E, h1km±2km, ML3.9/19*
ISC 31 06:59:02.0±1.1,**38°.96N**±0°.03×**17°.44E**±0°.02,**h30**km±9km, **n251**,σ1ˢ**23**/279,**mb3.7**/5,**MS3.6**/7,**25C-31D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.48**	**312**	⇓P	**Pb**	**06 59

PLAC			S	Sn	06 59 32.0	+0.4
PLAC			AML	AML		
	comp=E,9615μm,0.7s					
PLAC			AML	AML		
	comp=N,10010μm,0.7s					
PLAC			AML	AML		
	comp=E,9643μm,0.7s					
PLAC			AML	AML		
	comp=N,8047μm,0.5s					
PLAC			AML	AML		
	comp=E,8537μm,0.5s					
PLAC			AML	AML		
	comp=N,10019μm,0.7s					
PLAC			AML	AML		
	comp=N,10010μm,1.3s					
PLAC			AML	AML		
	comp=E,9615μm,1.3s					
PLAC			AML	AML		
	comp=N,8045μm,0.5s					
PLAC			AML	AML		
	comp=E,8535μm,0.5s					
CAR1	**CAROLEI**	**1.00 287**	⇓P	**Pb**	**06 59 19.9**	**-0.8**
CAR1			S	**Sn**	**06 59 35.4**	**+2.2**
CAR1			AML	AML		
	comp=E,9695μm,0.6s					
CAR1			AML	AML		
	comp=N,10650μm,0.8s					
CAR1			AML	AML		
	comp=E,9673μm,0.6s					
CAR1			AML	AML		
	comp=N,10619μm,0.8s					
TDS	**Terranova Siba**	**1.10 310**	⇓P	**Pn**	**06 59 21.6**	**+0.1**
TDS			S	**Sn**	**06 59 37.4**	**+1.7**
TDS			AML	AML		
	comp=E,2980μm,0.6s					
TDS			AML	AML		
	comp=E,2980μm,0.6s					
TDS			AML	AML		
	comp=N,3710μm,1.8s					
TDS			AML	AML		
	comp=N,3620μm,1.6s					
SALB	**San Lorenzo Be**	**1.24 318**	P	**Pn**	**06 59 23.4**	**-0.1**
SALB			S	**Sb**	**06 59 41.8**	**+1.1**
SALB			AML	AML		
	comp=E,2505μm,0.8s					
SALB			AML	AML		
	comp=N,1910μm,0.7s					
SALB			AML	AML		
	comp=N,1910μm,1.3s					
SALB			AML	AML		
	comp=N,1908μm,0.7s					
JOPP	**Joppolo**	**1.26 254**	⇓P	**Pn**	**06 59 23.7**	**0.0**
JOPP			S	**Sb**	**06 59 40.6**	**-0.5**
JOPP			AML	AML		
	comp=E,3770μm,1.1s					
JOPP			AML	AML		
	comp=N,2830μm,0.7s					
JOPP			AML	AML		
	comp=E,3451μm,0.6s					
JOPP			AML	AML		
	comp=E,3770μm,0.9s					
CET2	**Cetraro**	**1.28 297**	⇓P	**Pb**	**06 59 24.7**	**-0.9**
CET2			S	**Sb**	**06 59 42.2**	**+0.5**
CET2			AML	AML		
	comp=E,4705μm,1.1s					
CET2			AML	AML		
	comp=N,11250μm,0.7s					
CET2			AML	AML		
	comp=E,4697μm,0.8s					
CET2			AML	AML		
	comp=E,4705μm,0.9s					
ORI	**Oriolo Calabro**	**1.34 326**	P	**Pn**	**06 59 25.3**	**+0.6**
ORI			S	**Sb**	**06 59 43.6**	**+0.3**
ORI			AML	AML		
	comp=E,13050μm,0.5s					
ORI			AML	AML		
	comp=N,9045μm,1.5s					
ORI			AML	AML		
	comp=E,13045μm,0.5s					
ORI			AML	AML		
	comp=N,9022μm,0.4s					
ORI			AML	AML		
	comp=N,9045μm,0.5s					
CEL	**Celeste**	**1.40 240**	⇓P	**Pn**	**06 59 25.4**	**-0.1**
CEL			S	**Sn**	**06 59 43.5**	**+0.5**
CEL			AML	AML		
	comp=E,2535μm,0.9s					
CEL			AML	AML		
	comp=N,2810μm,0.5s					
CEL			AML	AML		
	comp=E,2330μm,0.6s					
CEL			AML	AML		
	comp=N,2799μm,0.5s					
CEL			AML	AML		
	comp=E,2352μm,0.6s					
CEL			AML	AML		
	comp=N,2810μm,0.5s					
CEL			AML	AML		
	comp=N,2800μm,0.5s					
CEL			AML	AML		
	comp=E,2515μm,0.9s					
SOI	**Samo**	**1.40 231**	P	**Pn**	**06 59 25.3**	**-0.3**
SOI			S	**Sn**	**06 59 43.3**	**+0.3**
SOI			AML	AML		
	comp=E,1990μm,0.8s					
SOI			AML	AML		
	comp=N,1770μm,0.7s					
SOI			AML	AML		
	comp=E,1989μm,0.8s					
SOI			AML	AML		
	comp=N,1766μm,0.7s					
GRIS	**Grisolia**	**1.45 303**	⇓P	**Pn**	**06 59 27.0**	**+0.7**
MMN	**Mormanno**	**1.45 310**	P	**Pb**	**06 59 27.9**	**-0.5**
GMB	**Gambarie**	**1.49 238**	AML	AML		
	comp=N,8630μm,0.4s					
GMB			AML	AML		
	comp=E,10770μm,1.4s					
GMB			AML	AML		
	comp=E,9410μm,0.7s					
GMB			AML	AML		
	comp=N,8630μm,0.4s					
GMB			AML	AML		
	comp=N,8630μm,1.6s					
GMB			AML	AML		
	comp=E,10770μm,0.6s					
SICLA	**Scilla**	**1.52 243**	P	**Pn**	**06 59 27.1**	**-0.1**
SICLA			S	**Sn**	**06 59 46.8**	**+0.8**
SICLA			AML	AML		
	comp=E,3515μm,1.5s					
SICLA			AML	AML		
	comp=N,3410μm,1.0s					
SICLA			AML	AML		
	comp=E,2916μm,0.4s					
SICLA			AML	AML		
	comp=N,3183μm,0.3s					
SICLA			AML	AML		
	comp=E,3515μm,0.5s					
TAR1	**Taranto**	**1.57 356**	P	**Pn**	**06 59 27.8**	**0.0**
TAR1			AML	AML		
	comp=E,4550μm,1.1s					
TAR1			AML	AML		
	comp=N,5605μm,0.9s					
TAR1			AML	AML		
	comp=E,4125μm,0.5s					
TAR1			AML	AML		
	comp=N,5605μm,0.9s					
CRAC	**Craco**	**1.60 331**	P	**Pb**	**06 59 29.8**	**-1.1**
CRAC			AML	AML		
	comp=N,6160μm,1.5s					
CRAC			AML	AML		
	comp=N,6160μm,0.5s					
CRAC			AML	AML		
	comp=E,6097μm,0.7s					
CRAC			AML	AML		
	comp=N,5278μm,0.9s					
CRAC			AML	AML		
	comp=E,6095μm,0.7s					
CUC	**Castrocucco**	**1.62 310**	P	**Pn**	**06 59 29.1**	**+0.4**
CUC			AML	AML		
	comp=E,3505μm,0.9s					
CUC			AML	AML		
	comp=N,2155μm,0.7s					
CUC			AML	AML		
	comp=N,2160μm,0.7s					
CUC			AML	AML		
	comp=E,3507μm,0.9s					
CUC			AML	AML		
	comp=N,2153μm,0.7s					
CUC			AML	AML		
	comp=E,3637μm,0.9s					
CUC			AML	AML		
	comp=N,2160μm,0.7s					
CUC			AML	AML		
	comp=E,3635μm,0.9s					
SCHR	**S. Chirico Rap**	**1.62 320**	P	**Pn**	**06 59 29.4**	**+0.7**
SCHR			AML	AML		
	comp=E,1825μm,0.6s					
SCHR			AML	AML		
	comp=N,1600μm,0.8s					
SCHR			AML	AML		
	comp=N,1600μm,1.2s					
SCHR			AML	AML		
	comp=E,1828μm,0.6s					
SCHR			AML	AML		
	comp=N,1596μm,0.8s					
SCHR			AML	AML		
	comp=E,1825μm,1.4s					
MESG	**Mesagne**	**1.66 11**	P	**Pn**	**06 59 29.4**	**+0.3**
MESG			AML	AML		
	comp=E,3770μm,0.6s					
MESG			AML	AML		
	comp=N,3465μm,0.7s					
MESG			AML	AML		
	comp=E,3770μm,0.6s					
MESG			AML	AML		
	comp=N,3394μm,0.5s					
MSRU	**Castanea**	**1.66 246**	⇓P	**Pn**	**06 59 28.5**	**-0.7**
MSRU			AML	AML		
	comp=E,3250μm,1.1s					
MSRU			AML	AML		
	comp=N,2885μm,0.8s					
MSRU			AML	AML		
	comp=E,3249μm,1.1s					
MSRU			AML	AML		
	comp=N,2889μm,0.8s					
MSRU			AML	AML		
	comp=N,2885μm,1.2s					
MSRU			AML	AML		
	comp=E,3250μm,0.9s					
MTTG	**Motta San Giov**	**1.67 235**	P	**Pn**	**06 59 29.0**	**-0.3**
MTTG			AML	AML		
	comp=N,3670μm,1.2s					
MTTG			AML	AML		
	comp=E,3215μm,1.0s					
MTTG			AML	AML		
	comp=N,3655μm,1.2s					
MTTG			AML	AML		
	comp=N,3047μm,0.8s					
MTTG			AML	AML		
	comp=E,3215μm,1.0s					
MTTG			AML	AML		
	comp=N,3655μm,0.8s					
SIRI	**Monte Sirino -**	**1.72 316**	P	**Pn**	**06 59 31.3**	**+1.3**
IST3	**Stromboli F**	**1.73 265**	P	**Pn**	**06 59 29.6**	**-0.5**
IST3			AML	AML		
	comp=N,3685μm,0.3s					
IST3			AML	AML		
	comp=E,3095μm,1.3s					
MATE	**Matera**	**1.78 342**	⇑P	**Pb**	**06 59 33.0**	**-0.9**
MATE	**Matera**	**1.78 342**	P	**Pn**	**06 59 30.8**	**+0.1**
MATE			AML	AML		
	comp=N,2935μm,0.9s					
MATE			AML	AML		
	comp=E,2620μm,0.6s					
MATE			AML	AML		
	comp=N,2789μm,0.6s					
MATE			AML	AML		
	comp=N,2935μm,1.1s					
MATE			AML	AML		
	comp=E,2620μm,0.6s					
MIGL	**Miglionico**	**1.81 335**	P	**Pn**	**06 59 31.8**	**+0.6**
MIGL			AML	AML		
	comp=E,9510μm,0.8s					
MIGL			AML	AML		
	comp=E,9510μm,1.2s					
MIGL			AML	AML		
	comp=N,9610μm,0.8s					
MIGL			AML	AML		
	comp=E,9512μm,0.8s					
MIGL			AML	AML		
	comp=N,9633μm,0.8s					
MPNC	**Port Mandanici**	**1.83 244**	P	**Pn**	**06 59 30.6**	**-0.8**
MPNC			AML	AML		
	comp=E,4135μm,0.6s					
MPNC			AML	AML		
	comp=N,3235μm,0.7s					
NOCI	**Noci**	**1.85 351**	P	**Pn**	**06 59 31.6**	**-0.1**
NOCI			AML	AML		
	comp=E,3370μm,0.6s					
NOCI			AML	AML		
	comp=E,3374μm,0.6s					
NOCI			AML	AML		
	comp=N,3293μm,0.8s					
NOCI			AML	AML		
	comp=E,3370μm,1.4s					
NOCI			AML	AML		
	comp=N,3295μm,0.8s					
MCEL	**Monticello**	**1.85 318**	P	**Pn**	**06 59 32.7**	**+0.8**
MCEL			AML	AML		
	comp=E,1560μm,1.0s					
MCEL			AML	AML		
	comp=N,2150μm,0.9s					
MCEL			AML	AML		
	comp=E,1575μm,1.0s					
MCEL			AML	AML		
	comp=N,2185μm,0.9s					
MCEL			AML	AML		
	comp=N,2185μm,1.1s					
MCEL			AML	AML		
	comp=N,2150μm,1.1s					
MCEL			AML	AML		
	comp=E,1575μm,1.0s					
MCEL			AML	AML		
	comp=E,1560μm,1.0s					
MGR	**Morigerati**	**1.87 309**	P	**Pn**	**06 59 32.1**	**+0.1**
MGR			AML	AML		
	comp=N,1095μm,0.8s					
MGR			AML	AML		
	comp=E,1280μm,0.6s					
PTRP	**Pietrapertosa**	**1.88 326**	P	**Pn**	**06 59 33.1**	**+0.8**
PTRP			AML	AML		
	comp=E,3290μm,1.4s					
PTRP			AML	AML		
	comp=N,3200μm,0.7s					
PTRP			AML	AML		
	comp=N,3200μm,1.3s					
PTRP			AML	AML		
	comp=E,3290μm,0.6s					
BULG	**Bulgheria - Ca**	**1.94 306**	⇓P	**Pn**	**06 59 33.4**	**+0.3**
BULG			AML	AML		
	comp=E,1246μm,0.6s					
BULG			AML	AML		
	comp=N,2635μm,1.5s					
BULG			AML	AML		
	comp=N,2685μm,1.5s					
BULG			AML	AML		
	comp=N,2685μm,0.5s					
BULG			AML	AML		
	comp=N,2635μm,0.5s					
BULG			AML	AML		
	comp=E,1290μm,0.6s					
KEK	**Kerkira**	**1.98 67**	P	**Pb**	**06 59 38.4**	**+1.0**
KEK	**Kerkira**	**1.98 67**	⇓P	**Pb**	**06 59 38.4**	**+1.0**
KEK	**Kerkira**	**1.98 67**	⇓P	**Pb**	**06 59 38.4**	**+1.0**
KEK	**Kerkira**	**1.98 67**	P	**Pb**	**06 59 38.5**	**+1.0**
AIO	**Antillo**	**1.99 241**	P	**Pn**	**06 59 33.6**	**-0.1**
AIO			AML	AML		
	comp=E,1470μm,0.3s					
AIO			AML	AML		
	comp=N,2365μm,0.3s					
AIO			AML	AML		
	comp=E,1472μm,0.3s					
AIO			AML	AML		
	comp=N,2369μm,0.3s					
SLCN	**Sala Consilina**	**1.99 316**	P	**Pn**	**06 59 35.0**	**+1.2**
SLCN			AML	AML		
	comp=E,1940μm,1.4s					
SLCN			AML	AML		
	comp=N,2645μm,1.0s					
SLCN			AML	AML		
	comp=E,2265μm,1.4s					
SLCN			AML	AML		
	comp=N,2835μm,0.9s					
SLCN			AML	AML		
	comp=N,2645μm,1.0s					
SLCN			AML	AML		
	comp=N,2835μm,1.1s					
SLCN			AML	AML		
	comp=E,2265μm,0.6s					
SLCN			AML	AML		
	comp=E,1940μm,0.6s					
VPL	**Vulcano Piano**	**2.00 254**	P	**Pn**	**06 59 33.1**	**-0.8**
VPL			AML	AML		
	comp=E,2785μm,0.3s					
VPL			AML	AML		
	comp=E,2787μm,0.3s					
VPL			AML	AML		
	comp=N,3810μm,0.3s					
VPL			AML	AML		
	comp=N,3810μm,0.3s					
LLI	**Lipari**	**2.01 256**	⇑P	**Pn**	**06 59 34.0**	**0.0**
LLI			AML	AML		
	comp=E,20600μm,0.7s					
LLI			AML	AML		
	comp=N,22750μm,0.6s					
LLI			AML	AML		
	comp=N,22750μm,0.6s					
NOV	**Novara**	**2.03 243**	P	**Pn**	**06 59 33.9**	**-0.4**
NOV			AML	AML		
	comp=E,3990μm,0.7s					
NOV			AML	AML		
	comp=N,3480μm,0.6s					
NOV			AML	AML		
	comp=E,3988μm,0.7s					
NOV			AML	AML		
	comp=N,3481μm,0.6s					
NOV			AML	AML		
	comp=N,3480μm,1.4s					
NOV			AML	AML		
	comp=E,3990μm,1.3s					
AMUR	**Altamura**	**2.04 342**	P	**Pn**	**06 59 34.6**	**+0.2**
LFKM	**Lefkimmi**	**2.10 76**	P	Pb	06 59 43.7	+4.3
CMPR	**Campora**	**2.13 310**	P	**Pn**	**06 59 36.2**	**+0.6**
ACER	**Acerenza**	**2.15 328**	P	**Pn**	**06 59 36.5**	**+0.5**
ACER			AML	AML		
	comp=E,3440μm,0.9s					
ACER			AML	AML		
	comp=N,3175μm,0.9s					
ACER			AML	AML		
	comp=E,3605μm,0.9s					
ACER			AML	AML		
	comp=N,3355μm,1.0s					
ACER			AML	AML		
	comp=E,3440μm,0.9s					
ACER			AML	AML		
	comp=E,3606μm,0.9s					
ACER			AML	AML		
	comp=N,3356μm,1.0s					
ACER			AML	AML		
	comp=N,3355μm,1.0s					
VLO	**Vlora**	**2.19 46**	P	Pb	06 59 46.4	+5.5
VLO	**Vlora**	**2.19 46**	P	**Pn**	**06 59 37.1**	**+0.7**
EPIT	**Pozzo Pitarron**	**2.19 239**	P	**Pn**	**06 59 36.8**	**+0.1**
MUCR	**Ucria**	**2.21 246**	⇓P	**Pn**	**06 59 36.3**	**-0.5**
MUCR			AML	AML		
	comp=E,1101μm,0.6s					
MUCR			AML	AML		
	comp=N,1315μm,0.3s					
MUCR			AML	AML		
	comp=N,1315μm,0.3s					
MUCR			AML	AML		
	comp=E,1100μm,0.6s					
EVRN	**Santa Venerina**	**2.21 236**	P	**Pn**	**06 59 35.8**	**-0.9**
CDRU	**Civita di Ruta**	**2.24 314**	P	**Pn**	**06 59 37.1**	**-0.2**
CDRU			AML	AML		
	comp=N,476μm,0.7s					
CDRU			AML	AML		
	comp=E,568μm,0.7s					
CDRU			AML	AML		
	comp=N,476μm,1.3s					
EMSG	**Monte Spagnolo**	**2.26 241**	P	**Pn**	**06 59 38.1**	**+0.5**
EMSG			AML	AML		
	comp=N,2895μm,0.9s					
EMSG			AML	AML		
	comp=E,2728μm,0.6s					
EMSG			AML	AML		
	comp=N,2897μm,0.9s					
EMSG			AML	AML		
	comp=E,3180μm,1.6s					
IFIL	**Filicudi I Eol**	**2.28 261**	P	**Pn**	**06 59 36.7**	**-0.9**
IFIL			AML	AML		
	comp=E,6658μm,0.5s					
IFIL			AML	AML		
	comp=N,2346μm,0.6s					
IFIL			AML	AML		
	comp=E,6655μm,0.5s					
IFIL			AML	AML		
	comp=N,2345μm,0.6s					
PALZ	**Palazzo San Ge**	**2.28 331**	P	**Pn**	**06 59 38.1**	**+0.4**
PALZ			AML	AML		
	comp=E,3310μm,1.0s					
PALZ			AML	AML		
	comp=N,2581μm,1.2s					
PALZ			AML	AML		
	comp=E,3855μm,1.0s					
PALZ			AML	AML		
	comp=N,3770μm,1.0s					
IGT	**Igoumenitsa**	**2.32 75**	P	**Pn**	**06 59 39.6**	**+1.4**
IGT	**Igoumenitsa**	**2.32 75**	*e*Pn	**Pn**	**06 59 39.3**	**+1.1**
IGT			*e*Sn	**Sb**	**07 00 10.9**	**-0.5**
EPZF	**Pizzo Felice**	**2.32 242**	P	**Pn**	**06 59 38.2**	**-0.1**
MNO	**Monte Soro**	**2.38 245**	P	**Pn**	**06 59 39.9**	**+0.6**
MNO			AML	AML		
	comp=E,1715μm,0.5s					
MNO			AML	AML		
	comp=E,1716μm,0.5s					
MNO			AML	AML		
	comp=N,1561μm,0.8s					
MNO			AML	AML		
	comp=N,1565μm,0.8s					
DMLN	**Damoulianata-K**	**2.41 107**	P	**Pn**	**06 59 40.5**	**+1.0**
MSFR	**San Fratello**	**2.42 248**	P	**Pn**	**06 59 39.1**	**-0.4**
MSFR			AML	AML		
	comp=E,454μm,0.9s					
MSFR			AML	AML		
	comp=N,506μm,1.3s					
MSFR			AML	AML		
	comp=E,389μm,0.8s					
MSFR			AML	AML		
	comp=N,505μm,1.3s					
MSFR			AML	AML		
	comp=E,454μm,1.1s					
MSFR			AML	AML		
	comp=N,506μm,0.7s					
ESML	**S. M. di Licod**	**2.42 237**	P	**Pn**	**06 59 39.0**	**-0.5**
ESML			AML	AML		
	comp=E,1106μm,1.1s					
ESML			AML	AML		
	comp=N,1175μm,0.6s					
ESML			AML	AML		
	comp=E,1108μm,1.1s					
ESML			AML	AML		
	comp=N,1163μm,1.5s					
ESML			AML	AML		
	comp=E,1106μm,0.9s					
AGST	**Augusta-Monte**	**2.44 226**	P	**Pn**	**06 59 38.8**	**-1.0**
AGST			AML	AML		
	comp=E,1100μm,0.4s					
AGST			AML	AML		
	comp=N,1616μm,0.3s					
AGST			AML	AML		
	comp=N,1615μm,0.3s					
AGST			AML	AML		
	comp=E,1290μm,1.1s					
IACL	**Alicudi**	**2.44 261**	⇓P	**Pn**	**06 59 39.1**	**-0.8**
IACL			AML	AML		
	comp=E,1078μm,0.9s					
IACL			AML	AML		
	comp=E,1063μm,0.4s					
IACL			AML	AML		
	comp=N,854μm,0.3s					
IACL			AML	AML		
	comp=N,1084μm,0.8s					
HAGA	**Augusta**	**2.46 228**	P	**Pn**	**06 59 38.6**	**-1.5**
HAGA			AML	AML		
	comp=E,736μm,0.7s					
HAGA			AML	AML		
	comp=N,592μm,0.8s					
HAGA			AML	AML		
	comp=E,736μm,1.3s					
HAGA			AML	AML		

comp=N,592μm,1.2s
HAGA AML AML
comp=E,664μm,0.3s
HAGA AML AML
comp=N,592μm,0.8s
FSK Fiskardo 2.50 101 P **Pn 06 59 41.8 +1.2**
VSK1 VASILIKIADES 2.51 102 P **Pn 06 59 42.3 +1.4**
TSLK Tsoukalades, L 2.52 92 P **Pn 06 59 42.4 +1.4**
LKD2 Lefkada island 2.52 93 P **Pn 06 59 42.6 +1.6**
EVGI Lefkada island 2.54 97 P **Pn 06 59 43.4 +2.2**
NYDR Nydri-Lefkada 2.56 95 P **Pn 06 59 42.8 +1.3**
GALF Gagliano Caste 2.58 242 P **Pn 06 59 41.8 -0.1**
GALF AML AML
comp=E,306μm,0.8s
GALF AML AML
comp=N,360μm,0.5s
GALF AML AML
comp=E,1855μm,0.7s
GALF AML AML
comp=E,1859μm,0.7s
GALF AML AML
comp=N,2418μm,0.6s
GALF AML AML
comp=E,307μm,0.8s
GALF AML AML
comp=N,360μm,0.5s
GALF AML AML
comp=N,2415μm,0.6s
HLNI Lentini 2.58 232 P **Pn 06 59 39.9 -2.0**
HLNI AML AML
comp=E,958μm,0.6s
HLNI AML AML
comp=N,1055μm,0.6s
HLNI AML AML
comp=E,958μm,0.6s
HLNI AML AML
comp=N,1055μm,0.6s
VLS Valsamata 2.59 107 P **Pn 06 59 42.7 +0.7**
VLS Valsamata 2.59 107 AML AML
comp=E,826μm,0.8s
VLS AML AML
comp=E,682μm,0.4s
VLS AML AML
comp=N,984μm,0.5s
VLS AML AML
comp=N,1065μm,1.0s
SSY Sortino 2.60 227 P **Pn 06 59 40.6 -1.4**
SSY AML AML
comp=E,2730μm,0.6s
SSY AML AML
comp=N,7325μm,0.3s
SSY AML AML
comp=E,2728μm,0.6s
SSY AML AML
comp=N,7327μm,0.3s
SSY AML AML
comp=N,7325μm,1.7s
SNAL S. Angelo Dei 2.60 320 P **Pn 06 59 42.3 +0.1**
SNAL AML AML
comp=N,1655μm,1.2s
SNAL AML AML
comp=E,880μm,1.2s
SNAL AML AML
comp=N,1705μm,1.2s
SNAL AML AML
comp=E,860μm,0.9s
SNAL AML AML
comp=N,1705μm,1.2s
SNAL AML AML
comp=E,870μm,0.9s
SNAL AML AML
comp=N,1656μm,1.2s
SNAL AML AML
comp=E,870μm,0.9s
SNAL AML AML
comp=N,1655μm,0.8s
SNAL AML AML
comp=N,1705μm,0.8s
SNAL AML AML
comp=E,880μm,0.8s
PSDA Pessada-Kefalo 2.61 108 P **Pn 06 59 43.0 +0.8**
MNT3 Montella 2.65 316 AML AML
comp=E,638μm,1.5s
MNT3 AML AML
comp=N,884μm,1.1s
MNT3 AML AML
comp=E,620μm,0.7s
MNT3 AML AML
comp=N,884μm,1.1s
MNT3 AML AML
comp=E,638μm,0.5s
MNT3 Montella 2.65 316 AML AML
comp=N,817μm,1.0s
MNT3 AML AML
comp=E,549μm,1.5s
MNT3 AML AML
comp=N,816μm,1.0s
MNT3 AML AML
comp=E,519μm,0.8s
MNT3 AML AML
comp=E,549μm,0.5s
CAGR Agira 2.67 241 P **Pn 06 59 43.6 +0.5**
CAGR AML AML
comp=E,1570μm,1.0s
CAGR AML AML
comp=N,1350μm,1.6s
CAGR AML AML
comp=E,1567μm,0.9s
CAGR AML AML
comp=N,1523μm,2.4s
CAGR AML AML
comp=E,1570μm,1.0s
CAGR AML AML
comp=N,1350μm,0.4s
MTMR Montemarano 2.71 317 P **Pn 06 59 43.9 +0.3**
MTMR AML AML
comp=E,605μm,0.8s
MTMR AML AML
comp=N,760μm,1.5s
MTMR AML AML
comp=E,605μm,0.8s
MTMR AML AML
comp=N,760μm,1.5s
MTMR AML AML
comp=E,591μm,0.8s
MTMR AML AML
comp=N,746μm,1.8s
MTMR AML AML
comp=N,760μm,0.5s
PLLN Pollina 2.76 250 P **Pn 06 59 43.9 -0.4**
PLLN AML AML
comp=E,1074μm,0.6s
PLLN AML AML
comp=N,1110μm,1.2s
PLLN AML AML
comp=E,1074μm,0.6s
PLLN AML AML
comp=N,1084μm,0.6s
PLLN AML AML
comp=N,1110μm,0.8s
RTZL Ratzakli, Kefa 2.76 108 P **Pn 06 59 45.3 +1.1**
ORTH Orthonies,Zaky 2.79 112 P **Pn 06 59 46.0 +1.3**
VAE Valguarnera 2.80 239 Pn **Pn 06 59 45.3 +0.3**
comp=N,13nm,0.4s,baz=21,slow=5.7,SNR=5.5
CSLB Castelbuono 2.84 250 P **Pn 06 59 44.5 -0.9**
CSLB AML AML
comp=E,207μm,0.5s
CSLB AML AML
comp=E,207μm,0.5s
CSLB AML AML
comp=N,250μm,0.4s
CSLB AML AML
comp=N,250μm,0.4s
CSLB AML AML
comp=E,207μm,1.5s
PETRA Petralia Sopra 2.84 248 P **Pn 06 59 45.3 -0.3**
PETRA AML AML
comp=N,684μm,0.6s
PETRA AML AML
comp=E,551μm,0.5s
PETRA AML AML
comp=N,684μm,0.6s
PETRA AML AML
comp=N,684μm,1.4s
PETRA AML AML
comp=E,550μm,0.5s
GIB Gibilmanna 2.85 251 P **Pn 06 59 45.0 -0.6**
GIB AML AML
comp=E,680μm,1.3s
GIB AML AML
comp=N,854μm,1.0s
GIB AML AML
comp=E,571μm,0.5s
GIB AML AML
comp=N,780μm,0.5s
GIB AML AML
comp=E,680μm,0.7s
RESU Resuttano 2.96 245 P **Pn 06 59 48.9 +1.7**
RESU AML AML
comp=E,397μm,0.5s
RESU AML AML
comp=N,490μm,0.6s
RESU AML AML
comp=E,400μm,1.6s
RESU AML AML
comp=N,491μm,0.6s
RESU AML AML
comp=E,397μm,1.5s
RAFF Raffo Rosso 2.98 235 P **Pn 06 59 46.5 -0.9**
RAFF AML AML
comp=E,463μm,0.7s
RAFF AML AML
comp=N,506μm,0.6s
RAFF AML AML
comp=E,462μm,0.4s
RAFF AML AML
comp=N,507μm,0.6s
MSAG Monte S. Angel 2.98 337 P **Pn 06 59 47.5 0.0**
MSAG AML AML
comp=N,1425μm,0.8s
MSAG AML AML
comp=N,592μm,0.8s
MSAG AML AML
comp=E,398μm,0.7s
MSAG AML AML
comp=N,557μm,0.5s
MSAG AML AML
comp=E,971μm,0.7s
MSAG AML AML
comp=N,1283μm,0.5s
MSAG AML AML
comp=E,968μm,0.7s
MSAG AML AML
comp=E,398μm,0.7s
MSAG AML AML
comp=N,1425μm,1.2s
MSAG AML AML
comp=N,592μm,1.2s
OVO Vesuviano 2.99 310 P **Pn 06 59 48.0 +0.6**
PAOL Paolisi 3.02 314 P **Pn 06 59 48.4 +0.5**
PAOL AML AML
comp=N,520μm,1.3s
PAOL AML AML
comp=E,302μm,0.6s
PAOL AML AML
comp=N,521μm,1.2s
PAOL AML AML
comp=E,302μm,0.6s
PAOL AML AML
comp=N,366μm,0.5s
PAOL AML AML
comp=E,317μm,0.7s
PAOL AML AML
comp=N,454μm,0.7s
PAOL AML AML
comp=E,318μm,0.7s
PAOL AML AML
comp=N,520μm,0.7s
PAOL AML AML
comp=N,521μm,0.8s
TIR Tirane 3.02 37 P **Pn 06 59 46.9 -1.0**
SGRT San Giovanni R 3.07 336 P **Pn 06 59 49.0 +0.3**
SGRT AML AML
comp=E,900μm,0.6s
SGRT AML AML
comp=N,763μm,0.6s
SGRT AML AML
comp=E,900μm,0.6s
SGRT AML AML
comp=N,818μm,0.9s
PENT Pentalofos 3.12 66 P **Pn 06 59 51.4 +2.2**
NEST Nestorio 3.14 61 P **Pn 06 59 52.3 +2.7**
APRC Apricena 3.14 333 P **Pn 06 59 49.9 +0.3**
APRC AML AML
comp=E,938μm,0.9s
APRC AML AML
comp=N,1050μm,1.1s
APRC AML AML
comp=E,962μm,0.8s
APRC AML AML
comp=N,1187μm,0.8s
APRC AML AML
comp=E,937μm,0.9s
APRC AML AML
comp=N,977μm,0.6s
APRC AML AML
comp=E,938μm,1.1s
SOLUN Solunto 3.18 255 P **Pn 06 59 49.4 -0.6**
SOLUN AML AML
comp=E,883μm,0.5s
SOLUN AML AML
comp=N,460μm,0.8s
SOLUN AML AML
comp=E,883μm,0.5s
SOLUN AML AML
comp=N,460μm,0.8s
SOLUN AML AML
comp=N,460μm,1.2s
AXS Araxos 3.18 103 P **Pn 06 59 51.8 +1.7**
PVO Paravola 3.21 95 P **Pn 06 59 53.1 +2.6**
RLS Riolos of Patr 3.29 105 P **Pn 06 59 53.2 +1.7**
MPG Monte Pellegri 3.29 257 AML AML
comp=E,227μm,1.6s
MPG AML AML
comp=N,206μm,0.8s
MPG AML AML
comp=E,227μm,0.4s
ULC Ulcinj 3.30 24⇓*i*Pn **Pn 06 59 51.0 -0.7**
ULC *i* Sn **Sn 07 00 29.7 -0.3**
USI Ustica 3.33 267 P **Pn 06 59 51.1 -1.1**
USI AML AML
comp=E,116μm,0.3s
USI AML AML
comp=N,325μm,1.2s
USI AML AML
comp=N,325μm,0.8s
OHR Ohrid 3.36 49 *i* Pn **Pn 06 59 55.1 +2.6**
EVR Evrytania 3.41 89 P **Pn 06 59 57.1 +3.8**
DRME Dracevica, Mon 3.49 22 *e*Pn **Pn 06 59 53.9 -0.3**
DRME Dracevica, Mon 3.49 22⇑*i*Pn **Pn 06 59 53.9 -0.3**
DRME *i* Sn **Sn 07 00 34.5 0.0**
BUM Brajici-Budva 3.52 18⇓*i*Pn **Pn 06 59 53.7 -1.0**
BUM *i* Sn **Sn 07 00 34.4 -0.9**
EFP Efpalio 3.54 97 P **Pn 06 59 57.6 +2.6**
HCY Herceg Novi 3.57 13⇓*i*Pn **Pn 06 59 55.0 -0.4**
HCY *i* Sn **Sn 07 00 36.2 -0.5**
VENT Ventotene 3.59 302 P **Pn 06 59 56.5 +0.9**
THL Klokotos Trika 3.60 79 P **Pn 06 59 58.3 +2.4**
THL Klokotos Trika 3.60 79 P **Pn 06 59 57.7 +1.9**
SERG Sergoula 3.66 97 P **Pn 06 59 59.3 +2.7**
MBFT Monte Bonifato 3.66 255⇓P **Pn 06 59 56.9 +0.2**
MBFT AML AML
comp=E,128μm,1.0s
MBFT AML AML
comp=E,128μm,1.0s
MBFT AML AML
comp=N,110μm,0.6s
CRJA Costa Raja 3.67 253 P **Pn 06 59 57.5 +0.7**
CRJA AML AML
comp=E,249μm,0.9s
CRJA AML AML
comp=N,197μm,1.5s
PDG Podgorica 3.73 21⇑P **Pn 06 59 59.1 +1.5**
PDG Podgorica 3.73 21 *e*Pn **Pn 06 59 57.4 -0.2**
PDG *e*Sn **Sn 07 00 41.2 +0.7**
PDG Podgorica 3.73 21 P **Pn 06 59 57.6 0.0**
PDG Podgorica 3.73 21⇓*i*Pn **Pn 06 59 57.3 -0.3**
PDG *i* Sn **Sn 07 00 41.2 +0.7**
CEME Cevo 3.75 17⇓*i*Pn **Pn 06 59 57.8 -0.2**
CEME *i* Sn **Sn 07 00 40.9 -0.3**
TREB Trebinje 3.81 10 *e*Pn **Pn 06 59 57.8 -1.0**
TREB Trebinje 3.81 10 *e*Pn **Pn 06 59 58.1 -0.7**
TREB *e*Sn **Sn 07 00 40.9 -1.7**
STON Ston 3.91 3 *e*Pn **Pn 06 59 59.6 -0.4**
NKME Niksic 3.97 16⇓*i*Pn **Pn 07 00 01.0 0.0**
NKME *i* Sn **Sn 07 00 46.9 +0.4**
LRP Arpino 3.98 314 P **Pn 07 00 01.3 +0.3**
MARS Marsala (TP) I 4.01 254 P **Pn 07 00 02.6 +1.2**
BRY Bratogost 4.02 12⇑*i*Pn **Pn 07 00 01.4 -0.4**
BRY *i* Sn **Sn 07 00 47.9 -0.1**
PVY Plav 4.10 27 *e*Pn **Pn 07 00 03.8 +1.0**
PVY *e*Sn **Sn 07 00 49.8 -0.1**
PVY Plav 4.10 27⇑*i*Pn **Pn 07 00 04.1 +1.3**
PVY *i* Sn **Sn 07 00 51.0 +1.1**
LEVAN Levanzo 4.11 258 AML AML
comp=E,86μm,0.7s
LEVAN AML AML
comp=N,112μm,0.8s
KOME Kolasin 4.19 21 *e*Pn **Pn 07 00 04.9 +0.9**
KOME Kolasin 4.19 21⇑*i*Pn **Pn 07 00 05.5 +1.5**
KOME *i* Sn **Sn 07 00 52.3 +0.3**
KLINJ Klinje 4.29 11 *e*Pn **Pn 07 00 04.8 -0.6**
BEY Berane 4.33 25 *e*Pn **Pn 07 00 07.2 +1.3**
BEY *e*Sn **Sn 07 00 54.8 -0.6**
IVA Berane 4.33 25⇑*i*Pn **Pn 07 00 07.0 +1.1**
IVA *i* Sn **Sn 07 00 55.6 +0.2**
UPM Unac-Piva 4.38 14⇓*i*Pn **Pn 07 00 07.4 +0.7**
UPM *i* Sn **Sn 07 00 56.8 0.0**
VIVA Pratoni del Vi 4.52 309 AML AML
comp=E,608μm,0.3s
VIVA AML AML
comp=N,443μm,1.5s
AQU L'Aquila 4.57 319 *e*Pn Pb 07 00 28.1 +6.6
VAY Valandovo 4.59 57 *i* Pn **Pn 07 00 10.5 +1.2**
PLE Pljevlja 4.61 18 *e*Pn **Pn 07 00 10.7 +1.0**
PLE *e*Sn **Sn 07 01 01.7 -0.6**
PLE Pljevlja 4.61 18⇑*i*Pn **Pn 07 00 09.8 +0.1**
PLE *i* Sn **Sn 07 01 02.5 +0.2**
SJES Sjenica 4.70 23 *e*Pn **Pn 07 00 12.5 +1.4**
SJES *e*Sn **Sn 07 01 02.9 -1.8**
RUDO Rudo 4.88 17 *e*Pn **Pn 07 00 13.2 -0.1**
RUDO Rudo 4.88 17 *e*Pn **Pn 07 00 14.6 +1.3**
RUDO *e*Sn **Sn 07 01 07.1 -1.6**
IVAS Ivanjica 5.04 23 *e*Pn **Pn 07 00 17.0 +1.3**
IVAS *e*Sn **Sn 07 01 12.1 -0.9**
SELS Selova 5.08 32 *e*Pn **Pn 07 00 17.4 +1.2**
SELS *e*Sn **Sn 07 01 11.8 -2.1**
BBLS Lazi&#263i 5.12 16 *e*Pn **Pn 07 00 17.3 +0.6**
BBLS *e*Sn **Sn 07 01 13.4 -1.4**
SRS Serrai 5.19 64 *e*Pn **Pn 07 00 19.5 +1.8**
SRS *e*Sn **Sn 07 01 15.9 -0.7**
BOSS Bosilegrad 5.21 46 *e*Pn **Pn 07 00 19.2 +1.3**
GOCS Kraljevo Serbi 5.28 28 *e*Pn **Pn 07 00 19.0 +0.1**
GOCS *e*Sn **Sn 07 01 17.5 -1.2**
DIVS Divibare 5.48 20 *e*Pn **Pn 07 00 21.4 -0.3**
DIVS *e*Sn **Sn 07 01 21.5 -2.2**
GRUS Gruza 5.50 26 *e*Pn **Pn 07 00 23.0 +1.0**
GRUS *e*Sn **Sn 07 01 21.5 -2.7**
BOVS Bovan 5.67 33⇑P **Pn 07 00 27.0 +2.8**
BOVS Bovan 5.67 33 *e*Pn **Pn 07 00 24.0 -0.2**
BOVS *e*Sn **Sn 07 01 26.5 -1.8**
TRUS Trudelj 5.71 22 *e*Pn **Pn 07 00 24.8 0.0**
BLY Banja Luka 5.79 358 *e*Pn **Pn 07 00 24.6 -1.2**
BLY Banja Luka 5.79 358⇑P **Pn 07 00 27.2 +1.3**
BLY Banja Luka 5.79 358 *e*Pn **Pn 07 00 26.5 +0.7**
BLY *e*Sn **Sn 07 01 28.3 -2.8**
TEKS Tekeris 5.80 15 *e*Pn **Pn 07 00 25.4 -0.6**
ZAPS Zavoj 5.83 41 *e*Pn **Pn 07 00 27.8 +1.4**
ZAGS Zajecar 6.04 35 *e*Pn **Pn 07 00 29.6 +0.3**
ZAGS *e*Sn **Sn 07 01 35.4 -2.0**
BORS2 Bor- Borsko je 6.17 32 *e*Pn **Pn 07 00 31.2 +0.1**
BORS2 *e*Sn **Sn 07 01 37.5 -3.1**
KUBS Kucevo 6.30 29 *e*Pn **Pn 07 00 34.5 +1.6**
FRGS Fruska Gora 6.44 15 *e*Pn **Pn 07 00 33.1 -1.7**
MDVR Moldovita 6.63 27⇓P **Pn 07 00 40.0 +2.5**
MDVR Moldovita 6.63 27 *e*Pn **Pn 07 00 37.6 +0.1**
APE Apeiranthos 6.67 104⇑P **Pn 07 00 39.8 +1.9**
BOJS Bojanci 6.74 347 *e*Pn **Pn 07 00 39.8 +1.0**
VRSS Vrsac 6.80 24 *e*Pn **Pn 07 00 39.0 -0.8**
EZN Ezine 6.94 80⇑P **Pn 07 00 44.0 +2.4**
HERR Herculane 6.98 31⇑P **Pn 07 00 43.9 +1.7**
IDI Anoyia 6.99 119 Pn **Pn 07 00 43.3 +0.8**
comp=N,4.7nm,0.3s,baz=122,slow=20,SNR=12
IDI Sn **Sn 07 01 56.9 -4.2**
comp=N,8.0nm,0.3s,baz=331,slow=23,SNR=16
SKDS Skadanscina 7.05 340 *e*Pn **Pn 07 00 43.8 +0.6**
CEY Cerknica 7.13 343 *e*Pn **Pn 07 00 44.6 +0.3**
KEST Kesra 7.20 246 Pn **Pn 07 00 46.3 +0.9**
comp=N,0.3nm,0.3s,baz=49,slow=5.8,SNR=5.8
comp=N,3.9nm,0.6s
MORH Mrgy, Hungar 7.30 7 *e*Pn **Pn 07 00 45.1 -1.5**
MORH Mrgy, Hungar 7.30 7⇓P **Pn 07 00 49.2 +2.5**
BZS Buzias 7.34 24⇓P **Pn 07 00 49.2 +2.1**
LJU Ljubljana 7.39 344 *e*Pn **Pn 07 00 48.4 +0.5**
BEHE Becsehely 7.52 357 *e*Pn Pn 07 00 54.4 +4.8
GZR Gura Zlata 7.55 30⇑P **Pn 07 00 52.4 +2.3**
SURR Surduc 7.62 26⇓P **Pn 07 00 52.7 +1.7**
OBKA Obir 7.83 345 *i* Pn **Pn 07 00 54.4 +0.4**
comp=N,2.1nm,0.2s
SOKA Soboth 7.91 348 *i* Pn **Pn 07 00 55.9 +0.9**
comp=N,1.8nm,0.2s
LOT Lotru 8.00 34⇑P **Pn 07 00 59.0 +2.6**
MYKA Terra Mystica 8.15 341 *e*Pn **Pn 07 00 58.4 0.0**
comp=N,3.2nm,0.4s
ARR Arges 8.34 38⇓P **Pn 07 01 03.3 +2.5**
ARSA Arzberg 8.40 351 *i* Pn **Pn 07 01 02.8 +1.1**
comp=N,3.8nm,0.5s
KBA Koelnbreinsper 8.65 341 *i* Pn **Pn 07 01 06.1 +0.9**
comp=N,0.7nm,0.2s
MARR Marisel-Cluj 8.77 27⇑P **Pn 07 01 08.8 +2.0**
RONA Rosalia, Austr 8.77 355 *i* Pn **Pn 07 01 06.9 +0.1**
comp=N,0.7nm,0.2s
CONA Conrad Observa 9.04 353 *i* Pn **Pn 07 01 10.4 -0.1**
comp=N,0.5nm,0.2s
MLR Muntele Rosu 9.07 41 Pn **Pn 07 01 11.6 +0.5**
comp=N,0.4nm,0.3s,baz=233,slow=20,SNR=1.5
MLR LR LR 07 05 57.9
comp=N,174nm,19.0s,baz=266,slow=46
comp=N,1.3nm,0.5s
MLR Muntele Rosu 9.07 41⇓P **Pn 07 01 13.1 +2.0**
PSZ Piszkesteto 9.13 10⇑P **Pn 07 01 13.8 +2.1**
LESA Schwarzleotal 9.14 339 *i* Pn **Pn 07 01 11.5 -0.4**
comp=N,2.0nm,0.3s
MOA Molln 9.18 346 *e*Pn **Pn 07 01 12.1 -0.2**
comp=N,1.0nm,0.3s
WATA Walderalm 9.40 335 *i* Pn **Pn 07 01 14.2 -1.3**
comp=N,3.8nm,0.5s
MODS Modra-Piesok 9.41 359 *e*PN **Pn 07 01 16.1 +0.6**
SQTA Sankt Quirin 9.42 333 *e*Pn **Pn 07 01 15.5 -0.4**
comp=N,0.6nm,0.2s
FETA Feichten 9.43 331 *e*Pn **Pn 07 01 15.2 -0.8**
comp=N,1.2nm,0.4s
MOTA Moosalm 9.57 333 *e*Pn **Pn 07 01 17.3 -0.5**
comp=N,1.9nm,0.5s
PLOR Plostina 9.68 42⇑P **Pn 07 01 21.4 +2.1**
VRI Vrincioaia 9.73 42⇑P **Pn 07 01 22.1 +2.2**
TIRR Tirgusor 9.87 53⇑P **Pn 07 01 24.4 +2.6**
GERES GERESS Array B 10.24 346 Pn **Pn 07 01 27.6 +0.6**
baz=172,slow=11,SNR=6.2
GERES Sn Sn 07 03 11.2 -10
baz=170,slow=17,SNR=1.9
GERES LR LR 07 06 47.9
comp=N,89nm,19.7s,baz=212,slow=46
comp=N,1.1nm,0.7s
BURAR Bucovina Array 10.34 31⇑P **Pn 07 01 31.3 +3.0**
VRAC Vranov 10.36 357 LR LR 07 05 15.8
comp=N,46nm,20.9s,baz=200,slow=36
KHC Kasperske Hory 10.54 346 *e*PN **Pn 07 01 29.9 -1.1**
KHC *e*SN Sn 07 03 19.7 -8.2
BRTR Keskin Array B 12.57 81 LR LR 07 07 00.9
comp=N,39nm,19.9s,baz=284,slow=38
AKASG Malin Array Be 14.39 32 Pn **P 07 02 30.1 0.0**
comp=N,0.5nm,0.3s,baz=224,slow=10,SNR=4.3
MMAI Mount Meron Ar 15.70 107 Pn **Pn 07 02 38.1 -3.1**
comp=N,1.2nm,0.3s,baz=297,slow=13,SNR=2.2
ESDC Sonseca Array 16.57 279 Pn **P 07 02 54.0 -0.6**
comp=N,0.1nm,0.3s,baz=76,slow=12,SNR=13
ESDC LR LR 07 08 45.9
comp=N,111nm,19.6s,baz=82,slow=35
comp=N,1.9nm,0.8s
NACGM Naroch 17.15 19 *e*P **P 07 03 04.0 +3.3**
comp=Z,8.0nm,0.5s,baz=206
EIL Elat 17.16 117 P **Pn 07 02 58.5 -1.1**
comp=Z,0.9nm,0.3s,baz=300,slow=2.2,SNR=7.0
comp=Z,4.1nm,0.6s
PBRG Braganca 18.62 286 *e*P **P 07 03 17.2 +0.1**

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PBRG                                  i IAmb   IAmb   07 03 28.8
     comp=Z,19nm,1.6s
MVO  Moncorvo        18.84 284 eP          P      07 03 20.1 +0.5
MDT  Midelt          18.86 258 P           P      07 03 19.8 -0.1
     comp=Z,0.5nm,0.3s,baz=91,slow=4.8,SNR=3.9
     comp=Z,1.7nm,0.4s
PBAR Barrancos       19.14 275 eP          P      07 03 22.4 -0.4
PBAR                                  i IAmb   IAmb   07 03 23.9
     comp=Z,17nm,1.8s
PMRV Marv??o         19.24 279 eP          P      07 03 23.7 -0.2
PMRV                                  i IAmb   IAmb   07 03 40.8
     comp=Z,16nm,1.7s
POLO Lamas de Olo    19.41 285 eP          Pn     07 03 29.3 +2.1
PCAB Cabril          19.58 286 eP          P      07 03 27.1 -0.6
PBEJ Beja            19.81 275 eP          P      07 03 29.6 -0.6
PVAQ Vaqueiros       19.82 273 eP          P      07 03 29.4 -0.8
PVAQ                                  i IAmb   IAmb   07 03 34.2
     comp=Z,15nm,1.6s
PMTG Montargil       19.92 278 eP          P      07 03 30.8 -0.5
PMTG                                  i IAmb   IAmb   07 03 33.4
     comp=Z,22nm,1.6s
PBDV Barranco-do-Ve  20.02 273 eP          Pn     07 03 38.6 +4.3
PCVE Castro Verde    20.02 274 eP          P      07 03 32.6 +0.2
MESJ Messejana       20.12 275 eP          P      07 03 32.9 -0.6
MESJ                                      IAmb   IAmb   07 03 34.0
     comp=Z,6.7nm,0.7s
MESJ Messejana       20.12 275 eP          P      07 03 33.4 -0.1
MESJ                                  i IAmb   IAmb   07 03 44.8
     comp=Z,25nm,1.6s
PSBE So Bento        20.31 280 eP          P      07 03 36.3 +0.8
PSBE                                  i IAmb   IAmb   07 03 45.8
     comp=Z,52nm,2.1s
PARRA Arraiolos      20.59 278 eP          P      07 03 29.0 -10
HFS  Hagfors         21.32 355 P           P      07 03 45.8 -0.5
     comp=Z,0.9nm,0.5s,baz=176,slow=8.9,SNR=5.6
HFS                                       LR     LR     07 12 45.8
     comp=Z,42nm,19.4s,baz=256,slow=39
     comp=Z,0.9nm,0.5s
EKA  Eskdalemuir Ar  21.42 327 P           P      07 03 46.6 -0.7
     comp=Z,0.6nm,0.5s,baz=132,slow=12,SNR=1.7
     comp=Z,0.6nm,0.5s
NOA  NORSAR Array B  22.44 352 LR          LR     07 14 31.9
     comp=Z,51nm,18.3s,baz=295,slow=42
FINES FINESS Array B 23.14 11  P           P      07 04 06.0 +0.5
     comp=Z,2.0nm,0.8s,baz=177,slow=13,SNR=4.5
     comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea  29.25 213 P           P      07 05 02.0 +0.6
     comp=Z,0.8nm,0.3s,baz=23,slow=11,SNR=2.3
     comp=Z,0.8nm,0.3s
ARCES ARCESS Array B 30.94  6  P           P      07 05 15.9 -0.1
     comp=Z,4.7nm,1.1s,baz=180,slow=4.9,SNR=5.7
     comp=Z,4.7nm,1.1s
BORG Borgarnes       34.26 332 LR          LR     07 21 31.1
     comp=Z,52nm,19.4s,baz=150,slow=40
MKAR Makanchi Array  46.95 58  P           P      07 07 29.6 -0.4
     comp=Z,0.4nm,0.4s,baz=282,slow=7.4,SNR=4.3
     comp=Z,0.4nm,0.4s
BOSA Boshof          67.62 173 LR          LR     07 39 53.7
     comp=Z,34nm,18.1s,baz=22,slow=36
NEW  Newport         84.24 331 LR          LR     07 53 13.7
     comp=Z,53nm,18.4s,baz=62,slow=39
CPUP Villa Florida   95.30 240 LR          LR     07 55 33.9
     comp=Z,21nm,19.1s,baz=237,slow=36
PFO  Pinyon Flats O  96.09 323 LR          LR     07 59 28.6
     comp=Z,36nm,18.1s,baz=14,slow=38
```

*IDC **31** 07:02:03.9±0.9, 6°.71N×125°.26E, h0km, mb3.7/7, mbtmp3.7/7, MS3.6/28, Error ellipse: s-maj=22.9km s-min=12.1km az=115.0*
*DJA **31** 07:02:04.0±0.7, 7°.N±6°.×12°.5E±°, h10km, M5.0/9, mB5.7/4, mb5.0/6, MLv4.9/9, Mw(mB)5.2/4*
ISC 31 07:02:05.4±0.9, 6°.95N±0°.08×125°.2E±0°.1, h10km, n48, σ1°68/20, mb3.7/8, MS3.6/24, Mindanao

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
DAV  Davao City (W)    0.38  71  Pg    Pg              07 02 13.3 +0.4
     1μm,0.3s,baz=255,slow=5.6,SNR=17
DAV  Davao City (W)    0.38  71  P     Pg              07 02 13.0  0.0
SGSI Sangihe           3.25 174  P     Pn              07 02 57.6 +1.1
SGSI                             S     Sn              07 03 37.6 +2.2
SGSI Sangihe           3.25 174  P     Pn              07 02 56.2 -0.3
SGSI                             S     Sn              07 03 37.9 +2.5
KMSI Cibinong          6.45 191  P     Pn              07 03 42.7 +2.2
KMSI Cibinong          6.45 191  P     Pn              07 03 39.9 -0.6
     1.2nm318nm,0.8s
MRSI Marisa            7.21 207  P     Pn              07 03 50.0 -0.9
     0.5nm983nm89nm,0.7s
MRSI Marisa            7.21 207  P     Pn              07 03 49.5 -1.4
     0.5nm987nm89nm,0.7s
APSI Ampana            8.58 205  P     Pn              07 04 10.6 +0.9
     2μm62nm,0.8s
APSI Ampana            8.58 205  P     Pn              07 04 07.8 -1.9
     1μm62nm,0.8s
SANI Sanana            8.97 175  P     Pn              07 04 13.5 -1.6
SANI Sanana            8.97 175  P     Pn              07 04 14.5 -0.6
     13nm,0.6s
I39PW PALAU INFRASON   9.28  86  I     I               07 58 10.0
     baz=266,slow=288,SNR=1.4
MTKI Muara Teweh, K   12.94 233  P     Pn              07 05 02.6 -6.9
KAPI Kappang          13.07 205  LR    LR              07 10 23.0
     comp=Z,306nm,21.2s,baz=66,slow=39
BATI Baumata          17.11 185  LR    LR              07 13 59.2
     comp=Z,206nm,19.0s,baz=154,slow=42
JAY  Jayapura         18.09 121  LR    LR              07 13 12.6
     comp=Z,176nm,20.6s,baz=340,slow=37
JOW  Kunigami         19.99  8   LR    LR              07 13 45.4
     comp=Z,137nm,21.9s,baz=200,slow=35
FITZ Fitzroy Crossi   24.89 179  P     P               07 07 27.3 -1.3
     1.8nm,0.4s,baz=12,slow=11,SNR=11
     1.8nm,0.4s
JCJ  Chichijima       25.72  37  LR    LR              07 15 23.3
     comp=Z,70nm,21.9s,baz=114,slow=31
PSI  Prapat           26.51 262  LR    LR              07 19 37.5
     comp=Z,65nm,20.2s,baz=78,slow=40
JNU  Nakatsue         26.57  11  LR    LR              07 17 41.3
     comp=Z,77nm,21.9s,baz=178,slow=35
CMAR Chiang Mai Arr   28.02 297  LR    LR              07 19 42.5
     comp=Z,59nm,18.0s,baz=115,slow=38
WRA  Warramunga Arr   28.19 162  P     P               07 07 56.0 -2.4
     0.5nm,0.5s,baz=342,slow=9.4,SNR=8.2
     0.5nm,0.5s
JHJ  Hachijo jima 2   29.35  26  LR    LR              07 17 46.4
     comp=Z,70nm,21.9s,baz=192,slow=32
ASAR Alice Springs    31.59 165  P     P               07 08 26.3 -2.2
     0.5nm,0.5s,baz=340,slow=7.2,SNR=12
ASAR                                LR    LR              07 21 06.1
     comp=Z,89nm,18.4s,baz=266,slow=36
     0.5nm,0.5s
MJAR Matsushiro Arr   31.76  20  LR    LR              07 21 19.1
     comp=Z,102nm,18.9s,baz=208,slow=36
GTA  Gaotai           39.58 329 eP          P               07 09 40.3 +3.2
GTA                                 pmax  pmax
     comp=Z,5.0nm,0.8s
ASAJ Asahikawa        40.03  20  LR    LR              07 26 30.9
     comp=Z,56nm,19.3s,baz=148,slow=36
SONM Songino Array    43.79 342  P     P               07 10 13.6 +2.2
     comp=Z,0.9nm,0.8s,baz=163,slow=5.4,SNR=5.0
SONM                                LR    LR              07 29 34.5
     comp=Z,125nm,20.4s,baz=144,slow=38
     comp=Z,0.9nm,0.8s
PALK Pallekele        44.16 273  LR    LR              07 30 19.6
     comp=Z,39nm,18.8s,baz=84,slow=38
PETK Petropavlovsk-   53.08 24   LR    LR              07 34 04.7
     comp=Z,49nm,19.6s,baz=207,slow=36
MKAR Makanchi Array   54.07 325  P     P               07 11 31.7 +1.4
     comp=Z,0.5nm,0.7s,baz=111,slow=8.0,SNR=2.9
     comp=Z,0.5nm,0.7s
YAK  Yakutsk          55.07  3   LR    LR              07 36 57.9
     comp=Z,43nm,18.4s,baz=188,slow=38
AAK  Ala-Archa        56.98 317  LR    LR              07 38 45.8
     comp=Z,54nm,20.9s,baz=106,slow=38
KURBB Kurchatov Arra  58.23 327  P     P               07 12 02.2 +2.2
     comp=Z,0.4nm,0.5s,baz=128,slow=5.3,SNR=4.0
     comp=Z,0.4nm,0.5s
SEY  Seymchan         59.28 14   LR    LR              07 36 54.3
     comp=Z,30nm,21.9s,baz=180,slow=35
AKTO Aktyubinsk       70.22 321  LR    LR              07 46 27.7
     comp=Z,56nm,19.4s,baz=115,slow=38
KIRV Kirov            76.71 329  LR    LR              07 50 52.3
     comp=Z,34nm,19.3s,baz=93,slow=38
KBZ  Khabaz           79.69 313  LR    LR              07 53 29.9
     comp=Z,34nm,18.3s,baz=358,slow=39
ILAR Eielson Array    82.87  26  P     P               07 14 29.4 -0.6
     comp=Z,0.5nm,0.9s,baz=254,slow=4.2,SNR=5.9
     comp=Z,0.5nm,0.9s
ARCES ARCESS Array B  86.93 340  LR    LR              07 56 38.1
     comp=Z,37nm,20.4s,baz=228,slow=38
SPITS Spitsbergen Ar  87.05 349  LR    LR              07 57 29.5
     comp=Z,52nm,20.5s,baz=62,slow=38
FINES FINESS Array B  88.30 332  LR    LR              07 56 32.2
     comp=Z,52nm,19.0s,baz=28,slow=37
AKASG Malin Array Be  88.46 321  LR    LR              07 57 30.5
     comp=Z,47nm,18.5s,baz=31,slow=38
HFS  Hagfors          94.49 332  LR    LR              07 59 59.6
     comp=Z,66nm,19.8s,baz=68,slow=37
BBB  Bella Bella      94.63  36  LR    LR              08 05 54.9
     comp=Z,28nm,18.1s,baz=204,slow=40
NOA  NORSAR Array B   95.25 333  LR    LR              08 01 09.6
     comp=Z,28nm,19.5s,baz=255,slow=37
```

*NNC **31** 07:02:05.3±0.9, 50°.08N×79°.24E, h0km, mb3.3, mpv2.7, Error ellipse: s-maj=21.6km s-min=4.5km az=54.0, Suspected Mining explosion.*
*IDC **31** 07:02:07.9±1.0, 50°.06N×78°.80E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=13.1km s-min=6.3km az=64.0*
ISC 31 07:02:07.7±1.2, 50°.08N±0°.08×78°.8E±0°.2, h0km, n16, σ0°45/27, 14C-10D, Eastern Kazakhstan

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
KUR07 Kurchatov Arra   0.53 341  ⇑P    Pg              07 02 18.1 +0.1
KUR07                            ⇑S    Sb              07 02 28.7 +0.6
KUR14 Kurchatov Arra   0.55 347  ⇑P    Pg              07 02 18.3 +0.1
KUR14                            ⇓S    Sb              07 02 29.1 +0.5
KUR06 Kurchatov Arra   0.55 343  ⇓P    Pg              07 02 18.1 -0.2
KUR06                            ⇑S    Sb              07 02 28.7 +0.1
KUR15 Kurchatov Arra   0.56 345  ⇑P    Pg              07 02 18.5 +0.1
KUR15                            ⇓S    Sb              07 02 29.4 +0.5
KURBB Kurchatov Arra   0.57 344  Pg    Pg              07 02 18.8 +0.2
     1.3nm,0.3s,baz=164,slow=18,SNR=73
KURBB                            Lg    Lg              07 02 29.2
     1.5nm,0.3s,baz=162,slow=35,SNR=9.8
KURBB Kurchatov Arra   0.57 344  ⇓P    Pg              07 02 18.4 -0.2
     13nm,0.5s
KURBB                            ⇓S    Sb              07 02 29.3 +0.2
     106nm,0.7s
KUR16 Kurchatov Arra   0.58 342  ⇓P    Pg              07 02 18.7 -0.1
KUR16                            ⇑S    Sb              07 02 29.5 +0.1
KUR05 Kurchatov Arra   0.58 344  ⇑P    Pg              07 02 18.9 -0.1
KUR05                            ⇑S    Sb              07 02 30.0 +0.3
KUR17 Kurchatov Arra   0.59 340  ⇑P    Pg              07 02 18.7 -0.3
KUR17                            ⇓S    Sb              07 02 29.6 -0.1
KUR04 Kurchatov Arra   0.60 345  ⇑P    Pg              07 02 19.1 -0.2
KUR04                            ⇑S    Sb              07 02 30.1 -0.1
KURK Kurchatov         0.65 351  ⇓P    Pg              07 02 19.8 -0.3
     2.7nm,0.5s
KURK                             ⇑S    Sb              07 02 30.5 -0.9
     12nm,1.0s
MAKZ Makanchi          3.90 146  ⇓Pg    Pb              07 03 17.2 -0.2
     2.2nm,0.8s
MAKZ                             ⇑Lg    Lg              07 04 06.7
     12nm,0.9s
MK31 Makanchi Array    4.03 143  ⇓Pg    Pb              07 03 19.7 +0.1
     1.7nm,0.5s,baz=323,slow=14,SNR=11
MK31                             ⇑Lg    Lg              07 04 11.8
     3.5nm,0.5s,baz=340,slow=30,SNR=11
MKAR Makanchi Array    4.03 143  Pn    Pn              07 03 10.6 -0.1
     0.2nm,0.3s,baz=327,slow=12,SNR=4.4
MKAR                             Pg    Pb              07 03 18.3 -1.3
     0.6nm,0.3s,baz=341,slow=16,SNR=14
MKAR                             Sn    Sn              07 03 59.7 +1.1
     0.2nm,0.3s,baz=336,slow=16,SNR=1.5
MKAR                             Lg    Lg              07 04 12.9
     1.0nm,0.3s,baz=334,slow=27,SNR=4.6
     0.2nm,0.3s
ZALV Zalesovo Beam     5.38  42  Pn    Pn              07 03 29.2 +0.1
     0.2nm,0.3s,baz=231,slow=14,SNR=4.0
ZALV                             Lg    Lg              07 04 57.4
     0.2nm,0.3s,baz=227,slow=25,SNR=4.2
     0.6nm,0.3s
I46RU ZALESOVO INFRA   5.38  42  I     I               07 31 50.0
     0.1nm,0.8s,baz=225,slow=316,SNR=4.3
```

*NNC **31** 07:05:23.2±5.3, 38°.32N×79°.03E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=148.1km s-min=35.6km az=88.0*
SOME 31 07:05:20.4, 38°.28N×79°.78E, h5km, 1C-1D, Southern Xinjiang

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
SATY Saty              4.88 348  Pg    Pg              07 06 50.9 -3.1
     9.2nm,0.3s
SATY                             Lg    Lg              07 07 54.3
     14nm,0.5s
UZB  Uzynbulak         4.89 353  Pg    Pg              07 06 50.9 -3.2
     3.5nm,0.2s
UZB                              Lg    Lg              07 07 54.6
     6.1nm,0.8s
UZB  Uzynbulak         4.89 353  eP    Pg              07 06 50.9 -3.2
     3.5nm,0.2s
UZB                              eS    Sg              07 07 54.5 -3.0
     6.1nm,0.8s
PDGK Podgornoye        5.05 358  ⇓Pg    Pg              07 06 53.9 -3.2
     2.9nm,0.7s
PDGK                             ⇑Lg    Lg              07 08 06.3
     12nm,0.7s
KPKS Kokpek            5.24 351  Pg    Pg              07 06 56.9 -3.9
     0.5nm,0.3s
KPKS                             Lg    Lg              07 08 04.5
     11nm,0.6s
```

*NNC **31** 07:07:24.8±1.6, 49°.64N×81°.76E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=22.9km s-min=4.1km az=54.0, Suspected Mining explosion.*
*IDC **31** 07:07:26.1±1.4, 49°.67N×81°.53E, h0km, mbtmp2.7/1, Error ellipse: s-maj=18.4km s-min=8.9km az=57.0*
ISC 31 07:07:25.0±1.1, 49°.50N±0°.08×81°.3E±0°.1, h0km, n8, σ0°74/9, 3C-5D, Eastern Kazakhstan

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
KURBB Kurchatov Arra   2.12 303  Pg    Pg              07 08 05.0 -0.6
     0.2nm,0.3s,baz=112,slow=19,SNR=34
KURBB                            Lg    Lg              07 08 34.1
     0.5nm,0.3s,baz=116,slow=30,SNR=17
KURBB Kurchatov Arra   2.12 303  ⇑Pn    Pb              07 08 04.2 -0.1
     16nm,1.0s
KURBB                            ⇓Sn    Sg              07 08 33.6 +0.6
     43nm,0.7s
KURK Kurchatov         2.12 306  ⇓Pn    Pb              07 08 04.1 -0.2
     4.8nm,0.8s
KURK                             ⇑Sn    Sg              07 08 33.8 +0.7
     11nm,0.7s
MAKZ Makanchi          2.73 170  ⇓Pg    Pb              07 08 15.5 +0.7
     1.9nm,0.8s
MAKZ                             ⇓Lg    Lg              07 08 56.0
     6.5nm,0.8s
MK31 Makanchi Array    2.79 166  ⇓Pg    Pg              07 08 17.4 -1.0
     0.9nm,0.5s,baz=356,slow=14,SNR=5.0
MK31                             ⇑Lg    Lg              07 08 56.6
     6.2nm,0.6s,baz=358,slow=30,SNR=11
MKAR Makanchi Array    2.79 166  Pg    Pg              07 08 17.9 -0.6
     0.4nm,0.3s,baz=352,slow=18,SNR=7.6
MKAR                             Lg    Lg              07 08 57.5
     1.0nm,0.3s,baz=352,slow=30,SNR=20
ZALV Zalesovo Beam     4.96  25  Pn    Pn              07 08 40.9 +0.2
     0.6nm,0.3s,baz=212,slow=14,SNR=1.3
ZALV                             Lg    Lg              07 09 55.2
     0.3nm,0.3s,baz=211,slow=28,SNR=6.4
I46RU ZALESOVO INFRA   4.96  25  I     I               07 35 20.0
     baz=204,slow=322,SNR=5.0
```

*SSNC **31** 07:20:43.1±3.1, 18°.89N×70°.63W, h15km±457km, MB4.9, MD3.6*
*OSPL **31** 07:20:44.8±2.6, 18°.90N×70°.30W, h91km±12km, ML3.2*
*SDD **31** 07:20:46.0±2.2, 18°.89N×70°.38W, h71km±7km, MD3.4, ML3.3, MW3.4*
ISC 31 07:20:42.6±1.2, 18°.91N±0°.04×70°.37W±0°.02, h93km±6km, n50, σ1°82/87, 24C-20D, Dominican Republic region

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Code Station Name      Δ°   AZ°  Phase ID                Time      Res
                                Op    ISC               h m s     ISC
ABDR Alto Bandera      0.27 248  ⇓ePg    Pn              07 20 56.8 +0.2
ABDR                                IAML                  07 21 29.5
     comp=N,0.2nm,0.6s
DR08 Loma La Naviza    0.33  81  ⇑ePg    Pn              07 20 56.2 -0.4
DR08                             ⇑eSg    Sn              07 21 05.2 -1.9
DR08                                IAML                  07 21 06.5
     comp=N,39μm,0.1s
SFDR San Fco. de Ma    0.39  17  ⇓ePg    Pn              07 20 57.6 +0.7
SFDR                             ⇑eSg    Sn              07 21 06.8 -0.8
SFDR                                IAML                  07 21 11.4
     comp=N,10μm,0.3s
BANI BANI              0.52 179  ⇑ePg    Pn              07 20 58.5 +0.6
BANI                             ⇓eP                     07 20 58.7
BANI                             ⇑eSg    Sn              07 21 06.7 -2.7
BANI                                IAML                  07 21 11.8
     comp=N,413nm,0.2s
BANI                                IAML                  07 21 11.8
     comp=N,4μm,0.2s
LOSC1 San Cristbal     0.56 154  i P     Pn              07 20 53.4 -4.7
LOSC1                            eS      Sn              07 21 04.4 -5.3
LOSC1                               IAML                  07 21 07.6
     comp=Z,720nm,1.0s
SC01 Santiago de lo    0.62 326  ⇓ePg    Pn              07 21 00.0 +1.3
SC01                             ⇑eSg    Sn              07 21 09.9 -0.7
SC01                                IAML                  07 21 14.5
     comp=N,2μm,0.5s
SC01 Santiago de lo    0.62 326  i P     Pn              07 20 60.0 +1.3
SC01                             eS      Sn              07 21 13.1 +2.4
SD01 Santo Domingo     0.62 136  ⇑ePg    Pn              07 20 58.2 -0.4
SDD  Santo Domingo     0.62 136  ePg     Pn              07 20 58.1 -0.6
SDD                              ⇓eSg    Sn              07 21 09.1 -1.6
SDD                                 IAML                  07 21 15.7
     comp=N,65nm,0.4s
SDD  Santo Domingo     0.62 136  i P     Pn              07 20 58.1 -0.6
SDD                              eS      Sn              07 21 09.1 -1.6
NAG1 Nagua             0.65  47  ⇑ePg    Pn              07 20 59.9 +1.1
NADR Nagua             0.65  48  ⇑ePg    Pn              07 20 60.0 +1.0
NADR                             ⇑eSg    Sn              07 21 10.7 -0.5
NADR                                IAML                  07 21 15.2
     comp=N,15μm,0.2s
SDDR Presa de Saban    0.88 275  ⇑ePg    Pn              07 21 02.5 +1.3
SDDR                             ⇓eSg    Sn              07 21 14.8 -0.4
SDDR                                IAML                  07 21 20.2
     comp=N,778nm,0.6s
SDDR Presa de Saban    0.88 275  i P     Pn              07 21 02.4 +1.2
SDDR                             eS      Sn              07 21 16.2 +1.0
SDDR Presa de Saban    0.88 275  i P     Pn              07 21 02.5 +1.3
SDDR                             eS      Sn              07 21 16.4 +1.2
SDDR                                IAML                  07 21 22.8
     comp=Z,421nm,0.3s
HATOM Hato Mayor del   0.94  97  ⇑ePg    Pn              07 21 01.2 -0.7
HATOM                            ⇑eSg    Sn              07 21 15.8 -0.6
HATOM                               IAML                  07 21 18.6
     comp=N,981nm,0.2s
REDR Restauracion      1.00 285  ⇓ePg    Pn              07 21 07.1 +4.6
REDR                             ⇑eSg    Sn              07 21 24.6 +7.0
REDR                                IAML                  07 21 28.2
     comp=N,1μm,0.1s
LONE3 El Aguacate, B   1.08 254  i P     Pn              07 21 03.8 +0.3
LONE3                            eS      Sn              07 21 20.3 +1.0
LONE3                               IAML                  07 21 24.1
     comp=Z,107nm,0.3s
NEDR Neiba UASD        1.08 247  ⇓ePg    Pn              07 21 05.7 +2.3
NEDR                             ⇑eSg    Sn              07 21 20.1 +0.9
NEDR                                IAML                  07 21 21.1
     comp=N,190nm,0.6s
SMDR Samana, DR        1.18  71  ⇓ePg    Pn              07 21 05.0 +0.5
SMDR                             ⇓eSg    Sn              07 21 22.1 +1.0
SMDR                                IAML                  07 21 25.4
     comp=N,556nm,0.2s
LODU1 El Espartillar   1.19 242  i P     Pn              07 21 05.7 +1.0
LODU1                            eS      Sn              07 21 23.1 +1.8
LODU1                               IAML                  07 21 28.7
     comp=Z,335nm,0.6s
MIDR Miches            1.25  87  ⇓ePg    Pn              07 21 05.9 +0.5
MIDR                             ⇑eP                     07 21 05.9
MIDR                                IAML                  07 21 26.1
     comp=N,393nm,0.2s
MIDR                                IAML                  07 21 26.1
     comp=N,162nm,0.2s
LOVI El Cajuil, Ovi    1.46 221  i P     Pn              07 21 08.4 +0.4
LOVI                             eS      Sn              07 21 28.1 +0.9
LOVI                                IAML                  07 21 32.1
     comp=Z,91nm,0.6s
MCDR Montecristi       1.56 309  ⇓ePg    Pn              07 21 10.4 +1.1
MCDR                             ⇓eSg    Sn              07 21 29.3 -0.1
MCDR                                IAML                  07 21 39.5
     comp=N,530nm,0.2s
HGY1 Higuey            1.59 101  ⇑ePg    Pn              07 21 11.2 +1.6
HGY1                                IAML                  07 21 32.9
     comp=N,383nm,0.3s
HIDR Higuey Centro     1.59 101  ⇑ePg    Pn              07 21 09.8 +0.1
HIDR                             ⇓eSg    Sn              07 21 30.3 +0.1
HIDR                                IAML                  07 21 34.7
     comp=N,1μm,0.2s
LOBH Bahia de las A    1.60 229  i P     Pn              07 21 10.9 +1.2
LOBH                             eS      Sn              07 21 32.7 +2.4
LOBH                                IAML                  07 21 37.7
     comp=Z,157nm,0.6s
PCDR Punta Cana, DR    1.92 102  ⇓ePg    Pn              07 21 16.1 +2.2
PCDR                                IAML                  07 21 43.7
     comp=N,269nm,0.3s
GRTK Grand Turk        2.69 345  ⇓ePg    Pn              07 21 24.7 +0.7
GRTK                             ⇓eSg    Sn              07 21 55.8 +0.1
GRTK                                IAML                  07 22 25.6
     comp=N,266nm,0.1s
GRTK Grand Turk        2.69 345  i P     Pn              07 21 24.3 +0.4
GRTK                             eS      Sn              07 21 53.7 -2.0
GRTK Grand Turk        2.69 345  i P     Pn              07 21 24.4 +0.4
GRTK                             eS      Sn              07 21 55.5 -0.2
GRTK                                IAML                  07 21 56.3
     comp=Z,99nm,0.2s
AGPR Aguadilla, PR     3.12  98  ⇑ePg    Pn              07 21 33.0 +3.2
AGPR                             ⇑eSg    Sn              07 22 06.9 +0.8
AGPR                                IAML                  07 22 16.6
     comp=N,164nm,0.3s
AGPR Aguadilla, PR     3.12  98  i P     Pn              07 21 30.9 +1.1
AGPR                                IAML                  07 22 17.4
     comp=Z,104nm,1.4s
CRPR Cabo Rojo, PR     3.22 106  ⇑ePg    Pn              07 21 33.2 +2.0
CRPR                             ⇑eSg    Sn              07 22 09.4 +0.9
CRPR                                IAML                  07 22 28.2
     comp=N,77nm,1.2s
CRPR Cabo Rojo, PR     3.22 106  i P     Pn              07 21 32.1 +1.0
CRPR                                IAML                  07 22 16.5
     comp=Z,31nm,0.3s
MLPR Magueyes Islan    3.29 106  ⇓ePg    Pn              07 21 33.8 +1.7
MLPR                             ⇓eSg    Sn              07 22 09.5 -0.8
MLPR                                IAML                  07 22 24.4
     comp=N,16nm,0.6s
AOPR Arecibo Observ    3.47  99  ⇑ePg    Pn              07 21 37.4 +2.9
AOPR                             ⇓eSg    Sn              07 22 14.3 -0.5
AOPR                                IAML                  07 22 26.9
     comp=N,249nm,0.3s
MASC Masc              3.86 290  eP      Pn              07 21 39.4 -0.3
MASC                             eS      Sn              07 22 21.0 -3.0
MASC                             i S                     07 22 23.9
MASC Masc              3.86 290  i P     Pn              07 21 39.5 -0.3
MASC                                IAML                  07 22 24.5
     comp=Z,20nm,0.6s
QMBU Quimbuelo         4.38 288  i P     Pn              07 21 45.8 -1.1
QMBU                             eP                      07 21 46.1
QMBU                             eS      Sn              07 22 34.8 -2.0
GTBY Guantanamo Bay    4.59 283  eP      Pn              07 21 50.7 +1.0
GTBY                             i S     Sn              07 22 40.9 -0.9
GTBY Guantanamo Bay    4.59 283  i P     Pn              07 21 50.2 +0.5
GTBY                                IAML                  07 22 49.6
     comp=Z,20nm,2.0s
NMDO Nuevo Mundo       4.65 291  i P     Pn              07 21 50.0 -0.4
NMDO                             i S     Sn              07 22 41.8 -1.4
MOAC Moa               4.66 293  i P     Pn              07 21 49.5 -1.1
MOAC                             eS      Sn              07 22 41.5 -2.0
SABCS La Quijada       4.88 288  i P     Pn              07 21 53.5 -0.2
SABCS                            i S     Sn              07 22 47.5 -1.5
RCC  Rio Carpintero    5.14 283  i P     Pn              07 21 57.3 +0.1
RCC                              eS      Sn              07 22 53.7 -1.6
MARVS Santiago de Cu   5.33 283  eP      Pn              07 21 58.8 -0.9
MARVS                            i S     Sn              07 22 58.2 -1.7
PINC Pinares de May    5.35 288  eP      Pn              07 21 57.9 -2.0
PINC                             i P                     07 21 59.5
PINC                             eS      Sn              07 22 57.5 -2.7
HLGC Holguin           5.71 291  i P     Pn              07 22 05.6 +0.7
HLGC                             eS      Sn              07 23 03.9 -5.2
CCCC Cccc              7.32 289  ⇑eP     Pn              07 22 20.3 -6.5
CCCC                             eS      Sn              07 23 32.9 -15
```

*UCR **31** 07:31:05.1±0.9, 12°.03N×87°.79W, h20km±6km, MW3.9*
*CATAC **31** 07:31:05.3±0.5, 12°N±2°×8°8W±°, h19km±3km, M3.6/31, MLv3.6/31, Error ellipse: s-maj=4.7km s-min=2.1km az=29.2, confirmed*
*SNET **31** 07:31:06.9±2.5, 12°.17N×87°.79W, h16km, ML3.4*

ISC 31 07:31:05.2±1.8, 12°.05N±0°.04×87°.78W±0°.03, h19km±4km, n71, σ0°78/93, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.94**	**13**	⇑P	**Pb**	**07 31 23.0**	**-0.1**
CSGN				S	**Sg**	**07 31 35.8**	**-0.3**
CSGN	**Cosiguina Volc**	**0.94**	**13**	⇑eP	**Pb**	**07 31 22.9**	**-0.1**
CSGN				eS	**Sg**	**07 31 36.1**	**-0.1**
CRIN	**San Cristobal**	**0.96**	**48**	P	**Pn**	**07 31 23.7**	**-0.1**
CRIN	**San Cristobal**	**0.96**	**48**	S	**Sn**	**07 31 37.3**	**+0.3**
CRIN	**San Cristobal**	**0.96**	**48**	⇓eP	**Pb**	**07 31 23.5**	**+0.1**
POTN	**Potosi Cosigui**	**0.98**	**16**	⇓P	**Pb**	**07 31 23.2**	**-0.3**
POTN				S	**Sg**	**07 31 37.0**	**-0.2**
POTN	**Potosi Cosigui**	**0.98**	**16**	eP	**Pb**	**07 31 23.3**	**-0.3**
POTN				eS	**Sg**	**07 31 37.0**	**-0.2**
PKGN	**Cerro Pekin**	**1.00**	**52**	P	**Pb**	**07 31 23.5**	**-0.4**
PKGN				S	**Sn**	**07 31 38.0**	**+0.2**
POLN	**Al Sur del Vol**	**1.12**	**58**	⇓P	**Pn**	**07 31 23.5**	**-2.4**
POLN				S	**Sn**	**07 31 41.1**	**+0.3**
CNGA	**Al SSO del Vol**	**1.15**	**67**	P	**Pn**	**07 31 26.1**	**-0.2**
CNGA				S	**Sb**	**07 31 40.6**	**-0.3**
CNGN	**Cerro Negro**	**1.15**	**67**	⇑P	**Pn**	**07 31 24.6**	**-1.7**
CNGN	**Cerro Negro**	**1.15**	**67**	eP	**Pn**	**07 31 25.6**	**-0.7**
CNGN				eS	**Sg**	**07 31 44.4**	**+1.7**
COPN	**Copaltepe**	**1.17**	**84**	⇑P	**Pn**	**07 31 26.2**	**-0.4**
COPN	**Copaltepe**	**1.17**	**84**	eP	**Pn**	**07 31 25.8**	**-0.8**
COPN				eS	**Sn**	**07 31 42.2**	**+0.1**
CNCH	**Conchagua**	**1.22**	**358**	eP	**Pn**	**07 31 27.1**	**-0.3**
CNCH				eS	**Sb**	**07 31 42.9**	**-0.2**
CNCH	**Conchagua**	**1.22**	**358**	S	**Sn**	**07 31 44.0**	**+0.6**
CNCH	**Conchagua**	**1.22**	**358**	⇓P	**Pn**	**07 31 26.6**	**-0.8**
LCND	**La Caada**	**1.25**	**355**	eP	**Pn**	**07 31 27.6**	**-0.1**
LCND				eS	**Sn**	**07 31 44.8**	**+0.7**
LCND	**La Caada**	**1.25**	**355**	S	**Sg**	**07 31 45.2**	**-0.8**
LCND	**La Caada**	**1.25**	**355**	⇑P	**Pn**	**07 31 27.5**	**-0.2**
MOM3	**MOM3**	**1.32**	**70**	P	**Pn**	**07 31 28.0**	**-0.5**
MOM3				S	**Sb**	**07 31 46.4**	**+0.5**
MOM2	**El Cardon**	**1.33**	**73**	P	**Pn**	**07 31 28.6**	**-0.1**
MOM2				S	**Sb**	**07 31 47.1**	**+1.0**
AMTN	**Mateare**	**1.33**	**82**	P	**Pn**	**07 31 29.1**	**+0.3**
AMTN	**Mateare**	**1.33**	**82**	S	**Sb**	**07 31 46.8**	**+0.5**
APQ3	**Volcan Apoyequ**	**1.40**	**81**	P	**Pn**	**07 31 29.8**	**+0.1**
APQ3				S	**Sb**	**07 31 48.4**	**+0.2**
APYN	**Apoyeque**	**1.41**	**82**	P	**Pn**	**07 31 29.5**	**-0.4**
APYN				S	**Sn**	**07 31 47.7**	**-0.3**
APQ2	**Apoyeque**	**1.43**	**84**	P	**Pn**	**07 31 30.2**	**+0.1**
APQ2				S	**Sn**	**07 31 48.8**	**+0.4**
APQ2	**Apoyeque**	**1.43**	**84**	P	**Pn**	**07 31 30.3**	**+0.1**
APQ2				S	**Sb**	**07 31 49.6**	**+0.4**
ABCN	**Banco Central**	**1.44**	**87**	S	**Sn**	**07 31 48.6**	**-0.1**
ABCN	**Banco Central**	**1.44**	**87**	P	**Pn**	**07 31 29.5**	**-0.8**
BLLM	**Bellamira**	**1.45**	**342**	eP	**Pn**	**07 31 30.1**	**-0.4**
LCY	**Lacayo**	**1.45**	**340**	eP	**Pn**	**07 31 30.0**	**-0.5**
APQN	**BB Volcan Apoy**	**1.46**	**83**	P	**Pn**	**07 31 29.5**	**-1.0**
CNRM	**Centro Naciona**	**1.46**	**345**	S	**Sb**	**07 31 49.8**	**-0.3**
CNRM	**Centro Naciona**	**1.46**	**345**	P	**Pn**	**07 31 30.2**	**-0.4**
UNAN	**Cigeo UNAN**	**1.48**	**88**	P	**Pn**	**07 31 30.9**	**0.0**
UNAN				S	**Sn**	**07 31 50.3**	**+0.6**
TISN	**Laguna Tiscapa**	**1.48**	**86**	P	**Pn**	**07 31 31.0**	**+0.2**
PACA	**Pacayal**	**1.50**	**340**	S	**Sb**	**07 31 51.3**	**-0.1**
PACA	**Pacayal**	**1.50**	**340**	⇓P	**Pn**	**07 31 31.5**	**+0.2**
MGAN	**Managua**	**1.50**	**86**	S	**Sn**	**07 31 50.2**	**0.0**
MGAN	**Managua**	**1.50**	**86**	P	**Pn**	**07 31 31.5**	**+0.4**
MGAN	**Managua**	**1.50**	**86**	⇓iP	**Pn**	**07 31 31.5**	**+0.4**
MGAN				eS	**Sb**	**07 31 51.4**	**+0.1**
MAS3	**Al N del Volca**	**1.57**	**91**	P	**Pn**	**07 31 32.6**	**+0.5**
MAS3				S	**Sn**	**07 31 52.1**	**+0.2**
NANN	**Nandasmo**	**1.63**	**94**	P	**Pn**	**07 31 33.6**	**+0.7**
LIMN	**Finca el Limon**	**1.71**	**54**	⇑P	**Pn**	**07 31 33.7**	**-0.3**
LIMN				S	**Sb**	**07 31 56.5**	**-0.7**
NADN	**Granada**	**1.74**	**100**	eP	**Pn**	**07 31 34.4**	**0.0**
NADN				eS	**Sn**	**07 31 56.1**	**+0.1**
TECO	**Alcaldia de Te**	**1.77**	**327**	P	**Pn**	**07 31 34.6**	**-0.2**
TECO	**Alcaldia de Te**	**1.77**	**327**	S	**Sn**	**07 31 57.0**	**+0.2**
UESV	**Universidad de**	**1.85**	**328**	P	**Pn**	**07 31 36.2**	**+0.2**
UESV	**Universidad de**	**1.85**	**328**	S	**Sn**	**07 31 59.8**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.88**	**331**	P	**Pn**	**07 31 37.0**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.88**	**331**	S	**Sn**	**07 32 00.9**	**+1.2**
LFRS	**El Faro**	**2.00**	**322**	eP	**Pn**	**07 31 37.9**	**-0.2**
PAVA	**Las Pavas**	**2.00**	**326**	P	**Pn**	**07 31 38.6**	**+0.5**
PAVA	**Las Pavas**	**2.00**	**326**	S	**Sn**	**07 32 02.9**	**+0.2**
MATN	**Matagalpa**	**2.01**	**64**	P	**Pn**	**07 31 36.7**	**-1.6**
MATN	**Matagalpa**	**2.01**	**64**	S	**Sn**	**07 32 00.8**	**-2.2**
LOMA	**Loma Larga**	**2.08**	**320**	eP	**Pn**	**07 31 38.1**	**-1.1**
LOMA	**Loma Larga**	**2.08**	**320**	P	**Pn**	**07 31 39.3**	**0.0**
LOMA	**Loma Larga**	**2.08**	**320**	S	**Sn**	**07 32 05.1**	**+0.3**
YUSH	**Yuscaran**	**2.10**	**26**	P	**Pn**	**07 31 40.2**	**+0.7**
YUSH	**Yuscaran**	**2.10**	**26**	S	**Sn**	**07 32 05.4**	**+0.3**
RCON	**San Juan de Ri**	**2.13**	**48**	P	**Pn**	**07 31 40.2**	**+0.3**
RCVN	**Varilla12**	**2.17**	**45**	P	**Pn**	**07 31 40.8**	**+0.3**
RCVN	**Varilla12**	**2.17**	**45**	S	**Sn**	**07 32 08.5**	**+1.6**
LAPC	**Finca la Perla**	**2.63**	**119**	eP	**Pn**	**07 31 47.0**	**+0.2**
DELF	**Filadelfia**	**2.71**	**126**	eS	**Sn**	**07 32 18.6**	**-1.4**
JUD3	**Juan Diaz 3**	**2.89**	**130**	eP	**Pn**	**07 31 48.0**	**-2.3**
CUI	**Cuipilapa**	**2.92**	**118**	eP	**Pn**	**07 31 50.0**	**-0.6**
JCR1	**Jicaral**	**3.42**	**130**	eP	**Pn**	**07 31 57.3**	**-0.3**
LCR2	**La Lucha 2**	**4.36**	**121**	eP	**Pn**	**07 32 13.6**	**+2.9**

AUST 31 07:39:21.5±0.5, 34°S±4°×12°3E±°, h10km, mb4.0/7, ML3.2/6, Error ellipse: s-maj=9.5km s-min=4.6km az=161.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNDOZ	**Balladonia**	**1.52**	**33**	P	Pn	07 39 48.8	+0.1
DNDOZ				S	Sn	07 40 08.4	-0.2
KMBL	**Kambalda**	**2.51**	**340**	P	Pn	07 40 04.4	+1.9
KMBL				S	Sn	07 40 34.0	+0.8
NWAO	**Narrogin (SRO)**	**4.80**	**278**	S	Sn	07 41 28.7	-0.9
RKGY	**Rocky Gully**	**4.97**	**258**	P	Pn	07 40 38.3	+2.0
RKGY				P	Sn	07 41 34.5	+0.7
FORT	**Forrest**	**5.28**	**57**	P	Pn	07 40 41.3	+0.8
	comp=Z,0.0nmcomp=Z,9.9nm,2.4s						
FORT				S	Sn	07 41 39.6	-1.9
MUN	**Mundaring**	**5.89**	**286**	S	Sn	07 41 53.0	-3.3
BLDU	**Ballidu**	**6.09**	**299**	P	Pn	07 40 50.9	-0.7
	comp=Z,0.1nmcomp=Z,40nm,2.9s						
BLDU	**Ballidu**	**6.09**	**299**	S	Sn	07 41 56.8	-4.7
MORW	**Morawa**	**7.48**	**307**	P	Pn	07 41 11.1	+0.4
	comp=Z,0.1nmcomp=Z,22nm,1.6s						
MORW	**Morawa**	**7.48**	**307**	S	Sn	07 42 31.0	-4.6
MEEK	**Meekatharra**	**7.99**	**331**	P	Pn	07 41 17.1	-0.5
	comp=Z,0.1nmcomp=Z,25nm,1.7s						
WRKA	**Warakurna**	**9.87**	**30**	P	Pn	07 41 43.5	0.0
	comp=Z,0.0nmcomp=Z,4.1nm,1.3s						
WRKA				S	Sn	07 43 28.4	-6.1
MULG	**Mulgathing**	**10.09**	**73**	P	Pn	07 41 46.8	+0.3
	comp=Z,0.1nmcomp=Z,19nm,2.2s						
MULG				S	Sn	07 43 36.0	-3.8
OOD	**Oodnadatta**	**12.50**	**65**	P	Pn	07 42 16.8	-2.6
	comp=Z,4.9nm,2.2s						

*IDC **31** 07:45:06.8±1.2, 6°.70N×125°.14E, h0km, mb3.8/5, mbtmp3.8/5, MS3.1/4, Error ellipse: s-maj=26.3km s-min=13.8km az=118.0*
*DJA **31** 07:45:47.5±0.6, 4°N±5°×12°6E±°, h28km±7km, M4.1/9, mB5.0/2, mb4.4/2, MLv3.9/9, Mw(mB)4.3/2*

ISC 31 07:45:08.1±1.0, 6°.69N±0°.08×125°.3E±0°.2, h10km, n15, σ1°42/8, mb3.6/5, MS2.9/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.45**	**33**	Pg	**Pg**	**07 45 17.5**	**+0.7**
	508nm,0.3s,baz=218,slow=2.8,SNR=24						
DAV	**Davao City (W)**	**0.45**	**33**	P	**Pg**	**07 45 15.0**	**-1.8**
SGSI	**Sangihe**	**2.99**	**176**	P	**Pb**	**07 46 00.0**	**-1.5**
KMSI	**Cibinong**	**6.23**	**193**	P	Pn	07 46 44.4	+4.3
LUWI	**Luwuk**	**8.10**	**198**	P	Pn	07 47 11.9	+6.1
I39PW	**PALAU INFRASON**	**9.18**	**84**	I	I	08 44 40.0	
	baz=265,slow=283,SNR=0.6						
KAPI	**Kappang**	**12.90**	**206**	LR	LR	07 53 25.8	
	comp=Z,96nm,21.0s,baz=72,slow=39						
JOW	**Kunigami**	**20.22**	**8**	LR	LR	07 57 39.9	
	comp=Z,42nm,20.0s,baz=141,slow=37						
WRA	**Warramunga Arr**	**27.91**	**162**	P	**P**	**07 50 58.4**	**-0.2**
	0.2nm,0.6s,baz=339,slow=7.9,SNR=4.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**31.31**	**165**	P	**P**	**07 51 29.6**	**+0.9**
	0.4nm,0.5s,baz=345,slow=7.8,SNR=13						
	0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**31.96**	**20**	LR	LR	08 03 57.7	
	comp=Z,23nm,20.7s,baz=185,slow=35						
USRK	**Ussuriysk Ar.**	**37.81**	**8**	P	**P**	**07 52 25.2**	**+0.6**
	5.3nm,0.8s,baz=200,slow=8.9,SNR=5.1						
	5.3nm,0.8s						
ASAJ	**Asahikawa**	**40.23**	**19**	LR	LR	08 12 03.9	
	comp=Z,39nm,18.1s,baz=6.5,slow=40						
STKA	**Stephens Creek**	**41.38**	**159**	P	**P**	**07 52 56.1**	**+1.5**
	3.4nm,0.9s,baz=325,slow=12,SNR=4.1						
	3.4nm,0.9s						
MKAR	**Makanchi Array**	**54.35**	**325**	P	**P**	**07 54 34.5**	**-0.5**
	0.4nm,0.6s,baz=120,slow=7.2,SNR=4.1						
	0.4nm,0.6s						

*DJA **31** 07:54:53.2±0.7, 7°N±6°×12°5E±°, h10km, M4.8/7, mB6.1/1, mb4.9/5, MLv4.7/7, Mw(mB)5.7/1*

ISC 31 07:54:53.0±3.1, 7°.1N±0°.2×125°.0E±0°.1, h13km, n6, σ0°69/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**97**	P	**Pg**	**07 55 04.0**	**-0.2**
SGSI	**Sangihe**	**3.46**	**171**	P	**Pn**	**07 55 46.6**	**-0.1**
SGSI				S	**Sn**	**07 56 28.0**	**+0.3**
KMSI	**Cibinong**	**6.60**	**189**	P	**Pn**	**07 56 30.5**	**+0.7**
	77nm,0.4s						
MRSI	**Marisa**	**7.29**	**205**	P	**Pn**	**07 56 39.4**	**+0.1**
MRSI				S	**Sn**	**07 58 01.0**	**-1.0**
LUWI	**Luwuk**	**8.43**	**195**	P	Pn	07 57 04.9	+10
APSI	**Ampana**	**8.67**	**203**	P	**Pn**	**07 56 58.8**	**+0.5**

*CATAC **31** 07:56:42.0±0.3, 14°N±2°×9°0W±°, h1km±1km, M2.9/13, MLv2.9/13, Error ellipse: s-maj=4.7km s-min=2.3km az=28.0, confirmed*
*GCG **31** 07:56:42.0±1.1, 14°.34N×90°.32W, h11km±3km, MD4.4, ML3.1*
*SNET **31** 07:56:43.7±3.4, 14°.13N×90°.25W, h9km, ML2.8*

ISC 31 07:56:43.2±0.8, 14°.34N±0°.03×90°.20W±0°.02, h10km, n34, σ1°80/44, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG5	**San Vicente Pa**	**0.22**	**234**	*i* P	**Pg**	**07 56 48.8**	**+1.0**
PCG5				*i* S	**Sg**	**07 56 54.0**	**+3.1**
FG16	**Alotenango, Sa**	**0.31**	**257**	*eP*	**Pn**	**07 56 53.0**	**-1.0**
FG16				*i* S	**Sb**	**07 57 01.2**	**+4.9**
FG16				IAML		07 57 02.3	
	comp=N,3μm,0.2s						
FG8	**Yepocapa, Chim**	**0.36**	**257**	*i* P	**Pn**	**07 56 54.3**	**-0.4**
FG8				*i* S	**Sb**	**07 57 03.6**	**+5.9**
GCG4	**OSOP**	**0.41**	**307**	*i* P	**Pg**	**07 56 49.6**	**-1.7**
GCG4				*eS*	**Sg**	**07 56 55.4**	**-1.3**
GCG4				IAML		07 56 55.5	
	comp=N,2μm,0.3s						
JUAM	**Asuncion Mita**	**0.47**	**91**	*i* P	**Pg**	**07 56 52.6**	**+0.2**
JUAM				IAML		07 57 01.6	
	comp=N,706nm,0.3s						
SLOZ	**Alcaldia de Sa**	**0.51**	**128**	S	**Sg**	**07 56 59.1**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.51**	**128**	P	**Pg**	**07 56 49.1**	**-4.0**
FAME	**Alcaldia de Sa**	**0.53**	**161**	S	**Sg**	**07 56 59.6**	**-0.9**
FAME	**Alcaldia de Sa**	**0.53**	**161**	P	**Pg**	**07 56 52.1**	**-1.3**
ESSG	**Sabana Grande**	**0.62**	**274**	*eP*	**Pg**	**07 56 52.3**	**-2.8**
ESSG				*i* S	**Sg**	**07 56 59.7**	**-3.6**
ESSG				IAML		07 57 00.3	
	comp=N,886nm,0.1s						
APG	**El Apazote**	**0.71**	**338**	*i* P	**Pg**	**07 56 55.7**	**-1.2**
APG				*i* S	**Sg**	**07 57 05.6**	**-0.6**
UNIC	**Universidad Ca**	**0.72**	**120**	P	**Pg**	**07 56 56.4**	**-0.7**
UNIC	**Universidad Ca**	**0.72**	**120**	S	**Sg**	**07 57 07.3**	**+0.7**
CEVE	**Cerro Verde**	**0.75**	**133**	*eP*	**Pg**	**07 56 57.1**	**-0.7**
CEVE	**Cerro Verde**	**0.75**	**133**	P	**Pg**	**07 56 57.3**	**-0.5**
CEVE	**Cerro Verde**	**0.75**	**133**	S	**Sg**	**07 57 07.5**	**-0.2**
MTO3	**Montecristo**	**0.81**	**86**	*i* P	**Pg**	**07 56 58.8**	**-0.1**
MTO3	**Montecristo**	**0.81**	**86**	P	**Pg**	**07 56 58.9**	**+0.1**
MTO3	**Montecristo**	**0.81**	**86**	S	**Sb**	**07 57 11.6**	**+0.9**
ZAFR2	**Estanzuela, Za**	**0.85**	**74**	*eP*	**Pg**	**07 56 59.9**	**+0.3**
ZAFR2				*i* S	**Sb**	**07 57 13.0**	**+1.4**
ESQI	**Esquipulas**	**0.85**	**75**	*eP*	**Pg**	**07 56 60.0**	**+0.3**
ESQI				*eS*	**Sn**	**07 57 14.3**	**+0.3**
ESQI	**Esquipulas**	**0.85**	**75**	P	**Pb**	**07 57 00.1**	**-0.1**
JAYA	**Jayaque - finc**	**1.00**	**133**	*eP*	**Pg**	**07 57 01.3**	**-1.1**
JAYA	**Jayaque - finc**	**1.00**	**133**	*eP*	**Pg**	**07 57 01.7**	**-0.7**
JAYA				*eS*	**Sn**	**07 57 17.1**	**-0.5**
JAYA	**Jayaque - finc**	**1.00**	**133**	P	**Pg**	**07 57 01.2**	**-1.1**
LLGN	**La Laguna**	**1.23**	**98**	P	**Pn**	**07 57 05.6**	**-0.8**
LLGN	**La Laguna**	**1.23**	**98**	S	**Sn**	**07 57 23.7**	**+0.5**
PAVA	**Las Pavas**	**1.37**	**117**	P	**Pn**	**07 57 07.9**	**-0.6**
PAVA	**Las Pavas**	**1.37**	**117**	S	**Sg**	**07 57 27.5**	**+0.1**
SARH	**Santa Rosa de**	**1.45**	**73**	*eP*	**Pb**	**07 57 10.3**	**-0.1**
SARH				*eS*	**Sg**	**07 57 32.2**	**+2.2**
SARH	**Santa Rosa de**	**1.45**	**73**	P	**Pg**	**07 57 11.1**	**0.0**
SCLA	**Alcaldia de Sa**	**1.56**	**114**	P	**Pb**	**07 57 11.5**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.56**	**114**	S	**Sb**	**07 57 32.1**	**+0.1**
TECO	**Alcaldia de Te**	**1.59**	**120**	P	**Pb**	**07 57 11.9**	**-0.8**

*IDC **31** 08:03:32.2±1.2, 28°.90N×102°.32E, h0km, mb3.9/6, mbtmp3.9/9, ML4.1/3, MS3.3/6, Error ellipse: s-maj=28.9km s-min=21.1km az=69.0*
*NEIC **31** 08:03:33.6±2.1, 28°.83N±0°.09×102°.40E±0°.09, h10km±1km, mb4.3/15, Error ellipse: s-maj=14.6km s-min=12.9km az=157.0*

ISC 31 08:03:36.4±0.6, 28°.84N±0°.08×102°.37E±0°.07, h35km, n32, σ0°87/28, mb4.2/12, MS3.2/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.36**	**75**	Pn	**Pn**	**08 05 08.2**	**+0.5**
LZDM	**Lanzhou Array**	**7.18**	**9**	Pn	**Pn**	**08 05 19.8**	**+0.6**
	baz=188,slow=18						
	1.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**10.80**	**198**	Pn	**Pn**	**08 06 08.5**	**-0.1**
	0.7nm,0.3s,baz=33,slow=16,SNR=1.8						
	0.9nm,0.3s						
EVN	**Everest**	**13.72**	**270**	Pn	**Pn**	**08 06 47.3**	**-1.7**
BJT	**Baijiatuan**	**15.91**	**42**	Pn	**Pn**	**08 07 16.8**	**-0.8**
BJT				IAmb	IAmb	08 07 40.8	
	comp=Z,7.3nm,0.5s						
NACB	**Ninganchiao**	**17.82**	**101**	P	**Pn**	**08 07 39.8**	**-1.9**
NACB				IAmb	IAmb	08 08 07.3	
	comp=Z,34nm,1.1s						
SONM	**Songino Array**	**19.22**	**8**	P	**P**	**08 07 57.7**	**+0.2**
SONM	**Songino Array**	**19.22**	**8**	P	**P**	**08 07 56.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=7.0						
SONM				LR	LR	08 15 50.1	
	comp=Z,119nm,18.1s,baz=160,slow=38						
	comp=Z,1.4nm,0.7s						
ULN	**Ulaanbaatar**	**19.34**	**10**	P	**Pn**	**08 08 00.4**	**+0.3**
TLY	**Talaya**	**22.83**	**2**	P	**P**	**08 08 35.1**	**-1.2**
TLY				IAmb	IAmb	08 08 52.4	
	comp=Z,6.8nm,0.7s						
KSRS	**Korea Array**	**23.00**	**61**	P	**P**	**08 08 38.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=251,slow=10,SNR=6.4						
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**23.82**	**324**	P	**P**	**08 08 45.8**	**-0.2**
MKAR	**Makanchi Array**	**23.82**	**324**	P	**P**	**08 08 46.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=130,slow=9.0,SNR=9.0						
	comp=Z,0.8nm,0.6s						
HILR	**Hailar Array B**	**24.57**	**28**	P	**P**	**08 08 53.4**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=220,slow=12,SNR=5.9						
	comp=Z,4.0nm,0.5s						
AAK	**Ala-Archa**	**26.34**	**309**	LR	LR	08 20 52.1	
	comp=Z,60nm,18.3s,baz=166,slow=40						
ZALV	**Zalesovo Beam**	**28.17**	**338**	LR	LR	08 20 59.0	
	comp=Z,44nm,18.1s,baz=141,slow=37						
KURBB	**Kurchatov Arra**	**28.22**	**327**	P	**P**	**08 09 26.2**	**+0.4**
	comp=Z,2.0nm,0.2s,baz=134,slow=8.8,SNR=7.0						
	comp=Z,2.0nm,0.2s						
KURK	**Kurchatov**	**28.24**	**327**	P	**P**	**08 09 25.5**	**-0.4**
KURK				IAmb	IAmb	08 09 26.8	
	comp=Z,3.1nm,0.8s						
GAR	**Garm**	**28.34**	**299**	P	**P**	**08 09 27.8**	**+0.7**
GAR				IAmb	IAmb	08 09 33.7	
	comp=Z,8.7nm,1.1s						
PALK	**Pallekele**	**29.63**	**228**	LR	LR	08 23 19.5	
	comp=Z,35nm,19.6s,baz=58,slow=40						
BVAR	**Borovoye Array**	**33.70**	**325**	P	**P**	**08 10 13.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=125,slow=9.3,SNR=2.3						
BVAR				LR	LR	08 24 55.1	
	comp=Z,59nm,20.2s,baz=121,slow=38						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**38.11**	**314**	P	**P**	**08 10 51.0**	**-0.8**
UOSS	**Minazif**	**41.16**	**276**	P	**P**	**08 11 18.8**	**+1.2**
UOSS				IAmb	IAmb	08 11 22.7	
	comp=Z,7.5nm,0.9s						
TOKA	**Tokat**	**54.32**	**301**	P	**P**	**08 13 00.3**	**+0.9**
BRTR	**Keskin Array B**	**56.57**	**301**	LR	LR	08 41 27.9	
	comp=Z,22nm,18.3s,baz=342,slow=40						
WRA	**Warramunga Arr**	**57.49**	**144**	P	**P**	**08 13 22.5**	**+0.3**
WRA	**Warramunga Arr**	**57.49**	**144**	P	**P**	**08 13 24.0**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=334,slow=7.6,SNR=5.6						
	comp=Z,0.9nm,0.6s						
C19K	**Lookout Ridge**	**66.18**	**23**	P	**P**	**08 14 20.6**	**+0.5**
F17K	**Baldwin Pennin**	**66.41**	**26**	P	**P**	**08 14 21.6**	**+0.1**
H17K	**Granite Mounta**	**67.42**	**27**	P	**P**	**08 14 27.9**	**-0.1**
H17K				IAmb	IAmb	08 14 41.3	
	comp=Z,5.0nm,1.1s						
E19K	**Redstone River**	**67.56**	**24**	P	**P**	**08 14 28.8**	**-0.1**
F20K	**Avaraart Lake**	**68.25**	**24**	P	**P**	**08 14 33.4**	**+0.1**
F20K				IAmb	IAmb	08 14 49.9	
	comp=Z,2.1nm,0.9s						

IDC 31 08:04:39.8±1.6, 2°.89S×142°.82E, h0km, mb3.4/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=48.7km s-min=27.4km az=106.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**205**	P	P	08 09 01.4	-0.3
	0.1nm,0.3s,baz=24,slow=12,SNR=5.2						
	0.4nm,0.8s						
DAV	**Davao City (W)**	**19.85**	**300**	P	P	08 09 13.0	+0.4
	7um,0.6s,baz=267,slow=4.2,SNR=47						
DAV	**Davao City (W)**	**19.85**	**300**	P	P	08 09 13.0	+0.4
ASAR	**Alice Springs**	**22.38**	**202**	P	P	08 09 40.0	+0.1
	0.3nm,0.6s,baz=28,slow=10,SNR=7.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.32**	**24**	P	P	08 17 13.3	-0.1
	0.5nm,0.4s,baz=257,slow=6.1,SNR=21						
	0.5nm,0.4s						

*KRNET **31** 08:07:42.7±0.1, 39°.95N×77°.25E, mb3.2*
*SOME **31** 08:07:44.6, 40°.05N×77°.25E, h5km*
*NNC **31** 08:07:45.1±2.4, 40°.05N×77°.30E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=15.7km s-min=14.3km az=28.0*

ISC 31 08:07:46.6±1.5, 40°.07N±0°.07×77°.09E±0°.04, h10km, n42, σ1°84/67, 25C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.48**	**313**	⇑*i*P	**Pn**	**08 08 13.3**	**-0.2**
JNKS				⇑*i*S	**Sg**	**08 08 35.3**	**+1.2**
TARG	**Taragay, Kyrgy**	**1.75**	**18**	⇓*i*P	**Pn**	**08 08 16.5**	**-0.8**
TARG				⇓*i*S	**Sb**	**08 08 41.2**	**+0.1**
KDJ	**Kajisay**	**2.06**	**2**	⇓*i*P	**Pn**	**08 08 22.0**	**+0.5**
KDJ				⇓*i*S	**Sb**	**08 08 50.4**	**+0.4**
ULHL	**Ulahol**	**2.27**	**344**	⇑*i*P	**Pn**	**08 08 25.2**	**+0.9**
ULHL				⇑*i*S	**Sb**	**08 08 56.2**	**+0.2**
BOOM	**Boomskoye usch**	**2.57**	**341**	⇑*i*P	**Pn**	**08 08 29.4**	**+0.9**
BOOM				⇑*i*S	**Sb**	**08 09 03.4**	**-1.2**
PRZ	**Przheval'sk**	**2.61**	**22**	⇑*e*P

22nm,0.3s
PDGK Podgornoye 3.72 28 ⇑Pg Pn 08 08 47.5 +3.3
10nm,1.1s
PDGK ⇓Lg Lg 08 09 40.1
21nm,0.8s
USP Ospenovka 3.74 330 ⇑*i*P Pn 08 08 45.7 +1.3
USP ⇑*i*S Sn 08 09 31.5 +3.0
CHKK Chushkaly 3.79 359 Pg Pb 08 08 55.6 +2.1
15nm,0.4s
CHKK Lg Lg 08 09 46.5
33nm,0.3s
CHKK Chushkaly 3.79 359 *e*P Pb 08 08 55.6 +2.1
15nm,0.4s
CHKK *e*S Sg 08 09 46.5 -1.6
33nm,0.3s
KTMS Ketmen 4.17 35 Pg Pb 08 09 00.6 +0.6
0.9nm,0.3s
KTMS Lg Lg 08 09 55.4
4.7nm,0.4s
KTMS Ketmen 4.17 35 *e*P Pb 08 09 00.6 +0.6
0.9nm,0.3s
KTMS *e*S Sg 08 09 55.4 -5.0
4.7nm,0.4s
ARXS Arharly 4.18 7 Pg Pb 08 09 00.7 +0.4
ARXS Lg Lg 08 09 55.5
7.2nm,0.4s
ARXS Arharly 4.18 7 *e*P Pb 08 09 00.7 +0.4
ARXS *e*S Sb 08 09 55.5 +4.7

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*ASRS **31** 08:08:39.0±0.6, 54°.73N×83°.70E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 31 08:08:42.8±2.3, 54°63N×83°93E, h0km, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=18.0km s-min=10.5km az=174.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**142**	I		I	I	08 14 10.0	
	0.2nm,0.9s,baz=320,slow=322,SNR=2.1								
ZALV	**Zalesovo Beam**	**0.86**	**142**	Pg		Pg	Pg	08 08 58.4	-0.7
	1.6nm,0.3s,baz=322,slow=16,SNR=13								
ZALV				Lg		Lg	Lg	08 09 12.0	
	4.1nm,0.3s,baz=325,slow=30,SNR=18								
KURBB	**Kurchatov Arra**	**5.18**	**222**	Pn		Pn	Pn	08 10 02.2	+0.6
	0.1nm,0.3s,baz=33,slow=12,SNR=2.3								
KURBB				Pg		Pg	Pb	08 10 12.9	-1.4
	0.4nm,0.3s,baz=39,slow=15,SNR=5.2								
KURBB				Lg		Lg	Lg	08 11 26.0	
	0.2nm,0.3s,baz=44,slow=30,SNR=8.1								
	2.5nm,0.2s								
MKAR	**Makanchi Array**	**7.91**	**188**	Pn		Pn	Pn	08 10 38.7	-0.3
	baz=7.9,slow=15,SNR=1.3								
MKAR				Lg		Lg	Lg	08 12 56.0	
	baz=12,slow=28,SNR=1.6								
	0.1nm,0.4s								

DJA 31 08:08:57.1±1.2, 8°N±10°×12°5E±°, h10km, M4.7/7, mBS.7/3, mb4.5/7, MLv4.7/6, Mw(mB)5.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**4.16**	**175**	P		P	Pn	08 10 02.2	+1.5
KMSI	**Cibinong**	**7.33**	**189**	P		P	Pn	08 10 49.1	+4.7
MRSI	**Marisa**	**8.01**	**204**	P		P	Pn	08 10 52.3	-1.4
	37nm,0.7s								
LBMI	**Labuha**	**8.75**	**165**	P		P	Pn	08 11 03.9	0.0

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*IDC **31** 08:17:54.6±2.0, 3°.20S×148°.84E, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/2, Error ellipse: s-maj=76.1km s-min=25.8km az=109.0*
*NEIC **31** 08:17:56.0±0.7, 3°.3S±0°.1×148°.96E±0°.08, h10km±1km, mb4.2/13, Error ellipse: s-maj=23.5km s-min=8.0km az=212.0*

ISC 31 08:17:56.7±0.8, 3°3S±0°.1×148°94E±0°.08, h19km, n30, σ0°84/21, mb4.1/10, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.99**	**308**				**Pn**	**08 18 29.9**	**+0.5**
RABL	**Rabaul**	**3.34**	**106**	Pn			**Pn**	**08 18 48.0**	**0.0**
HNR	**Honiara**	**12.53**	**120**	LR			LR	08 26 09.7	
	comp=Z,163nm,18.0s,baz=328,slow=39								
FAKI	**Fak Fak**	**16.67**	**271**	Pn			**Pn**	**08 21 49.3**	**-0.1**
FAKI				IAmb			IAmb	08 21 51.0	
	comp=Z,18nm,1.2s								
GUMO	**Guam**	**17.24**	**347**	LR			LR	08 28 00.8	
	comp=Z,47nm,19.8s,baz=138,slow=35								
MTN	**Manton Dam**	**20.01**	**241**	P			**Pn**	**08 22 29.9**	**-0.4**
MTN				IAmb			IAmb	08 22 37.7	
	comp=Z,16nm,1.2s								
WB0	**Warramunga Arr**	**21.68**	**220**	P			**P**	**08 22 46.7**	**+0.1**
WB0				IAmb			IAmb	08 22 57.7	
	comp=Z,13nm,1.2s								
WR8	**Warramunga Arr**	**21.75**	**219**	P			**P**	**08 22 47.4**	**+0.1**
WR8				IAmb			IAmb	08 22 58.5	
	comp=Z,8.9nm,1.0s								
WRAB	**Tennant Creek**	**21.83**	**220**	P			**P**	**08 22 48.5**	**+0.3**
WRAB				IAmb			IAmb	08 23 04.9	
	comp=Z,8.0nm,0.9s								
WRA	**Warramunga Arr**	**21.85**	**220**	IAmb			IAmb	08 22 57.3	
	comp=Z,0.5nm,1.3s								
WRA	**Warramunga Arr**	**21.85**	**220**	P			**P**	**08 22 48.5**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=43,slow=11,SNR=14								
	comp=Z,2.6nm,0.7s								
AS31	**Alice Springs**	**24.94**	**214**				**P**	**08 23 19.5**	**+0.5**
ASAR	**Alice Springs**	**24.94**	**214**				**P**	**08 23 18.7**	**-0.3**
ASAR	**Alice Springs**	**24.94**	**214**	P			**P**	**08 23 20.2**	**+1.2**
	comp=Z,6.6nm,1.0s,baz=49,slow=8.4,SNR=34								
	comp=Z,6.6nm,1.0s								
FITZ	**Fitzroy Crossi**	**27.16**	**235**	P			**P**	**08 23 40.6**	**+1.4**
H11S3	**WAKE ISLAND Hy**	**27.82**	**38**	T			T	08 52 58.8	
	baz=220,slow=76,SNR=33								
H11S2	**WAKE ISLAND Hy**	**27.82**	**38**	T			T	08 52 55.9	
	baz=220,slow=76,SNR=30								
H11S1	**WAKE ISLAND Hy**	**27.83**	**38**	T			T	08 52 58.2	
	baz=220,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**28.87**	**37**	T			T	08 54 14.7	
	baz=219,slow=76,SNR=23								
H11N3	**WAKE ISLAND Hy**	**28.88**	**37**	T			T	08 54 16.3	
	baz=219,slow=76,SNR=35								
H11N2	**WAKE ISLAND Hy**	**28.88**	**37**	T			T	08 54 16.0	
	baz=219,slow=76,SNR=37								
SBUM	**Sibu**	**37.14**	**278**	P			**P**	**08 25 04.8**	**-1.9**
SBUM				IAmb			IAmb	08 25 07.1	
	comp=Z,7.6nm,1.3s								
JHJ2	**Mitsune**	**37.21**	**347**	P			**P**	**08 25 06.0**	**-0.9**
MKAR	**Makanchi Array**	**76.66**	**320**	P			**P**	**08 29 46.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=119,slow=5.3,SNR=4.9								
	comp=Z,0.2nm,0.4s								
P19K	**Oil Pt**	**77.23**	**26**	P			**P**	**08 29 49.5**	**+0.1**
ZAA0	**Zalesovo Array**	**77.77**	**327**	P			**P**	**08 29 53.3**	**+0.8**
ZAA0				IAmb			IAmb	08 30 03.9	
	comp=Z,5.5nm,0.9s								
ZALV	**Zalesovo Beam**	**77.77**	**327**	P			**P**	**08 29 53.7**	**+1.2**
KURBB	**Kurchatov Arra**	**80.24**	**322**	P			**P**	**08 30 07.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=110,slow=5.0,SNR=1.3								
	comp=Z,0.5nm,0.3s								
MID	**Middleton Isla**	**80.27**	**28**	P			**P**	**08 30 05.5**	**-0.5**
ILAR	**Eielson Array**	**82.24**	**23**	P			**P**	**08 30 17.4**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=260,slow=5.3,SNR=2.9								
	comp=Z,0.3nm,0.8s								

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*NNC **31** 08:20:41.5±2.0, 37°.80N×69°.74E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=16.2km s-min=12.5km az=173.0*

ISC 31 08:20:43.5±3.5, 37°8N±0°.2×69°7E±0°.1, h12km, n8, σ0°93/11, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.36**	**7**	P			**Pn**	**08 22 01.9**	**-1.4**
	9.2nm,0.6s,baz=194,slow=14,SNR=52								
KK31				⇑S			**Sn**	**08 23 06.0**	**+0.9**
	78nm,0.8s,baz=188,slow=27,SNR=11								
UCH	**Uchtor**	**5.80**	**38**	P			**Pn**	**08 22 09.8**	**-0.1**
	SNR=18								
AAK	**Ala-Archa**	**6.11**	**36**	P			**Pn**	**08 22 13.4**	**-0.4**
	SNR=18								
AAK	**Ala-Archa**	**6.11**	**36**	⇑P			**Pn**	**08 22 12.5**	**-1.2**
	3.7nm,0.5s								
AAK				⇓S			**Sn**	**08 23 23.1**	**-0.4**
	14nm,0.8s								

KBK	**Karagaybulak**	**6.34**	**38**	P			**Pn**	**08 22 17.5**	**+0.6**
	SNR=6.8								
USP	**Ospenovka**	**6.61**	**32**	P			**Pn**	**08 22 19.4**	**-1.1**
	SNR=13								
TKM2	**Tokmak 2**	**6.85**	**40**	P			**Pn**	**08 22 24.5**	**+0.5**
	SNR=22								
AB31	**Akbulak array**	**13.45**	**332**	⇑P			**Pn**	**08 23 54.5**	**+0.3**
	1.4nm,0.4s,baz=149,slow=12,SNR=57								
AB31				⇓S			**Sn**	**08 26 24.0**	**+0.5**
	1.6nm,0.7s,baz=150,slow=23,SNR=3.2								

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*MOS **31** 08:24:01.3±1.0, 43°.81N×147°.36E, h58km, mb4.7/7, Error ellipse: s-maj=9.5km s-min=7.1km az=73.8*
MOS Felt (III) at Malokuril'skoe.
*NIED **31** 08:24:02.2, 43°.66N×147°.29E, h26km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.19; $M_{\theta\theta}$1.15; $M_{\phi\phi}$-1.34; $M_{r\theta}$0.85; $M_{\theta\phi}$0.44; $M_{\phi r}$0.22; Fault plane solution: $M_0$1.57000×10^{15} NP1: ϕ_s129.00000°, δ67.00000°, λ20.00000°. NP2: ϕ_s31.00000°, δ72.00000°, λ156.00000°.*
*JMA **31** 08:24:02.2±0.3, 43°.7N±0°.9×14°7E±°, h26km, MV4.7/37, E OFF HOKKAIDO*
JMA Felt I J1 at E OFF HOKKAIDO .
*SKHL **31** 08:24:03.2±0.1, 43°.70N×147°.30E, h72km±5km, mb5.7/5*
*NEIC **31** 08:24:04.6±1.4, 43°.8N±0°.1×147°.2E±0°.2, h66km±11km, mb4.5/20, Error ellipse: s-maj=17.9km s-min=15.3km az=119.0*
*IDC **31** 08:24:06.0±2.3, 43°.92N×147°.22E, h75km±19km, mb3.8/22, mbtmp4.1/25, MS2.8/1, Error ellipse: s-maj=18.0km s-min=13.3km az=159.0*

ISC 31 08:24:02.3±1.0, 43°76N±0°.06×147°35E±0°.06, h48km±9km, n126, σ1°12/138, mb4.4/37, 6C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.11**	**285**	*d*	*i*	PN	**Pn**	**08 24 21.7**	**+0.3**
YUK					*i*	S	**Sn**	**08 24 34.9**	**-0.7**
YUK						pmax	pmax		
	comp=Z,8μm,0.2s								
YUK						pmax	pmax		
	comp=N,814nm,0.1s								
YUK						pmax	pmax		
	comp=E,925nm,0.1s								
YUK						smax	smax		
	comp=N,16μm,0.2s								
YUK						smax	smax		
	comp=E,23μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.11**	**285**	*i*	P		**Pn**	**08 24 21.7**	**+0.3**
YUK						AMB	AMB	08 24 22.0	
	comp=E,7μm,0.3s								
YUK					*i*	S	**Sn**	**08 24 35.5**	**-0.1**
YUK						A	A	08 24 36.9	
	comp=E,15μm,0.3s								
YUK						A	A	08 24 36.9	
	comp=E,19μm,0.3s								
NEM2	**Nemuro 2**	**1.23**	**252**	*i*	P		**Pn**	**08 24 23.1**	**+0.1**
NEM2						S	**Sn**	**08 24 37.7**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.24**	**252**	⇓*i*	PN		**Pn**	**08 24 23.1**	**-0.1**
NMR					*e*	S	**Sn**	**08 24 38.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.24**	**252**	*i*	P		**Pn**	**08 24 23.1**	**-0.1**
NMR					*e*	S	**Sn**	**08 24 38.1**	**-0.6**
GLVR	**Golovnino**	**1.32**	**270**	⇓*i*	PN		**Pn**	**08 24 25.0**	**+0.7**
GLVR					*e*	S	**Sn**	**08 24 41.7**	**+0.9**
GLVR						pmax	pmax		
	comp=Z,4μm,0.2s								
GLVR						pmax	pmax		
	comp=N,530nm,0.4s								
GLVR						pmax	pmax		
	comp=E,654nm,0.2s								
GLVR						smax	smax		
	comp=E,12μm,0.3s								
GLVR						smax	smax		
	comp=N,15μm,0.4s								
GLVR	**Golovnino**	**1.32**	**270**	*i*	P		**Pn**	**08 24 25.0**	**+0.7**
GLVR						AMB	AMB	08 24 25.6	
	comp=N,4μm,0.2s								
GLVR					*e*	S	**Sn**	**08 24 41.3**	**+0.5**
GLVR						A	A	08 24 44.7	
	comp=N,15μm,0.4s								
GLVR						A	A	08 24 44.7	
	comp=N,12μm,0.4s								
KUR	**Kuril'sk**	**1.52**	**14**	*c*	*i*	PN	**Pn**	**08 24 26.8**	**-0.2**
KUR	**Kuril'sk**	**1.52**	**14**	*e*	P		**Pn**	**08 24 27.9**	**+0.9**
KUR						AMB	AMB	08 24 33.1	
	comp=N,640nm,0.2s								
KUR					*e*	S	**Sn**	**08 24 46.5**	**+0.8**
KUR						A	A	08 24 47.8	
	comp=N,6μm,0.3s								
KUR						A	A	08 24 47.8	
	comp=N,5μm,0.3s								
RUSJ	**Misakicho**	**1.56**	**284**	⇓*i*	PN		**Pn**	**08 24 28.7**	**+1.2**
RUSJ					*e*	S	**Sn**	**08 24 48.0**	**+1.5**
JRA	**Rausu**	**1.62**	**277**	P			**Pn**	**08 24 29.3**	**+1.0**
JRA					*e*	S	**Sn**	**08 24 48.9**	**+0.8**
JNSB	**Nemuroshibetsu**	**1.70**	**271**	*i*	P		**Pn**	**08 24 30.5**	**+1.1**
JNSB					*e*	S	**Sn**	**08 24 51.8**	**+1.9**
JKHN	**Kushirohamanak**	**1.73**	**248**	*i*	P		**Pn**	**08 24 30.4**	**+0.5**
JKHN						S	**Sn**	**08 24 50.5**	**-0.2**
AKK	**Akkeshi**	**1.97**	**249**	*e*	P		**Pn**	**08 24 33.3**	**+0.2**
JAK	**Akkeshi**	**2.08**	**249**	*i*	P		**Pn**	**08 24 34.9**	**+0.3**
JTKR	**Abashiri--Toko**	**2.50**	**276**	*i*	P		**Pn**	**08 24 42.0**	**+1.6**
JAR	**Ashorobuto**	**2.64**	**261**	*i*	P		**Pn**	**08 24 43.7**	**+1.3**
JOB	**Onbets**	**2.70**	**253**	*i*	P		**Pn**	**08 24 44.1**	**+0.9**
JOB					*e*	S	**Sn**	**08 25 15.5**	**+0.9**
JMP	**Maruseppu**	**2.89**	**276**	P			**Pn**	**08 24 47.7**	**+1.9**
JCH	**Churui**	**3.13**	**250**	P			**Pn**	**08 24 49.7**	**+0.6**
JCH					*e*	S	**Sn**	**08 25 25.5**	**+0.3**
JKK2	**Kamakawa 2**	**3.33**	**274**	P			**Pn**	**08 24 54.1**	**+2.3**
JKA	**Kamikawa-asahi**	**3.45**	**278**				**Pn**	**08 24 55.5**	**+2.1**
JKA	**Kamikawa-asahi**	**3.45**	**278**	*e*	P		**Pn**	**08 24 54.6**	**+1.2**
ASAJ	**Asahikawa**	**3.45**	**278**	P			**Pn**	**08 24 54.5**	**+1.1**
	comp=N,34nm,0.6s,baz=94,slow=15,SNR=33								
ASAJ						S	**Sn**	**08 25 36.7**	**+3.6**
	comp=N,44nm,0.5s,baz=120,slow=22,SNR=1.6								
ASAJ						LR	LR	08 26 24.2	
	comp=N,137nm,21.0s,baz=46,slow=41								
ASAJ	**Asahikawa**	**3.45**	**278**	P			**Pn**	**08 24 56.1**	**+2.7**
JFR	**Furan**	**3.51**	**262**	P			**Pn**	**08 24 56.5**	**+2.2**
JEM	**Erimo**	**3.54**	**242**	P			**Pn**	**08 24 57.0**	**+2.3**
ERM	**Erimo**	**3.54**	**242**				**Pn**	**08 24 57.2**	**+2.6**
ERM	**Erimo**	**3.54**	**242**	PN			**Pn**	**08 24 57.2**	**+2.6**
JSE	**Soyaes**	**3.62**	**291**	P			**Pn**	**08 24 57.6**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.68**	**248**	P			**Pn**	**08 24 57.2**	**+0.6**
YSS	**Yuzhno-Sakhali**	**4.55**	**316**	Pn			**Pn**	**08 25 08.6**	**+0.1**
YSS	**Yuzhno-Sakhali**	**4.55**	**316**	*e*	PN		**Pn**	**08 25 10.1**	**+1.6**
YSS					*e*	S	**Sn**	**08 25 58.9**	**-1.1**
YSS						pmax	pmax		
	comp=Z,20nm,0.6s								
YSS						smax	smax		
	comp=N,40μm,0.5s								
YSS						smax	smax		
	comp=E,60nm,0.5s								
YSS						MLR	MLR		
	comp=Z,300nm,17.0s								
YSS						MLR	MLR		
	comp=N,300nm,14.0s								
YSS						MLR	MLR		
	comp=E,200nm,11.0s								
YSS	**Yuzhno-Sakhali**	**4.55**	**316**	*e*	P		**Pn**	**08 25 10.1**	**+1.6**
YSS						AMB	AMB	08 25 16.2	
	comp=E,30nm,0.5s								
YSS					*e*	S	**Sn**	**08 25 58.9**	**-1.1**
YSS						A	A	08 26 00.5	
	comp=E,50nm,0.5s								
YSS						A	A	08 26 00.5	
	comp=E,60nm,0.5s								
JTM	**Tenmabayashi**	**5.52**	**240**				**Pn**	**08 25 22.4**	**+0.6**
JMM	**Marumori**	**7.70**	**222**	Pn			**Pn**	**08 25 50.8**	**-1.0**
TYV	**Tymovskoe**	**7.79**	**338**	*e*	P		**Pn**	**08 25 55.5**	**+2.6**
JSD	**Sado**	**8.94**	**233**	Pn			**Pn**	**08 26 08.0**	**-0.8**
SKR	**Severo-Kuril's**	**9.14**	**38**	⇑*e*	PN		**Pn**	**08 26 11.4**	**0.0**
SKR	**Severo-Kuril's**	**9.14**	**38**	*e*	P		**Pn**	**08 26 13.5**	**+2.1**
SKR						AMB	AMB	08 26 15.6	
	comp=E,30nm,0.3s								
SKR					*e*	S	**Sn**	**08 27 50.6**	**-2.1**
SKR						A	A	08 27 52.0	
	comp=E,70nm,0.6s								
SKR						A	A	08 27 52.0	
	comp=E,60nm,0.6s								
MJA0	**Matsu Arr-Jizo**	**10.02**	**227**	*e*	PN		**Pn**	**08 26 23.5**	**0.0**
MJAR	**Matsushiro Arr**	**10.04**	**227**				**Pn**	**08 26 22.7**	**-1.1**
MJAR	**Matsushiro Arr**	**10.04**	**227**	P			**Pn**	**08 26 23.1**	**-0.7**
	comp=E,3.6nm,0.5s,baz=26,slow=14,SNR=14								
MJAR						S	**Sn**	**08 28 17.1**	**+2.2**
	comp=E,3.9nm,1.1s,baz=49,slow=13,SNR=2.2								
MJAR	**Matsushiro Arr**	**10.04**	**227**	PN			**Pn**	**08 26 22.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**10.04**	**227**				**Pn**	**08 26 23.0**	**-0.8**
MAJO	**Matsushiro**	**10.04**	**227**				**Pn**	**08 26 22.8**	**-1.0**
MAJO	**Matsushiro**	**10.04**	**227**	⇑*e*	PN		**Pn**	**08 26 24.4**	**+0.6**
JGF	**Kuroka**	**11.20**	**227**	Pn			**Pn**	**08 26 38.8**	**-0.9**
INU	**Inuyama**	**11.57**	**227**	Pn			**Pn**	**08 26 45.4**	**+0.7**
PEA0B	**Petropavlovsk-**	**11.60**	**33**	Pn			**Pn**	**08 26 44.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**11.60**	**33**	⇑*e*	PN		**Pn**	**08 26 45.6**	**+0.6**
PETK	**Petropavlovsk-**	**11.60**	**33**				**Pn**	**08 26 44.0**	**-1.0**
PETK	**Petropavlovsk-**	**11.60**	**33**	P			**Pn**	**08 26 45.7**	**+0.7**
	comp=E,7.8nm,0.7s,baz=198,slow=9.4,SNR=28								
KSRS	**Korea Array**	**16.02**	**253**	P			**Pn**	**08 27 44.1**	**-0.1**
	comp=E,1.5nm,0.8s,baz=70,slow=10,SNR=2.6								
SEY	**Seymchan**	**19.43**	**7**	P			**P**	**08 28 22.9**	**-1.4**
	comp=E,5.4nm,0.8s,baz=192,slow=9.6,SNR=8.2								
SONM	**Songino Array**	**28.60**	**293**	P			**P**	**08 29 52.8**	**-1.0**
SONM	**Songino Array**	**28.60**	**293**	P			**P**	**08 29 53.7**	**-0.1**
	comp=E,0.5nm,0.5s,baz=94,slow=5.8,SNR=1.9								
	comp=E,0.5nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**29.01**	**139**	T			T	09 00 40.4	
	baz=330,slow=75,SNR=2034								
H11N1	**WAKE ISLAND Hy**	**29.02**	**139**	T			T	09 00 43.4	
	baz=330,slow=75,SNR=1706								
H11N3	**WAKE ISLAND Hy**	**29.03**	**139**	T			T	09 00 45.3	
	baz=330,slow=75,SNR=712								
H11S1	**WAKE ISLAND Hy**	**29.98**	**141**	T			T	09 02 01.4	
	baz=332,slow=76,SNR=611								
H11S3	**WAKE ISLAND Hy**	**29.99**	**141**	T			T	09 01 53.3	
	baz=332,slow=76,SNR=309								
H11S2	**WAKE ISLAND Hy**	**30.00**	**141**	T			T	09 01 55.6	
	baz=332,slow=76,SNR=647								
L16K	**Owhat River**	**35.63**	**41**	P			**P**	**08 30 55.8**	**+0.8**
L16K				IAmb			IAmb	08 31 04.9	
	comp=Z,4.6nm,1.1s								
F17K	**Baldwin Pennin**	**35.63**	**33**	P			**P**	**08 30 56.0**	**+1.0**
M16K	**Timber Creek**	**35.82**	**42**	P			**P**	**08 30 57.1**	**+0.4**
J17K	**VABM Dome**	**35.99**	**38**	P			**P**	**08 30 58.9**	**+0.8**
J17K				IAmb			IAmb	08 31 06.2	
	comp=Z,6.7nm,1.2s								
E18K	**Tukpahlearik C**	**36.12**	**31**	P			**P**	**08 30 59.6**	**+0.4**
E18K				IAmb			IAmb	08 31 19.0	
	comp=Z,7.1nm,1.1s								
H18K	**Honhosa River**	**36.55**	**35**	P			**P**	**08 31 04.0**	**+1.1**
H18K				IAmb			IAmb	08 31 05.5	
	comp=Z,5.0nm,0.8s								
G18K	**Tagagawik**	**36.55**	**34**	P			**P**	**08 31 03.9**	**+1.0**
G18K				IAmb			IAmb	08 31 05.7	
	comp=Z,5.4nm,1.0s								
N17K	**Nushagak Hills**	**36.66**	**43**	P			**P**	**08 31 05.0**	**+1.1**
N17K				IAmb			IAmb	08 31 25.0	
	comp=Z,7.8nm,1.1s								
J18K	**Innoko River**	**37.06**	**38**	P			**P**	**08 31 08.1**	**+0.9**
E19K	**Redstone River**	**37.40**	**32**	P			**P**	**08 31 10.5**	**+0.4**
ZALV	**Zalesovo Beam**	**41.11**	**307**	PcP			**PcP**	**08 33 40.3**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=70,slow=4.3,SNR=4.7								
HDA	**Harding Lake**	**41.39**	**37**				**P**	**08 31 43.8**	**+0.5**
HDA				IAmb			IAmb	08 31 45.0	
	comp=Z,4.2nm,0.7s								
IL31		**41.40**	**36**	P			**P**	**08 31 43.2**	**-0.1**
ILAR	**Eielson Array**	**41.40**	**36**	P			**P**	**08 31 44.1**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=254,slow=6.7,SNR=19								
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**44.71**	**298**	P			**P**	**08 32 09.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=80,slow=9.0,SNR=2.5								
MKAR				PcP			**PcP**	**08 33 52.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=53,slow=3.1,SNR=2.8								
	comp=Z,0.4nm,0.5s								
KURK	**Kurchatov**	**45.64**	**304**	P			**P**	**08 32 16.7**	**-1.0**
KURK	**Kurchatov**	**45.64**	**304**	P			**P**	**08 32 16.7**	**-1.0**
KURK				pmax			pmax		
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**45.64**	**304**	*e*	P		**P**	**08 32 16.7**	**-1.0**
KURBB	**Kurchatov Arra**	**45.73**	**304**	PcP			**PcP**	**08 33 55.5**	**+0.1**
	comp=Z,1.3nm,0.2s,baz=84,slow=3.0,SNR=6.5								
BVAR	**Borovoye Array**	**49.61**	**309**	P			**P**	**08 32 47.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=81,slow=8.9,SNR=2.8								
BVAR				PcP			**PcP**	**08 34 09.7**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=50,slow=4.6,SNR=5.4								
	comp=Z,0.6nm,0.3s								
BOOM	**Boomskoye usch**	**50.60**	**295**	P			**P**	**08 32 56.2**	**-0.1**
BOOM	**Boomskoye usch**	**50.60**	**295**	P			**P**	**08 32 56.2**	**-0.1**
BOOM				pmax			pmax		
	comp=Z,2.0nm,0.7s								
ARSB	**Arslanbob**	**53.10**	**295**				**P**	**08 33 14.7**	**-0.2**
ARSB				IAmb			IAmb	08 33 16.4	
	comp=Z,4.5nm,0.8s								
ARSB	**Arslanbob**	**53.10**	**295**	P			**P**	**08 33 14.7**	**-0.2**
ARSB				pmax			pmax		
	comp=Z,5.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**54.80**	**349**	P			**P**	**08 33 25.8**	**-0.8**
	comp=Z,7.9nm,1.1s,baz=54,slow=6.5,SNR=6.3								
	comp=Z,7.9nm,1.1s								

comp=Z,0.7nm,0.7s,baz=29,slow=2.3,SNR=2.9
comp=Z,0.7nm,0.7s
EKA Eskdalemuir Ar 78.16 343 P P 08 35 56.0 0.0
comp=Z,2.9nm,0.4s,baz=20,slow=5.0,SNR=17
comp=Z,2.9nm,0.4s
GERES GERESS Array B 79.22 331 P **P 08 36 01.4 -0.7**
GERES GERESS Array B 79.22 331 P **P 08 36 01.8 -0.3**
comp=Z,1.0nm,0.4s,baz=37,slow=6.3,SNR=7.0
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 82.53 56 P P 08 36 21.2 +1.1
comp=Z,0.5nm,0.7s,baz=272,slow=3.4,SNR=5.2
comp=Z,0.5nm,0.7s
ESDC Sonseca Array 93.00 338 P **P 08 37 09.0 -1.4**
comp=Z,0.5nm,0.8s,baz=15,slow=3.2,SNR=1.6
comp=Z,0.5nm,0.8s
H03N2 Juan Fernandez 142.82 90 T T 11 22 44.3
baz=304,slow=77,SNR=29
H03N3 Juan Fernandez 142.84 90 T T 11 22 50.6
baz=304,slow=77,SNR=36
H03N1 Juan Fernandez 142.84 90 T T 11 22 45.6
baz=304,slow=77,SNR=26
PLCA Paso Flores 151.94 97 PKPbc **PKiKP 08 43 52.4 +0.5**
comp=Z,1.0nm,0.5s,baz=260,slow=4.8,SNR=5.6

*NEIC **31** 08:26:23.4±1.2,35°.835N±0°.007×98°.090W±0°.008, h5km±1km, mb_Lg2.5/21,ML2.6/73,ML2.4/20, Error ellipse: s-maj=2.9km s-min=1.6km az=223.0*

NEIC 31 08:26:23.3±1.1,35°.832N±0°.009×98°.089W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=292.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**114**		Pg	08 26 32.2	+0.7
BCOK					Sg	08 26 38.1	+1.0
CSTR	**Hydro, Custer**	**0.52**	**249**		Pg	08 26 33.7	+0.4
CSTR					Sg	08 26 41.2	+1.1
OK004	**Okla Sci Mus**	**0.59**	**121**		Pg	08 26 34.9	+0.4
OK004					Sg	08 26 43.1	+0.9
ADOK	**Arcadia Dam**	**0.61**	**107**	Pg	Pg	08 26 34.5	-0.5
OKCFA	**Oklahoma City**	**0.67**	**129**		Pg	08 26 36.1	+0.1
OKCFA					Sg	08 26 45.4	+0.7
CROK	**Carrier**	**0.68**	**7**		Pg	08 26 36.2	-0.1
CROK					Sg	08 26 46.1	+1.0
CROK				IAML		08 26 54.8	
	comp=N,225nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**		Pg	08 26 35.1	-1.2
OKCSW					Sg	08 26 45.8	+0.6
OKCSW				IAML		08 26 46.0	
	comp=E,199nm,0.3s						
OKCSW				IAML		08 26 48.6	
	comp=N,291nm,0.6s						
FNO	**Franklin**	**0.80**	**135**		Pg	08 26 39.1	+0.4
FNO					Sg	08 26 49.6	+0.5
FNO				IAML		08 26 52.5	
	comp=E,158nm,0.5s						
GC02	**Grant County #**	**1.03**	**10**		Pg	08 26 42.6	-0.5
GC02					Sb	08 26 57.1	-0.5
NOKA	**Waynoka**	**1.05**	**320**		Pg	08 26 42.7	-0.8
OK052	**Battle Ridge R**	**1.06**	**81**		Pg	08 26 42.8	-0.7
OK052					Sb	08 26 58.2	+0.1
OK052				IAML		08 26 58.9	
	comp=E,122nm,0.1s						
OK052				IAML		08 27 01.0	
	comp=E,131nm,0.2s						
OK048	**Pawnee Station**	**1.09**	**58**		Pg	08 26 43.9	-0.4
ELIS	**Ellis County**	**1.10**	**283**		Pg	08 26 43.8	-0.7
ELIS					Sn	08 27 00.5	-0.6
ELIS				IAML		08 27 11.6	
	comp=E,134nm,0.3s						
ELIS				IAML		08 27 21.2	
	comp=N,127nm,0.5s						
KAN14	**Manchester OK**	**1.13**	**5**		Pg	08 26 44.0	-0.9
KAN14				IAML		08 27 04.6	
	comp=E,128nm,0.2s						
KAN14				IAML		08 27 07.5	
	comp=N,108nm,0.1s						
QUOK	**Quay**	**1.17**	**73**		Pg	08 26 45.2	-0.5
OK051	**E0350 and S346**	**1.22**	**56**		Pg	08 26 46.1	-0.5
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	08 26 45.9	-1.0
X34A	**Smith Ranch, M**	**1.25**	**170**		Pg	08 26 46.7	-0.5
X34A					Sn	08 27 04.9	+0.3
X34A				IAML		08 27 05.6	
	comp=N,84nm,0.4s						
X34A				IAML		08 27 06.1	
	comp=E,96nm,0.3s						
KAN13	**South Haven SW**	**1.28**	**23**		Pg	08 26 47.1	-0.7
KAN13					Sb	08 27 04.5	0.0
DEOK	**Depew**	**1.29**	**89**		Pn	08 26 47.1	-0.9
DEOK					Sn	08 27 05.4	-0.3
DEOK				IAML		08 27 10.1	
	comp=E,94nm,0.2s						
DEOK				IAML		08 27 11.6	
	comp=N,105nm,0.2s						
KAN08	**Anthony NE Sta**	**1.40**	**4**		Pn	08 26 49.4	-0.1
T35A	**Sooner Cattle**	**1.67**	**49**		Pn	08 26 53.5	+0.3
TUL3	**Leonard**	**1.87**	**87**		Pn	08 26 56.4	+0.5
TUL3				IAmb_Lg		08 27 25.8	
	comp=Z,16nm,0.8s						
SMWD	**Samnorwood**	**1.90**	**248**		Pn	08 26 57.2	+0.7
SMWD					Sb	08 27 22.9	+0.3
SMWD				IAmb_Lg		08 27 26.8	
	comp=Z,25nm,1.0s						
LOOK	**Love County**	**1.98**	**158**		Pn	08 26 58.2	+0.7
WTFS	**Witchita Falls**	**2.08**	**189**		Sb	08 27 28.6	+0.8
APMT	**Aspermont**	**3.01**	**214**		Pb	08 27 16.1	-1.3
AMTX	**Amarillo**	**3.08**	**253**	IAmb_Lg		08 27 59.0	
	comp=Z,16nm,0.8s						
FW11	**UT at Arlington**	**3.20**	**165**		Pn	08 27 15.7	+1.4
HHAR	**Hobbs**	**3.39**	**81**	IAmb_Lg		08 28 16.4	
	comp=Z,10nm,0.8s						
POST	**Post**	**3.94**	**227**	IAmb_Lg		08 28 36.2	
	comp=Z,10nm,0.9s						
SGCY	**Sterling City**	**4.65**	**214**	IAmb_Lg		08 28 58.6	
	comp=Z,13nm,1.1s						
KSCO	**Kaye Shedlock'**	**4.81**	**313**	IAmb_Lg		08 29 04.8	
	comp=Z,6.4nm,0.7s						
T25A	**Trinidad**	**5.26**	**286**	IAmb_Lg		08 29 23.2	
	comp=Z,6.3nm,0.7s						
R40A	**Maddies Statio**	**5.26**	**60**	IAmb_Lg		08 29 12.7	
	comp=Z,7.9nm,0.8s						
JCT	**Junction City**	**5.53**	**196**	IAmb_Lg		08 29 26.5	
	comp=Z,13nm,1.1s						

*GCMT **31** 08:32:30.0±0.4,3°.19S±0°.02×149°.02E±0°.03, h29km±1km, MW4.8/68, Moment Tensor Solution. s15,c18; s68,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.95±.20; $M_{\theta\theta}$=1.20±.13; $M_{\phi\phi}$=-0.24±.14; $M_{r\theta}$=0.39±.15; $M_{\theta\phi}$=1.89±.09; $M_{r\phi}$=0.60±.18; Best double couple: M_0=2.14900×10^16 NP1:ϕ_s=100.00000°,δ65.00000°,λ=-10.00000°. NP2: ϕ_s=194.00000°,δ81.00000°,λ=-155.00000°. Principal axes: T 2.6230, Plg11.0000°, Azm325.0000°; N -0.9510, Plg63.0000°, Azm213.0000°; P -1.6740, Plg24.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 31 08:32:25.1±1.9,3°.32S×148°.78E, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/28 Error ellipse: s-maj=84.4km s-min=27.0km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.26**	**195**	LR	LR	08 36 35.5	
	comp=Z,319nm,18.5s,baz=238,slow=40						
GUMO	**Guam**	**17.24**	**347**	LR	LR	08 43 17.6	
	comp=Z,120nm,18.4s,baz=176,slow=38						
WRA	**Warramunga Arr**	**21.71**	**219**	P	P	08 37 17.7	-0.3
	2.2nm,0.7s,baz=44,slow=11,SNR=15						
WRA				LR	LR	08 46 37.7	
	comp=Z,114nm,19.4s,baz=35,slow=39						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**24.82**	**214**	P	P	08 37 49.5	+0.3
	5.4nm,0.9s,baz=49,slow=8.2,SNR=34						
ASAR				LR	LR	08 48 37.9	
	comp=Z,175nm,20.2s,baz=42,slow=39						
	5.4nm,0.9s						
BATI	**Baumata**	**25.84**	**253**	LR	LR	08 48 41.4	
	comp=Z,263nm,21.6s,baz=96,slow=38						
FITZ	**Fitzroy Crossi**	**27.01**	**235**	LR	LR	08 49 42.2	
	comp=Z,327nm,20.9s,baz=55,slow=38						
KAPI	**Kappang**	**29.00**	**266**	LR	LR	08 49 55.8	
	comp=Z,65nm,21.7s,baz=70,slow=36						

STKA	**Stephens Creek**	**29.20**	**193**	LR	LR	08 51 43.7
	comp=Z,120nm,19.2s,baz=19,slow=40					
JCJ	**Chichijima**	**30.90**	**349**	LR	LR	08 50 41.9
	comp=Z,63nm,19.2s,baz=171,slow=36					
JOW	**Kunigami**	**35.93**	**328**	LR	LR	08 52 25.9
	comp=Z,98nm,18.6s,baz=162,slow=33					
JHJ	**Hachijo jima 2**	**37.23**	**347**	LR	LR	08 51 58.8
	comp=Z,153nm,21.1s,baz=136,slow=32					
MJAR	**Matsushiro Arr**	**40.86**	**347**	LR	LR	08 56 31.6
	comp=Z,95nm,18.6s,baz=176,slow=35					
NWAO	**Narrogin (SRO)**	**41.70**	**221**	LR	LR	08 58 28.9
	comp=Z,110nm,19.6s,baz=334,slow=38					
URZ	**Urewera**	**43.35**	**147**	LR	LR	08 55 48.4
	comp=Z,220nm,19.4s,baz=297,slow=32					
ASAJ	**Asahikawa**	**47.55**	**354**	LR	LR	09 02 07.0
	comp=Z,68nm,18.8s,baz=311,slow=38					
PETK	**Petropavlovsk-**	**56.72**	**6**	LR	LR	09 02 40.8
	comp=Z,58nm,21.9s,baz=189,slow=32					
PPT	**Papeete**	**62.00**	**108**	LR	LR	09 05 02.1
	comp=Z,42nm,19.9s,baz=314,slow=32					
MA2	**Magadan**	**62.72**	**1**	LR	LR	09 11 16.5
	comp=Z,38nm,18.6s,baz=155,slow=37					
SEY	**Seymchan**	**66.13**	**2**	LR	LR	09 14 21.1
	comp=Z,30nm,18.1s,baz=170,slow=38					
VNDA	**Vanda**	**74.47**	**177**	LR	LR	09 15 18.3
	comp=Z,36nm,18.3s,baz=350,slow=35					
MKAR	**Makanchi Array**	**76.59**	**320**	P	P	08 44 17.3 -0.3
	0.1nm,0.3s,baz=96,slow=4.3,SNR=2.2					
MKAR				LR	LR	09 19 11.1
	comp=Z,64nm,18.3s,baz=130,slow=37					
	0.1nm,0.3s					
ZALV	**Zalesovo Beam**	**77.72**	**327**	LR	LR	09 19 12.8
	comp=Z,43nm,19.1s,baz=120,slow=36					
ILAR	**Eielson Array**	**82.34**	**23**	P	P	08 44 48.7 +0.2
	0.3nm,0.8s,baz=236,slow=6.4,SNR=4.7					
	0.3nm,0.8s					
BVAR	**Borovoye Array**	**85.67**	**324**	LR	LR	09 24 33.7
	comp=Z,26nm,19.7s,baz=98,slow=36					
QSPA	**South Pole Qui**	**86.63**	**180**	LR	LR	09 21 58.1
	comp=Z,55nm,19.2s,baz=12,slow=34					
ARTI	**Arti**	**92.96**	**326**	LR	LR	09 27 39.7
	comp=Z,74nm,20.3s,baz=50,slow=36					
AKTO	**Aktyubinsk**	**93.02**	**320**	LR	LR	09 28 02.0
	comp=Z,40nm,19.1s,baz=73,slow=36					
PFO	**Pinyon Flats O**	**95.79**	**57**	LR	LR	09 23 01.3
	comp=Z,47nm,18.7s,baz=259,slow=32					
KIRV	**Kirov**	**97.70**	**329**	LR	LR	09 33 49.0
	comp=Z,20nm,19.1s,baz=75,slow=38					

*IDC **31** 08:56:38.1±0.5,6°.60N×125°.00E, h0km, mb4.3/21, mbtmp4.3/23, ML4.5/2, MS3.6/25, Error ellipse: s-maj=12.5km s-min=8.0km az=125.0*

*NEIC **31** 08:56:40.5±1.1,6°.69N±0°.01×125°.13E±0°.05, h10km±1km, mb4.8/44, Error ellipse: s-maj=9.0km s-min=3.6km az=89.0*

*DJA **31** 08:56:40.9±0.4,7°.N±.3°×12°.5E±°, h10km, M4.9/19, mb5.1/19, mB5.3/12, MLv5.2/11, Mw(mB)4.8/12*

ISC 31 08:56:40.8±0.3,6.70N±0°.04×125°.15E±0°.05, h10km, n154, σ2°01/129, mb4.7/54, MS3.6/31, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**49**		**Pg**	**08 56 51.7**	**-0.1**
DAV	**Davao City (W)**	**0.57**	**49**	Pg	**Pb**	**08 56 52.6**	**-0.3**
	1μm,0.3s,baz=262,slow=8.0,SNR=37						
DAV				Lg	Lg	08 57 03.0	
	2μm,0.3s,baz=76,slow=23,SNR=11						
DAV	**Davao City (W)**	**0.57**	**49**	P	**Pb**	**08 56 52.5**	**-0.3**
DAV	**Davao City (W)**	**0.57**	**49**	P	**Pg**	**08 56 51.0**	**-0.8**
SGSI	**Sangihe**	**3.01**	**173**	P	**Pn**	**08 57 30.4**	**+1.8**
SGSI				S	**Sb**	**08 58 09.5**	**-2.0**
KMSI	**Cibinong**	**6.19**	**191**	P	**Pn**	**08 58 14.2**	**+1.9**
TNTI	**Ternate**	**6.29**	**159**		**Pn**	**08 58 13.9**	**+0.3**
TNTI	**Ternate**	**6.29**	**159**	P	**Pn**	**08 58 17.6**	**+4.0**
TNTI	**Ternate**	**6.29**	**159**	S	**Sn**	**08 59 29.0**	**+3.4**
TNTI	**Ternate**	**6.29**	**159**	P	**Pn**	**08 58 15.9**	**+2.3**
	0.4nm1μm129nm0,9s						
MYLDM	**Lahad Datu**	**6.78**	**258**		**Pn**	**08 58 19.2**	**-1.2**
MYLDM	**Lahad Datu**	**6.78**	**258**	P	Pn	08 58 25.2	+4.8
MRSI	**Marisa**	**6.96**	**207**	P	**Pn**	**08 58 22.7**	**-0.1**
	0.8nm2μm196nm0,6s						
TOLI2	**Tolitoli**	**7.05**	**218**	Pn	**Pn**	**08 58 22.4**	**-1.8**
LUWI	**Luwuk**	**8.04**	**197**		**Pn**	**08 58 37.0**	**-0.8**
LUWI	**Luwuk**	**8.04**	**197**	P	Pn	08 58 43.5	+5.7
LUWI	**Luwuk**	**8.04**	**197**	P	**Pn**	**08 58 40.5**	**+2.7**
	307nm,1.0s						
APSI	**Ampana**	**8.32**	**205**	P	**Pn**	**08 58 44.7**	**+3.1**
	2μm148nm,1.1s						
SANI	**Sanana**	**8.73**	**174**	P	**Pn**	**08 58 48.4**	**+1.2**
SANI	**Sanana**	**8.73**	**174**	P	**Pn**	**08 58 47.9**	**+0.7**
	974nm104nm,1.0s						
I39PW	**PALAU INFRASON**	**9.37**	**84**	I	I	09 46 50.0	
	baz=265,slow=296,SNR=1.5						
SWI	**Sorong**	**9.68**	**141**	P	**Pn**	**08 59 02.0**	**+1.8**
	35nm,0.9s						
NLAI	**Namlea**	**10.06**	**169**	P	**Pn**	**08 59 08.4**	**+3.0**
	1μm65nm,0.6s						
MSAI	**Masohi**	**10.67**	**159**	P	**Pn**	**08 59 15.9**	**+2.2**
	22nm,0.6s						
AAI	**Ambon**	**10.75**	**163**	P	**Pn**	**08 59 15.1**	**+0.2**
	2μm92nm,1.0s						
FAKI	**Fak Fak**	**11.90**	**143**		**Pn**	**08 59 31.8**	**+1.2**
FAKI	**Fak Fak**	**11.90**	**143**	P	**Pn**	**08 59 33.2**	**+2.6**
FAKI	**Fak Fak**	**11.90**	**143**	P	**Pn**	**08 59 32.8**	**+2.2**
	574nm59nm,1.3s						
BNDI	**Bandanaira**	**12.11**	**157**	P	**Pn**	**08 59 36.6**	**+3.0**
BNSI	**Bone**	**12.12**	**205**	P	**Pn**	**08 59 35.4**	**+1.8**
	38nm,1.0s						
RKPI	**Ransiki, Papua**	**12.15**	**132**	P	Pn	08 59 39.5	+5.4
KAPI	**Kappang**	**12.82**	**205**	Pn	**Pn**	**08 59 40.6**	**-2.6**
	0.7nm,0.3s,baz=15,slow=14,SNR=1.4						
	2.4nm,0.3s						
BKSI	**Bulukumba**	**12.95**	**203**	P	**Pn**	**08 59 46.3**	**+1.3**
SBUM	**Sibu**	**13.55**	**252**		**Pn**	**08 59 54.9**	**+1.6**
SBUM	**Sibu**	**13.55**	**252**	P	**P**	**08 59 58.4**	**-4.0**
SOEI	**Soe**	**16.37**	**183**		**Pn**	**09 00 30.2**	**-0.7**
SOEI	**Soe**	**16.37**	**183**	P	**P**	**09 00 34.4**	**+0.6**
BATI	**Baumata**	**16.86**	**185**	Pn	**Pn**	**09 00 35.8**	**-1.3**
	6.2nm,0.3s,baz=26,slow=9.8,SNR=4.0						
	12nm,0.4s						
PLAI	**Plampang**	**17.08**	**206**	P	**P**	**09 00 45.0**	**+3.4**
GENI	**Genyem**	**17.61**	**121**	P	**P**	**09 00 48.2**	**+0.8**
JAY	**Jayapura**	**18.03**	**120**	LR	LR	09 06 36.3	
	comp=Z,116nm,20.4s,baz=8.5,slow=33						
JAGI	**Jajag, Banyuwa**	**18.63**	**216**		**P**	**09 00 57.4**	**-1.4**
JAGI				IAmb	IAmb	09 01 06.9	
	comp=Z,96nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.63**	**216**	P	**Pn**	**09 01 02.7**	**+3.7**
AUDHS	**Darwin High Sc**	**19.83**	**163**	P	**Pn**	**09 01 13.6**	**+0.2**
DRS	**Darwin Rock St**	**19.84**	**163**	P	**Pn**	**09 01 13.0**	**-0.6**
JOW	**Kunigami**	**20.25**	**8**	LR	LR	09 09 09.4	
	comp=Z,193nm,20.7s,baz=136,slow=37						
MTN	**Manton Dam**	**20.30**	**163**	P	**P**	**09 01 17.0**	**0.0**
GUMO	**Guam**	**20.58**	**69**	LR	LR	09 07 55.9	
	comp=Z,109nm,21.4s,baz=225,slow=33						
LEM	**Lembang**	**22.05**	**233**	P	**P**	**09 01 32.5**	**-3.6**
	comp=Z,27nm,0.3s,baz=140,slow=23,SNR=2.4						
	comp=Z,27nm,0.3s						
BBJI	**Bungbulang**	**22.41**	**231**	P	**P**	**09 01 42.9**	**+3.0**
KNRA	**Kununurra**	**22.52**	**171**	P	**P**	**09 01 40.4**	**-0.4**
KNRA				IAmb	IAmb	09 01 46.8	
	comp=Z,34nm,0.8s						
IPM	**Ipoh**	**24.11**	**266**	P	**P**	**09 02 02.3**	**+5.3**
KULM	**Kulim**	**24.40**	**268**	P	**P**	**09 01 58.5**	**-1.1**
KULM				IAmb	IAmb	09 02 03.2	
	comp=Z,28nm,1.3s						
KULM	**Kulim**	**24.40**	**268**	P	**P**	**09 02 02.6**	**+2.9**
FITZ	**Fitzroy Crossi**	**24.64**	**179**	P	**P**	**09 02 00.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.64**	**179**	P	**P**	**09 01 59.7**	**-2.0**
	comp=Z,16nm,0.8s,baz=356,slow=3.6,SNR=24						
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.64**	**179**	P	**P**	**09 02 04.8**	**+3.1**
NJ2	**Nanjing**	**25.90**	**348**	*e*P	**P**	**09 02 14.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
JCJ	**Chichijima**	**25.96**	**37**	LR	LR	09 10 22.8	
	comp=Z,98nm,22.0s,baz=161,slow=32						
PSI	**Prapat**	**26.41**	**263**	LR	LR	09 14 24.3	
	comp=Z,75nm,18.0s,baz=94,slow=41						
PSI	**Prapat**	**26.41**	**263**	P	**P**	**09 02 23.5**	**+5.5**
RPSI	**Rantau Prapat**	**26.43**	**263**	P	**P**	**09 02 17.9**	**-0.2**
RPSI				IAmb	IAmb	09 02 24.4	
	comp=Z,28nm,1.1s						
JNU	**Nakatsue**	**26.83**	**11**	LR	LR	09 13 07.0	
	comp=Z,84nm,21.2s,baz=203,slow=37						
PMG	**Port Moresby**	**27.15**	**126**		**P**	**09 02 24.3**	**-0.2**
PMG	**Port Moresby**	**27.15**	**126**	P	**P**	**09 02 23.2**	**-1.3**
	comp=Z,28nm,0.8s,baz=334,slow=9.5,SNR=5.6						
PMG				LR	LR	09 13 29.7	
	comp=Z,116nm,18.7s,baz=173,slow=37						
	comp=Z,28nm,0.8s						
COEN	**Coen**	**27.23**	**139**		**P**	**09 02 24.8**	**-0.4**
COEN				IAmb	IAmb	09 02 30.0	
	comp=Z,33nm,0.9s						
COEN	**Coen**	**27.23**	**139**	P	**P**	**09 02 28.4**	**+3.2**
WRAB	**Tennant Creek**	**27.97**	**161**	P	**P**	**09 02 30.3**	**-1.5**
WRAB				IAmb	IAmb	09 03 11.9	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**27.97**	**161**	P	**P**	**09 02 33.3**	**+1.5**
WRA	**Warramunga Arr**	**27.97**	**161**	P	**P**	**09 02 31.0**	**-0.9**
WRA	**Warramunga Arr**	**27.97**	**161**	P	**P**	**09 02 29.9**	**-1.9**
	comp=Z,2.7nm,0.7s,baz=341,slow=9.0,SNR=17						
	comp=Z,2.7nm,0.7s						
WB1	**Warramunga Ar.**	**27.99**	**161**	P	**P**	**09 02 35.8**	**+3.8**
CMAR	**Chiang Mai Arr**	**28.07**	**297**	P	**P**	**09 02 31.1**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=114,slow=7.6,SNR=4.3						
CMAR				LR	LR	09 13 45.1	
	comp=Z,78nm,19.1s,baz=105,slow=37						
	comp=Z,0.6nm,0.3s						
KMI	**Kunming**	**28.20**	**313**	P	P	09 02 39.3 +5.2	
KMI				pmax	pmax		
	comp=Z,21nm,1.0s						
KMI				LR	LR		
	comp=N,280nm,16.0s						
KMI				LR	LR		
	comp=E,240nm,15.2s						
KMI				LR	LR		
	comp=Z,220nm,22.4s						
PSA00	**Pilbara Seismi**	**28.57**	**190**	P	**P**	**09 02 36.4**	**-0.7**
JHJ2	**Mitsune**	**29.61**	**25**	P	**P**	**09 02 43.6**	**-2.6**
PZH	**PanZhiHua**	**29.74**	**314**	P	**P**	**09 02 49.3**	**+1.6**
INU	**Inuyama**	**30.54**	**19**	P	**P**	**09 02 54.0**	**-0.4**
INU				IAmb	IAmb	09 02 59.8	
	comp=Z,30nm,1.3s						
QIS	**Mount Isa**	**30.59**	**153**	P	**P**	**09 02 58.3**	**+3.3**
KSRS	**Korea Array**	**30.72**	**4**	P	**P**	**09 02 55.9**	**-0.1**
	comp=Z,1.5nm,1.1s,baz=180,slow=8.4,SNR=4.5						
	comp=Z,1.5nm,1.1s						
XAN	**Xi'an**	**31.07**	**333**	P	**P**	**09 03 02.8**	**+3.5**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**31.36**	**164**	P	**P**	**09 03 00.6**	**-1.3**
ASAR	**Alice Springs**	**31.37**	**164**	P	**P**	**09 02 59.5**	**-2.4**
	comp=Z,1.6nm,0.6s,baz=345,slow=7.7,SNR=21						
ASAR				LR	LR	09 16 28.1	
	comp=Z,58nm,21.7s,baz=20,slow=38						
	comp=Z,1.6nm,0.6s						
HNS	**HongShan**	**32.01**	**344**	⇑P	**P**	**09 03 10.8**	**+3.5**
HNS				S	**S**	**09 08 20.3**	**+1.3**
HNS				pmax	pmax		
	comp=Z,13nm,1.4s						
HNS				LR	LR		
	comp=N,130nm,9.0s						
HNS				LR	LR		
	comp=E,230nm,17.8s						
HNS				LR	LR		
	comp=Z,190nm,17.3s						
MJAR	**Matsushiro Arr**	**32.02**	**20**	P	**P**	**09 03 05.9**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=194,slow=8.7,SNR=6.3						
MJAR				LR	LR	09 15 33.0	
	comp=Z,121nm,19.6s,baz=208,slow=35						
	comp=Z,2.3nm,0.8s						
BJT	**Baijiatuau**	**34.14**	**348**	P	**P**	**09 03 29.5**	**+3.5**
BJI	**Beijing**	**34.16**	**348**	P	**P**	**09 03 29.3**	**+3.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BJI				LR	LR		
	comp=N,49nm,16.0s						
BJI				LR	LR		
	comp=E,75nm,21.0s						
LZH	**Lanzhou**	**35.16**	**329**	*e*P	P	09 03 40.0 +4.9	
LZH				sP	sP	09 03 49.8 +10	
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				LR	LR		
	comp=N,160nm,12.4s						
LZH				LR	LR		
	comp=E,130nm,12.4s						
LZH				LR	LR		
	comp=Z,180nm,12.7s						
BRDH	**Bariadhala**	**35.97**	**300**	LR	LR	09 19 21.5	
	comp=Z,95nm,19.7s,baz=152,slow=38						
HHC	**Hu-ho-hao-te**	**36.11**	**342**	*e*P	**P**	**09 03 44.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,4.7s						
HHC				LR	LR		
	comp=N,190nm,20.2s						
HHC				LR	LR		
	comp=E,130nm,21.0s						
HHC				LR	LR		
	comp=Z,160nm,22.7s						
BTO	**Baotou**	**36.38**	**340**	*e*P	**P**	**09 03 48.0**	**+2.6**
BTO				S	**S**	**09 09 32.8**	**+6.0**
BTO				pmax	pmax		
	comp=Z,15nm,0.7s						
BTO				pmax	pmax		
	comp=Z,150nm,6.3s						
BTO				LR	LR		
	comp=N,340nm,12.2s						
BTO				LR	LR		
	comp=E,300nm,10.0s						
BTO				LR	LR		
	comp=Z,290nm,14.1s						
SHL	**Shillong**	**36.88**	**304**	P	**P**	**09 03 48.5**	**-1.5**
FORT	**Forrest**	**37.37**	**176**	P	**P**	**09 03 52.4**	**-1.3**
FORT				IAmb	IAmb	09 05 08.2	
	comp=Z,14nm,1.1s						
INKA	**Innaminka**	**37.41**	**157**	P	**P**	**09 03 53.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**37.83**	**8**	P	**P**	**09 03 56.5**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=173,slow=5.4,SNR=4.6						
	comp=Z,3.9nm,0.8s						
XLT	**XiLinHaoTe**	**37.90**	**349**	*e*P	**P**	**09 04 02.5**	**+4.2**
XLT				pmax	pmax	

comp=Z,4.0nm,0.8s
TARG Taragay, Kyrgy 54.51 317 P **P 09 06 08.6 -0.8**
TARG IAmb IAmb 09 06 39.0
comp=Z,12nm,1.3s
KSH Kashi 54.85 314 P **P 09 06 13.5 +1.9**
KSH pP sP 09 06 17.3 +1.1
KSH pmax pmax
comp=Z,10.0nm,1.4s
KDJ Kajisay 55.10 318 P **P 09 06 13.1 -0.4**
KDJ IAmb IAmb 09 06 19.3
comp=Z,16nm,1.2s
YAK Yakutsk 55.32 3 LR LR 09 32 06.5
comp=Z,69nm,19.0s,baz=188,slow=38
BOOM Boomskoye usch 56.09 318 P **P 09 06 20.4 -0.1**
BOOM IAmb IAmb 09 06 26.2
comp=Z,14nm,1.4s
AAK Ala-Archa 57.12 317 LR LR 09 33 27.5
comp=Z,94nm,21.4s,baz=104,slow=39
KURBB Kurchatov Arra 58.41 327 P **P 09 06 34.6 -1.9**
comp=Z,1.5nm,0.9s,baz=125,slow=6.0,SNR=17
comp=Z,1.5nm,0.9s
KURK Kurchatov 58.41 327 P **P 09 06 35.5 -1.0**
KURK IAmb IAmb 09 06 40.9
comp=Z,6.6nm,0.8s
GAR Garm 58.77 312 P **P 09 06 38.9 -0.6**
SEY Seymchan 59.54 14 LR LR 09 31 47.6
comp=Z,30nm,21.6s,baz=168,slow=35
KK31 Karatay Array 60.01 316 P **P 09 06 47.1 -0.7**
KKAR Karatay Array 60.01 316 P **P 09 06 47.2 -0.6**
AMKA Amchitka 62.95 35 P **P 09 07 06.8 -0.6**
BVAR Borovoye Array 63.99 327 P **P 09 07 12.4 -1.9**
comp=Z,1.0nm,0.6s,baz=120,slow=8.7,SNR=10.0
comp=Z,1.0nm,0.6s
AB31 Akbulak array 68.87 320 P **P 09 07 44.1 -1.6**
AB31 IAmb IAmb 09 07 50.0
comp=Z,11nm,1.2s
KDAK Kodiak Island 80.25 33 LR LR 09 38 57.9
comp=Z,44nm,21.9s,baz=227,slow=32
GURO Guroymak-BITLI 80.49 308 P **P 09 08 52.1 -1.4**
SKT Skwentna 80.99 28 P **P 09 08 54.9 -0.6**
SKT IAmb IAmb 09 09 02.8
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 81.33 26 P **P 09 08 56.9 -0.5**
BPAW IAmb IAmb 09 09 05.7
comp=Z,14nm,1.1s
M22K Willow 81.65 29 P **P 09 08 58.5 -0.5**
PMR Palmer 82.12 29 P **P 09 09 00.6 -0.8**
PMR IAmb IAmb 09 09 08.4
comp=Z,7.1nm,0.9s
NEA2 Nenana 82.18 26 P **P 09 09 01.4 -0.4**
RND Reindeer 82.26 27 P **P 09 09 02.4 +0.1**
RND IAmb IAmb 09 09 10.5
comp=Z,14nm,1.2s
WRH Wood River Hil 82.61 26 P **P 09 09 03.8 -0.2**
WRH IAmb IAmb 09 09 11.6
comp=Z,6.9nm,1.0s
CCB Clear Creek Bu 82.73 26 P **P 09 09 04.1 -0.5**
CCB IAmb IAmb 09 09 12.7
comp=Z,23nm,1.9s
ILAR Eielson Array 83.12 26 P **P 09 09 06.2 -0.5**
comp=Z,1.1nm,1.0s,baz=242,slow=5.1,SNR=6.8
comp=Z,1.1nm,1.0s
PAX Paxson 83.81 27 P **P 09 09 09.7 -0.7**
PAX IAmb IAmb 09 09 18.8
comp=Z,13nm,1.5s
RIDG Independent Ri 84.05 27 P **P 09 09 10.5 -1.0**
I26K Coal Creek Min 84.68 25 P **P 09 09 14.3 -0.3**
ASF Jabal al Asfar 85.00 302 LR LR 09 52 16.9
comp=Z,20nm,18.8s,baz=76,slow=39
MAW Mawson 85.98 200 P **P 09 09 20.1 -0.8**
comp=Z,2.4nm,1.0s,baz=23,slow=7.7,SNR=3.6
comp=Z,2.4nm,1.0s
MMAI Mount Meron Ar 86.18 303 LR LR 09 52 49.3
comp=Z,20nm,21.9s,baz=110,slow=39
VNDA Vanda 86.55 173 P **P 09 09 22.6 -1.1**
VNDA IAmb IAmb 09 10 38.8
comp=Z,8.5nm,1.8s
VNDA Vanda 86.55 173 P **P 09 09 21.8 -1.8**
comp=Z,1.3nm,0.8s,baz=313,slow=6.3,SNR=9.7
comp=Z,1.3nm,0.8s
SPITS Spitsbergen Ar 87.28 349 LR LR 09 53 25.8
comp=Z,45nm,18.4s,baz=60,slow=39
PPT2 Papeete2 87.52 108 eLR LR 09 37 10.5
comp=Z,128nm,30.0s
PPT2 eLR LR 09 37 14.3
comp=Z,97nm,25.5s
AKASG Malin Array Be 88.61 321 P **P 09 09 34.6 +0.5**
comp=Z,0.6nm,0.5s,baz=72,slow=3.0,SNR=1.9
AKASG LR LR 09 52 11.3
comp=Z,34nm,18.4s,baz=55,slow=38
comp=Z,0.6nm,0.5s
SYO Syowa Base 94.61 201 ⇑ipP pP 09 10 06.0 +1.1
HFS Hagfors 94.68 332 LR LR 09 54 40.2
comp=Z,81nm,19.6s,baz=71,slow=37
TAOE Nuku Hiva Isla 95.64 98 eLR LR 09 41 02.6
comp=Z,87nm,26.0s
YKA Yellowknife Ar 97.45 24 P P 09 10 09.2 -5.4
comp=Z,0.3nm,0.4s,baz=311,slow=3.9,SNR=4.5
LSZ Lusaka 98.42 256 LR LR 09 53 00.5
comp=Z,28nm,19.4s,baz=158,slow=34

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*SJA **31** 08:56:43.0±0.7, 31°.78S×71°.77W, h8km±3km, ML3.7, MW3.4*
*GUC **31** 08:56:45.5±0.9, 31°.74S×71°.55W, h35km±3km, ML3.9*
ISC 31 08:56:43.8±1.4, 31°.73S±0'.02×71°.71W±0'.04, h8km±10km, n55, σ1°.18/102, 11C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.70**	**117**	⇓*e*P		**Pb**	**08 56 59.1**	**+0.5**
CO04				*e*S		**Sb**	**08 57 08.3**	**-0.2**
CO04				IAML			08 57 09.6	
comp=N,14μm,0.2s								
CO02	**Combarbal**	**0.80**	**50**	*e*P		**Pb**	**08 57 00.6**	**+0.5**
CO02				*e*S		**Sb**	**08 57 10.7**	**-0.5**
CO02				IAML			08 57 11.4	
comp=E,12μm,0.2s								
CO02	**Combarbal**	**0.80**	**50**	*e*P		**Pg**	**08 56 59.8**	**+0.5**
CO02				*e*S		**Sn**	**08 57 12.9**	**-0.9**
CO02				IAML			08 57 14.3	
comp=Z,4μm,0.3s								
VA06	**Catapilco**	**0.90**	**157**	⇓*e*P		**Pb**	**08 57 02.4**	**+0.6**
VA06				*e*S		**Sb**	**08 57 13.9**	**-0.1**
VA06				IAML			08 57 16.2	
comp=N,10μm,0.3s								
CO06	**Fray Jorge**	**1.05**	**4**	⇓*e*P		**Pb**	**08 57 05.0**	**+0.7**
CO06				*e*S		**Sn**	**08 57 20.0**	**+0.2**
CO03	**El Pedregal**	**1.25**	**45**	⇓*e*P		**Pn**	**08 57 07.6**	**0.0**
CO03				*e*S		**Sb**	**08 57 23.1**	**-0.8**
CO03				IAML			08 57 28.6	
comp=E,2μm,0.3s								
CO03	**El Pedregal**	**1.25**	**45**	*e*P		**Pn**	**08 57 07.7**	**0.0**
CO03				*e*S		**Sb**	**08 57 23.1**	**-0.8**
CO03				*e*S		**Sg**	**08 57 23.5**	**-0.4**
CO03				IAML			08 57 25.6	
comp=Z,980nm,0.2s								
VA01	**Torpederas**	**1.29**	**178**	⇑*e*P		**Pn**	**08 57 08.5**	**+0.2**
VA01				*e*S		**Sn**	**08 57 25.8**	**+0.1**
VA01	**Torpederas**	**1.29**	**178**	*e*P		**Pn**	**08 57 08.4**	**+0.2**
VA01				*e*S		**Sn**	**08 57 25.8**	**+0.1**
ROCH	**El Roble**	**1.38**	**155**	⇑*e*P		**Pn**	**08 57 09.6**	**0.0**
ROCH				*e*S		**Sb**	**08 57 27.6**	**-0.2**
ROCH				IAML			08 57 30.5	
comp=N,3μm,0.2s								
ROC1	**El Roble**	**1.38**	**155**	*e*P		**Pn**	**08 57 08.6**	**-1.0**
ROC1				*e*S		**Sb**	**08 57 27.7**	**-0.2**
VA03	**San Esteban**	**1.43**	**137**	⇑*e*P		**Pn**	**08 57 10.4**	**+0.2**
VA03				*e*S		**Sn**	**08 57 27.9**	**-1.3**
VA03				IAML			08 57 29.7	
comp=N,5μm,0.5s								
VA03	**San Esteban**	**1.43**	**137**	*e*P		**Pn**	**08 57 10.4**	**+0.2**
VA03				*e*S		**Sb**	**08 57 29.1**	**0.0**
VA03				IAML			08 57 32.4	
comp=Z,2μm,0.1s								
MT02	**Curacav**	**1.60**	**163**	*e*P		**Pn**	**08 57 12.8**	**+0.3**
MT02				*e*S		**Sn**	**08 57 33.6**	**+0.2**
MT02	**Curacav**	**1.60**	**163**	*e*P		**Pn**	**08 57 12.6**	**+0.1**
MT02				*e*S		**Sg**	**08 57 35.0**	**-0.4**
PEL	**Peldehue**	**1.66**	**149**	*e*P		**Pn**	**08 57 13.8**	**+0.5**
PEL				*e*S		**Sn**	**08 57 34.9**	**0.0**
PEL				IAML			08 57 36.6	
comp=E,2μm,0.4s								
PEL	**Peldehue**	**1.66**	**149**	*e*P		**Pn**	**08 57 14.0**	**+0.7**
PEL				*e*S		**Sg**	**08 57 37.0**	**-0.2**
PEL				IAML			08 57 43.9	
comp=Z,694nm,1.4s								
GO04	**Tololo Observa**	**1.74**	**27**	⇑*e*P		**Pn**	**08 57 15.1**	**+0.6**
GO04				*e*S		**Sb**	**08 57 38.4**	**+0.2**
GO04				IAML			08 57 43.8	
comp=N,5μm,0.2s								
GO04	**Tololo Observa**	**1.74**	**27**	*e*P		**Pn**	**08 57 15.1**	**+0.6**
GO04				IAML			08 57 42.0	
comp=Z,2μm,0.2s								
MT10	**Hacienda Santa**	**1.83**	**148**	*e*P		**Pn**	**08 57 16.5**	**+0.7**
MT10				*e*S		**Sn**	**08 57 39.6**	**+0.3**
MT10				IAML			08 57 42.6	
comp=N,3μm,0.5s								
MT10				IAML			08 57 44.4	
comp=E,3μm,0.2s								
CO05	**La Serena**	**1.85**	**13**	⇑*e*P		**Pn**	**08 57 16.7**	**+0.9**
CO05				*e*S		**Sb**	**08 57 41.3**	**+0.1**
CO05				IAML			08 57 47.1	
comp=E,1μm,0.3s								
MT05	**Renca**	**1.85**	**154**	⇑*i*P		**Pn**	**08 57 17.0**	**+1.0**
MT05				*i* S		**Sb**	**08 57 40.5**	**-0.8**
MT05				IAML			08 57 43.4	
comp=E,3μm,0.2s								
MT05	**Renca**	**1.85**	**154**	*e*P		**Pn**	**08 57 17.0**	**+1.0**
MT05				*e*S		**Sb**	**08 57 42.0**	**+0.6**
MT05				IAML			08 57 47.1	
comp=Z,606nm,0.3s								
MT14	**Cerro Calı¡n**	**1.94**	**149**	*e*P		**Pn**	**08 57 18.1**	**+0.9**
MT14				*e*S		**Sn**	**08 57 42.5**	**+0.7**
MT14				IAML			08 57 50.8	
comp=N,2μm,0.4s								
MT16	**CCHEN**	**1.97**	**150**	*e*P		**Pn**	**08 57 18.6**	**+0.9**
MT16				*e*S		**Sn**	**08 57 43.0**	**+0.5**
MT03	**Universidad Ad**	**2.03**	**150**	⇑*e*P		**Pn**	**08 57 19.5**	**+1.0**
MT03				*e*S		**Sn**	**08 57 44.8**	**+0.7**
MT03				IAML			08 57 51.6	
comp=E,2μm,0.2s								
MT03	**Universidad Ad**	**2.03**	**150**	*e*P		**Pn**	**08 57 19.5**	**+1.0**
MT03				*e*S		**Sb**	**08 57 46.3**	**-0.3**
MT03				IAML			08 57 57.5	
comp=Z,864nm,0.2s								
RTLS	**Leoncito**	**2.06**	**93**	*e*P		**Pb**	**08 57 21.3**	**-0.4**
RTLS				*e*S		**Sg**	**08 57 49.0**	**-1.1**
RTLS				IAML			08 57 50.3	
comp=Z,798nm,0.8s								
MT15	**Las Vizcachas**	**2.13**	**152**	*e*P		**Pn**	**08 57 20.6**	**+0.8**
MT15				*e*S		**Sn**	**08 57 47.2**	**+0.8**
MT15				IAML			08 57 52.5	
comp=N,2μm,0.2s								
MT09	**Talagante**	**2.13**	**164**	⇑*e*P		**Pn**	**08 57 21.0**	**+1.1**
MT09				*e*S		**Sb**	**08 57 48.5**	**-1.0**
MT09				IAML			08 57 59.9	
comp=N,936nm,0.2s								
MT04	**Ro Olivares**	**2.14**	**142**	⇓*e*P		**Pn**	**08 57 21.5**	**+1.4**
MT04				*e*S		**Sn**	**08 57 47.8**	**+0.8**
MT04				IAML			08 57 54.0	
comp=N,771nm,0.3s								
MT04	**Ro Olivares**	**2.14**	**142**	*e*P		**Pn**	**08 57 21.5**	**+1.4**
MT04				*e*S		**Sb**	**08 57 49.8**	**0.0**
MT04				IAML			08 57 53.8	
comp=Z,476nm,0.5s								
MT01	**Popeta**	**2.17**	**170**	*e*P		**Pn**	**08 57 20.7**	**+0.4**
MT01				*e*S		**Sn**	**08 57 48.6**	**+1.3**
MT01	**Popeta**	**2.17**	**170**	*e*P		**Pn**	**08 57 20.7**	**+0.4**
MT01				*e*S		**Sn**	**08 57 41.3**	**-6.0**
MT01				IAML			08 57 54.1	
comp=Z,536nm,0.8s								
MT12	**Pirque**	**2.23**	**154**	*e*P		**Pn**	**08 57 22.1**	**+1.0**
MT12				*e*S		**Sn**	**08 57 49.7**	**+0.8**
MT12				IAML			08 57 57.0	
comp=E,1μm,0.3s								
CO01	**Juntas del Tor**	**2.23**	**39**	⇑*e*P		**Pn**	**08 57 23.0**	**+1.6**
CO01				*e*S		**Sb**	**08 57 51.0**	**-1.5**
CO01				IAML			08 57 53.4	
comp=N,1μm,0.3s								
CO01	**Juntas del Tor**	**2.23**	**39**	*e*P		**Pn**	**08 57 23.1**	**+1.7**
CO01				*e*S		**Sb**	**08 57 51.6**	**-0.8**
CO01				IAML			08 57 53.3	
comp=Z,956nm,0.2s								
MT08	**Bocatoma Ro**	**2.23**	**141**	⇑*e*P		**Pb**	**08 57 23.3**	**-1.3**
MT08				*e*S		**Sn**	**08 57 50.2**	**+0.9**
MT08				IAML			08 58 00.3	
comp=N,652nm,0.4s								
MT08	**Bocatoma Ro**	**2.23**	**141**	*e*P		**Pn**	**08 57 22.1**	**+0.8**
MT08				*e*S		**Sn**	**08 57 47.6**	**-1.6**
MT08				IAML			08 57 58.6	
comp=Z,318nm,0.5s								
BO04	**La Punta**	**2.44**	**158**	⇓*e*P		**Pn**	**08 57 25.1**	**+1.1**
BO04				*e*S		**Sn**	**08 57 55.8**	**+1.7**
BO04				IAML			08 58 04.1	
comp=E,766nm,0.5s								
LMEL	**Las Melosas**	**2.47**	**149**	⇑*e*P		**Pn**	**08 57 25.9**	**+1.4**
LMEL				*e*S		**Sn**	**08 57 56.4**	**+1.4**
LMEL				IAML			08 58 02.7	
comp=N,1μm,0.2s								
LMEL	**Las Melosas**	**2.47**	**149**	*e*P		**Pn**	**08 57 26.1**	**+1.5**
LMEL				*e*S		**Sb**	**08 57 57.4**	**-1.7**
LMEL				IAML			08 58 03.9	
comp=Z,468nm,0.6s								
AROD	**Rodeo**	**2.47**	**52**	*e*P		**Pb**	**08 57 28.1**	**-0.7**
AROD				*e*S		**Sb**	**08 58 01.2**	**+1.7**
ACCO	**Cerro Coronel**	**2.54**	**64**	*e*P		**Pb**	**08 57 29.1**	**-0.8**
ACCO				*e*S		**Sg**	**08 58 04.0**	**-1.4**
ASAL	**Salagasta**	**2.59**	**110**	*e*P		**Pb**	**08 57 30.2**	**-0.3**
ASAL				*e*S		**Sg**	**08 58 07.6**	**+0.6**
ZON	**Zonda**	**2.59**	**87**	*e*P		**Pb**	**08 57 29.5**	**-1.2**
ZON				*e*S		Sn	08 57 42.2	-16
ZON				IAML			08 57 44.0	
comp=Z,299nm,0.5s								
ARCO	**CERRO ARCO**	**2.60**	**116**	*e*P		**Pb**	**08 57 31.1**	**+0.2**
ARCO				*e*S		**Sg**	**08 58 10.3**	**+2.8**
ARCO				IAML			08 58 17.3	
comp=Z,324nm,0.4s								
SJA	**San Juan**	**2.69**	**87**	*e*P		**Pb**	**08 57 31.8**	**-0.6**
SJA				IAML			08 58 18.6	
comp=Z,172nm,0.3s								
BO01	**Tunca**	**2.71**	**169**	*e*P		**Pn**	**08 57 28.4**	**+0.7**
BO01				*e*S		**Sn**	**08 58 00.3**	**-0.4**
BO01				IAML			08 58 13.7	
comp=Z,178nm,0.3s								
ACDV	**Cuesta del Vie**	**2.71**	**56**	*e*P		**Pb**	**08 57 31.4**	**-1.4**
ACDV				IAML			08 58 18.1	
comp=Z,144nm,0.5s								
CFA	**Coronel Fontan**	**2.96**	**89**	*e*S		**Sb**	**08 58 11.1**	**-2.3**
BO02	**Sierra Bellavi**	**3.15**	**166**	*e*S		**Sn**	**08 58 12.7**	**+0.9**
BO02				IAML			08 58 25.8	
comp=Z,355nm,0.5s								
GO05	**Hualane**	**3.28**	**183**	*e*S		**Sg**	**08 58 26.3**	**-2.9**
AVFE	**Valle Fertil**	**3.80**	**75**	*e*S		**Sn**	**08 58 26.0**	**-1.7**
RFA	**San Rafael**	**4.08**	**139**	*e*P		**Pn**	**08 57 48.8**	**+2.3**

DJA 31 09:02:00.3±0.3, 7°.S±3°.×10°.5E±°, h10km, M4.1/13, mb4.7/2, MLv3.8/13, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.17**	**58**	P		Pb	09 02 22.6	-0.1
KASI	**Kota Agung**	**1.37**	**333**	P		Pb	09 02 26.0	-0.1
KASI				S		Sb	09 02 42.6	-1.1
BLSI	**Bandar Lampung**	**1.38**	**5**	P		Pn	09 02 25.6	0.0
BLSI				S		Sb	09 02 43.3	-0.6
SKJI	**Sukabumi**	**1.44**	**100**	P		Pb	09 02 27.2	0.0
SKJI				S		Sn	09 02 43.8	-1.6
TNG	**Tangerang**	**1.61**	**69**	P		Pn	09 02 28.9	+0.1
KLI	**Kotabumi**	**1.89**	**352**	P		Pn	09 02 33.1	+0.4
LWLI	**Liwa**	**2.02**	**328**	P		Pn	09 02 35.1	+0.5
CNJI	**Cibinong**	**2.06**	**106**	P		Pn	09 02 35.6	+0.6
MDSI	**Maura Dua**	**2.44**	**337**	P		Pn	09 02 38.2	-2.0
LEM	**Lembang**	**2.47**	**92**	P		Pn	09 02 40.4	-0.4
KPJI	**Karang Pucung**	**3.82**	**99**	P		Pn	09 02 56.9	-2.3
PCJI	**Pacitan**	**6.17**	**104**	P		Pn	09 03 34.2	+2.7
46nm,1.6s								
PPSI	**Pulau Pagai**	**6.46**	**308**	P		Pn	09 03 35.1	-0.4

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*IDC **31** 09:24:01.8±0.8, 21°.55S×168°.93E, h0km, mb4.1/10, mbtmp4.1/11, ML3.3/1, MS3.6/19, Error ellipse: s-maj=22.5km s-min=20.7km az=119.0*
*NEIC **31** 09:24:03.9±1.9, 21°.58S±0°.10×168°.95E±0°.04, h10km±1km, mb4.8/23, Error ellipse: s-maj=16.8km s-min=6.5km az=356.0*

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*NOU **31** 09:24:15.0, 21°.81S×168°.06E, h0km, MLv4.2/4, Loyalty Islands*
ISC 31 09:24:05.9±0.6, 21°.54S±0°.09×168°.95E±0°.09, h29km, n65, σ0°.91/49, mb4.6/23, MS3.7/18, 5C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.85**	**274**			**Pn**	**09 24 20.5**	**-1.4**
PINNC	**Pines Island,**	**1.75**	**232**			**Pn**	**09 24 32.8**	**-1.5**
PINNC	**Pines Island,**	**1.75**	**232**	P		**Pn**	**09 24 34.0**	**-0.3**
YATNC	**Mamie plateau,**	**1.98**	**255**	P		**Pn**	**09 24 36.2**	**-1.3**
OUENC	**Ouen Island, N**	**2.14**	**246**	P		**Pn**	**09 24 38.9**	**-0.8**
DZM	**Mont Dzumac**	**2.38**	**257**	Pn		**Pn**	**09 24 42.5**	**-0.7**
6.8nm,0.3s,baz=324,slow=22,SNR=104								
DZM				LR		LR	09 25 10.8	
comp=Z,659nm,18.9s,baz=211,slow=29								
DZM				Sn		**Sn**	**09 25 11.6**	**+0.1**
73nm,0.3s,baz=15,slow=8.3,SNR=8.8								
31nm,0.4s								
ONTNC	**Ouen Toro**	**2.44**	**251**			**Pn**	**09 24 43.0**	**-0.8**
ONTNC	**Ouen Toro**	**2.44**	**251**	P		**Pn**	**09 24 43.5**	**-0.3**
ARMA	**Armidale**	**17.89**	**237**			**Pn**	**09 28 12.6**	**-0.2**
TCW	**Tory Channel**	**20.12**	**168**	P		**P**	**09 28 37.0**	**-0.4**
PMG	**Port Moresby**	**24.18**	**297**	LR		LR	09 37 11.5	
comp=Z,96nm,20.4s,baz=110,slow=33								
COEN	**Coen**	**25.65**	**283**	P		**P**	**09 29 34.7**	**+1.3**
COEN				IAmb		IAmb	09 30 02.9	
comp=Z,14nm,1.4s								
STKA	**Stephens Creek**	**26.45**	**241**	LR		LR	09 39 51.5	
comp=Z,207nm,18.4s,baz=24,slow=36								
WR8	**Warramunga Arr**	**32.21**	**266**	P		**P**	**09 30 31.7**	**-0.1**
WR8				IAmb		IAmb	09 30 36.2	
comp=Z,7.6nm,1.3s								
WB0	**Warramunga Arr**	**32.34**	**267**	P		**P**	**09 30 32.9**	**-0.1**
WB0				IAmb		IAmb	09 30 33.2	
comp=Z,9.9nm,1.2s								
WRAB	**Tennant Creek**	**32.36**	**266**	P		**P**	**09 30 32.4**	**-0.7**
WRAB				IAmb		IAmb	09 30 42.7	
comp=Z,12nm,1.4s								
WRA	**Warramunga Arr**	**32.37**	**266**	P		**P**	**09 30 31.7**	**-1.4**
WRA	**Warramunga Arr**	**32.37**	**266**	P		**P**	**09 30 32.3**	**-0.8**
comp=Z,1.8nm,0.8s,baz=99,slow=8.0,SNR=6.3								
WRA				LR		LR	09 42 56.7	
comp=Z,128nm,20.2s,baz=88,slow=35								
comp=Z,1.8nm,0.8s								
AS31	**Alice Springs**	**32.37**	**260**	P		**P**	**09 30 33.7**	**+0.5**
ASAR	**Alice Springs**	**32.37**	**260**	P		**P**	**09 30 33.2**	**0.0**
comp=Z,1.6nm,0.7s,baz=92,slow=9.8,SNR=16								
ASAR				LR		LR	09 44 23.4	
comp=Z,60nm,20.2s,baz=88,slow=38								
comp=Z,1.6nm,0.7s								
MTN	**Manton Dam**	**37.06**	**277**	P		**P**	**09 31 14.2**	**+0.5**
MTN				IAmb		IAmb	09 32 10.3	
comp=Z,16nm,1.2s								
FORT	**Forrest**	**37.66**	**247**	P		**P**	**09 31 19.0**	**+0.4**
FORT				IAmb		IAmb	09 32 25.5	
comp=Z,43nm,1.8s								
KNRA	**Kununurra**	**38.45**	**272**	P		**P**	**09 31 24.9**	**-0.5**
KNRA				IAmb		IAmb	09 31 34.4	
comp=Z,66nm,1.8s								
FITZ	**Fitzroy Crossi**	**40.79**	**267**	P		**P**	**09 31 45.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.79**	**267**	LR		LR	09 47 21.6	
comp=Z,124nm,21.0s,baz=106,slow=34								
BATI	**Baumata**	**44.84**	**277**	LR		LR	09 51 05.5	
comp=Z,166nm,18.3s,baz=154,slow=36								
PSA00	**Pilbara Seismi**	**45.51**	**260**	P		**P**	**09 32 23.2**	**+0.1**
MBWA	**Marble Bar**	**45.68**	**261**	P		**P**	**09 32 24.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**46.95**	**245**	P		**P**	**09 32 34.5**	**+0.2**
KAPI	**Kappang**	**50.37**	**282**	LR		LR	09 56 12.3	
comp=Z,26nm,18.3s,baz=130,slow=38								
VNDA	**Vanda**	**56.13**	**182**			**P**	**09 33 42.5**	**+0.2**
VNDA	**Vanda**	**56.13**	**182**	P		**P**	**09 33 42.3**	**0.0**
comp=Z,0.8nm,0.7s,baz=0.1,slow=7.7,SNR=7.2								
comp=Z,0.8nm,0.7s								
SBA	**Scott Base**	**56.37**	**181**			**P**	**09 33 44.3**	**+0.4**
SBA				IAmb		IAmb	09 33 46.0	
comp=Z,7.6nm,0.8s								
LEM	**Lembang**	**60.88**	**274**	LR		LR	10 00 39.4	
comp=Z,50nm,18.7s,baz=249,slow=36								
JMN	**Monobe**	**64.32**	**328**	P		**P**	**09 34 38.4**	**-0.6**
MJAR	**Matsushiro Arr**	**64.66**	**333**	IAmb		IAmb	09 35 10.1	
comp=Z,16nm,1.9s								
MJAR	**Matsushiro Arr**	**64.66**	**333**	P		**P**	**09 34 40.4**	**-0.6**
comp=Z,2.5nm,1.0s,baz=156,slow=7.3,SNR=5.5								
comp=Z,2.5nm,1.0s								
MAJO	**Matsushiro**	**64.66**	**333**	P		**P**	**09 34 38.5**	**-2.5**
MAJO				IAmb		IAmb	09 34 54.4	
comp=Z,11nm,1.0s								
MJB9	**Matsu-Tunnel**	**64.66**	**333**	P		**P**	**09 34 38.9**	**-2.2**
MJB9				IAmb		IAmb	09 34 54.4	
comp=Z,12nm,1.1s								
QSPA	**South Pole Qui**	**68.52**	**180**	P		**P**	**09 35 04.9**	**-0.6**
QSPA				IAmb		IAmb	09 35 08.9	
comp=Z,8.7nm,1.1s								
QSPA	**South Pole Qui**	**68.52**	**180**	P		**P**	**09 35 06.1**	**+0.5**
comp=Z,6.3nm,1.1s,baz=58,slow=0.5,SNR=16								
comp=Z,6.3nm,1.1s								
RPN	**Rapa Nui**	**73.44**	**113**	LR		LR	09 58 56.1	
comp=Z,16nm,21.6s,baz=352,slow=28								
SHEM	**Shemya Is, Ala**	**74.09**	**3**	LR		LR	10 04 46.2	
comp=Z,25nm,18.6s,baz=50,slow=33								
PETK	**Petropavlovsk-**	**74.97**	**353**	LR		LR	10 04 45.2	
comp=Z,38nm,20.4s,baz=165,slow=33								
MAW	**Mawson**	**76.21**	**202**	P		**P**	**09 35 51.8**	**+0.6**
comp=Z,2.1nm,0.8s,baz=130,slow=5.1,SNR=6.3								
comp=Z,2.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**79.20**	**295**	P		**P**	**09 36 09.8**	**+1.2**
comp=Z,0.8nm,0.3s,baz=126,slow=3.8,SNR=5.3								
comp=Z,0.8nm,0.3s								
SEY	**Seymchan**	**85.20**	**352**	LR		LR	10 11 08.6	
comp=Z,29nm,18.6s,baz=172,slow=33								
TROLL	**Troll, Antarti**	**86.23**	**184**	⇑P		**P**	**09 36 44.1**	**-0.4**
comp=Z,160nm,0.7s								
SNAA	**Sanae**	**86.86**	**183**	⇑P		**P**	**09 36 47.5**	**0.0**
comp=Z,15nm,0.3s								
VNA3	**Neumayer Olymp**	**87.46**	**180**	⇑P		**P**	**09 36 49.1**	**-1.2**
comp=Z,2.8nm,0.6s								
VNA2	**Neumayer--Watz**	**87.75**	**181**	⇑P		**P**	**09 36 51.1**	**-0.7**
comp=

0.9nm,0.7s
MKAR Makanchi Array 79.33 320 P P 10 12 39.7 +0.8
0.2nm,0.5s,baz=133,slow=6.3,SNR=1.8
0.2nm,0.5s

*IDC **31** 10:05:23.1±4.9, 6.°11N×127.°33E, h69km±43km, mb3.4/10, mbtmp3.7/10, Error ellipse: s-maj=60.9km s-min=15.3km az=66.0*
ISC 31 10:05:21.4±0.8, 6.°1N±0.°2×127.°5E±0.°1, h52km, n11, σ0°93/13, mb3.6/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.12**	**296**	P	**Pn**	**10 05 55.2**	**+0.8**
	90nm,0.3s,baz=103,slow=6.3,SNR=1.2						
DAV				S	**Sn**	**10 06 19.1**	**-0.4**
	229nm,0.3s,baz=264,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**26.78**	**166**	P	**P**	**10 10 56.9**	**+0.2**
	0.6nm,0.7s,baz=343,slow=9.3,SNR=4.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**30.28**	**168**	P	**P**	**10 11 26.9**	**-0.9**
	0.2nm,0.5s,baz=346,slow=7.1,SNR=5.8						
ASAR				PcP	**PcP**	**10 14 27.9**	**+0.4**
	0.3nm,0.5s,baz=345,slow=1.7,SNR=5.3						
	0.2nm,0.5s						
SONM	**Songino Array**	**45.29**	**340**	P	**P**	**10 13 34.9**	**+0.8**
	0.3nm,0.4s,baz=117,slow=8.7,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**56.04**	**324**	P	**P**	**10 14 54.0**	**-1.0**
	0.9nm,0.4s,baz=121,slow=8.0,SNR=11						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**58.81**	**332**	P	**P**	**10 15 12.4**	**-2.0**
	0.6nm,0.5s,baz=134,slow=8.3,SNR=2.0						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**60.15**	**326**	P	**P**	**10 15 23.0**	**-0.6**
	0.8nm,0.7s,baz=122,slow=6.9,SNR=8.3						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**65.74**	**326**	P	**P**	**10 16 00.5**	**-0.3**
	0.3nm,0.3s,baz=133,slow=8.1,SNR=2.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**82.61**	**26**	P	**P**	**10 17 39.2**	**+0.3**
	0.4nm,1.1s,baz=212,slow=4.2,SNR=1.9						
	0.4nm,1.1s						
VNDA	**Vanda**	**85.71**	**173**	P	**P**	**10 17 54.8**	**+0.6**
	0.2nm,0.6s,baz=308,slow=5.4,SNR=1.7						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**88.46**	**340**	P	**P**	**10 18 07.8**	**-0.1**
	1.9nm,0.8s,baz=59,slow=4.4,SNR=4.6						
	1.9nm,0.8s						

*IDC **31** 10:07:00.7±1.2, 6.°78N×125.°03E, h0km, mb3.5/5, mbtmp3.5/5, MS3.2/4, Error ellipse: s-maj=23.8km s-min=16.9km az=146.0*
ISC 31 10:07:02.7±1.2, 6.°9N±0.°1×125.°3E±0.°2, h13km, n11, σ2°21/7, mb3.4/5, MS3.2/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.39**	**56**	Pg	**Pg**	**10 07 12.1**	**+1.5**
	290nm,0.3s,baz=165,slow=6.8,SNR=9.2						
DAV				LR	LR	10 07 40.0	
	comp=Z,1μm,19.2s,baz=1,0,slow=64						
DAV	**Davao City (W)**	**0.39**	**56**	P	**Pg**	**10 07 08.0**	**-2.6**
KAPI	**Kappang**	**13.00**	**205**	LR	LR	10 15 19.4	
	comp=Z,58nm,20.3s,baz=49,slow=39						
JNU	**Nakatsue**	**26.66**	**11**	LR	LR	10 24 44.0	
	comp=Z,60nm,18.6s,baz=328,slow=40						
WRA	**Warramunga Arr**	**28.09**	**162**	P	**P**	**10 12 53.5**	**-0.9**
	0.4nm,0.8s,baz=337,slow=9.3,SNR=1.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**31.49**	**165**	P	**P**	**10 13 24.7**	**+0.2**
	0.3nm,0.6s,baz=342,slow=6.8,SNR=7.7						
	0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**31.84**	**20**	LR	LR	10 25 49.1	
	comp=Z,36nm,19.9s,baz=214,slow=35						
STKA	**Stephens Creek**	**41.55**	**159**	LR	LR	10 33 06.3	
	comp=Z,49nm,19.2s,baz=30,slow=38						
MKAR	**Makanchi Array**	**54.17**	**325**	P	**P**	**10 16 26.2**	**-1.7**
	0.2nm,0.5s,baz=109,slow=7.9,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**58.33**	**327**	P	**P**	**10 16 57.0**	**-0.5**
	0.5nm,0.9s,baz=131,slow=6.1,SNR=3.4						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**82.94**	**26**	P	**P**	**10 19 29.8**	**+2.5**
	0.4nm,0.9s,baz=246,slow=6.0,SNR=4.1						
	0.4nm,0.9s						

*IDC **31** 10:09:08.9±1.4, 15.°80S×175.°75W, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=37.4km s-min=33.0km az=133.0*
*NEIC **31** 10:09:47.7±1.2, 16.°2S±0.°1×175.°9W±0.°1, h354km±9km, mb4.1/26, Error ellipse: s-maj=21.0km s-min=12.6km az=147.0*
ISC 31 10:09:48.0±0.7, 16.°0S±0.°1×176.°0W±0.°1, h360km, n35, σ1°01/31, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.61**	**63**		**Pn**	**10 11 03.3**	**-0.7**
MSVF	**Nonsavu**	**5.92**	**252**		**Pn**	**10 11 18.4**	**0.0**
NIUE	**Niue**	**6.56**	**118**	Pn	Pn	10 11 22.5	-3.1
TOZ	**Tahuroa Road**	**22.89**	**197**	P	**P**	**10 14 20.4**	**-1.1**
TOZ				IAmb	IAmb	10 14 31.3	
	comp=Z,36nm,1.3s						
XMAS	**Kiritimati**	**25.68**	**47**	P	**P**	**10 14 45.8**	**-1.0**
EIDS	**Eidsvold**	**32.07**	**248**	P	**P**	**10 15 41.7**	**-1.2**
EIDS				IAmb	IAmb	10 16 01.9	
	comp=Z,7.7nm,1.0s						
MLZ	**Mavora Lakes**	**32.15**	**201**	P	**P**	**10 15 41.8**	**-1.5**
WHZ	**Wether Hill Ro**	**32.67**	**201**	P	**P**	**10 15 46.5**	**-1.2**
ARMA	**Armidale**	**32.86**	**238**	P	**P**	**10 15 48.4**	**-1.4**
ARMA				IAmb	IAmb	10 15 48.5	
	comp=Z,12nm,1.4s						
CAN	**Canberra**	**36.66**	**232**	P	**P**	**10 16 20.8**	**-1.0**
CAN				IAmb	IAmb	10 16 22.1	
	comp=Z,8.8nm,1.0s						
TOO	**Toolangi**	**40.12**	**230**	P	**P**	**10 16 50.9**	**+0.6**
STKA	**Stephens Creek**	**41.54**	**240**	IAmb	IAmb	10 17 42.9	
	comp=Z,45nm,1.5s						
STKA	**Stephens Creek**	**41.54**	**240**	P	**P**	**10 17 01.1**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=73,slow=10,SNR=3.9						
	comp=Z,1.5nm,0.5s						
BBOO	**Buckleboo**	**46.32**	**240**	P	**P**	**10 17 39.1**	**-0.2**
BBOO				IAmb	IAmb	10 18 06.9	
	comp=Z,19nm,1.2s						
WR0	**Warramunga Arr**	**47.05**	**257**	P	**P**	**10 17 45.2**	**0.0**
WR0				IAmb	IAmb	10 18 23.1	
	comp=Z,14nm,1.5s						
WR8	**Warramunga Arr**	**47.09**	**257**	P	**P**	**10 17 45.5**	**0.0**
WB0	**Warramunga Arr**	**47.20**	**258**	P	**P**	**10 17 46.3**	**0.0**
WB0				IAmb	IAmb	10 17 47.0	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**47.23**	**257**	P	**P**	**10 17 46.6**	**0.0**
WB2				IAmb	IAmb	10 17 53.7	
	comp=Z,7.3nm,1.2s						
WRAB	**Tennant Creek**	**47.23**	**258**	P	**P**	**10 17 46.6**	**+0.1**
WRA	**Warramunga Arr**	**47.24**	**257**	IAmb	IAmb	10 17 46.8	
	comp=Z,0.3nm,1.0s						
WRA	**Warramunga Arr**	**47.24**	**257**	P	**P**	**10 17 46.2**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=92,slow=7.1,SNR=22						
	comp=Z,3.0nm,0.7s						
AS31	**Alice Springs**	**47.51**	**252**	P	**P**	**10 17 48.9**	**+0.2**
AS31				IAmb	IAmb	10 17 49.3	
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**47.52**	**252**	P	**P**	**10 17 48.8**	**0.0**
	comp=Z,7.9nm,0.4s,baz=89,slow=7.7,SNR=217						
	comp=Z,7.9nm,0.4s						
FORT	**Forrest**	**52.88**	**243**	P	**P**	**10 18 28.1**	**-0.3**
FORT				IAmb	IAmb	10 18 33.8	
	comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**52.98**	**262**	P	**P**	**10 18 29.8**	**+0.5**
KNRA				IAmb	IAmb	10 18 35.2	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**55.61**	**259**	P	**P**	**10 18 49.5**	**+1.5**
PSA00	**Pilbara Seismi**	**60.60**	**254**	P	**P**	**10 19 22.6**	**+0.3**
PSA00				IAmb	IAmb	10 19 23.9	
	comp=Z,7.1nm,1.1s						
MBWA	**Marble Bar**	**60.76**	**254**	P	**P**	**10 19 23.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**62.11**	**241**	P	**P**	**10 19 32.8**	**+0.6**
VNDA	**Vanda**	**62.52**	**185**	IAmb	IAmb	10 19 36.2	
	comp=Z,1.9nm,1.2s						
VNDA	**Vanda**	**62.52**	**185**	P	**P**	**10 19 34.8**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=17,slow=7.0,SNR=3.7						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**10 20 45.8**	**+0.8**
QSPA				IAmb	IAmb	10 21 23.9	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**10 20 48.4**	**+3.3**
	comp=Z,1.8nm,0.9s,baz=42,slow=1.1,SNR=6.5						
	comp=Z,1.8nm,0.9s						
QSM	**Queen of Sheba**	**76.14**	**46**	P	**P**	**10 20 57.1**	**-0.2**
ILAR	**Eielson Array**	**83.56**	**12**	P	**P**	**10 21 37.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=215,slow=5.6,SNR=6.6						
	comp=Z,0.3nm,0.5s						

GCG 31 10:11:53.5±0.5, 13.°55N×91.°24W, h9km±10km, MD3.9, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.97**	**43**	*e*P	Pg	10 12 11.4	-0.8
FG16	**Alotenango, Sa**	**1.01**	**44**	*e*P	Pg	10 12 11.8	-1.2
FG16				IAML		10 12 27.2	
	comp=N,3μm,0.3s						
PCG5	**San Vicente Pa**	**1.07**	**51**	*e*P	Pg	10 12 12.9	-1.2
APG	**El Apazote**	**1.63**	**27**	*e*P	Pn	10 12 22.9	+0.3
APG				*i* S	Sg	10 12 45.4	-0.6
JAYA	**Jayaque - finc**	**1.74**	**86**	*e*P	Pn	10 12 23.2	-0.8
JAYA				*i* S	Sn	10 12 46.8	+0.2

*NIED **31** 10:20:38.6, 33.°68N×135.°15E, h37km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}0.76; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-0.20; $M_{r\theta}$0.93; $M_{\theta\phi}$-2.24; $M_{\phi r}$-1.57; Fault plane solution: $M_0$2.94000×10^14^ NP1:ϕ_s86.00000°, δ59.00000°, λ158.00000°. NP2:ϕ_s188.00000°, δ71.00000°, λ33.00000°.*
JMA 31 10:20:38.6±0.1, 33.°7N±0.°2×135.°2E±0.°2, h37km, MV3.6/40, 8D, S PART OF KII CHANNEL, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.24**	**45**	*i* P	Pn	10 20 45.8	-1.3
JWM				S	Sn	10 20 50.7	-4.5
JTNC	**Tanabenakahech**	**0.41**	**70**	*i* P	Pn	10 20 47.9	+0.1
JTNC				S	Sn	10 20 54.2	-0.4
JAI	**Aioi**	**0.59**	**281**	⇓*i* P	Pn	10 20 50.6	-0.1
JAI				⇓S	Sn	10 20 58.8	-0.3
JWY	**Kouya**	**0.65**	**34**	*i* P	Pn	10 20 51.3	-0.2
JWY				S	Sn	10 21 00.2	-0.4
JAWN	**Awajishima-nag**	**0.83**	**346**	⇓*i* P	Pn	10 20 54.0	+0.2
JAWN				⇓S	Sn	10 21 05.0	+0.2
JMN	**Monobe**	**1.06**	**273**	⇓*i* P	Pn	10 20 56.9	0.0
JMN				⇓S	Sn	10 21 10.1	-0.4
JHE	**Heguri**	**1.07**	**24**	*i* P	Pn	10 20 57.2	+0.2
JHE				S	Sn	10 21 10.9	+0.3
JKN2	**Miekihoku**	**1.09**	**59**	*i* P	Pn	10 20 57.0	-0.2
JKN2				S	Sn	10 21 11.5	+0.5
JJS	**Sakaide**	**1.23**	**305**	⇓*i* P	Pn	10 20 59.1	-0.1
JKS	**Kasai**	**1.33**	**349**	⇓*i* P	Pn	10 21 00.8	+0.2

*OSPL **31** 10:24:11.6±1.0, 18.°37N×70.°37W, h4km±6km, ML2.0*
*SDD **31** 10:24:12.7±0.8, 18.°34N×70.°49W, h22km±4km, MD2.8, ML2.4, MW2.6*
ISC 31 10:24:12.4±1.3, 18.°37N±0.°07×70.°44W±0.°04, h26km±8km, n9, σ0°74/16, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.08**	**72**	⇑*e*Pg	**Pb**	**10 24 17.1**	**-0.2**
BANI				⇑*e*Sg	**Sb**	**10 24 20.5**	**-0.1**
BANI				IAML		10 24 21.3	
	comp=N,959nm,0.2s						
DR08	**Loma La Naviza**	**0.71**	**34**	⇓*e*Pg	**Pb**	**10 24 26.5**	**+0.1**
DR08				⇑*e*Sg	**Sn**	**10 24 36.3**	**-0.7**
DR08				IAML		10 24 36.8	
	comp=N,800nm,0.2s						
LODU1	**El Espartillar**	**0.98**	**269**	*i* P	**Pb**	**10 24 30.2**	**-0.5**
LODU1				*e*S	**Sb**	**10 24 44.8**	**+1.5**
LODU1				IAML		10 24 47.4	
	comp=Z,36nm,0.5s						
LONE3	**El Aguacate, B**	**0.99**	**284**	*i* P	**Pb**	**10 24 30.4**	**-0.7**
LONE3				*e*S	**Sb**	**10 24 44.9**	**+1.0**
LONE3				IAML		10 24 48.1	
	comp=Z,18nm,3.2s						
SDDR	**Presa de Saban**	**1.01**	**308**	*e*S	**Sb**	**10 24 44.2**	**+0.1**
SDDR				IAML		10 24 46.8	
	comp=Z,12nm,0.5s						
LOVI	**El Cajuil, Ovi**	**1.05**	**237**	*i* P	**Pb**	**10 24 31.4**	**-0.4**
LOVI				*e*S	**Sb**	**10 24 45.3**	**+0.1**
LOVI				IAML		10 24 45.9	
	comp=Z,62nm,0.9s						
HATOM	**Hato Mayor del**	**1.09**	**67**	⇑*e*Pg	**Pb**	**10 24 33.0**	**+0.3**
HATOM				⇑*e*Sg	**Sb**	**10 24 47.1**	**+0.6**
HATOM				IAML		10 24 48.4	
	comp=N,22nm,0.4s						
LOBH	**Bahia de las A**	**1.24**	**246**	*i* P	**Pb**	**10 24 35.1**	**-0.2**
LOBH				*e*S	**Sb**	**10 24 51.8**	**+1.0**
LOBH				IAML		10 24 55.7	
	comp=Z,34nm,1.7s						
MIDR	**Miches**	**1.46**	**65**	⇑*e*Pg	**Pb**	**10 24 38.3**	**-0.5**
MIDR				IAML		10 24 59.5	
	comp=N,20nm,3.0s						

*IDC **31** 10:41:10.4±0.8, 6.°67N×125.°21E, h0km, mb3.6/9, mbtmp3.6/9, MS3.6/32, Error ellipse: s-maj=17.1km s-min=8.5km az=133.0*
*NEIC **31** 10:41:16.9±1.2, 7.°07N±0.°10×125.°4E±0.°1, h10km±1km, mb4.5/22, Error ellipse: s-maj=19.8km s-min=14.5km az=55.0*
*DJA **31** 10:41:18.3±0.7, 7.°N±5.°×12.°5E±.°, h10km, M4.9/12, mb4.9/12, mB5.4/9, MLv4.9/11, Mw(mB)4.8/9*
ISC 31 10:41:17.6±1.2, 7.°15N±0.°06×125.°5E±0.°1, h18km±6km, n88, σ1°95/54, mb4.4/25, MS3.7/32, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.12**	**131**		**Pg**	**10 41 22.0**	**+0.5**
DAV	**Davao City (W)**	**0.12**	**131**	Pg	**Pg**	**10 41 22.0**	**+0.5**
	222nm,0.3s,baz=264,slow=8.2,SNR=18						
DAV				Lg	Lg	10 41 27.1	
	17μm,0.3s,baz=151,slow=22,SNR=17						
DAV	**Davao City (W)**	**0.12**	**131**	P	Pb	10 41 14.0	-6.1
SGSI	**Sangihe**	**3.44**	**179**	P	**Pn**	**10 42 12.1**	**+1.8**
SGSI				S	**Sn**	**10 42 52.8**	**+2.2**
TNTI	**Ternate**	**6.61**	**163**		**Pn**	**10 42 53.4**	**-0.4**
TNTI	**Ternate**	**6.61**	**163**	P	**Pn**	**10 42 56.4**	**+2.5**
	0.3nm1μm59nm,0.7s						
TNTI				S	**Sn**	**10 44 12.5**	**+3.8**
	0.3nm1μm59nm,0.7s						
KMSI	**Cibinong**	**6.70**	**193**	P	**Pn**	**10 42 55.6**	**+0.4**
MYLDM	**Lahad Datu**	**7.22**	**255**	Pn	**Pn**	**10 43 02.5**	**+0.2**
MRSI	**Marisa**	**7.51**	**208**	P	**Pn**	**10 43 04.8**	**-1.5**
	0.5nm1μm111nm,0.6s						
TOLI2	**Tolitoli**	**7.62**	**218**		**Pn**	**10 43 05.2**	**-2.6**
LUWI	**Luwuk**	**8.58**	**199**	Pn	**Pn**	**10 43 19.7**	**-1.2**
LUWI	**Luwuk**	**8.58**	**199**	P	**Pn**	**10 43 24.6**	**+3.7**
	2μm129nm,0.9s						
APSI	**Ampana**	**8.88**	**206**	P	**Pn**	**10 43 29.0**	**+4.0**
	2μm88nm,1.0s						
I39PW	**PALAU INFRASON**	**8.99**	**87**	I	I	11 36 38.4	
	baz=269,slow=298,SNR=2.3						
SANI	**Sanana**	**9.15**	**177**	P	**Pn**	**10 43 27.3**	**-1.5**
BNSI	**Bone**	**12.67**	**205**	P	**Pn**	**10 44 18.3**	**+1.3**
	789nm23nm,1.6s						
KAPI	**Kappang**	**13.37**	**206**	LR	LR	10 49 51.6	
	comp=Z,286nm,20.4s,baz=34,slow=41						
BKSI	**Bulukumba**	**13.50**	**204**	P	**Pn**	**10 44 30.3**	**+2.0**
SBUM	**Sibu**	**14.02**	**251**		**Pn**	**10 44 35.7**	**+0.2**
BATI	**Baumata**	**17.34**	**186**	LR	LR	10 53 01.4	
	comp=Z,232nm,19.2s,baz=8.5,slow=42						
JAY	**Jayapura**	**17.96**	**122**	LR	LR	10 51 06.9	
	comp=Z,104nm,21.1s,baz=322,slow=33						
JOW	**Kunigami**	**19.75**	**7**	LR	LR	10 53 05.2	
	comp=Z,124nm,20.5s,baz=226,slow=35						
MTN	**Manton Dam**	**20.64**	**164**	P	**P**	**10 45 56.5**	**+0.1**
KNRA	**Kununurra**	**22.91**	**172**		**P**	**10 46 19.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**25.09**	**180**		**P**	**10 46 39.8**	**-1.5**
JCJ	**Chichijima**	**25.40**	**37**	LR	LR	10 58 35.3	
	comp=Z,49nm,18.1s,baz=106,slow=40						
NJ2	**Nanjing**	**25.54**	**347**	*e*P	**P**	**10 46 47.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
JNU	**Nakatsue**	**26.32**	**10**	LR	LR	10 58 10.7	
	comp=Z,58nm,19.8s,baz=198,slow=38						
COEN	**Coen**	**27.35**	**140**	P	**P**	**10 47 01.2**	**-0.6**
COEN				IAmb	IAmb	10 47 16.5	
	comp=Z,6.2nm,0.8s						
WB0	**Warramunga Arr**	**28.14**	**162**		**P**	**10 47 07.6**	**-1.4**
WB0				IAmb	IAmb	10 47 39.9	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.18**	**296**	P	P	10 47 03.9	-5.4
	comp=Z,0.4nm,0.3s,baz=120,slow=6.7,SNR=7.9						
	comp=Z,0.4nm,0.3s						
WRAB	**Tennant Creek**	**28.29**	**162**	P	**P**	**10 47 09.0**	**-1.2**
WRAB				IAmb	IAmb	10 47 20.5	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**28.29**	**162**	P	**P**	**10 47 09.9**	**-0.4**
WRA	**Warramunga Arr**	**28.29**	**162**	P	P	10 47 03.0	-7.3
	comp=Z,0.3nm,0.7s,baz=341,slow=9.6,SNR=7.3						
	comp=Z,0.3nm,0.7s						
WB2	**Warramunga Arr**	**28.30**	**162**	P	**P**	**10 47 09.1**	**-1.2**
WB2				IAmb	IAmb	10 47 20.4	
	comp=Z,18nm,1.4s						
WR8	**Warramunga Arr**	**28.36**	**162**	P	**P**	**10 47 10.0**	**-0.8**
WR8				IAmb	IAmb	10 47 51.0	
	comp=Z,10nm,1.2s						
WR0	**Warramunga Arr**	**28.37**	**162**	P	**P**	**10 47 10.0**	**-1.0**
WR0				IAmb	IAmb	10 47 47.8	
	comp=Z,12nm,1.2s						
JHJ	**Hachijo jima 2**	**29.05**	**25**	LR	LR	10 59 24.1	
	comp=Z,117nm,18.8s,baz=230,slow=37						
PZH	**PanZhiHua**	**29.68**	**313**	P	**P**	**10 47 25.8**	**+3.1**
MJAR	**Matsushiro Arr**	**31.48**	**20**	LR	LR	11 01 46.1	
	comp=Z,106nm,18.0s,baz=204,slow=39						
AS31	**Alice Springs**	**31.71**	**165**		**P**	**10 47 39.8**	**-0.8**
ASAR	**Alice Springs**	**31.71**	**165**	P	**P**	**10 47 39.6**	**-0.9**
ASAR	**Alice Springs**	**31.71**	**165**	P	P	10 47 32.5	-8.1
	comp=Z,0.4nm,1.0s,baz=347,slow=7.7,SNR=26						
	comp=Z,0.4nm,1.0s						
LZH	**Lanzhou**	**34.95**	**329**	*e*P	**P**	**10 48 13.3**	**+4.4**
LZH				sP	sP	10 48 20.8	+4.0
LZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LZH				LR	LR		
	comp=N,210nm,13.4s						
LZH				LR	LR		
	comp=E,230nm,13.4s						
LZH				LR	LR		
	comp=Z,250nm,12.7s						
HHC	**Hu-ho-hao-te**	**35.79**	**342**	*e*P	**P**	**10 48 19.8**	**+3.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.6s						
HHC				LR	LR		
	comp=N,120nm,19.3s						
HHC				LR	LR		
	comp=E,190nm,20.2s						
HHC				LR	LR		
	comp=Z,130nm,19.3s						
BRDH	**Bariadhala**	**36.04**	**299**	LR	LR	11 05 23.7	
	comp=Z,96nm,18.1s,baz=142,slow=40						
SHL	**Shillong**	**36.91**	**304**		**P**	**10 48 24.8**	**-1.1**
SHL				IAmb	IAmb	10 48 30.2	
	comp=Z,17nm,1.0s						
INKA	**Innaminka**	**37.69**	**158**	P	**P**	**10 48 31.3**	**-0.8**
FORT	**Forrest**	**37.79**	**176**	P	**P**	**10 48 31.8**	**-1.1**
FORT				IAmb	IAmb	10 48 39.1	
	comp=Z,7.0nm,0.8s						
GTA	**Gaotai**	**39.55**	**328**	*e*P	**P**	**10 48 52.0**	**+4.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				LR	LR		
	comp=N,180nm,17.1s						
GTA				LR	LR		
	comp=E,110nm,17.1s						
GTA				LR	LR		
	comp=Z,180nm,16.7s						
ASAJ	**Asahikawa**	**39.75**	**19**	LR	LR	11 07 15.0	
	comp=Z,59nm,18.1s,baz=118,slow=39						
NWAO	**Narrogin (SRO)**	**40.62**	**191**	P	**P**	**10 48 54.7**	**-1.8**
EIDS	**Eidsvold**	**40.80**	**143**	P	**P**	**10 48 58.0**	**-0.1**
EIDS				IAmb	IAmb	10 49 23.9	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**40.99**	**166**	P	**P**	**10 48 59.2**	**-0.4**
STKA	**Stephens Creek**	**41.74**	**159**	P	**P**	**10 49 05.4**	**-0.4**
STKA	**Stephens Creek**	**41.74**	**159**	P	P	10 48 57.9	-7.9
	comp=Z,0.8nm,0.6s,baz=337,slow=7.7,SNR=1.3						
	comp=Z,0.8nm,0.6s						
EVN	**Everest**	**42.01**	**304**		**P**	**10 49 09.4**	**+0.5**
EVN				IAmb	IAmb	10 49 14.0	
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**43.69**	**341**	P	**P**	**10 49 20.4**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.5,SNR=5.1						
SONM				LR	LR	11 08 47.9	
	comp=Z,105nm,21.4s,baz=155,slow=38						
	comp=Z,0.4nm,0.4s						
PALK	**Pallekele**	**44.42**	**273**	LR	LR	11 07 32.9	
	comp=Z,41nm,21.6s,baz=82,slow=36						
WMQ	**Urumqi**	**49.24**	**324**	*e*P	**P**	**10 50 05.5**	**+0.3**
WMQ				LR	LR		
	comp=Z,120nm,17.9s						
PETK	**Petropavlovsk-**	**52.78**	**24**	LR	LR	11 14 03.8	
	comp=Z,43nm,18.7s,baz=214,slow=37						
MKAR	**Makanchi Array**	**54.07**	**324**	P	**P**	**10 50 39.1**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=126,slow=7.8,SNR=7.9						
MKAR				LR	LR	11 13 37.0	
	comp=Z,44nm,21.3s,baz=126,slow=36						
	comp=Z,0.6nm,0.8s						
KSH	**Kashi**	**54.78**	**314**	P	P	10 50 52.0	+5.4
YAK	**Yakutsk**	**54.86**	**2**	LR	LR	11 14 28.9	
	comp=Z,46nm,21.3s,baz=172,slow=36						
ZALV	**Zalesovo Beam**	**57.00**	**333**	LR	LR	11 16 46.3	
	comp=Z,38nm,19.6s,baz=148,slow=37						
AAK	**Ala-Archa**	**57.02**	**317**	LR	LR	11 17 45.5	
	comp=Z,98nm,21.8s,baz=95,slow=38						
KURBB	**Kur

Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.87**	**161**	P	Pb	10 42 46.7	-0.9
URIC				S	Sb	10 42 58.8	0.0
CRJC	**Cerrejon, Guaj**	**1.61**	**202**	P	Pn	10 42 57.2	-0.9
CRJC				S	Sn	10 43 17.5	-0.6
SJCC	**San Jacinto, C**	**3.87**	**228**	P	Pn	10 43 29.5	+0.4
SDV	**Santo Domingo**	**3.97**	**156**	P	Pn	10 43 28.8	-1.8
SDV				S	Sn	10 44 12.8	-3.6
OCAC	**Ocana**	**4.38**	**194**	P	Pn	10 43 34.3	-2.0
OCAC				S	Sn	10 44 24.8	-1.9
BRJC	**Barrancabermej**	**5.71**	**195**	P	Pn	10 43 54.6	+0.3
	23nm,0.6s						
BRJC				S	Sn	10 44 57.6	-1.5
	23nm,0.6s						
BARC	**Barichara**	**5.97**	**189**	P	Pn	10 43 59.7	+1.6
PTBC	**PUERTO BERRIO,**	**6.33**	**200**	P	Pn	10 44 03.6	+0.7
	110nm3.4nm,0.6s						
PTBC				S	Sn	10 45 14.0	-0.4
	110nm3.4nm,0.6s						
RUSC	**La Rusia**	**6.64**	**187**	P	Pn	10 44 08.2	+0.6
HELC	**Santa Helena**	**7.07**	**207**	P	Pn	10 44 16.6	+3.2

*IDC **31** 10:56:01.3±1.2, 6°.72N×125°.46E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/12, Error ellipse: s-maj=37.8km s-min=8.1km az=105.0*
*DJA **31** 10:56:02.9±0.4, 7°.N±14°×12°.6E±°, h10km±15km, M4.5/9, mb4.5/9, mB5.8/1, MLv4.5/8, Mw(mB)5.3/1*
ISC 31 10:56:02.3±1.1, 6°.9N±0°.1×125°.7E±0°.2, h10km, n24, σ1°59/12, mb3.5/4, MS3.3/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.24**	**318**	Pg	**Pg**	**10 56 08.0**	**+0.7**
	9μm,0.3s,baz=301,slow=2.6,SNR=383						
DAV				Lg	Lg	10 56 13.9	
	5μm,0.3s,baz=110,slow=22,SNR=18						
DAV	**Davao City (W)**	**0.24**	**318**	P	**Pg**	**10 56 04.0**	**-3.3**
SGSI	**Sangihe**	**3.19**	**184**	P	**Pn**	**10 56 51.6**	**-0.9**
TNTI	**Ternate**	**6.29**	**165**	P	Pn	10 57 40.8	+5.7
KMSI	**Cibinong**	**6.51**	**196**	P	**Pn**	**10 57 38.9**	**+0.7**
	92nm,1.1s						
MRSI	**Marisa**	**7.41**	**211**	P	**Pn**	**10 57 51.2**	**+0.6**
	0.2nm42nm,0.8s						
APSI	**Ampana**	**8.76**	**208**	P	**Pn**	**10 58 08.5**	**-0.6**
	29nm,0.9s						
SANI	**Sanana**	**8.88**	**178**	P	**Pn**	**10 58 12.0**	**+1.2**
	25nm,0.9s						
NLAI	**Namlea**	**10.15**	**172**	P	**Pn**	**10 58 26.2**	**-2.0**
KAPI	**Kappang**	**13.25**	**207**	LR	LR	11 04 27.2	
	comp=Z,116nm,20.7s,baz=46,slow=39						
BATI	**Baumata**	**17.11**	**187**	LR	LR	11 07 46.8	
	comp=Z,93nm,18.2s,baz=120,slow=42						
JOW	**Kunigami**	**19.98**	**7**	LR	LR	11 08 12.7	
	comp=Z,57nm,21.0s,baz=137,slow=36						
JNU	**Nakatsue**	**26.54**	**10**	LR	LR	11 11 13.3	
	comp=Z,39nm,21.3s,baz=218,slow=34						
WRA	**Warramunga Arr**	**27.97**	**163**	P	**P**	**11 01 52.5**	**-0.8**
	0.6nm,0.8s,baz=341,slow=8.9,SNR=2.7						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.52**	**296**	LR	LR	11 12 59.8	
	comp=Z,46nm,20.8s,baz=110,slow=36						
JHJ	**Hachijo jima 2**	**29.18**	**25**	LR	LR	11 14 19.8	
	comp=Z,42nm,18.6s,baz=18,slow=37						
ASAR	**Alice Springs**	**31.39**	**166**	P	**P**	**11 02 24.1**	**+0.4**
	0.3nm,0.4s,baz=340,slow=7.7,SNR=11						
	0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**31.64**	**19**	LR	LR	11 16 14.5	
	comp=Z,59nm,18.1s,baz=190,slow=38						
BRDH	**Bariadhala**	**36.39**	**299**	LR	LR	11 20 09.2	
	comp=Z,71nm,18.6s,baz=138,slow=40						
ASAJ	**Asahikawa**	**39.91**	**19**	LR	LR	11 22 09.6	
	comp=Z,37nm,18.1s,baz=181,slow=39						
SONM	**Songino Array**	**44.01**	**341**	P	**P**	**11 04 12.0**	**+1.8**
	0.3nm,0.3s,baz=169,slow=8.7,SNR=4.0						
SONM				LR	LR	11 23 09.5	
	comp=Z,70nm,19.2s,baz=159,slow=37						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.42**	**324**	P	**P**	**11 05 29.9**	**+0.1**
	0.3nm,0.6s,baz=115,slow=6.8,SNR=2.4						
	0.3nm,0.6s						
YAK	**Yakutsk**	**55.11**	**2**	LR	LR	11 31 09.6	
	comp=Z,27nm,18.0s,baz=172,slow=38						
SEY	**Seymchan**	**59.21**	**14**	LR	LR	11 34 25.9	
	comp=Z,23nm,18.1s,baz=178,slow=39						

*PRE **31** 11:19:21.4±3.6, 30°.54S×30°.16E, h5km, ML3.8*
*NEIC **31** 11:19:23.3±1.4, 30°.50S±0°.08×30°.1E±0°.1, h5km±1km, mb4.2/10, Error ellipse: s-maj=16.2km s-min=12.8km az=106.0*
*IDC **31** 11:19:23.1±1.7, 30°.32S×30°.19E, h0km, mb4.0/2, mbtmp3.9/3, ML3.3/1, MS2.9/5, Error ellipse: s-maj=84.9km s-min=21.2km az=21.0*
*BGSI **31** 11:19:27.1±1.6, 30°.51S×30°.26E, h4km±250km, ML4.0*
ISC 31 11:19:22.8±0.7, 30°.42S±0°.05×30°.09E±0°.05, h10km, n87, σ2°44/116, mb4.0/6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSTD	**Kokstad**	**0.70**	**254**	*e*P	**Pb**	**11 19 38.0**	**+0.9**
KSTD				*e*S	**Sg**	**11 19 47.0**	**+1.5**
KSTD				IAML		11 19 48.0	
	comp=Z,3μm,0.3s						
PMBG	**Pietermaritzbu**	**0.98**	**22**	*e*P	**Pn**	**11 19 45.5**	**+2.8**
PMBG				*e*S	**Sn**	**11 19 57.4**	**+0.8**
PMBG				IAML		11 19 59.5	
	comp=Z,12μm,0.2s						
NWCL	**Newcastle**	**2.68**	**356**	*e*P	**Pb**	**11 20 10.7**	**-0.3**
NWCL				*e*S	**Sn**	**11 20 42.5**	**+3.8**
NWCL				IAML		11 20 57.6	
	comp=Z,863nm,0.4s						
SNKL	**Senekal, Frees**	**2.94**	**316**	*e*P	**Pn**	**11 20 12.5**	**+2.7**
SNKL				*e*S	**Sn**	**11 20 45.6**	**+0.3**
SNKL				IAML		11 21 04.4	
	comp=Z,667nm,0.6s						
TEMBE	**Tembe Elephant**	**3.95**	**32**	*e*P	**Pn**	**11 20 25.1**	**+1.7**
TEMBE				*e*S	**Sn**	**11 21 09.2**	**-0.5**
TEMBE				IAML		11 21 37.5	
	comp=Z,738nm,0.7s						
HVD	**Gariep Dam**	**3.96**	**266**	*e*P	**Pn**	**11 20 24.6**	**+0.9**
HVD				*e*S	**Sn**	**11 21 12.4**	**+2.0**
PRYS	**Parys**	**4.23**	**325**	*e*P	**Pn**	**11 20 29.7**	**+2.3**
PRYS				*e*S	**Sn**	**11 21 19.7**	**+2.8**
PRYS				IAML		11 21 39.3	
	comp=Z,149nm,0.3s						
GRHM	**Grahamstown, E**	**4.25**	**227**	Pn	**Pn**	**11 20 27.6**	**0.0**
GRHM	**Grahamstown, E**	**4.25**	**227**	*e*P	**Pn**	**11 20 27.4**	**-0.2**
GRHM				*e*S	**Sn**	**11 21 15.1**	**-2.2**
GRHM				IAML		11 21 52.9	
	comp=Z,399nm,0.6s						
BOSA	**Boshof**	**4.58**	**292**	Pn	**Pn**	**11 20 34.1**	**+1.9**
BOSA	**Boshof**	**4.58**	**292**	Pn	**Pn**	**11 20 34.4**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=112,slow=11,SNR=24						
BOSA				Pg	Pb	11 20 49.0	+5.7
	comp=Z,4.1nm,0.3s,baz=119,slow=18,SNR=19						
BOSA				Lg	Lg	11 21 49.4	
	comp=Z,17nm,0.3s,baz=220,slow=21,SNR=6.1						
BOSA				LR	LR	11 22 37.5	
	comp=Z,100nm,19.1s,baz=124,slow=42						
	comp=Z,2.1nm,0.2s						
BOSA	**Boshof**	**4.58**	**292**	*e*P	**Pn**	**11 20 34.7**	**+2.5**
BOSA				*e*S	**Sn**	**11 21 27.9**	**+2.4**
BOSA				IAML		11 21 53.4	
	comp=Z,81nm,0.6s						
BOSA	**Boshof**	**4.58**	**292**	*i* P	**Pn**	**11 20 36.0**	**+3.8**
BOSA				*i* S	Sn	11 21 34.7	+9.1
WDLM	**Western Deep L**	**4.62**	**329**	*e*P	**Pn**	**11 20 35.3**	**+2.4**
WDLM				*e*S	**Sn**	**11 21 29.8**	**+3.0**
WDLM				IAML		11 22 00.1	
	comp=Z,256nm,0.6s						
HRAO	**HartRAO**	**4.99**	**334**	*e*P	**Pn**	**11 20 40.6**	**+2.8**
HRAO				*e*S	**Sn**	**11 21 37.9**	**+2.2**
HRAO				IAML		11 22 05.8	
	comp=Z,160nm,0.4s						
GRAF	**Camdeboo Natio**	**5.13**	**247**	*e*P	**Pn**	**11 20 42.2**	**+2.5**
GRAF				*e*S	**Sn**	**11 21 39.1**	**0.0**
GRAF				IAML		11 22 06.0	
	comp=Z,269nm,0.3s						
NMMU	**Nelson Mandela**	**5.17**	**225**	*e*P	**Pn**	**11 20 39.7**	**-0.5**
NMMU				*e*S	**Sn**	**11 21 36.5**	**-3.4**
SWZ	**Schweizer**	**5.28**	**307**	*e*P	**Pn**	**11 20 44.7**	**+2.9**
SWZ				*e*S	**Sn**	**11 21 45.1**	**+2.4**
SWZ				IAML		11 22 21.2	
	comp=Z,108nm,0.6s						
PILG	**Pilgrimsrest,**	**5.50**	**6**	*e*P	**Pn**	**11 20 46.1**	**+1.1**
PILG				*e*S	**Sn**	**11 21 45.6**	**-2.8**
PILG				IAML		11 22 20.0	
	comp=Z,262nm,0.5s						
BFON	**Badsfontein, M**	**5.66**	**254**	*e*P	**Pn**	**11 20 48.1**	**+1.1**
BFON				*e*S	**Sn**	**11 21 48.9**	**-3.2**
BFON				IAML		11 22 26.9	
	comp=Z,231nm,0.4s						
BUFB	**Buffelsbos**	**5.86**	**229**	*e*P	**Pn**	**11 20 49.3**	**-0.3**
BUFB				*e*S	**Sn**	**11 21 51.2**	**-5.6**
BUFB				IAML		11 22 26.2	
	comp=Z,140nm,0.3s						
KROM	**Kromhout**	**5.93**	**230**	*e*P	**Pn**	**11 20 50.0**	**-0.6**
KROM				*e*S	**Sn**	**11 21 53.9**	**-4.7**
KROM				IAML		11 22 28.4	
	comp=Z,1μm,0.8s						
ROOI	**Rooidraai Farm**	**5.95**	**248**	*e*P	**Pn**	**11 20 52.3**	**+1.3**
ROOI				*e*S	**Sn**	**11 21 57.9**	**-1.4**
ROOI				IAML		11 22 33.5	
	comp=Z,172nm,0.9s						
HOED	**Hoedspruit, Li**	**6.03**	**7**	*e*P	**Pn**	**11 20 53.8**	**+1.7**
HOED				*e*S	**Sn**	**11 21 57.8**	**-3.6**
HOED				IAML		11 22 42.6	
	comp=Z,176nm,0.5s						
BRAK	**Brakfontein**	**6.32**	**256**	*e*P	**Pn**	**11 20 56.6**	**+0.6**
BRAK				*e*S	**Sn**	**11 22 04.8**	**-3.5**
BRAK				IAML		11 22 50.7	
	comp=Z,104nm,0.4s						
MAKGR	**Makgori**	**6.55**	**313**	*i* P	Pn	11 21 04.4	+5.1
MAKGR				IAML		11 22 56.5	
	comp=N,498nm,0.5s						
LBTB	**Lobatse**	**6.70**	**322**	Pn	**Pn**	**11 21 03.1**	**+1.8**
LBTB	**Lobatse**	**6.70**	**322**	LR	LR	11 23 30.0	
	comp=N,42nm,20.2s,baz=164,slow=37						
LBTB	**Lobatse**	**6.70**	**322**	*e*P	**Pn**	**11 21 04.0**	**+2.7**
LBTB				*e*S	**Sn**	**11 22 15.8**	**-2.0**
LBTB				IAML		11 23 12.3	
	comp=Z,74nm,0.5s						
LBTB	**Lobatse**	**6.70**	**322**	*i* P	**Pn**	**11 21 04.5**	**+3.2**
LBTB				*i* S	**Sn**	**11 22 23.6**	**+5.8**
ALKP	**Alkanpan, Nort**	**6.80**	**272**	*e*P	**Pn**	**11 21 04.3**	**+1.6**
ALKP				*e*S	Sn	11 22 13.6	-6.7
ALKP				IAML		11 23 07.0	
	comp=Z,58nm,0.5s						
LEPH	**Lephalale, Lim**	**6.85**	**342**	*e*P	**Pn**	**11 21 05.5**	**+2.1**
LEPH				*e*S	**Sn**	**11 22 17.0**	**-4.5**
LEPH				IAML		11 23 06.8	
	comp=Z,133nm,0.6s						
MOPA	**Mopani**	**6.98**	**10**	*e*P	**Pn**	**11 21 06.3**	**+1.2**
MOPA				*e*S	**Sn**	**11 22 17.3**	**-7.3**
MOPA				IAML		11 23 10.8	
	comp=Z,336nm,0.6s						
MOPA	**Mopani**	**6.98**	**10**	*i* P	**Pn**	**11 21 05.8**	**+0.7**
MOPA				*i* S	**Sn**	**11 22 21.2**	**-3.3**
GRAN	**Grantham**	**7.02**	**253**	*e*P	**Pn**	**11 21 06.6**	**+0.9**
GRAN				*e*S	**Sn**	**11 22 22.3**	**-3.4**
GRAN				IAML		11 23 08.3	
	comp=Z,100nm,0.7s						
FRAZ	**Fraserburg**	**7.59**	**256**	*e*P	**Pn**	**11 21 14.4**	**+0.9**
FRAZ				*e*S	**Sn**	**11 22 38.0**	**-1.6**
FRAZ				IAML		11 23 38.8	
	comp=Z,57nm,0.3s						
MERW	**Merweville**	**7.64**	**251**	*e*P	**Pn**	**11 21 14.8**	**+0.5**
MERW				*e*S	**Sn**	**11 22 37.1**	**-3.9**
MERW				IAML		11 23 35.9	
	comp=Z,118nm,0.4s						
LPHEP	**Lephephe**	**7.98**	**331**	Pn	**Pn**	**11 21 21.2**	**+2.3**
LPHEP	**Lephephe**	**7.98**	**331**	*i* P	**Pn**	**11 21 22.4**	**+3.5**
LPHEP				*i* S	**Sn**	**11 22 48.2**	**-1.1**
LPHEP				IAML		11 23 45.9	
	comp=E,77nm,0.6s						
SKOMA	**Sekoma**	**8.03**	**316**	*i* P	**Pn**	**11 21 22.0**	**+2.4**
SKOMA				IAML		11 23 51.1	
	comp=N,135nm,1.3s						
PHPEN	**Phepeng**	**8.07**	**306**	Pn	**Pn**	**11 21 20.9**	**+0.7**
MUSN	**Musina, Limpop**	**8.11**	**359**	*e*P	**Pn**	**11 21 23.0**	**+2.5**
MUSN				*e*S	**Sn**	**11 22 51.5**	**-0.8**
MUSN				IAML		11 23 05.0	
	comp=Z,62nm,0.5s						
MUSN	**Musina, Limpop**	**8.11**	**359**	*i* P	**Pn**	**11 21 20.8**	**+0.2**
MUSN				*i* S	**Sn**	**11 22 49.4**	**-2.9**
SUR	**Sutherland**	**8.16**	**254**	Pn	**Pn**	**11 21 21.8**	**+0.2**
SUR	**Sutherland**	**8.16**	**254**	*e*P	**Pn**	**11 21 23.1**	**+1.6**
SUR				*e*S	**Sn**	**11 22 52.0**	**-2.0**
SUR				IAML		11 23 46.8	
	comp=Z,82nm,0.3s						
MREMI	**Moremi**	**8.17**	**343**	*i* P	**Pn**	**11 21 24.4**	**+2.8**
MREMI				*i* S	**Sn**	**11 22 51.0**	**-3.0**
MREMI				IAML		11 23 10.3	
	comp=N,123nm,0.3s						
KDWAN	**Kaudwane**	**8.52**	**324**		**Pn**	**11 21 27.8**	**+1.4**
KDWAN	**Kaudwane**	**8.52**	**324**	*i* P	**Pn**	**11 21 28.7**	**+2.4**
KDWAN				*i* S	**Sn**	**11 23 00.1**	**-2.5**
KDWAN				IAML		11 23 59.7	
	comp=E,161nm,1.0s						
MATJ	**Matjiesfontein**	**8.57**	**248**	*e*P	**Pn**	**11 21 27.1**	**+0.1**
MATJ				*e*S	Sn	11 22 54.4	-9.3
MATJ				IAML		11 23 53.0	
	comp=Z,108nm,0.5s						
ARMS	**Ukamas**	**9.35**	**282**	*i* P	**Pn**	**11 21 39.6**	**+2.0**
ARMS				*i* S		11 24 30.6	
BROLN	**Tlhalogang**	**9.61**	**344**	*i* P	**Pn**	**11 21 44.0**	**+2.7**
BROLN				IAML		11 23 29.2	
	comp=E,48nm,0.5s						
PRTV	**Porterville,We**	**9.72**	**251**	*e*P	**Pn**	**11 21 43.8**	**+1.0**
PRTV				*e*S	**Sn**	**11 23 28.0**	**-4.1**
PRTV				IAML		11 23 43.9	
	comp=Z,11nm,0.7s						
LKGWB	**Lokgwabe**	**10.08**	**306**		Pn	11 21 42.7	-5.1
KGCAE	**Kacgae**	**10.32**	**315**		**Pn**	**11 21 51.3**	**+0.3**
KGCAE	**Kacgae**	**10.32**	**315**	*i* P	**Pn**	**11 21 54.0**	**+3.1**
KGCAE				*i* S	**Sn**	**11 23 41.5**	**-5.3**
KGCAE				IAML		11 25 05.9	
	comp=E,187nm,1.2s						
BLWY	**Bulawayo**	**10.33**	**352**	*i* P	**Pn**	**11 21 51.3**	**+0.1**
BLWY				*i* S	**Sn**	**11 23 42.3**	**-4.7**
KOMG	**Komaggas**	**10.93**	**270**	*e*P	**Pn**	**11 22 00.8**	**+1.6**
KOMG				*e*S	**Sn**	**11 23 58.4**	**-3.4**
KOMG				IAML		11 24 35.9	
	comp=Z,5.9nm,0.8s						
PHDHD	**Phuduhudu**	**11.35**	**333**		**Pn**	**11 22 06.4**	**+1.3**
PHDHD	**Phuduhudu**	**11.35**	**333**	*i* P	**Pn**	**11 22 07.1**	**+2.0**
PHDHD				IAML		11 25 47.0	
	comp=N,103nm,1.0s						
KOOLE	**Kule**	**11.52**	**308**	Pn	**Pn**	**11 22 08.4**	**+0.9**
GRTLG	**Ghanzi**	**12.04**	**316**	Pn	**Pn**	**11 22 15.5**	**+0.9**
AUSN	**Aus**	**12.71**	**284**	*i* P	Pn	11 22 14.6	-9.3
AUSN				*i* S	Sn	11 25 32.1	+47
GOBN	**Gobabis**	**12.79**	**306**	*i* P	Pn	11 22 18.6	-6.3
GOBN				*i* S	**Sn**	**11 24 46.6**	**-0.9**
KSANE	**Kasane**	**13.34**	**339**		**Pn**	**11 22 32.4**	**0.0**
QNGWA	**Qangwa**	**13.52**	**321**	Pn	**Pn**	**11 22 35.3**	**+0.5**
KATM	**Katima Mulilo**	**13.91**	**336**	*i* P	**Pn**	**11 22 41.4**	**+1.2**
KATM				*i* S	**Sn**	**11 25 10.9**	**-4.0**
WIN	**Windhoek**	**14.01**	**301**	*i* P	**P**	**11 22 47.5**	**-2.1**
WIN				*i* S	S	11 26 52.6	+74
LSZ	**Lusaka**	**15.18**	**353**	Pn	**Pn**	**11 22 59.4**	**+2.0**
LSZ				IAmb	IAmb	11 23 14.6	
	comp=Z,13nm,0.7s						
KARI	**Karibib**	**15.30**	**300**	*i* P	**P**	**11 23 05.2**	**+1.3**
KARI				*i* S	S	11 26 59.2	+54
TSUM	**Tsumeb**	**15.91**	**312**	Pn	**Pn**	**11 23 08.0**	**+1.0**
TSUM	**Tsumeb**	**15.91**	**312**	LR	LR	11 29 23.8	
	comp=Z,67nm,20.8s,baz=155,slow=38						
VOI	**Vohitsoka**	**17.21**	**64**	Pn	**P**	**11 23 23.9**	**-1.2**
LODK	**Lodwar**	**34.03**	**9**	P	**P**	**11 26 08.0**	**+0.8**
LODK				IAmb	IAmb	11 26 19.3	
	comp=Z,1.5nm,0.9s						
SHEL	**Horse Pasture**	**35.77**	**286**	P	**P**	**11 26 22.9**	**+0.6**
FURI	**Furi**	**39.96**	**13**	LR	LR	11 43 15.3	
	comp=Z,23nm,18.7s,baz=134,slow=36						
TORD	**Torodi Ar. Bea**	**51.22**	**324**	IAmb	IAmb	11 28 43.5	
	comp=Z,2.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**51.22**	**324**	P	**P**	**11 28 27.6**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=139,slow=7.0,SNR=2.5						
	comp=Z,1.4nm,0.3s						
PALK	**Pallekele**	**61.29**	**61**	LR	LR	11 51 01.9	
	comp=Z,23nm,19.5s,baz=236,slow=31						
PMSA	**Palmer Station**	**64.62**	**208**	P	**P**	**11 29 59.8**	**-0.3**
EFI	**East Falkland**	**65.69**	**223**	P	**P**	**11 30 08.5**	**+1.2**
EFI				IAmb	IAmb	11 30 11.4	
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**68.49**	**170**	P	**P**	**11 30 25.8**	**+1.1**
VNDA				IAmb	IAmb	11 30 40.2	
	comp=Z,0.5nm,1.0s						
H01W2	**Cape Leeuwin H**	**68.86**	**119**	T	T	12 45 11.3	
	baz=248,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**68.87**	**119**	T	T	12 45 11.8	
	baz=248,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**68.88**	**119**	T	T	12 45 11.5	
	baz=248,slow=75,SNR=25						
SBA	**Scott Base**	**68.94**	**171**	P	**P**	**11 30 27.4**	**-0.1**
SBA				IAmb	IAmb	11 30 37.3	
	comp=Z,2.5nm,1.1s						
ASAR	**Alice Springs**	**89.31**	**117**	P	**P**	**11 32 21.5**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=244,slow=5.0,SNR=5.6						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**145.58**	**358**	PKPbc	**PKPab**	**11 39 02.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=341,slow=3.9,SNR=14						

ROM 31 11:21:26.7±0.3, 39°.702N±0°.008×15°.47E±0°.02, h9km±1km, ML2.2/26, Error ellipse: s-maj=1.1km s-min=0.9km az=72.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIS	**Grisolia**	**0.29**	**82**	P	Pg	11 21 33.3	+0.7
GRIS				S	Sb	11 21 38.1	-1.2
BULG	**Bulgheria - Ca**	**0.38**	**349**	P	Pg	11 21 34.6	+0.3
BULG				S	Sb	11 21 41.2	-0.7
BULG				AML	AML		
	comp=E,732μm,1.5s						
BULG				AML	AML		
	comp=N,1160μm,0.4s						
BULG				AML	AML		
	comp=E,764μm,1.4s						
BULG				AML	AML		
	comp=E,733μm,1.5s						
BULG				AML	AML		
	comp=N,1210μm,0.4s						
BULG				AML	AML		
	comp=N,1161μm,0.4s						
BULG				AML	AML		
	comp=N,1208μm,0.4s						
BULG				AML	AML		
	comp=E,705μm,0.4s						
BULG				AML	AML		
	comp=E,690μm,0.4s						
CUC	**Castrocucco**	**0.39**	**42**	P	Pg	11 21 34.6	+0.2
CUC				S	Sg	11 21 40.8	+1.2
CUC				AML	AML		
	comp=E,391μm,0.5s						
CUC				AML	AML		
	comp=N,360μm,0.8s						
CUC				AML	AML		
	comp=N,342μm,0.8s						
CUC				AML	AML		
	comp=N,360μm,0.8s						
CUC				AML	AML		
	comp=E,394μm,0.5s						
CUC				AML	AML		
	comp=E,341μm,0.2s						
CUC				AML	AML		
	comp=N,294μm,0.3s						
CUC				AML	AML		
	comp=E,334μm,0.2s						
CUC				AML	AML		
	comp=N,299μm,0.3s						
CUC				AML	AML		
	comp=E,341μm,1.8s						
CUC				AML	AML		
	comp=E,334μm,1.8s						
CET2	**Cetraro**	**0.41**	**115**	P	Pg	11 21 35.4	+0.7
CET2				S	Sg	11 21 41.3	+1.2
CET2				AML	AML		
	comp=E,525μm,0.3s						
CET2				AML	AML		
	comp=N,1040μm,0.3s						
CET2				AML	AML		
	comp=E,524μm,0.3s						
CET2				AML	AML		
	comp=E,525μm,0.3s						
CET2				AML	AML		
	comp=N,1038μm,0.3s						
MMN	**Mormanno**	**0.44**	**65**	P	Pb	11 21 36.3	-0.4
MMN				S	Sb	11 21 42.8	-0.6
SIRI	**Monte Sirino -**	**0.57**	**32**	P	Pg	11 21 38.1	+0.4
SIRI				AML	AML		
	comp=E,363μm,0.3s						
SIRI				AML	AML		
	comp=N,407μm,0.4s						
SIRI				AML	AML		
	comp=N,414μm,0.4s						
SIRI				AML	AML		
	comp=E,362μm,0.3s						
SIRI				AML	AML		
	comp=N,406μm,0.4s						
SIRI				AML	AML		
	comp=E,376μm,0.3s						
SIRI				AML	AML		
	comp=E,376μm,0.3s						
SIRI				AML	AML		
	comp=N,413μm,0.4s						
SIRI				AML	AML		
	comp=E,363μm,0.3s						
SIRI				AML	AML		
	comp=N,407μm,0.4s						
SIRI				AML	AML		
	comp=E,376μm,1.7s						
SIRI				AML	AML		
	comp=E,363μm,1.7s						
CMPR	**Campora**	**0.63**	**348**	P	Pg	11 21 38.7	-0.2
CMPR				S	Sb	11 21 48.2	-0.7
TDS	**Terranova Siba**	**0.67**	**93**	P	Pb	11 21 40.8	+0.2
TDS				AML	AML		
	comp=E,68μm,0.8s						
TDS				AML	AML		
	comp=N,65μm,1.0s						
TDS				AML	AML		
	comp=N,65μm,1.0s						
TDS				AML	AML		
	comp=E,48μm,0.4s						
TDS				AML	AML		
	comp=N,55μm,0.5s						
MCEL	**Monticello**	**0.67**	**22**	P	Pb	11 21 40.5	-0.2
MCEL				AML	AML		
	comp=E,3400μm,1.6s						
MCEL				AML	AML		
	comp=N,2945μm,1.6s						
MCEL				AML	AML		
	comp=E,102μm,1.4s						
MCEL				AML	AML		
	comp=N,125μm,0.7s						
MCEL				AML	AML		
	comp=E,102μm,0.3s						
MCEL				AML	AML		
	comp=N,125μm,0.7s						
MCEL				AML	AML		
	comp=N,125μm,1.3s						
SCHR	**S. Chiaro Rap**	**0.68**	**43**	P	Pb	11 21 40.5	-0.3
SALB	**San Lorenzo Be**	**0.69**	**75**	P	Pb	11 21 40.7	-0.4
SALB			

comp=E,274μm,0.3s
JOPP Joppolo 1.14 164 P Pg 11 21 47.9 -0.7
JOPP S Sg 11 22 03.1 -0.3

ROM 31 11:22:02.7±0.3, 39°72'N±0'01×15°46'E±0'02, h10km±2km, ML2.0/17, Error ellipse: s-maj=1.5km s-min=1.2km az=236.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIS	**Grisolia**	**0.30**	**86**	P	Pg	11 22 09.4	+0.6
GRIS				S	Sb	11 22 14.3	-1.0
BULG	**Bulgheria - Ca**	**0.36**	**350**	P	Pg	11 22 10.6	+0.6
BULG				S	Sb	11 22 16.7	-0.5
BULG				AML	AML		
	comp=E,339μm,1.4s						
BULG				AML	AML		
	comp=N,583μm,0.4s						
BULG				AML	AML		
	comp=E,368μm,1.4s						
BULG				AML	AML		
	comp=N,614μm,0.5s						
BULG				AML	AML		
	comp=N,583μm,0.4s						
BULG				AML	AML		
	comp=E,315μm,0.3s						
BULG				AML	AML		
	comp=N,613μm,0.5s						
BULG				AML	AML		
	comp=E,329μm,0.3s						
CUC	**Castrocucco**	**0.38**	**45**	P	Pg	11 22 10.6	+0.2
CUC				S	Sb	11 22 16.9	-0.8
CUC				AML	AML		
	comp=E,183μm,0.2s						
CUC				AML	AML		
	comp=N,139μm,0.1s						
CUC				AML	AML		
	comp=N,143μm,0.1s						
CET2	**Cetraro**	**0.42**	**117**	P	Pg	11 22 11.3	+0.2
CET2				S	Sg	11 22 17.7	+1.0
CET2				AML	AML		
	comp=E,249μm,0.1s						
CET2				AML	AML		
	comp=N,536μm,0.2s						
MMN	**Mormanno**	**0.44**	**67**	P	Pg	11 22 11.6	+0.3
MMN				S	Sb	11 22 18.6	-0.6
MMN				AML	AML		
	comp=E,406μm,1.0s						
MMN				AML	AML		
	comp=E,405μm,1.0s						
MMN				AML	AML		
	comp=N,581μm,1.1s						
MMN				AML	AML		
	comp=N,499μm,0.2s						
MMN				AML	AML		
	comp=E,377μm,0.2s						
SIRI	**Monte Sirino -**	**0.56**	**34**	P	Pb	11 22 14.3	-0.3
SIRI				AML	AML		
	comp=E,170μm,0.3s						
SIRI				AML	AML		
	comp=E,169μm,0.3s						
SIRI				AML	AML		
	comp=N,183μm,0.3s						
SIRI				AML	AML		
	comp=N,190μm,0.4s						
MCEL	**Monticello**	**0.66**	**23**	P	Pb	11 22 16.3	-0.1
CDRU	**Civita di Ruta**	**0.78**	**351**	P	Pg	11 22 17.0	-0.8
CDRU				S	Sg	11 22 28.4	+0.5
CDRU				AML	AML		
	comp=N,52μm,0.1s						
CDRU				AML	AML		
	comp=E,147μm,0.2s						
SPS2	**Spezzano della**	**0.80**	**122**	P	Pb	11 22 18.5	-0.3
SPS2				S	Sg	11 22 29.1	+0.5
CELI	**Celico**	**0.87**	**111**	P	Pg	11 22 19.6	+0.1
CELI				S	Sb	11 22 31.4	-0.3
CELI				AML	AML		
	comp=N,172μm,0.4s						
CELI				AML	AML		
	comp=E,147μm,0.3s						

*NNC **31** 11:24:43.8±1.6, 40°22'N×77°60'E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=10.8km s-min=10.4km az=136.0*
*SOME **31** 11:24:43.0, 40°20'N×77°58'E, h10km*
*KRNET **31** 11:24:47.4±0.1, 40°35'N×77°61'E, h15km, mb2.7*

ISC 31 11:24:46.2±2.6, 40°4'N±0°1'×77°58'E±0°05, h4km±17km, n35, σ1§49/53, 11C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.39**	**7**	⇑*i*P	**Pg**	**11 25 13.7**	**+0.8**
TARG				⇑*i*S	**Sg**	**11 25 33.1**	**+2.2**
JNKS	**Jany-Kuch**	**1.63**	**296**	⇓*e*P	**Pg**	**11 25 18.5**	**+1.1**
JNKS				⇓*e*S	**Sg**	**11 25 40.8**	**+2.3**
KDJ	**Kajisay**	**1.81**	**350**	⇓*i*P	**Pg**	**11 25 21.3**	**+0.5**
KDJ				⇓*i*S	**Sg**	**11 25 46.0**	**+1.8**
ULHL	**Ulahol**	**2.15**	**332**	⇑*i*P	**Pg**	**11 25 27.1**	**-0.2**
ULHL				⇑*i*S	**Sg**	**11 25 56.3**	**+1.1**
PRZ	**Przheval'sk**	**2.22**	**16**	⇓*e*P	**Pg**	**11 25 27.7**	**-1.0**
PRZ				⇓*e*S	**Sb**	**11 25 57.0**	**+2.1**
BOOM	**Boomskoye usch**	**2.47**	**331**	⇑*i*P	**Pb**	**11 25 31.2**	**0.0**
BOOM				⇑*i*S	**Sb**	**11 26 03.5**	**+1.4**
TNSS	**Tian-Shan**	**2.73**	**350**	Pg	**Pg**	**11 25 36.4**	**-2.1**
	2.8nm,0.4s						
TNSS				Lg	Lg	11 26 15.2	
	6.5nm,0.8s						
TNSS	**Tian-Shan**	**2.73**	**350**	*e*P	**Pg**	**11 25 36.4**	**-2.1**
	2.8nm,0.4s						
TNSS				*e*S	**Sg**	**11 26 14.8**	**+0.9**
	6.5nm,0.8s						
SATY	**Saty**	**2.78**	**13**	Pg	**Pg**	**11 25 37.5**	**-1.9**
	3.7nm,0.3s						
SATY				Lg	Lg	11 26 16.7	
	14nm,0.4s						
IZV	**Izvestkoviy**	**2.78**	**345**	Pg	**Pb**	**11 25 36.8**	**+0.3**
	3.1nm,0.5s						
IZV				Lg	Lg	11 26 15.5	
	19nm,0.4s						
IZV	**Izvestkoviy**	**2.78**	**345**	*e*P	**Pb**	**11 25 36.8**	**+0.3**
	3.1nm,0.5s						
IZV				*e*S	**Sg**	**11 26 15.5**	**-0.1**
	19nm,0.4s						
MDOK	**Medeo**	**2.84**	**352**	Pg	**Pg**	**11 25 39.0**	**-1.7**
	7.3nm,0.6s						
MDOK				Lg	Lg	11 26 19.6	
	22nm,0.6s						
ARLS	**Aral**	**2.89**	**303**	⇓*i*P	**Pb**	**11 25 37.6**	**-0.7**
ARLS				⇓*i*S	**Sb**	**11 26 14.4**	**+0.3**
KNDC	**Almaty**	**2.90**	**351**	⇑Pg	**Pb**	**11 25 35.3**	**-3.2**
	21nm,0.3s						
KNDC				⇑Lg	Lg	11 26 19.5	
	86nm,0.6s						
KOTS	**Kotyrbulak**	**2.91**	**353**	Pg	**Pg**	**11 25 40.3**	**-1.6**
	6.9nm,0.3s						
KOTS				Lg	Lg	11 26 21.4	
	23nm,0.3s						
KOTS	**Kotyrbulak**	**2.91**	**353**	*e*P	**Pg**	**11 25 40.3**	**-1.6**
	6.9nm,0.3s						
KOTS				*e*S	**Sg**	**11 26 21.4**	**+1.9**
	23nm,0.3s						
MTBS	**Maitube**	**2.91**	**343**	Pg	**Pb**	**11 25 39.2**	**+0.5**
	1.9nm,0.2s						
MTBS				Lg	Lg	11 26 19.4	
	7.8nm,0.3s						
MTBS	**Maitube**	**2.91**	**343**	*e*P	**Pb**	**11 25 39.2**	**+0.5**
	1.9nm,0.2s						
MTBS				*e*S	**Sg**	**11 26 19.4**	**-0.3**
	7.8nm,0.3s						
KST	**Kastek**	**2.95**	**336**	Pg	**Pg**	**11 25 40.9**	**-1.8**
	1.8nm,0.4s						
KST				Lg	Lg	11 26 22.4	
	13nm,0.6s						
KST	**Kastek**	**2.95**	**336**	*e*P	**Pg**	**11 25 40.9**	**-1.8**
	1.8nm,0.4s						
KST				*e*S	**Sg**	**11 26 22.4**	**+1.4**
	13nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**331**	⇓*i*P	**Pb**	**11 25 38.7**	**-1.1**
TKM2				⇓*i*S	**Sb**	**11 26 16.0**	**-0.5**
UCH	**Uchtor**	**2.98**	**310**	⇑*i*P	**Pb**	**11 25 39.1**	**-0.9**
UCH				⇑*i*S	**Sb**	**11 26 17.0**	**+0.1**
UZB	**Uzynbulak**	**3.00**	**21**	Pg	**Pb**	**11 25 40.1**	**-0.1**
	2.6nm,0.2s						
UZB				Lg	Lg	11 26 21.1	
	5.5nm,0.5s						
UZB	**Uzynbulak**	**3.00**	**21**	*e*P	**Pb**	**11 25 40.1**	**-0.1**
	2.6nm,0.2s						
UZB				*e*S	**Sg**	**11 26 21.1**	**-1.3**
	5.5nm,0.5s						
KURS	**Kuram**	**3.17**	**8**	Pg	**Pb**	**11 25 44.1**	**+1.0**
	3.8nm,0.3s						
KURS				Lg	Lg	11 26 28.1	
	7.8nm,0.6s						
DGS	**Degeres**	**3.19**	**336**	Pg	**Pg**	**11 25 45.3**	**-2.0**
	3.0nm,0.4s						
DGS				Lg	Lg	11 26 30.2	
	7.8nm,0.3s						
KPKS	**Kokpek**	**3.22**	**14**	Pg	**Pb**	**11 25 44.8**	**+0.8**
	0.6nm,0.4s						
KPKS				Lg	Lg	11 26 29.0	
	7.0nm,0.4s						
AAK	**Ala-Archa**	**3.26**	**316**	⇓Pg	**Pb**	**11 25 44.4**	**-0.2**
	1.7nm,0.8s						
AAK				⇑Lg	Lg	11 26 30.2	
	3.0nm,0.6s						
AAK	**Ala-Archa**	**3.26**	**316**	*i*P	**Pb**	**11 25 42.8**	**-1.8**
AAK				*i*S	**Sb**	**11 26 23.4**	**-1.3**
KTBS	**Karatobe**	**3.43**	**349**	Pg	**Pb**	**11 25 48.5**	**+1.0**
	1.7nm,0.5s						
KTBS				Lg	Lg	11 26 35.9	
	15nm,0.3s						
CHKK	**Chushkaly**	**3.53**	**353**	Pg	**Pg**	**11 25 50.9**	**-2.9**
	23nm,0.6s						
CHKK				Lg	Lg	11 26 39.9	
	16nm,0.3s						
CHKK	**Chushkaly**	**3.53**	**353**	*e*P	**Pg**	**11 25 51.0**	**-2.9**
	23nm,0.6s						
CHKK				*e*S	**Sg**	**11 26 39.9**	**+0.3**
	16nm,0.3s						
KRBS	**Karabastau**	**3.63**	**338**	Pg	**Pb**	**11 25 52.3**	**+1.3**
	1.3nm,0.5s						
KRBS				Lg	Lg	11 26 42.0	
	7.4nm,0.5s						
ARXS	**Arharly**	**3.87**	**3**	Pg	**Pb**	**11 25 56.7**	**+1.7**
	1.0nm,0.4s						
ARXS				Lg	Lg	11 26 50.1	
	11nm,0.5s						
ARXS	**Arharly**	**3.87**	**3**	*e*P	**Pb**	**11 25 56.6**	**+1.7**
ARXS				*e*S	**Sg**	**11 26 50.1**	**-0.3**

GII 31 11:34:57.7±0.0, 33°129N±0°003×35°607E±0°002, h9km, Mws1.8, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.09**	**30**	P	Pg	11 35 00.2	+0.1
GEM	**Giv'at Ha'Em**	**0.09**	**30**	S	Sg	11 35 02.1	+0.3
NATI	**Neve Ativ**	**0.17**	**39**	P	Pg	11 35 01.2	-0.2
NATI	**Neve Ativ**	**0.17**	**39**	S	Sg	11 35 04.0	+0.2
HDNS	**Had-Ness**	**0.20**	**172**	P	Pg	11 35 02.2	+0.4
HDNS	**Had-Ness**	**0.20**	**172**	S	Sg	11 35 05.7	+1.0
MMA0B	**Mount Meron ar**	**0.21**	**237**	P	Pg	11 35 02.1	+0.1
MMA0B	**Mount Meron ar**	**0.21**	**237**	S	Sg	11 35 05.5	+0.6
AMID	**Amiad**	**0.21**	**196**	P	Pg	11 35 02.1	+0.1
AMID	**Amiad**	**0.21**	**196**	S	Sg	11 35 05.0	+0.1
KNHM	**Kefar Nahum**	**0.25**	**186**	P	Pg	11 35 02.6	-0.1
KNHM	**Kefar Nahum**	**0.25**	**186**	S	Sg	11 35 05.6	-0.4

*UCR **31** 11:38:38.0±0.9, 11°47'N×85°91'W, h158km±11km, MW4.0*
*CATAC **31** 11:38:38.0±0.4, 11°N±3°×8°6'W±°, h160km±2km, M3.3/30, MLv3.3/30, Error ellipse: s-maj=8.2km s-min=3.1km az=51.0, confirmed*

ISC 31 11:38:37.8±1.8, 11°47'N±0°06×85°89'W±0°07, h168km±10km, n82, σ0§62/98, 33C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.06**	**101**	S	**Sn**	**11 39 15.8**	**-1.3**
MORN	**Al O del Volca**	**0.25**	**71**	⇑P	**Pn**	**11 39 00.6**	**+0.2**
CONN	**Concepcion**	**0.28**	**69**	⇑P	**Pn**	**11 39 00.6**	**+0.2**
NADN	**Granada**	**0.31**	**334**	P	**Pn**	**11 39 00.6**	**0.0**
NADN				S	**Sn**	**11 39 18.6**	**+0.6**
NADN	**Granada**	**0.31**	**334**	*e*P	**Pn**	**11 39 00.6**	**0.0**
CARN	**Rivas**	**0.46**	**127**	⇑P	**Pn**	**11 39 01.2**	**+0.2**
CARN				S	**Sn**	**11 39 19.9**	**+1.1**
CARN	**Rivas**	**0.46**	**127**	⇑*i*P	**Pn**	**11 39 01.0**	**0.0**
LCRUZ	**La Cruz**	**0.46**	**146**	⇑*i*P	**Pn**	**11 39 01.0**	**-0.1**
NANN	**Nandasmo**	**0.52**	**335**	S	**Sn**	**11 39 21.7**	**+2.2**
NANN	**Nandasmo**	**0.52**	**335**	⇑P	**Pn**	**11 39 02.5**	**+1.1**
SABN	**Sabanita**	**0.56**	**332**	P	**Pn**	**11 39 00.6**	**-0.9**
MAS3	**Al N del Volca**	**0.62**	**333**	P	**Pn**	**11 39 01.9**	**0.0**
MAS3				S	**Sn**	**11 39 19.2**	**-1.2**
UNAN	**Cigeo UNAN**	**0.74**	**330**	⇑P	**Pn**	**11 39 02.6**	**0.0**
UNAN				S	**Sn**	**11 39 20.1**	**-1.4**
MGAN	**Managua**	**0.76**	**333**	P	**Pn**	**11 39 02.6**	**-0.1**
MGAN	**Managua**	**0.76**	**333**	S	**Sn**	**11 39 22.3**	**+0.5**
MGAN	**Managua**	**0.76**	**333**	⇑*i*P	**Pn**	**11 39 02.7**	**+0.1**
TISN	**Laguna Tiscapa**	**0.77**	**331**	P	**Pn**	**11 39 02.8**	**+0.1**
BUAI	**Buenos Aires**	**0.80**	**137**	⇑*i*P	**Pn**	**11 39 03.3**	**+0.4**
PEJA	**Penjamo Buenos**	**0.80**	**135**	⇑*i*P	**Pn**	**11 39 03.2**	**+0.2**
LAPC	**Finca la Perla**	**0.83**	**147**	⇑*i*P	**Pn**	**11 39 02.9**	**-0.2**
VORI	**VORI**	**0.84**	**140**	*e*P	**Pn**	**11 39 03.3**	**-0.1**
APQ2	**Apoyeque**	**0.84**	**330**	P	**Pn**	**11 39 03.0**	**-0.2**
APQ2				S	**Sn**	**11 39 23.6**	**+0.9**
APQ2	**Apoyeque**	**0.84**	**330**	P	**Pn**	**11 39 02.8**	**-0.4**
APQ2				S	**Sn**	**11 39 21.9**	**-0.8**
VRLE	**La Escondida,**	**0.85**	**142**	⇑*e*P	**Pn**	**11 39 03.5**	**+0.1**
GPS1	**Guardaparques**	**0.87**	**142**	⇑*e*P	**Pn**	**11 39 03.9**	**+0.4**
GPS3	**Bodega del ICE**	**0.88**	**144**	⇑*i*P	**Pn**	**11 39 03.7**	**+0.2**
ELI1	**Hacienda Flor**	**0.88**	**158**	S	**Sn**	**11 39 23.2**	**0.0**
ELI1	**Hacienda Flor**	**0.88**	**158**	⇑P	**Pn**	**11 39 03.9**	**+0.4**
ELI1	**Hacienda Flor**	**0.88**	**158**	⇑*e*P	**Pn**	**11 39 03.9**	**+0.4**
GPS2	**Hotel Rincn d**	**0.88**	**143**	⇑*e*P	**Pn**	**11 39 03.7**	**+0.2**
APQ3	**Volcan Apoyequ**	**0.93**	**330**	P	**Pn**	**11 39 04.5**	**+0.7**
APQ3				S	**Sn**	**11 39 24.3**	**+0.5**
ALIBA	**Liberia Airpor**	**0.93**	**159**	⇑*i*P	**Pn**	**11 39 04.1**	**+0.3**
AMTN	**Mateare**	**0.93**	**326**	S	**Sn**	**11 39 24.3**	**+0.5**
COPN	**Copaltepe**	**0.99**	**316**	⇑P	**Pn**	**11 39 03.6**	**-0.7**
COPN	**Copaltepe**	**0.99**	**316**	⇑*i*P	**Pn**	**11 39 03.5**	**-0.7**
MESS	**Mesas**	**0.99**	**136**	⇑*i*P	**Pn**	**11 39 04.5**	**+0.1**
VMAR	**Armenia, Volca**	**1.00**	**130**	*e*P	**Pn**	**11 39 03.8**	**-0.7**
HORNC	**Hornillas**	**1.02**	**137**	*e*P	**Pn**	**11 39 04.8**	**+0.1**
CUI	**Cuipilapa**	**1.07**	**138**	⇑*i*P	**Pn**	**11 39 05.2**	**+0.2**
MOTZ	**Rio Naranjo**	**1.12**	**134**	*e*P	**Pn**	**11 39 05.4**	**0.0**
MOM2	**El Cardon**	**1.13**	**329**	⇑P	**Pn**	**11 39 05.4**	**0.0**
MOM2				S	**Sn**	**11 39 26.8**	**+0.2**
TENO	**El Achiote**	**1.17**	**130**	*e*P	**Pn**	**11 39 05.8**	**0.0**
MOM3	**MOM3**	**1.21**	**330**	⇑P	**Pn**	**11 39 06.0**	**0.0**
MOM3				S	**Sn**	**11 39 28.2**	**+0.4**
TIMP	**Tierras Morena**	**1.23**	**136**	⇑*i*P	**Pn**	**11 39 06.4**	**+0.1**
PLVR	**Palo Verde**	**1.23**	**154**	*e*P	**Pn**	**11 39 06.4**	**-0.1**
INVE	**Universidad In**	**1.28**	**140**	*e*P	**Pn**	**11 39 04.7**	**-2.0**
QUEB	**Quebradon, Cot**	**1.29**	**130**	*e*P	**Pn**	**11 39 06.8**	**0.0**
CNGA	**AI SSO del Vol**	**1.29**	**322**	P	**Pn**	**11 39 06.7**	**-0.2**
CNGA				S	**Sn**	**11 39 29.8**	**+0.5**
CNGN	**Cerro Negro**	**1.30**	**323**	P	**Pn**	**11 39 06.8**	**-0.1**
CNGN	**Cerro Negro**	**1.30**	**323**	S	**Sn**	**11 39 29.1**	**-0.3**
CNGN	**Cerro Negro**	**1.30**	**323**	⇑*i*P	**Pn**	**11 39 06.1**	**-0.8**
JUD3	**Juan Diaz 3**	**1.34**	**165**	⇑*i*P	**Pn**	**11 39 07.4**	**+0.1**
TILA	**Tilaran**	**1.34**	**137**	⇑*e*P	**Pn**	**11 39 07.5**	**+0.1**
NICO	**Nicoya**	**1.39**	**162**	⇑*i*P	**Pn**	**11 39 07.9**	**+0.1**
MATN	**Matagalpa**	**1.46**	**359**	P	**Pn**	**11 39 07.5**	**-1.0**
MATN	**Matagalpa**	**1.46**	**359**	S	**Sn**	**11 39 31.1**	**-1.1**
TABAC	**Tabacon**	**1.46**	**131**	*e*P	**Pn**	**11 39 08.2**	**-0.3**
POLN	**AI Sur del Vol**	**1.48**	**323**	P	**Pn**	**11 39 07.1**	**-1.6**
POLN				S	**Sn**	**11 39 32.2**	**-0.3**
JTS	**Las Juntas de**	**1.49**	**142**	P	**Pn**	**11 39 08.3**	**-0.4**
JTS				S	**Sn**	**11 39 31.2**	**-1.3**
JTS	**Las Juntas de**	**1.49**	**142**	*e*P	**Pn**	**11 39 08.3**	**-0.4**
CEDE	**Laguna Cedeo**	**1.52**	**130**	*e*P	**Pn**	**11 39 09.6**	**+0.5**
ARE1	**Arenal 1**	**1.52**	**131**	⇑*e*P	**Pn**	**11 39 09.5**	**+0.4**
VARE2	**V. Arenal**	**1.52**	**131**	*e*P	**Pn**	**11 39 09.8**	**+0.6**
CASO	**Castillo**	**1.53**	**132**	*e*P	**Pn**	**11 39 09.5**	**+0.3**
MTEVE	**Monteverde**	**1.55**	**137**	*e*P	**Pn**	**11 39 09.5**	**0.0**
NYURE	**Nandayure**	**1.59**	**157**	⇑*i*P	**Pn**	**11 39 09.7**	**0.0**
PKGN	**Cerro Pekin**	**1.60**	**319**	P	**Pn**	**11 39 09.8**	**0.0**
PKGN				S	**Sn**	**11 39 35.3**	**+0.8**
SOCE	**Pocosol**	**1.65**	**131**	P	**Pn**	**11 39 10.5**	**+0.2**
SOCE	**Pocosol**	**1.65**	**131**	S	**Sn**	**11 39 35.0**	**-0.5**
SOCE	**Pocosol**	**1.65**	**131**	*e*P	**Pn**	**11 39 10.7**	**+0.3**
LIMN	**Finca el Limon**	**1.65**	**344**	⇑P	**Pn**	**11 39 10.7**	**+0.2**
LIMN				S	**Sn**	**11 39 35.6**	**-0.2**
CRIN	**San Cristobal**	**1.67**	**317**	S	**Sn**	**11 39 36.4**	**+0.4**
JCR1	**Jicaral**	**1.78**	**154**	*e*P	**Pn**	**11 39 11.8**	**0.0**
RCON	**San Juan de Ri**	**2.02**	**353**	P	**Pn**	**11 39 15.0**	**+0.5**
RCPN	**Sur Rio San Ju**	**2.06**	**355**	P	**Pn**	**11 39 15.1**	**+0.3**
RCVN	**Varillal2**	**2.13**	**352**	S	**Sn**	**11 39 45.5**	**+0.4**
RCVN	**Varillal2**	**2.13**	**352**	⇑P	**Pn**	**11 39 16.2**	**+0.5**
POTN	**Potosi Cosigui**	**2.19**	**314**	P	**Pn**	**11 39 17.2**	**+1.0**
POTN				S	**Sn**	**11 39 45.6**	**-0.5**
CSGN	**Cosiguina Volc**	**2.22**	**313**	P	**Pn**	**11 39 16.5**	**-0.1**
CSGN				S	**Sn**	**11 39 45.9**	**-0.7**
SIUN	**Universidad Ur**	**2.49**	**26**	P	**Pn**	**11 39 19.4**	**-0.4**
PIEC	**Cerro El Cedra**	**2.64**	**134**	*e*P	**Pn**	**11 39 22.3**	**+0.5**
BUS1	**Rivas**	**2.84**	**132**	*e*P	**Pn**	**11 39 25.0**	**+0.6**

IDC 31 11:49:27.7±1.4, 1°55N×124°73E, h0km, mb3.3/4, mbtmp3.3/4, ML6.1/1, Error ellipse: s-maj=85.2km s-min=22.4km az=73.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.55**	**9**	Pn	Pn	11 50 49.8	-1.8
	532nm,0.3s,baz=265,slow=5.4,SNR=18						
WRA	**Warramunga Arr**	**23.35**	**157**	P	P	11 54 37.9	-0.1
	0.4nm,0.8s,baz=330,slow=11,SNR=2.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**26.61**	**161**	P	P	11 55 06.7	-1.4
	0.2nm,0.5s,baz=341,slow=8.5,SNR=8.0						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**36.89**	**156**	P	P	11 56 39.9	+1.6
	1.0nm,0.6s,baz=338,slow=11,SNR=3.0						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**58.24**	**327**	P	P	11 59 24.7	+0.7
	0.2nm,0.5s,baz=137,slow=8.2,SNR=2.2						
	0.2nm,0.5s						

*DJA **31** 11:56:05.7±0.5, 6°N±4°×12°6E±°, h133km±5km, M4.7/16, mb4.7/16, mB5.1/11, MLv5.0/12, Mw(mB)4.5/11*
*IDC **31** 11:56:05.7±0.7, 5°98N×126°19E, h151km±5km, mb3.8/16, mbtmp4.3/18, MS2.7/1, Error ellipse: s-maj=22.2km s-min=9.8km az=70.0*
*NEIC **31** 11:56:06.4±2.1, 6°00N±0°07×126°23E±0°10, h150km±7km, mb4.5/35, Error ellipse: s-maj=14.3km s-min=8.9km az=67.0*

ISC 31 11:56:05.7±0.5, 5°99N±0°05×126°22E±0°07, h150km, n100, σ1§00/102, mb4.3/28, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.25**	**329**	P	**Pn**	**11 56 32.2**	**-0.5**
	2μm,0.3s,baz=89,slow=2.3,SNR=35						
DAV				S	**Sn**	**11 56 53.7**	**+0.3**
	3μm,0.4s,baz=293,slow=22,SNR=21						
SGSI	**Sangihe**	**2.39**	**197**	P	**Pn**	**11 56 44.5**	**-0.9**
SGSI				S	**Sn**	**11 57 14.6**	**-1.5**
TNTI	**Ternate**	**5.30**	**167**		**Pn**	**11 57 21.9**	**-1.3**
TNTI	**Ternate**	**5.30**	**167**	P	**Pn**	**11 57 21.8**	**-1.3**
TNTI	**Ternate**	**5.30**	**167**	P	**Pn**	**11 57 21.6**	**-1.6**
KMSI	**Cibinong**	**5.82**	**203**	P	**Pn**	**11 57 30.1**	**+0.1**
MRSI	**Marisa**	**6.94**	**218**	P	**Pn**	**11 57 45.0**	**0.0**
	0.4nm1μm77nm,0.5s						
TOLI2	**Tolitoli**	**7.27**	**228**		**Pn**	**11 57 47.9**	**-1.5**
TOLI2	**Tolitoli**	**7.27**	**228**	P	**Pn**	**11 57 47.8**	**-1.6**
TOLI2	**Tolitoli**	**7.27**	**228**	S	**Sn**	**11 59 07.5**	**-3.3**
MYLDM	**Lahad Datu**	**7.72**	**264**		**Pn**	**11 57 56.8**	**+1.4**
LUWI	**Luwuk**	**7.78**	**206**		**Pn**	**11 57 56.8**	**+0.5**
LUWI	**Luwuk**	**7.78**	**206**	P	**Pn**	**11 57 57.0**	**+0.8**
	2μm119nm,1.0s						
SANI	**Sanana**	**7.99**	**182**	P	Pn	11 57 55.0	-3.9
SANI	**Sanana**	**7.99**	**182**	S	Sn	11 59 17.2	-11
SANI	**Sanana**	**7.99**	**182**	P	**Pn**	**11 57 55.1**	**-3.8**
	3μm44nm,0.5s						
APSI	**Ampana**	**8.23**	**214**	P	**Pn**	**11 58 02.8**	**+0.6**
	1μm67nm,1.2s						
SWI	**Sorong**	**8.46**	**143**	P	**Pn**	**11 58 03.7**	**-1.6**
	58nm,0.5s						
NLAI	**Namlea**	**9.21**	**174**	P	**Pn**	**11 58 12.7**	**-2.5**
	3μm62nm,0.5s						
MSAI	**Masohi**	**9.66**	**164**	P	**Pn**	**11 58 21.2**	**0.0**
	35nm,1.0s						
FAKI	**Fak Fak**	**10.70**	**146**		**Pn**	**11 58 35.2**	**+0.2**
FAKI	**Fak Fak**	**10.70**	**146**	P	**Pn**	**11 58 35.3**	**+0.3**
	36nm,1.0s						
SPSI	**Sidrap Palu**	**11.80**	**213**	P	**Pn**	**11 58 48.7**	**-0.7**
	695nm15nm,0.8s						
BNSI	**Bone**	**11.99**	**211**	P	**Pn**	**11 58 52.4**	**+0.5**
	37nm,1.0s						
KAPI	**Kappang**	**12.69**	**211**	P	**Pn**	**11 59 00.6**	**-0.4**
	11nm,0.6s,baz=36,slow=14,SNR=4.0						
SBUM	**Sibu**	**14.39**	**256**		**Pn**	**11 59 24.0**	**+1.3**
SBUM	**Sibu**	**14.39**	**256**	P	**P**	**11 59 27.1**	**+1.8**
BBKI	**Banjar Baru**	**14.74**	**231**	P	**P**	**11 59 30.2**	**+1.1**
MMRI	**Maumere**	**15.06**	**195**	Pn	**Pn**	**11 59 30.6**	**-0.3**
MMRI				IAmb	IAmb	11 59 36.1	
	comp=Z,48nm,1.0s						
SOEI	**Soe**	**15.76**	**187**		**Pn**	**11 59 39.4**	**-0.3**
SOEI				IAmb	IAmb	12 00 10.7	
	comp=Z,19nm,0.9s						
BATI	**Baumata**	**16.29**	**189**	P	**Pn**	**11 59 45.4**	**-0.6**
	comp=Z,28nm,0.4s,baz=63,slow=4.5,SNR=1.3						
BATI				S	**S**	**12 02 46.9**	**-0.3**
	comp=Z,15nm,0.5s,baz=280,slow=23,SNR=1.6					

ASAR	**Alice Springs**	**30.41 166**	P	**P**	**12 02 04.9**	**+0.9**
MEEK	**Meekatharra**	**33.26 192**	P	**P**	**12 02 28.6**	**-0.2**
MORW	**Morawa**	**36.20 195**	P	**P**	**12 02 54.1**	**+0.1**
MORW	**Morawa**	**36.20 195**	P	**P**	**12 02 54.5**	**+0.4**
INKA	**Innaminka**	**36.35 158**	P	**P**	**12 02 56.0**	**+0.6**
FORT	**Forrest**	**36.60 177**	P	**P**	**12 02 58.4**	**+1.1**
BLDU	**Ballidu**	**37.52 194**	P	**P**	**12 03 05.5**	**+0.3**
MUN	**Mundaring**	**38.94 194**	P	**P**	**12 03 17.3**	**+0.2**
EIDS	**Eidsvold**	**39.44 143**	P	**P**	**12 03 21.5**	**+0.2**
EIDS			IAmb	IAmb	12 03 22.5	
	comp=Z,6.8nm,0.8s					
NWAO	**Narrogin (SRO)**	**39.63 192**	P	**P**	**12 03 23.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.63 192**	P	**P**	**12 03 23.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**39.63 192**	P	**P**	**12 03 23.7**	**+1.0**
BBOO	**Buckleboo**	**39.70 167**	P	**P**	**12 03 24.7**	**+1.3**
BBOO	**Buckleboo**	**39.70 167**	P	**P**	**12 03 24.5**	**+1.1**
STKA	**Stephens Creek**	**40.41 160**		**P**	**12 03 30.2**	**+1.0**
STKA	**Stephens Creek**	**40.41 160**	P	**P**	**12 03 30.2**	**+1.0**
	comp=Z,7.0nm,1.0s,baz=307,slow=8.2,SNR=7.1					
	comp=Z,7.0nm,1.0s					
EVN	**Everest**	**43.27 305**		**P**	**12 03 53.4**	**+0.1**
EVN			IAmb	IAmb	12 03 55.2	
	comp=Z,5.0nm,0.6s					
ARMA	**Armidale**	**43.62 148**	P	**P**	**12 03 56.2**	**+0.8**
ARMA			IAmb	IAmb	12 04 06.9	
	comp=Z,7.5nm,0.8s					
MKAR	**Makanchi Array**	**55.43 325**	P	**P**	**12 05 24.4**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=123,slow=8.2,SNR=28					
MKAR			PcP	**PcP**	**12 06 23.4**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=132,slow=3.8,SNR=5.7					
	comp=Z,1.9nm,0.5s					
MAKZ	**Makanchi**	**55.62 325**	P	**P**	**12 05 26.1**	**+0.2**
KDJ	**Kajisay**	**56.34 318**	P	**P**	**12 05 31.4**	**+0.1**
KDJ			IAmb	IAmb	12 06 08.6	
	comp=Z,2.8nm,0.8s					
ZALV	**Zalesovo Beam**	**58.36 333**	P	**P**	**12 05 44.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=101,slow=3.1,SNR=1.9					
	comp=Z,0.3nm,0.3s					
KURBB	**Kurchatov Arra**	**59.58 327**	P	**P**	**12 05 53.2**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=125,slow=6.1,SNR=15					
	comp=Z,2.5nm,0.5s					
KURK	**Kurchatov**	**59.58 327**		**P**	**12 05 53.1**	**-0.3**
KURK			IAmb	IAmb	12 05 53.7	
	comp=Z,4.4nm,0.6s					
GAR	**Garm**	**60.04 312**		**P**	**12 05 56.5**	**-0.6**
GAR			IAmb	IAmb	12 05 57.9	
	comp=Z,8.6nm,0.9s					
KK31	**Karatay Array**	**61.25 316**	P	**P**	**12 06 03.7**	**-1.3**
KKAR	**Karatay Array**	**61.25 316**	P	**P**	**12 06 03.8**	**-1.2**
BVAR	**Borovoye Array**	**65.17 327**	P	**P**	**12 06 30.0**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=123,slow=8.9,SNR=5.1					
	comp=Z,1.0nm,0.4s					
AB31	**Akbulak array**	**70.09 320**	P	**P**	**12 07 00.9**	**-0.7**
ABKAR	**Akbulak array**	**70.09 320**	P	**P**	**12 07 00.7**	**-0.9**
ILAR	**Eielson Array**	**83.30 26**	P	**P**	**12 08 15.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=277,slow=6.2,SNR=4.2					
	comp=Z,0.3nm,0.6s					
BCAR	**Beaver Creek A**	**85.61 27**	P	**P**	**12 08 25.5**	**-1.6**
MAW	**Mawson**	**85.68 200**	P	**P**	**12 08 27.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=69,slow=8.6,SNR=2.0					
	comp=Z,1.3nm,0.7s					
SPITS	**Spitsbergen Ar**	**88.18 349**	P	**P**	**12 08 38.9**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=90,slow=4.3,SNR=1.0					
	comp=Z,3.2nm,0.8s					
BRTR	**Keskin Array B**	**88.20 310**	P	**P**	**12 08 39.7**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=116,slow=3.6,SNR=2.2					
	comp=Z,0.5nm,0.4s					
FINES	**FINESS Array B**	**89.62 332**	P	**P**	**12 08 45.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=20,slow=4.4,SNR=4.3					
	comp=Z,0.9nm,0.6s					
AKASG	**Malin Array Be**	**89.83 321**	IAmb	IAmb	12 08 57.4	
	comp=Z,4.6nm,1.4s					
AKASG	**Malin Array Be**	**89.83 321**	P	**P**	**12 08 46.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=73,slow=4.2,SNR=1.4					
	comp=Z,0.3nm,0.4s					

*IDC **31** 12:01:16.4±1.4, 51°61N×175°44W, h0km, mb3.9/8, mbtmp3.9/11, ML3.9/3, MS3.1/6, Error ellipse: s-maj=42.1km s-min=17.8km az=0.0*
*NEIC **31** 12:01:20.9±1.4, 51°51N±0°07×175°42W±0°06, h28km±5km, mb4.0/26, ML3.9/10, ML3.5(AEIC), Error ellipse: s-maj=10.6km s-min=5.3km az=175.0*
*AEIC **31** 12:01:20.5±1.7, 51°44N±0°06×175°44W±0°04, h27km±5km, Error ellipse: s-maj=8.4km s-min=3.4km az=177.0*
ISC 31 12:01:21.0±1.5, 51°52N±0°08×175°44W±0°03, h29km±10km, n74, σ0°86/66, mb4.0/10, MS2.9/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.56**	**328**		**Pn**	**12 01 32.7**	**-0.3**
GSIG					**Sn**	**12 01 41.8**	**+0.4**
GSMY	**Great Sitkin M**	**0.65**	**324**		**Pn**	**12 01 34.3**	**0.0**
GSMY					**Sn**	**12 01 44.2**	**+0.6**
GSCK	**Great Sitkin C**	**0.67**	**318**		**Pn**	**12 01 34.4**	**-0.2**
GSCK					**Sn**	**12 01 44.5**	**+0.4**
ETKA	**Kagalaska Isla**	**0.69**	**300**		**Pb**	**12 01 34.3**	**-0.3**
ETKA					**Sn**	**12 01 44.5**	**-0.1**
GSTD	**Great Sitkin T**	**0.70**	**321**		**Pn**	**12 01 34.9**	**0.0**
GSTD					**Sn**	**12 01 45.4**	**+0.6**
GSTR	**Great Sitkin T**	**0.70**	**327**		**Pn**	**12 01 35.0**	**+0.1**
GSTR				IAML		12 01 53.2	
	comp=E,5μm,0.4s						
GSTR				IAML		12 01 57.1	
	comp=N,6μm,0.5s						
GSSP	**Great Sitkin S**	**0.74**	**322**		**Pn**	**12 01 35.6**	**+0.2**
ADK	**Adak**	**0.86**	**296**		**Pn**	**12 01 36.5**	**-0.6**
ADK				IAML		12 01 48.6	
	comp=N,4μm,0.3s						
ADK				IAML		12 01 48.7	
	comp=N,4μm,0.3s						
ADAG	**Mount Adagdak**	**0.86**	**303**		**Pb**	**12 01 37.6**	**+0.2**
ATKA	**Atka Island**	**1.03**	**48**		**Pn**	**12 01 39.0**	**-0.5**
KIRH	**Kanaga Island**	**1.10**	**291**		**Pn**	**12 01 40.2**	**-0.2**
KIRH					**Sn**	**12 01 54.6**	**0.0**
KIWB	**Kanaga Island**	**1.12**	**288**		**Pn**	**12 01 40.3**	**-0.4**
KIWB				IAML		12 02 00.1	
	comp=N,2μm,0.4s						
KIWB				IAML		12 02 00.3	
	comp=E,3μm,0.4s						
KOWE	**Korovin West**	**1.12**	**40**		**Pb**	**12 01 41.3**	**-0.5**
KOWE					**Sb**	**12 01 56.7**	**+0.5**
KOFP	**Korovin Flat P**	**1.13**	**47**		**Pn**	**12 01 41.0**	**+0.1**
TAFL	**Tanaga Flats**	**1.55**	**280**		**Pn**	**12 01 46.3**	**-0.3**
TANO	**Tanaga North**	**1.72**	**285**		**Sb**	**12 02 13.1**	**+0.1**
GALAA	**Gareloi Lava P**	**2.09**	**278**		**Pn**	**12 01 54.8**	**+0.8**
GAKI	**Gareloi-Kavalg**	**2.11**	**272**		**Pn**	**12 01 53.9**	**-0.3**
AMKA	**Amchitka**	**3.29**	**270**		**Pn**	**12 02 10.6**	**+0.1**
NIKH	**Nikolski High**	**4.30**	**68**	Pn	**Pn**	**12 02 26.5**	**+2.1**
UNV	**Unalaska Valle**	**5.91**	**63**	Pn	**Pn**	**12 02 48.1**	**+1.6**
SPIA	**Saint Paul Isl**	**6.43**	**26**	Pn	**Pn**	**12 02 55.5**	**+1.9**
SHEM	**Shemya Is, Ala**	**6.56**	**285**	Pn	**Pn**	**12 02 54.6**	**-0.7**
	comp=E,2.7nm,0.3s,baz=102,slow=19,SNR=4.1						
SHEM				Sn	**Sn**	**12 04 12.1**	**+3.1**
	comp=E,1.0nm,0.3s,baz=288,slow=18,SNR=1.6						
SHEM				LR	LR	12 05 27.7	
	comp=E,82nm,18.8s,baz=216,slow=38						
	comp=E,22nm,0.7s						
SMY	**Shemya**	**6.56**	**285**	Pn	**Pn**	**12 02 55.1**	**-0.2**
OHAK	**Old Harbor**	**14.09**	**57**	Pn	**Pn**	**12 04 37.9**	**-0.4**
KDAK	**Kodiak Island**	**14.60**	**56**	Pn	**Pn**	**12 04 42.7**	**-2.5**
	comp=E,0.3nm,0.3s,baz=265,slow=18,SNR=8.7						
	comp=E,7.1nm,1.0s						
CNPM	**China Poot**	**15.80**	**50**	Pn	**Pn**	**12 05 01.3**	**+0.2**
SLKM	**Skilak Lake**	**16.63**	**47**		**Pn**	**12 05 12.6**	**+0.9**
SLKM				IAmb	IAmb	12 05 29.5	
	comp=Z,9.3nm,1.0s						
SEW	**Seward**	**16.85**	**49**	Pn	**Pn**	**12 05 12.8**	**-1.5**
SEW				IAmb	IAmb	12 05 16.9	
	comp=Z,9.8nm,1.0s						
PPLA	**Purkeypile**	**16.87**	**39**	Pn	**Pn**	**12 05 15.1**	**+0.3**
PWL	**Port Wells**	**17.62**	**47**	Pn	**Pn**	**12 05 23.3**	**-0.8**
KNK	**Knik Glacier**	**17.76**	**46**		**Pn**	**12 05 25.8**	**0.0**
KNK				IAmb	IAmb	12 05 33.1	
	comp=Z,15nm,1.4s						
SML	**Sawmill**	**17.97**	**45**		**P**	**12 05 28.4**	**-0.3**
SML				IAmb	IAmb	12 05 31.1	
	comp=Z,14nm,1.5s						
SCM	**Sheep Creek Mo**	**18.42**	**45**	P	**Pn**	**12 05 34.2**	**+0.3**
SCM				IAmb	IAmb	12 06 09.3	
	comp=Z,21nm,1.5s						
NEA2	**Nenana**	**18.94**	**36**	P	**Pn**	**12 05 39.6**	**-0.4**
HDA	**Harding Lake**	**19.65**	**38**	P	**P**	**12 05 47.2**	**+0.2**
HDA				IAmb	IAmb	12 05 52.1	
	comp=Z,3.9nm,0.6s						
IL31		**19.84**	**37**	P	**P**	**12 05 49.6**	**+0.5**
ILAR	**Eielson Array**	**19.84**	**37**	P	**P**	**12 05 48.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=243,slow=12,SNR=12						
	comp=Z,0.4nm,0.4s						
K24K	**Donnelly Dome**	**19.84**	**40**	P	**Pn**	**12 05 49.9**	**-1.0**
RIDG	**Independent Ri**	**20.20**	**41**		**P**	**12 05 53.2**	**+0.2**
RIDG				IAmb	IAmb	12 05 58.7	
	comp=Z,5.7nm,0.6s						
J25K	**Salcha River,**	**20.35**	**38**	P	**P**	**12 05 55.0**	**+0.3**
J25K				IAmb	IAmb	12 06 00.7	
	comp=Z,3.3nm,0.5s						
DOT	**Dot Lake**	**20.49**	**42**	P	**P**	**12 05 56.4**	**+0.2**
DOT				IAmb	IAmb	12 06 01.2	
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**20.55**	**306**	LR	LR	12 14 38.6	
	comp=Z,25nm,18.3s,baz=128,slow=39						
L26K	**Log Cabin Wild**	**20.57**	**44**	IAmb	IAmb	12 06 37.1	
	comp=Z,10nm,1.5s						
SEY	**Seynchan**	**20.58**	**316**	LR	LR	12 14 40.8	
	comp=Z,53nm,18.8s,baz=130,slow=39						
SCRK	**Sand Creek**	**20.64**	**41**		**P**	**12 05 57.5**	**-0.5**
SCRK				IAmb	IAmb	12 06 02.7	
	comp=Z,8.7nm,0.7s						
K27K	**Chicken**	**21.45**	**41**	P	**P**	**12 06 07.2**	**+0.8**
K27K				IAmb	IAmb	12 06 15.2	
	comp=Z,6.2nm,0.8s						
K29M	**Barlow Dome**	**23.32**	**43**	P	**P**	**12 06 26.9**	**+0.6**
J30M	**Hart River**	**24.00**	**42**	IAmb	IAmb	12 06 43.0	
	comp=Z,6.0nm,1.4s						
YAK	**Yakutsk**	**30.91**	**311**	LR	LR	12 21 04.4	
	comp=Z,27nm,18.1s,baz=42,slow=38						
H11N2	**WAKE ISLAND Hy**	**34.62**	**210**	T	T	12 44 41.6	
	baz=18,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**34.63**	**210**	T	T	12 44 57.6	
	baz=18,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**34.64**	**210**	T	T	12 44 49.9	
	baz=18,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**35.83**	**210**	T	T	12 46 31.6	
	baz=18,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.85**	**210**	T	T	12 46 30.5	
	baz=18,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**35.85**	**210**	T	T	12 46 24.9	
	baz=18,slow=76,SNR=7.0						
PD31	**Pinedale Array**	**44.26**	**74**	P	**P**	**12 09 28.3**	**+0.5**
PD31				IAmb	IAmb	12 09 32.1	
	comp=Z,3.0nm,1.4s						
PDAR	**Pinedale Array**	**44.26**	**74**	P	**P**	**12 09 28.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=304,slow=8.7,SNR=19						
	comp=Z,1.1nm,0.6s						
PFO	**Pinyon Flats O**	**45.66**	**89**	LR	LR	12 27 38.0	
	comp=Z,55nm,18.4s,baz=244,slow=35						
SPITS	**Spitsbergen Ar**	**50.37**	**357**	P	**P**	**12 10 13.7**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=52,slow=7.5,SNR=1.6						
	comp=Z,5.9nm,0.8s						
TXAR	**Lajitas Array**	**56.55**	**84**	P	**P**	**12 11 00.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=322,slow=7.4,SNR=3.9						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**58.29**	**352**	P	**P**	**12 11 12.8**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=24,slow=6.7,SNR=1.6						
	comp=Z,2.5nm,1.0s						
KURK	**Kurchatov**	**60.42**	**315**	P	**P**	**12 11 27.8**	**+0.5**
KURBB	**Kurchatov Arra**	**60.53**	**315**	P	**P**	**12 11 27.8**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=41,slow=6.4,SNR=2.2						
	comp=Z,0.8nm,0.3s						
MEDO	**Medina**	**61.54**	**56**	P	**P**	**12 11 35.5**	**+0.5**
MKAR	**Makanchi Array**	**61.57**	**310**	P	**P**	**12 11 33.3**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=43,slow=6.2,SNR=2.2						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**62.12**	**321**	P	**P**	**12 11 38.0**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=33,slow=5.5,SNR=3.5						
	comp=Z,0.8nm,0.3s						
AKTO	**Aktyubinsk**	**68.76**	**327**	LR	LR	12 43 10.3	
	comp=Z,19nm,21.8s,baz=314,slow=37						
CMAR	**Chiang Mai Arr**	**73.08**	**278**	P	**P**	**12 12 48.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=39,slow=7.3,SNR=1.1						
	comp=Z,0.3nm,0.4s						
H03N2	**Juan Fernandez**	**119.17**	**108**	T	T	14 30 57.0	
	baz=317,slow=78						
H03N1	**Juan Fernandez**	**119.18**	**108**	T	T	14 30 49.2	
	baz=317,slow=78						
H03N3	**Juan Fernandez**	**119.19**	**108**	T	T	14 30 48.2	
	baz=317,slow=78						
QSPA	**South Pole Qui**	**141.27**	**180**	PKP	**PKPdf**	**12 20 47.9**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=50,slow=0.9,SNR=1.5						
BOSA	**Boshof**	**152.36**	**318**	PKPbc	**PKPbc**	**12 21 13.3**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=348,slow=1.1,SNR=1.2						

IDC 31 12:02:57.6±5.1, 3°62S×148°39E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/2, Error ellipse: s-maj=147.7km s-min=36.2km az=102.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.24**	**219**	P	P	12 07 45.1	-0.3
	1.7nm,0.9s,baz=44,slow=11,SNR=8.1						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**24.36**	**214**	P	P	12 08 16.6	-0.9
	3.4nm,1.0s,baz=38,slow=9.2,SNR=12						
ASAR				LR	LR	12 19 11.4	
	comp=Z,61nm,20.5s,baz=50,slow=40						
	3.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.52**	**235**	P	P	12 08 38.8	+1.7
	6.0nm,0.9s,baz=67,slow=12,SNR=6.8						
	6.0nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**28.42**	**39**	T	T	12 37 53.8	
	baz=220,slow=76,SNR=180						
H11S2	**WAKE ISLAND Hy**	**28.43**	**39**	T	T	12 37 51.9	
	baz=220,slow=76,SNR=75						
H11S1	**WAKE ISLAND Hy**	**28.44**	**39**	T	T	12 37 52.7	
	baz=220,slow=76,SNR=107						
H11N1	**WAKE ISLAND Hy**	**29.46**	**37**	T	T	12 39 11.2	
	baz=219,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**29.48**	**37**	T	T	12 39 12.4	
	baz=219,slow=76,SNR=62						
H11N2	**WAKE ISLAND Hy**	**29.48**	**37**	T	T	12 39 12.5	
	baz=219,slow=76,SNR=102						
MJAR	**Matsushiro Arr**	**41.06**	**347**	LR	LR	12 25 16.6	
	comp=Z,22nm,18.0s,baz=148,slow=33						
MKAR	**Makanchi Array**	**76.57**	**320**	P	P	12 14 49.4	-0.5
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.7						
	0.2nm,0.4s						

*BUT **31** 12:13:38.4±1.3, 44°67N±0°02×111°89W±0°03, h9km±8km, Error ellipse: s-maj=3.5km s-min=2.0km az=221.0*
NEIC 31 12:13:39.7±1.1, 44°68N±0°02×111°92W±0°03, h10km±2km, ML2.8/60, ML3.1/30(BUT), Error ellipse: s-maj=3.6km s-min=3.1km az=49.0, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPMT	**Tepee Creek**	**0.19**	**73**		Pg	12 13 43.8	0.0
CMI	**Centennial Mou**	**0.26**	**125**		Pg	12 13 44.8	-0.3
MOMT	**Monida**	**0.35**	**257**		Pb	12 13 47.5	-0.7
QLMT	**Earthquake Lak**	**0.38**	**66**		Pg	12 13 46.8	-0.4
YPDC	**Denny Creek**	**0.48**	**86**		Pg	12 13 48.8	-0.3
YHB	**Horse Butte**	**0.52**	**81**	Pg	Pg	12 13 49.4	-0.4
YHB				IAML		12 13 57.0	
	comp=E,865nm,0.4s						
YHB				IAML		12 13 57.1	
	comp=N,759nm,0.5s						
YHL	**Hebgen Lake**	**0.55**	**71**		Pg	12 13 50.0	-0.4
BGMT	**Barton Gulch**	**0.56**	**351**		Pg	12 13 50.7	0.0
YPWB	**West Boundary**	**0.59**	**96**		Pg	12 13 51.2	+0.1
GCR	**Grayling Creek**	**0.59**	**78**		Pg	12 13 51.0	-0.1
YMC	**Maple Creek**	**0.65**	**82**		Pg	12 13 52.1	-0.3
YMR	**Madison River**	**0.68**	**90**		Pg	12 13 52.7	-0.2
YMR				IAML		12 14 02.7	
	comp=E,594nm,0.6s						
YMR				IAML		12 14 03.6	
	comp=N,718nm,0.8s						
MCMT	**McKenzie Canyo**	**0.68**	**283**		Pg	12 13 53.4	+0.4
MCID	**Moose Creek**	**0.71**	**132**		Pg	12 13 53.5	0.0
YPM	**Purple Mountai**	**0.75**	**91**		Pg	12 13 54.2	+0.1
YHH	**Holmes Hill**	**0.77**	**81**		Pg	12 13 54.1	-0.4
YFT	**Old Faithful**	**0.80**	**106**		Pg	12 13 55.2	0.0
DLMT	**Dillon**	**0.84**	**325**		Pg	12 13 56.0	+0.1
DLMT				IAML		12 14 10.5	
	comp=N,359nm,0.9s						
DLMT				IAML		12 14 12.8	
	comp=N,340nm,0.4s						
YNM	**Yellowstone No**	**0.87**	**86**		Pg	12 13 56.5	+0.1
YNM				IAML		12 14 07.8	
	comp=E,288nm,0.3s						
YNM				IAML		12 14 08.2	
	comp=N,302nm,0.3s						
YNR	**Norris Junctio**	**0.88**	**87**		Pg	12 13 56.5	-0.2
YNR				IAML		12 14 09.0	
	comp=E,386nm,0.3s						
YNR				IAML		12 14 10.7	
	comp=N,182nm,0.6s						
YPP	**Pitchstone Pla**	**0.89**	**117**		Pg	12 13 56.8	-0.1
YPP				IAML		12 14 08.9	
	comp=E,241nm,0.3s						
YPP				IAML		12 14 10.8	
	comp=N,274nm,0.3s						
YMV	**Mammoth Vault**	**0.92**	**71**		Pg	12 13 56.9	-0.5
BOZ	**Bozeman (W)**	**0.94**	**12**		Pg	12 13 57.1	-0.7
BOZ				Sg	Sg	12 14 09.9	-0.3
YLT	**Little Thumb C**	**0.98**	**104**		Pn	12 13 59.8	+0.1
H17A	**Grant Village**	**1.00**	**106**		Pb	12 13 59.3	+0.1
YUF	**Upper Falls**	**1.00**	**87**		Pb	12 13 59.3	0.0
FLWY	**Flagg Ranch**	**1.05**	**124**		Pg	12 13 59.4	-0.6
FLWY				Sg	Sg	12 14 13.2	-0.5
FLWY				IAML		12 14 15.5	
	comp=N,152nm,0.7s						
FLWY				IAML		12 14 26.1	
	comp=N,138nm,0.8s						
YMS	**Mount Sheridan**	**1.08**	**112**		Pg	12 13 59.5	-0.9
LKWY	**Lake**	**1.09**	**95**		Pn	12 14 01.5	+0.3
YTP	**The Promontory**	**1.20**	**103**		Pb	12 14 02.3	-0.3
LRM	**Limekiln Ridge**	**1.21**	**342**		Pb	12 14 02.4	-0.4
FXWY	**Fox Creek**	**1.22**	**148**		Pb	12 14 01.6	-1.4
FXWY	**Fox Creek**	**1.22**	**148**	Sg	Sb	12 14 17.8	-1.0
HBMT	**Mount Humbug**	**1.22**	**337**		Pb	12 14 02.7	-0.3
MOOW	**Moose Ponds**	**1.25**	**137**		Pn	12 14 02.2	-1.2
MOOW				Sg	Sb	12 14 19.1	-0.6
MOOW				IAML		12 14 19.5	
	comp=N,101nm,0.2s						
BZMT	**Bozeman Pass**	**1.25**	**39**		Pn	12 14 02.9	-0.6
YPSB	**Soda Butte**	**1.27**	**80**		Pn	12 14 03.3	-0.4
TPAW	**Teton Pass**	**1.37**	**149**		Pn	12 14 04.5	-0.6
TPAW				Sg	Sg	12 14 23.8	-0.1
TPAW				IAML		12 14 25.1	
	comp=N,158nm,0.3s						
TPAW				IAML		12 14 25.3	
	comp=N,246nm,0.4s						
YNE	**Yellowstone No**	**1.40**	**76**		Pn	12 14 05.3	-0.1
YNE	**Yellowstone No**	**1.40**	**76**		Sb	12 14 23.8	-0.2
YNE				IAML		12 14 24.2	
	comp=N,191nm,0.4s						
YNE				IAML		12 14 29.1	
	comp=E,124nm,0.4s						
LOHW	**Long Hollow**	**1.42**	**138**		Pn	12 14 05.2	-0.5
LOHW				IAML		12 14 25.2	
	comp=E,131nm,0.2s						
LOHW				IAML		12 14 29.0	
	comp=E,104nm,0.7s						
YPK	**Parker Peak, Y**	**1.42**	**87**		Pn	12 14 05.7	-0.2
YHR	**Hawk`s Rest**	**1.43**	**113**		Pn	12 14 06.1	+0.1
MSMT	**Mission Creek**	**1.46**	**49**		Pn	12 14 06.4	+0.1
SNOW	**Snow King Moun**	**1.47**	**145**		Pn	12 14 06.6	+0.1
SNOW	**Snow King Moun**	**1.47**	**145**	IAML		12 14 31.9	
	comp=E,135nm,0.8s						
SNOW				IAML		12 14 33.0	
	comp=E,95nm,0.7s						
CRMT	**Chrome Mountai**	**1.48**	**58**		Pb	12 14 07.3	-0.1
SXM	**Sixmile**	**1.56**	**18**		Pb	12 14 08.4	-0.3
RLMT	**Red Lodge**	**1.94**	**76**		Pb	12 14 14.4	-0.7
RLMT	**Red Lodge**	**1.94**	**76**	IAML		12 14 48.8	
	comp=E,120nm,0.4s						
RLMT				IAML		12 14 50.4	
	comp=E,118nm,0.6s						
AHID	**Auburn Hatcher**	**2.00**	**163**		Pn	12 14 14.8	+1.2
AHID				IAML		12 14 44.3	
	comp=E,90nm,0.4s						
AHID				IAML		12 14 50.6	
	comp=E,85nm,0.6s						
BPMT	**Black Pine Rid**	**2.06**	**329**		Pn	12 14 15.6	+0.9
BEMT	**Mount Belmont**	**2.09**	**352**		Pn	12 14 16.1	+1.0
HLID	**Hailey**	**2.12**	**239**		Pn	12 14 16.5	+1.3
LYMT	**Lyon Mountain**	**2.31**	**354**		Pn	12 14 19.2	+1.2
VCMT	**Victor**	**2.38**	**319**		Pn	12 14 19.9	+1.0
CHMT	**Chamberlain Mo**	**2.43**	**338**		Pn	12 14 20.4	+0.8
OVMT	**Ovando**	**2.51**	**343**		Pn	12 14 21.6	+1.0
BW06	**Boulder Array**	**2.56**	**137**		Pn	12 14 23.6	+2.1
PD31	**Pinedale Array**	**2.56**	**137**		Pn	12 14 23.4	+1.9
PDAR	**Pinedale Array**	**2.56**	**137**		Pb	12 14 23.7	-2.1
MSO	**Missoula**	**2.58**	**327**		Pn	12 14 22.9	+1.3
SLMT	**Seeley Lake**	**2.79**	**337**		Pn	12 14 25.4	+0.8
PLID	**Pearl Lake**	**2.93**	**280**

baz=220,slow=76,SNR=99
H11N1 WAKE ISLAND Hy 28.80 36 T T 13 09 23.2
baz=219,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 28.81 36 T T 13 09 45.9
baz=219,slow=76,SNR=53
H11N2 WAKE ISLAND Hy 28.82 36 T T 13 09 46.2
baz=219,slow=76,SNR=84
CMAR Chiang Mai Arr 54.17 296 P **P 12 42 30.6 +0.5**
comp=Z,0.3nm,0.3s,baz=112,slow=7.3,SNR=4.2
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 77.06 320 P **P 12 44 58.2 +0.7**
comp=Z,0.6nm,0.8s,baz=104,slow=5.2,SNR=4.9
comp=Z,0.6nm,0.8s
ZALV Zalesovo Beam 78.14 327 LR LR 13 18 38.5
comp=Z,20nm,21.6s,baz=63,slow=35
KURK Kurchatov 80.60 323 P **P 12 45 17.2 +0.3**
KURK Kurchatov 80.60 323 IAmb IAmb 12 45 44.6
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 80.62 322 P **P 12 45 17.2 +0.2**
comp=Z,0.3nm,0.7s,baz=104,slow=4.1,SNR=2.3
comp=Z,0.3nm,0.7s
ILAR Eielson Array 82.27 23 P **P 12 45 25.4 0.0**
comp=Z,0.4nm,0.9s,baz=250,slow=5.9,SNR=3.3
comp=Z,0.4nm,0.9s
BVAR Borovoye Array 86.11 324 P **P 12 45 45.3 +0.1**
comp=Z,0.5nm,0.5s,baz=100,slow=4.1,SNR=2.3
comp=Z,0.5nm,0.5s
TORD Torodi Ar. Bea 146.59 289 PKPbc **PKPab 12 52 47.0 -0.9**
comp=Z,0.9nm,0.3s,baz=77,slow=3.0,SNR=1.3

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*BUT **31** 12:38:50.4±1.2, 44°.67N±0°.03×111°.89W±0°.03, h10km±8km, Error ellipse: s-maj=4.8km s-min=2.4km az=199.0*
NEIC 31 12:38:51.5±1.2, 44°.67N±0°.02×111°.92W±0°.03, h10km±2km, ML2.7/58, ML3.1/28(BUT), Error ellipse: s-maj=4.5km s-min=3.3km az=31.0, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPMT	**Tepee Creek**	**0.19**	**71**		Pg	12 38 55.7	0.0
CMI	**Centennial Mou**	**0.26**	**124**		Pg	12 38 56.7	-0.2
MOMT	**Monida**	**0.35**	**258**		Pb	12 38 59.4	-0.6
QLMT	**Earthquake Lak**	**0.38**	**65**		Pg	12 38 58.7	-0.5
YPDC	**Denny Creek**	**0.48**	**85**		Pg	12 39 00.7	-0.3
YHB	**Horse Butte**	**0.52**	**81**		Pg	12 39 01.4	-0.3
YHB	**Horse Butte**	**0.52**	**81**	IAML		12 39 08.9
	comp=E,903nm,0.4s						
YHB				IAML		12 39 09.0	
	comp=N,690nm,0.5s						
YHL	**Hebgen Lake**	**0.55**	**71**		Pg	12 39 01.9	-0.5
YHL	**Hebgen Lake**	**0.55**	**71**	IAML		12 39 10.3	
	comp=E,2μm,0.4s						
YHL				IAML		12 39 10.8	
	comp=N,1μm,0.4s						
BGMT	**Barton Gulch**	**0.57**	**351**		Pg	12 39 02.6	-0.1
YPWB	**West Boundary**	**0.59**	**96**		Pg	12 39 03.0	+0.1
GCR	**Grayling Creek**	**0.59**	**77**		Pg	12 39 02.9	-0.2
YMC	**Maple Creek**	**0.66**	**82**		Pg	12 39 04.0	-0.2
YMR	**Madison River**	**0.68**	**90**		Pg	12 39 04.5	-0.2
YMR	**Madison River**	**0.68**	**90**	IAML		12 39 14.3	
	comp=E,462nm,0.7s						
YMR				IAML		12 39 15.2	
	comp=N,593nm,0.6s						
MCMT	**McKenzie Canyo**	**0.68**	**284**		Pb	12 39 05.3	-0.4
MCID	**Moose Creek**	**0.71**	**132**		Pg	12 39 05.4	+0.1
YPM	**Purple Mountai**	**0.75**	**91**		Pg	12 39 06.1	+0.1
YHH	**Holmes Hill**	**0.77**	**81**	Pg	Pg	12 39 06.0	-0.4
YFT	**Old Faithful**	**0.80**	**105**		Pg	12 39 07.0	0.0
DLMT	**Dillon**	**0.84**	**325**		Pg	12 39 07.9	0.0
DLMT	**Dillon**	**0.84**	**325**	IAML		12 39 22.4	
	comp=N,281nm,0.8s						
DLMT				IAML		12 39 24.8	
	comp=N,236nm,0.4s						
YNM	**Yellowstone No**	**0.87**	**86**		Pg	12 39 08.1	-0.2
YNM				IAML		12 39 19.7	
	comp=E,234nm,0.3s						
YNM				IAML		12 39 20.1	
	comp=N,266nm,0.3s						
YNR	**Norris Junctio**	**0.88**	**87**		Pg	12 39 08.2	-0.4
YNR	**Norris Junctio**	**0.88**	**87**	IAML		12 39 20.9	
	comp=E,353nm,0.3s						
YNR				IAML		12 39 22.5	
	comp=N,193nm,0.5s						
YPP	**Pitchstone Pla**	**0.89**	**116**		Pg	12 39 08.6	-0.1
YPP				IAML		12 39 22.7	
	comp=N,252nm,0.3s						
YPP				IAML		12 39 23.9	
	comp=E,180nm,0.2s						
YMV	**Mammoth Vault**	**0.93**	**70**		Pg	12 39 08.8	-0.6
BOZ	**Bozeman (W)**	**0.95**	**12**		Pg	12 39 09.0	-0.8
BOZ	**Bozeman (W)**	**0.95**	**12**	IAML		12 39 26.4	
	comp=E,361nm,0.4s						
YLT	**Little Thumb C**	**0.98**	**103**		Pn	12 39 11.4	-0.2
H17A	**Grant Village**	**1.00**	**105**		Pn	12 39 11.7	-0.1
YUF	**Upper Falls**	**1.00**	**87**		Pg	12 39 10.7	-0.2
FLWY	**Flagg Ranch**	**1.05**	**123**		Pg	12 39 11.2	-0.5
FLWY	**Flagg Ranch**	**1.05**	**123**	IAML		12 39 26.2	
	comp=E,122nm,0.6s						
FLWY				IAML		12 39 26.6	
	comp=E,134nm,0.7s						
LKWY	**Lake**	**1.09**	**95**		Pn	12 39 13.4	+0.3
LKWY	**Lake**	**1.09**	**95**	IAML		12 39 21.2	
	comp=E,78nm,0.5s						
LKWY				IAML		12 39 24.7	
	comp=E,45nm,0.8s						
YTP	**The Promontory**	**1.20**	**103**		Pb	12 39 14.2	-0.3
FXWY	**Fox Creek**	**1.21**	**148**		Pb	12 39 13.5	-1.2
LRM	**Limekiln Ridge**	**1.21**	**342**		Pb	12 39 14.2	-0.6
HBMT	**Mount Humbug**	**1.23**	**337**		Pb	12 39 14.6	-0.4
MOOW	**Moose Ponds**	**1.25**	**137**		Pn	12 39 14.0	-1.3
MOOW	**Moose Ponds**	**1.25**	**137**	IAML		12 39 31.4	
	comp=E,84nm,0.2s						
YMP	**Mirror Lake Pl**	**1.26**	**86**		Pn	12 39 15.5	0.0
BZMT	**Bozeman Pass**	**1.26**	**39**		Pn	12 39 14.9	-0.5
YPSB	**Soda Butte**	**1.27**	**80**		Pn	12 39 15.3	-0.4
TPAW	**Teton Pass**	**1.37**	**149**		Pn	12 39 16.4	-0.6
TPAW	**Teton Pass**	**1.37**	**149**	IAML		12 39 37.0	
	comp=E,126nm,0.3s						
YNE	**Yellowstone No**	**1.40**	**75**		Pn	12 39 17.2	-0.1
YNE	**Yellowstone No**	**1.40**	**75**	IAML		12 39 40.0	
	comp=E,98nm,0.5s						
YNE				IAML		12 39 41.0	
	comp=N,153nm,0.3s						
LOHW	**Long Hollow**	**1.42**	**138**		Pn	12 39 17.3	-0.3
LOHW	**Long Hollow**	**1.42**	**138**	IAML		12 39 40.9	
	comp=N,86nm,0.7s						
LOHW				IAML		12 39 42.1	
	comp=N,112nm,0.6s						
BUT	**Butte**	**1.42**	**341**		Pg	12 39 19.0	+0.2
YPK	**Parker Peak, Y**	**1.42**	**87**		Pn	12 39 17.6	-0.1
YHR	**Hawk`s Rest**	**1.43**	**113**		Pn	12 39 18.1	+0.3
MSMT	**Mission Creek**	**1.47**	**48**		Pn	12 39 18.6	+0.3
SNOW	**Snow King Moun**	**1.47**	**145**		Pn	12 39 18.6	+0.3
SNOW	**Snow King Moun**	**1.47**	**145**	IAML		12 39 41.6	
	comp=N,79nm,0.7s						
SNOW				IAML		12 39 48.4	
	comp=N,102nm,0.7s						
CRMT	**Chrome Mountai**	**1.48**	**57**		Pb	12 39 19.2	-0.3
SXM	**Sixmile**	**1.56**	**18**		Pb	12 39 20.3	-0.3
RLMT	**Red Lodge**	**1.94**	**76**		Pb	12 39 26.4	-0.6
RLMT	**Red Lodge**	**1.94**	**76**	IAML		12 40 00.7	
	comp=N,100nm,0.4s						
RLMT				IAML		12 40 02.0	
	comp=N,93nm,0.4s						
AHID	**Auburn Hatcher**	**1.99**	**162**		Pb	12 39 26.9	-1.1
AHID	**Auburn Hatcher**	**1.99**	**162**	IAML		12 39 56.2	
	comp=N,79nm,0.5s						
AHID				IAML		12 39 58.3	
	comp=N,66nm,0.6s						
BPMT	**Black Pine Rid**	**2.07**	**329**		Pn	12 39 27.4	+0.8
BEMT	**Mount Belmont**	**2.10**	**352**		Pb	12 39 28.6	-1.3
HLID	**Hailey**	**2.11**	**239**		Pb	12 39 28.7	-1.3
LYMT	**Lyon Mountain**	**2.32**	**354**		Pn	12 39 31.2	+1.2
VCMT	**Victor**	**2.39**	**319**		Pn	12 39 31.7	+0.9
CHMT	**Chamberlain Mo**	**2.43**	**338**		Pn	12 39 32.7	+1.1
OVMT	**Ovando**	**2.51**	**343**		Pn	12 39 33.6	+1.0
BW06	**Boulder Array**	**2.56**	**137**		Pb	12 39 36.2	-1.4
PD31	**Pinedale Array**	**2.56**	**137**		Pb	12 39 35.6	-2.1
PDAR	**Pinedale Array**	**2.56**	**137**		Pb	12 39 35.6	-2.1
MSO	**Missoula**	**2.58**	**327**		Pn	12 39 34.3	+0.7
SLMT	**Seeley Lake**	**2.80**	**337**		Pn	12 39 37.2	+0.7
PLID	**Pearl Lake**	**2.93**	**280**		Pn	12 39 40.1	+1.6
PLID	**Pearl Lake**	**2.93**	**280**	IAML		12 40 28.6	
	comp=N,37nm,0.3s						
PCMT	**Pistol Creek**	**2.94**	**331**		Pn	12 39 39.4	+0.8
ALMT	**Alberton, Mont**	**2.95**	**324**		Pn	12 39 40.4	+1.8
HWUT	**Hardware Ranch**	**3.07**	**175**		Pb	12 39 43.6	-2.8
HWUT	**Hardware Ranch**	**3.07**	**175**	IAML		12 40 11.7	
	comp=N,16nm,4.7s						
MFID	**Camas Ranch**	**3.09**	**247**		Pn	12 39 42.4	+1.9
SWMT	**Swartz Lake**	**3.19**	**334**		Pn	12 39 42.7	+0.9
FBMT	**Ferry Basin**	**3.25**	**328**		Pn	12 39 44.8	+2.2
NDMT	**Ninemile Divid**	**3.29**	**323**		Pn	12 39 45.2	+1.9
JTMT	**Jette**	**3.49**	**333**		Pn	12 39 47.2	+1.2
YBMT	**Yellow Bay**	**3.51**	**336**		Pn	12 39 48.1	+1.9
BHMT	**Big Hole Peak**	**3.63**	**324**		Pn	12 39 50.2	+2.2
EGMT	**Eagleton**	**3.67**	**23**		Pn	12 39 50.0	+1.5
BSMT	**Bassoo Peak**	**3.75**	**329**		Pn	12 39 51.6	+1.9
BMO	**Blue Mountains**	**3.84**	**275**		Pn	12 39 51.9	+1.0
BMO	**Blue Mountains**	**3.84**	**275**	IAML		12 40 57.4	
	comp=N,10nm,0.6s						
BMO				IAML		12 40 57.9	
	comp=N,13nm,0.4s						
F10A	**Beach Ranch, E**	**3.97**	**291**		Pn	12 39 54.1	+1.6
CTU	**Camp Tracy**	**3.98**	**178**		Pn	12 39 55.1	+2.4
BSUT	**Blindstream Ca**	**4.22**	**168**	Pn	Pn	12 39 58.9	+2.6
LNOR	**Lincton Mounta**	**4.65**	**287**		Pn	12 40 04.5	+2.6
G06A	**Carlson Farm,**	**6.21**	**278**	Pn	Pn	12 40 25.4	+2.1

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*CATAC **31** 12:39:02.3±0.6, 12°.N±3°.×8°.8W±°., h15km±2km, M3.8/13, MLv3.8/13, Error ellipse: s-maj=6.3km s-min=3.6km az=26.3, confirmed*
*SNET **31** 12:39:03.3±1.9, 12°.12N×87°.76W, h14km, ML3.4*
ISC 31 12:39:02.4±2.2, 12°.06N±0°.08×87°.76W±0°.05, h15km±11km, n28, σ0s46/38, 4C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.93**	**12**	⇓P	**Pb**	**12 39 20.2**	**-0.2**
CSGN				S	**Sn**	**12 39 34.0**	**-0.2**
CRIN	**San Cristobal**	**0.94**	**47**	P	**Pg**	**12 39 20.9**	**+0.2**
CRIN	**San Cristobal**	**0.94**	**47**	S	**Sn**	**12 39 34.2**	**-0.2**
POTN	**Potosi Cosigui**	**0.96**	**15**	⇓P	**Pb**	**12 39 20.7**	**-0.1**
POTN				S	**Sg**	**12 39 34.0**	**+0.2**
PKGN	**Cerro Pekin**	**0.97**	**51**	⇓P	**Pb**	**12 39 20.8**	**-0.2**
PKGN				S	**Sn**	**12 39 35.2**	**+0.1**
POLN	**Al Sur del Vol**	**1.09**	**58**	S	**Sb**	**12 39 37.4**	**+0.3**
CNGA	**Al SSO del Vol**	**1.12**	**67**	P	**Pb**	**12 39 23.6**	**+0.1**
CNGA				S	**Sb**	**12 39 37.8**	**-0.1**
CNGN	**Cerro Negro**	**1.12**	**67**	S	**Sb**	**12 39 38.5**	**+0.4**
CNGN	**Cerro Negro**	**1.12**	**67**	P	**Pb**	**12 39 23.1**	**-0.5**
COPN	**Copaltepe**	**1.15**	**84**	⇑P	**Pb**	**12 39 23.4**	**-0.6**
LCND	**La Caada**	**1.25**	**354**	*e*P	**Pn**	**12 39 25.2**	**-0.2**
LCND				*e*S	**Sg**	**12 39 42.6**	**-0.2**
LCND	**La Caada**	**1.25**	**354**	⇑P	**Pn**	**12 39 24.9**	**-0.4**
MOM3	**MOM3**	**1.29**	**70**	P	**Pn**	**12 39 25.6**	**-0.3**
MOM3				S	**Sn**	**12 39 43.7**	**+0.8**
MOM2	**El Cardon**	**1.30**	**73**	P	**Pn**	**12 39 25.6**	**-0.5**
MOM2				S	**Sn**	**12 39 43.7**	**+0.6**
APQ2	**Apoyeque**	**1.41**	**84**	P	**Pn**	**12 39 27.7**	**+0.2**
APQ2				S	**Sb**	**12 39 46.8**	**+0.7**
BLLM	**Bellamira**	**1.45**	**341**	*e*P	**Pn**	**12 39 27.6**	**-0.7**
LCY	**Lacayo**	**1.45**	**339**	*e*P	**Pn**	**12 39 27.9**	**-0.4**
PACA	**Pacayal**	**1.50**	**338**	*e*P	**Pn**	**12 39 29.1**	**+0.1**
PACA				*e*S	**Sn**	**12 39 48.1**	**-0.4**
PACA	**Pacayal**	**1.50**	**338**	P	**Pn**	**12 39 28.6**	**-0.4**
LIMN	**Finca el Limon**	**1.68**	**54**	P	**Pn**	**12 39 31.0**	**-0.4**
LIMN				S	**Sb**	**12 39 53.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.89**	**330**	P	**Pn**	**12 39 34.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.89**	**330**	S	**Sn**	**12 39 58.4**	**+0.6**
MATN	**Matagalpa**	**1.98**	**64**	S	**Sn**	**12 40 00.2**	**-0.1**
MATN	**Matagalpa**	**1.98**	**64**	⇑P	**Pn**	**12 39 34.5**	**-1.1**
LFRS	**El Faro**	**2.01**	**321**	*e*P	**Pn**	**12 39 35.6**	**-0.3**
LOMA	**Loma Larga**	**2.09**	**319**	*e*P	**Pn**	**12 39 37.1**	**0.0**
RCVN	**Varillal2**	**2.15**	**45**	S	**Sn**	**12 40 05.2**	**+0.9**
RCVN	**Varillal2**	**2.15**	**45**	⇑P	**Pn**	**12 39 38.1**	**+0.2**

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*IDC **31** 12:42:19.1±0.8, 6°.74N×125°.05E, h0km, mb3.9/8, mbtmp3.9/8, MS3.2/2, Error ellipse: s-maj=17.5km s-min=9.6km az=145.0*
*NEIC **31** 12:42:21.9±2.3, 6°.82N±0°.07×125°.20E±0°.05, h12km±6km, mb4.3/15, Error ellipse: s-maj=12.9km s-min=2.8km az=145.0*
*DJA **31** 12:42:22.2±0.6, 7°.N±5°.×12°.5E±°., h10km, M4.7/9, mb4.7/9, mB5.2/4, MLv4.7/9, Mw(mB)4.5/4*
ISC 31 12:42:20.9±0.6, 6°.84N±0°.06×125°.12E±0°.08, h10km, n38, σ1s66/34, mb4.2/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.51**	**63**	Pg	**Pg**	**12 42 30.9**	**+0.1**
	672nm,0.3s,baz=225,slow=3.1,SNR=18						
DAV				Lg	Lg	12 42 39.7	
	477nm,0.3s,baz=180,slow=20,SNR=5.2						
DAV				LR	LR	12 42 55.9	
	comp=Z,1μm,18.0s,baz=188,slow=60						
DAV	**Davao City (W)**	**0.51**	**63**	P	**Pg**	**12 42 31.0**	**+0.1**
SGSI	**Sangihe**	**3.16**	**173**	P	**Pn**	**12 43 12.6**	**+1.9**
SGSI				S	**Sb**	**12 43 52.9**	**-2.8**
KMSI	**Cibinong**	**6.32**	**190**	P	**Pn**	**12 43 57.5**	**+3.2**
	0.8nm243nm,1.0s						
MYLDM	**Lahad Datu**	**6.79**	**256**	Pn	**Pn**	**12 44 03.8**	**+3.1**
MRSI	**Marisa**	**7.07**	**207**	P	**Pn**	**12 44 07.5**	**+2.9**
	0.3nm59nm,0.9s						
TOLI2	**Tolitoli**	**7.15**	**217**	Pn	**Pn**	**12 44 03.6**	**-2.0**
LUWI	**Luwuk**	**8.17**	**197**	Pn	**Pn**	**12 44 21.2**	**+1.5**
SANI	**Sanana**	**8.87**	**174**	P	**Pn**	**12 44 33.7**	**+4.4**
	19nm,0.8s						
I39PW	**PALAU INFRASON**	**9.38**	**85**	I	I	13 40 40.0	
	baz=266,slow=284,SNR=0.6						
SPSI	**Sidrap Palu**	**11.99**	**207**	P	**Pn**	**12 45 14.0**	**+2.0**
FAKI	**Fak Fak**	**12.02**	**143**		**Pn**	**12 45 11.4**	**-1.1**
MTN	**Manton Dam**	**20.44**	**163**	P	**P**	**12 46 59.3**	**+0.6**
MTN				IAmb	IAmb	12 47 09.3	
	comp=Z,17nm,1.2s						
KNRA	**Kununurra**	**22.66**	**171**	P	**P**	**12 47 22.9**	**+0.3**
KNRA				IAmb	IAmb	12 47 32.0	
	comp=Z,20nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.78**	**179**	P	**P**	**12 47 43.1**	**-0.1**
JNU	**Nakatsue**	**26.70**	**11**	LR	LR	12 58 21.1	
	comp=Z,45nm,19.8s,baz=160,slow=36						
COEN	**Coen**	**27.35**	**139**	P	**P**	**12 48 04.8**	**-1.6**
COEN				IAmb	IAmb	12 48 14.9	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**27.97**	**161**	P	**P**	**12 48 11.1**	**-0.8**
WB0				IAmb	IAmb	12 48 24.2	
	comp=Z,9.2nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.99**	**297**	P	**P**	**12 48 12.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=111,slow=8.5,SNR=4.8						
	comp=Z,0.3nm,0.3s						
WRAB	**Tennant Creek**	**28.11**	**161**	P	**P**	**12 48 12.6**	**-0.6**
WRAB				IAmb	IAmb	12 48 36.8	
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**28.11**	**161**	P	**P**	**12 48 11.8**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=338,slow=9.5,SNR=11						
	comp=Z,1.0nm,0.7s						
WR8	**Warramunga Arr**	**28.18**	**161**	P	**P**	**12 48 14.4**	**+0.6**
WR8				IAmb	IAmb	12 48 22.9	
	comp=Z,3.6nm,0.9s						
AS31	**Alice Springs**	**31.51**	**164**	P	**P**	**12 48 42.5**	**-0.8**
ASAR	**Alice Springs**	**31.51**	**164**	P	**P**	**12 48 42.0**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=342,slow=8.6,SNR=34						
	comp=Z,1.2nm,0.7s						
INKA	**Innaminka**	**37.55**	**157**	P	**P**	**12 49 34.8**	**-0.7**
INKA				IAmb	IAmb	12 49 40.5	
	comp=Z,3.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.70**	**8**	P	**P**	**12 49 37.7**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=188,slow=8.7,SNR=4.2						
	comp=Z,5.0nm,0.8s						
ASAJ	**Asahikawa**	**40.16**	**20**	LR	LR	13 08 06.1	
	comp=Z,30nm,19.2s,baz=120,slow=38						
BBOO	**Buckleboo**	**40.78**	**166**	P	**P**	**12 50 02.2**	**-0.2**
STKA	**Stephens Creek**	**41.58**	**159**	IAmb	IAmb	12 50 11.0	
	comp=Z,27nm,1.0s						
STKA	**Stephens Creek**	**41.58**	**159**	P	**P**	**12 50 09.6**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=345,slow=13,SNR=5.6						
	comp=Z,4.6nm,0.9s						
MKAR	**Makanchi Array**	**54.11**	**325**	P	**P**	**12 51 46.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=124,slow=8.3,SNR=4.3						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**58.28**	**327**	P	**P**	**12 52 15.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=116,slow=8.5,SNR=3.3						
	comp=Z,0.6nm,0.8s						
KURK	**Kurchatov**	**58.28**	**327**	P	**P**	**12 52 15.2**	**-0.6**
KURK	**Kurchatov**	**58.28**	**327**	IAmb	IAmb	12 52 20.9	
	comp=Z,3.6nm,1.1s						
GAR	**Garm**	**58.66**	**312**	P	**P**	**12 52 19.5**	**+0.6**
KK31	**Karatay Array**	**59.89**	**316**	P	**P**	**12 52 27.5**	**+0.3**
KK31				IAmb	IAmb	12 52 34.5	
	comp=Z,2.1nm,0.8s						
KKAR	**Karatay Array**	**59.89**	**316**	P	**P**	**12 52 25.9**	**-1.3**
ILAR	**Eielson Array**	**83.01**	**26**	P	**P**	**12 54 45.6**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=273,slow=5.9,SNR=6.3						
	comp=Z,0.8nm,1.0s						

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*IDC **31** 12:44:10.9±6.0, 35°.89N×69°.81E, h76km±54km, mb3.5/8, mbtmp3.8/12, ML3.9/5, Error ellipse: s-maj=39.6km s-min=19.4km az=34.0*
*NEIC **31** 12:44:15.9±1.4, 36°.09N±0°.06×69°.77E±0°.08, h126km±8km, mb4.3/9, Error ellipse: s-maj=10.4km s-min=8.4km az=64.0*
*NNC **31** 12:44:15.5±5.4, 36°.60N×69°.56E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=43.7km s-min=32.3km az=167.0*
ISC 31 12:44:15.4±0.7, 36°.11N±0°.06×69°.88E±0°.07, h124km, n50, σ1s73/57, mb3.6/9, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.71**	**204**		**Pn**	**12 44 45.2**	**-0.5**
CHGR	**Chuyangaron**	**2.61**	**348**		**Pn**	**12 44 57.2**	**+0.3**
GAR	**Garm**	**2.91**	**7**		**Pn**	**12 45 01.7**	**+1.0**
DRK	**Karamyk**	**3.70**	**24**		**Pn**	**12 45 12.9**	**+1.6**
NIL	**Nilore**	**3.70**	**130**		**Pn**	**12 45 11.7**	**+0.6**
ARSB	**Arslanbob**	**5.75**	**24**		**Pn**	**12 45 39.2**	**+0.7**
DHRM	**DHARAMSHALA**	**6.57**	**124**	*e*P	**Pn**	**12 45 49.0**	**-0.8**
DHRM				*e*S	**Sn**	**12 46 59.4**	**-4.0**
DHRM				IAML		12 47 01.8	
	comp=E,140nm,0.2s						
DHRM				IAML		12 47 02.8	
	comp=N,183nm,0.2s						
KK31	**Karatay Array**	**7.00**	**4**		**Pn**	**12 45 55.8**	**+0.4**
KK31	**Karatay Array**	**7.00**	**4**	P	**Pn**	**12 45 55.1**	**-0.3**
	comp=N,11nm,0.4s,baz=196,slow=20,SNR=115						
KK31				⇓S	**Sn**	**12 47 10.2**	**-3.3**
	comp=N,3.5nm,0.2s,baz=199,slow=22,SNR=5.3						
KKAR	**Karatay Array**	**7.00**	**4**		**Pn**	**12 45 55.7**	**+0.3**
UCH	**Uchtor**	**7.09**	**29**	P	**Pn**	**12 45 57.5**	**+0.6**
	SNR=26						
BHK	**Bhakra**	**7.18**	**129**	*e*P	**Pn**	**12 45 59.7**	**+1.9**
BHK				IAML		12 47 15.7	
	comp=N,170nm,0.3s						
BHK				*e*S	**Sn**	**12 47 18.5**	**+0.7**
EKS2	**Erkin-Say**	**7.21**	**24**	P	**Pn**	**12 45 58.7**	**+0.5**
	SNR=28						
AAK	**Ala-Archa**	**7.44**	**27**		**Pn**	**12 46 02.2**	**+0.8**
AAK	**Ala-Archa**	**7.44**	**27**	P	**Pn**	**12 46 01.6**	**+0.2**
	comp=N,12nm,0.3s,baz=191,slow=9.8,SNR=65						
AAK				S	**Sn**	**12 47 23.1**	**-1.1**
	comp=N,12nm,0.4s,baz=162,slow=20,SNR=9.5						
AAK	**Ala-Archa**	**7.44**	**27**	P	**Pn**	**12 46 01.5**	**+0.2**
	SNR=46						
AAK	**Ala-Archa**	**7.44**	**27**	⇑P	**Pn**	**12 46 00.8**	**-0.5**
	comp=N,3.1nm,0.3s						
AAK				⇓S	**Sn**	**12 47 22.9**	**-1.3**
	comp=N,35nm,1.0s						
KBK	**Karagaybulak**	**7.63**	**29**	P	**Pn**	**12 46 04.9**	**+1.0**
	SNR=9.7						
CHMS	**Chumysh**	**7.84**	**27**	P	**Pn**	**12 46 07.0**	**+0.3**
	SNR=8.3						
SMLA	**Simla**	**7.85**	**127**	*e*P	**Pn**	**12 46 06.1**	**-0.7**
SMLA				*e*S	**Sn**	**12 47 27.8**	**-6.2**
SMLA				IAML		12 47 31.9	
	comp=N,178nm,0.2s						
SMLA				IAML		12 47 32.5	
	comp=E,146nm,0.3s						
BOOM	**Boomskoye usch**	**7.92**	**35**		**Pn**	**12 46 09.4**	**+1.6**
USP	**Ospenovka**	**7.99**	**25**	P	**Pn**	**12 46 08.6**	**-0.1**
	SNR=11						
TKM2	**Tokmak 2**	**8.11**	**31**	P	**Pn**	**12 46 12.5**	**+2.0**
	SNR=11						
KDJ	**Kajisay**	**8.27**	**41**		**Pn**	**12 46 12.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**8.35**	**45**		**Pn**	**12 46 14.9**	**+1.1**
MAKZ	**Makanchi**	**14.00**	**37**		**Pn**	**12 47 28.7**	**+0.4**
MKAR	**Makanchi Array**	**14.15**	**37**	Pn	**Pn**	**12 47 31.4**	**+1.3**
MKAR	**Makanchi Array**	**14.15**	**37**	P	**Pn**	**12 47 30.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=230,slow=13,SNR=13						
	comp=E,0.8nm,0.6s						
AB31	**Akbulak array**	**15.02**	**334**		**Pn**	**12 47 40.7**	**-0.3**
AB31	**Akbulak array**	**15.02**	**334**	⇑P	**Pn**	**12 47 40.0**	**-1.0**
	comp=E,0.6nm,0.2s						
AB31				⇑S	**Sn**	**12 50 24.8**	**-2.3**
	comp=

comp=N,7μm,0.6s
BRIC IAML 12 47 09.9
comp=E,9μm,0.5s
KMRM Mail Ridge 0.42 102 Pb 12 47 04.2 -0.1
KMRM Mail Ridge 0.42 102 IAML 12 47 12.8
comp=E,3μm,0.4s
KMRM IAML 12 47 13.1
comp=N,2μm,0.9s
JCC Jacoby Creek, 0.53 18 Pb 12 47 04.7 -1.1
JCC IAML 12 47 12.7
comp=E,582nm,0.4s
JCC IAML 12 47 12.8
comp=N,1μm,0.6s
JCC Jacoby Creek, 0.53 18 Sb 12 47 12.3 -1.1
DMOR Dinsmores, CA 0.57 46 Pb 12 47 06.0 -0.6
KHMM Horse Mountain 0.69 35 Pn Pn 12 47 07.5 -0.9
KIPM Iron Peak 0.78 130 Pn 12 47 08.9 -0.8
KCPM Cahto Peak 0.81 140 Pn 12 47 09.0 -1.1
KHBM Hayfork Bally 0.86 66 Pn 12 47 09.7 -1.2
KHBM IAML 12 47 22.2
comp=E,568nm,0.4s
KHBM IAML 12 47 22.9
comp=N,612nm,0.3s
KRPM Rodgers 0.86 12 Pn 12 47 09.7 -1.1
INGLE Inglenook, Smi 0.89 151 Pn 12 47 09.9 -1.2
KBNM Bluenose Ridge 0.91 117 Pn 12 47 11.1 -0.4
WEAV Weaverville 1.06 66 Pn 12 47 12.2 -1.3
GTC Three Chop Rid 1.06 149 Pn 12 47 12.2 -1.3
MNDO Woodland Fire 1.07 158 Pn 12 47 12.3 -1.3
DCMP DeCamp, Califo 1.10 140 Pn 12 47 12.7 -1.3
DCMP IAML 12 47 26.3
comp=N,242nm,0.4s
KRKM Rackout Spring 1.11 132 Pn 12 47 13.2 -1.0
O02D Mt. Diablo Mer 1.13 97 Pn 12 47 13.7 -0.7
KOMM Orleans Mounta 1.14 32 Pn 12 47 13.6 -1.0
GROM Round Mountain 1.27 108 Pn 12 47 15.9 -0.5
GVV Valley View 1.32 114 Pn 12 47 16.6 -0.6
GWRM Wonder Ranch 1.33 146 Pn 12 47 15.8 -1.3
N02D Trinity Center 1.35 60 Pn 12 47 16.7 -0.7
GHOM Hamilton Openi 1.38 156 Pn 12 47 16.4 -1.5
LBKM Bonanza King 1.43 57 Pn 12 47 17.8 -0.8
BONV Boonville, CA 1.50 152 Pn 12 47 18.0 -1.4
M02C Callahan 1.51 44 Pn 12 47 19.0 -0.7
M02C IAML 12 47 37.7
comp=E,227nm,0.5s
M02C IAML 12 47 38.9
comp=N,143nm,0.6s
KSXB Camp Six Broad 1.54 10 Pn 12 47 19.2 -1.0
KSXB IAML 12 47 42.1
comp=N,107nm,0.8s
SIGP Signal Peak, C 1.56 5 Pn 12 47 19.4 -1.0
GCK Clark Valley 1.59 118 Pn 12 47 21.1 +0.4
GSNM Snow Mountain 1.60 149 Pn 12 47 19.7 -1.2
HOPS Hopland Field 1.60 145 Pn 12 47 19.7 -1.2
GHGM Hogback Ridge 1.62 137 Pn 12 47 20.2 -0.9
GALB Galbreath Wild 1.64 152 Pn 12 47 19.9 -1.5
LSHM Sage Hen Hill 1.75 73 Pn 12 47 22.4 -0.6
GPMM Pine Mountain 1.78 145 Pn 12 47 22.5 -0.9
LCSM College of the 1.79 51 Pn 12 47 22.8 -0.7
GFC Funks Creek 1.80 123 Pn 12 47 23.7 0.0
YBH Yreka Blue Hor 1.83 39 Pn 12 47 23.8 -0.4
YBH IAML 12 47 48.5
comp=N,118nm,0.4s
LGBM Gray Butte 1.87 56 Pn 12 47 25.2 +0.4
O03E Paynes Creek 1.87 90 Pn 12 47 23.5 -1.2
L02F Cave Junction 1.88 16 Pn 12 47 23.9 -0.8
L02F IAML 12 47 47.8
comp=N,63nm,0.3s
L02F IAML 12 47 49.5
comp=E,64nm,0.6s
M03C McCloud 1.88 59 Pn 12 47 25.0 +0.2
LDBM Digger Butte 1.89 86 Pn 12 47 23.7 -1.2
KBO Bosley Butte 1.90 1 Pn 12 47 24.3 -0.7
LMPM Military Pass 1.97 53 Pn 12 47 26.9 +0.8
FTR Fort Ross 1.98 154 Pn 12 47 24.8 -1.3
MNRC McLaughlin Min 2.00 135 Pn 12 47 25.9 -0.5
LHEM Herd Peak 2.02 49 Pn 12 47 27.2 +0.3
LBFM Black Fox Moun 2.07 59 Pn 12 47 27.9 +0.4
LCMM Colby Mountain 2.10 94 Pn 12 47 27.0 -0.9
OSUM Sutter Buttes 2.12 119 Pn 12 47 26.8 -1.2
OGOM Van Goodin Ran 2.13 107 Pn 12 47 26.9 -1.3
LRDM Redding Peak 2.14 85 Pn 12 47 28.1 -0.2
HATC Hat Creek Radi 2.18 76 Pn 12 47 29.0 +0.1
HATC IAML 12 47 56.7
comp=N,56nm,1.3s
HATC IAML 12 48 01.4
comp=E,79nm,0.8s
SUTB Sutter Butte 2.19 119 Pn 12 47 27.5 -1.4
SUTB Sutter Butte 2.19 119 IAML 12 47 52.7
comp=E,60nm,0.4s
SUTB IAML 12 47 59.4
comp=N,49nm,0.4s
ORV Oroville 2.25 109 Pn 12 47 28.8 -1.0
OSTM Stimpson Lane 2.25 114 Pn 12 47 28.4 -1.4
LTIM Timbered Crate 2.27 67 Pn 12 47 29.9 -0.2
LBCM Butte Creek Ri 2.27 76 Pn 12 47 29.9 -0.3
PAM Palermo 2.27 111 Pn 12 47 29.1 -1.0
M04C Macdoel 2.34 50 Pn 12 47 31.3 +0.1
OHCM Honcut 2.34 114 Pn 12 47 29.7 -1.4
KPK Kanaka Peak 2.38 107 Pn 12 47 31.1 -0.5
L04D Klamath Falls 2.40 37 Pn 12 47 33.0 +1.0
L04D IAML 12 48 01.9
comp=E,114nm,0.8s
L04D IAML 12 48 02.8
comp=N,84nm,1.2s
MCCM Marconi Confer 2.41 153 Pn 12 47 31.0 -1.0
MCCM Marconi Confer 2.41 153 IAML 12 47 59.2
comp=E,38nm,0.4s
K02D Willamette Mer 2.42 10 Pn 12 47 31.7 -0.5
K02D IAML 12 48 01.6
comp=N,37nm,0.4s
K02D IAML 12 48 02.9
comp=E,55nm,0.2s
SFRE Sierra Foothil 2.49 114 Pn 12 47 31.8 -1.3
NPRM Point Reyes 2.51 157 Pn 12 47 32.4 -0.9
NOLM Olema 2.54 153 Pn 12 47 32.5 -1.3
SNT Sears Point 2.54 146 Pn 12 47 32.4 -1.5
KEBM Edson Butte 2.56 359 Pn 12 47 34.1 0.0
KEBM IAML 12 48 03.1
comp=N,44nm,1.9s
KEBM IAML 12 48 15.7
comp=E,43nm,1.5s
FARB Farallon Islan 2.79 159 Pn 12 47 36.2 -0.9
FARB IAML 12 48 06.4
comp=E,70nm,0.5s
FARB IAML 12 48 07.9
comp=N,38nm,0.3s
BBOR Butler Butte 2.83 24 IAML 12 48 13.0
comp=E,32nm,0.4s
BBOR IAML 12 48 13.0
comp=N,29nm,0.5s
BEKR Beckworth 3.02 97 Pn 12 47 40.6 0.0
BEKR IAML 12 48 19.1
comp=E,35nm,0.5s
BEKR IAML 12 48 19.6
comp=N,34nm,0.6s
JRSC Jasper Ridge 3.30 151 IAML 12 48 15.8
comp=N,28nm,2.9s
JRSC IAML 12 48 23.5
comp=E,36nm,3.7s
I03D Drain, OR 3.45 11 Pn 12 47 46.1 -0.2
K05A Summer Lake 3.49 45 Pn 12 47 47.4 +0.4
K05A IAML 12 48 40.8
comp=N,24nm,5.0s
K05A IAML 12 48 55.0
comp=E,19nm,4.4s
MHC Mount Hamilton 3.60 145 Pn 12 47 48.5 +0.1
MHC IAML 12 48 29.6
comp=E,19nm,4.2s
MHC IAML 12 49 16.9
comp=N,16nm,4.2s
J05D Fort Rock, OR 3.73 36 Pn 12 47 51.2 +1.0
J05D IAML 12 48 57.4
comp=N,13nm,4.0s
J05D IAML 12 49 05.6
comp=E,16nm,4.6s
I04A Tendick Farm, 3.74 21 IAML 12 48 35.3
comp=N,22nm,0.2s
I04A IAML 12 48 36.7
comp=E,19nm,0.2s
PNTR Pine Nut 3.79 107 Pn 12 47 52.4 +1.2
PNTR IAML 12 48 57.6
comp=E,14nm,4.8s
PNTR IAML 12 49 12.1
comp=N,14nm,1.2s
WIFE Three Sisters- 4.16 25 IAML 12 48 28.6
comp=E,14nm,3.6s
WIFE IAML 12 48 42.2
comp=N,13nm,3.5s
SAO San Andreas Ge 4.17 147 Pn 12 47 54.5 -1.7
PINE Pine Mountain 4.26 34 Pn 12 47 58.9 +1.3
BBGB Big Mountain B 4.50 145 Pn 12 48 03.7 +2.9
HULI Fort Hunter Li 4.90 150 Pn 12 48 07.0 +0.8
PKD Bear Valley Ra 5.25 145 IAML 12 49 17.9
comp=E,14nm,4.8s

IDC 31 12:49:56.0±1.2, 2°49.S×138°27.E, h0km, mb3.5/3, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=27.1km s-min=18.6km az=1.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.43**	**91**	Pn	Pb	12 50 38.9	-1.8
	2.1nm,0.3s,baz=284,slow=19,SNR=6.7						
JAY				Lg	Lg	12 51 12.8	
	1.6nm,0.3s,baz=114,slow=19,SNR=1.9						
	8.8nm,0.4s						
WRA	**Warramunga Arr**	**17.77**	**192**	P	Pn	12 54 05.5	+0.4
	0.2nm,0.3s,baz=16,slow=12,SNR=5.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.48**	**191**	P	P	12 54 45.7	-0.7
	0.7nm,0.6s,baz=15,slow=11,SNR=11						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**69.34**	**323**	P	P	13 01 06.1	+0.5
	0.7nm,0.6s,baz=114,slow=6.7,SNR=9.5						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.81**	**25**	P	P	13 02 36.0	-1.2
	0.3nm,0.8s,baz=270,slow=5.1,SNR=2.4						
	0.3nm,0.8s						

*BJI **31** 12:54:21.9, 7°.20S×156°.91E, h402km, mB4.9/21, mb5.1/74*
*MOS **31** 12:54:21.6±0.9, 7°.49S×156°.75E, h405km, mb5.1/36, Error ellipse: s-maj=9.0km s-min=6.3km az=119.1*
*DJA **31** 12:54:21.8±0.3, 8°S±3°×15°7E±°, h408km±4km, M4.7/74, mb5.1/74, mB5.3/28, MLv4.1/1, Mw(mB)4.8/28*
*NEIC **31** 12:54:22.5±1.7, 7.51S±0.08°×156.80E±0.08, h398km±4km, mb5.0/397, Error ellipse: s-maj=12.8km s-min=10.1km az=210.0*
*IDC **31** 12:54:22.8±0.6, 7°.56S×156°.80E, h409km±6km, mb4.6/27, mbtmp5.4/30, Error ellipse: s-maj=9.7km s-min=7.0km az=79.0*
ISC 31 12:54:22.4±0.3, 7°.55S±0°.04×156°.80E±0°.04, h405km±3km, h406km:pP-P, n943, σ0s96/831, mb5.0/305, 3C-25D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAVO	**Savo Central**	**3.38**	**118**	P	**P**	**12 55 28.8**	**-0.3**
SAVO	**Savo Central**	**3.38**	**118**	S	**S**	**12 56 21.9**	**-1.5**
HNR	**Honiara**	**3.63**	**121**	P	**P**	**12 55 31.6**	**+0.3**
	2μm,0.7s,baz=295,slow=1.4,SNR=95						
HNR				S	**S**	**12 56 25.1**	**-2.3**
	906nm,0.8s,baz=294,slow=20,SNR=4.6						
HNR	**Honiara**	**3.63**	**121**	P	**P**	**12 55 31.4**	**+0.1**
HNR	**Honiara**	**3.63**	**121**	S	**S**	**12 56 26.5**	**-0.9**
RABL	**Rabaul**	**5.69**	**306**		**P**	**12 55 52.3**	**+0.6**
PMG	**Port Moresby**	**9.71**	**258**	P	**P**	**12 56 38.1**	**+1.4**
PMG	**Port Moresby**	**9.71**	**258**	P	**P**	**12 56 39.3**	**+2.5**
	30nm,0.8s,baz=68,slow=5.4,SNR=7.5						
PMG				S	**S**	**12 58 24.7**	**-2.8**
	58nm,1.1s,baz=76,slow=12,SNR=3.5						
PMG	**Port Moresby**	**9.71**	**258**	P	**P**	**12 56 38.1**	**+1.4**
PMG				S	**S**	**12 58 24.7**	**-2.8**
MANU	**Manus Island**	**10.87**	**300**		**P**	**12 56 50.8**	**+1.1**
SANVU	**Saraoutou**	**12.87**	**129**		**P**	**12 57 12.1**	**+0.6**
PATS	**Pohnpei**	**14.37**	**6**	P	**P**	**12 57 29.1**	**+1.2**
	comp=Z,570nm,1.2s						
PATS	**Pohnpei**	**14.37**	**6**		**P**	**12 57 29.1**	**+1.2**
PATS	**Pohnpei**	**14.37**	**6**	P	**P**	**12 57 28.8**	**+0.9**
PATS	**Pohnpei**	**14.37**	**6**	S	**S**	**13 00 01.3**	**-0.2**
COEN	**Coen**	**14.82**	**243**	P	**P**	**12 57 35.2**	**+2.4**
	comp=Z,83nm,0.9s						
COEN	**Coen**	**14.82**	**243**		**P**	**12 57 35.7**	**+2.8**
COEN	**Coen**	**14.82**	**243**	P	**P**	**12 57 34.8**	**+1.9**
KOUNC	**Koumac, New Ca**	**14.82**	**151**	P	**P**	**12 57 33.8**	**+1.0**
AUAYR	**Ayr State High**	**15.04**	**216**	P	**P**	**12 57 36.8**	**+1.7**
TV1H	**Townsville Har**	**15.17**	**219**	P	**P**	**12 57 37.1**	**+0.6**
MTSU	**Mount Surprise**	**16.08**	**228**	P	**P**	**12 57 49.4**	**+3.0**
	comp=Z,28nm,0.6s						
MTSU	**Mount Surprise**	**16.08**	**228**	P	**P**	**12 57 48.7**	**+2.3**
JAY	**Jayapura**	**16.79**	**286**	P	**P**	**12 57 53.3**	**-0.8**
	comp=Z,108nm,0.6s,baz=107,slow=4.3,SNR=58						
JAY				S	**S**	**13 00 46.4**	**-2.9**
	comp=Z,10nm,0.9s,baz=156,slow=20,SNR=1.6						
JAY	**Jayapura**	**16.79**	**286**	P	**P**	**12 57 52.8**	**-1.3**
	comp=Z,141nm,1.0s						
AUNRC	**North Rockhamp**	**16.83**	**200**	P	**P**	**12 57 55.0**	**+0.7**
AUNRC	**North Rockhamp**	**16.83**	**200**	S	**S**	**13 00 52.8**	**+3.1**
GD1S	**Gladstone Soft**	**17.08**	**198**	P	**P**	**12 57 58.0**	**+1.0**
DZM	**Mont Dzumac**	**17.18**	**148**	P	**P**	**12 57 57.9**	**-0.3**
	comp=Z,83nm,0.6s,baz=337,slow=15,SNR=92						
GENI	**Genyem**	**17.28**	**286**	P	**P**	**12 58 00.5**	**+1.3**
GENI	**Genyem**	**17.28**	**286**	S	**S**	**13 00 58.3**	**-0.4**
GENI	**Genyem**	**17.28**	**286**	P	**P**	**12 57 58.4**	**-0.8**
	comp=Z,2μmcomp=Z,93nm,0.6s						
ONTNC	**Ouen Toro**	**17.38**	**149**		**P**	**12 57 59.9**	**-0.2**
ONTNC	**Ouen Toro**	**17.38**	**149**	P	**P**	**12 58 00.3**	**+0.2**
MARNC	**Mare, Loyalty**	**17.59**	**143**	P	**P**	**12 58 02.6**	**+0.2**
MARNC	**Mare, Loyalty**	**17.59**	**143**	P	**P**	**12 58 03.3**	**+0.8**
OUENC	**Ouen Island, N**	**17.67**	**148**	P	**P**	**12 58 04.5**	**+1.2**
PINNC	**Pines Island,**	**18.15**	**147**	P	**P**	**12 58 08.1**	**-0.2**
EIDS	**Eidsvold**	**18.55**	**196**	P	**P**	**12 58 12.5**	**0.0**
	comp=Z,189nm,0.9s						
EIDS	**Eidsvold**	**18.55**	**196**		**P**	**12 58 13.1**	**+0.6**
EIDS	**Eidsvold**	**18.55**	**196**	P	**P**	**12 58 12.9**	**+0.4**
SMPI	**Sarmi**	**18.84**	**286**	P	**P**	**12 58 14.8**	**-0.9**
	comp=Z,3μmcomp=Z,338nm,0.9s						
AUBSH	**Beerwah State**	**19.55**	**190**	P	**P**	**12 58 22.6**	**+0.2**
AUWSH	**Wavell State H**	**20.07**	**190**	P	**P**	**12 58 27.9**	**+0.8**
TW1H	**Toowoomba 1 Ha**	**20.41**	**192**	P	**P**	**12 58 31.0**	**+0.7**
GC1S	**Gold Coast 1 S**	**20.74**	**188**	P	**P**	**12 58 34.5**	**+1.3**
QIS	**Mount Isa**	**21.08**	**230**	P	**P**	**12 58 37.1**	**+0.7**
	comp=Z,35nm,0.7s						
QIS	**Mount Isa**	**21.08**	**230**	P	**P**	**12 58 37.1**	**+0.7**
QIS	**Mount Isa**	**21.08**	**230**	S	**S**	**13 02 05.2**	**+1.7**
BAKI	**Biak**	**21.57**	**286**	P	**P**	**12 58 43.4**	**+2.4**
QLP	**Quilpie**	**22.39**	**211**	P	**P**	**12 58 48.3**	**0.0**
	comp=Z,151nm,0.7s						
QLP	**Quilpie**	**22.39**	**211**	P	**P**	**12 58 49.3**	**+1.1**
MSVF	**Nonsavu**	**23.05**	**118**	P	**P**	**12 58 55.0**	**+0.6**
MSVF				IAmb	IAmb	12 59 07.6	
	comp=Z,66nm,1.4s						
MSVF	**Nonsavu**	**23.05**	**118**	P	**P**	**12 58 55.0**	**+0.6**
MSVF				pmax	pmax		
	comp=Z,65nm,1.4s						
ARMA	**Armidale**	**23.27**	**191**	P	**P**	**12 58 56.9**	**+0.6**
	comp=Z,100nm,0.9s						
ARMA	**Armidale**	**23.27**	**191**		**P**	**12 58 57.0**	**+0.8**
ARMA				IAmb	IAmb	12 58 57.9	
	comp=Z,65nm,0.7s						
ARMA	**Armidale**	**23.27**	**191**	P	**P**	**12 58 57.0**	**+0.8**
AULRC	**Lightning Ridg**	**23.30**	**200**	P	**P**	**12 58 57.1**	**+0.7**
AULRC	**Lightning Ridg**	**23.30**	**200**	S	**S**	**13 02 38.8**	**+0.2**
LHI	**Lord Howe Isla**	**23.95**	**175**	P	**P**	**12 59 02.0**	**-0.3**
	comp=Z,62nm,0.9s						
AUPHS	**Peel High Scho**	**24.08**	**192**	P	**P**	**12 59 04.3**	**+0.8**
GUMO	**Guam**	**24.11**	**331**	P	**P**	**12 59 04.0**	**+0.1**
GUMO	**Guam**	**24.11**	**331**	P	**P**	**12 59 04.0**	**+0.1**
	comp=Z,313nm,0.7s,baz=164,slow=12,SNR=16						
	comp=Z,313nm,0.7s						
GUMO	**Guam**	**24.11**	**331**	P	**P**	**12 59 04.0**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,283nm,0.8s						
KDU	**Kakadu**	**24.48**	**256**	P	**P**	**12 59 06.5**	**-0.7**
	comp=Z,18nm,0.6s						
FAKI	**Fak Fak**	**24.87**	**279**		**P**	**12 59 10.0**	**-0.7**
FAKI	**Fak Fak**	**24.87**	**279**	P	**P**	**12 59 10.8**	**+0.1**
FAKI	**Fak Fak**	**24.87**	**279**	P	**P**	**12 59 10.0**	**-0.7**
WR8	**Warramunga Arr**	**24.88**	**238**	P	**P**	**12 59 10.9**	**+0.1**
WR8				IAmb	IAmb	12 59 11.9	
	comp=Z,28nm,0.7s						
WRAB	**Tennant Creek**	**25.00**	**238**	P	**P**	**12 59 11.8**	**0.0**
WRAB	**Tennant Creek**	**25.00**	**238**	P	**P**	**12 59 11.6**	**-0.2**
WRAB	**Tennant Creek**	**25.00**	**238**	P	**P**	**12 59 11.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,22nm,0.6s						
WRA	**Warramunga Arr**	**25.01**	**238**	P	**P**	**12 59 10.8**	**-1.1**
WRA	**Warramunga Arr**	**25.01**	**238**	P	**P**	**12 59 11.8**	**-0.2**
	comp=Z,26nm,0.5s,baz=61,slow=8.8,SNR=183						
WRA				PcP	**PcP**	**13 02 34.5**	**+0.1**
	comp=Z,7.0nm,0.7s,baz=66,slow=2.0,SNR=11						
WRA				S	**S**	**13 03 03.8**	**-2.1**
	comp=Z,13nm,0.7s,baz=65,slow=14,SNR=14						
WRA				ScP	**ScP**	**13 05 35.3**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=64,slow=3.3,SNR=5.3						
WRA				ScS	**ScS**	**13 09 23.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=68,slow=5.7,SNR=5.6						
WRA				PKiKP	**PKiKP**	**13 10 13.1**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=323,slow=1.0,SNR=5.0						
	comp=Z,26nm,0.5s						
INKA	**Innaminka**	**25.19**	**215**		**P**	**12 59 13.7**	**+0.3**
INKA				IAmb	IAmb	12 59 14.4	
	comp=Z,39nm,0.6s						
MTN	**Manton Dam**	**25.79**	**256**	P	**P**	**12 59 18.6**	**-0.3**
	comp=Z,74nm,0.8s						
MTN	**Manton Dam**	**25.79**	**256**	P	**P**	**12 59 19.0**	**+0.1**
MTN				IAmb	IAmb	12 59 20.3	
	comp=Z,49nm,0.7s						
DRS	**Darwin Rock St**	**25.95**	**257**	P	**P**	**12 59 20.8**	**+0.4**
AUDHS	**Darwin High Sc**	**26.02**	**257**	P	**P**	**12 59 22.2**	**+1.2**
AUDHS	**Darwin High Sc**	**26.02**	**257**	S	**S**	**13 03 23.3**	**+1.4**
CMSA	**Cobar Meteorol**	**26.02**	**202**	P	**P**	**12 59 20.7**	**0.0**
	comp=Z,46nm,0.7s						
CMSA	**Cobar Meteorol**	**26.02**	**202**	P	**P**	**12 59 20.8**	**0.0**
MGCD	**Mangrove Creek**	**26.08**	**191**	P	**P**	**12 59 20.8**	**-0.4**
	comp=Z,92nm,0.8s						
SWI	**Sorong**	**26.31**	**283**	P	**P**	**12 59 23.4**	**-0.1**
	comp=Z,72nm,0.8s						
SYDH	**Sydney Hard Ro**	**26.68**	**191**	P	**P**	**12 59 27.4**	**+0.9**
ASAR	**Alice Springs**	**27.19**	**231**	P	**P**	**12 59 30.5**	**-0.8**
ASAR	**Alice Springs**	**27.19**	**231**	P	**P**	**12 59 30.7**	**-0.6**
	comp=Z,4.7nm,0.4s,baz=51,slow=9.3,SNR=124						
ASAR				PcP	**PcP**	**13 02 39.7**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=56,slow=2.9,SNR=5.6						
ASAR				S	**S**	**13 03 37.8**	**-2.3**
	comp=Z,7.9nm,1.0s,baz=59,slow=15,SNR=11						
ASAR				ScP	**ScP**	**13 05 41.5**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=55,slow=3.1,SNR=5.5						
ASAR				ScS	**ScS**	**13 09 32.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=62,slow=3.3,SNR=4.1						
ASAR				P3KPbc		13 31 53.7	
	comp=Z,0.6nm,0.7s,baz=243,slow=4.8,SNR=8.7						
	comp=Z,4.7nm,0.4s						
YNG	**Young**	**27.73**	**195**	P	**P**	**12 59 36.2**	**+0.3**
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**28.05**	**208**	P	**P**	**12 59 38.0**	**-0.7**
	comp=Z,71nm,1.0s						
STKA	**Stephens Creek**	**28.05**	**208**	IAmb	IAmb	12 59 41.3	
	comp=Z,93nm,1.2s						
STKA	**Stephens Creek**	**28.05**	**208**	P	**P**	**12 59 38.3**	**-0.4**
	comp=Z,10nm,0.8s,baz=33,slow=15,SNR=11						
STKA				S	**S**	**13 03 52.8**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=315,slow=20,SNR=2.6						
STKA				ScP	**ScP**	**13 05 43.9**	**+0.6**
	comp=Z,8.4nm,0.8s,baz=15,slow=1.7,SNR=8.6						
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**28.05**	**208**	P	**P**	**12 59 38.8**	**+0.1**
STKA	**Stephens Creek**	**28.05**	**208**	S	**S**	**13 03 53.9**	**+0.6**
AUUHS	**Ulladulla High**	**28.29**	**191**	P	**P**	**12 59 41.6**	**+0.9**
AUDAR	**Daramalan Coll**	**28.46**	**193**	P	**P**	**12 59 43.2**	**+0.9**
CNB	**Canberra Magne**	**28.47**	**193**	P	**P**	**12 59 43.1**	**+0.7**
	comp=Z,63nm,1.0s						
CNB	**Canberra Magne**	**28.47**	**193**	P	**P**	**12 59 43.1**	**+0.7**
AUSIS	**Research Schoo**	**28.49**	**193**	P	**P**	**12 59 43.1**	**+0.5**
AUMTS	**Mt Stromlo**	**28.56**	**193**	P	**P**	**12 59 44.1**	**+1.0**
CAN	**Canberra**	**28.56**	**193**	P	**P**	**12 59 44.0**	**+0.8**
	comp=Z,30nm,0.9s						
CAN	**Canberra**	**28.56**	**193**	P	**P**	**12 59 43.8**	**+0.6**
CAN	**Canberra**	**28.56**	**193**	P	**P**	**12 59 43.9**	**+0.8**
CAN	**Canberra**	**28.56**	**193**	P	**P**	**12 59 43.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,22nm,0.8s						
AUMHS	**Melrose High S**	**28.57**	**193**	P	**P**	**12 59 44.2**	**+0.9**
KNRA	**Kununurra**	**28.60**	**251**	P	**P**	**12 59 43.3**	**-0.4**
	comp=Z,69nm,1.0s						
KNRA	**Kununurra**	**28.60**	**251**	IAmb	IAmb	12 59 44.4	
	comp=Z,44nm,0.7s						
AUSMG	**Snowy Mountain**	**29.70**	**193**	P	**P**	**12 59 54.5**	**+1.3**
MILA	**Mila**	**30.19**	**192**	P	**P**	**12 59 58.9**	**+1.4**
	comp=Z,13nm,1.0s						
TNTI	**Ternate**	**30.49**	**284**	P	**P**	**13 00 00.9**	**+0.6**
TNTI	**Ternate**	**30.49**	**284**	P	**P**	**13 00 04.2**	**+3.9**
HTT	**Hallett**	**30.62**	**210**	P	**P**	**13 00 00.5**	**-0.7**
	comp=Z,10nm,2.0s						
HTT	**Hallett**	**30.62**	**210**	P	**P**	**13 00 01.9**	**+0.7**
WHYH	**Whyalla**	**31.00**	**212**	P	**P**	**13 00 04.9**	**+0.5**
SANI	**Sanana**	**31.17**	**279**	P	**P**	**13 00 06.8**	**+0.6**
SANI	**Sanana**	**31.17**	**279**	P	**P**	**13 00 05.8**	**-0.4**
	comp=Z,803nmcomp=Z,83nm,1.1s						
AFI	**Afiamalu**	**31.49**	**104**	P	**P**	**13 00 09.2**	**+0.2**
AFI				IAmb	IAmb	13 00 10.5	
	comp=Z,113nm,1.1s						
AFI	**Afiamalu**	**31.49**	**104**	P	**P**	**13 00 09.6**	**+0.5**
AFI	**Afiamalu**	**31.49**	**104**	P	**P**	**13 00 09.2**	**+0.2**
AFI				pmax	pmax		
	comp=Z,113nm,1.1s						
AFI	**Afiamalu**	**31.49**	**104**	P	**P**	**13 00 08.9**	**-0.2**
TOO	**Toolangi**	**31.60**	**197**	P	**P**	**13 00 09.9**	**+0.2**
	comp=Z,11nm,1.1s						
TOO	**Toolangi**	**31.60**	**197**	P	**P**	**13 00 10.6**	**+0.9**
TOO	**Toolangi**	**31.60**	**197**	P	**P**	**13 00 10.6**	**+0.9**
TOO				pmax	pmax		
	comp=Z,15nm,1.3s						
BBOO	**Buckleboo**	**31.66**	**215**	P	**P**	**13 00 10.2**	**-0.1**
AUMBR	**Murray Bridge**	**31.82**	**208**	P	**P**	**13 00 11.9**	**+0.4**
BRAT	**Ballarat**	**32.07**	**199**	P	**P**	**13 00 14.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**32.09**	**248**	P	**P**	**13 00 12.9**	**-1.1**
	comp=Z,8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**32.09**	**248**	P	**P**	**13 00 13.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**32.09**	**248**	P	**P**	**13 00 13.0**	**-1.1**
	comp=Z,26nm,0.4s,baz=72,slow=9.5,SNR=184						
FITZ				PcP	**PcP**	**13 02 52.7**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=56,slow=3.6,SNR=2.0						
FITZ				S	**S**	**13 04 52.9**	**-3.4**
	comp=Z,3.2nm,0.8s,baz=57,slow=16,SNR=2.1						
	comp=Z,26nm,0.4s						
FITZ	**Fitzroy Crossi**	**32.09**	**248**	P	**P**	**13 00 13.1**	**-0.9**
ARPS	**Mount Arapiles**	**32.13**	**203**	P	**P**	**13 00 14.7**	**+0.5**
	comp=Z,56nm,0.9s						
SOEI	**Soe**	**32.23**	**264**	P	**P**	**13 00 16.0**	**+0.5**
SOEI	**Soe**	**32.23**	**264**	P	**P**	**13 00 15.6**	**+0.1**
	comp=Z,40nm,0.8s						
WRKA	**Warakurna**	**32.30**	**234**	P	**P**	**13 00 15.1**	**-0.7**
	comp=Z,15nm,0.5s						
BATI	**Baumata**	**32.84**	**263**	P	**P**	**13 00 21.4**	**+0.8**
	comp=Z,55nm,0.6s,baz=90,slow=4.0,SNR=6.6						
	comp=Z,55nm,0.6s						
SGSI	**Sangihe**	**33.14**	**289**	P	**P**	**13 00 23.1**	**0.0**
KMSI	**Cibinong**	**33.71**	**282**	P	**P**	**13 00 27.7**	**-0.3**
GLAD	**Gladstone**	**34.21**	**192

WSI Waingapu 36.14 264 P **P 13 00 48.7 +0.2**
TAU Tasmania Unive 36.20 192 P **P 13 00 50.2 +1.6**
TAU IAmb IAmb 13 00 51.0
comp=Z,80nm,0.8s
TAU Tasmania Unive 36.20 192 P **P 13 00 49.1 +0.5**
TAU Tasmania Unive 36.20 192 P **P 13 00 50.2 +1.6**
TAU pmax pmax
comp=Z,80nm,0.8s
TAU Tasmania Unive 36.20 192 P **P 13 00 50.1 +1.5**
AUTAR Taroona High S 36.22 192 P **P 13 00 49.5 +0.8**
BKSI Bulukumba 36.50 271 P **P 13 00 51.4 -0.2**
comp=Z,28nm,0.7s
BNSI Bone 36.62 273 P **P 13 00 52.5 0.0**
comp=Z,1μmcomp=Z,132nm,0.8s
KAPI Kappang 36.90 272 P **P 13 00 55.0 +0.1**
KAPI IAmb IAmb 13 00 55.9
comp=Z,97nm,1.1s
KAPI Kappang 36.90 272 P **P 13 00 55.1 +0.2**
comp=Z,66nm,0.5s,baz=113,slow=6.0,SNR=16
comp=Z,66nm,0.5s
KAPI Kappang 36.90 272 P **P 13 00 55.5 +0.6**
TOLI2 Tolitoli 36.94 282 P **P 13 00 54.3 -0.9**
TOLI2 Tolitoli 36.94 282 P **P 13 00 55.8 +0.6**
THZ Tophouse 36.95 160 IAmb IAmb 13 00 55.9
comp=Z,94nm,0.7s
MRZ Mangatainoka R 36.99 156 P **P 13 00 55.1 -0.1**
MRZ IAmb IAmb 13 00 56.9
comp=Z,81nm,1.2s
SPSI Sidrap Palu 37.00 273 P **P 13 00 54.9 -0.8**
comp=Z,50nm,1.0s
WBSI Waikabubak, Su 37.03 264 P **P 13 00 54.9 -1.1**
comp=Z,1μmcomp=Z,87nm,0.8s
FOZ Fox Glacier 37.62 164 IAmb IAmb 13 01 01.3
comp=Z,91nm,1.1s
LTZ Lake Taylor 37.65 161 IAmb IAmb 13 01 02.3
comp=Z,46nm,0.7s
KHZ Kahutara 37.75 160 IAmb IAmb 13 01 01.8
comp=Z,69nm,0.7s
KHZ Kahutara 37.75 160 P **P 13 01 01.8 +0.4**
OXZ Oxford 38.07 162 IAmb IAmb 13 01 04.7
comp=Z,87nm,0.7s
RPZ Rata Peaks 38.13 163 P **P 13 01 05.1 +0.5**
comp=Z,93nm,0.8s,baz=330,slow=10,SNR=32
comp=Z,93nm,0.8s
RPZ Rata Peaks 38.13 163 P **P 13 01 05.4 +0.8**
PSAC2 Pilbara Seismi 38.21 245 P **P 13 01 04.5 -1.2**
comp=Z,89nm,0.8s
MBWA Marble Bar 38.26 245 P **P 13 01 04.9 -1.1**
comp=Z,64nm,0.8s
MBWA Marble Bar 38.26 245 P **P 13 01 05.3 -0.7**
MBWA IAmb IAmb 13 01 05.8
comp=Z,40nm,0.6s
MBWA Marble Bar 38.26 245 P **P 13 01 05.4 -0.6**
PSAB3 Pilbara Seismi 38.26 245 P **P 13 01 05.3 -0.8**
comp=Z,101nm,0.9s
PSA00 Pilbara Seismi 38.27 245 P **P 13 01 05.1 -1.0**
comp=Z,76nm,0.9s
PSA00 Pilbara Seismi 38.27 245 P **P 13 01 04.9 -1.1**
PSA00 Pilbara Seismi 38.27 245 IAmb IAmb 13 01 06.0
comp=Z,53nm,0.7s
PSA00 Pilbara Seismi 38.27 245 P **P 13 01 05.5 -0.6**
PSAC1 Pilbara Seismi 38.29 245 P **P 13 01 05.2 -1.0**
comp=Z,75nm,0.9s
LBZ Lake Benmore 38.51 165 IAmb IAmb 13 01 08.9
comp=Z,39nm,0.7s
PLAI Plampang 38.63 265 P **P 13 01 08.3 -0.9**
PLAI Plampang 38.63 265 P **P 13 01 07.5 -1.7**
comp=Z,2μmcomp=Z,119nm,0.5s
MLZ Mavora Lakes 38.94 167 IAmb IAmb 13 01 13.0
comp=Z,84nm,1.0s
TWSI Taliwang, Sumb 39.52 265 P **P 13 01 14.7 -1.7**
comp=Z,797nmcomp=Z,78nm,0.9s
MEEK Meekatharra 40.91 238 P **P 13 01 27.2 -0.4**
comp=Z,51nm,0.7s
MEEK Meekatharra 40.91 238 P **P 13 01 27.5 -0.1**
BBKI Banjar Baru 41.95 273 P **P 13 01 36.7 +0.7**
comp=Z,116nm,0.7s
JAGI Jajag, Banyuwa 42.23 266 P **P 13 01 36.5 -1.7**
JAGI Jajag, Banyuwa 42.23 266 P **P 13 01 36.0 -2.2**
MIDW Midway 43.43 34 P **P 13 01 47.7 +0.2**
MIDW IAmb IAmb 13 01 48.2
comp=Z,61nm,0.7s
MIDW Midway 43.43 34 P **P 13 01 47.7 +0.2**
JOW Kunigami 43.96 322 IAmb IAmb 13 01 54.1
comp=Z,65nm,0.8s
JOW Kunigami 43.96 322 P **P 13 01 52.3 +0.6**
RAR Rarotonga 44.05 113 P **P 13 01 53.1 +0.6**
comp=Z,23nm,0.8s,baz=228,slow=11,SNR=2.5
comp=Z,23nm,0.8s
RAR Rarotonga 44.05 113 P **P 13 01 53.1 +0.6**
RAR pmax pmax
comp=Z,324nm,1.9s
PCJI Pacitan 45.18 266 P **P 13 02 00.5 -0.9**
comp=Z,3μmcomp=Z,320nm,1.1s
SBUM Sibu 45.57 281 P **P 13 02 05.1 +0.6**
YOGI Yogyakarta 46.07 266 P **P 13 02 07.8 -0.5**
YULB Yu-li 46.36 313 P **P 13 02 10.9 +0.5**
YULB Yu-li 46.36 313 P **P 13 02 11.0 +0.6**
JMN Monobe 46.45 333 P **P 13 02 12.2 +1.3**
INU Inuyama 46.56 338 IAmb IAmb 13 02 13.5
comp=Z,94nm,1.0s
INU Inuyama 46.56 338 P **P 13 02 12.8 +1.1**
INU Inuyama 46.56 338 P **P 13 02 12.1 +0.4**
INU PcP **PcP 13 03 38.5 +0.3**
NACB Ninganchiao 46.62 314 P **P 13 02 13.3 +1.0**
NACB Ninganchiao 46.62 314 P **P 13 02 13.6 +1.3**
JGF Kuroka 46.66 338 P **P 13 02 13.0 +0.5**
TPUB Ta-pu 46.80 312 P **P 13 02 14.3 +0.6**
SSLB Suanglung 46.85 313 P **P 13 02 14.7 +0.6**
YHNB Yeheng 47.09 314 P **P 13 02 16.7 +0.7**
MJAR Matsushiro Arr 47.20 340 P **P 13 02 16.4 -0.1**
MJAR IAmb IAmb 13 02 16.8
comp=Z,35nm,0.5s
MJAR Matsushiro Arr 47.20 340 P **P 13 02 16.1 -0.4**
comp=Z,28nm,0.6s,baz=165,slow=6.3,SNR=124
MJAR PcP **PcP 13 03 40.2 -0.3**
comp=Z,9.6nm,0.8s,baz=156,slow=4.6,SNR=5.8
comp=Z,28nm,0.6s
MJAR Matsushiro Arr 47.20 340 P **P 13 02 16.4 -0.1**
MJAR 13 03 40.2
MJAR pmax pmax
comp=Z,35nm,0.5s
MAJO Matsushiro 47.20 340 P **P 13 02 16.5 -0.1**
MAJO Matsushiro 47.20 340 P **P 13 02 16.4 -0.2**
MAJO Matsushiro 47.20 340 P **P 13 02 16.5 -0.1**
MAJO pmax pmax
comp=Z,84nm,0.5s
KSM Kuching 47.23 279 IAmb IAmb 13 02 17.8
comp=Z,65nm,0.8s
KSM Kuching 47.23 279 P **P 13 02 17.3 +0.1**
JNU Nakatsue 47.36 330 IAmb IAmb 13 02 19.4
comp=Z,74nm,0.8s
JNU Nakatsue 47.36 330 P **P 13 02 18.2 +0.3**
KPJI Karang Pucung 47.45 267 P **P 13 02 17.9 -0.9**
comp=Z,88nm,0.7s
JMM Marumori 47.58 343 P **P 13 02 20.7 +1.3**
JSD Sado 48.53 340 IAmb IAmb 13 02 27.7
comp=Z,212nm,1.8s
BBJI Bungbulang 48.71 267 P **P 13 02 27.2 -1.2**
QZH Quanzhou 49.27 312⇓*iP* **P 13 02 33.0 +0.7**
QZH pmax pmax
comp=Z,140nm,0.9s
SSE Sheshan 51.36 320 P **P 13 02 48.3 +0.6**
TJN Taejon 51.70 330 P **P 13 02 51.2 +1.2**
TJN Taejon 51.70 330*d iP* **P 13 02 50.3 +0.3**
KSRS Korea Array 52.27 331 P **P 13 02 54.7 +0.6**
comp=Z,52nm,0.9s,baz=145,slow=6.5,SNR=131
KSRS PcP **PcP 13 03 59.9 +0.7**
comp=Z,6.5nm,0.7s,baz=164,slow=3.5,SNR=8.2
comp=Z,52nm,0.9s
KSAR Wonju Array Be 52.28 331 P **P 13 02 54.9 +0.7**
KSAR Wonju Array Be 52.28 331 P **P 13 02 54.9 +0.7**
KS19 Wonju Array Si 52.34 331 IAmb IAmb 13 02 55.9
comp=Z,54nm,0.8s
MDSI Maura Dua 52.39 270 P **P 13 02 53.1 -2.4**
KIP Kipapa 52.87 56⇑*eP* **P 13 02 59.0 +0.2**
KIP pmax pmax
comp=Z,47nm,1.2s
INCN Inchon 52.92 330 P **P 13 02 59.4 +0.4**
INCN Inchon 52.92 330 P **P 13 03 00.0 +1.0**
INCN Inchon 52.92 330 P **P 13 02 59.4 +0.4**
INCN pmax pmax
comp=Z,114nm,0.8s
INCN Inchon 52.92 330 P **P 13 02 59.8 +0.9**
INCN PcP **PcP 13 04 02.5 +0.8**
INCN sP **sP 13 05 04.8 -0.2**
PPT2 Papeete2 53.13 106 *e*S **S 13 09 56.3 -3.7**
comp=Z,50nm,24.0s
PPT2 *es*S sS 13 12 27.4 -0.2
comp=Z,58nm,27.0s
PPT2 *e*LQ LQ 13 16 34.5
comp=Z,216nm,22.0s
PPT2 *e*LR LR 13 18 54.0
comp=Z,234nm,25.0s
PPT2 *e*LR LR 13 18 58.4
comp=Z,269nm,24.0s
NJ2 Nanjing 53.48 319⇓*iP* **P 13 03 04.0 +1.0**
NJ2 pmax pmax
comp=Z,58nm,0.9s
MYKOM Kota Tinggi 53.63 278 P **P 13 03 03.9 -0.5**
TBI Tubuai 53.82 113 *e*LQ LQ 13 16 56.2
comp=Z,4μm,30.0s
TBI *e*LR LR 13 19 17.6
comp=Z,908nm,31.8s
TBI *e*LR LR 13 19 21.9
comp=Z,1μm,25.2s
KSI Kapahiang 54.06 271 P **P 13 03 09.2 +1.6**
MASI Maura Aman, Be 54.47 272 P **P 13 03 09.1 -1.4**
comp=Z,103nm,0.7s
WHN Wuhan 55.58 315⇓*P* **P 13 03 18.8 +0.8**
WHN pmax pmax
comp=Z,130nm,0.8s
YSS Yuzhno-Sakhali 55.68 348 P **P 13 03 19.2 +0.9**
YSS IAmb IAmb 13 03 20.0
comp=Z,56nm,1.1s
YSS Yuzhno-Sakhali 55.68 348 P **P 13 03 19.5 +1.2**
YSS Yuzhno-Sakhali 55.68 348⇓*P* **P 13 03 19.0 +0.7**
YSS Yuzhno-Sakhali 55.68 348 P **P 13 03 19.0 +0.7**
YSS pP **pP 13 04 41.4 -0.1**
YSS sP **sP 13 05 24.4 -1.4**
GULI GuiLin 55.73 307 P **P 13 03 23.5 +4.4**
USRK Ussuriysk Ar. 56.17 339 P **P 13 03 22.5 +0.7**
comp=Z,31nm,0.7s,baz=162,slow=5.7,SNR=38
USRK PcP **PcP 13 04 14.4 +0.3**
comp=Z,3.7nm,0.5s,baz=165,slow=4.8,SNR=4.5
comp=Z,31nm,0.7s
PDSI Padang 56.52 274 P **P 13 03 22.8 -2.1**
comp=Z,1μmcomp=Z,66nm,0.6s
DL2 Dalian 56.58 327 P **P 13 03 25.3 +0.5**
DL2 pmax pmax
comp=Z,130nm,0.7s
PPI Padang Panjang 56.66 274 P **P 13 03 24.5 -1.3**
comp=Z,68nm,1.0s
IPM Ipoh 56.92 280 P **P 13 03 26.2 -1.4**
IPM IAmb IAmb 13 03 28.0
comp=Z,42nm,1.0s
IPM Ipoh 56.92 280 P **P 13 03 28.4 +0.8**
TIA Tai'an 57.29 322 P **P 13 03 29.5 -0.3**
TIA pmax pmax
comp=Z,40nm,0.8s
MDJ Mudanjiang 57.42 337 P **P 13 03 31.0 +0.5**
MDJ pmax pmax
comp=Z,39nm,1.1s
MDJ Mudanjiang 57.42 337 P **P 13 03 31.0 +0.5**
KULM Kulim 57.45 281 IAmb IAmb 13 03 31.5
comp=Z,31nm,0.7s
KULM Kulim 57.45 281 P **P 13 03 31.2 -0.1**
MNSI Mandailing Nat 57.66 276 P **P 13 03 31.0 -1.7**
comp=Z,96nm,0.8s
CN2 Changchun 58.46 334 P **P 13 03 38.0 +0.4**
CN2 sP PP 13 05 48.8 -4.0
CN2 S **S 13 11 08.5 -0.1**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,80nm,3.5s
RPSI Rantau Prapat 58.63 278 P **P 13 03 37.9 -1.5**
PSI Prapat 58.65 278 P **P 13 03 39.6 -0.1**
PSI Prapat 58.65 278 P **P 13 03 37.9 -1.8**
PSI pmax pmax
comp=Z,11nm,0.8s
ENH Enshi 58.93 312 IAmb IAmb 13 03 42.1
comp=Z,38nm,0.6s
ENH Enshi 58.93 312 P **P 13 03 41.4 +0.3**
BNX BinXian 59.21 336⇓*P* **P 13 03 43.0 +0.3**
BNX pmax pmax
comp=Z,71nm,0.9s
LYN LuoYang 59.22 318 P **P 13 03 43.5 +0.5**
LYN pmax pmax
comp=Z,40nm,0.6s
SLVN Son La 59.30 300 P **P 13 03 44.1 +0.2**
TYV Tymovskoe 59.45 350 *eP* **P 13 03 45.2 +1.1**
TYV pmax pmax
comp=Z,31nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.9s
HNS HongShan 59.53 322⇓*P* **P 13 03 45.5 +0.5**
HNS pmax pmax
comp=Z,94nm,1.0s
GSI Gunungsitoli 59.72 276 P **P 13 03 45.7 -1.0**
GSI IAmb IAmb 13 03 46.5
comp=Z,82nm,0.9s
GSI Gunungsitoli 59.72 276 P **P 13 03 47.0 +0.2**
GSI Gunungsitoli 59.72 276 P **P 13 03 43.9 -2.9**
comp=Z,108nm,0.8s
KCSI Kotacane, Aceh 59.91 278 P **P 13 03 45.0 -3.1**
comp=Z,34nm,0.6s
DRV Dumont d'Urvil 60.15 188 P **P 13 03 48.1 -0.6**
DRV PcP **PcP 13 04 29.3 -0.2**
PET Petropavlovsk 60.35 1 P **P 13 03 50.6 +0.4**
PET IAmb IAmb 13 03 51.4
comp=Z,77nm,1.1s
PET Petropavlovsk 60.35 1 P **P 13 03 50.4 +0.2**
PET Petropavlovsk 60.35 1 *eP* **P 13 03 50.3 +0.1**
PET pmax pmax
comp=Z,74nm,1.2s
PET Petropavlovsk 60.35 1 P **P 13 03 50.4 +0.2**
comp=Z,64nm,1.6s
BJT Baijiatuau 60.38 325 P **P 13 03 51.3 +0.7**
BJI Beijing 60.39 325 P **P 13 03 50.8 +0.1**
BJI pmax pmax
comp=Z,7.0nm,0.6s
PEA0B Petropavlovsk- 60.42 1 IAmb IAmb 13 03 52.9
comp=Z,79nm,0.9s
PEA0B Petropavlovsk- 60.42 1*d iP* **P 13 03 51.2 +0.5**
PETK Petropavlovsk- 60.42 1 P **P 13 03 50.3 -0.4**
PETK Petropavlovsk- 60.42 1 P **P 13 03 50.4 -0.3**
comp=Z,29nm,0.4s,baz=183,slow=6.5,SNR=266
comp=Z,29nm,0.4s
XAN Xi'an 61.34 315⇓*P* **P 13 03 57.5 +0.2**
XAN pmax pmax
comp=Z,120nm,0.7s
XAN pmax pmax
comp=Z,220nm,3.8s
XAN Xi'an 61.34 315 P **P 13 03 57.4 +0.2**
KMI Kunming 61.81 304 P **P 13 04 02.3 +1.6**
KMI pmax pmax
comp=Z,27nm,1.0s
AMKA Amchitka 61.81 16 P **P 13 04 00.2 +0.3**
SMY Shemya 61.83 12 P **P 13 04 00.4 +0.5**
SMY Shemya 61.83 12 P **P 13 04 00.4 +0.5**
SMY pmax pmax
comp=Z,75nm,0.4s
CM31 Chiang Mai Arr 62.63 295 IAmb IAmb 13 04 08.1
comp=Z,60nm,1.1s
CMAR Chiang Mai Arr 62.63 295 P **P 13 04 07.2 +1.2**
CMAR Chiang Mai Arr 62.63 295 P **P 13 04 07.0 +1.0**
comp=Z,15nm,0.6s,baz=111,slow=6.6,SNR=119
CMAR PcP **PcP 13 04 41.4 +0.8**
comp=Z,5.7nm,0.7s,baz=108,slow=3.7,SNR=6.4
comp=Z,15nm,0.6s
CHTO Chiang Mai 62.75 296 P **P 13 04 07.3 +0.6**
CHTO IAmb IAmb 13 04 08.6
comp=Z,60nm,1.4s
CHTO Chiang Mai 62.75 296 P **P 13 04 07.6 +0.9**
CHTO Chiang Mai 62.75 296 P **P 13 04 07.3 +0.6**
CHTO pmax pmax
comp=Z,60nm,1.4s
CHTO Chiang Mai 62.75 296 P **P 13 04 07.3 +0.6**
CHTO PcP **PcP 13 04 41.7 +0.6**
HEH HeiHe 62.96 339 *eP* **P 13 04 07.8 +0.3**
HEH pmax pmax
comp=Z,84nm,0.7s
XLT XiLinHaoTe 63.06 328 *eP* **P 13 04 08.8 +0.4**
XLT pmax pmax
comp=Z,190nm,0.7s
PZH PanZhiHua 63.19 305 P **P 13 04 11.0 +1.4**
ADK Adak 63.42 18 P **P 13 04 10.5 +0.2**
CD2 Chengdu 63.53 310 P **P 13 04 11.5 -0.2**
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,130nm,7.3s
HHC Hu-ho-hao-te 63.60 323 *eP* **P 13 04 13.0 +1.1**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,180nm,4.5s
BTO Baotou 64.38 322 *eP* **P 13 04 18.8 +1.8**
BTO pmax pmax
comp=Z,51nm,0.9s
BTO pmax pmax
comp=Z,180nm,4.0s
HIA Hailar 65.18 334 IAmb IAmb 13 04 23.4
comp=Z,33nm,0.8s
HIA Hailar 65.18 334 P **P 13 04 22.2 +0.4**
TNCH TengChong 65.29 302 P **P 13 04 24.0 +0.8**
TNCH pmax pmax
comp=Z,72nm,0.6s
TNCH pmax pmax
comp=Z,180nm,3.4s
HILR Hailar Array B 65.40 334 P **P 13 04 23.6 +0.4**
comp=Z,12nm,0.5s,baz=136,slow=7.1,SNR=16
comp=Z,12nm,0.5s
ZEA Zeya 65.95 341 *eP* **P 13 04 27.5 +1.0**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.1s
LZH Lanzhou 65.96 315 *eP* **P 13 04 29.0 +1.8**
LZH pP pP 13 05 59.5 +5.0
LZH sP sP 13 06 40.5 +2.5
LZH pmax pmax
comp=Z,81nm,1.3s
LZH pmax pmax
comp=Z,160nm,3.4s
LZDM Lanzhou Array 66.00 315 P **P 13 04 28.7 +1.1**
comp=Z,24nm,0.5s,baz=129,slow=7.8,SNR=15
comp=Z,24nm,0.5s
NIKH Nikolski High 66.97 22 P **P 13 04 32.9 0.0**
baz=217
MA2 Magadan 67.08 357 P **P 13 04 33.9 +0.5**
MA2 Magadan 67.08 357*ceP* **P 13 04 33.4 0.0**
MA2 pmax pmax
comp=Z,59nm,0.9s
MA2 Magadan 67.08 357 P **P 13 04 33.6 +0.2**
comp=Z,99nm,1.3s
RKT Rikitea 67.08 112 *eS* **S 13 12 47.4 -8.0**
comp=Z,12μm,39.0s
RKT *e*LQ LQ 13 22 36.4
comp=Z,3μm,38.2s
RKT *e*LR LR 13 25 18.1
comp=Z,12μm,38.5s
UNV Unalaska Valle 68.53 22 P **P 13 04 41.9 -0.6**
baz=220
LVA Lava Point 68.95 22 P **P 13 04 45.2 +0.1**
AKUT Akutan 69.03 23 P **P 13 04 45.3 -0.2**
SPIA Saint Paul Isl 69.90 18 P **P 13 04 50.7 0.0**
baz=215
VNDA Vanda 69.99 179 P **P 13 04 51.7 +0.7**
VNDA Vanda 69.99 179 P **P 13 04 51.5 +0.5**
comp=Z,7.1nm,0.9s,baz=341,slow=8.4,SNR=44
VNDA pP **pP 13 06 19.6 +1.5**
comp=Z,2.0nm,0.7s,baz=1.3,slow=9.1,SNR=3.0
comp=Z,7.1nm,0.9s
VNDA Vanda 69.99 179 P **P 13 04 51.7 +0.7**
SEY Seymchan 70.35 358*deP* **P 13 04 53.7 +0.4**
SEY pmax pmax
comp=Z,72nm,1.7s
GTA Gaotai 70.36 316 P **P 13 04 56.0 +1.9**
GTA pP pP 13 06 23.5 +0.9
GTA pmax pmax
comp=Z,110nm,0.7s
ULN Ulaanbaatar 70.43 327 P **P 13 04 55.3 +1.0**
ULN IAmb IAmb 13 04 56.8
comp=Z,73nm,1.2s
ULN Ulaanbaatar 70.43 327*d iP* **P 13 04 55.5 +1.2**
ULN pmax pmax
comp=Z,46nm,1.0s
SBA Scott Base 70.47 178 P **P 13 04 55.3 +1.5**
SBA Scott Base 70.47 178 P **P 13 04 55.3 +1.5**
SBA pmax pmax
comp=Z,19nm,1.1s
FALS False Pass 70.48 23 P **P 13 04 53.8 -0.4**
baz=222
SONM Songino Array 70.77 327 P **P 13 04 57.5 +1.2**
SONM IAmb IAmb 13 04 58.4
comp=Z,53nm,0.9s
SONM Songino Array 70.77 327 P **P 13 04 57.2 +0.9**
comp=Z,35nm,0.6s,baz=136,slow=5.5,SNR=151
SONM pP **pwP 13 06 27.1 -0.5**
comp=Z,4.7nm,0.9s,baz=127,slow=5.4,SNR=3.5
comp=Z,35nm,0.6s
S12K Black Hills 71.63 23 P **P 13 05 00.6 -0.4**
baz=223
CHNA Chernabura Isl 72.00 25 P **P 13 05 02.9 -0.3**
baz=226
SDPT Sand Point 72.01 24 P **P 13 05 02.5 -0.7**
baz=225
YAK Yakutsk 72.48 347 P **P 13 05 06.4 +0.5**
YAK Yakutsk 72.48 347 *eP* **P 13 05 06.0 +0.1**
YAK *e* 13 05 18.7
YAK *e**PP **pP 13 06 35.1 +0.7**
YAK *e*S **S 13 13 56.1 +0.1**
YAK *e* 13 14 31.2
YAK *e*SS **SS 13 18 45.1 +0.1**
YAK *e*SSS SSS 13 22 07.3
YAK pmax pmax
comp=Z,167nm,1.2s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,252nm,4.6s
YAK pmax pmax
comp=N,128nm,3.2s
YAK pmax pmax
comp=E,315nm,4.8s
YAK smax smax
comp=N,416nm,5.3s
YAK smax smax
comp=E,380nm,6.2s
YAK smax smax
comp=N,9.0nm,1.2s
YAK smax smax
comp=E,13nm,1.3s
YAK smax smax
comp=N,40nm,0.5s
YAK smax smax
comp=E,76nm,1.0s
YAK Yakutsk 72.48 347 P **P 13 05 06.0 +0.1**
GOMU GeErMu 72.54 312 P **P 13 05 08.0 +0.7**
GOMU pmax pmax
comp=E,7.0nm,0.9s
S14K Fog Glacier 73.03 24 P **P 13 05 09.5 +0.1**
baz=226
LSA Lhasa 73.06 304 P **P 13 05 08.0 -2.6**
LSA pmax pmax
comp=E,31nm,0.7s
LSA Lhasa 73.06 304 IAmb IAmb 13 05 12.7
comp=Z,25nm,0.8s
M11K Mekoryuk 73.74 18 P **P 13 05 12.9 -0.3**
baz=218
BOD Bodaibo 73.79 338 *eP* **P 13 05 12.9 -0.6**
BOD pmax pmax
comp=Z,64nm,1.2s
ZAK Zakamensk 73.91 328 *eP* **P 13 05 14.3 -0.2**
ZAK pmax pmax
comp=Z,49nm,1.1s
TLY Talaya 74.45 329 P **P 13 05 17.8 +0.3**
TLY IAmb IAmb 13 05 19.2
comp=Z,30nm,0.9s
TLY Talaya 74.45 329*deP* **P 13 05 18.0 +0.5**
TLY pmax pmax
comp=Z,41nm,1.0s
O14K Tigyukauivet M 74.51 21 P **P 13 05 18.2 +0.5**
baz=223
M13K Dall Lake 74.67 19 P **P 13 05 18.9 +0.4**
baz=221
R16K Pilot Point 74.71 24 P **P 13 05 18.9 +0.1**
baz=227
N14K Kuskokwak Cree 74.86 20 P **P 13 05 20.1 +0.5**
baz=223
O15K Ungalikthiuk R 74.97 21 P **P 13 05 20.7 +0.5**

	baz=225						
GAMB	Gambell	75.01	14	P	P	13 05 20.6	+0.3
	baz=212						
R17L	Mt. Peulik Vol	75.23	24	P	P	13 05 22.1	+0.2
	baz=228,SNR=5.4						
M14K	Bethel	75.38	20	P	P	13 05 23.2	+0.8
	baz=222,SNR=12						
K13K	Kusilvak Mount	75.42	18	IAmb	IAmb	13 05 24.6	
	comp=Z,41nm,0.9s						
K13K	Kusilvak Mount	75.42	18	P	P	13 05 23.5	+0.8
	baz=220,SNR=12						
SII	Sitkinak Islan	75.44	26	P	P	13 05 23.0	+0.1
	baz=231						
P16K	Nushagak River	75.55	22	P	P	13 05 24.0	+0.5
	baz=227						
L14K	Kuka Creek	75.58	19	P	P	13 05 24.3	+0.7
	baz=222						
N15K	Kwethluk River	75.59	21	P	P	13 05 24.6	+0.9
	baz=224,SNR=5.7						
BILL	Bilibino	75.70	4	P	P	13 05 24.8	+0.6
BILL	Bilibino	75.70	4	*d iP*	P	13 05 24.6	+0.4
BILL				pmax	pmax		
	comp=Z,82nm,0.9s						
BILL	Bilibino	75.70	4	P	P	13 05 24.6	+0.4
BILL				PcP	PcP	13 05 35.5	+0.7
M15K	Kasigluk River	75.76	20	P	P	13 05 25.2	+0.5
	baz=224						
Q16K	King Salmon	75.82	23	P	P	13 05 24.2	-0.8
	baz=226						
MOY	Mondy	75.82	328	*eP*	P	13 05 25.6	+0.2
MOY				pmax	pmax		
	comp=Z,43nm,1.4s						
Q17K	Contact Creek	75.84	24	P	P	13 05 25.0	-0.3
	baz=229						
O16K	Kokwok River B	75.90	22	P	P	13 05 25.3	-0.1
O16K				IAmb	IAmb	13 05 26.1	
	comp=Z,86nm,1.7s						
O16K	Kokwok River B	75.90	22	P	P	13 05 24.8	-0.7
	baz=226						
R18K	Karluk	75.97	25	P	P	13 05 25.9	0.0
	baz=230						
ACHA	Angle Creek He	76.03	24	IAmb	IAmb	13 05 28.0	
	comp=Z,28nm,0.6s						
L15K	Ungalak Mounta	76.21	19	P	P	13 05 27.6	+0.4
	baz=223						
OHAK	Old Harbor	76.24	25	P	P	13 05 27.8	+0.4
OHAK	Old Harbor	76.24	25	P	P	13 05 27.8	+0.4
	baz=231						
N16K	Nishlik Lake	76.27	21	P	P	13 05 28.7	+1.1
	baz=226						
J14K	Nanvaranak Lak	76.37	18	P	P	13 05 29.1	+1.2
	baz=221						
O17K	Koliganek Bris	76.39	22	P	P	13 05 28.1	-0.1
	baz=227						
Q18K	Katmai Hardscr	76.45	24	P	P	13 05 28.5	-0.2
	baz=229						
M16K	Timber Creek	76.59	20	P	P	13 05 30.3	+1.0
	baz=225						
K15K	Wolf Creek Mou	76.65	19	P	P	13 05 30.6	+1.0
	baz=223						
P18K	Big Mountain,	76.85	23	P	P	13 05 30.7	-0.1
	baz=229						
N17K	Nushagak Hills	76.87	21	P	P	13 05 31.2	+0.3
	baz=227						
KDAK	Kodiak Island	76.89	25	P	P	13 05 31.4	+0.5
KDAK	Kodiak Island	76.89	25	P	P	13 05 31.4	+0.5
KDAK				pmax	pmax		
	comp=Z,59nm,0.7s						
KDAK	Kodiak Island	76.89	25	P	P	13 05 31.0	0.0
	baz=232						
L16K	Owhat River	76.90	20	P	P	13 05 31.5	+0.5
	baz=225,SNR=17						
O18K	Koktuh Hills	77.16	23	P	P	13 05 32.1	-0.3
	baz=229						
KNGR	Kungurtug, Tuv	77.16	326⇓	*eP*	P	13 05 33.5	+0.7
KNGR				pmax	pmax		
	comp=Z,31nm,1.0s						
ANM	Nome	77.26	16	P	P	13 05 33.7	+0.9
	baz=218,SNR=5.7						
PALK	Pallekele	77.29	279	P	P	13 05 35.3	+1.1
PALK				IAmb	IAmb	13 05 36.1	
	comp=Z,33nm,0.7s						
PALK	Pallekele	77.29	279	⇓P	P	13 05 35.5	+1.3
PALK	Pallekele	77.29	279	P	P	13 05 35.3	+1.1
M17K	Holitna River	77.38	21	IAmb	IAmb	13 05 35.9	
	comp=Z,35nm,0.8s						
M17K	Holitna River	77.38	21	P	P	13 05 34.9	+1.2
	baz=227,SNR=8.6						
TNA	Tin City	77.40	14	P	P	13 05 34.2	+0.6
	baz=216						
N18K	Kilae Creek	77.45	22	P	P	13 05 35.0	+0.9
	baz=228,SNR=23						
Q20K	Shuyak Island	77.48	25	P	P	13 05 34.5	+0.3
	baz=232						
L17K	Donlin	77.60	20	P	P	13 05 36.0	+1.2
	baz=226						
J16K	Anvik River	77.67	18	P	P	13 05 36.4	+1.2
	baz=223,SNR=13						
O19K	Port Alsworth	77.72	23	IAmb	IAmb	13 05 35.9	
	comp=Z,22nm,0.8s						
O19K	Port Alsworth	77.72	23	P	P	13 05 35.1	-0.3
	baz=230						
F14K	Arctic Creek	77.73	15	P	P	13 05 35.9	+0.5
	baz=218						
P19K	Oil Pt	77.79	23	P	P	13 05 36.0	0.0
	baz=231,SNR=6.0						
G15K	Niukluk	77.95	16	P	P	13 05 37.3	+0.6
	baz=220						
K17K	Iditarod	78.00	19	IAmb	IAmb	13 05 39.0	
	comp=Z,49nm,1.1s						
K17K	Iditarod	78.00	19	P	P	13 05 37.9	+0.9
	baz=226						
M18K	Stony River	78.01	21	P	P	13 05 38.2	+1.1
	baz=228,SNR=13						
N19K	Bonanza Creek	78.06	22	IAmb	IAmb	13 05 38.9	
	comp=Z,32nm,1.0s						
N19K	Bonanza Creek	78.06	22	P	P	13 05 37.5	+0.1
	baz=230,SNR=7.9						
I17K	Unalakleet	78.08	18	IAmb	IAmb	13 05 39.7	
	comp=Z,59nm,1.1s						
I17K	Unalakleet	78.08	18	P	P	13 05 38.6	+1.2
	baz=223						
H16K	Elim	78.19	17	P	P	13 05 38.5	+0.6
	baz=222						
L18K	Granite Mounta	78.20	20	P	P	13 05 39.4	+1.3
	baz=227,SNR=31						
J17K	VABM Dome	78.23	19	IAmb	IAmb	13 05 40.2	
	comp=Z,36nm,0.8s						
J17K	VABM Dome	78.23	19	P	P	13 05 39.4	+1.2
	baz=225						
O20K	Slope Mountain	78.30	23	P	P	13 05 39.1	+0.3
	baz=231						
F15K	North Star Dit	78.35	15	IAmb	IAmb	13 05 40.5	
	comp=Z,48nm,1.4s						
F15K	North Star Dit	78.35	15	P	P	13 05 39.5	+0.7
	baz=219						
HOM	Homer	78.43	24	P	P	13 05 40.0	+0.6
	baz=232						
G16K	Koyuk River	78.72	16	IAmb	IAmb	13 05 42.6	
	comp=Z,40nm,0.8s						
G16K	Koyuk River	78.72	16	P	P	13 05 41.7	+0.9
	baz=221						
BRLK	Bradley Lake	78.80	24	IAmb	IAmb	13 05 42.5	
	comp=Z,62nm,1.3s						
M19K	Big River Lodg	78.80	21	P	P	13 05 42.4	+1.0
	baz=230						
L19K	White Mountain	78.82	21	P	P	13 05 42.3	+0.8
	baz=229,SNR=30						
BRSE	Bradley Lake S	78.84	24	P	P	13 05 41.8	+0.2
	baz=233,SNR=5.3						
J18K	Innoko River	79.04	19	P	P	13 05 42.8	+0.2
	baz=227,SNR=10.0						
H17K	Granite Mounta	79.08	17	IAmb	IAmb	13 05 44.0	
	comp=Z,22nm,0.7s						
H17K	Granite Mounta	79.08	17	P	P	13 05 43.6	+0.8
	baz=224						
N20K	Mount Spurr	79.16	23	P	P	13 05 43.3	-0.1
	baz=232						
SPCR	Spurr Chakacha	79.16	23	P	P	13 05 43.7	+0.4
	baz=232						
M20K	Styx River	79.25	22	P	P	13 05 44.1	+0.3
	baz=231,SNR=8.4						
G17K	Kiwalik Mounta	79.28	17	P	P	13 05 44.7	+0.9
	baz=223,SNR=11						
CAPN	Captain Cook N	79.30	23	P	P	13 05 45.0	+1.1
	baz=233						
L20K	Farewell, AK	79.36	21	P	P	13 05 45.1	+0.8
	baz=230,SNR=15						
SEW	Seward	79.58	24	IAmb	IAmb	13 05 46.7	
	comp=Z,37nm,0.7s						
SEW	Seward	79.58	24	P	P	13 05 45.8	+0.3
	baz=234,SNR=9.1						
O22K	Cooper Landing	79.70	24	P	P	13 05 46.3	+0.2
	baz=234						
H18K	Honhosa River	79.70	18	P	P	13 05 46.0	0.0
	baz=225						
J19K	Poorman	79.76	19	P	P	13 05 47.2	+0.8
	baz=228,SNR=5.1						
F17K	Baldwin Pennin	79.81	16	IAmb	IAmb	13 05 48.3	
	comp=Z,31nm,0.7s						
F17K	Baldwin Pennin	79.81	16	P	P	13 05 47.4	+0.8
	baz=222,SNR=8.8						
K20K	Telida	79.86	20	IAmb	IAmb	13 05 48.8	
	comp=Z,22nm,1.0s						
K20K	Telida	79.86	20	P	P	13 05 47.6	+0.6
	baz=230,SNR=9.5						
GCSA	Galena City Sc	79.87	18	P	P	13 05 47.4	+0.4
	baz=227,SNR=6.4						
SUA	Susitna One	79.88	23	P	P	13 05 46.9	-0.3
SUA				IAmb	IAmb	13 05 47.6	
	comp=Z,24nm,0.7s						
SUA	Susitna One	79.88	23	P	P	13 05 46.8	-0.5
	baz=233,SNR=11						
SKT	Skwentna	79.90	22	P	P	13 05 45.8	-1.4
	baz=232,SNR=5.0						
RC01	Rabbit Creek A	80.05	23	IAmb	IAmb	13 05 49.2	
	comp=Z,58nm,1.2s						
RC01	Rabbit Creek A	80.05	23	P	P	13 05 48.2	+0.2
	baz=234,SNR=18						
E17K	Hotham Inlet	80.13	15	P	P	13 05 49.2	+0.9
	baz=222,SNR=13						
G18K	Tagagawik	80.14	17	IAmb	IAmb	13 05 49.6	
	comp=Z,26nm,0.9s						
G18K	Tagagawik	80.14	17	P	P	13 05 48.6	+0.2
	baz=232,SNR=12						
C16K	Lisburne Hills	80.19	13	P	P	13 05 48.8	+0.2
	baz=218						
PPLA	Purkeypile	80.23	21	IAmb	IAmb	13 05 49.5	
	comp=Z,72nm,1.6s						
PPLA	Purkeypile	80.23	21	P	P	13 05 48.7	-0.3
	baz=231,SNR=6.1						
D17K	Noatak River	80.28	14	P	P	13 05 49.9	+0.8
	baz=220						
M22K	Willow	80.29	23	P	P	13 05 48.8	-0.4
	baz=234,SNR=6.2						
F18K	Selawik	80.36	16	P	P	13 05 49.8	+0.3
	baz=224,SNR=10						
J20K	Nowinta River	80.37	20	IAmb	IAmb	13 05 51.4	
	comp=Z,17nm,0.8s						
J20K	Nowinta River	80.37	20	P	P	13 05 50.2	+0.6
	baz=229,SNR=16						
P23K	Montague Islan	80.37	25	IAmb	IAmb	13 05 51.0	
	comp=Z,52nm,1.1s						
P23K	Montague Islan	80.37	25	P	P	13 05 50.0	+0.4
	baz=236						
WMQ	Urumqi	80.45	317	*eP*	P	13 05 51.8	+1.2
WMQ				pmax	pmax		
	comp=Z,54nm,1.3s						
PWL	Port Wells	80.47	24	P	P	13 05 50.5	+0.3
	baz=235,SNR=25						
H19K	Roundabout Mou	80.54	18	IAmb	IAmb	13 05 52.0	
	comp=Z,74nm,1.4s						
H19K	Roundabout Mou	80.54	18	P	P	13 05 51.0	+0.5
	baz=227,SNR=17						
PMR	Palmer	80.58	23	IAmb	IAmb	13 05 51.6	
	comp=Z,70nm,1.4s						
PMR	Palmer	80.58	23	P	P	13 05 51.0	+0.3
PMR	Palmer	80.58	23	P	P	13 05 50.7	0.0
	baz=234,SNR=15						
RDOG	Red Dog Mine	80.60	14	P	P	13 05 51.5	+0.8
	baz=220,SNR=14						
CUT	Chulitna	80.63	22	P	P	13 05 50.5	-0.5
	baz=233,SNR=5.8						
I20K	Naaghedeneel	80.67	19	IAmb	IAmb	13 05 53.1	
	comp=Z,66nm,1.4s						
I20K	Naaghedeneel	80.67	19	P	P	13 05 52.1	+1.0
	baz=229						
E18K	Tukpahlearik C	80.71	15	IAmb	IAmb	13 05 52.8	
	comp=Z,28nm,0.6s						
E18K	Tukpahlearik C	80.71	15	P	P	13 05 52.1	+0.8
	baz=223,SNR=11						
KNK	Knik Glacier	80.74	23	IAmb	IAmb	13 05 53.1	
	comp=Z,25nm,0.7s						
KNK	Knik Glacier	80.74	23	P	P	13 05 51.9	+0.3
	baz=235,SNR=11						
GHO	Glory Hole Cre	80.77	23	IAmb	IAmb	13 05 52.9	
	comp=Z,44nm,1.2s						
CHUM	Lake Minchumin	80.80	20	P	P	13 05 52.1	+0.2
	baz=231,SNR=11						
C17K	DeLong Mountai	80.85	14	P	P	13 05 52.7	+0.6
	baz=220,SNR=6.0						
GLI	Glacier Island	80.99	24	P	P	13 05 52.9	0.0
	baz=236						
H20K	Anotleneega Mo	81.00	18	P	P	13 05 53.4	+0.5
	baz=228,SNR=9.1						
SML	Sawmill	81.02	23	P	P	13 05 53.4	+0.3
SML	Sawmill	81.02	23	P	P	13 05 53.4	+0.3
	baz=235,SNR=18						
F19K	Shaleruckik Mo	81.06	17	IAmb	IAmb	13 05 54.3	
	comp=Z,35nm,0.8s						
F19K	Shaleruckik Mo	81.06	17	P	P	13 05 53.4	+0.3
	baz=226						
KTH	Kantishna Hill	81.08	21	IAmb	IAmb	13 05 53.5	
	comp=Z,39nm,0.9s						
HYB	Hyderabad	81.14	289	IVmBBB		13 05 50.5	
	comp=Z,394nm,3.2s						
HYB				*eP*	P	13 05 51.2	-3.5
HYB				*ep*P	pP	13 07 23.9	-1.3
HYB				*eS*	S	13 15 29.9	-0.6
HYB				IVMs_BB	IVMs_BB	13 23 53.8	
	comp=Z,741nm,4.1s						
TIXI	Tiksi	81.16	351	P	P	13 05 53.3	-0.2
TIXI				IAmb	IAmb	13 05 54.3	
	comp=Z,12nm,0.6s						
TIXI	Tiksi	81.16	351	P	P	13 05 53.3	-0.2
TIXI				pmax	pmax		
	comp=Z,12nm,0.6s						
M23K	Glacier View	81.25	23	P	P	13 05 54.3	0.0
	baz=236,SNR=10						
TRF	Thorofare Moun	81.25	21	P	P	13 05 53.4	-1.0
	baz=233,SNR=24						
EYAK	Cordova Ski Ar	81.36	25	P	P	13 05 55.7	+0.9
EYAK				IAmb	IAmb	13 05 56.8	
	comp=Z,56nm,1.4s						
EYAK	Cordova Ski Ar	81.36	25	P	P	13 05 55.1	+0.2
	baz=238						
BPAW	Bear Paw Mtn.	81.40	21	P	P	13 05 54.3	-0.7
BPAW	Bear Paw Mtn.	81.40	21	P	P	13 05 54.3	-0.7
	baz=232,SNR=15						
SCM	Sheep Creek Mo	81.42	23	IAmb	IAmb	13 05 56.7	
	comp=Z,58nm,1.2s						
SCM	Sheep Creek Mo	81.42	23	P	P	13 05 55.6	+0.3
	baz=236,SNR=11						
C18K	Utukok River	81.47	14	P	P	13 05 55.7	+0.4
	baz=222,SNR=7.6						
WAT1	Susitna Watana	81.52	22	P	P	13 05 55.5	-0.2
	baz=235						
KAIM	Kayak Island	81.60	26	P	P	13 05 56.8	+0.7
	baz=239						
E19K	Redstone River	81.64	16	P	P	13 05 57.0	+0.8
	baz=226,SNR=43						
DIV	Divide	81.66	24	IAmb	IAmb	13 05 57.9	
	comp=Z,27nm,0.8s						
IMAR	Indian Mountai	81.68	18	P	P	13 05 56.7	+0.3
WAT6	Susitna Watana	81.69	23	P	P	13 05 56.5	-0.2
	baz=236,SNR=11						
I21K	Tanana	81.73	19	IAmb	IAmb	13 05 59.5	
	comp=Z,30nm,0.8s						
I21K	Tanana	81.73	19	P	P	13 05 57.3	+0.7
	baz=231,SNR=26						
RND	Reindeer	81.74	22	IAmb	IAmb	13 05 57.3	
	comp=Z,31nm,0.8s						
H21K	Melozitna Rive	81.76	19	P	P	13 05 57.1	+0.3
	baz=230,SNR=7.1						
F20K	Avaraart Lake	81.79	17	IAmb	IAmb	13 05 58.6	
	comp=Z,18nm,0.8s						
F20K	Avaraart Lake	81.79	17	P	P	13 05 57.6	+0.7
	baz=228,SNR=9.9						
KLU	Klutina	81.80	24	IAmb	IAmb	13 05 58.9	
	comp=Z,43nm,1.0s						
KLU	Klutina	81.80	24	P	P	13 05 57.7	+0.5
	baz=237,SNR=22						
B18K	Kokolik River	81.86	14	P	P	13 05 58.1	+0.8
	baz=221						
MCK	McKinley	81.90	21	P	P	13 05 57.2	-0.4
	baz=234,SNR=56						
M24K	Tolsona, Glenn	82.03	23	P	P	13 05 59.2	+0.9
	baz=237,SNR=12						
BMRM	Bremner River	82.06	25	IAmb	IAmb	13 06 00.8	
	comp=Z,48nm,1.3s						
BMRM	Bremner River	82.06	25	P	P	13 05 58.8	+0.3
	baz=239,SNR=11						
G21K	Allakaket	82.10	18	IAmb	IAmb	13 05 59.8	
	comp=Z,18nm,0.8s						
G21K	Allakaket	82.10	18	P	P	13 05 58.9	+0.3
	baz=230,SNR=12						
DHY	Denali Highway	82.10	22	IAmb	IAmb	13 06 01.6	
	comp=Z,16nm,0.7s						
DHY	Denali Highway	82.10	22	P	P	13 05 58.9	0.0
	baz=236,SNR=14						
D19K	Kuna River	82.13	15	P	P	13 05 59.2	+0.5
	baz=225,SNR=10						
BERG	Berg Lake	82.15	26	P	P	13 05 59.8	+0.8
C19K	Lookout Ridge	82.20	14	P	P	13 05 60.0	+0.9
	baz=224						
NEA2	Nenana	82.36	21	IAmb	IAmb	13 06 00.1	
	comp=Z,36nm,0.8s						
NEA2	Nenana	82.36	21	P	P	13 05 59.2	-0.8
	baz=234,SNR=40						
H22K	Ishtalitna Cre	82.37	19	P	P	13 06 00.6	+0.6
	baz=232,SNR=11						
N25K	Chitina, Valde	82.40	24	P	P	13 06 00.8	+0.6
	baz=239,SNR=16						
QSPA	South Pole Qui	82.43	180	P	P	13 06 03.3	+2.8
QSPA				IAmb	IAmb	13 06 04.3	
	comp=Z,37nm,1.3s						
QSPA	South Pole Qui	82.43	180	P	P	13 06 03.3	+2.8
	comp=Z,13nm,0.6s,baz=19,slow=3.0,SNR=173						
QSPA				pP	pwP	13 07 33.7	-2.0
	comp=Z,7.7nm,1.0s,baz=349,slow=3.8,SNR=5.1						
QSPA				S	SKSac	13 15 42.7	+0.9
	comp=Z,2.1nm,1.0s,baz=75,slow=20,SNR=18						
E20K	Ngu River	82.48	16	P	P	13 06 01.4	+0.9
	baz=227,SNR=26						
WAX	Waxell Ridge	82.54	26	IAmb	IAmb	13 06 02.7	
	comp=Z,35nm,0.9s						
F21K	Alatna River	82.56	17	P	P	13 06 01.3	+0.3
	baz=230,SNR=7.1						
CRQM	Cirque	82.57	25	IAmb	IAmb	13 06 03.2	
	comp=Z,48nm,1.1s						
CRQE	Cirque	82.59	25	P	P	13 06 01.7	+0.4
	baz=240,SNR=10						
I23K	Minto, Yukon-K	82.59	20	IAmb	IAmb	13 06 02.2	
	comp=Z,15nm,0.5s						
I23K	Minto, Yukon-K	82.59	20	P	P	13 06 00.6	-0.4
	baz=234,SNR=12						
HARP	HAARP	82.59	23	P	P	13 06 01.7	+0.5
	baz=238,SNR=6.2						
GLB	Gilahina Butte	82.64	25	IAmb	IAmb	13 06 02.8	
	comp=Z,39nm,0.8s						
WRH	Wood River Hil	82.64	21	IAmb	IAmb	13 06 01.5	
	comp=Z,26nm,0.9s						
A19K	Wainwright	82.65	13	P	P	13 06 01.8	+0.5
	baz=222						
DGZ	Jazzator, Alta	82.67	322	*d iP*	P	13 06 02.0	0.0
DGZ				pmax	pmax		
	comp=Z,36nm,0.9s						
VRDI	Verde Repeater	82.67	25	P	P	13 06 02.4	+0.5
VRDI				IAmb	IAmb	13 06 03.1	
	comp=Z,26nm,0.8s						
D20K	Etivluk River	82.68	16	IAmb	IAmb	13 06 03.1	
	comp=Z,70nm,1.4s						
D20K	Etivluk River	82.68	16	P	P	13 06 02.1	+0.6
	baz=226,SNR=7.1						
TGL	Tana Glacier	82.70	25	IAmb	IAmb	13 06 03.3	
	comp=Z,21nm,0.9s						
PAX	Paxson	82.77	23	P	P	13 06 02.2	0.0
	baz=238						
MESA	MESA	82.80	26	IAmb	IAmb	13 06 04.2	
	comp=Z,40nm,1.0s						
MESA	MESA	82.80	26	P	P	13 06 02.6	+0.1
	baz=241						
ISLE	Juniper Island	82.84	26	IAmb	IAmb	13 06 03.9	
	comp=Z,20nm,0.7s						
CCB	Clear Creek Bu	82.84	21	IAmb	IAmb	13 06 02.3	
	comp=Z,31nm,1.0s						
H23K	Yukon River	82.93	20	IAmb	IAmb	13 06 04.1	
	comp=Z,32nm,0.8s						
H23K	Yukon River	82.93	20	P	P	13 06 03.2	+0.4
	baz=234						
MCARA	McCarthy VSAT	82.93	25	IAmb	IAmb	13 06 04.5	
	comp=Z,26nm,0.7s						
MCARA	McCarthy VSAT	82.93	25	P	P	13 06 03.4	+0.5
	baz=240,SNR=10						
COLA	College	82.95	21	P	P	13 06 02.5	-0.4
COLA	College	82.95	21	P	P	13 06 02.5	-0.4
COLA	College	82.95	21	P	P	13 06 02.5	-0.4
COLA				pmax	pmax		
	comp=Z,67nm,0.8s						
COLA	College	82.95	21	P	P	13 06 02.2	-0.7
	baz=235						
COLA	College	82.95	21	P	P	13 06 02.0	-0.9
G22K	Bettles	82.97	18	P	P	13 06 03.5	+0.5
	baz=232						
YAH	Yahtse	82.98	26	IAmb	IAmb	13 06 04.6	
	comp=Z,21nm,1.0s						
HDA	Harding Lake	83.01	21	P	P	13 06 02.6	-0.6
	baz=236,SNR=26						
K24K	Donnelly Dome	83.11	22	IAmb	IAmb	13 06 07.2	
	comp=Z,22nm,0.8s						
K24K	Donnelly Dome	83.11	22	P	P	13 06 04.0	+0.2
	baz=237,SNR=15						
F22K	John River	83.13	18	P	P	13 06 04.4	+0.6
	baz=231,SNR=9.9						
GRNC	Granite Creek	83.15	26	IAmb	IAmb	13 06 05.7	
	comp=Z,20nm,1.0s						
E21K	Killik River	83.22	16	IAmb	IAmb	13 06 05.7	
	comp=Z,29nm,0.7s						
E21K	Killik River	83.22	16	P	P	13 06 04.9	+0.6
	baz=229,SNR=8.3						
IL31		83.23	21	P	P	13 06 03.5	-0.8
ILAR	Eielson Array	83.23	21	P	P	13 06 03.5	-0.9
ILAR	Eielson Array	83.23	21	P	P	13 06 03.2	-1.1
	comp=Z,13nm,0.4s,baz=233,slow=5.9,SNR=434						
ILAR				PKiKP	PKiKP	13 11 17.9	-1.2
	comp=Z,0.3nm,0.7s,baz=287,slow=3.1,SNR=5.1						
	comp=Z,13nm,0.4s						
POKR	Poker Plat Res	83.24	21	IAmb	IAmb	13 06 04.2	
	comp=Z,21nm,0.5s						
POKR	Poker Plat Res	83.24	21	P	P	13 06 03.5	-0.9
	baz=236,SNR=6.7						
TABL	Table Mountain	83.28	26	IAmb	IAmb	13 06 07.8	
	comp=Z,30nm,0.7s						
G23K	Bananza Creek	83.31	19	IAmb	IAmb	13 06 06.2	
	comp=Z,19nm,0.8s						
G23K	Bananza Creek	83.31	19	P	P	13 06 05.4	+0.6
	baz=233,SNR=12						
BARN	Barnard Glacie	83.35	26	P	P	13 06 05.8	+0.6
BARN				IAmb	IAmb	13 06 06.9	
	comp=Z,18nm,0.8s						
RIDG	Independent Ri	83.42	22	IAmb	IAmb	13 06 08.6	
	comp=Z,34nm,1.3s						
RIDG	Independent Ri	83.42	22	P	P	13 06 05.6	+0.2
	baz=238,SNR=12						
CTG	Chitna Glacier	83.44	26	P	P	13 06 06.3	+0.6
	baz=242,SNR=14						
B20K	Meade River	83.44	14	P	P	13 06 05.8	+0.5
	baz=226						
CTGM	Chitina Glacie	83.44	26	IAmb	IAmb	13 06 08.8	
	comp=Z,23nm,0.8s						
M26K	Nabesna, AK	83.45	24	IAmb	IAmb	13 06 07.1	
	comp=Z,16nm,0.6s						
M26K	Nabesna, AK	83.45	24	P	P	13 06 06.2	+0.6
	baz=240,SNR=19						
C21K	Knifeblade Rid	83.47	16	P	P	13 06 06.4	+0.9
	baz=228,SNR=6.3						
H24K	Noodor Dome	83.49	20	P	P	13 06 05.9	+0.2
	baz=235						
PCA	Pinnacle	83.51	27	IAmb	IAmb	13 06 07.9

E22K	Anaktuvuk Pass	83.64	17	P	P		13 06 07.0	+0.6
	baz=231,SNR=8.4							
DOT	Dot Lake	83.67	23	IAmb	IAmb		13 06 07.8	
	comp=Z,21nm,0.8s							
J25K	Salcha River,	83.69	22	IAmb	IAmb		13 06 07.8	
	comp=Z,25nm,0.6s							
J25K	Salcha River,	83.69	22	P	P		13 06 06.8	0.0
	baz=238							
PNL	Peninsula	83.70	27	P	P		13 06 07.4	+0.6
	baz=244							
BCPM	Bancas Point	83.72	27	IAmb	IAmb		13 06 08.6	
	comp=Z,26nm,1.1s							
B21K	Ikpikpuk River	83.83	15	IAmb	IAmb		13 06 09.3	
	comp=Z,42nm,0.9s							
B21K	Ikpikpuk River	83.83	15	P	P		13 06 07.9	+0.7
	baz=228							
O28M	Mount Upton	83.85	26	IAmb	IAmb		13 06 09.7	
	comp=Z,34nm,1.2s							
O28M	Mount Upton	83.85	26	P	P		13 06 08.6	+0.7
	baz=243							
D22K	Ayikyak River	83.86	16	P	P		13 06 08.6	+1.1
	baz=230,SNR=15							
SCRK	Sand Creek	83.87	22	P	P		13 06 08.0	+0.3
	baz=239,SNR=20							
M27K	Edge Creek, AK	83.89	24	IAmb	IAmb		13 06 09.9	
	comp=Z,43nm,0.8s							
M27K	Edge Creek, AK	83.89	24	P	P		13 06 08.8	+0.9
	baz=241							
G24K	Hadweenzic Riv	84.12	19	IAmb	IAmb		13 06 10.3	
	comp=Z,32nm,1.1s							
G24K	Hadweenzic Riv	84.12	19	P	P		13 06 09.3	+0.5
	baz=235,SNR=5.3							
E23K	Chandalar	84.24	18	IAmb	IAmb		13 06 11.4	
	comp=Z,56nm,1.4s							
E23K	Chandalar	84.24	18	P	P		13 06 10.1	+0.7
	baz=233,SNR=11							
L27K	Beaver Creek,	84.25	24	P	P		13 06 10.4	+0.9
	baz=241							
YUK8	Steele Glacier	84.27	26	P	P		13 06 10.7	+0.8
	baz=243,SNR=18							
BCAR	Beaver Creek A	84.27	24	P	P		13 06 10.1	+0.4
J26L	Joseph Creek	84.30	22	P	P		13 06 10.4	+0.5
	baz=239,SNR=14							
O29M	Mount Kennedy	84.35	27	IAmb	IAmb		13 06 12.3	
	comp=Z,18nm,0.8s							
O29M	Mount Kennedy	84.35	27	P	P		13 06 11.2	+1.0
	baz=244,SNR=12							
H25L	Birch Creek	84.43	20	P	P		13 06 10.9	+0.7
	baz=237							
P29M	Windy Craggy	84.44	28	IAmb	IAmb		13 06 12.5	
	comp=Z,20nm,0.7s							
P29M	Windy Craggy	84.44	28	P	P		13 06 11.3	+0.7
	baz=245,SNR=12							
F24K	Squaw Lake	84.46	19	IAmb	IAmb		13 06 12.0	
	comp=Z,16nm,0.6s							
F24K	Squaw Lake	84.46	19	P	P		13 06 11.5	+1.0
	baz=235,SNR=7.8							
S31K	Pelican	84.47	30	IAmb	IAmb		13 06 12.6	
	comp=Z,38nm,1.0s							
S31K	Pelican	84.47	30	P	P		13 06 11.5	+0.9
	baz=246							
D23K	Nanushuk River	84.48	17	P	P		13 06 11.8	+1.3
	baz=232,SNR=10.0							
SIT	Sitka	84.56	31	P	P		13 06 12.0	+0.9
	baz=247							
MAW	Mawson	84.58	203	P	P		13 06 11.9	+0.9
	comp=Z,1.2nm,0.6s,baz=59,slow=5.9,SNR=2.0							
E24K	Your Creek	84.59	18	P	P		13 06 11.6	+0.4
	baz=234,SNR=6.6							
TOLK	Toolik Lake Re	84.61	17	IAmb	IAmb		13 06 12.3	
	comp=Z,23nm,0.7s							
TOLK	Toolik Lake Re	84.61	17	P	P		13 06 11.9	+0.7
	baz=233,SNR=6.7							
B22K	Teshekpuk Lake	84.61	15	P	P		13 06 11.7	+0.6
	baz=230							
G25K	Bearman Lake	84.61	20	P	P		13 06 11.9	+0.7
	baz=237							
K27K	Chicken	84.62	23	IAmb	IAmb		13 06 14.9	
	comp=Z,20nm,0.9s							
K27K	Chicken	84.62	23	P	P		13 06 12.7	+1.4
	baz=241							
A22K	Sinclair Lake	84.66	14	P	P		13 06 11.7	+0.4
	baz=228							
YUK6	Outpost Mounta	84.72	26	P	P		13 06 13.3	+1.1
	baz=244,SNR=8.4							
YUK4	Talbot Arm	84.78	26	P	P		13 06 14.0	+1.6
	baz=244,SNR=19							
I26K	Coal Creek Min	84.86	21	IAmb	IAmb		13 06 14.0	
	comp=Z,26nm,1.4s							
I26K	Coal Creek Min	84.86	21	P	P		13 06 12.7	+0.2
	baz=240							
R31K	City Hall, Gus	84.89	29	P	P		13 06 13.5	+0.9
	baz=247							
MKAR	Makanchi Array	85.00	318	P	P		13 06 14.1	+0.5
MKAR	Makanchi Array	85.00	318	P	P		13 06 13.7	+0.1
	comp=Z,42nm,0.6s,baz=99,slow=5.9,SNR=474							
MKAR				pP	pP		13 07 47.1	+1.0
	comp=Z,5.0nm,1.0s,baz=98,slow=2.9,SNR=2.3							
	comp=Z,42nm,0.6s							
P30M	Million Dollar	85.00	27	P	P		13 06 14.4	+1.0
	baz=246							
PLBC	Pleasant Camp	85.01	28	P	P		13 06 14.1	+0.8
	baz=246,SNR=20							
C23K	Itkillik River	85.04	16	P	P		13 06 14.2	+1.0
	baz=232							
HYT	Haines Junctio	85.05	27	IAmb	IAmb		13 06 15.8	
	comp=Z,39nm,0.9s							
HYT	Haines Junctio	85.05	27	P	P		13 06 14.8	+1.1
	baz=245,SNR=32							
S32K	Killisnoo	85.10	30	IAmb	IAmb		13 06 15.5	
	comp=Z,58nm,1.8s							
S32K	Killisnoo	85.10	30	P	P		13 06 14.7	+1.0
	baz=248							
D24K	Happy Valley	85.13	17	IAmb	IAmb		13 06 15.6	
	comp=Z,22nm,0.8s							
D24K	Happy Valley	85.13	17	P	P		13 06 14.7	+1.0
	baz=234							
MAKZ	Makanchi	85.21	318	P	P		13 06 14.6	-0.1
MAKZ	Makanchi	85.21	318	P	P		13 06 14.6	-0.1
MAKZ				pmax	pmax			
	comp=Z,40nm,0.8s							
MAKZ	Makanchi	85.21	318	P	P		13 06 14.5	-0.1
F25K	Christian Rive	85.22	19	IAmb	IAmb		13 06 16.3	
	comp=Z,27nm,1.2s							
F25K	Christian Rive	85.22	19	P	P		13 06 15.2	+1.0
	baz=237,SNR=8.6							
M29M	Somme Creek	85.34	25	IAmb	IAmb		13 06 16.9	
	comp=Z,16nm,0.8s							
M29M	Somme Creek	85.34	25	P	P		13 06 16.0	+1.0
	baz=244,SNR=21							
U33K	Whale Pass	85.35	32	IAmb	IAmb		13 06 16.4	
	comp=Z,13nm,0.6s							
U33K	Whale Pass	85.35	32	P	P		13 06 15.9	+0.9
	baz=249							
BESE	Bessie Mountai	85.38	29	IAmb	IAmb		13 06 17.2	
	comp=Z,30nm,0.8s							
R32K	Eaglecrest	85.43	30	P	P		13 06 16.5	+1.1
	baz=248							
BMAR	Burnt Mountain	85.47	19	P	P		13 06 16.6	+1.2
G26K	Porcupine Rive	85.48	20	P	P		13 06 16.8	+1.3
	baz=239,SNR=22							
SKAG	Skagway	85.49	28	IAmb	IAmb		13 06 17.7	
	comp=Z,36nm,1.0s							
SKAG	Skagway	85.49	28	P	P		13 06 17.2	+1.6
SKAG	Skagway	85.49	28	P	P		13 06 16.7	+1.0
	baz=247,SNR=5.7							
JIS	Juneau Island	85.50	30	P	P		13 06 16.1	+0.5
C24K	Franklin Bluff	85.50	17	P	P		13 06 16.5	+1.0
	baz=234							
N30M	Aishikik Lake	85.50	26	IAmb	IAmb		13 06 18.3	
	comp=Z,14nm,0.8s							
N30M	Aishikik Lake	85.50	26	P	P		13 06 16.7	+1.0
	baz=245,SNR=13							
E25K	Arctic Village	85.53	19	P	P		13 06 16.7	+1.0
	baz=237							
I27K	Kandik River	85.57	21	P	P		13 06 16.7	+0.8
	baz=241							
ZAA0	Zalesovo Array	85.64	326	P	P		13 06 15.6	-0.9
ZALV	Zalesovo Beam	85.64	326	P	P		13 06 15.7	-0.8
ZALV	Zalesovo Beam	85.64	326	P	P		13 06 15.5	-1.0
	comp=Z,24nm,0.4s,baz=115,slow=5.5,SNR=111							
	comp=Z,24nm,0.4s							
ZALV	Zalesovo Beam	85.64	326	P	P		13 06 15.7	-0.8
O30N	Mendenhall	85.66	27	IAmb	IAmb		13 06 18.3	
	comp=Z,31nm,0.8s							
O30N	Mendenhall	85.66	27	P	P		13 06 17.5	+0.9
	baz=246,SNR=26							
DAWY	Dawson	85.68	23	P	P		13 06 17.5	+1.0
DAWY					IAmb	IAmb	13 06 18.6	
	comp=Z,17nm,0.8s							
DAWY	Dawson	85.68	23	P	P		13 06 17.6	+1.0
	baz=243,SNR=24							
F26K	Sheenjek River	85.75	19	IAmb	IAmb		13 06 19.3	
	comp=Z,62nm,1.8s							
F26K	Sheenjek River	85.75	19	P	P		13 06 17.9	+1.1
	baz=238,SNR=7.1							
L29M	L29M	85.77	24	IAmb	IAmb		13 06 19.1	
	comp=Z,30nm,0.8s							
L29M	L29M	85.77	24	P	P		13 06 18.1	+1.1
	baz=244							
WRAK	Wrangell Islan	85.86	32	P	P		13 06 18.1	+0.7
	baz=250							
V35K	Ketchikan	85.88	33	IAmb	IAmb		13 06 19.2	
	comp=Z,15nm,0.9s							
V35K	Ketchikan	85.88	33	P	P		13 06 18.3	+0.7
	baz=251							
H27K	Steamboat Moun	85.90	21	IAmb	IAmb		13 06 19.7	
	comp=Z,22nm,0.8s							
H27K	Steamboat Moun	85.90	21	P	P		13 06 18.6	+1.1
	baz=241							
D25K	Kavik River	85.94	17	IAmb	IAmb		13 06 19.0	
	comp=Z,19nm,0.7s							
D25K	Kavik River	85.94	17	P	P		13 06 18.2	+0.5
	baz=236							
SHLS	Shalkode	85.98	314	⇓*i*P	P		13 06 17.3	-1.3
	comp=Z,9.6nm,0.5s							
SHLS	Shalkode	85.98	314	*d i*P	P		13 06 17.2	-1.3
SHLS				pmax	pmax			
	comp=Z,10.0nm,0.5s							
N31M	Braeburn, Yuko	86.09	26	P	P		13 06 19.8	+1.2
	baz=247,SNR=24							
M30M	Minto, Yukon	86.09	25	IAmb	IAmb		13 06 20.4	
	comp=Z,30nm,1.2s							
M30M	Minto, Yukon	86.09	25	P	P		13 06 19.3	+0.7
	baz=246,SNR=21							
I28M	Miner Creek	86.11	22	P	P		13 06 19.3	+0.7
	baz=242,SNR=16							
G27K	Doyon Strip	86.14	20	P	P		13 06 19.6	+0.9
	baz=241							
WHY	Whitehorse	86.17	27	P	P		13 06 19.7	+0.7
	baz=247,SNR=18							
UZB	Uzynbulak	86.29	314	⇓*i*P	P		13 06 20.1	0.0
UZB	Uzynbulak	86.29	314	*d i*P	P		13 06 20.1	0.0
P32M	Atlin	86.31	29	IAmb	IAmb		13 06 21.4	
	comp=Z,32nm,1.1s							
P32M	Atlin	86.31	29	P	P		13 06 20.6	+0.9
	baz=248,SNR=8.3							
K29M	Barlow Dome	86.33	24	P	P		13 06 20.9	+1.2
	baz=245,SNR=50							
C26K	Camden Bay	86.70	17	P	P		13 06 23.0	+1.8
	baz=238							
SATY	Saty	86.70	314	⇓*i*P	P		13 06 22.1	+0.1
	comp=Z,9.4nm,0.6s							
SATY	Saty	86.70	314	*d i*P	P		13 06 22.1	+0.1
SATY				pmax	pmax			
	comp=Z,9.0nm,0.6s							
Q32M	Nakina River	86.77	29	P	P		13 06 23.3	+1.2
	baz=250							
E27K	Coleen River	86.83	19	P	P		13 06 23.1	+1.1
	baz=241,SNR=16							
TARG	Taragay, Kyrgy	86.84	313	IAmb	IAmb		13 06 24.6	
	comp=Z,13nm,0.8s							
MAYO	Mayo, Yukon	86.89	24	P	P		13 06 23.3	+1.0
	baz=246,SNR=14							
C27K	Jago River	86.90	18	P	P		13 06 23.2	+1.0
	baz=239							
P33M	Teslin, Yukon	86.95	28	P	P		13 06 23.1	+0.3
	baz=249,SNR=5.1							
M31M	Drury Creek, Y	86.97	26	IAmb	IAmb		13 06 24.0	
	comp=Z,19nm,1.0s							
M31M	Drury Creek, Y	86.97	26	P	P		13 06 23.4	+0.6
	baz=248,SNR=14							
S34M	Telegraph Cree	86.98	31	IAmb	IAmb		13 06 25.2	
	comp=Z,13nm,0.8s							
S34M	Telegraph Cree	86.98	31	P	P		13 06 23.6	+0.8
	baz=251,SNR=14							
H29M	Whitestone	87.03	22	IAmb	IAmb		13 06 24.9	
	comp=Z,43nm,1.7s							
H29M	Whitestone	87.03	22	P	P		13 06 23.5	+0.6
	baz=244							
J30M	Hart River	87.11	23	IAmb	IAmb		13 06 25.6	
	comp=Z,18nm,0.8s							
J30M	Hart River	87.11	23	P	P		13 06 24.5	+1.0
	baz=246,SNR=19							
T35M	Bob Quinn	87.14	32	P	P		13 06 24.5	+0.9
	baz=252							
F28M	Old Crow	87.14	20	P	P		13 06 23.0	-0.4
	baz=242							
TDK	Taldyqorghan	87.16	316	*e*P	P		13 06 24.2	+0.2
	comp=Z,15nm,0.8s							
TDK	Taldyqorghan	87.16	316	*e*P	P		13 06 24.2	+0.2
TDK				pmax	pmax			
	comp=Z,15nm,0.8s							
N32M	Quiet Lake	87.17	27	P	P		13 06 24.4	+0.7
	baz=249							
I30M	Mount Dempster	87.36	23	IAmb	IAmb		13 06 26.2	
	comp=Z,28nm,0.8s							
I30M	Mount Dempster	87.36	23	P	P		13 06 25.2	+0.6
	baz=246,SNR=25							
G29M	Pine Creek	87.46	21	P	P		13 06 25.7	+0.8
	baz=244,SNR=15							
D27M	Malcolm River	87.55	18	IAmb	IAmb		13 06 27.6	
	comp=Z,28nm,0.8s							
D27M	Malcolm River	87.55	18	P	P		13 06 26.8	+1.4
	baz=241,SNR=10							
R33M	Jennings River	87.55	29	P	P		13 06 26.8	+1.1
	baz=251,SNR=5.9							
MDOK	Medeo	87.70	314	*e*P	P		13 06 26.9	+0.1
MDOK	Medeo	87.70	314	*e*P	P		13 06 26.8	+0.1
EPYK	Eagle Plains	87.70	22	P	P		13 06 27.1	+1.0
	baz=246,SNR=25							
E28M	Babbage River	87.70	19	P	P		13 06 27.3	+1.2
	baz=243,SNR=7.2							
DLBC	Dease Lake	87.71	30	P	P		13 06 27.6	+1.3
	baz=252,SNR=6.8							
KSH	Kashi	87.73	310	P	P		13 06 28.8	+1.8
KSH				pmax	pmax			
	comp=Z,19nm,1.0s							
TNSS	Tian-Shan	87.74	314	*e*P	P		13 06 27.1	-0.3
TNSS	Tian-Shan	87.74	314	*e*P	P		13 06 27.0	-0.3
AAA	Alma-Ata	87.80	314	*e*P	P		13 06 27.3	+0.2
	comp=Z,19nm,0.6s							
AAA	Alma-Ata	87.80	314	*e*P	P		13 06 27.3	+0.2
AAA				pmax	pmax			
	comp=Z,19nm,0.6s							
ULHL	Ulahol	88.08	313	P	P		13 06 29.2	+0.6
	SNR=19							
G30M	tAoh Zraii Nji	88.14	21	IAmb	IAmb		13 06 29.7	
	comp=Z,32nm,1.2s							
G30M	tAoh Zraii Nji	88.14	21	P	P		13 06 28.5	+0.4
	baz=246							
E29M	Blow River	88.15	20	P	P		13 06 28.7	+0.6
	baz=244							
M03C	McCloud	88.27	48	IAmb	IAmb		13 06 31.4	
	comp=Z,22nm,1.1s							
D28M	Stokes Point	88.29	19	P	P		13 06 29.6	+0.9
	baz=244							
BOOM	Boomskoye usch	88.35	313	IAmb	IAmb		13 06 31.3	
	comp=Z,28nm,0.7s							
H31M	Peel River	88.36	23	IAmb	IAmb		13 06 30.6	
	comp=Z,16nm,0.8s							
H31M	Peel River	88.36	23	P	P		13 06 29.9	+0.7
	baz=248							
KURK	Kurchatov	88.37	322	P	P		13 06 29.2	-0.3
KURK	Kurchatov	88.37	322	P	P		13 06 29.2	-0.3
KURK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KURK	Kurchatov	88.37	322	P	P		13 06 28.6	-0.9
KURK				pP	pP		13 07 59.9	-2.8
KURBB	Kurchatov Arra	88.40	321	P	P		13 06 28.6	-1.1
	comp=Z,7.8nm,0.7s,baz=102,slow=3.8,SNR=102							
KURBB				PP	PP		13 10 03.7	-0.7
	comp=Z,1.1nm,0.7s,baz=102,slow=7.4,SNR=4.4							
	comp=Z,7.8nm,0.7s							
PKD	Bear Valley Ra	88.48	54	IAmb	IAmb		13 06 33.3	
	comp=Z,22nm,0.9s							
F30M	Barrier River	88.55	21	IAmb	IAmb		13 06 31.6	
	comp=Z,28nm,0.9s							
F30M	Barrier River	88.55	21	P	P		13 06 30.9	+0.9
	baz=246							
J04A	Umpqua Nationa	88.67	46	IAmb	IAmb		13 06 32.6	
	comp=Z,9.8nm,0.6s							
TKM2	Tokmak 2	88.69	313	P	P		13 06 31.3	-0.2
	SNR=30							
NIL	Nilore	88.80	304	P	P		13 06 31.9	-0.1
NIL				IAmb	IAmb		13 06 33.1	
	comp=Z,19nm,1.1s							
NIL	Nilore	88.80	304	P	P		13 06 31.9	-0.1
NIL				pmax	pmax			
	comp=Z,19nm,1.1s							
G31M	Satah River	88.82	22	IAmb	IAmb		13 06 32.8	
	comp=Z,27nm,0.8s							
G31M	Satah River	88.82	22	P	P		13 06 31.7	+0.4
	baz=248,SNR=8.4							
WTLY	Watson Lake, Y	88.82	29	P	P		13 06 32.1	+0.7
	baz=253,SNR=8.6							
KBK	Karagaybulak	89.11	313	P	P		13 06 33.9	+0.5
	SNR=7.5							
F31M	Tsiigehtchic	89.20	21	P	P		13 06 33.3	+0.3
	baz=248							
UCH	Uchtor	89.34	313	P	P		13 06 35.5	+0.6
	SNR=11							
A04D	Lummi Island	89.39	41	IAmb	IAmb		13 06 36.8	
	comp=Z,18nm,0.8s							
AAK	Ala-Archa	89.43	313	P	P		13 06 35.1	+0.2
AAK				IAmb	IAmb		13 06 35.9	
	comp=Z,13nm,0.7s							
AAK	Ala-Archa	89.43	313	P	P		13 06 35.1	+0.2
	SNR=18							
AAK	Ala-Archa	89.43	313	P	P		13 06 35.1	+0.2
AAK				pmax	pmax			
	comp=Z,13nm,0.7s							
USP	Ospenovka	89.54	314	P	P		13 06 35.3	0.0
	SNR=14							
INK	Inuvik	89.60	20	IAmb	IAmb		13 06 35.9	
	comp=Z,37nm,1.4s							
INK	Inuvik	89.60	20	P	P		13 06 35.0	+0.2
	baz=248,SNR=6.2							
LIRD	Liard River Hi	89.94	30	P	P		13 06 37.0	+0.4
	baz=255,SNR=6.5							
EKS2	Erkin-Say	89.95	313	P	P		13 06 37.5	+0.2
	SNR=13							
ISA	Isabella, Lake	90.09	54	IAmb	IAmb		13 08 35.7	
	comp=Z,18nm,0.8s							
MWC	Mount Wilson	90.20	56	IAmb	IAmb		13 06 40.7	
	comp=Z,31nm,1.2s							
TOAD	Toad River Com	90.23	31	P	P		13 06 38.1	+0.1
	baz=256							
NVAR	Mina Array Bea	90.66	51	P	P		13 06 41.5	+0.8
NVAR	Mina Array Bea	90.66	51	P	P		13 06 41.8	+1.0
	comp=Z,8.8nm,0.8s,baz=267,slow=5.1,SNR=56							
	comp=Z,8.8nm,0.8s							
DSP	Deep Springs	90.75	53	IAmb	IAmb		13 06 43.1	
	comp=Z,12nm,0.9s							
CLC	China Lake	90.82	54	IAmb	IAmb		13 08 30.2	
	comp=Z,12nm,0.5s							
WSHM	Spangler Hills	90.87	54	IAmb	IAmb		13 06 43.5	
	comp=Z,13nm,1.0s							
WVOR	Wild Horse Val	91.04	47	IAmb	IAmb		13 06 43.9	
	comp=Z,11nm,0.9s							
GRAC	Grapevine Rang	91.18	53	IAmb	IAmb		13 06 52.3	
	comp=Z,18nm,0.6s							
GSC	Goldstone, Bar	91.38	55	IAmb	IAmb		13 08 35.9	
	comp=Z,11nm,0.3s							
Q09A	Carvers	91.59	51	IAmb	IAmb		13 06 47.0	
	comp=Z,20nm,0.7s							
GWY	Greenwater Val	91.61	54	IAmb	IAmb		13 08 48.9	
	comp=Z,12nm,0.5s							
WCT	Wildcat Mounta	91.73	53	IAmb	IAmb		13 06 47.5	
	comp=Z,12nm,0.8s							
GAR	Garm	91.97	309	IAmb	IAmb		13 06 51.2	
	comp=Z,11nm,0.7s							
TPNV	Topopah Spring	92.05	53	IAmb	IAmb		13 06 49.0	
	comp=Z,11nm,0.8s							
WRGLY	Wrigley	92.08	26	IAmb	IAmb		13 06 47.7	
	comp=Z,22nm,0.7s							
WRGLY	Wrigley	92.08	26	P	P		13 06 47.3	+0.9
	baz=258,SNR=5.1							
KBL	Kabul	92.38	304	P	P		13 06 47.1	-1.7
KBL				IAmb	IAmb		13 06 48.3	
	comp=Z,9.3nm,0.8s							
KBL	Kabul	92.38	304	P	P		13 06 47.1	-1.7
KBL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SYO	Syowa Base	92.39	199	⇑*i*PcP	PcP		13 06 50.0	+1.7
KK31	Karatay Array	92.39	313	IAmb	IAmb		13 06 48.9	
	comp=Z,16nm,1.2s							
KKAR	Karatay Array	92.39	313	P	P		13 06 47.8	-0.6
KKAR	Karatay Array	92.39	313	P	P		13 06 47.8	-0.6
IUG	Iuzhnay	92.61	312	*e*P	P		13 06 49.5	-0.1
IUG	Iuzhnay	92.61	312	*e*P	P		13 06 49.4	-0.1
CHM	Chimkent	92.95	312	*e*P	P		13 06 51.0	0.0
	comp=Z,5.7nm,0.4s							
CHM	Chimkent	92.95	312	*e*P	P		13 06 50.9	0.0
CHM				pmax	pmax			
	comp=Z,6.0nm,0.4s							
PRN	Pahroc Range	93.06	53	IAmb	IAmb		13 06 54.6	
	comp=Z,17nm,1.2s							
C36M	Paulatuk	93.19	20	P	P		13 06 51.6	+0.2
	baz=257							
A36M	Sachs Harbour	93.42	18	P	P		13 06 52.4	+0.1
	baz=256							
BVAR	Borovoye Array	93.81	323	P	P		13 06 53.4	-1.2
	comp=Z,22nm,0.5s,baz=100,slow=6.0,SNR=72							
BVAR				pP	pP		13 08 28.4	+0.2
	comp=Z,1.1nm,0.7s,baz=88,slow=7.5,SNR=2.0							
BVAR				PP	PP		13 10 45.5	-1.1
	comp=Z,2.1nm,0.8s,baz=97,slow=10,SNR=3.9							
	comp=Z,22nm,0.5s							
SPR3	Spring Creek 3	93.81	51	IAmb	IAmb		13 06 57.2	
	comp=Z,8.0nm,0.9s							
YKA	Yellowknife Ar	95.98	28	P	P		13 07 04.2	0.0
YKA	Yellowknife Ar	95.98	28	P	P		13 07 04.4	+0.1
	comp=Z,8.3nm,0.7s,baz=268,slow=5.3,SNR=31							
	comp=Z,8.3nm,0.7s							
YKA	Yellowknife Ar	95.98	28	*i* P	P		13 07 04.6	+0.3
YKA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
YKAW3	Yellowknife Wh	95.99	28	IAmb	IAmb		13 07 05.6	
	comp=Z,14nm,0.8s							
YKAW1	Yellowknife Wh	96.04	28	IAmb	IAmb		13 07 06.3	
	comp=Z,18nm,0.9s							
TMUT	Trail Mountain	96.26	51	P	P		13 07 07.7	+1.2
PDAR	Pinedale Array	97.74	48	P	P		13 07 12.6	-0.4
	comp=Z,1.4nm,0.6s,baz=259,slow=4.8,SNR=15							
PDAR				pP	pwP		13 08 48.0	-2.2
	comp=Z,0.3nm,0.7s,baz=257,slow=4.8,SNR=4.0							
PDAR				PKIKP	PKiKP		13 11 43.6	-1.0
	comp=Z,0.2nm,0.5s,baz=284,slow=2.4,SNR=2.1							
	comp=Z,1.4nm,0.6s							
ARTI	Ar

SCHQ	Schefferville	121.44	28	PKP	PKPdf	13 12 27.8	-0.6
	comp=Z,5.2nm,0.8s,baz=288,slow=3.2,SNR=6.3						
STHS	Stebnicka Huta	124.13	326	ePKIKP	PKPdf	13 12 33.1	-0.6
STHS	Stebnicka Huta	124.13	326	ePKP	PKPdf	13 12 33.1	-0.6
STEB	Steborice	125.68	329	ePKPDF	PKPdf	13 12 36.7	+0.1
MORC	Moravsky Berou	125.89	329	ePKP	PKiKP	13 12 37.5	0.0
OSTC	Ostas	126.09	330	ePKPDF	PKiKP	13 12 38.2	+0.4
OSTC	Ostas	126.09	330	ePKIKP	PKiKP	13 12 38.2	+0.4
KRLC	Kraliky	126.10	329	ePKPDF	PKiKP	13 12 38.2	+0.3
KRLC	Kraliky	126.10	329	ePKIKP	PKiKP	13 12 38.2	+0.3
CHVC	Chvalec	126.15	330	ePKPDF	PKiKP	13 12 38.3	+0.3
CHVC	Chvalec	126.15	330	ePKIKP	PKiKP	13 12 38.3	+0.3
DPC	Dobruska-Polom	126.16	330	ePKPDF	PKiKP	13 12 38.2	+0.2
DPC	Dobruska-Polom	126.16	330	ePKIKP	PKiKP	13 12 38.2	+0.2
KARP	Karpathos	126.25	309		PKPdf	13 12 37.8	-0.4
JAVC	Velka Javorina	126.38	328	ePKP	PKiKP	13 12 39.4	+0.9
VRAC	Vranov	126.67	329	ePKP	PKiKP	13 12 39.0	0.0
MODS	Modra-Piesok	126.87	327	ePKIKP	PKiKP	13 12 40.4	+0.9
MODS	Modra-Piesok	126.87	327	ePKP	PKiKP	13 12 40.4	+0.9
KRUC	Moravsky	126.92	328	ePKP	PKiKP	13 12 39.4	-0.1
CLL	Collm	127.14	332	*i* PKIKP	PKPdf	13 12 39.3	0.0
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL	Collm	127.14	332	*i* PKPdf	PKPdf	13 12 39.3	0.0
	comp=Z,8.0nm,0.7s						
RONA	Rosalia, Austr	127.80	327	*i* PKiKP	PKiKP	13 12 41.3	-0.1
	comp=Z,4.3nm,0.8s						
CONA	Conrad Observa	127.90	328	*i* PKP	PKPdf	13 12 41.1	+0.1
	comp=Z,3.7nm,0.5s						
IDI	Anoyia	128.08	309		PKPdf	13 12 42.0	+0.3
KHC	Kasperske Hory	128.31	330	ePKPDF	PKiKP	13 12 42.2	-0.2
KHC	Kasperske Hory	128.31	330	ePKIKP	PKiKP	13 12 42.2	-0.2
GERES	GERESS Array B	128.44	330		PKPdf	13 12 42.3	+0.3
GERES	GERESS Array B	128.44	330	PKP	PKPdf	13 12 41.9	-0.1
	comp=Z,2.3nm,0.4s,baz=64,slow=2.3,SNR=16						
GERES	GERESS Array B	128.44	330	PKIKP	PKPdf	13 12 42.3	+0.3
SOKA	Soboth	129.11	327	*i* PKiKP	PKiKP	13 12 44.2	+0.1
	comp=Z,2.1nm,0.6s						
ROSC	El Rosal	129.13	90	SKPbc	SKPab	13 15 26.9	-0.1
	comp=Z,20nm,0.7s,baz=311,slow=19,SNR=8.0						
OBKA	Obir	129.48	327	ePKP	PKPdf	13 12 43.7	-0.3
	comp=Z,11nm,1.5s						
OBKA				*e*SKP		13 15 40.5	
	comp=Z,9.1nm,1.4s						
LPAZ	La Paz	129.62	118		PKiKP	13 12 46.6	-0.1
LPAZ	La Paz	129.62	118	PKP	PKPdf	13 12 45.8	0.0
	comp=Z,1.6nm,0.6s,baz=256,slow=2.0,SNR=5.3						
LPAZ				SKPbc	SKPab	13 15 29.3	0.0
	comp=Z,19nm,0.9s,baz=269,slow=2.7,SNR=36						
LPAZ	La Paz	129.62	118	PKIKP	PKiKP	13 12 46.6	-0.1
EKA	Eskdalemuir Ar	129.74	345	PKP	PKPdf	13 12 43.7	-0.5
	comp=Z,1.5nm,0.5s,baz=26,slow=2.5,SNR=8.7						
EKA				SKPbc	SKPab	13 15 27.9	+0.2
	comp=Z,2.8nm,0.8s,baz=22,slow=3.1,SNR=4.0						
KBA	Koelnbreinsper	129.76	328	*i* PKP	PKPdf	13 12 44.4	-0.2
	comp=Z,14nm,1.4s						
LESA	Schwarzleotal	129.88	329	*i* PKP	PKPdf	13 12 44.5	-0.2
	comp=Z,6.0nm,0.4s						
LESA				*e*SKP		13 15 41.0	
	comp=Z,13nm,1.4s						
MYKA	Terra Mystica	129.89	327	ePKP	PKPdf	13 12 43.1	-1.7
	comp=Z,3.8nm,0.8s						
MYKA				*e*SKP		13 15 36.9	
	comp=Z,3.6nm,0.7s						
ABTA	Abfaltersbach	130.41	328	*i* PKP	PKPdf	13 12 45.1	-0.8
	comp=Z,4.9nm,0.6s						
ABTA				*i* SKP		13 15 31.1	
	comp=Z,4.2nm,0.7s						
WATA	Walderalm	130.50	329	*i* PKP	PKPdf	13 12 46.2	+0.1
	comp=Z,4.2nm,0.5s						
WTTA	Wattenberg	130.52	329	*i* PKP	PKPdf	13 12 46.2	+0.1
	comp=Z,4.7nm,0.5s						
MOTA	Moosalm	130.74	330	*i* PKP	PKPdf	13 12 46.4	-0.1
	comp=Z,6.2nm,0.7s						
SQTA	Sankt Quirin	130.77	329	*i* PKP	PKPdf	13 12 46.5	0.0
	comp=Z,5.9nm,0.6s						
SQTA				*e*SKP		13 15 34.4	
	comp=Z,2.1nm,0.5s						
RETA	Reutte	130.81	330	ePKiKP	PKiKP	13 12 48.3	+0.8
	comp=Z,2.4nm,0.5s						
FETA	Feichten	131.14	330	*i* PKP	PKPdf	13 12 47.0	-0.3
	comp=Z,3.5nm,0.7s						
FETA				*i* SKP		13 15 34.3	
	comp=Z,4.5nm,0.6s						
DAVA	Damuels	131.38	330	*i* PKP	PKPdf	13 12 46.5	-1.2
	comp=Z,5.1nm,0.5s						
DAVA				*e*SKP		13 15 34.2	
	comp=Z,1.3nm,0.3s						
FUORN	Ofenpass-Fuorn	131.65	329		PKPdf	13 12 48.4	0.0
CPUP	Villa Florida	132.76	137	SKPbc	SKPbc	13 15 39.1	-0.4
	comp=Z,1.2nm,0.8s,baz=225,slow=2.9,SNR=6.1						
SDV	Santo Domingo	133.06	85		PKPdf	13 12 51.1	-0.8
SDV	Santo Domingo	133.06	85	*e*P	PKPdf	13 12 50.8	-1.0
BNI	Bardonecchia	134.54	330		PKPdf	13 12 54.3	+0.6
BNI	Bardonecchia	134.54	330	PKIKP	PKPdf	13 12 54.3	+0.6
KEST	Kesra	139.10	318	PKP	PKPdf	13 13 03.4	+1.1
	comp=Z,3.3nm,0.5s,baz=80,slow=0.8,SNR=3.5						
PBRG	Braganca	142.89	339	ePKPdf	PKPdf	13 13 06.2	-2.7
PGAV	Gavieira, Arco	143.26	341	ePKPdf	PKPbc	13 13 07.6	+0.3
PCAB	Cabril	143.41	341	ePKPdf	PKPbc	13 13 08.0	+0.3
ARAG	Araguaiana, MT	143.44	129	*e*P	PKPbc	13 13 09.4	+0.9
MVO	Moncorvo	143.56	339	ePKPdf	PKPbc	13 13 08.8	+0.5
POLO	Lamas de Olo	143.63	340	ePKP	PKPbc	13 13 08.7	+0.2
ESDC	Sonseca Array	143.65	335	PKP	PKPbc	13 13 09.0	+0.4
	comp=Z,16nm,0.9s,baz=29,slow=3.3,SNR=88						
ESDC				PP	PP	13 16 28.0	+1.4
	comp=Z,0.9nm,0.8s,baz=24,slow=5.7,SNR=4.3						
ESDC				SKKPbc	SKKPbc	13 24 21.1	+0.5
	comp=Z,1.3nm,0.8s,baz=221,slow=4.4,SNR=8.7						
PVRL	Vila Real	143.70	340	ePKP	PKPbc	13 13 09.0	+0.3
PAB	San Pablo	143.92	335		PKPbc	13 13 09.9	+0.3
PAB	San Pablo	143.92	335	PKIKP	PKPbc	13 13 09.9	+0.4
CART	Cartagena	143.94	329		PKPab	13 13 09.2	-0.3
PVIS	Viseu	144.26	340	ePKP	PKPab	13 13 11.0	+0.4
MTE	Manteigas	144.42	339		PKPdf	13 13 11.7	+0.1
MTE	Manteigas	144.42	339	ePKP	PKPdf	13 13 11.8	+0.1
IPMB	Ipameri, GO	144.60	136	*e*P	PKPbc	13 13 12.1	-0.2
PCBR	Castelo Branco	144.89	339	ePKPab	PKPab	13 13 13.1	+0.2
PCAS	Casmilo, Conde	145.06	340	ePKP	PKPbc	13 13 13.3	+0.3
PMRV	Marv??o	145.22	338	ePKP	PKPab	13 13 14.1	-0.2
PSARD	Sardoal	145.34	339	ePKP	PKPab	13 13 14.5	-0.2
PSBE	So Bento	145.64	340	ePKP	PKPab	13 13 15.5	-0.4
PESTR	Estremoz	145.79	338	ePKP	PKPbc	13 13 15.4	+0.1
PMTG	Montargil	145.84	339	ePKP	PKPbc	13 13 15.3	-0.1
PBAR	Barrancos	146.18	339	ePKP	PKPbc	13 13 16.0	-0.4
BDFB	Brasilia	146.31	133	PKPbc	PKPdf	13 13 16.7	+1.1
	comp=Z,4.1nm,0.6s,baz=256,slow=4.2,SNR=5.5						
PARRA	Arraiolos	146.35	340	ePKP	PKPbc	13 13 16.2	-0.7
PBEJ	Beja	146.63	338	ePKP	PKPbc	13 13 17.1	-0.5
MESJ	Messejana	146.93	338	ePKP	PKPbc	13 13 19.1	+0.6
PCVE	Castro Verde	147.04	338	ePKP	PKPbc	13 13 19.4	+0.6
PVAQ	Vaqueiros	147.12	337	ePKP	PKPbc	13 13 19.3	+0.3
PBDV	Barranco-do-Ve	147.34	337	ePKP	PKiKP	13 13 20.8	-0.7
PTEO	Sao Teotonio	147.37	338	ePKP	PKPbc	13 13 20.4	+0.8
MORF	Marmelete	147.56	338	ePKP	PKPbc	13 13 21.1	+0.8
PFVI	Vila Bisbo	147.77	338	ePKP	PKPbc	13 13 21.1	+0.4
SJMB	Sao Joao De Ma	148.46	146	*e*P	PKPdf	13 13 18.7	-0.2
TORD	Torodi Ar. Bea	154.90	285	PKP	PKPdf	13 13 27.8	-0.8
	comp=Z,1.1nm,0.3s,baz=80,slow=2.1,SNR=1.9						
TORD				PKPbc	PKiKP	13 13 37.1	-0.6
	comp=Z,4.1nm,0.7s,baz=56,slow=4.1,SNR=4.2						
TORD				PKPab	PKPab	13 13 54.7	-0.2
	comp=Z,7.3nm,0.7s,baz=56,slow=5.4,SNR=7.0						
DBIC	Dimbokro	161.77	268	PKPab	PKPab	13 14 25.1	+0.1
	comp=Z,5.8nm,0.5s,baz=111,slow=4.6,SNR=7.6						

*AZER **31** 12:58:59.6,41°.57N×48°.06E,h22km,mI2.8*
*DRS **31** 12:59:00.6,41°.65N×48°.00E,h15km*
ISC 31 12:59:00.5±0.9,41°.62N±0°.02×48°.04E±0°.02,h20km±3km, n35,σ1§16/69,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.07	107	*i* Pg	Pg	12 59 03.9	-0.3
	2μm,0.1s						
KSMR				*e*Sg	Sg	12 59 06.7	-0.1
	19μm,0.4s						
QSAR	Qusar	0.20	123	P	Pg	12 59 05.3	-0.4
QSAR				S	Sg	12 59 09.1	0.0
AKT	Akhty	0.28	239	*i* Pg	Pg	12 59 07.1	+0.2
	852nm,0.2s						
AKT				*e*Sg	Sg	12 59 11.6	+0.4
	15μm,0.2s						
QUBA	Quba, Azerbaij	0.43	128	P	Pb	12 59 09.1	-0.5
QUBA				S	Sb	12 59 16.0	+0.3
XNQ	Khinaliq	0.46	171	*i* Pg	Pb	12 59 09.8	-0.3
XNQ				S	Sb	12 59 16.4	-0.1
DRN	Derbent	0.46	28	*i* Pg	Pg	12 59 09.4	-0.5
	1μm,0.1s						
DRN				*e*Sg	Sg	12 59 16.2	-0.1
	2μm,0.2s						
URKR	Urkarakh	0.62	331	*i* Pg	Pg	12 59 12.7	-0.3
	355nm,0.1s						
URKR				*e*Sg	Sg	12 59 21.4	0.0
	2μm,0.2s						
QBL	Gabala	0.69	193	P	Pg	12 59 13.5	-0.7
QBL				S	Sn	12 59 24.5	-1.0
SEKA	Sheki	0.76	237	P	Pg	12 59 15.0	-0.4
SEKA				S	Sg	12 59 25.3	-0.2
IML	Ismayilli	0.83	173	P	Pg	12 59 16.3	-0.6
IML				S	Sn	12 59 28.3	-0.7
SIZA	Siyzn	0.84	130	P	Pb	12 59 16.0	-0.6
SIZA				S	Sn	12 59 29.4	+0.1
KMKR	Kumukh	0.87	306	*i* Pg	Pb	12 59 16.9	-0.2
	537nm,0.4s						
KMKR				*e*Sg	Sg	12 59 28.8	-0.3
	1μm,0.5s						
SGKR	Sergokala	0.88	341	*i* Pg	Pb	12 59 17.3	0.0
	110nm,0.2s						
SGKR				*e*Sg	Sg	12 59 29.5	-0.1
	849nm,0.2s						
PQL	Pirkuli	0.93	153	P	Pn	12 59 18.2	-0.4
PQL				S	Sn	12 59 31.6	+0.1
ATGJ	Altiaghaj	1.02	138	P	Pn	12 59 19.5	-0.3
ATGJ				S	Sn	12 59 34.1	+0.6
ZKTA	Zakatala	1.06	271	P	Pg	12 59 20.5	-0.7
ZKTA				S	Sg	12 59 37.3	+2.0
MNGR	Mingechevir, A	1.11	221	S	Sg	12 59 39.5	+2.7
ARKR	Arakani	1.25	322	*i* Pg	Pb	12 59 23.6	0.0
	50nm,0.3s						
ARKR				*e*Sg	Sg	12 59 41.0	-0.2
	243nm,0.4s						
GBS	Qobustan	1.28	148	P	Pg	12 59 26.2	+0.9
GBS				S	Sg	12 59 45.6	+3.4
XNZR	Khunzakh	1.35	313	*i* Pg	Pb	12 59 25.4	0.0
	62nm,0.3s						
XNZR				*e*Sg	Sg	12 59 43.4	-1.1
	93nm,0.3s						
BUJR	Buynaksk	1.39	330	*e*Pg	Pb	12 59 25.9	+0.1
	70nm,0.3s						
BUJR				*e*Sg	Sg	12 59 44.2	-1.3
	404nm,0.3s						
MAK	Makhachkala	1.40	344	*e*Pg	Pb	12 59 25.7	-0.2
	467nm,0.3s						
MAK				*e*Sg	Sb	12 59 44.5	+1.1
	467nm,0.3s						
UNCR	Uncukul	1.43	320	*e*Pg	Pb	12 59 26.6	0.0
	30nm,0.8s						
UNCR				*e*Sg	Sg	12 59 45.8	-1.1
	105nm,0.4s						
DDFL	Dedoflistskaro	1.46	264	P	Pg	12 59 28.2	-0.5
DDFL				S	Sg	12 59 50.6	+2.9
KRNR	Karanay	1.47	325	*e*Pg	Pb	12 59 27.4	+0.1
	22nm,0.4s						
KRNR				*e*Sg	Sg	12 59 47.1	-1.1
	75nm,0.2s						
GANJ	Ganja	1.62	234	P	Pb	12 59 29.8	-0.1
GANJ				S	Sg	12 59 51.9	-1.1
AGDM	Agdam	1.67	205	P	Pb	12 59 30.4	-0.2
AGDM				S	Sg	12 59 54.3	-0.1
BTLR	Botlikh	1.71	308	*e*Pg	Pb	12 59 30.7	-0.6
	25nm,0.6s						
BTLR				*e*Sg	Sb	12 59 52.9	+0.5
	65nm,0.4s						
DLMR	Dylym	1.79	325	*e*Pg	Pb	12 59 31.8	-0.8
	80nm,0.2s						
DLMR				*e*Sg	Sb	12 59 55.2	+0.6
	721nm,0.4s						
GDB	GEDABAY	1.95	243	P	Pb	12 59 34.5	-0.9
GDB				S	Sg	13 00 00.8	-2.6
QZX	Qazax, Azerbai	2.09	255	P	Pb	12 59 36.3	-1.5
QZX				S	Sb	13 00 04.3	+0.9
QRD	Qoradiz	2.23	195	P	Pb	12 59 38.5	-1.6
QRD				S	Sb	13 00 05.2	-2.1
YRD	Yardimli	2.71	177	P	Pn	12 59 44.4	+1.3
YRD				S	Sn	13 00 16.6	+1.2
LRK	Lerik	2.98	176	P	Pn	12 59 47.8	+0.9
LRK				S	Sb	13 00 25.9	-3.3
ORD	Ordubad	3.11	211	P	Pn	12 59 50.8	+2.1
ORD				S	Sn	13 00 27.0	+1.7

*NEIC **31** 13:01:07.1±0.3,19°.344N±0°.007×155°.499W±0°.004, h11km±2km,Error ellipse: s-maj=1.1km s-min=0.4km az=197.0*
HVO 31 13:01:07.0±0.6,19°.341N±0°.004×155°.492W±0°.007, h8km±3km,ML2.5/34,ML2.4/40(NEIC),Error ellipse: s-maj=1.0km s-min=0.6km az=65.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	Ainahou	0.04	46		Pg	13 01 09.5	+0.6
AIN					Sg	13 01 11.2	+1.0
AIN	Ainahou	0.04	46	IAML		13 01 11.4	
	comp=E,16μm,0.3s						
AIN				IAML		13 01 11.6	
	comp=N,18μm,0.2s						
HTC	Hot Caves	0.14	139		Pg	13 01 10.5	+0.5
KHU	Kahuku	0.15	231		Pg	13 01 10.6	+0.3
KHU					Sg	13 01 13.3	+0.6
MWH	Mokuaweoweo	0.17	325		Pg	13 01 11.1	+0.2
MWH					Sg	13 01 13.9	+0.3
MWH	Mokuaweoweo	0.17	325	IAML		13 01 14.7	
	comp=E,1μm,0.5s						
MWH				IAML		13 01 17.2	
	comp=N,1μm,0.2s						
HLP	Hilina Pali	0.18	105		Pg	13 01 11.3	+0.5
HLP					Sg	13 01 14.5	+1.2
HLP	Hilina Pali	0.18	105	IAML		13 01 16.0	
	comp=N,638nm,0.4s						
HLP				IAML		13 01 16.3	
	comp=E,1μm,0.3s						
MLH	Mauna Loa	0.18	33		Pg	13 01 11.1	+0.2
MLH					Sg	13 01 14.1	+0.5
MLH	Mauna Loa	0.18	33	IAML		13 01 17.3	
	comp=N,300nm,0.1s						
MLH				IAML		13 01 17.4	
	comp=E,352nm,0.1s						
WRMHI	West Rim	0.19	70		Pg	13 01 11.4	+0.4
WRMHI					Sg	13 01 14.6	+0.9
SDHHI	Sand Hill	0.19	76		Pg	13 01 11.3	+0.3
SDHHI					Sg	13 01 14.4	+0.7
UWE	Uwekahuna	0.20	67		Pg	13 01 11.6	+0.3
UWE					Sg	13 01 14.9	+0.8
UWE	Uwekahuna	0.20	67	IAML		13 01 18.3	
	comp=N,1μm,0.5s						
UWE				IAML		13 01 18.6	
	comp=E,1μm,0.3s						
OBL	Observatory Le	0.21	69		Pg	13 01 11.6	+0.3
OBL					Sg	13 01 15.4	+1.1
RIM	Rim	0.21	75		Pg	13 01 11.6	+0.2
RIM					Sg	13 01 15.0	+0.6
UWB	Uwekahuna Bluf	0.22	68		Pg	13 01 11.7	+0.2
UWB					Sg	13 01 15.1	+0.5
KKO	Keanakako'i	0.22	75		Pg	13 01 11.8	+0.2
KKO					Sg	13 01 15.2	+0.6
SBLHI	Steaming Bluff	0.23	68		Pg	13 01 11.8	+0.1
SBLHI					Sg	13 01 15.7	+0.8
BYL	Byron's Ledge	0.23	72		Pg	13 01 11.9	+0.2
BYL					Sg	13 01 15.8	+0.9
BYL	Byron's Ledge	0.23	72	IAML		13 01 17.0	
	comp=N,304nm,0.2s						
BYL				IAML		13 01 19.4	
	comp=E,425nm,0.4s						
HATHI	Halema'uma'u T	0.23	69		Pg	13 01 11.9	+0.1
HATHI					Sg	13 01 15.4	+0.4
HATHI	Halema'uma'u T	0.23	69	IAML		13 01 18.6	
	comp=N,676nm,0.4s						
HATHI				IAML		13 01 18.8	
	comp=E,647nm,0.2s						
RSD	Rainshed	0.23	59		Pg	13 01 12.3	+0.4
RSD					Sg	13 01 16.0	+0.9
RSD	Rainshed	0.23	59	IAML		13 01 18.4	
	comp=N,842nm,0.1s						
RSD				IAML		13 01 19.3	
	comp=E,785nm,0.2s						
ALEP	Alea Permanent	0.25	324		Pg	13 01 12.1	0.0
ALEP					Sg	13 01 15.7	+0.1
HMH	Humu'ula Sheep	0.26	2		Pg	13 01 12.6	+0.3
HMH					Sg	13 01 16.7	+0.8
HMH	Humu'ula Sheep	0.26	2	IAML		13 01 18.8	
	comp=N,854nm,0.2s						
HMH				IAML		13 01 18.8	
	comp=E,715nm,0.2s						
PUH	Pauahi	0.26	83		Pg	13 01 12.3	0.0
PUH					Sg	13 01 16.7	+0.8
PUH	Pauahi	0.26	83	IAML		13 01 17.6	
	comp=N,617nm,0.3s						
PUH				IAML		13 01 17.6	
	comp=E,831nm,0.4s						
KNHH	Kane Nui o Ham	0.31	83		Pg	13 01 13.0	-0.2
STCH	Steam Cracks	0.35	83		Pg	13 01 13.8	-0.2
STCH					Sg	13 01 19.3	+0.7
STCH	Steam Cracks	0.35	83	IAML		13 01 19.4	
	comp=N,429nm,0.2s						
STCH				IAML		13 01 19.7	
	comp=E,14nm,0.2s						
NPOC	North of Pu'u	0.36	82		Pg	13 01 14.2	0.0
NPOC					Sg	13 01 19.8	+0.7
JCUZ	Jacuzzi	0.37	83		Pg	13 01 14.1	-0.3
JCUZ					Sg	13 01 19.9	+0.6
POHA	Pohakuloa	0.42	355		Pg	13 01 15.3	0.0
POHA	Pohakuloa	0.42	355		Sg	13 01 21.3	+0.5
POHA	Pohakuloa	0.42	355	IAML		13 01 21.6	
	comp=E,316nm,1.4s						
POHA				IAML		13 01 25.6	
	comp=E,362nm,0.5s						
JOKA	Jonika Flow	0.47	79		Pg	13 01 15.7	-0.5
JOKA					Sg	13 01 22.6	+0.2
JOKA	Jonika Flow	0.47	79	IAML		13 01 22.8	
	comp=E,194nm,0.4s						
JOKA				IAML		13 01 33.1	
	comp=N,258nm,1.1s						
HUH	Hualalai	0.47	317		Pg	13 01 16.5	+0.2

*IDC **31** 13:01:45.5±0.7,35°.00S×106°.93W,h0km,mb3.9/8, mbtmp3.9/8,MS4.0/28,Error ellipse: s-maj=27.5km s-min=19.8km az=88.0*
*NEIC **31** 13:01:46.2±2.4,35°.0S±0°.1×107°.1W±0°.2,h10km±1km, mb4.7/23,Error ellipse: s-maj=27.3km s-min=21.6km az=288.0*
*GCMT **31** 13:01:52.2±0.2,35°.17S±0°.01×106°.89W±0°.01,h16km±1km, MW4.9/111,Moment Tensor Solution. s52,c66; s111,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.93±.10; $M_{\theta\theta}$0.49±.09; $M_{\phi\phi}$0.43±.09; $M_{r\theta}$-0.24±.23; $M_{\theta\phi}$-2.96±.07; $M_{\phi r}$-0.54±.24; Best double couple: M_o3.05500×10^{16} NP1:ϕ_s91.00000°,δ76.00000°, λ-169.00000°. NP2:ϕ_s358.00000°,δ80.00000°, λ-15.00000°. Principal axes: T 3.4340, Plg3.0000°, Azm45.0000°; N -0.7590, Plg72.0000°, Azm144.0000°; P -2.6750, Plg18.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 13:01:47.0±0.7,35°.0S±0°.1×106°.9W±0°.1,h10km,n74, σ1§24/45,mb4.7/23,MS3.9/28,5C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	8.10	344	LR	LR	13 05 50.5	
	comp=Z,156nm,20.1s,baz=159,slow=30						
H03N2	Juan Fernandez	23.13	94	T	T	13 31 04.7	
	baz=256,slow=71,SNR=6.2						
H03N3	Juan Fernandez	23.13	94	T	T	13 30 55.7	
	baz=256,slow=71,SNR=5.2						
H03N1	Juan Fernandez	23.15	94	T	T	13 30 56.7	
	baz=256,slow=71,SNR=7.8						
PLCA	Paso Flores	29.11	112	P	P	13 07 49.0	+1.0
PLCA				IAmb	IAmb	13 07 51.8	
	comp=Z,6.0nm,0.9s						
PLCA	Paso Flores	29.11	112	P	P	13 07 49.5	+1.5
	comp=Z,4.9nm,0.9s,baz=270,slow=11,SNR=8.6						
PLCA				LR	LR	13 15 52.2	
	comp=Z,150nm,19.2s,baz=278,slow=29						
	comp=Z,4.9nm,0.9s						
MT01	Popeta	29.31	98	P	P	13 07 49.2	-0.5
MT01				IAmb	IAmb	13 07 58.0	
	comp=Z,17nm,1.2s						
MT09	Talagante	29.55	98	P	P	13 07 51.4	-0.6
MT09				IAmb	IAmb	13 07 53.4	
	comp=Z,8.6nm,0.8s						
MG05	Puerto Natales	29.71	135	P	P	13 07 52.9	-0.1
LMEL	Las Melosas	30.17	99	P	P	13 07 58.9	+1.3
MT08	Bocatoma Ro	30.41	98	P	P	13 08 01.2	+1.5
MT08				IAmb	IAmb	13 08 03.0	
	comp=Z,9.4nm,0.8s						
LCO	Las Campanas	31.13	89	P	P	13 08 05.3	-0.9
LCO				IAmb	IAmb	13 08 29.0	
	comp=Z,32nm,1.4s						
GO02	Mina Guanaco	33.55	83	P	P	13 08 26.5	-1.0
GO02				IAmb	IAmb	13 08 43.6	
	comp=Z,12nm,0.9s						
NNA	Nana	35.57	57	LR	LR	13 19 35.4	
	comp=Z,384nm,19.7s,baz=230,slow=30						
TRQA	Tornquist	35.95	108	P	P	13 08 47.2	-0.6
PB11	IPOC Station P	36.13	75	P	P	13 08 48.8	-0.8
PB11				IAmb	IAmb	13 08 59.2	
	comp=Z,16nm,1.1s						
ATAH	Atahualpa	38.12	50	LR	LR	13 20 51.1	
	comp=Z,331nm,18.6s,baz=229,slow=30						
LPAZ	La Paz	39.27	72		P	13 09 15.7	-

comp=Z,10nm,0.8s
VNA1 Neumayer--Stat 60.20 158 ⇑P **P 13 11 54.5 -0.1**
comp=Z,8.6nm,1.0s
VNA2 Neumayer--Watz 60.37 158 ⇑P **P 13 11 55.0 -0.8**
comp=Z,12nm,1.0s,baz=258,slow=6.2
SNAA Sanae 61.42 160 ⇑P **P 13 12 02.3 -0.8**
comp=Z,52nm,0.8s
SNAA Sanae 61.42 160 P **P 13 12 02.0 -1.1**
SNAA IAmb IAmb 13 12 03.6
comp=Z,11nm,1.5s
SNAA Sanae 61.42 160 P **P 13 12 02.4 -0.8**
comp=Z,2.6nm,0.9s,baz=223,slow=18,SNR=7.1
SNAA LR LR 13 34 18.1
comp=Z,77nm,20.2s,baz=215,slow=32
comp=Z,2.6nm,0.9s
TROLL Troll, Antarti 62.77 161 ⇑P **P 13 12 09.1 -3.1**
comp=Z,105nm,0.6s
TXAR Lajitas Array 64.03 3 P **P 13 12 20.7 -0.3**
comp=Z,0.3nm,0.6s,baz=184,slow=7.8,SNR=4.0
TXAR LR LR 13 34 15.8
comp=Z,49nm,18.5s,baz=193,slow=30
comp=Z,0.3nm,0.6s
MDP Montagnes des 64.67 63 LR LR 13 37 36.4
comp=Z,466nm,19.7s,baz=252,slow=33
SJG San Juan 65.44 43 LR LR 13 37 58.8
comp=Z,63nm,18.0s,baz=159,slow=33
ANMO Albuquerque 69.56 0 LR LR 13 38 16.0
comp=Z,78nm,21.8s,baz=269,slow=32
TKL Tuckaleechee C 73.50 19 LR LR 13 39 50.2
comp=Z,152nm,21.4s,baz=222,slow=31
NVAR Mina Array Bea 73.80 351 P **P 13 13 21.4 -0.3**
comp=Z,0.4nm,0.7s,baz=191,slow=4.8,SNR=3.8
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 77.41 358 P **P 13 13 41.2 -1.0**
PDAR Pinedale Array 77.41 358 P **P 13 13 42.6 +0.3**
comp=Z,0.7nm,0.6s,baz=176,slow=4.8,SNR=9.7
comp=Z,0.7nm,0.6s
MAW Mawson 77.44 176 P **P 13 13 41.0 -1.0**
comp=Z,2.6nm,0.9s,baz=198,slow=6.4,SNR=4.3
comp=Z,2.6nm,0.9s
SADO Sadowa 83.27 19 LR LR 13 49 06.7
comp=Z,1μm,18.6s,baz=177,slow=34
ULM Lac du Bonnet 85.41 7 LR LR 13 48 41.0
comp=Z,46nm,18.9s,baz=158,slow=33
HNR Honiara 87.25 260 LR LR 13 49 44.7
comp=Z,45nm,19.4s,baz=74,slow=33
STKA Stephens Creek 87.51 232 LR LR 13 47 23.9
comp=Z,154nm,18.0s,baz=199,slow=31
SCHQ Schefferville 95.83 22 LR LR 13 51 35.1
comp=Z,191nm,21.4s,baz=211,slow=31
ASAR Alice Springs 98.04 234 LR LR 13 55 57.4
comp=Z,155nm,18.5s,baz=143,slow=33
H01W1 Cape Leeuwin H 100.62 213 T T 15 08 12.5
baz=145,slow=76,SNR=18
H01W2 Cape Leeuwin H 100.63 213 T T 15 08 12.8
baz=145,slow=76,SNR=13
H01W3 Cape Leeuwin H 100.64 213 T T 15 08 13.7
baz=145,slow=76,SNR=16
AKASG Malin Array Be 144.75 50 PKP **PKPab 13 21 22.2 -0.2**
comp=Z,0.4nm,0.3s,baz=285,slow=3.1,SNR=1.9
BRTR Keskin Array B 148.43 70 PKPbc **PKPbc 13 21 33.8 -0.1**
comp=Z,1.0nm,0.7s,baz=250,slow=2.9,SNR=3.7
MMAI Mount Meron Ar 148.78 83 PKPbc **PKPbc 13 21 33.9 -1.0**
comp=Z,0.6nm,0.3s,baz=266,slow=4.3,SNR=1.8
CMAR Chiang Mai Arr 151.80 241 PKPbc **PKiKP 13 21 42.7 -0.1**
comp=Z,0.3nm,0.3s,baz=110,slow=3.8,SNR=4.7
SONM Songino Array 152.16 308 PKPbc **PKiKP 13 21 42.2 -0.7**
comp=Z,1.3nm,0.7s,baz=107,slow=1.5,SNR=5.8
KURBB Kurchatov Arra 163.87 348 PKPab **PKPab 13 22 44.4 +2.0**
comp=Z,0.2nm,0.7s,baz=19,slow=4.4,SNR=2.1

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*IDC **31** 13:08:27.3±8.6, 7.°01S×129.°47E, h173km±90km, mb3.0/2, mbtmp3.6/6, Error ellipse: s-maj=81.2km s-min=26.1km az=39.0*
ISC 31 13:08:25.6±1.4, **7.°17S**±0.°10×**129.°7E**±0.°1, **h150**km, **n6**, σ3°**14**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.64**	**243**	P		**Pn**	**13 10 01.9 +1.0**
	21nm,0.5s,baz=61,slow=10,SNR=6.5						
BATI				S		**Sn**	**13 11 16.9 +1.2**
	14nm,0.3s,baz=33,slow=18,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.54**	**199**	P		**Pn**	**13 11 07.5 +1.5**
	1.6nm,0.4s,baz=26,slow=13,SNR=36						
FITZ				S		**Sn**	**13 13 09.2 -4.4**
	1.5nm,0.4s,baz=35,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.48**	**161**	P		**Pn**	**13 11 33.6 +2.5**
	0.2nm,0.3s,baz=340,slow=13,SNR=18						
WRA				S		**Sn**	**13 13 58.5 -1.9**
	1.5nm,0.4s,baz=339,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**16.90**	**166**	P		**P**	**13 12 16.8 +3.9**
	0.4nm,0.9s,baz=345,slow=10,SNR=4.2						
ASAR				S		**S**	**13 15 18.4 -3.0**
	0.8nm,0.7s,baz=326,slow=23,SNR=8.8						
MKAR	**Makanchi Array**	**68.18**	**327**	P		**P**	**13 19 07.7 -2.1**
	0.3nm,0.4s,baz=125,slow=7.2,SNR=2.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.48**	**329**	P		**P**	**13 19 33.1 -2.7**
	0.1nm,0.5s,baz=118,slow=4.1,SNR=2.3						
	0.1nm,0.5s						

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*IDC **31** 13:25:09.4±2.3, 61.°75N×6.°77E, h0km, mbtmp3.4/3, ML2.5/3, Error ellipse: s-maj=19.5km s-min=11.2km az=59.0*
*DNK **31** 13:25:10.4±1.7, 61.°52N×6.°84E, h0km±63km*
*NAO **31** 13:25:10.5±0.2, 61.°69N×6.°54E, h10km, ML2.5*
*BER **31** 13:25:11.2±2.0, 61.°72N×6.°42E, h12km±3km, ML2.6, ML2.5(NAO), Confirmed Earthquake*
ISC 31 13:25:08.9±0.7, **61.°68N**±0.°03×**6.°46E**±0.°02, **h6**km, **n108**, σ1°**92**/149, **14C-2D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HYA	**Hoyanger**	**0.53**	**194**	Pg		**Pg**	**13 25 21.4 +2.2**
HYA				Sg		**Sg**	**13 25 29.2 +3.1**
HYA	**Hoyanger**	**0.53**	**194**	⇑P		**Pg**	**13 25 21.4 +2.2**
HYA				eS		**Sg**	**13 25 29.2 +3.1**
HYA				IAML			13 25 29.4
	comp=Z,630nm,0.2s						
AKN	**Aaknes**	**0.56**	**27**	Pg		**Pg**	**13 25 21.3 +1.6**
AKN				Sg		**Sg**	**13 25 28.9 +1.8**
AKN	**Aaknes**	**0.56**	**27**	⇑P		**Pg**	**13 25 21.3 +1.6**
AKN				eS		**Sg**	**13 25 28.8 +1.8**
AKN				IAML			13 25 29.2
	comp=Z,1μm,0.2s						
FOO	**Floro**	**0.68**	**264**	Pg		**Pg**	**13 25 23.0 +1.0**
FOO				Sg		**Sg**	**13 25 32.5 +1.7**
FOO	**Floro**	**0.68**	**264**	⇓P		**Pg**	**13 25 23.1 +1.1**
FOO				eS		**Sg**	**13 25 32.4 +1.5**
FOO				IAML			13 25 33.3
	comp=Z,848nm,0.3s						
MOL	**Molde**	**1.03**	**29**	Pb		**Pg**	**13 25 29.1 +0.4**
MOL				Sb		**Sg**	**13 25 41.9 -0.1**
MOL	**Molde**	**1.03**	**29**	⇑eP		**Pg**	**13 25 29.1 +0.4**
MOL				eS		**Sg**	**13 25 42.1 +0.1**
MOL				IAML			13 25 44.0
	comp=Z,150nm,0.2s						
SUE	**Sulen**	**1.03**	**233**	Pb		**Pg**	**13 25 29.1 +0.4**
SUE				Sb		**Sg**	**13 25 43.1 +1.1**
SUE	**Sulen**	**1.03**	**233**	⇑iP		**Pg**	**13 25 28.9 +0.3**
SUE				eS		**Sg**	**13 25 42.8 +0.8**
SUE				IAML			13 25 44.9
	comp=Z,282nm,0.2s						
DOMB	**Dombas**	**1.29**	**72**	Pn		**Pn**	**13 25 34.3 +0.8**
DOMB				Sb		**Sg**	**13 25 51.1 +0.8**
DOMB	**Dombas**	**1.29**	**72**	⇑eP		**Pn**	**13 25 34.1 +0.7**
DOMB				eS		**Sg**	**13 25 51.2 +1.0**
DOMB				IAML			13 25 51.8
	comp=Z,228nm,0.2s						
BAS02	**BAS02**	**1.30**	**215**	eP		**Pn**	**13 25 33.4 -0.2**
BAS02	**BAS02**	**1.30**	**215**	eS		**Sb**	**13 25 51.2 +0.5**
BAS02	**BAS02**	**1.30**	**215**	IAML			13 25 52.3
	comp=Z,66nm,0.2s						
BAS0D	**BAS04**	**1.31**	**206**	⇑eP		**Pn**	**13 25 33.5 -0.2**
BAS03	**BAS03**	**1.32**	**211**	eP		**Pn**	**13 25 33.6 -0.3**
BAS03	**BAS03**	**1.32**	**211**	eS		**Sb**	**13 25 51.9 +0.6**
BAS03	**BAS03**	**1.32**	**211**	IAML			13 25 55.4
	comp=Z,256nm,0.2s						
BAS05	**BAS05**	**1.32**	**202**	eP		**Pn**	**13 25 33.9 0.0**
BAS05	**BAS05**	**1.32**	**202**	eS		**Sb**	**13 25 51.2 -0.2**
BAS05	**BAS05**	**1.32**	**202**	IAML			13 25 53.3
	comp=Z,155nm,0.3s						
SKAR	**Skarslia**	**1.34**	**138**	Pb		**Pn**	**13 25 34.7 +0.4**
SKAR				Sb		**Sb**	**13 25 52.0 +0.1**
SKAR	**Skarslia**	**1.34**	**138**	⇓iP		**Pn**	**13 25 34.6 +0.3**
SKAR				eS		**Sb**	**13 25 52.5 +0.6**
SKAR				IAML			13 25 54.6
	comp=Z,332nm,0.3s						
ASK	**Askoy**	**1.35**	**208**	Pb		**Pn**	**13 25 34.2 0.0**
ASK				Sb		**Sb**	**13 25 52.7 +0.7**
ASK	**Askoy**	**1.35**	**208**	⇑iP		**Pn**	**13 25 34.1 -0.2**
ASK				eS		**Sb**	**13 25 52.5 +0.5**
ASK				IAML			13 25 53.8
	comp=Z,267nm,0.2s						
BAS06	**BAS06**	**1.38**	**196**	⇑iP		**Pn**	**13 25 34.6 0.0**
BAS06	**BAS06**	**1.38**	**196**	eS		**Sb**	**13 25 52.5 -0.2**
BAS06	**BAS06**	**1.38**	**196**	IAML			13 25 55.6
	comp=Z,63nm,0.2s						
BER	**Bergen**	**1.41**	**203**	Pb		**Pn**	**13 25 35.0 -0.2**
BER				Sb		**Sb**	**13 25 55.1 +1.2**
BER	**Bergen**	**1.41**	**203**	eP		**Pn**	**13 25 34.9 -0.2**
BER				eS		**Sb**	**13 25 54.5 +0.6**
BER				IAML			13 25 55.7
	comp=Z,299nm,0.3s						
BAS09	**BAS09**	**1.48**	**189**	eP		**Pn**	**13 25 36.3 +0.3**
BAS09	**BAS09**	**1.48**	**189**	eS		**Sn**	**13 25 55.7 0.0**
BAS09				IAML			13 25 58.0
	comp=Z,205nm,0.4s						
BAS10	**BAS10**	**1.55**	**184**	eP		**Pn**	**13 25 37.5 +0.5**
BAS10	**BAS10**	**1.55**	**184**	eSg		**Sn**	**13 25 58.7 +1.3**
BAS10	**BAS10**	**1.55**	**184**	IAML			13 25 59.7
	comp=Z,149nm,0.2s						
BAS16	**BAS16**	**1.58**	**204**	⇑eP		**Pn**	**13 25 37.1 -0.4**
BAS16	**BAS16**	**1.58**	**204**	eSg		**Sn**	**13 25 59.5 +1.3**
BAS16	**BAS16**	**1.58**	**204**	IAML			13 26 00.4
	comp=Z,58nm,0.2s						
BAS17	**BAS17**	**1.59**	**200**	⇑eP		**Pn**	**13 25 37.2 -0.4**
BAS17	**BAS17**	**1.59**	**200**	eSg		**Sn**	**13 26 00.1 +1.7**
BAS17	**BAS17**	**1.59**	**200**	IAML			13 26 02.3
	comp=Z,40nm,0.1s						
BAS15	**BAS15**	**1.60**	**207**	eP		**Pn**	**13 25 37.3 -0.4**
BAS15	**BAS15**	**1.60**	**207**	eS		**Sn**	**13 25 57.5 -1.1**
BAS15	**BAS15**	**1.60**	**207**	eSg		**Sn**	**13 26 00.5 +1.8**
BAS15				IAML			13 26 01.0
	comp=Z,175nm,0.3s						
BAS18	**BAS18**	**1.67**	**195**	eP		**Pn**	**13 25 38.6 -0.1**
BAS18	**BAS18**	**1.67**	**195**	eSg		**Sn**	**13 26 02.3 +2.0**
BAS18				IAML			13 26 02.9
	comp=Z,87nm,0.2s						
BAS12	**BAS12**	**1.72**	**176**	⇑eP		**Pn**	**13 25 39.6 +0.2**
BAS12	**BAS12**	**1.72**	**176**	ePg		**Pn**	**13 25 40.9 +1.5**
BAS12	**BAS12**	**1.72**	**176**	eS		**Sn**	**13 26 01.6 -0.1**
BAS12	**BAS12**	**1.72**	**176**	IAML			13 26 05.6
	comp=Z,46nm,0.3s						
BAS19	**BAS19**	**1.73**	**191**	eP		**Pn**	**13 25 39.6 +0.2**
BAS19	**BAS19**	**1.73**	**191**	eSg		**Sn**	**13 26 03.7 +2.0**
BAS19	**BAS19**	**1.73**	**191**	IAML			13 26 06.1
	comp=Z,90nm,0.1s						
BAS20	**BAS20**	**1.74**	**189**	eP		**Pn**	**13 25 39.9 +0.2**
BAS20	**BAS20**	**1.74**	**189**	eSg		**Sn**	**13 26 04.6 +2.5**
BAS20	**BAS20**	**1.74**	**189**	IAML			13 26 07.3
	comp=Z,99nm,0.3s						
ODD1	**Odda**	**1.78**	**177**	Pn		**Pn**	**13 25 40.6 +0.4**
ODD1				Sg		**Sn**	**13 26 05.4 +2.3**
ODD1	**Odda**	**1.78**	**177**	⇑eP		**Pn**	**13 25 40.4 +0.2**
ODD1				e			13 25 42.1
ODD1				eSG		**Sn**	**13 26 05.2 +2.1**
ODD1				IAML			13 26 06.9
	comp=Z,82nm,0.3s						
BAS21	**BAS21**	**1.83**	**187**	eP		**Pn**	**13 25 41.1 +0.3**
BAS21	**BAS21**	**1.83**	**187**	eSg		**Sn**	**13 26 07.2 +2.9**
BAS21	**BAS21**	**1.83**	**187**	IAML			13 26 08.3
	comp=Z,28nm,0.2s						
BAS14	**BAS14**	**1.86**	**174**	eP		**Pn**	**13 25 41.6 +0.3**
BAS14				ePg		**Pb**	**13 25 43.3 0.0**
BAS14	**BAS14**	**1.86**	**174**	eS		**Sn**	**13 26 04.6 -0.5**
BAS14	**BAS14**	**1.86**	**174**	eSg		**Sn**	**13 26 07.8 +2.7**
BAS22	**BAS22**	**1.86**	**184**	eP		**Pn**	**13 25 41.5 +0.2**
BAS22	**BAS22**	**1.86**	**184**	eSg		**Sn**	**13 26 07.7 +2.6**
BAS22	**BAS22**	**1.86**	**184**	IAML			13 26 08.6
	comp=Z,122nm,0.3s						
NC2	**NORSAR Subarra**	**2.14**	**99**	Pn		**Pn**	**13 25 44.9 -0.3**
NC2				Sg		**Sn**	**13 26 14.6 +2.6**
NC2	**NORSAR Subarra**	**2.14**	**99**	Pn		**Pn**	**13 25 44.9 -0.3**
NC2				Sg		**Sn**	**13 26 14.6 +2.6**
NBO	**NORSAR Subarra**	**2.18**	**106**	Pn		**Pn**	**13 25 45.9 +0.2**
NBO				Sg		**Sn**	**13 26 16.8 +3.8**
NBO	**NORSAR Subarra**	**2.18**	**106**	Pn		**Pn**	**13 25 45.9 +0.2**
NBO				Sg		**Sn**	**13 26 16.8 +3.8**
BLS5	**Blasjo**	**2.27**	**180**	Pn		**Pn**	**13 25 47.7 +0.8**
BLS5				Sn		**Sn**	**13 26 14.7 -0.4**
BLS5	**Blasjo**	**2.27**	**180**	eP		**Pn**	**13 25 47.4 +0.5**
BLS5				eSG		**Sb**	**13 26 19.9 +1.4**
BLS5				IAML			13 26 21.1
	comp=Z,60nm,0.4s						
NAO	**NORSAR Subarra**	**2.28**	**110**	Pn		**Pn**	**13 25 47.5 +0.4**
NAO				Sn		**Sn**	**13 26 16.2 +0.7**
NAO	**NORSAR Subarra**	**2.28**	**110**	Pn		**Pn**	**13 25 47.5 +0.4**
NAO				Sn		**Sn**	**13 26 16.2 +0.7**
NB2	**NORSAR Subarra**	**2.38**	**104**	Pn		**Pn**	**13 25 48.5 0.0**
	baz=288,slow=12						
NB2				Pn		Pb	13 25 49.1 -3.0
NB2				Sg		**Sb**	**13 26 23.2 +1.5**
	baz=287,slow=37						
NB2				Sg		**Sn**	**13 26 23.8 +5.8**
NB2	**NORSAR Subarra**	**2.38**	**104**	Pn		**Pn**	**13 25 48.5 0.0**
	baz=288,slow=12						
NB2				Pn		Pb	13 25 49.1 -3.0
NB2				Sg		**Sb**	**13 26 23.2 +1.5**
	baz=287,slow=37						
NB2				Sg		**Sn**	**13 26 23.8 +5.8**
NOA	**NORSAR Array B**	**2.38**	**104**	Pg		**Pn**	**13 25 48.1 -0.4**
	comp=Z,0.5nm,0.3s,baz=287,slow=17,SNR=40						
NOA				Lg		Lg	13 26 20.2
	comp=Z,0.9nm,0.3s,baz=292,slow=16,SNR=4.4						
NC3	**NORSAR Subarra**	**2.41**	**98**	Pn		**Pn**	**13 25 48.7 -0.2**
NC3				Sg		**Sb**	**13 26 23.4 +0.7**
NC3	**NORSAR Subarra**	**2.41**	**98**	Pn		**Pn**	**13 25 48.7 -0.2**
NC3				Sg		**Sb**	**13 26 23.4 +0.7**
KMY	**Karmoy**	**2.55**	**194**	⇑eP		**Pn**	**13 25 50.4 -0.3**
KMY				eSg		**Sb**	**13 26 27.9 +1.4**
NC6	**NORSAR Subarra**	**2.59**	**109**	Pn		**Pn**	**13 25 51.6 +0.3**
NC6				Sn		**Sn**	**13 26 23.4 +0.2**
NC6	**NORSAR Subarra**	**2.59**	**109**	Pn		**Pn**	**13 25 51.6 +0.3**
NC6				Sn		**Sn**	**13 26 23.4 +0.2**
NC4	**NORSAR Subarra**	**2.60**	**101**	Pn		**Pn**	**13 25 51.0 -0.5**
NC4				Sn		**Sn**	**13 26 22.2 -1.2**
NC4				Sg		**Sb**	**13 26 29.6 +1.4**
NC4	**NORSAR Subarra**	**2.60**	**101**	Pn		**Pn**	**13 25 51.0 -0.5**
NC4				Sn		**Sn**	**13 26 22.2 -1.2**
NC4				Sg		**Sb**	**13 26 29.6 +1.4**
NC602	**NORSAR Array S**	**2.63**	**109**	⇑eP		**Pn**	**13 25 51.4 -0.5**
NRA0	**NORESS Array S**	**2.63**	**109**	Pn		**Pn**	**13 25 51.6 -0.4**
	baz=297,slow=18						
NRA0				Sg		**Sb**	**13 26 29.7 +0.7**
	baz=296,slow=37						
NRA0	**NORESS Array S**	**2.63**	**109**	Pn		**Pn**	**13 25 51.6 -0.4**
	baz=297,slow=18						
NRA0				Sg		**Sb**	**13 26 29.7 +0.7**
	baz=296,slow=37						
SNART	**Snartemo**	**3.37**	**173**	eP		**Pn**	**13 26 02.2 +0.1**
SNART	**Snartemo**	**3.37**	**173**	iP		**Pn**	**13 26 02.0 -0.1**
SNART				eS		**Sn**	**13 26 38.9 -3.4**
HOMB	**Homborsund**	**3.57**	**162**	eP		**Pn**	**13 26 04.9 +0.2**
HOMB				iS		**Sn**	**13 26 44.2 -3.0**
HFS	**Hagfors**	**3.86**	**111**	Pn		**Pn**	**13 26 08.7 -0.1**
	baz=289,slow=12						
HFS				Sg		**Sb**	**13 27 06.7 +2.5**
	baz=308,slow=28						
HFS	**Hagfors**	**3.86**	**111**	Pn		**Pn**	**13 26 08.6 -0.1**
	comp=Z,0.4nm,0.3s,baz=298,slow=12,SNR=12						
HFS				Sn		**Sn**	**13 26 51.4 -3.0**
	comp=Z,1.3nm,0.3s,baz=300,slow=23,SNR=5.8						
HFS				Lg		Lg	13 27 06.3
	comp=Z,5.6nm,0.3s,baz=297,slow=29,SNR=14						
	comp=Z,0.8nm,0.3s						
HFS	**Hagfors**	**3.86**	**111**	Pn		**Pn**	**13 26 08.7 -0.1**
	baz=289,slow=12						
HFS				Sg		**Sb**	**13 27 06.7 +2.5**
	baz=308,slow=28						
TJOU	**Tjoern**	**4.49**	**142**	iS		**Sn**	**13 27 04.6 -5.3**
TJOU	**Tjoern**	**4.49**	**142**	iS		**Sn**	**13 27 04.6 -5.3**
BORU	**Boraas**	**5.17**	**139**	iP		**Pn**	**13 26 25.5 -1.2**
BORU				iS		**Sn**	**13 27 21.0 -5.6**
BORU	**Boraas**	**5.17**	**139**	iP		**Pn**	**13 26 25.5 -1.2**
BORU				iS		**Sn**	**13 27 21.0 -5.6**
FABU	**Falkenberg**	**5.68**	**143**	iP		**Pn**	**13 26 32.5 -1.2**
FABU				iS		Sn	13 27 32.4 -6.7
FABU	**Falkenberg**	**5.68**	**143**	iP		**Pn**	**13 26 32.5 -1.2**
FABU				iS		Sn	13 27 32.4 -6.7
DEL	**Delary**	**6.47**	**141**	iP		**Pn**	**13 26 43.4 -1.2**
DEL				iS		**Sn**	**13 27 52.8 -5.8**
DEL	**Delary**	**6.47**	**141**	iP		**Pn**	**13 26 43.4 -1.2**
DEL				iS		**Sn**	**13 27 52.8 -5.8**
EKA	**Eskdalemuir Ar**	**8.11**	**223**	Pn		**Pn**	**13 27 05.1 -2.0**
	baz=25,slow=12						
EKA				Sn		Sn	13 28 28.9 -10
	baz=35,slow=25						
FINES	**FINESS Array B**	**9.36**	**83**	Pn		Pn	13 27 21.0 -3.1
	comp=Z,0.2nm,0.3s,baz=284,slow=14,SNR=6.0						
FINES				Sn		**Sn**	**13 29 04.3 -5.2**
	comp=Z,0.2nm,0.3s,baz=274,slow=19,SNR=2.3						
FINES				Lg		Lg	13 30 00.1
	comp=Z,0.7nm,0.3s,baz=277,slow=22,SNR=5.3						
	comp=Z,3.4nm,1.0s						
ARA0	**ARCESS Array S**	**11.08**	**37**	Pn		**Pn**	**13 27 45.3 -2.4**
	baz=230,slow=14						
ARA0				Sn		Sn	13 29 39.9 -12
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**11.08**	**37**	Pn		**Pn**	**13 27 45.3 -2.4**
	baz=230,slow=14						
ARA0				Sn		Sn	13 29 39.9 -12
	baz=226,slow=28						
ARCES	**ARCESS Array B**	**11.08**	**37**	Pn		**Pn**	**13 27 44.9 -2.8**
	comp=Z,0.1nm,0.3s,baz=232,slow=13,SNR=8.1						
ARCES				Sn		Sn	13 29 42.9 -8.9
	comp=Z,0.1nm,0.3s,baz=232,slow=23,SNR=1.3						
ARCES				Lg		Lg	13 30 52.7
	comp=Z,0.1nm,0.3s,baz=236,slow=17,SNR=1.9						
	comp=Z,0.9nm,0.6s						

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*CNRM **31** 13:26:53.1, 32.°60N×5.°57W, h2km, ML3.1*
*MDD **31** 13:26:56.8±0.8, 32.°81N×5.°51W, h6km±6km, Mb4.0/6, M_mb3.3/6, Error ellipse: s-maj=8.7km s-min=4.0km az=118.0*
*SFS **31** 13:26:56.4, 32.°75N×5.°55W, h0km, ML3.2/4, MLv3.2/4*
*INMG **31** 13:26:57.9±1.3, 32.°84N×5.°37W, h24km±11km, ML2.3, Error ellipse: s-maj=8.4km s-min=4.5km az=109.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Fez (Marr)*
*IGIL **31** 13:26:57.6, 32.°81N×5.°51W, h5km, ML2.3*
ISC 31 13:26:52.7±0.7, **32.°66N**±0.°02×**5.°56W**±0.°02, **h7**km, **n99**, σ2°**03**/122, **5C, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.57**	**49**	P		**Pg**	**13 27 04.9 +1.1**
CZD	**Col de Zad**	**0.57**	**49**	S		**Sg**	**13 27 13.5 +2.1**
MD31	**MD31**	**0.70**	**73**	P		**Pg**	**13 27 06.9 +0.6**
MD31	**MD31**	**0.70**	**73**	S		**Sg**	**13 27 17.8 +2.3**
MDT	**Midelt**	**0.81**	**79**	P		**Pg**	**13 27 08.9 +0.5**
MDT	**Midelt**	**0.81**	**79**	S		**Sg**	**13 27 19.1 +0.1**
MDT	**Midelt**	**0.81**	**79**	P		**Pg**	**13 27 08.9 +0.5**
MDT	**Midelt**	**0.81**	**79**	S		**Sg**	**13 27 19.1 +0.1**
MDT	**Midelt**	**0.81**	**79**	P		**Pg**	**13 27 08.9 +0.5**
MDT	**Midelt**	**0.81**	**79**	P		**Pg**	**13 27 08.9 +0.5**
MDT	**Midelt**	**0.81**	**79**	P		**Pg**	**13 27 08.9 +0.5**
MDT	**Midelt**	**0.81**	**79**	S		**Sg**	**13 27 19.1 +0.1**
IFR	**Ifrane**	**0.93**	**23**	Pg		**Pg**	**13 27 11.1 +0.6**
IFR				Sg		**Sg**	**13 27 24.1 +1.4**
GOLM	**Goulmima**	**1.08**	**152**	P		**Pn**	**13 27 15.1 +0.6**
GOLM	**Goulmima**	**1.08**	**152**	S		**Sn**	**13 27 30.8 +1.1**
GOLM	**Goulmima**	**1.08**	**152**	P		**Pn**	**13 27 15.0 +0.6**
GOLM	**Goulmima**	**1.08**	**152**	P		**Pn**	**13 27 15.0 +0.6**
GOLM	**Goulmima**	**1.08**	**152**	P		**Pn**	**13 27 15.0 +0.6**
GOLM	**Goulmima**	**1.08**	**152**	P		**Pn**	**13 27 15.0 +0.6**
LCRM	**LCR**	**1.18**	**30**	P		**Pg**	**13 27 14.3 -1.1**
LCRM	**LCR**	**1.18**	**30**	S		**Sg**	**13 27 29.2 -1.5**
TISM	**Timmit**	**1.20**	**219**	P		**Pg**	**13 27 14.9 -0.8**
TISM	**Timmit**	**1.20**	**219**	S		**Sb**	**13 27 31.4 -0.1**
TISM	**Timmit**	**1.20**	**219**	P		**Pg**	**13 27 15.5 -0.2**
TISM	**Timmit**	**1.20**	**219**	S		**Sn**	**13 27 33.0 +0.6**
TISM	**Timmit**	**1.20**	**219**	P		**Pg**	**13 27 15.5 -0.2**
TISM	**Timmit**	**1.20**	**219**	P		**Pg**	**13 27 15.5 -0.2**
TISM	**Timmit**	**1.20**	**219**	P		**Pg**	**13 27 15.5 -0.2**
TISM	**Timmit**	**1.20**	**219**	S		**Sn**	**13 27 33.0 +0.6**
ZHG	**ZHG**	**1.20**	**311**	P		**Pg**	**13 27 17.0 +1.1**
ZHG	**ZHG**	**1.20**	**311**	S		**Sn**	**13 27 34.0 +1.3**
ZHG	**ZHG**	**1.20**	**311**	P		**Pg**	**13 27 17.0 +1.1**
ZHG	**ZHG**	**1.20**	**311**	S		**Sn**	**13 27 35.0 +2.3**
ZHG	**ZHG**	**1.20**	**311**	P		**Pg**	**13 27 17.0 +1.1**
ZHG	**ZHG**	**1.20**	**311**	P		**Pg**	**13 27 17.0 +1.1**
ZHG	**ZHG**	**1.20**	**311**	P		**Pg**	**13 27 17.0 +1.1**
ZHG	**ZHG**	**1.20**	**311**	S		**Sn**	**13 27 35.0 +2.3**
ARF	**Arif**	**1.67**	**137**	P		**Pb**	**13 27 23.9 +0.1**
ARF	**Arif**	**1.67**	**137**	S		**Sg**	**13 27 46.1 -0.2**
ARF	**Arif**	**1.67**	**137**	P		**Pb**	**13 27 24.5 +0.7**
ARF	**Arif**	**1.67**	**137**	P		**Pb**	**13 27 24.5 +

MORF *i* IAML 13 29 11.7
MORF *i* IAML 13 29 13.4
MORF *i* IAML 13 29 14.5
PCVE Castro Verde 5.36 338 *e*P **Pn 13 28 15.6 +2.4**
PCVE *e*S **Sn 13 29 11.5 -3.7**
PCVE *i* IAML 13 29 13.3
PCVE *i* IAML 13 29 13.9
PCVE *i* IAML 13 29 16.2
ECAB El Cabril 5.41 1 Pn **Pn 13 28 15.3 +1.5**
ECAB ⇑*i*IVmb_VC 13 28 20.2
comp=E,66nm,SNR=1.6
ECAB Sn **Sn 13 29 11.0 -5.3**
PTEO Sao Teotonio 5.52 333 *e*P **Pn 13 28 16.4 +1.0**
PTEO *e*S **Sn 13 29 16.2 -2.9**
PTEO *i* IAML 13 29 16.8
PTEO *i* IAML 13 29 20.8
EADA Adamuz 5.55 8 Pn **Pn 13 28 16.6 +0.8**
EADA Sn **Sn 13 29 15.9 -4.0**
MESJ Messejana 5.61 338 *e*P **Pn 13 28 17.7 +1.2**
MESJ *e*S **Sn 13 29 16.1 -5.1**
MESJ IAML 13 29 20.1
comp=E,1.9nm,0.2s
MESJ Messejana 5.61 338 *e*P **Pn 13 28 17.8 +1.2**
MESJ *e*S **Sn 13 29 17.7 -3.5**
MESJ *i* IAML 13 29 20.6
MESJ *i* IAML 13 29 21.2
MESJ *i* IAML 13 29 21.2
PBAR Barrancos 5.64 348 *e*P **Pn 13 28 17.8 +0.8**
PBAR *e*S **Sn 13 29 17.7 -4.2**
PBAR *i* IAML 13 29 20.8
PBAR *i* IAML 13 29 22.1
PBAR *i* IAML 13 29 22.4
EBAD Badajoz 6.20 349 Pn **Pn 13 28 25.0 +0.3**
EBAD ⇑*i*IVmb_VC 13 28 28.7
comp=E,118nm,SNR=2.4
EBAD Sn **Sn 13 29 30.6 -5.1**
PSIM Granatula de C 6.32 13 Pn **Pn 13 28 26.3 -0.1**
PSIM Sn **Sn 13 29 35.8 -3.0**
PESTR Estremoz 6.41 346 *e*S **Sn 13 29 36.9 -4.2**
PMTG Montargil 6.75 342 *e*P **Pn 13 28 32.8 +0.5**
PMTG *e*S **Sn 13 29 45.2 -4.2**
PMTG *i* IAML 13 29 46.0
PMTG *i* IAML 13 29 48.6
PMTG *i* IAML 13 29 53.8
PARRA Arraiolos 6.76 336 *e*P **Pn 13 28 29.2 -3.2**
PARRA *e*S Sn 13 29 38.0 -12
PARRA *i* IAML 13 29 40.2
PARRA *i* IAML 13 29 40.7
PARRA *i* IAML 13 29 40.9
PMRV Marv??o 6.92 348 *e*P **Pn 13 28 35.3 +0.8**
PMRV *e*S **Sn 13 29 49.0 -4.5**
PMRV *i* IAML 13 29 51.5
PMRV *i* IAML 13 29 51.7
PSARD Sardoal 7.24 344 *e*P **Pn 13 28 39.4 +0.4**
EPLA Plasencia 7.40 357 Pn **Pn 13 28 41.2 -0.1**
EPLA ⇑*i*IVmb_VC 13 28 44.6
comp=E,77nm,SNR=1.3
EPLA Sn **Sn 13 29 59.0 -6.5**

*IDC **31** 13:53:39.6±1.1, 6°.79N×125°.05E, h0km, mb3.6/5, mbtmp3.6/5, MS3.8/1, Error ellipse: s-maj=21.7km s-min=9.8km az=144.0*
ISC 31 13:53:41.5±1.2, 6°.8N±0°.1×125°.2E±0°.2, h13km, n6, σ0°.30/6, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.47**	**60**	Pg	**Pg**	**13 53 50.9**	**+0.1**
	366nm,0.3s,baz=233,slow=6.2,SNR=5.3						
DAV				Lg	Lg	13 53 59.3	
	287nm,0.3s,baz=270,slow=20,SNR=8.1						
FITZ	**Fitzroy Crossi**	**24.78**	**179**	P	**P**	**13 59 03.5**	**+0.3**
	1.6nm,0.7s,baz=358,slow=17,SNR=1.6						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**28.09**	**161**	P	**P**	**13 59 32.9**	**-0.4**
	0.9nm,1.0s,baz=330,slow=10,SNR=14						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**31.49**	**165**	P	**P**	**14 00 03.2**	**-0.1**
	0.3nm,0.5s,baz=343,slow=8.4,SNR=18						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.14**	**325**	P	**P**	**14 03 06.5**	**0.0**
	0.3nm,0.7s,baz=133,slow=8.1,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**58.31**	**327**	P	**P**	**14 03 36.0**	**-0.1**
	0.4nm,0.7s,baz=115,slow=8.3,SNR=4.2						
KURBB				LR	LR	14 29 25.6	
	comp=Z,81nm,21.2s,baz=172,slow=37						
	0.4nm,0.7s						

*NEIC **31** 14:20:59.9±1.9, 20°.1S±0°.2×172°.9W±0°.1, h10km±1km, mb4.7/22, Error ellipse: s-maj=32.4km s-min=15.0km az=157.0*
*IDC **31** 14:21:01.4±1.4, 19°.90S×173°.27W, h0km, mb4.1/10, mbtmp4.1/11, ML4.2/1, MS3.6/9, Error ellipse: s-maj=60.0km s-min=19.6km az=149.0*
ISC 31 14:21:00.1±0.6, 20°.1S±0°.1×172°.96W±0°.07, h10km, n47, σ1°.92/40, mb4.5/23, MS3.7/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.03**	**71**		**Pn**	**14 21 47.0**	**-1.2**
NIUE				Sn	**Sn**	**14 22 18.7**	**-5.9**
AFI	**Afiamalu**	**6.24**	**11**		Pn	14 22 26.9	-5.5
MSVF	**Nonsavu**	**8.82**	**284**	Pn	**Pn**	**14 23 04.6**	**-3.2**
RAR	**Rarotonga**	**12.40**	**97**		**Pn**	**14 23 57.5**	**+0.7**
RAR	**Rarotonga**	**12.40**	**97**	Pn	**Pn**	**14 23 59.2**	**+2.4**
	3.1nm,0.3s,baz=272,slow=3.5,SNR=4.4						
RAR				LR	LR	14 28 49.1	
	comp=Z,150nm,18.1s,baz=257,slow=37						
DZM	**Mont Dzumac**	**19.32**	**260**	P	**Pn**	**14 25 27.6**	**+0.9**
	0.8nm,0.3s,baz=92,slow=18,SNR=8.1						
DZM				LR	LR	14 31 21.8	
	comp=Z,112nm,19.4s,baz=147,slow=32						
	8.0nm,0.7s						
PPT	**Papeete**	**22.27**	**87**	LR	LR	14 33 12.4	
	comp=Z,130nm,19.5s,baz=298,slow=32						
ARMA	**Armidale**	**33.52**	**245**	P	**P**	**14 27 39.9**	**-0.3**
ARMA				IAmb	IAmb	14 28 06.3	
	comp=Z,8.5nm,1.1s						
CAN	**Canberra**	**36.69**	**237**	P	**P**	**14 28 07.4**	**-0.1**
CAN				IAmb	IAmb	14 28 10.6	
	comp=Z,22nm,1.5s						
TOO	**Toolangi**	**39.98**	**235**	P	**P**	**14 28 35.4**	**+0.3**
STKA	**Stephens Creek**	**42.23**	**244**	P	**P**	**14 28 53.0**	**-0.6**
STKA	**Stephens Creek**	**42.23**	**244**	P	**P**	**14 28 55.0**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=87,slow=12,SNR=3.7						
STKA				LR	LR	14 45 04.9	
	comp=Z,138nm,18.7s,baz=31,slow=34						
	comp=Z,2.2nm,0.7s						
COEN	**Coen**	**42.29**	**271**	P	**P**	**14 28 51.4**	**-2.9**
COEN				IAmb	IAmb	14 29 05.8	
	comp=Z,9.1nm,0.9s						
INKA	**Innaminka**	**42.80**	**251**	P	**P**	**14 28 59.5**	**+1.1**
BBOO	**Buckleboo**	**46.97**	**244**	P	**P**	**14 29 30.5**	**-1.0**
WR8	**Warramunga Arr**	**49.19**	**261**	P	**P**	**14 29 46.8**	**-2.1**
WR8				IAmb	IAmb	14 30 02.5	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**49.21**	**256**	P	**P**	**14 29 48.6**	**-0.4**
AS31				IAmb	IAmb	14 30 02.0	
	comp=Z,2.7nm,0.9s						
ASAR	**Alice Springs**	**49.21**	**256**	P	**P**	**14 29 46.7**	**-2.3**
ASAR	**Alice Springs**	**49.21**	**256**	P	**P**	**14 29 49.3**	**+0.3**
	comp=Z,8.5nm,0.9s,baz=97,slow=8.0,SNR=68						
ASAR				PcP	**PcP**	**14 31 15.3**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=100,slow=3.7,SNR=0.8						
ASAR				LR	LR	14 50 29.6	
	comp=Z,87nm,18.5s,baz=96,slow=36						
	comp=Z,8.5nm,0.9s						
WB0	**Warramunga Arr**	**49.32**	**261**	P	**P**	**14 29 49.1**	**-0.7**
WB0				IAmb	IAmb	14 29 53.3	
	comp=Z,7.7nm,1.1s						
WRAB	**Tennant Creek**	**49.33**	**261**	P	**P**	**14 29 49.2**	**-0.8**
WRAB				IAmb	IAmb	14 30 01.7	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**49.34**	**261**	P	**P**	**14 29 48.0**	**-2.0**
WRA	**Warramunga Arr**	**49.34**	**261**	P	**P**	**14 29 49.0**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=97,slow=8.7,SNR=21						
	comp=Z,2.5nm,0.7s						
FORT	**Forrest**	**53.79**	**246**	P	**P**	**14 30 22.3**	**-0.9**
FORT				IAmb	IAmb	14 30 55.7	
	comp=Z,12nm,1.1s						
MTN	**Manton Dam**	**53.89**	**269**	P	**P**	**14 30 22.0**	**-2.1**
KNRA	**Kununurra**	**55.41**	**264**	P	**P**	**14 30 34.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**57.77**	**261**	P	**P**	**14 30 51.6**	**-0.3**
RPN	**Rapa Nui**	**58.20**	**110**	LR	LR	14 50 30.1	
	comp=Z,50nm,18.3s,baz=308,slow=30						
SOEI	**Soe**	**61.22**	**270**	P	**P**	**14 31 16.5**	**+0.5**
JCJ	**Chichijima**	**63.94**	**316**	LR	LR	14 55 34.1	
	comp=Z,46nm,20.3s,baz=114,slow=33						
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**14 32 09.7**	**-2.0**
QSPA	**South Pole Qui**	**69.99**	**180**	P	P	14 32 21.2	+9.4
	comp=Z,0.9nm,0.8s,baz=58,slow=2.9,SNR=2.4						
MJAR	**Matsushiro Arr**	**72.78**	**321**	P	**P**	**14 32 29.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=156,slow=6.1,SNR=3.0						
MJAR				LR	LR	14 58 46.1	
	comp=Z,28nm,19.5s,baz=164,slow=31						
	comp=Z,0.5nm,0.3s						
PETK	**Petropavlovsk-**	**77.19**	**342**	P	**P**	**14 32 53.4**	**-0.6**
PETK	**Petropavlovsk-**	**77.19**	**342**	P	**P**	**14 32 56.2**	**+2.3**
	comp=Z,4.7nm,1.1s,baz=100,slow=9.3,SNR=6.1						
	comp=Z,4.7nm,1.1s						
NVAR	**Mina Array Bea**	**77.54**	**41**	P	**P**	**14 32 59.6**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=254,slow=7.5,SNR=2.2						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**82.89**	**55**	P	P	14 33 30.2	+4.7
	comp=Z,0.5nm,0.9s,baz=196,slow=5.0,SNR=2.2						
	comp=Z,0.5nm,0.9s						
NEW	**Newport**	**84.34**	**34**	LR	LR	15 04 24.5	
	comp=Z,82nm,18.3s,baz=220,slow=31						
PDAR	**Pinedale Array**	**85.47**	**41**	P	**P**	**14 33 40.9**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=235,slow=5.9,SNR=4.6						
	comp=Z,0.7nm,0.9s						
MCK	**McKinley**	**85.62**	**10**	P	**P**	**14 33 38.8**	**+0.4**
MCK				IAmb	IAmb	14 33 41.8	
	comp=Z,7.8nm,0.9s						
WRH	**Wood River Hil**	**86.45**	**11**	IAmb	IAmb	14 33 46.4	
	comp=Z,8.0nm,0.9s						
HDA	**Harding Lake**	**86.59**	**11**	IAmb	IAmb	14 33 47.4	
	comp=Z,3.5nm,0.8s						
CCB	**Clear Creek Bu**	**86.66**	**11**	P	**P**	**14 33 43.4**	**-0.1**
CCB				IAmb	IAmb	14 33 46.6	
	comp=Z,4.9nm,0.9s						
ILAR	**Eielson Array**	**86.94**	**11**	P	**P**	**14 33 45.7**	**+0.9**
ILAR	**Eielson Array**	**86.94**	**11**	P	**P**	**14 33 45.9**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=207,slow=5.4,SNR=11						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.46**	**288**	P	**P**	**14 34 24.1**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=118,slow=2.9,SNR=5.2						
	comp=Z,0.5nm,0.3s						
BRTR	**Keskin Array B**	**149.94**	**316**	PKPbc	**PKiKP**	**14 40 53.5**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=78,slow=2.7,SNR=5.6						

*IDC **31** 14:53:41.1±1.5, 35°.28N×53°.32E, h0km, mb3.8/7, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=29.4km s-min=24.1km az=107.0*
*TEH **31** 14:53:41.1, 35°.44N×53°.38E, h8km±16km*
ISC 31 14:53:41.9±0.6, 35°.45N±0°.03×53°.40E±0°.03, h10km, n63, σ1°.98/67, mb3.6/6, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.36**	**260**	Pg	**Pg**	**14 53 48.5**	**-0.6**
IANJ	**Anjilo**	**0.42**	**87**	Pg	**Pg**	**14 53 50.1**	**-0.1**
IANJ				Sg	**Sb**	**14 53 56.8**	**-1.4**
IFIR	**Firoozkooh**	**0.56**	**291**	Pg	**Pg**	**14 53 51.9**	**-0.9**
IALA	**Alasht**	**0.80**	**323**	Pg	**Pg**	**14 53 56.5**	**-0.7**
IKIA	**Kiasar**	**0.80**	**17**	Pg	**Pg**	**14 53 56.7**	**-0.6**
IGLO	**Ghaloghah**	**1.11**	**18**	Pg	**Pg**	**14 54 02.7**	**-0.6**
IDMV	**Damavand**	**1.12**	**277**	Pg	**Pb**	**14 54 02.6**	**-0.9**
IPRN	**Peran**	**1.17**	**313**	Pg	**Pb**	**14 54 03.2**	**-1.1**
IVRN	**Varamin**	**1.44**	**252**	Pg	**Pb**	**14 54 07.6**	**-1.1**
ISFB	**Sefidab**	**1.45**	**221**	Pg	**Pg**	**14 54 08.3**	**-1.3**
ISFB				Sg	**Sg**	**14 54 28.0**	**-0.4**
TEHA	**Amirabad Tehra**	**1.66**	**281**	Pg	**Pb**	**14 54 11.8**	**-0.9**
TEH	**Tehran**	**1.67**	**281**	Pg	**Pb**	**14 54 11.8**	**-0.9**
IHSB	**Hasanabad**	**1.73**	**270**	Pg	**Pb**	**14 54 12.8**	**-1.0**
MZPU	**Pul - Mazandar**	**1.78**	**304**	Pg	**Pb**	**14 54 14.2**	**-0.6**
IQOM	**Qom**	**2.00**	**253**	Pn	**Pb**	**14 54 16.8**	**-1.7**
ANAR	**Anarak**	**2.27**	**173**	Pn	**Pb**	**14 54 21.0**	**-1.9**
IMND	**Minoodasht**	**2.43**	**41**	Pn	**Pb**	**14 54 23.2**	**-2.5**
IKLH	**Kolahrood**	**2.60**	**216**	Pn	**Pb**	**14 54 25.6**	**-3.1**
IZEF	**Zefreh**	**2.69**	**199**	Pn	**Pn**	**14 54 26.8**	**+1.3**
TNSJ	**Nastanj**	**3.03**	**118**	Pn	**Pn**	**14 54 31.7**	**+1.7**
MRVT	**Maraveh tapeh**	**3.10**	**44**	Pn	**Pn**	**14 54 32.3**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.12**	**276**	Pn	**Pn**	**14 54 32.7**	**+1.4**
TAPT	**Tabas- Tapeh t**	**3.13**	**99**	Pn	**Pn**	**14 54 33.1**	**+1.6**
IGAR	**Gharneh**	**3.24**	**201**	Pn	**Pn**	**14 54 34.6**	**+1.7**
ICHK	**Chekchek**	**3.30**	**165**	Pn	**Pn**	**14 54 35.3**	**+1.5**
HAGD	**Aghdareh**	**3.54**	**261**	Pn	**Pn**	**14 54 37.9**	**+0.8**
TKDS	**Koohdasht(Taba**	**3.58**	**120**	Pn	**Pn**	**14 54 39.1**	**+1.6**
TPRV	**Parvadeh(Tabas**	**3.64**	**131**	Pn	**Pn**	**14 54 39.4**	**+1.0**
IRAM	**Ramesheh**	**3.72**	**193**	Pn	**Pn**	**14 54 41.6**	**+2.0**
BDRS	**Dareh Seyedi**	**4.01**	**249**	Pn	**Pn**	**14 54 45.6**	**+2.0**
ISFR	**Sfrayin**	**4.05**	**65**	Pn	**Pn**	**14 54 46.5**	**+2.3**
IMEH	**Mehriz**	**4.17**	**166**	Pn	**Pn**	**14 54 47.3**	**+1.5**
IBAF	**Bafgh**	**4.25**	**154**	Pn	**Pn**	**14 54 48.5**	**+1.7**
IAKL	**Akhelmad**	**4.50**	**74**	Pn	**Pn**	**14 54 52.0**	**+1.7**
IPAY	**Payeh**	**4.65**	**76**	Pn	**Pn**	**14 54 54.5**	**+2.1**
IEMG	**Emamgholi**	**4.67**	**64**	Pn	**Pn**	**14 54 54.9**	**+2.2**
SNQR	**Sonqor, Kerman**	**4.76**	**265**	Pn	**Pn**	**14 54 55.3**	**+1.3**
AFRZ	**Afriz**	**5.06**	**112**	Pn	**Pn**	**14 54 59.8**	**+1.8**
ITEG	**Tejag**	**5.11**	**118**	Pn	**Pn**	**14 55 00.6**	**+1.9**
IKRD	**Kardeh**	**5.13**	**73**	Pn	**Pn**	**14 55 01.1**	**+2.1**
ZRDN	**Zarand Kerman**	**5.18**	**149**	Pn	**Pn**	**14 55 01.4**	**+1.7**
IMYA	**Miami**	**5.52**	**79**	Pn	**Pn**	**14 55 05.9**	**+1.7**
GRMI	**Germi**	**5.53**	**309**	Pn	**Pn**	**14 55 06.1**	**+1.8**
IKOO	**Kooshah**	**5.55**	**121**	Pn	**Pn**	**14 55 06.8**	**+2.0**
JRKH	**Jarkhoshk**	**5.68**	**83**	Pn	**Pn**	**14 55 08.3**	**+1.9**
KHGB	**Koh Gabri**	**5.68**	**152**	Pn	**Pn**	**14 55 08.6**	**+2.0**
IGHG	**Ghaleghazi**	**5.72**	**261**	Pn	**Pn**	**14 55 08.8**	**+1.8**
IDHR	**Dehrash**	**5.80**	**265**	Pn	**Pn**	**14 55 09.9**	**+1.8**
BSRN	**Basiran**	**5.90**	**124**	Pn	**Pn**	**14 55 11.1**	**+1.6**
SHRT	**Shahrakht**	**5.97**	**106**	Pn	**Pn**	**14 55 12.1**	**+1.8**
IDAH	**Dahanechah**	**6.01**	**115**	Pn	**Pn**	**14 55 12.2**	**+1.1**
CHMN	**Cheshme madani**	**6.57**	**147**	Pn	**Pn**	**14 55 20.8**	**+1.9**
AB31	**Akbulak array**	**14.62**	**17**	⇑P	**Pn**	**14 57 07.8**	**-0.8**
	2.4nm,0.8s,baz=197,slow=12,SNR=5.3						
AB31				⇓S	Sn	14 59 39.5	-11
	4.1nm,0.8s,baz=196,slow=26,SNR=4.6						
AKTO	**Aktyubinsk**	**15.35**	**11**	Pn	**Pn**	**14 57 19.3**	**+0.8**
	0.3nm,0.3s,baz=200,slow=13,SNR=5.1						
AKTO				Sn	**Sn**	**15 00 03.9**	**-4.6**
	0.3nm,0.3s,baz=334,slow=22,SNR=5.1						
	1.4nm,0.5s						
AKTO	**Aktyubinsk**	**15.35**	**11**	⇓P	**Pn**	**14 57 19.3**	**+0.8**
	3.9nm,1.0s						
AKTO				⇑S	**Sn**	**15 00 00.5**	**-8.0**
	4.1nm,0.8s						
BELG	**Belogornoye**	**17.43**	**348**	P	**P**	**14 57 46.3**	**+0.1**
	0.8nm,0.3s,baz=198,slow=20,SNR=2.0						
	6.9nm,0.5s						
ARTI	**Arti**	**21.22**	**8**	P	**P**	**14 58 30.3**	**+2.7**
	5.7nm,0.9s,baz=197,slow=6.2,SNR=3.6						
	5.7nm,0.9s						
BVAR	**Borovoye Array**	**21.29**	**29**	P	**P**	**14 58 29.8**	**+1.4**
	2.1nm,0.8s,baz=216,slow=9.2,SNR=9.4						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**23.66**	**42**	P	**P**	**14 58 56.3**	**+3.0**
	0.8nm,0.9s,baz=246,slow=9.0,SNR=5.6						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**24.41**	**53**	P	**P**	**14 59 02.5**	**+2.1**
	0.4nm,0.6s,baz=244,slow=10.0,SNR=4.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**28.65**	**40**	P	**P**	**14 59 40.0**	**+1.5**
	0.6nm,0.4s,baz=241,slow=7.7,SNR=1.9						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.58**	**101**	P	**P**	**15 01 47.4**	**+1.1**
	1.1nm,0.8s,baz=299,slow=8.4,SNR=8.8						
	1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.43**	**258**	P	**P**	**15 02 47.5**	**+0.1**
	4.0nm,0.3s,baz=56,slow=8.8,SNR=1.7						
	4.0nm,0.3s						

*IDC **31** 14:54:44.3±0.9, 2°.58S×138°.31E, h0km, mb3.7/6, mbtmp3.8/9, ML3.6/3, Error ellipse: s-maj=22.9km s-min=16.4km az=1.0*
*DJA **31** 14:54:47.0±0.4, 2°.5±.5°×13°.8E±°, h10km, M3.5/6, mb3.9/1, MLv3.3/6*
ISC 31 14:54:48.8±0.8, 2°.6S±0°.1×138°.39E±0°.06, h32km, n14, σ0°.67/13, mb3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.69**	**28**	P	Pn	14 54 56.9	-5.5
GENI	**Genyem**	**1.78**	**90**	P	**Pn**	**14 55 17.2**	**-0.2**
JAY	**Jayapura**	**2.32**	**88**	Pn	**Pn**	**14 55 26.0**	**+1.2**
	2.8nm,0.3s,baz=230,slow=8.1,SNR=8.9						
JAY				Lg	Lg	14 56 00.1	
	3.2nm,0.3s,baz=24,slow=20,SNR=4.5						
	15nm,0.5s						
JAY	**Jayapura**	**2.32**	**88**	P	**Pn**	**14 55 24.5**	**-0.3**
BAKI	**Biak**	**2.68**	**302**	P	**Pn**	**14 55 29.4**	**-0.3**
FAKI	**Fak Fak**	**6.14**	**267**	P	**Pn**	**14 56 18.3**	**+0.9**
BATI	**Baumata**	**16.46**	**242**	Pn	**Pn**	**14 58 37.0**	**-0.5**
	1.6nm,0.3s,baz=27,slow=6.8,SNR=1.6						
	7.7nm,0.4s						
WRA	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	**14 58 51.9**	**-0.9**
	0.2nm,0.3s,baz=11,slow=12,SNR=11						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**21.38**	**191**	P	**P**	**14 59 33.5**	**-0.3**
	1.0nm,0.6s,baz=13,slow=11,SNR=20						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.11**	**300**	P	**P**	**15 02 54.5**	**-0.1**
	0.2nm,0.3s,baz=98,slow=9.9,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**69.51**	**322**	P	**P**	**15 05 54.6**	**+0.2**
	0.8nm,0.6s,baz=107,slow=8.1,SNR=6.3						
	0.8nm,0.6s						
VNDA	**Vanda**	**75.91**	**175**	P	**P**	**15 06 32.5**	**+0.7**
	0.3nm,0.6s,baz=324,slow=4.9,SNR=2.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**79.04**	**325**	P	**P**	**15 06 50.2**	**+0.4**
	1.2nm,0.7s,baz=124,slow=7.2,SNR=1.8						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**	**15 07 24.8**	**-0.4**
	0.3nm,0.7s,baz=267,slow=5.4,SNR=5.4						
	0.3nm,0.7s						

IDC 31 14:56:19.4±1.4, 2°.53S×138°.30E, h0km, mb3.4/3, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=29.4km s-min=19.3km az=175.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**90**	Pn	Pb	14 57 02.0	-1.7
	5.6nm,0.3s,baz=253,slow=11,SNR=0.9						
JAY				Lg	Lg	14 57 35.4	
	0.8nm,0.3s,baz=168,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**17.73**	**192**	P	Pn	15 00 27.9	0.0
	0.1nm,0.3s,baz=15,slow=12,SNR=1.6						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.43**	**191**	P	P	15 01 09.1	-0.3
	0.5nm,0.4s,baz=19,slow=10,SNR=5.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**69.40**	**323**	P	P	15 07 30.0	+0.6
	0.5nm,0.6s,baz=113,slow=7.7,SNR=3.3						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.84**	**25**	P	P	15 08 59.6	-1.2
	0.2nm,0.8s,baz=245,slow=5.1,SNR=1.5						
	0.2nm,0.8s						

*IDC **31** 14:58:36.8±1.1, 35°.26N×53°.25E, h0km, mb4.1/17, mbtmp4.1/22, ML3.6/5, MS3.6/45, Error ellipse: s-maj=21.8km s-min=14.2km az=176.0*
*TEH **31** 14:58:37.3, 35°.44N×53°.39E, h8km±16km*
*MOS **31** 14:58:37.2±2.2, 35°.17N×53°.29E, h10km, mb4.6/19, Error ellipse: s-maj=6.9km s-min=5.2km az=104.8*
*THR **31** 14:58:38.3±0.0, 35°.41N×53°.42E, h10km±4km, ML4.4*
*NEIC **31** 14:58:39.2±2.3, 35°.5N±0°.1×53°.3E±0°.1, h10km±2km, mb4.3/25, Error ellipse: s-maj=24.7km s-min=16.0km az=179.0*
*NNC **31** 14:58:44.3±4.5, 36°.17N×53°.36E, h0km, mb4.2, Error ellipse: s-maj=74.6km s-min=27.9km az=78.0*
ISC 31 14:58:38.5±0.4, 35°.41N±0°.03×53°.40E±0°.02, h10km, n228, σ2°.23/193, mb4.3/38, MS3.6/44, 12C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.36**	**266**	Pg	**Pg**	**14 58 45.1**	**-0.7**
ILAS				Sg	**Sb**	**14 58 51.4**	**-1.6**
IANJ	**Anjilo**	**0.43**	**82**	Pg	**Pg**	**14 58 46.2**	**-0.8**
IANJ				Sg	**Sg**	**14 58 52.5**	**-0.1**
IFIR	**Firoozkooh**	**0.57**	**294**	Pg	**Pg**	**14 58 48.5**	**-1.3**
IFIR				Sg	**Sb**	**14 58 56.8**	**-2.4**
IALA	**Alasht**	**0.83**	**325**	Pg	**Pg**	**14 58 52.7**	**-1.8**
IKIA	**Kiasar**	**0.83**	**16**	Pg	**Pg**	**14 58 52.6**	**-2.0**
IDMV	**Damavand**	**1.13**	**279**	Pg	**Pg**	**14 58 58.8**	**-1.5**
IGLO	**Ghaloghah**	**1.15**	**18**	Pg	**Pb**	**14 58 59.0**	**-1.6**
DAMV	**Damavand**	**1.19**	**281**	*e*Pg	**Pb**	**14 58 59.7**	**-1.6**
DAMV				IAML		14 59 19.3	
	comp=Z,9μm,1.0s						
IPRN	**Peran**	**1.20**	**314**	Pg	**Pb**	**14 58 59.6**	**-1.9**
ISFB	**Sefidab**	**1.42**	**222**	Pg	**Pg**	**14 59 04.7**	**-1.0**
IVRN	**Varamin**	**1.43**	**254**	Pg	**Pb**	**14 59 04.1**	**-1.1**
TEHA	**Amirabad Tehra**	**1.67**	**282**	Pg	**Pb**	**14 59 08.4**	**-1.1**
TEH	**Tehran**	**1.68**	**282**	Pg	**Pb**	**14 59 08.2**	**-1.3**
IHSB	**Hasanabad**	**1.73**	**272**	Pg	**Pb**	**14 59 09.2**	**-1.3**
MZPU	**Pul - Mazandar**	**1.81**	**305**	Pg	**Pb**	**14 59 10.7**

GRMI Germi 5.56 309 Pn **Pn** **15 00 02.7 +1.3**
GRMI Germi 5.56 309 *e*Pn **Pn** **15 00 02.7 +1.3**
GRMI IAML 15 02 09.3
comp=Z,150nm,1.0s
KHGB Koh Gabri 5.65 152 Pn **Pn** **15 00 04.9 +2.2**
JRKH Jarkhoshk 5.68 83 Pn **Pn** **15 00 05.0 +1.8**
IGHG Ghaleghazi 5.72 261 Pn **Pn** **15 00 04.8 +1.1**
IDHR Dehrash 5.79 265 Pn **Pn** **15 00 05.9 +1.2**
BSRN Basiran 5.88 124 Pn **Pn** **15 00 07.2 +1.3**
BSRN Basiran 5.88 124 *e*Pn **Pn** **15 00 07.9 +2.0**
BSRN IAML 15 02 20.8
comp=Z,200nm,1.0s
SHRT Shahrakht 5.96 105 Pn **Pn** **15 00 08.8 +2.0**
SHRT Shahrakht 5.96 105 *e*Pn **Pn** **15 00 08.8 +2.0**
SHRT IAML 15 02 16.3
comp=Z,260nm,1.0s
IDAH Dahanechah 5.99 115 Pn **Pn** **15 00 08.5 +1.0**
GLG1 Gilan-e-Gharb 6.30 260 Pn **Pn** **15 00 12.5 +0.9**
NGRK Negar Kerman 6.40 153 Pn **Pn** **15 00 15.3 +2.1**
CHMN Cheshme madani 6.54 147 Pn **Pn** **15 00 17.0 +1.8**
AKT Akhty 7.52 325 *e*P **Pn** **15 00 30.5 +2.2**
AKT *e*S **Sn** **15 01 55.3 +1.7**
AKT pmax pmax
comp=Z,26nm,0.6s
AKT smax smax
comp=N,75nm,0.7s
AKT smax smax
comp=E,62nm,0.6s
AKT MLR MLR
comp=Z,410nm,16.0s
GNI Garni 8.33 307 Pn 15 00 46.3 +6.8
GNI Garni 8.33 307 P Pn 15 00 46.3 +6.8
MAK Makhachkala 8.82 331 *e*P **Pn** **15 00 47.9 +1.9**
MAK *e*S **Sn** **15 02 30.2 +4.8**
MAK pmax pmax
comp=Z,46nm,0.4s
MAK MLR MLR
comp=Z,286nm,10.0s
NCK Nalchik 11.07 320⇑*e*P Pn 15 01 22.9 +6.0
NCK pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 11.60 319 Pn Pn 15 01 30.1 +6.1
comp=Z,0.1nm,0.3s,baz=117,slow=16,SNR=4.5
KBZ LR LR 15 07 30.3
comp=Z,53nm,20.6s,baz=118,slow=46
KBZ Khabaz 11.60 319⇓*e*P Pn 15 01 27.3 +3.2
SHA1 Shidzhatmaz 11.73 318⇑*e*P Pn 15 01 30.8 +4.6
KIV Kislovodsk 11.86 319 *e*P Pn 15 01 33.5 +5.7
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,105nm,13.0s
CHGR Chuyangaron 13.01 71 **Pn** **15 01 45.0 +1.6**
CHGR Chuyangaron 13.01 71 P **Pn** **15 01 45.0 +1.6**
SOC Sochi 13.34 312 *e*P **Pn** **15 01 48.5 +0.6**
SOC *e* 15 04 17.0
SOC MLR MLR
comp=Z,104nm,12.0s
RAYN Ar Rayn 13.69 212 **Pn** **15 01 49.3 -3.4**
RAYN Ar Rayn 13.69 212 P **Pn** **15 01 49.3 -3.4**
GAR Garm 13.95 70 **Pn** **15 01 59.0 +2.6**
ASF Jabal al Asfar 14.10 261 Pn **Pn** **15 01 55.8 -2.6**
comp=Z,0.2nm,0.3s,baz=189,slow=13,SNR=2.2
comp=Z,1.5nm,0.6s
AB31 Akbulak array 14.65 17 **Pn** **15 02 02.8 -2.9**
AB31 Akbulak array 14.65 17 P **Pn** **15 02 04.9 -0.9**
comp=Z,4.1nm,0.7s,baz=208,slow=14,SNR=27
AB31 ⇑S Sn 15 04 38.2 -10
comp=Z,3.5nm,0.6s,baz=199,slow=24,SNR=4.6
ABKAR Akbulak array 14.65 17 **Pn** **15 02 02.6 -3.2**
MMAI Mount Meron Ar 15.08 266 Pn **P** **15 02 13.6 -3.4**
comp=Z,0.4nm,0.3s,baz=77,slow=14,SNR=7.3
MMAI LR LR 15 08 11.7
comp=Z,88nm,20.3s,baz=62,slow=38
KK31 Karatay Array 15.31 55 **Pn** **15 02 14.7 +0.1**
KK31 IAmb IAmb 15 02 29.5
comp=Z,7.2nm,0.7s
KK31 Karatay Array 15.31 55⇑P **P** **15 02 18.1 -1.4**
comp=Z,4.3nm,0.6s,baz=254,slow=14,SNR=7.8
KK31 Karatay Array 15.31 55 P **Pn** **15 02 14.7 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 15.31 55 **Pn** **15 02 14.3 -0.4**
KKAR Karatay Array 15.31 55 P **Pn** **15 02 14.3 -0.4**
AKTO Aktyubinsk 15.39 11 Pn **Pn** **15 02 13.3 -2.4**
comp=Z,0.4nm,0.3s,baz=190,slow=15,SNR=5.5
AKTO Sn **Sn** **15 05 01.1 -5.1**
comp=Z,0.2nm,0.3s,baz=40,slow=21,SNR=3.1
AKTO LR LR 15 09 26.1
comp=Z,262nm,19.7s,baz=248,slow=42
comp=Z,2.1nm,0.5s
GHAJ Ghor Haditha 15.45 260 **Pn** **15 02 13.6 -2.9**
GHAJ IAmb IAmb 15 02 28.1
comp=Z,23nm,1.1s
BR131 Keskin Array S 16.24 291 P **Pn** **15 02 26.0 -0.9**
BR131 Keskin Array S 16.24 291⇑*e*P **P** **15 02 30.5 +0.5**
BRTR Keskin Array B 16.24 291 Pn **P** **15 02 28.4 -1.7**
comp=Z,0.1nm,0.3s,baz=117,slow=9.2,SNR=13
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 16.24 291 *e*P **P** **15 02 33.6 +3.6**
EIL Elat 16.57 255 Pn **P** **15 02 33.5 0.0**
comp=Z,0.4nm,0.3s,baz=18,slow=7.3,SNR=8.6
EIL LR LR 15 10 09.8
comp=Z,161nm,18.6s,baz=346,slow=42
BELG Belogornoye 17.47 348 P **P** **15 02 43.9 +0.6**
comp=Z,1.0nm,0.3s,baz=143,slow=5.1,SNR=5.1
BELG S **Sn** **15 05 49.6 -6.9**
comp=Z,12nm,0.8s,baz=187,slow=14,SNR=2.1
comp=Z,64nm,1.2s
AAK Ala-Archa 17.89 60 P **P** **15 02 50.3 +2.1**
comp=Z,0.2nm,0.3s,baz=243,slow=14,SNR=3.7
AAK LR LR 15 10 43.0
comp=Z,245nm,18.1s,baz=268,slow=40
comp=Z,0.9nm,0.5s
AAK Ala-Archa 17.89 60*de*P **P** **15 02 51.9 +3.7**
AAK pmax pmax
comp=Z,8.0nm,2.5s
VRH Novokhopyorsk 17.89 336 *e*P **Pn** **15 02 44.2 -3.1**
VRH *e*S **Sn** **15 06 04.7 -2.0**
VRH pmax pmax
comp=Z,13nm,0.7s
VRH smax smax
comp=N,100nm,1.6s
KSH Kashi 18.37 70 P **P** **15 02 55.8 +2.2**
KSH pmax pmax
comp=Z,13nm,0.9s
VORD Divnogorie 18.59 331 *e*P **Pn** **15 02 58.0 +2.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 18.84 331 *e*P **Pn** **15 02 57.4 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
BOOM Boomskoye usch 18.88 61 P **P** **15 02 56.1 -3.0**
BOOM Boomskoye usch 18.88 61 P **P** **15 02 56.1 -3.0**
BOOM pmax pmax
comp=Z,13nm,1.4s
ELL Elmali 19.03 281 **Pn** **15 03 00.9 -0.6**
ELL Elmali 19.03 281 P **Pn** **15 03 00.9 -0.6**
ELL pmax pmax
comp=Z,62nm,1.2s
KDJ Kajisay 19.69 63 **Pn** **15 03 07.7 -1.7**
KDJ Kajisay 19.69 63 P **Pn** **15 03 07.7 -1.7**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 20.03 334 *e*P **Pn** **15 03 12.4 -0.7**
LPSR *e*S **Sn** **15 07 03.3 +5.0**
LPSR pmax pmax
comp=Z,61nm,0.8s
LPSR smax smax
comp=N,115nm,1.7s
TARG Taragay, Kyrgy 20.07 64 **P** **15 03 11.5 -0.9**
TARG IAmb IAmb 15 03 27.8
comp=Z,14nm,1.4s
TARG Taragay, Kyrgy 20.07 64 P **P** **15 03 11.5 -0.9**
TARG pmax pmax
comp=Z,14nm,1.4s
MANT Manisa 20.07 286 **P** **15 03 08.0 -4.3**
MANT IAmb IAmb 15 03 17.9
comp=Z,14nm,1.1s
ARG Arkhangelos 20.50 280 P **P** **15 03 14.4 -2.3**
ARG Arkhangelos 20.50 280 P **P** **15 03 14.4 -2.3**
ARG pmax pmax
comp=Z,72nm,1.3s
ARTI Arti 21.26 8 **P** **15 03 24.3 -0.4**
ARTI IAmb IAmb 15 03 45.2
comp=Z,21nm,0.8s
ARTI Arti 21.26 8 P **P** **15 03 26.9 +2.2**
comp=Z,18nm,1.1s,baz=196,slow=8.2,SNR=11
ARTI LR LR 15 14 27.6
comp=Z,182nm,18.5s,baz=188,slow=44
comp=Z,18nm,1.1s
ARTI Arti 21.26 8*d i*P **P** **15 03 28.1 +3.4**
ARTI 15 03 46.7
ARTI PPP PPP 15 04 00.1
ARTI S Sn 15 07 29.7 +1.9
ARTI SS **SnSn** **15 07 53.5 +11**
ARTI pmax pmax
comp=Z,41nm,1.4s
BORK Borovoye 21.31 29*de*P **P** **15 03 28.3 +3.1**
BORK pmax pmax
comp=Z,43nm,1.7s
BVA0 Borovoye Array 21.32 29⇑P **P** **15 03 25.6 +0.2**
comp=Z,30nm,1.4s,baz=210,slow=9.6,SNR=5.1
BVAR Borovoye Array 21.32 29 P **P** **15 03 26.4 +1.0**
comp=Z,13nm,0.9s,baz=218,slow=10,SNR=19
BVAR LR LR 15 13 08.1
comp=Z,161nm,21.9s,baz=219,slow=40
comp=Z,13nm,0.9s
KARP Karpathos 21.35 278 **P** **15 03 22.9 -3.1**
SVE Sverdlovsk 21.98 11 *e*P **P** **15 03 36.4 +4.0**
SVE *e*S Sn 15 07 44.3 -0.8
SVE pmax pmax
comp=Z,20nm,1.3s
OBN Obninsk 22.88 335 *e*P P 15 03 48.3 +6.3
OBN *i* S S 15 07 33.7 -18
OBN pmax pmax
comp=Z,18nm,1.1s
OBN MLR MLR
comp=Z,118nm,18.0s
MOS Moscow 23.03 337 *e*P **P** **15 03 45.7 +2.1**
MOS *e* 15 04 13.8
MOS *e*S **S** **15 07 58.8 +4.7**
MOS *e* 15 08 05.3
MOS pmax pmax
comp=Z,33nm,0.8s
MLR Muntele Rosu 23.09 304 **P** **15 03 41.8 -2.7**
MLR Muntele Rosu 23.09 304 P **P** **15 03 41.8 -2.7**
MLR pmax pmax
comp=Z,25nm,1.3s
AKASG Malin Array Be 23.21 319 P **P** **15 03 44.8 -0.6**
comp=Z,3.7nm,0.9s,baz=127,slow=9.0,SNR=9.6
comp=Z,3.7nm,0.9s
AKASG Malin Array Be 23.21 319 *e*P **P** **15 03 48.6 +3.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 23.21 319 P **P** **15 03 44.6 -0.8**
AKBB IAmb IAmb 15 03 56.9
comp=Z,23nm,1.3s
AKBB Malin Array Si 23.21 319*ce*P **P** **15 03 49.1 +3.6**
KIEV Kiev 23.22 319 P **P** **15 03 44.8 -0.7**
KIEV IAmb IAmb 15 03 56.9
comp=Z,20nm,1.3s
IDI Anoyia 23.22 278 **P** **15 03 45.0 -0.8**
KIRV Kirov 23.34 355 P **P** **15 03 47.4 +0.8**
comp=Z,20nm,1.1s,baz=182,slow=11,SNR=8.5
comp=Z,20nm,1.1s
KIRV Kirov 23.34 355⇑*e*P **P** **15 03 49.2 +2.5**
KURBB Kurchatov Arra 23.69 42 P **P** **15 03 51.4 +1.1**
comp=Z,6.7nm,1.2s,baz=247,slow=9.6,SNR=16
comp=Z,6.7nm,1.2s
KURBB Kurchatov Arra 23.69 42⇓P **P** **15 03 52.2 +1.9**
comp=Z,11nm,1.4s
KURK Kurchatov 23.79 42 **P** **15 03 50.2 -1.0**
KURK IAmb IAmb 15 04 09.5
comp=Z,7.9nm,1.1s
KURK Kurchatov 23.79 42⇓P **P** **15 03 53.2 +2.0**
comp=Z,4.2nm,1.1s
KURK Kurchatov 23.79 42*de*P **P** **15 03 54.0 +2.8**
KURK pmax pmax
comp=Z,13nm,1.3s
MAKZ Makanchi 24.23 53 **P** **15 03 56.5 +1.1**
MAKZ IAmb IAmb 15 04 00.4
comp=Z,11nm,1.4s
MAKZ Makanchi 24.23 53 P **P** **15 03 56.5 +1.1**
MAKZ pmax pmax
comp=Z,11nm,1.4s
BURAR Bucovina Array 24.23 309 **P** **15 03 54.8 -0.7**
BUR08 Bucovina Ar. S 24.25 309 **P** **15 03 55.3 -0.4**
BUR08 IAmb IAmb 15 04 16.2
comp=Z,15nm,1.2s
MK31 Makanchi Array 24.43 53 P **P** **15 04 00.4 +3.2**
comp=Z,4.0nm,0.8s,baz=251,slow=8.8,SNR=17
MK31 Makanchi Array 24.43 53⇑*e*P **P** **15 04 01.1 +3.8**
MKAR Makanchi Array 24.43 53 **P** **15 03 57.3 +0.1**
MKAR Makanchi Array 24.43 53 P **P** **15 03 58.7 +1.4**
comp=Z,2.4nm,0.7s,baz=247,slow=9.7,SNR=18
MKAR LR LR 15 15 48.9
comp=Z,82nm,20.0s,baz=247,slow=42
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 24.43 53 *e*P **P** **15 04 01.2 +3.9**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MNK Minsk 26.04 325 *i* P P 15 04 19.4 +7.7
comp=E,20nm,0.8s
MNK *i* P P 15 04 19.4 +7.7
comp=N,17nm,0.8s
MNK *i* P P 15 04 19.4 +7.7
comp=Z,19nm,0.8s,baz=126
MNK *i* PP PnPn 15 05 09.0 +20
MNK *i* S **S** **15 08 47.6 +5.1**
MNK *i* LRM MLR 15 15 16.7
comp=N,36nm,12.6s
MNK *i* LRM MLR 15 15 36.9
comp=Z,54nm,14.9s
MNK *i* LRM MLR 15 16 35.4
comp=E,48nm,12.8s
MNK Minsk 26.04 325 *i* P P 15 04 19.3 +7.6
MNK *i* *SP sP 15 04 50.9 +34
MNK *i* 15 05 09.0
MNK *i* 15 07 48.4
MNK *i* S **S** **15 08 47.5 +5.1**
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,20nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK MLR MLR
comp=N,36nm,13.0s
MNK MLR MLR
comp=Z,54nm,15.0s
MNK MLR MLR
comp=E,48nm,13.0s
NACGM Naroch 26.79 325 *i* P P 15 04 25.7 +7.2
comp=Z,24nm,0.9s,baz=126
KLMR Klimovskoe 26.98 345 *e*P **P** **15 04 20.0 -0.1**
KLMR pmax pmax
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 28.57 49⇑*e*P P 15 04 39.0 +4.3
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ZAA0 Zalesovo Array 28.68 40 P **P** **15 04 36.0 +0.6**
ZALV Zalesovo Beam 28.68 40 **P** **15 04 36.3 +0.8**
ZALV Zalesovo Beam 28.68 40 P **P** **15 04 36.4 +1.0**
comp=Z,1.5nm,0.7s,baz=256,slow=12,SNR=8.7
ZALV LR LR 15 16 27.2
comp=Z,66nm,18.3s,baz=223,slow=37
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 28.68 40 *e*P P 15 04 39.2 +3.8
ZALV pmax pmax
comp=Z,2.0nm,0.6s
FURI Furi 29.62 211 LR LR 15 16 54.5
comp=Z,102nm,20.5s,baz=14,slow=37
FINES FINESS Array B 31.29 335 LR LR 15 19 32.5
comp=Z,75nm,20.5s,baz=139,slow=40
GERES GERESS Array B 31.98 307 P **P** **15 05 03.3 -1.5**
GERES GERESS Array B 31.98 307 P **P** **15 05 04.1 -0.7**
comp=Z,1.7nm,0.8s,baz=124,slow=5.2,SNR=7.8
GERES LR LR 15 22 01.0
comp=Z,52nm,19.1s,baz=80,slow=44
comp=Z,1.7nm,0.8s
GERES GERESS Array B 31.98 307 *e*P **P** **15 05 07.1 +2.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 32.91 312 P **P** **15 05 11.4 -1.4**
CLL Collm 32.91 312 *e*P **P** **15 05 13.0 +0.2**
CLL pmax pmax
comp=Z,12nm,1.4s
CLL Collm 32.91 312 *e*P **P** **15 05 13.0 +0.2**
comp=Z,12nm,1.4s
CLL *ex* x 15 06 31.0
CLL *e*PPPP 15 06 42.0
CLL Lm MLR 15 16 00.0
comp=Z,100nm,21.2s
CLL Lm MLR 15 22 00.0
comp=N,100nm,18.7s
CLL Lm MLR 15 22 00.0
comp=E,100nm,19.6s
HFS Hagfors 35.52 327 P **P** **15 05 35.1 -0.2**
comp=E,3.7nm,0.9s,baz=99,slow=8.9,SNR=4.3
HFS LR LR 15 22 51.1
comp=E,66nm,21.7s,baz=82,slow=41
comp=E,3.7nm,0.9s
BRDH Bariadhala 35.55 100 LR LR 15 23 47.4
comp=E,86nm,18.4s,baz=310,slow=42
LODK Lodwar 35.95 212 **P** **15 05 39.9 +0.5**
LODK IAmb IAmb 15 05 45.5
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 37.02 327 LR LR 15 23 57.1
comp=Z,72nm,19.9s,baz=110,slow=41
ARCES ARCESS Array B 37.45 344 P **P** **15 05 52.0 +0.3**
comp=Z,3.3nm,1.0s,baz=138,slow=7.9,SNR=6.0
ARCES LR LR 15 24 54.6
comp=Z,98nm,18.4s,baz=117,slow=42
comp=Z,3.3nm,1.0s
ARCES ARCESS Array B 37.45 344 *e*P P 15 05 56.8 +5.1
ARCES pmax pmax
comp=Z,3.0nm,1.0s
PALK Pallekele 37.57 132 LR LR 15 22 17.5
comp=Z,84nm,18.1s,baz=328,slow=38
SONM Songino Array 40.76 56 P **P** **15 06 20.1 +0.4**
SONM Songino Array 40.76 56 P **P** **15 06 21.9 +2.1**
comp=Z,0.3nm,0.4s,baz=261,slow=6.9,SNR=5.3
SONM LR LR 15 24 49.7
comp=Z,44nm,18.4s,baz=282,slow=38
comp=Z,0.3nm,0.4s
SONM Songino Array 40.76 56 *e*P P 15 06 24.4 +4.6
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 41.20 55 P **P** **15 06 24.7 +1.2**
ULN IAmb IAmb 15 06 29.5
comp=Z,6.1nm,1.2s
ULN Ulaanbaatar 41.20 55*ce*P P 15 06 28.0 +4.6
ULN pmax pmax
comp=Z,12nm,2.5s
EKA Eskdalemuir Ar 43.06 316 P **P** **15 06 38.0 -0.3**
comp=Z,0.6nm,0.4s,baz=101,slow=7.7,SNR=4.1
comp=Z,0.6nm,0.4s
EKA Eskdalemuir Ar 43.06 316 P **P** **15 06 38.0 -0.3**
CHTO Chiang Mai 43.38 100 **P** **15 06 42.5 +1.1**
CHTO IAmb IAmb 15 06 48.0
comp=Z,5.5nm,1.0s
CHTO Chiang Mai 43.38 100 P **P** **15 06 42.5 +1.1**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 43.57 101 P **P** **15 06 41.8 -1.0**
CMAR Chiang Mai Arr 43.57 101 P **P** **15 06 43.4 +0.5**
comp=Z,2.9nm,0.9s,baz=295,slow=8.0,SNR=18
CMAR LR LR 15 28 28.1
comp=Z,52nm,18.6s,baz=265,slow=41
comp=Z,2.9nm,0.9s
CMAR Chiang Mai Arr 43.57 101 *e*P **P** **15 06 46.5 +3.6**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 45.02 293 P **P** **15 06 55.4 +1.1**
comp=Z,0.7nm,0.9s,baz=88,slow=10,SNR=4.6
ESDC LR LR 15 25 40.6
comp=Z,56nm,19.1s,baz=56,slow=36
comp=Z,0.7nm,0.9s
SPITS Spitsbergen Ar 45.66 350 P **P** **15 07 00.4 +1.5**
comp=Z,3.5nm,0.5s,baz=116,slow=9.8,SNR=10
SPITS LR LR 15 29 42.4
comp=Z,73nm,19.4s,baz=136,slow=41
comp=Z,3.5nm,0.5s
JMIC Jan Mayen 47.85 337 LR LR 15 29 36.1
comp=Z,84nm,18.1s,baz=177,slow=39
TORD Torodi Ar. Bea 51.43 258 P **P** **15 07 41.6 -2.5**
comp=Z,3.8nm,0.3s,baz=45,slow=8.7,SNR=2.4
comp=Z,3.8nm,0.3s
BORG Borgarnes 52.17 328 LR LR 15 30 54.3
comp=Z,57nm,19.3s,baz=94,slow=37
TIXI Tiksi 52.27 23 LR LR 15 33 24.2
comp=Z,107nm,21.4s,baz=266,slow=40
TIXI Tiksi 52.27 23⇓*e*P P 15 07 53.5 +4.0
TIXI pmax pmax
comp=Z,4.0nm,1.3s
YAK Yakutsk 53.13 35 LR LR 15 30 31.3
comp=Z,53nm,21.4s,baz=276,slow=36
PSI Prapat 53.16 117 LR LR 15 31 43.6
comp=Z,46nm,19.3s,baz=308,slow=37
OPO Ambohidratompo 54.00 187 LR LR 15 31 48.6
comp=Z,81nm,18.1s,baz=145,slow=37
LSZ Lusaka 55.79 210 LR LR 15 31 34.3
comp=Z,136nm,19.5s,baz=134,slow=36
SEY Seymchan 62.97 30 LR LR 15 39 33.0
comp=Z,66nm,19.6s,baz=290,slow=39
SEY Seymchan 62.97 30⇓*e*P P 15 09 09.7 +4.8
SEY pmax pmax
comp=Z,5.0nm,1.1s
SFJD Kangerlussuaq 63.09 335 LR LR 15 37 09.4
comp=Z,86nm,18.5s,baz=26,slow=37
MA2 Magadan 63.69 34 LR LR 15 41 59.5
comp=Z,33nm,18.5s,baz=320,slow=41
TSUM Tsumeb 64.06 218 LR LR 15 37 57.8
comp=Z,73nm,18.1s,baz=334,slow=37
BILL Bilibino 65.48 22*ce*P P 15 09 25.2 +3.8
BILL pmax pmax
comp=Z,11nm,1.7s
LBTB Lobatse 65.60 208 LR LR 15 37 41.3
comp=Z,69nm,18.7s,baz=19,slow=36
RES Resolute Bay 68.20 351 LR LR 15 45 37.0
comp=Z,50nm,19.1s,baz=248,slow=41
BOSA Boshof 68.99 206 LR LR 15 42 59.9
comp=Z,65nm,18.3s,baz=24,slow=39
PETK Petropavlovsk- 70.21 38 LR LR 15 45 39.3
comp=Z,36nm,18.6s,baz=264,slow=40
FRB Frobisher Bay 71.07 336 LR LR 15 43 46.4
comp=Z,55nm,18.6s,baz=104,slow=38
INK Inuvik 76.47 3 LR LR 15 49 42.9
comp=Z,23nm,18.1s,baz=74,slow=40
SHEM Shemya Is, Ala 78.22 32 LR LR 15 47 28.9
comp=Z,56nm,20.3s,baz=108,slow=37
ILAR Eielson Array 78.89 9 P **P** **15 10 42.5 +0.9**
comp=Z,0.7nm,0.9s,baz=348,slow=5.7,SNR=6.7
ILAR LR LR 15 51 11.0
comp=Z,44nm,18.4s,baz=354,slow=40
comp=Z,0.7nm,0.9s
ILAR Eielson Array 78.89 9 *e*P **P** **15 10 44.6 +3.0**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 81.96 354 LR LR 15 54 02.8
comp=Z,69nm,18.6s,baz=290,slow=40
KDAK Kodiak Island 84.62 14 LR LR 15 55 15.8
comp=Z,40nm,19.1s,baz=338,slow=40
DLBC Dease Lake 86.47 2 LR LR 15 55 12.6
comp=Z,41nm,20.8s,baz=336,slow=39
SADO Sadowa 89.35 328 LR LR 15 52 28.6
comp=Z,501nm,18.9s,baz=108,slow=36
BBB Bella Bella 92.77 1 LR LR 15 59 00.7
comp=Z,17nm,21.5s,baz=226,slow=39
NEW Newport 96.27 354 LR LR 16 03 09.7
comp=Z,34nm,18.4s,baz=358,slow=40

SJA 31 15:10:53.9±0.4, 54°.07S×71°.78W, h50km±14km, ML3.6, MW3.4, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG02	**Cerro Sombrero**	**2.00**	**51**	*e*P	Pn	15 11 27.1	+1.9
MG02				*e*S	Sn	15 11 51.3	+2.3
USHA	**Ushuaia**	**2.10**	**113**	*e*P	Pn	15 11 28.3	+1.8
USHA				*e*S	Sn	15 11 53.6	+2.3
MG01	**Puerto William**	**2.57**	**111**	*e*P	Pn	15 11 34.9	+2.0
MG01				*e*S	Sn	15 12 06.5	+3.6
MG01				IAML		15 12 22.8	
comp=Z,235nm,0.6s							
GO08	**Villa O'Higgin**	**5.64**	**355**	*e*S	Sn	15 13 19.5	+1.1
GO08				IAML		15 13 38.2	
comp=Z,22nm,3.2s							

*IDC **31** 15:14:55.1±1.4, 7°.79S×109°.34E, h0km, mb3.7/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=94.2km s-min=20.0km az=39.0*
*DJA **31** 15:15:02.9±0.3, 8°S±3°×10°9E±°, h10km, M3.9/14, mb4.2/4, MLv3.8/14*

ISC 31 15:15:04.7±1.0, 8°37S±0°.08×109°.19E±0°.05, h55km, n30, σ1§47/24, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**1.06**	**346**	P	**Pn**	**15 15 24.6**	**+1.2**
YOGI	**Yogyakarta**	**1.23**	**63**	P	**Pn**	**15 15 25.4**	**-0.3**
UGM	**Wanagama**	**1.40**	**71**	P	**Pn**	**15 15 28.1**	**+0.1**
UGM	**Wanagama**	**1.40**	**71**	S	**Sn**	**15 15 44.8**	**-0.7**
UGM	**Wanagama**	**1.40**	**71**	P	**Pn**	**15 15 27.9**	**-0.1**
BBJI	**Bungbulang**	**1.77**	**301**	P	**Pn**	**15 15 34.6**	**+1.6**
BBJI	**Bungbulang**	**1.77**	**301**	S	**Sn**	**15 15 55.9**	**+1.4**
SMRI	**Semarang**	**1.81**	**44**	P	**Pn**	**15 15 34.7**	**+1.1**
SMRI	**Semarang**	**1.81**	**44**	S	**Sn**	**15 15 56.9**	**+1.5**
SMRI	**Semarang**	**1.81**	**44**	P	**Pn**	**15 15 33.9**	**+0.3**
PCJI	**Pacitan**	**1.98**	**85**	P	**Pn**	**15 15 35.9**	**+0.1**
PCJI				S	**Sn**	**15 15 59.2**	**-0.3**
LEM	**Lembang**	**2.19**	**315**	Pn	Pn	15 15 29.8	-9.0
	4.7nm,0.3s,baz=15,slow=12,SNR=6.2						
LEM				Sn	**Sn**	**15 16 01.3**	**-3.5**
	6.5nm,0.3s,baz=62,slow=16,SNR=4.2						
CNJI	**Cibinong**	**2.29**	**297**	P	**Pn**	**15 15 41.2**	**+1.1**
XMI	**Christmas Isla**	**4.02**	**239**	P	**Pn**	**15 16 04.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.92**	**91**	P	**Pn**	**15 16 19.5**	**+3.4**
JAGI	**Jajag, Banyuwa**	**4.92**	**91**	P	**Pn**	**15 16 18.0**	**+1.9**
TWSI	**Taliwang, Sumb**	**7.62**	**93**	P	**Pn**	**15 16 53.3**	**+0.1**
	0.1nm15nm,1.0s						
PLAI	**Plampang**	**8.51**	**94**	P	**Pn**	**15 17 06.8**	**+1.4**
PLAI	**Plampang**	**8.51**	**94**	P	**Pn**	**15 17 06.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.69**	**123**	P	**P**	**15 19 18.4**	**-0.2**
	0.1nm,0.3s,baz=292,slow=5.4,SNR=1.8						
FITZ				S	Sn	15 22 36.9	-11
	3.0nm,1.0s,baz=168,slow=17,SNR=1.9						
	2.5nm,1.0s						
WRA	**Warramunga Arr**	**26.92**	**118**	P	**P**	**15 20 39.5**	**-1.5**
	0.7nm,0.6s,baz=287,slow=9.9,SNR=5.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**28.13**	**126**	P	**P**	**15 20 51.2**	**-0.7**
	0.6nm,0.5s,baz=305,slow=9.4,SNR=14						
	0.6nm,0.5s						
H08S2	**Diego Garcia H**	**36.33**	**268**	T	T	16 00 34.4	
	baz=93,slow=75,SNR=9.0						
H08S3	**Diego Garcia H**	**36.34**	**269**	T	T	16 00 35.4	
	baz=93,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**36.35**	**268**	T	T	16 00 22.7	
	baz=93,slow=75,SNR=10						
STKA	**Stephens Creek**	**38.12**	**132**	P	**P**	**15 22 17.9**	**-0.7**
	1.2nm,0.5s,baz=311,slow=9.3,SNR=5.1						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**59.92**	**339**	P	P	15 24 59.6	-5.5
	0.1nm,0.3s,baz=149,slow=7.5,SNR=2.8						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**61.66**	**222**	T	T	16 32 33.9	
	baz=69,slow=75,SNR=105						
H04N1	**CROZET ISLANDS**	**61.67**	**222**	T	T	16 32 30.7	
	baz=69,slow=75,SNR=99						
H04N3	**CROZET ISLANDS**	**61.68**	**222**	T	T	16 32 29.4	
	baz=69,slow=75,SNR=104						

*IDC **31** 15:35:11.4±1.3, 6°.46S×154°.68E, h0km, mb3.7/7, mbtmp3.8/8, ML2.3/1, MS3.1/3, Error ellipse: s-maj=33.0km s-min=27.3km az=94.0*
*NEIC **31** 15:35:14.6±1.1, 6°.80S±0°.09×154°.47E±0°.08, h10km±1km, mb4.1/9, Error ellipse: s-maj=17.9km s-min=9.3km az=33.0*

ISC 31 15:35:18.9±0.9, 6°.8S±0°.1×154°.4E±0°.1, h48km, n23, σ1§10/21, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.35**	**319**		**Pn**	**15 36 08.5**	**-0.4**
PMG	**Port Moresby**	**7.61**	**249**		**Pn**	**15 37 06.4**	**-0.8**
PMG					**Sn**	**15 38 32.7**	**+0.5**
PMG	**Port Moresby**	**7.61**	**249**	Pn	Pn	15 37 11.4	+4.1
	2.1nm,0.3s,baz=68,slow=11,SNR=9.1						
PMG				Sn	Sn	15 38 41.7	+9.5
	1.8nm,0.3s,baz=76,slow=21,SNR=2.5						
	13nm,0.5s						
COEN	**Coen**	**13.13**	**236**	Pn	**Pn**	**15 38 21.0**	**-1.8**
DZM	**Mont Dzumac**	**19.19**	**144**	LR	LR	15 44 50.9	
	comp=Z,62nm,19.0s,baz=57,slow=30						
GUMO	**Guam**	**22.30**	**335**	LR	LR	15 49 01.8	
	comp=Z,27nm,18.9s,baz=90,slow=38						
WB0	**Warramunga Arr**	**23.32**	**234**	P	**P**	**15 40 23.5**	**+0.6**
WB0				IAmb	IAmb	15 40 46.3	
	comp=Z,7.9nm,1.2s						
WR8	**Warramunga Arr**	**23.33**	**234**	P	**P**	**15 40 23.4**	**+0.4**
WR8				IAmb	IAmb	15 40 36.8	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**23.45**	**234**	P	**P**	**15 40 25.9**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=56,slow=9.0,SNR=5.9						
	comp=Z,1.5nm,0.7s						
INKA	**Innaminka**	**24.55**	**210**	P	**P**	**15 40 34.2**	**-0.1**
INKA				IAmb	IAmb	15 40 42.4	
	comp=Z,5.3nm,1.0s						
ASAR	**Alice Springs**	**25.87**	**227**	P	**P**	**15 40 48.0**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=61,slow=8.8,SNR=8.0						
ASAR				LR	LR	15 49 12.4	
	comp=Z,49nm,19.5s,baz=50,slow=32						
	comp=Z,0.7nm,0.8s						
KNRA	**Kununurra**	**26.61**	**248**	P	**P**	**15 40 53.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.18**	**245**	P	**P**	**15 41 25.3**	**+0.4**
FITZ				IAmb	IAmb	15 42 08.2	
	comp=Z,4.1nm,1.5s						
RTZ	**Ruatahuna**	**37.74**	**151**	P	**P**	**15 42 29.6**	**-0.7**
BKZ	**Black Stump Fm**	**37.94**	**152**	P	**P**	**15 42 30.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**60.11**	**296**	P	**P**	**15 45 22.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=110,slow=6.9,SNR=6.9						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**70.84**	**178**	P	**P**	**15 46 30.3**	**+0.1**
VNDA	**Vanda**	**70.84**	**178**	P	**P**	**15 46 30.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=318,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**82.81**	**319**	P	**P**	**15 47 37.6**	**-0.6**
MKAR	**Makanchi Array**	**82.81**	**319**	P	**P**	**15 47 36.5**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=96,slow=5.4,SNR=6.5						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**15 47 40.0**	**-0.1**
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**15 47 42.5**	**+2.4**
	comp=Z,1.7nm,1.0s,baz=22,slow=0.8,SNR=9.1						
	comp=Z,1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**86.28**	**322**	P	**P**	**15 47 56.1**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=100,slow=5.3,SNR=1.6						
	comp=Z,0.2nm,0.5s						

*TEH **31** 15:43:56.5, 25°.96N×54°.70E, h9km±34km*
*MOS **31** 15:43:57.0±0.9, 26°.06N×54°.76E, h10km, mb5.0/55, Error ellipse: s-maj=5.3km s-min=3.7km az=93.6*
*BJI **31** 15:43:58.0, 26°.10N×54°.80E, h10km, mB5.0/11, mb4.7/56, Ms4.2/18, Ms7 4.0/19*
*THR **31** 15:43:58.5±0.0, 26°.02N×54°.82E, h10km±20km, ML4.8*
*GII **31** 15:43:59.6±0.0, 26°.14N×54°.75E, h10km, confirmed*
*NEIC **31** 15:43:59.2±2.0, 26°.16N±0°.06×54°.73E±0°.06, h10km±1km, mb5.0/179, Error ellipse: s-maj=11.6km s-min=8.3km az=211.0*
*IDC **31** 15:44:00.3±2.3, 26°.04N×54°.77E, h22km±14km, mb4.5/34, mbtmp4.7/38, ML4.2/4, MS3.7/33, Error ellipse: s-maj=12.8km s-min=10.1km az=16.0*
*OMAN **31** 15:44:01.5±0.1, 26°.04N×54°.76E, h21km±1km, mb4.9/14, ml4.8/19, Mwp4.8/11, Error ellipse: s-maj=0.7km s-min=0.5km az=39.0*
*DSN **31** 15:44:01.4±1.6, 26°.10N×54°.75E, h21km±14km, mb5.5/4, ML4.7/18, Error ellipse: s-maj=7.0km s-min=3.4km az=14.0*

ISC 31 15:43:59.2±0.5, 26°.06N±0°.02×54°.74E±0°.02, h15km±3km, h15km:pP-P, n672, σ1§43/673, mb4.9/233, MS3.7/40, 23C-42D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMQ	**Umm Al-Quwin**	**0.99**	**122**	P	**Pn**	**15 44 20.3**	**+1.7**
	SNR=135						
UMQ				P	**Pn**	**15 44 20.3**	**+1.7**
	SNR=135						
UMQ				S	**Sn**	**15 44 34.2**	**+1.9**
	SNR=6.3						
UMQ				S	**Sn**	**15 44 34.2**	**+1.9**
	SNR=6.3						
UMQ	**Umm Al-Quwin**	**0.99**	**122**	*e*P	**Pn**	**15 44 20.3**	**+1.7**
	SNR=134						
SHME	**Shamm**	**1.27**	**90**	P	**Pb**	**15 44 23.0**	**+0.1**
	SNR=928						
SHME				S	**Sg**	**15 44 40.3**	**+0.2**
	SNR=14						
SHME	**Shamm**	**1.27**	**90**	*e*P	**Pb**	**15 44 22.8**	**-0.1**
	SNR=85						
SHME				S	**Sg**	**15 44 40.3**	**+0.2**
NAZ	**Nazwa, Dubai**	**1.35**	**142**	P	**Pg**	**15 44 26.4**	**+1.0**
	SNR=156						
NAZ				P	**Pg**	**15 44 26.4**	**+1.0**
	SNR=156						
NAZ				S	**Sg**	**15 44 43.7**	**+0.7**
NAZ				S	**Sg**	**15 44 43.7**	**+0.7**
NAZ	**Nazwa, Dubai**	**1.35**	**142**	*e*P	**Pg**	**15 44 26.3**	**+1.0**
	SNR=156						
BANOM	**Banah**	**1.42**	**95**	P	**Pb**	**15 44 25.5**	**+0.1**
BANOM				S	**Sg**	**15 44 44.1**	**-0.8**
BANOM	**Banah**	**1.42**	**95**	*e*P	**Pb**	**15 44 25.4**	**0.0**
	SNR=1099						
BANOM				S	**Sg**	**15 44 44.5**	**-0.4**
MASF	**Masafi**	**1.46**	**118**	P	**Pg**	**15 44 26.8**	**-0.4**
	SNR=488						
MASF				P	**Pg**	**15 44 26.8**	**-0.4**
	SNR=488						
MASF				S	**Sg**	**15 44 46.5**	**+0.4**
	SNR=9.7						
MASF				S	**Sg**	**15 44 46.5**	**+0.4**
	SNR=9.7						
MSFE	**Esma-Masafi**	**1.46**	**118**	*e*P	**Pb**	**15 44 26.6**	**+0.4**
	SNR=484						
AJN	**Ajban**	**1.50**	**171**	P	**Pg**	**15 44 28.9**	**+0.7**
	SNR=92						
AJN				P	**Pg**	**15 44 28.9**	**+0.7**
	SNR=92						
AJN				S	**Sg**	**15 44 48.4**	**+0.6**
AJN				S	**Sg**	**15 44 48.4**	**+0.6**
AJN	**Ajban**	**1.50**	**171**	*e*P	**Pg**	**15 44 28.8**	**+0.7**
	SNR=476						
FAQ	**Al Faqa, Dubai**	**1.52**	**149**	P	**Pg**	**15 44 28.4**	**0.0**
	SNR=110						
FAQ				P	**Pg**	**15 44 28.4**	**0.0**
	SNR=110						
FAQ				S	**Sn**	**15 44 45.5**	**+0.1**
FAQ				S	**Sn**	**15 44 45.5**	**+0.1**
FAQ	**Al Faqa, Dubai**	**1.52**	**149**	*e*P	**Pg**	**15 44 28.3**	**-0.2**
	SNR=286						
ASUD	**Al Ashush, Dub**	**1.52**	**159**	P	**Pg**	**15 44 29.1**	**+0.6**
	SNR=380						
ASUD				P	**Pg**	**15 44 29.1**	**+0.6**
	SNR=380						
ASUD				S	**Sb**	**15 44 47.1**	**+0.7**
ASUD				S	**Sb**	**15 44 47.1**	**+0.7**
ASUD	**Al Ashush, Dub**	**1.52**	**159**	*e*P	**Pg**	**15 44 29.0**	**+0.5**
	SNR=380						
MDH	**Madha**	**1.60**	**118**	P	**Pb**	**15 44 28.5**	**0.0**
	SNR=76						
MDH				P	**Pb**	**15 44 28.5**	**0.0**
	SNR=76						
MDH				S	**Sb**	**15 44 49.2**	**+0.6**
MDH				S	**Sb**	**15 44 49.2**	**+0.6**
MDH	**Madha**	**1.60**	**118**	*e*P	**Pb**	**15 44 28.5**	**0.0**
	SNR=76						
LAR1	**LAR**	**1.64**	**349**	Pg	**Pb**	**15 44 29.4**	**+0.2**
UOSS	**Minazif**	**1.73**	**129**		**Pb**	**15 44 29.9**	**-0.8**
UOSS				Sn	**Sn**	**15 44 51.1**	**+0.5**
UOSS	**Minazif**	**1.73**	**129**	P	**Pb**	**15 44 30.4**	**-0.4**
UOSS				S	**Sb**	**15 44 51.6**	**-0.7**
UOSS	**Minazif**	**1.73**	**129**	Pg	**Pb**	**15 44 29.9**	**-0.8**
UOSS	**Minazif**	**1.73**	**129**	*e*P	**Pb**	**15 44 30.2**	**-0.5**
	SNR=214						
ASHO	**Ashiyiah**	**1.82**	**139**	P	**Pb**	**15 44 32.0**	**-0.3**
	SNR=276						
ASHO				P	**Pb**	**15 44 32.0**	**-0.3**
	SNR=276						
ASHO				S	**Sb**	**15 44 55.4**	**+0.5**
ASHO				S	**Sb**	**15 44 55.4**	**+0.5**
ASHO	**Ashiyiah**	**1.82**	**139**	*e*P	**Pb**	**15 44 32.0**	**-0.3**
	SNR=277						
BNDS	**Bandar-Abbas**	**1.85**	**44**	*e*Pn	**Pn**	**15 44 31.7**	**+1.0**
BNDS				IAML		15 45 06.1	
	comp=Z,10μm,1.0s						
GENO	**Geno**	**1.85**	**44**	Pn	**Pb**	**15 44 31.9**	**-1.1**
LMD1	**Lamerd**	**1.90**	**313**	Pn	**Pb**	**15 44 32.5**	**-1.1**
LMD1	**Lamerd**	**1.90**	**313**	*e*Pn	**Pb**	**15 44 34.0**	**+0.3**
LMD1				IAML		15 45 23.1	
	comp=Z,10μm,1.0s						
IBND	**Bandar-abas**	**2.13**	**49**	Pn	**Pb**	**15 44 36.0**	**-1.5**
ALNE	**Al Ain**	**2.19**	**155**	P	**Pb**	**15 44 38.0**	**-0.7**
	SNR=66						
ALNE	**Al Ain**	**2.19**	**155**	*e*P	**Pb**	**15 44 37.5**	**-1.2**
	SNR=139						
MZWR	**Madinat Zayed**	**2.41**	**199**	P	**Pb**	**15 44 40.7**	**-1.7**
SOHO	**SOHO**	**2.52**	**139**	P	**Pn**	**15 44 41.3**	**+1.7**
SOHO				P	**Pn**	**15 44 41.3**	**+1.7**
SOHO	**SOHO**	**2.52**	**139**	*e*P	**Pn**	**15 44 41.1**	**+1.5**
	SNR=312						
JHRM	**Jahrom**	**2.65**	**337**	Pn	**Pn**	**15 44 43.8**	**+2.3**
ARQ	**Araqi**	**3.16**	**149**	P	**Pn**	**15 44 50.2**	**+1.7**
	SNR=463						
MZR	**Muzera**	**3.25**	**201**	P	**Pn**	**15 44 52.3**	**+2.6**
KHNJ	**Kahnooj**	**3.25**	**54**	Pn	**Pn**	**15 44 50.8**	**+1.0**
UMZA	**Um Al Zommool**	**3.35**	**173**	P	**Pn**	**15 44 54.0**	**+2.8**
UMZA				P	**Pn**	**15 44 54.0**	**+2.8**
HOQ	**Hoqain**	**3.40**	**136**	P	**Pn**	**15 44 52.1**	**+0.3**
	SNR=118						
HOQ				S	**Sn**	**15 45 30.1**	**-1.8**
HOQ	**Hoqain**	**3.40**	**136**	Pn	**Pn**	**15 44 51.4**	**-0.4**
SHMA	**Al-Shehemyia**	**3.40**	**267**	P	**Pn**	**15 44 54.2**	**+2.4**
	SNR=35						
TRNA	**Turayna**	**3.45**	**248**	P	**Pn**	**15 44 54.0**	**+1.6**
	SNR=18						
SMRA	**Abu-Samra**	**3.77**	**251**	P	**Pn**	**15 44 59.2**	**+2.3**
SMRA				S	**Sn**	**15 45 43.1**	**+2.1**
SAKB	**Bahrain**	**3.78**	**270**	P	**Pn**	**15 44 59.2**	**+2.2**
DSBU	**Dashti - Bushe**	**3.85**	**307**	Pn	**Pn**	**15 45 00.0**	**+1.9**
NGRK	**Negar Kerman**	**3.99**	**26**	Pn	**Pn**	**15 45 02.4**	**+2.2**
SHI	**Shiraz**	**4.08**	**332**	Pn	**Pn**	**15 45 03.0**	**+1.8**
SMDO	**Samad**	**4.24**	**134**	P	**Pn**	**15 45 05.0**	**+1.5**
	SNR=139						
SMDO				P	**Pn**	**15 45 05.0**	**+1.5**
	SNR=139						
SMDO				S	**Sn**	**15 45 53.8**	**+0.9**
SMDO				S	**Sn**	**15 45 53.8**	**+0.9**
KRBR	**Kerman**	**4.30**	**24**	*e*Pn	**Pn**	**15 45 07.7**	**+3.2**
KRBR				IAML		15 46 05.6	
	comp=Z,2μm,1.0s						
KAZ2	**Kazeron-Fars-I**	**4.47**	**323**	Pn	**Pn**	**15 45 08.3**	**+1.7**
KBAM	**BAM**	**4.50**	**46**	Pn	**Pn**	**15 45 09.2**	**+2.1**
WSAR	**Wadi Sarin**	**4.52**	**128**	P	**Pn**	**15 45 08.5**	**+1.2**
WSAR				S	**Sn**	**15 45 58.8**	**-0.8**
CHMN	**Cheshme madani**	**4.53**	**33**	Pn	**Pn**	**15 45 10.3**	**+2.6**
KHGB	**Koh Gabri**	**4.57**	**19**	Pn	**Pn**	**15 45 10.8**	**+2.7**
JMDO	**Jabal Madar**	**4.79**	**139**	P	**Pn**	**15 45 12.4**	**+1.4**
KRM1	**Kerman Provinc**	**4.96**	**26**	Pn	**Pn**	**15 45 15.9**	**+2.4**
ZRDN	**Zarand Kerman**	**5.14**	**18**	Pn	**Pn**	**15 45 18.2**	**+2.2**
CHBR	**Chabahar**	**5.20**	**94**	Pn	**Pn**	**15 45 17.1**	**+0.5**
CHBR	**Chabahar**	**5.20**	**94**	*e*Pn	**Pn**	**15 45 17.0**	**+0.5**
CHBR				IAML		15 45 18.1	
	comp=Z,580nm,1.0s						
IMEH	**Mehriz**	**5.32**	**359**	Pn	**Pn**	**15 45 20.7**	**+2.4**
IBAF	**Bafgh**	**5.56**	**7**	Pn	**Pn**	**15 45 23.5**	**+1.9**
KLNJ	**Kolanjah**	**5.66**	**331**	Pn	**Pn**	**15 45 25.1**	**+2.0**
KLNJ	**Kolanjah**	**5.66**	**331**	*e*Pn	**Pn**	**15 45 25.0**	**+1.9**
KLNJ				IAML		15 47 24.1	
	comp=Z,390nm,1.0s						
JLN	**Jalan Bani Buh**	**5.78**	**131**	P	**Pn**	**15 45 25.0**	**+0.5**
NGCH	**Negor - Chabah**	**5.82**	**95**	P	**Pn**	**15 45 26.6**	**+1.5**
	SNR=69						
NGCH	**Negor - Chabah**	**5.82**	**95**	Pn	**Pn**	**15 45 26.1**	**+1.1**
MHTO	**MHTO**	**5.85**	**149**	P	**Pn**	**15 45 27.4**	**+1.9**
IRAM	**Ramesheh**	**6.09**	**341**	Pn	**Pn**	**15 45 31.4**	**+2.4**
ICHK	**Chekchek**	**6.17**	**357**	Pn	**Pn**	**15 45 31.7**	**+1.6**
YZKH	**Yazd**	**6.31**	**359**	*e*Pn	**Pn**	**15 45 33.9**	**+2.0**
YZKH				IAML		15 46 55.2	
	comp=Z,250nm,1.0s						
IBRJ	**Brojen**	**6.58**	**333**	Pn	**Pn**	**15 45 38.1**	**+2.3**
DQM	**DQM**	**6.62**	**156**	P	**Pn**	**15 45 37.3**	**+1.2**
IGAR	**Gharneh**	**6.75**	**340**	Pn	**Pn**	**15 45 39.6**	**+1.6**
NASN	**Na'in**	**6.92**	**346**	*e*Pn	**Pn**	**15 45 41.7**	**+1.1**
NASN				IAML		15 47 05.2	
	comp=Z,160nm,1.0s						
ZNGN	**Zangian**	**6.93**	**332**	Pn	**Pn**	**15 45 42.3**	**+1.7**
KBD	**Kabd**	**6.98**	**298**	P	**Pn**	**15 45 42.5**	**+1.5**
SRVN	**Saravan**	**6.98**	**77**	Pn	**Pn**	**15 45 42.7**	**+1.5**
SRVN	**Saravan**	**6.98**	**77**	*e*Pn	**Pn**	**15 45 42.8**	**+1.6**
SRVN				IAML		15 45 47.9	
	comp=Z,220nm,1.0s						
BSRN	**Basiran**	**7.03**	**32**	Pn	**Pn**	**15 45 42.9**	**+1.0**
BSRN	**Basiran**	**7.03**	**32**	*e*Pn	**Pn**	**15 45 43.1**	**+1.3**
BSRN				IAML		15 48 02.4	
	comp=Z,210nm,1.0s						
JHBN	**Jahan bin**	**7.11**	**331**	Pn	**Pn**	**15 45 44.8**	**+1.8**
IZEF	**Zefreh**	**7.13**	**343**	Pn	**Pn**	**15 45 44.4**	**+1.1**
TPRV	**Parvadeh(Tabas**	**7.15**	**13**	Pn	**Pn**	**15 45 45.4**	**+1.9**
ANAR	**Anarak**	**7.16**	**353**	Pn	**Pn**	**15 45 44.3**	**+0.7**
IKOO	**Kooshah**	**7.36**	**29**	Pn	**Pn**	**15 45 48.1**	**+1.6**
IPIR	**Pirpir**	**7.41**	**334**	Pn	**Pn**	**15 45 48.5**	**+1.4**
DOK	**Doka**	**7.42**	**184**	P	**Pn**	**15 45 48.5**	**+1.3**
ITEG	**Tejag**	**7.66**	**26**	Pn	**Pn**	**15 45 52.5**	**+1.9**
IKLH	**Kolahrood**	**7.74**	**340**	Pn	**Pn**	**15 45 53.0**	**+1.3**
TKDS	**Koohdasht(Taba**	**7.81**	**15**	Pn	**Pn**	**15 45 54.2**	**+1.7**
TABS	**Tabas**	**7.84**	**15**	*e*Pn	**Pn**	**15 45 54.8**	**+1.8**
TABS				IAML		15 46 00.2	
	comp=Z,280nm,1.0s						
IDAH	**Dahanechah**	**8.02**	**33**	Pn	**Pn**	**15 45 57.0**	**+1.4**
SHAO	**Shalim**	**8.04**	**174**	P	**Pn**	**15 45 56.1**	**+0.5**
	SNR=70						
SHAO	**Shalim**	**8.04**	**174**	*i* P	**Pn**	**15 45 56.3**	**+0.7**
	SNR=8.9						
TNSJ	**Nastanj**	**8.04**	**11**	Pn	**Pn**	**15 45 57.5**	**+1.8**
WHFO	**Wadi Hawf**	**8.15**	**186**	P	**Pn**	**15 45 58.1**	**+1.0**
QAMS	**Qamsar**	**8.18**	**340**	Pn	**Pn**	**15 45 58.6**	**+0.9**
AFRZ	**Afriz**	**8.23**	**26**	Pn	**Pn**	**15 46 00.9**	**+2.6**
DMTO	**DMTO**	**8.30**	**179**	P	**Pn**	**15 46 00.2**	**+1.0**
RBK	**Rabkut**	**8.53**	**183**	P	**Pn**	**15 46 03.0**	**+0.7**
	SNR=15						
ISFB	**Sefidab**	**8.54**	**346**	Pn	**Pn**	**15 46 03.2**	**+0.7**
RAYN	**Ar Rayn**	**8.76**	**255**		**Pn**	**15 46 04.3**	**-1.2**
RAYN	**Ar Rayn**	**8.76**	**255**	Pn	**Pn**	**15 46 04.6**	**-0.9**
RAYN	**Ar Rayn**	**8.76**	**255**	*i* P	**Pn**	**15 46 04.6**	**-0.9**
	SNR=30						
RAYN	**Ar Rayn**	**8.76**	**255**	P	**Pn**	**15 46 04.3**	**-1.2**
ABTO	**Aybut**	**8.76**	**189**	P	**Pn**	**15 46 06.0**	**+0.4**
	SNR=49						
GHVR	**GHOM**	**8.90**	**341**	*e*Pn	**Pn**	**15 46 09.3**	**+1.8**
SHRT	**Shahrakht**	**8.97**	**31**	Pn	**Pn**	**15 46 10.2**	**+1.9**
TAPT	**Tabas- Tapeh t**	**9.04**	**13**	Pn	**Pn**	**15 46 10.6**	**+1.2**
IVRN	**Varamin**	**9.28**	**345**	Pn	**Pn**	**15 46 13.4**	**+0.8**
IQOM	**Qom**	**9.31**	**341**	Pn	**Pn**	**15 46 14.7**	**+1.5**
BDRS	**Dareh Seyedi**	**9.36**	**329**	Pn	**Pn**	**15 46 14.3**	**+0.3**
ILAS	**Lasjerd**	**9.42**	**351**	Pn	**Pn**	**15 46 16.1**	**+1.4**
IDOB	**Doab**	**9.57**	**325**	Pn	**Pn**	**15 46 18.6**	**+1.8**
IFIR	**Firoozkooh**	**9.70**	**350**	Pn	**Pn**	**15 46 20.1**	**+1.4**
IDMV	**Damavand**	**9.77**	**347**	Pn	**Pn**	**15 46 20.3**	**+0.8**
HAGD	**Aghdareh**	**9.98**	**332**	Pn	**Pn**	**15 46 22.1**	**-0.2**
IALA	**Alasht**	**10.13**	**351**	Pn	**Pn**	**15 46 26.9**	**+2.4**
IPRN	**Peran**	**10.36**	**349**	Pn	**Pn**	**15 46 29.7**	**+2.3**
IGLO	**Ghaloghah**	**10.44**	**356**	Pn	**Pn**	**15 46 30.9**	**+2.3**
HRA	**Herat**	**10.54**	**36**	Pn	**Pn**	**15 46 28.7**	**-1.2**
QABG	**Abgarm-Qazvin**	**10.59**	**337**	Pn	**Pn**	**15 46 31.1**	**+0.4**
SNQR	**Sonqor, Kerman**	**10.70**	**327**	Pn	**Pn**	**15 46 32.4**	**+0.1**
IGHG	**Ghaleghazi**	**10.85**	**321**	Pn	**Pn**	**15 46 35.1**	**+0.8**
JRKH	**Jarkhoshk**	**10.93**	**25**	Pn	**Pn**	**15 46 37.6**	**+2.2**
IPAY	**Payeh**	**10.98**	**18**	Pn	**Pn**	**15 46 38.4**	**+2.4**
IGZV	**Ghazvin**	**11.00**	**341**	Pn	**Pn**	**15 46 37.4**	**+1.1**
IAKL	**Akhelmad**	**11.06**	**17**	Pn	**Pn**	**15 46 39.4**	**+2.2**
GLG1	**Gilan-e-Gharb**	**11.08**	**319**	Pn	**Pn**	**15 46 38.1**	**+0.8**
IDHR	**Dehrash**	**11.23**	**322**	Pn	**Pn**	**15 46 39.4**	**0.0**
IMYA	**Miami**	**11.23**	**23**	Pn	**Pn**	**15 46 42.1**	**+2.6**
ISFR	**Sfrayin**	**11.31**	**13**	Pn	**Pn**	**15 46 42.8**	**+2.2**
JIR1	**Jirandeh**	**11.42**	**340**	Pn	**Pn**	**15 46 43.0**	**+0.9**
IKRD	**Kardeh**	**11.44**	**20**	Pn	**Pn**	**15 46 45.2**	**+2.8**
KGS1	**Ghasr-e-Shirin**	**11.54**	**319**	Pn	**Pn**	**15 46 43.9**	**+0.3**
BJRD	**Bojnurd**	**11.83**	**10**	*e*PnA		15 46 51.8	
IAZR	**Azarshahr**	**13.76**	**329**	Pn	**Pn**	**15 47 13.8**	**-0.3**
IHRS	**Heris**	**13.84**	**334**	Pn	**Pn**	**15 47 17.4**

CHM	**Chimkent**	**20.31**	**33**	*eP*	**P**	**15 48 35.4**	**+0.7**
CHM	**Chimkent**	**20.31**	**33**	*eP*	**P**	**15 48 35.3**	**+0.7**
KIV	**Kislovodsk**	**20.36**	**334**	P	Pn	15 48 36.9	-0.6
KIV	**Kislovodsk**	**20.36**	**334**	P	Pn	15 48 37.4	0.0
KIV	**Kislovodsk**	**20.36**	**334**	P	Pn	15 48 37.3	-0.1
KIV	**Kislovodsk**	**20.36**	**334**	*eP*	**P**	**15 48 36.4**	**+1.1**
KIV				*eS*	Sn	15 52 26.3	-0.3
KIV				pmax	pmax		
	comp=Z,133nm,1.0s						
KIV				MLR	MLR		
	comp=Z,43nm,14.0s						
KIV	**Kislovodsk**	**20.36**	**334**	P	**P**	**15 48 35.2**	**-0.1**
	comp=Z,855nmcomp=Z,127nm,1.1s						
BNN	**Bunyan**	**20.37**	**313**	P	**P**	**15 48 35.4**	**-0.1**
IUG	**Iuzhnay**	**20.39**	**34**	*eP*	**P**	**15 48 36.3**	**+0.5**
	comp=Z,61nm,0.9s						
IUG	**Iuzhnay**	**20.39**	**34**	*eP*	**P**	**15 48 36.2**	**+0.5**
IUG				pmax	pmax		
	comp=Z,61nm,0.9s						
CSS	**Mathiatis**	**20.43**	**301**	P	**P**	**15 48 35.3**	**-0.9**
CSS	**Mathiatis**	**20.43**	**301**	P	**P**	**15 48 35.5**	**-0.6**
	comp=Z,31nm,1.1s						
TOKA	**Tokat**	**20.82**	**318**	P	**P**	**15 48 39.6**	**-0.7**
BRLS	**Borolday**	**20.95**	**32**	*eP*	**P**	**15 48 38.5**	**-3.2**
BRLS	**Borolday**	**20.95**	**32**	*eP*	**P**	**15 48 38.5**	**-3.2**
VSLR	**Vesyoloye**	**21.09**	**329**	⇓*eP*	**P**	**15 48 44.4**	**+1.2**
VSLR				pmax	pmax		
	comp=Z,25nm,0.9s						
GOF	**Gofitskoye**	**21.17**	**337**	*ceP*	**P**	**15 48 48.9**	**+5.0**
SOC	**Sochi**	**21.34**	**329**	*eP*	**P**	**15 48 45.5**	**-0.2**
SOC				*e*PPP	PPP	15 49 13.3	
SOC				*eS*	**S**	**15 52 43.5**	**+1.3**
SOC				*e*SS	**SnSn**	**15 53 05.9**	**+0.9**
SOC				*e*SSS	SSS	15 53 21.1	
SOC				pmax	pmax		
	comp=Z,44nm,0.9s						
SOC				MLR	MLR		
	comp=Z,368nm,17.0s						
KK31	**Karatay Array**	**21.34**	**33**		**P**	**15 48 45.5**	**-0.4**
KK31	**Karatay Array**	**21.34**	**33**	*i* P	**P**	**15 48 45.6**	**-0.2**
KKAR	**Karatay Array**	**21.34**	**33**	P	**P**	**15 48 45.0**	**-0.7**
KKAR	**Karatay Array**	**21.34**	**33**	P	**P**	**15 48 45.1**	**-0.7**
ARSB	**Arslanbob**	**21.44**	**40**		**P**	**15 48 46.5**	**-0.6**
ARSB				IAmb	IAmb	15 48 53.5	
	comp=Z,34nm,0.8s						
ARSB	**Arslanbob**	**21.44**	**40**	P	**P**	**15 48 46.5**	**-0.6**
ARSB				pmax	pmax		
	comp=Z,34nm,0.8s						
DZA	**Taraz**	**21.59**	**35**	*eP*	**P**	**15 48 49.1**	**+0.5**
	comp=Z,23nm,0.7s						
DZA	**Taraz**	**21.59**	**35**	*eP*	**P**	**15 48 49.1**	**+0.5**
DZA				pmax	pmax		
	comp=Z,23nm,0.7s						
LABN	**Labinsk**	**21.72**	**332**	*eP*	**P**	**15 48 52.3**	**+2.4**
LABN				pmax	pmax		
	comp=Z,80nm,0.8s						
KSH	**Kashi**	**22.27**	**48**	P	**P**	**15 48 49.5**	**-6.5**
KSH				sP	pP	15 48 57.3	-2.8
KSH				pmax	pmax		
	comp=Z,28nm,0.8s						
BR104	**Keskin Array S**	**22.27**	**313**	P	**P**	**15 48 55.4**	**-0.6**
	comp=Z,271nmcomp=Z,33nm,0.9s						
BR104				pP	**pP**	**15 48 59.2**	**-0.9**
	comp=Z,271nmcomp=Z,33nm,0.9s						
BR131	**Keskin Array S**	**22.28**	**313**	P	**P**	**15 48 56.4**	**+0.3**
BR131				IAmb	IAmb	15 49 05.1	
	comp=Z,51nm,0.9s						
BR131	**Keskin Array S**	**22.28**	**313**	*d i* P	**P**	**15 48 56.7**	**+0.6**
BRTR	**Keskin Array B**	**22.28**	**313**	P	**P**	**15 48 56.1**	**0.0**
BRTR	**Keskin Array B**	**22.28**	**313**	P	**P**	**15 48 56.7**	**+0.6**
	comp=Z,23nm,0.9s,baz=134,slow=13,SNR=43						
BRTR				PcP	**PcP**	**15 52 51.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=141,slow=3.2,SNR=4.1						
BRTR				ScP	**ScP**	**15 56 28.4**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=115,slow=3.8,SNR=9.5						
BRTR				LR	LR	16 00 16.7	
	comp=Z,186nm,18.3s,baz=120,slow=44						
	comp=Z,23nm,0.9s						
BR105	**Keskin Array S**	**22.29**	**313**	P	**P**	**15 48 55.6**	**-0.6**
	comp=Z,416nmcomp=Z,58nm,1.0s						
BR106	**Keskin Array S**	**22.30**	**313**	P	**P**	**15 48 55.8**	**-0.5**
	comp=Z,283nmcomp=Z,40nm,1.0s						
ERBR	**Yeremizino-Bor**	**22.70**	**333**	*eP*	**P**	**15 49 01.5**	**+1.2**
ERBR				pmax	pmax		
	comp=Z,26nm,0.7s						
EKS2	**Erkin-Say**	**22.75**	**38**	P	**P**	**15 49 02.1**	**+1.0**
	SNR=9.9						
FURI	**Furi**	**22.89**	**225**	LR	LR	15 59 19.1	
	comp=Z,259nm,18.4s,baz=49,slow=40						
UCH	**Uchtor**	**22.89**	**40**	P	**P**	**15 49 08.3**	**+5.4**
	SNR=8.3						
ANTO	**Ankara**	**22.91**	**312**	P	**P**	**15 49 03.0**	**+0.2**
ANTO				IAmb	IAmb	15 49 10.8	
	comp=Z,57nm,0.9s						
ANTO	**Ankara**	**22.91**	**312**	P	**P**	**15 49 04.4**	**+1.7**
ANTO	**Ankara**	**22.91**	**312**	⇓P	**P**	**15 49 02.8**	**+0.1**
ANTO	**Ankara**	**22.91**	**312**	P	**P**	**15 49 03.0**	**+0.2**
ANTO				pmax	pmax		
	comp=Z,57nm,1.0s						
ANTO	**Ankara**	**22.91**	**312**	P	**P**	**15 49 03.3**	**+0.6**
	comp=Z,29nm,1.0s						
AAK	**Ala-Archa**	**23.14**	**39**	P	**P**	**15 49 05.2**	**+0.1**
AAK	**Ala-Archa**	**23.14**	**39**	LR	LR	15 59 58.6	
	comp=Z,240nm,18.4s,baz=248,slow=41						
AAK	**Ala-Archa**	**23.14**	**39**	P	**P**	**15 49 06.5**	**+1.3**
AAK	**Ala-Archa**	**23.14**	**39**	P	**P**	**15 49 06.2**	**+1.1**
	SNR=13						
AAK	**Ala-Archa**	**23.14**	**39**	*i* P	**P**	**15 49 05.9**	**+0.8**
	SNR=8.2						
AAK	**Ala-Archa**	**23.14**	**39**	*de*P	**P**	**15 49 06.1**	**+0.9**
AAK				pmax	pmax		
	comp=Z,11nm,0.9s						
ANN	**Anapa**	**23.33**	**328**	*eP*	**P**	**15 49 08.0**	**+1.2**
ANN				pmax	pmax		
	comp=Z,47nm,1.1s						
AB31	**Akbulak array**	**23.51**	**9**	IAmb	IAmb	15 49 15.7	
	comp=Z,36nm,1.0s						
AB31	**Akbulak array**	**23.51**	**9**	*i* P	**P**	**15 49 08.7**	**+0.1**
ABKAR	**Akbulak array**	**23.51**	**9**	P	**P**	**15 49 08.2**	**-0.4**
USP	**Ospenovka**	**23.55**	**38**	P	**P**	**15 49 10.7**	**+1.6**
	SNR=7.8						
ELL	**Elmali**	**23.66**	**303**		**P**	**15 49 09.4**	**-0.9**
ELL				IAmb	IAmb	15 49 31.9	
	comp=Z,25nm,0.9s						
ELL	**Elmali**	**23.66**	**303**	P	**P**	**15 49 09.4**	**-0.9**
ELL				pmax	pmax		
	comp=Z,25nm,0.9s						
HYB	**Hyderabad**	**23.71**	**106**	*eP*	**P**	**15 49 11.8**	**+1.0**
HYB				IVmB_BB		15 49 12.8	
	comp=Z,286nm,2.3s						
HYB				*e*pP	**pP**	**15 49 14.4**	**-0.8**
HYB				*e*PcP	**PcP**	**15 52 54.7**	**-0.3**
HYB				*eS*	**S**	**15 53 27.9**	**+2.3**
HYB				IVMs_BB	IVMs_BB	15 56 57.7	
	comp=Z,583nm,3.8s						
SGDS	**Sogindy**	**23.74**	**38**	*eP*	**P**	**15 49 11.5**	**+0.5**
ULHL	**Ulahol**	**23.93**	**42**	P	**P**	**15 49 14.4**	**+1.4**
	SNR=7.0						
TKM2	**Tokmak 2**	**23.95**	**40**	P	**P**	**15 49 19.1**	**+5.9**
	SNR=5.5						
MDUB	**Mudurnu**	**24.27**	**312**	IAmb	IAmb	15 49 31.5	
	comp=Z,52nm,0.9s						
AKTO	**Aktyubinsk**	**24.47**	**5**	P	**P**	**15 49 17.8**	**+0.2**
TARG	**Taragay, Kyrgy**	**24.61**	**45**	P	**P**	**15 49 20.6**	**+1.1**
TARG	**Taragay, Kyrgy**	**24.61**	**45**	P	**P**	**15 49 20.6**	**+1.1**
TARG				pmax	pmax		
	comp=Z,18nm,0.9s						
TNSS	**Tian-Shan**	**24.82**	**41**	*eP*	**P**	**15 49 21.4**	**0.0**
TNSS	**Tian-Shan**	**24.82**	**41**	*eP*	**P**	**15 49 21.3**	**0.0**
ARG	**Arkhangelos**	**24.86**	**300**	IAmb	IAmb	15 49 35.7	
	comp=Z,36nm,1.1s						
AAA	**Alma-Ata**	**24.90**	**41**	*eP*	**P**	**15 49 22.2**	**+0.5**
	comp=Z,22nm,1.2s						
AAA	**Alma-Ata**	**24.90**	**41**	*eP*	**P**	**15 49 22.1**	**+0.5**
AAA				pmax	pmax		
	comp=Z,22nm,1.2s						
MDOK	**Medeo**	**24.95**	**41**	*eP*	**P**	**15 49 23.0**	**+0.8**
MDOK	**Medeo**	**24.95**	**41**	*eP*	**P**	**15 49 23.0**	**+0.8**
SIM	**Simferopol'**	**25.12**	**324**	*eP*	**P**	**15 49 24.6**	**+1.1**
SIM				pmax	pmax		
	comp=Z,84nm,0.8s						
SIM				MLR	MLR		
	comp=Z,60nm,16.0s						
MANT	**Manisa**	**25.27**	**306**	IAmb	IAmb	15 49 33.7	
	comp=Z,23nm,1.0s						
KARP	**Karpathos**	**25.43**	**298**	P	**P**	**15 49 27.0**	**+0.5**
KARP	**Karpathos**	**25.43**	**298**	P	**P**	**15 49 26.3**	**-0.3**
	comp=Z,852nmcomp=Z,115nm,0.9s						
SATY	**Saty**	**25.71**	**43**	*eP*	**P**	**15 49 29.5**	**+0.4**
SATY	**Saty**	**25.71**	**43**	*eP*	**P**	**15 49 29.5**	**+0.4**
UZB	**Uzynbulak**	**26.13**	**43**	*eP*	**P**	**15 49 33.4**	**+0.4**
	comp=Z,11nm,0.8s						
UZB	**Uzynbulak**	**26.13**	**43**	*eP*	**P**	**15 49 33.3**	**+0.4**
UZB				pmax	pmax		
	comp=Z,11nm,0.8s						
SHLS	**Shalkode**	**26.41**	**43**	*eP*	**P**	**15 49 38.2**	**+2.8**
	comp=Z,12nm,0.8s						
SHLS	**Shalkode**	**26.41**	**43**	*eP*	**P**	**15 49 38.2**	**+2.8**
SHLS				pmax	pmax		
	comp=Z,12nm,0.8s						
PDGK	**Podgornoye**	**26.52**	**43**	P	**P**	**15 49 36.0**	**-0.4**
TDK	**Taldyqorghan**	**26.83**	**39**	*eP*	**P**	**15 49 39.4**	**+0.3**
	comp=Z,17nm,0.6s						
TDK	**Taldyqorghan**	**26.83**	**39**	*eP*	**P**	**15 49 39.4**	**+0.3**
TDK				pmax	pmax		
	comp=Z,17nm,0.6s						
BELG	**Belogornoye**	**26.84**	**350**	*de*P	**P**	**15 49 41.0**	**+2.0**
BELG				pmax	pmax		
	comp=Z,11nm,0.9s						
VRH	**Novokhopyorsk**	**27.00**	**342**	*eP*	**P**	**15 49 40.5**	**0.0**
VRH				*eS*	**S**	**15 54 12.7**	**-4.7**
VRH				pmax	pmax		
	comp=Z,65nm,0.7s						
VRH				smax	smax		
	comp=N,400nm,3.4s						
IDI	**Anoyia**	**27.18**	**297**	P	**P**	**15 49 43.1**	**+0.7**
IDI				IAmb	IAmb	15 49 49.3	
	comp=Z,27nm,0.9s						
VSR	**Storozhevoye**	**27.79**	**339**	*eP*	**P**	**15 49 43.3**	**-4.3**
VSR				*eS*	**S**	**15 54 33.1**	**+3.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				smax	smax		
	comp=N,40nm,1.1s						
EVN	**Everest**	**28.61**	**79**		**P**	**15 49 56.1**	**+0.2**
LPSR	**Galich'ya Gora**	**29.06**	**340**	*eP*	**P**	**15 49 58.7**	**-0.1**
LPSR				*eS*	**S**	**15 54 56.3**	**+6.5**
LPSR				pmax	pmax		
	comp=Z,46nm,0.7s						
LPSR				smax	smax		
	comp=N,400nm,3.7s						
LODK	**Lodwar**	**29.19**	**223**	P	**P**	**15 50 02.5**	**+2.0**
BORK	**Borovoye**	**29.38**	**19**	*de*P	**P**	**15 50 02.4**	**+0.7**
BORK				pmax	pmax		
	comp=Z,20nm,0.8s						
BVA0	**Borovoye Array**	**29.38**	**19**	*i* P	**P**	**15 50 02.3**	**+0.6**
BVAR	**Borovoye Array**	**29.38**	**19**	P	**P**	**15 50 01.6**	**-0.1**
	comp=Z,25nm,0.8s,baz=202,slow=7.3,SNR=83						
BVAR				PcP	**PcP**	**15 53 07.8**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=129,slow=2.0,SNR=3.8						
BVAR				ScP	**ScP**	**15 56 47.3**	**-1.7**
	comp=Z,2.0nm,1.0s,baz=228,slow=1.8,SNR=4.7						
BVAR				LR	LR	16 03 57.7	
	comp=Z,408nm,18.6s,baz=209,slow=41						
	comp=Z,25nm,0.8s						
SULR		**29.52**	**316**	⇑P	**P**	**15 50 03.7**	**+0.7**
GHRR		**29.54**	**320**	P	**P**	**15 50 03.5**	**+0.3**
VRI	**Vrincioaia**	**29.84**	**319**	⇓P	**P**	**15 50 06.2**	**+0.3**
VRI	**Vrincioaia**	**29.84**	**319**	P	**P**	**15 50 06.1**	**+0.3**
VRI	**Vrincioaia**	**29.84**	**319**	P	**P**	**15 50 05.3**	**-0.6**
	comp=Z,22nm,0.9s						
PLOR5	**Plostina Array**	**29.86**	**319**	P	**P**	**15 50 06.4**	**+0.3**
	comp=Z,29nm,0.8s						
NEHR	**Nehoiu**	**29.87**	**318**	⇑P	**P**	**15 50 07.0**	**+0.8**
PLOR	**Plostina**	**29.87**	**319**	⇑P	**P**	**15 50 07.2**	**+1.0**
PLOR	**Plostina**	**29.87**	**319**	P	**P**	**15 50 07.2**	**+1.0**
MAKZ	**Makanchi**	**29.91**	**39**	P	**P**	**15 50 06.7**	**+0.2**
MAKZ				IAmb	IAmb	15 50 08.2	
	comp=Z,15nm,0.9s						
MAKZ	**Makanchi**	**29.91**	**39**	P	**P**	**15 50 07.2**	**+0.7**
COPA	**Copaceanca**	**29.91**	**315**	⇓P	**P**	**15 50 07.4**	**+0.9**
MK31	**Makanchi Array**	**30.08**	**39**	*c i* P	**P**	**15 50 08.4**	**+0.4**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**30.08**	**39**	P	**P**	**15 50 08.1**	**+0.1**
MKAR	**Makanchi Array**	**30.08**	**39**	P	**P**	**15 50 08.6**	**+0.5**
	comp=Z,7.9nm,0.7s,baz=226,slow=8.5,SNR=69						
MKAR				PcP	**PcP**	**15 53 08.7**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=229,slow=4.3,SNR=3.2						
MKAR				LR	LR	16 04 30.3	
	comp=Z,131nm,20.2s,baz=237,slow=41						
	comp=Z,7.9nm,0.7s						
MLR	**Muntele Rosu**	**30.11**	**318**	P	**P**	**15 50 08.9**	**+0.5**
MLR				IAmb	IAmb	15 50 17.3	
	comp=Z,29nm,1.2s						
MLR	**Muntele Rosu**	**30.11**	**318**	⇑P	**P**	**15 50 09.1**	**+0.6**
MLR	**Muntele Rosu**	**30.11**	**318**	P	**P**	**15 50 09.0**	**+0.5**
MLR	**Muntele Rosu**	**30.11**	**318**	P	**P**	**15 50 07.5**	**-1.0**
	comp=Z,23nm,1.2s						
TESR	**Tescani**	**30.23**	**320**	⇓P	**P**	**15 50 09.7**	**+0.4**
TESR	**Tescani**	**30.23**	**320**	P	**P**	**15 50 08.8**	**-0.5**
	comp=Z,53nm,0.7s						
ONER	**Baraj Valea Uz**	**30.28**	**319**	⇓P	**P**	**15 50 10.7**	**+0.9**
TURR	**Turia**	**30.36**	**319**	⇓P	**P**	**15 50 11.1**	**+0.6**
ARTI	**Arti**	**30.42**	**4**		**P**	**15 50 10.5**	**-0.4**
ARTI				IAmb	IAmb	15 50 16.9	
	comp=Z,17nm,1.2s						
ARTI	**Arti**	**30.42**	**4**	*c i* P	**P**	**15 50 11.8**	**+0.9**
ARTI						15 51 10.4	
ARTI				S	**S**	**15 55 13.9**	**+2.8**
ARTI				SS	**SnSn**	**15 56 47.5**	**+0.9**
ARTI				pmax	pmax		
	comp=Z,20nm,2.6s						
OZUR		**30.52**	**318**	⇓P	**P**	**15 50 12.7**	**+0.8**
KURBB	**Kurchatov Arra**	**30.57**	**30**	P	**P**	**15 50 13.1**	**+0.9**
	comp=Z,11nm,0.8s,baz=230,slow=8.5,SNR=67						
KURBB				PcP	**PcP**	**15 53 10.4**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=214,slow=3.2,SNR=4.0						
KURBB				ScP	**ScP**	**15 56 51.2**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=242,slow=4.0,SNR=3.7						
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**30.57**	**30**	P	**P**	**15 50 11.8**	**-0.4**
KURK	**Kurchatov**	**30.67**	**30**		**P**	**15 50 13.2**	**+0.1**
KURK				IAmb	IAmb	15 50 20.0	
	comp=Z,17nm,0.9s						
KURK	**Kurchatov**	**30.67**	**30**	P	**P**	**15 50 13.8**	**+0.7**
KURK	**Kurchatov**	**30.67**	**30**	P	**P**	**15 50 13.1**	**-0.1**
KURK						15 53 10.4	
KURK						15 56 51.2	
DOPR	**Dopca**	**30.69**	**318**	⇑P	**P**	**15 50 13.7**	**+0.3**
ARR	**Arges**	**30.86**	**316**	⇓P	**P**	**15 50 15.7**	**+0.8**
PALK	**Pallekele**	**30.99**	**122**	LR	LR	16 02 25.4	
	comp=Z,80nm,19.2s,baz=306,slow=36						
SVE	**Sverdlovsk**	**31.04**	**6**	*eP*	**P**	**15 50 17.1**	**+0.8**
SVE				pmax	pmax		
	comp=Z,17nm,1.2s						
SVE				MLR	MLR		
	comp=Z,363nm,13.0s						
TNR	**Turnu Rosu**	**31.21**	**317**	⇑P	**P**	**15 50 18.8**	**+0.7**
TNR	**Turnu Rosu**	**31.21**	**317**	P	**P**	**15 50 18.7**	**+0.7**
SEM	**Semipalatinsk**	**31.22**	**32**	*eP*	**P**	**15 50 18.6**	**+0.2**
	comp=Z,16nm,1.0s						
SEM	**Semipalatinsk**	**31.22**	**32**	*eP*	**P**	**15 50 18.5**	**+0.2**
SEM				pmax	pmax		
	comp=Z,17nm,1.0s						
AK07	**Malin Array Si**	**31.32**	**328**	P	**P**	**15 50 18.6**	**-0.3**
AK09	**Malin Array Si**	**31.33**	**328**	P	**P**	**15 50 18.5**	**-0.4**
AK10	**Malin Array Si**	**31.33**	**328**	P	**P**	**15 50 18.6**	**-0.4**
AK06	**Malin Array Si**	**31.35**	**328**	P	**P**	**15 50 18.6**	**-0.5**
AK08	**Malin Array Si**	**31.36**	**328**	P	**P**	**15 50 18.7**	**-0.5**
MDB	**Medias**	**31.38**	**318**	⇓P	**P**	**15 50 20.4**	**+0.8**
MDB	**Medias**	**31.38**	**318**	P	**P**	**15 50 20.3**	**+0.8**
AKASG	**Malin Array Be**	**31.41**	**328**	P	**P**	**15 50 18.6**	**-1.1**
AKASG	**Malin Array Be**	**31.41**	**328**	P	**P**	**15 50 18.9**	**-0.8**
	comp=Z,9.9nm,0.8s,baz=128,slow=7.2,SNR=20						
AKASG				PcP	**PcP**	**15 53 12.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=100,slow=2.5,SNR=4.6						
AKASG				LR	LR	16 05 50.8	
	comp=Z,83nm,18.9s,baz=132,slow=42						
	comp=Z,9.9nm,0.8s						
AKBB	**Malin Array Si**	**31.41**	**328**	IAmb	IAmb	15 50 25.3	
	comp=Z,30nm,0.9s						
AKBB	**Malin Array Si**	**31.41**	**328**	*de*P	**P**	**15 50 19.2**	**-0.5**
AKBB	**Malin Array Si**	**31.41**	**328**	P	**P**	**15 50 19.1**	**-0.6**
KIEV	**Kiev**	**31.42**	**328**	P	**P**	**15 50 18.8**	**-0.9**
KIEV				IAmb	IAmb	15 50 25.3	
	comp=Z,27nm,0.9s						
KIEV	**Kiev**	**31.42**	**328**	⇑P	**P**	**15 50 19.2**	**-0.5**
KIEV	**Kiev**	**31.42**	**328**	*i* P	**P**	**15 50 19.3**	**-0.5**
	SNR=16						
KIEV	**Kiev**	**31.42**	**328**	P	**P**	**15 50 19.2**	**-0.5**
KIEV	**Kiev**	**31.42**	**328**	P	**P**	**15 50 19.1**	**-0.6**
	comp=Z,118nm,1.1s						
KMPD	**K-Podol'skiy**	**31.48**	**323**	P	**P**	**15 50 18.8**	**-1.5**
AK17	**Malin Array Si**	**31.48**	**328**	P	**P**	**15 50 19.8**	**-0.5**
LUBAR	**Lubar, Ukraine**	**31.62**	**326**	P	**P**	**15 50 20.9**	**-0.7**
BURAR	**Bucovina Array**	**31.65**	**321**	P	**P**	**15 50 21.4**	**-0.6**
BURAR				IAmb	IAmb	15 50 28.6	
	comp=Z,13nm,0.8s						
BURAR	**Bucovina Array**	**31.65**	**321**	⇓P	**P**	**15 50 22.2**	**+0.3**
BURAR	**Bucovina Array**	**31.65**	**321**	P	**P**	**15 50 22.2**	**+0.3**
BUR08	**Bucovina Ar. S**	**31.67**	**321**	IAmb	IAmb	15 50 28.6	
	comp=Z,12nm,0.8s						
OBN	**Obninsk**	**31.94**	**340**	P	**P**	**15 50 24.6**	**+0.4**
OBN	**Obninsk**	**31.94**	**340**	LR	LR	16 05 38.8	
	comp=Z,100nm,19.6s,baz=170,slow=41						
OBN	**Obninsk**	**31.94**	**340**	⇓P	**P**	**15 50 24.0**	**-0.2**
OBN	**Obninsk**	**31.94**	**340**	*d i* P	**P**	**15 50 24.8**	**+0.6**
OBN				*i*		15 50 27.8	
OBN				*i*		15 51 29.4	
OBN				pmax	pmax		
	comp=Z,38nm,0.6s						
OBN				MLR	MLR		
	comp=Z,87nm,16.0s						
OBN	**Obninsk**	**31.94**	**340**	P	**P**	**15 50 23.8**	**-0.4**
	comp=Z,144nm,0.8s						
MI30	**MI30,Zelenitsa**	**31.94**	**328**	P	**P**	**15 50 23.5**	**-0.8**
	comp=Z,41nm,0.9s						
BOVS	**Bovan**	**32.01**	**312**	⇑P	**P**	**15 50 26.3**	**+1.2**
GZR	**Gura Zlata**	**32.03**	**315**	⇓P	**P**	**15 50 25.9**	**+0.6**
GZR	**Gura Zlata**	**32.03**	**315**	P	**P**	**15 50 25.9**	**+0.6**
WMQ	**Urumqi**	**32.03**	**48**	*eP*	**P**	**15 50 27.0**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				LR	LR		
	comp=Z,130nm,24.3s						
HERR	**Herculane**	**32.04**	**314**	⇑P	**P**	**15 50 26.0**	**+0.7**
MOS	**Moscow**	**32.16**	**342**	*eP*	**P**	**15 50 26.0**	**-0.2**
MOS				*e*		15 51 36.2	
MOS				pmax	pmax		
	comp=Z,51nm,0.9s						
MARR	**Marisel-Cluj**	**32.41**	**318**	⇑P	**P**	**15 50 29.3**	**+0.7**
MDVR	**Moldovita**	**32.45**	**314**	⇓P	**P**	**15 50 29.7**	**+0.7**
RAKU	**Rahkiv**	**32.46**	**321**	P	**P**	**15 50 29.3**	**+0.3**
SURR	**Surduc**	**32.60**	**316**	⇑P	**P**	**15 50 30.7**	**+0.5**
STNU	**Starunia**	**32.64**	**322**	P	**P**	**15 50 30.0**	**-0.5**
KIRV	**Kirov**	**32.72**	**355**	*de*P	**P**	**15 50 32.0**	**+0.9**
BZS	**Buzias**	**32.86**	**315**	⇑P	**P**	**15 50 33.0**	**+0.5**
BZS	**Buzias**	**32.86**	**315**	P	**P**	**15 50 33.0**	**+0.5**
SIRR	**Siria**	**33.12**	**316**	⇑P	**P**	**15 50 35.2**	**+0.5**
KORU	**Korolevo**	**33.12**	**320**	P	**P**	**15 50 34.7**	**0.0**
BRIU	**Brid**	**33.28**	**320**	P	**P**	**15 50 36.0**	**-0.1**
RNPP5	**Staryi Chortor**	**33.37**	**327**	P	**P**	**15 50 36.3**	**-0.6**
RNPP5				pP	**pP**	**15 50 39.8**	**-1.5**
SHL	**Shillong**	**33.37**	**83**	P	**P**	**15 50 35.7**	**-1.7**
SHL	**Shillong**	**33.37**	**83**	P	**P**	**15 50 35.7**	**-1.7**
SHL				pmax	pmax		
	comp=Z,15nm,0.4s						
BERU	**Beregovo**	**33.45**	**320**	P	**P**	**15 50 37.4**	**-0.1**
RNPP8	**Varash**	**33.45**	**327**	P	**P**	**15 50 37.1**	**-0.5**
RNPP9	**Sopachiv**	**33.48**	**327**	P	**P**	**15 50 37.5**	**-0.3**
HOLU	**Holmets**	**33.74**	**320**	P	**P**	**15 50 40.3**	**+0.2**
TIP	**Timpagrande**	**34.31**	**302**	P	**P**	**15 50 45.2**	**-0.1**
	comp=Z,12nm,1.6s						
DGZ	**Jazzator, Alta**	**34.53**	**38**	*ceP*	**P**	**15 50 48.1**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,15nm,0.8s						
MNK	**Minsk**	**34.62**	**332**	*i* P	**P**	**15 50 52.0**	**+4.4**
	comp=E,9.0nm,0.8s						
MNK				*i* P	**P**	**15 50 52.0**	**+4.4**
	comp=N,25nm,0.8s						
MNK				*i* P	**P**	**15 50 52.0**	**+4.4**
	comp=Z,36nm,0.7s,baz=134						
MNK				*i* PP	**PP**	**15 52 07.4**	**+1.3**
MNK				*i* PPP	PPP	15 52 19.5	
MNK				*i* S	**S**	**15 56 22.0**	**+5.6**
MNK				*i* SS	**SnSn**	**15 58 34.9**	**+6.4**
MNK				*i* SSS	SSS	15 59 05.8	
MNK				*i* LQ	LQ	16 02 02.8	
MNK				*i* LR	LR	16 04 32.5	
MNK				*i* LRM	MLR	16 06 42.9	
	comp=E,71nm,15.4s						
MNK				*i* LRM	MLR	16 06 56.5	
	comp=Z,77nm,12.2s						
MNK				*i* LRM	MLR	16 07 24.8	
	comp=N,68nm,15.2s						
MNK	**Minsk**	**34.62**	**

comp=Z,33nm,1.1s
SABO M.te Sabotino 38.23 312 IAmb IAmb 15 51 24.9
comp=Z,32nm,0.9s
KSP Ksiaz 38.32 321 *e*P **P** **15 51 19.4 +0.1**
KSP Ksiaz 38.32 321 P **P** **15 51 18.7 -0.6**
comp=Z,19nm,1.0s
CHVC Chvalec 38.35 320 *e*P **P** **15 51 19.9 +0.3**
CHVC Chvalec 38.35 320 *e*P **P** **15 51 19.9 +0.3**
MOA Molln 38.39 315 *i* P **P** **15 51 20.4 +0.5**
comp=Z,20nm,1.0s
MYKA Terra Mystica 38.39 313 *i* P **P** **15 51 21.2 +1.1**
comp=Z,6.6nm,0.5s
KBA Koelnbreinsper 38.73 314 *i* P **P** **15 51 23.6 +0.6**
comp=Z,14nm,0.8s,SNR=15
BIOA Bad Ischl, Aus 38.73 315 *i* P **P** **15 51 23.4 +0.6**
comp=Z,26nm,0.8s
ZVC Zvikov 39.00 318 *e*P **P** **15 51 25.2 +0.2**
GERES GERESS Array B 39.08 317 P **P** **15 51 24.4 -1.4**
GERES GERESS Array B 39.08 317 P **P** **15 51 25.3 -0.6**
comp=Z,1.3nm,0.7s,baz=108,slow=8.8,SNR=7.8
GERES PcP **PcP** **15 53 34.0 -1.6**
comp=Z,1.1nm,0.8s,baz=159,slow=3.0,SNR=3.0
GERES LR LR 16 11 27.2
comp=Z,76nm,18.1s,baz=118,slow=42
comp=Z,1.3nm,0.7s
ABTA Abfaltersbach 39.17 313 *i* P **P** **15 51 27.3 +0.7**
comp=Z,12nm,0.9s,SNR=9.1
KHC Kasperske Hory 39.26 317 *e*P **P** **15 51 27.0 -0.3**
KHC *e*pP **pP** **15 51 31.5 -0.3**
KHC Kasperske Hory 39.26 317 *e*P **P** **15 51 27.0 -0.3**
KHC *e* 15 51 31.5
KHC Kasperske Hory 39.26 317 P **P** **15 51 26.5 -0.8**
comp=Z,29nm,1.1s
LESA Schwarzleotal 39.27 314 *i* P **P** **15 51 27.5 +0.1**
comp=Z,15nm,0.5s,SNR=6.9
TNCH TengChong 39.38 82 P **P** **15 51 30.5 +1.7**
TNCH pP pP 15 51 32.8 -0.5
TNCH sP sP 15 51 35.5 +0.4
TNCH pmax pmax
comp=Z,28nm,1.0s
CTI Castel Tesino 39.55 312 IAmb IAmb 15 51 36.2
comp=Z,22nm,0.9s
BRG Berggiesshubel 39.69 320 *e*P **P** **15 51 30.8 0.0**
BRG Amp 15 51 31.2
comp=Z,5.5nm,1.1s
GTA Gaotai 39.80 59 *e*P **P** **15 51 32.5 +0.5**
GTA PcP **PcP** **15 53 38.3 +0.2**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,110nm,15.3s
GTA LR LR
comp=Z,130nm,14.2s
KEST Kesra 39.83 295 P **P** **15 51 34.0 +1.7**
comp=Z,8.2nm,0.9s,baz=113,slow=22,SNR=6.3
comp=Z,8.2nm,0.9s
HSKC Hora Svate Kat 39.89 319 *e*P **P** **15 51 32.5 0.0**
WTTA Wattenberg 39.89 313 *i* P **P** **15 51 32.9 +0.2**
comp=Z,18nm,0.7s,SNR=16
WTTA *i* S **S** **15 57 33.5 -3.7**
comp=Z,25nm,1.2s
WATA Walderalm 39.95 314 *i* P **P** **15 51 32.8 -0.4**
comp=Z,19nm,0.9s,SNR=13
WATA *i* S **S** **15 57 35.0 -3.1**
comp=Z,14nm,1.4s
SQTA Sankt Quirin 40.16 313 *e*P **P** **15 51 34.5 -0.4**
comp=Z,14nm,0.6s,SNR=13
SQTA *i* S **S** **15 57 36.5 -4.6**
comp=Z,14nm,1.1s
MOTA Moosalm 40.27 313 *i* P **P** **15 51 35.3 -0.5**
comp=Z,24nm,0.9s,SNR=17
MOTA *i* S **S** **15 57 37.4 -5.4**
comp=Z,7.2nm,0.7s
FINES FINESS Array B 40.32 339 P **P** **15 51 35.7 -0.2**
comp=Z,7.3nm,0.7s,baz=136,slow=8.4,SNR=20
FINES PcP **PcP** **15 53 38.4 -0.7**
comp=Z,2.0nm,0.6s,baz=152,slow=2.8,SNR=1.7
comp=Z,7.3nm,0.7s
CLL Collm 40.41 320 *i* P **P** **15 51 36.8 +0.1**
CLL *i* 15 51 41.5
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 40.41 320 P **P** **15 51 36.4 -0.3**
comp=Z,16nm,1.0s
CLL Collm 40.41 320 *i* P **P** **15 51 36.8 +0.1**
comp=Z,7.0nm,1.0s
CLL *i* x x 15 51 41.5
comp=Z,18nm,1.1s
CLL *e*x x 15 52 02.0
CLL Lm MLR 16 11 00.0
comp=Z,100nm,18.4s
FETA Feichten 40.42 313 *e*P **P** **15 51 37.1 0.0**
comp=Z,23nm,1.0s,SNR=16
FETA *i* S **S** **15 57 41.5 -3.6**
comp=Z,15nm,1.2s
RETA Reutte 40.53 314 *i* P **P** **15 51 37.2 -0.7**
comp=Z,9.5nm,0.7s
RETA *i* S **S** **15 57 42.8 -3.7**
comp=Z,20nm,1.3s
KNGR Kungurtug, Tuv 40.77 42 *de*P **P** **15 51 41.3 +1.4**
KNGR pmax pmax
comp=Z,23nm,1.0s
GRA1 Grafenberg Arr 40.90 317 IAmb IAmb 15 51 47.1
comp=Z,31nm,0.8s
GRFO Grafenberg 40.90 317 P **P** **15 51 39.9 -0.9**
GRFO IAmb IAmb 15 51 47.0
comp=Z,29nm,0.8s
GRFO Grafenberg 40.90 317 P **P** **15 51 39.9 -0.9**
GRFO pmax pmax
comp=Z,29nm,0.8s
DAVA Damuels 41.05 313 *i* P **P** **15 51 42.0 -0.3**
comp=Z,36nm,1.0s,SNR=26
DAVA *i* S **S** **15 57 50.8 -3.7**
comp=Z,2.3nm,0.6s
TUE Stuetta 41.20 312 P **P** **15 51 42.9 -0.7**
comp=Z,44nm,1.0s
CHTO Chiang Mai 41.34 91 P **P** **15 51 45.3 +0.4**
CHTO IAmb IAmb 15 51 53.8
comp=Z,35nm,1.5s
CHTO Chiang Mai 41.34 91 P **P** **15 51 45.3 +0.4**
CHTO pmax pmax
comp=Z,35nm,1.5s
CM31 Chiang Mai Arr 41.45 91 P **P** **15 51 46.3 +0.5**
CMAR Chiang Mai Arr 41.45 91 **P** **15 51 45.2 -0.6**
CMAR Chiang Mai Arr 41.45 91 P **P** **15 51 46.4 +0.6**
comp=Z,5.3nm,0.8s,baz=283,slow=9.7,SNR=33
CMAR LR LR 16 11 36.5
comp=Z,21nm,18.6s,baz=280,slow=40
comp=Z,5.3nm,0.8s
CMAR Chiang Mai Arr 41.45 91 *i* P **P** **15 51 47.0 +1.2**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
PZH PanZhiHua 41.96 79 P **P** **15 51 51.5 +1.5**
BFO Black Forest 42.33 314 P **P** **15 51 50.9 -1.7**
BFO Black Forest 42.33 314 P **P** **15 51 50.9 -1.7**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 42.75 309 P **P** **15 51 55.2 -1.0**
BNI IAmb IAmb 15 52 01.9
comp=Z,26nm,1.1s
BNI Bardonecchia 42.75 309 P **P** **15 51 55.2 -1.0**
BNI pmax pmax
comp=Z,26nm,1.2s
LZH Lanzhou 42.85 64 *e*P **P** **15 51 58.8 +1.6**
LZH sP sP 15 52 06.5 +3.0
LZH pmax pmax
comp=Z,20nm,1.2s
ECH Echery 43.06 314 IAmb IAmb 15 52 04.3
comp=Z,26nm,1.0s
CD2 Chengdu 43.09 72 P **P** **15 51 58.3 -0.7**
KMI Kunming 43.11 80 P **P** **15 52 00.5 +1.0**
KMI sP sP 15 52 05.8 0.0
KMI pmax pmax
comp=Z,11nm,0.9s
MOY Mondy 43.19 41 *e*P **P** **15 52 00.6 +1.0**
MOY pmax pmax
comp=Z,26nm,1.5s
APA Apatity 43.53 348⇓ *i*P **P** **15 52 03.3 +1.3**
APA *i* 15 53 47.5
APA *i* 15 53 52.1
APA MLR MLR
comp=Z,1μm,4.7s
WLF Walferdange 44.05 316 IAmb IAmb 15 52 12.5
comp=Z,34nm,0.9s
WLF Walferdange 44.05 316 *d*P **P** **15 52 06.7 +0.3**
comp=Z,26nm,0.9s
HFS Hagfors 44.13 332 P **P** **15 52 06.3 -0.6**
comp=Z,4.9nm,0.8s,baz=128,slow=7.2,SNR=12
comp=Z,4.9nm,0.8s
ZAK Zakamensk 44.20 43 *e*P **P** **15 52 08.0 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.7s
BTNL Ternell 44.29 317 *d*P **P** **15 52 08.2 -0.2**
comp=Z,8.9nm,1.0s
MEM Membach 44.37 317 *d*P **P** **15 52 08.2 -0.8**
comp=Z,11nm,1.0s
TAM Tamanrasset 44.72 277 P **P** **15 52 12.6 +0.2**
TAM Tamanrasset 44.72 277 P **P** **15 52 12.6 +0.2**
TAM pmax pmax
comp=Z,139nm,0.2s
RCHB Rochefort 44.75 316 *d*P **P** **15 52 12.3 +0.4**
comp=Z,11nm,1.0s
BCLA Clavier 44.76 316 *d*P **P** **15 52 12.2 +0.1**
comp=Z,9.7nm,1.1s
BGES Gesves 44.89 316 *d*P **P** **15 52 13.9 +0.8**
comp=Z,17nm,0.9s
BMRD Maredsous 45.07 316 *d*P **P** **15 52 15.0 +0.5**
comp=Z,8.5nm,1.2s
DOU Dourbes 45.13 316 *d*P **P** **15 52 14.9 -0.1**
comp=Z,22nm,1.0s
ABPO Ambohimpanom 45.40 190 P **P** **15 52 18.9 +1.3**
ABPO IAmb IAmb 15 52 20.8
comp=Z,21nm,1.2s
ABPO Ambohimpanom 45.40 190 P **P** **15 52 18.9 +1.3**
ABPO pmax pmax
comp=Z,21nm,1.3s
UCC Uccle 45.44 317 *d*P **P** **15 52 17.6 +0.1**
comp=Z,18nm,1.0s
NC405 NORSAR Array S 45.47 332 P **P** **15 52 17.0 -0.6**
NC405 IAmb IAmb 15 52 22.7
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 45.64 332 P **P** **15 52 18.1 -0.9**
comp=Z,6.7nm,0.8s,baz=122,slow=7.9
NOA NORSAR Array B 45.64 332 P **P** **15 52 18.3 -0.7**
comp=Z,7.4nm,0.9s,baz=120,slow=8.0,SNR=17
NOA LR LR 16 13 35.7
comp=Z,95nm,19.9s,baz=130,slow=39
comp=Z,7.4nm,0.9s
SONM Songino Array 45.67 48 P **P** **15 52 20.4 +0.8**
SONM Songino Array 45.67 48 P **P** **15 52 20.0 +0.4**
comp=Z,8.1nm,0.8s,baz=256,slow=8.7,SNR=40
comp=Z,8.1nm,0.8s
SONM Songino Array 45.67 48 P **P** **15 52 20.4 +0.8**
SONM pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 46.11 48 P **P** **15 52 23.2 +0.1**
ULN Ulaanbaatar 46.11 48 *ce*P **P** **15 52 23.5 +0.4**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 46.76 346 P **P** **15 52 27.2 -0.4**
ARCES ARCESS Array B 46.76 346 P **P** **15 52 27.9 +0.2**
comp=Z,5.5nm,0.9s,baz=140,slow=8.6,SNR=8.8
ARCES PcP **PcP** **15 54 00.4 -0.3**
comp=Z,4.0nm,0.8s,baz=140,slow=4.7,SNR=3.8
comp=Z,5.5nm,0.9s
XAN Xi'an 47.12 67 P **P** **15 52 31.3 +0.3**
XAN pmax pmax
comp=Z,10.0nm,0.8s
BTO Baotou 47.68 58 *e*P **P** **15 52 35.3 -0.1**
BTO pP **pP** **15 52 40.3 +0.3**
BTO S **S** **15 59 30.3 -0.7**
BTO pmax pmax
comp=Z,34nm,1.0s
BTO pmax pmax
comp=Z,92nm,3.9s
BTO LR LR
comp=Z,170nm,6.8s
BTO LR LR
comp=Z,140nm,7.1s
BTO LR LR
comp=Z,220nm,10.0s
ENH Enshi 48.07 72 **P** **15 52 38.6 +0.2**
ENH IAmb IAmb 15 52 47.8
comp=Z,19nm,1.1s
VOI Vohitsoka 48.30 190 P **P** **15 52 41.2 +1.0**
VOI Vohitsoka 48.30 190 P **P** **15 52 42.0 +1.8**
KULM Kulim 48.46 107 IAmb IAmb 15 52 45.7
comp=Z,12nm,0.9s
LSZ Lusaka 48.53 215 P **P** **15 52 42.9 +0.8**
LSZ IAmb IAmb 15 52 45.1
comp=Z,10nm,1.0s
LSZ Lusaka 48.53 215 LR LR 16 14 33.6
comp=Z,77nm,20.0s,baz=336,slow=38
LSZ Lusaka 48.53 215 P **P** **15 52 42.9 +0.8**
LSZ pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 48.85 57 *e*P **P** **15 52 45.5 +1.1**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,63nm,4.0s
IPM Ipoh 49.19 108 IAmb IAmb 15 52 49.7
comp=Z,15nm,0.9s
LYN LuoYang 49.98 66 P **P** **15 52 54.5 +1.5**
LYN pmax pmax
comp=Z,19nm,0.9s
ESDC Sonseca Array 50.32 301 **P** **15 52 54.9 -0.7**
ESDC Sonseca Array 50.32 301 P **P** **15 52 55.2 -0.4**
comp=Z,3.6nm,0.9s,baz=72,slow=7.4,SNR=19
ESDC ScP **ScP** **15 58 09.3 -0.5**
comp=Z,0.8nm,0.9s,baz=77,slow=4.0,SNR=4.9
comp=Z,3.6nm,0.9s
PAB San Pablo 50.62 301 P **P** **15 52 57.5 -0.4**
PAB IAmb IAmb 15 53 04.0
comp=Z,14nm,1.1s
PAB San Pablo 50.62 301 P **P** **15 52 57.5 -0.4**
PAB pmax pmax
comp=Z,14nm,1.1s
EKA Eskdalemuir Ar 50.82 321 P **P** **15 53 00.5 +1.4**
comp=Z,1.4nm,0.6s,baz=103,slow=7.7,SNR=5.2
comp=Z,1.4nm,0.6s
TORD Torodi Ar. Bea 51.27 266 P **P** **15 53 02.7 -0.2**
TORD IAmb IAmb 15 53 09.2
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 51.27 266 P **P** **15 53 02.8 -0.2**
comp=Z,14nm,0.7s,baz=60,slow=8.8,SNR=8.8
comp=Z,14nm,0.7s
MD01 Midelt array s 51.66 292 **P** **15 53 05.4 -0.5**
BOD Bodaibo 52.04 36 *e*P **P** **15 53 07.5 -0.6**
BOD pmax pmax
comp=Z,21nm,1.0s
WHN Wuhan 52.16 70⇓ P **P** **15 53 10.8 +1.4**
WHN pmax pmax
comp=Z,54nm,0.8s
KSANE Kasane 52.22 217 P **P** **15 53 11.9 +1.8**
KSANE IAmb IAmb 15 53 13.4
comp=Z,19nm,1.1s
PBRG Braganca 52.32 304 *e*P **P** **15 53 09.8 -0.7**
BJI Beijing 52.40 58 P **P** **15 53 11.5 +0.4**
BJI pmax pmax
comp=Z,5.0nm,1.1s
MVO Moncorvo 52.57 303 *e*P **P** **15 53 12.9 +0.5**
MVO *i* IAmb IAmb 15 53 13.7
comp=Z,39nm,1.2s
PBAR Barrancos 52.83 299 *e*P **P** **15 53 14.3 0.0**
PBAR *i* IAmb IAmb 15 53 14.9
comp=Z,17nm,1.1s
PMRV Marv??o 52.98 301 *e*P **P** **15 53 15.9 +0.4**
PCBR Castelo Branco 53.01 301 *e*P **P** **15 53 16.9 +1.3**
PCBR *i* IAmb IAmb 15 53 22.7
comp=Z,23nm,1.7s
PVRL Vila Real 53.08 303 *e*P **P** **15 53 17.4 +1.2**
POLO Lamas de Olo 53.13 303 *e*P **P** **15 53 17.7 +1.1**
PVIS Viseu 53.26 303 *e*P **P** **15 53 18.3 +0.8**
TIA Tai'an 53.55 63 P **P** **15 53 20.3 +0.6**
TIA pmax pmax
comp=Z,24nm,0.8s
PSARD Sardoal 53.56 301 *e*P **P** **15 53 20.5 +0.8**
PCVE Castro Verde 53.67 299 *e*P **P** **15 53 21.1 +0.5**
PFVI Vila Bisbo 54.36 298 *e*P **P** **15 53 26.8 +1.2**
PMAFR Mafra 54.49 301 *e*P **P** **15 53 28.0 +1.5**
PMAFR *i* IAmb IAmb 15 53 28.9
comp=Z,112nm,1.4s
PHDHD Phuduhudu 54.53 215 P **P** **15 53 28.6 +1.6**
PHDHD IAmb IAmb 15 53 29.4
comp=Z,27nm,1.4s
HILR Hailar Array B 54.62 46 P **P** **15 53 27.6 +0.3**
comp=Z,6.3nm,0.8s,baz=249,slow=6.2,SNR=6.8
comp=Z,6.3nm,0.8s
DSRI Dabo 54.80 111 P **P** **15 53 27.9 -1.1**
comp=Z,20nm,1.1s
KSI Kapahiang 54.92 115 P **P** **15 53 29.8 -0.1**
SPITS Spitsbergen Ar 55.05 351 P **P** **15 53 30.5 +0.6**
comp=Z,5.1nm,0.8s,baz=130,slow=6.2,SNR=6.2
comp=Z,5.1nm,0.8s
NJ2 Nanjing 55.66 68 *e*P **P** **15 53 36.0 +1.0**
NJ2 pmax pmax
comp=Z,17nm,0.7s
LHSI Lahat 55.78 115 P **P** **15 53 35.4 -0.7**
QNGWA Qangwa 55.82 219 P **P** **15 53 37.5 +1.2**
QNGWA IAmb IAmb 15 53 38.9
comp=Z,18nm,1.1s
LPHEP Lephephe 56.52 212 IAmb IAmb 15 53 44.3
comp=Z,27nm,1.2s
MDSI Maura Dua 56.69 115 P **P** **15 53 40.5 -2.1**
comp=Z,34nm,1.0s
LWLI Liwa 56.90 116 P **P** **15 53 42.8 -1.4**
GRTLG Ghanzi 57.26 218 IAmb IAmb 15 53 49.4
comp=Z,12nm,0.8s
TSUM Tsumeb 57.67 222 P **P** **15 53 50.8 +1.2**
TSUM IAmb IAmb 15 53 51.8
comp=Z,12nm,0.9s
TSUM Tsumeb 57.67 222 LR LR 16 20 35.5
comp=Z,186nm,18.2s,baz=295,slow=38
KGCAE Kacgae 57.94 216 IAmb IAmb 15 53 53.5
comp=Z,23nm,1.0s
LBTB Lobatse 58.05 211 LR LR 16 18 33.9
comp=Z,57nm,18.4s,baz=32,slow=36
CN2 Changchun 58.91 53 P **P** **15 53 57.0 -0.8**
CN2 pP pP 15 54 01.5 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 59.20 41 *e*P **P** **15 54 00.4 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
HEH HeiHe 59.54 45 *e*P **P** **15 54 01.5 -0.6**
HEH pmax pmax
comp=Z,13nm,0.8s
DBIC Dimbokro 59.82 262 P **P** **15 54 04.5 0.0**
DBIC Dimbokro 59.82 262 P **P** **15 54 04.8 +0.2**
comp=Z,16nm,0.8s,baz=92,slow=6.7,SNR=19
comp=Z,16nm,0.8s
BNX BinXian 60.03 51⇓ P **P** **15 54 05.5 0.0**
BNX pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 60.30 32 LR LR 16 22 48.1
comp=Z,78nm,18.6s,baz=263,slow=39
YAK Yakutsk 60.30 32 *e*P **P** **15 54 04.2 -2.9**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
TIXI Tiksi 60.51 20 P **P** **15 54 07.5 -0.8**
TIXI IAmb IAmb 15 54 53.2
comp=Z,7.6nm,0.8s
TIXI Tiksi 60.51 20 LR LR 16 22 35.0
comp=Z,52nm,20.0s,baz=185,slow=38
TIXI Tiksi 60.51 20 P **P** **15 54 07.7 -0.6**
BORG Borgarnes 60.82 332 LR LR 16 24 21.1
comp=Z,64nm,18.7s,baz=109,slow=40
DAG Danmarks Havn 61.03 345 *i* P **P** **15 54 11.9 +0.1**
DAG IAmb IAmb 15 54 17.2
comp=Z,5.7nm,1.0s
DBG Daneborg 61.06 343 *i* P **P** **15 54 13.4 +1.4**
DBG IAmb IAmb 15 54 15.4
comp=Z,3.5nm,0.8s
BOSA Boshof 61.29 210 P **P** **15 54 15.2 +0.8**
BOSA IAmb IAmb 15 54 16.2
comp=Z,12nm,0.8s
BOSA Boshof 61.29 210 P **P** **15 54 14.7 +0.4**
comp=Z,10nm,0.8s,baz=28,slow=9.4,SNR=3.7
BOSA LR LR 16 22 44.2
comp=Z,67nm,19.1s,baz=21,slow=38
comp=Z,10nm,0.8s
BOSA Boshof 61.29 210 P **P** **15 54 15.2 +0.8**
BOSA pmax pmax
comp=Z,12nm,0.9s
NOR Nord 61.69 351 *i* P **P** **15 54 16.3 +0.1**
NOR IAmb IAmb 15 54 21.7
comp=Z,9.9nm,1.2s
KSAR Wonju Array Be 61.84 60 **P** **15 54 17.3 -0.6**
KSAR Wonju Array Be 61.84 60 P **P** **15 54 17.3 -0.6**
KSRS Korea Array 61.86 60 P **P** **15 54 17.7 -0.4**
comp=Z,7.0nm,0.8s,baz=275,slow=7.2,SNR=17
KSRS LR LR 16 24 18.2
comp=Z,23μm,19.0s,baz=195,slow=39
comp=Z,7.0nm,0.8s
SUMG Summit 66.33 341 P **P** **15 54 47.3 0.0**
SUMG Summit 66.33 341 P **P** **15 54 47.3 0.0**
SUMG pmax pmax
comp=Z,31nm,1.1s
SUMG Summit 66.33 341 *i* P **P** **15 54 48.2 +0.9**
SUMG IAmb IAmb 15 54 53.8
comp=Z,25nm,1.0s
NEEM North Greenlan 68.12 347 *i* P **P** **15 54 59.1 +0.6**
NEEM IAmb IAmb 15 55 04.4
comp=Z,27nm,1.0s
INU Inuyama 69.49 60 P **P** **15 55 06.3 -1.1**
INU IAmb IAmb 15 55 07.8
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 70.04 58 P **P** **15 55 10.6 -0.2**
MJAR Matsushiro Arr 70.04 58 P **P** **15 55 10.0 -0.8**
comp=Z,2.8nm,0.9s,baz=290,slow=7.8,SNR=6.0
comp=Z,2.8nm,0.9s
MJAR Matsushiro Arr 70.04 58 P **P** **15 55 10.6 -0.2**
MJAR pmax pmax
comp=Z,5.0nm,1.0s
KAPI Kappang 70.09 106 P **P** **15 55 10.7 -0.6**
KAPI Kappang 70.09 106 P **P** **15 55 10.1 -1.2**
comp=Z,15nm,0.8s,baz=271,slow=7.2,SNR=4.3
comp=Z,15nm,0.8s
KAPI Kappang 70.09 106 P **P** **15 55 10.7 -0.6**
KAPI pmax pmax
comp=Z,36nm,1.2s
YSS Yuzhno-Sakhali 70.15 47 P **P** **15 55 10.3 -0.9**
YSS Yuzhno-Sakhali 70.15 47 *e*P **P** **15 55 10.2 -1.0**
YSS *e* 15 55 32.5
YSS *e*S **S** **16 04 22.0 0.0**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,100nm,3.3s
YSS MLR MLR
comp=Z,200nm,19.0s
YSS MLR MLR
comp=N,200nm,13.0s
YSS MLR MLR
comp=E,200nm,13.0s
SEY Seymchan 70.50 29 LR LR 16 30 37.1
comp=E,132nm,18.6s,baz=288,slow=40
SEY Seymchan 70.50 29⇓ *e*P **P** **15 55 12.8 -0.3**
SEY pmax pmax
comp=Z,4.0nm,0.7s
DY2G Dye2 70.66 335 *i* P **P** **15 55 14.6 +0.3**
DY2G IAmb IAmb 15 55 20.5
comp=Z,33nm,0.9s
MA2 Magadan 70.86 32 LR LR 16 26 45.8
comp=Z,25nm,19.7s,baz=248,slow=36
SFJD Kangerlussuaq 72.06 337 LR LR 16 29 13.0
comp=Z,35nm,19.6s,baz=64,slow=38
EDFI Ende, Flores 73.62 109 P **P** **15 55 29.1 -3.6**
comp=Z,9.4nm,0.8s
BILL Bilibino 73.70 21 P **P** **15 55 32.5 +0.3**
BILL IAmb IAmb 15 55 38.5
comp=Z,9.9nm,1.0s
BILL Bilibino 73.70 21⇓ *e*P **P** **15 55 32.5 +0.3**
BILL pmax pmax
comp=Z,10.0nm,0.9s
TNTI Ternate 74.08 97 **P** **15 55 34.2 -1.1**
TNTI IAmb IAmb 15 55 42.2
comp=Z,20nm,0.9s
TNTI Ternate 74.08 97 P **P** **15 55 34.2 -1.1**
comp=Z,26nm,0.9s
SANI Sanana 74.13 100 P **P** **15 55 33.6 -2.0**
comp=Z,22nm,1.0s
BATI Baumata 76.03 109 P **P** **15 55 45.8 -0.8**
comp=Z,26nm,0.8s,baz=297,slow=3.3,SNR=4.8
comp=Z,26nm,0.8s
SOEI Soe 76.32 108 P **P** **15 55 46.6 -1.7**
SOEI Soe 76.32 108 P **P** **15 55 46.7 -1.6**
SWI Sorong 78.28 97 P **P** **15 55 57.1 -2.1**
comp=Z,14nm,1.1s
PSA00 Pilbara Seismi 78.89 121 P **P** **15 56 01.2 -1.1**
PSA00 IAmb IAmb 15 56 02.8

comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 81.66 115 P 15 56 16.9 -0.5
FITZ Fitzroy Crossi 81.66 115 P P 15 56 17.0 -0.3
comp=Z,21nm,0.8s,baz=287,slow=3.5,SNR=30
comp=Z,21nm,0.8s
KNRA Kununurra 83.04 111 P **P 15 56 23.6 -1.0**
F15K North Star Dit 83.68 15 IAmb IAmb 15 56 33.4
comp=Z,14nm,0.9s
F19K Shaleruckik Mo 84.20 12 IAmb IAmb 15 56 30.0
comp=Z,9.1nm,0.9s
F20K Avaraart Lake 84.39 12 IAmb IAmb 15 56 36.4
comp=Z,13nm,1.1s
E23K Chandalar 84.44 9 IAmb IAmb 15 56 38.1
comp=Z,13nm,1.0s
G16K Koyuk River 84.47 15 IAmb IAmb 15 56 32.5
comp=Z,12nm,0.9s
E24K Your Creek 84.58 9 IAmb IAmb 15 56 38.3
comp=Z,15nm,1.0s
F21K Alatna River 84.62 11 IAmb IAmb 15 56 34.3
comp=Z,8.9nm,0.9s
G18K Tagagawik 84.84 13 IAmb IAmb 15 56 39.3
comp=Z,17nm,1.3s
COLD Coldfoot 85.13 9 **P 15 56 34.6 +0.1**
COLD IAmb IAmb 15 56 41.3
comp=Z,11nm,1.0s
F24K Squaw Lake 85.18 9 IAmb IAmb 15 58 13.5
comp=Z,18nm,1.4s
G21K Allakaket 85.26 11 IAmb IAmb 15 56 35.8
comp=Z,11nm,0.9s
F25K Christian Rive 85.40 8 IAmb IAmb 15 56 44.1
comp=Z,13nm,1.0s
H17K Granite Mounta 85.41 14 IAmb IAmb 15 56 41.7
comp=Z,12nm,0.8s
F26K Sheenjek River 85.47 7 IAmb IAmb 15 56 42.8
comp=Z,17nm,1.3s
SHEM Shemya Is, Ala 85.49 32 LR LR 16 35 49.7
comp=Z,21nm,20.0s,baz=290,slow=36
H18K Honhosa River 85.55 13 IAmb IAmb 15 56 38.0
comp=Z,16nm,1.1s
H19K Roundabout Mou 85.61 12 IAmb IAmb 15 56 43.5
comp=Z,12nm,1.1s
G23K Bananza Creek 85.64 10 IAmb IAmb 15 56 43.5
comp=Z,12nm,1.0s
BMAR Burnt Mountain 85.68 7 **P 15 56 37.1 -0.1**
IMAR Indian Mountai 85.70 11 P **P 15 56 37.0 -0.3**
INK Inuvik 85.72 3 IAmb IAmb 15 56 38.2
comp=Z,11nm,1.1s
INK Inuvik 85.72 3 **P P 15 56 37.2 -0.1**
comp=Z,3.7nm,0.9s,baz=6.0,slow=8.2,SNR=3.2
comp=Z,3.7nm,0.9s
H21K Melozitna Rive 86.16 11 IAmb IAmb 15 56 41.0
comp=Z,15nm,0.9s
G26K Porcupine Rive 86.23 7 IAmb IAmb 15 56 46.4
comp=Z,11nm,1.0s
H23K Yukon River 86.53 10 IAmb IAmb 15 56 43.3
comp=Z,15nm,0.9s
G27K Doyon Strip 86.59 6 IAmb IAmb 15 56 48.3
comp=Z,11nm,0.8s
I21K Tanana 86.74 11 IAmb IAmb 15 56 43.8
comp=Z,12nm,0.9s
H24K Noodor Dome 86.77 9 IAmb IAmb 15 56 50.3
comp=Z,12nm,1.3s
G30M tAoh Zraii Nji 86.88 4 **P 15 56 42.7 -0.5**
J19K Poorman 87.14 13 IAmb IAmb 15 56 50.7
comp=Z,15nm,1.0s
I26K Coal Creek Min 87.89 7 IAmb IAmb 15 56 53.9
comp=Z,5.6nm,0.9s
ILAR Eielson Array 87.92 9 P **P 15 56 46.8 -1.3**
ILAR Eielson Array 87.92 9 P **P 15 56 47.2 -1.0**
comp=Z,1.3nm,0.8s,baz=319,slow=4.2,SNR=17
ILAR PP **PP 16 00 14.3 +0.8**
comp=Z,0.8nm,0.9s,baz=345,slow=6.7,SNR=5.0
ILAR PKKPbc **PKKPbc 16 14 33.0 -2.4**
comp=Z,0.4nm,0.7s,baz=180,slow=4.1,SNR=4.1
comp=Z,1.3nm,0.8s
H31M Peel River 88.17 4 P **P 15 56 49.4 0.0**
HDA Harding Lake 88.25 9 IAmb IAmb 15 56 57.7
comp=Z,21nm,1.8s
J25K Salcha River, 88.28 9 IAmb IAmb 15 56 50.6
comp=Z,7.4nm,1.0s
MCK McKinley 88.59 10 IAmb IAmb 15 56 58.4
comp=Z,8.6nm,1.1s
I30M Mount Dempster 88.61 5 IAmb IAmb 15 56 57.1
comp=Z,6.4nm,0.8s
J26L Joseph Creek 88.61 8 IAmb IAmb 15 56 52.7
comp=Z,9.7nm,0.9s
SCRK Sand Creek 89.07 8 IAmb IAmb 15 56 60.0
comp=Z,5.6nm,0.9s
K27K Chicken 89.25 7 IAmb IAmb 15 56 55.8
comp=Z,9.9nm,0.9s
DAWY Dawson 89.50 6 IAmb IAmb 15 57 01.5
comp=Z,8.2nm,1.1s
WRA Warramunga Arr 89.74 112 **P 15 56 56.1 -1.4**
WRA Warramunga Arr 89.74 112 P **P 15 56 56.5 -1.0**
comp=Z,3.1nm,0.8s,baz=311,slow=4.2,SNR=21
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 89.74 112 *i* P **P 15 56 56.5 -1.0**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 89.74 112⇑ *e*P **P 15 56 57.5 0.0**
WRAB pmax pmax
comp=Z,22nm,2.3s
K29M Barlow Dome 89.88 5 IAmb IAmb 15 56 58.5
comp=Z,4.9nm,0.8s
FORT Forrest 90.02 124 P **P 15 56 57.6 -0.9**
L29M L29M 90.55 6 IAmb IAmb 15 57 06.2
comp=Z,7.7nm,1.1s
ASAR Alice Springs 91.11 116 **P 15 57 02.6 -1.2**
ASAR Alice Springs 91.11 116 P **P 15 57 03.0 -0.8**
comp=Z,6.0nm,0.8s,baz=301,slow=4.7,SNR=51
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 91.35 355 P **P 15 57 03.2 -1.0**
YKA Yellowknife Ar 91.35 355 P **P 15 57 03.7 -0.5**
comp=Z,1.7nm,0.9s,baz=356,slow=4.8,SNR=5.5
comp=Z,1.7nm,0.9s
YKA Yellowknife Ar 91.35 355 *i* P **P 15 57 04.5 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.9s
HYT Haines Junctio 92.86 6 IAmb IAmb 15 57 12.9
comp=Z,7.5nm,0.9s
KDAK Kodiak Island 93.39 14 LR LR 16 45 51.2
comp=Z,29nm,21.4s,baz=283,slow=40
MAW Mawson 93.57 177 P **P 15 57 14.9 +0.9**
comp=Z,2.8nm,0.7s,baz=300,slow=7.8,SNR=4.8
comp=Z,2.8nm,0.7s
SYO Syowa Base 95.43 185⇑ *e*sP sP 15 57 32.0 +2.9
DLBC Dease Lake 95.73 3 P **P 15 57 25.4 +0.8**
comp=Z,1.7nm,0.8s,baz=315,slow=9.6,SNR=4.6
DLBC LR LR 16 46 34.1
comp=Z,38nm,18.1s,baz=230,slow=39
comp=Z,1.7nm,0.8s
SADO Sadowa 97.90 329 LR LR 16 41 44.3
comp=Z,568nm,18.6s,baz=344,slow=35
ULM Lac du Bonnet 99.68 341 LR LR 16 43 52.9
comp=Z,50nm,18.5s,baz=259,slow=36
NVAR Mina Array Bea 115.52 354 **PKiKP 16 02 40.5 -0.8**
NVAR Mina Array Bea 115.52 354 PKP **PKPdf 16 02 41.5 +0.1**
comp=Z,1.1nm,0.8s,baz=30,slow=1.7,SNR=4.2
QSPA South Pole Qui 115.91 180 **PKPdf 16 02 41.5 +0.7**
QSPA South Pole Qui 115.91 180 PKP **PKPdf 16 02 41.6 +0.8**
comp=Z,2.5nm,0.7s,baz=242,slow=1.3,SNR=17
VNDA Vanda 118.95 166 PKP **PKPdf 16 02 44.9 -1.4**
comp=Z,0.3nm,0.6s,baz=242,slow=4.3,SNR=2.3
TXAR Lajitas Array 121.16 338 PKP **PKPdf 16 02 51.6 -0.6**
comp=Z,0.5nm,0.7s,baz=301,slow=3.4,SNR=4.2
LPAZ La Paz 126.20 268 PKP **PKPdf 16 03 02.5 -0.2**
comp=Z,0.9nm,0.8s,baz=32,slow=4.3,SNR=4.3
OTAV Otavalo 127.86 293 *e*P **PKPdf 16 03 05.6 -0.2**

NEIC ***31*** *15:48:17.4±1.6, 65°.08N±0°.04×165°.88W±0°.06, h6km±6km, Error ellipse: s-maj=6.6km s-min=2.8km az=208.0*
AEIC 31 15:48:17.0±1.6, 65°.07N±0°.05×165°.85W±0°.06, h8km±7km, ML3.3, ML3.5/78(NEIC), Error ellipse: s-maj=7.2km s-min=3.5km az=196.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**				Pg	15 48 25.7	-0.1
F14K					Sg	15 48 31.9	+0.1
ANM	**Nome**	**0.55**	**158**		Pg	15 48 27.5	-0.1
ANM				Sg	Sg	15 48 34.3	-0.3
G15K	**Niukluk**	**0.77**	**95**		Pg	15 48 31.8	-0.1
G15K					Sg	15 48 42.2	+0.3
F15K	**North Star Dit**	**0.82**	**38**		Pg	15 48 33.0	+0.3
F15K				Sg	Sg	15 48 43.9	+0.6
TNA	**Tin City**	**1.00**	**301**		Pg	15 48 35.5	-0.8
TNA					Sg	15 48 49.4	+0.2
TNA					IAML	15 48 52.6	
	comp=N,1μm,0.5s						
G16K	**Koyuk River**	**1.51**	**76**		Pn	15 48 44.5	+0.1
G16K					Sg	15 49 05.5	0.0
G16K					IAML	15 49 08.3	
	comp=E,720nm,0.5s						
G16K					IAML	15 49 08.3	
	comp=N,704nm,0.4s						
H16K	**Elim**	**1.60**	**104**		Pn	15 48 45.6	-0.1
H16K					Sg	15 49 08.7	+0.2
G17K	**Kiwalik Mounta**	**2.23**	**76**		Pn	15 48 54.2	-0.1
G17K					Sn	15 49 21.6	-0.3
G17K					Sb	15 49 22.1	-3.1
F17K	**Baldwin Pennin**	**2.35**	**52**		Pn	15 48 56.3	+0.4
F17K					IAML	15 49 39.7	
	comp=N,251nm,1.1s						
F17K					IAML	15 49 40.6	
	comp=E,211nm,1.4s						
H17K	**Granite Mounta**	**2.52**	**90**		Pn	15 48 58.9	+0.6
H17K					IAML	15 49 40.3	
	comp=N,212nm,0.5s						
H17K					IAML	15 49 46.0	
	comp=E,277nm,0.6s						
I17K	**Unalakleet**	**2.53**	**116**		Pn	15 48 59.4	+1.0
I17K					IAML	15 49 45.1	
	comp=E,207nm,0.8s						
I17K					IAML	15 49 51.5	
	comp=N,191nm,0.7s						
J14K	**Nanvaranak Lak**	**2.54**	**155**		Pn	15 48 59.2	+0.6
E17K	**Hotham Inlet**	**2.60**	**37**		Pn	15 48 59.4	-0.1
E17K					Pb	15 49 00.0	-3.9
GAMB	**Gambell**	**2.85**	**246**		Pn	15 49 02.0	-0.8
J16K	**Anvik River**	**2.91**	**126**		Pn	15 49 04.2	+0.5
J16K					IAML	15 49 58.7	
	comp=N,198nm,0.6s						
F18K	**Selawik**	**2.98**	**56**		Pn	15 49 04.9	+0.4
F18K					Pb	15 49 05.0	-5.2
G18K	**Tagagawik**	**3.11**	**71**		Pn	15 49 06.4	-0.1
G18K					IAML	15 50 02.2	
	comp=N,106nm,0.8s						
H18K	**Honhosa River**	**3.17**	**85**		Pn	15 49 07.8	+0.6
E18K	**Tukpahlearik C**	**3.18**	**40**		Pn	15 49 07.8	+0.6
E18K					IAML	15 50 04.4	
	comp=N,94nm,0.6s						
K13K	**Kusilvak Mount**	**3.19**	**170**		Pn	15 49 08.2	+0.7
K13K					IAML	15 50 02.9	
	comp=E,107nm,0.8s						
RDOG	**Red Dog Mine**	**3.22**	**20**		Pn	15 49 08.2	+0.3
C16K	**Lisburne Hills**	**3.23**	**3**		Pn	15 49 08.5	+0.6
C16K					IAML	15 50 14.3	
	comp=E,104nm,1.8s						
K15K	**Wolf Creek Mou**	**3.38**	**143**		Pn	15 49 11.1	+0.9
K15K					IAML	15 50 08.8	
	comp=E,113nm,0.8s						
K15K					IAML	15 50 11.6	
	comp=N,116nm,0.8s						
J17K	**VABM Dome**	**3.40**	**116**		Pn	15 49 11.8	+1.5
J17K					IAML	15 50 07.8	
	comp=N,123nm,0.8s						
J17K					IAML	15 50 15.6	
	comp=E,82nm,1.1s						
C17K	**DeLong Mountai**	**3.58**	**16**		Pn	15 49 14.5	+1.6
F19K	**Shaleruckik Mo**	**3.75**	**58**		Pn	15 49 15.3	+0.2
F19K					IAML	15 50 21.7	
	comp=E,64nm,0.7s						
F19K					IAML	15 50 25.4	
	comp=N,67nm,1.0s						
L15K	**Ungalak Mounta**	**3.93**	**148**		Pn	15 49 18.6	+1.0
H19K	**Roundabout Mou**	**3.97**	**79**		Pn	15 49 18.3	+0.1
H19K					IAML	15 50 33.2	
	comp=E,81nm,1.0s						
L14K	**Kuka Creek**	**4.01**	**158**		Pn	15 49 18.9	+0.3
L14K					IAML	15 50 34.2	
	comp=E,83nm,1.2s						
L14K					IAML	15 50 38.9	
	comp=N,82nm,1.1s						
C18K	**Utukok River**	**4.04**	**25**		Pn	15 49 21.2	+2.0
C18K					IAML	15 50 23.6	
	comp=N,46nm,2.7s						
K17K	**Iditarod**	**4.09**	**122**		Pn	15 49 21.4	+1.7
K17K					IAML	15 50 44.1	
	comp=N,61nm,0.9s						
K17K					IAML	15 50 53.3	
	comp=E,62nm,0.9s						
E19K	**Redstone River**	**4.23**	**52**		Pn	15 49 22.4	+0.6
E19K					IAML	15 50 42.7	
	comp=N,58nm,0.7s						
J18K	**Innoko River**	**4.30**	**108**		Pn	15 49 23.0	+0.4
J18K					IAML	15 50 48.3	
	comp=N,48nm,1.1s						
L16K	**Owhat River**	**4.42**	**137**		Pn	15 49 25.1	+0.7
J19K	**Poorman**	**4.55**	**99**		Pn	15 49 27.3	+1.2
J19K					IAML	15 50 48.5	
	comp=N,44nm,1.0s						
J19K					IAML	15 50 50.2	
	comp=E,42nm,1.3s						
F20K	**Avaraart Lake**	**4.58**	**60**		Pn	15 49 27.5	+1.0
F20K					IAML	15 50 51.1	
	comp=N,49nm,1.2s						
D19K	**Kuna River**	**4.60**	**38**		Pn	15 49 26.3	-0.6
D19K					IAML	15 50 54.6	
	comp=N,48nm,1.9s						
D19K					IAML	15 51 00.4	
	comp=E,38nm,2.4s						
H20K	**Anotleneega Mo**	**4.63**	**80**		Pn	15 49 27.8	+0.5
M14K	**Bethel**	**4.68**	**156**	Pn	Pn	15 49 27.8	-0.1
M11K	**Mekoryuk**	**4.71**	**182**	Pn	Pn	15 49 28.7	+0.5
C19K	**Lookout Ridge**	**4.73**	**28**	Pn	Pn	15 49 29.1	+0.4
C19K					IAML	15 50 20.9	
	comp=N,45nm,2.8s						
C19K					IAML	15 52 08.4	
	comp=E,36nm,2.8s						
M13K	**Dall Lake**	**4.81**	**165**	Pn	Pn	15 49 29.6	-0.1
I20K	**Naaghedeneel**	**4.85**	**88**		Pn	15 49 30.1	-0.1
L18K	**Granite Mounta**	**4.98**	**121**	Pn	Pn	15 49 33.5	+1.4
M15K	**Kasigluk River**	**4.98**	**149**		Pn	15 49 33.4	+1.4
IM04	**Indian Mountai**	**5.10**	**74**		Pn	15 49 35.0	+1.3
J20K	**Nowinta River**	**5.11**	**95**		Pn	15 49 36.0	+2.1
J20K					IAML	15 51 10.1	
	comp=N,32nm,0.9s						
J20K					IAML	15 51 12.4	
	comp=E,34nm,0.9s						
IMAR	**Indian Mountai**	**5.12**	**74**		Pn	15 49 35.1	+1.2
M16K	**Timber Creek**	**5.13**	**139**	Pn	Pn	15 49 35.5	+1.4
M16K					IAML	15 52 21.7	
	comp=N,30nm,3.4s						
M16K					IAML	15 52 46.0	
	comp=E,23nm,3.7s						
D20K	**Etivluk River**	**5.16**	**41**	Pn	Pn	15 49 35.3	+0.8
D20K					IAML	15 51 42.5	
	comp=E,35nm,2.6s						
G21K	**Allakaket**	**5.28**	**68**		Pn	15 49 37.1	+0.8
M17K	**Holitna River**	**5.29**	**130**	Pn	Pn	15 49 37.8	+1.5
K20K	**Telida**	**5.42**	**103**	Pn	Pn	15 49 39.5	+1.4
F21K	**Alatna River**	**5.46**	**61**		Pn	15 49 39.6	+0.9
H21K	**Melozitna Rive**	**5.49**	**78**		Pn	15 49 40.4	+1.4
N14K	**Kuskokwak Cree**	**5.51**	**158**	Pn	Pn	15 49 40.1	+0.8
N15K	**Kwethluk River**	**5.59**	**149**	Pn	Pn	15 49 41.4	+1.0
L19K	**White Mountain**	**5.69**	**116**	Pn	Pn	15 49 44.0	+2.2
M18K	**Stony River**	**5.77**	**124**		Pn	15 49 45.0	+2.1
I21K	**Tanana**	**5.86**	**83**		Pn	15 49 45.4	+1.3
L20K	**Farewell, AK**	**5.91**	**111**		Pn	15 49 46.7	+1.9
B20K	**Meade River**	**5.97**	**30**	Pn	Pn	15 49 46.1	+0.6
N17K	**Nushagak Hills**	**6.04**	**135**	Pn	Pn	15 49 48.3	+1.6
O14K	**Tigyukauivet M**	**6.22**	**158**	Pn	Pn	15 49 51.0	+2.0
B21K	**Ikpikpuk River**	**6.30**	**38**	Pn	Pn	15 49 51.3	+1.2
N18K	**Kilae Creek**	**6.33**	**129**	Pn	Pn	15 49 51.9	+1.3
E22K	**Anaktuvuk Pass**	**6.38**	**55**	Pn	Pn	15 49 52.7	+1.5
PPLA	**Purkeypile**	**6.39**	**104**	Pn	Pn	15 49 53.2	+1.6
BPAW	**Bear Paw Mtn.**	**6.47**	**92**	Pn	Pn	15 49 53.4	+0.9
M20K	**Styx River**	**6.53**	**113**	Pn	Pn	15 49 55.1	+1.7
O15K	**Ungalikthiuk R**	**6.55**	**152**	Pn	Pn	15 49 54.7	+1.1
O16K	**Kokwok River B**	**6.57**	**143**	Pn	Pn	15 49 54.4	+0.6
KTH	**Kantishna Hill**	**6.67**	**96**	Pn	Pn	15 49 55.3	0.0
G23K	**Bananza Creek**	**6.69**	**69**		Pn	15 49 54.8	-0.7
COLD	**Coldfoot**	**6.70**	**64**	Pn	Pn	15 49 55.8	+0.2
N19K	**Bonanza Creek**	**6.71**	**124**	Pn	Pn	15 49 56.7	+0.8
H23K	**Yukon River**	**6.84**	**76**	Pn	Pn	15 49 58.1	+0.5
I23K	**Minto, Yukon-K**	**6.96**	**82**	Pn	Pn	15 49 58.4	-0.8
TRF	**Thorofare Moun**	**6.97**	**96**	Pn	Pn	15 50 00.8	+1.3
B22K	**Teshekpuk Lake**	**7.08**	**36**	Pn	Pn	15 50 00.4	-0.5
BWN	**Browne**	**7.10**	**90**	Pn	Pn	15 50 02.2	+1.1
D23K	**Nanushuk River**	**7.10**	**50**	Pn	Pn	15 50 02.1	+1.0
SKT	**Skwentna**	**7.11**	**109**	Pn	Pn	15 50 02.2	+0.9
E23K	**Chandalar**	**7.13**	**58**	Pn	Pn	15 50 03.8	+2.3
NEA2	**Nenana**	**7.17**	**86**	Pn	Pn	15 50 02.0	-0.1
STLK	**Strandline Lak**	**7.26**	**113**	Pn	Pn	15 50 04.6	+1.3
SPU	**Mount Spurr**	**7.36**	**116**	Pn	Pn	15 50 07.7	+2.9
MCK	**McKinley**	**7.45**	**93**	Pn	Pn	15 50 06.3	+0.4
H24K	**Noodor Dome**	**7.52**	**76**	Pn	Pn	15 50 07.8	+0.9
E24K	**Your Creek**	**7.54**	**59**	Pn	Pn	15 50 07.9	+0.8
C23K	**Itkillik River**	**7.55**	**44**	Pn	Pn	15 50 07.7	+0.5
RND	**Reindeer**	**7.59**	**95**		Pn	15 50 08.0	+0.1
F24K	**Squaw Lake**	**7.64**	**63**	Pn	Pn	15 50 09.0	+0.5
CCB	**Clear Creek Bu**	**7.69**	**85**	Pn	Pn	15 50 09.4	+0.1
SUA	**Susitna One**	**7.70**	**111**	Pn	Pn	15 50 12.0	+2.4
IL31		**8.06**	**84**	Pn	Pn	15 50 14.3	+0.1
ILAR	**Eielson Array**	**8.06**	**84**	Pn	Pn	15 50 14.1	-0.2
DHY	**Denali Highway**	**8.33**	**95**	Pn	Pn	15 50 17.5	-0.6
F25K	**Christian Rive**	**8.50**	**64**	Pn	Pn	15 50 20.0	-0.4
E25K	**Arctic Village**	**8.62**	**60**	Pn	Pn	15 50 21.3	-0.6
P08K	**Saint George I**	**8.68**	**194**	Pn	Pn	15 50 24.1	+1.3
SCM	**Sheep Creek Mo**	**8.89**	**103**	Pn	Pn	15 50 26.4	+0.6
M24K	**Tolsona, Glenn**	**9.24**	**100**	Pn	Pn	15 50 31.4	+0.8
J26L	**Joseph Creek**	**9.51**	**83**	Pn	Pn	15 50 34.2	-0.1
C27K	**Jago River**	**9.64**	**52**	Pn	Pn	15 50 35.4	-0.6

IDC ***31*** *15:58:15.9±2.9, 10°.15S×161°.04E, h91km±23km, mb3.3/6, mbtmp3.7/6, MS3.4/1, Error ellipse: s-maj=36.8km s-min=26.0km az=103.0*
ISC 31 15:58:13.1±1.1, 10°.2S±0°.2×161°.2E±0°.2, h67km, n8, σ1§10/8, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.49**	**302**	P	**Pn**	**15 58 38.6**	**+0.7**
	46nm,0.3s,baz=180,slow=8.9,SNR=12						
HNR				S	**Sn**	**15 58 56.7**	**+0.2**
	153nm,0.4s,baz=165,slow=17,SNR=5.3						
WRA	**Warramunga Arr**	**27.67**	**246**	P	**P**	**16 03 54.1**	**-0.9**
	1.2nm,0.7s,baz=73,slow=8.8,SNR=11						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**29.29**	**239**	P	**P**	**16 04 08.1**	**-1.3**
	0.3nm,0.8s,baz=61,slow=10.0,SNR=4.2						
	0.3nm,0.8s						
JNU	**Nakatsue**	**51.91**	**327**	LR	LR	16 27 04.1	
	comp=Z,40nm,20.0s,baz=304,slow=33						
VNDA	**Vanda**	**67.28**	**180**	P	**P**	**16 09 00.2**	**0.0**
	0.3nm,0.6s,baz=2.5,slow=6.6,SNR=3.8						
	0.3nm,0.6s						
SONM	**Songino Array**	**75.43**	**325**	P	**P**	**16 09 49.9**	**-0.1**
	0.5nm,0.5s,baz=138,slow=6.1,SNR=3.7						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**79.77**	**180**	P	**P**	**16 10 15.4**	**+1.5**
	1.3nm,0.9s,baz=88,slow=5.0,SNR=6.1						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**84.20**	**20**	P	**P**	**16 10 36.0**	**-0.8**
	0.2nm,0.6s,baz=237,slow=5.1,SNR=4.0						
	0.2nm,0.6s						

JMA ***31*** *16:10:55.6±0.2, 28°.3N±0°.9×129°.5E±0°.7, h31km±1km, MV3.8/14, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
NIED ***31*** *16:10:55.6, 28°.28N×129°.45E, h31km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.05; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-1.36; $M_{r\theta}$-0.11; $M_{\theta\phi}$-0.25; $M_{\phi r}$1.46; Fault plane solution: $M_0$1.91000×10^{15} NP1: ϕ_s204.00000°, δ22.00000°, λ115.00000°. NP2: ϕ_s357.00000°, δ70.00000°, λ80.00000°.*
IDC ***31*** *16:10:58.5±1.4, 28°.26N×129°.34E, h62km±13km, mb3.4/11, mbtmp3.7/13, MS2.9/6 Error ellipse: s-maj=22.7km s-min=8.7km az=108.0*
ISC 31 16:10:55.4±0.8, 28°.25N±0°.04×129°.40E±0°.06, h32km±6km, n36, σ1§27/37, mb3.8/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.19**	**269**	*i* P	**Pn**	**16 11 02.6**	**+0.4**
JAMN				*e*S	**Sb**	**16 11 07.5**	**+1.3**
JAM	**Amami Oshima**	**0.25**	**48**	*i* P	**Pb**	**16 11 01.6**	**-0.9**
JAM				S	**Sb**	**16 11 06.0**	**-1.1**
JZK	**Kikaishima**	**0.51**	**82**	*i* P	**Pb**	**16 11 05.6**	**-0.6**
JTK	**Tokunoshima**	**0.60**	**221**	*i* P	**Pb**	**16 11 07.7**	**+0.1**
JTK				S	**Sn**	**16 11 16.8**	**+0.3**
JTAJ	**Takarajima**	**0.92**	**349**	P	**Pb**	**16 11 11.7**	**-1.2**
JTAJ				*e*S	**Sn**	**16 11 23.7**	**-0.6**
JOKE	**Okinoerabujima**	**1.15**	**220**	*i* P	**Pb**	**16 11 16.6**	**-0.1**
JOKE				*e*S	**Sb**	**16 11 31.8**	**+0.5**
JYRO	**Yoronjima**	**1.48**	**215**	*i* P	**Pb**	**16 11 21.8**	**-0.5**
JYRO				S	**Sb**	**16 11 41.1**	**+0.4**
JNN	**Nakanoshima**	**1.64**	**15**	*e*P	**Pn**	**16 11 22.0**	**-0.1**
JNN				*e*S	**Sn**	**16 11 41.1**	**-1.0**
JOW	**Kunigami**	**1.73**	**215**	P	**Pb**	**16 11 25.1**	**-1.4**
	610nm,0.3s,baz=78,slow=12,SNR=297						
JOW				S	**Sb**	**16 11 47.0**	**-0.8**
	399nm,0.4s,baz=145,slow=26,SNR=13						
JOW				LR	LR	16 12 18.5	
	comp=Z,427nm,19.8s,baz=98,slow=47						
JOW	**Kunigami**	**1.73**	**215**	*i* P	**Pb**	**16 11 25.0**	**-1.4**
JOW				*e*S	**Sb**	**16 11 47.0**	**-0.8**
JIH	**Iheya**	**1.75**	**227**	*e*P	**Pn**	**16 11 25.1**	**+1.5**
JIH				*e*S	**Sb**	**16 11 47.0**	**-1.5**
JYAK	**Yakushimahirau**	**2.21**	**26**	P	**Pn**	**16 11 30.3**	**+0.4**
JYAK				*e*S	**Sn**	**16 11 56.0**	**-0.1**
JNU	**Nakatsue**	**5.02**	**14**	P	**Pn**	**16 12 11.8**	**+3.2**
	8.1nm,0.4s,baz=321,slow=3.0,SNR=21						
JNU				S	**Sn**	**16 13 07.8**	**+2.2**
	6.4nm,0.7s,baz=176,slow=11,SNR=1.0						
KSRS	**Korea Array**	**9.27**	**353**	P	**Pn**	**16 13 09.4**	**+2.6**
	0.6nm,0.7s,baz=168,slow=12,SNR=1.7						
JHJ	**Hachijo jima 2**	**10.18**	**59**	LR	LR	16 17 10.6	
	comp=Z,80nm,18.5s,baz=221,slow=36						
MJAR	**Matsushiro Arr**	**11.12**	**40**	LR	LR	16 18 07.6	
	comp=Z,26nm,19.1s,baz=188,slow=38						
JCJ	**Chichijima**	**11.40**	**93**	LR	LR	16 17 24.4	
	comp=Z,53nm,20.8s,baz=90,slow=34						
ASAJ	**Asahikawa**	**19.05**	**30**	LR	LR	16 22 22.5	
	comp=Z,45nm,20.3s,baz=67,slow=36						
CMAR	**Chiang Mai Arr**	**29.54**	**257**	P	**P**	**16 16 58.3**	**+1.1**
	0.3nm,0.4s,baz=56,slow=7.8,SNR=4.7						
CMAR				LR	LR	16 29 07.4	
	comp=Z,21nm,20.4s,baz=75,slow=37						
	0.3nm,0.4s						
KAPI	**Kappang**	**34.35**	**197**	LR	LR	16 32 27.9	
	comp=Z,26nm,20.0s,baz=350,slow=38						
H11N2	**WAKE ISLAND Hy**	**35.18**	**96**	T	T	16 55 13.5	
	baz=290,slow=75,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**35.18**	**96**	T	T	16 55 12.4	
	baz=290,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**35.20**	**96**

BGSI ***31*** *16:11:27.8±2.2,27.'57S×26.'00E,h203km±48km,ML2.7*
PRE ***31*** *16:11:27.2±1.0,27.'02S×26.'48E,h2km,ML2.4*
ISC 31 16:11:28.0±1.4,27.'04S±0.'03×26.'52E±0.'03,h9km±12km, n17,σ1§69/32,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWZ	**Schweizer**	**1.07**	**262**	*e*P	**Pb**	**16 11 48.1**	**-0.6**
SWZ				*e*S	**Sb**	**16 12 02.4**	**-0.5**
SWZ				IAML		16 12 11.1	
	comp=Z,211nm,0.2s						
HRAO	**HartRAO**	**1.55**	**43**	*e*P	**Pg**	**16 11 57.0**	**-0.8**
HRAO				*e*S	**Sg**	**16 12 18.1**	**+0.1**
HRAO				IAML		16 12 19.9	
	comp=Z,62nm,0.1s						
BOSA	**Boshof**	**1.92**	**215**	*e*P	**Pn**	**16 12 01.6**	**+0.6**
BOSA				*e*S	**Sn**	**16 12 26.7**	**+1.3**
BOSA				IAML		16 12 34.1	
	comp=Z,38nm,0.2s						
MAKGR	**Makgori**	**1.97**	**308**	*i* P	**Pg**	**16 12 07.2**	**+1.4**
MAKGR				*i* S	**Sg**	**16 12 33.1**	**+1.8**
MAKGR				IAML		16 12 33.6	
	comp=N,438nm,0.5s						
LBTB	**Lobatse**	**2.18**	**337**	*e*P	**Pn**	**16 12 04.9**	**+0.3**
LBTB				*e*S	**Sn**	**16 12 31.7**	**-0.1**
LBTB				IAML		16 12 38.9	
	comp=Z,42nm,0.5s						
NWCL	**Newcastle**	**3.08**	**104**	*e*P	**Pn**	**16 12 18.5**	**+1.6**
NWCL				*e*S	**Sn**	**16 12 56.0**	**+2.1**
NWCL				IAML		16 13 07.8	
	comp=Z,37nm,0.4s						
LEPH	**Lephalale, Lim**	**3.38**	**20**	*e*P	**Pn**	**16 12 21.5**	**+0.5**
LEPH				*e*S	**Sn**	**16 13 01.2**	**-0.1**
LEPH				IAML		16 13 16.4	
	comp=Z,15nm,0.4s						
SKOMA	**Sekoma**	**3.43**	**317**	*i* P	**Pn**	**16 12 21.7**	**-0.1**
SKOMA				IAML		16 13 23.7	
	comp=N,18nm,0.2s						
LPHEP	**Lephephe**	**3.71**	**351**	*i* P	**Pb**	**16 12 29.5**	**-4.3**
LPHEP				IAML		16 13 30.1	
	comp=N,8.1nm,0.2s						
KDWAN	**Kaudwane**	**4.02**	**335**	*i* P	**Pn**	**16 12 32.4**	**+2.6**
KDWAN				*i* S	**Sn**	**16 13 20.3**	**+3.2**
KDWAN				IAML		16 13 38.1	
	comp=N,44nm,0.3s						
PMBG	**Pietermaritzbu**	**4.29**	**126**	*e*P	**Pn**	**16 12 35.3**	**+1.7**
PMBG				*e*S	**Sn**	**16 13 24.6**	**+0.8**
PMBG				IAML		16 13 45.5	
	comp=Z,8.0nm,0.4s						
KSTD	**Kokstad**	**4.32**	**146**	*e*P	**Pn**	**16 12 35.3**	**+1.2**
KSTD				*e*S	**Sn**	**16 13 25.1**	**+0.5**
KSTD				IAML		16 13 53.3	
	comp=Z,6.2nm,0.3s						
ALKP	**Alkanpan, Nort**	**4.74**	**231**	*e*P	**Pn**	**16 12 40.6**	**+0.9**
ALKP				*e*S	**Sn**	**16 13 33.7**	**-1.2**
ALKP				IAML		16 14 06.1	
	comp=Z,10nm,0.7s						
BFON	**Badsfontein, M**	**5.34**	**207**	*e*P	**Pn**	**16 12 49.5**	**+1.5**
BFON				*e*S	**Sn**	**16 13 48.6**	**-1.2**
BFON				IAML		16 14 18.8	
	comp=Z,7.6nm,0.5s						
GRAF	**Camdeboo Natio**	**5.51**	**198**	*e*P	**Pn**	**16 12 51.1**	**+0.8**
GRAF				*e*S	**Sn**	**16 13 53.0**	**-0.7**
GRAF				IAML		16 14 23.9	
	comp=Z,6.1nm,0.3s						
BRAK	**Brakfontein**	**5.68**	**213**	*e*P	**Pn**	**16 12 54.2**	**+1.5**
BRAK				*e*S	**Sn**	**16 13 56.1**	**-2.0**
BRAK				IAML		16 14 35.1	
	comp=Z,4.7nm,0.4s						
FRAZ	**Fraserburg**	**6.60**	**221**	*e*P	**Pn**	**16 13 06.8**	**+1.5**
FRAZ				*e*S	**Sn**	**16 14 18.0**	**-2.7**
FRAZ				IAML		16 14 56.6	
	comp=Z,3.7nm,0.4s						

IDC ***31*** *16:38:32.2±0.5,24.'29S×176.'51W,h0km,mb4.7/20, mbtmp4.7/21,ML4.7/1,MS3.9/42,Error ellipse: s-maj=19.9km s-min=15.9km az=113.0*
NEIC ***31*** *16:38:33.9±2.2,24.'31S±0.'09×176.'5W±0.'1,h10km±1km, mb5.0/196,Error ellipse: s-maj=21.7km s-min=15.3km az=101.0*
MOS ***31*** *16:38:33.0±1.2,24.'35S×176.'52W,h10km,mb5.2/21, Error ellipse: s-maj=14.6km s-min=13.0km az=124.2*
BJI ***31*** *16:38:35.9,24.'06S×175.'97W,h32km,mB5.4/8,mb5.2/26, Ms5.0/3,Ms7 4.9/3*
GCMT ***31*** *16:38:39.9±0.3,24.'40S±0.'03×175.'92W±0.'02,h46km, MW4.9/63,Moment Tensor Solution. s50,c65; s63,c79; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.20±.13; Mθθ-0.73±.10; Mφφ-2.47±.09; Mrθ0.25±.08; Mrφ-0.92±.07; Mθφ0.59±.07; Best double couple: M0 3.10100×10¹⁶ NP1:φs203.00000°,δ39.00000°,λ90.00000°. NP2: φs23.00000°,δ51.00000°,λ90.00000°. Principal axes: T 3.2660, Plg84.0000°, Azm292.0000°; N -0.3300, Plg0.0000°, Azm23.0000°; P -2.9350, Plg6.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 16:38:36.9±0.5,24.'26S±0.'05×176.'34W±0.'06,h31km±3km, h32km:pP-P,n336,σ1§50/242,mb5.0/130,MS4.0/44, 37C-27D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.16**	**195**	Pn	**Pn**	**16 39 49.0**	**-3.0**
RAO				Sn	**Sn**	**16 40 49.6**	**-0.9**
RAO	**Raoul Island**	**5.16**	**195**	Pn	**Pn**	**16 39 54.2**	**+2.2**
	42nm,0.3s,baz=296,slow=21,SNR=1.6						
RAO				Sn	**Sn**	**16 40 49.7**	**-0.9**
	124nm,0.3s,baz=249,slow=23,SNR=7.2						
NIUE	**Niue**	**7.89**	**50**		Pn	16 40 25.7	-3.7
NIUE					Sn	16 41 42.1	-16
MSVF	**Nonsavu**	**8.35**	**320**		Pn	16 40 41.6	+5.8
MSVF	**Nonsavu**	**8.35**	**320**	P	Pn	16 40 41.6	+5.8
AFI	**Afiamalu**	**11.16**	**24**		**Pn**	**16 41 11.9**	**-2.5**
AFI				Sn	Sn	16 43 09.4	-8.9
AFI	**Afiamalu**	**11.16**	**24**	P	**Pn**	**16 41 11.9**	**-2.5**
URZ	**Urewera**	**15.03**	**200**	Pn	**Pn**	**16 42 06.7**	**-0.2**
	3.0nm,0.3s,baz=276,slow=3.6,SNR=10						
URZ				Sn	Sn	16 44 39.0	-13
	1.5nm,0.3s,baz=313,slow=23,SNR=5.6						
	8.3nm,0.7s						
RAR	**Rarotonga**	**15.58**	**82**		**Pn**	**16 42 10.0**	**-4.3**
RAR	**Rarotonga**	**15.58**	**82**	Pn	**Pn**	**16 42 10.8**	**-3.5**
	14nm,0.3s,baz=252,slow=8.3,SNR=16						
RAR				Sn	Sn	16 44 46.9	-19
	11nm,0.3s,baz=44,slow=18,SNR=5.6						
RAR				LR	LR	16 47 04.0	
	comp=Z,405nm,20.9s,baz=248,slow=32						
RAR	**Rarotonga**	**15.58**	**82**	P	**Pn**	**16 42 10.0**	**-4.3**
RAR				pmax	pmax		
	comp=Z,152nm,0.9s						
ONTNC	**Ouen Toro**	**15.93**	**274**		**Pn**	**16 42 20.6**	**+1.8**
DZM	**Mont Dzumac**	**15.98**	**274**	Pn	**P**	**16 42 25.7**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=92,slow=18,SNR=11						
DZM				LR	LR	16 46 14.6	
	comp=Z,396nm,19.7s,baz=79,slow=29						
TUWZ	**Tuamarina**	**18.94**	**203**	P	P	16 42 49.2	-6.1
RPZ	**Rata Peaks**	**21.99**	**205**	LR	LR	16 52 13.4	
	comp=Z,303nm,20.9s,baz=355,slow=38						
TBI	**Tubuai**	**24.60**	**93**	*e*P	**P**	**16 43 55.1**	**+0.7**
	comp=Z,550nm,36.5s						
TBI				*e*S	**S**	**16 48 09.9**	**-3.7**
	comp=Z,2μm,29.0s						
TBI				*e*LR	LR	16 49 56.4	
	comp=Z,1μm,25.8s						
TBI				*e*LR	LR	16 50 01.4	
	comp=Z,3μm,24.0s						
PPT2	**Papeete2**	**25.84**	**80**	*e*P	**P**	**16 44 04.7**	**-1.1**
	comp=Z,78nm,23.5s						
PPT2				*e*S	**S**	**16 48 37.2**	**+3.6**
	comp=Z,252nm,30.2s						
PPT2				*e*LR	LR	16 50 26.8	
	comp=Z,595nm,24.5s						
PPT2				*e*LR	LR	16 50 32.6	
	comp=Z,950nm,25.2s						
PPT	**Papeete**	**25.85**	**80**	LR	LR	16 51 25.2	
	comp=Z,336nm,21.6s,baz=269,slow=30						
HNR	**Honiara**	**27.00**	**299**	LR	LR	16 53 26.4	
	comp=Z,247nm,20.1s,baz=178,slow=33						
EIDS	**Eidsvold**	**29.55**	**261**		**P**	**16 44 37.9**	**-1.0**
EIDS				IAmb	IAmb	16 44 40.7	
	comp=Z,27nm,1.2s						
STKA	**Stephens Creek**	**37.70**	**249**	P	**P**	**16 45 48.5**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=86,slow=12,SNR=4.9						
STKA				LR	LR	16 59 43.5	
	comp=Z,364nm,20.0s,baz=44,slow=34						
	comp=Z,2.8nm,0.7s						
STKA	**Stephens Creek**	**37.70**	**249**	‖*e*P	**P**	**16 45 49.1**	**-0.5**
TAOE	**Nuku Hiva Isla**	**37.78**	**72**	*e*S	**S**	**16 51 44.1**	**+4.5**
	comp=Z,86nm,27.8s						
TAOE				*e*LR	LR	16 55 54.3	
	comp=Z,356nm,25.9s						
PMG	**Port Moresby**	**37.79**	**287**		**P**	**16 45 48.9**	**-1.6**
PMG				IAmb	IAmb	16 45 51.6	
	comp=Z,33nm,0.9s						
PMG	**Port Moresby**	**37.79**	**287**	LR	LR	16 59 08.8	
	comp=Z,212nm,19.3s,baz=139,slow=33						
PMG	**Port Moresby**	**37.79**	**287**	*de*P	**P**	**16 45 50.3**	**-0.2**
PMG				pmax	pmax		
	comp=Z,27nm,0.7s						
INKA	**Innaminka**	**38.59**	**255**		**P**	**16 45 55.5**	**-1.6**
AS31	**Alice Springs**	**45.27**	**260**		**P**	**16 46 49.5**	**-2.4**
ASAR	**Alice Springs**	**45.27**	**260**		**P**	**16 46 49.5**	**-2.3**
ASAR	**Alice Springs**	**45.27**	**260**	P	**P**	**16 46 50.5**	**-1.3**
	comp=Z,22nm,1.0s,baz=99,slow=8.3,SNR=86						
ASAR				LR	LR	17 05 25.4	
	comp=Z,312nm,18.0s,baz=100,slow=36						
	comp=Z,22nm,1.0s						
WR8	**Warramunga Arr**	**45.56**	**265**		**P**	**16 46 51.4**	**-2.7**
WRAB	**Tennant Creek**	**45.71**	**265**	P	**P**	**16 46 52.4**	**-2.9**
WRAB				PcP	**PcP**	**16 48 33.0**	**0.0**
WRAB	**Tennant Creek**	**45.71**	**265**	⇑*e*P	**P**	**16 46 53.2**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WB0	**Warramunga Arr**	**45.71**	**266**		**P**	**16 46 52.8**	**-2.6**
WRA	**Warramunga Arr**	**45.71**	**265**		**P**	**16 46 52.7**	**-2.6**
WRA	**Warramunga Arr**	**45.71**	**265**	P	**P**	**16 46 53.4**	**-2.0**
	comp=Z,3.4nm,0.4s,baz=102,slow=8.0,SNR=51						
WRA				LR	LR	17 05 35.7	
	comp=Z,272nm,18.1s,baz=118,slow=36						
	comp=Z,3.4nm,0.4s						
JAY	**Jayapura**	**46.75**	**291**	LR	LR	17 03 46.5	
	comp=Z,194nm,21.5s,baz=140,slow=32						
KIP	**Kipapa**	**48.79**	**23**	‖*e*P	**P**	**16 47 18.0**	**-1.1**
KIP				pmax	pmax		
	comp=Z,48nm,1.3s						
GUMO	**Guam**	**53.39**	**311**	LR	LR	17 09 06.9	
	comp=Z,26nm,20.4s,baz=142,slow=34						
FITZ	**Fitzroy Crossi**	**54.13**	**265**		**P**	**16 47 57.3**	**-2.0**
FITZ				PcP	**PcP**	**16 49 04.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**54.13**	**265**	LR	LR	17 11 01.7	
	comp=Z,258nm,18.1s,baz=146,slow=36						
SBA	**Scott Base**	**54.24**	**184**		**P**	**16 48 00.6**	**+1.3**
SBA				PcP	**PcP**	**16 49 04.2**	**+1.0**
VNDA	**Vanda**	**54.32**	**186**		**P**	**16 47 59.5**	**-0.3**
VNDA	**Vanda**	**54.32**	**186**	P	**P**	**16 47 59.6**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=12,slow=7.2,SNR=9.9						
VNDA				LR	LR	17 06 03.8	
	comp=Z,24nm,20.5s,baz=326,slow=30						
	comp=Z,2.4nm,1.0s						
VNDA	**Vanda**	**54.32**	**186**	P	**P**	**16 47 59.6**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SWI	**Sorong**	**55.74**	**287**	P	**P**	**16 48 09.0**	**-2.0**
NWAO	**Narrogin (SRO)**	**58.12**	**245**	LR	LR	17 12 28.3	
	comp=Z,108nm,18.1s,baz=358,slow=35						
SOEI	**Soe**	**58.20**	**273**		**P**	**16 48 26.8**	**-1.8**
SOEI	**Soe**	**58.20**	**273**	P	**P**	**16 48 28.1**	**-0.5**
	comp=Z,27nm,1.0s						
BATI	**Baumata**	**58.59**	**273**	LR	LR	17 12 33.8	
	comp=Z,234nm,21.2s,baz=149,slow=35						
SANI	**Sanana**	**59.85**	**282**	P	**P**	**16 48 37.0**	**-2.9**
	comp=Z,8.6nm,0.8s						
EDFI	**Ende, Flores**	**60.94**	**273**	P	**P**	**16 48 44.8**	**-2.7**
	comp=Z,16nm,1.0s						
EDFI				pP	**pP**	**16 48 55.6**	**-1.3**
	comp=Z,16nm,1.0s						
CASY	**Casey**	**61.26**	**206**	P	**P**	**16 48 47.6**	**-1.0**
CASY				IAmb	IAmb	16 48 49.2	
	comp=Z,12nm,0.9s						
KAPI	**Kappang**	**64.19**	**276**	LR	LR	17 17 11.3	
	comp=Z,24nm,21.3s,baz=101,slow=36						
JCJ	**Chichijima**	**64.88**	**319**	LR	LR	17 12 25.2	
	comp=Z,79nm,21.2s,baz=113,slow=31						
QSPA	**South Pole Qui**	**65.82**	**180**		**P**	**16 49 20.6**	**+1.6**
QSPA				IAmb	IAmb	16 49 46.1	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**16 49 21.9**	**+2.9**
	comp=Z,8.7nm,1.1s,baz=28,slow=0.8,SNR=28						
QSPA				LR	LR	17 12 60.0	
	comp=Z,94nm,21.2s,baz=39,slow=31						
TOLI2	**Tolitoli**	**65.91**	**283**		**P**	**16 49 17.8**	**-2.4**
TOLI2				IAmb	IAmb	16 49 19.7	
	comp=Z,7.0nm,0.8s						
MJAR	**Matsushiro Arr**	**74.13**	**323**	P	**P**	**16 50 10.2**	**+0.1**
MJAR	**Matsushiro Arr**	**74.13**	**323**	P	**P**	**16 50 09.4**	**-0.8**
	comp=Z,4.7nm,0.9s,baz=157,slow=6.3,SNR=9.6						
MJAR				LR	LR	17 17 40.3	
	comp=Z,75nm,21.3s,baz=152,slow=32						
	comp=Z,4.7nm,0.9s						
MJAR	**Matsushiro Arr**	**74.13**	**323**	P	**P**	**16 50 10.3**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LEM	**Lembang**	**74.52**	**269**	LR	LR	17 23 44.3	
	comp=Z,106nm,19.2s,baz=150,slow=36						
BELA	**Belgrano 2**	**75.64**	**172**	P	**P**	**16 50 17.3**	**-1.1**
BELA				IAmb	IAmb	16 50 19.2	
	comp=Z,9.9nm,0.9s						
SHEM	**Shemya Is, Ala**	**77.12**	**354**	LR	LR	17 20 01.8	
	comp=Z,100nm,20.8s,baz=162,slow=32						
PMSA	**Palmer Station**	**77.24**	**156**	LR	LR	17 17 59.5	
	comp=Z,61nm,19.2s,baz=321,slow=31						
MAW	**Mawson**	**78.56**	**200**	P	**P**	**16 50 35.2**	**+0.4**
	comp=Z,12nm,0.9s,baz=122,slow=6.1,SNR=15						
MAW				LR	LR	17 23 53.7	
	comp=Z,92nm,20.0s,baz=106,slow=35						
	comp=Z,12nm,0.9s						
YSS	**Yuzhno-Sakhali**	**79.93**	**333**	*e*P	**P**	**16 50 44.5**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
MHC	**Mount Hamilton**	**80.01**	**41**	IAmb	IAmb	16 50 46.7	
	comp=Z,14nm,1.1s						
LPIG	**La Paz**	**80.05**	**58**	LR	LR	17 21 46.7	
	comp=Z,69nm,18.2s,baz=231,slow=32						
PEA0B	**Petropavlovsk-**	**80.29**	**344**	P	**P**	**16 50 44.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**80.29**	**344**	‖*e*P	**P**	**16 50 45.2**	**+0.9**
PETK	**Petropavlovsk-**	**80.29**	**344**	P	**P**	**16 50 43.8**	**-0.5**
PETK	**Petropavlovsk-**	**80.29**	**344**	P	**P**	**16 50 44.6**	**+0.3**
	comp=Z,21nm,0.9s,baz=124,slow=6.4,SNR=17						
PETK				LR	LR	17 21 20.9	
	comp=Z,90nm,19.9s,baz=160,slow=32						
	comp=Z,21nm,0.9s						
MNRC	**McLaughlin Min**	**80.54**	**40**	IAmb	IAmb	16 50 49.7	
	comp=Z,15nm,1.1s						
TPO	**Tropico Hills**	**80.58**	**45**	IAmb	IAmb	16 50 49.5	
	comp=Z,24nm,1.2s						
KSRS	**Korea Array**	**80.71**	**318**	P	**P**	**16 50 47.4**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=134,slow=5.8,SNR=7.3						
	comp=Z,2.7nm,0.8s						
YUH	**Yuha Desert**	**80.75**	**48**	IAmb	IAmb	16 50 50.9	
	comp=Z,18nm,1.4s						
ISA	**Isabella, Lake**	**80.90**	**44**	IAmb	IAmb	16 50 51.3	
	comp=Z,17nm,1.1s						
PFO	**Pinyon Flats O**	**80.97**	**47**	LR	LR	17 22 02.9	
	comp=Z,78nm,18.3s,baz=230,slow=32						
PFO	**Pinyon Flats O**	**80.97**	**47**	‖*e*P	**P**	**16 50 50.4**	**+1.8**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
O02D	**Mt. Diablo Mer**	**81.21**	**39**	IAmb	IAmb	16 50 53.3	
	comp=Z,12nm,0.9s						
BELC	**Belle Mtn. Jos**	**81.51**	**47**	IAmb	IAmb	16 50 54.5	
	comp=Z,14nm,1.1s						
CCCA	**Chr Cany lake**	**81.53**	**45**	P	**P**	**16 50 51.6**	**+0.2**
CCCA				IAmb	IAmb	16 50 54.7	
	comp=Z,23nm,1.3s						
BC3	**Big Chuckawall**	**81.67**	**47**	IAmb	IAmb	16 50 55.8	
	comp=Z,16nm,1.4s						
KSXB	**Camp Six Broad**	**81.72**	**37**	IAmb	IAmb	16 50 58.3	
	comp=Z,11nm,1.0s						
N02D	**Trinity Center**	**81.79**	**38**		**P**	**16 50 54.3**	**+1.6**
N02D				IAmb	IAmb	16 50 56.2	
	comp=Z,14nm,1.2s						
O03E	**Paynes Creek**	**81.85**	**39**	IAmb	IAmb	16 50 56.6	
	comp=Z,17nm,1.1s						
M02C	**Callahan**	**81.99**	**38**	IAmb	IAmb	16 50 57.5	
	comp=Z,15nm,1.3s						
WAKR	**Walker**	**82.09**	**42**	IAmb	IAmb	16 50 57.8	
	comp=Z,13nm,1.1s						
IRM	**Iron Mountain**	**82.17**	**47**	IAmb	IAmb	16 50 58.2	
	comp=Z,13nm,1.1s						
DANC	**Danby, Needles**	**82.29**	**47**		**P**	**16 50 56.4**	**+1.0**
BEKR	**Beckworth**	**82.41**	**40**		**P**	**16 50 56.0**	**-0.2**
K02D	**Willamette Mer**	**82.42**	**36**	IAmb	IAmb	16 50 59.4	
	comp=Z,9.9nm,1.1s						
GRAC	**Grapevine Rang**	**82.43**	**44**	IAmb	IAmb	16 50 59.5	
	comp=Z,21nm,1.3s						
LHV	**Little Huntoon**	**82.50**	**42**	IAmb	IAmb	16 51 03.8	
	comp=Z,11nm,1.1s						
H03S2	**Juan Fernandez**	**82.62**	**124**	T	T	18 21 54.5	
	baz=244,slow=74,SNR=748						
H03S1	**Juan Fernandez**	**82.63**	**124**	T	T	18 22 02.6	
	baz=244,slow=74,SNR=801						
H03S3	**Juan Fernandez**	**82.64**	**124**	T	T	18 22 01.4	
	baz=244,slow=74,SNR=790						
NVAR	**Mina Array Bea**	**82.73**	**42**	P	**P**	**16 50 58.3**	**+0.4**
NVAR	**Mina Array Bea**	**82.73**	**42**	P	**P**	**16 50 59.4**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=222,slow=8.1,SNR=18						
NVAR				LR	LR	17 24 07.0	
	comp=Z,43nm,18.3s,baz=264,slow=33						
	comp=Z,4.6nm,0.9s						
H03N2	**Juan Fernandez**	**82.78**	**123**	T	T	18 22 08.1	
	baz=250,slow=72,SNR=228						
H03N3	**Juan Fernandez**	**82.78**	**123**	T	T	18 22 07.5	
	baz=250,slow=72,SNR=461						
H03N1	**Juan Fernandez**	**82.79**	**123**	T	T	18 22 10.6	
	baz=250,slow=72,SNR=261						
NV11	**Mina Array Sit**	**82.82**	**42**	IAmb	IAmb	16 51 01.1	
	comp=Z,11nm,1.2s						
PAHR	**Pah Rah Range**	**82.88**	**41**	IAmb	IAmb	16 51 01.4	
	comp=Z,10nm,1.1s						
USRK	**Ussuriysk Ar.**	**82.92**	**325**	P	**P**	**16 50 59.3**	**+0.9**
	comp=Z,11nm,0.9s,baz=121,slow=2.8,SNR=17						
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	**83.40**	**192**	‖*e*pP	**P**	**16 51 03.2**	**+2.5**
NJ2	**Nanjing**	**83.45**	**309**	*e*P	**P**	**16 51 02.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
Y14A	**Wickenburg**	**83.49**	**48**	IAmb	IAmb	16 51 04.8	
	comp=Z,10nm,1.0s						
W13A	**Hualapai Mount**	**83.56**	**47**	IAmb	IAmb	16 51 05.5	
	comp=Z,8.7nm,1.0s						
TROLL	**Troll, Antarti**	**83.98**	**180**	⇑P	**P**	**16 51 03.9**	**0.0**
	comp=Z,715nm,0.8s						
TROLL				⇑sP	**sP**	**16 51 18.2**	**+1.0**
KDAK	**Kodiak Island**	**84.12**	**13**	LR	LR	17 22 29.4	
	comp=Z,90nm,19.2s,baz=197,slow=31						
TUC	**Tucson**	**84.12**	**51**		**P**	**16 51 05.3**	**+0.3**
TUC				IAmb	IAmb	16 51 08.5	
	comp=Z,11nm,1.1s						
TUC	**Tucson**	**84.12**	**51**	P	**P**	**16 51 05.3**	**+0.3**
TUC				pmax	pmax		
	comp=Z,11nm,1.1s						
PRN	**Pahroc Range**	**84.15**	**45**		**P**	**16 51 05.2**	**+0.1**
SNAA	**Sanae**	**84.22**	**178**	⇑P	**P**	**16 51 03.5**	**-1.4**
	comp=Z,235nm,1.0s						
SNAA				⇓sP	**pP**	**16 51 18.1**	**+3.4**
SNAA	**Sanae**	**84.22**	**178**	P	**P**	**16 51 04.3**	**-0.6**
SNAA	**Sanae**	**84.22**	**178**	P	**P**	**16 51 04.7**	**-0.2**
	comp=Z,12nm,1.0s,baz=185,slow=4.1,SNR=12						
SNAA				LR	LR	17 25 44.1	
	comp=Z,54nm,20.3s,baz=192,slow=34						
	comp=Z,12nm,1.0s						
VNA3	**Neumayer Olymp**	**84.30**	**176**	⇑P	**P**	**16 51 04.5**	**-0.7**
	comp=Z,17nm,0.8s						
VNA3				⇓sP	**sP**	**16 51 18.7**	**0.0**
WIFE	**Three Sisters-**	**84.34**	**36**	IAmb	IAmb	16 51 08.8	
	comp=Z,12nm,1.0s						
VNA2	**Neumayer--Watz**	**84.75**	**176**	⇑P	**P**	**16 51 07.5**	**0.0**
	comp=Z,12nm,0.7s,baz=183,slow=3.8						
VNA2				⇓sP	**sP**	**16 51 21.1**	**+0.2**
	baz=163,slow=8.1						
X16A	**Lo Mia Camp, P**	**84.83**	**49**	IAmb	IAmb	16 51 12.3	
	comp=Z,13nm,1.1s						
VNA1	**Neumayer--Stat**	**84.97**	**176**	⇑P	**P**	**16 51 08.7**	**+0.1**
	comp=Z,23nm,1.0s						
VNA1				⇓sP	**sP**	**16 51 22.4**	**+0.4**
WVOR	**Wild Horse Val**	**85.05**	**39**	IAmb	IAmb	16 51 12.2	
	comp=Z,10nm,1.1s						
CCUT	**Cedar City**	**85.32**	**45**	IAmb	IAmb	16 51 14.6	
	comp=Z,14nm,1.2s						
KNB	**Kanab**	**85.37**	**46**	IAmb	IAmb	16 51 14.7	
	comp=Z,11nm,1.1s						
U15A	**North Rim**	**85.38**	**47**	IAmb	IAmb	16 51 15.0	
	comp=Z,12nm,1.0s						
WUAZ	**Wupatki**	**85.49**	**48**	IAmb	IAmb	16 51 15.3	
	comp=Z,10nm,1.1s						
SZCU	**Shurtz Canyon**	**85.53**	**45**	IAmb	IAmb	16 51 15.4	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**85.59**	**133**	P	**P**	**16 51 13.4**	**+0.9**
PLCA	**Paso Flores**	**85.59**	**133**	P	**P**	**16 51 13.8**	**+1.3**
	comp=Z,5.2nm,1.0s,baz=234,slow=4.1,SNR=3.6						
PLCA				LR	LR	17 20 41.2	
	comp=Z,49nm,21.9s,baz=251,slow=30						
	comp=Z,5.2nm,1.0s						
I07A	**Izee**	**85.61**	**37**	IAmb	IAmb	16 51 47.5	
	comp=Z,5.3nm,0.6s						
CN2	**Changchun**	**86.20**	**322**	P	**P**	**16 51 19.3**	**+4.3**
W18A	**Petrified Fore**	**86.39**	**49**	IAmb	IAmb	16 51 19.6	
	comp=Z,12nm,1.1s						
**T

HEH pmax pmax
comp=Z,21nm,1.3s
GLB Gilahina Butte 89.35 15 IAmb IAmb 16 51 32.0
comp=Z,14nm,1.2s
CMIG Matias Romero 89.41 71 LR LR 17 21 39.6
comp=Z,30nm,19.9s,baz=176,slow=29
LOGN Logan Glacier 89.51 16 IAmb IAmb 16 51 52.9
comp=Z,15nm,1.1s
NEW Newport 89.54 35 LR LR 17 23 36.6
comp=Z,85nm,20.8s,baz=198,slow=30
CTGM Chitina Glacie 89.54 16 IAmb IAmb 16 51 33.3
comp=Z,12nm,1.0s
BJI Beijing 89.63 315 P **P 16 51 33.5 +2.0**
BJI pmax pmax
comp=Z,3.0nm,1.1s
O29M Mount Kennedy 89.72 18 P **P 16 51 31.3 -0.4**
O29M IAmb IAmb 16 51 34.5
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 89.76 48 IAmb IAmb 16 51 35.5
comp=Z,8.4nm,1.1s
KTH Kantishna Hill 89.79 11 IAmb IAmb 16 51 32.8
comp=Z,9.7nm,1.0s
J20K Nowinta River 89.84 10 IAmb IAmb 16 51 33.6
comp=Z,11nm,1.2s
RND Reindeer 90.03 12 IAmb IAmb 16 51 34.9
comp=Z,15nm,1.1s
S34M Telegraph Cree 90.14 22 IAmb IAmb 16 51 36.7
comp=Z,13nm,1.1s
DLMT Dillon 90.30 39 **P 16 51 34.7 0.0**
DLMT IAmb IAmb 16 51 37.3
comp=Z,9.2nm,0.9s
MCK McKinley 90.31 12 P **P 16 51 34.9 +0.7**
MCK IAmb IAmb 16 51 47.3
comp=Z,12nm,1.0s
MCK McKinley 90.31 12 P **P 16 51 34.9 +0.7**
MCK pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 90.37 346 P **P 16 51 34.7 +0.3**
comp=Z,3.9nm,0.9s,baz=205,slow=7.4,SNR=3.8
SEY LR LR 17 25 47.9
comp=Z,58nm,21.3s,baz=162,slow=31
comp=Z,3.9nm,0.9s
SEY Seymchan 90.37 346 *e*P **P 16 51 37.6 +3.2**
SEY pmax pmax
comp=Z,10.0nm,1.2s
M26K Nabesna, AK 90.38 15 IAmb IAmb 16 51 42.1
comp=Z,8.0nm,1.1s
LOHW Long Hollow 90.49 41 IAmb IAmb 16 51 38.3
comp=Z,8.2nm,1.3s
PDAR Pinedale Array 90.66 43 P **P 16 51 37.6 +1.0**
comp=Z,3.9nm,1.0s,baz=205,slow=3.1,SNR=19
PDAR LR LR 17 28 14.1
comp=Z,31nm,18.9s,baz=206,slow=33
comp=Z,3.9nm,1.0s
SDCO Great Sand Dun 90.67 48 IAmb IAmb 16 51 39.7
comp=Z,20nm,1.9s
FLWY Flagg Ranch 90.69 41 IAmb IAmb 16 51 39.7
comp=Z,7.4nm,0.9s
O30N Mendenhall 90.81 18 P **P 16 51 37.6 +0.9**
O30N IAmb IAmb 16 51 39.4
comp=Z,9.4nm,1.2s
YMR Madison River 90.86 40 IAmb IAmb 16 51 40.7
comp=Z,9.7nm,1.2s
DLBC Dease Lake 90.92 22 P **P 16 51 38.0 +0.8**
comp=Z,3.2nm,0.8s,baz=210,slow=9.5,SNR=8.2
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 90.99 39 IAmb IAmb 16 51 40.6
comp=Z,8.9nm,0.8s
RIDG Independent Ri 91.13 13 IAmb IAmb 16 51 52.9
comp=Z,13nm,1.3s
L27K Beaver Creek, 91.22 15 IAmb IAmb 16 52 30.3
comp=Z,20nm,1.9s
DOT Dot Lake 91.22 14 P **P 16 51 39.1 +0.7**
DOT IAmb IAmb 16 52 08.1
comp=Z,12nm,1.3s
CCB Clear Creek Bu 91.35 12 IAmb IAmb 16 51 40.9
comp=Z,10nm,1.2s
M29M Somme Creek 91.53 17 IAmb IAmb 16 51 42.6
comp=Z,9.6nm,1.1s
COLA College 91.55 12⇑ *e*P **P 16 51 40.9 +1.1**
COLA pmax pmax
comp=Z,8.0nm,1.0s
YNE Yellowstone No 91.61 41 IAmb IAmb 16 51 44.0
comp=Z,10.0nm,1.1s
XAN Xi'an 91.61 307 P **P 16 51 43.0 +2.0**
XAN pmax pmax
comp=Z,16nm,0.8s
ILAR Eielson Array 91.64 12 P **P 16 51 39.4 -1.0**
ILAR Eielson Array 91.64 12 P **P 16 51 40.8 +0.4**
comp=Z,2.6nm,1.0s,baz=226,slow=4.5,SNR=12
ILAR LR LR 17 29 00.9
comp=Z,40nm,18.5s,baz=274,slow=33
comp=Z,2.6nm,1.0s
ZEA Zeya 91.65 330 *e*P **P 16 51 42.1 +1.5**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
XLT XiLinHaoTe 91.76 318 *e*P **P 16 51 42.3 +0.8**
XLT pmax pmax
comp=Z,9.0nm,1.2s
J25K Salcha River, 91.80 13 IAmb IAmb 16 51 43.6
comp=Z,5.9nm,1.0s
K27K Chicken 91.99 14 IAmb IAmb 16 51 46.6
comp=Z,17nm,1.6s
M30M Minto, Yukon 92.08 17 **P 16 51 42.9 +0.4**
KMI Kunming 92.41 296 P **P 16 51 47.5 +2.4**
KMI pmax pmax
comp=Z,14nm,1.0s
DAWY Dawson 92.65 15 IAmb IAmb 16 51 48.2
comp=Z,7.3nm,1.2s
HILR Hailar Array B 92.79 324 P **P 16 51 46.7 +0.6**
comp=Z,4.7nm,0.7s,baz=134,slow=8.4,SNR=7.6
comp=Z,4.7nm,0.7s
CMAR Chiang Mai Arr 92.80 289 **P 16 51 48.1 +1.3**
CMAR Chiang Mai Arr 92.80 289 P **P 16 51 48.0 +1.2**
comp=Z,6.7nm,0.9s,baz=132,slow=3.3,SNR=38
comp=Z,6.7nm,0.9s
CMAR Chiang Mai Arr 92.80 289 *i* P **P 16 51 49.2 +2.4**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 92.92 354 **P 16 51 45.8 -0.4**
BILL IAmb IAmb 16 51 48.1
comp=Z,7.7nm,0.9s
BILL Bilibino 92.92 354⇓ *e*P **P 16 51 47.1 +0.9**
BILL pmax pmax
comp=Z,10.0nm,1.0s
K29M Barlow Dome 92.93 16 IAmb IAmb 16 51 49.1
comp=Z,4.7nm,1.0s
CHTO Chiang Mai 92.94 289 **P 16 51 48.1 +0.7**
CHTO Chiang Mai 92.94 289 P **P 16 51 48.1 +0.7**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 93.06 314 *e*P **P 16 51 49.8 +2.2**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.0s
PZH PanZhiHua 93.81 297 P **P 16 51 53.3 +1.9**
BTO Baotou 93.97 313 *e*P **P 16 51 54.5 +2.7**
BTO pmax pmax
comp=Z,23nm,0.6s
BTO pmax pmax
comp=Z,110nm,4.4s
ATAH Atahualpa 94.29 100 LR LR 17 24 33.7
comp=Z,96nm,21.7s,baz=247,slow=29
RSSD Black Hills 94.80 44 **P 16 51 54.7 -1.0**
RSSD Black Hills 94.80 44 P **P 16 51 54.7 -1.0**
RSSD pmax pmax
comp=Z,11nm,1.0s
JTS Las Juntas de 95.41 81 LR LR 17 24 55.2
comp=Z,34nm,20.8s,baz=230,slow=29
ULN Ulaanbaatar 99.19 318⇑ *e*P **Pdif 16 52 15.8 +0.4**
ULN pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 99.21 112 LR LR 17 26 51.6
comp=Z,40nm,21.7s,baz=310,slow=29
YKA Yellowknife Ar 99.28 24 LR LR 17 36 13.4
comp=Z,44nm,18.4s,baz=282,slow=35
SONM Songino Array 99.58 318 P **Pdif 16 52 16.8 -0.3**
comp=Z,0.5nm,0.7s,baz=105,slow=4.6,SNR=2.0
comp=Z,0.5nm,0.7s
WMQ Urumqi 110.52 310 *e*PKP **PKiKP 16 57 06.5 +0.3**
ZALV Zalesovo Beam 114.36 320 PKP PKPdf 16 57 11.9 -1.1
comp=Z,0.3nm,0.4s,baz=82,slow=3.3,SNR=3.8
MK31 Makanchi Array 114.87 312 *i* PKIKP PKPdf 16 57 14.3 0.0
MKAR Makanchi Array 114.87 312 PKP PKPdf 16 57 13.4 -1.0
comp=Z,0.4nm,0.5s,baz=94,slow=3.6,SNR=8.0
KURK Kurchatov 117.77 316 **PKPdf 16 57 18.6 -1.1**
KURK Kurchatov 117.77 316⇑ *i* PKIKP **PKPdf 16 57 19.3 -0.4**
KURK pmax pmax
comp=Z,5.0nm,2.5s
KURBB Kurchatov Arra 117.82 316 PKP **PKPdf 16 57 18.9 -0.9**
comp=Z,1.4nm,0.2s,baz=94,slow=1.9,SNR=7.3
KSH Kashi 118.26 303 PKP **PKPdf 16 57 21.8 +0.6**
AAK Ala-Archa 119.79 307⇓ *i* PKIKP **PKPdf 16 57 23.8 -0.3**
AAK pmax pmax
comp=Z,3.0nm,1.7s
KKAR Karatay Array 122.75 307 **PKPdf 16 57 27.6 -2.0**
KKAR Karatay Array 122.75 307 PKIKP **PKPdf 16 57 27.6 -2.0**
BVAR Borovoye Array 122.92 319 PKP **PKPdf 16 57 29.3 -0.3**
comp=Z,3.9nm,0.9s,baz=114,slow=1.8,SNR=14
BORK Borovoye 122.96 319⇓ *i* PKIKP **PKPdf 16 57 29.2 -0.5**
BORK pmax pmax
comp=Z,6.0nm,1.7s
ARTI Arti 129.25 324 **PKPdf 16 57 40.9 -0.7**
ARTI Arti 129.25 324 *i* PKIKP **PKPdf 16 57 42.4 +0.8**
ARTI 16 59 50.6
ARTI 17 04 50.3
ARTI SP SP 17 09 57.3 +1.9
ARTI SS SS 17 17 07.6 -1.7
ARCES ARCESS Array B 132.88 350 PKP **PKPdf 16 57 48.0 -0.2**
comp=Z,1.6nm,0.6s,baz=19,slow=1.9,SNR=12
ARCES ARCESS Array B 132.88 350 PKIKP **PKPdf 16 57 48.0 -0.2**
KIRV Kirov 132.97 329⇑ *i* PKIKP **PKPdf 16 57 48.1 -0.4**
FINES FINESS Array B 139.80 344 PKhKP PKPpre 16 57 52.0
comp=Z,1.7nm,0.8s,baz=28,slow=3.3,SNR=1.3
KBZ Khabaz 142.56 311 PKhKP PKPpre 16 58 03.3
comp=Z,1.5nm,0.7s,baz=301,slow=4.4,SNR=4.4
KIV Kislovodsk 142.63 311 *i* PKIKP **PKPdf 16 58 08.8 +1.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,33nm,24.0s
NB2 NORSAR Subarra 142.88 354 PKP **PKPdf 16 58 03.7 -3.1**
comp=Z,3.3nm,1.1s,baz=10,slow=3.2
NOA NORSAR Array B 142.88 354 PKhKP PKPpre 16 58 02.9
comp=Z,1.8nm,0.8s,baz=16,slow=4.6,SNR=6.7
HFS Hagfors 143.47 352 PKhKP PKPpre 16 58 04.6
comp=Z,7.4nm,0.8s,baz=72,slow=4.8,SNR=13
MNK Minsk 144.82 335 *i* PKIKP **PKPab 16 58 10.0 +0.7**
MNK *i* 17 01 34.7
MNK *i* SS SS 17 20 18.8 +5.2
MNK *i* SSS SSS 17 25 44.7
MNK pmax pmax
comp=Z,58nm,0.9s
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=N,209nm,20.0s
MNK MLR MLR
comp=E,450nm,19.0s
ANN Anapa 145.80 315 *e*PKP2 **PKPdf 16 58 12.1 -0.2**
ANN pmax pmax
comp=Z,44nm,1.1s
SUW Suwalki 146.89 339 *e*PKP **PKPdf 16 58 15.6 +1.7**
AKASG Malin Array Be 147.03 330 **PKPdf 16 58 15.2 +1.0**
AKASG Malin Array Be 147.03 330 PKPbc **PKPdf 16 58 15.6 +1.4**
comp=Z,3.2nm,0.4s,baz=43,slow=4.0,SNR=32
AKBB Malin Array Si 147.03 330 *e*PKP2 **PKPdf 16 58 15.8 +1.6**
KIEV Kiev 147.04 330 ⇑P **PKPdf 16 58 15.7 +1.5**
KIEV Kiev 147.04 330 ⇑PKP2 **PKPdf 16 58 15.7 +1.5**
SIM Simferopol' 147.82 317 *e*PKP2 **PKPbc 16 58 18.2 -0.4**
SIM pmax pmax
comp=Z,63nm,1.2s
EKA Eskdalemuir Ar 148.56 7 PKPbc **PKPbc 16 58 19.7 -0.5**
comp=Z,3.2nm,0.7s,baz=337,slow=3.4,SNR=5.9
SORM Soroca 149.19 327 ⇓P **PKPbc 16 58 21.8 -0.2**
SORM Soroca 149.19 327 ⇓PKP2 **PKPbc 16 58 21.8 -0.2**
BRTR Keskin Array B 150.44 309 **PKPdf 16 58 19.4 -0.8**
BRTR **PKPbc 16 58 25.2 -0.4**
BRTR Keskin Array B 150.44 309 PKP **PKPdf 16 58 18.3 -2.0**
comp=Z,1.3nm,1.0s,baz=70,slow=1.7,SNR=4.9
BRTR PKPbc **PKPbc 16 58 25.7 +0.1**
comp=Z,4.2nm,0.9s,baz=138,slow=2.8,SNR=14
BRTR Keskin Array B 150.44 309 PKIKP **PKPdf 16 58 19.5 -0.8**
BRTR 16 58 25.2
KIRS Kirsehir-Merke 150.46 307 ⇑P **PKPbc 16 58 26.1 +0.5**
MMAI Mount Meron Ar 150.89 295 PKPbc **PKPbc 16 58 27.4 +0.6**
comp=Z,14nm,0.9s,baz=64,slow=6.6,SNR=14
ANTO Ankara 150.98 309 ⇑P **PKPbc 16 58 26.6 -0.2**
ANTO Ankara 150.98 309 ⇑PKIKP **PKPbc 16 58 26.6 -0.2**
BURAR Bucovina Array 151.07 329 ⇑P **PKiKP 16 58 28.7 +1.4**
BURAR Bucovina Array 151.07 329 ⇑PKIKP **PKiKP 16 58 28.7 +1.4**
OJC Ojcow 151.21 338 *e*PKP **PKPbc 16 58 27.5 +0.6**
CFR Carcaliu 151.21 323 ⇓P **PKPbc 16 58 27.5 +0.5**
CFR Carcaliu 151.21 323 ⇓PKIKP **PKPbc 16 58 27.5 +0.5**
ONER Baraj Valea Uz 151.39 326 ⇑P **PKPbc 16 58 28.2 +0.7**
VRI Vrincioaia 151.53 325 ⇑P **PKPbc 16 58 27.7 -0.1**
VRI Vrincioaia 151.53 325 ⇑PKIKP **PKPbc 16 58 27.7 -0.1**
NIE Niedzica 151.71 337 *e*PKP **PKPbc 16 58 29.2 +1.1**
KSP Ksiaz 151.72 343 *e*PKP **PKPbc 16 58 28.7 +0.7**
OSTC Ostas 152.00 343⇑ *e*PKP **PKPbc 16 58 29.8 +1.1**
OSTC Ostas 152.00 343 *e*PKIKP **PKPbc 16 58 29.8 +1.1**
CHVC Chvalec 152.02 343⇑ *e*PKP **PKPbc 16 58 27.9 -0.8**
CHVC Chvalec 152.02 343 *e*PKIKP **PKPbc 16 58 27.9 -0.8**
CLL Collm 152.06 347 *i* PKIKP **PKPbc 16 58 28.9 +0.2**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 152.06 347 *i* PKPbc **PKPbc 16 58 28.9 +0.2**
comp=Z,15nm,0.9s
CLL *i* (PKPab) **sPKPbc 16 58 42.3 0.0**
comp=Z,11nm,0.9s
CLL *i* x x 16 58 49.6
CLL *e*PP **PP 17 02 07.0 -2.4**
CLL Lm MLR 18 34 00.0
comp=Z,100nm,20.9s
UPC Upice 152.10 343⇑ *e*PKP **PKPbc 16 58 29.6 +0.7**
UPC Upice 152.10 343 *e*PKIKP **PKPbc 16 58 29.6 +0.7**
STEB Steborice 152.11 340⇑ *e*PKP **PKPbc 16 58 29.5 +0.6**
DOPR Dopca 152.15 326 ⇑P **PKiKP 16 58 30.4 +0.9**
DPC Dobruska-Polom 152.16 342⇑ *e*PKP **PKPbc 16 58 29.1 0.0**
DPC Dobruska-Polom 152.16 342 *e*PKIKP **PKPbc 16 58 29.1 0.0**
LANS Liptovska Anna 152.23 337 *e*PKIKP **PKiKP 16 58 31.0 +1.4**
LANS Liptovska Anna 152.23 337 *e*PKP **PKiKP 16 58 31.0 +1.4**
LANS *e* 16 58 40.4
KRLC Kraliky 152.28 342⇑ *e*PKP **PKPbc 16 58 29.9 +0.5**
KRLC Kraliky 152.28 342 *e*PKIKP **PKPbc 16 58 29.9 +0.5**
MORC Moravsky Berou 152.32 340 ⇓P **PKPbc 16 58 30.0 +0.6**
MORC Moravsky Berou 152.32 340 *e*PKP **PKPbc 16 58 29.4 -0.1**
MORC Moravsky Berou 152.32 340 ⇓PKIKP **PKPbc 16 58 30.0 +0.6**
PVCC Panska Ves 152.45 345⇑ *e*PKP **PKPbc 16 58 30.6 +0.9**
PVCC Panska Ves 152.45 345 *e*PKIKP **PKPbc 16 58 30.6 +0.9**
MAUC Maruska 152.59 340⇑ *e*PKP **PKPbc 16 58 30.8 +0.7**
HSKC Hora Svate Kat 152.63 346⇑ *e*PKP **PKPbc 16 58 29.7 -0.4**
HSKC *e*PKPAB **pPKPbc 16 58 40.2 0.0**
MARR Marisel-Cluj 152.73 330 ⇑P **PKPbc 16 58 30.7 +0.2**
DRGR 152.83 331 ⇓P **PKPbc 16 58 30.4 -0.3**
DRGR 152.83 331 ⇓PKIKP **PKPbc 16 58 30.4 -0.3**
ARR Arges 152.95 326 ⇑P **PKiKP 16 58 32.2 +1.0**
PRU Pruhonice 152.95 344⇑ *e*PKP **PKPbc 16 58 30.4 -0.4**
PRU Pruhonice 152.95 344 *e*PKIKP **PKPbc 16 58 30.4 -0.4**
JAVC Velka Javorina 153.08 339 *e*PKP **PKiKP 16 58 32.3 +0.9**
KRUC Moravsky 153.30 341 *e*PKP **PKPbc 16 58 31.9 +0.3**
SURR Surduc 153.88 330 ⇑P **PKPbc 16 58 32.5 -0.5**
KHC Kasperske Hory 153.98 345⇑ *e*PKP **PKPbc 16 58 33.5 +0.4**
KHC *e*x x 16 58 46.2
KHC Kasperske Hory 153.98 345 *e*PKIKP **PKPbc 16 58 33.5 +0.4**
KHC *e* 16 58 46.2
BZS Buzias 154.22 330 ⇓P **PKPbc 16 58 33.8 +0.1**
BZS Buzias 154.22 330 ⇓PKIKP **PKPbc 16 58 33.8 +0.1**
GERES GERESS Array B 154.22 345 **PKPbc 16 58 32.8 -0.9**
GERES GERESS Array B 154.22 345 PKPbc **PKPbc 16 58 33.6 -0.1**
comp=Z,0.7nm,0.7s,baz=46,slow=4.5,SNR=5.9
HERR Herculane 154.39 328 ⇑P **PKPbc 16 58 33.4 -0.7**
CONA Conrad Observa 154.47 341 *e*pPKP **PKPab 16 58 45.6 -3.1**
comp=Z,6.2nm,1.4s
RONA Rosalia, Austr 154.54 340 *i* pPKP **PKPab 16 58 45.4 -3.5**
comp=Z,4.5nm,0.9s
MOA Molln 155.00 343 *e*PKP **PKPab 16 58 51.7 +0.9**
comp=Z,7.0nm,1.3s
ARSA Arzberg 155.18 341 *e*PKP **PKPab 16 58 52.2 +0.6**
comp=Z,2.5nm,1.3s
LESA Schwarzleotal 155.79 345 *i* PKP **PKPab 16 58 53.7 -0.6**
comp=Z,11nm,1.2s
SOKA Soboth 155.84 341 *i* PKP **PKPab 16 58 55.0 +0.4**
comp=Z,5.6nm,1.3s
KBA Koelnbreinsper 155.95 344 *e*PKP **PKPab 16 58 56.0 +0.9**
comp=Z,4.7nm,1.1s
WATA Walderalm 156.12 347 *i* PKP **PKPab 16 58 56.4 +0.6**
comp=Z,6.6nm,1.3s
RETA Reutte 156.14 348 *i* PKP **PKPab 16 58 56.7 +0.9**
comp=Z,5.3nm,0.9s
WTTA Wattenberg 156.18 346 *e*PKP **PKPab 16 58 56.4 +0.3**
comp=Z,6.9nm,1.1s
MOTA Moosalm 156.21 347 *e*PKP **PKPab 16 58 56.3 +0.1**
comp=Z,8.7nm,1.4s
MYKA Terra Mystica 156.29 343 *e*PKP **PKPab 16 58 56.6 +0.2**
comp=Z,3.6nm,1.0s
SQTA Sankt Quirin 156.31 347 *i* PKP **PKPab 16 58 58.6 +2.1**
comp=Z,7.8nm,1.2s
ABTA Abfaltersbach 156.47 345 *i* PKP **PKPab 16 58 52.4 -4.8**
comp=Z,11nm,2.0s
DAVA Damuels 156.49 349 *e*pPKP pPKPdf 16 58 43.8 +4.9
comp=Z,7.2nm,1.1s
FETA Feichten 156.60 348 *e*PKP **PKPdf 16 58 28.7 -0.2**
comp=Z,5.1nm,1.2s
ESDC Sonseca Array 163.34 21 PKPab **PKPab 16 59 28.1 +0.8**
comp=Z,0.6nm,0.7s,baz=339,slow=4.7,SNR=4.7
TORD Torodi Ar. Bea 168.79 170 **PKPdf 16 58 39.0 -2.5**
TORD **PKPab 16 59 50.0 -1.6**
TORD Torodi Ar. Bea 168.79 170 PKP **PKPdf 16 58 40.3 -1.2**
comp=Z,1.3nm,0.3s,baz=139,slow=0.8,SNR=2.7
TORD PKPab **PKPab 16 59 51.5 -0.2**
comp=Z,3.2nm,0.8s,baz=162,slow=2.9,SNR=2.3

*IDC **31** 16:59:26.2±1.5,6°.69N×124°.92E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=28.5km s-min=10.9km az=140.0*
*DJA **31** 16:59:30.3±0.8,7°N±11°×12°5E±°,h34km±16km,M4.4/11, mb4.5/11,mB4.9/4,MLv4.5/8,Mw(mB)4.2/4*
ISC 31 16:59:32.0±1.6,**6°.89N**±0°.10×**125°.2E**±0°.2,**h47**km±18km, **n13**,σ1°**83**/14,**mb3.5**/3,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.39**	**63**	Pg	**Pn**	**16 59 41.1**	**-0.7**
	1μm,0.3s,baz=66,slow=2.0,SNR=38						
DAV				Lg	Lg	16 59 50.9	
	851nm,0.3s,baz=325,slow=23,SNR=11						
DAV	**Davao City (W)**	**0.39**	**63**	P	**Pn**	**16 59 39.0**	**-2.8**
SGSI	**Sangihe**	**3.20**	**175**	P	**Pn**	**17 00 19.8**	**-0.1**
SGSI				S	**Sn**	**17 00 58.1**	**+1.3**
KMSI	**Cibinong**	**6.40**	**191**	P	**Pn**	**17 01 05.3**	**+1.5**
	0.4nm74nm,0.9s						
MRSI	**Marisa**	**7.17**	**207**	P	**Pn**	**17 01 12.3**	**-2.1**
	0.1nm477nm33nm,0.6s						
LUWI	**Luwuk**	**8.26**	**197**	P	**Pn**	**17 01 30.3**	**+1.0**
	1μm36nm,0.8s						
APSI	**Ampana**	**8.54**	**205**	P	**Pn**	**17 01 35.4**	**+2.3**
	30nm,1.1s						
SANI	**Sanana**	**8.91**	**175**	P	**Pn**	**17 01 36.8**	**-1.5**
	8.9nm,0.7s						
SWI	**Sorong**	**9.78**	**142**	P	**Pn**	**17 01 51.1**	**+1.0**
NLAI	**Namlea**	**10.24**	**169**	P	**Pn**	**17 01 53.9**	**-2.5**
WRA	**Warramunga Arr**	**28.13**	**162**	P	**P**	**17 05 19.1**	**-0.8**
	1.0nm,0.7s,baz=329,slow=11,SNR=11						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**31.53**	**165**	P	**P**	**17 05 49.5**	**-0.5**
	0.3nm,0.3s,baz=339,slow=7.1,SNR=24						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.12**	**325**	P	**P**	**17 08 53.0**	**+0.6**
	0.2nm,0.6s,baz=128,slow=7.5,SNR=3.5						
	0.2nm,0.6s						

*SJA **31** 17:12:13.8±2.2,28°.36S×71°.61W,h40km±49km,ML3.8, MW3.6*
*GUC **31** 17:12:17.1±0.6,28°.43S×71°.29W,h46km±2km,ML3.7*
ISC 31 17:12:13.2±1.8,**28°.39S**±0°.03×**71°.46W**±0°.07,**h15**km±12km, **n33**,σ1°**52**/44,**4C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.39**	**61⇑**	*i*P	**Pn**	**17 12 25.2**	**+0.9**
AC04				*i* S	**Sn**	**17 12 30.8**	**-0.7**
AC04				IAML		17 12 31.4	
	comp=N,9μm,0.4s						
AC04	**Llanos de Chal**	**0.39**	**61**	*i* P	**Pn**	**17 12 24.2**	**-0.1**
AC04				*e*S	**Sb**	**17 12 29.1**	**+1.4**
AC04				IAML		17 12 31.1	
	comp=Z,4μm,0.2s						
LCO	**Las Campanas**	**0.91**	**133**	*e*P	**Pn**	**17 12 31.9**	**+0.2**
LCO				*i* S	**Sg**	**17 12 43.2**	**+0.3**
GO03	**Copiapo**	**1.35**	**54**	*e*P	**Pb**	**17 12 39.0**	**+0.8**
GO03				*i* S	**Sn**	**17 12 55.1**	**-0.1**
GO03				IAML		17 12 58.8	
	comp=N,3μm,0.5s						
GO03	**Copiapo**	**1.35**	**54**	*i* P	**Pb**	**17 12 38.6**	**+0.4**
GO03				*e*S	**Sn**	**17 12 53.1**	**-2.0**
GO03				IAML		17 12 56.4	
	comp=Z,3μm,0.8s						
AC06	**Mina Casimiro**	**1.42**	**44**	*e*P	**Pg**	**17 12 40.7**	**0.0**
AC06				*i* S	**Sb**	**17 12 58.0**	**+0.6**
AC06				IAML		17 13 01.5	
	comp=E,3μm,0.7s						
GO04	**Tololo Observa**	**1.87**	**162⇑**	*i*P	**Pb**	**17 12 46.8**	**-0.4**
GO04				*i* S	**Sb**	**17 13 09.7**	**-0.7**
GO04	**Tololo Observa**	**1.87**	**162**	*i* P	**Pn**	**17 12 46.2**	**+1.3**
GO04				IAML		17 13 15.2	
	comp=Z,1μm,0.2s						
CO01	**Juntas del Tor**	**1.98**	**143**	*e*P	**Pb**	**17 12 49.2**	**0.0**
CO01				*i* S	**Sb**	**17 13 12.8**	**-1.0**
CO01				IAML		17 13 17.8	
	comp=E,890nm,0.3s						
CO01	**Juntas del Tor**	**1.98**	**143**	*i* P	**Pb**	**17 12 48.5**	**-0.6**
CO01				*e*S	**Sb**	**17 13 12.6**	**-1.1**
CO01				IAML		17 13 17.1	
	comp=Z,962nm,0.6s						
CO06	**Fray Jorge**	**2.28**	**184⇑**	*i*P	**Pn**	**17 12 51.5**	**+1.2**
AC01	**Pan de Azucar**	**2.37**	**19**	*e*P	**Pn**	**17 12 52.5**	**+1.0**
AC01	**Pan de Azucar**	**2.37**	**19**	*i* P	**Pn**	**17 12 50.2**	**-1.3**
AC01				IAML		17 13 35.3	
	comp=Z,275nm,0.6s						
AROD	**Rodeo**	**2.48**	**136**	*i* P	**Pb**	**17 12 57.5**	**-0.2**
AC02	**Maricunga**	**2.59**	**54**	*e*P	**Pb**	**17 12 58.0**	**-1.6**
AC02				*i* S	**Sb**	**17 13 29.4**	**-2.0**
AC02				IAML		17 13 36.8	
	comp=N,723nm,0.5s						
AC02	**Maricunga**	**2.59**	**54**	*i* P	**Pn**	**17 12 57.3**	**+2.3**
AC02				IAML		17 13 36.5	
	comp=Z,448nm,0.7s						
AGUA	**GUANDACOL**	**2.82**	**113**	*i* P	**Pb**	**17 13 03.0**	**-0.4**
AGUA				IAML		17 13 52.7	
	comp=Z,349nm,0.5s						
CO02	**Combarbal**	**2.83**	**172**	*e*P	**Pn**	**17 12 59.7**	**+1.7**
CO02	**Combarbal**	**2.83**	**172**	*i* P	**Pn**	**17 12 59.0**	**+1.0**
CO02				IAML		17 13 47.8	
	comp=Z,1μm,0.4s						
VCA	**Vinchina**	**2.88**	**98⇑**	*e*P	**Pb**	**17 13 03.4**	**-1.1**
VCA	**Vinchina**	**2.88**	**98**	*i* P	**Pb**	**17 13 03.1**	**-1.4**
VCA				IAML		17 13 54.5	
	comp=Z,278nm,1.1s						
ACCO	**Cerro Coronel**	**3.02**	**137**	*i* P	**Pb**	**17 13 05.7**	**-1.3**
GO02	**Mina Guanaco**	**3.63**	**28**	*e*P	**Pn**	**17 13 11.0**	**+1.9**
GO02				*i* S	**Sn**	**17 13 50.8**	**-1.0**
GO02	**Mina Guanaco**	**3.63**	**28**	*i* P	**Pn**	**17 13 10.5**	**+1.4**
GO02				*e*S	**Sn**	**17 13 53.5**	**+1.7**
GO02				IAML		17 14 14.9	
	comp=Z,201nm,0.4s						
CO04	**Los Peladeros**	**3.66**	**174**	*e*P	**Pn**	**17 13 11.5**	**+1.9**
PB14	**IPOC Station P**	**3.87**	**14**	*i* P	**Pn**	**17 13 12.7**	**+0.2**
PB14				IAML		17 14 30.2	
	comp=Z,117nm,0.4s						
RTLS	**Leoncito**	**3.88**	**152**	*i* P	**Pb**	**17 13 18.1**	**-3.4**
RTLS				IAML		17 14 19.8	
	comp=Z,860nm,0.6s						
CFA	**Coronel Fontan**	**4.25**	**140**	*i* P	**Pn**	**17 13 20.7**	**+3.2**
CFA				IAML		17 14 30.5	
	comp=Z,134nm,0.6s						
VA03	**San Esteban**	**4.43**	**170**	*i* P	**Pn**	**17 13 21.9**	**+1.9**
VA03				IAML		17 14 38.0	
	comp=Z,218nm,0.3s						
ASAL	**Salagasta**	**4.76**	**152**	*i* P	Pn	17 13 29.7	+5.2
ASAL				IAML		17 14 48.6	
	comp=Z,0.1nm,2.3s						
MT02	**Curacav**	**4.86**	**177**	*i* P	**Pn**	**17 13 26.0**	**+0.2**
MT02				IAML		17 14 48.3	
	comp=Z,95nm,0.4s						
MT04	**Ro Olivares**	**5.12**	**167**	*i* P	**Pn**	**17 13 32.6**	**+3.0**
MT04				IAML		17 14 59.0	
	comp=Z,92nm,0.9s						

```
MT03  Universidad Ad   5.15 171  i P        Pn   17 13 32.4 +2.5
MT03                             IAML            17 15 04.1
      comp=Z,92nm,0.7s
```

*IDC **31** 17:13:17.1±1.6, 1°.52S×122°.89E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=164.2km s-min=21.7km az=56.0*
*DJA **31** 17:13:19.6±0.2, 2°.S±2°.×12°.3E±°, h10km, M4.2/24, mB4.7/2, mb4.2/10, MLv4.2/24, Mw(mB)4.0/2*
ISC 31 17:13:19.3±0.8, 1°.85S±0°.05×122°.65E±0°.06, h10km, n23,
σ0s78/27, mb3.4/4, Sulawesi

```
Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
LUWI  Luwuk             0.81   9  P     Pg          17 13 35.1 +0.2
LUWI                              S     Sg          17 13 46.7 +1.2
APSI  Ampana            1.37 313  P     Pn          17 13 44.3 -0.1
KDI   Kendari           2.10 181  P     Pn          17 13 54.7 +0.2
MRSI  Marisa            2.42 343  P     Pn          17 13 58.5 -0.4
MRSI                              S     Sn          17 14 29.0 +0.5
KMSI  Cibinong          2.75  29  P     Pn          17 14 04.5 +1.0
SANI  Sanana            3.34  94  P     Pn          17 14 10.6 -1.0
MPSI  Mapaga            3.50 308  S     Sn          17 14 55.6 +0.2
SPSI  Sidrap Palu       3.56 234  P     Pn          17 14 15.0 +0.3
SPSI                              S     Sn          17 14 57.3 +0.4
BNSI  Bone              3.59 225  P     Pn          17 14 15.4 +0.4
BBSI  Bau Bau           3.62 181  P     Pn          17 14 15.4  0.0
BKSI  Bulukumba         4.28 216  P     Pn          17 14 25.1 +0.6
NLAI  Namlea            4.66 107  P     Pn          17 14 30.3 +0.6
BSSI  Bau Bau, Buton    4.78 207  P     Pn          17 14 31.6 +0.2
TNTI  Ternate           5.39  61  P     Pn          17 14 40.7 +0.9
MMRI  Maumere           6.76 183  P     Pn          17 14 58.4 -0.2
      0.1nm18nm,0.5s
EDFI  Ende, Flores      6.92 188  P     Pn          17 15 00.7 -0.3
      0.1nm11nm,0.7s
SOEI  Soe               8.02 168  P     Pn          17 15 15.0 -1.1
SWI   Sorong            8.66  84  P     Pn          17 15 25.2 +0.4
      8.1nm,0.9s
FAKI  Fak Fak           9.65  97  P     Pn          17 15 38.3  0.0
WRA   Warramunga Arr   21.31 148  P     P           17 18 08.3 +1.8
      0.6nm,0.6s,baz=331,slow=9.9,SNR=24
      0.6nm,0.6s
ASAR  Alice Springs    24.28 154  P     P           17 18 37.5 +0.6
      0.6nm,0.6s,baz=334,slow=9.7,SNR=18
ASAR                              PcP   PcP         17 22 16.6 -0.5
      0.2nm,0.9s,baz=336,slow=2.3,SNR=1.9
      0.6nm,0.6s
CMAR  Chiang Mai Arr   30.84 312  P     P           17 19 34.5 -1.3
      0.5nm,0.7s,baz=125,slow=7.0,SNR=5.9
      0.5nm,0.7s
MKAR  Makanchi Array   60.00 329  P     P           17 23 25.0 -1.2
      0.2nm,0.6s,baz=116,slow=8.2,SNR=2.7
      0.2nm,0.6s
```

*NEIC **31** 17:16:40.8±0.9, 17°.2S±0°.2×179°.0W±0°.2, h603km±10km, mb4.1/20, Error ellipse: s-maj=35.3km s-min=20.3km az=147.0*
*IDC **31** 17:16:40.5±8.1, 17°.53S×178°.83W, h612km±93km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=110.9km s-min=29.0km az=149.0*
ISC 31 17:16:40.5±0.8, 17°.1S±0°.2×179°.0W±0°.2, h600km, n27,
σ1s05/29, mb4.1/15, Fiji Islands region

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
MSVF  Nonsavu           2.84 257  P     P           17 17 59.3 +0.4
COEN  Coen             36.50 270  P     P           17 22 59.9 +2.9
INKA  Innaminka        38.49 247  P     P           17 23 13.2 +0.3
BBOO  Buckleboo        43.27 240  P     P           17 23 49.1 -1.6
WB0   Warramunga Arr   44.15 259  P     P           17 23 57.7 +0.1
WRAB  Tennant Creek    44.18 259  P     P           17 23 57.6 -0.3
WRAB                              IAmb  IAmb        17 24 31.7
      comp=Z,7.3nm,1.4s
WRA   Warramunga Arr   44.19 259  P     P           17 23 58.0  0.0
      comp=Z,1.4nm,0.5s,baz=95,slow=7.2,SNR=53
WRA                               PcP   PcP         17 25 28.2 -1.1
      comp=Z,0.1nm,0.4s,baz=96,slow=3.2,SNR=1.4
      comp=Z,1.4nm,0.5s
AS31  Alice Springs    44.43 253  P     P           17 23 59.8  0.0
AS31                              IAmb  IAmb        17 24 00.6
      comp=Z,2.8nm,0.5s
ASAR  Alice Springs    44.43 253  P     P           17 23 58.9 -0.9
ASAR  Alice Springs    44.43 253  P     P           17 23 59.7 -0.1
      comp=Z,8.1nm,0.6s,baz=88,slow=8.8,SNR=192
ASAR                              PcP   PcP         17 25 28.9 -1.2
      comp=Z,0.2nm,0.5s,baz=93,slow=3.6,SNR=1.9
      comp=Z,8.1nm,0.6s
MTN   Manton Dam       48.22 268  P     P           17 24 27.3 -1.1
FORT  Forrest          49.80 244  P     P           17 24 37.9 -2.0
FORT                              IAmb  IAmb        17 25 10.6
      comp=Z,7.5nm,0.9s
KNRA  Kununurra        49.97 264  P     P           17 24 41.1 -0.2
FITZ  Fitzroy Crossi   52.57 260  P     P           17 25 00.5 +0.6
SOEI  Soe              55.47 270  P     P           17 25 20.3 -0.2
SOEI                              IAmb  IAmb        17 25 36.6
      comp=Z,9.9nm,0.9s
MBWA  Marble Bar       57.68 255  P     P           17 25 34.4 -1.0
MBWA                              IAmb  IAmb        17 25 55.8
      comp=Z,35nm,1.4s
NVAR  Mina Array Bea   79.28  44  P     P           17 27 44.8 -0.4
      comp=Z,0.5nm,0.8s,baz=224,slow=4.9,SNR=2.4
      comp=Z,0.5nm,0.8s
J05D  Fort Rock, OR    80.08  39  P     P           17 27 49.3 +0.1
J05D                              IAmb  IAmb        17 27 52.7
      comp=Z,6.7nm,1.5s
J14K  Nanvaranak Lak   80.53   7  P     P           17 27 49.5 -1.3
J14K                              IAmb  IAmb        17 27 54.3
      comp=Z,19nm,1.4s
GHO   Glory Hole Cre   82.19  14  P     P           17 28 00.5 +1.0
GHO                               IAmb  IAmb        17 28 20.9
      comp=Z,8.6nm,1.0s
SCM   Sheep Creek Mo   82.62  15  P     P           17 28 02.5 +0.9
BELA  Belgrano 2       83.02 173  P     P           17 28 04.9 +1.5
TRF   Thorofare Moun   83.37  13  P     P           17 28 06.0 +0.6
TRF                               IAmb  IAmb        17 28 29.0
      comp=Z,9.4nm,1.5s
CCB   Clear Creek Bu   84.95  13  P     P           17 28 13.0 +0.1
CCB                               IAmb  IAmb        17 28 50.3
      comp=Z,4.5nm,1.5s
IMAR  Indian Mountai   85.01  10  P     P           17 28 13.9 +0.7
ILAR  Eielson Array    85.26  13  P     P           17 28 14.9 +0.5
      comp=Z,0.1nm,0.4s,baz=221,slow=5.3,SNR=4.6
      comp=Z,0.1nm,0.4s
TXAR  Lajitas Array    86.09  58  P     P           17 28 18.8 -0.6
      comp=Z,0.6nm,0.8s,baz=208,slow=7.8,SNR=5.1
      comp=Z,0.6nm,0.8s
```

*IDC **31** 17:21:36.7±19.0, 36°.71N×71°.44E, h189km±136km, mb3.5/2, mbtmp3.9/6, Error ellipse: s-maj=186.8km s-min=78.7km az=173.0*
*NNC **31** 17:21:36.1±8.3, 37°.24N×70°.97E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=65.8km s-min=54.2km az=166.0*
ISC 31 17:21:36.2±2.1, 36°.9N±0°.2×71°.1E±0°.1, h150km, n14,
σ1s54/17, 4C-1D, Afghanistan-Tajikistan border region

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
UCH   Uchtor            5.90  25  P     Pn          17 23 04.2 +2.3
      SNR=18
EKS2  Erkin-Say         6.07  19  P     Pn          17 23 06.2 +2.4
      SNR=7.8
KK31  Karatay Array     6.18 356  ⇑P    Pn          17 23 05.3 +0.1
      5.0nm,0.3s,baz=178,slow=12,SNR=92
KK31                              ⇑S    Sn          17 24 15.2 +0.3
      10nm,0.5s,baz=178,slow=15,SNR=27
AAK   Ala-Archa         6.26  23  P     Pn          17 23 08.7 +2.3
      SNR=5.5
AAK   Ala-Archa         6.26  23  ⇑P    Pn          17 23 07.5 +1.1
      0.9nm,0.4s
AAK                               ⇓S    Sn          17 24 16.2 -0.8
      4.6nm,0.6s
USP   Ospenovka         6.83  21  P     Pn          17 23 15.6 +1.7
      SNR=5.3
TKM2  Tokmak 2          6.89  28  P     Pn          17 23 16.3 +1.4
      SNR=16
MKAR  Makanchi Array   12.88  37  P     Pn          17 24 33.3 -0.4
      1.0nm,0.6s,baz=216,slow=11,SNR=9.5
KURBB Kurchatov Arra   14.68  19  P     Pn          17 24 57.0 +0.6
      0.9nm,0.5s,baz=206,slow=11,SNR=4.8
AB31  Akbulak array    14.76 330  P     Pn          17 24 59.2 +1.8
      0.4nm,0.4s,baz=131,slow=12,SNR=16
AB31                              ⇑S    Sn          17 27 39.1 -1.9
      0.9nm,0.6s,baz=151,slow=23,SNR=4.6
BVAR  Borovoye Array   16.10 358  P     Pn          17 25 14.4 +0.6
      0.9nm,0.4s,baz=158,slow=8.7,SNR=13
ZALV  Zalesovo Beam    19.48  25  P     P           17 25 50.2 -1.1
      2.0nm,0.3s,baz=219,slow=9.3,SNR=12
ARCES ARCESS Array B   40.78 337  P     P           17 29 01.5 -0.7
      3.1nm,1.1s,baz=119,slow=8.0,SNR=3.9
      3.1nm,1.1s
HFS   Hagfors          42.79 322  P     P           17 29 17.7 -0.9
      2.1nm,0.9s,baz=77,slow=12,SNR=1.6
      2.1nm,0.9s
```

*IDC **31** 17:24:47.1±4.0, 47°.65N×92°.31W, h0km, mbtmp3.0/2, ML1.3/1, Error ellipse: s-maj=40.7km s-min=18.8km az=79.0*
*NEIC **31** 17:24:47.8±2.5, 47°.60N±0°.04×92°.58W±0°.05, h0km±2km, mb_Lg3.0/18, Error ellipse: s-maj=8.1km s-min=4.3km az=324.0*
*OTT **31** 17:24:50.1±0.2, 47°.60N×92°.65W, h0km, MN2.6/8, Blast, Minnesota, U.S. 125km southeast from Fort Frances, On Mining explosion.*
ISC 31 17:24:47.2±0.7, 47°.57N±0°.04×92°.55W±0°.04, h0km, n37,
σ1s73/42, Minnesota

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
EYMN  Ely               0.80  62  Pg    Pg          17 25 01.4 -1.2
EYMN                              Sg    Sg          17 25 13.5 +0.5
E38A  The Farm, Brul    1.18 145  Pg    Pg          17 25 09.3 -0.5
ATKO  Atikokan Iron     1.40  27  PG    Pb          17 25 15.1 +0.8
ATKO                              SG    Sn          17 25 34.1 +0.9
ATKO                              Trac                17 25 36.5
      comp=Z,18nm,0.2s
EPLO  Experimental L    2.24 340  Pn    Pn          17 25 23.9 -1.6
EPLO  Experimental L    2.24 340  PN    Pn          17 25 27.2 +1.7
EPLO                              SN    Sn          17 25 55.0 +1.1
EPLO                              Trac                17 25 59.8
      comp=Z,12nm,0.3s
AGMN  Agassiz Nation    2.34 289  Pn    Pn          17 25 26.9  0.0
AGMN                              IAmb_Lg           17 26 05.8
      comp=Z,45nm,0.8s
SPMN  Marine on St.     2.36 184  Pn    Pn          17 25 27.3 +0.2
SPMN                              IAmb_Lg           17 26 04.3
      comp=Z,52nm,0.8s
TBO   Thunder Bay       2.36  62  Pb    Pb          17 25 31.1 +0.5
TBO                               IAmb_Lg           17 26 02.9
      comp=Z,44nm,0.7s
TBO   Thunder Bay       2.36  62  PN    Pb          17 25 31.0 +0.4
TBO                               SN    Sb          17 25 59.8 -0.6
TBO                               Trac                17 26 02.5
      comp=Z,34nm,0.4s
SOLO  Sioux Lookout     2.47   7  PN    Pn          17 25 30.8 +2.1
SOLO                              SN    Sn          17 26 01.2 +1.7
SOLO                              Trac                17 26 08.1
      comp=Z,12nm,0.3s
G40A  Rib Lake          2.82 144  Pn    Pn          17 25 32.6 -0.9
F33A  5 Mile Ranch,     3.10 237  Pn    Pn          17 25 37.5 +0.1
F33A                              IAmb_Lg           17 26 30.2
      comp=Z,80nm,1.1s
ULM   Lac du Bonnet     3.46 322  Pn    Pn          17 25 42.8 +0.6
      comp=Z,0.5nm,0.3s,baz=141,slow=1.1,SNR=1.7
ULM                               Sn    Sn          17 26 22.2 -1.8
      comp=Z,0.6nm,0.3s,baz=159,slow=12,SNR=2.4
ULM                               Lg    Lg          17 26 35.2
      comp=Z,3.9nm,0.3s,baz=56,slow=16,SNR=13
      comp=Z,3.0nm,0.6s
ULM   Lac du Bonnet     3.46 322  PN    Pn          17 25 43.6 +1.3
ULM                               SN    Sn          17 26 24.0  0.0
ULM                               Trac                17 26 39.0
      comp=Z,3.3nm,0.1s
I10CA LAC DU BONNET     3.49 320  I     I           17 50 10.0
      baz=129,slow=326,SNR=0.3
F42A  Maple Grove Fa    3.54 119  IAmb_Lg           17 26 50.1
      comp=Z,30nm,0.8s
I37A  Lemond, Waseca    3.61 190  Pn    Pn          17 25 46.4 +2.0
I37A                              IAmb_Lg           17 26 43.9
      comp=Z,45nm,1.2s
I40A  Norwalk           3.92 159  Pn    Pn          17 25 49.6 +0.9
PKLO  Pickle Lake       4.18  19  PN    Pn          17 25 53.6 +1.4
PKLO                              SN    Sn          17 26 42.2 +0.5
PKLO                              Trac                17 26 51.2
      comp=Z,5.9nm,0.4s
GTOO  Geraldton         4.29  58  PN    Pn          17 25 58.0 +4.3
GTOO                              SN    Sn          17 26 45.9 +1.4
GTOO                              Trac                17 27 00.4
      comp=Z,3.8nm,0.2s
PNPO  Pukaskwa Natio    4.32  74  PN    Pn          17 25 56.9 +2.8
PNPO                              SN    Sn          17 26 46.5 +1.4
PNPO                              Trac                17 26 59.6
      comp=Z,4.0nm,0.3s
H43A  Windswept, Lux    4.55 131  Pn    Pn          17 25 53.6 -3.7
MDND  Maddock           4.77 276  IAmb_Lg           17 27 20.8
      comp=Z,36nm,0.8s
ECSD  EROS Data Cent    4.78 218  Pg    Pb          17 26 11.6 -0.2
JFWS  Jewell Farm       4.94 160  Pg    Pb          17 26 16.9 +2.5
SUSD  Miller            5.45 237  IAmb_Lg           17 27 44.4
      comp=Z,33nm,0.7s
L40A  Anamosa           5.59 170  Pn    Pn          17 26 12.7 +1.2
L40A                              IAmb_Lg           17 27 43.0
      comp=Z,17nm,0.9s
E28A  Huff              5.65 263  Pg    Pb          17 26 30.4 +3.7
E28A                              IAmb_Lg           17 27 46.7
      comp=Z,26nm,0.7s
SCIA  State Center      5.69 185  Pn    Pn          17 26 07.2 -5.7
N41A  Harden Midland    6.97 169  Pn    Pn          17 26 28.7 -1.8
M44A  Midewin, Midew    6.97 151  Pn    Pn          17 26 27.8 -2.8
HDIL  Hopedale          7.40 160  Pn    Pn          17 26 37.2 +0.8
RSSD  Black Hills       8.73 251  Pn    Pn          17 26 53.2 -1.6
P46A  Rosedale          8.85 152  Pn    Pn          17 26 54.4 -1.8
R40A  Maddies Statio    9.28 179  Pn    Pn          17 27 01.6 -0.5
FFC   Flin Flon         9.29 324  Pn    Pn          17 27 01.0 -1.2
PDAR  Pinedale Array   12.92 254  Pn    Pn          17 27 51.1 -1.1
      comp=Z,0.3nm,0.5s,baz=76,slow=11,SNR=1.5
PDAR                              Lg    Lg          17 31 32.4
      comp=Z,0.1nm,0.3s,baz=75,slow=30,SNR=2.7
```

*SKHL **31** 17:30:31.6±0.2, 44°.50N×148°.40E, h41km±4km, mb4.5/3*
*JMA **31** 17:30:31.3±0.4, 44°.N±2°.×14°.8E±°, h0km, MV3.7/18, SE OFF ETOROFU*
ISC 31 17:30:29.0±2.6, 44°.35N±0°.08×148°.2E±0°.2, h10km, n14,
σ2s02/21, Kuril Islands

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
KUR   Kuril'sk          0.92 344  eP    Pb          17 30 46.0 -1.0
KUR                               AMB   AMB         17 30 46.3
      230nm,0.3s
KUR                               eS    Sg          17 30 56.9 -1.8
KUR                               A     A           17 30 57.9
      560nm,0.3s
KUR                               A     A           17 30 57.9
      1μm,0.3s
YUK   Yuzh-Kuril'sk     1.73 260  eP    Pb          17 31 00.8  0.0
YUK                               AMB   AMB         17 31 03.0
      130nm,0.3s
YUK                               eS    Sb          17 31 22.8 +0.2
YUK                               A     A           17 31 28.3
      270nm,0.3s
YUK                               A     A           17 31 28.3
      180nm,0.3s
GLVR  Golovnino         2.05 254  eP    Pb          17 31 05.5 -0.7
GLVR                              AMB   AMB         17 31 09.2
      70nm,0.2s
GLVR                              eS    Sb          17 31 30.9 -0.8
GLVR                              A     A           17 31 33.3
      330nm,0.3s
GLVR                              A     A           17 31 33.3
      170nm,0.3s
NEM2  Nemuro 2          2.05 242  eP    Pb          17 31 04.5 -1.7
NEM2                              eS    Sn          17 31 28.7 -0.4
NMR   Nemuro--Hokkai    2.06 242  eP    Pb          17 31 04.6 -1.8
NMR                               eS    Sn          17 31 29.1 -0.1
JRA   Rausu             2.27 261  eP    Pb          17 31 09.1 -1.0
JNSB  Nemuroshibetsu    2.39 257  eP    Pb          17 31 10.9 -1.3
JKHN  Kushirohamanak    2.56 241  eP    Pn          17 31 12.2 +1.7
AKK   Akkeshi           2.79 243  eP    Pb          17 31 15.9 -3.1
JAK   Akkeshi           2.90 243  eP    Pn          17 31 16.9 +1.7
JAK                               eS    Sn          17 31 50.2 +0.2
JAR   Ashorobuto        3.39 254  eP    Pb          17 31 25.1 -4.1
JAR                               eS    Sn          17 32 05.1 +2.8
JOB   Onbets            3.50 247  eP    Pn          17 31 26.2 +2.8
JCH   Churui            3.94 246  eP    Pn          17 31 31.4 +1.9
JNBK  Urakawa-nobuka    4.50 245  eP    Pn          17 31 39.8 +2.6
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*BJI **31** 17:35:23.2, 6°.21N×125°.43E, h10km, mB4.8/13, mb4.6/61, Ms4.4/30, Ms7 4.1/32*
*IDC **31** 17:35:26.9±0.6, 6°.67N×124°.98E, h0km, mb4.3/21, mbtmp4.4/22, ML4.3/1, MS3.8/40, Error ellipse: s-maj=12.3km s-min=8.7km az=147.0*
*GCMT **31** 17:35:30.1±0.3, 6°.87N±0°.02×125°.14E±0°.03, h22km±1km, MW4.7/77, Moment Tensor Solution. s21,c25; s77,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.04±. 14; Mθθ 1.66±.09; Mφφ-0.62±.09; Mrθ-0.09±.12; Mrφ0.84±.05; Mθφ0.32±.15; Best double couple: M0 1.62100×10^16 NP1:φs104.00000°, δ56.00000°, λ-41.00000°. NP2: φs220.00000°, δ57.00000°, λ-139.00000°. Principal axes: T 1.9360, Plg0.0000°, Azm342.0000°; N -0.6340, Plg39.0000°, Azm252.0000°; P -1.3070, Plg51.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 17:35:30.1±1.6, 6°.76N±0°.07×125°.11E±0°.06, h14km±5km, mb4.9/76 Error ellipse: s-maj=11.9km s-min=6.4km az=147.0*
*DJA **31** 17:35:32.0±0.5, 7°.N±2°.×12°.5E±°, h23km±4km, M4.9/53, mb4.9/53, mB5.4/23, MLv5.3/10, Mw(mB)4.8/23, MwMwp4.3/3, Mwp4.8/3*
ISC 31 17:35:30.0±0.3, 6°.81N±0°.04×125°.22E±0°.06, h13km, n218,
σ1s83/177, mb4.8/80, MS3.9/47, 1C-2D, Mindanao

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
DAV   Davao City (W)    0.44  54  Pg    Pg          17 35 41.0 +2.3
      14μm,0.3s,baz=253,slow=14,SNR=464
DAV                               Lg    Lg          17 35 50.9
      8μm,0.3s,baz=307,slow=20,SNR=15
DAV                               LR    LR          17 36 03.7
      comp=Z,11μm,20.9s,baz=18,slow=52
DAV   Davao City (W)    0.44  54  P     Pg          17 35 38.0 -0.8
SGSI  Sangihe           3.12 174  P     Pn          17 36 19.4 +0.5
SGSI                              S     Sn          17 36 57.6 +1.5
KMSI  Cibinong          6.32 191  P     Pn          17 37 03.8 +0.9
TNTI  Ternate           6.37 160  Pn    Pn          17 37 03.1 -0.5
TNTI  Ternate           6.37 160  P     Pn          17 37 04.9 +1.3
      0.6nm741nm2μm186nm,1.1s
MRSI  Marisa            7.09 208  P     Pn          17 37 13.2 -0.4
TOLI2 Tolitoli          7.19 218          Pn          17 37 10.7 -4.2
LUWI  Luwuk             8.17 197          Pn          17 37 27.3 -1.2
LUWI  Luwuk             8.17 197  P     Pn          17 37 31.0 +2.6
TGY   Tagaytay City     8.38 330  LR    LR          17 41 00.8
      comp=Z,626nm,21.3s,baz=116,slow=40
APSI  Ampana            8.46 205  P     Pn          17 37 34.8 +2.5
      1μm72nm,1.0s
SANI  Sanana            8.83 175  P     Pn          17 37 36.4 -1.1
SANI  Sanana            8.83 175  P     Pn          17 37 36.2 -1.3
I39PW PALAU INFRASON    9.28  85  I     I           18 31 51.3
      baz=268,slow=306,SNR=2.1
SWI   Sorong            9.71 141  P     Pn          17 37 50.3 +0.7
      592nm46nm,1.2s
NLAI  Namlea           10.16 169  P     Pn          17 37 54.4 -1.2
      1μm94nm,1.1s
MSAI  Masohi           10.74 160  P     Pn          17 38 06.4 +2.7
      56nm,0.9s
AAI   Ambon            10.84 164  P     Pn          17 38 05.1 +0.1
      1μm63nm,1.3s
FAKI  Fak Fak          11.94 144          Pn          17 38 19.7 -0.4
FAKI  Fak Fak          11.94 144  P     Pn          17 38 19.9 -0.2
FAKI  Fak Fak          11.94 144  P     Pn          17 38 22.9 +2.8
      55nm,1.1s
SPSI  Sidrap Palu      12.01 207  P     Pn          17 38 24.7 +3.7
      19nm,0.9s
BNSI  Bone             12.25 205  P     Pn          17 38 26.6 +2.3
      33nm,1.0s
BKSI  Bulukumba        13.08 203  P     Pn          17 38 38.9 +3.2
      23nm,1.1s
BAKI  Biak             13.46 126  P     Pn          17 38 42.5 +1.6
      68nm,1.1s
SBUM  Sibu             13.66 252  Pn    Pn          17 38 44.1 +0.4
MMRI  Maumere          15.63 191  Pn    Pn          17 39 06.7 -3.5
MMRI  Maumere          15.63 191  P     P           17 39 13.7 -0.6
      35nm,1.4s
EDFI  Ende, Flores     15.85 193  P     P           17 39 15.4 -1.5
SOEI  Soe              16.48 183          Pn          17 39 17.9 -3.4
SOEI  Soe              16.48 183  P     P           17 39 22.1 -1.8
SOEI  Soe              16.48 183  P     P           17 39 23.8 -0.1
      1μm79nm,1.0s
BATI  Baumata          16.98 185  Pn    P           17 39 31.3 +2.0
      7.1nm,0.3s,baz=44,slow=9.2,SNR=14
BATI                              LR    LR          17 46 23.4
      comp=Z,199nm,20.7s,baz=12,slow=39
BATI  Baumata          16.98 185  P     P           17 39 31.0 +1.7
      65nm,0.7s
TPUB  Ta-pu            16.98 345  Pn    Pn          17 39 25.1 -2.4
PLAI  Plampang         17.21 206  P     P           17 39 34.2 +2.3
PLAI  Plampang         17.21 206  P     P           17 39 32.6 +0.7
      38nm,1.2s
WBSI  Waikabubak, Su   17.34 200  P     P           17 39 32.7 -0.7
      56nm,1.0s
TWSI  Taliwang, Sumb   17.54 208  P     P           17 39 37.4 +1.9
      45nm,1.0s
JAY   Jayapura         18.02 120  P     Pn          17 39 41.4 +0.9
      0.9nm,0.3s,baz=270,slow=5.1,SNR=3.6
      20nm,0.9s
JAY   Jayapura         18.02 120  P     P           17 39 42.0 +1.1
JAGI  Jajag, Banyuwa   18.77 216  P     P           17 39 43.6 -5.5
JAGI  Jajag, Banyuwa   18.77 216  P     Pn          17 39 50.7 +1.2
QIZ   Qiongzhong       19.27 311  P     Pn          17 39 57.5 +1.9
QIZ                               S     S           17 43 31.3 -1.4
QIZ                               LR    LR
      comp=N,710nm,9.1s
QIZ                               LR    LR
      comp=Z,610nm,15.9s
DRS   Darwin Rock St   19.93 164  P     P           17 40 02.2 +0.4
JOW   Kunigami         20.12   8  P     P           17 40 04.1 +0.3
JOW                               IAmb  IAmb        17 40 09.8
      comp=Z,42nm,0.8s
JOW   Kunigami         20.12   8  P     P           17 40 04.7 +0.8
      comp=Z,36nm,0.7s,baz=218,slow=12,SNR=6.8
JOW                               LR    LR          17 48 17.1
      comp=Z,269nm,20.1s,baz=281,slow=38
      comp=Z,36nm,0.7s
MTN   Manton Dam       20.39 163          P           17 40 06.3 -0.5
GUMO  Guam             20.46  69  LR    LR          17 46 44.5
      comp=Z,90nm,20.5s,baz=200,slow=33
KPJI  Karang Pucung    21.48 229  P     P           17 40 22.1 +3.5
      comp=Z,22nm,0.8s
BBJI  Bungbulang       22.54 231  P     P           17 40 32.1 +2.0
KNRA  Kununurra        22.61 171          P           17 40 29.9 -0.8
KNRA                              IAmb  IAmb        17 40 46.2
      comp=Z,37nm,0.9s
CNJI  Cibinong         22.86 232  P     P           17 40 35.0 +1.7
      comp=Z,1μmcomp=Z,26nm,1.0s
KASI  Kota Agung       24.04 240  P     P           17 40 47.4 +2.3
      comp=Z,42nm,1.0s
LWLI  Liwa             24.17 241  P     P           17 40 47.0 +0.5
      comp=Z,91nm,1.0s
FITZ  Fitzroy Crossi   24.75 179  P     P           17 40 50.5 -1.0
FITZ  Fitzroy Crossi   24.75 179  P     P           17 40 52.6 +1.1
MASI  Maura Aman, Be   24.98 247  P     P           17 40 57.3 +3.6
      comp=Z,73nm,1.0s
KRJI  Kerinci          25.31 250  P     P           17 40 57.2 +0.4
WHN   Wuhan            25.72 338  P     P           17 41 02.8 +2.6
WHN                               sP    sP          17 41 10.0 +3.8
WHN                               pmax  pmax
      comp=Z,32nm,0.8s
WHN                               LR    LR
      comp=Z,1μm,22.0s
PPI   Padang Panjang   25.80 255  P     P           17 41 01.1  0.0
      comp=Z,25nm,0.4s
NJ2   Nanjing          25.81 348  eP    P           17 41 02.5 +1.5
NJ2                               pmax  pmax
      comp=Z,11nm,0.8s
JCJ   Chichijima       25.82  37  LR    LR          17 49 20.7
      comp=Z,119nm,21.8s,baz=154,slow=32
PSI   Prapat           26.50 263  LR    LR          17 52 06.2
      comp=Z,108nm,18.1s,baz=161,slow=38
JNU   Nakatsue         26.70  11  P     P           17 41 07.9 -1.3
JNU   Nakatsue         26.70  11  LR    LR          17 51 22.9
      comp=Z,140nm,21.9s,baz=204,slow=36
PMG   Port Moresby     27.15 126          P           17 41 13.0 -0.4
PMG                               IAmb  IAmb        17 41 14.2
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comp=Z,36nm,0.8s
PMG Port Moresby 27.15 126 P P 17 41 13.5 +0.1
PMG Port Moresby 27.15 126 P P 17 41 13.4 +0.1
COEN Coen 27.26 139 P P 17 41 13.8 -0.6
COEN IAmb IAmb 17 41 18.9
comp=Z,24nm,0.8s
COEN Coen 27.26 139 P P 17 41 13.4 -0.9
KCSI Kotacane, Aceh 27.53 265 P P 17 41 15.5 -1.3
comp=Z,16nm,1.1s
WB0 Warramunga Arr 27.91 161 P P 17 41 17.8 -2.3
WB0 IAmb IAmb 17 41 37.7
comp=Z,13nm,0.6s
WRAB Tennant Creek 28.05 161 P P 17 41 20.0 -1.3
WRAB IAmb IAmb 17 41 57.1
comp=Z,11nm,0.7s
WRAB Tennant Creek 28.05 161 P P 17 41 21.9 +0.6
WRA Warramunga Arr 28.06 162 P P 17 41 19.8 -1.6
WRA Warramunga Arr 28.06 162 P P 17 41 19.6 -1.7
comp=Z,2.8nm,0.6s,baz=330,slow=11,SNR=21
comp=Z,2.8nm,0.6s
CMAR Chiang Mai Arr 28.09 297 P P 17 41 20.1 -1.7
CMAR Chiang Mai Arr 28.09 297 P P 17 41 20.6 -1.2
comp=Z,1.1nm,0.7s,baz=117,slow=6.8,SNR=11
CMAR LR LR 17 53 19.8
comp=Z,110nm,18.3s,baz=110,slow=38
comp=Z,1.1nm,0.7s
GSI Gunungsitoli 28.10 260 P P 17 41 19.6 -2.3
GSI IAmb IAmb 17 41 25.8
comp=Z,27nm,0.9s
GSI Gunungsitoli 28.10 260 P P 17 41 20.6 -1.3
comp=Z,36nm,1.1s
WR8 Warramunga Arr 28.12 161 P P 17 41 19.8 -2.1
WR8 IAmb IAmb 17 42 15.6
comp=Z,16nm,1.1s
KMI Kunming 28.18 313 P P 17 41 23.8 +1.1
KMI S S **17 46 14.5 +6.3**
KMI pmax pmax
comp=Z,14nm,1.0s
KMI LR LR
comp=Z,340nm,21.4s
KMI LR LR
comp=Z,290nm,20.9s
KMI LR LR
comp=Z,350nm,23.6s
MBWA Marble Bar 28.31 191 P P 17 41 25.5 +1.9
PSA00 Pilbara Seismi 28.70 190 P P 17 41 28.8 +1.8
JHJ Hachijo jima 2 29.47 25 LR LR 17 52 42.6
comp=Z,186nm,20.3s,baz=166,slow=35
PZH PanZhiHua 29.72 314 P P 17 41 38.3 +2.0
TIA Tai'an 30.19 347 P P 17 41 40.8 +0.6
TIA pmax pmax
comp=Z,9.0nm,1.3s
INU Inuyama 30.40 19 P P 17 41 41.3 -0.7
KSRS Korea Array 30.60 4 P P 17 41 43.5 -0.2
comp=Z,2.8nm,0.8s,baz=180,slow=10,SNR=8.9
comp=Z,2.8nm,0.8s
QIS Mount Isa 30.65 153 P P 17 41 46.2 +1.8
XAN Xi'an 31.01 333 P P 17 41 49.5 +2.0
XAN pmax pmax
comp=Z,11nm,1.2s
XAN LR LR
comp=Z,290nm,16.3s
XAN LR LR
comp=Z,380nm,17.3s
XAN LR LR
comp=Z,410nm,17.5s
MTSU Mount Surprise 31.14 143 P P 17 41 51.3 +2.6
CD2 Chengdu 31.29 323 P P 17 41 50.0 -0.1
AS31 Alice Springs 31.45 165 P P 17 41 49.6 -1.9
ASAR Alice Springs 31.45 165 P P 17 41 50.0 -1.5
comp=Z,2.6nm,0.6s,baz=338,slow=7.2,SNR=46
ASAR PcP **PcP 17 44 43.6 -1.2**
comp=Z,0.8nm,0.7s,baz=350,slow=2.8,SNR=2.2
ASAR LR LR 17 55 55.9
comp=Z,75nm,18.1s,baz=298,slow=39
comp=Z,2.6nm,0.6s
MJAR Matsushiro Arr 31.89 20 P P 17 41 53.6 -1.6
comp=Z,3.3nm,0.8s,baz=194,slow=9.4,SNR=8.4
MJAR LR LR 17 54 19.5
comp=Z,186nm,19.9s,baz=202,slow=35
HNS HongShan 31.92 344 ⇓P **P 17 41 59.8 +4.4**
HNS pmax pmax
comp=Z,12nm,1.0s
MEEK Meekatharra 33.86 191 P P 17 42 14.2 +1.7
JMM Marumori 34.00 22 P P 17 42 12.4 -1.1
JMM Marumori 34.00 22 P P 17 42 15.9 +2.4
BJI Beijing 34.07 348 P P 17 42 14.0 -0.1
BJI S S **17 47 36.5 -3.0**
BJI pmax pmax
comp=Z,10.0nm,1.3s
BJI LR LR
comp=Z,67nm,16.8s
BJI LR LR
comp=Z,96nm,16.0s
BJI LR LR
comp=Z,69nm,18.5s
LZDM Lanzhou Array 35.08 329 P P 17 42 22.1 -1.3
comp=Z,2.5nm,0.4s,baz=155,slow=11,SNR=1.9
LZDM LR LR 17 57 18.2
comp=Z,106nm,20.9s,baz=175,slow=37
comp=Z,2.5nm,0.4s
LZH Lanzhou 35.11 329 *e*P **P 17 42 24.5 +1.1**
LZH pP sP 17 42 30.0 +0.9
LZH sP pP 17 42 33.3 +5.6
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,290nm,13.1s
LZH LR LR
comp=Z,380nm,14.1s
HHC Hu-ho-hao-te 36.02 342 *e*P **P 17 42 34.5 +3.3**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,42nm,5.6s
HHC LR LR
comp=Z,190nm,23.6s
HHC LR LR
comp=Z,200nm,20.2s
HHC LR LR
comp=Z,320nm,22.7s
BTO Baotou 36.30 340 *e*P **P 17 42 36.5 +3.0**
BTO S S **17 48 19.3 +5.3**
BTO pmax pmax
comp=Z,20nm,0.7s
BTO pmax pmax
comp=Z,150nm,3.9s
BTO LR LR
comp=Z,520nm,19.8s
BTO LR LR
comp=Z,400nm,17.5s
BTO LR LR
comp=Z,440nm,16.0s
MORW Morawa 36.75 194 P P 17 42 40.0 +2.7
SHL Shillong 36.88 304 P P 17 42 37.9 -0.9
FORT Forrest 37.47 176 P P 17 42 40.4 -3.0
FORT IAmb IAmb 17 42 47.3
comp=Z,11nm,0.7s
INKA Innaminka 37.48 157 P 17 42 42.0 -1.5
USRK Ussuriysk Ar. 37.71 8 P P 17 42 44.8 -0.5
USRK Ussuriysk Ar. 37.71 8 P P 17 42 46.0 +0.6
comp=Z,20nm,0.8s,baz=192,slow=7.7,SNR=16
comp=Z,20nm,0.8s
XLT XiLinHaoTe 37.80 349 *e*P **P 17 42 48.5 +2.3**
XLT pmax pmax
comp=Z,15nm,0.7s
MDJ Mudanjiang 37.85 5 P P 17 42 47.5 +1.0
MDJ pmax pmax
comp=Z,39nm,1.0s
BLDU Ballidu 38.09 192 P P 17 42 51.0 +2.3
BNX BinXian 38.83 2 ⇓P **P 17 42 55.0 +0.3**
BNX pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 39.31 310 P P 17 42 56.5 -3.1
LSA pmax pmax
comp=Z,4.0nm,1.1s
MUN Mundaring 39.52 192 P P 17 43 02.3 +1.7
GTA Gaotai 39.70 329 *e*P **P 17 43 03.5 +1.2**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA LR LR
comp=Z,200nm,17.8s
GTA LR LR
comp=Z,160nm,17.8s
GTA LR LR
comp=Z,210nm,17.1s
ASAJ Asahikawa 40.15 19 LR LR 17 59 11.4
comp=Z,147nm,20.3s,baz=194,slow=35
NWAO Narrogin (SRO) 40.24 190 P P 17 43 09.5 +2.9
NWAO Narrogin (SRO) 40.24 190 P P 17 43 08.5 +1.9
EIDS Eidsvold 40.69 143 P P 17 43 10.5 0.0
BBOO Buckleboo 40.73 166 P P 17 43 09.6 -1.0
BBOO IAmb IAmb 17 43 27.6
comp=Z,22nm,1.0s
BBOO Buckleboo 40.73 166 P P 17 43 10.0 -0.7
STKA Stephens Creek 41.52 159 P P 17 43 17.5 +0.3
STKA Stephens Creek 41.52 159 P P 17 43 16.5 -0.8
comp=Z,6.5nm,0.8s,baz=328,slow=10,SNR=6.6
comp=Z,6.5nm,0.8s
STKA Stephens Creek 41.52 159 P P 17 43 19.7 +2.5
EVN Everest 41.99 305 P P 17 43 20.7 -1.2
HTT Hallett 42.08 163 P P 17 43 23.2 +1.4
HILR Hailar Array B 42.85 355 P P 17 43 28.1 +0.1
comp=Z,2.2nm,0.4s,baz=166,slow=9.4,SNR=7.7
comp=Z,2.2nm,0.4s
CMSA Cobar Meteorol 42.86 154 P P 17 43 29.5 +1.4
HEH HeiHe 43.34 2 *e*P **P 17 43 32.0 +0.2**
HEH pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 43.75 342 P P 17 43 33.9 -1.4
SONM Songino Array 43.92 342 P P 17 43 35.2 -1.5
SONM Songino Array 43.92 342 P P 17 43 36.5 -0.2
comp=Z,1.2nm,0.8s,baz=160,slow=9.0,SNR=8.3
SONM LR LR 18 02 56.2
comp=Z,182nm,21.2s,baz=148,slow=38
comp=Z,1.2nm,0.8s
PALK Pallekele 44.17 273 LR LR 18 04 28.4
comp=Z,53nm,18.5s,baz=87,slow=40
ARMA Armidale 44.85 147 P P 17 43 45.6 +1.3
WMQ Urumqi 49.36 324 *e*P **P 17 44 20.5 +1.2**
WMQ LR LR
comp=Z,310nm,22.3s
WMQ LR LR
comp=Z,260nm,21.1s
WMQ LR LR
comp=Z,160nm,23.8s
DZM Mont Dzumac 49.55 127 LR LR 18 05 06.6
comp=Z,72nm,18.7s,baz=3.5,slow=36
PETK Petropavlovsk- 53.20 24 P P 17 44 48.0 +0.1
PETK Petropavlovsk- 53.20 24 P P 17 44 48.5 +0.6
comp=Z,14nm,0.8s,baz=203,slow=6.2,SNR=16
PETK LR LR 18 07 13.8
comp=Z,100nm,20.0s,baz=216,slow=36
comp=Z,14nm,0.8s
PET Petropavlovsk 53.52 24 P P 17 44 50.8 +0.5
MKAR Makanchi Array 54.19 325 P P 17 44 54.3 -1.0
MKAR Makanchi Array 54.19 325 P P 17 44 54.7 -0.6
comp=Z,1.6nm,0.6s,baz=121,slow=6.6,SNR=15
MKAR LR LR 18 08 04.1
comp=Z,148nm,21.7s,baz=122,slow=36
comp=Z,1.6nm,0.6s
MAKZ Makanchi 54.38 325 P P 17 44 56.0 -0.7
MAKZ IAmb IAmb 17 45 06.9
comp=Z,13nm,1.1s
KSH Kashi 54.83 314 P P 17 45 03.5 +3.3
KSH pmax pmax
comp=Z,12nm,1.3s
KDJ Kajisay 55.07 318 IAmb IAmb 17 45 08.5
comp=Z,21nm,1.2s
YAK Yakutsk 55.21 3 P P 17 45 02.8 +0.4
YAK IAmb IAmb 17 45 05.2
comp=Z,18nm,0.9s
YAK Yakutsk 55.21 3 LR LR 18 10 34.4
comp=Z,85nm,19.4s,baz=192,slow=38
ULHL Ulsol 55.75 317 P P 17 45 08.2 +1.3
SNR=13
TKM2 Tokmak 2 56.47 318 P P 17 45 12.0 -0.1
SNR=12
UCH Uchtor 56.91 317 P P 17 45 16.4 +0.8
SNR=20
AAK Ala-Archa 57.09 317 P P 17 45 15.9 -0.5
AAK Ala-Archa 57.09 317 LR LR 18 11 20.7
comp=Z,133nm,21.2s,baz=106,slow=38
ZALV Zalesovo Beam 57.18 333 P P 17 45 14.7 -2.0
ZALV Zalesovo Beam 57.18 333 P P 17 45 14.9 -1.7
comp=Z,0.9nm,0.7s,baz=108,slow=4.8,SNR=6.3
ZALV LR LR 18 10 53.1
comp=Z,48nm,19.9s,baz=148,slow=37
comp=Z,0.9nm,0.7s
USP Ospenovka 57.34 318 P P 17 45 18.8 +0.8
SNR=14
EKS2 Erkin-Say 57.58 317 P P 17 45 21.2 +1.3
SNR=12
DRK Karamyk 57.82 313 IAmb IAmb 17 45 29.4
comp=Z,18nm,1.0s
KURBB Kurchatov Arra 58.35 327 P P 17 45 23.6 -1.3
comp=Z,4.0nm,0.8s,baz=124,slow=6.4,SNR=24
comp=Z,4.0nm,0.8s
KURK Kurchatov 58.35 327 P P 17 45 23.2 -1.8
KURK IAmb IAmb 17 45 35.9
comp=Z,16nm,1.1s
SEY Seymchan 59.41 14 LR LR 18 10 24.4
comp=Z,62nm,21.6s,baz=222,slow=35
CHGR Chuyangaron 59.52 311 IAmb IAmb 17 45 48.4
comp=Z,18nm,1.2s
KK31 Karatay Array 59.98 316 P P 17 45 35.4 -1.0
KK31 IAmb IAmb 17 45 40.0
comp=Z,14nm,1.1s
KKAR Karatay Array 59.98 316 P P 17 45 35.5 -0.9
BVAR Borovoye Array 63.94 327 P P 17 46 01.3 -1.5
comp=Z,2.7nm,0.7s,baz=119,slow=8.6,SNR=14
BVAR LR LR 18 14 23.0
comp=Z,55nm,19.9s,baz=104,slow=36
comp=Z,2.7nm,0.7s
TIXI Tiksi 64.81 1 P P 17 46 08.2 +0.1
TIXI IAmb IAmb 17 46 11.2
comp=Z,11nm,1.4s
TIXI Tiksi 64.81 1 LR LR 18 15 49.3
comp=Z,109nm,20.3s,baz=198,slow=37
RAO Raoul Island 65.34 126 LR LR 18 13 54.4
comp=Z,53nm,18.5s,baz=242,slow=35
URZ Urewera 65.80 137 LR LR 18 16 52.4
comp=Z,71nm,18.2s,baz=296,slow=38
AB31 Akbulak array 68.83 320 P P 17 46 31.5 -2.8
ABKAR Akbulak array 68.83 320 P P 17 46 32.8 -1.5
AKTO Aktyubinsk 70.33 321 LR LR 18 19 20.2
comp=Z,115nm,20.6s,baz=107,slow=38
KIRV Kirov 76.83 329 LR LR 18 24 42.4
comp=Z,65nm,18.4s,baz=101,slow=38
RAYN Ar Rayn 77.91 293 P P 17 47 26.8 -1.5
KBZ Khabaz 79.79 313 P P 17 47 36.8 -1.4
comp=Z,2.9nm,1.1s,baz=90,slow=5.1,SNR=3.8
KBZ LR LR 18 26 56.6
comp=Z,58nm,19.9s,baz=76,slow=39
comp=Z,2.9nm,1.1s
KDAK Kodiak Island 80.11 33 LR LR 18 17 20.4
comp=Z,47nm,21.8s,baz=229,slow=31
IMAR Indian Mountai 80.16 24 P P 17 47 40.1 +0.3
SKT Skwentna 80.85 28 IAmb IAmb 17 47 46.2
comp=Z,8.8nm,0.8s
TRF Thorofare Moun 81.48 27 IAmb IAmb 17 47 49.8
comp=Z,8.5nm,0.8s
NEA2 Nenana 82.05 26 IAmb IAmb 17 47 55.9
comp=Z,6.0nm,0.8s
MCK McKinley 82.10 27 P P 17 47 49.4 -0.8
MCK IAmb IAmb 17 47 52.8
comp=Z,14nm,0.8s
SML Sawmill 82.36 29 IAmb IAmb 17 47 55.1
comp=Z,26nm,1.4s
WRH Wood River Hil 82.47 26 IAmb IAmb 17 47 54.8
comp=Z,8.0nm,1.0s
H24K Noodor Dome 82.56 24 IAmb IAmb 17 47 57.6
comp=Z,9.3nm,0.9s
CCB Clear Creek Bu 82.59 26 IAmb IAmb 17 48 01.0
comp=Z,12nm,1.4s
HDA Harding Lake 82.97 26 IAmb IAmb 17 48 11.5
comp=Z,6.1nm,0.9s
ILAR Eielson Array 82.99 26 P P 17 47 52.9 -1.9
ILAR Eielson Array 82.99 26 P P 17 47 53.8 -1.0
comp=Z,2.9nm,0.8s,baz=244,slow=5.3,SNR=16
ILAR LR LR 18 26 30.3
comp=Z,21nm,19.7s,baz=36,slow=37
comp=Z,2.9nm,0.8s
PAX Paxson 83.67 27 IAmb IAmb 17 48 10.7
comp=Z,11nm,1.3s
BMAR Burnt Mountain 83.84 23 P P 17 47 58.7 -0.4
RIDG Independent Ri 83.91 27 IAmb IAmb 17 48 03.9
comp=Z,15nm,1.1s
N25K Chitina, Valde 84.15 29 IAmb IAmb 17 48 03.0
comp=Z,12nm,1.1s
DOT Dot Lake 84.27 27 IAmb IAmb 17 48 09.6
comp=Z,17nm,1.6s
SCRK Sand Creek 84.28 26 IAmb IAmb 17 48 04.7
comp=Z,12nm,1.3s
GLB Gilahina Butte 84.53 29 IAmb IAmb 17 48 10.9
comp=Z,12nm,1.0s
BCAR Beaver Creek A 85.34 27 P P 17 48 07.3 +0.4
FURI Furi 85.57 278 LR LR 18 25 24.0
comp=Z,25nm,18.7s,baz=76,slow=35
GRNC Granite Creek 85.59 29 IAmb IAmb 17 48 12.3
comp=Z,11nm,0.8s
BARN Barnard Glacie 85.60 29 IAmb IAmb 17 48 12.6
comp=Z,11nm,0.9s
DAWY Dawson 86.28 26 IAmb IAmb 17 48 15.1
comp=Z,4.8nm,0.9s
VNDA Vanda 86.65 173 P P 17 48 11.3 -1.6
VNDA IAmb IAmb 17 48 22.9
comp=Z,9.9nm,1.8s
VNDA Vanda 86.65 173 P P 17 48 11.6 -1.3
comp=Z,0.9nm,0.9s,baz=284,slow=5.2,SNR=5.9
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 86.92 309 P P 17 48 14.6 -0.6
comp=Z,0.6nm,0.7s,baz=66,slow=7.1,SNR=2.3
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 87.06 340 LR LR 18 33 08.0
comp=Z,34nm,19.2s,baz=58,slow=40
SPITS Spitsbergen Ar 87.19 349 LR LR 18 33 23.8
comp=Z,54nm,18.2s,baz=67,slow=40
FINES FINESS Array B 88.43 332 P P 17 48 20.4 -1.3
comp=Z,4.1nm,1.1s,baz=131,slow=8.9,SNR=1.6
FINES LR LR 18 30 38.7
comp=Z,83nm,19.8s,baz=70,slow=38
comp=Z,4.1nm,1.1s
HFS Hagfors 94.61 332 LR LR 18 35 23.7
comp=Z,109nm,18.5s,baz=70,slow=38
SYO Syowa Base 94.74 201 ⇑*i*P **P 17 48 49.8 -1.0**
NOA NORSAR Array B 95.38 333 LR LR 18 37 58.4
comp=Z,36nm,18.0s,baz=65,slow=39
VRAC Vranov 96.81 321 LR LR 18 36 52.9
comp=Z,43nm,18.8s,baz=59,slow=38
YKA Yellowknife Ar 97.32 24 P P 17 49 01.1 -1.7
comp=Z,0.9nm,0.9s,baz=299,slow=6.0,SNR=4.2
comp=Z,0.9nm,0.9s
LSZ Lusaka 98.52 256 LR LR 18 30 09.3
comp=Z,46nm,19.5s,baz=172,slow=33
GERES GERESS Array B 98.76 322 LR LR 18 37 07.0
comp=Z,72nm,18.3s,baz=64,slow=38
TXAR Lajitas Array 120.85 50 PKP PKPdf 17 54 21.4 -1.5
comp=Z,0.2nm,0.5s,baz=337,slow=3.5,SNR=3.7
LPAZ La Paz 163.89 127 PKP PKPdf 17 55 32.9 -1.9
comp=Z,2.0nm,1.0s,baz=190,slow=0.5,SNR=5.0

SGS 31 17:46:19.1, 28°.01N×34°.56E, h13km, MI0.5, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**0.35**	**36**	S	Sg	17 46 31.2	+0.1
RSHS		**0.35**	**36**	P	Pg	17 46 26.0	-0.3
RSHS		**0.35**	**36**	P	Pg	17 46 26.0	-0.3
RSHS		**0.35**	**36**	S	Sg	17 46 31.1	0.0
KRABS	**KRABS**	**0.62**	**82**	S	Sg	17 46 39.6	+0.2
KRABS	**KRABS**	**0.62**	**82**	P	Pg	17 46 30.9	-0.3
KRABS	**KRABS**	**0.62**	**82**	S	Sg	17 46 39.5	+0.1
KRABS				P	Pg	17 46 30.9	-0.3
BDAS	**Al Bad`**	**0.63**	**49**	P	Pg	17 46 31.3	-0.2
BDAS	**Al Bad`**	**0.63**	**49**	S	Sg	17 46 39.9	0.0
BDAS	**Al Bad`**	**0.63**	**49**	S	Sg	17 46 39.9	+0.1
BDAS	**Al Bad`**	**0.63**	**49**	P	Pg	17 46 31.2	-0.3
AYUS	**`Aynunah**	**0.65**	**74**	P	Pg	17 46 31.3	-0.4
AYUS	**`Aynunah**	**0.65**	**74**	P	Pg	17 46 31.4	-0.4
MWLHS	**Almuwaylih**	**0.88**	**107**	P	Pg	17 46 35.0	-1.2
MWLHS	**Almuwaylih**	**0.88**	**107**	P	Pg	17 46 35.1	-1.1
JLOS		**1.09**	**48**	P	Pb	17 46 38.0	-2.0
JLOS		**1.09**	**48**	P	Pb	17 46 38.1	-1.9

*SJA **31** 18:13:20.7±0.8, 19°.05S×69°.82W, h89km±5km, ML3.7, MW3.7*
*GUC **31** 18:13:22.7±0.8, 19°.08S×69°.82W, h80km±4km, ML3.5*
*IDC **31** 18:13:29.5±2.4, 18°.66S×69°.09W, h148km±23km, mb3.4/1, mbtmp3.7/4, MS2.3/1, Error ellipse: s-maj=35.5km s-min=25.9km az=106.0*

ISC 31 18:13:21.5±1.0, 19°.02S±0°.03×69°.71W±0°.06, h83km±7km, n41, σ2s33/55, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.46**	**277**	*e*S	**Sn**	**18 13 44.8**	**-0.8**
PX02				IAML		18 13 45.1	
	comp=N,4μm,0.3s						
PB12	**IPOC Station P**	**0.71**	**305**	⇓*i*P	**Pn**	**18 13 37.4**	**-0.2**
PB12				*e*S	**Sn**	**18 13 49.5**	**-0.1**
PB12				IAML		18 13 50.6	
	comp=E,3μm,0.3s						
PB12	**IPOC Station P**	**0.71**	**305**	*e*P	**Pn**	**18 13 37.4**	**-0.2**
PB12				*e*S	**Sn**	**18 13 50.1**	**+0.5**
PB12				IAML		18 13 50.7	
	comp=Z,2μm,0.5s						
PB16	**IPOC Station P**	**0.71**	**16**	⇓*i*P	**Pn**	**18 13 39.1**	**+1.0**
PB16				*e*S	**Sn**	**18 13 52.4**	**+2.0**
PB16				IAML		18 13 53.4	
	comp=N,5μm,0.3s						
PB16	**IPOC Station P**	**0.71**	**16**	*e*P	**Pn**	**18 13 39.3**	**+1.1**
PB16				*e*S	**Sn**	**18 13 52.9**	**+2.4**
PB16				IAML		18 13 53.5	
	comp=Z,3μm,0.6s						
PB11	**IPOC Station P**	**0.74**	**176**	*i*P	**Pn**	**18 13 37.8**	**-0.2**
PB11				*e*S	**Sn**	**18 13 50.4**	**+0.2**
PB11				IAML		18 13 52.0	
	comp=N,4μm,0.4s						
PB11	**IPOC Station P**	**0.74**	**176**	*e*P	**Pn**	**18 13 38.0**	**0.0**
PB11				*e*S	**Sn**	**18 13 51.1**	**+0.9**
PB11				IAML		18 13 51.9	
	comp=Z,1μm,0.3s						
GO01	**Chusmiza**	**0.81**	**143**	⇓*i*P	**Pn**	**18 13 40.0**	**+0.9**
GO01				*e*S	**Sn**	**18 13 53.9**	**+1.8**
GO01				IAML		18 13 57.7	
	comp=N,3μm,0.3s						
GO01	**Chusmiza**	**0.81**	**143**	*e*P	**Pn**	**18 13 40.2**	**+1.1**
GO01				*e*S	**Sn**	**18 13 55.2**	**+3.1**
GO01				IAML		18 13 57.2	
	comp=Z,976nm,0.2s						
AP01	**Chacalluta**	**0.88**	**317**	*i*P	**Pn**	**18 13 39.5**	**+0.2**
AP01				*e*S	**Sn**	**18 13 53.8**	**+1.2**
AP01	**Chacalluta**	**0.88**	**317**	*e*P	**Pn**	**18 13 39.7**	**+0.4**
AP01				*e*S	**Sn**	**18 13 53.2**	**+0.6**
AP01				IAML		18 13 54.9	
	comp=Z,3μm,0.5s						
HMBC	**Humberstone**	**1.26**	**187**	*i*P	**Pn**	**18 13 43.6**	**-0.4**
HMBC				*e*S	**Sn**	**18 14 00.8**	**-0.1**
HMBC				IAML		18 14 05.3	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**1.26**	**187**	*e*P	**Pn**	**18 13 43.8**	**-0.2**
HMBC				*e*S	**Sn**	**18 14 02.6**	**+1.6**
HMBC				IAML		18 14 05.6	
	comp=Z,1μm,0.3s						
TA02	**Huaiquique**	**1.30**	**197**	*e*P	**Pn**	**18 13 44.7**	**+0.2**
TA02	**Huaiquique**	**1.30**	**197**	*e*P	**Pn**	**18 13 44.6**	**+0.2**
TA02				*e*S	**Sn**	**18 14 02.5**	**+0.8**
TA02				IAML		18 14 06.0	
	comp=Z,640nm,0.3s						
PB18	**Visviri**	**1.44**	**9**	⇑*i*P	**Pn**	**18 13 50.0**	**+3.2**
PB18				*e*S	**Sn**	**18 14 12.6**	**+6.9**
PB18				IAML		18 14 14.5	
	comp=N,484nm,0.6s						
TA01	**Diego Aracena**	**1.60**	**196**	*e*P	**Pn**	**18 13 47.6**	**-0.6**
TA01				*e*S	**Sn**	**18 14 08.0**	**-0.4**
TA01	**Diego Aracena**	**1.60**	**196**	*e*P	**Pn**	**18 13 47.7**	**-0.6**
TA01				*e*S	**Sn**	**18 14 08.3**	**-0.1**
PATCX	**Punta Patache**	**1.84**	**193**	*e*P	**Pn**	**18 13 51.0**	**-0.4**
PATCX	**Punta Patache**	**1.84**	**193**	*e*P	**Pn**	**18 13 51.5**	**+0.1**
PATCX				*e*S	Sn	18 13 58.2	-16
PATCX				IAML		18 14 20.8	
	comp=Z,352nm,0.3s						
PB01	**IPOC Station P**	**2.02**	**174**	*e*P	**Pn**	**18 13 53.9**	**0.0**
PB01	**IPOC Station P**	**2.02**	**174**	*e*P	**Pn**	**18 13 54.0**	**+0.1**
PB01				*e*S	**Sn**	**18 14 19.8**	**+1.2**
PB01				IAML		18 14 23.1	
	comp=Z,348nm,0.2s						
PB02	**IPOC Station P**	**2.29**	**184**	*e*P	**Pn**	**18 13 58.3**	**+0.8**
PB02	**IPOC Station P**	**2.29**	**184**	*e*P	**Pn**	**18 13 57.8**	**+0.2**
PB02				*e*S	**Sn**	**18 14 28.1**	**+3.1**
PB02				IAML		18 14 32.6	
	comp=Z,1μm,0.4s						

PB09	**IPOC Station P**	**2.80 171**	*e*P	**Pn**	**18 14 05.2**	**+0.9**
PB09			*e*S	**Sn**	**18 14 43.8**	**+6.6**
PB09			IAML		18 14 56.1	
	comp=Z,270nm,0.4s					
LPAZ	**La Paz**	**3.11 29**	P	**Pn**	**18 14 11.3**	**+2.4**
	comp=Z,10nm,0.2s,baz=204,slow=6.2,SNR=74					
LPAZ			S	**Sn**	**18 14 39.9**	**-5.6**
	comp=Z,17nm,0.6s,baz=104,slow=1.2,SNR=11					
LPAZ			LR	LR	18 15 18.9	
	comp=Z,48nm,18.0s,baz=253,slow=43					
LPAZ	**La Paz**	**3.11 29**	*e*P	**Pn**	**18 14 12.3**	**+3.3**
PB06	**IPOC Station P**	**3.67 178**	*e*P	**Pn**	**18 14 16.4**	**+0.2**
PB06			*e*S	**Sn**	**18 15 01.4**	**+3.0**
PB06			IAML		18 15 09.9	
	comp=Z,153nm,0.4s					
PB05	**IPOC Station P**	**3.84 187**	*e*P	**Pn**	**18 14 17.6**	**-0.9**
PB05			*e*S	Sn	18 15 18.1	+16
PB05			IAML		18 15 19.7	
	comp=Z,100nm,0.4s					
SIV	**San Ignacio**	**8.78 71**	P	**Pn**	**18 15 23.9**	**-1.9**
	comp=Z,3.2nm,0.4s,baz=257,slow=12,SNR=13					
SIV			S	**Sn**	**18 16 55.5**	**-7.6**
	comp=Z,1.0nm,0.6s,baz=114,slow=20,SNR=1.5					
CFA	**Coronel Fontan**	**12.60 174**	P	P	18 16 28.9	+3.0
	comp=Z,0.5nm,0.3s,baz=18,slow=18,SNR=7.2					
QSPA	**South Pole Qui**	**71.16 180**	P	P	18 24 34.1	+2.9
	comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=9.3					
	comp=Z,0.4nm,0.4s					
H11S2	**WAKE ISLAND Hyl**	**26.78 279**	T	T	20 51 34.8	
	baz=101,slow=75,SNR=11					
H11S1	**WAKE ISLAND Hyl**	**26.79 279**	T	T	20 51 32.7	
	baz=101,slow=75,SNR=9.5					
H11N3	**WAKE ISLAND Hyl**	**26.80 281**	T	T	20 51 42.2	
	baz=100,slow=74,SNR=6.0					
H11S3	**WAKE ISLAND Hyl**	**26.80 279**	T	T	20 51 32.1	
	baz=101,slow=75,SNR=15					
H11N2	**WAKE ISLAND Hyl**	**26.81 281**	T	T	20 51 43.5	
	baz=100,slow=74,SNR=9.9					
H11N1	**WAKE ISLAND Hyl**	**26.81 281**	T	T	20 51 32.6	
	baz=100,slow=74,SNR=3.2					
ASAR	**Alice Springs**	**131.72 209**	PKP	**PKiKP**	**18 32 24.8**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=136,slow=1.3,SNR=5.3					
WRA	**Warramunga Arr**	**134.66 213**	PKP	**PKiKP**	**18 32 30.7**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=138,slow=1.9,SNR=1.6					
SONM	**Songino Array**	**151.09 5**	PKPbc	**PKiKP**	**18 33 05.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=4.4,slow=1.9,SNR=6.2					

*SKO **31** 18:39:01.9, 41°.26N×20°.86E, h15km, ML2.5*
*BEO **31** 18:39:03.8±0.4, 41°.24N×20°.93E, h4km±5km, ML2.0/4*
ISC 31 18:39:02.9±1.1, 41°.26N±0°.03×20°.90E±0°.04, h5km±12km, n12, σ0s92/20, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.17**	**206**	*i* Pg	**Pg**	**Pg**	**18 39 06.0**	**-0.2**
OHR				*i* Sg	**Sg**	**Sg**	**18 39 08.9**	**+0.4**
OHR				*e*Lg	Lg	Lg	18 39 09.0	
	comp=N,1μm,0.6s							
OHR				*e*Lg	Lg	Lg	18 39 09.0	
	comp=E,2μm,0.4s							
TIR	**Tirane**	**0.78**	**277**	*i* Pg	**Pg**	**Pg**	**18 39 16.8**	**-1.1**
VAY	**Valandovo**	**1.26**	**87**	*i* Pg	**Pb**	**Pb**	**18 39 26.9**	**-0.3**
VAY				*i* Sg	**Sn**	**Sn**	**18 39 45.1**	**+0.6**
DRME	**Dracevica, Mon**	**1.58**	**306**	*e*Pg	**Pn**	**Pn**	**18 39 31.6**	**+0.1**
DRME				*e*Sg	**Sg**	**Sg**	**18 39 54.9**	**+1.3**
LIT	**Litokhoron**	**1.68**	**133**	*i* Pn	**Pg**	**Pg**	**18 39 35.0**	**-0.1**
PDG	**Podgorica**	**1.69**	**314**	*e*Pg	**Pg**	**Pg**	**18 39 34.9**	**-0.4**
PDG				*e*Sg	**Sg**	**Sg**	**18 39 59.6**	**+2.4**
BOSS	**Bosilegrad**	**1.71**	**43**	*e*Pn	**Pn**	**Pn**	**18 39 33.0**	**-0.3**
BOSS				*e*Sg	**Sg**	**Sg**	**18 39 58.7**	**+0.9**
IGT	**Igoumenitsa**	**1.78**	**194**	*i* Pn	**Pb**	**Pb**	**18 39 35.4**	**-0.6**
IGT	**Igoumenitsa**	**1.78**	**194**	*e*Pg	**Pb**	**Pb**	**18 39 35.5**	**-0.5**
IGT				*e*Sg	**Sg**	**Sg**	**18 40 00.9**	**+0.8**
KOME	**Kolasin**	**1.89**	**328**	*e*Pg	**Pb**	**Pb**	**18 39 37.4**	**-0.5**
SELS	**Selova**	**1.96**	**5**	*e*Pn	**Pn**	**Pn**	**18 39 36.5**	**-0.3**
SELS				*e*Sn	**Sg**	**Sg**	**18 40 05.0**	**-0.9**
SJES	**Sjenica**	**2.11**	**341**	*e*Pn	**Pn**	**Pn**	**18 39 39.6**	**+0.7**
SJES				*e*Sg	**Sg**	**Sg**	**18 40 11.4**	**+0.7**

*SKO **31** 18:43:33.7, 40°.84N×20°.83E, h0km, ML2.9*
*BEO **31** 18:43:36.8±0.4, 41°.30N×20°.93E, h4km±7km, ML2.1/5*
*ATH **31** 18:43:38.2, 41°.08N×20°.97E, h5km±1km, ML2.2/11,*
Manual Solution by D.Makaris First location: 2019/10/31 18:44:26, This location: 2019/10/31 18:57:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km
ISC 31 18:43:37.0±1.2, 41°.22N±0°.02×20°.95E±0°.03, h18km±3km, n29, σ1s22/46, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.15**	**227**	*i* Pg	**Pb**	**Pb**	**18 43 39.5**	**-0.8**
OHR				*i* Sg	**Sb**	**Sb**	**18 43 42.4**	**0.0**
OHR				*e*Lg	Lg	Lg	18 43 42.4	
	comp=N,2μm,0.5s							
OHR				*e*Lg	Lg	Lg	18 43 42.5	
	comp=E,2μm,0.5s							
NEST	**Nestorio**	**0.81**	**174**	P	**Pb**	**Pb**	**18 43 51.3**	**-1.1**
NEST				S	**Sb**	**Sb**	**18 43 59.8**	**-3.2**
TIR	**Tirane**	**0.82**	**279**	*i* Pg	**Pb**	**Pb**	**18 43 49.9**	**-2.8**
TIR				*i* Sg	**Sb**	**Sb**	**18 44 01.3**	**-2.2**
SKO	**Skopje**	**0.84**	**26**	*i* Pg	**Pb**	**Pb**	**18 43 51.9**	**-1.1**
SKO				*i* Sg	**Sb**	**Sb**	**18 44 03.8**	**-0.2**
PENT	**Pentalofos**	**1.03**	**172**	P	**Pb**	**Pb**	**18 43 56.6**	**+0.3**
PENT				S	**Sb**	**Sb**	**18 44 07.3**	**-2.2**
KZN	**Kozani**	**1.10**	**145**	P	**Pb**	**Pb**	**18 43 57.6**	**+0.1**
KZN				S	**Sb**	**Sb**	**18 44 10.9**	**-0.7**
VAY	**Valandovo**	**1.23**	**85**	*i* Pg	**Pn**	**Pn**	**18 43 58.9**	**-0.3**
VAY				*i* Sg	**Sg**	**Sg**	**18 44 17.7**	**+0.9**
KNT	**Kendrikon**	**1.47**	**91**	*i* Pn	**Pb**	**Pb**	**18 44 04.0**	**+0.2**
KNT	**Kendrikon**	**1.47**	**91**	P	**Pg**	**Pg**	**18 44 04.4**	**-1.0**
KNT				S	**Sg**	**Sg**	**18 44 24.7**	**+0.1**
LIT	**Litokhoron**	**1.62**	**133**	P	**Pb**	**Pb**	**18 44 06.1**	**-0.2**
LIT				S	**Sb**	**Sb**	**18 44 26.2**	**-0.2**
DRME	**Dracevica, Mon**	**1.64**	**307**	*e*Pg	**Pn**	**Pn**	**18 44 05.0**	**+0.2**
BOSS	**Bosilegrad**	**1.72**	**41**	*e*Pg	**Pn**	**Pn**	**18 44 06.5**	**+0.6**
BOSS				*e*Sg	**Sg**	**Sg**	**18 44 30.6**	**-1.8**
KEK	**Kerkira**	**1.74**	**211**	P	**Pb**	**Pb**	**18 44 08.2**	**-0.1**
HORT	**Hortiatis**	**1.75**	**110**	P	**Pb**	**Pb**	**18 44 08.4**	**-0.1**
HORT				S	**Sb**	**Sb**	**18 44 30.7**	**+0.6**
IGT	**Igoumenitsa**	**1.75**	**196**	*e*Pg	**Pb**	**Pb**	**18 44 09.7**	**+1.2**
IGT				*e*Sg	**Sg**	**Sg**	**18 44 34.3**	**+1.0**
PDG	**Podgorica**	**1.75**	**314**	*e*Pg	**Pb**	**Pb**	**18 44 08.3**	**-0.2**
PDG				*e*Sg	**Sb**	**Sb**	**18 44 31.7**	**+1.5**
THL	**Klokotos Trika**	**1.84**	**153**	P	**Pb**	**Pb**	**18 44 09.2**	**-0.9**
THL				S	**Sn**	**Sn**	**18 44 31.2**	**+0.8**
SOH	**Sokhos**	**1.86**	**101**	P	**Pb**	**Pb**	**18 44 09.2**	**-1.3**
TETR	**Tetrakomo, Epi**	**1.89**	**172**	P	**Pn**	**Pn**	**18 44 09.8**	**+1.5**
KOME	**Kolasin**	**1.95**	**327**	*e*Pg	**Pn**	**Pn**	**18 44 10.7**	**+1.5**
KOME				*e*Sg	**Sb**	**Sb**	**18 44 36.6**	**+0.6**
SELS	**Selova**	**2.01**	**4**	*e*Pg	**Pn**	**Pn**	**18 44 10.1**	**+0.2**
SELS				*e*Sg	**Sb**	**Sb**	**18 44 38.1**	**+0.6**
PLG	**Polygyros**	**2.08**	**113**	P	**Pb**	**Pb**	**18 44 12.8**	**-1.3**
SJES	**Sjenica**	**2.17**	**341**	*e*Pg	**Pn**	**Pn**	**18 44 13.1**	**+0.9**
SJES				*e*Sg	**Sn**	**Sn**	**18 44 41.0**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.38**	**157**	P	**Pn**	**Pn**	**18 44 16.1**	**+1.0**
TSLK	**Tsoukalades, L**	**2.40**	**185**	P	**Pn**	**Pn**	**18 44 15.5**	**+0.2**
IVAS	**Ivanjica**	**2.43**	**346**	*e*Pn	**Pn**	**Pn**	**18 44 16.5**	**+0.7**
AGG	**Agios Georgios**	**2.44**	**154**	P	**Pn**	**Pn**	**18 44 17.0**	**+1.2**
LKD2	**Lefkada island**	**2.44**	**185**	P	**Pn**	**Pn**	**18 44 16.8**	**+0.9**
ZAGS	**Zajecar**	**2.76**	**20**	*e*Pn	**Pn**	**Pn**	**18 44 20.7**	**+0.4**

*IDC **31** 18:45:24.9±3.3, 23°.30N×122°.10E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=283.2km s-min=22.3km az=63.0*
*JMA **31** 18:45:25.2±0.1, 22°.7N±0°.3×121°.5E±0°.9, h26km±3km, MV3.6/14, TAIWAN REGION*
*TAP **31** 18:45:26.4, 22°.75N×121°.51E, h19km, ML3.6, C*
ISC 31 18:45:26.1±0.9, 22°.74N±0°.02×121°.55E±0°.02, h20km±4km, n138, σ0s86/205, mb3.4/5, 2C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.10**	**231**	⇑*i*P	**Pg**	**Pg**	**18 45 30.3**	**+0.4**
LDUT				S	**Sg**	**Sg**	**18 45 32.9**	**+0.3**
EDH	**Donghe**	**0.33**	**316**	*i* P	**Pg**	**Pg**	**18 45 32.8**	**-0.4**
EDH				S	**Sg**	**Sg**	**18 45 37.0**	**-1.2**
TTN	**Taitung**	**0.37**	**273**	⇓*i*P	**Pg**	**Pg**	**18 45 33.6**	**-0.4**
TTN				*i* S	**Sg**	**Sg**	**18 45 39.0**	**-0.4**
CHKT	**Chengkung**	**0.40**	**335**	⇑*i*P	**Pg**	**Pg**	**18 45 33.9**	**-0.6**
CHKT				*i* S	**Sg**	**Sg**	**18 45 39.3**	**-0.9**
LONT	**Longtian**	**0.42**	**294**	P	**Pg**	**Pg**	**18 45 34.7**	**-0.2**
LONT				S	**Sg**	**Sg**	**18 45 39.7**	**-1.2**
TWGBT	**Beinan**	**0.44**	**281**	P	**Pg**	**Pg**	**18 45 34.2**	**-1.0**
TWGBT	**Beinan**	**0.44**	**281**	⇓*i*P	**Pg**	**Pg**	**18 45 34.2**	**-1.0**
TWGBT				S	**Sg**	**Sg**	**18 45 41.2**	**-0.2**
TWG	**Pinlang**	**0.45**	**281**	*i* P	**Pg**	**Pg**	**18 45 34.7**	**-0.6**
TWG				*i* S	**Sg**	**Sg**	**18 45 41.2**	**-0.4**
ECS	**Chishang**	**0.47**	**320**	*i* P	**Pg**	**Pg**	**18 45 35.5**	**-0.2**
ECS				*i* S	**Sb**	**Sb**	**18 45 42.6**	**+0.3**
CHKH	**Chenggong**	**0.48**	**342**	*i* P	**Pg**	**Pg**	**18 45 35.2**	**-0.7**
CHKH				S	**Sg**	**Sg**	**18 45 41.3**	**-1.1**
FULB	**Fuli**	**0.52**	**333**	*i* P	**Pb**	**Pb**	**18 45 36.0**	**-0.6**
FULB				S	**Sb**	**Sb**	**18 45 42.9**	**-0.8**
ECL	**Taimali**	**0.57**	**256**	⇓*i*P	**Pb**	**Pb**	**18 45 36.6**	**-0.8**
ECL				*i* S	**Sb**	**Sb**	**18 45 43.8**	**-1.3**
ECBN	**Changbin**	**0.59**	**351**	P	**Pb**	**Pb**	**18 45 37.1**	**-0.5**
ECBN				*e*S	**Sb**	**Sb**	**18 45 44.8**	**-0.7**
EYUL	**Yuli**	**0.65**	**341**	*e*P	**Pb**	**Pb**	**18 45 38.5**	**-0.1**
EYUL				*e*S	**Sg**	**Sg**	**18 45 47.6**	**0.0**
TWF1	**Yuli**	**0.66**	**339**	*i* P	**Pb**	**Pb**	**18 45 38.2**	**-0.7**
TWF1				*i* S	**Sb**	**Sb**	**18 45 46.8**	**-0.9**
ELDTW	**Lidau**	**0.67**	**313**	*i* P	**Pb**	**Pb**	**18 45 37.8**	**-1.4**
ELDTW				*i* S	**Sb**	**Sb**	**18 45 45.8**	**-2.2**
LAY	**Lan-yu**	**0.69**	**180**	*i* P	**Pb**	**Pb**	**18 45 39.3**	**-0.2**
LAY				S	**Sb**	**Sb**	**18 45 48.1**	**-0.5**
YULB	**Yu-li**	**0.69**	**340**	P	**Pb**	**Pb**	**18 45 38.8**	**-0.7**
YULB	**Yu-li**	**0.69**	**340**	P	**Pb**	**Pb**	**18 45 38.6**	**-0.9**
YULB				S	**Sb**	**Sb**	**18 45 47.5**	**-1.2**
TAW	**Tawu**	**0.71**	**238**	P	**Pb**	**Pb**	**18 45 39.2**	**-0.6**
TAW				*e*S	**Sb**	**Sb**	**18 45 47.3**	**-1.7**
TAWH	**Dawu Township**	**0.73**	**237**	*e*P	**Pb**	**Pb**	**18 45 39.4**	**-0.7**
TAWH				S	**Sb**	**Sb**	**18 45 48.0**	**-1.6**
LYUB	**Lan-yu**	**0.73**	**178**	*i* P	**Pb**	**Pb**	**18 45 39.0**	**-1.1**
LYUB				*e*S	**Sb**	**Sb**	**18 45 48.0**	**-1.7**
EAST	**Anshuo**	**0.74**	**242**	*i* P	**Pb**	**Pb**	**18 45 39.2**	**-1.1**
HGSD	**Ruisui**	**0.76**	**351**	*e*P	**Pb**	**Pb**	**18 45 39.7**	**-1.0**
HGSD				*e*S	**Sb**	**Sb**	**18 45 50.9**	**+0.2**
EHYH	**Wanrong**	**0.78**	**346**	*i* P	**Pb**	**Pb**	**18 45 40.7**	**-0.3**
EHYH				S	**Sb**	**Sb**	**18 45 50.5**	**-0.7**
EHY	**Hungye**	**0.80**	**345**	*i* P	**Pb**	**Pb**	**18 45 40.4**	**-0.8**
EHY				*i* S	**Sb**	**Sb**	**18 45 50.6**	**-1.0**
STYH	**Taoyuan**	**0.84**	**301**	*e*P	**Pb**	**Pb**	**18 45 41.3**	**-0.7**
TSMG	**Majia**	**0.84**	**268**	*e*P	**Pb**	**Pb**	**18 45 40.8**	**-1.2**
SSD	**Sandimen**	**0.85**	**271**	*e*P	**Pb**	**Pb**	**18 45 40.9**	**-1.3**
MASBT	**Mashibuluo**	**0.86**	**262**	⇓*i*P	**Pb**	**Pb**	**18 45 41.3**	**-1.0**
MASBT				S	**Sb**	**Sb**	**18 45 50.8**	**-2.6**
SLIU	**Shizi**	**0.87**	**234**	*e*P	**Pb**	**Pb**	**18 45 42.1**	**-0.3**
SLIU				*i* S	**Sb**	**Sb**	**18 45 51.8**	**-1.8**
YUS	**Yu-Shan**	**0.93**	**324**	*i* P	**Pb**	**Pb**	**18 45 43.2**	**-0.7**
YUS				S	**Sb**	**Sb**	**18 45 53.7**	**-2.3**
SCZT	**Fangliau**	**0.93**	**247**	*e*P	**Pb**	**Pb**	**18 45 42.8**	**-0.8**
EGFH	**Guangfu**	**0.94**	**353**	*e*P	**Pb**	**Pb**	**18 45 43.1**	**-0.5**
TEGC	**Jichi Village**	**0.97**	**359**	*e*P	**Pb**	**Pb**	**18 45 41.3**	**-2.9**
TEGC				*e*S	**Sb**	**Sb**	**18 45 55.4**	**-1.2**
SMST	**Manzhou Townsh**	**0.97**	**223**	*e*P	**Pb**	**Pb**	**18 45 43.8**	**-0.4**
SMST				*e*S	**Sb**	**Sb**	**18 45 55.8**	**-0.8**
SGLT	**Jiouru**	**0.98**	**270**	*e*P	**Pn**	**Pn**	**18 45 44.9**	**+0.2**
SCST	**Cishan**	**0.99**	**279**	*e*P	**Pn**	**Pn**	**18 45 45.2**	**+0.4**
WARBT	**Fenglin Townsh**	**0.99**	**351**	*e*P	**Pb**	**Pb**	**18 45 43.2**	**-1.4**
WARBT				*e*S	**Sb**	**Sb**	**18 45 56.4**	**-0.9**
TPUB	**Ta-pu**	**1.02**	**304**	P	**Pb**	**Pb**	**18 45 44.8**	**-0.3**
TPUB	**Ta-pu**	**1.02**	**304**	*e*P	**Pb**	**Pb**	**18 45 44.7**	**-0.4**
TPUB				*e*S	**Sn**	**Sn**	**18 45 58.9**	**-0.1**
ALS	**Alishan**	**1.03**	**318**	*e*P	**Pb**	**Pb**	**18 45 45.4**	**-0.1**
CHN1	**Nanshi**	**1.04**	**296**	*e*P	**Pb**	**Pb**	**18 45 45.5**	**+0.1**
CHN1				*e*S	**Sb**	**Sb**	**18 45 59.5**	**+0.7**
HEN	**Hengchun**	**1.05**	**226**	*e*P	**Pg**	**Pg**	**18 45 46.3**	**-0.1**
TWKBT	**Hengchun**	**1.05**	**221**	*e*P	**Pb**	**Pb**	**18 45 45.1**	**-0.4**
TWKBT				*e*S	**Sb**	**Sb**	**18 45 58.1**	**-0.7**
TWM1	**Shoushan**	**1.05**	**275**	*e*P	**Pg**	**Pg**	**18 45 47.0**	**+0.6**
SHUL	**Shoufeng**	**1.05**	**1**	P	**Pb**	**Pb**	**18 45 44.5**	**-1.0**
SHUL				*e*S	**Sb**	**Sb**	**18 45 58.3**	**-0.6**
TWK1	**Hengchun**	**1.05**	**221**	*e*P	**Pb**	**Pb**	**18 45 44.3**	**-1.3**
TWK1				S	**Sb**	**Sb**	**18 45 58.2**	**-0.7**
ESL	**Shilin**	**1.08**	**354**	*e*P	**Pb**	**Pb**	**18 45 44.7**	**-1.4**
ESL				S	**Sb**	**Sb**	**18 45 57.9**	**-1.9**
VWDT	**VWDT**	**1.08**	**340**	*e*P	**Pn**	**Pn**	**18 45 45.4**	**-0.8**
VWDT				*e*S	**Sb**	**Sb**	**18 45 59.9**	**+0.1**
TWK	**Hsinying**	**1.11**	**299**	*i* P	**Pn**	**Pn**	**18 45 46.7**	**+0.1**
TWK				S	**Sn**	**Sn**	**18 46 02.0**	**+0.6**
WCKO	**Fanlu**	**1.12**	**309**	*i* P	**Pg**	**Pg**	**18 45 47.6**	**-0.2**
WCKO				*i* S	**Sn**	**Sn**	**18 46 02.3**	**+0.8**
TEYL	**Yanliau Villag**	**1.13**	**2**	*e*P	**Pn**	**Pn**	**18 45 46.4**	**-0.3**
TEYL				*e*S	**Sn**	**Sn**	**18 46 01.7**	**0.0**
CHN3	**Shinhua**	**1.15**	**287**	*e*P	**Pg**	**Pg**	**18 45 48.8**	**+0.5**
SHHT	**Tainan City**	**1.15**	**285**	*e*P	**Pg**	**Pg**	**18 45 49.2**	**+0.9**
WLCH	**Liuqiu**	**1.15**	**251**	*e*P	**Pg**	**Pg**	**18 45 49.5**	**+1.1**
WHYT	**Xinyi Township**	**1.15**	**326**	P	**Pn**	**Pn**	**18 45 47.0**	**-0.2**
CHN5	**Tsauling**	**1.18**	**317**	*e*P	**Pb**	**Pb**	**18 45 47.9**	**+0.1**
SSLB	**Suanglung**	**1.18**	**332**	P	**Pn**	**Pn**	**18 45 46.9**	**-0.7**
SSLB	**Suanglung**	**1.18**	**332**	*e*P	**Pn**	**Pn**	**18 45 47.2**	**-0.4**
SSLB				S	**Sb**	**Sb**	**18 46 02.6**	**-0.2**
WSSB	**Gushan**	**1.20**	**266**	*e*P	**Pg**	**Pg**	**18 45 49.6**	**+0.3**
ETM	**Tongmen**	**1.23**	**357**	*e*P	**Pn**	**Pn**	**18 45 47.3**	**-0.8**
HWA	**Hwalien**	**1.24**	**2**	*e*P	**Pn**	**Pn**	**18 45 47.6**	**-0.6**
OWD	**Renai**	**1.26**	**344**	*e*P	**Pn**	**Pn**	**18 45 48.0**	**-0.8**
CHN2	**Minshiung**	**1.27**	**309**	*e*S	**Sg**	**Sg**	**18 46 07.0**	**-0.3**
CHY	**Chiayi**	**1.29**	**306**	*e*P	**Pb**	**Pb**	**18 45 49.9**	**+0.3**
CHY				S	**Sg**	**Sg**	**18 46 07.2**	**-0.6**
LXIB	**Xiulin Townshi**	**1.29**	**354**	*e*P	**Pn**	**Pn**	**18 45 47.6**	**-1.5**
SMLT	**Sun Moon Lake**	**1.29**	**332**	P	**Pn**	**Pn**	**18 45 49.3**	**+0.4**
SMLT				S	**Sb**	**Sb**	**18 46 06.9**	**+0.9**
WUSB	**Renai**	**1.31**	**342**	*e*P	**Pn**	**Pn**	**18 45 49.1**	**-0.4**
WUSB				*e*S	**Sn**	**Sn**	**18 46 05.6**	**-0.9**
WGK	**Gukeng**	**1.31**	**316**	*e*P	**Pb**	**Pb**	**18 45 50.7**	**+0.7**
WGK				*e*S	**Sg**	**Sg**	**18 46 09.5**	**+0.8**
ICHU	**Yijhu**	**1.33**	**298**	*e*P	**Pg**	**Pg**	**18 45 51.3**	**-0.5**
TYC	**Yuchr**	**1.33**	**331**	*i* P	**Pb**	**Pb**	**18 45 50.1**	**-0.2**
TYC				S	**Sb**	**Sb**	**18 46 07.4**	**+0.5**
WDLH	**Douliu**	**1.33**	**116**	P	**Pb**	**Pb**	**18 45 50.9**	**+0.5**
WDLH				*i* S	**Sg**	**Sg**	**18 46 09.0**	**-0.3**
TWD	**Chiawan**	**1.34**	**2**	*e*P	**Pn**	**Pn**	**18 45 48.4**	**-1.2**
WDL	**Douliou City**	**1.35**	**317**	*e*P	**Pb**	**Pb**	**18 45 50.7**	**+0.1**
WDL				*e*S	**Sg**	**Sg**	**18 46 10.6**	**+0.7**
WNT	**Mingjian**	**1.39**	**325**	*e*P	**Pb**	**Pb**	**18 45 51.7**	**+0.3**
WNT				*i* S	**Sb**	**Sb**	**18 46 09.6**	**+0.9**
TSCK	**Chigu Township**	**1.41**	**287**	*e*P	**Pb**	**Pb**	**18 45 51.9**	**+0.1**
TSCK				*e*S	**Sb**	**Sb**	**18 46 11.3**	**+0.8**
ETL	**Fush Village**	**1.42**	**3**	*e*P	**Pn**	**Pn**	**18 45 49.8**	**-1.0**
WHF	**Hehuan Shan**	**1.43**	**349**	*e*P	**Pn**	**Pn**	**18 45 51.0**	**-0.2**
WHF				*e*S	**Sn**	**Sn**	**18 46 08.4**	**-1.3**
WTK	**Tuku**	**1.43**	**312**	*e*P	**Pb**	**Pb**	**18 45 52.4**	**+0.4**
WTK				*i* S	**Sb**	**Sb**	**18 46 11.3**	**+1.5**
NACB	**Ninganchiao**	**1.43**	**2**	P	**Pn**	**Pn**	**18 45 49.8**	**-1.2**
NACB	**Ninganchiao**	**1.43**	**2**	P	**Pn**	**Pn**	**18 45 49.9**	**-1.0**
NACB				*e*S	**Sn**	**Sn**	**18 46 08.3**	**-0.9**
WSL	**Shuilin Townsh**	**1.45**	**303**	*e*P	**Pb**	**Pb**	**18 45 52.0**	**-0.4**
WSL				S	**Sn**	**Sn**	**18 46 10.0**	**+0.4**
ETLH	**Xiulin Townshi**	**1.47**	**357**	*e*P	**Pn**	**Pn**	**18 45 50.6**	**-0.9**
WSF	**Szhu**	**1.52**	**307**	*e*P	**Pn**	**Pn**	**18 45 53.0**	**+0.9**
WSF				*e*S	**Sb**	**Sb**	**18 46 12.8**	**+0.4**
FUSS	**Fushou**	**1.53**	**349**	*e*P	**Pb**	**Pb**	**18 45 53.8**	**-0.2**
EOS4	**EOS4**	**1.55**	**27**	*e*P	**Pn**	**Pn**	**18 45 52.1**	**-0.1**
EOS4				S	**Sn**	**Sn**	**18 46 10.2**	**-1.3**
TWT	**Tachien**	**1.55**	**347**	*e*P	**Pb**	**Pb**	**18 45 53.7**	**-0.5**
TDCB	**Techi**	**1.55**	**347**	*e*P	**Pb**	**Pb**	**18 45 52.5**	**-0.2**
TCU	**Taichung**	**1.62**	**330**	*e*P	**Pb**	**Pb**	**18 45 55.5**	**+0.2**
NNSB	**Datong**	**1.69**	**355**	*e*P	**Pb**	**Pb**	**18 45 54.6**	**0.0**
EOS3	**EOS3**	**1.70**	**24**	*e*P	**Pn**	**Pn**	**18 45 54.7**	**+0.3**
EOS3				*e*S	**Sn**	**Sn**	**18 46 14.6**	**-0.9**
NNS	**Nan Shan**	**1.71**	**355**	*e*P	**Pn**	**Pn**	**18 45 55.2**	**+0.4**
TWQ1	**Liyutan**	**1.76**	**336**	*e*P	**Pb**	**Pb**	**18 45 57.6**	**-0.1**
TWQ1				S	**Sb**	**Sb**	**18 46 19.6**	**+0.3**
LATG	**Datong**	**1.79**	**359**	*e*P	**Pb**	**Pb**	**18 45 56.0**	**-0.1**
WDGT	**Dungji**	**1.82**	**287**	*e*P	**Pn**	**Pn**	**18 45 56.4**	**+0.1**
NSY	**Sanyi**	**1.82**	**337**	*e*P	**Pb**	**Pb**	**18 45 58.9**	**+0.1**
NSY				S	**Sb**	**Sb**	**18 46 22.9**	**+1.7**
TWC	**Suao**	**1.89**	**8**	*e*P	**Pn**	**Pn**	**18 45 57.3**	**+0.2**
ENTT	**Nioudou**	**1.90**	**0**	*e*P	**Pn**	**Pn**	**18 45 57.3**	**0.0**
NDS	**Dongshan**	**1.90**	**5**	*e*P	**Pn**	**Pn**	**18 45 57.8**	**+0.4**
NMLH	**Miaoli**	**1.93**	**339**	P	**Pb**	**Pb**	**18 45 59.5**	**-1.1**
NFF	**Wufeng Townshi**	**1.93**	**348**	*e*P	**Pb**	**Pb**	**18 45 59.7**	**-0.9**
YHNB	**Yeheng**	**1.93**	**355**	P	**Pn**	**Pn**	**18 45 58.4**	**+0.5**
YHNB	**Yeheng**	**1.93**	**355**	*e*P	**Pn**	**Pn**	**18 45 58.5**	**+0.5**
NSK	**Sanguang**	**1.94**	**355**	*e*P	**Pn**	**Pn**	**18 45 59.0**	**+1.0**
NSTT	**Nanjuang**	**1.95**	**345**	*e*P	**Pb**	**Pb**	**18 46 00.5**	**-0.5**
NSTT				*e*S	**Sb**	**Sb**	**18 46 24.8**	**-0.1**
LIOB	**Emei**	**1.96**	**346**	*e*P	**Pb**	**Pb**	**18 46 00.1**	**-1.1**
LIOB				*i* S	**Sb**	**Sb**	**18 46 24.5**	**-0.8**
TWE	**Neicheng**	**1.98**	**3**	*e*P	**Pb**	**Pb**	**18 46 00.1**	**-1.3**
PHUB	**P'eng-hu**	**1.98**	**293**	*e*P	**Pn**	**Pn**	**18 45 58.7**	**+0.2**
VCHM	**Qimei**	**2.01**	**284**	*e*P	**Pn**	**Pn**	**18 45 59.2**	**+0.3**
VCHM				*e*S	**Sn**	**Sn**	**18 46 22.8**	**-0.7**
FUSB	**Fushanzhiwuyua**	**2.02**	**1**	*e*P	**Pn**	**Pn**	**18 45 58.8**	**-0.2**
**PN

*KRSC **31** 18:53:35.7±1.2, 53.97N×169.29E, h61km±37km, Ml4.1*
*MOS **31** 18:53:36.6±0.3, 53.95N×169.36E, h33km, mb4.7/8, Error ellipse: s-maj=17.4km s-min=7.7km az=10.1*
*IDC **31** 18:53:40.7±2.6, 54.27N×168.65E, h0km, mb3.3/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=122.9km s-min=26.8km az=166.0*

ISC 31 18:53:36.7±2.8, 54.0N±0.2×169.3E±0.1, h17km, n54, σ1.9 37/51, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.27	303	PN	Pn	18 54 12.2	-1.1
BKI	Bering	2.27	303	eP	Pn	18 54 12.3	-1.1
SMY	Shemya	3.15	112	PN	Pn	18 54 24.2	-1.3
KBTR	Krutoberegovo	4.32	303	PN	Pn	18 54 41.6	+0.1
KBTR	Krutoberegovo	4.32	303	eP	Pn	18 54 41.6	+0.1
KBG	Krutoberegovo	4.39	303	PN	Pn	18 54 43.7	+1.2
KBG	Krutoberegovo	4.39	303	eP	Pn	18 54 43.8	+1.2
SMKR	Semkarok	5.16	303	PN	Pn	18 54 54.6	+1.5
SMKR	Semkarok	5.16	303	eP	Pn	18 54 54.6	+1.5
TUMD	Tumrok D	5.31	286	PN	Pn	18 54 56.0	+0.9
TUMD	Tumrok D	5.31	286	eP	Pn	18 54 56.0	+0.9
TUMD				eS	Sn	18 55 55.1	-0.7
KZV	Kizimen	5.35	285	PN	Pn	18 54 56.8	+1.0
KZV	Kizimen	5.35	285	eP	Pn	18 54 56.9	+1.0
KZV				eS	Sn	18 55 54.7	-2.4
KMNR	Kamenistaya	5.51	292	PN	Pn	18 55 01.2	+3.2
KMNR	Kamenistaya	5.51	292	eP	Pn	18 55 01.2	+3.2
KMNR				eS	Sn	18 56 01.9	+1.0
SDLR	Sedlovina	6.24	267	PN	Pn	18 55 08.8	+0.8
SDLR	Sedlovina	6.24	267	eP	Pn	18 55 08.9	+0.8
UGLR	Uglovaya	6.29	267	PN	Pn	18 55 09.7	+1.0
UGLR	Uglovaya	6.29	267	eP	Pn	18 55 09.7	+1.0
SMAR	Somma	6.29	267	PN	Pn	18 55 09.6	+0.8
SMAR	Somma	6.29	267	eP	Pn	18 55 09.7	+0.8
KRER	Koryakskii	6.32	268	PN	Pn	18 55 10.2	+1.1
KRER	Koryakskii	6.32	268	eP	Pn	18 55 10.3	+1.1
AVH	Avacha	6.33	267	PN	Pn	18 55 10.3	+1.1
AVH	Avacha	6.33	267	eP	Pn	18 55 10.3	+1.1
KRX	Arik	6.37	268	PN	Pn	18 55 10.6	+0.9
KRX	Arik	6.37	268	eP	Pn	18 55 10.7	+0.9
KRX				eS	Sn	18 56 20.0	-2.1
DALK	Dalny	6.37	265	PN	Pn	18 55 10.4	+0.7
DALK	Dalny	6.37	265	eP	Pn	18 55 10.4	+0.7
KOK	Koryaka	6.38	268	PN	Pn	18 55 10.9	+0.9
KOK	Koryaka	6.38	268	eP	Pn	18 55 11.0	+0.9
PET	Petropavlovsk	6.43	265	ePN	Pn	18 55 12.1	+1.6
PET				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KRMR	Karymshinskiy	6.79	264	PN	Pn	18 55 16.5	+1.2
KRMR	Karymshinskiy	6.79	264	eP	Pn	18 55 16.6	+1.2
MTVR	Mutnovka	6.85	261	PN	Pn	18 55 17.3	+0.9
MTVR	Mutnovka	6.85	261	eP	Pn	18 55 17.4	+0.9
GRL	Gorelyy	6.89	262	PN	Pn	18 55 18.3	+1.3
GRL	Gorelyy	6.89	262	eP	Pn	18 55 18.4	+1.3
PEA0B	Petropavlovsk-	6.97	267	PN	Pn	18 55 19.7	+1.7
PETK	Petropavlovsk-	6.97	267	Pn	Pn	18 55 19.3	+1.3
	comp=Z,2.8nm,0.3s,baz=91,slow=21,SNR=92						
PETK				Sn	Sn	18 56 35.5	-1.4
	comp=Z,0.8nm,0.3s,baz=31,slow=21,SNR=4.1						
	comp=Z,3.9nm,0.4s						
ASAK	Asacha	7.05	261	PN	Pn	18 55 20.3	+1.3
ASAK	Asacha	7.05	261	eP	Pn	18 55 20.3	+1.3
KDTR	Khodutka, Kamc	7.14	256	PN	Pn	18 55 20.6	+0.4
KDTR	Khodutka, Kamc	7.14	256	eP	Pn	18 55 20.7	+0.4
APC	Apacha	7.33	266	PN	Pn	18 55 24.9	+2.0
APC	Apacha	7.33	266	eP	Pn	18 55 24.9	+2.0
ILAR	Eielson Array	24.22	46	P	P	18 59 00.1	+7.9
	comp=Z,0.7nm,0.9s,baz=263,slow=9.1,SNR=5.2						
	comp=Z,0.7nm,0.9s						
H11N2	WAKE ISLAND Hy 34.29	184		T	T	19 36 39.5	
	baz=2.5,slow=76,SNR=151						
H11N3	WAKE ISLAND Hy 34.30	184		T	T	19 36 39.6	
	baz=2.5,slow=76,SNR=130						
H11N1	WAKE ISLAND Hy 34.30	184		T	T	19 36 40.1	
	baz=2.5,slow=76,SNR=289						
H11S1	WAKE ISLAND Hy 35.51	184		T	T	19 38 12.4	
	baz=2.3,slow=76,SNR=140						
H11S3	WAKE ISLAND Hy 35.52	184		T	T	19 38 12.2	
	baz=2.3,slow=76,SNR=58						
H11S2	WAKE ISLAND Hy 35.53	184		T	T	19 38 13.3	
	baz=2.3,slow=76,SNR=63						
TXAR	Lajitas Array	65.15	74	P	P	19 04 25.1	+8.4
	comp=Z,0.2nm,0.5s,baz=319,slow=5.2,SNR=2.0						
	comp=Z,0.2nm,0.5s						

*IDC **31** 18:57:00.2±19.0, 36.28N×22.53E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=375.0km s-min=40.1km az=31.0*
*ATH **31** 18:57:03.9, 36.08N×22.58E, h10km±2km, ML3.0/35, Manual Solution by D.Makaris First location: 2019/10/31 18:58:17, This location: 2020/10/01 16:35:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **31** 18:57:04.5, 36°N±2°×2°3E±°, h1km±3km, M2.9/34, MLh2.9/34*

ISC 31 18:57:02.7±1.3, 36.10N±0.03×22.58E±0.03, h9km±9km, n102, σ1.9 70/155, mb3.7/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHA	Kythira Island	0.42	68	P	Pb	18 57 12.1	-0.3
ANKY	Antikythira Is	0.63	111	P	Pb	18 57 16.0	+0.1
ANKY				S	Sb	18 57 26.1	+1.4
ANKY	Antikythira Is	0.63	111	P	Pb	18 57 16.4	+0.5
ANKY				S	Sb	18 57 25.3	+0.5
VLI	Veliai	0.69	25	P	Pg	18 57 15.6	-0.3
VLI				S	Sg	18 57 25.6	+0.6
VLI	Veliai	0.69	25	P	Pg	18 57 16.4	+0.4
VLI				S	Sb	18 57 27.1	+0.6
ITM	Ithomi	1.20	334	P	Pg	18 57 23.4	-2.4
ITM				S	Sg	18 57 42.0	+0.5
ITM	Ithomi	1.20	334	P	Pg	18 57 26.0	+0.2
ITM				S	Sb	18 57 43.1	+1.7
CHAN	Chania	1.32	115	P	Pn	18 57 28.6	+1.2
CHAN				S	Sn	18 57 47.6	+2.6
CHAN	Chania	1.32	115	P	Pn	18 57 28.7	+1.4
CHAN				S	Sb	18 57 46.0	+1.3
VAM	Vamos	1.49	117	S	Sn	18 57 52.5	+3.4
MHLO	Agia Marina, M	1.59	68	P	Pn	18 57 31.6	+0.6
MHLO				S	Sg	18 57 54.5	+0.8
MHLO	Agia Marina, M	1.59	68	P	Pg	18 57 31.6	+0.6
MHLO				S	Sn	18 57 52.5	+0.9
MET6	Megalochori,Me	1.62	22	P	Pn	18 57 32.9	+1.4
MET6				S	Sn	18 57 54.0	+1.6
MET2	Kameni Chora,	1.63	21	P	Pn	18 57 33.3	+1.7
MET2				S	Sn	18 57 53.8	+1.1
MET5	Makryloggos,Me	1.65	22	P	Pn	18 57 33.2	+1.4
MET5				S	Sn	18 57 54.5	+1.4
MET4	Agioi Theodoro	1.66	23	P	Pn	18 57 33.3	+1.4
GVD	Gavdhos	1.76	135	P	Pb	18 57 35.9	+0.8
GVD	Gavdhos	1.76	135	P	Pn	18 57 34.3	+1.0
GUR	Goura	1.85	354	P	Pn	18 57 35.1	+0.4
GUR				S	Sn	18 57 58.5	+0.3
GUR	Goura	1.85	354	P	Pn	18 57 36.0	+1.3
GUR				S	Sn	18 58 00.7	+2.5
LOUT	Loutraki	1.92	9	P	Pn	18 57 36.8	+1.3
LTK	Loutraki	1.95	9	P	Pn	18 57 37.8	+1.8
LTK				S	Sn	18 58 02.7	+2.1
LTK	Loutraki	1.95	9	P	Pn	18 57 37.8	+1.8
LTK				S	Sn	18 58 02.4	+1.8
KLV	Kalavryta, Ach	1.98	350	P	Pn	18 57 38.5	+2.1
KLV				S	Sn	18 58 04.0	+2.7
KLV	Kalavryta, Ach	1.98	350	P	Pn	18 57 37.1	+0.7
KLV				S	Sn	18 58 03.4	+2.1
DRO	Drossia	1.98	340	P	Pn	18 57 38.5	+2.1
DRO				S	Sn	18 58 02.9	+1.6
DRO	Drossia	1.98	340	P	Pn	18 57 37.7	+1.3
DRO				S	Sn	18 58 03.0	+1.6
VLY	Voula,Athens	2.01	29	P	Pn	18 57 37.5	+0.8
VLY				S	Sn	18 58 03.4	+1.5
VLY	Voula,Athens	2.01	29	P	Pn	18 57 37.5	+0.8
VLY				S	Sn	18 58 03.6	+1.6
IDI	Anoyia	2.05	112	P	Pb	18 57 39.8	-0.3
IDI				S	Sg	18 58 07.8	-0.7
IDI	Anoyia	2.05	112	P	Pn	18 57 38.5	+1.1
ATH	Athens Observa	2.08	26	P	Pn	18 57 39.1	+1.3
ATH				S	Sn	18 58 05.0	+1.2
ATHU	Athens Univers	2.10	27	P	Pn	18 57 39.0	+0.9
ATHU				S	Sb	18 58 08.2	+1.0
ATHU	Athens Univers	2.10	27	P	Pn	18 57 39.1	+1.0
ATHU				S	Sn	18 58 06.3	+1.9
MAGU	Magoula	2.12	20	P	Pn	18 57 39.2	+0.9
MAGU				S	Sb	18 58 08.0	+0.4
MAGU	Magoula	2.12	20	P	Pn	18 57 39.1	+0.9
MAGU				S	Sn	18 58 07.1	+2.4
LTHK	Lithakia	2.13	320	P	Pn	18 57 40.5	+2.1
VILL	Villia	2.15	16	P	Pn	18 57 40.1	+1.3
VILL				S	Sn	18 58 08.3	+2.8
RLS	Riolos of Patr	2.15	336	P	Pn	18 57 41.0	+2.2
RLS				S	Sn	18 58 08.1	+2.5
RLS	Riolos of Patr	2.15	336	P	Pn	18 57 40.1	+1.4
RLS				S	Sn	18 58 06.3	+0.8
VIL2	Platees	2.18	14	P	Pn	18 57 40.0	+0.8
VIL2				S	Sn	18 58 07.5	+1.1
PTL	Penteli	2.21	27	P	Pn	18 57 40.4	+0.9
PTL				S	Sn	18 58 08.9	+2.0
PTL	Penteli	2.21	27	P	Pn	18 57 40.5	+1.0
PTL				S	Sn	18 58 09.1	+2.2
STFN	Stefani	2.22	20	P	Pn	18 57 40.5	+0.8
STFN				S	Sn	18 58 10.0	+2.8
STFN	Stefani	2.22	20	P	Pn	18 57 40.9	+1.2
DION	Dionisos Attik	2.26	28	P	Pn	18 57 41.2	+1.0
DION				S	Sb	18 58 12.0	+0.3
DION	Dionisos Attik	2.26	28	P	Pn	18 57 41.2	+1.0
DION				S	Sn	18 58 10.5	+2.3
SAP3	Santorini-Thir	2.26	81	P	Pn	18 57 41.7	+1.4
SAP3	Santorini-Thir	2.26	81	P	Pn	18 57 41.2	+1.0
SAP3				S	Sn	18 58 10.2	+1.9
THR9	Santorini-Faro	2.26	83	P	Pn	18 57 41.7	+1.5
THR6	Thira Island,	2.29	83	P	Pn	18 57 42.0	+1.3
SNT5	Nea Kammeni, S	2.30	81	P	Pn	18 57 41.9	+1.2
TRIZ	Trizonia	2.30	350	P	Pn	18 57 42.5	+1.7
THR3	Thira Island,	2.30	81	P	Pn	18 57 42.0	+1.2
AXS	Araxos	2.31	336	P	Pn	18 57 42.5	+1.6
AXS	Araxos	2.31	336	P	Pn	18 57 41.6	+0.7
ORTH	Orthonies,Zaky	2.31	320	P	Pn	18 57 42.5	+1.5
ORTH	Orthonies,Zaky	2.31	320	P	Pn	18 57 42.8	+1.9
ORTH				S	Sn	18 58 11.2	+1.7
KALE	Kalithea	2.32	351	P	Pn	18 57 43.4	+2.3
KALE	Kalithea	2.32	351	P	Pn	18 57 42.9	+1.8
SERG	Sergoula	2.35	350	P	Pn	18 57 44.2	+2.7
THERA	Ancient Thera,	2.36	83	P	Pn	18 57 42.7	+1.1
THERA	Ancient Thera,	2.36	83	P	Pn	18 57 42.7	+1.1
THR8	Santorini-Mono	2.37	82	P	Pn	18 57 43.7	+2.1
EFP	Efpalio	2.39	347	P	Pn	18 57 44.7	+2.7
EFP	Efpalio	2.39	347	P	Pn	18 57 44.5	+2.5
KARY	Karystos	2.44	37	P	Pn	18 57 43.7	+1.0
KARY	Karystos	2.44	37	P	Pn	18 57 44.0	+1.3
KARY				S	Sn	18 58 14.2	+1.5
ANX	Ano Chora	2.55	348	P	Pn	18 57 46.7	+2.4
ANX	Ano Chora	2.55	348	P	Pn	18 57 46.2	+1.9
ANX				S	Sn	18 58 17.9	+2.4
APE	Apeiranthos	2.57	67	P	Pn	18 57 45.1	+0.6
APE	Apeiranthos	2.57	67	P	Pn	18 57 45.7	+1.2
APE				S	Sn	18 58 16.6	+0.7
PSDA	Pessada-Kefalo	2.57	322	P	Pn	18 57 45.8	+1.3
PSDA				S	Sn	18 58 17.8	+1.9
LKR	Lokris	2.57	7	P	Pn	18 57 46.5	+2.0
LKR	Lokris	2.57	7	P	Pn	18 57 46.8	+2.3
LKR				S	Sn	18 58 18.7	+2.8
NPS	Neapolis	2.61	108	P	Pn	18 57 46.6	+1.5
NPS				S	Sn	18 58 19.6	+2.8
NPS	Neapolis	2.61	108	P	Pn	18 57 46.3	+1.3
NPS				S	Sn	18 58 19.0	+2.2
VLS	Valsamata	2.62	323	P	Pn	18 57 45.7	+0.6
VLS				S	Sn	18 58 18.9	+1.9
ATAL	Atalanti	2.62	8	P	Pn	18 57 46.3	+1.1
ATAL	Atalanti	2.62	8	P	Pn	18 57 46.6	+1.4
ATAL				S	Sn	18 58 19.8	+2.8
PVO	Paravola	2.65	342	P	Pn	18 57 48.4	+2.7
PVO	Paravola	2.65	342	P	Pn	18 57 47.6	+2.0
PVO				S	Sn	18 58 20.4	+2.4
AXAR	Agios Charalam	2.67	1	P	Pn	18 57 48.2	+2.4
AXAR				S	Sn	18 58 21.0	+2.7
DMLN	Damoulianata-K	2.77	321	P	Pn	18 57 49.1	+1.9
DMLN				S	Sn	18 58 22.8	+1.9
KYMI	Kymi, Euboea I	2.81	25	P	Pn	18 57 48.8	+1.0
KYMI				S	Sn	18 58 24.3	+2.5
EVR	Evrytania	2.88	348	P	Pn	18 57 51.0	+2.1
EVR	Evrytania	2.88	348	P	Pn	18 57 50.6	+1.7
MAKR	Makrakomi, Fth	2.93	353	P	Pn	18 57 51.5	+2.0
NEO	Neokhori	3.25	9	P	Pn	18 57 55.8	+2.0
TETR	Tetrakomo, Epi	3.40	343	P	Pn	18 57 57.6	+1.6
KARP	Karpathos	3.77	97	P	Pn	18 58 02.7	+1.7
SMG	Samos	3.77	63	P	Pn	18 58 02.0	+0.9
JAN	Janina	3.81	340	P	Pn	18 58 02.5	+0.9
KEK	Kerkira	4.23	330	P	Pn	18 58 08.9	+1.6
PENT	Pentalofos	4.25	345	P	Pn	18 58 09.4	+1.8
PLG	Polygyros	4.33	9	P	Pn	18 58 10.4	+1.7
HFS	Hagfors	24.73	349	P	P	19 02 21.5	-2.6
	0.8nm,0.7s,baz=171,slow=9.9,SNR=1.3						
	0.8nm,0.7s						
FINES	FINESS Array B	25.47	4	P	P	19 02 27.9	-2.8
	1.6nm,0.8s,baz=190,slow=9.6,SNR=4.5						
	1.6nm,0.8s						
ARCES	ARCESS Array B	33.53	2	P	P	19 03 39.7	-2.6
	1.6nm,0.8s,baz=198,slow=8.4,SNR=1.8						
	1.6nm,0.8s						
KURBB	Kurchatov Arra	42.18	52	P	P	19 04 53.8	-1.7
	0.5nm,0.8s,baz=279,slow=8.3,SNR=4.4						
	0.5nm,0.8s						
MKAR	Makanchi Array	45.02	57	P	P	19 05 16.9	-1.6
	1.0nm,0.5s,baz=270,slow=8.3,SNR=15						
	1.0nm,0.5s						
ZALV	Zalesovo Beam	45.89	47	P	P	19 05 22.9	-2.3
	0.4nm,0.5s,baz=258,slow=7.2,SNR=2.8						
	0.4nm,0.5s						

*IDC **31** 19:18:44.4±0.4, 17.54S×172.71W, h0km, mb4.5/28, mbtmp4.5/28, MS4.5/48, Error ellipse: s-maj=17.0km s-min=11.9km az=136.0*
*NEIC **31** 19:18:44.5±2.4, 17.67S±0.08×172.38W±0.08, h10km±1km, mb5.2/158, Error ellipse: s-maj=13.9km s-min=13.1km az=314.0*
*MOS **31** 19:18:44.5±1.1, 17.53S×172.83W, h10km, mb5.1/15, MS4.8/5, Error ellipse: s-maj=12.3km s-min=11.4km az=53.7*
*BJI **31** 19:18:44.3, 17.88S×172.64W, h12km, mB5.6/16, mb4.9/29, Ms5.0/17, Ms7 4.7/21*
*NOU **31** 19:18:46.3, 17.35S×172.07W, h21km, mb5.3/19, Tonga Islands Region*
*GCMT **31** 19:18:51.5±0.2, 17.68S±0.02×172.39W±0.01, h12km±1km, MW5.1/105, Moment Tensor Solution. s39,c48; s105,c149; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.88±.17; $M_{\theta\theta}$-0.85±.11; $M_{\phi\phi}$-2.03±.11; $M_{r\theta}$3.15±.48; $M_{\theta\phi}$-1.37±.07; $M_{\phi r}$2.82±.38; Best double couple: $M_0$5.13000×10^16 NP1φs202.00000°, δ18.00000°, λ68.00000°. NP2φs45.00000°, δ73.00000°, λ97.00000°. Principal axes: T 5.1700, Plg61.0000°, Azm326.0000°; N -0.0820, Plg7.0000°, Azm223.0000°; P -5.0900, Plg28.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 19:18:46.3±0.3, 17.59S±0.05×172.38W±0.05, h21km, n384, σ2.9 00/307, mb5.1/135, MS4.6/62, 17C-30D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.76	123	P	Pn	19 19 27.9	-1.4
NIUE				S	Sn	19 19 58.5	-3.5
NIUE	Niue	2.76	123		Pn	19 19 27.4	-1.9
NIUE				Sn	Sn	19 19 59.4	-2.6
NIUE	Niue	2.76	123	P	Pn	19 19 27.9	-1.4
NIUE	Niue	2.76	123	S	Sn	19 19 59.7	-2.3
AFI	Afiamalu	3.70	9		Pn	19 19 36.3	-6.1
AFI	Afiamalu	3.70	9	P	Pn	19 19 38.0	-4.3
AFI	Afiamalu	3.70	9	S	Sn	19 20 19.4	-6.0
AFI	Afiamalu	3.70	9	P	Pn	19 19 36.3	-6.1
MSVF	Nonsavu	9.13	268		Pn	19 20 59.2	+2.3
MSVF	Nonsavu	9.13	268	P	Pn	19 20 59.2	+2.3
RAR	Rarotonga	12.43	109		Pn	19 21 38.7	-3.3
RAR	Rarotonga	12.43	109	Pn	Pn	19 21 39.9	-2.1
	5.6nm,0.3s,baz=245,slow=8.9,SNR=13						
RAR	Rarotonga	12.43	109	P	Pn	19 21 40.4	-1.6
RAO	Raoul Island	12.67	203	LR	LR	19 26 26.7	
	comp=Z,1μm,18.0s,baz=30,slow=37						
MARNC	Mare, Loyalty	18.87	255	P	P	19 23 03.4	-1.9
MARNC				IAmb	IAmb	19 23 03.7	
	comp=Z,156nm,1.2s						
PINNC	Pines Island,	19.59	252	P	P	19 23 12.5	-0.7
DZM	Mont Dzumac	20.41	254	P	P	19 23 20.9	-1.4
	comp=Z,13nm,0.7s,baz=54,slow=19,SNR=11						
	comp=Z,13nm,0.7s						
OUZ	Omahuta	21.55	213	P	P	19 23 35.5	+1.2
PPT2	Papeete2	21.73	93	eP	P	19 23 35.9	-0.6
	comp=Z,174nm,29.8s						
PPT2				eS	S	19 27 36.1	-0.2
	comp=Z,2μm,26.0s						
PPT2				eLR	LR	19 28 31.2	
	comp=Z,2μm,28.0s						
PPT2				eLR	LR	19 28 38.7	
	comp=Z,949nm,30.0s						
PPT	Papeete	21.74	93	LR	LR	19 30 37.7	
	comp=Z,848nm,18.1s,baz=236,slow=32						
KUZ	Kuaotunu	21.79	207	P	P	19 23 39.3	+2.5
TBI	Tubuai	22.21	109	eP	P	19 23 40.2	-1.3
	comp=Z,1μm,34.5s						
TBI				eS	S	19 27 39.3	-5.9
	comp=Z,4μm,26.2s						
TBI				eLR	LR	19 28 51.1	
	comp=Z,7μm,28.0s						
TBI				eLR	LR	19 28 52.2	
	comp=Z,2μm,30.0s						
URZ	Urewera	22.56	202	P	P	19 23 46.1	+1.0
	comp=Z,88nm,0.7s,baz=360,slow=6.7,SNR=9.1						
URZ				S	S	19 27 44.9	-6.5
	comp=Z,11nm,1.1s,baz=194,slow=16,SNR=1.3						
URZ				LR	LR	19 32 38.0	
	comp=Z,513nm,18.1s,baz=5.0,slow=37						
	comp=Z,88nm,0.7s						
TOZ	Tahuroa Road	22.72	206		P	19 23 48.4	+1.6
RTZ	Ruatahuna	22.92	202		P	19 23 49.6	+0.6
BKZ	Black Stump Fm	23.59	202		P	19 23 55.1	-0.5
BKZ				IAmb	IAmb	19 23 59.4	
	comp=Z,139nm,1.4s						
HIZ	Hauiti	23.65	206	P	P	19 23 59.8	+3.6
HIZ	Hauiti	23.65	206	P	P	19 24 00.8	+4.6
QRZ	Quartz Range	26.56	206	P	P	19 24 26.5	+3.7
QRZ	Quartz Range	26.56	206	P	P	19 24 28.2	+5.4
KHZ	Kahutara	27.51	203	P	P	19 24 34.4	+3.1
HNR	Honiara	28.07	283	LR	LR	19 33 53.4	
	comp=Z,1μm,19.8s,baz=142,slow=33						
LTZ	Lake Taylor	28.31	204		P	19 24 45.7	+7.2
LTZ				IAmb	IAmb	19 24 52.2	
	comp=Z,46nm,1.2s						
RPZ	Rata Peaks	29.57	205	P	P	19 24 52.7	+3.0
	comp=Z,24nm,0.6s,baz=80,slow=3.5,SNR=8.3						
RPZ	Rata Peaks	29.57	205	P	P	19 24 53.2	+3.5
JCZ	Jackson Bay	30.81	207	P	P	19 25 03.8	+3.1
TAOE	Nuku Hiva Isla	32.51	79	eLR	LR	19 33 38.8	
	comp=Z,433nm,21.1s						
ARMA	Armidale	35.12	242	P	P	19 25 35.7	-2.9
CNB	Canberra Magne	38.25	235	P	P	19 26 04.5	-0.7
	comp=Z,20nm,1.1s						
CAN	Canberra	38.53	235	P	P	19 26 06.7	-0.8
CAN	Canberra	38.53	235	P	P	19 26 06.7	-0.8
CAN				pmax	pmax		
	comp=Z,33nm,1.5s						
YNG	Young	38.73	237	P	P	19 26 06.1	-3.0
	comp=Z,16nm,2.8s						
PMG	Port Moresby	40.11	276	eP	P	19 26 18.6	-2.2
PMG				pmax	pmax		
	comp=Z,13nm,1.1s						
CMSA	Cobar Meteorol	40.34	242	P	P	19 26 20.2	-2.4
	comp=Z,11nm,1.3s						
QLP	Quilpie	41.03	250	P	P	19 26 26.4	-1.9
	comp=Z,32nm,1.4s						
TOO	Toolangi	41.89	233	P	P	19 26 33.8	-1.5
	comp=Z,4.4nm,1.3s						
TOO	Toolangi	41.89	233		P	19 26 33.9	-1.5
TOO	Toolangi	41.89	233	P	P	19 26 33.9	-1.5
TOO				pmax	pmax		
	comp=Z,12nm,1.6s						
COEN	Coen	42.86	268	P	P	19 26 40.1	-3.3
STKA	Stephens Creek	43.84	242	P	P	19 26 49.8	-1.4
	comp=Z,43nm,1.5s						
STKA	Stephens Creek	43.84	242	P	P	19 26 49.0	-2.1
STKA	Stephens Creek	43.84	242	P	P	19 26 50.0	-1.2
	comp=Z,3.9nm,0.7s,baz=56,slow=9.2,SNR=10						
STKA				LR	LR	19 43 28.6	
	comp=Z,522nm,19.4s,baz=76,slow=34						
	comp=Z,3.9nm,0.7s						
JAY	Jayapura	48.40	283	P	P	19 27 24.8	-2.5
	comp=Z,11nm,0.9s,baz=153,slow=16,SNR=2.2						
JAY				LR	LR	19 47 51.5	
	comp=Z,436nm,18.2s,baz=60,slow=36						
	comp=Z,11nm,0.9s						
BBOO	Buckleboo	48.60	242	P	P	19 27 27.0	-1.6
	comp=Z,26nm,0.7s						
BBOO	Buckleboo	48.60	242	P	P	19 27 26.9	-1.8
WR8	Warramunga Arr	50.18	258	P	P	19 27 37.5	-3.4
WB0	Warramunga Arr	50.31	259	P	P	19 27 38.4	-3.4
WB0				IAmb	IAmb	19 27 45.4	
	comp=Z,78nm,1.9s						
WRAB	Tennant Creek	50.33	258	P	P	19 27 38.9	-3.0
WRAB	Tennant Creek	50.33	258	eP	P	19 27 39.7	-2.3
WRAB				pmax	pmax		
	comp=Z,49nm,3.8s						
WRA	Warramunga Arr	50.34	258	P	P	19 27 38.9	-3.1
WRA	Warramunga Arr	50.34	258	P	P	19 27 39.1	-2.9
	comp=Z,7.7nm,0.6s,baz=97,slow=7.8,SNR=73						

EDFI	Ende, Flores	64.54	269	P	P	19 29 20.5	-2.0
	comp=Z,19nm,1.2s						
LUWI	Luwuk	65.75	277	P	P	19 29 27.2	-3.0
JHJ	Hachijo jima 2	68.04	318	LR	LR	19 57 10.1	
	comp=Z,103nm,18.6s,baz=127,slow=34						
PLAI	Plampang	68.25	267	P	P	19 29 47.5	+1.4
PLAI	Plampang	68.25	267	P	P	19 29 45.5	-0.6
	comp=Z,37nm,1.7s						
TOLI2	Tolitoli	68.33	278	P	P	19 29 45.7	-0.9
TOLI2	Tolitoli	68.33	278	P	P	19 29 49.5	+2.9
TWSI	Taliwang, Sumb	69.12	267	P	P	19 29 51.0	-0.6
	comp=Z,25nm,1.0s						
SHEM	Shemya Is, Ala	71.00	351	LR	LR	19 57 14.4	
	comp=Z,623nm,19.5s,baz=114,slow=33						
MJAR	Matsushiro Arr	71.23	320	P	P	19 30 04.3	+0.3
	comp=Z,2.4nm,0.9s,baz=149,slow=5.4,SNR=5.6						
MJAR				LR	LR	19 55 00.6	
	comp=Z,180nm,20.9s,baz=114,slow=31						
	comp=Z,2.4nm,0.9s						
MJAR	Matsushiro Arr	71.23	320	P	P	19 30 04.3	+0.3
MJAR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
JAGI	Jajag, Banyuwa	71.80	267	P	P	19 30 05.9	-2.0
JAGI	Jajag, Banyuwa	71.80	267	P	P	19 30 09.2	+1.3
QSPA	South Pole Qui	72.47	180	P	P	19 30 13.7	+2.5
QSPA				IAmb	IAmb	19 30 16.5	
	comp=Z,16nm,1.0s						
QSPA	South Pole Qui	72.47	180	P	P	19 30 13.5	+2.3
	comp=Z,11nm,0.9s,baz=44,slow=2.4,SNR=28						
QSPA				LR	LR	19 59 26.7	
	comp=Z,330nm,19.0s,baz=44,slow=34						
	comp=Z,11nm,0.9s						
JOW	Kunigami	72.56	306	LR	LR	19 56 07.1	
	comp=Z,241nm,21.3s,baz=122,slow=31						
MNRC	McLaughlin Min	73.05	39	IAmb	IAmb	19 30 43.8	
	comp=Z,31nm,1.4s						
KMRM	Mail Ridge	73.19	37	IAmb	IAmb	19 30 31.5	
	comp=Z,20nm,1.1s						
LPIG	La Paz	73.36	57	LR	LR	19 57 25.7	
	comp=Z,300nm,18.5s,baz=215,slow=32						
PFO	Pinyon Flats O	73.70	46	P	P	19 30 21.5	+2.5
PFO				LR	LR	19 59 36.0	
	comp=Z,404nm,18.0s,baz=220,slow=33						
	comp=Z,2.9nm,0.8s						
PFO	Pinyon Flats O	73.70	46	P	P	19 30 21.5	+2.5
PFO				pmax	pmax		
	comp=Z,20nm,1.7s						
ASAJ	Asahikawa	73.90	328	LR	LR	19 56 34.5	
	comp=Z,129nm,21.9s,baz=146,slow=31						
JNU	Nakatsue	74.00	313	LR	LR	19 58 22.0	
	comp=Z,191nm,18.4s,baz=121,slow=32						
CLC	China Lake	74.21	44	IAmb	IAmb	19 30 49.4	
	comp=Z,25nm,1.1s						
N02D	Trinity Center	74.26	37	IAmb	IAmb	19 30 49.9	
	comp=Z,25nm,1.5s						
O03E	Paynes Creek	74.34	38	IAmb	IAmb	19 30 50.4	
	comp=Z,36nm,1.5s						
MPMC	Manual Prospec	74.42	43	IAmb	IAmb	19 30 56.8	
	comp=Z,46nm,1.8s						
BC3	Big Chuckawall	74.42	47	IAmb	IAmb	19 30 34.8	
	comp=Z,38nm,2.0s						
WAKR	Walker	74.64	40	IAmb	IAmb	19 30 52.0	
	comp=Z,30nm,1.8s						
PET	Petropavlovsk	74.65	342	*e*P	P	19 30 24.1	+0.3
PET				*e*S	S	19 40 00.3	+1.9
PET				pmax	pmax		
	comp=Z,100nm,10.9s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
PCJI	Pacitan	74.70	266	P	P	19 30 25.8	+0.7
YBH	Yreka Blue Hor	74.75	36	P	P	19 30 27.5	+2.6
	comp=Z,0.2nm,0.8s,baz=315,slow=2.1,SNR=9.8						
QSM	Queen of Sheba	74.78	44	IAmb	IAmb	19 30 52.2	
	comp=Z,47nm,1.9s						
DSP	Deep Springs	74.88	42	IAmb	IAmb	19 30 53.4	
	comp=Z,40nm,1.9s						
IRM	Iron Mountain	74.91	46	IAmb	IAmb	19 30 52.5	
	comp=Z,34nm,1.9s						
PEA0B	Petropavlovsk-	75.00	342⇓	*e*P	P	19 30 25.5	-0.4
PETK	Petropavlovsk-	75.00	342	P	P	19 30 26.3	+0.4
PETK	Petropavlovsk-	75.00	342	P	P	19 30 26.8	+0.9
	comp=Z,4.5nm,0.7s,baz=122,slow=8.6,SNR=14						
PETK				LR	LR	20 01 07.8	
	comp=Z,140nm,19.7s,baz=158,slow=34						
	comp=Z,4.5nm,0.7s						
LHV	Little Huntoon	75.07	41	IAmb	IAmb	19 30 38.6	
	comp=Z,30nm,1.6s						
RYN	Ryan	75.29	41	IAmb	IAmb	19 30 56.5	
	comp=Z,45nm,2.0s						
L04D	Klamath Falls	75.30	36	IAmb	IAmb	19 30 57.2	
	comp=Z,24nm,1.4s						
NVAR	Mina Array Bea	75.30	41	P	P	19 30 29.0	+0.7
NVAR	Mina Array Bea	75.30	41	P	P	19 30 30.7	+2.4
	comp=Z,2.4nm,0.8s,baz=225,slow=9.8,SNR=15						
NVAR				LR	LR	19 59 02.7	
	comp=Z,586nm,18.1s,baz=261,slow=32						
	comp=Z,2.4nm,0.8s						
NV11	Mina Array Sit	75.40	41	IAmb	IAmb	19 30 56.1	
	comp=Z,32nm,1.6s						
UGM	Wanagama	75.40	266	P	P	19 30 30.6	+1.4
UGM	Wanagama	75.40	266	P	P	19 30 28.8	-0.4
PAHR	Pah Rah Range	75.41	40	IAmb	IAmb	19 30 56.1	
	comp=Z,46nm,1.9s						
TPNV	Topopah Spring	75.75	43	IAmb	IAmb	19 30 58.4	
	comp=Z,56nm,1.9s						
YSS	Yuzhno-Sakhali	75.86	330⇓	*e*P	P	19 30 31.7	+0.8
YSS				pmax	pmax		
	comp=Z,23nm,1.1s						
J04A	Umpqua Nationa	76.08	35	IAmb	IAmb	19 31 00.9	
	comp=Z,19nm,1.1s						
PRN	Pahroc Range	76.80	44	IAmb	IAmb	19 31 04.6	
	comp=Z,65nm,1.9s						
KDAK	Kodiak Island	76.87	11	LR	LR	20 03 43.7	
	comp=Z,234nm,18.1s,baz=196,slow=35						
PINE	Pine Mountain	77.08	36	IAmb	IAmb	19 30 56.9	
	comp=Z,20nm,1.3s						
WVOR	Wild Horse Val	77.54	38	IAmb	IAmb	19 31 09.1	
	comp=Z,35nm,1.9s						
I07A	Izee	78.07	36	IAmb	IAmb	19 31 11.9	
	comp=Z,28nm,1.9s						
BBJI	Bungbulang	78.26	266	P	P	19 30 46.8	+1.5
KSRS	Korea Array	78.40	315	P	P	19 30 46.3	+0.9
	comp=Z,5.9nm,1.1s,baz=136,slow=5.3,SNR=11						
	comp=Z,5.9nm,1.1s						
KSAR	Wonju Array Be	78.42	315	P	P	19 30 46.2	+0.7
KSAR	Wonju Array Be	78.42	315	P	P	19 30 46.3	+0.7
LEM	Lembang	78.47	266	P	P	19 30 46.9	+0.3
	comp=Z,28nm,0.6s,baz=41,slow=5.9,SNR=7.7						
	comp=Z,28nm,0.6s						
ELK	Elko	78.58	41	P	P	19 30 48.5	+1.8
	comp=Z,2.0nm,0.8s,baz=242,slow=3.1,SNR=7.3						
ELK				LR	LR	20 01 59.7	
	comp=Z,625nm,18.0s,baz=334,slow=33						
	comp=Z,2.0nm,0.8s						
BBB	Bella Bella	79.40	26	LR	LR	20 00 23.4	
	comp=Z,246nm,18.9s,baz=216,slow=31						
TXAR	Lajitas Array	81.02	55	P	P	19 31 03.1	+3.1
	comp=Z,1.0nm,0.6s,baz=245,slow=5.9,SNR=1.3						
	comp=Z,1.0nm,0.6s						
PV13	Radium Mtn., P	81.37	46	IAmb	IAmb	19 31 47.4	
	comp=Z,40nm,1.6s						
PV23	Carpenter Ridg	81.39	45	IAmb	IAmb	19 31 29.8	
	comp=Z,29nm,1.2s						
PV03	Paradox Valley	81.40	45	IAmb	IAmb	19 31 50.1	
	comp=Z,23nm,1.4s						
PV12	Saucer Basin,	81.46	45	IAmb	IAmb	19 31 52.3	
	comp=Z,41nm,1.3s						
ANMO	Albuquerque	81.46	49	P	P	19 31 02.6	+0.3
ANMO				IAmb	IAmb	19 31 22.0	
	comp=Z,34nm,1.9s						
ANMO	Albuquerque	81.46	49	P	P	19 31 04.4	+2.1
	comp=Z,1.6nm,0.4s,baz=315,slow=6.1,SNR=4.6						
ANMO				LR	LR	20 02 47.1	
	comp=Z,391nm,18.1s,baz=338,slow=32						
	comp=Z,1.6nm,0.4s						
BELA	Belgrano 2	81.71	172	P	P	19 31 01.8	-1.0
PMSA	Palmer Station	81.79	156	LR	LR	20 00 49.5	
	comp=Z,268nm,18.6s,baz=278,slow=31						
NEW	Newport	81.96	34	LR	LR	20 05 34.8	
	comp=Z,567nm,18.0s,baz=222,slow=34						
BARN	Barnard Glacie	82.16	15	IAmb	IAmb	19 31 19.0	
	comp=Z,20nm,1.2s						
NJ2	Nanjing	82.26	307	*e*P	P	19 31 07.0	+0.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MA2	Magadan	82.53	342	LR	LR	20 04 22.5	
	comp=Z,240nm,19.8s,baz=126,slow=33						
S22A	4UR Ranch, Cre	82.53	47	IAmb	IAmb	19 31 37.1	
	comp=Z,26nm,1.5s						
TRF	Thorofare Moun	82.59	10	IAmb	IAmb	19 31 20.6	
	comp=Z,46nm,1.6s						
O20A	White River Ci	82.75	44	IAmb	IAmb	19 31 23.8	
	comp=Z,44nm,1.9s						
TPAW	Teton Pass	82.76	40	IAmb	IAmb	19 31 33.9	
	comp=Z,43nm,1.9s						
DLMT	Dillon	82.79	38	IAmb	IAmb	19 31 27.4	
	comp=Z,21nm,1.4s						
RND	Reindeer	82.79	10	IAmb	IAmb	19 31 14.9	
	comp=Z,13nm,1.0s						
HYT	Haines Junctio	83.01	16	IAmb	IAmb	19 31 16.2	
	comp=Z,21nm,1.4s						
PAX	Paxson	83.02	12	IAmb	IAmb	19 31 32.6	
	comp=Z,19nm,1.5s						
MCK	McKinley	83.08	10	IAmb	IAmb	19 31 28.3	
	comp=Z,27nm,1.0s						
FLWY	Flagg Ranch	83.23	40	IAmb	IAmb	19 31 30.2	
	comp=Z,31nm,1.4s						
PDAR	Pinedale Array	83.24	41	P	P	19 31 12.6	+1.1
PDAR	Pinedale Array	83.24	41	P	P	19 31 13.3	+1.8
	comp=Z,2.0nm,0.9s,baz=223,slow=3.6,SNR=15						
PDAR				LR	LR	20 04 14.5	
	comp=Z,251nm,18.3s,baz=250,slow=33						
	comp=Z,2.0nm,0.9s						
M27K	Edge Creek, AK	83.24	14	IAmb	IAmb	19 31 17.2	
	comp=Z,33nm,1.4s						
BNX	BinXian	83.26	322	⇓P	P	19 31 13.0	+1.8
BNX				pmax	pmax		
	comp=Z,15nm,2.5s						
O30N	Mendenhall	83.35	17	IAmb	IAmb	19 31 17.9	
	comp=Z,25nm,1.4s						
DLBC	Dease Lake	83.37	21	LR	LR	20 06 25.7	
	comp=Z,182nm,18.2s,baz=194,slow=34						
CN2	Changchun	83.38	320	P	P	19 31 18.5	+6.6
CN2				sP	pwP	19 31 25.5	-1.8
CN2				S	SKSac	19 41 36.8	+3.7
CN2				sS	ScS	19 41 44.8	-0.6
CN2				LR	LR		
	comp=Z,150nm,17.0s						
CN2				LR	LR		
	comp=Z,330nm,17.0s						
CN2				LR	LR		
	comp=Z,230nm,15.0s						
DL2	Dalian	83.40	314	P	P	19 31 13.8	+1.7
DL2				S	SKSac	19 41 37.0	+3.6
DL2				pmax	pmax		
	comp=Z,26nm,1.0s						
DL2				pmax	pmax		
	comp=Z,330nm,4.8s						
DL2				LR	LR		
	comp=Z,290nm,19.2s						
DL2				LR	LR		
	comp=Z,200nm,15.6s						
DL2				LR	LR		
	comp=Z,300nm,19.4s						
SDCO	Great Sand Dun	83.46	47	IAmb	IAmb	19 31 30.7	
	comp=Z,22nm,1.6s						
BOZ	Bozeman (W)	83.49	38	IAmb	IAmb	19 31 27.2	
	comp=Z,50nm,2.0s						
USHA	Ushuaia	83.57	146	LR	LR	20 00 46.9	
	comp=Z,271nm,20.7s,baz=234,slow=30						
CMIG	Matias Romero	83.69	70	LR	LR	20 01 07.9	
	comp=Z,333nm,18.8s,baz=180,slow=30						
R33M	Jennings River	83.80	20	IAmb	IAmb	19 31 28.1	
	comp=Z,29nm,1.6s						
BCAR	Beaver Creek A	83.88	13	P	P	19 31 12.2	-1.9
WRH	Wood River Hil	83.91	10	P	P	19 31 14.6	+0.5
DOT	Dot Lake	83.91	12	IAmb	IAmb	19 31 27.6	
	comp=Z,30nm,1.6s						
N31M	Braeburn, Yuko	84.03	17	P	P	19 31 16.3	+1.4
N31M				IAmb	IAmb	19 31 21.1	
	comp=Z,23nm,1.4s						
HDA	Harding Lake	84.05	11	P	P	19 31 15.8	+0.9
HDA				IAmb	IAmb	19 31 31.8	
	comp=Z,17nm,1.2s						
CCB	Clear Creek Bu	84.12	10	P	P	19 31 15.7	+0.5
CCB				IAmb	IAmb	19 31 23.4	
	comp=Z,17nm,1.1s						
M29M	Somme Creek	84.13	15	IAmb	IAmb	19 31 22.2	
	comp=Z,39nm,1.9s						
SCRK	Sand Creek	84.22	12	P	P	19 31 16.6	+0.7
SCRK				IAmb	IAmb	19 31 29.5	
	comp=Z,22nm,1.6s						
COLA	College	84.32	10	P	P	19 31 17.3	+1.1
COLA	College	84.32	10	P	P	19 31 17.3	+1.1
COLA				pmax	pmax		
	comp=Z,23nm,0.9s						
I23K	Minto, Yukon-K	84.33	10	P	P	19 31 16.0	-0.3
I23K				IAmb	IAmb	19 31 29.4	
	comp=Z,34nm,1.6s						
ILAR	Eielson Array	84.39	11	P	P	19 31 16.5	-0.1
ILAR	Eielson Array	84.39	11	P	P	19 31 17.6	+1.0
	comp=Z,2.6nm,0.7s,baz=225,slow=5.8,SNR=32						
ILAR				LR	LR	20 04 25.1	
	comp=Z,262nm,20.1s,baz=201,slow=32						
	comp=Z,2.6nm,0.7s						
IMAR	Indian Mountai	84.49	8	P	P	19 31 15.2	-1.9
J25K	Salcha River,	84.53	11	IAmb	IAmb	19 31 26.8	
	comp=Z,33nm,1.7s						
M30M	Minto, Yukon	84.66	16	IAmb	IAmb	19 31 27.6	
	comp=Z,30nm,1.7s						
SEY	Seymchan	84.87	345	LR	LR	20 05 12.3	
	comp=Z,175nm,20.3s,baz=142,slow=33						
SEY	Seymchan	84.87	345	*e*P	P	19 31 19.6	+0.6
SEY				pmax	pmax		
	comp=Z,13nm,1.5s						
AMTX	Amarillo	84.94	51	P	P	19 31 20.2	0.0
AMTX				IAmb	IAmb	19 31 25.9	
	comp=Z,11nm,0.8s						
M31M	Drury Creek, Y	85.00	17	IAmb	IAmb	19 31 33.1	
	comp=Z,30nm,1.8s						
G21K	Allakaket	85.03	7	IAmb	IAmb	19 31 26.1	
	comp=Z,39nm,1.6s						
WHN	Wuhan	85.12	304	P	P	19 31 19.8	-1.3
WHN				sP	sP	19 31 27.3	+0.4
DAWY	Dawson	85.29	14	P	P	19 31 23.2	+2.0
DAWY				IAmb	IAmb	19 31 27.4	
	comp=Z,27nm,1.4s						
TIA	Tai'an	85.36	310	P	P	19 31 24.3	+2.1
TIA				S	S	19 41 52.0	-0.1
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,260nm,5.5s						
E19K	Redstone River	85.53	6	IAmb	IAmb	19 31 49.6	
	comp=Z,25nm,1.2s						
I26K	Coal Creek Min	85.57	12	IAmb	IAmb	19 31 28.9	
	comp=Z,14nm,1.1s						
MAW	Mawson	86.04	198	P	P	19 31 26.6	+1.6
	comp=Z,2.2nm,1.0s,baz=141,slow=1.7,SNR=1.8						
MAW				LR	LR	20 09 15.2	
	comp=Z,468nm,19.0s,baz=115,slow=35						
	comp=Z,2.2nm,1.0s						
COLD	Coldfoot	86.14	8	IAmb	IAmb	19 31 39.7	
	comp=Z,29nm,1.5s						
I28M	Miner Creek	86.36	13	IAmb	IAmb	19 31 32.4	
	comp=Z,21nm,1.4s						
J30M	Hart River	86.44	15	IAmb	IAmb	19 31 41.1	
	comp=Z,39nm,1.8s						
H27K	Steamboat Moun	86.71	12	IAmb	IAmb	19 31 38.2	
	comp=Z,15nm,1.4s						
BILL	Bilibino	86.79	352	P	P	19 31 26.5	-2.0
BILL				IAmb	IAmb	19 31 41.8	
	comp=Z,31nm,1.5s						
BILL	Bilibino	86.79	352⇓	*e*P	P	19 31 28.9	+0.4
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
G26K	Porcupine Rive	86.92	11	IAmb	IAmb	19 31 47.9	
	comp=Z,18nm,1.1s						
APG	El Apazote	87.00	73	LR	LR	20 05 06.4	
	comp=Z,10nm,18.5s,baz=150,slow=32						
BMAR	Burnt Mountain	87.21	10	P	P	19 31 31.1	+0.5
PLCA	Paso Flores	87.33	132	IAmb	IAmb	19 33 46.7	
	comp=Z,32nm,1.9s						
PLCA	Paso Flores	87.33	132	P	P	19 31 34.9	+2.9
	comp=Z,1.9nm,0.8s,baz=213,slow=7.3,SNR=4.4						
	comp=Z,1.9nm,0.8s						
PLCA	Paso Flores	87.33	132	P	P	19 31 34.9	+2.9
PLCA				pmax	pmax		
	comp=Z,32nm,1.9s						
HNS	HongShan	87.62	310	⇑P	P	19 31 35.8	+2.6
HNS				S	S	19 42 16.0	+2.1
HNS				pmax	pmax		
	comp=Z,12nm,1.1s						
HNS				LR	LR		
	comp=Z,130nm,19.0s						
HNS				LR	LR		
	comp=Z,250nm,17.7s						
HNS				LR	LR		
	comp=Z,280nm,18.6s						
BJI	Beijing	87.67	313	P	P	19 31 35.5	+2.1
BJI				S	S	19 42 17.3	+3.0
BJI				SS	SS	19 48 02.5	+1.2
BJI				pmax	pmax		
	comp=Z,8.0nm,1.8s						
BJI				pmax	pmax		
	comp=Z,120nm,4.3s						
BJI				LR	LR		
	comp=Z,51nm,17.7s						
BJI				LR	LR		
	comp=Z,74nm,16.8s						
BJI				LR	LR		
	comp=Z,77nm,16.0s						
ZEA	Zeya	87.79	329	*e*P	P	19 31 35.5	+1.9
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.9s						
ZEA				MLR	MLR		
	comp=Z,100nm,20.0s						
LYN	LuoYang	88.16	307	P	P	19 31 38.3	+2.5
LYN				S	S	19 42 24.0	+4.8
LYN				pmax	pmax		
	comp=Z,13nm,0.6s						
LYN				pmax	pmax		
	comp=Z,390nm,4.4s						
LYN				LR	LR		
	comp=Z,320nm,8.6s						
LYN				LR	LR		
	comp=Z,340nm,17.2s						
LYN				LR	LR		
	comp=Z,570nm,17.5s						
BI02	San Fabin de	88.23	128	P	P	19 31 37.8	+1.4
MT01	Popeta	89.23	125	P	P	19 31 41.2	+0.1
MT01				IAmb	IAmb	19 32 13.9	
	comp=Z,29nm,1.3s						
PSI	Prapat	89.60	273	LR	LR	20 12 23.4	
	comp=Z,107nm,19.9s,baz=78,slow=36						
HILR	Hailar Array B	89.65	323	P	P	19 31 43.2	+0.6
	comp=Z,0.8nm,0.4s,baz=101,slow=7.5,SNR=1.3						
	comp=Z,0.8nm,0.4s						
GSI	Gunungsitoli	90.43	271	P	P	19 31 47.8	+0.8
	comp=Z,1μmcomp=Z,38nm,1.4s						
TROLL	Troll, Antarti	90.56	178	⇓P	P	19 31 48.1	+1.4
	comp=Z,163nm,0.8s						
VNA3	Neumayer Olymp	90.60	174	⇓P	P	19 31 48.2	+1.5
	comp=Z,5.9nm,0.8s						
JTS	Las Juntas de	90.64	79	LR	LR	20 04 13.3	
	comp=Z,264nm,18.7s,baz=247,slow=30						
SNAA	Sanae	90.68	177	⇓P	P	19 31 48.3	+1.1
	comp=Z,67nm,0.8s						
SNAA	Sanae	90.68	177	P	P	19 31 47.5	+0.4
SNAA	Sanae	90.68	177	P	P	19 31 48.5	+1.4
	comp=Z,2.4nm,0.8s,baz=214,slow=3.4,SNR=14						
SNAA				LR	LR	20 11 40.9	
	comp=Z,175nm,18.2s,baz=192,slow=35						
	comp=Z,2.4nm,0.8s						
XAN	Xi'an	90.69	305	P	P	19 31 49.5	+1.7
XAN				SKS	SKSac	19 42 23.0	+4.4
XAN				S	ScS	19 42 47.3	+0.8
XAN				pmax	pmax		
	comp=Z,12nm,1.3s						
XAN				pmax	pmax		
	comp=Z,160nm,4.8s						
VNA2	Neumayer--Watz	91.11	175	⇓P	P	19 31 50.8	+1.7
	comp=Z,7.2nm,0.6s,baz=169,slow=4.2						
HHC	Hu-ho-hao-te	91.22	313	*e*P	P	19 31 49.5	-0.7
HHC				S	S	19 42 47.0	-0.7
HHC				sS	sS	19 42 58.5	+2.5
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.4s						
HHC				LR	LR		
	comp=Z,150nm,16.8s						
HHC				LR	LR		
	comp=Z,160nm,20.2s						
HHC				LR	LR		
	comp=Z,190nm,17.7s						
VNA1	Neumayer--Stat	91.30	175	⇓P	P	19 31 51.9	+2.0
	comp=Z,9.0nm,1.0s						
ATAH	Atahualpa	91.64	98	LR	LR	20 04 40.1	
	comp=Z,160nm,19.6s,baz=241,slow=30						
YKA	Yellowknife Ar	91.71	23	P	P	19 31 53.6	+1.9
	comp=Z,1.0nm,0.8s,baz=234,slow=4.2,SNR=5.2						
	comp=Z,1.0nm,0.8s						
BTO	Baotou	92.22	312	*e*P	P	19 31 57.0	+2.2
BTO				S	S	19 43 01.5	+4.7
BTO				pmax	pmax		
	comp=Z,14nm,0.6s						
BTO				LR	LR		
	comp=Z,200nm,4.8s						
BTO				LR	LR		
	comp=Z,210nm,5.4s						
BTO				LR	LR		
	comp=Z,200nm,9.5s						
FCAR	Ozark Folk Cen	92.53	53	IAmb	IAmb	19 35 18.6	
	comp=Z,18nm,1.1s						
CD2	Chengdu	93.78	301	P	P	19 32 01.8	-0.4
PZH	PanZhiHua	94.12	296	P	P	19 32 04.5	+0.6
CMAR	Chiang Mai Arr	94.22	288	P	P	19 32 05.6	+1.2
CMAR	Chiang Mai Arr	94.22	288	P	P	19 32 05.8	+1.4
	comp=Z,1.4nm,0.6s,baz=102,slow=2.4,SNR=14						
CMAR				LR	LR	20 10 59.5	
	comp=Z,197nm,20.5s,baz=130,slow=33						
	comp=Z,1.4nm,0.6s						
CHTO	Chiang Mai	94.33	288	P	P	19 32 07.1	+2.2
CHTO				IAmb	IAmb	19 32 19.4	
	comp=Z,21nm,1.6s						
CHTO	Chiang Mai	94.33	288	P	P	19 32 07.1	+2.2
CHTO				pmax	pmax		
	comp=Z,21nm,1.6s						
ULM	Lac du Bonnet	95.01	39	LR	LR	20 12 14.6	
	comp=Z,564nm,18.0s,baz=268,slow=34						
LZH	Lanzhou	95.30	306	*e*P	P	19 32 12.0	+2.8
LZH				PP	PP	19 35 59.5	-0.3
LZH				S	S	19 43 22.8	-1.4
LZH				pmax	pmax		
	comp=Z,150nm,4.8s						
LZH				LR	LR		
	comp=Z,170nm,16.5s						
LZH				LR	LR		
	comp=Z,200nm,15.8s						
LZH				LR	LR		
	comp=Z,180nm,15.1s						
SONM	Songino Array	97.12	318	IAmb	IAmb	19 32 52.0	
	comp=Z,12nm,1.9s						
SONM	Songino Array	97.12	318	P	Pdif	19 32 18.0	+0.8
	comp=Z,0.2nm,0.3s,baz=101,slow=6.0,SNR=2.0						
SONM				LR	LR	20 12 09.8	
	comp=Z,116nm,19.9s,baz=80,slow=33						
	comp=Z,0.2nm,0.3s						
SONM	Songino Array	97.12	318	P	Pdif	19 32 18.0	+0.8
SONM				pmax	pmax		
	comp=Z,12nm,1.9s						
TIXI	Tiksi	97.36	344⇑	*e*P	Pdif	19 32 17.5	0.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
LPAZ	La Paz	98.15	110	LR	LR	20 08 20.4	
	comp=Z,163nm,19.2s,baz=248,slow=30						
TKL	Tuckaleechee C	98.94	55	LR	LR	20 13 30.5	
	comp=Z,180nm,18.3s,baz=236,slow=33						
ROSC

ARCES ARCESS Array B 126.90 352 PKP **PKiKP 19 37 49.2 +0.8**
comp=Z,2.1nm,0.8s,baz=350,slow=3.7,SNR=4.2
KLMR Klimovskoe 131.17 340 *e*PKHKP PKPpre 19 37 42.5
KLMR pmax pmax
comp=Z,12nm,1.4s
KIV Kislovodsk 140.49 319 *i* PKIKP **PKPdf 19 38 14.3 0.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SOC Sochi 142.51 321 *i* P **Pdif 19 35 38.5 -0.5**
SOC *e* 19 41 26.3
AKASG Malin Array Be 142.72 337 PKP **PKPdf 19 38 16.3 -1.6**
comp=Z,0.9nm,0.6s,baz=36,slow=3.3,SNR=4.1
KIBK Kibwezi 144.06 240 PKPbc 19 38 19.0 -0.4
MARD Mardin 144.88 311 PKPab 19 38 19.6 -1.7
KMBO Kilima Mbogo 145.40 241 PKPbc **PKPab 19 38 23.8 -0.3**
comp=Z,7.9nm,0.4s,baz=140,slow=3.9,SNR=8.1
KMBO Kilima Mbogo 145.40 241 *i* PKIKP **PKiKP 19 38 27.0 -1.0**
KMBO pmax pmax
comp=Z,8.0nm,0.4s
ATD Arta Tunnel 145.42 265 PKPbc 19 38 20.4 -3.3
KWP Kalwaria Pacla 145.79 342 *e*PKP **PKiKP 19 38 25.9 -1.6**
OJC Ojcow 146.00 346 *e*PKP **PKiKP 19 38 26.8 -1.1**
CLL Collm 146.08 354 PKPdf 19 38 23.0 -0.7
CLL Collm 146.08 354 *i* PKP2 **PKiKP 19 38 25.8 -2.1**
CLL pmax pmax
comp=Z,22nm,1.0s
KSP Ksiaz 146.10 350 *e*PKP **PKiKP 19 38 26.7 -1.3**
CHVC Chvalec 146.39 350 *e*PKP **PKiKP 19 38 27.9 -0.7**
CHVC Chvalec 146.39 350 *e*PKP2 **PKiKP 19 38 27.9 -0.7**
OSTC Ostas 146.39 350 *e*PKP **PKiKP 19 38 28.1 -0.5**
OSTC Ostas 146.39 350 *e*PKP2 **PKiKP 19 38 28.1 -0.5**
BRG Berggiesshubel 146.41 353 *e*PKP **PKiKP 19 38 27.4 -1.2**
BRG Amp 19 38 32.2
comp=Z,44nm,1.4s
DPC Dobruska-Polom 146.57 350 *e*PKP **PKiKP 19 38 28.6 -0.5**
DPC AMS AMS 20 53 10.0
comp=Z,200nm,15.8s
DPC Dobruska-Polom 146.57 350 *e*PKP2 **PKiKP 19 38 28.6 -0.5**
DPC MLR MLR
comp=Z,200nm,15.8s
NIE Niedzica 146.63 345 *e*PKP **PKiKP 19 38 28.9 -0.3**
PVCC Panska Ves 146.67 352 *e*PKP **PKiKP 19 38 28.7 -0.5**
PVCC AMS AMS 20 53 20.0
comp=Z,200nm,16.5s
PVCC Panska Ves 146.67 352 *e*PKP2 **PKiKP 19 38 28.7 -0.5**
PVCC MLR MLR
comp=Z,200nm,16.5s
STEB Steborice 146.71 348 *e*PKP **PKiKP 19 38 28.3 -1.0**
HSKC Hora Svate Kat 146.73 353 *e*PKP **PKiKP 19 38 28.6 -0.7**
BURAR Bucovina Array 146.75 338 PKPbc 19 38 25.2 -1.6
BURAR Bucovina Array 146.75 338 ⇑P **PKiKP 19 38 29.2 -0.3**
BURAR Bucovina Array 146.75 338 ⇑PKP2 **PKiKP 19 38 29.3 -0.3**
KRLC Kraliky 146.76 349 *e*PKP **PKPab 19 38 27.2 -0.7**
KRLC Kraliky 146.76 349 *e*PKP2 **PKPab 19 38 27.2 -0.7**
MORC Moravsky Berou 146.91 348 ⇓P **PKiKP 19 38 29.6 -0.2**
MORC Moravsky Berou 146.91 348 *e*PKP **PKiKP 19 38 29.4 -0.4**
MORC Moravsky Berou 146.91 348 ⇓PKP2 **PKiKP 19 38 29.6 -0.2**
MEM Membach 147.03 2 *d*PKP **PKiKP 19 38 35.1 +5.3**
BTNL Ternell 147.06 2 *d*PKP **PKiKP 19 38 34.9 +4.9**
LANS Liptovska Anna 147.08 346 *e*PKP2 **PKiKP 19 38 31.4 +1.3**
LANS Liptovska Anna 147.08 346 *e*PKP **PKiKP 19 38 31.4 +1.3**
BCLA Clavier 147.19 3 *d*PKP **PKPdf 19 38 25.4 -0.2**
GHRR 147.19 334 ⇑P **PKiKP 19 38 31.1 +0.7**
PRU Pruhonice 147.20 352 *e*PKP **PKiKP 19 38 29.6 -0.7**
PRU AMS AMS 20 48 30.0
comp=Z,200nm,19.5s
PRU Pruhonice 147.20 352 *e*PKP2 **PKiKP 19 38 29.6 -0.7**
PRU MLR MLR
comp=Z,200nm,19.5s
BGES Gesves 147.22 3 *d*PKP **PKPab 19 38 28.4 -1.2**
MAUC Maruska 147.24 348 *e*PKP **PKiKP 19 38 29.7 -0.7**
BMRD Maredsous 147.28 3 *d*PKP **PKiKP 19 38 36.5 +6.0**
BHOU Houvegnez 147.28 2 *d*PKP **PKiKP 19 38 30.3 -0.2**
ONER Baraj Valea Uz 147.38 336 ⇓P **PKiKP 19 38 31.4 +0.6**
RCHB Rochefort 147.45 3 *d*PKP **PKiKP 19 38 34.7 +4.0**
DOU Dourbes 147.48 4 *d*PKP **PKiKP 19 38 30.9 +0.1**
GAZ Gaziantep 147.48 313 PKPdf 19 38 25.4 -1.2
VRAC Vranov 147.53 349 ⇓P **PKiKP 19 38 34.4 +3.4**
VRAC Vranov 147.53 349 *e*PKP **PKiKP 19 38 31.3 +0.3**
VRAC Vranov 147.53 349 ⇓PKP2 **PKiKP 19 38 34.4 +3.4**
BNN Bunyan 147.55 317 PKPdf 19 38 24.8 -2.0
VRI Vrincioaia 147.63 335 ⇑P **PKPab 19 38 31.3 -0.1**
VRI Vrincioaia 147.63 335 ⇑PKP2 **PKPab 19 38 31.3 -0.1**
PLOR Plostina 147.67 335 ⇑P **PKPab 19 38 33.3 +1.6**
PLOR Plostina 147.67 335 ⇑PKP2 **PKPab 19 38 33.3 +1.6**
JAVC Velka Javorina 147.75 348 *e*PKP **PKPab 19 38 33.0 +1.1**
TURR Turia 147.76 336 ⇑P **PKPab 19 38 32.2 +0.3**
ZVC Zvikov 147.78 352 *e*PKP **PKPab 19 38 31.8 -0.1**
ZVC *ex* x 19 38 44.2
KRUC Moravsky 147.81 349 *e*PKP **PKPab 19 38 31.8 -0.2**
WLF Walferdange 147.98 2 PKPbc 19 38 28.1 -1.9
WLF Walferdange 147.98 2 *d*PKP **PKPab 19 38 36.1 +3.4**
WLF Walferdange 147.98 2 PKIKP **PKPbc 19 38 28.1 -1.9**
DOPR Dopca 148.08 336 ⇓P **PKPab 19 38 33.5 +0.3**
PSZ Piszkesteto 148.12 344 PKPdf 19 38 25.1 -2.2
PSZ Piszkesteto 148.12 344 PKHKP PKPpre 19 38 25.1
KHC Kasperske Hory 148.16 353 *e*PKP **PKPab 19 38 33.0 -0.5**
KHC AMS AMS 20 54 00.0
comp=Z,200nm,17.0s
KHC Kasperske Hory 148.16 353 *e*PKP2 **PKPab 19 38 33.0 -0.5**
KHC MLR MLR
comp=Z,200nm,17.0s
MLR Muntele Rosu 148.25 335 ⇓P **PKPab 19 38 33.9 -0.2**
MLR Muntele Rosu 148.25 335 ⇓PKP2 **PKPab 19 38 33.9 -0.2**
MARR Marisel-Cluj 148.28 340 ⇑P **PKPab 19 38 33.4 -0.7**
MODS Modra-Piesok 148.30 348 *e*PKP2 **PKPab 19 38 33.8 -0.2**
MODS Modra-Piesok 148.30 348 *e*PKP **PKPab 19 38 33.8 -0.2**
DRGR 148.32 340 ⇑P **PKPab 19 38 33.4 -0.8**
DRGR 148.32 340 ⇑PKP2 **PKPab 19 38 33.4 -0.8**
GEC2 GERESS Array S 148.43 352 PKPab 19 38 33.8 -0.9
GERES GERESS Array B 148.43 352 PKPbc **PKPab 19 38 33.3 -1.3**
comp=Z,2.5nm,0.8s,baz=23,slow=4.4,SNR=18
BR131 Keskin Array S 148.46 320 PKPdf 19 38 26.0 -2.3
BR131 Keskin Array S 148.46 320 PKHKP PKPpre 19 38 26.0
BRTR Keskin Array B 148.46 320 PKP **PKPdf 19 38 28.9 +0.6**
comp=Z,1.0nm,0.8s,baz=38,slow=2.6,SNR=1.9
BRTR PKPbc **PKPab 19 38 33.6 -1.5**
comp=Z,3.6nm,0.8s,baz=117,slow=4.1,SNR=9.8
ARR Arges 148.87 336 ⇓P **PKPab 19 38 35.7 -0.8**
CONA Conrad Observa 148.99 349 *ep*PKP **PKPab 19 38 35.4 -1.5**
comp=Z,16nm,1.5s,SNR=12
SIRR Siria 149.12 341 ⇓P **PKPab 19 38 35.5 -1.9**
RONA Rosalia, Austr 149.13 349 *ep*PKP **PKPab 19 38 35.1 -2.3**
comp=Z,11nm,1.0s,SNR=8.3
MOA Molln 149.33 351 *i* pPKP **PKPab 19 38 35.8 -2.4**
comp=Z,4.3nm,1.0s
LODK Lodwar 149.38 246 PKPdf 19 38 28.7 -1.7
SURR Surduc 149.42 340 ⇓P **PKiKP 19 38 34.8 -0.2**
ECH Echery 149.45 1 PKPab 19 38 39.1 +0.5
ECH Echery 149.45 1 PKP2 **PKPab 19 38 39.1 +0.5**
BIOA Bad Ischl, Aus 149.57 352 *e*PKP **PKPdf 19 38 28.7 -1.0**
comp=Z,10nm,1.3s
ARSA Arzberg 149.71 349 *i* pPKP **PKPab 19 38 37.2 -2.6**
comp=Z,11nm,1.7s
BZS Buzias 149.71 340 ⇑P **PKiKP 19 38 36.3 +0.7**
BZS Buzias 149.71 340 ⇑PKP2 **PKiKP 19 38 36.3 +0.7**
LESA Schwarzleotal 149.95 353 *i* PKiKP **PKiKP 19 38 36.7 +0.6**
comp=Z,7.4nm,1.5s
MORH Mrgy, Hungar 150.02 345 ⇑P **PKiKP 19 38 37.4 +1.2**
RETA Reutte 150.07 356 *i* pPKP **PKiKP 19 38 37.8 +1.4**
comp=Z,6.8nm,1.0s
WATA Walderalm 150.15 355 *i* PKiKP **PKiKP 19 38 37.4 +0.7**
comp=Z,11nm,1.2s
MOTA Moosalm 150.18 355 *ep*PKP **PKiKP 19 38 37.9 +1.2**
comp=Z,15nm,1.4s
KBA Koelnbreinsper 150.21 352 *ep*PKP **PKPdf 19 38 31.6 +0.7**
comp=Z,1.7nm,0.7s
WTTA Wattenberg 150.22 354 *i* pPKP **PKiKP 19 38 38.4 +1.5**
comp=Z,9.5nm,0.8s,SNR=5.3
SQTA Sankt Quirin 150.30 355 *ep*PKP **PKiKP 19 38 38.2 +1.3**
comp=Z,4.8nm,0.9s
DAVA Damuels 150.32 357 *i* pPKP **PKiKP 19 38 38.6 +1.6**
comp=Z,11nm,1.1s
SOKA Soboth 150.35 350 *i* PKiKP **PKiKP 19 38 36.5 -0.5**
comp=Z,7.6nm,1.0s
FETA Feichten 150.53 356 *i* pPKP **PKiKP 19 38 38.5 +1.0**
comp=Z,12nm,2.0s
OBKA Obir 150.59 350 *ep*PKP **PKPab 19 38 45.1 +1.7**
comp=Z,10nm,1.5s
MYKA Terra Mystica 150.61 352 *ep*PKP **PKiKP 19 38 38.5 +1.0**
comp=Z,8.0nm,1.2s
ABTA Abfaltersbach 150.64 353 *i* PKiKP **PKiKP 19 38 38.1 +0.5**
comp=Z,11nm,0.8s

MMAI Mount Meron Ar 150.68 307 PKPbc **PKiKP 19 38 39.7 +1.6**
comp=Z,3.0nm,0.7s,baz=61,slow=4.0,SNR=6.1
ESDC Sonseca Array 155.80 22 PKPdf 19 38 36.4 -2.7
ESDC Sonseca Array 155.80 22 PKPab **PKPab 19 39 07.2 +1.6**
comp=Z,1.5nm,1.1s,baz=321,slow=2.1,SNR=4.3
TORD Torodi Ar. Bea 172.78 127 PKPab **PKPab 19 40 22.8 +2.0**
comp=Z,1.3nm,0.4s,baz=242,slow=3.1,SNR=3.6

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*IDC **31** 19:19:24.9±1.4, 31°.03S×179°.98W, h372km±14km, mb2.6/3, mbtmp3.6/4, Error ellipse: s-maj=29.2km s-min=23.2km az=121.0*

ISC 31 19:19:23.7±0.8, 31°.2S±0°.1×179°.8W±0°.2, h377km, n10, σ2§33/11, mb3.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.51**	**40**	P	**Pn**	**19 20 22.3**	**+1.1**
RAO	184nm,0.2s,baz=146,slow=9.3,SNR=5.7			S	**S**	**19 21 03.6**	**-4.0**
	167nm,0.2s,baz=233,slow=20,SNR=1.5						
URZ	**Urewera**	**7.50**	**199**	P	**P**	**19 21 14.2**	**+0.9**
URZ	8.6nm,0.4s,baz=30,slow=16,SNR=36			S	**S**	**19 22 37.1**	**-4.0**
	17nm,0.3s,baz=68,slow=22,SNR=29						
ASAR	**Alice Springs**	**41.57**	**269**	P	**P**	**19 26 36.5**	**+0.1**
	0.3nm,0.8s,baz=112,slow=8.3,SNR=2.3						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**42.64**	**274**	P	**P**	**19 26 44.4**	**-0.6**
	0.2nm,0.5s,baz=113,slow=8.0,SNR=6.8						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**58.91**	**180**	P	P	19 28 50.9	+6.6
	1.9nm,0.6s,baz=54,slow=1.8,SNR=12						
SNAA	**Sanae**	**77.39**	**179**	P	**P**	**19 30 40.2**	**+2.6**
	0.4nm,0.6s,baz=153,slow=4.5,SNR=5.5						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**145.36**	**338**	PKPbc	**PKPab**	**19 38 17.4**	**-0.6**
	1.5nm,0.5s,baz=46,slow=3.8,SNR=15						
NOA	**NORSAR Array B**	**149.29**	**350**	PKPbc	**PKPbc**	**19 38 27.5**	**-0.3**
	0.7nm,0.8s,baz=18,slow=2.6,SNR=2.7						
HFS	**Hagfors**	**149.70**	**347**	PKPbc	**PKiKP**	**19 38 29.1**	**-0.4**
	0.6nm,0.4s,baz=48,slow=2.1,SNR=6.1						
MMAI	**Mount Meron Ar**	**150.25**	**283**	PKPbc	**PKiKP**	**19 38 33.0**	**+1.3**
	0.2nm,0.3s,baz=90,slow=4.3,SNR=4.2						

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*DJA **31** 19:28:37.9±0.2, 7°.S±3°.×12°.8E±°, h304km±4km, M4.4/24, mb4.3/24, mB5.0/4, MLv4.6/16, Mw(mB)4.3/4*
*NEIC **31** 19:28:38.0±1.2, 6°.82S±0°.07×128°.04E±0°.09, h297km±6km, mb4.4/14, Error ellipse: s-maj=13.0km s-min=10.0km az=115.0*
*IDC **31** 19:28:38.6±2.1, 6°.87S×127°.95E, h305km±25km, mb3.3/12, mbtmp4.2/16, Error ellipse: s-maj=21.9km s-min=14.1km az=63.0*

ISC 31 19:28:38.1±0.5, 6°.92S±0°.05×128°.04E±0°.05, h309km, n64, σ1§66/67, mb3.8/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.02**	**38**	P	**Pn**	**19 29 34.8**	**0.0**
SAUI	**Saumlaki**	**3.40**	**108**	Pn	**Pn**	**19 29 37.5**	**-1.0**
SAUI					**S**	**19 30 20.6**	**-6.2**
SAUI	**Saumlaki**	**3.40**	**108**	P	**Pn**	**19 29 39.0**	**+0.5**
SAUI				S	**S**	**19 30 25.0**	**-1.9**
MSAI	**Masohi**	**3.66**	**14**	P	**Pn**	**19 29 41.0**	**-0.3**
NLAI	**Namlea**	**3.78**	**346**	P	**Pn**	**19 29 42.0**	**-0.5**
SOEI	**Soe**	**4.68**	**233**	Pn	**Pn**	**19 29 52.7**	**+0.2**
SOEI	**Soe**	**4.68**	**233**	P	**Pn**	**19 29 52.7**	**+0.2**
SANI	**Sanana**	**5.25**	**337**	P	**Pn**	**19 29 59.1**	**+0.1**
	42nm,0.6s						
BATI	**Baumata**	**5.42**	**233**	P	**Pn**	**19 30 01.1**	**+0.1**
	291nm,0.5s,baz=91,slow=2.0,SNR=88						
BATI				S	**S**	**19 31 04.1**	**-3.5**
	771nm,1.0s,baz=91,slow=23,SNR=32						
BATI	**Baumata**	**5.42**	**233**	P	**Pn**	**19 30 01.0**	**+0.1**
BBSI	**Bau Bau**	**5.62**	**284**	P	**Pn**	**19 30 03.0**	**-0.3**
	0.2nm37nm,0.9s						
FAKI	**Fak Fak**	**5.78**	**47**		**Pn**	**19 30 02.7**	**-2.4**
FAKI	**Fak Fak**	**5.78**	**47**	P	**Pn**	**19 30 02.8**	**-2.4**
	0.4nm48nm,0.5s						
MMRI	**Maumere**	**6.00**	**253**		**Pn**	**19 30 06.8**	**-0.9**
MMRI	**Maumere**	**6.00**	**253**	P	**Pn**	**19 30 08.7**	**+1.0**
	0.3nm50nm,0.5s						
KMPI	**Kaimana, Papua**	**6.50**	**60**	P	**Pn**	**19 30 12.9**	**-0.9**
EDFI	**Ende, Flores**	**6.55**	**253**	P	**Pn**	**19 30 14.6**	**+0.2**
MTN	**Manton Dam**	**6.63**	**153**		**Pn**	**19 30 15.7**	**+0.5**
SWI	**Sorong**	**6.82**	**28**	P	**Pn**	**19 30 15.8**	**-1.8**
BASI	**Baing, Sumba**	**8.07**	**246**	P	**Pn**	**19 30 31.7**	**-1.1**
	129nm,1.2s						
WSI	**Waingapu**	**8.13**	**250**	P	**Pn**	**19 30 31.6**	**-1.9**
	61nm,1.0s						
KNRA	**Kununurra**	**8.73**	**175**		**Pn**	**19 30 41.2**	**+0.5**
WBSI	**Waikabubak, Su**	**8.97**	**252**	P	**Pn**	**19 30 42.0**	**-1.8**
	18nm,1.2s						
PLAI	**Plampang**	**10.34**	**259**	P	**Pn**	**19 30 58.5**	**-2.0**
	19nm,1.7s						
TWSI	**Taliwang, Sumb**	**11.20**	**260**	P	**Pn**	**19 31 10.1**	**-0.9**
	18nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.35**	**192**	Pn	**Pn**	**19 31 13.2**	**+0.5**
FITZ					**P**	**19 31 16.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**11.35**	**192**	P	**Pn**	**19 31 12.9**	**+0.2**
	31nm,0.6s,baz=22,slow=9.6,SNR=64						
FITZ				S	**S**	**19 33 20.1**	**+0.4**
	3.6nm,0.4s,baz=274,slow=18,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**13.85**	**263**	P	**P**	**19 31 39.1**	**-3.1**
JAGI	**Jajag, Banyuwa**	**13.85**	**263**	P	**P**	**19 31 40.2**	**-2.0**
	20nm,1.2s						
WB0	**Warramunga Arr**	**14.18**	**155**		**P**	**19 31 46.7**	**+0.9**
WRAB	**Tennant Creek**	**14.31**	**155**	P	**P**	**19 31 47.9**	**+0.6**
WRA	**Warramunga Arr**	**14.31**	**155**		**P**	**19 31 47.0**	**-0.3**
WRA	**Warramunga Arr**	**14.31**	**155**	P	**P**	**19 31 48.2**	**+0.9**
	13nm,0.6s,baz=327,slow=12,SNR=104						
WRA				S	**S**	**19 34 18.7**	**-5.8**
	4.7nm,0.9s,baz=331,slow=20,SNR=5.4						
WR8	**Warramunga Arr**	**14.39**	**155**		**P**	**19 31 49.2**	**+1.0**
MBWA	**Marble Bar**	**16.28**	**209**	P	**P**	**19 32 09.5**	**+0.7**
COEN	**Coen**	**16.44**	**116**		**P**	**19 32 11.9**	**+1.3**
PSA00	**Pilbara Seismi**	**16.58**	**208**	P	**P**	**19 32 12.4**	**+0.4**
PSA00				IAmb	IAmb	19 32 13.5	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**16.58**	**208**	P	**P**	**19 32 12.8**	**+0.7**
PSA00				IAmb	IAmb	19 32 14.1	
	comp=Z,42nm,1.1s						
AS31	**Alice Springs**	**17.58**	**162**		**P**	**19 32 24.6**	**+1.7**
AS31				IAmb	IAmb	19 32 25.3	
	comp=Z,15nm,0.7s						
ASAR	**Alice Springs**	**17.58**	**162**		**P**	**19 32 24.4**	**+1.5**
ASAR					**S**	**19 35 29.2**	**-0.2**
ASAR	**Alice Springs**	**17.58**	**162**	P	**P**	**19 32 24.6**	**+1.7**
	comp=Z,41nm,0.5s,baz=344,slow=12,SNR=454						
ASAR				S	**S**	**19 35 29.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=334,slow=18,SNR=7.4						
PMG	**Port Moresby**	**19.09**	**99**	IAmb	IAmb	19 33 17.4	
	comp=Z,14nm,1.1s						
PMG	**Port Moresby**	**19.09**	**99**	P	**P**	**19 32 41.7**	**+2.7**
	comp=Z,5.7nm,0.5s,baz=293,slow=7.7,SNR=2.1						
FORT	**Forrest**	**23.73**	**180**	P	**P**	**19 33 24.6**	**+1.4**
FORT				IAmb	IAmb	19 33 25.5	
	comp=Z,9.5nm,0.8s						
MORW	**Morawa**	**24.77**	**206**	P	**P**	**19 33 33.6**	**+1.0**
MORW				IAmb	IAmb	19 34 07.5	
	comp=Z,24nm,1.2s						
BBOO	**Buckleboo**	**26.82**	**165**	P	**P**	**19 33 52.1**	**+1.3**
BBOO				IAmb	IAmb	19 34 32.2	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**27.87**	**155**	IAmb	IAmb	19 34 36.9	
	comp=Z,38nm,1.5s						
STKA	**Stephens Creek**	**27.87**	**155**	P	**P**	**19 34 01.1**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=321,slow=8.1,SNR=5.5						
	comp=Z,2.3nm,0.6s						
KSRS	**Korea Array**	**44.14**	**360**	P	**P**	**19 36 17.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=186,slow=10,SNR=2.6						
	comp=Z,0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**44.27**	**12**	P	**P**	**19 36 16.7**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=190,slow=8.1,SNR=3.0						
	comp=Z,2.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.01**	**4**	P	**P**	**19 37 09.3**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=184,slow=5.7,SNR=1.6						
	comp=Z,2.4nm,0.8s						
GTA	**Gaotai**	**52.99**	**333**	P	**P**	**19 37 25.5**	**+1.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**57.77**	**343**	IAmb	IAmb	19 37 59.6	
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**57.77**	**343**	P	**P**	**19 37 58.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=168,slow=7.5,SNR=5.2						
	comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**64.87**	**19**	P	**P**	**19 38 45.6**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=225,slow=7.6,SNR=2.2						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**67.11**	**328**	P	**P**	**19 38 59.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=105,slow=7.5,SNR=5.2						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**70.67**	**335**	P	**P**	**19 39 20.6**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=123,slow=3.4,SNR=7.6						
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**71.44**	**329**	P	**P**	**19 39 25.8**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=132,slow=4.9,SNR=14						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**71.45**	**329**	P	**P**	**19 39 25.8**	**+0.5**
KURK	**Kurchatov**	**71.45**	**329**	IAmb	IAmb	19 39 26.7	
	comp=Z,3.3nm,0.8s						
BVAR	**Borovoye Array**	**76.97**	**328**	P	**P**	**19 39 57.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=124,slow=7.4,SNR=4.5						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**83.06**	**180**	IAmb	IAmb	19 41 11.1	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**83.06**	**180**	P	**P**	**19 40 31.3**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=37,slow=5.1,SNR=1.9						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**94.11**	**25**	P	**P**	**19 41 21.8**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=243,slow=4.0,SNR=2.1						
	comp=Z,0.2nm,0.7s						

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*IDC **31** 19:37:23.4±0.8, 24°.44N×102°.83E, h0km, mb3.8/14, mbtmp3.7/15, ML3.8/1, MS3.6/6, Error ellipse: s-maj=29.1km s-min=16.0km az=62.0*
*NEIC **31** 19:37:25.3±2.7, 24°.48N±0°.07×102°.89E±0°.09, h10km±1km, mb4.4/24, Error ellipse: s-maj=14.8km s-min=12.0km az=112.0*
*BKK **31** 19:37:36.0±0.8, 24°N±6°×10°3E±°, h5km±7km, M4.1/13, mb4.1/13*

ISC 31 19:37:24.8±0.6, 24°.46N±0°.08×102°.94E±0°.08, h10km, n60, σ1§24/55, mb4.0/25, MS3.4/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVN	**Son La**	**3.24**	**164**	Pn	**Pn**	**19 38 14.7**	**-1.1**
LAMP	**Lampang**	**6.67**	**208**	P	**Pn**	**19 39 02.8**	**-0.1**
	18nm,0.8s						
CHTO	**Chiang Mai**	**6.74**	**214**	Pn	**Pn**	**19 39 05.6**	**+1.7**
CHTO	**Chiang Mai**	**6.74**	**214**	P	**Pn**	**19 39 05.0**	**+1.1**
	13nm,0.8s						
CM09	**Chiang Mai Arr**	**7.03**	**212**	P	**Pn**	**19 39 07.4**	**-0.5**
	9.6nm,0.6s						
CM31	**Chiang Mai Arr**	**7.04**	**213**		**Pn**	**19 39 07.0**	**-1.1**
CM31	**Chiang Mai Arr**	**7.04**	**213**	P	**Pn**	**19 39 07.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.04**	**213**	Pn	**Pn**	**19 39 08.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**7.04**	**213**	Pn	**Pn**	**19 39 08.0**	**-0.1**
	0.5nm,0.3s,baz=24,slow=12,SNR=13						
CMAR				Lg	Lg	19 41 00.8	
	0.9nm,0.3s,baz=46,slow=28,SNR=8.5						
	1.0nm,0.4s						
CM02	**Chiang Mai Arr**	**7.06**	**213**	P	**Pn**	**19 39 07.9**	**-0.4**
	7.1nm,0.8s						
CM01	**Chiang Mai Arr**	**7.07**	**212**	P	**Pn**	**19 39 08.3**	**-0.1**
	8.2nm,0.8s						
CM04	**Chiang Mai Arr**	**7.07**	**212**	P	**Pn**	**19 39 08.3**	**-0.2**
	9.8nm,0.8s						
CM05	**Chiang Mai Arr**	**7.09**	**212**	P	**Pn**	**19 39 08.5**	**-0.2**
PANO	**Nakornpanom**	**7.45**	**168**	P	**Pn**	**19 39 14.4**	**+0.8**
	15nm,1.3s						
ENH	**Enshi**	**8.20**	**44**		**Pn**	**19 39 25.3**	**+1.3**
SHL	**Shillong**	**10.09**	**279**	Pn	**Pn**	**19 39 53.7**	**+3.6**
PSI	**Prapat**	**21.88**	**191**	LR	LR	19 50 48.3	
	comp=Z,109nm,19.4s,baz=194,slow=37						
SONM	**Songino Array**	**23.48**	**6**	IAmb	IAmb	19 42 39.1	
	comp=Z,4.8nm,1.3s						
SONM	**Songino Array**	**23.48**	**6**	P	**P**	**19 42 34.0**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=193,slow=12,SNR=9.1						
	comp=Z,1.1nm,0.7s						
ULN	**Ulaanbaatar**	**23.58**	**7**	P	**P**	**19 42 36.5**	**+0.7**
KSRS	**Korea Array**	**24.94**	**53**	P	**P**	**19 42 50.7**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=247,slow=8.9,SNR=1.5						
	comp=Z,0.6nm,0.6s						
TARG	**Taragay, Kyrgy**	**27.05**	**316**	P	**P**	**19 43 04.5**	**-3.4**
TARG				IAmb	IAmb	19 43 12.6	
	comp=Z,4.6nm,1.1s						
PALK	**Pallekele**	**27.31**	**235**	LR	LR	19 54 51.5	
	comp=Z,62nm,18.8s,baz=348,slow=38						
NIL	**Nilore**	**27.44**	**296**		**P**	**19 43 08.1**	**-2.9**
NIL				IAmb	IAmb	19 43 16.8	
	comp=Z,6.1nm,0.8s						
KDJ	**Kajisay**	**27.66**	**316**		**P**	**19 43 13.5**	**+0.4**
KDJ				IAmb	IAmb	19 43 17.5	
	comp=Z,7.6nm,1.3s						
MK31	**Makanchi Array**	**27.74**	**329**	P	**P**	**19 43 14.3**	**+0.8**
MKAR	**Makanchi Array**	**27.74**	**329**		**P**	**19 43 13.4**	**-0.2**
MKAR	**Makanchi Array**	**27.74**	**329**	P	**P**	**19 43 13.0**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=134,slow=10,SNR=12						
	comp=Z,2.0nm,0.9s						
BOOM	**Boomskoye usch**	**28.64**	**316**	P	**P**	**19 43 21.0**	**-0.8**
BO

comp=Z,5.7nm,1.4s
PPLA Purkeypile 74.99 27 P P 19 49 04.6 -1.7
ILAR Eielson Array 76.27 24 P P 19 49 14.0 +0.5
comp=Z,0.2nm,0.5s,baz=302,slow=7.3,SNR=2.4
comp=Z,0.2nm,0.5s
BORG Borgarnes 81.26 339 LR LR 20 29 60.0
comp=Z,152nm,19.0s,baz=318,slow=39

IDC 31 19:40:56.1±2.1, 3°11N×129°06E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=110.0km s-min=26.1km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.34**	**189**	P	P	19 45 45.7	+0.6
	3.0nm,1.1s,baz=23,slow=13,SNR=1.3						
	3.0nm,1.1s						
WRA	**Warramunga Arr**	**23.49**	**167**	P	P	19 46 07.2	-0.5
	1.0nm,0.8s,baz=342,slow=9.3,SNR=11						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**27.03**	**170**	P	P	19 46 39.4	-0.9
	0.3nm,0.5s,baz=356,slow=8.1,SNR=12						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**36.78**	**162**	P	P	19 48 05.6	-0.1
	0.7nm,0.4s,baz=322,slow=12,SNR=3.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**59.39**	**324**	P	P	19 51 01.7	+1.2
	0.2nm,0.5s,baz=126,slow=8.1,SNR=2.0						
	0.2nm,0.5s						

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*NNC **31** 19:55:06.2±3.9, 38°39N×72°24E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=30.2km s-min=18.1km az=6.0*
*SOME **31** 19:55:08.8, 39°13N×72°78E, h15km*
*IDC **31** 19:55:13.7±4.1, 38°72N×73°36E, h71km±35km, mb3.4/14, mbtmp3.8/20, ML3.4/6, Error ellipse: s-maj=33.1km s-min=15.7km az=20.0*
ISC 31 19:55:09.8±0.8, 39°14N±0°06×72°93E±0°04, h10km, n44, σ2°49/54, mb3.6/13, 8C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**3.32**	**21**	P	**Pb**	**19 56 07.7**	**-1.3**
	SNR=59						
EKS2	**Erkin-Say**	**3.58**	**10**	P	**Pb**	**19 56 13.7**	**+0.4**
	SNR=8.1						
MRKS	**Merke**	**3.61**	**4**	*eP*	**Pg**	**19 56 16.3**	**-2.8**
	25nm,0.5s						
MRKS				*eS*	**Sg**	**19 57 05.5**	**-0.3**
	75nm,0.5s						
AAK	**Ala-Archa**	**3.69**	**18**	P	**Pb**	**19 56 13.7**	**-1.6**
	4.3nm,0.3s,baz=180,slow=6.5,SNR=28						
	21nm,0.4s						
AAK	**Ala-Archa**	**3.69**	**18**	P	**Pb**	**19 56 12.9**	**-2.4**
	SNR=52						
AAK	**Ala-Archa**	**3.69**	**18**	⇑Pn	**Pb**	**19 56 13.7**	**-1.6**
	13nm,0.5s						
AAK				⇓Sn	**Sg**	**19 57 10.2**	**+1.7**
	39nm,0.7s						
KBK	**Karagaybulak**	**3.84**	**23**	P	**Pb**	**19 56 16.2**	**-1.5**
	SNR=14						
DZA	**Taraz**	**3.94**	**343**	*eP*	**Pb**	**19 56 19.8**	**+0.4**
	40nm,0.1s						
DZA				*eS*	**Sg**	**19 57 12.3**	**-4.1**
	196nm,0.5s						
ULHL	**Ulahol**	**4.00**	**38**	P	**Pg**	**19 56 24.4**	**-2.1**
	SNR=8.1						
CHMS	**Chumysh**	**4.10**	**19**	P	**Pb**	**19 56 18.4**	**-3.6**
	SNR=29						
TKM2	**Tokmak 2**	**4.29**	**27**	P	**Pb**	**19 56 25.1**	**-0.3**
	SNR=15						
USP	**Ospenovka**	**4.29**	**16**	P	**Pb**	**19 56 21.4**	**-4.1**
	SNR=18						
KK31	**Karatay Array**	**4.36**	**336**	⇑Pn	**Pb**	**19 56 22.6**	**-4.0**
	33nm,0.6s,baz=154,slow=12,SNR=378						
KK31				⇓Pg	**Pg**	**19 56 36.0**	**+2.6**
	16nm,0.5s,baz=159,slow=14,SNR=4.0						
KK31				⇑Sn	**Sb**	**19 57 19.9**	**+0.7**
	34nm,0.5s,baz=153,slow=22,SNR=4.2						
KK31				⇑Lg	Lg	19 57 41.8	
	32nm,0.5s,baz=169,slow=27,SNR=2.7						
KST	**Kastek**	**4.53**	**29**	*eP*	**Pb**	**19 56 32.9**	**+3.4**
	8.4nm,0.5s						
KST				*eS*	**Sg**	**19 57 35.0**	**-0.2**
	53nm,1.0s						
BRLS	**Borolday**	**4.54**	**330**	*eP*	**Pb**	**19 56 25.3**	**-4.2**
	7.9nm,0.3s						
BRLS				*eS*	**Sb**	**19 57 21.3**	**-3.0**
	48nm,0.5s						
MTBS	**Maitube**	**4.79**	**32**	*eP*	**Pg**	**19 56 38.8**	**-2.7**
	16nm,0.6s						
MTBS				*eS*	**Sg**	**19 57 44.7**	**+1.2**
	22nm,1.1s						
TNSS	**Tian-Shan**	**4.94**	**37**	*eP*	**Pg**	**19 56 42.8**	**-1.7**
	8.3nm,0.7s						
TNSS				*eS*	**Sg**	**19 57 51.9**	**+3.3**
	10nm,0.8s						
KNDC	**Almaty**	**5.09**	**35**	⇓Pn	**Pb**	**19 56 38.6**	**-0.4**
	82nm,0.7s						
KNDC				⇑Sn	**Sg**	**19 57 49.0**	**-4.3**
	45nm,0.7s						
CHKK	**Chushkaly**	**5.62**	**32**	*eP*	**Pg**	**19 56 54.9**	**-2.4**
CHKK				*eS*	**Sg**	**19 58 13.5**	**+3.5**
PDGK	**Podgornoye**	**6.48**	**48**	⇓Pn	Pn	19 56 52.9	+7.5
	3.6nm,0.6s						
PDGK				⇓Pg	Pg	19 57 20.4	+6.5
	23nm,0.8s						
PDGK				⇑Sn	**Sb**	**19 58 23.2**	**+2.9**
	38nm,1.1s						
MKAR	**Makanchi Array**	**10.27**	**39**	P	**Pn**	**19 57 40.5**	**+3.3**
	0.1nm,0.3s,baz=216,slow=12,SNR=13						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**12.15**	**17**	P	Pn	19 58 07.3	+4.5
	0.1nm,0.3s,baz=208,slow=13,SNR=1.7						
	0.7nm,0.2s						
AB31	**Akbulak array**	**13.73**	**322**	Pn	**Pn**	**19 58 26.3**	**+1.9**
	4.0nm,0.5s,baz=129,slow=13,SNR=165						
AB31				⇑Sn	**Sn**	**20 01 00.7**	**+3.8**
	6.7nm,0.8s,baz=130,slow=25,SNR=5.2						
BVAR	**Borovoye Array**	**14.00**	**354**	P	**P**	**19 58 32.6**	**-3.6**
	0.2nm,0.3s,baz=152,slow=13,SNR=7.2						
	1.4nm,0.8s						
AKTO	**Aktyubinsk**	**15.45**	**322**	P	**P**	**19 58 52.5**	**+0.3**
	1.0nm,0.3s,baz=121,slow=15,SNR=20						
AKTO				S	**Sn**	**20 01 41.7**	**+2.9**
	4.8nm,0.7s,baz=335,slow=16,SNR=5.3						
	8.8nm,0.6s						
AKTO	**Aktyubinsk**	**15.45**	**322**	⇑Pn	**P**	**19 58 51.2**	**-1.0**
	8.1nm,0.8s						
AKTO				Sn	**Sn**	**20 01 41.5**	**+2.7**
	7.5nm,1.2s						
ZALV	**Zalesovo Beam**	**16.89**	**25**	P	**P**	**19 59 06.8**	**-1.3**
	0.7nm,0.3s,baz=214,slow=12,SNR=15						
	2.5nm,0.5s						
ARTI	**Arti**	**19.76**	**336**	P	**Pn**	**19 59 43.2**	**+2.0**
	1.7nm,0.6s,baz=148,slow=7.4,SNR=4.9						
	1.7nm,0.6s						
GTA	**Gaotai**	**20.80**	**81**	*eP*	**P**	**19 59 49.0**	**-2.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				LR	LR		
	comp=N,140nm,17.4s						
GTA				LR	LR		
	comp=E,190nm,16.7s						
GTA				LR	LR		
	comp=Z,180nm,16.0s						
GNI	**Garni**	**21.70**	**282**	P	P	20 00 06.5	+5.6
	comp=Z,4.8nm,0.7s,baz=204,slow=10.0,SNR=4.7						
KBZ	**Khabaz**	**22.91**	**291**	P	**P**	**20 00 16.9**	**+3.2**
	comp=Z,1.1nm,0.8s,baz=127,slow=10,SNR=4.1						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**25.63**	**59**	P	**P**	**20 00 36.3**	**-3.2**
	comp=Z,0.2nm,0.4s,baz=263,slow=9.7,SNR=11						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**32.58**	**305**	P	**P**	**20 01 43.2**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=78,slow=8.6,SNR=2.2						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**36.21**	**324**	P	**P**	**20 02 13.7**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=122,slow=8.6,SNR=12						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**39.33**	**336**	P	**P**	**20 02 39.9**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=106,slow=8.9,SNR=12						
	comp=Z,3.2nm,0.9s						
HFS	**Hagfors**	**41.98**	**320**	P	**P**	**20 03 01.5**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=104,slow=9.5,SNR=12						
	comp=Z,1.4nm,0.4s						
GERES	**GERESS Array B**	**42.71**	**303**	P	**P**	**20 03 08.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=74,slow=10,SNR=1.7						
	comp=Z,0.2nm,0.4s						
NB2	**NORSAR Subarra**	**43.24**	**321**	P	**P**	**20 03 11.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**43.24**	**321**	P	**P**	**20 03 11.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.3,SNR=4.9						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**57.60**	**297**	P	**P**	**20 05 00.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=75,slow=7.1,SNR=2.1						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**67.30**	**269**	P	**P**	**20 06 02.2**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=60,slow=5.7,SNR=1.9						
	comp=Z,0.9nm,0.3s						
YKA	**Yellowknife Ar**	**78.54**	**4**	P	**P**	**20 07 09.2**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=356,slow=7.1,SNR=2.6						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**82.13**	**123**	P	P	20 07 24.0	-6.8
	comp=Z,1.1nm,0.9s,baz=325,slow=4.9,SNR=11						
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**84.55**	**126**	P	P	20 07 36.4	-6.9
	comp=Z,0.2nm,0.5s,baz=323,slow=5.1,SNR=4.1						
	comp=Z,0.2nm,0.5s						

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*NOU **31** 20:05:36.1, 37°60S×178°35E, h43km, MLv3.8/12, Off E. Coast of N. Island, N.Z.*
*WEL **31** 20:05:37.5±0.5, 38°S±4°×17°8E±°, h30km±4km, M3.4/48, ML4.0/13, MLv3.4/48, Error ellipse: s-maj=6.0km s-min=4.4km az=140.1, confirmed*
ISC 31 20:05:35.8±2.7, 37°59S±0°05×178°41E±0°06, h36km±2km, n103, σ0°94/106, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDHS	**Te Araroa Dist**	**0.06**	**220**	P	Pn	20 05 43.8	+2.0
TDHS				S	Sn	20 05 50.1	+4.2
MXZ	**Matakaoa Point**	**0.09**	**289**	P	Pn	20 05 43.3	+1.4
MXZ	**Matakaoa Point**	**0.09**	**289**	P	Pn	20 05 43.5	+1.6
MXZ				S	Sn	20 05 48.9	+2.8
ECLS	**East Cape Ligh**	**0.15**	**132**	P	**Pn**	**20 05 46.1**	**-0.1**
WMGZ	**Waiomatatini S**	**0.23**	**179**	P	**Pn**	**20 05 45.0**	**+0.8**
WMGZ				S	**Sn**	**20 05 51.6**	**-0.4**
PKGZ	**Pakihiroa**	**0.38**	**223**	P	**Pn**	**20 05 45.0**	**+0.4**
PKGZ				S	**Sn**	**20 05 51.1**	**-0.2**
PUZ	**Puketiti**	**0.49**	**194**	P	**Pn**	**20 05 47.3**	**+0.9**
PUZ				S	**Sn**	**20 05 55.6**	**+1.8**
HAZ	**Te Kaha**	**0.53**	**251**	P	**Pn**	**20 05 46.7**	**-0.1**
HAZ				S	**Sn**	**20 05 54.1**	**-0.3**
TWGZ	**Tauwhareparae**	**0.68**	**210**	P	**Pn**	**20 05 49.7**	**+0.7**
TWGZ				S	**Sn**	**20 06 00.1**	**+1.8**
RUGZ	**Raukumara Rang**	**0.69**	**237**	P	**Pn**	**20 05 49.2**	**-0.1**
RUGZ				S	**Sn**	**20 05 58.4**	**-0.4**
CNGZ	**Carnagh Statio**	**0.91**	**190**	P	**Pn**	**20 05 53.0**	**+0.9**
TKGZ	**Te Karaka**	**0.96**	**207**	P	**Pn**	**20 05 53.1**	**+0.4**
WIZ	**White Island**	**0.97**	**273**	P	**Pn**	**20 05 53.5**	**+0.6**
MWZ	**Matawai**	**1.02**	**223**	P	**Pn**	**20 05 54.0**	**+0.4**
WHRZ	**Whale Island**	**1.17**	**256**	P	**Pn**	**20 05 55.6**	**-0.1**
RAGZ	**Rawiri**	**1.20**	**221**	P	**Pn**	**20 05 56.6**	**+0.5**
RIGZ	**Rimuhau**	**1.23**	**204**	P	**Pn**	**20 05 56.6**	**+0.1**
URZ	**Urewera**	**1.23**	**237**	P	**Pn**	**20 05 56.3**	**-0.1**
URZ	**Urewera**	**1.23**	**237**	S	**Sn**	**20 06 12.4**	**+0.7**
URZ	**Urewera**	**1.23**	**237**	P	**Pn**	**20 05 56.5**	**+0.1**
PRGZ	**Paritu Road**	**1.39**	**197**	P	**Pn**	**20 05 58.4**	**-0.3**
EDRZ	**Edgecumbe**	**1.42**	**248**	P	**Pn**	**20 05 59.2**	**0.0**
MARZ	**Manawahe**	**1.43**	**253**	P	**Pn**	**20 05 58.9**	**-0.4**
SNGZ	**Shannon Statio**	**1.46**	**215**	P	**Pn**	**20 06 00.7**	**+1.1**
OPRZ	**Ohinepanea**	**1.49**	**260**	P	**Pn**	**20 05 59.5**	**-0.5**
RTZ	**Ruatahuna**	**1.52**	**227**	P	**Pn**	**20 06 01.4**	**+0.9**
KNZ	**Kokohu**	**1.54**	**202**	P	**Pn**	**20 05 60.0**	**-0.8**
MUGZ	**Murupara**	**1.57**	**235**	P	**Pn**	**20 06 01.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.61**	**194**	P	**Pn**	**20 06 01.4**	**-0.3**
TARZ	**Mount Tarawera**	**1.64**	**246**	P	**Pn**	**20 06 02.5**	**+0.4**
LIRZ	**Lichensteins R**	**1.66**	**255**	P	**Pn**	**20 06 02.4**	**0.0**
RAHZ	**Arahi**	**1.69**	**218**	P	**Pn**	**20 06 03.2**	**+0.5**
TGRZ	**Tauranga**	**1.71**	**265**	P	**Pn**	**20 06 02.6**	**-0.5**
HLRZ	**Highlands Stat**	**1.76**	**247**	P	**Pn**	**20 06 04.0**	**+0.2**
MTHZ	**Maungataniwha**	**1.77**	**224**	P	**Pn**	**20 06 04.5**	**+0.6**
KARZ	**Kaharoa**	**1.77**	**255**	P	**Pn**	**20 06 03.7**	**-0.2**
HSRZ	**Hossack Road**	**1.86**	**247**	P	**Pn**	**20 06 05.0**	**-0.1**
HRRZ	**Handcock Road**	**1.86**	**244**	P	**Pn**	**20 06 05.3**	**+0.2**
ALRZ	**Allen Road**	**1.90**	**239**	P	**Pn**	**20 06 05.9**	**+0.2**
NMHZ	**Naumai**	**1.96**	**219**	P	**Pn**	**20 06 07.3**	**+0.7**
KMRZ	**Kaimai**	**1.97**	**262**	P	**Pn**	**20 06 06.2**	**-0.6**
MRHZ	**Matea Rd**	**2.00**	**231**	P	**Pn**	**20 06 07.6**	**+0.5**
ARHZ	**Aropaoanui**	**2.00**	**213**	P	**Pn**	**20 06 07.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.18**	**223**	P	**Pn**	**20 06 09.6**	**0.0**
BKZ	**Black Stump Fm**	**2.18**	**223**	S	**Sn**	**20 06 34.9**	**-0.4**
BKZ	**Black Stump Fm**	**2.18**	**223**	P	**Pn**	**20 06 09.3**	**-0.3**
MCHZ	**McNeill Hill**	**2.29**	**215**	P	**Pn**	**20 06 11.0**	**0.0**
KUZ	**Kuaotunu**	**2.31**	**291**	P	**Pn**	**20 06 10.8**	**-0.4**
KUZ	**Kuaotunu**	**2.31**	**291**	S	**Sn**	**20 06 36.6**	**-1.8**
KUZ	**Kuaotunu**	**2.31**	**291**	P	**Pn**	**20 06 10.9**	**-0.4**
TOZ	**Tahuroa Road**	**2.31**	**266**	P	**Pn**	**20 06 10.8**	**-0.5**
CKHZ	**Cape Kidnapper**	**2.31**	**206**	P	**Pn**	**20 06 10.3**	**-1.0**
TLZ	**Tolley Road**	**2.39**	**251**	P	**Pn**	**20 06 12.2**	**-0.2**
RITZ	**Rihia Road**	**2.44**	**235**	P	**Pn**	**20 06 14.0**	**+0.9**
KAHZ	**Kahuranaki**	**2.51**	**208**	P	**Pn**	**20 06 12.7**	**-1.3**
KRHZ	**Kereru**	**2.60**	**217**	P	**Pn**	**20 06 14.3**	**-1.0**
ETVZ	**East Tongariro**	**2.62**	**233**	P	**Pn**	**20 06 15.6**	**-0.1**
NTVZ	**North Tongarir**	**2.62**	**234**	P	**Pn**	**20 06 15.8**	**+0.1**
MKAZ	**Moumakai**	**2.63**	**280**	P	**Pn**	**20 06 15.6**	**-0.1**
OTVZ	**Oturere**	**2.67**	**233**	P	**Pn**	**20 06 16.4**	**0.0**
NNVZ	**North Ngauruho**	**2.68**	**234**	P	**Pn**	**20 06 16.8**	**+0.3**
WTVZ	**West Tongariro**	**2.69**	**235**	P	**Pn**	**20 06 17.0**	**+0.4**
SNVZ	**South Ngauruho**	**2.70**	**233**	P	**Pn**	**20 06 16.8**	**0.0**
NGZ	**Ngauruhoe**	**2.72**	**234**	P	**Pn**	**20 06 17.1**	**+0.1**
GRZ	**Great Barrier**	**2.72**	**299**	P	**Pn**	**20 06 17.3**	**+0.4**
PXZ	**Pawanui**	**2.72**	**206**	P	**Pn**	**20 06 15.2**	**-1.7**
WIAZ	**Waiheke Island**	**2.73**	**286**	P	**Pn**	**20 06 17.2**	**+0.1**
MOVZ	**Moawhango**	**2.76**	**228**	P	**Pn**	**20 06 17.1**	**-0.5**
TWVZ	**Taurewa**	**2.77**	**237**	P	**Pn**	**20 06 18.2**	**+0.5**
COVZ	**Chateau Observ**	**2.77**	**234**	P	**Pn**	**20 06 17.7**	**0.0**
WHVZ	**Whangaehu Hut**	**2.79**	**232**	P	**Pn**	**20 06 17.9**	**-0.2**
FWVZ	**Far West T-bar**	**2.79**	**233**	P	**Pn**	**20 06 18.0**	**-0.1**
MAVZ	**Matarangi**	**2.79**	**232**	P	**Pn**	**20 06 18.1**	**-0.2**
WNVZ	**Wahianoa**	**2.81**	**231**	P	**Pn**	**20 06 18.0**	**-0.3**
TRVZ	**Turoa**	**2.82**	**232**	P	**Pn**	**20 06 18.4**	**-0.2**
ETAZ	**East Tamaki Re**	**2.85**	**282**	P	**Pn**	**20 06 19.1**	**+0.3**
PNHZ	**Pukenui**	**2.89**	**216**	P	**Pn**	**20 06 17.7**	**-1.6**
MTVZ	**Mangateitei**	**2.92**	**231**	P	**Pn**	**20 06 19.6**	**-0.1**
MBAZ	**Motutapu North**	**2.92**	**285**	P	**Pn**	**20 06 20.1**	**+0.4**
HIZ	**Hauiti**	**2.95**	**251**	P	**Pn**	**20 06 20.9**	**+0.7**
HIZ	**Hauiti**	**2.95**	**251**	P	**Pn**	**20 06 20.8**	**+0.7**
PRHZ	**Porangahau**	**3.01**	**207**	P	**Pn**	**20 06 18.9**	**-2.1**
EPAZ	**Eden Park BICE**	**3.01**	**283**	P	**Pn**	**20 06 21.6**	**+0.6**
ABAZ	**Army Bay**	**3.03**	**288**	P	**Pn**	**20 06 21.8**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.03**	**283**	P	**Pn**	**20 06 21.9**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.05**	**279**	P	**Pn**	**20 06 22.1**	**+0.6**
TSZ	**Takapari Road**	**3.12**	**217**	P	**Pn**	**20 06 20.4**	**-2.0**
WTAZ	**Waiatarua**	**3.13**	**281**	P	**Pn**	**20 06 23.6**	**+1.0**
RVAZ	**Riverhead Bore**	**3.17**	**284**	P	**Pn**	**20 06 23.8**	**+0.7**
DVHZ	**Dannevirke**	**3.22**	**212**	P	**Pn**	**20 06 21.4**	**-2.5**
VRZ	**Vera Road**	**3.25**	**241**	P	**Pn**	**20 06 25.4**	**+1.1**
WAZ	**Wanganui**	**3.44**	**230**	P	**Pn**	**20 06 27.0**	**+0.1**
POWZ	**Post Office Ro**	**3.47**	**216**	P	**Pn**	**20 06 25.0**	**-2.3**
BFZ	**Birch Farm**	**3.52**	**208**	P	**Pn**	**20 06 25.5**	**-2.4**
BFZ	**Birch Farm**	**3.52**	**208**	P	**Pn**	**20 06 25.3**	**-2.5**
PRWZ	**Pori Road**	**3.52**	**212**	P	**Pn**	**20 06 25.6**	**-2.3**
WCZ	**Waipu Caves**	**3.66**	**296**	P	**Pn**	**20 06 30.5**	**+0.7**
TIWZ	**Tintock**	**3.74**	**211**	P	**Pn**	**20 06 28.7**	**-2.2**
NEZ	**North Egmont**	**3.78**	**242**	P	**Pn**	**20 06 33.8**	**+2.2**
KHEZ	**Kahui Hut**	**3.85**	**242**	P	**Pn**	**20 06 33.2**	**+0.7**
OUZ	**Omahuta**	**4.55**	**300**	P	**Pn**	**20 06 43.4**	**+1.4**
OUZ	**Omahuta**	**4.55**	**300**	P	**Pn**	**20 06 43.5**	**+1.5**
CTZ	**Chatham Island**	**7.21**	**150**	P	**Pn**	**20 07 19.5**	**+0.9**

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*NEIC **31** 20:08:15.5±2.1, 18°98N±0°03×67°29W±0°04, h10km±1km, ML2.1/13, Md3.2/6(RSPR), Error ellipse: s-maj=8.0km s-min=3.0km az=233.0*
*RSPR **31** 20:08:16.8, 19°10N×67°28W, h10km±31km, MD3.2/6*
*SDD **31** 20:08:16.2±1.7, 19°09N×67°03W, h17km±8km, MD3.2, ML1.9, MW2.7*
ISC 31 20:08:13.3±1.5, 19°13N±0°07×67°28W±0°04, h20km±7km, n33, σ0°67/39, 13C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**166**	⇑*eP*	**Pn**	**20 08 27.6**	**-0.2**
AGPR	**Aguadilla, PR**	**0.68**	**166**	*eS*	**Sn**	**20 08 37.1**	**-0.7**
AGPR	**Aguadilla, PR**	**0.68**	**166**	⇑*iP*	**Pb**	**20 08 27.1**	**+0.6**
AGPR				⇑*iS*	**Sb**	**20 08 35.8**	**+0.3**
	comp=N,136nm,0.2s						
AGPR				IAML		20 08 37.9	
	comp=N,136nm,0.2s						
AGPR				IAML		20 08 42.5	
	comp=E,65nm,0.2s						
AOPR	**Arecibo Observ**	**0.93**	**147**		**Sb**	**20 08 42.7**	**+0.1**
AOPR				IAML		20 08 45.4	
	comp=N,82nm,0.3s						
AOPR	**Arecibo Observ**	**0.93**	**147**		**Pg**	**20 08 31.1**	**-0.3**
AOPR	**Arecibo Observ**	**0.93**	**147**	⇓*eP*	**Pg**	**20 08 31.1**	**-0.3**
AOPR	**Arecibo Observ**	**0.93**	**147**	*iP*	**Pn**	**20 08 31.4**	**+0.1**
AOPR				⇑*iS*	**Sb**	**20 08 39.7**	**-3.0**
AOPR				IAML		20 08 50.2	
	comp=N,77nm,0.2s						
LSP	**Las Mesas**	**0.97**	**169**		**Pb**	**20 08 31.1**	**-0.3**
LSP					**Sn**	**20 08 45.9**	**+0.9**
LSP	**Las Mesas**	**0.97**	**169**	⇑*eP*	**Pb**	**20 08 31.1**	**-0.3**
LSP	**Las Mesas**	**0.97**	**169**	*eS*	**Sn**	**20 08 45.9**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.02**	**149**	Pg	**Pg**	**20 08 33.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.13**	**172**		**Pg**	**20 08 35.5**	**+0.2**
CRPR					**Sg**	**20 08 50.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.13**	**172**	IAML		20 08 53.7	
	comp=N,42nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.13**	**172**	⇓*eP*	**Pg**	**20 08 35.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.13**	**172**	*eS*	**Sg**	**20 08 50.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.13**	**172**	⇑*iP*	**Pg**	**20 08 35.6**	**+0.3**
CRPR				⇑*iS*	**Sb**	**20 08 48.7**	**+0.2**
CRPR				IAML		20 08 50.8	
	comp=E,43nm,1.2s						
CRPR				IAML		20 08 52.3	
	comp=N,48nm,0.2s						
MLPR	**Magueyes Islan**	**1.18**	**169**	⇓*eP*	**Pb**	**20 08 35.3**	**+0.3**
MLPR	**Magueyes Islan**	**1.18**	**169**	*eS*	**Sn**	**20 08 50.5**	**+0.4**
MLPR	**Magueyes Islan**	**1.18**	**169**	⇑*iP*	**Pn**	**20 08 34.5**	**-0.2**
MLPR				⇑*iS*	**Sb**	**20 08 49.7**	**-0.1**
	comp=N,7.0nm,0.3s						
MLPR				IAML		20 08 50.8	
	comp=N,7.0nm,0.3s						
MLPR				IAML		20 08 56.2	
	comp=E,9.2nm,0.1s						
ECPR	**Experimental S**	**1.19**	**133**	Pn	**Pg**	**20 08 36.1**	**-0.3**
ECPR				IAML		20 08 55.8	
	comp=E,107nm,0.2s						
ECPR	**Experimental S**	**1.19**	**133**	⇓*eP*	**Pg**	**20 08 36.1**	**-0.3**
ECPR	**Experimental S**	**1.19**	**133**	*eS*	**Sg**	**20 08 51.4**	**-0.6**
OBIP	**Obispado Ponce**	**1.26**	**149**		**Pn**	**20 08 35.5**	**-0.2**
OBIP				IAML		20 08 52.7	
	comp=E,32nm,0.2s						
OBIP				IAML		20 08 53.2	
	comp=N,32nm,0.1s						
OBIP	**Obispado Ponce**	**1.26**	**149**		**Sb**	**20 08 52.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.26**	**149**	⇓*iP*	**Pb**	**20 08 36.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.26**	**149**	*eS*	**Sb**	**20 08 52.0**	**-0.2**
GCPR	**Guaynabo City**	**1.40**	**126**		**Pg**	**20 08 41.4**	**+1.1**
GCPR	**Guaynabo City**	**1.40**	**126**		**Sb**	**20 08 56.5**	**+0.3**
GCPR	**Guaynabo City**	**1.40**	**126**	*eS*	**Sb**	**20 08 56.5**	**+0.3**
HUMP	**Col San Antoni**	**1.68**	**126**	Pn	**Pg**	**20 08 45.5**	**-0.1**
HUMP				IAML		20 09 11.1	
	comp=N,22nm,0.2s						
HUMP				IAML		20 09 14.7	
	comp=N,23nm,0.2s						
MIDR	**Miches**	**1.68**	**265**	⇑*iP*	**Pg**	**20 08 45.8**	**+0.1**
MIDR				⇑*iS*	**Sg**	**20 09 08.4**	**+0.8**
MIDR				IAML		20 09 25.8	
	comp=N,13nm,1.4s						
DR12	**Loma Pena Alta**	**2.02**	**261**	Pn	**Pb**	**20 08 49

az=248.0
*GCMT **31** 20:18:06.0±0.4,23°.17S±0°.02×114°.82W±0°.02,h14km±2km, MW4.8/75,Moment Tensor Solution. s9,c11; s75,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.12; $M_{\theta\theta}$-0.56±.09; $M_{\phi\phi}$1.13±.10; $M_{r\theta}$-0.76±.28; $M_{\theta\phi}$1.54±.08; $M_{r\phi}$0.57±.23; Best double couple: $M_0$2.05900×10^{16} NP1:ϕ_s71.00000°,δ66.00000°,λ-22.00000°. NP2: ϕ_s170.00000°,δ70.00000°,λ-154.00000°. Principal axes: T 2.0470, Plg3.0000°, Azm300.0000°; N 0.0190, Plg57.0000°, Azm206.0000°; P -2.0700, Plg32.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 20:18:01.8±0.5,23°.1S±0°.1×114°.8W±0°.2,h10km,n102, σ1^{s}21/63,mb4.5/29,MS3.9/25,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.38**	**130**	LR	LR	20 21 32.8	
	comp=Z,3μm,18.2s,baz=311,slow=33						
TAOE	**Nuku Hiva Isla**	**28.10**	**296**	eLR	LR	20 30 58.2	
	866nm,25.8s						
TBI	**Tubuai**	**31.77**	**263**	eLR	LR	20 32 24.5	
	2μm,29.0s						
PPT2	**Papeete2**	**32.98**	**273**	eLR	LR	20 32 50.2	
	308nm,27.5s						
PPT2				eLR	LR	20 32 55.1	
	188nm,34.8s						
H03N2	**Juan Fernandez**	**33.10**	**116**	T	T	20 59 34.8	
	baz=283,slow=75,SNR=94						
H03N3	**Juan Fernandez**	**33.11**	**116**	T	T	20 59 37.9	
	baz=283,slow=75,SNR=99						
H03N1	**Juan Fernandez**	**33.12**	**116**	T	T	20 59 36.0	
	baz=283,slow=75,SNR=84						
NNA	**Nana**	**37.78**	**80**	LR	LR	20 36 49.4	
	comp=Z,200nm,18.2s,baz=244,slow=30						
ATAH	**Atahualpa**	**38.46**	**71**	LR	LR	20 37 03.5	
	comp=Z,148nm,21.1s,baz=231,slow=30						
LCO	**Las Campanas**	**39.91**	**108**	P	**P**	**20 25 36.6**	**+0.2**
BO02	**Sierra Bellavi**	**39.98**	**117**	P	**P**	**20 25 36.0**	**-0.7**
LMEL	**Las Melosas**	**40.39**	**116**	P	**P**	**20 25 40.4**	**+0.1**
PLCA	**Paso Flores**	**41.01**	**126**	P	**P**	**20 25 46.0**	**+0.8**
	3.1nm,1.0s,baz=284,slow=13,SNR=2.9						
PLCA				LR	LR	20 38 23.7	
	comp=Z,314nm,20.6s,baz=266,slow=30						
	3.1nm,1.0s						
RAR	**Rarotonga**	**41.53**	**264**	LR	LR	20 39 22.9	
	comp=Z,170nm,19.9s,baz=114,slow=31						
CFA	**Coronel Fontan**	**41.98**	**112**	LR	LR	20 39 18.2	
	comp=Z,226nm,19.6s,baz=22,slow=30						
JTS	**Las Juntas de**	**44.27**	**45**	LR	LR	20 39 22.1	
	comp=Z,77nm,19.9s,baz=270,slow=29						
LPAZ	**La Paz**	**44.35**	**90**	P	**P**	**20 26 13.6**	**+0.3**
LPAZ	**La Paz**	**44.35**	**90**	P	**P**	**20 26 13.4**	**+0.2**
	1.3nm,0.6s,baz=290,slow=6.0,SNR=6.4						
LPAZ				LR	LR	20 40 52.9	
	comp=Z,145nm,18.8s,baz=245,slow=31						
	1.3nm,0.6s						
CMIG	**Matias Romero**	**44.48**	**28**	LR	LR	20 40 47.5	
	comp=Z,84nm,18.6s,baz=179,slow=31						
APG	**El Apazote**	**44.78**	**34**	LR	LR	20 40 30.0	
	comp=Z,10nm,19.8s,baz=117,slow=30						
TRQA	**Tornquist**	**47.27**	**121**	P	**P**	**20 26 35.9**	**+0.4**
CPUP	**Villa Florida**	**51.97**	**106**	LR	LR	20 44 51.4	
	comp=Z,43nm,21.6s,baz=106,slow=31						
PMSA	**Palmer Station**	**52.97**	**155**	LR	LR	20 44 14.6	
	comp=Z,144nm,19.9s,baz=297,slow=30						
TXAR	**Lajitas Array**	**53.26**	**12**	P	**P**	**20 27 21.6**	**+0.8**
	0.2nm,0.8s,baz=229,slow=5.7,SNR=1.7						
	0.2nm,0.8s						
PFO	**Pinyon Flats O**	**56.45**	**358**	LR	LR	20 45 46.3	
	comp=Z,87nm,20.8s,baz=166,slow=30						
LENM	**Lemitar**	**57.47**	**8**	P	**P**	**20 27 52.4**	**+1.3**
ANMO	**Albuquerque**	**58.30**	**8**	LR	LR	20 49 45.1	
	comp=Z,59nm,19.3s,baz=332,slow=33						
U15A	**North Rim**	**59.29**	**2**	P	**P**	**20 28 06.5**	**+2.5**
U15A				IAmb	IAmb	20 28 15.6	
	comp=Z,8.8nm,1.5s						
SHPR	**Sheep Range**	**59.31**	**360**	P	**P**	**20 28 05.5**	**+1.4**
CWC	**Cottonwood Cre**	**59.33**	**357**	P	**P**	**20 28 06.6**	**+2.5**
CWC				IAmb	IAmb	20 28 12.0	
	comp=Z,4.7nm,1.4s						
GMN	**Gold Mountain**	**60.15**	**358**	P	**P**	**20 28 10.8**	**+1.0**
CCUT	**Cedar City**	**60.37**	**1**	P	**P**	**20 28 12.5**	**+1.2**
CCUT				IAmb	IAmb	20 28 23.3	
	comp=Z,7.1nm,1.3s						
SZCU	**Shurtz Canyon**	**60.42**	**2**	P	**P**	**20 28 11.3**	**-0.4**
SZCU				IAmb	IAmb	20 28 19.9	
	comp=Z,8.0nm,1.4s						
S11A	**Rachel**	**60.46**	**359**	P	**P**	**20 28 12.1**	**+0.3**
CMB	**Columbia Colle**	**61.06**	**355**	P	**P**	**20 28 17.1**	**+1.2**
CMB				IAmb	IAmb	20 28 23.5	
	comp=Z,5.7nm,1.2s						
LHV	**Little Huntoon**	**61.15**	**357**	P	**P**	**20 28 18.9**	**+2.5**
LHV				IAmb	IAmb	20 28 27.9	
	comp=Z,5.3nm,1.2s						
R11B	**Troy Canyon, C**	**61.16**	**359**	P	**P**	**20 28 18.9**	**+2.2**
SDCO	**Great Sand Dun**	**61.19**	**8**	P	**P**	**20 28 17.8**	**+0.8**
SDCO				IAmb	IAmb	20 28 24.2	
	comp=Z,5.0nm,1.2s						
NV11	**Mina Array Sit**	**61.32**	**357**	P	**P**	**20 28 19.4**	**+1.7**
NV11				IAmb	IAmb	20 28 26.2	
	comp=Z,3.1nm,1.0s						
NVAR	**Mina Array Bea**	**61.32**	**357**	P	**P**	**20 28 19.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=185,slow=9.0,SNR=7.1						
	comp=Z,1.0nm,0.7s						
PAHR	**Pah Rah Range**	**62.65**	**356**	P	**P**	**20 28 27.0**	**+0.4**
PAHR				IAmb	IAmb	20 28 39.9	
	comp=Z,7.1nm,1.4s						
BDFB	**Brasilia**	**63.02**	**96**	IAmb	IAmb	20 29 04.5	
	comp=Z,4.0nm,1.0s						
BDFB	**Brasilia**	**63.02**	**96**	P	**P**	**20 28 29.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=217,slow=6.1,SNR=3.1						
BDFB				LR	LR	20 52 54.3	
	comp=Z,111nm,20.4s,baz=357,slow=33						
	comp=Z,2.4nm,0.6s						
DUG	**Dugway, Tooele**	**63.03**	**2**	P	**P**	**20 28 31.0**	**+1.9**
DUG				IAmb	IAmb	20 28 34.2	
	comp=Z,3.8nm,1.1s						
ELK	**Elko**	**63.55**	**360**	IAmb	IAmb	20 28 40.1	
	comp=Z,2.4nm,1.1s						
ELK	**Elko**	**63.55**	**360**	P	**P**	**20 28 33.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=261,slow=6.0,SNR=3.0						
	comp=Z,0.4nm,0.5s						
RDMU	**Red Mountain**	**63.56**	**4**	P	**P**	**20 28 31.4**	**-1.4**
M02C	**Callahan**	**64.62**	**353**	P	**P**	**20 28 43.2**	**+3.7**
YBH	**Yreka Blue Hor**	**64.94**	**354**	LR	LR	20 50 17.8	
	comp=Z,9.2nm,18.7s,baz=188,slow=30						
SBA	**Scott Base**	**65.11**	**193**	P	**P**	**20 28 43.3**	**+1.1**
WVOR	**Wild Horse Val**	**65.33**	**357**	P	**P**	**20 28 45.9**	**+1.7**
WVOR				IAmb	IAmb	20 28 56.3	
	comp=Z,3.6nm,1.1s						
TKL	**Tuckaleechee C**	**65.45**	**28**	LR	LR	20 55 12.1	
	comp=Z,56nm,18.1s,baz=136,slow=34						
BELA	**Belgrano 2**	**65.49**	**167**	P	**P**	**20 28 45.1**	**+0.4**
PD31	**Pinedale Array**	**65.75**	**4**	P	**P**	**20 28 45.2**	**-1.8**
PD31				IAmb	IAmb	20 29 12.8	
	comp=Z,4.6nm,1.4s						
PDAR	**Pinedale Array**	**65.75**	**4**	P	**P**	**20 28 45.9**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=185,slow=4.8,SNR=4.8						
	comp=Z,0.5nm,0.8s						
VNDA	**Vanda**	**66.13**	**194**	LR	LR	20 51 30.6	
	comp=Z,47nm,19.4s,baz=80,slow=30						
J05D	**Fort Rock, OR**	**66.35**	**355**	P	**P**	**20 28 51.9**	**+1.2**
J05D				IAmb	IAmb	20 28 58.6	
	comp=Z,5.0nm,1.0s						
HLID	**Hailey**	**66.36**	**0**	P	**P**	**20 28 50.4**	**-0.5**
HLID				IAmb	IAmb	20 28 59.3	
	comp=Z,5.4nm,1.2s						
QSPA	**South Pole Qui**	**67.02**	**180**	IAmb	IAmb	20 29 04.5	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**67.02**	**180**	P	**P**	**20 28 56.0**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=141,slow=1.7,SNR=3.7						
	comp=Z,0.8nm,0.3s						
MCMT	**McKenzie Canyo**	**67.65**	**2**	P	**P**	**20 29 00.1**	**+1.0**
G08A	**Pilot Rock**	**68.19**	**357**	P	**P**	**20 29 03.5**	**+1.1**
G08A				IAmb	IAmb	20 29 10.3	
	comp=Z,8.0nm,1.3s						
E09A	**Wood Farm, Sta**	**69.38**	**358**	P	**P**	**20 29 10.2**	**+0.7**
E09A				IAmb	IAmb	20 29 22.1	
	comp=Z,3.5nm,1.2s						
Q54A	**Coxs Mills**	**69.51**	**28**	P	**P**	**20 29 10.9**	**+0.3**
C09A	**Chrisman Ranch**	**70.67**	**358**	P	**P**	**20 29 18.3**	**+0.9**
C09A				IAmb	IAmb	20 29 21.3	
	comp=Z,4.2nm,0.9s						

*IDC **31** 20:42:28.4±0.9,24°.78N×127°.60E,h0km,mb4.0/12, mbtmp4.0/14,ML3.8/2,Error ellipse: s-maj=37.6km s-min=15.8km az=74.0*
*NEIC **31** 20:42:29.9±2.2,24°.73N±0°.08×127°.69E±0°.09,h10km±1km, mb4.2/12,Error ellipse: s-maj=13.9km s-min=13.2km az=132.0*
*NIED **31** 20:42:31.1,24°.77N×127°.65E,h60km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.92; $M_{\theta\theta}$3.38; $M_{\phi\phi}$2.54; $M_{r\theta}$-5.78; $M_{\theta\phi}$3.51; $M_{\theta r}$-1.97; Fault plane solution: $M_0$8.72000×10^{14} NP1: ϕ_s212.00000°,δ26.00000°,λ-119.00000°. NP2: ϕ_s64.00000°,δ68.00000°,λ-77.00000°.*
*JMA **31** 20:42:31.1±0.3,25°.N±1°.×12°.8E±°,h60km,MV3.9/27, NEAR OKINAWAJIMA ISLAND*

ISC 31 20:42:28.0±2.9,24°.72N±0°.06×127°.71E±0°.04,h5km±17km, n68,σ1^{s}99/80,mb4.0/18,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.42**	**3**	P	**Pn**	**20 42 54.6**	**+0.2**
JJT3				S	**Sg**	**20 43 12.0**	**-1.6**
JKE	**Kume jima 2**	**1.80**	**333**	*i* P	**Pn**	**20 42 59.8**	**+0.1**
JNTH	**Nagotoyohara**	**1.81**	**9**	P	**Pn**	**20 42 59.6**	**-0.3**
JNTH				S	**Sn**	**20 43 21.0**	**-2.2**
JAGN	**Aguni-jima**	**1.91**	**347**	P	**Pn**	**20 43 01.4**	**+0.3**
JAGN				*e*S	**Sn**	**20 43 23.7**	**-1.8**
JOGS	**Gusukube**	**2.09**	**271**	*e*P	**Pn**	**20 43 04.1**	**+0.4**
JOGS				S	**Sn**	**20 43 28.3**	**-1.8**
JOW	**Kunigami**	**2.16**	**14**		**Pn**	**20 43 05.1**	**+0.4**
JOW	**Kunigami**	**2.16**	**14**	Pn	**Pn**	**20 43 04.7**	**-0.1**
	33nm,0.3s,baz=156,slow=20,SNR=158						
JOW				Sn	**Sn**	**20 43 28.0**	**-3.9**
	43nm,0.3s,baz=144,slow=21,SNR=7.1						
	80nm,0.3s						
JOW	**Kunigami**	**2.16**	**14**	P	**Pn**	**20 43 04.6**	**-0.1**
JOW	**Kunigami**	**2.16**	**14**	*e*P	**Pn**	**20 43 04.6**	**-0.1**
JMJ2	**Miyako jima3**	**2.16**	**271**	*e*P	**Pn**	**20 43 05.0**	**+0.3**
JMJ2				*e*S	**Sn**	**20 43 29.0**	**-2.9**
JMJ	**Miyako jima 2**	**2.20**	**273**	P	**Pn**	**20 43 05.1**	**0.0**
JIKM	**Ikemajima**	**2.24**	**276**	P	**Pn**	**20 43 06.2**	**+0.4**
JIRB	**Irabujima**	**2.31**	**273**	*e*P	**Pn**	**20 43 06.4**	**-0.2**
JIRB				S	**Sn**	**20 43 31.9**	**-3.4**
JIH	**Iheya**	**2.31**	**6**	*e*P	**Pn**	**20 43 07.9**	**+1.2**
JYRO	**Yoronjima**	**2.39**	**16**	*e*P	**Pn**	**20 43 07.7**	**-0.1**
JYRO				*e*S	**Sn**	**20 43 33.7**	**-3.7**
JTJ	**Tarama**	**2.73**	**269**	P	**Pn**	**20 43 12.4**	**-0.1**
JTJ				*e*S	**Sn**	**20 43 42.4**	**-3.6**
JOKE	**Okinoerabujima**	**2.74**	**16**	P	**Pn**	**20 43 13.8**	**+1.1**
JISG	**Ishigakijimahi**	**3.09**	**268**	P	**Pn**	**20 43 17.1**	**-0.4**
JISG				*e*S	**Sn**	**20 43 49.9**	**-5.0**
JTK	**Tokunoshima**	**3.25**	**20**	P	**Pn**	**20 43 20.8**	**+1.1**
JIJ	**Ishigaki jima**	**3.27**	**264**	P	**Pn**	**20 43 19.4**	**-0.4**
JIJ				S	**Sn**	**20 43 53.8**	**-5.3**
JMZ	**Minamidaito 2**	**3.37**	**70**	Pn	**Pn**	**20 43 20.4**	**-0.8**
JMZ				Sn	**Sn**	**20 43 56.0**	**-5.6**
JMZ	**Minamidaito 2**	**3.37**	**70**	P	**Pn**	**20 43 20.9**	**-0.3**
JMZ	**Minamidaito 2**	**3.37**	**70**	P	**Pn**	**20 43 20.1**	**-1.1**
JKDJ	**Kitadaitoujima**	**3.47**	**69**	*i* P	**Pn**	**20 43 21.9**	**-0.8**
JKDJ				S	**Sn**	**20 44 00.7**	**-3.4**
HATJ	**Hateruma jima**	**3.62**	**260**	*e*S	**Sn**	**20 44 02.0**	**-5.8**
JAMN	**Amaminishikomi**	**3.74**	**20**	P	**Pn**	**20 43 27.9**	**+1.5**
JAM	**Amami Oshima**	**4.05**	**24**	P	**Pn**	**20 43 31.3**	**+0.7**
JAM				*e*S	**Sn**	**20 44 14.9**	**-3.5**
NACB	**Ninganchiao**	**5.60**	**266**	Pn	**Pn**	**20 43 50.4**	**-1.5**
NACB	**Ninganchiao**	**5.60**	**266**	P	**Pn**	**20 43 50.6**	**-1.3**
YHNB	**Yeheng**	**5.76**	**271**	Pn	**Pn**	**20 43 53.1**	**-1.1**
YHNB	**Yeheng**	**5.76**	**271**	P	**Pn**	**20 43 54.4**	**+0.2**
YULB	**Yu-li**	**6.01**	**259**		Pn	20 43 55.4	-2.2
YULB	**Yu-li**	**6.01**	**259**	P	Pn	20 43 55.4	-2.2
JYAK	**Yakushimahirau**	**6.03**	**24**	*e*P	**Pn**	**20 43 58.4**	**+0.5**
JYAK				*e*S	**Sn**	**20 45 01.2**	**-6.1**
SSLB	**Suanglung**	**6.23**	**263**	Pn	Pn	20 43 58.4	-2.4
SSLB	**Suanglung**	**6.23**	**263**	P	**Pn**	**20 43 59.6**	**-1.1**
TWGBT	**Beinan**	**6.36**	**254**	P	**Pn**	**20 44 01.4**	**-1.0**
TWG	**Pinlang**	**6.37**	**254**	Pn	Pn	20 43 59.9	-2.7
TPUB	**Ta-pu**	**6.62**	**259**	Pn	**Pn**	**20 44 05.6**	**-0.5**
TPUB	**Ta-pu**	**6.62**	**259**	P	**Pn**	**20 44 05.4**	**-0.7**
JNU	**Nakatsue**	**8.82**	**18**	Pn	**Pn**	**20 44 37.9**	**+1.7**
	1.4nm,0.3s,baz=253,slow=7.0,SNR=12						
	3.8nm,0.3s						
JMN	**Monobe**	**10.46**	**30**	Pn	**Pn**	**20 44 57.9**	**-0.9**
SONM	**Songino Array**	**28.58**	**329**	P	**P**	**20 48 24.7**	**-0.3**
	0.2nm,0.3s,baz=144,slow=11,SNR=5.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.20**	**313**	P	**P**	**20 50 21.7**	**-0.1**
MKAR	**Makanchi Array**	**42.20**	**313**	P	**P**	**20 50 21.9**	**0.0**
	0.9nm,0.4s,baz=97,slow=10.0,SNR=21						
MKAR				PcP	**PcP**	**20 52 16.9**	**+0.9**
	0.3nm,0.7s,baz=81,slow=1.9,SNR=2.0						
	0.9nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**71.09**	**358**	LR	LR	20 55 10.6	
	comp=Z,68nm,19.3s,baz=180,slow=31						
SNAA	**Sanae**	**74.85**	**162**	IAmb	IAmb	20 29 48.0	
	comp=Z,5.9nm,1.2s						
SNAA	**Sanae**	**74.85**	**162**	P	**P**	**20 29 41.6**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=255,slow=7.5,SNR=6.5						
	comp=Z,0.6nm,0.6s						
EPLO	**Experimental L**	**74.87**	**14**	P	**P**	**20 29 41.8**	**-0.7**
EPLO				IAmb	IAmb	20 30 24.8	
	comp=Z,8.6nm,1.2s						
HNR	**Honiara**	**81.98**	**263**	LR	LR	21 00 58.1	
	comp=Z,97nm,18.1s,baz=230,slow=32						
DLBC	**Dease Lake**	**82.24**	**352**	LR	LR	20 59 52.6	
	comp=Z,59nm,18.9s,baz=82,slow=31						
P33M	**Teslin, Yukon**	**84.33**	**351**	IAmb	IAmb	20 30 40.1	
	comp=Z,3.8nm,1.0s						
YKA	**Yellowknife Ar**	**85.33**	**0**	P	**P**	**20 30 37.2**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=189,slow=4.2,SNR=6.4						
YKA				LR	LR	21 05 09.6	
	comp=Z,61nm,18.1s,baz=301,slow=33						
	comp=Z,0.9nm,0.9s						
KDAK	**Kodiak Island**	**86.55**	**341**	LR	LR	20 59 49.8	
	comp=Z,93nm,20.9s,baz=144,slow=29						
H11S2	**WAKE ISLAND Hy**	**87.03**	**291**	T	T	22 06 46.4	
	baz=116,slow=75,SNR=69						
H11S1	**WAKE ISLAND Hy**	**87.05**	**291**	T	T	22 06 44.0	
	baz=116,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**87.05**	**291**	T	T	22 06 53.3	
	baz=116,slow=75,SNR=51						
M30M	**Minto, Yukon**	**87.19**	**350**	P	**P**	**20 30 49.2**	**+1.4**
M29M	**Somme Creek**	**87.34**	**349**	P	**P**	**20 30 48.6**	**0.0**
H11N3	**WAKE ISLAND Hy**	**87.39**	**293**	T	T	22 07 12.2	
	baz=117,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**87.40**	**293**	T	T	22 07 23.7	
	baz=117,slow=76,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**87.40**	**293**	T	T	22 07 13.2	
	baz=117,slow=76,SNR=46						
SCHQ	**Schefferville**	**87.84**	**25**	LR	LR	21 07 28.0	
	comp=Z,36nm,20.2s,baz=142,slow=34						
BCAR	**Beaver Creek A**	**88.51**	**348**	P	**P**	**20 30 54.0**	**-0.1**
ILAR	**Eielson Array**	**91.06**	**347**	P	**P**	**20 31 06.2**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=170,slow=6.0,SNR=1.7						
	comp=Z,0.2nm,0.7s						
FRB	**Frobisher Bay**	**93.84**	**19**	LR	LR	21 10 06.6	
	comp=Z,72nm,18.7s,baz=94,slow=33						
SHEM	**Shemya Is, Ala**	**97.37**	**325**	LR	LR	21 08 36.9	
	comp=Z,49nm,19.0s,baz=284,slow=31						
SONM	**Songino Array**	**139.03**	**317**		**PKPdf**	**20 37 28.1**	**-0.6**
SONM	**Songino Array**	**139.03**	**317**	PKP	**PKPdf**	**20 37 28.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=66,slow=3.6,SNR=2.3						
AKASG	**Malin Array Be**	**140.85**	**36**	PKP	**PKiKP**	**20 37 33.6**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=282,slow=2.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**145.84**	**339**		**PKPdf**	**20 37 40.0**	**-0.5**
ZALV	**Zalesovo Beam**	**145.84**	**339**	PKPbc	**PKPdf**	**20 37 40.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=2.4,slow=1.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**148.12**	**268**		**PKPdf**	**20 37 44.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**148.12**	**268**	PKPbc	**PKPbc**	**20 37 47.6**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=63,slow=0.8,SNR=15						
BRTR	**Keskin Array B**	**148.63**	**51**	PKPbc	**PKPbc**	**20 37 48.3**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=266,slow=2.0,SNR=4.7						
BVAR	**Borovoye Array**	**149.89**	**354**	PKPbc	**PKPbc**	**20 37 51.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=1.9,slow=4.5,SNR=8.1						
KURK	**Kurchatov**	**150.53**	**342**		**PKPdf**	**20 37 47.7**	**-0.5**
KURBB	**Kurchatov Arra**	**150.64**	**343**	PKPbc	**PKPbc**	**20 37 53.1**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=23,slow=1.8,SNR=9.7						
KBZ	**Khabaz**	**152.46**	**36**	PKPbc	**PKPbc**	**20 37 58.1**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=249,slow=1.0,SNR=7.7						
MKAR	**Makanchi Array**	**152.65**	**334**	PKPbc	**PKPbc**	**20 37 57.0**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=7.4,slow=1.1,SNR=8.0						
MAKZ	**Makanchi**	**152.77**	**334**	PKPdf	**PKPdf**	**20 37 50.9**	**-1.0**
ABKAR	**Akbulak array**	**153.60**	**8**	PKPdf	**PKPdf**	**20 37 52.6**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**42.41**	**313**	P	**P**	**20 50 23.5**	**-0.1**
ZAA0	**Zalesovo Array**	**43.17**	**324**	P	**P**	**20 50 29.3**	**-0.2**
ZAA0				IAmb	IAmb	20 50 31.4	
	comp=Z,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**43.17**	**324**	P	**P**	**20 50 29.3**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=110,slow=8.7,SNR=13						
	comp=Z,2.0nm,0.4s						
WB0	**Warramunga Arr**	**44.70**	**171**	P	**P**	**20 50 43.5**	**+1.4**
WB0				IAmb	IAmb	20 50 57.2	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**44.86**	**171**	P	**P**	**20 50 44.6**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=355,slow=9.2,SNR=17						
	comp=Z,1.3nm,0.7s						
KDJ	**Kajisay**	**44.93**	**306**	P	**P**	**20 50 43.7**	**-0.4**
KDJ				IAmb	IAmb	20 50 46.3	
	comp=Z,3.1nm,1.2s						
KURK	**Kurchatov**	**45.60**	**318**	P	**P**	**20 50 49.2**	**+0.2**
KURK	**Kurchatov**	**45.60**	**318**	IAmb	IAmb	20 50 49.4	
	comp=Z,5.7nm,1.5s						
KURBB	**Kurchatov Arra**	**45.63**	**318**	P	**P**	**20 50 49.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=107,slow=8.9,SNR=6.9						
	comp=Z,0.7nm,0.4s						
TIXI	**Tiksi**	**46.96**	**1**	P	**P**	**20 51 00.6**	**+1.2**
ASAR	**Alice Springs**	**48.48**	**172**	P	**P**	**20 51 13.6**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=1.4,slow=10,SNR=9.4						
ASAR				PcP	**PcP**	**20 52 39.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=344,slow=3.4,SNR=2.2						
	comp=Z,0.6nm,0.8s						
KK31	**Karatay Array**	**49.91**	**306**	P	**P**	**20 51 23.7**	**+1.1**
KK31				IAmb	IAmb	20 51 25.0	
	comp=Z,1.3nm,0.7s						
KKAR	**Karatay Array**	**49.91**	**306**	P	**P**	**20 51 23.6**	**+1.0**
BVAR	**Borovoye Array**	**51.09**	**319**	P	**P**	**20 51 32.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=94,slow=9.4,SNR=4.3						
	comp=Z,0.6nm,0.5s						
KBL	**Kabul**	**51.31**	**295**	P	**P**	**20 51 32.5**	**-1.1**
AB31	**Akbulak array**	**57.34**	**314**		**P**	**20 52 17.7**	**+0.7**
AB31				IAmb	IAmb	20 52 18.9	
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**57.34**	**314**		**P**	**20 52 17.5**	**+0.5**
KBZ	**Khabaz**	**69.75**	**310**	P	**P**	**20 53 41.1**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=49,slow=11,SNR=5.3						
	comp=Z,2.8nm,0.9s						
ARCES	**ARCESS Array B**	**71.23**	**339**	P	**P**	**20 53 48.8**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=58,slow=6.4,SNR=1.3						
	comp=Z,2.1nm,1.0s						
FINES	**FINESS Array B**	**73.94**	**331**	P	**P**	**20 54 05.3**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=58,slow=5.9,SNR=16						
	comp=Z,2.6nm,0.6s						
AKASG	**Malin Array Be**	**76.37**	**320**	P	**P**	**20 54 17.2**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.4,SNR=2.5						
	comp=Z,0.4nm,0.4s						
NB2	**NORSAR Subarra**	**80.45**	**334**	P	**P**	**20 54 41.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=54,slow=5.3						
NOA	**NORSAR Array B**	**80.45**	**334**	P	**P**	**20 54 41.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=52,slow=5.5,SNR=4.2						
	comp=Z,0.7nm,0.7s						

*IDC **31** 21:13:49.8±2.3,17°.46S×178°.70W,h525km±24km,mb3.4/8, mbtmp4.3/9,Error ellipse: s-maj=40.9km s-min=15.1km az=149.0*
*NEIC **31** 21:13:51.3±2.0,17°.78S±0°.05×178°.5W±0°.1,h545km±8km, mb4.5/41,Error ellipse: s-maj=14.9km s-min=6.3km az=77.0*

ISC 31 21:13:51.3±0.5,17°.72S±0°.09×178°.60W±0°.08,h547km, n62,σ0^{s}99/66,mb4.5/28,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**269**		**P**	**21 15 09.4**	**+1.9**

comp=Z,1.5nm,0.7s
J05D Fort Rock, OR 80.29 39 P **P 21 25 06.4 +0.7**
K15K Wolf Creek Mou 80.89 8 P **P 21 25 08.3 +0.2**
K15K IAmb IAmb 21 25 16.8
comp=Z,39nm,1.4s
S34M Telegraph Cree 84.95 23 P **P 21 25 28.7 +0.1**
ILAR Eielson Array 85.75 13 P **P 21 25 31.0 -1.4**
ILAR Eielson Array 85.75 13 P **P 21 25 30.4 -1.9**
comp=Z,0.7nm,0.4s,baz=223,slow=5.4,SNR=19
comp=Z,0.7nm,0.4s
TXAR Lajitas Array 86.05 58 P **P 21 25 35.8 +1.1**
TXAR Lajitas Array 86.05 58 P **P 21 25 36.1 +1.3**
comp=Z,1.0nm,0.7s,baz=224,slow=6.1,SNR=14
comp=Z,1.0nm,0.7s
G24K Hadweenzic Riv 87.31 12 P **P 21 25 38.5 -1.2**
G24K IAmb IAmb 21 25 43.1
comp=Z,5.1nm,1.1s
PD31 Pinedale Array 87.34 44 P **P 21 25 40.4 -0.3**
PDAR Pinedale Array 87.34 44 P **P 21 25 40.3 -0.4**
comp=Z,0.8nm,0.5s,baz=207,slow=2.6,SNR=12
comp=Z,0.8nm,0.5s
CMAR Chiang Mai Arr 88.65 290 P **P 21 25 48.0 +1.0**
comp=Z,0.7nm,0.6s,baz=123,slow=2.6,SNR=6.3
comp=Z,0.7nm,0.6s
SNAA Sanae 90.79 179 P **P 21 25 56.6 +0.5**
SNAA IAmb IAmb 21 26 13.2
comp=Z,5.4nm,1.5s
SNAA Sanae 90.79 179 P **P 21 25 56.5 +0.5**
comp=Z,0.3nm,0.4s,baz=134,slow=7.1,SNR=6.0
comp=Z,0.3nm,0.4s
KAN01 Argonia South 93.48 52 P **P 21 26 07.7 -1.2**
MMAI Mount Meron Ar 145.89 303 PKPbc **PKPbc 21 32 30.1 -0.3**
comp=Z,1.4nm,0.7s,baz=53,slow=7.4,SNR=3.2
GERES GERESS Array B 147.39 345 PKPbc **PKPbc 21 32 32.9 -1.0**
comp=Z,0.6nm,0.5s,baz=20,slow=4.3,SNR=5.3

WEL 31 21:15:02.0±1.6, 35°S±33°×17°9E±4°3, h285km±31km, ML3.7/5, MLv3.4/2, Error ellipse: s-maj=65.9km s-min=25.8km az=124.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.21**	**193**	P	Pn	21 15 59.4	+0.7
WMGZ				S	S	21 16 44.6	+0.5
HAZ	**Te Kaha**	**3.30**	**202**	P	Pn	21 15 59.8	+0.1
HAZ				S	S	21 16 45.7	-0.1
PUZ	**Puketiti**	**3.48**	**194**	P	Pn	21 16 02.1	+0.5
PUZ				S	S	21 16 49.4	0.0
RUGZ	**Raukumara Rang**	**3.52**	**202**	P	Pn	21 16 01.9	-0.3
MWZ	**Matawai**	**3.91**	**201**	P	Pn	21 16 06.6	+0.2
MWZ				S	S	21 16 58.1	+0.2
URZ	**Urewera**	**3.98**	**206**	P	Pn	21 16 06.3	-0.7
MTHZ	**Maungataniwha**	**4.60**	**205**	P	Pn	21 16 14.8	+0.5
MTHZ				S	S	21 17 13.3	+1.2
BKZ	**Black Stump Fm**	**5.00**	**206**	P	Pn	21 16 19.4	+0.5
KAHZ	**Kahuranaki**	**5.45**	**200**	P	Pn	21 16 24.3	0.0
KRHZ	**Kereru**	**5.47**	**205**	P	Pn	21 16 23.6	-0.8
PRHZ	**Porangahau**	**5.96**	**200**	P	Pn	21 16 29.3	-1.0
BFZ	**Birch Farm**	**6.46**	**201**	P	Pn	21 16 36.1	-0.2

*IDC **31** 21:16:14.5±2.1, 23°.54S×115°.21W, h0km, mb3.8/1, mbtmp3.8/1, MS3.7/9, Error ellipse: s-maj=149.8km s-min=44.8km az=9.0*
ISC 31 21:16:14.3±2.0, 24°S±1°×115°.4W±0°.3, h10km, n24, σ0§39/7, MS3.7/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.33**	**121**	LR	LR	21 19 47.6	
	comp=Z,465nm,18.3s,baz=354,slow=33						
H03N2	**Juan Fernandez**	**33.22**	**115**	T	T	21 57 53.6	
	baz=283,slow=75,SNR=12						
H03N3	**Juan Fernandez**	**33.23**	**115**	T	T	21 57 54.7	
	baz=283,slow=75,SNR=10						
H03N1	**Juan Fernandez**	**33.23**	**115**	T	T	21 58 01.0	
	baz=283,slow=75,SNR=11						
ATAH	**Atahualpa**	**39.21**	**71**	LR	LR	21 35 29.4	
	comp=Z,76nm,19.5s,baz=236,slow=30						
RAR	**Rarotonga**	**40.94**	**265**	LR	LR	21 35 43.8	
	comp=Z,121nm,20.8s,baz=108,slow=28						
PLCA	**Paso Flores**	**40.95**	**125**	LR	LR	21 36 38.5	
	comp=Z,97nm,18.6s,baz=298,slow=30						
CFA	**Coronel Fontan**	**42.16**	**111**	LR	LR	21 37 33.3	
	comp=Z,87nm,19.2s,baz=71,slow=30						
LPAZ	**La Paz**	**44.87**	**89**	P	**P**	**21 24 30.0**	**0.0**
	1.0nm,0.7s,baz=235,slow=3.4,SNR=2.0						
LPAZ				LR	LR	21 38 38.1	
	comp=Z,86nm,20.0s,baz=266,slow=30						
	1.0nm,0.7s						
CPUP	**Villa Florida**	**52.25**	**106**	LR	LR	21 42 26.6	
	comp=Z,30nm,20.1s,baz=208,slow=30						
URZ	**Urewera**	**58.35**	**239**	LR	LR	21 46 03.6	
	comp=Z,85nm,18.6s,baz=174,slow=30						
H11S2	**WAKE ISLAND Hy**	**86.85**	**292**	T	T	23 05 09.2	
	baz=116,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**86.87**	**292**	T	T	23 05 08.1	
	baz=116,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**86.87**	**292**	T	T	23 05 07.7	
	baz=116,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**87.22**	**293**	T	T	23 05 32.7	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hy**	**87.24**	**293**	T	T	23 05 36.5	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**87.24**	**293**	T	T	23 05 35.1	
	baz=117,slow=74						
ASAR	**Alice Springs**	**97.78**	**240**	LR	LR	22 09 07.3	
	comp=Z,55nm,18.7s,baz=128,slow=32						
ZALV	**Zalesovo Beam**	**146.41**	**338**	PKPbc	**PKPab**	**21 35 55.9**	**-0.3**
	0.4nm,0.5s,baz=41,slow=4.6,SNR=2.1						
CMAR	**Chiang Mai Arr**	**147.57**	**267**	PKPbc	**PKiKP**	**21 36 01.6**	**-0.1**
	0.2nm,0.6s,baz=125,slow=3.1,SNR=1.1						
BRTR	**Keskin Array B**	**149.55**	**52**	PKPbc	**PKiKP**	**21 36 05.2**	**-0.2**
	0.6nm,0.7s,baz=282,slow=1.3,SNR=4.1						
BVAR	**Borovoye Array**	**150.64**	**353**	PKPbc	**PKiKP**	**21 36 07.5**	**+0.4**
	0.6nm,0.5s,baz=26,slow=3.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**151.26**	**341**	PKPbc	**PKiKP**	**21 36 08.1**	**-0.3**
	0.8nm,0.9s,baz=28,slow=2.7,SNR=6.0						
MKAR	**Makanchi Array**	**153.15**	**332**	PKPbc	**PKiKP**	**21 36 12.9**	**+0.5**
	0.5nm,0.6s,baz=50,slow=3.5,SNR=6.7						

*MEX **31** 21:24:37.2±1.1, 14°.40N×92°.21W, h77km±33km, MD3.6*
*GCG **31** 21:24:43.6±0.4, 14°.52N×91°.95W, h55km±3km, MD3.7, ML2.8*
ISC 31 21:24:32.5±3.4, 14°2N±0°.1×92°.40W±0°.09, h5km±15km, n8, σ1§41/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.76**	**64**	*e*P	**Pg**	**21 24 47.3**	**+0.2**
RTAL				*i* S	**Sb**	**21 24 59.8**	**+0.8**
PATR	**El Naranjo**	**0.94**	**10**	*e*P	**Pg**	**21 24 51.2**	**+0.6**
PATR				*e*S	**Sg**	**21 25 02.3**	**-0.5**
CHUJ	**Union Juarez**	**0.95**	**17**	*e*P	**Pg**	**21 24 51.3**	**+0.6**
CHUJ				*e*S	**Sg**	**21 25 03.0**	**0.0**
PAVE	**Pavencul**	**1.03**	**12**	*e*P	**Pg**	**21 24 52.6**	**+0.4**
PAVE				*e*S	**Sg**	**21 25 04.9**	**-0.7**
STG2	**El Palmar, Qui**	**1.03**	**76**	*e*S	**Sg**	**21 25 02.9**	**-2.7**
SOKI	**Kika Raxquin**	**1.16**	**57**	*e*S	**Sg**	**21 25 08.9**	**-0.8**
PCIG		**1.71**	**332**	*e*P	**Pn**	**21 25 03.4**	**+0.5**
PCIG				*e*S	**Sn**	**21 25 22.8**	**-2.3**
APG	**El Apazote**	**2.04**	**66**	*e*P	**Pn**	**21 25 09.3**	**+1.5**

*IDC **31** 21:50:57.3±4.1, 2°.27S×104°.58E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=193.2km s-min=22.0km az=56.0*
ISC 31 21:51:03.4±3.5, 2°1S±0°.6×104°9E±0°.9, h35km, n6, σ1§52/6, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.24**	**344**	P	**P**	**21 55 45.5**	**-1.1**
	1.0nm,0.3s,baz=180,slow=10.0,SNR=3.5						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**33.83**	**124**	P	**P**	**21 57 42.4**	**-0.3**
	0.2nm,0.3s,baz=296,slow=8.0,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**35.36**	**130**	P	**P**	**21 57 56.0**	**+0.1**
	0.2nm,0.4s,baz=301,slow=7.9,SNR=5.0						
	0.2nm,0.4s						
SONM	**Songino Array**	**49.75**	**1**	P	**P**	**21 59 53.7**	**+1.2**
	0.1nm,0.4s,baz=200,slow=7.6,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.59**	**341**	P	**P**	**22 00 14.9**	**+1.2**
	0.2nm,0.7s,baz=160,slow=9.3,SNR=2.7						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**58.29**	**346**	P	**P**	**22 00 52.9**	**-1.6**
	0.3nm,0.3s,baz=173,slow=5.8,SNR=4.5						
	0.3nm,0.3s						

GII 31 21:58:34.6±0.0, 32°.988N±0°.002×35°.547E±0°.001, h7km, Mwb=0.9, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMID	**Amiad**	**0.06**	**186**	P	Pg	21 58 36.6	+0.3
AMID	**Amiad**	**0.06**	**186**	S	Sg	21 58 38.1	+0.5
HDNS	**Had-Ness**	**0.10**	**127**	P	Pg	21 58 37.3	+0.5
HDNS	**Had-Ness**	**0.10**	**127**	S	Sg	21 58 39.2	+0.8
KNHM	**Kefar Nahum**	**0.11**	**165**	P	Pg	21 58 37.1	+0.1
KNHM	**Kefar Nahum**	**0.11**	**165**	S	Sg	21 58 39.6	+1.0
MMA0B	**Mount Meron ar**	**0.12**	**283**	P	Pg	21 58 37.9	+0.6
MMA0B	**Mount Meron ar**	**0.12**	**283**	S	Sg	21 58 39.9	+0.8
KSHT	**Keshet**	**0.22**	**92**	P	Pg	21 58 39.7	+0.6
KSHT	**Keshet**	**0.22**	**92**	S	Sg	21 58 42.9	+0.8
GEM	**Giv'at Ha'Em**	**0.24**	**24**	P	Pg	21 58 39.7	+0.3
GEM	**Giv'at Ha'Em**	**0.24**	**24**	S	Sg	21 58 44.5	+1.8
NATI	**Neve Ativ**	**0.32**	**30**	P	Pg	21 58 40.8	0.0
NATI	**Neve Ativ**	**0.32**	**30**	S	Sg	21 58 46.2	+1.2

*IDC **31** 22:06:00.2±1.0, 28°.38N×83°.43E, h0km, mb3.9/12, mbtmp3.9/16, ML4.0/3, Error ellipse: s-maj=30.0km s-min=16.7km az=54.0*
*DMN **31** 22:06:03.3±0.0, 28°.48N×83°.16E, h2km, Ml4.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 31 22:06:02.9±1.6, 28°60N±0°.09×83°32E±0°.08, h13km±10km, n28, σ1§51/38, mb4.0/11, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**0.46**	**123**	Pg	**Pg**	**22 06 11.1**	**-1.0**
	baz=103,slow=0.0						
DANN				Sg	**Sb**	**22 06 20.2**	**+0.3**
	2μm,0.3s,baz=103,slow=0.0						
GKN	**Gorkha**	**1.30**	**117**	Pn	**Pn**	**22 06 27.3**	**+0.3**
	baz=110,slow=0.0						
GKN	**Gorkha**	**1.30**	**117**	Pg	**Pg**	**22 06 28.7**	**+0.7**
	baz=110,slow=0.0						
GKN				Sn	**Sg**	**22 06 46.8**	**+1.8**
	baz=110,slow=0.0						
DMN	**Daman**	**1.86**	**122**	Pn	**Pn**	**22 06 35.9**	**+1.1**
	baz=116,slow=0.0						
DMN				Sn	**Sn**	**22 06 58.6**	**+0.3**
	706nm,0.4s,baz=116,slow=0.0						
KKN	**Kakani**	**1.91**	**115**	Pn	**Pb**	**22 06 37.8**	**0.0**
	baz=109,slow=0.0						
KKN				Sn	**Sb**	**22 07 01.3**	**-0.3**
	535nm,0.2s,baz=109,slow=0.0						
PKIN	**Phulchoki**	**2.10**	**119**	Pn	**Pn**	**22 06 38.9**	**+0.8**
	baz=114,slow=0.0						
PKIN				Sn	**Sn**	**22 07 05.8**	**+1.6**
	726nm,0.3s,baz=114,slow=0.0						
PKI	**Pulchoki**	**2.11**	**119**	Pn	**Pn**	**22 06 39.9**	**+1.6**
	baz=114,slow=0.0						
PKI				Sn	**Sn**	**22 07 04.9**	**+0.3**
	645nm,0.3s,baz=114,slow=0.0						
GUN	**Gumba**	**2.36**	**106**	Pn	**Pn**	**22 06 43.4**	**+1.7**
	baz=102,slow=0.0						
GUN				Sn	**Sn**	**22 07 12.5**	**+1.8**
	564nm,0.3s,baz=102,slow=0.0						
RAMN	**Ramite**	**3.34**	**119**	Pn	**Pn**	**22 06 55.8**	**+0.7**
	baz=116,slow=0.0						
RAMN				Sn	**Sn**	**22 07 34.6**	**-0.2**
	320nm,0.2s,baz=116,slow=0.0						
ODAN	**Odare**	**4.00**	**115**	Pn	**Pn**	**22 07 05.1**	**+0.9**
	baz=112,slow=0.0						
ODAN				Sn	**Sn**	**22 07 51.4**	**+0.3**
	109nm,0.3s,baz=112,slow=0.0						
LSA	**Lhasa**	**6.93**	**79**	Pn	**Pn**	**22 07 42.8**	**-1.9**
LSA				Sn	**Sn**	**22 09 03.8**	**+0.1**
LSA				smax	smax		
	comp=N,4.0nm,0.7s						
LSA				smax	smax		
	comp=E,4.0nm,0.6s						
KSH	**Kashi**	**12.47**	**333**	P	**Pn**	**22 08 59.0**	**-1.3**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AAK	**Ala-Archa**	**15.72**	**335**	Pn	**Pn**	**22 09 43.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=209,slow=10.0,SNR=4.4						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**17.50**	**122**	P	**Pn**	**22 10 01.8**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=303,slow=9.6,SNR=1.3						
	comp=Z,1.4nm,0.3s						
MKAR	**Makanchi Array**	**18.18**	**358**	P	**Pn**	**22 10 14.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=180,slow=11,SNR=29						
	comp=Z,1.4nm,0.4s						
LZDM	**Lanzhou Array**	**18.70**	**62**	P	**Pn**	**22 10 22.4**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=245,slow=10,SNR=1.3						
KURBB	**Kurchatov Arra**	**22.29**	**352**	P	**P**	**22 11 01.4**	**+1.5**
	comp=Z,3.9nm,0.7s,baz=176,slow=10,SNR=56						
	comp=Z,3.9nm,0.7s						
ZALV	**Zalesovo Beam**	**25.35**	**2**	P	**P**	**22 11 31.6**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=190,slow=9.6,SNR=7.8						
	comp=Z,1.2nm,0.5s						
BVAR	**Borovoye Array**	**26.21**	**342**	P	**P**	**22 11 39.0**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=174,slow=14,SNR=4.1						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**26.24**	**37**	P	**P**	**22 11 37.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=212,slow=10,SNR=4.0						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**49.74**	**328**	P	**P**	**22 14 55.5**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=106,slow=10,SNR=4.9						
	comp=Z,2.3nm,0.8s						
ARCES	**ARCESS Array B**	**52.37**	**338**	P	**P**	**22 15 15.6**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=90,slow=7.8,SNR=12						
	comp=Z,1.6nm,0.6s						
HFS	**Hagfors**	**55.56**	**325**	P	**P**	**22 15 38.8**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=95,slow=10,SNR=2.5						
	comp=Z,1.6nm,0.6s						
NOA	**NORSAR Array B**	**56.81**	**326**	P	**P**	**22 15 46.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=94,slow=6.7,SNR=3.5						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**68.96**	**128**	P	**P**	**22 17 04.8**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=322,slow=6.4,SNR=5.1						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**71.22**	**132**	P	**P**	**22 17 21.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=314,slow=6.1,SNR=7.3						
	comp=Z,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**76.56**	**278**	P	**P**	**22 17 54.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=53,slow=7.4,SNR=1.1						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**79.10**	**20**	P	**P**	**22 18 07.5**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=319,slow=5.2,SNR=2.6						
	comp=Z,0.3nm,0.7s						

*VAO **31** 22:09:03.5±2.2, 32°.71S×72°.01W, h10km, mb4.4*
*SJA **31** 22:09:12.0±0.5, 32°.27S×71°.70W, h38km±4km, ML4.6, MW4.5*
*IDC **31** 22:09:13.8±0.5, 32°.27S×71°.54W, h46km±4km, mb4.4/16, mbtmp4.5/20, MS3.5/15, Error ellipse: s-maj=11.7km s-min=9.7km az=174.0*
*NEIC **31** 22:09:14.3, 32°.26S×71°.50W, h35km*
*NEIC **31** 22:09:14.7±1.3, 32°.27S±0°.03×71°.47W±0°.06, h46km±4km, mb4.8/305, Mwr4.5/41, Mwr4.6(GUC), Error ellipse: s-maj=6.9km s-min=4.2km az=93.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.56; $M_{\theta\theta}$-3.09; $M_{\phi\phi}$-3.47; $M_{r\theta}$1.22; $M_{\theta\phi}$3.12; $M_{\phi r}$-0.29; Fault plane solution: $M_0$6.60000×10^{15} NP1:ϕ_s322.38000°, δ40.71000°, λ98.70000°. NP2:ϕ_s130.97000°, δ49.85000°, λ82.59000°. Principal axes: T 6.7082, Plg83.0000°, Azm355.0000°; N -0.2230, Plg6.0000°, Azm136.0000°; P -6.4852, Plg5.0000°, Azm226.0000°;*
*GUC **31** 22:09:14.8±0.7, 32°.37S×71°.39W, h49km±2km, ML4.6*
ISC 31 22:09:13.0±0.3, 32°27S±0°.03×71°60W±0°.04, h39km±2km, h39km:pP-P, n457, σ1§49/500, mb4.8/146, MS3.6/12, 14C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.39**	**138**		**Pn**	**22 09 23.3**	**+1.2**
VA06					**Sn**	**22 09 30.2**	**+1.4**
VA06	**Catapilco**	**0.39**	**138**	⇑*i*P	**Pn**	**22 09 23.7**	**+1.6**
VA06				*e*S	**Sn**	**22 09 30.3**	**+1.5**
VA06				IAML		22 09 30.9	
	comp=N,111μm,0.3s						
CO04	**Los Peladeros**	**0.58**	**67**	⇑*i*P	**Pn**	**22 09 25.1**	**0.0**
CO04				*e*S	**Sn**	**22 09 33.0**	**-0.7**
VA01	**Torpederas**	**0.75**	**183**		**Pn**	**22 09 29.0**	**+1.9**
VA01					**Sn**	**22 09 39.3**	**+2.0**
VA01	**Torpederas**	**0.75**	**183**	*e*P	**Pn**	**22 09 29.5**	**+2.4**
VA01	**Torpederas**	**0.75**	**183**	*e*P	**Pn**	**22 09 28.8**	**+1.7**
VA01				*e*S	**Sn**	**22 09 38.7**	**+1.4**
VA01				IAML		22 09 41.6	
	comp=Z,20μm,0.6s						
ROCH	**El Roble**	**0.86**	**145**	⇓*i*P	**Pn**	**22 09 29.7**	**+0.9**
ROCH				*i* P		22 09 29.8	
ROCH				*e*S	**Sn**	**22 09 41.1**	**+0.7**
ROCH				*e*S		22 09 41.1	
VA03	**San Esteban**	**1.02**	**119**		**Pn**	**22 09 30.8**	**-0.1**
VA03					**Sn**	**22 09 43.1**	**-0.8**
VA03	**San Esteban**	**1.02**	**119**	⇓*i*P	**Pn**	**22 09 31.1**	**+0.2**
VA03				*e*S	**Sn**	**22 09 43.6**	**-0.3**
VA03				IAML		22 09 50.0	
	comp=E,45μm,0.5s						
MT02	**Curacav**	**1.06**	**158**		**Pn**	**22 09 31.9**	**+0.5**
MT02					**Sn**	**22 09 44.8**	**-0.1**
MT02	**Curacav**	**1.06**	**158**	⇑*i*P	**Pn**	**22 09 32.4**	**+1.0**
MT02				*e*S	**Sn**	**22 09 45.9**	**+0.9**
MT02	**Curacav**	**1.06**	**158**	*e*P	**Pn**	**22 09 32.2**	**+0.8**
MT02				*e*S	**Sn**	**22 09 44.8**	**-0.1**
PEL	**Peldehue**	**1.16**	**139**		**Pn**	**22 09 33.7**	**+0.9**
PEL				Sn	**Sn**	**22 09 47.4**	**-0.2**
PEL	**Peldehue**	**1.16**	**139**	*e*P	**Pn**	**22 09 33.4**	**+0.5**
PEL				*e*S	**Sn**	**22 09 47.8**	**+0.2**
PEL				IAML		22 09 49.8	
	comp=N,20μm,0.3s						
CO02	**Combarbal**	**1.18**	**26**		**Pn**	**22 09 34.1**	**+0.9**
CO02				Sn	**Sn**	**22 09 49.1**	**+1.0**
CO02	**Combarbal**	**1.18**	**26**	*i* P	**Pn**	**22 09 34.1**	**+0.9**
CO02	**Combarbal**	**1.18**	**26**	*e*P	**Pn**	**22 09 34.3**	**+1.1**
CO02				*e*S	**Sn**	**22 09 49.9**	**+1.8**
CO02				IAML		22 09 51.8	
	comp=Z,25μm,0.3s						
MT05	**Renca**	**1.33**	**147**		**Pn**	**22 09 36.4**	**+1.1**
MT05	**Renca**	**1.33**	**147**	*e*P	**Pn**	**22 09 36.5**	**+1.3**
MT05	**Renca**	**1.33**	**147**	*e*P	**Pn**	**22 09 36.3**	**+1.1**
MT05				IAML		22 09 59.7	
	comp=Z,6μm,0.2s						
MT10	**Hacienda Santa**	**1.34**	**138**	⇓*i*P	**Pn**	**22 09 36.5**	**+1.0**
MT10				*e*S	**Sn**	**22 09 53.0**	**+0.9**
MT10				IAML		22 09 55.2	
	comp=N,40μm,0.5s						
MT14	**Cerro Calın**	**1.44**	**142**	⇓*i*P	**Pn**	**22 09 37.9**	**+1.3**
MT14				*e*S	**Sn**	**22 09 55.4**	**+1.1**
MT14				IAML		22 09 56.5	
	comp=N,29μm,0.5s						
MT16	**CCHEN**	**1.47**	**142**		**Pn**	**22 09 38.3**	**+1.2**
MT16	**CCHEN**	**1.47**	**142**	*i* P	**Pn**	**22 09 38.3**	**+1.2**
MT16				*e*S	**Sn**	**22 09 55.9**	**+0.8**
MT16				IAML		22 09 58.4	
	comp=N,7μm,0.5s						
MT03	**Universidad Ad**	**1.53**	**143**		**Pn**	**22 09 39.1**	**+1.3**
MT03	**Universidad Ad**	**1.53**	**143**	⇓*i*P	**Pn**	**22 09 39.2**	**+1.3**
MT03				*e*S	**Sn**	**22 09 57.4**	**+0.9**
MT03				IAML		22 09 59.6	
	comp=N,24μm,0.3s						
MT03	**Universidad Ad**	**1.53**	**143**	*e*P	**Pn**	**22 09 39.2**	**+1.3**
MT03				*e*S	**Sn**	**22 09 57.7**	**+1.1**
MT03				IAML		22 09 59.2	
	comp=Z,12μm,0.1s						
MT09	**Talagante**	**1.59**	**161**		**Pn**	**22 09 40.4**	**+1.6**
MT09	**Talagante**	**1.59**	**161**	⇑*i*P	**Pn**	**22 09 40.8**	**+2.1**
CO06	**Fray Jorge**	**1.59**	**359**		**Pn**	**22 09 39.9**	**+1.2**
CO06	**Fray Jorge**	**1.59**	**359**	⇑*i*P	**Pn**	**22 09 39.9**	**+1.2**
MT15	**Las Vizcachas**	**1.61**	**145**	*i* P	**Pn**	**22 09 40.2**	**+1.1**
MT15				*e*S	**Sn**	**22 10 00.3**	**+1.6**
MT15				IAML		22 10 02.9	
	comp=N,32μm,0.1s						
MT01	**Popeta**	**1.61**	**170**		**Pn**	**22 09 41.0**	**+2.0**
MT01	**Popeta**	**1.61**	**170**	*i* P	**Pn**	**22 09 41.0**	**+2.0**
MT01	**Popeta**	**1.61**	**170**	*e*P	**Pn**	**22 09 40.9**	**+1.9**
MT01				*e*S	**Sn**	**22 10 00.5**	**+1.9**
MT01				IAML		22 10 05.9	
	comp=Z,5μm,0.2s						
MT04	**Ro Olivares**	**1.67**	**133**	*i* P	**Pn**	**22 09 41.0**	**+1.0**
MT04				*e*S	**Sn**	**22 10 01.8**	**+1.4**
MT04				IAML		22 10 10.1	
	comp=N,6μm,0.2s						
MT04	**Ro Olivares**	**1.67**	**133**	*e*P	**Pn**	**22 09 41.5**	**+1.4**
MT04				*e*S	**Sn**	**22 10 02.4**	**+2.0**
MT04				IAML		22 10 04.9	
	comp=Z,3μm,0.2s						
MT12	**Pirque**	**1.71**	**149**	*e*P	**Pn**	**22 09 41.7**	**+1.4**
MT08	**Bocatoma Ro**	**1.78**	**132**		**Pn**	**22 09 42.2**	**+0.8**
MT08	**Bocatoma Ro**	**1.78**	**132**	*i* P	**Pn**	**22 09 42.9**	**+1.5**
MT08				*e*S	**Sn**	**22 10 05.0**	**+2.1**
MT08	**Bocatoma Ro**	**1.78**	**132**	*e*P	**Pn**	**22 09 43.1**	**+1.7**
MT08				*e*S	**Sn**	**22 10 06.2**	**+3.3**
MT08				IAML		22 10 15.4	
	comp=Z,3μm,0.7s						
BO04	**La Punta**	**1.91**	**154**		**Pn**	**22 09 44.9**	**+1.9**
BO04	**La Punta**	**1.91**	**154**	*e*P	**Pn**	**22 09 45.0**	**+2.0**
LMEL	**Las Melosas**	**1.96**	**144**	Pn	**Pn**	**22 09 45.5**	**+1.6**
LMEL	**Las Melosas**	**1.96**	**144**	*i* P	**Pn**	**22 09 45.4**	**+1.5**
LMEL				*e*S	**Sn**	**22 10 09.1**	**+1.6**
LM

CFA eS Sn 22 10 37.0 +5.7
LCO Las Campanas 3.34 14 Pn 22 10 03.7 +0.7
LCO Las Campanas 3.34 14⇑eP Pn 22 10 03.8 +0.7
LCO Las Campanas 3.34 14 eP Pn 22 10 03.5 +0.5
LCO IAML 22 10 59.5
comp=Z,4μm,0.7s
ML02 Panimavida 3.48 178 Pn 22 10 05.9 +1.1
ML02 Panimavida 3.48 178 eP Pn 22 10 06.5 +1.8
ML02 eS Sn 22 10 57.2 +13
ML02 IAML 22 11 08.3
comp=Z,1μm,0.6s
RFA San Rafael 3.62 134 eP Pn 22 10 03.5 -3.1
AGUA GUANDACOL 3.86 45 eP Pn 22 10 12.4 +2.5
AC04 Llanos de Chal 4.08 7 Pn 22 10 13.2 +0.2
AC04 Llanos de Chal 4.08 7 eS Sn 22 11 03.1 +3.7
AC04 IAML 22 11 24.0
comp=Z,1μm,0.6s
BI02 San Fabin de 4.39 177 Pn 22 10 18.8 +1.6
VCA Vinchina 4.58 41 eP Pn 22 10 22.3 +2.4
BI05 Punta Hualpn 4.65 196 Pn 22 10 21.2 +0.5
GO03 Copiapo 4.81 15 Pn 22 10 23.5 +0.5
GO03 Copiapo 4.81 15 IAML 22 11 42.8
comp=Z,1μm,0.5s
ACLC CERRO LA CRUZ 4.90 56 eS Sn 22 11 25.7 +5.7
AC06 Mina Casimiro 5.02 13 Pn 22 10 25.5 -0.3
AC02 Maricunga 5.83 22 Pn 22 10 37.5 +0.1
TCA Tanti 6.04 83 *i* P **Pn 22 10 39.9 0.0**
TCA eS Sn 22 11 42.9 -4.9
AC01 Pan de Azucar 6.17 8 Pn **Pn 22 10 40.0 -1.6**
VA04 Juan Fernndez 6.23 255 Pn **Pn 22 10 45.1 +2.7**
H03N1 Juan Fernandez 6.26 257 P Pn 22 10 46.3 +3.7
baz=121,slow=20,SNR=38
H03N1 T T 22 17 22.0
baz=87,slow=73,SNR=1328
H03N3 Juan Fernandez 6.27 257 P Pn 22 10 46.4 +3.6
baz=121,slow=20,SNR=50
H03N3 T T 22 17 22.8
baz=87,slow=73,SNR=1075
H03N2 Juan Fernandez 6.28 257 P Pn 22 10 46.4 +3.6
baz=121,slow=20,SNR=37
H03N2 T T 22 17 24.2
baz=87,slow=73,SNR=1064
H03S3 Juan Fernandez 6.33 254 P **Pn 22 10 46.0 +2.5**
baz=241,slow=74,SNR=29
H03S3 S **Sn 22 11 50.7 -3.6**
baz=10,slow=75,SNR=3.0
H03S3 T T 22 17 24.2
baz=70,slow=80,SNR=310
H03S1 Juan Fernandez 6.33 254 P **Pn 22 10 45.8 +2.3**
H03S1 S **Sn 22 11 50.5 -3.9**
baz=10,slow=75,SNR=22
H03S1 T T 22 17 15.1
baz=70,slow=80,SNR=178
H03S2 Juan Fernandez 6.34 254 P **Pn 22 10 45.9 +2.2**
baz=59,slow=74,SNR=36
H03S2 S **Sn 22 11 50.6 -4.1**
baz=10,slow=75,SNR=4.6
H03S2 T T 22 17 19.1
baz=70,slow=80,SNR=188
GO02 Mina Guanaco 7.30 15 Pn 22 10 56.1 -1.4
LR03 Panguipulli 7.37 184 Pn 22 10 59.0 +1.0
PB14 IPOC Station P 7.69 8 Pn 22 11 03.7 +0.9
LR04 Corral 7.73 190 Pn 22 11 03.6 +0.6
LR05 Currie 7.95 182 Pn 22 11 07.1 +1.1
PLCA Paso Flores 8.49 175 Pn 22 11 14.0 +0.5
PLCA Paso Flores 8.49 175 P **Pn 22 11 15.3 +1.9**
comp=Z,1.5nm,0.4s,baz=324,slow=11,SNR=13
PLCA LR LR 22 14 27.2
comp=Z,222nm,18.4s,baz=40,slow=37
PB10 IPOC Station P 8.77 6 Pn **Pn 22 11 14.9 -2.5**
PB05 IPOC Station P 9.46 8 Pn **Pn 22 11 26.7 -0.2**
PB06 IPOC Station P 9.70 11 Pn **Pn 22 11 30.2 0.0**
TRQA Tornquist 9.76 129 Pn 22 11 31.3 +0.4
AF01 San Pedro de A 9.77 19 Pn **Pn 22 11 33.4 +2.2**
PB03 IPOC Station P 10.31 10 Pn **Pn 22 11 40.2 +1.6**
PB09 IPOC Station P 10.64 12 Pn **Pn 22 11 43.9 +0.8**
PSAL Palomas, Salto 11.98 88 *eP* **Pn 22 11 58.9 -2.4**
CPUP Villa Florida 13.79 68 Pn 22 12 24.6 -1.3
CPUP Villa Florida 13.79 68 P **Pn 22 12 24.4 -1.6**
comp=Z,1.2nm,0.5s,baz=148,slow=18,SNR=12
CPUP S **Sn 22 14 51.0 -6.7**
comp=Z,4.3nm,0.7s,baz=74,slow=11,SNR=3.1
CPUP LR LR 22 18 03.5
comp=Z,79nm,21.4s,baz=116,slow=39
PB16 IPOC Station P 14.01 8 Pn 22 12 30.7 +1.2
PLTB Pedras Altas 15.28 93 Pn **Pn 22 12 42.8 -3.2**
CPSB Cacapava Do Su 15.63 88 *eP* **Pn 22 12 49.4 -1.2**
LPAZ La Paz 16.22 12 Pn 22 12 57.8 -0.9
LPAZ La Paz 16.22 12 P **Pn 22 12 59.0 +0.2**
comp=Z,5.2nm,0.7s,baz=186,slow=7.2,SNR=28
LPAZ La Paz 16.22 12 *eP* **Pn 22 12 58.5 -0.3**
MURT Porto Murtinho 16.33 53 *eP* **P 22 13 01.0 -1.0**
ITAB Concordia 17.63 78 Pn 22 13 14.9 -0.9
PTGB Pitanga 18.73 71 *eP* **P 22 13 27.9 -0.7**
SIV San Ignacio 18.82 33 P 22 13 28.0 -1.5
comp=Z,3.4nm,0.6s,baz=197,slow=8.9,SNR=20
SIV pP **pP 22 13 39.6 +0.1**
comp=Z,7.0nm,0.6s,baz=207,slow=8.8,SNR=9.4
LDASE Londrina, Braz 20.14 69 *eP* **P 22 13 43.0 -0.9**
PTLB Pontes e Lacer 20.23 37 P 22 13 44.2 -0.6
PTLB Pontes e Lacer 20.23 37 *eP* **P 22 13 45.2 +0.3**
NNA Nana 20.76 345 P Pn 22 13 52.2 -1.0
comp=Z,5.8nm,0.3s,baz=218,slow=11,SNR=2.2
comp=Z,5.8nm,0.3s
PP1B Ponte de Pedra 21.01 50 *eP* **P 22 13 53.3 -0.1**
C2SB Chapadao do Su 21.58 56 *eP* **P 22 13 58.0 -1.4**
SALV Santo Antonio 21.78 45 *eP* **P 22 13 59.9 -1.7**
VILB Vilhena 21.89 31 P **P 22 14 01.0 -1.8**
VILB IAmb IAmb 22 14 16.7
comp=Z,20nm,0.7s
VILB Vilhena 21.89 31 *eP* **P 22 14 01.1 -1.7**
ARAG Araguaiana, MT 24.40 52 *eP* **P 22 14 26.7 -1.2**
PDRB Porto dos Gac 24.70 37 *eP* **P 22 14 29.5 -1.1**
ATAH Atahualpa 25.80 344 LR LR 22 23 03.8
comp=Z,74nm,18.9s,baz=229,slow=32
BDFB Brasilia 27.09 58 P **P 22 14 50.6 -1.7**
BDFB Brasilia 27.09 58 P **P 22 14 50.3 -2.0**
comp=Z,7.1nm,0.8s,baz=228,slow=6.0,SNR=10
BDFB LR LR 22 26 55.2
comp=Z,259nm,18.1s,baz=229,slow=39
comp=Z,7.1nm,0.8s
SNDB Serra Nova Dou 27.51 47 *eP* **P 22 14 55.7 -0.3**
MACA Manacapuru-AM 30.72 22 P **P 22 15 23.6 -0.9**
MACA IAmb IAmb 22 15 41.7
comp=Z,16nm,0.7s
BOAV Boa Vista 36.04 19 P **P 22 16 09.9 -0.9**
BOAV IAmb IAmb 22 16 10.7
comp=Z,8.5nm,0.7s
BOAV Boa Vista 36.04 19 *eP* **P 22 16 09.7 -1.1**
ROSC El Rosal 37.00 356 P **P 22 16 21.1 +1.8**
comp=Z,8.3nm,0.5s,baz=114,slow=20,SNR=1.6
comp=Z,8.3nm,0.5s
RUSC La Rusia 37.98 358 P **P 22 16 28.5 +0.7**
BAUV El Baul 41.12 5 P **P 22 16 52.4 -1.1**
MDP Montagnes des 41.31 29 LR LR 22 35 36.6
comp=Z,158nm,18.8s,baz=198,slow=38
BELA Belgrano 2 48.52 170 P **P 22 17 52.6 +1.0**
BELA IAmb IAmb 22 17 53.6
comp=Z,5.8nm,0.9s
VNA3 Neumayer Olymp 50.82 158 ⇑P **P 22 18 09.8 +0.5**
comp=Z,7.8nm,0.7s
VNA3 ⇓pP **pP 22 18 22.4 +1.9**
VNA1 Neumayer--Stat 51.12 158 ⇑P **P 22 18 13.0 +1.5**
comp=Z,3.7nm,0.8s
VNA1 ⇓pP **pP 22 18 24.6 +1.9**
VNA2 Neumayer--Watz 51.46 158 ⇑P **P 22 18 14.5 +0.4**
comp=Z,8.8nm,0.6s,baz=280,slow=7.4
VNA2 ⇑pP **pP 22 18 27.0 +1.7**
baz=287,slow=6.5
SNAA Sanae 53.05 158 ⇑P **P 22 18 26.4 +0.5**
comp=Z,198nm,0.8s
SNAA Sanae 53.05 158 P 22 18 26.4 +0.5
SNAA IAmb IAmb 22 18 27.4
comp=Z,10nm,0.9s
SNAA Sanae 53.05 158 P **P 22 18 26.4 +0.5**
comp=Z,7.9nm,0.8s,baz=275,slow=6.6,SNR=46
SNAA pP **pP 22 18 38.3 +1.1**
comp=Z,4.0nm,0.7s,baz=262,slow=10,SNR=7.1
SNAA LR LR 22 38 34.6
comp=Z,35nm,21.5s,baz=11,slow=33
comp=Z,7.9nm,0.8s
TEIG Tepich 54.59 341 P **P 22 18 38.2 +0.7**
TEIG IAmb IAmb 22 18 38.9
comp=Z,14nm,1.0s
TROLL Troll, Antarti 54.76 159 ⇑P **P 22 18 39.0 +0.5**
comp=Z,354nm,0.6s
QSPA South Pole Qui 57.96 180 P **P 22 19 04.9 +3.6**
QSPA South Pole Qui 57.96 180 P **P 22 19 05.0 +3.6**
comp=Z,7.0nm,0.6s,baz=141,slow=2.5,SNR=31
QSPA pP **sP 22 19 15.7 -1.4**
comp=Z,8.4nm,0.9s,baz=146,slow=6.3,SNR=7.2
833A Chaparral WMA, 65.80 333 P 22 19 55.7 +1.5
VNDA Vanda 65.86 191 P **P 22 19 56.2 +2.1**
VNDA Vanda 65.86 191 P **P 22 19 55.9 +1.8**
comp=Z,1.4nm,1.0s,baz=124,slow=4.0,SNR=7.2
comp=Z,1.4nm,1.0s
LRAL Lakeview Retre 66.56 346 P **P 22 19 58.8 -0.2**
Y52A Lilburn 66.82 349 P **P 22 20 00.5 -0.2**
Y52A IAmb IAmb 22 20 01.1
comp=Z,6.7nm,0.6s
HODGE Hodges 66.91 350 P **P 22 20 00.8 -0.3**
HODGE IAmb IAmb 22 20 02.1
comp=Z,8.3nm,0.9s
Z47A Carrollton 66.95 345 P **P 22 20 01.7 +0.3**
DRIO Del Rio 67.26 333 P 22 20 04.6 +1.1
DRIO IAmb IAmb 22 20 06.4
comp=Z,7.2nm,0.8s
JCT Junction City 67.89 334 P 22 20 08.7 +1.1
Y45A Yeager Farm, C 67.92 344 P **P 22 20 08.8 +1.2**
V58A Windy Hill, Pi 68.08 353 P **P 22 20 08.6 +0.1**
V58A IAmb IAmb 22 20 09.8
comp=Z,12nm,1.0s
SAND Sanderson 68.32 332 P 22 20 11.8 +1.5
BRDY Brady 68.33 335 IAmb IAmb 22 20 12.0
comp=Z,10nm,0.7s
W50A Signal Mountai 68.34 348 P **P 22 20 10.7 +0.4**
V55A Taylorsville 68.36 352 P **P 22 20 10.4 +0.1**
V55A IAmb IAmb 22 20 11.0
comp=Z,9.5nm,0.8s
V53A Saluda 68.40 350 P **P 22 20 10.6 0.0**
V53A IAmb IAmb 22 20 11.5
comp=Z,8.1nm,0.8s
TXAR Lajitas Array 68.42 330 P **P 22 20 12.5 +1.6**
TXAR Lajitas Array 68.42 330 P **P 22 20 12.3 +1.3**
comp=Z,3.3nm,0.7s,baz=152,slow=8.3,SNR=32
comp=Z,3.3nm,0.7s
TX31 Lajitas Ar. Si 68.42 330 P 22 20 12.5 +1.5
WHTX Lake Whitney, 68.43 337 P **P 22 20 11.9 +1.1**
CPCT Cooper Cave 68.45 349 P **P 22 20 11.1 +0.2**
CPCT IAmb IAmb 22 20 11.5
comp=Z,9.3nm,0.8s
SWET Sewanee 68.47 347 P 22 20 11.4 +0.3
TKL Tuckaleechee C 68.53 349 P **P 22 20 11.2 -0.2**
comp=Z,7.4nm,0.7s,baz=165,slow=7.4,SNR=11
TKL LR LR 22 52 37.2
comp=Z,22nm,18.1s,baz=46,slow=38
comp=Z,7.4nm,0.7s
OZNA Ozona 68.79 333 P 22 20 14.4 +1.2
U54A Nelsons Funny 69.10 351 P **P 22 20 15.2 +0.2**
V48A Smith Brothers 69.14 347 P **P 22 20 15.3 +0.1**
T57A Hurt 69.28 353 P **P 22 20 16.4 +0.4**
TZTN Tazewell 69.36 350 P **P 22 20 16.5 -0.1**
CLTN Cedars of Leba 69.39 347 P 22 20 17.4 +0.7
PLPT Palo Pinto 69.47 336 P 22 20 18.4 +1.1
Z35A Perchaven, San 69.59 337 P **P 22 20 18.9 +0.8**
SGCY Sterling City 69.67 333 P **P 22 20 18.6 -0.1**
SGCY IAmb IAmb 22 20 19.7
comp=Z,7.3nm,0.9s
U49A Red Boiling Sp 69.70 348 P **P 22 20 18.6 0.0**
U49A IAmb IAmb 22 20 18.9
comp=Z,5.4nm,0.6s
ABTX Abilene, Hawle 69.77 335 P **P 22 20 19.9 +0.7**
MNHN Monahans 69.80 332 P 22 20 20.2 +0.8
MNHN IAmb IAmb 22 20 21.4
comp=Z,10.0nm,0.8s
WHAR Wooly Hollow 69.96 342 P **P 22 20 20.8 +0.6**
WHAR IAmb IAmb 22 20 22.4
comp=Z,15nm,1.2s
S57A Dark Hollow, R 70.01 354 P **P 22 20 20.8 +0.3**
S57A IAmb IAmb 22 20 21.4
comp=Z,6.9nm,0.6s
R58B Mineral 70.12 355 P **P 22 20 21.4 +0.2**
R58B IAmb IAmb 22 20 22.5
comp=Z,10nm,0.9s
VHRN Van Horn 70.24 330 P 22 20 22.6 +0.4
PECS Pecos 70.28 331 P **P 22 20 23.3 +0.9**
PECS IAmb IAmb 22 20 24.7
comp=Z,4.5nm,0.6s
WTFS Witchita Falls 70.39 336 P **P 22 20 23.7 +0.7**
ODSA Odessa 70.41 332 P 22 20 23.9 +0.8
T47A Sharon Grove 70.41 347 P **P 22 20 22.5 -0.4**
T47A IAmb IAmb 22 20 23.3
comp=Z,9.0nm,0.8s
FCAR Ozark Folk Cen 70.48 342 IAmb IAmb 22 20 24.4
comp=Z,8.3nm,0.6s
APMT Aspermont 70.57 335 P 22 20 25.0 +1.0
SN07 Snyder 07 70.64 334 P **P 22 20 24.9 +0.4**
SN07 IAmb IAmb 22 20 26.0
comp=Z,6.4nm,0.8s
R55A Marlinton 70.64 353 P **P 22 20 25.5 +1.1**
R55A IAmb IAmb 22 20 26.0
comp=Z,14nm,0.9s
PARMO Parma 70.65 345 P **P 22 20 25.1 +0.7**
POST Post 70.84 334 P **P 22 20 25.8 0.0**
POST IAmb IAmb 22 20 27.2
comp=Z,6.2nm,0.9s
PBMO Poplar Bluff 70.91 344 P **P 22 20 26.4 +0.4**
X34A Smith Ranch, M 70.94 337 P **P 22 20 27.1 +0.8**
DKNS Dickens 71.17 334 P **P 22 20 28.5 +0.8**
DKNS IAmb IAmb 22 20 29.2
comp=Z,8.3nm,0.8s
MNTX Cornudas Mount 71.19 330 P 22 20 28.1 +0.2
MNTX IAmb IAmb 22 20 28.9
comp=Z,5.7nm,0.7s
CGM3 Cape Girardeau 71.24 345 P **P 22 20 28.1 +0.2**
CGM3 IAmb IAmb 22 20 28.4
comp=Z,6.4nm,0.8s
Q56A Snyder Ridge, 71.30 354 P **P 22 20 29.1 +0.8**
Q56A IAmb IAmb 22 20 29.7
comp=Z,16nm,0.9s
R49A Shelbyville 71.33 349 P **P 22 20 27.4 -1.2**
HHAR Hobbs 71.33 341 P 22 20 28.8 +0.2
WMOK Wichita Mounta 71.38 337 P **P 22 20 29.1 +0.2**
TUL3 Leonard 71.52 339 P 22 20 30.0 +0.3
RLO Rose Lookout 71.53 340 P **P 22 20 30.7 +0.9**
RLO IAmb IAmb 22 20 31.0
comp=Z,7.7nm,0.7s
S44A Carbondale 71.53 345 P **P 22 20 30.0 +0.3**
S44A IAmb IAmb 22 20 30.7
comp=Z,16nm,1.1s
SIUC Southern Illin 71.54 345 P **P 22 20 29.8 0.0**
SIUC IAmb IAmb 22 20 30.8
comp=Z,16nm,1.0s
P57A Homestead Farm 71.64 355 P **P 22 20 31.7 +1.4**
OK052 Battle Ridge R 71.90 339 P **P 22 20 32.2 +0.2**
OK052 IAmb IAmb 22 20 32.9
comp=Z,11nm,0.7s
WUPA West Chester U 71.94 357 P **P 22 20 33.2 +1.1**
QUOK Quay 72.03 339 P **P 22 20 33.0 +0.2**
QUOK IAmb IAmb 22 20 35.3
comp=Z,10nm,0.8s
MVL Millersville 72.04 356 P **P 22 20 33.1 +0.4**
MVL IAmb IAmb 22 20 51.0
comp=Z,15nm,1.1s
FVM French Village 72.06 344 P 22 20 32.3 -0.7
MSTX Muleshoe 72.13 333 P 22 20 34.2 +0.6
SMWD Samnorwood 72.22 336 P **P 22 20 34.7 +0.7**
CCM Cathedral Cave 72.32 344 P 22 20 34.4 -0.1
OK048 Pawnee Station 72.33 339 P **P 22 20 35.2 +0.6**
OK051 E0350 and S346 72.38 339 P **P 22 20 34.9 0.0**
P48A Milroy 72.51 349 P **P 22 20 35.0 -0.6**
P48A IAmb IAmb 22 20 35.3
comp=Z,11nm,0.7s
AMTX Amarillo 72.53 334 P 22 20 37.1 +1.2
AMTX IAmb IAmb 22 20 38.9
comp=Z,7.1nm,0.6s
O53A New Philadelph 72.70 352 P **P 22 20 36.8 +0.1**
O53A IAmb IAmb 22 20 37.1
comp=Z,13nm,0.9s
SSPA Standing Stone 72.78 355 P **P 22 20 37.6 +0.4**
SSPA IAmb IAmb 22 20 38.1
comp=Z,11nm,0.7s
R40A Maddies Statio 72.79 343 P 22 20 37.8 +0.5
ACSO Alum Creek Sta 72.91 351 P **P 22 20 37.7 -0.2**
121A Cookes Peak, D 72.95 329 P 22 20 40.9 +2.3
121A IAmb IAmb 22 20 41.6
comp=Z,12nm,0.9s
O49A Covington 73.06 350 P **P 22 20 38.5 -0.3**
O49A IAmb IAmb 22 20 39.0
comp=Z,13nm,0.7s
O48B Farmland 73.25 349 P **P 22 20 39.6 -0.3**
M57A Sunshine Farm, 73.42 356 P **P 22 20 41.5 +0.6**
M57A IAmb IAmb 22 20 56.5
comp=Z,10nm,1.1s
N49A Columbus Grove 73.75 350 P 22 20 41.9 -1.0
PAOC Oil Creek Stat 73.80 354 P **P 22 20 42.8 -0.4**
PAOC IAmb IAmb 22 20 44.1
comp=Z,13nm,0.9s
P40A Paris 73.92 344 P 22 20 44.4 +0.6
SBM South Baldy 73.92 330 P **P 22 20 46.3 +1.7**
L59A Walton 74.17 357 P **P 22 20 46.4 +1.1**
L59A IAmb IAmb 22 20 46.9
comp=Z,14nm,0.8s
L56A Greenwood 74.25 355 P 22 20 45.9 +0.1
DBIC Dimbokro 74.28 71 P 22 20 45.9 -0.8
DBIC IAmb IAmb 22 20 46.3
comp=Z,9.7nm,0.8s
DBIC Dimbokro 74.28 71 P **P 22 20 45.2 -1.4**
comp=Z,6.8nm,0.6s,baz=252,slow=5.3,SNR=16
DBIC pP **pP 22 20 59.2 +0.7**
comp=Z,4.6nm,0.6s,baz=258,slow=6.8,SNR=3.7
DBIC LR LR 22 51 24.8
comp=Z,26nm,18.1s,baz=218,slow=34
comp=Z,6.8nm,0.6s
L61B Northampton 74.36 359 P 22 20 47.0 +0.6
P38A Dawn 74.37 343 P **P 22 20 46.8 +0.3**
P38A IAmb IAmb 22 20 47.6
comp=Z,13nm,0.8s
ABQ Albuquerque 74.45 331 P **P 22 20 48.4 +1.0**
ANMO Albuquerque 74.45 331 P 22 20 48.8 +1.4
ANMO Albuquerque 74.45 331 P **P 22 20 48.8 +1.4**
ANMO Albuquerque 74.45 331 P 22 20 48.4 +1.0
ANMO IAmb IAmb 22 20 50.8
comp=Z,4.6nm,1.0s
TASM ASL Pad, Albuq 74.45 331 P 22 20 49.1 +1.7
TASM IAmb IAmb 22 20 50.7
comp=Z,5.0nm,1.0s
TASM ASL Pad, Albuq 74.45 331 P **P 22 20 48.4 +1.0**
TASM IAmb IAmb 22 20 50.7
comp=Z,5.2nm,1.0s
TASM ASL Pad, Albuq 74.45 331 P 22 20 48.7 +1.3
R32A Long Quarter, 74.72 338 P **P 22 20 49.1 +0.4**
R32A IAmb IAmb 22 20 50.4
comp=Z,12nm,0.7s
MAW Mawson 74.73 164 P **P 22 20 48.1 -0.3**
comp=Z,5.0nm,0.8s,baz=206,slow=7.0,SNR=7.2
MAW LR LR 22 52 58.1
comp=Z,31nm,21.9s,baz=256,slow=35
comp=Z,5.0nm,0.8s
K57A Scipio Center 74.77 356 P 22 20 50.0 +1.1
214A Organ Pipe Nat 74.82 325 P 22 20 50.3 +0.9
MMNY Mt. Morris Dam 74.86 355 P **P 22 20 50.6 +1.3**
MMNY IAmb IAmb 22 20 58.7
comp=Z,10nm,1.0s
N38A Joes South For 75.40 343 P 22 20 52.6 +0.2
CBKS Cedar Bluff 75.41 338 P 22 20 53.6 +0.9
J57A Williamstown 75.42 357 P **P 22 20 52.6 +0.1**
J57A IAmb IAmb 22 21 04.7
comp=Z,19nm,1.1s
T25A Trinidad 75.55 333 P 22 20 54.7 +1.0
W18A Petrified Fore 76.00 329 P **P 22 20 57.6 +1.3**
W18A IAmb IAmb 22 20 59.1
comp=Z,12nm,1.0s
N35A Tabor 76.08 341 P 22 20 56.5 +0.2
X16A Lo Mia Camp, P 76.19 327 P **P 22 20 58.9 +1.6**
X16A IAmb IAmb 22 21 00.4
comp=Z,13nm,1.0s
ESJX Sierra Juarez 76.44 322 P 22 20 59.5 +0.6
SDCO Great Sand Dun 76.50 333 P **P 22 20 59.5 +0.4**
SDCO IAmb IAmb 22 21 01.2
comp=Z,5.5nm,0.6s
Y14A Wickenburg 76.53 326 P **P 22 21 00.2 +1.1**
Y14A IAmb IAmb 22 21 01.9
comp=Z,8.2nm,1.1s
GLA Glamis 76.70 324 P **P 22 21 01.1 +0.9**
GLA IAmb IAmb 22 21 02.6
comp=Z,7.0nm,0.8s
YUH Yuha Desert 76.94 323 P 22 21 02.9 +1.6
WBO Williamsburg 76.98 357 P **P 22 21 01.6 +0.3**
SADO Sadowa 76.98 354 P **P 22 21 00.9 -0.5**
comp=Z,62nm,0.5s,baz=197,slow=6.6,SNR=10
S22A 4UR Ranch, Cre 77.02 332 P 22 21 03.2 +1.1
WUAZ Wupatki 77.06 328 P 22 21 03.6 +1.4
WUAZ IAmb IAmb 22 21 05.3
comp=Z,11nm,0.9s
BLYC Blythe 77.11 324 P 22 21 03.6 +1.3
BLYC IAmb IAmb 22 21 05.4
comp=Z,8.8nm,0.7s
MVCO Mesa Verde 77.24 331 P 22 21 04.5 +1.2
MVCO IAmb IAmb 22 21 05.9
comp=Z,11nm,1.0s
WIN Windhoek 77.26 109 P 22 21 04.4 +0.5
WIN IAmb IAmb 22 21 09.1
comp=Z,7.9nm,1.1s
BC3 Big Chuckawall 77.50 324 P 22 21 05.7 +1.0
BC3 IAmb IAmb 22 21 07.6
comp=Z,10nm,0.8s
BORC Borrego Spring 77.68 323 P 22 21 07.1 +1.6
BORC IAmb IAmb 22 21 08.9
comp=Z,7.1nm,1.1s
DPP Dos Picos Cty 77.74 322 P 22 21 07.0 +1.1
W13A Hualapai Mount 77.89 326 P 22 21 08.4 +1.4
W13A IAmb IAmb 22 21 09.9
comp=Z,8.9nm,0.9s
PMD Palm Desert 77.96 323 P 22 21 08.2 +1.1
PMD IAmb IAmb 22 21 09.7
comp=Z,4.4nm,0.7s
PFO Pinyon Flats O 77.97 323 P 22 21 08.9 +1.5
PFO IAmb IAmb 22 21 10.6
comp=Z,6.8nm,0.9s
PFO Pinyon Flats O 77.97 323 P **P 22 21 08.2 +0.9**
comp=Z,5.4nm,0.8s,baz=117,slow=5.8,SNR=7.5
comp=Z,5.4nm,0.8s
NEE2 Needles Airpor 77.98 325 P 22 21 08.3 +1.2
NEE2 IAmb IAmb 22 21 09.8
comp=Z,11nm,0.9s
DNR Dunn Ranch,Anz 78.03 323 P 22 21 08.8 +1.1
BELC Belle Mtn. Jos 78.05 324 P **P 22 21 08.7 +1.0**
BELC IAmb IAmb 22 21 10.3
comp=Z,4.2nm,0.6s
CTZ Chatham Island 78.05 226 P 22 21 08.8 +1.1
PV01 Paradox Valley 78.05 331 P 22 21 09.0 +1.1
PV13 Radium Mtn., P 78.18 331 P 22 21 09.2 +0.7
PV13 IAmb IAmb 22 21 10.9
comp=Z,14nm,1.0s
PV02 Paradox Valley 78.19 331 P 22 21 09.8 +1.3
PV15 Paradox Valley 78.19 331 P **P 22 21 09.5 +0.9**
PV15 IAmb IAmb 22 21 11.4
comp=Z,7.6nm,0.9s
PV05 Paradox Valley 78.22 331 P 22 21 09.4 +0.6
PV05 IAmb IAmb 22 21 11.0
comp=Z,11nm,0.9s
U15A North Rim 78.23 328 P 22 21 09.6 +0.7
U15A IAmb IAmb 22 21 11.9
comp=Z,8.8nm,0.8s
DANC Danby, Needles 78.25 324 P 22 21 10.8 +2.1
PV03 Paradox Valley 78.27 331 P 22 21 09.6 +0.6
PV03 IAmb IAmb 22 21 11.2
comp=Z,7.6nm,1.0s
PV18 Skein Mesa, Pa 78.29 331 P 22 21 09.8 +0.8
PV12 Saucer Basin, 78.31 331 P 22 21 10.1 +0.9
PV11 David Mesa, Pa 78.32 331 P 22 21 10.6 +1.3
PV11 IAmb IAmb 22 21 11.6
comp=Z,9.1nm,1.0s
ISCO Idaho Springs 78.33 334 P 22 21 09.9 +0.5
ISCO IAmb IAmb 22 21 11.8
comp=Z,7.3nm,0.8s
PV17 East Wray Mesa 78.34 331 P 22 21 10.6 +1.3
PV17 IAmb IAmb 22 21 11.6
comp=Z,6.5nm,0.8s
PV16 Nyswonger Mesa 78.35 331 P 22 21 10.4 +1.0
PV16 IAmb IAmb 22 21 11.7
comp=Z,6.5nm,0.9s
PV19 Morning Glory 78.37 331 P 22 21 10.6 +1.0
PV19 IAmb IAmb 22 21 11.4
comp=Z,8.9nm,0.8s
PV20 West Nyswonger 78.39 331 P 22 21 09.4 -0.2
PV20 IAmb IAmb 22 21 11.5
comp=Z,10nm,0.9s
PV04 Paradox Valley 78.41 331 P 22 21 10.9 +1.2
PV04 IAmb IAmb 22 21 12.3
comp=Z,9.3nm,1.1s
PV10 Paradox Valley 78.45 331 P 22 21 10.9 +0.8
PV22 Blue Mesa, Par 78.48 331 P **P 22 21 10.2 +0.1**

ELS Elsinore Mount 78.50 322 P **P** **22 21 10.9 +0.7**
ELS IAmb IAmb 22 21 12.7
comp=Z,7.0nm,0.8s
PV23 Carpenter Ridg 78.51 331 P **P** **22 21 11.4 +1.1**
PV23 IAmb IAmb 22 21 12.8
comp=Z,13nm,1.0s
PV21 Cone Mtn., Par 78.58 331 P **P** **22 21 11.0 +0.3**
V12A Nelson 78.86 325 **P** **22 21 13.3 +1.1**
V12A IAmb IAmb 22 21 14.8
comp=Z,9.5nm,0.9s
K30B Basset 78.89 339 P **P** **22 21 13.4 +1.4**
KNB Kanab 78.96 327 P **P** **22 21 14.2 +1.5**
KNB IAmb IAmb 22 21 15.9
comp=Z,13nm,1.0s
MTPC Mountain Pass 79.01 325 P **P** **22 21 14.5 +1.5**
ECSD EROS Data Cent 79.02 342 **P** **22 21 12.8 +0.1**
BFSC Mount Baldy Ra 79.08 323 P **P** **22 21 14.7 +1.2**
LCMT Little Creek M 79.15 327 P **P** **22 21 14.8 +1.1**
MWC Mount Wilson 79.28 322 P **P** **22 21 15.6 +1.0**
MWC IAmb IAmb 22 21 17.4
comp=Z,7.4nm,0.9s
PASC Pasadena Art C 79.30 322 P **P** **22 21 15.9 +1.4**
PASC IAmb IAmb 22 21 17.6
comp=Z,19nm,1.1s
GSC Goldstone, Bar 79.48 324 P **P** **22 21 17.0 +1.4**
GSC IAmb IAmb 22 21 18.6
comp=Z,8.4nm,1.0s
SZCU Shurtz Canyon 79.56 328 P **P** **22 21 17.9 +1.8**
HAYD Hayden 79.58 333 P **P** **22 21 16.6 +0.5**
HAYD IAmb IAmb 22 21 19.0
comp=Z,9.3nm,1.0s
O20A White River Ci 79.63 332 **P** **22 21 17.6 +1.2**
O20A IAmb IAmb 22 21 18.7
comp=Z,10nm,0.8s
SHPR Sheep Range 79.64 326 **P** **22 21 18.2 +1.7**
CCUT Cedar City 79.64 327 **P** **22 21 18.4 +1.8**
CCUT IAmb IAmb 22 21 19.9
comp=Z,12nm,1.1s
SRU San Rafael Swe 79.69 330 P **P** **22 21 18.2 +1.5**
SRU IAmb IAmb 22 21 18.8
comp=Z,10nm,0.8s
Q16A Castle Valley 79.81 330 P **P** **22 21 18.6 +1.2**
Q16A IAmb IAmb 22 21 20.0
comp=Z,8.2nm,0.8s
TPO Tropico Hills 79.87 323 P **P** **22 21 19.0 +1.3**
CCCA Chr Cany lake 79.94 324 P **P** **22 21 18.9 +1.0**
CCCA IAmb IAmb 22 21 21.1
comp=Z,15nm,0.9s
P18A Preston Nutter 80.01 331 P **P** **22 21 19.9 +1.3**
P18A IAmb IAmb 22 21 21.1
comp=Z,15nm,0.8s
QSM Queen of Sheba 80.04 324 P **P** **22 21 19.6 +1.2**
WSHM Spangler Hills 80.06 324 P **P** **22 21 20.3 +1.6**
WSHM IAmb IAmb 22 21 21.4
comp=Z,9.3nm,0.9s
LRMC Laurel Mtn Rad 80.06 323 P **P** **22 21 20.1 +1.4**
P17A Butcher Ranch, 80.09 330 P **P** **22 21 19.8 +1.0**
P17A IAmb IAmb 22 21 21.6
comp=Z,9.4nm,1.0s
GWY Greenwater Val 80.11 324 **P** **22 21 20.3 +1.2**
TMUT Trail Mountain 80.14 330 P **P** **22 21 20.4 +1.1**
VLDQ Val d'Or 80.19 356 P **P** **22 21 19.4 +0.5**
VLDQ IAmb IAmb 22 21 20.0
comp=Z,16nm,0.9s
CLC China Lake 80.28 324 P **P** **22 21 21.0 +1.1**
PRN Pahroc Range 80.31 326 **P** **22 21 21.9 +1.9**
PRN IAmb IAmb 22 21 23.3
comp=Z,13nm,0.9s
MPMC Manual Prospec 80.42 324 P **P** **22 21 21.3 +0.6**
TPNV Topopah Spring 80.51 325 P **P** **22 21 23.0 +1.8**
TPNV IAmb IAmb 22 21 23.9
comp=Z,5.3nm,0.7s
RDMU Red Mountain 80.53 332 P **P** **22 21 21.8 +0.6**
BOSA Boshof 80.55 118 P **P** **22 21 20.7 -1.0**
comp=Z,6.3nm,0.9s,baz=241,slow=3.8,SNR=9.4
BOSA pP **pP** **22 21 34.1 +0.4**
comp=Z,4.1nm,0.7s,baz=239,slow=4.8,SNR=3.4
BOSA LR LR 22 53 27.7
comp=Z,27nm,19.3s,baz=22,slow=33
comp=Z,6.3nm,0.9s
WCT Wildcat Mounta 80.57 325 P **P** **22 21 22.6 +1.2**
ISA Isabella, Lake 80.61 323 P **P** **22 21 22.7 +1.1**
ISA IAmb IAmb 22 21 24.7
comp=Z,7.9nm,0.8s
S11A Rachel 80.83 326 P **P** **22 21 24.0 +1.2**
S11A IAmb IAmb 22 21 25.6
comp=Z,6.3nm,0.8s
MPU Maple Canyon 80.92 330 P **P** **22 21 24.6 +1.3**
MPU IAmb IAmb 22 21 25.5
comp=Z,7.9nm,0.9s
BSUT Blindstream Ca 80.99 331 **P** **22 21 25.0 +1.1**
BSUT IAmb IAmb 22 21 26.3
comp=Z,12nm,1.1s
CWC Cottonwood Cre 81.02 324 **P** **22 21 24.8 +0.9**
GRAC Grapevine Rang 81.10 325 P **P** **22 21 25.7 +1.6**
K22A Casper 81.16 335 P **P** **22 21 25.8 +1.3**
K22A IAmb IAmb 22 21 26.7
comp=Z,13nm,0.9s
SPR3 Spring Creek 3 81.27 328 **P** **22 21 26.3 +1.0**
SPR3 IAmb IAmb 22 21 27.7
comp=Z,7.9nm,1.0s
GMN Gold Mountain 81.28 325 P **P** **22 21 26.3 +0.9**
R11B Troy Canyon, C 81.32 326 **P** **22 21 27.0 +1.6**
JLU Jordanelle 81.33 330 P **P** **22 21 26.9 +1.4**
JLU IAmb IAmb 22 21 27.7
comp=Z,8.3nm,0.7s
DUG Dugway, Tooele 81.57 329 **P** **22 21 27.8 +1.1**
RSSD Black Hills 81.59 337 **P** **22 21 27.8 +1.0**
RSSD IAmb IAmb 22 21 28.6
comp=Z,11nm,1.1s
DSP Deep Springs 81.69 324 **P** **22 21 28.0 +0.9**
TCUT Toone Canyon 81.74 331 P **P** **22 21 28.8 +1.1**
TCUT IAmb IAmb 22 21 30.6
comp=Z,6.4nm,0.8s
EYMN Ely 81.83 347 P **P** **22 21 27.2 -0.5**
EYMN IAmb IAmb 22 21 28.4
comp=Z,8.1nm,1.0s
DRLN Deer Lake 82.13 9 P **P** **22 21 28.4 -0.8**
HWUT Hardware Ranch 82.22 331 **P** **22 21 30.3 +0.2**
HWUT IAmb IAmb 22 21 31.9
comp=Z,9.5nm,0.8s
PD31 Pinedale Array 82.39 333 **P** **22 21 30.8 -0.3**
PDAR Pinedale Array 82.39 333 P **P** **22 21 31.7 +0.7**
PDAR Pinedale Array 82.39 333 P **P** **22 21 31.4 +0.3**
comp=Z,1.5nm,0.7s,baz=145,slow=6.3,SNR=16
comp=Z,1.5nm,0.7s
MDPB Devils Postpil 82.44 324 P **P** **22 21 32.4 +0.9**
NV11 Mina Array Sit 82.61 325 P **P** **22 21 33.1 +0.9**
NVAR Mina Array Bea 82.68 325 P **P** **22 21 33.2 +0.6**
NVAR Mina Array Bea 82.68 325 P **P** **22 21 34.0 +1.3**
comp=Z,4.6nm,0.7s,baz=156,slow=6.3,SNR=23
comp=Z,4.6nm,0.7s
LBTB Lobatse 82.70 115 LR LR 22 56 17.3
comp=Z,26nm,20.5s,baz=202,slow=34
RYN Ryan 82.94 325 P **P** **22 21 34.6 +0.6**
RYN IAmb IAmb 22 21 36.5
comp=Z,5.3nm,0.9s
AHID Auburn Hatcher 83.00 332 P **P** **22 21 34.1 -0.1**
ELK Elko 83.09 328 **P** **22 21 35.0 +0.3**
ELK IAmb IAmb 22 21 36.8
comp=Z,6.9nm,0.8s
AGMN Agassiz Nation 83.10 344 P **P** **22 21 33.8 -0.5**
AGMN IAmb IAmb 22 21 35.2
comp=Z,7.9nm,0.8s
TORD Torodi Ar. Bea 83.28 70 P **P** **22 21 34.6 -1.4**
TORD IAmb IAmb 22 21 36.0
comp=Z,6.2nm,0.8s
TORD Torodi Ar. Bea 83.28 70 P **P** **22 21 34.7 -1.4**
comp=Z,6.2nm,0.8s,baz=266,slow=3.2,SNR=10
TORD pP **pP** **22 21 48.0 -0.1**
comp=Z,3.7nm,0.7s,baz=251,slow=3.7,SNR=4.9
comp=Z,6.2nm,0.8s
LOHW Long Hollow 83.52 333 P **P** **22 21 37.0 +0.2**
TPAW Teton Pass 83.55 332 **P** **22 21 37.5 +0.4**
TPAW IAmb IAmb 22 21 38.9
comp=Z,5.9nm,0.9s
MDND Maddock 83.62 341 P **P** **22 21 37.6 +0.6**
MOOW Moose Ponds 83.69 333 P **P** **22 21 38.7 +1.0**
FXWY Fox Creek 83.70 332 P **P** **22 21 38.5 +0.7**
PNTR Pine Nut 83.83 324 **P** **22 21 39.1 +0.6**
PNTR IAmb IAmb 22 21 41.5
comp=Z,9.2nm,0.9s
FLWY Flagg Ranch 83.95 333 P **P** **22 21 39.5 +0.5**
FLWY IAmb IAmb 22 21 41.2
comp=Z,7.0nm,0.7s

PAHR Pah Rah Range 84.20 325 P **P** **22 21 41.2 +0.8**
PAHR IAmb IAmb 22 21 43.2
comp=Z,7.0nm,1.0s
RLMT Red Lodge 84.29 334 **P** **22 21 41.2 +0.5**
RLMT IAmb IAmb 22 21 42.4
comp=Z,5.6nm,0.7s
YNE Yellowstone No 84.47 334 P **P** **22 21 42.3 +0.6**
YNE IAmb IAmb 22 21 43.3
comp=Z,4.6nm,0.8s
YMR Madison River 84.55 333 P **P** **22 21 42.4 +0.3**
YHH Holmes Hill 84.60 333 P **P** **22 21 43.1 +0.7**
YHL Hebgen Lake 84.78 333 P **P** **22 21 44.7 +1.4**
QLMT Earthquake Lak 84.86 333 P **P** **22 21 45.1 +1.5**
ULM Lac du Bonnet 84.93 345 P **P** **22 21 43.1 -0.4**
comp=Z,5.7nm,0.9s,baz=232,slow=1.9,SNR=3.3
comp=Z,5.7nm,0.9s
HLID Hailey 85.02 330 **P** **22 21 45.2 +0.8**
HLID IAmb IAmb 22 21 46.8
comp=Z,5.7nm,1.1s
ORV Oroville 85.13 324 P **P** **22 21 46.0 +1.1**
ORV IAmb IAmb 22 21 47.8
comp=Z,7.2nm,1.1s
MCMT McKenzie Canyo 85.42 332 **P** **22 21 47.6 +1.1**
MFID Camas Ranch 85.50 329 **P** **22 21 47.4 +0.6**
MFID IAmb IAmb 22 21 48.9
comp=Z,5.7nm,1.1s
BOZ Bozeman (W) 85.58 333 P **P** **22 21 47.9 +0.7**
BOZ IAmb IAmb 22 21 48.8
comp=Z,3.5nm,0.8s
WVOR Wild Horse Val 85.97 327 P **P** **22 21 50.0 +0.9**
SCHQ Schefferville 86.85 3 P **P** **22 21 52.1 -0.9**
comp=Z,5.7nm,0.9s,baz=160,slow=3.4,SNR=8.6
comp=Z,5.7nm,0.9s
PLID Pearl Lake 86.92 330 **P** **22 21 54.4 +0.6**
PLID IAmb IAmb 22 21 55.8
comp=Z,8.3nm,0.9s
EGMT Eagleton 86.94 335 P **P** **22 21 53.9 +0.2**
EGMT IAmb IAmb 22 21 54.1
comp=Z,3.9nm,0.9s
BPMT Black Pine Rid 86.98 332 P **P** **22 21 54.6 +0.5**
KHMM Horse Mountain 87.25 323 P **P** **22 21 56.4 +0.9**
K05A Summer Lake 87.25 326 **P** **22 21 56.8 +1.3**
BMO Blue Mountains 87.29 329 **P** **22 21 55.3 -0.2**
BMO IAmb IAmb 22 21 57.2
comp=Z,3.7nm,0.9s
OVMT Ovando 87.33 333 P **P** **22 21 56.1 +0.5**
YBH Yreka Blue Hor 87.38 324 P **P** **22 21 56.0 +0.1**
comp=Z,0.1nm,0.6s,baz=137,slow=4.0,SNR=4.9
J05D Fort Rock, OR 87.84 326 P **P** **22 21 58.5 +0.3**
J05D IAmb IAmb 22 22 00.8
comp=Z,7.7nm,1.2s
KSXB Camp Six Broad 88.03 324 P **P** **22 21 58.6 -0.5**
KSXB IAmb IAmb 22 22 13.6
comp=Z,7.5nm,1.1s
PINE Pine Mountain 88.09 327 **P** **22 22 00.3 +0.8**
PINE IAmb IAmb 22 22 02.2
comp=Z,7.7nm,0.9s
L02F Cave Junction 88.10 324 P **P** **22 22 00.3 +1.0**
L02F IAmb IAmb 22 22 01.9
comp=Z,4.7nm,0.9s
F10A Beach Ranch, E 88.15 330 P **P** **22 22 00.1 +0.6**
G08A Pilot Rock 88.35 329 **P** **22 22 00.9 +0.4**
JTMT Jette 88.38 333 P **P** **22 22 00.9 +0.2**
NEW Newport 89.93 332 LR LR 22 59 08.5
comp=Z,26nm,19.6s,baz=81,slow=33
LSZ Lusaka 90.00 108 LR LR 22 59 28.5
comp=Z,34nm,18.4s,baz=174,slow=34
MDT Midelt 90.45 51 LR LR 23 02 23.1
comp=Z,44nm,18.0s,baz=254,slow=35
BRTR Keskin Array B 120.67 60 PKP **PKPdf** **22 27 59.5 -1.3**
comp=Z,0.6nm,0.7s,baz=196,slow=2.6,SNR=3.7
BRTR pPKP **pPKPdf** **22 28 13.5 +0.3**
comp=Z,1.0nm,0.9s,baz=211,slow=6.7,SNR=3.1
AKASG Malin Array Be 120.75 47 PKP **PKPdf** **22 27 58.3 -2.1**
comp=Z,0.2nm,0.3s,baz=268,slow=1.5,SNR=1.8
ARCES ARCESS Array B 122.30 24 PKP **PKPdf** **22 28 01.4 -1.5**
comp=Z,4.4nm,1.1s,baz=235,slow=3.2,SNR=1.7
WRA Warramunga Arr 122.44 209 PKP **PKPdf** **22 28 03.7 -1.1**
comp=Z,1.5nm,0.5s,baz=163,slow=1.6,SNR=3.0
H11S2 WAKE ISLAND Hyl 26.15 270 T T 00 47 17.7
baz=118,slow=75,SNR=430
H11S1 WAKE ISLAND Hyl 26.16 270 T T 00 47 20.9
baz=118,slow=75,SNR=520
H11S3 WAKE ISLAND Hyl 26.16 270 T T 00 47 19.8
baz=118,slow=75,SNR=382
H11N3 WAKE ISLAND Hyl 26.52 272 T T 00 47 49.5
baz=116,slow=76,SNR=70
H11N1 WAKE ISLAND Hyl 26.53 272 T T 00 47 52.1
baz=116,slow=76,SNR=19
H11N2 WAKE ISLAND Hyl 26.53 272 T T 00 47 50.8
baz=116,slow=76,SNR=141
BVAR Borovoye Array 145.76 41 PKPbc **PKPbc** **22 28 47.2 -0.2**
comp=Z,8.8nm,0.5s,baz=295,slow=3.4,SNR=78
BVAR pPKP pPKPab 22 29 01.5 +1.5
comp=Z,7.3nm,0.5s,baz=307,slow=3.4,SNR=14
CHGR Chuyangaron 147.59 68 pPKPdf pPKPdf 22 29 05.6 +2.6
KK31 Karatay Array 148.37 59 pPKPdf pPKPdf 22 29 08.3 +4.3
KKAR Karatay Array 148.37 59 **PKPbc** **22 28 54.4 -0.7**
KKAR pPKPdf **pPKPbc** **22 29 08.1 +0.7**
NIL Nilore 150.56 78 **PKPbc** **22 29 00.3 -0.5**
EKS2 Erkin-Say 150.81 59 P **PKiKP** **22 29 01.5 -0.4**
SNR=9.0
USP Ospenovka 151.23 58 P **PKPbc** **22 29 02.3 +0.1**
SNR=9.9
AAK Ala-Archa 151.34 59 **PKiKP** **22 29 03.0 0.0**
AAK Ala-Archa 151.34 59 P **PKiKP** **22 29 03.1 0.0**
SNR=16
KURBB Kurchatov Arra 151.35 41 PKP **PKPdf** **22 28 56.2 +0.2**
comp=Z,0.2nm,0.3s,baz=303,slow=2.9,SNR=2.4
KURBB PKPbc **PKPbc** **22 29 01.8 -0.3**
comp=Z,8.4nm,0.6s,baz=301,slow=2.9,SNR=37
KURBB pPKPbc **pPKPbc** **22 29 15.8 +1.3**
comp=Z,6.5nm,0.5s,baz=301,slow=2.9,SNR=20
KURK Kurchatov 151.36 41 **PKPbc** **22 29 01.3 -0.7**
UCH Uchtor 151.42 60 P **PKiKP** **22 29 03.6 0.0**
SNR=14
TKM2 Tokmak 2 152.08 58 P **PKPbc** **22 29 04.2 -0.1**
SNR=8.6
ZAA0 Zalesovo Array 152.57 31 **PKPbc** **22 29 04.5 -0.3**
ZAA0 pPKPdf **pPKPbc** **22 29 18.0 +1.1**
ZALV Zalesovo Beam 152.57 31 **PKPbc** **22 29 04.2 -0.5**
ZALV Zalesovo Beam 152.57 31 PKP **PKPdf** **22 28 57.2 -0.5**
comp=Z,0.5nm,0.6s,baz=267,slow=2.7,SNR=4.0
ZALV PKPbc **PKPbc** **22 29 04.4 -0.3**
comp=Z,13nm,0.4s,baz=312,slow=3.3,SNR=69
ZALV pPKPbc **pPKPbc** **22 29 18.5 +1.6**
comp=Z,17nm,0.5s,baz=309,slow=3.3,SNR=27
ULHL Ulahol 152.68 59 P **PKiKP** **22 29 06.1 +0.2**
SNR=6.1
KSH Kashi 152.86 65 P **PKPbc** **22 29 05.3 -0.8**
MJAR Matsushiro Arr 155.09 288 PKP **PKPdf** **22 29 01.5 -0.4**
comp=Z,0.7nm,0.5s,baz=105,slow=6.7,SNR=1.7
MJAR PKPab **PKPab** **22 29 27.0 +0.3**
comp=Z,1.3nm,0.6s,baz=95,slow=3.5,SNR=2.5
MKAR Makanchi Array 155.33 46 PKP **PKPdf** **22 29 00.9 -1.0**
comp=Z,0.3nm,0.6s,baz=242,slow=3.1,SNR=2.5
MKAR PKPbc **pPKPdf** **22 29 10.5 -3.7**
comp=Z,1.3nm,0.8s,baz=311,slow=2.6,SNR=8.0
MKAR PKPab pPKPbc 22 29 24.7 +1.3
comp=Z,2.2nm,0.5s,baz=349,slow=2.5,SNR=18
MKAR pPKPab **pPKPab** **22 29 40.3 +0.9**
comp=Z,1.5nm,0.6s,baz=294,slow=4.4,SNR=6.0
KSRS Korea Array 163.17 293 PKP **PKPdf** **22 29 10.9 -0.3**
comp=Z,0.4nm,0.4s,baz=14,slow=1.1,SNR=1.7
KSRS PKPab **PKPab** **22 30 02.4 +0.7**
comp=Z,1.4nm,0.9s,baz=122,slow=4.4,SNR=4.7
CMAR Chiang Mai Arr 163.82 146 PKP **PKPdf** **22 29 11.0 -1.4**
comp=Z,0.4nm,0.5s,baz=264,slow=2.5,SNR=5.4
CMAR PKPab **PKPab** **22 30 03.4 -1.5**
comp=Z,0.4nm,0.3s,baz=190,slow=5.5,SNR=1.8
SONM Songino Array 164.38 5 PKP **PKPdf** **22 29 10.4 -1.8**
comp=Z,0.1nm,0.3s,baz=20,slow=4.6,SNR=1.6
SONM PKPab **PKPab** **22 30 05.1 -1.5**
comp=Z,0.6nm,0.6s,baz=340,slow=3.7,SNR=4.7
HHC Hu-ho-hao-te 171.07 344 *eP* **PKPdf** **22 29 18.5 +1.3**
NJ2 Nanjing 171.13 271 *eP* **PKPdf** **22 29 17.5 +0.2**
PZH PanZhiHua 171.83 133 PKP **PKPdf** **22 29 17.8 -0.2**

*DJA **31** 22:17:54.9±0.6, 3°N±5°×12°8E±°, h156km±5km, M4.0/10, mb4.0/5, MLv4.0/10*
*IDC **31** 22:18:00.7±6.2, 2°.83N×128°.28E, h243km±68km, mb3.3/10, mbtmp4.0/11, Error ellipse: s-maj=41.4km s-min=15.5km az=69.0*
ISC 31 22:17:52.7±0.8, **2°.9N**±0°.1×**128°.2E**±0°.1, **h150**km, **n14,**
σ1**54**/13, **mb3.8**/10, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.79**	**286**	P		**Pn**	**22 18 39.7**	**+2.3**
SANI	**Sanana**	**5.43**	**204**	P		**Pn**	**22 19 12.1**	**+0.2**
	0.1nm16nm,0.6s							
FAKI	**Fak Fak**	**7.08**	**145**	P		**Pn**	**22 19 36.0**	**+2.1**
JAY	**Jayapura**	**13.61**	**113**	P		**P**	**22 21 04.4**	**+0.8**
	21nm,0.9s,baz=305,slow=12,SNR=4.4							
FITZ	**Fitzroy Crossi**	**21.06**	**187**	P		**P**	**22 22 24.0**	**-1.1**
	1.0nm,0.4s,baz=23,slow=8.0,SNR=1.9							
	1.0nm,0.4s							
WRA	**Warramunga Arr**	**23.52**	**165**	P		**P**	**22 22 48.1**	**-1.2**
	4.1nm,0.6s,baz=342,slow=9.2,SNR=30							
	4.1nm,0.6s							
ASAR	**Alice Springs**	**27.02**	**168**	P		**P**	**22 23 19.8**	**-1.2**
	0.5nm,0.4s,baz=352,slow=8.6,SNR=11							
	0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**32.55**	**300**	P		**P**	**22 24 11.4**	**+1.5**
	0.7nm,0.3s,baz=116,slow=9.1,SNR=4.4							
	0.7nm,0.3s							
STKA	**Stephens Creek**	**36.88**	**161**	P		**P**	**22 24 45.6**	**-1.3**
	1.7nm,0.3s,baz=347,slow=8.1,SNR=6.2							
	1.7nm,0.3s							
SONM	**Songino Array**	**48.53**	**340**	P		**P**	**22 26 18.8**	**-1.9**
	0.4nm,0.6s,baz=140,slow=7.5,SNR=2.2							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**59.05**	**325**	P		**P**	**22 27 36.6**	**-0.4**
	0.8nm,0.4s,baz=113,slow=8.3,SNR=15							
	0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**61.97**	**333**	P		P	22 27 54.2	-2.5
	0.4nm,0.6s,baz=134,slow=8.2,SNR=2.1							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**63.20**	**327**	P		**P**	**22 28 03.9**	**-1.0**
	0.9nm,0.2s,baz=125,slow=6.3,SNR=5.8							
	0.9nm,0.2s							
BVAR	**Borovoye Array**	**68.79**	**327**	P		**P**	**22 28 39.9**	**-0.7**
	0.3nm,0.4s,baz=95,slow=5.7,SNR=5.4							
	0.3nm,0.4s							

IDC 31 22:34:43.2±5.8, **6°.23S**×**147°.54E**, **h48**km±46km, **mb3.4**/3, **mbtmp3.7**/5, **ML3.8**/1, **MS2.9**/1, **Error ellipse: s-maj=62.5km s-min=36.3km az=75.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18**	**187**	P		Pn	22 35 32.6	+1.8
	53nm,0.6s,baz=16,slow=18,SNR=8.7							
PMG				S		Sn	22 36 07.2	-0.2
	53nm,0.4s,baz=52,slow=23,SNR=8.7							
PMG				LR		LR	22 37 08.3	
	comp=Z,162nm,19.0s,baz=350,slow=46							
WRA	**Warramunga Arr**	**18.71**	**222**	P		P	22 38 58.1	+0.1
	0.3nm,0.3s,baz=48,slow=11,SNR=13							
	0.9nm,0.5s							
ASAR	**Alice Springs**	**21.74**	**216**	P		P	22 39 31.6	+0.9
	1.3nm,0.5s,baz=51,slow=9.0,SNR=25							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**78.01**	**320**	P		P	22 46 35.4	-1.4
	0.1nm,0.3s,baz=108,slow=6.5,SNR=2.1							
	0.1nm,0.3s							
QSPA	**South Pole Qui**	**83.74**	**180**	P		P	22 47 07.9	+0.9
	0.7nm,0.5s,baz=340,slow=1.2,SNR=8.5							
	0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**145.66**	**284**	PKPbc		PKPdf	22 54 16.8	-0.6
	0.6nm,0.3s,baz=74,slow=4.8,SNR=2.9							

IDC 31 22:43:15.2±3.9, **4°.16S**×**152°.56E**, **h0**km, **mb3.4**/2, **mbtmp3.4**/2, **Error ellipse: s-maj=172.8km s-min=50.5km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**227**	P		P	22 48 27.8	-1.2
	0.6nm,0.4s,baz=52,slow=9.9,SNR=10							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**26.46**	**221**	P		P	22 48 55.5	+1.2
	0.3nm,0.5s,baz=55,slow=8.9,SNR=5.3							
	0.3nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**26.47**	**31**	T		T	23 16 40.1	
	baz=210							
H11S2	**WAKE ISLAND Hy**	**26.48**	**31**	T		T	23 16 39.3	
	baz=210							
H11S1	**WAKE ISLAND Hy**	**26.49**	**31**	T		T	23 16 31.8	
	baz=210							
TORD	**Torodi Ar. Bea**	**149.88**	**289**	PKPbc		PKPbc	23 03 08.0	-0.5
	1.6nm,0.4s,baz=96,slow=2.9,SNR=3.8							

*IDC **31** 22:58:51.1±1.9, 3°.24N×94°.84E, h0km, mb3.8/8, mbtmp3.8/10, ML4.1/2, MS2.9/3, Error ellipse: s-maj=50.8km s-min=21.6km az=41.0*
*DJA **31** 22:58:55.6±0.5, 4°N±3°×9°5E±°, h10km, M4.3/14, mB5.2/2, mb4.6/10, MLv4.2/14, Mw(mB)4.6/2*
ISC 31 22:58:58.0±0.9, **3°.52N**±0°.06×**95°.11E**±0°.09, **h35**km, **n37,**
σ1**75**/28, **mb3.8**/8, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.49**	**60**	P		**Pn**	**22 59 19.7**	**-2.6**
MLSI				S		**Sn**	**22 59 37.3**	**-3.3**
SNSI	**Sinabang, Aceh**	**1.65**	**132**	P		**Pn**	**22 59 23.7**	**-0.7**
SNSI				S		**Sn**	**22 59 42.6**	**-1.8**
LHMI	**Lhok Sumawe**	**2.50**	**47**	P		**Pn**	**22 59 35.6**	**-0.6**
LHMI				S		**Sn**	**23 00 04.8**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.66**	**90**	P		**Pn**	**22 59 37.9**	**-0.5**
GSI	**Gunungsitoli**	**3.31**	**132**	P		**Pn**	**22 59 46.4**	**-0.9**
PSI	**Prapat**	**3.88**	**101**	Pn		**Pn**	**22 59 54.5**	**-0.8**
	3.5nm,0.3s,baz=307,slow=8.7,SNR=12							
PSI				Sn		**Sn**	**23 00 45.4**	**+5.7**
	2.3nm,0.3s,baz=326,slow=21,SNR=4.0							
PSI				LR		LR	23 01 47.1	
	comp=Z,178nm,19.1s,baz=230,slow=43							
	10nm,0.2s							
PBSI	**Pulau Batu**	**4.76**	**138**	P		**Pn**	**23 00 07.9**	**+0.6**
MNSI	**Mandailing Nat**	**5.23**	**121**	P		**Pn**	**23 00 13.5**	**-0.2**
	0.4nm2μm74nm,0.4s							
SISI	**Saibi**	**6.25**	**140**	P		**Pn**	**23 00 27.8**	**0.0**
	0.2nm28nm,0.7s							
PPI	**Padang Panjang**	**6.60**	**127**	P		**Pn**	**23 00 32.8**	**+0.2**
	0.2nm37nm,0.6s							
PDSI	**Padang**	**6.93**	**129**	P		**Pn**	**23 00 35.8**	**-1.4**
	0.1nm19nm,0.6s							
PPSI	**Pulau Pagai**	**7.94**	**142**	P		**Pn**	**23 00 49.6**	**-1.4**
	74nm,0.9s							
MASI	**Maura Aman, Be**	**9.73**	**133**	P		**Pn**	**23 01 14.9**	**-0.7**
	30nm,1.2s							
MNAI	**Manna**	**11.08**	**135**	P		**Pn**	**23 01 32.9**	**-1.2**
MDSI	**Maura Dua**	**12.06**	**131**	P		**Pn**	**23 01 45.5**	**-2.0**
PALK	**Pallekele**	**14.81**	**285**	LR		LR	23 07 27.7	
	comp=Z,61nm,20.2s,baz=102,slow=35							
CMAR	**Chiang Mai Arr**	**15.31**	**14**	Pn		**Pn**	**23 02 32.7**	**+1.0**
	0.5nm,0.3s,baz=116,slow=9.5,SNR=1.3							
CMAR				LR		LR	23 08 21.2	
	comp=Z,20nm,18.6s,baz=150,slow=36							
	0.4nm,0.3s							
H08S2	**Diego Garcia H**	**25.14**	**244**	T		T	23 30 19.4	
	baz=62							
H08S3	**Diego Garcia H**	**25.14**	**244**	T		T	23 30 35.4	
	baz=62,slow=74							
H08S1	**Diego Garcia H**	**25.16**	**244**	T		T	23 30 40.9	
	baz=62,slow=74							
H01W3	**Cape Leeuwin H**	**42.18**	**156**	T		T	23 51 25.8	
	baz=332							
H01W2	**Cape Leeuwin H**	**42.20**	**156**	T		T	23 50 53.3	
	baz=332							
H01W1	**Cape Leeuwin H**	**42.20**	**156**	T		T	23 51 41.5	
	baz=332							
MKAR	**Makanchi Array**	**44.52**	**347**	P		**P**	**23 07 06.1**	**-0.1**
	0.3nm,0.5s,baz=169,slow=7.8,SNR=4.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**45.04**	**123**	P		**P**	**23 07 09.8**	**-0.9**
	0.4nm,0.5s,baz=301,slow=9.1,SNR=5.6							
	0.4nm,0.5s							
SONM	**Songino Array**	**45.20**	**11**	P		**P**	**23 07 14.1**	**+2.3**
	0.2nm,0.4s,baz=185,slow=7.2,SNR=1.4							
	0.2nm,0.4s							
KSRS	**Korea Array**	**45.21**	**37**	P		**P**	**23 07 12.5**	**+0.7**
	0.4nm,0.3s,baz=236,slow=8.9,SNR=1.7							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**48.97**	**346**	P		**P**	**23 07 41.0**	**+0.1**
	0.4nm,0.2s,baz=175,slow=6.7,SNR=1.7							
	0.4nm,0.2s							
ZALV	**Zalesovo Beam**	**50.97**	**352**	P		**P**	**23 07 56.4**	**+0.3**
	0.3nm,0.3s,baz=160,slow=9.0,SNR=2.6							

0.3nm,0.3s
BVAR Borovoye Array 53.39 342 P P 23 08 12.7 -1.4
7.1nm,1.0s,baz=138,slow=11,SNR=2.4
7.1nm,1.0s
H04N2 CROZET ISLANDS 62.55 212 T T 00 17 13.5
baz=52,slow=75,SNR=53
H04N1 CROZET ISLANDS 62.56 213 T T 00 17 14.1
baz=52,slow=75,SNR=51
H04N3 CROZET ISLANDS 62.57 212 T T 00 17 12.8
baz=52,slow=75,SNR=50
H04S1 CROZET ISLANDS 62.92 212 T T 00 17 38.8
baz=48,slow=75,SNR=18
H04S3 CROZET ISLANDS 62.93 212 T T 00 17 45.1
baz=48,slow=75,SNR=20
H04S2 CROZET ISLANDS 62.94 212 T T 00 17 43.3
baz=48,slow=75,SNR=22
FINES FINESS Array B 76.99 333 P P **23 10 46.3 -0.7**
1.1nm,0.9s,baz=110,slow=7.2,SNR=1.0
1.1nm,0.9s

*IDC **31** 23:09:37.6±1.1, 55°.60S×26°.09W, h0km, mb4.0/4, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=36.1km s-min=26.2km az=84.0*
ISC 31 23:09:42.2±1.0, 55°.7S±0°.2×26°.1W±0°.2, h32km, n9, σ1§14/6, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.85**	**157**	P	**P**	**23 13 57.8**	**-1.4**
	baz=340,slow=12,SNR=3.0						
	1.4nm,1.1s						
QSPA	**South Pole Qui**	**34.60**	**180**	P	**P**	**23 16 29.0**	**+1.2**
	0.7nm,0.6s,baz=206,slow=1.1,SNR=13						
	0.7nm,0.6s						
BOSA	**Boshof**	**45.26**	**75**	P	**P**	**23 17 56.7**	**+0.1**
	2.7nm,0.9s,baz=243,slow=4.5,SNR=3.5						
	2.7nm,0.9s						
H10N1	**ASCENSION HYDR**	**48.56**	**15**	T	T	00 11 04.8	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.56**	**15**	T	T	00 11 04.7	
	baz=189						
H10N2	**ASCENSION HYDR**	**48.58**	**15**	T	T	00 11 04.5	
	baz=189						
LPAZ	**La Paz**	**50.67**	**304**	P	**P**	**23 18 38.9**	**-0.3**
	0.4nm,0.3s,baz=155,slow=6.4,SNR=1.9						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**72.40**	**28**	P	**P**	**23 21 05.4**	**+0.4**
	0.7nm,0.3s,baz=197,slow=5.0,SNR=5.4						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**150.32**	**312**	PKPbc	**PKPbc**	**23 29 28.1**	**-0.5**
	0.7nm,0.9s,baz=127,slow=3.2,SNR=5.4						

*IDC **31** 23:18:17.7±0.7, 6°.75N×125°.32E, h0km, mb4.0/12, mbtmp4.0/12, MS3.5/32, Error ellipse: s-maj=16.1km s-min=7.6km az=128.0*
*DJA **31** 23:18:18.2±0.5, 7°N±4°×12°5E±°, h17km±4km, M5.0/25, mB5.5/9, mb4.7/25, MLv5.0/10, Mw(mB)5.0/9, MwMwp4.8/1, Mwp5.1/1*
*NEIC **31** 23:18:21.3±2.0, 6°.81N±0°.07×125°.18E±0°.03, h10km±1km, mb4.6/54, Error ellipse: s-maj=11.1km s-min=5.3km az=358.0*
ISC 31 23:18:20.7±0.5, 6°.80N±0°.05×125°.17E±0°.07, h13km, n132, σ1§55/105, mb4.5/47, MS3.5/32, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.49**	**57**	Pg	**Pg**	**23 18 30.1**	**-0.2**
DAV	**Davao City (W)**	**0.49**	**57**	Pg	Pg	23 18 26.1	-4.2
	baz=246,slow=6.1						
DAV				Lg	Lg	23 18 31.0	
	4μm,0.3s,baz=163,slow=19,SNR=16						
DAV	**Davao City (W)**	**0.49**	**57**	P	**Pg**	**23 18 28.0**	**-2.3**
SGSI	**Sangihe**	**3.11**	**173**	P	**Pn**	**23 19 10.5**	**+1.0**
SGSI				S	**Sn**	**23 19 49.7**	**+3.1**
KMSI	**Cibinong**	**6.30**	**191**	P	**Pn**	**23 19 54.7**	**+1.4**
TNTI	**Ternate**	**6.38**	**160**		**Pn**	**23 19 54.8**	**+0.3**
TNTI	**Ternate**	**6.38**	**160**	P	**Pn**	**23 19 57.9**	**+3.5**
	0.2nm44nm,0.9s						
MRSI	**Marisa**	**7.06**	**207**	P	**Pn**	**23 20 04.6**	**+0.8**
TOLI2	**Tolitoli**	**7.15**	**218**		**Pn**	**23 20 02.8**	**-2.2**
LUWI	**Luwuk**	**8.15**	**197**		**Pn**	**23 20 20.3**	**+1.6**
LUWI	**Luwuk**	**8.15**	**197**	P	**Pn**	**23 20 22.1**	**+3.4**
	84nm,0.5s						
TGY	**Tagaytay City**	**8.36**	**331**	LR	LR	23 24 03.0	
	comp=Z,404nm,18.9s,baz=185,slow=41						
APSI	**Ampana**	**8.43**	**205**	P	**Pn**	**23 20 25.0**	**+2.4**
	1μm84nm,0.7s						
SANI	**Sanana**	**8.83**	**175**	P	**Pn**	**23 20 27.3**	**-0.8**
	591nm29nm,0.7s						
I39PW	**PALAU INFRASON**	**9.34**	**85**	I	I	00 15 03.1	
	baz=266,slow=295,SNR=1.0						
NLAI	**Namlea**	**10.16**	**169**	P	**Pn**	**23 20 44.4**	**-1.9**
	36nm,0.8s						
FAKI	**Fak Fak**	**11.97**	**144**	Pn	**Pn**	**23 21 11.8**	**+0.7**
FAKI	**Fak Fak**	**11.97**	**144**	P	**Pn**	**23 21 11.3**	**+0.2**
	15nm,1.4s						
KAPI	**Kappang**	**12.92**	**205**	LR	LR	23 26 45.9	
	comp=Z,224nm,20.3s,baz=29,slow=39						
BKSI	**Bulukumba**	**13.05**	**203**	P	**Pn**	**23 21 29.8**	**+3.9**
SBUM	**Sibu**	**13.61**	**252**	Pn	**Pn**	**23 21 32.6**	**-1.0**
KSM	**Kuching**	**15.73**	**251**	P	**P**	**23 22 06.1**	**0.0**
EDFI	**Ende, Flores**	**15.83**	**193**	P	**P**	**23 22 05.9**	**-1.4**
SOEI	**Soe**	**16.47**	**183**	Pn	**Pn**	**23 22 11.2**	**-0.6**
SOEI	**Soe**	**16.47**	**183**	P	**P**	**23 22 15.7**	**+1.3**
	21nm,0.9s						
BATI	**Baumata**	**16.96**	**185**	LR	LR	23 30 37.8	
	comp=Z,190nm,18.6s,baz=316,slow=44						
BATI	**Baumata**	**16.96**	**185**	P	**Pn**	**23 22 17.7**	**-0.2**
	56nm,0.6s						
PLAI	**Plampang**	**17.18**	**205**	P	**Pn**	**23 22 20.5**	**-0.2**
	29nm,0.9s						
TWSI	**Taliwang, Sumb**	**17.51**	**208**	P	**P**	**23 22 26.6**	**+0.8**
	21nm,1.1s						
QIZ	**Qiongzhong**	**19.23**	**311**	P	**P**	**23 22 40.8**	**-4.0**
QIZ				S	**Sn**	**23 26 19.3**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,89nm,2.1s						
QIZ				LR	LR		
	comp=N,570nm,11.1s						
QIZ				LR	LR		
	comp=E,380nm,11.7s						
QIZ				LR	LR		
	comp=Z,400nm,14.6s						
MTN	**Manton Dam**	**20.40**	**163**		**P**	**23 22 57.8**	**+0.3**
KNRA	**Kununurra**	**22.61**	**171**		**P**	**23 23 21.0**	**-0.3**
KNRA				IAmb	IAmb	23 23 28.4	
	comp=Z,20nm,0.8s						
MDSI	**Maura Dua**	**23.76**	**242**	P	**P**	**23 23 34.2**	**+1.1**
	comp=Z,11nm,1.1s						
JCJ	**Chichijima**	**25.86**	**37**	LR	LR	23 33 57.0	
	comp=Z,57nm,19.7s,baz=130,slow=36						
JNU	**Nakatsue**	**26.72**	**11**	LR	LR	23 35 58.7	
	comp=Z,37nm,18.2s,baz=174,slow=40						
WB0	**Warramunga Arr**	**27.92**	**161**		**P**	**23 24 10.8**	**0.0**
CMAR	**Chiang Mai Arr**	**28.04**	**297**	P	**P**	**23 24 12.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=119,slow=7.5,SNR=8.8						
CMAR				LR	LR	23 35 16.4	
	comp=Z,105nm,20.0s,baz=100,slow=36						
	comp=Z,0.9nm,0.6s						
GSI	**Gunungsitoli**	**28.05**	**260**	P	**P**	**23 24 08.8**	**-3.3**
	comp=Z,3μmcomp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**23 24 09.4**	**-2.7**
	comp=Z,1.3nm,0.6s,baz=336,slow=9.8,SNR=10						
	comp=Z,1.3nm,0.6s						
JHJ	**Hachijo jima 2**	**29.50**	**25**	LR	LR	23 34 22.8	
	comp=Z,78nm,21.8s,baz=148,slow=33						
PZH	**PanZhiHua**	**29.69**	**314**	P	**P**	**23 24 30.0**	**+3.4**
ASAR	**Alice Springs**	**31.46**	**165**	P	**P**	**23 24 40.4**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=346,slow=7.4,SNR=23						
	comp=Z,1.5nm,0.5s						
MJAR	**Matsushiro Arr**	**31.91**	**20**	LR	LR	23 37 47.7	
	comp=Z,73nm,18.2s,baz=204,slow=37						
BJI	**Beijing**	**34.07**	**348**	P	**P**	**23 25 07.3**	**+2.5**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LZDM	**Lanzhou Array**	**35.06**	**329**	P	**P**	**23 25 15.6**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=107,slow=9.2,SNR=2.5						
	comp=Z,1.0nm,0.3s						
LZH	**Lanzhou**	**35.09**	**329**	*e*P	P	23 25 19.0	+5.1
LZH				sP	sP	23 25 29.3	+10
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
LZH				LR	LR		
	comp=N,180nm,15.5s						
LZH				LR	LR		
	comp=E,200nm,13.5s						
LZH				LR	LR		
	comp=Z,220nm,16.5s						
BRDH	**Bariadhala**	**35.93**	**300**	LR	LR	23 40 54.1	
	comp=Z,88nm,19.3s,baz=142,slow=38						
HHC	**Hu-ho-hao-te**	**36.02**	**342**	*e*P	**P**	**23 25 25.0**	**+3.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,59nm,3.7s						
GTA	**Gaotai**	**39.68**	**329**	*e*P	**P**	**23 25 55.0**	**+2.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA				LR	LR		
	comp=N,170nm,13.4s						
GTA				LR	LR		
	comp=E,100nm,13.5s						
GTA				LR	LR		
	comp=Z,160nm,14.9s						
ASAJ	**Asahikawa**	**40.18**	**20**	LR	LR	23 43 25.3	
	comp=Z,62nm,18.6s,baz=137,slow=38						
BBOO	**Buckleboo**	**40.73**	**166**		**P**	**23 25 59.9**	**-1.5**
BBOO				IAmb	IAmb	23 26 05.0	
	comp=Z,8.5nm,0.8s						
STKA	**Stephens Creek**	**41.53**	**159**		**P**	**23 26 06.7**	**-1.3**
STKA	**Stephens Creek**	**41.53**	**159**	P	**P**	**23 26 06.7**	**-1.3**
	comp=Z,3.7nm,0.8s,baz=326,slow=9.3,SNR=5.7						
STKA				LR	LR	23 46 36.6	
	comp=Z,76nm,20.1s,baz=15,slow=41						
	comp=Z,3.7nm,0.8s						
HILR	**Hailar Array B**	**42.85**	**355**	P	**P**	**23 26 17.0**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=146,slow=10,SNR=2.2						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**43.91**	**342**	P	**P**	**23 26 28.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=155,slow=6.5,SNR=4.3						
	comp=Z,0.7nm,0.6s						
WMQ	**Urumqi**	**49.34**	**325**	*e*P	**P**	**23 27 12.0**	**+2.2**
WMQ				LR	LR		
	comp=Z,130nm,22.1s						
PETK	**Petropavlovsk-**	**53.23**	**24**	LR	LR	23 51 60.0	
	comp=Z,32nm,18.0s,baz=213,slow=38						
MKAR	**Makanchi Array**	**54.16**	**325**	P	**P**	**23 27 45.5**	**-0.3**
MKAR	**Makanchi Array**	**54.16**	**325**	P	**P**	**23 27 45.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=121,slow=7.9,SNR=12						
MKAR				LR	LR	23 52 11.6	
	comp=Z,38nm,18.3s,baz=144,slow=38						
	comp=Z,1.2nm,0.7s						
PRZ	**Przheval'sk**	**54.39**	**318**	P	**P**	**23 27 49.0**	**+1.3**
PRZ				IAmb	IAmb	23 28 02.1	
	comp=Z,7.8nm,1.0s						
TARG	**Taragay, Kyrgy**	**54.45**	**317**	P	**P**	**23 27 49.2**	**+0.8**
KSH	**Kashi**	**54.79**	**314**	P	**P**	**23 27 53.3**	**+2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NIL	**Nilore**	**54.84**	**307**	P	**P**	**23 27 52.0**	**+1.1**
NIL				IAmb	IAmb	23 27 57.0	
	comp=Z,6.0nm,0.9s						
KDJ	**Kajisay**	**55.04**	**318**	P	**P**	**23 27 53.7**	**+1.3**
MA2	**Magadan**	**56.15**	**15**	LR	LR	23 54 40.0	
	comp=Z,12nm,18.1s,baz=90,slow=39						
AAK	**Ala-Archa**	**57.06**	**317**	LR	LR	23 57 09.1	
	comp=Z,39nm,18.1s,baz=102,slow=41						
ZALV	**Zalesovo Beam**	**57.16**	**333**	P	**P**	**23 28 07.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=74,slow=16,SNR=3.9						
ZALV				LR	LR	23 53 53.4	
	comp=Z,30nm,18.9s,baz=66,slow=37						
	comp=Z,0.3nm,0.3s						
ARSB	**Arslanbob**	**57.59**	**315**	P	**P**	**23 28 11.0**	**+0.4**
DRK	**Karamyk**	**57.79**	**313**	P	**P**	**23 28 12.7**	**+0.5**
DRK				IAmb	IAmb	23 28 25.0	
	comp=Z,10nm,1.0s						
KURBB	**Kurchatov Arra**	**58.33**	**327**	P	**P**	**23 28 14.4**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=128,slow=5.8,SNR=9.1						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**58.33**	**327**		**P**	**23 28 16.7**	**+1.3**
KBL	**Kabul**	**58.45**	**306**	P	**P**	**23 28 16.7**	**-0.1**
GAR	**Garm**	**58.72**	**312**	P	**P**	**23 28 19.1**	**+0.5**
SEY	**Seymchan**	**59.43**	**14**	LR	LR	23 52 47.3	
	comp=Z,21nm,21.9s,baz=218,slow=35						
KK31	**Karatay Array**	**59.95**	**316**	P	**P**	**23 28 26.8**	**0.0**
KK31				IAmb	IAmb	23 28 30.4	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**59.95**	**316**	P	**P**	**23 28 26.9**	**+0.1**
SHEM	**Shemya Is, Ala**	**60.65**	**32**	LR	LR	23 53 56.1	
	comp=Z,11nm,19.1s,baz=1.5,slow=35						
BVAR	**Borovoye Array**	**63.92**	**327**	P	**P**	**23 28 52.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=139,slow=7.0,SNR=4.7						
BVAR				LR	LR	23 58 57.5	
	comp=Z,42nm,18.1s,baz=155,slow=38						
	comp=Z,0.9nm,0.7s						
URZ	**Urewera**	**65.83**	**137**	LR	LR	23 58 10.4	
	comp=Z,42nm,18.2s,baz=289,slow=36						
AKTO	**Aktyubinsk**	**70.31**	**321**	LR	LR	00 03 01.2	
	comp=Z,77nm,18.6s,baz=340,slow=38						
ARTI	**Arti**	**71.61**	**327**	LR	LR	00 05 13.3	
	comp=Z,40nm,19.1s,baz=83,slow=39						
KBZ	**Khabaz**	**79.76**	**313**	LR	LR	00 10 06.3	
	comp=Z,23nm,18.5s,baz=84,slow=39						
KDAK	**Kodiak Island**	**80.15**	**33**	LR	LR	00 02 49.3	
	comp=Z,28nm,20.3s,baz=217,slow=33						
IMAR	**Indian Mountai**	**80.19**	**24**	P	**P**	**23 30 31.6**	**+1.0**
PPLA	**Purkeypile**	**80.63**	**27**	P	**P**	**23 30 34.6**	**+1.4**
PPLA				IAmb	IAmb	23 30 35.7	
	comp=Z,9.2nm,1.0s						
SKT	**Skwentna**	**80.89**	**28**	P	**P**	**23 30 35.8**	**+1.4**
SKT				IAmb	IAmb	23 30 36.4	
	comp=Z,8.0nm,0.9s						
CNPM	**China Poot**	**80.93**	**31**	P	**P**	**23 30 36.3**	**+1.6**
E22K	**Anaktuvuk Pass**	**81.13**	**22**	P	**P**	**23 30 36.8**	**+1.2**
E22K				IAmb	IAmb	23 30 39.5	
	comp=Z,5.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**81.23**	**26**	P	**P**	**23 30 38.2**	**+2.0**
TRF	**Thorofare Moun**	**81.52**	**27**	P	**P**	**23 30 38.3**	**+0.4**
TRF				IAmb	IAmb	23 30 40.1	
	comp=Z,9.0nm,1.0s						
D23K	**Nanushuk River**	**81.59**	**21**	P	**P**	**23 30 37.5**	**-0.5**
D23K				IAmb	IAmb	23 30 40.8	
	comp=Z,7.4nm,1.0s						
COLD	**Coldfoot**	**81.69**	**23**	P	**P**	**23 30 38.5**	**0.0**
COLD				IAmb	IAmb	23 30 41.2	
	comp=Z,3.2nm,0.7s						
G23K	**Bananza Creek**	**81.74**	**24**	P	**P**	**23 30 39.4**	**+0.5**
G23K				IAmb	IAmb	23 30 41.9	
	comp=Z,5.4nm,1.0s						
H23K	**Yukon River**	**81.91**	**24**	P	**P**	**23 30 41.4**	**+1.6**
KNK	**Knik Glacier**	**82.34**	**29**	P	**P**	**23 30 43.4**	**+1.2**
E24K	**Your Creek**	**82.37**	**22**	P	**P**	**23 30 43.8**	**+1.6**
E24K				IAmb	IAmb	23 30 47.5	
	comp=Z,5.3nm,1.1s						
SML	**Sawmill**	**82.40**	**29**	P	**P**	**23 30 43.2**	**+0.8**
F24K	**Squaw Lake**	**82.59**	**23**	P	**P**	**23 30 44.5**	**+1.2**
F24K				IAmb	IAmb	23 30 48.2	
	comp=Z,3.1nm,0.8s						
H24K	**Noodor Dome**	**82.59**	**24**	P	**P**	**23 30 44.1**	**+0.7**
H24K				IAmb	IAmb	23 30 45.8	
	comp=Z,8.0nm,1.1s						
CCB	**Clear Creek Bu**	**82.63**	**26**	P	**P**	**23 30 42.5**	**-0.9**
G24K	**Hadweenzic Riv**	**82.75**	**24**	P	**P**	**23 30 44.2**	**0.0**
G24K				IAmb	IAmb	23 30 47.6	
	comp=Z,6.3nm,1.1s						
DHY	**Denali Highway**	**82.83**	**27**	P	**P**	**23 30 46.0**	**+1.1**
DHY				IAmb	IAmb	23 30 48.0	
	comp=Z,4.8nm,0.9s						
HDA	**Harding Lake**	**83.00**	**26**		**P**	**23 30 45.4**	**-0.1**
IL31		**83.02**	**26**	P	**P**	**23 30 45.6**	**+0.1**
IL31				IAmb	IAmb	23 30 47.0	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**83.02**	**26**	P	**P**	**23 30 46.3**	**+0.8**
ILAR	**Eielson Array**	**83.02**	**26**	P	**P**	**23 30 45.4**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=237,slow=3.7,SNR=26						
ILAR				LR	LR	00 07 28.5	
	comp=Z,15nm,20.2s,baz=232,slow=36						
	comp=Z,2.2nm,0.7s						
KLU	**Klutina**	**83.55**	**29**	P	**P**	**23 30 48.1**	**-0.4**
J25K	**Salcha River,**	**83.68**	**26**	P	**P**	**23 30 49.4**	**+0.4**
J25K				IAmb	IAmb	23 30 50.6	
	comp=Z,2.7nm,0.8s						
PAX	**Paxson**	**83.70**	**27**	P	**P**	**23 30 50.2**	**+0.9**
PAX				IAmb	IAmb	23 30 51.6	
	comp=Z,3.4nm,0.9s						
BMAR	**Burnt Mountain**	**83.87**	**23**	P	**P**	**23 30 50.6**	**+0.6**
F26K	**Sheenjek River**	**84.02**	**23**	P	**P**	**23 30 51.8**	**+1.1**
C27K	**Jago River**	**84.07**	**21**	P	**P**	**23 30 49.4**	**-1.4**
SCRK	**Sand Creek**	**84.31**	**26**	P	**P**	**23 30 52.8**	**+0.5**
SCRK				IAmb	IAmb	23 30 55.1	
J26L	**Joseph Creek**	**84.46**	**26**	P	**P**	**23 30 53.1**	**+0.1**
J26L				IAmb	IAmb	23 30 57.8	
	comp=Z,6.0nm,1.1s						
I26K	**Coal Creek Min**	**84.58**	**25**	P	**P**	**23 30 53.5**	**0.0**
I26K				IAmb	IAmb	23 30 56.9	
	comp=Z,5.4nm,1.0s						
ASF	**Jabal al Asfar**	**84.97**	**302**	LR	LR	00 17 02.8	
	comp=Z,17nm,18.1s,baz=344,slow=41						
K27K	**Chicken**	**85.15**	**26**	P	**P**	**23 30 58.0**	**+1.6**
H27K	**Steamboat Moun**	**85.16**	**24**	P	**P**	**23 30 58.0**	**+1.5**
H27K				IAmb	IAmb	23 31 06.2	
	comp=Z,6.1nm,1.1s						
L27K	**Beaver Creek,**	**85.35**	**27**	P	**P**	**23 30 58.7**	**+1.2**
L27K				IAmb	IAmb	23 31 00.6	
	comp=Z,5.3nm,0.9s						
BCAR	**Beaver Creek A**	**85.37**	**27**	P	**P**	**23 30 59.5**	**+1.9**
FURI	**Furi**	**85.52**	**278**	LR	LR	00 09 42.8	
	comp=Z,26nm,18.1s,baz=128,slow=36						
CTGM	**Chitina Glacie**	**85.81**	**29**	P	**P**	**23 31 01.9**	**+1.9**
I28M	**Miner Creek**	**85.90**	**25**		**P**	**23 31 01.9**	**+1.7**
DAWY	**Dawson**	**86.32**	**26**	P	**P**	**23 31 04.0**	**+1.7**
DAWY				IAmb	IAmb	23 31 05.1	
	comp=Z,3.0nm,0.9s						
H29M	**Whitestone**	**86.44**	**24**	P	**P**	**23 31 02.1**	**-0.7**
H29M				IAmb	IAmb	23 31 16.4	
	comp=Z,5.0nm,1.1s						
G29M	**Pine Creek**	**86.47**	**23**	P	**P**	**23 31 03.8**	**+0.8**
EIL	**Elat**	**86.87**	**299**	LR	LR	00 14 48.6	
	comp=Z,37nm,18.8s,baz=123,slow=39						
H31M	**Peel River**	**88.13**	**24**	P	**P**	**23 31 13.0**	**+2.0**
MLR	**Muntele Rosu**	**91.62**	**316**	LR	LR	00 17 34.5	
	comp=Z,54nm,21.0s,baz=88,slow=39						
DLBC	**Dease Lake**	**91.92**	**31**	LR	LR	00 23 18.8	
	comp=Z,17nm,18.0s,baz=164,slow=42						
HFS	**Hagfors**	**94.59**	**332**	LR	LR	00 18 04.5	
	comp=Z,19nm,18.3s,baz=66,slow=38						
NOA	**NORSAR Array B**	**95.36**	**333**	LR	LR	00 18 40.6	
	comp=Z,26nm,19.6s,baz=270,slow=38						

*IDC **31** 23:22:27.4±6.6, 36°.02N×70°.94E, h168km±61km, mb3.4/4, mbtmp3.8/8, MS3.9/2, Error ellipse: s-maj=50.1km s-min=29.9km az=18.0*
*NNC **31** 23:22:35.3±2.9, 37°.04N×70°.59E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.2km s-min=19.2km az=164.0*
ISC 31 23:22:26.7±1.2, 36°.1N±0°.1×70°.9E±0°.1, h150km, n20, σ2§57/21, 5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.70**	**24**	P	**Pn**	**23 24 05.8**	**+2.8**
	SNR=40						
EKS2	**Erkin-Say**	**6.88**	**18**	P	**Pn**	**23 24 08.6**	**+3.4**
	SNR=9.6						
KK31	**Karatay Array**	**6.96**	**358**	⇓P	**Pn**	**23 24 06.8**	**+0.6**
	0.9nm,0.3s,baz=176,slow=12,SNR=36						
KK31				⇓S	Sn	23 25 17.5	-6.7
	16nm,0.5s,baz=68,slow=44,SNR=4.4						
AAK	**Ala-Archa**	**7.06**	**22**	P	**Pn**	**23 24 10.8**	**+3.2**
	8.4nm,0.4s,baz=208,slow=6.9,SNR=41						
AAK				S	**Sn**	**23 25 24.2**	**-2.6**
	5.9nm,0.7s,baz=133,slow=19,SNR=22						
AAK	**Ala-Archa**	**7.06**	**22**	P	**Pn**	**23 24 10.6**	**+3.0**
	SNR=15						
AAK	**Ala-Archa**	**7.06**	**22**	⇓P	**Pn**	**23 24 10.0**	**+2.4**
	1.9nm,0.4s						
AAK				⇓S	**Sn**	**23 25 24.1**	**-2.6**
	7.7nm,0.7s						
KBK	**Karagaybulak**	**7.22**	**24**	P	**Pn**	**23 24 13.0**	**+3.2**
	SNR=12						
ULHL	**Ulahol**	**7.37**	**33**	P	**Pn**	**23 24 13.8**	**+2.0**
	SNR=7.7						
CHMS	**Chumysh**	**7.47**	**22**	P	**Pn**	**23 24 15.6**	**+2.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.68**	**27**	P	**Pn**	**23 24 18.2**	**+2.3**
	SNR=34						
MKAR	**Makanchi Array**	**13.63**	**35**	P	**Pn**	**23 25 32.8**	**-1.0**
	0.3nm,0.3s,baz=205,slow=11,SNR=11						
AB31	**Akbulak array**	**15.36**	**332**	P	**P**	**23 25 59.7**	**+3.0**
	1.2nm,0.7s,baz=144,slow=11,SNR=15						
AB31				⇓S	**Sn**	**23 28 42.1**	**-3.9**
	1.3nm,0.8s,baz=262,slow=35,SNR=2.8						
KURBB	**Kurchatov Arra**	**15.49**	**18**	P	**Pn**	**23 25 56.0**	**-0.9**
	0.3nm,0.2s,baz=207,slow=12,SNR=1.5						
AKTO	**Aktyubinsk**	**17.05**	**331**	P	**P**	**23 26 17.5**	**+2.1**
	1.1nm,0.4s,baz=109,slow=5.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**20.28**	**24**	P	**P**	**23 26 50.6**	**+0.3**
	0.5nm,0.3s,baz=208,slow=11,SNR=3.7						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**37.74**	**326**	P	**P**	**23 29 27.7**	**+0.2**
	1.6nm,0.8s,baz=121,slow=16,SNR=1.2						
	1.6nm,0.8s						
YAK	**Yakutsk**	**44.31**	**35**	LR	LR	23 49 10.5	
	comp=Z,41nm,20.5s,baz=209,slow=36						
TGY	**Tagaytay City**	**49.72**	**103**	LR	LR	23 55 38.1	
	comp=Z,343nm,19.0s,baz=52,slow=40						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**23 32 53.3**	**-1.7**
	2.1nm,0.4s,baz=44,slow=6.6,SNR=3.8						
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**81.87**	**122**	P	**P**	**23 34 28.3**	**-1.1**
	0.2nm,0.5s,baz=313,slow=5.1,SNR=1.5						
	0.2nm,0.5s						

AUST 31 23:22:33.1±0.7, 26°.S±2°×11°.2E±°, h10km, mb4.1/9, ML3.4/4, Error ellipse: s-maj=12.6km s-min=5.1km az=92.3, West of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVQOZ	**Cooralya Stati**	**2.36**	**57**	P	Pn	23 23 13.8

PFVI				*e*S	Sn	23 58 46.7	+1.0
PFVI				*i* IAML		23 58 47.0	
PFVI				*i* IAML		23 58 47.3	
PFVI				*i* IAML		23 58 48.1	
PLAGO	**Lagos**	**0.63**	**53**	*e*P	**Pn**	**23 58 39.7**	**+1.5**
PLAGO				*e*S	**Sn**	**23 58 48.3**	**+1.2**
PLAGO				*i* IAML		23 58 48.8	
PLAGO				*i* IAML		23 58 50.0	
PLAGO				*i* IAML		23 58 51.1	
PALJ	**Aljezur**	**0.73**	**35**	*e*S	**Sn**	**23 58 50.5**	**+1.1**
PALJ				*i* IAML		23 58 50.9	
PALJ				*i* IAML		23 58 51.2	
PPOR	**Portimao**	**0.75**	**56**	*e*P	Pn	23 58 34.6	-5.2
PPOR				*e*S	**Sn**	**23 58 51.6**	**+1.5**
PPOR				*i* IAML		23 58 51.8	
PPOR				*i* IAML		23 58 51.9	
MORF	**Marmelete**	**0.79**	**42**	*e*P	**Pn**	**23 58 41.9**	**+1.4**
MORF				*e*S	**Sn**	**23 58 51.3**	**+0.2**
MORF				IAML		23 58 54.4	
	comp=E,588nm,0.2s						
MORF	**Marmelete**	**0.79**	**42⇓**	*i*P	**Pn**	**23 58 41.9**	**+1.4**
MORF				*e*S	**Sn**	**23 58 51.8**	**+0.7**
MORF				*i* IAML		23 58 53.0	
MORF				*i* IAML		23 58 53.5	
MORF				*i* IAML		23 58 54.4	
PALBU	**Albufeira**	**0.94**	**66**	*e*P	**Pn**	**23 58 44.6**	**+2.1**
PALBU				*e*S	**Sn**	**23 58 55.6**	**+1.0**
PALBU				*i* IAML		23 58 57.3	
PALBU				*i* IAML		23 59 01.6	
PTEO	**Sao Teotonio**	**0.95**	**30⇓**	*i*P	**Pn**	**23 58 43.9**	**+1.2**
PTEO				*e*S	**Sn**	**23 58 55.7**	**+0.7**
PTEO				*i* IAML		23 58 56.5	
PTEO				*i* IAML		23 58 56.7	
PTEO				*i* IAML		23 58 56.9	
PFARO	**Faro**	**1.16**	**74**	*e*P	**Pn**	**23 58 41.0**	**-4.5**
PFARO				*e*S	**Sn**	**23 59 01.9**	**+1.8**
PFARO				*i* IAML		23 59 05.0	
PFARO				*i* IAML		23 59 08.4	
PFARO				*i* IAML		23 59 10.3	
PBDV	**Barranco-do-Ve**	**1.23**	**64**	Pn	**Pn**	**23 58 48.2**	**+1.7**
PBDV	**Barranco-do-Ve**	**1.23**	**64⇑**	*e*P	**Pn**	**23 58 48.2**	**+1.7**
PBDV				*e*S	**Sn**	**23 59 03.5**	**+1.6**
PBDV				*i* IAML		23 59 10.9	
PBDV				*i* IAML		23 59 17.0	
PBDV				*i* IAML		23 59 19.0	
PSINE	**Sines**	**1.29**	**16**	*e*P	**Pn**	**23 58 48.5**	**+1.2**
PSINE				*e*S	**Sn**	**23 59 03.6**	**+0.3**
PSINE				*i* IAML		23 59 04.3	
PSINE				*i* IAML		23 59 04.7	
PCVE	**Castro Verde**	**1.37**	**48**	Pn	**Pn**	**23 58 50.2**	**+1.7**
PCVE				Sn	**Sn**	**23 59 05.7**	**+0.4**
PCVE	**Castro Verde**	**1.37**	**48**	*e*P	**Pn**	**23 58 50.1**	**+1.7**
PCVE				*e*S	**Sn**	**23 59 06.5**	**+1.2**
PCVE				*i* IAML		23 59 07.0	
PCVE				*i* IAML		23 59 13.9	
PCVE				*i* IAML		23 59 14.1	
MESJ	**Messejana**	**1.42**	**38**	*e*P	**Pn**	**23 58 50.4**	**+1.3**
MESJ				*e*S	**Sn**	**23 59 06.1**	**-0.5**
MESJ				IAML		23 59 08.8	
	comp=N,63nm,0.2s						
MESJ	**Messejana**	**1.42**	**38⇓**	*e*P	**Pn**	**23 58 50.5**	**+1.3**
MESJ				*e*S	**Sn**	**23 59 06.8**	**+0.2**
MESJ				*i* IAML		23 59 08.9	
MESJ				*i* IAML		23 59 14.2	
MESJ				*i* IAML		23 59 14.9	
PVAQ	**Vaqueiros**	**1.45**	**61⇑**	*e*P	**Pn**	**23 58 51.1**	**+1.6**
PVAQ				*e*S	**Sn**	**23 59 07.8**	**+0.4**
PVAQ				*i* IAML		23 59 18.6	
PVAQ				*i* IAML		23 59 19.4	
PVAQ				*i* IAML		23 59 19.9	
EGRO	**El Granado**	**1.68**	**60**	Pn	**Pn**	**23 58 54.5**	**+1.9**
EGRO				Sn	**Sn**	**23 59 13.5**	**+0.6**
EGRO	**El Granado**	**1.68**	**60**	Pn	**Pn**	**23 58 54.9**	**+2.2**
EGRO				Sn	**Sn**	**23 59 14.0**	**+1.1**
EGRO				*i* IVmb_Lg		23 59 24.0	
PBEJ	**Beja**	**1.74**	**41**	*e*P	**Pn**	**23 58 54.7**	**+1.2**
PBEJ				*e*S	**Sn**	**23 59 14.6**	**0.0**
PBEJ				*i* IAML		23 59 16.9	
PBEJ				*i* IAML		23 59 26.5	
PBEJ				*i* IAML		23 59 27.7	
AML02	**Lavradio**	**1.95**	**6**	*e*P	**Pn**	**23 58 58.4**	**+2.0**
AML02				*e*S	**Sn**	**23 59 20.5**	**+0.8**
LIS	**Lisbon**	**2.00**	**4**	*e*P	**Pn**	**23 58 58.4**	**+1.4**
LIS				*e*S	**Sn**	**23 59 19.8**	**-1.0**
LIS				IAML		23 59 22.4	
	comp=N,211nm,0.3s						
LIS	**Lisbon**	**2.00**	**4**	*e*P	**Pn**	**23 58 58.5**	**+1.4**
LIS				*e*S	**Sn**	**23 59 20.9**	**+0.1**
LIS				*i* IAML		23 59 21.8	
LIS				*i* IAML		23 59 23.0	
LIS				*i* IAML		23 59 23.8	
AML01	**Serafina, Lisb**	**2.01**	**3**	*e*P	**Pn**	**23 58 58.6**	**+1.4**
AML01				*e*S	**Sn**	**23 59 21.3**	**+0.1**
AML01				*i* IAML		23 59 21.7	
AML01				*i* IAML		23 59 23.2	
AML01				*i* IAML		23 59 23.8	
AML04	**Campo deTiro d**	**2.08**	**10**	*e*P	**Pn**	**23 59 00.0**	**+1.8**
AML04				*e*S	**Sn**	**23 59 23.6**	**+0.7**
AML04				*i* IAML		23 59 24.5	
AML04				*i* IAML		23 59 25.4	
AML04				*i* IAML		23 59 25.4	
EVO	**Evora**	**2.08**	**29**	Pn	**Pn**	**23 58 59.1**	**+0.9**
EVO				Sn	**Sn**	**23 59 22.2**	**-0.7**
EVO	**Evora**	**2.08**	**29**	*e*P	**Pn**	**23 58 59.2**	**+0.9**
EVO				*e*S	**Sn**	**23 59 22.3**	**-0.7**
EVO				*i* IAML		23 59 23.3	
EVO				*i* IAML		23 59 24.0	
PARRA	**Arraiolos**	**2.10**	**6⇓**	*e*P	**Pn**	**23 59 02.2**	**+3.7**
PARRA				*e*S	**Sn**	**23 59 28.1**	**+4.6**
PARRA				*i* IAML		23 59 29.0	
PARRA				*i* IAML		23 59 30.0	
PARRA				*i* IAML		23 59 30.0	
AML03	**Fanhoes/Loures**	**2.16**	**3**	*e*P	**Pn**	**23 59 00.6**	**+1.3**
AML03				*e*S	**Sn**	**23 59 24.4**	**-0.5**
AML03				*i* IAML		23 59 25.1	
AML03				*i* IAML		23 59 26.5	
AML03				*i* IAML		23 59 26.6	
PMAFR	**Mafra**	**2.23**	**1**	Pn	**Pn**	**23 59 01.4**	**+1.2**
PMAFR				Sn	**Sn**	**23 59 26.3**	**-0.4**
PMAFR	**Mafra**	**2.23**	**1**	*e*P	**Pn**	**23 59 01.5**	**+1.2**
PMAFR				*e*S	**Sn**	**23 59 26.1**	**-0.6**
PMAFR				*i* IAML		23 59 26.9	
PMAFR				*i* IAML		23 59 27.0	
PMAFR				*i* IAML		23 59 27.4	
PBEN	**Benavente**	**2.26**	**10**	*e*P	**Pn**	**23 59 02.2**	**+1.6**
PBEN				*e*S	**Sn**	**23 59 27.3**	**+0.1**
PBEN				*i* IAML		23 59 29.4	
PBEN				*i* IAML		23 59 30.2	
PBEN				*i* IAML		23 59 30.4	
PBAR	**Barrancos**	**2.32**	**51**	Pn	**Pn**	**23 59 02.8**	**+1.2**
PBAR	**Barrancos**	**2.32**	**51**	*e*P	**Pn**	**23 59 03.1**	**+1.6**
PBAR				*e*S	**Sn**	**23 59 30.0**	**+1.1**
PBAR				*i* IAML		23 59 31.3	
PBAR				*i* IAML		23 59 31.4	
PBAR				*i* IAML		23 59 31.4	
EMIN	**Mina Concepcio**	**2.36**	**63**	Pn	**Pn**	**23 59 03.3**	**+1.3**
EMIN				Sn	**Sn**	**23 59 30.4**	**+0.7**
EMIN	**Mina Concepcio**	**2.36**	**63**	Pn	**Pn**	**23 59 03.6**	**+1.6**
EMIN				Sn	**Sn**	**23 59 30.3**	**+0.7**
EMIN				*i* IVmb_Lg		23 59 43.0	
AML05	**Montejunto**	**2.46**	**5**	*e*P	**Pn**	**23 59 04.5**	**+1.0**
AML05				*e*S	**Sn**	**23 59 31.5**	**-0.9**
AML05				*i* IAML		23 59 34.7	
AML05				*i* IAML		23 59 34.8	
AML05				*i* IAML		23 59 35.6	
PMTG	**Montargil**	**2.50**	**20⇓**	*e*P	**Pn**	**23 59 04.7**	**+0.8**
PMTG				*e*S	**Sn**	**23 59 32.2**	**-1.0**
PMTG				*i* IAML		23 59 33.9	
PMTG				*i* IAML		23 59 34.1	
PMTG				*i* IAML		23 59 34.4	
PESTR	**Estremoz**	**2.54**	**32**	Pn	**Pn**	**23 59 05.2**	**+0.6**
PESTR				Sn	**Sn**	**23 59 33.7**	**-0.7**
PESTR	**Estremoz**	**2.54**	**32**	*e*P	**Pn**	**23 59 05.3**	**+0.7**
PESTR				*e*S	**Sn**	**23 59 33.8**	**-0.5**
PESTR				*i* IAML		23 59 35.1	
PESTR				*i* IAML		23 59 35.3	
PESTR				*i* IAML		23 59 35.4	
PCDRA	**Caldas da Rain**	**2.69**	**3**	*e*S	Sn	00 00 04.4	+27
EBAD	**Badajoz**	**2.73**	**41**	Pn	**Pn**	**23 59 07.9**	**+0.7**
EBAD				Sn	**Sn**	**23 59 37.8**	**-1.2**
EBAD	**Badajoz**	**2.73**	**41**	Pn	**Pn**	**23 59 07.9**	**+0.7**
EBAD				Sn	**Sn**	**23 59 38.4**	**-0.5**
EBAD				*i* IVmb_Lg		23 59 40.0	
ESPR	**Espera**	**2.78**	**86**	Pn	**Pn**	**23 59 09.7**	**+1.9**
ESPR				Sn	**Sn**	**23 59 40.4**	**+0.2**
ESPR	**Espera**	**2.78**	**86**	Pn	**Pn**	**23 59 09.6**	**+1.7**
ESPR				Sn	**Sn**	**23 59 40.6**	**+0.5**
ESPR				*i* IVmb_Lg		23 59 43.4	
PSBE	**So Bento**	**2.82**	**8**	*e*P	**Pn**	**23 59 09.7**	**+1.3**
PSBE				*e*S	**Sn**	**23 59 40.1**	**-1.1**
PSBE				*i* IAML		23 59 41.2	
PSBE				*i* IAML		23 59 44.8	
PSBE				*i* IAML		23 59 45.2	
PSARD	**Sardoal**	**3.02**	**17⇓**	*e*P	**Pn**	**23 59 12.1**	**+1.0**
PSARD				*e*S	**Sn**	**23 59 44.9**	**-1.1**
PSARD				*i* IAML		23 59 46.1	
PSARD				*i* IAML		23 59 46.7	
PSARD				*i* IAML		23 59 47.3	
PMRV	**Marv??o**	**3.10**	**29⇑**	*i*P	**Pn**	**23 59 13.2**	**+0.9**
PMRV				*e*S	**Sn**	**23 59 47.0**	**-1.2**
PMRV				*i* IAML		23 59 48.5	
PMRV				*i* IAML		23 59 48.6	
PMRV				*i* IAML		23 59 48.8	
EJIF	**Jimena Fronter**	**3.11**	**94**	Pn	**Pn**	**23 59 14.7**	**+2.4**
EJIF				Sn	**Sn**	**23 59 50.8**	**+2.5**
CEU	**Ceuta**	**3.29**	**103**	Pn	**Pn**	**23 59 17.9**	**+3.1**
E1302	**La Puebla de C**	**3.29**	**82**	Pn	**Pn**	**23 59 17.0**	**+2.2**
E1302				Sn	**Sn**	**23 59 53.9**	**+1.1**
E1302				*i* IVmb_Lg		23 59 57.8	
UMV12	**Villanueva de**	**3.33**	**83**	Pn	**Pn**	**23 59 18.2**	**+2.7**
UMV12				Sn	**Sn**	**23 59 55.1**	**+1.2**
SMIR	**Smir Dam**	**3.35**	**107**	P	**Pn**	**23 59 17.2**	**+1.6**
SMIR	**Smir Dam**	**3.35**	**107**	S	**Sn**	**23 59 53.6**	**-0.6**
RSA	**Sarsar**	**3.38**	**122**	P	**Pn**	**23 59 16.5**	**+0.3**
RSA	**Sarsar**	**3.38**	**122**	S	**Sn**	**23 59 52.5**	**-2.5**
ECAB	**El Cabril**	**3.39**	**65**	Pn	**Pn**	**23 59 17.8**	**+1.6**
ECAB				Sn	**Sn**	**23 59 53.3**	**-1.8**
ECAB	**El Cabril**	**3.39**	**65**	Pn	**Pn**	**23 59 17.7**	**+1.5**
ECAB				Sn	**Sn**	**23 59 54.8**	**-0.4**
ECAB				*i* IVmb_Lg		23 59 56.1	
PCAS	**Casmilo, Conde**	**3.39**	**11**	*e*P	**Pn**	**23 59 17.5**	**+1.3**
PCAS				*e*S	**Sn**	**23 59 54.0**	**-1.2**
PCAS				*i* IAML		23 59 55.8	
PCAS				*i* IAML		23 59 55.8	
PCAS				*i* IAML		23 59 57.8	
PCBR	**Castelo Branco**	**3.44**	**24**	*e*P	**Pn**	**23 59 17.9**	**+1.1**
PCBR				*e*S	**Sn**	**23 59 54.7**	**-1.6**
PCBR				*i* IAML		23 59 56.0	
PCBR				*i* IAML		23 59 56.9	
PCBR				*i* IAML		23 59 57.1	
EMIJ	**Mijas**	**3.66**	**91**	Pn	**Pn**	**23 59 21.8**	**+1.9**
EMIJ	**Mijas**	**3.66**	**91**	Pn	**Pn**	**23 59 21.8**	**+1.9**
EMIJ				Sn	**Sn**	**00 00 01.9**	**+0.1**
AVE	**Averroes**	**3.75**	**155**	Pn	**Pn**	**23 59 22.7**	**+1.5**
AVE				Sn	**Sn**	**00 00 03.7**	**-0.5**
AVE	**Averroes**	**3.75**	**155**	P	**Pn**	**23 59 22.9**	**+1.6**
AVE	**Averroes**	**3.75**	**155**	S	**Sn**	**00 00 00.4**	**-3.8**
MTE	**Manteigas**	**3.93**	**20**	*e*P	**Pn**	**23 59 24.4**	**+0.7**
MTE				*e*S	**Sn**	**00 00 06.2**	**-2.4**
MTE				*i* IAML		00 00 09.2	
MTE				*i* IAML		00 00 09.3	
MTE				*i* IAML		00 00 10.0	
ZHG	**ZHG**	**3.93**	**145**	P	**Pn**	**23 59 23.8**	**0.0**
ZHG	**ZHG**	**3.93**	**145**	S	**Sn**	**00 00 05.5**	**-3.2**
EADA	**Adamuz**	**4.04**	**68**	Pn	**Pn**	**23 59 26.9**	**+1.8**
EADA				Sn	**Sn**	**00 00 10.3**	**-1.0**
EADA	**Adamuz**	**4.04**	**68**	Pn	**Pn**	**23 59 27.0**	**+1.8**
EADA				Sn	**Sn**	**00 00 09.6**	**-1.7**
EADA				*i* IVmb_Lg		00 00 13.9	
PVIS	**Viseu**	**4.14**	**15**	*e*P	**Pn**	**23 59 27.6**	**+1.0**
PVIS				*e*S	**Sn**	**00 00 12.3**	**-1.5**
EGOR	**Sierra Gorda,**	**4.19**	**83**	Pn	**Pn**	**23 59 30.1**	**+2.8**
EGOR				Sn	**Sn**	**00 00 15.1**	**-0.1**
EGOR	**Sierra Gorda,**	**4.19**	**83**	Pn	**Pn**	**23 59 29.6**	**+2.2**
EGOR				Sn	**Sn**	**00 00 15.0**	**-0.1**
EGOR				*i* IVmb_Lg		00 00 19.3	
EPLA	**Plasencia**	**4.20**	**36**	Pn	**Pn**	**23 59 27.9**	**+0.6**
EPLA				Sn	**Sn**	**00 00 13.2**	**-2.0**
EPLA				*i* IVmb_Lg		00 00 14.8	
SRHM	**Skhour des Reh**	**4.40**	**164**	P	**Pn**	**23 59 32.4**	**+2.3**
SRHM	**Skhour des Reh**	**4.40**	**164**	S	**Sn**	**00 00 21.8**	**+1.7**
ELGU	**Los Guajares,**	**4.57**	**86**	Pn	**Pn**	**23 59 35.4**	**+2.9**
ELGU	**Los Guajares,**	**4.57**	**86**	Pn	**Pn**	**23 59 34.2**	**+1.7**
ELGU				Sn	**Sn**	**00 00 25.8**	**+1.4**
ELGU				*i* IVmb_Lg		00 00 32.2	
PALE	**Palemas**	**4.61**	**107**	P	**Pn**	**23 59 35.3**	**+2.2**
PALE	**Palemas**	**4.61**	**107**	S	**Sn**	**00 00 25.2**	**-0.2**
IFR	**Ifrane**	**4.69**	**132**	Pn	**Pn**	**23 59 35.1**	**+0.8**
IFR				Sn	**Sn**	**00 00 24.1**	**-3.5**
PVRL	**Vila Real**	**4.72**	**15**	*e*P	**Pn**	**23 59 35.5**	**+1.0**
PVRL				*e*S	**Sn**	**00 00 24.9**	**-3.1**
PVRL				*i* IAML		00 00 27.1	
PVRL				*i* IAML		00 00 27.2	
PVRL				*i* IAML		00 00 27.3	
EQTA	**Presa de Quent**	**4.73**	**82**	Pn	**Pn**	**23 59 37.1**	**+2.4**
EQUE	**Quentar**	**4.73**	**82**	Pn	**Pn**	**23 59 37.6**	**+2.9**
EQUE				Sn	**Sn**	**00 00 29.9**	**+1.5**
EQUE				*i* IVmb_Lg		00 00 33.4	
LCRM	**LCR**	**4.74**	**128**	P	**Pn**	**23 59 35.4**	**+0.5**
LCRM	**LCR**	**4.74**	**128**	S	**Sn**	**00 00 26.2**	**-2.6**
MVO	**Moncorvo**	**4.78**	**21**	*e*P	**Pn**	**23 59 36.0**	**+0.6**
MVO				*e*S	**Sn**	**00 00 27.5**	**-2.1**
MVO				*i* IAML		00 00 29.1	
MVO				*i* IAML		00 00 29.5	
MVO				*i* IAML		00 00 31.3	
E0803	**Jimena (Jaen)**	**4.79**	**75**	Pn	**Pn**	**23 59 37.4**	**+1.9**
E0803				Sn	**Sn**	**00 00 29.3**	**-0.6**
POLO	**Lamas de Olo**	**4.80**	**14**	*e*P	**Pn**	**23 59 36.5**	**+0.9**
POLO				*e*S	**Sn**	**00 00 27.1**	**-2.9**
POLO				*i* IAML		00 00 29.4	
POLO				*i* IAML		00 00 29.6	
POLO				*i* IAML		00 00 29.9	
PAB	**San Pablo**	**4.83**	**53**	Pn	**Pn**	**23 59 37.1**	**+1.0**
PAB				Sn	**Sn**	**00 00 28.7**	**-2.0**
PAB				*i* IVmb_Lg		00 00 31.7	
PSIM	**Granatula de C**	**4.88**	**63**	Pn	**Pn**	**23 59 38.1**	**+1.4**
PSIM				Sn	**Sn**	**00 00 29.8**	**-2.2**
E0802	**Ubeda,Jaen**	**4.91**	**73**	Pn	**Pn**	**23 59 38.3**	**+1.2**
E0802				Sn	**Sn**	**00 00 31.1**	**-1.7**
AKLM	**AKL**	**4.96**	**115**	P	**Pn**	**23 59 37.0**	**-0.8**
AKLM	**AKL**	**4.96**	**115**	S	**Sn**	**00 00 29.4**	**-4.7**
PCAB	**Cabril**	**5.08**	**11**	*e*P	**Pn**	**23 59 40.5**	**+1.0**
PCAB				*e*S	**Sn**	**00 00 33.8**	**-3.2**
PCAB				*i* IAML		00 00 36.4	
PCAB				*i* IAML		00 00 37.4	
PCAB				*i* IAML		00 00 37.5	
CZD	**Col de Zad**	**5.09**	**135**	P	**Pn**	**23 59 39.1**	**-0.7**
CZD	**Col de Zad**	**5.09**	**135**	S	**Sn**	**00 00 33.0**	**-4.5**
EQES	**Quesada**	**5.10**	**76**	Pn	**Pn**	**23 59 40.9**	**+1.1**
EQES				Sn	**Sn**	**00 00 36.0**	**-1.5**
EQES				*i* IVmb_Lg		00 00 38.6	
EJUZ	**Juzbado, Salam**	**5.12**	**30**	Pn	**Pn**	**23 59 40.6**	**+0.7**
EJUZ				Sn	**Sn**	**00 00 35.8**	**-2.0**
ESDC	**Sonseca Array**	**5.15**	**53**	Pn	**Pn**	**23 59 41.2**	**+0.8**
ESDC				Sn	**Sn**	**00 00 36.8**	**-1.8**
ESDC				*i* IVmb_Lg		00 00 56.0	
ESBB	**Sonseca Array**	**5.15**	**53**	Pn	**Pn**	**23 59 41.5**	**+1.1**
ESBB				Sn	**Sn**	**00 00 37.4**	**-1.2**
ELOB	**Lobios**	**5.23**	**10**	Pn	**Pn**	**23 59 42.3**	**+0.7**
ELOB				Sn	**Sn**	**00 00 36.4**	**-4.4**
ELOB				*i* IVmb_Lg		00 00 40.6	
PGAV	**Gavieira, Arco**	**5.30**	**8**	*e*P	**Pn**	**23 59 43.6**	**+1.1**
PGAV				*e*S	**Sn**	**00 00 38.8**	**-3.6**
PGAV				*i* IAML		00 00 41.1	
PGAV				*i* IAML		00 00 41.7	
PGAV				*i* IAML		00 00 42.2	
GOG	**Mont Gurugu**	**5.34**	**104**	P	**Pn**	**23 59 44.9**	**+1.8**
GOG	**Mont Gurugu**	**5.34**	**104**	S	**Sn**	**00 00 42.8**	**-0.6**
EZAM	**Zamans**	**5.44**	**5**	Pn	**Pn**	**23 59 45.2**	**+0.8**
EZAM				Sn	**Sn**	**00 00 41.8**	**-4.0**
EZAM				*i* IVmb_Lg		00 00 45.2	
PBRG	**Braganca**	**5.46**	**21**	*e*P	**Pn**	**23 59 45.5**	**+0.9**
PBRG				*e*S	**Sn**	**00 00 43.3**	**-3.0**
PBRG				*i* IAML		00 00 43.8	
PBRG				*i* IAML		00 00 45.5	
PBRG				*i* IAML		00 00 45.8	
MDT	**Midelt**	**5.50**	**134**	P	**Pn**	**23 59 45.9**	**+0.7**
MDT	**Midelt**	**5.50**	**134**	S	**Sn**	**00 00 43.4**	**-3.8**
TISM	**Timmit**	**5.53**	**154**	P	**Pn**	**23 59 44.4**	**-1.1**
TISM	**Timmit**	**5.53**	**154**	S	**Sn**	**00 00 44.0**	**-3.9**
ECAL	**Calabor**	**5.58**	**20**	Pn	**Pn**	**23 59 47.5**	**+1.0**
ECAL				Sn	**Sn**	**00 00 46.8**	**-2.6**
ECAL	**Calabor**	**5.58**	**20**	Pn	**Pn**	**23 59 47.4**	**+1.0**
ECAL				Sn	**Sn**	**00 00 47.1**	**-2.3**
ECAL				*i* IVmb_Lg		00 00 49.7	
OUK	**Oukaimeden**	**5.63**	**167**	P	**Pn**	**23 59 48.0**	**+0.7**
OUK	**Oukaimeden**	**5.63**	**167**	S	**Sn**	**00 00 47.6**	**-3.3**
TAF	**Taforalt**	**5.93**	**107**	P	**Pn**	**23 59 52.0**	**+0.8**
TAF	**Taforalt**	**5.93**	**107**	S	**Sn**	**00 00 57.2**	**-0.6**
UCM	**Universidad Co**	**5.96**	**51**	Pn	**Pn**	**23 59 53.3**	**+1.7**
UCM				Sn	**Sn**	**00 00 57.0**	**-1.6**
TIO	**Tiouine**	**6.03**	**163**	Pn	**Pn**	**23 59 53.7**	**+1.1**
TIO				Sn	**Sn**	**00 00 57.0**	**-3.4**
TIO	**Tiouine**	**6.03**	**163**	P	**Pn**	**23 59 52.9**	**+0.4**
TIO	**Tiouine**	**6.03**	**163**	S	**Sn**	**00 00 56.9**	**-3.4**
EAGO	**Agolada(Pontev**	**6.15**	**8**	Pn	**Pn**	**23 59 54.6**	**+0.5**
EAGO				Sn	**Sn**	**00 00 58.2**	**-5.0**
EAGO				*i* IVmb_Lg		00 01 03.8	
GOLM	**Goulmima**	**6.17**	**143**	P	**Pn**	**23 59 56.5**	**+1.9**
GOLM	**Goulmima**	**6.17**	**143**	S	**Sn**	**00 01 03.4**	**-0.6**
OUZM	**OUZ**	**6.17**	**159**	P	**Pn**	**23 59 55.8**	**+1.2**
OUZM	**OUZ**	**6.17**	**159**	S	**Sn**	**00 01 00.0**	**-4.0**
STS	**Santiago**	**6.19**	**5**	Pn	**Pn**	**23 59 54.3**	**-0.3**
STS				Sn	**Sn**	**00 00 58.5**	**-5.6**
TTIG	**Tnine Tigouga,**	**6.20**	**173**	P	**Pn**	**23 59 54.8**	**-0.2**
EMAZ	**Mazaricos**	**6.23**	**2**	Pn	**Pn**	**23 59 55.3**	**+0.1**
EMAZ				Sn	**Sn**	**00 00 59.3**	**-5.8**
EMAZ				*i* IVmb_Lg		00 01 02.1	
ETOB	**Tobarra**	**6.46**	**70**	Pn	**Pn**	**23 59 59.1**	**+0.7**
ETOB				Sn	**Sn**	**00 01 08.7**	**-2.1**
ETOB				*i* IVmb_Lg		00 01 21.8	
TZRR	**Tazzarine**	**6.69**	**151**	P	**Pn**	**00 00 01.0**	**-0.7**
TZRR	**Tazzarine**	**6.69**	**151**	S	**Sn**	**00 01 12.6**	**-4.2**
ARF	**Arif**	**6.76**	**140**	P	**Pn**	**00 00 02.7**	**+0.1**
ARF	**Arif**	**6.76**	**140**	S	**Sn**	**00 01 15.8**	**-2.6**
EPON	**Pontenova**	**6.81**	**13**	Pn	**Pn**	**00 00 03.8**	**+0.7**
EPON				Sn	**Sn**	**00 01 14.3**	**-5.1**
EPON				*i* IVmb_Lg		00 01 24.0	
EVIV	**Cofrentes, Val**	**6.96**	**66**	Pn	**Pn**	**00 00 06.9**	**+1.6**
EVIV				Sn	**Sn**	**00 01 21.2**	**-2.0**
EVIV				*i* IVmb_Lg		00 01 42.6	
ETOR	**Torete**	**7.00**	**52**	Pn	**Pn**	**00 00 07.5**	**+1.7**
ETOR				Sn	**Sn**	**00 01 20.6**	**-3.6**
ETOR				*i* IVmb_Lg		00 01 46.7	
ECHE	**Chera**	**7.18**	**64**	Pn	**Pn**	**00 00 09.6**	**+1.4**
ECHE				Sn	**Sn**	**00 01 25.8**	**-2.7**
ECHE				*i* IVmb_Lg		00 01 51.2	
EARI	**Arriondas**	**7.29**	**24**	Pn	**Pn**	**00 00 10.7**	**+0.9**
EARI				Sn	**Sn**	**00 01 27.3**	**-4.0**
EARI				*i* IVmb_Lg		00 01 55.9	
EMOS	**Mosqueruela**	**7.83**	**60**	Pn	**Pn**	**00 00 18.9**	**+1.6**
EMOS				Sn	**Sn**	**00 01 41.5**	**-3.3**
EMOS				*i* IVmb_Lg		00 01 47.3	
ELAN	**Lanestosa**	**7.92**	**33**	Pn	**Pn**	**00 00 19.7**	**+1.3**
ELAN				Sn	**Sn**	**00 01 41.7**	**-5.0**
ELAN				*i* IVmb_Lg		00 01 58.1	
TANT	**Tantan**	**8.44**	**192**	P	**Pn**	**00 00 26.6**	**+1.0**
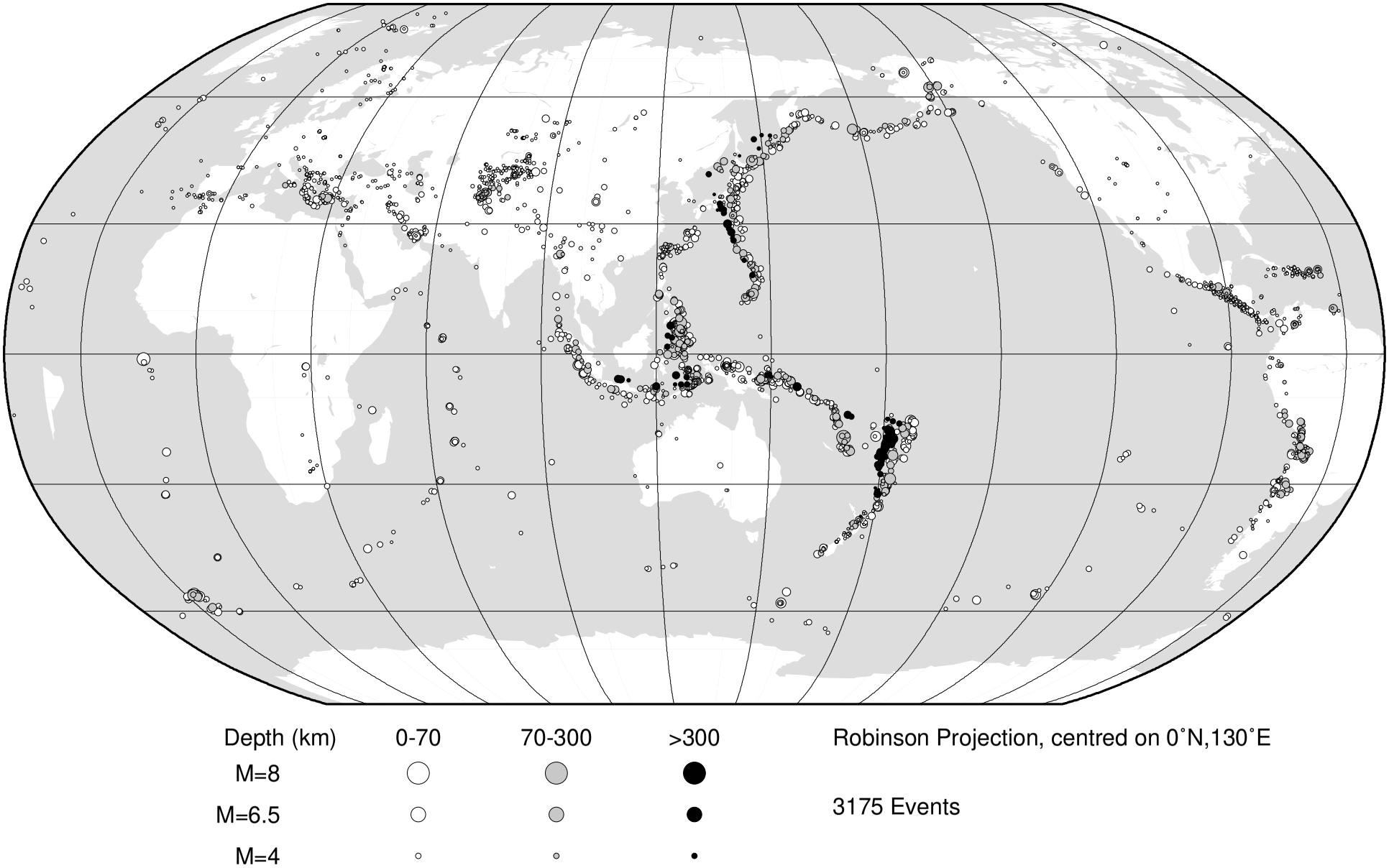
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